Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IDC **01** 00:05:24.8±0.7,52.'04N×169.'99W,h0km,mb4.3/33, mbtmp4.3/35,ML3.9/2,MS4.0/10,Error ellipse: s-maj=19.3km s-min=11.5km az=167.0*
*MOS **01** 00:05:27.3±0.9,51.'99N×169.'94W,h31km,mb4.9/50, Error ellipse: s-maj=12.6km s-min=6.6km az=108.0*
*NEIC **01** 00:05:28.7±1.9,51.'90N±0.'06×169.'85W±0.'07,h30km±5km, mb4.5/85,ML4.0/6,ML3.9(AEIC),Error ellipse: s-maj=9.3km s-min=5.5km az=149.0*
*AEIC **01** 00:05:29.7±2.3,52.'06N±0.'06×169.'97W±0.'05,h51km±4km, Error ellipse: s-maj=8.3km s-min=4.4km az=178.0*
ISC 01 00:05:28.3±1.0,51.'90N±0.'06×169.'87W±0.'04,h29km±6km, n321,σ1$19/329,mb4.6/117,MS4.1/12,13C-5D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.90**	**6**		**Pn**	**00 05 44.6**	**-0.3**
CLCO					**Sn**	**00 05 57.4**	**+0.4**
CLES	**Cleveland East**	**0.93**	**359**		**Pn**	**00 05 45.1**	**-0.3**
CLES					**Sb**	**00 05 57.0**	**-0.7**
CLES				IAML		00 06 03.0	
	comp=E,12μm,0.4s						
NIKH	**Nikolski High**	**1.24**	**30**		**Pn**	**00 05 49.2**	**-0.5**
NIKH	**Nikolski High**	**1.24**	**30**		**Sn**	**00 06 05.7**	**+0.2**
NIKH	**Nikolski High**	**1.24**	**30**	P	**Pn**	**00 05 49.7**	**0.0**
OKSP	**Okmok Steeple**	**1.67**	**35**		**Pn**	**00 05 55.4**	**-0.2**
OKSP					**Sn**	**00 06 15.4**	**-0.6**
OKCE	**Okmok Cone E**	**1.85**	**33**		**Pn**	**00 05 58.9**	**+0.8**
OKNC	**Okmok New Cone**	**1.89**	**34**		**Pn**	**00 06 00.0**	**+1.4**
OKER	**Okmok East Rim**	**1.91**	**35**		**Pn**	**00 05 59.9**	**+0.9**
OKFG	**Magazine Ridge**	**1.93**	**37**		**Pn**	**00 05 59.6**	**+0.5**
OKFG					**Sn**	**00 06 22.8**	**+0.4**
MAPS	**Pakushin South**	**2.61**	**42**		**Pn**	**00 06 09.2**	**+0.7**
MAPS					**Sn**	**00 06 39.5**	**+0.3**
KOSE	**Korovin Southe**	**2.62**	**282**		**Pn**	**00 06 09.6**	**+1.0**
KOFP	**Korovin Flat P**	**2.64**	**280**		**Pn**	**00 06 09.6**	**+0.7**
ATKA	**Atka Island**	**2.69**	**278**		**Pn**	**00 06 09.3**	**-0.2**
ATKA				Sn	**Sn**	**00 06 40.0**	**-1.1**
ATKA				IAML		00 07 10.6	
	comp=N,408nm,1.1s						
ATKA	**Atka Island**	**2.69**	**278**	P	**Pn**	**00 06 09.6**	**+0.1**
KOKL	**Mount Kliuchef**	**2.71**	**281**		**Pn**	**00 06 10.7**	**+0.8**
UNV	**Unalaska Valle**	**2.82**	**45**		**Pn**	**00 06 11.9**	**+0.5**
UNV	**Unalaska Valle**	**2.82**	**45**	P	**Pn**	**00 06 12.1**	**+0.7**
AKRB	**Akutan Reef Bi**	**3.21**	**44**		**Pn**	**00 06 18.4**	**+1.8**
ZRO	**Akutan Zero**	**3.22**	**45**		**Pn**	**00 06 18.6**	**+1.8**
LVA	**Lava Point**	**3.24**	**44**		**Pn**	**00 06 19.3**	**+2.2**
AKBBA	**Akutan Broad B**	**3.24**	**46**		**Pn**	**00 06 19.4**	**+2.2**
AKV	**Akutan Volcano**	**3.25**	**45**		**Pn**	**00 06 19.4**	**+2.1**
AKLV	**Akutan Long Va**	**3.28**	**45**		**Pn**	**00 06 19.6**	**+1.9**
AHB	**Akutan Harbor**	**3.31**	**46**		**Pn**	**00 06 19.9**	**+1.8**
AKUT	**Akutan**	**3.34**	**46**		**Pn**	**00 06 19.2**	**+0.7**
AKUT				IAML		00 07 21.4	
	comp=N,315nm,1.0s						
AKUT				IAML		00 07 22.5	
	comp=E,249nm,0.9s						
AKUT	**Akutan**	**3.34**	**46**	P	**Pn**	**00 06 20.9**	**+2.4**
GSTR	**Great Sitkin T**	**3.83**	**275**		**Pn**	**00 06 25.9**	**+0.6**
GSCK	**Great Sitkin C**	**3.90**	**274**		**Pn**	**00 06 26.8**	**+0.7**
WECS	**Westdahl Cape**	**4.04**	**47**		**Pn**	**00 06 29.7**	**+1.5**
SSBA	**Shishaldin**	**4.49**	**48**		**Pn**	**00 06 35.8**	**+1.5**
KIWB	**Kanaga Island**	**4.51**	**272**		**Pn**	**00 06 34.9**	**+0.3**
ISLZ	**Isanotski Laza**	**4.66**	**50**		**Pn**	**00 06 39.1**	**+2.5**
TAFP	**Tanaga Falls P**	**5.03**	**273**		**Pn**	**00 06 42.5**	**+0.8**
SPIA	**Saint Paul Isl**	**5.30**	**358**		**Pn**	**00 06 47.3**	**+1.9**
SPIA	**Saint Paul Isl**	**5.30**	**358**	P	**Pn**	**00 06 48.1**	**+2.8**
S12K	**Black Hills**	**5.99**	**47**	Pn	**Pn**	**00 06 56.6**	**+1.6**
SDPT	**Sand Point**	**6.57**	**55**	Pn	**Pn**	**00 07 03.3**	**+0.5**
SDPT	**Sand Point**	**6.57**	**55**	P	**Pn**	**00 07 04.3**	**+1.5**
AMKA	**Amchitka**	**6.76**	**270**	Pn	**Pn**	**00 07 04.7**	**-0.8**
CNBA	**Chernabura Isl**	**6.81**	**61**	Pn	**Pn**	**00 07 05.8**	**-0.3**
CHGN	**Chignik**	**8.05**	**52**	Pn	**Pn**	**00 07 23.6**	**+0.5**
CHIR	**Chirikof Islan**	**9.29**	**59**	Pn	**Pn**	**00 07 40.2**	**+0.1**
SII	**Sitkinak Islan**	**10.29**	**57**	Pn	**Pn**	**00 07 53.9**	**0.0**
SII	**Sitkinak Islan**	**10.29**	**57**	P	**Pn**	**00 07 54.3**	**+0.4**
P18K	**Big Mountain,**	**11.15**	**42**		**Pn**	**00 08 05.9**	**+0.3**
O18K	**Koktuh Hills**	**11.44**	**40**	Pn	**Pn**	**00 08 10.7**	**+1.2**
KDAK	**Kodiak Island**	**11.56**	**53**	Pn	**Pn**	**00 08 09.5**	**-1.7**
KDAK	**Kodiak Island**	**11.56**	**53**	P	**Pn**	**00 08 09.5**	**-1.7**
KDAK	**Kodiak Island**	**11.56**	**53**	Pn	**Pn**	**00 08 09.6**	**-1.5**
	comp=E,1.3nm,0.3s,baz=283,slow=9.8,SNR=12						
KDAK				Sn	**Sn**	**00 10 14.4**	**-4.7**
	comp=E,0.2nm,0.3s,baz=185,slow=19,SNR=1.1						
SVW2	**Sparrevohn**	**12.11**	**35**	P	**Pn**	**00 08 22.1**	**+3.5**
RSO	**Redoubt South**	**12.79**	**41**		**Pn**	**00 08 29.2**	**+1.1**
L19K	**White Mountain**	**13.11**	**32**		**Pn**	**00 08 33.7**	**+1.3**
SKT	**Skwentna**	**14.16**	**37**	Pn	**Pn**	**00 08 46.9**	**+0.2**
SUA	**Susitna One**	**14.16**	**40**		**Pn**	**00 08 46.6**	**-0.2**
J20K	**Nowinta River**	**14.80**	**28**		**Pn**	**00 08 56.2**	**+0.9**
PWL	**Port Wells**	**14.86**	**44**	Pn	**Pn**	**00 08 53.6**	**-2.6**
CAST	**Castle Rocks**	**14.89**	**32**		**Pn**	**00 08 57.4**	**+0.8**
GHO	**Glory Hole Cre**	**15.06**	**41**		**Pn**	**00 08 57.0**	**-2.0**
KNK	**Knik Glacier**	**15.07**	**42**		**Pn**	**00 08 57.5**	**-1.5**
KNK				IAmb	IAmb	00 09 17.7	
	comp=Z,10.0nm,0.8s						
SML	**Sawmill**	**15.32**	**41**		**Pn**	**00 09 01.9**	**-0.4**
TRF	**Thorofare Moun**	**15.52**	**34**		**Pn**	**00 09 06.8**	**+1.8**
FID	**Port Fidalgo**	**15.63**	**46**		**Pn**	**00 09 03.1**	**-3.2**
FID				IAmb	IAmb	00 09 11.2	
	comp=Z,24nm,1.3s						
BPAW	**Bear Paw Mtn.**	**15.71**	**32**		**Pn**	**00 09 08.8**	**+1.5**
SCM	**Sheep Creek Mo**	**15.75**	**42**		**Pn**	**00 09 05.5**	**-2.3**
SCM				IAmb	IAmb	00 09 11.7	
	comp=Z,26nm,1.0s						
SCM	**Sheep Creek Mo**	**15.75**	**42**	P	**Pn**	**00 09 05.5**	**-2.3**
SCM				pmax	pmax		
	comp=Z,26nm,1.0s						
H21K	**Melozitna Rive**	**16.30**	**26**		**P**	**00 09 16.3**	**-1.2**
IMAR	**Indian Mountai**	**16.31**	**24**		**Pn**	**00 09 16.2**	**+1.3**
DHY	**Denali Highway**	**16.37**	**38**		**Pn**	**00 09 15.3**	**-0.6**
MLY	**Manley**	**16.43**	**29**	Pn	**Pn**	**00 09 16.7**	**+0.2**
BERG	**Berg Lake**	**16.78**	**49**	Pn	**Pn**	**00 09 19.7**	**-1.2**
GLB	**Gilahina Butte**	**17.10**	**46**		**Pn**	**00 09 22.9**	**-2.0**
CCB	**Clear Creek Bu**	**17.13**	**33**		**Pn**	**00 09 23.7**	**-1.5**
VRDI	**Verde Repeater**	**17.18**	**47**		**Pn**	**00 09 24.4**	**-1.7**
MDM	**Murphy Dome**	**17.18**	**32**		**Pn**	**00 09 23.8**	**-2.1**
TGL	**Tana Glacier**	**17.30**	**49**		**Pn**	**00 09 26.9**	**-0.7**
IL31		**17.52**	**34**		**Pn**	**00 09 28.1**	**-1.9**
ILAR	**Eielson Array**	**17.52**	**34**	P	**Pn**	**00 09 28.1**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=229,slow=11,SNR=13						
	comp=Z,0.6nm,0.4s						
POKR	**Poker Plat Res**	**17.54**	**32**		**Pn**	**00 09 28.9**	**-1.5**
M26K	**Nabesna, AK**	**17.83**	**43**	P	**Pn**	**00 09 33.1**	**-0.9**
BARN	**Barnard Glacie**	**17.94**	**48**	P	**Pn**	**00 09 34.4**	**-1.1**
SCRK	**Sand Creek**	**18.14**	**38**	P	**Pn**	**00 09 36.2**	**-1.7**
BCAR	**Beaver Creek A**	**18.61**	**42**	P	**P**	**00 09 42.1**	**-0.9**
PNL	**Peninsula**	**18.68**	**53**	P	**Pn**	**00 09 46.8**	**+2.5**
PET	**Petropavlovsk**	**19.14**	**286**	*i* P	**Pn**	**00 09 49.6**	**-0.3**
PET				pmax	pmax		
	comp=Z,7.0nm,0.4s						
PEA0B	**Petropavlovsk-**	**19.69**	**286**	P	**P**	**00 09 55.4**	**+0.4**
PEA0B				IAmb	IAmb	00 10 10.7	
	comp=Z,69nm,1.4s						
PEA0B	**Petropavlovsk-**	**19.69**	**286**	*i* P	**P**	**00 09 55.3**	**+0.4**
PETK	**Petropavlovsk-**	**19.69**	**286**	P	**P**	**00 09 54.7**	**-0.3**
	comp=Z,2.7nm,0.3s,baz=92,slow=14,SNR=66						
	comp=Z,6.9nm,0.4s						
HYT	**Haines Junctio**	**19.84**	**51**	P	**Pn**	**00 09 58.9**	**+0.6**
HYT				IAmb	IAmb	00 10 02.6	
	comp=Z,39nm,1.1s						
BMAR	**Burnt Mountain**	**19.89**	**29**	P	**P**	**00 09 57.3**	**+0.2**
SKAG	**Skagway**	**20.69**	**55**	P	**P**	**00 10 06.7**	**+1.0**
SKAG				IAmb	IAmb	00 10 12.8	
	comp=Z,20nm,0.6s						
SKAG	**Skagway**	**20.69**	**55**	P	Pn	00 10 07.6	-0.6
S32K	**Killisnoo**	**20.98**	**61**	P	**P**	**00 10 09.5**	**+0.7**
S32K				IAmb	IAmb	00 10 34.3	
	comp=Z,24nm,1.2s						
WHY	**Whitehorse**	**21.07**	**52**	P	**P**	**00 10 10.5**	**+0.5**
WHY				IAmb	IAmb	00 10 39.7	
	comp=Z,14nm,0.8s						
I30M	**Mount Dempster**	**21.64**	**39**	P	**P**	**00 10 15.2**	**-0.8**
EPYK	**Eagle Plains**	**21.96**	**36**	P	**P**	**00 10 18.3**	**-1.2**
EPYK				IAmb	IAmb	00 10 38.6	
	comp=Z,22nm,0.9s						
P33M	**Teslin, Yukon**	**22.03**	**53**	P	**P**	**00 10 19.5**	**-0.7**
P33M				IAmb	IAmb	00 10 48.2	
	comp=Z,20nm,1.2s						
SEY	**Seymchan**	**22.77**	**314**	*ce*P	**P**	**00 10 26.6**	**-1.4**
SEY				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MA2	**Magadan**	**23.16**	**305**	*i* P	**P**	**00 10 31.4**	**-0.6**
MA2				pmax	pmax		
	comp=Z,16nm,0.9s						
DLBC	**Dease Lake**	**23.40**	**58**	P	**P**	**00 10 36.2**	**+1.7**
DLBC				IAmb	IAmb	00 11 04.0	
	comp=Z,13nm,1.1s						
DLBC	**Dease Lake**	**23.40**	**58**	P	**P**	**00 10 36.0**	**+1.5**
	comp=Z,2.2nm,0.8s,baz=272,slow=11,SNR=2.1						
	comp=Z,2.2nm,0.8s						
INK	**Inuvik**	**23.91**	**33**	P	**P**	**00 10 38.7**	**-0.5**
INK				IAmb	IAmb	00 10 41.1	
	comp=Z,9.2nm,1.1s						
INK	**Inuvik**	**23.91**	**33**	P	**P**	**00 10 38.7**	**-0.5**
INK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
INK	**Inuvik**	**23.91**	**33**	P	**P**	**00 10 39.0**	**-0.2**
	comp=Z,4.1nm,0.5s,baz=204,slow=3.1,SNR=17						
	comp=Z,4.1nm,0.5s						
YKA	**Yellowknife Ar**	**30.79**	**48**	P	**P**	**00 11 42.3**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=245,slow=8.7,SNR=5.9						
	comp=Z,0.9nm,0.6s						
JKA	**Kamikawa-asahi**	**32.24**	**275**	P	**P**	**00 11 53.6**	**-0.3**
ASAJ	**Asahikawa**	**32.24**	**275**	P	**P**	**00 11 53.6**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,16nm,1.0s						
ASAJ	**Asahikawa**	**32.24**	**275**	P	**P**	**00 11 53.8**	**-0.1**
	comp=Z,9.4nm,0.8s,baz=5.0,slow=13,SNR=4.6						
ASAJ				LR	LR	00 24 06.5	
	comp=Z,99nm,20.8s,baz=6.0,slow=35						
	comp=Z,9.4nm,0.8s						
TIXI	**Tiksi**	**32.98**	**329**	*i* P	**P**	**00 11 59.9**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,12nm,1.1s						
YAK	**Yakutsk**	**33.25**	**312**	*i* P	**P**	**00 12 02.0**	**-0.5**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YBH	**Yreka Blue Hor**	**33.29**	**89**	LR	LR	00 22 42.2	
	comp=Z,309nm,18.8s,baz=305,slow=31						
NEW	**Newport**	**33.43**	**75**	P	**P**	**00 12 04.2**	**-0.1**
NEW				IAmb	IAmb	00 12 06.8	
	comp=Z,9.0nm,1.1s						
NEW	**Newport**	**33.43**	**75**	P	**P**	**00 12 04.2**	**-0.1**
NEW				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KLR	**Kul'dur**	**36.33**	**290**	*ce*P	**P**	**00 12 28.4**	**-0.8**
KLR				pmax	pmax		
	comp=Z,19nm,2.5s						
KLR	**Kul'dur**	**36.33**	**290**	P	**P**	**00 12 28.3**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=42,slow=6.7,SNR=8.4						
	comp=Z,2.7nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**36.89**	**218**	T	T	00 52 21.3	
	baz=23						
H11N3	**WAKE ISLAND Hy**	**36.90**	**218**	T	T	00 52 35.5	
	baz=23						
H11N1	**WAKE ISLAND Hy**	**36.91**	**218**	T	T	00 52 03.6	
	baz=23						
EGMT	**Eagleton**	**37.91**	**71**	P	**P**	**00 12 43.7**	**+0.9**
EGMT				IAmb	IAmb	00 12 50.8	
	comp=Z,18nm,1.1s						
NVAR	**Mina Array Bea**	**37.97**	**90**	P	**P**	**00 12 45.7**	**+2.2**
	comp=Z,1.5nm,0.9s,baz=291,slow=7.5,SNR=6.6						
	comp=Z,1.5nm,0.9s						
BOZ	**Bozeman (W)**	**38.01**	**76**	P	**P**	**00 12 44.3**	**+0.6**
BOZ	**Bozeman (W)**	**38.01**	**76**	P	**P**	**00 12 44.3**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**38.08**	**218**	T	T	00 54 02.2	
	baz=23,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**38.09**	**218**	T	T	00 53 56.2	
	baz=23,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**38.10**	**218**	T	T	00 53 59.9	
	baz=23,slow=76,SNR=8.0						
EUNU	**Eureka**	**38.26**	**16**	P	**P**	**00 12 46.6**	**+1.3**
EUNU				IAmb	IAmb	00 12 49.6	
	comp=Z,8.5nm,1.2s						
HEH	**HeiHe**	**38.36**	**293**	*e*P	**P**	**00 12 44.9**	**-1.5**
HEH				pmax	pmax		
	comp=Z,27nm,0.9s						
MJAR	**Matsushiro Arr**	**39.37**	**268**	P	**P**	**00 12 55.7**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=230,slow=41,SNR=3.0						
	comp=Z,1.8nm,0.9s						
PRN	**Pahroc Range**	**40.62**	**89**	P	**P**	**00 13 06.1**	**+0.5**
PRN				IAmb	IAmb	00 13 08.4	
	comp=Z,7.0nm,0.9s						
PD31	**Pinedale Array**	**40.80**	**78**	P	**P**	**00 13 07.7**	**+0.6**
PD31				IAmb	IAmb	00 13 09.1	
	comp=Z,5.8nm,1.1s						
PDAR	**Pinedale Array**	**40.80**	**78**	P	**P**	**00 13 07.7**	**+0.6**
PDAR	**Pinedale Array**	**40.80**	**78**	P	**P**	**00 13 08.4**	**+1.3**
	comp=Z,2.5nm,0.6s,baz=310,slow=5.6,SNR=7.8						
	comp=Z,2.5nm,0.6s						
BOD	**Bodaibo**	**42.05**	**309**	*e*P	**P**	**00 13 15.5**	**-1.4**
BOD				pmax	pmax		
	comp=Z,11nm,0.9s						
P18A	**Preston Nutter**	**42.22**	**83**	P	**P**	**00 13 20.1**	**+1.2**
P18A				IAmb	IAmb	00 13 43.5	
	comp=Z,7.0nm,1.0s						
U15A	**North Rim**	**42.95**	**88**	P	**P**	**00 13 25.0**	**+0.2**
U15A				IAmb	IAmb	00 13 27.6	
	comp=Z,6.3nm,0.9s						
HIA	**Hailar**	**43.17**	**296**	P	**P**	**00 13 25.8**	**-0.4**
HIA				IAmb	IAmb	00 13 26.6	
	comp=Z,16nm,1.1s						
HIA	**Hailar**	**43.17**	**296**	P	**P**	**00 13 25.8**	**-0.4**
HIA				pmax	pmax		
	comp=Z,16nm,1.1s						
WUAZ	**Wupatki**	**44.10**	**88**	P	**P**	**00 13 34.4**	**+0.4**
WUAZ				IAmb	IAmb	00 13 36.6	
	comp=Z,6.0nm,0.8s						
KSRS	**Korea Array**	**45.15**	**277**	P	**P**	**00 13 43.4**	**+1.3**
	comp=Z,6.5nm,0.9s,baz=53,slow=7.9,SNR=18						
	comp=Z,6.5nm,0.9s						
KSAR	**Wonju Array Be**	**45.19**	**277**	P	**P**	**00 13 42.5**	**+0.2**
KSAR	**Wonju Array Be**	**45.19**	**277**	P	**P**	**00 13 42.5**	**+0.2**
NEEM	**North Greenlan**	**45.53**	**16**	*i* P	**P**	**00 13 44.3**	**-0.6**
NEEM				IAmb	IAmb	00 13 47.2	
	comp=Z,12nm,0.7s						
NOR	**Nord**	**45.97**	**5**	*e*P	**P**	**00 13 47.1**	**-1.0**
TUC	**Tucson**	**46.60**	**91**	P	**P**	**00 13 54.2**	**+0.5**
TUC				IAmb	IAmb	00 13 56.1	
	comp=Z,7.3nm,1.4s						
TUC	**Tucson**	**46.60**	**91**	P	**P**	**00 13 54.2**	**+0.5**
TUC				pmax	pmax		
	comp=Z,7.0nm,1.4s						
NRIK	**Noril'sk**	**46.69**	**332**	*ce*P	**P**	**00 13 53.4**	**-0.4**
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NRIK	**Noril'sk**	**46.69**	**332**	P	**P**	**00 13 53.5**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=71,slow=7.6,SNR=4.9						
	comp=Z,2.5nm,0.5s						
T25A	**Trinidad**	**47.35**	**81**	P	**P**	**00 14 00.1**	**+0.4**
ANMO	**Albuquerque**	**47.52**	**85**	*ce*P	**P**	**00 14 00.7**	**-0.3**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ECSD	**EROS Data Cent**	**47.92**	**69**	P	**P**	**00 14 03.5**	**-0.3**
ECSD				IAmb	IAmb	00 14 19.7	
	comp=Z,6.3nm,1.2s						
121A	**Cookes Peak, D**	**48.31**	**88**	P	**P**	**00 14 07.3**	**+0.3**
121A				IAmb	IAmb	00 14 09.4	
	comp=Z,7.7nm,1.1s						
FRB	**Frobisher Bay**	**49.54**	**35**	P	**P**	**00 14 15.9**	**+0.1**
	comp=Z,7.1nm,0.5s,baz=291,slow=8.8,SNR=5.5						
	comp=Z,7.1nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.13**	**358**	P	**P**	**00 14 19.7**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=5.2,slow=1.6,SNR=4.8						
	comp=Z,3.2nm,0.7s						
MNTX	**Cornudas Mount**	**50.36**	**87**	P	**P**	**00 14 22.9**	**+0.3**
MNTX				IAmb	IAmb	00 14 26.3	
	comp=Z,3.9nm,0.9s						
ULN	**Ulaanbaatar**	**50.91**	**301**	P	**P**	**00 14 26.4**	**-0.3**
ULN				IAmb	IAmb	00 14 28.1	
	comp=Z,7.5nm,0.9s						
ULN	**Ulaanbaatar**	**50.91**	**301**	*ce*P	**P**	**00 14 26.2**	**-0.5**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONM	**Songino Array**	**51.28**	**301**	P	**P**	**00 14 29.3**	**-0.1**
SONM				IAmb	IAmb	00 14 30.7	
	comp=Z,6.6nm,1.1s						
SONM	**Songino Array**	**51.28**	**301**	P	**P**	**00 14 29.3**	**-0.1**
SONM				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SONM	**Songino Array**	**51.28**	**301**	P	**P**	**00 14 29.9**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=52,slow=8.9,SNR=20						
SONM				LR	LR	00 36 29.2	
	comp=Z,99nm,21.1s,baz=30,slow=36						
	comp=Z,4.2nm,0.9s						
SUMG	**Summit**	**51.32**	**17**	P	**P**	**00 14 30.0**	**+0.3**
SUMG	**Summit**	**51.32**	**17**	P	**P**	**00 14 30.0**	**+0.3**
SUMG				pmax	pmax		
	comp=Z,28nm,1.1s						
SUMG	**Summit**	**51.32**	**17**	*i* P	**P**	**00 14 29.4**	**-0.3**
SUMG				IAmb	IAmb	00 14 32.3	
	comp=Z,36nm,1.2s						
WMOK	**Wichita Mounta**	**52.37**	**80**	P	**P**	**00 14 37.9**	**+0.3**
WMOK				IAmb	IAmb	00 14 39.6	
	comp=Z,4.7nm,1.1s						
WMOK	**Wichita Mounta**	**52.37**	**80**	P	**P**	**00 14 37.9**	**+0.3**
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
TX31	**Lajitas Ar. Si**	**53.07**	**88**	P	**P**	**00 14 43.0**	**+0.1**
TXAR	**Lajitas Array**	**53.07**	**88**	P	**P**	**00 14 43.4**	**+0.5**
TXAR	**Lajitas Array**	**53.07**	**88**	P	**P**	**00 14 43.4**	**+0.5**
TXAR	**Lajitas Array**	**53.07**	**88**	P	**P**	**00 14 43.6**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=297,slow=5.6,SNR=37						
	comp=Z,3.8nm,0.9s						
ICESG	**Greenland Ices**	**53.92**	**20**	*e*P	**P**	**00 14 46.7**	**-2.2**
ICESG				IAmb	IAmb	00 14 51.0	
	comp=Z,7.4nm,0.8s						
DY2G	**Dye2**	**54.47**	**24**	*e*P	**P**	**00 14 52.7**	**0.0**
LYN	**LuoYang**	**56.47**	**285**	⇓P	**P**	**00 15 08.2**	**+0.9**
LYN				pP	sP	00 15 18.4	+0.5
LYN				sP	pwP	00 15 21.6	+2.1
LYN				PcS	**PcS**	**00 19 57.8**	**-6.8**
LYN				pmax	pmax		
	comp=Z,25nm,0.9s						
LYN				pmax	pmax		
	comp=Z,490nm,11.0s						
LYN				LR	LR		
	comp=N,200nm,11.3s						
LYN				LR	LR		
	comp=E,220nm,11.1s						
LYN				LR	LR		
	comp=Z,290nm,15.6s						
ZALV	**Zalesovo Beam**	**57.56**	**318**	P	**P**	**00 15 13.8**	**-1.0**
ZALV	**Zalesovo Beam**	**57.56**	**318**	P	**P**	**00 15 13.8**	**-1.0**
ZALV	**Zalesovo Beam**	**57.56**	**318**	P	**P**	**00 15 15.2**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=44,slow=7.9,SNR=3.0						
ZALV				PcP	**PcP**	**00 16 08.6**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=28,slow=4.0,SNR=8.9						
ZALV				LR	LR	00 42 48.5	
	comp=Z,60nm,18.2s,baz=40,slow=39						
	comp=Z,0.5nm,0.3s						
KEV	**Kevo**	**58.04**	**353**	P	**P**	**00 15 17.6**	**-0.3**
KEV	**Kevo**	**58.04**	**353**	P	**P**	**00 15 17.6**	**-0.3**
KEV				pmax	pmax		
	comp=Z,17nm,1.2s						
ARCES	**ARCESS Array B**	**58.36**	**354**	P	**P**	**00 15 19.7**	**-0.5**
ARCES				IAmb	IAmb	00 15 20.9	
	comp=Z,9.9nm,1.1s						
ARCES	**ARCESS Array B**	**58.36**	**354**	P	**P**	**00 15 19.7**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ARCES	**ARCESS Array B**	**58.36**	**354**	P	**P**	**00 15 19.7**	**-0.5**
	comp=Z,4.4nm,0.8s,baz=26,slow=11,SNR=9.2						
	comp=Z,4.4nm,0.8s						
XAN	**Xi'an**	**58.94**	**287**	⇓P	**P**	**00 15 25.4**	**+0.6**
XAN				pmax	pmax		
	comp=Z,14nm,1.6s						
LVZ	**Lovozero**	**59.13**	**349**	P	**P**	**00 15 24.8**	**-0.8**
LVZ	**Lovozero**	**59.13**	**349**	*ce*P	**P**	**00 15 26.2**	**+0.6**
LVZ				pmax	pmax		
	comp=Z,17nm,1.0s						
DGZ	**Jazzator, Alta**	**59.44**	**313**	*i* P	**P**	**00 15 27.8**	**-0.4**
DGZ				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LZH	**Lanzhou**	**60.48**	**292**	*e*P	**P**	**00 15 38.3**	**+2.8**
LZH				pP	sP	00 15 45.8	-0.4
LZH				pmax	pmax		
	comp=Z,31nm,1.1s						
ADZR	**Andozero**	**62.44**	**346**	*e*P	**P**	**00 15 48.5**	**+0.5**
ADZR				*e*		00 16 27.2	
ADZR				pmax	pmax		
	comp=Z,15nm,0.9s						
KURK	**Kurchatov**	**62.52**	**318**	P	**P**	**00 15 48.6**	**-0.3**
KURK				IAmb	IAmb	00 15 49.5	
	comp=Z,6.7nm,1.1s						
KURK	**Kurchatov**	**62.52**	**318**	*ce

KMI	**Kunming**	**69.09 284**	⇓P	**P**	**00 16 32.9**	**+1.1**
KMI			pmax	pmax		
comp=Z,10.0nm,0.8s						
TEIG	**Tepich**	**69.22 84**	P	**P**	**00 16 31.7**	**-0.7**
BOOM	**Boomskoye usch**	**70.10 314**	P	**P**	**00 16 38.0**	**+0.2**
BOOM	**Boomskoye usch**	**70.10 314**	P	**P**	**00 16 38.0**	**+0.2**
BOOM			pmax	pmax		
comp=Z,16nm,1.0s						
AAK	**Ala-Archa**	**70.62 315**	P	**P**	**00 16 40.9**	**0.0**
AAK			IAmb	IAmb	00 16 43.6	
comp=Z,5.5nm,0.8s						
AAK	**Ala-Archa**	**70.62 315**	*ce*P	**P**	**00 16 41.1**	**+0.2**
AAK			pmax	pmax		
comp=Z,5.0nm,0.7s						
AAK	**Ala-Archa**	**70.62 315**	LR	LR	00 50 22.6	
comp=Z,124nm,18.9s,baz=29,slow=38						
ABKAR	**Akbulak array**	**70.67 328**	P	**P**	**00 16 40.8**	**-0.1**
ABKAR	**Akbulak array**	**70.67 328**	P	**P**	**00 16 41.2**	**+0.3**
ABKAR			IAmb	IAmb	00 16 42.6	
comp=Z,8.0nm,0.9s						
OBN	**Obninsk**	**71.12 344**	⇓*e*P	**P**	**00 16 43.0**	**-0.4**
OBN			pmax	pmax		
comp=Z,4.0nm,0.4s						
PPT	**Papeete**	**71.40 160**	LR	LR	00 40 42.5	
comp=Z,77nm,20.9s,baz=268,slow=30						
KKAR	**Karatay Array**	**71.94 318**	P	**P**	**00 16 48.4**	**-0.3**
KKAR	**Karatay Array**	**71.94 318**	P	**P**	**00 16 48.4**	**-0.3**
KKAR			IAmb	IAmb	00 16 49.6	
comp=Z,3.7nm,0.8s						
KKAR	**Karatay Array**	**71.94 318**	P	**P**	**00 16 48.4**	**-0.3**
SIJI	**Sorong**	**72.03 244**	P	**P**	**00 16 50.4**	**+0.8**
comp=Z,5.0nm,0.6s,baz=29,slow=10,SNR=2.6						
comp=Z,5.0nm,0.6s						
PABE	**Paberze**	**72.35 352**	P	**P**	**00 16 50.5**	**-0.3**
LSA	**Lhasa**	**72.38 296**	P	**P**	**00 16 52.7**	**+0.6**
LSA	**Lhasa**	**72.38 296**	P	**P**	**00 16 52.7**	**+0.6**
LSA			pmax	pmax		
comp=Z,16nm,1.2s						
KSH	**Kashi**	**72.47 312**	P	**P**	**00 16 56.0**	**+4.0**
KSH			sP	PcP	00 17 08.3	-1.4
KSH			pmax	pmax		
comp=Z,8.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**72.57 8**	P	**P**	**00 16 51.9**	**-0.3**
comp=Z,0.5nm,0.5s,baz=354,slow=4.6,SNR=7.0						
comp=Z,0.5nm,0.5s						
MNK	**Minsk**	**72.94 349**	*i* P	**P**	**00 16 54.1**	**-0.3**
comp=E,2.0nm,0.8s						
MNK			*i* P	**P**	**00 16 54.1**	**-0.3**
comp=N,8.0nm,0.8s						
MNK			*i* P	**P**	**00 16 54.1**	**-0.3**
comp=Z,11nm,0.8s,baz=11						
MNK			*i* PcP	**PcP**	**00 17 10.9**	**-0.4**
MNK			*i* PP	**PP**	**00 19 36.2**	**+0.1**
MNK			*i* PPP	PPP	00 21 21.0	
MNK			*i* S	**S**	**00 26 18.6**	**-0.2**
MNK			*i* SS	**SS**	**00 30 60.0**	**+1.9**
MNK			*i* SSS	SSS	00 34 21.0	
MNK			*i* LQ	LQ	00 43 31.3	
MNK			*i* LR	LR	00 46 05.5	
MNK			*i* LRM	MLR	00 49 47.1	
comp=Z,97nm,16.6s						
MNK			*i* LRM	MLR	00 51 42.2	
comp=N,67nm,17.1s						
MNK			*i* LRM	MLR	00 51 43.2	
comp=E,19nm,17.1s						
MNK	**Minsk**	**72.94 349**	*i* P	**P**	**00 16 54.1**	**-0.3**
MNK			*i*		00 17 10.8	
MNK			*i*		00 19 36.2	
MNK			*i* PPP	PPP	00 21 20.9	
MNK			*i* S	**S**	**00 26 18.5**	**-0.2**
MNK			*i* SS	**SS**	**00 30 59.9**	**+1.9**
MNK			pmax	pmax		
comp=Z,11nm,0.8s						
MNK			pmax	pmax		
comp=E,2.0nm,0.8s						
MNK			pmax	pmax		
comp=N,8.0nm,0.8s						
MNK			MLR	MLR		
comp=Z,97nm,17.0s						
MNK			MLR	MLR		
comp=N,67nm,17.0s						
MNK			MLR	MLR		
comp=E,19nm,17.0s						
LPSR	**Galich'ya Gora**	**73.10 342**	*e*P	**P**	**00 16 53.5**	**-1.8**
LPSR			pmax	pmax		
comp=Z,7.0nm,0.8s						
VRH	**Novokhopyorsk**	**73.86 340**	*e*P	**P**	**00 16 57.6**	**-2.2**
VRH			pmax	pmax		
comp=Z,10.0nm,0.7s						
SUW	**Suwalki**	**73.90 352**	P	**P**	**00 16 59.5**	**-0.5**
SUW	**Suwalki**	**73.90 352**	P	**P**	**00 16 59.5**	**-0.5**
SUW			pmax	pmax		
comp=Z,23nm,1.1s						
VORR	**Voronezh**	**73.93 342**	*e*P	**P**	**00 16 58.6**	**-1.6**
VORR			pmax	pmax		
comp=Z,20nm,0.4s						
CRAI	**Chiangrai**	**74.20 283**	P	**P**	**00 17 02.6**	**+0.2**
CRAI			IAmb	IAmb	00 17 26.2	
comp=Z,11nm,1.0s						
BTK	**Batken**	**74.32 316**	P	**P**	**00 17 02.8**	**-0.1**
BTK			IAmb	IAmb	00 17 04.3	
comp=Z,7.0nm,0.8s						
BTK	**Batken**	**74.32 316**	P	**P**	**00 17 02.8**	**-0.1**
BTK			pmax	pmax		
comp=Z,7.0nm,0.9s						
VSR	**Storozhevoye**	**74.37 342**	*e*P	**P**	**00 17 00.7**	**-2.1**
VSR			pmax	pmax		
comp=Z,9.0nm,1.0s						
VORD	**Divnogorie**	**74.58 341**	*e*P	**P**	**00 16 59.6**	**-4.5**
VORD			pmax	pmax		
comp=Z,20nm,0.6s						
SHL	**Shillong**	**75.13 292**	P	**P**	**00 17 07.8**	**-0.1**
SHL	**Shillong**	**75.13 292**	P	**P**	**00 17 07.8**	**-0.1**
SHL			pmax	pmax		
comp=Z,14nm,1.1s						
CHTO	**Chiang Mai**	**76.15 283**	P	**P**	**00 17 13.7**	**+0.1**
CHTO			IAmb	IAmb	00 17 36.4	
comp=Z,4.6nm,1.1s						
CHTO	**Chiang Mai**	**76.15 283**	P	**P**	**00 17 13.7**	**+0.1**
CHTO			pmax	pmax		
comp=Z,5.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**76.42 283**	P	**P**	**00 17 14.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**76.42 283**	*ce*P	**P**	**00 17 16.3**	**+1.2**
CMAR			pmax	pmax		
comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**76.42 283**	P	**P**	**00 17 16.4**	**+1.3**
comp=Z,1.4nm,0.3s,baz=28,slow=6.6,SNR=12						
comp=Z,1.4nm,0.3s						
AKASG	**Malin Array Be**	**76.50 348**	P	**P**	**00 17 14.7**	**-0.4**
comp=Z,1.0nm,0.4s,baz=14,slow=5.3,SNR=8.7						
comp=Z,1.0nm,0.4s						
CLL	**Collm**	**77.14 358**	*e*P	**P**	**00 17 20.0**	**+1.3**
CLL			*i* *SP	**pwP**	**00 17 31.8**	**+0.6**
CLL	**Collm**	**77.14 358**	*e*P	**P**	**00 17 20.0**	**+1.3**
CLL			*i* sP	**pwP**	**00 17 31.8**	**+0.6**
CLL			*e*(PP)		00 20 06.0	
BRG	**Berggiesshubel**	**77.56 358**	*e*P	**P**	**00 17 22.6**	**+1.6**
BRG			Amp		00 17 23.9	
comp=Z,4.7nm,1.1s						
BRG			Amp		00 18 24.0	
comp=N,0.4nm,21.7s						
BRG			Amp		00 18 26.0	
comp=E,0.5nm,19.0s						
BRG			Amp		00 18 32.0	
comp=Z,0.7nm,23.7s						
BRG	**Berggiesshubel**	**77.56 358**	*e*P	**P**	**00 17 22.6**	**+1.6**
BRG			pmax	pmax		
comp=Z,5.0nm,1.1s						
CHVC	**Chvalec**	**77.77 356**	*e*P	**P**	**00 17 22.3**	**0.0**
CHVC	**Chvalec**	**77.77 356**	*e*P	**P**	**00 17 22.3**	**0.0**
OSTC	**Ostas**	**77.79 356**	*e*P	**P**	**00 17 22.6**	**+0.2**
OSTC	**Ostas**	**77.79 356**	*e*P	**P**	**00 17 22.6**	**+0.2**
RICC	**Richard**	**77.88 357**	*e*P	pwP	00 17 36.3	+0.9
DPC	**Dobruska-Polom**	**78.00 356**	*e*P	**P**	**00 17 24.0**	**+0.5**
DPC	**Dobruska-Polom**	**78.00 356**	*e*P	**P**	**00 17 24.0**	**+0.5**
KWP	**Kalwaria Pacla**	**78.28 352**	P	**P**	**00 17 25.6**	**+0.5**
KWP			IAmb	IAmb	00 17 40.1	
comp=Z,11nm,1.1s						
KWP	**Kalwaria Pacla**	**78.28 352**	P	**P**	**00 17 25.6**	**+0.5**
KWP			pmax	pmax		
comp=Z,11nm,1.1s						
OKC	**Ostrava-Krasne**	**78.41 355**	*e*P	**P**	**00 17 27.1**	**+1.3**
OKC	**Ostrava-Krasne**	**78.41 355**	*e*P	**P**	**00 17 27.1**	**+1.3**
PRU	**Pruhonice**	**78.42 357**	*e*P	**P**	**00 17 26.5**	**+0.6**
PRU	**Pruhonice**	**78.42 357**	*e*P	**P**	**00 17 26.5**	**+0.6**
MORC	**Moravsky Berou**	**78.51 355**	*e*P	**P**	**00 17 27.8**	**+1.4**
NIL	**Nilore**	**78.51 311**	P	**P**	**00 17 26.9**	**+0.2**
NIL			IAmb	IAmb	00 17 28.6	
comp=Z,8.2nm,0.9s						
NIL	**Nilore**	**78.51 311**	P	**P**	**00 17 26.9**	**+0.2**
NIL			pmax	pmax		
comp=Z,8.0nm,1.0s						
ZVC	**Zvikov**	**78.98 357**	*e*P	**P**	**00 17 29.6**	**+0.6**
LANS	**Liptovska Anna**	**79.02 354**	*e*P	**P**	**00 17 30.8**	**+1.6**
LANS			pmax	pmax		
comp=Z,3.0nm,1.0s						
LANS	**Liptovska Anna**	**79.02 354**	*e*P	**P**	**00 17 30.8**	**+1.6**
VRAC	**Vranov**	**79.02 356**	*e*P	**P**	**00 17 30.2**	**+1.0**
KRUC	**Moravsky**	**79.28 356**	*e*P	**P**	**00 17 31.3**	**+0.7**
KHC	**Kasperske Hory**	**79.31 358**	*e*P	**P**	**00 17 31.5**	**+0.7**
KHC			*e*		00 17 43.7	
KHC	**Kasperske Hory**	**79.31 358**	*e*P	**P**	**00 17 31.5**	**+0.7**
KHC			*e*pP	**pwP**	**00 17 43.7**	**+0.3**
JAVC	**Velka Javorina**	**79.42 355**	*e*P	**P**	**00 17 33.3**	**+1.9**
GERES	**GERESS Array B**	**79.59 358**	P	**P**	**00 17 33.0**	**+0.6**
GERES	**GERESS Array B**	**79.59 358**	P	**P**	**00 17 33.0**	**+0.6**
GERES	**GERESS Array B**	**79.59 358**	P	**P**	**00 17 32.8**	**+0.4**
comp=Z,1.3nm,0.8s,baz=28,slow=6.0,SNR=7.8						
comp=Z,1.3nm,0.8s						
VYHS	**Vyhne**	**79.71 354**	*e*P	**P**	**00 17 34.6**	**+1.6**
VYHS			pmax	pmax		
comp=Z,3.0nm,1.0s						
VYHS	**Vyhne**	**79.71 354**	*e*P	**P**	**00 17 34.6**	**+1.6**
VYHS			*e*		00 52 38.4	
MODS	**Modra-Piesok**	**79.92 355**	*e*P	**P**	**00 17 36.6**	**+2.5**
MODS	**Modra-Piesok**	**79.92 355**	*e*P	**P**	**00 17 36.6**	**+2.5**
BUR08	**Bucovina Ar. S**	**80.00 350**	P	**P**	**00 17 35.0**	**+0.3**
BUR08			IAmb	IAmb	00 17 38.0	
comp=Z,5.7nm,1.2s						
CONA	**Conrad Observa**	**80.43 356**	*i* P	**P**	**00 17 38.5**	**+1.5**
comp=Z,4.0nm,0.9s						
MOA	**Molln**	**80.57 357**	*e*P	**P**	**00 17 38.6**	**+1.0**
comp=Z,3.4nm,1.2s						
KBZ	**Khabaz**	**80.62 337**	P	**P**	**00 17 38.2**	**+0.3**
comp=Z,2.6nm,0.8s,baz=23,slow=5.3,SNR=3.9						
comp=Z,2.6nm,0.8s						
BIOA	**Bad Ischl, Aus**	**80.75 358**	*e*P	**P**	**00 17 40.1**	**+1.5**
comp=Z,8.3nm,1.3s						
RETA	**Reutte**	**80.99 360**	*e*P	**P**	**00 17 41.1**	**+1.1**
comp=Z,2.3nm,1.0s						
MOTA	**Moosalm**	**81.14 359**	*e*P	**P**	**00 17 40.5**	**-0.3**
comp=Z,4.7nm,1.1s						
WATA	**Walderalm**	**81.14 359**	*e*P	**P**	**00 17 40.2**	**-0.6**
comp=Z,2.7nm,0.8s						
WTTA	**Wattenberg**	**81.21 359**	*e*P	**P**	**00 17 41.3**	**0.0**
comp=Z,7.4nm,1.0s						
GEYT	**Alibeck**	**81.23 324**	P	**P**	**00 17 42.2**	**+0.9**
comp=Z,2.6nm,0.8s,baz=11,slow=11,SNR=4.4						
comp=Z,2.6nm,0.8s						
ZEI	**Tsey**	**81.25 336**	*e*P	**P**	**00 17 42.0**	**+0.4**
ZEI			pmax	pmax		
comp=Z,3.0nm,0.8s						
SQTA	**Sankt Quirin**	**81.26 359**	*e*P	**P**	**00 17 42.4**	**+0.9**
comp=Z,5.3nm,0.9s						
KBA	**Koelnbreinsper**	**81.37 358**	*e*P	**P**	**00 17 43.2**	**+1.2**
comp=Z,13nm,1.0s						
FETA	**Feichten**	**81.46 360**	*e*P	**P**	**00 17 43.9**	**+1.3**
comp=Z,5.5nm,1.1s						
ABTA	**Abfaltersbach**	**81.72 358**	*e*P	**P**	**00 17 44.9**	**+1.1**
comp=Z,7.0nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**81.86 360**	P	**P**	**00 17 44.6**	**-0.2**
FUORN			IAmb	IAmb	00 18 02.8	
comp=Z,5.4nm,1.1s						
OBKA	**Obir**	**81.90 357**	*e*P	**P**	**00 17 45.9**	**+1.1**
comp=Z,7.4nm,1.1s						
TEOL	**Teolo**	**83.11 359**	P	**P**	**00 17 52.0**	**+1.0**
OSSC	**Osservatorio P**	**84.95 359**	P	**P**	**00 18 00.8**	**+0.3**
RDO	**Rodhopi**	**86.37 348**	P	**P**	**00 18 08.0**	**+0.6**
WRA	**Warramunga Arr**	**86.47 231**	P	**P**	**00 18 07.9**	**-0.2**
comp=Z,0.7nm,0.9s,baz=27,slow=6.6,SNR=4.6						
comp=Z,0.7nm,0.9s						
BRTR	**Keskin Array B**	**86.48 342**	P	**P**	**00 18 09.6**	**+1.4**
comp=Z,0.8nm,0.8s,baz=7.7,slow=3.5,SNR=2.4						
comp=Z,0.8nm,0.8s						
ESDC	**Sonseca Array**	**87.98 11**	P	**P**	**00 18 15.5**	**+0.1**
ESDC			IAmb	IAmb	00 18 29.7	
comp=Z,2.8nm,0.9s						
ESDC	**Sonseca Array**	**87.98 11**	P	**P**	**00 18 16.1**	**+0.7**
comp=Z,1.7nm,0.9s,baz=346,slow=5.1,SNR=9.8						
comp=Z,1.7nm,0.9s						
PSI	**Prapat**	**88.56 273**	P	**P**	**00 18 18.8**	**+0.2**
PSI			pmax	pmax		
comp=Z,10.0nm,1.0s						
RPSI	**Rantau Prapat**	**88.65 273**	P	**P**	**00 18 18.8**	**0.0**
SDV	**Santo Domingo**	**88.73 77**	LR	LR	00 59 02.9	
comp=Z,144nm,19.8s,baz=64,slow=36						
ASAR	**Alice Springs**	**89.85 230**	P	**P**	**00 18 24.1**	**-0.1**
ASAR	**Alice Springs**	**89.85 230**	P	**P**	**00 18 24.1**	**-0.1**
ASAR	**Alice Springs**	**89.85 230**	P	**P**	**00 18 24.8**	**+0.6**
comp=Z,2.3nm,0.7s,baz=30,slow=4.8,SNR=29						
comp=Z,2.3nm,0.7s						

*IDC **01** 00:19:21.8±1.9, 7°.29N×127°.13E, h56km±16km, mb3.9/13, mbtmp4.3/16, ML4.5/3, MS3.3/9, Error ellipse: s-maj=15.1km s-min=11.0km az=58.0*
*DJA **01** 00:19:22.2±0.9, 7°.N±.8°×12°.7E±°, h13km±4km, M4.7/13, mB5.1/9, mb4.9/13, MLv4.9/6, Mw(mB)4.5/9*
*NEIC **01** 00:19:23.9±1.5, 7°.16N±0°.05×126°.89E±0°.07, h68km±6km, mb4.5/50, Error ellipse: s-maj=10.2km s-min=6.3km az=104.0*

ISC 01 00:19:22.6±0.3, **7°.18N**±0°.05×**127°.03E**±0°.06, **h60**km, **n157**, σ1§**32**/163, **mb4.5**/40, **MS3.2**/6, **1D**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.44**	**266**		**Pn**	**00 19 46.2**	**-0.2**
DAV				Sn	**Sn**	**00 20 03.4**	**-1.1**
DAV	**Davao City (W)**	**1.44**	**266**	P	**Pn**	**00 19 47.4**	**+0.9**
DAV	**Davao City (W)**	**1.44**	**266**	P	**Pn**	**00 19 46.4**	**-0.1**
1μm,0.5s,baz=150,slow=0.5,SNR=22							
DAV				S	**Sn**	**00 20 06.6**	**+2.2**
8μm,0.7s,baz=258,slow=23,SNR=14							
DAV				LR	LR	00 20 22.1	
comp=Z,2μm,18.3s,baz=200,slow=39							
TNTI	**Ternate**	**6.37**	**177**	Pn	**Pn**	**00 20 55.0**	**+1.0**
TNTI	**Ternate**	**6.37**	**177**	P	**Pn**	**00 20 55.5**	**+1.6**
TNTI	**Ternate**	**6.37**	**177**	P	**Pn**	**00 20 55.3**	**+1.4**
106nm,1.1s,1μm0.4nm							
GTOI	**Gorontalo**	**7.63**	**212**	P	**Pn**	**00 21 10.3**	**-0.9**
65nm,1.0s,556nm0.2nm							
LBMI	**Labuha**	**7.78**	**176**	P	**Pn**	**00 21 14.5**	**+1.3**
59nm,0.5s,1μm0.4nm							
MRSI	**Marisa**	**8.37**	**218**	P	**Pn**	**00 21 21.3**	**0.0**
88nm,0.7s,942nm							
TOLI2	**Tolitoli**	**8.66**	**226**		**Pn**	**00 21 22.9**	**-2.4**
MYLDM	**Lahad Datu**	**8.71**	**257**	Pn	**Pn**	**00 21 26.4**	**+0.5**
SWI	**Sorong**	**9.03**	**152**	P	**Pn**	**00 21 30.4**	**0.0**
19nm,0.5s							
SIJI	**Sorong**	**9.04**	**152**	P	**Pn**	**00 21 30.2**	**-0.3**
3.6nm,0.3s,baz=354,slow=8.8,SNR=8.8							
SIJI				S	**Sn**	**00 23 05.0**	**-6.0**
4.6nm,0.3s,baz=211,slow=22,SNR=2.1							
12nm,0.4s							
TGY	**Tagaytay City**	**9.12**	**320**	LR	LR	00 25 26.7	
comp=Z,108nm,20.4s,baz=204,slow=40							
LUWI	**Luwuk**	**9.20**	**208**	Pn	**Pn**	**00 21 33.3**	**+0.6**
LUWI	**Luwuk**	**9.20**	**208**	P	**Pn**	**00 21 35.8**	**+3.1**
LUWI	**Luwuk**	**9.20**	**208**	P	**Pn**	**00 21 32.7**	**0.0**
143nm,1.1s,7μm							
SANI	**Sanana**	**9.22**	**186**	P	**Pn**	**00 21 29.8**	**-3.2**
33nm,0.7s,676nm							
KKM	**Kota Kinabalu**	**10.80**	**265**	Pn	**Pn**	**00 21 55.0**	**+0.4**
FAKI	**Fak Fak**	**11.30**	**152**	Pn	**Pn**	**00 22 02.2**	**+0.8**
FAKI	**Fak Fak**	**11.30**	**152**	P	**Pn**	**00 22 03.5**	**+2.1**
66nm,0.9s,550nm							
TTSI	**Tana Toraja**	**12.44**	**216**	P	**Pn**	**00 22 19.7**	**+2.7**
KAPI	**Kappang**	**14.12**	**211**	P	**Pn**	**00 22 40.3**	**+0.6**
0.8nm,0.3s,baz=14,slow=11,SNR=4.4							
6.5nm,0.6s							
SBUM	**Sibu**	**15.48**	**253**		**Pn**	**00 22 58.3**	**+0.9**
SBUM				IAmb	IAmb	00 23 03.3	
comp=Z,32nm,0.7s							
MMRI	**Maumere**	**16.42**	**197**		**Pn**	**00 23 09.6**	**+0.4**
MMRI				IAmb	IAmb	00 23 21.7	
comp=Z,32nm,0.6s							
JAY	**Jayapura**	**16.70**	**125**	P	**P**	**00 23 15.3**	**+0.9**
comp=Z,11nm,0.7s,baz=325,slow=4.5,SNR=9.1							
SOEI	**Soe**	**17.04**	**189**	P	**Pn**	**00 23 17.3**	**+0.2**
SOEI				IAmb	IAmb	00 23 45.5	
comp=Z,46nm,0.9s							
SOEI	**Soe**	**17.04**	**189**	P	**P**	**00 23 20.3**	**+2.2**
BATI	**Baumata**	**17.59**	**191**	P	**P**	**00 23 25.1**	**+1.0**
BATI				pP	**Pn**	**00 23 28.6**	**+4.8**
BATI	**Baumata**	**17.59**	**191**	P	**P**	**00 23 25.9**	**+1.8**
comp=Z,7.5nm,0.3s,baz=359,slow=1.6,SNR=9.4							
BATI				LR	LR	00 30 26.0	
comp=Z,110nm,21.0s,baz=42,slow=38							
comp=Z,33nm,0.5s							
KSM	**Kuching**	**17.60**	**252**	P	**Pn**	**00 23 23.1**	**-0.8**
NACB	**Ninganchiao**	**17.69**	**343**		**Pn**	**00 23 23.2**	**-1.6**
GUMO	**Guam**	**18.66**	**69**	LR	LR	00 28 48.4	
comp=Z,123nm,21.2s,baz=121,slow=31							
DLV	**T Lat**	**18.88**	**286**	P	**Pn**	**00 23 39.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**20.16**	**220**	P	**P**	**00 23 51.6**	**-0.6**
MTN	**Manton Dam**	**20.30**	**168**	P	**P**	**00 23 54.2**	**+0.5**
baz=20,SNR=6.9							
MTN	**Manton Dam**	**20.30**	**168**	P	**P**	**00 23 53.7**	**0.0**
MTN				IAmb	IAmb	00 23 56.3	
comp=Z,23nm,0.6s							
MTN	**Manton Dam**	**20.30**	**168**	P	**P**	**00 23 54.3**	**+0.5**
KDU	**Kakadu**	**20.46**	**165**	P	**P**	**00 23 55.6**	**+0.2**
baz=20,SNR=47							
KDU	**Kakadu**	**20.46**	**165**	P	**P**	**00 23 56.0**	**+0.6**
KNRA	**Kununurra**	**22.77**	**176**	P	**P**	**00 24 20.2**	**0.0**
baz=23,SNR=54							
KNRA	**Kununurra**	**22.77**	**176**	P	**P**	**00 24 20.4**	**+0.2**
KNRA	**Kununurra**	**22.77**	**176**	P	**P**	**00 24 20.6**	**+0.4**
JCJ	**Chichijima**	**24.49**	**34**	LR	LR	00 32 15.4	
comp=Z,91nm,21.8s,baz=110,slow=32							
NJ2	**Nanjing**	**25.90**	**344**	*e*P	**P**	**00 24 50.7**	**+1.7**
NJ2				pP	**pwP**	**00 25 05.6**	**-3.5**
NJ2				sP	**sP**	**00 25 13.8**	**+5.3**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
NJ2				pmax	pmax		
comp=Z,120nm,3.8s							
JNU	**Nakatsue**	**26.06**	**7**	LR	LR	00 34 12.0	
comp=Z,90nm,21.4s,baz=92,slow=34							
COEN	**Coen**	**26.42**	**143**	P	**P**	**00 24 53.2**	**-0.7**
COEN				IAmb	IAmb	00 24 55.4	
comp=Z,17nm,1.2s							
WB0	**Warramunga Arr**	**27.74**	**165**	P	**P**	**00 25 05.1**	**-0.6**
WB0				IAmb	IAmb	00 25 10.9	
comp=Z,8.7nm,0.7s							
WRAB	**Tennant Creek**	**27.89**	**165**	P	**P**	**00 25 07.0**	**0.0**
WRA	**Warramunga Arr**	**27.89**	**165**	P	**P**	**00 25 06.0**	**-1.0**
WRA	**Warramunga Arr**	**27.89**	**165**	P	**P**	**00 25 06.4**	**-0.7**
comp=Z,2.6nm,0.6s,baz=344,slow=10,SNR=22							
WRA				PcP	**PcP**	**00 28 21.9**	**+0.2**
comp=Z,1.0nm,0.5s,baz=332,slow=2.7,SNR=4.4							
WRA				ScP	**ScP**	**00 31 59.2**	**+1.7**
comp=Z,0.7nm,0.8s,baz=340,slow=3.7,SNR=4.5							
comp=Z,2.6nm,0.6s							
WB2	**Warramunga Arr**	**27.90**	**165**	P	**P**	**00 25 07.0**	**-0.1**
baz=28							
JHJ	**Hachijo jima 2**	**28.40**	**23**	LR	LR	00 34 14.4	
comp=Z,67nm,21.9s,baz=283,slow=32							
MBWA	**Marble Bar**	**29.05**	**194**	P	**P**	**00 25 16.9**	**-0.5**
PSA00	**Pilbara Seismi**	**29.43**	**194**	P	**P**	**00 25 20.5**	**-0.1**
PSA00				IAmb	IAmb	00 25 21.2	
comp=Z,6.5nm,0.8s							
PSA00	**Pilbara Seismi**	**29.43**	**194**	P	**P**	**00 25 20.1**	**-0.6**
PSA00				IAmb	IAmb	00 25 21.3	
comp=Z,15nm,0.7s							
GSI	**Gunungsitoli**	**29.93**	**260**	P	**P**	**00 25 24.1**	**-1.1**
GSI				IAmb	IAmb	00 25 25.1	
comp=Z,15nm,0.8s							
KSRS	**Korea Array**	**30.15**	**1**	P	**P**	**00 25 27.2**	**+0.3**
comp=Z,1.2nm,0.8s,baz=298,slow=30,SNR=4.3							
KSRS				LR	LR	00 38 58.2	
comp=Z,40nm,19.4s,baz=185,slow=39							
comp=Z,1.2nm,0.8s							
QIS	**Mount Isa**	**30.21**	**156**	P	**P**	**00 25 28.2**	**+0.5**
baz=30,SNR=40							
QIS	**Mount Isa**	**30.21**	**156**	P	**P**	**00 25 28.3**	**+0.7**
MTSU	**Mount Surprise**	**30.39**	**146**	P	**P**	**00 25 30.0**	**+0.7**
PZH	**PanZhiHua**	**30.79**	**312**	P	**P**	**00 25 34.1**	**+1.2**
PZH				pmax	pmax		
comp=Z,10.0nm,0.8s							
PZH				pmax	pmax		
comp=Z,170nm,6.7s							
AS31	**Alice Springs**	**31.38**	**168**	P	**P**	**00 25 37.5**	**-0.5**
ASAR	**Alice Springs**	**31.38**	**168**	P	**P**	**00 25 37.6**	**-0.4**
ASAR	**Alice Springs**	**31.38**	**168**	P	**P**	**00 25 37.8**	**-0.2**
comp=Z,2.5nm,0.5s,baz=346,slow=7.2,SNR=46							
ASAR				PcP	**PcP**	**00 28 31.2**	**+0.6**
comp=Z,2.1nm,0.5s,baz=349,slow=2.4,SNR=13							
ASAR				ScP	**ScP**	**00 32 09.1**	**+0.3**
comp=Z,0.5nm,0.6s,baz=347,slow=3.0,SNR=5.4							
comp=Z,2.5nm,0.5s							
WRKA	**Warakurna**	**32.04**	**178**	P	**P**	**00 25 44.0**	**+0.2**
baz=32,SNR=28							
WRKA	**Warakurna**	**32.04**	**178**	P	**P**	**00 25 44.0**	**+0.2**
HNS	**HongShan**	**32.10**	**341**	⇓P	**P**	**00 25 42.5**	**-1.6**
HNS				pmax	pmax		
comp=Z,5.0nm,0.8s							
JMM	**Marumori**	**33.01**	**20**	P	**P**	**00 25 53.0**	**+1.0**
CTAO	**Charters Tower**	**33.05**	**145**	P	**P**	**00 25 52.6**	**+0.1**
MEEK	**Meekatharra**	**34.59**	**193**	P

baz=46,SNR=12
ARPS Mount Arapiles 45.87 163 P P 00 27 41.0 +2.0
DZM Mont Dzumac 48.34 128 P P 00 27 59.4 +0.8
DZM IAmb IAmb 00 28 00.1
comp=Z,6.3nm,1.1s
WMQ Urumqi 50.12 323 *e*P **P 00 28 13.4 +1.5**
PETK Petropavlovsk- 52.16 23 P P 00 28 27.0 +0.1
PETK Petropavlovsk- 52.16 23 P P 00 28 26.1 -0.8
comp=Z,3.8nm,0.8s,baz=205,slow=3.2,SNR=7.5
comp=Z,3.8nm,0.8s
MK31 Makanchi Array 54.94 324 P P 00 28 46.5 -1.0
MKAR Makanchi Array 54.94 324 P P 00 28 46.5 -0.9
MKAR PcP **PcP 00 29 48.5 -0.3**
MKAR Makanchi Array 54.94 324 P P 00 28 46.5 -0.9
comp=Z,3.0nm,0.7s,baz=126,slow=7.7,SNR=23
comp=Z,3.0nm,0.7s
MAKZ Makanchi 55.13 324 P P 00 28 47.9 -0.9
MAKZ IAmb IAmb 00 28 48.6
comp=Z,2.4nm,0.7s
MA2 Magadan 55.31 14 LR LR 00 55 45.3
comp=Z,20nm,18.1s,baz=312,slow=40
KSH Kashi 55.87 313 P P 00 28 55.6 +1.2
NIL Nilore 56.11 306 P P 00 28 54.9 -1.2
ZALV Zalesovo Beam 57.69 332 P P 00 29 05.4 -1.5
comp=Z,0.6nm,0.5s,baz=104,slow=6.1,SNR=2.5
comp=Z,0.6nm,0.5s
KURK Kurchatov 59.03 326 P P 00 29 15.1 -1.2
KURK IAmb IAmb 00 29 17.1
comp=Z,2.8nm,0.9s
KURBB Kurchatov Arra 59.03 326 P P 00 29 14.7 -1.6
comp=Z,1.2nm,0.3s,baz=126,slow=5.7,SNR=8.4
comp=Z,1.2nm,0.3s
KBL Kabul 59.71 306 P P 00 29 19.7 -1.9
KBL IAmb IAmb 00 29 20.8
comp=Z,2.7nm,0.8s
KK31 Karatay Array 60.96 316 P P 00 29 28.1 -1.5
KK31 IAmb IAmb 00 29 29.1
comp=Z,2.6nm,0.8s
KKAR Karatay Array 60.96 316 P P 00 29 28.1 -1.6
BVAR Borovoye Array 64.63 326 P P 00 29 52.7 -1.2
comp=Z,1.0nm,0.7s,baz=112,slow=9.9,SNR=7.1
comp=Z,1.0nm,0.7s
BRVK Borovoye 64.70 326 P P 00 29 53.3 -1.0
BKZ Black Stump Fm 64.96 139 P P 00 29 56.5 +0.2
ABKAR Akbulak array 69.70 320 P P 00 30 24.3 -1.8
ARU Arti 72.21 327 P P 00 30 39.8 -1.4
ARU IAmb IAmb 00 30 40.2
comp=Z,2.8nm,0.6s
CASY Casey 74.25 187 P P 00 30 53.1 +0.3
CASY IAmb IAmb 00 30 54.3
comp=Z,6.1nm,0.8s
O18K Koktuh Hills 77.69 30 P P 00 31 14.5 +1.8
O18K IAmb IAmb 00 31 15.8
comp=Z,6.7nm,0.8s
TTA Tatalina 77.72 27 P P 00 31 13.3 +0.4
KDAK Kodiak Island 78.84 33 P P 00 31 20.5 +1.4
IMAR Indian Mountai 79.10 24 P P 00 31 21.8 +1.5
CAST Castle Rocks 79.54 27 P P 00 31 24.5 +1.6
CAST IAmb IAmb 00 31 25.4
comp=Z,3.6nm,0.8s
SUA Susitna One 80.02 29 P P 00 31 26.1 +0.5
SUA IAmb IAmb 00 31 27.6
comp=Z,6.8nm,0.8s
MLY Manley 80.25 25 P P 00 31 28.0 +1.2
MLY IAmb IAmb 00 31 30.9
comp=Z,3.4nm,0.8s
TRF Thorofare Moun 80.35 27 P P 00 31 28.3 +0.9
TRF IAmb IAmb 00 31 29.3
comp=Z,3.8nm,0.9s
RND Reindeer 80.99 27 P P 00 31 31.5 +0.8
RND IAmb IAmb 00 31 32.3
comp=Z,3.6nm,0.7s
GURO Guroymak-BITLI 81.67 308 P P 00 31 34.7 -0.2
ILAR Eielson Array 81.89 26 P P 00 31 35.0 -0.3
ILAR Eielson Array 81.89 26 P P 00 31 35.2 -0.1
comp=Z,1.2nm,0.6s,baz=247,slow=5.2,SNR=20
comp=Z,1.2nm,0.6s
RIDG Independent Ri 82.79 27 P P 00 31 41.0 +0.8
RIDG IAmb IAmb 00 31 41.8
comp=Z,4.2nm,0.7s
BMAR Burnt Mountain 82.81 23 P P 00 31 41.9 +1.8
GLB Gilahina Butte 83.35 29 P P 00 31 44.4 +1.3
GLB IAmb IAmb 00 31 45.9
comp=Z,6.4nm,1.0s
VOI Vohitsoka 83.67 247 P P 00 31 44.0 -1.5
BCAR Beaver Creek A 84.20 27 P P 00 31 49.1 +1.7
EPYK Eagle Plains 85.99 24 P P 00 31 57.1 +0.8
EPYK IAmb IAmb 00 32 14.1
comp=Z,5.7nm,1.2s
VNDA Vanda 86.79 173 P P 00 31 59.7 -0.1
comp=Z,3.0nm,0.9s,baz=306,slow=6.0,SNR=12
comp=Z,3.0nm,0.9s
MAW Mawson 87.07 200 P P 00 32 01.4 +0.1
BRTR Keskin Array B 88.06 310 P P 00 32 05.8 -1.2
BRTR Keskin Array B 88.06 310 P P 00 32 05.2 -1.8
comp=Z,0.5nm,0.6s,baz=96,slow=7.4,SNR=2.3
comp=Z,0.5nm,0.6s
CSS Mathiatis 88.95 305 P P 00 32 09.9 -1.2
FINES FINESS Array B 88.95 332 P P 00 32 09.1 -1.4
FINES FINESS Array B 88.95 332 P P 00 32 08.9 -1.5
comp=Z,1.0nm,0.7s,baz=64,slow=4.4,SNR=7.3
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 119.23 51 PKP PKiKP 00 38 06.9 +1.0
comp=Z,0.6nm,0.6s,baz=264,slow=1.8,SNR=9.9
TORD Torodi Ar. Bea 122.07 290 PKP PKPdf 00 38 10.9 -0.6
comp=Z,0.7nm,0.7s,baz=52,slow=2.7,SNR=4.3

*KRNET **01** 00:34:33.7±0.1, 40.°91N×74.°05E, h18km, mb2.9*
*NNC **01** 00:34:34.7±1.7, 40.°95N×73.°90E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=11.3km s-min=7.9km az=11.0*
*SOME **01** 00:34:34.0, 40.°95N×74.°10E, h10km*
*KNET **01** 00:34:36.6±0.6, 41.°09N×74.°13E, h4km±3km, ml2.7, Error ellipse: s-maj=4.2km s-min=3.5km az=79.0*
ISC 01 00:34:31.1±1.3, 40.°81N±0.°04×74.°23E±0.°03, h5km±11km, n58, σ0§98/78, 27C-17D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.97**	**215**	⇑*iP*	**Pn**	**00 34 52.4**	**+0.7**
SFK	baz=5.0			⇑*iS*	**Sn**	**00 35 06.1**	**+0.1**
ARLS	**Aral**	**1.05**	**4**	⇑*iP*	**Pb**	**00 34 51.9**	**0.0**
ARLS	baz=12			⇑*iS*	**Sb**	**00 35 05.3**	**-0.7**
OHH	**Osh**	**1.14**	**256**	⇑*iP*	**Pb**	**00 34 53.3**	**-0.1**
OHH	baz=49			⇑*iS*	**Sg**	**00 35 07.2**	**-0.5**
AML	**Almayashu**	**1.38**	**343**	⇓P	**Pn**	**00 34 57.1**	**-0.3**
AML	34nm,0.2s,SNR=146			⇑S	**Sb**	**00 35 13.6**	**-2.0**
AML	**Almayashu**	**1.38**	**343**	⇓P	**Pn**	**00 34 56.6**	**-0.8**
AML	71nm,0.2s 0.7nm,0.4s			⇑S	**Sb**	**00 35 13.7**	**-2.0**
UCH	**Uchtor**	**1.43**	**8**	P	**Pg**	**00 34 59.4**	**+0.9**
UCH	20nm,0.2s,SNR=67			⇑S	**Sn**	**00 35 17.6**	**0.0**
AAK	**Ala-Archa**	**1.83**	**6**	⇓P	**Pg**	**00 35 06.5**	**+0.2**
AAK	118nm,0.4s 21nm,0.3s,SNR=17			⇓S	**Sg**	**00 35 29.7**	**-0.3**
EKS2	**Erkin-Say**	**1.88**	**350**	⇓P	**Pg**	**00 35 06.4**	**-0.7**
EKS2	12nm,0.2s,SNR=31			⇑S	**Sb**	**00 35 29.5**	**-0.3**
KBK	**Karagaybulak**	**1.92**	**16**	⇓P	**Pg**	**00 35 08.6**	**+0.7**
KBK	33nm,0.4s 12nm,0.1s,SNR=10			⇑S	**Sg**	**00 35 34.0**	**+1.3**
ARK	**Arkit**	**1.97**	**301**	⇑*iP*	**Pb**	**00 35 07.0**	**-0.6**
ARK	114nm,0.3s baz=0.0			⇑*iS*	**Sn**	**00 35 30.8**	**+0.3**
FRU1	**Bishkek**	**2.02**	**8**	⇑*eP*	**Pg**	**00 35 09.5**	**-0.3**
FRU1	baz=13			⇑*iS*	**Sg**	**00 35 35.6**	**-0.3**
MRKS	**Merke**	**2.07**	**339**	Pg	**Pb**	**00 35 09.3**	**0.0**
MRKS	36nm,0.3s 74nm,0.2s			Lg	Lg	00 35 35.3	
MRKS	**Merke**	**2.07**	**339**	*eP*	**Pb**	**00 35 09.2**	**0.0**
MRKS	36nm,0.3s 74nm,0.2s			*eS*	**Sb**	**00 35 35.4**	**0.0**
ULHL	**Ulahol**	**2.08**	**46**	⇑P	**Pg**	**00 35 13.0**	**+2.0**
ULHL	19nm,0.2s,SNR=51 33nm,0.2s			⇑S	**Sg**	**00 35 40.4**	**+2.4**
BOOM	**Boomskoye usch**	**2.11**	**37**	⇓*iP*	**Pg**	**00 35 11.9**	**+0.4**
BOOM	baz=41 baz=41			⇓*iS*	**Sg**	**00 35 39.3**	**+0.4**
MNAS	**Manas**	**2.11**	**323**	⇑*iP*	**Pb**	**00 35 09.5**	**-0.5**
MNAS	baz=24 baz=24			⇑*iS*	**Sb**	**00 35 35.6**	**-1.1**
CHMS	**Chumysh**	**2.22**	**10**	⇑P	**Pg**	**00 35 13.8**	**+0.2**
CHMS	6.2nm,0.2s,SNR=8.8 78nm,0.7s			⇑S	**Sg**	**00 35 41.7**	**-0.6**
CHMS	**Chumysh**	**2.22**	**10**	⇓Pn	**Pg**	**00 35 14.0**	**+0.3**
CHMS	3.9nm,0.3s 77nm,0.8s			⇓Sn	**Sg**	**00 35 42.0**	**-0.4**
TKM2	**Tokmak 2**	**2.34**	**25**	⇑P	**Pg**	**00 35 16.5**	**+0.5**
TKM2	6.5nm,0.2s,SNR=9.6 44nm,0.4s			⇓S	**Sg**	**00 35 46.8**	**+0.5**
TKM2	**Tokmak 2**	**2.34**	**25**	⇑Pn	**Pg**	**00 35 17.4**	**+1.4**
TKM2	4.7nm,0.3s 33nm,0.7s			⇓Sn	**Sg**	**00 35 46.9**	**+0.5**
USP	**Ospenovka**	**2.46**	**5**	⇓P	**Pg**	**00 35 17.3**	**-1.0**
KST	23nm,0.3s,SNR=24 **Kastek**	**2.58**	**30**	Pg	**Pg**	**00 35 21.2**	**+0.8**
KST	6.7nm,0.3s 62nm,0.7s			Lg	Lg	00 35 55.0	
KST	**Kastek**	**2.58**	**30**	*e*Pg	**Pg**	**00 35 21.2**	**+0.8**
KST	6.7nm,0.3s 62nm,0.0s			*e*Lg	Lg	00 35 55.0	
DGS	**Degeres**	**2.68**	**25**	Pg	**Pg**	**00 35 23.5**	**+0.9**
DGS	18nm,0.5s 94nm,0.8s			Lg	Lg	00 35 59.1	
DGS	**Degeres**	**2.68**	**25**	*e*Pg	**Pg**	**00 35 23.5**	**+0.9**
DGS	19nm,0.3s 98nm,0.4s			*e*Lg	Lg	00 35 59.1	
BTK	**Batken**	**2.71**	**255**	⇑*eP*	**Pb**	**00 35 18.6**	**-1.6**
BTK	baz=52 baz=52			⇑*iS*	**Sn**	**00 35 50.7**	**+2.0**
MTBS	**Maitube**	**2.83**	**35**	Pg	**Pg**	**00 35 25.8**	**+0.4**
MTBS	8.7nm,0.3s 104nm,0.4s			Lg	Lg	00 36 03.6	
MTBS	**Maitube**	**2.83**	**35**	*e*Pg	**Pg**	**00 35 25.8**	**+0.4**
MTBS	8.4nm,0.1s 104nm,0.2s			*e*Lg	Lg	00 36 03.6	
IZV	**Izvestkoviy**	**2.84**	**38**	Pg	**Pg**	**00 35 26.7**	**+1.0**
IZV	6.3nm,0.4s 65nm,0.5s			Lg	Lg	00 36 04.4	
IZV	**Izvestkoviy**	**2.84**	**38**	*e*Pg	**Pg**	**00 35 26.7**	**+1.0**
IZV	6.3nm,0.4s 65nm,0.2s			*e*Lg	Lg	00 36 04.4	
DZA	**Taraz**	**3.00**	**315**	Pg	**Pb**	**00 35 26.4**	**+1.3**
DZA	27nm,0.4s 93nm,0.3s			Lg	Lg	00 36 04.7	
DZA	**Taraz**	**3.00**	**315**	*e*Pg	**Pb**	**00 35 26.4**	**+1.3**
DZA	27nm,0.4s 93nm,0.1s			*e*Lg	Lg	00 36 04.7	
TNSS	**Tian-Shan**	**3.01**	**41**	Pg	**Pg**	**00 35 29.8**	**+1.0**
TNSS	7.3nm,0.3s 13nm,0.6s			Lg	Lg	00 36 09.8	
TNSS	**Tian-Shan**	**3.01**	**41**	*e*Pg	**Pg**	**00 35 29.8**	**+1.0**
TNSS	7.3nm,0.2s 13nm,0.3s			*e*Lg	Lg	00 36 09.8	
KOTS	**Kotyrbulak**	**3.23**	**41**	Pg	**Pg**	**00 35 33.4**	**+0.3**
KOTS	10.0nm,0.5s 51nm,0.6s			Lg	Lg	00 36 16.6	
KOTS	**Kotyrbulak**	**3.23**	**41**	*e*Pg	**Pg**	**00 35 33.4**	**+0.3**
KOTS	10nm,0.3s 51nm,0.2s			*e*Lg	Lg	00 36 16.6	
ANVS	**Anan'yevo**	**3.23**	**51**	⇓*iP*	**Pb**	**00 35 28.0**	**-1.2**
ANVS	baz=54 baz=54			⇓*iS*	**Sb**	**00 36 07.6**	**-1.4**
KTBS	**Karatobe**	**3.42**	**31**	Pg	**Pg**	**00 35 36.3**	**-0.3**
KTBS	3.3nm,0.3s 83nm,0.7s			Lg	Lg	00 36 20.9	
KTBS	**Karatobe**	**3.42**	**31**	*e*Pg	**Pg**	**00 35 36.3**	**-0.3**
KTBS	3.7nm,0.2s 83nm,0.3s			*e*Lg	Lg	00 36 20.9	
KK31	**Karatay Array**	**3.59**	**311**	⇓Pg	**Pb**	**00 35 35.1**	**-0.1**
KK31	1.3nm,0.4s,baz=130,slow=17,SNR=13 10nm,0.6s,baz=131,slow=27,SNR=16			⇓Lg	Lg	00 36 20.9	
KKAR	**Karatay Array**	**3.59**	**311**	⇑*iP*	**Pn**	**00 35 29.9**	**+2.3**
KKAR	baz=11 baz=11			⇑*iS*	**Sn**	**00 36 11.3**	**+0.9**
SATY	**Saty**	**3.84**	**53**	Pg	**Pg**	**00 35 43.9**	**-0.7**
SATY	8.1nm,0.6s 15nm,0.3s			Lg	Lg	00 36 34.6	
SATY	**Saty**	**3.84**	**53**	*e*Pg	**Pg**	**00 35 43.9**	**-0.7**
SATY	8.1nm,0.6s 17nm,0.3s			*e*Lg	Lg	00 36 34.6	
KURS	**Kuram**	**3.96**	**46**	Pg	**Pg**	**00 35 47.3**	**+0.3**
KURS	3.2nm,0.6s 9.0nm,0.8s			Lg	Lg	00 36 39.8	
KURS	**Kuram**	**3.96**	**46**	*e*Pg	**Pg**	**00 35 47.3**	**+0.3**
KURS	3.1nm,0.3s 8.9nm,0.4s			*e*Lg	Lg	00 36 39.8	
KPKS	**Kokpek**	**4.24**	**50**	Pg	**Pg**	**00 35 52.4**	**0.0**
KPKS	4.4nm,0.4s 14nm,0.5s			Lg	Lg	00 36 48.7	
KPKS	**Kokpek**	**4.24**	**50**	*e*Pg	**Pg**	**00 35 52.4**	**0.0**
KPKS	3.8nm,0.2s 14nm,0.2s			*e*Lg	Lg	00 36 48.7	
UZB	**Uzynbulak**	**4.26**	**55**	Pg	**Pg**	**00 35 52.3**	**-0.5**
UZB	3.0nm,0.4s 11nm,0.5s			Lg	Lg	00 36 48.5	
UZB	**Uzynbulak**	**4.26**	**55**	*e*Pg	**Pg**	**00 35 52.4**	**-0.5**
UZB	3.0nm,0.2s 12nm,0.3s			*e*Lg	Lg	00 36 48.5	
ARXS	**Arharly**	**4.31**	**37**	Pg	**Pg**	**00 35 52.2**	**-1.5**
ARXS	6.6nm,0.7s 15nm,0.6s			Lg	Lg	00 36 48.2	
ARXS	**Arharly**	**4.31**	**37**	*e*Pg	**Pg**	**00 35 52.2**	**-1.5**
ARXS	6.5nm,0.3s 16nm,0.3s			*e*Lg	Lg	00 36 48.2	
BLB	**Baldybastay**	**4.54**	**42**	Pg	**Pg**	**00 35 56.2**	**-1.9**
BLB	6.2nm,0.6s 10nm,0.6s			Lg	Lg	00 36 55.0	
SHLS	**Shalkode**	**4.55**	**57**	Pg	Pg	00 36 03.2	+4.9
SHLS	17nm,0.6s 9.1nm,0.4s			Lg	Lg	00 37 07.2	
SHLS	**Shalkode**	**4.55**	**57**	*e*Pg	Pg	00 36 03.2	+4.9
SHLS	17nm,0.4s 12nm,0.3s			*e*Lg	Lg	00 37 07.2	
PDGK	**Podgornoye**	**4.65**	**56**	Pg	**Pg**	**00 35 59.6**	**-0.6**
PDGK	2.1nm,0.6s 3.8nm,0.8s			Lg	Lg	00 37 01.5	
KNOS	**Konyrlen**	**5.09**	**44**	Pg	**Pg**	**00 36 07.0**	**-1.6**
KNOS	4.0nm,0.7s 7.8nm,0.6s			Lg	Lg	00 37 13.5	
TDK	**Taldyqorghan**	**5.19**	**35**	Pg	**Pg**	**00 36 09.7**	**-0.8**
TDK	16nm,0.4s 26nm,0.5s			Lg	Lg	00 37 18.5	
TDK	**Taldyqorghan**	**5.19**	**35**	*e*Pg	**Pg**	**00 36 09.7**	**-0.8**
TDK	16nm,0.4s 26nm,0.5s			*e*Lg	Lg	00 37 18.5	

*DSN **01** 01:08:04.2±1.3, 28.°19N×57.°87E, h10km, ML2.7/6, Error ellipse: s-maj=30.1km s-min=10.5km az=126.0*
*TEH **01** 01:08:05.6, 28.°44N×57.°38E, h8km±83km, ML2.9*
*OMAN **01** 01:08:10.5±1.1, 28.°01N×57.°64E, h10km, mb4.0/1, ml3.0/13, Mwp4.9/3, Error ellipse: s-maj=9.5km s-min=8.5km az=41.0*
ISC 01 01:08:04.6±0.9, 28.°42N±0.°03×57.°47E±0.°05, h10km, n32, σ1§83/46, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.51**	**156**	Pg	**Pg**	**01 08 17.0**	**+2.4**
KBAM	**BAM**	**1.12**	**50**	Pg	**Pg**	**01 08 28.0**	**+1.8**
IBND	**Bandar-abas**	**1.27**	**221**	Pg	**Pg**	**01 08 29.5**	**+0.6**
NGRK	**Negar Kerman**	**1.38**	**332**	Pg	**Pb**	**01 08 31.1**	**+0.3**
CHMN	**Cheshme madani**	**1.44**	**3**	Pg	**Pg**	**01 08 32.8**	**+0.5**
GENO	**Geno**	**1.53**	**229**	Pg	**Pb**	**01 08 33.1**	**0.0**
TVBK	**TV Kerman**	**1.68**	**339**	Pg	**Pg**	**01 08 36.7**	**-0.2**
KHGB	**Koh Gabri**	**2.13**	**336**	Pn	**Pb**	**01 08 43.6**	**+0.1**
SHME	**Shamm**	**2.64**	**207**	P	**Pn**	**01 08 47.8**	**+0.6**
SHME				S	**Sn**	**01 09 18.8**	**-0.4**
SHME	**Shamm**	**2.64**	**207**	P	**Pn**	**01 08 47.9**	**+0.6**
SHME				S	**Sn**	**01 09 19.0**	**-0.2**
MASF	**Masafi**	**3.25**	**201**	P	**Pn**	**01 08 57.2**	**+1.5**
MASF				S	**Sn**	**01 09 35.1**	**+0.7**
MSFE	**Esma-Masafi**	**3.26**	**201**	P	**Pn**	**01 08 54.9**	**-0.9**
MDH	**Madha**	**3.27**	**199**	P	**Pn**	**01 08 55.8**	**-0.2**
UOSS	**Minazif**	**3.64**	**198**	P	**Pn**	**01 08 59.4**	**-1.6**
UOSS	**Minazif**	**3.64**	**198**	P	**Pn**	**01 09 02.5**	**+1.5**
HATD	**Hatta, Dubai**	**3.77**	**199**	P	**Pn**	**01 09 01.8**	**-1.0**
HATD	**Hatta, Dubai**	**3.77**	**199**	P	**Pn**	**01 09 05.8**	**+3.0**
ASHO	**Ashiyiah**	**3.92**	**199**	P	**Pn**	**01 09 03.4**	**-1.6**
ASHO				S	**Sn**	**01 09 51.1**	**0.0**
ASHO	**Ashiyiah**	**3.92**	**199**	P	**Pn**	**01 09 06.9**	**+1.9**
FAQ	**Al Faqa, Dubai**	**4.02**	**205**	P	**Pn**	**01 09 05.6**	**-0.6**
FAQ	**Al Faqa, Dubai**	**4.02**	**205**	P	**Pn**	**01 09 07.5**	**+1.2**
FAQ				S	**Sn**	**01 09 52.6**	**-0.9**
ASUD	**Al Ashush, Dub**	**4.23**	**207**	P	**Pn**	**01 09 10.4**	**+1.3**
ASUD				S	**Sn**	**01 09 58.2**	**-0.5**
SOHO	**SOHO**	**4.35**	**191**	P	**Pn**	**01 09 07.8**	**-3.0**
SOHO	**SOHO**	**4.35**	**191**	P	**Pn**	**01 09 09.7**	**-1.0**
HOQ	**Hoqain** SNR=7.6	**4.82**	**182**	P	**Pn**	**01 09 16.6**	**-0.6**
HOQ				S	**Sn**	**01 10 09.6**	**-3.5**
ARQ	**Araqi** SNR=17	**5.13**	**190**	P	**Pn**	**01 09 23.4**	**+1.9**
ARQ				S	**Sn**	**01 10 20.2**	**-0.7**
WSAR	**Wadi Sarin**	**5.26**	**168**	P	**Pn**	**01 09 24.0**	**+0.7**
WSAR				S	**Sn**	**01 10 19.9**	**-4.2**
SMDO	**Samad**	**5.36**	**174**	P	**Pn**	**01 09 25.7**	**+0.9**
SMDO				S	**Sn**	**01 10 25.9**	**-0.8**
BSY	**Bisya**	**5.65**	**182**	P	**Pn**	**01 09 30.9**	**+2.2**
BSY				S	**Sn**	**01 10 33.1**	**-0.6**
WBK	**Wadi Bani Khal** SNR=16	**5.94**	**166**	P	**Pn**	**01 09 32.9**	**+0.3**
WBK				S	**Sn**	**01 10 36.4**	**-4.4**
JLN	**Jalan Bani Buh** SNR=7.4	**6.48**	**164**	P	**Pn**	**01 09 41.0**	**+0.9**
JLN				S	**Sn**	**01 10 49.7**	**-4.4**
MHTO	**MHTO**	**7.41**	**176**	P	**Pn**	**01 09 54.0**	**+1.1**
MHTO				S	**Sn**	**01 11 13.6**	**-3.5**

IDC 01 01:22:08.8±6.8, 5.°60S×147.°60E, h198km±76km, mb2.8/1, mbtmp3.3/3, Error ellipse: s-maj=161.5km s-min=53.9km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.81**	**187**	P	Pn	01 23 08.6	+0.4
PMG	3.2nm,0.3s,baz=216,slow=17,SNR=2.4			S	Sn	01 23 55.2	+0.4
WRA	**Warramunga Arr**	**19.22**	**221**	P	P	01 26 17.9	-0.3
ASAR	6.3nm,0.4s,baz=31,slow=22,SNR=2.4 0.4nm,0.4s,baz=40,slow=11,SNR=9.7 **Alice Springs**	**22.28**	**215**	P	P	01 26 50.1	+0.1
TORD	1.1nm,1.1s,baz=53,slow=8.3,SNR=7.5 1.1nm,1.1s **Torodi Ar. Bea**	**145.56**	**285**	PKPbc	PKPdf	01 41 24.3	-0.2
	0.7nm,1.0s,baz=97,slow=2.5,SNR=2.4						

*BJI **01** 01:25:00.8±0.0, 36.°70N×141.°21E, h10km, mb4.6/35, mB4.7/21, Ms4.4/37, Ms7 4.2/37*
*IDC **01** 01:25:05.8±0.5, 36.°84N×140.°60E, h0km, mb4.4/29, mbtmp4.4/34, ML3.9/5, MS3.9/48, Error ellipse: s-maj=13.8km s-min=11.3km az=101.0*
*MOS **01** 01:25:05.8±0.9, 36.°89N×140.°55E, h13km, mb4.9/42, Error ellipse: s-maj=8.0km s-min=4.9km az=120.6*
*JMA **01** 01:25:06.4±0.0, 36.°9N±0.°1×140.°6E±0.°2, h5km, MD4.9/19, MW4.7/19, NORTHERN IBARAKI PREF*
JMA Felt III J1 at NORTHERN IBARAKI PREF .
*NIED **01** 01:25:06.4, 36.°85N×140.°57E, h5km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.16; $M_{\theta\theta}$0.01; $M_{\phi\phi}$1.14; $M_{r\theta}$0.31; $M_{\theta\phi}$-0.03; $M_{\phi r}$1.15; Fault plane solution: $M_0$1.66000×10^{16} NP1: ϕ_s190.00000°, δ68.00000°, λ-81.00000°. NP2: ϕ_s348.00000°, δ23.00000°, λ-111.00000°.*
*NEIC **01** 01:25:07.7±1.9, 36.°92N±0.°04×140.°62E±0.°04, h10km±1km, mb4.9/199 Error ellipse: s-maj=7.1km s-min=4.3km az=138.0*
*BGR **01** 01:25:07.0, 36.°72N×142.°11E, h33km, mb4.7*
*GCMT **01** 01:25:09.7±0.4, 36.°66N±0.°04×140.°51E±0.°03, h17km±1km, MW4.9/86, Moment Tensor Solution. s17,c21; s86,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.87±.14; $M_{\theta\theta}$0.17±.09; $M_{\phi\phi}$1.70±.09; $M_{r\theta}$-1.79±.33; $M_{\theta\phi}$-0.24±.05; $M_{\phi r}$0.67±.22; Best double couple: $M_0$2.51800×10^{16} NP1:ϕ_s136.00000°, δ68.00000°, λ-114.00000°. NP2: ϕ_s5.00000°, δ32.00000°, λ-46.00000°. Principal axes: T 2.0810, Plg19.0000°, Azm244.0000°; N 0.8800, Plg22.0000°, Azm146.0000°; P -2.9550, Plg60.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 01:25:07.1±0.6, 36.°86N±0.°02×140.°63E±0.°03, h10km±3km, n736, σ1§24/569, mb4.8/171, MS4.1/59, 17C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.23**	**346**	*i*P	**Pg**	**01 25 11.2**	**-0.7**
JFFD				S	**Sg**	**01 25 14.7**	**-0.5**
JFFD	**Fukushimafurud**	**0.23**	**346**	A	A	01 25 11.2	
	comp=E,128nm,3.4s,comp=N,182nm,1.9s						
JHO	**Hitachi**	**0.26**	**191**	P	**Pg**	**01 25 11.2**	**-1.0**
JHO				S	**Sg**	**01 25 14.8**	**-1.0**
JHO	**Hitachi**	**0.26**	**191**	A	A	01 25 11.2	
	comp=E,68nm,3.7s,comp=N,58nm,3.1s						
ONAJ	**Iwakimizuishiy**	**0.27**	**29**	*i*P	**Pg**	**01 25 12.5**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.27**	**29**	A	A	01 25 12.5	
	comp=E,288nm,1.8s,comp=N,168nm,1.6s						
JHYU	**Hitachinakayam**	**0.52**	**184**	A	A	01 25 16.5	
	comp=E,33nm,2.3s,comp=N,69nm,4.9s						
JFK	**Kawauchi**	**0.54**	**21**	*e*P	**Pg**	**01 25 17.1**	**-0.4**
JFK	**Kawauchi**	**0.54**	**21**	A	A	01 25 17.1	
	comp=E,47nm,1.7s,comp=N,91nm,3.1s						
JSB	**Shiboa**	**0.58**	**281**	*i*P	**Pg**	**01 25 17.4**	**-0.9**
JSB				S	**Sg**	**01 25 25.9**	**0.0**
JSB	**Shiboa**	**0.58**	**281**	A	A	01 25 17.4	
	comp=E,473nm,4.5s,comp=N,343nm,2.5s						
JYT	**Yasato**	**0.72**	**209**	*i*P	**Pg**	**01 25 19.6**	**-1.5**

JYT Yasato 0.72 209 A A 01 25 19.6
comp=E,58nm,0.4s,comp=N,41nm,0.4s
JOTO OTAMA OYAMA 0.74 341 *i* P Pg 01 25 20.5 -0.8
JOTO S Sg 01 25 30.5 -0.4
JOTO OTAMA OYAMA 0.74 341 A A 01 25 20.5
comp=E,169nm,0.8s,comp=N,203nm,3.6s
JMST Minamisoumatoc 0.89 13 A A 01 25 23.8
comp=E,33nm,0.3s,comp=N,56nm,3.8s
JIHU Itakohorinouch 0.90 185 A A 01 25 23.4
comp=E,259nm,4.8s,comp=N,183nm,4.8s
JFY Yanaizu 0.92 307 *i* P Pg 01 25 23.1 -1.7
JFY S Sg 01 25 35.2 -1.5
JFY Yanaizu 0.92 307 A A 01 25 23.1
comp=E,90nm,2.6s,comp=N,47nm,4.8s
JMM Marumori 1.01 7 Pg 01 25 25.7 -0.8
JMM Sg Sg 01 25 38.5 -1.2
JMM Marumori 1.01 7 A A 01 25 26.0
comp=E,60nm,4.2s,comp=N,62nm,3.3s
JAG Ashikaga 1.04 246 *i* P Pg 01 25 24.6 -2.5
JAG Ashikaga 1.04 246 A A 01 25 24.6
comp=E,38nm,4.0s,comp=N,36nm,4.4s
JKT Katashina 1.11 266 A A 01 25 26.6
comp=E,29nm,3.7s,comp=N,41nm,4.0s
JYAR Yonezawaarcadi 1.12 340 A A 01 25 27.4
comp=E,98nm,1.1s,comp=N,63nm,0.9s
JSMT Sammumatsuo 1.23 187 A A 01 25 29.2
comp=E,81nm,4.9s,comp=N,83nm,5.0s
JUON Uonuma 1.31 286 A A 01 25 30.0
comp=E,24nm,3.3s,comp=N,19nm,3.6s
TOK Tokyo 1.37 211 A A 01 25 31.2
comp=E,103nm,4.7s,comp=N,118nm,3.9s
JNS Sasagawa 1.42 313 A A 01 25 32.1
comp=E,34nm,4.7s,comp=N,42nm,4.4s
JYS Shirataka 1.43 342 A A 01 25 32.7
comp=E,85nm,1.3s,comp=N,63nm,0.7s
JCN Nagara 1.48 194 A A 01 25 33.3
comp=E,65nm,4.7s,comp=N,65nm,4.7s
JHU Hanno 1.48 228 A A 01 25 32.9
comp=E,19nm,2.7s,comp=N,15nm,3.2s
JOU Okura 1.50 1 A A 01 25 34.1
comp=E,75nm,0.7s,comp=N,78nm,1.7s
JIKH Ishinomakikobu 1.59 24 A A 01 25 35.7
comp=E,49nm,3.9s,comp=N,33nm,0.8s
JGK Kuni 1.63 260 A A 01 25 35.1
comp=E,31nm,2.6s,comp=N,31nm,4.4s
JRY Ryogami san 1.63 239 A A 01 25 35.1
comp=E,15nm,3.1s,comp=N,17nm,2.8s
JIZZ Izumozaki 1.67 294 A A 01 25 35.9
comp=E,73nm,5.2s,comp=N,92nm,3.2s
JIO Ouri 1.69 20 A A 01 25 37.2
comp=E,60nm,1.6s,comp=N,33nm,1.3s
JSGW Sagamiharawaka 1.70 223 A A 01 25 36.4
comp=E,12nm,6.4s,comp=N,9.0nm,4.2s
JKUC kamogawauchiur 1.73 192 A A 01 25 37.2
comp=E,21nm,5.3s,comp=N,18nm,5.4s
JOFO Osakifurukawao 1.75 7 A A 01 25 37.9
comp=E,208nm,3.4s,comp=N,190nm,5.3s
JYO Yokosk 1.81 206 A A 01 25 38.2
comp=E,27nm,6.9s,comp=N,30nm,4.2s
JYA Atsumi 1.88 337 A A 01 25 39.4
comp=E,73nm,0.8s,comp=N,84nm,1.1s
TATJ Tateyama 2 1.92 198 A A 01 25 39.9
comp=E,44nm,3.9s,comp=N,28nm,4.6s
JAW Awa shima 1.93 326 A A 01 25 40.1
comp=E,18nm,5.0s,comp=N,25nm,3.5s
MJAR Matsushiro Arr 1.97 261 P Pn 01 25 39.2 -1.4
MJAR 01 26 06.7
MJAR Matsushiro Arr 1.97 261 Pn Pn 01 25 39.2 -1.4
comp=N,45nm,0.3s,baz=80,slow=15,SNR=939
MJAR Sn Sb 01 26 06.7 -1.1
comp=N,61nm,0.3s,baz=26,slow=5.1,SNR=15
MJAR LR LR 01 26 44.8
comp=N,5µm,19.5s,baz=63,slow=51
MAJO Matsushiro 1.97 261 Pn Pn 01 25 40.4 -0.2
MAJO Sn Sn 01 26 06.0 +0.6
MAJO Matsushiro 1.97 261 *c i* P Pn 01 25 40.4 -0.2
MJB9 Matsu-Tunnel 1.98 262 Pn 01 25 41.3 +0.6
JJN Nakama 1.99 278 A A 01 25 40.6
comp=E,51nm,2.2s,comp=N,21nm,2.9s
JOD2 Odawara 2 2.03 219 A A 01 25 41.2
comp=E,11nm,5.1s,comp=N,16nm,5.2s
JKMT Kesennumamotoy 2.06 19 A A 01 25 42.6
comp=E,30nm,3.1s,comp=N,10.0nm,2.2s
JYK Kaneyama 2.06 354 A A 01 25 42.4
comp=E,26nm,1.3s,comp=N,24nm,2.6s
JNG Nsakai 2.09 258 A A 01 25 41.9
comp=E,13nm,3.0s,comp=N,16nm,2.8s
JMK Ichinoseki 2.14 12 A A 01 25 43.7
comp=E,19nm,3.0s,comp=N,8.0nm,2.9s
JYN Shimob 2.17 232 A A 01 25 43.2
comp=E,16nm,3.9s,comp=N,22nm,4.1s
JSD Sado 2.22 303 Pn 01 25 43.1 -0.9
JSD Sado 2.22 303 A A 01 25 44.1
comp=E,16nm,2.4s,comp=N,14nm,1.7s
JYYZ Yamagatayuza 2.22 346 A A 01 25 44.5
comp=E,89nm,1.9s,comp=N,60nm,4.8s
JNT Takato 2.24 245 A A 01 25 44.2
comp=E,13nm,3.3s,comp=N,8.0nm,5.8s
JFNN Fujinakano 2.29 224 A A 01 25 45.0
comp=E,24nm,6.0s,comp=N,21nm,3.6s
JHTM Izuhatsuma 2.31 215 A A 01 25 45.4
comp=E,19nm,2.8s,comp=N,18nm,3.1s
JIM2 Oshima 3 2.35 205 A A 01 25 46.0
comp=E,15nm,4.4s
OFUJ Ofunato 2.36 20 A A 01 25 47.0
comp=E,21nm,5.3s,comp=N,10.0nm,3.0s
JTB Tobi-shima 2.48 340 A A 01 25 48.2
comp=E,16nm,3.8s,comp=N,11nm,2.5s
JRG Rokugo 2.53 0 A A 01 25 49.2
comp=E,20nm,8.8s,comp=N,22nm,3.1s
JIZS Izushimoda 2.57 214 A A 01 25 49.1
comp=E,6.0nm,3.6s,comp=N,7.0nm,4.4s
JTHY Toshimahigashi 2.58 205 A A 01 25 49.3
comp=E,16nm,4.7s,comp=N,16nm,2.5s
JOM Ohasama 2.66 11 A A 01 25 51.2
comp=E,16nm,2.6s,comp=N,8.0nm,4.1s
SHZ3 Shizuoka 3 2.66 228 A A 01 25 50.3
comp=E,8.0nm,10.0s,comp=N,9.0nm,5.8s
JTT Ttatey 2.66 265 A A 01 25 50.2
comp=E,21nm,3.4s,comp=N,17nm,3.7s
JSZ Suzu 2.67 284 A A 01 25 50.5
comp=E,13nm,4.5s,comp=N,8.0nm,5.1s
JYW Yuwa 2.69 353 A A 01 25 51.5
comp=E,34nm,4.0s,comp=N,25nm,1.0s
JNY Yasuok 2.70 237 A A 01 25 50.8
comp=E,8.0nm,3.9s,comp=N,12nm,4.1s
MIYJ Miyakonagasawa 2.87 19 A A 01 25 54.3
comp=E,23nm,1.7s,comp=N,12nm,2.0s
JSZI Iwateshizukuis 2.89 5 A A 01 25 54.8
comp=E,30nm,1.8s,comp=N,27nm,2.6s
JGF Kuroka 2.93 246 Pn Pn 01 25 54.7 +0.9
JGF Kuroka 2.93 246 A A 01 25 54.1
comp=E,6.0nm,5.6s,comp=N,6.0nm,5.6s
JMYK Miyake Tsubota 2.93 198 A A 01 25 54.5
comp=E,8.0nm,6.2s,comp=N,9.0nm,8.5s
JSG Sagara 2.95 223 Pn 01 25 52.5 -1.5
JSG Sagara 2.95 223 A A 01 25 54.5
comp=E,19nm,4.6s,comp=N,14nm,5.2s
JKKS Kakegawashinom 3.01 226 A A 01 25 55.3
comp=E,19nm,4.5s,comp=N,11nm,4.6s
JJH Hakui 3.09 272 A A 01 25 56.3
comp=E,5.0nm,5.1s,comp=N,6.0nm,4.0s
HMMJ Hamamatsu 2 3.10 231 A A 01 25 56.5
comp=E,6.0nm,4.7s,comp=N,6.0nm,5.1s
JHG Hegura jima 3.12 290 A A 01 25 56.8
comp=E,7.0nm,4.1s,comp=N,6.0nm,4.0s
JAO Obara 3.16 241 A A 01 25 57.4
comp=E,7.0nm,9.7s,comp=N,8.0nm,3.8s
JKZ Kuzumaki 3.17 10 A A 01 25 58.4
comp=E,18nm,3.4s,comp=N,10.0nm,1.8s
JTH Tanohata 3.22 17 A A 01 25 59.3
comp=E,27nm,4.2s,comp=N,10.0nm,3.1s
JOG3 Oga3 3.29 339 A A 01 25 57.5
comp=E,13nm,5.3s,comp=N,12nm,1.7s
INU Inuyama 3.29 244 Pn Pn 01 26 00.2 +1.4
JAH Hinai 3.32 0 A A 01 26 00.5
comp=E,15nm,3.1s,comp=N,8.0nm,5.0s
JYTA Yamagatataniai 3.39 249 A A 01 26 00.7
comp=E,4.0nm,5.5s,comp=N,4.0nm,2.2s
JNTW Noshirotokiwa 3.42 354 A A 01 26 01.9
comp=E,31nm,3.2s,comp=N,31nm,4.2s
JICN Ichinomiyachia 3.44 244 A A 01 26 01.3
comp=E,10.0nm,6.2s,comp=N,11nm,2.7s
JKEN Kujiedanarisaw 3.44 14 A A 01 26 02.4
comp=E,39nm,3.6s,comp=N,26nm,5.1s
TTO5 TONANKAI O.B.S 3.52 223 A A 01 26 02.7
comp=E,21nm,4.8s,comp=N,21nm,5.5s
JANG Nango 3.57 11 A A 01 26 04.2
comp=E,14nm,4.6s,comp=N,7.0nm,1.2s
JAA Atsumi 3.60 233 A A 01 26 03.7
comp=E,6.0nm,4.0s,comp=N,8.0nm,3.8s
JIW Iwasaki 3.76 353 A A 01 26 06.6
comp=E,6.0nm,5.5s,comp=N,5.0nm,4.0s
JHHS Hirosakihyakuz 3.79 357 A A 01 26 07.1
comp=E,21nm,4.2s,comp=N,16nm,3.9s
JHJ Hachijo jima 2 3.80 191 Pn 01 26 05.9 +0.2
JHJ Sn 01 26 52.9 +2.4
JHJ Hachijo jima 2 3.80 191 Pn Pn 01 26 05.9 +0.2
comp=N,50nm,0.3s,baz=315,slow=4.3,SNR=13
JHJ Sn Sn 01 26 52.9 +2.4
comp=N,73nm,0.3s,baz=67,slow=22,SNR=4.6
JHJ LR LR 01 27 31.8
comp=N,643nm,18.1s,baz=282,slow=39
comp=N,111nm,0.3s
JHJ2 Mitsune 3.80 190 Pn Pn 01 26 04.7 -1.0
JEG Eigenji 3.85 245 A A 01 26 07.1
comp=E,4.0nm,6.5s,comp=N,3.0nm,2.3s
JTM Tenmabayashi 3.93 5 Pn Pn 01 26 08.8 +1.2
JTM Tenmabayashi 3.93 5 A A 01 26 09.3
comp=E,8.0nm,4.0s,comp=N,6.0nm,4.9s
JFM Mihama 3.99 252 A A 01 26 09.1
comp=E,5.0nm,4.2s,comp=N,4.0nm,4.5s
TTO3 TONANKAI O.B.S 3.99 222 A A 01 26 09.3
comp=E,15nm,5.2s,comp=N,21nm,8.2s
JIE Ise 4.04 234 A A 01 26 09.8
comp=E,6.0nm,3.3s,comp=N,4.0nm,4.8s
JARK Aomorirokkasho 4.18 8 A A 01 26 12.7
comp=E,11nm,4.3s,comp=N,8.0nm,4.3s
JSI2 Shiura 2 4.19 358 A A 01 26 12.8
comp=E,5.0nm,3.1s,comp=N,4.0nm,3.3s
TTO2 TONANKAI O.B.S 4.29 224 A A 01 26 13.5
comp=E,19nm,4.6s,comp=N,17nm,8.4s
JAHD Aomorihigashid 4.43 7 A A 01 26 16.3
comp=E,27nm,2.3s,comp=N,26nm,1.6s
TTO1 TONANKAI O.B.S 4.51 225 A A 01 26 16.6
comp=E,19nm,3.4s,comp=N,21nm,5.0s
JOT Ohata 4.53 4 A A 01 26 17.6
comp=E,8.0nm,7.0s,comp=N,4.0nm,5.3s
JKY Yasaka 4.63 256 A A 01 26 18.2
comp=E,2.0nm,4.9s,comp=N,3.0nm,7.8s
JSR Shiriuchi 4.66 358 A A 01 26 19.5
comp=E,4.0nm,4.5s,comp=N,5.0nm,3.1s
JMIK Miki 4.97 247 A A 01 26 23.0
comp=E,5.0nm,5.4s,comp=N,4.0nm,6.6s
JKB Kayabe 5.03 3 A A 01 26 24.7
comp=E,8.0nm,3.7s,comp=N,4.0nm,5.0s
ERM Erimo 5.50 20 Pn Pn 01 26 29.2 +0.1
ERM Erimo 5.50 20 *ce*P Pn 01 26 29.4 +0.3
ERM pmax pmax
comp=Z,86nm,1.0s
JNBK Urakawa-nobuka 5.65 16 A A 01 26 33.6
comp=E,4.0nm,4.9s,comp=N,5.0nm,7.7s
JSHD Hidakashinhida 5.72 14 A A 01 26 34.4
comp=E,8.0nm,5.6s
JEW Eniwo 6.00 6 A A 01 26 38.3
comp=E,4.0nm,4.5s,comp=N,5.0nm,4.8s
JMN Monobe 6.34 242 Pn Pn 01 26 38.6 -2.1
ASAJ Asahikawa 7.40 11 P Pn 01 26 55.4 +0.3
ASAJ Asahikawa 7.40 11 Pn Pn 01 26 55.4 +0.3
comp=N,4.0nm,0.3s,baz=216,slow=9.2,SNR=22
ASAJ Sn Sn 01 28 18.6 -0.6
comp=N,1.3nm,0.3s,baz=236,slow=16,SNR=4.2
comp=N,9.2nm,0.3s
JKA Kamikawa-asahi 7.40 11 Pn Pn 01 26 54.2 -0.9
TEY Ternei 8.71 341⇑ *eP* Pn 01 27 17.8 +4.7
TEY *e* 01 28 57.2
TEY pmax pmax
comp=Z,20nm,0.9s
JNU Nakatsue 8.83 248 Pn Pn 01 27 14.6 -0.2
JNU Nakatsue 8.83 248 Pn Pn 01 27 14.3 -0.5
comp=Z,0.7nm,0.3s,baz=50,slow=8.8,SNR=1.7
comp=Z,2.9nm,0.4s
USRK Ussuriysk Ar. 9.84 321 Pn Pn 01 27 28.3 -0.3
USRK Ussuriysk Ar. 9.84 321 P Pn 01 27 28.3 -0.3
USRK Ussuriysk Ar. 9.84 321 Pn Pn 01 27 32.1 +3.4
comp=Z,1.0nm,0.3s,baz=129,slow=15,SNR=19
USRK LR LR 01 30 59.8
comp=Z,531nm,21.6s,baz=138,slow=36
USA0B Ussuriysk Arra 9.84 321 Pn Pn 01 27 27.8 -0.9
USA0B Ussuriysk Arra 9.84 321 *i* P Pn 01 27 28.4 -0.2
KSRS Korea Array 10.16 277 Pn 01 27 35.1 +2.1
KSRS Korea Array 10.16 277 P Pn 01 27 35.1 +2.1
KSRS Korea Array 10.16 277 Pn Pn 01 27 35.1 +2.1
comp=Z,0.6nm,0.3s,baz=99,slow=13,SNR=24
KSRS LR LR 01 31 11.4
comp=Z,1µm,19.8s,baz=80,slow=36
comp=Z,21nm,1.2s
KSAR Wonju Array Be 10.19 277 Pn 01 27 34.1 +0.7
KSAR Wonju Array Be 10.19 277 P Pn 01 27 34.1 +0.7
KS19 Wonju Array Si 10.21 277 Pn Pn 01 27 33.2 -0.4
YSS Yuzh-Sakhalins 10.21 8 *eP* Pn 01 27 34.4 +0.8
YSS *eS* Sn 01 29 25.1 -3.0
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,700nm,14.0s
MDJ Mudanjiang 11.40 316 P Pn 01 27 55.8 +5.9
MDJ pP 01 27 58.0
MDJ sP 01 27 59.5
MDJ S Sn 01 29 58.8 +1.5
MDJ pmax pmax
comp=Z,23nm,2.0s
MDJ pmax pmax
comp=Z,190nm,4.2s
MDJ LR LR
comp=Z,710nm,14.1s
MDJ LR LR
comp=Z,1µm,14.1s
MDJ LR LR
comp=Z,1µm,13.6s
CN2 Changchun 13.49 306 P P 01 28 23.7 -4.1
CN2 S Sn 01 30 51.2 +2.8
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,1µm,15.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,300nm,12.0s
KLR Kul'dur 13.95 335 *i* P Pn 01 28 24.7 0.0
KLR pmax pmax
comp=Z,3.0nm,0.8s
KLR Kul'dur 13.95 335 Pn Pn 01 28 25.4 +0.7
comp=Z,0.2nm,0.3s,baz=138,slow=16,SNR=3.5
KLR LR LR 01 33 18.5
comp=Z,334nm,20.8s,baz=178,slow=35
comp=Z,0.8nm,0.3s
JOW Kunigami 14.49 230 LR LR 01 34 15.2
comp=Z,84nm,20.6s,baz=112,slow=38
DL2 Dalian 15.15 284 P P 01 28 52.4 +6.2
DL2 S S 01 31 51.1 +5.0
DL2 pmax pmax
comp=Z,37nm,1.2s
DL2 pmax pmax
comp=Z,460nm,3.7s
DL2 LR LR
comp=N,670nm,10.8s
DL2 LR LR
comp=E,790nm,12.0s
DL2 LR LR
comp=Z,830nm,12.4s
HEH HeiHe 16.43 329 *eP* Pn 01 28 55.5 -2.1
HEH pmax pmax
comp=Z,9.0nm,1.4s
HEH pmax pmax
comp=Z,81nm,4.7s
HEH LR LR
comp=Z,510nm,12.3s
HEH LR LR
comp=Z,980nm,13.0s
HEH LR LR
comp=Z,550nm,13.7s
SSE Sheshan 17.11 256 P Pn 01 29 04.5 -1.9
SSE S Sn 01 32 14.6 -2.1
SSE pmax pmax
comp=Z,9.0nm,0.8s
SSE pmax pmax
comp=Z,95nm,3.7s
SSE LR LR
comp=Z,330nm,18.4s
SSE LR LR
comp=Z,300nm,19.0s
NJ2 Nanjing 18.58 261 *eP* Pn 01 29 24.4 -0.1
NJ2 pP pP 01 29 27.2 0.0
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,220nm,3.9s
NJ2 LR LR
comp=Z,490nm,18.0s
NJ2 LR LR
comp=Z,830nm,20.8s
NJ2 LR LR
comp=Z,1µm,24.6s
TIA Tai'an 18.90 275 P P 01 29 13.2 -15
TIA S S 01 33 11.0 +8.5
TIA pmax pmax
comp=Z,13nm,1.8s
TIA LR LR
comp=N,660nm,13.2s
TIA LR LR
comp=E,270nm,13.1s
TIA LR LR
comp=Z,700nm,14.1s
ZEA Zeya 19.27 335 *eP* Pn 01 29 35.1 +2.5
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=N,700nm,17.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
XLT XiLinHaoTe 19.94 298⇑ *i* P P 01 29 39.6 +0.4
XLT pP sP 01 29 43.3 -0.1
XLT sP pP 01 29 46.8 +4.7
XLT S S 01 33 20.9 -2.6
XLT sS pS 01 33 36.2 +1.3
XLT pmax pmax
comp=Z,29nm,1.1s
XLT pmax pmax
comp=Z,81nm,3.6s
XLT LR LR
comp=Z,110nm,13.0s
XLT LR LR
comp=Z,670nm,18.9s
XLT LR LR
comp=Z,740nm,19.5s
PETK Petropavlovsk- 20.15 31 P P 01 29 40.7 -0.6
PETK Petropavlovsk- 20.15 31 P Pn 01 29 42.6 -0.6
PETK Petropavlovsk- 20.15 31 P Pn 01 29 42.6 -0.6
comp=Z,10nm,1.0s,baz=201,slow=7.9,SNR=5.1
PETK LR LR 01 37 05.1
comp=Z,248nm,20.9s,baz=215,slow=36
comp=Z,10nm,1.0s
PET Petropavlovsk 20.49 32 *eP* Pn 01 29 49.4 +2.2
PET *eS* Sn 01 33 39.1 +1.0
PET pmax pmax
comp=Z,100nm,11.8s
PET MLR MLR
comp=Z,200nm,16.0s
HNS HongShan 20.66 279 ⇓P P 01 29 46.1 -0.9
HNS S S 01 33 38.3 +0.5
HNS pmax pmax
comp=Z,13nm,1.1s
HNS LR LR
comp=Z,290nm,13.5s
HNS LR LR
comp=Z,740nm,13.5s
HNS LR LR
comp=Z,730nm,13.5s
WHN Wuhan 22.71 262 P P 01 30 12.1 +3.0
HHC Hu-ho-hao-te 22.93 289 *eP* P 01 30 10.6 -0.9
HHC pP sP 01 30 15.9 +0.2
HHC PP PnPn 01 30 38.1 +2.2
HHC S S 01 34 18.6 -3.0
HHC sS sS 01 34 30.2 +3.6
HHC SS SnSn 01 35 04.3 +11
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,150nm,5.5s
HHC LR LR
comp=Z,640nm,11.4s
HHC LR LR
comp=Z,660nm,11.4s
HHC LR LR
comp=Z,670nm,11.2s
MA2 Magadan 23.66 13 *ce*P P 01 30 19.7 +1.3
MA2 pmax pmax
comp=Z,87nm,2.5s
MA2 Magadan 23.66 13 LR LR 01 40 21.0
comp=Z,77nm,20.8s,baz=186,slow=39
BTO Baotou 24.11 288 *eP* P 01 30 22.0 -1.1
BTO pP sP 01 30 26.4 -1.0
BTO sP pP 01 30 29.0 +2.9
BTO PP PnPn 01 30 56.1 +4.2
BTO S S 01 34 39.8 -0.9
BTO pmax pmax
comp=Z,31nm,0.5s
BTO pmax pmax
comp=Z,150nm,6.0s
BTO LR LR
comp=Z,710nm,15.6s
BTO LR LR
comp=Z,580nm,17.5s
BTO LR LR
comp=Z,680nm,15.3s
XAN Xi'an 25.92 273 ⇓P P 01 30 38.7 -0.8
XAN S S 01 35 08.6 -1.2
XAN LR LR
comp=Z,850nm,13.3s
XAN LR LR
comp=Z,670nm,16.4s
XAN LR LR
comp=Z,790nm,18.2s
YAK Yakutsk 26.11 348 P P 01 30 39.3 -1.5
YAK Yakutsk 26.11 348 *eP* P 01 30 39.5 -1.3
YAK *e* 01 31 17.9
YAK *e*SS S 01 35 10.9 -1.1
YAK *e*SSS SSS 01 36 22.2
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,75nm,2.0s
YAK pmax pmax
comp=N,42nm,1.8s
YAK pmax pmax
comp=E,27nm,2.0s
YAK smax smax
comp=E,124nm,2.8s
YAK MLR MLR
comp=Z,242nm,16.0s
YAK MLR MLR
comp=N,213nm,15.0s
ULN Ulaanbaatar 26.93 305 P P 01 30 46.7 -2.0
ULN Ulaanbaatar 26.93 305 *ce*P P 01 30 48.1 -0.6
ULN pmax pmax
comp=Z,10.0nm,1.3s
SEY Seymchan 27.08 12 *ce*P P 01 30 50.1 +0.5
SEY pmax pmax
comp=Z,30nm,1.2s
BOD Bodaibo 27.34 329 *eP* P 01 30 50.9 -1.1
BOD pmax pmax
comp=Z,14nm,1.9s
SONM Songino Array 27.36 304 P P 01 30 51.7 -0.8
SONM Songino Array 27.36 304 P P 01 30 52.8 +0.3
SONM Songino Array 27.36 304 P P 01 30 52.8 +0.3
comp=Z,3.6nm,0.5s,baz=102,slow=9.9,SNR=18
SONM LR LR 01 41 45.9
comp=Z,340nm,18.6s,baz=106,slow=37
comp=Z,3.6nm,0.5s
SHEM Shemya Is, Ala 28.23 45 LR LR 01 39 31.2
comp=Z,94nm,21.8s,baz=282,slow=31
H11N2 WAKE ISLAND Hy 28.60 119 T T 02 00 50.5
baz=312,slow=75,SNR=1751
H11N1 WAKE ISLAND Hy 28.61 119 T T 02 00 50.9
baz=312,slow=75,SNR=1803
H11N3 WAKE ISLAND Hy 28.62 119 T T 02 00 51.7
baz=312,slow=75,SNR=1426
H11S1 WAKE ISLAND Hy 29.30 122 T T 02 01 40.5
baz=314,slow=76,SNR=1896
H11S3 WAKE ISLAND Hy 29.30 122 T T 02 01 40.7
baz=314,slow=76,SNR=2194
H11S2 WAKE ISLAND Hy 29.31 122 T T 02 01 41.7
baz=314,slow=76,SNR=1441
CD2 Chengdu 31.05 270 P P 01 31 24.0 -1.3

CD2 S **S** **01 36 29.3 -1.2**
CD2 LR LR
comp=Z,500nm,12.3s
CD2 LR LR
comp=Z,570nm,16.9s
CD2 LR LR
comp=Z,590nm,14.7s
QIZ Qiongzhong 32.29 245 P **P** **01 31 35.3 -0.9**
QIZ S **S** **01 36 50.6 +0.7**
QIZ LR LR
comp=Z,240nm,15.7s
QIZ LR LR
comp=Z,210nm,16.2s
QIZ LR LR
comp=Z,250nm,10.0s
DAV Davao City (W) 32.68 209 LR LR 01 43 46.0
comp=Z,120nm,21.1s,baz=3.0,slow=34
KMI Kunming 34.31 261 ⇓P **P** **01 31 54.6 +0.5**
KMI pP sP 01 31 58.3 -0.3
KMI S **S** **01 37 20.3 -1.4**
KMI SS **SnSn** **01 39 30.2 -0.6**
KMI pmax pmax
comp=Z,15nm,0.3s
KMI pmax pmax
comp=Z,88nm,4.7s
KMI LR LR
comp=Z,410nm,17.4s
KMI LR LR
comp=Z,270nm,19.3s
KMI LR LR
comp=Z,390nm,21.3s
PZH PanZhiHua 34.46 264 P **P** **01 31 55.4 +0.1**
PZH S **S** **01 37 24.0 +0.2**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,70nm,4.9s
PZH LR LR
comp=Z,280nm,15.8s
PZH LR LR
comp=Z,390nm,15.3s
PZH LR LR
comp=Z,530nm,15.7s
CRAI Chiangrai 38.73 256 P **P** **01 32 31.5 -0.1**
DGZ Jazzator, Alta 39.98 306 *i* P **P** **01 32 41.7 -0.3**
DGZ pmax pmax
comp=Z,16nm,0.8s
WMQ Urumqi 40.36 297 *e*P **P** **01 32 47.0 +2.0**
WMQ pmax pmax
comp=Z,68nm,0.7s
WMQ LR LR
comp=Z,500nm,19.5s
WMQ LR LR
comp=Z,170nm,21.3s
WMQ LR LR
comp=Z,210nm,24.1s
CMAR Chiang Mai Arr 40.85 255 P **P** **01 32 50.1 +0.9**
CMAR Chiang Mai Arr 40.85 255 P **P** **01 32 50.1 +0.9**
comp=Z,1.4nm,0.3s,baz=70,slow=5.9,SNR=2.0
CMAR LR LR 01 52 08.2
comp=Z,144nm,18.1s,baz=50,slow=40
comp=Z,1.4nm,0.3s
ZAA0 Zalesovo Array 41.57 313 P **P** **01 32 54.4 -0.3**
ZALV Zalesovo Beam 41.57 313 P **P** **01 32 54.9 +0.1**
ZALV 01 34 51.7
ZALV Zalesovo Beam 41.57 313 P **P** **01 32 54.9 +0.1**
comp=Z,3.9nm,0.5s,baz=96,slow=7.5,SNR=16
ZALV PcP **PcP** **01 34 51.7 -0.2**
comp=Z,1.8nm,0.5s,baz=78,slow=3.7,SNR=5.9
ZALV LR LR 01 50 34.9
comp=Z,105nm,18.2s,baz=82,slow=37
comp=Z,3.9nm,0.5s
K13K Kusilvak Mount 41.81 35 P **P** **01 32 56.3 -0.3**
baz=259
ZSN Zaisan 41.85 303 *e*P **P** **01 32 56.5 -0.8**
baz=303
ZSN Zaisan 41.85 303 *e*P **P** **01 32 56.4 -0.8**
L14K Kuka Creek 42.64 36 P **P** **01 33 03.1 -0.2**
baz=262
M14K Bethel 42.91 37 P **P** **01 33 05.1 -0.4**
baz=263
NRIK Noril'sk 43.16 335 *ce*P **P** **01 33 04.9 -2.6**
NRIK pmax pmax
comp=Z,6.0nm,1.2s
NRIK Noril'sk 43.16 335 P **P** **01 33 08.3 +0.8**
comp=Z,2.0nm,0.5s,baz=112,slow=6.0,SNR=2.2
comp=Z,2.0nm,0.5s
K15K Wolf Creek Mou 43.31 35 P **P** **01 33 08.1 -0.7**
baz=262
M15K Kasigluk River 43.52 38 P **P** **01 33 10.8 +0.3**
baz=264
MK31 Makanchi Array 43.68 302 *i* P **P** **01 33 12.0 -0.1**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 43.68 302 P **P** **01 33 12.3 +0.2**
MKAR Makanchi Array 43.68 302 *ce*P **P** **01 33 13.8 +1.7**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 43.68 302 P **P** **01 33 13.6 +1.6**
comp=Z,1.4nm,0.5s,baz=84,slow=9.9,SNR=20
MKAR PcP **PcP** **01 35 00.1 +1.0**
comp=Z,0.6nm,0.7s,baz=66,slow=5.9,SNR=1.0
MKAR LR LR 01 51 40.9
comp=Z,254nm,19.9s,baz=106,slow=36
comp=Z,1.4nm,0.5s
N15K Kwethluk River 43.77 38 P **P** **01 33 11.3 -1.2**
baz=265
O15K Ungalikthiuk R 43.83 40 P **P** **01 33 12.0 -1.1**
baz=267
C17K DeLong Mountai 43.96 26 P **P** **01 33 13.5 -0.5**
baz=254
L16K Owhat River 44.21 36 P **P** **01 33 15.3 -0.7**
baz=264
G17K Kiwalik Mounta 44.23 31 P **P** **01 33 17.1 +1.0**
baz=259
BRDH Bariadhala 44.35 266 LR LR 01 54 42.7
comp=Z,346nm,19.3s,baz=94,slow=40
M16K Timber Creek 44.39 37 P **P** **01 33 17.4 -0.2**
baz=266
H17K Granite Mounta 44.44 32 P **P** **01 33 17.7 -0.2**
baz=261
N16K Nishlik Lake 44.45 38 P **P** **01 33 17.9 -0.1**
baz=266,SNR=6.4
CHGN Chignik 44.52 44 P **P** **01 33 18.5 -0.1**
baz=271
SEM Semipalatinsk 44.55 308 *e*P **P** **01 33 18.2 -1.0**
comp=Z,18nm,1.6s,baz=308
SEM Semipalatinsk 44.55 308 *e*P **P** **01 33 18.1 -1.1**
SEM pmax pmax
comp=Z,18nm,1.6s
J17K VABM Dome 44.58 34 P **P** **01 33 18.9 -0.1**
baz=263
E18K Tukpahlearik C 44.64 28 P **P** **01 33 19.3 -0.1**
baz=258
B18K Kokolik River 44.68 25 P **P** **01 33 20.4 +0.6**
baz=254
C18K Utukok River 44.71 26 P **P** **01 33 19.8 -0.3**
baz=256
O16K Kokwok River B 44.74 39 P **P** **01 33 20.2 -0.1**
baz=268
P16K Nushagak River 44.77 40 P **P** **01 33 20.2 -0.4**
baz=268
L17K Donlin 44.80 36 P **P** **01 33 20.9 +0.1**
baz=265
K17K Ididarod 44.85 35 P **P** **01 33 21.8 +0.6**
baz=264,SNR=5.7
G18K Tagagawik 45.11 30 P **P** **01 33 23.3 +0.1**
baz=261
H18K Honhosa River 45.12 31 P **P** **01 33 24.1 +0.8**
baz=262
M17K Holitna River 45.16 37 P **P** **01 33 23.6 0.0**
baz=266
N17K Nushagak Hills 45.23 38 P **P** **01 33 25.6 +1.4**
baz=268,SNR=5.1
C19K Lookout Ridge 45.38 26 P **P** **01 33 25.5 +0.1**
baz=257
Q16K King Salmon 45.46 41 P **P** **01 33 26.4 +0.4**
baz=270
KURK Kurchatov 45.55 308 P **P** **01 33 26.1 -0.7**
KURK Kurchatov 45.55 308 *ce*P **P** **01 33 25.4 -1.4**
KURK pmax pmax
comp=Z,26nm,1.3s
L18K Granite Mounta 45.56 36 P **P** **01 33 27.2 +0.4**
baz=266
F19K Shaleruckik Mo 45.61 29 P **P** **01 33 27.6 +0.5**
baz=261
R17K Ugashik Creek 45.61 42 P **P** **01 33 28.5 +1.3**
baz=271
KURBB Kurchatov Arra 45.61 308 P **P** **01 33 26.9 -0.5**
KURBB Kurchatov Arra 45.61 308 P **P** **01 33 26.7 -0.7**
comp=Z,4.3nm,0.5s,baz=80,slow=7.5,SNR=33
KURBB PcP **PcP** **01 35 05.2 -0.4**
comp=Z,0.6nm,0.5s,baz=85,slow=3.2,SNR=1.8
KURBB LR LR 01 52 56.2
comp=Z,256nm,18.7s,baz=167,slow=37
comp=Z,4.3nm,0.5s
J18K Innoko River 45.64 34 P **P** **01 33 28.2 +0.8**
baz=265
D19K Kuna River 45.78 27 P **P** **01 33 28.5 0.0**
baz=259
Q17K Contact Creek 45.87 41 P **P** **01 33 30.3 +0.9**
baz=271
N18K Kilae Creek 45.88 38 IAmb IAmb 01 33 32.4
comp=Z,14nm,1.1s
N18K Kilae Creek 45.88 38 P **P** **01 33 29.8 +0.4**
baz=269,SNR=7.9
TTA Tatalina 45.92 35 P **P** **01 33 30.5 +0.8**
baz=266
H19K Roundabout Mou 45.96 31 P **P** **01 33 30.2 +0.3**
baz=263
KAPI Kappang 46.00 210 P **P** **01 33 30.8 0.0**
KAPI Kappang 46.00 210 P **P** **01 33 30.8 0.0**
comp=Z,7.4nm,0.3s,baz=44,slow=8.4,SNR=3.9
comp=Z,7.4nm,0.3s
SVW2 Sparrevohn 46.04 37 P **P** **01 33 31.6 +0.9**
SVW2 IAmb IAmb 01 33 34.1
comp=Z,12nm,1.1s
J19K Poorman 46.17 33 P **P** **01 33 31.7 +0.1**
baz=266,SNR=6.7
P18K Big Mountain, 46.20 40 P **P** **01 33 32.8 +0.8**
baz=270
O18K Koktuh Hills 46.21 39 P **P** **01 33 32.6 +0.6**
baz=270
D20K Etivluk River 46.36 27 P **P** **01 33 33.9 +0.9**
baz=260
B20K Meade River 46.41 25 P **P** **01 33 33.5 +0.1**
baz=258
L19K White Mountain 46.42 36 IAmb IAmb 01 33 36.2
comp=Z,16nm,1.4s
L19K White Mountain 46.42 36 P **P** **01 33 34.5 +0.8**
baz=268,SNR=5.3
E20K Nigu River 46.44 27 P **P** **01 33 33.9 +0.1**
baz=261
F20K Avaraart Lake 46.44 29 P **P** **01 33 33.5 -0.2**
baz=263
H20K Anotleneega Mo 46.61 31 P **P** **01 33 34.6 -0.5**
baz=265
M19K Big River Lodg 46.63 36 P **P** **01 33 35.7 +0.4**
baz=269
UZB Uzynbulak 46.68 298 *e*P **P** **01 33 36.0 -0.1**
comp=Z,16nm,1.9s,baz=298
UZB Uzynbulak 46.68 298 *e*P **P** **01 33 36.0 -0.1**
UZB pmax pmax
comp=Z,16nm,1.9s
TDK Taldyqorghan 46.68 300 *e*P **P** **01 33 36.1 +0.2**
baz=300
TDK Taldyqorghan 46.68 300 *e*P **P** **01 33 36.1 +0.2**
I20K Naaghedeneel 46.72 32 P **P** **01 33 35.9 0.0**
baz=266
K20K Telida 46.82 34 P **P** **01 33 37.8 +1.1**
baz=268
J20K Nowinta River 46.83 33 P **P** **01 33 37.4 +0.6**
J20K IAmb IAmb 01 33 39.4
comp=Z,11nm,1.1s
J20K Nowinta River 46.83 33 P **P** **01 33 37.2 +0.4**
baz=267,SNR=5.7
KPKS Kokpek 46.84 298 *e*P **P** **01 33 37.5 +0.2**
baz=298
KPKS Kokpek 46.84 298 *e*P **P** **01 33 37.4 +0.2**
C21K Knifeblade Rid 47.08 26 P **P** **01 33 38.0 -0.7**
baz=262
SATY Saty 47.13 298 *e*P **P** **01 33 39.6 -0.1**
comp=Z,21nm,2.3s,baz=298
SATY Saty 47.13 298 *e*P **P** **01 33 39.5 -0.1**
SATY pmax pmax
comp=Z,21nm,2.3s
B21K Ikpikpuk River 47.21 26 P **P** **01 33 39.6 -0.1**
baz=261
M20K Styx River 47.22 36 P **P** **01 33 40.0 0.0**
baz=270
G21K Allakaket 47.26 30 P **P** **01 33 39.8 -0.3**
baz=265
ARXS Arharly 47.26 299 *e*P **P** **01 33 39.2 -1.3**
F21K Alatna River 47.33 29 P **P** **01 33 40.3 -0.4**
baz=265
RSO Redoubt South 47.42 38 P **P** **01 33 42.6 +0.9**
H21K Melozitna Rive 47.48 31 P **P** **01 33 42.0 +0.2**
baz=267
O20K Slope Mountain 47.50 39 P **P** **01 33 42.5 +0.3**
baz=272
CHUM Lake Minchumin 47.62 33 P **P** **01 33 43.0 +0.1**
baz=269
KDAK Kodiak Island 47.65 42 P **P** **01 33 43.8 +0.6**
KDAK Kodiak Island 47.65 42 *i* P **P** **01 33 43.2 0.0**
KDAK pmax pmax
comp=Z,16nm,1.1s
KDAK Kodiak Island 47.65 42 P **P** **01 33 42.6 -0.6**
baz=274
KDAK Kodiak Island 47.65 42 LR LR 01 53 09.0
comp=Z,140nm,21.8s,baz=253,slow=35
PPLA Purkeypile 47.67 35 P **P** **01 33 43.3 -0.2**
baz=270
SPCR Spurr Chakacha 47.67 37 P **P** **01 33 44.5 +1.0**
baz=271
N20K Mount Spurr 47.67 37 P **P** **01 33 43.6 +0.1**
baz=271
CAST Castle Rocks 47.72 34 P **P** **01 33 44.3 +0.6**
baz=269
D22K Ayikyak River 47.80 27 P **P** **01 33 44.9 +0.6**
baz=264
F22K John River 47.86 29 P **P** **01 33 44.8 0.0**
baz=266
SKT Skwentna 47.98 36 P **P** **01 33 45.6 -0.2**
baz=271
HOM Homer 48.02 39 P **P** **01 33 46.3 +0.3**
baz=273
G22K Bettles 48.08 29 P **P** **01 33 46.3 -0.1**
baz=267
H22K Ishtalitna Cre 48.08 31 P **P** **01 33 46.6 0.0**
baz=268
BPAW Bear Paw Mtn. 48.21 33 P **P** **01 33 48.8 +1.3**
baz=270
MLY Manley 48.33 32 IAmb IAmb 01 33 51.1
comp=Z,11nm,1.2s
MLY Manley 48.33 32 P **P** **01 33 49.2 +0.8**
baz=269
SUA Susitna One 48.37 37 IAmb IAmb 01 33 51.9
comp=Z,10nm,1.1s
SUA Susitna One 48.37 37 P **P** **01 33 49.4 +0.5**
baz=272
BRSE Bradley Lake S 48.47 39 P **P** **01 33 49.2 -0.3**
baz=274
TRF Thorofare Moun 48.52 34 P **P** **01 33 50.1 0.0**
baz=271
COLD Coldfoot 48.61 29 P **P** **01 33 50.6 0.0**
baz=268
G23K Bananza Creek 48.66 30 P **P** **01 33 50.7 -0.2**
baz=268
H23K Yukon River 48.84 31 IAmb IAmb 01 33 56.4
comp=Z,7.4nm,0.9s
H23K Yukon River 48.84 31 P **P** **01 33 52.2 -0.1**
baz=270
E23K Chandalar 48.87 28 P **P** **01 33 52.1 -0.5**
baz=268
RC01 Rabbit Creek A 48.88 37 IAmb IAmb 01 33 54.8
comp=Z,9.2nm,0.9s
RC01 Rabbit Creek A 48.88 37 P **P** **01 33 52.8 +0.1**
baz=274
TOLK Toolik Lake Re 48.91 27 P **P** **01 33 53.6 +0.7**
baz=267
I23K Minto, Yukon-K 48.91 32 P **P** **01 33 54.5 +1.7**
baz=270
NEA2 Nenana 49.04 33 P **P** **01 33 54.7 +0.8**
NEA2 IAmb IAmb 01 33 56.3
comp=Z,18nm,1.3s
NEA2 Nenana 49.04 33 P **P** **01 33 53.9 0.0**
baz=271,SNR=6.2
SEW Seward 49.09 39 P **P** **01 33 54.6 +0.3**
baz=275
MCK McKinley 49.12 34 P **P** **01 33 54.2 -0.4**
baz=272
PMR Palmer 49.14 37 P **P** **01 33 55.2 +0.5**
baz=274
TKM2 Tokmak 2 49.16 298 P **P** **01 33 54.7 -0.7**
RND Reindeer 49.17 34 IAmb IAmb 01 33 58.2
comp=Z,10.0nm,1.2s
D24K Happy Valley 49.21 26 P **P** **01 33 54.6 -0.5**
baz=267
E24K Your Creek 49.29 28 P **P** **01 33 56.6 +0.8**
baz=269
WAT1 Susitna Watana 49.34 35 P **P** **01 33 56.3 +0.1**
baz=273
MDM Murphy Dome 49.39 32 IAmb IAmb 01 34 00.7
comp=Z,17nm,1.3s
BRZS Berezniki 49.42 308 *e*P **P** **01 33 56.4 -0.6**
baz=308
BRZS Berezniki 49.42 308 *e*P **P** **01 33 56.4 -0.6**
BATI Baumata 49.46 202 P **P** **01 33 58.2 +0.5**
comp=Z,14nm,0.4s,baz=28,slow=12,SNR=5.9
comp=Z,14nm,0.4s
KNK Knik Glacier 49.47 37 P **P** **01 33 56.9 -0.3**
baz=274
HNR Honiara 49.49 155 LR LR 01 52 05.7
comp=Z,455nm,21.9s,baz=10.0,slow=33
SML Sawmill 49.50 36 IAmb IAmb 01 34 10.7
comp=Z,9.0nm,0.8s
SML Sawmill 49.50 36 P **P** **01 33 57.7 +0.2**
baz=274
F24K Squaw Lake 49.51 29 P **P** **01 33 56.9 -0.6**
baz=270
H24K Noodor Dome 49.52 31 P **P** **01 33 58.5 +0.9**
baz=271
PWL Port Wells 49.58 37 IAmb IAmb 01 34 00.6
comp=Z,18nm,1.2s
PWL Port Wells 49.58 37 P **P** **01 33 58.3 +0.2**
baz=275
BTLS Baital 49.67 301 *e*P **P** **01 33 58.7 -0.3**
comp=Z,9.9nm,1.4s,baz=301
BTLS Baital 49.67 301 *e*P **P** **01 33 58.7 -0.3**
BTLS pmax pmax
comp=Z,10.0nm,1.4s
SGDS Sogindy 49.69 299 *e*P **P** **01 33 59.4 0.0**
baz=299
SGDS Sogindy 49.69 299 *e*P **P** **01 33 59.3 0.0**
WAT6 Susitna Watana 49.72 35 P **P** **01 33 58.8 -0.5**
baz=274
POKR Poker Plat Res 49.73 32 IAmb IAmb 01 34 02.3
comp=Z,17nm,1.0s
POKR Poker Plat Res 49.73 32 P **P** **01 33 59.1 0.0**
baz=272
M23K Glacier View 49.79 36 P **P** **01 34 00.0 +0.3**
baz=275
DHY Denali Highway 49.86 34 P **P** **01 34 00.4 +0.1**
baz=274
KSH Kashi 49.90 294 P P 01 34 06.1 +5.1
KSH sP sP 01 34 15.7 +10
KSH pmax pmax
comp=Z,7.0nm,1.5s
KSH LR LR
comp=Z,340nm,17.9s
KSH LR LR
comp=Z,250nm,15.8s
KSH LR LR
comp=Z,440nm,15.1s
HDA Harding Lake 49.97 33 IAmb IAmb 01 34 02.8
comp=Z,10nm,1.1s
HDA Harding Lake 49.97 33 P **P** **01 34 01.1 +0.1**
baz=273,SNR=8.8
ILAR Eielson Array 49.97 32 P **P** **01 34 01.3 +0.3**
ILAR 01 35 21.7
ILAR Eielson Array 49.97 32 P **P** **01 34 01.2 +0.3**
comp=Z,3.9nm,1.0s,baz=272,slow=5.8,SNR=20
ILAR PcP **PcP** **01 35 21.7 +0.7**
comp=Z,1.0nm,0.7s,baz=272,slow=4.0,SNR=4.5
ILAR LR LR 01 57 00.2
comp=Z,122nm,18.6s,baz=270,slow=38
comp=Z,3.9nm,1.0s
SCM Sheep Creek Mo 49.98 36 P **P** **01 34 00.4 -0.8**
baz=275
AAK Ala-Archa 50.02 298 P **P** **01 34 02.6 +0.7**
AAK Ala-Archa 50.02 298 P **P** **01 34 02.6 +0.7**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 50.02 298 LR LR 01 56 21.9
comp=Z,633nm,18.6s,baz=72,slow=38
P23K Montague Islan 50.12 39 P **P** **01 34 02.4 +0.3**
baz=276
GLI Glacier Island 50.18 37 P **P** **01 34 02.5 -0.1**
baz=276
BVA0 Borovoye Array 50.22 312 *i* P **P** **01 34 03.6 +0.5**
BVAR Borovoye Array 50.22 312 P **P** **01 34 02.7 -0.4**
BVAR 01 35 22.5
BVAR Borovoye Array 50.22 312 P **P** **01 34 02.7 -0.4**
comp=Z,2.8nm,0.5s,baz=77,slow=8.3,SNR=19
BVAR PcP **PcP** **01 35 22.4 +0.4**
comp=Z,1.1nm,0.5s,baz=56,slow=0.9,SNR=4.1
BVAR LR LR 01 54 45.2
comp=Z,115nm,18.4s,baz=75,slow=35
comp=Z,2.8nm,0.5s
BRVK Borovoye 50.28 312 P **P** **01 34 03.3 -0.2**
BRVK Borovoye 50.28 312 *ce*P **P** **01 34 03.3 -0.2**
BRVK pmax pmax
comp=Z,19nm,2.5s
F25K Christian Rive 50.37 29 P **P** **01 34 03.7 -0.3**
baz=272
E25K Arctic Village 50.38 28 P **P** **01 34 03.5 -0.6**
baz=271
M24K Tolsona, Glenn 50.49 36 P **P** **01 34 05.4 +0.4**
baz=276
PRP Porcupine Dome 50.51 31 P **P** **01 34 04.8 -0.4**
baz=274
K24K Donnelly Dome 50.52 33 P **P** **01 34 05.2 0.0**
baz=275
KLU Klutina 50.68 36 P **P** **01 34 06.0 -0.4**
baz=276
PAX Paxson 50.73 35 P **P** **01 34 07.0 +0.1**
baz=276
EYAK Cordova Ski Ar 50.87 38 P **P** **01 34 07.9 0.0**
baz=277
HARP HAARP 50.94 35 P **P** **01 34 08.4 +0.1**
baz=276
F26K Sheenjek River 50.94 28 P **P** **01 34 09.0 +0.7**
baz=273
RIDG Independent Ri 50.94 34 P **P** **01 34 08.2 -0.2**
baz=276
G26K Porcupine Rive 51.12 29 P **P** **01 34 09.5 -0.1**
baz=274
N25K Chitina, Valde 51.29 36 P **P** **01 34 11.9 +0.8**
baz=278
SCRK Sand Creek 51.29 33 IAmb IAmb 01 34 13.3
comp=Z,14nm,1.2s
SCRK Sand Creek 51.29 33 P **P** **01 34 11.5 +0.4**
baz=276,SNR=9.7
BMRM Bremner River 51.37 37 P **P** **01 34 12.5 +0.8**
baz=278
J26L Joseph Creek 51.42 32 P **P** **01 34 11.2 -0.8**
baz=276
L26K Log Cabin Wild 51.69 34 P **P** **01 34 13.7 -0.3**
baz=277,SNR=6.3
M26K Nabesna, AK 51.93 35 P **P** **01 34 16.3 +0.5**
baz=278,SNR=5.5
G27K Doyon Strip 51.97 29 P **P** **01 34 16.5 +0.5**
baz=276
MCARA McCarthy VSAT 52.07 36 P **P** **01 34 17.7 +0.8**
MCARA IAmb IAmb 01 34 19.9
comp=Z,8.0nm,0.7s
MCARA McCarthy VSAT 52.07 36 P **P** **01 34 17.2 +0.4**
baz=279
H27K Steamboat Moun 52.08 30 P **P** **01 34 17.6 +0.7**
baz=276
K27K Chicken 52.12 33 P **P** **01 34 17.6 +0.4**
baz=278
CRQE Cirque 52.14 37 P **P** **01 34 17.5 0.0**
baz=279
L27K Beaver Creek, 52.37 34 P **P** **01 34 19.8 +0.7**
baz=279,SNR=8.5
M27K Edge Creek, AK 52.45 35 P **P** **01 34 20.4 +0.6**
baz=279,SNR=7.2
E28M Babbage River 52.59 27 P **P** **01 34 21.4 +0.9**
baz=276
KK31 Karatay Array 52.67 300 P **P** **01 34 21.7 +0.1**
KK31 IAmb IAmb 01 34 23.5
comp=Z,18nm,1.4s
KK31 Karatay Array 52.67 300 P **P** **01 34 21.7 +0.1**
KK31 pmax pmax
comp=Z,18nm,1.4s
KKAR Karatay Array 52.67 300 P **P** **01 34 21.1 -0.5**
KKAR IAmb IAmb 01 34 23.5
comp=Z,18nm,1.4s
KKAR Karatay Array 52.67 300 P **P** **01 34 21.1 -0.5**
KKAR pmax pmax
comp=Z,18nm,1.4s
D28M Stokes Point 52.79 26 P **P** **01 34 21.2 -0.7**

baz=276
I28M Miner Creek 52.83 31 P P 01 34 22.2 -0.4
baz=278
CTG Chitna Glacier 52.95 37 P P 01 34 22.8 -0.7
baz=281
GSI Gunungsitoli 53.17 239 P P 01 34 24.9 -0.7
E29M Blow River 53.21 27 P P 01 34 23.8 -1.3
baz=278
YUK3 Moose Creek 53.21 36 P P 01 34 25.0 -0.5
baz=281,SNR=5.6
IUG luzhnay 53.31 299 *e*P **P 01 34 26.7 +0.3**
comp=Z,18nm,1.4s,baz=299
IUG luzhnay 53.31 299 *e*P **P 01 34 26.7 +0.3**
IUG pmax pmax
comp=Z,18nm,1.4s
H29M Whitestone 53.35 30 P P 01 34 26.5 +0.3
baz=279
G29M Pine Creek 53.38 29 IAmb IAmb 01 34 29.5
comp=Z,21nm,1.3s
G29M Pine Creek 53.38 29 P P 01 34 27.5 +1.1
baz=279
I29M Ogilvie Camp, 53.52 31 IAmb IAmb 01 34 30.4
comp=Z,24nm,1.4s
I29M Ogilvie Camp, 53.52 31 P P 01 34 28.3 +0.8
baz=280,SNR=6.4
O28M Mount Upton 53.53 37 P P 01 34 29.6 +1.6
baz=282
YUK8 Steele Glacier 53.63 36 P P 01 34 28.1 -0.6
baz=282
PINM Pinnacle 53.65 38 P P 01 34 27.9 -0.6
baz=282
BCPM Bancas Point 53.98 38 IAmb IAmb 01 34 29.8
comp=Z,12nm,1.0s
EPYK Eagle Plains 53.98 30 P P 01 34 31.4 +0.5
baz=280
M29M Somme Creek 54.00 35 P P 01 34 31.8 +0.6
M29M Somme Creek 54.00 35 P P 01 34 31.3 +0.1
baz=282,SNR=6.6
L29M L29M 54.02 34 P P 01 34 32.0 +0.8
baz=282,SNR=10.0
G30M tAoh Zraii Nji 54.07 29 P P 01 34 31.2 -0.3
baz=280
NIL Nilore 54.07 288 P P 01 34 31.6 -0.4
NIL IAmb IAmb 01 34 50.6
comp=Z,21nm,1.6s
NIL Nilore 54.07 288 P P 01 34 31.6 -0.4
NIL pmax pmax
comp=Z,21nm,1.6s
F30M Barrier River 54.12 28 P P 01 34 31.3 -0.6
baz=280
K29M Barlow Dome 54.14 33 P P 01 34 31.7 -0.4
baz=282,SNR=5.4
YUK4 Talbot Arm 54.15 36 P P 01 34 30.7 -1.7
baz=282
I30M Mount Dempster 54.34 31 IAmb IAmb 01 34 36.1
comp=Z,15nm,1.0s
I30M Mount Dempster 54.34 31 P P 01 34 33.2 -0.4
baz=282,SNR=16
YUK6 Outpost Mounta 54.37 36 P P 01 34 33.2 -0.8
baz=283
O29M Mount Kennedy 54.42 37 IAmb IAmb 01 34 38.6
comp=Z,16nm,1.1s
O29M Mount Kennedy 54.42 37 P P 01 34 33.8 -0.4
baz=283,SNR=9.1
M30M Minto, Yukon 54.73 34 P P 01 34 35.5 -0.9
baz=283
HYT Haines Junctio 54.81 36 IAmb IAmb 01 34 40.4
comp=Z,15nm,1.2s
HYT Haines Junctio 54.81 36 P P 01 34 36.7 -0.4
baz=284,SNR=8.1
G31M Satah River 54.83 29 P P 01 34 38.0 +1.0
baz=282
SVE Sverdlovsk 54.86 319 *e*P **P 01 34 36.5 -0.9**
SVE pmax pmax
comp=Z,17nm,1.2s
F31M Tsiigehtchic 54.92 28 P P 01 34 38.2 +0.6
baz=282
P29M Windy Craggy 54.99 38 IAmb IAmb 01 34 41.6
comp=Z,16nm,1.1s
P29M Windy Craggy 54.99 38 P P 01 34 39.1 +0.8
baz=284,SNR=5.6
H31M Peel River 55.05 30 P P 01 34 39.9 +1.2
baz=283,SNR=7.5
P30M Million Dollar 55.24 37 P P 01 34 42.0 +1.8
baz=285
N31M Braeburn, Yuko 55.46 35 P P 01 34 43.5 +1.8
baz=285
O30N Mendenhall 55.49 36 P P 01 34 42.7 +0.7
baz=285
PLBC Pleasant Camp 55.71 38 P P 01 34 46.1 +2.7
baz=286
ARU Arti 56.07 318 P P 01 34 45.2 -0.9
ARU IAmb IAmb 01 34 48.5
comp=Z,13nm,1.0s
ARU Arti 56.07 318 *c i*P **P 01 34 45.2 -0.9**
ARU 01 35 40.2
ARU 01 36 45.8
ARU S **S 01 42 36.0 +1.4**
ARU SS **SS 01 46 18.2 -2.0**
ARU pmax pmax
comp=Z,15nm,1.0s
ARU Arti 56.07 318 LR LR 01 59 41.1
comp=Z,103nm,19.3s,baz=91,slow=37
WHY Whitehorse 56.10 36 P P 01 34 46.7 +0.4
baz=286
S31K Pelican 56.19 40 P P 01 34 46.1 -0.8
baz=287
SKAG Skagway 56.22 38 P P 01 34 49.3 +2.3
baz=286
FARO Faro, Yukon 56.37 34 P P 01 34 48.4 +0.2
baz=286
WB0 Warramunga Arr 56.63 187 P P 01 34 48.9 -1.5
WB0 IAmb IAmb 01 34 53.3
comp=Z,11nm,0.8s
WRAB Tennant Creek 56.80 187 *ce*P **P 01 34 51.0 -0.6**
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WR0 Warramunga Arr 56.81 187 IAmb IAmb 01 34 54.6
comp=Z,7.8nm,0.8s
WB2 Warramunga Arr 56.81 187 P P 01 34 51.2 -0.4
WB2 IAmb IAmb 01 34 54.6
comp=Z,9.5nm,0.7s
WRA Warramunga Arr 56.81 187 P P 01 34 51.3 -0.4
WRA Warramunga Arr 56.81 187 *ce*P **P 01 34 50.7 -1.0**
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA Warramunga Arr 56.81 187 P P 01 34 50.2 -1.4
comp=Z,7.1nm,0.7s,baz=4.6,slow=7.4,SNR=34
comp=Z,7.1nm,0.7s
KBL Kabul 56.89 291 P P 01 34 51.6 -1.0
KBL Kabul 56.89 291 P P 01 34 51.6 -1.0
KBL pmax pmax
comp=Z,5.0nm,0.9s
P32M Atlin 56.96 37 P P 01 34 51.0 -1.5
baz=288
R32K Eaglecrest 56.97 39 P P 01 34 53.8 +1.3
baz=288
S32K Killisnoo 57.18 40 P P 01 34 52.6 -1.4
baz=288
MMPY Sheldon Lake, 57.19 33 P P 01 34 54.7 +0.7
baz=288
P33M Teslin, Yukon 57.21 36 IAmb IAmb 01 34 58.1
comp=Z,9.4nm,1.1s
P33M Teslin, Yukon 57.21 36 P P 01 34 53.8 -0.4
baz=288
AB31 Akbulak array 57.57 310 *i*P **P 01 34 56.4 -0.4**
C36M Paulatuk 57.85 25 P P 01 35 00.5 +2.1
baz=289
Q32M Nakina River 57.87 38 P P 01 34 58.7 -0.3
baz=289
AKTO Aktyubinsk 58.32 312 P P 01 35 01.7 -0.4
AKTO Aktyubinsk 58.32 312 LR LR 02 00 27.5
comp=Z,149nm,20.3s,baz=3.0,slow=36
R33M Jennings River 58.36 37 P P 01 35 02.4 0.0
baz=290
U33K Whale Pass 58.38 41 P P 01 35 02.9 +0.6
baz=290
S34M Telegraph Cree 58.78 39 IAmb IAmb 01 35 09.0
comp=Z,11nm,1.2s
S34M Telegraph Cree 58.78 39 P P 01 35 06.0 +0.8
baz=290
TGTN Hyland Airport 58.88 34 P P 01 35 06.3 +0.4
baz=291
DLBC Dease Lake 59.15 38 IAmb IAmb 01 35 11.2
comp=Z,13nm,1.3s
DLBC Dease Lake 59.15 38 P P 01 35 08.2 +0.4
baz=291

V35K Ketchikan 59.46 42 P P 01 35 09.1 -0.8
baz=292
T35M Bob Quinn 59.56 39 IAmb IAmb 01 35 14.3
comp=Z,9.0nm,0.9s
T35M Bob Quinn 59.56 39 P P 01 35 11.6 +1.0
baz=292,SNR=5.4
KIRV Kirov 60.01 323 *ce*P **P 01 35 13.9 +0.3**
KIRV Kirov 60.01 323 LR LR 02 02 12.6
comp=Z,126nm,20.5s,baz=63,slow=37
AS31 Alice Springs 60.53 187 P P 01 35 18.2 +0.6
ASAR Alice Springs 60.54 187 P P 01 35 17.9 +0.3
ASAR Alice Springs 60.54 187 P P 01 35 17.9 +0.3
ASAR Alice Springs 60.54 187 P P 01 35 17.4 -0.2
comp=Z,2.7nm,0.7s,baz=8.2,slow=5.8,SNR=23
comp=Z,2.7nm,0.7s
PRGR Permogore 60.57 327 *e*P **P 01 35 18.1 +0.7**
PRGR pmax pmax
comp=Z,11nm,1.4s
HRA Herat 62.01 293 P P 01 35 28.0 +0.1
HRA IAmb IAmb 01 35 30.4
comp=Z,9.4nm,1.4s
GEYT Alibeck 63.37 299 P P 01 35 36.2 -0.5
GEYT IAmb IAmb 01 35 39.1
comp=Z,6.7nm,1.1s
GEYT Alibeck 63.37 299 P P 01 35 36.5 -0.2
GEYT Alibeck 63.37 299 P P 01 35 36.5 -0.2
comp=Z,2.2nm,0.7s,baz=63,slow=30,SNR=5.2
GEYT LR LR 02 04 41.7
comp=Z,134nm,18.1s,baz=23,slow=38
comp=Z,2.2nm,0.7s
DZM Mont Dzumac 63.48 153 LR LR 02 01 07.5
comp=Z,43nm,20.7s,baz=48,slow=34
BELG Belogornoye 63.50 317 *i*P **P 01 35 36.7 -0.5**
BELG pmax pmax
comp=Z,4.0nm,1.1s
BELG Belogornoye 63.50 317 LR LR 02 05 41.6
comp=Z,136nm,18.3s,baz=140,slow=38
KLMR Klimovskoe 63.56 328 *e*P **P 01 35 34.9 -2.6**
KLMR AMP 01 35 50.0
comp=Z,19nm,1.7s
KLMR Klimovskoe 63.56 328 *e*P **P 01 35 34.8 -2.7**
KLMR pmax pmax
comp=Z,19nm,1.7s
ARCES ARCESS Array B 63.94 339 P P 01 35 40.8 +0.9
ARCES ARCESS Array B 63.94 339 P P 01 35 40.8 +0.9
comp=Z,1.2nm,0.4s,baz=61,slow=8.2,SNR=19
ARCES LR LR 02 06 31.8
comp=Z,94nm,20.9s,baz=351,slow=39
comp=Z,1.2nm,0.4s
MSVF Nonsavu 64.77 140 LR LR 02 01 25.4
comp=Z,59nm,18.8s,baz=188,slow=34
AFI Afiamalu 67.51 129 LR LR 02 03 07.9
comp=Z,38nm,20.0s,baz=38,slow=34
OBN Obninsk 67.86 323 *||e*P **P 01 36 04.8 -0.5**
OBN *e* 01 38 33.2
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,163nm,15.0s
LPSR Galich'ya Gora 68.03 320 *e*P **P 01 36 05.2 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,1.6s
STKA Stephens Creek 68.39 179 P P 01 36 09.0 +0.2
STKA Stephens Creek 68.39 179 P P 01 36 08.9 +0.2
comp=Z,2.5nm,0.7s,baz=335,slow=14,SNR=3.5
comp=Z,2.5nm,0.7s
VSR Storozhevoye 68.65 319 *e*P **P 01 36 08.3 -2.0**
VSR pmax pmax
comp=Z,10.0nm,1.4s
FINES FINESS Array B 68.67 332 P P 01 36 09.8 -0.5
FINES FINESS Array B 68.67 332 P P 01 36 10.0 -0.3
FINES FINESS Array B 68.67 332 P P 01 36 10.0 -0.3
comp=Z,2.6nm,0.5s,baz=56,slow=7.4,SNR=36
FINES LR LR 02 10 14.8
comp=Z,84nm,20.4s,baz=39,slow=39
comp=Z,2.6nm,0.5s
MORW Morawa 69.53 203 P P 01 36 17.6 +1.7
H04A Detroit Lake 69.69 49 P P 01 36 17.9 +0.9
WSAR Wadi Sarin 70.31 285 LR LR 02 09 47.1
comp=Z,75nm,20.7s,baz=55,slow=38
KBZ Khabaz 70.54 310 P P 01 36 22.6 +0.5
KBZ Khabaz 70.54 310 P P 01 36 22.6 +0.5
comp=Z,4.7nm,0.9s,baz=51,slow=13,SNR=2.9
KBZ LR LR 02 08 32.9
comp=Z,163nm,20.6s,baz=58,slow=37
comp=Z,4.7nm,0.9s
KIV Kislovodsk 70.54 311 *e*P P 01 36 39.8 +17
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,50nm,18.0s
NEW Newport 70.69 44 IAmb IAmb 01 36 25.7
comp=Z,8.2nm,1.1s
NEW Newport 70.69 44 P P 01 36 22.6 -0.5
baz=304
YBH Yreka Blue Hor 70.94 52 IAmb IAmb 01 36 27.9
comp=Z,9.5nm,1.1s
GNI Garni 71.30 306 LR LR 02 10 10.3
comp=Z,91nm,18.2s,baz=60,slow=38
MNK Minsk 72.28 326 *i*P **P 01 36 31.2 -1.3**
MNK comp=E,4.0nm,0.9s
MNK *i*P **P 01 36 31.2 -1.3**
MNK comp=N,4.0nm,0.9s
MNK *i*P **P 01 36 31.2 -1.3**
MNK comp=Z,7.0nm,0.9s,baz=51
MNK *i*PcP **PcP 01 36 51.0 +0.4**
MNK *i*PP PP 01 39 01.8 -11
MNK *i*PPP PPP 01 40 55.4
MNK *i*S **S 01 45 54.6 -0.8**
MNK *i*SS SS 01 50 45.7 +13
MNK *i*LQ LQ 02 03 38.8
MNK *i*LR LR 02 08 05.7
MNK *i*LRM MLR 02 11 04.5
MNK comp=Z,74nm,18.5s
MNK *i*LRM MLR 02 11 10.9
MNK comp=E,70nm,18.5s
MNK *i*LRM MLR 02 11 14.1
MNK comp=N,66nm,18.5s
MNK Minsk 72.28 326 *i*P **P 01 36 31.1 -1.3**
MNK *i* 01 36 50.9
MNK *i*PPP PPP 01 40 55.3
MNK *i*S **S 01 45 54.5 -0.8**
MNK pmax pmax
comp=N,4.0nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK MLR MLR
comp=Z,74nm,19.0s
MNK MLR MLR
comp=E,70nm,19.0s
MNK MLR MLR
comp=N,66nm,19.0s
BMO Blue Mountains 72.50 47 IAmb IAmb 01 36 36.5
comp=Z,9.6nm,1.1s
NACGM Naroch 72.52 326 *e*P **P 01 36 34.4 +0.5**
comp=Z,15nm,0.8s,baz=51
SOC Sochi 72.54 312 *e*P **P 01 36 31.7 -2.6**
SOC *e* 01 39 13.9
SOC *e*S **S 01 45 56.2 -2.5**
SOC *e*SS **SS 01 50 36.8 0.0**
SOC *e*SSS SSS 01 53 48.2
SOC MLR MLR
comp=Z,152nm,21.0s
J08A Circle Bar Ran 72.66 49 IAmb IAmb 01 36 37.9
comp=Z,15nm,1.2s
PLID Pearl Lake 73.13 46 P P 01 36 38.1 +0.1
MSO Missoula 73.28 44 P P 01 36 39.6 +0.9
baz=306
HFS Hagfors 73.98 335 P P 01 36 42.6 +0.1
HFS Hagfors 73.98 335 P P 01 36 42.6 +0.1
comp=Z,1.7nm,0.4s,baz=64,slow=6.8,SNR=19
HFS LR LR 02 10 52.9
comp=Z,128nm,18.6s,baz=34,slow=37
comp=Z,1.7nm,0.4s
AKASG Malin Array Be 74.05 322 P P 01 36 42.4 -0.6
AKASG Malin Array Be 74.05 322 P P 01 36 42.4 -0.6
comp=Z,1.5nm,0.4s,baz=46,slow=5.9,SNR=16
AKASG LR LR 02 10 54.2
comp=Z,116nm,19.6s,baz=41,slow=37
comp=Z,1.5nm,0.4s
NB2 NORSAR Subarra 74.10 337 P P 01 36 43.0 -0.2
comp=Z,2.3nm,0.6s,baz=40,slow=6.2
NOA NORSAR Array B 74.10 337 P P 01 36 42.3 -0.9
NOA NORSAR Array B 74.10 337 P P 01 36 42.3 -0.9
comp=Z,0.7nm,0.5s,baz=53,slow=6.7,SNR=11
NOA LR LR 02 11 36.2
comp=Z,55nm,21.7s,baz=45,slow=38
comp=Z,0.7nm,0.5s
PAHR Pah Rah Range 74.17 52 IAmb IAmb 01 36 46.5
comp=Z,14nm,1.2s
MFID Camas Ranch 74.20 47 IAmb IAmb 01 36 47.4
comp=Z,13nm,1.3s
YERR Yerington 74.67 53 IAmb IAmb 01 36 49.7
comp=Z,18nm,1.2s
EGMT Eagleton 74.81 41 P P 01 36 48.2 +0.5
EGMT IAmb IAmb 01 36 49.6
comp=Z,14nm,1.1s
EGMT Eagleton 74.81 41 P P 01 36 47.9 +0.3
baz=309
WAKR Walker 74.82 53 IAmb IAmb 01 36 50.8
comp=Z,9.8nm,1.1s
HLID Hailey 74.95 47 P P 01 36 50.6 +2.0
baz=307,SNR=6.8
BOZ Bozeman (W) 75.30 44 IAmb IAmb 01 36 52.8
comp=Z,8.6nm,1.1s
BOZ Bozeman (W) 75.30 44 P P 01 36 52.0 +1.4
baz=308,SNR=9.3
KVN Kaiserville 75.36 52 IAmb IAmb 01 36 54.3
comp=Z,13nm,1.0s
MDPB Devils Postpil 75.56 54 IAmb IAmb 01 36 54.8
comp=Z,9.7nm,1.2s
NVAR Mina Array Bea 75.59 53 P P 01 36 53.6 +1.1
comp=Z,6.0nm,0.8s,baz=290,slow=5.8,SNR=39
comp=Z,6.0nm,0.8s
NV11 Mina Array Sit 75.69 53 IAmb IAmb 01 36 55.5
comp=Z,9.7nm,1.1s
ELK Elko 76.14 49 P P 01 36 56.7 +1.1
ELK Elko 76.14 49 P P 01 36 56.7 +1.1
ELK pmax pmax
comp=Z,6.0nm,1.2s
VES Vestal, Richgr 76.59 55 P P 01 36 58.8 +0.9
baz=306
H17A Grant Village 76.63 44 P P 01 37 00.5 +2.2
baz=309
PKM Mcpherson Peak 76.66 56 P P 01 37 00.5 +1.9
baz=306
IMW Indian Meadow 76.74 45 IAmb IAmb 01 37 02.1
comp=Z,7.5nm,1.1s
ID08 Devils Gate 76.84 46 IAmb IAmb 01 37 03.0
comp=Z,12nm,1.2s
RLMT Red Lodge 76.90 43 P P 01 36 59.1 -0.7
baz=310
CWC Cottonwood Cre 76.90 54 P P 01 36 59.9 +0.1
baz=306
ID07 Smith Canyon R 76.93 46 IAmb IAmb 01 37 03.0
comp=Z,11nm,1.3s
MOOW Moose Ponds 76.94 45 P P 01 36 60.0 -0.1
MOOW IAmb IAmb 01 37 03.0
comp=Z,12nm,1.4s
TPAW Teton Pass 76.98 45 IAmb IAmb 01 37 03.9
comp=Z,11nm,1.4s
HVU Hansel Valley 76.99 47 IAmb IAmb 01 37 02.9
comp=Z,8.0nm,1.1s
SBC Santa Barbara 76.99 57 P P 01 37 01.8 +1.6
baz=306
GRAC Grapevine Rang 77.03 53 P P 01 37 03.0 +2.5
baz=307,SNR=8.1
ISA Isabella, Lake 77.10 55 P P 01 37 00.3 -0.6
baz=306
LOHW Long Hollow 77.11 45 IAmb IAmb 01 37 03.8
comp=Z,11nm,1.4s
SNOW Snow King Moun 77.11 45 IAmb IAmb 01 37 04.4
comp=Z,11nm,1.3s
ARVC Arvin 77.18 56 P P 01 37 02.3 +1.0
baz=306
SCZ2 Santa Cruz Isl 77.30 57 P P 01 37 03.2 +1.2
baz=306
R11B Troy Canyon, C 77.36 51 P P 01 37 04.0 +1.6
baz=307,SNR=23
DGMT Dagmar 77.36 38 P P 01 37 02.2 +0.1
baz=312
MPMC Manual Prospec 77.51 54 P P 01 37 05.4 +2.1
baz=307,SNR=6.8
LAO LASA Array 77.51 40 P P 01 37 04.5 +1.5
baz=311
ID09 Aton 77.62 46 IAmb IAmb 01 37 07.2
comp=Z,17nm,1.3s
FURC Furnace Creek, 77.67 54 P P 01 37 06.3 +2.4
baz=307,SNR=7.6
BNN Bunyan 77.68 309 P P 01 37 03.0 -1.2
LRMC Laurel Mtn Rad 77.73 55 P P 01 37 06.3 +1.8
baz=307
SPR3 Spring Creek 3 77.75 50 IAmb IAmb 01 37 07.8
comp=Z,10nm,1.2s
TPNV Topopah Spring 77.78 53 P P 01 37 06.4 +1.6
baz=307,SNR=13
HWUT Hardware Ranch 77.81 47 P P 01 37 05.7 +0.8
EDW2 Edwards Air Fo 77.88 56 P P 01 37 06.7 +1.5
baz=307
DUG Dugway, Tooele 77.94 49 IAmb IAmb 01 37 08.9
comp=Z,10nm,0.9s
DUG Dugway, Tooele 77.94 49 P P 01 37 06.4 +0.8
baz=308,SNR=7.0
BUR08 Bucovina Ar. S 78.04 321 P P 01 37 05.9 -0.1
BUR08 IAmb IAmb 01 37 18.4
comp=Z,24nm,1.8s
TCUT Toone Canyon 78.20 47 IAmb IAmb 01 37 09.7
comp=Z,14nm,1.2s
BW06 Boulder Array 78.23 45 P P 01 37 08.8 +1.5
baz=310
PDAR Pinedale Array 78.23 45 P P 01 37 07.9 +0.6
PDAR Pinedale Array 78.23 45 P P 01 37 08.1 +0.8
comp=Z,1.5nm,0.6s,baz=302,slow=2.8,SNR=8.8
comp=Z,1.5nm,0.6s
PRN Pahroc Range 78.27 52 IAmb IAmb 01 37 10.7
comp=Z,9.9nm,1.0s
PSUT Pine Spring 78.33 51 IAmb IAmb 01 37 10.3
comp=Z,15nm,1.2s
SHOC Shoshone, Teco 78.39 54 P P 01 37 09.9 +1.9
baz=307
GSC Goldstone, Bar 78.41 55 IAmb IAmb 01 37 10.4
comp=Z,8.3nm,1.1s
GSC Goldstone, Bar 78.41 55 P P 01 37 10.2 +2.0
baz=307
BFSC Mount Baldy Ra 78.48 56 P P 01 37 09.7 +1.0
baz=307
BRTR Keskin Array B 78.49 311 *ce*P **P 01 37 09.1 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 78.49 311 P P 01 37 09.3 +0.6
comp=Z,1.0nm,0.8s,baz=93,slow=2.9,SNR=8.3
comp=Z,1.0nm,0.8s
NLU North Lily Min 78.53 48 IAmb IAmb 01 37 11.6
comp=Z,9.1nm,1.2s
OJC Ojcow 78.83 326 P P 01 37 09.3 -0.9
OJC IAmb IAmb 01 37 12.8
comp=Z,15nm,1.4s
OJC Ojcow 78.83 326 P P 01 37 09.3 -0.9
OJC pmax pmax
comp=Z,15nm,1.4s
TUQ Turquoise Moun 78.90 54 P P 01 37 11.4 +0.4
baz=308
CRVS Cervenica-Dubn 79.00 324 *e*P **P 01 37 11.0 -0.1**
CRVS Cervenica-Dubn 79.00 324 *e*P **P 01 37 11.0 -0.1**
HEC Hector,Ludlow 79.00 55 P P 01 37 12.7 +1.2
baz=307
MLR Muntele Rosu 79.11 319 LR LR 02 14 05.7
comp=Z,196nm,19.8s,baz=56,slow=37
MURC Murrieta 79.17 56 P P 01 37 13.3 +0.9
baz=307
V12A Nelson 79.42 53 IAmb IAmb 01 37 16.3
comp=Z,20nm,1.5s
TMUT Trail Mountain 79.47 49 IAmb IAmb 01 37 16.7
comp=Z,14nm,1.4s
GMRC Granite Mounta 79.47 54 P P 01 37 15.0 +0.9
baz=308,SNR=5.6
LCMT Little Creek M 79.65 51 IAmb IAmb 01 37 17.8
comp=Z,17nm,1.2s
PFO Pinyon Flats O 79.66 56 P P 01 37 15.8 +0.7
PFO IAmb IAmb 01 37 17.9
comp=Z,15nm,1.2s
PFO Pinyon Flats O 79.66 56 P P 01 37 15.8 +0.7
PFO pmax pmax
comp=Z,15nm,1.3s
PFO Pinyon Flats O 79.66 56 P P 01 37 15.8 +0.7
baz=308
109C Camp Elliot, M 79.66 57 P P 01 37 15.1 +0.1
baz=307
MTPU Mount Pierson 79.66 50 IAmb IAmb 01 37 18.5
comp=Z,11nm,1.1s
TPFO Pinon Flats 79.66 56 P P 01 37 16.2 +1.0
baz=308

PMD	Palm Desert	79.69	56	IAmb	IAmb	01 37 17.7
	comp=Z,20nm,1.4s					
BELC	Belle Mtn. Jos	79.72	55	P	P	01 37 15.4 -0.2
	baz=308					
LANS	Liptovska Anna	79.75	325	eP	P	01 37 14.5 -0.7
LANS	Liptovska Anna	79.75	325	eP	P	01 37 14.5 -0.7
P18A	Preston Nutter	79.83	48	IAmb	IAmb	01 37 18.7
	comp=Z,24nm,1.4s					
KNB	Kanab	79.91	51	IAmb	IAmb	01 37 20.2
	comp=Z,18nm,1.1s					
MONP2	Monument Peak	80.12	56	P	P	01 37 19.4 +1.7
	baz=308					
MORC	Moravsky Berou	80.16	327	P	P	01 37 17.5 0.0
MORC				IAmb	IAmb	01 37 20.1
	comp=Z,16nm,1.6s					
MORC	Moravsky Berou	80.16	327	eP	P	01 37 17.2 -0.2
MORC	Moravsky Berou	80.16	327	P	P	01 37 17.5 0.0
MORC				pmax	pmax	
	comp=Z,16nm,1.6s					
OSTC	Ostas	80.16	328	eP	P	01 37 18.0 +0.6
OSTC	Ostas	80.16	328	eP	P	01 37 18.0 +0.6
IRM	Iron Mountain	80.19	55	P	P	01 37 19.4 +1.5
	baz=308,SNR=6.2					
DPC	Dobruska-Polom	80.27	328	eP	P	01 37 17.6 -0.4
DPC	Dobruska-Polom	80.27	328	eP	P	01 37 17.6 -0.4
BC3	Big Chuckawall	80.29	55	P	P	01 37 20.7 +2.2
	baz=308					
RSSD	Black Hills	80.37	41	P	P	01 37 19.4 +0.5
	baz=313					
IKP	In-Ko-Pah, Jac	80.47	56	P	P	01 37 20.2 +0.7
	baz=308					
SWSC	Sam W. Stewart	80.50	56	P	P	01 37 20.3 +0.8
	baz=308					
VYHS	Vyhne	80.51	325	eP	P	01 37 20.7 +1.4
VYHS				pmax	pmax	
	comp=Z,16nm,1.6s					
VYHS	Vyhne	80.51	325	eP	P	01 37 20.7 +1.4
RAR	Rarotonga	80.57	125	LR	LR	02 08 39.1
	comp=Z,113nm,19.2s,baz=330,slow=32					
YUH	Yuha Desert	80.60	56	IAmb	IAmb	01 37 22.2
	comp=Z,14nm,1.2s					
U15A	North Rim	80.61	51	IAmb	IAmb	01 37 23.3
	comp=Z,17nm,1.1s					
O20A	White River Ci	80.68	46	P	P	01 37 21.4 +0.8
	baz=311					
PDMCI	Parker Dam,Lak	80.75	54	P	P	01 37 22.4 +1.5
	baz=308					
VRAC	Vranov	80.92	327	eP	P	01 37 21.3 -0.2
VRAC	Vranov	80.92	327	LR	LR	02 14 45.5
	comp=Z,83nm,20.1s,baz=38,slow=37					
CLL	Collm	80.93	330	IAmb	IAmb	01 37 23.5
	comp=Z,14nm,1.4s					
CLL	Collm	80.93	330	i P	P	01 37 20.6 -0.9
CLL				pmax	pmax	
	comp=Z,15nm,1.5s					
CLL	Collm	80.93	330	i P	P	01 37 20.6 -0.9
	comp=Z,15nm,1.5s					
CLL				eS	S	01 47 30.0 -0.1
CLL				ex	x	01 57 30.0
ESJX	Sierra Juarez	80.97	57	P	P	01 37 23.2 +0.9
ESJX				IAmb	IAmb	01 37 25.3
	comp=Z,16nm,1.1s					
GLA	Glamis	81.08	55	P	P	01 37 24.0 +1.3
	baz=308					
KRUC	Moravsky	81.19	327	eP	P	01 37 22.4 -0.5
HSKC	Hora Svate Kat	81.29	329	eP	P	01 37 24.1 +0.6
PRU	Pruhonice	81.30	328	eP	P	01 37 23.0 -0.5
PRU	Pruhonice	81.30	328	eP	P	01 37 23.0 -0.5
AGMN	Agassiz Nation	81.43	34	P	P	01 37 24.5 +0.3
	baz=318					
N23A	Red Feather La	81.50	45	P	P	01 37 26.5 +1.4
	baz=312,SNR=5.3					
MMAI	Mount Meron Ar	81.55	305	P	P	01 37 26.4 +1.2
MMAI	Mount Meron Ar	81.55	305	P	P	01 37 26.4 +1.2
	comp=Z,3.6nm,0.9s,baz=49,slow=6.5,SNR=1.6					
MMAI				LR	LR	02 16 54.4
	comp=Z,120nm,20.4s,baz=17,slow=38					
	comp=Z,3.6nm,0.9s					
WUAZ	Wupatki	81.76	52	IAmb	IAmb	01 37 29.6
	comp=Z,11nm,0.9s					
WUAZ	Wupatki	81.76	52	P	P	01 37 28.2 +1.8
	baz=310,SNR=8.5					
ZVC	Zvikov	81.86	328	eP	P	01 37 26.9 +0.4
URZ	Urewera	81.99	152	LR	LR	02 07 17.3
	comp=Z,87nm,20.6s,baz=30,slow=31					
CONA	Conrad Observa	82.27	326	eP	P	01 37 28.5 -0.3
	comp=Z,5.8nm,1.3s					
CKRC	Cesky Krumlov	82.28	327	eP	P	01 37 28.5 -0.2
CKRC	Cesky Krumlov	82.28	327	eP	P	01 37 28.5 -0.2
KHC	Kasperske Hory	82.36	328	IAmb	IAmb	01 37 31.7
	comp=Z,10nm,1.3s					
KHC	Kasperske Hory	82.36	328	eP	P	01 37 28.8 -0.3
KHC	Kasperske Hory	82.36	328	eP	P	01 37 28.8 -0.3
X16A	Lo Mia Camp, P	82.42	53	IAmb	IAmb	01 37 33.3
	comp=Z,8.3nm,1.0s					
ISCO	Idaho Springs	82.42	45	P	P	01 37 31.2 +1.2
	baz=312					
MVCO	Mesa Verde	82.44	49	IAmb	IAmb	01 37 32.5
	comp=Z,15nm,1.2s					
MVCO	Mesa Verde	82.44	49	P	P	01 37 31.5 +1.5
	baz=311,SNR=6.9					
GERES	GERESS Array B	82.53	328	P	P	01 37 29.3 -0.8
GERES	GERESS Array B	82.53	328	P	P	01 37 30.6 +0.5
GERES	GERESS Array B	82.53	328	P	P	01 37 30.6 +0.5
	comp=Z,1.4nm,0.4s,baz=43,slow=6.1,SNR=19					
GERES				LR	LR	02 18 38.9
	comp=Z,113nm,19.3s,baz=27,slow=39					
	comp=Z,1.4nm,0.4s					
GRF	Grafenberg Arr	82.90	330	eP	P	01 37 30.9 -1.0
	comp=Z,5.8nm,1.1s,baz=42,slow=4.5					
PIX	Pinacate	82.91	56	IAmb	IAmb	01 37 35.0
	comp=Z,10nm,1.3s					
MOA	Molln	83.04	327	i pP	P	01 37 33.4 +0.7
	comp=Z,6.6nm,1.4s					
W18A	Petrified Fore	83.04	51	P	P	01 37 34.0 +0.8
	baz=311					
EKA	Eskdalemuir Ar	83.08	340	P	P	01 37 33.2 +0.5
EKA	Eskdalemuir Ar	83.08	340	P	P	01 37 33.1 +0.5
	comp=Z,3.0nm,1.0s,baz=40,slow=4.7,SNR=6.1					
	comp=Z,3.0nm,1.0s					
S22A	4UR Ranch, Cre	83.08	48	IAmb	IAmb	01 37 36.9
	comp=Z,7.9nm,1.1s					
S22A	4UR Ranch, Cre	83.08	48	P	P	01 37 35.3 +1.8
	baz=312,SNR=9.3					
214A	Organ Pipe Nat	83.09	55	IAmb	IAmb	01 37 35.6
	comp=Z,8.6nm,1.1s					
214A	Organ Pipe Nat	83.09	55	P	P	01 37 35.1 +1.9
	baz=309					
BIOA	Bad Ischl, Aus	83.43	327	eP	P	01 37 33.3 -1.5
	comp=Z,7.5nm,1.6s					
SOKA	Soboth	83.58	326	eP	P	01 37 35.1 -0.5
	comp=Z,5.6nm,0.8s					
EYMN	Ely	83.62	32	P	P	01 37 36.7 +1.0
	baz=321					
OGNE	Ogallala	83.63	43	P	P	01 37 36.5 +0.5
	baz=314					
SDCO	Great Sand Dun	83.87	47	P	P	01 37 39.5 +2.0
	baz=313					
EIL	Elat	83.94	303	LR	LR	02 19 53.8
	comp=Z,45nm,18.9s,baz=58,slow=39					
KBA	Koelnbreinsper	84.03	327	epP	P	01 37 38.7 +0.7
	comp=Z,3.1nm,0.9s					
LESA	Schwarzleotal	84.06	327	eP	P	01 37 37.8 -0.3
	comp=Z,8.3nm,1.2s					
TUC	Tucson	84.19	54	P	P	01 37 39.6 +0.6
TUC				IAmb	IAmb	01 37 41.3
	comp=Z,9.6nm,1.1s					
TUC	Tucson	84.19	54	P	P	01 37 39.6 +0.6
TUC				pmax	pmax	
	comp=Z,10.0nm,1.2s					
TUC	Tucson	84.19	54	P	P	01 37 41.1 +2.2
	baz=310					
ECSD	EROS Data Cent	84.44	38	P	P	01 37 40.0 0.0
ECSD				IAmb	IAmb	01 37 41.8
	comp=Z,13nm,1.4s					
ECSD	EROS Data Cent	84.44	38	P	P	01 37 41.0 +1.1
	baz=318					
WATA	Walderalm	84.60	328	epP	P	01 37 41.7 +0.9
	comp=Z,0.9nm,0.4s					
WTTA	Wattenberg	84.63	328	i P	P	01 37 40.9 -0.1
	comp=Z,1.6nm,0.6s					
MOTA	Moosalm	84.79	328	eP	P	01 37 40.3 -1.6
	comp=Z,8.9nm,1.6s					
RETA	Reutte	84.82	328	eP	P	01 37 41.4 -0.4
	comp=Z,2.1nm,0.6s					
SQTA	Sankt Quirin	84.84	328	eP	P	01 37 41.7 -0.3
	comp=Z,2.1nm,0.6s					
T25A	Trinidad	84.91	47	IAmb	IAmb	01 37 45.4
	comp=Z,8.2nm,1.0s					
T25A	Trinidad	84.91	47	P	P	01 37 43.6 +0.9
	baz=313					
BFO	Black Forest	85.14	330	P	P	01 37 42.2 -1.2
BFO				IAmb	IAmb	01 37 45.5
	comp=Z,12nm,1.3s					
BFO	Black Forest	85.14	330	P	P	01 37 42.2 -1.2
BFO				pmax	pmax	
	comp=Z,12nm,1.3s					
ANMO	Albuquerque	85.18	49	P	P	01 37 44.8 +0.8
ANMO				IAmb	IAmb	01 37 46.7
	comp=Z,12nm,1.3s					
ANMO	Albuquerque	85.18	49	ceP	P	01 37 43.3 -0.7
ANMO				pmax	pmax	
	comp=Z,9.0nm,1.3s					
ANMO	Albuquerque	85.18	49	P	P	01 37 45.8 +1.7
	baz=312					
DAVA	Damuels	85.35	329	eP	P	01 37 43.8 -0.9
	comp=Z,6.1nm,1.4s					
BGNE	Belgrade	85.36	40	P	P	01 37 45.3 +0.7
	baz=317					
FUORN	Ofenpass-Fuorn	85.72	328	P	P	01 37 47.1 +0.6
FUORN				IAmb	IAmb	01 37 48.9
	comp=Z,13nm,1.4s					
DAVOX	Davos/Dischmat	85.75	329	LR	LR	02 19 22.1
	comp=Z,104nm,20.7s,baz=351,slow=38					
319A	Douglas	85.76	54	P	P	01 37 46.6 -0.3
121A	Cookes Peak, D	85.96	52	IAmb	IAmb	01 37 51.0
	comp=Z,8.0nm,1.0s					
121A	Cookes Peak, D	85.96	52	P	P	01 37 49.6 +1.6
	baz=312,SNR=5.6					
IDI	Anoyia	86.64	312	LR	LR	02 20 01.5
	comp=Z,32nm,19.9s,baz=322,slow=38					
KSU1	Kansas State U	87.85	41	P	P	01 37 58.0 +1.1
	baz=318					
MNTX	Cornudas Mount	88.03	51	IAmb	IAmb	01 38 01.0
	comp=Z,5.9nm,1.4s					
MNTX	Cornudas Mount	88.03	51	P	P	01 37 59.2 +1.4
	baz=313					
MSTX	Muleshoe	88.06	48	P	P	01 37 58.1 0.0
	baz=314					
AMTX	Amarillo	88.07	47	P	P	01 37 59.7 +1.6
	baz=315					
JFWS	Jewell Farm	88.08	35	P	P	01 37 58.9 +1.0
	baz=322					
GLMI	Grayling	88.98	30	P	P	01 38 02.5 +0.4
	baz=325					
WMOK	Wichita Mounta	89.84	45	P	P	01 38 07.1 +0.7
	baz=316					
APMT	Aspermont	90.08	47	IAmb	IAmb	01 38 09.0
	comp=Z,24nm,1.5s					
TUL3	Leonard	90.65	43	P	P	01 38 09.5 -0.5
	baz=318					
TX32	Lajitas Array	90.72	52	IAmb	IAmb	01 38 12.5
	comp=Z,5.7nm,1.1s					
TXAR	Lajitas Array	90.72	52	P	P	01 38 11.6 +0.9
TXAR	Lajitas Array	90.72	52	P	P	01 38 11.5 +0.9
TXAR	Lajitas Array	90.72	52	P	P	01 38 11.5 +0.9
	comp=Z,1.7nm,0.5s,baz=294,slow=2.6,SNR=45					
TXAR				LR	LR	02 12 33.7
	comp=Z,51nm,21.4s,baz=325,slow=31					
	comp=Z,1.7nm,0.5s					
ABTX	Abilene, Hawle	90.86	47	P	P	01 38 12.1 +0.9
	baz=316					
CCM	Cathedral Cave	91.39	38	P	P	01 38 14.1 +0.7
	baz=321					
BRDY	Brady	92.20	48	P	P	01 38 17.0 -0.4
BRDY				IAmb	IAmb	01 38 19.0
	comp=Z,15nm,1.4s					
JCT	Junction City	92.30	49	P	P	01 38 18.6 +0.7
	baz=316					
O48B	Farmland	92.49	33	P	P	01 38 19.6 +1.1
	baz=325					
WHTX	Lake Whitney,	92.60	46	P	P	01 38 19.2 +0.1
	baz=317					
MIAR	Mount Ida	92.87	42	P	P	01 38 21.7 +1.4
	baz=320					
833A	Chaparral WMA,	94.09	50	P	P	01 38 25.1 -1.0
	baz=316					
KEST	Kesra	94.78	322	LR	LR	02 24 24.3
	comp=Z,72nm,19.0s,baz=302,slow=38					
ESDC	Sonseca Array	97.16	333	P	Pdif	01 38 41.0 +1.0
	comp=Z,0.2nm,0.8s,baz=35,slow=4.9,SNR=1.5					
ESDC				LR	LR	02 27 52.1
	comp=Z,66nm,19.3s,baz=14,slow=39					
	comp=Z,0.2nm,0.8s					
H03N2	Juan Fernandez	147.63	96	T	T	04 29 49.0
	baz=291,slow=76,SNR=54					
H03N3	Juan Fernandez	147.64	96	T	T	04 29 46.3
	baz=291,slow=76,SNR=71					
H03N1	Juan Fernandez	147.65	96	T	T	04 29 50.2
	baz=291,slow=76,SNR=58					

IDC 01 01:27:18.6±2.5, 2°.43N×126°.78E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=267.8km s-min=23.9km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.43	162	P	P	01 32 28.5	-1.2
	0.4nm,0.4s,baz=340,slow=11,SNR=6.2						
	0.4nm,0.4s						
ASAR	Alice Springs	26.85	165	P	P	01 33 02.4	+1.2
	0.1nm,0.3s,baz=344,slow=10,SNR=4.1						
	0.1nm,0.3s						
MKAR	Makanchi Array	58.65	326	P	P	01 37 18.1	+0.3
	0.4nm,0.8s,baz=126,slow=7.3,SNR=2.3						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	62.86	328	P	P	01 37 45.9	-0.4
	0.3nm,0.6s,baz=128,slow=6.0,SNR=2.8						
	0.3nm,0.6s						

*IDC **01** 01:32:27.9±2.1, 6°.23S×146°.90E, h79km±22km, mb3.7/7, mbtmp4.0/13, MS3.5/9, Error ellipse: s-maj=24.8km s-min=20.0km az=107.0*

ISC 01 01:32:28.2±0.7, 6°.16S±0°.07×146°.8E±0°.1, h78km, n22, σ1§41/15, mb4.0/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.25	174	P	Pn	01 33 15.1	-1.8
	84nm,0.7s,baz=47,slow=5.7,SNR=29						
PMG				S	Sn	01 33 57.4	+3.0
	162nm,0.7s,baz=145,slow=22,SNR=2.2						
PMG				LR	LR	01 34 59.9	
	comp=Z,897nm,19.4s,baz=16,slow=48						
KRVT	Keravat (AS076	5.51	71	P	Pn	01 33 47.5	-0.3
	25nm,0.4s,baz=225,slow=19,SNR=2.4						
JAY	Jayapura	7.08	300	P	Pn	01 34 09.8	+0.6
	1.4nm,0.3s,baz=141,slow=18,SNR=2.8						
JAY				LR	LR	01 37 21.5	
	comp=Z,319nm,18.4s,baz=200,slow=41						
CTA	Charters Tower	13.86	182	P	Pn	01 35 41.8	+0.5
	1.7nm,0.7s,baz=356,slow=14,SNR=1.9						
CTA				LR	LR	01 41 00.4	
	comp=Z,200nm,19.8s,baz=62,slow=37						
SIJI	Sorong	16.37	288	P	Pn	01 36 13.6	+0.2
	19nm,0.8s,baz=79,slow=8.8,SNR=8.2						
SIJI				LR	LR	01 44 19.1	
	comp=Z,103nm,20.8s,baz=166,slow=43						
WRA	Warramunga Arr	18.29	220	P	P	01 36 34.6	-1.5
	3.2nm,0.9s,baz=44,slow=12,SNR=11						
WRA				LR	LR	01 42 59.2	
	comp=Z,128nm,21.5s,baz=60,slow=34						
ASAR	Alice Springs	21.38	214	P	P	01 37 09.2	-0.4
	0.7nm,0.8s,baz=53,slow=8.8,SNR=7.2						
ASAR				LR	LR	01 46 42.0	
	comp=Z,139nm,18.5s,baz=34,slow=40						
	0.7nm,0.8s						
STKA	Stephens Creek	26.05	190	LR	LR	01 49 08.1	
	comp=Z,122nm,19.2s,baz=24,slow=38						
H11S3	WAKE ISLAND Hy	31.38	38	T	T	02 11 32.2	
	baz=220,slow=74						
H11S2	WAKE ISLAND Hy	31.39	38	T	T	02 11 28.7	
	baz=220,slow=74						
H11S1	WAKE ISLAND Hy	31.39	38	T	T	02 11 30.1	
	baz=220						
H11N1	WAKE ISLAND Hy	32.43	37	T	T	02 12 48.3	
	baz=218,slow=76,SNR=38						
H11N3	WAKE ISLAND Hy	32.44	37	T	T	02 12 49.4	
	baz=218,slow=76,SNR=47						
H11N2	WAKE ISLAND Hy	32.45	37	T	T	02 12 49.4	
	baz=218,slow=76,SNR=66						
KSRS	Korea Array	46.83	339	P	P	01 40 51.1	+0.8
	2.2nm,0.9s,baz=154,slow=9.5,SNR=5.4						
KSRS				LR	LR	01 57 12.2	
	comp=Z,30nm,22.0s,baz=325,slow=32						
	2.2nm,0.9s						
CMAR	Chiang Mai Arr	53.16	298	P	P	01 41 40.1	+1.5
	1.5nm,0.3s,baz=124,slow=5.5,SNR=6.9						
	1.5nm,0.3s						
SONM	Songino Array	64.45	331	P	P	01 42 57.4	+0.9
	0.8nm,0.8s,baz=120,slow=5.2,SNR=3.3						
	0.8nm,0.8s						
MKAR	Makanchi Array	77.50	321	P	P	01 44 13.7	-1.7
	0.5nm,0.8s,baz=104,slow=6.1,SNR=2.5						
	0.5nm,0.8s						
ILAR	Eielson Array	85.70	23	P	P	01 44 57.2	-1.0
	1.0nm,0.7s,baz=244,slow=4.5,SNR=11						
	1.0nm,0.7s						
BVAR	Borovoye Array	86.78	324	P	P	01 45 02.9	-1.0
	5.4nm,0.7s,baz=117,slow=5.0,SNR=2.8						
	5.4nm,0.7s						
KIRV	Kirov	99.08	328	LR	LR	02 35 12.6	
	comp=Z,24nm,18.0s,baz=332,slow=38						
TORD	Torodi Ar. Bea	144.94	284	PKPbc	PKPab	01 51 57.1	+0.3
	3.4nm,0.7s,baz=73,slow=3.1,SNR=18						

*MOS **01** 01:35:24.0±1.0, 7°.61N×73°.21W, h133km, mb5.2/30, Error ellipse: s-maj=8.4km s-min=5.6km az=93.3*

*NEIC **01** 01:35:25.5, 7°.55N×73°.16W, h130km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.03; $M_{\theta\theta}$1.88; $M_{\phi\phi}$3.15; $M_{r\theta}$0.52; $M_{\theta\phi}$2.34; $M_{\phi r}$-3.78; Fault plane solution: $M_0$6.21000×10^{16} NP1: ϕ_s234.57000°, δ33.41000°, λ-54.89000°. NP2: ϕ_s14.46000°, δ63.23000°, λ-110.77000°. Principal axes: T 5.7044, Plg16.0000°, Azm120.0000°; N 1.0175, Plg18.0000°, Azm24.0000°; P -6.7219, Plg65.0000°, Azm248.0000°;*

*VAO **01** 01:35:25.9±0.2, 7°.44N×73°.27W, h143km, mb5.0*

*NEIC **01** 01:35:25.2±1.8, 7°.53N±0°.04×73°.15W±0°.06, h129km±3km, mb5.1/686, Mww5.1/35, Error ellipse: s-maj=9.4km s-min=4.4km az=71.0*

*RSNC **01** 01:35:25.9±1.1, 7°.66N×73°.26W, h138km±5km, ML5.4, Mw5.7, Fault plane solution: NP1: ϕ_s135.00000°, δ62.00000°, λ176.00000°.*

*IDC **01** 01:35:25.2±0.4, 7°.59N×73°.10W, h133km±3km, mb4.7/23, mbtmp5.1/29, MS3.8/22, Error ellipse: s-maj=7.7km s-min=6.5km az=115.0*

*NEIC **01** 01:35:25.5, 7°.55N×73°.16W, h130km*

*BJI **01** 01:35:26.0±0.0, 7°.50N×73°.20W, h136km, mB5.1/3*

*GCMT **01** 01:35:27.2±0.1, 7°.58N±0°.01×73°.27W±0°.01, h140km±1km, MW5.2/138, Moment Tensor Solution. s107, c138; s138, c217; Duration: 1§0 Moment tensor: Scale 10^{16} Nm; M_{rr}-6.42±.11; $M_{\theta\theta}$1.25±.15; $M_{\phi\phi}$5.16±.17; $M_{r\theta}$1.04±.11; $M_{\phi\phi}$2.11±.14; $M_{\phi r}$-4.06±.12; Best double couple: $M_0$7.47900×10^{16} NP1: ϕ_s5.00000°, δ61.00000°, λ-107.00000°. NP2: ϕ_s218.00000°, δ33.00000°, λ-62.00000°. Principal axes: T 6.9630, Plg15.0000°, Azm108.0000°; N 1.0210, Plg15.0000°, Azm14.0000°; P -7.9940, Plg69.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 01:35:25.0±0.2, 7°.62N±0°.02×73°.21W±0°.03, h136km±1km, h137km: pP-P, n1492, σ1§68/1619, mb5.1/420, 40C-39D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	Pamplona, Colo	0.58	119	⇓i P	Pn	01 35 47.2	+1.4
PAMC				eS	Sn	01 36 02.8	+1.3
PAMC				i		01 36 04.7	
	comp=Z,107μm,0.3s						
BARC	Barichara	1.02	179	⇓i P	Pn	01 35 49.7	+0.7
BARC				eS	Sn	01 36 07.7	+0.5
BARC				i		01 36 08.7	
	comp=Z,99μm,0.4s						
ZARC	Zaragoza, Cauc	1.64	266	⇑i P	Pn	01 35 54.9	-0.2
ZARC				eS	Sn	01 36 18.4	+0.3
ZARC				i		01 36 23.3	
	comp=Z,57μm,0.3s						
RUSC	La Rusia	1.72	176	⇓i P	Pn	01 35 56.8	+0.2
RUSC				⇓i P	Pn	01 35 56.8	+0.2
RUSC				eS	Sn	01 36 20.3	-0.3
RUSC				eS	Sn	01 36 20.3	-0.3
RUSC				i		01 36 25.9	
	comp=Z,10μm,0.4s						
RUSC				i		01 36 25.9	
	comp=Z,10μm,0.4s						
TAMC	Tame, Arauca	1.83	130	⇓i P	Pn	01 35 59.2	+1.8
TAMC				⇓i P	Pn	01 35 59.2	+1.8
TAMC				eS	Sn	01 36 24.7	+2.5
TAMC				eS	Sn	01 36 24.7	+2.5
TAMC				i		01 36 31.2	
	comp=Z,21μm,0.4s						
TAMC				i		01 36 31.2	
	comp=Z,21μm,0.4s						
LL6C	La Loma 6 Bece	2.10	358	⇓i P	Pn	01 36 01.1	+0.5
LL6C				⇓i P	Pn	01 36 01.1	+0.5
LL6C				eS	Sn	01 36 28.3	+0.4
LL6C				eS	Sn	01 36 28.3	+0.4
LL6C				i		01 36 37.6	
	comp=Z,15μm,0.5s						
LL6C				i		01 36 37.6	
	comp=Z,15μm,0.5s						
SPBC	San Pablo de B	2.14	204	eP	Pn	01 36 01.2	+0.2
SPBC				eP	Pn	01 36 01.2	+0.2
SPBC				eS	Sn	01 36 30.0	+1.3
SPBC				eS	Sn	01 36 30.0	+1.3
SPBC				i		01 36 37.3	
	comp=Z,30μm,0.3s						
SPBC				i		01 36 37.3	
	comp=Z,30μm,0.3s						
LL5C	La Loma 5 El P	2.17	347	eP	Pn	01 36 02.5	+1.1
LL5C				eP	Pn	01 36 02.5	+1.1
LL5C				eS	Sn	01 36 31.3	+1.8
LL5C				eS	Sn	01 36 31.3	+1.8
LL5C				i		01 36 36.5	
	comp=Z,21μm,0.4s						
LL5C				i		01 36 36.5	
	comp=Z,21μm,0.4s						
UREC	San Jos de Ur	2.31	273	⇑i P	Pn	01 36 01.8	-1.3
UREC				⇑i P	Pn	01 36 01.8	-1.3
UREC				eS	Sn	01 36 37.9	+5.6
UREC				eS	Sn	01 36 37.9	+5.6
ARGC	Ariguani, Magd	2.45	335	⇓eP	Pn	01 36 06.4	+1.5
ARGC				⇓eP	Pn	01 36 06.4	+1.5
ARGC				eS	Sn	01 36 40.2	+4.7
ARGC				eS	Sn	01 36 40.2	+4.7
ARGC				i		01 36 43.1	
	comp=Z,15μm,0.4s						
ARGC				i		01 36 43.1	
	comp=Z,15μm,0.4s						
NORC	Norcasia	2.63	219	eP	Pn	01 36 06.8	-0.4
NORC				eP	Pn	01 36 06.8	-0.4
NORC				eS	Sn	01 36 40.2	+0.6
NORC				eS	Sn	01 36 40.2	+0.6
NORC				i		01 36 46.6	
	comp=Z,16μm,0.6s						
NORC				i		01 36 46.6	
	comp=Z,16μm,0.6s						
HELC	Santa Helena	2.71	238	eP	Pn	01 36 08.0	-0.4
HELC				eP	Pn	01 36 08.0	-0.4
HELC				eS	Sn	01 36 39.3	-2.6
HELC				eS	Sn	01 36 39.3	-2.6
HELC				i		01 36 52.0	
	comp=Z,17μm,0.3s						
HELC				i		01 36 52.0	
	comp=Z,17μm,0.3s						
SDV	Santo Domingo	2.84	64	Pn	Pn	01 36 12.3	+2.3
SDV	Santo Domingo	2.84	64	⇑eP	Pn	01 36 12.0	+2.0
SDV				⇑eP	Pn

ROSC eS Sn 01 36 52.6 +4.6
ROSC i 01 36 58.7
comp=Z,10µm,0.7s
ROSC i 01 36 58.7
comp=Z,10µm,0.7s
ROSC El Rosal 2.98 202 P Pn 01 36 13.8 +1.9
comp=Z,3µm,0.4s,baz=30,slow=3.8,SNR=925
ROSC S Sn 01 36 49.1 +1.1
comp=Z,4µm,0.4s,baz=106,slow=21,SNR=3.0
SJCC San Jacinto, C 2.98 319⇑ iP Pn 01 36 11.3 -0.4
SJCC iP Pn 01 36 11.3 -0.4
SJCC eS Sn 01 36 46.5 -1.3
SJCC eS Sn 01 36 46.5 -1.3
SJCC i 01 36 51.6
comp=Z,12µm,0.4s
SJCC i 01 36 51.6
comp=Z,12µm,0.4s
CHIC Chingaza 3.02 190 eP Pn 01 36 13.4 +0.9
CHIC eP Pn 01 36 13.4 +0.9
CHIC eS Sn 01 36 51.4 +2.3
CHIC eS Sn 01 36 51.4 +2.3
CHIC i 01 36 58.0
comp=Z,10µm,0.5s
CHIC i 01 36 58.0
comp=Z,10µm,0.5s
DBBC Dabeiba 3.04 259 eP Pn 01 36 11.9 -0.5
DBBC eP Pn 01 36 11.9 -0.5
DBBC eS Sn 01 36 47.2 -1.8
DBBC eS Sn 01 36 47.2 -1.8
DBBC i 01 36 48.1
comp=Z,8µm,0.3s
DBBC i 01 36 48.1
comp=Z,8µm,0.3s
BOG Bogota 3.10 196 eP Pn 01 36 16.6 +3.1
BOG eP Pn 01 36 16.6 +3.1
BOG eS Sn 01 36 56.8 +5.9
BOG eS Sn 01 36 56.8 +5.9
GUY2C Guyana, Caldas 3.20 222 eP Pn 01 36 15.1 +0.1
GUY2C eP Pn 01 36 15.1 +0.1
GUY2C eS Sn 01 36 54.1 +0.7
GUY2C eS Sn 01 36 54.1 +0.7
GUY2C i 01 37 08.9
comp=Z,15µm,0.5s
GUY2C i 01 37 08.9
comp=Z,15µm,0.5s
APAC Apartado, Choc 3.35 275⇑ iP Pn 01 36 16.2 -0.2
APAC ⇑iP Pn 01 36 16.2 -0.2
APAC eS Sn 01 36 55.0 -1.2
APAC eS Sn 01 36 55.0 -1.2
APAC i 01 37 00.8
comp=Z,15µm,0.3s
APAC i 01 37 00.8
comp=Z,15µm,0.3s
LCBC Los crdobas, 3.36 292⇑ eP Pn 01 36 15.2 -1.3
LCBC ⇑eP Pn 01 36 15.2 -1.3
LCBC eS Sn 01 36 55.5 -0.8
LCBC eS Sn 01 36 55.5 -0.8
CRJC Cerrejon, Guaj 3.39 5⇓ eP Pn 01 36 16.9 -0.1
CRJC ⇓eP Pn 01 36 16.9 -0.1
CRJC eS Sn 01 36 59.4 +2.1
CRJC eS Sn 01 36 59.4 +2.1
CRJC i 01 37 02.7
comp=Z,13µm,0.5s
CRJC i 01 37 02.7
comp=Z,13µm,0.5s
RECRC Villamaria, Ca 3.40 219 eP Pn 01 36 19.6 +2.1
RECRC eP Pn 01 36 19.6 +2.1
RECRC eS Sn 01 36 59.0 +0.9
RECRC eS Sn 01 36 59.0 +0.9
NIZA Niza - Manizal 3.40 222 eP Pn 01 36 20.2 +2.9
NIZA eP Pn 01 36 20.2 +2.9
NIZA eS Sn 01 37 00.1 +2.4
NIZA eS Sn 01 37 00.1 +2.4
CMAN1 Manizales, Cal 3.42 222 eP Pn 01 36 22.4 +4.8
CMAN1 eP Pn 01 36 22.4 +4.8
CMAN1 eS Sn 01 37 04.6 +6.3
CMAN1 eS Sn 01 37 04.6 +6.3
VILC Villavicencio, 3.52 188⇑ eP Pn 01 36 19.7 +0.9
VILC ⇑eP Pn 01 36 19.7 +0.9
VILC eS Sn 01 37 01.4 +1.0
VILC eS Sn 01 37 01.4 +1.0
VILC i 01 37 16.3
comp=Z,12µm,0.4s
VILC i 01 37 16.3
comp=Z,12µm,0.4s
PTGC Puerto Gaitan, 3.56 162 eP Pn 01 36 19.1 -0.2
PTGC eP Pn 01 36 19.1 -0.2
PTGC eS Sn 01 37 00.1 -1.2
PTGC eS Sn 01 37 00.1 -1.2
PTGC i 01 37 07.8
comp=Z,6µm,0.4s
PTGC i 01 37 07.8
comp=Z,6µm,0.4s
SMRC Santa Marta, M 3.66 344 eP Pn 01 36 20.8 +0.3
SMRC eP Pn 01 36 20.8 +0.3
SMRC eS Sn 01 37 01.8 -1.7
SMRC eS Sn 01 37 01.8 -1.7
SMRC i 01 37 09.1
comp=Z,7µm,0.5s
SMRC i 01 37 09.1
comp=Z,7µm,0.5s
ANIL Santa Ana 3.80 215 eP Pn 01 36 23.9 +1.4
ANIL eP Pn 01 36 23.9 +1.4
ANIL eS Sn 01 37 10.0 +2.8
ANIL eS Sn 01 37 10.0 +2.8
ANIL i 01 37 18.9
comp=Z,25µm,0.3s
ANIL i 01 37 18.9
comp=Z,25µm,0.3s
ARMEC Armenia, Quind 3.90 219 eP Pn 01 36 27.4 +3.6
ARMEC eP Pn 01 36 27.4 +3.6
ARMEC eS Sn 01 37 19.8 +10
ARMEC eS Sn 01 37 19.8 +10
PLMC San Jos del P 4.08 229 eP Pn 01 36 26.9 +0.8
PLMC eP Pn 01 36 26.9 +0.8
PLMC eS Sn 01 37 12.6 -0.8
PLMC eS Sn 01 37 12.6 -0.8
PLMC i 01 37 20.8
comp=Z,4µm,0.4s
PLMC i 01 37 20.8
comp=Z,4µm,0.4s
ORTC Ortega, Tolima 4.21 209 eP Pn 01 36 27.8 0.0
ORTC eP Pn 01 36 27.8 0.0
ORTC eS Sn 01 37 22.0 +5.5
ORTC eS Sn 01 37 22.0 +5.5
ORTC i 01 37 29.5
comp=Z,7µm,0.5s
ORTC i 01 37 29.5
comp=Z,7µm,0.5s
PRAC Prado 4.23 203 eP Pn 01 36 28.0 0.0
PRAC eP Pn 01 36 28.0 0.0
PRAC eS Sn 01 37 19.3 +2.4
PRAC eS Sn 01 37 19.3 +2.4
PRAC i 01 37 27.8
comp=Z,7µm,0.5s
PRAC i 01 37 27.8
comp=Z,7µm,0.5s
URIC Uribia, Colomb 4.23 16⇓ eP Pn 01 36 27.7 -0.3
URIC ⇓eP Pn 01 36 27.7 -0.3
URIC eS Sn 01 37 14.4 -2.4
URIC eS Sn 01 37 14.4 -2.4
URIC i 01 37 18.7
comp=Z,3µm,0.6s
URIC i 01 37 18.7
comp=Z,3µm,0.6s
SOLC Bahia Solano 4.39 252 eP Pn 01 36 30.4 +0.2
SOLC eP Pn 01 36 30.4 +0.2
SOLC eS Sn 01 37 19.6 -1.2
SOLC eS Sn 01 37 19.6 -1.2
PTAC Punta Ardita, 4.59 264 eP Pn 01 36 31.4 -1.4
PTAC eP Pn 01 36 31.4 -1.4
PTAC eS Sn 01 37 22.1 -3.2
PTAC eS Sn 01 37 22.1 -3.2
PTAC i 01 37 29.7
comp=Z,3µm,0.4s
PTAC i 01 37 29.7
comp=Z,3µm,0.4s
YOTC Yotoco, Valle 4.78 221 eP Pn 01 36 34.6 -0.7
YOTC eP Pn 01 36 34.6 -0.7
YOTC eS Sn 01 37 30.4 +0.3
YOTC eS Sn 01 37 30.4 +0.3
PIZC Pizarro, Choco 4.90 238 eP Pn 01 36 37.9 +1.0
PIZC eP Pn 01 36 37.9 +1.0

PIZC eS Sn 01 37 33.0 +0.2
PIZC eS Sn 01 37 33.0 +0.2
PIZC i 01 37 39.6
comp=Z,2µm,0.5s
PIZC i 01 37 39.6
comp=Z,2µm,0.5s
GUVC San Jose del G 5.08 173⇓ eP Pn 01 36 39.1 -0.1
GUVC ⇓eP Pn 01 36 39.1 -0.1
GUVC eS Sn 01 37 36.0 -1.2
GUVC eS Sn 01 37 36.0 -1.2
BAUV El Baul 5.28 75 Pn Pn 01 36 41.8 -0.1
BETC Betania 5.39 204 eP Pn 01 36 42.3 -1.2
BETC eP Pn 01 36 42.3 -1.2
BETC eS Sn 01 37 39.6 -5.0
BETC eS Sn 01 37 39.6 -5.0
BETC i 01 37 56.4
comp=Z,1µm,0.4s
BETC i 01 37 56.4
comp=Z,1µm,0.4s
MALC Bahia Malaga 5.45 229 eP Pn 01 36 45.5 +1.2
MALC eP Pn 01 36 45.5 +1.2
MALC eS Sn 01 37 46.4 +0.3
MALC eS Sn 01 37 46.4 +0.3
MACC Macarena, Meta 5.48 187 eP Pn 01 36 43.7 -0.9
MACC eP Pn 01 36 43.7 -0.9
MACC eS Sn 01 37 42.9 -3.8
MACC eS Sn 01 37 42.9 -3.8
MACC i 01 37 52.1
comp=Z,2µm,0.4s
MACC i 01 37 52.1
comp=Z,2µm,0.4s
JAMC Jamundi, Valle 5.57 218 eP Pn 01 36 45.9 -0.2
JAMC eP Pn 01 36 45.9 -0.2
JAMC eS Sn 01 37 46.7 -2.7
JAMC eS Sn 01 37 46.7 -2.7
GARC Garzon, Huila 5.86 203 eP Pn 01 36 49.0 -1.0
GARC eP Pn 01 36 49.0 -1.0
GARC eS Sn 01 37 53.0 -3.2
GARC eS Sn 01 37 53.0 -3.2
GARC i 01 38 05.7
comp=Z,2µm,0.3s
GARC i 01 38 05.7
comp=Z,2µm,0.3s
POPC Popayan, Colom 6.12 215⇓ eP Pn 01 36 52.7 -0.7
POPC ⇓eP Pn 01 36 52.7 -0.7
POPC eS Sn 01 38 00.7 -1.7
POPC eS Sn 01 38 00.7 -1.7
HATO Hato, Curacao 6.17 42 Pn 01 36 54.0 +0.1
FLOC Florencia 6.47 202 eP Pn 01 36 57.2 -0.8
FLOC eP Pn 01 36 57.2 -0.8
FLOC eS Sn 01 38 12.3 +1.5
FLOC eS Sn 01 38 12.3 +1.5
FLOC i 01 38 19.1
comp=Z,575nm,0.4s
FLOC i 01 38 19.1
comp=Z,575nm,0.4s
BCIP Isla Barro Col 6.74 284 Pn Pn 01 36 59.3 -2.2
BCIP Isla Barro Col 6.74 284 P Pn 01 36 59.3 -2.2
BCIP Isla Barro Col 6.74 284 eP Pn 01 36 58.9 -2.6
BCIP eP Pn 01 36 58.9 -2.6
BCIP eS Sn 01 38 11.6 -5.4
BCIP eS Sn 01 38 11.6 -5.4
GR1C Gorgona, Isla 6.74 227 eP Pn 01 37 01.1 -0.5
GR1C eP Pn 01 37 01.1 -0.5
GR1C eS Sn 01 38 15.4 -1.7
GR1C eS Sn 01 38 15.4 -1.7
GR1C i 01 38 25.3
comp=Z,3µm,0.5s
GR1C i 01 38 25.3
comp=Z,3µm,0.5s
BBAC Balboa, Cauca 6.87 216 eP Pn 01 37 02.9 -0.5
BBAC eP Pn 01 37 02.9 -0.5
BBAC eS Sn 01 38 19.0 -1.5
BBAC eS Sn 01 38 19.0 -1.5
CRUC La Cruz 7.08 212 eP Pn 01 37 07.4 +1.0
CRUC eP Pn 01 37 07.4 +1.0
CRUC eS Sn 01 38 28.1 +2.3
CRUC eS Sn 01 38 28.1 +2.3
PTLC Puerto Leguiza 7.57 192 eP Pn 01 37 15.7 +3.0
PTLC eP Pn 01 37 15.7 +3.0
PTLC eS Sn 01 38 57.4 +20
PTLC eS Sn 01 38 57.4 +20
GCUF Volcan Galeras 7.57 213 eP Pn 01 37 13.9 +0.7
GCUF eP Pn 01 37 13.9 +0.7
GCUF eS Sn 01 38 37.1 -0.8
GCUF eS Sn 01 38 37.1 -0.8
CMBC Cumbal 8.08 215 eP Pn 01 37 20.9 +0.9
CMBC eP Pn 01 37 20.9 +0.9
TULM Tulcn-Chalpat 8.24 214 Pn 01 37 21.8 -0.3
TULM Tulcn-Chalpat 8.24 214 eP Pn 01 37 22.6 +0.5
TULM eP Pn 01 37 22.6 +0.5
BONI La Bonita 8.32 211 eP Pn 01 37 24.5 +1.4
BONI eP Pn 01 37 24.5 +1.4
IMBA Imbabura, San 8.83 215 Pn 01 37 30.3 +0.2
PCRV Puerto La Cruz 8.84 73 P Pn 01 37 28.4 -1.4
comp=Z,53nm,0.4s,baz=241,slow=7.8,SNR=68
PCRV S Sn 01 39 02.5 -5.4
comp=Z,227nm,0.5s,baz=210,slow=12,SNR=3.3
PCRV LR LR 01 42 07.5
comp=Z,596nm,18.9s,slow=46
CUSE Cuicocha Este 8.92 216 eP Pn 01 37 32.2 +0.9
CUSE eP Pn 01 37 32.2 +0.9
OTAV Otavalo 9.01 216 Pn Pn 01 37 31.5 -1.0
OTAV Otavalo 9.01 216 P Pn 01 37 31.5 -1.0
OTAV Otavalo 9.01 216 eP Pn 01 37 31.5 -1.0
OTAV eP Pn 01 37 31.5 -1.0
OTAV Otavalo 9.01 216 eP Pn 01 37 31.0 -1.5
PAC1 Pacto, Paraso 9.19 218 eP Pn 01 37 32.6 -2.0
PAC1 eP Pn 01 37 32.6 -2.0
PULU Pululahua 9.21 215 Pn 01 37 34.5 -0.6
BRU2 Volcan 9.46 278 Pn Pn 01 37 38.2 0.0
CDITO Canoas 9.62 276 Pn 01 37 40.2 0.0
SLOR San Lorenzo - 9.83 213 Pn 01 37 43.7 +0.2
PRVC Isla de Provid 9.85 306 eP Pn 01 37 39.6 -3.6
PRVC eP Pn 01 37 39.6 -3.6
PRVC eS Sn 01 39 25.4 -6.8
PRVC eS Sn 01 39 25.4 -6.8
SGCB S£o Gabriel d 9.86 141 eP Pn 01 37 41.6 -1.8
PIAT Ana Tenorio 9.94 211 eP Pn 01 37 45.4 +0.5
PIAT eP Pn 01 37 45.4 +0.5
DRK0 Durika 10.06 280 Pn 01 37 46.3 0.0
BATAN Batan 10.34 285 Pn 01 37 48.9 -1.0
PEZE Perez Zeledon, 10.50 280 Pn 01 37 52.5 +0.3
CHSH Refugio Sur-Vo 10.67 212 Pn 01 37 54.1 -0.7
RIMA Rio Macho 10.75 282 Pn Pn 01 37 56.4 +1.0
PCJ Portland Cotta 10.77 339 iP Pn 01 37 58.0 +2.5
HOJ Hope 10.88 342 iP Pn 01 37 58.5 +1.4
GWJ Greenwich 10.94 342 iP Pn 01 38 00.4 +2.5
STH Stony Hill 10.97 342 iP Pn 01 37 59.5 +1.3
STH iS Sn 01 39 53.3 -6.0
HDC Heredia 11.03 283 eP Pn 01 38 00.1 +0.9
MTDJ Mount Denham 11.35 339 Pn Pn 01 38 05.2 +1.8
MTDJ Mount Denham 11.35 339 eP Pn 01 38 05.7 +2.3
MTDJ eS Sn 01 39 59.6 -9.1
MTDJ IVmB_BB 01 40 21.8
comp=Z,13µm,1.5s
MTDJ IVmB_BB 01 40 22.2
comp=Z,15µm,0.0s
MTDJ Mount Denham 11.35 339 eP Pn 01 38 06.3 +2.9
MTDJ eP Pn 01 38 06.3 +2.9
SDDR Presa de Saban 11.45 9 Pn Pn 01 38 05.8 +1.3
SDDR Presa de Saban 11.45 9 eP Pn 01 38 07.9 +3.4
SDDR eS Sn 01 40 07.5 -3.3
SDDR IVmB_BB 01 40 14.5
comp=Z,3µm,1.5s
SDDR IVmB_BB 01 40 14.7
comp=Z,4µm,0.8s
SDDR Presa de Saban 11.45 9 eP Pn 01 38 08.1 +3.6
SDDR eP Pn 01 38 08.1 +3.6
JACO JACO, Garabito 11.50 281 Pn Pn 01 38 06.5 +1.2
COHC Cochancay 11.70 211 Pn 01 38 07.5 -0.4
COHC Cochancay 11.70 211 eP Pn 01 38 07.4 -0.4
COHC eP Pn 01 38 07.4 -0.4
CEDE Laguna Cedeo 11.70 285 eP Pn 01 38 08.1 +0.1
CASO Castillo 11.72 285 eP Pn 01 38 09.0 +0.8
TABAC Tabacon 11.77 285 eP Pn 01 38 09.2 +0.4
JTS Las Juntas de 11.90 284 Pn Pn 01 38 11.4 +0.8
JTS Las Juntas de 11.90 284c iP Pn 01 38 11.5 +1.0
JTS Las Juntas de 11.90 284 eP Pn 01 38 11.7 +1.2
JTS eP Pn 01 38 11.7 +1.2
COTE Lago Cote 11.93 285 eP Pn 01 38 11.6 +0.7

BOSC San Juan Bosco 11.93 206 Pn Pn 01 38 10.4 -0.6
PTEN Parque Tenorio 12.03 286 eP Pn 01 38 11.9 -0.3
TRN Trinidad (W) 12.04 75 eP Pn 01 38 11.6 -0.7
ACAL Aguas Claras 12.05 285 eP Pn 01 38 12.8 +0.2
MOTZ Río Naranjo 12.10 285 eP Pn 01 38 14.0 +0.8
TBTG Tabatinga, AM 12.18 164 Pn 01 38 12.5 -1.7
TBTG Tabatinga, AM 12.18 164 eP Pn 01 38 12.3 -1.9
TBTG eP Pn 01 38 12.3 -1.9
TBTG Tabatinga, AM 12.18 164 eP Pn 01 38 11.8 -2.4
CUI Cuipilapa 12.18 285 eP Pn 01 38 15.2 +1.0
CLARA Aguas Claras 12.22 286 eP Pn 01 38 15.7 +0.9
GRGR Grenville 12.23 68 Pn Pn 01 38 14.4 -0.5
GRGR Grenville 12.23 68 eP P 01 38 19.2 -2.3
GRGR eP P 01 38 19.2 -2.3
GRGR Grenville 12.23 68 eP P 01 38 18.9 -2.6
GRW Mount Saint Ca 12.23 67 eP Pn 01 38 17.6 +2.7
LIM1 Limonal 12.28 285 eP Pn 01 38 16.0 +0.5
GTBY Guantanamo Bay 12.37 352 Pn Pn 01 38 17.6 +1.0
GTBY Guantanamo Bay 12.37 352 eP Pn 01 38 17.9 +1.3
GTBY eS Sn 01 40 23.3 -10
GTBY IVmB_BB 01 40 32.5
comp=Z,2µm,0.6s
GTBY IVmB_BB 01 40 44.6
comp=Z,2µm,0.2s
BUEV Buena Vista 12.45 286 eP Pn 01 38 19.0 +1.3
SALI Salinas 12.46 219 Pn 01 38 18.1 +0.3
SJG San Juan 12.49 33 P Pn 01 38 16.6 -1.5
comp=Z,57nm,0.4s,baz=216,slow=11,SNR=40
SJG S Sn 01 40 31.7 -4.3
comp=Z,93nm,0.6s,baz=35,slow=19,SNR=4.6
SJG LR LR 01 43 37.3
comp=Z,291nm,21.0s,baz=175,slow=40
GBS3 Finca Las Img 12.49 285 eP Pn 01 38 18.5 +0.3
MASC Masc 12.52 356 eP Pn 01 38 20.8 +2.3
MASC eS Sn 01 40 28.8 -7.9
MASC IVmB_BB 01 40 37.5
comp=N,1µm,0.2s
MASC IVmB_BB 01 40 48.0
comp=E,1µm,1.3s
GTMO Guantanamo 12.53 352 eP Pn 01 38 17.9 -0.6
GTMO eS Sn 01 40 28.0 -8.9
GTMO IVmB_BB 01 40 41.6
comp=N,87µm,0.8s
GTMO IVmB_BB 01 40 45.8
comp=E,102µm,2.0s
RCC Rio Carpintero 12.53 349 eP Pn 01 38 21.4 +2.7
LMGC Las Mercedes 12.90 344 eP Pn 01 38 23.8 +0.4
LMGC eS Sn 01 40 35.0 -11
LMGC IVmB_BB 01 40 43.9
comp=N,949nm,0.6s
LMGC IVmB_BB 01 40 45.7
comp=E,1µm,0.2s
TOSP Speyside 13.02 73 eP Pn 01 38 26.2 +1.2
SVB Belmont 13.03 63 eP Pn 01 38 26.0 +0.9
MOAC Moa 13.07 353 eP P 01 38 29.0 -1.7
MOAC eS Sn 01 40 43.7 -6.3
MOAC IVmB_BB 01 40 51.9
comp=E,2µm,0.4s
MOAC IVmB_BB 01 40 53.3
comp=N,4µm,0.8s
MCLT Moule a Chique 13.48 62 eP Pn 01 38 32.3 +1.3
SLBI Saint Lucia, B 13.59 61 eP Pn 01 38 33.2 +0.9
BOAV Boa Vista 13.66 112 Pn Pn 01 38 31.6 -1.6
BOAV Boa Vista 13.66 112 eP Pn 01 38 33.1 -0.2
BIM Bigot 13.74 59 Pn Pn 01 38 34.5 +0.2
BIM Bigot 13.74 59 eP Pn 01 38 35.7 +1.4
MPOM Morne Pois Mar 13.88 60 eP Pn 01 38 37.1 +1.0
FSCY Frank Sound, G 13.96 327 eP Pn 01 38 33.8 -3.3
FSCY eS Sn 01 40 56.5 -15
FSCY IVmB_BB 01 40 58.7
comp=E,2µm,0.9s
FSCY IVmB_BB 01 40 58.9
comp=N,1µm,1.1s
TEFE Tefe 13.98 142 eP Pn 01 38 35.7 -1.7
CNGN Cerro Negro 14.14 291 eP Pn 01 38 37.9 -1.5
CNGN eP Pn 01 38 37.9 -1.5
ANBD Bethesda, Anti 14.58 49 eP P 01 38 46.8 -0.7
CZSB Cruzeiro do Su 15.26 178 Pn Pn 01 38 51.8 -1.6
CZSB Cruzeiro do Su 15.26 178 eP Pn 01 38 52.6 -0.8
ATAH Atahualpa 15.54 200 P Pn 01 38 57.6 +0.3
comp=N,126nm,1.0s,baz=24,slow=6.8,SNR=20
ATAH S Sn 01 41 52.2 +1.9
comp=N,22nm,0.8s,baz=44,slow=14,SNR=1.3
ATAH LR LR 01 46 11.6
comp=N,273nm,20.3s,baz=15,slow=42
MACA Manacapuru-AM 16.46 130 eP P 01 39 08.6 +0.1
SNET Serv Nac Est T 16.86 292 P P 01 39 12.5 -0.4
SNET IAmb IAmb 01 39 14.8
comp=Z,144nm,1.1s
SOR Soroa 17.79 329 P Pn 01 39 24.8 +0.7
SOR Soroa 17.79 329 eP Pn 01 39 25.1 +1.0
SOR Soroa 17.79 329 P Pn 01 39 24.8 +0.7
SOR pmax pmax
comp=Z,37nm,1.1s
ETMB Extrema 18.67 158 P P 01 39 32.3 -0.4
ETMB IAmb IAmb 01 39 35.8
comp=Z,71nm,0.6s
ETMB Extrema 18.67 158 eP P 01 39 32.0 -0.7
PAYG Puerto Ayora 18.92 245 P Pn 01 39 37.2 -0.4
TEIG Tepich 19.24 312 P Pn 01 39 40.8 -0.4
TEIG IAmb IAmb 01 39 46.3
comp=Z,98nm,0.6s
TEIG Tepich 19.24 312 P Pn 01 39 41.1 -0.1
comp=Z,640nm,0.5s,baz=154,slow=2.8,SNR=22
TEIG S Sn 01 43 14.5 -3.5
comp=Z,61nm,0.6s,baz=337,slow=20,SNR=1.7
SAML Samuel 19.25 149 P P 01 39 38.7 -0.4
SAML Samuel 19.25 149 P P 01 39 38.7 -0.4
SAML pmax pmax
comp=Z,270nm,0.9s
SAML Samuel 19.25 149 eP P 01 39 38.3 -0.8
NNA Nana 19.81 191 P P 01 39 44.2 -0.9
NNA IAmb IAmb 01 39 49.6
comp=Z,49nm,0.6s
NNA Nana 19.81 191 ceP P 01 39 45.0 -0.1
NNA pmax pmax
comp=Z,77nm,0.7s
NNA Nana 19.81 191 P P 01 39 45.2 +0.1
comp=Z,43nm,0.5s,baz=346,slow=8.9,SNR=24
NNA S S 01 43 23.4 +2.3
comp=Z,6.7nm,0.5s,baz=336,slow=22,SNR=1.8
060A Indiantown 20.47 341 P P 01 39 51.8 -0.2
060A Indiantown 20.47 341 P P 01 39 53.4 +1.3
baz=159
MDP Montagnes des 20.59 96 P P 01 39 54.3 +0.8
comp=Z,39nm,0.4s,baz=272,slow=10,SNR=218
MDP S S 01 43 38.6 +2.1
comp=Z,19nm,1.0s,baz=228,slow=15,SNR=1.4
comp=Z,39nm,0.4s
MALB Monte Alegre 21.11 116 eP P 01 39 59.4 +0.3
ITTB Itaituba 21.11 124 eP P 01 40 00.4 +1.3
MCPB Macapa, AP 22.53 110 eP P 01 40 13.7 -0.1
NPGB Novo Progresso 23.00 129 eP P 01 40 18.2 -0.1
VILB Vilhena 24.18 148 P P 01 40 28.3 -0.7
VILB Vilhena 24.18 148 eP P 01 40 29.3 +0.3
LPAZ La Paz 24.28 168 P P 01 40 29.8 -0.7
LPAZ La Paz 24.28 168 eP P 01 40 28.9 -1.6
LPAZ La Paz 24.28 168 P P 01 40 30.2 -0.3
comp=Z,31nm,0.4s,baz=325,slow=3.2,SNR=82
comp=Z,31nm,0.4s
PDRB Porto dos Gac 25.18 139 eP P 01 40 37.9 -0.1
CLDB Colider 25.26 136 eP P 01 40 38.3 -0.4
PB18 Visviri 25.32 172 P P 01 40 38.2 -1.6
TIGA Tifton 25.60 339 P P 01 40 44.9 +3.2
baz=156
PB16 IPOC Station P 26.05 172 P P 01 40 43.6 -2.8
352A Blakely 26.14 337 IAmb IAmb 01 40 54.5
comp=Z,39nm,0.8s
352A Blakely 26.14 337 P P 01 40 48.9 +2.4
baz=153
NHSC New Hope 26.17 347 P P 01 40 50.0 +3.3
baz=164
PB12 IPOC Station P 26.22 174 P P 01 40 45.9 -1.6
BRAL Brewton 26.76 333 P P 01 40 55.2 +3.1
baz=148
HAW Hawthorne Fire 26.77 344 P P 01 40 53.4 +1.3
baz=161
PTLB Pontes e Lacer 26.83 149 P P 01 40 51.4 -1.5
PTLB Pontes e Lacer 26.83 149 eP P 01 40 51.9 -0.9
TMAB Tom-Au,PA,Br 26.95 111 eP P 01 40 54.0 0.0
PRPB Parauapebas 27.06 120 eP P 01 40 54.8 -0.2
Y57A Sumter 27.09 347 IAmb IAmb 01 40 59.2
comp=Z,21nm,0.5s
250A Grady 27.12 335 IAmb IAmb 01 41 00.2

	comp=Z,95nm,1.6s				
250A	**Grady**	**27.12 335**	P	**P**	**01 40 56.8 +1.6**
	baz=151,SNR=7.0				
152A	**Waverly Hall**	**27.12 338**	P	**P**	**01 40 57.5 +2.2**
	baz=154,SNR=6.6				
GOGA	**Godfrey**	**27.36 341**	P	**P**	**01 40 59.6 +2.2**
GOGA	**Godfrey**	**27.36 341**	P	**P**	**01 40 59.6 +2.2**
GOGA			pmax	pmax	
	comp=Z,30nm,1.5s				
GOGA	**Godfrey**	**27.36 341**	P	**P**	**01 41 00.2 +2.8**
	baz=157				
GOGA	**Godfrey**	**27.36 341**	P	**P**	**01 41 00.1 +2.6**
	baz=157				
GO01	**Chusmiza**	**27.40 172**	IAmb	IAmb	01 41 05.0
	comp=Z,24nm,0.7s				
JSC	**Jenkinsville**	**27.55 345**	P	**P**	**01 41 01.6 +2.5**
	baz=162				
BIRD	**Birdtown, Kers**	**27.71 347**	P	**P**	**01 41 02.5 +2.0**
	baz=164				
Z51A	**Franklin**	**27.87 338**	P	**P**	**01 41 04.0 +2.1**
	baz=154,SNR=7.2				
PB08	**IPOC Station P**	**27.88 172**	P	**P**	**01 41 01.0 -1.5**
PB08			IAmb	IAmb	01 41 05.2
	comp=Z,19nm,0.4s				
PB08				**PcP**	**01 44 15.6 +0.4**
TA02	**Huaiquique**	**27.88 174**	IAmb	IAmb	01 41 03.4
	comp=Z,20nm,0.5s				
Y52A	**Lilburn**	**27.98 340**	P	**P**	**01 41 05.0 +2.1**
	baz=157,SNR=6.0				
Y52A			P	**P**	**01 41 05.0 +2.1**
	baz=157,SNR=6.0				
346A	**Big Creek Wild**	**28.10 329**	P	**P**	**01 41 06.6 +2.6**
	baz=144,SNR=7.2				
TA01	**Diego Aracena**	**28.17 174**	IAmb	IAmb	01 41 06.2
	comp=Z,25nm,0.5s				
LRAL	**Lakeview Retre**	**28.34 335**	P	**P**	**01 41 06.7 +0.6**
LRAL	**Lakeview Retre**	**28.34 335**	P	**P**	**01 41 08.9 +2.8**
	baz=150,SNR=7.5				
LRAL	**Lakeview Retre**	**28.34 335**	P	**P**	**01 41 08.2 +2.1**
	baz=150,SNR=7.5				
KMSC	**Kings Mountain**	**28.39 346**	P	**P**	**01 41 09.3 +2.7**
	baz=163,SNR=6.5				
KMSC	**Kings Mountain**	**28.39 346**	P	**P**	**01 41 08.1 +1.5**
	baz=163,SNR=6.5				
PATCX	**Punta Patache**	**28.42 174**	IAmb	IAmb	01 41 10.7
	comp=Z,50nm,1.1s				
V58A	**Windy Hill, Pi**	**28.56 350**	P	**P**	**01 41 09.7 +1.7**
	baz=168				
V58A			P	**P**	**01 41 09.7 +1.7**
	baz=168				
344A	**Westbrook Farm**	**28.80 328**	P	**P**	**01 41 13.2 +2.9**
	baz=142,SNR=21				
Y49A	**Blount Mountai**	**28.82 337**	IAmb	IAmb	01 41 13.8
	comp=Z,18nm,0.5s				
Y49A	**Blount Mountai**	**28.82 337**	P	**P**	**01 41 12.3 +1.9**
	baz=152,SNR=8.3				
BBRB	**Robore, Bolivi**	**28.93 153**	*e*P	**P**	**01 41 11.2 -0.4**
Z47A	**Carrollton**	**28.94 334**	IAmb	IAmb	01 41 16.1
	comp=Z,45nm,1.1s				
Z47A	**Carrollton**	**28.94 334**	P	**P**	**01 41 13.8 +2.4**
	baz=148				
PB02	**IPOC Station P**	**28.94 174**	IAmb	IAmb	01 41 18.9
	comp=Z,33nm,0.5s				
W52A	**Murphy**	**29.06 342**	P	**P**	**01 41 15.2 +2.6**
	baz=158,SNR=8.8				
SALV	**Santo Antonio**	**29.10 143**	*e*P	**P**	**01 41 13.7 +0.6**
SNDB	**Serra Nova Dou**	**29.22 132**	*e*P	**P**	**01 41 13.3 -0.9**
V53A	**Saluda**	**29.27 344**	IAmb	IAmb	01 41 17.7
	comp=Z,60nm,1.9s				
VBMS	**Vicksburg**	**29.30 329**	P	**P**	**01 41 17.1 +2.5**
	baz=143,SNR=10				
VBMS	**Vicksburg**	**29.30 329**	P	**P**	**01 41 17.1 +2.5**
	baz=143,SNR=10				
PB07	**IPOC Station P**	**29.35 174**	IAmb	IAmb	01 41 17.9
	comp=Z,82nm,1.8s				
T59A	**Double "B" Far**	**29.48 353**	IAmb	IAmb	01 41 19.1
	comp=Z,19nm,0.6s				
T59A	**Double "B" Far**	**29.48 353**	P	**P**	**01 41 18.2 +2.0**
	baz=171,SNR=8.8				
T59A			P	**P**	**01 41 18.2 +2.0**
	baz=171,SNR=8.8				
PB09	**IPOC Station P**	**29.49 172**	P	**P**	**01 41 14.5 -2.1**
PB09			IAmb	IAmb	01 41 18.4
	comp=Z,22nm,0.5s				
PB09			PcP	**PcP**	**01 44 18.9 -0.1**
TKL	**Tuckaleechee C**	**29.54 342**	LR	LR	01 54 03.2
	comp=Z,191nm,19.7s,baz=154,slow=38				
X48A	**Hartselle**	**29.59 336**	IAmb	IAmb	01 41 20.9
	comp=Z,35nm,1.1s				
X48A	**Hartselle**	**29.59 336**	P	**P**	**01 41 19.7 +2.5**
	baz=151,SNR=10				
W50A	**Signal Mountai**	**29.61 340**	P	**P**	**01 41 20.2 +2.7**
	baz=155,SNR=7.0				
441A	**DeRidder**	**29.65 324**	IAmb	IAmb	01 41 22.0
	comp=Z,32nm,0.6s				
V52A	**Sevierville**	**29.66 343**	P	**P**	**01 41 20.5 +2.7**
	baz=159				
T57A	**Hurt**	**29.76 350**	P	**P**	**01 41 20.8 +2.1**
	baz=168				
T57A			P	**P**	**01 41 20.8 +2.1**
	baz=168				
U54A	**Nelsons Funny**	**29.82 346**	IAmb	IAmb	01 41 24.4
	comp=Z,44nm,0.7s				
U54A	**Nelsons Funny**	**29.82 346**	P	**P**	**01 41 22.1 +2.8**
	baz=163,SNR=11				
U54A			P	**P**	**01 41 22.1 +2.8**
	baz=163,SNR=11				
V51A	**Loudon**	**29.85 342**	IAmb	IAmb	01 41 24.6
	comp=Z,22nm,0.7s				
V51A	**Loudon**	**29.85 342**	P	**P**	**01 41 22.1 +2.6**
	baz=157,SNR=8.5				
PB04	**IPOC Station P**	**29.92 174**	IAmb	IAmb	01 41 22.6
	comp=Z,41nm,1.4s				
143A	**Socs Landing,**	**30.14 328**	P	**P**	**01 41 23.4 +1.3**
143A			IAmb	IAmb	01 41 25.2
	comp=Z,29nm,0.6s				
143A			PcP	**PcP**	**01 44 21.2 +1.0**
Y45A	**Yeager Farm, C**	**30.16 332**	P	**P**	**01 41 25.2 +2.9**
	baz=146,SNR=8.4				
BLA	**Blacksburg**	**30.18 348**	P	**P**	**01 41 25.2 +2.8**
	baz=166				
TZTN	**Tazewell**	**30.30 343**	P	**P**	**01 41 26.0 +2.6**
	baz=159				
TZTN	**Tazewell**	**30.30 343**	P	**P**	**01 41 24.9 +1.5**
	baz=159				
SMTB	**Santa Maria do**	**30.33 122**	*e*P	**P**	**01 41 24.8 +0.8**
LVC	**Limon Verde**	**30.34 172**	P	**P**	**01 41 23.1 -1.2**
LVC			IAmb	IAmb	01 41 25.9
	comp=Z,42nm,1.2s				
LVC	**Limon Verde**	**30.34 172**	P	**P**	**01 41 23.1 -1.2**
LVC			pmax	pmax	
	comp=Z,42nm,1.2s				
LVC	**Limon Verde**	**30.34 172**	*e*P	**P**	**01 41 22.7 -1.6**
LVC	**Limon Verde**	**30.34 172**	P	**P**	**01 41 22.8 -1.6**
LVC			PcP	**PcP**	**01 44 22.8 +1.4**
S57A	**Dark Hollow, R**	**30.45 351**	IAmb	IAmb	01 41 28.2
	comp=Z,23nm,0.5s				
S57A	**Dark Hollow, R**	**30.45 351**	P	**P**	**01 41 26.9 +2.2**
	baz=169,SNR=11				
S57A			P	**P**	**01 41 26.9 +2.2**
	baz=169,SNR=11				
PLAL	**Pickwick Lake**	**30.47 335**	IAmb	IAmb	01 41 28.6
	comp=Z,21nm,0.7s				
V48A	**Smith Brothers**	**30.64 338**	IAmb	IAmb	01 41 31.5
	comp=Z,32nm,0.7s				
V48A	**Smith Brothers**	**30.64 338**	P	**P**	**01 41 28.7 +2.2**
	baz=153,SNR=23				
OXF	**Oxford**	**30.64 333**	P	**P**	**01 41 28.1 +1.6**
	baz=147				
OXF	**Oxford**	**30.64 333**	P	**P**	**01 41 28.2 +1.7**
	baz=147				
CBN	**Corbin Frederi**	**30.68 354**	IAmb	IAmb	01 41 30.3
	comp=Z,32nm,0.5s				
CBN	**Corbin Frederi**	**30.68 354**	P	**P**	**01 41 29.0 +2.3**
	baz=172,SNR=6.5				
CBN	**Corbin Frederi**	**30.68 354**	P	**P**	**01 41 29.0 +2.3**
	baz=172,SNR=6.5				
HKT	**Hockley**	**30.73 319**	P	**P**	**01 41 28.4 +1.1**
HKT	**Hockley**	**30.73 319**	*i* P	**P**	**01 41 28.2 +0.9**
HKT			pmax	pmax	
	comp=Z,10.0nm,0.9s				
HKT	**Hockley**	**30.73 319**	P	**P**	**01 41 28.7 +1.4**
	baz=132				
HKT	**Hockley**	**30.73 319**	P	**P**	**01 41 28.9 +1.6**
HKT			pP	**pP**	**01 41 57.0 +0.4**
HKT			sP	**sP**	**01 42 13.1 +0.8**
HKT			ScP	**ScP**	**01 47 52.8 +0.8**
ROSB	**Rosrio**	**30.84 109**	*e*P	**P**	**01 41 29.3 +0.8**
PB15	**IPOC Station P**	**30.86 173**	P	**P**	**01 41 27.3 -1.4**
PB15				**PcP**	**01 44 23.1 +0.5**
PP1B	**Ponte de Pedra**	**30.92 144**	*e*P	**P**	**01 41 29.7 +0.6**
S54A	**Dingess, Beckl**	**30.93 347**	IAmb	IAmb	01 41 33.0
	comp=Z,52nm,1.4s				
S54A	**Dingess, Beckl**	**30.93 347**	P	**P**	**01 41 30.5 +1.5**
	baz=164,SNR=6.7				
S54A			P	**P**	**01 41 30.5 +1.5**
	baz=164,SNR=6.7				
HBVL	**Hebbronville**	**30.94 312**	IAmb	IAmb	01 41 32.8
	comp=Z,64nm,0.8s				
U49A	**Red Boiling Sp**	**30.96 340**	P	**P**	**01 41 31.0 +1.8**
	baz=155				
HNVL	**Huntsville, TX**	**31.04 321**	IAmb	IAmb	01 41 33.6
	comp=Z,57nm,0.6s				
T50A	**Nancy**	**31.12 342**	P	**P**	**01 41 33.0 +2.3**
	baz=157				
T50A			P	**P**	**01 41 33.0 +2.3**
	baz=157				
R55A	**Marlinton**	**31.16 349**	IAmb	IAmb	01 41 46.5
	comp=Z,57nm,1.8s				
R55A	**Marlinton**	**31.16 349**	P	**P**	**01 41 33.4 +2.3**
	baz=167				
R55A			P	**P**	**01 41 33.4 +2.3**
	baz=167				
NATX	**Nacogdoches**	**31.25 323**	P	**P**	**01 41 33.7 +1.9**
NATX			sP	**sP**	**01 42 17.2 +0.3**
NATX				**PcP**	**01 44 24.9 +1.7**
NATX	**Nacogdoches**	**31.25 323**	P	**P**	**01 41 33.8 +1.9**
	baz=136,SNR=11				
NATX	**Nacogdoches**	**31.25 323**	P	**P**	**01 41 33.4 +1.5**
	baz=136,SNR=11				
Z41A	**Richland Creek**	**31.31 327**	P	**P**	**01 41 33.8 +1.4**
Z41A			PcP	**PcP**	**01 44 25.4 +2.1**
S51A	**Beattyville**	**31.33 344**	P	**P**	**01 41 35.2 +2.7**
	baz=160				
S51A			P	**P**	**01 41 35.2 +2.7**
	baz=160				
735A	**Kenedy**	**31.36 315**	IAmb	IAmb	01 41 36.2
	comp=Z,43nm,1.0s				
735A	**Kenedy**	**31.36 315**	P	**P**	**01 41 34.7 +1.8**
	baz=128				
WVT	**Waverly**	**31.37 337**	P	**P**	**01 41 34.5 +1.7**
WVT			IAmb	IAmb	01 41 36.8
	comp=Z,48nm,1.1s				
WVT			PcP	**PcP**	**01 44 23.0 -0.4**
WVT	**Waverly**	**31.37 337**	P	**P**	**01 41 34.5 +1.7**
WVT					01 44 23.0
WVT			pmax	pmax	
	comp=Z,48nm,1.2s				
WVT	**Waverly**	**31.37 337**	P	**P**	**01 41 34.4 +1.5**
	baz=151				
WVT	**Waverly**	**31.37 337**	P	**P**	**01 41 34.5 +1.7**
	baz=151,SNR=19				
WVT	**Waverly**	**31.37 337**	P	**P**	**01 41 34.4 +1.5**
WVT			pP	**pP**	**01 42 03.4 +1.3**
WVT			PcP	**PcP**	**01 44 24.0 +0.6**
ARAG	**Araguaiana, MT**	**31.41 138**	*e*P	**P**	**01 41 32.6 -0.8**
HJA	**Humahuaca**	**31.57 166**	*i* P	**P**	**01 41 33.1 -2.2**
HJA			IAML		01 42 28.3
	comp=Z,13nm,0.6s				
R53A	**Hurricane**	**31.58 347**	P	**P**	**01 41 36.1 +1.4**
R53A			IAmb	IAmb	01 41 39.3
	comp=Z,17nm,0.6s				
R53A				**PcP**	**01 44 24.7 +0.7**
R53A	**Hurricane**	**31.58 347**	P	**P**	**01 41 36.6 +1.9**
	baz=163,SNR=5.3				
R53A			P	**P**	**01 41 36.6 +1.9**
	baz=163,SNR=5.3				
WLAR	**White Oak Lake**	**31.80 327**	IAmb	IAmb	01 41 40.8
	comp=Z,74nm,1.3s				
T47A	**Sharon Grove**	**31.85 339**	IAmb	IAmb	01 41 40.5
	comp=Z,29nm,0.5s				
T47A	**Sharon Grove**	**31.85 339**	P	**P**	**01 41 38.8 +1.7**
	baz=153,SNR=26				
Q54A	**Coxs Mills**	**31.97 349**	IAmb	IAmb	01 41 41.4
	comp=Z,43nm,1.5s				
P57A	**Homestead Farm**	**32.02 353**	IAmb	IAmb	01 41 42.8
	comp=Z,42nm,1.4s				
P57A	**Homestead Farm**	**32.02 353**	P	**P**	**01 41 41.3 +2.8**
	baz=171,SNR=5.6				
P57A			P	**P**	**01 41 41.3 +2.8**
	baz=171,SNR=5.6				
237A	**Washetta, Mont**	**32.11 322**	P	**P**	**01 41 41.4 +2.0**
	baz=134,SNR=8.5				
R50A	**Paris**	**32.14 343**	IAmb	IAmb	01 41 45.2
	comp=Z,24nm,0.6s				
R50A	**Paris**	**32.14 343**	P	**P**	**01 41 42.2 +2.6**
	baz=159,SNR=16				
R50A			P	**P**	**01 41 42.2 +2.6**
	baz=159,SNR=16				
PB14	**IPOC Station P**	**32.17 175**	IAmb	IAmb	01 41 41.4
	comp=Z,20nm,0.8s				
833A	**Chaparral WMA,**	**32.18 313**	IAmb	IAmb	01 41 41.8
	comp=Z,23nm,0.7s				
833A	**Chaparral WMA,**	**32.18 313**	P	**P**	**01 41 40.5 +0.5**
	baz=125,SNR=13				
833A	**Chaparral WMA,**	**32.18 313**	P	**P**	**01 41 40.7 +0.7**
	baz=125,SNR=13				
BDQN	**Boqueena, MS**	**32.25 150**	*e*P	**P**	**01 41 38.8 -2.0**
Q52A	**Bidwell**	**32.25 347**	P	**P**	**01 41 42.7 +2.2**
Q52A			IAmb	IAmb	01 41 45.2
	comp=Z,56nm,1.3s				
Q52A				**PcP**	**01 44 26.2 +0.4**
Q52A	**Bidwell**	**32.25 347**	P	**P**	**01 41 42.8 +2.2**
	baz=163,SNR=6.4				
Q52A			P	**P**	**01 41 42.8 +2.2**
	baz=163,SNR=6.4				
R49A	**Shelbyville**	**32.39 342**	P	**P**	**01 41 44.0 +2.2**
	baz=158,SNR=6.4				
R49A			P	**P**	**01 41 44.0 +2.2**
	baz=158,SNR=6.4				
435B	**Jarrell**	**32.42 319**	P	**P**	**01 41 43.5 +1.4**
435B			PcP	**PcP**	**01 44 27.7 +1.2**
435B	**Jarrell**	**32.42 319**	P	**P**	**01 41 43.7 +1.5**
	baz=130				
435B	**Jarrell**	**32.42 319**	P	**P**	**01 41 43.7 +1.5**
	baz=130,SNR=14				
MCWV	**Mont Chateau**	**32.45 350**	IAmb	IAmb	01 41 45.8
	comp=Z,34nm,1.3s				
MCWV	**Mont Chateau**	**32.45 350**	P	**P**	**01 41 45.1 +2.9**
	baz=168,SNR=5.6				
MCWV	**Mont Chateau**	**32.45 350**	P	**P**	**01 41 44.8 +2.6**
	baz=168,SNR=5.6				
T45B	**Paducah**	**32.46 337**	P	**P**	**01 41 44.3 +1.9**
	baz=151				
ALOL	**LOMAS DE OLMED**	**32.52 164**	*i* P	**P**	**01 41 41.7 -1.4**
Z38A	**Mt. Pleasant**	**32.52 325**	P	**P**	**01 41 45.1 +2.1**
	baz=137				
P53A	**Whipple**	**32.57 348**	IAmb	IAmb	01 41 48.0
	comp=Z,15nm,0.6s				
P53A	**Whipple**	**32.57 348**	P	**P**	**01 41 45.9 +2.6**
	baz=165				
P53A			P	**P**	**01 41 45.9 +2.6**
	baz=165				
Q51A	**Peebles**	**32.57 345**	IAmb	IAmb	01 41 47.5
	comp=Z,25nm,0.6s				
Q51A	**Peebles**	**32.57 345**	P	**P**	**01 41 45.9 +2.5**
	baz=161,SNR=13				
Q51A			P	**P**	**01 41 45.9 +2.5**
	baz=161,SNR=13				
PAGS	**Pennsylvania G**	**32.62 355**	IAmb	IAmb	01 41 57.2
	comp=Z,60nm,1.6s				
WHAR	**Wooly Hollow**	**32.63 330**	IAmb	IAmb	01 41 46.9
	comp=Z,39nm,0.9s				
AZAP	**Zapla**	**32.63 166**	*i* P	**P**	**01 41 41.6 -2.7**
AZAP			IAML		01 43 17.9
	comp=Z,26nm,1.0s				
PANJ	**Princeton**	**32.64 358**	P	**P**	**01 41 46.5 +2.6**
	baz=177				
WCI	**Wyandotte Cave**	**32.69 341**	P	**P**	**01 41 46.2 +1.8**
WCI			IAmb	IAmb	01 41 49.6
	comp=Z,21nm,0.7s				
WCI			PcP	**PcP**	**01 44 27.4 +0.3**
WCI	**Wyandotte Cave**	**32.69 341**	P	**P**	**01 41 46.4 +2.1**
	baz=156				
WCI	**Wyandotte Cave**	**32.69 341**	P	**P**	**01 41 46.2 +1.8**
	baz=156,SNR=8.6				
WCI	**Wyandotte Cave**	**32.69 341**	P	**P**	**01 41 46.5 +2.1**
WCI			pP	**pP**	**01 42 15.2 +1.2**
WCI			PcP	**PcP**	**01 44 28.4 +1.4**
MIAR	**Mount Ida**	**32.70 328**	P	**P**	**01 41 45.9 +1.3**
	baz=140,SNR=10				
MIAR	**Mount Ida**	**32.70 328**	P	**P**	**01 41 45.7 +1.2**
	baz=140,SNR=10				
LCAR	**Lake Charles**	**32.73 332**	IAmb	IAmb	01 41 47.9
	comp=Z,44nm,1.2s				
GO02	**Mina Guanaco**	**32.78 174**	IAmb	IAmb	01 41 47.0
	comp=Z,24nm,0.5s				
HNDO	**Hondo**	**32.80 315**	IAmb	IAmb	01 41 48.1
	comp=Z,40nm,1.5s				
AQDB	**Aquidauana**	**32.80 149**	IAmb	IAmb	01 41 47.0
	comp=Z,16nm,0.5s				
AQDB	**Aquidauana**	**32.80 149**	*e*P	**P**	**01 41 44.9 -0.6**
PABK	**Blue Knob Stat**	**32.86 352**	P	**P**	**01 41 48.9 +3.1**
	baz=170				
P52A	**Corning**	**32.87 347**	P	**P**	**01 41 48.3 +2.4**
	baz=164,SNR=26				
MURT	**Porto Murtinho**	**32.88 153**	*e*P	**P**	**01 41 44.1 -2.1**
P51A	**Williamsport**	**32.93 346**	P	**P**	**01 41 48.8 +2.3**
	baz=162,SNR=17				
P51A			P	**P**	**01 41 48.8 +2.3**
	baz=162,SNR=17				
PBMO	**Poplar Bluff**	**32.99 334**	P	**P**	**01 41 48.9 +1.9**
	baz=148,SNR=23				
SLA	**San Lorenzo**	**33.01 167**	*i* P	**P**	**01 41 44.8 -2.8**
SLA			IAML		01 43 14.2
	comp=Z,11nm,1.0s				
FCAR	**Ozark Folk Cen**	**33.03 331**	IAmb	IAmb	01 41 50.1
	comp=Z,33nm,0.8s				
O54A	**Avella**	**33.05 350**	IAmb	IAmb	01 41 51.4
	comp=Z,38nm,1.4s				
WHTX	**Lake Whitney,**	**33.13 320**	IAmb	IAmb	01 41 51.2
	comp=Z,45nm,1.0s				
WHTX	**Lake Whitney,**	**33.13 320**	P	**P**	**01 41 49.5 +1.3**
	baz=132,SNR=11				
WHTX	**Lake Whitney,**	**33.13 320**	P	**P**	**01 41 49.7 +1.4**
	baz=132,SNR=11				
SSPA	**Standing Stone**	**33.14 353**	P	**P**	**01 41 50.2 +1.9**
SSPA	**Standing Stone**	**33.14 353**	P	**P**	**01 41 50.7 +2.4**
	baz=171				
SSPA	**Standing Stone**	**33.14 353**	P	**P**	**01 41 51.2 +2.9**
	baz=171				
PAL	**Palisades**	**33.25 359**	P	**P**	**01 41 51.6 +2.4**
	baz=179				
O52A	**Adamsville**	**33.27 348**	P	**P**	**01 41 51.8 +2.5**
	baz=164,SNR=19				
O52A			P	**P**	**01 41 51.8 +2.5**
	baz=164,SNR=19				
O53A	**New Philadelph**	**33.27 349**	IAmb	IAmb	01 41 53.3
	comp=Z,58nm,1.3s				
O53A	**New Philadelph**	**33.27 349**	P	**P**	**01 41 51.4 +2.0**
	baz=165,SNR=10				
S44A	**Carbondale**	**33.29 336**	IAmb	IAmb	01 41 53.3
	comp=Z,86nm,1.4s				
S44A	**Carbondale**	**33.29 336**	P	**P**	**01 41 50.7 +1.1**
	baz=150,SNR=6.7				
SIUC	**Southern Illin**	**33.29 337**	P	**P**	**01 41 51.0 +1.4**
SIUC			PcP	**PcP**	**01 44 30.0 +1.3**
ODNJ	**Ogdensburg**	**33.34 358**	P	**P**	**01 41 52.7 +2.7**
	baz=177				
FW13	**Cleburne**	**33.35 321**	P	**P**	**01 41 51.4 +1.1**
FW13			IAmb	IAmb	01 41 53.0
	comp=Z,38nm,0.8s				
FW13			PcP	**PcP**	**01 44 30.0 +1.0**
TRNY	**Table Rock, Ra**	**33.40 359**	IAmb	IAmb	01 41 54.2
	comp=Z,42nm,1.1s				
P49A	**Miami Univ. Ec**	**33.41 344**	P	**P**	**01 41 52.5 +1.9**
	baz=159				
P49A	**Miami Univ. Ec**	**33.41 344**	P	**P**	**01 41 52.9 +2.3**
	baz=159				
T42A	**Van Buren**	**33.49 334**	IAmb	IAmb	01 41 55.5
	comp=Z,24nm,0.7s				
T42A	**Van Buren**	**33.49 334**	P	**P**	**01 41 52.6 +1.3**
	baz=147,SNR=25				
P48A	**Milroy**	**33.55 343**	IAmb	IAmb	01 41 54.5
	comp=Z,38nm,1.4s				
P48A	**Milroy**	**33.55 343**	P	**P**	**01 41 53.1 +1.3**
	baz=158				
P48A			P	**P**	**01 41 53.1 +1.3**
	baz=158				
BLO	**Bloomington**	**33.62 341**	IAmb	IAmb	01 41 57.8
	comp=Z,38nm,0.7s				
ACSO	**Alum Creek Sta**	**33.63 346**	IAmb	IAmb	01 41 57.3
	comp=Z,84nm,1.6s				
ACSO	**Alum Creek Sta**	**33.63 346**	P	**P**	**01 41 54.9 +2.4**
	baz=162,SNR=7.9				
ACSO	**Alum Creek Sta**	**33.63 346**	P	**P**	**01 41 55.1 +2.6**
	baz=162,SNR=7.9				
M63A	**Gales Ferry**	**33.66 2**	P	**P**	**01 41 55.2 +2.5**
	baz=182				
M63A			P	**P**	**01 41 55.2 +2.5**
	baz=182				
BRDY	**Brady**	**33.67 318**	IAmb	IAmb	01 41 55.3
	comp=Z,47nm,1.2s				
DRIO	**Del Rio**	**33.68 314**	IAmb	IAmb	01 41 54.9
	comp=Z,45nm,1.5s				
X37A	**Clayton**	**33.71 326**	P	**P**	**01 41 54.7 +1.4**
	baz=138,SNR=6.8				
JCT	**Junction City**	**33.72 316**	IAmb	IAmb	01 41 55.6
	comp=Z,43nm,1.6s				
JCT	**Junction City**	**33.72 316**	P	**P**	**01 41 54.2 +0.7**
	baz=127				
JCT	**Junction City**	**33.72 316**	P	**P**	**01 41 54.3 +0.7**
	baz=127				
PSDB	**Penn State Uni**	**33.73 352**	P	**P**	**01 41 56.1 +2.7**
	baz=170				
N53A	**Lisbon**	**33.74 350**	IAmb	IAmb	01 41 57.1
	comp=Z,14nm,0.5s				
N53A	**Lisbon**	**33.74 350**	P	**P**	**01 41 55.6 +2.1**
	baz=166,SNR=5.8				
N53A			P	**P**	**01 41 55.6 +2.1**
	baz=166,SNR=5.8				
M57A	**Sunshine Farm,**	**33.76 355**	IAmb	IAmb	01 41 57.8
	comp=Z,88nm,1.8s				
M57A	**Sunshine Farm,**	**33.76 355**	P	**P**	**01 41 56.6 +3.0**
	baz=173				
M57A			P	**P**	**01 41 56.6 +3.0**
	baz=173				
U40A	**Yellville**	**33.76 331**	P	**P**	**01 41 55.2 +1.5**
	baz=143,SNR=65				
U40A			P	**P**	**01 41 55.2 +1.5**
	baz=143,SNR=65				
OLIL	**Olney**	**33.76 339**	IAmb	IAmb	01 41 56.8
	comp=Z,35nm,0.7s				
OLIL	**Olney**	**33.76 339**	P	**P**	**01 41 55.5 +1.9**
	baz=153,SNR=11				
FW07	**Weatherford**	**33.81 321**	P	**P**	**01 41 55.7 +1.5**
FW07			IAmb	IAmb	01 41 57.0
	comp=Z,76nm,1.0s				
FW07				**PcP**	**01 44 31.8 +1.5**
FW06	**Azle**	**33.85 322**	IAmb	IAmb	01 41 57.6
	comp=Z,50nm,0.7s				
KSPA	**Keystone Colle**	**33.87 357**	IAmb	IAmb	01 41 58.1
	comp=Z,22nm,0.6s				
RPRD	**Ribas do Rio P**	**33.88 146**	*e*P	**P**	**01 41 54.4 -0.5**
Z35A	**Perchaven, San**	**33.91 322**	P	**P**	**01 41 56.3 +1.3**
	baz=134,SNR=8.5				
O49A	**Covington**	**33.92 345**	P	**P**	**01 41 57.3 +2.2**
	baz=160,SNR=6.3				
O49A			P	**P**	**01 41 57.3 +2.2**
	baz=160,SNR=6.3				
ANTJ	**Antonio Joao (**	**33.93 151**	*e*P	**P**	**01 41 54.8 -0.6**
NPNY	**Mohonk Preserv**	**34.00 359**	P	**P**	**01 41 58.4 +2.7**
	baz=178				
FVM	**French Village**	**34.01 335**	P	**P**	**01 41 57.4 +1.5**
	baz=148,SNR=26				
BDFB	**Brasilia**	**34.02 133**	P	**P**	**01 41 56.0 -0.3**
BDFB			IAmb	IAmb	01 41 57.6
	comp=Z,37nm,0.7s				
BDFB	**Brasilia**	**34.02 133**	P	**P**	**01 41 56.4 +0.2**
	comp=Z,38nm,0.8s,baz=295,slow=9.7,SNR=57				
	comp=Z,38nm,0.8s				
MGMO	**Mountain Grove**	**34.13 332**	P	**P**	**01 41 57.9 +1.0**
MGMO			IAmb	IAmb	01 42 00.4
	comp=Z,30nm,1.1s				
MGMO			PcP	**PcP**	**01 44 31.9 +0.8**
N51A	**Ashland**	**34.15 348**	IAmb	IAmb	01 42 02.3
	comp=Z,16nm,0.6s				
N51A	**Ashland**	**34.15 348**	P	**P**	**01 41 59.6 +2.5**
	baz=164				
N51A			P	**P**	**01 41 59.6 +2.5**
	baz=164				
FW03	**Perrin-Whitt E**	**34.21 321**	IAmb	IAmb	01 42 00.3
	comp=Z,66nm,0.

baz=155,SNR=20
Q44A Meyer Farm, Va 34.25 338 IAmb IAmb 01 42 01.3
comp=Z,102nm,1.8s
Q44A Meyer Farm, Va 34.25 338 P **P** **01 41 59.5 +1.6**
baz=151,SNR=5.8
FSA Cafayete 34.26 168 *i* P **P** **01 41 55.1 -3.2**
LOOK Love County 34.32 323 IAmb IAmb 01 42 02.6
comp=Z,24nm,0.6s
M53A WI Miller and 34.33 350 P **P** **01 42 00.5 +2.0**
baz=167
CCM Cathedral Cave 34.42 334 P **P** **01 42 00.6 +1.2**
CCM Cathedral Cave 34.42 334 P **P** **01 42 00.6 +1.2**
CCM pmax pmax
comp=Z,63nm,0.5s
CCM Cathedral Cave 34.42 334 P **P** **01 42 00.6 +1.2**
baz=147
CCM Cathedral Cave 34.42 334 P **P** **01 42 00.9 +1.6**
baz=147,SNR=58
CCM Cathedral Cave 34.42 334 P **P** **01 42 00.9 +1.6**
CCM pP **pP** **01 42 30.6 +1.5**
CCM sP **sP** **01 42 45.4 +0.7**
CCM PcP **PcP** **01 44 33.0 +1.1**
CCM ScP **ScP** **01 48 05.5 +0.9**
ALLY Alegheny Colle 34.44 351 IAmb IAmb 01 42 03.5
comp=Z,24nm,0.6s
ALLY Alegheny Colle 34.44 351 P **P** **01 42 01.8 +2.3**
baz=168,SNR=5.1
SDBA SAO DESIDERIO 34.46 125 *eP* **P** **01 42 00.2 +0.1**
BINY Binghamton 34.52 356 IAmb IAmb 01 42 07.1
comp=Z,90nm,1.8s
BINY Binghamton 34.52 356 P **P** **01 42 02.9 +2.7**
baz=175
BINY Binghamton 34.52 356 P **P** **01 42 03.0 +2.7**
baz=175
N49A Columbus Grove 34.57 345 IAmb IAmb 01 42 04.7
comp=Z,93nm,1.6s
N49A Columbus Grove 34.57 345 P **P** **01 42 02.8 +2.1**
baz=161,SNR=6.9
N49A P **P** **01 42 02.8 +2.1**
baz=161,SNR=6.9
U38A Gravette 34.59 329 **P** **01 42 01.2 +0.4**
U38A IAmb IAmb 01 42 03.5
comp=Z,25nm,1.0s
U38A PcP **PcP** **01 44 32.4 0.0**
U38A Gravette 34.59 329 P **P** **01 42 01.2 +0.4**
baz=141,SNR=14
L56A Greenwood 34.59 354 P **P** **01 42 03.2 +2.4**
baz=172,SNR=6.2
L56A P **P** **01 42 03.2 +2.4**
baz=172,SNR=6.2
L61B Northampton 34.69 1 P **P** **01 42 03.6 +2.0**
baz=181
RLO Rose Lookout 34.70 328 IAmb IAmb 01 42 04.0
comp=Z,61nm,1.0s
M50A Fremont 34.76 347 P **P** **01 42 04.8 +2.6**
baz=163,SNR=6.4
M50A P **P** **01 42 04.8 +2.6**
baz=163,SNR=6.4
HRV Adam Dziewonsk 34.77 2 P **P** **01 42 05.0 +2.7**
baz=183
HRV Adam Dziewonsk 34.77 2 P **P** **01 42 04.8 +2.4**
baz=183
ERPA Erie 34.88 351 IAmb IAmb 01 42 06.5
comp=Z,20nm,0.5s
ERPA Erie 34.88 351 P **P** **01 42 05.6 +2.3**
baz=168,SNR=5.6
ERPA Erie 34.88 351 P **P** **01 42 05.9 +2.6**
baz=168,SNR=5.6
SFIN Lafayette 34.90 341 P **P** **01 42 05.2 +1.7**
baz=156,SNR=11
SFIN Lafayette 34.90 341 P **P** **01 42 05.2 +1.7**
baz=156,SNR=11
OZNA Ozona 34.90 315 IAmb IAmb 01 42 06.2
comp=Z,9.3nm,0.8s
TUL3 Leonard 34.92 327 P **P** **01 42 04.4 +0.7**
baz=138,SNR=15
N47A Urbana 34.94 343 IAmb IAmb 01 42 07.9
comp=Z,20nm,0.8s
N47A Urbana 34.94 343 P **P** **01 42 05.5 +1.7**
baz=158,SNR=6.7
N47A P **P** **01 42 05.5 +1.7**
baz=158,SNR=6.7
ABTX Abilene, Hawle 34.94 319 P **P** **01 42 04.7 +0.7**
ABTX IAmb IAmb 01 42 07.3
comp=Z,62nm,1.1s
ABTX PcP **PcP** **01 44 35.2 +1.6**
ABTX Abilene, Hawle 34.94 319 P **P** **01 42 05.2 +1.2**
baz=130,SNR=23
ABTX Abilene, Hawle 34.94 319 P **P** **01 42 05.7 +1.7**
baz=130,SNR=23
WTFS Witchita Falls 34.94 322 IAmb IAmb 01 42 06.6
comp=Z,43nm,0.8s
HCNY Howe Caverns 34.95 358 P **P** **01 42 06.5 +2.6**
baz=178,SNR=7.6
W35A Tecumseh 34.97 325 IAmb IAmb 01 42 06.6
comp=Z,16nm,0.6s
S39A Bolivar 35.05 332 P **P** **01 42 05.1 +0.2**
baz=144,SNR=15
R40A Maddies Statio 35.06 333 IAmb IAmb 01 42 08.2
comp=Z,40nm,1.1s
R40A Maddies Statio 35.06 333 P **P** **01 42 05.8 +0.9**
baz=146,SNR=26
SAND Sanderson 35.06 313 IAmb IAmb 01 42 08.3
comp=Z,24nm,1.1s
P43A Skaggs, Pawnee 35.08 338 IAmb IAmb 01 42 07.8
comp=Z,25nm,0.8s
P43A Skaggs, Pawnee 35.08 338 P **P** **01 42 06.1 +1.1**
baz=151,SNR=8.2
K57A Scipio Center 35.09 356 P **P** **01 42 06.9 +1.8**
K57A Scipio Center 35.09 356 P **P** **01 42 07.2 +2.1**
baz=174,SNR=6.6
AMBA Amambai (Brazi 35.21 150 *eP* **P** **01 42 05.9 -0.4**
MMNY Mt. Morris Dam 35.21 354 IAmb IAmb 01 42 09.7
comp=Z,68nm,1.5s
UNH University of 35.39 3 P **P** **01 42 10.0 +2.5**
baz=184,SNR=6.4
ESFA Espinillo Form 35.42 157 *eP* **P** **01 42 06.5 -1.5**
IPMB Ipameri, GO 35.45 136 *eP* **P** **01 42 08.2 -0.3**
SGCY Sterling City 35.49 317 P **P** **01 42 09.6 +0.9**
SGCY IAmb IAmb 01 42 10.9
comp=Z,22nm,0.7s
SGCY PcP **PcP** **01 44 36.7 +1.4**
J61A Chester 35.59 1 P **P** **01 42 12.4 +3.1**
baz=181
J61A P **P** **01 42 12.4 +3.1**
baz=181
L48A N Adams 35.60 346 IAmb IAmb 01 42 12.6
comp=Z,18nm,0.6s
L48A N Adams 35.60 346 P **P** **01 42 11.2 +1.7**
baz=161,SNR=5.3
L48A P **P** **01 42 11.2 +1.7**
baz=161,SNR=5.3
ACCN Adirondack Com 35.62 359 P **P** **01 42 11.2 +1.6**
ACCN IAmb IAmb 01 42 12.6
comp=Z,48nm,1.6s
ACCN Adirondack Com 35.62 359 P **P** **01 42 12.4 +2.7**
baz=179
J58A Remsen 35.64 357 IAmb IAmb 01 42 14.8
comp=Z,45nm,1.4s
J58A Remsen 35.64 357 P **P** **01 42 11.9 +2.0**
baz=176,SNR=5.8
J58A P **P** **01 42 11.9 +2.0**
baz=176,SNR=5.8
OK033 Mehan 35.65 326 IAmb IAmb 01 42 12.8
comp=Z,47nm,0.9s
J56A Wolcott 35.66 355 P **P** **01 42 12.3 +2.4**
baz=174
J56A P **P** **01 42 12.3 +2.4**
baz=174
APMT Aspermont 35.70 319 IAmb IAmb 01 42 13.1
comp=Z,17nm,0.8s
J59A Piesco 35.72 358 P **P** **01 42 12.9 +2.4**
baz=178
J59A P **P** **01 42 12.9 +2.4**
baz=178
J57A Williamstown 35.73 357 IAmb IAmb 01 42 13.7
comp=Z,22nm,0.6s
J57A Williamstown 35.73 357 P **P** **01 42 12.8 +2.3**
baz=175,SNR=7.5
J57A P **P** **01 42 12.8 +2.3**
baz=175,SNR=7.5
J55A Hilton 35.73 354 IAmb IAmb 01 42 14.1
comp=Z,22nm,0.6s
J55A Hilton 35.73 354 P **P** **01 42 13.0 +2.5**
baz=172,SNR=5.2
J55A P **P** **01 42 13.0 +2.5**
baz=172,SNR=5.2

AAM Ann Arbor 35.75 347 P **P** **01 42 13.0 +2.3**
baz=162,SNR=12
AAM Ann Arbor 35.75 347 P **P** **01 42 13.2 +2.5**
baz=162,SNR=12
OK029 Liberty Lake 35.76 325 IAmb IAmb 01 42 12.9
comp=Z,46nm,0.9s
WMOK Wichita Mounta 35.79 323 IAmb IAmb 01 42 13.0
comp=Z,28nm,0.6s
WMOK Wichita Mounta 35.79 323 P **P** **01 42 11.6 +0.3**
baz=133,SNR=40
WMOK Wichita Mounta 35.79 323 P **P** **01 42 11.1 -0.1**
baz=133,SNR=40
HDIL Hopedale 35.80 339 P **P** **01 42 11.6 +0.4**
HDIL IAmb IAmb 01 42 13.2
comp=Z,24nm,0.7s
HDIL PcP **PcP** **01 44 36.2 +0.3**
HDIL Hopedale 35.80 339 P **P** **01 42 12.1 +0.9**
baz=152,SNR=5.2
HDIL Hopedale 35.80 339 P **P** **01 42 11.9 +0.7**
baz=152,SNR=5.2
TXAR Lajitas Array 35.87 311 P **P** **01 42 12.6 +0.5**
comp=Z,13nm,0.6s,baz=128,slow=8.6,SNR=232
TXAR pP **pP** **01 42 41.8 -0.1**
comp=Z,3.4nm,0.4s,baz=126,slow=9.0,SNR=3.4
TXAR PcP **PcP** **01 44 38.6 +2.1**
comp=Z,13nm,0.6s,baz=142,slow=5.7,SNR=20
TXAR ScP **ScP** **01 48 12.0 +1.8**
comp=Z,0.8nm,0.8s,baz=127,slow=6.9,SNR=3.1
comp=Z,13nm,0.6s
TX31 Lajitas Ar. Si 35.87 311 P **P** **01 42 13.2 +1.1**
baz=121,SNR=55
TX32 Lajitas Array 35.87 311 IAmb IAmb 01 42 14.8
comp=Z,22nm,0.9s
SN01 Snyder 1 35.91 318 P **P** **01 42 13.6 +1.3**
SN01 IAmb IAmb 01 42 14.9
comp=Z,34nm,1.0s
SN01 PcP **PcP** **01 44 37.3 +0.8**
K50A Casco 35.98 348 P **P** **01 42 14.8 +2.1**
baz=164,SNR=7.3
K50A P **P** **01 42 14.8 +2.1**
baz=164,SNR=7.3
P40A Paris 35.99 335 IAmb IAmb 01 42 16.7
comp=Z,28nm,0.6s
P40A Paris 35.99 335 P **P** **01 42 13.8 +1.0**
baz=147,SNR=19
TICA Tres Isletas 36.03 160 *eP* **P** **01 42 11.2 -2.1**
T35A Sooner Cattle 36.06 327 IAmb IAmb 01 42 15.6
comp=Z,40nm,1.2s
T35B Sooner Cattle 36.06 327 P **P** **01 42 14.3 +0.8**
baz=138,SNR=12
L46A Eue Claire 36.16 343 P **P** **01 42 16.0 +1.9**
baz=158,SNR=11
L46A P **P** **01 42 16.0 +1.9**
baz=158,SNR=11
MCVT Middlebury Col 36.19 0 P **P** **01 42 16.5 +2.0**
baz=180,SNR=6.2
NCB Newcomb 36.22 359 IAmb IAmb 01 42 18.3
comp=Z,34nm,1.2s
NCB Newcomb 36.22 359 P **P** **01 42 17.3 +2.6**
baz=178,SNR=6.5
WCNY West Carthage 36.28 357 P **P** **01 42 17.3 +2.1**
baz=176
I63A Otisfield 36.36 3 P **P** **01 42 17.9 +2.0**
I63A IAmb IAmb 01 42 19.2
comp=Z,24nm,0.7s
I63A Otisfield 36.36 3 P **P** **01 42 18.4 +2.6**
baz=184,SNR=5.2
I63A P **P** **01 42 18.4 +2.6**
baz=184,SNR=5.2
ALPN Alpine 36.39 312 IAmb IAmb 01 42 19.8
comp=Z,52nm,1.6s
DKNS Dickens 36.43 319 IAmb IAmb 01 42 19.4
comp=Z,24nm,0.8s
POST Post 36.44 318 IAmb IAmb 01 42 19.4
comp=Z,52nm,0.9s
JANB Januaria 36.45 128 *eP* **P** **01 42 16.8 -0.2**
LBNH Lisbon 36.49 2 P **P** **01 42 18.6 +1.6**
LBNH IAmb IAmb 01 42 20.6
comp=Z,23nm,0.6s
LBNH Lisbon 36.49 2 P **P** **01 42 18.6 +1.6**
LBNH pmax pmax
comp=Z,23nm,0.6s
LBNH Lisbon 36.49 2 P **P** **01 42 19.5 +2.5**
baz=182,SNR=5.6
LBNH Lisbon 36.49 2 P **P** **01 42 19.7 +2.7**
baz=182,SNR=5.6
LCO Las Campanas 36.50 176 P **P** **01 42 16.9 -0.7**
LCO IAmb IAmb 01 42 34.2
comp=Z,26nm,1.0s
LCO PcP **PcP** **01 44 38.7 +0.2**
LCO Las Campanas 36.50 176 P **P** **01 42 16.9 -0.7**
LCO 01 44 38.7
LCO pmax pmax
comp=Z,26nm,1.0s
LCO Las Campanas 36.50 176 P **P** **01 42 16.2 -1.4**
N41A Harden Midland 36.51 337 P **P** **01 42 17.7 +0.4**
N41A IAmb IAmb 01 42 20.3
comp=Z,31nm,0.7s
N41A PcP **PcP** **01 44 38.9 +0.9**
N41A Harden Midland 36.51 337 P **P** **01 42 18.2 +1.0**
baz=150,SNR=10
CROK Carrier 36.56 325 IAmb IAmb 01 42 20.3
comp=Z,31nm,0.8s
ODSA Odessa 36.59 316 IAmb IAmb 01 42 21.8
comp=Z,60nm,1.3s
KAN13 South Haven SW 36.65 327 IAmb IAmb 01 42 20.7
comp=Z,55nm,1.2s
P38A Dawn 36.71 333 P **P** **01 42 19.5 +0.6**
baz=145,SNR=22
KS20 Mayfield South 36.85 327 IAmb IAmb 01 42 22.3
comp=Z,30nm,0.7s
LONY Lake Ozonia 36.88 358 IAmb IAmb 01 42 23.7
comp=Z,47nm,1.4s
LONY Lake Ozonia 36.88 358 P **P** **01 42 22.4 +2.1**
baz=178
KAN01 Argonia South 36.91 326 IAmb IAmb 01 42 22.9
comp=Z,40nm,0.8s
J47A Sumner 36.91 346 P **P** **01 42 21.8 +1.2**
baz=161,SNR=9.9
J47A P **P** **01 42 21.8 +1.2**
baz=161,SNR=9.9
WVL Waterville 36.93 4 IAmb IAmb 01 42 23.7
comp=Z,41nm,1.3s
WVL Waterville 36.93 4 P **P** **01 42 23.3 +2.6**
baz=186
KAN05 Bluff City Nor 36.94 326 IAmb IAmb 01 42 23.1
comp=Z,36nm,0.9s
DELO Deloro Mine 36.95 355 P **P** **01 42 22.3 +1.4**
DELO IAmb IAmb 01 42 24.9
comp=Z,16nm,0.6s
DELO PcP **PcP** **01 44 40.9 +1.6**
MCR1 Marechal Candi 36.97 150 *eP* **P** **01 42 19.4 -1.9**
U32A Winter Ranch, 37.05 324 P **P** **01 42 22.7 +0.7**
baz=134,SNR=13
PMNB Patos De Minas 37.06 135 *eP* **P** **01 42 22.3 0.0**
FRNY Flat Rock 37.07 360 P **P** **01 42 24.3 +2.4**
baz=179
KAN08 Anthony NE Sta 37.07 326 IAmb IAmb 01 42 24.2
comp=Z,27nm,0.7s
BMNY Brushton-Moira 37.09 358 P **P** **01 42 24.0 +1.9**
baz=178,SNR=9.2
PECS Pecos 37.09 314 IAmb IAmb 01 42 26.4
comp=Z,8.8nm,0.7s
CPUP Villa Florida 37.10 156 P **P** **01 42 19.2 -3.2**
comp=Z,3.3nm,0.9s,baz=342,slow=6.8,SNR=9.7
CPUP PcP **PcP** **01 44 40.1 +0.1**
comp=Z,5.0nm,0.6s,baz=11,slow=5.4,SNR=5.7
CPUP LR LR 01 58 33.7
comp=Z,225nm,19.6s,baz=346,slow=38
OK035 E0210 Rd and N 37.12 325 IAmb IAmb 01 42 24.6
comp=Z,38nm,0.9s
I49A Point Hope 37.14 348 P **P** **01 42 24.1 +1.6**
baz=164,SNR=11
I49A P **P** **01 42 24.1 +1.6**
baz=164,SNR=11
L42A Oliver, Polo 37.21 340 P **P** **01 42 23.7 +0.5**
baz=152
EMMW East Machias 37.28 7 P **P** **01 42 24.5 +0.8**
EMMW IAmb IAmb 01 42 26.8
comp=Z,24nm,0.7s
EMMW East Machias 37.28 7 P **P** **01 42 25.7 +2.0**
baz=189,SNR=8.5
ACLC CERRO LA CRUZ 37.32 171 *i* P **P** **01 42 22.5 -1.9**
SADO Sadowa 37.37 353 IAmb IAmb 01 42 26.8
comp=Z,17nm,0.7s
SADO Sadowa 37.37 353 LR LR 02 00 44.5
comp=Z,59nm,18.6s,baz=196,slow=41

K43A Burlington 37.40 342 IAmb IAmb 01 42 27.9
comp=Z,24nm,0.7s
K43A Burlington 37.40 342 P **P** **01 42 25.8 +1.1**
baz=155
BB19B Bebedouro 37.42 140 *eP* **P** **01 42 24.9 -0.3**
CO01 Juntas del Tor 37.50 176 IAmb IAmb 01 42 26.5
comp=Z,70nm,1.9s
G62A West of Eustis 37.53 3 IAmb IAmb 01 42 29.4
comp=Z,31nm,0.7s
G62A West of Eustis 37.53 3 P **P** **01 42 28.2 +2.4**
baz=184,SNR=9.6
G62A P **P** **01 42 28.2 +2.4**
baz=184,SNR=9.6
N38A Joes South For 37.55 335 P **P** **01 42 26.7 +0.7**
baz=146,SNR=12
425A Indio Mountain 37.60 312 IAmb IAmb 01 42 29.9
comp=Z,31nm,1.0s
LDASE Londrina, Braz 37.64 146 *eP* **P** **01 42 26.2 -0.8**
GO04 Tololo Observa 37.65 177 P **P** **01 42 25.9 -1.3**
GO04 IAmb IAmb 01 42 29.5
comp=Z,19nm,0.8s
GO04 **PcP** **01 44 41.8 -0.2**
PKME Peaks-Kenny Pk 37.65 5 P **P** **01 42 28.8 +2.0**
baz=186
AMTX Amarillo 37.69 320 P **P** **01 42 28.5 +1.1**
baz=130
AMTX Amarillo 37.69 320 P **P** **01 42 28.9 +1.5**
baz=130,SNR=24
MNTQ Montreal, Queb 37.74 360 IAmb IAmb 01 42 30.9
comp=Z,34nm,0.9s
KSU1 Kansas State U 37.76 330 P **P** **01 42 28.1 +0.3**
baz=140,SNR=14
KSU1 Kansas State U 37.76 330 P **P** **01 42 28.2 +0.5**
baz=140,SNR=14
G65A Princeton 37.76 7 IAmb IAmb 01 42 33.2
comp=Z,40nm,1.3s
G65A Princeton 37.76 7 P **P** **01 42 30.3 +2.7**
baz=189
G65A P **P** **01 42 30.3 +2.7**
baz=189
GGN Saint George 37.76 7 P **P** **01 42 27.6 -0.1**
GGN IAmb IAmb 01 42 31.1
comp=Z,23nm,0.8s
L40A Anamosa 37.82 338 P **P** **01 42 28.6 +0.3**
baz=150,SNR=5.6
MSTX Muleshoe 37.83 318 IAmb IAmb 01 42 31.4
comp=Z,44nm,1.1s
MSTX Muleshoe 37.83 318 P **P** **01 42 29.3 +0.7**
baz=127,SNR=22
MSTX Muleshoe 37.83 318 P **P** **01 42 29.1 +0.5**
baz=127,SNR=22
I45A Fountain 38.02 345 P **P** **01 42 30.8 +0.9**
baz=159,SNR=5.9
I45A P **P** **01 42 30.8 +0.9**
baz=159,SNR=5.9
F63A Nahmakanta, Br 38.10 5 P **P** **01 42 32.5 +1.9**
baz=186
F63A P **P** **01 42 32.5 +1.9**
baz=186
PTGB Pitanga 38.18 148 *eP* **P** **01 42 29.2 -2.4**
JFWS Jewell Farm 38.22 340 P **P** **01 42 32.4 +0.8**
JFWS PcP **PcP** **01 44 43.9 +0.6**
JFWS Jewell Farm 38.22 340 P **P** **01 42 32.4 +0.8**
JFWS 01 44 43.9
JFWS pmax pmax
comp=Z,40nm,0.6s
JFWS Jewell Farm 38.22 340 P **P** **01 42 32.5 +0.9**
baz=152,SNR=24
JFWS Jewell Farm 38.22 340 P **P** **01 42 32.6 +0.9**
baz=152,SNR=24
F62A Pittston Farm, 38.24 4 IAmb IAmb 01 42 45.7
comp=Z,40nm,1.6s
CO03 El Pedregal 38.32 177 IAmb IAmb 01 42 34.2
comp=Z,22nm,0.6s
F64A Sherman 38.33 5 IAmb IAmb 01 42 35.4
comp=Z,48nm,1.4s
F64A Sherman 38.33 5 P **P** **01 42 34.3 +1.8**
baz=188
F64A P **P** **01 42 34.3 +1.8**
baz=188
R32A Long Quarter, 38.34 327 IAmb IAmb 01 42 34.8
comp=Z,37nm,1.2s
R32A Long Quarter, 38.34 327 P **P** **01 42 32.9 +0.2**
baz=137,SNR=7.3
MNTX Cornudas Mount 38.36 313 P **P** **01 42 34.3 +1.3**
baz=122,SNR=131
MNTX Cornudas Mount 38.36 313 P **P** **01 42 34.0 +1.0**
baz=122,SNR=131
GLMI Grayling 38.37 347 P **P** **01 42 35.1 +2.2**
baz=162,SNR=6.2
GLMI Grayling 38.37 347 P **P** **01 42 35.0 +2.2**
baz=162,SNR=6.2
SCIA State Center 38.47 336 P **P** **01 42 34.6 +0.9**
baz=147,SNR=7.0
SCIA State Center 38.47 336 P **P** **01 42 34.8 +1.1**
baz=147
FRTB Fartura 38.49 144 *eP* **P** **01 42 33.6 -0.6**
I42A Draeger Farm, 38.65 342 IAmb IAmb 01 42 37.7
comp=Z,31nm,0.6s
I42A Draeger Farm, 38.65 342 P **P** **01 42 36.2 +1.0**
baz=155,SNR=13
SLBS Sierra La Lagu 38.66 299 P **P** **01 42 37.1 +1.4**
SLBS IAmb IAmb 01 42 39.9
comp=Z,34nm,1.0s
SLBS Sierra La Lagu 38.66 299 P **P** **01 42 38.8 +3.1**
SLBS sP **sP** **01 43 23.6 +2.3**
N35A Tabor 38.66 332 IAmb IAmb 01 42 37.3
comp=Z,33nm,0.9s
N35A Tabor 38.66 332 P **P** **01 42 36.3 +0.9**
baz=143
FRBT Francisco Belt 38.71 150 *eP* **P** **01 42 33.2 -2.8**
LMN Caledonia Moun 38.77 9 P **P** **01 42 36.8 +0.6**
LMN IAmb IAmb 01 42 39.0
comp=Z,28nm,0.8s
G45A Suttons Bay 38.81 346 P **P** **01 42 38.4 +1.9**
baz=160,SNR=19
G45A P **P** **01 42 38.4 +1.9**
baz=160,SNR=19
H43A Windswept, Lux 38.84 343 P **P** **01 42 38.4 +1.6**
baz=157,SNR=11
E63A Oxbow 38.88 5 P **P** **01 42 39.4 +2.4**
baz=187,SNR=5.4
E63A P **P** **01 42 39.4 +2.4**
baz=187,SNR=5.4
DIAM Diamantina, MG 38.90 132 *eP* **P** **01 42 37.5 -0.3**
K38A Parkersburg 38.91 337 IAmb IAmb 01 42 39.4
comp=Z,78nm,1.5s
K38A Parkersburg 38.91 337 P **P** **01 42 38.1 +0.7**
baz=148,SNR=5.8
E62A Clayton Lake 38.99 4 IAmb IAmb 01 42 41.0
comp=Z,21nm,0.6s
E62A Clayton Lake 38.99 4 P **P** **01 42 40.3 +2.3**
baz=186,SNR=11
E62A P **P** **01 42 40.3 +2.3**
baz=186,SNR=11
RCLB Rio Claro- Sao 39.04 140 *eP* **P** **01 42 38.7 -0.1**
CBKS Cedar Bluff 39.18 326 IAmb IAmb 01 42 41.9
comp=Z,31nm,0.8s
CBKS Cedar Bluff 39.18 326 P **P** **01 42 40.4 +0.6**
baz=136
ZON Zonda 39.19 174 IAmb IAmb 01 42 40.2
comp=Z,20nm,0.8s
I40A Norwalk 39.21 340 P **P** **01 42 40.3 +0.4**
I40A IAmb IAmb 01 42 42.9
comp=Z,20nm,0.5s
I40A PcP **PcP** **01 44 45.6 -0.8**
D62A Allapoint, All 39.48 4 IAmb IAmb 01 42 45.2
comp=Z,30nm,0.7s
D62A Allapoint, All 39.48 4 P **P** **01 42 44.0 +2.0**
baz=186,SNR=11
D62A P **P** **01 42 44.0 +2.0**
baz=186,SNR=11
CRSM Crissiumal (Br 39.53 153 *eP* **P** **01 42 40.1 -2.6**
RCBR Riachuelo 39.54 109 *eP* **P** **01 42 43.4 +0.4**
RCBR Riachuelo 39.54 109 LR LR 01 59 45.9
comp=Z,407nm,19.0s,baz=262,slow=37
E46A Sault Ste Mari 39.77 348 P **P** **01 42 46.5 +2.0**
baz=163,SNR=16
VAO Valinhos 39.82 140 *eP* **P** **01 42 45.2 -0.1**
LMQ La Malbaie 39.86 3 IAmb IAmb 01 42 48.3
comp=Z,27nm,0.5s
BSCB Bom Sucesso 39.86 136 *eP* **P** **01 42 45.6 -0.1**
L34A Svendsen Farm, 39.88 333 P **P** **01 42 46.3 +0.9**
baz=143,SNR=5.3
F42A Maple Grove Fa 40.12 344 P **P** **01 42 48.5 +1.1**
baz=157,SNR=18
ITAB Concordia 40.22 150 *eP* **P** **01 42 45.7 -2.7**

VA03	San Esteban	40.24 177	IAmb	IAmb	01 42 48.8
	comp=Z,30nm,0.6s				
BGNE	Belgrade	40.28 331	IAmb	IAmb	01 42 51.6
	comp=Z,40nm,0.8s				
BGNE	Belgrade	40.28 331	P	P	01 42 49.1 +0.3
	baz=140				
BGNE	Belgrade	40.28 331	P	P	01 42 49.2 +0.5
	baz=140				
G40A	Rib Lake	40.29 341	P	P	01 42 50.0 +1.2
	baz=153,SNR=8.2				
I37A	Lemond, Waseca	40.32 337	IAmb	IAmb	01 42 51.6
	comp=Z,49nm,1.4s				
ITQB	Itaqui	40.37 157	P	P	01 42 47.9 -1.6
ITQB			IAmb	IAmb	01 42 56.4
	comp=Z,46nm,1.3s				
ITQB	Itaqui	40.37 157	eP	P	01 42 46.3 -3.2
E43A	Lone Tree Farm	40.39 345	IAmb	IAmb	01 42 52.2
	comp=Z,28nm,0.5s				
E43A	Lone Tree Farm	40.39 345	P	P	01 42 50.8 +1.2
	baz=159,SNR=10				
ROC1	El Roble	40.42 177	IAmb	IAmb	01 42 52.4
	comp=Z,21nm,0.5s				
UNIS	Unistalda (Bra	40.45 155	eP	P	01 42 48.0 -2.3
VLDQ	Val d'Or	40.51 356	P	P	01 42 52.6 +2.1
VLDQ			IAmb	IAmb	01 42 54.3
	comp=Z,65nm,1.5s				
121A	Cookes Peak, D	40.54 312	IAmb	IAmb	01 42 55.1
	comp=Z,26nm,0.9s				
121A	Cookes Peak, D	40.54 312	P	P	01 42 53.5 +2.2
	baz=120,SNR=23				
121A	Cookes Peak, D	40.54 312	P	P	01 42 53.8 +2.6
	baz=120,SNR=23				
PET01	Itanhaem-SP	40.57 142	eP	P	01 42 51.9 +0.5
Y22A	Socorro	40.68 315	P	P	01 42 54.1 +1.7
	baz=122,SNR=10.0				
MT02	Curacav	40.70 177	P	P	01 42 51.7 -0.6
Y22D	IRIS PASSCAL I	40.72 315	P	P	01 42 54.9 +2.2
	baz=123				
Y22F	Passcal Instru	40.72 315	P	P	01 42 55.1 +2.4
	baz=123				
COWI	Conover	40.72 343	IAmb	IAmb	01 42 57.1
	comp=Z,22nm,0.7s				
COWI	Conover	40.72 343	P	P	01 42 53.5 +1.1
	baz=155				
T25A	Trinidad	40.82 321	P	P	01 42 55.8 +2.3
	baz=128,SNR=12				
MT05	Renca	40.85 177	P	P	01 42 52.2 -1.3
GUA01	Guaratinga, BA	40.87 126	eP	P	01 42 54.1 +0.2
ANMO	Albuquerque	40.87 317	P	P	01 42 55.5 +1.5
ANMO	Albuquerque	40.87 317	ceP	P	01 42 54.2 +0.2
ANMO			pmax	pmax	
	comp=Z,29nm,1.7s				
ANMO	Albuquerque	40.87 317	P	P	01 42 55.7 +1.7
	baz=124				
ANMO	Albuquerque	40.87 317	P	P	01 42 55.6 +1.7
	baz=124,SNR=16				
ANMO	Albuquerque	40.87 317	LR	LR	02 02 42.5
	comp=Z,82nm,18.7s,baz=219,slow=40				
ANMO	Albuquerque	40.87 317	⇑P	P	01 42 56.1 +2.1
ANMO			pP	pP	01 43 25.8 +1.5
ANMO			sP	sP	01 43 41.9 +2.2
ANMO			PcP	PcP	01 44 48.4 -3.8
KSCO	Kaye Shedlock'	40.95 324	IAmb	IAmb	01 42 57.6
	comp=Z,35nm,0.6s				
KSCO	Kaye Shedlock'	40.95 324	P	P	01 42 55.7 +1.2
	baz=132				
KSCO	Kaye Shedlock'	40.95 324	P	P	01 42 56.9 +2.4
	baz=132				
MT08	Bocatoma Ro	40.95 176	IAmb	IAmb	01 43 00.2
	comp=Z,20nm,0.6s				
MT03	Universidad Ad	40.97 177	IAmb	IAmb	01 42 55.3
	comp=Z,54nm,1.1s				
SJMB	Sao Joao De Ma	41.01 130	eP	P	01 42 55.0 -0.1
319A	Douglas	41.10 310	IAmb	IAmb	01 42 59.4
	comp=Z,28nm,0.9s				
SPMN	Marine on St.	41.13 339	P	P	01 42 57.6 +1.9
	baz=150,SNR=6.0				
SPMN	Marine on St.	41.13 339	P	P	01 42 56.4 +0.7
	baz=150,SNR=6.0				
MT09	Talagante	41.22 177	IAmb	IAmb	01 42 58.8
	comp=Z,28nm,0.5s				
MT13	San Alfonso	41.23 176	P	P	01 42 55.6 -1.1
MT13			IAmb	IAmb	01 42 59.6
	comp=Z,22nm,0.6s				
MT13			PcP	PcP	01 44 52.1 -1.0
MT01	Popeta	41.30 178	IAmb	IAmb	01 43 00.6
	comp=Z,18nm,0.4s				
ECSD	EROS Data Cent	41.39 334	P	P	01 42 58.0 +0.2
ECSD			IAmb	IAmb	01 43 00.1
	comp=Z,20nm,0.5s				
ECSD			PcP	PcP	01 44 53.4 0.0
ECSD	EROS Data Cent	41.39 334	P	P	01 42 58.1 +0.2
	baz=144,SNR=17				
ECSD	EROS Data Cent	41.39 334	P	P	01 42 57.9 +0.1
	baz=144,SNR=17				
D41A	Chassel	41.44 344	IAmb	IAmb	01 43 00.4
	comp=Z,36nm,0.6s				
D41A	Chassel	41.44 344	P	P	01 42 59.7 +1.6
	baz=157,SNR=6.4				
BO04	La Punta	41.45 177	IAmb	IAmb	01 42 59.7
	comp=Z,86nm,1.5s				
RODS	Rosario do Sul	41.52 156	eP	P	01 42 56.0 -3.1
BO01	Tunca	41.83 177	IAmb	IAmb	01 43 01.5
	comp=Z,64nm,1.4s				
SDCO	Great Sand Dun	41.88 321	IAmb	IAmb	01 43 05.9
	comp=Z,23nm,0.6s				
SDCO	Great Sand Dun	41.88 321	P	P	01 43 04.3 +2.1
	baz=128,SNR=38				
SDCO	Great Sand Dun	41.88 321	P	P	01 43 03.9 +1.7
	baz=128,SNR=38				
OGNE	Ogallala	41.94 327	P	P	01 43 03.1 +0.7
OGNE			IAmb	IAmb	01 43 05.4
	comp=Z,21nm,0.6s				
OGNE			PcP	PcP	01 44 56.8 +1.4
OGNE	Ogallala	41.94 327	P	P	01 43 03.1 +0.7
	baz=134				
F36A	Milaca	41.94 339	P	P	01 43 02.9 +0.7
	baz=149				
RIB01	Linhares ES	41.97 130	eP	P	01 43 02.4 -0.5
DUB01	Friburgo-RJ	42.25 135	eP	P	01 43 05.4 +0.3
ALF01	Guarapari-ES	42.51 132	eP	P	01 43 07.1 -0.1
TUC	Tucson	42.66 310	P	P	01 43 09.5 +1.1
TUC	Tucson	42.66 310	P	P	01 43 09.5 +1.1
TUC			pmax	pmax	
	comp=Z,18nm,0.9s				
TUC	Tucson	42.66 310	P	P	01 43 10.0 +1.6
	baz=117				
TUC	Tucson	42.66 310	P	P	01 43 10.0 +1.6
TUC			pP	pP	01 43 39.5 +0.5
TUC			sP	sP	01 43 55.4 +0.9
TUC			ScP	ScP	01 48 38.2 +1.8
S22A	4UR Ranch, Cre	42.72 320	P	P	01 43 11.2 +2.1
	baz=126,SNR=32				
BRIGG	Briggsdale	42.96 325	IAmb	IAmb	01 43 13.8
	comp=Z,41nm,1.1s				
F33A	5 Mile Ranch,	42.97 336	P	P	01 43 10.7 +0.1
	baz=145,SNR=8.8				
SUSD	Miller	42.99 333	P	P	01 43 11.3 +0.6
	baz=141,SNR=8.1				
SUSD	Miller	42.99 333	P	P	01 43 11.4 +0.6
	baz=141,SNR=8.1				
EYMN	Ely	43.09 342	P	P	01 43 12.3 +0.8
	baz=153,SNR=17				
EYMN	Ely	43.09 342	P	P	01 43 12.5 +1.0
	baz=153,SNR=17				
X18A	Snowflake	43.10 314	IAmb	IAmb	01 43 15.7
	comp=Z,23nm,0.7s				
ML02	Panimavida	43.18 178	P	P	01 43 11.2 -1.2
ML02			IAmb	IAmb	01 43 14.0
	comp=Z,37nm,0.8s				
ISCO	Idaho Springs	43.22 323	P	P	01 43 13.7 +0.7
ISCO			IAmb	IAmb	01 43 17.2
	comp=Z,34nm,0.9s				
ISCO	Idaho Springs	43.22 323	P	P	01 43 13.7 +0.7
ISCO			pmax	pmax	
	comp=Z,35nm,1.0s				
ISCO	Idaho Springs	43.22 323	P	P	01 43 15.0 +1.9
	baz=129,SNR=39				
ISCO	Idaho Springs	43.22 323	P	P	01 43 14.7 +1.6
	baz=129,SNR=39				
W18A	Petrified Fore	43.24 315	IAmb	IAmb	01 43 17.4
	comp=Z,44nm,0.8s				
W18A	Petrified Fore	43.24 315	P	P	01 43 15.3 +2.1
	baz=121,SNR=9.1				
PLTB	Pedras Altas	43.41 155	eP	P	01 43 12.4 -1.9
MVCO	Mesa Verde	43.51 318	IAmb	IAmb	01 43 18.5
	comp=Z,29nm,1.0s				
MVCO	Mesa Verde	43.51 318	P	P	01 43 16.9 +1.5
	baz=124,SNR=21				
214A	Organ Pipe Nat	44.06 309	IAmb	IAmb	01 43 22.9
	comp=Z,28nm,0.8s				
214A	Organ Pipe Nat	44.06 309	P	P	01 43 21.4 +1.8
	baz=115,SNR=28				
N23A	Red Feather La	44.11 324	IAmb	IAmb	01 43 23.5
	comp=Z,22nm,0.7s				
N23A	Red Feather La	44.11 324	P	P	01 43 22.0 +1.9
	baz=130,SNR=22				
B35A	Bob, Littlefor	44.16 340	IAmb	IAmb	01 43 22.2
	comp=Z,28nm,0.6s				
B35A	Bob, Littlefor	44.16 340	P	P	01 43 21.2 +1.1
	baz=150,SNR=5.8				
WUAZ	Wupatki	44.60 314	IAmb	IAmb	01 43 28.1
	comp=Z,39nm,0.8s				
WUAZ	Wupatki	44.60 314	P	P	01 43 25.8 +1.8
	baz=119,SNR=36				
AGMN	Agassiz Nation	44.85 339	IAmb	IAmb	01 43 28.6
	comp=Z,95nm,1.6s				
AGMN	Agassiz Nation	44.85 339	P	P	01 43 26.7 +1.2
	baz=147,SNR=17				
AGMN	Agassiz Nation	44.85 339	P	P	01 43 26.2 +0.7
	baz=147,SNR=17				
O20A	White River Ci	45.02 322	P	P	01 43 28.9 +1.7
	baz=127,SNR=14				
RSSD	Black Hills	45.21 329	P	P	01 43 29.9 +1.2
RSSD	Black Hills	45.21 329	P	P	01 43 29.9 +1.2
RSSD			pmax	pmax	
	comp=Z,21nm,0.9s				
RSSD	Black Hills	45.21 329	P	P	01 43 30.2 +1.4
	baz=134				
RSSD	Black Hills	45.21 329	P	P	01 43 30.0 +1.2
	baz=134,SNR=14				
RSSD	Black Hills	45.21 329	P	P	01 43 30.4 +1.7
RSSD			pP	pP	01 44 00.8 +1.1
RSSD			sP	sP	01 44 16.7 +1.7
RWWY	Rawlins	45.35 324	IAmb	IAmb	01 43 33.4
	comp=Z,28nm,0.7s				
HMU	Henry Mountain	45.40 317	IAmb	IAmb	01 43 35.0
	comp=Z,47nm,0.8s				
E28A	Huff	45.41 333	P	P	01 43 30.9 +0.8
	baz=140,SNR=8.3				
K22A	Casper	45.57 325	IAmb	IAmb	01 43 34.5
	comp=Z,20nm,0.7s				
K22A	Casper	45.57 325	P	P	01 43 33.1 +1.6
	baz=130				
U15A	North Rim	45.70 315	IAmb	IAmb	01 43 36.5
	comp=Z,33nm,0.9s				
MDND	Maddock	45.94 335	P	P	01 43 35.3 +1.2
	baz=142				
GLA	Glamis	46.06 309	IAmb	IAmb	01 43 38.5
	comp=Z,34nm,0.7s				
GLA	Glamis	46.06 309	P	P	01 43 37.1 +1.7
	baz=114,SNR=14				
PDMCI	Parker Dam,Lak	46.06 311	P	P	01 43 36.7 +1.3
	baz=116				
KNB	Kanab	46.35 315	IAmb	IAmb	01 43 42.0
	comp=Z,40nm,0.8s				
TMUT	Trail Mountain	46.43 319	IAmb	IAmb	01 43 42.3
	comp=Z,46nm,1.4s				
ULM	Lac du Bonnet	46.51 340	P	P	01 43 38.8 +0.2
	comp=Z,36nm,0.5s,baz=147,slow=7.4,SNR=84				
ULM			pP	pP	01 44 09.4 -0.6
	comp=Z,13nm,0.5s,baz=113,slow=6.8,SNR=3.1				
ULM			PcP	PcP	01 45 11.3 +0.6
	comp=Z,12nm,0.5s,baz=301,slow=1.9,SNR=3.0				
ULM			LR	LR	02 03 18.0
	comp=Z,126nm,21.2s,baz=96,slow=36				
	comp=Z,36nm,0.5s				
NEE2	Needles Airpor	46.62 311	P	P	01 43 41.1 +1.4
	baz=116				
TRQA	Tornquist	46.63 168	P	P	01 43 37.9 -1.8
TRQA	Tornquist	46.63 168	P	P	01 43 37.9 -1.8
TRQA			pmax	pmax	
	comp=Z,18nm,1.5s				
LCMT	Little Creek M	46.65 315	IAmb	IAmb	01 43 44.1
	comp=Z,31nm,0.9s				
IRM	Iron Mountain	46.76 310	P	P	01 43 42.3 +1.5
	baz=115,SNR=11				
SWSC	Sam W. Stewart	46.77 309	P	P	01 43 42.4 +1.6
	baz=113,SNR=6.0				
BC3	Big Chuckawall	46.78 310	P	P	01 43 42.7 +1.6
	baz=114,SNR=8.9				
BSUT	Blindstream Ca	46.82 320	P	P	01 43 43.2 +1.6
BSUT			IAmb	IAmb	01 43 44.9
	comp=Z,27nm,0.7s				
IKP	In-Ko-Pah, Jac	46.90 308	P	P	01 43 43.8 +1.9
	baz=113				
GO06	Curarrehue	46.99 178	P	P	01 43 40.8 -1.8
MPU	Maple Canyon	47.09 319	IAmb	IAmb	01 43 47.7
	comp=Z,26nm,0.7s				
V12A	Nelson	47.21 313	IAmb	IAmb	01 43 47.5
	comp=Z,28nm,0.7s				
MONP2	Monument Peak	47.23 308	P	P	01 43 46.3 +1.6
	baz=112,SNR=7.8				
BELC	Belle Mtn. Jos	47.34 310	P	P	01 43 46.9 +1.4
	baz=114,SNR=7.6				
SCHQ	Schefferville	47.36 5	P	P	01 43 46.6 +1.5
SCHQ			IAmb	IAmb	01 43 47.6
	comp=Z,38nm,0.6s				
SCHQ	Schefferville	47.36 5	P	P	01 43 46.2 +1.1
	comp=Z,35nm,0.5s,baz=194,slow=7.5,SNR=63				
SCHQ			pP	pP	01 44 16.4 0.0
	comp=Z,24nm,0.5s,baz=194,slow=7.1,SNR=5.9				
SCHQ			ScP	ScP	01 48 56.4 +1.2
	comp=Z,7.0nm,0.8s,baz=172,slow=2.5,SNR=2.9				
SCHQ			LR	LR	02 04 17.7
	comp=Z,84nm,19.2s,baz=269,slow=37				
	comp=Z,35nm,0.5s				
BW06	Boulder Array	47.38 324	P	P	01 43 46.7 +0.9
	baz=127,SNR=5.8				
PDAR	Pinedale Array	47.38 324	P	P	01 43 47.0 +1.3
	comp=Z,10nm,0.7s,baz=128,slow=9.4,SNR=32				
PDAR			pP	pP	01 44 17.9 +1.0
	comp=Z,3.4nm,0.4s,baz=121,slow=7.6,SNR=3.3				
PDAR			PcP	PcP	01 45 15.0 +0.7
	comp=Z,7.4nm,0.5s,baz=122,slow=5.9,SNR=9.0				
PDAR			ScP	ScP	01 48 56.7 +0.8
	comp=Z,1.1nm,0.6s,baz=106,slow=5.1,SNR=3.5				
	comp=Z,10nm,0.7s				
GMRC	Granite Mounta	47.40 311	P	P	01 43 47.2 +1.3
	baz=115,SNR=7.3				
PFO	Pinyon Flats O	47.54 309	P	P	01 43 46.9 -0.1
PFO	Pinyon Flats O	47.54 309	i P	P	01 43 47.8 +0.8
PFO			pmax	pmax	
	comp=Z,13nm,1.1s				
PFO	Pinyon Flats O	47.54 309	P	P	01 43 48.4 +1.5
	baz=113				
PFO	Pinyon Flats O	47.54 309	LR	LR	02 06 18.4
	comp=Z,66nm,19.8s,baz=33,slow=39				
109C	Camp Elliot, M	47.76 308	P	P	01 43 49.8 +1.3
	baz=112				
PSUT	Pine Spring	47.81 316	IAmb	IAmb	01 43 52.5
	comp=Z,22nm,0.7s				
TUQ	Turquoise Moun	47.87 312	P	P	01 43 50.9 +1.3
	baz=115,SNR=6.2				
HWUT	Hardware Ranch	47.93 321	IAmb	IAmb	01 43 52.6
	comp=Z,27nm,0.6s				
HEC	Hector,Ludlow	47.93 311	P	P	01 43 51.3 +1.4
	baz=114,SNR=13				
DUG	Dugway, Tooele	47.95 319	IAmb	IAmb	01 43 53.5
	comp=Z,28nm,0.7s				
DUG	Dugway, Tooele	47.95 319	P	P	01 43 51.9 +1.7
	baz=122,SNR=26				
ID10	Lander Cutoff	48.03 323	IAmb	IAmb	01 43 53.5
	comp=Z,33nm,0.8s				
MURC	Murrieta	48.10 309	P	P	01 43 52.5 +1.3
	baz=112				
LAO	LASA Array	48.10 330	P	P	01 43 52.2 +1.2
	baz=134,SNR=10				
LAO	LASA Array	48.10 330	P	P	01 43 51.8 +0.7
	baz=134,SNR=10				
BBRC	Big Bear Solar	48.14 310	P	P	01 43 53.3 +1.5
	baz=113				
PLCA	Paso Flores	48.18 177	P	P	01 43 50.6 -1.1
PLCA			IAmb	IAmb	01 43 51.3
	comp=Z,50nm,1.2s				
PLCA	Paso Flores	48.18 177	eP	P	01 43 50.9 -0.7
PLCA	Paso Flores	48.18 177	P	P	01 43 50.5 -1.1
	comp=Z,20nm,0.5s,baz=353,slow=9.1,SNR=63				
PLCA			PcP	PcP	01 45 17.8 +0.9
	comp=Z,17nm,0.7s,baz=341,slow=5.1,SNR=8.4				
PLCA			ScP	ScP	01 48 59.1 +0.2
	comp=Z,2.3nm,0.6s,baz=341,slow=6.9,SNR=3.7				
	comp=Z,20nm,0.5s				
PLCA	Paso Flores	48.18 177	P	P	01 43 50.5 -1.1
PLCA			pP	pP	01 44 21.4 -1.8
PLCA			PcP	PcP	01 45 17.4 +0.5
PLCA			ScP	ScP	01 48 58.9 0.0
LL04	Puerto Octay	48.30 179	IAmb	IAmb	01 43 51.6
	comp=Z,24nm,0.9s				
AHID	Auburn Hatcher	48.30 323	IAmb	IAmb	01 43 55.9
	comp=Z,31nm,1.0s				
SHOC	Shoshone, Teco	48.33 312	P	P	01 43 54.2 +1.3
	baz=115,SNR=12				
SPR3	Spring Creek 3	48.36 317	IAmb	IAmb	01 43 56.5
	comp=Z,23nm,0.9s				
DGMT	Dagmar	48.40 333	P	P	01 43 55.1 +1.9
	baz=137,SNR=20				
DGMT	Dagmar	48.40 333	P	P	01 43 55.2 +1.9
	baz=137,SNR=20				
ID06	Fossil Canyon	48.41 322	IAmb	IAmb	01 43 58.2
	comp=Z,19nm,0.6s				
RRX	Edison Barstow	48.44 311	P	P	01 43 55.2 +1.4
	baz=114				
GSC	Goldstone, Bar	48.47 311	IAmb	IAmb	01 43 57.7
	comp=Z,29nm,0.9s				
GSC	Goldstone, Bar	48.47 311	P	P	01 43 55.6 +1.5
	baz=114,SNR=20				
SNOW	Snow King Moun	48.50 324	P	P	01 43 56.2 +1.8
SNOW			IAmb	IAmb	01 43 58.5
	comp=Z,34nm,0.6s				
LOHW	Long Hollow	48.50 324	IAmb	IAmb	01 43 57.4
	comp=Z,26nm,0.7s				
TPAW	Teton Pass	48.63 324	IAmb	IAmb	01 43 58.8
	comp=Z,22nm,0.7s				
MOOW	Moose Ponds	48.67 324	IAmb	IAmb	01 43 58.4
	comp=Z,23nm,0.7s				
RLMT	Red Lodge	48.67 326	IAmb	IAmb	01 43 59.1
	comp=Z,15nm,0.6s				
RLMT	Red Lodge	48.67 326	P	P	01 43 56.9 +1.3
	baz=129,SNR=21				
S11A	Rachel	48.71 314	IAmb	IAmb	01 43 59.6
	comp=Z,71nm,1.6s				
GWY	Greenwater Val	48.74 312	IAmb	IAmb	01 43 59.0
	comp=Z,16nm,0.7s				
TPNV	Topopah Spring	48.76 313	IAmb	IAmb	01 44 00.5
	comp=Z,23nm,0.9s				
TPNV	Topopah Spring	48.76 313	P	P	01 43 58.2 +1.9
	baz=116,SNR=23				
ID07	Smith Canyon R	48.76 322	IAmb	IAmb	01 43 59.0
	comp=Z,35nm,0.7s				
HVU	Hansel Valley	48.78 321	IAmb	IAmb	01 44 00.6
	comp=Z,15nm,0.5s				
FLWY	Flagg Ranch	48.84 324	P	P	01 43 57.8 +0.9
IMW	Indian Meadow	48.87 324	IAmb	IAmb	01 44 00.0
	comp=Z,28nm,0.7s				
R11B	Troy Canyon, C	48.91 315	IAmb	IAmb	01 44 00.8
	comp=Z,18nm,0.8s				
R11B	Troy Canyon, C	48.91 315	P	P	01 43 59.2 +1.6
	baz=118,SNR=50				
H17A	Grant Village	48.96 325	P	P	01 43 59.6 +1.8
	baz=127				
FURC	Furnace Creek,	49.00 312	P	P	01 43 59.9 +2.0
	baz=115,SNR=15				
LRMC	Laurel Mtn Rad	49.20 311	P	P	01 44 01.1 +1.4
	baz=114,SNR=6.5				
EDW2	Edwards Air Fo	49.20 310	P	P	01 44 00.8 +1.2
	baz=113,SNR=17				
MPMC	Manual Prospec	49.29 312	P	P	01 44 01.4 +1.0
	baz=114,SNR=11				
YHL	Hebgen Lake	49.58 325	IAmb	IAmb	01 44 07.1
	comp=Z,34nm,1.1s				
GRAC	Grapevine Rang	49.59 313	P	P	01 44 04.0 +1.5
	baz=115,SNR=6.5				
LL01	San Ignacio de	49.76 179	IAmb	IAmb	01 44 02.5
	comp=Z,24nm,0.6s				
SNCC	San Nicolas Is	49.79 307	P	P	01 44 05.5 +1.5
	baz=110				
ISA	Isabella, Lake	49.86 311	P	P	01 44 06.2 +1.5
	baz=113,SNR=5.5				
CWC	Cottonwood Cre	49.88 312	P	P	01 44 06.5 +1.6
	baz=114				
SCZ2	Santa Cruz Isl	50.13 308	P	P	01 44 07.9 +1.2
	baz=111				
DSP	Deep Springs	50.18 313	IAmb	IAmb	01 44 10.9
	comp=Z,24nm,0.8s				
BOZ	Bozeman (W)	50.28 325	P	P	01 44 08.2 +0.5
BOZ			IAmb	IAmb	01 44 10.8
	comp=Z,21nm,0.9s				
BOZ	Bozeman (W)	50.28 325	P	P	01 44 08.2 +0.5
BOZ			pmax	pmax	
	comp=Z,21nm,1.0s				
BOZ	Bozeman (W)	50.28 325	P	P	01 44 09.2 +1.5
	baz=127,SNR=28				
VES	Vestal, Richgr	50.39 311	P	P	01 44 10.2 +1.7
	baz=113,SNR=16				
GO07	Milladeo Hill,	50.49 180	P	P	01 44 08.3 -0.8
LL02	Futaleuf	50.59 179	IAmb	IAmb	01 44 09.2
	comp=Z,58nm,1.4s				
PKM	Mcpherson Peak	50.59 309	P	P	01 44 11.1 +0.8
	baz=111				
DLMT	Dillon	50.69 325	IAmb	IAmb	01 44 14.7
	comp=Z,44nm,1.4s				
HLID	Hailey	50.76 322	IAmb	IAmb	01 44 15.0
	comp=Z,19nm,0.9s				
HLID	Hailey	50.76 322	P	P	01 44 12.7 +1.3
	baz=123,SNR=43				
EGMT	Eagleton	50.78 329	IAmb	IAmb	01 44 15.0
	comp=Z,22nm,0.7s				
EGMT	Eagleton	50.78 329	P	P	01 44 13.1 +1.7
	baz=130,SNR=12				
NVAR	Mina Array Bea	50.87 314	P	P	01 44 13.7 +1.4
	comp=Z,12nm,0.7s,baz=118,slow=7.0,SNR=91				
NVAR			pP	pP	01 44 44.4 +0.6
	comp=Z,3.9nm,0.6s,baz=119,slow=6.6,SNR=3.0				
NVAR			PcP	PcP	01 45 28.6 +1.5
	comp=Z,12nm,0.5s,baz=140,slow=4.5,SNR=19				
NVAR			ScP	ScP	01 49 12.4 +1.6
	comp=Z,1.3nm,0.8s,baz=113,slow=4.4,SNR=4.8				
	comp=Z,12nm,0.7s				
MDPB	Devils Postpil	51.09 313	IAmb	IAmb	01 44 17.8
	comp=Z,19nm,0.9s				
MFID	Camas Ranch	51.55 321	IAmb	IAmb	01 44 21.0
	comp=Z,24nm,0.7s				
YERR	Yerington	51.76 314	IAmb	IAmb	01 44 22.0
	comp=Z,22nm,0.7s				
AY01	Puyuhuapi	51.80 179	P	P	01 44 17.6 -1.2
AY01			IAmb	IAmb	01 44 20.4
	comp=Z,54nm,1.2s				
PNTR	Pine Nut	52.06 314	IAmb	IAmb	01 44 24.5
	comp=Z,23nm,0.7s				
MSO	Missoula	52.30 326	P	P	01 44 23.8 +1.1
	baz=125,SNR=12				
FFC	Flin Flon	52.31 339	P	P	01 44 23.3 +0.8
FFC			IAmb	IAmb	01 44 23.7
	comp=Z,18nm,0.6s				
FFC	Flin Flon	52.31 339	P	P	01 44 23.3 +0.8
FFC			pmax	pmax	
	comp=Z,18nm,0.6s				
FFC	Flin Flon	52.31 339	⇑P	P	01 44 23.2 +0.7
FFC			pP	pP	01 44 54.1 -0.4
PLTX	Planet X, Gerl	52.65 316	IAmb	IAmb	01 44 28.6
	comp=Z,14nm,0.5s				
WVOR	Wild Horse Val	52.87 319	P	P	01 44 27.9 +0.9
WVOR			IAmb	IAmb	01 44 29.7
	comp=Z,30nm,0.8s				
WVOR			pP	pP	01 44 58.4 -0.3
WVOR			sP	sP	01 45 13.0 -0.8
WVOR	Wild Horse Val	52.87 319	P	P	01 44 27.9 +0.9
WVOR			*PP	pP	01 44 58.4 -0.3
WVOR			*SP	sP	01 45 13.0 -0.8
WVOR			pmax	pmax	
	comp=Z,30nm,0.8s				
COYC	Coyhaique	52.96 179	IAmb	IAmb	01 44 27.2
	comp=Z,46nm,1.2s				
COYC	Coyhaique	52.96 179	P	P	01 44 26.3 -1.0
COYC			pP	pP	01 44 56.6 -2.8
AFDM	Forest Hills D	52.98 314	IAmb	IAmb	01 44 30.2
	comp=Z,52nm,2.0s				
F10A	Beach Ranch, E	53.73 323	IAmb	IAmb	01 44 35.4
	comp=Z,19nm,0.7s				
K05A	Summer Lake	54.49 318	P	P	01 44 39.5 +0.5
E09A	Wood Farm, Sta	54.56 323	IAmb	IAmb	01 44 42.1
	comp=Z,33nm,1.3s				
NEW	Newport	54.89 325	IAmb	IAmb	01 44 43.6
	comp=Z,33nm,1.6s				
NEW	Newport	54.89 325	P	P	01 44 42.1 +0.6
	baz=123,SNR=9.3				
D08A	Wollman Farm,	55.29 323	IAmb	IAmb	01 44 47.0
	comp=Z,14nm,0.8s				
YBH	Yreka Blue Hor	55.30 316	IAmb	IAmb	01 44 45.6
	comp=Z,14nm,0.5s				

YBH Yreka Blue Hor 55.30 316 LR LR 02 11 10.7
comp=Z,55nm,20.2s,baz=116,slow=39
F07A Phinny Hill Vi 55.33 322 IAmb IAmb 01 44 48.8
comp=Z,15nm,0.7s
HAWA Hanford 55.33 323 IAmb IAmb 01 44 46.1
comp=Z,47nm,2.0s
KMRM Mail Ridge 55.42 314 IAmb IAmb 01 44 49.2
comp=Z,97nm,1.0s
KMPM Mount Pierce 55.79 314 P **P** **01 44 49.0 +0.9**
FRB Frobisher Bay 56.12 2 LR LR 02 09 45.3
comp=Z,44nm,19.7s,baz=214,slow=37
H04A Detroit Lake 56.19 320 IAmb IAmb 01 44 54.1
comp=Z,40nm,1.0s
DBO Dodson Butte 56.22 318 IAmb IAmb 01 44 54.1
comp=Z,11nm,0.7s
LTY Liberty 56.43 323 IAmb IAmb 01 44 55.4
comp=Z,18nm,0.6s
BUCK Buck Mountain 56.50 319 IAmb IAmb 01 44 55.2
comp=Z,29nm,0.8s
I03D Drain, OR 56.53 318 IAmb IAmb 01 44 55.3
comp=Z,22nm,0.6s
COR Corvallis 56.87 319 P **P** **01 44 56.1 +0.6**
COR Corvallis 56.87 319 P **P** **01 44 56.1 +0.6**
COR pmax pmax
comp=Z,38nm,0.8s
COR Corvallis 56.87 319 P **P** **01 44 57.4 +1.9**
COR pP **pP** **01 45 29.2 +1.5**
COR sP **sP** **01 45 43.5 +0.8**
MACI Morro de la Ar 57.17 61 P **P** **01 44 58.7 +0.5**
D05A Enumclaw 57.19 322 IAmb IAmb 01 45 00.9
comp=Z,42nm,1.2s
PMAR Madeira 57.69 56 *e*P **P** **01 45 01.2 -0.6**
comp=Z,135nm,1.6s
GNW Green Mountain 57.87 322 IAmb IAmb 01 45 04.5
comp=Z,13nm,0.6s
B04A Port Angeles 58.50 323 IAmb IAmb 01 45 10.7
comp=Z,24nm,0.7s
PGC Sidney 58.73 323 IAmb IAmb 01 45 12.0
comp=Z,38nm,1.4s
LLLB Lillooet 58.76 326 IAmb IAmb 01 45 11.8
comp=Z,32nm,1.0s
CBB Campbell River 60.47 324 P **P** **01 45 21.5 +1.1**
CBB IAmb IAmb 01 45 24.2
comp=Z,26nm,1.0s
ASCN Ascension 60.67 103 P **P** **01 45 23.3 +1.0**
SFJD Kangerlussuaq 61.26 10 P **P** **01 45 26.2 +0.8**
SFJD Kangerlussuaq 61.26 10 P **P** **01 45 26.2 +0.8**
SFJD pmax pmax
comp=Z,77nm,1.6s
SFJD Kangerlussuaq 61.26 10 *i* P **P** **01 45 25.2 -0.2**
SFJD IAmb IAmb 01 45 26.6
comp=Z,10nm,0.6s
DY2G Dye2 61.61 12 *i* P **P** **01 45 27.4 -0.7**
DY2G IAmb IAmb 01 45 30.1
comp=Z,44nm,0.7s
YKA Yellowknife Ar 62.49 340 *i* P **P** **01 45 33.7 +0.1**
YKA pmax pmax
comp=Z,27nm,0.5s
YKA Yellowknife Ar 62.49 340 P **P** **01 45 33.8 +0.1**
comp=Z,34nm,0.6s,baz=129,slow=6.7,SNR=131
YKA pP **pP** **01 46 06.5 0.0**
comp=Z,15nm,0.6s,baz=130,slow=7.0,SNR=5.2
YKA LR LR 02 12 44.0
comp=Z,101nm,21.2s,baz=180,slow=36
comp=Z,34nm,0.6s
ISOG Isortoq, Green 62.55 15 *i* P **P** **01 45 32.4 -1.6**
ISOG IAmb IAmb 01 45 36.2
comp=Z,37nm,0.6s
ANGG Ammassalik, Gr 62.96 16 IAmb IAmb 01 45 38.4
comp=Z,58nm,0.5s
ANGG Ammassalik, Gr 62.96 16 *i* P **P** **01 45 35.0 -1.7**
ANGG IAmb IAmb 01 45 38.5
comp=Z,45nm,0.5s
ILULI Ilulissat 63.20 9 P **P** **01 45 39.1 +0.9**
ILULI pP **pP** **01 46 10.3 -1.1**
ILULI Ilulissat 63.20 9 P **P** **01 45 39.1 +0.9**
ILULI *PP **pP** **01 46 10.3 -1.1**
ILULI pmax pmax
comp=Z,45nm,0.6s
ILULI Ilulissat 63.20 9 *i* P **P** **01 45 37.3 -1.0**
ILULI IAmb IAmb 01 45 39.9
comp=Z,34nm,0.6s
KOTAN Kotaneelee Air 64.70 335 P **P** **01 45 49.6 +1.3**
baz=122,SNR=5.8
PFVI Vila Bisbo 65.06 53 *e*P **P** **01 45 47.7 -3.3**
comp=Z,126nm,1.6s
ICESG Greenland Ices 65.19 13 *i* P **P** **01 45 50.4 -1.4**
ICESG IAmb IAmb 01 45 53.8
comp=Z,37nm,0.6s
PNCL Nicolau / Gran 65.45 52 *e*P **P** **01 45 53.4 -0.2**
comp=Z,53nm,1.3s
PNCL *e*pP **pP** **01 46 28.1 +1.3**
PMTG Montargil 65.86 51 *e*P **P** **01 45 57.9 +1.8**
comp=Z,31nm,1.6s
COI Coimbra 65.92 49 *e*P **P** **01 45 56.5 0.0**
comp=Z,100nm,1.3s
COI *e*pP **pP** **01 46 31.2 +1.4**
PTO Porto 65.96 48 *e*P **P** **01 45 56.2 -0.5**
comp=Z,44nm,1.6s
PTO *e*pP **pP** **01 46 31.3 +1.3**
PVAQ Vaqueiros 65.97 52 *e*P **P** **01 45 57.9 +1.0**
PVAQ *e*pP **pP** **01 46 32.1 +1.9**
T35M Bob Quinn 66.08 330 P **P** **01 45 58.8 +1.5**
baz=114,SNR=14
V35K Ketchikan 66.12 328 P **P** **01 45 58.7 +1.3**
baz=113
WRGLY Wrigley 66.14 338 P **P** **01 45 58.6 +1.2**
baz=124
PESTR Estremoz 66.31 51 *e*P **P** **01 45 58.4 -0.7**
comp=Z,31nm,1.8s
PESTR *e*pP **pP** **01 46 33.7 +1.3**
PESTR Estremoz 66.31 51 P **P** **01 46 00.5 +1.4**
PESTR IAmb IAmb 01 46 11.3
comp=Z,48nm,1.6s
PGAV Gavieira, Arco 66.36 48 *e*P **P** **01 45 58.9 -0.6**
comp=Z,70nm,1.8s
PVIS Viseu 66.40 49 *e*P **P** **01 45 58.9 -0.8**
PVIS *e*pP **pP** **01 46 33.9 +0.9**
PMRV Marv??o 66.56 50 *e*P **P** **01 45 59.4 -1.2**
comp=Z,31nm,1.5s
PCBR Castelo Branco 66.56 50 *e*P **P** **01 46 00.5 -0.1**
comp=Z,44nm,1.5s
PCBR *e*pP **pP** **01 46 35.2 +1.3**
DLBC Dease Lake 66.58 331 P **P** **01 46 01.7 +1.2**
DLBC IAmb IAmb 01 46 03.0
comp=Z,21nm,0.6s
DLBC Dease Lake 66.58 331 P **P** **01 46 02.4 +1.9**
baz=115,SNR=20
DLBC Dease Lake 66.58 331 LR LR 02 17 06.8
comp=Z,103nm,19.0s,baz=106,slow=38
POLO Lamas de Olo 66.60 48 *e*P **P** **01 46 00.4 -0.6**
comp=Z,15nm,1.3s
POLO *e*pP **pP** **01 46 35.2 +0.9**
MTE Manteigas 66.61 49 *e*P **P** **01 46 00.9 -0.1**
comp=Z,31nm,1.9s
PBAR Barrancos 66.62 52 *e*P **P** **01 46 00.7 -0.4**
comp=Z,48nm,1.7s
PBAR *e*pP **pP** **01 46 35.7 +1.3**
PVRL Vila Real 66.64 48 *e*P **P** **01 46 00.6 -0.6**
comp=Z,65nm,1.5s
PVRL *e*pP **pP** **01 46 35.3 +0.8**
WTLY Watson Lake, Y 66.76 333 P **P** **01 46 03.7 +2.2**
baz=117
S34M Telegraph Cree 66.90 331 IAmb IAmb 01 46 05.3
comp=Z,23nm,0.7s
S34M Telegraph Cree 66.90 331 P **P** **01 46 04.3 +1.9**
baz=114,SNR=22
MVO Moncorvo 67.13 49 *e*P **P** **01 46 03.6 -0.7**
comp=Z,34nm,1.3s
MVO *e*pP **pP** **01 46 39.0 +1.4**
TGTN Hyland Airport 67.19 335 P **P** **01 46 06.1 +1.8**
baz=118,SNR=5.9
U33K Whale Pass 67.20 328 P **P** **01 46 06.2 +1.9**
baz=112
R33M Jennings River 67.43 332 P **P** **01 46 07.7 +1.8**
baz=115,SNR=20
PBRG Braganca 67.45 48 *e*P **P** **01 46 05.5 -0.8**
comp=Z,28nm,2.1s
PBRG *e*pP **pP** **01 46 40.5 +0.8**
KULLO Kullorsuaq 67.55 5 *i* P **P** **01 46 06.4 +0.2**
KULLO IAmb IAmb 01 46 09.0
comp=Z,21nm,0.7s
BORG Borgarnes 67.57 21 P **P** **01 46 07.1 +0.6**
BORG pmax pmax
comp=Z,115nm,1.6s
TIC Toumodi 67.60 86⇓ *i* P **P** **01 46 07.4 -0.3**
comp=Z,5.2nm,0.3s
LIC Lamto 67.64 86⇑ *i* P **P** **01 46 07.3 -0.6**
comp=Z,31nm,0.6s
DBIC Dimbokro 67.76 86 P **P** **01 46 06.9 -1.8**
DBIC Dimbokro 67.76 86 P **P** **01 46 06.9 -1.8**
Q32M Nakina River 67.87 331 IAmb IAmb 01 46 17.2
comp=Z,18nm,0.8s
Q32M Nakina River 67.87 331 P **P** **01 46 10.5 +1.8**
baz=113,SNR=11
KIC Kosan Boka 67.91 86⇑ *i* P **P** **01 46 09.9 +0.3**
comp=Z,19nm,0.5s
SUMG Summit 68.22 11 P **P** **01 46 11.4 +0.4**
SUMG pP **pP** **01 46 43.2 -1.4**
SUMG Summit 68.22 11 P **P** **01 46 11.4 +0.4**
SUMG *PP **pP** **01 46 43.3 -1.4**
SUMG pmax pmax
comp=Z,81nm,0.5s
SUMG Summit 68.22 11 *i* P **P** **01 46 10.0 -1.0**
SUMG IAmb IAmb 01 46 13.1
comp=Z,76nm,0.5s
S32K Killisnoo 68.44 329 IAmb IAmb 01 46 14.4
comp=Z,14nm,0.7s
S32K Killisnoo 68.44 329 P **P** **01 46 13.8 +1.8**
baz=111,SNR=7.6
P33M Teslin, Yukon 68.62 332 P **P** **01 46 15.1 +1.8**
baz=113,SNR=11
SIT Sitka 68.67 329 P **P** **01 46 15.1 +1.6**
baz=110
R32K Eaglecrest 68.70 330 P **P** **01 46 15.4 +1.8**
baz=111,SNR=9.6
P32M Atlin 68.80 332 IAmb IAmb 01 46 17.6
comp=Z,93nm,1.8s
P32M Atlin 68.80 332 P **P** **01 46 15.9 +1.6**
baz=112,SNR=10.0
MMPY Sheldon Lake, 68.94 335 IAmb IAmb 01 46 18.4
comp=Z,33nm,1.5s
MMPY Sheldon Lake, 68.94 335 P **P** **01 46 16.7 +1.6**
baz=116,SNR=7.6
BESE Bessie Mountai 68.97 330 P **P** **01 46 16.9 +1.4**
N32M Quiet Lake 69.11 333 P **P** **01 46 18.0 +1.7**
baz=113
ESDC Sonseca Array 69.21 51 P **P** **01 46 16.4 -0.9**
comp=Z,1.4nm,0.5s,baz=266,slow=6.4,SNR=24
ESDC pP **pP** **01 46 50.5 -0.3**
comp=Z,12nm,1.1s,baz=265,slow=6.1,SNR=14
ESDC PKP2bc 02 14 25.3
comp=Z,1.0nm,0.9s,baz=47,slow=2.4,SNR=7.1
comp=Z,1.4nm,0.5s
S31K Pelican 69.44 330 P **P** **01 46 20.1 +1.9**
baz=109
SKAG Skagway 69.51 331 P **P** **01 46 20.3 +1.7**
baz=111,SNR=5.2
FARO Faro, Yukon 69.66 334 IAmb IAmb 01 46 22.7
comp=Z,17nm,0.7s
FARO Faro, Yukon 69.66 334 P **P** **01 46 21.2 +1.6**
baz=114,SNR=20
WHY Whitehorse 69.74 332 P **P** **01 46 21.6 +1.4**
WHY Whitehorse 69.74 332 P **P** **01 46 21.5 +1.3**
baz=112,SNR=5.6
PLBC Pleasant Camp 70.01 331 P **P** **01 46 23.4 +1.7**
baz=110
M31M Drury Creek, Y 70.10 334 IAmb IAmb 01 46 24.8
comp=Z,19nm,0.7s
M31M Drury Creek, Y 70.10 334 P **P** **01 46 24.0 +1.8**
baz=112,SNR=15
O30N Mendenhall 70.33 332 P **P** **01 46 25.8 +2.0**
baz=110,SNR=46
N31M Braeburn, Yuko 70.44 333 P **P** **01 46 26.3 +1.9**
baz=111,SNR=20
P30M Million Dollar 70.52 332 P **P** **01 46 27.1 +2.3**
baz=110
P29M Windy Craggy 70.73 331 P **P** **01 46 28.1 +2.0**
baz=109,SNR=8.1
NEEM North Greenlan 70.77 5 *i* P **P** **01 46 25.2 -1.1**
NEEM IAmb IAmb 01 46 28.6
comp=Z,92nm,0.6s
RSBS Rosebush, Pemb 70.81 38 *e*P **P** **01 46 25.9 -0.8**
RSBS IAmb IAmb 01 46 26.3
comp=Z,109nm,1.8s
HYT Haines Junctio 71.00 332 P **P** **01 46 30.2 +2.4**
baz=109,SNR=14
N30M Aishikik Lake 71.03 333 P **P** **01 46 30.3 +2.3**
baz=110,SNR=17
MAYO Mayo, Yukon 71.26 335 P **P** **01 46 31.3 +2.0**
baz=112
M30M Minto, Yukon 71.28 334 P **P** **01 46 30.5 +1.1**
M30M Minto, Yukon 71.28 334 P **P** **01 46 31.1 +1.6**
baz=110,SNR=101
O29M Mount Kennedy 71.34 331 P **P** **01 46 31.9 +2.0**
baz=108,SNR=9.4
YUK6 Outpost Mounta 71.44 332 P **P** **01 46 33.1 +2.4**
baz=108,SNR=18
H31M Peel River 71.50 338 P **P** **01 46 32.1 +1.5**
baz=114
PNL Peninsula 71.54 331 P **P** **01 46 33.1 +2.1**
baz=107
A36M Sachs Harbour 71.64 345 P **P** **01 46 32.4 +1.1**
baz=124
YUK4 Talbot Arm 71.70 332 P **P** **01 46 34.6 +2.5**
baz=108,SNR=19
J30M Hart River 71.80 336 P **P** **01 46 34.2 +1.6**
baz=112
NEWG New Galloway 71.81 34 *e*P **P** **01 46 33.1 +0.5**
NEWG IAmb IAmb 01 46 34.0
comp=Z,10nm,0.7s
MCH1 Michaelchurch 71.88 38 *e*P **P** **01 46 33.0 -0.2**
MCH1 IAmb IAmb 01 46 34.0
comp=Z,12nm,0.9s
FOEL Foel Wylfa 71.93 37 *e*P **P** **01 46 33.6 +0.2**
G31M Satah River 71.93 339 P **P** **01 46 34.4 +1.2**
baz=114,SNR=8.1
F31M Tsiigehtchic 71.96 339 P **P** **01 46 34.7 +1.4**
baz=115,SNR=13
M29M Somme Creek 71.96 334 P **P** **01 46 35.4 +1.7**
baz=109,SNR=23
MONM Monmouth 71.96 38 *e*P **P** **01 46 34.1 +0.4**
K29M Barlow Dome 72.03 335 P **P** **01 46 35.5 +1.6**
baz=110,SNR=20
L29M L29M 72.04 334 P **P** **01 46 35.3 +1.3**
baz=109,SNR=18
HLM1 Long Mynd 72.05 37 *e*P **P** **01 46 34.1 0.0**
I30M Mount Dempster 72.06 337 P **P** **01 46 35.6 +1.4**
baz=112,SNR=18
PINM Pinnacle 72.08 331 P **P** **01 46 35.9 +1.6**
baz=106
YUK8 Steele Glacier 72.19 332 P **P** **01 46 36.9 +1.7**
baz=107,SNR=10
INVG Invergeldie, C 72.22 33 *e*P **P** **01 46 35.0 0.0**
O28M Mount Upton 72.24 332 P **P** **01 46 37.6 +2.1**
baz=107,SNR=7.1
INK Inuvik 72.25 340 IAmb IAmb 01 46 37.6
comp=Z,31nm,0.9s
INK Inuvik 72.25 340 P **P** **01 46 36.4 +1.4**
baz=115,SNR=16
INK Inuvik 72.25 340 LR LR 02 20 12.6
comp=Z,114nm,18.6s,baz=180,slow=37
EKA Eskdalemuir Ar 72.46 34 P **P** **01 46 36.3 -0.2**
comp=Z,1.6nm,0.3s,baz=271,slow=4.7,SNR=50
EKA pP **pP** **01 47 09.0 -1.4**
comp=Z,7.2nm,0.8s,baz=262,slow=5.8,SNR=4.1
comp=Z,1.6nm,0.3s
PMSA Palmer Station 72.52 176 P **P** **01 46 36.5 -0.1**
PMSA Palmer Station 72.52 176 *e*P **P** **01 46 36.8 +0.2**
J29N Klondike Camp 72.52 336 P **P** **01 46 38.0 +1.1**
baz=110
EPYK Eagle Plains 72.61 338 IAmb IAmb 01 46 39.5
comp=Z,28nm,0.5s
EPYK Eagle Plains 72.61 338 P **P** **01 46 39.0 +1.7**
baz=112,SNR=17
LOGN Logan Glacier 72.64 332 IAmb IAmb 01 46 41.1
comp=Z,65nm,1.6s
YUK3 Moose Creek 72.65 333 P **P** **01 46 39.9 +2.0**
baz=107,SNR=45
G30M tAoh Zrail Nji 72.66 338 P **P** **01 46 39.0 +1.5**
baz=112
F30M Barrier River 72.75 339 P **P** **01 46 39.5 +1.5**
baz=113,SNR=22
BIGH Upper Bighouse 72.77 31 *e*P **P** **01 46 39.3 +1.1**
CTGM Chitina Glacie 72.83 332 IAmb IAmb 01 46 41.8
comp=Z,23nm,0.6s
CTG Chitna Glacier 72.83 332 P **P** **01 46 41.1 +2.3**
baz=106,SNR=13
I29M Ogilvie Camp, 72.87 337 P **P** **01 46 40.0 +1.2**
baz=110,SNR=9.0
DAWY Dawson 72.88 335 P **P** **01 46 40.1 +1.2**
baz=108,SNR=9.4
MCD Coleburn Disti 72.90 32 *e*P **P** **01 46 40.2 +1.1**
MCD IAmb IAmb 01 46 41.1
comp=Z,38nm,0.9s
LBWR Ladybower, Pea 72.90 36 *e*P **P** **01 46 40.1 +0.9**
LBWR IAmb IAmb 01 46 40.6
comp=Z,13nm,0.4s
BARN Barnard Glacie 73.01 332 IAmb IAmb 01 46 42.8
comp=Z,18nm,0.6s
H29M Whitestone 73.18 337 IAmb IAmb 01 46 44.0
comp=Z,29nm,0.7s
H29M Whitestone 73.18 337 P **P** **01 46 42.1 +1.5**
baz=110,SNR=19
G29M Pine Creek 73.30 338 IAmb IAmb 01 46 43.1
comp=Z,22nm,0.7s
G29M Pine Creek 73.30 338 P **P** **01 46 42.5 +1.2**
baz=110,SNR=8.7
SNH Sunshine Point 73.35 331 IAmb IAmb 01 46 44.9
comp=Z,39nm,1.0s
M27K Edge Creek, AK 73.46 333 IAmb IAmb 01 46 45.7
comp=Z,36nm,0.7s
M27K Edge Creek, AK 73.46 333 P **P** **01 46 44.7 +2.3**
baz=106,SNR=28
TGL Tana Glacier 73.48 331 P **P** **01 46 44.0 +1.4**
TGL IAmb IAmb 01 46 45.2
comp=Z,20nm,0.8s
TGL **pP** **01 47 16.9 +0.5**
I28M Miner Creek 73.54 336 IAmb IAmb 01 46 44.8
comp=Z,17nm,0.7s
I28M Miner Creek 73.54 336 P **P** **01 46 44.2 +1.4**
baz=108,SNR=22
CRQE Cirque 73.61 331 P **P** **01 46 45.5 +2.2**
baz=104,SNR=7.7
GDLE Glaisdale, N Y 73.61 35 *e*P **P** **01 46 44.0 +0.7**
L27K Beaver Creek, 73.63 334 IAmb IAmb 01 46 46.6
comp=Z,88nm,1.6s
L27K Beaver Creek, 73.63 334 P **P** **01 46 45.4 +2.0**
baz=106,SNR=20
CRQM Cirque 73.63 331 IAmb IAmb 01 46 47.5
comp=Z,53nm,1.4s
TORD Torodi Ar. Bea 73.66 79 P **P** **01 46 42.7 -1.7**
comp=Z,5.0nm,0.5s,baz=292,slow=4.5,SNR=112
TORD LR LR 02 19 37.9
comp=Z,55nm,19.1s,baz=297,slow=36
comp=Z,5.0nm,0.5s
MCARA McCarthy VSAT 73.73 332 IAmb IAmb 01 46 48.5
comp=Z,23nm,0.6s
MCARA McCarthy VSAT 73.73 332 P **P** **01 46 46.2 +2.3**
baz=104,SNR=10
E29M Blow River 73.78 340 P **P** **01 46 45.4 +1.3**
baz=111,SNR=42
M26K Nabesna, AK 73.97 333 P **P** **01 46 47.4 +2.0**
baz=105,SNR=11
K27K Chicken 74.00 335 P **P** **01 46 47.1 +1.7**
baz=106
KAIM Kayak Island 74.06 330 P **P** **01 46 48.0 +2.2**
baz=103
GLB Gilahina Butte 74.11 332 IAmb IAmb 01 46 49.6
comp=Z,54nm,1.6s
F28M Old Crow 74.21 339 IAmb IAmb 01 46 49.7
comp=Z,21nm,0.7s
F28M Old Crow 74.21 339 P **P** **01 46 47.6 +1.0**
baz=109,SNR=8.1
I27K Kandik River 74.25 336 P **P** **01 46 48.4 +1.4**
baz=107,SNR=26
L26K Log Cabin Wild 74.29 334 P **P** **01 46 49.2 +2.1**
baz=104,SNR=81
BMRM Bremner River 74.38 331 P **P** **01 46 49.7 +1.9**
baz=103,SNR=48
D28M Stokes Point 74.40 340 P **P** **01 46 49.0 +1.4**
baz=110
H27K Steamboat Moun 74.40 337 P **P** **01 46 48.6 +0.8**
baz=107,SNR=8.0
E28M Babbage River 74.42 340 P **P** **01 46 48.5 +0.7**
baz=110,SNR=21
N25K Chitina, Valde 74.52 332 P **P** **01 46 50.1 +1.5**
baz=103,SNR=14
G27K Doyon Strip 74.62 338 P **P** **01 46 49.9 +0.9**
baz=107,SNR=9.9
CLF Chambon-Foret 74.66 42 P **P** **01 46 50.0 +0.5**
CLF IAmb IAmb 01 46 52.5
comp=Z,94nm,1.7s
CLF **pP** **01 47 23.6 -0.2**
J26L Joseph Creek 74.75 335 P **P** **01 46 51.3 +1.4**
baz=105,SNR=18
I26K Coal Creek Min 74.79 336 P **P** **01 46 50.9 +1.0**
baz=105
SCRK Sand Creek 74.80 334 IAmb IAmb 01 46 52.6
comp=Z,26nm,0.9s
SCRK Sand Creek 74.80 334 P **P** **01 46 51.8 +1.6**
baz=104,SNR=32
EYAK Cordova Ski Ar 74.84 331 P **P** **01 46 52.0 +1.7**
baz=102,SNR=7.0
DAG Danmarks Havn 74.89 11 *i* P **P** **01 46 50.4 0.0**
DAG IAmb IAmb 01 46 52.1
comp=Z,17nm,0.5s
HARP HAARP 74.95 333 P **P** **01 46 52.7 +1.8**
baz=103,SNR=6.3
E27K Coleen River 75.01 339 P **P** **01 46 52.5 +1.3**
baz=107,SNR=13
KLU Klutina 75.11 332 P **P** **01 46 53.5 +1.5**
baz=102,SNR=16
RIDG Independent Ri 75.11 334 P **P** **01 46 53.8 +1.8**
baz=103,SNR=44
D27M Malcolm River 75.12 340 P **P** **01 46 53.1 +1.2**
baz=108
PAX Paxson 75.22 333 P **P** **01 46 53.9 +1.4**
baz=102,SNR=18
M24K Tolsona, Glenn 75.36 332 P **P** **01 46 54.7 +1.4**
M24K pP **pP** **01 47 25.0 -2.3**
M24K Tolsona, Glenn 75.36 332 P **P** **01 46 54.9 +1.6**
baz=102,SNR=17
G26K Porcupine Rive 75.47 337 P **P** **01 46 54.8 +1.0**
baz=105
K24K Donnelly Dome 75.53 334 P **P** **01 46 56.0 +1.7**
baz=102,SNR=30
J25K Salcha River, 75.53 335 IAmb IAmb 01 46 56.6
comp=Z,20nm,0.6s
J25K Salcha River, 75.53 335 P **P** **01 46 55.7 +1.3**
baz=103,SNR=23
P23K Montague Islan 75.55 330 P **P** **01 46 55.2 +0.8**
baz=100,SNR=5.3
GLI Glacier Island 75.55 331 P **P** **01 46 55.3 +0.8**
baz=100,SNR=14
SMAI San Martin Ant 75.69 178 P **P** **01 46 55.1 +0.2**
SMAI IAmb IAmb 01 46 57.3
comp=Z,95nm,2.0s
F26K Sheenjek River 75.80 338 P **P** **01 46 57.1 +1.4**
baz=105
PRP Porcupine Dome 75.80 336 P **P** **01 46 56.7 +0.8**
baz=103,SNR=17
SCM Sheep Creek Mo 75.84 332 IAmb IAmb 01 46 58.7
comp=Z,39nm,0.6s
SCM Sheep Creek Mo 75.84 332 P **P** **01 46 57.7 +1.6**
baz=100,SNR=26
FYU Fort Yukon 75.93 337 IAmb IAmb 01 46 59.1
comp=Z,92nm,1.6s
M23K Glacier View 76.02 332 P **P** **01 46 58.4 +1.4**
baz=100,SNR=28
DHY Denali Highway 76.09 333 P **P** **01 46 58.7 +1.1**
baz=101,SNR=17
H25L Birch Creek 76.09 337 P **P** **01 46 58.7 +1.4**
baz=103
PWL Port Wells 76.15 331 IAmb IAmb 01 46 59.9
comp=Z,35nm,0.6s
PWL Port Wells 76.15 331 P **P** **01 46 58.9 +1.1**
baz=99,SNR=22
HDA Harding Lake 76.16 335 P **P** **01 46 58.9 +1.1**
baz=102,SNR=57
WAT6 Susitna Watana 76.16 333 P **P** **01 46 59.3 +1.2**
baz=100,SNR=19
IL31 76.21 335 IAmb IAmb 01 46 59.9
comp=Z,16nm,0.6s
ILAR Eielson Array 76.21 335 P **P** **01 46 58.8 +0.7**
comp=Z,12nm,0.6s,baz=104,slow=4.5,SNR=194
comp=Z,12nm,0.6s
KNK Knik Glacier 76.30 331 IAmb IAmb 01 47 01.2
comp=Z,25nm,0.8s
KNK Knik Glacier 76.30 331 P **P** **01 47 00.1 +1.5**
baz=99,SNR=18
SML Sawmill 76.30 332 P **P** **01 47 00.0 +1.3**
baz=100,SNR=18
G25K Bearman Lake 76.31 337 P **P** **01 47 00.6 +2.0**
baz=103,SNR=6.3
F25K Christian Rive 76.33 338 P **P** **01 47 00.4 +1.7**
baz=103,SNR=9.9
E25K Arctic Village 76.42 338 P **P** **01 47 00.9 +1.7**
baz=104,SNR=7.0
POKR Poker Plat Res 76.50 335 IAmb IAmb 01 47 02.3
comp=Z,104nm,1.8s

POKR	Poker Plat Res	76.50	335	P	P	01 47 01.0 +1.3
	baz=101,SNR=6.6					
WAT1	Susitna Watana	76.57	333	P	P	01 47 01.5 +1.3
	baz=100					
GHO	Glory Hole Cre	76.57	332	IAmb	IAmb	01 47 02.7
	comp=Z,38nm,0.7s					
SEW	Seward	76.58	330	P	P	01 47 01.0 +0.8
	baz=98					
COLA	College	76.63	335	P	P	01 47 01.3 +0.9
COLA	College	76.63	335	P	P	01 47 01.3 +0.9
COLA				pmax	pmax	
	comp=Z,26nm,0.4s					
PMR	Palmer	76.64	332	P	P	01 47 01.6 +1.1
	baz=99,SNR=18					
TAM	Tamanrasset	76.73	68	P	P	01 47 01.7 -0.4
TAM				pP	pP	01 47 36.7 +0.4
O22K	Cooper Landing	76.77	330	P	P	01 47 02.6 +1.3
	baz=98,SNR=7.9					
MDM	Murphy Dome	76.81	335	IAmb	IAmb	01 47 03.9
	comp=Z,61nm,1.4s					
H24K	Noodor Dome	76.82	336	P	P	01 47 03.0 +1.4
	baz=101,SNR=17					
G24K	Hadweenzic Riv	76.83	337	P	P	01 47 02.9 +1.4
	baz=102					
RC01	Rabbit Creek A	76.86	331	IAmb	IAmb	01 47 03.6
	comp=Z,22nm,0.5s					
RC01	Rabbit Creek A	76.86	331	P	P	01 47 03.1 +1.3
	baz=98,SNR=18					
MCK	McKinley	76.89	334	P	P	01 47 03.3 +1.3
	baz=100,SNR=14					
D25K	Kavik River	76.99	340	P	P	01 47 03.8 +1.3
	baz=103					
NEA2	Nenana	77.10	335	IAmb	IAmb	01 47 05.2
	comp=Z,37nm,0.6s					
NEA2	Nenana	77.10	335	P	P	01 47 04.1 +1.1
	baz=100,SNR=50					
M22K	Willow	77.13	332	IAmb	IAmb	01 47 05.5
	comp=Z,48nm,0.9s					
M22K	Willow	77.13	332	P	P	01 47 04.5 +1.2
	baz=98,SNR=6.7					
F24K	Squaw Lake	77.15	338	P	P	01 47 05.0 +1.6
	baz=101,SNR=12					
BRSE	Bradley Lake S	77.17	330	P	P	01 47 04.3 +0.7
	baz=97,SNR=7.9					
BRLK	Bradley Lake	77.25	330	IAmb	IAmb	01 47 05.6
	comp=Z,27nm,0.6s					
CUT	Chulitna	77.29	332	IAmb	IAmb	01 47 06.0
	comp=Z,40nm,0.6s					
CUT	Chulitna	77.29	332	P	P	01 47 05.4 +1.3
	baz=98,SNR=8.5					
I23K	Minto, Yukon-K	77.31	335	IAmb	IAmb	01 47 07.2
	comp=Z,26nm,0.8s					
I23K	Minto, Yukon-K	77.31	335	P	P	01 47 05.7 +1.5
	baz=99,SNR=29					
WLF	Walferdange	77.34	41	P	P	01 47 04.3 -0.4
WLF				IAmb	IAmb	01 47 09.0
	comp=Z,52nm,1.6s					
WLF				pP	pP	01 47 37.3 -1.9
SUA	Susitna One	77.39	331	P	P	01 47 06.3 +1.4
	baz=97,SNR=38					
CNPM	China Poot	77.40	329	IAmb	IAmb	01 47 06.8
	comp=Z,19nm,0.7s					
TRF	Thorofare Moun	77.45	333	IAmb	IAmb	01 47 08.2
	comp=Z,33nm,0.8s					
TRF	Thorofare Moun	77.45	333	P	P	01 47 06.6 +1.4
	baz=98,SNR=32					
E24K	Your Creek	77.48	338	P	P	01 47 06.6 +1.4
	baz=101					
H23K	Yukon River	77.50	336	IAmb	IAmb	01 47 07.8
	comp=Z,23nm,0.7s					
H23K	Yukon River	77.50	336	P	P	01 47 06.7 +1.4
	baz=99					
CAPN	Captain Cook N	77.50	331	P	P	01 47 07.1 +1.7
	baz=97					
KMY	Karmoy	77.58	31	eP	P	01 47 06.6 +0.8
HOM	Homer	77.62	329	P	P	01 47 07.1 +1.1
	baz=96					
KTH	Kantishna Hill	77.75	333	P	P	01 47 08.2 +1.4
KTH				IAmb	IAmb	01 47 08.5
	comp=Z,23nm,0.6s					
KTH				pP	pP	01 47 40.1 -0.8
D24K	Happy Valley	77.81	339	P	P	01 47 08.5 +1.6
	baz=101					
SKT	Skwentna	77.83	332	P	P	01 47 08.3 +1.1
	baz=97,SNR=29					
G23K	Bananza Creek	77.83	337	P	P	01 47 08.9 +1.7
	baz=99,SNR=19					
NOR	Nord	77.83	7	i P	P	01 47 06.8 -0.1
NOR				IAmb	IAmb	01 47 08.7
	comp=Z,6.7nm,0.7s					
BPAW	Bear Paw Mtn.	77.85	334	IAmb	IAmb	01 47 09.0
	comp=Z,30nm,0.6s					
BPAW	Bear Paw Mtn.	77.85	334	P	P	01 47 08.5 +1.2
	baz=98,SNR=29					
MLY	Manley	77.87	335	IAmb	IAmb	01 47 09.1
	comp=Z,20nm,0.6s					
MLY	Manley	77.87	335	P	P	01 47 08.5 +1.1
	baz=98,SNR=30					
E23K	Chandalar	77.90	338	P	P	01 47 09.3 +1.7
	baz=100					
Q20K	Shuyak Island	77.90	328	P	P	01 47 09.0 +1.4
	baz=95					
KDAK	Kodiak Island	77.93	327	P	P	01 47 07.9 +0.2
KDAK				IAmb	IAmb	01 47 13.6
	comp=Z,75nm,2.0s					
KDAK	Kodiak Island	77.93	327	P	P	01 47 07.9 +0.2
KDAK				pmax	pmax	
	comp=Z,75nm,2.0s					
KDAK	Kodiak Island	77.93	327	P	P	01 47 08.4 +0.6
	baz=95					
KDAK	Kodiak Island	77.93	327	LR	LR	02 24 59.5
	comp=Z,41nm,18.8s,baz=108,slow=38					
ECH	Echery	77.94	42	P	P	01 47 07.5 -0.6
ECH				pP	pP	01 47 41.8 -0.8
SENIN	Lac Senin/Sane	77.98	44	IAmb	IAmb	01 47 10.1
	comp=Z,26nm,0.7s					
COLD	Coldfoot	77.98	337	P	P	01 47 09.7 +1.8
	baz=99,SNR=10.0					
TOLK	Toolik Lake Re	77.98	339	P	P	01 47 08.9 +0.9
	baz=100					
N20K	Mount Spurr	78.06	331	P	P	01 47 09.6 +1.0
	baz=96					
O20K	Slope Mountain	78.15	330	P	P	01 47 10.2 +1.1
	baz=95,SNR=13					
PPLA	Purkeypile	78.23	333	P	P	01 47 10.7 +1.1
	baz=96,SNR=44					
CAST	Castle Rocks	78.25	333	P	P	01 47 10.3 +0.8
	baz=96,SNR=29					
H22K	Ishtalitna Cre	78.25	336	P	P	01 47 10.7 +1.2
	baz=98					
CHUM	Lake Minchumin	78.40	334	P	P	01 47 11.2 +1.0
	baz=96,SNR=10					
ILSW	Iliamna Southw	78.41	330	IAmb	IAmb	01 47 12.2
	comp=Z,34nm,0.7s					
P19K	Oil Pt	78.42	329	P	P	01 47 11.3 +0.8
	baz=95,SNR=14					
D23K	Nanushuk River	78.43	339	P	P	01 47 12.0 +1.6
	baz=99					
G22K	Bettles	78.44	337	P	P	01 47 12.2 +1.8
	baz=98					
C23K	Itkillik River	78.55	340	P	P	01 47 12.5 +1.6
	baz=99,SNR=5.7					
M20K	Styx River	78.57	332	IAmb	IAmb	01 47 13.3
	comp=Z,37nm,0.7s					
M20K	Styx River	78.57	332	P	P	01 47 12.2 +0.8
	baz=95					
Q19K	Cape Douglas,	78.58	329	IAmb	IAmb	01 47 18.2
	comp=Z,76nm,1.3s					
Q19K	Cape Douglas,	78.58	329	P	P	01 47 11.9 +0.5
	baz=94					
SII	Sitkinak Islan	78.71	326	P	P	01 47 12.6 +0.5
	baz=93					
BFO	Black Forest	78.73	42	P	P	01 47 12.6 +0.2
BFO				pP	pP	01 47 45.1 -1.8
AKN	Aaknes	78.73	28	eP	P	01 47 13.7 +1.5
F22K	John River	78.78	337	P	P	01 47 13.6 +1.3
	baz=97					
H21K	Melozitna Rive	78.81	335	IAmb	IAmb	01 47 14.9
	comp=Z,79nm,2.0s					
H21K	Melozitna Rive	78.81	335	P	P	01 47 13.4 +0.9
	baz=96,SNR=8.2					
R18K	Karluk	78.91	327	P	P	01 47 13.5 +0.3
	baz=93					
O19K	Port Alsworth	79.01	330	P	P	01 47 14.1 +0.5
	baz=94,SNR=13					
K20K	Telida	79.13	333	P	P	01 47 15.2 +0.8
	baz=95,SNR=13					
N19K	Bonanza Creek	79.13	330	IAmb	IAmb	01 47 15.5
	comp=Z,17nm,0.7s					
N19K	Bonanza Creek	79.13	330	P	P	01 47 14.9 +0.4
	baz=94,SNR=15					
D22K	Ayikyak River	79.14	339	P	P	01 47 16.0 +1.7
	baz=97					
M19K	Big River Lodg	79.17	332	IAmb	IAmb	01 47 17.7
	comp=Z,20nm,0.7s					
M19K	Big River Lodg	79.17	332	P	P	01 47 15.7 +1.2
	baz=94					
G21K	Allakaket	79.18	336	P	P	01 47 16.2 +1.7
	baz=96,SNR=15					
IMAR	Indian Mountai	79.23	336	P	P	01 47 15.7 +0.9
IMAR					pP	01 47 49.1 +0.2
J20K	Nowinta River	79.23	334	IAmb	IAmb	01 47 16.9
	comp=Z,28nm,0.7s					
J20K	Nowinta River	79.23	334	P	P	01 47 15.8 +1.0
	baz=95,SNR=29					
SKAR	Skarsla	79.24	30	eP	P	01 47 17.3 +2.3
F21K	Alatna River	79.25	337	P	P	01 47 16.7 +1.8
	baz=96,SNR=14					
Q18K	Katmai Hardscr	79.27	328	P	P	01 47 15.7 +0.4
	baz=93,SNR=11					
L19K	White Mountain	79.40	332	P	P	01 47 16.6 +0.7
	baz=94,SNR=12					
P18K	Big Mountain,	79.42	329	P	P	01 47 16.1 +0.1
	baz=93,SNR=6.7					
I20K	Naaghedeneel	79.43	334	P	P	01 47 16.8 +0.9
	baz=95					
O18K	Koktuh Hills	79.43	329	IAmb	IAmb	01 47 17.6
	comp=Z,38nm,0.7s					
O18K	Koktuh Hills	79.43	329	P	P	01 47 16.8 +0.8
	baz=93,SNR=14					
CHIR	Chirikof Islan	79.48	325	P	P	01 47 16.9 +0.6
	baz=92					
MUD	Monsted U'grnd	79.48	34	i P	P	01 47 17.6 +1.4
MUD				IAmb	IAmb	01 47 22.0
	comp=Z,11nm,0.6s					
E21K	Killik River	79.56	338	P	P	01 47 17.7 +1.1
	baz=96					
KEST	Kesra	79.56	55	P	P	01 47 16.9 -0.5
	comp=Z,1.8nm,0.5s,baz=273,slow=1.5,SNR=14					
KEST				pP	pP	01 47 49.7 -2.1
	comp=Z,16nm,1.0s,baz=130,slow=2.2,SNR=9.1					
	comp=Z,1.8nm,0.5s					
B22K	Teshekpuk Lake	79.57	340	P	P	01 47 17.4 +0.9
	baz=97					
H20K	Anotleneega Mo	79.65	335	P	P	01 47 18.1 +1.0
	baz=94,SNR=8.5					
Q17K	Contact Creek	79.71	328	P	P	01 47 18.1 +0.4
	baz=92,SNR=9.2					
DAVA	Damuels	79.76	43	eP	P	01 47 18.8 +0.6
	comp=Z,6.5nm,0.7s					
DAVA				epP	pP	01 47 54.2 +1.1
	comp=Z,24nm,1.1s					
N18K	Kilae Creek	79.81	330	P	P	01 47 18.6 +0.5
	baz=93,SNR=36					
J19K	Poorman	79.87	334	P	P	01 47 18.8 +0.5
	baz=94,SNR=10					
B21K	Ikpikpuk River	79.90	339	P	P	01 47 19.7 +1.4
	baz=95					
C21K	Knifeblade Rid	79.92	339	P	P	01 47 20.1 +1.6
	baz=95					
R17K	Ugashik Creek	79.96	327	P	P	01 47 19.6 +0.8
	baz=92,SNR=8.3					
TTA	Tatalina	79.98	333	P	P	01 47 19.7 +0.7
	baz=93,SNR=13					
FUORN	Ofenpass-Fuorn	80.03	44	P	P	01 47 19.6 -0.3
P17K	Kvichak River	80.03	329	P	P	01 47 19.7 +0.5
	baz=92,SNR=7.7					
F20K	Avaraart Lake	80.11	337	P	P	01 47 20.8 +1.4
	baz=94					
Q16K	King Salmon	80.13	328	P	P	01 47 20.6 +0.8
	baz=92,SNR=8.7					
L18K	Granite Mounta	80.26	332	P	P	01 47 21.3 +0.9
	baz=92,SNR=8.6					
H19K	Roundabout Mou	80.31	335	P	P	01 47 22.2 +1.7
	baz=93,SNR=9.9					
J18K	Innoko River	80.33	333	P	P	01 47 21.6 +0.8
	baz=92,SNR=7.1					
FETA	Feichten	80.34	44	eP	P	01 47 21.8 +0.4
	comp=Z,5.6nm,0.8s					
FETA				epP	pP	01 47 56.3 +0.1
	comp=Z,35nm,1.3s					
RETA	Reutte	80.36	43	eP	P	01 47 21.7 +0.4
	comp=Z,1.5nm,0.6s					
RETA				epP	pP	01 47 56.9 +0.7
	comp=Z,17nm,1.5s					
HPAH	Hawaii Prepara	80.41	289	P	P	01 47 21.6 -0.5
N17K	Nushagak Hills	80.45	330	P	P	01 47 22.0 +0.6
	baz=92,SNR=8.6					
NC204	NORSAR Array S	80.46	29	IAmb	IAmb	01 47 24.1
	comp=Z,28nm,1.1s					
NBO00	NORSAR Array S	80.47	29	IAmb	IAmb	01 47 24.3
	comp=Z,22nm,0.8s					
NAO01	NORSAR Array S	80.51	30	IAmb	IAmb	01 47 24.5
	comp=Z,56nm,1.2s					
D20K	Etivluk River	80.55	338	P	P	01 47 23.5 +1.7
	baz=93,SNR=5.5					
ZCCA	Zocca	80.57	46	IAmb	IAmb	01 47 26.6
	comp=Z,18nm,0.4s					
M17K	Holitna River	80.59	331	P	P	01 47 23.1 +0.9
	baz=91,SNR=13					
MOTA	Moosalm	80.59	43	eP	P	01 47 22.2 -0.5
	comp=Z,4.4nm,0.7s					
MOTA				epP	pP	01 47 57.9 +0.3
	comp=Z,12nm,0.9s					
G19K	Purcell Mounta	80.60	336	P	P	01 47 23.6 +1.4
	baz=92,SNR=8.8					
GRF	Grafenberg Arr	80.64	41	eP	pP	01 47 56.8 -0.7
	comp=Z,18nm,1.5s,baz=271,slow=6.1					
SQTA	Sankt Quirin	80.67	43	eP	P	01 47 23.2 +0.1
	comp=Z,5.1nm,0.8s					
SQTA				epP	pP	01 47 57.7 -0.2
	comp=Z,6.0nm,0.6s					
NB2	NORSAR Subarra	80.68	29	P	P	01 47 24.2 +1.5
	comp=Z,26nm,1.0s,baz=269,slow=5.6					
NB2				pP	pP	01 47 57.8 +0.2
	comp=Z,28nm,1.1s,baz=270,slow=5.6					
NB2	NORSAR Subarra	80.68	29	P	P	01 47 24.2 +1.5
	baz=269,slow=5.6					
NOA	NORSAR Array B	80.68	29	P	P	01 47 23.8 +1.1
	comp=Z,5.9nm,0.6s,baz=267,slow=5.4,SNR=36					
NOA				pP	pP	01 47 57.4 -0.2
	comp=Z,3.6nm,0.6s,baz=269,slow=5.4,SNR=3.8					
	comp=Z,5.9nm,0.6s					
NB201	NORSAR Array S	80.72	29	IAmb	IAmb	01 47 25.8
	comp=Z,39nm,1.4s					
B20K	Meade River	80.81	340	P	P	01 47 24.4 +1.2
	baz=93					
P16K	Nushagak River	80.83	329	P	P	01 47 24.0 +0.5
	baz=90,SNR=5.0					
O16K	Kokwok River B	80.89	329	P	P	01 47 23.9 +0.2
	baz=90,SNR=8.9					
F19K	Shaleruckik Mo	80.90	336	P	P	01 47 24.7 +1.0
	baz=92,SNR=7.9					
WATA	Walderalm	80.92	43	eP	P	01 47 25.7 +1.3
	comp=Z,2.1nm,0.5s					
WATA				epP	pP	01 47 59.7 +0.4
	comp=Z,9.5nm,1.3s					
NC405	NORSAR Array S	80.92	29	IAmb	IAmb	01 47 26.6
	comp=Z,39nm,1.1s					
WTTA	Wattenberg	80.96	43	eP	P	01 47 24.8 +0.1
	comp=Z,6.2nm,1.4s					
WTTA				epP	pP	01 47 59.9 +0.4
	comp=Z,19nm,1.4s					
L17K	Donlin	81.02	332	P	P	01 47 25.6 +1.1
	baz=91,SNR=16					
K17K	Iditarod	81.03	332	P	P	01 47 25.7 +1.2
	baz=91,SNR=11					
CHGN	Chignik	81.05	326	P	P	01 47 25.4 +0.7
CHGN					pP	01 47 59.1 0.0
CHGN	Chignik	81.05	326	P	P	01 47 25.1 +0.4
	baz=90,SNR=7.3					
D19K	Kuna River	81.09	338	P	P	01 47 26.4 +1.6
	baz=92,SNR=15					
NSS	Namsos	81.09	26	eP	P	01 47 26.4 +1.6
G18K	Tagagawik	81.23	336	P	P	01 47 27.4 +1.9
	baz=91,SNR=6.8					
N16K	Nishlik Lake	81.23	330	P	P	01 47 26.8 +1.2
	baz=90,SNR=7.0					
M16K	Timber Creek	81.32	331	P	P	01 47 27.6 +1.5
	baz=90,SNR=5.8					
J17K	VABM Dome	81.39	333	P	P	01 47 27.9 +1.5
	baz=90,SNR=6.7					
L16K	Owhat River	81.57	331	P	P	01 47 29.2 +1.8
	baz=90,SNR=7.5					
ABTA	Abfaltersbach	81.57	44	eP	P	01 47 27.8 0.0
	comp=Z,3.5nm,0.9s					
ABTA				epP	pP	01 48 02.5 -0.2
	comp=Z,13nm,0.8s					
KBS	Kingsbay	81.64	11	ceP	P	01 47 27.6 +0.2
KBS				pmax	pmax	
	comp=Z,44nm,2.5s					
KBS	Kingsbay	81.64	11	ǁ i P	P	01 47 29.6 +2.2
C19K	Lookout Ridge	81.64	339	P	P	01 47 29.1 +1.5
	baz=91,SNR=5.4					
LESA	Schwarzleotal	81.66	43	eP	P	01 47 28.6 +0.3
	comp=Z,3.1nm,0.4s					
LESA				epP	pP	01 48 03.0 -0.1
	comp=Z,6.2nm,1.0s					
S14K	Fog Glacier	81.69	326	P	P	01 47 28.8 +0.6
	baz=89					
CLL	Collm	81.74	39	i P	P	01 47 28.6 +0.1
CLL				i *PP	pP	01 48 02.4 -0.6
CLL				eS	S	01 57 31.0 +1.0
CLL				pmax	pmax	
	comp=Z,17nm,1.8s					
CLL	Collm	81.74	39	i P	P	01 47 28.6 +0.1
	comp=Z,17nm,1.8s					
CLL				i pP	pP	01 48 02.4 -0.6
	comp=Z,32nm,1.8s					
CLL				esP	sP	01 48 19.0 +1.0
CLL				ePP	PP	01 50 31.0 -6.1
CLL				epPP		01 51 06.0
CLL				eS	S	01 57 31.0 +1.0
CLL				epS	pS	01 58 11.0 -1.5
CLL				ePS	PnS	01 58 37.0 +0.6
CLL				ePPS	PPS	01 59 12.0
CLL				ePKKPdf	PKKPdf	02 05 44.0 -6.7
CLL				eSSS	SSS	02 06 24.0
CLL				eSSSS		02 09 06.0
CHNA	Chernabura Isl	81.74	324	P	P	01 47 28.7 +0.3
	baz=88					
H17K	Granite Mounta	81.75	335	P	P	01 47 29.8 +1.5
	baz=90					
LOF	Lofoten	81.77	22	eP	P	01 47 29.6 +1.3
O15K	Ungalikthiuk R	81.78	329	P	P	01 47 28.0 -0.4
	baz=89					
N15K	Kwethluk River	81.89	330	P	P	01 47 30.2 +1.1
	baz=89					
HFS	Hagfors	81.90	30	P	P	01 47 30.0 +0.9
HFS				*PP	pP	01 48 03.0 -1.1
HFS	Hagfors	81.90	30	P	P	01 47 30.0 +0.9
	comp=Z,6.8nm,0.6s,baz=288,slow=0.9,SNR=46					
HFS				pP	pP	01 48 03.0 -1.1
	comp=Z,2.5nm,0.4s,baz=198,slow=0.9,SNR=1.9					
	comp=Z,6.8nm,0.6s					
E18K	Tukpahlearik C	82.01	337	P	P	01 47 30.8 +1.2
	baz=89					
HSKC	Hora Svate Kat	82.03	40	eP	P	01 47 30.2 +0.1
G17K	Kiwalik Mounta	82.06	335	P	P	01 47 31.7 +1.8
	baz=89,SNR=5.2					
J16K	Anvik River	82.07	333	P	P	01 47 32.3 +2.3
	baz=89					
DEL	Delary	82.09	34	eP	P	01 47 31.8 +1.6
I17K	Unalakleet	82.10	333	P	P	01 47 32.1 +2.0
	baz=89					
KBA	Koelnbreinsper	82.13	44	eP	P	01 47 30.9 0.0
	comp=Z,4.5nm,0.9s					
KBA				epP	pP	01 48 06.4 +0.7
	comp=Z,18nm,1.2s					
MOR8	Moi Rana	82.13	24	eP	P	01 47 32.6 +2.3
M15K	Kasigluk River	82.17	330	P	P	01 47 32.0 +1.4
	baz=88,SNR=7.2					
KHC	Kasperske Hory	82.19	41	i P	P	01 47 31.5 +0.5
KHC				pmax	pmax	
	comp=Z,15nm,2.0s					
KHC	Kasperske Hory	82.19	41	eP	P	01 47 31.3 +0.3
KHC				epP	pP	01 48 05.8 -0.1
C18K	Utukok River	82.22	338	P	P	01 47 32.1 +1.4
	baz=89					
SDPT	Sand Point	82.23	325	IAmb	IAmb	01 47 32.5
	comp=Z,48nm,0.8s					
SDPT	Sand Point	82.23	325	P	P	01 47 31.6 +0.7
	baz=88					
F17K	Baldwin Pennin	82.28	336	P	P	01 47 32.4 +1.5
	baz=89					
GERES	GERESS Array B	82.29	42	P	P	01 47 31.3 -0.2
GERES					pP	01 48 05.6 -0.9
GERES	GERESS Array B	82.29	42	P	P	01 47 31.7 +0.2
	comp=Z,3.2nm,0.5s,baz=264,slow=4.0,SNR=24					
GERES				pP	pP	01 48 04.8 -1.6
	comp=Z,4.3nm,0.9s,baz=270,slow=4.0,SNR=3.8					
	comp=Z,3.2nm,0.5s					
BIOA	Bad Ischl, Aus	82.30	43	eP	P	01 47 31.6 0.0
	comp=Z,5.1nm,1.2s					
BIOA				epP	pP	01 48 07.1 +0.6
	comp=Z,14nm,1.1s					
HSPB	Hornsund (broa	82.34	13	eP	P	01 47 34.1 +3.0
MYKA	Terra Mystica	82.36	44	eP	P	01 47 32.2 +0.3
	comp=Z,3.1nm,0.5s					
STEI	Steigen	82.41	22	eP	P	01 47 33.3 +1.7
B18K	Kokolik River	82.42	339	P	P	01 47 33.5 +1.9
	baz=89					
FAUS	Fauske	82.44	23	eP	P	01 47 33.4 +1.7
RICC	Richard	82.46	40	eP	P	01 47 33.8 +1.5
RICC				epP	pP	01 48 08.1 +0.9
E17K	Hotham Inlet	82.50	337	P	P	01 47 33.7 +1.6
	baz=88,SNR=7.2					
SPA0	Spitsbergen Ar	82.51	12	ǁ i P	P	01 47 33.5 +1.5
SPITS	Spitsbergen Ar	82.51	12	P	P	01 47 32.8 +0.8
	comp=Z,21nm,0.8s,baz=229,slow=13,SNR=21					
SPITS				pP	pP	01 48 06.4 -0.5
	comp=Z,5.9nm,0.5s,baz=178,slow=2.3,SNR=3.7					
SPITS				LR	LR	02 24 18.0
	comp=Z,41nm,20.2s,baz=246,slow=36					
	comp=Z,21nm,0.8s					
SPB2	Spitsbergen Ar	82.51	12	IAmb	IAmb	01 47 34.1
	comp=Z,25nm,0.8s					
K15K	Wolf Creek Mou	82.53	332	P	P	01 47 34.3 +2.0
	baz=88,SNR=7.9					
L15K	Ungalak Mounta	82.53	331	P	P	01 47 34.2 +1.9
	baz=88					
ZVC	Zvikov	82.58	41	eP	P	01 47 33.4 +0.5
ZVC				epP	pP	01 48 08.7 +0.9
GORS	Gorjuse	82.62	44	i P	P	01 47 33.2 0.0
GORS				i pP	pP	01 48 08.4 +0.2
CKRC	Cesky Krumlov	82.69	42	eP	P	01 47 33.0 -0.5
CKRC				e		01 48 08.2
CKRC	Cesky Krumlov	82.69	42	eP	P	01 47 33.0 -0.5
CKRC				ex	x	01 48 08.2
N14K	Kuskokwak Cree	82.70	329	P	P	01 47 34.6 +1.4
	baz=88,SNR=10					
MOA	Molln	82.71	43	eP	P	01 47 34.3 +0.6
	comp=Z,2.0nm,0.5s					
MOA				epP	pP	01 48 09.1 +0.5
	comp=Z,20nm,1.4s					
H16K	Elim	82.75	334	P	P	01 47 35.1 +1.6
	baz=88					
PVCC	Panska Ves	82.76	40	eP	P	01 47 34.5 +0.7
PVCC	Panska Ves	82.76	40	eP	P	01 47 34.5 +0.7
G16K	Koyuk River	82.77	335	P	P	01 47 35.5 +1.9
	baz=88,SNR=6.1					
PRU	Pruhonice	82.78	41	eP	P	01 47 34.1 +0.2
PRU				e		01 48 08.3
PRU	Pruhonice	82.78	41	eP	P	01 47 34.1 +0.2
PRU				epP	pP	01 48 08.3 -0.5
M14K	Bethel	82.80	330	P	P	01 47 35.2 +1.4
	baz=87,SNR=7.7					
C17K	DeLong Mountai	82.95	338	P	P	01 47 35.4 +0.9
	baz=87					
OBKA	Obir	82.99	44	eP	P	01 47 35.3 +0.1
	comp=Z,4.8nm,0.8s					
LJU	Ljubljana	83.00	45	i P	P	01 47 35.8 +0.6
LJU				i pP	pP	01 48 10.4 +0.2
LJU				i sP	sP	01 48 30.9 +6.1
S12K	Black Hills	83.12	325	P	P	01 47 36.3 +0.8
	baz=87					
L14K	Kuka Creek	83.12	331	P	P	01 47 36.6 +1.2
	baz=87					
VNDS	Vrh nad Dolski	83.12	44	i P	P	01 47 36.4 +0.6
VNDS				i pP	pP	01 48 11.1 +0.3
VNDS				i sP	sP	01 48 31.7 +6.3
SOKA	Soboth	83.31	44	eP	P	01 47 37.4 +0.5
	comp=Z,2.3nm,0.4s					
J14K	Nanvaranak Lak	83.44	332	P	P	01 47 38.3 +

comp=Z,3.4nm,0.6s
ARSA *e*pP **pP** **01 48 13.5 +0.3**
comp=Z,11nm,1.1s
TRO Tromso 83.66 21 ⇓*i*P **P** **01 47 39.6 +1.7**
UPC Upice 83.68 40 *e*P **P** **01 47 39.3 +0.7**
UPC Upice 83.68 40 *e*P **P** **01 47 39.3 +0.7**
CHVC Chvalec 83.70 40 *e*P **P** **01 47 38.1 -0.6**
CHVC Chvalec 83.70 40 *e*P **P** **01 47 38.1 -0.6**
F15K North Star Dit 83.70 335 P **P** **01 47 40.5 +2.2**
baz=86,SNR=5.8
C16K Lisburne Hills 83.77 338 P **P** **01 47 40.6 +2.0**
baz=85
CONA Conrad Observa 83.78 43 *e*P **P** **01 47 39.2 0.0**
comp=Z,2.5nm,0.6s
CONA *e*pP **pP** **01 48 14.3 +0.1**
comp=Z,18nm,1.3s
OSTC Ostas 83.81 40 *e*P **P** **01 47 39.6 +0.4**
OSTC *e* 01 48 13.9
OSTC Ostas 83.81 40 *e*P **P** **01 47 39.6 +0.4**
OSTC *e*x 01 48 13.9
DPC Dobruska-Polom 83.89 40 *e*P **P** **01 47 40.5 +0.8**
DPC Dobruska-Polom 83.89 40 *e*P **P** **01 47 40.5 +0.8**
FALS False Pass 83.95 324 P **P** **01 47 40.4 +0.7**
baz=85
K13K Kusilvak Mount 84.02 332 P **P** **01 47 41.1 +1.2**
baz=85,SNR=7.8
KRUC Moravsky 84.04 41 *e*P **P** **01 47 41.0 +0.6**
KRUC *e*pP **pP** **01 48 16.0 +0.6**
RONA Rosalia, Austr 84.09 43 *e*P **P** **01 47 41.2 +0.5**
comp=Z,2.7nm,0.6s
RONA *e*pP **pP** **01 48 15.9 +0.2**
comp=Z,0.9nm,0.3s
VRAC Vranov 84.15 41 *e*P **P** **01 47 42.0 +1.0**
VRAC *e*pP **pP** **01 48 16.7 +0.7**
JETT Jettan, Norway 84.18 21 ⇓*i*P **P** **01 47 42.4 +1.6**
HOPEN Hopen 84.56 13 *e*P **P** **01 47 44.1 +1.7**
MODS Modra-Piesok 84.69 42 *e*P **P** **01 47 45.2 +1.5**
MODS *e* 01 48 19.7
MODS Modra-Piesok 84.69 42 *e*P **P** **01 47 45.2 +1.5**
MODS *e*pP **pP** **01 48 19.6 +0.9**
MORC Moravsky Berou 84.73 41 P **P** **01 47 44.8 +0.9**
MORC **pP** **01 48 19.0 +0.1**
MORC Moravsky Berou 84.73 41 *e*P **P** **01 47 45.0 +1.1**
MORC *e*pP **pP** **01 48 20.0 +1.1**
MORC Moravsky Berou 84.73 41 P **P** **01 47 44.8 +0.9**
MORC *PP **pP** **01 48 19.0 +0.1**
MORC pmax pmax
comp=Z,3.0nm,0.6s
JAVC Velka Javorina 84.90 42 *e*P **P** **01 47 46.5 +1.7**
JAVC *e*pP **pP** **01 48 21.5 +1.7**
AAL Aland 85.04 30 *e*P **P** **01 47 45.8 +0.7**
HAMF Hammerfest 85.15 19 *e*P **P** **01 47 46.8 +1.3**
TIP Timpagrande 85.22 51 ⇑P **P** **01 47 42.6 -4.1**
KTK1 Kautokeino 85.25 21 ⇓*i*P **P** **01 47 47.1 +1.1**
SRO Srobarova 85.44 43 *e*pP pP 01 48 23.4 +1.0
VYHS Vyhne 85.71 42 *e*P **P** **01 47 49.6 +0.8**
VYHS *e* 01 48 23.3
VYHS Vyhne 85.71 42 *e*P **P** **01 47 49.6 +0.8**
VYHS *e*pP **pP** **01 48 23.3 -0.5**
RAF Rauma 85.80 29 *e*P **P** **01 47 49.2 +0.4**
KLNR Kaliningrad 85.83 36 *i*P **P** **01 47 48.5 -0.6**
KLNR pmax pmax
comp=Z,60nm,0.9s
MORH Mrgy, Hungar 85.84 44 ⇑P **P** **01 47 49.4 0.0**
UNV Unalaska Valle 85.85 324 P **P** **01 47 49.9 +0.6**
baz=83,SNR=7.3
ARA0 ARCESS Array S 85.96 20 ⇓*e*P **P** **01 47 50.0 +0.4**
ARCES ARCESS Array B 85.96 20 P **P** **01 47 50.4 +0.8**
comp=Z,28nm,0.5s,baz=277,slow=4.0,SNR=577
comp=Z,28nm,0.5s
LANS Liptovska Anna 86.04 41 *e*pP pP 01 48 28.0 +2.5
KEV Kevo 86.43 20 P **P** **01 47 51.7 -0.1**
KEV IAmb IAmb 01 47 53.8
comp=Z,41nm,1.1s
KEV pP **pP** **01 48 24.2 -2.9**
SLIT Slitere, Latvi 86.56 32 *e*P **P** **01 47 54.1 +1.4**
PBUR Paburge 86.61 34 *e*P **P** **01 47 53.8 +0.9**
GAMB Gambell 86.96 334 P **P** **01 47 55.9 +1.4**
baz=79
VADS Vadso 87.13 20 ⇓*i*P **P** **01 47 56.5 +1.2**
STHS Stebnicka Huta 87.16 41 *e*pP pP 01 48 32.3 +1.3
MTSE Matsula 87.18 31 *e*P **P** **01 47 56.5 +0.9**
MEF Metsahovi 87.21 30 *e*P **P** **01 47 57.0 +1.2**
NIKH Nikolski High 87.37 323 P **P** **01 47 57.6 +0.9**
baz=81
CRVS Cervenica-Dubn 87.38 41 *e*pP pP 01 48 34.0 +2.0
VSVD Vaisvydziai 87.72 34 *e*P **P** **01 47 59.0 +0.7**
FINES FINESS Array B 87.78 28 P **P** **01 47 58.9 +0.4**
FINES FINESS Array B 87.78 28 P **P** **01 47 59.1 +0.7**
comp=Z,16nm,0.6s,baz=263,slow=2.9,SNR=120
comp=Z,16nm,0.6s
PABE Paberze 87.83 34 *e*P **P** **01 47 59.6 +0.8**
SIRR Siria 87.91 44 ⇓P **P** **01 48 00.5 +1.0**
BZS Buzias 87.97 44 ⇑P **P** **01 48 00.8 +1.0**
BZS Buzias 87.97 44 ⇑P **P** **01 48 00.8 +1.0**
BELA Belgrano 2 87.99 172 P **P** **01 47 58.3 -0.8**
SURR Surduc 88.31 44 ⇑P **P** **01 48 02.2 +0.9**
VSU Vasula 88.73 31 *i*P **P** **01 48 03.9 +0.9**
VSU pmax pmax
comp=Z,64nm,0.9s
VSU Vasula 88.73 31 *e*P **P** **01 48 03.8 +0.8**
GZR Gura Zlata 88.82 45 ⇑P **P** **01 48 04.6 +0.7**
GZR Gura Zlata 88.82 45 ⇑P **P** **01 48 04.6 +0.7**
VNA3 Neumayer Olymp 88.96 163 ⇓P **P** **01 48 03.6 -0.2**
comp=Z,40nm,0.5s
ISAL Salakas 89.02 34 *e*P **P** **01 48 05.4 +0.9**
IZAR Zarasai 89.05 34 *e*P **P** **01 48 05.3 +0.7**
VNA1 Neumayer--Stat 89.10 162 ⇑P **P** **01 48 04.6 +0.2**
comp=Z,16nm,0.5s
IIGN Ignalina 89.12 34 *e*P **P** **01 48 06.3 +1.4**
APA Apatity 89.26 22 ⇓*i*P **P** **01 48 04.2 -1.1**
APA *i *PP **pP** **01 48 36.0 -4.8**
APA pmax pmax
comp=Z,13nm,0.6s
IDID Didziasalis 89.41 34 *e*P **P** **01 48 04.8 -1.5**
VNA2 Neumayer--Watz 89.48 163 ⇑P **P** **01 48 06.2 0.0**
comp=Z,34nm,0.4s,baz=298,slow=6.0
NACGM Naroch 89.53 35 *e*P **P** **01 48 07.2 +0.3**
comp=E,2μm,1.3s
RAR Rarotonga 89.54 249 LR LR 02 20 27.4
comp=E,136nm,18.0s,baz=320,slow=30
LVZ Lovozero 89.60 21 P **P** **01 48 07.5 +0.5**
LVZ Lovozero 89.60 21 *e*P **P** **01 48 07.9 +0.9**
LVZ pmax pmax
comp=Z,38nm,0.7s
BURAR Bucovina Array 90.07 42 ⇓P **P** **01 48 10.1 +0.4**
BURAR Bucovina Array 90.07 42 ⇓P **P** **01 48 10.1 +0.4**
PUL Pulkovo 90.21 29 *i*P **P** **01 48 11.7 +1.8**
PUL pmax pmax
comp=Z,26nm,0.9s
MNK Minsk 90.24 35 *i*P **P** **01 48 10.7 +0.5**
comp=E,4.0nm,0.9s
MNK *i*P **P** **01 48 10.7 +0.5**
comp=N,3.0nm,0.9s
MNK *i*P **P** **01 48 10.7 +0.5**
comp=Z,19nm,0.9s,baz=283
MNK *i*pP **pP** **01 48 46.4 +0.6**
MNK *i*sP **sP** **01 49 01.4 +1.0**
MNK *i*PP **PP** **01 51 46.6 +1.0**
MNK *i*PPP PPP 01 53 44.7
MNK *i*S **SKSac** **01 58 28.1 -0.5**
MNK *i*sS **pS** **01 59 33.1 -3.9**
MNK *i*SS SS 02 04 30.4 -24
MNK *i*SSS SSS 02 10 12.2
MNK *i*LRM MLR 02 29 25.3
comp=N,57nm,17.2s
MNK *i*LRM MLR 02 30 06.7
comp=Z,66nm,17.4s
MNK *i*LRM MLR 02 30 27.6
comp=E,18nm,17.3s
MNK Minsk 90.24 35 *i*P **P** **01 48 10.7 +0.5**
MNK *i *PP **pP** **01 48 46.3 +0.6**
MNK *i *SP **sP** **01 49 01.3 +1.0**
MNK *i* 01 51 46.5
MNK *i*PPP PPP 01 53 44.7
MNK *i*S **SKSac** **01 58 28.1 -0.5**
MNK pmax pmax
comp=N,3.0nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,19nm,0.9s
MNK MLR MLR
comp=N,57nm,17.0s
MNK MLR MLR
comp=Z,66nm,17.0s
MNK MLR MLR
comp=E,18nm,17.0s
VOIR 90.38 44 ⇓P **P** **01 48 12.2 +1.0**
VOIR 90.38 44 ⇓P **P** **01 48 12.2 +1.0**
MLR Muntele Rosu 90.99 44 ⇑P **P** **01 48 14.2 +0.1**
MLR Muntele Rosu 90.99 44 ⇑P **P** **01 48 14.2 +0.1**
SNAA Sanae 91.12 163 P **P** **01 48 13.3 -0.6**
SNAA IAmb IAmb 01 48 14.6
comp=Z,12nm,0.6s
SNAA pP **pP** **01 48 46.8 -2.7**
SNAA Sanae 91.12 163 *ce*P **P** **01 48 12.5 -1.4**
SNAA pmax pmax
comp=Z,6.0nm,0.9s
SNAA Sanae 91.12 163 ⇑P **P** **01 48 13.9 0.0**
comp=Z,324nm,0.5s
SNAA Sanae 91.12 163 P **P** **01 48 13.6 -0.3**
comp=Z,10nm,0.5s,baz=310,slow=4.3,SNR=87
comp=Z,10nm,0.5s
SORM Soroca 92.02 41 ⇓P **P** **01 48 19.6 +1.1**
SORM Soroca 92.02 41 ⇓P **P** **01 48 19.6 +1.1**
ADZR Andozero 92.42 24 *e*P **P** **01 48 21.4 +1.3**
ADZR pmax pmax
comp=Z,25nm,0.6s
TROLL Troll, Antarti 92.83 162 ⇑P **P** **01 48 22.2 +0.3**
comp=Z,1μm,0.5s
KLMR Klimovskoe 94.16 27 *e*P **P** **01 48 26.4 -1.7**
KLMR AMP 01 48 29.9
comp=Z,32nm,1.4s
KLMR *e*pP **pP** **01 49 01.2 -2.6**
KLMR Klimovskoe 94.16 27 *e*P **P** **01 48 26.3 -1.8**
KLMR *e*PP **pP** **01 49 01.2 -2.6**
KLMR pmax pmax
comp=Z,32nm,1.4s
OBN Obninsk 94.87 33 ⇓*i*P **P** **01 48 31.8 +0.3**
OBN *e*S **SKSac** **01 58 54.3 +0.1**
OBN pmax pmax
comp=Z,13nm,0.7s
PRGR Permogore 96.46 25 *e*P **P** **01 48 41.3 +2.7**
PRGR *e*PP **pP** **01 49 14.2 -0.1**
PRGR pmax pmax
comp=Z,17nm,0.6s
SUR Sutherland 97.41 122 LR LR 02 31 16.6
comp=Z,50nm,19.4s,baz=320,slow=34
QSPA South Pole Qui 97.63 180 P Pdif 01 48 44.6 +0.7
QSPA IAmb IAmb 01 48 45.4
comp=Z,6.5nm,0.9s
BRTR Keskin Array B 97.91 48 P Pdif 01 48 46.1 +0.2
comp=Z,0.5nm,0.7s,baz=316,slow=8.1,SNR=2.0
BRTR PKKPbc **PKKPbc** **02 05 19.4 -1.2**
comp=Z,0.6nm,0.6s,baz=143,slow=4.1,SNR=4.6
comp=Z,0.5nm,0.7s
ANN Anapa 98.99 42 *e*P Pdif 01 48 50.7 +0.4
ANN pmax pmax
comp=Z,112nm,1.4s
TIXI Tiksi 99.56 353 *i*P **Pdif** **01 48 53.4 +1.1**
TIXI pmax pmax
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 112.14 23 PKiKP **PKiKP** **01 53 45.0 +0.6**
comp=Z,1.5nm,0.5s,baz=280,slow=2.8,SNR=9.5
BVAR PKKPbc **PKKPbc** **02 04 35.5 -2.5**
comp=Z,2.3nm,0.6s,baz=150,slow=3.3,SNR=12
MAW Mawson 113.28 163 PKiKP **PKiKP** **01 53 46.2 +0.2**
comp=Z,1.4nm,0.6s,baz=2.8,slow=3.2,SNR=3.8
MAW PKKPbc **PKKPbc** **02 04 32.4 -2.0**
comp=Z,0.5nm,0.4s,baz=284,slow=5.6,SNR=4.7
GEYT Alibeck 115.91 41 **PKPdf** **01 53 52.0 -0.2**
GEYT Alibeck 115.91 41 PKP **PKiKP** **01 53 52.7 +0.6**
comp=Z,5.6nm,0.5s,baz=282,slow=1.3,SNR=15
ZALV Zalesovo Beam 115.92 14 **PKPdf** **01 53 52.0 +0.4**
ZALV Zalesovo Beam 115.92 14 PKIKP **PKPdf** **01 53 52.0 +0.4**
ZALV Zalesovo Beam 115.92 14 PKP **PKPdf** **01 53 51.8 +0.1**
comp=Z,6.6nm,0.4s,baz=318,slow=0.9,SNR=22
ZALV PKKPbc **PKKPbc** **02 04 21.1 -4.1**
comp=Z,1.5nm,0.4s,baz=166,slow=5.3,SNR=6.4
KURK Kurchatov 116.99 20 PKPdf **PKiKP** **01 53 54.1 +0.3**
KURK Kurchatov 116.99 20 *c i*PKIKP **PKiKP** **01 53 54.8 +1.0**
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURBB Kurchatov Arra 117.04 20 PKP **PKiKP** **01 53 54.3 +0.5**
comp=Z,5.1nm,0.6s,baz=320,slow=2.2,SNR=54
KURBB SKP 01 57 18.2
comp=Z,1.1nm,0.6s,baz=328,slow=2.2,SNR=5.7
KURBB PKKPbc **PKKPbc** **02 04 18.7 -2.5**
comp=Z,2.5nm,0.4s,baz=156,slow=3.1,SNR=16
HEH HeiHe 119.64 345 *e*PKP **PKiKP** **01 53 59.8 +0.9**
HRA Herat 120.67 42 PKPdf **PKPdf** **01 54 01.1 -0.5**
UOSS Minazif 121.07 55 PKPdf **PKPdf** **01 54 01.6 -0.8**
CASY Casey 121.38 182 PKPdf **PKiKP** **01 54 01.8 0.0**
MAKZ Makanchi 121.48 20 **PKiKP** **01 54 02.9 +0.1**
MAKZ Makanchi 121.48 20 PKIKP **PKiKP** **01 54 02.9 +0.1**
MK31 Makanchi Array 121.60 20 PKPdf **PKPdf** **01 54 02.1 -0.7**
MK31 Makanchi Array 121.60 20 PKIKP **PKPdf** **01 54 02.1 -0.7**
MKAR Makanchi Array 121.60 20 *c i*PKIKP **PKPdf** **01 54 02.9 +0.1**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
MKAR Makanchi Array 121.60 20 PKP **PKPdf** **01 54 02.7 -0.1**
comp=Z,6.0nm,0.5s,baz=310,slow=2.1,SNR=77
MKAR SKP 01 57 26.6
comp=Z,1.5nm,0.7s,baz=22,slow=3.9,SNR=4.4
MKAR PKKPbc **PKKPbc** **02 04 04.1 -0.4**
comp=Z,0.9nm,0.5s,baz=192,slow=2.2,SNR=8.8
AAK Ala-Archa 121.96 28 *c i*PKIKP **PKiKP** **01 54 05.3 +1.3**
AAK pmax pmax
comp=Z,7.0nm,1.7s
USRK Ussuriysk Ar. 123.61 338 PKP **PKiKP** **01 54 07.2 +0.2**
comp=Z,3.8nm,0.5s,baz=232,slow=4.3,SNR=9.4
ULN Ulaanbaatar 124.75 360 *c i*PKIKP **PKiKP** **01 54 09.2 -0.1**
ULN pmax pmax
comp=Z,8.0nm,1.7s
SONM Songino Array 124.78 0 PKP **PKiKP** **01 54 09.6 +0.2**
comp=Z,5.5nm,0.4s,baz=331,slow=1.4,SNR=46
KBL Kabul 124.94 38 PKPdf **PKiKP** **01 54 10.1 -0.1**
KBL Kabul 124.94 38 PKIKP **PKiKP** **01 54 10.1 -0.1**
KSH Kashi 125.10 29 PKP **PKiKP** **01 54 11.8 +1.6**
WMQ Urumqi 125.95 17 *e*PKP **PKPdf** **01 54 11.2 -0.1**
MJAR Matsushiro Arr 127.10 328 PKIKP **PKiKP** **01 54 14.0 -0.2**
MJAR Matsushiro Arr 127.10 328 PKP **PKiKP** **01 54 14.0 -0.2**
comp=Z,3.6nm,0.7s,baz=37,slow=0.8,SNR=16
XLT XiLinHaoTe 128.03 351 *e*PKP **PKiKP** **01 54 16.3 +0.4**
NIL Nilore 128.06 36 **PKiKP** **01 54 16.2 0.0**
NIL Nilore 128.06 36 PKIKP **PKiKP** **01 54 16.2 0.0**
KSRS Korea Array 131.00 338 PKP **PKiKP** **01 54 22.0 +0.1**
comp=Z,3.9nm,0.5s,baz=15,slow=1.9,SNR=14
KSAR Wonju Array Be 131.02 338 PKPdf **PKPdf** **01 54 20.2 -0.8**
KSAR Wonju Array Be 131.02 338 PKIKP **PKPdf** **01 54 20.2 -0.8**
HHC Hu-ho-hao-te 131.57 355 *e*PKP **PKiKP** **01 54 23.9 +0.8**
BTO Baotou 131.92 357 *e*PKP **PKiKP** **01 54 24.2 +0.3**
BTO PP **PP** **01 56 50.4 +6.7**
GTA Gaotai 132.76 7 *e*PKP **PKiKP** **01 54 26.1 +0.5**
GOMU GeErMu 134.98 14 PKP **PKiKP** **01 54 31.0 +0.5**
LZH Lanzhou 136.44 3 *e*PKP **PKPdf** **01 54 31.1 -0.4**
PYUN Piuthan 137.69 32 *e*P **PKPdf** **01 54 34.6 +0.5**
PYUN Piuthan 137.69 32 *e*P **SKPdf** **01 57 56.2 -0.4**
comp=Z,81nm,1.3s
DANN Dangsing 137.89 31 *e*P **PKiKP** **01 54 36.0 -0.6**
comp=Z,40nm,0.6s
DANN Dangsing 137.89 31 *e*P **SKPdf** **01 57 57.1 +0.1**
comp=Z,47nm,0.7s
KOLN Koldanda 138.27 32 *e*P **PKPdf** **01 54 35.9 +0.7**
comp=Z,31nm,1.3s
XAN Xi'an 138.52 357 PKP **PKPdf** **01 54 33.7 -1.5**
GKN Gorkha 138.61 30 *e*P **PKPdf** **01 54 36.8 +1.1**
GKN Gorkha 138.61 30 *e*P **SKPdf** **01 57 57.7 -0.4**
comp=Z,120nm,1.6s
NJ2 Nanjing 138.90 344 *e*PKP **PKPdf** **01 54 35.3 -0.6**
KKN Kakani 139.11 30 *e*P **PKPdf** **01 54 37.7 +1.0**
comp=Z,43nm,0.7s
DMN Daman 139.17 30 *e*P **PKPdf** **01 54 37.7 +0.8**
comp=Z,21nm,0.5s
DMN Daman 139.17 30 *e*P **SKPdf** **01 57 59.2 -0.1**
comp=Z,79nm,1.3s
GUN Gumba 139.30 29 *e*P **SKPdf** **01 57 58.9 -0.7**
comp=Z,39nm,0.9s
PKIN Phulchoki 139.34 30 *e*P **PKPdf** **01 54 37.3 +0.1**
comp=Z,20nm,0.6s
PKIN Phulchoki 139.34 30 *e*P **SKPdf** **01 57 59.6 0.0**
comp=Z,25nm,0.8s
PKI Pulchoki 139.35 30 *e*P **PKPdf** **01 54 37.8 +0.5**
comp=Z,14nm,0.5s
PKI Pulchoki 139.35 30 *e*P **SKPdf** **01 57 59.1 -0.6**
comp=Z,20nm,0.7s
STKA Stephens Creek 139.62 229 PKPdf **PKPdf** **01 54 35.8 -1.4**
STKA Stephens Creek 139.62 229 PKhKP PKPpre 01 54 30.7
comp=Z,1.6nm,0.6s,baz=117,slow=4.6,SNR=5.2
STKA PKP **PKPdf** **01 54 37.7 +0.5**
comp=Z,11nm,0.7s,baz=105,slow=5.8,SNR=22
JIRN Jiri 139.66 29 *e*P **PKPdf** **01 54 38.5 +0.6**
comp=Z,26nm,0.9s
JIRN Jiri 139.66 29 *e*P **SKPdf** **01 57 59.7 -0.5**
comp=Z,8.2nm,0.3s
CTA Charters Tower 139.85 248 PKhKP PKPpre 01 54 30.9
comp=Z,4.6nm,0.5s,baz=297,slow=7.0,SNR=20
CTA PKP **PKPdf** **01 54 37.3 -0.6**
comp=Z,4.2nm,0.5s,baz=130,slow=5.7,SNR=8.2
LSA Lhasa 139.96 21 PKPdf **PKPdf** **01 54 38.6 +0.1**
LSA Lhasa 139.96 21 PKIKP **PKPdf** **01 54 38.6 +0.1**
RAMN Ramite 140.45 29 *e*P **PKPdf** **01 54 39.4 +0.2**
comp=Z,38nm,0.6s
RAMN Ramite 140.45 29 *e*P **SKPdf** **01 58 00.7 -0.8**
comp=Z,13nm,0.6s
TAPN Taplejung 140.63 27 *e*P **PKPdf** **01 54 40.6 +1.0**
comp=Z,22nm,0.5s
TAPN Taplejung 140.63 27 *e*P **SKPdf** **01 58 00.5 -1.3**
comp=Z,16nm,0.7s
ODAN Odare 140.90 28 *e*P **PKPdf** **01 54 39.6 -0.4**
comp=Z,59nm,1.6s
WHN Wuhan 141.37 350 PKP **PKiKP** **01 54 45.2 +2.0**
CD2 Chengdu 141.58 4 PKP **PKPdf** **01 54 41.0 +0.1**
ENH Enshi 142.24 356 PKPdf **PKPdf** **01 54 41.6 -0.4**
HYB Hyderabad 142.61 48 *e*PKPdf **PKPdf** **01 54 43.6 +0.6**
HYB *e*PKiKP **PKiKP** **01 54 46.7 +0.5**
HYB *ep*PKiKP **pPKPdf** **01 55 20.5 +0.5**
HYB *e*SKiKP **SKiKP** **01 58 10.0 +0.2**
PZH PanZhiHua 145.73 8 PKPbc **PKPbc** **01 54 48.9 0.0**
PZH PKPab **PKPab** **01 54 50.2 +0.8**
PZH pPKP **pPKPdf** **01 55 24.1 -1.4**
PZH sPKP 01 55 39.0
PZH PP PP 01 58 20.6 +12
PZH AMB AMB
comp=Z,130nm,8.7s
SSLB Suanglung 145.85 336 PKPbc **PKPbc** **01 54 49.5 +0.3**
GYA Guiyang 146.12 0 PKPbc **PKPbc** **01 54 50.4 +0.3**
TWG Pinlang 146.67 336 PKPbc **PKPbc** **01 54 51.5 -0.2**
KMI Kunming 147.22 7 ⇓PKPbc **PKPdf** **01 54 51.9 +0.9**
KMI pPKP pPKPdf 01 55 28.1 -0.1
ASAR Alice Springs 149.50 235 PKP **PKPdf** **01 54 54.9 +0.4**
comp=Z,28nm,0.6s,baz=110,slow=1.6,SNR=174
ASAR PKPbc **PKPbc** **01 54 59.0 -0.2**
comp=Z,32nm,0.6s,baz=117,slow=3.7,SNR=102
FORT Forrest 149.56 218 PKPdf **PKPdf** **01 54 53.0 -1.4**
FORT PKPbc **PKPbc** **01 54 59.0 0.0**
WRA Warramunga Arr 150.63 243 PKPdf **PKPdf** **01 54 55.9 -0.5**
WRA PKPbc **PKPbc** **01 55 02.3 +0.4**
WRA PKPab **PKPab** **01 55 09.5 +0.3**
WRA Warramunga Arr 150.63 243 PKP **PKPdf** **01 54 56.8 +0.4**
comp=Z,16nm,0.9s,baz=105,slow=2.4,SNR=89
WRA PKPbc **PKPbc** **01 55 01.8 -0.2**
comp=Z,58nm,0.5s,baz=108,slow=2.5,SNR=162
CHTO Chiang Mai 152.62 16 PKPdf **PKPdf** **01 54 58.9 -0.5**
CHTO **PKPbc** **01 55 05.5 -0.9**
CHTO PKPab **PKPab** **01 55 16.1 -1.1**
CHTO Chiang Mai 152.62 16 PKIKP **PKPdf** **01 54 58.9 -0.5**
CHTO 01 55 16.2
CMAR Chiang Mai Arr 152.95 17 PKP **PKPdf** **01 55 00.4 +0.5**
comp=Z,4.9nm,0.6s,baz=310,slow=2.3,SNR=26
CMAR PKPbc **PKiKP** **01 55 08.0 +0.6**
comp=Z,32nm,0.5s,baz=324,slow=3.4,SNR=25
CMAR PKPab **PKPab** **01 55 19.4 +0.8**
comp=Z,11nm,0.6s,baz=322,slow=5.2,SNR=9.0
PSI Prapat 167.01 37 PKP2 **PKPab** **01 56 19.0 -1.1**
PSI 02 55 13.7
RPSI Rantau Prapat 167.09 38 **PKPdf** **01 55 13.7 -2.0**
RPSI PKPab **PKPab** **01 56 19.0 -1.3**

IDC 01 01:43:30.7±3.6, 20°.12N×122°.90E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=320.7km s-min=22.0km az=63.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.36**	**164**	P	P	01 51 18.8	+0.1
	0.4nm,0.8s,baz=347,slow=7.4,SNR=2.5						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**42.39**	**318**	P	P	01 51 26.7	-0.2
	0.8nm,0.5s,baz=110,slow=8.5,SNR=11						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**44.52**	**329**	P	P	01 51 43.8	-0.1
	0.8nm,0.6s,baz=119,slow=8.3,SNR=2.3						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**44.83**	**166**	P	P	01 51 46.4	-0.4
	0.2nm,0.5s,baz=342,slow=6.7,SNR=2.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**46.25**	**322**	P	P	01 51 57.8	0.0
	1.1nm,0.6s,baz=123,slow=7.4,SNR=12						
	1.1nm,0.6s						

---

*SJA **01** 01:47:02.1±1.3, 23°.36S×66°.86W, h211km±11km, ML3.6, MW3.6*
*GUC **01** 01:47:03.7±0.5, 23°.41S×67°.07W, h230km±6km, ML3.6*
ISC 01 01:47:00.2±2.0, 23°.39S±0°.04×66°.86W±0°.05, h232km±15km, n38, σ1§73/61, 8C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.29**	**289**	⇑*i*P	**Pn**	**01 47 37.1**	**+1.5**
HJA	**Humahuaca**	**1.34**	**83**	*i*P	**Pn**	**01 47 36.6**	**+0.5**
HJA				*i*S	**S**	**01 48 02.0**	**-2.1**
YJA	**Yavi**	**1.73**	**46**	*i*P	**Pn**	**01 47 40.1**	**+0.8**
YJA				*i*S	**S**	**01 48 09.2**	**-0.6**
SLA	**San Lorenzo**	**1.82**	**137**	*i*P	**Pn**	**01 47 41.0**	**+1.3**
SLA				*i*S	**S**	**01 48 12.1**	**+1.5**
SLA	**San Lorenzo**	**1.82**	**137**	*i*P	**Pn**	**01 47 41.5**	**+1.8**
SLA				*i*S	**S**	**01 48 08.7**	**-2.0**
AZAP	**Zapla**	**1.84**	**117**	*i*P	**Pn**	**01 47 40.0**	**0.0**
AZAP	**Zapla**	**1.84**	**117**	*i*P	**Pn**	**01 47 40.6**	**+0.5**
AZAP				*i*S	**S**	**01 48 09.3**	**-1.8**
LVC	**Limon Verde**	**2.04**	**292**	⇑*i*P	**Pn**	**01 47 43.4**	**+1.3**
LVC				*i*S	**S**	**01 48 13.2**	**-1.5**
LVC	**Limon Verde**	**2.04**	**292**	*i*P	**Pn**	**01 47 43.5**	**+1.4**
PB15	**IPOC Station P**	**2.41**	**274**	⇑*i*P	**Pn**	**01 47 47.0**	**+1.5**
PB15				*i*S	**S**	**01 48 19.6**	**-1.3**
PB15	**IPOC Station P**	**2.41**	**274**	*i*P	**Pn**	**01 47 47.0**	**+1.5**
PB15				*i*S	**S**	**01 48 23.6**	**+2.7**
PB15				IAML		01 48 24.7	
comp=Z,297nm,0.2s							
PB15	**IPOC Station P**	**2.41**	**274**	*i*P	**Pn**	**01 47 47.3**	**+1.8**
PB15				IAML		01 48 24.7	
comp=Z,297nm,0.2s							
PB06	**IPOC Station P**	**2.59**	**285**	⇑*i*P	**Pn**	**01 47 49.0**	**+1.6**
PB06				*i*S	**S**	**01 48 22.6**	**-1.6**
PB06				IAML		01 48 24.9	
comp=E,75nm,0.2s							
PB06	**IPOC Station P**	**2.59**	**285**	*i*P	**Pn**	**01 47 48.3**	**+0.9**
PB06				*i*S	**S**	**01 48 22.4**	**-1.8**
PB09	**IPOC Station P**	**2.71**	**305**	⇑*i*P	**Pn**	**01 47 50.7**	**+2.0**
PB09				*i*S	**S**	**01 48 26.5**	**-0.1**
PB09				IAML		01 48 29.5	
comp=E,54nm,0.6s							
PB09	**IPOC Station P**	**2.71**	**305**	*i*P	**Pn**	**01 47 50.7**	**+2.0**
FSA	**Cafayete**	**2.83**	**164**	*i*P	**Pn**	**01 47 51.3**	**+1.4**
GO02	**Mina Guanaco**	**3.06**	**234**	*e*P	**Pn**	**01 47 54.1**	**+1.6**
GO02				*i*S	**S**	**01 48 33.1**	**-0.5**
GO02				IAML		01 48 35.6	
comp=N,150nm,0.1s							
GO02	**Mina Guanaco**	**3.06**	**234**	*i*P	**Pn**	**01 47 54.2**	**+1.6**
PB04	**IPOC Station P**	**3.21**	**288**	⇑*i*P	**Pn**	**01 47 55.7**	**+1.4**
PB04				*i*S	**S**	**01 48 35.3**	**-1.3**
PB04	**IPOC Station P**	**3.21**	**288**	*i*P	**Pn**	**01 47 55.1**	**+0.8**
PB04				IAML		01 48 42.9	
comp=Z,48nm,0.1s							
PB07	**IPOC Station P**	**3.25**	**300**	*e*P	**Pn**	**01 47 56.1**	**+1.5**
PB07				*i*S	**S**	**01 48 35.0**	**-2.4**
PB07	**IPOC Station P**	**3.25**	**300**	*i*P	**Pn**	**01 47 56.2**	**+1.5**
PB07				*i*S	**S**	**01 48 35.1**	**-2.3**
PB07				IAML		01 48 37.6	
comp=Z,109nm,0.5s							
PB01	**IPOC Station P**	**3.37**	**313**	⇑*i*P	**Pn**	**01 47 57.4**	**+1.4**
PB01				*i*S	**S**	**01 48 38.1**	**-1.7**
PB01	**IPOC Station P**	**3.37**	**313**	*i*P	**Pn**	**01 47 57.1**	**+1.1**
PB01				IAML		01 48 42.1	
comp=Z,41nm,0.1s							
PB14	**IPOC Station P**	**3.47**	**248**	*e*P	**Pn**	**01 47 59.1**	**+1.7**
PB14				*i*S	**S**	**01 48 39.9**	**-2.2**
PB14	**IPOC Station P**	**3.47**	**248**	*i*P	**Pn**	**01 47 58.6**	**+1.3**

PB02	**IPOC Station P**	**3.48 306**⇓	*e*P	**Pn**	**01 47 59.1**	**+1.8**
PB02			*i* S	**S**	**01 48 39.3**	**-2.9**
PB02	**IPOC Station P**	**3.48 306**	*i* P	**Pn**	**01 47 58.4**	**+1.1**
PB02			IAML		01 48 46.6	
	comp=Z,124nnm,0.3s					
PB08	**IPOC Station P**	**3.87 326**	*e*P	**Pn**	**01 48 05.0**	**+2.8**
PB08			*i* S	**S**	**01 48 51.5**	**+0.6**
PB08	**IPOC Station P**	**3.87 326**	*i* P	**Pn**	**01 48 04.9**	**+2.8**
PATCX	**Punta Patache**	**3.98 309**	*e*P	**Pn**	**01 48 04.8**	**+1.7**
PATCX			*i* S	**S**	**01 48 50.8**	**-2.0**
PATCX	**Punta Patache**	**3.98 309**	*i* P	**Pn**	**01 48 04.2**	**+1.1**
TA01	**Diego Aracena**	**4.17 312**	*e*P	**Pn**	**01 48 07.2**	**+1.9**
TA01			*i* S	**S**	**01 48 54.0**	**-2.7**
HMBC	**Humberstone**	**4.18 317**⇑	*i* P	**Pn**	**01 48 06.4**	**+0.8**
HMBC			*i* S	**S**	**01 48 54.2**	**-3.0**
HMBC	**Humberstone**	**4.18 317**	*i* P	**Pn**	**01 48 06.4**	**+0.8**
HMBC			IAML		01 48 59.7	
	comp=Z,62nm,0.2s					
AC01	**Pan de Azucar**	**4.37 230**⇓	*i* P	**Pn**	**01 48 08.4**	**+0.6**
AC01			*i* S	**S**	**01 48 58.4**	**-2.8**
AC01	**Pan de Azucar**	**4.37 230**	*i* P	**Pn**	**01 48 08.4**	**+0.6**
AC01			IAML		01 49 09.2	
	comp=Z,31nm,1.9s					

*IDC **01** 02:13:36.6±2.2, 1°.61S×77°.84W, h223km±24km, mb3.5/4, mbtmp4.2/9, Error ellipse: s-maj=28.9km s-min=15.9km az=88.0*

ISC 01 02:13:34.9±0.7, **1°.65S**±0°.05×**77°.64W**±0°.06, **h200**km, **n41,** σ1§**38**/46, **mb3.8/4, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COHC	**Cochancay**	**1.81**	**243**	*e*P	**Pn**	**02 14 12.0**	**+0.5**
COHC				*e*S	**Sn**	**02 14 40.6**	**+0.7**
OTAV	**Otavalo**	**2.04**	**337**	*e*P	**Pn**	**02 14 14.9**	**+0.5**
CUSE	**Cuicocha Este**	**2.09**	**339**	*e*P	**Pn**	**02 14 15.8**	**+1.0**
BONI	**La Bonita**	**2.09**	**3**	*e*P	**Pn**	**02 14 14.9**	**+0.1**
PAC1	**Pacto, Paraso**	**2.23**	**329**	*e*P	**Pn**	**02 14 17.0**	**+1.0**
TULM	**Tulcn-Chalpat**	**2.35**	**356**	*e*P	**Pn**	**02 14 19.4**	**+1.7**
CMBC	**Cumbal**	**2.58**	**356**	*e*P	**Pn**	**02 14 22.1**	**+1.9**
GCUF	**Volcan Galeras**	**2.87**	**6**	*e*P	**Pn**	**02 14 24.9**	**+1.3**
PPLP	**Puerto Lpez**	**3.14**	**272**	*e*P	**Pn**	**02 14 26.0**	**-0.3**
PPLP				*e*S	**Sn**	**02 15 05.3**	**-1.1**
CRUC	**La Cruz**	**3.27**	**12**	*e*P	**Pn**	**02 14 29.5**	**+1.3**
PTLC	**Puerto Leguiza**	**3.37**	**58**	*e*P	**Pn**	**02 14 26.7**	**-2.3**
MCRA	**Macar, Loja**	**3.56**	**221**	*e*P	**Pn**	**02 14 30.8**	**-0.6**
MCRA				*e*S	**Sn**	**02 15 14.8**	**-0.8**
BBAC	**Balboa, Cauca**	**3.67**	**6**	*e*P	**Pn**	**02 14 33.3**	**+0.4**
BBAC				*e*S	**Sn**	**02 15 21.5**	**+3.1**
FLOC	**Florencia**	**3.77**	**32**	*e*P	**Pn**	**02 14 34.0**	**-0.1**
FLOC				*e*S	**Sn**	**02 15 18.4**	**-1.9**
POPC	**Popayan, Colom**	**4.27**	**13**	*e*P	**Pn**	**02 14 41.3**	**+0.9**
GARC	**Garzon, Huila**	**4.37**	**29**	*e*P	**Pn**	**02 14 42.2**	**+0.5**
JAMC	**Jamundi, Valle**	**4.93**	**11**	*e*P	**Pn**	**02 14 47.1**	**-1.5**
MACC	**Macarena, Meta**	**5.34**	**45**	*e*P	**Pn**	**02 14 54.2**	**+0.4**
ATAH	**Atahualpa**	**5.50**	**188**	P	**Pn**	**02 14 58.5**	**+2.3**
	75nm,0.5s,baz=9.8,slow=11,SNR=101						
ATAH				S	**Sn**	**02 16 00.2**	**-0.2**
	43nm,0.6s,baz=318,slow=23,SNR=9.2						
YOTC	**Yotoco, Valle**	**5.74**	**13**	*e*P	**Pn**	**02 14 57.9**	**-1.2**
ORTC	**Ortega, Tolima**	**6.02**	**23**	*e*P	**Pn**	**02 15 01.8**	**-0.7**
VILC	**Villavicencio,**	**6.95**	**35**	*e*P	**Pn**	**02 15 16.4**	**+1.7**
CHIC	**Chingaza**	**7.36**	**32**	*e*P	**Pn**	**02 15 21.7**	**+1.4**
NORC	**Norcasia**	**7.68**	**21**	*e*P	**Pn**	**02 15 23.3**	**-0.9**
CZSB	**Cruzeiro do Su**	**7.79**	**141**	*e*P	**Pn**	**02 15 25.3**	**-0.2**
RUSC	**La Rusia**	**8.76**	**31**	*e*P	**Pn**	**02 15 39.2**	**+0.5**
ZARC	**Zaragoza, Cauc**	**9.49**	**17**	*e*P	**Pn**	**02 15 45.8**	**-2.0**
APAC	**Apartado, Choc**	**9.54**	**6**	*e*P	**Pn**	**02 15 50.6**	**+2.3**
NNA	**Nana**	**10.30**	**176**	P	**Pn**	**02 15 59.5**	**+1.3**
	2.7nm,0.3s,baz=333,slow=14,SNR=1.2						
NNA				S	Sn	02 17 45.8	-7.6
	4.3nm,0.4s,baz=184,slow=11,SNR=2.0						
SJCC	**San Jacinto, C**	**11.73**	**12**	*e*P	**Pn**	**02 16 19.0**	**+2.4**
SDV	**Santo Domingo**	**12.58**	**34**	P	**Pn**	**02 16 28.8**	**+1.3**
	8.4nm,0.7s,baz=227,slow=19,SNR=3.9						
URIC	**Uribia, Colomb**	**14.40**	**23**	*e*P	**Pn**	**02 16 49.2**	**-0.7**
SAML	**Samuel**	**16.11**	**117**	*e*P	**P**	**02 17 10.4**	**+0.2**
LPAZ	**La Paz**	**17.30**	**148**	P	**Pn**	**02 17 26.1**	**+0.6**
	1.4nm,0.4s,baz=29,slow=2.4,SNR=8.3						
PCRV	**Puerto La Cruz**	**17.48**	**48**	P	**Pn**	**02 17 27.2**	**+0.2**
	5.2nm,0.4s,baz=328,slow=3.8,SNR=8.8						
SIV	**San Ignacio**	**21.67**	**132**	P	**P**	**02 18 11.5**	**+1.4**
	1.2nm,0.4s,baz=303,slow=11,SNR=10.0						
	1.2nm,0.4s						
PLCA	**Paso Flores**	**39.43**	**172**	P	**P**	**02 20 45.6**	**-0.1**
	2.6nm,0.7s,baz=344,slow=13,SNR=4.6						
	2.6nm,0.7s						
ULM	**Lac du Bonnet**	**54.02**	**346**	P	**P**	**02 22 37.2**	**-1.2**
	3.4nm,0.5s,baz=166,slow=6.0,SNR=5.5						
	3.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**79.99**	**76**	P	**P**	**02 25 22.7**	**-0.1**
	0.3nm,0.3s,baz=286,slow=5.7,SNR=19						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**140.33**	**229**	PKhKP	PKPpre	02 32 35.9	
	0.3nm,0.8s,baz=131,slow=4.2,SNR=2.4						
WRA	**Warramunga Arr**	**142.00**	**234**	PKP	**PKPdf**	**02 32 41.1**	**-2.9**
	0.3nm,0.6s,baz=115,slow=2.9,SNR=4.8						

*SJA **01** 02:37:39.5±1.1, 23°.61S×66°.79W, h221km±10km, ML3.4, MW3.5*
*GUC **01** 02:37:41.7±0.7, 23°.63S×67°.01W, h230km±12km, ML3.9*

ISC 01 02:37:37.9±1.8, **23°.66S**±0°.04×**66°.83W**±0°.04, **h232**km±14km, **n35,** σ1§**65**/56, **5C, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.38**	**71**	*i* P	**Pn**	**02 38 14.5**	**+0.4**
HJA				*i* S	**S**	**02 38 40.7**	**-1.6**
SLA	**San Lorenzo**	**1.61**	**132**	*i* P	**Pn**	**02 38 17.1**	**+1.5**
SLA				*i* S	**S**	**02 38 44.9**	**-0.3**
AZAP	**Zapla**	**1.71**	**110**	*i* P	**Pn**	**02 38 17.1**	**+0.5**
AZAP				*i* S	**S**	**02 38 46.3**	**-0.5**
YJA	**Yavi**	**1.91**	**40**	*i* P	**Pn**	**02 38 19.6**	**+1.0**
YJA				*i* S	**S**	**02 38 49.0**	**-1.4**
LVC	**Limon Verde**	**2.18**	**298**	*e*P	**Pn**	**02 38 22.5**	**+1.3**
LVC				*i* S	**S**	**02 38 54.3**	**-0.6**
LVC	**Limon Verde**	**2.18**	**298**	*i* P	**Pn**	**02 38 22.7**	**+1.5**
PB15	**IPOC Station P**	**2.47**	**280**⇑	*i* P	**Pn**	**02 38 25.4**	**+1.5**
PB15				*i* S	**S**	**02 38 59.4**	**-0.4**
PB15	**IPOC Station P**	**2.47**	**280**	*i* P	**Pn**	**02 38 24.9**	**+1.0**
ALOL	**LOMAS DE OLMED**	**2.61**	**94**	*i* P	**Pn**	**02 38 26.0**	**+0.9**
ALOL				*i* S	**S**	**02 39 00.3**	**-1.9**
PB06	**IPOC Station P**	**2.70**	**290**⇑	*i* P	**Pn**	**02 38 27.9**	**+1.6**
PB06				*i* S	**S**	**02 39 02.5**	**-1.6**
PB06				IAML		02 39 04.1	
	comp=N,146nm,0.4s						
PB06	**IPOC Station P**	**2.70**	**290**	*i* P	**Pn**	**02 38 27.9**	**+1.6**
PB06				IAML		02 39 06.5	
	comp=Z,74nm,0.3s						
PB09	**IPOC Station P**	**2.90**	**309**	*e*P	**Pn**	**02 38 30.8**	**+2.3**
PB09				*i* S	**S**	**02 39 08.0**	**-0.1**
PB09				IAML		02 39 10.6	
	comp=E,69nm,0.2s						
GO02	**Mina Guanaco**	**2.93**	**239**⇑	*i* P	**Pn**	**02 38 30.5**	**+1.6**
GO02				*i* S	**S**	**02 39 08.2**	**-0.8**
GO02				IAML		02 39 10.3	
	comp=E,479nm,0.4s						
GO02	**Mina Guanaco**	**2.93**	**239**	*i* P	**Pn**	**02 38 30.6**	**+1.7**
PB04	**IPOC Station P**	**3.33**	**293**⇑	*i* P	**Pn**	**02 38 34.9**	**+1.6**
PB04				*i* S	**S**	**02 39 14.9**	**-2.0**
PB04	**IPOC Station P**	**3.33**	**293**	*i* P	**Pn**	**02 38 35.0**	**+1.6**
PB04				IAML		02 39 18.7	
	comp=Z,88nm,0.3s						
PB14	**IPOC Station P**	**3.41**	**253**	*i* P	**Pn**	**02 38 35.7**	**+1.4**
PB14				IAML		02 39 22.4	
	comp=Z,47nm,0.3s						
PB07	**IPOC Station P**	**3.42**	**304**⇑	*i* P	**Pn**	**02 38 35.9**	**+1.6**
PB07				*i* S	**S**	**02 39 16.2**	**-2.5**
PB07	**IPOC Station P**	**3.42**	**304**	*i* P	**Pn**	**02 38 35.9**	**+1.6**
PB07				IAML		02 39 24.5	
	comp=Z,70nm,0.4s						
PB01	**IPOC Station P**	**3.58**	**316**	*e*P	**Pn**	**02 38 37.7**	**+1.5**
PB01				*i* S	**S**	**02 39 20.4**	**-1.6**
PB01	**IPOC Station P**	**3.58**	**316**	*i* P	**Pn**	**02 38 37.9**	**+1.8**
PB01				IAML		02 39 24.1	
	comp=Z,55nm,0.4s						
PB02	**IPOC Station P**	**3.67**	**309**	*e*P	**Pn**	**02 38 38.4**	**+1.1**
PB02				*i* S	**S**	**02 39 21.2**	**-2.7**
PB02	**IPOC Station P**	**3.67**	**309**	*i* P	**Pn**	**02 38 38.7**	**+1.5**
PB08	**IPOC Station P**	**4.11**	**328**	*e*P	**Pn**	**02 38 45.4**	**+2.6**
PB08				*i* S	**S**	**02 39 33.9**	**0.0**
PB08	**IPOC Station P**	**4.11**	**328**	*i* P	**Pn**	**02 38 45.0**	**+2.3**
PATCX	**Punta Patache**	**4.18**	**312**	*e*P	**Pn**	**02 38 44.1**	**+0.8**
PATCX				*i* S	**S**	**02 39 32.4**	**-2.4**
PATCX	**Punta Patache**	**4.18**	**312**	*i* P	**Pn**	**02 38 44.5**	**+1.2**
PATCX				IAML		02 39 43.7	
	comp=Z,32nm,0.3s						
AC01	**Pan de Azucar**	**4.23**	**233**	*i* P	**Pn**	**02 38 44.5**	**+0.8**
AC01				IAML		02 39 40.6	
	comp=Z,30nm,0.2s						
TA01	**Diego Aracena**	**4.37**	**314**	*e*P	**Pn**	**02 38 46.6**	**+1.1**
TA01				*i* S	**S**	**02 39 36.6**	**-2.3**
HMBC	**Humberstone**	**4.40**	**319**	*e*P	**Pn**	**02 38 46.6**	**+0.6**
HMBC				*i* S	**S**	**02 39 36.7**	**-3.1**
HMBC	**Humberstone**	**4.40**	**319**	*i* P	**Pn**	**02 38 47.6**	**+1.6**
GO01	**Chusmiza**	**4.54**	**331**	*e*P	**Pn**	**02 38 50.2**	**+2.1**
GO01				*i* S	**S**	**02 39 42.4**	**-1.0**
CYA	**Choya**	**4.86**	**169**	*i* P	**Pn**	**02 38 54.0**	**+2.5**
AC06	**Mina Casimiro**	**4.87**	**220**	*e*P	**Pn**	**02 38 52.4**	**+0.8**
AC06				*i* S	**S**	**02 39 48.1**	**-2.0**
GO03	**Copiap**	**4.99**	**217**	*e*P	**Pn**	**02 38 54.0**	**+0.9**
GO03				*i* S	**S**	**02 39 50.7**	**-2.0**

*FUNV **01** 03:09:50.0, 10°.33N×62°.41W, h9km, MW3.0*

ISC 01 03:09:48.0±1.3, **10°.3N**±0°.2×**62°.46W**±0°.04, **h10**km, **n6,** σ2§**08**/8, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.88**	**299**	*e*P	**Pg**	**03 10 04.8**	**-0.1**
CRUV				*e*S	**Sg**	**03 10 16.0**	**-0.5**
TRN	**Trinidad (W)**	**1.11**	**69**	*e*P	**Pg**	**03 10 08.8**	**-0.6**
TRN				*e*S	**Sg**	**03 10 23.6**	**-0.2**
TACV	**Tcata**	**4.50**	**269**	*e*P	**Pn**	**03 10 58.0**	**+1.6**
CACV	**CAICARA DEL OR**	**4.84**	**237**	*e*P	Pn	03 10 57.3	-3.6
CACV				*e*S	Sn	03 11 46.3	-11
BENV	**Beln**	**5.07**	**267**	*e*P	**Pn**	**03 11 06.2**	**+1.9**
BAUV	**El Baul**	**5.66**	**257**	*e*P	**Pn**	**03 11 14.0**	**+1.7**
BAUV				*e*S	**Sn**	**03 12 13.9**	**-3.4**

*IDC **01** 03:29:26.0±1.9, 24°.11S×179°.84W, h504km±18km, mb3.0/5, mbtmp4.0/7, Error ellipse: s-maj=29.6km s-min=19.9km az=145.0*

ISC 01 03:29:25.3±0.8, **24°.23S**±0°.10×**179°.7W**±0°.2, **h500**km, **n12,** σ1§**19**/14, **mb3.5/5, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.81**	**341**	P	**P**	**03 31 09.2**	**-0.6**
	4.8nm,0.4s,baz=128,slow=23,SNR=14						
DZM	**Mont Dzumac**	**12.96**	**277**	P	**P**	**03 32 15.8**	**+1.6**
	3.1nm,0.9s,baz=134,slow=20,SNR=4.3						
URZ	**Urewera**	**14.25**	**190**	P	**P**	**03 32 28.5**	**+1.1**
	14nm,0.8s,baz=322,slow=2.5,SNR=7.3						
URZ				S	**S**	**03 34 55.9**	**-1.8**
	29nm,1.1s,baz=90,slow=18,SNR=1.9						
ASAR	**Alice Springs**	**42.29**	**261**	P	**P**	**03 36 33.9**	**-0.8**
	0.4nm,0.6s,baz=99,slow=6.5,SNR=4.9						
ASAR				ScP	**ScP**	**03 41 18.5**	**-1.5**
	0.5nm,0.8s,baz=138,slow=4.3,SNR=2.5						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**42.70**	**266**	P	**P**	**03 36 36.9**	**-1.0**
	1.1nm,0.3s,baz=97,slow=8.3,SNR=21						
WRA				ScP	**ScP**	**03 41 21.1**	**-0.5**
	0.6nm,0.8s,baz=103,slow=3.9,SNR=4.5						
	1.1nm,0.3s						
MAW	**Mawson**	**77.55**	**200**	P	**P**	**03 40 29.5**	**+0.8**
	1.1nm,0.5s,baz=117,slow=8.1,SNR=6.1						
	1.1nm,0.5s						
NVAR	**Mina Array Bea**	**84.77**	**44**	P	**P**	**03 41 06.0**	**-0.7**
	0.6nm,0.8s,baz=233,slow=6.7,SNR=2.6						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**90.34**	**58**	P	**P**	**03 41 34.2**	**+1.2**
	0.7nm,0.7s,baz=209,slow=6.1,SNR=10						
	0.7nm,0.7s						
ARCES	**ARCESS Array B**	**132.27**	**348**	PKP	**PKPdf**	**03 47 40.5**	**-0.9**
	1.1nm,0.9s,baz=48,slow=1.3,SNR=3.6						
FINES	**FINESS Array B**	**138.86**	**342**	PKP	**PKPdf**	**03 47 54.4**	**+0.7**
	1.0nm,0.8s,baz=25,slow=3.7,SNR=3.5						
HFS	**Hagfors**	**142.93**	**349**	PKhKP	PKPpre	03 47 57.5	
	0.8nm,0.3s,baz=62,slow=3.5,SNR=12						
EKA	**Eskdalemuir Ar**	**148.83**	**4**	PKPbc	**PKPbc**	**03 48 15.0**	**-0.7**
	0.2nm,0.5s,baz=348,slow=3.0,SNR=3.8						

*TRN **01** 03:38:55.7, 10°.93N×62°.28W, h86km, MD3.0*
*FUNV **01** 03:38:57.3, 10°.97N×62°.30W, h25km, MW3.1*

ISC 01 03:38:55.4±1.5, **10°.93N**±0°.07×**62°.30W**±0°.05, **h87**km±17km, **n14,** σ1§**15**/24, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.93**	**108**	*e*P	**Pn**	**03 39 14.7**	**+0.6**
TRN				*e*S	**Sn**	**03 39 27.6**	**-0.5**
CRUV	**Carupano**	**0.95**	**255**	*e*P	**Pn**	**03 39 15.0**	**+0.6**
CRUV				*e*S	**Sn**	**03 39 27.8**	**-0.8**
GRGR	**Grenville**	**1.35**	**28**	*e*P	**Pn**	**03 39 19.4**	**+0.2**
GRGR				*e*S	**Sn**	**03 39 37.0**	**-0.1**
GRW	**Mount Saint Ca**	**1.37**	**27**	*e*P	**Pn**	**03 39 20.3**	**+0.7**
GRW				*e*S	**Sn**	**03 39 37.6**	**-0.2**
GRHS	**Sauteurs**	**1.44**	**27**	*e*P	**Pn**	**03 39 20.6**	**+0.3**
GRHS				*e*S	**Sn**	**03 39 38.4**	**-0.7**
GCMP	**Grenada, Carri**	**1.77**	**29**	*e*P	**Pn**	**03 39 24.8**	**+0.3**
GCMP				*e*S	**Sn**	**03 39 46.0**	**-0.6**
TOSP	**Speyside**	**1.77**	**78**	*e*P	**Pn**	**03 39 25.2**	**+0.6**
TOSP				*e*S	**Sn**	**03 39 45.6**	**-1.1**
PCRV	**Puerto La Cruz**	**2.41**	**252**	*e*P	**Pn**	**03 39 34.2**	**+1.1**
PCRV				*e*S	**Sn**	**03 40 01.5**	**-0.4**
TACV	**Tcata**	**4.71**	**261**	*e*P	**Pn**	**03 40 05.5**	**+1.3**
TACV				*e*S	**Sn**	**03 40 56.8**	**-0.9**
BENV	**Beln**	**5.30**	**260**	*e*P	**Pn**	**03 40 14.1**	**+1.9**
BENV				*e*S	**Sn**	**03 41 10.2**	**-1.8**
CACV	**CAICARA DEL OR**	**5.35**	**232**	*e*P	Pn	03 40 09.6	-3.2
CACV				*e*S	Sn	03 41 02.6	-11
BAUV	**El Baul**	**5.99**	**251**	*e*P	**Pn**	**03 40 23.0**	**+1.5**
BAUV				*e*S	**Sn**	**03 41 25.9**	**-2.8**
BAUV	**El Baul**	**5.99**	**251**	*e*P	**Pn**	**03 40 22.1**	**+0.6**
TEPV	**Terepaima**	**6.84**	**263**	*e*P	**Pn**	**03 40 33.8**	**+0.5**

*NEIC **01** 03:50:25.3±0.5, 19°.70N±0°.03×156°.05W±0°.01, h36km±5km, Error ellipse: s-maj=4.0km s-min=0.4km az=200.0*

HVO 01 03:50:26.7±0.6, **19°.72N**±0°.04×**156°.10W**±0°.06, **h34**km±7km, **ML3.0**/22, **ML3.0**/58(NEIC), **Error ellipse: s-maj=9.5km s-min=3.4km az=60.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLU	**Kahalu`u**	**0.23**	**123**		Pn	03 50 32.4	-0.6
KHLU					Sn	03 50 36.5	+0.9
KHLU	**Kahalu`u**	**0.23**	**123**	IAML		03 50 37.2	
	comp=E,2μm,0.1s						
KHLU				IAML		03 50 37.6	
	comp=N,3μm,0.1s						
HUH	**Hualalai**	**0.25**	**97**		Pn	03 50 32.7	-0.9
HUH					Sn	03 50 38.1	+1.1
HUH	**Hualalai**	**0.25**	**97**	IAML		03 50 38.5	
	comp=E,3μm,0.1s						
HUH				IAML		03 50 39.8	
	comp=N,3μm,0.1s						
CPH	**Captain Cook**	**0.28**	**143**		Pn	03 50 33.1	-1.1
ALEP	**Alea Permanent**	**0.46**	**112**		Pb	03 50 35.8	-1.2
HPAH	**Hawaii Prepara**	**0.49**	**50**		Pb	03 50 35.5	-1.7
HPAH	**Hawaii Prepara**	**0.49**	**50**	IAML		03 50 41.7	
	comp=E,939nm,0.2s						
HPAH				IAML		03 50 42.0	
	comp=N,2μm,0.1s						
MHA	**Mahukona**	**0.50**	**21**		Pb	03 50 36.0	-1.3
MHA					Sb	03 50 42.8	-2.0
MLOA	**Mauna Loa Obse**	**0.52**	**110**		Pb	03 50 36.4	-1.6
MLOA	**Mauna Loa Obse**	**0.52**	**110**	IAML		03 50 43.7	
	comp=N,1μm,0.3s						
MLOA				IAML		03 50 43.7	
	comp=E,1μm,0.1s						
MWH	**Moku'aweowe**	**0.52**	**116**		Pb	03 50 36.2	-1.8
MWH					Sb	03 50 43.6	-2.3
MWH	**Moku'aweowe**	**0.52**	**116**	IAML		03 50 53.7	
	comp=N,906nm,0.4s						
MWH				IAML		03 50 55.4	
	comp=E,880nm,0.4s						
POHA	**Pohakuloa**	**0.53**	**85**		Pb	03 50 36.3	-1.7
POHA	**Pohakuloa**	**0.53**	**85**	IAML		03 50 43.7	
	comp=E,844nm,0.2s						
POHA				IAML		03 50 44.1	
	comp=E,856nm,0.2s						
HMH	**Humu'ula Sheep**	**0.59**	**101**		Pn	03 50 37.5	-1.4
HMH					Sb	03 50 45.8	-1.5
HMH	**Humu'ula Sheep**	**0.59**	**101**	IAML		03 50 46.3	
	comp=E,416nm,0.2s						
HMH				IAML		03 50 46.5	
	comp=N,513nm,0.1s						
KHU	**Kahuku**	**0.65**	**136**		Pn	03 50 37.8	-1.9
KHU	**Kahuku**	**0.65**	**136**		Sn	03 50 46.2	-2.8
KHU	**Kahuku**	**0.65**	**136**	IAML		03 50 46.1	
	comp=N,455nm,0.4s						
AIN	**Ainahou**	**0.69**	**119**		Pn	03 50 38.5	-1.8
AIN					Sn	03 50 47.0	-2.8
AIN	**Ainahou**	**0.69**	**119**	IAML		03 50 47.2	
	comp=E,629nm,0.1s						
AIN				IAML		03 50 47.6	
	comp=N,809nm,0.7s						
MLH	**Mauna Loa**	**0.70**	**108**		Pn	03 50 38.7	-1.8
MLH					Sn	03 50 47.5	-2.7
MLH	**Mauna Loa**	**0.70**	**108**	IAML		03 50 48.6	
	comp=E,641nm,0.1s						
RSD	**Rainshed**	**0.81**	**108**		Pn	03 50 40.0	-1.9
RSD					Sn	03 50 49.8	-2.9
WRMHI	**West Rim**	**0.81**	**112**		Pn	03 50 39.7	-2.1
UWE	**Uwekahuna**	**0.81**	**111**		Pn	03 50 39.9	-2.0
UWE					Sn	03 50 49.8	-3.0
UWE	**Uwekahuna**	**0.81**	**111**	IAML		03 50 53.2	
	comp=N,662nm,0.4s						
HTC	**Hot Caves**	**0.81**	**126**		Pn	03 50 39.9	-1.9
OBL	**Observatory Le**	**0.82**	**111**		Pn	03 50 39.9	-2.1
OBL					Sn	03 50 49.8	-3.2
OBL	**Observatory Le**	**0.82**	**111**	IAML		03 50 51.3	
	comp=N,720nm,0.6s						
SDHHI	**Sand Hill**	**0.82**	**113**		Pn	03 50 39.9	-2.1
SDHHI	**Sand Hill**	**0.82**	**113**	IAML		03 50 51.1	
	comp=N,598nm,0.6s						
SDHHI				IAML		03 50 52.4	
	comp=E,558nm,0.5s						
UWB	**Uwekahuna B**	**0.82**	**110**		Pn	03 50 39.8	-2.2
UWB					Sn	03 50 49.9	-3.1
NPH	**North Pit**	**0.82**	**111**		Pn	03 50 39.9	-2.1
NPH	**North Pit**	**0.82**	**111**	IAML		03 50 46.4	
	comp=E,196nm,2.0s						
NPH				IAML		03 50 51.6	
	comp=N,335nm,1.5s						
SBLHI	**Steaming Bluff**	**0.83**	**110**		Pn	03 50 39.8	-2.3
RIM	**Rim**	**0.84**	**112**		Pn	03 50 40.4	-1.8
RIM	**Rim**	**0.84**	**112**	IAML		03 50 51.3	
	comp=E,348nm,1.4s						
RIM				IAML		03 51 04.3	
	comp=N,605nm,1.7s						
HATHI	**Halema'uma'u T**	**0.84**	**110**		Pn	03 50 40.0	-2.3
HATHI	**Halema'uma'u T**	**0.84**	**110**	IAML		03 50 50.1	
	comp=N,345nm,0.8s						
HATHI				IAML		03 51 05.8	
	comp=E,488nm,1.4s						
BYL	**Byron's Ledge**	**0.84**	**111**		Pn	03 50 40.1	-2.2
BYL	**Byron's Ledge**	**0.84**	**111**	IAML		03 51 03.0	
	comp=N,286nm,1.9s						
BYL				IAML		03 51 04.0	
	comp=E,318nm,1.9s						
KKO	**Keanakako`i**	**0.84**	**112**		Pn	03 50 40.4	-1.9
KKO	**Keanakako`i**	**0.84**	**112**	IAML		03 50 46.5	
	comp=N,491nm,1.4s						
KKO				IAML		03 50 53.7	
	comp=E,416nm,1.5s						
HLP	**Hilina Pali**	**0.85**	**119**		Pn	03 50 40.4	-1.9
HLP					Sn	03 50 50.5	-3.1
HLP	**Hilina Pali**	**0.85**	**119**	IAML		03 51 02.4	
	comp=N,371nm,1.3s						
HLP				IAML		03 51 06.7	
	comp=E,338nm,1.4s						
PUH	**Pauahi**	**0.90**	**112**		Pn	03 50 40.6	-2.4
KNHH	**Kane Nui o Ham**	**0.94**	**111**		Pn	03 50 41.2	-2.3
STCH	**Steam Cracks**	**0.97**	**110**		Pn	03 50 41.7	-2.3
STCH					Sn	03 50 52.8	-3.9
NPOC	**North of Pu'u**	**0.98**	**109**		Pn	03 50 41.9	-2.3
NPOC	**North of Pu'u**	**0.98**	**109**	IAML		03 50 51.4	
	comp=E,245nm,0.8s						
NPOC				IAML		03 50

comp=Z,1μm,19.0s,baz=15,slow=43
TXAR Lajitas Array 16.21 331 P **Pn 04 10 44.1 +2.7**
0.1nm,0.3s,baz=150,slow=13,SNR=4.6
TXAR LR LR 04 17 25.5
comp=Z,20nm,19.9s,baz=141,slow=39
0.8nm,1.0s
PLMC San Jos del P 20.82 118 *eP* **P 04 11 36.4 +1.6**
YOTC Yotoco, Valle 21.26 120 *eP* **P 04 11 41.2 +1.7**
JAMC Jamundi, Valle 21.42 122 *eP* **P 04 11 43.2 +1.9**
GUY2C Guyana, Caldas 21.45 116 *eP* **P 04 11 42.2 +0.3**
BBAC Balboa, Cauca 21.68 126 *eP* **P 04 11 46.6 +2.5**
PAC1 Pacto, Paraso 21.68 132 *eP* **P 04 11 39.3 -4.7**
NORC Norcasia 21.72 115 *eP* **P 04 11 46.1 +1.7**
POPC Popayan, Colom 21.81 124 *eP* **P 04 11 47.8 +2.2**
ANMO Albuquerque 22.21 334 P **P 04 11 48.4 -1.3**
0.5nm,0.3s,baz=122,slow=8.6,SNR=2.4
ORTC Ortega, Tolima 22.22 119 *eP* **P 04 11 54.0 +4.2**
SPBC San Pablo de B 22.38 113 *eP* **P 04 11 51.2 -0.4**
TKL Tuckaleechee C 22.44 24 LR LR 04 22 53.7
comp=Z,33nm,18.1s,baz=196,slow=43
ROSC El Rosal 22.55 115 P **P 04 11 55.7 +2.1**
7.0nm,0.4s,baz=260,slow=18,SNR=8.6
7.0nm,0.4s
BARC Barichara 22.78 110 *eP* **P 04 11 58.8 +2.9**
PAMC Pamplona, Colo 22.92 108 *eP* **P 04 11 58.8 +1.2**
RUSC La Rusia 23.16 112 *eP* **P 04 12 00.4 +0.4**
CHIC Chingaza 23.16 115 *eP* **P 04 12 02.7 +2.8**
SDV Santo Domingo 24.32 103 LR LR 04 22 27.6
comp=Z,40nm,19.6s,baz=268,slow=38
ELK Elko 30.99 329 LR LR 04 28 16.5
comp=Z,50nm,18.4s,baz=177,slow=41
NVAR Mina Array Bea 31.03 322 LR LR 04 27 21.9
comp=Z,38nm,20.5s,baz=90,slow=40
NNA Nana 32.38 146 LR LR 04 24 00.7
comp=Z,23nm,20.5s,baz=292,slow=31
YBH Yreka Blue Hor 35.74 323 LR LR 04 30 27.6
comp=Z,35nm,20.4s,baz=164,slow=39
MDP Montagnes des 42.49 99 LR LR 04 33 20.6
comp=Z,18nm,20.0s,baz=250,slow=37
BDFB Brasilia 55.40 122 P **P 04 16 27.1 0.0**
1.5nm,0.5s,baz=302,slow=9.5,SNR=4.9
1.5nm,0.5s
EKA Eskdalemuir Ar 78.37 36 P **P 04 18 52.4 -0.2**
2.2nm,0.7s,baz=266,slow=5.7,SNR=7.0
2.2nm,0.7s
ESDC Sonseca Array 80.88 51 P **P 04 19 06.4 -0.2**
1.0nm,1.0s,baz=304,slow=5.1,SNR=4.6
ESDC LR LR 04 49 56.2
comp=Z,21nm,20.3s,baz=319,slow=32
1.0nm,1.0s

---

*NOU **01** 04:14:00.1, 37.35S×179.78E, h0km, MLv4.3/9, Off E. Coast of N. Island, N.Z.*
*WEL **01** 04:14:09.6±0.9, 37.5S×17.9E±.7, h12km, M3.5/42, ML3.7/23, MLv3.5/42, Error ellipse: s-maj=0.0km s-min=0.0km az=98.6, confirmed*
ISC 01 04:14:07.1±3.0, 37.41S±0.07×179.2E±0.1, h15km±14km, n93, σ1.9 01/97, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.74**	**258**	P		**Pg**		**04 14 22.0**	**+0.4**
MXZ	**Matakaoa Point**	**0.74**	**258**	P		**Pg**		**04 14 21.7**	**+0.1**
MXZ				S		**Sg**		**04 14 28.6**	**-2.9**
WMGZ	**Waiomatatini S**	**0.76**	**237**	P		**Pn**		**04 14 24.2**	**+0.9**
WMGZ				S		**Sg**		**04 14 33.5**	**+1.5**
PUZ	**Puketiti**	**1.01**	**229**	P		**Pn**		**04 14 28.0**	**+1.1**
PUZ				S		**Sg**		**04 14 40.2**	**+0.2**
PKGZ	**Pakihiroa**	**1.03**	**242**	P		**Pb**		**04 14 27.4**	**+0.8**
PKGZ				S		**Sg**		**04 14 38.9**	**-1.6**
HAZ	**Te Kaha**	**1.20**	**253**	P		**Pn**		**04 14 29.1**	**-0.2**
HAZ				S		**Sb**		**04 14 43.2**	**-1.5**
TWGZ	**Tauwhareparae**	**1.25**	**232**	P		**Pb**		**04 14 31.2**	**+0.8**
CNGZ	**Carnagh Statio**	**1.34**	**216**	P		**Pg**		**04 14 33.8**	**+0.8**
RUGZ	**Raukumara Rang**	**1.35**	**245**	P		**Pn**		**04 14 32.1**	**+0.6**
TKGZ	**Te Karaka**	**1.50**	**226**	P		**Pn**		**04 14 34.5**	**+1.1**
MWZ	**Matawai**	**1.63**	**235**	P		**Pn**		**04 14 35.9**	**+0.6**
RIGZ	**Rimuhau**	**1.73**	**221**	P		**Pn**		**04 14 37.8**	**+1.0**
RAGZ	**Rawiri**	**1.79**	**232**	P		**Pn**		**04 14 38.4**	**+0.8**
WHRZ	**Whale Island**	**1.84**	**255**	P		**Pn**		**04 14 39.1**	**+0.9**
PRGZ	**Paritu Road**	**1.84**	**214**	P		**Pn**		**04 14 39.6**	**+1.4**
URZ	**Urewera**	**1.88**	**242**	P		**Pn**		**04 14 39.6**	**+1.0**
URZ	**Urewera**	**1.88**	**242**	P		**Pn**		**04 14 39.4**	**+0.8**
KNZ	**Kokohu**	**2.02**	**217**	P		**Pn**		**04 14 41.1**	**+0.5**
SNGZ	**Shannon Statio**	**2.02**	**227**	P		**Pn**		**04 14 41.4**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.03**	**210**	P		**Pn**		**04 14 42.1**	**+1.4**
EDRZ	**Edgecumbe**	**2.09**	**250**	P		**Pn**		**04 14 42.2**	**+0.5**
RTZ	**Ruatahuna**	**2.14**	**235**	P		**Pn**		**04 14 43.3**	**+0.9**
OPRZ	**Ohinepanea**	**2.16**	**258**	P		**Pn**		**04 14 42.3**	**-0.3**
MUGZ	**Murupara**	**2.21**	**240**	P		**Pn**		**04 14 43.7**	**+0.4**
RAHZ	**Arahi**	**2.26**	**228**	P		**Pn**		**04 14 45.0**	**+1.1**
WHHZ	**Waihua**	**2.29**	**223**	P		**Pn**		**04 14 45.1**	**+0.8**
TARZ	**Mount Tarawera**	**2.31**	**248**	P		**Pn**		**04 14 45.5**	**+0.9**
RRRZ	**Republican Roa**	**2.34**	**246**	P		**Pn**		**04 14 45.5**	**+0.5**
MTHZ	**Maungataniwha**	**2.37**	**232**	P		**Pn**		**04 14 46.4**	**+1.0**
KARZ	**Kaharoa**	**2.44**	**255**	P		**Pn**		**04 14 46.6**	**+0.2**
PRRZ	**Plateau Road**	**2.49**	**243**	P		**Pn**		**04 14 47.5**	**+0.4**
HRRZ	**Handcock Road**	**2.52**	**246**	P		**Pn**		**04 14 48.1**	**+0.5**
NMHZ	**Naumai**	**2.54**	**228**	P		**Pn**		**04 14 48.6**	**+0.8**
ARHZ	**Aropaoanui**	**2.55**	**223**	P		**Pn**		**04 14 48.9**	**+0.9**
ALRZ	**Allen Road**	**2.55**	**242**	P		**Pn**		**04 14 48.4**	**+0.4**
MRHZ	**Matea Rd**	**2.63**	**236**	P		**Pn**		**04 14 49.6**	**+0.5**
BKZ	**Black Stump Fm**	**2.77**	**230**	P		**Pn**		**04 14 51.7**	**+0.6**
BKZ	**Black Stump Fm**	**2.77**	**230**	P		**Pn**		**04 14 51.6**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.81**	**216**	P		**Pn**		**04 14 51.6**	**+0.1**
MCHZ	**McNeill Hill**	**2.84**	**223**	P		**Pn**		**04 14 52.4**	**+0.4**
KUZ	**Kuaotunu**	**2.88**	**282**	P		**Pn**		**04 14 52.0**	**-0.4**
KUZ	**Kuaotunu**	**2.88**	**282**	P		**Pn**		**04 14 51.1**	**-1.3**
TOZ	**Tahuroa Road**	**2.97**	**263**	P		**Pn**		**04 14 53.4**	**-0.3**
KWHZ	**Kaweka Forest**	**2.98**	**227**	P		**Pn**		**04 14 53.8**	**-0.1**
KAHZ	**Kahuranaki**	**3.01**	**217**	P		**Pn**		**04 14 54.2**	**-0.1**
RITZ	**Rihia Road**	**3.08**	**238**	P		**Pn**		**04 14 55.7**	**+0.5**
RATZ	**Rangitukua**	**3.09**	**241**	P		**Pn**		**04 14 56.0**	**+0.6**
KRHZ	**Kereru**	**3.16**	**224**	P		**Pn**		**04 14 56.3**	**0.0**
BHHZ	**Black Hill Sta**	**3.24**	**229**	P		**Pn**		**04 14 57.5**	**+0.1**
TMVZ	**Te Maari**	**3.25**	**274**	P		**Pn**		**04 14 57.8**	**+0.1**
MKAZ	**Moumakai**	**3.25**	**274**	P		**Pn**		**04 14 57.6**	**0.0**
ETVZ	**East Tongariro**	**3.26**	**237**	P		**Pn**		**04 14 57.8**	**0.0**
KRVZ	**Karewarewa**	**3.28**	**238**	P		**Pn**		**04 14 58.3**	**+0.2**
OTVZ	**Oturere**	**3.30**	**237**	P		**Pn**		**04 14 58.5**	**+0.1**
NNVZ	**North Ngauruho**	**3.32**	**238**	P		**Pn**		**04 14 59.1**	**+0.4**
WTVZ	**West Tongariro**	**3.33**	**238**	P		**Pn**		**04 14 59.2**	**+0.5**
SNVZ	**South Ngauruho**	**3.33**	**237**	P		**Pn**		**04 14 58.9**	**+0.1**
NGZ	**Ngauruhoe**	**3.35**	**237**	P		**Pn**		**04 14 59.1**	**+0.1**
TUVZ	**Tukino**	**3.37**	**235**	P		**Pn**		**04 14 59.5**	**+0.2**
MOVZ	**Moawhango**	**3.38**	**233**	P		**Pn**		**04 14 59.3**	**0.0**
TWVZ	**Taurewa**	**3.41**	**240**	P		**Pn**		**04 14 58.7**	**-1.2**
WHVZ	**Whangaehu Hut**	**3.42**	**236**	P		**Pn**		**04 15 00.0**	**0.0**
FWVZ	**Far West T-bar**	**3.42**	**236**	P		**Pn**		**04 15 00.5**	**+0.4**
WPHZ	**Waipukurau**	**3.43**	**218**	P		**Pn**		**04 14 59.6**	**-0.5**
WNVZ	**Wahianoa**	**3.43**	**235**	P		**Pn**		**04 15 00.1**	**-0.1**
PNHZ	**Pukenui**	**3.44**	**222**	P		**Pn**		**04 14 59.3**	**-1.0**
TRVZ	**Turoa**	**3.45**	**236**	P		**Pn**		**04 15 00.6**	**0.0**
ETAZ	**East Tamaki Re**	**3.46**	**276**	P		**Pn**		**04 15 00.6**	**+0.2**
PRHZ	**Porangahau**	**3.50**	**214**	P		**Pn**		**04 14 60.0**	**-1.0**
HIZ	**Hauiti**	**3.62**	**251**	P		**Pn**		**04 15 03.8**	**+1.1**
HIZ	**Hauiti**	**3.62**	**251**	P		**Pn**		**04 15 03.8**	**+1.1**
AWAZ	**Awhitu Peninsu**	**3.67**	**274**	P		**Pn**		**04 15 03.9**	**+0.6**
TSZ	**Takapari Road**	**3.68**	**223**	P		**Pn**		**04 15 02.3**	**-1.1**
DVHZ	**Dannevirke**	**3.75**	**219**	P		**Pn**		**04 15 03.6**	**-0.8**
RVAZ	**Riverhead Bore**	**3.77**	**278**	P		**Pn**		**04 15 05.4**	**+0.8**
VRZ	**Vera Road**	**3.91**	**243**	P		**Pn**		**04 15 07.8**	**+1.2**
BFZ	**Birch Farm**	**4.01**	**214**	P		**Pn**		**04 15 06.2**	**-1.8**
BFZ	**Birch Farm**	**4.01**	**214**	P		**Pn**		**04 15 06.2**	**-1.8**
PRWZ	**Pori Road**	**4.04**	**218**	P		**Pn**		**04 15 07.6**	**-0.8**
WAZ	**Wanganui**	**4.06**	**233**	P		**Pn**		**04 15 09.2**	**+0.5**
WCZ	**Waipu Caves**	**4.18**	**289**	P		**Pn**		**04 15 10.6**	**+0.2**
MRZ	**Mangatainoka R**	**4.31**	**220**	P		**Pn**		**04 15 10.1**	**-2.0**
KHEZ	**Kahui Hut**	**4.51**	**244**	P		**Pn**		**04 15 15.9**	**+1.0**
KHEZ	**Kahui Hut**	**4.51**	**244**	P		**Pn**		**04 15 17.4**	**+2.5**
TMWZ	**Te Maipa**	**4.51**	**214**	P		**Pn**		**04 15 12.7**	**-2.2**
HOWZ	**Holdsworth Sta**	**4.52**	**218**	P		**Pn**		**04 15 12.9**	**-2.1**
OGWZ	**Otaki Gorge**	**4.64**	**222**	P		**Pn**		**04 15 14.6**	**-2.0**
MTW	**Mount Morrison**	**4.73**	**216**	P		**Pn**		**04 15 15.7**	**-2.2**
KIW	**Kapiti Island**	**4.81**	**223**	P		**Pn**		**04 15 16.7**	**-2.2**
OUZ	**Omahuta**	**5.04**	**294**	P		**Pn**		**04 15 22.6**	**+0.5**
OUZ	**Omahuta**	**5.04**	**294**	P		**Pn**		**04 15 22.8**	**+0.7**
QRZ	**Quartz Range**	**6.22**	**235**	P		**Pn**		**04 15 38.1**	**-0.3**
KHZ	**Kahutara**	**6.64**	**219**	P		Pn		04 15 49.3	+5.3

---

*IDC **01** 04:43:40.1±1.2, 2.75S×100.21E, h0km, mb4.1/12, mbtmp4.2/13, ML4.4/1, MS3.1/5, Error ellipse: s-maj=45.0km s-min=16.1km az=53.0*
*DJA **01** 04:43:43.6±0.6, 3.5S±4.5×100.0E±.7, h24km±3km, M4.3/10, mb4.4/1, mB5.2/1, MLv4.2/10, Mw(mB)4.6/1*
*NEIC **01** 04:43:47.0±1.6, 2.89S±0.10×100.1E±0.7, h56km±9km, mb4.3/14, Error ellipse: s-maj=15.8km s-min=12.7km az=54.0*
ISC 01 04:43:43.6±0.9, 2.83S±0.06×100.10E±0.05, h28km±6km, n63, σ1.9 12/53, mb4.3/18, MS3.0/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.11**	**307**	P		**Pb**		**04 43 48.4**	**-0.2**
PPSI				S		**Sb**		**04 43 52.2**	**+0.1**
SISI	**Saibi**	**1.80**	**326**	P		**Pn**		**04 44 12.7**	**-0.1**
SISI				S		**Sn**		**04 44 34.8**	**0.0**
PDSI	**Padang**	**1.94**	**11**	P		**Pn**		**04 44 14.8**	**0.0**
PDSI				S		**Sn**		**04 44 39.9**	**+1.6**
MASI	**Maura Aman, Be**	**2.16**	**98**	P		**Pn**		**04 44 19.7**	**+1.8**
MASI				S		**Sb**		**04 44 46.6**	**-2.0**
SDSI	**Sungai Dareh**	**2.31**	**35**	P		**Pn**		**04 44 21.2**	**+1.4**
KSI	**Kapahiang**	**2.62**	**108**	P		**Pn**		**04 44 26.4**	**+2.2**
BKNI	**Bangkinang**	**3.27**	**17**			**Pb**		**04 44 39.0**	**-2.1**
PBSI	**Pulau Batu**	**3.30**	**327**	P		**Pn**		**04 44 33.2**	**-0.3**
GSI	**Gunungsitoli**	**4.82**	**328**	Pn		**Pn**		**04 44 56.8**	**+2.4**
GSI	**Gunungsitoli**	**4.82**	**328**	P		**Pn**		**04 44 53.4**	**-1.0**
DSRI	**Dabo**	**5.05**	**63**	P		**Pn**		**04 44 57.5**	**-0.1**
RPSI	**Rantau Prapat**	**5.61**	**348**	Pn		**Pn**		**04 45 06.9**	**+1.7**
MYKOM	**Kota Tinggi**	**5.93**	**39**	Pn		**Pn**		**04 45 11.0**	**+1.4**
KULM	**Kulim**	**8.08**	**4**	Pn		**Pn**		**04 45 42.1**	**+2.8**
KAPI	**Kappang**	**19.73**	**97**	P		**P**		**04 48 11.7**	**+0.4**
	1.2nm,0.3s,baz=254,slow=13,SNR=1.9								
	3.2nm,0.3s								
MYLDM	**Lahd Datu**	**20.03**	**67**	P		**P**		**04 48 15.3**	**+0.7**
MYLDM					IAmb	IAmb		04 48 24.4	
	comp=Z,7.7nm,0.8s								
TOLI2	**Tolitoli**	**21.05**	**80**	P		**P**		**04 48 24.8**	**-0.9**
TOLI2					IAmb	IAmb		04 48 44.9	
	comp=Z,9.7nm,0.9s								
CMAR	**Chiang Mai Arr**	**21.18**	**357**	P		**P**		**04 48 26.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.18**	**357**	P		**P**		**04 48 25.7**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=189,slow=9.4,SNR=9.5								
CMAR					LR	LR		04 56 51.0	
	comp=Z,46nm,20.3s,baz=165,slow=38								
	comp=Z,1.1nm,0.3s								
CHTO	**Chiang Mai**	**21.54**	**357**	P		**P**		**04 48 32.3**	**+1.5**
CRAI	**Chiangrai**	**22.92**	**1**	P		**P**		**04 48 45.9**	**+0.3**
DAV	**Davao City (W)**	**27.27**	**69**	LR		LR		05 01 00.1	
	comp=Z,31nm,20.3s,baz=172,slow=38								
H08S2	**Diego Garcia H**	**27.89**	**259**	T		T		05 18 27.6	
	baz=82,slow=76,SNR=779								
H08S3	**Diego Garcia H**	**27.90**	**259**	T		T		05 18 27.8	
	baz=82,slow=76,SNR=2409								
H08S1	**Diego Carcia H**	**27.91**	**259**	T		T		05 18 23.2	
	baz=82,slow=76,SNR=256								
H01W3	**Cape Leeuwin H**	**34.46**	**159**	T		T		05 26 54.2	
	baz=335,slow=76,SNR=40								
H01W2	**Cape Leeuwin H**	**34.48**	**159**	T		T		05 26 48.3	
	baz=335,slow=76,SNR=58								
H01W1	**Cape Leeuwin H**	**34.48**	**159**	T		T		05 26 49.6	
	baz=335,slow=76,SNR=37								
WB0	**Warramunga Arr**	**37.48**	**119**	P		**P**		**04 50 54.8**	**-0.4**
WB0					IAmb	IAmb		04 51 11.2	
	comp=Z,5.2nm,1.1s								
WRA	**Warramunga Arr**	**37.50**	**120**	P		**P**		**04 50 55.0**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=306,slow=8.7,SNR=9.5								
WRA					PcP	**PcP**		**04 53 14.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=331,slow=2.3,SNR=3.3								
	comp=Z,0.5nm,0.4s								
FORT	**Forrest**	**38.35**	**139**	P		**P**		**04 51 02.6**	**+0.2**
AS31	**Alice Springs**	**38.70**	**125**	P		**P**		**04 51 04.5**	**-0.9**
ASAR	**Alice Springs**	**38.70**	**125**	P		**P**		**04 51 04.5**	**-0.9**
ASAR	**Alice Springs**	**38.70**	**125**	P		**P**		**04 51 05.0**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=304,slow=7.8,SNR=13								
ASAR					PcP	**PcP**		**04 53 18.4**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=276,slow=3.4,SNR=3.4								
	comp=Z,1.6nm,0.7s								
KSRS	**Korea Array**	**47.68**	**30**	LR		LR		05 14 14.8	
	comp=Z,16nm,18.1s,baz=205,slow=39								
BOOM	**Boomskoye usch**	**50.13**	**337**	P		**P**		**04 52 37.7**	**+1.0**
SONM	**Songino Array**	**50.75**	**5**	P		**P**		**04 52 41.1**	**-0.2**
SONM					IAmb	IAmb		04 52 43.5	
	comp=Z,4.4nm,0.9s								
SONM	**Songino Array**	**50.75**	**5**	P		**P**		**04 52 42.1**	**+0.8**
	comp=Z,5.6nm,0.9s,baz=190,slow=8.9,SNR=22								
	comp=Z,5.6nm,0.9s								
AAK	**Ala-Archa**	**50.83**	**336**	LR		LR		05 17 04.5	
	comp=Z,26nm,18.1s,baz=138,slow=39								
ULN	**Ulaanbaatar**	**50.85**	**6**	P		**P**		**04 52 42.6**	**+0.6**
ULN					IAmb	IAmb		04 52 44.1	
	comp=Z,4.5nm,0.8s								
MK31	**Makanchi Array**	**51.85**	**345**	P		**P**		**04 52 50.5**	**+1.1**
MK31					IAmb	IAmb		04 52 51.2	
	comp=Z,3.4nm,0.7s								
MKAR	**Makanchi Array**	**51.85**	**345**	P		**P**		**04 52 50.0**	**+0.6**
MKAR	**Makanchi Array**	**51.85**	**345**	P		**P**		**04 52 50.4**	**+1.0**
	comp=Z,5.1nm,0.7s,baz=149,slow=8.0,SNR=32								
	comp=Z,5.1nm,0.7s								
MJAR	**Matsushiro Arr**	**52.86**	**39**	P		**P**		**04 52 55.7**	**-1.4**
	comp=Z,2.2nm,1.1s,baz=214,slow=8.5,SNR=3.7								
	comp=Z,2.2nm,1.1s								
USRK	**Ussuriysk Ar.**	**54.84**	**28**	P		**P**		**04 53 11.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**54.84**	**28**	P		**P**		**04 53 10.9**	**-0.5**
	comp=Z,5.6nm,0.8s,baz=226,slow=3.2,SNR=5.7								
	comp=Z,5.6nm,0.8s								
KURBB	**Kurchatov Arra**	**56.37**	**344**	P		**P**		**04 53 22.4**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=161,slow=7.0,SNR=21								
	comp=Z,3.0nm,0.8s								
KURK	**Kurchatov**	**56.42**	**344**	P		**P**		**04 53 23.1**	**+0.4**
KURK					IAmb	IAmb		04 53 24.3	
	comp=Z,4.6nm,0.8s								
ZALV	**Zalesovo Beam**	**57.99**	**349**	P		**P**		**04 53 33.6**	**-0.1**
ZALV	**Zalesovo Beam**	**57.99**	**349**	P		**P**		**04 53 34.1**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=162,slow=6.1,SNR=7.1								
	comp=Z,2.3nm,0.7s								
H04N2	**CROZET ISLANDS**	**60.19**	**217**	T		T		05 59 01.5	
	baz=58,slow=75,SNR=3085								
H04N1	**CROZET ISLANDS**	**60.20**	**217**	T		T		05 59 02.1	
	baz=58,slow=75,SNR=2899								
H04N3	**CROZET ISLANDS**	**60.21**	**217**	T		T		05 59 00.6	
	baz=58,slow=75,SNR=3190								
H04S1	**CROZET ISLANDS**	**60.48**	**216**	T		T		05 59 17.8	
	baz=58,slow=75,SNR=3093								
H04S3	**CROZET ISLANDS**	**60.49**	**216**	T		T		05 59 22.9	
	baz=58,slow=75,SNR=5518								
H04S2	**CROZET ISLANDS**	**60.49**	**216**	T		T		05 59 18.6	
	baz=58,slow=75,SNR=3418								
BVAR	**Borovoye Array**	**60.99**	**340**	P		**P**		**04 53 54.0**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=143,slow=7.4,SNR=3.2								
	comp=Z,0.7nm,0.5s								
ABKAR	**Akbulak array**	**62.41**	**332**	P		**P**		**04 54 03.6**	**-0.4**
CASY	**Casey**	**63.76**	**175**	P		**P**		**04 54 11.2**	**-1.4**
CASY					IAmb	IAmb		04 54 39.0	
	comp=Z,1.0nm,0.8s								
BOSA	**Boshof**	**75.34**	**241**	LR		LR		05 21 42.5	
	comp=Z,20nm,18.3s,baz=158,slow=30								
FINES	**FINESS Array B**	**84.89**	**332**	P		**P**		**04 56 15.7**	**0.0**
	comp=Z,1.9nm,0.9s,baz=106,slow=4.5,SNR=4.7								
	comp=Z,1.9nm,0.9s								
ARCES	**ARCESS Array B**	**87.28**	**340**	P		**P**		**04 56 28.3**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=120,slow=5.5,SNR=2.4								
	comp=Z,1.7nm,0.9s								
TXAR	**Lajitas Array**	**145.29**	**38**	PKPbc		**PKPdf**		**05 03 20.7**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=276,slow=1.0,SNR=29								

RSNC 01 04:47:47.6±1.5, 6.74N×73.08W, h154km±13km, ML1.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.18**	**215**	*eP*		Pn		04 48 08.0	-0.7
BARC				*eS*		Sn		04 48 23.2	-1.5
BARC	**Barichara**	**0.18**	**215**	*eP*		Pn		04 48 07.9	-0.8
BARC				*eS*		Sn		04 48 23.2	-1.5
PAMC	**Pamplona, Colo**	**0.70**	**32**	*eP*		Pn		04 48 11.1	-0.1
PAMC				*eS*		Sn		04 48 30.7	+1.7
PAMC				*i*				04 48 41.6	
	comp=Z,3.3nm,0.4s								
RUSC	**La Rusia**	**0.85**	**180**	*eP*		Pn		04 48 11.7	-0.5
RUSC				*eS*		Sn		04 48 31.5	+0.6
RUSC				*i*				04 48 31.8	
	comp=Z,1.1nm,0.4s								
RUSC	**La Rusia**	**0.85**	**180**	*eP*		Pn		04 48 11.7	-0.5
RUSC				*eS*		Sn		04 48 31.1	+0.3
RUSC				*i*				04 48 31.8	
	comp=Z,1.1nm,0.4s								
SPBC	**San Pablo de B**	**1.47**	**222**	*eP*		Pn		04 48 16.6	-0.7
SPBC				*eS*		Sn		04 48 39.5	-0.5
SPBC				*i*				04 48 43.5	
	comp=Z,2.4nm,0.1s								
SPBC	**San Pablo de B**	**1.47**	**222**	*eP*		Pn		04 48 16.6	-0.6
SPBC				*eS*		Sn		04 48 39.5	-0.5
SPBC				*i*				04 48 43.5	
	comp=Z,2.4nm,0.1s								
NORC	**Norcasia**	**2.13**	**237**	*eS*		Sn		04 48 53.3	+0.2

---

*SDD **01** 04:55:40.3±2.2, 18.98N×66.93W, h23km±214km, MD3.8, ML2.9*
*RSPR **01** 04:55:44.8, 19.07N×67.11W, h25km±17km*
ISC 01 04:55:39.3±2.4, 19.2N±0.1×67.07W±0.08, h13km±12km, n14, σ1.9 27/20, 11C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.86**	**206**	⇑*eP*		**Pn**		**04 55 57.6**	**+0.5**
IDE	**Isla Desecheo**	**0.86**	**206**	*eS*		**Sn**		**04 56 07.9**	**-1.6**
PRSN	**Puerto Rico Se**	**0.94**	**184**	⇓*iP*		**Pn**		**04 55 58.7**	**+0.4**
PRSN	**Puerto Rico Se**	**0.94**	**184**	*eS*		**Sb**		**04 56 09.5**	**-0.3**
LSP	**Las Mesas**	**0.98**	**181**	⇑*iP*		**Pn**		**04 55 59.5**	**+0.7**
LSP	**Las Mesas**	**0.98**	**181**	*eS*		**Sn**		**04 56 11.0**	**-1.6**
GBPR	**Guanica, Bosqu**	**1.19**	**171**	⇓*eP*		**Pg**		**04 56 02.9**	**+0.6**
PCDR	**Punta Cana, DR**	**1.39**	**243**	⇑*eP*g		**Pg**		**04 56 06.7**	**+0.5**
PCDR				⇑*eS*g		**Sg**		**04 56 24.3**	**0.0**
PCDR					IAML			04 56 29.2	
	comp=N,199nm,0.4s								
PCDR					IAML			04 56 31.7	
	comp=E,83nm,0.3s								
HIDR	**Higuey Centro**	**1.65**	**250**	⇑*eP*g		**Pg**		**04 56 10.4**	**-0.7**
HIDR					IAML			04 56 36.4	
	comp=N,87nm,0.2s								
MIDR	**Miches**	**1.88**	**265**	⇓*eP*g		**Pg**		**04 56 14.2**	**-1.2**
MIDR				⇓*eS*g		**Sg**		**04 56 40.0**	**+0.2**
MIDR					IAML			04 56 44.9	
	comp=N,43nm,0.9s								
MIDR					IAML			04 56 45.4	
	comp=E,38nm,0.5s								
SADR	**Isla Saona**	**1.88**	**240**	⇓*eP*g		**Pb**		**04 56 13.3**	**-0.2**
SADR					IAML			04 56 37.9	
	comp=N,136nm,1.9s								
SADR				⇑*eS*g		**Sb**		**04 56 38.3**	**+1.3**
SADR					IAML			04 56 51.2	
	comp=E,102nm,0.3s								
HATOM	**Hato Mayor del**	**2.21**	**261**	⇑*eP*g		**Pb**		**04 56 19.2**	**0.0**
HATOM				⇑*eS*g		**Sg**

mb4.1/3, Error ellipse: s-maj=15.6km s-min=9.1km az=227.0
*UCR **01** 04:57:53.8±0.8, 9°.17N×85°.66W, h35km±22km, MW4.0, MB4.1(NEIC)*
*SNET **01** 04:58:00.5±1.0, 9°.71N×85°.46W, h35km±999km, ML4.6*
*IDC **01** 04:58:34.0±18.0, 11°.17N×84°.98W, h291km±156km, mb3.0/6, mbtmp3.6/6, MS3.0/5, Error ellipse: s-maj=136.8km s-min=49.0km az=9.0*
ISC 01 04:57:53.2±1.7, 9°.28N±0°.06×85°.55W±0°.04, h7km±11km, n130, σ1§47/133, mb3.8/9, MS2.7/3, 1C-5D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INDI	**Punta indio, G**	**0.59**	**4**	*eP*	**Pb**	**04 58 06.9**	**+1.1**
INDI				*eS*	**Sb**	**04 58 17.0**	**+2.6**
DUNO	**Dulce Nombre,**	**0.80**	**4**		**Pb**	**04 58 10.0**	**+0.6**
DUNO	**Dulce Nombre,**	**0.80**	**4**	*eP*	**Pb**	**04 58 10.1**	**+0.6**
DUNO				*eS*	**Sn**	**04 58 22.6**	**-0.4**
JACO	**JACO, Garabito**	**0.95**	**66**		**Pb**	**04 58 12.2**	**+0.1**
JACO	**JACO, Garabito**	**0.95**	**66**	*eP*	**Pb**	**04 58 12.1**	**0.0**
JACO				*eS*	**Sn**	**04 58 26.2**	**-0.7**
HATIL	**Hatillo**	**1.02**	**351**	*eP*	**Pb**	**04 58 13.0**	**-0.3**
HATIL				*eS*	**Sb**	**04 58 26.6**	**-0.5**
ORTG	**Ortega, Santa**	**1.08**	**4**		**Pb**	**04 58 14.3**	**0.0**
ORTG	**Ortega, Santa**	**1.08**	**4**	*eP*	**Pb**	**04 58 14.2**	**-0.1**
ORTG				*eS*	**Sn**	**04 58 29.7**	**-0.5**
ARZA	**Esparza**	**1.12**	**51**	*eP*	**Pn**	**04 58 16.0**	**+0.6**
JTS	**Las Juntas de**	**1.16**	**30**		**Pb**	**04 58 15.7**	**0.0**
JTS	**Las Juntas de**	**1.16**	**30**	*eP*	**Pb**	**04 58 15.5**	**-0.2**
JTS	**Las Juntas de**	**1.16**	**30**	*eP*	**Pb**	**04 58 15.7**	**0.0**
RITA	**Parrita**	**1.22**	**79**	*eP*	**Pg**	**04 58 15.7**	**-1.0**
RITA				*eS*	**Sb**	**04 58 32.2**	**-0.5**
SRA1	**San Ramn**	**1.32**	**53**	*eP*	**Pg**	**04 58 17.9**	**-0.7**
CASO	**Castillo**	**1.40**	**35**	*i P*	**Pn**	**04 58 19.7**	**+0.4**
CASO				*i S*	**Sn**	**04 58 40.5**	**+2.5**
COL2C	**Colonia**	**1.42**	**14**	*eP*	**Pb**	**04 58 19.7**	**-0.4**
SGBR	**La Fortuna**	**1.42**	**33**	*eP*	**Pg**	**04 58 19.3**	**-1.2**
CUI	**Cuipilapa**	**1.42**	**15**	*iP*	**Pn**	**04 58 19.8**	**+0.2**
SOCE	**Pocosol**	**1.43**	**40**		**Pn**	**04 58 20.1**	**+0.4**
SOCE	**Pocosol**	**1.43**	**40**	*eP*	**Pn**	**04 58 20.1**	**+0.4**
COTE	**Lago Cote**	**1.43**	**26**	*iP*	**Pn**	**04 58 20.1**	**+0.5**
TABAC	**Tabacon**	**1.43**	**32**	*i P*	**Pn**	**04 58 20.4**	**+0.7**
ACAL	**Aguas Claras**	**1.44**	**20**	*i P*	**Pn**	**04 58 20.1**	**+0.3**
LLNJ	**Naranjito**	**1.44**	**82**	*eP*	**Pn**	**04 58 18.8**	**-1.0**
LIM1	**Limonal**	**1.44**	**12**	*i P*	**Pg**	**04 58 19.9**	**-1.0**
CEDE	**Laguna Cedeo**	**1.46**	**35**	*iP*	**Pb**	**04 58 20.8**	**0.0**
FORC	**Fortuna**	**1.46**	**36**	*i P*	**Pb**	**04 58 20.6**	**-0.2**
HORNC	**Hornillas**	**1.47**	**14**	*i P*	**Pg**	**04 58 20.4**	**-1.1**
MOTZ	**Rio Naranjo**	**1.47**	**18**	*i P*	**Pb**	**04 58 20.9**	**-0.2**
GPS2	**Hotel Rincn d**	**1.48**	**7**	*i P*	**Pg**	**04 58 20.4**	**-1.2**
GPS3	**Bodega del ICE**	**1.48**	**7**	*eP*	**Pg**	**04 58 20.6**	**-1.0**
LAPC	**Finca la Perla**	**1.48**	**4**	*i P*	**Pg**	**04 58 20.4**	**-1.4**
LAPC				*i S*	**Sn**	**04 58 40.1**	**0.0**
SANTA	**Santa Ana**	**1.49**	**64**	*eP*	**Pn**	**04 58 20.5**	**0.0**
GP77	**Hacienda Santa**	**1.49**	**8**	*i P*	**Pg**	**04 58 20.8**	**-1.0**
MESS	**Mesas**	**1.49**	**13**	*i P*	**Pg**	**04 58 20.8**	**-1.1**
GP03	**Hacienda Santa**	**1.50**	**7**	*i P*	**Pg**	**04 58 20.8**	**-1.2**
GBS3	**Finca Las Img**	**1.50**	**3**	*i P*	**Pn**	**04 58 20.5**	**-0.1**
GBS3				*i S*	**Sn**	**04 58 40.6**	**+0.2**
GPS1	**Guardaparques**	**1.50**	**7**	*i P*	**Pn**	**04 58 20.8**	**+0.1**
BUEV	**Buena Vista**	**1.52**	**5**	*i P*	**Pn**	**04 58 20.9**	**0.0**
PTEN	**Parque Tenorio**	**1.53**	**21**	*i P*	**Pb**	**04 58 21.6**	**-0.3**
ABE2	**San Pablo**	**1.53**	**74**	*eP*	**Pn**	**04 58 20.6**	**-0.6**
GB1A	**Borinquen Arri**	**1.54**	**5**	*iP*	**Pn**	**04 58 21.4**	**+0.2**
CLARA	**Aguas Claras**	**1.54**	**14**	*i P*	**Pn**	**04 58 21.4**	**+0.2**
VORI	**VORI**	**1.54**	**7**	*eP*	**Pn**	**04 58 21.2**	**-0.2**
VMAR	**Armenia, Volca**	**1.58**	**16**	*eP*	**Pb**	**04 58 22.5**	**-0.4**
VMAR				*i P*		04 58 22.5	
HDC	**Heredia**	**1.58**	**63**		**Pn**	**04 58 22.0**	**+0.1**
AMPA	**Desamparados**	**1.59**	**67**	*eP*	**Pn**	**04 58 21.7**	**-0.2**
LCR2	**La Lucha 2**	**1.59**	**73**		**Pn**	**04 58 21.3**	**-0.7**
LCR2	**La Lucha 2**	**1.59**	**73**	*eP*	**Pn**	**04 58 21.3**	**-0.7**
BUAI	**Buenos Aires**	**1.60**	**8**	*eP*	**Pb**	**04 58 22.8**	**-0.4**
CANAL	**Canalete**	**1.62**	**17**	*i P*	**Pn**	**04 58 22.7**	**+0.5**
EDDO	**Dominical**	**1.66**	**91**	*eP*	**Pn**	**04 58 20.8**	**-1.9**
CORON	**Coronado**	**1.67**	**65**	*eP*	**Pn**	**04 58 23.5**	**+0.4**
VERA	**Finca Concepci**	**1.70**	**23**	*eP*	**Pb**	**04 58 24.2**	**-0.6**
ITAL	**Pital**	**1.71**	**47**	*eP*	**Pb**	**04 58 24.5**	**-0.5**
RIMA	**Rio Macho**	**1.73**	**74**	Pn	**Pn**	**04 58 23.4**	**-0.5**
RIMA	**Rio Macho**	**1.73**	**74**	*eP*	**Pn**	**04 58 23.4**	**-0.5**
REPA	**Paraso**	**1.74**	**72**	*eP*	**Pn**	**04 58 24.9**	**+0.9**
VICA	**Volcano Irazu**	**1.82**	**67**	*eP*	**Pn**	**04 58 25.5**	**+0.1**
COVE	**Coope Vega, Sa**	**1.82**	**38**		**Pn**	**04 58 25.6**	**+0.6**
COVE	**Coope Vega, Sa**	**1.82**	**38**	*eP*	**Pn**	**04 58 25.6**	**+0.6**
RAFA	**San Farael, Vo**	**1.84**	**68**	*eP*	**Pn**	**04 58 25.9**	**+0.3**
PEZE	**Perez Zeledon,**	**1.85**	**87**		**Pn**	**04 58 24.2**	**-1.2**
PEZE	**Perez Zeledon,**	**1.85**	**87**	*eP*	**Pn**	**04 58 24.2**	**-1.2**
LCHIL	**Los Chiles**	**1.93**	**25**	*eP*	**Pn**	**04 58 27.4**	**+0.5**
VERB	**Verbena**	**1.94**	**70**	*eP*	**Pn**	**04 58 27.2**	**+0.5**
RVSTA	**Santa Teresita**	**2.00**	**70**	*eP*	**Pn**	**04 58 28.1**	**+0.6**
CARI	**Cariari**	**2.08**	**59**	*eP*	**Pb**	**04 58 31.3**	**-0.1**
EDPN	**Palmar Norte**	**2.09**	**99**	*eP*	**Pn**	**04 58 27.4**	**-1.2**
RVLA	**Villa Bonita**	**2.10**	**67**	*eP*	**Pn**	**04 58 30.1**	**+1.2**
LCOCO	**El Coco**	**2.12**	**68**	*eP*	**Pn**	**04 58 30.1**	**+1.0**
EDBA	**Buenos Aires**	**2.24**	**93**	*eP*	**Pn**	**04 58 29.6**	**-1.3**
DRK0	**Durika**	**2.27**	**90**		**Pn**	**04 58 30.4**	**-0.9**
BATAN	**Batan**	**2.29**	**69**		**Pn**	**04 58 32.8**	**+1.3**
JIME	**Puerto Jimenez**	**2.31**	**108**	*eP*	**Pn**	**04 58 30.4**	**-1.4**
EDAD	**Golfito**	**2.43**	**105**	*eP*	**Pn**	**04 58 32.1**	**-1.3**
EDSV	**San Vito**	**2.58**	**100**	*eP*	**Pn**	**04 58 35.5**	**-0.1**
ACON	**Acoyapa**	**2.70**	**8**		**Pn**	**04 58 37.4**	**+0.3**
ACON	**Acoyapa**	**2.70**	**8**	*eP*	**Pn**	**04 58 37.2**	**+0.1**
CDITO	**Canoas**	**2.73**	**105**		**Pn**	**04 58 35.6**	**-2.0**
BRU2	**Volcan**	**2.86**	**99**	Pn	**Pn**	**04 58 38.3**	**-1.2**
ESPN	**Las Esperanzas**	**3.15**	**23**		**Pn**	**04 58 44.2**	**+0.9**
BOAB	**BOACO BROADBAN**	**8.15**	**358**	Pn	**Pn**	**04 58 43.2**	**-0.2**
CNGN	**Cerro Negro**	**3.40**	**341**	Pn	**Pn**	**04 58 46.9**	**+0.1**
CNGN	**Cerro Negro**	**3.40**	**341**	*eP*	**Pn**	**04 58 46.6**	**-0.2**
CRIN	**San Cristobal**	**3.71**	**337**	*eP*	**Pn**	**04 58 52.5**	**+1.5**
LCND	**La Caada**	**4.62**	**330**	*eP*	**Pn**	**04 59 04.7**	**+1.2**
LCND				*eS*	**Sn**	**04 59 53.0**	**-4.5**
ALJI	**Alcalda de J**	**5.00**	**324**	*eP*	**Pn**	**04 59 09.7**	**+1.0**
TGUH	**Tegucigalpa,Un**	**5.04**	**341**	Pn	**Pn**	**04 59 09.5**	**+0.1**
TGUH	**Tegucigalpa,Un**	**5.04**	**341**	*eP*	**Pn**	**04 59 10.0**	**+0.5**
TECO	**Alcaldia de Te**	**5.29**	**323**	*eP*	**Pn**	**04 59 13.6**	**+0.8**
SCLA	**Alcaldia de Sa**	**5.39**	**325**	*eP*	**Pn**	**04 59 16.0**	**+1.8**
COEG	**Centro de Oper**	**5.41**	**323**	*eP*	**Pn**	**04 59 15.2**	**+0.7**
SJTE	**Alcalda de S**	**5.48**	**322**	*eP*	**Pn**	**04 59 17.0**	**+1.5**
PAVA	**Las Pavas**	**5.52**	**323**	*eP*	**Pn**	**04 59 18.2**	**+2.2**
LALI	**Alcalda de L**	**5.59**	**319**	*eP*	**Pn**	**04 59 18.0**	**+1.2**
SNET	**Serv Nac Est T**	**5.68**	**321**		**Pn**	**04 59 18.7**	**+0.5**
UEES	**Universidad Ev**	**5.71**	**321**	*eP*	**Pn**	**04 59 19.8**	**+1.2**
UEES				*eS*	**Sn**	**05 00 22.9**	**-1.4**
JAYA	**Jayaque - finc**	**5.79**	**319**	*eP*	**Pn**	**04 59 21.0**	**+1.2**
JAYA				*eS*	**Sn**	**05 00 23.8**	**-2.8**
CEVE	**Cerro Verde**	**6.03**	**319**	*eP*	**Pn**	**04 59 25.2**	**+2.0**
CEVE				IAML		05 00 43.2	
	comp=Z,239nm,0.4s						
SNJE	**San Jose**	**6.05**	**319**	*eP*	**Pn**	**04 59 25.5**	**+2.1**
NUBE	**Las Nubes**	**6.19**	**318**	*eP*	**Pn**	**04 59 27.2**	**+1.9**
SLOZ	**Alcaldia de Sa**	**6.28**	**319**	*eP*	**Pn**	**04 59 27.9**	**+1.5**
PLMC	**San Jos del P**	**10.16**	**115**	*eP*	**Pn**	**05 00 19.3**	**-0.5**
SJCC	**San Jacinto, C**	**10.24**	**86**	*eP*	**Pn**	**05 00 24.0**	**+3.2**
HELC	**Santa Helena**	**10.39**	**106**	*eP*	**Pn**	**05 00 25.1**	**+2.0**
JAMC	**Jamundi, Valle**	**10.68**	**124**	*eP*	**Pn**	**05 00 28.6**	**+1.7**
GUY2C	**Guyana, Caldas**	**10.87**	**111**	*eP*	**Pn**	**05 00 30.9**	**+1.1**
POPC	**Popayan, Colom**	**11.07**	**127**	*eP*	**Pn**	**05 00 33.2**	**+0.9**
TEIG	**Tepich**	**11.20**	**347**	LR	LR	05 04 48.8	
	comp=Z,379nm,20.5s,baz=34,slow=39						
GCUF	**Volcan Galeras**	**11.43**	**134**	*eP*	**Pn**	**05 00 40.1**	**+2.7**
CRUC	**La Cruz**	**11.48**	**131**	*eP*	**Pn**	**05 00 42.5**	**+4.4**
TULM	**Tulcn-Chalpat**	**11.49**	**137**		Pn	05 00 32.1	-6.2
ORTC	**Ortega, Tolima**	**11.54**	**117**	*eP*	**Pn**	**05 00 41.3**	**+2.8**
PULU	**Pululahua**	**11.56**	**142**	Pn	Pn	05 00 35.6	-3.6
BOSC	**San Juan Bosco**	**14.21**	**150**	Pn	Pn	05 01 09.9	-5.3
SDV	**Santo Domingo**	**14.73**	**90**	LR	LR	05 07 59.1	
	comp=Z,28nm,20.1s,baz=305,slow=40						
JCT	**Junction City**	**24.94**	**330**	P	**P**	**05 03 13.4**	**-3.9**
JCT				IAmb	IAmb	05 03 25.2	
	comp=Z,9.2nm,0.9s						
BRDY	**Brady**	**25.22**	**332**	P	**P**	**05 03 15.6**	**-4.3**
BRDY				IAmb	IAmb	05 03 24.3	
	comp=Z,3.5nm,0.8s						
SAND	**Sanderson**	**25.76**	**325**	P	**P**	**05 03 20.1**	**-4.7**
SAND				IAmb	IAmb	05 03 31.0	
	comp=Z,2.0nm,0.9s						
TXAR	**Lajitas Array**	**26.20**	**322**	P	**P**	**05 03 34.1**	**+5.2**
	comp=Z,0.8nm,0.7s,baz=165,slow=3.7,SNR=7.1						
TXAR				LR	LR	05 14 49.5	
	comp=Z,33nm,20.6s,baz=182,slow=39						
	comp=Z,0.8nm,0.7s						
H06E1	**SOCORRO T-PHAS**	**26.34**	**294**	T	T	05 31 11.2	
	SNR=12						
LPAZ	**La Paz**	**30.70**	**146**	LR	LR	05 18 06.2	
	comp=Z,18nm,19.3s,baz=27,slow=37						
MDP	**Montagnes des**	**32.90**	**95**	LR	LR	05 18 54.8	
	comp=Z,11nm,18.3s,baz=226,slow=38						
PDAR	**Pinedale Array**	**39.44**	**332**	P	**P**	**05 05 25.0**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=127,slow=12,SNR=1.5						
	comp=Z,0.2nm,0.6s						
NVAR	**Mina Array Bea**	**41.31**	**320**	P	**P**	**05 05 41.9**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=125,slow=7.8,SNR=4.1						
	comp=Z,0.3nm,0.6s						
ULM	**Lac du Bonnet**	**41.73**	**350**	P	**P**	**05 05 40.4**	**-2.5**
	comp=Z,3.7nm,0.8s,baz=158,slow=11,SNR=3.0						
	comp=Z,3.7nm,0.8s						
ILAR	**Eielson Array**	**69.66**	**336**	P	**P**	**05 09 03.3**	**0.0**
	comp=Z,1.2nm,1.0s,baz=132,slow=4.9,SNR=11						
	comp=Z,1.2nm,1.0s						
ESDC	**Sonseca Array**	**77.68**	**51**	P	**P**	**05 09 50.1**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=282,slow=5.9,SNR=4.2						
	comp=Z,0.5nm,0.9s						
PZH	**PanZhiHua**	**143.74**	**349**	PKP	PKPab	05 17 23.8	-3.0

*IDC **01** 05:08:49.5±2.1, 6°.08S×146°.73E, h51km±18km, mb3.6/9, mbtmp4.0/12, ML4.0/2, MS3.2/12, Error ellipse: s-maj=24.1km s-min=12.4km az=91.0*
*NEIC **01** 05:08:55.8±1.5, 6°.28S±0°.08×146°.18E±0°.10, h63km±9km, mb4.2/26, Error ellipse: s-maj=17.7km s-min=5.8km az=49.0*
ISC 01 05:08:50.0±0.6, 6°.11S±0°.06×146°.69E±0°.09, h52km, n64, σ1§47/56, mb4.0/20, MS3.1/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.31**	**172**	P	**Pn**	**05 09 39.8**	**+0.5**
	26nm,0.3s,baz=22,slow=1.9,SNR=15						
PMG				S	**Sn**	**05 10 18.5**	**+1.0**
	147nm,0.5s,baz=127,slow=22,SNR=9.4						
PMG				LR	LR	05 11 22.7	
	comp=Z,779nm,18.9s,baz=23,slow=46						
JAY	**Jayapura**	**6.95**	**301**	LR	LR	05 13 30.5	
	comp=Z,130nm,21.2s,baz=316,slow=40						
COEN	**Coen**	**8.53**	**204**	Pn	**Pn**	**05 10 51.4**	**+0.4**
CTA	**Charters Tower**	**13.90**	**182**	P	**Pn**	**05 12 07.5**	**+3.0**
	1.6nm,0.5s,baz=353,slow=16,SNR=2.3						
CTA				LR	LR	05 17 14.6	
	comp=Z,170nm,20.3s,baz=4.5,slow=36						
CTAO	**Charters Tower**	**13.90**	**182**	Pn	**P**	**05 12 08.5**	**-2.7**
FAKI	**Fak Fak**	**14.73**	**282**	Pn	**Pn**	**05 12 14.6**	**-0.8**
KDU	**Kakadu**	**15.47**	**244**	P	**Pn**	**05 12 25.0**	**+0.1**
QIS	**Mount Isa**	**15.92**	**205**	P	**Pn**	**05 12 32.0**	**+1.2**
SIJI	**Sorong**	**16.24**	**288**	P	**Pn**	**05 12 35.5**	**+0.7**
	1.2nm,0.3s,baz=73,slow=9.3,SNR=5.8						
SIJI				LR	LR	05 20 04.1	
	comp=Z,47nm,20.3s,baz=194,slow=42						
	14nm,0.7s						
MTN	**Manton Dam**	**16.73**	**245**		**Pn**	**05 12 38.3**	**-2.6**
MTN				IAmb	IAmb	05 12 43.3	
	comp=Z,13nm,0.7s						
MTN	**Manton Dam**	**16.73**	**245**	P	**Pn**	**05 12 41.4**	**+0.5**
WB0	**Warramunga Arr**	**18.09**	**220**	P	**P**	**05 12 56.6**	**-1.0**
WB0				IAmb	IAmb	05 13 15.2	
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**18.14**	**219**	P	**P**	**05 12 57.3**	**-0.7**
WRAB	**Tennant Creek**	**18.24**	**220**	P	**P**	**05 12 56.9**	**-2.2**
WRAB				IAmb	IAmb	05 13 10.0	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	**18.24**	**220**	P	**P**	**05 12 59.0**	**-0.2**
WB2	**Warramunga Arr**	**18.24**	**220**		**P**	**05 12 58.7**	**-0.5**
WRA	**Warramunga Arr**	**18.25**	**220**	P	**P**	**05 12 58.7**	**-0.6**
WRA	**Warramunga Arr**	**18.25**	**220**	P	**P**	**05 12 58.5**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=43,slow=12,SNR=38						
WRA				PcP	**PcP**	**05 17 29.6**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=16,slow=1.4,SNR=4.9						
WRA				ScP	**ScP**	**05 21 02.1**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=14,slow=2.4,SNR=4.0						
	comp=Z,4.5nm,0.7s						
EIDS	**Eidsvold**	**19.61**	**168**	P	**Pn**	**05 13 18.6**	**+2.7**
EIDS				IAmb	IAmb	05 13 45.0	
	comp=Z,7.0nm,1.0s						
GUMO	**Guam**	**19.65**	**355**	LR	LR	05 20 21.5	
	comp=Z,29nm,18.3s,baz=128,slow=35						
KNRA	**Kununurra**	**19.99**	**240**	P	**P**	**05 13 16.4**	**-1.9**
KNRA				IAmb	IAmb	05 13 21.8	
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**19.99**	**240**	P	**P**	**05 13 17.0**	**-1.3**
TNTI	**Ternate**	**20.46**	**289**	P	**P**	**05 13 24.0**	**+0.5**
TNTI	**Ternate**	**20.46**	**289**	S	Pn	05 13 28.7	+2.7
TNTI	**Ternate**	**20.46**	**289**	P	**P**	**05 13 24.0**	**+0.5**
AS31	**Alice Springs**	**21.35**	**214**	P	**P**	**05 13 33.2**	**+0.1**
ASAR	**Alice Springs**	**21.36**	**214**	P	**P**	**05 13 33.3**	**+0.2**
ASAR	**Alice Springs**	**21.36**	**214**	P	**P**	**05 13 32.2**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=51,slow=9.1,SNR=26						
ASAR				S	**S**	**05 17 29.1**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=28,slow=27,SNR=1.8						
ASAR				LR	LR	05 23 45.2	
	comp=Z,82nm,18.5s,baz=20,slow=42						
	comp=Z,1.5nm,0.8s						
INKA	**Innaminka**	**22.24**	**194**	P	**P**	**05 13 44.1**	**+1.6**
SOEI	**Soe**	**22.50**	**259**	P	**P**	**05 13 43.2**	**-2.3**
SOEI				IAmb	IAmb	05 14 12.3	
	comp=Z,24nm,1.2s						
DZM	**Mont Dzumac**	**24.83**	**132**	LR	LR	05 22 22.1	
	comp=Z,80nm,18.9s,baz=327,slow=33						
MARNC	**Mare, Loyalty**	**25.70**	**129**	P	**P**	**05 14 12.3**	**-3.1**
	comp=Z,2.3nm,1.0s						
STKA	**Stephens Creek**	**26.08**	**190**	P	**P**	**05 14 20.1**	**+1.4**
STKA	**Stephens Creek**	**26.08**	**190**	P	**P**	**05 14 19.0**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=352,slow=11,SNR=3.7						
STKA				LR	LR	05 25 14.6	
	comp=Z,89nm,20.5s,baz=23,slow=38						
	comp=Z,1.2nm,0.5s						
KAPI	**Kappang**	**26.83**	**271**	LR	LR	05 26 31.5	
	comp=Z,22nm,18.7s,baz=94,slow=40						
TOLI2	**Tolitoli**	**26.84**	**285**	P	**P**	**05 14 25.4**	**-0.4**
TOLI2				IAmb	IAmb	05 14 42.5	
	comp=Z,6.1nm,1.0s						
BBOO	**Buckleboo**	**28.35**	**199**	P	**P**	**05 14 40.4**	**+1.2**
MBWA	**Marble Bar**	**30.09**	**238**	P	**P**	**05 14 54.3**	**-0.4**
MBWA				IAmb	IAmb	05 14 56.8	
	comp=Z,20nm,1.4s						
PSA00	**Pilbara Seismi**	**30.18**	**237**	P	**P**	**05 14 55.8**	**+0.3**
PSA00				IAmb	IAmb	05 15 17.4	
	comp=Z,7.9nm,1.0s						
MYLDM	**Lahad Datu**	**30.29**	**291**	P	**P**	**05 14 56.0**	**-0.5**
MYLDM				IAmb	IAmb	05 15 02.7	
	comp=Z,9.0nm,1.0s						
MORW	**Morawa**	**36.87**	**228**	P	**P**	**05 15 53.0**	**-0.7**
JNU	**Nakatsue**	**41.80**	**340**	LR	LR	05 33 02.9	
	comp=Z,16nm,19.1s,baz=202,slow=35						
DSZ	**Denniston Nort**	**41.94**	**152**	P	P	05 16 41.9	+6.1
MRZ	**Mangatainoka R**	**43.04**	**147**	P	P	05 16 50.6	+6.0
MJAR	**Matsushiro Arr**	**43.16**	**350**	LR	LR	05 33 15.7	
	comp=Z,33nm,19.3s,baz=90,slow=34						
KSRS	**Korea Array**	**46.74**	**339**	P	**P**	**05 17 14.3**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=154,slow=9.0,SNR=2.9						
KSRS				LR	LR	05 33 50.0	
	comp=Z,11nm,20.6s,baz=135,slow=32						
	comp=Z,1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**53.02**	**298**	P	**P**	**05 18 02.5**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=127,slow=6.8,SNR=8.1						
	comp=Z,1.3nm,0.3s						
LZH	**Lanzhou**	**58.09**	**320**	*eP*	P	05 18 45.7	+7.3
LZH				pP	sP	05 18 58.9	-0.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
PEA0B	**Petropavlovsk-**	**59.73**	**8**	P	P	05 18 56.6	+7.4
ULN	**Ulaanbaatar**	**64.05**	**331**	P	**P**	**05 19 21.7**	**+3.1**
ULN				IAmb	IAmb	05 19 21.9	
	comp=Z,1.8nm,0.6s						
SONM	**Songino Array**	**64.34**	**331**	P	**P**	**05 19 20.5**	**0.0**
	comp=Z,0.7nm,0.8s,baz=134,slow=4.3,SNR=3.8						
	comp=Z,0.7nm,0.8s						
WMQ	**Urumqi**	**72.67**	**319**	*eP*	P	05 20 17.5	+5.0
MK31	**Makanchi Array**	**77.38**	**321**	P	**P**	**05 20 42.7**	**+3.2**
MK31				IAmb	IAmb	05 20 45.8	
	comp=Z,2.6nm,1.1s						
MKAR	**Makanchi Array**	**77.38**	**321**	P	**P**	**05 20 39.9**	**+0.4**
MKAR	**Makanchi Array**	**77.38**	**321**	P	**P**	**05 20 39.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=129,slow=5.7,SNR=3.8						
	comp=Z,0.6nm,0.7s						
ZAA0	**Zalesovo Array**	**78.94**	**328**	P	**P**	**05 20 51.4**	**+3.5**
ZAA0				IAmb	IAmb	05 20 58.5	
	comp=Z,2.1nm,1.0s						
MAW	**Mawson**	**82.03**	**203**	P	**P**	**05 21 05.0**	**+0.7**
MAW	**Mawson**	**82.03**	**203**	P	**P**	**05 21 02.6**	**-1.7**
	comp=Z,1.0nm,0.6s,baz=108,slow=7.3,SNR=2.7						
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**83.86**	**180**	P	**P**	**05 21 14.2**	**+0.2**
QSPA				IAmb	IAmb	05 21 35.9	
	comp=Z,1.2nm,0.8s						
ILAR	**Eielson Array**	**85.70**	**23**	P	**P**	**05 21 21.8**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=252,slow=4.8,SNR=17						
	comp=Z,0.7nm,0.6s						
BVAR	**Borovoye Array**	**86.67**	**324**	P	**P**	**05 21 26.4**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=86,slow=5.9,SNR=2.2						
	comp=Z,0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**144.81**	**284**	PKP	**PKPab**	**05 28 21.4**	**+0.1**
	comp=Z,5.5nm,0.7s,baz=59,slow=3.7,SNR=49						
SIV	**San Ignacio**	**144.83**	**129**	PKP	**PKPab**	**05 28 21.4**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=269,slow=4.0,SNR=11						
BDFB	**Brasilia**	**153.94**	**146**	PKPbc	**PKPbc**	**05 28 45.1**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=273,slow=3.8,SNR=4.0						

IDC 01 05:10:01.4±2.1, 4°.73N×124°.22E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=214.9km s-min=27.3km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.46**	**158**	P	P	05 15 40.9	+0.5
	0.7nm,0.3s,baz=338,slow=9.4,SNR=7.8						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**29.77**	**162**	P	P	05 16 09.3	-0.6
	0.5nm,0.5s,baz=335,slow=8.3,SNR=5.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**55.32**	**326**	P	P	05 19 37.0	0.0
	0.2nm,0.3s,baz=129,slow=5.7,SNR=4.6						
	0.2nm,0.3s						

DJA 01 05:30:24.6±0.4, 4°S±3°×12°3E±°, h10km, M4.1/9, mb4.5/3, mB4.6/2, MLv3.9/9, Mw(mB)3.8/2, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**2.57**	**350**	P	Pn	05 31 06.2	-0.1
LU

comp=Z,136nm,0.4s
KUR smax smax
comp=N,222nm,0.4s
KUR smax smax
comp=E,65nm,0.4s
KUR Kuril'sk 4.22 243 eP **Pn 05 48 07.1 +0.6**
KUR AMB AMB 05 48 08.1
comp=E,140nm,0.4s
KUR eS **Sn 05 48 59.0 +4.5**
KUR A A 05 49 13.6
comp=E,220nm,0.4s
KUR A A 05 49 13.6
comp=E,70nm,0.4s
PAU Pauzhetka 4.80 28 eP **Pn 05 48 15.1 +0.7**
PAU eS **Sn 05 49 10.7 +2.0**
SHO Shikotan 5.62 235 PN **Pn 05 48 23.2 -2.4**
SHO S **Sn 05 49 26.7 -2.1**
SHO smax smax
comp=E,52nm,0.4s
SHO smax smax
comp=N,18nm,0.3s
SHO Shikotan 5.62 235 eP **Pn 05 48 25.7 +0.1**
SHO AMB AMB 05 48 27.3
comp=N,20nm,0.4s
SHO eS **Sn 05 49 27.4 -1.4**
SHO A A 05 49 43.7
comp=N,100nm,0.7s
SHO A A 05 49 43.7
comp=N,150nm,0.7s
YUK Yuzh-Kuril'sk 6.08 240 eP **Pn 05 48 31.4 -0.5**
YUK AMB AMB 05 48 33.8
comp=N,120nm,0.3s
YUK eS **Sn 05 49 38.5 -1.5**
YUK A A 05 49 45.1
comp=N,250nm,0.8s
YUK A A 05 49 45.1
comp=N,320nm,0.8s
PEA0B Petropavlovsk- 6.50 25 Pn **Pn 05 48 38.3 +0.6**
PEA0B Petropavlovsk- 6.50 25 PN **Pn 05 48 38.3 +0.6**
PETK Petropavlovsk- 6.50 25 Pn **Pn 05 48 37.2 -0.5**
PETK Petropavlovsk- 6.50 25 P **Pn 05 48 38.0 +0.4**
comp=N,5.6nm,0.8s,baz=180,slow=12,SNR=14
PETK S **Sn 05 49 57.6 +7.2**
comp=N,4.2nm,0.8s,baz=173,slow=14,SNR=1.0
PETK LR LR 05 51 13.3
comp=N,64nm,20.5s,baz=234,slow=38
PET Petropavlovsk 6.73 29 Pn **Pn 05 48 41.2 +0.5**
YSS Yuzh-Sakhalins 7.13 271 Pn **Pn 05 48 42.8 -3.4**
JKA Kamikawa-asahi 8.06 251 Pn **Pn 05 48 56.0 -3.0**
JKA Kamikawa-asahi 8.06 251 eP **Pn 05 48 59.3 +0.3**
ASAJ Asahikawa 8.06 251 P **Pn 05 48 59.3 +0.3**
comp=N,2.7nm,0.5s,baz=71,slow=18,SNR=1.2
ERM Erimo 8.88 237 Pn **Pn 05 49 07.5 -2.7**
ERM Erimo 8.88 237 PN **Pn 05 49 07.5 -2.7**
JTM Tenmabayashi 10.87 238 Pn **Pn 05 49 34.0 -3.4**
MA2 Magadan 12.39 354 Pn **Pn 05 49 58.4 +0.4**
MA2 Magadan 12.39 354 PN **Pn 05 49 59.0 +1.0**
MA2 Magadan 12.39 354 eP **Pn 05 49 59.0 +1.0**
MA2 Magadan 12.39 354 P **Pn 05 49 59.0 +1.0**
comp=N,12nm,0.4s,baz=168,slow=10,SNR=9.1
MA2 LR LR 05 54 06.5
comp=N,54nm,20.7s,baz=136,slow=34
SHEM Shemya Is, Ala 14.48 60 LR LR 05 55 19.5
comp=N,13nm,20.0s,baz=280,slow=34
MJAR Matsushiro Arr 15.45 231 P **P 05 50 40.6 -1.2**
comp=N,1.9nm,0.7s,baz=40,slow=9.4,SNR=7.9
SEY Seymchan 15.69 359 LR LR 05 56 14.4
comp=N,37nm,21.9s,baz=155,slow=35
YAK Yakutsk 19.90 326 P **P 05 51 28.4 -2.0**
KSRS Korea Array 21.01 251 LR LR 06 00 55.7
comp=N,17nm,18.1s,baz=60,slow=40
JNU Nakatsue 22.04 238 LR LR 05 59 25.2
comp=N,24nm,19.8s,baz=48,slow=34
H11N2 WAKE ISLAND Hy 29.68 153 T T 06 24 55.8
baz=342,slow=76,SNR=183
H11N1 WAKE ISLAND Hy 29.69 153 T T 06 24 58.6
baz=342,slow=76,SNR=133
H11N3 WAKE ISLAND Hy 29.69 153 T T 06 24 59.2
baz=342,slow=76,SNR=64
H11S1 WAKE ISLAND Hy 30.77 154 T T 06 26 22.1
baz=342,slow=76,SNR=216
H11S3 WAKE ISLAND Hy 30.78 154 T T 06 26 16.2
baz=342,slow=76,SNR=262
H11S2 WAKE ISLAND Hy 30.79 154 T T 06 26 17.8
baz=342,slow=76,SNR=200
TTA Tatalina 31.98 42 P **P 05 53 25.3 +1.1**
TTA Tatalina 31.98 42 P **P 05 53 25.3 +1.1**
TTA pmax pmax
comp=Z,1.0nm,0.7s
SVW2 Sparrevohn 32.08 46 P **P 05 53 26.7 +1.7**
H21K Melozitna Rive 33.65 37 P **P 05 53 39.8 +1.1**
KDAK Kodiak Island 33.73 52 P **P 05 53 39.5 +0.1**
KDAK IAmb IAmb 05 53 54.7
comp=Z,5.9nm,1.1s
KDAK Kodiak Island 33.73 52 P **P 05 53 39.5 +0.1**
KDAK pmax pmax
comp=Z,6.0nm,1.1s
SYI Shuyak Island 33.75 50 P **P 05 53 39.9 +0.4**
SKT Skwentna 34.03 44 P **P 05 53 43.4 +1.5**
SKT IAmb IAmb 05 53 44.6
comp=Z,3.8nm,1.2s
CNPM China Poot 34.27 48 P **P 05 53 44.5 +0.4**
CNPM IAmb IAmb 05 53 55.6
comp=Z,5.7nm,1.2s
TRF Thorofare Moun 34.60 41 P **P 05 53 48.6 +1.5**
TRF IAmb IAmb 05 54 03.1
comp=Z,2.8nm,1.2s
NEA2 Nenana 35.16 39 P **P 05 53 52.7 +1.0**
NEA2 IAmb IAmb 05 53 53.9
comp=Z,3.0nm,0.8s
TOLK Toolik Lake Re 35.26 32 **P 05 53 54.3 +1.7**
TOLK IAmb IAmb 05 53 54.5
comp=Z,2.8nm,0.6s
SML Sawmill 35.55 44 P **P 05 53 56.4 +1.3**
ILAR Eielson Array 36.10 39 P **P 05 54 00.3 +0.6**
comp=Z,0.6nm,0.8s,baz=255,slow=6.6,SNR=7.4
comp=Z,0.6nm,0.8s
ZALV Zalesovo Beam 42.34 305 LR LR 06 13 19.1
comp=Z,15nm,18.9s,baz=19,slow=37
MKAR Makanchi Array 46.74 297 PcP **PcP 05 56 58.4 -1.0**
comp=Z,0.2nm,0.4s,baz=50,slow=1.1,SNR=2.0
YKA Yellowknife Ar 50.46 37 P **P 05 55 56.4 +1.1**
comp=Z,1.0nm,0.6s,baz=297,slow=7.5,SNR=4.8
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 50.56 309 PcP **PcP 05 57 12.3 -0.8**
comp=Z,0.4nm,0.4s,baz=72,slow=4.7,SNR=2.4
AKTO Aktyubinsk 58.41 312 LR LR 06 23 20.1
comp=Z,24nm,19.1s,baz=246,slow=37
NVAR Mina Array Bea 62.14 63 P **P 05 57 20.3 +1.2**
comp=Z,0.4nm,0.8s,baz=290,slow=5.6,SNR=2.5
comp=Z,0.4nm,0.8s
FINES FINESS Array B 63.57 335 P **P 05 57 27.2 -0.7**
comp=Z,0.8nm,0.4s,baz=33,slow=8.0,SNR=18
comp=Z,0.8nm,0.4s
FRB Frobisher Bay 64.52 19 LR LR 06 27 49.7
comp=Z,19nm,18.9s,baz=287,slow=38
NB2 NORSAR Subarra 67.73 341 P **P 05 57 55.0 +0.3**
comp=Z,2.4nm,0.8s,baz=26,slow=6.5
NOA NORSAR Array B 67.73 341 P **P 05 57 54.7 0.0**
comp=Z,1.2nm,0.8s,baz=28,slow=6.6,SNR=5.9
NOA LR LR 06 32 55.4
comp=Z,9.3nm,18.4s,baz=5.0,slow=41
comp=Z,1.2nm,0.8s
HFS Hagfors 67.97 339 P **P 05 57 55.9 -0.2**
comp=Z,1.3nm,0.3s,baz=60,slow=7.0,SNR=14
comp=Z,1.3nm,0.3s
AKASG Malin Array Be 71.13 326 P **P 05 58 15.0 -0.7**
comp=Z,0.3nm,0.3s,baz=33,slow=6.2,SNR=3.4
comp=Z,0.3nm,0.3s
ASAR Alice Springs 72.74 198 P **P 05 58 26.1 +0.5**
comp=Z,0.2nm,0.6s,baz=18,slow=5.5,SNR=2.4
comp=Z,0.2nm,0.6s
EKA Eskdalemuir Ar 75.83 346 P **P 05 58 42.9 -0.3**
comp=Z,0.2nm,0.3s,baz=29,slow=5.9,SNR=2.2
comp=Z,0.2nm,0.3s
TXAR Lajitas Array 77.18 61 P **P 05 58 52.0 +0.5**
comp=Z,0.9nm,0.6s,baz=301,slow=4.3,SNR=12
comp=Z,0.9nm,0.6s
GERES GERESS Array B 77.99 334 P **P 05 58 55.3 -0.4**
comp=Z,0.4nm,0.4s,baz=14,slow=4.4,SNR=2.8
comp=Z,0.4nm,0.4s
H03N2 Juan Fernandez 138.70 90 T T 08 41 21.0
baz=309,slow=77,SNR=21
H03N1 Juan Fernandez 138.72 90 T T 08 41 22.4
baz=309,slow=77,SNR=18
H03N3 Juan Fernandez 138.72 90 T T 08 41 21.8
baz=309,slow=77,SNR=19
CPUP Villa Florida 148.15 60 PKPbc **PKPdf 06 06 40.2 +0.7**
comp=Z,0.6nm,0.5s,baz=305,slow=3.9,SNR=3.6

---

*ANF **01** 05:48:36.9±0.3,36°.45N×98°.79W,h5km,ML4.0/11,Error ellipse: s-maj=3.7km s-min=3.5km az=99.0*
*NEIC **01** 05:48:37.2±0.4,36°.45N±0°.01×98°.78W±0°.01,h6km±1km, Error ellipse: s-maj=2.0km s-min=1.1km az=156.0*
*TUL **01** 05:48:37.2±0.4,36°.46N±0°.01×98°.78W±0°.01,h6km±1km, ML3.5,mb_Lg3.2/100(NEIC),ML3.3/24(NEIC),Error ellipse: s-maj=2.0km s-min=1.4km az=169.0*
ISC 01 05:48:37.4±0.8,36°.45N±0°.02×98.76W±0°.02,h7km±5km, n130,σ0°61/108,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.03**	**24**	Pg	**Pg**	**05 48 38.9**	**0.0**
OK038				Sg	**Sg**	**05 48 40.2**	**+0.2**
U32A	**Winter Ranch,**	**0.21**	**251**	Pg	**Pg**	**05 48 41.5**	**-0.1**
U32A				Sg	**Sg**	**05 48 44.8**	**+0.4**
U32A				IAML		05 48 45.0	
	comp=N,5μm,0.4s						
U32A	**Winter Ranch,**	**0.21**	**251**	P	**Pg**	**05 48 41.5**	**-0.1**
	baz=67,SNR=325						
U32A				S	**Sg**	**05 48 44.8**	**+0.4**
	baz=67						
NOKA	**Waynoka**	**0.23**	**323**	Pg	**Pg**	**05 48 42.0**	**-0.1**
NOKA				Sg	**Sg**	**05 48 45.5**	**+0.3**
NOKA				IAML		05 48 45.7	
	comp=E,9μm,0.5s						
OK035	**E0210 Rd and N**	**0.26**	**9**	Pg	**Pg**	**05 48 42.8**	**+0.1**
OK035				Sg	**Sg**	**05 48 47.0**	**+0.8**
OK035				IAML		05 48 47.2	
	comp=E,8μm,0.4s						
OK035				IAML		05 48 47.3	
	comp=E,4μm,0.3s						
OK032	**Salt Plains WL**	**0.56**	**51**	Pg	**Pg**	**05 48 48.3**	**-0.1**
OK032				Sg	**Sg**	**05 48 56.4**	**+0.7**
OK032				IAML		05 48 58.9	
	comp=E,2μm,0.2s						
OK032				IAML		05 49 03.1	
	comp=E,2μm,0.2s						
CROK	**Carrier**	**0.63**	**85**	Pg	**Pg**	**05 48 49.5**	**0.0**
CROK				Sg	**Sg**	**05 48 58.4**	**+0.8**
CROK				IAML		05 49 08.3	
	comp=N,1μm,0.3s						
CROK				IAML		05 49 10.9	
	comp=E,1μm,0.3s						
ELIS	**Ellis County**	**0.66**	**235**		**Pg**	**05 48 50.2**	**+0.2**
CSTR	**Hydro, Custer**	**0.80**	**176**	Pg	**Pg**	**05 48 52.8**	**-0.1**
KAN14	**Manchester OK**	**0.82**	**51**	Pg	**Pg**	**05 48 52.9**	**-0.2**
KAN14				Sg	**Sg**	**05 49 04.0**	**+0.3**
GC02	**Grant County #**	**0.83**	**61**	Pg	**Pg**	**05 48 53.1**	**-0.2**
KAN10	**Anthony SW Sta**	**0.86**	**38**		**Pg**	**05 48 53.6**	**-0.3**
KAN05	**Bluff City Nor**	**0.97**	**47**		**Pg**	**05 48 55.7**	**-0.3**
KAN17	**Caldwell West**	**0.99**	**53**	Pg	**Pg**	**05 48 56.0**	**-0.5**
KAN08	**Anthony NE Sta**	**1.00**	**39**	Pg	**Pg**	**05 48 56.4**	**-0.2**
KAN12	**Harper NE Stat**	**1.04**	**36**		**Pg**	**05 48 57.1**	**-0.3**
KAN01	**Argonia South**	**1.07**	**48**		**Pg**	**05 48 57.4**	**-0.4**
KAN01				IAML		05 49 12.0	
	comp=E,798nm,0.4s						
KAN01				IAML		05 49 12.1	
	comp=N,700nm,0.4s						
KAN06	**Argonia West S**	**1.07**	**42**		**Pg**	**05 48 57.4**	**-0.7**
KAN09	**Caldwell North**	**1.14**	**53**		**Pg**	**05 48 58.7**	**-0.7**
KAN13	**South Haven SW**	**1.17**	**61**		**Pg**	**05 48 59.2**	**-0.7**
KAN13				IAML		05 49 19.1	
	comp=E,1μm,0.3s						
KS21	**Milan North St**	**1.21**	**46**		**Pg**	**05 49 00.1**	**-0.6**
OK029	**Liberty Lake**	**1.24**	**121**		**Pg**	**05 49 00.3**	**-0.9**
KS20	**Mayfield South**	**1.24**	**51**		**Pg**	**05 49 00.5**	**-0.8**
BLOK	**Blackwell**	**1.28**	**75**		**Pn**	**05 49 01.1**	**-0.5**
OK048	**Pawnee Station**	**1.46**	**91**		**Pn**	**05 49 04.3**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**1.49**	**134**		**Pn**	**05 49 04.7**	**+0.1**
OK033	**Mehan**	**1.53**	**105**		**Pn**	**05 49 05.2**	**+0.1**
OK051	**E0350 and S346**	**1.55**	**87**		**Pn**	**05 49 05.8**	**+0.4**
FNO	**Franklin**	**1.62**	**137**		**Pn**	**05 49 06.7**	**+0.3**
OK031	**S. Brethren Rd**	**1.63**	**107**		**Pn**	**05 49 06.6**	**+0.1**
OK052	**Battle Ridge R**	**1.65**	**105**	Pg	**Pn**	**05 49 06.8**	**+0.1**
QUOK	**Quay**	**1.68**	**99**		**Pn**	**05 49 07.4**	**+0.3**
WMOK	**Wichita Mounta**	**1.71**	**181**		**Pn**	**05 49 07.1**	**-0.5**
WMOK	**Wichita Mounta**	**1.71**	**181**	P	**Pn**	**05 49 07.3**	**-0.2**
	baz=0.2						
WMOK				S	**Sb**	**05 49 30.3**	**-0.5**
	baz=0.2						
WMOK	**Wichita Mounta**	**1.71**	**181**	P	**Pn**	**05 49 07.4**	**-0.2**
	baz=0.2,SNR=46						
WMOK				S	**Sb**	**05 49 30.6**	**-0.2**
	baz=0.2						
T35A	**Sooner Cattle**	**1.86**	**75**	Pn	**Pn**	**05 49 09.8**	**+0.1**
T35B	**Sooner Cattle**	**1.86**	**75**	P	**Pn**	**05 49 10.3**	**+0.6**
	baz=256,SNR=98						
T35B				S	**Sb**	**05 49 36.1**	**+0.8**
	baz=256						
DEOK	**Depew**	**1.93**	**108**	Pn	**Pn**	**05 49 10.8**	**+0.2**
R32A	**Long Quarter,**	**1.97**	**1**	Pn	**Pb**	**05 49 12.3**	**-1.3**
R32A	**Long Quarter,**	**1.97**	**1**	P	**Pb**	**05 49 12.3**	**-1.3**
	baz=182,SNR=37						
R32A				S	**Sb**	**05 49 38.4**	**+0.1**
	baz=182						
X34A	**Smith Ranch, M**	**1.99**	**157**		**Pb**	**05 49 12.8**	**-1.1**
TUL3	**Leonard**	**2.46**	**102**	Pn	**Pn**	**05 49 18.4**	**+0.5**
TUL3	**Leonard**	**2.46**	**102**	P	**Pn**	**05 49 17.9**	**0.0**
	baz=284						
TUL3				S	**Sn**	**05 49 49.1**	**+0.9**
	baz=284						
TUL3	**Leonard**	**2.46**	**102**	P	**Pn**	**05 49 18.2**	**+0.4**
	baz=284,SNR=31						
CBKS	**Cedar Bluff**	**2.48**	**342**	P	**Pn**	**05 49 17.7**	**-0.6**
	baz=162						
CBKS				S	**Sn**	**05 49 49.7**	**+0.8**
	baz=162						
WTFS	**Witchita Falls**	**2.69**	**175**	Pn	**Pn**	**05 49 22.9**	**+1.9**
LOOK	**Love County**	**2.77**	**152**		**Pn**	**05 49 23.3**	**+1.1**
LOOK				IAmb_Lg		05 50 07.5	
	comp=Z,59nm,0.7s						
AMTX	**Amarillo**	**2.85**	**238**	IAmb_Lg		05 50 15.3	
	comp=Z,90nm,0.7s						
AMTX	**Amarillo**	**2.85**	**238**	P	**Pn**	**05 49 23.3**	**0.0**
	baz=56						
AMTX				S	**Sn**	**05 49 57.9**	**+0.1**
	baz=56						
AMTX	**Amarillo**	**2.85**	**238**	Sb	**Sb**	**05 50 05.3**	**+1.7**
	baz=56						
RLO	**Rose Lookout**	**3.03**	**94**		**Pn**	**05 49 26.0**	**+0.2**
KSU1	**Kansas State U**	**3.15**	**32**	Pn	**Pn**	**05 49 28.9**	**+1.5**
KSU1				IAmb_Lg		05 50 18.8	
	comp=Z,48nm,1.1s						
KSU1	**Kansas State U**	**3.15**	**32**	P	**Pn**	**05 49 27.8**	**+0.5**
	baz=214						
KSU1				S	**Sn**	**05 50 06.4**	**+1.2**
	baz=214						
KSU1	**Kansas State U**	**3.15**	**32**	P	**Pn**	**05 49 28.5**	**+1.2**
	baz=214,SNR=6.1						
DKNS	**Dickens**	**3.30**	**213**	IAmb_Lg		05 50 29.4	
	comp=Z,26nm,0.8s						
APMT	**Aspermont**	**3.31**	**200**		**Pn**	**05 49 29.2**	**-0.4**
X37A	**Clayton**	**3.33**	**123**	IAmb_Lg		05 50 29.3	
	comp=Z,93nm,0.8s						
X37A	**Clayton**	**3.33**	**123**	P	**Pn**	**05 49 30.2**	**+0.4**
	baz=305						
X37A				S	**Sn**	**05 50 10.8**	**+1.2**
	baz=305						
Z35A	**Perchaven, San**	**3.35**	**158**		**Pn**	**05 49 30.0**	**-0.1**
FW03	**Perrin-Whitt E**	**3.45**	**170**	IAmb_Lg		05 50 32.3	
	comp=Z,12nm,0.7s						
U38A	**Gravette**	**3.52**	**89**	P	**Pn**	**05 49 32.5**	**-0.1**
	baz=272						
FW06	**Azle**	**3.61**	**164**	IAmb_Lg		05 50 35.8	
	comp=Z,33nm,1.1s						
FW07	**Weatherford**	**3.82**	**168**	IAmb_Lg		05 50 44.4	
	comp=Z,27nm,0.8s						
ABTX	**Abilene, Hawle**	**3.88**	**191**	P	**Pn**	**05 49 37.9**	**+0.4**
	baz=10						
ABTX				S	**Sn**	**05 50 24.0**	**+0.6**
	baz=10						
ABTX	**Abilene, Hawle**	**3.88**	**191**	P	**Pn**	**05 49 37.6**	**0.0**
	baz=10						
HHAR	**Hobbs**	**3.89**	**91**	IAmb_Lg		05 50 44.1	
	comp=Z,56nm,1.0s						
SN01	**Snyder 1**	**3.99**	**207**	IAmb_Lg		05 50 46.1	
	comp=Z,65nm,1.1s						
KSCO	**Kaye Shedlock'**	**3.99**	**311**	IAmb_Lg		05 50 51.1	
	comp=Z,73nm,0.8s						
KSCO	**Kaye Shedlock'**	**3.99**	**311**	P	**Pn**	**05 49 38.9**	**-0.2**
	baz=129						
KSCO				S	**Sn**	**05 50 26.1**	**-0.1**
	baz=129						
POST	**Post**	**4.06**	**215**	IAmb_Lg		05 50 47.4	
	comp=Z,31nm,0.8s						
MSTX	**Muleshoe**	**4.11**	**234**	IAmb_Lg		05 50 55.1	
	comp=Z,38nm,0.8s						
MSTX	**Muleshoe**	**4.11**	**234**	P	**Pn**	**05 49 39.9**	**-0.8**
	baz=52						
MSTX				S	**Sn**	**05 50 29.9**	**+0.7**
	baz=52						
FW13	**Cleburne**	**4.23**	**165**	IAmb_Lg		05 51 01.0	
	comp=Z,23nm,0.8s						
FW14	**Alvarado**	**4.24**	**162**	IAmb_Lg		05 51 00.3	
	comp=Z,27nm,0.7s						
N33B	**J Bar K, Exete**	**4.40**	**13**	P	**Pn**	**05 49 44.4**	**-0.3**
	baz=194						
N33A	**J Bar K, Exete**	**4.40**	**13**	IAmb_Lg		05 51 05.4	
	comp=Z,49nm,0.8s						
Z38A	**Mt. Pleasant**	**4.44**	**135**	IAmb_Lg		05 51 05.2	
	comp=Z,41nm,0.8s						
S39A	**Bolivar**	**4.52**	**72**	IAmb_Lg		05 51 02.6	
	comp=Z,29nm,0.7s						
S39A	**Bolivar**	**4.52**	**72**	P	**Pn**	**05 49 46.2**	**-0.1**
	baz=256,SNR=9.9						
WHTX	**Lake Whitney,**	**4.58**	**166**	P	**Pn**	**05 49 46.9**	**-0.1**
	baz=347						
T25A	**Trinidad**	**4.59**	**280**	IAmb_Lg		05 51 11.0	
	comp=Z,53nm,0.8s						
T25A	**Trinidad**	**4.59**	**280**	P	**Pn**	**05 49 47.3**	**-0.1**
	baz=97						
T25A				S	**Sn**	**05 50 40.1**	**-1.0**
	baz=97						
MIAR	**Mount Ida**	**4.63**	**113**	Pn	**Pn**	**05 49 47.9**	**+0.1**
MIAR				IAmb_Lg		05 51 12.9	
	comp=Z,39nm,0.8s						
MIAR	**Mount Ida**	**4.63**	**113**	P	**Pn**	**05 49 48.0**	**+0.2**
	baz=296						
MIAR				S	**Sn**	**05 50 42.1**	**+0.3**
	baz=296						
MIAR	**Mount Ida**	**4.63**	**113**	P	**Pn**	**05 49 48.3**	**+0.5**
	baz=296						
MIAR				S	**Sn**	**05 50 42.5**	**+0.7**
	baz=296						
U40A	**Yellville**	**4.76**	**89**	P	**Pn**	**05 49 49.7**	**+0.1**
	baz=273,SNR=10.0						
U40A				P	**Pn**	**05 49 49.7**	**+0.1**
	baz=273,SNR=10.0						
BGNE	**Belgrade**	**4.97**	**5**	IAmb_Lg		05 51 22.5	
	comp=Z,45nm,0.8s						
237A	**Washetta, Mont**	**5.07**	**150**	IAmb_Lg		05 51 27.5	
	comp=Z,35nm,0.8s						
BRDY	**Brady**	**5.15**	**182**		**Pn**	**05 49 54.8**	**-0.2**
P38A	**Dawn**	**5.20**	**51**	IAmb_Lg		05 51 27.7	
	comp=Z,34nm,0.7s						
P38A	**Dawn**	**5.20**	**51**	P	**Pn**	**05 49 55.8**	**+0.2**
	baz=234,SNR=6.4						
WHAR	**Wooly Hollow**	**5.38**	**101**	IAmb_Lg		05 51 36.5	
	comp=Z,34nm,0.8s						
FCAR	**Ozark Folk Cen**	**5.40**	**94**	Pn	**Pn**	**05 49 59.4**	**+1.1**
FCAR				IAmb_Lg		05 51 30.2	
	comp=Z,28nm,0.8s						
R40A	**Maddies Statio**	**5.49**	**68**		**Pn**	**05 49 59.4**	**-0.2**
R40A				IAmb_Lg		05 51 33.1	
	comp=Z,21nm,0.7s						
R40A	**Maddies Statio**	**5.49**	**68**	P	**Pn**	**05 49 59.3**	**-0.2**
	baz=252,SNR=9.7						
UALR	**University of**	**5.49**	**106**	IAmb_Lg		05 51 42.5	
	comp=Z,34nm,0.9s						
SDCO	**Great Sand Dun**	**5.54**	**286**	IAmb_Lg		05 51 43.7	
	comp=Z,22nm,1.0s						
SDCO	**Great Sand Dun**	**5.54**	**286**	P	**Pn**	**05 50 00.1**	**-0.4**
	baz=102						
435B	**Jarrell**	**5.74**	**170**	IAmb_Lg		05 51 47.8	
	comp=Z,35nm,0.9s						
NATX	**Nacogdoches**	**5.78**	**143**	IAmb_Lg		05 51 53.3	
	comp=Z,20nm,0.8s						
BRIGG	**Briggsdale**	**6.00**	**315**	IAmb_Lg		05 51 54.4	
	comp=Z,36nm,0.8s						
JCT	**Junction City**	**6.02**	**189**	IAmb_Lg		05 51 55.4	
	comp=Z,42nm,1.1s						
JCT	**Junction City**	**6.02**	**189**	P	**Pn**	**05 50 06.6**	**-0.3**
	baz=7.9						
P40A	**Paris**	**6.13**	**58**	P	**Pn**	**05 50 08.5**	**+0.2**
	baz=242						
CCM	**Cathedral Cave**	**6.20**	**73**	Pn	**Pn**	**05 50 09.5**	**+0.1**
CCM				IAmb_Lg		05 51 52.7	
	comp=Z,32nm,0.9s						
CCM	**Cathedral Cave**	**6.20**	**73**	P	**Pn**	**05 50 09.2**	**-0.1**
	baz=257						
CCAR	**Cane Creek**	**6.25**	**112**	IAmb_Lg		05 52 12.1	
	comp=Z,27nm,0.8s						
ISCO	**Idaho Springs**	**6.36**	**304**	P	**Pn**	**05 50 11.6**	**-0.1**
	baz=120						
FVM	**French Village**	**6.82**	**75**	IAmb_Lg		05 52 13.0	
	comp=Z,23nm,0.9s						
SCIA	**State Center**	**6.94**	**37**	IAmb_Lg		05 52 24.1	
	comp=Z,36nm,0.7s						
Y22D	**IRIS PASSCAL I**	**7.08**	**253**	IAmb_Lg		05 52 40.2	
	comp=Z,22nm,0.9s						
SLM	**Saint Louis**	**7.11**	**70**	IAmb_Lg		05 52 19.3	
	comp=Z,22nm,0.7s						
143A	**Socs Landing,**	**7.12**	**120**	IAmb_Lg		05 52 25.1	
	comp=Z,17nm,0.7s						
PHWY	**Pilot Hill**	**7.12**	**315**	IAmb_Lg		05 52 25.2	
	comp=Z,19nm,0.9s						
PVMO	**Portageville**	**7.30**	**88**	IAmb_Lg		05 52 48.1	
	comp=Z,35nm,0.9s						
CGM3	**Cape Girardeau**	**7.34**	**81**	Pn	**Pn**	**05 50 23.5**	**-1.5**
CGM3				IAmb_Lg		05 52 39.7	
	comp=Z,17nm,0.8s						
ECSD	**EROS Data Cent**	**7.46**	**12**	Pn	**Pn**	**05 50 25.8**	**-0.8**
S44A	**Carbondale**	**7.70**	**78**	IAmb_Lg		05 52 44.9	
	comp=Z,30nm,0.7s						
SIUC	**Southern Illin**	**7.73**	**78**	IAmb_Lg		05 52 48.8	
	comp=Z,31nm,0.9s						
OXF	**Oxford**	**7.87**	**101**	Pn	**Pn**	**05 50 31.6**	**-0.6**
SUSD	**Miller**	**7.99**	**359**	IAmb_Lg		05 53 00.8	
	comp=Z,30nm,1.1s						
L40A	**Anamosa**	**8.10**	**44**	IAmb_Lg		05 52 58.5	
	comp=Z,30nm,0.8s						
833A	**Chaparral WMA,**	**8.12**	**184**	IAmb_Lg		05 53 07.2	
	comp=Z,14nm,0.9s						
HDIL	**Hopedale**	**8.48**	**58**	Pn	**Pn**	**05 50 40.4**	**-0.2**
I37A	**Lemond, Waseca**	**8.59**	**27**	IAmb_Lg		05 53 31.8	
	comp=Z,21nm,0.8s						
RSSD	**Black Hills**	**8.66**	**334**	IAmb_Lg		05 53 23.6	
	comp=Z,15nm,0.9s						
L42A	**Oliver, Polo**	**8.97**	**49**	IAmb_Lg		05 53 40.4	
	comp=Z,28nm,0.9s						
JFWS	**Jewell Farm**	**9.20**	**43**	IAmb_Lg		05 53 35.1	
	comp=Z,19nm,0.8s						
I40A	**Norwalk**	**9.69**	**37**	IAmb_Lg		05 53 58.3	
	comp=Z,16nm,1.0s						
SPMN	**Marine on St.**	**9.86**	**25**	IAmb_Lg		05 54 00.6	
	comp=Z,16nm,1.2s						

---

*IDC **01** 06:09:53.6±2.8,6°.05S×146°.66E,h77km±25km,mb3.4/6, mbtmp3.9/10,MS3.3/7,Error ellipse: s-maj=32.9km s-min=16.6km az=64.0*
ISC 01 06:09:50.6±1.0,5°.92S±0°.09×146°.9E±0°.2,h50km,n16, σ1§65/12,mb3.6/6,MS3.1/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.48**	**175**	P	**Pn**	**06 10 42.7**	**+0.5**
	20nm,0.5s,baz=26,slow=8.9,SNR=13						
PMG				S	**Sn**	**06 11 24.2**	**+2.1**
	90nm,0.6s,baz=208,slow=6.2,SNR=4.6						
JAY	**Jayapura**	**7.02**	**299**	P	**Pn**	**06 11 32.7**	**+1.8**
	10nm,0.9s,baz=340,slow=17,SNR=2.0						
CTA	**Charters Tower**	**14.10**	**182**	LR	LR	06 18 04.4	
	comp=Z,146nm

STKA	Stephens Creek	26.29 190	LR	LR	06 25 42.3	
	comp=Z,39nm,18.6s,baz=24,slow=36					
NWAO	Narrogin (SRO)	38.51 222	LR	LR	06 34 54.7	
	comp=Z,120nm,20.3s,baz=206,slow=39					
USRK	Ussuriysk Ar.	51.66 346	LR	LR	06 40 11.9	
	comp=Z,16nm,18.4s,baz=168,slow=35					
CMAR	Chiang Mai Arr	53.10 298	P	P	06 19 03.5	-0.1
	1.0nm,0.3s,baz=122,slow=6.2,SNR=5.2					
	1.0nm,0.3s					
SONM	Songino Array	64.27 331	P	P	06 20 19.4	-1.4
	0.3nm,0.3s,baz=147,slow=6.4,SNR=1.8					
	0.3nm,0.3s					
VNDA	Vanda	72.00 177	P	P	06 21 07.9	-0.7
	0.5nm,0.8s,baz=342,slow=5.1,SNR=2.5					
	0.5nm,0.8s					
MKAR	Makanchi Array	77.36 321	P	P	06 21 40.0	-0.2
	0.4nm,0.8s,baz=100,slow=8.1,SNR=3.1					
	0.4nm,0.8s					
ILAR	Eielson Array	85.45 23	P	P	06 22 23.6	+0.9
	0.6nm,0.7s,baz=229,slow=3.7,SNR=13					
	0.6nm,0.7s					
TORD	Torodi Ar. Bea	144.95 284	PKP	PKPdf	06 29 23.7	+0.4
	2.6nm,0.7s,baz=65,slow=4.4,SNR=19					

IDC 01 06:23:28.7±2.9, 20°.47S×177°.78W, h510km±28km, mb3.1/4, mbtmp4.0/5, Error ellipse: s-maj=86.0km s-min=24.1km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.79	304	P	P	06 24 54.4	-0.1
	10nm,0.4s,baz=124,slow=7.3,SNR=29						
STKA	Stephens Creek	37.98	244	P	P	06 30 02.1	-0.6
	1.1nm,0.5s,baz=97,slow=8.1,SNR=3.2						
	1.1nm,0.5s						
ASAR	Alice Springs	44.72	257	P	P	06 30 56.6	+0.3
	4.0nm,0.5s,baz=95,slow=7.6,SNR=103						
ASAR				PcP	PcP	06 32 27.8	-0.2
	0.2nm,0.5s,baz=100,slow=3.9,SNR=2.2						
ASAR				S	S	06 36 56.0	+0.2
	0.4nm,0.8s,baz=93,slow=16,SNR=4.2						
	4.0nm,0.5s						
WRA	Warramunga Arr	44.81	262	P	P	06 30 56.7	-0.3
	1.4nm,0.5s,baz=98,slow=8.3,SNR=31						
	1.4nm,0.5s						
TXAR	Lajitas Array	86.87	57	P	P	06 35 19.1	-0.2
	0.2nm,0.7s,baz=222,slow=6.1,SNR=2.4						
	0.2nm,0.7s						

*NEIC **01** 06:30:01.8±1.4, 23°.5S±0°.1×179°.7W±0°.1, h560km±12km, mb4.2/24, Error ellipse: s-maj=22.6km s-min=11.6km az=150.0*
*IDC **01** 06:30:02.1±1.8, 23°.32S×179°.91W, h567km±18km, mb3.3/6, mbtmp4.2/8, Error ellipse: s-maj=25.1km s-min=15.5km az=148.0*
*NOU **01** 06:30:02.3, 23°.39S×179°.51E, h568km, mb4.3/10, South of Fiji Islands*

ISC 01 06:30:00.9±0.6, 23°.44S±0°.10×179°.8W±0°.1, h550km, n58, σ1§11/58, mb4.2/18, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.02	340	P	P	06 31 40.6	+0.6
MSVF	Nonsavu	6.02	340	P	P	06 31 40.3	+0.4
MSVF	Nonsavu	6.02	340	P	P	06 31 40.1	+0.1
	24nm,0.5s,baz=211,slow=6.5,SNR=38						
TAVE	Taveuni	6.70	359	P	P	06 31 47.3	+1.2
DGTI	Dogotuki	7.12	356	P	P	06 31 51.1	+1.0
YSA	Yasawairara	7.14	339	P	P	06 31 50.8	+0.4
NIUE	Niue	10.18	67	P	P	06 32 28.5	+7.8
MARNC	Mare, Loyalty	11.42	277	P	P	06 32 33.8	+0.3
PINNC	Pines Island,	11.77	272	P	P	06 32 39.4	+2.3
DZM	Mont Dzumac	12.77	273	P	P	06 32 53.1	+5.6
DZM	Mont Dzumac	12.77	273	P	P	06 32 47.6	+0.1
	4.5nm,1.1s,baz=111,slow=18,SNR=1.9						
BFZ	Birch Farm	17.51	190	P	P	06 33 33.7	-0.4
QRZ	Quartz Range	18.50	199	P	P	06 33 42.3	-0.8
TKNZ	Takaka Hill	18.57	197	P	P	06 33 43.6	-0.1
KHZ	Kahutara	19.72	195	P	P	06 33 53.9	-0.3
JCZ	Jackson Bay	22.62	202	P	P	06 34 19.5	-0.9
WHZ	Wether Hill Ro	24.50	201	P	P	06 34 37.6	+0.6
ARMA	Armidale	26.36	249	P	P	06 34 54.3	+0.6
ARMA				IAmb	IAmb	06 35 20.9	
	comp=Z,8.3nm,1.1s						
EIDS	Eidsvold	26.57	260	P	P	06 34 56.6	+1.1
EIDS				IAmb	IAmb	06 35 03.2	
	comp=Z,5.3nm,1.1s						
CAN	Canberra	29.53	239	P	P	06 35 22.1	+0.8
CAN				IAmb	IAmb	06 35 35.2	
	comp=Z,9.9nm,1.1s						
CTAO	Charters Tower	31.66	269	P	P	06 35 40.4	+0.7
TOO	Toolangi	32.85	237	P	P	06 35 50.1	+0.4
TOO				IAmb	IAmb	06 35 58.2	
	comp=Z,11nm,1.1s						
STKA	Stephens Creek	35.06	248	P	P	06 36 09.0	+0.7
STKA	Stephens Creek	35.06	248	P	P	06 36 08.4	+0.1
	comp=Z,3.3nm,0.5s,baz=106,slow=8.5,SNR=8.6						
	comp=Z,3.3nm,0.5s						
COEN	Coen	36.23	278	P	P	06 36 18.8	+0.7
COEN				IAmb	IAmb	06 36 34.5	
	comp=Z,5.6nm,1.1s						
BBOO	Buckleboo	39.79	246	P	P	06 36 45.9	-1.0
AS31	Alice Springs	42.29	260	P	P	06 37 06.9	+0.1
AS31				IAmb	IAmb	06 37 07.8	
	comp=Z,2.2nm,0.5s						
ASAR	Alice Springs	42.29	260	P	P	06 37 06.6	-0.2
ASAR	Alice Springs	42.29	260	P	P	06 37 06.3	-0.6
	comp=Z,5.0nm,0.6s,baz=99,slow=7.1,SNR=77						
ASAR				PcP	PcP	06 38 47.2	-0.7
	comp=Z,0.3nm,0.6s,baz=101,slow=4.1,SNR=1.9						
ASAR				S	S	06 42 46.1	-2.2
	comp=Z,0.3nm,0.8s,baz=97,slow=12,SNR=4.7						
	comp=Z,5.0nm,0.6s						
WR0	Warramunga Arr	42.43	266	P	P	06 37 07.6	-0.4
WB2	Warramunga Arr	42.61	266	P	P	06 37 08.8	-0.5
WB2				IAmb	IAmb	06 37 09.5	
	comp=Z,6.8nm,0.6s						
WB0	Warramunga Arr	42.61	266	P	P	06 37 08.7	-0.7
WB0				IAmb	IAmb	06 37 09.5	
	comp=Z,8.6nm,0.7s						
WRA	Warramunga Arr	42.62	266	P	P	06 37 08.8	-0.7
WRA	Warramunga Arr	42.62	266	P	P	06 37 08.6	-0.9
	comp=Z,6.8nm,0.6s,baz=103,slow=8.4,SNR=79						
WRA				PcP	pP	06 38 48.4	+2.2
	comp=Z,0.2nm,0.4s,baz=103,slow=3.2,SNR=2.0						
WRA				S	S	06 42 45.5	-7.6
	comp=Z,0.3nm,1.0s,baz=102,slow=14,SNR=1.8						
	comp=Z,6.8nm,0.6s						
FORT	Forrest	46.64	249	P	P	06 37 39.5	-0.7
KNRA	Kununurra	48.87	269	P	P	06 37 57.0	0.0
KNRA				IAmb	IAmb	06 37 58.2	
	comp=Z,6.2nm,0.6s						
VNDA	Vanda	54.85	185	P	P	06 38 39.6	+0.6
VNDA	Vanda	54.85	185	P	P	06 38 39.7	+0.6
	comp=Z,0.7nm,0.7s,baz=347,slow=5.2,SNR=3.7						
	comp=Z,0.7nm,0.7s						
PSA00	Pilbara Seismi	55.43	259	P	P	06 38 43.0	-1.0
PSA00				IAmb	IAmb	06 39 00.6	
	comp=Z,7.7nm,1.1s						
NWAO	Narrogin (SRO)	55.59	245	P	P	06 38 44.7	-0.3
MBWA	Marble Bar	55.63	260	P	P	06 38 44.9	-0.6
MBWA				IAmb	IAmb	06 38 45.5	
	comp=Z,7.8nm,0.8s						
MORW	Morawa	57.20	250	P	P	06 38 55.8	-0.4
MORW				IAmb	IAmb	06 38 56.3	
	comp=Z,5.7nm,0.7s						
GIRL	Giralia	60.20	256	P	P	06 39 17.5	+1.1
QSPA	South Pole Qui	66.64	180	P	P	06 39 57.5	+0.6
MAW	Mawson	78.24	200	P	P	06 41 03.8	+0.3
PETK	Petropavlovsk-	78.70	346	P	P	06 41 04.9	-1.2
	comp=Z,3.3nm,0.9s,baz=281,slow=21,SNR=4.6						
	comp=Z,3.3nm,0.9s						
TXAR	Lajitas Array	90.03	58	P	P	06 42 03.0	+0.5
	comp=Z,0.2nm,0.7s,baz=217,slow=7.9,SNR=2.5						
	comp=Z,0.2nm,0.7s						
MKAR	Makanchi Array	111.98	313	PKiKP	PKiKP	06 47 32.1	-1.6
	comp=Z,0.2nm,0.5s,baz=242,slow=1.5,SNR=2.4						
KURBB	Kurchatov Arra	115.04	316	PKiKP	PKPdf	06 47 37.7	-1.7
	comp=Z,0.2nm,0.7s,baz=4.1,slow=1.3,SNR=1.6						
BVAR	Borovoye Array	120.22	319	PKP	PKPdf	06 47 47.0	-2.3
	comp=Z,0.6nm,0.4s,baz=112,slow=1.3,SNR=4.4						
ARCES	ARCESS Array B	131.47	348	PKP	PKPdf	06 48 08.3	-2.1
	comp=Z,0.6nm,0.5s,baz=37,slow=0.6,SNR=7.5						
FINES	FINESS Array B	138.07	342	PKhKP	PKPpre	06 48 15.8	
	comp=Z,1.9nm,1.0s,baz=257,slow=29,SNR=1.7						
FINES				PKP	PKPdf	06 48 21.6	-1.2
	comp=Z,1.3nm,1.0s,baz=92,slow=5.7,SNR=4.0						
HFS	Hagfors	142.13	349	PKhKP	PKPpre	06 48 25.3	
	comp=Z,2.7nm,0.4s,baz=72,slow=4.8,SNR=34						
AKASG	Malin Array Be	144.68	328	PKP	PKPdf	06 48 33.7	-1.2
	comp=Z,1.3nm,0.4s,baz=45,slow=4.3,SNR=11						
BRTR	Keskin Array B	147.44	308	PKPbc	PKPdf	06 48 42.6	+2.5
	comp=Z,0.6nm,0.5s,baz=154,slow=5.6,SNR=2.7						
MMAI	Mount Meron Ar	147.68	295	PKPbc	PKPbc	06 48 44.4	+0.1
	comp=Z,2.2nm,0.4s,baz=52,slow=5.4,SNR=3.7						
EKA	Eskdalemuir Ar	148.05	4	PKPbc	PKPdf	06 48 43.2	+2.8
	comp=Z,0.6nm,0.4s,baz=345,slow=2.6,SNR=9.5						
TORD	Torodi Ar. Bea	169.66	188	PKPab	PKPab	06 50 22.5	-1.3
	comp=Z,0.4nm,0.8s,baz=166,slow=4.5,SNR=2.2						

*IDC **01** 06:42:50.9±3.3, 31°.70S×179°.96E, h352km±35km, mb3.2/3, mbtmp3.9/5, Error ellipse: s-maj=44.8km s-min=30.1km az=160.0*
*WEL **01** 06:42:55.0±1.1, 32°.5S±10°×18°.0W±2°.5, h269km±19km, M4.9/6, mB4.4/1, MLv4.9/6, Mw(mB)3.6/1, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8, confirmed*

ISC 01 06:42:49.0±0.9, 31°.83S±0°.07×179°.7W±0°.1, h350km, n28, σ3§02/37, mb3.4/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.97	31	P	Pn	06 43 49.0	+0.8
GLKZ				S	S	06 44 33.9	-1.8
HAZ	Te Kaha	6.27	199	P	Pn	06 44 24.9	+2.2
HAZ				S	S	06 45 38.0	-0.9
WCZ	Waipu Caves	6.44	229	P	Pn	06 44 27.6	+2.9
TWGZ	Tauwhareparae	6.62	196	P	S	06 45 46.9	+0.6
MWZ	Matawai	6.88	199	P	Pn	06 44 33.9	+4.1
MWZ				P	S	06 45 50.5	-1.5
TKGZ	Te Karaka	6.90	196	P	S	06 45 50.3	-1.9
URZ	Urewera	6.94	201	P	Pn	06 44 32.9	+2.5
URZ				P	S	06 45 53.0	0.0
URZ	Urewera	6.94	201	P	Pn	06 44 32.3	+1.9
	4.2nm,0.3s,baz=348,slow=7.2,SNR=29						
URZ				S	S	06 45 51.2	-1.7
	42nm,0.5s,baz=184,slow=20,SNR=14						
RAGZ	Rawiri	7.07	199	P	S	06 45 58.2	+2.3
RIGZ	Rimuhau	7.17	196	P	Pn	06 44 36.0	+2.7
RIGZ				P	S	06 45 50.7	-7.5
PRGZ	Paritu Road	7.35	195	P	S	06 46 01.5	-0.5
KNZ	Kokohu	7.50	196	P	Pn	06 44 40.5	+3.6
KNZ				P	S	06 45 59.6	-5.4
RAHZ	Arahi	7.55	200	P	Pn	06 44 41.0	+3.3
RAHZ				P	S	06 46 05.6	-0.6
MTHZ	Maungataniwha	7.56	201	P	Pn	06 44 41.4	+3.5
MTHZ				P	S	06 46 03.2	-3.4
WHHZ	Waihua	7.66	198	P	S	06 46 04.2	-4.3
NMHZ	Naumai	7.80	201	P	S	06 46 14.0	+2.3
ARHZ	Aropaoanui	7.90	199	P	S	06 46 13.1	-0.7
BKZ	Black Stump Fm	7.96	202	P	S	06 46 13.7	-1.5
MCHZ	McNeill Hill	8.15	200	P	S	06 46 16.3	-3.0
KWHZ	Kaweka Forest	8.22	202	P	S	06 46 17.9	-2.8
BHHZ	Black Hill Sta	8.39	203	P	S	06 46 21.5	-3.1
KAHZ	Kahuranaki	8.43	198	P	S	06 46 17.9	-7.4
MSVF	Nonsavu	14.18	351	P	Pn	06 45 55.5	-1.0
	1.7nm,0.5s,baz=86,slow=23,SNR=1.8						
STKA	Stephens Creek	32.77	259	P	P	06 48 51.4	+0.9
	1.3nm,0.5s,baz=107,slow=10,SNR=3.2						
	1.3nm,0.5s						
ASAR	Alice Springs	41.62	269	P	P	06 50 03.2	-1.0
	0.4nm,0.4s,baz=105,slow=7.3,SNR=17						
	0.4nm,0.4s						
WRA	Warramunga Arr	42.74	275	P	P	06 50 11.8	-1.5
	1.9nm,0.7s,baz=114,slow=7.6,SNR=15						
	1.9nm,0.7s						
FINES	FINESS Array B	145.95	338	PKPbc	PKPbc	07 01 47.5	+0.3
	1.8nm,0.7s,baz=44,slow=4.8,SNR=15						
HFS	Hagfors	150.32	346	PKPbc	PKPbc	07 01 58.8	+0.3
	2.0nm,0.9s,baz=72,slow=4.7,SNR=1.5						

RSNC 01 07:07:17.7±1.5, 1°.79N×79°.24W, h11km±5km, ML2.9, Mw3.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	Tumaco	0.51	86	eP	Pg	07 07 26.5	-1.2
TUMC				eS	Sg	07 07 35.0	+0.5
TUMC				i		07 07 40.4	
	comp=Z,1μm,0.5s						
PAC1	Pacto, Paraso	1.58	164	eP	Pn	07 07 44.8	-1.0
PAC1				eS	Sn	07 08 05.1	-1.1
PAC1				i		07 08 11.6	
	comp=Z,548nm,0.3s						
GR1C	Gorgona, Isla	1.61	42	eP	Pn	07 07 44.9	-1.2
GR1C				eS	Sn	07 08 06.2	-0.6
CMBC	Cumbal	1.65	121	eP	Pn	07 07 45.1	-1.9
CMBC				eS	Sn	07 08 06.4	-1.9
CUSE	Cuicocha Este	1.70	150	eP	Pn	07 07 46.7	-1.0
CUSE				eS	Sn	07 08 09.8	+0.2
OTAV	Otavalo	1.73	153	eP	Pn	07 07 47.3	-0.8
OTAV				eS	Sn	07 08 11.0	+0.5
TULM	Tulcn-Chalpat	1.80	126	eP	Pn	07 07 48.1	-1.0
TULM				eS	Sn	07 08 10.9	-1.3
GCUF	Volcan Galeras	1.97	107	eP	Pn	07 07 49.6	-1.9
GCUF				eS	Sn	07 08 15.8	-0.7
GCUF				i		07 08 19.1	
	comp=Z,82nm,0.6s						
BBAC	Balboa, Cauca	2.00	83	eP	Pn	07 07 48.0	-3.6
BBAC				eS	Sn	07 08 15.7	-1.1
BBAC				i		07 08 21.5	
	comp=Z,68nm,0.4s						
BONI	La Bonita	2.16	128	eP	Pn	07 07 54.4	+0.5
BONI				eS	Sn	07 08 22.2	+1.3
BONI				i		07 08 29.3	
	comp=Z,54nm,0.4s						
CRUC	La Cruz	2.30	96	eP	Pn	07 07 54.5	-1.4
CRUC				eS	Sn	07 08 23.8	-0.5
POPC	Popayan, Colom	2.67	74	eP	Pn	07 07 57.1	-3.7
POPC				eS	Sn	07 08 30.3	-3.0
JAMC	Jamundi, Valle	2.93	61	eP	Pn	07 07 59.3	-5.1
JAMC				eS	Sn	07 08 35.4	-4.3
FLOC	Florencia	3.59	93	eP	Pn	07 08 12.4	-0.9
FLOC				eS	Sn	07 08 56.9	+1.1
FLOC				i		07 09 09.8	
	comp=Z,9.5nm,0.5s						
YOTC	Yotoco, Valle	3.62	53	eP	Pn	07 08 07.7	-6.1
YOTC				eS	Sn	07 08 52.9	-3.7
YOTC				i		07 09 16.2	
	comp=Z,12nm,0.6s						
COHC	Cochancay	4.23	180	eS	Sb	07 09 17.6	-5.7
PLMC	San Jos del P	4.27	44	eP	Pn	07 08 21.4	-1.4
PLMC				eS	Sn	07 09 17.3	+4.5
ORTC	Ortega, Tolima	4.51	62	eP	Pn	07 08 25.1	-0.9
ORTC				eS	Sn	07 09 20.1	+1.6
ORTC				i		07 09 32.4	
	comp=Z,12nm,0.5s						
ANIL	Santa Ana	4.67	55	eS	Sn	07 09 22.3	-0.6
PRAC	Prado	4.75	66	eP	Pn	07 08 27.9	-1.4
PRAC				eS	Sn	07 09 26.6	+2.2
PRAC				i		07 09 33.6	
	comp=Z,7.7nm,0.6s						
GUY2C	Guyana, Caldas	5.15	48	eP	Pn	07 08 34.9	-0.4
GUY2C				eS	Sn	07 09 38.8	+3.8
GUY2C				i		07 09 55.6	
	comp=Z,7.1nm,0.6s						

*SNET **01** 07:20:54.6±0.9, 14°.11N×91°.51W, h35km±911km, ML3.4*
*GCG **01** 07:20:56.6±0.4, 14°.30N×91°.49W, h51km±5km, MD3.6*

ISC 01 07:20:53.0±3.0, 14°.0N±0°.1×91°.7W±0°.1, h60km±27km, n18, σ0§91/29, 2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.30	15	eP	Pn	07 21 04.4	+1.3
STG3	Santiaguito 3,	0.70	6	eP	Pn	07 21 07.8	+0.3
STG3				eS	Sn	07 21 16.1	-1.9
FUG	Fuego 3	0.89	61	eP	Pn	07 21 10.3	+0.5
FUG				eS	Sn	07 21 20.8	-1.4
PCG	Pacaya	1.08	69	eP	Pn	07 21 13.2	+0.9
PCG				eS	Sn	07 21 26.4	-0.2
NBG	Las Nubes	1.38	65	eP	Pn	07 21 18.3	+1.9
SLOZ	Alcaldia de Sa	1.81	89	eP	Pn	07 21 21.8	0.0
SLOZ				eS	Sn	07 21 42.9	-0.9
NUBE	Las Nubes	1.81	93	eP	Pn	07 21 21.6	-0.5
NUBE				eS	Sn	07 21 42.6	-1.5
CEVE	Cerro Verde	1.97	95	eP	Pn	07 21 24.3	0.0
CEVE				eS	Sn	07 21 48.1	0.0
CEVE				IAML		07 21 58.0	
	comp=Z,517nm,0.5s						
SNJE	San Jose	1.98	94	eP	Pn	07 21 24.7	+0.2
SNJE				eS	Sn	07 21 48.8	+0.4
JAYA	Jayaque - finc	2.16	99	eP	Pn	07 21 26.4	-0.5
JAYA				eS	Sn	07 21 51.6	-1.1
JAYA				IAML		07 21 58.1	
	comp=Z,317nm,0.3s						
CEDA	San Andres	2.19	95	eP	Pn	07 21 27.3	+0.1
CEDA				eS	Sn	07 21 52.5	-0.8
CEDA				IAML		07 22 01.8	
	comp=Z,213nm,0.4s						
LALI	Alcalda de L	2.32	103	eP	Pn	07 21 28.8	+0.1
SJTE	Alcalda de S	2.59	98	eP	Pn	07 21 32.9	+0.3
PAVA	Las Pavas	2.65	96	eP	Pn	07 21 34.4	+1.0
COEG	Centro de Oper	2.71	98	eP	Pn	07 21 35.0	+0.7
COEG				e		07 21 35.4	
COEG				eS	Sn	07 22 06.6	+0.6
COEG				IAML		07 22 20.9	
	comp=Z,115nm,0.3s						
TECO	Alcaldia de Te	2.82	99	eP	Pn	07 21 36.1	+0.4
SCLA	Alcaldia de Sa	2.85	96	eP	Pn	07 21 37.2	+1.1
LCND	La Caada	3.72	100	eP	Pn	07 21 48.0	+0.1
LCND				eS	Sn	07 22 30.8	+0.2
LCND				IAML		07 22 46.6	
	comp=Z,85nm,0.4s						

*IDC **01** 07:37:43.3±1.8, 1°.44S×77°.27W, h208km±19km, mb3.2/8, mbtmp3.9/14, Error ellipse: s-maj=19.6km s-min=12.6km az=75.0*
*NEIC **01** 07:37:43.0±2.1, 1°.51S±0°.06×77°.50W±0°.09, h198km±6km, mb4.1/21, Error ellipse: s-maj=12.5km s-min=8.2km az=94.0*

ISC 01 07:37:42.1±0.5, 1°.47S±0°.04×77°.37W±0°.06, h200km, n84, σ1§67/91, mb3.8/13, 6C-3D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLOR	San Lorenzo -	1.35	303	Pn	Pn	07 38 15.3	+0.3
CHSH	Refugio Sur-Vo	1.50	269		Pn	07 38 15.9	-0.6
PULU	Pululahua	1.87	323		Pn	07 38 19.4	-0.3
BONI	La Bonita	1.92	355	↓↓iP	Pn	07 38 20.4	+0.3
IMBA	Imbabura, San	1.93	335		Pn	07 38 21.6	+1.2
BOSC	San Juan Bosco	2.01	214	Pn	Pn	07 38 20.6	-0.4
BOSC				Sn	Sn	07 38 50.5	-0.7
OTAV	Otavalo	2.01	328	Pn	Pn	07 38 20.5	-0.7
OTAV	Otavalo	2.01	328	eP	Pn	07 38 20.6	-0.7
CUSE	Cuicocha Este	2.04	330	↓↓iP	Pn	07 38 21.4	-0.1
COHC	Cochancay	2.12	242		Pn	07 38 20.6	-1.3
COHC	Cochancay	2.12	242	↑↑iP	Pn	07 38 20.4	-1.6
TULM	Tulcn-Chalpat	2.21	349		Pn	07 38 24.2	+0.8
TULM	Tulcn-Chalpat	2.21	349	eP	Pn	07 38 24.1	+0.8
PAC1	Pacto, Paraso	2.24	321	eP	Pn	07 38 23.6	+0.3
CMBC	Cumbal	2.44	349	eP	Pn	07 38 27.3	+1.5
GCUF	Volcan Galeras	2.68	1	eP	Pn	07 38 30.2	+1.6
GCUF				eS	Sn	07 39 00.3	-4.7
GCUF				i		07 39 09.0	
	comp=Z,6.0nm,0.5s						
PTLC	Puerto Leguiza	3.05	58	↓↓iP	Pn	07 38 32.0	-0.3
PTLC				eS	Sn	07 39 07.7	-4.0
PTLC				i		07 39 12.9	
	comp=Z,18nm,0.6s						
CRUC	La Cruz	3.05	8	↑↑iP	Pn	07 38 34.2	+1.5
BBAC	Balboa, Cauca	3.47	2	eP	Pn	07 38 37.9	+0.2
BBAC				eS	Sn	07 39 21.9	+0.7
BBAC				i		07 39 34.2	
	comp=Z,14nm,0.4s						
FLOC	Florencia	3.49	30	↑↑iP	Pn	07 38 38.7	+1.1
FLOC				eS	Sn	07 39 21.2	0.0
FLOC				i		07 39 25.8	
	comp=Z,6.0nm,0.7s						
SALI	Salinas	3.69	259		Pn	07 38 37.3	-2.7
MCRA	Macar, Loja	3.86	222	Pn	Pn	07 38 39.6	-2.7
MCRA	Macar, Loja	3.86	222	iP	Pn	07 38 39.4	-2.8
POPC	Popayan, Colom	4.05	10	↑↑iP	Pn	07 38 44.9	+0.2
POPC				eS	Sn	07 39 34.2	+0.2
POPC				i		07 39 49.3	
	comp=Z,3.2nm,0.5s						
GARC	Garzon, Huila	4.09	27	eP	Pn	07 38 46.7	+1.4
JAMC	Jamundi, Valle	4.71	9	eP	Pn	07 38 52.2	-0.9
JAMC				eS	Sn	07 39 48.6	-0.4
JAMC				i		07 39 54.1	
	comp=Z,8.0nm,0.5s						
MACC	Macarena, Meta	5.03	44	↑↑iP	Pn	07 38 58.5	+1.5
YOTC	Yotoco, Valle	5.52	11	eP	Pn	07 39 01.3	-2.0
ATAH	Atahualpa	5.72	190	P	Pn	07 39 07.2	+1.0
	comp=Z,74nm,0.5s,baz=19,slow=9.4,SNR=76						
ATAH				S	Sn	07 40 11.7	-0.8
	comp=Z,49nm,1.0s,baz=145,slow=23,SNR=13						
PRAC	Prado	5.72	26	eP	Pn	07 39 06.3	+0.5
ORTC	Ortega, Tolima	5.75	22	eP	Pn	07 39 06.6	+0.3
PLMC	San Jos del P	6.43	10	eP	Pn	07 39 11.9	-3.2
VILC	Villavicencio,	6.66	34	eP	Pn	07 39 19.9	+1.8
GUY2C	Guyana, Caldas	6.95	17	eP	Pn	07 39 21.3	-0.9
ROSC	El Rosal	6.97	26	Pn	Pn	07 39 23.6	+1.2
ROSC	El Rosal	6.97	26	P	Pn	07 39 23.8	+1.4
	comp=Z,3.4nm,0.5s,baz=104,slow=22,SNR=2.3						
CHIC	Chingaza	7.07	31	eP	Pn	07 39 37.5	+14
CZSB	Cruzeiro do Su	7.76	143	Pn	Pn	07 39 33.5	+1.2
CZSB	Cruzeiro do Su	7.76	143	↑↑iP	Pn	07 39 33.5	+1.2
SPBC	San Pablo de B	7.81	25	eP

T42A			IAmb	IAmb	07 45 16.0	
	comp=Z,6.8nm,1.4s					
PECS	**Pecos**	**41.23 325**	P	**P**	**07 45 09.0**	**+1.2**
PECS			IAmb	IAmb	07 45 24.7	
	comp=Z,3.6nm,1.3s					
ANMO	**Albuquerque**	**45.33 326**	P	**P**	**07 45 42.2**	**+1.6**
TUC	**Tucson**	**46.13 320**	P	**P**	**07 45 48.1**	**+1.4**
SDCO	**Great Sand Dun**	**46.90 329**	P	**P**	**07 45 54.6**	**+1.7**
PDAR	**Pinedale Array**	**52.72 330**	P	**P**	**07 46 36.9**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=144,slow=7.8,SNR=2.1					
	comp=Z,0.2nm,0.4s					
ULM	**Lac du Bonnet**	**53.91 345**	P	**P**	**07 46 43.2**	**-1.6**
	comp=Z,3.5nm,0.7s,baz=149,slow=5.9,SNR=2.5					
	comp=Z,3.5nm,0.7s					
NVAR	**Mina Array Bea**	**54.74 321**	P	**P**	**07 46 52.4**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=128,slow=7.9,SNR=5.6					
	comp=Z,0.4nm,0.5s					
BELA	**Belgrano 2**	**79.62 172**	P	**P**	**07 49 28.4**	**+1.8**
TORD	**Torodi Ar. Bea**	**79.69 76**	P	**P**	**07 49 27.4**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=284,slow=5.7,SNR=11					
	comp=Z,0.4nm,0.4s					
ILAR	**Eielson Array**	**82.71 336**	P	**P**	**07 49 43.6**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=145,slow=4.0,SNR=6.2					
	comp=Z,0.5nm,0.8s					
QSPA	**South Pole Qui**	**88.59 180**	P	**P**	**07 50 13.2**	**+1.1**
QSPA			IAmb	IAmb	07 50 16.4	
	comp=Z,2.2nm,0.8s					
ASAR	**Alice Springs**	**140.64 229**	PKhKP	PKPpre	07 56 41.8	
	comp=Z,0.2nm,0.4s,baz=120,slow=3.7,SNR=6.2					
ASAR			PKP	**PKPdf**	**07 56 48.8**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=116,slow=1.8,SNR=6.2					
WRA	**Warramunga Arr**	**142.32 234**	PKhKP	PKPpre	07 56 47.3	
	comp=Z,0.4nm,0.5s,baz=123,slow=2.7,SNR=12					
PZH	**PanZhiHua**	**155.10 2**	PKP	**PKPdf**	**07 57 11.3**	**-0.9**

IDC 01 07:50:38.2±10.0, 12°.63N×92°.05E, h0km, mb3.3/4, mbtmp3.3/4, MS3.1/1, Error ellipse: s-maj=588.1km s-min=25.3km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**27.98**	**225**	T	T	08 25 54.0	
	baz=44,slow=76,SNR=13						
H08S2	**Diego Garcia H**	**27.99**	**225**	T	T	08 25 53.9	
	baz=44,slow=76,SNR=7.3						
H08S1	**Diego Garcia H**	**28.00**	**225**	T	T	08 25 54.2	
	baz=44,slow=76,SNR=5.5						
MKAR	**Makanchi Array**	**35.03**	**348**	P	P	07 57 31.6	-1.0
	0.3nm,0.7s,baz=167,slow=10,SNR=2.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**39.47**	**346**	P	P	07 58 10.9	+0.8
	0.2nm,0.3s,baz=150,slow=8.8,SNR=2.0						
	0.2nm,0.3s						
ARU	**Arti**	**50.73**	**337**	LR	LR	08 22 25.7	
	comp=Z,22nm,20.4s,baz=342,slow=38						
WRA	**Warramunga Arr**	**52.73**	**127**	P	P	07 59 55.1	0.0
	0.2nm,0.6s,baz=308,slow=7.8,SNR=2.4						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**54.56**	**131**	P	P	08 00 08.4	-0.1
	0.3nm,0.4s,baz=305,slow=6.5,SNR=8.5						
	0.3nm,0.4s						
H04N2	**CROZET ISLANDS**	**68.80**	**209**	T	T	09 17 05.3	
	baz=43,slow=75,SNR=5.2						
H04N1	**CROZET ISLANDS**	**68.81**	**209**	T	T	09 17 08.3	
	baz=43,slow=75,SNR=7.5						
H04N3	**CROZET ISLANDS**	**68.82**	**209**	T	T	09 17 06.6	
	baz=43,slow=75,SNR=7.7						

IDC 01 08:02:29.3±2.6, 6°.79S×128°.87E, h0km, mb3.8/2, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=295.7km s-min=29.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.11**	**158**	Pn	Pn	08 05 49.9	-0.8
	0.2nm,0.3s,baz=334,slow=13,SNR=9.1						
WRA				Sn	Sn	08 08 13.8	-14
	0.5nm,0.3s,baz=334,slow=22,SNR=7.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.47**	**164**	P	Pn	08 06 35.0	+0.5
	0.6nm,0.3s,baz=346,slow=11,SNR=60						
ASAR				S	Sn	08 09 37.9	-12
	0.7nm,0.9s,baz=339,slow=20,SNR=5.1						
	2.0nm,0.4s						
MKAR	**Makanchi Array**	**67.44**	**327**	P	P	08 13 27.3	+0.5
	0.7nm,0.4s,baz=119,slow=8.1,SNR=9.2						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**71.75**	**329**	P	P	08 13 52.8	-0.6
	0.2nm,0.4s,baz=118,slow=4.2,SNR=4.1						
	0.2nm,0.4s						

IDC 01 08:06:30.8±4.1, 46°.89S×33°.07E, h0km, mb3.8/4, mbtmp3.8/4, MS3.0/4, Error ellipse: s-maj=112.5km s-min=57.0km az=108.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S3	**CROZET ISLANDS**	**12.88**	**97**	T	T	08 23 09.9	
	baz=262,slow=75,SNR=19						
H04S2	**CROZET ISLANDS**	**12.88**	**97**	T	T	08 23 08.5	
	baz=262,slow=75,SNR=20						
H04S1	**CROZET ISLANDS**	**12.90**	**97**	T	T	08 23 09.2	
	baz=262,slow=75,SNR=14						
SUR	**Sutherland**	**17.27**	**323**	LR	LR	08 15 07.5	
	comp=Z,47nm,21.3s,baz=149,slow=30						
BOSA	**Boshof**	**19.25**	**339**	LR	LR	08 17 38.9	
	comp=Z,36nm,18.8s,baz=198,slow=35						
MAW	**Mawson**	**25.81**	**154**	P	P	08 12 03.4	+0.3
	1.6nm,0.8s,baz=298,slow=13,SNR=3.5						
	1.6nm,0.8s						
LSZ	**Lusaka**	**31.78**	**351**	LR	LR	08 24 28.8	
	comp=Z,17nm,18.8s,baz=142,slow=34						
VNDA	**Vanda**	**51.91**	**168**	P	P	08 15 40.0	-0.5
	0.9nm,0.9s,baz=232,slow=6.7,SNR=4.2						
VNDA				LR	LR	08 38 21.5	
	comp=Z,24nm,19.4s,baz=118,slow=37						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**80.08**	**114**	P	P	08 18 42.8	+0.2
	0.8nm,0.7s,baz=222,slow=4.7,SNR=16						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**83.07**	**112**	P	P	08 18 58.1	-0.3
	0.6nm,0.9s,baz=221,slow=4.3,SNR=5.2						
	0.6nm,0.9s						
TXAR	**Lajitas Array**	**142.26**	**258**	PKP	PKPdf	08 26 05.7	+0.5
	0.1nm,0.6s,baz=143,slow=1.9,SNR=1.6						

NOU 01 08:23:03.0, 14°.69S×167°.49E, h115km, MLv4.3/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**3.21**	**164**	P	Pn	08 23 52.6	+0.6
YATNC	**Mamie plateau,**	**7.35**	**184**	P	Pn	08 24 46.9	-0.8
DZM	**Mont Dzumac**	**7.41**	**188**	P	Pn	08 24 48.5	-0.1
NOUC	**Port Laguerre**	**7.46**	**189**	P	Pn	08 24 50.4	+1.3
BKZ	**Black Stump Fm**	**25.64**	**164**	P	P	08 28 21.7	-0.2
	27nm,2.2s						

*NOU **01** 08:53:53.4, 38°.40S×176°.01E, h243km, MLv3.5/6, North Island, New Zealand*
*WEL **01** 08:54:08.7±0.8, 39°.S±6°.×17°.6E±°, h105km±7km, M2.6/28, ML1.9/8, MLv2.6/28, Error ellipse: s-maj=0.0km s-min=0.0km az=137.6, confirmed*
ISC 01 08:54:03.5±1.7, 38°.93S±0°.05×175°.59E±0°.05, h149km±8km, n95, σ1°56/103, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.16**	**68**	P	**Pn**	**08 54 24.4**	**+0.7**
KRVZ	**Karewarewa**	**0.17**	**166**	P	**Pn**	**08 54 24.8**	**+1.0**
TWVZ	**Taurewa**	**0.18**	**219**	P	**Pn**	**08 54 24.8**	**+1.0**
WTVZ	**West Tongariro**	**0.19**	**179**	P	**Pn**	**08 54 24.9**	**+1.1**
NNVZ	**North Ngauruho**	**0.21**	**174**	P	**Pn**	**08 54 25.1**	**+1.2**
NNVZ				S	**Sn**	**08 54 38.1**	**-1.4**
TMVZ	**Te Maari**	**0.21**	**154**	P	**Pn**	**08 54 25.0**	**+1.1**
TMVZ				S	**Sn**	**08 54 37.8**	**-1.6**
RITZ	**Rihia Road**	**0.22**	**104**	P	**Pn**	**08 54 24.9**	**+1.1**
ETVZ	**East Tongariro**	**0.23**	**155**	P	**Pn**	**08 54 25.1**	**+1.2**
ETVZ				S	**Sn**	**08 54 38.1**	**-1.5**
NGZ	**Ngauruhoe**	**0.25**	**177**	P	**Pn**	**08 54 25.2**	**+1.2**
FWVZ	**Far West T-bar**	**0.33**	**185**	P	**Pn**	**08 54 25.5**	**+1.2**
WNVZ	**Wahianoa**	**0.40**	**179**	P	**Pn**	**08 54 25.8**	**+1.2**
WNVZ				S	**Sn**	**08 54 38.8**	**-1.8**
PKVZ	**Pokaka**	**0.41**	**207**	P	**Pn**	**08 54 25.8**	**+1.4**
PKVZ				S	**Sn**	**08 54 39.4**	**-1.0**
MOVZ	**Moawhango**	**0.50**	**165**	P	**Pn**	**08 54 25.9**	**+1.0**
TLZ	**Tolley Road**	**0.60**	**356**	P	**Pn**	**08 54 26.5**	**+1.2**
MRHZ	**Matea Rd**	**0.66**	**82**	P	**Pn**	**08 54 26.4**	**+0.7**
MRHZ				S	**Sn**	**08 54 40.1**	**-2.5**
BHHZ	**Black Hill Sta**	**0.67**	**147**	P	**Pn**	**08 54 26.9**	**+1.1**
BHHZ				S	**Sn**	**08 54 40.8**	**-2.1**
VRZ	**Vera Road**	**0.68**	**253**	P	**Pn**	**08 54 27.6**	**+1.8**
VRZ				S	**Sn**	**08 54 42.9**	**+0.2**
ALRZ	**Allen Road**	**0.69**	**59**	P	**Pn**	**08 54 26.8**	**+0.9**
HIZ	**Hauiti**	**0.70**	**306**	P	**Pn**	**08 54 27.4**	**+1.4**
HIZ	**Hauiti**	**0.70**	**306**	P	**Pn**	**08 54 27.6**	**+1.6**
BKZ	**Black Stump Fm**	**0.74**	**109**	P	**Pn**	**08 54 27.1**	**+0.8**
BKZ	**Black Stump Fm**	**0.74**	**109**	P	**Pn**	**08 54 27.3**	**+1.0**
KWHZ	**Kaweka Forest**	**0.82**	**128**	P	**Pn**	**08 54 29.2**	**+2.4**
UTU	**Utuhina**	**0.89**	**33**	P	**Pn**	**08 54 25.8**	**-1.5**
KRHZ	**Kereru**	**0.94**	**140**	P	**Pn**	**08 54 29.5**	**+1.8**
WAZ	**Wanganui**	**0.95**	**209**	P	**Pn**	**08 54 29.8**	**+2.0**
NMHZ	**Naumai**	**0.96**	**101**	P	**Pn**	**08 54 30.2**	**+2.3**
MTHZ	**Maungataniwha**	**0.98**	**86**	P	**Pn**	**08 54 28.8**	**+0.7**
MCHZ	**McNeill Hill**	**1.01**	**121**	P	**Pn**	**08 54 30.7**	**+2.4**
MUGZ	**Murupara**	**1.03**	**65**	P	**Pn**	**08 54 29.5**	**+1.0**
PNHZ	**Pukenui**	**1.09**	**154**	P	**Pn**	**08 54 30.8**	**+1.8**
ARHZ	**Aropaoanui**	**1.15**	**107**	P	**Pn**	**08 54 31.7**	**+2.3**
TSZ	**Takapari Road**	**1.17**	**166**	P	**Pn**	**08 54 31.6**	**+1.9**
RAHZ	**Arahi**	**1.17**	**90**	P	**Pn**	**08 54 31.7**	**+2.0**
PREZ	**Palmer Road**	**1.19**	**249**	P	**Pn**	**08 54 31.4**	**+1.5**
TOZ	**Tahuroa Road**	**1.20**	**357**	P	**Pn**	**08 54 31.9**	**+2.0**
NEZ	**North Egmont**	**1.21**	**253**	P	**Pn**	**08 54 32.8**	**+2.7**
PKE	**Pukeiti**	**1.27**	**257**	P	**Pn**	**08 54 33.2**	**+2.5**
KHEZ	**Kahui Hut**	**1.28**	**253**	P	**Pn**	**08 54 33.5**	**+2.7**
KHEZ	**Kahui Hut**	**1.28**	**253**	P	**Pn**	**08 54 33.5**	**+2.7**
OHWZ	**Ohakea**	**1.29**	**189**	P	**Pn**	**08 54 33.4**	**+2.6**
WPHZ	**Waipukurau**	**1.31**	**150**	P	**Pn**	**08 54 33.1**	**+2.0**
KAHZ	**Kahuranaki**	**1.32**	**131**	P	**Pn**	**08 54 33.5**	**+2.3**
URZ	**Urewera**	**1.37**	**61**	P	**Pn**	**08 54 32.7**	**+1.1**
DVHZ	**Dannevirke**	**1.44**	**162**	P	**Pn**	**08 54 34.1**	**+1.7**
POWZ	**Post Office Ro**	**1.47**	**175**	P	**Pn**	**08 54 34.4**	**+1.7**
PRHZ	**Porangahau**	**1.56**	**149**	P	**Pn**	**08 54 35.7**	**+2.0**
MWZ	**Matawai**	**1.63**	**69**	P	**Pn**	**08 54 35.7**	**+1.3**
PRWZ	**Pori Road**	**1.65**	**170**	P	**Pn**	**08 54 36.6**	**+2.0**
ANWZ	**Angora Road**	**1.68**	**156**	P	**Pn**	**08 54 36.9**	**+2.1**
RIGZ	**Rimuhau**	**1.71**	**83**	P	**Pn**	**08 54 37.3**	**+2.0**
MRZ	**Mangatainoka R**	**1.73**	**180**	P	**Pn**	**08 54 37.1**	**+1.6**
MHGZ	**Mahia Peninsul**	**1.82**	**98**	P	**Pn**	**08 54 38.8**	**+2.4**
BFZ	**Birch Farm**	**1.82**	**164**	P	**Pn**	**08 54 38.0**	**+1.5**
BFZ	**Birch Farm**	**1.82**	**164**	P	**Pn**	**08 54 38.2**	**+1.6**
TKGZ	**Te Karaka**	**1.84**	**75**	P	**Pn**	**08 54 38.9**	**+2.3**
TIWZ	**Tintock**	**1.86**	**173**	P	**Pn**	**08 54 38.6**	**+1.7**
RUGZ	**Raukumara Rang**	**1.90**	**60**	P	**Pn**	**08 54 38.7**	**+1.2**
OGWZ	**Otaki Gorge**	**1.92**	**190**	P	**Pn**	**08 54 39.3**	**+1.7**
HOWZ	**Holdsworth Sta**	**1.97**	**182**	P	**Pn**	**08 54 39.6**	**+1.4**
KIW	**Kapiti Island**	**2.00**	**195**	P	**Pn**	**08 54 39.9**	**+1.4**
TWGZ	**Tauwhareparae**	**2.02**	**69**	P	**Pn**	**08 54 41.1**	**+2.2**
HAZ	**Te Kaha**	**2.08**	**57**	P	**Pn**	**08 54 40.5**	**+0.9**
TMWZ	**Te Maipa**	**2.19**	**174**	P	**Pn**	**08 54 42.1**	**+1.3**
PKGZ	**Pakihiroa**	**2.21**	**63**	P	**Pn**	**08 54 42.8**	**+1.7**
CAW	**Cannon Point**	**2.21**	**190**	P	**Pn**	**08 54 42.4**	**+1.3**
MTW	**Mount Morrison**	**2.23**	**182**	P	**Pn**	**08 54 42.4**	**+1.1**
PUZ	**Puketiti**	**2.26**	**69**	P	**Pn**	**08 54 43.1**	**+1.5**
DUWZ	**D'Urville Isla**	**2.27**	**214**	P	**Pn**	**08 54 43.2**	**+1.4**
WEL	**Wellington**	**2.44**	**195**	P	**Pn**	**08 54 45.1**	**+1.4**
PAWZ	**Paruwai Farm**	**2.46**	**183**	P	**Pn**	**08 54 44.9**	**+0.9**
TRWZ	**Traveller**	**2.47**	**178**	P	**Pn**	**08 54 45.3**	**+1.2**
WMGZ	**Waiomatatini S**	**2.48**	**64**	P	**Pn**	**08 54 45.4**	**+1.1**
TCW	**Tory Channel**	**2.49**	**203**	P	**Pn**	**08 54 45.6**	**+1.2**
MSWZ	**Moikau Station**	**2.50**	**186**	P	**Pn**	**08 54 45.5**	**+1.0**
PLWZ	**Palliser**	**2.65**	**185**	P	**Pn**	**08 54 47.2**	**+0.8**
TUWZ	**Tuamarina**	**2.80**	**206**	P	**Pn**	**08 54 49.2**	**+1.0**
NNZ	**Nelson**	**2.85**	**216**	P	**Pn**	**08 54 50.1**	**+1.3**
TKNZ	**Takaka Hill**	**2.92**	**223**	P	**Pn**	**08 54 51.0**	**+1.3**
QRZ	**Quartz Range**	**3.02**	**230**	P	**Pn**	**08 54 52.4**	**+1.4**
QRZ	**Quartz Range**	**3.02**	**230**	P	**Pn**	**08 54 52.3**	**+1.2**
BSWZ	**Blackbirch Sta**	**3.08**	**205**	P	**Pn**	**08 54 52.8**	**+1.0**
MRNZ	**Matariki Terra**	**3.29**	**220**	P	**Pn**	**08 54 55.6**	**+1.2**
THZ	**Tophouse**	**3.50**	**215**	P	**Pn**	**08 54 58.2**	**+1.0**
KHZ	**Kahutara**	**3.82**	**203**	P	**Pn**	**08 55 02.0**	**+0.8**
KHZ	**Kahutara**	**3.82**	**203**	P	**Pn**	**08 55 02.0**	**+0.8**
DSZ	**Denniston Nort**	**4.04**	**225**	P	**Pn**	**08 55 04.8**	**+0.7**
GVZ	**Greta Valley S**	**4.47**	**205**	P	**Pn**	**08 55 10.4**	**+0.6**
LTZ	**Lake Taylor**	**4.60**	**212**	P	**Pn**	**08 55 11.5**	**-0.1**
OXZ	**Oxford**	**5.15**	**210**	P	**Pn**	**08 55 18.1**	**-0.6**
OKCZ	**Okains Bay**	**5.16**	**201**	P	**Pn**	**08 55 18.8**	**-0.1**
MOZ	**McQueen's Vall**	**5.26**	**204**	P	**Pn**	**08 55 19.3**	**-0.9**
AKCZ	**Akaroa Harbour**	**5.33**	**201**	P	**Pn**	**08 55 20.8**	**-0.4**
TMZ	**Timaru**	**6.44**	**211**	P	**Pn**	**08 55 36.0**	**0.0**
ODZ	**Otahua Downs**	**7.13**	**209**	P	**Pn**	**08 55 45.2**	**0.0**

*AFAD **01** 08:57:03.8±0.0, 36°.07N×34°.51E, h7km±6km, ML2.2*
*ISK **01** 08:57:04.9, 36°.09N×34°.35E, h28km, ML2.7/20*
*NIC **01** 08:57:06.4, 35°.88N×34°.00E, h10km±1km, Ml1.7/7*
ISC 01 08:57:03.5±1.3, 36°.02N±0°.03×34°.43E±0°.04, h33km±7km, n36, σ1°28/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZK	**Mersin**	**0.51**	**333**	Pg	**Pn**	**08 57 14.8**	**+0.2**
KIZK				Sg	**Sn**	**08 57 21.8**	**-0.4**
KIZK	**Mersin**	**0.51**	**333**	P	**Pn**	**08 57 14.8**	**+0.2**
KIZK				S	**Sn**	**08 57 21.5**	**-0.7**
KIZK				*i* AML	AML	08 57 22.0	
	comp=N,286nm,0.5s						
KIZK				*i* AML	AML	08 57 22.0	
	comp=E,218nm,0.7s						
EREN	**Erenkoy**	**0.54**	**203**	Pg	**Pn**	**08 57 17.4**	**+2.6**
EREN	**Erenkoy**	**0.54**	**203**	P	**Pn**	**08 57 17.0**	**+2.2**
EREN				S	**Sb**	**08 57 24.1**	**+1.9**
EREN				*i* AML	AML	08 57 27.0	
	comp=E,102nm,0.6s						
EREN				*i* AML	AML	08 57 28.0	
	comp=N,57nm,0.5s						
KARG	**Kargicak-Mersi**	**0.61**	**287**	Pg	**Pn**	**08 57 17.0**	**+1.1**
TISA	**Tisan-Mersin**	**0.62**	**283**	Pg	**Pn**	**08 57 16.9**	**+0.9**
TISA				Sg	**Sn**	**08 57 25.9**	**+1.0**
IKL	**Isikli**	**0.64**	**290**	Pg	**Pn**	**08 57 17.1**	**+0.8**
IKL				Sg	**Sn**	**08 57 25.9**	**+0.6**
YESI	**Yesilovacik-Me**	**0.66**	**285**	Pg	**Pn**	**08 57 17.3**	**+0.7**
YESI				Sg	**Sn**	**08 57 26.3**	**+0.5**
KEBE	**Keben-Mersin**	**0.72**	**306**	Pg	**Pn**	**08 57 18.5**	**+1.1**
KEBE				Sg	**Sn**	**08 57 28.2**	**+0.8**
AKK2	**Akkuyu-Mersin**	**0.72**	**279**	Pg	**Pn**	**08 57 18.4**	**+1.0**
AKK2				Sg	**Sn**	**08 57 28.4**	**+1.0**
AKKU	**Akkuyu-Mersin**	**0.73**	**281**	Pg	**Pn**	**08 57 18.5**	**+1.0**
AKKU				Sg	**Sn**	**08 57 28.1**	**+0.7**
AKK1	**Akkuyu-Mersin**	**0.73**	**280**	Pg	**Pn**	**08 57 18.7**	**+1.2**
AKK1				Sg	**Sn**	**08 57 28.3**	**+0.8**
GULN	**MERSIN_Gulnar**	**0.74**	**283**	P	**Pn**	**08 57 18.5**	**+0.9**
GULN				*i* AML	AML	08 57 28.0	
	comp=N,159nm,0.2s						
GULN				S	**Sn**	**08 57 28.1**	**+0.4**
GULN				*i* AML	AML	08 57 29.0	
	comp=E,292nm,0.5s						
TEPK	**Tepekoy-MERSIN**	**0.74**	**286**	Pg	**Pn**	**08 57 18.5**	**+0.7**
TEPK				Sg	**Sn**	**08 57 28.2**	**+0.2**
OREN	**Orenkoy-Mersin**	**0.81**	**284**	Pg	**Pn**	**08 57 19.5**	**+0.9**
OREN				Sg	**Sn**	**08 57 30.1**	**+0.6**
DED	**Mersin**	**0.98**	**17**	P	**Pn**	**08 57 21.7**	**+0.6**
DED				S	**Sb**	**08 57 33.8**	**-1.0**
DED				*i* AML	AML	08 57 34.0	
	comp=N,79nm,0.3s						
DED				*i* AML	AML	08 57 35.0	
	comp=E,246nm,0.6s						
BERE	**Bereket-Mersin**	**1.03**	**289**	Pg	**Pb**	**08 57 23.1**	**+0.2**
BERE				Sg	**Sn**	**08 57 36.4**	**+1.2**
PARAL	**Paralimni**	**1.07**	**197**	P	**Pn**	**08 57 23.1**	**+0.8**
PARAL				S	**Sn**	**08 57 36.1**	**+0.1**
PARAL				AML	AML	08 57 43.2	
	0.1nm,0.6s						
PARAL				AML	AML	08 57 44.1	
	0.1nm,0.4s						
TEKE	**Tekeli-Mersin**	**1.07**	**277**	Pg	**Pb**	**08 57 23.6**	**0.0**
TEKE				Sg	**Sb**	**08 57 36.6**	**-0.7**
MVOU	**Mavrovouni**	**1.20**	**213**	P	**Pn**	**08 57 23.9**	**0.0**
MVOU				S	**Sn**	**08 57 38.0**	**-1.0**
MVOU				AML	AML	08 57 43.9	
	0.1nm,0.2s						
MVOU				AML	AML	08 57 45.4	
ATHAL	**Athalassa**	**1.22**	**224**	S	**Sn**	**08 57 36.2**	**-3.4**
ATHAL				AML	AML	08 57 40.0	
	0.2nm,0.4s						
ATHAL				AML	AML	08 57 41.0	
	0.1nm,0.3s						
GULE	**Gulek**	**1.29**	**12**	P	**Pn**	**08 57 26.5**	**+1.1**
GULE				S	**Sn**	**08 57 42.3**	**+0.7**
GULE				*i* AML	AML	08 57 44.0	
	comp=N,68nm,0.5s						
GULE				*i* AML	AML	08 57 46.0	
	comp=E,84nm,0.3s						
KARA	**Karaisali**	**1.33**	**22**	Pn	**Pn**	**08 57 27.2**	**+1.3**
CSS	**Mathiatis**	**1.39**	**221**	P	**Pn**	**08 57 26.3**	**-0.3**
CSS				S	**Sn**	**08 57 42.1**	**-1.7**
CSS				AML	AML	08 57 42.2	
	0.1nm,0.1s						
CSS				AML	AML	08 57 42.7	
	0.1nm,0.1s						
KERG	**Konya-Eregli**	**1.41**	**350**	P	**Pn**	**08 57 28.3**	**+1.2**
KERG				S	**Sb**	**08 57 46.2**	**-0.9**
KERG				*i* AML	AML	08 57 47.0	
	comp=N,61nm,0.2s						
KERG				*i* AML	AML	08 57 47.0	
	comp=E,43nm,0.5s						
CEYT	**Ceyhan**	**1.45**	**47**	Pn	**Pn**	**08 57 29.3**	**+1.9**
KRMN	**Karaman**	**1.48**	**321**	Pn	**Pb**	**08 57 29.9**	**-0.7**
LEF	**Lefka**	**1.55**	**235**	P	**Pn**	**08 57 30.1**	**+1.3**
LEF				S	**Sn**	**08 57 46.6**	**-1.1**
ASGA	**Asgata**	**1.57**	**218**	S	**Sn**	**08 57 47.9**	**-0.3**
ASGA				AML	AML	08 57 56.9	
	0.1nm,0.9s						
AKO	**Adana**	**1.65**	**29**	P	**Pn**	**08 57 30.6**	**+0.3**
AKO				S	**Sn**	**08 57 48.5**	**-1.9**
AKO				*i* AML	AML	08 57 51.0	
	comp=N,16nm,0.5s						
AKO				*i* AML	AML	08 57 51.0	
	comp=E,14nm,0.5s						
TROD	**Troodos**	**1.67**	**230**	S	**Sn**	**08 57 49.1**	**-1.9**
TROD				AML	AML	08 58 04.3	
	0.1nm,0.4s						
KKBE	**Karaman, Kazim**	**1.69**	**315**	P	**Pn**	**08 57 32.6**	**+1.8**
KKBE				S	**Sb**	**08 57 52.5**	**-2.6**
KKBE				*i* AML	AML	08 57 56.0	
	comp=N,18nm,0.5s						
KKBE				*i* AML	AML	08 57 57.0	
	comp=E,13nm,0.4s						
CMRD	**Camardi-Nigde**	**1.70**	**15**	Pn	**Pn**	**08 57 32.8**	**+1.8**
ALFC	**Alefka**	**1.73**	**240**	P	**Pn**	**08 57 31.0**	**-0.3**
ALFC				S	**Sn**	**08 57 50.2**	**-2.0**
ALFC				AML	AML	08 57 52.2	
	0.1nm,0.1s						
ALFC				AML	AML	08 57 52.9	
	0.1nm,0.2s						
HDMB	**Hadim**	**1.83**	**302**	Pn	**Pn**	**08 57 34.8**	**+2.0**
AKMS	**Akamas**	**1.98**	**240**	S	**Sn**	**08 57 57.1**	**-1.4**

*IDC **01** 08:57:42.9±1.6, 18°.48N×67°.73W, h85km±20km, mb3.6/8, mbtmp4.0/9, MS2.7/4, Error ellipse: s-maj=30.2km s-min=18.5km az=11.0*
*SDD **01** 08:57:42.8±1.9, 18°.37N×67°.54W, h50km±27km, MD4.1, ML4.5, Fault plane solution: NP1:φ=91.30000°, δ72.60000°, λ-102.10000°.*
*RSPR **01** 08:57:43.4, 18°.05N×68°.11W, h39km±8km, MD3.6/4*
*NEIC **01** 08:57:43.4±1.0, 18°.48N±0°.10×67°.73W±0°.06, h82km±11km, mb4.4/85, Error ellipse: s-maj=14.2km s-min=7.7km az=187.0*
*OSPL **01** 08:57:44.6±3.0, 18°.50N×67°.65W, h79km±119km, ML4.2*
ISC 01 08:57:42.7±0.6, 18°.40N±0°.05×67°.73W±0°.04, h84km±6km, n161, σ1°96/163, mb4.4/46, 15C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.24**	**93**	⇑*i*P	**Pn**	**08 57 55.6**	**+0.4**
PRSN	**Puerto Rico Se**	**0.58**	**108**	⇓*i*P	**Pn**	**08 57 58.9**	**+1.3**
PRSN	**Puerto Rico Se**	**0.58**	**108**	*e*S	**Sn**	**08 58 10.1**	**+1.4**
PCDR	**Punta Cana, DR**	**0.63**	**281**	⇑*e*Pg	**Pn**	**08 57 57.8**	**-0.2**
PCDR				⇑*e*Sg	**Sn**	**08 58 07.9**	**-1.4**
PCDR				IAML		08 58 09.7	
	comp=E,8μm,0.6s						
PCDR				IAML		08 58 09.9	

SDDR IAML 08 59 26.9
comp=Z,607nm,1.4s
LOPE2 Hotel El Peder 3.83 265 *i* P **Pn 08 58 41.8 +2.3**
LOPE2 IAML 08 59 41.1
comp=Z,231nm,0.9s
ANBD Bethesda, Anti 5.84 102 *e*P **Pn 08 59 07.1 +0.3**
ABD La Joyeuse, An 6.26 107 Pn **Pn 08 59 13.3 +0.9**
CBE Ff, Capester 6.29 111 Pn **Pn 08 59 14.4 +1.4**
HATO Hato, Curacao 6.29 191 Pn **Pn 08 59 14.6 +1.6**
MASC Masc 6.39 287 *e*P Pn 08 59 08.8 -5.4
MASC *e*S **Sn 09 00 18.6 -7.1**
MASC Masc 6.39 287 *i* P **Pn 08 59 11.6 -2.7**
MASC IAML 09 00 28.0
comp=Z,24nm,0.4s
MAGL Barre de l'ile 6.63 111 Pn **Pn 08 59 18.9 +1.4**
GDSD La Dsirade Is 6.69 107 Pn **Pn 08 59 18.5 0.0**
GTBY Guantanamo Bay 7.14 283 Pn **Pn 08 59 22.8 -1.7**
GTBY Guantanamo Bay 7.14 283 *e*P **Pn 08 59 20.5 -4.0**
GTBY Guantanamo Bay 7.14 283 *e*P **Pn 08 59 23.4 -1.1**
GTBY *e*S **Sn 09 00 36.8 -7.3**
GTBY *i* 09 00 51.8
comp=Z,4.8nm,0.6s
GTBY Guantanamo Bay 7.14 283 *i* P **Pn 08 59 23.6 -0.9**
GTBY IAML 09 00 39.5
comp=Z,18nm,1.9s
MOAC Moa 7.18 289 *e*P Pn 08 59 19.4 -5.6
GTMO Guantanamo 7.20 285 *e*P **Pn 08 59 20.9 -4.3**
GTMO *e*S Sn 09 00 34.0 -12
FDF Fort de France 7.29 119 Pn **Pn 08 59 27.6 +1.0**
MPOM Morne Pois Mar 7.68 120 Pn **Pn 08 59 33.0 +1.2**
MPOM Morne Pois Mar 7.68 120 *e*P **Pn 08 59 34.3 +2.4**
RCC Rio Carpintero 7.69 283 *e*P **Pn 08 59 28.8 -3.3**
SLBI Saint Lucia, B 7.81 123 *e*P **Pn 08 59 34.6 +0.9**
URIC Uribia, Colomb 7.83 212 *e*P **Pn 08 59 32.7 -1.2**
URIC *e*S **Sn 09 00 58.2 -2.8**
URIC *i* 09 01 02.5
comp=Z,68nm,0.4s
SVB Belmont 8.05 128 *e*P **Pn 08 59 38.2 +1.2**
GRW Mount Saint Ca 8.53 136 *e*P **Pn 08 59 45.6 +2.0**
GRGR Grenville 8.55 136 Pn **Pn 08 59 45.2 +1.4**
GRGR Grenville 8.55 136 *e*P **Pn 08 59 45.5 +1.6**
GRGR *e*S **Sn 09 01 12.5 -6.3**
GRGR Grenville 8.55 136 *e*P **Pn 08 59 45.4 +1.5**
PCRV Puerto La Cruz 8.71 159 P **Pn 08 59 47.7 +1.7**
comp=Z,11nm,0.3s,baz=4.2,slow=2.2,SNR=37
PCRV S **Sn 09 01 17.9 -4.7**
comp=Z,10nm,0.4s,baz=156,slow=20,SNR=6.7
PCRV LR LR 09 03 08.7
comp=Z,19nm,21.0s,slow=37
CRJC Cerrejon, Guaj 8.87 215 *e*P **Pn 08 59 47.2 -1.0**
BAUV El Baul 9.40 182 Pn **Pn 08 59 57.2 +1.7**
BBGH Gun Hill 9.44 122 Pn **Pn 08 59 56.5 +0.5**
SMRC Santa Marta, M 9.55 222 *e*P **Pn 08 59 54.4 -3.0**
SMRC *e*S Sn 09 01 34.0 -9.0
SMRC *i* 09 01 38.1
comp=Z,35nm,0.4s
TRN Trinidad (W) 9.84 141 *e*P **Pn 09 00 05.6 +4.2**
SDV Santo Domingo 9.87 197 Pn **Pn 09 00 01.9 -0.1**
SDV Santo Domingo 9.87 197 P Pn 09 00 07.0 +5.0
comp=Z,5.2nm,0.4s,baz=23,slow=13,SNR=1.7
SDV S **Sn 09 01 47.8 -3.3**
comp=Z,13nm,0.4s,baz=320,slow=20,SNR=2.7
TOSP Speyside 9.91 134 *e*P **Pn 09 00 06.8 +4.5**
ARGC Ariguani, Magd 10.58 218 *e*P **Pn 09 00 10.2 -1.4**
SJCC San Jacinto, C 11.12 222 *e*P **Pn 09 00 19.4 +0.6**
PAMC Pamplona, Colo 12.01 204 *e*P **Pn 09 00 32.8 +1.4**
ZARC Zaragoza, Cauc 12.87 214 *e*P **Pn 09 00 41.1 -1.4**
BARC Barichara 12.88 205 *e*P **Pn 09 00 45.7 +2.8**
UREC San Jos de Ur 13.02 217 *e*P **Pn 09 00 47.0 +2.4**
RUSC La Rusia 13.48 203 *e*P **Pn 09 00 52.5 +1.4**
APAC Apartado, Choc 13.53 221 *e*P **Pn 09 00 52.1 +0.9**
DBBC Dabeiba 14.01 217 *e*P **P 09 01 01.6 -1.2**
SPBC San Pablo de B 14.10 207 *e*P **Pn 09 01 01.4 +2.6**
BBSR BB Station 14.18 11 Pn **Pn 09 00 59.5 0.0**
HELC Santa Helena 14.32 213 *e*P **Pn 09 01 03.9 +2.0**
CHIC Chingaza 14.89 204 *e*P **P 09 01 11.4 -1.5**
BCIP Isla Barro Col 14.91 234 Pn **Pn 09 01 08.6 -0.4**
BCIP Isla Barro Col 14.91 234 *e*P **Pn 09 01 09.3 +0.3**
ROSC El Rosal 14.94 206 P **P 09 01 16.4 +3.0**
comp=Z,2.8nm,0.3s,baz=80,slow=20,SNR=4.4
ROSC S **Sn 09 03 50.9 -3.8**
comp=Z,4.3nm,0.6s,baz=137,slow=21,SNR=1.7
GUY2C Guyana, Caldas 15.07 211 *e*P **P 09 01 15.8 +0.8**
VILC Villavicencio, 15.35 203 *e*P **Pn 09 01 12.0 -2.9**
PLMC San Jos del P 15.80 213 *e*P **P 09 01 23.3 +0.6**
ORTC Ortega, Tolima 16.17 208 *e*P **P 09 01 30.9 +4.2**
PRAC Prado 16.19 206 *e*P **P 09 01 29.1 +2.1**
YOTC Yotoco, Valle 16.62 211 *e*P **P 09 01 36.7 +4.8**
BOAV Boa Vista 17.40 155 **P 09 01 41.3 +1.0**
BOAV Boa Vista 17.40 155 *e*P **P 09 01 46.5 +6.2**
POPC Popayan, Colom 18.04 210 *e*P **Pn 09 01 49.7 +1.6**
BBAC Balboa, Cauca 18.76 211 *e*P **Pn 09 01 57.1 +0.2**
V61A Roper 19.01 337 P **P 09 01 57.5 -0.3**
JSC Jenkinsville 19.90 325 P **P 09 02 06.7 -0.8**
JSC IAmb IAmb 09 02 27.5
comp=Z,23nm,1.3s
W57A Gilead 19.93 329 P **P 09 02 08.0 +0.2**
W57A IAmb IAmb 09 02 17.1
comp=Z,16nm,0.9s
U59A Littleton 19.97 336 P **P 09 02 07.8 -0.5**
U59A IAmb IAmb 09 02 11.4
comp=Z,22nm,1.1s
V58A Windy Hill, Pi 20.04 332 P **P 09 02 08.7 -0.4**
V58A IAmb IAmb 09 02 10.1
comp=Z,19nm,1.0s
152A Waverly Hall 20.86 316 P **P 09 02 18.0 +0.1**
152A IAmb IAmb 09 02 21.5
comp=Z,18nm,0.8s
U56A King 21.08 331 P **P 09 02 19.2 -1.0**
U56A IAmb IAmb 09 02 23.5
comp=Z,23nm,1.1s
T57A Hurt 21.12 334 P **P 09 02 20.2 -0.5**
T57A IAmb IAmb 09 02 20.9
comp=Z,13nm,0.9s
BG3 Lake Jocassee 21.34 324 IAmb IAmb 09 02 23.5
comp=Z,14nm,0.9s
TKL Tuckaleechee C 22.30 324 P **P 09 02 33.1 -0.2**
comp=Z,2.1nm,0.6s,baz=139,slow=9.3,SNR=2.0
TKL LR LR 09 10 47.0
comp=Z,10nm,21.2s,baz=121,slow=35
comp=Z,2.1nm,0.6s
MVL Millersville 22.78 343 P **P 09 02 37.1 -1.1**
MVL IAmb IAmb 09 02 39.4
comp=Z,29nm,1.3s
TZTN Tazewell 22.83 326 P **P 09 02 37.6 -1.2**
TZTN IAmb IAmb 09 02 41.7
comp=Z,21nm,1.2s
T50A Nancy 23.88 324 P **P 09 02 48.2 -0.4**
U49A Red Boiling Sp 24.05 322 P **P 09 02 49.9 -0.2**
U49A IAmb IAmb 09 02 51.2
comp=Z,25nm,1.4s
PLAL Pickwick Lake 24.48 316 P **P 09 02 53.7 -0.3**
PLAL IAmb IAmb 09 02 55.4
comp=Z,13nm,0.8s
R50A Paris 24.54 327 P **P 09 02 55.0 +0.5**
R50A IAmb IAmb 09 02 55.6
comp=Z,18nm,1.0s
N53A Lisbon 25.01 336 P **P 09 02 59.2 +0.4**
WVT Waverly 25.04 319 P **P 09 02 58.6 -0.4**
WCI Wyandotte Cave 25.55 324 P **P 09 03 02.4 -1.3**
143A Socs Landing, 25.59 308 P **P 09 03 04.0 -0.1**
143A IAmb IAmb 09 03 08.3
comp=Z,13nm,0.9s
SIUC Southern Illin 26.90 320 P **P 09 03 15.9 +0.1**
SIUC IAmb IAmb 09 03 16.6
comp=Z,15nm,0.8s
S44A Carbondale 26.91 320 P **P 09 03 15.3 -0.7**
OLIL Olney 26.91 323 P **P 09 03 15.3 -0.7**
OLIL IAmb IAmb 09 03 17.0
comp=Z,20nm,1.0s
LCAR Lake Charles 27.15 315 P **P 09 03 18.0 -0.2**
N47A Urbana 27.20 329 P **P 09 03 18.3 -0.2**
N47A IAmb IAmb 09 03 18.8
comp=Z,15nm,0.8s
L48A N Adams 27.45 332 P **P 09 03 20.6 -0.2**
WHAR Wooly Hollow 27.51 313 P **P 09 03 21.1 -0.3**
WHAR IAmb IAmb 09 03 21.9
comp=Z,13nm,1.2s
SAML Samuel 27.54 170 P **P 09 03 22.5 +0.7**
T42A Van Buren 27.66 317 P **P 09 03 22.2 -0.5**
FCAR Ozark Folk Cen 27.71 314 P **P 09 03 22.9 -0.3**
P43A Skaggs, Pawnee 28.34 323 P **P 09 03 28.2 -0.5**
CCM Cathedral Cave 28.37 318 P **P 09 03 28.2 -0.8**
CCM IAmb IAmb 09 03 28.9
comp=Z,7.5nm,0.7s
MGMO Mountain Grove 28.50 316 P **P 09 03 29.5 -0.8**
MGMO IAmb IAmb 09 03 30.5
comp=Z,9.3nm,0.7s
P40A Paris 29.77 320 IAmb IAmb 09 03 41.0
comp=Z,8.2nm,0.8s
JFWS Jewell Farm 30.99 327 P **P 09 03 51.7 -0.5**
BRDY Brady 31.02 300 P **P 09 03 52.0 -0.7**
BRDY IAmb IAmb 09 03 52.6
comp=Z,3.8nm,0.8s
OK052 Battle Ridge R 31.07 310 P **P 09 03 52.7 -0.2**
OK052 IAmb IAmb 09 03 53.6
comp=Z,11nm,0.9s
E46A Sault Ste Mari 31.07 337 P **P 09 03 53.0 +0.2**
SGCY Sterling City 32.94 301 IAmb IAmb 09 04 09.5
comp=Z,5.7nm,0.9s
POST Post 33.58 302 IAmb IAmb 09 04 15.6
comp=Z,8.8nm,0.8s
ODSA Odessa 34.16 300 IAmb IAmb 09 04 19.9
comp=Z,16nm,0.7s
TXAR Lajitas Array 34.49 295 P **P 09 04 22.6 -0.4**
comp=Z,2.1nm,0.8s,baz=109,slow=8.8,SNR=29
TXAR PcP **PcP 09 06 56.6 +0.1**
comp=Z,0.2nm,0.7s,baz=131,slow=4.9,SNR=3.8
TXAR LR LR 09 21 04.2
comp=Z,14nm,18.5s,baz=184,slow=41
comp=Z,2.1nm,0.8s
ALPN Alpine 34.67 297 P **P 09 04 23.6 -0.9**
ALPN IAmb IAmb 09 04 24.8
comp=Z,4.1nm,0.7s
ECSD EROS Data Cent 35.04 322 IAmb IAmb 09 04 26.8
comp=Z,7.4nm,1.0s
425A Indio Mountain 35.89 297 IAmb IAmb 09 04 36.7
comp=Z,6.8nm,1.3s
SCHQ Schefferville 36.37 1 P **P 09 04 38.3 -0.3**
comp=Z,2.4nm,0.5s,baz=182,slow=6.5,SNR=5.8
comp=Z,2.4nm,0.5s
MNTX Coudas Mount 36.40 299 IAmb IAmb 09 04 40.0
comp=Z,3.1nm,0.8s
ANMO Albuquerque 38.05 304 P **P 09 04 52.9 -0.5**
SDCO Great Sand Dun 38.16 308 P **P 09 04 54.1 -0.3**
SDCO IAmb IAmb 09 04 55.0
comp=Z,3.9nm,0.8s
WUAZ Wupatki 42.10 303 IAmb IAmb 09 05 28.9
comp=Z,8.0nm,1.1s
PDAR Pinedale Array 42.84 314 P **P 09 05 32.0 -0.8**
comp=Z,0.7nm,0.8s,baz=122,slow=12,SNR=5.7
PDAR PcP **PcP 09 07 22.0 -0.6**
comp=Z,0.6nm,0.6s,baz=112,slow=5.8,SNR=6.2
comp=Z,0.7nm,0.8s
LOHW Long Hollow 43.86 315 P **P 09 05 40.2 -0.8**
ID08 Devils Gate 44.46 313 IAmb IAmb 09 06 13.3
comp=Z,3.8nm,0.6s
BGU Big Grassy Mou 44.70 310 P **P 09 05 47.6 -0.1**
BGU IAmb IAmb 09 05 48.0
comp=Z,4.0nm,0.8s
V12A Nelson 44.92 302 P **P 09 05 48.9 -0.5**
V12A IAmb IAmb 09 05 51.1
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 46.24 304 IAmb IAmb 09 06 01.9
comp=Z,5.6nm,0.8s
WCT Wildcat Mounta 46.51 304 IAmb IAmb 09 06 03.9
comp=Z,5.1nm,0.9s
MFID Camas Ranch 47.39 313 IAmb IAmb 09 06 09.2
comp=Z,4.1nm,0.8s
NV11 Mina Array Sit 47.99 305 IAmb IAmb 09 06 14.7
comp=Z,5.3nm,0.8s
NVAR Mina Array Bea 48.10 305 P **P 09 06 14.4 0.0**
comp=Z,1.6nm,0.7s,baz=91,slow=6.1,SNR=14
comp=Z,1.6nm,0.7s
WVOR Wild Horse Val 49.14 311 IAmb IAmb 09 06 25.6
comp=Z,3.9nm,1.1s
J08A Circle Bar Ran 49.24 312 IAmb IAmb 09 06 23.7
comp=Z,7.8nm,1.3s
NEW Newport 49.73 318 LR LR 09 27 21.3
comp=Z,30nm,18.3s,baz=160,slow=36
TORD Torodi Ar. Bea 66.67 83 P **P 09 08 25.0 -0.1**
comp=Z,0.5nm,0.6s,baz=284,slow=6.5,SNR=2.9
comp=Z,0.5nm,0.6s
L26K Log Cabin Wild 67.25 331 IAmb IAmb 09 08 29.7
comp=Z,6.2nm,1.2s
I26K Coal Creek Min 67.35 334 IAmb IAmb 09 08 29.0
comp=Z,4.9nm,0.8s
SCRK Sand Creek 67.60 332 P **P 09 08 30.6 +0.3**
SCRK IAmb IAmb 09 08 30.7
comp=Z,3.1nm,0.8s
ILAR Eielson Array 68.90 333 P **P 09 08 37.2 -1.0**
comp=Z,1.5nm,1.0s,baz=104,slow=5.0,SNR=12
comp=Z,1.5nm,1.0s
RND Reindeer 69.75 332 P **P 09 08 43.7 0.0**
RND IAmb IAmb 09 08 44.2
comp=Z,4.9nm,1.0s
TRF Thorofare Moun 70.39 332 P **P 09 08 47.4 -0.4**
M20K Styx River 71.80 330 IAmb IAmb 09 08 55.8
comp=Z,5.2nm,0.8s
ARCES ARCESS Array B 74.05 21 P **P 09 09 09.1 -0.1**
comp=Z,0.9nm,0.5s,baz=286,slow=4.9,SNR=9.1
comp=Z,0.9nm,0.5s
PZH PanZhiHua 134.21 13 PKP **PKPdf 09 16 51.5 -0.1**

*IDC **01** 09:01:57.8±0.9, 1°.53S×136°.64E, h0km, mb3.8/7, mbtmp3.8/10, ML3.6/3, MS3.2/10, Error ellipse: s-maj=31.7km s-min=18.6km az=68.0*
ISC 01 09:01:59.1±0.8, 1°.6S±0°.1×136°.78E±0°.09, h10km, n19, σ1°73/12, mb3.9/6, MS3.1/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.03**	**103**	Pn	**Pn**	**09 03 03.5**	**+2.6**
	2.0nm,0.3s,baz=196,slow=9.8,SNR=7.3						
JAY				Sn	**Sn**	**09 03 44.7**	**-3.5**
	3.4nm,0.3s,baz=294,slow=17,SNR=6.0						
	11nm,0.7s						
SIJI	**Sorong**	**5.56**	**277**	Pn	**Pn**	**09 03 21.7**	**-0.3**
	1.0nm,0.3s,baz=183,slow=20,SNR=4.5						
	6.5nm,0.6s						
BATI	**Baumata**	**15.59**	**236**	LR	LR	09 12 40.1	
	comp=Z,145nm,18.4s,baz=77,slow=41						
KAPI	**Kappang**	**17.33**	**258**	LR	LR	09 13 13.0	
	comp=Z,62nm,20.5s,baz=88,slow=39						
WRA	**Warramunga Arr**	**18.38**	**187**	P	**Pn**	**09 06 14.5**	**+0.2**
	0.4nm,0.3s,baz=8.1,slow=12,SNR=23						
WRA				S	Sn	09 09 27.6	-12
	1.2nm,0.8s,baz=2.9,slow=22,SNR=3.4						
	1.4nm,0.5s						
CTA	**Charters Tower**	**20.57**	**154**	P	Pn	09 06 40.6	+0.1
	5.2nm,0.7s,baz=327,slow=7.9,SNR=9.9						
CTA				LR	LR	09 15 03.0	
	comp=Z,105nm,19.6s,baz=340,slow=38						
	5.2nm,0.7s						
ASAR	**Alice Springs**	**22.11**	**187**	P	**P**	**09 06 55.5**	**+0.6**
	4.0nm,0.6s,baz=15,slow=11,SNR=60						
ASAR				S	**S**	**09 10 56.8**	**-2.0**
	0.7nm,0.9s,baz=3.3,slow=18,SNR=4.3						
ASAR				LR	LR	09 16 25.3	
	comp=Z,132nm,20.6s,baz=12,slow=39						
	4.0nm,0.6s						
JOW	**Kunigami**	**29.44**	**344**	LR	LR	09 19 56.0	
	comp=Z,34nm,19.0s,baz=210,slow=37						
STKA	**Stephens Creek**	**30.45**	**172**	P	**P**	**09 08 12.8**	**+0.7**
	2.0nm,0.5s,baz=345,slow=8.5,SNR=16						
	2.0nm,0.5s						
JNU	**Nakatsue**	**34.98**	**351**	LR	LR	09 21 49.1	
	comp=Z,29nm,18.7s,baz=196,slow=34						
KSRS	**Korea Array**	**39.72**	**349**	LR	LR	09 25 24.9	
	comp=Z,19nm,19.9s,baz=150,slow=36						
CMAR	**Chiang Mai Arr**	**42.22**	**300**	LR	LR	09 29 16.4	
	comp=Z,11nm,18.3s,baz=140,slow=39						
SONM	**Sognio Array**	**55.91**	**336**	LR	LR	09 34 51.4	
	comp=Z,27nm,20.5s,baz=102,slow=35						
MKAR	**Makanchi Array B**	**67.74**	**323**	P	**P**	**09 12 56.3**	**-0.7**
	0.4nm,0.6s,baz=120,slow=7.2,SNR=4.2						
	0.4nm,0.6s						
AAK	**Ala-Archa**	**71.08**	**316**	LR	LR	09 45 49.5	
	comp=Z,13nm,20.8s,baz=43,slow=37						
KURBB	**Kurchatov Arra**	**71.72**	**325**	P	**P**	**09 13 20.5**	**-0.9**
	0.2nm,0.5s,baz=119,slow=4.4,SNR=2.9						
	0.2nm,0.5s						
VNDA	**Vanda**	**77.05**	**175**	P	**P**	**09 13 52.5**	**+0.5**
	1.2nm,0.8s,baz=328,slow=5.9,SNR=8.9						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**85.64**	**25**	P	**P**	**09 14 38.1**	**+0.4**
	0.2nm,0.7s,baz=251,slow=5.4,SNR=1.4						
	0.2nm,0.7s						
CPUP	**Villa Florida**	**149.07**	**155**	PKPbc	**PKiKP**	**09 21 48.7**	**-1.1**
	1.1nm,0.8s,baz=197,slow=4.6,SNR=3.0						

*MEX **01** 09:12:31.2±0.7, 14°.95N×93°.28W, h58km±18km, MD4.1*
*GCG **01** 09:12:34.0±2.2, 14°.74N×92°.90W, h0km±32km, MD4.0*
ISC 01 09:12:28.3±1.6, 14°.95N±0°.05×93°.29W±0°.03, h24km±17km, n35, σ2°04/69, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.75**	**6**	*i* P	**Pn**	**09 12 44.3**	**+0.8**
PCIG				*i* S	**Sn**	**09 12 54.8**	**+0.7**
THIG		**1.00**	**92**	*i* P	**Pn**	**09 12 47.5**	**+0.7**
THIG				*e*S	**Sb**	**09 13 00.4**	**+0.8**
PATR	**El Naranjo**	**1.04**	**81**	*i* P	**Pn**	**09 12 47.7**	**+0.1**
PATR				*i* S	**Sb**	**09 13 01.3**	**+0.3**
PAVE	**Pavencul**	**1.11**	**77**	*i* P	**Pn**	**09 12 49.1**	**+0.5**
PAVE				*i* S	**Sn**	**09 13 03.3**	**+0.1**
CHUJ	**Union Juarez**	**1.16**	**83**	*i* P	**Pn**	**09 12 49.4**	**+0.1**
CHUJ				*i* S	**Sn**	**09 13 04.1**	**-0.3**
CARR	**Arriaga**	**1.42**	**335**	*i* P	**Pn**	**09 12 54.0**	**+1.3**
CARR				*e*S	**Sn**	**09 13 11.3**	**+0.7**
STG3	**Santiaguito 3,**	**1.68**	**98⇓**	*e*P	**Pn**	**09 12 57.8**	**+1.4**
STG3				*e*S	**Sn**	**09 13 13.0**	**-4.4**
CCIG	**Comitan**	**1.73**	**40**	*e*P	**Pn**	**09 12 58.8**	**+1.7**
CCIG				*e*S	**Sn**	**09 13 18.8**	**+0.2**
SULM	**Suchitepequez,**	**1.79**	**111⇓**	*e*P	**Pn**	**09 13 00.3**	**+2.6**
SULM				*e*S	**Sn**	**09 13 18.0**	**-1.8**
TGIG		**1.83**	**5**	*i* P	**Pn**	**09 12 59.3**	**+1.0**
TGIG				*e*S	**Sn**	**09 13 17.3**	**-3.4**
TGBT	**Tuxtla Gutierr**	**1.83**	**6**	*e*P	**Pn**	**09 12 57.9**	**-0.4**
TGBT				*e*S	**Sn**	**09 13 18.4**	**-2.3**
NILT	**Santiago Nilte**	**2.05**	**322**	*e*P	**Pn**	**09 13 01.5**	**+0.2**
NILT				*e*S	**Sn**	**09 13 25.9**	**-0.3**
FUG	**Fuego 3**	**2.42**	**102**	*e*P	**Pn**	**09 13 09.1**	**+2.5**
FUG				*e*S	**Sn**	**09 13 37.2**	**+1.5**
UXUV	**UXUV**	**2.49**	**341**	*e*P	**Pn**	**09 13 09.6**	**+2.1**
UXUV				*e*S	**Sn**	**09 13 39.6**	**+2.5**
PCG	**Pacaya**	**2.66**	**102**	*e*P	**Pn**	**09 13 12.6**	**+2.6**
PCG				*e*S	**Sn**	**09 13 45.4**	**+3.8**
HUIG	**Huatulco**	**2.83**	**287**	*i* P	**Pn**	**09 13 12.6**	**+0.4**
HUIG				*e*S	**Sn**	**09 13 43.7**	**-1.8**
NBG	**Las Nubes**	**2.87**	**97**	*e*P	**Pb**	**09 13 17.8**	**-1.4**
TUIG	**Tuzandepetl**	**3.25**	**341**	*e*P	**Pn**	**09 13 18.7**	**+0.8**
TUIG				*e*S	**Sn**	**09 13 56.9**	**+1.0**
NEUV	**Arroyo Zacate**	**3.65**	**319**	*e*P	**Pn**	**09 13 23.6**	**+0.2**
NEUV				*e*S	**Sn**	**09 14 05.2**	**-0.6**
PEIG	**Puerto Escondi**	**3.86**	**286**	*e*P	**Pn**	**09 13 26.8**	**+0.5**
PEIG				*e*S	**Sn**	**09 14 05.3**	**-5.6**
VHO	**Vista Hermosa**	**3.92**	**303**	*e*P	**Pn**	**09 13 29.3**	**+2.0**
VHO				*e*S	**Sn**	**09 14 14.7**	**+1.9**
PMUV	**Sontecomapan**	**3.98**	**334**	*e*P	**Pn**	**09 13 28.2**	**+0.2**
PMUV				*e*S	**Sn**	**09 14 12.8**	**-1.2**
SCIG	**Sabancuy**	**4.48**	**27**	*e*P	**Pn**	**09 13 35.3**	**+0.6**
SCIG				*e*S	**Sn**	**09 14 23.3**	**-2.7**
YOIG	**Yosondua**	**4.51**	**295**	*e*P	**Pn**	**09 13 38.3**	**+2.9**
YOIG				*e*S	**Sn**	**09 14 27.9**	**+0.6**
TOIG	**Toxpalan**	**4.78**	**311**	*e*P	**Pn**	**09 13 40.3**	**+1.3**
TOIG				*e*S	**Sn**	**09 14 32.4**	**-1.4**
PNIG	**Pinotepa**	**4.87**	**288**	*e*P	**Pn**	**09 13 41.2**	**+1.1**
PNIG				*e*S	**Sn**	**09 14 33.5**	**-2.3**
TXIG	**Tlaxiaco**	**4.87**	**299**	*e*P	**Pn**	**09 13 43.4**	**+2.9**
TXIG				*e*S	**Sn**	**09 14 36.0**	**-0.3**
HLIG	**Huajuapan de L**	**5.19**	**304**	*e*P	**Pn**	**09 13 46.2**	**+1.4**
HLIG				*e*S	**Sn**	**09 14 46.7**	**+2.7**
TPIG	**Tehuac#an**	**5.21**	**312**	*e*P	**Pn**	**09 13 46.7**	**+1.8**
TPIG				*e*S	**Sn**	**09 14 43.5**	**-0.8**
FTIG	**Fresnillo de T**	**5.50**	**303**	*e*P	**Pn**	**09 13 52.0**	**+3.2**
FTIG				*e*S	**Sn**	**09 14 49.7**	**-1.7**
JAUV	**Jalcomulco**	**5.53**	**323**	*e*P	**Pn**	**09 13 50.4**	**+1.2**
JAUV				*e*S	**Sn**	**09 14 48.0**	**-4.1**
LVIG	**Laguna Verde**	**5.61**	**328**	*e*P	**Pn**	**09 13 52.9**	**+2.6**
LVIG				*e*S	**Sn**	**09 14 50.7**	**-3.2**
TLIG	**Tlapa**	**5.69**	**298**	*e*P	**Pn**	**09 13 53.9**	**+2.4**
TLIG				*e*S	**Sn**	**09 14 54.0**	**-2.2**
DAIG	**Los Arroyos**	**6.45**	**289**	*e*P	**Pn**	**09 14 00.5**	**-1.4**
DAIG				*e*S	**Sn**	**09 15 15.3**	**+0.5**
MEIG	**Mezcala**	**6.75**	**297**	*e*P	**Pn**	**09 14 09.5**	**+3.4**
MEIG				*e*S	**Sn**	**09 15 20.5**	**-1.9**

*IDC **01** 09:22:06.0±1.9, 14°.91N×94°.02W, h0km, mb4.0/5, mbtmp3.9/6, ML4.4/2, MS3.5/19, Error ellipse: s-maj=45.3km s-min=25.7km az=28.0*
*MEX **01** 09:22:06.7±0.7, 14°.68N×94°.29W, h15km, MD4.5*
*GCG **01** 09:22:07.0±0.7, 15°.55N×94°.05W, h35km±999km, MD4.5*
*NEIC **01** 09:22:10.1±2.1, 14°.87N±0°.03×94°.07W±0°.04, h25km±9km, mb4.1/23, Md4.5/25(MEX), Error ellipse: s-maj=5.7km s-min=4.9km az=72.0*
ISC 01 09:22:08.0±3.4, 14°.68N±0°.05×94°.24W±0°.03, h27km±27km, n135, σ2°44/159, mb4.1/10, MS3.5/18, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.42**	**44**		**Pn**	**09 22 29.2**	**-2.8**
PCIG					**Sn**	**09 22 46.7**	**-3.0**
PCIG		**1.42**	**44**	*i* P	**Pn**	**09 22 29.0**	**-3.0**
PCIG				*i* S	**Sn**	**09 22 46.3**	**-3.4**
CARR	**Arriaga**	**1.59**	**11**	*e*P	**Pn**	**09 22 31.7**	**-2.7**
CARR				*e*S	**Sn**	**09 22 51.1**	**-2.9**
NILT	**Santiago Nilte**	**1.91**	**349**	*e*P	**Pn**	**09 22 37.8**	**-1.0**
NILT				*e*S	**Sn**	**09 22 58.6**	**-3.3**
THIG		**1.92**	**83**		**Pn**	**09 22 36.6**	**-2.4**
THIG					**Sn**	**09 22 59.1**	**-3.2**
THIG		**1.92**	**83**	*e*P	**Pn**	**09 22 36.1**	**-2.8**
THIG				*e*S	**Sn**	**09 22 59.1**	**-3.2**
PATR	**El Naranjo**	**1.99**	**77**	*e*P	**Pn**	**09 22 36.9**	**-3.1**
PATR				*e*S	**Sn**	**09 23 01.6**	**-2.5**
PAVE	**Pavencul**	**2.06**	**75**	*e*P	**Pn**	**09 22 38.3**	**-2.7**
PAVE				*e*S	**Sn**	**09 23 03.0**	**-2.9**
CHUJ	**Union Juarez**	**2.10**	**78**	*e*P	**Pn**	**09 22 38.6**	**-3.0**
CHUJ				*e*S	**Sn**	**09 23 03.2**	**-3.8**
HUIG	**Huatulco**	**2.10**	**301**		**Pn**	**09 22 39.3**	**-2.1**
HUIG					**Sn**	**09 23 01.7**	**-5.0**
HUIG	**Huatulco**	**2.10**	**301**	*e*P	**Pn**	**09 22 39.1**	**-2.3**
HUIG				*e*S	**Sn**	**09 23 00.8**	**-5.9**
TGIG		**2.35**	**27**		**Pn**	**09 22 44.4**	**-0.4**
TGIG					**Sn**	**09 23 13.2**	**+0.4**
TGIG		**2.35**	**27**	*e*P	**Pn**	**09 22 44.4**	**-0.4**
TGIG				*i* S	**Sn**	**09 23 13.2**	**+0.4**
TGBT	**Tuxtla Gutierr**	**2.36**	**28**	*e*P	**Pn**	**09 22 44.7**	**-0.2**
TGBT				*e*S	**Sn**	**09 23 13.0**	**0.0**
RTAL	**Retalhuleu**	**2.47**	**93**	Pn	**Pn**	**09 22 42.9**	**-3.5**
CCIG	**Comitan**	**2.58**	**52**	*e*P	**Pn**	**09 22 47.4**	**-0.7**
CCIG				*e*S	**Sn**	**09 23 17.3**	**-1.4**
STG3	**Santiaguito 3,**	**2.58**	**89**	*e*P	**Pn**	**09 22 46.5**	**-1.7**
STG3				*e*S	**Sn**	**09 23 17.3**	**-1.6**
SULM	**Suchitepequez,**	**2.62**	**98**	*e*P	**Pn**	**09 22 47.9**	**-0.6**
SULM				*e*S	**Sn**	**09 23 20.2**	**+0.9**
UXUV	**UXUV**	**2.62**	**2**	*e*P	**Pn**	**09 22 48.7**	**+0.1**
UXUV				*e*S	**Sn**	**09 23 19.6**	**0.0**
HUEH	**Huehuetenango**	**2.72**	**76**		**Pn**	**09 22 49.7**	**-0.4**
PEIG	**Puerto Escondi**	**3.10**	**295**	*i* P	**Pn**	**09 22 53.4**	**-1.7**
PEIG				*e*S	Sn	09 23 22.8	-8.4
FUG	**Fuego 3**	**3.30**	**94**	*e*P	**Pn**	**09 22 58.1**	**+0.1**

HLIG eS Sn 09 24 07.5 -2.1
MTO3 Montecristo 4.73 93 Pn 09 23 16.5 -1.3
ESQI Esquipulas 4.74 91 Pn 09 23 18.6 +0.8
TPIG Tehuac#an 4.77 322 eP **Pn 09 23 20.6 +2.3**
TPIG eS Sn 09 24 12.5 -0.4
FTIG Fresnillo de T 4.93 311 eP Pn 09 23 15.5 -4.8
FTIG eS Sn 09 24 12.2 -4.4
SNET Serv Nac Est T 4.96 101 Pn **Pn 09 23 21.3 +0.6**
TLIG Tlapa 5.05 305 eP **Pn 09 23 23.3 +1.2**
TLIG eS Sn 09 24 19.4 -0.2
SCIG Sabancuy 5.17 34 eP **Pn 09 23 22.5 -1.1**
SCIG e 09 24 16.2
JAUV Jalcomulco 5.27 333 eP **Pn 09 23 22.0 -3.0**
JAUV eS Sn 09 24 22.0 -2.8
LVIG Laguna Verde 5.43 338 eP **Pn 09 23 22.7 -4.5**
LVIG eS Sn 09 24 23.9 -4.9
DAIG Los Arroyos 5.70 295 eP **Pn 09 23 31.2 +0.3**
DAIG eS Sn 09 24 29.7 -5.9
PPM Popocatepetl 6.05 317 eP **Pn 09 23 32.8 -3.5**
PPM eS Sn 09 24 36.2 -8.8
MEIG Mezcala 6.09 303 eP **Pn 09 23 38.0 +1.6**
MEIG eS Sn 09 24 41.6 -3.6
YAIG Yautepec 6.22 313 eP **Pn 09 23 40.1 +2.0**
YAIG eS Sn 09 24 50.6 +2.1
PLIG Platanillo 6.25 307 eP **Pn 09 23 40.5 +2.0**
PLIG eS Sn 09 24 43.6 -5.6
CAIG El Cayaco 6.26 293 eP **Pn 09 23 38.9 +0.3**
CAIG eS Sn 09 24 41.7 -7.6
CXUV Coxquihui 6.33 330 eP **Pn 09 23 37.7 -1.9**
CXUV eS Sn 09 24 50.7 -0.3
TGUH Tegucigalpa,Un 6.78 94 Pn 09 23 46.9 +1.0
ARIG Puente Sto Nin 6.87 302 eP **Pn 09 23 49.3 +2.3**
ARIG eS Sn 09 24 58.0 -6.2
DEIG Demacu 7.22 321 eP **Pn 09 23 50.0 -2.0**
DEIG eS Sn 09 25 12.5 -0.8
ZIIG Zihuatanejo 7.53 294 eP **Pn 09 23 57.3 +1.3**
MYIG Mrida 7.57 34 eP **Pn 09 23 52.9 -3.7**
MYIG eS Sn 09 25 15.2 -6.3
CTUV Llano Grande 7.81 331 eP Pn 09 23 53.8 -6.1
CTUV eS Sn 09 25 20.7 -6.6
TEIG Tepich 7.92 45 Pn 09 23 60.0 -1.5
TEIG Tepich 7.92 45 Pn **Pn 09 23 59.2 -2.3**
40nm,0.3s,baz=6.6,slow=2.8,SNR=18
TEIG Sn **Sn 09 25 25.6 -4.6**
44nm,0.3s,baz=151,slow=20,SNR=1.9
TEIG LR LR 09 27 20.6
comp=Z,4μm,19.6s,baz=352,slow=41
MATN Matagalpa 8.26 101 Pn **Pn 09 24 03.9 -2.2**
RPIG Rio Verde 9.00 324 eP **Pn 09 24 17.6 +1.2**
MMIG Aquila 9.44 294 eP **Pn 09 24 20.0 -2.3**
GTIG Gomez Farias 9.56 332 eP Pn 09 24 17.1 -6.8
ORTG Ortega, Santa 9.59 116 Pn **Pn 09 24 25.8 +1.4**
DUNO Dulce Nombre, 9.69 117 Pn **Pn 09 24 26.5 +0.8**
RIMA Rio Macho 11.25 115 Pn **Pn 09 24 48.2 +0.9**
CJM Chamela 11.39 296 eP **Pn 09 24 50.8 +1.9**
ANIG Ahuacatlan 11.66 304 e **Pn 09 24 56.8 +4.0**
HNDO Hondo 15.49 343 P **P 09 25 47.5 -1.4**
HNDO IAmb IAmb 09 26 08.7
comp=Z,6.4nm,0.6s
435B Jarrell 16.32 350 P **P 09 25 57.4 -0.6**
435B IAmb IAmb 09 26 06.4
comp=Z,11nm,0.8s
TX32 Lajitas Array 16.99 331 P **P 09 26 08.9 +3.4**
TXAR Lajitas Array 16.99 331 P **P 09 26 08.1 +2.5**
TXAR Lajitas Array 16.99 331 Pn **P 09 26 05.1 -0.4**
comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=11
TXAR LR LR 09 33 09.6
comp=Z,42nm,18.5s,baz=123,slow=39
comp=Z,0.7nm,0.6s
TX31 Lajitas Ar. Si 16.99 331 P **P 09 26 07.4 +1.9**
BRDY Brady 17.09 346 P **P 09 26 08.9 +2.2**
BRDY IAmb IAmb 09 26 23.8
comp=Z,6.6nm,0.7s
OZNA Ozona 17.36 340 P **P 09 26 09.6 0.0**
OZNA IAmb IAmb 09 26 20.0
comp=Z,13nm,1.1s
ALPN Alpine 17.86 333 P 09 26 17.6 +2.4
ALPN IAmb IAmb 09 26 26.4
comp=Z,13nm,1.3s
ABTX Abilene, Hawle 18.53 346 P **Pn 09 26 23.2 +0.5**
ABTX IAmb IAmb 09 26 35.3
comp=Z,9.6nm,1.0s
APMT Aspermont 19.32 345 P **Pn 09 26 31.9 -0.3**
APMT IAmb IAmb 09 26 38.7
comp=Z,6.6nm,0.7s
MIAR Mount Ida 19.79 2 P **P 09 26 35.2 -1.0**
MIAR IAmb IAmb 09 26 46.0
comp=Z,14nm,1.3s
DKNS Dickens 19.85 343 P **P 09 26 37.1 +0.2**
DKNS IAmb IAmb 09 26 55.6
comp=Z,11nm,1.0s
PLMC San Jos del P 20.17 117 eP **P 09 26 40.3 -0.2**
HELC Santa Helena 20.23 113 eP **P 09 26 42.7 +1.1**
ZARC Zaragoza, Cauc 20.30 109 eP **P 09 26 39.5 -2.5**
YOTC Yotoco, Valle 20.59 119 eP **P 09 26 46.3 +1.1**
JAMC Jamundi, Valle 20.73 122 eP **P 09 26 47.4 +0.5**
GUY2C Guyana, Caldas 20.81 115 eP **P 09 26 49.0 +1.0**
BBAC Balboa, Cauca 20.97 125 eP Pn 09 26 51.4 -0.7
NORC Norcasia 21.09 113 eP **P 09 26 51.5 +0.9**
POPC Popayan, Colom 21.12 123 eP **P 09 26 51.5 +0.4**
AMTX Amarillo 21.21 343 P **P 09 26 52.1 +0.4**
FCAR Ozark Folk Cen 21.21 5 P **P 09 26 52.8 +1.3**
CRUC La Cruz 21.48 126 eP **P 09 26 56.6 +1.6**
ORTC Ortega, Tolima 21.56 118 eP **P 09 26 57.0 +1.4**
319A Douglas 21.59 323 P **P 09 26 58.0 +2.1**
319A IAmb IAmb 09 27 28.7
comp=Z,13nm,1.2s
121A Cookes Peak, D 21.64 328 P **P 09 26 59.0 +2.6**
SPBC San Pablo de B 21.77 112 eP **P 09 26 58.2 +0.3**
ROSC El Rosal 21.91 115 P **P 09 26 60.0 +0.3**
ROSC El Rosal 21.91 115 P **P 09 27 00.6 +0.9**
comp=Z,11nm,0.7s,baz=336,slow=11,SNR=7.3
ROSC LR LR 09 36 09.8
comp=Z,53nm,19.8s,baz=351,slow=39
comp=Z,11nm,0.7s
PRAC Prado 21.97 118 eP **P 09 26 60.0 0.0**
BARC Barichara 22.18 109 eP **P 09 27 06.1 +3.6**
DUN6 Lazy B Ranch 22.35 325 P **P 09 27 06.5 +2.5**
PAMC Pamplona, Colo 22.35 107 eP **P 09 27 04.4 -0.2**
CHIC Chingaza 22.52 114 eP **P 09 27 08.6 +2.2**
RUSC La Rusia 22.55 111 eP **P 09 27 06.0 -0.8**
TKL Tuckaleechee C 22.90 22 LR LR 09 37 30.2
comp=Z,98nm,19.8s,baz=198,slow=41
S39A Bolivar 22.93 2 P **P 09 27 09.4 -0.6**
S39A IAmb IAmb 09 27 14.3
comp=Z,13nm,1.3s
ANMO Albuquerque 22.98 334 LR LR 09 36 20.3
comp=Z,34nm,18.6s,baz=270,slow=37
MACC Macarena, Meta 23.67 120 eP **P 09 27 18.7 +1.1**
SDV Santo Domingo 23.80 101 LR LR 09 38 39.8
comp=Z,107nm,18.6s,baz=322,slow=42
PTGC Puerto Gaitan, 24.14 113 eP **P 09 27 21.2 -0.7**
X16A Lo Mia Camp, P 25.05 325 P **P 09 27 31.8 +1.6**
X16A IAmb IAmb 09 27 46.5
comp=Z,4.0nm,1.0s
113A Mohawk Valley, 25.30 319 P **P 09 27 34.9 +2.6**
SJG San Juan 27.15 79 LR LR 09 39 43.0
comp=Z,39nm,18.2s,baz=269,slow=39
PFO Pinyon Flats O 27.58 317 LR LR 09 39 51.6
comp=Z,82nm,18.1s,baz=147,slow=39
ECSD EROS Data Cent 29.03 356 P **P 09 28 04.4 -1.3**
ECSD IAmb IAmb 09 28 11.4
comp=Z,2.8nm,0.8s
PCRV Puerto La Cruz 29.24 95 LR LR 09 40 52.8
comp=Z,71nm,18.7s,slow=39
ELK Elko 31.77 329 LR LR 09 42 51.1
comp=Z,96nm,21.7s,baz=169,slow=39
NVAR Mina Array Bea 31.80 323 P **P 09 28 32.5 +2.0**
NVAR Mina Array Bea 31.80 323 P **P 09 28 33.0 +2.4**
comp=Z,2.0nm,1.1s,baz=138,slow=8.1,SNR=13
NVAR LR LR 09 42 59.3
comp=Z,330nm,18.2s,baz=135,slow=40
comp=Z,2.0nm,1.1s
YBH Yreka Blue Hor 36.51 323 LR LR 09 45 57.7
comp=Z,187nm,19.0s,baz=152,slow=39
ETMB Extrema 36.94 130 P **P 09 29 13.9 -1.1**
ETMB IAmb IAmb 09 29 25.0
comp=Z,6.4nm,1.4s
NEW Newport 38.45 335 LR LR 09 47 19.6
comp=Z,124nm,18.3s,baz=174,slow=40
MDP Montagnes des 42.00 99 LR LR 09 49 59.5
comp=Z,53nm,18.3s,baz=324,slow=40
BBB Bella Bella 46.12 332 LR LR 09 52 50.9
comp=Z,72nm,20.7s,baz=163,slow=40
DLBC Dease Lake 51.16 337 LR LR 09 54 38.4
comp=Z,80nm,18.3s,baz=148,slow=38
ILAR Eielson Array 61.37 337 P **P 09 32 21.9 +0.6**
comp=Z,0.4nm,0.8s,baz=135,slow=6.2,SNR=5.2
comp=Z,0.4nm,0.8s
MDT Midelt 81.89 58 LR LR 10 05 52.7
comp=Z,31nm,18.5s,baz=300,slow=32
NB2 NORSAR Subarra 84.58 28 P **P 09 34 38.7 0.0**
comp=Z,1.0nm,0.7s,baz=290,slow=5.3
NOA NORSAR Array B 84.58 28 P **P 09 34 39.0 +0.3**
comp=Z,0.8nm,0.7s,baz=291,slow=5.1,SNR=3.8
NOA LR LR 10 12 11.3
comp=Z,21nm,18.4s,baz=290,slow=36
comp=Z,0.8nm,0.7s
HFS Hagfors 86.05 29 LR LR 10 12 35.1
comp=Z,31nm,18.2s,baz=320,slow=35
ARCES ARCESS Array B 86.17 18 P **P 09 34 47.3 +0.9**
comp=Z,0.8nm,0.6s,baz=291,slow=3.8,SNR=4.6
comp=Z,0.8nm,0.6s
KOWA Kowa 86.62 76 LR LR 10 08 44.7
comp=Z,15nm,21.2s,baz=194,slow=32
PZH PanZhiHua 136.21 339 PKP **PKiKP 09 41 30.7 +1.2**

EAF 01 09:22:19.5, 0.22S×29.77E, h0km, MC3.5, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.04**	**111**	*i* P	Pg	09 22 39.2	-0.2
MBAR				eS	Sg	09 22 45.7	-7.3
MBAR	**Mbarara**	**1.04**	**111**	*i* P	Pb	09 22 39.2	-1.3
MBAR				eP	Pg	09 22 39.1	-0.3
	baz=108						
NAKD	**Nakauka**	**2.69**	**82**	eP	Pn	09 22 59.3	-5.0
	baz=82						
NAKD				eS	Sn	09 23 34.9	-2.8
	baz=82						
ENT	**Entebbe**	**2.72**	**84**	eP	Pb	09 23 07.0	-2.1
	baz=84						
ENT				eS	Sn	09 23 38.5	+0.3
	baz=84						

*SOME **01** 09:31:20.4, 44.87N×81.92E, h5km*
*NNC **01** 09:31:22.9±1.2, 44.88N×82.05E, h0km, mb2.9, mpv2.5,*
Error ellipse: s-maj=19.7km s-min=3.0km az=114.0
ISC 01 09:31:19.7±2.0, 44.83N±0.08×82.0E±0.2, h10km, n8,
σ1°26/12, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.83**	**221**	eP	**Pb**	**09 31 54.0**	**+0.7**
	2.5nm,0.2s						
KTMS				eS	**Sg**	**09 32 18.2**	**-0.3**
	6.2nm,0.2s						
MK31	**Makanchi Array**	**1.97**	**6**	P	**Pg**	**09 31 56.8**	**-0.6**
	0.9nm,0.2s,baz=191,slow=17,SNR=53						
MK31				⇓S	**Sg**	**09 32 22.6**	**-0.4**
	1.3nm,0.4s,baz=191,slow=26,SNR=22						
MAKZ	**Makanchi**	**1.97**	**359**	⇓P	**Pb**	**09 31 56.5**	**+0.8**
	1.6nm,0.3s						
MAKZ				⇓S	**Sg**	**09 32 22.9**	**-0.2**
	3.4nm,0.6s						
PDGK	**Podgornoye**	**2.36**	**231**	⇑Pn	**Pb**	**09 32 03.6**	**+1.3**
	1.4nm,0.3s						
PDGK				⇑Sn	**Sg**	**09 32 35.3**	**-0.1**
	6.5nm,0.7s						
KPKS	**Kokpek**	**2.76**	**241**	ePg	**Pg**	**09 32 10.9**	**-1.5**
	1.5nm,0.1s						
KPKS				eLg	Lg	09 32 47.4	
	18nm,0.2s						
ARXS	**Arharly**	**3.06**	**260**	ePg	**Pg**	**09 32 16.8**	**-1.4**
	2.2nm,0.1s						
ARXS				eLg	Lg	09 32 57.4	
	5.2nm,0.2s						
SATY	**Saty**	**3.15**	**237**	ePg	**Pb**	**09 32 17.5**	**+1.7**
	1.4nm,0.1s						
SATY				eLg	Lg	09 32 58.5	
	9.7nm,0.2s						
KTBS	**Karatobe**	**3.99**	**256**	ePg	**Pb**	**09 32 31.9**	**+1.9**
	0.7nm,0.3s						
KTBS				eLg	Lg	09 33 23.4	
	3.0nm,0.2s						

*IDC **01** 09:37:46.5±1.7, 6.53S×129.89E, h0km, mb4.1/2,*
mbtmp4.1/4, ML4.2/2, Error ellipse: s-maj=141.2km
s-min=24.4km az=66.0
*NEIC **01** 09:38:03.6±2.9, 7.06S±0.08×129.17E±0.08, h161km±9km,*
mb4.1/9, Error ellipse: s-maj=12.8km s-min=9.9km
az=129.0
ISC 01 09:38:02.1±0.7, 7.07S±0.07×129.17E±0.06, h150km, n25,
σ1°73/26, mb4.0/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.30**	**113**		**Pn**	**09 38 42.8**	**+2.1**
SAUI				Sn	**Sn**	**09 39 10.7**	**+0.2**
FAKI	**Fak Fak**	**5.14**	**37**	Pn	**Pn**	**09 39 17.5**	**+0.1**
FAKI				Sn	**Sn**	**09 40 13.8**	**-2.4**
SOEI	**Soe**	**5.54**	**241**	Pn	**Pn**	**09 39 24.8**	**+2.1**
SOEI				Sn	**Sn**	**09 40 25.0**	**-0.8**
MTN	**Manton Dam**	**6.05**	**162**		**Pn**	**09 39 30.1**	**+0.6**
KNRA	**Kununurra**	**8.56**	**183**	Pn	**Pn**	**09 40 02.2**	**-0.8**
WB0	**Warramunga Arr**	**13.60**	**159**	Pn	**Pn**	**09 41 06.6**	**-2.4**
WRAB	**Tennant Creek**	**13.74**	**159**	Pn	**Pn**	**09 41 08.1**	**-2.7**
WRA	**Warramunga Arr**	**13.74**	**159**		Pn	09 41 07.1	-3.8
WRA	**Warramunga Arr**	**13.74**	**159**	Pn	**Pn**	**09 41 07.7**	**-3.1**
	1.0nm,0.3s,baz=344,slow=13,SNR=37						
WRA				Sn	Sn	09 43 31.3	-12
	2.8nm,0.3s,baz=337,slow=22,SNR=12						
	3.9nm,0.8s						
WB2	**Warramunga Arr**	**13.75**	**159**	Pn	**Pn**	**09 41 08.3**	**-2.6**
WR0	**Warramunga Arr**	**13.83**	**158**		Pn	09 41 07.3	-4.7
COEN	**Coen**	**15.37**	**118**	P	**Pn**	**09 41 33.0**	**+1.7**
COEN				IAmb	IAmb	09 41 47.8	
	comp=Z,14nm,1.4s						
PSA00	**Pilbara Seismi**	**17.00**	**211**	P	**P**	**09 41 51.3**	**+0.8**
PSA00				IAmb	IAmb	09 42 34.8	
	comp=Z,10nm,1.2s						
AS31	**Alice Springs**	**17.11**	**165**		**P**	**09 41 52.3**	**+0.5**
AS31				IAmb	IAmb	09 41 57.6	
	comp=Z,2.6nm,0.5s						
ASAR	**Alice Springs**	**17.12**	**165**	P	**P**	**09 41 52.9**	**+1.2**
ASAR	**Alice Springs**	**17.12**	**165**	P	**P**	**09 41 52.8**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=343,slow=10,SNR=95						
ASAR				S	S	09 44 48.1	-15
	comp=Z,1.6nm,0.7s,baz=342,slow=21,SNR=5.0						
	comp=Z,5.8nm,0.8s						
FORT	**Forrest**	**23.61**	**182**	P	**P**	**09 43 00.3**	**+0.9**
FORT				IAmb	IAmb	09 43 02.6	
	comp=Z,16nm,0.9s						
BBOO	**Buckleboo**	**26.40**	**167**	P	**P**	**09 43 24.6**	**-0.1**
STKA	**Stephens Creek**	**27.27**	**156**	P	**P**	**09 43 33.5**	**+1.0**
STKA	**Stephens Creek**	**27.27**	**156**	P	**P**	**09 43 33.8**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=328,slow=11,SNR=6.2						
	comp=Z,2.3nm,0.7s						
NWAO	**Narrogin (SRO)**	**28.02**	**202**	P	**P**	**09 43 36.8**	**-2.3**
MK31	**Makanchi Array**	**67.84**	**327**	P	**P**	**09 48 45.2**	**+1.1**
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**09 48 45.2**	**+1.1**
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**09 48 46.3**	**+2.2**
	comp=Z,0.5nm,0.3s,baz=121,slow=7.9,SNR=12						
	comp=Z,0.5nm,0.3s						
QSPA	**South Pole Qui**	**82.91**	**180**	P	**P**	**09 50 09.6**	**-0.3**
QSPA				IAmb	IAmb	09 50 11.0	
	comp=Z,3.8nm,1.2s						

KRSC 01 09:44:20.6±1.5, 49.93N×159.05E, h48km±31km, MI3.9,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.98**	**342**	eP	Pn	09 44 54.0	+2.4
KDTR				eS	Sn	09 45 17.7	+2.6
SKR	**Severo-Kuril's**	**2.03**	**293**	eS	Sn	09 45 18.3	+2.0
PAU	**Pauzhetka**	**2.10**	**318**	eS	Sn	09 45 21.7	+3.7
MTVR	**Mutnovka**	**2.61**	**348**	eS	Sn	09 45 34.1	+3.2
GRL	**Gorelyy**	**2.69**	**347**	eP	Pn	09 45 05.3	+3.8
GRL				eS	Sn	09 45 36.2	+3.2
KRMR	**Karymshinskiy**	**2.96**	**349**	eP	Pn	09 45 09.0	+4.0
KRMR				eS	Sn	09 45 43.2	+3.9
DALK	**Dalny**	**3.11**	**357**	eP	Pn	09 45 10.2	+3.1
AVH	**Avacha**	**3.34**	**357**	eP	Pn	09 45 14.8	+4.4
KOK	**Koryaka**	**3.38**	**356**	eP	Pn	09 45 14.4	+3.5
KRX	**Arik**	**3.44**	**356**	eP	Pn	09 45 14.5	+2.7
GNL	**Ganaly**	**3.83**	**350**	eP	Pn	09 45 21.9	+4.8
KZV	**Kizimen**	**5.25**	**8**	eP	Pn	09 45 40.6	+4.0
TUMR	**Tumrok**	**5.40**	**7**	eP	Pn	09 45 42.4	+3.7

---

*BJI **01** 10:06:52.0±0.0, 24.87S×176.00W, h100km, mb5.1/23,*
mB5.5/13
*NOU **01** 10:06:53.6, 24.68S×175.72W, h142km, mb4.8/50, South*
of Tonga Islands
*NEIC **01** 10:06:56.5±2.4, 24.57S±0.08×176.8W±0.1, h97km±7km,*
mb5.1/35, Error ellipse: s-maj=15.6km s-min=11.0km
az=102.0
*MOS **01** 10:06:57.8±1.6, 24.68S×177.05W, h111km, mb5.2/10,*
Error ellipse: s-maj=16.1km s-min=11.8km az=96.0
*GCMT **01** 10:06:57.5±0.2, 24.76S±0.01×176.67W±0.02,*
h108km±2km, MW5.1/112, Moment Tensor Solution.
s75,c106; s112,c167; Duration: 0 Moment tensor:
Scale 10^{16}Nm; M_{rr}0.90±.14; $M_{\theta\theta}$-2.05±.15; $M_{\phi\phi}$1.15±.14;
$M_{r\theta}$-4.26±.09; $M_{\theta\phi}$-0.05±.16; $M_{\phi r}$-2.35±.08; Best double
couple: $M_0$5.16400×10^{16} NP1:ϕ_s241.00000°, δ84.00000°,
λ75.00000°. NP2:ϕ_s128.00000°, δ16.00000°, λ157.00000°.
Principal axes: T 4.9230, Plg49.0000°, Azm135.0000°;
N 0.4780, Plg15.0000°, Azm242.0000°; P -5.4050,
Plg37.0000°, Azm344.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*IDC **01** 10:07:01.9±1.7, 24.65S×177.07W, h142km±15km,*
mb4.3/20, mbtmp4.8/22, MS3.7/29 Error ellipse:
s-maj=12.5km s-min=10.5km az=156.0
ISC 01 10:06:56.6±0.3, 24.74S±0.04×176.77W±0.05,
h101km±2km, h101km:pP-P, n610, σ1°53/601, mb5.0/58,
38C-27D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.61**	**193**	Pn	**Pn**	**10 08 06.0**	**+1.9**
RAO	**Raoul Island**	**4.61**	**193**	P	**Pn**	**10 08 06.9**	**+2.8**
RAO	**Raoul Island**	**4.61**	**193**	P	**Pn**	**10 08 06.0**	**+1.9**
RAO	**Raoul Island**	**4.61**	**193**	P	Pn	10 08 09.2	+5.1
	1μm,0.5s,baz=75,slow=23,SNR=6.4						
RAO				S	**Sn**	**10 08 56.6**	**+0.1**
	2μm,0.5s,baz=233,slow=21,SNR=8.1						
GLKZ	**Green Lake**	**4.62**	**193**	P	**Pn**	**10 08 04.4**	**+0.2**
GLKZ				S	**Sn**	**10 08 55.5**	**-1.2**
MSVF	**Nonsavu**	**8.48**	**324**	P	**Pn**	**10 08 58.1**	**+1.4**
MSVF	**Nonsavu**	**8.48**	**324**	*d* P	**Pn**	**10 08 57.0**	**+0.3**
MSVF				pmax	pmax		
	comp=Z,199nm,1.1s						
MSVF	**Nonsavu**	**8.48**	**324**	P	**Pn**	**10 08 57.8**	**+1.1**
	comp=Z,182nm,0.9s,baz=154,slow=12,SNR=49						
MSVF				LR	LR	10 11 05.7	
	comp=Z,461nm,20.2s,baz=138,slow=30						
NIUE	**Niue**	**8.49**	**50**	P	Pn	10 08 51.1	-5.7
	baz=8.2,SNR=34						
NIUE				S	Sn	10 10 12.9	-18
	baz=8.2						
NIUE	**Niue**	**8.49**	**50**	Pn	Pn	10 08 51.0	-5.7
TAVE	**Taveuni**	**8.51**	**339**	P	**Pn**	**10 08 59.8**	**+2.7**
DGTI	**Dogotuki**	**9.01**	**338**	P	**Pn**	**10 09 05.2**	**+1.3**
YSA	**Yasawairara**	**9.59**	**325**	P	**Pn**	**10 09 15.9**	**+4.2**
AFI	**Afiamalu**	**11.75**	**24**	Pn	Pn	10 09 32.4	-8.7
AFI	**Afiamalu**	**11.75**	**24**	P	Pn	10 09 32.0	-9.1
AFI	**Afiamalu**	**11.75**	**24**	P	Pn	10 09 32.4	-8.7
AFI	**Afiamalu**	**11.75**	**24**	P	Pn	10 09 32.2	-8.9
	comp=Z,149nm,0.5s,baz=143,slow=1.4,SNR=44						
AFI				S	Sn	10 11 31.6	-19
	comp=Z,92nm,0.5s,baz=8.7,slow=23,SNR=8.7						
AFI				LR	LR	10 13 56.1	
	comp=Z,132nm,21.6s,baz=179,slow=35						
OUZ	**Omahuta**	**13.37**	**216**	P	**Pn**	**10 10 06.1**	**+3.9**
OUZ	**Omahuta**	**13.37**	**216**	P	**P**	**10 10 11.6**	**+3.6**
WCZ	**Waipu Caves**	**13.54**	**212**	P	**P**	**10 10 11.2**	**+1.2**
WMGZ	**Waiomatatini S**	**13.67**	**196**	P	**P**	**10 10 10.4**	**-1.0**
HAZ	**Te Kaha**	**13.79**	**198**	P	Pn	10 10 04.4	-3.2
PUZ	**Puketiti**	**13.95**	**196**	P	**Pn**	**10 10 11.1**	**+1.3**
TWGZ	**Tauwhareparae**	**14.12**	**197**	P	**P**	**10 10 16.1**	**-0.4**
CNGZ	**Carnagh Statio**	**14.35**	**196**	P	**Pn**	**10 10 15.6**	**+0.7**
MWZ	**Matawai**	**14.40**	**198**	P	**Pn**	**10 10 14.9**	**-0.7**
TKGZ	**Te Karaka**	**14.40**	**197**	P	**P**	**10 10 19.8**	**+0.2**
URZ	**Urewera**	**14.45**	**200**	P	**Pn**	**10 10 16.9**	**+0.7**
URZ	**Urewera**	**14.45**	**200**	P	**Pn**	**10 10 14.4**	**-1.8**
URZ	**Urewera**	**14.45**	**200**	P	**Pn**	**10 10 16.8**	**+0.7**
	comp=Z,24nm,0.5s,baz=351,slow=1.5,SNR=13						
URZ				S	Sn	10 12 39.7	-16
	comp=Z,21nm,0.6s,baz=116,slow=20,SNR=8.7						
RAGZ	**Rawiri**	**14.58**	**198**	P	**Pn**	**10 10 19.3**	**+1.3**
PINNC	**Pines Island,**	**14.62**	**275**		**P**	**10 10 22.5**	**+0.5**
PINNC	**Pines Island,**	**14.62**	**275**	P	**P**	**10 10 25.4**	**+3.4**
MUGZ	**Murupara**	**14.76**	**200**	P	Pn	10 10 16.8	-3.3
KNZ	**Kokohu**	**15.00**	**197**	P	**Pn**	**10 10 23.9**	**+0.8**
RAHZ	**Arahi**	**15.06**	**199**	P	**Pn**	**10 10 25.1**	**+1.1**
MRHZ	**Matea Rd**	**15.19**	**201**	P	**Pn**	**10 10 25.0**	**-0.7**
YATNC	**Mamie plateau,**	**15.24**	**277**	P	**P**	**10 10 33.0**	**+4.0**
LIFNC	**LIFOU**	**15.27**	**282**	P	**Pn**	**10 10 27.4**	**+0.7**
LIFNC	**LIFOU**	**15.27**	**282**	P	**P**	**10 10 33.9**	**+4.6**
NMHZ	**Naumai**	**15.31**	**199**	P	**Pn**	**10 10 26.5**	**-0.8**
RTV	**Rentapao**	**15.43**	**294**	P	**P**	**10 10 35.2**	**+4.1**
HIZ	**Hauiti**	**15.46**	**205**	P	**P**	**10 10 31.7**	**+0.4**
BKZ	**Black Stump Fm**	**15.47**	**200**	P	**Pn**	**10 10 27.8**	**-1.4**
BKZ	**Black Stump Fm**	**15.47**	**200**	P	**Pn**	**10 10 26.8**	**-2.4**
ONTNC	**Ouen Toro**	**15.58**	**276**		**Pn**	**10 10 32.3**	**+1.7**
DZM	**Mont Dzumac**	**15.64**	**276**	*e*Pn	**Pn**	**10 10 32.6**	**+1.1**
	comp=Z,149nm,1.1s						
DZM				*e*LR	LR	10 14 25.5	
	comp=Z,969nm,29.2s						
DZM	**Mont Dzumac**	**15.64**	**276**	P	**P**	**10 10 34.0**	**+0.5**
DZM	**Mont Dzumac**	**15.64**	**276**	P	**P**	**10 10 37.3**	**+3.8**
DZM	**Mont Dzumac**	**15.64**	**276**	P	**Pn**	**10 10 33.5**	**+2.0**
	comp=Z,36nm,0.9s,baz=95,slow=16,SNR=20						
DZM				LR	LR	10 15 27.1	
	comp=Z,308nm,21.9s,baz=108,slow=33						
MCHZ	**McNeill Hill**	**15.67**	**199**	P	**Pn**	**10 10 31.0**	**-0.5**
TMVZ	**Te Maari**	**15.69**	**202**	P	**Pn**	**10 10 31.3**	**-0.6**
KRVZ	**Karewarewa**	**15.69**	**202**	P	**Pn**	**10 10 27.3**	**-4.7**
WTVZ	**West Tongariro**	**15.72**	**202**	P	**Pn**	**10 10 31.5**	**-1.0**
TWVZ	**Taurewa**	**15.74**	**203**	P	**Pn**	**10 10 31.7**	**-0.9**
NOUC	**Port Laguerre**	**15.76**	**276**	P	**P**	**10 10 39.4**	**+4.7**
NGZ	**Ngauruhoe**	**15.77**	**202**	P	**Pn**	**10 10 32.5**	**-0.6**
BHHZ	**Black Hill Sta**	**15.90**	**201**	P	**Pn**	**10 10 30.1**	**-4.5**
KAHZ	**Kahuranaki**	**15.94**	**198**	P	**Pn**	**10 10 33.2**	**-1.9**
KRHZ	**Kereru**	**15.95**	**200**	P	**Pn**	**10 10 30.7**	**-4.4**
VRZ	**Vera Road**	**16.03**	**205**	P	**Pn**	**10 10 35.5**	**-0.7**
RAR	**Rarotonga**	**16.04**	**81**	P	**Pn**	**10 10 36.2**	**-0.1**
	comp=Z,22nm,0.6s,baz=267,slow=8.9,SNR=10.0						
RAR				S	Sn	10 13 16.5	-18
	comp=Z,13nm,0.4s,baz=142,slow=22,SNR=1.8						
RAR				LR	LR	10 15 23.4	
	comp=Z,210nm,20.2s,baz=268,slow=31					

comp=Z,418nm,24.2s
PPT2 Papeete2 26.30 80 *e*T T 10 39 24.5
comp=Z,9.0nm,0.3s
PPT Papeete 26.31 80 LR LR 10 22 12.3
comp=Z,133nm,18.3s,baz=278,slow=34
TVO Taravao 26.53 80 *e*T T 10 39 33.7
comp=Z,0.2nm,0.2s
HNR Honiara 26.89 300 LR LR 10 21 48.5
comp=Z,1µm,20.8s,baz=154,slow=33
TARA Tarawa 27.80 337 P **P** **10 12 33.3 -3.0**
EIDS Eidsvold 29.10 262 P **P** **10 12 48.3 +0.5**
baz=29,SNR=12
EIDS Eidsvold 29.10 262 P **P** **10 12 48.6 +0.8**
EIDS IAmb IAmb 10 12 53.5
comp=Z,29nm,0.8s
EIDS Eidsvold 29.10 262 P **P** **10 12 49.2 +1.4**
MGCD Mangrove Creek 29.25 246 P **P** **10 12 50.9 +1.8**
RMQ Roma 31.08 259 P **P** **10 13 07.4 +2.0**
baz=31,SNR=7.6
RMQ Roma 31.08 259 P **P** **10 13 08.9 +3.5**
MILA Mila 31.55 239 P **P** **10 13 09.9 +0.5**
baz=32,SNR=4.5
MILA Mila 31.55 239 P **P** **10 13 10.7 +1.3**
CTA Charters Tower 34.43 270 P **P** **10 13 35.0 +0.4**
CTA Charters Tower 34.43 270 P **P** **10 13 34.7 +0.1**
comp=Z,20nm,0.5s,baz=93,slow=11,SNR=60
CTA LR LR 10 25 42.5
comp=Z,82nm,18.3s,baz=90,slow=33
comp=Z,20nm,0.5s
CTAO Charters Tower 34.43 270 P **P** **10 13 34.1 -0.5**
CTAO IAmb IAmb 10 14 00.5
comp=Z,26nm,0.8s
CTAO Charters Tower 34.43 270 P **P** **10 13 35.0 +0.4**
CTAO Charters Tower 34.43 270 P **P** **10 13 34.1 -0.5**
CTAO pmax pmax
comp=Z,27nm,0.9s
CTAO Charters Tower 34.43 270 P **P** **10 13 34.6 +0.1**
CTAO pP **pP** **10 13 56.6 -0.4**
TOO Toolangi 34.51 239 P **P** **10 13 35.6 +0.4**
baz=35,SNR=6.7
TOO Toolangi 34.51 239 P **P** **10 13 36.5 +1.3**
QLP Quilpie 35.11 258 P **P** **10 13 38.8 -1.7**
baz=36,SNR=3.2
BRAT Ballarat 35.73 240 P **P** **10 13 47.4 +1.9**
KRVT Keravat (AS076 36.23 299 LR LR 10 27 33.9
comp=Z,200nm,19.2s,baz=24,slow=34
MTSU Mount Surprise 36.72 273 P **P** **10 13 53.6 -0.7**
baz=37,SNR=29
MTSU Mount Surprise 36.72 273 P **P** **10 13 54.2 -0.1**
STKA Stephens Creek 37.17 249 P **P** **10 13 57.8 -0.1**
baz=38,SNR=5.0
STKA Stephens Creek 37.17 249 P **P** **10 13 57.9 0.0**
STKA Stephens Creek 37.17 249 P **P** **10 13 57.4 -0.6**
comp=Z,1.6nm,0.5s,baz=100,slow=11,SNR=6.4
STKA PcP **PcP** **10 16 16.6 +0.6**
comp=Z,3.4nm,1.0s,baz=89,slow=2.1,SNR=3.0
comp=Z,1.6nm,0.5s
PMG Port Moresby 37.55 288 P **P** **10 14 00.2 -1.1**
comp=Z,24nm,0.8s,baz=109,slow=4.5,SNR=7.8
comp=Z,24nm,0.8s
PMG Port Moresby 37.55 288 P **P** **10 13 59.9 -1.4**
PMG pP **pP** **10 14 22.9 -1.0**
PMG sP **sP** **10 14 34.7 -0.5**
TAOE Nuku Hiva Isla 38.29 72 *e*LR LR 10 24 37.6
comp=Z,123nm,24.3s
COEN Coen 39.16 278 P **P** **10 14 14.8 0.0**
COEN IAmb IAmb 10 14 40.6
comp=Z,42nm,1.7s
COEN Coen 39.16 278 P **P** **10 14 14.7 0.0**
HTT Hallett 39.44 247 P **P** **10 14 15.7 -1.3**
baz=40,SNR=4.4
HTT Hallett 39.44 247 P **P** **10 14 17.4 +0.4**
LCRK Leigh Creek 40.10 251 P **P** **10 14 22.4 0.0**
QIS Mount Isa 40.35 267 P **P** **10 14 23.1 -1.6**
baz=41,SNR=5.3
QIS Mount Isa 40.35 267 P **P** **10 14 25.2 +0.5**
BBOO Buckleboo 41.84 248 P **P** **10 14 36.5 -0.2**
OOD Oodnadatta 42.54 255 P **P** **10 14 43.4 +1.0**
MULG Mulgathing 43.70 251 P **P** **10 14 51.6 -0.1**
AS31 Alice Springs 44.81 261 P **P** **10 14 60.0 -0.8**
ASAR Alice Springs 44.81 261 P **P** **10 14 59.9 -0.8**
comp=Z,7.9nm,0.6s,baz=91,slow=6.6,SNR=77
ASAR PcP **PcP** **10 16 40.5 -0.6**
comp=Z,2.1nm,0.8s,baz=100,slow=5.1,SNR=1.6
ASAR ScP **ScP** **10 20 22.9 -1.4**
comp=Z,1.2nm,1.0s,baz=94,slow=4.1,SNR=2.1
ASAR S **S** **10 21 25.4 -5.4**
comp=Z,1.4nm,0.9s,baz=88,slow=15,SNR=7.1
comp=Z,7.9nm,0.6s
WR0 Warramunga Arr 45.10 266 P **P** **10 15 01.7 -1.4**
WB2 Warramunga Arr 45.28 266 P **P** **10 15 02.7 -1.8**
WB2 IAmb IAmb 10 15 29.1
comp=Z,26nm,0.9s
WRAB Tennant Creek 45.28 266 P **P** **10 15 04.0 -0.5**
WRAB IAmb IAmb 10 15 07.7
comp=Z,18nm,0.8s
WRAB Tennant Creek 45.28 266 P **P** **10 15 02.8 -1.7**
WRAB Tennant Creek 45.28 266 *de*P **P** **10 15 03.0 -1.5**
WRAB *e**PP **pP** **10 15 25.6 -2.3**
WRAB pmax pmax
comp=Z,18nm,0.8s
WRAB Tennant Creek 45.28 266 P **P** **10 15 02.4 -2.1**
WRAB pP **pP** **10 15 25.5 -2.3**
WB0 Warramunga Arr 45.29 266 P **P** **10 15 02.6 -2.0**
WB0 IAmb IAmb 10 15 29.1
comp=Z,33nm,0.9s
WRA Warramunga Arr 45.29 266 P **P** **10 15 02.9 -1.6**
WRA Warramunga Arr 45.29 266 P **P** **10 15 02.9 -1.6**
WRA pmax pmax
comp=Z,2.0nm,1.0s
WRA Warramunga Arr 45.29 266 P **P** **10 15 02.8 -1.8**
comp=Z,19nm,0.6s,baz=102,slow=8.3,SNR=127
WRA PcP **PcP** **10 16 43.0 +0.2**
comp=Z,6.0nm,1.0s,baz=102,slow=4.0,SNR=4.9
WRA ScP **ScP** **10 20 24.7 -1.6**
comp=Z,0.1nm,0.6s,baz=99,slow=4.1,SNR=0.9
WRA S **S** **10 21 30.5 -7.2**
comp=Z,1.6nm,0.8s,baz=101,slow=14,SNR=9.1
comp=Z,19nm,0.6s
JAY Jayapura 46.56 292 LR LR 10 33 47.7
comp=Z,118nm,18.3s,slow=35
FORT Forrest 48.79 250 P **P** **10 15 32.7 +1.2**
baz=49,SNR=12
FORT Forrest 48.79 250 P **P** **10 15 31.7 +0.1**
FORT IAmb IAmb 10 15 33.7
comp=Z,16nm,0.7s
FORT Forrest 48.79 250 P **P** **10 15 32.8 +1.2**
KDU Kakadu 49.30 274 P **P** **10 15 34.4 -1.2**
baz=50,SNR=3.7
KIP Kipapa 49.37 23⇑ *e*P **P** **10 15 36.2 +0.2**
KIP pmax pmax
comp=Z,92nm,1.5s
WRKA Warakurna 49.53 257 P **P** **10 15 36.3 -1.1**
baz=50,SNR=22
WRKA Warakurna 49.53 257 P **P** **10 15 36.3 -1.1**
DRV Dumont d'Urvil 49.79 201 P **P** **10 15 37.9 -0.7**
MTN Manton Dam 50.45 274 P **P** **10 15 43.6 -0.8**
baz=51,SNR=6.3
MTN Manton Dam 50.45 274 P **P** **10 15 42.7 -1.7**
MTN IAmb IAmb 10 17 08.1
comp=Z,34nm,1.6s
KNRA Kununurra 51.63 269 P **P** **10 15 51.6 -1.6**
baz=52,SNR=11
KNRA Kununurra 51.63 269 P **P** **10 15 52.1 -1.1**
KNRA Kununurra 51.63 269 P **P** **10 15 52.3 -0.9**
SBA Scott Base 53.74 184 P **P** **10 16 10.6 +2.7**
SBA IAmb IAmb 10 16 34.6
comp=Z,26nm,0.9s
SBA Scott Base 53.74 184 P **P** **10 16 10.6 +2.7**
SBA pmax pmax
comp=Z,26nm,1.0s
SBA Scott Base 53.74 184 P **P** **10 16 10.8 +2.9**
SBA pP **pP** **10 16 34.0 +1.9**
SBA sP **sP** **10 16 46.1 +2.8**
VNDA Vanda 53.82 186 P **P** **10 16 10.1 +1.7**
comp=Z,6.3nm,1.0s,baz=350,slow=7.5,SNR=21
VNDA LR LR 10 36 03.4
comp=Z,28nm,20.6s,baz=29,slow=32
comp=Z,6.3nm,1.0s
VNDA Vanda 53.82 186 P **P** **10 16 10.5 +2.1**
VNDA pP **pP** **10 16 33.2 +0.6**
VNDA sP **sP** **10 16 44.9 +1.0**
SWI Sorong 55.51 287 P **P** **10 16 20.0 -1.5**
comp=Z,45nm,0.8s
KLBR Kellerberrin 57.38 247 P **P** **10 16 35.4 +0.7**
baz=58,SNR=7.2
NWAO Narrogin (SRO) 57.58 246 P **P** **10 16 37.2 +1.2**
NWAO Narrogin (SRO) 57.58 246 P **P** **10 16 37.2 +1.2**
NWAO pmax pmax
comp=Z,45nm,1.5s
NWAO Narrogin (SRO) 57.58 246 LR LR 10 38 37.8
comp=Z,75nm,20.6s,baz=318,slow=33
MBWA Marble Bar 58.13 260 P **P** **10 16 39.1 -0.9**
BLDU Ballidu 58.45 248 P **P** **10 16 41.0 -1.2**
CCD Concordia, Ant 58.68 195 ⇑P **P** **10 16 44.4 +0.9**
CCD pP **pP** **10 17 07.3 -0.7**
MORW Morawa 59.35 250 P **P** **10 16 48.3 -0.2**
baz=60,SNR=3.2
CASY Casey 60.66 206 P **P** **10 16 56.3 -0.4**
CASY Casey 60.66 206 P **P** **10 16 56.4 -0.3**
CASY pP **pP** **10 17 20.3 -0.9**
PLAI Plampang 64.10 272 P **P** **10 17 20.2 -0.3**
QSPA South Pole Qui 65.35 180 P **P** **10 17 28.3 +0.3**
QSPA IAmb IAmb 10 17 53.4
comp=Z,32nm,1.0s
QSPA South Pole Qui 65.35 180 P **P** **10 17 28.9 +1.0**
QSPA pP **pP** **10 17 51.7 -1.2**
QSPA sP **sP** **10 18 03.5 -0.5**
JOW Kunigami 73.76 310 P **P** **10 18 19.4 -0.6**
comp=Z,16nm,0.9s,baz=96,slow=10,SNR=2.9
comp=Z,16nm,0.9s
SMAI San Martin Ant 74.26 158 P **P** **10 18 23.7 +1.4**
MJAR Matsushiro Arr 74.28 324 P **P** **10 18 21.2 -1.7**
comp=Z,1.4nm,0.5s,baz=158,slow=5.7,SNR=5.6
comp=Z,1.4nm,0.5s
BELA Belgrano 2 75.23 172 P **P** **10 18 28.0 +0.2**
BELA IAmb IAmb 10 18 29.1
comp=Z,18nm,0.8s
KIWB Kanaga Island 76.26 360 P **P** **10 18 33.5 -0.3**
ATKA Atka Island 76.64 2 P **P** **10 18 35.2 -0.6**
PMSA Palmer Station 76.97 156 P **P** **10 18 39.2 +1.4**
H06E1 SOCORRO T-PHAS 77.33 62 T T 11 43 35.7
SNR=16
SHEM Shemya Is, Ala 77.55 354 LR LR 10 46 45.7
comp=Z,45nm,21.2s,baz=172,slow=31
NIKH Nikolski High 77.69 5 P **P** **10 18 41.1 -0.7**
baz=187
MAW Mawson 77.98 200 P **P** **10 18 44.3 +1.0**
baz=78,SNR=24
MAW Mawson 77.98 200 P **P** **10 18 44.8 +1.5**
MAW Mawson 77.98 200 P **P** **10 18 44.8 +1.5**
MAW pmax pmax
comp=Z,6.0nm,1.2s
MAW Mawson 77.98 200 P **P** **10 18 44.3 +1.0**
comp=Z,13nm,1.0s,baz=120,slow=5.8,SNR=33
MAW LR LR 10 51 10.2
comp=Z,43nm,21.0s,baz=107,slow=34
comp=Z,13nm,1.0s
UNV Unalaska Valle 78.76 6 P **P** **10 18 46.7 -0.9**
baz=190
FALS False Pass 80.09 8 P **P** **10 18 53.9 -1.0**
baz=192
PEA0B Petropavlovsk- 80.64 345 P **P** **10 18 57.2 -0.7**
PEA0B Petropavlovsk- 80.64 345⇑ *e*P **P** **10 18 58.1 +0.3**
PETK Petropavlovsk- 80.64 345 P **P** **10 18 56.8 -1.1**
PETK Petropavlovsk- 80.64 345 P **P** **10 18 56.8 -1.1**
PETK Petropavlovsk- 80.64 345 P **P** **10 18 57.4 -0.4**
comp=Z,24nm,0.9s,baz=147,slow=3.3,SNR=25
comp=Z,24nm,0.9s
KSRS Korea Array 80.80 318 P **P** **10 18 58.4 -0.6**
comp=Z,0.9nm,0.5s,baz=130,slow=5.5,SNR=3.1
comp=Z,0.9nm,0.5s
SDPT Sand Point 80.97 9 P **P** **10 18 59.3 -0.2**
baz=195
MURC Murrieta 81.08 47 P **P** **10 19 00.2 -0.5**
baz=232
MONP2 Monument Peak 81.16 48 P **P** **10 19 01.0 -0.4**
baz=233
IKP In-Ko-Pah, Jac 81.23 48 P **P** **10 19 01.2 -0.4**
baz=233
VES Vestal, Richgr 81.23 44 P **P** **10 19 01.5 0.0**
baz=231
EDW2 Edwards Air Fo 81.34 45 P **P** **10 19 01.7 -0.3**
baz=232
ISA Isabella, Lake 81.51 44 P **P** **10 19 03.2 +0.2**
baz=231,SNR=6.2
PFO Pinyon Flats O 81.57 47 P **P** **10 19 03.4 0.0**
baz=233
PFO Pinyon Flats O 81.57 47 LR LR 10 52 04.0
comp=Z,45nm,18.1s,baz=242,slow=33
TPFO Pinon Flats 81.57 47 P **P** **10 19 03.8 +0.4**
baz=233
S14K Fog Glacier 82.02 10 P **P** **10 19 05.8 +0.6**
baz=196
BELC Belle Mtn. Jos 82.11 47 P **P** **10 19 06.9 +0.6**
baz=233
CHGN Chignik 82.21 10 P **P** **10 19 06.8 +0.8**
baz=197
CWC Cottonwood Cre 82.24 44 P **P** **10 19 07.1 +0.2**
baz=232
BC3 Big Chuckawall 82.27 48 P **P** **10 19 07.9 +0.8**
baz=234
GLA Glamis 82.34 48 P **P** **10 19 08.6 +1.2**
baz=234
GSC Goldstone, Bar 82.36 46 P **P** **10 19 08.2 +0.7**
baz=233,SNR=5.4
MPMC Manual Prospec 82.38 45 P **P** **10 19 08.7 +1.0**
baz=232,SNR=7.7
HEC Hector,Ludlow 82.39 46 P **P** **10 19 08.4 +0.8**
baz=233
ELIB Princess Elisa 82.58 186 *d*P **P** **10 19 08.5 +0.3**
ELIB *d*pP **pP** **10 19 32.8 -1.3**
ELIB *d*PP **PP** **10 22 18.4 +0.2**
H03S2 Juan Fernandez 82.68 124 T T 11 50 11.9
baz=243,slow=75,SNR=20
H03S1 Juan Fernandez 82.69 124 T T 11 50 13.3
baz=243,slow=75,SNR=18
H03S3 Juan Fernandez 82.70 124 T T 11 50 11.8
baz=243,slow=75,SNR=19
IRM Iron Mountain 82.77 47 P **P** **10 19 10.9 +1.3**
baz=234
GMRC Granite Mounta 82.80 47 P **P** **10 19 11.0 +1.1**
baz=233
H03N2 Juan Fernandez 82.84 123 T T 11 50 19.4
baz=250,slow=73,SNR=108
H03N3 Juan Fernandez 82.84 123 T T 11 50 20.8
baz=250,slow=73,SNR=115
H03N1 Juan Fernandez 82.86 123 T T 11 50 25.7
baz=250,slow=73,SNR=61
YBH Yreka Blue Hor 82.90 38 LR LR 10 47 41.5
comp=Z,25nm,20.5s,baz=221,slow=29
PNTR Pine Nut 82.97 41 P **P** **10 19 11.7 +0.9**
TUQ Turquoise Moun 83.02 46 P **P** **10 19 11.6 +0.7**
baz=233
FURC Furnace Creek, 83.03 45 P **P** **10 19 12.0 +1.3**
baz=232
GRAC Grapevine Rang 83.04 44 P **P** **10 19 12.3 +1.4**
baz=232
SHOC Shoshone, Teco 83.07 45 P **P** **10 19 12.1 +1.1**
baz=233
USRK Ussuriysk Ar. 83.09 326 P **P** **10 19 10.4 -0.5**
comp=Z,6.3nm,1.0s,baz=153,slow=5.2,SNR=6.0
comp=Z,6.3nm,1.0s
214A Organ Pipe Nat 83.10 50 P **P** **10 19 11.0 -0.3**
baz=235
SII Sitkinak Islan 83.21 12 P **P** **10 19 11.7 +0.5**
baz=201
NVAR Mina Array Bea 83.34 42 P **P** **10 19 13.7 +1.1**
comp=Z,2.3nm,0.6s,baz=227,slow=7.5,SNR=24
comp=Z,2.3nm,0.6s
NJ2 Nanjing 83.45 310 *e*P **P** **10 19 14.6 +1.6**
NJ2 pP **pP** **10 19 35.0 -3.9**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,150nm,3.8s
TROLL Troll, Antarti 83.51 180 ⇑P **P** **10 19 13.5 +0.6**
comp=Z,1µm,0.9s
PDMCI Parker Dam,Lak 83.53 48 P **P** **10 19 14.0 +0.6**
baz=234
TPNV Topopah Spring 83.72 45 P **P** **10 19 14.3 -0.2**
baz=233,SNR=6.3
SNAA Sanae 83.76 178 P **P** **10 19 14.2 +0.1**
SNAA IAmb IAmb 10 19 39.6
comp=Z,23nm,1.0s
SNAA Sanae 83.76 178 *c i*P **P** **10 19 14.2 +0.1**
SNAA pmax pmax
comp=Z,24nm,1.0s
SNAA Sanae 83.76 178 ⇑P **P** **10 19 14.4 +0.2**
comp=Z,285nm,0.9s
SNAA Sanae 83.76 178 P **P** **10 19 14.3 +0.2**
comp=Z,16nm,1.0s,baz=194,slow=3.1,SNR=23
SNAA LR LR 10 53 60.0
comp=Z,30nm,21.0s,baz=201,slow=34
comp=Z,16nm,1.0s
R17K Ugashik Creek 83.82 11 P **P** **10 19 14.5 +0.2**
baz=199,SNR=5.9
VNA3 Neumayer Olymp 83.86 176 ⇑P **P** **10 19 14.8 +0.2**
comp=Z,28nm,0.8s
R18K Karluk 84.10 12 P **P** **10 19 15.8 +0.1**
baz=200
VNA2 Neumayer--Watz 84.31 177 ⇑P **P** **10 19 17.5 +0.6**
comp=Z,19nm,0.8s,baz=191,slow=3.0
Q17K Contact Creek 84.50 11 P **P** **10 19 17.9 0.0**
baz=199,SNR=14
VNA1 Neumayer--Stat 84.53 176 P **P** **10 19 18.7 +0.7**
comp=Z,25nm,0.8s
K05A Summer Lake 84.57 38 P **P** **10 19 19.5 +0.7**
O14K Tigyukauivet M 84.65 8 P **P** **10 19 18.7 +0.2**
baz=194
KDAK Kodiak Island 84.67 13 *ce*P **P** **10 19 19.6 +1.0**
KDAK pmax pmax
comp=Z,16nm,1.1s
KDAK Kodiak Island 84.67 13 P **P** **10 19 19.2 +0.6**
baz=202
KDAK Kodiak Island 84.67 13 LR LR 10 55 01.2
comp=Z,20nm,18.7s,baz=211,slow=34
TUC Tucson 84.72 51 P **P** **10 19 19.6 0.0**
baz=236
J05D Fort Rock, OR 84.75 37 P **P** **10 19 20.6 +1.0**
Q16K King Salmon 84.77 10 P **P** **10 19 19.2 +0.2**
baz=198
O15K Ungalikthiuk R 84.77 9 P **P** **10 19 19.1 0.0**
baz=195
P16K Nushagak River 84.89 10 P **P** **10 19 19.5 -0.2**
baz=197
R11B Troy Canyon, C 84.98 44 P **P** **10 19 20.5 -0.4**
baz=233
Q18K Katmai Hardscr 85.02 11 P **P** **10 19 20.5 0.0**
baz=200,SNR=12
N14K Kuskokwak Cree 85.26 8 P **P** **10 19 22.2 +0.8**
baz=194,SNR=15
P17K Kvichak River 85.30 10 P **P** **10 19 21.5 -0.2**
baz=198
O16K Kokwok River B 85.42 9 P **P** **10 19 22.2 -0.1**
baz=197,SNR=5.7
Q20K Shuyak Island 85.47 13 P **P** **10 19 22.4 -0.2**
baz=202
Q19K Cape Douglas, 85.53 12 P **P** **10 19 22.6 -0.4**
Q19K IAmb IAmb 10 19 28.7
comp=Z,28nm,0.9s
Q19K Cape Douglas, 85.53 12 P **P** **10 19 23.0 +0.1**
baz=201
M13K Dall Lake 85.55 7 P **P** **10 19 23.3 +0.4**
baz=192
PLCA Paso Flores 85.55 133 P **P** **10 19 24.5 +0.7**
PLCA IAmb IAmb 10 19 26.3
comp=Z,21nm,1.2s
PLCA Paso Flores 85.55 133 P **P** **10 19 24.5 +0.7**
PLCA pmax pmax
comp=Z,21nm,1.2s
PLCA Paso Flores 85.55 133 P **P** **10 19 25.2 +1.4**
comp=Z,11nm,1.1s,baz=213,slow=3.1,SNR=8.9
PLCA LR LR 10 48 29.6
comp=Z,45nm,21.3s,baz=231,slow=29
comp=Z,11nm,1.1s
P18K Big Mountain, 85.68 11 P **P** **10 19 23.3 -0.4**
baz=200
N15K Kwethluk River 85.69 8 P **P** **10 19 23.8 +0.1**
baz=195,SNR=14
O17K Koliganek Bris 85.74 10 P **P** **10 19 24.1 +0.3**
baz=198
M14K Bethel 86.03 7 P **P** **10 19 25.9 +0.6**
baz=193,SNR=7.4
WUAZ Wupatki 86.09 48 P **P** **10 19 25.9 -0.5**
baz=236
O18K Koktuh Hills 86.12 11 P **P** **10 19 26.2 +0.3**
O18K Koktuh Hills 86.12 11 P **P** **10 19 25.9 +0.1**
baz=200,SNR=9.2
M15K Kasigluk River 86.13 8 P **P** **10 19 26.4 +0.7**
baz=195,SNR=17
N16K Nishlik Lake 86.17 9 P **P** **10 19 26.9 +0.9**
baz=196,SNR=9.0
P19K Oil Pt 86.28 12 P **P** **10 19 27.9 +1.2**
baz=201
CN2 Changchun 86.33 322 P **P** **10 19 27.4 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
N17K Nushagak Hills 86.45 10 P **P** **10 19 28.3 +0.9**
baz=198
BNX BinXian 86.52 325 ⇑P **P** **10 19 27.2 -0.9**
BNX pmax pmax
comp=Z,15nm,2.3s
BNX pmax pmax
comp=Z,220nm,3.5s
L14K Kuka Creek 86.53 7 P **P** **10 19 28.2 +0.5**
baz=193,SNR=7.0
CNPM China Poot 86.55 13 P **P** **10 19 29.1 +1.2**
CNPM IAmb IAmb 10 19 29.5
comp=Z,18nm,1.1s
HOM Homer 86.59 12 P **P** **10 19 28.6 +0.5**
baz=203
O19K Port Alsworth 86.60 11 P **P** **10 19 27.7 -0.4**
baz=200,SNR=11
ELK Elko 86.63 42 LR LR 10 53 33.5
comp=Z,30nm,19.1s,baz=229,slow=32
M16K Timber Creek 86.67 9 P **P** **10 19 29.1 +0.6**
baz=196,SNR=7.7
KLR Kul'dur 86.73 329 *ce*P **P** **10 19 29.7 +0.7**
KLR pmax pmax
comp=Z,5.0nm,1.0s
N18K Kilae Creek 86.80 10 P **P** **10 19 29.4 +0.3**
baz=199
O20K Slope Mountain 86.80 12 P **P** **10 19 28.8 -0.4**
baz=202
BRSE Bradley Lake S 86.85 13 P **P** **10 19 29.4 +0.1**
baz=204,SNR=8.2
K13K Kusilvak Mount 86.91 6 P **P** **10 19 30.6 +1.0**
baz=191
121A Cookes Peak, D 86.98 52 P **P** **10 19 30.4 -0.5**
baz=238
W18A Petrified Fore 86.99 49 P **P** **10 19 30.9 0.0**
baz=237
L15K Ungalak Mounta 86.99 7 P **P** **10 19 30.9 +1.0**
baz=194
N19K Bonanza Creek 87.15 11 P **P** **10 19 30.5 -0.5**
baz=200,SNR=7.6
SVW2 Sparrevohn 87.24 10 P **P** **10 19 31.4 +0.2**
SVW2 IAmb IAmb 10 19 32.9
comp=Z,26nm,1.8s
M17K Holitna River 87.25 9 P **P** **10 19 31.5 +0.3**
baz=198,SNR=12
L16K Owhat River 87.27 8 P **P** **10 19 31.8 +0.5**
baz=196,SNR=5.7
SEW Seward 87.45 13 P **P** **10 19 32.4 +0.3**
baz=205
K15K Wolf Creek Mou 87.58 7 P **P** **10 19 33.4 +0.6**
baz=194
BBB Bella Bella 87.60 28 LR LR 10 51 27.3
comp=Z,23nm,20.5s,baz=235,slow=30
O22K Cooper Landing 87.73 13 P **P** **10 19 33.9 +0.3**
baz=204
P23K Montague Islan 87.80 14 P **P** **10 19 34.3 +0.4**
baz=206
L17K Donlin 87.83 9 P **P** **10 19 34.6 +0.6**
baz=197,SNR=6.8
N20K Mount Spurr 87.92 12 P **P** **10 19 34.1 -0.4**
baz=202
SPCR Spurr Chakacha 87.92 12 P **P** **10 19 34.9 +0.4**
baz=202
L18K Granite Mounta 88.14 9 P **P** **10 19 36.0 +0.5**
baz=198,SNR=8.4
MA2 Magadan 88.15 344 *ce*P **P** **10 19 35.7 +0.1**
MA2 pmax pmax
comp=Z,54nm,1.7s
M19K Big River Lodg 88.19 10 P **P** **10 19 36.0 +0.2**
M19K Big River Lodg 88.19 10 P **P** **10 19 35.3 -0.4**
baz=200
RC01 Rabbit Creek A 88.29 13 P **P** **10 19 36.0 -0.2**
baz=204
MNTX Cornudas Mount 88.29 54 P **P** **10 19 36.6 -0.3**
baz=240
MNTX Cornudas Mount 88.29 54 P **P** **10 19 39.2 +2.2**
baz=240
PWL Port Wells 88.37 13 P **P** **10 19 35.7 -0.9**
baz=206,SNR=9.9
L19K White Mountain 88.38 10 P **P** **10 19 36.0 -0.7**
baz=200,SNR=13
M20K Styx River 88.39 11 P **P** **10 19 36.1 -0.7**
baz=201
K17K Iditarod 88.39 8 P **P** **10 19 36.8 +0.1**

baz=197
TXAR Lajitas Array 88.40 57 P P 10 19 39.2 +1.6
comp=Z,1.4nm,0.9s,baz=209,slow=6.7,SNR=12
TXAR LR LR 10 52 44.5
comp=Z,22nm,20.1s,baz=226,slow=31
comp=Z,1.4nm,0.9s
KAIM Kayak Island 88.43 16 P P 10 19 36.6 -0.3
baz=209
SUA Susitna One 88.43 12 P P 10 19 36.5 -0.5
baz=204,SNR=8.4
V35K Ketchikan 88.57 24 P P 10 19 38.1 +0.5
baz=220
U33K Whale Pass 88.64 23 P P 10 19 38.6 +0.7
baz=219
J16K Anvik River 88.65 7 P P 10 19 38.3 +0.5
baz=195
GLI Glacier Island 88.65 14 P P 10 19 37.6 -0.3
baz=207,SNR=10
EYAK Cordova Ski Ar 88.66 15 P P 10 19 37.9 0.0
baz=208,SNR=6.1
SKT Skwentna 88.76 12 P P 10 19 38.2 -0.3
baz=203,SNR=5.3
HLID Hailey 88.80 40 P P 10 19 38.1 -1.2
baz=234
M22K Willow 88.82 12 P P 10 19 38.5 -0.1
baz=204,SNR=11
KNK Knik Glacier 88.84 13 P P 10 19 38.7 -0.1
baz=206,SNR=6.9
PMR Palmer 88.87 13 P P 10 19 38.8 -0.1
baz=205,SNR=6.7
TTA Tatalina 88.91 9 P P 10 19 39.0 -0.1
baz=199,SNR=11
J17K VABM Dome 88.94 8 P P 10 19 38.9 -0.3
baz=196
MVCO Mesa Verde 88.96 48 P P 10 19 40.3 +0.1
baz=238
S31K Pelican 89.07 20 P P 10 19 40.5 +0.6
baz=216
ANMO Albuquerque 89.18 51 *c iP* **P 10 19 43.0 +1.7**
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO Albuquerque 89.18 51 P P 10 19 40.9 -0.4
baz=239
ANMO Albuquerque 89.18 51 P P 10 19 42.9 +1.6
baz=239
ANMO Albuquerque 89.18 51 P P 10 19 42.6 +1.3
comp=Z,5.5nm,1.0s,baz=292,slow=7.9,SNR=19
ANMO LR LR 10 55 04.8
comp=Z,38nm,18.1s,baz=337,slow=32
comp=Z,5.5nm,1.0s
S32K Killisnoo 89.21 21 P P 10 19 41.6 +1.1
baz=218
I17K Unalakleet 89.23 7 P P 10 19 40.7 +0.2
baz=195
HNS HongShan 89.23 312 ⇓*P* **P 10 19 42.7 +1.5**
MESA MESA 89.27 17 P P 10 19 41.6 +0.5
baz=211
BMRM Bremner River 89.30 15 P P 10 19 41.6 +0.5
baz=209,SNR=7.6
J18K Innoko River 89.32 9 P P 10 19 41.4 +0.4
baz=198,SNR=8.2
M23K Glacier View 89.34 13 P P 10 19 40.7 -0.5
baz=206,SNR=6.5
CUT Chulitna 89.39 12 P P 10 19 40.8 -0.5
baz=204,SNR=5.8
SCM Sheep Creek Mo 89.46 13 P P 10 19 41.6 -0.1
baz=206,SNR=10
KLU Klutina 89.46 14 P P 10 19 42.2 +0.4
baz=208,SNR=6.2
CRQE Cirque 89.48 16 P P 10 19 41.7 -0.2
baz=210,SNR=7.0
HEH HeiHe 89.49 328 ⇓*P* **P 10 19 41.8 -0.3**
HEH pmax pmax
comp=Z,23nm,1.2s
HEH pmax pmax
comp=Z,160nm,4.5s
PPLA Purkeypile 89.49 11 P P 10 19 42.5 +0.5
baz=202
PNL Peninsula 89.53 18 P P 10 19 42.4 +0.3
baz=214
K20K Telida 89.61 10 P P 10 19 41.9 -0.5
K20K IAmb IAmb 10 19 43.8
comp=Z,15nm,1.1s
K20K Telida 89.61 10 P P 10 19 42.6 +0.2
baz=200,SNR=7.6
GYA Guiyang 89.72 299 P P 10 19 42.8 -1.1
GYA pmax pmax
comp=Z,20nm,0.9s
N25K Chitina, Valde 89.86 15 P P 10 19 43.7 0.0
baz=209,SNR=11
M24K Tolsona, Glenn 89.95 14 P P 10 19 44.3 +0.2
baz=208,SNR=5.9
P29M Windy Craggy 89.97 19 P P 10 19 44.2 0.0
baz=215
J19K Poorman 89.98 9 P P 10 19 44.8 +0.7
baz=199
CAST Castle Rocks 90.00 11 P P 10 19 43.1 -1.1
CAST IAmb IAmb 10 19 44.3
comp=Z,18nm,1.1s
CAST Castle Rocks 90.00 11 P P 10 19 43.1 -1.1
baz=202,SNR=13
MCARA McCarthy VSAT 90.04 16 P P 10 19 44.6 +0.2
baz=210,SNR=7.9
WAT6 Susitna Watana 90.05 13 P P 10 19 44.5 -0.2
baz=206,SNR=12
CTG Chitna Glacier 90.10 16 P P 10 19 43.9 -0.9
baz=212,SNR=5.0
WAT1 Susitna Watana 90.11 13 P P 10 19 44.7 0.0
baz=205
NEW Newport 90.15 35 P P 10 19 44.7 -0.6
baz=232
NEW Newport 90.15 35 LR LR 10 53 10.4
comp=Z,30nm,18.9s,baz=230,slow=31
PLBC Pleasant Camp 90.24 19 P P 10 19 45.6 +0.2
baz=216
O28M Mount Upton 90.24 17 P P 10 19 45.8 +0.1
baz=213
H17K Granite Mounta 90.33 7 P P 10 19 46.3 +0.6
baz=195
TRF Thorofare Moun 90.34 12 P P 10 19 45.9 -0.1
TRF IAmb IAmb 10 19 46.8
comp=Z,16nm,1.1s
TRF Thorofare Moun 90.34 12 P P 10 19 46.0 0.0
baz=204,SNR=9.7
S22A 4UR Ranch, Cre 90.37 48 P P 10 19 46.3 -0.6
baz=239
J20K Nowinta River 90.37 10 P P 10 19 46.6 +0.7
baz=200
CHUM Lake Minchumin 90.39 11 P P 10 19 46.5 +0.5
baz=202
HARP HAARP 90.43 14 P P 10 19 46.9 +0.7
baz=208
G16K Koyuk River 90.53 6 P P 10 19 47.4 +0.9
baz=193
SKAG Skagway 90.56 20 P P 10 19 47.1 +0.3
baz=217
DHY Denali Highway 90.56 13 P P 10 19 47.4 +0.4
baz=206
P30M Million Dollar 90.60 19 P P 10 19 48.0 +0.9
baz=216
O20A White River Ci 90.69 46 P P 10 19 48.1 -0.1
baz=238
S34M Telegraph Cree 90.72 22 P P 10 19 48.3 +0.6
baz=220
H18K Honhosa River 90.72 8 P P 10 19 47.8 +0.3
baz=197
SEY Seymchan 90.74 346⇑*eP* **P 10 19 48.1 +0.5**
SEY pmax pmax
comp=Z,35nm,1.0s
YUK8 Steele Glacier 90.78 17 P P 10 19 48.5 +0.3
baz=213,SNR=6.6
G17K Kiwalik Mounta 90.80 7 P P 10 19 48.6 +0.7
baz=195
MCK McKinley 90.85 12 P P 10 19 48.4 +0.3
baz=205,SNR=5.5
PAX Paxson 90.87 14 P P 10 19 48.7 +0.3
baz=208,SNR=6.5
YUK6 Outpost Mounta 90.88 18 P P 10 19 49.6 +1.0
baz=214
I20K Naaghedeneel 90.91 9 P P 10 19 49.2 +0.9
baz=200
M26K Nabesna, AK 90.93 15 P P 10 19 49.6 +1.0
baz=210,SNR=10.0
MSO Missoula 91.00 38 P P 10 19 49.3 -0.1
baz=234
YUK3 Moose Creek 91.02 16 P P 10 19 49.9 +0.6
baz=213,SNR=9.7
HYT Haines Junctio 91.02 18 P P 10 19 49.9 +0.7
baz=215
YUK4 Talbot Arm 91.13 17 P P 10 19 50.7 +0.9
baz=214
M27K Edge Creek, AK 91.16 15 P P 10 19 50.5 +0.7
baz=211,SNR=12
P32M Atlin 91.16 20 P P 10 19 50.9 +1.2
baz=218
BW06 Boulder Array 91.27 43 P P 10 19 51.1 +0.2
baz=237
PDAR Pinedale Array 91.27 43 P P 10 19 51.5 +0.6
comp=Z,2.9nm,0.9s,baz=204,slow=3.3,SNR=17
comp=Z,2.9nm,0.9s
SDCO Great Sand Dun 91.27 49 P P 10 19 51.3 +0.2
baz=240
SDCO Great Sand Dun 91.27 49 P P 10 19 52.2 +1.1
baz=240
MSTX Muleshoe 91.32 53 P P 10 19 51.3 +0.1
baz=241
MSTX Muleshoe 91.32 53 P P 10 19 52.2 +1.0
baz=241
H19K Roundabout Mou 91.32 8 P P 10 19 51.2 +1.0
baz=198
O30N Mendenhall 91.38 19 P P 10 19 51.4 +0.7
baz=216
L26K Log Cabin Wild 91.39 15 P P 10 19 51.2 +0.5
baz=210
G18K Tagagawik 91.40 7 P P 10 19 51.2 +0.5
baz=196
DLBC Dease Lake 91.50 23 P P 10 19 51.6 +0.3
baz=222
H20K Anotleneega Mo 91.50 9 P P 10 19 51.6 +0.5
baz=200
K24K Donnelly Dome 91.54 13 P P 10 19 51.9 +0.5
baz=208
H17A Grant Village 91.55 41 P P 10 19 52.0 -0.2
baz=236
XAN Xi'an 91.59 307 ⇑*P* **P 10 19 53.4 +1.1**
XAN pmax pmax
comp=Z,9.0nm,0.8s
BOZ Bozeman (W) 91.60 40 P P 10 19 52.4 +0.2
baz=236,SNR=5.4
RIDG Independent Ri 91.68 14 P P 10 19 52.3 +0.2
baz=209
CFA Coronel Fontan 91.69 126 LR LR 10 51 23.8
comp=Z,32nm,19.8s,baz=286,slow=29
T25A Trinidad 91.72 50 P P 10 19 52.6 -0.5
baz=240
MLY Manley 91.72 11 P P 10 19 52.0 -0.2
baz=204
L27K Beaver Creek, 91.78 15 P P 10 19 52.8 +0.3
baz=211
G19K Purcell Mounta 91.83 8 P P 10 19 52.6 0.0
baz=198
HDA Harding Lake 91.85 12 P P 10 19 52.7 -0.1
baz=207
ZEA Zeya 91.87 330 *eP* **P 10 19 53.5 +0.5**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
JCT Junction City 91.89 57 P P 10 19 52.7 -1.2
baz=242
R33M Jennings River 91.90 22 P P 10 19 52.6 -0.6
baz=221
P33M Teslin, Yukon 91.93 20 P P 10 19 53.6 +0.3
baz=219
H21K Melozitna Rive 91.97 10 P P 10 19 53.3 +0.1
baz=202
F18K Selawik 91.97 7 P P 10 19 54.3 +1.1
baz=196
I23K Minto, Yukon-K 92.06 11 P P 10 19 54.0 +0.3
baz=205
SCRK Sand Creek 92.08 14 P P 10 19 54.5 +0.5
baz=210
COLA College 92.09 12 P P 10 19 54.5 +0.7
baz=206
M29M Somme Creek 92.09 17 P P 10 19 54.1 +0.1
baz=214
ILAR Eielson Array 92.18 12 P P 10 19 54.2 -0.1
comp=Z,2.1nm,0.9s,baz=218,slow=4.5,SNR=17
ILAR PP PP 10 23 21.4 -15
comp=Z,1.7nm,1.2s,baz=230,slow=8.6,SNR=4.5
ILAR LR LR 11 00 51.5
comp=Z,18nm,18.3s,baz=256,slow=35
comp=Z,2.1nm,0.9s
E17K Hotham Inlet 92.22 6 P P 10 19 55.0 +0.6
baz=194
J25K Salcha River, 92.34 13 P P 10 19 56.2 +1.1
baz=208
POKR Poker Plat Res 92.39 12 P P 10 19 56.6 +1.4
baz=206
F19K Shaleruckik Mo 92.41 7 P P 10 19 56.5 +1.3
baz=197
H22K Ishtalitna Cre 92.41 10 P P 10 19 56.7 +1.4
baz=203
K27K Chicken 92.55 15 P P 10 19 57.3 +1.3
baz=211
N23A Red Feather La 92.58 46 P P 10 19 57.5 +0.4
baz=239
CMAR Chiang Mai Arr 92.58 289 *ceP* **P 10 19 58.2 +1.0**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 92.58 289 P P 10 19 57.9 +0.6
comp=Z,2.6nm,0.8s,baz=134,slow=3.3,SNR=18
comp=Z,2.6nm,0.8s
J26L Joseph Creek 92.63 14 P P 10 19 57.0 +0.6
baz=210,SNR=9.5
M30M Minto, Yukon 92.65 17 P P 10 19 57.3 +0.7
baz=216
H23K Yukon River 92.65 11 P P 10 19 57.0 +0.6
baz=205
G21K Allakaket 92.66 9 P P 10 19 57.0 +0.5
baz=201
E18K Tukpahlearik C 92.67 6 P P 10 19 57.3 +0.9
baz=195
D17K Noatak River 92.72 5 P P 10 19 57.6 +0.9
baz=192
RLMT Red Lodge 92.72 41 P P 10 19 58.0 +0.4
baz=237
L29M L29M 92.73 17 P P 10 19 57.7 +0.8
baz=215
F20K Avaraart Lake 92.86 8 P P 10 19 58.5 +1.1
baz=199
H24K Noodor Dome 92.95 11 P P 10 19 59.0 +1.1
baz=206
ABTX Abilene, Hawle 93.00 55 P P 10 19 59.4 +0.5
baz=243
ABTX Abilene, Hawle 93.00 55 P P 10 20 00.2 +1.4
baz=243
E19K Redstone River 93.07 7 P P 10 19 58.8 +0.5
baz=198
HHC Hu-ho-hao-te 93.11 314 *eP* **P 10 19 59.5 +0.2**
HHC pmax pmax
comp=Z,34nm,0.6s
HHC pmax pmax
comp=Z,180nm,4.4s
PRP Porcupine Dome 93.11 13 P P 10 19 59.7 +1.0
baz=208
DAWY Dawson 93.21 16 P P 10 19 59.6 +0.5
baz=214
F21K Alatna River 93.33 9 P P 10 20 00.5 +1.0
baz=201
G22K Bettles 93.34 10 P P 10 20 00.6 +1.0
baz=203
FARO Faro, Yukon 93.34 19 P P 10 20 00.4 +0.6
baz=219
I26K Coal Creek Min 93.41 13 P P 10 20 00.7 +0.8
baz=210
PZH PanZhiHua 93.68 297 P P 10 20 01.6 -0.7
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,80nm,5.3s
COLD Coldfoot 93.83 10 P P 10 20 02.8 +1.0
baz=204
NNA Nana 93.87 105 LR LR 10 52 54.3
comp=Z,30nm,21.4s,baz=234,slow=29
E20K Nigu River 93.96 8 P P 10 20 03.4 +0.9
baz=199
D19K Kuna River 93.97 7 P P 10 20 03.1 +0.6
baz=197
I27K Kandik River 94.00 14 P P 10 20 03.6 +0.8
baz=212
BTO Baotou 94.00 313 *eP* **P 10 20 04.8 +1.4**
BTO pP **pP** **10 20 30.8 +1.2**
BTO sP **sP** **10 20 40.7 +0.6**
BTO S **S** **10 31 10.7 +5.4**
BTO sS **sS** **10 31 49.3 -1.1**
BTO SS **SS** **10 37 34.0 +5.9**
BTO pmax pmax
comp=Z,18nm,0.7s
BTO pmax pmax
comp=Z,150nm,4.1s
CD2 Chengdu 94.01 302 P P 10 20 03.4 -0.2
I28M Miner Creek 94.24 15 P P 10 20 04.3 +0.4
baz=213
MMPY Sheldon Lake, 94.26 19 P P 10 20 04.5 +0.6
baz=221
J30M Hart River 94.39 16 P P 10 20 04.9 +0.2
baz=216
F24K Squaw Lake 94.47 11 P P 10 20 05.0 +0.1
baz=206
H27K Steamboat Moun 94.56 14 P P 10 20 05.6 +0.4
baz=212
ATAH Atahualpa 94.59 100 LR LR 10 52 50.1
comp=Z,53nm,21.3s,baz=224,slow=29
G26K Porcupine Rive 94.71 12 P P 10 20 06.2 +0.3
baz=210
F25K Christian Rive 94.93 11 P P 10 20 07.4 +0.5
baz=208
C21K Knifeblade Rid 94.98 8 P P 10 20 07.1 0.0
baz=200
G27K Doyon Strip 95.02 13 P P 10 20 07.5 +0.1
baz=212
H29M Whitestone 95.25 15 P P 10 20 08.8 +0.5
baz=215
F26K Sheenjek River 95.30 12 P P 10 20 09.0 +0.4
baz=210
E25K Arctic Village 95.41 11 P P 10 20 09.4 +0.3
baz=208
RSSD Black Hills 95.41 44 P P 10 20 09.2 -0.7
baz=241
RSSD Black Hills 95.41 44 P P 10 20 10.2 +0.3
baz=241
LVC Limon Verde 95.66 118 LR LR 10 54 09.0
comp=Z,57nm,19.9s,baz=218,slow=30
D24K Happy Valley 95.80 10 P P 10 20 11.5 +0.8
baz=205
C23K Itkillik River 96.16 9 P P 10 20 13.3 +1.0
baz=204
LZH Lanzhou 96.22 307 *eP* **P 10 20 12.3 -1.4**
LZH pmax pmax
comp=Z,28nm,1.0s
G30M tAoh Zraii Nji 96.37 15 P P 10 20 14.0 +0.5
baz=216
YAK Yakutsk 96.45 338 *eP* **P 10 20 13.2 -0.6**
YAK pmax pmax
comp=Z,23nm,0.8s
G31M Satah River 96.79 16 P P 10 20 15.5 +0.2
baz=218
D28M Stokes Point 97.74 13 P Pdif 10 20 19.8 +0.3
baz=214
LPAZ La Paz 99.39 113 LR LR 10 54 50.5
comp=Z,29nm,19.5s,baz=242,slow=29
C36M Paulatuk 101.16 17 P Pdif 10 20 34.6 -0.2
baz=228
DWPF Disney Wildern 105.65 66 P PKiKP 10 25 07.8 -0.7
baz=250
O48B Farmland 106.70 53 P PKiKP 10 25 08.7 -1.4
baz=252
TZTN Tazewell 106.73 57 P PKiKP 10 25 08.6 -1.7
baz=252
KMSC Kings Mountain 108.00 59 P PKiKP 10 25 12.1 -0.5
baz=252
AAM Ann Arbor 108.40 51 P PKiKP 10 25 12.8 -0.4
baz=253
WMQ Urumqi 110.53 310 *e*PKP **PKiKP 10 25 16.7 -0.5**
MKAR Makanchi Array 114.89 312 *c iP*KIKP **PKiKP 10 25 27.6 +2.2**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 114.89 312 PKP PKPdf 10 25 25.1 -0.4
comp=Z,0.5nm,0.7s,baz=114,slow=1.5,SNR=4.9
MKAR PKKPbc **PKKPbc** **10 36 03.5 +0.2**
comp=Z,0.3nm,0.5s,baz=252,slow=7.2,SNR=3.5
L61B Northampton 116.34 53 P PKiKP 10 25 27.9 -0.4
baz=260
LBNH Lisbon 117.18 51 P PKPdf 10 25 29.3 -0.5
baz=261
KURBB Kurchatov Arra 117.89 316 PKP PKPdf 10 25 30.6 -0.4
comp=Z,0.4nm,0.3s,baz=104,slow=2.0,SNR=5.1
BVAR Borovoye Array 123.02 318 PKP PKiKP 10 25 40.8 -0.2
comp=Z,1.4nm,0.6s,baz=157,slow=1.1,SNR=5.7
BRVK Borovoye 123.08 318 *c iP*KIKP **PKiKP 10 25 42.2 +1.1**
BRVK pmax pmax
comp=Z,2.0nm,1.3s
ARU Arti 129.30 324 *i* PKIKP **PKPdf 10 25 52.5 -0.2**
ARU 10 32 55.0
ARCES ARCESS Array B 133.28 349 PKP PKPdf 10 25 59.5 -0.4
comp=Z,0.8nm,0.5s,baz=73,slow=0.9,SNR=7.8
MOS Moscow 140.13 330 *i* PKIKP **PKPdf 10 26 10.3 -2.6**
FINES FINESS Array B 140.14 343 PKhKP PKPpre 10 26 03.4
comp=Z,1.5nm,0.7s,baz=260,slow=7.6,SNR=9.3
FINES PKP **PKiKP 10 26 14.4 -0.8**
comp=Z,1.3nm,0.6s,baz=357,slow=2.8,SNR=2.3
OBN Obninsk 140.99 330 ⇓*i*PKIKP **PKiKP 10 26 15.8 -1.4**
OBN pmax pmax
comp=Z,8.0nm,0.5s
KIV Kislovodsk 142.65 311 *i* PKIKP **PKiKP 10 26 20.7 -0.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,30nm,24.0s
NB2 NORSAR Subarra 143.30 354 PKP PKPbc 10 26 15.9 0.0
comp=Z,0.8nm,0.6s,baz=10,slow=3.2
NOA NORSAR Array B 143.30 354 PKhKP PKPpre 10 26 15.3
comp=Z,0.4nm,0.5s,baz=31,slow=1.7,SNR=6.1
HFS Hagfors 143.88 351 PKhKP PKPpre 10 26 16.2
comp=Z,3.5nm,0.5s,baz=64,slow=3.4,SNR=16
BCA Borcka 144.12 307 ⇑*P* PKPbc 10 26 18.6 -0.2
MNK Minsk 145.09 335 *i* PKP **PKPdf 10 26 21.4 -0.3**
comp=E,6.0nm,1.0s
MNK *i* PKP **PKPdf 10 26 21.4 -0.3**
comp=N,23nm,1.0s
MNK *i* PKP **PKPdf 10 26 21.4 -0.3**
comp=Z,51nm,1.0s,baz=41
MNK *i* pPKP pPKPab 10 26 46.5 -1.7
MNK *i* sPKP 10 26 56.1
MNK *i* PP PP 10 29 17.9 -23
MNK *i* SKP 10 29 59.7
MNK *i* PKS 10 30 56.7
MNK *i* SKS 10 32 11.6
MNK *i* SKKS 10 36 41.1
MNK *i* SPP SPP 10 45 08.8
MNK *i* PPS PPS 10 45 18.8
MNK *i* SS **SS** **10 48 23.6 +1.1**
MNK *i* SSS SSS 10 52 26.9
MNK *i* LR LR 11 28 17.3
MNK *i* LRM MLR 11 32 32.7
comp=E,82nm,20.8s
MNK *i* LRM MLR 11 32 39.2
comp=N,193nm,20.8s
MNK *i* LRM MLR 11 33 11.6
comp=Z,49nm,20.6s
MNK Minsk 145.09 335 *i* PKIKP **PKPdf 10 26 21.4 -0.3**
MNK *i* 10 26 56.1
MNK *i* SS SS 10 48 23.5 +1.0
MNK pmax pmax
comp=Z,51nm,1.0s
MNK pmax pmax
comp=N,23nm,1.0s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK MLR MLR
comp=E,82nm,21.0s
MNK MLR MLR
comp=N,193nm,21.0s
MNK MLR MLR
comp=Z,49nm,21.0s
NACGM Naroch 145.20 336 ⇑*i*PKP **PKPdf 10 26 22.0 +0.1**
comp=Z,53nm,0.9s,baz=40
ANN Anapa 145.86 315 *e*PKHKP PKPpre 10 26 18.1
ANN pmax pmax
comp=Z,58nm,0.9s
AKASG Malin Array Be 147.24 329 PKPbc PKPbc 10 26 27.0 -0.9
comp=Z,5.3nm,0.4s,baz=44,slow=4.1,SNR=34
EKA Eskdalemuir Ar 149.08 7 PKPbc PKPbc 10 26 32.0 -0.6
comp=Z,1.4nm,0.5s,baz=354,slow=4.3,SNR=1.8
EKA PKPab **PKPab** **10 26 37.1 -0.1**
comp=Z,0.9nm,0.4s,baz=340,slow=3.4,SNR=9.7
SORM Soroca 149.37 326 ⇑*P* **PKPbc 10 26 33.1 -0.5**
SORM Soroca 149.37 326 ⇑PKP2 **PKPbc 10 26 33.1 -0.5**
NDNU Novodnistrovsk 149.55 328 PKP2 **PKPbc 10 26 34.1 +0.1**
LVV L'vov 150.19 332 *e*PKIKP **PKPbc 10 26 32.7 -2.8**
BR131 Keskin Array S 150.43 308 *d iP*KIKP **PKiKP 10 26 36.9 -0.4**
BRTR Keskin Array B 150.43 308 PKPbc **PKPbc 10 26 36.4 -0.3**
comp=Z,3.1nm,0.8s,baz=134,slow=3.6,SNR=11
MMAI Mount Meron Ar 150.73 294 PKPbc **PKPbc 10 26 37.5 0.0**

comp=Z,5.5nm,0.5s,baz=74,slow=3,0,SNR=10
BURAR **Bucovina Array** 151.27 328 ⇑P **PKiKP** 10 26 39.7 +0.9
BURAR **Bucovina Array** 151.27 328 ⇑PKiKP **PKiKP** 10 26 39.7 +0.9
CFR **Carcaliu** 151.34 322 ⇓P **PKiKP** 10 26 42.2 +3.4
CFR **Carcaliu** 151.34 322 ⇓PKiKP **PKiKP** 10 26 42.2 +3.4
TPGR **Topolog** 151.37 321 ⇑P **PKPab** 10 26 43.8 -3.2
ODBI **Odobesti** 151.58 324 ⇓P **PKPab** 10 26 48.7 +0.9
STHS **Stebnicka Huta** 151.63 335 *e*PKiKP **PKiKP** 10 26 39.8 +0.5
STHS *e* 10 26 48.5
STHS **Stebnicka Huta** 151.63 335 *e*PKP **PKiKP** 10 26 39.8 +0.5
STHS *e* 10 26 48.5
VRI **Vrincioaia** 151.69 324 ⇑P **PKPab** 10 26 45.4 -2.9
VRI **Vrincioaia** 151.69 324 ⇑PKiKP **PKPab** 10 26 45.4 -2.9
PLOR **Plostina** 151.74 324 ⇑P **PKPbc** 10 26 38.0 -1.4
PLOR **Plostina** 151.74 324 ⇑PKiKP **PKPbc** 10 26 38.0 -1.4
TLBR **Topalu** 151.77 321 ⇑P **PKiKP** 10 26 43.0 +3.3
CRVS **Cervenica-Dubn** 151.96 334 *e*PKiKP **PKiKP** 10 26 42.2 +2.2
CRVS *e* 10 26 49.7
CRVS **Cervenica-Dubn** 151.96 334 *e*PKP **PKiKP** 10 26 42.1 +2.1
CRVS *e* 10 26 49.7
BMR **Baia Mare** 152.03 330 ⇓P **PKPab** 10 26 46.9 -2.7
OZUR 152.03 325 ⇑P **PKiKP** 10 26 42.9 +2.6
ARCR **ARCALIA** 152.06 328 ⇓P **PKPab** 10 26 50.9 +1.1
DOPR **Dopca** 152.32 326 ⇓P **PKiKP** 10 26 41.7 +0.8
OSTC **Ostas** 152.33 342 *e*PKiKP **PKiKP** 10 26 42.7 +1.9
OSTC *e* 10 26 52.0
OSTC **Ostas** 152.33 342 *e*PKPAB **PKiKP** 10 26 42.7 +1.9
OSTC *ex* x 10 26 52.0
MLR **Muntele Rosu** 152.35 324 ⇑P **PKiKP** 10 26 41.8 +0.7
MLR **Muntele Rosu** 152.35 324 ⇑PKiKP **PKiKP** 10 26 41.8 +0.7
CHVC **Chvalec** 152.35 342 *e*PKPAB **PKPab** 10 26 48.4 -2.5
CHVC *ex* x 10 26 53.7
OKC **Ostrava-Krasne** 152.38 339 *e*PKPAB **PKPab** 10 26 51.9 +0.9
CLL **Collm** 152.43 347 *i* PKIKP **PKiKP** 10 26 40.4 -0.5
CLL *i* 10 26 50.5
CLL *e* 10 27 08.0
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL pmax pmax
comp=Z,20nm,1.1s
CLL **Collm** 152.43 347 *i* PKPbc **PKiKP** 10 26 40.4 -0.5
comp=Z,7.0nm,1.1s
CLL *i* x x 10 26 43.7
comp=Z,17nm,0.8s
CLL *i* PKPab **PKPab** 10 26 50.5 -0.6
comp=Z,20nm,1.1s
CLL *e*PKPbc **pPKPbc** 10 27 08.0 +0.2
CLL *e*(pPKPab) 10 27 13.0
CLL *ex* x 10 27 24.0
CLL *e*PP **PP** 10 30 19.0 -4.3
UPC **Upice** 152.44 342 *e*PKPAB **PKPab** 10 26 51.9 +0.7
DPC **Dobruska-Polom** 152.49 342 *e*PKPAB **PKPab** 10 26 48.8 -2.7
BRG **Berggiesshubel** 152.63 345 *e*PKP **PKiKP** 10 26 42.0 +0.6
BRG Amp 10 26 45.9
comp=Z,6.1nm,0.8s
BRG **Berggiesshubel** 152.63 345 P **PKPab** 10 26 53.7 +1.7
BRG Amp 10 26 54.3
comp=Z,10nm,0.7s
BRG **Berggiesshubel** 152.63 345 *e*PKIKP **PKiKP** 10 26 41.9 +0.6
BRG 10 26 53.6
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG pmax pmax
comp=Z,10.0nm,0.7s
MORC **Moravsky Berou** 152.63 340 ⇑P **PKPab** 10 26 52.4 +0.3
CJR **Cluj-Napoca** 152.69 329 ⇓P **PKiKP** 10 26 42.1 +0.4
CJR **Cluj-Napoca** 152.69 329 ⇓PKIKP **PKiKP** 10 26 42.1 +0.4
PVCC **Panska Ves** 152.80 344 *e*PKPAB **PKPab** 10 26 49.7 -3.0
PVCC *ex* x 10 26 53.1
VOIR 152.86 325 ⇓P **PKPab** 10 26 52.4 -0.9
MAUC **Maruska** 152.90 339 *e*PKPAB **PKPab** 10 26 53.3 +0.1
RICC **Richard** 152.90 345 *e*PKPAB **PKPab** 10 26 53.4 +0.3
MARR **Marisel-Cluj** 152.94 329 ⇓P **PKPab** 10 26 49.3 -4.3
HSKC **Hora Svate Kat** 152.99 346 *e*PKPAB **PKiKP** 10 26 44.7 +2.6
HSKC *ex* x 10 26 52.9
ARR **Arges** 153.12 325 ⇓P **PKiKP** 10 26 43.8 +1.2
VYHS **Vyhne** 153.29 337 *e*PKP **PKiKP** 10 26 45.7 +2.9
VYHS *e* 10 26 55.4
PRU **Pruhonice** 153.30 344 *e*PKPAB **PKPab** 10 26 52.2 -2.7
VRAC **Vranov** 153.34 340 ⇑P **PKPab** 10 26 54.4 -0.6
LOT **Lotru** 153.51 326 ⇓P **PKiKP** 10 26 48.5 +5.0
NKC **Novy Kostel** 153.56 347 *e*PKPAB **PKPab** 10 26 54.3 -1.7
ZVC **Zvikov** 153.90 344 *e*PKPAB **PKPab** 10 26 56.0 -1.4
ZVC *ex* x 10 26 59.2
SIRR **Siria** 153.92 330 ⇓P **PKPbc** 10 26 43.0 -1.1
MODS **Modra-Piesok** 153.94 338 *e*PKP2 **PKPab** 10 26 58.7 +1.1
GZR **Gura Zlata** 154.04 327 ⇓P **PKiKP** 10 26 49.4 +4.9
SURR **Surduc** 154.09 329 ⇓P **PKiKP** 10 26 47.7 +3.2
BCLA **Clavier** 154.31 357 *d*PKP **PKPab** 10 26 59.1 +0.1
GRF **Grafenberg Arr** 154.32 348 *e*PKP **PKPab** 10 26 59.5 +0.2
baz=17,slow=3.9
KHC **Kasperske Hory** 154.34 344 *e*PKPAB **PKPab** 10 26 53.8 -5.5
KHC *ex* x 10 26 59.6
BZS **Buzias** 154.43 329 ⇑P **PKPab** 10 26 54.9 -4.9
CKRC **Cesky Krumlov** 154.43 343 *e*PKPAB **PKPab** 10 26 56.1 -3.6
GERES **GERESS Array B** 154.57 344 PKPbc **PKiKP** 10 26 45.3 -0.3
comp=Z,0.3nm,0.3s,baz=52,slow=1.6,SNR=2.9
DOU **Dourbes** 154.66 358 *d*PKP **PKPab** 10 26 58.3 -2.3
CONA **Conrad Observa** 154.78 340 *e*PKP **PKPab** 10 26 57.4 -3.9
comp=Z,5.3nm,1.1s
RONA **Rosalia, Austr** 154.85 339 *i* PKP **PKPab** 10 26 59.0 -2.6
comp=Z,28nm,1.1s,SNR=6.8
MDVR **Moldovita** 155.00 328 ⇑P **PKPab** 10 26 56.7 -5.7
MORH **Mrgy, Hungar** 155.25 334 ⇑P PKPab 10 26 54.6 -8.7
MOA **Molin** 155.33 342 *e*pPKP **PKPab** 10 26 59.8 -3.8
comp=Z,1.0nm,0.6s
ARSA **Arzberg** 155.49 340 *e*pPKP **PKPab** 10 27 00.9 -3.4
comp=Z,7.8nm,1.0s
BIOA **Bad Ischl, Aus** 155.65 343 *e*pPKP **PKPab** 10 27 02.8 -2.2
comp=Z,25nm,1.2s,SNR=11
LESA **Schwarzleotal** 156.14 344 *i* pPKP **PKPab** 10 27 03.9 -3.2
comp=Z,21nm,1.2s
SOKA **Soboth** 156.16 340 *i* PKP **PKPab** 10 27 07.4 +0.1
comp=Z,15nm,1.1s,SNR=8.5
KBA **Koelnbreinsper** 156.29 343 *i* PKP **PKPab** 10 27 08.4 +0.5
comp=Z,6.5nm,1.0s
OBKA **Obir** 156.46 340 *i* PKP **PKPab** 10 27 08.1 -0.4
comp=Z,5.8nm,0.9s
WATA **Walderalm** 156.49 346 *e*PKP **PKPab** 10 27 07.7 -1.1
comp=Z,14nm,1.3s
RETA **Reutte** 156.52 347 *e*PKP **PKPab** 10 27 08.6 -0.1
comp=Z,8.6nm,1.2s
WTTA **Wattenberg** 156.54 346 *e*PKP **PKPab** 10 27 07.5 -1.5
comp=Z,15nm,1.2s
GOLS **Golise** 156.55 338 *i* PKPab **PKPab** 10 27 08.8 0.0
MYKA **Terra Mystica** 156.62 342 *i* PKP **PKPab** 10 27 08.3 -0.9
comp=Z,17nm,1.4s,SNR=5.5
ABTA **Abfaltersbach** 156.81 344 *i* PKP **PKPab** 10 27 09.0 -1.0
comp=Z,14nm,1.2s
VISS **Visnje** 156.99 339 *i* PKPab **PKPab** 10 27 10.2 -0.5
JAVS **Javornik** 157.16 340 *i* PKPab **PKPab** 10 27 10.7 -0.9
PDG **Podgorica** 157.94 327 ⇓P **PKPab** 10 27 12.9 -2.1
ESDC **Sonseca Array** 163.92 20 PKPab **PKPab** 10 27 41.1 -0.1
comp=Z,1.1nm,0.8s,baz=335,slow=5.8,SNR=4.7
ESDC PP **PP** 10 31 29.2 +2.9
comp=Z,1.0nm,1.1s,baz=337,slow=10,SNR=5.2
KEST **Kesra** 167.84 336 PKPab **PKPab** 10 27 58.2 -0.4
comp=Z,9.6nm,0.9s,baz=339,slow=3.1,SNR=9.8
TORD **Torodi Ar. Bea** 168.38 173 PKPab **PKPab** 10 28 01.8 +0.6
comp=Z,5.1nm,0.9s,baz=188,slow=1.9,SNR=16

*IDC **01** 10:20:45.1±1.8, 6°.88S×154°.90E, h0km, mb3.9/5, mbtmp4.0/7, ML2.8/2, MS3.5/9, Error ellipse: s-maj=37.8km s-min=24.9km az=93.0*
ISC 01 10:20:50.7±1.4, 6°.83S±0°.09×154°.9E±0°.1, h41km, n17, σ1°24/11, mb3.8/5, MS3.6/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.77**	**312**	Pn	**Pn**	**10 21 44.3**	**-2.1**
	7.5nm,0.3s,baz=46,slow=24,SNR=12						
KRVT				Sn	**Sn**	**10 22 30.4**	**+0.8**
	26nm,0.3s,baz=227,slow=22,SNR=4.6						
	22nm,0.4s						
PMG	**Port Moresby**	**8.04**	**251**	Pn	**Pn**	**10 22 44.5**	**-0.5**
	1.6nm,0.3s,baz=50,slow=9.8,SNR=6.7						
PMG				Sn	**Sn**	**10 24 15.0**	**+0.3**
	2.3nm,0.3s,baz=53,slow=23,SNR=3.6						
	24nm,0.9s						
CTA	**Charters Tower**	**15.60**	**212**	Pn	**P**	**10 24 30.7**	**-0.8**
	0.2nm,0.3s,baz=32,slow=12,SNR=13						
WRA	**Warramunga Arr**	**23.80**	**235**	P	**P**	**10 25 59.6**	**-0.4**
	3.3nm,0.9s,baz=60,slow=9.6,SNR=14						
	3.3nm,0.9s						
ASAR	**Alice Springs**	**26.18**	**228**	P	**P**	**10 26 21.7**	**0.0**
	1.1nm,0.8s,baz=58,slow=9.1,SNR=12						
	1.1nm,0.8s						
STKA	**Stephens Creek**	**27.82**	**205**	P	**P**	**10 26 35.4**	**-0.9**
	1.5nm,0.7s,baz=354,slow=10,SNR=2.1						
STKA				LR	LR	10 38 13.0	
	comp=Z,52nm,18.4s,baz=29,slow=38						
	1.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**60.59**	**296**	P	**P**	**10 31 00.0**	**+2.2**
	1.4nm,0.7s,baz=107,slow=5.0,SNR=8.8						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**83.19**	**319**	P	**P**	**10 33 13.0**	**+0.1**
	0.9nm,0.6s,baz=97,slow=6.1,SNR=9.1						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**83.97**	**326**	LR	LR	11 10 04.6	
	comp=Z,23nm,21.8s,baz=81,slow=35						
AAK	**Ala-Archa**	**87.54**	**313**	LR	LR	11 14 02.7	
	comp=Z,19nm,20.7s,baz=81,slow=36						
NRIK	**Noril'sk**	**88.54**	**341**	LR	LR	11 11 29.2	
	comp=Z,28nm,21.9s,baz=169,slow=34						
BVAR	**Borovoye Array**	**92.08**	**323**	LR	LR	11 16 19.3	
	comp=Z,25nm,20.3s,baz=71,slow=36						
NEW	**Newport**	**93.73**	**42**	LR	LR	11 13 24.3	
	comp=Z,20nm,18.2s,baz=240,slow=34						
ARU	**Arti**	**99.14**	**326**	LR	LR	11 22 05.1	
	comp=Z,35nm,19.9s,baz=67,slow=37						
GEYT	**Alibeck**	**99.47**	**307**	LR	LR	11 22 42.8	
	comp=Z,24nm,19.7s,baz=116,slow=37						
AKTO	**Aktyubinsk**	**99.58**	**320**	LR	LR	11 19 07.9	
	comp=Z,17nm,21.6s,baz=120,slow=35						
TORD	**Torodi Ar. Bea**	**152.85**	**285**	PKPbc	**PKiKP**	**10 40 45.2**	**+0.5**
	3.3nm,0.7s,baz=49,slow=3.2,SNR=9.2						

*SJA **01** 10:24:35.6±0.8, 28°.38S×70°.77W, h72km±3km, ML4.6, MW4.3*
*VAO **01** 10:24:35.0±1.3, 28°.17S×70°.72W, h10km, mb4.3*
*GUC **01** 10:24:36.1±0.5, 28°.40S×70°.75W, h72km±5km, ML4.3*
*NEIC **01** 10:24:37.6±2.0, 28°.37S±0°.04×70°.84W±0°.08, h61km±7km, mb4.2/5, ML4.3(GUC), Error ellipse: s-maj=10.4km s-min=6.5km az=92.0*
*IDC **01** 10:24:39.1±2.2, 28°.33S×70°.54W, h69km±18km, mb3.6/5, mbtmp3.9/10, MS3.0/4, Error ellipse: s-maj=27.9km s-min=11.9km az=84.0*
ISC 01 10:24:37.3±0.7, 28°.40S±0°.02×70°.75W±0°.04, h55km±6km, n125, σ2°15/135, mb4.0/6, 2C-5D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.35**	**304**		**Pn**	**10 24 48.6**	**+1.3**
AC04	**Llanos de Chal**	**0.35**	**304**	*i* P	**Pn**	**10 24 48.6**	**+1.3**
AC04				*i* S	**Sn**	**10 24 56.1**	**+1.5**
AC04				IAML		10 24 57.0	
	comp=E,95μm,0.2s						
AC04	**Llanos de Chal**	**0.35**	**304**	*e*P	**Pn**	**10 24 47.9**	**+0.5**
AC04				*e*S	**Sn**	**10 24 56.9**	**+2.4**
AC04				IAML		10 24 57.2	
	comp=Z,38μm,0.1s						
AC05	**El Transito**	**0.60**	**136**		**Pn**	**10 24 51.1**	**+0.9**
AC05	**El Transito**	**0.60**	**136**	⇓*i* P	**Pn**	**10 24 51.0**	**+0.8**
AC05				*i* S	**Sn**	**10 25 00.8**	**+1.4**
AC05				IAML		10 25 02.4	
	comp=E,11μm,0.2s						
AC05	**El Transito**	**0.60**	**136**	*e*P	**Pn**	**10 24 51.1**	**+0.9**
LCO	**Las Campanas**	**0.61**	**176**		**Pn**	**10 24 50.9**	**+0.5**
LCO	**Las Campanas**	**0.61**	**176**	*e*P	**Pn**	**10 24 50.0**	**-0.4**
LCO				*i* S	**Sn**	**10 25 00.8**	**+0.9**
LCO	**Las Campanas**	**0.61**	**176**	*e*P	**Pn**	**10 24 50.8**	**+0.4**
LCO				*e*S	**Sn**	**10 25 00.9**	**+0.9**
LCO				IAML		10 25 02.3	
	comp=Z,15μm,0.2s						
GO03	**Copiap**	**0.93**	**29**		**Pn**	**10 24 55.0**	**+0.8**
GO03	**Copiap**	**0.93**	**29**	⇓*i* P	**Pn**	**10 24 54.6**	**+0.4**
GO03				*i* S	**Sn**	**10 25 06.1**	**-0.6**
GO03	**Copiap**	**0.93**	**29**	*e*P	**Pn**	**10 24 54.1**	**-0.1**
GO03				*e*P		10 24 54.6	
AC06	**Mina Casimiro**	**1.10**	**18**	Pn	**Pn**	**10 24 57.3**	**+0.8**
AC06	**Mina Casimiro**	**1.10**	**18**	⇓*i* P	**Pn**	**10 24 57.2**	**+0.8**
AC06				*i* S	**Sn**	**10 25 11.2**	**+0.5**
CO05	**La Serena**	**1.57**	**196**		**Pn**	**10 25 03.2**	**+0.5**
CO05	**La Serena**	**1.57**	**196**	*e*P	**Pn**	**10 25 03.0**	**+0.2**
CO05				*i* S	**Sn**	**10 25 23.9**	**+1.8**
CO05				IAML		10 25 28.6	
	comp=E,10μm,0.2s						
CO01	**Juntas del Tor**	**1.67**	**160**		**Pn**	**10 25 05.2**	**+0.8**
CO01	**Juntas del Tor**	**1.67**	**160**	⇓*e*P	**Pn**	**10 25 05.5**	**+1.2**
CO01				*i* S	**Sn**	**10 25 26.3**	**+1.5**
CO01				IAML		10 25 31.7	
	comp=E,2μm,0.3s						
CO01	**Juntas del Tor**	**1.67**	**160**	*e*P	**Pn**	**10 25 05.1**	**+0.8**
CO01				*e*S	**Sn**	**10 25 28.2**	**+3.4**
GO04	**Tololo Observa**	**1.76**	**182**		**Pn**	**10 25 06.6**	**+0.9**
GO04	**Tololo Observa**	**1.76**	**182**	⇑*i* P	**Pn**	**10 25 06.3**	**+0.7**
GO04	**Tololo Observa**	**1.76**	**182**	*e*P	**Pn**	**10 25 06.0**	**+0.3**
GO04				IAML		10 25 33.9	
	comp=Z,6μm,0.3s						
AROD	**Rodeo**	**2.08**	**148**	*e*P	**Pn**	**10 25 12.3**	**+2.2**
AC02	**Maricunga**	**2.12**	**43**		**Pn**	**10 25 12.4**	**+1.7**
AC02	**Maricunga**	**2.12**	**43**	⇓*i* P	**Pn**	**10 25 12.4**	**+1.7**
AC02				*i* S	**Sn**	**10 25 38.4**	**+2.2**
AC02				IAML		10 25 43.7	
	comp=E,1μm,0.1s						
AC02	**Maricunga**	**2.12**	**43**	*e*P	**Pn**	**10 25 12.6**	**+1.7**
AC02				*e*S	**Sn**	**10 25 29.9**	**-6.3**
AC01	**Pan de Azucar**	**2.25**	**3**	Pn	**Pn**	**10 25 12.6**	**+0.5**
AC01	**Pan de Azucar**	**2.25**	**3**	⇑*i* P	**Pn**	**10 25 12.3**	**+0.2**
AC01				*i* S	**Sn**	**10 25 40.3**	**+1.6**
AC01	**Pan de Azucar**	**2.25**	**3**	*e*P	**Pn**	**10 25 12.3**	**+0.2**
AC01				*e*S	**Sn**	**10 25 46.5**	**+7.8**
VCA	**Vinchina**	**2.26**	**99**	*e*P	**Pn**	**10 25 15.6**	**+3.3**
VCA				*e*S	Sn	10 25 52.2	+13
CO03	**El Pedregal**	**2.43**	**179**	Pn	**Pn**	**10 25 15.6**	**+1.0**
CO03	**El Pedregal**	**2.43**	**179**	*e*P	**Pn**	**10 25 15.3**	**+0.8**
CO03				*i* S	**Sn**	**10 25 44.4**	**+1.2**
CO03				IAML		10 26 04.7	
	comp=N,4μm,0.2s						
CO03	**El Pedregal**	**2.43**	**179**	*e*P	**Pn**	**10 25 15.2**	**+0.6**
CO03				*e*S	**Sn**	**10 25 49.8**	**+6.6**
CO03				IAML		10 26 06.0	
	comp=Z,1μm,0.6s						
CO02	**Combarbal**	**2.80**	**184**	Pn	**Pn**	**10 25 20.4**	**+0.7**
CO02	**Combarbal**	**2.80**	**184**	*e*P	**Pn**	**10 25 20.1**	**+0.4**
CO02				*i* S	**Sn**	**10 25 54.6**	**+2.3**
CO02	**Combarbal**	**2.80**	**184**	*e*P	**Pn**	**10 25 20.1**	**+0.4**
CO02				*e*S	**Sn**	**10 25 50.6**	**-1.8**
CO02				IAML		10 26 08.8	
	comp=Z,3μm,0.5s						
DOCA	**Reserva Natura**	**2.92**	**151**	*e*P	**Pn**	**10 25 24.4**	**+2.8**
DOCA				*e*S	**Sn**	**10 25 56.1**	**+0.4**
GO02	**Mina Guanaco**	**3.39**	**18**	Pn	**Pn**	**10 25 28.4**	**+0.4**
GO02	**Mina Guanaco**	**3.39**	**18**	*e*P	**Pn**	**10 25 28.0**	**0.0**
GO02				*e*S	**Sn**	**10 26 14.6**	**+7.5**
GO02				IAML		10 26 25.4	
	comp=Z,884nm,0.5s						
ZON	**Zonda**	**3.61**	**151**	Pn	**Pn**	**10 25 31.8**	**+1.1**
RTLS	**Leoncito**	**3.61**	**160**	*e*P	**Pn**	**10 25 33.5**	**+2.5**
RTLS				IAML		10 26 41.8	
	comp=Z,1μm,0.5s						
PB14	**IPOC Station P**	**3.77**	**5**	Pn	**Pn**	**10 25 32.2**	**-1.0**
PB14	**IPOC Station P**	**3.77**	**5**	*e*P	**Pn**	**10 25 32.8**	**-0.5**
PB14				*e*S	**Sn**	**10 26 24.6**	**+8.0**
PB14				IAML		10 26 35.7	
	comp=Z,460nm,0.7s						
CFA	**Coronel Fontan**	**3.86**	**146**	P	**Pn**	**10 25 36.4**	**+2.2**
	comp=Z,56nm,0.3s,baz=328,slow=11,SNR=23						
CFA				S	**Sn**	**10 26 20.1**	**+1.8**
	comp=Z,60nm,0.3s,baz=312,slow=8.8,SNR=4.2						
CFA	**Coronel Fontan**	**3.86**	**146**	*e*P	**Pn**	**10 25 36.1**	**+1.9**
VA03	**San Esteban**	**4.35**	**178**		**Pn**	**10 25 42.1**	**+1.2**
VA03	**San Esteban**	**4.35**	**178**	*e*P	**Pn**	**10 25 41.8**	**+0.9**
VA03				*e*S	**Sn**	**10 26 36.6**	**+6.2**
VA03				IAML		10 26 52.9	
	comp=Z,623nm,0.6s						
CYA	**Choya**	**4.35**	**92**	*e*P	**Pn**	**10 25 42.7**	**+1.8**
ACHE	**Chepes**	**4.49**	**129**	*e*P	**Pn**	**10 25 43.4**	**+0.5**
ASAL	**Salagasta**	**4.49**	**159**	*e*P	**Pn**	**10 25 45.2**	**+2.4**
ROC1	**El Roble**	**4.56**	**183**		**Pn**	**10 25 44.7**	**+0.7**
VA01	**Torpederas**	**4.67**	**189**	Pn	**Pn**	**10 25 44.3**	**-0.9**
PEL	**Peldehue**	**4.72**	**179**		**Pn**	**10 25 47.2**	**+1.2**
MT02	**Curacav**	**4.85**	**184**	Pn	**Pn**	**10 25 47.8**	**+0.1**
MT02	**Curacav**	**4.85**	**184**	*e*P	**Pn**	**10 25 47.8**	**+0.1**
MT02				*e*S	**Sn**	**10 26 47.6**	**+5.0**
MT02				IAML		10 27 01.4	
	comp=Z,363nm,0.5s						
MT05	**Renca**	**4.97**	**180**		**Pn**	**10 25 51.2**	**+1.8**
MT05	**Renca**	**4.97**	**180**	*e*P	**Pn**	**10 25 50.1**	**+0.6**
MT05				*e*P		10 25 50.6	
MT05				*e*S	Sn	10 26 59.1	+13
MT05				IAML		10 27 15.8	
	comp=Z,356nm,1.0s						
MT08	**Bocatoma Ro**	**5.06**	**173**		**Pn**	**10 25 54.1**	**+3.3**
MT03	**Universidad Ad**	**5.08**	**178**		**Pn**	**10 25 53.1**	**+2.2**
MT03	**Universidad Ad**	**5.08**	**178**	*e*P	**Pn**	**10 25 52.4**	**+1.5**
MT03				*e*S	Sn	10 27 02.6	+14
MT03				IAML		10 27 10.9	
	comp=Z,416nm,1.1s						
VA05	**Santo Domingo**	**5.29**	**188**		**Pn**	**10 25 52.8**	**-0.9**
PB15	**IPOC Station P**	**5.30**	**13**		**Pn**	**10 25 54.2**	**+0.1**
PB15	**IPOC Station P**	**5.30**	**13**	*e*P	**Pn**	**10 25 54.1**	**+0.1**
PB15				*e*S	Sn	10 27 09.6	+16
MT13	**San Alfonso**	**5.34**	**176**	Pn	**Pn**	**10 25 57.3**	**+2.8**
MT09	**Talagante**	**5.36**	**182**		**Pn**	**10 25 55.1**	**+0.3**
LMEL	**Las Melosas**	**5.45**	**175**		**Pn**	**10 25 58.6**	**+2.6**
MT01	**Popeta**	**5.46**	**184**		**Pn**	**10 25 55.4**	**-0.7**
BO04	**La Punta**	**5.57**	**179**		**Pn**	**10 25 58.6**	**+1.0**
BO01	**Tunca**	**5.98**	**183**	Pn	**Pn**	**10 26 02.8**	**-0.3**
LVC	**Limon Verde**	**6.00**	**16**		**Pn**	**10 26 03.9**	**+0.1**
LVC	**Limon Verde**	**6.00**	**16**	P	**Pn**	**10 26 03.1**	**-0.8**
	comp=Z,5.3nm,0.4s,baz=196,slow=7.8,SNR=6.0						
LVC				S	**Sn**	**10 27 10.8**	**-0.7**
	comp=Z,17nm,0.3s,baz=206,slow=11,SNR=3.3						
LVC				LR	LR	10 28 23.8	
	comp=Z,140nm,19.6s,baz=201,slow=38						
PB04	**IPOC Station P**	**6.07**	**5**		**Pn**	**10 26 00.9**	**-3.7**
BO02	**Sierra Bellavi**	**6.37**	**180**		**Pn**	**10 26 08.5**	**0.0**
GO05	**Huala**	**6.66**	**188**	Pn	**Pn**	**10 26 10.5**	**-2.1**
PB09	**IPOC Station P**	**6.72**	**12**		**Pn**	**10 26 13.4**	**-0.1**
PB02	**IPOC Station P**	**7.09**	**6**		**Pn**	**10 26 17.1**	**-1.5**
ML02	**Panimavida**	**7.36**	**184**		**Pn**	**10 26 20.3**	**-1.8**
PB01	**IPOC Station P**	**7.42**	**9**		**Pn**	**10 26 20.6**	**-2.4**
H03N1	**Juan Fernandez**	**8.62**	**232**	T	T	10 35 05.7	
baz=57,slow=74							
H03N2	**Juan Fernandez**	**8.64**	**232**	T	T	10 35 09.6	
baz=57,slow=74							
H03N3	**Juan Fernandez**	**8.64**	**232**	T	T	10 34 39.6	
baz=57							
VA04	**Juan Fernndez**	**8.68**	**231**	Pn	**Pn**	**10 26 38.0**	**-2.1**
TRQA	**Tornquist**	**12.10**	**145**	Pn	**Pn**	**10 27 27.0**	**+0.2**
CPUP	**Villa Florida**	**12.10**	**83**	P	**Pn**	**10 27 25.7**	**-1.3**
comp=Z,1.7nm,0.8s,baz=250,slow=11,SNR=4.1							
LPAZ	**La Paz**	**12.30**	**12**	*e*P	**Pn**	**10 27 28.3**	**-1.9**
LPAZ	**La Paz**	**12.30**	**12**	P	**Pn**	**10 27 33.0**	**+2.8**
comp=Z,1.4nm,0.5s,baz=165,slow=5.9,SNR=6.7							
LPAZ				LR	LR	10 32 34.2	
comp=Z,60nm,21.0s,baz=236,slow=39							
PLCA	**Paso Flores**	**12.30**	**179**	P	**Pn**	**10 27 32.3**	**+2.6**
comp=Z,2.0nm,1.0s,baz=350,slow=12,SNR=1.9							
PLCA				LR	LR	10 31 53.9	
comp=Z,92nm,19.4s,baz=328,slow=35							
RODS	**Rosario do Sul**	**13.70**	**102**	*e*P	P	10 27 50.4	-5.4
BBSD	**Serra de San D**	**14.55**	**42**	*e*P	**Pn**	**10 27 58.2**	**-1.9**
SIV	**San Ignacio**	**15.25**	**38**	P	**Pn**	**10 28 07.0**	**-2.2**
comp=Z,0.8nm,0.5s,baz=233,slow=10,SNR=3.5							
AQDB	**Aquidauana**	**15.80**	**63**	*e*P	**P**	**10 28 17.0**	**-2.2**
FRBT	**Francisco Belt**	**15.92**	**85**	*e*P	**P**	**10 28 19.4**	**-1.1**
VILB	**Vilhena**	**18.25**	**35**	*e*P	**Pn**	**10 28 46.4**	**-0.3**
SALV	**Santo Antonio**	**18.66**	**51**	*e*P	**Pn**	**10 28 51.4**	**-0.3**
ETMB	**Extrema**	**18.98**	**14**	P	**Pn**	**10 28 55.7**	**+0.3**
ETMB	**Extrema**	**18.98**	**14**	*e*P	**Pn**	**10 28 55.1**	**-0.3**
SAML	**Samuel**	**20.62**	**22**	P	Pn	10 29 11.6	-3.3
SAML				IAmb	IAmb	10 29 13.1	
comp=Z,6.5nm,0.8s							
SAML	**Samuel**	**20.62**	**22**	*e*P	Pn	10 29 12.1	-2.8
CZSB	**Cruzeiro do Su**	**20.65**	**354**	P	Pn	10 29 12.6	-2.6
CZSB				IAmb	IAmb	10 29 17.3	
comp=Z,11nm,0.9s							
CZSB	**Cruzeiro do Su**	**20.65**	**354**	*e*P	Pn	10 29 13.5	-1.7
PDRB	**Porto dos Gac**	**21.24**	**41**	*e*P	**P**	**10 29 18.2**	**-0.6**
CLDB	**Colider**	**22.37**	**42**	*e*P	**P**	**10 29 29.5**	**-1.5**
IPMB	**Ipameri, GO**	**23.12**	**68**	*e*P	**P**	**10 29 40.1**	**+1.2**
TBTG	**Tabatinga, AM**	**24.10**	**2**	*e*P	**P**	**10 29 48.3**	**+0.5**
BDFB	**Brasilia**	**24.55**	**64**	P	**P**	**10 29 50.4**	**-1.7**
comp=Z,3.8nm,0.6s,baz=238,slow=13,SNR=5.2							
comp=Z,3.8nm,0.6s							
TEFE	**Tefe**	**25.43**	**14**	*e*P	**P**	**10 30 00.5**	**+0.6**
NPGB	**Novo Progresso**	**25.75**	**37**	*e*P	**P**	**10 30 02.5**	**-0.4**
MDP	**Montagnes des**	**37.60**	**30**	LR	LR	10 48 10.0	
comp

PEIG					Sn	10 34 21.1	-2.2
PEIG	**Puerto Escondi**	**2.43**	**283**	*i* P	**Pn**	**10 33 55.2**	**+0.5**
PEIG				*e*S	**Sn**	**10 34 21.1**	**-2.2**
PAVE	**Pavencul**	**2.43**	**96**	*i* P	**Pn**	**10 33 56.0**	**+1.0**
PAVE				*e*S	**Sn**	**10 34 22.9**	**-0.8**
NEUV	**Arroyo Zacate**	**2.47**	**334**	*i* P	**Pn**	**10 33 56.3**	**+1.1**
NEUV				*e*S	**Sn**	**10 34 24.1**	**-0.1**
OXLC	**Oaxaca**	**2.50**	**309**	*e*P	**Pn**	**10 33 58.0**	**+2.1**
OXLC				*e*S	**Sn**	**10 34 27.3**	**+2.0**
CHUJ	**Union Juarez**	**2.51**	**98**	*e*P	**Pn**	**10 33 56.5**	**+0.4**
CHUJ				*e*S	**Sn**	**10 34 24.7**	**-1.0**
OXBJ	**Oaxaca**	**2.52**	**309**	*e*P	**Pn**	**10 33 57.5**	**+1.4**
OXBJ				*e*S	**Sn**	**10 34 27.3**	**+1.5**
OXIG	**Oaxaca**	**2.53**	**309**		**Pn**	**10 33 58.7**	**+2.5**
OXIG					**Sn**	**10 34 28.9**	**+2.8**
VHO	**Vista Hermosa**	**2.53**	**309**	*i* P	**Pn**	**10 33 58.7**	**+2.5**
VHO				*e*S	**Sn**	**10 34 28.9**	**+2.9**
TUIG	**Tuzandepetl**	**2.55**	**6**	*e*P	**Pn**	**10 33 57.6**	**+1.2**
TUIG				*e*S	**Sn**	**10 34 22.5**	**-3.8**
CCIG	**Comitan**	**2.58**	**72**	*e*P	**Pn**	**10 33 57.8**	**+0.9**
CCIG				*e*S	**Sn**	**10 34 29.8**	**+2.6**
RTAL	**Retalhuleu**	**3.04**	**108**		**Pn**	**10 34 03.7**	**+0.6**
HUEH	**Huehuetenango**	**3.07**	**93**		**Pn**	**10 34 04.5**	**+0.8**
YOIG	**Yosondua**	**3.07**	**297**	*e*P	**Pn**	**10 34 06.2**	**+2.4**
YOIG				*e*S	**Sn**	**10 34 41.0**	**+1.5**
PMUV	**Sontecomapan**	**3.08**	**352**	*e*P	**Pn**	**10 34 03.1**	**-0.6**
PMUV				*e*S	**Sn**	**10 34 36.2**	**-3.1**
PNIG	**Pinotepa**	**3.44**	**286**	*i* P	**Pn**	**10 34 09.7**	**+1.1**
PNIG				*e*S	**Sn**	**10 34 44.5**	**-3.5**
TXIG	**Tlaxiaco**	**3.45**	**301**	*e*P	Pn	10 34 01.6	-7.3
TXIG				*e*S	**Sn**	**10 34 49.4**	**+0.7**
TOIG	**Toxpalan**	**3.46**	**319**		Pn	10 34 12.8	+3.8
TOIG					**Sn**	**10 34 52.3**	**+3.5**
TOIG	**Toxpalan**	**3.46**	**319**	*e*P	Pn	10 34 12.8	+3.8
TOIG				*i* S	**Sn**	**10 34 52.3**	**+3.5**
HLIG	**Huajuapan de L**	**3.80**	**308**	*e*P	Pn	10 34 09.2	-4.4
HLIG				*e*S	**Sn**	**10 34 54.1**	**-3.0**
TPIG	**Tehuac#an**	**3.89**	**319**		Pn	10 34 18.3	+3.5
TPIG					**Sn**	**10 35 00.7**	**+1.3**
TPIG	**Tehuac#an**	**3.89**	**319**	*e*P	Pn	10 34 18.3	+3.5
TPIG				*e*S	**Sn**	**10 35 00.7**	**+1.3**
FTIG	**Fresnillo de T**	**4.09**	**307**	*e*P	**Pn**	**10 34 18.9**	**+1.3**
FTIG				*e*S	**Sn**	**10 35 05.4**	**+1.0**
TLIG	**Tlapa**	**4.26**	**300**	*e*P	**Pn**	**10 34 20.9**	**+0.9**
TLIG				*e*S	**Sn**	**10 35 08.1**	**-0.5**
JAUV	**Jalcomulco**	**4.36**	**333**	*e*P	**Pn**	**10 34 21.7**	**+0.4**
JAUV				*e*S	**Sn**	**10 35 08.2**	**-2.7**
LVIG	**Laguna Verde**	**4.53**	**339**	*e*S	**Sn**	**10 35 10.0**	**-4.9**
SCIG	**Sabancuy**	**4.82**	**43**	*e*P	**Pn**	**10 34 27.1**	**-0.3**
SCIG				*e*S	**Sn**	**10 35 18.2**	**-3.7**
DAIG	**Los Arroyos**	**5.01**	**288**	*e*P	**Pn**	**10 34 31.8**	**+1.6**
DAIG				*e*S	**Sn**	**10 35 24.3**	**-2.5**
PPM	**Popocatepetl**	**5.19**	**314**	*e*P	Pn	10 34 36.8	+3.8
PPM				*e*S	**Sn**	**10 35 32.9**	**+1.0**
ESQI	**Esquipulas**	**5.24**	**99**	Pn	**Pn**	**10 34 33.5**	**+0.1**
MTO3	**Montecristo**	**5.25**	**101**		**Pn**	**10 34 34.3**	**+0.6**
MEIG	**Mezcala**	**5.32**	**298**	*e*P	Pn	10 34 37.6	+3.2
MEIG				*e*S	**Sn**	**10 35 33.2**	**-1.2**
YAIG	**Yautepec**	**5.37**	**309**	*e*P	Pn	10 34 39.0	+3.8
YAIG				*e*S	**Sn**	**10 35 34.6**	**-1.3**
PLIG	**Platanillo**	**5.45**	**303**	*e*P	Pn	10 34 40.2	+4.0
PLIG				*e*S	**Sn**	**10 35 36.1**	**-1.5**
CAIG	**El Cayaco**	**5.59**	**287**	*i* P	**Pn**	**10 34 39.9**	**+1.9**
CAIG				*e*S	**Sn**	**10 35 37.4**	**-3.5**
ARIG	**Puente Sto Nin**	**6.10**	**298**	*e*P	Pn	10 34 48.7	+3.7
ARIG				*e*S	**Sn**	**10 35 51.8**	**-1.7**
ZIIG	**Zihuatanejo**	**6.84**	**289**	*e*P	**Pn**	**10 34 58.0**	**+2.8**
ZIIG				*e*S	**Sn**	**10 36 10.0**	**-1.7**
MYIG	**Mrida**	**7.19**	**40**	*e*P	**Pn**	**10 35 02.6**	**+2.6**
MYIG				*e*S	**Sn**	**10 36 20.2**	**-0.1**
TEIG	**Tepich**	**7.71**	**51**		**Pn**	**10 35 05.7**	**-1.4**
ORTG	**Ortega, Santa**	**10.33**	**118**	Pn	**Pn**	**10 35 45.2**	**+2.2**
DUNO	**Dulce Nombre,**	**10.44**	**120**	Pn	**Pn**	**10 35 46.6**	**+2.0**
LCR2	**La Lucha 2**	**11.88**	**117**	Pn	**Pn**	**10 36 05.7**	**+1.4**
RIMA	**Rio Macho**	**11.98**	**117**	Pn	**Pn**	**10 36 06.4**	**+0.6**
SOR	**Soroa**	**13.21**	**55**	Pn	**Pn**	**10 36 20.1**	**-2.1**
833A	**Chaparral WMA,**	**13.51**	**342**		**Pn**	**10 36 27.5**	**+1.2**
435B	**Jarrell**	**15.46**	**351**		**Pn**	**10 36 55.5**	**+3.5**
435B				IAmb	IAmb	10 37 03.4	
	comp=Z,12nm,0.6s						
BRDY	**Brady**	**16.22**	**347**		**Pn**	**10 37 02.6**	**+1.0**
BRDY				IAmb	IAmb	10 37 21.8	
	comp=Z,4.0nm,0.7s						
OZNA	**Ozona**	**16.47**	**340**	P	**Pn**	**10 37 06.4**	**+1.7**
OZNA				IAmb	IAmb	10 37 19.7	
	comp=Z,10nm,1.4s						
SGCY	**Sterling City**	**17.38**	**341**	P	**Pn**	**10 37 17.8**	**+1.7**
SGCY				IAmb	IAmb	10 37 22.9	
	comp=Z,3.6nm,0.8s						
Z47A	**Carrollton**	**18.63**	**18**	P	**P**	**10 37 30.6**	**+0.2**
Z47A				IAmb	IAmb	10 37 31.2	
	comp=Z,11nm,0.6s						
LRAL	**Lakeview Retre**	**18.82**	**20**	P	**P**	**10 37 32.9**	**+0.5**
MIAR	**Mount Ida**	**19.01**	**3**	P	**P**	**10 37 34.4**	**-0.1**
HHAR	**Hobbs**	**20.73**	**2**	P	**P**	**10 37 54.4**	**+1.2**
HHAR				IAmb	IAmb	10 37 57.0	
	comp=Z,7.3nm,0.9s						
LCAR	**Lake Charles**	**20.75**	**8**	P	**P**	**10 37 52.5**	**-0.9**
U38A	**Gravette**	**20.88**	**1**	P	**P**	**10 37 56.4**	**+1.6**
U38A				IAmb	IAmb	10 37 58.1	
	comp=Z,5.9nm,0.7s						
WVT	**Waverly**	**21.46**	**15**	P	**P**	**10 38 00.4**	**-0.6**
WVT				IAmb	IAmb	10 38 37.8	
	comp=Z,14nm,1.5s						
S39A	**Bolivar**	**22.16**	**3**	P	**P**	**10 38 09.0**	**+0.5**
S39A				IAmb	IAmb	10 38 09.9	
	comp=Z,7.7nm,0.7s						
U49A	**Red Boiling Sp**	**22.40**	**19**	P	**P**	**10 38 10.2**	**-0.9**
U49A				IAmb	IAmb	10 38 10.8	
	comp=Z,6.8nm,0.7s						
T47A	**Sharon Grove**	**22.46**	**16**	P	**P**	**10 38 09.8**	**-1.9**
T47A				IAmb	IAmb	10 38 11.6	
	comp=Z,6.8nm,0.7s						
CCM	**Cathedral Cave**	**22.69**	**7**	P	**P**	**10 38 12.1**	**-2.1**
R40A	**Maddies Statio**	**22.82**	**5**	P	**P**	**10 38 15.4**	**-0.1**
R40A				IAmb	IAmb	10 38 15.8	
	comp=Z,8.3nm,0.9s						
P40A	**Paris**	**24.07**	**5**	P	**P**	**10 38 25.6**	**-1.8**
P40A				IAmb	IAmb	10 38 27.6	
	comp=Z,5.1nm,0.6s						
P46A	**Rosedale**	**24.92**	**14**	P	**P**	**10 38 33.8**	**-1.3**
P48A	**Milroy**	**25.23**	**17**	P	**P**	**10 38 35.7**	**-2.2**
P48A				IAmb	IAmb	10 39 00.0	
	comp=Z,16nm,1.3s						
SSFO	**Shawnee State**	**25.24**	**21**	P	**P**	**10 38 36.6**	**-1.4**
Q51A	**Peebles**	**25.48**	**21**	P	**P**	**10 38 38.4**	**-1.8**
Q51A				IAmb	IAmb	10 38 38.9	
	comp=Z,5.8nm,0.7s						
Q52A	**Bidwell**	**25.81**	**23**	P	**P**	**10 38 41.4**	**-1.8**
O49A	**Covington**	**26.22**	**18**	P	**P**	**10 38 44.5**	**-2.5**
O49A				IAmb	IAmb	10 38 56.5	
	comp=Z,13nm,1.2s						
P52A	**Corning**	**26.45**	**22**	P	**P**	**10 38 47.0**	**-2.1**
L40A	**Anamosa**	**26.66**	**6**	P	**P**	**10 38 49.5**	**-1.3**
L40A				IAmb	IAmb	10 39 30.2	
	comp=Z,10nm,1.2s						
O52A	**Adamsville**	**26.98**	**22**	P	**P**	**10 38 51.5**	**-2.3**
O53A	**New Philadelph**	**27.33**	**23**	P	**P**	**10 38 55.3**	**-1.6**
M53A	**Wl Miller and**	**28.57**	**22**	P	P	10 39 05.9	-2.0

*IDC **01** 10:41:50.0±1.1,3°.06N×128°.41E,h0km,mb3.7/6, mbtmp3.7/7,ML3.5/1,MS2.9/3,Error ellipse: s-maj=69.3km s-min=17.0km az=64.0*

ISC 01 10:41:54.8±1.0,3°.1N±0°.3×128°.6E±0°.4,h35km,n9,σ0§98/8, mb3.9/6,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.73**	**145**	Pn	**Pn**	**10 43 04.5**	**+0.8**
	1.9nm,0.3s,baz=206,slow=23,SNR=19						
SIJI				Sn	**Sn**	**10 43 56.1**	**-1.3**
	1.5nm,0.3s,baz=354,slow=24,SNR=7.6						
SIJI				LR	LR	10 44 40.6	
	comp=Z,97nm,18.1s,baz=344,slow=35 5.3nm,0.3s						
WRA	**Warramunga Arr**	**23.54**	**166**	P	**P**	**10 47 01.5**	**-0.5**
	0.9nm,0.6s,baz=345,slow=10,SNR=17 0.9nm,0.6s						
ASAR	**Alice Springs**	**27.06**	**169**	P	**P**	**10 47 35.4**	**+1.3**
	0.3nm,0.8s,baz=350,slow=10.0,SNR=7.9 0.3nm,0.8s						
JNU	**Nakatsue**	**30.00**	**4**	LR	LR	11 00 51.2	
	comp=Z,31nm,18.5s,baz=172,slow=38						
CMAR	**Chiang Mai Arr**	**32.80**	**300**	P	**P**	**10 48 24.8**	**-0.3**
	0.5nm,0.3s,baz=122,slow=7.4,SNR=4.1 0.5nm,0.3s						
MJAR	**Matsushiro Arr**	**34.50**	**14**	LR	LR	11 00 24.3	
	comp=Z,21nm,20.1s,baz=181,slow=32						
SONM	**Songino Array**	**48.54**	**340**	P	**P**	**10 50 34.9**	**+0.3**
	0.9nm,0.7s,baz=148,slow=8.7,SNR=5.9 0.9nm,0.7s						
MKAR	**Makanchi Array**	**59.16**	**325**	P	**P**	**10 51 51.9**	**-0.3**
	0.7nm,0.8s,baz=120,slow=7.2,SNR=5.5 0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**63.30**	**327**	P	**P**	**10 52 19.6**	**-0.5**
	1.1nm,0.7s,baz=122,slow=5.9,SNR=12 1.1nm,0.7s						

*RSNC **01** 10:51:54.7±0.8,11°.36N×72°.15W,h80km±6km,ML2.8, Mw3.3*

*FUNV **01** 10:51:55.3,11°.28N×72°.16W,h17km,MW3.4*

ISC 01 10:51:54.6±1.3,11°.32N±0°.06×72°.14W±0°.03,h78km±13km, n32,σ1§41/60,2C,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.40**	**21**	⇑*i*P	**Pn**	**10 52 07.0**	**-0.4**
URIC				*e*S	**Sn**	**10 52 16.4**	**-0.3**
URIC				*i*		10 52 16.8	
	comp=Z,409nm,0.4s						
CRJC	**Cerrejon, Guaj**	**0.79**	**248**	*e*P	**Pn**	**10 52 11.3**	**+0.1**
CRJC				*e*S	**Sn**	**10 52 24.4**	**+0.8**
CRJC				*i*		10 52 25.7	
	comp=Z,598nm,0.1s						
MCQV	**Machiques**	**1.32**	**197**	*e*P	**Pn**	**10 52 18.2**	**+0.6**
MCQV				*e*S	**Sn**	**10 52 34.2**	**-0.7**
SMRC	**Santa Marta, M**	**2.06**	**266**	*e*P	**Pn**	**10 52 26.6**	**-0.6**
SMRC				*e*S	**Sn**	**10 52 50.9**	**-1.1**
SMRC				*i*		10 52 57.8	
	comp=Z,65nm,0.3s						
SIQV	**Siquisique**	**2.38**	**106**	*e*P	**Pn**	**10 52 32.5**	**+0.8**
SIQV				*e*S	**Sn**	**10 53 01.4**	**+1.4**
CURV	**Curarigua**	**2.50**	**121**	*e*P	**Pn**	**10 52 34.1**	**+0.8**
CURV				*e*S	**Sn**	**10 53 03.2**	**+0.2**
ARGC	**Ariguani, Magd**	**2.54**	**235**	*e*P	**Pn**	**10 52 33.9**	**+0.2**
ARGC				*e*S	**Sn**	**10 53 03.8**	**+0.2**
ARGC				*i*		10 53 13.1	
	comp=Z,27nm,0.3s						
SDV	**Santo Domingo**	**2.84**	**148**	*e*P	**Pn**	**10 52 39.2**	**+1.2**
SDV				*e*S	**Sn**	**10 53 11.3**	**+0.1**
SDV				*i*		10 53 13.8	
	comp=Z,49nm,0.6s						
SANV	**Sanarito**	**3.13**	**125**	*e*P	**Pn**	**10 52 43.2**	**+1.3**
SANV				*e*S	**Sn**	**10 53 18.5**	**+0.2**
TEPV	**Terepaima**	**3.19**	**115**	*e*P	**Pn**	**10 52 43.6**	**+1.0**
TEPV				*e*S	**Sn**	**10 53 19.0**	**-0.7**
SOCV	**Socops**	**3.27**	**157**	*e*P	**Pn**	**10 52 44.6**	**+0.9**
SOCV				*e*S	**Sn**	**10 53 21.3**	**-0.3**
SJCC	**San Jacinto, C**	**3.31**	**245**	*e*P	**Pn**	**10 52 45.3**	**+1.1**
SJCC				*e*S	**Sn**	**10 53 22.6**	**0.0**
SJCC				*i*		10 53 29.1	
	comp=Z,18nm,0.5s						
CAPV	**Capacho**	**3.44**	**183**	*e*P	**Pn**	**10 52 46.6**	**+0.5**
CAPV				*e*S	**Sn**	**10 53 25.3**	**-0.7**
PAMC	**Pamplona, Colo**	**4.00**	**188**	*e*P	**Pn**	**10 52 53.8**	**-0.2**
PAMC				*e*S	**Sn**	**10 53 39.0**	**-0.9**
PAMC				*i*		10 53 44.8	
	comp=Z,12nm,0.2s						
ZARC	**Zaragoza, Cauc**	**4.66**	**215**	*e*P	**Pn**	**10 53 02.0**	**-0.6**
ZARC				*e*S	**Sn**	**10 53 53.0**	**-2.4**
ZARC				*i*		10 54 06.0	
	comp=Z,8.3nm,0.3s						
BENV	**Beln**	**4.66**	**106**	*e*P	**Pn**	**10 53 04.4**	**+1.7**
BENV				*e*S	**Sn**	**10 53 54.4**	**-1.2**
BAUV	**El Baul**	**4.67**	**120**	*e*P	**Pn**	**10 53 03.4**	**+0.7**
BAUV				*e*S	**Sn**	**10 53 53.9**	**-1.8**
BARC	**Barichara**	**4.81**	**192**	*e*P	**Pn**	**10 53 05.7**	**+0.8**
BARC				*e*S	**Sn**	**10 53 58.6**	**-0.9**
BARC				*i*		10 54 03.3	
	comp=Z,10nm,0.5s						
TAMC	**Tame, Arauca**	**4.87**	**176**	*e*P	**Pn**	**10 53 06.1**	**+0.6**
TAMC				*e*S	**Sn**	**10 54 00.6**	**0.0**
UREC	**San Jos de Ur**	**4.88**	**224**	*e*P	**Pn**	**10 53 09.1**	**+3.5**
UREC				*e*S	**Sn**	**10 54 00.4**	**-0.4**
UREC				*i*		10 54 12.9	
	comp=Z,6.3nm,0.3s						
TACV	**Tcata**	**5.16**	**103**	*e*P	**Pn**	**10 53 11.1**	**+1.7**
TACV				*e*S	**Sn**	**10 54 06.4**	**-1.3**
RUSC	**La Rusia**	**5.48**	**190**	*e*P	**Pn**	**10 53 14.9**	**+0.8**
RUSC				*e*S	**Sn**	**10 54 16.3**	**+0.2**
RUSC				*i*		10 54 19.7	
	comp=Z,5.8nm,0.6s						
SPBC	**San Pablo de B**	**5.95**	**199**	*e*P	**Pn**	**10 53 20.8**	**+0.5**
SPBC				*e*S	**Sn**	**10 54 31.5**	**+4.4**
SPBC				*i*		10 54 45.3	
	comp=Z,2.5nm,0.1s						
HELC	**Santa Helena**	**6.10**	**214**	*e*P	**Pn**	**10 53 24.9**	**+2.3**
HELC				*e*S	**Sn**	**10 54 29.6**	**-1.6**
HELC				*i*		10 54 33.5	
	comp=Z,2.8nm,0.4s						
NORC	**Norcasia**	**6.33**	**206**	*e*P	**Pn**	**10 53 26.4**	**+1.0**
NORC				*e*S	**Sn**	**10 54 35.3**	**-1.1**
NORC				*i*		10 54 48.5	
	comp=Z,2.5nm,0.4s						
CACV	**CAICARA DEL OR**	**6.67**	**124**	*e*P	Pn	10 53 36.3	+6.4
CHIC	**Chingaza**	**6.84**	**193**	*e*P	**Pn**	**10 53 33.6**	**+0.9**
CHIC				*e*S	**Sn**	**10 54 49.7**	**+0.5**
CHIC				*i*		10 54 59.8	
	comp=Z,1.7nm,0.6s						
GUY2C	**Guyana, Caldas**	**6.85**	**208**	*e*P	**Pn**	**10 53 34.6**	**+1.7**
GUY2C				*e*S	**Sn**	**10 54 49.9**	**+0.2**
GUY2C				*i*		10 55 11.9	
	comp=Z,1.9nm,0.6s						
PTGC	**Puerto Gaitan,**	**7.08**	**180**	*e*P	**Pn**	**10 53 33.1**	**-2.6**
PTGC				*e*S	**Sn**	**10 54 50.6**	**-4.1**
PLMC	**San Jos del P**	**7.58**	**213**	*e*P	**Pn**	**10 53 43.1**	**+0.5**
PLMC				⇑*e*S	**Sn**	**10 55 07.6**	**+0.5**
PLMC				*i*		10 55 13.2	
	comp=Z,3.2nm,0.1s						
ORTC	**Ortega, Tolima**	**7.99**	**203**	*e*P	**Pn**	**10 53 50.2**	**+2.2**
MTDJ	**Mount Denham**	**8.62**	**323**	*e*P	**Pn**	**10 53 55.9**	**-0.8**
MTDJ				*e*S	Sn	10 55 22.1	-10

IDC 01 11:46:55.5±17.0,24°.25S×69°.27E,h0km,mb3.4/4, mbtmp3.4/4,MS3.1/2,Error ellipse: s-maj=567.1km s-min=37.1km az=51.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.79**	**11**	T	T	12 07 39.8	
	baz=190,slow=76,SNR=3.8						
H08S2	**Diego Garcia H**	**16.79**	**11**	T	T	12 07 40.4	
	baz=190,slow=76,SNR=4.4						
H08S3	**Diego Garcia H**	**16.81**	**11**	T	T	12 07 46.5	
	baz=190,slow=76,SNR=20						
H04N2	**CROZET ISLANDS**	**26.00**	**208**	T	T	12 20 09.2	
	baz=40,slow=75,SNR=43						
H04N1	**CROZET ISLANDS**	**26.01**	**208**	T	T	12 20 07.2	
	baz=40,slow=75,SNR=57						
H04N3	**CROZET ISLANDS**	**26.02**	**208**	T	T	12 20 08.6	
	baz=40,slow=75,SNR=45						
BOSA	**Boshof**	**39.49**	**254**	LR	LR	12 08 08.0	
	comp=Z,26nm,18.6s,baz=357,slow=32						
SUR	**Sutherland**	**43.13**	**248**	LR	LR	12 11 36.6	
	comp=Z,20nm,19.3s,baz=234,slow=34						
ASAR	**Alice Springs**	**58.56**	**104**	P	P	11 56 54.4	+0.1
	0.4nm,0.7s,baz=253,slow=6.5,SNR=6.4 0.4nm,0.7s						
WRA	**Warramunga Arr**	**59.97**	**100**	P	P	11 57 03.9	-0.2
	0.3nm,0.7s,baz=254,slow=7.0,SNR=3.1 0.3nm,0.7s						
MKAR	**Makanchi Array**	**71.68**	**9**	P	P	11 58 18.5	-0.4
	0.3nm,0.6s,baz=207,slow=7.6,SNR=3.8 0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**74.98**	**6**	P	P	11 58 38.8	+0.5
	0.2nm,0.5s,baz=206,slow=6.2,SNR=2.7 0.2nm,0.5s						

*IDC **01** 11:47:37.4±0.8,6°.50N×73°.38W,h135km±11km,mb2.7/1, mbtmp3.5/3,Error ellipse: s-maj=37.1km s-min=7.8km az=132.0*

*RSNC **01** 11:47:38.0±1.1,6°.59N×73°.51W,h114km±5km,ML3.4, Mw4.0*

ISC 01 11:47:36.5±0.9,6°.60N±0°.03×73°.47W±0°.03,h124km±6km, n41,σ1§56/80,5C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**91**	⇑*i*P	**Pn**	**11 47 54.4**	**+0.2**
BARC				*e*S	**Sn**	**11 48 06.8**	**-0.8**
BARC				*i*		11 48 08.1	
	comp=Z,2μm,0.4s						
RUSC	**La Rusia**	**0.80**	**151**	⇑*i*P	**Pn**	**11 47 57.5**	**-0.2**
RUSC				*e*S	**Sn**	**11 48 13.2**	**-0.4**
RUSC				*i*		11 48 14.6	
	comp=Z,565nm,0.3s						
PAMC	**Pamplona, Colo**	**1.06**	**46**	⇑*e*P	**Pn**	**11 48 00.7**	**+0.6**
PAMC				*e*S	**Sn**	**11 48 18.8**	**+0.9**
PAMC				*i*		11 48 20.0	
	comp=Z,483nm,0.4s						
SPBC	**San Pablo de B**	**1.11**	**213**	*e*P	**Pn**	**11 47 59.4**	**-0.8**
SPBC				*e*S	**Sn**	**11 48 16.3**	**-1.8**
ZARC	**Zaragoza, Cauc**	**1.64**	**303**	*e*P	**Pn**	**11 48 06.1**	**+0.2**
	comp=Z,557nm,0.4s						
ZARC				*e*S	**Sn**	**11 48 27.8**	**-0.5**
ZARC				*i*		11 48 30.9	
	comp=Z,557nm,0.4s						
TAMC	**Tame, Arauca**	**1.68**	**95**	⇑*e*P	**Pn**	**11 48 07.1**	**+0.8**
TAMC				*e*S	**Sn**	**11 48 29.7**	**+0.6**
TAMC				*i*		11 48 32.9	
	comp=Z,271nm,0.5s						
NORC	**Norcasia**	**1.73**	**234**	⇓*e*P	**Pn**	**11 48 06.0**	**-1.0**
NORC				*e*S	**Sn**	**11 48 28.0**	**-2.3**
NORC				*i*		11 48 30.2	
	comp=Z,397nm,0.2s						
ROSC	**El Rosal**	**1.94**	**206**	*e*P	**Pn**	**11 48 11.2**	**+1.3**
ROSC				*e*S	**Sn**	**11 48 37.5**	**+2.2**
ROSC	**El Rosal**	**1.94**	**206**	P	**Pn**	**11 48 11.2**	**+1.3**
	comp=Z,22nm,0.3s,baz=51,slow=4.2,SNR=13						
ROSC				S	**Sn**	**11 48 36.5**	**+1.2**
	comp=Z,290nm,0.4s,baz=166,slow=20,SNR=14						
CHIC	**Chingaza**	**1.97**	**188**	*e*P	**Pn**	**11 48 10.7**	**+0.4**
CHIC				*e*S	**Sn**	**11 48 35.8**	**-0.2**
CHIC				*i*		11 48 40.8	
	comp=Z,92nm,0.3s						
HELC	**Santa Helena**	**2.09**	**259**	*e*P	**Pn**	**11 48 11.1**	**-0.6**
HELC				*e*S	**Sn**	**11 48 37.3**	**-1.2**
GUY2C	**Guyana, Caldas**	**2.33**	**234**	*e*P	**Pn**	**11 48 15.4**	**+0.6**
GUY2C				*e*S	**Sn**	**11 48 44.0**	**0.0**
GUY2C				*i*		11 48 49.8	
	comp=Z,170nm,0.5s						
UREC	**San Jos de Ur**	**2.35**	**299**	*e*P	**Pn**	**11 48 13.9**	**-0.7**
UREC				*e*S	**Sn**	**11 48 41.8**	**-2.0**
UREC				*i*		11 48 50.6	
	comp=Z,336nm,0.3s						
RECRC	**Villamaria, Ca**	**2.48**	**229**	*e*P	**Pn**	**11 48 18.8**	**+2.0**
RECRC				*e*S	**Sn**	**11 48 48.1**	**+0.5**
NIZA	**Niza - Manizal**	**2.51**	**233**	*e*P	**Pn**	**11 48 21.3**	**+4.4**
NIZA				*e*S	**Sn**	**11 48 50.8**	**+2.9**
PTGC	**Puerto Gaitan,**	**2.73**	**151**	*e*P	**Pn**	**11 48 19.0**	**-0.5**
PTGC				*e*S	**Sn**	**11 48 51.1**	**-1.4**
PTGC				*i*		11 48 57.5	
	comp=Z,128nm,0.5s						
DBBC	**Dabeiba**	**2.75**	**279**	⇑*e*P	**Pn**	**11 48 20.1**	**+0.2**
DBBC				*e*S	**Sn**	**11 48 53.1**	**0.0**
DBBC				*i*		11 48 56.9	
	comp=Z,108nm,0.4s						
ANIL	**Santa Ana**	**2.84**	**223**	*e*P	**Pn**	**11 48 22.0**	**+0.8**
ANIL				*e*S	**Sn**	**11 48 56.6**	**+1.0**
ANIL				*i*		11 49 01.8	
	comp=Z,264nm,0.3s						
PRAC	**Prado**	**3.19**	**206**	*e*P	**Pn**	**11 48 25.4**	**-0.1**
PRAC				*e*S	**Sn**	**11 49 03.1**	**-0.3**
PRAC				*i*		11 49 07.7	
	comp=Z,144nm,0.2s						
ORTC	**Ortega, Tolima**	**3.20**	**214**	*e*P	**Pn**	**11 48 26.3**	**+0.6**
ORTC				*e*S	**Sn**	**11 49 03.6**	**-0.1**
ORTC				*i*		11 49 10.7	
	comp=Z,65nm,0.5s						
PLMC	**San Jos del P**	**3.26**	**239**	*e*P	**Pn**	**11 48 26.7**	**+0.2**
PLMC				*e*S	**Sn**	**11 49 04.5**	**-0.7**
PLMC				*i*		11 49 09.5	
	comp=Z,68nm,0.3s						
ARGC	**Ariguani, Magd**	**3.33**	**347**	*e*P	**Pn**	**11 48 29.7**	**+2.3**
ARGC				*e*S	**Sn**	**11 49 09.6**	**+2.9**
ARGC				*i*		11 49 22.1	
	comp=Z,64nm,0.4s						
APAC	**Apartado, Choc**	**3.35**	**293**	*e*P	**Pn**	**11 48 27.5**	**0.0**
APAC				*e*S	**Sn**	**11 49 03.9**	**-3.0**
APAC				*i*		11 49 11.8	
	comp=Z,76nm,0.7s						
SDV	**Santo Domingo**	**3.62**	**51**	*e*P	**Pn**	**11 48 32.9**	**+1.6**
SDV	

confirmed

ISC 01 12:03:02.9±4.1,33°.9S±0°.2×179°.8E±0°.2,h250km,n70, σ1§77/75,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.08**	**196**	P	**Pn**	**12 04 09.3**	**+1.8**
WMGZ				S	**S**	**12 04 59.1**	**+0.1**
HAZ	**Te Kaha**	**4.19**	**202**	P	**Pn**	**12 04 10.4**	**+1.5**
PKGZ	**Pakihiroa**	**4.23**	**199**	P	**Pn**	**12 04 10.3**	**+0.9**
PKGZ				S	**S**	**12 05 01.1**	**-1.2**
GRZ	**Great Barrier**	**4.27**	**235**	P	**Pn**	**12 04 10.1**	**+0.3**
KUZ	**Kuaotunu**	**4.39**	**228**	P	**Pn**	**12 04 14.1**	**+3.0**
RUGZ	**Raukumara Rang**	**4.42**	**202**	P	**Pn**	**12 04 13.5**	**+1.8**
RUGZ				S	**S**	**12 05 04.7**	**-1.8**
TWGZ	**Tauwhareparae**	**4.53**	**198**	P	**Pn**	**12 04 16.3**	**+3.4**
TWGZ				S	**S**	**12 05 09.3**	**+0.6**
CNGZ	**Carnagh Statio**	**4.76**	**195**	P	**Pn**	**12 04 16.8**	**+1.1**
MWZ	**Matawai**	**4.80**	**202**	P	**Pn**	**12 04 16.7**	**+0.5**
MWZ				S	**S**	**12 05 13.2**	**-1.5**
TKGZ	**Te Karaka**	**4.81**	**199**	P	**Pn**	**12 04 16.3**	**0.0**
URZ	**Urewera**	**4.88**	**206**	P	**Pn**	**12 04 19.5**	**+2.4**
URZ	**Urewera**	**4.88**	**206**	P	**Pn**	**12 04 18.7**	**+1.7**
URZ				S	**S**	**12 05 14.1**	**-2.1**
WCZ	**Waipu Caves**	**4.93**	**244**	P	**Pn**	**12 04 18.2**	**+0.5**
RAGZ	**Rawiri**	**4.99**	**202**	P	**Pn**	**12 04 21.0**	**+2.5**
RIGZ	**Rimuhau**	**5.08**	**198**	P	**Pn**	**12 04 21.2**	**+1.6**
TOZ	**Tahuroa Road**	**5.19**	**221**	P	**Pn**	**12 04 24.1**	**+3.2**
MUGZ	**Murupara**	**5.19**	**207**	P	**Pn**	**12 04 22.3**	**+1.3**
RTZ	**Ruatahuna**	**5.24**	**205**	P	**Pn**	**12 04 22.9**	**+1.3**
PRGZ	**Paritu Road**	**5.26**	**197**	P	**Pn**	**12 04 23.4**	**+1.7**
SNGZ	**Shannon Statio**	**5.27**	**201**	P	**Pn**	**12 04 24.1**	**+2.1**
OUZ	**Omahuta**	**5.29**	**254**	P	**Pn**	**12 04 21.4**	**-0.8**
OUZ	**Omahuta**	**5.29**	**254**	P	**Pn**	**12 04 21.4**	**-0.8**
KNZ	**Kokohu**	**5.40**	**198**	P	**Pn**	**12 04 24.6**	**+1.1**
MHGZ	**Mahia Peninsul**	**5.47**	**196**	P	**Pn**	**12 04 26.2**	**+1.8**
RAHZ	**Arahi**	**5.47**	**203**	P	**Pn**	**12 04 26.1**	**+1.6**
MTHZ	**Maungataniwha**	**5.50**	**205**	P	**Pn**	**12 04 26.6**	**+1.8**
MRHZ	**Matea Rd**	**5.64**	**208**	P	**Pn**	**12 04 28.0**	**+1.4**
NMHZ	**Naumai**	**5.73**	**204**	P	**Pn**	**12 04 28.7**	**+1.0**
ARHZ	**Aropaoanui**	**5.82**	**202**	P	**Pn**	**12 04 29.4**	**+0.7**
BKZ	**Black Stump Fm**	**5.90**	**206**	P	**Pn**	**12 04 33.4**	**+3.6**
MCHZ	**McNeill Hill**	**6.08**	**203**	P	**Pn**	**12 04 34.0**	**+2.1**
HIZ	**Hauiti**	**6.11**	**219**	P	**Pn**	**12 04 36.7**	**+4.5**
HIZ	**Hauiti**	**6.11**	**219**	P	**Pn**	**12 04 36.6**	**+4.3**
KWHZ	**Kaweka Forest**	**6.16**	**205**	P	**Pn**	**12 04 34.1**	**+1.1**
TMVZ	**Te Maari**	**6.17**	**211**	P	**Pn**	**12 04 34.4**	**+1.2**
ETVZ	**East Tongariro**	**6.19**	**211**	P	**Pn**	**12 04 32.1**	**-1.3**
OTVZ	**Oturere**	**6.23**	**211**	P	Pn	12 04 29.4	-4.5
SNVZ	**South Ngauruho**	**6.26**	**211**	P	**Pn**	**12 04 35.9**	**+1.5**
TUVZ	**Tukino**	**6.32**	**211**	P	**Pn**	**12 04 36.4**	**+1.3**
KAHZ	**Kahuranaki**	**6.34**	**201**	P	**Pn**	**12 04 36.4**	**+1.2**
BHHZ	**Black Hill Sta**	**6.34**	**207**	P	**Pn**	**12 04 36.1**	**+0.8**
KRHZ	**Kereru**	**6.37**	**205**	P	**Pn**	**12 04 35.3**	**-0.3**
WNVZ	**Wahianoa**	**6.39**	**211**	P	**Pn**	**12 04 37.2**	**+1.2**
MOVZ	**Moawhango**	**6.40**	**209**	P	**Pn**	**12 04 36.4**	**+0.5**
PXZ	**Pawanui**	**6.57**	**200**	P	**Pn**	**12 04 38.1**	**+0.1**
VRZ	**Vera Road**	**6.62**	**216**	P	**Pn**	**12 04 42.2**	**+3.6**
PNHZ	**Pukenui**	**6.67**	**205**	P	**Pn**	**12 04 39.6**	**+0.3**
PRHZ	**Porangahau**	**6.85**	**201**	P	**Pn**	**12 04 42.1**	**+0.5**
TSZ	**Takapari Road**	**6.88**	**205**	P	**Pn**	**12 04 42.1**	**+0.1**
WAZ	**Wanganui**	**7.01**	**212**	P	**Pn**	**12 04 44.8**	**+1.2**
DVHZ	**Dannevirke**	**7.03**	**203**	P	**Pn**	**12 04 44.0**	**+0.2**
NEZ	**North Egmont**	**7.06**	**219**	P	**Pn**	**12 04 48.1**	**+3.7**
PKE	**Pukeiti**	**7.07**	**220**	P	**Pn**	**12 04 48.2**	**+3.9**
POWZ	**Post Office Ro**	**7.25**	**205**	P	**Pn**	**12 04 47.0**	**+0.4**
PRWZ	**Pori Road**	**7.32**	**204**	P	**Pn**	**12 04 48.7**	**+1.2**
BFZ	**Birch Farm**	**7.35**	**202**	P	**Pn**	**12 04 49.4**	**+1.6**
BFZ	**Birch Farm**	**7.35**	**202**	P	**Pn**	**12 04 47.1**	**-0.8**
TIWZ	**Tintock**	**7.55**	**203**	P	**Pn**	**12 04 50.5**	**+0.1**
MRZ	**Mangatainoka R**	**7.55**	**205**	P	**Pn**	**12 04 48.9**	**-1.5**
HOWZ	**Holdsworth Sta**	**7.78**	**205**	P	**Pn**	**12 04 52.5**	**-0.9**
OGWZ	**Otaki Gorge**	**7.84**	**207**	P	**Pn**	**12 04 52.8**	**-1.1**
TMWZ	**Te Maipa**	**7.85**	**202**	P	**Pn**	**12 04 53.8**	**-0.3**
KIW	**Kapiti Island**	**7.87**	**208**	P	**Pn**	**12 04 54.7**	**-1.1**
MTW	**Mount Morrison**	**8.02**	**204**	P	**Pn**	**12 04 55.3**	**-1.0**
CAW	**Cannon Point**	**8.13**	**206**	P	**Pn**	**12 04 56.1**	**-1.6**
DUWZ	**D'Urville Isla**	**8.34**	**212**	P	**Pn**	**12 04 59.2**	**-1.1**
WEL	**Wellington**	**8.39**	**207**	P	**Pn**	**12 05 00.2**	**-0.9**
SNZO	**South Karori**	**8.44**	**207**	P	**Pn**	**12 05 01.0**	**-0.6**
QRZ	**Quartz Range**	**9.02**	**218**	P	**Pn**	**12 05 09.1**	**+0.1**
KHZ	**Kahutara**	**9.84**	**208**	P	**Pn**	**12 05 18.0**	**-1.2**

*IDC **01** 12:16:57.5±8.4,36°.59N×25°.24E,h0km,mb3.9/4, mbtmp3.8/5,ML2.4/1,Error ellipse: s-maj=159.3km s-min=52.2km az=23.0*
*ISK **01** 12:17:22.7,36°.70N×27°.00E,h134km±1km,ML2.5/21*
*AFAD **01** 12:17:23.1±0.0,36°.66N×27°.08E,h29km±4km,ML2.2*
*ATH **01** 12:17:23.7,36°.65N×26°.90E,h121km±9km,ML3.3/6,Error ellipse: s-maj=9.3km s-min=2.1km az=86.0*
*THE **01** 12:17:24.7,36°.66N×26°.98E,h147km±3km,ML3.4/5,Error ellipse: s-maj=3.2km s-min=1.2km az=73.0*

ISC 01 12:17:21.9±1.0,36°.70N±0°.05×26°.97E±0°.03,h139km±6km, n58,σ1§01/87,mb3.9/4,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	**Kos Island**	**0.05**	**9**	Pg	**Pn**	**12 17 40.4**	**-0.3**
KLNA	**Kalymnos**	**0.26**	**1**	P	**Pn**	**12 17 41.4**	**+0.4**
RFTB	**Kemer-Bodrum**	**0.36**	**43**	Pg	**Pn**	**12 17 41.1**	**-0.3**
RFTD	**Palamutbuku-Ka**	**0.43**	**92**	Pg	**Pn**	**12 17 42.1**	**+0.5**
RFTD				Sg	**Sn**	**12 17 56.4**	**-0.2**
BODT	**Bodrum**	**0.46**	**37**	Pg	**Pn**	**12 17 42.4**	**+0.6**
BODT				Sg	**Sn**	**12 17 56.8**	**-0.2**
BODT	**Bodrum**	**0.46**	**37**	P	**Pn**	**12 17 42.4**	**+0.6**
BODT				S	**Sn**	**12 17 56.8**	**-0.2**
DAT	**Datca**	**0.49**	**86**	Pg	**Pn**	**12 17 42.5**	**+0.4**
DAT				Sg	**Sn**	**12 17 57.2**	**-0.2**
DAT	**Datca**	**0.49**	**86**	P	**Pn**	**12 17 42.6**	**+0.4**
DAT				S	**Sn**	**12 17 56.6**	**-0.8**
RFTC	**Emecik-Datca**	**0.69**	**83**	Pg	**Pn**	**12 17 43.3**	**+0.1**
RFTC				Sg	**Sn**	**12 17 58.3**	**-1.0**
RFTAA	**Mazikoy-Bodrum**	**0.69**	**64**	Pg	**Pn**	**12 17 43.7**	**+0.5**
RFTAA				Sg	**Sn**	**12 17 58.8**	**-0.5**
MLSB	**Milas**	**0.88**	**47**	Pg	**Pn**	**12 17 45.5**	**+0.8**
SMG	**Samos**	**1.01**	**354**	P	**Pn**	**12 17 46.3**	**+0.5**
SMG	**Samos**	**1.01**	**354**	P	**Pn**	**12 17 46.4**	**+0.5**
TURN	**Turunc**	**1.03**	**85**	Pg	**Pn**	**12 17 46.3**	**+0.4**
TURN				Sg	**Sn**	**12 18 03.2**	**-0.9**
ARG	**Arkhangelos**	**1.05**	**117**	Pg	**Pn**	**12 17 46.8**	**+0.7**
ARG				Sg	**Sn**	**12 18 04.2**	**-0.3**
ARG	**Arkhangelos**	**1.05**	**117**	P	**Pn**	**12 17 46.8**	**+0.7**
ARG				S	**Sn**	**12 18 02.4**	**-2.1**
	368nm,0.3s						
ARG	**Arkhangelos**	**1.05**	**117**	P	**Pn**	**12 17 46.9**	**+0.7**
ARG				S	**Sn**	**12 18 02.3**	**-2.1**
ARG				AML	AML	12 18 06.5	
	comp=N,670μm,0.2s						
ARG				AML	AML	12 18 06.8	
	comp=E,665μm,0.3s						
YER	**Yerkesik**	**1.14**	**67**	Pn	**Pn**	**12 17 48.0**	**+1.0**
YER				Sn	**Sn**	**12 18 05.9**	**-0.3**
YER	**Yerkesik**	**1.14**	**67**	P	**Pn**	**12 17 48.0**	**+1.0**
YER				S	**Sn**	**12 18 05.1**	**-1.1**
AYDN	**Tasoluk**	**1.21**	**37**	P	**Pn**	**12 17 48.5**	**+0.8**
AYDN				*i* AML	AML	12 17 57.0	
	comp=E,11nm,0.3s						
AYDN				*i* AML	AML	12 18 01.0	
	comp=E,13nm,0.4s						
APE	**Apeiranthos**	**1.21**	**288**	Pn	**Pn**	**12 17 48.6**	**+0.9**
APE	**Apeiranthos**	**1.21**	**288**	P	**Pn**	**12 17 48.7**	**+1.0**
APE	**Apeiranthos**	**1.21**	**288**	P	**Pn**	**12 17 48.7**	**+1.0**
MULA	**Mugla, Merkez-**	**1.22**	**62**	P	**Pn**	**12 17 48.6**	**+0.7**
MULA				*i* AML	AML	12 18 08.0	
	comp=E,47nm,0.7s						
MULA				*i* AML	AML	12 18 08.0	
	comp=E,73nm,0.8s						
DALY	**Dalyan (Mula)**	**1.36**	**85**	Pn	**Pn**	**12 17 50.0**	**+0.9**
DALY				Sn	**Sn**	**12 18 09.9**	**0.0**
ZKR	**Zakros**	**1.69**	**201**	Pn	**Pn**	**12 17 53.9**	**+1.0**
ZKR				Sn	**Sn**	**12 18 17.0**	**+0.5**
ZKR	**Zakros**	**1.69**	**201**	P	**Pn**	**12 17 54.1**	**+1.2**
ZKR				S	**Sn**	**12 18 16.4**	**-0.1**
	comp=E,510nm,0.7s						
ZKR	**Zakros**	**1.69**	**201**	P	**Pn**	**12 17 54.0**	**+1.2**
ZKR				AML	AML	12 18 18.5	
	comp=E,1617μm,0.4s						
ZKR				AML	AML	12 18 20.5	
	comp=N,306μm,0.6s						
FETY	**Fethiye**	**1.70**	**92**	Pn	**Pn**	**12 17 53.9**	**+1.0**
TAVA	**DENIZLI_Tavas**	**1.73**	**63**	P	**Pn**	**12 17 53.5**	**+0.1**
TAVA				S	**Sn**	**12 18 16.2**	**-1.2**
TAVA				*i* AML	AML	12 18 17.0	
	comp=N,18nm,0.7s						
TAVA				*i* AML	AML	12 18 17.0	
	comp=N,12nm,0.4s						
IZZE	**Mula-Seydike**	**1.84**	**98**	P	**Pn**	**12 17 55.0**	**+0.5**
IZZE				S	**Sn**	**12 18 17.1**	**-2.3**
IZZE				*i* AML	AML	12 18 19.0	
	comp=N,207nm,0.3s						
IZZE				*i* AML	AML	12 18 20.0	
	comp=N,72nm,0.2s						
CAME	**Cameli-Denizli**	**1.89**	**82**	Pn	**Pn**	**12 17 55.7**	**+0.5**
CAME				Sn	**Sn**	**12 18 20.6**	**-0.1**
DNIZ	**Denizli-Tavas-**	**1.90**	**60**	P	**Pn**	**12 17 54.6**	**-0.7**
DNIZ				S	**Sn**	**12 18 18.8**	**-2.0**
DNIZ				*i* AML	AML	12 18 22.0	
	comp=N,26nm,0.6s						
DNIZ				*i* AML	AML	12 18 24.0	
	comp=N,42nm,0.2s						
CAEL	**Denizli, Camel**	**1.93**	**77**	P	**Pn**	**12 17 56.4**	**+0.6**
CAEL				S	**Sn**	**12 18 21.2**	**-0.4**
CAEL				*i* AML	AML	12 18 26.0	
	comp=N,105nm,0.5s						
CAEL				*i* AML	AML	12 18 27.0	
	comp=N,75nm,0.7s						
FRMA	**Ierapetra Chan**	**1.96**	**211**	P	**Pn**	**12 17 56.5**	**+0.6**
FRMA				AML	AML	12 18 21.9	
	comp=E,889μm,0.3s						
FRMA				AML	AML	12 18 22.6	
	comp=N,712μm,0.3s						
APMY	**Acipayam-Deniz**	**2.02**	**67**	Pn	**Pn**	**12 17 57.5**	**+0.8**
APMY				Sn	**Sn**	**12 18 23.1**	**-0.3**
HRKL	**Herakleio**	**2.05**	**228**	Pn	**Pn**	**12 17 58.8**	**+1.8**
GOLH	**Golhisar**	**2.15**	**75**	P	**Pn**	**12 17 59.2**	**+1.0**
GOLH				S	**Sn**	**12 18 25.9**	**-0.2**
GOLH				*i* AML	AML	12 18 28.0	
	comp=N,34nm,0.6s						
GOLH				*i* AML	AML	12 18 28.0	
	comp=N,31nm,0.5s						
AKAS	**Kas**	**2.18**	**102**	Pn	**Pn**	**12 17 59.3**	**+0.6**
AKAS	**Kas**	**2.18**	**102**	P	**Pn**	**12 17 58.4**	**-0.2**
AKAS				S	**Sn**	**12 18 24.9**	**-2.0**
AKAS				*i* AML	AML	12 18 27.0	
	comp=N,53nm,0.3s						
AKAS				*i* AML	AML	12 18 29.0	
	comp=N,91nm,0.3s						
IDI	**Anoyia**	**2.20**	**231**	P	**Pn**	**12 17 58.9**	**+0.1**
IDI				S	**Sn**	**12 18 25.2**	**-2.0**
	comp=N,282nm,0.5s						
IDI	**Anoyia**	**2.20**	**231**	P	**Pn**	**12 17 58.9**	**+0.1**
IDI				S	**Sn**	**12 18 25.1**	**-2.1**
IDI				AML	AML	12 18 27.8	
	comp=N,492μm,0.5s						
IDI				AML	AML	12 18 28.0	
	comp=E,607μm,0.3s						
KULA	**Kula-Manisa**	**2.26**	**36**	Pn	**Pn**	**12 18 00.0**	**+0.4**
ELL	**Elmali**	**2.36**	**88**	Pn	**Pn**	**12 18 01.2**	**+0.3**
IMMV	**Iera Moni Meta**	**2.72**	**244**	P	**Pn**	**12 18 05.5**	**+0.2**
IMMV				S	**Sn**	**12 18 37.1**	**-1.5**
	comp=E,185nm,0.3s						
IMMV	**Iera Moni Meta**	**2.72**	**244**	P	**Pn**	**12 18 05.7**	**+0.4**
IMMV				S	**Sn**	**12 18 35.8**	**-2.8**
GVD	**Gavdhos**	**2.99**	**232**	P	**Pn**	**12 18 09.8**	**+1.1**
GVD				S	**Sn**	**12 18 44.6**	**-0.2**
	comp=E,248nm,0.3s						
GVD	**Gavdhos**	**2.99**	**232**	P	**Pn**	**12 18 09.3**	**+0.6**
GVD				AML	AML	12 18 46.0	
	comp=N,477μm,0.3s						
GVD				AML	AML	12 18 49.1	
	comp=E,512μm,0.3s						
KNDR	**Palaiochora Ch**	**3.04**	**242**	P	**Pn**	**12 18 11.5**	**+2.2**
KNDR				S	**Sn**	**12 18 44.8**	**-1.1**
KNDR				AML	AML	12 18 51.1	
	comp=E,474μm,0.7s						
KNDR				AML	AML	12 18 53.2	
	comp=N,353μm,0.6s						
ANKY	**Antikythira Is**	**3.08**	**255**	P	**Pn**	**12 18 10.5**	**+0.7**
ANKY	**Antikythira Is**	**3.08**	**255**	P	**Pn**	**12 18 10.3**	**+0.5**
KTHA	**Kythira Island**	**3.18**	**263**	P	**Pn**	**12 18 12.3**	**+1.1**
VLI	**Veliai**	**3.24**	**272**	P	**Pn**	**12 18 12.1**	**+0.2**
BRTR	**Keskin Array B**	**6.06**	**58**	Pn	**Pn**	**12 18 47.4**	**-2.0**
	comp=N,0.1nm,0.3s,baz=239,slow=10.0,SNR=3.8						
	comp=N,0.9nm,0.8s						
FINES	**FINESS Array B**	**24.77**	**359**	P	P	12 22 21.5	-8.9
	comp=N,1.7nm,1.0s,baz=184,slow=8.2,SNR=3.6						
	comp=N,1.7nm,1.0s						
KURBB	**Kurchatov Arra**	**39.02**	**52**	P	**P**	**12 24 35.4**	**+0.7**
	comp=N,0.9nm,0.4s,baz=274,slow=8.6,SNR=6.3						
	comp=N,0.9nm,0.4s						
MKAR	**Makanchi Array**	**41.71**	**58**	P	**P**	**12 24 57.6**	**+0.7**
	comp=N,1.0nm,0.3s,baz=263,slow=8.5,SNR=14						
	comp=N,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**42.88**	**47**	P	**P**	**12 25 06.4**	**+0.2**
	comp=N,1.0nm,0.4s,baz=277,slow=8.7,SNR=5.3						
	comp=N,1.0nm,0.4s						

*IDC **01** 12:18:10.9±0.9,28°.54N×96°.22E,h0km,mb3.8/11, mbtmp3.9/12,ML3.6/1,MS3.1/4,Error ellipse: s-maj=38.4km s-min=15.0km az=59.0*
*NDI **01** 12:18:12.3±3.4,28°.79N×96°.33E,h30km±415km,ML4.2, mb4.0(NEIC)*
*NEIC **01** 12:18:17.3±1.6,28°.68N±0°.10×96°.32E±0°.10,h35km±5km, mb4.0/11,Error ellipse: s-maj=17.6km s-min=6.1km az=220.0*

ISC 01 12:18:15.9±0.5,28°.72N±0°.05×96°.27E±0°.04,h24km,n51, σ1§62/60,mb4.0/17,MS2.9/3,2C,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIRO	**ZIRO**	**2.44**	**241**	*e*P	**Pn**	**12 18 56.2**	**+1.8**
ZIRO				*e*S	**Sn**	**12 19 24.1**	**+0.4**
JORH	**JORHAT**	**2.66**	**223**	*e*P	**Pn**	**12 18 56.0**	**-1.2**
JORH				*e*S	**Sn**	**12 19 31.4**	**+2.7**
JORH				IAML		12 19 47.8	
	comp=E,3μm,0.5s						
ITAN	**ITANAGAR**	**2.74**	**236**	*e*P	**Pn**	**12 18 59.8**	**+1.4**
ITAN				*e*S	**Sb**	**12 19 35.1**	**-2.4**
ITAN				IAML		12 19 43.5	
	comp=E,2μm,0.3s						
ITAN				IAML		12 19 45.0	
	comp=N,3μm,0.3s						
MOKO	**MOKOCHONG**	**2.85**	**213**	*e*P	**Pn**	**12 19 00.4**	**+0.4**
MOKO				*e*S	**Sn**	**12 19 34.8**	**+1.1**
MOKO				IAML		12 19 45.6	
	comp=E,2μm,0.2s						
KOHI	**KOHIMA**	**3.55**	**213**	*e*P	**Pn**	**12 19 09.9**	**+0.2**
KOHI				*e*S	**Sn**	**12 19 54.2**	**+3.2**
KOHI				IAML		12 20 09.4	
	comp=N,1μm,0.3s						
TEZP	**TEZPUR**	**3.72**	**237**	*e*P	**Pn**	**12 19 12.4**	**+0.6**
TEZP				*e*S	**Sn**	**12 19 57.1**	**+2.2**
TNCH	**TengChong**	**4.19**	**151**	Pn	Pn	12 19 06.9	-12
TNCH				Pg	**Pb**	**12 19 26.8**	**-2.3**
TNCH				Sn	**Sn**	**12 20 04.3**	**-2.6**
TNCH				Sg	**Sb**	**12 20 25.5**	**+6.1**
TNCH				smax	smax		
	comp=N,75nm,0.9s						
TNCH				smax	smax		
	comp=E,95nm,1.0s						
TNCH				LR	LR		
	comp=N,210nm,2.8s						
TNCH				LR	LR		
	comp=E,360nm,4.2s						
TNCH	**TengChong**	**4.19**	**151**	*e*Pn	Pn	12 19 13.4	-5.1
TNCH				Pg	**Pb**	**12 19 28.9**	**-0.2**
TNCH				Sg	**Sb**	**12 20 20.2**	**+0.8**
TNCH				smax	smax		
	comp=N,85nm,0.6s						
TNCH				smax	smax		
	comp=E,96nm,0.8s						
IMP	**Imphal**	**4.39**	**209**	*e*P	**Pn**	**12 19 21.3**	**+0.1**
LSA	**Lhasa**	**4.58**	**284**	P	Pb	12 19 31.1	-4.7
LSA				S	Sn	12 20 06.5	-10
LSA				LR	LR		
	comp=N,500nm,14.9s						
LSA				LR	LR		
	comp=E,830nm,19.9s						
LSA				LR	LR		
	comp=Z,670nm,16.4s						
LSA	**Lhasa**	**4.58**	**284**	Pn	**Pn**	**12 19 24.6**	**+0.6**
GUWA	**GUWAHATI**	**4.78**	**239**	*e*P	**Pn**	**12 19 26.5**	**+0.1**
GUWA				*e*S	**Sn**	**12 20 19.9**	**-1.2**
SHL	**Shillong**	**5.01**	**232**		**Pn**	**12 19 30.0**	**+0.2**
SHL	**Shillong**	**5.01**	**232**	*e*P	**Pn**	**12 19 29.8**	**0.0**
SHL				*e*S	**Sn**	**12 20 24.6**	**-2.5**
SHL				IAML		12 20 27.7	
	comp=N,212nm,0.3s						
SHL				IAML		12 20 28.1	
	comp=E,231nm,0.2s						
MND	**Mandalay**	**6.68**	**181**		**Pn**	**12 19 52.0**	**-0.5**
KMI	**Kunming**	**6.80**	**120**	⇑P	**Pn**	**12 19 56.8**	**+2.4**
KMI				sP	Pb	12 20 31.3	+18
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KMI				LR	LR		
	comp=N,220nm,7.4s						
KMI				LR	LR		
	comp=E,180nm,8.0s						
KMI				LR	LR		
	comp=Z,100nm,10.6s						
SAIH	**SAIHA**	**6.87**	**206**	*e*P	**Pn**	**12 19 55.5**	**+0.1**
GOMU	**GeErMu**	**7.56**	**351**	P	**Pn**	**12 20 08.9**	**+4.0**
GOMU				pP	Pb	12 20 13.4	-13
GOMU				sP		12 20 14.7	
GOMU				S	Sn	12 21 19.7	-10
GOMU				pmax	pmax		
	comp=Z,8.0nm,0.5s						
GOMU				pmax	pmax		
	comp=Z,73nm,4.9s						
GOMU				LR	LR		
	comp=N,140nm,7.7s						
GOMU				LR	LR		
	comp=E,110nm,6.5s						
GOMU				LR	LR		
	comp=Z,190nm,9.4s						
CHTO	**Chiang Mai**	**10.16**	**165**	Pn	**Pn**	**12 20 39.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**10.51**	**166**	Pn	Pn	12 20 38.7	-6.3
	comp=Z,0.1nm,0.3s,baz=334,slow=12,SNR=1.4						
CMAR				LR	LR	12 25 11.7	
	comp=Z,75nm,18.0s,baz=350,slow=41						
	comp=Z,1.2nm,0.3s						
XAN	**Xi'an**	**12.04**	**61**	⇑P	**Pn**	**12 21 06.3**	**+0.2**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BTO	**Baotou**	**16.36**	**40**	*e*P	**Pn**	**12 22 02.1**	**-2.0**
BTO				sP	sP	12 22 41.8	+24
BTO				pmax	pmax		
	comp=Z,17nm,0.4s						
BTO				pmax	pmax		
	comp=Z,160nm,3.7s						
HYB	**Hyderabad**	**19.77**	**239**	*e*P	**P**	**12 22 44.7**	**+0.2**
HYB				*e*S	**Sn**	**12 26 28.6**	**+0.9**
SONM	**Songino Array**	**20.64**	**20**	P	**P**	**12 22 53.7**	**-0.1**
SONM	**Songino Array**	**20.64**	**20**	P	**P**	**12 22 53.1**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=196,slow=9.0,SNR=5.1						
SONM				LR	LR	12 31 38.9	
	comp=Z,52nm,21.2s,baz=219,slow=39						
	comp=Z,1.3nm,0.8s						
MK31	**Makanchi Array**	**21.10**	**333**	P	**P**	**12 23 00.0**	**+1.4**
MK31				IAmb	IAmb	12 23 02.9	
	comp=Z,3.1nm,1.1s						
MKAR	**Makanchi Array**	**21.10**	**333**	P	**P**	**12 22 59.8**	**+1.2**
MKAR	**Makanchi Array**	**21.10**	**333**	P	**P**	**12 22 58.3**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=139,slow=12,SNR=18						
MKAR				LR	LR	12 32 45.2	
	comp=Z,21nm,19.7s,baz=102,slow=41						
	comp=Z,1.5nm,0.6s						
MAKZ	**Makanchi**	**21.24**	**332**	P	**P**	**12 23 01.1**	**+1.0**
MAKZ				IAmb	IAmb	12 23 05.4	
	comp=Z,3.3nm,0.6s						
BOOM	**Boomskoye usch**	**21.42**	**315**	P	**P**	**12 23 03.7**	**+1.4**
BOOM				IAmb	IAmb	12 23 05.2	
	comp=Z,3.5nm,0.7s						
KBL	**Kabul**	**23.86**	**291**	P	**P**	**12 23 27.6**	**-0.1**
KBL				IAmb	IAmb	12 23 29.4	
	comp=Z,5.0nm,1.1s						
KKAR	**Karatay Array**	**25.19**	**312**	P	**P**	**12 23 40.9**	**+1.3**
KURBB	**Kurchatov Arra**	**25.66**	**333**	P	**P**	**12 23 42.8**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=141,slow=11,SNR=5.9						
	comp=Z,0.4nm,0.3s						
ZAA0	**Zalesovo Array**	**26.56**	**345**	P	**P**	**12 23 51.7**	**-0.1**
ZAA0				IAmb	IAmb	12 23 55.5	
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**26.56**	**345**	P	**P**	**12 23 51.9**	**+0.1**
ZALV	**Zalesovo Beam**	**26.56**	**345**	P	**P**	**12 23 52.6**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=170,slow=8.2,SNR=11						
	comp=Z,3.2nm,0.5s						
KSRS	**Korea Array**	**27.82**	**64**	P	**P**	**12 24 02.6**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=307,slow=20,SNR=1.4						
	comp=Z,0.6nm,0.5s						
HRA	**Herat**	**29.45**	**290**	P	**P**	**12 24 16.8**	**-1.3**
HRA				IAmb	IAmb	12 24 18.1	
	comp=Z,4.1nm,1.2s						
BVAR	**Borovoye Array**	**30.87**	**329**	P	**P**	**12 24 30.1**	**-0.1**

BGR ***01*** *12:48:53.4, 11°.36N×93°.51E, h33km, mb4.3*
IDC ***01*** *12:48:58.7±0.5, 12°.84N×92°.04E, h0km, mb4.2/23, mbtmp4.2/24, ML4.0/1, MS4.1/58, Error ellipse: s-maj=18.1km s-min=13.4km az=57.0*
DJA ***01*** *12:49:00.8±0.3, 13°N±3°×9°2E±°, h10km, M4.8/15, mb4.8/15, mB5.3/6, MLv4.9/2, Mw(mB)4.7/6, MwMwp4.6/1, Mwp5.0/1*
NDI ***01*** *12:49:02.7±3.7, 12°.92N×91°.91E, h24km±35km, mb4.6, ML4.4, mb4.6(NEIC)*
GCMT ***01*** *12:49:03.6±0.2, 12°.96N±0°.02×91°.94E±0°.02, h16km±1km, MW5.0/93, Moment Tensor Solution. s36,c41; s93,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.28±.15; $M_{\theta\theta}$=0.61±.09; $M_{\phi\phi}$=1.66±.10; $M_{r\theta}$=3.47±.40; $M_{\theta\phi}$=1.45±.07; $M_{\phi r}$=-0.22±.25; Best double couple: M_0=4.16400×10^{16} NP1:ϕ_s=255.00000°, δ74.00000°, λ-65.00000°. NP2: ϕ_s=15.00000°, δ29.00000°, λ-146.00000°. Principal axes: T 3.5810, Plg25.0000°, Azm325.0000°; N 1.1600, Plg24.0000°, Azm67.0000°; P -4.7480, Plg54.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***01*** *12:49:04.6±1.6, 12°.78N±0°.06×91°.9E±0°.1, h29km±4km, mb4.6/33 Error ellipse: s-maj=16.4km s-min=8.0km az=68.0*
BJI ***01*** *12:49:05.3±0.0, 12°.85N×91°.86E, h36km, mb4.4/41, mB4.7/30, Ms4.4/38, Ms7 4.1/34*

ISC 01 12:49:03.2±0.6, 12.77N±0°.04×91°.84E±0°.05, h26km±3km, h28km:pP-P, n184, σ1ŝ94/162, mb4.5/48, MS4.2/69, 7C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.42**	**141**	Pn	**Pn**	**12 49 27.1**	**-0.3**
PBA	**Port Blair**	**1.42**	**141**	*e*P	**Pn**	**12 49 27.6**	**+0.3**
PBA				*e*S	**Sb**	**12 49 47.7**	**+1.0**
PBA				IAML		12 49 50.3	
	comp=N,11μm,0.8s						
PBA				IAML		12 49 50.6	
	comp=E,11μm,0.4s						
CM31	**Chiang Mai Arr**	**8.87**	**50**		**Pn**	**12 51 11.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**8.87**	**50**		**Pn**	**12 51 11.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**8.87**	**50**	Pn	**Pn**	**12 51 05.8**	**-4.0**
	comp=E,0.5nm,0.3s,baz=241,slow=15,SNR=8.3						
CMAR				Sn	**Sn**	**12 52 41.7**	**-7.3**
	comp=E,1.3nm,0.3s,baz=238,slow=26,SNR=6.6						
CMAR				LR	LR	12 55 03.1	
	comp=E,775nm,18.6s,baz=225,slow=42						
	comp=E,0.3nm,0.3s						
CHTO	**Chiang Mai**	**9.10**	**48**	Pn	**Pn**	**12 51 12.1**	**-0.8**
VIS	**Vishakhapatnam**	**9.57**	**302**	*e*P	**Pn**	**12 51 18.6**	**-0.8**
VIS				*e*S	Sn	12 52 56.9	-9.3
SAIH	**SAIHA**	**9.72**	**6**	*e*P	**Pn**	**12 51 18.1**	**-3.5**
SAIH				*e*S	Sn	12 52 58.1	-12
SAIH				IAML		12 53 10.8	
	comp=N,62nm,0.8s						
MND	**Mandalay**	**10.05**	**23**	Pn	**Pn**	**12 51 26.4**	**+0.4**
KCSI	**Kotacane, Aceh**	**10.90**	**147**	P	**Pn**	**12 51 37.6**	**-0.2**
	comp=N,37nm,0.7s,comp=N,3μm						
AZL	**Aizawl**	**10.94**	**4**	*e*P	**Pn**	**12 51 36.7**	**-1.5**
KULM	**Kulim**	**11.44**	**130**		**Pn**	**12 51 46.1**	**+1.0**
JHSG	**JHARSUGUGA**	**11.79**	**320**	*e*S	**Sn**	**12 53 58.0**	**-2.8**
BOK	**Bokaro**	**12.33**	**334**	*e*P	**Pn**	**12 51 55.8**	**-1.4**
BOK				IAmb	IAmb	12 52 08.7	
	comp=Z,26nm,0.6s						
SHL	**Shillong**	**12.73**	**0**	Pn	Pn	12 51 55.5	-7.2
SHL	**Shillong**	**12.73**	**0**	*e*P	Pn	12 51 56.6	-6.2
SHL				IAmb	IAmb	12 52 03.1	
	comp=Z,10nm,0.6s						
KOHI	**KOHIMA**	**13.05**	**9**	*e*P	**Pn**	**12 52 02.9**	**-4.4**
KOHI				IAML		12 54 32.8	
	comp=N,51nm,1.0s						
KOHI				IAML		12 54 36.3	
	comp=E,34nm,0.5s						
DHUB	**DHUBRI**	**13.29**	**353**	*e*P	**Pn**	**12 52 07.7**	**-2.6**
GUWA	**GUWAHATI**	**13.35**	**359**	*e*P	**Pn**	**12 52 08.1**	**-3.0**
MOKO	**MOKOCHONG**	**13.71**	**10**	*e*P	**Pn**	**12 52 11.9**	**-4.3**
MOKO				IAML		12 54 56.9	
	comp=E,43nm,0.7s						
TNCH	**TengChong**	**13.72**	**26**	*e*P	**Pn**	**12 52 19.8**	**+3.4**
TNCH				pP	P	12 52 25.7	+0.9
TNCH				S	**Sn**	**12 54 53.0**	**+4.8**
TNCH				sS	S	12 55 02.1	-8.3
TNCH				pmax	pmax		
	comp=E,18nm,0.5s						
TNCH				pmax	pmax		
	comp=E,190nm,5.5s						
TNCH				LR	LR		
	comp=E,730nm,13.4s						
TNCH				LR	LR		
	comp=E,560nm,9.7s						
TNCH				LR	LR		
	comp=E,1μm,15.8s						
TEZP	**TEZPUR**	**13.80**	**4**	*e*P	**Pn**	**12 52 13.8**	**-3.4**
ODAN	**Odare**	**14.62**	**344**	*e*P	**Pn**	**12 52 26.4**	**-2.3**
	comp=E,76nm,0.5s						
GTK	**Tadong**	**14.79**	**349**	*e*P	**Pn**	**12 52 28.4**	**-2.5**
ZIRO	**ZIRO**	**14.80**	**7**	*e*P	**Pn**	**12 52 30.2**	**-0.8**
ZIRO				IAML		12 55 11.2	
	comp=E,142nm,0.7s						
RAMN	**Ramite**	**14.94**	**342**	*e*P	**Pn**	**12 52 30.1**	**-2.9**
	comp=E,56nm,0.3s						
TAPN	**Taplejung**	**15.01**	**346**	*e*P	**Pn**	**12 52 31.5**	**-2.5**
	comp=E,122nm,0.7s						
JIRN	**Jiri**	**15.72**	**341**	*e*P	**Pn**	**12 52 41.0**	**-2.4**
	comp=E,43nm,0.4s						
PKI	**Pulchoki**	**15.90**	**339**	*e*P	**Pn**	**12 52 43.6**	**-2.1**
	comp=E,190nm,1.1s						
PKIN	**Phulchoki**	**15.91**	**339**	*e*P	**Pn**	**12 52 43.5**	**-2.3**
	comp=E,70nm,0.5s						
KMI	**Kunming**	**16.02**	**38**	⇑P	**P**	**12 52 49.1**	**-1.3**
KMI				sP	pwP	12 52 58.5	-1.4
KMI				pmax	pmax		
	comp=E,18nm,0.5s						
KMI				LR	LR		
	comp=E,1μm,16.8s						
KMI				LR	LR		
	comp=E,740nm,15.6s						
KMI				LR	LR		
	comp=E,1μm,17.1s						
DMN	**Daman**	**16.05**	**338**	*e*P	**Pn**	**12 52 45.6**	**-1.9**
	comp=E,50nm,0.4s						
GUN	**Gumba**	**16.06**	**341**	*e*P	**Pn**	**12 52 45.2**	**-2.5**
	comp=E,100nm,0.8s						
MYKOM	**Kota Tinggi**	**16.14**	**132**	Pn	**Pn**	**12 52 49.6**	**+1.0**
MYKOM				IAmb	IAmb	12 52 59.1	
	comp=Z,37nm,0.9s						
KKN	**Kakani**	**16.15**	**339**	*e*P	**Pn**	**12 52 46.6**	**-2.2**
	comp=Z,131nm,1.2s						
PZH	**PanZhiHua**	**16.52**	**33**	P	**P**	**12 52 57.2**	**+1.3**
PZH				pP	**pwP**	**12 53 04.9**	**-0.3**
PZH				S	**Sn**	**12 55 58.0**	**+1.7**
PZH				sS	**S**	**12 56 07.4**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,140nm,4.1s						
PZH				LR	LR		
	comp=Z,650nm,15.6s						
PZH				LR	LR		
	comp=Z,760nm,15.1s						
PZH				LR	LR		
	comp=Z,1μm,16.9s						
GKN	**Gorkha**	**16.58**	**337**	*e*P	**Pn**	**12 52 52.3**	**-1.9**
	comp=Z,47nm,0.3s						
KOLN	**Koldanda**	**16.79**	**334**	*e*P	**Pn**	**12 52 55.1**	**-1.8**
	comp=Z,265nm,1.4s						
LSA	**Lhasa**	**16.86**	**358**	P	**Pn**	**12 52 57.6**	**-0.3**
BHPL	**Bhopal**	**17.20**	**309**	*e*P	**Pn**	**12 53 01.5**	**-0.4**
BHPL				IAmb	IAmb	12 53 26.0	
	comp=Z,29nm,0.6s						
DANN	**Dangsing**	**17.23**	**335**	*e*P	**Pn**	**12 53 01.2**	**-1.3**
	comp=Z,109nm,0.6s						
PYUN	**Piuthan**	**17.34**	**333**	*e*P	**Pn**	**12 53 03.1**	**-0.7**
	comp=Z,142nm,0.9s						
QIZ	**Qiongzhong**	**18.39**	**68**	P	**Pn**	**12 53 16.6**	**0.0**
QIZ				S	**S**	**12 56 42.6**	**-2.7**
QIZ				sS	**sS**	**12 56 56.3**	**+0.5**
QIZ				LR	LR		
	comp=Z,380nm,10.8s						
QIZ				LR	LR		
	comp=Z,470nm,10.4s						
QIZ				LR	LR		
	comp=Z,640nm,13.9s						
GYA	**Guiyang**	**19.47**	**43**	⇓*i*P	**Pn**	**12 53 32.4**	**+2.7**
GYA				sP	pwP	12 53 43.7	+5.8
GYA				S	**Sn**	**12 57 09.2**	**+1.5**
GYA				pmax	pmax		
	comp=Z,27nm,1.2s						
GYA				pmax	pmax		
	comp=Z,210nm,6.2s						
GYA				LR	LR		
	comp=Z,540nm,12.8s						
GYA				LR	LR		
	comp=Z,630nm,14.7s						
GYA				LR	LR		
	comp=Z,1μm,14.5s						
CD2	**Chengdu**	**21.14**	**29**	P	**P**	**12 53 47.0**	**+0.7**
CD2				pP	pwP	12 53 54.8	-0.9
CD2				sP	sP	12 53 58.3	+2.6
CD2				S	**S**	**12 57 40.2**	**-0.1**
CD2				sS	pS	12 57 55.7	+3.5
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,200nm,10.3s						
CD2				LR	LR		
	comp=Z,390nm,14.2s						
CD2				LR	LR		
	comp=Z,1μm,16.7s						
CD2				LR	LR		
	comp=Z,580nm,15.8s						
KSM	**Kuching**	**21.47**	**120**	P	**P**	**12 53 51.2**	**+1.2**
GOMU	**GeErMu**	**23.48**	**6**	P	**P**	**12 54 13.2**	**+1.9**
GOMU				pP	pP	12 54 17.3	-0.6
GOMU				S	**S**	**12 58 23.4**	**-0.3**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GOMU				pmax	pmax		
	comp=Z,56nm,3.5s						
GOMU				LR	LR		
	comp=Z,350nm,16.2s						
GOMU				LR	LR		
	comp=Z,230nm,14.7s						
GOMU				LR	LR		
	comp=Z,370nm,15.9s						
ENH	**Enshi**	**23.87**	**40**	P	**P**	**12 54 13.7**	**-1.1**
LZH	**Lanzhou**	**25.61**	**23**	*e*P	P	12 54 37.8	+7.1
LZH				pP	pwP	12 54 43.6	+2.5
LZH				sP	sP	12 54 47.7	+7.3
LZH				sS	sS	12 59 16.0	+7.0
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,210nm,5.7s						
LZH				LR	LR		
	comp=Z,780nm,17.5s						
LZH				LR	LR		
	comp=Z,1μm,18.9s						
LZH				LR	LR		
	comp=Z,910nm,18.2s						
XAN	**Xi'an**	**26.26**	**33**	⇓P	**P**	**12 54 34.1**	**-2.4**
XAN				pmax	pmax		
	comp=Z,12nm,0.9s						
XAN				LR	LR		
	comp=Z,1μm,15.8s						
XAN				LR	LR		
	comp=Z,1μm,15.4s						
XAN				LR	LR		
	comp=Z,700nm,16.8s						
NIL	**Nilore**	**26.81**	**324**	P	**P**	**12 54 41.6**	**+0.1**
NIL				IAmb	IAmb	12 54 45.3	
	comp=Z,15nm,1.1s						
GTA	**Gaotai**	**27.45**	**13**	*e*P	**P**	**12 54 48.9**	**+1.6**
GTA				S	**S**	**12 59 26.7**	**+0.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,80nm,4.4s						
GTA				LR	LR		
	comp=Z,190nm,18.2s						
GTA				LR	LR		
	comp=Z,390nm,17.4s						
GTA				LR	LR		
	comp=Z,250nm,18.5s						
H08S3	**Diego Garcia H**	**27.94**	**225**	T	T	13 24 11.9	
	baz=44,slow=75,SNR=205						
H08S2	**Diego Garcia H**	**27.95**	**224**	T	T	13 24 15.1	
	baz=44,slow=75,SNR=131						
H08S1	**Diego Carcia H**	**27.96**	**225**	T	T	13 24 11.8	
	baz=44,slow=75,SNR=29						
WMQ	**Urumqi**	**31.14**	**354**	*e*P	**P**	**12 55 21.6**	**+1.7**
WMQ				sP	pwP	12 55 32.7	+1.9
WMQ				PP	**PP**	**12 56 25.7**	**-4.8**
WMQ				S	**S**	**13 00 22.0**	**-2.2**
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ				LR	LR		
	comp=Z,500nm,17.9s						
WMQ				LR	LR		
	comp=Z,790nm,16.3s						
WMQ				LR	LR		
	comp=Z,250nm,21.1s						
NJ2	**Nanjing**	**31.34**	**48**	*e*P	P	12 55 26.5	+4.8
NJ2				pP	sP	12 55 29.4	-2.4
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,240nm,3.6s						
NJ2				LR	LR		
	comp=Z,850nm,14.7s						
NJ2				LR	LR		
	comp=Z,760nm,9.9s						
NJ2				LR	LR		
	comp=Z,1μm,15.2s						
HNS	**HongShan**	**31.93**	**36**	⇓P	P	12 55 33.6	+6.8
HNS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HNS				LR	LR		
	comp=Z,730nm,16.0s						
HNS				LR	LR		
	comp=Z,310nm,18.5s						
HNS				LR	LR		
	comp=Z,670nm,16.7s						
BTO	**Baotou**	**31.99**	**27**	*e*P	**P**	**12 55 29.8**	**+2.3**
BTO				pP	**pwP**	**12 55 41.4**	**+3.4**
BTO				sP	sP	12 55 47.0	+10
BTO				S	**S**	**13 00 40.0**	**+2.4**
BTO				sS	sS	13 00 58.8	+10
BTO				SS	**SnSn**	**13 02 31.4**	**+3.6**
BTO				pmax	pmax		
	comp=Z,21nm,0.9s						
BTO				pmax	pmax		
	comp=Z,160nm,3.7s						
BTO				LR	LR		
	comp=Z,690nm,16.9s						
BTO				LR	LR		
	comp=Z,670nm,11.4s						
BTO				LR	LR		
	comp=Z,760nm,17.3s						
HHC	**Hu-ho-hao-te**	**32.88**	**28**	⇓P	**P**	**12 55 39.6**	**+4.3**
HHC				S	**S**	**13 00 57.2**	**+5.7**
HHC				sS	sS	13 01 11.4	+8.3
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,5.2s						
HHC				LR	LR		
	comp=Z,540nm,12.2s						
HHC				LR	LR		
	comp=Z,630nm,11.7s						
BTK	**Batken**	**32.88**	**330**	P	**P**	**12 55 37.6**	**+2.3**
KAPI	**Kappang**	**32.89**	**121**	LR	LR	13 10 04.0	
	comp=Z,178nm,18.7s,baz=261,slow=39						
WSAR	**Wadi Sarin**	**33.18**	**293**	LR	LR	13 08 37.6	
	comp=Z,187nm,21.5s,baz=112,slow=35						
AAK	**Ala-Archa**	**33.34**	**336**	P	**P**	**12 55 38.2**	**-1.2**
AAK	**Ala-Archa**	**33.34**	**336**	LR	LR	13 10 48.6	
	comp=Z,425nm,19.8s,baz=156,slow=39						
MK31	**Makanchi Array**	**34.85**	**348**	P	**P**	**12 55 52.7**	**+0.5**
MK31				IAmb	IAmb	12 56 01.1	
	comp=Z,9.3nm,1.0s						
MKAR	**Makanchi Array**	**34.85**	**348**	P	**P**	**12 55 52.7**	**+0.4**
	comp=Z,5.8nm,0.8s,baz=169,slow=9.5,SNR=33						
MKAR				LR	LR	13 12 22.4	
	comp=Z,344nm,21.7s,baz=166,slow=40						
	comp=Z,5.8nm,0.8s						
MAKZ	**Makanchi**	**34.93**	**348**	P	**P**	**12 55 52.9**	**0.0**
MAKZ				IAmb	IAmb	12 56 01.6	
	comp=Z,6.7nm,0.9s						
KK31	**Karatay Array**	**35.40**	**333**	P	**P**	**12 55 57.7**	**+0.7**
KKAR	**Karatay Array**	**35.40**	**333**	P	**P**	**12 55 58.1**	**+1.2**
KKAR				IAmb	IAmb	12 56 01.6	
	comp=Z,5.5nm,1.1s						
KKAR	**Karatay Array**	**35.40**	**333**	P	**P**	**12 55 57.7**	**+0.7**
SONM	**Songino Array**	**37.01**	**16**	P	**P**	**12 56 11.8**	**+0.9**
SONM				IAmb	IAmb	12 56 19.4	
	comp=Z,12nm,1.4s						
SONM	**Songino Array**	**37.01**	**16**	P	**P**	**12 56 08.6**	**-2.2**
	comp=Z,1.9nm,0.7s,baz=204,slow=8.1,SNR=14						
SONM				LR	LR	13 14 04.2	
	comp=Z,573nm,19.9s,baz=197,slow=41						
	comp=Z,1.9nm,0.7s						
ULN	**Ulaanbaatar**	**37.22**	**17**	P	**P**	**12 56 13.3**	**+0.7**
GEYT	**Alibeck**	**39.09**	**316**	P	**P**	**12 56 29.8**	**+1.3**
GEYT				IAmb	IAmb	12 56 39.7	
	comp=Z,6.6nm,0.8s						
GEYT	**Alibeck**	**39.09**	**316**	P	**P**	**12 56 28.6**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=168,slow=9.1,SNR=7.3						
GEYT				PcP	**PcP**	**12 58 39.1**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=172,slow=2.9,SNR=2.2						
GEYT				LR	LR	13 13 36.3	
	comp=Z,327nm,21.8s,baz=140,slow=38						
	comp=Z,3.5nm,0.7s						
KURBB	**Kurchatov Arra**	**39.28**	**347**	P	**P**	**12 56 29.2**	**-0.5**
	comp=Z,5.0nm,0.9s,baz=162,slow=7.8,SNR=21						
KURBB				LR	LR	13 18 03.9	
	comp=Z,220nm,18.3s,baz=168,slow=44						
	comp=Z,5.0nm,0.9s						
KURK	**Kurchatov**	**39.34**	**347**	P	**P**	**12 56 31.0**	**+0.7**
KURK				IAmb	IAmb	12 56 38.6	
	comp=Z,11nm,1.1s						
KSRS	**Korea Array**	**40.49**	**46**	P	**P**	**12 56 37.3**	**-2.7**
	comp=Z,1.9nm,0.6s,baz=237,slow=10,SNR=4.8						
KSRS				LR	LR	13 16 22.2	
	comp=Z,834nm,18.6s,baz=230,slow=41						
	comp=Z,1.9nm,0.6s						
ZALV	**Zalesovo Beam**	**41.45**	**354**	P	**P**	**12 56 47.9**	**+0.3**
ZALV	**Zalesovo Beam**	**41.45**	**354**	P	**P**	**12 56 46.6**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=170,slow=9.8,SNR=12						
ZALV				LR	LR	13 16 44.1	
	comp=Z,276nm,18.7s,baz=186,slow=40						
	comp=Z,2.8nm,0.7s						
BVAR	**Borovoye Array**	**43.65**	**341**	P	**P**	**12 57 04.7**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=128,slow=9.3,SNR=3.5						
BVAR				PcP	**PcP**	**12 58 52.4**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=156,slow=7.4,SNR=2.3						
	comp=Z,1.4nm,0.5s						
ABKAR	**Akbulak array**	**44.88**	**331**	P	**P**	**12 57 16.2**	**+0.8**
ABKAR	**Akbulak array**	**44.88**	**331**	P	**P**	**12 57 16.1**	**+0.6**
ABKAR				IAmb	IAmb	12 57 25.7	
	comp=Z,7.3nm,0.8s						
AKTO	**Aktyubinsk**	**46.59**	**331**	LR	LR	13 17 59.9	
	comp=Z,127nm,20.3s,baz=140,slow=37						
HEH	**HeiHe**	**47.33**	**31**	*e*P	P	12 57 22.4	-12
MJAR	**Matsushiro Arr**	**47.75**	**52**	P	**P**	**12 57 36.3**	**-2.0**
	comp=Z,2.5nm,1.1s,baz=252,slow=8.4,SNR=3.6						
MJAR				PcP	**PcP**	**12 59 06.8**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=253,slow=2.0,SNR=4.2						
MJAR				LR	LR	13 20 28.1	
	comp=Z,296nm,18.1s,baz=252,slow=40						
	comp=Z,2.5nm,1.1s						
JHJ	**Hachijo jima 2**	**48.09**	**57**	LR	LR	13 19 56.6	
	comp=Z,69nm,19.1s,baz=274,slow=39						
KLR	**Kul'dur**	**48.97**	**34**	LR	LR	13 21 29.7	
	comp=Z,339nm,18.3s,baz=234,slow=40						
GNI	**Garni**	**49.45**	**312**	LR	LR	13 22 00.7	
	comp=Z,175nm,20.1s,baz=112,slow=40						
ARU	**Arti**	**50.52**	**337**	LR	LR	13 21 21.8	
	comp=Z,406nm,20.7s,baz=144,slow=38						
NWAO	**Narrogin (SRO)**	**51.51**	**153**	P	**P**	**12 58 06.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**51.51**	**153**	P	**P**	**12 58 06.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**51.51**	**153**	LR	LR	13 19 25.5	
	comp=Z,144nm,20.2s,baz=224,slow=36						
GUMO	**Guam**	**51.55**	**83**	LR	LR	13 20 17.8	
	comp=Z,28nm,18.6s,baz=280,slow=37						
KBZ	**Khabaz**	**51.99**	**316**	LR	LR	13 23 07.6	
	comp=Z,133nm,21.6s,baz=100,slow=39						
WB0	**Warramunga Arr**	**52.92**	**127**	P	**P**	**12 58 16.2**	**-1.4**
WB0				IAmb	IAmb	12 58 17.4	
	comp=Z,8.5nm,1.0s						
WRA	**Warramunga Arr**	**52.97**	**127**	P	**P**	**12 58 16.5**	**-1.5**
WRA	**Warramunga Arr**	**52.97**	**127**	P	**P**	**12 58 15.9**	**-2.1**
	comp=Z,6.2nm,0.8s,baz=300,slow=10,SNR=72						
WRA				PcP	**PcP**	**12 59 25.0**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=319,slow=3.3,SNR=4.6						
	comp=Z,6.2nm,0.8s						
BELG	**Belogornoye**	**52.98**	**328**	LR	LR	13 24 41.7	
	comp=Z,118nm,20.4s,baz=134,slow=40						
WB2	**Warramunga Arr**	**52.98**	**127**	P	**P**	**12 58 16.9**	**-1.2**
WB2				IAmb	IAmb	12 58 17.6	
	comp=Z,7.8nm,0.6s						
WR0	**Warramunga Arr**	**53.14**	**127**	P	**P**	**12 58 18.0**	**-1.2**
WR0				IAmb	IAmb	12 58 19.3	
	comp=Z,12nm,1.1s						
ASAJ	**Asahikawa**	**53.35**	**44**	LR	LR	13 23 46.1	
	comp=Z,289nm,18.7s,baz=328,slow=39						
AS31	**Alice Springs**	**54.80**	**131**	P	**P**	**12 58 30.3**	**-1.1**
ASAR	**Alice Springs**	**54.80**	**131**	P	**P**	**12 58 30.4**	**-1.0**
ASAR	**Alice Springs**	**54.80**	**131**	P	**P**	**12 58 30.1**	**-1.3**
	comp=Z,5.1nm,0.4s,baz=308,slow=6.7,SNR=194						
ASAR				PcP	**PcP**	**12 59 33.0**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=322,slow=4.6,SNR=4.8						
ASAR				LR	LR	13 24 25.0	
	comp=Z,119nm,19.8s,baz=304,slow=39						
	comp=Z,5.1nm,0.4s						
MMAI	**Mount Meron Ar**	**55.09**	**301**	LR	LR	13 24 52.9	
	comp=Z,175nm,21.0s,baz=70,slow=39						
EIL	**Elat**	**55.11**	**297**	LR	LR	13 25 53.7	
	comp=Z,92nm,20.3s,baz=67,slow=40						
FORT	**Forrest**	**55.56**	**142**	P	**P**	**12 58 36.7**	**+0.1**
KIRV	**Kirov**	**55.64**	**335**	LR	LR	13 24 06.4	
	comp=Z,133nm,18.7s,baz=139,slow=38						
KMBO	**Kilima Mbogo**	**55.88**	**260**	LR	LR	13 19 51.6	
	comp=Z,144nm,20.8s,baz=88,slow=33						
NRIK	**Noril'sk**	**56.59**	**358**	LR	LR	13 27 03.6	
	comp=Z,146nm,20.0s,baz=146,slow=40						
BRTR	**Keskin Array B**	**57.57**	**309**	P	**P**	**12 58 50.5**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=125,slow=7.2,SNR=7.7						
BRTR				LR	LR	13 27 27.1	
	comp=Z,94nm,18.2s,baz=108,slow=40						
	comp=Z,1.8nm,0.8s						
OBN	**Obninsk**	**60.06**	**327**	LR	LR	13 28 22.7	
	comp=Z,82nm,19.3s,baz=176,slow=39						
KLMR	**Klimovskoe**	**61.09**	**334**	*e*P	**P**	**12 59 15.5**	**+0.7**
KLMR				AMP		12 59 30.0	
	comp=Z,16nm,2.1s						
MBAR	**Mbarara**	**62.02**	**262**	LR	LR	13 24 22.0	
	comp=Z,128nm,20.4s,baz=90,slow=34						
CTAO	**Charters Tower**	**62.70**	**121**	P	**P**	**12 59 26.6**	**+0.2**
AKASG	**Malin Array Be**	**62.94**	**321**	P	**P**	**12 59 26.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=87,slow=5.2,SNR=4.4						
AKASG				LR	LR	13 29 11.5	
	comp=Z,72nm,21.6s,baz=100,slow=38						
	comp=Z,0.4nm,0.4s						
MA2	**Magadan**	**63.55**	**29**	LR	LR	13 30 10.3	
	comp=Z,132nm,19.2s,baz=244,slow=39						
VRI	**Vrincioaia**	**63.64**	**315**	⇑P	**P**	**12 59 33.9**	**+1.7**
PLOR	**Plostina**	**63.69**	**315**	⇑P	**P**	**12 59 34.5**	**+2.0**
IDI	**Anoyia**	**63.97**	**303**	LR	LR	13 32 00.0	
	comp=Z,44nm,20.6s,baz=80,slow=40						
MLR	**Muntele Rosu**	**64.12**	**314**	⇑P	**P**	**12 59 38.0**	**+2.4**

BURAR Bucovina Array 64.93 317 ⇑P **P 12 59 42.6 +1.8**
BURAR Bucovina Array 64.93 317 P **P 12 59 41.6 +0.8**
BURAR IAmb IAmb 12 59 51.9
comp=Z,3.7nm,0.9s
BUR08 Bucovina Ar. S 64.95 317 P **P 12 59 41.7 +0.8**
BUR08 IAmb IAmb 12 59 51.7
comp=Z,4.7nm,0.9s
ARR Arges 65.02 314 ⇓P **P 12 59 42.4 +1.0**
STKA Stephens Creek 65.12 134 LR LR 13 29 03.0
comp=Z,112nm,21.5s,baz=276,slow=37
PETK Petropavlovsk- 65.43 37 LR LR 13 32 30.9
comp=Z,220nm,18.7s,baz=258,slow=40
MARR Marisel-Cluj 66.23 315 ⇑P **P 12 59 50.4 +1.2**
SURR Surduc 66.82 314 ⇓P **P 12 59 54.5 +1.7**
FINES FINESS Array B 67.35 332 P **P 12 59 55.5 -0.3**
comp=Z,1.7nm,0.6s,baz=104,slow=8.0,SNR=9.3
FINES LR LR 13 32 23.6
comp=Z,140nm,21.1s,baz=111,slow=39
comp=Z,1.7nm,0.6s
H04N2 CROZET ISLANDS 68.83 209 T T 14 15 24.7
baz=43,slow=75,SNR=96
H04N1 CROZET ISLANDS 68.84 209 T T 14 15 21.5
baz=43,slow=75,SNR=119
H04N3 CROZET ISLANDS 68.85 209 T T 14 15 24.1
baz=43,slow=75,SNR=118
ARCES ARCESS Array B 69.92 340 P **P 13 00 12.2 +0.4**
comp=Z,1.6nm,0.7s,baz=74,slow=9.0,SNR=4.2
ARCES LR LR 13 33 08.5
comp=Z,323nm,20.3s,baz=106,slow=38
comp=Z,1.6nm,0.7s
JAVC Velka Javorina 70.08 317 *e*P **P 13 00 17.5 +4.3**
MORC Moravsky Berou 70.22 318 *e*P **P 13 00 14.9 +0.9**
VRAC Vranov 70.81 318 *e*P **P 13 00 18.9 +1.3**
VRAC Vranov 70.81 318 LR LR 13 37 39.5
comp=Z,62nm,18.0s,baz=76,slow=41
KRUC Moravsky 70.93 318 *e*P **P 13 00 18.9 +0.6**
DPC Dobruska-Polom 71.03 319 *e*P **P 13 00 20.2 +1.2**
DPC *ep*P **sP 13 00 27.6 -1.5**
HNR Honiara 71.15 105 LR LR 13 33 33.2
comp=Z,297nm,19.3s,baz=248,slow=38
CHVC Chvalec 71.22 319 *e*P P 13 00 29.0 +8.9
PRU Pruhonice 72.17 319 *e*P **P 13 00 26.4 +0.6**
GERES GERESS Array B 72.70 317 P **P 13 00 29.0 -0.1**
comp=Z,1.4nm,0.7s,baz=66,slow=6.4,SNR=7.2
GERES LR LR 13 39 00.7
comp=Z,68nm,19.3s,baz=76,slow=41
comp=Z,1.4nm,0.7s
KHC Kasperske Hory 72.78 318 *e*P **P 13 00 30.1 +0.6**
KHC *ep*P **sP 13 00 38.1 -1.5**
PRED Cave del Predi 72.79 315 P **P 13 00 29.0 -0.7**
PRED IAmb IAmb 13 00 38.8
comp=Z,7.6nm,0.9s
HFS Hagfors 73.11 329 P **P 13 00 30.9 -0.3**
comp=Z,3.0nm,0.7s,baz=116,slow=10,SNR=5.2
HFS LR LR 13 36 22.0
comp=Z,201nm,19.5s,baz=100,slow=39
comp=Z,3.0nm,0.7s
CLL Collm 73.17 320 *e*P **P 13 00 33.0 +1.3**
CLL *e*Sx Sx 13 10 06.0
CLL *e*PS **PnS 13 10 36.0 +4.3**
CLL *e*SS SS 13 15 00.0 +21
CLL AMS AMS 13 38 00.0
comp=N,100nm,19.4s
CLL AMS AMS 13 38 00.0
comp=E,100nm,21.7s
GRF Grafenberg Arr 74.31 318 *e*P **P 13 00 39.9 +1.4**
comp=E,2.5nm,0.9s,baz=100,slow=5.1
NB2 NORSAR Subarra 74.38 330 P **P 13 00 38.1 -0.6**
comp=Z,2.1nm,0.9s,baz=91,slow=5.9
NOA NORSAR Array B 74.38 330 P **P 13 00 37.4 -1.3**
comp=Z,1.3nm,0.8s,baz=92,slow=5.7,SNR=3.9
NOA LR LR 13 36 23.0
comp=Z,155nm,20.1s,baz=95,slow=38
comp=Z,1.3nm,0.8s
SPITS Spitsbergen Ar 74.61 348 LR LR 13 40 00.1
comp=Z,144nm,19.4s,baz=74,slow=41
SHEM Shemya Is, Ala 75.27 39 LR LR 13 35 38.6
comp=Z,68nm,20.3s,baz=276,slow=37
DAVOX Davos/Dischmat 75.32 315 LR LR 13 37 40.9
comp=Z,48nm,21.5s,baz=76,slow=39
BOSA Boshof 76.34 236 P **P 13 00 50.9 +0.3**
comp=Z,2.4nm,0.8s,baz=114,slow=5.7,SNR=3.4
comp=Z,2.4nm,0.8s
KEST Kesra 76.62 304 P **P 13 00 52.1 0.0**
comp=Z,3.4nm,0.8s,baz=25,slow=3.7,SNR=4.3
comp=Z,3.4nm,0.8s
DZM Mont Dzumac 80.90 115 LR LR 13 41 31.1
comp=Z,36nm,18.1s,baz=233,slow=39
SUR Sutherland 81.30 234 LR LR 13 33 38.7
comp=Z,97nm,18.4s,baz=108,slow=33
JMIC Jan Mayen 81.36 341 LR LR 13 39 21.8
comp=Z,142nm,21.3s,baz=58,slow=37
MAW Mawson 82.87 191 P **P 13 01 25.8 +0.8**
comp=Z,3.4nm,1.0s,baz=21,slow=8.8,SNR=4.2
comp=Z,3.4nm,1.0s
ESDC Sonseca Array 86.36 310 P **P 13 01 43.8 +0.3**
comp=Z,1.1nm,0.9s,baz=59,slow=3.8,SNR=5.7
comp=Z,1.1nm,0.9s
TOA0 Torodi Ar. Sit 87.29 283 P **P 13 01 49.0 +0.6**
TOA0 IAmb IAmb 13 01 50.4
comp=Z,5.1nm,1.2s
TORD Torodi Ar. Bea 87.29 283 P **P 13 01 48.8 +0.4**
TORD IAmb IAmb 13 01 50.4
comp=Z,3.9nm,1.1s
TORD Torodi Ar. Bea 87.29 283 P **P 13 01 49.2 +0.8**
comp=Z,1.6nm,0.8s,baz=78,slow=5.3,SNR=11
TORD LR LR 13 39 26.2
comp=Z,55nm,21.9s,baz=88,slow=35
comp=Z,1.6nm,0.8s
BORG Borgarnes 88.06 337 LR LR 13 43 09.7
comp=Z,110nm,20.1s,baz=34,slow=37
MDT Midelt 88.50 303 LR LR 13 48 51.2
comp=Z,107nm,18.0s,baz=126,slow=40
K20K Telida 89.05 24 P **P 13 01 56.6 +0.7**
ILAR Eielson Array 91.06 21 P **P 13 02 03.9 -1.3**
comp=Z,0.6nm,0.9s,baz=298,slow=4.3,SNR=4.8
ILAR LR LR 13 45 55.0
comp=Z,87nm,20.1s,baz=270,slow=38
comp=Z,0.6nm,0.9s
RPZ Rata Peaks 91.08 135 LR LR 13 43 50.1
comp=Z,128nm,20.3s,baz=275,slow=36
KDAK Kodiak Island 92.30 29 LR LR 13 47 50.9
comp=Z,115nm,19.9s,baz=319,slow=38
KOWA Kowa 92.39 285 LR LR 13 46 03.6
comp=Z,123nm,18.6s,baz=144,slow=37
URZ Urewera 94.14 128 LR LR 13 48 53.7
comp=Z,146nm,18.5s,baz=30,slow=38
SFJD Kangerlussuaq 95.86 346 LR LR 13 53 26.5
comp=Z,112nm,19.4s,baz=32,slow=40
VNDA Vanda 98.16 168 LR LR 13 43 16.1
comp=Z,65nm,18.4s,baz=298,slow=33
NVAR Mina Array Bea 121.78 28 PKP **PKPdf 13 07 55.9 +0.2**
comp=Z,0.1nm,0.5s,baz=291,slow=1.3,SNR=3.9
TXAR Lajitas Array 135.54 19 PKP **PKPdf 13 08 20.3 -1.7**
comp=Z,0.2nm,0.8s,baz=197,slow=1.9,SNR=4.0
CPUP Villa Florida 148.07 240 PKPbc **PKPbc 13 08 47.1 -0.2**
comp=Z,2.4nm,0.7s,baz=39,slow=2.6,SNR=4.7
PLCA Paso Flores 148.15 206 PKPbc **PKPbc 13 08 47.9 +0.7**
comp=Z,4.2nm,1.1s,baz=126,slow=1.6,SNR=4.7
LPAZ La Paz 160.30 257 PKPab **PKPab 13 09 42.8 -0.1**
comp=Z,0.5nm,0.4s,baz=71,slow=9.9,SNR=2.3

*IDC **01** 13:44:44.4±1.4, 17°.54N×146°.64E, h0km, mb3.7/7, mbtmp3.8/8, ML4.1/1, MS4.0/3, Error ellipse: s-maj=52.9km s-min=20.2km az=93.0*
*NEIC **01** 13:44:50.9±1.0, 17°.40N±0°.07×146°.8E±0°.1, h55km±9km, mb4.5/9, Error ellipse: s-maj=17.1km s-min=6.7km az=57.0*
ISC 01 13:44:48.7±0.8, 17°.42N±0°.09×146°.7E±0°.1, h35km, n25, σ1§42/21, mb4.2/10, MS3.7/4, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.20**	**205**	Pn	**Pn**		**13 45 52.4**	**+2.0**
GUMO	**Guam**	**4.20**	**205**	Pn	**Pn**		**13 45 52.9**	**+2.5**
GUMO	11nm,0.3s,baz=45,slow=2.9,SNR=8.4			Sn	**Sn**		**13 46 36.4**	**-1.8**
GUMO	5.8nm,0.3s,baz=20,slow=12,SNR=1.5			LR	LR		13 47 25.8	
PATS	comp=Z,68nm,19.6s,baz=60,slow=38 25nm,0.3s **Pohnpei**	**15.45**	**131**	Pn	**Pn**		**13 48 24.5**	**+0.4**
PATS				IAmb	IAmb		13 48 36.6	
JOW	comp=Z,102nm,1.5s **Kunigami**	**19.47**	**302**	LR	LR		13 55 44.3	
	comp=Z,34nm,19.6s,baz=198,slow=34							
JNU	**Nakatsue**	**21.16**	**321**	LR	LR		13 56 48.1	
	comp=Z,19nm,18.7s,baz=26,slow=34							
DAV	**Davao City (W)**	**23.05**	**246**	P	**P**		**13 49 49.8**	**-1.4**
HNR	**Honiara**	**29.71**	**153**	LR	LR		14 02 13.0	
	comp=Z,511nm,19.6s,baz=274,slow=35							
SOEI	**Soe**	**34.95**	**221**	P	**P**		**13 51 37.1**	**-0.6**
SOEI				IAmb	IAmb		13 51 56.2	
	comp=Z,9.2nm,1.1s							
WB0	**Warramunga Arr**	**38.88**	**199**	P	**P**		**13 52 11.8**	**+0.8**
WB0				IAmb	IAmb		13 52 55.9	
	comp=Z,6.3nm,1.4s							
WB2	**Warramunga Arr**	**39.06**	**199**	P	**P**		**13 52 11.8**	**-0.7**
WRA	**Warramunga Arr**	**39.06**	**199**	P	**P**		**13 52 12.1**	**-0.5**
WRA	**Warramunga Arr**	**39.06**	**199**	P	**P**		**13 52 13.2**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=22,slow=9.4,SNR=11							
	comp=Z,1.3nm,0.8s							
ASAR	**Alice Springs**	**42.71**	**197**	P	**P**		**13 52 44.5**	**+2.0**
	comp=Z,0.4nm,1.0s,baz=23,slow=7.0,SNR=2.6							
	comp=Z,0.4nm,1.0s							
LEM	**Lembang**	**45.52**	**241**	LR	LR		14 10 35.0	
	comp=Z,26nm,20.7s,baz=288,slow=34							
TOO	**Toolangi**	**54.70**	**181**	P	**P**		**13 54 12.7**	**-1.8**
MKAR	**Makanchi Array**	**60.05**	**314**	P	**P**		**13 54 53.6**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=106,slow=5.5,SNR=2.5							
	comp=Z,0.2nm,0.6s							
URZ	**Urewera**	**62.30**	**153**	LR	LR		14 20 03.0	
	comp=Z,432nm,20.4s,baz=74,slow=34							
KNK	**Knik Glacier**	**62.86**	**29**	P	**P**		**13 55 08.9**	**-2.0**
KNK				IAmb	IAmb		13 55 46.3	
	comp=Z,7.1nm,1.2s							
KURBB	**Kurchatov Arra**	**62.92**	**318**	P	**P**		**13 55 12.0**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=92,slow=7.2,SNR=14							
	comp=Z,1.0nm,0.6s							
ILAR	**Eielson Array**	**64.37**	**26**	P	**P**		**13 55 22.2**	**+1.4**
	comp=Z,0.5nm,1.0s,baz=249,slow=5.3,SNR=2.7							
	comp=Z,0.5nm,1.0s							
BVAR	**Borovoye Array**	**68.08**	**321**	P	**P**		**13 55 43.4**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=79,slow=6.9,SNR=5.8							
	comp=Z,1.2nm,0.5s							
ABKAR	**Akbulak array**	**74.94**	**317**	P	**P**		**13 56 26.6**	**+0.4**
ARCES	**ARCESS Array B**	**84.00**	**342**	P	**P**		**13 57 15.4**	**+0.2**
ARCES				IAmb	IAmb		13 57 56.2	
	comp=Z,4.8nm,1.2s							
ARCES	**ARCESS Array B**	**84.00**	**342**	P	**P**		**13 57 15.1**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=64,slow=8.1,SNR=3.9							
	comp=Z,0.9nm,0.7s							
FINES	**FINESS Array B**	**88.45**	**336**	P	**P**		**13 57 36.5**	**-0.7**

*IDC **01** 13:56:31.1±1.4, 24°.92S×116°.28W, h0km, mb3.7/3, mbtmp3.7/3, MS3.7/8, Error ellipse: s-maj=54.7km s-min=38.3km az=9.0*
ISC 01 13:56:31.6±1.6, 25°.1S±0°.4×116°.5W±0°.3, h10km, n24, σ0§91/8, mb3.8/3, MS3.7/8, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**33.62**	**113**	T	T		14 38 43.7	
	baz=280,slow=75,SNR=30							
H03N3	**Juan Fernandez**	**33.63**	**113**	T	T		14 38 35.8	
	baz=280,slow=75,SNR=37							
H03N1	**Juan Fernandez**	**33.63**	**113**	T	T		14 38 48.1	
	baz=280,slow=75,SNR=45							
NNA	**Nana**	**39.61**	**78**	LR	LR		14 16 18.4	
	comp=Z,94nm,20.5s,baz=184,slow=30							
ATAH	**Atahualpa**	**40.51**	**70**	LR	LR		14 16 16.2	
	comp=Z,107nm,21.7s,baz=288,slow=29							
PLCA	**Paso Flores**	**41.08**	**124**	LR	LR		14 17 25.8	
	comp=Z,89nm,18.8s,baz=200,slow=31							
LVC	**Limon Verde**	**43.38**	**97**	LR	LR		14 17 54.4	
	comp=Z,65nm,19.8s,baz=227,slow=30							
LPAZ	**La Paz**	**45.85**	**89**	P	**P**		**14 04 54.9**	**-0.2**
	1.7nm,0.7s,baz=267,slow=6.1,SNR=6.7							
LPAZ				LR	LR		14 21 24.8	
	comp=Z,54nm,18.1s,baz=60,slow=33							
	1.7nm,0.7s							
CPUP	**Villa Florida**	**52.86**	**105**	LR	LR		14 23 55.5	
	comp=Z,84nm,21.8s,baz=219,slow=31							
NVAR	**Mina Array Bea**	**63.25**	**358**	P	**P**		**14 06 59.8**	**-0.7**
	0.3nm,0.7s,baz=186,slow=7.3,SNR=1.9							
	0.3nm,0.7s							
BDFB	**Brasilia**	**64.28**	**96**	LR	LR		14 32 42.0	
	comp=Z,46nm,18.1s,baz=90,slow=34							
PDAR	**Pinedale Array**	**67.86**	**5**	P	**P**		**14 07 31.5**	**+1.3**
	0.3nm,0.4s,baz=197,slow=6.1,SNR=1.1							
	0.3nm,0.4s							
HNR	**Honiara**	**80.30**	**264**	LR	LR		14 39 34.4	
	comp=Z,254nm,19.5s,baz=178,slow=32							
H11S2	**WAKE ISLAND Hy**	**86.40**	**292**	T	T		15 44 51.0	
	baz=118,slow=75,SNR=34							
H11S1	**WAKE ISLAND Hy**	**86.41**	**292**	T	T		15 44 51.9	
	baz=118,slow=75,SNR=31							
H11S3	**WAKE ISLAND Hy**	**86.42**	**292**	T	T		15 44 44.7	
	baz=118,slow=75,SNR=28							
H11N3	**WAKE ISLAND Hy**	**86.80**	**293**	T	T		15 45 14.8	
	baz=114,slow=70							
H11N1	**WAKE ISLAND Hy**	**86.82**	**293**	T	T		15 45 15.9	
	baz=114,slow=70							
H11N2	**WAKE ISLAND Hy**	**86.82**	**293**	T	T		15 45 16.2	
	baz=114,slow=70							
CMAR	**Chiang Mai Arr**	**146.53**	**266**	PKPab	**PKiKP**		**14 16 17.7**	**+0.8**
	1.3nm,1.0s,baz=84,slow=2.3,SNR=9.7							
ZALV	**Zalesovo Beam**	**147.14**	**337**	PKPbc	**PKPbc**		**14 16 13.7**	**-0.9**
	0.4nm,0.4s,baz=9.5,slow=1.8,SNR=2.6							
BVAR	**Borovoye Array**	**151.67**	**351**	PKPbc	**PKiKP**		**14 16 26.3**	**-0.2**
	0.8nm,0.8s,baz=46,slow=4.2,SNR=2.7							
KURBB	**Kurchatov Arra**	**152.05**	**339**	PKPbc	**PKPbc**		**14 16 26.8**	**-0.1**
	1.3nm,0.2s,baz=28,slow=1.6,SNR=4.8							
MKAR	**Makanchi Array**	**153.72**	**330**	PKPbc	**PKPbc**		**14 16 30.2**	**-0.6**
	0.5nm,0.8s,baz=52,slow=2.0,SNR=3.3							

IDC 01 14:01:53.9±2.0, 0°.35N×132°.58E, h0km, mb3.7/3, mbtmp3.8/3, MS3.0/1, Error ellipse: s-maj=39.1km s-min=27.2km az=92.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.79**	**227**	Pn	Pn		14 02 25.7	-0.3
	0.9nm,0.3s,baz=43,slow=18,SNR=14							
SIJI				Sn	Sg		14 02 52.3	+0.9
	2.4nm,0.3s,baz=0.0,slow=20,SNR=4.1							
JAY	**Jayapura**	**8.61**	**109**	LR	LR		14 07 22.6	
	comp=Z,91nm,20.2s,baz=342,slow=38							
WRA	**Warramunga Arr**	**20.24**	**175**	P	P		14 06 31.5	+0.5
	2.2nm,0.6s,baz=354,slow=11,SNR=45							
	2.2nm,0.6s							
ASAR	**Alice Springs**	**23.91**	**177**	P	P		14 07 09.2	-0.5
	5.5nm,0.9s,baz=357,slow=9.4,SNR=47							
	5.5nm,0.9s							
MKAR	**Makanchi Array**	**63.68**	**324**	P	P		14 12 27.3	+0.1
	0.2nm,0.4s,baz=111,slow=7.9,SNR=3.0							
	0.2nm,0.4s							

*IDC **01** 14:02:24.2±1.9, 0°.86N×132°.56E, h0km, mb4.0/3, mbtmp4.1/3, ML2.8/1, Error ellipse: s-maj=46.7km s-min=26.7km az=90.0*
*NEIC **01** 14:02:29.7±2.0, 0°.58N±0°.10×132°.5E±0°.1, h16km±9km, mb4.1/7, Error ellipse: s-maj=19.0km s-min=13.8km az=82.0*
*DJA **01** 14:02:31.2±1.4, 0°.N±16°.×13°.2E±°., h10km, M3.8/6, mb4.7/1, mB5.1/1, MLv3.4/6, Mw(mB)4.5/1*
ISC 01 14:02:29.1±1.8, 0°.5N±0°.1×132°.61E±0°.07, h10km, n18, σ1§37/18, mb3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.91**	**225**	Pn	**Pn**		**14 03 02.2**	**+0.5**
	2.7nm,0.3s,baz=90,slow=3.8,SNR=7.5							
SIJI				Sn	**Sb**		**14 03 27.9**	**-0.1**
	3.7nm,0.3s,baz=102,slow=20,SNR=10							
SWI	**Sorong**	**1.91**	**225**	P	Pn		14 02 54.3	-7.5
SWI				S	**Sb**		**14 03 29.0**	**+0.9**
RKPI	**Ransiki, Papua**	**2.54**	**142**	P	**Pn**		**14 03 11.5**	**+1.2**
FAKI	**Fak Fak**	**3.41**	**186**		**Pn**		**14 03 24.2**	**+1.8**
LBMI	**Labuha**	**5.24**	**258**	P	**Pn**		**14 03 49.0**	**+1.5**
BNDI	**Bandanaira**	**5.67**	**208**	P	**Pn**		**14 03 49.6**	**-3.9**
MTN	**Manton Dam**	**13.34**	**186**		**Pn**		**14 05 39.6**	**+1.0**
KNRA	**Kununurra**	**16.52**	**193**	Pn	**Pn**		**14 06 20.1**	**-0.9**
KNRA				IAmb	IAmb		14 06 23.6	
	comp=Z,10.0nm,0.8s							
COEN	**Coen**	**17.77**	**144**	Pn	**Pn**		**14 06 36.6**	**-0.2**
WB0	**Warramunga Arr**	**20.22**	**175**	P	**P**		**14 07 05.0**	**+0.6**
WB0				IAmb	IAmb		14 07 06.0	
	comp=Z,7.4nm,0.7s							
WRA	**Warramunga Arr**	**20.39**	**175**	P	**P**		**14 07 06.9**	**+0.6**
	comp=Z,6.4nm,0.6s,baz=354,slow=11,SNR=42							
	comp=Z,6.4nm,0.6s							
WB2	**Warramunga Arr**	**20.39**	**175**	P	**P**		**14 07 06.4**	**+0.2**
WB2				IAmb	IAmb		14 07 07.8	
	comp=Z,8.4nm,0.6s							
WR0	**Warramunga Arr**	**20.42**	**175**	P	**P**		**14 07 07.3**	**+0.7**
WR0				IAmb	IAmb		14 07 08.2	
	comp=Z,22nm,1.4s							
AS31	**Alice Springs**	**24.05**	**177**	P	**P**		**14 07 43.9**	**-0.8**
AS31				IAmb	IAmb		14 07 46.5	
	comp=Z,4.0nm,1.1s							
ASAR	**Alice Springs**	**24.05**	**177**	P	**P**		**14 07 43.8**	**-0.9**
ASAR	**Alice Springs**	**24.05**	**177**	P	**P**		**14 07 44.5**	**-0.1**
	comp=Z,13nm,1.0s,baz=353,slow=11,SNR=23							
	comp=Z,13nm,1.0s							
KOUNC	**Koumac, New Ca**	**37.39**	**126**	P	**P**		**14 09 42.4**	**-0.1**
MKAR	**Makanchi Array**	**63.58**	**324**	P	P		14 12 54.5	-5.6
	comp=Z,0.3nm,0.5s,baz=133,slow=6.3,SNR=2.9							
	comp=Z,0.3nm,0.5s							

*BJI **01** 14:07:59.5±0.0, 23°.23S×174°.86W, h10km, mb4.9/22, mB5.4/15, Ms4.9/1, Ms7 4.5/2*
*NEIC **01** 14:08:00.3±2.1, 22°.79S±0°.07×174°.55W±0°.09, h10km±1km, mb5.0/66, Error ellipse: s-maj=13.9km s-min=12.4km az=107.0*
*NOU **01** 14:08:02.8, 23°.02S×174°.24W, h42km, mb5.1/38, Tonga Islands Region*
*GCMT **01** 14:08:03.3±0.3, 23°.21S±0°.04×174°.50W±0°.02, h29km, MW4.9/71, Moment Tensor Solution. s28,c34; s71,c93; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-3.12±.20; $M_{\theta\theta}$0.79±.14; $M_{\phi\phi}$2.32±.13; $M_{r\theta}$0.20±.21; $M_{\theta\phi}$0.90±.07; $M_{\phi r}$1.05±.14; Best double couple: $M_0$3.11700×10^16 NP1:ϕ_s201.00000°, δ55.00000°, λ-95.00000°. NP2: ϕ_s28.00000°, δ35.00000°, λ-84.00000°. Principal axes: T 2.9180, Plg10.0000°, Azm294.0000°; N 0.3900, Plg4.0000°, Azm203.0000°; P -3.3160, Plg80.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **01** 14:08:08.3±0.8, 22°.84S×175°.09W, h56km±6km, mb4.4/22, mbtmp4.7/23, MS3.9/40 Error ellipse: s-maj=14.9km s-min=11.8km az=155.0*
ISC 01 14:08:00.9±0.3, 22°.94S±0°.06×174°.62W±0°.05, h10km, n422, σ1§58/367, mb5.0/68, MS4.0/44, 7C-13D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.83**	**50**	P	**Pn**		**14 09 23.8**	**-3.5**
	baz=5.5,SNR=44							
NIUE				S	Sn		14 10 21.2	-13
	baz=5.5							
NIUE	**Niue**	**5.83**	**50**	Pn	**Pn**		**14 09 23.9**	**-3.5**
NIUE	**Niue**	**5.83**	**50**	P	**Pn**		**14 09 23.9**	**-3.5**
RAO	**Raoul Island**	**6.95**	**205**	Pn	**Pn**		**14 09 43.2**	**+0.4**
RAO	**Raoul Island**	**6.95**	**205**	P	**Pn**		**14 09 43.5**	**+0.7**
	293nm,0.3s,baz=104,slow=17,SNR=2.1							
RAO				S	**Sn**		**14 10 57.2**	**-4.7**
	520nm,0.3s,baz=256,slow=23,SNR=6.9							
TAVE	**Taveuni**	**7.95**	**320**	P	Pn		14 10 00.0	+3.5
DGTI	**Dogotuki**	**8.48**	**320**	P	**Pn**		**14 10 06.6**	**+2.8**
MSVF	**Nonsavu**	**8.61**	**306**	Pn	**Pn**		**14 10 08.5**	**+2.9**
MSVF	**Nonsavu**	**8.61**	**306**	P	**Pn**		**14 10 09.2**	**+3.5**
MSVF	**Nonsavu**	**8.61**	**306**	P	**Pn**		**14 10 08.2**	**+2.5**
	50nm,0.5s,baz=122,slow=14,SNR=79							
MSVF				LR	LR		14 13 02.6	
	comp=Z,1μm,21.3s,baz=142,slow=36							
AFI	**Afiamalu**	**9.38**	**17**	Pn	**Pn**		**14 10 13.3**	**-2.9**
AFI	**Afiamalu**	**9.38**	**17**	P	Pn		14 10 10.7	-5.5
	37nm,0.4s,baz=212,slow=2.5,SNR=16							
AFI				S	Sn		14 11 46.8	-15
	104nm,0.7s,baz=183,slow=22,SNR=1.8							
RAR	**Rarotonga**	**13.87**	**86**	Pn	**Pn**		**14 11 14.9**	**-2.7**
RAR	**Rarotonga**	**13.87**	**86**	P	**Pn**		**14 11 13.7**	**-3.9**
	27nm,0.3s,baz=258,slow=8.7,SNR=13							
RAR				S	Sn		14 13 28.0	-24
	46nm,0.6s,baz=127,slow=10,SNR=2.8							
PINNC	**Pines Island,**	**16.55**	**268**		**Pn**		**14 11 54.0**	**+0.9**
PINNC	**Pines Island,**	**16.55**	**268**	P	**Pn**		**14 11 56.4**	**+0.7**
URZ	**Urewera**	**16.84**	**203**	P	**Pn**		**14 11 59.1**	**+2.4**
	10nm,0.6s,baz=20,slow=3.6,SNR=8.4							
URZ				S	Sn		14 14 44.8	-19
	9.3nm,0.8s,baz=211,slow=22,SNR=2.0							
OUENC	**Ouen Island, N**	**17.12**	**268**		**P**		**14 12 02.4**	**+0.3**
OUENC	**Ouen Island, N**	**17.12**	**268**	P	**P**		**14 12 03.8**	**+1.7**
ONTNC	**Ouen Toro**	**17.49**	**268**	P	**P**		**14 12 08.1**	**+2.0**
DZM	**Mont Dzumac**	**17.52**	**269**	*e*P	**P**		**14 12 07.7**	**+1.1**
	82nm,1.1s							
DZM				*e*S	**Sn**		**14 15 23.5**	**+2.7**
	177nm,24.8s							
DZM				*e*LR	LR		14 16 09.3	
	comp=Z,638nm,24.4s							
DZM	**Mont Dzumac**	**17.52**	**269**	P	**P**		**14 12 07.1**	**+0.5**
DZM	**Mont Dzumac**	**17.52**	**269**	P	**P**		**14 12 07.9**	**+1.3**
DZM	**Mont Dzumac**	**17.52**	**269**	P	**P**		**14 12 07.3**	**+0.6**
	20nm,0.7s,baz=96,slow=17,SNR=18							
NOUC	**Port Laguerre**	**17.65**	**269**	P	**P**		**14 12 09.6**	**+1.7**
KOUNC	**Koumac, New Ca**	**19.74**	**273**	P	**P**		**14 12 30.9**	**0.0**
KOUNC	**Koumac, New Ca**	**19.74**	**273**	P	**Pn**		**14 12 33.7**	**+1.3**
TBI	**Tubuai**	**23.13**	**96**	*e*LR	LR		14 18 31.7	
	comp=Z,12μm,22.5s							
TBI				*e*LR	LR		14 18 40.7	
	comp=Z,3μm,23.8s							
PAE	**Paea**	**24.05**	**82**	*e*T	T		14 38 48.6	
	15nm,0.3s							
PPT2	**Papeete2**	**24.07**	**82**	*e*LR	LR		14 18 42.6	
	comp=Z,625nm,27.2s							
PPT2				*e*LR	LR		14 19 02.5	
	comp=Z,613nm,23.2s							
PPT2	**Papeete2**	**24.07**	**82**	*e*T	T		14 38 55.2	
	8.1nm,0.3s							
HNR	**Honiara**	**27.81**	**295**	LR	LR		14 23 53.4	
	comp=Z,2μm,19.7s,baz=170,slow=34							
EIDS	**Eidsvold**	**31.34**	**259**	P	**P**		**14 14 21.0**	**-0.7**
	baz=32,SNR=17							
EIDS	**Eidsvold**	**31.34**	**259**	P	**P**		**14 14 20.7**	**-1.0**
EIDS				IAmb	IAmb		14 14 22.2	
	comp=Z,30nm,1.4s							
MGCD	**Mangrove Creek**	**31.80**	**244**	P	**P**		**14 14 25.7**	**0.0**
	baz=32,SNR=7.5							
RMQ	**Roma**	**33.38**	**256**	P	**P**		**14 14 39.4**	**-0.3**
	baz=34,SNR=5.3	

STKA LR LR 14 31 17.1
comp=Z,165nm,18.4s,baz=50,slow=35
comp=Z,3.8nm,0.4s
INKA Innaminka 40.46 254 P P 14 15 40.7 +0.9
COEN Coen 40.90 275 P P 14 15 42.4 -1.2
COEN IAmb IAmb 14 15 44.1
comp=Z,28nm,1.4s
COEN Coen 40.90 275 P P 14 15 44.4 +0.8
HTT Hallett 41.97 245 P P 14 15 50.6 -1.6
baz=42,SNR=12
HTT Hallett 41.97 245 P P 14 15 51.1 -1.1
QIS Mount Isa 42.46 264 P P 14 15 54.1 -2.2
baz=43,SNR=5.4
QIS Mount Isa 42.46 264 P P 14 15 55.4 -1.0
LCRK Leigh Creek 42.55 249 P P 14 15 57.1 +0.1
BBOO Buckleboo 44.36 246 P P 14 16 11.3 -0.2
baz=45,SNR=5.1
OOD Oodnadatta 44.92 253 P P 14 16 16.3 +0.2
MULG Mulgathing 46.15 249 P P 14 16 25.9 +0.1
AS31 Alice Springs 47.07 258 P P 14 16 30.8 -2.4
AS31 IAmb IAmb 14 16 34.1
comp=Z,10nm,0.5s
ASAR Alice Springs 47.07 258 P P 14 16 30.6 -2.5
ASAR Alice Springs 47.07 258 P P 14 16 31.1 -2.1
comp=Z,21nm,0.7s,baz=91,slow=6.7,SNR=317
ASAR PcP PcP 14 18 06.6 +1.4
comp=Z,0.8nm,0.6s,baz=104,slow=3.9,SNR=1.1
ASAR S S 14 23 18.1 -7.4
comp=Z,0.4nm,0.7s,baz=96,slow=15,SNR=4.9
ASAR LR LR 14 36 27.0
comp=Z,178nm,18.5s,baz=78,slow=36
comp=Z,21nm,0.7s
WR0 Warramunga Arr 47.23 264 P P 14 16 32.5 -1.9
WB0 Warramunga Arr 47.41 264 IAmb IAmb 14 16 34.1
comp=Z,19nm,1.0s
WRAB Tennant Creek 47.41 264 P P 14 16 32.7 -3.1
WRAB IAmb IAmb 14 16 34.1
comp=Z,19nm,0.9s
WRAB Tennant Creek 47.41 264 P P 14 16 34.3 -1.5
WRA Warramunga Arr 47.41 264 P P 14 16 33.2 -2.7
comp=Z,7.0nm,0.5s,baz=90,slow=8.4,SNR=282
WRA PcP PcP 14 18 06.7 +0.2
comp=Z,0.8nm,0.7s,baz=102,slow=8.3,SNR=1.2
WRA S S 14 23 20.1 -10
comp=Z,1.7nm,1.0s,baz=102,slow=14,SNR=4.8
comp=Z,7.0nm,0.5s
JAY Jayapura 47.79 289 LR LR 14 35 51.3
comp=Z,144nm,20.4s,baz=64,slow=35
KDU Kakadu 51.16 272 P P 14 17 01.8 -2.7
baz=51,SNR=24
FORT Forrest 51.27 248 P P 14 17 03.2 -2.0
baz=52,SNR=19
FORT Forrest 51.27 248 P P 14 17 05.0 -0.2
WRKA Warakurna 51.87 255 P P 14 17 07.9 -1.9
baz=52,SNR=38
WRKA Warakurna 51.87 255 P P 14 17 08.5 -1.3
MTN Manton Dam 52.34 271 P P 14 17 10.7 -2.7
baz=53,SNR=4.0
MTN Manton Dam 52.34 271 IAmb IAmb 14 17 21.3
comp=Z,50nm,1.9s
KNRA Kununurra 53.65 267 P P 14 17 21.6 -1.4
baz=54,SNR=37
KNRA Kununurra 53.65 267 P P 14 17 23.5 +0.5
SBA Scott Base 55.68 185 P P 14 17 38.3 +1.5
SBA IAmb IAmb 14 17 42.3
comp=Z,19nm,1.4s
VNDA Vanda 55.80 186 P P 14 17 39.6 +1.9
comp=Z,2.0nm,0.9s,baz=3.7,slow=6.6,SNR=11
VNDA PcP PcP 14 18 38.9 +2.3
comp=Z,1.5nm,0.7s,baz=354,slow=3.5,SNR=7.1
comp=Z,2.0nm,0.9s
SIJI Sorong 56.90 285 LR LR 14 41 25.4
comp=Z,104nm,19.9s,baz=192,slow=35
SWI Sorong 56.91 285 P P 14 17 44.6 -1.9
comp=Z,73nm,0.8s
NLAI Namlea 59.62 280 P P 14 18 06.6 +1.0
comp=Z,8.5nm,0.8s
SOEI Soe 59.72 272 P P 14 18 04.5 -1.9
SOEI Soe 59.72 272 P P 14 18 06.2 -0.2
SOEI Soe 59.72 272 P P 14 18 06.6 +0.2
comp=Z,53nm,0.9s
KLBR Kellerberrin 59.90 246 P P 14 18 06.6 -0.6
baz=60,SNR=15
KLBR Kellerberrin 59.90 246 P P 14 18 07.0 -0.3
MEEK Meekatharra 60.11 252 P P 14 18 07.3 -1.5
baz=60,SNR=13
NWAO Narrogin (SRO) 60.12 244 LR LR 14 43 34.9
comp=Z,96nm,18.9s,baz=11,slow=36
BATI Baumata 60.12 271 LR LR 14 44 24.6
comp=Z,286nm,19.2s,baz=156,slow=36
PSA00 Pilbara Seismi 60.20 258 P P 14 18 08.4 -1.0
PSA00 Pilbara Seismi 60.20 258 IAmb IAmb 14 18 09.7
comp=Z,11nm,1.4s
PSA00 Pilbara Seismi 60.20 258 P P 14 18 09.6 +0.2
LBMI Labuha 60.37 283 P P 14 18 12.2 +1.5
comp=Z,28nm,1.2s
MBWA Marble Bar 60.41 258 P P 14 18 09.4 -1.5
MBWA Marble Bar 60.41 258 P P 14 18 10.6 -0.3
BLDU Ballidu 60.96 247 P P 14 18 13.8 -0.8
baz=61,SNR=20
SANI Sanana 61.13 281 P P 14 18 16.1 +0.2
MUN Mundaring 61.13 245 P P 14 18 15.4 -0.3
baz=61,SNR=4.9
MORW Morawa 61.83 248 P P 14 18 19.9 -0.6
baz=62,SNR=16
MORW Morawa 61.83 248 P P 14 18 19.2 -1.3
MORW Morawa 61.83 248 P P 14 18 20.2 -0.3
CASY Casey 63.13 206 P P 14 18 29.6 +1.1
CASY IAmb IAmb 14 18 46.9
comp=Z,6.0nm,0.7s
KAPI Kappang 65.63 275 LR LR 14 48 01.3
comp=Z,37nm,18.6s,baz=128,slow=37
TOLI2 Tolitoli 67.18 282 P P 14 18 53.2 -2.4
TOLI2 IAmb IAmb 14 18 54.7
comp=Z,9.4nm,1.0s
TOLI2 Tolitoli 67.18 282 P P 14 18 55.6 0.0
MJAR Matsushiro Arr 74.04 322 P P 14 19 36.5 -0.5
comp=Z,2.4nm,0.6s,baz=169,slow=6.0,SNR=20
MJAR LR LR 14 51 19.7
comp=Z,23nm,18.0s,baz=119,slow=35
comp=Z,2.4nm,0.6s
MAJO Matsushiro 74.04 322 P P 14 19 36.1 -0.9
MJB9 Matsu-Tunnel 74.05 322 P P 14 19 37.1 0.0
JOW Kunigami 74.14 309 LR LR 14 49 58.3
comp=Z,57nm,19.8s,baz=120,slow=34
SHEM Shemya Is, Ala 75.98 353 LR LR 14 47 38.1
comp=Z,77nm,20.8s,baz=154,slow=31
LEM Lembang 76.13 268 LR LR 14 55 16.6
comp=Z,87nm,18.4s,baz=325,slow=37
JNU Nakatsue 76.20 315 P P 14 19 49.5 -0.1
comp=Z,4.8nm,0.9s,baz=190,slow=11,SNR=1.5
JNU LR LR 14 47 43.6
comp=Z,50nm,21.6s,baz=114,slow=31
comp=Z,4.8nm,0.9s
BELA Belgrano 2 76.73 172 P P 14 19 52.1 +0.1
ASAJ Asahikawa 77.38 330 P P 14 19 57.1 +1.2
comp=Z,4.7nm,0.5s,baz=238,slow=8.5,SNR=6.9
ASAJ LR LR 14 50 01.2
comp=Z,80nm,18.9s,baz=155,slow=33
comp=Z,4.7nm,0.5s
PMSA Palmer Station 77.80 156 LR LR 14 52 49.9
comp=Z,45nm,19.0s,baz=14,slow=34
TPUB Ta-pu 77.93 302 P P 14 19 57.2 -2.2
MURC Murrieta 78.42 46 P P 14 20 03.5 +1.5
baz=232
BFSC Mount Baldy Ra 78.50 45 P P 14 20 04.9 +2.3
baz=232
MONP2 Monument Peak 78.50 47 P P 14 20 03.7 +1.0
baz=233
IKP In-Ko-Pah, Jac 78.57 47 P P 14 20 05.3 +2.4
baz=233
EDW2 Edwards Air Fo 78.68 44 P P 14 20 04.9 +1.5
baz=232,SNR=5.5
ISA Isabella, Lake 78.86 44 P P 14 20 06.5 +2.1
baz=231
SDPT Sand Point 78.90 8 P P 14 20 07.1 +3.1
baz=193
PFO Pinyon Flats O 78.91 46 P P 14 20 06.2 +1.4
baz=233
PFO Pinyon Flats O 78.91 46 LR LR 14 48 23.2
comp=Z,74nm,18.7s,baz=228,slow=30
TPFO Pinon Flats 78.91 46 P P 14 20 06.6 +1.8
baz=233
LRMC Laurel Mtn Rad 79.25 44 P P 14 20 08.3 +1.7
baz=232
BELC Belle Mtn. Jos 79.45 46 P P 14 20 09.6 +1.8
baz=233,SNR=6.8

PETK Petropavlovsk- 79.46 343 P P 14 20 07.6 +0.4
comp=Z,2.9nm,0.7s,baz=119,slow=6.8,SNR=6.2
PETK LR LR 14 51 13.5
comp=Z,44nm,19.3s,baz=153,slow=33
comp=Z,2.9nm,0.7s
CWC Cottonwood Cre 79.59 43 P P 14 20 10.9 +2.3
baz=231
BC3 Big Chuckawall 79.61 47 P P 14 20 10.9 +2.3
baz=234
GSC Goldstone, Bar 79.70 45 P P 14 20 10.9 +1.8
baz=232
HEC Hector,Ludlow 79.73 45 P P 14 20 11.1 +1.9
baz=233,SNR=5.2
MPMC Manual Prospec 79.73 44 P P 14 20 10.9 +1.6
baz=232,SNR=6.1
S14K Fog Glacier 79.94 8 P P 14 20 11.8 +2.0
baz=194
IRM Iron Mountain 80.11 46 P P 14 20 13.2 +1.9
baz=234
CHGN Chignik 80.11 9 P P 14 20 14.3 +3.7
baz=195
GMRC Granite Mounta 80.14 46 P P 14 20 13.2 +1.7
baz=233
YBH Yreka Blue Hor 80.29 37 LR LR 14 51 15.0
comp=Z,56nm,18.5s,baz=210,slow=32
MAW Mawson 80.32 199 P P 14 20 10.0 -1.8
baz=80,SNR=31
MAW Mawson 80.32 199 P P 14 20 13.3 +1.5
MAW Mawson 80.32 199 P P 14 20 13.4 +1.5
comp=Z,9.2nm,0.6s,baz=136,slow=5.7,SNR=49
comp=Z,9.2nm,0.6s
TUQ Turquoise Moun 80.36 45 P P 14 20 15.0 +2.3
baz=233
FURC Furnace Creek, 80.38 44 P P 14 20 15.1 +2.6
baz=232
GRAC Grapevine Rang 80.38 43 P P 14 20 15.0 +2.4
baz=232
SHOC Shoshone, Teco 80.41 44 P P 14 20 15.1 +2.4
baz=233
214A Organ Pipe Nat 80.44 49 P P 14 20 15.1 +2.0
baz=235
NVAR Mina Array Bea 80.69 41 P P 14 20 16.9 +2.3
comp=Z,4.2nm,0.6s,baz=225,slow=8.9,SNR=44
NVAR pP pwP 14 20 32.6 +5.2
comp=Z,3.1nm,0.7s,baz=224,slow=8.7,SNR=8.3
NVAR LR LR 14 48 14.9
comp=Z,66nm,21.2s,baz=270,slow=30
comp=Z,4.2nm,0.6s
KSRS Korea Array 80.80 317 P P 14 20 15.1 +0.3
comp=Z,2.0nm,0.7s,baz=132,slow=6.5,SNR=6.5
KSRS LR LR 14 51 22.6
comp=Z,46nm,21.2s,baz=130,slow=32
comp=Z,2.0nm,0.7s
PDMCI Parker Dam,Lak 80.87 47 P P 14 20 17.8 +2.5
baz=234
TPNV Topopah Spring 81.06 44 P P 14 20 18.5 +2.1
baz=233,SNR=7.3
K05A Summer Lake 81.96 37 P P 14 20 19.1 -1.9
H03S2 Juan Fernandez 82.03 123 T T 15 52 39.6
baz=246,slow=75,SNR=50
H03S1 Juan Fernandez 82.04 123 T T 15 52 40.7
baz=246,slow=75,SNR=52
H03S3 Juan Fernandez 82.05 123 T T 15 52 39.4
baz=246,slow=75,SNR=50
TUC Tucson 82.06 50 P P 14 20 19.9 -1.8
TUC Tucson 82.06 50 P P 14 20 23.9 +2.1
baz=237
H03N2 Juan Fernandez 82.17 123 T T 15 52 27.0
baz=258,slow=71,SNR=26
H03N3 Juan Fernandez 82.17 123 T T 15 52 24.1
baz=258,slow=71,SNR=19
H03N1 Juan Fernandez 82.19 123 T T 15 52 33.5
baz=258,slow=71,SNR=22
R11B Troy Canyon, C 82.33 43 P P 14 20 25.1 +2.0
baz=233
Q17K Contact Creek 82.39 10 P P 14 20 24.7 +1.9
baz=197
KDAK Kodiak Island 82.50 12 LR LR 14 50 36.5
comp=Z,98nm,21.6s,baz=220,slow=31
Q16K King Salmon 82.67 9 P P 14 20 26.1 +2.0
baz=197
USRK Ussuriysk Ar. 82.75 324 P P 14 20 24.8 -0.1
comp=Z,6.8nm,0.8s,baz=135,slow=2.3,SNR=7.1
comp=Z,6.8nm,0.8s
Q18K Katmai Hardscr 82.89 10 P P 14 20 27.6 +2.1
baz=198
N14K Kuskokwak Cree 83.24 7 P P 14 20 30.0 +2.9
baz=192
O16K Kokwok River B 83.34 8 P P 14 20 29.6 +2.0
baz=195
Q19K Cape Douglas, 83.39 11 P P 14 20 28.6 +0.7
baz=199
WUAZ Wupatki 83.43 47 P P 14 20 30.0 +1.1
baz=236
P18K Big Mountain, 83.57 10 P P 14 20 30.9 +2.1
baz=198
N15K Kwethluk River 83.65 7 P P 14 20 31.0 +1.8
baz=193
O17K Koliganek Bris 83.66 9 P P 14 20 30.5 +1.3
baz=196
NJ2 Nanjing 83.85 308 eP P 14 20 31.1 +0.2
NJ2 sP PcP 14 20 35.0 +0.1
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,130nm,3.8s
ELK Elko 83.98 41 LR LR 14 50 27.2
comp=Z,60nm,20.5s,baz=230,slow=30
O18K Koktah Hills 84.01 10 P P 14 20 32.7 +1.6
baz=198
M15K Kasigluk River 84.10 7 P P 14 20 33.3 +1.9
baz=193
N16K Nishlik Lake 84.11 8 P P 14 20 33.7 +2.1
baz=195
121A Cookes Peak, D 84.32 51 P P 14 20 33.7 +0.1
baz=238
MDJ Mudanjiang 84.32 324 P P 14 20 34.8 +1.8
MDJ pP PcP 14 20 37.8 +1.1
MDJ sP pwP 14 20 39.7 -6.4
MDJ pmax pmax
comp=Z,18nm,1.7s
MDJ pmax pmax
comp=Z,130nm,3.7s
W18A Petrified Fore 84.33 48 P P 14 20 33.4 -0.1
baz=237
ILSW Iliamna Southw 84.47 11 IAmb IAmb 14 20 35.2
comp=Z,7.9nm,0.8s
O19K Port Alsworth 84.48 10 IAmb IAmb 14 20 52.4
comp=Z,16nm,1.1s
O19K Port Alsworth 84.48 10 P P 14 20 34.8 +1.5
baz=199
L14K Kuka Creek 84.53 6 P P 14 20 34.7 +1.1
baz=191
ELIB Princess Elisa 84.56 186 dP P 14 20 35.7 +1.6
comp=Z,33nm,0.8s
ELIB dx x 14 20 52.0
M16K Timber Creek 84.62 8 P P 14 20 34.9 +0.8
baz=194
BRSE Bradley Lake S 84.68 12 P P 14 20 35.8 +1.4
baz=202
N19K Bonanza Creek 85.04 10 P P 14 20 37.4 +1.1
baz=198
DUG Dugway, Tooele 85.15 43 P P 14 20 37.2 -0.3
baz=235
M17K Holitna River 85.18 8 P P 14 20 38.7 +1.8
baz=196
MFID Camas Ranch 85.26 39 P P 14 20 37.4 -0.5
TROLL Troll, Antarti 85.28 179 ⇓P P 14 20 39.4 +1.7
comp=Z,1μm,0.5s
PLCA Paso Flores 85.32 132 P P 14 20 40.4 +1.9
comp=Z,1.6nm,0.8s,baz=212,slow=2.5,SNR=3.0
PLCA LR LR 14 50 47.3
comp=Z,104nm,21.8s,baz=211,slow=30
comp=Z,1.6nm,0.8s
SNAA Sanae 85.47 177 P P 14 20 39.3 +0.7
SNAA IAmb IAmb 14 20 40.8
comp=Z,20nm,1.3s
SNAA Sanae 85.47 177 ⇓P P 14 20 39.8 +1.2
comp=Z,113nm,0.5s
SNAA Sanae 85.47 177 P P 14 20 39.8 +1.2
comp=Z,5.6nm,0.6s,baz=184,slow=15,SNR=9.6
SNAA LR LR 14 55 37.4
comp=Z,202nm,20.1s,baz=198,slow=33
comp=Z,5.6nm,0.6s
VNA3 Neumayer Olymp 85.49 175 ⇓P P 14 20 39.7 +1.1
comp=Z,20nm,0.6s
K15K Wolf Creek Mou 85.58 6 P P 14 20 40.0 +1.1
baz=192

MNTX Cornudas Mount 85.64 53 P P 14 20 38.9 -1.1
baz=240
TXAR Lajitas Array 85.77 56 P P 14 20 42.6 +1.9
comp=Z,3.9nm,0.9s,baz=206,slow=7.9,SNR=40
TXAR LR LR 14 54 10.4
comp=Z,48nm,18.6s,baz=230,slow=32
comp=Z,3.9nm,0.9s
N20K Mount Spurr 85.78 11 P P 14 20 40.4 +0.4
baz=201
SPCR Spurr Chakacha 85.78 11 P P 14 20 40.7 +0.7
baz=201
L17K Donlin 85.78 8 P P 14 20 41.2 +1.3
baz=195
L18K Granite Mounta 86.07 8 P P 14 20 41.8 +0.5
baz=196
M19K Big River Lodg 86.09 9 P P 14 20 42.5 +1.0
baz=199
CN2 Changchun 86.15 321 P P 14 20 43.7 +1.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HLID Hailey 86.17 39 P P 14 20 42.4 -0.1
baz=233
PWL Port Wells 86.18 13 P P 14 20 42.6 +0.6
baz=204
BNX BinXian 86.23 323 ⇑P P 14 20 43.8 +1.3
BNX pmax pmax
comp=Z,9.0nm,1.1s
BNX pmax pmax
comp=Z,98nm,3.5s
KLR Kul'dur 86.23 328 P P 14 20 41.0 -1.4
comp=Z,1.6nm,0.7s,baz=155,slow=4.1,SNR=2.0
KLR LR LR 14 55 53.1
comp=Z,82nm,19.1s,baz=197,slow=33
comp=Z,1.6nm,0.7s
U33K Whale Pass 86.23 22 P P 14 20 42.7 +0.5
baz=218
SUA Susitna One 86.28 11 IAmb IAmb 14 21 02.6
comp=Z,7.8nm,0.8s
SUA Susitna One 86.28 11 P P 14 20 43.2 +0.6
baz=202
L19K White Mountain 86.29 9 P P 14 20 43.5 +1.0
baz=198
ALPN Alpine 86.29 55 P P 14 20 45.2 +1.8
ALPN IAmb IAmb 14 20 45.7
comp=Z,7.5nm,0.8s
MVCO Mesa Verde 86.30 47 P P 14 20 42.9 -0.5
baz=238
K17K Iditarod 86.34 7 P P 14 20 43.5 +0.9
baz=195
EYAK Cordova Ski Ar 86.44 14 P P 14 20 44.8 +1.7
baz=206
GLI Glacier Island 86.45 13 IAmb IAmb 14 20 45.3
comp=Z,7.1nm,1.0s
GLI Glacier Island 86.45 13 P P 14 20 44.3 +1.1
baz=205
ANMO Albuquerque 86.52 50 P P 14 20 44.1 -0.4
baz=239
ANMO Albuquerque 86.52 50 LR LR 14 52 04.9
comp=Z,117nm,20.4s,baz=328,slow=30
SKT Skwentna 86.62 11 P P 14 20 45.4 +1.3
baz=201
BGLC Bering Glacier 86.63 15 P P 14 20 45.2 +1.1
baz=209
J16K Anvik River 86.64 6 P P 14 20 45.7 +1.6
baz=193
KNK Knik Glacier 86.66 12 P P 14 20 45.7 +1.4
baz=204
PMR Palmer 86.70 12 P P 14 20 46.1 +1.7
baz=203
S31K Pelican 86.72 19 P P 14 20 45.8 +1.2
baz=215
TTA Tatalina 86.84 8 P P 14 20 46.8 +1.6
baz=197
GHO Glory Hole Cre 86.90 12 IAmb IAmb 14 20 48.4
comp=Z,12nm,1.3s
MA2 Magadan 86.99 343 LR LR 14 51 46.7
comp=Z,47nm,21.1s,baz=154,slow=30
BMRM Bremner River 87.07 14 P P 14 20 47.1 +0.7
baz=207
M23K Glacier View 87.16 12 P P 14 20 47.5 +0.8
baz=205
CRQE Cirque 87.23 15 P P 14 20 48.4 +1.2
baz=209
PNL Peninsula 87.23 17 P P 14 20 47.6 +0.5
baz=212
CUT Chulitna 87.24 11 P P 14 20 47.7 +0.7
baz=202
KLU Klutina 87.25 13 IAmb IAmb 14 20 53.0
comp=Z,19nm,1.8s
KLU Klutina 87.25 13 P P 14 20 48.4 +1.2
baz=206
J18K Innoko River 87.26 8 P P 14 20 48.4 +1.3
baz=196
SCM Sheep Creek Mo 87.27 13 P P 14 20 47.2 -0.2
baz=205
ANM Nome 87.51 4 P P 14 20 49.7 +1.3
baz=188
K20K Telida 87.52 9 P P 14 20 49.5 +1.1
baz=199
NEW Newport 87.55 34 LR LR 14 56 04.8
comp=Z,84nm,18.0s,baz=222,slow=33
N25K Chitina, Valde 87.64 14 IAmb IAmb 14 20 51.5
comp=Z,4.3nm,0.7s
N25K Chitina, Valde 87.64 14 P P 14 20 49.4 +0.2
baz=207
P29M Windy Craggy 87.66 18 P P 14 20 50.3 +1.1
baz=214
S22A 4UR Ranch, Cre 87.71 47 P P 14 20 49.6 -0.7
baz=239
M24K Tolsona, Glenn 87.75 13 P P 14 20 51.3 +1.6
baz=206
MCARA McCarthy VSAT 87.80 15 P P 14 20 50.3 +0.5
baz=209
H16K Elim 87.82 5 P P 14 20 51.0 +1.2
baz=191
CTG Chitna Glacier 87.84 16 P P 14 20 50.7 +0.6
baz=210
BARN Barnard Glacie 87.84 15 IAmb IAmb 14 20 52.5
comp=Z,5.0nm,0.8s
WAT6 Susitna Watana 87.87 12 P P 14 20 50.8 +0.5
baz=205,SNR=5.7
CAST Castle Rocks 87.88 10 P P 14 20 51.1 +0.9
baz=201
PLBC Pleasant Camp 87.91 18 P P 14 20 51.0 +0.7
baz=215
J19K Poorman 87.91 8 P P 14 20 51.2 +0.9
baz=197
WAT1 Susitna Watana 87.94 12 P P 14 20 51.4 +0.9
baz=204
O28M Mount Upton 87.96 16 P P 14 20 51.4 +0.5
baz=211
O20A White River Ci 88.03 45 P P 14 20 51.2 -0.5
baz=238
TRF Thorofare Moun 88.21 11 IAmb IAmb 14 21 00.1
comp=Z,6.6nm,0.7s
TRF Thorofare Moun 88.21 11 P P 14 20 52.7 +0.8
baz=202,SNR=5.9
SKAG Skagway 88.21 19 P P 14 20 52.0 +0.2
baz=216
HARP HAARP 88.23 13 P P 14 20 52.5 +0.6
baz=207
CHUM Lake Minchumin 88.28 10 P P 14 20 52.7 +0.7
baz=200
P30M Million Dollar 88.28 18 P P 14 20 52.8 +0.6
baz=214
J20K Nowinta River 88.29 9 IAmb IAmb 14 20 54.0
comp=Z,5.3nm,0.9s
J20K Nowinta River 88.29 9 P P 14 20 53.3 +1.2
baz=199
S34M Telegraph Cree 88.32 22 P P 14 20 52.8 +0.5
baz=219
MSO Missoula 88.38 37 P P 14 20 53.7 +0.6
baz=234
RND Reindeer 88.42 11 IAmb IAmb 14 20 55.0
comp=Z,18nm,1.5s
YUK8 Steele Glacier 88.51 16 P P 14 20 54.4 +0.9
baz=212
YUK6 Outpost Mounta 88.59 17 P P 14 20 55.0 +1.2
baz=213
SDCO Great Sand Dun 88.61 48 P P 14 20 54.4 -0.2
baz=240
BW06 Boulder Array 88.62 42 P P 14 20 54.4 -0.1
baz=237
PDAR Pinedale Array 88.62 42 P P 14 20 54.6 +0.2
comp=Z,1.2nm,0.9s,baz=205,slow=3.0,SNR=9.0
comp=Z,1.2nm,0.9s
PAX Paxson 88.67 13 P P 14 20 55.0 +1.0
baz=207

M26K Nabesna, AK 88.70 14 P **P 14 20 55.0 +0.9**
baz=209
HYT Haines Junctio 88.72 17 P **P 14 20 55.6 +1.3**
baz=214
YUK3 Moose Creek 88.76 15 P **P 14 20 54.8 +0.2**
baz=211
Q32M Nakina River 88.76 20 P **P 14 20 55.3 +0.7**
baz=218
I20K Naaghedeneel 88.83 8 P **P 14 20 55.5 +0.9**
baz=198
M27K Edge Creek, AK 88.92 15 P **P 14 20 56.3 +1.0**
baz=210,SNR=7.5
BOZ Bozeman (W) 88.97 39 P **P 14 20 56.8 +0.9**
baz=235
MENT Mentasta 89.02 14 IAmb IAmb 14 20 58.4
comp=Z,26nm,2.0s
HEH HeiHe 89.04 327 *e*P P 14 20 41.8 -14
O30N Mendenhall 89.06 18 P **P 14 20 57.5 +1.6**
baz=215
DLBC Dease Lake 89.10 22 LR LR 14 54 43.7
comp=Z,31nm,18.7s,baz=210,slow=31
L26K Log Cabin Wild 89.17 14 IAmb IAmb 14 20 59.2
comp=Z,12nm,1.4s
L26K Log Cabin Wild 89.17 14 P **P 14 20 57.0 +0.7**
baz=208
H19K Roundabout Mou 89.28 7 P **P 14 20 58.4 +1.7**
baz=197
K24K Donnelly Dome 89.36 12 P **P 14 20 57.9 +0.7**
baz=206
G18K Tagagawik 89.39 6 P **P 14 20 58.8 +1.6**
baz=195
H20K Anotleneega Mo 89.44 8 P **P 14 20 58.2 +0.7**
baz=198
SEY Seymchan 89.48 346 LR LR 14 57 53.0
comp=Z,52nm,19.2s,baz=57,slow=33
RIDG Independent Ri 89.49 13 P **P 14 20 58.4 +0.6**
baz=207
R33M Jennings River 89.52 21 P **P 14 20 58.9 +0.8**
baz=220
WRH Wood River Hil 89.53 11 IAmb IAmb 14 21 00.7
comp=Z,11nm,1.1s
L27K Beaver Creek, 89.54 14 IAmb IAmb 14 21 50.3
comp=Z,16nm,1.8s
L27K Beaver Creek, 89.54 14 P **P 14 20 59.1 +1.0**
baz=210
I21K Tanana 89.55 9 P **P 14 20 58.4 +0.4**
baz=201
P33M Teslin, Yukon 89.58 19 P **P 14 20 58.6 +0.3**
baz=218
MLY Manley 89.60 10 P **P 14 20 58.0 -0.3**
baz=202
F17K Baldwin Pennin 89.68 5 P **P 14 20 59.4 +1.0**
baz=192
HDA Harding Lake 89.68 12 P **P 14 20 59.4 +0.8**
baz=205,SNR=5.3
LYN LuoYang 89.73 308 ⇓P **P 14 21 01.3 +1.8**
LYN pP PcP 14 21 05.7 +4.9
LYN pmax pmax
comp=Z,16nm,0.5s
LYN pmax pmax
comp=Z,180nm,3.5s
LYN LR LR
comp=Z,250nm,21.3s
N31M Braeburn, Yuko 89.74 18 P **P 14 20 59.8 +0.8**
baz=215
CCB Clear Creek Bu 89.74 11 IAmb IAmb 14 21 00.8
comp=Z,20nm,1.7s
G19K Purcell Mounta 89.80 7 P **P 14 20 59.1 0.0**
baz=196
M29M Somme Creek 89.82 16 P **P 14 21 00.1 +0.7**
baz=213
SCRK Sand Creek 89.88 13 P **P 14 21 00.7 +1.1**
baz=208
H21K Melozitna Rive 89.88 9 P **P 14 20 59.5 0.0**
baz=200
N23A Red Feather La 89.92 45 P **P 14 21 00.0 -0.6**
baz=239
I23K Minto, Yukon-K 89.94 10 P **P 14 21 00.7 +1.0**
baz=203
COLA College 89.94 11 P **P 14 21 00.2 +0.5**
COLA IAmb IAmb 14 21 18.1
comp=Z,6.1nm,0.8s
COLA College 89.94 11 P **P 14 21 00.6 +0.8**
baz=204
MDM Murphy Dome 89.95 11 IAmb IAmb 14 21 01.1
comp=Z,12nm,1.3s
ILAR Eielson Array 90.03 12 P **P 14 21 00.9 +0.8**
comp=Z,2.3nm,1.0s,baz=221,slow=5.6,SNR=13
ILAR pP **pwP 14 21 17.1 +4.0**
comp=Z,2.1nm,0.8s,baz=235,slow=5.9,SNR=7.4
comp=Z,2.3nm,1.0s
RLMT Red Lodge 90.09 40 P **P 14 21 00.7 -0.6**
baz=237
J25K Salcha River, 90.17 12 IAmb IAmb 14 21 20.6
comp=Z,5.7nm,0.9s
J25K Salcha River, 90.17 12 P **P 14 21 01.9 +0.9**
baz=207,SNR=6.0
N32M Quiet Lake 90.24 19 P **P 14 21 01.8 +0.4**
baz=218
H22K Ishtalitna Cre 90.31 9 P **P 14 21 02.3 +0.8**
baz=201
K27K Chicken 90.33 14 P **P 14 21 02.3 +0.7**
baz=210
ABTX Abilene, Hawle 90.36 55 P **P 14 21 02.1 -0.4**
baz=243
M30M Minto, Yukon 90.36 16 P **P 14 21 01.9 +0.1**
baz=214
F19K Shaleruckik Mo 90.39 7 P **P 14 21 02.2 +0.3**
baz=195
J26L Joseph Creek 90.43 13 P **P 14 21 02.7 +0.5**
baz=208,SNR=15
L29M L29M 90.47 16 P **P 14 21 03.7 +1.3**
baz=213,SNR=6.7
G21K Allakaket 90.60 8 P **P 14 21 03.2 +0.4**
baz=199
M31M Drury Creek, Y 90.71 18 P **P 14 21 03.6 +0.2**
baz=216
F20K Avaraart Lake 90.83 7 P **P 14 21 04.6 +0.8**
baz=197
PRP Porcupine Dome 90.95 12 P **P 14 21 05.6 +0.9**
baz=207
DAWY Dawson 90.97 15 P **P 14 21 05.3 +0.6**
baz=212
FARO Faro, Yukon 91.02 18 P **P 14 21 05.0 0.0**
baz=217
E19K Redstone River 91.05 7 P **P 14 21 05.8 +0.9**
baz=196
C16K Lisburne Hills 91.20 3 P **P 14 21 06.0 +0.5**
baz=188
I26K Coal Creek Min 91.22 13 P **P 14 21 07.0 +1.2**
baz=209
K29M Barlow Dome 91.23 16 IAmb IAmb 14 21 26.9
comp=Z,7.6nm,1.0s
K29M Barlow Dome 91.23 16 P **P 14 21 06.9 +0.9**
baz=214,SNR=5.4
COLD Coldfoot 91.73 9 P **P 14 21 09.2 +1.2**
baz=202
I27K Kandik River 91.80 13 P **P 14 21 09.3 +0.8**
baz=210
MMPY Sheldon Lake, 91.93 19 P **P 14 21 10.5 +1.3**
baz=219
TGTN Hyland Airport 92.02 20 P **P 14 21 10.8 +1.2**
baz=222
XAN Xi'an 92.10 306 ⇓P **P 14 21 12.0 +1.3**
XAN pP pwP 14 21 16.8 -6.9
XAN sP PcP 14 21 19.0 +7.5
XAN pmax pmax
comp=Z,9.0nm,1.2s
E22K Anaktuvuk Pass 92.35 8 P **P 14 21 11.5 +0.5**
baz=201
NNA Nana 92.41 104 LR LR 14 53 21.7
comp=Z,176nm,20.3s,baz=206,slow=29
G26K Porcupine Rive 92.55 12 P **P 14 21 12.2 +0.3**
baz=208
I30M Mount Dempster 92.66 15 IAmb IAmb 14 21 14.5
comp=Z,10nm,1.2s
I30M Mount Dempster 92.66 15 P **P 14 21 13.2 +0.6**
baz=215
F25K Christian Rive 92.79 11 P **P 14 21 12.5 -0.6**
baz=206
D22K Ayikyak River 92.94 8 P **P 14 21 14.5 +0.9**
baz=200
ATAH Atahualpa 92.94 99 LR LR 14 53 38.1
comp=Z,87nm,19.9s,baz=252,slow=29
HHC Hu-ho-hao-te 93.30 313 *e*P **P 14 21 16.1 0.0**
HHC pmax pmax
comp=Z,34nm,0.6s
HHC pmax pmax
comp=Z,190nm,4.7s
CMAR Chiang Mai Arr 93.88 288 P **P 14 21 17.7 -1.4**
CMAR Chiang Mai Arr 93.88 288 P **P 14 21 19.6 +0.5**
comp=Z,1.5nm,0.8s,baz=123,slow=3.4,SNR=12
CMAR LR LR 15 02 12.7
comp=Z,28nm,19.9s,baz=230,slow=35
comp=Z,1.5nm,0.8s
TEIG Tepich 94.47 70 LR LR 14 57 04.2
comp=Z,576nm,19.6s,baz=358,slow=31
PZH PanZhiHua 94.62 297 P **P 14 21 21.3 -1.2**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,90nm,5.5s
LVC Limon Verde 94.73 117 LR LR 14 55 12.8
comp=Z,124nm,20.4s,baz=234,slow=30
CD2 Chengdu 94.74 301 P **P 14 21 22.1 -0.8**
INK Inuvik 95.82 14 LR LR 14 57 38.7
comp=Z,38nm,21.5s,baz=348,slow=31
LPAZ La Paz 98.24 111 LR LR 14 58 57.1
comp=Z,30nm,19.5s,baz=143,slow=31
WMQ Urumqi 110.89 310 *e*PKP **PKiKP 14 26 33.4 -1.0**
MKAR Makanchi Array 115.15 312 PKP **PKPdf 14 26 40.8 -1.6**
comp=Z,0.4nm,0.5s,baz=242,slow=2.0,SNR=5.4
MKAR pPKP PKiKP 14 26 58.6 +16
comp=Z,0.5nm,0.6s,baz=63,slow=2.3,SNR=3.9
KURBB Kurchatov Arra 117.97 316 PKP **PKPdf 14 26 46.7 -0.9**
comp=Z,0.3nm,0.3s,baz=59,slow=11,SNR=1.1
BVAR Borovoye Array 122.96 319 PKP **PKPdf 14 26 54.8 -2.4**
comp=Z,0.8nm,0.5s,baz=1.6,slow=1.8,SNR=5.6
ARCES ARCESS Array B 131.85 351 PKP **PKPdf 14 27 13.3 -0.4**
comp=Z,0.6nm,0.5s,baz=18,slow=1.5,SNR=10
FINES FINESS Array B 138.96 345 PKhKP PKPpre 14 27 19.5
comp=Z,3.0nm,1.1s,baz=191,slow=3.1,SNR=4.3
HFS Hagfors 142.38 353 PKhKP PKPpre 14 27 28.4
comp=Z,1.7nm,0.6s,baz=355,slow=3.1,SNR=6.2
NACGM Naroch 144.30 339 *e*PKP **PKiKP 14 27 41.1 +0.7**
comp=Z,18nm,1.0s,baz=37
AKASG Malin Array Be 146.64 332 PKPbc **PKPab 14 27 42.4 -1.2**
comp=Z,1.5nm,0.4s,baz=40,slow=4.0,SNR=11
AKBB Malin Array Si 146.64 332 **PKPbc 14 27 42.1 -0.5**
EKA Eskdalemuir Ar 147.03 9 PKPbc **PKPbc 14 27 42.8 -0.7**
comp=Z,1.9nm,0.6s,baz=349,slow=2.8,SNR=6.4
BURAR Bucovina Array 150.70 332 ⇑P **PKiKP 14 27 55.7 +1.7**
BRTR Keskin Array B 150.80 312 PKPbc **PKPbc 14 27 53.4 -0.6**
comp=Z,1.3nm,0.6s,baz=144,slow=5.6,SNR=5.9
TESR Tescani 150.88 329 ⇑P **PKPab 14 28 01.1 +0.2**
CLL Collm 151.07 350 *e*PKPdf **PKPdf 14 27 49.0 +0.8**
CLL *i* PKPbc **PKiKP 14 27 54.6 +0.1**
comp=Z,7.0nm,0.8s
CLL *e*PKPab **PKPab 14 28 00.0 -1.5**
CLL *ex* x 14 28 11.0
CRVS Cervenica-Dubn 151.12 338 *e*PKP **PKiKP 14 27 55.3 +0.5**
OSTC Ostas 151.16 346 *e*PKP **PKiKP 14 27 55.7 +0.9**
CHVC Chvalec 151.17 346 *e*PKP **PKiKP 14 27 54.8 0.0**
VRI Vrincioaia 151.30 328 ⇓P **PKPab 14 27 59.2 -3.5**
BRG Berggiesshubel 151.33 349 *i* PKP **PKiKP 14 27 56.1 +1.0**
BRG Amp 14 27 57.0
comp=Z,5.2nm,0.8s
BRG Berggiesshubel 151.33 349 P PKPab 14 28 13.3 +11
BRG Amp 14 28 14.0
comp=Z,4.5nm,0.6s
DPC Dobruska-Polom 151.33 345 *e*PKP **PKiKP 14 27 55.0 -0.2**
PLOR Plostina 151.35 328 ⇓P **PKPab 14 28 07.7 +4.8**
MORC Moravsky Berou 151.56 343 ⇓P **PKiKP 14 27 56.8 +1.1**
MORC Moravsky Berou 151.56 343 *e*PKP **PKPbc 14 27 53.8 -1.4**
MMAI Mount Meron Ar 151.74 297 PKPbc **PKiKP 14 27 56.8 +0.2**
comp=Z,0.7nm,0.2s,baz=84,slow=8.7,SNR=4.8
MLR Muntele Rosu 151.96 328 ⇓P **PKPab 14 28 02.8 -2.8**
PRU Pruhonice 152.06 347 *e*PKP **PKiKP 14 27 58.2 +1.6**
VRAC Vranov 152.23 344 *e*PKP **PKPbc 14 27 54.9 -1.8**
MARR Marisel-Cluj 152.33 333 ⇑P **PKiKP 14 27 57.2 -0.2**
VYHS Vyhne 152.34 341 *e*PKP **PKPdf 14 27 50.5 +0.3**
VYHS *e* 14 27 58.9
VYHS *e* 14 28 11.6
JAVC Velka Javorina 152.36 342 *e*PKP **PKPbc 14 27 55.5 -1.6**
VOIR 152.42 329 ⇓P **PKiKP 14 27 58.8 +1.2**
KRUC Moravsky 152.51 344 *e*PKP **PKPbc 14 27 56.4 -0.9**
ZVC Zvikov 152.65 347 *e*PKP **PKPab 14 28 06.9 -1.3**
ARR Arges 152.67 330 ⇑P **PKiKP 14 27 59.7 +1.6**
KHC Kasperske Hory 153.07 348 *e*PKP **PKiKP 14 27 58.5 -0.3**
CKRC Cesky Krumlov 153.22 347 *e*PKP **PKiKP 14 27 59.1 0.0**
SURR Surduc 153.48 333 ⇓P **PKiKP 14 28 00.4 +0.7**
GZR Gura Zlata 153.49 332 ⇑P **PKiKP 14 28 01.8 +2.0**
CONA Conrad Observa 153.69 344 *e*PKP **PKPab 14 28 10.1 -2.6**
comp=Z,1.3nm,0.6s
RONA Rosalia, Austr 153.79 343 *e*PKP **PKPab 14 28 10.5 -2.6**
comp=Z,2.7nm,0.8s
MOA Molln 154.15 346 *e*PKP **PKPab 14 28 12.7 -1.9**
comp=Z,3.4nm,1.3s
MORH Mrgy, Hungar 154.41 338 ⇑P **PKPab 14 28 09.2 -6.5**
BIOA Bad Ischl, Aus 154.43 347 *e*PKP **PKPab 14 28 13.5 -2.3**
comp=Z,1.2nm,0.7s
LESA Schwarzleotal 154.88 348 *e*PKP **PKPab 14 28 16.7 -1.0**
comp=Z,2.6nm,0.9s
KBA Koelnbreinsper 155.07 347 PKP **PKPab 14 28 15.9 -2.9**
comp=Z,1.1nm,0.6s
MOTA Moosalm 155.22 351 pPKP **PKPab 14 28 20.8 +1.5**
comp=Z,7.1nm,1.2s
ESDC Sonseca Array 161.53 23 PKPab **PKPab 14 28 48.0 +1.3**
comp=Z,0.5nm,0.7s,baz=318,slow=4.5,SNR=6.9
TORD Torodi Ar. Bea 169.65 160 PKPab **PKPab 14 29 25.8 +2.8**
comp=Z,1.3nm,0.8s,baz=168,slow=3.9,SNR=6.2

---

*IDC **01** 14:20:18.7±0.8, 40°.04N×142°.59E, h0km, mb4.2/20, mbtmp4.1/22, ML3.5/2, MS3.3/14, Error ellipse: s-maj=22.6km s-min=16.4km az=82.0*
*MOS **01** 14:20:24.8±1.1, 40°.14N×142°.52E, h50km, mb4.9/18, Error ellipse: s-maj=8.6km s-min=5.6km az=98.2*
*JMA **01** 14:20:25.7±0.1, 40°.2N±0°.3×142°.5E±0°.6, h33km±1km, MD4.2/40, MV4.4/40, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .
*NIED **01** 14:20:25.7, 40°.16N×142°.48E, h33km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.73; Mθθ-0.08; Mφφ-1.66; Mrθ1.09; Mφθ-0.27; Mφr1.76; Fault plane solution: M0 2.69000×10^15 NP1:φs26.00000°, δ71.00000°, λ101.00000°. NP2:φs176.00000°, δ22.00000°, λ62.00000°.*
*NEIC **01** 14:20:28.4±1.6, 40°.15N±0°.04×142°.31E±0°.09, h58km±5km, mb4.5/56 Error ellipse: s-maj=9.7km s-min=6.1km az=91.0*
ISC 01 14:20:26.1±0.6, **40°.15N**±0°.03×**142°.54E**±0°.04, **h45**km±5km, **n227**, σ1§56/216, **mb4.5**/67, **MS3.6**/14, **10C-23D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.56**	**248**	⇓*i*P		**Pn**	**14 20 36.5**	**-1.3**
JTH				⇓S		**Sn**	**14 20 44.5**	**-1.7**
JTH	**Tanohata**	**0.56**	**248**	A		A	14 20 36.5	
	comp=E,8.0nm,1.1s,comp=N,15nm,3.0s							
JKEN	**Kujiedanarisaw**	**0.64**	**275**	⇓*i*P		**Pn**	**14 20 37.3**	**-1.6**
JKEN				⇓S		**Sn**	**14 20 45.4**	**-2.6**
JKEN	**Kujiedanarisaw**	**0.64**	**275**	A		A	14 20 37.3	
	comp=E,14nm,0.4s,comp=N,22nm,0.3s							
MIYJ	**Miyakonagasawa**	**0.80**	**224**	⇓*i*P		**Pn**	**14 20 39.9**	**-1.1**
MIYJ				⇓S		**Sn**	**14 20 50.0**	**-1.8**
JANG	**Nango**	**0.82**	**286**	⇓*i*P		**Pn**	**14 20 40.0**	**-1.3**
JANG				⇓S		**Sn**	**14 20 49.9**	**-2.3**
JANG	**Nango**	**0.82**	**286**	A		A	14 20 40.0	
	comp=E,8.0nm,0.4s,comp=N,5.0nm,0.7s							
JKZ	**Kuzumaki**	**0.95**	**260**	⇓*e*P		**Pn**	**14 20 42.3**	**-0.7**
JKZ				⇓S		**Sn**	**14 20 54.0**	**-1.4**
JKZ	**Kuzumaki**	**0.95**	**260**	A		A	14 20 42.3	
	comp=E,7.0nm,0.5s,comp=N,8.0nm,0.3s							
JOM	**Ohasama**	**1.18**	**235**	⇓*i*P		**Pn**	**14 20 46.1**	**-0.1**
JOM				⇓S		**Sn**	**14 21 01.0**	**0.0**
JOM	**Ohasama**	**1.18**	**235**	A		A	14 20 46.1	
	comp=E,8.0nm,0.2s,comp=N,8.0nm,0.4s							
JARK	**Aomorirokkasho**	**1.24**	**314**	⇓*i*P		**Pn**	**14 20 46.4**	**-0.5**
JARK				⇓*e*S		**Sn**	**14 21 02.0**	**-0.5**
JARK	**Aomorirokkasho**	**1.24**	**314**	A		A	14 20 46.4	
	comp=E,17nm,0.5s,comp=N,10.0nm,0.5s							
OFUJ	**Ofunato**	**1.27**	**213**	*i* P		**Pn**	**14 20 47.5**	**+0.1**
OFUJ				S		**Sn**	**14 21 03.4**	**+0.2**
OFUJ	**Ofunato**	**1.27**	**213**	A		A	14 20 47.5	
	comp=E,5.0nm,1.4s,comp=N,3.0nm,0.9s							
JSZI	**Iwateshizukuis**	**1.29**	**252**	A		A	14 20 47.9	
	comp=E,21nm,0.6s,comp=N,19nm,0.7s							
JTM	**Tenmabayashi**	**1.29**	**300**	Pn		**Pn**	**14 20 47.3**	**-0.4**
JTM	**Tenmabayashi**	**1.29**	**300**	P		**Pn**	**14 20 47.5**	**-0.2**
JTM	**Tenmabayashi**	**1.29**	**300**	⇓*i*P		**Pn**	**14 20 47.4**	**-0.2**
JTM				⇓S		**Sn**	**14 21 03.7**	**-0.1**
JTM	**Tenmabayashi**	**1.29**	**300**	A		A	14 20 47.4	
	comp=E,4.0nm,0.8s,comp=N,6.0nm,3.0s							
JAHD	**Aomorihigashid**	**1.44**	**321**	A		A	14 20 49.8	
	comp=E,19nm,0.5s,comp=N,15nm,0.4s							
JAH	**Hinai**	**1.46**	**272**	⇓*i*P		**Pn**	**14 20 50.2**	**+0.2**
JAH				⇓S		**Sn**	**14 21 08.2**	**+0.3**
JAH	**Hinai**	**1.46**	**272**	A		A	14 20 50.2	
	comp=E,14nm,0.4s,comp=N,8.0nm,0.6s							
JMK	**Ichinoseki**	**1.58**	**221**	*i* P		**Pn**	**14 20 52.0**	**+0.5**
JMK				S		**Sn**	**14 21 12.1**	**+1.3**
JRG	**Rokugo**	**1.65**	**243**	A		A	14 20 52.9	
	comp=E,8.0nm,0.5s,comp=N,7.0nm,1.3s							
JOT	**Ohata**	**1.67**	**318**	A		A	14 20 53.2	
	comp=E,3.0nm,2.9s,comp=N,5.0nm,3.0s							
JHHS	**Hirosakihykuz**	**1.74**	**287**	A		A	14 20 54.0	
	comp=E,12nm,3.0s,comp=N,9.0nm,4.2s							
JNTW	**Noshirotokiwa**	**1.83**	**275**	A		A	14 20 55.3	
	comp=E,16nm,1.4s,comp=N,12nm,2.5s							
JSI2	**Shiura 2**	**1.86**	**300**	A		A	14 20 55.8	
	comp=E,7.0nm,2.2s,comp=N,8.0nm,0.7s							
JYW	**Yuwa**	**1.90**	**252**	A		A	14 20 56.4	
	comp=E,10.0nm,0.7s,comp=N,13nm,0.7s							
ERM	**Erimo**	**1.92**	**14**			**Pn**	**14 20 59.4**	**+3.2**
ERM	**Erimo**	**1.92**	**14**	P		**Pn**	**14 20 59.4**	**+3.2**
ERM	**Erimo**	**1.92**	**14**	*d i*P		**Pn**	**14 20 58.2**	**+2.0**
JEM	**Erimo**	**1.92**	**14**	P		**Pn**	**14 21 00.0**	**+3.8**
JIW	**Iwasaki**	**1.99**	**284**	A		A	14 20 57.6	
	comp=E,4.0nm,4.8s,comp=N,3.0nm,0.7s							
JOFO	**Osakifurukawao**	**2.00**	**220**	A		A	14 20 58.1	
	comp=E,11nm,3.1s,comp=N,11nm,2.1s							
JNBK	**Urakawa-nobuka**	**2.13**	**4**	A		A	14 21 00.3	
	comp=E,3.0nm,3.3s,comp=N,4.0nm,0.5s							
JIAM	**Iburiatsuma**	**2.51**	**349**	A		A	14 21 05.6	
	comp=E,8.0nm,4.9s,comp=N,8.0nm,1.6s							
JMM	**Marumori**	**2.66**	**211**	Pn		**Pn**	**14 21 07.7**	**+1.3**
JMM	**Marumori**	**2.66**	**211**	P		**Pn**	**14 21 07.9**	**+1.5**
JYA	**Atsumi**	**2.69**	**236**	A		A	14 21 07.8	
	comp=E,7.0nm,1.7s,comp=N,6.0nm,2.3s							
JSD	**Sado**	**3.94**	**239**	Pn		**Pn**	**14 21 24.4**	**+0.3**
JSD	**Sado**	**3.94**	**239**	P		**Pn**	**14 21 25.5**	**+1.4**
ASAJ	**Asahikawa**	**3.96**	**1**	Pn		**Pn**	**14 21 23.1**	**-1.2**
	comp=N,4.7nm,0.3s,baz=200,slow=12,SNR=22							
ASAJ				Sn		**Sn**	**14 22 11.1**	**+1.6**
	comp=N,9.0nm,0.3s,baz=133,slow=25,SNR=1.8							
ASAJ				Lg		Lg	14 22 18.7	
	comp=N,7.7nm,0.3s,baz=132,slow=31,SNR=3.6							
ASAJ				LR		LR	14 22 40.9	
	comp=N,102nm,18.8s,baz=210,slow=35							
	comp=N,6.7nm,0.3s							
JKA	**Kamikawa-asahi**	**3.96**	**1**	Pn		**Pn**	**14 21 26.6**	**+2.3**
NMR	**Nemuro--Hokkai**	**4.00**	**35**	*e*P		**Pn**	**14 21 23.9**	**-0.9**
NMR				*e*S		**Sn**	**14 22 07.1**	**-3.3**
RUSJ	**Misakicho**	**4.43**	**26**	P		**Pn**	**14 21 33.1**	**+2.4**
RUSJ				*e*S		**Sn**	**14 22 22.0**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**4.60**	**31**	*e*P		**Pn**	**14 21 34.9**	**+1.9**
YUK				*i* S		**Sn**	**14 22 21.9**	**-3.2**
YUK				pmax		pmax		
	comp=Z,160nm,0.2s							
YUK				pmax		pmax		
	comp=E,31nm,0.1s							
YUK				pmax		pmax		
	comp=N,30nm,0.2s							
YUK				smax		smax		
	comp=N,628nm,0.5s							
YUK				smax		smax		
	comp=E,191nm,0.2s							
SHO	**Shikotan**	**4.90**	**39**	⇑*i*P		**Pn**	**14 21 36.5**	**-0.6**
SHO				*i* S		**Sn**	**14 22 25.9**	**-6.6**
SHO				pmax		pmax		
	comp=Z,29nm,0.3s							
SHO				pmax		pmax		
	comp=N,9.0nm,0.2s							
SHO				pmax		pmax		
	comp=E,14nm,0.2s							
SHO				smax		smax		
	comp=E,160nm,0.3s							
SHO				smax		smax		
	comp=N,48nm,0.2s							
MJAR	**Matsushiro Arr**	**4.96**	**225**	Pn		**Pn**	**14 21 37.2**	**-0.9**
	comp=N,0.7nm,0.3s,baz=32,slow=12,SNR=59							
MJAR				Lg		Lg	14 22 52.1	
	baz=79,slow=16							
MJAR				LR		LR	14 23 49.9	
	comp=N,284nm,20.4s,baz=44,slow=43							
MJB9	**Matsu-Tunnel**	**4.96**	**225**			**Pn**	**14 21 41.2**	**+3.2**
MAJO	**Matsushiro**	**4.96**	**225**	Pn		**Pn**	**14 21 40.2**	**+2.2**
MAJO	**Matsushiro**	**4.96**	**225**	P		**Pn**	**14 21 40.9**	**+2.9**
MAJO	**Matsushiro**	**4.96**	**225**	*c i*P		**Pn**	**14 21 40.3**	**+2.2**
JGF	**Kuroka**	**6.12**	**224**			**Pn**	**14 21 56.7**	**+2.7**
JGF	**Kuroka**	**6.12**	**224**	P		**Pn**	**14 21 57.0**	**+3.0**
KUR	**Kuril'sk**	**6.42**	**36**	*e*P		**Pn**	**14 22 00.2**	**+2.3**
KUR				S		**Sn**	**14 23 07.9**	**-1.9**
KUR				pmax		pmax		
	comp=Z,57nm,0.6s							
KUR				smax		smax		
	comp=N,119nm,0.6s							
KUR				smax		smax		
	comp=E,80nm,0.6s							
INU	**Inuyama**	**6.49**	**224**			**Pn**	**14 21 59.5**	**+0.5**
INU	**Inuyama**	**6.49**	**224**	P		**Pn**	**14 22 01.1**	**+2.1**
YSS	**Yuzh-Sakhalins**	**6.80**	**1**	Pn		**Pn**	**14 22 04.5**	**+1.4**
YSS	**Yuzh-Sakhalins**	**6.80**	**1**	*e*P		**Pn**	**14 22 04.6**	**+1.4**
YSS				pmax		pmax		
	comp=Z,40nm,1.0s							
YSS				MLR		MLR		
	comp=Z,600nm,13.0s							
JHJ2	**Mitsune**	**7.36**	**198**	Pn		**Pn**	**14 22 13.0**	**+2.0**
USRK	**Ussuriysk Ar.**	**8.82**	**301**	Pn		**Pn**	**14 22 29.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=148,slow=40,SNR=1.4							
	comp=Z,2.2nm,0.6s							
MDJ	**Mudanjiang**	**10.57**	**299**	P		**Pn**	**14 22 59.1**	**+4.3**
MDJ				sP			14 23 14.8	
MDJ				S		**Sn**	**14 24 54.0**	**+2.3**
MDJ				pmax		pmax		
	comp=Z,21nm,0.9s							
MDJ				pmax		pmax		
	comp=Z,210nm,3.9s							
MDJ				LR		LR		
	comp=E,270nm,14.1s							
MDJ				LR		LR		
	comp=Z,380nm,18.4s							
MDJ	**Mudanjiang**	**10.57**	**299**	Pn		**Pn**	**14 22 54.9**	**+0.1**
JNU	**Nakatsue**	**11.70**	**237**	LR		LR	14 28 14.1	
	comp=Z,94nm,18.9s,baz=43,slow=41							
KSRS	**Korea Array**	**11.72**	**261**	Pn		**Pn**	**14 23 13.7**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=69,slow=19,SNR=4.5							
KSRS				LR		LR	14 27 25.9	
	comp=Z,175nm,18.6s,baz=70,slow=36							
KS19	**Wonju Array Si**	**11.75**	**262**	Pn		**Pn**	**14 23 10.3**	**-0.7**
KSAR	**Wonju Array Be**	**11.76**	**261**	Pn		**Pn**	**14 23 10.5**	**-0.6**
KSAR	**Wonju Array Be**	**11.76**	**261**	P		**Pn**	**14 23 10.5**	**-0.6**
KLR	**Kul'dur**	**11.88**	**323**	Pn		**Pn**	**14 23 13.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=124,slow=9.9,SNR=3.8							
HEH	**HeiHe**	**14.66**	**319**	*e*P		**P**	**14 23 54.5**	**-1.3**
PETK	**Petropavlovsk-**	**16.57**	**34**	LR		LR	14 30 46.2	
	comp=Z,28nm,19.8s,baz=206,slow=38							
ZEA	**Zeya**	**17.09**	**328**	*e*P		**P**	**14 24 22.4**	**-0.3**
ZEA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
ZEA				MLR		MLR		
	comp=Z,100nm,14.0s							
MA2	**Magadan**	**20.12**	**12**	LR		LR	14 34 37.6	
	comp=Z,23nm,18.1s,baz=195,slow=42							
NJ2	**Nanjing**	**20.74**	**254**	*e*P		**P**	**14 25 02.3**	**-0.5**
NJ2				pP		**pP**	**14 25 14.4**	**+0.9**
NJ2				sP		**sP**	**14 25 20.3**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,2μm,0.8s							
NJ2				pmax		pmax		
	comp=Z,290nm,3.9s							
YAK	**Yakutsk**	**23.26**	**345**	P		**P**	**14 25 26.8**	**-2.4**
YAK				IAmb		IAmb	14 25 29.2	
	comp=Z,19nm,0.7s							
YAK	**Yakutsk**	**23.26**	**345**	*e*P		**P**	**14 25 26.9**	**-2.4**
YAK				pmax		pmax		
	comp=Z,21nm,0.9s							
YAK				pmax		pmax		
	comp=N,5.0nm,0.8s							
YAK				pmax		pmax		
	comp=E,3.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**23.51**	**282**	*e*P		**P**	**14 25 30.7**	**-1.3**
HHC				pmax		pmax		
	comp=Z,19nm,0.6s							
HHC				pmax		pmax		

comp=Z,86nm,4.5s
HHC LR LR
comp=E,250nm,14.9s
HHC LR LR
comp=Z,360nm,14.2s
YHNB Yeheng 23.53 235 P **P 14 25 30.3 -1.9**
YHNB IAmb IAmb 14 25 39.9
comp=Z,30nm,1.3s
SEY Seymchan 23.56 11⇓ *eP* **P 14 25 34.4 +2.2**
SEY pmax pmax
comp=Z,15nm,2.5s
SEY Seymchan 23.56 11 LR LR 14 36 04.8
comp=Z,44nm,18.2s,baz=8.5,slow=40
NACB Ninganchiao 23.75 234 P **P 14 25 32.5 -1.7**
NACB IAmb IAmb 14 25 54.7
comp=Z,25nm,1.4s
SSLB Suanglung 24.43 235 P **P 14 25 38.7 -1.8**
SSLB IAmb IAmb 14 26 09.8
comp=Z,14nm,1.1s
YULB Yu-li 24.51 233 P **P 14 25 39.6 -1.6**
YULB IAmb IAmb 14 26 18.8
comp=Z,34nm,1.5s
BTO Baotou 24.71 282 *eP* **P 14 25 43.4 +0.4**
BTO pP **sP 14 25 58.0 -2.2**
BTO sP pP 14 26 05.0 +10
BTO S **S 14 29 58.2 -3.7**
BTO pmax pmax
comp=Z,41nm,0.5s
BTO pmax pmax
comp=Z,130nm,3.2s
BTO LR LR
comp=E,260nm,15.2s
BTO LR LR
comp=Z,230nm,20.4s
BOD Bodaibo 25.46 323 *eP* **P 14 25 49.5 0.0**
BOD pmax pmax
comp=Z,13nm,0.9s
ULN Ulaanbaatar 26.48 299 P **P 14 25 59.1 0.0**
ULN IAmb IAmb 14 26 16.7
comp=Z,5.0nm,0.5s
ULN Ulaanbaatar 26.48 299⇑ *eP* **P 14 25 59.3 +0.2**
ULN pmax pmax
comp=Z,2.0nm,0.5s
SONM Songino Array 26.92 299 P **P 14 26 03.3 +0.3**
SONM Songino Array 26.92 299 *eP* **P 14 26 03.1 +0.1**
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 26.92 299 P **P 14 26 02.5 -0.5**
comp=Z,1.7nm,0.6s,baz=106,slow=8.6,SNR=11
SONM LR LR 14 37 15.2
comp=Z,114nm,18.6s,baz=103,slow=38
comp=Z,1.7nm,0.6s
H11N2 WAKE ISLAND Hy 29.15 127 T T 14 57 11.8
baz=319,slow=75,SNR=109
ZAK Zakamensk 29.15 304 *eP* **P 14 26 19.1 -3.8**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
H11N1 WAKE ISLAND Hy 29.16 127 T T 14 57 24.4
baz=319,slow=75,SNR=111
H11N3 WAKE ISLAND Hy 29.17 127 T T 14 57 24.6
baz=319,slow=75,SNR=105
H11S1 WAKE ISLAND Hy 29.97 129 T T 14 58 22.5
baz=321,slow=76,SNR=41
H11S3 WAKE ISLAND Hy 29.97 129 T T 14 58 21.0
baz=321,slow=76,SNR=31
H11S2 WAKE ISLAND Hy 29.99 129 T T 14 58 21.7
baz=321,slow=76,SNR=35
LZH Lanzhou 30.55 275 *eP* P 14 26 29.5 -6.0
LZH pP pP 14 26 33.9 -13
LZH pmax pmax
comp=Z,15nm,1.1s
LZH LR LR
comp=N,130nm,15.1s
LZH LR LR
comp=E,130nm,16.8s
LZH LR LR
comp=Z,160nm,16.8s
GTA Gaotai 32.62 283 *eP* **P 14 26 54.7 +1.2**
GTA pP pP 14 27 03.0 -2.5
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA LR LR
comp=N,70nm,14.5s
GTA LR LR
comp=E,100nm,17.8s
GTA LR LR
comp=Z,130nm,18.5s
QIZ Qiongzhong 35.08 243 P **P 14 27 14.2 -0.7**
PZH PanZhiHua 36.39 261 P **P 14 27 27.5 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,80nm,4.9s
GOMU GeErMu 37.38 280 P **P 14 27 35.4 +0.5**
GOMU pP pP 14 27 39.5 -7.4
GOMU sP sP 14 27 40.8 -11
GOMU pmax pmax
comp=Z,5.0nm,0.8s
GOMU pmax pmax
comp=Z,33nm,4.0s
DGZ Jazzator, Alta 39.36 303 *c iP* **P 14 27 52.3 +1.2**
DGZ pmax pmax
comp=Z,16nm,0.8s
WMQ Urumqi 40.31 294 *eP* **P 14 27 59.5 +0.5**
ZAA0 Zalesovo Array 40.54 310 P **P 14 28 00.6 0.0**
ZALV Zalesovo Beam 40.54 310 *eP* **P 14 28 00.9 +0.3**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 40.54 310 P **P 14 28 00.3 -0.3**
comp=Z,3.1nm,0.6s,baz=93,slow=7.5,SNR=12
ZALV LR LR 14 45 05.4
comp=Z,41nm,18.5s,baz=62,slow=37
comp=Z,3.1nm,0.6s
CRAI Chiangrai 41.04 254 P **P 14 28 05.7 +0.5**
CRAI IAmb IAmb 14 28 07.1
comp=Z,5.8nm,0.8s
CMAR Chiang Mai Arr 43.20 253 P **P 14 28 21.9 -0.8**
CMAR Chiang Mai Arr 43.20 253 P **P 14 28 20.5 -2.3**
comp=Z,0.4nm,0.4s,baz=48,slow=5.6,SNR=3.8
comp=Z,0.4nm,0.4s
J20K Nowinta River 43.27 35 P **P 14 28 24.9 +2.2**
MK31 Makanchi Array 43.28 300 P **P 14 28 22.9 -0.2**
MK31 Makanchi Array 43.28 300 *c iP* **P 14 28 23.0 -0.2**
MKAR Makanchi Array 43.28 300 *eP* **P 14 28 23.3 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 43.28 300 P **P 14 28 22.8 -0.3**
comp=Z,2.5nm,0.6s,baz=84,slow=9.7,SNR=24
comp=Z,2.5nm,0.6s
MAKZ Makanchi 43.49 300 P **P 14 28 24.9 +0.1**
MAKZ IAmb IAmb 14 28 29.2
comp=Z,4.1nm,0.7s
MAKZ Makanchi 43.49 300 P **P 14 28 24.9 +0.1**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
IMAR Indian Mountai 43.53 32 P **P 14 28 26.5 +1.6**
CAST Castle Rocks 44.17 36 P **P 14 28 32.5 +2.5**
SYI Shuyak Island 44.24 43 P **P 14 28 32.8 +2.1**
SYI IAmb IAmb 14 28 43.2
comp=Z,15nm,1.2s
KTH Kantishna Hill 44.69 36 P **P 14 28 35.9 +1.6**
KTH IAmb IAmb 14 28 47.1
comp=Z,6.6nm,1.2s
MLY Manley 44.75 34 P **P 14 28 37.2 +2.5**
KURK Kurchatov 44.77 306 P **P 14 28 34.8 -0.2**
KURK Kurchatov 44.77 306 *c iP* **P 14 28 34.8 -0.2**
KURK pmax pmax
comp=Z,24nm,1.3s
KURBB Kurchatov Arra 44.84 306 P **P 14 28 35.3 -0.2**
comp=Z,10nm,0.6s,baz=82,slow=8.6,SNR=35
comp=Z,10nm,0.6s
GHO Glory Hole Cre 45.70 38 P **P 14 28 45.4 +3.1**
GHO IAmb IAmb 14 28 55.0
comp=Z,5.7nm,1.0s
IL31 46.40 34 P **P 14 28 49.2 +1.6**
ILAR Eielson Array 46.40 34 P **P 14 28 47.6 -0.1**
comp=Z,0.7nm,0.8s,baz=271,slow=6.2,SNR=7.8
comp=Z,0.7nm,0.8s
BMAR Burnt Mountain 47.19 30 P **P 14 28 56.7 +2.9**
JIRN Jiri 47.68 273 *eP* **P 14 28 59.8 +1.2**
comp=Z,9.8nm,0.6s
RAMN Ramite 47.73 272 *eP* **P 14 28 59.5 +0.7**
comp=Z,28nm,1.1s
SCRK Sand Creek 47.73 35 P **P 14 28 59.5 +1.3**
GUN Gumba 47.79 273 *eP* **P 14 29 00.0 +0.6**
comp=Z,18nm,0.5s
J26L Joseph Creek 47.85 34 P **P 14 29 00.1 +1.0**
PKI Pulchoki 48.32 273 *eP* **P 14 29 04.4 +0.9**
comp=Z,3.7nm,0.4s
PKIN Phulchoki 48.33 273 *eP* **P 14 29 03.8 +0.3**
comp=Z,11nm,0.9s
L27K Beaver Creek, 48.82 36 P **P 14 29 08.2 +1.7**
BCAR Beaver Creek A 48.84 36 P **P 14 29 08.9 +2.2**
BOOM Boomskoye usch 48.90 296 P **P 14 29 08.0 +0.4**
BOOM IAmb IAmb 14 29 26.4
comp=Z,9.5nm,1.2s
BOOM Boomskoye usch 48.90 296 P **P 14 29 08.0 +0.4**
BOOM pmax pmax
comp=Z,9.0nm,1.2s
M27K Edge Creek, AK 48.91 37 P **P 14 29 10.4 +3.0**
M27K IAmb IAmb 14 29 34.6
comp=Z,5.8nm,1.4s
BVAR Borovoye Array 49.17 311 P **P 14 29 09.6 +0.2**
comp=Z,8.0nm,0.4s,baz=72,slow=9.0,SNR=45
BVAR LR LR 14 50 34.9
comp=Z,47nm,18.2s,baz=95,slow=37
comp=Z,8.0nm,0.4s
DANN Dangsing 49.19 275 *eP* **P 14 29 10.8 +0.7**
comp=Z,39nm,0.6s
BRVK Borovoye 49.23 311 P **P 14 29 08.5 -1.2**
BRVK IAmb IAmb 14 29 11.1
comp=Z,8.7nm,1.1s
BRVK Borovoye 49.23 311 *c eP* **P 14 29 10.0 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
I28M Miner Creek 49.25 33 P **P 14 29 11.7 +1.8**
I28M IAmb IAmb 14 29 54.1
comp=Z,4.9nm,1.2s
AAK Ala-Archa 49.84 296⇑ *eP* **P 14 29 14.8 0.0**
AAK pmax pmax
comp=Z,1.0nm,0.9s
PYUN Piuthan 49.90 275 *eP* **P 14 29 16.1 +0.6**
comp=Z,18nm,0.7s
M29M Somme Creek 50.46 36 P **P 14 29 21.5 +2.5**
K29M Barlow Dome 50.57 34 P **P 14 29 22.0 +2.1**
K29M IAmb IAmb 14 29 34.8
comp=Z,4.1nm,1.2s
I30M Mount Dempster 50.76 33 P **P 14 29 23.6 +2.3**
I30M IAmb IAmb 14 29 24.4
comp=Z,4.1nm,0.8s
KULM Kulim 51.17 239 P **P 14 29 25.0 +0.1**
KULM IAmb IAmb 14 29 26.8
comp=Z,6.9nm,0.9s
INK Inuvik 51.22 28 P **P 14 29 25.8 +1.3**
INK Inuvik 51.22 28 P **P 14 29 25.8 +1.3**
INK pmax pmax
comp=Z,20nm,1.5s
KK31 Karatay Array 52.38 298 P **P 14 29 32.9 -0.7**
KK31 IAmb IAmb 14 29 34.4
comp=Z,3.0nm,0.8s
KK31 Karatay Array 52.38 298 P **P 14 29 32.9 -0.7**
KK31 pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 52.38 298 P **P 14 29 32.9 -0.7**
KKAR Karatay Array 52.38 298 P **P 14 29 32.9 -0.7**
SVE Sverdlovsk 53.43 317 *eP* **P 14 29 42.3 +1.2**
SVE pmax pmax
comp=Z,14nm,0.8s
ARU Arti 54.64 317 P **P 14 29 49.8 -0.1**
ARU Arti 54.64 317 *c iP* **P 14 29 50.4 +0.5**
ARU S **S 14 37 27.2 +0.9**
ARU SS **SS 14 41 07.9 -1.1**
ARU pmax pmax
comp=Z,11nm,0.7s
ARU Arti 54.64 317 LR LR 14 55 29.3
comp=Z,66nm,19.4s,baz=110,slow=39
ABKAR Akbulak array 56.64 309 P **P 14 30 04.5 +0.1**
EUNU Eureka 56.98 9 P **P 14 30 07.1 +0.7**
KNRA Kununurra 57.00 196 P **P 14 30 07.7 +0.5**
KNRA IAmb IAmb 14 30 31.4
comp=Z,8.6nm,1.2s
KBL Kabul 57.17 290 P **P 14 30 08.1 -0.5**
KBL Kabul 57.17 290 P **P 14 30 08.1 -0.5**
KBL pmax pmax
comp=Z,13nm,0.9s
KIRV Kirov 58.32 322 *c iP* **P 14 30 16.4 +0.4**
PRGR Permogore 58.65 326 *eP* **P 14 30 18.4 +0.1**
PRGR pmax pmax
comp=Z,7.0nm,0.4s
WB0 Warramunga Arr 60.09 189 P **P 14 30 28.5 -0.1**
WB0 IAmb IAmb 14 31 07.3
comp=Z,4.6nm,1.2s
WR0 Warramunga Arr 60.26 189 P **P 14 30 28.9 -0.9**
WR0 IAmb IAmb 14 30 45.7
comp=Z,4.9nm,1.3s
WRA Warramunga Arr 60.27 189 P **P 14 30 28.9 -1.0**
WRA Warramunga Arr 60.27 189 *eP* **P 14 30 29.3 -0.6**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 60.27 189 P **P 14 30 27.9 -2.0**
comp=Z,0.8nm,0.6s,baz=6.9,slow=6.9,SNR=12
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 61.40 339 P **P 14 30 36.2 -0.9**
ARCES IAmb IAmb 14 31 08.7
comp=Z,8.3nm,1.3s
ARCES ARCESS Array B 61.40 339 P **P 14 30 36.2 -0.9**
ARCES pmax pmax
comp=Z,8.0nm,1.3s
ARCES ARCESS Array B 61.40 339 P **P 14 30 36.6 -0.4**
comp=Z,1.5nm,0.8s,baz=64,slow=8.2,SNR=4.8
comp=Z,1.5nm,0.8s
KLMR Klimovskoe 61.61 327 *eP* **P 14 30 37.8 -0.7**
KLMR AMP 14 30 39.8
comp=Z,14nm,1.5s
KLMR Klimovskoe 61.61 327 *eP* **P 14 30 37.8 -0.7**
KLMR pmax pmax
comp=Z,14nm,1.5s
BELG Belogornoye 62.14 316 LR LR 15 00 01.4
comp=Z,69nm,18.1s,baz=138,slow=38
GEYT Alibeck 63.13 298 P **P 14 30 46.6 -2.6**
GEYT IAmb IAmb 14 30 50.2
comp=Z,5.6nm,0.8s
GEYT Alibeck 63.13 298 P **P 14 30 46.6 -2.6**
GEYT pmax pmax
comp=Z,6.0nm,0.9s
GEYT Alibeck 63.13 298 P **P 14 30 48.6 -0.5**
comp=Z,4.7nm,0.7s,baz=49,slow=6.7,SNR=7.4
comp=Z,4.7nm,0.7s
GYA0B ALIBECK ARRAY 63.13 298 P **P 14 30 46.5 -2.6**
GYA0B IAmb IAmb 14 30 50.2
comp=Z,4.5nm,0.8s
ASAR Alice Springs 64.00 189 P **P 14 30 53.5 -1.3**
ASAR Alice Springs 64.00 189 P **P 14 30 53.5 -1.3**
ASAR Alice Springs 64.00 189 P **P 14 30 54.0 -0.8**
comp=Z,0.5nm,0.8s,baz=8.9,slow=8.1,SNR=8.9
comp=Z,0.5nm,0.8s
RADR Rader Ridge 64.53 50 P **P 14 30 59.9 +1.7**
PSA00 Pilbara Seismi 64.95 203 P **P 14 31 00.6 -0.5**
PSA00 IAmb IAmb 14 31 10.9
comp=Z,6.0nm,1.5s
OBN Obninsk 66.14 323⇓ *eP* **P 14 31 09.4 +1.0**
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,49nm,16.0s
MSVF Nonsavu 66.41 143 P **P 14 31 10.1 -0.5**
MSVF Nonsavu 66.41 143 P **P 14 31 10.1 -0.5**
MSVF pmax pmax
comp=Z,21nm,1.4s
FIA1 FINESS Array S 66.47 332 P **P 14 31 11.2 +0.7**
FINES FINESS Array B 66.47 332 P **P 14 31 10.5 0.0**
FINES FINESS Array B 66.47 332 P **P 14 31 10.2 -0.3**
comp=Z,3.8nm,0.7s,baz=39,slow=7.3,SNR=12
comp=Z,3.8nm,0.7s
SUMG Summit 67.57 0 P **P 14 31 18.8 +1.1**
SUMG Summit 67.57 0 P **P 14 31 18.8 +1.1**
SUMG pmax pmax
comp=Z,32nm,1.5s
KIV Kislovodsk 69.54 311 *eP* **P 14 31 31.2 +1.0**
KIV pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 69.56 310 *eP* **P 14 31 30.8 +0.7**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 69.56 310 P **P 14 31 29.1 -1.0**
comp=Z,5.3nm,0.9s,baz=74,slow=4.9,SNR=8.0
comp=Z,5.3nm,0.9s
NC405 NORSAR Array S 71.45 337 P **P 14 31 41.7 +0.3**
NC204 NORSAR Array S 71.60 338 P **P 14 31 42.4 0.0**
HFS Hagfors 71.61 336 P **P 14 31 42.4 0.0**
comp=Z,7.4nm,1.0s,baz=49,slow=6.7,SNR=8.1
HFS LR LR 15 05 24.6
comp=Z,33nm,18.1s,baz=20,slow=38
comp=Z,7.4nm,1.0s
NB201 NORSAR Array S 71.62 337 P **P 14 31 42.5 +0.1**
NB2 NORSAR Subarra 71.66 337 P **P 14 31 42.7 0.0**
comp=Z,1.1nm,0.7s,baz=38,slow=6.2
NOA NORSAR Array B 71.66 337 P **P 14 31 41.6 -1.1**
comp=Z,2.3nm,0.8s,baz=38,slow=6.0,SNR=7.0
NOA LR LR 15 05 52.8
comp=Z,24nm,21.8s,baz=290,slow=38
comp=Z,2.3nm,0.8s
NBO00 NORSAR Array S 71.79 338 P **P 14 31 42.4 -1.0**
AKASG Malin Array Be 72.38 322 *eP* **P 14 31 47.5 +0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 72.38 322 P **P 14 31 46.2 -0.9**
comp=Z,1.7nm,0.6s,baz=44,slow=6.2,SNR=8.7
comp=Z,1.7nm,0.6s
AKBB Malin Array Si 72.38 322⇓ *eP* **P 14 31 47.5 +0.4**
NVAR Mina Array Bea 72.43 54 P **P 14 31 48.4 +0.4**
BURAR Bucovina Array 76.41 322 P **P 14 32 11.6 +0.9**
BRTR Keskin Array B 77.45 312 P **P 14 32 17.2 +0.4**
comp=Z,1.0nm,0.6s,baz=78,slow=4.3,SNR=2.5
comp=Z,1.0nm,0.6s
DPC Dobruska-Polom 78.29 328 *eP* **P 14 32 23.2 +2.1**
DPC Dobruska-Polom 78.29 328 *eP* **P 14 32 23.2 +2.1**
VYHS Vyhne 78.66 326 *eP* **P 14 32 24.2 +1.0**
VYHS Vyhne 78.66 326 *eP* **P 14 32 24.2 +1.0**
KHC Kasperske Hory 80.35 329⇓ *eP* **P 14 32 33.4 +1.0**
KHC pmax pmax
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 80.35 329 *eP* **P 14 32 33.3 +0.9**
GERES GERESS Array B 80.52 329 *eP* **P 14 32 35.8 +2.4**
GERES GERESS Array B 80.52 329 P **P 14 32 33.4 0.0**
comp=Z,0.5nm,0.6s,baz=84,slow=5.5,SNR=3.5
comp=Z,0.5nm,0.6s
PRED Cave del Predi 82.50 327 P **P 14 32 42.5 -1.3**
PRED IAmb IAmb 14 32 47.9
comp=Z,5.0nm,1.2s
FUORN Ofenpass-Fuorn 83.69 329 P **P 14 32 50.5 +0.3**
FUORN IAmb IAmb 14 33 21.9
comp=Z,2.8nm,0.9s
TXAR Lajitas Array 87.53 53 P **P 14 33 08.3 -1.1**
comp=Z,0.1nm,0.6s,baz=290,slow=3.7,SNR=2.0
comp=Z,0.1nm,0.6s
ESDC Sonseca Array 94.87 335 P **P 14 33 43.3 0.0**
comp=Z,0.9nm,1.2s,baz=27,slow=3.2,SNR=2.6
comp=Z,0.9nm,1.2s

---

*IDC **01** 14:35:29.6±0.8, 12°.76N×91°.95E, h0km, mb3.9/16, mbtmp3.8/17, ML3.6/1, MS3.4/15, Error ellipse: s-maj=28.0km s-min=15.4km az=49.0*
*NDI **01** 14:35:34.8±3.2, 12°.94N×91°.96E, h33km±49km, mb4.1, ML4.3, mb4.5(NEIC)*
*NEIC **01** 14:35:36.1±1.4, 12°.89N±0°.06×92°.31E±0°.10, h29km±4km, mb4.5/27, Error ellipse: s-maj=13.9km s-min=7.6km az=74.0*
ISC 01 14:35:34.9±0.4, **12°.92N**±0°.05×**91°.90E**±0°.05, **h35**km, **n99**, σ2**50**/90, **mb4.4**/36, **MS3.4**/15, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.50**	**147**		**Pn**	**14 35 57.9**	**-1.4**
PBA	**Port Blair**	**1.50**	**147**	*eP*	**Pn**	**14 35 58.2**	**-1.1**
PBA				*eS*	**Sn**	**14 36 18.5**	**+0.8**
PBA				IAML		14 36 20.4	
	comp=N,10μm,0.3s						
PBA				IAML		14 36 20.6	
	comp=E,8μm,0.6s						
CMAR	**Chiang Mai Arr**	**8.74**	**50**	Pn	**Pn**	**14 37 34.5**	**-4.3**
CMAR	**Chiang Mai Arr**	**8.74**	**50**	Pn	**Pn**	**14 37 39.4**	**+0.6**
	comp=E,0.2nm,0.3s,baz=240,slow=15,SNR=5.1						
CMAR				Sn	**Sn**	**14 39 14.4**	**-1.7**
	comp=E,0.2nm,0.3s,baz=241,slow=27,SNR=5.5						
CMAR				LR	LR	14 41 54.2	
	comp=E,117nm,19.5s,baz=230,slow=44						
	comp=E,0.4nm,0.5s						
LHMI	**Lhok Sumawe**	**9.12**	**146**	Pn	**Pn**	**14 37 42.0**	**-2.1**
VIS	**Vishakhapatnam**	**9.54**	**301**	*eP*	**Pn**	**14 37 50.1**	**+0.2**
VIS				*eS*	**Sn**	**14 39 28.5**	**-7.4**
SAIH	**SAIHA**	**9.57**	**6**	*eP*	**Pn**	**14 37 49.5**	**-0.9**
SAIH				IAML		14 39 49.2	
	comp=N,27nm,0.8s						
AZL	**Aizawl**	**10.79**	**4**	*eP*	**Pn**	**14 38 07.4**	**+0.4**
MDRS	**Chennai**	**11.36**	**272**	*eS*	**Sn**	**14 40 13.3**	**-7.1**
KOHI	**KOHIMA**	**12.90**	**9**	*eP*	**Pn**	**14 38 34.0**	**-2.0**
KOHI				IAmb	IAmb	14 38 44.6	
	comp=Z,18nm,0.6s						
DHUB	**DHUBRI**	**13.15**	**352**	*eP*	**Pn**	**14 38 39.5**	**+0.2**
DHUB				IAmb	IAmb	14 38 49.0	
	comp=Z,17nm,0.7s						
TNCH	**TengChong**	**13.57**	**26**	*eP*	**Pn**	**14 38 45.6**	**+0.5**
TNCH				pP	P	14 38 52.3	-1.4
TNCH				pmax	pmax		
	comp=Z,11nm,0.6s						
ZIRO	**ZIRO**	**14.65**	**7**	*eP*	**Pn**	**14 38 58.8**	**-0.9**
RAMN	**Ramite**	**14.82**	**341**	*ePn*	**Pn**	**14 39 01.6**	**-0.5**
RAMN				*eSn*	**Sn**	**14 41 38.4**	**-6.8**
	comp=Z,20nm,0.6s						
TAPN	**Taplejung**	**14.88**	**345**	*ePn*	**Pn**	**14 39 02.2**	**-0.9**
JIRN	**Jiri**	**15.61**	**341**	*ePn*	**Pn**	**14 39 11.9**	**-0.7**
PKI	**Pulchoki**	**15.79**	**338**	*ePn*	**Pn**	**14 39 14.1**	**-0.9**
PKIN	**Phulchoki**	**15.80**	**338**	*ePn*	**Pn**	**14 39 14.1**	**-0.9**
PKIN				*eSn*	**Sn**	**14 42 01.6**	**-7.6**
	comp=Z,18nm,0.5s						
DMN	**Daman**	**15.94**	**338**	*ePn*	**Pn**	**14 39 16.8**	**0.0**
GUN	**Gumba**	**15.94**	**340**	*ePn*	**Pn**	**14 39 16.0**	**-0.9**
MYKOM	**Kota Tinggi**	**16.20**	**132**	P	**Pn**	**14 39 20.9**	**+1.0**
MYKOM				IAmb	IAmb	14 39 29.1	
	comp=Z,20nm,0.6s						
PZH	**PanZhiHua**	**16.37**	**33**	P	**P**	**14 39 23.6**	**-1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,80nm,4.8s						
GKN	**Gorkha**	**16.47**	**337**	*ePn*	**Pn**	**14 39 23.7**	**+0.3**
GKN				*eSn*	**Sn**	**14 42 16.6**	**-8.7**
	comp=Z,16nm,0.5s						
DANN	**Dangsing**	**17.13**	**335**	*ePn*	**P**	**14 39 33.1**	**-0.2**
BHPL	**Bhopal**	**17.15**	**309**	*eP*	**P**	**14 39 32.6**	**-0.7**
BHPL				IAmb	IAmb	14 39 53.5	
	comp=Z,18nm,1.1s						
BHPL				*eS*	**Sn**	**14 42 41.4**	**-0.3**
PYUN	**Piuthan**	**17.24**	**333**	*ePn*	**P**	**14 39 33.8**	**-0.7**
QIZ	**Qiongzhong**	**18.29**	**68**	Pn	**P**	**14 39 41.5**	**-4.3**
QIZ				IAmb	IAmb	14 40 05.4	
	comp=Z,31nm,1.4s						
CD2	**Chengdu**	**20.98**	**30**	P	**P**	**14 40 15.4**	**+0.2**
COCO	**West Island**	**25.42**	**169**	P	**P**	**14 40 57.5**	**-1.9**
LZH	**Lanzhou**	**25.45**	**23**	*eP*	**P**	**14 41 01.2**	**+1.4**
LZH				pP	pwP	14 41 10.8	-1.4
LZH				sP	sP	14 41 16.1	+3.1
LZH				pmax	pmax		
	comp=Z,17nm,0.9s						
SMRI	**Semarang**	**27.07**	**136**	P	**P**	**14 41 11.6**	**-2.8**
GTA	**Gaotai**	**27.30**	**13**	*eP*	**P**	**14 41 20.6**	**+4.2**
GTA				pP	pP	14 41 25.5	-0.3
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
H08S3	**Diego Garcia H**	**28.08**	**224**	T	T	15 10 47.1	
	baz=44,slow=75,SNR=84						
H08S2	**Diego Garcia H**	**28.09**	**224**	T	T	15 10 45.7	
	baz=44,slow=75,SNR=28						
H08S1	**Diego Carcia H**	**28.10**	**224**	T	T	15 10 43.4	
	baz=44,slow=75,SNR=7.1						
KSH	**Kashi**	**30.00**	**335**	P	P	14 41 48.6	+8.2
KSH				pP	pwP	14 41 56.2	+2.6
KSH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KSH				LR	LR		
	comp=E,110nm,16.7s						
WMQ	**Urumqi**	**31.00**	**354**	*eP*	P	14 41 54.2	+5.1
WMQ				sP	sP	14 42 08.6	+6.4
WMQ				pmax	pmax		
	comp=Z,13nm,0.6s						
NJ2	**Nanjing**	**31.21**	**48**	*eP*	**P**	**14 41 50.6**	**-0.4**
NJ2				pP	**pP**	**14 41 59.7**	**-0.8**
NJ2				sP	**pwP**	**14 42 03.0**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,150nm,3.5s						
BTO	**Baotou**	**31.84**	**27**	*eP*	**P**	**14 42 00.8**	**+4.2**

BTO pmax pmax
comp=Z,16nm,0.8s
BTO pmax pmax
comp=Z,78nm,6.0s
HHC Hu-ho-hao-te 32.73 28 *e*P **P 14 42 06.3 +1.9**
HHC pmax pmax
comp=Z,34nm,0.6s
HHC pmax pmax
comp=Z,160nm,5.1s
BTK Batken 32.79 329 P **P 14 42 08.4 +3.5**
BTK IAmb IAmb 14 42 17.5
comp=Z,8.7nm,0.7s
WSAR Wadi Sarin 33.17 293 LR LR 14 54 22.4
comp=Z,28nm,20.7s,baz=45,slow=34
AAK Ala-Archa 33.23 336 LR LR 14 57 20.4
comp=Z,52nm,19.6s,baz=146,slow=39
MK31 Makanchi Array 34.72 348 P **P 14 42 23.6 +2.1**
MK31 IAmb IAmb 14 42 31.7
comp=Z,4.8nm,1.1s
MKAR Makanchi Array 34.72 348 P **P 14 42 23.1 +1.5**
MKAR Makanchi Array 34.72 348 P **P 14 42 23.6 +2.1**
comp=Z,1.5nm,0.7s,baz=166,slow=9.6,SNR=15
MKAR LR LR 14 59 15.7
comp=Z,44nm,21.1s,baz=150,slow=41
comp=Z,1.5nm,0.7s
MAKZ Makanchi 34.80 348 P **P 14 42 22.6 +0.4**
MAKZ IAmb IAmb 14 42 33.3
comp=Z,3.8nm,1.0s
KKAR Karatay Array 35.29 332 P **P 14 42 29.2 +2.7**
SONM Songino Array 36.85 16 P **P 14 42 42.0 +2.0**
SONM Songino Array 36.85 16 P **P 14 42 40.9 +0.9**
comp=Z,0.6nm,0.5s,baz=201,slow=7.9,SNR=4.2
comp=Z,0.6nm,0.5s
ULN Ulaanbaatar 37.07 17 P **P 14 42 42.9 +1.1**
ULN IAmb IAmb 14 43 18.6
comp=Z,2.1nm,0.6s
GEYT Alibeck 39.03 316 P **P 14 42 59.0 +0.7**
comp=Z,1.3nm,0.5s,baz=117,slow=7.5,SNR=3.1
GEYT LR LR 15 00 50.0
comp=Z,54nm,19.7s,baz=170,slow=39
comp=Z,1.3nm,0.5s
KURBB Kurchatov Arra 39.15 347 P **P 14 43 00.6 +1.6**
comp=Z,0.6nm,0.2s,baz=133,slow=1.4,SNR=1.7
comp=Z,0.6nm,0.2s
KSRS Korea Array 40.35 46 P **P 14 43 09.4 +0.1**
comp=Z,1.1nm,0.8s,baz=233,slow=8.2,SNR=2.7
KSRS LR LR 15 02 52.0
comp=Z,87nm,19.1s,baz=100,slow=41
comp=Z,1.1nm,0.8s
ZALV Zalesovo Beam 41.31 354 P **P 14 43 19.7 +2.8**
ZALV Zalesovo Beam 41.31 354 P **P 14 43 16.2 -0.7**
comp=Z,1.0nm,0.6s,baz=182,slow=9.3,SNR=1.9
ZALV LR LR 15 02 34.0
comp=Z,37nm,21.7s,baz=228,slow=39
comp=Z,1.0nm,0.6s
FAKI Fak Fak 43.04 109 P **P 14 43 29.4 -2.3**
BVAR Borovoye Array 43.53 341 P **P 14 43 35.6 +0.6**
comp=Z,0.2nm,0.3s,baz=152,slow=11,SNR=2.2
comp=Z,0.2nm,0.3s
PSA00 Pilbara Seismi 43.91 141 P **P 14 43 36.8 -1.7**
PSA00 IAmb IAmb 14 43 57.7
comp=Z,12nm,1.1s
ABKAR Akbulak array 44.78 331 P **P 14 43 47.5 +2.5**
KNRA Kununurra 46.23 127 P **P 14 43 55.6 -1.3**
KNRA IAmb IAmb 14 44 04.1
comp=Z,11nm,1.1s
HEH HeiHe 47.17 31 *e*P **P 14 44 04.8 +0.9**
MAJO Matsushiro 47.62 52 P **P 14 44 06.6 -1.0**
MAJO IAmb IAmb 14 44 26.4
comp=Z,5.8nm,1.1s
MJAR Matsushiro Arr 47.62 52 LR LR 15 05 17.6
comp=Z,34nm,18.3s,baz=216,slow=38
MORW Morawa 47.82 151 P **P 14 44 09.1 0.0**
MORW IAmb IAmb 14 44 09.8
comp=Z,6.1nm,0.8s
NWAO Narrogin (SRO) 51.62 153 P **P 14 44 37.5 -0.5**
WB0 Warramunga Arr 52.96 127 P **P 14 44 46.9 -1.4**
WB0 IAmb IAmb 14 44 48.1
comp=Z,7.8nm,1.2s
WRA Warramunga Arr 53.02 127 P **P 14 44 47.0 -1.7**
WRA Warramunga Arr 53.02 127 P **P 14 44 47.3 -1.4**
comp=Z,2.8nm,0.6s,baz=308,slow=7.8,SNR=61
comp=Z,2.8nm,0.6s
WB2 Warramunga Arr 53.03 127 P **P 14 44 47.5 -1.2**
WB2 IAmb IAmb 14 44 48.4
comp=Z,4.6nm,0.6s
WR0 Warramunga Arr 53.18 127 P **P 14 44 48.6 -1.3**
WR0 IAmb IAmb 14 44 49.6
comp=Z,3.1nm,0.7s
AS31 Alice Springs 54.86 131 P **P 14 45 00.4 -1.7**
ASAR Alice Springs 54.86 131 P **P 14 45 00.3 -1.8**
ASAR Alice Springs 54.86 131 P **P 14 45 01.1 -1.0**
comp=Z,3.2nm,0.5s,baz=307,slow=6.6,SNR=123
ASAR LR LR 15 08 53.1
comp=Z,28nm,18.7s,baz=72,slow=37
comp=Z,3.2nm,0.5s
MMAI Mount Meron Ar 55.06 301 LR LR 15 12 12.7
comp=Z,23nm,20.2s,baz=30,slow=40
FORT Forrest 55.64 142 P **P 14 45 07.6 0.0**
BRTR Keskin Array B 57.52 309 P **P 14 45 23.4 +2.3**
comp=Z,0.7nm,0.6s,baz=134,slow=7.1,SNR=6.3
comp=Z,0.7nm,0.6s
KLMR Klimovskoe 60.98 334 *e*P P 14 45 50.0 +5.6
KLMR AMP 14 45 53.4
comp=Z,14nm,1.5s
AKASG Malin Array Be 62.87 321 P **P 14 45 59.1 +1.9**
comp=Z,0.3nm,0.4s,baz=83,slow=6.2,SNR=1.6
comp=Z,0.3nm,0.4s
IDI Anoyia 63.94 303 LR LR 15 19 03.5
comp=Z,15nm,19.6s,baz=59,slow=41
STKA Stephens Creek 65.18 134 P **P 14 46 12.4 -0.4**
STKA Stephens Creek 65.18 134 P **P 14 46 12.1 -0.7**
comp=Z,0.9nm,0.6s,baz=312,slow=14,SNR=1.5
STKA LR LR 15 16 33.1
comp=Z,29nm,18.1s,baz=206,slow=38
comp=Z,0.9nm,0.6s
PETK Petropavlovsk- 65.28 37 LR LR 15 15 47.4
comp=Z,26nm,18.1s,baz=224,slow=37
FINES FINESS Array B 67.25 332 P **P 14 46 27.9 +2.4**
FINES FINESS Array B 67.25 332 P **P 14 46 27.1 +1.5**
comp=Z,1.6nm,0.8s,baz=123,slow=7.0,SNR=4.4
comp=Z,1.6nm,0.8s
H04N2 CROZET ISLANDS 68.98 209 T T 16 01 56.0
baz=43,slow=75,SNR=24
H04N1 CROZET ISLANDS 68.99 209 T T 16 01 49.3
baz=43,slow=75,SNR=29
H04N3 CROZET ISLANDS 69.00 209 T T 16 01 46.8
baz=43,slow=75,SNR=25
ARCES ARCESS Array B 69.80 340 P **P 14 46 44.7 +3.4**
ARCES IAmb IAmb 14 47 03.4
comp=Z,11nm,1.4s
ARCES ARCESS Array B 69.80 340 LR LR 15 19 26.8
comp=Z,50nm,20.2s,baz=80,slow=38
RAFF Raffo Rosso 72.43 305 P P 14 47 02.5 +4.5
RAFF IAmb IAmb 14 47 45.3
comp=Z,14nm,1.0s
GERES GERESS Array B 72.63 317 P **P 14 46 58.3 -0.7**
comp=Z,0.4nm,0.7s,baz=64,slow=6.7,SNR=1.7
comp=Z,0.4nm,0.7s
SPB2 Spitsbergen Ar 74.47 348 P **P 14 47 13.3 +4.1**
DZM Mont Dzumac 80.91 115 LR LR 15 27 58.5
comp=Z,37nm,18.0s,baz=313,slow=39
ESDC Sonseca Array 86.31 310 P **P 14 48 14.7 +1.1**
comp=Z,0.3nm,0.7s,baz=57,slow=4.8,SNR=2.3
comp=Z,0.3nm,0.7s
TORD Torodi Ar. Bea 87.31 283 P **P 14 48 20.6 +1.8**
TORD Torodi Ar. Bea 87.31 283 P **P 14 48 19.6 +0.8**
comp=Z,0.4nm,0.6s,baz=95,slow=6.0,SNR=2.7
comp=Z,0.4nm,0.6s
IMAR Indian Mountai 87.81 22 P **P 14 48 21.7 +1.5**
K20K Telida 88.90 24 P **P 14 48 27.6 +2.2**

DJA 01 14:54:55.5±0.8, 8°S±15°×11°8E±°, h54km±51km, M4.1/7, mb4.9/1, MLv3.6/7, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.03**	**192**	P		Pn		14 55 14.1	+0.3
PLAI				S		Sn		14 55 26.3	-1.0
TWSI	**Taliwang, Sumb**	**1.43**	**230**	P		Pn		14 55 19.9	+0.7
TWSI				S		Sn		14 55 36.7	-0.2
IGBI	**Denpasar**	**2.99**	**250**	P		Pn		14 55 40.8	+0.4
IGBI				S		Sn		14 56 15.5	+0.5
BASI	**Baing, Sumba**	**3.50**	**133**	P		Pn		14 55 46.9	-0.6
JAGI	**Jajag, Banyuwa**	**3.86**	**260**	P		Pn		14 55 52.4	+0.1
GMJI	**Gumukmas**	**4.53**	**264**	P		Pn		14 56 02.1	+0.6
GRJI	**Gresik**	**5.54**	**279**	P		Pn		14 56 14.4	-1.0

IDC 01 15:01:46.2±2.1, 7°23S×129°32E, h163km±26km, mb3.0/1, mbtmp3.5/5, Error ellipse: s-maj=27.7km s-min=20.7km az=118.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.33**	**242**	P		Pn		15 03 17.4	0.0
	10nm,0.5s,baz=139,slow=20,SNR=3.6								
BATI				S		Sn		15 04 29.6	+0.6
	6.4nm,0.3s,baz=102,slow=9.3,SNR=2.0								
SIJI	**Sorong**	**6.61**	**17**	P		Pn		15 03 20.9	-0.3
	0.8nm,0.3s,baz=243,slow=21,SNR=6.7								
SIJI				S		Sn		15 04 27.1	-8.6
	2.5nm,0.2s,baz=187,slow=23,SNR=1.5								
WRA	**Warramunga Arr**	**13.54**	**159**	P		Pn		15 04 53.4	+1.5
	0.3nm,0.3s,baz=334,slow=12,SNR=17								
WRA				S		Sn		15 07 18.2	-4.0
	0.3nm,0.4s,baz=339,slow=21,SNR=6.3								
ASAR	**Alice Springs**	**16.93**	**165**	P		P		15 05 31.3	-1.5
	0.2nm,0.4s,baz=342,slow=11,SNR=13								
ASAR				S		S		15 08 37.0	-4.0
	0.1nm,0.6s,baz=339,slow=18,SNR=1.7								
MKAR	**Makanchi Array**	**68.05**	**327**	P		P		15 12 28.2	+0.2
	0.1nm,0.3s,baz=133,slow=7.2,SNR=4.1								
	0.1nm,0.3s								

---

*NEIC **01** 15:10:04.3±2.0, 18°2S±0°1×177°8W±0°1, h601km±7km, mb4.2/99, Error ellipse: s-maj=21.2km s-min=15.8km az=156.0*
*IDC **01** 15:10:05.5±1.2, 18°27S×177°88W, h612km±12km, mb3.3/12, mbtmp4.3/13, Error ellipse: s-maj=21.2km s-min=14.5km az=141.0*
ISC 01 15:10:03.8±0.5, 18°34S±0°10×177°76W±0°08, h600km, n169, σ1§07/172, mb4.2/67, 5C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.03**	**278**	P		**P**		**15 11 31.5**	**+1.9**
	64nm,0.7s,baz=124,slow=7.6,SNR=49								
MSVF				S		**S**		**15 12 41.6**	**+2.1**
	21nm,1.1s,baz=1.7,slow=16,SNR=4.6								
AFI	**Afiamalu**	**7.24**	**53**	P		**P**		**15 11 55.2**	**-0.9**
AFI	**Afiamalu**	**7.24**	**53**	S		**S**		**15 13 23.0**	**-5.1**
	17nm,0.6s,baz=217,slow=20,SNR=1.3								
URZ	**Urewera**	**20.35**	**192**	P		**P**		**15 13 57.4**	**-3.1**
	8.0nm,0.6s,baz=2.9,slow=2.4,SNR=8.6								
CTA	**Charters Tower**	**33.99**	**261**	P		**P**		**15 15 59.4**	**-0.1**
	1.4nm,0.3s,baz=87,slow=13,SNR=2.6								
	1.4nm,0.3s								
CTAO	**Charters Tower**	**33.99**	**261**	P		**P**		**15 15 59.9**	**+0.5**
PMG	**Port Moresby**	**35.14**	**280**	P		**P**		**15 16 08.8**	**-0.2**
	8.3nm,0.7s,baz=130,slow=7.7,SNR=2.9								
	8.3nm,0.7s								
COEN	**Coen**	**37.73**	**271**	P		**P**		**15 16 31.1**	**+0.9**
COEN						IAmb	IAmb	15 16 32.3	
	comp=Z,7.3nm,0.8s								
STKA	**Stephens Creek**	**38.97**	**242**	P		**P**		**15 16 40.0**	**-0.1**
BBOO	**Buckleboo**	**43.74**	**241**	P		**P**		**15 17 17.6**	**-0.1**
WR0	**Warramunga Arr**	**44.97**	**260**	P		**P**		**15 17 26.9**	**-0.3**
WB0	**Warramunga Arr**	**45.13**	**260**	P		**P**		**15 17 28.3**	**-0.1**
WB2	**Warramunga Arr**	**45.15**	**260**	P		**P**		**15 17 28.1**	**-0.5**
WB2						IAmb	IAmb	15 17 29.3	
	comp=Z,5.6nm,1.1s								
WRA	**Warramunga Arr**	**45.16**	**260**	P		**P**		**15 17 28.2**	**-0.5**
WRA	**Warramunga Arr**	**45.16**	**260**	P		**P**		**15 17 28.6**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=96,slow=8.3,SNR=43								
WRA				PcP		**PcP**		**15 18 56.1**	**+0.1**
	comp=Z,1.3nm,1.1s,baz=92,slow=3.7,SNR=5.2								
WRA				S		**S**		**15 23 21.3**	**-4.6**
	comp=Z,0.5nm,1.1s,baz=101,slow=11,SNR=2.8								
	comp=Z,3.1nm,0.8s								
AS31	**Alice Springs**	**45.27**	**255**	P		**P**		**15 17 29.2**	**-0.3**
ASAR	**Alice Springs**	**45.27**	**255**	P		**P**		**15 17 29.1**	**-0.4**
ASAR	**Alice Springs**	**45.27**	**255**	P		**P**		**15 17 29.8**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=87,slow=8.3,SNR=64								
ASAR				PcP		**PcP**		**15 18 56.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=102,slow=3.8,SNR=8.4								
ASAR				S		**S**		**15 23 24.9**	**-2.5**
	comp=Z,1.5nm,1.0s,baz=89,slow=16,SNR=9.6								
	comp=Z,4.9nm,0.8s								
MTN	**Manton Dam**	**49.40**	**269**	P		**P**		**15 17 60.0**	**-0.5**
MTN						IAmb	IAmb	15 18 18.8	
	comp=Z,14nm,1.4s								
FORT	**Forrest**	**50.38**	**245**	P		**P**		**15 18 07.0**	**-0.3**
KNRA	**Kununurra**	**51.06**	**264**	P		**P**		**15 18 12.4**	**0.0**
KNRA						IAmb	IAmb	15 18 16.6	
	comp=Z,12nm,1.2s								
FAKI	**Fak Fak**	**51.27**	**281**	P		**P**		**15 18 13.3**	**-0.7**
SBA	**Scott Base**	**60.03**	**184**	P		**P**		**15 19 15.8**	**+2.4**
VNDA	**Vanda**	**60.07**	**185**	P		**P**		**15 19 14.5**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=346,slow=6.6,SNR=7.6								
	comp=Z,0.6nm,0.7s								
MORW	**Morawa**	**60.88**	**246**	P		**P**		**15 19 19.0**	**-0.8**
MORW						IAmb	IAmb	15 19 38.4	
	comp=Z,20nm,1.5s								
TOLI2	**Tolitoli**	**63.40**	**281**	P		**P**		**15 19 36.5**	**+0.2**
MJAR	**Matsushiro Arr**	**68.62**	**323**	P		**P**		**15 20 08.0**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=166,slow=5.9,SNR=10								
	comp=Z,1.7nm,0.6s								
MAJO	**Matsushiro**	**68.62**	**323**	P		**P**		**15 20 07.9**	**-0.3**
MAJO						IAmb	IAmb	15 20 08.4	
	comp=Z,8.1nm,1.2s								
MJB9	**Matsu-Tunnel**	**68.62**	**323**	P		**P**		**15 20 08.6**	**+0.4**
MJB9						IAmb	IAmb	15 20 09.4	
	comp=Z,8.0nm,1.2s								
JOW	**Kunigami**	**68.97**	**309**	P		**P**		**15 20 08.3**	**-2.1**
JMN	**Monobe**	**69.32**	**318**	P		**P**		**15 20 10.3**	**-2.1**
JNU	**Nakatsue**	**70.87**	**316**	P		**P**		**15 20 20.1**	**-1.6**
CLES	**Cleveland East**	**71.19**	**5**	P		**P**		**15 20 22.4**	**-0.5**
YULB	**Yu-li**	**72.52**	**303**	P		**P**		**15 20 29.9**	**-1.5**
AKUT	**Akutan**	**72.91**	**7**	P		**P**		**15 20 32.6**	**-0.2**
TPUB	**Ta-pu**	**73.01**	**302**	P		**P**		**15 20 32.9**	**-1.3**
PEA0B	**Petropavlovsk-**	**74.25**	**345**	P		**P**		**15 20 40.7**	**+0.2**
PETK	**Petropavlovsk-**	**74.25**	**345**	P		**P**		**15 20 40.6**	**+0.1**
	comp=Z,5.3nm,0.7s,baz=102,slow=7.7,SNR=11								
	comp=Z,5.3nm,0.7s								
CHGN	**Chignik**	**76.12**	**11**	P		**P**		**15 20 51.8**	**+1.1**
SLBS	**Sierra La Lagu**	**78.24**	**60**	P		**P**		**15 21 04.9**	**+1.8**
SLBS						IAmb	IAmb	15 21 44.5	
	comp=Z,11nm,1.4s								
WAKR	**Walker**	**78.61**	**43**	P		**P**		**15 21 06.3**	**+1.4**
WAKR						IAmb	IAmb	15 21 48.5	
	comp=Z,8.4nm,1.4s								
PNTR	**Pine Nut**	**78.84**	**42**	P		**P**		**15 21 07.7**	**+1.6**
PNTR						IAmb	IAmb	15 21 08.5	
	comp=Z,7.4nm,0.9s								
DSP	**Deep Springs**	**78.94**	**45**	P		**P**		**15 21 08.2**	**+1.8**
YERR	**Yerington**	**79.01**	**43**	P		**P**		**15 21 08.3**	**+1.3**
I03D	**Drain, OR**	**79.30**	**37**	P		**P**		**15 21 09.4**	**+1.3**
NVAR	**Mina Array Bea**	**79.31**	**44**	P		**P**		**15 21 09.5**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=224,slow=9.1,SNR=12								
	comp=Z,1.4nm,0.7s								
KVN	**Kaiserville**	**79.78**	**43**	P		**P**		**15 21 11.9**	**+0.9**
O18K	**Koktuh Hills**	**80.05**	**11**	P		**P**		**15 21 11.4**	**-0.4**
O18K						IAmb	IAmb	15 21 16.3	
	comp=Z,9.8nm,1.1s								
K05A	**Summer Lake**	**80.14**	**39**	P		**P**		**15 21 14.1**	**+1.2**
K05A						IAmb	IAmb	15 21 39.7	
	comp=Z,10.0nm,1.3s								
J05D	**Fort Rock, OR**	**80.27**	**38**	P		**P**		**15 21 14.4**	**+0.9**
O19K	**Port Alsworth**	**80.53**	**12**	P		**P**		**15 21 14.3**	**+0.1**
O19K						IAmb	IAmb	15 21 15.0	
	comp=Z,7.4nm,0.7s								
H04A	**Detroit Lake**	**80.56**	**37**	P		**P**		**15 21 15.6**	**+0.8**
H04A						IAmb	IAmb	15 21 48.6	
	comp=Z,11nm,1.3s								
ILSW	**Iliamna Southw**	**80.57**	**12**	P		**P**		**15 21 14.4**	**-0.1**
ILSW						IAmb	IAmb	15 21 15.1	
	comp=Z,5.5nm,0.7s								
BELA	**Belgrano 2**	**81.66**	**173**	P		**P**		**15 21 19.6**	**-0.3**
M19K	**Big River Lodg**	**82.11**	**11**	P		**P**		**15 21 21.5**	**-0.7**
M19K						IAmb	IAmb	15 21 58.0	
	comp=Z,7.7nm,1.3s								
KNB	**Kanab**	**82.27**	**47**	P		**P**		**15 21 25.4**	**+1.5**
L19K	**White Mountain**	**82.28**	**11**	P		**P**		**15 21 23.8**	**+0.6**
L19K						IAmb	IAmb	15 21 26.1	
	comp=Z,9.5nm,1.4s								
PSUT	**Pine Spring**	**82.32**	**45**	P		**P**		**15 21 25.2**	**+1.1**
U15A	**North Rim**	**82.35**	**48**	P		**P**		**15 21 25.6**	**+1.3**
PWL	**Port Wells**	**82.40**	**14**	P		**P**		**15 21 23.6**	**-0.1**
PWL						IAmb	IAmb	15 21 24.1	
	comp=Z,5.5nm,0.8s								
SUA	**Susitna One**	**82.41**	**13**	P		**P**		**15 21 23.6**	**-0.3**
SUA						IAmb	IAmb	15 21 48.8	
	comp=Z,13nm,1.2s								
ELK	**Elko**	**82.55**	**43**	P		**P**		**15 21 25.6**	**+0.4**
GLI	**Glacier Island**	**82.71**	**15**	P		**P**		**15 21 24.9**	**-0.4**
SKT	**Skwentna**	**82.72**	**12**	P		**P**		**15 21 24.6**	**-0.7**
SKT						IAmb	IAmb	15 21 25.2	
	comp=Z,5.4nm,1.0s								
G08A	**Pilot Rock**	**82.77**	**37**	P		**P**		**15 21 26.8**	**+0.7**
KNK	**Knik Glacier**	**82.86**	**14**	P		**P**		**15 21 25.8**	**-0.2**
KNK						IAmb	IAmb	15 21 26.7	
	comp=Z,5.6nm,0.9s								
PMR	**Palmer**	**82.87**	**13**	P		**P**		**15 21 25.9**	**-0.1**
PMR						IAmb	IAmb	15 21 26.8	
	comp=Z,9.5nm,1.4s								
HMT	**Hamilton**	**82.95**	**16**	P		**P**		**15 21 26.8**	**+0.3**
GHO	**Glory Hole Cre**	**83.08**	**13**	P		**P**		**15 21 27.2**	**0.0**
SNH	**Sunshine Point**	**83.20**	**17**	P		**P**		**15 21 28.1**	**+0.3**
SML	**Sawmill**	**83.24**	**14**	P		**P**		**15 21 28.0**	**0.0**
SML						IAmb	IAmb	15 21 30.0	
	comp=Z,9.0nm,1.3s								
MESA	**MESA**	**83.44**	**17**	P		**P**		**15 21 29.9**	**+0.7**
SCM	**Sheep Creek Mo**	**83.49**	**14**	P		**P**		**15 21 29.5**	**+0.2**
K20K	**Telida**	**83.51**	**11**	P		**P**		**15 21 29.7**	**+0.5**
K20K						IAmb	IAmb	15 21 30.5	
	comp=Z,5.2nm,0.8s								
CRQM	**Cirque**	**83.60**	**16**	P		**P**		**15 21 30.3**	**+0.4**
CRQM						IAmb	IAmb	15 21 31.7	
	comp=Z,4.9nm,1.0s								
YAH	**Yahtse**	**83.66**	**17**	P		**P**		**15 21 30.5**	**+0.3**
YAH						IAmb	IAmb	15 21 31.9	
	comp=Z,6.2nm,0.7s								
VRDI	**Verde Repeater**	**83.92**	**16**	P		**P**		**15 21 31.6**	**+0.1**
CAST	**Castle Rocks**	**83.92**	**11**	P		**P**		**15 21 30.1**	**-1.1**
CAST						IAmb	IAmb	15 21 31.1	
	comp=Z,5.5nm,0.8s								
N25K	**Chitina, Valde**	**83.95**	**15**	P		**P**		**15 21 32.0**	**+0.5**
M24K	**Tolsona, Glenn**	**84.00**	**14**	P		**P**		**15 21 32.2**	**+0.5**
GLB	**Gilahina Butte**	**84.01**	**16**	P		**P**		**15 21 31.6**	**-0.1**
GLB						IAmb	IAmb	15 21 32.9	
	comp=Z,4.2nm,0.7s								
LOGN	**Logan Glacier**	**84.24**	**17**	P		**P**		**15 21 33.4**	**+0.3**
LOGN						IAmb	IAmb	15 21 34.4	
	comp=Z,6.0nm,1.0s								
BARN	**Barnard Glacie**	**84.26**	**17**	P		**P**		**15 21 33.5**	**+0.3**
BARN						IAmb	IAmb	15 21 34.6	
	comp=Z,5.8nm,0.8s								
J20K	**Nowinta River**	**84.26**	**10**	P		**P**		**15 21 32.2**	**-0.6**
J20K						IAmb	IAmb	15 21 34.2	
	comp=Z,3.0nm,0.8s								
CTGM	**Chitina Glacie**	**84.27**	**17**	P		**P**		**15 21 33.4**	**+0.2**
CTGM						IAmb	IAmb	15 21 35.0	
	comp=Z,4.8nm,1.0s								
TRF	**Thorofare Moun**	**84.30**	**12**	P		**P**		**15 21 32.9**	**-0.4**
PLID	**Pearl Lake**	**84.39**	**39**	P		**P**		**15 21 35.0**	**+0.7**
TMUT	**Trail Mountain**	**84.49**	**46**	P		**P**		**15 21 36.4**	**+1.4**
RND	**Reindeer**	**84.55**	**13**	P		**P**		**15 21 34.4**	**0.0**
RND						IAmb	IAmb	15 21 35.4	
	comp=Z,5.0nm,0.7s								
BPAW	**Bear Paw Mtn.**	**84.75**	**11**	P		**P**		**15 21 35.8**	**+0.5**
M27K	**Edge Creek, AK**	**85.28**	**16**	P		**P**		**15 21 38.5**	**+0.5**
M27K						IAmb	IAmb	15 21 39.8	
	comp=Z,6.0nm,1.1s								
Q32M	**Nakina River**	**85.55**	**22**	P		**P**		**15 21 40.0**	**+0.5**
Q32M						IAmb	IAmb	15 22 11.7	
	comp=Z,9.1nm,1.5s								
MLY	**Manley**	**85.64**	**11**	P		**P**		**15 21 38.9**	**-0.7**
MLY						IAmb	IAmb	15 21 40.5	
	comp=Z,7.5nm,1.5s								
WRH	**Wood River Hil**	**85.65**	**12**	P		**P**		**15 21 38.6**	**-1.0**
WRH						IAmb	IAmb	15 21 41.0	
	comp=Z,5.9nm,1.0s								
TX31	**Lajitas Ar. Si**	**85.70**	**57**	P		**P**		**15 21 41.9**	**+1.1**
TXAR	**Lajitas Array**	**85.70**	**57**	P		**P**		**15 21 42.6**	**+1.8**
	comp=Z,1.8nm,0.7s,baz=213,slow=6.0,SNR=20								
	comp=Z,1.8nm,0.7s								
HDA	**Harding Lake**	**85.83**	**13**	P		**P**		**15 21 40.1**	**-0.3**
CCB	**Clear Creek Bu**	**85.86**	**12**	P		**P**		**15 21 39.9**	**-0.6**
CCB						IAmb	IAmb	15 21 40.6	
	comp=Z,3.5nm,0.6s								
L27K	**Beaver Creek,**	**85.88**	**16**	P		**P**		**15 21 41.4**	**+0.7**
BCAR	**Beaver Creek A**	**85.89**	**16**	P		**P**		**15 21 41.4**	**+0.6**
IMAR	**Indian Mountai**	**86.00**	**10**	P		**P**		**15 21 41.0**	**-0.2**
I23K	**Minto, Yukon-K**	**86.00**	**12**	P		**P**		**15 21 40.5**	**-0.7**
I23K						IAmb	IAmb	15 21 41.7	
	comp=Z,5.3nm,1.4s								
MDM	**Murphy Dome**	**86.06**	**12**	P		**P**		**15 21 40.8**	**-0.7**
MDM						IAmb	IAmb	15 21 42.0	
	comp=Z,7.7nm,1.2s								
ALPN	**Alpine**	**86.14**	**56**	P		**P**		**15 21 44.7**	**+1.8**
ALPN						IAmb	IAmb	15 21 45.4	
	comp=Z,2.7nm,0.7s								
IL31		**86.17**	**13**	P		**P**		**15 21 41.5**	**-0.4**
ILAR	**Eielson Array**	**86.17**	**13**	P		**P**		**15 21 41.3**	**-0.7**
ILAR	**Eielson Array**	**86.17**	**13**	P		**P**		**15 21 41.6**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=218,slow=4.9,SNR=35								
	comp=Z,0.9nm,0.4s								
J25K	**Salcha River,**	**86.35**	**13**	P		**P**		**15 21 43.1**	**+0.1**
J25K						IAmb	IAmb	15 21 43.5	
	comp=Z,2.4nm,0.8s								
POKR	**Poker Plat Res**	**86.36**	**12**	P		**P**		**15 21 42.7**	**-0.2**
POKR						IAmb	IAmb	15 21 44.0	
	comp=Z,4.1nm,0.8s								
DLMT	**Dillon**	**86.59**	**40**	P		**P**		**15 21 45.5**	**+0.8**
BPMT	**Black Pine Rid**	**86.63**	**39**	P		**P**		**15 21 45.4**	**+0.4**
J26L	**Joseph Creek**	**86.67**	**14**	P		**P**		**15 21 45.3**	**+0.8**
J26L						IAmb	IAmb	15 21 46.2	
	comp=Z,9.3nm,1.5s								
M30M	**Minto, Yukon**	**86.85**	**18**	P		**P**		**15 21 45.5**	**+0.1**
M30M						IAmb	IAmb	15 21 46.8	
	comp=Z,3.0nm,0.9s								
IMW	**Indian Me

TESR	**Tescani**	**145.44 330**	⇓P	**PKPab**	**15 28 37.1**	**-0.2**
BRTR	**Keskin Array B**	**145.52 315**	PKPbc	**PKPdf**	**15 28 35.9**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=130,slow=3.9,SNR=7.8					
VRI	**Vrincioaia**	**145.86 329**	⇓P	**PKPbc**	**15 28 38.0**	**+0.9**
PLOR	**Plostina**	**145.91 329**	⇑P	**PKPab**	**15 28 39.4**	**+0.1**
OSTC	**Ostas**	**145.97 344**	*e*PKP	**PKPbc**	**15 28 38.4**	**+1.2**
CHVC	**Chvalec**	**145.99 344**	*e*PKP	**PKPbc**	**15 28 37.9**	**+0.6**
UPC	**Upice**	**146.07 344**	*e*PKP	**PKPbc**	**15 28 38.2**	**+0.7**
DPC	**Dobruska-Polom**	**146.13 344**	*e*PKP	**PKPbc**	**15 28 38.0**	**+0.3**
MORC	**Moravsky Berou**	**146.31 342**	*e*PKP	**PKPbc**	**15 28 39.1**	**+0.9**
MORC			*e*		15 28 41.5	
HSKC	**Hora Svate Kat**	**146.59 347**	*e*PKP	**PKPdf**	**15 28 36.5**	**+0.2**
MMAI	**Mount Meron Ar**	**146.89 303**	PKPbc	**PKPbc**	**15 28 40.5**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=54,slow=5.6,SNR=4.6					
MARR	**Marisel-Cluj**	**146.91 333**	⇑P	**PKPbc**	**15 28 40.8**	**+0.8**
PRU	**Pruhonice**	**146.91 345**	*e*PKP	**PKPdf**	**15 28 36.3**	**-0.5**
VYHS	**Vyhne**	**147.03 340**	*e*PKP	**PKPbc**	**15 28 41.2**	**+1.0**
ARR	**Arges**	**147.23 330**	⇑P	**PKiKP**	**15 28 42.6**	**0.0**
TREC	**Trest**	**147.32 344**	*e*PKP	**PKPab**	**15 28 44.2**	**-0.6**
ZVC	**Zvikov**	**147.51 345**	*e*PKP	**PKPbc**	**15 28 42.2**	**+0.9**
ZVC			*ex*	x	15 28 46.2	
SIRR	**Siria**	**147.85 334**	⇑P	**PKPbc**	**15 28 43.3**	**+1.0**
KHC	**Kasperske Hory**	**147.94 346**	PKPbc	**PKPbc**	**15 28 42.7**	**+0.2**
KHC	**Kasperske Hory**	**147.94 346**	*e*PKP	**PKPbc**	**15 28 41.8**	**-0.7**
KHC			*ex*	x	15 28 48.0	
CKRC	**Cesky Krumlov**	**148.06 345**	*e*PKP	**PKPbc**	**15 28 43.5**	**+0.7**
GERES	**GERESS Array B**	**148.18 346**	PKPbc	**PKPbc**	**15 28 43.6**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=29,slow=3.0,SNR=11					
CONA	**Conrad Observa**	**148.46 342**	*e*PKiKP	**PKiKP**	**15 28 45.1**	**+0.1**
	comp=Z,9.5nm,1.4s					
RONA	**Rosalia, Austr**	**148.54 342**	*i* PKiKP	**PKPbc**	**15 28 44.8**	**+0.8**
	comp=Z,5.3nm,0.9s					
BIOA	**Bad Ischl, Aus**	**149.27 345**	*e*PKiKP	**PKPbc**	**15 28 46.1**	**+0.3**
	comp=Z,4.7nm,1.0s					
LESA	**Schwarzleotal**	**149.75 346**	*e*PKiKP	**PKPbc**	**15 28 47.4**	**+0.3**
	comp=Z,2.1nm,0.7s					
SOKA	**Soboth**	**149.83 342**	*e*PKP	**PKPbc**	**15 28 47.4**	**+0.1**
	comp=Z,1.7nm,0.6s					
BOVS	**Bovan**	**149.91 331**	⇓P	**PKPdf**	**15 28 44.5**	**+2.7**
KBA	**Koelnbreinsper**	**149.91 345**	*e*PKP	**PKPbc**	**15 28 47.4**	**-0.1**
	comp=Z,2.6nm,0.8s					
VTS	**Vitosha**	**149.94 328**	⇓P	**PKiKP**	**15 28 49.5**	**+1.2**
WATA	**Walderalm**	**150.08 347**	*e*PKiKP	**PKPbc**	**15 28 48.0**	**+0.1**
	comp=Z,2.5nm,0.6s					
WTTA	**Wattenberg**	**150.13 347**	*i* PKiKP	**PKPbc**	**15 28 48.5**	**+0.5**
	comp=Z,3.2nm,0.8s					
SQTA	**Sankt Quirin**	**150.26 348**	*i* PKiKP	**PKPbc**	**15 28 48.6**	**+0.3**
	comp=Z,3.2nm,0.8s					
ABTA	**Abfaltersbach**	**150.43 346**	*e*PKP	**PKPbc**	**15 28 48.5**	**-0.1**
	comp=Z,5.8nm,0.7s					
FETA	**Feichten**	**150.55 348**	*e*PKiKP	**PKPbc**	**15 28 49.5**	**+0.6**
	comp=Z,2.9nm,0.7s					

*SJA **01** 15:59:01.8±1.0,20°.64S×69°.19W,h90km,ML3.5,MW3.5*
*GUC **01** 15:59:02.1±0.7,20°.60S×69°.11W,h105km±3km,ML3.6*

ISC 01 15:59:00.7±1.4,**20°.58S**±0°.03×**69°.22W**±0°.06,**h118**km±8km,
n30,σ0°**75**/59,**5C-3D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.44**	**8**	⇑*i*P	**Pn**	**15 59 18.6**	**-0.1**
PB08				*i* S	**Sn**	**15 59 31.1**	**-0.9**
PB08				IAML		15 59 32.3	
	comp=E,3μm,0.1s						
PB08				IAML		15 59 33.1	
	comp=N,2μm,0.1s						
PB08	**IPOC Station P**	**0.44**	**8**	*e*P	**Pn**	**15 59 18.4**	**-0.2**
PB08				*e*S	**Sn**	**15 59 31.6**	**-0.4**
PB08				IAML		15 59 31.9	
	comp=Z,984nm,0.1s						
PB01	**IPOC Station P**	**0.53**	**209**	⇓*e*P	**Pn**	**15 59 18.7**	**0.0**
PB01				*e*S	**Sn**	**15 59 31.4**	**-0.9**
PB01				IAML		15 59 32.5	
	comp=N,3μm,0.2s						
PB01	**IPOC Station P**	**0.53**	**209**	*e*P	**Pn**	**15 59 18.6**	**-0.2**
PB01				*e*S	**Sn**	**15 59 32.5**	**+0.2**
PB01				IAML		15 59 32.7	
	comp=Z,2μm,0.2s						
HMBC	**Humberstone**	**0.70**	**295**	⇓*e*P	**Pn**	**15 59 20.3**	**+0.3**
HMBC				*e*S	**Sn**	**15 59 34.3**	**-0.2**
HMBC				IAML		15 59 36.2	
	comp=N,2μm,0.6s						
HMBC	**Humberstone**	**0.70**	**295**	*e*P	**Pn**	**15 59 19.7**	**-0.3**
HMBC				*e*S	**Sn**	**15 59 34.9**	**+0.4**
HMBC				*e*S		15 59 35.1	
HMBC				IAML		15 59 37.9	
	comp=Z,1μm,0.3s						
TA01	**Diego Aracena**	**0.90**	**271**	*e*P	**Pn**	**15 59 22.1**	**+0.5**
TA01				*e*S	**Sn**	**15 59 37.3**	**-0.1**
TA01				IAML		15 59 38.5	
	comp=N,994nm,0.5s						
GO01	**Chusmiza**	**0.91**	**1**	⇑*i*P	**Pn**	**15 59 22.4**	**+0.1**
GO01				*i* S	**Sn**	**15 59 38.0**	**-0.4**
GO01				IAML		15 59 39.6	
	comp=E,5μm,0.1s						
GO01	**Chusmiza**	**0.91**	**1**	*e*P	**Pn**	**15 59 22.6**	**+0.4**
GO01				*e*S	**Sn**	**15 59 39.1**	**+0.6**
GO01				IAML		15 59 39.6	
	comp=Z,941nm,0.2s						
PATCX	**Punta Patache**	**0.91**	**255**	*e*P	**Pn**	**15 59 22.4**	**+0.6**
PATCX				*e*S	**Sn**	**15 59 38.0**	**+0.2**
PATCX				IAML		15 59 40.0	
	comp=E,1μm,0.3s						
PATCX	**Punta Patache**	**0.91**	**255**	*e*P	**Pn**	**15 59 21.9**	**+0.1**
PATCX				*e*S	**Sn**	**15 59 39.3**	**+1.5**
PATCX				IAML		15 59 40.5	
	comp=Z,603nm,0.5s						
PB02	**IPOC Station P**	**0.97**	**221**	⇓*e*P	**Pn**	**15 59 23.1**	**+0.6**
PB02				*e*S	**Sn**	**15 59 38.8**	**-0.1**
PB02				IAML		15 59 40.7	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**0.97**	**221**	*e*P	**Pn**	**15 59 22.4**	**0.0**
PB02				*e*S	**Sn**	**15 59 39.9**	**+1.0**
PB02				IAML		15 59 40.6	
	comp=Z,2μm,0.4s						
PB09	**IPOC Station P**	**1.21**	**181**	⇑*e*P	**Pn**	**15 59 25.3**	**+0.3**
PB09				*e*S	**Sn**	**15 59 42.7**	**-0.7**
PB09				IAML		15 59 44.3	
	comp=N,1μm,0.5s						
PB09	**IPOC Station P**	**1.21**	**181**	*e*P	**Pn**	**15 59 25.6**	**+0.6**
PB09				*e*S	**Sn**	**15 59 43.4**	**0.0**
PB09				IAML		15 59 46.1	
	comp=Z,721nm,0.4s						
PB07	**IPOC Station P**	**1.30**	**209**	*e*P	**Pn**	**15 59 26.3**	**+0.3**
PB07				*e*S	**Sn**	**15 59 45.0**	**-0.1**
PB07				IAML		15 59 46.1	
	comp=N,957nm,0.2s						
PB07	**IPOC Station P**	**1.30**	**209**	*e*P	**Pn**	**15 59 26.4**	**+0.3**
PB07				*e*S	**Sn**	**15 59 45.2**	**+0.1**
PB07				IAML		15 59 47.9	
	comp=Z,455nm,0.2s						
PB04	**IPOC Station P**	**1.95**	**206**	*e*P	**Pn**	**15 59 34.1**	**+0.4**
PB04				*e*S	**Sn**	**15 59 57.6**	**-1.1**
PB04				IAML		16 00 04.8	
	comp=E,269nm,0.3s						
PB04	**IPOC Station P**	**1.95**	**206**	*e*P	**Pn**	**15 59 33.9**	**+0.2**
PB04				*e*S	**Sn**	**15 59 58.1**	**-0.7**
PB04				IAML		16 00 02.1	
	comp=Z,203nm,0.3s						
LVC	**Limon Verde**	**2.04**	**172**	⇑*e*P	**Pn**	**15 59 35.4**	**+0.4**
LVC				*e*S	**Sn**	**16 00 00.9**	**-0.2**
LVC				IAML		16 00 03.0	
	comp=Z,941nm,0.2s						
LVC				IAML		16 00 03.6	
	comp=Z,708nm,0.4s						
LVC	**Limon Verde**	**2.04**	**172**	*e*P	**Pn**	**15 59 35.7**	**+0.7**
LVC				*e*S	**Sn**	**16 00 00.9**	**-0.2**
LVC				IAML		16 00 04.3	
	comp=Z,158nm,0.4s						
PB06	**IPOC Station P**	**2.14**	**189**	*e*P	**Pn**	**15 59 35.9**	**-0.2**
PB06				*e*S	**Sn**	**16 00 02.5**	**-0.6**
PB06				IAML		16 00 08.6	
	comp=Z,188nm,0.6s						
PB12	**IPOC Station P**	**2.22**	**332**	*e*P	**Pn**	**15 59 36.7**	**-0.2**
PB12				*e*S	**Sn**	**16 00 02.1**	**-2.5**
PB12				IAML		16 00 11.9	
	comp=E,152nm,0.3s						
PB12	**IPOC Station P**	**2.22**	**332**	*e*P	**Pn**	**15 59 36.9**	**-0.1**
PB12				*e*S	**Sn**	**16 00 03.8**	**-0.9**
PB16	**IPOC Station P**	**2.25**	**353**	*e*P	**Pn**	**15 59 38.9**	**+1.1**
PB16				*e*S	**Sn**	**16 00 08.7**	**+2.6**
PB16	**IPOC Station P**	**2.25**	**353**	*e*P	**Pn**	**15 59 38.7**	**+0.9**
PB16				AMP		15 59 43.4	
	comp=Z,529nm,7.0s						
PB16				*e*S	**Sn**	**16 00 05.3**	**-0.8**
PB16				*e*S		16 00 13.8	
AP01	**Chacalluta**	**2.44**	**334**	*e*P	**Pn**	**15 59 39.4**	**-0.3**
AP01				IAML		16 00 19.8	
	comp=Z,143nm,0.2s						
PB15	**IPOC Station P**	**2.63**	**185**	⇑*e*P	**Pn**	**15 59 42.5**	**+0.2**
PB15				*e*S	**Sn**	**16 00 13.6**	**-0.7**
PB15	**IPOC Station P**	**2.63**	**185**	*e*P	**Pn**	**15 59 42.5**	**+0.2**
PB15				*e*S	**Sn**	**16 00 13.8**	**-0.4**
PB15				IAML		16 00 18.2	
	comp=Z,583nm,0.4s						
GO02	**Mina Guanaco**	**4.58**	**184**	*e*P	**Pn**	**16 00 07.6**	**-0.6**
GO02				*e*S	**Sn**	**16 01 01.5**	**+0.9**
GO02				IAML		16 01 02.1	
	comp=Z,33nm,0.1s						

*IDC **01** 16:02:32.1±1.3,0°.02N×98°.51E,h0km,mb3.9/9,*
mbtmp3.8/10,ML4.0/1,MS3.0/3,Error ellipse:
s-maj=50.3km s-min=17.8km az=61.0
*DJA **01** 16:02:40.2±0.3,0°N±3°×9°9E±°,h38km±7km,M4.3/10,*
MLv4.3/10
*NEIC **01** 16:02:40.3±1.9,0°.17N±0°.10×98°.49E±0°.07,h50km±9km,*
mb4.2/14,Error ellipse: s-maj=16.1km s-min=6.9km
az=210.0

ISC 01 16:02:39.5±0.6,**0°.17N**±0°.04×**98°.49E**±0°.05,**h48**km,**n58**,
σ1°**30**/50,**mb4.1**/15,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.31**	**223**	P	**Pn**	**16 02 50.2**	**+1.7**
PBSI				S	**Sn**	**16 02 57.5**	**+2.6**
SBSI	**Sibolga**	**1.43**	**16**	P	**Pn**	**16 03 04.4**	**+1.4**
SBSI				S	**Sn**	**16 03 22.6**	**+2.0**
GSI	**Gunungsitoli**	**1.45**	**321**		**Pn**	**16 03 04.6**	**+1.4**
GSI	**Gunungsitoli**	**1.45**	**321**	P	**Pn**	**16 03 04.7**	**+1.4**
GSI				S	**Sn**	**16 03 23.1**	**+1.9**
SISI	**Saibi**	**1.60**	**158**	P	**Pn**	**16 03 06.3**	**+0.9**
PDSI	**Padang**	**2.24**	**119**	P	**Pn**	**16 03 15.0**	**+0.8**
RPSI	**Rantau Prapat**	**2.55**	**10**		**Pn**	**16 03 19.3**	**+1.0**
BKNI	**Bangkinang**	**2.55**	**86**		**Pn**	**16 03 20.4**	**+2.0**
BKNI	**Bangkinang**	**2.55**	**86**	P	**Pn**	**16 03 20.8**	**+2.4**
SNSI	**Sinabang, Aceh**	**3.10**	**316**	S	**Sn**	**16 04 01.3**	**-0.5**
SDSI	**Sungai Dareh**	**3.13**	**110**	P	**Pn**	**16 03 27.5**	**+1.1**
PPSI	**Pulau Pagai**	**3.29**	**152**	P	**Pn**	**16 03 28.6**	**+0.2**
KCSI	**Kotacane, Aceh**	**3.41**	**348**	P	**Pn**	**16 03 29.5**	**-0.7**
MLSI	**Meulaboh, Aceh**	**4.57**	**333**	P	**Pn**	**16 03 46.9**	**+0.7**
KULM	**Kulim**	**5.53**	**23**		**Pn**	**16 04 00.0**	**+0.8**
MYKOM	**Kota Tinggi**	**5.59**	**73**		**Pn**	**16 04 00.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**18.18**	**1**	P	**P**	**16 06 46.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**18.18**	**1**	P	**P**	**16 06 48.5**	**+0.2**
	0.2nm,0.3s,baz=190,slow=10,SNR=11						
CMAR				LR	LR	16 14 13.8	
	comp=Z,43nm,18.1s,baz=170,slow=38 1.1nm,0.6s						
CHTO	**Chiang Mai**	**18.53**	**1**	P	**P**	**16 06 51.1**	**-1.1**
KKM	**Kota Kinabalu**	**18.63**	**71**	P	**P**	**16 06 53.5**	**+0.1**
KKM				IAmb	IAmb	16 07 21.1	
	comp=Z,63nm,1.4s						
CRAI	**Chiangrai**	**20.02**	**5**	P	**P**	**16 07 07.2**	**-1.2**
TOLI2	**Tolitoli**	**22.31**	**88**	P	**P**	**16 07 32.5**	**-0.7**
TOLI2				IAmb	IAmb	16 07 43.8	
	comp=Z,4.1nm,0.9s						
H08S2	**Diego Garcia H**	**27.06**	**253**	T	T	16 36 10.7	
	baz=76,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**27.06**	**253**	T	T	16 36 09.6	
	baz=76,slow=76,SNR=46						
H08S1	**Diego Garcia H**	**27.08**	**253**	T	T	16 36 11.5	
	baz=76,slow=76,SNR=4.5						
ENH	**Enshi**	**31.71**	**18**	P	**P**	**16 08 58.3**	**-0.5**
FAKI	**Fak Fak**	**33.88**	**95**	P	**P**	**16 09 19.3**	**+1.3**
FAKI				IAmb	IAmb	16 10 03.4	
	comp=Z,6.6nm,1.2s						
WB0	**Warramunga Arr**	**40.37**	**122**	P	**P**	**16 10 11.0**	**-2.1**
WB0				IAmb	IAmb	16 10 27.3	
	comp=Z,5.5nm,1.4s						
WRA	**Warramunga Arr**	**40.40**	**122**	P	**P**	**16 10 10.3**	**-2.9**
	comp=Z,0.2nm,0.4s,baz=308,slow=8.6,SNR=5.4						
WRA				PcP	**PcP**	**16 12 15.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=315,slow=2.5,SNR=2.3 comp=Z,0.2nm,0.4s						
WB2	**Warramunga Arr**	**40.41**	**122**	P	**P**	**16 10 11.5**	**-1.9**
WB2				IAmb	IAmb	16 10 42.6	
	comp=Z,5.4nm,1.3s						
AS31	**Alice Springs**	**41.75**	**127**	P	**P**	**16 10 22.6**	**-1.7**
ASAR	**Alice Springs**	**41.75**	**127**	P	**P**	**16 10 22.2**	**-2.1**
ASAR	**Alice Springs**	**41.75**	**127**	P	**P**	**16 10 23.1**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=303,slow=8.1,SNR=13						
ASAR				PcP	**PcP**	**16 12 20.2**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=313,slow=3.2,SNR=4.3 comp=Z,0.5nm,0.6s						
JNU	**Nakatsue**	**44.75**	**40**	LR	LR	16 29 54.0	
	comp=Z,12nm,21.5s,baz=62,slow=37						
KSRS	**Korea Array**	**45.98**	**33**	P	**P**	**16 10 57.2**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=223,slow=8.6,SNR=7.5 comp=Z,1.5nm,0.7s						
SONM	**Songino Array**	**47.97**	**7**	P	**P**	**16 11 14.3**	**+0.7**
SONM				IAmb	IAmb	16 11 28.3	
	comp=Z,1.8nm,0.8s						
SONM	**Songino Array**	**47.97**	**7**	P	**P**	**16 11 14.3**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=188,slow=9.2,SNR=9.3 comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**48.55**	**345**	P	**P**	**16 11 18.7**	**+0.8**
MK31				IAmb	IAmb	16 11 31.8	
	comp=Z,3.5nm,1.2s						
MKAR	**Makanchi Array**	**48.55**	**345**	P	**P**	**16 11 18.6**	**+0.7**
MKAR	**Makanchi Array**	**48.55**	**345**	P	**P**	**16 11 18.9**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=153,slow=8.1,SNR=17 comp=Z,2.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.00**	**30**	P	**P**	**16 11 51.7**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=256,slow=5.8,SNR=1.8 comp=Z,1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**53.06**	**344**	P	**P**	**16 11 52.4**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=166,slow=7.3,SNR=5.0 comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**54.78**	**350**	P	**P**	**16 12 04.6**	**+0.4**
ZALV	**Zalesovo Beam**	**54.78**	**350**	P	**P**	**16 12 04.1**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=164,slow=6.5,SNR=5.0 comp=Z,1.4nm,0.4s						
BVAR	**Borovoye Array**	**57.64**	**340**	P	**P**	**16 12 23.5**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=138,slow=9.0,SNR=3.4 comp=Z,0.7nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.66**	**215**	T	T	17 19 19.1	
	baz=55,slow=75,SNR=38						
H04N1	**CROZET ISLANDS**	**61.67**	**215**	T	T	17 19 20.0	
	baz=55,slow=75,SNR=45						
H04N3	**CROZET ISLANDS**	**61.68**	**215**	T	T	17 19 18.5	
	baz=55,slow=75,SNR=36						
H04S1	**CROZET ISLANDS**	**61.98**	**214**	T	T	17 19 41.3	
	baz=54,slow=75,SNR=16						
H04S3	**CROZET ISLANDS**	**61.99**	**214**	T	T	17 19 46.0	
	baz=54,slow=75,SNR=16						
H04S2	**CROZET ISLANDS**	**62.00**	**214**	T	T	17 19 49.8	
	baz=54,slow=75,SNR=6.8						
ARU	**Arti**	**64.63**	**337**	LR	LR	16 42 35.0	
	comp=Z,15nm,21.6s,baz=134,slow=37						
CASY	**Casey**	**66.86**	**175**	P	**P**	**16 13 26.6**	**+0.4**
CASY				IAmb	IAmb	16 13 27.6	
	comp=Z,1.9nm,0.8s						
BKZ	**Black Stump Fm**	**80.81**	**130**	P	**P**	**16 14 48.7**	**+0.3**
RTZ	**Ruatahuna**	**81.11**	**129**	P	**P**	**16 14 49.9**	**-0.2**
H09W1	**TRISTAN DA CUNI**	**06.62**	**231**	T	T	18 14 47.2	
	SNR=7.3						
BDFB	**Brasilia**	**143.53**	**243**	PKP	**PKPdf**	**16 22 08.9**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=106,slow=7.1,SNR=3.4						
TXAR	**Lajitas Array**	**143.83**	**34**	PKP	PKPbc	16 22 08.8	+0.8
	comp=Z,0.2nm,0.8s,baz=96,slow=0.9,SNR=1.4						

*NEIC **01** 16:13:06.7±1.8,20°.74S±0°.10×178°.5W±0°.1,h574km±8km,*
mb4.3/90,Error ellipse: s-maj=15.9km s-min=13.5km
az=114.0
*NOU **01** 16:13:08.7,20°.93S×178°.33W,h589km,mb4.4/11,Fiji*
Islands Region
*IDC **01** 16:13:10.0±1.3,20°.68S×178°.75W,h606km±13km,*
mb3.4/14,mbtmp4.3/16,Error ellipse: s-maj=18.1km
s-min=14.1km az=145.0

ISC 01 16:13:07.8±0.4,**20.74S**±0°.07×**178.57W**±0°.07,**h587**km,
n165,σ1°**26**/169,**mb4.2**/60,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**4.21**	**342**	P	**P**	**16 14 37.6**	**+3.7**
MSVF	**Nonsavu**	**4.38**	**312**	P	**P**	**16 14 38.4**	**+3.1**
MSVF	**Nonsavu**	**4.38**	**312**	P	**P**	**16 14 38.1**	**+2.8**
	95nm,1.0s,baz=234,slow=21,SNR=43						
DGTI	**Dogotuki**	**4.70**	**340**	P	**P**	**16 14 40.5**	**+2.8**
YSA	**Yasawairara**	**5.43**	**317**	P	**P**	**16 14 46.0**	**+2.5**
NIUE	**Niue**	**8.29**	**80**	P	**P**	**16 15 09.9**	**+0.4**
RAO	**Raoul Island**	**8.50**	**176**	P	P	16 15 16.5	+5.1
	352nm,0.4s,baz=269,slow=22,SNR=4.1						
AFI	**Afiamalu**	**9.39**	**45**	P	**P**	**16 15 18.9**	**-1.6**
AFI	**Afiamalu**	**9.39**	**45**	P	**P**	**16 15 21.2**	**+0.8**
AFI	**Afiamalu**	**9.39**	**45**	P	**P**	**16 15 18.7**	**-1.7**
	21nm,0.6s,baz=278,slow=19,SNR=5.9						
AFI				S	**S**	**16 17 06.1**	**-3.0**
	13nm,0.5s,baz=232,slow=19,SNR=1.7						
DZM	**Mont Dzumac**	**14.03**	**262**	P	**P**	**16 16 09.6**	**+2.2**
DZM	**Mont Dzumac**	**14.03**	**262**	P	**P**	**16 16 10.2**	**+2.9**
DZM	**Mont Dzumac**	**14.03**	**262**	P	**P**	**16 16 07.9**	**+0.6**
	5.5nm,1.0s,baz=44,slow=13,SNR=1.7						
OUZ	**Omahuta**	**15.99**	**204**	P	**P**	**16 16 27.7**	**+2.2**
WCZ	**Waipu Caves**	**16.37**	**201**	P	**P**	**16 16 29.4**	**+0.4**
KUZ	**Kuaotunu**	**16.71**	**196**	P	**P**	**16 16 33.9**	**+1.9**
WMGZ	**Waiomatatini S**	**17.22**	**188**	P	**P**	**16 16 36.4**	**-0.3**
HAZ	**Te Kaha**	**17.25**	**190**	P	**P**	**16 16 36.7**	**-0.2**
PKGZ	**Pakihiroa**	**17.34**	**189**	P	**P**	**16 16 38.9**	**+1.0**
RUGZ	**Raukumara Rang**	**17.47**	**190**	P	**P**	**16 16 37.9**	**-1.2**
TGRZ	**Tauranga**	**17.52**	**194**	P	**P**	**16 16 40.9**	**+1.5**
TWGZ	**Tauwhareparae**	**17.63**	**189**	P	**P**	**16 16 40.9**	**+0.3**
TOZ	**Tahuroa Road**	**17.70**	**196**	P	**P**	**16 16 42.2**	**+1.1**
URZ	**Urewera**	**17.86**	**191**	P	**P**	**16 16 41.2**	**-1.3**
URZ	**Urewera**	**17.86**	**191**	P	**P**	**16 16 40.0**	**-2.5**
URZ	**Urewera**	**17.86**	**191**	P	**P**	**16 16 39.7**	**-2.8**
	8.3nm,0.3s,baz=11,slow=2.7,SNR=27						
MWZ	**Matawai**	**17.86**	**190**	P	**P**	**16 16 40.8**	**-1.8**
CNGZ	**Carnagh Statio**	**17.90**	**188**	P	**P**	**16 16 42.7**	**-0.2**
TKGZ	**Te Karaka**	**17.91**	**189**	P	**P**	**16 16 42.9**	**-0.1**
MUGZ	**Murupara**	**18.13**	**192**	P	**P**	**16 16 43.7**	**-1.3**
BKZ	**Black Stump Fm**	**18.85**	**192**	P	**P**	**16 16 49.7**	**-2.0**
BKZ	**Black Stump Fm**	**18.85**	**192**	P	**P**	**16 16 51.5**	**-0.1**
BKZ	**Black Stump Fm**	**18.85**	**192**	P	**P**	**16 16 49.8**	**-1.8**
MCHZ	**McNeill Hill**	**19.08**	**191**	P	**P**	**16 16 51.7**	**-2.0**
BFZ	**Birch Farm**	**20.37**	**191**	P	**P**	**16 17 03.5**	**-1.8**
BFZ	**Birch Farm**	**20.37**	**191**	P	**P**	**16 17 04.7**	**-0.6**
SNZO	**South Karori**	**21.29**	**194**	P	**P**	**16 17 12.3**	**-1.2**
QRZ	**Quartz Range**	**21.41**	**199**	P	**P**	**16 17 14.7**	**+0.1**
NNZ	**Nelson**	**21.53**	**197**	P	**P**	**16 17 13.9**	**-1.8**
KHZ	**Kahutara**	**22.61**	**195**	P	**P**	**16 17 23.6**	**-1.7**
KHZ	**Kahutara**	**22.61**	**195**	P	**P**	**16 17 24.8**	**-0.5**
GVZ	**Greta Valley S**	**23.26**	**196**	P	**P**	**16 17 29.1**	**-2.0**
OXZ	**Oxford**	**23.86**	**197**	P	**P**	**16 17 34.5**	**-1.9**
MLZ	**Mavora Lakes**	**26.90**	**201**	P	**P**	**16 18 03.5**	**+0.3**
ARMA	**Armidale**	**28.49**	**244**	P	**P**	**16 18 15.8**	**-1.6**
CTAO	**Charters Tower**	**32.94**	**265**	P	**P**	**16 18 55.0**	**-0.4**
PMG	**Port Moresby**	**34.88**	**284**	P	**P**	**16 19 11.3**	**-0.4**
PMG				IAmb	IAmb	16 19 46.8	
	comp=Z,11nm,1.0s						
COEN	**Coen**	**37.07**	**274**	P	**P**	**16 19 29.7**	**0.0**
COEN				IAmb	IAmb	16 20 09.8	
	comp=Z,10nm,1.3s						
STKA	**Stephens Creek**	**37.21**	**244**	P	**P**	**16 19 30.5**	**-0.1**
STKA	**Stephens Creek**	**37.21**	**244**	P	**P**	**16 19 29.9**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=108,slow=16,SNR=3.2 comp=Z,1.3nm,0.6s						
BBOO	**Buckleboo**	**41.97**	**244**	P	**P**	**16 20 08.1**	**-0.6**
WR0	**Warramunga Arr**	**43.85**	**262**	P	**P**	**16 20 22.5**	**-1.0**
WR0				IAmb	IAmb	16 20 29.2	
	comp=Z,8.2nm,1.4s						
AS31	**Alice Springs**	**43.95**	**257**	P	**P**	**16 20 23.2**	**-1.0**
ASAR	**Alice Springs**	**43.95**	**257**	P	**P**	**16 20 23.0**	**-1.2**
ASAR	**Alice Springs**	**43.95**	**257**	P	**P**	**16 20 23.7**	**-0.6

n208,σ1°25/210,mb4.4/70,2C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.72**	**330**	P	**P**	**16 20 07.5**	**+1.5**
MSVF	**Nonsavu**	**4.72**	**330**	P	**P**	**16 20 07.8**	**+1.8**
MSVF	**Nonsavu**	**4.72**	**330**	P	**P**	**16 20 07.7**	**+1.8**
	130nm,0.5s,baz=186,slow=4.8,SNR=198						
TAVE	**Taveuni**	**5.13**	**355**	P	**P**	**16 20 10.8**	**+1.7**
DGTI	**Dogotuki**	**5.57**	**352**	P	**P**	**16 20 13.9**	**+1.1**
YSA	**Yasawairara**	**5.84**	**331**	P	**P**	**16 20 16.4**	**+1.4**
NIUE	**Niue**	**9.33**	**75**	P	**P**	**16 20 47.0**	**-0.6**
AFI	**Afiamalu**	**10.74**	**44**	P	P	16 20 54.5	-7.2
AFI	**Afiamalu**	**10.74**	**44**	P	**P**	**16 20 58.2**	**-3.5**
	18nm,0.7s,baz=288,slow=18,SNR=1.5						
AFI				S	S	16 22 50.7	-11
	18nm,0.8s,baz=52,slow=22,SNR=1.3						
MARNC	**Mare, Loyalty**	**11.66**	**269**	P	**P**	**16 21 11.9**	**+1.0**
MARNC	**Mare, Loyalty**	**11.66**	**269**	P	**P**	**16 21 12.2**	**+1.4**
PINNC	**Pines Island,**	**12.17**	**264**	P	**P**	**16 21 16.9**	**+0.9**
PINNC	**Pines Island,**	**12.17**	**264**	P	**P**	**16 21 17.5**	**+1.5**
LIFNC	**LIFOU**	**12.46**	**272**	P	**P**	**16 21 18.8**	**-0.2**
LIFNC	**LIFOU**	**12.46**	**272**	P	**P**	**16 21 19.7**	**+0.7**
YATNC	**Mamie plateau,**	**12.69**	**266**	P	**P**	**16 21 22.5**	**+1.2**
DZM	**Mont Dzumac**	**13.10**	**266**	P	**P**	**16 21 26.0**	**+0.4**
DZM	**Mont Dzumac**	**13.10**	**266**	P	S	16 23 28.5	-17
DZM	**Mont Dzumac**	**13.10**	**266**	P	**P**	**16 21 25.8**	**+0.2**
	14nm,0.5s,baz=74,slow=11,SNR=9.8						
DZM				S	S	16 23 28.7	-17
	3.6nm,0.5s,baz=179,slow=8.7,SNR=7.2						
WIAZ	**Waiheke Island**	**15.62**	**196**	P	P	16 22 00.3	+11
MKAZ	**Moumakai**	**15.91**	**196**	P	**P**	**16 21 54.4**	**+2.2**
WMGZ	**Waiomatatini S**	**16.03**	**186**	P	**P**	**16 21 53.5**	**+0.2**
HAZ	**Te Kaha**	**16.04**	**188**	P	**P**	**16 21 53.3**	**-0.1**
PKGZ	**Pakihiroa**	**16.13**	**187**	P	**P**	**16 21 55.1**	**+0.7**
RUGZ	**Raukumara Rang**	**16.26**	**188**	P	**P**	**16 21 55.1**	**-0.5**
TOZ	**Tahuroa Road**	**16.42**	**194**	P	**P**	**16 21 59.2**	**+2.2**
TOZ	**Tahuroa Road**	**16.42**	**194**	P	**P**	**16 21 59.0**	**+2.1**
TWGZ	**Tauwhareparae**	**16.43**	**187**	P	**P**	**16 21 57.5**	**+0.5**
URZ	**Urewera**	**16.63**	**190**	P	**P**	**16 21 57.2**	**-1.5**
URZ	**Urewera**	**16.63**	**190**	P	**P**	**16 21 56.3**	**-2.5**
	8.2nm,0.3s,baz=328,slow=2.2,SNR=14						
URZ				S	**S**	**16 24 35.4**	**-8.8**
	5.9nm,0.5s,baz=66,slow=22,SNR=9.3						
MWZ	**Matawai**	**16.64**	**188**	P	**P**	**16 21 57.6**	**-1.4**
CNGZ	**Carnagh Statio**	**16.71**	**186**	P	**P**	**16 21 59.7**	**+0.2**
BKZ	**Black Stump Fm**	**17.61**	**191**	P	**P**	**16 22 06.6**	**-1.2**
BFZ	**Birch Farm**	**19.13**	**190**	P	**P**	**16 22 20.6**	**-1.0**
BFZ	**Birch Farm**	**19.13**	**190**	P	**P**	**16 22 20.9**	**-0.7**
SNZO	**South Karori**	**20.03**	**193**	P	**P**	**16 22 28.9**	**-0.7**
BHW	**Baring Head**	**20.09**	**193**	P	**P**	**16 22 28.9**	**-1.2**
QRZ	**Quartz Range**	**20.11**	**198**	P	**P**	**16 22 31.4**	**+1.0**
THZ	**Tophouse**	**20.88**	**196**	P	**P**	**16 22 37.0**	**-0.4**
KHZ	**Kahutara**	**21.34**	**194**	P	**P**	**16 22 40.1**	**-1.3**
INZ	**Inchbonnie**	**22.17**	**198**	P	**P**	**16 22 48.2**	**-0.7**
OXZ	**Oxford**	**22.57**	**196**	P	**P**	**16 22 51.5**	**-0.9**
MQZ	**McQueen's Vall**	**22.77**	**195**	P	**P**	**16 22 52.7**	**-1.5**
RPZ	**Rata Peaks**	**23.20**	**198**	P	**P**	**16 22 58.2**	**+0.2**
JCZ	**Jackson Bay**	**24.22**	**201**	P	**P**	**16 23 07.5**	**+0.4**
WKZ	**Wanaka**	**24.82**	**200**	P	**P**	**16 23 11.7**	**-0.7**
DCZ	**Deep Cove**	**26.00**	**202**	P	**P**	**16 23 23.9**	**+1.3**
WHZ	**Wether Hill Ro**	**26.11**	**200**	P	**P**	**16 23 24.7**	**+1.1**
EIDS	**Eidsvold**	**27.21**	**257**	P	**P**	**16 23 34.7**	**+1.0**
EIDS				IAmb	IAmb	16 23 35.3	
	comp=Z,9.5nm,0.6s						
ARMA	**Armidale**	**27.28**	**246**	P	**P**	**16 23 36.3**	**+2.0**
ARMA				IAmb	IAmb	16 24 01.3	
	comp=Z,9.9nm,1.2s						
ARMA	**Armidale**	**27.28**	**246**	P	**P**	**16 23 36.3**	**+2.0**
MGCD	**Mangrove Creek**	**28.37**	**240**	P	**P**	**16 23 45.9**	**+2.3**
SYDH	**Sydney Hard Ro**	**28.82**	**239**	P	**P**	**16 23 49.6**	**+2.1**
CNB	**Canberra Magne**	**30.37**	**237**	P	**P**	**16 24 02.9**	**+2.0**
CAN	**Canberra**	**30.65**	**237**	P	**P**	**16 24 04.8**	**+1.5**
CAN				IAmb	IAmb	16 24 23.3	
	comp=Z,23nm,1.4s						
CTA	**Charters Tower**	**32.05**	**267**	P	**P**	**16 24 16.1**	**+0.7**
	comp=Z,12nm,0.5s,baz=97,slow=12,SNR=12						
	comp=Z,12nm,0.5s						
CTAO	**Charters Tower**	**32.05**	**267**	P	**P**	**16 24 16.1**	**+0.7**
CMSA	**Cobar Meteorol**	**32.50**	**245**	P	**P**	**16 24 20.1**	**+1.1**
TOO	**Toolangi**	**34.02**	**235**	P	**P**	**16 24 33.3**	**+1.6**
TOO				IAmb	IAmb	16 24 45.1	
	comp=Z,19nm,1.4s						
PMG	**Port Moresby**	**34.37**	**286**	P	**P**	**16 24 35.1**	**+0.2**
STKA	**Stephens Creek**	**36.00**	**246**	P	**P**	**16 24 49.1**	**+0.9**
STKA	**Stephens Creek**	**36.00**	**246**	P	**P**	**16 24 49.2**	**+1.0**
STKA	**Stephens Creek**	**36.00**	**246**	P	**P**	**16 24 49.2**	**+1.0**
	comp=Z,4.5nm,0.5s,baz=94,slow=11,SNR=21						
	comp=Z,4.5nm,0.5s						
COEN	**Coen**	**36.36**	**276**	P	**P**	**16 24 52.0**	**+0.7**
COEN				IAmb	IAmb	16 24 53.2	
	comp=Z,16nm,0.8s						
HTT	**Hallett**	**38.42**	**243**	P	**P**	**16 25 08.8**	**+0.9**
LCRK	**Leigh Creek**	**38.78**	**248**	P	**P**	**16 25 11.7**	**+0.9**
BBOO	**Buckleboo**	**40.75**	**245**	P	**P**	**16 25 26.6**	**+0.1**
BBOO				IAmb	IAmb	16 25 33.4	
	comp=Z,21nm,1.2s						
BBOO	**Buckleboo**	**40.75**	**245**	P	**P**	**16 25 27.1**	**+0.6**
OOD	**Oodnadatta**	**40.98**	**252**	P	**P**	**16 25 29.7**	**+1.3**
MULG	**Mulgathing**	**42.37**	**249**	P	**P**	**16 25 40.0**	**+0.7**
WR0	**Warramunga Arr**	**42.91**	**264**	P	**P**	**16 25 42.9**	**-0.8**
WR0				IAmb	IAmb	16 25 44.9	
	comp=Z,5.7nm,0.5s						
AS31	**Alice Springs**	**42.92**	**258**	P	**P**	**16 25 43.9**	**+0.3**
ASAR	**Alice Springs**	**42.92**	**258**	P	**P**	**16 25 44.0**	**+0.3**
	comp=Z,16nm,0.8s,baz=99,slow=8.0,SNR=165						
ASAR				PcP	**PcP**	**16 27 20.9**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=106,slow=4.4,SNR=5.0						
ASAR				ScP	**ScP**	**16 30 16.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=110,slow=4.1,SNR=6.0						
ASAR				S	**S**	**16 31 22.6**	**-4.3**
	comp=Z,2.3nm,0.9s,baz=97,slow=16,SNR=17						
	comp=Z,16nm,0.8s						
WAKE	**Wake Island**	**43.08**	**341**	P	**P**	**16 25 44.2**	**-0.6**
WB0	**Warramunga Arr**	**43.09**	**264**	P	**P**	**16 25 44.5**	**-0.4**
WB0				IAmb	IAmb	16 25 45.5	
	comp=Z,17nm,0.7s						
WB2	**Warramunga Arr**	**43.09**	**264**	P	**P**	**16 25 44.6**	**-0.4**
WB2				IAmb	IAmb	16 25 45.6	
	comp=Z,22nm,0.9s						
WRAB	**Tennant Creek**	**43.09**	**264**	P	**P**	**16 25 44.6**	**-0.5**
WRAB				IAmb	IAmb	16 25 45.6	
	comp=Z,19nm,0.9s						
WRA	**Warramunga Arr**	**43.10**	**264**	P	**P**	**16 25 44.6**	**-0.5**
WRA	**Warramunga Arr**	**43.10**	**264**	P	**P**	**16 25 44.8**	**-0.4**
	comp=Z,9.0nm,0.5s,baz=98,slow=5.9,SNR=111						
WRA				ScP	**ScP**	**16 30 17.8**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=100,slow=4.4,SNR=8.0						
WRA				S	**S**	**16 31 24.0**	**-5.6**
	comp=Z,0.5nm,0.8s,baz=102,slow=13,SNR=3.8						
	comp=Z,9.0nm,0.5s						
FORT	**Forrest**	**47.54**	**248**	P	**P**	**16 26 18.5**	**-0.1**
FORT				IAmb	IAmb	16 26 19.4	
	comp=Z,17nm,0.8s						
FORT	**Forrest**	**47.54**	**248**	P	**P**	**16 26 18.9**	**+0.2**
MTN	**Manton Dam**	**47.85**	**272**	P	**P**	**16 26 20.8**	**-0.4**
KNRA	**Kununurra**	**49.25**	**268**	P	**P**	**16 26 31.7**	**+0.2**
GUMO	**Guam**	**49.66**	**312**	P	**P**	**16 26 34.7**	**+0.2**
FAKI	**Fak Fak**	**50.52**	**285**	P	**P**	**16 26 40.4**	**-0.4**
FAKI				IAmb	IAmb	16 26 41.5	
	comp=Z,11nm,1.0s						
SIJI	**Sorong**	**52.31**	**287**	P	**P**	**16 26 53.5**	**-0.2**
	comp=Z,53nm,0.7s,baz=90,slow=5.8,SNR=57						
	comp=Z,53nm,0.7s						
SOEI	**Soe**	**55.22**	**273**	P	**P**	**16 27 14.9**	**+0.6**
PSA00	**Pilbara Seismi**	**56.07**	**258**	P	**P**	**16 27 19.7**	**-0.3**
MBWA	**Marble Bar**	**56.26**	**259**	P	**P**	**16 27 21.0**	**-0.3**
MBWA				IAmb	IAmb	16 27 21.8	
	comp=Z,16nm,0.8s						
SBA	**Scott Base**	**56.45**	**183**	P	**P**	**16 27 24.6**	**+3.0**
VNDA	**Vanda**	**56.46**	**185**	P	**P**	**16 27 23.5**	**+1.9**
VNDA	**Vanda**	**56.46**	**185**	P	**P**	**16 27 23.6**	**+1.9**
	comp=Z,2.3nm,0.7s,baz=360,slow=6.3,SNR=28						
	comp=Z,2.3nm,0.7s						
TNTI	**Ternate**	**56.52**	**286**	P	**P**	**16 27 23.3**	**+0.1**
TNTI				IAmb	IAmb	16 27 24.1	
	comp=Z,26nm,1.1s						
MMRI	**Maumere**	**57.48**	**274**	P	**P**	**16 27 28.5**	**-1.3**
MMRI				IAmb	IAmb	16 27 50.1	
	comp=Z,18nm,0.9s						
MORW	**Morawa**	**58.08**	**249**	P	**P**	**16 27 33.6**	**0.0**
GIRL	**Giralia**	**60.91**	**256**	P	**P**	**16 27 53.5**	**+1.1**
CASY	**Casey**	**62.18**	**205**		**P**	**16 28 00.1**	**+0.2**
TOLI2	**Tolitoli**	**62.59**	**283**	P	**P**	**16 28 02.4**	**-1.0**
TOLI2				IAmb	IAmb	16 28 05.4	
	comp=Z,7.7nm,0.6s						
JAGI	**Jajag, Banyuwa**	**65.04**	**271**	P	**P**	**16 28 18.0**	**-1.1**
QSPA	**South Pole Qui**	**68.23**	**180**	P	**P**	**16 28 38.9**	**+1.0**
QSPA				IAmb	IAmb	16 28 39.9	
	comp=Z,12nm,0.8s						
UGM	**Wanagama**	**68.61**	**270**	P	**P**	**16 28 40.6**	**-0.3**
KKM	**Kota Kinabalu**	**68.82**	**286**	P	**P**	**16 28 42.3**	**0.0**
JOW	**Kunigami**	**70.02**	**311**	P	**P**	**16 28 49.5**	**+0.4**
MJAR	**Matsushiro Arr**	**70.51**	**325**	P	**P**	**16 28 50.7**	**-1.1**
	comp=Z,2.6nm,0.6s,baz=158,slow=5.6,SNR=14						
	comp=Z,2.6nm,0.6s						
MAJO	**Matsushiro**	**70.51**	**325**	P	**P**	**16 28 51.7**	**-0.1**
MAJO				IAmb	IAmb	16 29 13.3	
	comp=Z,18nm,1.5s						
KSM	**Kuching**	**72.28**	**279**	P	**P**	**16 29 03.0**	**+0.4**
KSM				IAmb	IAmb	16 29 03.8	
	comp=Z,12nm,0.7s						
YULB	**Yu-li**	**73.13**	**304**	P	**P**	**16 29 06.2**	**-1.0**
YULB				IAmb	IAmb	16 29 47.0	
	comp=Z,15nm,1.3s						
NACB	**Ninganchiao**	**73.33**	**305**	P	**P**	**16 29 07.7**	**-0.6**
NACB				IAmb	IAmb	16 29 08.7	
	comp=Z,13nm,0.8s						
KIWB	**Kanaga Island**	**73.41**	**1**	P	**P**	**16 29 07.6**	**-0.5**
TPUB	**Ta-pu**	**73.59**	**304**	P	**P**	**16 29 09.0**	**-0.9**
SSLB	**Suanglung**	**73.61**	**305**	P	**P**	**16 29 09.3**	**-0.7**
SSLB				IAmb	IAmb	16 29 10.0	
	comp=Z,10nm,0.7s						
ATKA	**Atka Island**	**73.87**	**3**	P	**P**	**16 29 09.9**	**-0.8**
CLES	**Cleveland East**	**74.81**	**6**	P	**P**	**16 29 15.8**	**-0.2**
KS19	**Wonju Array Si**	**77.08**	**320**	P	**P**	**16 29 28.6**	**-0.3**
PEA0B	**Petropavlovsk-**	**77.24**	**346**	P	**P**	**16 29 29.2**	**-0.1**
PEA0B				IAmb	IAmb	16 29 45.3	
	comp=Z,43nm,1.4s						
PETK	**Petropavlovsk-**	**77.24**	**346**	P	**P**	**16 29 28.7**	**-0.6**
	comp=Z,7.4nm,0.7s,baz=145,slow=3.6,SNR=22						
	comp=Z,7.4nm,0.7s						
SMAI	**San Martin Ant**	**77.83**	**159**	P	**P**	**16 29 33.5**	**+1.1**
SMAI				IAmb	IAmb	16 29 34.2	
	comp=Z,12nm,0.8s						
BELA	**Belgrano 2**	**78.40**	**173**	P	**P**	**16 29 35.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**79.33**	**327**	P	**P**	**16 29 41.3**	**+0.6**
	comp=Z,4.9nm,1.0s,baz=106,slow=3.3,SNR=5.3						
	comp=Z,4.9nm,1.0s						
MAW	**Mawson**	**79.85**	**200**	P	**P**	**16 29 43.9**	**+0.8**
MAW	**Mawson**	**79.85**	**200**	P	**P**	**16 29 43.5**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=134,slow=7.3,SNR=8.3						
	comp=Z,1.9nm,0.6s						
SAO	**San Andreas Ge**	**79.92**	**44**	P	**P**	**16 29 42.2**	**-1.8**
SAO				IAmb	IAmb	16 30 13.3	
	comp=Z,11nm,1.0s						
PMSA	**Palmer Station**	**80.59**	**157**	P	**P**	**16 29 47.8**	**+0.8**
PMSA				IAmb	IAmb	16 29 48.6	
	comp=Z,13nm,1.1s						
MPK	**Martis Peak**	**82.33**	**42**	P	**P**	**16 29 56.8**	**+0.1**
MPK				IAmb	IAmb	16 30 41.2	
	comp=Z,8.1nm,0.9s						
PNTR	**Pine Nut**	**82.48**	**43**	P	**P**	**16 29 56.8**	**-0.6**
NVAR	**Mina Array Bea**	**82.92**	**44**	P	**P**	**16 29 58.4**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=222,slow=9.2,SNR=4.5						
	comp=Z,0.8nm,0.8s						
KVN	**Kaiserville**	**83.41**	**43**	P	**P**	**16 30 01.7**	**-0.2**
O18K	**Koktuh Hills**	**83.79**	**12**	P	**P**	**16 30 02.5**	**-0.6**
O18K				IAmb	IAmb	16 30 06.6	
	comp=Z,20nm,1.5s						
H04A	**Detroit Lake**	**84.31**	**37**	P	**P**	**16 30 06.5**	**+0.5**
ILSW	**Iliamna Southw**	**84.32**	**13**	P	**P**	**16 30 05.2**	**-0.6**
ILSW				IAmb	IAmb	16 30 05.8	
	comp=Z,5.7nm,0.8s						
B04A	**Port Angeles**	**85.71**	**34**		**P**	**16 30 13.6**	**+0.9**
B04A				IAmb	IAmb	16 30 38.8	
	comp=Z,24nm,1.4s						
M19K	**Big River Lodg**	**85.84**	**12**	P	**P**	**16 30 12.4**	**-0.5**
L19K	**White Mountain**	**86.01**	**11**	P	**P**	**16 30 14.2**	**+0.5**
L19K				IAmb	IAmb	16 30 18.8	
	comp=Z,11nm,1.4s						
COYC	**Coyhaique**	**86.06**	**138**		**P**	**16 30 16.1**	**+1.6**
COYC				IAmb	IAmb	16 30 16.8	
	comp=Z,8.9nm,0.7s						
SUA	**Susitna One**	**86.17**	**13**	P	**P**	**16 30 14.2**	**-0.5**
SUA				IAmb	IAmb	16 30 53.2	
	comp=Z,16nm,1.4s						
PWL	**Port Wells**	**86.17**	**15**	P	**P**	**16 30 13.8**	**-0.8**
PWL				IAmb	IAmb	16 30 34.5	
	comp=Z,10nm,1.4s						
TROLL	**Troll, Antarti**	**86.38**	**181**	⇑P	**P**	**16 30 15.2**	**-0.5**
	comp=Z,252nm,0.6s						
GLI	**Glacier Island**	**86.49**	**15**	P	**P**	**16 30 15.5**	**-0.5**
GLI				IAmb	IAmb	16 30 16.3	
	comp=Z,5.9nm,0.7s						
KNK	**Knik Glacier**	**86.63**	**14**	P	**P**	**16 30 16.4**	**-0.3**
KNK				IAmb	IAmb	16 30 16.9	
	comp=Z,4.1nm,0.7s						
PMR	**Palmer**	**86.64**	**14**	P	**P**	**16 30 16.3**	**-0.4**
SNAA	**Sanae**	**86.70**	**179**	⇑P	**P**	**16 30 16.4**	**-0.8**
	comp=Z,24nm,0.4s						
GHO	**Glory Hole Cre**	**86.84**	**14**	P	**P**	**16 30 17.5**	**-0.3**
GHO				IAmb	IAmb	16 30 18.2	
	comp=Z,7.5nm,0.6s						
SNH	**Sunshine Point**	**87.00**	**17**	P	**P**	**16 30 19.1**	**+0.6**
SNH				IAmb	IAmb	16 30 30.7	
	comp=Z,14nm,1.0s						
SML	**Sawmill**	**87.01**	**14**	P	**P**	**16 30 18.1**	**-0.4**
K20K	**Telida**	**87.23**	**11**	P	**P**	**16 30 19.1**	**-0.4**
MESA	**MESA**	**87.25**	**18**	P	**P**	**16 30 19.9**	**+0.1**
MESA				IAmb	IAmb	16 30 21.0	
	comp=Z,8.8nm,0.7s						
SCM	**Sheep Creek Mo**	**87.26**	**15**	P	**P**	**16 30 19.5**	**-0.2**
SCM				IAmb	IAmb	16 30 20.3	
	comp=Z,7.3nm,0.6s						
CRQM	**Cirque**	**87.40**	**17**	P	**P**	**16 30 20.5**	**0.0**
CRQM				IAmb	IAmb	16 30 47.0	
	comp=Z,4.8nm,0.8s						
YAH	**Yahtse**	**87.46**	**18**	P	**P**	**16 30 20.8**	**-0.1**
YAH				IAmb	IAmb	16 30 22.1	
	comp=Z,5.5nm,0.8s						
CAST	**Castle Rocks**	**87.66**	**12**	P	**P**	**16 30 19.8**	**-1.7**
CAST				IAmb	IAmb	16 30 21.1	
	comp=Z,4.3nm,0.6s						
VRDI	**Verde Repeater**	**87.71**	**17**	P	**P**	**16 30 21.9**	**-0.1**
N25K	**Chitina, Valde**	**87.73**	**16**	P	**P**	**16 30 21.6**	**-0.3**
N25K				IAmb	IAmb	16 30 22.7	
	comp=Z,3.5nm,0.8s						
GLB	**Gilahina Butte**	**87.80**	**16**	P	**P**	**16 30 22.1**	**-0.1**
J20K	**Nowinta River**	**87.98**	**11**	P	**P**	**16 30 22.6**	**-0.3**
KTH	**Kantishna Hill**	**88.01**	**12**	P	**P**	**16 30 22.2**	**-1.0**
KTH				IAmb	IAmb	16 30 22.6	
	comp=Z,4.1nm,0.9s						
TRF	**Thorofare Moun**	**88.05**	**13**	P	**P**	**16 30 22.5**	**-1.0**
TRF				IAmb	IAmb	16 30 23.6	
	comp=Z,5.7nm,0.7s						
BARN	**Barnard Glacie**	**88.06**	**17**	P	**P**	**16 30 23.8**	**+0.2**
RND	**Reindeer**	**88.30**	**13**	P	**P**	**16 30 23.8**	**-0.7**
RND				IAmb	IAmb	16 30 25.3	
	comp=Z,11nm,1.2s						
TXAR	**Lajitas Array**	**88.91**	**58**	P	**P**	**16 30 29.0**	**+0.8**
TXAR	**Lajitas Array**	**88.91**	**58**	P	**P**	**16 30 29.3**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=214,slow=6.5,SNR=11						
	comp=Z,1.3nm,0.9s						
M27K	**Edge Creek, AK**	**89.07**	**17**	P	**P**	**16 30 28.6**	**+0.3**
MENT	**Mentasta**	**89.08**	**15**	P	**P**	**16 30 27.7**	**-0.5**
I21K	**Tanana**	**89.28**	**11**	P	**P**	**16 30 28.6**	**-0.3**
I21K				IAmb	IAmb	16 30 29.6	
	comp=Z,13nm,1.4s						
CMAR	**Chiang Mai Arr**	**89.31**	**290**	P	**P**	**16 30 31.9**	**+1.7**
	comp=Z,3.3nm,0.8s,baz=133,slow=3.1,SNR=26						
CMAR				PP	**PP**	**16 34 12.2**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=125,slow=6.2,SNR=4.4						
	comp=Z,3.3nm,0.8s						
NEA2	**Nenana**	**89.31**	**13**	P	**P**	**16 30 29.0**	**-0.1**
NEA2				IAmb	IAmb	16 30 42.3	
	comp=Z,6.0nm,1.4s						
PLCA	**Paso Flores**	**89.32**	**134**	P	**P**	**16 30 30.9**	**+0.9**
PLCA				IAmb	IAmb	16 31 15.5	
	comp=Z,15nm,1.5s						
PLCA	**Paso Flores**	**89.32**	**134**	P	**P**	**16 30 30.6**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=220,slow=8.3,SNR=6.0						
	comp=Z,3.5nm,0.9s						
MLY	**Manley**	**89.37**	**12**	P	**P**	**16 30 28.6**	**-0.9**
WRH	**Wood River Hil**	**89.41**	**13**	P	**P**	**16 30 28.9**	**-0.7**
WRH				IAmb	IAmb	16 30 35.1	
	comp=Z,7.1nm,1.4s						
CHTO	**Chiang Mai**	**89.44**	**290**	P	**P**	**16 30 31.8**	**+1.0**
H21K	**Melozitna Rive**	**89.57**	**11**	P	**P**	**16 30 29.7**	**-0.6**

*NEIC **01** 16:18:33.8±1.6,21°.8S±0°.1×179°.3W±0°.1,h572km±7km, mb4.5/109, Error ellipse: s-maj=15.4km s-min=14.4km az=114.0*

*IDC **01** 16:18:36.2±1.3,21°.69S×179°.43W,h597km±13km, mb3.6/16,mbtmp4.6/18, Error ellipse: s-maj=14.7km s-min=12.4km az=121.0*

*NOU **01** 16:18:37.0,21°.54S×179°.48W,h633km,mb4.2/9, Fiji Islands Region*

ISC 01 16:18:35.5±0.3,**21°.85S**±0°.06×**179°.44W**±0°.06,**h592**km,

H21K IAmb IAmb 16 30 40.5
comp=Z,8.7nm,1.5s
HDA Harding Lake 89.59 13 P **P 16 30 30.1 -0.4**
HDA IAmb IAmb 16 30 31.3
comp=Z,4.9nm,1.2s
CCB Clear Creek Bu 89.62 13 P **P 16 30 29.5 -1.0**
CCB IAmb IAmb 16 30 30.2
comp=Z,2.8nm,0.4s
IMAR Indian Mountai 89.71 10 P **P 16 30 30.8 -0.1**
MDM Murphy Dome 89.81 13 P **P 16 30 30.4 -1.1**
MDM IAmb IAmb 16 30 31.2
comp=Z,6.2nm,1.4s
IL31 89.92 13 P **P 16 30 31.3 -0.5**
ILAR Eielson Array 89.92 13 P **P 16 30 31.5 -0.4**
ILAR Eielson Array 89.92 13 P **P 16 30 30.9 -1.0**
comp=Z,0.6nm,0.6s,baz=216,slow=4.9,SNR=12
comp=Z,0.6nm,0.6s
M29M Somme Creek 90.08 18 P **P 16 30 32.3 -0.5**
PDAR Pinedale Array 90.86 44 P **P 16 30 36.8 -0.4**
comp=Z,0.4nm,0.8s,baz=194,slow=1.2,SNR=4.0
comp=Z,0.4nm,0.8s
KURBB Kurchatov Arra 114.11 317 PKiKP PKPdf 16 36 06.7 -1.4
comp=Z,0.3nm,0.4s,baz=125,slow=1.3,SNR=1.9
BVAR Borovoye Array 119.23 319 PKP **PKPdf 16 36 16.9 -1.1**
comp=Z,1.7nm,0.3s,baz=116,slow=2.2,SNR=21
ARCES ARCESS Array B 129.99 349 PKP **PKPdf 16 36 37.0 -1.1**
comp=Z,1.2nm,0.5s,baz=29,slow=2.8,SNR=11
FINES FINESS Array B 136.66 342 PKhKP PKPpre 16 36 37.5
comp=Z,0.3nm,0.4s,baz=48,slow=2.8,SNR=5.0
FINES PKP **PKPdf 16 36 49.4 -1.3**
comp=Z,0.5nm,0.4s,baz=63,slow=1.1,SNR=7.9
FINES SKPbc **SKPbc 16 39 28.0 -0.4**
comp=Z,0.8nm,0.7s,baz=337,slow=3.2,SNR=3.5
HFS Hagfors 140.63 350 PKhKP PKPpre 16 36 51.4
comp=Z,1.5nm,0.3s,baz=72,slow=4.8,SNR=21
AKASG Malin Array Be 143.51 329 PKP PKPab 16 37 01.2 -1.0
comp=Z,3.0nm,0.3s,baz=42,slow=4.3,SNR=40
AKBB Malin Array Si 143.51 329 PKPab 16 37 01.2 -0.9
BNN Bunyan 145.42 307 PKPbc **PKPbc 16 37 08.5 -0.2**
EKA Eskdalemuir Ar 146.44 4 PKPbc **PKPbc 16 37 09.9 -0.9**
comp=Z,2.7nm,0.8s,baz=17,slow=2.6,SNR=3.5
BR131 Keskin Array S 146.71 310 PKPbc 16 37 11.6 -0.6
BRTR Keskin Array B 146.71 310 PKPbc **PKPbc 16 37 11.7 -0.6**
comp=Z,2.0nm,0.6s,baz=128,slow=2.4,SNR=11
MMAI Mount Meron Ar 147.28 297 PKPbc **PKPbc 16 37 14.1 +0.3**
comp=Z,2.5nm,0.5s,baz=69,slow=5.4,SNR=7.3
OSTC Ostas 148.82 341 *e*PKP **PKPbc 16 37 17.3 +0.2**
UPC Upice 148.93 341 *e*PKP **PKPbc 16 37 17.1 -0.2**
UPC *ex* x 16 37 24.1
DPC Dobruska-Polom 148.97 340 *e*PKP **PKPbc 16 37 17.2 -0.3**
DPC *ex* x 16 37 24.0
CLL Collm 149.03 345 *i* PKPbc **PKPbc 16 37 17.4 -0.1**
comp=Z,11nm,1.3s
CLL *i* PKiKP **PKiKP 16 37 20.2 +1.8**
CLL *i* PKPab **PKPab 16 37 23.9 -0.3**
comp=Z,5.0nm,0.8s
CLL AMS AMS 17 22 00.0
comp=Z,100nm,18.3s
CLL AMS AMS 17 56 00.0
comp=Z,100nm,19.9s
MORC Moravsky Berou 149.06 338 *e*PKP **PKPbc 16 37 17.9 +0.2**
PVCC Panska Ves 149.33 342 *e*PKP **PKPbc 16 37 18.1 -0.2**
HSKC Hora Svate Kat 149.57 344 *e*PKP PKPdf 16 37 02.4 -11
VRAC Vranov 149.78 339 *e*PKP **PKPbc 16 37 19.4 0.0**
VRAC *e* 16 37 27.7
JAVC Velka Javorina 149.79 337 *e*PKP **PKiKP 16 37 20.7 +0.6**
PRU Pruhonice 149.82 342 *e*PKP **PKPbc 16 37 18.9 -0.6**
KRUC Moravsky 150.06 339 *e*PKP **PKPbc 16 37 19.9 -0.1**
KRUC *e* 16 37 28.8
ZVC Zvikov 150.42 342 *e*PKP **PKPbc 16 37 20.0 -0.9**
ZVC *ex* x 16 37 30.1
KHC Kasperske Hory 150.87 342 *e*PKP **PKPbc 16 37 21.7 -0.3**
KHC *ex* x 16 37 31.5
CKRC Cesky Krumlov 150.94 341 *e*PKP **PKPbc 16 37 21.9 -0.2**
CKRC *ex* x 16 37 32.5
GERES GERESS Array B 151.09 342 PKPbc **PKPbc 16 37 21.5 -1.1**
comp=Z,0.8nm,0.4s,baz=64,slow=3.1,SNR=6.9
TORD Torodi Ar. Bea 171.28 187 PKPab **PKPab 16 39 01.5 -0.3**
comp=Z,1.1nm,0.8s,baz=177,slow=3.1,SNR=6.1

FUNV ***01*** *16:26:12.5,7°.53N×72°.04W,h2km,MW3.2*
RSNC ***01*** *16:26:13.1±1.4,7°.54N×72°.17W,h0km±7km,ML2.1*
ISC 01 16:26:11.4±1.3,7°.56N±0°.04×72°.07W±0°.04,h7km±11km, n11,σ1§10/19,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.39**	**322**	*eP*	**Pb**	**16 26 20.7**	**-0.2**
CAPV				*eS*	**Sb**	**16 26 27.8**	**+0.6**
PAMC	**Pamplona, Colo**	**0.66**	**251**	⇓*iP*	**Pg**	**16 26 23.6**	**-0.6**
PAMC				*eS*	**Sg**	**16 26 32.6**	**-0.3**
PAMC				*i*		16 26 33.4	
comp=Z,29nm,0.2s							
TAMC	**Tame, Arauca**	**1.15**	**166**	*eP*	**Pb**	**16 26 32.6**	**-1.0**
TAMC				*eS*	**Sb**	**16 26 49.9**	**+1.1**
TAMC				*i*		16 26 50.2	
comp=Z,28nm,0.2s							
SOCV	**Socops**	**1.41**	**59**	*eP*	**Pn**	**16 26 37.8**	**+0.3**
SOCV				*eS*	**Sg**	**16 26 58.2**	**+1.6**
BARC	**Barichara**	**1.46**	**229**	*eP*	**Pn**	**16 26 38.4**	**-0.1**
BARC				*eS*	**Sn**	**16 26 57.3**	**-0.7**
BARC				*i*		16 27 04.5	
comp=Z,38nm,0.3s							
RUSC	**La Rusia**	**1.93**	**211**	*eP*	**Pn**	**16 26 46.2**	**+1.0**
RUSC				*eS*	**Sn**	**16 27 11.6**	**+1.6**
RUSC				*i*		16 27 14.7	
comp=Z,13nm,0.5s							
SDV	**Santo Domingo**	**1.94**	**47**	*eP*	**Pb**	**16 26 47.4**	**+0.1**
SDV				*eS*	**Sg**	**16 27 14.4**	**+0.5**
SDV				*i*		16 27 17.9	
comp=Z,36nm,0.6s							
CURV	**Curarigua**	**3.21**	**40**	*eP*	**Pn**	**16 27 02.9**	**+0.5**
CURV				*eS*	**Sn**	**16 27 40.3**	**-0.8**
BAUV	**El Baul**	**4.22**	**71**	*eP*	**Pn**	**16 27 16.8**	**+0.6**
BAUV				*eS*	**Sn**	**16 28 03.2**	**-2.6**
MAPV	**Macapo**	**4.23**	**57**	*eP*	**Pn**	**16 27 16.3**	**-0.1**
CACV	**CAICARA DEL OR**	**5.48**	**90**	*eP*	Pn	16 27 39.9	+6.2

IDC ***01*** *16:26:54.2±2.8,0°.60S×99°.19E,h0km,mb3.3/5, mbtmp3.2/6,MS3.4/1,Error ellipse: s-maj=132.5km s-min=22.0km az=55.0*
DJA ***01*** *16:26:59.7±0.3,0°.S±3°×10°.0E±°,h10km,M4.2/11,mb4.4/1, MLv4.1/11*
ISC 01 16:27:02.2±0.9,0°.03S±0°.07×100°.21E±0°.05,h35km,n17, σ1§57/15,mb3.3/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**0.90**	**67**	P	**Pn**	**16 27 16.7**	**-1.6**
BKNI				S	**Sn**	**16 27 29.8**	**-0.3**
PDSI	**Padang**	**0.92**	**164**	P	**Pn**	**16 27 16.3**	**-2.3**
SDSI	**Sungai Dareh**	**1.51**	**127**	P	**Pn**	**16 27 27.3**	**+0.5**
SISI	**Saibi**	**1.71**	**221**	P	**Pn**	**16 27 28.9**	**-0.6**
PBSI	**Pulau Batu**	**1.93**	**269**	P	**Pn**	**16 27 30.4**	**-2.2**
PPSI	**Pulau Pagai**	**2.73**	**184**	P	**Pn**	**16 27 43.7**	**+0.2**
GSI	**Gunungsitoli**	**2.95**	**297**	P	**Pn**	**16 27 47.7**	**+1.1**
DSRI	**Dabo**	**4.39**	**96**	P	**Pn**	**16 28 05.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**18.41**	**356**	P	**Pn**	**16 31 17.4**	**+2.6**
0.1nm,0.4s,baz=204,slow=9.7,SNR=1.0							
WRA	**Warramunga Arr**	**38.84**	**123**	P	**P**	**16 34 25.9**	**+1.7**
0.1nm,0.4s,baz=304,slow=9.1,SNR=1.3							
0.1nm,0.4s							
ASAR	**Alice Springs**	**40.27**	**128**	P	**P**	**16 34 37.0**	**+0.9**
0.2nm,0.7s,baz=302,slow=6.2,SNR=5.0							
0.2nm,0.7s							
MKAR	**Makanchi Array**	**49.20**	**344**	P	**P**	**16 35 45.8**	**-1.1**
0.4nm,0.6s,baz=153,slow=9.5,SNR=4.1							
0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**53.73**	**343**	P	**P**	**16 36 19.6**	**-1.2**
0.1nm,0.3s,baz=164,slow=7.3,SNR=4.7							
KURBB				LR	LR	17 02 19.7	
comp=Z,35nm,20.5s,baz=174,slow=39							
0.1nm,0.3s							
BVAR	**Borovoye Array**	**58.42**	**339**	P	**P**	**16 36 53.0**	**-1.2**
0.6nm,0.6s,baz=141,slow=7.3,SNR=5.7							
0.6nm,0.6s							
H04N2	**CROZET ISLANDS**	**62.51**	**216**	T	T	17 43 38.7	
baz=58							
H04N1	**CROZET ISLANDS**	**62.52**	**216**	T	T	17 43 43.7	
baz=58							
H04N3	**CROZET ISLANDS**	**62.52**	**216**	T	T	17 43 38.4	
baz=58							

IDC ***01*** *16:45:16.2±1.2,5°.90N×124°.29E,h0km,mb3.4/4, mbtmp3.6/5,ML3.9/1,MS2.5/2,Error ellipse: s-maj=28.0km s-min=19.5km az=83.0*
DJA ***01*** *16:45:20.4±0.5,6°N±5°×12°4E±°,h10km,M4.4/8,mB5.0/5, mb4.6/7,MLv4.3/8,Mw(mB)4.3/5*
NEIC ***01*** *16:45:23.2±0.9,5°.94N±0°.04×124°.58E±0°.07,h35km±2km, mb4.2/7,Error ellipse: s-maj=13.4km s-min=3.6km az=61.0*
ISC 01 16:45:22.0±0.8,5°.91N±0°.07×124°.41E±0°.08,h35km,n27, σ1§55/26,mb3.8/8,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.64**	**45**	Pn	**Pn**	**16 45 47.3**	**-1.1**
DAV	**Davao City (W)**	**1.64**	**45**	Pn	**Pn**	**16 45 48.3**	**-0.1**
106nm,0.3s,baz=266,slow=4.9,SNR=9.8							
DAV				Sn	**Sn**	**16 46 09.6**	**+1.3**
77nm,0.3s,baz=278,slow=19,SNR=7.9							
DAV				LR	LR	16 46 47.0	
comp=Z,345nm,18.5s,baz=144,slow=52							
GTOI	**Gorontalo**	**5.42**	**195**	P	**Pn**	**16 46 39.6**	**-0.8**
56nm,0.7s,820nm0.3nm							
TNTI	**Ternate**	**5.90**	**150**	Pn	**Pn**	**16 46 47.4**	**+0.4**
MYLDM	**Lahad Datu**	**5.92**	**263**	Pn	**Pn**	**16 46 50.6**	**+3.4**
MRSI	**Marisa**	**5.93**	**205**	P	**Pn**	**16 46 47.2**	**-0.2**
71nm,0.6s,1μm0.4nm							
TOLI2	**Tolitoli**	**5.98**	**217**		**Pn**	**16 46 46.6**	**-1.5**
LUWI	**Luwuk**	**7.09**	**193**	Pn	**Pn**	**16 47 00.8**	**-2.6**
LUWI	**Luwuk**	**7.09**	**193**	P	**Pn**	**16 47 06.6**	**+3.2**
204nm,0.7s,4μm0.7nm							
MPSI	**Mapaga**	**7.13**	**219**	P	**Pn**	**16 47 03.6**	**-0.3**
5.8nm,0.9s,0.1nm							
LBMI	**Labuha**	**7.20**	**154**	P	**Pn**	**16 47 08.6**	**+3.7**
15nm,0.8s,0.1nm							
SIJI	**Sorong**	**9.60**	**134**	Pn	**Pn**	**16 47 37.0**	**-0.9**
1.1nm,0.3s,baz=341,slow=14,SNR=6.7							
3.4nm,0.5s							
FAKI	**Fak Fak**	**11.76**	**138**		**Pn**	**16 48 06.5**	**-0.8**
KAPI	**Kappang**	**11.80**	**203**	LR	LR	16 53 10.3	
comp=Z,14nm,20.2s,baz=96,slow=40							
COEN	**Coen**	**27.14**	**137**	P	**P**	**16 51 01.7**	**-0.5**
COEN				IAmb	IAmb	16 51 21.1	
comp=Z,5.8nm,1.1s							
WB0	**Warramunga Arr**	**27.34**	**159**	P	**P**	**16 51 03.1**	**-0.8**
WRA	**Warramunga Arr**	**27.48**	**159**	P	**P**	**16 51 04.3**	**-0.9**
comp=Z,0.7nm,0.7s,baz=337,slow=10,SNR=8.7							
comp=Z,0.7nm,0.7s							
WB2	**Warramunga Arr**	**27.49**	**159**	P	**P**	**16 51 04.7**	**-0.5**
WB2				IAmb	IAmb	16 51 45.6	
comp=Z,3.8nm,1.2s							
WR0	**Warramunga Arr**	**27.57**	**159**	P	**P**	**16 51 05.4**	**-0.6**
WR0				IAmb	IAmb	16 51 24.4	
comp=Z,5.1nm,1.3s							
CMAR	**Chiang Mai Arr**	**27.79**	**299**	LR	LR	17 02 49.4	
comp=Z,13nm,18.2s,baz=265,slow=38							
ASAR	**Alice Springs**	**30.82**	**163**	P	**P**	**16 51 35.2**	**+0.3**
ASAR	**Alice Springs**	**30.82**	**163**	P	**P**	**16 51 34.6**	**-0.2**
comp=Z,0.2nm,0.4s,baz=341,slow=7.1,SNR=17							
comp=Z,0.2nm,0.4s							
BBOO	**Buckleboo**	**40.07**	**165**	P	**P**	**16 52 54.8**	**+0.7**
BBOO				IAmb	IAmb	16 53 17.0	
comp=Z,23nm,1.4s							
WAKE	**Wake Island**	**43.19**	**68**	P	**P**	**16 53 19.3**	**-0.6**
MKAR	**Makanchi Array**	**54.46**	**326**	P	**P**	**16 54 45.1**	**-1.0**
comp=Z,0.2nm,0.5s,baz=121,slow=5.6,SNR=2.1							
comp=Z,0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**58.67**	**328**	P	**P**	**16 55 14.8**	**-1.0**
comp=Z,0.2nm,0.3s,baz=121,slow=6.3,SNR=4.8							
comp=Z,0.2nm,0.3s							
RTZ	**Ruatahuna**	**65.79**	**137**	P	**P**	**16 56 03.9**	**0.0**

GCMT ***01*** *16:45:52.0±0.4,5°.46S±0°.04×11°.60W±0°.02,h20km±1km, MW4.8/82,Moment Tensor Solution. s15,c17; s82,c99; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.90±.19; Mθθ-0.04±.10; Mφφ 1.94±.12; Mrθ-0.64±.24; Mrφ-0.23±.06; Mθr-0.01±.18; Best double couple: M=2.03300×10^16^ NP1:φs157.00000°,δ48.00000°,λ-113.00000°. NP2: φs10.00000°,δ47.00000°,λ-66.00000°. Principal axes: T 1.9680, Plg1.0000°, Azm263.0000°; N 0.1250, Plg17.0000°, Azm173.0000°; P -2.0980, Plg73.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
IDC ***01*** *16:45:57.4±5.6,4°.10S×11°.70W,h0km,mb4.1/8, mbtmp4.1/8,MS3.7/30 Error ellipse: s-maj=133.0km s-min=83.6km az=166.0*
ISC 01 16:45:54.2±2.7,4°.8S±0°.5×11°.9W±0°.6,h10km,n33, σ1§44/11,mb4.2/8,MS3.8/30,3C,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIC	**Lamto**	**12.93**	**32**	⇑*iP*	**Pn**	**16 48 59.2**	**+1.0**
3.3nm,0.3s							
KIC	**Kosan Boka**	**13.20**	**33**	⇑*iP*	**Pn**	**16 49 02.6**	**+0.8**
25nm,1.0s							
TIC	**Toumodi**	**13.29**	**31**	⇑*iP*	**Pn**	**16 49 04.0**	**+0.9**
5.6nm,0.3s							
KOWA	**Kowa**	**20.72**	**22**	LR	LR	16 58 10.3	
comp=Z,352nm,18.5s,baz=195,slow=37							
TORD	**Torodi Ar. Bea**	**22.37**	**37**	P	**P**	**16 50 50.1**	**-2.7**
3.5nm,0.5s,baz=218,slow=12,SNR=34							
TORD				LR	LR	16 58 40.8	
comp=Z,378nm,20.0s,baz=212,slow=35							
3.5nm,0.5s							
RCBR	**Riachuelo**	**23.94**	**267**	LR	LR	16 58 04.9	
comp=Z,190nm,20.6s,baz=57,slow=30							
MDT	**Midelt**	**38.06**	**10**	LR	LR	17 08 44.4	
comp=Z,171nm,18.4s,baz=172,slow=37							
LSZ	**Lusaka**	**40.72**	**108**	LR	LR	17 07 19.0	
comp=Z,136nm,21.0s,baz=320,slow=31							
MBAR	**Mbarara**	**42.76**	**86**	LR	LR	17 09 46.9	
comp=Z,416nm,19.9s,baz=256,slow=34							
ESDC	**Sonseca Array**	**44.88**	**9**	LR	LR	17 12 55.9	
comp=Z,41nm,19.6s,baz=160,slow=37							
KEST	**Kesra**	**44.99**	**25**	P	**P**	**16 54 09.6**	**-0.4**
3.1nm,0.8s,baz=180,slow=2.0,SNR=3.0							
KEST				LR	LR	17 13 52.0	
comp=Z,227nm,18.9s,baz=316,slow=38							
3.1nm,0.8s							
VAE	**Valguarnera**	**48.69**	**28**	LR	LR	17 15 06.7	
comp=Z,130nm,19.6s,baz=154,slow=36							
KMBO	**Kilima Mbogo**	**49.19**	**87**	LR	LR	17 14 09.1	
comp=Z,329nm,18.1s,baz=90,slow=34							
IDI	**Anoyia**	**52.77**	**38**	LR	LR	17 18 06.2	
comp=Z,91nm,21.8s,baz=224,slow=37							
DAVOX	**Davos/Dischmat**	**54.88**	**18**	LR	LR	17 19 41.3	
comp=Z,104nm,19.3s,baz=262,slow=37							
EIL	**Elat**	**56.48**	**50**	LR	LR	17 18 27.0	
comp=Z,69nm,21.6s,baz=243,slow=35							
GERES	**GERESS Array B**	**57.92**	**20**	P	**P**	**16 55 46.4**	**-0.3**
1.2nm,0.7s,baz=182,slow=12,SNR=6.8							
GERES				LR	LR	17 21 24.1	
comp=Z,74nm,19.7s,baz=228,slow=37							
1.2nm,0.7s							
MMAI	**Mount Meron Ar**	**58.49**	**46**	P	**P**	**16 55 52.4**	**+1.6**
0.6nm,0.5s,baz=201,slow=7.6,SNR=2.3							
MMAI				LR	LR	17 22 29.2	
comp=Z,50nm,19.6s,baz=215,slow=38							
0.6nm,0.5s							
VRAC	**Vranov**	**59.33**	**21**	LR	LR	17 22 45.8	
comp=Z,57nm,18.4s,baz=213,slow=38							
BRTR	**Keskin Array B**	**60.97**	**39**	P	**P**	**16 56 08.2**	**+0.2**
0.8nm,0.9s,baz=192,slow=4.7,SNR=4.0							
BRTR				LR	LR	17 25 07.1	
comp=Z,36nm,18.3s,baz=210,slow=39							
0.8nm,0.9s							
AKASG	**Malin Array Be**	**65.61**	**27**	P	**P**	**16 56 36.8**	**-1.4**
3.3nm,0.9s,baz=228,slow=6.1,SNR=9.6							
AKASG				LR	LR	17 27 27.2	
comp=Z,44nm,19.1s,baz=187,slow=38							
3.3nm,0.9s							
HFS	**Hagfors**	**67.82**	**13**	P	**P**	**16 56 53.2**	**+1.0**
3.9nm,1.0s,baz=199,slow=4.0,SNR=2.3							
HFS				LR	LR	17 25 47.9	
comp=Z,35nm,21.9s,baz=197,slow=36							
3.9nm,1.0s							
NOA	**NORSAR Array B**	**68.09**	**12**	LR	LR	17 27 38.4	
comp=Z,28nm,19.1s,baz=205,slow=37							
GNI	**Garni**	**68.50**	**43**	LR	LR	17 30 07.4	
comp=Z,31nm,18.2s,baz=266,slow=39							
KBZ	**Khabaz**	**68.95**	**39**	LR	LR	17 29 23.6	
comp=Z,17nm,18.7s,baz=204,slow=38							

FINES	**FINESS Array B**	**72.29**	**18**	P	**P**	**16 57 20.7**	**+1.1**
2.4nm,0.8s,baz=249,slow=3.9,SNR=2.5							
FINES				LR	LR	17 30 52.6	
comp=Z,51nm,18.2s,baz=221,slow=38							
2.4nm,0.8s							
WSAR	**Wadi Sarin**	**74.15**	**64**	LR	LR	17 29 14.4	
comp=Z,99nm,20.3s,baz=225,slow=35							
BELG	**Belogornoye**	**75.88**	**33**	LR	LR	17 35 09.1	
comp=Z,23nm,18.2s,baz=208,slow=39							
GEYT	**Alibeck**	**77.38**	**50**	LR	LR	17 33 30.1	
comp=Z,52nm,19.6s,baz=6.5,slow=37							
ARCES	**ARCESS Array B**	**78.45**	**13**	LR	LR	17 32 38.1	
comp=Z,22nm,19.9s,baz=277,slow=36							
KIRV	**Kirov**	**79.66**	**28**	LR	LR	17 36 31.5	
comp=Z,49nm,18.6s,baz=207,slow=38							
AKTO	**Aktyubinsk**	**81.09**	**37**	LR	LR	17 38 34.2	
comp=Z,27nm,19.1s,baz=7.5,slow=39							
AAK	**Ala-Archa**	**90.56**	**47**	LR	LR	17 42 46.3	
comp=Z,34nm,18.8s,baz=279,slow=38							

GUC ***01*** *16:48:04.9±0.6,45°.81S×76°.25W,h15km,ML4.6*
NEIC ***01*** *16:48:05.4±2.1,45°.79S±0°.06×76°.2W±0°.1,h10km±1km, mb4.7/17,Mwr4.5/32,Mwr4.8(GUC),Error ellipse: s-maj=17.2km s-min=10.9km az=266.0,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr-1.23; Mθθ2.78; Mφφ-1.55; Mrθ-0.81; Mφφ-6.49; Mθr-0.47; Fault plane solution: M=6.98000×10^15^ NP1:φs81.18000°, δ85.09000°,λ-171.50000°. NP2:φs350.45000°, δ81.53000°,λ-4.96000°. Principal axes: T 7.4685, Plg2.0000°, Azm216.0000°; N -1.1017, Plg80.0000°, Azm111.0000°; P -6.3669, Plg9.0000°, Azm306.0000°;*
NEIC ***01*** *16:48:05.5,45°.78S×76°.16W,h10km*
IDC ***01*** *16:48:06.3±0.9,45°.70S×76°.26W,h0km,mb4.1/8, mbtmp4.1/9,ML4.3/1,MS4.1/13,Error ellipse: s-maj=35.4km s-min=17.7km az=104.0*
GCMT ***01*** *16:48:06.4±0.4,45°.94S±0°.02×76°.52W±0°.03,h27km±1km, MW5.0/88,Moment Tensor Solution. s31,c38; s88,c115; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.08±.16; Mθθ1.66±.14; Mφφ-1.74±.14; Mrθ-0.06±.20; Mφφ-2.66±.09; Mθr-1.31±.26; Best double couple: M=3.40600×10^16^ NP1:φs343.00000°,δ85.00000°,λ-21.00000°. NP2: φs75.00000°,δ69.00000°,λ-175.00000°. Principal axes: T 3.2320, Plg11.0000°, Azm31.0000°; N 0.3480, Plg69.0000°, Azm151.0000°; P -3.5800, Plg18.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 01 16:48:06.5±0.6,45°.71S±0°.05×76°.14W±0°.09,h10km,n95, σ1§34/82,mb4.6/16,MS4.2/11,2C-2D,Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AY02	**Valle Explorad**	**2.19**	**112**		**Pn**	**16 48 41.5**	**-1.4**
AY02	**Valle Explorad**	**2.19**	**112**	*eP*	**Pn**	**16 48 41.4**	**-1.6**
AY02				*eS*	**Sn**	**16 49 09.2**	**-0.9**
AY02				IAML		16 49 38.6	
comp=E,3μm,0.6s							
AY01	**Puyuhuapi**	**2.79**	**64**	Pn	**Pn**	**16 48 51.1**	**0.0**
AY01	**Puyuhuapi**	**2.79**	**64**	⇑*iP*	**Pn**	**16 48 51.2**	**0.0**
AY01				*eS*	**Sn**	**16 49 25.5**	**+0.7**
AY01				IAML		16 49 29.5	
comp=N,2μm,0.3s							
COYC	**Coyhaique**	**2.85**	**89**		**Pn**	**16 48 52.1**	**+0.1**
AY03	**Cochrane**	**2.90**	**124**	⇓*iP*	**Pn**	**16 48 51.8**	**-0.9**
AY03				*eP*	**Pn**	**16 48 51.8**	**-0.9**
AY03				*eS*	**Sn**	**16 49 28.8**	**+1.3**
GO07	**Milladeo Hill,**	**3.14**	**35**		**Pn**	**16 48 55.8**	**-0.2**
GO07	**Milladeo Hill,**	**3.14**	**35**	*eP*	**Pn**	**16 48 55.8**	**-0.2**
GO07				IAML		16 50 17.1	
comp=E,1μm,0.8s							
LL07	**Hotel Espejo d**	**3.45**	**35**	Pn	**Pn**	**16 49 01.2**	**+0.9**
LL07	**Hotel Espejo d**	**3.45**	**35**	*eP*	**Pn**	**16 49 01.2**	**+0.9**
LL07				*eS*	**Sn**	**16 49 41.5**	**+0.3**
LL07				IAML		16 49 45.8	
comp=E,1μm,0.4s							
LL06	**Loncomilla**	**3.93**	**28**		**Pn**	**16 49 07.8**	**+0.9**
LL06	**Loncomilla**	**3.93**	**28**	*eP*	**Pn**	**16 49 07.8**	**+0.9**
LL02	**Futaleuf**	**3.97**	**52**	Pn	**Pn**	**16 49 08.0**	**+0.5**
LL02	**Futaleuf**	**3.97**	**52**	⇑*iP*	**Pn**	**16 49 08.2**	**+0.8**
LL01	**San Ignacio de**	**4.28**	**40**	Pn	**Pn**	**16 49 11.7**	**+0.1**
LL05	**Los Muermos**	**4.72**	**25**		**Pn**	**16 49 18.8**	**+1.1**
LL03	**Petrohue**	**5.32**	**32**		**Pn**	**16 49 26.0**	**+0.1**
LL04	**Puerto Octay**	**5.51**	**31**	Pn	**Pn**	**16 49 29.4**	**+0.8**
GO09	**Cerro Castillo**	**6.11**	**157**	Pn	**Pn**	**16 49 35.0**	**-1.8**
PLCA	**Paso Flores**	**6.43**	**41**	Pn	**Pn**	**16 49 40.6**	**-0.7**
PLCA	**Paso Flores**	**6.43**	**41**	Pn	**Pn**	**16 49 42.5**	**+1.2**
comp=E,1.5nm,0.3s,baz=229,slow=11,SNR=34							
PLCA				LR	LR	16 52 17.7	
comp=E,3μm,20.4s,baz=210,slow=39							
comp=E,6.2nm,0.5s							
MG05	**Puerto Natales**	**6.44**	**159**	Pn	**Pn**	**16 49 39.4**	**-1.9**
LR03	**Panguipulli**	**6.68**	**26**		**Pn**	**16 49 44.2**	**-0.5**
GO06	**Curarrehue**	**7.02**	**31**	Pn	**Pn**	**16 49 50.3**	**+0.9**
MG04	**Isla Riesco**	**7.75**	**159**	Pn	**Pn**	**16 49 57.7**	**-1.6**
GO10	**Punta Arenas**	**8.15**	**158**	Pn	**Pn**	**16 50 02.9**	**-2.0**
MG02	**Cerro Sombrero**	**8.40**	**150**	Pn	**Pn**	**16 50 05.4**	**-2.7**
BI05	**Punta Hualpn**	**9.22**	**15**	Pn	**Pn**	**16 50 20.3**	**+0.8**
USHA	**Ushuaia**	**10.37**	**154**	LR	LR	16 55 03.2	
comp=E,1μm,20.6s,baz=324,slow=40							
ML02	**Panimavida**	**10.56**	**21**	Pn	**Pn**	**16 50 38.2**	**+0.4**
GO05	**Huala**	**11.15**	**18**		**Pn**	**16 50 45.8**	**-0.2**
BO02	**Sierra Bellavi**	**11.64**	**22**		**Pn**	**16 50 52.8**	**+0.1**
BO01	**Tunca**	**11.94**	**21**		**Pn**	**16 50

SIV	San Ignacio	32.21	28	LR	LR	17 09 27.7		
	comp=Z,282nm,18.1s,baz=124,slow=40							
PTLB	Pontes e Lacer	33.38	31	P	P	16 54 45.4	+0.3	
PTLB				IAmb	IAmb	16 55 00.6		
	comp=Z,13nm,1.1s							
BDFB	Brasilia	38.14	47	P	P	16 55 25.1	-0.9	
BDFB				IAmb	IAmb	16 55 40.1		
	comp=Z,15nm,1.0s							
BDFB	Brasilia	38.14	47	P	P	16 55 26.8	+0.8	
	comp=Z,6.8nm,0.9s,baz=191,slow=2.8,SNR=6.5							
BDFB				LR	LR	17 11 57.0		
	comp=Z,414nm,21.4s,baz=177,slow=38							
	comp=Z,6.8nm,0.9s							
SAML	Samuel	38.29	21	P	P	16 55 25.4	-1.7	
SAML				IAmb	IAmb	16 55 31.2		
	comp=Z,16nm,1.5s							
SNAA	Sanae	42.23	153	P	P	16 55 58.3	-1.0	
SNAA				IAmb	IAmb	16 56 06.5		
	comp=Z,11nm,0.9s							
SNAA	Sanae	42.23	153	P	P	16 56 01.1	+1.8	
	comp=Z,9.1nm,0.7s,baz=321,slow=5.9,SNR=11							
SNAA				LR	LR	17 10 58.4		
	comp=Z,171nm,21.3s,baz=268,slow=32							
	comp=Z,9.1nm,0.7s							
ELIB	Princess Elisa	50.07	156	dP	P	16 57 00.9	-0.1	
	comp=Z,11nm,0.8s							
ROSC	El Rosal	50.35	2	LR	LR	17 16 40.1		
	comp=Z,216nm,19.1s,baz=253,slow=34							
VNDA	Vanda	52.01	194	P	P	16 57 15.5	+0.1	
	comp=Z,1.2nm,1.0s,baz=136,slow=6.6,SNR=5.6							
	comp=Z,1.2nm,1.0s							
RCBR	Riachuelo	52.83	54	LR	LR	17 19 02.7		
	comp=Z,255nm,20.2s,baz=218,slow=35							
BCIP	Isla Barro Col	54.72	356	P	P	16 57 32.7	-3.3	
BAUV	El Baul	54.88	10	P	P	16 57 35.2	-1.9	
MAW	Mawson	62.85	164	P	P	16 58 35.0	+3.0	
	comp=Z,2.3nm,0.8s,baz=248,slow=5.1,SNR=5.7							
	comp=Z,2.3nm,0.8s							
CASY	Casey	68.23	183	P	P	16 59 06.3	-0.4	
CASY				IAmb	IAmb	16 59 17.7		
	comp=Z,6.3nm,1.1s							
SUR	Sutherland	72.03	118	LR	LR	17 27 19.1		
	comp=Z,122nm,19.2s,baz=204,slow=33							
BOSA	Boshof	77.40	118	LR	LR	17 30 33.8		
	comp=Z,111nm,19.2s,baz=204,slow=33							
TXAR	Lajitas Array	78.77	336	P	P	17 00 11.4	+2.2	
	comp=Z,0.9nm,1.0s,baz=163,slow=4.8,SNR=4.6							
	comp=Z,0.9nm,1.0s							
TORD	Torodi Ar. Bea	91.00	72	P	P	17 01 13.1	+2.1	
	comp=Z,0.2nm,0.4s,baz=222,slow=1.9,SNR=2.9							
	comp=Z,0.2nm,0.4s							
H11S2	WAKE ISLAND Hy	21.90	264	T	T	19 20 37.3		
	baz=132							
H11S1	WAKE ISLAND Hy	21.92	264	T	T	19 20 36.1		
	baz=132							
H11S3	WAKE ISLAND Hy	21.92	264	T	T	19 20 36.2		
	baz=132							
ILAR	Eielson Array	123.06	331	PKP	PKiKP	17 07 01.9	-0.2	
	comp=Z,0.5nm,0.9s,baz=167,slow=2.2,SNR=3.3							
PETK	Petropavlovsk-	144.93	302	PKP	PKPdf	17 07 43.2	+0.3	
	comp=Z,11nm,1.1s,baz=110,slow=3.4,SNR=1.9							
GEYT	Alibeck	145.43	86	PKPbc	PKPab	17 07 45.3	+0.7	
	comp=Z,2.1nm,0.8s,baz=289,slow=4.4,SNR=3.2							
CMAR	Chiang Mai Arr	152.52	170	PKPbc	PKiKP	17 08 03.3	-0.2	
	comp=Z,1.0nm,0.7s,baz=213,slow=3.5,SNR=7.9							
PZH	PanZhiHua	160.76	174	PKP	PKPdf	17 08 05.7	-1.2	
KURBB	Kurchatov Arra	162.44	65	PKPab	PKPab	17 08 57.0	+1.4	
	comp=Z,0.2nm,0.7s,baz=277,slow=5.1,SNR=2.1							
MKAR	Makanchi Array	165.04	78	PKPab	PKPab	17 09 10.6	+3.4	
	comp=Z,0.3nm,0.7s,baz=269,slow=4.2,SNR=2.4							

*IDC **01** 17:01:18.1±0.6,24°.47S×115°.52W,h0km,mb4.0/9, mbtmp4.0/9,MS4.2/28, Error ellipse: s-maj=31.5km s-min=22.4km az=90.0*

*NEIC **01** 17:01:21.0±2.9,24°.3S±0°.1×115°.7W±0°.1,h10km±1km, mb4.9/151, Error ellipse: s-maj=26.0km s-min=16.3km az=201.0*

*GCMT **01** 17:01:25.0±0.2,24°.53S±0°.01×116°.11W±0°.01,h20km±1km, MW5.1/116, Moment Tensor Solution. s57,c75; s116,c169; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.14±.12; Mθθ=3.32±.11; Mφφ=3.45±.11; Mrθ=1.59±.25; Mθφ=3.07±.10; Mrφ=1.36±.23; Best double couple: M0=5.00700×10^16 NP1:φs=157.00000°, δ82.00000°, λ=-158.00000°. NP2:φs=64.00000°, δ69.00000°, λ=-9.00000°. Principal axes: T 4.7440, Plg9.0000°, Azm289.0000°; N 0.5210, Plg67.0000°, Azm178.0000°; P -5.2700, Plg21.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 17:01:19.3±0.4,24°.3S±0°.1×115°.73W±0°.07,h10km,n175, σ1§50/94,mb4.9/81,MS4.4/32,2D,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	Isla de Pascua	6.34	118	Pn	Pn	17 02 54.4	+1.6
PTCN	Pitcairn Islan	13.08	264	Pn	Pn	17 04 25.6	+0.4
TAOE	Nuku Hiva Isla	27.93	299	eLR	LR	17 14 04.5	
	comp=Z,3μm,25.9s						
TBI	Tubuai	30.82	265	eLR	LR	17 15 15.5	
	comp=Z,6μm,28.0s						
TBI				eLR	LR	17 15 32.2	
	comp=Z,12μm,21.0s						
PPT2	Papeete2	32.25	275	eS	S	17 12 57.0	-4.9
	123nm,23.0s						
PPT2				eLR	LR	17 15 51.3	
	comp=Z,2μm,27.5s						
PPT2				eLR	LR	17 15 59.0	
	comp=Z,1μm,30.0s						
PPT	Papeete	32.26	275	LR	LR	17 17 55.5	
	comp=Z,293nm,18.2s,baz=107,slow=31						
H03N2	Juan Fernandez	33.33	114	T	T	17 43 27.9	
	baz=280,slow=75,SNR=138						
H03N3	Juan Fernandez	33.34	114	T	T	17 43 29.1	
	baz=280,slow=75,SNR=180						
H03N1	Juan Fernandez	33.35	114	T	T	17 43 29.0	
	baz=280,slow=75,SNR=197						
NNA	Nana	38.80	79	LR	LR	17 20 45.9	
	comp=Z,711nm,20.1s,baz=236,slow=30						
GO07	Milladeo Hill,	39.20	129	P	P	17 08 47.3	-0.3
ATAH	Atahualpa	39.62	71	LR	LR	17 21 12.4	
	comp=Z,396nm,19.2s,baz=233,slow=30						
LL04	Puerto Octay	39.62	125	P	P	17 08 49.9	-1.3
MCRA	Macar, Loja	39.74	66	P	P	17 08 50.2	-2.3
BO01	Tunca	39.91	115	P	P	17 08 52.8	-0.8
LL01	San Ignacio de	39.92	128	P	P	17 08 54.8	+1.2
ROC1	El Roble	39.93	113	P	P	17 08 50.8	-3.3
MT09	Talagante	39.97	114	P	P	17 08 52.5	-1.8
AY01	Puyuhuapi	40.25	131	P	P	17 08 52.3	-4.0
VA03	San Esteban	40.32	113	P	P	17 08 53.5	-3.7
LCO	Las Campanas	40.33	107	P	P	17 08 56.5	-1.0
LCO				IAmb	IAmb	17 09 10.1	
	comp=Z,32nm,1.4s						
LMEL	Las Melosas	40.62	114	P	P	17 08 56.5	-3.3
AC05	El Transito	40.71	107	P	P	17 08 59.4	-1.1
AC06	Mina Casimiro	40.78	104	P	P	17 09 00.1	-0.9
AC06				IAmb	IAmb	17 09 22.3	
	comp=Z,40nm,1.4s						
GO03	Copiap	40.86	105	P	P	17 09 01.6	-0.1
GO03				IAmb	IAmb	17 09 27.1	
	comp=Z,26nm,1.2s						
PLCA	Paso Flores	40.98	125	P	P	17 09 01.6	-0.9
PLCA	Paso Flores	40.98	125	P	P	17 08 60.0	-2.5
	comp=Z,0.7nm,0.6s,baz=251,slow=8.3,SNR=1.1						
PLCA				LR	LR	17 21 47.2	
	comp=Z,794nm,21.2s,baz=258,slow=30						
	comp=Z,0.7nm,0.6s						
BOSC	San Juan Bosco	41.62	65	P	P	17 09 06.3	-1.8
ZON	Zonda	41.93	111	P	P	17 09 10.1	-0.3
ZON				IAmb	IAmb	17 09 25.9	
	comp=Z,33nm,1.3s						
PATCX	Punta Patache	42.09	95	P	P	17 09 11.4	-0.5
PB12	IPOC Station P	42.49	91	P	P	17 09 15.0	-0.1
PB01	IPOC Station P	42.65	95	P	P	17 09 16.8	+0.4
LVC	Limon Verde	42.83	98	LR	LR	17 22 40.4	
	comp=Z,587nm,19.7s,baz=246,slow=30						
H06E1	SOCORRO T-PHAS	43.11	7	T	T	17 55 28.1	
	SNR=4.9						
GO01	Chusmiza	43.25	93	P	P	17 09 20.8	-1.0
OTAV	Otavalo	43.60	61	P	P	17 09 21.7	-2.9
LPAZ	La Paz	45.18	89	P	P	17 09 28.7	-8.7
LPAZ				IAmb	IAmb	17 09 49.4	
	comp=Z,18nm,1.1s						
LPAZ	La Paz	45.18	89	P	P	17 09 28.1	-9.3
	comp=Z,2.6nm,0.5s,baz=257,slow=12,SNR=11						
LPAZ				LR	LR	17 24 40.5	
	comp=Z,392nm,18.2s,baz=240,slow=31						
ETMB	Extrema	49.23	82	P	P	17 10 08.7	+0.3
ROSC	El Rosal	49.66	60	LR	LR	17 25 51.2	
	comp=Z,207nm,21.8s,baz=92,slow=30						
SIV	San Ignacio	51.71	92	LR	LR	17 29 07.9	
	comp=Z,118nm,19.0s,baz=295,slow=32						
SAML	Samuel	52.31	82	P	P	17 10 32.5	+0.9
SAML				IAmb	IAmb	17 10 42.1	
	comp=Z,14nm,1.2s						
CPUP	Villa Florida	52.43	105	LR	LR	17 28 50.6	
	comp=Z,399nm,20.9s,baz=223,slow=32						
VILB	Vilhena	53.52	88	P	P	17 10 40.4	-0.2
PTLB	Pontes e Lacer	53.65	92	P	P	17 10 43.2	+1.8
PTLB				IAmb	IAmb	17 10 52.1	
	comp=Z,14nm,1.2s						
TXAR	Lajitas Array	54.61	13	P	P	17 10 48.1	-0.1
TXAR	Lajitas Array	54.61	13	P	P	17 10 49.9	+1.7
	comp=Z,0.6nm,0.9s,baz=194,slow=10.0,SNR=7.4						
	comp=Z,0.6nm,0.9s						
SDV	Santo Domingo	55.01	59	LR	LR	17 31 25.3	
	comp=Z,128nm,18.0s,baz=234,slow=33						
SAND	Sanderson	55.54	14	P	P	17 10 56.8	+1.9
SAND				IAmb	IAmb	17 10 58.5	
	comp=Z,11nm,1.2s						
ALPN	Alpine	55.62	13	P	P	17 10 57.5	+1.9
ALPN				IAmb	IAmb	17 10 59.8	
	comp=Z,9.1nm,1.3s						
319A	Douglas	55.74	7	P	P	17 10 56.8	+0.4
319A				IAmb	IAmb	17 11 25.3	
	comp=Z,13nm,1.1s						
425A	Indio Mountain	55.77	11	P	P	17 10 57.2	+0.6
HNDO	Hondo	55.84	17	P	P	17 10 57.8	+0.8
HNDO				IAmb	IAmb	17 11 00.6	
	comp=Z,16nm,1.2s						
TUC	Tucson	56.52	5	P	P	17 11 03.3	+1.4
MNTX	Cornudas Mount	56.59	11	P	P	17 11 04.0	+1.6
MNTX				IAmb	IAmb	17 11 07.0	
	comp=Z,15nm,1.4s						
JCT	Junction City	56.60	16	P	P	17 11 04.1	+1.6
YUH	Yuha Desert	56.66	360	P	P	17 11 04.2	+1.4
YUH				IAmb	IAmb	17 11 08.6	
	comp=Z,12nm,1.4s						
OZNA	Ozona	56.70	15	P	P	17 11 04.3	+1.2
OZNA				IAmb	IAmb	17 11 07.3	
	comp=Z,13nm,1.2s						
109C	Camp Elliot, M	56.92	359	P	P	17 11 03.8	-0.8
109C				IAmb	IAmb	17 11 23.2	
	comp=Z,20nm,1.3s						
DUN6	Lazy B Ranch	56.92	7	P	P	17 11 07.4	+2.6
MACA	Manacapuru-AM	57.03	77	P	P	17 11 04.3	-1.6
MACA				IAmb	IAmb	17 11 09.3	
	comp=Z,14nm,1.0s						
121A	Cookes Peak, D	57.05	8	P	P	17 11 04.7	-1.1
121A				IAmb	IAmb	17 11 09.8	
	comp=Z,14nm,1.1s						
HKT	Hockley	57.26	21	P	P	17 11 07.7	+0.7
435B	Jarrell	57.50	19	P	P	17 11 07.4	-1.4
BRDY	Brady	57.58	17	P	P	17 11 09.9	+0.6
BRDY				IAmb	IAmb	17 11 15.4	
	comp=Z,21nm,1.4s						
SGCY	Sterling City	57.65	15	P	P	17 11 10.6	+0.8
SGCY				IAmb	IAmb	17 11 12.8	
	comp=Z,15nm,0.9s						
PASC	Pasadena Art C	58.23	358	P	P	17 11 13.2	-0.6
PASC				IAmb	IAmb	17 11 20.4	
	comp=Z,17nm,1.3s						
WHTX	Lake Whitney,	58.67	18	IAmb	IAmb	17 11 19.8	
	comp=Z,10nm,0.8s						
ABTX	Abilene, Hawle	58.68	16	P	P	17 11 17.9	+0.9
ABTX				IAmb	IAmb	17 11 19.9	
	comp=Z,12nm,1.1s						
X18A	Snowflake	58.80	6	P	P	17 11 17.7	-0.3
X18A				IAmb	IAmb	17 11 21.9	
	comp=Z,8.9nm,0.9s						
W13A	Hualapai Mount	59.13	2	P	P	17 11 20.2	-0.2
APMT	Aspermont	59.24	15	P	P	17 11 22.6	+1.7
APMT				IAmb	IAmb	17 11 24.8	
	comp=Z,13nm,1.3s						
ANMO	Albuquerque	59.61	9	P	P	17 11 25.3	+1.7
WUAZ	Wupatki	59.67	4	P	P	17 11 25.1	+1.1
WUAZ				IAmb	IAmb	17 11 29.6	
	comp=Z,12nm,1.2s						
V12A	Nelson	59.74	1	P	P	17 11 26.5	+2.1
BOAV	Boa Vista	59.80	72	P	P	17 11 25.8	+0.6
QSM	Queen of Sheba	59.98	359	P	P	17 11 27.5	+1.6
GWY	Greenwater Val	60.20	359	P	P	17 11 28.9	+1.3
SHPR	Sheep Range	60.51	1	IAmb	IAmb	17 11 42.5	
	comp=Z,11nm,1.5s						
U15A	North Rim	60.52	3	IAmb	IAmb	17 11 37.1	
	comp=Z,17nm,1.3s						
WCT	Wildcat Mounta	60.80	359	IAmb	IAmb	17 11 59.7	
	comp=Z,14nm,1.5s						
LCMT	Little Creek M	61.06	2	IAmb	IAmb	17 11 41.3	
	comp=Z,12nm,1.5s						
KNB	Kanab	61.08	3	IAmb	IAmb	17 11 47.4	
	comp=Z,11nm,1.4s						
PRN	Pahroc Range	61.41	1	IAmb	IAmb	17 11 59.5	
	comp=Z,13nm,1.5s						
MVCO	Mesa Verde	61.59	7	IAmb	IAmb	17 11 42.1	
	comp=Z,16nm,1.4s						
X37A	Clayton	61.71	19	P	P	17 11 39.4	+1.7
X37A				IAmb	IAmb	17 11 42.6	
	comp=Z,11nm,1.2s						
T25A	Trinidad	62.07	10	IAmb	IAmb	17 11 43.6	
	comp=Z,12nm,1.2s						
LHV	Little Huntoon	62.31	358	IAmb	IAmb	17 12 10.7	
	comp=Z,13nm,1.3s						
S22A	4UR Ranch, Cre	62.31	8	IAmb	IAmb	17 11 47.2	
	comp=Z,12nm,1.4s						
R11B	Troy Canyon, C	62.35	0	IAmb	IAmb	17 11 58.0	
	comp=Z,9.5nm,1.4s						
NV11	Mina Array Sit	62.48	358	IAmb	IAmb	17 11 46.5	
	comp=Z,6.6nm,1.0s						
NVAR	Mina Array Bea	62.48	358	P	P	17 11 45.4	+2.3
	comp=Z,3.4nm,0.9s,baz=190,slow=9.3,SNR=15						
	comp=Z,3.4nm,0.9s						
SDCO	Great Sand Dun	62.49	9	IAmb	IAmb	17 11 46.5	
	comp=Z,9.2nm,1.1s						
SPR3	Spring Creek 3	63.01	1	P	P	17 11 47.9	+1.2
SPR3				IAmb	IAmb	17 12 14.8	
	comp=Z,13nm,1.3s						
AFDM	Forest Hills D	63.14	355	IAmb	IAmb	17 12 07.0	
	comp=Z,8.5nm,1.4s						
SRU	San Rafael Swe	63.30	5	IAmb	IAmb	17 12 02.0	
	comp=Z,8.9nm,1.1s						
BDFB	Brasilia	63.70	96	P	P	17 11 51.0	-0.6
	comp=Z,2.9nm,0.7s,baz=47,slow=26,SNR=3.2						
BDFB				LR	LR	17 36 16.7	
	comp=Z,280nm,21.1s,baz=261,slow=33						
	comp=Z,2.9nm,0.7s						
P18A	Preston Nutter	63.84	5	IAmb	IAmb	17 12 12.1	
	comp=Z,10nm,1.5s						
DUG	Dugway, Tooele	64.25	2	IAmb	IAmb	17 11 58.4	
	comp=Z,6.6nm,1.0s						
ISCO	Idaho Springs	64.50	9	IAmb	IAmb	17 12 01.8	
	comp=Z,9.7nm,1.3s						
O20A	White River Ci	64.52	6	IAmb	IAmb	17 12 26.4	
	comp=Z,14nm,1.4s						
BSUT	Blindstream Ca	64.70	4	IAmb	IAmb	17 12 01.0	
	comp=Z,7.6nm,1.0s						
VNDA	Vanda	64.78	194	P	P	17 11 58.2	+0.7
	comp=Z,0.4nm,0.8s,baz=120,slow=8.1,SNR=2.4						
VNDA				LR	LR	17 33 55.3	
	comp=Z,216nm,18.3s,baz=104,slow=30						
	comp=Z,0.4nm,0.8s						
BGU	Big Grassy Mou	64.97	2	IAmb	IAmb	17 12 02.7	
	comp=Z,12nm,1.3s						
TCUT	Toone Canyon	65.24	4	IAmb	IAmb	17 12 14.4	
	comp=Z,8.8nm,1.1s						
N23A	Red Feather La	65.53	8	IAmb	IAmb	17 12 16.4	
	comp=Z,11nm,1.1s						
HWUT	Hardware Ranch	65.72	3	IAmb	IAmb	17 12 37.5	
	comp=Z,4.8nm,0.6s						
WVOR	Wild Horse Val	66.49	358	IAmb	IAmb	17 12 15.9	
	comp=Z,16nm,1.4s						
TKL	Tuckaleechee C	66.89	28	LR	LR	17 38 45.2	
	comp=Z,138nm,19.4s,baz=189,slow=34						
BW06	Boulder Array	67.01	5	IAmb	IAmb	17 12 18.7	
	comp=Z,9.8nm,1.4s						
PDAR	Pinedale Array	67.01	5	P	P	17 12 13.1	+0.5
	comp=Z,1.7nm,0.8s,baz=175,slow=6.3,SNR=15						
	comp=Z,1.7nm,0.8s						
MFID	Camas Ranch	67.41	360	IAmb	IAmb	17 12 21.0	
	comp=Z,14nm,1.4s						
HLID	Hailey	67.57	1	IAmb	IAmb	17 12 19.3	
	comp=Z,8.3nm,1.1s						
TPAW	Teton Pass	67.63	4	IAmb	IAmb	17 12 19.1	
	comp=Z,8.7nm,0.9s						
LOHW	Long Hollow	67.77	4	IAmb	IAmb	17 12 21.0	
	comp=Z,12nm,1.4s						
MOOW	Moose Ponds	67.90	4	IAmb	IAmb	17 12 32.5	
	comp=Z,11nm,1.3s						
MDP	Montagnes des	67.97	73	LR	LR	17 38 30.0	
	comp=Z,187nm,21.0s,baz=258,slow=33						
IMW	Indian Meadow	68.04	4	IAmb	IAmb	17 12 45.5	
	comp=Z,6.8nm,0.6s						
YHL	Hebgen Lake	68.97	3	IAmb	IAmb	17 12 44.0	
	comp=Z,15nm,1.4s						
G08A	Pilot Rock	69.35	358	P	P	17 12 28.4	+1.4
G08A				IAmb	IAmb	17 12 31.9	
	comp=Z,16nm,1.5s						
DZM	Mont Dzumac	70.64	254	LR	LR	17 35 34.7	
	comp=Z,214nm,21.8s,baz=122,slow=29						
MSO	Missoula	70.85	1	IAmb	IAmb	17 12 48.5	
	comp=Z,12nm,1.5s						
C09A	Chrisman Ranch	71.83	358	IAmb	IAmb	17 12 48.1	
	comp=Z,11nm,1.2s						
NEW	Newport	72.27	359	IAmb	IAmb	17 12 50.6	
	comp=Z,12nm,1.4s						
NEW	Newport	72.27	359	LR	LR	17 39 22.3	
	comp=Z,281nm,18.2s,baz=178,slow=32						
F36A	Milaca	72.72	16	IAmb	IAmb	17 12 50.1	
	comp=Z,11nm,1.1s						
SNAA	Sanae	73.95	162	LR	LR	17 43 32.7	
	comp=Z,32nm,18.7s,baz=199,slow=34						
ULM	Lac du Bonnet	76.31	13	LR	LR	17 42 54.9	
	comp=Z,145nm,20.7s,baz=196,slow=33						
SADO	Sadowa	76.46	26	LR	LR	17 44 28.6	
	comp=Z,152nm,20.2s,baz=294,slow=34						
ELIB	Princess Elisa	79.95	168	dP	P	17 13 30.8	+2.4
R33M	Jennings River	84.36	352	IAmb	IAmb	17 14 03.4	
	comp=Z,10nm,1.4s						
P33M	Teslin, Yukon	85.39	352	IAmb	IAmb	17 14 16.6	
	comp=Z,6.2nm,1.1s						
O30N	Mendenhall	86.40	350	IAmb	IAmb	17 14 13.2	
	comp=Z,8.5nm,1.4s						
YKA	Yellowknife Ar	86.53	1	LR	LR	17 48 19.4	
	comp=Z,164nm,19.0s,baz=128,slow=33						
HYT	Haines Junctio	86.68	350	IAmb	IAmb	17 14 16.7	
	comp=Z,13nm,1.5s						
H11S2	WAKE ISLAND Hy	86.72	292	T	T	18 49 33.1	
	baz=118,slow=75,SNR=177						
H11S1	WAKE ISLAND Hy	86.73	292	T	T	18 49 35.1	
	baz=118,slow=75,SNR=127						
H11S3	WAKE ISLAND Hy	86.73	292	T	T	18 49 35.0	
	baz=118,slow=75,SNR=118						
H11N3	WAKE ISLAND Hy	87.10	293	T	T	18 50 05.5	
	baz=119,slow=76,SNR=8.7						
H11N1	WAKE ISLAND Hy	87.11	293	T	T	18 50 03.7	
	baz=119,slow=76,SNR=10						
H11N2	WAKE ISLAND Hy	87.11	293	T	T	18 50 03.2	
	baz=119,slow=76,SNR=20						
STKA	Stephens Creek	87.42	236	P	P	17 14 09.4	+2.1
	comp=Z,2.3nm,0.8s,baz=120,slow=18,SNR=3.8						
	comp=Z,2.3nm,0.8s						
BARN	Barnard Glacie	87.65	348	IAmb	IAmb	17 14 21.1	
	comp=Z,10.0nm,1.1s						
MAW	Mawson	88.34	179	LR	LR	17 49 24.1	
	comp=Z,208nm,19.3s,baz=184,slow=33						
M29M	Somme Creek	88.36	350	P	P	17 14 10.6	-0.4
M29M				IAmb	IAmb	17 14 18.8	
	comp=Z,5.8nm,1.1s						
N25K	Chitina, Valde	88.74	347	IAmb	IAmb	17 14 17.4	
	comp=Z,5.5nm,1.1s						
CTA	Charters Tower	88.83	249	LR	LR	17 45 26.7	
	comp=Z,120nm,21.6s,baz=90,slow=30						
SCHQ	Schefferville	89.27	26	LR	LR	17 53 15.8	
	comp=Z,119nm,18.0s,baz=286,slow=35						
KRVT	Keravat (AS076	90.29	265	LR	LR	17 48 45.1	
	comp=Z,133nm,18.8s,baz=299,slow=32						
WRH	Wood River Hil	92.03	347	IAmb	IAmb	17 14 41.1	
	comp=Z,7.6nm,1.2s						
ILAR	Eielson Array	92.04	347	P	P	17 14 28.2	+0.2
	comp=Z,0.3nm,0.7s,baz=173,slow=3.5,SNR=2.5						
	comp=Z,0.3nm,0.7s						
INK	Inuvik	93.30	353	LR	LR	17 49 11.0	
	comp=Z,35nm,18.0s,baz=176,slow=31						
FRB	Frobisher Bay	95.24	19	LR	LR	17 54 39.7	
	comp=Z,148nm,19.9s,baz=204,slow=34						
SHEM	Shemya Is, Ala	97.88	325	LR	LR	17 53 07.0	
	comp=Z,50nm,18.9s,baz=199,slow=32						
WRA	Warramunga Arr	98.83	244	P	P	17 14 59.0	-1.1
	comp=Z,0.3nm,0.9s,baz=129,slow=4.3,SNR=2.0						
	comp=Z,0.3nm,0.9s						
RES	Resolute Bay	99.70	6	LR	LR	17 57 10.8	
	comp=Z,123nm,18.1s,baz=164,slow=34						
SONM	Songino Array	139.34	316	PKP	PKPdf	17 20 44.9	-1.9
	comp=Z,0.6nm,1.0s,baz=57,slow=5.3,SNR=2.3						
KMBO	Kilima Mbogo	143.56	130	PKPdf	PKPdf	17 20 55.2	-0.4
KMBO	Kilima Mbogo	143.56	130	PKP	PKPdf	17 20 55.4	-0.2
	comp=Z,0.7nm,0.4s,baz=250,slow=12,SNR=2.1						
CD2	Chengdu	144.54	290	PKP	PKPdf	17 20 57.2	+0.7
KMI	Kunming	145.12	279	sPKP		17 21 03.0	
KMI	Kunming	145.12	279	∥PKPbc	PKPdf	17 20 58.4	+0.5
PZH	PanZhiHua	146.16	282	PKPbc	PKPbc	17 21 00.4	-0.1
CRAI	Chiangrai	146.40	270		PKPdf	17 20 59.7	-0.3
GTA	Gaotai	146.52	305	ePKPbc	PKPdf	17 20 59.1	-0.7
GTA				LR	LR		
	comp=N,94nm,20.7s						
GTA				LR	LR		
	comp=E,130nm,20.7s						
GTA				LR	LR		
	comp=Z,200nm,23.6s						
ZALV	Zalesovo Beam	146.66	338	PKPbc	PKPbc	17 21

*IDC **01** 17:12:45.0±2.4, 6°.54S×130°.65E, h140km±27km, mb3.2/1, mbtmp3.5/5, Error ellipse: s-maj=42.6km s-min=23.1km az=93.0*
*DJA **01** 17:12:46.2±0.3, 6°.5S±3°×13°.0E±°, h196km±9km, M4.0/11, mb3.6/8, mB4.5/2, MLv4.2/11, Mw(mB)3.6/2*
ISC 01 17:12:46.3±1.0, 6°.40S±0°.07×130°.37E±0°.09, h150km, n13, σ2°.42/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.83**	**150**	P		**Pn**		**17 13 22.9**	**+3.5**
BNDI	**Bandanaira**	**1.92**	**346**	P		**Pn**		**17 13 25.0**	**+4.5**
FAKI	**Fak Fak**	**3.93**	**29**	P		**Pn**		**17 13 45.7**	**0.0**
KMPI	**Kaimana, Papua**	**4.29**	**51**	P		**Pn**		**17 13 50.7**	**+0.3**
SIJI	**Sorong**	**5.56**	**9**	P		**Pn**		**17 14 07.5**	**+0.2**
	4.6nm,0.2s,baz=259,slow=11,SNR=51								
SIJI				S		**Sn**		**17 15 06.6**	**-3.9**
	26nm,0.2s,baz=233,slow=23,SNR=9.1								
SWI	**Sorong**	**5.57**	**9**	P		**Pn**		**17 14 07.1**	**-0.2**
	7.0nm,0.8s,481nm0.2nm								
RKPI	**Ransiki, Papua**	**6.17**	**38**	P		**Pn**		**17 14 15.7**	**+0.5**
	18nm,0.6s,0.2nm								
SOEI	**Soe**	**6.90**	**241**	P		**Pn**		**17 14 26.1**	**+1.0**
	9.1nm,1.2s,0.1nm								
BATI	**Baumata**	**7.64**	**240**	P		**Pn**		**17 14 35.5**	**+0.6**
	12nm,0.4s,0.1nm								
BATI	**Baumata**	**7.64**	**240**	P		**Pn**		**17 14 35.8**	**+0.9**
	13nm,0.4s,baz=154,slow=2.7,SNR=5.0								
BATI				S		**Sn**		**17 15 57.2**	**-2.9**
	13nm,0.4s,baz=13,slow=22,SNR=2.6								
WRA	**Warramunga Arr**	**14.01**	**164**	P		Pn		17 15 54.1	-4.2
	0.2nm,0.5s,baz=350,slow=13,SNR=1.9								
WRA				S		Sn		17 18 16.1	-17
	0.1nm,0.5s,baz=343,slow=23,SNR=1.3								
ASAR	**Alice Springs**	**17.50**	**169**	P		**P**		**17 16 38.4**	**-1.8**
	0.2nm,0.5s,baz=347,slow=11,SNR=2.7								
ASAR				S		S		17 19 45.0	-10
	0.1nm,0.6s,baz=350,slow=26,SNR=1.7								
MKAR	**Makanchi Array**	**67.93**	**327**	P		**P**		**17 23 30.3**	**+1.5**
	0.3nm,0.4s,baz=123,slow=6.7,SNR=4.5								
	0.3nm,0.4s								

*GUC **01** 17:31:02.5±0.4, 45°.65S×77°.14W, h24km, ML3.7*
*IDC **01** 17:31:10.7±1.2, 46°.20S×74°.95W, h0km, mb3.7/4, mbtmp3.7/5, ML2.9/1, MS3.6/10, Error ellipse: s-maj=59.1km s-min=26.2km az=118.0*
ISC 01 17:31:12.8±1.4, 45°.53S±0°.08×76°.3W±0°.2, h35km, n21, σ1°.94/10, mb3.7/4, MS3.5/9, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AY02	**Valle Explorad**	**2.38**	**115**	*i* P		**Pn**		**17 31 47.6**	**-1.8**
AY02						IAML		17 33 00.1	
	comp=E,531nm,0.6s								
AY01	**Puyuhuapi**	**2.84**	**68**	*i* P		**Pn**		**17 31 55.0**	**-0.6**
AY01				*e*S			Sn	17 32 34.5	+6.1
AY01						IAML		17 32 42.2	
	comp=N,55nm,0.6s								
AY03	**Cochrane**	**3.11**	**125**	*i* P		**Pn**		**17 31 57.5**	**-1.8**
LL06	**Loncomilla**	**3.84**	**31**	*i* P		**Pn**		**17 32 06.2**	**-3.2**
LL02	**Futaleuf**	**3.97**	**56**	*i* P		**Pn**		**17 32 09.8**	**-1.4**
PLCA	**Paso Flores**	**6.39**	**43**	Pn		**Pn**		**17 32 43.5**	**-1.0**
	comp=N,0.1nm,0.3s,baz=212,slow=13,SNR=2.3								
PLCA						LR	LR	17 35 22.6	
	comp=N,704nm,19.5s,baz=205,slow=40								
	comp=N,2.0nm,0.9s								
H03S1	**Juan Fernandez**	**11.84**	**349**	T		T		17 46 38.3	
	baz=167,slow=74,SNR=517								
H03S2	**Juan Fernandez**	**11.85**	**349**	T		T		17 46 37.3	
	baz=167,slow=74,SNR=381								
H03S3	**Juan Fernandez**	**11.85**	**349**	T		T		17 46 38.4	
	baz=167,slow=74,SNR=483								
PMSA	**Palmer Station**	**20.45**	**165**	LR		LR		17 41 27.4	
	comp=N,104nm,20.6s,baz=14,slow=32								
CPUP	**Villa Florida**	**24.46**	**45**	P		**P**		**17 36 30.1**	**+1.7**
	comp=N,2.7nm,0.8s,baz=224,slow=5.9,SNR=5.3								
CPUP						LR	LR	17 47 10.1	
	comp=N,138nm,18.8s,baz=218,slow=40								
	comp=N,2.7nm,0.8s								
NNA	**Nana**	**33.43**	**359**	LR		LR		17 49 45.7	
	comp=N,35nm,18.3s,baz=195,slow=33								
BDFB	**Brasilia**	**38.11**	**48**	P		**P**		**17 38 29.7**	**+1.2**
	comp=N,0.8nm,0.3s,baz=230,slow=16,SNR=1.9								
BDFB						LR	LR	17 55 34.6	
	comp=N,173nm,18.1s,baz=165,slow=39								
	comp=N,0.8nm,0.3s								
ATAH	**Atahualpa**	**38.29**	**357**	LR		LR		17 50 57.4	
	comp=N,59nm,18.3s,baz=228,slow=30								
SNAA	**Sanae**	**42.45**	**153**	LR		LR		17 54 41.0	
	comp=N,56nm,18.2s,baz=22,slow=34								
ROSC	**El Rosal**	**50.18**	**3**	LR		LR		18 00 42.2	
	comp=N,42nm,19.0s,baz=92,slow=35								
VNDA	**Vanda**	**52.15**	**194**	P		**P**		**17 40 18.6**	**-0.5**
	comp=N,0.6nm,1.1s,baz=124,slow=3.6,SNR=2.2								
	comp=N,0.6nm,1.1s								
MDP	**Montagnes des**	**54.66**	**29**	LR		LR		18 03 33.7	
	comp=N,35nm,20.2s,baz=117,slow=36								
PCRV	**Puerto La Cruz**	**56.44**	**14**	LR		LR		18 08 42.7	
	comp=N,82nm,18.2s,slow=40								
TXAR	**Lajitas Array**	**78.55**	**336**	P		P		17 43 19.5	+9.1
	comp=N,0.5nm,0.8s,baz=148,slow=7.4,SNR=5.3								
	comp=N,0.5nm,0.8s								
CMAR	**Chiang Mai Arr**	**152.72**	**170**	PKPbc		**PKiKP**		**17 51 07.5**	**+1.4**
	comp=N,0.4nm,0.7s,baz=186,slow=4.2,SNR=1.7								

*IDC **01** 17:45:34.8±1.8, 7°.45S×128°.03E, h159km±25km, mb2.9/1, mbtmp4.0/5, Error ellipse: s-maj=32.0km s-min=17.7km az=111.0*
*DJA **01** 17:45:35.3±0.3, 8°.5S±4°×12°.8E±°, h184km±7km, M4.0/11, mb3.9/10, mB4.6/6, MLv4.3/11, Mw(mB)3.8/6*
ISC 01 17:45:34.5±0.7, 7°.44S±0°.07×127°.84E±0°.07, h142km, n28, σ1°.94/30, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.47**	**99**	P		**Pn**		**17 46 29.9**	**+2.2**
BNDI	**Bandanaira**	**3.56**	**35**	P		**Pn**		**17 46 32.3**	**+3.5**
SOEI	**Soe**	**4.21**	**237**	P		**Pn**		**17 46 40.4**	**+2.9**
BATI	**Baumata**	**4.96**	**236**	P		**Pn**		**17 46 49.3**	**+2.0**
BATI	**Baumata**	**4.96**	**236**	P		**Pn**		**17 46 49.6**	**+2.4**
	29nm,0.5s,baz=98,slow=4.2,SNR=11								
BATI				S		**Sn**		**17 47 43.0**	**-1.0**
	59nm,0.3s,baz=89,slow=7.8,SNR=20								
MMRI	**Maumere**	**5.67**	**258**	P		**Pn**		**17 47 00.0**	**+3.2**
	15nm,1.5s,0.1nm								
MTN	**Manton Dam**	**6.27**	**149**	P		**Pn**		**17 47 04.6**	**-0.2**
FAKI	**Fak Fak**	**6.28**	**45**	P		**Pn**		**17 47 05.3**	**+0.3**
	8.2nm,0.6s,354nm0.1nm								
KDU	**Kakadu**	**6.93**	**139**	P		**Pn**		**17 47 13.4**	**-0.2**
KMPI	**Kaimana, Papua**	**6.94**	**58**	P		**Pn**		**17 47 14.7**	**+0.9**
	18nm,0.8s,1μm0.3nm								
SIJI	**Sorong**	**7.37**	**28**	P		**Pn**		**17 47 20.0**	**+0.4**
	14nm,0.3s,baz=208,slow=11,SNR=36								
SIJI				S		**Sn**		**17 48 40.3**	**-1.6**
	2.0nm,0.6s,baz=220,slow=23,SNR=1.3								
SWI	**Sorong**	**7.37**	**28**	P		**Pn**		**17 47 21.5**	**+1.9**
	12nm,0.6s,383nm0.1nm								
KNRA	**Kununurra**	**8.23**	**174**	P		**Pn**		**17 47 29.7**	**-1.4**
PLAI	**Plampang**	**10.05**	**261**	P		**Pn**		**17 47 54.7**	**-0.8**
	21nm,1.5s								
TWSI	**Taliwang, Sumb**	**10.92**	**262**	P		**Pn**		**17 48 05.4**	**-1.6**
	8.6nm,1.4s								
JAGI	**Jajag, Banyuwa**	**13.59**	**265**	P		**Pn**		**17 48 41.2**	**-0.5**
	33nm,1.6s								
WRA	**Warramunga Arr**	**13.93**	**154**	P		**Pn**		**17 48 42.7**	**-3.3**
	2.0nm,0.6s,baz=337,slow=11,SNR=30								
WRA				S		Sn		17 51 07.7	-13
	5.5nm,0.7s,baz=330,slow=22,SNR=8.3								
MBWA	**Marble Bar**	**15.73**	**209**	P		**P**		**17 49 11.7**	**+2.3**
PSA00	**Pilbara Seismi**	**16.03**	**208**	P		**P**		**17 49 14.4**	**+1.7**
COEN	**Coen**	**16.40**	**115**	P		**P**		**17 49 19.2**	**+2.3**
	6.9nm,2.5s								
ASAR	**Alice Springs**	**17.15**	**161**	P		**P**		**17 49 24.9**	**-0.3**
	3.9nm,0.6s,baz=331,slow=11,SNR=108								
ASAR				S		S		17 52 24.7	-12
	1.0nm,0.6s,baz=345,slow=25,SNR=6.7								
QIS	**Mount Isa**	**17.31**	**140**	P		**P**		**17 49 26.1**	**-0.9**
WRKA	**Warakurna**	**17.50**	**179**	P		**P**		**17 49 29.0**	**0.0**
MTSU	**Mount Surprise**	**19.25**	**125**	P		**Pn**		**17 49 50.8**	**+0.2**
MEEK	**Meekatharra**	**21.01**	**204**	P		**P**		**17 50 10.2**	**+3.2**
OOD	**Oodnadatta**	**21.57**	**161**	P		**P**		**17 50 11.7**	**-1.2**
INKA	**Innaminka**	**23.60**	**150**	P		**P**		**17 50 34.5**	**+1.9**
MKAR	**Makanchi Array**	**67.44**	**328**	P		**P**		**17 56 13.8**	**-1.0**
	0.1nm,0.4s,baz=117,slow=7.6,SNR=2.1								
	0.1nm,0.4s								

IDC 01 18:06:50.2±4.7, 31°.16S×178°.93W, h0km, mb3.9/2, mbtmp3.9/2, MS3.4/2, Error ellipse: s-maj=213.3km s-min=44.9km az=159.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.09**	**25**	LR		LR	LR	18 08 16.9	
	comp=Z,776nm,21.1s,baz=214,slow=42								
DZM	**Mont Dzumac**	**15.89**	**301**	LR		LR	LR	18 15 49.0	
	comp=Z,127nm,18.6s,baz=33,slow=34								
ASAR	**Alice Springs**	**42.28**	**268**	P		P	P	18 14 45.3	-0.4
	0.4nm,0.5s,baz=107,slow=7.6,SNR=11								
	0.4nm,0.5s								
WRA	**Warramunga Arr**	**43.34**	**273**	P		P	P	18 14 54.5	+0.2
	1.6nm,0.4s,baz=114,slow=8.0,SNR=40								
	1.6nm,0.4s								
H03S2	**Juan Fernandez**	**80.71**	**124**	T		T	T	19 47 42.4	
	baz=238,slow=74,SNR=11								
H03S1	**Juan Fernandez**	**80.72**	**124**	T		T	T	19 47 43.2	
	baz=238,slow=74,SNR=8.4								
H03S3	**Juan Fernandez**	**80.73**	**124**	T		T	T	19 47 41.7	
	baz=238,slow=74,SNR=11								
H03N3	**Juan Fernandez**	**80.91**	**124**	T		T	T	19 47 53.8	
	baz=240,slow=72,SNR=11								
H03N2	**Juan Fernandez**	**80.91**	**123**	T		T	T	19 47 50.9	
	baz=240,slow=72,SNR=6.7								
H03N1	**Juan Fernandez**	**80.92**	**124**	T		T	T	19 47 48.8	
	baz=240,slow=72,SNR=22								
FINES	**FINESS Array B**	**145.57**	**339**	PKPbc		PKPdf	PKPdf	18 26 29.4	-0.3
	1.1nm,0.7s,baz=29,slow=3.2,SNR=7.1								
HFS	**Hagfors**	**149.82**	**347**	PKPbc		PKPbc	PKPbc	18 26 40.6	-1.0
	4.1nm,1.0s,baz=33,slow=4.0,SNR=2.0								

*IDC **01** 18:07:02.9±2.6, 27°.90N×129°.50E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=155.9km s-min=23.7km az=67.0*
*JMA **01** 18:07:08.4±0.2, 25°.9N±0°.8×127°.1E±0°.3, h17km±2km, MV3.5/8, NEAR OKINAWAJIMA ISLAND*
ISC 01 18:07:06.6±2.4, 25°.8N±0°.1×127°.05E±0°.06, h32km±12km, n13, σ1°.51/16, mb3.6/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.54**	**334**	*i* P		**Pb**		**18 07 18.1**	**+0.2**
JKE					S		**Sb**	**18 07 25.6**	**-0.1**
JJT3	**Tamagusuku3**	**0.72**	**65**	*i* P		**Pn**		**18 07 21.2**	**+0.6**
JJT3					S		**Sb**	**18 07 30.9**	**+0.4**
JAGN	**Aguni-jima**	**0.77**	**13**	P		**Pb**		**18 07 21.6**	**0.0**
JAGN					S		**Sb**	**18 07 31.0**	**-0.7**
JNTH	**Nagotoyohara**	**1.10**	**52**	*i* P		**Pn**		**18 07 27.0**	**+1.2**
JNTH					S		**Sb**	**18 07 39.8**	**-1.4**
JIH	**Iheya**	**1.45**	**34**	P		**Pb**		**18 07 32.6**	**-0.4**
JIH					S		**Sb**	**18 07 50.7**	**-0.4**
JOW	**Kunigami**	**1.48**	**48**	P		**Pb**		**18 07 33.2**	**-0.3**
JOW					*e*S		**Sn**	**18 07 50.9**	**+1.7**
JOW	**Kunigami**	**1.48**	**48**	LR		LR		18 08 10.8	
	comp=Z,168nm,20.4s,baz=358,slow=45								
MKAR	**Makanchi Array**	**41.01**	**312**	P		**P**		**18 14 49.8**	**+3.1**
	0.4nm,0.4s,baz=95,slow=11,SNR=12								
	0.4nm,0.4s								
ZALV	**Zalesovo Beam**	**41.93**	**324**	P		**P**		**18 14 53.0**	**-1.0**
	0.6nm,0.4s,baz=108,slow=9.1,SNR=3.9								
	0.6nm,0.4s								
WRA	**Warramunga Arr**	**46.05**	**170**	P		P		18 15 42.4	+15
	0.4nm,0.7s,baz=351,slow=8.6,SNR=2.1								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**49.66**	**172**	P		P		18 16 09.6	+14
	0.3nm,0.8s,baz=357,slow=13,SNR=1.4								
	0.3nm,0.8s								
FINES	**FINESS Array B**	**72.68**	**330**	P		**P**		**18 18 27.9**	**-3.0**
	1.6nm,0.9s,baz=81,slow=8.6,SNR=2.3								
	1.6nm,0.9s								
AKASG	**Malin Array Be**	**75.14**	**319**	P		**P**		**18 18 45.8**	**+0.2**
	0.3nm,0.4s,baz=64,slow=6.0,SNR=1.8								
	0.3nm,0.4s								

*EAF **01** 18:12:33.5, 24°.96S×32°.57E, h10km, MC3.7*
*BUL **01** 18:12:36.8±5.5, 25°.14S×32°.35E, h10km, MD4.0*
*PRE **01** 18:12:37.8±1.5, 24°.60S×32°.46E, h10km, ML2.2*
ISC 01 18:12:39.9±2.7, 24°.62S±0°.04×32°.3E±0°.1, h17km±7km, n20, σ2°.34/36, 1D, Mozambique

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**1.29**	**279**	⇓*i* P		**Pg**		**18 13 04.4**	**-0.4**
HOED					*e*S		**Sg**	**18 13 23.1**	**+1.5**
HOED						IAML		18 13 27.0	
	comp=Z,32nm,0.3s								
MOPA	**Mopani**	**1.39**	**322**	*i* P		**Pn**		**18 13 04.5**	**+0.1**
MOPA					*i* S		**Sg**	**18 13 24.2**	**-0.5**
MOPA	**Mopani**	**1.39**	**322**	*e*P		**Pn**		**18 13 04.3**	**-0.1**
MOPA					*e*S		**Sg**	**18 13 24.0**	**-0.7**
MOPA	**Mopani**	**1.39**	**322**	*i* P		**Pn**		**18 13 04.5**	**+0.1**
	baz=326								
MOPA					*i* S		**Sg**	**18 13 24.2**	**-0.5**
	baz=326								
PILG	**Pilgrimsrest,**	**1.50**	**258**	*e*P		**Pb**		**18 13 07.5**	**+0.1**
PILG					*e*S		**Sg**	**18 13 29.6**	**+1.1**
PILG						IAML		18 13 31.0	
	comp=Z,71nm,1.1s								
MMAL	**MMAL**	**1.75**	**215**	*e*P		**Pb**		**18 13 10.9**	**-0.7**
MMAL					*e*S		**Sb**	**18 13 35.1**	**+1.7**
MMAL						IAML		18 13 36.9	
	comp=Z,44nm,0.2s								
DULL	**Dullstroom, Mp**	**2.09**	**249**	*e*P		**Pn**		**18 13 15.5**	**+1.2**
DULL					*e*S		**Sn**	**18 13 42.8**	**+2.8**
DULL						IAML		18 13 48.6	
	comp=Z,16nm,0.1s								
MPHEP	**Siloam, Limpop**	**2.60**	**310**	*e*P		**Pn**		**18 13 23.2**	**+1.9**
MPHEP					*e*S		**Sn**	**18 13 55.2**	**+2.6**
MPHEP						IAML		18 14 06.4	
	comp=Z,29nm,0.4s								
MUSN	**Musina, Limpop**	**3.24**	**315**	*i* P		**Pn**		**18 13 31.7**	**+1.7**
MUSN					*i* S		**Sn**	**18 14 11.5**	**+3.3**
MUSN	**Musina, Limpop**	**3.24**	**315**	*e*P		**Pn**		**18 13 31.0**	**+1.0**
MUSN					*e*S		**Sn**	**18 14 07.7**	**-0.5**
MUSN						IAML		18 14 24.8	
	comp=Z,19nm,0.6s								
MUSN	**Musina, Limpop**	**3.24**	**315**	*i* P		**Pn**		**18 13 31.7**	**+1.7**
	baz=318								
MUSN					*i* S		**Sn**	**18 14 11.5**	**+3.3**
	baz=318								
LEPH	**Lephalale, Lim**	**4.20**	**279**	*e*P		**Pn**		**18 13 45.4**	**+2.1**
LEPH					*e*S		**Sn**	**18 14 33.3**	**+1.3**
LEPH						IAML		18 14 59.4	
	comp=Z,6.0nm,0.4s								
MATP	**Matopo**	**5.47**	**319**	*i* P		**Pn**		**18 13 59.9**	**-0.9**
MATP					*i* S		**Sn**	**18 15 01.3**	**-2.1**
MATP	**Matopo**	**5.47**	**319**	*i* P		**Pn**		**18 13 59.9**	**-0.9**
	baz=320								
MATP					*i* S		**Sn**	**18 15 01.3**	**-2.1**
	baz=320								
LBTB	**Lobatse**	**6.13**	**265**	*i* P		**Pn**		**18 14 07.8**	**-1.9**
LBTB					*i* S		**Sn**	**18 15 12.8**	**-6.8**
LBTB	**Lobatse**	**6.13**	**265**	*e*P		**Pn**		**18 14 09.6**	**-0.2**
LBTB					*e*S		**Sn**	**18 15 19.5**	**0.0**
LBTB						IAML		18 15 55.4	
	comp=Z,3.3nm,0.6s								
LBTB	**Lobatse**	**6.13**	**265**	*i* P		**Pn**		**18 14 07.8**	**-1.9**
	baz=268								
LBTB					*i* S		**Sn**	**18 15 12.8**	**-6.8**
	baz=268								
BOSA	**Boshof**	**7.47**	**236**	*i* P		Pn		18 14 21.8	-6.5
BOSA					*i* S		Sn	18 15 39.1	-14
BOSA	**Boshof**	**7.47**	**236**	*e*P		**Pn**		**18 14 29.7**	**+1.5**
BOSA					*e*S		**Sn**	**18 15 51.4**	**-1.4**
BOSA						IAML		18 16 45.4	
	comp=Z,1.1nm,0.6s								
BOSA	**Boshof**	**7.47**	**236**	*i* P		Pn		18 14 21.8	-6.5
	baz=238								
BOSA					*i* S		Sn	18 15 39.1	-14
	baz=238								

*IDC **01** 18:13:19.1±2.6, 13°.00N×143°.63E, h206km±57km, mb2.9/5, mbtmp3.4/5, Error ellipse: s-maj=132.8km s-min=16.1km az=86.0*
ISC 01 18:13:18.8±1.0, 13°.0N±0°.2×143°.5E±0°.1, h200km, n6, σ0°.66/7, mb3.0/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.45**	**66**	P		**Pn**		**18 13 52.5**	**+0.4**
	16nm,0.3s,baz=294,slow=10.0,SNR=11								
GUMO				S		**Sn**		**18 14 17.7**	**-0.3**
	50nm,0.4s,baz=180,slow=20,SNR=23								
MJAR	**Matsushiro Arr**	**23.93**	**349**	P		**P**		**18 18 13.7**	**-0.9**
	0.5nm,0.4s,baz=172,slow=9.9,SNR=2.1								
	0.5nm,0.4s								
WRA	**Warramunga Arr**	**33.95**	**196**	P		**P**		**18 19 43.2**	**-0.2**
	1.1nm,0.8s,baz=17,slow=9.4,SNR=11								
	1.1nm,0.8s								
ASAR	**Alice Springs**	**37.62**	**195**	P		**P**		**18 20 14.4**	**-0.2**
	0.2nm,0.5s,baz=17,slow=14,SNR=14								
	0.2nm,0.5s								
SONM	**Songino Array**	**46.47**	**326**	P		**P**		**18 21 25.8**	**-0.1**
	0.2nm,0.6s,baz=135,slow=6.1,SNR=2.4								
	0.2nm,0.6s								
MKAR	**Makanchi Array**	**61.00**	**316**	P		**P**		**18 23 11.9**	**+0.7**
	0.2nm,0.6s,baz=96,slow=5.8,SNR=1.9								
	0.2nm,0.6s								

TAP 01 18:17:51.8, 22°.34N×121°.18E, h22km±1km, ML2.2, 5C, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.26**	**275**	⇑*i* P			**Pb**	**18 17 58.8**	**+0.8**
	baz=274								
TAW					*i* S		Sb	18 18 03.2	+1.0
	baz=274								
TAWH	**Dawu Township**	**0.27**	**271**	⇑*i* P			Pb	18 17 59.0	+0.9
	baz=270								
TAWH					*i* S		Sb	18 18 03.6	+1.2
	baz=270								
EAST	**Anshuo**	**0.31**	**279**	⇑*i* P			Pb	18 17 59.5	+0.7
	baz=278								
EAST					S		Sb	18 18 04.6	+1.1
	baz=278								
ECL	**Taimali**	**0.33**	**322**	⇑*i* P			Pb	18 17 59.6	+0.6
	baz=322								
ECL					*i* S		Sb	18 18 04.7	+0.6
	baz=322								
TTN	**Taitung**	**0.42**	**356**	*e*P			Pb	18 18 00.8	+0.4
	baz=357								
LAY	**Lan-yu**	**0.46**	**130**	S			Sn	18 18 09.7	-0.7
	baz=130								
TWG	**Pinlang**	**0.49**	**349**	P			Pb	18 18 02.3	+0.5
	baz=349								
LYUB	**Lan-yu**	**0.50**	**131**	P			Pb	18 18 01.8	-0.1
	baz=131								
TSEB	**Hengchuen, Pin**	**0.50**	**211**	*e*P			Pb	18 18 02.3	+0.3
	baz=214								
TSEB					S		Sn	18 18 10.9	-0.6
	baz=214								
SCZT	**Fangliau**	**0.52**	**274**	*i* P			Pb	18 18 02.5	+0.3
	baz=273								
TWKBT	**Hengchun**	**0.52**	**221**	P			Pb	18 18 02.5	+0.3
	baz=220								
TWKBT					S		Sb	18 18 10.4	+1.1
	baz=220								
HEN	**Hengchun**	**0.52**	**231**	*e*P			Pb	18 18 02.6	+0.3
	baz=230								
HEN					S		Sb	18 18 10.7	+1.3
	baz=230								
LONT	**Longtian**	**0.57**	**356**	P			Pb	18 18 03.4	+0.3
	baz=355								
MASBT	**Mashibuluo**	**0.57**	**299**	⇑*i* P			Pb	18 18 03.5	+0.3
	baz=298								
TSMG	**Majia**	**0.61**	**307**	*e*P			Pb	18 18 04.3	+0.5
	baz=306								
EDH	**Donghe**	**0.65**	**10**	P			Pb	18 18 04.7	+0.3
	baz=10.0								
SSD	**Sandimen**	**0.65**	**309**	P			Pb	18 18 04.6	+0.1
	baz=309								
SSD					S		Sn	18 18 14.8	-0.4
	baz=309								
ECS	**Chishang**	**0.76**	**3**	*e*P			Pn	18 18 07.1	-0.1
	baz=2.0								
EHD	**Haiduan**	**0.81**	**2**	*e*P			Pn	18 18 07.6	-0.3
	baz=1.0								
SLGT	**Liugui**	**0.82**	**323**	*e*P			Pn	18 18 07.9	0.0
	baz=323								
STYH	**Taoyuan**	**0.91**	**336**	*e*P			Pn	18 18 09.8	+0.6
	baz=336								
SGST	**Jiashian**	**0.92**	**324**	*e*P			Pn	18 18 09.7	+0.3
	baz=323								
EYUL	**Yuli**	**1.02**	**7**	*e*P			Pb	18 18 11.1	+0.4
	baz=7.0								
TWF1	**Yuli**	**1.02**	**6**	*e*P			Pn	18 18 10.7	0.0
	baz=6.0								
WTP	**Ta-pu**	**1.04**	**330**	*e*P			Pb	18 18 11.4	+0.2
	baz=330								
SNST	**Tainan City**	**1.08**	**325**	*e*P			Pn	18 18 11.6	0.0
	baz=324								
TPUB	**Ta-pu**	**1.09**	**332**	*e*P			Pb	18 18 12.1	+0.2
	baz=332								
ALS	**Alishan**	**1.22**	**344**	*e*

baz=357
STYH Taoyuan 0.58 293 *i* P Pn 18 18 15.7 +1.0
baz=293
STYH *i* S Sn 18 18 24.2 +1.2
baz=293
SLGT Liugui 0.66 274 P Pn 18 18 17.4 +1.7
baz=274
SLGT S Sn 18 18 27.9 +3.0
baz=274
SSD Sandimen 0.70 254 *e*P Pn 18 18 15.9 -0.3
baz=253
SSD S Sn 18 18 25.8 -0.1
baz=253
EGFH Guangfu 0.72 5 *e*P Pn 18 18 17.3 +0.7
baz=5.0
SGST Jiashian 0.72 281 *e*P Pn 18 18 17.5 +0.8
baz=280
EAST Anshuo 0.73 220 *e*P Pn 18 18 17.6 +0.9
baz=219
ALS Alishan 0.76 318 P Pn 18 18 19.0 +1.6
baz=318
VWDT VWDT 0.83 346 P Pn 18 18 18.2 +0.2
baz=346
VWDT *e*S Sn 18 18 29.4 +0.3
baz=346
ESL Shilin 0.87 5 P Pn 18 18 18.9 +0.3
baz=5.0
SCZT Fangliau 0.89 230 *e*P Pn 18 18 19.4 +0.5
baz=229
SCZT *e*S Sn 18 18 32.1 +1.6
baz=229
SSLB Suanglung 0.92 336 *e*P Pn 18 18 20.0 +0.7
baz=336
SSLB *e*S Sn 18 18 31.7 +0.4
baz=336
OWD Renai 1.02 351 *e*P Pn 18 18 21.8 +1.0
baz=350
SMLT Sun Moon Lake 1.02 336 P Pn 18 18 22.2 +1.3
baz=336
SMLT S Sn 18 18 35.2 +1.2
baz=336
ETM Tongmen 1.02 7 *e*P Pn 18 18 20.6 -0.1
baz=7.0
WJS Zhushan 1.05 327 *e*P Pn 18 18 22.6 +1.5
baz=326
TYC Yuchr 1.06 334 P Pn 18 18 23.5 +2.3
baz=334
WUSB Renai 1.06 348 P Pn 18 18 21.8 +0.3
baz=348
WUSB *e*S Sn 18 18 34.4 -0.7
baz=348
LXIB Xiulin Townshi 1.07 3 *e*P Pn 18 18 20.6 -1.0
baz=2.0
WNT Mingjian 1.11 327 *e*P Pn 18 18 24.2 +2.2
baz=326
CHGB Renai 1.12 351 *e*P Pn 18 18 22.3 0.0
baz=351
WCS Beigang Elemen 1.18 340 *e*P Pn 18 18 24.7 +1.8
baz=339
NACB Ninganchiao 1.24 10 *e*P Pn 18 18 24.7 +0.9
baz=10.0
ETLH Xiulin Townshi 1.26 5 *e*P Pn 18 18 24.5 +0.4
baz=5.0

TAP 01 18:18:15.3, 22.˙58N×121.˙10E, h5km±1km, ML1.6, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECL	**Taimali** baz=278	**0.14**	**278**	P	Pg	18 18 19.3	+1.2
TTN	**Taitung** baz=16	**0.18**	**14**	P	Pg	18 18 19.4	+0.6
TTN	baz=16			S	Sg	18 18 22.6	+1.3
TAW	**Tawu** baz=219	**0.29**	**221**	P	Pb	18 18 22.7	-0.3
TAW	baz=219			S	Sb	18 18 26.9	-1.2
EAST	**Anshuo** baz=229	**0.30**	**230**	*i* P	Pb	18 18 22.9	-0.3
EAST	baz=229			*i* S	Sb	18 18 27.0	-1.5
TAWH	**Dawu Township** baz=219	**0.31**	**220**	P	Pb	18 18 22.7	-0.6
TAWH	baz=219			S	Sb	18 18 27.4	-1.2
TSMG	**Majia** baz=286	**0.44**	**287**	*e*P	Pb	18 18 26.0	+0.4
TSMG	baz=286			S	Sb	18 18 32.6	+0.1
SSD	**Sandimen** baz=291	**0.46**	**291**	P	Pb	18 18 26.6	+0.7
SSD	baz=291			S	Sb	18 18 32.6	-0.6
SCZT	**Fangliau** baz=244	**0.49**	**245**	*e*P	Pb	18 18 26.8	+0.4
SCZT	baz=244			S	Sb	18 18 33.5	-0.4
FULB	**Fuli** baz=16	**0.64**	**16**	*e*P	Pb	18 18 29.1	+0.1
HEN	**Hengchun** baz=209	**0.66**	**211**	*e*P	Pb	18 18 29.4	+0.1
HEN	baz=209			*e*S	Sb	18 18 37.9	-0.9
STYH	**Taoyuan** baz=333	**0.66**	**333**	*e*P	Pb	18 18 29.5	+0.2
TWKBT	**Hengchun** baz=202	**0.69**	**203**	*e*P	Pb	18 18 29.3	-0.5
TSEB	**Hengchuen, Pin** baz=198	**0.70**	**195**	*e*P	Pb	18 18 30.5	+0.5

*NEIC **01** 18:28:38.0±2.2, 24.˙8S±0.˙2×116.˙3W±0.˙1, h10km±2km, mb4.6/22, Error ellipse: s-maj=30.5km s-min=16.8km az=198.0*
*IDC **01** 18:28:41.2±1.4, 24.˙16S×116.˙02W, h0km, mb3.8/3, mbtmp3.8/3, MS3.7/13, Error ellipse: s-maj=50.7km s-min=39.9km az=25.0*
ISC 01 18:28:41.6±1.2, 24.˙4S±0.˙2×115.˙8W±0.˙2, h12km, n47, σ1§47/29, mb4.5/14, MS3.7/12, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**6.34**	**117**	Pn	**Pn**	**18 30 14.8**	**0.0**
RPN	**Rapa Nui** comp=Z,558nm,19.2s,baz=330,slow=31	**6.41**	**116**	LR	LR	18 32 09.2	
PTCN	**Pitcairn Islan**	**13.03**	**264**	Pn	Pn	18 31 34.8	-12
H03N2	**Juan Fernandez** baz=280,slow=75	**33.34**	**114**	T	T	19 10 50.1	
H03N3	**Juan Fernandez** baz=280,slow=75	**33.34**	**114**	T	T	19 10 54.2	
H03N1	**Juan Fernandez** baz=280,slow=75	**33.35**	**114**	T	T	19 10 53.9	
NNA	**Nana**	**38.87**	**79**	P	**P**	**18 36 05.9**	**-1.2**
NNA	**Nana** comp=Z,114nm,18.1s,baz=210,slow=30	**38.87**	**79**	LR	LR	18 48 16.9	
GO05	**Huala**	**39.25**	**116**	P	**P**	**18 36 10.2**	**+0.1**
LL04	**Puerto Octay**	**39.61**	**125**	P	**P**	**18 36 10.1**	**-2.9**
LL04	comp=Z,14nm,1.0s			IAmb	IAmb	18 36 23.4	
ATAH	**Atahualpa** comp=Z,49nm,18.4s,baz=232,slow=30	**39.69**	**71**	LR	LR	18 48 34.6	
AC04	**Llanos de Chal**	**40.08**	**105**	P	**P**	**18 36 17.1**	**0.0**
CO03	**El Pedregal**	**40.25**	**109**	P	**P**	**18 36 17.5**	**-1.1**
CO03	comp=Z,15nm,1.4s			IAmb	IAmb	18 36 31.3	
LL02	**Futaleuf**	**40.49**	**129**	P	**P**	**18 36 18.8**	**-1.5**
PLCA	**Paso Flores** comp=Z,119nm,20.1s,baz=220,slow=30	**40.97**	**125**	LR	LR	18 49 08.7	
AC02	**Maricunga**	**41.95**	**104**	P	**P**	**18 36 33.7**	**+0.6**
LVC	**Limon Verde** comp=Z,106nm,20.4s,baz=241,slow=30	**42.86**	**97**	LR	LR	18 50 01.5	
GO01	**Chusmiza**	**43.29**	**93**	P	**P**	**18 36 43.0**	**-1.0**
GO01	comp=Z,8.7nm,0.9s			IAmb	IAmb	18 37 23.9	
LPAZ	**La Paz**	**45.22**	**89**	P	**P**	**18 37 03.4**	**+3.7**
LPAZ	**La Paz** comp=Z,2.3nm,0.9s,baz=258,slow=6.3,SNR=5.8	**45.22**	**89**	P	**P**	**18 37 03.0**	**+3.3**
LPAZ	comp=Z,54nm,19.2s,baz=237,slow=31 comp=Z,2.3nm,0.9s			LR	LR	18 52 03.2	
CPUP	**Villa Florida** comp=Z,75nm,21.8s,baz=218,slow=31	**52.45**	**105**	LR	LR	18 56 01.3	
SAND	**Sanderson**	**55.63**	**14**	P	**P**	**18 38 18.5**	**+1.0**
SAND	comp=Z,7.1nm,1.3s			IAmb	IAmb	18 38 20.4	
425A	**Indio Mountain**	**55.86**	**11**	P	**P**	**18 38 18.0**	**-1.2**
425A	comp=Z,7.2nm,1.4s			IAmb	IAmb	18 38 27.6	
MNTX	**Cornudas Mount**	**56.68**	**11**	P	**P**	**18 38 23.7**	**-1.2**
JCT	**Junction City**	**56.70**	**17**	P	**P**	**18 38 24.1**	**-1.0**
JCT	comp=Z,6.4nm,0.8s			IAmb	IAmb	18 38 27.1	
121A	**Cookes Peak, D**	**57.15**	**8**	P	**P**	**18 38 27.5**	**-0.9**
121A	comp=Z,7.8nm,1.2s			IAmb	IAmb	18 38 32.8	
BRDY	**Brady**	**57.68**	**17**	P	**P**	**18 38 32.4**	**+0.5**
BRDY	comp=Z,5.6nm,1.2s			IAmb	IAmb	18 38 38.0	
ANMO	**Albuquerque** comp=Z,64nm,19.1s,baz=310,slow=32	**59.70**	**9**	LR	LR	19 00 40.8	
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.6s,baz=181,slow=8.1,SNR=6.8	**62.56**	**358**	P	**P**	**18 39 06.3**	**+0.7**
NVAR	comp=Z,69nm,18.1s,baz=272,slow=31 comp=Z,0.4nm,0.6s			LR	LR	19 01 07.2	
BDFB	**Brasilia** comp=Z,58nm,21.4s,baz=243,slow=32	**63.74**	**96**	LR	LR	19 02 42.2	
DUG	**Dugway, Tooele**	**64.34**	**3**	P	**P**	**18 39 15.1**	**-2.2**
DUG	comp=Z,5.6nm,1.2s			IAmb	IAmb	18 39 33.2	
ISCO	**Idaho Springs**	**64.59**	**9**	P	**P**	**18 39 20.2**	**+1.1**
ISCO	comp=Z,5.3nm,1.3s			IAmb	IAmb	18 39 21.6	
N23A	**Red Feather La**	**65.62**	**8**	P	**P**	**18 39 26.9**	**+1.2**
ID10	**Lander Cutoff**	**66.76**	**4**	P	**P**	**18 39 32.2**	**-0.7**
ID10	comp=Z,5.6nm,0.9s			IAmb	IAmb	18 39 33.7	
PD31	**Pinedale Array**	**67.10**	**5**	P	**P**	**18 39 34.1**	**-1.0**
PDAR	**Pinedale Array**	**67.10**	**5**	P	**P**	**18 39 34.5**	**-0.5**
PDAR	**Pinedale Array** comp=Z,0.7nm,0.7s,baz=161,slow=6.7,SNR=9.2 comp=Z,0.7nm,0.7s	**67.10**	**5**	P	**P**	**18 39 34.7**	**-0.4**
MDP	**Montagnes des** comp=Z,35nm,18.9s,baz=210,slow=34	**68.04**	**73**	LR	LR	19 06 43.6	
DZM	**Mont Dzumac** comp=Z,60nm,19.3s,baz=113,slow=29	**70.57**	**254**	LR	LR	19 02 43.4	
H11S2	**WAKE ISLAND Hy** baz=117,slow=74	**86.71**	**292**	T	T	20 16 55.9	
H11S1	**WAKE ISLAND Hy** baz=117,slow=74	**86.72**	**292**	T	T	20 16 49.4	
H11S3	**WAKE ISLAND Hy** baz=117,slow=74	**86.72**	**292**	T	T	20 16 54.7	
SHEM	**Shemya Is, Ala** comp=Z,62nm,18.7s,baz=61,slow=31	**97.92**	**325**	LR	LR	19 19 48.7	
ZALV	**Zalesovo Beam** comp=Z,1.5nm,0.8s,baz=29,slow=3.3,SNR=7.9	**146.72**	**338**	PKPbc	**PKPdf**	**18 48 21.8**	**+0.4**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.8s,baz=111,slow=1.3,SNR=7.0	**147.20**	**266**	PKPbc	**PKPbc**	**18 48 26.5**	**+1.0**
BVAR	**Borovoye Array** comp=Z,2.5nm,1.0s,baz=354,slow=1.4,SNR=6.4	**151.06**	**352**	PKPbc	**PKiKP**	**18 48 35.1**	**+0.4**
KURBB	**Kurchatov Arra** comp=Z,2.4nm,1.0s,baz=23,slow=1.9,SNR=12	**151.59**	**341**	PKPbc	**PKPbc**	**18 48 35.9**	**+0.4**

*NOU **01** 18:32:23.6, 33.˙58S×175.˙65W, h40km, mb5.0/21, South of Kermadec Islands*
*WEL **01** 18:32:33.0±1.4, 33°S±7°×17°8W±2°1, h33km, M5.0/6, mB5.3/4, ML5.3/9, MLv5.1/6, Mw(mB)4.7/4, Error ellipse: s-maj=0.0km s-min=0.0km az=105.3, confirmed*
*NEIC **01** 18:32:40.0±2.7, 33.˙0S±0.˙1×178.˙3W±0.˙2, h35km±2km, mb4.7/19, Error ellipse: s-maj=28.2km s-min=17.4km az=107.0*
*IDC **01** 18:32:42.8±3.5, 33.˙05S×178.˙48W, h51km±29km, mb4.2/9, mbtmp4.4/10, ML5.4/1, MS3.9/17, Error ellipse: s-maj=24.2km s-min=18.8km az=166.0*
ISC 01 18:32:40.2±0.6, 33.˙46S±0.˙06×178.˙29W±0.˙09, h35km, n150, σ1§91/138, mb4.9/34, MS3.9/18, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.19**	**4**	P	Pn	18 33 32.4	-9.2
GLKZ				S	Sn	18 34 15.4	-14
RAO	**Raoul Island**	**4.20**	**4**	Pn	Pn	18 33 34.5	-7.2
RAO	**Raoul Island** 431nm,0.5s,baz=256,slow=23,SNR=2.2	**4.20**	**4**	S	Sn	18 34 17.6	-12
MXZ	**Matakaoa Point**	**4.95**	**213**	Pn	**Pn**	**18 33 52.2**	**+0.2**
WMGZ	**Waiomatatini S**	**5.12**	**211**	P	**Pn**	**18 33 55.7**	**+1.4**
WMGZ				S	Sn	18 34 59.6	+7.5
PKGZ	**Pakihiroa**	**5.32**	**213**	P	**Pn**	**18 33 56.0**	**-1.2**
HAZ	**Te Kaha**	**5.35**	**216**	P	**Pn**	**18 33 58.5**	**+1.0**
HAZ				S	Sn	18 35 04.8	+6.8
PUZ	**Puketiti**	**5.40**	**210**	P	**Pn**	**18 33 58.5**	**+0.4**
RUGZ	**Raukumara Rang**	**5.57**	**215**	P	**Pn**	**18 34 00.2**	**-0.4**
TWGZ	**Tauwhareparae**	**5.60**	**212**	P	**Pn**	**18 34 02.7**	**+1.7**
KUZ	**Kuaotunu**	**5.91**	**235**	P	**Pn**	**18 34 08.1**	**+2.9**
URZ	**Urewera**	**6.08**	**217**	P	**Pn**	**18 34 08.8**	**+1.4**
URZ	**Urewera** 62nm,0.6s,baz=11,slow=2.9,SNR=30	**6.08**	**217**	P	**Pn**	**18 34 08.3**	**+0.9**
URZ	150nm,0.7s,baz=164,slow=22,SNR=11			S	**Sn**	**18 35 19.8**	**+4.1**
RTZ	**Ruatahuna**	**6.42**	**215**	Pn	**Pn**	**18 34 13.1**	**+0.9**
TOZ	**Tahuroa Road**	**6.62**	**228**	Pn	**Pn**	**18 34 14.7**	**-0.2**
TOZ	**Tahuroa Road**	**6.62**	**228**	P	**Pn**	**18 34 17.7**	**+2.8**
OUZ	**Omahuta**	**6.94**	**253**	P	**Pn**	**18 34 22.8**	**+3.4**
BKZ	**Black Stump Fm**	**7.09**	**215**	Pn	**Pn**	**18 34 20.8**	**-0.6**
BKZ	**Black Stump Fm**	**7.09**	**215**	P	**Pn**	**18 34 23.2**	**+1.8**
KRHZ	**Kereru**	**7.52**	**213**	P	**Pn**	**18 34 24.7**	**-2.6**
KRHZ				S	**Sn**	**18 35 49.9**	**-1.5**
BHHZ	**Black Hill Sta**	**7.55**	**215**	P	**Pn**	**18 34 27.2**	**-0.5**
BHHZ				S	**Sn**	**18 35 49.9**	**-2.2**
WPHZ	**Waipukurau**	**7.83**	**211**	P	**Pn**	**18 34 28.9**	**-2.7**
WPHZ				S	**Sn**	**18 35 57.5**	**-1.6**
TSZ	**Takapari Road**	**8.04**	**213**	P	**Pn**	**18 34 29.8**	**-4.7**
TSZ				S	**Sn**	**18 36 01.7**	**-2.5**
POWZ	**Post Office Ro**	**8.40**	**213**	P	Pn	18 34 24.7	-15
MRZ	**Mangatainoka R**	**8.70**	**213**	P	**Pn**	**18 34 41.6**	**-1.9**
HOWZ	**Holdsworth Sta**	**8.92**	**212**	P	**Pn**	**18 34 45.0**	**-1.6**
HOWZ				S	**Sn**	**18 36 21.1**	**-4.7**
RPZ	**Rata Peaks** 6.5nm,0.5s,baz=19,slow=16,SNR=1.7	**13.20**	**216**	P	**Pn**	**18 35 42.9**	**-2.1**
RPZ	23nm,0.8s,baz=10,slow=18,SNR=6.2			S	Sn	18 38 00.3	-10
MLZ	**Mavora Lakes**	**15.84**	**217**	Pn	**P**	**18 36 21.3**	**-2.6**
MSVF	**Nonsavu** 0.6nm,0.3s,baz=212,slow=19,SNR=1.9 0.9nm,0.3s	**16.00**	**347**	P	**Pn**	**18 36 18.0**	**-4.7**
OUENC	**Ouen Island, N** 67nm,1.9s	**17.11**	**306**	P	**P**	**18 36 41.6**	**+3.6**
YATNC	**Mamie plateau,**	**17.33**	**307**	P	**P**	**18 36 45.2**	**+4.8**
DZM	**Mont Dzumac** 91nm,1.1s	**17.62**	**306**	*e*Pn	**Pn**	**18 36 43.7**	**+0.7**
DZM	comp=Z,708nm,24.6s			*e*LR	LR	18 40 53.6	
DZM	**Mont Dzumac**	**17.62**	**306**	P	**P**	**18 36 47.3**	**+3.6**
DZM	**Mont Dzumac** 31nm,0.9s,baz=115,slow=16,SNR=12	**17.62**	**306**	P	**P**	**18 36 44.5**	**+0.8**
DZM	comp=Z,653nm,18.7s,baz=135,slow=34			LR	LR	18 42 20.0	
NOUC	**Port Laguerre** 29nm,1.5s	**17.69**	**306**	P	**P**	**18 36 47.0**	**+2.5**
KOUNC	**Koumac, New Ca**	**20.12**	**305**	P	Pn	18 37 15.8	+2.7
RAR	**Rarotonga** comp=Z,220nm,19.0s,baz=224,slow=35	**20.44**	**58**	LR	LR	18 44 30.8	
MGCD	**Mangrove Creek** baz=29	**25.53**	**262**	P	**P**	**18 38 08.1**	**+2.6**
ARMA	**Armidale** baz=29	**25.67**	**269**	P	**P**	**18 38 10.7**	**+3.7**
ARMA	**Armidale**	**25.67**	**269**	P	**P**	**18 38 07.5**	**+0.6**
CNB	**Canberra Magne** baz=30,SNR=5.0	**26.70**	**257**	P	**P**	**18 38 18.9**	**+2.7**
CAN	**Canberra**	**27.00**	**257**	P	**P**	**18 38 20.0**	**+1.1**
CAN	comp=Z,14nm,1.1s			IAmb	IAmb	18 38 33.9	
TBI	**Tubuai** comp=Z,5μm,23.0s	**27.20**	**76**	*e*LR	LR	18 45 19.7	
TBI	comp=Z,2μm,28.2s			*e*LR	LR	18 45 31.1	
YNG	**Young** baz=31	**27.61**	**259**	P	**P**	**18 38 26.0**	**+1.7**
EIDS	**Eidsvold** baz=31,SNR=3.5	**27.80**	**279**	P	**P**	**18 38 27.3**	**+1.3**
EIDS	**Eidsvold**	**27.80**	**279**	P	**P**	**18 38 26.2**	**+0.2**
AULRC	**Lightning Ridg** comp=Z,32nm,1.4s	**28.98**	**269**	P	**P**	**18 38 39.8**	**+3.3**
TOO	**Toolangi**	**29.65**	**252**	P	**P**	**18 38 43.1**	**+0.7**
TOO				IAmb	IAmb	18 38 45.6	
	comp=Z,16nm,1.1s						
PPT2	**Papeete2** comp=Z,182nm,20.8s	**30.21**	**66**	*e*LR	LR	18 46 45.8	
PPT2	comp=Z,238nm,23.2s			*e*LR	LR	18 46 53.2	
CMSA	**Cobar Meteorol** baz=34,SNR=5.1	**30.35**	**264**	P	**P**	**18 38 50.5**	**+1.9**
CMSA	**Cobar Meteorol**	**30.35**	**264**	P	**P**	**18 38 51.2**	**+2.6**
HNR	**Honiara** comp=Z,1μm,19.9s,baz=160,slow=31	**31.20**	**315**	LR	LR	18 48 51.0	
ARPS	**Mount Arapiles** baz=36	**32.62**	**253**	P	**P**	**18 39 10.5**	**+1.9**
QLP	**Quilpie** baz=37,SNR=4.3	**33.04**	**272**	P	**P**	**18 39 13.0**	**+0.8**
QLP	**Quilpie** comp=Z,31nm,0.9s	**33.04**	**272**	P	**P**	**18 39 14.0**	**+1.7**
STKA	**Stephens Creek** comp=Z,1.7nm,0.6s,baz=103,slow=6.6,SNR=6.0	**33.67**	**261**	P	**P**	**18 39 18.6**	**+0.9**
STKA	comp=Z,423nm,18.1s,baz=55,slow=36 comp=Z,1.7nm,0.6s			LR	LR	18 52 47.0	
CTA	**Charters Tower** comp=Z,95nm,19.0s,baz=88,slow=33	**34.17**	**284**	LR	LR	18 51 27.0	
CTAO	**Charters Tower**	**34.17**	**284**	P	**P**	**18 39 22.7**	**+0.5**
CTAO	comp=Z,15nm,0.8s			IAmb	IAmb	18 39 23.9	
CTAO	**Charters Tower** comp=Z,18nm,0.7s	**34.17**	**284**	P	**P**	**18 39 23.6**	**+1.4**
HTT	**Hallett** baz=39,SNR=8.9	**35.52**	**258**	P	**P**	**18 39 34.8**	**+1.0**
INKA	**Innaminka** comp=Z,38nm,0.8s	**35.55**	**268**	P	**P**	**18 39 36.0**	**+1.9**
WHYH	**Whyalla** comp=Z,29nm,0.7s	**36.71**	**258**	P	**P**	**18 39 45.1**	**+1.2**
MTSU	**Mount Surprise** baz=40,SNR=12	**36.74**	**285**	P	**P**	**18 39 45.2**	**+0.8**
MTSU	**Mount Surprise** comp=Z,11nm,0.9s	**36.74**	**285**	P	**P**	**18 39 45.4**	**+1.0**
LCRK	**Leigh Creek** comp=Z,43nm,1.0s	**36.83**	**263**	P	**P**	**18 39 45.7**	**+0.7**
BBOO	**Buckleboo** baz=42,SNR=8.9	**38.00**	**258**	P	**P**	**18 39 54.9**	**0.0**
BBOO	**Buckleboo**	**38.00**	**258**	P	**P**	**18 39 54.4**	**-0.4**
BBOO	comp=Z,14nm,0.9s			IAmb	IAmb	18 39 55.6	
QIS	**Mount Isa** baz=43,SNR=12	**39.40**	**278**	P	**P**	**18 40 06.9**	**+0.2**
QIS	**Mount Isa** comp=Z,18nm,1.0s	**39.40**	**278**	P	**P**	**18 40 07.0**	**+0.2**
OOD	**Oodnadatta**	**39.76**	**265**	P	**P**	**18 40 10.5**	**+0.9**
COEN	**Coen**	**39.97**	**290**	P	**P**	**18 40 11.4**	**-0.1**
COEN	comp=Z,9.3nm,0.8s			IAmb	IAmb	18 40 12.6	
MULG	**Mulgathing** comp=Z,28nm,0.9s	**40.32**	**261**	P	**P**	**18 40 14.3**	**0.0**
AS31	**Alice Springs**	**42.79**	**270**	P	**P**	**18 40 34.1**	**-0.6**
AS31	comp=Z,7.2nm,0.7s			IAmb	IAmb	18 40 35.2	
ASAR	**Alice Springs**	**42.79**	**270**	P	**P**	**18 40 34.0**	**-0.7**
ASAR	**Alice Springs** comp=Z,24nm,0.7s,baz=109,slow=7.4,SNR=352	**42.79**	**270**	P	**P**	**18 40 34.4**	**-0.3**
ASAR	comp=Z,3.3nm,0.9s,baz=127,slow=4.5,SNR=4.5			PcP	**PcP**	**18 42 25.4**	**-0.3**
ASAR	comp=Z,1.3nm,0.9s,baz=118,slow=16,SNR=8.5			S	**S**	**18 46 54.2**	**-2.3**
ASAR	comp=Z,79nm,18.2s,baz=134,slow=34 comp=Z,24nm,0.7s			LR	LR	18 57 01.6	
WR0	**Warramunga Arr**	**43.88**	**276**	P	**P**	**18 40 42.5**	**-0.9**
WR0	comp=Z,16nm,0.9s			IAmb	IAmb	18 40 43.8	
WC3	**Warramunga Arr** baz=48	**44.02**	**275**	P	**P**	**18 40 44.1**	**-0.5**
WB2	**Warramunga Arr**	**44.05**	**275**	P	**P**	**18 40 40.8**	**-4.0**
WB2	comp=Z,17nm,0.8s			IAmb	IAmb	18 40 45.1	
WRAB	**Tennant Creek** comp=Z,21nm,0.9s	**44.05**	**275**	P	**P**	**18 40 44.3**	**-0.5**
WRA	**Warramunga Arr**	**44.06**	**275**	P	**P**	**18 40 42.5**	**-2.4**
WRA	**Warramunga Arr** comp=Z,20nm,0.9s,baz=116,slow=7.5,SNR=89	**44.06**	**275**	P	**P**	**18 40 44.1**	**-0.8**
WRA	comp=Z,2.1nm,1.0s,baz=129,slow=3.4,SNR=2.3			PcP	**PcP**	**18 42 29.7**	**-0.2**
WRA	comp=Z,0.8nm,1.0s,baz=115,slow=14,SNR=3.4			S	**S**	**18 47 09.8**	**-5.2**
WRA	comp=Z,173nm,21.8s,baz=346,slow=35 comp=Z,20nm,0.9s			LR	LR	18 58 17.6	
WB0	**Warramunga Arr**	**44.09**	**276**	P	**P**	**18 40 44.1**	**-1.1**
FORT	**Forrest** baz=49	**45.10**	**258**	P	**P**	**18 40 52.5**	**-0.6**
FORT	**Forrest**	**45.10**	**258**	P	**P**	**18 40 52.1**	**-1.0**
WRKA	**Warakurna** baz=50,SNR=18	**46.93**	**266**	P	**P**	**18 41 06.8**	**-0.8**
WRKA	**Warakurna** comp=Z,25nm,0.9s	**46.93**	**266**	P	**P**	**18 41 06.6**	**-1.0**
JAY	**Jayapura** comp=Z,81nm,18.5s,baz=272,slow=37	**49.14**	**300**	LR	LR	19 02 29.5	
KDU	**Kakadu** baz=53,SNR=8.5	**49.28**	**283**	P	**P**	**18 41 24.3**	**-1.4**
KDU	**Kakadu** comp=Z,10nm,0.7s	**49.28**	**283**	P	**P**	**18 41 25.3**	**-0.4**
KNRA	**Kununurra** baz=54,SNR=6.5	**50.76**	**277**	P	**P**	**18 41 36.6**	**-0.4**
KNRA	**Kununurra**	**50.76**	**277**	P	**P**	**18 41 35.4**	**-1.6**
KNRA	comp=Z,12nm,0.8s			IAmb	IAmb	18 41 48.5	
CASY	**Casey**	**52.34**	**209**	P	**P**	**18 41 50.4**	**+2.3**
MEEK	**Meekatharra** baz=58,SNR=4.1	**54.32**	**259**	P	**P**	**18 42 02.6**	**-0.7**
FAKI	**Fak Fak** comp=Z,22nm,0.9s	**55.22**	**292**	P	**P**	**18 42 08.2**	**-1.7**
PSA00	**Pilbara Seismi**	**55.42**	**265**	P	**P**	**18 42 09.1**	**-2.2**
PSA00	comp=Z,9.3nm,1.1s			IAmb	IAmb	18 42 23.1	
MBWA	**Marble Bar**	**55.70**	**266**	P	**P**	**18 42 11.6**	**-1.8**
MBWA	comp=Z,6.6nm,1.1s			IAmb	IAmb	18 42 16.5	
QSPA	**South Pole Qui**	**56.66**	**180**	P	**P**	**18 42 23.5**	**+3.8**
SIJI	**Sorong** comp=Z,86nm,18.9s,baz=117,slow=36	**57.28**	**294**	LR	LR	19 06 44.2	
KAPI	**Kappang** comp=Z,90nm,18.2s,baz=132,slow=37	**63.95**	**282**	LR	LR	19 12 05.1	
MAW	**Mawson** comp=Z,2.4nm,0.8s,baz=34,slow=4.9,SNR=4.7 comp=Z,2.4nm,0.8s	**69.37**	**201**	P	**P**	**18 43 46.1**	**+2.3**
LEM	**Lembang** comp=Z,87nm,19.4s,baz=165,slow=37	**73.00**	**273**	LR	LR	19 17 26.1	
SNAA	**Sanae** comp=Z,195nm,1.0s	**75.12**	**179**	⇑P	P	18 44 31.1	+13
SNAA	**Sanae** comp=Z,2.5nm,0.8s,baz=219,slow=11,SNR=2.4 comp=Z,2.5nm,0.8s	**75.12**	**179**	P	**P**	**18 44 21.0**	**+2.8**
VNA3	**Neumayer Olymp** comp=Z,25nm,0.7s	**75.28**	**176**	⇑P	P	18 44 32.7	+14
VNA2	**Neumayer--Watz** comp=Z,25nm,0.7s,baz=179,slow=4.0	**75.71**	**177**	⇑P	P	18 44 35.9	+14
VNA1	**Neumayer--Stat**	**75.94**	**177**	⇑P	P	18 44 37.3	+14
PLCA	**Paso Flores** comp=Z,94nm,18.1s,baz=184,slow=31	**80.61**	**133**	LR	LR	19 14 33.2	
MJAR	**Matsushiro Arr** comp=Z,1.6nm,1.0s,baz=130,slow=5.3,SNR=3.0 comp=Z,1.6nm,1.0s	**80.62**	**326**	P	**P**	**18 44 46.7**	**-2.4**
KSRS	**Korea Array** comp=Z,1.4nm,0.9s,baz=144,slow=6.4,SNR=3.2 comp=Z,1.4nm,0.9s	**86.52**	**320**	P	**P**	**18 45 16.7**	**-2.6**
PETK	**Petropavlovsk-** comp=Z,6.8nm,1.0s,baz=148,slow=8.5,SNR=4.6 comp=Z,6.8nm,1.0s	**88.70**	**346**	P	**P**	**18 45 28.8**	**-0.6**
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.8s,baz=228,slow=6.7,SNR=3.5 comp=Z,0.8nm,0.8s	**90.64**	**43**	P	**P**	**18 45 39.6**	**+0.4**
LVC	**Limon Verde** comp=Z,48nm,21.7s,baz=318,slow=30	**92.67**	**119**	LR	LR	19 18 43.7	
CMAR	**Chiang Mai Arr** comp=Z,0.2nm,0.3s,baz=137,slow=6.6,SNR=4.6	**94.17**	**289**	PP	**PP**	**18 49 41.7**	**-1.2**
CMAR	comp=Z,18nm,18.8s,baz=125,slow=38			LR	LR	19 31 31.3	
MA2	**Magadan** comp=Z,39nm,18.2s,baz=127,slow=35	**96.17**	**345**	LR	LR	19 29 08.8	
CPUP	**Villa Florida** comp=Z,84nm,18.8s,baz=219,slow=32	**98.27**	**129**	LR	LR	19 25 41.6	
PDAR	**Pinedale Array** comp=Z,46nm,18.3s,baz=222,slow=32	**98.50**	**44**	LR	LR	19 25 13.2	
MKAR	**Makanchi Array** comp=Z,0.7nm,0.7s,baz=145,slow=0.7,SNR=5.6	**119.52**	**309**	PKP	**PKPdf**	**18 51 24.4**	**-1.4**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.4s,baz=108,slow=3.2,SNR=2.2	**120.13**	**317**	PKP	**PKPdf**	**18 51 25.8**	**-0.8**

KURBB **Kurchatov Arra** 122.99 312 PKP **PKPdf** 18 51 31.1 -1.1
comp=Z,1.0nm,0.4s,baz=111,slow=2.0,SNR=13
BVAR **Borovoye Array** 128.38 314 **PKPdf** 18 51 41.7 -0.8
comp=Z,1.6nm,0.6s,baz=101,slow=3.0,SNR=7.3
ARCES **ARCESS Array B** 141.51 347 PKhKP PKPpre 18 52 01.9
comp=Z,2.4nm,0.9s,baz=54,slow=6.2,SNR=5.3
KBZ **Khabaz** 146.52 300 PKPbc **PKPbc** 18 52 17.1 -0.4
comp=Z,7.8nm,1.0s,baz=68,slow=5.4,SNR=8.5
FINES **FINESS Array B** 147.90 338 PKPbc **PKPbc** 18 52 20.3 -0.5
comp=Z,24nm,0.9s,baz=46,slow=3.8,SNR=65
MEF **Metsahovi** 149.38 338 *e*P **PKPbc** 18 52 24.4 -0.1
RAF **Rauma** 149.51 341 *e*P **PKiKP** 18 52 26.2 +0.2
VSU **Vasula** 149.88 334 *e*P **PKPdf** 18 52 21.8 +0.8
UPP **Uppsala** 151.58 343 *e*P **PKPab** 18 52 37.6 -0.8
NB2 **NORSAR Subarra** 151.72 350 PKP **PKPbc** 18 52 30.2 0.0
comp=Z,6.1nm,0.8s,baz=17,slow=2.6
NOA **NORSAR Array B** 151.72 350 PKPbc **PKPbc** 18 52 30.0 -0.2
comp=Z,3.0nm,0.8s,baz=14,slow=4.1,SNR=8.2
MMAI **Mount Meron Ar** 151.88 279 PKPbc **PKiKP** 18 52 33.0 +1.1
comp=Z,14nm,0.7s,baz=79,slow=4.3,SNR=26
IZAR **Zarasai** 151.96 330 *e*P **PKPbc** 18 52 29.2 -1.6
IDID **Didziasalis** 152.04 329 *e*P **PKPdf** 18 52 26.9 +2.5
ISAL **Salakas** 152.13 330 *e*P **PKPdf** 18 52 28.1 +3.5
HFS **Hagfors** 152.17 347 PKPbc **PKPbc** 18 52 30.3 -0.9
comp=Z,3.8nm,0.7s,baz=33,slow=3.4,SNR=8.3
IIGN **Ignalina** 152.24 329 *e*P **PKPdf** 18 52 27.9 +3.1
VSVD **Vaisvydziai** 152.73 332 *e*P **PKiKP** 18 52 33.4 +0.7
PABE **Paberze** 153.06 332 *e*P **PKPbc** 18 52 33.0 -0.2
AKASG **Malin Array Be** 153.51 319 PKPbc **PKPbc** 18 52 34.1 -0.4
comp=Z,0.8nm,0.4s,baz=43,slow=2.5,SNR=4.6
BRTR **Keskin Array B** 153.70 293 PKPbc **PKPbc** 18 52 35.8 +0.3
comp=Z,4.7nm,0.7s,baz=111,slow=3.6,SNR=4.9
BRTR PKPab **sPKPbc** 18 52 47.3 -0.6
comp=Z,2.5nm,0.7s,baz=98,slow=2.2,SNR=5.4
TORD **Torodi Ar. Bea** 159.78 180 PKPab **PKPab** 18 53 16.6 +2.0
comp=Z,1.9nm,0.9s,baz=160,slow=3.7,SNR=3.5
OSTC **Ostas** 159.86 332 *e*PKPAB **PKPab** 18 53 13.5 -0.8
DPC **Dobruska-Polom** 159.98 332 *e*PKPAB **PKPab** 18 53 14.2 -0.6
VYHS **Vyhne** 160.25 325 *e* **PKPab** 18 53 15.6 -0.4
CLL **Collm** 160.35 339 *i* PKPab **PKPab** 18 53 14.3 -2.0
comp=Z,6.0nm,1.1s
CLL *e*pPKPab **pPKPab** 18 53 26.0 +0.6
BRG **Berggiesshubel** 160.42 336 *e*P **PKPab** 18 53 16.5 -0.2
BRG Amp 18 53 18.5
comp=Z,4.6nm,1.0s
NKC **Novy Kostel** 161.46 338 *e*PKPAB **PKPab** 18 53 21.7 +0.5
ZVC **Zvikov** 161.53 334 *e*PKPAB **PKPab** 18 53 20.6 -1.0
CKRC **Cesky Krumlov** 161.99 332 *e*PKPAB **PKPab** 18 53 22.3 -1.3
KHC **Kasperske Hory** 162.01 334 *e*PKPAB **PKPab** 18 53 21.1 -2.6
GERES **GERESS Array B** 162.21 333 PKPab **PKPab** 18 53 22.6 -2.1
comp=Z,1.2nm,0.8s,baz=23,slow=5.3,SNR=5.7

*IDC **01** 18:35:46.5±4.8, 18°.08S×170°.49E, h210km±54km, mb3.4/4, mbtmp4.0/5, Error ellipse: s-maj=119.4km s-min=37.4km az=147.0*
*NOU **01** 18:36:06.7, 18°.76S×168°.88E, h179km, MLv3.6/11, Vanuatu Islands*
ISC 01 18:35:52.2±1.7, 18°.2S±0°.2×169°.9E±0°.3, h250km, n13, σ2§22/13, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.51**	**286**	P	Pn	18 36 35.5	+4.9
LIFNC	**LIFOU**	**3.60**	**225**	P	**Pn**	**18 36 49.7**	**-1.6**
MARNC	**Mare, Loyalty**	**3.71**	**209**	P	**Pn**	**18 36 52.2**	**-0.4**
YATNC	**Mamie plateau,**	**4.77**	**216**	P	**Pn**	**18 37 05.0**	**-0.2**
PINNC	**Pines Island,**	**4.95**	**208**	P	**Pn**	**18 37 09.3**	**+1.9**
DZM	**Mont Dzumac**	**5.04**	**220**	P	**Pn**	**18 37 07.9**	**-0.7**
DZM	**Mont Dzumac**	**5.04**	**220**	P	**Pn**	**18 37 07.4**	**-1.2**
	15nm,0.7s,baz=120,slow=16,SNR=9.1						
DZM				S	**S**	**18 38 05.4**	**-4.1**
	8.5nm,0.6s,baz=307,slow=20,SNR=1.7						
OUENC	**Ouen Island, N**	**5.09**	**214**	P	**Pn**	**18 37 09.5**	**+0.5**
NOUC	**Port Laguerre**	**5.15**	**221**	P	**Pn**	**18 37 09.3**	**-0.6**
STKA	**Stephens Creek**	**28.95**	**237**	P	**P**	**18 41 31.4**	**+2.7**
	1.2nm,0.5s,baz=78,slow=9.3,SNR=2.9						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**33.65**	**261**	P	**P**	**18 42 11.6**	**+1.7**
	0.8nm,0.8s,baz=97,slow=8.5,SNR=1.1						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**34.03**	**255**	P	**P**	**18 42 15.3**	**+2.2**
	3.6nm,0.5s,baz=79,slow=8.6,SNR=14						
	3.6nm,0.5s						
ILAR	**Eielson Array**	**89.07**	**17**	P	**P**	**18 48 15.8**	**-2.7**
	0.3nm,0.7s,baz=223,slow=4.0,SNR=2.5						
	0.3nm,0.7s						

*MEX **01** 18:56:05.3±1.0, 14°.49N×92°.04W, h82km±13km, MD4.2*
*GCG **01** 18:56:06.0±0.6, 14°.58N×92°.21W, h50km, MD3.9*
ISC 01 18:56:06.0±1.4, 14°.55N±0°.06×92°.19W±0°.04, h74km±9km, n26, σ2§44/48, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.36**	**349**	*i* P	**Pn**	**18 56 17.8**	**-0.3**
THIG				*i* S	**Sn**	**18 56 27.8**	**+0.8**
CHUJ	**Union Juarez**	**0.54**	**9**	*i* P	**Pn**	**18 56 19.2**	**-0.8**
CHUJ				*i* S	**Sn**	**18 56 30.0**	**-0.1**
PATR	**El Naranjo**	**0.56**	**356**	*i* P	**Pn**	**18 56 19.2**	**-0.9**
PATR				*i* S	**Sn**	**18 56 30.0**	**-0.4**
STG3	**Santiaguito 3,**	**0.62**	**75**	*e*P	**Pn**	**18 56 19.6**	**-1.1**
PAVE	**Pavencul**	**0.64**	**1**	*i* P	**Pn**	**18 56 20.4**	**-0.4**
PAVE				*i* S	**Sn**	**18 56 32.2**	**+0.4**
SULM	**Suchitepequez,**	**0.66**	**112**	*e*P	**Pn**	**18 56 19.7**	**-1.1**
FUG	**Fuego 3**	**1.31**	**94**	*e*S	**Sn**	**18 56 50.1**	**+4.1**
PCIG		**1.52**	**319**	*i* P	**Pn**	**18 56 32.0**	**+0.7**
PCIG				*i* S	**Sn**	**18 56 51.7**	**+1.3**
PCG	**Pacaya**	**1.54**	**96**	*e*P	**Pn**	**18 56 32.0**	**+0.1**
PCG				*e*S	**Sn**	**18 56 51.5**	**0.0**
CCIG	**Comitan**	**1.72**	**2**	*i* P	**Pn**	**18 56 36.3**	**+2.1**
CCIG				*e*S	**Sn**	**18 57 02.0**	**+6.4**
NILT	**Santiago Nilte**	**3.08**	**311**	*e*P	**Pn**	**18 56 53.5**	**+1.2**
NILT				*e*S	**Sn**	**18 57 29.1**	**+1.0**
UXUV	**UXUV**	**3.33**	**326**	*e*P	**Pn**	**18 56 57.0**	**+1.2**
UXUV				*e*S	**Sn**	**18 57 41.3**	**+7.1**
TUIG	**Tuzandepetl**	**4.07**	**329**	*e*P	**Pn**	**18 57 02.9**	**-3.0**
TUIG				*e*S	**Sn**	**18 57 50.8**	**-1.5**
SCIG	**Sabancuy**	**4.49**	**12**	*e*P	**Pn**	**18 57 11.3**	**-0.4**
SCIG				*e*S	**Sn**	**18 57 55.9**	**-6.7**
NEUV	**Arroyo Zacate**	**4.68**	**313**	*e*P	**Pn**	**18 57 16.1**	**+1.9**
NEUV				*e*S	**Sn**	**18 58 08.2**	**+0.9**
VHO	**Vista Hermosa**	**5.04**	**300**	*e*P	**Pn**	**18 57 18.2**	**-1.1**
VHO				*e*S	**Sn**	**18 58 14.6**	**-1.7**
YOIG	**Yosondua**	**5.64**	**295**	*e*P	**Pn**	**18 57 28.9**	**+1.3**
YOIG				*e*S	**Sn**	**18 58 28.9**	**-2.4**
TOIG	**Toxpalan**	**5.86**	**308**	*e*P	**Pn**	**18 57 31.7**	**+1.4**
TOIG				*e*S	**Sn**	**18 58 36.5**	**+0.3**
TXIG	**Tlaxiaco**	**6.00**	**297**	*e*P	**Pn**	**18 57 33.9**	**+1.4**
TXIG				*e*S	**Sn**	**18 58 37.9**	**-2.1**
PNIG	**Pinotepa**	**6.01**	**288**	*e*P	**Pn**	**18 57 33.1**	**+0.8**
PNIG				*e*S	**Sn**	**18 58 38.9**	**-0.9**
TPIG	**Tehuac#an**	**6.28**	**308**	*e*S	**Sn**	**18 58 44.6**	**-2.0**
HLIG	**Huajuapan de L**	**6.30**	**302**	*e*P	**Pn**	**18 57 37.3**	**+0.8**
HLIG				*e*S	**Sn**	**18 58 46.3**	**-1.0**
JAUV	**Jalcomulco**	**6.51**	**318**	*e*P	**Pn**	**18 57 35.2**	**-4.0**
JAUV				*e*S	**Sn**	**18 58 49.5**	**-2.7**
MGIG	**Malinaltepec**	**6.75**	**294**	*e*P	**Pn**	**18 57 45.1**	**+2.5**
MGIG				*e*S	**Sn**	**18 58 57.6**	**-0.6**
TLIG	**Tlapa**	**6.82**	**297**	*e*P	**Pn**	**18 57 44.8**	**+1.2**
TLIG				*e*S	**Sn**	**18 58 56.5**	**-3.3**
CXUV	**Coxquihui**	**7.60**	**318**	*e*P	**Pn**	**18 57 56.7**	**+2.5**
CXUV				*e*S	**Sn**	**18 59 17.5**	**-1.4**

*IDC **01** 19:10:03.5±1.5, 15°.60S×177°.60W, h413km±17km, mb3.2/9, mbtmp4.0/11, Error ellipse: s-maj=30.7km s-min=12.9km az=149.0*
ISC 01 19:10:02.6±0.7, 15°.5S±0°.2×177°.6W±0°.2, h400km, n14, σ1§17/13, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.76**	**242**	P	**Pn**	**19 11 25.0**	**+2.8**
	40nm,0.5s,baz=154,slow=23,SNR=65						
AFI	**Afiamalu**	**5.81**	**75**	P	**Pn**	**19 11 33.5**	**+0.2**
	31nm,0.5s,baz=150,slow=1.8,SNR=9.2						
STKA	**Stephens Creek**	**40.53**	**239**	P	**P**	**19 17 03.8**	**-1.2**
	2.3nm,0.7s,baz=82,slow=7.4,SNR=5.0						
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**45.92**	**257**	P	**P**	**19 17 46.3**	**-1.4**
	0.9nm,0.7s,baz=88,slow=6.7,SNR=11						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**46.27**	**252**	P	**P**	**19 17 49.5**	**-0.9**
	6.0nm,0.6s,baz=85,slow=8.1,SNR=116						
	6.0nm,0.6s						
VNDA	**Vanda**	**62.87**	**185**	P	**P**	**19 19 46.5**	**-0.7**
	0.5nm,0.6s,baz=349,slow=5.8,SNR=7.2						
	0.5nm,0.6s						
NVAR	**Mina Array Bea**	**77.14**	**44**	P	**P**	**19 21 14.3**	**+0.5**
	1.1nm,0.6s,baz=227,slow=8.3,SNR=9.0						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**83.40**	**13**	P	**P**	**19 21 45.2**	**-0.6**
	1.0nm,0.7s,baz=216,slow=6.4,SNR=10						
	1.0nm,0.7s						
ANMO	**Albuquerque**	**83.97**	**51**	P	**P**	**19 21 50.2**	**+0.6**
	1.2nm,0.8s,baz=302,slow=4.7,SNR=5.0						
	1.2nm,0.8s						
TXAR	**Lajitas Array**	**84.03**	**58**	P	**P**	**19 21 50.1**	**+0.2**
	1.0nm,0.8s,baz=224,slow=6.3,SNR=10						
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**85.06**	**43**	P	**P**	**19 21 54.9**	**0.0**
	0.1nm,0.3s,baz=223,slow=3.7,SNR=2.0						
	0.1nm,0.3s						
BRTR	**Keskin Array B**	**143.65**	**318**	PKP	PKPab	19 28 49.5	+0.2
	1.5nm,0.8s,baz=91,slow=2.6,SNR=6.7						
MMAI	**Mount Meron Ar**	**145.48**	**306**	PKPbc	**PKPdf**	**19 28 54.8**	**+0.4**
	0.3nm,0.4s,baz=46,slow=6.2,SNR=2.5						
GERES	**GERESS Array B**	**145.52**	**347**	PKPbc	**PKPdf**	**19 28 54.0**	**0.0**
	0.3nm,0.5s,baz=350,slow=4.0,SNR=2.2						

*IDC **01** 19:20:22.3±0.7, 30°.50N×130°.93E, h0km, mb4.2/24, mbtmp4.3/28, ML4.1/4, MS3.3/8, Error ellipse: s-maj=18.7km s-min=14.1km az=80.0*
*BJI **01** 19:20:25.2±0.0, 29°.91N×131°.43E, h62km, mb4.4/45, mB4.6/15, Ms3.9/2, Ms7 3.5/2*
*MOS **01** 19:20:26.0±0.8, 30°.45N×131°.06E, h44km, mb4.8/27, Error ellipse: s-maj=11.3km s-min=6.1km az=113.1*
*JMA **01** 19:20:27.5±0.1, 30°.4N±0°.3×131°.1E±0°.5, h38km, MD4.2/31, MV4.2/31, NEAR TANEGASHIMA ISLAND*
JMA Felt I J1 at NEAR TANEGASHIMA ISLAND .
*NIED **01** 19:20:27.5, 30°.38N×131°.13E, h38km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.34; $M_{\theta\theta}$-1.52; $M_{\phi\phi}$1.18; $M_{r\theta}$0.38; $M_{\theta\phi}$1.66; $M_{\phi r}$1.37; Fault plane solution: $M_0$2.56000×10^{15} NP1: ϕ_s337.00000°, δ74.00000°, λ153.00000°. NP2: ϕ_s75.00000°, δ65.00000°, λ18.00000°.*
*NEIC **01** 19:20:28.8±2.5, 30°.43N±0°.05×131°.06E±0°.06, h52km±7km, mb4.6/27 Error ellipse: s-maj=8.4km s-min=6.7km az=221.0*
*BGR **01** 19:20:34.6, 32°.81N×132°.40E, h33km, mb4.4*
ISC 01 19:20:27.2±0.6, 30°.38N±0°.04×131°.09E±0°.05, h42km±4km, n193, σ1§39/192, mb4.5/61, MS3.3/8, 2C-27D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMTN	**Minamitane**	**0.17**	**276**	⇓*i*P	**Pn**	**19 20 34.5**	**0.0**
JMTN				⇓*e*S	**Sn**	**19 20 39.5**	**0.0**
JMTN	**Minamitane**	**0.17**	**276**	A	A	19 20 34.5	
	comp=E,44nm,0.8s,comp=N,43nm,2.7s						
JTN	**Tanegashima 3**	**0.29**	**341**	⇓*i*P	**Pn**	**19 20 35.5**	**-0.1**
JTN				⇓*e*S	**Sn**	**19 20 41.3**	**0.0**
JTN	**Tanegashima 3**	**0.29**	**341**	A	A	19 20 35.5	
	comp=E,35nm,1.2s,comp=N,34nm,0.6s						
JYAK	**Yakushimahirau**	**0.52**	**254**	⇓*i*P	**Pn**	**19 20 38.8**	**+0.4**
JYAK				⇓*e*S	**Sn**	**19 20 47.2**	**+1.0**
JYAK	**Yakushimahirau**	**0.52**	**254**	A	A	19 20 38.8	
	comp=E,37nm,0.4s,comp=N,48nm,1.1s						
JKC	**Kuchinoerabu**	**0.78**	**276**	*i* P	**Pn**	**19 20 42.3**	**+0.6**
JKC				*e*S	**Sn**	**19 20 54.0**	**+1.7**
JKC	**Kuchinoerabu**	**0.78**	**276**	A	A	19 20 42.3	
	comp=E,8.0nm,0.5s,comp=N,18nm,2.4s						
JTSR	**Tashiro 2**	**0.80**	**349**	⇓*i*P	**Pn**	**19 20 42.7**	**+0.6**
JTSR				⇓*e*S	**Sn**	**19 20 53.6**	**+0.8**
JTSR	**Tashiro 2**	**0.80**	**349**	A	A	19 20 42.7	
	comp=E,28nm,1.0s,comp=N,20nm,0.9s						
JNAR	**Kushima--Naru**	**1.15**	**8**	⇓*i*P	**Pn**	**19 20 47.9**	**+1.0**
JNAR	**Kushima--Naru**	**1.15**	**8**	A	A	19 20 47.9	
	comp=E,7.0nm,0.8s,comp=N,5.0nm,1.3s						
JNN	**Nakanoshima**	**1.18**	**243**	*e*P	**Pn**	**19 20 48.2**	**+0.9**
JNN	**Nakanoshima**	**1.18**	**243**	A	A	19 20 48.2	
	comp=E,15nm,0.6s,comp=N,14nm,1.3s						
JSU	**Suzuyama**	**1.25**	**334**	Pn	**Pn**	**19 20 49.6**	**+1.4**
JSU	**Suzuyama**	**1.25**	**334**	P	**Pn**	**19 20 49.6**	**+1.4**
JSU	**Suzuyama**	**1.25**	**334**	⇓*i*P	**Pn**	**19 20 48.9**	**+0.7**
JSU				⇓S	**Sn**	**19 21 05.4**	**+1.5**
JSU	**Suzuyama**	**1.25**	**334**	A	A	19 20 48.9	
	comp=E,11nm,0.9s,comp=N,9.0nm,0.7s						
JNKG	**Nichinankitago**	**1.30**	**11**	⇓*i*P	**Pn**	**19 20 50.3**	**+1.3**
JNKG	**Nichinankitago**	**1.30**	**11**	A	A	19 20 50.3	
	comp=E,4.0nm,3.2s,comp=N,5.0nm,2.5s						
JTZ	**Takazaki**	**1.52**	**360**	⇓*i*P	**Pn**	**19 20 52.8**	**+0.9**
JTZ				⇓*e*S	**Sn**	**19 21 11.7**	**+1.3**
JNU	**Nakatsue**	**2.74**	**356**		**Pn**	**19 21 10.1**	**+1.4**
JNU	**Nakatsue**	**2.74**	**356**	P	**Pn**	**19 21 10.1**	**+1.4**
JNU	**Nakatsue**	**2.74**	**356**	Pn	**Pn**	**19 21 09.8**	**+1.0**
	comp=N,43nm,0.3s,baz=150,slow=3.3,SNR=411						
JNU				Sn	**Sn**	**19 21 36.1**	**-4.5**
	comp=N,14nm,0.3s,baz=182,slow=14,SNR=5.0						
JMN	**Monobe**	**4.09**	**35**	Pn	**Pn**	**19 21 28.0**	**+0.7**
JMN	**Monobe**	**4.09**	**35**	P	**Pn**	**19 21 28.0**	**+0.7**
JOW	**Kunigami**	**4.32**	**216**	P	**Pn**	**19 21 30.5**	**+0.1**
JOW	**Kunigami**	**4.32**	**216**	Pn	**Pn**	**19 21 30.3**	**-0.1**
	comp=N,16nm,0.3s,baz=101,slow=22,SNR=103						
JOW				Sn	**Sn**	**19 22 17.0**	**-2.5**
	comp=N,29nm,0.3s,baz=133,slow=24,SNR=12						
	comp=N,37nm,0.2s						
JTU	**Tsushima**	**4.37**	**341**	Pn	**Pn**	**19 21 31.2**	**+0.1**
JTU	**Tsushima**	**4.37**	**341**	P	**Pn**	**19 21 32.6**	**+1.5**
JMZ	**Minamidaito 2**	**4.55**	**179**	Pn	**Pn**	**19 21 34.3**	**+0.7**
JMZ	**Minamidaito 2**	**4.55**	**179**	P	**Pn**	**19 21 34.2**	**+0.7**
TJN	**Taejon**	**6.74**	**333**	Pn	**Pn**	**19 22 04.9**	**+1.2**
TJN	**Taejon**	**6.74**	**333**	P	**Pn**	**19 22 06.1**	**+2.5**
TJN	**Taejon**	**6.74**	**333**	P	**Pn**	**19 22 04.9**	**+1.2**
INU	**Inuyama**	**7.03**	**44**	Pn	**Pn**	**19 22 09.5**	**+1.9**
INU	**Inuyama**	**7.03**	**44**	P	**Pn**	**19 22 09.8**	**+2.3**
JGF	**Kuroka**	**7.40**	**44**	Pn	**Pn**	**19 22 13.9**	**+1.2**
JGF	**Kuroka**	**7.40**	**44**	P	**Pn**	**19 22 13.9**	**+1.2**
KSRS	**Korea Array**	**7.53**	**340**	Pn	**Pn**	**19 22 16.4**	**+2.0**
	comp=N,1.2nm,0.3s,baz=172,slow=15,SNR=21						
KS19	**Wonju Array Si**	**7.59**	**340**	Pn	**Pn**	**19 22 17.2**	**+2.0**
JHJ	**Hachijo jima 2**	**7.89**	**68**	Pn	**Pn**	**19 22 20.9**	**+1.5**
	comp=N,16nm,0.3s,baz=237,slow=17,SNR=2.4						
	comp=N,205nm,0.9s						
JHJ2	**Mitsune**	**7.91**	**68**	P	**Pn**	**19 22 21.7**	**+2.0**
MAJO	**Matsushiro**	**8.55**	**42**	Pn	**Pn**	**19 22 29.8**	**+1.4**
MAJO	**Matsushiro**	**8.55**	**42**	*d* *i*P	**Pn**	**19 22 29.8**	**+1.4**
MJAR	**Matsushiro Arr**	**8.55**	**42**	Pn	**Pn**	**19 22 29.5**	**+1.0**
	comp=N,1.0nm,0.3s,baz=240,slow=15,SNR=68						
	comp=N,5.2nm,0.4s						
MJB9	**Matsu-Tunnel**	**8.55**	**42**		**Pn**	**19 22 30.6**	**+2.1**
JSD	**Sado**	**9.67**	**36**	Pn	**Pn**	**19 22 46.0**	**+2.2**
NJ2	**Nanjing**	**10.61**	**282**	*e*P	**Pn**	**19 22 58.0**	**+1.4**
NJ2				sP		19 23 18.6	
NJ2				pmax	pmax		
	comp=N,11nm,1.1s						
NJ2				pmax	pmax		
	comp=N,250nm,3.6s						
JMM	**Marumori**	**10.97**	**45**		**Pn**	**19 23 04.0**	**+2.5**
JTM	**Tenmabayashi**	**13.17**	**35**	Pn	P	19 23 35.4	-5.3
USRK	**Ussuriysk Ar.**	**13.81**	**3**	Pn	**Pn**	**19 23 37.4**	**-2.9**
USRK	**Ussuriysk Ar.**	**13.81**	**3**	P	**Pn**	**19 23 37.4**	**-2.9**
USRK	**Ussuriysk Ar.**	**13.81**	**3**	LR	LR	19 28 39.1	
	comp=N,98nm,19.8s,baz=161,slow=36						
USA0B	**Ussuriysk Arra**	**13.81**	**3**	Pn	**Pn**	**19 23 37.2**	**-3.2**
USA0B	**Ussuriysk Arra**	**13.81**	**3**	P	**Pn**	**19 23 37.2**	**-3.2**
CN2	**Changchun**	**14.13**	**343**	P	**P**	**19 23 53.5**	**+2.1**
CN2				pmax	pmax		
	comp=N,10.0nm,0.6s						
WHN	**Wuhan**	**14.44**	**275**	P	**Pn**	**19 23 50.5**	**+1.6**
HNS	**HongShan**	**15.29**	**302**	⇑P	**P**	**19 24 06.3**	**+2.0**
BJI	**Beijing**	**15.52**	**312**	P	**P**	**19 24 09.6**	**+2.7**
BJI				pP	**pP**	**19 24 17.4**	**+0.5**
BJI				pmax	pmax		
	comp=N,10.0nm,0.7s						
ASAJ	**Asahikawa**	**16.46**	**30**	P	**Pn**	**19 24 13.9**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,85nm,1.4s						
JKA	**Kamikawa-asahi**	**16.46**	**30**	Pn	**Pn**	**19 24 13.9**	**-1.2**
JKA				IAmb	IAmb	19 24 24.3	
	comp=Z,85nm,1.4s						
XLT	**XiLinHaoTe**	**18.00**	**323**	*e*P	**P**	**19 24 37.8**	**+3.4**
XLT				pmax	pmax		
	comp=Z,14nm,0.9s						
XLT				pmax	pmax		
	comp=Z,66nm,4.3s						
KLR	**Kul'dur**	**18.83**	**1**	⇓*e*P	**Pn**	**19 24 43.8**	**-0.4**
KLR				pmax	pmax		
	comp=Z,20nm,2.5s						
KLR	**Kul'dur**	**18.83**	**1**	P	**Pn**	**19 24 43.9**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=185,slow=9.4,SNR=15						
	comp=Z,5.8nm,0.5s						
HHC	**Hu-ho-hao-te**	**18.96**	**309**	*e*P	**Pn**	**19 24 49.3**	**+3.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,190nm,4.9s						
XAN	**Xi'an**	**19.11**	**287**	⇓P	**P**	**19 24 46.5**	**-0.1**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.6s						
HEH	**HeiHe**	**20.04**	**353**	*e*P	**Pn**	**19 24 57.4**	**-1.2**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GUMO	**Guam**	**21.00**	**140**	LR	LR	19 31 25.8	
	comp=Z,17nm,19.7s,baz=70,slow=31						
GYA	**Guiyang**	**21.82**	**266**	P	**P**	**19 25 16.0**	**-0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
QIZ	**Qiongzhong**	**22.33**	**244**	P	**P**	**19 25 21.6**	**+0.1**
QIZ				S	**S**	**19 29 24.8**	**+0.3**
QIZ				LR	LR		
	comp=Z,100nm,9.8s						
QIZ				LR	LR		
	comp=Z,72nm,9.2s						
QIZ				LR	LR		
	comp=Z,84nm,8.6s						
LZH	**Lanzhou**	**23.45**	**291**	*e*P	**P**	**19 25 33.2**	**+0.1**
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
ZEA	**Zeya**	**23.51**	**354**	*e*P	**P**	**19 25 32.5**	**-0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ULN	**Ulaanbaatar**	**25.38**	**320**	P	**P**	**19 25 50.0**	**-0.6**
ULN	**Ulaanbaatar**	**25.38**	**320**	*c* *i*P	**P**	**19 25 51.1**	**+0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SONM	**Songino Array**	**25.73**	**320**	P	**P**	**19 25 52.1**	**-1.7**
SONM	**Songino Array**	**25.73**	**320**	P	**P**	**19 25 52.1**	**-1.7**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONM	**Songino Array**	**25.73**	**320**	P	**P**	**19 25 53.7**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=138,slow=9.9,SNR=27						
SONM				LR	LR	19 36 09.8	
	comp=Z,35nm,21.1s,baz=116,slow=37						
	comp=Z,4.3nm,0.6s						
PZH	**PanZhiHua**	**26.06**	**269**	P	**P**	**19 25 56.1**	**-0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,50nm,5.4s						
GTA	**Gaotai**	**27.08**	**298**	*e*P	**P**	**19 26 06.3**	**+0.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TNCH	**TengChong**	**29.26**	**268**	*e*P	**P**	**19 26 26.5**	**+0.8**
TNCH				pP	pP	19 26 39.5	+2.5
TNCH				sP	sP	19 26 45.8	+3.8
TNCH				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.48**	**255**	P	**P**	**19 26 45.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=58,slow=7.7,SNR=5.8						
CMAR				LR	LR	19 40 44.8	
	comp=Z,36nm,18.5s,baz=125,slow=39						
	comp=Z,0.6nm,0.6s						
YAK	**Yakutsk**	**31.67**	**359**		**P**	**19 26 44.7**	**-1.6**
YAK	**Yakutsk**	**31.67**	**359**	*de*P	**P**	**19 26 45.9**	**-0.4**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SHL	**Shillong**	**34.84**	**272**	P	**P**	**19 27 13.8**	**-0.8**
SHL	**Shillong**	**34.84**	**272**	P	**P**	**19 27 13.8**	**-0.8**
SHL				pmax	pmax		
	comp=Z,8.0nm,0.5s						
WMQ	**Urumqi**	**36.71**	**304**	*e*P	**P**	**19 27 29.8**	**-0.5**
WMQ				pP	sP	19 27 45.8	-0.9
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KULM	**Kulim**	**38.00**	**235**	P	**P**	**19 27 41.2**	**-0.3**
KULM				IAmb	IAmb	19 28 08.8	
	comp=Z,13nm,1.2s						
RAMN	**Ramite**	**39.00**	**276**	*e*P	**P**	**19 27 50.2**	**+0.1**
	comp=Z,6.2nm,0.6s						
JIRN	**Jiri**	**39.17**	**278**	*e*P	**P**	**19 27 52.1**	**+0.5**
	comp=

NIL	**Nilore**	**48.60 290**	P	**P**	**19 29 04.2**	**-2.7**
NIL			pmax	pmax		
	comp=Z,4.0nm,0.7s					
BVAR	**Borovoye Array**	**48.97 316**	P	**P**	**19 29 09.6**	**+0.3**
	comp=Z,9.2nm,0.5s,baz=95,slow=9.3,SNR=51					
	comp=Z,9.2nm,0.5s					
BRVK	**Borovoye**	**49.03 316**	P	**P**	**19 29 07.8**	**-2.0**
BRVK	**Borovoye**	**49.03 316**	*de*P	**P**	**19 29 10.0**	**+0.2**
BRVK			pmax	pmax		
	comp=Z,18nm,1.0s					
KKAR	**Karatay Array**	**49.19 303**	P	**P**	**19 29 11.2**	**0.0**
KKAR	**Karatay Array**	**49.19 303**	P	**P**	**19 29 11.2**	**0.0**
BTK	**Batken**	**49.35 299**	P	**P**	**19 29 12.9**	**+0.3**
BTK	**Batken**	**49.35 299**	P	**P**	**19 29 12.9**	**+0.3**
BTK			pmax	pmax		
	comp=Z,3.0nm,0.8s					
WB0	**Warramunga Arr**	**49.96 176**	P	**P**	**19 29 18.6**	**+1.5**
WB0			IAmb	IAmb	19 29 56.0	
	comp=Z,7.6nm,1.4s					
WRA	**Warramunga Arr**	**50.13 176**	P	**P**	**19 29 18.4**	**-0.1**
WRA	**Warramunga Arr**	**50.13 176**	*i* P	**P**	**19 29 19.3**	**+0.8**
WRA			pmax	pmax		
	comp=Z,1.0nm,0.7s					
WRA	**Warramunga Arr**	**50.13 176**	P	**P**	**19 29 20.0**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=354,slow=7.9,SNR=6.9					
	comp=Z,0.5nm,0.6s					
WB2	**Warramunga Arr**	**50.13 176**	P	**P**	**19 29 19.0**	**+0.6**
WB2			IAmb	IAmb	19 29 27.8	
	comp=Z,6.5nm,1.3s					
ASAR	**Alice Springs**	**53.81 177**	P	**P**	**19 29 48.3**	**+2.5**
	comp=Z,0.5nm,0.9s,baz=11,slow=13,SNR=9.1					
	comp=Z,0.5nm,0.9s					
SVE	**Sverdlovsk**	**54.60 321**	*e*P	**P**	**19 29 51.8**	**+0.6**
SVE			pmax	pmax		
	comp=Z,13nm,0.6s					
ABKAR	**Akbulak array**	**55.73 311**	P	**P**	**19 29 59.6**	**+0.1**
ABKAR			IAmb	IAmb	19 30 00.2	
	comp=Z,6.2nm,0.8s					
ABKAR	**Akbulak array**	**55.73 311**	P	**P**	**19 29 59.6**	**+0.1**
ARU	**Arti**	**55.77 320**	P	**P**	**19 29 59.0**	**-0.7**
ARU	**Arti**	**55.77 320**	*d i*P	**P**	**19 29 59.4**	**-0.3**
ARU					19 30 55.8	
ARU					19 32 02.9	
ARU			S	**S**	**19 37 42.4**	**-1.0**
ARU			pmax	pmax		
	comp=Z,10.0nm,0.7s					
J20K	**Nowinta River**	**56.51 30**	P	**P**	**19 30 05.3**	**+0.5**
J20K			IAmb	IAmb	19 30 39.5	
	comp=Z,5.6nm,1.2s					
IMAR	**Indian Mountai**	**56.65 28**	P	**P**	**19 30 04.1**	**-1.7**
HRA	**Herat**	**57.26 294**	P	**P**	**19 30 12.0**	**+1.1**
GEYT	**Alibeck**	**59.46 299**	P	**P**	**19 30 26.6**	**+0.6**
GEYT			IAmb	IAmb	19 30 27.8	
	comp=Z,4.9nm,0.7s					
GEYT	**Alibeck**	**59.46 299**	P	**P**	**19 30 26.6**	**+0.6**
GEYT			pmax	pmax		
	comp=Z,5.0nm,0.7s					
GEYT	**Alibeck**	**59.46 299**	P	**P**	**19 30 26.9**	**+0.8**
	comp=Z,5.5nm,0.7s,baz=71,slow=9.9,SNR=9.2					
	comp=Z,5.5nm,0.7s					
ILAR	**Eielson Array**	**59.60 29**	P	**P**	**19 30 27.0**	**+0.5**
ILAR	**Eielson Array**	**59.60 29**	P	**P**	**19 30 27.0**	**+0.5**
ILAR	**Eielson Array**	**59.60 29**	P	**P**	**19 30 28.9**	**+2.5**
	comp=Z,0.5nm,0.7s,baz=271,slow=6.2,SNR=7.5					
	comp=Z,0.5nm,0.7s					
BMAR	**Burnt Mountain**	**60.19 26**	P	**P**	**19 30 33.1**	**+2.6**
KIRV	**Kirov**	**60.38 323**	*d i*P	**P**	**19 30 31.7**	**-0.2**
PRGR	**Permogore**	**61.66 327**	*e*P	**P**	**19 30 39.3**	**-1.2**
PRGR			pmax	pmax		
	comp=Z,12nm,0.7s					
STKA	**Stephens Creek**	**62.72 170**	P	**P**	**19 30 50.0**	**+2.1**
STKA	**Stephens Creek**	**62.72 170**	P	**P**	**19 30 50.0**	**+2.1**
	comp=Z,0.9nm,0.5s,baz=326,slow=11,SNR=3.5					
	comp=Z,0.9nm,0.5s					
ADZR	**Andozero**	**64.36 331**	*e*P	**P**	**19 30 58.1**	**-0.3**
ADZR			*e**PP	**sP**	**19 31 13.9**	**-1.5**
ADZR			pmax	pmax		
	comp=Z,11nm,0.6s					
KLMR	**Klimovskoe**	**64.71 327**	*e*P	**P**	**19 30 56.7**	**-4.0**
KLMR			AMP		19 31 00.8	
	comp=Z,6.0nm,0.7s					
KLMR	**Klimovskoe**	**64.71 327**	*e*P	**P**	**19 30 56.7**	**-4.0**
KLMR			pmax	pmax		
	comp=Z,6.0nm,0.7s					
SPA0	**Spitsbergen Ar**	**65.30 348**	*e*P	**P**	**19 31 05.4**	**+1.0**
SPITS	**Spitsbergen Ar**	**65.30 348**	P	**P**	**19 31 05.3**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=47,slow=15,SNR=4.9					
	comp=Z,1.8nm,0.3s					
VADS	**Vadso**	**65.62 338**	*e*P	**P**	**19 31 07.3**	**+0.8**
ARA0	**ARCESS Array S**	**67.08 338**	*e*P	**P**	**19 31 15.9**	**0.0**
ARCES	**ARCESS Array B**	**67.08 338**	P	**P**	**19 31 15.7**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=59,slow=9.1,SNR=17					
ARCES			LR	LR	20 04 30.3	
	comp=Z,52nm,18.5s,baz=31,slow=40					
	comp=Z,1.6nm,0.5s					
HAMF	**Hammerfest**	**67.16 340**	*e*P	**P**	**19 31 16.3**	**0.0**
KTK1	**Kautokeino**	**68.04 338**	*e*P	**P**	**19 31 21.8**	**-0.1**
OBN	**Obninsk**	**68.12 322**	*e*P	**P**	**19 31 22.7**	**+0.1**
OBN			pmax	pmax		
	comp=Z,18nm,1.2s					
ZEI	**Tsey**	**68.17 308**	*e*P	**P**	**19 31 22.3**	**-1.2**
ZEI			pmax	pmax		
	comp=Z,6.0nm,0.8s					
KBZ	**Khabaz**	**68.51 309**	*d i*P	**P**	**19 31 25.7**	**+0.4**
KBZ			pmax	pmax		
	comp=Z,10.0nm,0.9s					
KBZ	**Khabaz**	**68.51 309**	P	**P**	**19 31 26.0**	**+0.7**
	comp=Z,7.1nm,0.8s,baz=92,slow=3.5,SNR=15					
	comp=Z,7.1nm,0.8s					
KIV	**Kislovodsk**	**68.56 309**	*e*P	**P**	**19 31 26.8**	**+1.0**
KIV			pmax	pmax		
	comp=Z,15nm,1.1s					
KIV			MLR	MLR		
	comp=Z,14nm,17.0s					
FINES	**FINESS Array B**	**70.50 331**	P	**P**	**19 31 36.1**	**-1.2**
FINES	**FINESS Array B**	**70.50 331**	*i* P	**P**	**19 31 36.5**	**-0.8**
FINES			pmax	pmax		
	comp=Z,9.0nm,0.4s					
FINES	**FINESS Array B**	**70.50 331**	P	**P**	**19 31 37.2**	**-0.1**
	comp=Z,9.3nm,0.4s,baz=64,slow=5.7,SNR=146					
	comp=Z,9.3nm,0.4s					
MOR8	**Moi Rana**	**72.40 338**	*e*P	**P**	**19 31 47.9**	**-0.8**
NACGM	**Naroch**	**73.29 324**	*e*P	**P**	**19 31 55.1**	**+1.0**
	comp=Z,16nm,0.9s,baz=61					
AKASG	**Malin Array Be**	**74.02 320**	*i* P	**P**	**19 31 57.9**	**-0.5**
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.4s					
AKASG	**Malin Array Be**	**74.02 320**	P	**P**	**19 31 57.7**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=56,slow=6.7,SNR=7.2					
	comp=Z,1.4nm,0.4s					
AKBB	**Malin Array Si**	**74.02 320**	P	**P**	**19 31 57.1**	**-1.3**
AKBB			IAmb	IAmb	19 31 58.5	
	comp=Z,8.7nm,1.2s					
AKBB	**Malin Array Si**	**74.02 320**	P	**P**	**19 31 57.2**	**-1.3**
AKBB			pmax	pmax		
	comp=Z,9.0nm,1.3s					
HFS	**Hagfors**	**76.31 333**	P	**P**	**19 32 11.3**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=87,slow=3.2,SNR=25					
	comp=Z,2.1nm,0.4s					
NC405	**NORSAR Array S**	**76.46 334**	P	**P**	**19 32 12.3**	**-0.1**
BR131	**Keskin Array S**	**76.47 308**	*de*P	**P**	**19 32 13.2**	**+0.2**
BRTR	**Keskin Array B**	**76.47 308**	P	**P**	**19 32 11.5**	**-1.5**
BRTR	**Keskin Array B**	**76.47 308**	*i* P	**P**	**19 32 12.8**	**-0.2**
BRTR			pmax	pmax		
	comp=Z,3.0nm,0.9s					
BRTR	**Keskin Array B**	**76.47 308**	P	**P**	**19 32 12.9**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=88,slow=5.1,SNR=9.5					
	comp=Z,2.6nm,0.9s					
NB2	**NORSAR Subarra**	**76.70 334**	P	**P**	**19 32 13.9**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=46,slow=5.9					
NB2	**NORSAR Subarra**	**76.70 334**	P	**P**	**19 32 13.9**	**+0.2**
	baz=46,slow=5.9					
NOA	**NORSAR Array B**	**76.70 334**	P	**P**	**19 32 12.8**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=48,slow=5.6,SNR=7.7					
	comp=Z,2.0nm,0.7s					
MMAI	**Mount Meron Ar**	**78.41 301**	P	**P**	**19 32 24.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=96,slow=7.4,SNR=2.4					
	comp=Z,0.3nm,0.3s					
CLL	**Collm**	**82.16 326**	*e*P	**P**	**19 32 44.0**	**+0.4**
CLL			pmax	pmax		
	comp=Z,5.0nm,0.6s					
CLL	**Collm**	**82.16 326**	*e*P	**P**	**19 32 44.0**	**+0.4**
	comp=Z,5.0nm,0.6s					
GERES	**GERESS Array B**	**83.39 324**	P	**P**	**19 32 49.2**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=22,slow=6.3,SNR=2.5					
	comp=Z,0.4nm,0.5s					
GRF	**Grafenberg Arr**	**84.08 326**	*e*P	**P**	**19 32 53.9**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=55,slow=4.6					
NVAR	**Mina Array Bea**	**85.83 47**	P	**P**	**19 33 02.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=316,slow=2.5,SNR=2.2					
	comp=Z,0.1nm,0.3s					
EKA	**Eskdalemuir Ar**	**86.08 336**	P	**P**	**19 33 02.2**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=46,slow=3.9,SNR=8.2					
	comp=Z,1.0nm,0.4s					

*IDC **01** 19:22:19.7±1.9, 15°.21N×94°.64W, h0km, mb3.8/7, mbtmp3.9/8, ML4.7/2, MS3.5/13, Error ellipse: s-maj=40.8km s-min=29.0km az=16.0*
*NEIC **01** 19:22:24.5±3.0, 15°.33N±0°.03×94°.76W±0°.03, h35km±14km, mb4.4/21, Md4.6/30(MEX), Error ellipse: s-maj=5.5km s-min=3.4km az=130.0*
*MEX **01** 19:22:25.3±1.7, 15°.34N×94°.77W, h18km±870km, MD4.6*
ISC 01 19:22:24.9±0.6, **15°.34N**±0°.05×**94°.76W**±0°.03, **h37**km, **n112,**
σ_2**9°16**/145, **mb3.9**/11, **MS3.5**/11, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.23**	**6**	*e*P	**Pn**	**19 22 43.3**	**-2.3**
NILT				*e*S	**Sn**	**19 22 55.3**	**-5.6**
HUIG	**Huatulco**	**1.37**	**288**		**Pn**	**19 22 46.6**	**-0.9**
HUIG					**Sn**	**19 23 01.7**	**-2.7**
HUIG	**Huatulco**	**1.37**	**288**	*e*P	**Pn**	**19 22 46.5**	**-1.0**
HUIG				*e*S	**Sn**	**19 23 01.4**	**-3.0**
PCIG		**1.53**	**76**		**Pn**	**19 22 48.8**	**-0.9**
PCIG					**Sn**	**19 23 06.4**	**-1.9**
PCIG		**1.53**	**76**	*i* P	**Pn**	**19 22 48.7**	**-0.9**
PCIG				*e*S	**Sn**	**19 23 06.2**	**-2.1**
UXUV	**UXUV**	**2.06**	**17**	*i* P	**Pn**	**19 22 56.5**	**-0.4**
UXUV				*e*S	**Sn**	**19 23 19.8**	**-1.5**
TGIG		**2.13**	**47**		**Pn**	**19 22 57.6**	**-0.4**
TGIG					**Sn**	**19 23 23.6**	**+0.4**
TGIG		**2.13**	**47**	*e*P	**Pn**	**19 22 57.8**	**-0.2**
TGIG				*e*S	**Sn**	**19 23 23.6**	**+0.4**
TGBT	**Tuxtla Gutierr**	**2.15**	**48**		**Pn**	**19 22 58.9**	**+0.7**
TGBT					**Sn**	**19 23 24.1**	**+0.5**
TGBT	**Tuxtla Gutierr**	**2.15**	**48**	*i* P	**Pn**	**19 22 58.9**	**+0.7**
TGBT				*i* S	**Sn**	**19 23 24.1**	**+0.5**
PEIG	**Puerto Escondi**	**2.39**	**286**		**Pn**	**19 23 00.9**	**-0.6**
PEIG					**Sn**	**19 23 25.7**	**-4.0**
PEIG	**Puerto Escondi**	**2.39**	**286**	*i* P	**Pn**	**19 23 00.9**	**-0.6**
PEIG				*e*S	**Sn**	**19 23 25.1**	**-4.6**
THIG		**2.45**	**100**		**Pn**	**19 23 01.5**	**-0.8**
THIG					**Sn**	**19 23 30.8**	**-0.1**
THIG		**2.45**	**100**	*e*P	**Pn**	**19 23 01.5**	**-0.8**
THIG				*e*S	**Sn**	**19 23 30.8**	**-0.1**
PATR	**El Naranjo**	**2.45**	**95**	*e*P	**Pn**	**19 23 01.8**	**-0.8**
PATR				*e*S	**Sn**	**19 23 28.6**	**-2.7**
PAVE	**Pavencul**	**2.50**	**93**	*e*P	**Pn**	**19 23 03.0**	**-0.1**
PAVE				*e*S	**Sn**	**19 23 30.6**	**-1.9**
OXLC	**Oaxaca**	**2.54**	**313**	*e*P	**Pn**	**19 23 04.6**	**+0.9**
OXLC				*e*S	**Sn**	**19 23 34.5**	**+0.9**
OXBJ	**Oaxaca**	**2.56**	**313**		**Pn**	**19 23 04.8**	**+0.8**
OXBJ					**Sn**	**19 23 34.8**	**+0.8**
OXBJ	**Oaxaca**	**2.56**	**313**	*e*P	**Pn**	**19 23 04.8**	**+0.8**
OXBJ				*e*S	**Sn**	**19 23 34.8**	**+0.8**
OXIG	**Oaxaca**	**2.56**	**313**		**Pn**	**19 23 05.3**	**+1.2**
OXIG					**Sn**	**19 23 34.0**	**-0.2**
VHO	**Vista Hermosa**	**2.56**	**313**	*i* P	**Pn**	**19 23 05.3**	**+1.2**
VHO				*i* S	**Sn**	**19 23 34.0**	**-0.2**
NEUV	**Arroyo Zacate**	**2.57**	**337**	*e*P	**Pn**	**19 23 03.1**	**-0.8**
NEUV				*e*S	**Sn**	**19 23 33.0**	**-0.9**
CHUJ	**Union Juarez**	**2.57**	**95**	*e*P	**Pn**	**19 23 03.5**	**-0.7**
CHUJ				*e*S	**Sn**	**19 23 31.7**	**-2.6**
CCIG	**Comitan**	**2.69**	**69**	*e*P	**Pn**	**19 23 07.6**	**+1.7**
CCIG				*e*S	**Sn**	**19 23 40.2**	**+2.9**
TUIG	**Tuzandepetl**	**2.70**	**7**	*i* P	**Pn**	**19 23 05.5**	**-0.3**
TUIG				*e*S	**Sn**	**19 23 39.6**	**+2.3**
RTAL	**Retalhuleu**	**3.07**	**105**		**Pn**	**19 23 11.3**	**+0.4**
YOIG	**Yosondua**	**3.08**	**300**	*e*P	**Pn**	**19 23 12.3**	**+1.1**
YOIG				*e*S	**Sn**	**19 23 45.5**	**-1.4**
HUEH	**Huehuetenango**	**3.14**	**90**		**Pn**	**19 23 13.0**	**+0.9**
PMUV	**Sontecomapan**	**3.21**	**354**	*e*P	Pn	19 23 07.7	-5.2
PMUV				*e*S	**Sn**	**19 23 46.8**	**-3.2**
PNIG	**Pinotepa**	**3.41**	**288**	*i* P	**Pn**	**19 23 15.6**	**+0.1**
PNIG				*e*S	**Sn**	**19 23 49.2**	**-5.6**
TXIG	**Tlaxiaco**	**3.46**	**304**	*e*P	**Pn**	**19 23 18.0**	**+1.5**
TXIG				*e*S	**Sn**	**19 23 54.6**	**-1.8**
TOIG	**Toxpalan**	**3.52**	**321**		**Pn**	**19 23 18.9**	**+1.7**
TOIG	**Toxpalan**	**3.52**	**321**	*e*P	**Pn**	**19 23 18.9**	**+1.7**
TOIG				*e*S	**Sn**	**19 23 58.8**	**+1.1**
HLIG	**Huajuapan de L**	**3.83**	**311**	*e*P	**Pn**	**19 23 23.5**	**+1.9**
HLIG				*e*S	**Sn**	**19 24 04.9**	**-0.6**
TPIG	**Tehuac#an**	**3.95**	**321**	*e*P	**Pn**	**19 23 26.3**	**+3.1**
TPIG				*e*S	**Sn**	**19 24 11.1**	**+2.8**
FTIG	**Fresnillo de T**	**4.12**	**309**	*e*P	**Pn**	**19 23 27.8**	**+2.3**
FTIG				*e*S	**Sn**	**19 24 12.1**	**-0.4**
TLIG	**Tlapa**	**4.27**	**302**	*i* P	**Pn**	**19 23 29.6**	**+2.1**
TLIG				*e*S	**Sn**	**19 24 14.0**	**-2.2**
JAUV	**Jalcomulco**	**4.46**	**334**	*e*P	**Pn**	**19 23 28.6**	**-1.4**
JAUV				*e*S	**Sn**	**19 24 16.8**	**-3.9**
LVIG	**Laguna Verde**	**4.64**	**340**	*e*P	**Pn**	**19 23 30.8**	**-1.7**
LVIG				*e*S	**Sn**	**19 24 21.2**	**-3.9**
SCIG	**Sabancuy**	**4.97**	**43**	*e*P	**Pn**	**19 23 36.4**	**-0.6**
SCIG				*e*S	**Sn**	**19 24 29.9**	**-3.3**
DAIG	**Los Arroyos**	**4.99**	**290**	*i* P	**Pn**	**19 23 38.2**	**+0.9**
DAIG				*e*S	**Sn**	**19 24 27.5**	**-6.3**
PPM	**Popocatepetl**	**5.24**	**316**	*e*P	**Pn**	**19 23 44.6**	**+3.5**
PPM				*e*S	**Sn**	**19 24 39.2**	**-1.3**
ESQI	**Esquipulas**	**5.29**	**98**	Pn	**Pn**	**19 23 39.9**	**-1.6**
MTO3	**Montecristo**	**5.30**	**99**	Pn	**Pn**	**19 23 41.1**	**-0.6**
MEIG	**Mezcala**	**5.32**	**300**	*e*P	**Pn**	**19 23 44.1**	**+2.1**
MEIG				*e*S	**Sn**	**19 24 40.2**	**-1.9**
YAIG	**Yautepec**	**5.41**	**311**	*e*P	**Pn**	**19 23 46.1**	**+2.9**
YAIG				*e*S	**Sn**	**19 24 42.0**	**-2.4**
PLIG	**Platanillo**	**5.46**	**304**	*e*P	**Pn**	**19 23 46.6**	**+2.7**
PLIG				*e*S	**Sn**	**19 24 44.2**	**-1.4**
CXUV	**Coxquihui**	**5.52**	**331**	*e*P	**Pn**	**19 23 44.4**	**-0.2**
CXUV				*e*S	**Sn**	**19 24 46.3**	**-0.5**
CAIG	**El Cayaco**	**5.56**	**289**	*i* P	**Pn**	**19 23 46.1**	**+1.0**
CAIG				*e*S	**Sn**	**19 24 41.8**	**-6.0**
ARIG	**Puente Sto Nin**	**6.10**	**299**	*i* P	**Pn**	**19 23 55.4**	**+2.8**
ARIG				*e*S	**Sn**	**19 24 58.0**	**-3.1**
DEIG	**Demacu**	**6.40**	**321**	*e*P	**Pn**	**19 23 55.8**	**-1.1**
DEIG				*e*S	**Sn**	**19 25 08.2**	**-0.6**
ZIIG	**Zihuatanejo**	**6.82**	**290**	*i* P	**Pn**	**19 24 04.4**	**+2.0**
ZIIG				*e*S	**Sn**	**19 25 13.7**	**-5.1**
MYIG	**Mrida**	**7.35**	**40**	*e*P	Pn	19 24 16.8	+7.1
MYIG				*e*S	**Sn**	**19 25 28.9**	**-3.0**
TEIG	**Tepich**	**7.86**	**51**	Pn	**Pn**	**19 24 14.3**	**-2.4**
TEIG	**Tepich**	**7.86**	**51**	Pn	**Pn**	**19 24 14.9**	**-1.8**
	84nm,0.3s,baz=35,slow=2.6,SNR=34						
TEIG				Sn	**Sn**	**19 25 38.6**	**-5.9**
	49nm,0.3s,baz=124,slow=23,SNR=1.4						
TEIG				LR	LR	19 27 46.9	
	comp=Z,2μm,18.7s,baz=317,slow=42						
RPIG	**Rio Verde**	**8.18**	**324**	*i* P	**Pn**	**19 24 24.5**	**+3.3**
RPIG				*e*		19 25 57.0	
MMIG	**Aquila**	**8.73**	**291**	*e*P	**Pn**	**19 24 30.9**	**+2.2**
GTIG	**Gomez Farias**	**8.74**	**332**	*e*P	Pn	19 24 24.5	-4.4
ORTG	**Ortega, Santa**	**10.33**	**118**	Pn	**Pn**	**19 24 50.4**	**-0.2**
CJM	**Chamela**	**10.65**	**294**	*e*P	**Pn**	**19 24 58.3**	**+3.3**
SOR	**Soroa**	**13.35**	**54**	Pn	**Pn**	**19 25 29.8**	**-2.2**
833A	**Chaparral WMA,**	**13.62**	**342**	Pn	**Pn**	**19 25 33.4**	**-2.1**
HNDO	**Hondo**	**14.73**	**344**		**Pn**	**19 25 50.4**	**-0.2**
435B	**Jarrell**	**15.59**	**351**	Pn	**Pn**	**19 26 00.3**	**-1.7**
TXAR	**Lajitas Array**	**16.17**	**331**	Pn	**Pn**	**19 26 11.2**	**+1.6**
	0.1nm,0.3s,baz=160,slow=10.0,SNR=16						
TXAR				LR	LR	19 31 44.2	
	comp=Z,69nm,18.3s,baz=150,slow=34						
	1.1nm,0.6s						
TX31	**Lajitas Ar. Si**	**16.18**	**331**		**Pn**	**19 26 12.1**	**+2.5**
BRDY	**Brady**	**16.34**	**347**	P	**Pn**	**19 26 12.4**	**+0.8**
BRDY				IAmb	IAmb	19 26 25.9	
	comp=Z,18nm,0.7s						
OZNA	**Ozona**	**16.57**	**340**		**Pn**	**19 26 16.0**	**+1.4**
OZNA				IAmb	IAmb	19 26 31.0	
	comp=Z,39nm,0.7s						
WHTX	**Lake Whitney,**	**16.76**	**352**		**Pn**	**19 26 17.2**	**+0.4**
WHTX				IAmb	IAmb	19 26 29.3	
	comp=Z,21nm,0.6s						
ALPN	**Alpine**	**17.05**	**333**		**Pn**	**19 26 21.2**	**+0.6**
ALPN				IAmb	IAmb	19 26 23.6	
	comp=Z,8.5nm,0.9s						
BRAL	**Brewton**	**17.27**	**23**	Pn	**Pn**	**19 26 19.9**	**-3.3**
SGCY	**Sterling City**	**17.50**	**342**	P	**Pn**	**19 26 27.2**	**+1.1**
SGCY				IAmb	IAmb	19 26 32.4	
	comp=Z,24nm,1.1s						
ABTX	**Abilene, Hawle**	**17.77**	**346**		**Pn**	**19 26 29.8**	**+0.3**
ABTX				IAmb	IAmb	19 26 35.1	
	comp=Z,20nm,0.9s						
425A	**Indio Mountain**	**18.01**	**330**		**Pn**	**19 26 31.2**	**-1.3**
APMT	**Aspermont**	**18.56**	**346**		**P**	**19 26 39.6**	**+1.0**
APMT				IAmb	IAmb	19 26 40.7	
	comp=Z,16nm,1.0s						
X40A	**Basin Creek Fa**	**19.15**	**5**	P	**P**	**19 26 41.8**	**-3.2**
MIAR	**Mount Ida**	**19.16**	**3**	P	**P**	**19 26 43.7**	**-1.5**
MIAR				IAmb	IAmb	19 27 12.2	
	comp=Z,19nm,1.4s						
WMOK	**Wichita Mounta**	**19.66**	**350**		**P**	**19 26 49.5**	**-1.1**
OK052	**Battle Ridge R**	**20.65**	**355**		**P**	**19 26 59.9**	**-1.5**
OK052				IAmb	IAmb	19 27 04.4	
	comp=Z,23nm,1.0s						
JAMC	**Jamundi, Valle**	**21.50**	**122**	*e*P	P	19 27 22.9	+12
GUY2C	**Guyana, Caldas**	**21.54**	**116**	*e*P	**P**	**19 27 15.5**	**+3.8**
T35A	**Sooner Cattle**	**21.55**	**356**	P	**P**	**19 27 08.4**	**-2.7**
T35A				IAmb	IAmb	19 27 33.6	
	comp=Z,16nm,0.9s						
NORC	**Norcasia**	**21.82**	**114**	*e*P	P	19 27 25.7	+12
KAN09	**Caldwell North**	**21.86**	**354**	P	**P**	**19 27 15.7**	**+1.3**
POPC	**Popayan, Colom**	**21.89**	**124**	*e*P	P	19 27 26.5	+11
ANMO	**Albuquerque**	**22.18**	**334**	P	**P**	**19 27 19.1**	**+1.1**
ANMO	**Albuquerque**	**22.18**	**334**	P	**P**	**19 27 19.2**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=249,slow=11,SNR=7.1						
ANMO				LR	LR	19 36 21.7	
	comp=Z,50nm,19.0s,baz=267,slow=38						
	comp=Z,1.8nm,0.7s						
TKL	**Tuckaleechee C**	**22.50**	**24**	P	**P**	**19 27 23.4**	**+2.1**
	comp=Z,4.1nm,0.9s,baz=247,slow=13,SNR=2.1						
TKL				S	**S**	**19 31 25.1**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=319,slow=18,SNR=1.1						
	comp=Z,4.1nm,0.9s						
CHIC	**Chingaza**	**23.25**	**115**	*e*P	**P**	**19 27 33.0**	**+3.3**
RUSC	**La Rusia**	**23.26**	**111**	*e*P	P	19 27 40.1	+10
SDV	**Santo Domingo**	**24.43**	**102**	LR	LR	19 38 04.5	
	comp=Z,102nm,20.9s,baz=255,slow=39						
PFO	**Pinyon Flats O**	**26.76**	**317**	LR	LR	19 39 16.1	
	comp=Z,111nm,18.3s,baz=120,slow=38						
ATAH	**Atahualpa**	**27.59**	**143**	LR	LR	19 37 22.5	
	comp=Z,60nm,20.0s,baz=300,slow=33						
PDAR	**Pinedale Array**	**30.15**	**338**	P	**P**	**19 28 32.3**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=133,slow=8.7,SNR=4.1						
	comp=Z,0.5nm,0.8s						
ELK	**Elko**	**30.95**	**329**	P	**P**	**19 28 41.0**	**+2.2**
	comp=Z,1.8nm,0.9s,baz=113,slow=8.6,SNR=4.9						
	comp=Z,1.8nm,0.9s						
NVAR	**Mina Array Bea**	**30.98**	**322**	P	**P**	**19 28 41.5**	**+2.5**
	comp=Z,1.6nm,0.7s,baz=138,slow=8.4,SNR=9.4						
NVAR				LR	LR	19 42 31.9	
	comp=Z,102nm,21.4s,baz=94,slow=39						
	comp=Z,1.6nm,0.7s						
DLMT	**Dillon**	**33.50**	**337**	P	**P**	**19 29 01.3**	**+0.3**
DLMT				IAmb	IAmb	19 29 03.8	
	comp=Z,7.8nm,1.1s						
J08A	**Circle Bar Ran**	**34.50**	**329**	P	**P**	**19 29 09.1**	**-0.5**
PLID	**Pearl Lake**	**34.66**	**333**	P	**P**	**19 29 10.6**	**-0.5**
PLID				IAmb	IAmb	19 29 13.2	
	comp=Z,5.7nm,0.8s						
ULM	**Lac du Bonnet**	**34.83**	**359**	LR	LR	19 44 44.3	
	comp=Z,96nm,18.3s,baz=254,slow=38						
YBH	**Yreka Blue Hor**	**35.69**	**323**	LR	LR	19 45 38.2	
	comp=Z,106nm,19.4s,baz=151,slow=39						
MDP	**Montagnes des**	**42.60**	**99**	LR	LR	19 48 27.0	
	comp=Z,57nm,19.9s,baz=286,slow=37						
BBB	**Bella Bella**	**45.31**	**332**	LR	LR	19 50 23.1	
	comp=Z,58nm,19.0s,baz=214,slow=

BTO	Baotou	50.67 339	pmax	pmax	
	comp=Z,170nm,7.5s				
BTO	Baotou	50.67 339	*e*P	P	19 36 48.2 +9.1
BTO	Baotou	50.67 339	pP	pP	19 36 52.8 +5.1
BTO	Baotou	50.67 339	sP	sP	19 36 55.3 +4.2
TAPN	Taplejung	53.95 310	*e*P	**P**	**19 37 03.7 -0.2**
	comp=Z,11nm,0.5s				
RAMN	Ramite	54.59 309	*e*P	**P**	**19 37 09.0 +0.5**
	comp=Z,24nm,0.6s				
JIRN	Jiri	55.27 310	*e*P	**P**	**19 37 13.5 -0.1**
GKN	Gorkha	56.63 309	*e*P	**P**	**19 37 22.8 -0.2**
	comp=Z,14nm,0.6s				
DANN	Dangsing	57.47 309	*e*P	**P**	**19 37 29.3 +0.1**
PYUN	Piuthan	57.95 309	*e*P	**P**	**19 37 32.5 +0.1**
	comp=Z,16nm,0.8s				
SONM	Songino Array	58.25 340	P	**P**	**19 37 33.8 -0.3**
	comp=Z,0.5nm,0.7s,baz=170,slow=7.3,SNR=5.0				
	comp=Z,0.5nm,0.7s				
MKAR	Makanchi Array	68.46 326	P	**P**	**19 38 42.2 +0.6**
	comp=Z,0.8nm,0.3s,baz=115,slow=7.9,SNR=22				
	comp=Z,0.8nm,0.3s				
ZALV	Zalesovo Beam	71.61 333	P	**P**	**19 39 00.1 -0.6**
	comp=Z,2.3nm,0.9s,baz=116,slow=6.6,SNR=5.4				
	comp=Z,2.3nm,0.9s				
KURBB	Kurchatov Arra	72.69 328	P	**P**	**19 39 07.4 +0.1**
	comp=Z,0.9nm,0.5s,baz=127,slow=4.6,SNR=11				
	comp=Z,0.9nm,0.5s				
BVAR	Borovoye Array	78.27 327	P	**P**	**19 39 39.3 +0.1**
	comp=Z,1.1nm,0.5s,baz=128,slow=9.3,SNR=8.5				
	comp=Z,1.1nm,0.5s				
ILAR	Eielson Array	92.06 25	P	**P**	**19 40 47.1 -1.1**
	comp=Z,0.6nm,0.9s,baz=240,slow=3.0,SNR=3.3				
	comp=Z,0.6nm,0.9s				
TORD	Torodi Ar. Bea	130.14 282	PKP	**PKPdf**	**19 46 50.6 +0.2**
	comp=Z,0.2nm,0.5s,baz=92,slow=3.5,SNR=1.6				

DJA 01 19:27:47.7±0.9, 11°S±10°×11°7E±°, h10km, M4.2/7, mb4.8/1, MLv3.9/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	Taliwang, Sumb	1.86	7	P	Pn	19 28 18.6	-1.1
TWSI				S	Sn	19 28 35.4	-7.9
PLAI	Plampang	2.08	32	P	Pb	19 28 24.2	-1.4
IGBI	Denpasar	2.31	320	Pn	Pn	19 28 24.0	-1.8
DNP	Denpasar	2.38	323	P	Pn	19 28 27.8	+1.0
DNP				Pn	Pb	19 28 31.0	+0.3
SRBI	Singaraja	2.87	330	Pn	Pn	19 28 32.6	-1.0
JAGI	Jajag, Banyuwa	3.25	310	Pn	Pn	19 28 37.1	-1.7
BASI	Baing, Sumba	3.88	85	P	Pn	19 28 47.0	-0.5
GMJI	Gumukmas	3.92	306	Pn	Pn	19 28 46.1	-1.9
UGM	Wanagama	6.61	293	P	Pn	19 29 27.2	+2.2

*NOU **01** 19:38:00.0, 14°.76S×167°.19E, h107km, MLv4.7/16, Vanuatu Islands*
*IDC **01** 19:38:02.7±9.2, 14°.99S×167°.16E, h114km±98km, mb3.3/3, mbtmp3.8/4, ML4.4/1, Error ellipse: s-maj=79.3km s-min=34.2km az=156.0*
ISC 01 19:38:01.4±1.4, 14°9S±0°.1×167°.1E±0°.2, h100km, n14, σ0°89/15, mb3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	3.13	157	P	Pn	19 38 49.8	+0.9
LIFNC	LIFOU	5.84	179	P	Pn	19 39 25.3	-0.3
KOUNC	Koumac, New Ca	6.24	205	P	Pn	19 39 31.9	+0.9
MARNC	Mare, Loyalty	6.60	173	P	Pn	19 39 35.6	-0.3
YATNC	Mamie plateau,	7.12	182	P	Pn	19 39 42.0	-1.0
DZM	Mont Dzumac	7.16	185	P	Pn	19 39 44.0	+0.4
DZM	Mont Dzumac	7.16	185	P	Pn	19 39 44.2	+0.6
	6.4nm,0.3s,baz=159,slow=20,SNR=50						
DZM				S	Sn	19 41 02.7	-0.9
	24nm,0.4s,baz=315,slow=22,SNR=9.8						
	21nm,0.4s						
NOUC	Port Laguerre	7.21	186	P	Pn	19 39 44.9	+0.8
ONTNC	Ouen Toro	7.39	185	P	Pn	19 39 48.0	+1.3
OUENC	Ouen Island, N	7.48	182	P	Pn	19 39 49.1	+1.2
PINNC	Pines Island,	7.68	178	P	Pn	19 39 51.8	+1.3
WRA	Warramunga Arr	31.66	256	P	P	19 44 15.2	-0.4
	0.4nm,0.5s,baz=86,slow=9.4,SNR=9.9						
	0.4nm,0.5s						
ASAR	Alice Springs	32.50	249	P	P	19 44 22.7	-0.1
	0.4nm,0.8s,baz=76,slow=9.2,SNR=6.8						
	0.4nm,0.8s						
ILAR	Eielson Array	86.73	18	P	P	19 50 33.6	-0.2
	0.6nm,0.7s,baz=228,slow=5.1,SNR=5.3						
	0.6nm,0.7s						

IDC 01 19:38:02.4±3.6, 34°38S×177°.97W, h0km, mb3.5/2, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=92.0km s-min=49.0km az=132.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.54	224	Pn	Pn	19 39 24.5	-1.7
	1.4nm,0.3s,baz=209,slow=9.8,SNR=6.0						
	4.2nm,0.4s						
ASAR	Alice Springs	43.07	271	P	P	19 46 05.0	+0.7
	0.7nm,0.6s,baz=110,slow=8.0,SNR=11						
	0.7nm,0.6s						
WRA	Warramunga Arr	44.41	276	P	P	19 46 14.4	-0.7
	0.3nm,0.6s,baz=114,slow=8.0,SNR=2.5						
	0.3nm,0.6s						
FINES	FINESS Array B	148.86	338	PKPbc	PKPbc	19 57 50.5	-0.6
	1.3nm,0.9s,baz=15,slow=5.9,SNR=1.5						

IDC 01 19:38:39.1±3.3, 33°58S×178°.18W, h0km, mb3.6/2, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=80.8km s-min=38.4km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.04	218	Pn	Pn	19 40 08.1	-1.5
	1.3nm,0.3s,baz=45,slow=16,SNR=1.2						
URZ				Sn	Sn	19 41 23.0	+3.6
	0.8nm,0.3s,baz=77,slow=22,SNR=1.7						
	4.2nm,0.4s						
ASAR	Alice Springs	42.89	270	P	P	19 46 39.5	0.0
	0.8nm,0.6s,baz=110,slow=7.6,SNR=7.8						
	0.8nm,0.6s						
WRA	Warramunga Arr	44.16	276	P	P	19 46 49.4	-0.4
	0.4nm,0.6s,baz=116,slow=7.5,SNR=2.3						
	0.4nm,0.6s						
FINES	FINESS Array B	148.05	338	PKPbc	PKPbc	19 58 25.4	-0.4
	1.9nm,0.9s,baz=33,slow=5.3,SNR=3.9						

*NEIC **01** 19:39:03.2±1.3, 18°.80N±0°.07×66°.78W±0°.02, h35km±2km, ML2.9/4, Md3.1/4(RSPR), Error ellipse: s-maj=12.3km s-min=3.1km az=7.0*
*RSPR **01** 19:39:03.5, 18°.99N×66°.85W, h26km±13km, MD3.1/4*
ISC 01 19:39:01.1±2.5, 18°9N±0°.1×66°74W±0°08, h28km, n12, σ1°11/13, 1C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRSN	Puerto Rico Se	0.79	209	‖*e*P	Pn	19 39 16.6	+0.2
PRSN	Puerto Rico Se	0.79	209	*e*S	Sb	19 39 25.7	-0.9
PRSN	Puerto Rico Se	0.79	209		Pn	19 39 16.6	+0.2
PRSN					Sb	19 39 25.7	-0.9
LSP	Las Mesas	0.80	204	⇑*e*P	Pn	19 39 17.1	+0.5
LSP	Las Mesas	0.80	204	*e*S	Sn	19 39 28.4	+0.7
IDE	Isla Desecheo	0.87	233	⇑*i*P	Pn	19 39 17.6	0.0
IDE	Isla Desecheo	0.87	233	*e*S	Sb	19 39 28.3	-0.8
GBPR	Guanica, Bosqu	0.94	188	⇑*i*P	Pb	19 39 19.8	+1.0
SJG	San Juan	0.97	145	Pn	Pb	19 39 20.1	+0.8
SJG				IAML		19 39 37.7	
	171nm,0.5s						
SDDR	Presa de Saban	4.31	272	Pn	Pn	19 40 05.6	+0.8
SDDR				IAML		19 41 22.5	
	31nm,0.6s						
GDSD	La Dsirade Is	5.99	115	Pn	Pn	19 40 28.6	+0.6
HATO	Hato, Curacao	7.03	198	Pn	Pn	19 40 39.6	-2.6

*IDC **01** 19:39:32.0±45.0, 40°.75N×146°.50E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1058.0km s-min=86.8km az=160.0*
*MOS **01** 19:40:01.4±0.8, 43°.20N×144°.68E, h108km, mb3.9/1, Error ellipse: s-maj=37.2km s-min=27.6km az=136.4*
*JMA **01** 19:40:03.8±0.1, 43°.4N±0°.5×144°.7E±0°.6, h103km±1km, MV3.2/37, NEMURO REGION*
JMA Felt I J1 at NEMURO REGION .
*SKHL **01** 19:40:03.5±0.2, 43°.30N×144°.80E, h108km±8km, mb4.4/3, msha5.2/3*
ISC 01 19:40:03.7±0.9, 43°36N±0°.06×144°76E±0°.03, h105km±6km, n28, σ0°74/45, mb3.2/3, D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNK	Nakash	0.23	353	P	Pn	19 40 18.1	-0.4
JNK				*e*S	Sn	19 40 28.8	-0.9
JAK	Akkeshi	0.36	187	P	Pn	19 40 19.3	+0.2
JAK				*e*S	Sn	19 40 30.9	+0.2
JKHN	Kushirohamanak	0.40	133	P	Pn	19 40 19.7	+0.4
JKHN				*e*S	Sn	19 40 31.4	+0.4
JRA	Rausu	0.64	24	P	Pn	19 40 20.6	-0.3
NMR	Nemuro--Hokkai	0.71	89	‖*i*PN	Pn	19 40 21.6	+0.1
NMR				*i* S	Sn	19 40 34.3	-0.7
NMR	Nemuro--Hokkai	0.71	89	*i* P	Pn	19 40 21.6	+0.1
NMR				*i* S	Sn	19 40 34.3	-0.7
NEM2	Nemuro 2	0.72	89	P	Pn	19 40 21.6	0.0
NEM2				*e*S	Sn	19 40 34.4	-0.8
JAR	Ashorobuto	0.72	266	P	Pn	19 40 21.8	+0.1
JAR				*e*S	Sn	19 40 35.3	0.0
JOB	Onbets	0.81	237	P	Pn	19 40 23.0	+0.5
JOB				*e*S	Sn	19 40 37.0	+0.3
RUSJ	Misakicho	0.83	25	*e*PN	Pn	19 40 22.6	-0.1
RUSJ				*e*S	Sn	19 40 40.1	+3.1
JTKR	Abashiri--Toko	0.87	315	P	Pn	19 40 22.7	-0.3
JTKR				*e*S	Sn	19 40 37.0	-0.8
YUK	Yuzh-Kuril'sk	1.05	49	*d*iPN	Pn	19 40 25.6	+0.7
YUK				*i* S	Sn	19 40 42.1	+1.1
YUK				pmax	pmax		
	comp=Z,186nm,0.2s						
YUK				pmax	pmax		
	comp=E,34nm,0.1s						
YUK				smax	smax		
	comp=N,353nm,0.2s						
YUK				smax	smax		
	comp=E,758nm,0.3s						
YUK	Yuzh-Kuril'sk	1.05	49	*i* P	Pn	19 40 25.6	+0.7
YUK				AMB	AMB	19 40 27.5	
	comp=E,270nm,0.5s						
YUK				*e*S	Sn	19 40 41.6	+0.6
YUK				A	A	19 40 43.5	
	comp=E,500nm,0.4s						
YUK				A	A	19 40 43.5	
	comp=E,600nm,0.4s						
JMP	Maruseppu	1.21	303	*e*P	Pn	19 40 26.4	-0.4
JMP				*e*S	Sn	19 40 43.0	-1.2
JCH	Churui	1.27	235	*e*P	Pn	19 40 27.7	+0.3
JCH				*e*S	Sn	19 40 45.1	-0.2
JKK2	Kamakawa 2	1.55	290	*e*P	Pn	19 40 30.9	+0.1
SHO	Shikotan	1.59	70	‖*i*PN	Pn	19 40 31.2	0.0
SHO				*i* S	Sn	19 40 50.9	-1.3
SHO				pmax	pmax		
	comp=Z,58nm,0.1s						
SHO				smax	smax		
	comp=E,498nm,0.3s						
SHO				smax	smax		
	comp=N,324nm,0.2s						
SHO	Shikotan	1.59	70	*i* P	Pn	19 40 31.2	0.0
SHO				AMB	AMB	19 40 31.6	
	comp=N,60nm,0.3s						
SHO				*i* S	Sn	19 40 50.9	-1.3
SHO				A	A	19 40 53.6	
	comp=N,320nm,0.3s						
SHO				A	A	19 40 53.6	
	comp=N,500nm,0.3s						
JFR	Furan	1.59	264	*e*P	Pn	19 40 31.7	+0.3
JFR				*e*S	Sn	19 40 52.1	-0.2
ASAJ	Asahikawa	1.74	297	*e*P	Pn	19 40 33.7	+0.6
ASAJ				*e*S	Sn	19 40 55.6	+0.1
YSS	Yuzh-Sakhalins	3.87	339	*e*rx	rx	19 40 56.2	
SONM	Songino Array	27.02	293	P	**P**	**19 45 36.2 +0.3**	
SONM	Songino Array	27.02	293	P	**P**	**19 45 36.2 +0.3**	
	comp=N,0.4nm,0.6s,baz=90,slow=6.9,SNR=4.4						
	comp=N,0.4nm,0.6s						
MKAR	Makanchi Array	43.22	297	P	**P**	**19 47 53.9 -0.4**	
MKAR	Makanchi Array	43.22	297	*e*P	**P**	**19 47 53.9 -0.4**	
MKAR	Makanchi Array	43.22	297	P	**P**	**19 47 53.9 -0.4**	
	comp=N,0.2nm,0.5s,baz=80,slow=9.8,SNR=5.1						
	comp=N,0.2nm,0.5s						
FINES	FINESS Array B	64.42	332	P	**P**	**19 50 28.4 +0.1**	
FINES	FINESS Array B	64.42	332	P	**P**	**19 50 28.4 +0.1**	
	comp=N,0.7nm,0.6s,baz=54,slow=5.7,SNR=5.1						
	comp=N,0.7nm,0.6s						

*ANF **01** 19:43:42.6±0.3, 36°.20N×97°.42W, h5km, ML4.2/12, Error ellipse: s-maj=4.0km s-min=3.5km az=143.0*
*NEIC **01** 19:43:43.9±0.4, 36°.199N±0°.007×97°.43W±0°.01, h6km±4km, Error ellipse: s-maj=1.6km s-min=0.9km az=62.0*
*TUL **01** 19:43:43.9±0.5, 36°.204N±0°.010×97°.42W±0°.01, h8km±2km, ML3.3, mb_Lg3.3/109(NEIC), ML3.4/54(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=84.0*
ISC 01 19:43:42.2±1.1, 36°17N±0°.02×97°45W±0°02, h5km±10km, n143, σ1°02/135, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.38	180	Pg	**Pb**	**19 43 51.3**	**-0.1**
OK029				Sg	**Sb**	**19 43 57.1**	**-0.5**
OK029				IAML		19 43 57.3	
	3μm,0.2s						
OK033	Mehan	0.44	107	Pg	**Pg**	**19 43 51.1**	**+0.5**
OK033				Sg	**Sg**	**19 43 57.7**	**+1.4**
OK033				IAML		19 43 58.1	
	3μm,0.4s						
OK048	Pawnee Station	0.48	59		**Pg**	**19 43 52.2**	**+0.7**
OK048				Sg	**Sg**	**19 43 58.3**	**+0.6**
OK048				IAML		19 43 58.4	
	3μm,0.3s						
OK048				IAML		19 43 59.9	
	3μm,0.3s						
CROK	Carrier	0.54	308		**Pb**	**19 43 53.8**	**-0.5**
CROK				Sg	**Sb**	**19 44 01.6**	**-0.8**
CROK				IAML		19 44 03.9	
	comp=N,4μm,0.3s						
OK031	S. Brethren Rd	0.54	114	Pg	**Pb**	**19 43 53.8**	**-0.5**
OK031				IAML		19 44 01.5	
	comp=N,2μm,0.4s						
OK052	Battle Ridge R	0.56	109	Pg	**Pb**	**19 43 53.8**	**-0.7**
OK052				IAML		19 44 02.0	
	comp=N,2μm,0.4s						
OK051	E0350 and S346	0.60	56		**Pg**	**19 43 54.3**	**+0.6**
OK051				Sg	**Sg**	**19 44 01.9**	**+0.4**
OK051				IAML		19 44 02.9	
	comp=N,2μm,0.2s						
OK051				IAML		19 44 07.4	
	comp=N,3μm,0.2s						
QUOK	Quay	0.60	90	Pg	**Pg**	**19 43 54.4**	**+0.6**
QUOK				IAML		19 44 02.7	
	comp=E,2μm,0.3s						
BLOK	Blackwell	0.62	18		**Pg**	**19 43 54.7**	**+0.6**
BLOK				IAML		19 44 06.8	
	comp=E,3μm,0.2s						
GC02	Grant County #	0.75	334		**Pb**	**19 43 57.2**	**-0.7**
OKCSW	OKLAHOMA CITY	0.77	179	Pg	**Pb**	**19 43 58.4**	**+0.3**
OKCSW				IAML		19 44 10.3	
	comp=N,1μm,0.5s						
OKCSW				IAML		19 44 21.3	
	comp=E,1μm,0.5s						
KAN13	South Haven SW	0.84	359	Pg	**Pg**	**19 43 58.6**	**+0.2**
DEOK	Depew	0.84	113		**Pb**	**19 43 59.1**	**-0.3**
DEOK				IAML		19 44 11.2	
	comp=E,1μm,0.4s						
OK032	Salt Plains WL	0.88	316		**Pb**	**19 43 59.3**	**-0.7**
OK032				IAML		19 44 18.3	
	comp=E,2μm,0.2s						
KAN14	Manchester OK	0.88	332		**Pb**	**19 43 59.8**	**-0.3**
KAN14				IAML		19 44 17.7	
	comp=N,1μm,0.2s						
KAN14				IAML		19 44 18.5	
	comp=E,1μm,0.1s						
KAN17	Caldwell West	0.91	344		**Pb**	**19 44 00.2**	**-0.3**
KAN17				IAML		19 44 14.9	
	comp=E,1μm,0.2s						
KAN17				IAML		19 44 21.0	
	comp=N,2μm,0.2s						
FNO	Franklin	0.92	177		**Pn**	**19 44 01.0**	**-0.8**
FNO				IAML		19 44 16.5	
	comp=E,1μm,0.3s						
KAN09	Caldwell North	0.97	352	Pg	**Pb**	**19 44 01.1**	**-0.4**

T35A	Sooner Cattle	1.06 45		**Pg**	**19 44 02.7 +0.1**
T35A			IAML		19 44 16.2
	comp=N,954nm,0.3s				
T35A			IAML		19 44 17.7
	comp=E,1μm,0.3s				
T35B	Sooner Cattle	1.06 45	P	**Pg**	**19 44 02.7 +0.2**
	baz=227,SNR=392				
T35B			S	**Sg**	**19 44 15.9 -0.4**
	baz=227				
OK038	West end E0370	1.08 287		**Pn**	**19 44 03.8 -0.3**
CSTR	Hydro, Custer	1.13 243		**Pn**	**19 44 04.9 +0.1**
OK035	E0210 Rd and N	1.15 298		**Pn**	**19 44 04.7 -0.3**
U32A	Winter Ranch,	1.27 280		**Pn**	**19 44 07.2 +0.5**
U32A			IAML		19 44 28.2
	comp=E,1μm,0.3s				
U32A			IAML		19 44 31.7
	comp=N,817nm,0.2s				
U32A	Winter Ranch,	1.27 280	P	**Pn**	**19 44 07.2 +0.5**
	baz=98				
U32A			S	**Sn**	**19 44 24.5 +0.3**
	baz=98				
NOKA	Waynoka	1.28 292		**Pn**	**19 44 07.2 +0.3**
TUL3	Leonard	1.37 101		**Pn**	**19 44 07.8 -0.3**
TUL3	Leonard	1.37 101	P	**Pn**	**19 44 07.8 -0.3**
	baz=283				
TUL3			S	**Sg**	**19 44 26.1 -0.2**
	baz=283				
TUL3	Leonard	1.37 101	P	**Pn**	**19 44 07.8 -0.3**
	baz=283				
TUL3			S	**Sg**	**19 44 26.2 -0.1**
	baz=283				
ELIS	Ellis County	1.59 267		**Pg**	**19 44 12.8 0.0**
X34A	Smith Ranch, M	1.60 191		**Pg**	**19 44 13.4 +0.5**
WMOK	Wichita Mounta	1.80 218		**Pb**	**19 44 15.7 +0.1**
WMOK			IAmb_Lg		19 44 42.8
	comp=Z,170nm,0.8s				
WMOK	Wichita Mounta	1.80 218	P	**Pb**	**19 44 15.6 0.0**
	baz=36				
WMOK			S	**Sg**	**19 44 39.4 -0.6**
	baz=36				
WMOK	Wichita Mounta	1.80 218	P	**Pb**	**19 44 15.7 +0.1**
	baz=36				
WMOK			S	**Sg**	**19 44 39.6 -0.3**
	baz=36				
RLO	Rose Lookout	1.97 90		**Pn**	**19 44 17.1 +0.9**
LOOK	Love County	2.19 174		**Pb**	**19 44 21.5 -0.8**
LOOK			IAmb_Lg		19 44 56.5
	comp=Z,114nm,1.0s				
X37A	Clayton	2.32 132		**Pb**	**19 44 22.8 -1.8**
X37A			IAmb_Lg		19 45 02.7
	comp=Z,83nm,0.8s				
X37A	Clayton	2.32 132	P	**Pb**	**19 44 22.8 -1.8**
	baz=314,SNR=20				
R32A	Long Quarter,	2.46 336	S	**Sn**	**19 44 54.6 +1.0**
	baz=155				
U38A	Gravette	2.49 83	Pn	**Pn**	**19 44 24.6 +1.1**
U38A			IAmb_Lg		19 45 07.3
	comp=Z,144nm,0.8s				
U38A	Gravette	2.49 83	P	**Pn**	**19 44 24.6 +1.1**
	baz=265,SNR=46				
WTFS	Witchita Falls	2.54 199		**Pb**	**19 44 26.6 -1.7**
Z35A	Perchaven, San	2.84 177	Pn	**Pn**	**19 44 29.4 +1.1**
Z35A	Perchaven, San	2.84 177	P	**Pn**	**19 44 30.3 +2.0**
	baz=357				
Z35A			S	**Sb**	**19 45 06.1 -2.5**
	baz=357				
HHAR	Hobbs	2.84 87	Pn	**Pn**	**19 44 29.2 +0.9**
KSU1	Kansas State U	3.00 13		**Pn**	**19 44 31.9 +1.4**
KSU1			IAmb_Lg		19 45 22.4
	comp=Z,55nm,0.8s				
KSU1	Kansas State U	3.00 13	P	**Pn**	**19 44 30.5 0.0**
	baz=193				
KSU1			S	**Sn**	**19 45 07.3 +0.5**
	baz=193				
KSU1	Kansas State U	3.00 13	P	**Pn**	**19 44 31.6 +1.2**
	baz=193				
FW03	Perrin-Whitt E	3.17 189		**Pn**	**19 44 34.0 +1.3**
FW03			IAmb_Lg		19 45 28.8
	comp=Z,22nm,0.8s				
FW06	Azle	3.19 182		**Pn**	**19 44 33.6 +0.4**
FW06			IAmb_Lg		19 45 33.4
	comp=Z,24nm,0.8s				
CBKS	Cedar Bluff	3.20 326		**Pn**	**19 44 32.9 -0.4**
CBKS	Cedar Bluff	3.20 326	P	**Pn**	**19 44 33.3 0.0**
	baz=144				
CBKS			S	**Sn**	**19 45 12.8 +0.9**
	baz=144				
FW07	Weatherford	3.47 185	IAmb_Lg		19 45 44.5
	comp=Z,22nm,0.7s				
MIAR	Mount Ida	3.56 116	Pn	**Pn**	**19 44 37.7 -0.5**
MIAR			IAmb_Lg		19 45 42.6
	comp=Z,72nm,0.7s				
MIAR	Mount Ida	3.56 116	P	**Pn**	**19 44 39.4 +1.2**
	baz=299				
MIAR			S	**Sn**	**19 45 21.6 +1.0**
	baz=299				
MIAR	Mount Ida	3.56 116	P	**Pn**	**19 44 39.5 +1.3**
	baz=299,SNR=40				
MIAR			S	**Sn**	**19 45 22.2 +1.5**
	baz=299				
APMT	Aspermont	3.59 218		**Pn**	**19 44 39.3 +0.7**
APMT			IAmb_Lg		19 45 47.6
	comp=Z,56nm,1.2s				
S39A	Bolivar	3.64 64	Pn	**Pn**	**19 44 40.0 +0.7**
S39A			IAmb_Lg		19 45 38.5
	comp=Z,69nm,0.8s				
S39A	Bolivar	3.64 64	P	**Pn**	**19 44 40.3 +1.0**
	baz=247,SNR=25				
AMTX	Amarillo	3.68 251	Pn	**Pn**	**19 44 36.5 -3.4**
AMTX			IAmb_Lg		19 45 46.0
	comp=Z,104nm,0.8s				
AMTX	Amarillo	3.68 251	P	**Pn**	**19 44 41.3 +1.4**
	baz=68				
AMTX			S	**Sn**	**19 45 25.4 +1.7**
	baz=68				
U40A	Yellville	3.72 86	P	**Pn**	**19 44 40.6 +0.2**
	baz=269,SNR=19				
U40A			P	**Pn**	**19 44 40.6 +0.2**
	baz=269,SNR=19				
FW14	Alvarado	3.77 177	IAmb_Lg		19 45 44.5
	comp=Z,25nm,0.7s				
DKNS	Dickens	3.79 230		**Pn**	**19 44 42.0 +0.6**
FW13	Cleburne	3.81 180	IAmb_Lg		19 45 50.3
	comp=Z,21nm,0.9s				
ABTX	Abilene, Hawle	3.98 208	P	**Pn**	**19 44 45.4 +1.4**
	baz=26				
ABTX			S	**Sn**	**19 45 32.7 +1.7**
	baz=26				
ABTX	Abilene, Hawle	3.98 208	P	**Pn**	**19 44 45.6 +1.7**
	baz=26				
X40A	Basin Creek Fa	4.13 113		**Pn**	**19 44 47.7 +1.6**
X40A	Basin Creek Fa	4.13 113	P	**Pn**	**19 44 47.7 +1.6**
	baz=296,SNR=7.6				
X40A			P	**Pn**	**19 44 47.7 +1.6**
	baz=296,SNR=7.6				
WHTX	Lake Whitney,	4.17 180		**Pn**	**19 44 48.9 +2.3**
WHTX	Lake Whitney,	4.17 180	P	**Pn**	**19 44 47.8 +1.2**
	baz=0.1				
WHTX			S	**Sn**	**19 45 37.6 +1.9**
	baz=0.1				
WHTX	Lake Whitney,	4.17 180	P	**Pn**	**19 44 48.2 +1.6**
	baz=0.1				
MGMO	Mountain Grove	4.28 75	Pn	**Pn**	**19 44 48.3 +0.2**
MGMO			IAmb_Lg		19 45 59.1
	comp=Z,94nm,0.8s				
WHAR	Wooly Hollow	4.29 100	Pn	**Pn**	**19 44 48.0 -0.3**
FCAR	Ozark Folk Cen	4.33 92	Pn	**Pn**	**19 44 48.5 -0.3**
FCAR			IAmb_Lg		19 46 04.2
	comp=Z,42nm,0.8s				
WLAR	White Oak Lake	4.34 124	Pn	**Pn**	**19 44 48.4 -0.5**
WLAR			IAmb_Lg		19 46 05.0
	comp=Z,45nm,0.8s				
SN01	Snyder 1	4.35 222	IAmb_Lg		19 46 09.9
	comp=Z,52nm,0.8s				
237A	Washetta, Mont	4.38 161	S	**Sn**	**19 45 41.4 +0.5**
	baz=342				
UALR	University of	4.40 107		**Pn**	**19 44 48.1 -1.5**
UALR			IAmb_Lg

R40A	Maddies Statio	4.65	61	Pn	Pn	19 44 53.6	+0.5
R40A				IAmb_Lg		19 46 17.3	
	comp=Z,38nm,0.8s						
R40A	Maddies Statio	4.65	61	P	Pn	19 44 53.7	+0.6
	baz=245,SNR=37						
Z41A	Richland Creek	4.81	126	Pn	Pn	19 44 54.7	-0.6
Z41A	Richland Creek	4.81	126	P	Pn	19 44 56.1	+0.8
	baz=309						
Z41A				P	Pn	19 44 56.1	+0.8
	baz=309						
MSTX	Muleshoe	4.88	245	Pn	Pn	19 44 57.6	+1.1
MSTX	Muleshoe	4.88	245	P	Pn	19 44 57.4	+0.9
	baz=61						
KSCO	Kaye Shedlock'	4.99	306	IAmb_Lg		19 46 33.8	
	comp=Z,32nm,0.8s						
KSCO	Kaye Shedlock'	4.99	306	P	Pn	19 44 58.2	+0.2
	baz=123						
BRDY	Brady	5.04	195	Pn	Pn	19 44 59.6	+1.0
BRDY				IAmb_Lg		19 46 33.0	
	comp=Z,23nm,0.9s						
LCAR	Lake Charles	5.10	89	IAmb_Lg		19 46 22.7	
	comp=Z,46nm,0.7s						
CCAR	Cane Creek	5.17	114	IAmb_Lg		19 46 34.9	
	comp=Z,51nm,0.9s						
T42A	Van Buren	5.19	79	Pn	Pn	19 44 59.2	-1.4
T42A				IAmb_Lg		19 46 28.1	
	comp=Z,90nm,0.8s						
T42A	Van Buren	5.19	79	P	Pn	19 45 00.5	-0.1
	baz=263,SNR=13						
SGCY	Sterling City	5.23	217	IAmb_Lg		19 46 41.9	
	comp=Z,56nm,0.8s						
BGNE	Belgrade	5.26	354	Pn	Pn	19 44 59.5	-2.0
BGNE	Belgrade	5.26	354	P	Pn	19 45 01.5	0.0
	baz=174						
BGNE				S	Sn	19 46 03.2	+0.7
	baz=174						
CCM	Cathedral Cave	5.30	67	Pn	Pn	19 45 02.2	0.0
CCM				IAmb_Lg		19 46 32.3	
	comp=Z,57nm,0.7s						
CCM	Cathedral Cave	5.30	67	P	Pn	19 45 02.4	+0.3
	baz=251						
CCM				S	Sn	19 46 04.3	+0.6
	baz=251						
CCM	Cathedral Cave	5.30	67	P	Pn	19 45 02.6	+0.5
	baz=251,SNR=11						
435B	Jarrell	5.38	181	IAmb_Lg		19 46 42.7	
	comp=Z,28nm,0.9s						
435B	Jarrell	5.38	181	P	Pn	19 45 04.7	+1.5
	baz=1.2						
435B				S	Sn	19 46 05.6	+0.1
	baz=1.2						
P40A	Paris	5.43	50	Pn	Pn	19 45 04.0	+0.1
T25A	Trinidad	5.68	282	Pn	Pn	19 45 08.7	+1.3
T25A				IAmb_Lg		19 46 48.3	
	comp=Z,34nm,0.8s						
T25A	Trinidad	5.68	282	P	Pn	19 45 08.0	+0.5
	baz=98						
L34A	Svendsen Farm,	5.85	8	IAmb_Lg		19 46 50.6	
	comp=Z,37nm,0.7s						
ODSA	Odessa	5.85	228	IAmb_Lg		19 46 58.6	
	comp=Z,14nm,1.0s						
FVM	French Village	5.90	70	Pn	Pn	19 45 11.3	+0.9
FVM				IAmb_Lg		19 46 48.2	
	comp=Z,53nm,0.8s						
OGNE	Ogallala	5.96	324	IAmb_Lg		19 47 02.3	
	comp=Z,42nm,0.8s						
JCT	Junction City	6.01	200	IAmb_Lg		19 46 55.8	
	comp=Z,25nm,0.7s						
JCT	Junction City	6.01	200	P	Pn	19 45 13.3	+1.4
	baz=18						
OZNA	Ozona	6.07	211	IAmb_Lg		19 47 05.4	
	comp=Z,39nm,0.8s						
143A	Socs Landing,	6.08	123	IAmb_Lg		19 47 04.8	
	comp=Z,33nm,0.8s						
SLM	Saint Louis	6.25	65	IAmb_Lg		19 47 09.4	
	comp=Z,31nm,0.8s						
K31A	O'Neill	6.52	352	IAmb_Lg		19 47 20.9	
	comp=Z,57nm,0.7s						
SCIA	State Center	6.61	29	IAmb_Lg		19 47 15.5	
	comp=Z,44nm,0.7s						
SDCO	Great Sand Dun	6.63	286	Pn	Pn	19 45 22.6	+1.9
SDCO	Great Sand Dun	6.63	286	P	Pn	19 45 22.0	+1.3
	baz=101						
OXF	Oxford	6.78	102	IAmb_Lg		19 47 29.7	
	comp=Z,36nm,0.9s						
HNDO	Hondo	6.80	194		Pn	19 45 23.8	+1.1
HNDO				IAmb_Lg		19 47 31.7	
	comp=Z,24nm,0.8s						
N41A	Harden Midland	6.88	47	Pn	Pn	19 45 24.4	+0.7
N41A				IAmb_Lg		19 47 28.2	
	comp=Z,63nm,0.8s						
BRIGG	Briggsdale	6.96	311	IAmb_Lg		19 47 27.1	
	comp=Z,32nm,1.0s						
P43A	Skaggs, Pawnee	7.16	59	P	Pn	19 45 27.9	+0.3
	baz=244						
PECS	Pecos	7.17	230	IAmb_Lg		19 47 35.8	
	comp=Z,16nm,0.8s						
DRIO	Del Rio	7.24	202	IAmb_Lg		19 47 41.1	
	comp=Z,19nm,0.8s						
SAND	Sanderson	7.33	214	IAmb_Lg		19 47 37.2	
	comp=Z,21nm,1.0s						
ISCO	Idaho Springs	7.39	302		Pn	19 45 32.0	+0.9
ECSD	EROS Data Cent	7.58	5	Pn	Pn	19 45 33.5	+0.1
L40A	Anamosa	7.62	38	Pn	Pn	19 45 32.8	-1.1
L40A				IAmb_Lg		19 47 44.0	
	comp=Z,54nm,0.9s						
PLAL	Pickwick Lake	7.73	96	IAmb_Lg		19 47 55.9	
	comp=Z,37nm,1.1s						
HDIL	Hopedale	7.76	53	Pn	Pn	19 45 36.0	+0.2
HDIL	Hopedale	7.76	53	P	Pn	19 45 36.1	+0.3
	baz=238,SNR=8.6						
ALPN	Alpine	7.76	224	IAmb_Lg		19 48 01.1	
	comp=Z,12nm,0.7s						
WVT	Waverly	7.79	87	IAmb_Lg		19 47 55.4	
	comp=Z,19nm,0.9s						
MNTX	Cornudas Mount	7.96	238	Pn	Pn	19 45 38.1	-0.5
Y22D	IRIS PASSCAL I	8.04	258	IAmb_Lg		19 48 20.7	
	comp=Z,42nm,0.7s						
N23A	Red Feather La	8.15	308	IAmb_Lg		19 48 05.7	
	comp=Z,26nm,0.8s						
425A	Indio Mountain	8.27	232	Pn	Pn	19 45 44.1	+1.1
425A				IAmb_Lg		19 48 15.0	
	comp=Z,20nm,1.2s						
L42A	Oliver, Polo	8.40	44	IAmb_Lg		19 48 07.3	
	comp=Z,38nm,0.8s						
I37A	Lemond, Waseca	8.42	20	IAmb_Lg		19 48 19.6	
	comp=Z,31nm,1.0s						
JFWS	Jewell Farm	8.73	37	Pn	Pn	19 45 47.2	-2.0
JFWS				IAmb_Lg		19 48 32.4	
	comp=Z,26nm,0.7s						
I40A	Norwalk	9.32	32	IAmb_Lg		19 48 45.8	
	comp=Z,16nm,0.7s						

*IDC **01** 20:04:14.4±1.5, 35°.89N×75°.77E, h0km, mb3.5/4, mbtmp3.4/10, ML3.0/6, MS2.6/1, Error ellipse: s-maj=28.0km s-min=24.0km az=56.0*

ISC 01 20:04:18.4±0.9, 35°.7N±0°.1×76°.0E±0°.1, h35km, n18, σ1§78/18, mb3.3/4, 1C-3D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.62	345	⇓Pn	Pn	20 05 55.3	+1.7
	0.1nm,0.4s						
AML				⇓Lg	Lg	20 07 12.6	
	0.7nm,0.8s						
AAK	Ala-Archa	6.98	351	Pn	Pn	20 06 00.8	+2.5
	0.3nm,0.3s,baz=162,slow=7.6,SNR=2.2						
AAK				LR	LR	20 09 06.6	
	comp=Z,51nm,19.5s,baz=170,slow=43						
	0.8nm,0.4s						
KK31	Karatay Array	8.47	332	⇑Pn	Pn	20 06 18.7	+0.1
	0.2nm,0.3s,baz=144,slow=14,SNR=4.3						
KK31				⇓Lg	Lg	20 08 09.3	
	2.1nm,0.8s,baz=158,slow=25,SNR=4.2						
PYUN	Piuthan	9.68	140	*e*P	Pn	20 06 34.5	-0.9
	15nm,0.5s						
DANN	Dangsing	9.90	136	*e*P	Pn	20 06 38.1	-0.4
	9.0nm,0.3s						
GKN	Gorkha	10.67	134	*e*P	Pn	20 06 48.6	-0.3
	5.2nm,0.3s						
PKI	Pulchoki	11.45	133	*e*P	Pn	20 06 58.0	-1.7
	2.3nm,0.4s						
GUN	Gumba	11.49	130	*e*P	Pn	20 06 59.1	-1.2
	5.7nm,0.4s						
JIRN	Jiri	11.86	130	*e*P	Pn	20 07 03.4	-2.0
	6.0nm,0.3s						

MKAR	Makanchi Array	12.02	21	Pn	Pn	20 07 06.2	-1.0
	0.2nm,0.3s,baz=196,slow=12,SNR=5.6						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	14.99	6	Pn	Pn	20 07 44.1	-3.4
	baz=194,slow=12,SNR=4.6						
	0.1nm,0.3s						
BVAR	Borovoye Array	17.72	349	P	Pn	20 08 21.5	-0.7
	baz=164,slow=10,SNR=2.7						
	0.9nm,0.6s						
ZALV	Zalesovo Beam	19.23	16	P	Pn	20 08 39.9	-0.6
	0.2nm,0.3s,baz=202,slow=10,SNR=2.8						
	0.5nm,0.4s						
AKTO	Aktyubinsk	19.61	324	P	P	20 08 43.2	-0.4
	0.2nm,0.3s,baz=126,slow=11,SNR=5.9						
	1.6nm,0.6s						
SONM	Songino Array	25.54	52	P	P	20 09 44.7	+0.8
	0.5nm,0.7s,baz=271,slow=10,SNR=4.9						
	0.5nm,0.7s						
CMAR	Chiang Mai Arr	26.63	124	P	P	20 09 57.6	+3.8
	0.3nm,0.6s,baz=309,slow=12,SNR=2.0						
	0.3nm,0.6s						
FINES	FINESS Array B	40.37	325	P	P	20 11 52.1	-0.4
	1.3nm,0.7s,baz=97,slow=9.8,SNR=5.7						
	1.3nm,0.7s						
TORD	Torodi Ar. Bea	69.74	272	P	P	20 15 24.4	-0.8
	0.3nm,0.8s,baz=70,slow=4.4,SNR=1.5						
	0.3nm,0.8s						

*IDC **01** 20:09:59.4±1.4, 13°.11S×167°.48E, h0km, mb4.0/7, mbtmp3.9/7, MS2.9/1, Error ellipse: s-maj=70.0km s-min=22.4km az=137.0*

ISC 01 20:10:04.9±1.3, 13°.1S±0°.3×167°.5E±0°.3, h35km, n11, σ1§17/11, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.45	248	LR	LR	20 22 53.5	
	comp=Z,29nm,18.1s,baz=89,slow=36						
STKA	Stephens Creek	30.18	228	P	P	20 16 13.4	+1.5
	1.1nm,0.4s,baz=52,slow=10,SNR=12						
	1.1nm,0.4s						
WRA	Warramunga Arr	32.42	253	P	P	20 16 31.3	-0.6
	0.7nm,0.6s,baz=84,slow=8.9,SNR=10.0						
	0.7nm,0.6s						
ASAR	Alice Springs	33.44	247	P	P	20 16 40.2	-0.6
	1.2nm,0.5s,baz=75,slow=9.1,SNR=44						
ASAR				PcP	PcP	20 19 20.0	-1.7
	0.3nm,0.9s,baz=85,slow=2.0,SNR=4.0						
	1.2nm,0.5s						
SONM	Songino Array	81.34	323	P	P	20 22 18.5	+0.6
	0.3nm,0.5s,baz=106,slow=5.1,SNR=2.5						
	0.3nm,0.5s						
ILAR	Eielson Array	84.96	18	P	P	20 22 37.4	+1.3
	0.9nm,0.4s,baz=242,slow=4.9,SNR=23						
	0.9nm,0.4s						
PDAR	Pinedale Array	93.73	47	P	P	20 23 18.5	0.0
	0.1nm,0.4s,baz=226,slow=4.5,SNR=1.4						
	0.1nm,0.4s						
MKAR	Makanchi Array	96.19	316	P	P	20 23 29.4	+0.1
	0.4nm,0.7s,baz=99,slow=7.7,SNR=2.3						
	0.4nm,0.7s						
ARCES	ARCESS Array B	118.77	346	PKP	PKPdf	20 28 48.2	-0.6
	0.6nm,0.3s,baz=52,slow=2.2,SNR=9.3						
FINES	FINESS Array B	124.32	339	PKP	PKPdf	20 28 59.1	-0.6
	3.4nm,1.1s,baz=70,slow=2.2,SNR=4.0						
ESDC	Sonseca Array	152.51	346	PKPbc	PKPbc	20 29 56.3	-1.6
	0.5nm,0.8s,baz=355,slow=4.2,SNR=4.2						

*NEIC **01** 20:34:27.7±0.5, 35°.99N±0°.01×96°.80W±0°.01, h3km±4km, Error ellipse: s-maj=1.9km s-min=1.4km az=143.0*

TUL 01 20:34:27.1±0.6, 35°.99N±0°.01×96°.80W±0°.02, h5km±3km, ML2.5, mb_Lg2.4/17(NEIC), ML2.6/36(NEIC), Error ellipse: s-maj=1.9km s-min=1.4km az=124.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK052	Battle Ridge R	0.00	310	Pg	Pg	20 34 28.2	+0.2
OK052				IAML		20 34 29.3	
	6μm,0.4s						
OK031	S. Brethren Rd	0.05	219	Pg	Pg	20 34 28.4	-0.1
OK033	Mehan	0.12	295	Pg	Pg	20 34 30.1	+0.5
OK033				IAML		20 34 32.3	
	2μm,0.2s						
OK033				IAML		20 34 32.3	
	3μm,0.1s						
QUOK	Quay	0.19	23	Pg	Pg	20 34 31.5	+0.6
QUOK				IAML		20 34 34.8	
	comp=E,1μm,0.2s						
DEOK	Depew	0.29	121	Pg	Pg	20 34 33.2	+0.5
DEOK				IAML		20 34 37.6	
	comp=E,623nm,0.3s						
DEOK				IAML		20 34 37.6	
	comp=N,818nm,0.2s						
OK048	Pawnee Station	0.44	345	Pg	Pg	20 34 36.0	+0.4
OK048				Sg	Sg	20 34 42.0	+0.7
OK051	E0350 and S346	0.51	357		Pg	20 34 37.4	+0.4
OK051				IAML		20 34 44.6	
	comp=N,466nm,0.2s						
OK051				IAML		20 34 47.4	
	comp=N,304nm,0.2s						
OK029	Liberty Lake	0.57	250	Pg	Pg	20 34 38.2	+0.2
OK029				IAML		20 34 48.5	
	comp=N,302nm,0.6s						
OKCSW	OKLAHOMA CITY	0.78	222	Pg	Pg	20 34 41.8	-0.3
OKCSW				IAML		20 34 57.9	
	comp=N,288nm,0.3s						
TUL3	Leonard	0.82	95	Pg	Pg	20 34 42.6	-0.3
TUL3				IAML		20 34 55.9	
	comp=N,207nm,0.5s						
TUL3				IAML		20 34 59.1	
	comp=E,192nm,0.3s						
BLOK	Blackwell	0.84	337	Pg	Pg	20 34 43.2	0.0
W35A	Tecumseh	0.84	184		Pg	20 34 42.8	-0.5
W35A				IAML		20 34 54.7	
	comp=E,184nm,0.4s						
FNO	Franklin	0.88	214	Pg	Pg	20 34 43.5	-0.6
FNO				IAML		20 34 58.6	
	comp=E,145nm,0.4s						
T35A	Sooner Cattle	0.95	14		Pg	20 34 45.2	-0.2
CROK	Carrier	1.08	298		Pg	20 34 47.6	-0.3
CROK				IAML		20 35 06.4	
	comp=E,178nm,0.3s						
KAN13	South Haven SW	1.16	332	Pg	Pg	20 34 49.1	-0.2
GC02	Grant County #	1.21	315	Pg	Pg	20 34 49.9	-0.4
RLO	Rose Lookout	1.45	83		Pn	20 34 53.5	-0.5
CSTR	Hydro, Custer	1.57	258		Pn	20 34 55.7	0.0
X34A	Smith Ranch, M	1.62	212		Pn	20 34 56.9	+0.5
OK038	West end E0370	1.64	288	Pn	Pn	20 34 57.1	+0.4
U32A	Winter Ranch,	1.82	283	Pn	Pn	20 34 59.0	-0.2
X37A	Clayton	1.82	140		Pn	20 34 60.0	+0.9
NOKA	Waynoka	1.84	291		Pn	20 34 58.9	-0.4
U38A	Gravette	2.00	76		Pn	20 35 02.4	+0.8
LOOK	Love County	2.02	189		Pn	20 35 02.5	+0.7
WMOK	Wichita Mounta	2.05	233		Pn	20 35 03.0	+0.8
HHAR	Hobbs	2.33	82	Pn	Pn	20 35 05.4	-0.7
WTFS	Witchita Falls	2.61	212	Pn	Pn	20 35 09.4	-0.5
MIAR	Mount Ida	3.01	118	Pn	Pn	20 35 15.8	+0.4
S39A	Bolivar	3.27	58	IAmb_Lg		20 36 12.7	
	comp=Z,8.6nm,0.7s						
X40A	Basin Creek Fa	3.58	114	Pn	Pn	20 35 23.5	+0.3
WHAR	Wooly Hollow	3.74	99	Pn	Pn	20 35 26.1	+0.6
FCAR	Ozark Folk Cen	3.80	90	Pn	Pn	20 35 25.9	-0.4
FCAR				IAmb_Lg		20 36 32.1	
	comp=Z,8.7nm,0.7s						
MGMO	Mountain Grove	3.83	71	IAmb_Lg		20 36 34.0	
	comp=Z,11nm,0.9s						
DKNS	Dickens	4.11	237	IAmb_Lg		20 36 48.3	
	comp=Z,6.9nm,0.9s						
R40A	Maddies Statio	4.29	56	IAmb_Lg		20 36 48.7	
	comp=Z,7.3nm,0.7s						
POST	Post	4.86	234	IAmb_Lg		20 37 07.5	
	comp=Z,5.6nm,0.8s						
CCM	Cathedral Cave	4.90	63	IAmb_Lg		20 37 16.0	
	comp=Z,6.8nm,0.8s						
S44A	Carbondale	6.29	72	IAmb_Lg		20 37 51.6	
	comp=Z,8.4nm,0.8s						
SIUC	Southern Illin	6.32	72	IAmb_Lg		20 37 46.3	
	comp=Z,12nm,0.9s						

*IDC **01** 21:03:53.6±1.3, 27°.81N×53°.01E, h0km, mb3.6/6, mbtmp3.6/9, ML3.4/3, Error ellipse: s-maj=32.4km s-min=21.5km az=18.0*
*TEH **01** 21:03:53.5, 27°.78N×52°.87E, h8km±25km, ML3.8*

*OMAN **01** 21:03:58.6±0.6, 27°.67N×52°.90E, h28km, mb3.4/3, ml3.6/5, Error ellipse: s-maj=16.3km s-min=5.0km az=48.0*
*DSN **01** 21:04:02.0±1.1, 27°.56N×53°.34E, h15km, ML3.2/10, Error ellipse: s-maj=18.3km s-min=10.5km az=54.0*

ISC 01 21:03:55.6±0.7, 27°.78N±0°.04×52°.98E±0°.05, h14km, n54, σ1§45/62, mb3.7/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.47	159	Pg	Pg	21 04 03.7	-1.1
LMD1				Sg	Sg	21 04 11.3	+0.3
QIR1	Qir	0.70	5	Pg	Pg	21 04 07.7	-1.5
JHRM	Jahrom	0.90	36	Pg	Pg	21 04 12.0	-0.9
LAR1	LAR	1.24	95	Pg	Pg	21 04 19.0	-0.5
DSBU	Dashti - Bushe	1.63	291	Pg	Pn	21 04 23.0	-0.8
AHBU	AHRAM	1.84	306	Pg	Pn	21 04 27.1	+0.4
SHI	Shiraz	1.90	348	Pn	Pb	21 04 29.0	-1.2
GENO	Geno	2.86	97	Pn	Pb	21 04 43.6	-2.9
SHME	Shamm	3.31	121	P	Pn	21 04 48.7	+1.8
KLNJ	Kolanjah	3.44	340	Pn	Pn	21 04 49.1	0.0
NAZ	Nazwa, Dubai	3.67	138	P	Pn	21 04 53.7	+1.7
MSFE	Esma-Masafi	3.73	129	P	Pn	21 04 54.0	+1.2
ASUD	Al Ashush, Dub	3.78	146	P	Pn	21 04 55.4	+1.9
ASUD	Al Ashush, Dub	3.78	146	P	Pn	21 04 55.5	+2.0
	SNR=8.0						
ASUD				S	Sn	21 05 39.1	+1.3
NGRK	Negar Kerman	3.78	60	Pn	Pn	21 04 55.4	+1.6
FAQ	Al Faqa, Dubai	3.82	142	P	Pn	21 04 55.5	+1.5
MDH	Madha	3.86	129	P	Pn	21 04 54.6	0.0
TVBK	TV Kerman	3.98	56	Pn	Pn	21 04 58.4	+1.9
KHGB	Koh Gabri	4.01	49	Pn	Pn	21 04 58.6	+1.8
UOSS	Minazif	4.04	134	P	Pn	21 04 57.4	+0.4
UOSS	Minazif	4.04	134	P	Pn	21 04 58.4	+1.4
UOSS				S	Sn	21 05 45.3	+1.1
IRAM	Ramesheh	4.05	353	Pn	Pn	21 04 58.6	+1.2
HATD	Hatta, Dubai	4.08	135	P	Pn	21 04 58.9	+1.3
HATD	Hatta, Dubai	4.08	135	P	Pn	21 04 59.7	+2.1
HATD				S	Sn	21 05 46.4	+1.2
ASHO	Ashiyiah	4.14	137	P	Pn	21 04 59.4	+0.9
ASHO				S	Sn	21 05 44.7	-2.0
ASHO	Ashiyiah	4.14	137	P	Pn	21 04 59.8	+1.4
	SNR=13						
ISAD	Sadrabad	4.17	8	Pn	Pn	21 05 00.8	+1.8
IBAF	Bafgh	4.42	30	Pn	Pn	21 05 04.1	+1.8
ZRDN	Zarand Kerman	4.44	43	Pn	Pn	21 05 04.5	+1.7
ALNE	Al Ain	4.47	145	P	Pn	21 05 04.2	+1.2
ALNE	Al Ain	4.47	145	P	Pn	21 05 04.1	+1.2
ALNE				S	Sn	21 05 55.2	+0.4
CHMN	Cheshme madani	4.51	62	Pn	Pn	21 05 06.2	+2.4
SOHO	SOHO	4.84	138	P	Pn	21 05 08.9	+0.9
SOHO	SOHO	4.84	138	P	Pn	21 05 09.1	+1.2
SOHO				S	Sn	21 06 04.3	+0.5
KBAM	BAM	5.00	73	Pn	Pn	21 05 12.8	+2.4
ANAR	Anarak	5.43	7	Pn	Pn	21 05 17.9	+1.6
ARQ	Araqi	5.46	143	P	Pn	21 05 16.5	0.0
	SNR=13						
TPRV	Parvadeh(Tabas	6.13	31	Pn	Pn	21 05 27.1	+1.3
KRSH	Karshahi	6.21	354	Pn	Pn	21 05 28.5	+1.4
SMDO	Samad	6.56	135	P	Pn	21 05 33.3	+1.5
WSAR	Wadi Sarin	6.82	130	Pn	Pn	21 05 35.8	+0.6
	0.6nm,0.3s,baz=315,slow=9.4,SNR=12						
WSAR				Sn	Sn	21 06 49.4	-3.3
	0.8nm,0.3s,baz=195,slow=18,SNR=1.5						
	5.5nm,0.6s						
TKDS	Koohdasht(Taba	6.82	30	Pn	Pn	21 05 36.3	+0.9
TNSJ	Nastanj	6.91	26	Pn	Pn	21 05 38.3	+1.8
JMDO	Jabal Madar	7.11	138	P	Pn	21 05 40.2	+0.9
MHTO	MHTO	8.15	145	P	Pn	21 05 54.1	+0.7
SHRT	Shahrakht	8.59	45	Pn	Pn	21 06 01.2	+1.6
MMAI	Mount Meron Ar	16.03	293	Pn	Pn	21 07 42.9	+2.2
	0.5nm,0.3s,baz=94,slow=18,SNR=2.2						
	1.1nm,0.7s						
BRTR	Keskin Array B	19.97	312	P	P	21 08 28.3	+0.8
	baz=128,slow=8.0,SNR=3.9						
	0.7nm,0.7s						
MKAR	Makanchi Array	29.81	43	P	P	21 10 02.0	0.0
	0.3nm,0.8s,baz=243,slow=13,SNR=1.9						
	0.3nm,0.8s						
ZALV	Zalesovo Beam	35.03	33	P	P	21 10 46.8	-0.8
	0.5nm,0.5s,baz=244,slow=9.5,SNR=2.6						
	0.5nm,0.5s						
FINES	FINESS Array B	38.16	339	P	P	21 11 14.2	0.0
	0.8nm,0.5s,baz=152,slow=12,SNR=5.9						
	0.8nm,0.5s						
CMAR	Chiang Mai Arr	43.07	92	P	P	21 11 55.4	0.0
	0.3nm,0.3s,baz=279,slow=9.6,SNR=4.2						
	0.3nm,0.3s						
ARCES	ARCESS Array B	44.73	347	P	P	21 12 07.9	-0.1
	0.3nm,0.3s,baz=148,slow=8.6,SNR=1.4						
	0.3nm,0.3s						
TORD	Torodi Ar. Bea	49.86	264	P	P	21 12 48.4	-0.3
	0.8nm,0.8s,baz=58,slow=7.9,SNR=5.5						
	0.8nm,0.8s						

*IDC **01** 21:04:24.8±1.2, 27°.79N×52°.84E, h0km, mb3.8/11, mbtmp3.8/15, ML3.5/4, MS2.7/2, Error ellipse: s-maj=28.3km s-min=17.6km az=6.0*

ISC 01 21:04:25.4±0.8, 27°.6N±0°.1×52°.86E±0°.10, h10km, n16, σ1§18/16, mb3.9/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	6.81	129	Pn	Pn	21 06 06.2	+0.8
	1.4nm,0.3s,baz=315,slow=6.3,SNR=6.0						
WSAR				Sn	Sn	21 07 20.4	-2.5
	0.5nm,0.3s,baz=5.3,slow=20,SNR=1.3						
WSAR				LR	LR	21 09 15.7	
	comp=Z,28nm,18.6s,baz=40,slow=42						
	5.3nm,0.4s						
ASF	Jabal al Asfar	14.56	292	Pn	Pn	21 07 50.5	-1.2
	0.1nm,0.3s,baz=127,slow=10,SNR=1.4						
ASF				Sn	Sn	21 10 21.2	-12
	0.2nm,0.3s,baz=272,slow=22,SNR=1.3						
	0.4nm,0.3s						
MMAI	Mount Meron Ar	16.00	294	Pn	Pn	21 08 10.1	-0.6
	0.4nm,0.3s,baz=100,slow=16,SNR=2.9						
	2.2nm,0.7s						
BRTR	Keskin Array B	19.99	312	P	P	21 08 58.9	+0.7
	0.1nm,0.3s,baz=124,slow=12,SNR=7.5						
	2.0nm,0.9s						
MKAR	Makanchi Array

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.59**	**342**	P	**Pn**	**21 10 53.8**	**-0.7**
TTSI	**Tana Toraja**	**1.93**	**197**	P	**Pn**	**21 10 58.4**	**-0.7**
TTSI				S	**Sn**	**21 11 24.7**	**+2.6**
MRSI	**Marisa**	**2.27**	**43**	P	**Pn**	**21 11 01.3**	**-2.5**
LUWI	**Luwuk**	**2.39**	**87**	P	**Pn**	**21 11 04.1**	**-1.3**
GTOI	**Gorontalo**	**3.19**	**55**	P	**Pn**	**21 11 18.6**	**+2.2**
BKSI	**Bulukumba**	**4.11**	**184**	P	**Pn**	**21 11 27.2**	**-1.9**
BATI	**Baumata**	**9.53**	**160**	LR	LR	21 16 04.6	
	comp=Z,50nm,19.8s,baz=183,slow=42						
WRA	**Warramunga Arr**	**23.11**	**145**	P	P	21 15 13.6	-17
	0.5nm,0.3s,baz=327,slow=10,SNR=29						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**25.91**	**151**	P	P	21 15 48.0	-8.4
	1.4nm,0.5s,baz=349,slow=12,SNR=36						
	1.4nm,0.5s						
STKA	**Stephens Creek**	**36.51**	**149**	P	P	21 17 22.9	-6.6
	0.8nm,0.3s,baz=319,slow=7.1,SNR=4.7						
	0.8nm,0.3s						

*IDC **01** 21:30:20.3±1.9, 29°.89S×178°.17W, h0km, mb4.0/4, mbtmp4.1/6, ML4.1/2, Error ellipse: s-maj=43.8km s-min=32.9km az=67.0*
*NEIC **01** 21:30:27.7±1.9, 30°.4S±0°.1×178°.8W±0°.2, h10km±2km, mb4.4/12, Error ellipse: s-maj=30.2km s-min=8.6km az=124.0*
ISC 01 21:30:27.0±0.9, 30°.4S±0°.1×178°.8W±0°.1, h10km, n35, σ1§69/30, mb4.3/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.32**	**33**	Pn	**Pn**	**21 30 52.9**	**+1.4**
URZ	**Urewera**	**8.59**	**202**	Pn	**Pn**	**21 32 33.4**	**+1.9**
	0.7nm,0.3s,baz=29,slow=10,SNR=6.5						
	2.0nm,0.3s						
BKZ	**Black Stump Fm**	**9.62**	**203**	Pn	**Pn**	**21 32 44.6**	**-0.9**
TUWZ	**Tuamarina**	**12.53**	**206**	Pn	**Pn**	**21 33 24.0**	**-1.3**
KHZ	**Kahutara**	**13.53**	**205**	Pn	**Pn**	**21 33 39.4**	**+0.4**
GVZ	**Greta Valley S**	**14.20**	**205**	Pn	**Pn**	**21 33 47.9**	**-0.3**
AMCZ	**Amberley**	**14.52**	**206**	Pn	**Pn**	**21 33 51.7**	**-0.8**
INZ	**Inchbonnie**	**14.63**	**210**	Pn	**Pn**	**21 33 55.9**	**+1.9**
OXZ	**Oxford**	**14.88**	**207**	Pn	**Pn**	**21 33 56.5**	**-1.0**
MQZ	**McQueen's Vall**	**14.97**	**205**	Pn	**Pn**	**21 34 00.3**	**+1.6**
RPZ	**Rata Peaks**	**15.60**	**209**	Pn	**Pn**	**21 34 07.6**	**+0.6**
RPZ	**Rata Peaks**	**15.60**	**209**	Pn	**Pn**	**21 34 08.1**	**+1.1**
	2.2nm,0.3s,baz=45,slow=3.0,SNR=9.0						
RPZ				Sn	Sn	21 36 44.8	-15
	1.1nm,0.3s,baz=120,slow=23,SNR=7.1						
	6.4nm,0.3s						
CTAO	**Charters Tower**	**33.16**	**280**	P	**P**	**21 37 04.7**	**+0.9**
STKA	**Stephens Creek**	**33.86**	**257**	P	**P**	**21 37 10.1**	**+0.3**
STKA	**Stephens Creek**	**33.86**	**257**	P	**P**	**21 37 10.7**	**+0.9**
	2.6nm,0.4s,baz=111,slow=10,SNR=8.8						
	2.6nm,0.4s						
BBOO	**Buckleboo**	**38.36**	**254**	P	**P**	**21 37 48.0**	**-0.4**
ASAR	**Alice Springs**	**42.47**	**267**	P	**P**	**21 38 21.3**	**-1.2**
	1.0nm,0.6s,baz=102,slow=7.5,SNR=15						
	1.0nm,0.6s						
WR0	**Warramunga Arr**	**43.27**	**273**	P	**P**	**21 38 27.1**	**-2.0**
WB2	**Warramunga Arr**	**43.44**	**273**	P	**P**	**21 38 29.1**	**-1.3**
WB2				IAmb	IAmb	21 38 30.9	
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**43.45**	**273**	P	**P**	**21 38 28.9**	**-1.6**
WRA	**Warramunga Arr**	**43.45**	**273**	P	**P**	**21 38 29.0**	**-1.6**
	comp=Z,2.0nm,0.4s,baz=111,slow=8.0,SNR=28						
WRA				PcP	**PP**	**21 40 14.2**	**+2.6**
	comp=Z,0.4nm,0.4s,baz=102,slow=3.9,SNR=6.5						
	comp=Z,2.0nm,0.4s						
WB0	**Warramunga Arr**	**43.47**	**273**	P	**P**	**21 38 29.4**	**-1.3**
WB0				IAmb	IAmb	21 38 30.2	
	comp=Z,3.1nm,0.9s						
SBA	**Scott Base**	**48.03**	**184**	P	**P**	**21 39 06.4**	**+0.5**
SBA				IAmb	IAmb	21 39 15.7	
	comp=Z,9.7nm,1.5s						
VNDA	**Vanda**	**48.07**	**186**	P	**P**	**21 39 05.2**	**-1.0**
VNDA				IAmb	IAmb	21 39 40.6	
	comp=Z,3.1nm,1.5s						
VNDA	**Vanda**	**48.07**	**186**	P	**P**	**21 39 05.7**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=5.1,slow=9.6,SNR=6.1						
	comp=Z,0.4nm,0.6s						
KNRA	**Kununurra**	**50.06**	**275**	P	**P**	**21 39 21.8**	**-0.5**
KNRA				IAmb	IAmb	21 39 46.1	
	comp=Z,9.4nm,1.1s						
QSPA	**South Pole Qui**	**59.75**	**180**	P	**P**	**21 40 32.4**	**+0.5**
QSPA				IAmb	IAmb	21 40 33.1	
	comp=Z,3.1nm,0.8s						
H03S2	**Juan Fernandez**	**81.02**	**124**	T	T	23 11 57.6	
	baz=237,slow=74,SNR=4.1						
H03S1	**Juan Fernandez**	**81.03**	**124**	T	T	23 12 07.5	
	baz=237,slow=74,SNR=4.4						
H03S3	**Juan Fernandez**	**81.04**	**124**	T	T	23 11 58.7	
	baz=237,slow=74,SNR=6.5						
H03N3	**Juan Fernandez**	**81.22**	**124**	T	T	23 12 12.2	
	baz=241,slow=72,SNR=3.9						
H03N2	**Juan Fernandez**	**81.22**	**124**	T	T	23 12 02.5	
	baz=241,slow=72,SNR=4.0						
H03N1	**Juan Fernandez**	**81.23**	**124**	T	T	23 12 02.3	
	baz=241,slow=72,SNR=6.1						
FINES	**FINESS Array B**	**144.88**	**339**	PKP	**PKPab**	**21 49 57.1**	**-5.7**
	comp=Z,2.0nm,0.7s,baz=52,slow=3.1,SNR=10						
MMAI	**Mount Meron Ar**	**150.89**	**284**	PKPbc	**PKPdf**	**21 50 16.2**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=91,slow=6.5,SNR=2.5						

IDC 01 21:33:20.6±7.0, 30°.83S×179°.07W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=291.2km s-min=55.9km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.17**	**268**	P	P	21 41 14.7	-0.6
	0.7nm,0.6s,baz=104,slow=7.3,SNR=8.7						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**43.20**	**273**	P	P	21 41 23.9	+0.3
	0.9nm,0.3s,baz=112,slow=8.2,SNR=16						
	0.9nm,0.3s						
FINES	**FINESS Array B**	**145.22**	**339**	PKPbc	PKPbc	21 52 58.4	-0.8
	1.4nm,0.8s,baz=46,slow=2.9,SNR=7.8						

*NEIC **01** 22:00:28.6±1.2, 7°.1S±0°.1×156°.08E±0°.07, h112km±11km, mb4.0/9, Error ellipse: s-maj=18.6km s-min=3.2km az=213.0*
*IDC **01** 22:00:29.1±6.0, 7°.10S×156°.01E, h117km±41km, mb3.8/9, mbtmp4.1/11, MS3.0/4, Error ellipse: s-maj=55.5km s-min=19.6km az=99.0*
ISC 01 22:00:25.8±0.8, 7°.12S±0°.09×156°.2E±0°.1, h100km, n32, σ1§41/27, mb4.0/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.33**	**122**	Pn	Pn	22 01 34.2	+4.6
RABL	**Rabaul**	**4.99**	**305**	Pn	**Pn**	**22 01 39.3**	**+0.9**
KRVT	**Keravat (AS076**	**5.03**	**303**	P	**Pn**	**22 01 40.5**	**+1.4**
	23nm,0.5s,baz=229,slow=24,SNR=4.7						
PMG	**Port Moresby**	**9.27**	**255**	Pn	**Pn**	**22 02 36.5**	**-0.2**
PMG	**Port Moresby**	**9.27**	**255**	P	**Pn**	**22 02 35.9**	**-0.8**
	20nm,0.6s,baz=75,slow=6.2,SNR=5.5						
PMG				S	**Sn**	**22 04 19.0**	**-0.2**
	12nm,0.7s,baz=137,slow=8.1,SNR=2.5						
PATS	**Pohnpei**	**14.01**	**9**	Pn	**Pn**	**22 03 38.1**	**-2.0**
CTA	**Charters Tower**	**16.13**	**216**	LR	LR	22 09 48.8	
	comp=Z,16nm,21.0s,baz=80,slow=35						
DZM	**Mont Dzumac**	**17.83**	**148**	P	**Pn**	**22 04 28.8**	**+1.0**
DZM				IAmb	IAmb	22 04 32.5	
	comp=Z,27nm,1.3s						
WR0	**Warramunga Arr**	**24.61**	**237**	P	**P**	**22 05 36.9**	**-0.2**
WR0				IAmb	IAmb	22 05 39.2	
	comp=Z,4.5nm,0.8s						
WB0	**Warramunga Arr**	**24.65**	**237**	P	**P**	**22 05 36.5**	**-0.9**
WB0				IAmb	IAmb	22 05 39.1	
	comp=Z,4.0nm,0.7s						
WB2	**Warramunga Arr**	**24.76**	**237**	P	**P**	**22 05 38.1**	**-0.3**
WB2				IAmb	IAmb	22 05 40.6	
	comp=Z,5.2nm,0.7s						
WRA	**Warramunga Arr**	**24.77**	**237**	P	**P**	**22 05 37.9**	**-0.6**
WRA	**Warramunga Arr**	**24.77**	**237**	P	**P**	**22 05 38.7**	**+0.2**
	comp=Z,4.5nm,0.6s,baz=61,slow=9.8,SNR=29						
WRA				PcP	**PcP**	**22 09 13.8**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=70,slow=2.0,SNR=1.3						
	comp=Z,4.5nm,0.6s						
ASAR	**Alice Springs**	**27.03**	**230**	P	**P**	**22 05 58.6**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=58,slow=9.9,SNR=15						
ASAR				PcP	**PcP**	**22 09 19.8**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=45,slow=4.1,SNR=1.3						
	comp=Z,0.8nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**27.46**	**22**	T	T	22 34 29.1	
	baz=202,slow=76,SNR=56						
H11S2	**WAKE ISLAND Hy**	**27.46**	**22**	T	T	22 34 29.3	
	baz=202,slow=76,SNR=59						
H11S1	**WAKE ISLAND Hy**	**27.47**	**22**	T	T	22 34 30.2	
	baz=202,slow=76,SNR=21						
STKA	**Stephens Creek**	**28.17**	**207**	P	**P**	**22 06 09.6**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=329,slow=14,SNR=1.9						
	comp=Z,0.6nm,0.3s						
BATI	**Baumata**	**32.34**	**262**	LR	LR	22 20 14.3	
	comp=Z,67nm,19.4s,baz=228,slow=37						
FORT	**Forrest**	**35.36**	**225**	P	**P**	**22 07 12.1**	**+0.2**
JOW	**Kunigami**	**43.28**	**322**	LR	LR	22 26 25.4	
	comp=Z,14nm,18.5s,baz=108,slow=36						
MORW	**Morawa**	**43.69**	**235**	P	**P**	**22 08 20.5**	**-0.7**
ASAJ	**Asahikawa**	**52.46**	**348**	LR	LR	22 30 06.7	
	comp=Z,16nm,19.4s,baz=352,slow=34						
CMAR	**Chiang Mai Arr**	**61.95**	**295**	P	**P**	**22 10 35.5**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=125,slow=4.7,SNR=4.8						
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**70.11**	**327**	P	**P**	**22 11 29.3**	**+1.8**
SONM	**Songino Array**	**70.11**	**327**	P	**P**	**22 11 28.3**	**+0.8**
	comp=Z,2.4nm,0.9s,baz=142,slow=6.6,SNR=8.7						
	comp=Z,2.4nm,0.9s						
VNDA	**Vanda**	**70.43**	**179**	P	P	22 11 31.2	+2.4
VNDA				IAmb	IAmb	22 11 53.0	
	comp=Z,1.7nm,1.3s						
MKAR	**Makanchi Array**	**84.31**	**318**	P	**P**	**22 12 47.7**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=107,slow=4.4,SNR=10						
	comp=Z,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**84.97**	**326**	P	**P**	**22 12 50.1**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=134,slow=4.3,SNR=4.8						
	comp=Z,1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**87.72**	**321**	P	**P**	**22 13 03.0**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=101,slow=4.1,SNR=6.2						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**93.13**	**323**	P	**P**	**22 13 28.5**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=99,slow=9.1,SNR=4.0						
	comp=Z,0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**154.25**	**285**	PKPbc	**PKiKP**	**22 20 16.1**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=42,slow=2.6,SNR=4.9						
TORD				PKPab	**pPKPdf**	**22 20 29.0**	**-5.3**
	comp=Z,0.3nm,0.7s,baz=76,slow=3.6,SNR=4.5						

*IDC **01** 22:26:46.6±2.7, 36°.23N×70°.18E, h176km±25km, mb3.4/12, mbtmp4.0/18, MS3.1/1, Error ellipse: s-maj=19.6km s-min=13.6km az=177.0*
*NEIC **01** 22:26:51.4±1.9, 36°.50N±0°.07×70°.2E±0°.1, h214km±6km, mb4.3/19, Error ellipse: s-maj=13.9km s-min=10.0km az=109.0*
*NNC **01** 22:26:52.9±8.9, 36°.82N×69°.77E, h145km±210km, mb3.2, mpv4.0, Error ellipse: s-maj=77.3km s-min=55.2km az=22.0*
ISC 01 22:26:51.1±0.5, 36°.53N±0°.05×70°.13E±0°.05, h213km, n84, σ1§23/91, mb3.8/17, 7C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.18**	**204**		**Pn**	**22 27 33.2**	**+0.5**
CEP	**Cherat**	**3.07**	**151**	P	**Pn**	**22 27 42.9**	**+0.5**
CEP				S	**S**	**22 28 21.0**	**-1.2**
BTK	**Batken**	**3.56**	**8**	Pn	**Pn**	**22 27 49.9**	**+1.8**
CHCP	**Chirah Chowk**	**3.85**	**137**	P	**Pn**	**22 27 52.1**	**+0.5**
NIL	**Nilore**	**3.85**	**137**	Pn	**Pn**	**22 27 52.1**	**+0.6**
THW	**Thamme Wali**	**3.96**	**160**	P	**Pn**	**22 27 52.9**	**0.0**
SARP	**Sargodha**	**5.06**	**155**	P	**Pn**	**22 28 05.7**	**-0.9**
AML	**Almayashu**	**6.23**	**25**	P	**Pn**	**22 28 22.0**	**+0.1**
	SNR=264						
AML	**Almayashu**	**6.23**	**25**	⇑P	**Pn**	**22 28 21.6**	**-0.2**
	1.2nm,0.3s						
AML				⇑S	**S**	**22 29 30.8**	**-2.9**
	49nm,0.8s						
KK31	**Karatay Array**	**6.57**	**2**	⇓P	**Pn**	**22 28 25.9**	**+0.1**
	3.7nm,0.3s,baz=192,slow=14,SNR=50						
KK31				⇓S	**S**	**22 29 35.9**	**-5.0**
	11nm,0.7s,baz=194,slow=21,SNR=5.8						
KK31	**Karatay Array**	**6.57**	**2**	Pn	**Pn**	**22 28 26.1**	**+0.3**
KKAR	**Karatay Array**	**6.57**	**2**		**Pn**	**22 28 26.1**	**+0.4**
KKAR	**Karatay Array**	**6.57**	**2**		**Pn**	**22 28 25.4**	**-0.3**
UCH	**Uchtor**	**6.62**	**29**	P	**Pn**	**22 28 27.1**	**+0.3**
	SNR=50						
EKS2	**Erkin-Say**	**6.74**	**24**	P	**Pn**	**22 28 28.6**	**+0.6**
	SNR=116						
HRA	**Herat**	**6.79**	**254**	Pn	**Pn**	**22 28 27.7**	**-1.1**
AAK	**Ala-Archa**	**6.96**	**28**	P	**Pn**	**22 28 31.1**	**+0.2**
	SNR=38						
AAK	**Ala-Archa**	**6.96**	**28**	P	**Pn**	**22 28 31.0**	**0.0**
	20nm,0.3s,baz=218,slow=4.0,SNR=71						
AAK				S	**S**	**22 29 49.5**	**-0.9**
	23nm,0.7s,baz=5.2,slow=21,SNR=13						
KBK	**Karagaybulak**	**7.16**	**30**	P	**Pn**	**22 28 34.2**	**+0.7**
	SNR=24						
FRU1	**Bishkek**	**7.16**	**28**		**Pn**	**22 28 34.1**	**+0.6**
CHMS	**Chumysh**	**7.37**	**27**	P	**Pn**	**22 28 36.5**	**+0.4**
	SNR=12						
CHMS	**Chumysh**	**7.37**	**27**	⇑P	**Pn**	**22 28 35.7**	**-0.4**
	7.9nm,0.5s						
CHMS				⇑S	**S**	**22 29 56.6**	**-3.2**
	29nm,1.1s						
ULHL	**Ulahol**	**7.41**	**38**	P	**Pn**	**22 28 37.2**	**+0.4**
	SNR=22						
BOOM	**Boomskoye usch**	**7.45**	**35**	Pn	**Pn**	**22 28 37.3**	**0.0**
USP	**Ospenovka**	**7.51**	**25**	P	**Pn**	**22 28 38.2**	**+0.2**
	SNR=36						
TKM2	**Tokmak 2**	**7.64**	**32**	P	**Pn**	**22 28 40.0**	**+0.2**
	SNR=13						
TKM2	**Tokmak 2**	**7.64**	**32**	⇓P	**Pn**	**22 28 39.2**	**-0.6**
	6.1nm,0.3s						
TKM2				⇑S	**S**	**22 30 04.1**	**-2.4**
	18nm,1.1s						
TARG	**Taragay, Kyrgy**	**7.90**	**47**		**Pn**	**22 28 42.9**	**-0.5**
PRZ	**Przheval'sk**	**8.72**	**45**	Pn	**Pn**	**22 28 54.2**	**+0.5**
GEYT	**Alibeck**	**9.69**	**282**	P	**Pn**	**22 29 03.2**	**-2.9**
	1.0nm,0.6s,baz=228,slow=37,SNR=1.8						
GEYT				S	**S**	**22 30 53.8**	**-0.9**
	1.2nm,0.4s,baz=82,slow=13,SNR=1.7						
MAKZ	**Makanchi**	**13.54**	**37**	P	**Pn**	**22 29 54.5**	**-0.2**
MK31	**Makanchi Array**	**13.68**	**38**	Pn	**Pn**	**22 29 56.1**	**-0.4**
MKAR	**Makanchi Array**	**13.68**	**38**	Pn	**Pn**	**22 29 55.9**	**-0.6**
MKAR	**Makanchi Array**	**13.68**	**38**	P	**Pn**	**22 29 56.1**	**-0.3**
	3.8nm,0.6s,baz=226,slow=13,SNR=20						
PYUN	**Piuthan**	**13.73**	**124**	*eP*	**Pn**	**22 29 56.6**	**-0.9**
	6.9nm,0.3s						
DANN	**Dangsing**	**14.10**	**121**	*eP*	**Pn**	**22 30 02.2**	**+0.2**
	8.7nm,0.3s						
AB31	**Akbulak array**	**14.73**	**333**	⇑P	**Pn**	**22 30 08.3**	**-1.0**
	0.6nm,0.3s,baz=156,slow=11,SNR=29						
AB31				⇑S	**S**	**22 32 52.2**	**+0.1**
	1.6nm,0.8s						
ABKAR	**Akbulak array**	**14.73**	**333**		**Pn**	**22 30 09.0**	**-0.2**
ABKAR	**Akbulak array**	**14.73**	**333**		**Pn**	**22 30 09.0**	**-0.2**
KURBB	**Kurchatov Arra**	**15.33**	**21**	P	**Pn**	**22 30 15.9**	**-0.5**
	3.0nm,0.2s,baz=112,slow=23,SNR=7.2						
DMN	**Daman**	**15.48**	**121**	*eP*	**Pn**	**22 30 19.8**	**+0.9**
	4.4nm,0.2s						
PKIN	**Phulchoki**	**15.71**	**120**	*eP*	**Pn**	**22 30 23.0**	**+1.4**
	5.3nm,0.2s						
PKI	**Pulchoki**	**15.72**	**120**	*eP*	**Pn**	**22 30 23.1**	**+1.3**
	7.3nm,0.4s						
GUN	**Gumba**	**15.84**	**118**	*eP*	**Pn**	**22 30 24.4**	**+1.1**
	8.7nm,0.3s						
JIRN	**Jiri**	**16.21**	**119**	*eP*	**Pn**	**22 30 29.4**	**+1.6**
	12nm,0.4s						
AKTO	**Aktyubinsk**	**16.41**	**332**	P	**Pn**	**22 30 29.8**	**+0.3**
	1.6nm,0.4s,baz=125,slow=6.0,SNR=6.5						
BVAR	**Borovoye Array**	**16.49**	**1**	P	**Pn**	**22 30 31.1**	**+0.6**
	4.6nm,0.4s,baz=152,slow=10,SNR=21						
BRVK	**Borovoye**	**16.52**	**0**		**P**	**22 30 30.4**	**+0.7**
BRVK				IAmb	IAmb	22 30 34.1	
	comp=Z,15nm,1.4s						
RAMN	**Ramite**	**16.93**	**120**	*eP*	**Pn**	**22 30 37.3**	**+1.1**
ZAA0	**Zalesovo Array**	**20.18**	**26**	P	**P**	**22 31 09.2**	**0.0**
ZAA0				IAmb	IAmb	22 31 16.2	
	comp=Z,3.7nm,0.7s						
ZALV	**Zalesovo Beam**	**20.18**	**26**	P	**P**	**22 31 09.2**	**0.0**
ZALV	**Zalesovo Beam**	**20.18**	**26**	P	**P**	**22 31 09.9**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=217,slow=11,SNR=16						
	comp=Z,2.6nm,0.3s						
GNI	**Garni**	**20.22**	**288**	P	**P**	**22 31 12.8**	**+2.8**
GNI				IAmb	IAmb	22 31 17.3	
	comp=Z,17nm,1.4s						
ARU	**Arti**	**21.38**	**342**	P	**P**	**22 31 22.2**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=126,slow=21,SNR=2.0						
	comp=Z,0.7nm,0.3s						
SONM	**Songino Array**	**28.89**	**56**	P	**P**	**22 32 32.0**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=286,slow=34,SNR=2.3						
	comp=Z,0.3nm,0.5s						
AKASG	**Malin Array Be**	**32.38**	**309**	P	**P**	**22 33 01.6**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=83,slow=7.4,SNR=4.9						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**37.07**	**326**	P	**P**	**22 33 42.1**	**+1.8**
	comp=Z,3.4nm,1.0s,baz=94,slow=5.7,SNR=4.3						
	comp=Z,3.4nm,1.0s						
ARCES	**ARCESS Array B**	**40.85**	**338**	P	**P**	**22 34 12.6**	**+0.9**
ARCES				IAmb	IAmb	22 34 39.7	
	comp=Z,17nm,1.4s						
ARCES	**ARCESS Array B**	**40.85**	**338**	P	**P**	**22 34 13.3**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=108,slow=7.8,SNR=8.0						
	comp=Z,0.8nm,0.5s						
HFS	**Hagfors**	**42.61**	**322**	P	**P**	**22 34 26.9**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=93,slow=12,SNR=9.3						
	comp=Z,0.8nm,0.3s						
CLL	**Collm**	**42.63**	**309**	*eP*	**P**	**22 34 29.0**	**+2.7**
NC303	**NORSAR Array S**	**43.88**	**323**	P	**P**	**22 34 37.1**	**+1.0**
NC303				IAmb	IAmb	22 35 10.1	
	comp=Z,19nm,1.2s						
NOA	**NORSAR Array B**	**43.93**	**323**	P	**P**	**22 34 37.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=103,slow=7.3,SNR=1.7						
	comp=Z,0.5nm,0.6s						
NC204	**NORSAR Array S**	**44.18**	**323**	P	**P**	**22 34 39.4**	**+0.8**
SPB3	**Spitsbergen Ar**	**47.30**	**347**	P	**P**	**22 35 02.5**	**-0.2**
SPA3	**Spitsbergen Ar**	**47.30**	**347**	P	**P**	**22 35 03.6**	**+0.9**
JOW	**Kunigami**	**49.76**	**84**	LR	LR	22 58 58.2	
	comp=Z,18nm,20.2s,baz=190,slow=39						
TOA0	**Torodi Ar. Sit**	**65.02**	**268**	P	**P**	**22 37 07.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**65.02**	**268**	P	**P**	**22 37 07.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**65.02**	**268**	P	**P**	**22 37 07.7**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=49,slow=6.6,SNR=14						
	comp=Z,0.8nm,0.5s						
TOLK	**Toolik Lake Re**	**71.06**	**14**	P	**P**	**22 37 46.8**	**+1.2**
TOLK				IAmb	IAmb	22 38 22.2	
	comp=Z,7.6nm,1.4s						
IMAR	**Indian Mountai**	**72.35**	**17**	P	**P**	**22 37 53.7**	**+0.5**
BMAR	**Burnt Mountain**	**73.07**	**13**	P	**P**	**22 37 58.2**	**+0.7**
H24K	**Noodor Dome**	**73.80**	**15**	P	**P**	**22 38 01.1**	**-0.7**
CAST	**Castle Rocks**	**74.87**	**18**	P	**P**	**22 38 08.6**	**+0.7**
GHO	**Glory Hole Cre**	**77.05**	**18**	P	**P**	**22 38 20.7**	**+0.3**
GHO				IAmb	IAmb	22 38 31.3	
	comp=Z,4.3nm,0.8s						
SML	**Sawmill**	**77.17**	**18**	P	**P**	**22 38 20.2**	**-0.7**
SML				IAmb	IAmb	22 38 37.2	
	comp=Z,12nm,1.3s						
BOSA	**Boshof**	**77.33**	**219**	P	**P**	**22 38 22.1**	**-0.2**
BOSA	**Boshof**	**77.33**	**219**	P	**P**	**22 38 21.9**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=157,slow=4.9,SNR=3.8						
	comp=Z,1.4nm,0.7s						
BCAR	**Beaver Creek A**	**77.50**	**14**	P	**P**	**22 38 24.0**	**+1.2**
K29M	**Barlow Dome**	**77.58**	**12**	P	**P**	**22 38 23.2**	**-0.1**
K29M				IAmb	IAmb	22 38 45.8	
	comp=Z,4.6nm,1.4s						
M27K	**Edge Creek, AK**	**78.13**	**15**	P	**P**	**22 38 26.9**	**+0.6**
M27K				IAmb	IAmb	22 39 00.6	
	comp=Z,6.5nm,1.4s						
WRA	**Warramunga Arr**	**82.60**	**121**	P	**P**	**22 38 48.5**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=324,slow=4.9,SNR=5.9						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**84.85**	**124**	P	**P**	**22 39 00.2**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=316,slow=5.9,SNR=6.9						
	comp=Z,0.5nm,0.6s						

*IDC **01** 22:36:11.8±1.2, 5°.49S×153°.30E, h0km, mb3.9/9, mbtmp3.9/9, MS3.2/3, Error ellipse: s-maj=32.4km s-min=19.3km az=98.0*
ISC 01 22:36:17.2±1.0, 5°.60S±0°.09×153°.2E±0°.1, h35km, n14, σ1§28/13, mb3.9/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.72**	**318**	Pn	**Pn**	**22 36 43.4**	**-1.2**
	192nm,0.3s,baz=232,slow=24,SNR=86						
KRVT				Sn	**Sn**	**22 37 06.7**	**+1.3**
	310nm,0.3s,baz=247,slow=0.1,SNR=12	

TXAR	**Lajitas Array**	**16.77**	**329**	P	**P**	**23 44 58.8 +1.7**
	baz=146,slow=13,SNR=5.8 0.5nm,0.8s					
TKL	**Tuckaleechee C**	**22.25**	**22**	LR	LR	23 54 16.3
	comp=Z,45nm,18.4s,baz=170,slow=36					
SDV	**Santo Domingo**	**23.47**	**103**	LR	LR	23 56 08.8
	comp=Z,24nm,18.3s,baz=233,slow=41					
PDAR	**Pinedale Array**	**30.64**	**337**	P	**P**	**23 47 14.9 +0.7**
	0.6nm,0.9s,baz=137,slow=8.2,SNR=2.4 0.6nm,0.9s					
ILAR	**Eielson Array**	**61.07**	**337**	P	**P**	**23 51 11.7 -1.4**
	0.4nm,0.8s,baz=114,slow=7.4,SNR=4.4 0.4nm,0.8s					

*ECX **01** 23:46:14.8±0.6, 31.°23N×115.°90W, h4km±2km, MD2.3, ML2.5*
*MEX **01** 23:46:14.0±0.9, 31.°08N×115.°88W, h21km±756km, MD2.8*
ISC 01 23:46:13.7±1.0, 31.°22N±0.°03×115.°91W±0.°03, h14km±7km, n15, σ0°92/28, 6C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTX	**Valle De La Tr**	**0.20**	**31**	⇑*i*P	**Pg**	**23 46 18.6**	**+0.3**
VTX				*e*S	**Sg**	**23 46 21.3**	**-0.2**
VTX				⇑*e*		23 46 21.6
VTX				IAML		23 46 21.6
	comp=E,2μm,0.1s					
SV2X	**San Vicente**	**0.31**	**293**	*e*P	**Pg**	**23 46 20.5**	**+0.4**
SV2X				*e*S	**Sg**	**23 46 24.7**	**+0.2**
SPIG	**San Pedro Mart**	**0.41**	**114**	*e*P	**Pg**	**23 46 22.5**	**+0.4**
SPIG				*i* S	**Sg**	**23 46 27.4**	**-0.4**
SJX	**San Joaquin**	**0.55**	**355**	*e*P	**Pn**	**23 46 28.9**	**+1.8**
SJX				*e*S	**Sn**	**23 46 39.1**	**+3.1**
SJX				⇑*e*		23 46 39.8
SJX				IAML		23 46 39.8
	comp=N,211nm,0.1s					
SQX	**San Quintin**	**0.64**	**178**	⇑*e*P	**Pb**	**23 46 26.2**	**-0.4**
SQX				*e*S	**Sb**	**23 46 34.9**	**-0.5**
SQX				IAML		23 46 36.2
	comp=N,392nm,0.3s					
SQX				⇓*e*		23 46 36.2
SQX				⇑*e*		23 46 38.5
SQX				IAML		23 46 38.5
	comp=E,307nm,0.3s					
ECBX	**El Chinero**	**0.77**	**70**	*e*S	**Sg**	**23 46 39.0**	**+0.1**
ECBX				*e*S	**Sg**	**23 46 39.0**	**+0.1**
ECBX				⇓*e*		23 46 39.4
ECBX				IAML		23 46 39.4
	comp=N,218nm,0.3s					
ECBX				IAML		23 46 41.5
	comp=E,81nm,0.2s					
ECBX				*e*		23 46 41.5
ALAMX	**Rancho Alamar**	**0.81**	**12**	*e*P	**Pg**	**23 46 29.0**	**-0.3**
ALAMX				*e*S	**Sg**	**23 46 39.3**	**-0.7**
ALAMX				⇑*e*		23 46 40.4
ALAMX				IAML		23 46 40.4
	comp=E,167nm,0.2s					
ALAMX				IAML		23 46 40.8
	comp=N,236nm,0.1s					
PBX	**Punta Banda**	**0.88**	**307**	*e*P	**Pg**	**23 46 30.7**	**+0.1**
PBX				*e*S	**Sg**	**23 46 42.4**	**+0.3**
CCX	**Cicese**	**0.92**	**315**	*e*P	**Pb**	**23 46 30.6**	**-0.8**
RHX	**Rio Hardy**	**1.06**	**30**	⇓*e*P	**Pb**	**23 46 33.6**	**-0.1**
RHX				*e*S	**Sb**	**23 46 47.3**	**-0.2**
CBX	**Cerro Bola**	**1.27**	**330**	*e*P	**Pn**	**23 46 37.0**	**-0.2**
CBX				*e*S	**Sb**	**23 46 53.7**	**0.0**
CBX	**Cerro Bola**	**1.27**	**330**	*e*P	**Pn**	**23 46 36.6**	**-0.5**
CBX				*e*S	**Sb**	**23 46 52.3**	**-1.4**
MBIG	**Mexicali**	**1.33**	**27**	*e*P	**Pn**	**23 46 37.0**	**-0.8**
MBIG				*e*S	**Sn**	**23 46 55.0**	**-0.3**
TJIG	**Tijuana**	**1.38**	**332**	*e*P	**Pn**	**23 46 38.2**	**-0.3**
TJIG				*e*S	**Sn**	**23 46 55.9**	**-0.7**
BAR	**Barrett**	**1.60**	**336**	*e*P	**Pn**	**23 46 42.6**	**+1.0**

*NEIC **01** 23:49:19.9±1.9, 37.°18N±0.°01×114.°80W±0.°02, h16km±4km, Error ellipse: s-maj=2.1km s-min=1.6km az=219.0*
REN 01 23:49:20.2±2.8, 37.°20N±0.°01×114.°80W±0.°02, h7km±4km, ML2.5/17, ML2.3/53(NEIC), Error ellipse: s-maj=2.2km s-min=1.9km az=131.0, Southern Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRN	**Pahroc Range**	**0.29**	**316**	Pg	Pg	23 49 26.2	+0.1
PRN				Sg	Sg	23 49 30.5	+0.6
PRN				IAML		23 49 31.5
	comp=N,473nm,0.2s					
PRN				IAML		23 49 34.0
	comp=E,580nm,0.4s					
ICU	**Indian Springs**	**0.70**	**94**		Pg	23 49 33.4	-0.3
SHPR	**Sheep Range**	**0.75**	**203**	Pg	Pg	23 49 32.8	-1.9
SHPR				Sg	Sg	23 49 43.3	-1.2
S11A	**Rachel**	**0.88**	**301**		Pg	23 49 37.5	+0.3
S11A				Sg	Sb	23 49 50.9	+0.9
S11A				IAML		23 49 52.3
	comp=E,114nm,0.4s					
S11A				IAML		23 49 53.0
	comp=N,125nm,0.4s					
WTNK	**Soaring Height**	**1.02**	**190**		Pg	23 49 38.7	-1.1
WTNK				Sg	Sg	23 49 51.2	-1.8
CPY	**CP-1**	**1.04**	**256**		Pg	23 49 39.9	-0.4
CPY					Sg	23 49 54.1	+0.3
TPNV	**Topopah Spring**	**1.19**	**258**		Pg	23 49 42.1	-0.9
TPNV				Sg	Sg	23 49 58.0	-0.5
LCMT	**Little Creek M**	**1.25**	**98**		Pb	23 49 43.7	-0.6
LCMT				Sg	Sg	23 49 59.4	-1.2
LCMT				IAML		23 50 01.8
	comp=N,60nm,0.2s					
LCMT				IAML		23 50 05.2
	comp=E,52nm,0.2s					
R11B	**Troy Canyon, C**	**1.31**	**332**		Pn	23 49 44.1	-1.1
R11B	**Troy Canyon, C**	**1.31**	**332**	Sg	Sb	23 50 01.5	-0.9
R11B				IAML		23 50 03.2
	comp=E,49nm,0.2s					
SDH	**Striped Hills**	**1.35**	**246**		Pn	23 49 44.5	-1.1
AMDNV	**Amargosa**	**1.41**	**239**		Pn	23 49 45.6	-0.6
V12A	**Nelson**	**1.47**	**182**		Pn	23 49 47.1	-0.1
V12A				Sn	Sn	23 50 05.3	-1.4
V12A				IAML		23 50 07.1
	comp=N,28nm,0.6s					
V12A				IAML		23 50 09.5
	comp=E,31nm,0.4s					
WCT	**Wildcat Mounta**	**1.52**	**255**		Pn	23 49 45.5	-2.4
WCT				IAML		23 50 11.6
	comp=E,46nm,0.6s					
PSUT	**Pine Spring**	**1.53**	**29**	Pn	Pn	23 49 46.2	-1.9
PSUT				IAML		23 50 11.1
	comp=E,38nm,0.3s					
PSUT				IAML		23 50 18.9
	comp=N,26nm,0.9s					
KNB	**Kanab**	**1.59**	**96**		Pn	23 49 46.5	-2.5
KNB				IAML		23 50 11.4
	comp=E,25nm,0.5s					
KNB				IAML		23 50 11.9
	comp=N,29nm,0.4s					
SGV	**South Grapevin**	**1.80**	**264**		Pn	23 49 50.7	-1.2
GWY	**Greenwater Val**	**1.81**	**237**		Pn	23 49 49.8	-2.2
GWY				IAML		23 50 21.6
	comp=N,30nm,0.5s					
GWY				IAML		23 50 22.3
	comp=E,26nm,0.5s					
MTPC	**Mountain Pass**	**1.81**	**200**		Pb	23 49 54.0	+0.1
SPR3	**Spring Creek 3**	**1.84**	**11**		Pn	23 49 52.8	+0.3
SPR3				IAML		23 50 18.0
	comp=E,19nm,0.5s					
SPR3				IAML		23 50 18.8
	comp=N,28nm,0.6s					
GMN	**Gold Mountain**	**1.97**	**274**		Pn	23 49 51.8	-2.5
GMN				IAML		23 50 27.6
	comp=N,19nm,0.6s					
PKCU	**Pink Cliffs**	**2.00**	**82**		Pn	23 49 51.2	-3.5
PKCU				IAML		23 50 24.9
	comp=N,33nm,0.4s					
GRAC	**Grapevine Rang**	**2.06**	**265**		Pn	23 49 51.8	-3.6
QSM	**Queen of Sheba**	**2.07**	**234**		Pn	23 49 53.0	-2.4
TPH	**Tonopah**	**2.12**	**295**		Pn	23 49 52.1	-4.2
MZP	**Montezuma Peak**	**2.12**	**284**		Pn	23 49 52.6	-3.8
U15A	**North Rim**	**2.15**	**110**		Pb	23 49 59.6	-0.1
U15A				IAML		23 50 27.4
	comp=E,19nm,0.9s					
W13A	**Hualapai Mount**	**2.22**	**160**		Pb	23 50 01.0	+0.2
MTPU	**Mount Pierson**	**2.24**	**67**	Pn	Pn	23 49 54.6	-3.4
TCRU	**Three Creeks R**	**2.33**	**52**	Pn	Pn	23 49 56.8	-2.5
GSC	**Goldstone, Bar**	**2.49**	**221**		Pb	23 50 05.9	+0.5
GSC				IAML		23 50 39.2
	comp=N,9.7nm,0.8s					
GSC				IAML		23 50 46.4
	comp=E,15nm,0.7s					
NV11	**Mina Array Sit**	**2.93**	**296**	IAML		23 51 03.8
	comp=E,8.7nm,4.8s					

IDC 01 23:58:18.6±5.4, 19.°09S×175.°32W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=176.7km s-min=106.0km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.67**	**243**	P	P	00 06 00.7	-0.2
	1.3nm,0.5s,baz=79,slow=18,SNR=3.8 1.3nm,0.5s						
ASAR	**Alice Springs**	**47.31**	**255**	P	P	00 06 54.2	-0.2
	1.8nm,0.5s,baz=88,slow=8.4,SNR=22						
ASAR				PcP	PcP	00 08 25.3	-0.3
	0.3nm,0.7s,baz=102,slow=3.9,SNR=2.1 1.8nm,0.5s						
WRA	**Warramunga Arr**	**47.31**	**260**	P	P	00 06 54.5	+0.1
	0.8nm,0.4s,baz=98,slow=8.2,SNR=9.5 0.8nm,0.4s						

*SOME **02** 00:02:00.0, 40.°97N×74.°07E, h0km*
*KRNET **02** 00:02:00.1±0.1, 40.°91N×74.°09E, h19km, mb2.6*
*NNC **02** 00:02:01.4±0.9, 40.°97N×73.°96E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=6.2km s-min=4.0km az=21.0*
*KNET **02** 00:02:03.9±0.6, 41.°10N×74.°11E, h4km±3km, ml2.3, Error ellipse: s-maj=4.1km s-min=3.5km az=63.0*
ISC 02 00:02:00.1±1.3, 40.°92N±0.°03×73.°87E±0.°03, h6km±11km, n56, σ1°22/76, 25C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.91**	**245**	⇓*e*P	**Pn**	**00 02 20.1**	**+0.6**
OHH				⇓*e*S	**Sn**	**00 02 34.7**	**+1.7**
	baz=49						
SFK	**Sufi-Kurgan**	**0.95**	**197**	⇑*e*P	**Pb**	**00 02 18.9**	**-0.2**
SFK				⇑*e*S	**Sn**	**00 02 32.7**	**-1.4**
	baz=7.0						
ARLS	**Aral**	**1.00**	**20**	⇓*e*P	**Pg**	**00 02 18.3**	**-1.0**
ARLS				⇓*e*S	**Sg**	**00 02 31.7**	**-0.6**
	baz=11						
AML	**Almayashu**	**1.22**	**354**	⇓P	**Pn**	**00 02 24.1**	**+0.1**
AML				⇓S	**Sn**	**00 02 40.6**	**-0.4**
	22nm,0.1s,SNR=28 73nm,0.5s						
AML	**Almayashu**	**1.22**	**354**	⇑P	**Pn**	**00 02 23.8**	**-0.2**
AML				⇑S	**Sn**	**00 02 40.3**	**-0.7**
	1.5nm,0.5s 5.3nm,0.6s						
UCH	**Uchtor**	**1.39**	**20**	⇑P	**Pb**	**00 02 26.3**	**-0.4**
UCH				⇑S	**Sb**	**00 02 44.5**	**-0.5**
	11nm,0.2s,SNR=39 57nm,0.3s						
ARK	**Arkit**	**1.68**	**302**	⇓*e*P	**Pg**	**00 02 33.7**	**+1.4**
ARK				⇓*e*S	**Sg**	**00 02 58.4**	**+4.3**
	baz=0.0						
EKS2	**Erkin-Say**	**1.74**	**358**	⇓P	**Pg**	**00 02 33.3**	**-0.2**
EKS2				⇓S	**Sg**	**00 02 56.3**	**+0.3**
	4.3nm,0.1s,SNR=25 12nm,0.3s						
AAK	**Ala-Archa**	**1.78**	**15**	⇓P	**Pb**	**00 02 33.4**	**+0.2**
AAK				⇑S	**Sg**	**00 02 56.6**	**-0.7**
	5.0nm,0.2s,SNR=12 13nm,0.2s						
MNAS	**Manas**	**1.87**	**327**	⇑*e*P	**Pg**	**00 02 36.0**	**+0.1**
MNAS				⇑*e*S	**Sg**	**00 03 02.2**	**+2.1**
	baz=24 baz=24						
MRKS	**Merke**	**1.88**	**345**	Pg	**Pg**	**00 02 36.0**	**-0.2**
MRKS				Lg	Lg	00 03 02.3	
	16nm,0.2s 34nm,0.3s						
MRKS	**Merke**	**1.88**	**345**	*e*P	**Pg**	**00 02 36.0**	**-0.2**
MRKS				*e*S	**Sg**	**00 03 02.3**	**+1.7**
	12nm,0.1s 34nm,0.3s						
KBK	**Karagaybulak**	**1.91**	**25**	⇓P	**Pb**	**00 02 35.9**	**+0.4**
KBK				⇓S	**Sb**	**00 03 00.5**	**+0.8**
	10nm,0.1s,SNR=23 33nm,0.2s						
FRU1	**Bishkek**	**1.97**	**17**	⇑*e*P	**Pb**	**00 02 35.8**	**-0.6**
FRU1				⇑*e*S	**Sb**	**00 03 01.8**	**+0.5**
	baz=12 baz=12						
CHMS	**Chumysh**	**2.18**	**17**	⇑P	**Pg**	**00 02 40.9**	**-0.9**
CHMS				⇑S	**Sg**	**00 03 08.8**	**-1.2**
	3.7nm,0.2s 15nm,0.3s						
CHMS	**Chumysh**	**2.18**	**17**	⇓Pn	**Pb**	**00 02 39.6**	**-0.3**
CHMS				⇓Sn	**Sb**	**00 03 07.6**	**+0.5**
	3.0nm,0.4s 37nm,0.7s						
BOOM	**Boomskoye usch**	**2.21**	**44**	⇑*e*P	**Pn**	**00 02 37.9**	**+0.5**
BOOM				⇑*i*S	**Sn**	**00 03 05.2**	**+0.1**
	baz=41 baz=41						
ULHL	**Ulahol**	**2.22**	**53**	⇑P	**Pb**	**00 02 39.9**	**-0.9**
ULHL				⇑S	**Sb**	**00 03 08.1**	**-0.5**
	20nm,0.2s,SNR=10 16nm,0.2s						
TKM2	**Tokmak 2**	**2.38**	**32**	⇓P	**Pb**	**00 02 43.3**	**-0.2**
TKM2				⇓Pn	**Pb**	**00 02 42.8**	**-0.6**
	4.7nm,0.2s,SNR=6.6 2.7nm,0.5s						
USP	**Ospenovka**	**2.39**	**11**	⇑P	**Pb**	**00 02 44.2**	**+0.6**
USP				⇓S	**Sb**	**00 03 14.7**	**+1.4**
	10nm,0.2s,SNR=10.0 27nm,0.4s						
BTK	**Batken**	**2.48**	**251**	⇑*e*P	**Pb**	**00 02 45.2**	**+0.1**
BTK				⇑*e*S	**Sg**	**00 03 18.0**	**-1.8**
	baz=52 baz=52						
SGDS	**Sogindy**	**2.59**	**12**	Pg	**Pb**	**00 02 47.9**	**+0.9**
SGDS				Lg	Lg	00 03 22.2	
	6.9nm,0.2s 9.2nm,0.4s						
KST	**Kastek**	**2.63**	**36**	Pg	**Pb**	**00 02 47.6**	**-0.2**
KST				Lg	Lg	00 03 22.0	
	5.2nm,0.3s 24nm,0.4s						
KST	**Kastek**	**2.63**	**36**	*e*Pg	**Pb**	**00 02 47.6**	**-0.2**
KST				*e*Lg	Lg	00 03 22.0	
	5.2nm,0.2s 24nm,0.4s						
DGS	**Degeres**	**2.72**	**31**	Pg	**Pb**	**00 02 50.1**	**+0.9**
DGS				Lg	Lg	00 03 26.3	
	9.9nm,0.4s 42nm,0.4s						
DGS	**Degeres**	**2.72**	**31**	*e*Pg	**Pb**	**00 02 50.1**	**+0.9**
DGS				*e*Lg	Lg	00 03 26.3	
	9.9nm,0.4s 42nm,0.4s						
DZA	**Taraz**	**2.73**	**317**	Pg	**Pg**	**00 02 52.9**	**+0.5**
DZA				Lg	Lg	00 03 31.0	
	39nm,0.1s 48nm,0.2s						
DZA	**Taraz**	**2.73**	**317**	*e*Pg	**Pg**	**00 02 52.9**	**+0.5**
DZA				*e*Lg	Lg	00 03 30.9	
	39nm,0.1s 48nm,0.2s						
MTBS	**Maitube**	**2.92**	**40**	Pg	**Pb**	**00 02 52.7**	**+0.1**
MTBS				Lg	Lg	00 03 30.7	
	5.6nm,0.1s 43nm,0.3s						
MTBS	**Maitube**	**2.92**	**40**	*e*Pg	**Pb**	**00 02 52.7**	**+0.1**
MTBS				*e*Lg	Lg	00 03 30.6	
	5.6nm,0.1s 43nm,0.3s						
IZV	**Izvestkoviy**	**2.94**	**43**	Pg	**Pb**	**00 02 53.2**	**+0.2**
IZV				Lg	Lg	00 03 31.6	
	5.3nm,0.3s 31nm,0.3s						
IZV	**Izvestkoviy**	**2.94**	**43**	*e*Pg	**Pb**	**00 02 53.2**	**+0.2**
IZV				*e*Lg	Lg	00 03 31.6	
	5.3nm,0.3s 31nm,0.3s						
KRBS	**Karabastau**	**3.08**	**25**	Pg	**Pb**	**00 02 56.2**	**+0.9**
KRBS				Lg	Lg	00 03 36.7	
	6.0nm,0.2s 15nm,0.3s						
KRBS	**Karabastau**	**3.08**	**25**	*e*Pg	**Pb**	**00 02 56.2**	**+0.9**
KRBS				*e*Lg	Lg	00 03 36.7	
	6.0nm,0.2s 15nm,0.3s						
TNSS	**Tian-Shan**	**3.12**	**46**	Pg	**Pb**	**00 02 56.5**	**+0.3**
TNSS				Lg	Lg	00 03 36.8	
	6.7nm,0.2s 6.7nm,0.3s						
TNSS	**Tian-Shan**	**3.12**	**46**	*e*Pg	**Pb**	**00 02 56.5**	**+0.3**
TNSS				*e*Lg	Lg	00 03 36.8	
	6.7nm,0.2s 6.7nm,0.3s						
AAA	**Alma-Ata**	**3.22**	**44**	Pg	**Pb**	**00 02 58.6**	**+0.9**
AAA				Lg	Lg	00 03 40.8	
	20nm,0.2s 46nm,0.4s						
AAA	**Alma-Ata**	**3.22**	**44**	*e*Pg	**Pb**	**00 02 58.6**	**+0.9**
AAA				*e*Lg	Lg	00 03 40.9	
	20nm,0.2s 46nm,0.4s						
KK31	**Karatay Array**	**3.32**	**312**	⇑Pg	**Pg**	**00 03 01.6**	**-2.1**
KK31				Lg	Lg	00 03 47.0	
	1.4nm,0.5s,baz=133,slow=14,SNR=14 8.9nm,0.7s,baz=132,slow=28,SNR=12						
KKAR	**Karatay Array**	**3.32**	**312**	⇑*e*P	**Pb**	**00 02 56.3**	**-3.0**
KKAR				⇑*e*S	**Sb**	**00 03 37.5**	**-2.4**
	baz=11 baz=11						
KOTS	**Kotyrbulak**	**3.34**	**45**	Pg	**Pb**	**00 03 00.4**	**+0.5**
KOTS				Lg	Lg	00 03 43.7	
	4.6nm,0.3s 23nm,0.4s						
KOTS	**Kotyrbulak**	**3.34**	**45**	*e*Pg	**Pb**	**00 03 00.4**	**+0.5**
KOTS				*e*Lg	Lg	00 03 43.8	
	4.6nm,0.3s 23nm,0.4s						
KTBS	**Karatobe**	**3.48**	**36**	Pg	**Pb**	**00 03 02.9**	**+0.7**
KTBS				Lg	Lg	00 03 47.7	
	2.5nm,0.2s 36nm,0.5s						
KTBS	**Karatobe**	**3.48**	**36**	*e*Pg	**Pb**	**00 03 02.9**	**+0.7**
KTBS				*e*Lg	Lg	00 03 47.7	
	2.5nm,0.2s 36nm,0.5s						
SATY	**Saty**	**4.00**	**56**	Pg	**Pb**	**00 03 11.9**	**+0.9**
SATY				Lg	Lg	00 04 03.7	
	6.5nm,0.3s 7.7nm,0.3s						
SATY	**Saty**	**4.00**	**56**	*e*Pg	**Pb**	**00 03 11.9**	**+0.9**
SATY				*e*Lg	Lg	00 04 03.7	
	6.5nm,0.3s 7.7nm,0.3s						
BTLS	**Baital**	**4.12**	**2**	Pg	**Pg**	**00 03 16.4**	**-2.6**
BTLS				Lg	Lg	00 04 11.4	
	1.5nm,0.3s 3.5nm,0.3s						
BTLS	**Baital**	**4.12**	**2**	*e*Pg	**Pg**	**00 03 16.4**	**-2.6**
BTLS				*e*Lg	Lg	00 04 11.4	
	1.5nm,0.3s 3.5nm,0.3s						
KPKS	**Kokpek**	**4.39**	**53**	Pg	**Pb**	**00 03 18.6**	**+0.9**
KPKS				Lg	Lg	00 04 14.9	
	3.4nm,0.2s 5.5nm,0.3s						
KPKS	**Kokpek**	**4.39**	**53**	*e*Pg	**Pb**	**00 03 18.6**	**+0.9**
KPKS				*e*Lg	Lg	00 04 14.9	
	3.4nm,0.2s 5.5nm,0.3s						
ARXS	**Arharly**	**4.40**	**40**	Pg	**Pb**	**00 03 19.1**	**+1.2**
ARXS				Lg	Lg	00 04 15.6	
	3.8nm,0.3s 7.5nm,0.3s						
ARXS	**Arharly**	**4.40**	**40**	*e*Pg	**Pb**	**00 03 19.1**	**+1.2**
ARXS				*e*Lg	Lg	00 04 15.6	
	3.8nm,0.3s 7.5nm,0.3s						
PDGK	**Podgornoye**	**4.82**	**58**	Pg	**Pb**	**00 03 26.8**	**+1.8**
PDGK				Lg	Lg	00 04 29.1	
	1.1nm,0.3s 1.5nm,0.8s						
PDGK	**Podgornoye**	**4.82**	**58**	⇑Pg	**Pb**	**00 03 27.0**	**+1.9**
PDGK				⇑Lg	Lg	00 04 30.7	
	1.5nm,0.5s 3.2nm,0.7s						
KNOS	**Konyrlen**	**5.21**	**47**	Pg	**Pb**	**00 03 34.0**	**+2.3**
KNOS				Lg	Lg	00 04 41.5	
	2.9nm,0.3s 2.3nm,0.3s						

*BEO **02** 00:02:46.9±0.9, 40.°51N×20.°81E, h0km, ML2.2/5*
*TIR **02** 00:02:46.7, 40.°62N×20.°80E, h12km, Md2.8, Ml2.8*
*SKO **02** 00:02:47.3, 40.°54N×20.°71E, h0km, ML2.4*
*THE **02** 00:02:48.5, 40.°63N×20.°85E, h0km±4km, ML2.0/6, Error ellipse: s-maj=4.7km s-min=0.9km az=307.0*
*ATH **02** 00:02:50.5, 40.°52N×21.°12E, h8km±1km, ML2.1/13, Manual Solution by G.Panopoulou First location: 2019/05/29 18:02:33, This location: 2019/05/29 18:00:04 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 02 00:02:47.5±0.8, 40.°59N±0.°02×20.°79E±0.°02, h7km±5km, n68, σ1°24/94, 1C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.04**	**1**	P	**Pg**	**00 02 49.2**	**+0.1**
KBN				S	**Sg**	**00 02 50.8**	**+0.6**
	2μm,0.2s						
KBN	**Korca**	**0.04**	**1**	P	**Pg**	**00 02 49.2**	**+0.1**
KBN				S	**Sg**	**00 02 50.6**	**+0.4**
	baz=319 baz=319						
KBN				AMP			
	comp=E,12nm,0.2s,baz=319						
NEST	**Nestorio**	**0.26**	**130**	P	**Pg**	**00 02 53.2**	**+0.4**
NEST				S	**Sb**	**00 02 58.4**	**-1.0**
	comp=E,558nm,0.3s						
NEST	**Nestorio**	**0.26**	**130**	P	**Pg**	**00 02 53.4**	**+0.6**
NEST				S	**Sg**	**00 02 55.5**	**-0.8**
PENT	**Pentalofos**	**0.47**	**145**	P	**Pg**	**00 02 56.8**	**+0.1**
PENT				S	**Sb**	**00 03 05.3**	**-0.1**
PENT	**Pentalofos**	**0.47**	**145**	P	**Pg**	**00 02 56.9**	**+0.1**
PENT				S	**Sg**	**00 03 01.0**	**-1.9**
FNA	**Florina**	**0.49**	**66**	P	**Pg**	**00 02 56.5**	**-0.5**
FNA				S	**Sg**	**00 03 04.2**	**+0.8**
	comp=E,2μm,0.3s						
FNA	**Florina**	**0.49**	**66**	P	**Pg**	**00 02 56.6**	**-0.5**
FNA				S	**Sg**	**00 03 03.8**	**+0.3**
	baz=69 baz=69						
FNA	**Florina**	**0.49**	**66**	*e*Pg	**Pg**	**00 02 56.5**	**-0.5**
FNA				*e*Sg	**Sg**	**00 03 04.2**	**+0.8**
FNA	**Florina**	**0.49**	**66**	⇑*i*Pg	**Pg**	**00 02 56.6**	**-0.5**
FNA				*i* Sg	**Sb**	**00 03 05.0**	**-0.9**
FNA	**Florina**	**0.49**	**66**	P	**Pg**	**00 02 56.6**	**-0.4**
FNA				S	**Sg**	**00 03 02.0**	**-1.4**
OHR	**Ohrid**	**0.53**	**1**	*e*Pg	**Pg**	**00 02 57.2**	**-0.5**
OHR				*e*Sg	**Sg**	**00 03 05.1**	**+0.5**
OHR	**Ohrid**	**0.53**	**1**	*i* Pg	**Pg**	**00 02 57.5**	**-0.2**
OHR				*i* Sg	**Sg**	**00 03 05.1**	**+0.5**
OHR				*e*Lg	Lg	00 03 06.0	
	comp=E,206nm,0.5s						
OHR				*e*Lg	Lg	00 03 07.4	
	comp=N,82nm,0.3s						
KPRO	**Kipourio**	**0.77**	**145**	P	**Pg**	**00 03 02.2**	**-0.1**
KPRO				S	**Sb**	**00 03 14.8**	**+0.9**
	comp=N,140nm,0.3s						
KPRO	**Kipourio**	**0.77**	**145**	P	**Pg**	**00 03 02.2**	**-0.1**
KPRO				S	**Sg**	**00 03 10.2**	**-2.1**
JAN	**Janina**	**0.93**	**177**	P	**Pn**	**00 03 06.5**	**-0.5**
VLO	**Vlora**	**0.99**	**264**	P	**Pb**	**00 03 06.4**	**-0.6**
VLO				S	**Sn**	**00 03 22.2**	**+0.2**
	baz=262 baz=262						
VLO				AMP			
	comp=E,1.4nm,0.4s,baz=262						
KTI	**Kastanea**	**1.03**	**100**	P	**Pg**	**00 03 06.9**	**-0.4**
TIR	**Tirane**	**1.03**	**318**	P	**Pg**	**00 03 06.8**	**-0.6**
	baz=317						

TIR			S		Sb	00 03 21.6	+0.1
	baz=317						
TIR			AMP				
	comp=N,0.1nm,0.4s,baz=317						
TIR	**Tirane**	**1.03 318**	*e*Pg		**Pg**	**00 03 06.5**	**-0.9**
TIR			*e*Sg		**Sn**	**00 03 22.3**	**-0.8**
TIR	**Tirane**	**1.03 318**	*i* Pg		**Pg**	**00 03 06.7**	**-0.6**
IGT	**Igoumenitsa**	**1.11 198**	P		**Pn**	**00 03 09.9**	**+0.5**
IGT			S		**Sn**	**00 03 27.5**	**+2.5**
	comp=N,80nm,0.5s						
IGT	**Igoumenitsa**	**1.11 198**	P		**Pn**	**00 03 08.9**	**-0.5**
	baz=199						
IGT			S		**Sn**	**00 03 26.7**	**+1.8**
	baz=199						
KEK	**Kerkira**	**1.16 221**	P		**Pn**	**00 03 11.8**	**+1.7**
GRG	**Griva**	**1.28 73**	P		**Pn**	**00 03 10.8**	**-1.1**
GRG			S		**Sn**	**00 03 30.3**	**+1.0**
	comp=N,68nm,0.5s						
GRG	**Griva**	**1.28 73**	⇓*i*Pg		**Pn**	**00 03 10.8**	**-1.1**
GRG			*i* Sg		**Sn**	**00 03 31.7**	**+2.4**
GRG	**Griva**	**1.28 73**	P		**Pn**	**00 03 10.8**	**-1.1**
THL	**Klokotos Trika**	**1.39 137**	P		**Pn**	**00 03 13.3**	**0.0**
THL	**Klokotos Trika**	**1.39 137**	P		**Pn**	**00 03 12.6**	**-0.7**
STIP	**Stip**	**1.53 43**	*e*Pn		**Pg**	**00 03 17.5**	**+0.6**
STIP			*i* Sg		**Sg**	**00 03 43.9**	**+7.1**
VAY	**Valandovo**	**1.54 61**	*e*Pn		**Pg**	**00 03 16.7**	**-0.3**
VAY			*i* Sg		**Sg**	**00 03 39.5**	**+2.6**
THE	**Thessaloniki**	**1.66 88**	P		**Pn**	**00 03 16.2**	**-0.8**
KNT	**Kendrikon**	**1.70 70**	P		**Pn**	**00 03 17.2**	**-0.4**
KNT	**Kendrikon**	**1.70 70**	P		**Pn**	**00 03 16.7**	**-0.9**
HORT	**Hortiatis**	**1.76 89**	P		**Pn**	**00 03 18.1**	**-0.4**
TSLK	**Tsoukalades, L**	**1.76 183**	P		**Pg**	**00 03 21.5**	**+0.2**
LKD2	**Lefkada island**	**1.80 183**	P		**Pg**	**00 03 21.3**	**-0.7**
LKD2	**Lefkada island**	**1.80 183**	P		**Pg**	**00 03 21.5**	**-0.4**
	baz=184						
LKD2	**Lefkada island**	**1.80 183**	P		**Pg**	**00 03 21.7**	**-0.3**
ULC	**Ulcinj**	**1.80 320**	*i* Pn		**Pb**	**00 03 20.1**	**-0.8**
EVR	**Evrytania**	**1.84 154**	P		**Pb**	**00 03 21.9**	**+0.3**
EVR	**Evrytania**	**1.84 154**	P		**Pb**	**00 03 20.9**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.87 182**	P		**Pg**	**00 03 22.6**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.87 182**	P		**Pb**	**00 03 22.4**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.88 146**	P		**Pn**	**00 03 19.3**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.91 185**	P		**Pb**	**00 03 22.3**	**-0.4**
AGG	**Agios Georgios**	**1.96 142**	P		**Pn**	**00 03 21.4**	**+0.2**
EVGI	**Lefkada island**	**1.96 183**	P		**Pg**	**00 03 24.4**	**-0.8**
EVGI	**Lefkada island**	**1.96 183**	P		**Pb**	**00 03 23.9**	**+0.3**
SOH	**Sokhos**	**1.97 82**	P		**Pn**	**00 03 21.1**	**-0.2**
PVO	**Paravola**	**2.05 164**	P		**Pn**	**00 03 23.2**	**+0.8**
FSK	**Fiskardo**	**2.13 185**	P		**Pb**	**00 03 25.2**	**-1.3**
PRVS	**Prvonek**	**2.15 26**	*e*Pn		**Pn**	**00 03 24.1**	**+0.3**
PRVS			*e*Sn		**Sb**	**00 03 52.7**	**-1.0**
ANX	**Ano Chora**	**2.17 156**	P		**Pb**	**00 03 26.0**	**-1.2**
SRS	**Serrai**	**2.19 75**	P		**Pn**	**00 03 24.9**	**+0.5**
XOR	**Xorichti**	**2.21 123**	P		**Pn**	**00 03 23.9**	**-0.8**
EFP	**Efpalio**	**2.32 158**	P		**Pn**	**00 03 25.9**	**-0.2**
BARS	**Barje**	**2.36 19**	*e*Pn		**Pn**	**00 03 26.1**	**-0.6**
DMLN	**Damoulianata-K**	**2.37 188**	P		**Pb**	**00 03 29.4**	**-1.0**
VLS	**Valsamata**	**2.41 184**	P		**Pn**	**00 03 28.9**	**+1.5**
NVR	**Nevrokopi**	**2.45 71**	P		**Pn**	**00 03 27.7**	**-0.2**
PSDA	**Pessada-Kefalo**	**2.47 184**	P		**Pb**	**00 03 29.9**	**-2.3**
RLS	**Riolos of Patr**	**2.58 168**	P		**Pn**	**00 03 31.6**	**+1.9**
LKR	**Lokris**	**2.58 138**	P		**Pn**	**00 03 29.8**	**+0.1**
SELS	**Selova**	**2.64 5**	*e*Pn		**Pn**	**00 03 32.1**	**+1.5**
SJES	**Sjenica**	**2.74 347**	*e*Pn		**Pb**	**00 03 34.6**	**-2.3**
SJES			*e*Sn		**Sb**	**00 04 09.0**	**-1.8**
GUR	**Goura**	**2.91 155**	P		**Pn**	**00 03 34.7**	**+0.4**
IVAS	**Ivanjica**	**3.03 351**	*e*Pn		**Pn**	**00 03 36.3**	**+0.4**

*IDC **02** 00:04:40.1±1.8,5.°38S×150.°76E, h58km±27km, mb3.0/3, mbtmp3.4/4, ML1.8/1, Error ellipse: s-maj=116.1km s-min=9.9km az=134.0*

ISC 02 00:04:39.4±1.1,5.°1S±0.°3×150.°5E±0.°2, h50km, n6, σ1°06/8, mb3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.71**	**63**	P		**Pn**	**00 05 07.5**	**+0.7**
	165nm,0.3s,baz=225,slow=19,SNR=26						
KRVT				S		**Sn**	**00 05 27.1**	**-0.4**
	259nm,0.3s,baz=225,slow=20,SNR=5.3						
PMG	**Port Moresby**	**5.42**	**218**	P		**Pn**	**00 05 59.1**	**+1.3**
	2.0nm,0.3s,baz=51,slow=19,SNR=2.0						
PMG				S		**Sn**	**00 06 57.6**	**-1.2**
	8.0nm,0.4s,baz=91,slow=18,SNR=3.7						
	6.5nm,0.4s						
WRA	**Warramunga Arr**	**21.57**	**225**	P		**P**	**00 09 24.6**	**-0.4**
	0.5nm,0.5s,baz=53,slow=10,SNR=6.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**24.43**	**219**	P		**P**	**00 09 53.1**	**-0.5**
	0.6nm,0.7s,baz=52,slow=9.1,SNR=8.4						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**83.29**	**23**	P		**P**	**00 16 59.9**	**-0.7**
	0.2nm,0.7s,baz=246,slow=6.8,SNR=1.6						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.21**	**287**	PKPbc		**PKPbc**	**00 24 21.9**	**+0.9**
	0.8nm,0.6s,baz=70,slow=3.3,SNR=8.8						

*KRNET **02** 00:09:15.0±0.1, 39.°03N×70.°44E, mb2.8*
*NNC **02** 00:09:19.3±1.7, 38.°72N×70.°88E, h129km±46km, mb2.2, mpv2.6, Error ellipse: s-maj=22.6km s-min=11.6km az=33.0*

ISC 02 00:09:08.6±2.3,38.°8N±0.°1×70.°60E±0.°07, h17km, n9, σ1°90/17, 9C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.27**	**7**	⇑*e*P		**Pg**	**00 09 35.4**	**+2.3**
	baz=16						
BTK				⇑*e*S		**Sg**	**00 09 50.2**	**+0.4**
	baz=16						
OHH	**Osh**	**2.41**	**44**	⇑*e*P		**Pg**	**00 09 56.6**	**+1.8**
	baz=50						
OHH				⇑*e*S		**Sg**	**00 10 27.1**	**+1.0**
	baz=50						
SFK	**Sufi-Kurgan**	**2.55**	**61**	⇑*e*P		**Pg**	**00 09 59.6**	**+2.0**
	baz=66						
SFK				⇑*i*S		**Sg**	**00 10 32.6**	**+1.9**
	baz=66						
ARK	**Arkit**	**3.17**	**19**	⇓*e*P		**Pb**	**00 10 05.9**	**+1.3**
	baz=22						
ARK				⇓*e*S		**Sb**	**00 10 42.7**	**-0.3**
	baz=22						
MNAS	**Manas**	**3.96**	**21**	⇑*e*P		**Pb**	**00 10 17.0**	**-1.0**
	baz=24						
MNAS				⇑*i*S		**Sb**	**00 11 02.1**	**-3.6**
	baz=24						
AML	**Almayashu**	**4.08**	**34**	⇓P		**Pb**	**00 10 19.7**	**-0.5**
	0.2nm,0.4s						
AML				⇑S		**Sb**	**00 11 07.2**	**-2.2**
	1.8nm,0.7s						
ARLS	**Aral**	**4.18**	**42**	⇓*e*P		**Pb**	**00 10 20.8**	**-0.9**
	baz=45						
ARLS				⇓*e*S		**Sb**	**00 11 08.9**	**-3.0**
	baz=45						
KK31	**Karatay Array**	**4.30**	**359**	P		**Pb**	**00 10 24.3**	**+0.5**
	1.2nm,0.4s,baz=189,slow=20,SNR=21						
KK31				⇓S		**Sb**	**00 11 15.1**	**-0.3**
	1.2nm,0.3s,baz=181,slow=24,SNR=4.1						
AB31	**Akbulak array**	**12.95**	**327**	P		**P**	**00 12 20.7**	**-1.6**
	1.3nm,0.8s,baz=147,slow=14,SNR=8.8						

LDG 02 00:11:55.3±0.1,45.°42N×6.°32E, h2km, Md1.1/2, Ml1.1/2, Error ellipse: s-maj=2.3km s-min=1.3km az=128.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.31**	**72**	*e*Pg		Pg	00 12 01.5	+0.2
LPL				*e*Sg		Sg	00 12 05.6	+0.3
	1.2nm,0.2s						
LPL	**La Plagne**	**0.31**	**72**	*e*Pg		Pg	00 12 01.4	+0.1
LPL				*e*Sg		Sg	00 12 05.4	+0.1
	1.2nm,0.2s						
LPG	**La Plagne**	**0.32**	**76**	*e*Pg		Pg	00 12 01.8	+0.4
LPG				*e*Sg		Sg	00 12 05.8	+0.2
	2.1nm,0.2s						
LPG	**La Plagne**	**0.32**	**76**	*e*Pg		Pg	00 12 01.7	+0.3
LPG				*e*Sg		Sg	00 12 06.1	+0.5
	2.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.59**	**212**	*e*Pg		Pg	00 12 06.2	-0.4
ORIF				*e*Sg		Sg	00 12 14.4	+0.2
	2.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.59**	**212**	*e*Pg		Pg	00 12 06.6	0.0
ORIF				*e*Sg		Sg	00 12 14.4	+0.2
	1.9nm,0.2s						
CABF	**La Chapelle**	**1.20**	**353**	*e*Pg		Pg	00 12 18.0	-0.4
CABF	**La Chapelle**	**1.20**	**353**	*e*P		Pn	00 12 19.7	+0.5
CABF				*e*Sg		Sg	00 12 33.8	-0.1
	0.3nm,0.3s						
VIVF	**Saint-Julien-I**	**1.29**	**245**	*e*Pg		Pg	00 12 19.3	-0.7
VIVF				*e*Sg		Sg	00 12 36.6	-0.2
	0.5nm,0.2s						
VIVF	**Saint-Julien-I**	**1.29**	**245**	*e*Sg		Sg	00 12 36.5	-0.3
	0.5nm,0.2s						

*IDC **02** 00:32:54.4±1.8,5.°23S×147.°87E, h88km±18km, mb3.8/11, mbtmp4.1/15, MS3.1/5, Error ellipse: s-maj=18.4km s-min=14.3km az=96.0*
*NEIC **02** 00:32:54.6±1.3,5.°24S±0.°07×147.°85E±0.°08, h86km±8km, mb4.3/41, Error ellipse: s-maj=11.6km s-min=9.8km az=91.0*

ISC 02 00:32:55.3±0.5,5.°26S±0.°06×147.°81E±0.°07, h100km, n69, σ1°05/66, mb4.3/29, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.23**	**352**	Pn		**Pn**	**00 33 40.7**	**-3.5**
PMG	**Port Moresby**	**4.17**	**189**	Pn		**Pn**	**00 33 54.7**	**-2.1**
PMG	**Port Moresby**	**4.17**	**189**	P		**Pn**	**00 33 57.3**	**+0.5**
	12nm,0.3s,baz=28,slow=4.7,SNR=5.4						
PMG				S		**Sn**	**00 34 44.7**	**+0.2**
	29nm,0.5s,baz=47,slow=19,SNR=1.9						
KRVT	**Keravat (AS076**	**4.30**	**77**	P		**Pn**	**00 33 57.4**	**-1.2**
	50nm,0.4s,baz=229,slow=20,SNR=6.7						
JAY	**Jayapura**	**7.60**	**291**	P		**Pn**	**00 34 43.7**	**+0.3**
	5.3nm,0.9s,baz=98,slow=9.7,SNR=2.2						
JAY				S		**Sn**	**00 36 07.0**	**-1.0**
	1.9nm,0.3s,baz=137,slow=20,SNR=1.5						
COEN	**Coen**	**9.78**	**208**	Pn		**Pn**	**00 35 09.4**	**-3.6**
CTA	**Charters Tower**	**14.82**	**186**	LR		LR	00 41 29.7
	comp=Z,95nm,18.8s,baz=272,slow=35						
FAKI	**Fak Fak**	**15.70**	**278**	Pn		**Pn**	**00 36 30.3**	**-0.6**
MTN	**Manton Dam**	**18.10**	**244**	P		**P**	**00 36 59.2**	**-0.2**
GUMO	**Guam**	**18.95**	**351**	LR		LR	00 44 12.1
	comp=Z,30nm,18.4s,baz=114,slow=36						
WB0	**Warramunga Arr**	**19.46**	**221**	P		**P**	**00 37 14.6**	**+0.3**
WR0	**Warramunga Arr**	**19.50**	**220**	P		**P**	**00 37 15.3**	**+0.6**
WR0				IAmb		IAmb	00 37 22.2
	comp=Z,6.0nm,0.7s						
WB2	**Warramunga Arr**	**19.61**	**221**	P		**P**	**00 37 15.8**	**-0.1**
WB2				IAmb		IAmb	00 37 23.4
	comp=Z,7.8nm,0.8s						
WRA	**Warramunga Arr**	**19.62**	**221**	P		**P**	**00 37 15.7**	**-0.3**
WRA	**Warramunga Arr**	**19.62**	**221**	P		**P**	**00 37 15.1**	**-0.9**
	comp=Z,1.4nm,0.3s,baz=44,slow=11,SNR=22						
KNRA	**Kununurra**	**21.38**	**240**	P		**P**	**00 37 36.3**	**+1.4**
KNRA				IAmb		IAmb	00 37 43.5
	comp=Z,22nm,1.2s						
AS31	**Alice Springs**	**22.68**	**215**	P		**P**	**00 37 49.7**	**+1.1**
ASAR	**Alice Springs**	**22.68**	**215**	P		**P**	**00 37 50.0**	**+1.4**
ASAR	**Alice Springs**	**22.68**	**215**	P		**P**	**00 37 48.9**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=54,slow=8.7,SNR=16						
ASAR				LR		LR	00 47 02.8
	comp=Z,63nm,22.0s,baz=12,slow=37						
	comp=Z,1.2nm,0.6s						
SOEI	**Soe**	**23.76**	**258**	P		**P**	**00 37 59.0**	**0.0**
SOEI				IAmb		IAmb	00 38 32.9
	comp=Z,9.8nm,0.8s						
DZM	**Mont Dzumac**	**24.58**	**135**	P		**P**	**00 38 06.1**	**-0.2**
ONTNC	**Ouen Toro**	**24.74**	**135**	P		**P**	**00 38 07.3**	**-0.3**
OUENC	**Ouen Island, N**	**25.09**	**135**	P		**P**	**00 38 09.7**	**-1.0**
OUENC				IAmb		IAmb	00 38 10.6
	comp=Z,28nm,1.2s						
ARMA	**Armidale**	**25.28**	**172**	P		**P**	**00 38 12.1**	**-0.4**
ARMA				IAmb		IAmb	00 38 29.4
	comp=Z,24nm,1.4s						
MARNC	**Mare, Loyalty**	**25.37**	**131**	P		**P**	**00 38 12.6**	**-0.7**
PINNC	**Pines Island,**	**25.64**	**134**	P		**P**	**00 38 15.6**	**-0.1**
STKA	**Stephens Creek**	**27.11**	**192**	P		**P**	**00 38 28.3**	**-0.6**
CAN	**Canberra**	**29.93**	**178**	P		**P**	**00 38 54.2**	**+0.2**
FORT	**Forrest**	**31.46**	**214**	P		**P**	**00 39 08.0**	**+0.5**
MBWA	**Marble Bar**	**31.49**	**237**	P		**P**	**00 39 08.3**	**+0.5**
PSA00	**Pilbara Seismi**	**31.57**	**236**	P		**P**	**00 39 09.4**	**+0.9**
PSA00				IAmb		IAmb	00 39 15.2
	comp=Z,9.1nm,0.8s						
MSVF	**Nonsavu**	**32.05**	**115**	LR		LR	00 51 54.2
	comp=Z,50nm,19.3s,baz=128,slow=36						
JOW	**Kunigami**	**37.09**	**330**	LR		LR	00 55 07.0
	comp=Z,12nm,18.1s,baz=322,slow=36						
YOJ	**Yonaguni jima**	**38.16**	**322**	P		**P**	**00 40 02.6**	**-2.5**
MORW	**Morawa**	**38.26**	**228**	P		**P**	**00 40 06.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**53.62**	**297**	P		**P**	**00 42 08.9**	**+2.1**
	comp=Z,4.0nm,0.8s,baz=120,slow=6.1,SNR=18						
	comp=Z,4.0nm,0.8s						
KLR	**Kul'dur**	**56.05**	**347**	P		**P**	**00 42 23.9**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=147,slow=5.4,SNR=4.8						
	comp=Z,2.3nm,0.7s						
PETK	**Petropavlovsk-**	**58.75**	**7**	P		**P**	**00 42 42.7**	**0.0**
	comp=Z,5.6nm,1.1s,baz=157,slow=8.0,SNR=1.9						
	comp=Z,5.6nm,1.1s						
SONM	**Songino Array**	**64.16**	**330**	P		**P**	**00 43 19.8**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=150,slow=3.5,SNR=5.7						
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**77.45**	**320**	P		**P**	**00 44 39.3**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=118,slow=7.0,SNR=4.6						
	comp=Z,0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**78.83**	**328**	P		**P**	**00 44 47.2**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=113,slow=5.7,SNR=14						
	comp=Z,2.7nm,0.6s						
K20K	**Telida**	**81.03**	**23**	P		**P**	**00 44 57.7**	**-1.2**
K20K				IAmb		IAmb	00 45 34.5
	comp=Z,11nm,1.5s						
KURBB	**Kurchatov Arra**	**81.13**	**323**	P		**P**	**00 45 00.5**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=106,slow=5.0,SNR=4.8						
	comp=Z,0.8nm,0.8s						
AAK	**Ala-Archa**	**81.41**	**314**	P		**P**	**00 45 01.1**	**-0.4**
PWL	**Port Wells**	**82.22**	**26**	P		**P**	**00 45 04.8**	**-0.4**
KTH	**Kantishna Hill**	**82.36**	**23**	P		**P**	**00 45 06.3**	**+0.4**
IMAR	**Indian Mountai**	**82.52**	**21**	P		**P**	**00 45 07.5**	**+0.9**
MLY	**Manley**	**83.13**	**22**	P		**P**	**00 45 10.5**	**+0.6**
MLY				IAmb		IAmb	00 45 16.4
	comp=Z,5.8nm,1.3s						
MAW	**Mawson**	**83.24**	**203**	P		**P**	**00 45 10.6**	**+0.3**
MAW	**Mawson**	**83.24**	**203**	P		**P**	**00 45 11.3**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=92,slow=15,SNR=2.3						
	comp=Z,1.1nm,0.9s						
KLU	**Klutina**	**83.55**	**26**	P		**P**	**00 45 11.9**	**-0.2**
KLU				IAmb		IAmb	00 45 15.4
	comp=Z,4.5nm,1.0s						
DHY	**Denali Highway**	**83.58**	**24**	P		**P**	**00 45 13.0**	**+0.7**
DHY				IAmb		IAmb	00 45 15.2
	comp=Z,5.6nm,1.0s						
KK31	**Karatay Array**	**84.36**	**314**	P		**P**	**00 45 16.9**	**+0.3**
KK31				IAmb		IAmb	00 45 25.2
	comp=Z,4.4nm,1.2s						
KKAR	**Karatay Array**	**84.36**	**314**	P		**P**	**00 45 17.1**	**+0.6**
POKR	**Poker Plat Res**	**84.42**	**23**	P		**P**	**00 45 16.6**	**+0.2**
GLB	**Gilahina Butte**	**84.47**	**27**	P		**P**	**00 45 17.6**	**+0.9**
GLB				IAmb		IAmb	00 46 01.5
	comp=Z,7.8nm,1.4s						
IL31		**84.49**	**23**	P		**P**	**00 45 17.8**	**+1.1**
IL31				IAmb		IAmb	00 45 19.0
	comp=Z,1.9nm,0.7s						
ILAR	**Eielson Array**	**84.49**	**23**	P		**P**	**00 45 16.9**	**+0.1**
ILAR	**Eielson Array**	**84.49**	**23**	P		**P**	**00 45 15.8**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=258,slow=4.2,SNR=23						
	comp=Z,1.8nm,0.7s						
H24K	**Noodor Dome**	**84.57**	**22**	P		**P**	**00 45 17.9**	**+0.7**
H24K				IAmb		IAmb	00 45 55.2
	comp=Z,4.8nm,1.4s						
QSPA	**South Pole Qui**	**84.70**	**180**	P		**P**	**00 45 18.4**	**+0.4**
QSPA				IAmb		IAmb	00 45 34.8
	comp=Z,5.1nm,1.2s						
J25K	**Salcha River,**	**85.02**	**23**	P		**P**	**00 45 19.9**	**+0.5**
J25K				IAmb		IAmb	00 45 22.1
	comp=Z,3.3nm,0.7s						
BARN	**Barnard Glacie**	**85.30**	**27**	P		**P**	**00 45 22.0**	**+0.9**
BARN				IAmb		IAmb	00 45 23.2
	comp=Z,3.6nm,0.9s						
M27K	**Edge Creek, AK**	**85.65**	**26**	P		**P**	**00 45 24.2**	**+1.5**
M27K				IAmb		IAmb	00 45 26.7
	comp=Z,3.1nm,0.8s						
J26L	**Joseph Creek**	**85.70**	**24**	P		**P**	**00 45 24.3**	**+1.4**
J26L				IAmb		IAmb	00 45 25.6
	comp=Z,1.4nm,0.8s						
BVAR	**Borovoye Array**	**86.65**	**324**	P		**P**	**00 45 27.7**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=105,slow=11,SNR=8.4						
	comp=Z,2.4nm,0.7s						
YKA	**Yellowknife Ar**	**98.14**	**28**	P		Pdif	00 46 21.3	+0.6
	comp=Z,1.6nm,0.7s,baz=291,slow=5.2,SNR=1.6						
GERES	**GERESS Array B**	**121.76**	**326**	PKP		**PKiKP**	**00 51 38.7**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=3.8,slow=2.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**145.68**	**286**	PKPbc		**PKPab**	**00 52 24.6**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=97,slow=2.4,SNR=8.1						

IDC 02 00:35:45.4±7.5,31.°46S×179.°54E, h453km±93km, mb3.0/3, mbtmp4.0/4, Error ellipse: s-maj=96.3km s-min=36.6km az=7.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.08**	**196**	P		P	00 37 31.7	+1.0
	9.5nm,0.4s,baz=9.3,slow=5.3,SNR=59						
URZ				S		S	00 38 56.4	-0.8
	20nm,0.5s,baz=104,slow=19,SNR=16						
STKA	**Stephens Creek**	**32.19**	**259**	P		P	00 41 34.0	-0.5
	0.7nm,0.4s,baz=76,slow=4.2,SNR=1.5						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**40.96**	**269**	P		P	00 42 47.2	-0.2
	0.4nm,0.3s,baz=105,slow=7.7,SNR=5.4						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**42.05**	**275**	P		P	00 42 56.2	+0.1
	1.0nm,0.3s,baz=112,slow=8.0,SNR=13						
	1.0nm,0.3s						
FINES	**FINESS Array B**	**145.36**	**338**	PKPbc		PKPdf	00 54 29.9	0.0
	0.8nm,0.5s,baz=61,slow=3.5,SNR=11						

*IDC **02** 00:39:06.9±2.7, 34.°13N×135.°72E, h296km±39km, mb3.1/3, mbtmp3.6/4, Error ellipse: s-maj=66.2km s-min=21.2km az=71.0*
*JMA **02** 00:39:08.8±0.5, 34.°N±2.°×13.°7E±.°, h369km±4km, MV3.0/17, ENSYUNADA*

ISC 02 00:39:10.4±1.0,34.°4N±0.°1×136.°9E±0.°1, h350km, n12, σ2°03/13, mb3.2/3, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.14**	**282**	S		**S**	**00 40 31.1**	**+1.9**
TTO1	**TONANKAI O.B.S**	**0.74**	**185**	*e*P		**Pn**	**00 39 56.0**	**+1.1**
JTNC	**Tanabenakahech**	**1.18**	**243**	P		**Pn**	**00 39 58.1**	**+1.2**
JYTA	**Yamagatataniai**	**1.23**	**355**	*e*S		**S**	**00 40 37.4**	**+2.9**
JWT	**Wachi**	**1.51**	**308**	*e*P		**Pn**	**00 39 59.5**	**+0.9**
JKG	**Kaga**	**1.96**	**347**	*e*S		**S**	**00 40 45.6**	**+3.4**
JAI	**Aioi**	**2.08**	**255**	P		**Pn**	**00 40 03.1**	**+0.9**
JRY	**Ryogami san**	**2.34**	**45**	*e*P		**Pn**	**00 40 05.0**	**+0.8**
MJAR	**Matsushiro Arr**	**2.43**	**26**	P		**Pn**	**00 40 04.3**	**-0.6**
	8.8nm,0.6s,baz=202,slow=8.8,SNR=35						
MJAR				S		**S**	**00 40 49.7**	**+1.0**
	0.9nm,0.4s,baz=234,slow=29,SNR=4.2						
MKAR	**Makanchi Array**	**42.47**	**304**	P		**P**	**00 46 28.9**	**-3.2**
	0.5nm,0.9s,baz=100,slow=7.9,SNR=1.7						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**54.06**	**183**	P		**P**	**00 47 59.2**	**-0.8**
	0.4nm,0.3s,baz=360,slow=7.6,SNR=8.4						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**69.41**	**331**	P		**P**	**00 49 41.1**	**+0.2**
	1.1nm,0.7s,baz=52,slow=7.5,SNR=6.9						
	1.1nm,0.7s						

*ISK **02** 00:54:40.9, 38.°83N×26.°40E, h8km, ML2.7/41*
*ATH **02** 00:54:41.1, 38.°81N×26.°41E, h15km, ML2.5/7, Manual Solution by G.Panopoulou First location: 2019/05/30 15:43:36, This location: 2019/05/30 15:42:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **02** 00:54:41.6, 38.°83N×26.°39E, h8km±1km, ML2.5/8, Error ellipse: s-maj=1.4km s-min=0.6km az=334.0*
*AFAD **02** 00:54:41.0±0.0, 38.°82N×26.°42E, h7km±2km, ML2.8*

ISC 02 00:54:41.3±0.8,38.°82N±0.°01×26.°41E±0.°02, h14km±6km, n80, σ0°84/114, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.16**	**181**	P		**Pg**	**00 54 45.1**	**-0.1**
KARB				S		**Sg**	**00 54 47.1**	**-0.6**
EAG3	**Mitilini, Lesv**	**0.29**	**25**	P		**Pg**	**00 54 47.4**	**0.0**
EAG3				S		**Sg**	**00 54 51.3**	**-0.2**
EAG1	**Polichnitos, L**	**0.30**	**331**	P		**Pg**	**00 54 47.7**	**+0.1**
EAG1				S		**

comp=E,215nm,0.3s
BOZC *i* AML AML 00 55 17.0
comp=E,198nm,0.3s
BOZC *i* AML AML 00 55 17.0
comp=N,190nm,0.3s
BOZC *i* AML AML 00 55 17.0
comp=N,216nm,0.3s
AKS Akhisar 1.09 86 Pn **Pn 00 55 02.8 +0.6**
STEP BALIKESIR_Sava 1.16 61 P **Pg 00 55 03.1 -0.4**
STEP *i* AML AML 00 55 21.0
comp=N,314nm,0.4s
SMG Samos 1.16 163 P **Pb 00 55 03.3 +0.2**
SMG S **Sn 00 55 19.8 +1.1**
408nm,0.2s
SMG Samos 1.16 163 P **Pb 00 55 02.9 -0.2**
SMG S **Sg 00 55 16.4 -2.3**
GOMA Golmarmara-Man 1.18 95 Pn **Pn 00 55 04.0 +0.7**
IKRA Agios-Kirikos- 1.21 185 P **Pb 00 55 03.1 -0.8**
COMU Canakkale 1.28 2 Pn **Pb 00 55 05.3 +0.2**
CANM Can-anakkale 1.29 22 Pn **Pb 00 55 05.6 +0.3**
GCAM G?zelcaml? 1.29 150 Pn **Pg 00 55 05.9 -0.2**
GCAM G?zelcaml? 1.29 150 P **Pn 00 55 05.0 +0.2**
GCAM S **Sb 00 55 21.8 0.0**
BALB Balikesir 1.40 54 Pn **Pb 00 55 07.2 0.0**
GADA Gvkgeada 1.43 344 Pn **Pb 00 55 07.8 +0.2**
LIA Limnos Island 1.44 319 P **Pn 00 55 06.9 0.0**
LIA S **Sn 00 55 24.9 -0.7**
245nm,0.6s
LIA Limnos Island 1.44 319 P **Pn 00 55 06.9 0.0**
LIA S **Sn 00 55 24.9 -0.7**
BKES Balkesir-Mer 1.49 52 P **Pn 00 55 08.2 +0.6**
GONE Gonen-Balikesi 1.57 38 Pn **Pb 00 55 09.9 -0.2**
LPK Lapseki 1.57 10 Pn **Pb 00 55 10.1 0.0**
GELI Tayfur-Gelibol 1.58 2 Pn **Pn 00 55 09.3 +0.5**
KRBG Karabiga-Canak 1.71 23 Pn **Pb 00 55 12.2 -0.3**
SMTH Samothraki Isl 1.78 338 P **Pn 00 55 11.7 0.0**
SMTH Samothraki Isl 1.78 338 P **Pn 00 55 11.6 -0.1**
KULA Kula-Manisa 1.79 99 Pn **Pn 00 55 13.1 +1.3**
ERIK Erikli-Kesan 1.85 2 Pn **Pn 00 55 13.4 +0.9**
MLSB Milas 1.86 144 Pn **Pn 00 55 14.2 +1.4**
APE Apeiranthos 1.88 202 Pn **Pn 00 55 14.5 +1.4**
APE Apeiranthos 1.88 202 P **Pn 00 55 12.1 -1.0**
BODT Bodrum 1.89 158 Pn **Pn 00 55 14.7 +1.5**
ENEZ Enez 1.92 354 Pn **Pn 00 55 14.8 +1.2**
RKY Sarkoy-Tekirda 1.96 17 Pn **Pn 00 55 15.4 +1.3**
SIMA Simav-Kutahya 2.02 82 Pn **Pn 00 55 16.6 +1.6**
KCTX Karacabey (Bur 2.08 46 Pn **Pn 00 55 16.9 +1.1**
ALN Alexandroupoli 2.09 352 Pn **Pn 00 55 17.4 +1.5**
ALN Alexandroupoli 2.09 352 P **Pn 00 55 16.5 +0.6**
RFTAA Mazikoy-Bodrum 2.10 150 Pn **Pn 00 55 17.8 +1.8**
THAS Thassos island 2.21 324 P **Pn 00 55 17.3 -0.2**
YER Yerkesik 2.24 138 Pn **Pn 00 55 19.6 +1.6**
DAT Datca 2.28 156 Pn **Pn 00 55 20.1 +1.5**
RFTD Palamutbuku-Ka 2.30 158 Pn **Pn 00 55 20.4 +1.7**
UKOP Uzunkopru-Edir 2.31 4 Pn **Pn 00 55 20.4 +1.5**
RFTC Emecik-Datca 2.32 151 Pn **Pn 00 55 20.7 +1.7**
RDO Rodhopi 2.42 344 Pn **Pn 00 55 21.6 +1.2**
RDO Rodhopi 2.42 344 P **Pn 00 55 20.6 +0.3**
MDNY Mudanya-Bursa 2.46 50 Pn **Pn 00 55 22.5 +1.6**
KAVA Kavala 2.62 327 P **Pn 00 55 23.2 +0.1**
CAME Cameli-Denizli 2.96 128 Pn **Pn 00 55 29.7 +1.8**
BASM Basmaki-Afyon 3.00 106 Pn **Pn 00 55 30.1 +1.7**

*TEH **02** 01:04:11.7, 33.°18N×45.°92E, h8km±30km, ML2.5*
*ISN **02** 01:04:11.4±0.3, 33.°18N×45.°84E, h6km, ML2.5*
ISC 02 01:04:12.7±1.4, 33.°19N±0.°10×45.°92E±0.°05, h10km, n7, σ0°99/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.50**	**29**	Pg	**Pg**	**01 04 21.7**	**-0.8**
ILBA				Sg	**Sb**	**01 04 30.8**	**-0.2**
BHD	**Baghdad**	**1.29**	**274**	*e*Pg	**Pg**	**01 04 36.6**	**-0.9**
	baz=94						
BHD				*e*Sg	**Sg**	**01 04 55.0**	**+0.8**
IDHR	**Dehrash**	**1.55**	**14**	Pg	**Pg**	**01 04 42.3**	**-0.3**
IKFM	**Kafar-mosalman**	**1.65**	**78**	Pg	**Pg**	**01 04 43.7**	**-0.7**
IKOM	**Komasi**	**1.65**	**53**	Pg	**Pg**	**01 04 44.0**	**-0.5**
IBZA	**Bozab**	**2.06**	**51**	Pn	**Pb**	**01 04 49.5**	**-0.9**
HAGD	**Aghdareh**	**3.13**	**58**	Pn	**Pn**	**01 05 04.0**	**+1.6**

*IDC **02** 01:22:03.0±0.7, 28.°62N×82.°26E, h0km, mb4.0/15, mbtmp4.0/17, ML4.2/2, Error ellipse: s-maj=19.4km s-min=15.4km az=52.0*
*DMN **02** 01:22:07.8±0.3, 28.°90N×82.°11E, h30km, Ml4.5/11, Error ellipse: s-maj=7.3km s-min=5.0km az=21.0*
ISC 02 01:22:05.8±1.8, 28.°80N±0.°08×82.°26E±0.°06, h14km±12km, n35, σ1°19/46, mb4.0/15, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**0.95**	**137**	*e*Pg	**Pn**	**01 22 26.5**	**+1.7**
PYUN				*e*Sg	**Sn**	**01 22 40.6**	**+2.4**
	2μm,0.3s						
DANN	**Dangsing**	**1.39**	**108**	*e*Pg	**Pn**	**01 22 31.8**	**+0.8**
DANN				*e*Sg	**Sn**	**01 22 49.6**	**+0.3**
	2μm,0.3s						
KOLN	**Koldanda**	**1.56**	**131**	*e*Pg	**Pb**	**01 22 35.0**	**+0.4**
KOLN	**Koldanda**	**1.56**	**131**	*e*Pg	**Pg**	**01 22 35.4**	**-0.5**
KOLN				*e*Sg	**Sb**	**01 22 54.5**	**+0.2**
	1μm,0.3s						
KOLN				*e*Sg	**Sn**	**01 22 54.9**	**+1.5**
GKN	**Gorkha**	**2.24**	**110**	*e*Pg	**Pn**	**01 22 44.5**	**+2.0**
GKN				*e*Sg	**Sn**	**01 23 10.9**	**+0.9**
	3μm,0.3s						
DMN	**Daman**	**2.78**	**115**	*e*Pg	**Pn**	**01 22 51.3**	**+1.3**
DMN				*e*Sg	**Sn**	**01 23 22.9**	**-0.5**
	467nm,0.3s						
PKIN	**Phulchoki**	**3.02**	**113**	*e*Pn	**Pn**	**01 22 54.5**	**+1.1**
PKIN				*e*Sn	**Sn**	**01 23 28.9**	**-0.6**
	62nm,0.2s						
PKI	**Pulchoki**	**3.04**	**113**	*e*Pn	**Pn**	**01 22 54.6**	**+1.0**
PKI				*e*Sn	**Sn**	**01 23 29.6**	**-0.3**
	54nm,0.2s						
GUN	**Gumba**	**3.31**	**105**	*e*Pn	**Pn**	**01 22 58.6**	**+1.2**
GUN				*e*Sn	**Sn**	**01 23 36.1**	**-0.6**
	112nm,0.3s						
JIRN	**Jiri**	**3.65**	**107**	*e*Pn	**Pn**	**01 23 03.1**	**+1.0**
JIRN				*e*Sn	**Sn**	**01 23 45.2**	**+0.1**
	246nm,0.3s						
RAMN	**Ramite**	**4.26**	**115**	*e*Pn	**Pn**	**01 23 11.6**	**+1.2**
RAMN				*e*Sn	**Sn**	**01 23 59.2**	**-0.8**
	346nm,0.3s						
TAPN	**Taplejung**	**5.03**	**105**	*e*Pn	**Pn**	**01 23 22.4**	**+1.4**
TAPN				*e*Sn	**Sn**	**01 24 17.8**	**-1.2**
	109nm,0.4s						
CHCP	**Chirah Chowk**	**9.10**	**304**	P	**Pn**	**01 24 18.1**	**+1.4**
THW	**Thamme Wali**	**9.88**	**296**	P	**Pn**	**01 24 26.8**	**-0.6**
CEP	**Cherat**	**10.17**	**302**	P	**Pn**	**01 24 31.3**	**-0.2**
AAK	**Ala-Archa**	**15.17**	**338**	Pn	**Pn**	**01 25 38.5**	**-1.2**
	0.4nm,0.3s,baz=238,slow=23,SNR=2.8						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**17.96**	**0**	P	**Pn**	**01 26 13.5**	**-1.5**
	0.6nm,0.4s,baz=185,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**18.41**	**120**	P	**P**	**01 26 17.1**	**-3.4**
	0.7nm,0.3s,baz=306,slow=11,SNR=2.1						
	1.4nm,0.3s						
WSAR	**Wadi Sarin**	**21.93**	**261**	P	**P**	**01 26 58.9**	**0.0**
	1.6nm,0.5s,baz=95,slow=11,SNR=6.5						
	1.6nm,0.5s						
KURBB	**Kurchatov Arra**	**21.98**	**354**	P	**P**	**01 26 59.2**	**+0.1**
	1.7nm,0.7s,baz=179,slow=9.6,SNR=15						
	1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**25.20**	**4**	P	**P**	**01 27 31.9**	**+1.2**
	5.6nm,0.6s,baz=193,slow=10.0,SNR=21						
	5.6nm,0.6s						
BVAR	**Borovoye Array**	**25.74**	**343**	P	**P**	**01 27 36.4**	**+0.8**
	1.2nm,0.6s,baz=149,slow=9.8,SNR=9.6						
	1.2nm,0.6s						
SONM	**Songino Array**	**26.64**	**38**	P	**P**	**01 27 45.3**	**+1.3**
	1.3nm,0.7s,baz=222,slow=9.1,SNR=7.8						
	1.3nm,0.7s						
KSRS	**Korea Array**	**38.89**	**65**	P	**P**	**01 29 30.8**	**+0.1**
	1.3nm,0.5s,baz=270,slow=9.8,SNR=2.7						
	1.3nm,0.5s						
NRIK	**Noril'sk**	**40.69**	**3**	P	**P**	**01 29 46.6**	**+1.3**
	3.4nm,0.4s,baz=152,slow=5.4,SNR=4.4						
	3.4nm,0.4s						
BRTR	**Keskin Array B**	**41.19**	**299**	P	**P**	**01 29 49.8**	**-0.3**
	0.4nm,0.7s,baz=124,slow=11,SNR=2.1						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**49.08**	**328**	P	**P**	**01 30 52.7**	**+0.5**
	1.3nm,0.7s,baz=116,slow=8.2,SNR=5.8						
	1.3nm,0.7s						
ARCES	**ARCESS Array B**	**51.84**	**338**	P	**P**	**01 31 14.3**	**+1.3**
	2.4nm,0.9s,baz=97,slow=7.5,SNR=2.0						
	2.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**64.32**	**321**	P	**P**	**01 32 40.2**	**-0.5**
	1.9nm,0.8s,baz=41,slow=14,SNR=1.4						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**69.82**	**128**	P	**P**	**01 33 15.1**	**-1.0**
	1.1nm,0.7s,baz=322,slow=6.2,SNR=13						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**72.06**	**131**	P	**P**	**01 33 28.4**	**-1.2**
	0.7nm,0.5s,baz=323,slow=6.0,SNR=12						
	0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.62**	**277**	P	**P**	**01 33 50.7**	**0.0**
	1.3nm,0.9s,baz=52,slow=5.7,SNR=8.9						
	1.3nm,0.9s						
BOSA	**Boshof**	**78.94**	**229**	P	**P**	**01 34 07.8**	**-1.4**
	4.3nm,1.2s,baz=63,slow=9.0,SNR=2.1						
	4.3nm,1.2s						
TXAR	**Lajitas Array**	**121.92**	**6**	PKP	**PKiKP**	**01 41 00.5**	**+0.2**
	0.2nm,0.5s,baz=198,slow=1.2,SNR=6.2						
CPUP	**Villa Florida**	**144.21**	**264**	PKP	PKPbc	01 41 39.9	+0.2
	1.0nm,0.8s,baz=60,slow=7.2,SNR=5.1						

*NAO **02** 01:26:36.3, 38.°78N×15.°09E, h33km, mb3.5*
*ROM **02** 01:26:57.5±0.2, 38.°806N±0.°008×14.°98E±0.°02, h290km±1km, ML3.7/98, Error ellipse: s-maj=1.1km s-min=1.0km az=112.0*
*LDG **02** 01:26:57.6±0.1, 38.°79N×15.°03E, h295km, Ml3.1/17, Error ellipse: s-maj=2.7km s-min=1.9km az=65.0*
*MOS **02** 01:26:57.5±1.1, 38.°76N×15.°44E, h256km, mb4.0/5, Error ellipse: s-maj=14.6km s-min=4.5km az=91.3*
*IDC **02** 01:26:59.8±0.5, 38.°99N×14.°74E, h288km±7km, mb3.4/16, mbtmp4.1/27, Error ellipse: s-maj=10.2km s-min=9.2km az=64.0*
ISC 02 01:26:59.3±0.5, 38.°90N±0.°05×15.°00E±0.°04, h283km±5km, n298, σ1°60/312, mb3.7/18, 28C-40D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISTR	**Stromboli Gino**	**0.19**	**126**	P	**Pn**	**01 27 35.6**	**+0.2**
IST3	**Stromboli F**	**0.21**	**119**	⇓P	**Pn**	**01 27 35.9**	**+0.4**
IST3				AML	AML		
	comp=E,780μm,0.5s						
IST3				AML	AML		
	comp=N,958μm,1.0s						
IST3				AML	AML		
	comp=E,780μm,0.5s						
LLI	**Lipari**	**0.46**	**185**	⇓P	**Pn**	**01 27 36.2**	**+0.3**
LLI				AML	AML		
	comp=E,1174μm,0.8s						
LLI				AML	AML		
	comp=N,1670μm,0.9s						
LLI				AML	AML		
	comp=E,1205μm,0.7s						
LLI				AML	AML		
	comp=N,1835μm,0.4s						
IVGP	**Vulcano Grotta**	**0.50**	**183**	P	**Pn**	**01 27 35.5**	**-0.6**
IVGP				AML	AML		
	comp=E,331μm,1.1s						
IVGP				AML	AML		
	comp=N,260μm,0.6s						
IVGP				AML	AML		
	comp=E,331μm,0.9s						
VPL	**Vulcano Piano**	**0.52**	**181**	⇓P	**Pn**	**01 27 35.7**	**-0.5**
VPL				AML	AML		
	comp=N,2605μm,1.3s						
VPL				AML	AML		
	comp=E,2510μm,1.4s						
VPL				AML	AML		
	comp=E,2510μm,0.6s						
VPL				AML	AML		
	comp=N,2605μm,0.7s						
MILZ	**Milazzo**	**0.65**	**163**	⇓P	**Pn**	**01 27 35.8**	**-0.7**
MILZ				S	**S**	**01 28 04.9**	**-1.0**
MILZ				AML	AML		
	comp=E,1905μm,1.5s						
MILZ				AML	AML		
	comp=N,2415μm,0.5s						
MILZ				AML	AML		
	comp=E,1905μm,0.5s						
MSRU	**Castanea**	**0.75**	**147**	⇓P	**Pn**	**01 27 36.0**	**-0.8**
MSRU				S	**S**	**01 28 04.8**	**-1.8**
MSRU				AML	AML		
	comp=E,2160μm,0.9s						
MSRU				AML	AML		
	comp=N,1935μm,1.6s						
MSRU				AML	AML		
	comp=N,1935μm,0.4s						
MSRU				AML	AML		
	comp=E,2160μm,1.1s						
JOPP	**Joppolo**	**0.76**	**112**	⇓P	**Pn**	**01 27 36.4**	**-0.4**
JOPP				S	**S**	**01 28 04.9**	**-1.7**
JOPP				AML	AML		
	comp=E,1240μm,0.8s						
JOPP				AML	AML		
	comp=N,1465μm,0.6s						
MUCR	**Ucria**	**0.86**	**186**	P	**Pn**	**01 27 36.6**	**-0.8**
MUCR				AML	AML		
	comp=E,246μm,0.4s						
MUCR				AML	AML		
	comp=N,203μm,0.4s						
MUCR				AML	AML		
	comp=N,861μm,0.5s						
MUCR				AML	AML		
	comp=E,632μm,0.6s						
MSFR	**San Fratello**	**0.92**	**200**	⇓P	**Pn**	**01 27 37.2**	**-0.4**
MSFR				AML	AML		
	comp=N,126μm,0.4s						
MSFR				AML	AML		
	comp=E,87μm,1.5s						
MSFR				AML	AML		
	comp=N,126μm,1.6s						
AIO	**Antillo**	**0.95**	**169**	⇓P	**Pn**	**01 27 37.6**	**-0.2**
AIO				AML	AML		
	comp=E,1115μm,0.6s						
AIO				AML	AML		
	comp=N,932μm,0.7s						
AIO				AML	AML		
	comp=E,1115μm,1.4s						
AIO				AML	AML		
	comp=N,932μm,1.3s						
GMB	**Gambarie**	**0.98**	**138**	AML	AML		
	comp=E,10630μm,0.2s						
GMB				AML	AML		
	comp=N,7060μm,0.7s						
MNO	**Monte Soro**	**0.99**	**194**	P	**Pn**	**01 27 38.1**	**0.0**
MNO				AML	AML		
	comp=E,437μm,0.2s						
MNO				AML	AML		
	comp=E,436μm,0.2s						
MNO				AML	AML		
	comp=N,508μm,0.9s						
MNO				AML	AML		
	comp=N,508μm,0.9s						
MNO				AML	AML		
	comp=E,436μm,1.8s						
MNO				AML	AML		
	comp=N,508μm,1.1s						
CAR1	**CAROLEI**	**1.01**	**69**	⇓P	**Pn**	**01 27 37.8**	**-0.1**
CAR1				S	**S**	**01 28 06.9**	**-1.6**
CAR1				AML	AML		
	comp=E,1215μm,1.4s						
CAR1				AML	AML		
	comp=N,1125μm,1.5s						
CAR1				AML	AML		
	comp=E,1250μm,0.4s						
CAR1				AML	AML		
	comp=N,1125μm,0.5s						
CAR1				AML	AML		
	comp=N,1295μm,0.4s						
CAR1				AML	AML		
	comp=E,1215μm,0.6s						
EMSG	**Monte Spagnolo**	**1.08**	**182**	P	**Pn**	**01 27 38.8**	**+0.2**
EPZF	**Pizzo Felice**	**1.08**	**186**	P	**Pn**	**01 27 38.8**	**+0.4**
EPZF				AML	AML		
	comp=E,598μm,0.9s						
EPZF				AML	AML		
	comp=E,630μm,1.6s						
EPZF				AML	AML		
	comp=N,979μm,0.3s						
EPZF				AML	AML		
	comp=E,630μm,0.4s						
SPS2	**Spezzano della**	**1.12**	**69**	P	**Pn**	**01 27 38.3**	**-0.1**
SPS2				S	**S**	**01 28 09.1**	**-0.4**
SPS2				AML	AML		
	comp=N,474μm,0.3s						
SPS2				AML	AML		
	comp=E,388μm,0.7s						
SPS2				AML	AML		
	comp=N,474μm,1.7s						
SPS2				AML	AML		
	comp=E,388μm,1.3s						
PLLN	**Pollina**	**1.13**	**217**	P	**Pn**	**01 27 37.7**	**-0.9**
SOI	**Samo**	**1.17**	**134**	⇓P	**Pn**	**01 27 38.4**	**-0.4**
SOI				S	**S**	**01 28 07.8**	**-2.3**
SOI				AML	AML		
	comp=N,779μm,0.6s						
SOI				AML	AML		
	comp=E,686μm,0.7s						
GIB	**Gibilmanna**	**1.19**	**220**	⇓P	**Pn**	**01 27 38.3**	**-0.7**
GIB				AML	AML		
	comp=N,657μm,0.8s						
GIB				AML	AML		
	comp=E,620μm,0.5s						
CSLB	**Castelbuono**	**1.21**	**218**	P	**Pn**	**01 27 38.0**	**-1.1**
CSLB				AML	AML		
	comp=E,114μm,1.1s						
CSLB				AML	AML		
	comp=N,138μm,0.7s						
CSLB				AML	AML		
	comp=N,138μm,1.3s						
BULG	**Bulgheria - Ca**	**1.21**	**14**	⇓P	**Pn**	**01 27 40.0**	**+1.0**
PLAC	**Placanica**	**1.22**	**111**	⇓P	**Pn**	**01 27 38.9**	**-0.1**
PLAC				S	**S**	**01 28 08.4**	**-2.2**
PLAC				AML	AML		
	comp=E,2065μm,0.2s						
PLAC				AML	AML		
	comp=N,1665μm,0.3s						
PLAC				AML	AML		
	comp=N,2000μm,0.2s						
PLAC				AML	AML		
	comp=E,1540μm,0.3s						
MMN	**Mormanno**	**1.25**	**38**	P	**Pn**	**01 27 39.6**	**+0.5**
CUC	**Castrocucco**	**1.26**	**30**	⇓P	**Pn**	**01 27 39.8**	**+0.5**
CUC				AML	AML		
	comp=N,88μm,0.7s						
CUC				AML	AML		
	comp=E,110μm,0.9s						
PETRA	**Petralia Sopra**	**1.27**	**213**	P	**Pn**	**01 27 38.9**	**-0.7**
PETRA				AML	AML		
	comp=E,534μm,1.5s						
PETRA				AML	AML		
	comp=E,534μm,0.5s						
PETRA				AML	AML		
	comp=N,616μm,0.6s						
CELI	**Celico**	**1.28**	**66**	P	**Pn**	**01 27 40.1**	**+0.7**
CELI				S	**S**	**01 28 11.4**	**0.0**
CELI				AML	AML		
	comp=E,948μm,0.9s						
CELI				AML	AML		
	comp=N,1300μm,0.5s						
ESML	**S. M. di Licod**	**1.28**	**184**	P	**Pn**	**01 27 39.5**	**0.0**
ESML				AML	AML		
	comp=E,462μm,0.5s						
ESML				AML	AML		
	comp=N,366μm,0.6s						
TDS	**Terranova Siba**	**1.29**	**54**	⇓P	**Pn**	**01 27 40.0**	**+0.7**
TDS				AML	AML		
	comp=N,172μm,1.2s						
TDS				AML	AML		
	comp=E,194μm,1.5s						
TDS				AML	AML		
	comp=N,172μm,0.8s						
MGR	**Morigerati**	**1.31**	**19**	P	**Pn**	**01 27 40.5**	**+1.1**
SERS	**Sersale**	**1.33**	**84**	⇓P	**Pn**	**01 27 40.2**	**+0.4**
SERS				AML	AML		
	comp=N,1240μm,0.4s						
SERS				AML	AML		
	comp=E,967μm,1.0s						
SERS				AML	AML		
	comp=N,1240μm,1.6s						
EPOZ	**Pozzillo**	**1.39**	**177**	P	**Pn**	**01 27 38.9**	**-1.2**
EPOZ				AML	AML		
	comp=N,621μm,1.1s						
EPOZ				AML	AML		
	comp=E,580μm,0.8s						
EPOZ				AML	AML		
	comp=N,621μm,0.9s						
TIP	**Timpagrande**	**1.40**	**78**	⇓P	**Pn**	**01 27 40.7**	**+0.5**
TIP				⇓S	**S**	**01 28 11.2**	**-1.4**
TIP	**Timpagrande**	**1.40**	**78**	⇓P	**Pn**	**01 27 40.7**	**+0.5**
TIP				AML	AML		
	comp=E,718μm,1.2s						
TIP				AML	AML		
	comp=E,588μm,1.2s						
TIP				AML	AML		
	comp=N,394μm,0.5s						
TIP				AML	AML		
	comp=N,494μm,0.5s						
TIP				AML	AML		
	comp=E,718μm,0.8s						
TIP				AML	AML		
	comp=E,588μm,0.8s						
SOLUN	**Solunto**	**1.40**	**235**	⇓P	**Pn**	**01 27 39.5**	**-0.6**
SOLUN				AML	AML		
	comp=E,761μm,0.6s						
SOLUN				AML	AML		
	comp=N,914μm,0.5s						
SOLUN				AML	AML		
	comp=E,761μm,1.4s						
USI	**Ustica**	**1.43**	**263**	⇓P	**Pn**	**01 27 40.5**	**+0.2**
USI				AML	AML		
	comp=E,152μm,1.0s						
USI				AML	AML		
	comp=N,516μm,0.8s						
SALB	**San Lorenzo Be**	**1.43**	**47**	⇓P	**Pn**	**01 27 41.4**	**+1.0**
SALB				AML	AML		
	comp=N,242μm,0.6s						
SALB				AML	AML		
	comp=N,242μm,1.4s						
SALB				AML	AML		
	comp=E,314μm,0.7s						
CMPR	**Campora**	**1.44**	**9**	⇑P	**Pn**	**01 27 41.4**	**+1.1**
CMPR				S	**S**	**01 28 13.8**	**+0.8**
SIRI	**Monte Sirino -**	**1.45**	**28**	P	**Pn**	**01 27 41.1**	**+0.6**
SIRI				AML	AML		
	comp=E,118μm,0.2s						
SIRI				AML	AML		
	comp=N,120μm,0.4s						
SIRI				AML	AML		
	comp=N,112μm,0.7s						
SIRI				AML	AML		
	comp=E,112μm,0.3s						
SIRI				AML	AML		
	comp=E,118μm,1.8s						
MPG	**Monte Pellegri**	**1.48**	**241**	⇓P	**Pn**	**01 27 40.2**	**-0.5**
MPG				AML	AML		
	comp=E,319μm,0.6s						
MPG				AML	AML		
	comp=N,304μm,0.6s						
VAE	**Valguarnera**	**1.49**	**198**	P	**Pn**	**01 27 40.9**	**0.0**
	comp=N,19nm,0.3s,baz=0.0,slow=5.1,SNR=66						
VAE				S	**S**	**01 28 16.2**	**+2.4**
	comp=N,20nm,0.5s,baz=339,slow=14,SNR=4.2						
ALJA	**Alia**	**1.51**	**221**	⇓P	**Pn**	**01 27 40.9**	**-0.1**
ALJA				AML	AML		
	comp=E,871μm,0.3s						
ALJA				AML	AML		
	comp=N,1030μm,1.1s						
ALJA				AML	AML		
	comp=N,1030μm,0.9s						
PIPA	**Pietrapaola**	**1.53**	**67**	P	**Pn**	**01 27 41.5**	**+0.6**
PIPA				AML	AML		
	comp=E,636μm,1.3s						
PIPA				AML	AML		
	comp=E,634μm,1.3s						
PIPA				AML	AML		
	comp=N,414μm,0.3s						
PIPA				AML	AML		
	comp=N,456μm,1.5s						
PIPA				AML	AML		
	comp=E,634μm,0.7s						
PIPA				AML	AML		
	comp=E,636μm,0.7s						
HLNI	**Lentini**	**1.55**	**184**	⇓P	**Pn**	**01 27 40.5**	**-0.7**
HLNI				AML	AML		
	comp=E,242μm,0.3s						
HLNI				AML	AML		
	comp=N,347μm,0.9s						
MCEL	**Monticello**	**1.55**	**23**	P	**Pn**	**01 27 42.7**	**+1.5**

CDRU	**Civita di Ruta**	**1.61**	**8**	⇑P		**Pn**	**01 27 42.5 +1.0**
HAGA	**Augusta**	**1.62**	**175**	⇓P		**Pn**	**01 27 41.0 -0.7**
HAGA				AML		AML	
	comp=E,248μm,0.8s						
HAGA				AML		AML	
	comp=N,294μm,0.6s						
ORI	**Oriolo Calabro**	**1.62**	**44**	⇓P		**Pn**	**01 27 42.7 +1.1**
ORI				AML		AML	
	comp=E,562μm,0.3s						
ORI				AML		AML	
	comp=N,462μm,1.2s						
AGST	**Augusta-Monte**	**1.65**	**174**	P		**Pn**	**01 27 40.9 -1.0**
AGST				AML		AML	
	comp=N,427μm,1.0s						
AGST				AML		AML	
	comp=N,428μm,1.0s						
AGST				AML		AML	
	comp=N,428μm,1.0s						
AGST				AML		AML	
	comp=E,380μm,1.2s						
MCT	**Mte Cammarata**	**1.66**	**221**	AML		AML	
	comp=N,552μm,1.0s						
MCT				AML		AML	
	comp=E,544μm,0.4s						
MCT				AML		AML	
	comp=E,544μm,1.6s						
CORL	**Corleone**	**1.67**	**233**	⇓P		**Pn**	**01 27 41.4 -0.6**
CORL				AML		AML	
	comp=E,776μm,0.3s						
CORL				AML		AML	
	comp=N,736μm,0.9s						
CORL				AML		AML	
	comp=N,736μm,1.1s						
SSY	**Sortino**	**1.74**	**178**	⇓P		**Pn**	**01 27 42.0 -0.6**
SSY				AML		AML	
	comp=N,901μm,0.3s						
SSY				AML		AML	
	comp=E,346μm,1.1s						
RAFF	**Raffo Rosso**	**1.75**	**197**	⇓P		**Pn**	**01 27 42.3 -0.3**
RAFF				AML		AML	
	comp=N,219μm,0.9s						
RAFF				AML		AML	
	comp=E,184μm,0.8s						
MEU	**Monte Lauro**	**1.80**	**182**	⇓P		**Pn**	**01 27 42.7 -0.4**
MEU				AML		AML	
	comp=E,568μm,0.8s						
MEU				AML		AML	
	comp=N,650μm,0.4s						
COL3	**Colliano**	**1.80**	**8**	P		**Pn**	**01 27 44.3 +1.3**
CRAC	**Craco**	**1.84**	**37**	P		**Pn**	**01 27 44.3 +1.2**
CRAC				AML		AML	
	comp=E,710μm,0.3s						
CRAC				AML		AML	
	comp=N,648μm,1.3s						
CRAC				AML		AML	
	comp=E,710μm,1.7s						
CRAC				AML		AML	
	comp=N,648μm,0.7s						
MCRV	**Calabrutti - M**	**1.89**	**4**	⇑P		**Pn**	**01 27 45.0 +1.3**
CRJA	**Costa Raja**	**1.91**	**236**	⇓P		**Pn**	**01 27 43.7 -0.2**
CRJA				AML		AML	
	comp=E,463μm,0.9s						
CRJA				AML		AML	
	comp=N,586μm,0.4s						
CRJA				AML		AML	
	comp=E,463μm,1.1s						
CLTB	**Caltabellotta**	**1.92**	**227**	⇓P		**Pn**	**01 27 43.5 -0.6**
CLTB				AML		AML	
	comp=N,4920μm,0.6s						
CLTB				AML		AML	
	comp=E,2395μm,0.6s						
HMDC	**Modica**	**1.95**	**185**	⇓P		**Pn**	**01 27 44.1 -0.1**
HMDC				AML		AML	
	comp=E,206μm,1.1s						
HMDC				AML		AML	
	comp=N,290μm,0.4s						
VTIR	**Vesuvio Tirone**	**1.95**	**347**	P		**Pn**	**01 27 45.2 +1.1**
VCRE	**Vesuvio Crater**	**1.96**	**347**	⇑P		**Pn**	**01 27 45.5 +1.2**
CRTO	**Cratere Ovest,**	**1.97**	**347**	P		**Pn**	**01 27 45.2 +0.9**
MFNL	**Monte Finestre**	**1.97**	**236**	⇑P		**Pn**	**01 27 44.3 -0.1**
VBKN	**Vesuvio Bunker**	**1.98**	**347**	⇑P		**Pn**	**01 27 45.5 +1.2**
OVO	**Vesuviano**	**1.98**	**347**	⇑P		**Pn**	**01 27 45.6 +1.3**
VVDG	**Vesuvio Valle**	**1.98**	**347**	⇑P		**Pn**	**01 27 45.5 +1.1**
IFOR	**Ischia Forio P**	**2.01**	**334**	P		**Pn**	**01 27 45.2 +0.7**
MTMR	**Montemarano**	**2.02**	**0**	⇑P		**Pn**	**01 27 46.0 +1.3**
ACER	**Acerenza**	**2.02**	**21**	P		**Pn**	**01 27 45.2 +0.5**
ACER				AML		AML	
	comp=E,70μm,0.9s						
ACER				AML		AML	
	comp=N,93μm,0.8s						
ACER				AML		AML	
	comp=N,93μm,1.2s						
ACER				AML		AML	
	comp=E,70μm,1.1s						
SNAL	**S. Angelo Dei**	**2.03**	**5**	P		**Pn**	**01 27 46.0 +1.3**
MIGL	**Miglionico**	**2.04**	**33**	P		**Pn**	**01 27 45.1 +0.3**
MIGL				AML		AML	
	comp=E,414μm,0.9s						
MIGL				AML		AML	
	comp=N,412μm,0.7s						
ERC	**Erice**	**2.08**	**246**	P		**Pn**	**01 27 44.5 -0.8**
ERC				AML		AML	
	comp=E,81μm,0.2s						
ERC				AML		AML	
	comp=N,108μm,0.9s						
ERC				AML		AML	
	comp=E,81μm,1.8s						
ERC				AML		AML	
	comp=N,108μm,1.1s						
CAVT	**Castelvetrano**	**2.14**	**236**	P		**Pn**	**01 27 45.0 -0.7**
CAVT				AML		AML	
	comp=N,440μm,0.5s						
CAVT				AML		AML	
	comp=N,440μm,1.5s						
CAVT				AML		AML	
	comp=E,558μm,0.6s						
PALZ	**Palazzo San Ge**	**2.17**	**20**	⇑P		**Pn**	**01 27 46.5 +0.6**
PALZ				AML		AML	
	comp=E,94μm,1.2s						
PALZ				AML		AML	
	comp=N,85μm,1.5s						
PALZ				AML		AML	
	comp=N,85μm,0.5s						
MATE	**Matera**	**2.19**	**36**	⇓P		**Pn**	**01 27 46.1 +0.1**
MATE				⇑S		**S**	**01 28 22.4 -0.8**
HPAC	**Pachino**	**2.20**	**178**	⇓P		**Pn**	**01 27 46.3 0.0**
HPAC				AML		AML	
	comp=N,422μm,0.3s						
HPAC				AML		AML	
	comp=E,370μm,0.8s						
LTRZ	**Laterza**	**2.21**	**39**	P		**Pn**	**01 27 45.9 -0.3**
VENT	**Ventotene**	**2.25**	**328**	⇑P		**Pn**	**01 27 47.5 +0.9**
VITU	**Vitulano (BN)**	**2.30**	**353**	⇑P		**Pn**	**01 27 48.2 +1.1**
CAPA	**Cerignola FG**	**2.34**	**15**	AML		AML	
	comp=N,91μm,1.1s						
CAPA				AML		AML	
	comp=E,103μm,1.4s						
CAPA				AML		AML	
	comp=E,103μm,0.6s						
MODR	**Mondragone**	**2.40**	**339**	AML		AML	
	comp=N,101μm,1.1s						
MODR				AML		AML	
	comp=E,102μm,0.4s						
NOCI	**Noci**	**2.47**	**40**	AML		AML	
	comp=N,138μm,0.6s						
NOCI				AML		AML	
	comp=E,124μm,1.2s						
SGG	**Gregorio Mates**	**2.53**	**349**	AML		AML	
	comp=N,59μm,1.5s						
SGG				AML		AML	
	comp=N,59μm,0.5s						
SGG				AML		AML	
	comp=E,69μm,0.7s						
TRIV	**Trivento**	**2.88**	**353**	AML		AML	
	comp=E,120μm,1.0s						
TRIV				AML		AML	
	comp=N,112μm,0.9s						
TRIV				AML		AML	
	comp=E,122μm,1.0s						
TRIV				AML		AML	
	comp=N,122μm,0.8s						
TRIV				AML		AML	
	comp=N,112μm,1.1s						
SCTE	**Santa Cesarea**	**2.93**	**65**	AML		AML	
	comp=N,324μm,0.3s						
SCTE				AML		AML	
	comp=E,410μm,0.2s						
GIUL	**Giuliano Di Ro**	**2.97**	**334**	AML		AML	
	comp=N,127μm,0.6s						
GIUL				AML		AML	
	comp=E,68μm,0.4s						
T0110	**Collepietro**	**3.45**	**345**	AML		AML	
	comp=E,121μm,1.4s						
T0110				AML		AML	
	comp=N,132μm,0.4s						
LINA	**Linosa Island**	**3.47**	**210**	AML		AML	
	comp=E,280μm,0.4s						
LINA				AML		AML	
	comp=N,357μm,0.5s						
FAGN	**Fagnano**	**3.53**	**343**	AML		AML	
	comp=E,144μm,1.5s						
FAGN				AML		AML	
	comp=E,144μm,0.5s						
FAGN				AML		AML	
	comp=N,105μm,0.4s						
VCEL	**Villa Celiera**	**3.60**	**346**	AML		AML	
	comp=N,110μm,0.7s						
VCEL				AML		AML	
	comp=E,95μm,0.6s						
VCEL				AML		AML	
	comp=N,110μm,1.3s						
VCEL				AML		AML	
	comp=E,95μm,1.4s						
KEK	**Kerkira**	**3.81**	**76**	P		**Pn**	**01 28 03.9 +1.4**
LSTV	**Lastovo**	**4.12**	**20**	*i* P		**Pn**	**01 28 06.5 +0.6**
IGT	**Igoumenitsa**	**4.19**	**80**	P		**Pn**	**01 28 08.6 +1.8**
MF5	**Montefalcone A**	**4.25**	**345**	AML		AML	
	comp=N,78μm,0.5s						
MF5				AML		AML	
	comp=E,71μm,1.6s						
MF5				AML		AML	
	comp=E,71μm,0.4s						
KEF3	**Kipouria, Keph**	**4.25**	**98**	P		Pn	01 28 03.2 -4.2
DMLN	**Damoulianata-K**	**4.27**	**97**	P		**Pn**	**01 28 03.5 -4.1**
FSK	**Fiskardo**	**4.38**	**94**	P		**Pn**	**01 28 10.2 +1.3**
HVAR	**Hvar**	**4.41**	**14**	*i* P		**Pn**	**01 28 09.2 +0.1**
TIR	**Tirane**	**4.46**	**55**	⇑P		**Pn**	**01 28 12.1 +2.3**
TIR	**Tirane**	**4.46**	**55**	P		**Pn**	**01 28 12.1 +2.3**
STON	**Ston**	**4.47**	**26**	*i* P		**Pn**	**01 28 10.4 +0.6**
ZIRJ	**Zirje**	**4.78**	**6**	*i* P		**Pn**	**01 28 13.1 -0.2**
PDG	**Podgorica**	**4.79**	**41**	⇑P		**Pn**	**01 28 15.3 +1.8**
KPRO	**Kipourio**	**5.04**	**76**	P		**Pn**	**01 28 19.2 +2.5**
DUGI	**Dugi Otok**	**5.09**	**1**	*i* P		**Pn**	**01 28 16.6 -0.4**
VIRC	**Vir**	**5.39**	**0**	*i* P		**Pn**	**01 28 20.9 +0.4**
ANX	**Ano Chora**	**5.42**	**91**	P		**Pn**	**01 28 23.6 +2.4**
EFP	**Efpalio**	**5.43**	**93**	P		**Pn**	**01 28 23.5 +2.3**
KEST	**Kesra**	**5.50**	**237**	P		**Pn**	**01 28 21.7 -0.5**
	comp=E,5.4nm,0.7s,baz=65,slow=7.5,SNR=11						
KEST				S		**S**	**01 29 28.2 -0.6**
	comp=E,1.5nm,0.8s,baz=12,slow=14,SNR=1.0						
UDBI	**Udbina**	**5.65**	**6**	*i* P		**Pn**	**01 28 24.8 +0.9**
NVLJ	**Novalja**	**5.66**	**359**	*i* P		**Pn**	**01 28 24.3 +0.4**
PGF	**Pioggiola**	**5.83**	**311**	*e*P		**Pn**	**01 28 26.8 +0.7**
PGF				*e*Sn		**S**	**01 29 37.7 +1.8**
	comp=E,4.0nm,0.5s						
RABC	**Rab**	**5.85**	**359**	*i* P		**Pn**	**01 28 26.6 +0.5**
PLIT	**Plitvice**	**5.99**	**4**	*i* P		**Pn**	**01 28 28.6 +0.7**
BOJS	**Bojanci**	**6.60**	**2**	*i* P		**Pn**	**01 28 36.2 +0.9**
BOJS				*i* pP			01 28 43.3
SKDS	**Skadanscina**	**6.68**	**354**	*i* P		**Pn**	**01 28 36.1 -0.2**
SKDS				*i* pP			01 28 42.0
PDKS	**Podkum**	**7.16**	**0**	*i* P		**Pn**	**01 28 43.4 +1.2**
PDKS				*i* pP			01 28 48.8
PDKS				*i*			01 28 53.4
BOB	**Bobbio (Coli)**	**7.18**	**327**	P		Pn	01 28 47.8 +5.3
SBF	**Sospel**	**7.54**	**314**	*e*P		**Pn**	**01 28 47.2 +0.2**
OBKA	**Obir**	**7.61**	**358**	*e*Pn		**Pn**	**01 28 48.8 +1.0**
	comp=E,10nm,0.6s,SNR=9.0						
OBKA	**Obir**	**7.61**	**358**	*e*Pn		**Pn**	**01 28 48.0 +0.2**
SOKA	**Soboth**	**7.77**	**0**	*i* Pn		Pn	01 28 55.4 +5.5
	comp=E,14nm,0.4s,SNR=14						
LMR	**La Mourre**	**7.79**	**307**	*e*P		**Pn**	**01 28 49.8 -0.1**
MORH	**Mrgy, Hungar**	**7.79**	**19**	⇓P		**Pn**	**01 28 50.7 +0.8**
MYKA	**Terra Mystica**	**7.79**	**353**	*i* Pn		**Pn**	**01 28 54.1 +4.1**
	comp=E,8.1nm,0.5s,SNR=5.3						
MDI	**Monti di Nese**	**7.91**	**332**	P		**Pn**	**01 28 53.9 +2.4**
ISO	**Isola**	**7.96**	**314**	P		**Pn**	**01 28 54.2 +2.1**
ABTA	**Abfaltersbach**	**8.05**	**348**	*i* Pn		**Pn**	**01 28 54.3 +1.1**
	comp=E,24nm,0.5s,SNR=16						
KBA	**Koelnbreinsper**	**8.26**	**352**	*i* Pn		**Pn**	**01 28 59.2 +3.2**
	comp=E,5.2nm,0.5s						
KBA	**Koelnbreinsper**	**8.26**	**352**	*e*Pn		**Pn**	**01 28 56.6 +0.6**
ARSA	**Arzberg**	**8.36**	**2**	*i* Pn		**Pn**	**01 28 58.9 +2.0**
	comp=E,8.7nm,0.6s,SNR=5.1						
ARSA	**Arzberg**	**8.36**	**2**	*e*Pn		**Pn**	**01 28 58.3 +1.3**
MBDF	**Montbardon**	**8.46**	**316**	*e*P		**Pn**	**01 28 58.9 +0.5**
MBDF	**Montbardon**	**8.46**	**316**	*e*Pn		**P**	**01 29 02.4 +4.0**
MBDF				*e*Sn		**S**	**01 30 36.0 +1.0**
	comp=E,1.7nm,0.4s						
VDL	**Val di Lei**	**8.61**	**334**	P		**Pn**	**01 29 01.3 +1.0**
LESA	**Schwarzleotal**	**8.69**	**350**	*i* Pn		**Pn**	**01 29 02.9 +1.8**
	comp=E,9.0nm,0.6s						
IDI	**Anoyia**	**8.69**	**111**	P		**P**	**01 29 04.4 -2.8**
	comp=E,9.1nm,0.5s,baz=270,slow=20,SNR=2.1						
IDI				S		**S**	**01 30 46.6 +6.3**
	comp=E,12nm,1.0s,baz=325,slow=13,SNR=1.9						
FETA	**Feichten**	**8.70**	**340**	*e*Pn		**P**	**01 29 04.1 -3.2**
	comp=E,25nm,0.7s,SNR=12						
SMRF	**Simiane la Rot**	**8.70**	**309**	*e*P		**Pn**	**01 29 02.2 +0.9**
SMRF	**Simiane la Rot**	**8.70**	**309**	*e*Pn		**P**	**01 29 06.8 -0.4**
SMRF				*e*Sn		**S**	**01 30 41.9 +1.5**
	comp=E,0.5nm,0.3s						
WTTA	**Wattenberg**	**8.71**	**345**	*i* Pn		**P**	**01 29 04.6 -2.8**
	comp=E,6.4nm,0.4s,SNR=5.6						
WTTA	**Wattenberg**	**8.71**	**345**	P		**P**	**01 29 04.9 -2.5**
DAVOX	**Davos/Dischmat**	**8.72**	**336**	P		**Pn**	**01 29 02.0 +0.2**
	comp=E,5.2nm,0.4s,baz=165,slow=13,SNR=26						
DAVOX				S		**S**	**01 30 40.3 -0.7**
	comp=E,0.5nm,0.4s,baz=209,slow=23,SNR=1.1						
SQTA	**Sankt Quirin**	**8.77**	**343**	*e*Pn		**P**	**01 29 04.8 -3.2**
	comp=E,19nm,0.5s,SNR=19						
SQTA	**Sankt Quirin**	**8.77**	**343**	P		**P**	**01 29 04.7 -3.2**
WATA	**Walderalm**	**8.79**	**345**	*i* Pn		**P**	**01 29 05.4 -2.9**
	comp=E,12nm,0.4s,SNR=14						
WATA	**Walderalm**	**8.79**	**345**	P		**P**	**01 29 05.4 -2.9**
BIOA	**Bad Ischl, Aus**	**8.84**	**354**	*e*Pn		**P**	**01 29 06.0 -2.7**
	comp=E,12nm,0.4s,SNR=11						
RONA	**Rosalia, Austr**	**8.85**	**6**	*i* Pn		**Pn**	**01 29 04.7 +1.6**
	comp=E,3.4nm,0.6s						
MOTA	**Moosalm**	**8.91**	**343**	*i* Pn		**P**	**01 29 06.2 -3.3**
	comp=E,19nm,0.8s,SNR=8.0						
MOTA	**Moosalm**	**8.91**	**343**	P		**P**	**01 29 06.6 -3.0**
MOA	**Molln**	**8.96**	**357**	*e*Pn		**Pn**	**01 29 06.2 +1.8**
	comp=E,6.5nm,0.5s						
MOA	**Molln**	**8.96**	**357**	*e*Pn		**Pn**	**01 29 06.0 +1.5**
LPG	**La Plagne**	**8.99**	**320**	*e*P		**Pn**	**01 29 05.7 +0.6**
LPG	**La Plagne**	**8.99**	**320**	*e*Pn		**P**	**01 29 09.3 -1.4**
LPG				*e*Sn		**S**	**01 30 48.9 +1.6**
	comp=E,3.1nm,0.8s						
LPL	**La Plagne**	**9.01**	**320**	*e*P		**Pn**	**01 29 06.8 +1.5**
LPL	**La Plagne**	**9.01**	**320**	*e*Pn		**P**	**01 29 09.7 -1.2**
LPL				*e*Sn		**S**	**01 30 49.4 +1.7**
	comp=E,0.9nm,0.3s						
CONA	**Conrad Observa**	**9.05**	**4**	*i* Pn		**Pn**	**01 29 06.9 +1.3**
	comp=E,3.4nm,0.9s						
ORIF	**Oris-en-Rattie**	**9.07**	**314**	*e*P		**Pn**	**01 29 06.3 +0.4**
ORIF	**Oris-en-Rattie**	**9.07**	**314**	*e*Pn		**P**	**01 29 10.4 -1.0**
ORIF				*e*Sn		**S**	**01 30 50.6 +1.8**
	comp=E,1.0nm,0.4s						
RETA	**Reutte**	**9.12**	**342**	*i* Pn		**Pn**	**01 29 07.7 +1.1**
	comp=E,3.0nm,0.4s						
OBER	**Oberstdorf**	**9.17**	**340**	*e*Pn		**Pn**	**01 29 07.6 +0.5**
DAVA	**Damuels**	**9.18**	**338**	*i* Pn		**Pn**	**01 29 08.4 +1.1**
	comp=E,6.1nm,0.6s						
DAVA	**Damuels**	**9.18**	**338**	*e*Pn		**Pn**	**01 29 07.8 +0.5**
UBR	**Ueberruh**	**9.47**	**340**	*e*Pn		**Pn**	**01 29 11.3 +0.5**
MODS	**Modra-Piesok**	**9.61**	**9**	*e*P		**Pn**	**01 29 10.5 -2.0**
MODS	**Modra-Piesok**	**9.61**	**9**	*e*P		**Pn**	**01 29 10.5 -2.0**
ARR	**Arges**	**9.64**	**45**	⇑P		**P**	**01 29 19.1 +1.3**
VIVF	**Saint-Julien-l**	**9.73**	**311**	*e*P		**Pn**	**01 29 14.4 +0.4**
VIVF	**Saint-Julien-l**	**9.73**	**311**	*e*Pn		**P**	**01 29 18.0 -0.7**
LASF	**Ste Croix**	**9.82**	**305**	*e*P		**Pn**	**01 29 14.6 -0.6**
LASF	**Ste Croix**	**9.82**	**305**	*e*Pn		**P**	**01 29 19.9 +0.1**
LASF				*e*Sn		**S**	**01 31 07.7 +1.7**
	comp=E,0.2nm,0.3s						
VOIR		**9.91**	**46**	⇑P		**P**	**01 29 21.4 +0.6**
VOIR		**9.91**	**46**	P		**P**	**01 29 21.4 +0.6**
CKRC	**Cesky Krumlov**	**9.93**	**357**	*e*P		**P**	**01 29 18.9 -2.0**
CKRC	**Cesky Krumlov**	**9.93**	**357**	*e*P		**P**	**01 29 18.9 -2.0**
VYHS	**Vyhne**	**9.98**	**15**	*e*P		**P**	**01 29 18.6 -2.9**
VYHS	**Vyhne**	**9.98**	**15**	*e*P		**P**	**01 29 18.6 -2.9**
GEC2	**GERESS Array S**	**9.99**	**355**	*e*Pn		**Pn**	**01 29 17.6 +0.3**
GERES	**GERESS Array B**	**9.99**	**355**	*e*P		**Pn**	**01 29 18.5 +1.3**
GERES				pmax		pmax	
	comp=Z,3.0nm,0.3s						
GERES	**GERESS Array B**	**9.99**	**355**	P		**Pn**	**01 29 17.7 +0.5**
	comp=Z,2.7nm,0.3s,baz=176,slow=12,SNR=24						
CABF	**La Chapelle**	**10.11**	**323**	*e*P		**Pn**	**01 29 17.9 -0.9**
KRUC	**Moravsky**	**10.21**	**5**	*e*P		**Pn**	**01 29 21.0 +1.1**
KRUC				*e*			01 29 24.7
KHC	**Kasperske Hory**	**10.28**	**355**	*e*P		**Pn**	**01 29 21.0 +0.2**
KHC	**Kasperske Hory**	**10.28**	**355**	*e*P		**P**	**01 29 22.6 -2.1**
WET	**Wettzell**	**10.35**	**352**	*e*Pn		**Pn**	**01 29 22.0 +0.3**
TREC	**Trest**	**10.40**	**2**	*e*P		**P**	**01 29 23.9 -2.2**
TREC	**Trest**	**10.40**	**2**	*e*P		**P**	**01 29 23.9 -2.2**
DOPR	**Dopca**	**10.43**	**44**	⇓P		**P**	**01 29 29.1 +2.7**
MLR	**Muntele Rosu**	**10.45**	**47**	⇑P		**P**	**01 29 30.3 +3.5**
MLR	**Muntele Rosu**	**10.45**	**47**	P		**P**	**01 29 26.2 -0.6**
	comp=Z,5.2nm,0.3s,baz=228,slow=18						
VRAC	**Vranov**	**10.47**	**6**	*e*P		**P**	**01 29 24.2 -2.6**
VRAC				*e*			01 29 28.0
VRAC	**Vranov**	**10.47**	**6**	P		**Pn**	**01 29 24.0 +0.9**
	comp=Z,12nm,0.8s,baz=191,slow=11,SNR=14						
ZVC	**Zvikov**	**10.55**	**357**	*e*P		**P**	**01 29 25.3 -2.4**
BFO	**Black Forest**	**10.59**	**335**	*e*Pn		**Pn**	**01 29 24.2 -0.4**
MTLF	**Montolieu**	**10.61**	**299**	*e*P		**P**	**01 29 26.5 -2.0**
MTLF				*e*Sn		**S**	**01 31 25.6 +1.7**
	comp=Z,0.5nm,0.3s						
ARCR	**ARCALIA**	**10.67**	**37**	⇑P		**P**	**01 29 30.8 +1.8**
HINF	**Hinteralfeld**	**10.70**	**329**	*e*P		**Pn**	**01 29 26.0 0.0**
OZUR		**10.73**	**44**	⇑P		**P**	**01 29 33.0 +3.2**
COVR	**Voineasa-Covas**	**10.81**	**46**	⇑P		**P**	**01 29 33.5 +2.8**
CDF	**Champ du Feu**	**11.02**	**332**	*e*P		**Pn**	**01 29 29.6 -0.4**
CDF	**Champ du Feu**	**11.02**	**332**	*e*Pn		**P**	**01 29 36.1 +3.0**
MORC	**Moravsky Berou**	**11.03**	**9**	P		**P**	**01 29 32.0 -1.1**
ROTZ	**Rotzenmuhle**	**11.05**	**351**	*e*Pn		**Pn**	**01 29 30.4 +0.2**
HAU	**Haudompre**	**11.05**	**328**	*e*P		**Pn**	**01 29 29.8 -0.5**
PRU	**Pruhonice**	**11.09**	**358**	*e*P		**P**	**01 29 32.0 -1.7**
PRU	**Pruhonice**	**11.09**	**358**	*e*P		**P**	**01 29 32.0 -1.7**
PRA	**Prague**	**11.18**	**358**	*e*P		**P**	**01 29 33.4 -1.2**
PRA	**Prague**	**11.18**	**358**	*e*P		**P**	**01 29 33.4 -1.2**
SMF	**Signal de Mont**	**11.27**	**317**	*e*P		**P**	**01 29 33.2 -2.5**
SMF				*e*Sn		**S**	**01 31 41.3 +2.5**
	comp=Z,0.6nm,0.2s						
MANZ	**Manzenberg**	**11.27**	**350**	*e*Pn		**Pn**	**01 29 33.2 +0.2**
CAF	**Calviac**	**11.36**	**306**	*e*P		**P**	**01 29 35.7 -1.1**
CAF	**Calviac**	**11.36**	**306**	*e*Pn		**P**	**01 29 40.0 +3.2**
CAF				*e*Sn		**S**	**01 31 43.3 +2.4**
	comp=Z,0.4nm,0.3s						
BURAR	**Bucovina Array**	**11.45**	**37**	⇑P		**P**	**01 29 41.2 +3.3**
BURAR	**Bucovina Array**	**11.45**	**37**	P		**P**	**01 29 41.2 +3.3**
DPC	**Dobruska-Polom**	**11.49**	**4**	*e*P		**P**	**01 29 36.8 -1.4**
DPC	**Dobruska-Polom**	**11.49**	**4**	*e*P		**P**	**01 29 36.8 -1.4**
AVF	**Avril sur Loir**	**11.62**	**316**	*e*P		**Pn**	**01 29 36.4 -0.9**
UPC	**Upice**	**11.63**	**3**	*e*P		**P**	**01 29 40.7 +1.0**
UPC	**Upice**	**11.63**	**3**	*e*P		**P**	**01 29 40.7 +1.0**
PVCC	**Panska Ves**	**11.63**	**359**	*e*P		**P**	**01 29 38.8 -0.9**
PVCC	**Panska Ves**	**11.63**	**359**	*e*P		**P**	**01 29 38.8 -0.9**
LOR	**Lormes**	**11.66**	**319**	*e*P		**Pn**	**01 29 37.5 -0.3**
	baz=132						
OSTC	**Ostas**	**11.69**	**4**	*e*P		**P**	**01 29 39.4 -1.0**
OSTC	**Ostas**	**11.69**	**4**	*e*P		**P**	**01 29 39.4 -1.0**
SSF	**Saint Saulge**	**11.71**	**318**	*e*P		**P**	**01 29 38.3 -2.3**
CHVC	**Chvalec**	**11.71**	**3**	*e*P		**P**	**01 29 40.5 -0.1**
CHVC	**Chvalec**	**11.71**	**3**	*e*P		**P**	**01 29 40.5 -0.1**
PAGF	**Fort de Pagny**	**11.74**	**328**	*e*P		**P**	**01 29 38.9 -2.1**
BGF	**Bois d'Agland**	**11.75**	**315**	*e*P		**P**	**01 29 39.3 -1.8**
HSKC	**Hora Svate Kat**	**11.76**	**355**	*e*P		**P**	**01 29 39.7 -1.5**
SFTF	**Sexfontaines**	**11.77**	**325**	*e*P		**Pn**	**01 29 38.7 -0.4**
SFTF				*e*Sn		**S**	**01 31 52.9 +2.8**
	comp=Z,1.9nm,0.3s						
RJF	**Les Rejaudoux**	**11.87**	**307**	*e*P		**P**	**01 29 41.9 -0.6**
RJF				*e*Sn		**S**	**01 31 55.3 +2.6**
	comp=Z,0.4nm,0.3s						
TCF	**Toulx Ste Croi**	**11.96**	**312**	*e*P		**P**	**01 29 41.9 -1.6**
MEZF	**Maizieres J'vi**	**11.98**	**326**	*e*P		**P**	**01 29 42.1 -1.5**
MOX	**Moxa**	**11.98**	**350**	*e*Pn		**P**	**01 29 42.6 -1.1**
BRG	**Berggiesshubel**	**12.00**	**357**	*e*P		**P**	**01 29 43.5 -0.3**
BRG				Amp			01 29 45.9
	comp=Z,10nm,1.0s						
BRG	**Berggiesshubel**	**12.00**	**357**	P		P	01 29 55.1 +11
BRG				Amp			01 29 56.7
	comp=Z,3.7nm,0.7s						
BRG	**Berggiesshubel**	**12.00**	**357**	*e*P		**P**	**01 29 43.4 -0.3**
BRG				pmax		pmax	
	comp=Z,10.0nm,1.0s						
BRG				pmax		pmax	
	comp=Z,4.0nm,0.7s						
LFF	**La Frestale**	**12.21**	**304**	*e*P		**P**	**01 29 46.3 +0.1**
ETSF	**Etsaut**	**12.43**	**294**	*e*P		**P**	**01 29 47.4 -1.3**
ETSF	**Etsaut**	**12.43**	**294**	*e*Pn		P	01 29 53.6 +4.9
CLL	**Collm**	**12.49**	**354**	*i* P		**P**	**01 29 49.1 -0.1**
CLL				pmax		pmax	
	comp=Z,9.0nm,0.9s						
CLL	**Collm**	**12.49**	**354**	*i* P		**P**	**01 29 49.1 -0.1**
	comp=Z,9.0nm,0.9s						
SJPF	**Ste Jean**	**12.95**	**294**	*e*P		**P**	**01 29 55.4 +0.9**
MFF	**Saint Martin d**	**13.

comp=Z,1.3nm,0.5s,baz=172,slow=11
NOA NORSAR Array B 22.29 355 P P 01 31 31.1 -1.8
comp=Z,1.3nm,0.6s,baz=160,slow=8.6,SNR=5.8
comp=Z,1.3nm,0.6s
FINES FINESS Array B 23.59 13 *e*P **P 01 31 48.9 +4.3**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 23.59 13 P P 01 31 44.1 -0.5
comp=Z,5.2nm,0.3s,baz=188,slow=8.9,SNR=66
comp=Z,5.2nm,0.3s
TORD Torodi Ar. Bea 28.23 208 P **P 01 32 26.6 0.0**
comp=Z,0.5nm,0.5s,baz=14,slow=10.0,SNR=13
comp=Z,0.5nm,0.5s
KIRV Kirov 29.55 37⇑ *i*P **P 01 32 38.2 +0.5**
ARCES ARCESS Array B 31.21 7 P **P 01 32 50.7 -1.5**
comp=Z,1.0nm,0.3s,baz=190,slow=8.9,SNR=32
comp=Z,1.0nm,0.3s
ARU Arti 33.48 44*c i*P **P 01 33 12.6 +0.7**
ARU 01 34 28.8
ARU S **S 01 38 14.9 +3.0**
ARU SS **SS 01 40 43.6 -6.0**
ARU pmax pmax
comp=Z,7.0nm,0.8s
SPITS Spitsbergen Ar 39.39 0 P **P 01 34 01.5 0.0**
comp=Z,2.5nm,0.4s,baz=152,slow=9.2,SNR=10.0
comp=Z,2.5nm,0.4s
BRVK Borovoye 39.93 51*c i*P **P 01 34 07.7 +1.6**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 39.99 51 P **P 01 34 07.9 +1.2**
comp=Z,1.6nm,0.6s,baz=255,slow=5.5,SNR=10
comp=Z,1.6nm,0.6s
KURBB Kurchatov Arra 45.28 53 P **P 01 34 49.7 +0.8**
comp=Z,1.6nm,0.6s,baz=284,slow=9.3,SNR=8.3
comp=Z,1.6nm,0.6s
KURK Kurchatov 45.32 53*ce*P **P 01 34 49.9 +0.7**
KURK pmax pmax
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 48.43 48 *e*P **P 01 35 13.5 +0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
ZALV Zalesovo Beam 48.43 48 P **P 01 35 13.5 +0.4**
comp=Z,2.4nm,0.3s,baz=288,slow=7.0,SNR=7.5
comp=Z,2.4nm,0.3s
MKAR Makanchi Array 48.60 58 P **P 01 35 15.3 +0.8**
comp=Z,1.7nm,0.4s,baz=283,slow=7.1,SNR=28
comp=Z,1.7nm,0.4s
SCHQ Schefferville 54.95 316 P **P 01 35 59.7 -1.3**
comp=Z,4.3nm,0.9s,baz=48,slow=14,SNR=1.8
comp=Z,4.3nm,0.9s
SONM Songino Array 63.30 49 P **P 01 36 59.2 +0.8**
comp=Z,0.8nm,0.6s,baz=293,slow=7.5,SNR=2.6
comp=Z,0.8nm,0.6s
BOSA Boshof 67.84 170 P **P 01 37 28.6 +1.3**
comp=Z,1.9nm,0.8s,baz=71,slow=4.6,SNR=2.6
comp=Z,1.9nm,0.8s
PDAR Pinedale Array 84.42 322 P **P 01 39 00.4 0.0**
comp=Z,0.1nm,0.4s,baz=50,slow=6.0,SNR=1.7
comp=Z,0.1nm,0.4s

---

*THE **02** 01:27:18.4,35°.91N×23°.07E,h17km±1km, ML2.2/5, Error ellipse: s-maj=3.5km s-min=0.8km az=53.0*
ATH 02 01:27:17.8,35°.88N×23°.01E,h16km±1km,ML2.4/3,Error ellipse: s-maj=4.5km s-min=1.0km az=61.0,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.24**	**92**	P	Pg	01 27 23.1	0.0
ANKY				S	Sg	01 27 26.8	+0.1
	785nm,0.3s						
ANKY	**Antikythira Is**	**0.24**	**92**	P	Pg	01 27 23.1	0.0
ANKY				S	Sg	01 27 26.8	+0.1
ANKY				AML	AML	01 27 27.0	
	comp=N,1768μm,0.3s						
ANKY				AML	AML	01 27 27.4	
	comp=E,1256μm,0.2s						
KTHA	**Kythira Island**	**0.38**	**6**	P	Pg	01 27 25.5	-0.2
KTHA				S	Sg	01 27 31.0	0.0
	comp=E,682nm,0.2s						
KTHA	**Kythira Island**	**0.38**	**6**	P	Pg	01 27 25.6	-0.1
KTHA				S	Sg	01 27 30.8	-0.2
KTHA				AML	AML	01 27 33.5	
	comp=N,1045μm,0.2s						
KTHA				AML	AML	01 27 33.7	
	comp=E,1646μm,0.3s						
RODP	**Rodopos**	**0.69**	**117**	P	Pg	01 27 31.3	+0.1
RODP				S	Sb	01 27 41.3	+0.6
	comp=E,118nm,0.3s						
KNDR	**Palaiochora Ch**	**0.84**	**139**	P	Pb	01 27 34.1	0.0
KNDR				S	Sb	01 27 44.3	-0.9
	comp=E,202nm,0.4s						
KNDR	**Palaiochora Ch**	**0.84**	**139**	P	Pb	01 27 32.8	-1.3
KNDR				S	Sb	01 27 44.5	-0.7
KNDR				AML	AML	01 27 45.5	
	comp=E,1373μm,0.4s						
KNDR				AML	AML	01 27 48.0	
	comp=N,1009μm,0.4s						
VLI	**Veliai**	**0.84**	**356**	P	Pb	01 27 33.8	-0.3
VLI				S	Sb	01 27 45.0	-0.3
IMMV	**Iera Moni Meta**	**0.89**	**117**	P	Pb	01 27 34.4	-0.6
IMMV				S	Sb	01 27 46.5	-0.2
	comp=N,298nm,0.2s						
IMMV	**Iera Moni Meta**	**0.89**	**117**	P	Pb	01 27 34.3	-0.7
IMMV				S	Sb	01 27 46.6	-0.1

FUNV 02 01:40:54.8,8°.45N×62°.28W,h1km,MW3.8,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRGV	**PARIAGUAN**	**2.36**	**278**	*e*P	Pn	01 41 35.5	+0.8
PRGV				*e*S	Sn	01 42 03.0	-1.3
CRUV	**Carupano**	**2.40**	**337**	*e*P	Pn	01 41 33.3	-1.9
CRUV				*e*S	Sn	01 42 02.1	-3.3
PCRV	**Puerto La Cruz**	**2.89**	**307**	*e*P	Pn	01 41 41.0	-1.1
PCRV				*e*S	Sn	01 42 15.4	-2.0
CACV	**CAICARA DEL OR**	**4.31**	**258**	*e*P	Pn	01 41 52.9	-8.7
CACV				*e*S	Sn	01 42 37.0	-15
TACV	**Tcata**	**4.97**	**290**	*e*P	Pn	01 42 08.7	-2.0
TACV				*e*S	Sn	01 43 04.4	-4.6
BENV	**Beln**	**5.46**	**286**	*e*P	Pn	01 42 15.4	-2.1
BENV				*e*S	Sn	01 43 15.4	-5.5
BAUV	**El Baul**	**5.71**	**275**	*e*P	Pn	01 42 18.8	-2.1
BAUV				*e*S	Sn	01 43 21.4	-5.8
TURV	**Turiamo**	**5.83**	**290**	*e*P	Pn	01 42 20.2	-2.3
TURV				*e*S	Sn	01 43 23.8	-6.3
TEPV	**Terepaima**	**6.99**	**283**	*e*P	Pn	01 42 35.5	-2.9
TEPV				*e*S	Sn	01 43 50.2	-8.4
CURV	**Curarigua**	**7.74**	**282**	*e*P	Pn	01 42 46.1	-2.6
CURV				*e*S	Sn	01 44 07.5	-10

IDC 02 02:17:06.7±1.7,8°.48S×157°.14E,h0km,mb3.8/4, mbtmp4.0/5,ML5.0/1,MS3.4/1,Error ellipse: s-maj=41.8km s-min=25.8km az=2.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.93**	**109**	Pn	Pn	02 17 53.0	-1.6
	189nm,0.3s,baz=192,slow=11,SNR=1.3						
HNR				Sn	Sn	02 18 32.6	+2.1
	523nm,0.3s,baz=192,slow=20,SNR=1.5 1μm,0.4s						
WRA	**Warramunga Arr**	**24.83**	**240**	P	P	02 22 30.7	-0.2
	1.9nm,0.8s,baz=66,slow=9.8,SNR=10 1.9nm,0.8s						
ASAR	**Alice Springs**	**26.88**	**233**	P	P	02 22 48.0	-1.5
	0.6nm,0.7s,baz=65,slow=9.3,SNR=6.6 0.6nm,0.7s						
STKA	**Stephens Creek**	**27.40**	**210**	P	P	02 22 55.8	+1.8
	1.0nm,0.5s,baz=45,slow=13,SNR=3.8 1.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**44.15**	**231**	LR	LR	02 43 37.0	
	comp=Z,39nm,18.7s,baz=352,slow=36						
MKAR	**Makanchi Array**	**85.92**	**318**	P	P	02 29 49.5	+0.7
	0.7nm,0.7s,baz=97,slow=6.2,SNR=3.9 0.7nm,0.7s						

---

*JMA **02** 02:24:07.2±0.5,44°.N×2°.×14°.8E±°,h8km,MV3.5/12,E OFF HOKKAIDO*
*SKHL **02** 02:24:07.5±0.5,43°.90N×148°.10E,h34km±4km,mb4.3/2*
ISC 02 02:24:09.0±4.4,44°.0N±0°.1×148°.0E±0°.2,h34km±5km,n9, σ0°.90/14,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.84**	**262**	*i* P	**Pn**	**02 24 23.6**	**-0.8**
SHO				AMB	AMB	02 24 24.3	
	60nm,0.2s						
SHO				*i* S	**Sb**	**02 24 35.9**	**-0.4**
SHO				A	A	02 24 36.8	
	500nm,0.3s						
SHO				A	A	02 24 36.8	
	670nm,0.3s						
KUR	**Kuril'sk**	**1.25**	**356**	*e*P	**Pn**	**02 24 29.7**	**-0.3**
KUR				*i* S	**Sn**	**02 24 45.6**	**+0.1**
KUR				A	A	02 24 47.4	
	130nm,0.3s						
KUR				A	A	02 24 47.4	
	250nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.53**	**272**	*i* P	**Pn**	**02 24 33.3**	**-0.6**
YUK				AMB	AMB	02 24 35.1	
	110nm,0.2s						
YUK				*i* S	**Sn**	**02 24 52.8**	**+0.2**
YUK				A	A	02 24 54.5	
	190nm,0.2s						
YUK				A	A	02 24 54.5	
	290nm,0.2s						
NEM2	**Nemuro 2**	**1.74**	**250**	*e*P	**Pn**	**02 24 36.3**	**-0.5**
NEM2				*e*S	**Sn**	**02 24 56.9**	**-0.8**
NMR	**Nemuro--Hokkai**	**1.75**	**250**	*e*P	**Pn**	**02 24 36.0**	**-0.9**
NMR				*e*S	**Sn**	**02 24 57.6**	**-0.4**
JRA	**Rausu**	**2.07**	**270**	*e*P	**Pn**	**02 24 41.9**	**+0.7**
JNSB	**Nemuroshibetsu**	**2.16**	**265**	*e*P	**Pn**	**02 24 43.2**	**+0.6**
JAR	**Ashorobuto**	**3.13**	**259**	*e*P	**Pn**	**02 24 57.6**	**+1.7**
JCH	**Churui**	**3.64**	**249**	*e*P	**Pn**	**02 25 04.1**	**+1.2**

---

*BUT **02** 03:02:31.5±0.7,46°.88N±0°.02×112°.53W±0°.03,h12km±4km, Error ellipse: s-maj=4.1km s-min=2.2km az=215.0*
NEIC 02 03:02:31.2±0.6,46°.86N±0°.03×112°.53W±0°.03,h9km±5km, ML2.7/48,ML2.8/27(BUT),Error ellipse: s-maj=4.1km s-min=2.5km az=216.0,Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEMT	**Mount Belmont**	**0.17**	**130**	Pg	Pg	03 02 35.5	+0.6
LYMT	**Lyon Mountain**	**0.20**	**56**	Pg	Pg	03 02 35.7	+0.4
ELMT	**Elliston**	**0.34**	**176**	Pg	Pg	03 02 38.4	+0.4
ELMT				Sg	Sg	03 02 43.5	+1.0
CHMT	**Chamberlain Mo**	**0.50**	**276**	Pg	Pg	03 02 41.2	+0.2
CHMT				Sg	Sg	03 02 48.0	+0.4
BPMT	**Black Pine Rid**	**0.76**	**237**	Pg	Pg	03 02 45.8	-0.2
MSO	**Missoula**	**0.97**	**269**	Pg	Pg	03 02 49.8	-0.1
MSO				Sg	Sg	03 03 02.5	-0.1
MSO				IAML		03 03 06.2	
	337nm,0.7s						
MSO				IAML		03 03 06.5	
	229nm,0.2s						
BOZ	**Bozeman (W)**	**1.41**	**153**	Pn	Pb	03 02 57.6	-0.2
BOZ				IAML		03 03 17.7	
	77nm,0.5s						
BOZ				IAML		03 03 18.5	
	153nm,0.4s						
DLMT	**Dillon**	**1.50**	**182**	Pn	Pn	03 02 58.4	-0.1
DLMT				IAML		03 03 20.6	
	66nm,0.7s						
DLMT				IAML		03 03 25.8	
	69nm,0.8s						
EGMT	**Eagleton**	**2.21**	**57**	Pn	Pn	03 03 09.2	+1.0
YHL	**Hebgen Lake**	**2.22**	**154**	Pn	Pn	03 03 08.2	-0.2
YHL				IAML		03 03 46.0	
	comp=N,88nm,1.0s						
YHL				IAML		03 03 47.5	
	comp=E,91nm,0.8s						
YHH	**Holmes Hill**	**2.38**	**150**	Pn	Pn	03 03 10.5	-0.2
BCYI	**Bear Canyon**	**2.62**	**194**	Pn	Pn	03 03 13.4	-0.6
YMP	**Mirror Lake Pl**	**2.69**	**141**	Pn	Pn	03 03 14.6	-0.4
YMP				IAML		03 04 01.2	
	comp=E,23nm,0.5s						
YMP				IAML		03 04 01.4	
	comp=N,24nm,0.3s						
RLMT	**Red Lodge**	**2.86**	**126**	Pn	Pn	03 03 17.9	+0.6
RLMT				IAML		03 04 06.2	
	comp=N,20nm,0.3s						
PLID	**Pearl Lake**	**3.00**	**235**	Pn	Pn	03 03 18.2	-1.0
FLWY	**Flagg Ranch**	**3.06**	**155**	Pn	Pn	03 03 20.3	+0.3
FLWY				IAML		03 04 16.0	
	comp=N,21nm,3.4s						
IMW	**Indian Meadow**	**3.17**	**159**	Pn	Pn	03 03 21.7	+0.2
MOOW	**Moose Ponds**	**3.36**	**157**	Pn	Pn	03 03 24.4	+0.3
F10A	**Beach Ranch, E**	**3.37**	**256**	Pn	Pn	03 03 24.0	-0.2
FXWY	**Fox Creek**	**3.39**	**161**	Pn	Pn	03 03 25.4	+0.8
NEW	**Newport**	**3.42**	**296**	Pn	Pn	03 03 24.7	0.0
NEW				IAML		03 04 19.6	
	comp=N,10nm,0.3s						
LOHW	**Long Hollow**	**3.52**	**157**	Pn	Pn	03 03 25.6	-0.7
LOHW				IAML		03 04 32.2	
	comp=N,11nm,4.8s						
TPAW	**Teton Pass**	**3.55**	**161**	Pn	Pn	03 03 25.1	-1.6
TPAW				IAML		03 04 26.0	
	comp=N,9.8nm,1.2s						
TPAW				IAML		03 04 31.8	
	comp=N,17nm,3.8s						
HLID	**Hailey**	**3.56**	**203**	Pn	Pn	03 03 27.4	+0.6
HLID				IAML		03 04 25.9	
	comp=N,16nm,0.4s						
HLID				IAML		03 04 26.0	
	comp=N,15nm,0.7s						
E09A	**Wood Farm, Sta**	**3.88**	**267**	Pn	Pn	03 03 28.8	-2.3
E09A				IAML		03 04 38.5	
	comp=E,14nm,0.5s						
E09A				IAML		03 04 38.9	
	comp=N,17nm,0.8s						
C09A	**Chrisman Ranch**	**4.02**	**286**	Pn	Pn	03 03 31.4	-1.6
MFID	**Camas Ranch**	**4.16**	**215**	Pn	Pn	03 03 35.0	-0.1
MFID				IAML		03 04 47.6	
	comp=N,14nm,0.4s						
LAO	**LASA Array**	**4.33**	**90**	Pn	Pn	03 03 37.2	-0.2

---

*IDC **02** 03:02:39.6±1.6,55°.60N×155°.50W,h0km,mb3.9/5, mbtmp3.8/7,ML3.2/2,MS3.2/2,Error ellipse: s-maj=30.7km s-min=23.8km az=144.0*
*NEIC **02** 03:02:42.6±2.0,55°.67N±0°.08×154°.91W±0°.09, h31km±13km,Error ellipse: s-maj=13.0km s-min=5.4km az=156.0*
*AEIC **02** 03:02:42.8±2.7,55°.72N±0°.06×154°.85W±0°.07,h18km±6km, ML3.5,ML3.6/26(NEIC),Error ellipse: s-maj=9.2km s-min=5.4km az=175.0*
ISC 02 03:02:43.3±1.3,55°.79N±0°.09×154°.95W±0°.05,h27km±8km, n94,σ1°.02/101,mb4.0/5,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.38**	**275**		**Pb**	**03 02 51.1**	**-0.5**
CHIR					**Sb**	**03 02 58.1**	**+0.8**
CHIR	**Chirikof Islan**	**0.38**	**275**	P	**Pb**	**03 02 51.1**	**-0.5**
	baz=97						
CHIR				S	**Sb**	**03 02 58.2**	**+0.9**
	baz=97						
SII	**Sitkinak Islan**	**0.88**	**29**		**Pb**	**03 03 00.1**	**+0.1**
SII				IAML		03 03 27.2	
	comp=N,3μm,0.8s						
SII	**Sitkinak Islan**	**0.88**	**29**	P	**Pb**	**03 02 59.8**	**-0.2**
	baz=206						
R18K	**Karluk**	**1.80**	**9**	Pn	**Pn**	**03 03 11.5**	**-1.1**
R18K				IAML		03 03 51.8	
	comp=N,651nm,0.6s						
R18K				IAML		03 03 56.6	
	comp=E,587nm,0.8s						
R18K	**Karluk**	**1.80**	**9**	P	**Pn**	**03 03 12.7**	**+0.1**
	baz=188						
CHGN	**Chignik**	**2.01**	**286**	Pn	**Pn**	**03 03 14.5**	**-1.0**
CHGN					**Sn**	**03 03 37.4**	**-2.3**
CHGN	**Chignik**	**2.01**	**286**	P	**Pn**	**03 03 15.2**	**-0.3**
	baz=104						
CHGN				S	**Sn**	**03 03 39.8**	**+0.1**
	baz=104						
R17K	**Ugashik Creek**	**2.02**	**337**		**Pn**	**03 03 17.3**	**+1.7**
ANPK	**Aniakchak Peak**	**2.06**	**302**		**Pn**	**03 03 16.3**	**+0.1**
ANON	**Aniakchak**	**2.12**	**304**		**Pn**	**03 03 17.3**	**+0.3**
VNSG	**Veniaminof 6**	**2.35**	**280**		**Pn**	**03 03 19.6**	**-0.6**
VNSG					**Sn**	**03 03 47.2**	**-1.0**
KDAK	**Kodiak Island**	**2.39**	**32**	Pn	**Pn**	**03 03 21.1**	**+0.5**
KDAK	**Kodiak Island**	**2.39**	**32**	Pn	**Pn**	**03 03 21.0**	**+0.4**
	comp=E,3.2nm,0.3s,baz=183,slow=7.5,SNR=35						
KDAK				Sn	**Sn**	**03 03 48.4**	**-0.5**
	comp=E,3.5nm,0.3s,baz=243,slow=3.0,SNR=4.2 comp=E,22nm,0.6s						
VNHG	**Veniaminof 1**	**2.41**	**282**		**Pn**	**03 03 20.7**	**-0.3**
VNHG					**Sn**	**03 03 51.4**	**+1.8**
VNSW	**Veniaminof 7**	**2.61**	**278**		**Pn**	**03 03 23.1**	**-0.6**
S14K	**Fog Glacier**	**2.63**	**283**	P	**Pn**	**03 03 24.2**	**+0.1**
	baz=99						
VNFG	**Fog Glacier, M**	**2.63**	**283**	Pn	**Pn**	**03 03 23.7**	**-0.4**
CNBA	**Chernabura Isl**	**2.82**	**252**	Pn	**Pn**	**03 03 24.1**	**-2.6**
CNBA				IAML		03 03 56.2	
	comp=N,154nm,2.7s						
CNBA				IAML		03 04 46.1	
	comp=E,116nm,3.2s						
SYI	**Shuyak Island**	**3.15**	**25**	Pn	**Pn**	**03 03 31.4**	**+0.2**
SDPT	**Sand Point**	**3.17**	**264**	Pn	**Pn**	**03 03 29.8**	**-1.6**
SDPT				IAML		03 04 43.2	
	comp=N,209nm,1.6s						
SDPT				IAML		03 04 48.2	
	comp=E,228nm,2.0s						
SDPT	**Sand Point**	**3.17**	**264**	P	**Pn**	**03 03 30.4**	**-0.9**
	baz=80						
PS4A	**Pavlof South-4**	**3.95**	**266**		**Pn**	**03 03 40.6**	**-1.4**
HAG	**Hague Volcano**	**3.98**	**266**		**Pn**	**03 03 41.4**	**-1.1**
PN7A	**Pavlof North-7**	**4.01**	**268**		**Pn**	**03 03 42.2**	**-0.8**
CNPM	**China Poot**	**4.25**	**26**	Pn	**Pn**	**03 03 46.9**	**+0.7**
CNPM				IAML		03 04 36.0	
	comp=E,64nm,2.3s						
CNPM				IAML		03 05 34.0	
	comp=N,40nm,2.0s						
O15K	**Ungalikthiuk R**	**4.30**	**324**		**Pn**	**03 03 47.2**	**+0.3**
ILSW	**Iliamna Southw**	**4.32**	**12**	Pn	**Pn**	**03 03 48.3**	**+1.1**
ILSW				IAML		03 05 22.2	
	comp=E,61nm,0.9s						
IVE	**Iliamna Volcan**	**4.36**	**13**		**Pn**	**03 03 48.6**	**+0.7**
O20K	**Slope Mountain**	**4.48**	**15**		**Pn**	**03 03 51.0**	**+1.6**
O14K	**Tigyukauivet M**	**4.86**	**318**		**Pn**	**03 03 55.1**	**+0.5**
O14K	**Tigyukauivet M**	**4.86**	**318**	P	**Pn**	**03 03 55.3**	**+0.7**
	baz=133						
N18K	**Kilae Creek**	**4.93**	**355**	Pn	**Pn**	**03 03 56.5**	**+0.9**
N18K				IAML		03 05 32.1	
	comp=E,26nm,2.3s						
N18K				IAML		03 05 39.2	
	comp=N,32nm,3.1s						
DFR	**Drift River**	**4.96**	**13**		**Pn**	**03 03 56.9**	**+0.8**
N19K	**Bonanza Creek**	**5.05**	**3**	Pn	**Pn**	**03 03 57.9**	**+0.7**
N19K				IAML		03 05 45.2	
	comp=N,28nm,1.4s						
N19K				IAML		03 06 01.6	
	comp=E,27nm,2.9s						
ISLZ	**Isanotski Laza**	**5.12**	**262**		**Pn**	**03 03 56.9**	**-1.4**
SEW	**Seward**	**5.22**	**32**		**Pn**	**03 03 58.2**	**-1.3**
SSLS	**Shishaldin Sou**	**5.29**	**262**		**Pn**	**03 03 59.6**	**-1.0**
SLKM	**Skilak Lake**	**5.35**	**26**		**Pn**	**03 04 01.8**	**+0.4**
N14K	**Kuskokwak Cree**	**5.49**	**322**		**Pn**	**03 04 04.0**	**+0.8**
M16K	**Timber Creek**	**5.66**	**340**		**Pn**	**03 04 05.2**	**-0.3**
WECS	**Westdahl Cape**	**5.77**	**261**		**Pn**	**03 04 06.3**	**-0.9**
M15K	**Kasigluk River**	**5.78**	**331**		**Pn**	**03 04 07.8**	**+0.7**
M17K	**Holitna River**	**5.78**	**348**		**Pn**	**03 04 08.1**	**+0.9**
RC01	**Rabbit Creek A**	**5.98**	**25**	P	**Pn**	**03 04 10.7**	**+0.8**
	baz=209						
PWL	**Port Wells**	**6.16**	**32**	P	**Pn**	**03 04 12.0**	**-0.5**
	baz=217						
M20K	**Styx River**	**6.18**	**8**	Pn	**Pn**	**03 04 13.5**	**+0.6**
L19K	**White Mountain**	**6.41**	**0**	Pn	**Pn**	**03 04 16.4**	**+0.5**
SKT	**Skwentna**	**6.46**	**14**	Pn	**Pn**	**03 04 17.3**	**+0.8**
GLI	**Glacier Island**	**6.57**	**36**	Pn	**Pn**	**03 04 16.4**	**-1.6**
KNK	**Knik Glacier**	**6.58**	**28**	Pn	**Pn**	**03 04 17.0**	**-1.2**
FID	**Port Fidalgo**	**6.68**	**38**	Pn	**Pn**	**03 04 18.3**	**-1.4**
GHO	**Glory Hole Cre**	**6.77**	**25**	Pn	**Pn**	**03 04 21.7**	**+0.9**
SML	**Sawmill**	**6.94**	**27**	Pn	**Pn**	**03 04 24.2**	**+1.0**
KAIM	**Kayak Island**	**6.98**	**49**	Pn	**Pn**	**03 04 24.7**	**+1.0**
SCM	**Sheep Creek Mo**	**7.24**	**30**	Pn	**Pn**	**03 04 26.8**	**-0.4**
SCM	**Sheep Creek Mo**	**7.24**	**30**	P	**Pn**	**03 04 27.3**	**+0.1**
	baz=216						
KLU	**Klutina**	**7.40**	**36**	P	**Pn**	**03 04 29.5**	**-0.1**
	baz=223						
M24K	**Tolsona, Glenn**	**7.79**	**32**	Pn	**Pn**	**03 04 34.8**	**0.0**
N25K	**Chitina, Valde**	**7.94**	**38**	Pn	**Pn**	**03 04 36.1**	**-0.8**
TRF	**Thorofare Moun**	**8.04**	**15**	P	**Pn**	**03 04 39.2**	**+0.9**
	baz=199						
GLB	**Gilahina Butte**	**8.11**	**41**	Pn	**Pn**	**03 04 38.2**	**-1.1**
RND	**Reindeer**	**8.24**	**19**	Pn	**Pn**	**03 04 42.5**	**+1.5**
DHY	**Denali Highway**	**8.26**	**25**	Pn	**Pn**	**03 04 42.2**	**+0.8**
DHY	**Denali Highway**	**8.26**	**25**	P	**Pn**	**03 04 42.6**	**+1.3**
	baz=211						
YAH	**Yahtse**	**8.36**	**51**	Pn	**Pn**	**03 04 43.2**	**+0.4**
KIAG	**Kiagna River**	**8.38**	**47**		**Pn**	**03 04 43.2**	**+0.2**
GRNC	**Granite Creek**	**8.53**	**49**	Pn	**Pn**	**03 04 46.0**	**+0.8**
BPAW	**Bear Paw Mtn.**	**8.57**	**12**	Pn	**Pn**	**03 04 44.1**	**-1.4**
LOGN	**Logan Glacier**	**8.90**	**50**	Pn	**Pn**	**03 04 47.5**	**-2.6**
CCB	**Clear Creek Bu**	**9.56**	**19**	Pn	**Pn**	**03 05 00.1**	**+1.1**
MDM	**Murphy Dome**	**9.78**	**17**	Pn	**Pn**	**03 05 02.9**	**+0.9**
IL31		**9.85**	**21**	Pn	**Pn**	**03 05 03.9**	**+1.0**
ILAR	**Eielson Array**	**9.85**	**21**	Pn	**Pn**	**03 05 04.2**	**+1.2**
ILAR	**Eielson Array**	**9.85**	**21**	Pn	**Pn**	**03 05 02.9**	**-0.1**
	comp=E,0.3nm,0.3s,baz=215,slow=13,SNR=28						
ILAR				Sn	**Sn**	**03 06 51.2**	**-1.4**
	baz=167,slow=17,SNR=2.8 comp=E,1.0nm,0.5s						
H21K	**Melozitna Rive**	**9.96**	**5**	Pn	**Pn**	**03 05 03.9**	**-0.6**
J25K	**Salcha River,**	**10.04**	**24**	Pn	**Pn**	**03 05 06.6**	**+0.9**
POKR	**Poker Plat Res**	**10.06**	**18**	Pn	**Pn**	**03 05 05.4**	**-0.4**
IMAR	**Indian Mountai**	**10.25**	**3**	Pn	**Pn**	**03 05 08.0**	**-0.4**
J26L	**Joseph Creek**	**10.40**	**28**	Pn	**Pn**	**03 05 09.0**	**-1.6**
H23K	**Yukon River**	**10.40**	**12**	Pn	**Pn**	**03 05 09.5**	**-1.1**
S31K	**Pelican**	**10.47**	**70**	Pn	**Pn**	**03 05 10.7**	**-0.8**
H24K	**Noodor Dome**	**10.65**	**16**	Pn	**Pn**	**03 05 12.7**	**-1.3**
PRP	**Porcupine Dome**	**10.78**	**21**	Pn	**Pn**	**03 05 16.2**	**+0.4**
I26K	**Coal Creek Min**	**11.15**	**26**	Pn	**Pn**	**03 05 19.7**	**-1.0**
I28M	**Miner Creek**	**12.13**	**31**	Pn	**Pn**	**03 05 34.4**	**+0.2**
BMAR	**Burnt Mountain**	**12.65**	**18**	Pn	**Pn**	**03 05 39.3**	**-1.9**
INK	**Inuvik**	**15.94**	**30**	Pn	**Pn**	**03 06 25.6**	**+0.2**
	comp=E,0.1nm,0.3s,baz=212,slow=5.4,SNR=2.3						
INK				LR	LR	03 12 52.4	
	comp=E,45nm,19.9s,baz=192,slow=38						
NVAR	**Mina Array Bea**	**29.92**	**110**	LR	LR	03 18 45.2	
	comp=E,86nm,18.1s,baz=265,slow=32						
TXAR	**Lajitas Array**	**44.71**	**104**	P	**P**	**03 10 56.0**	**+2.0**
	comp=E,0.7nm,1.1s,baz=316,slow=5.0,SNR=3.0 comp=E,0.7nm,1.1s						
NRIK	**Noril'sk**	**47.24**	**335**	P	**P**	**03 11 12.0**	**-1.4**
	comp=E,4.1nm,0.5s,baz=74,slow=3.8,SNR=4.2 comp=E,4.1nm,0.5s						
SONM	**Songino Array**

LUWI	Luwuk	7.59	232	P	Pn	03 21 43.7 +4.1
	73nm,0.9s,8μm1.0nm					
TOLI2	Tolitoli	8.34	252	Pn	Pn	03 21 45.6 -4.3
MPSI	Mapaga	9.43	249	P	Pn	03 22 06.8 +2.0
	14nm,1.0s					
MYLDM	Lahad Datu	10.29	279		Pn	03 22 17.0 +0.3
JAY	Jayapura	13.48	117	LR	LR	03 27 52.4
	comp=Z,121nm,18.5s,baz=24,slow=36					
GUMO	Guam	18.72	57	LR	LR	03 31 00.1
	comp=Z,54nm,19.0s,baz=276,slow=36					
LEM	Lembang	23.52	244	LR	LR	03 34 52.6
	comp=Z,60nm,18.6s,baz=168,slow=39					
WB0	Warramunga Arr	23.99	167	P	P	03 25 02.3 +0.3
WB0				IAmb	IAmb	03 25 04.8
	comp=Z,9.7nm,1.0s					
WRA	Warramunga Arr	24.15	167	P	P	03 25 02.9 -0.5
WRA	Warramunga Arr	24.15	167	P	P	03 25 04.0 +0.5
	comp=Z,3.3nm,0.7s,baz=350,slow=9.9,SNR=26					
	comp=Z,3.3nm,0.7s					
WB2	Warramunga Arr	24.15	167	P	P	03 25 04.1 +0.6
WB2				IAmb	IAmb	03 25 22.4
	comp=Z,7.8nm,1.0s					
WR0	Warramunga Arr	24.21	167	P	P	03 25 02.9 -1.1
WR0				IAmb	IAmb	03 25 19.7
	comp=Z,5.9nm,0.8s					
AS31	Alice Springs	27.68	170	P	P	03 25 34.6 -0.8
ASAR	Alice Springs	27.68	170	P	P	03 25 34.1 -1.4
ASAR	Alice Springs	27.68	170	P	P	03 25 34.4 -1.1
	comp=Z,0.5nm,0.4s,baz=353,slow=7.5,SNR=16					
	comp=Z,0.5nm,0.4s					
CTA	Charters Tower	29.26	145	LR	LR	03 39 08.9
	comp=Z,52nm,18.3s,baz=262,slow=40					
CMAR	Chiang Mai Arr	32.61	299	LR	LR	03 40 23.8
	comp=Z,22nm,18.0s,baz=135,slow=38					
KSRS	Korea Array	33.59	359	LR	LR	03 40 16.2
	comp=Z,15nm,18.7s,baz=110,slow=37					
HNR	Honiara	33.75	113	LR	LR	03 40 10.9
	comp=Z,541nm,18.4s,baz=34,slow=36					
BBOO	Buckleboo	36.98	170	P	P	03 26 55.8 -0.9
STKA	Stephens Creek	37.45	162	P	P	03 27 01.1 +0.5
STKA				IAmb	IAmb	03 27 03.0
	comp=Z,1.5nm,1.1s					
STKA	Stephens Creek	37.45	162	P	P	03 27 01.1 +0.5
	comp=Z,2.1nm,0.5s,baz=337,slow=8.7,SNR=6.6					
STKA				LR	LR	03 42 59.9
	comp=Z,7.1nm,21.2s,baz=69,slow=37					
	comp=Z,2.1nm,0.5s					
MA2	Magadan	58.26	13	LR	LR	03 50 36.1
	comp=Z,10nm,21.6s,baz=62,slow=32					
MK31	Makanchi Array	58.72	324	P	P	03 29 43.8 -0.8
MKAR	Makanchi Array	58.72	324	P	P	03 29 44.4 -0.3
MKAR	Makanchi Array	58.72	324	P	P	03 29 44.5 -0.2
	comp=Z,1.0nm,0.4s,baz=112,slow=8.0,SNR=14					
	comp=Z,1.0nm,0.4s					
KURK	Kurchatov	62.83	327	P	P	03 30 12.0 -0.5
KURK				IAmb	IAmb	03 30 23.9
	comp=Z,2.8nm,0.8s					
KURBB	Kurchatov Arra	62.84	327	P	P	03 30 11.8 -0.7
	comp=Z,1.1nm,0.6s,baz=124,slow=6.2,SNR=13					
	comp=Z,1.1nm,0.6s					
BVAR	Borovoye Array	68.42	326	P	P	03 30 47.3 -1.3
	comp=Z,1.1nm,0.7s,baz=120,slow=8.5,SNR=4.0					
	comp=Z,1.1nm,0.7s					
ABKAR	Akbulak array	73.42	320	P	P	03 31 18.1 -0.9
IMAR	Indian Mountai	81.55	24	P	P	03 32 06.3 +2.2
CAST	Castle Rocks	81.86	27	P	P	03 32 07.1 +1.3
CAST				IAmb	IAmb	03 32 45.9
	comp=Z,7.3nm,1.5s					
ILAR	Eielson Array	84.27	25	P	P	03 32 18.4 +0.3
	comp=Z,1.2nm,1.0s,baz=239,slow=5.1,SNR=6.3					
	comp=Z,1.2nm,1.0s					
BBB	Bella Bella	95.12	37	LR	LR	04 15 50.3
	comp=Z,15nm,18.8s,baz=211,slow=35					
TORD	Torodi Ar. Bea	124.81	289	PKP	PKiKP	03 38 47.6 -0.2
	comp=Z,0.9nm,0.8s,baz=40,slow=2.4,SNR=5.1					

PRE ***02*** *03:20:29.3±1.2, 24°.62S×32°.49E, h10km, ML2.2*
BUL ***02*** *03:20:34.8±0.5, 24°.70S×32°.63E, h30km±16km, MD3.5*
EAF ***02*** *03:20:36.1, 24°.50S×32°.24E, h0km, MC3.4*

ISC 02 03:20:31.0±1.7, 24°.65S±0°.03×32°.41E±0°.08, h10km, n24, σ2°33/48, 2C-4D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOED	Hoedspruit, Li	1.37	279	eP	Pn	03 20 55.5	-0.8
HOED				⇓iP	Pb	03 20 56.0	-0.8
HOED				eS	Sb	03 21 14.6	+0.3
HOED				IAML		03 21 17.4	
	comp=Z,45nm,0.1s						
MOPA	Mopani	1.46	320	iP	Pn	03 20 56.1	-1.4
MOPA				iS	Sn	03 21 11.3	-5.3
MOPA	Mopani	1.46	320	⇑iP	Pn	03 20 55.9	-1.5
MOPA				eS	Sn	03 21 15.9	-0.7
MOPA	Mopani	1.46	320	iP	Pn	03 20 56.1	-1.4
	baz=322						
MOPA				iS	Sn	03 21 11.3	-5.3
	baz=322						
PILG	Pilgrimsrest,	1.57	259	⇓iP	Pn	03 20 59.3	0.0
PILG				eS	Sb	03 21 21.4	+1.0
PILG				IAML		03 21 23.2	
	comp=Z,67nm,0.6s						
MMAL	MMAL	1.77	218	⇑iP	Pn	03 21 02.6	+0.7
MMAL				eS	Sn	03 21 26.1	+1.5
MMAL				IAML		03 21 28.5	
	comp=Z,54nm,0.2s						
DULL	Dullstroom, Mp	2.15	250	eP	Pn	03 21 06.8	-0.4
DULL				eS	Sn	03 21 34.9	+0.8
DULL				IAML		03 21 40.2	
	comp=Z,14nm,0.2s						
MPHEP	Siloam, Limpop	2.68	310	⇓iP	Pn	03 21 14.9	+0.5
MPHEP				eS	Sn	03 21 46.9	-0.1
MPHEP				IAML		03 22 03.1	
	comp=Z,20nm,0.3s						
POGA	Pongola	2.76	193	eP	Pn	03 21 15.6	+0.2
POGA				eS	Sn	03 21 48.5	-0.3
POGA				IAML		03 21 50.1	
	comp=Z,4.2nm,0.3s						
MUSN	Musina, Limpop	3.32	315	iP	Pn	03 21 26.9	+3.9
MUSN				iS	Sn	03 22 05.5	+2.9
MUSN	Musina, Limpop	3.32	315	⇓iP	Pn	03 21 23.1	0.0
MUSN				eS	Sn	03 22 01.5	-1.1
MUSN				IAML		03 22 16.5	
	comp=Z,20nm,0.7s						
MUSN	Musina, Limpop	3.32	315	iP	Pn	03 21 26.9	+3.9
	baz=315						
MUSN				iS	Sn	03 22 05.5	+2.9
	baz=315						
LEPH	Lephalale, Lim	4.28	280	eP	Pn	03 21 36.7	+0.3
LEPH				eS	Sn	03 22 25.6	-0.9
LEPH				IAML		03 22 55.3	
	comp=Z,5.9nm,0.4s						
MTLB	Matlabas, Limp	4.96	279	eP	Pn	03 21 46.0	+0.3
MTLB				eS	Sn	03 22 42.2	-1.0
MTLB				IAML		03 23 18.2	
	comp=Z,5.5nm,0.5s						
KSR	Koster	5.14	255	eP	Pn	03 21 48.9	+0.7
KSR				eS	Sn	03 22 46.5	-1.2
KSR				IAML		03 22 56.1	
	comp=Z,4.1nm,0.2s						
MATP	Matopo	5.54	318	iP	Pn	03 21 57.1	+3.3
MATP				iS	Sn	03 22 57.5	-0.2
MATP	Matopo	5.54	318	iP	Pn	03 21 57.1	+3.3
	baz=319						
MATP				iS	Sn	03 22 57.5	-0.2
	baz=319						
LBTB	Lobatse	6.20	265	iP	Pn	03 22 06.5	+3.7
LBTB				iS	Sn	03 23 13.5	-0.3
LBTB	Lobatse	6.20	265	eP	Pn	03 22 04.2	+1.4
LBTB				eS	Sn	03 23 11.0	-2.8
LBTB				IAML		03 23 47.2	
	comp=Z,3.3nm,0.6s						
LBTB	Lobatse	6.20	265	iP	Pn	03 22 06.5	+3.7
	baz=264						
LBTB				iS	Sn	03 23 13.5	-0.3
	baz=264						
KSTD	Kokstad	6.55	204	eP	Pn	03 22 07.2	-0.5
KSTD				eS	Sn	03 23 19.4	-3.2
KSTD				IAML		03 23 21.8	
	comp=Z,4.8nm,0.3s						
BOSA	Boshof	7.52	237	iP	Pn	03 22 23.8	+2.8
BOSA				iS	Sn	03 23 42.5	-3.9
BOSA	Boshof	7.52	237	eS	Sn	03 23 44.1	-2.4
BOSA				IAML		03 24 28.6	
	comp=Z,0.8nm,0.4s						
BOSA	Boshof	7.52	237	iP	Pn	03 22 23.8	+2.8
	baz=235						
BOSA				iS	Sn	03 23 42.5	-3.9
	baz=235						

KRNET ***02*** *03:22:14.3±0.1, 41°.37N×72°.79E, h19km, mb2.1*
SOME ***02*** *03:22:15.5, 41°.43N×72°.73E, h15km*
NNC ***02*** *03:22:17.1±1.0, 41°.50N×72°.77E, h0km, mb3.0, mpv2.7,*
Error ellipse: s-maj=8.0km s-min=4.7km az=170.0

ISC 02 03:22:13.7±1.2, 41°.38N±0°.03×72°.90E±0°.03, h5km±11km, n27, σ1°11/38, 16C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.82	301	⇑eP	Pg	03 22 28.7	-0.7
ARK				⇑eS	Sg	03 22 39.0	-1.0
	baz=5.0						
OHH	Osh	0.86	186	⇓eP	Pg	03 22 30.1	0.0
OHH				⇓eS	Sg	03 22 41.4	+0.2
	baz=80						
AML	Almayashu	0.96	38	⇑P	Pn	03 22 36.0	+1.7
AML				⇑S	Sn	03 22 47.9	-0.7
	0.1nm,0.5s						
ARLS	Aral	1.18	65	⇑iP	Pn	03 22 37.5	+0.5
ARLS				⇑eS	Sn	03 22 54.0	+0.5
	baz=67						
MRKS	Merke	1.39	10	P	Pg	03 22 41.1	+0.7
MRKS				S	Sg	03 23 00.3	+1.9
	1.2nm,0.1s						
MRKS	Merke	1.39	10	eP	Pg	03 22 41.1	+0.7
MRKS				eS	Sg	03 23 00.3	+1.9
	1.2nm,0.1s						
SFK	Sufi-Kurgan	1.44	161	⇑eP	Pb	03 22 41.0	-0.1
SFK				⇑eS	Sb	03 23 00.3	+0.5
	baz=58						
BTK	Batken	2.06	231	⇑eP	Pn	03 22 49.5	+0.5
BTK				⇑eS	Sn	03 23 15.1	0.0
	baz=30						
IUG	Iuzhnay	2.28	291	ePg	Pb	03 22 55.7	+0.3
IUG				eLg	Lg	03 23 24.5	
	3.4nm,0.2s						
NRN	Naryn	2.34	88	⇑eP	Pb	03 22 55.2	-1.3
NRN				⇑eS	Sb	03 23 24.9	-0.9
	15nm,0.2s						
SGDS	Sogindy	2.44	31	Pg	Pg	03 23 00.5	0.0
SGDS				Lg	Lg	03 23 33.1	
	baz=88						
KK31	Karatay Array	2.47	315	Pg	Pb	03 22 58.6	0.0
KK31				⇓Lg	Lg	03 23 30.8	
	1.3nm,0.3s						
KKAR	Karatay Array	2.47	315	⇓iP	Pn	03 22 55.5	+0.8
KKAR				⇓eS	Sn	03 23 25.4	+0.1
	baz=17						
BOOM	Boomskoye usch	2.53	63	⇑eP	Pb	03 22 58.2	-1.5
BOOM				⇑eS	Sb	03 23 30.1	-1.1
	baz=63						
TKM2	Tokmak 2	2.53	52	⇑Pg	Pg	03 23 04.4	+2.2
TKM2				⇑Lg	Lg	03 23 37.4	
	1.4nm,0.4s						
KST	Kastek	2.82	53	Pg	Pg	03 23 08.0	+0.3
KST				Lg	Lg	03 23 46.0	
	2.1nm,0.2s						
KST	Kastek	2.82	53	ePg	Pg	03 23 08.0	+0.3
KST				eLg	Lg	03 23 46.0	
	2.1nm,0.2s						
DGS	Degeres	2.83	48	Pg	Pg	03 23 08.3	+0.3
DGS				Lg	Lg	03 23 46.5	
	1.7nm,0.4s						
DGS	Degeres	2.83	48	ePg	Pg	03 23 08.3	+0.3
DGS				eLg	Lg	03 23 46.5	
	1.7nm,0.4s						
KRBS	Karabastau	3.10	41	Pg	Pg	03 23 12.5	-0.6
KRBS				Lg	Lg	03 23 53.7	
	0.9nm,0.2s						
KRBS	Karabastau	3.10	41	ePg	Pg	03 23 12.5	-0.6
KRBS				eLg	Lg	03 23 53.7	
	0.9nm,0.2s						
KTBS	Karatobe	3.64	49	Pg	Pg	03 23 22.7	-0.8
KTBS				Lg	Lg	03 24 11.1	
	2.1nm,0.3s						
KTBS	Karatobe	3.64	49	ePg	Pg	03 23 22.7	-0.8
KTBS				eLg	Lg	03 24 11.1	
	0.4nm,0.0s						
BTLS	Baital	3.76	13	Pg	Pg	03 23 23.2	-2.4
BTLS				Lg	Lg	03 24 11.7	
	5.6nm,0.1s						
BTLS	Baital	3.76	13	ePg	Pg	03 23 23.2	-2.4
BTLS				eLg	Lg	03 24 11.7	
	3.5nm,1.5s						
ARXS	Arharly	4.60	50	Pg	Pg	03 23 40.9	-1.0
ARXS				Lg	Lg	03 24 42.3	
	1.3nm,0.5s						
ARXS	Arharly	4.60	50	ePg	Pg	03 23 40.9	-1.0
ARXS				eLg	Lg	03 24 42.3	
	1.3nm,0.5s						

IDC ***02*** *03:24:08.9±1.5, 33°.72N×134°.43E, h0km, mb3.8/3,*
mbtmp3.6/4, ML2.2/1, MS2.4/2, Error ellipse: s-maj=41.3km
s-min=29.6km az=75.0
NIED ***02*** *03:24:14.0, 33°.83N×134°.57E, h35km, MW3.5, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^14 Nm;
Mrr0.48; Mθθ-1.57; Mφφ1.09; Mrθ1.24; Mθφ0.38; Mφr1.01;
Fault plane solution: M0 2.15000×10^14 NP1:ϕs58.00000°,
δ82.00000°, λ50.00000°. NP2:ϕs318.00000°, δ41.00000°,
λ167.00000°.
JMA ***02*** *03:24:14.0±0.1, 33°.8N±0°.2×134°.6E±0°.2, h35km, MV3.5/38,*
TOKUSHIMA PREF
JMA Felt II J1 at TOKUSHIMA PREF .

ISC 02 03:24:13.6±1.0, 33°.82N±0°.06×134°.57E±0°.03, h34km±3km, n18, σ0°50/24, mb3.9/3, 8D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	Aioi	0.10	252	⇓P	Pb	03 24 19.9	+0.3
JAI				⇓S	Sb	03 24 24.0	+0.3
JMAF	Mimaanabuki	0.41	302	⇓iP	Pb	03 24 23.1	+0.1
JMAF				⇓S	Sb	03 24 29.1	-0.3
JMN	Monobe	0.58	261	P	Pb	03 24 25.6	0.0
JMN				S	Sb	03 24 34.1	+0.3
JWM	Minabe	0.66	88	P	Pb	03 24 26.4	-0.4
JWM				S	Sb	03 24 35.2	-0.6
JAWN	Awajishima-nag	0.72	23	⇓P	Pn	03 24 27.5	+0.2
JAWN				⇓eS	Sb	03 24 37.3	-0.1
JJS	Sakaide	0.76	316	P	Pn	03 24 27.9	0.0
JJS				S	Sb	03 24 37.8	-0.9
JTNC	Tanabenakahech	0.87	90	P	Pn	03 24 29.4	-0.1
JTNC				eS	Sn	03 24 40.2	-0.6
JWY	Kouya	0.94	65	P	Pn	03 24 30.7	+0.3
JAD	Aida	1.16	344	⇓P	Pn	03 24 33.0	-0.5
JKS	Kasai	1.18	11	⇓P	Pn	03 24 33.4	-0.3
JHE	Heguri	1.24	48	P	Pn	03 24 34.8	+0.3
JET	Tanbara	1.27	268	P	Pn	03 24 34.9	0.0
MJAR	Matsushiro Arr	4.03	47	Pn	Pn	03 25 14.2	+1.3
	0.1nm,0.3s,baz=246,slow=21,SNR=6.7						
MJAR				Sn	Sn	03 25 59.6	+0.7
	0.1nm,0.3s,baz=160,slow=34,SNR=2.0						
	0.9nm,0.3s						
KSRS	Korea Array	6.51	306	LR	LR	03 27 46.8	
	comp=Z,15nm,21.1s,baz=115,slow=34						
KLR	Kul'dur	15.54	353	LR	LR	03 33 03.9	
	comp=Z,34nm,18.1s,baz=232,slow=34						
MKAR	Makanchi Array	41.19	304	P	P	03 31 54.9	+0.1
	0.4nm,0.5s,baz=84,slow=9.7,SNR=2.1						
	0.4nm,0.5s						
BVAR	Borovoye Array	48.66	314	P	P	03 32 54.3	+0.2
	0.5nm,0.4s,baz=92,slow=7.2,SNR=2.5						
	0.5nm,0.4s						
WRA	Warramunga Arr	53.47	180	P	P	03 33 30.1	-0.4
	2.9nm,1.2s,baz=355,slow=7.7,SNR=13						
	2.9nm,1.2s						

KRNET ***02*** *03:24:19.0±0.1, 42°.53N×72°.11E, h20km, mb2.2*
SOME ***02*** *03:24:19.1, 42°.03N×72°.53E, h15km*
NNC ***02*** *03:24:19.3±1.9, 42°.63N×72°.14E, h14km±16km, mb3.0,*
mpv2.6, Error ellipse: s-maj=16.6km s-min=6.4km az=32.0

ISC 02 03:24:20.2±1.0, 42°.49N±0°.04×72°.17E±0°.03, h17km±8km, n22, σ1°58/31, 12C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	Manas	0.25	89	⇑eP	Pg	03 24 25.4	-0.4
MNAS				⇑eS	Sg	03 24 29.7	0.0
	baz=98						
ARK	Arkit	0.70	193	⇓eP	Pg	03 24 32.9	-1.1
ARK				⇓eS	Sg	03 24 43.2	-0.2
	baz=89						
MRKS	Merke	0.82	71	P	Pb	03 24 35.6	-0.5
MRKS				S	Sb	03 24 47.3	+0.4
	4.1nm,0.1s						
MRKS	Merke	0.82	71	eP	Pb	03 24 35.6	-0.5
MRKS				eS	Sb	03 24 47.2	+0.4
	2.7nm,0.1s						
AML	Almayashu	1.18	107	⇑P	Pg	03 24 43.1	0.0
AML				⇓S	Sg	03 24 59.3	+0.7
	0.1nm,0.4s						
KK31	Karatay Array	1.37	297	⇑Pn	Pn	03 24 42.6	-2.0
KK31				Sn	Sn	03 25 00.7	-1.7
	0.5nm,0.2s,baz=5.8,slow=9.5,SNR=21						
	7.8nm,0.4s,baz=125,slow=28,SNR=26						
KKAR	Karatay Array	1.37	297	⇑eP	Pn	03 24 43.2	-1.4
KKAR				⇑eS	Sn	03 25 00.6	-1.7
	baz=96						
IUG	Iuzhnay	1.62	259	eP	Pg	03 24 52.7	+1.3
IUG				eS	Sg	03 25 16.7	+4.2
	12nm,0.1s						
ARLS	Aral	1.72	111	⇓eP	Pb	03 24 51.3	-0.1
ARLS				⇓eS	Sg	03 25 14.8	-0.7
	baz=12						
CHMS	Chumysh	1.97	74	⇑Lg	Lg	03 25 22.2	
	27nm,0.2s						
OHH	Osh	2.01	167	⇑eP	Pb	03 24 55.3	-1.1
OHH				⇑eS	Sb	03 25 21.6	+0.4
	2.5nm,0.3s						
SGDS	Sogindy	2.05	61	Pg	Pg	03 24 57.2	-2.2
SGDS				Lg	Lg	03 25 24.7	
	baz=66						
TKM2	Tokmak 2	2.56	79	⇑Lg	Lg	03 25 40.0	
TKM2							
	1.7nm,0.1s						
DGS	Degeres	2.75	73	Pg	Pb	03 25 08.1	-0.9
DGS				Lg	Lg	03 25 43.7	
	1.8nm,0.2s						
DGS	Degeres	2.75	73	ePg	Pb	03 25 08.1	-0.9
DGS				eLg	Lg	03 25 43.7	
	1.9nm,0.3s						
BOOM	Boomskoye usch	2.79	89	⇑eP	Pn	03 25 05.8	+1.6
BOOM				⇑eS	Sn	03 25 39.9	+2.4
	baz=89						
KRBS	Karabastau	2.84	64	Pg	Pb	03 25 11.1	+0.7
KRBS				Lg	Lg	03 25 48.5	
	1.5nm,0.4s						
KRBS	Karabastau	2.84	64	ePg	Pb	03 25 11.1	+0.7
KRBS				eLg	Lg	03 25 48.5	
	1.5nm,0.3s						
KST	Kastek	2.85	77	Pg	Pb	03 25 09.1	-1.5
KST				Lg	Lg	03 25 45.6	
	2.0nm,0.2s						
KST	Kastek	2.85	77	ePg	Pb	03 25 09.1	-1.5
KST				eLg	Lg	03 25 45.6	
	2.3nm,0.2s						
ARXS	Arharly	4.47	65	Pg	Pb	03 25 40.7	+2.4
ARXS				Lg	Lg	03 26 39.3	
	6.9nm,0.4s						
ARXS	Arharly	4.47	65	ePg	Pb	03 25 40.7	+2.4
ARXS				eLg	Lg	03 26 39.3	
	1.1nm,0.5s						
	1.1nm,0.5s						
	2.1nm,0.4s						
	2.1nm,0.3s						

DJA 02 03:25:42.4±0.4, 0°S±2°×12°0E±°, h10km, M3.5/7, MLv3.5/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.81	356	P	Pg	03 25 55.9	-2.2
MPSI				S	Sb	03 26 10.5	+0.8
MRSI	Marisa	2.21	64	P	Pn	03 26 19.7	+0.6
TTSI	Tana Toraja	2.55	183	P	Pn	03 26 24.1	+0.2
LUWI	Luwuk	2.88	101	P	Pn	03 26 28.8	+0.5
GTOI	Gorontalo	3.25	70	P	Pn	03 26 31.2	-2.3
MTKI	Muara Teweh, K	5.07	265	P	Pn	03 26 41.7	-17

NEIC ***02*** *03:32:57.9±0.6, 36°.284N±0°.010×97°.510W±0°.006,*
h5km±3km, Error ellipse: s-maj=1.4km s-min=0.6km
az=170.0

TUL 02 03:32:58.3±0.8, 36°.287N±0°.007×97°.51W±0°.01, h8km±8km, ML2.3, mb_Lg2.4/21(NEIC), ML2.5/62(NEIC), Error ellipse: s-maj=1.4km s-min=0.4km az=49.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.44	300	Pg	Pg	03 33 06.7	-0.2
CROK				Sg	Sg	03 33 13.1	+0.3
CROK				IAML		03 33 13.3	
	comp=N,463nm,0.3s						
CROK				IAML		03 33 18.4	
	comp=E,319nm,0.3s						
OK048	Pawnee Station	0.47	74	Pg	Pg	03 33 07.5	0.0
OK048				Sg	Sg	03 33 13.9	+0.2
OK029	Liberty Lake	0.49	175	Pg	Pg	03 33 07.7	-0.1
OK029				Sg	Sg	03 33 14.5	+0.3
OK029				IAML		03 33 16.9	
	comp=E,280nm,0.3s						
OK033	Mehan	0.52	118	Pg	Pg	03 33 08.3	-0.1
OK033				IAML		03 33 20.9	
	comp=E,248nm,0.3s						
BLOK	Blackwell	0.53	26	Pg	Pg	03 33 08.5	0.0
BLOK				Sg	Sg	03 33 16.5	+1.0
BLOK				IAML		03 33 23.5	
	comp=N,395nm,0.2s						
BLOK				IAML		03 33 24.6	
	comp=E,318nm,0.2s						
OK051	E0350 and S346	0.58	68	Pg	Pg	03 33 09.6	0.0
OK051				Sg	Sg	03 33 17.4	+0.1
OK051				IAML		03 33 20.5	
	comp=E,294nm,0.1s						
OK051				IAML		03 33 22.2	
	comp=E,269nm,0.2s						
GC02	Grant County #	0.63	333	Pg	Pg	03 33 10.2	-0.3
GC02				Sg	Sg	03 33 18.9	+0.2
OK031	S. Brethren Rd	0.63	121	Pg	Pg	03 33 10.4	-0.2
OK031				Sg	Sg	03 33 19.2	+0.4
OK052	Battle Ridge R	0.64	117	Pg	Pg	03 33 10.4	-0.2

OK052				Sg	Sg	03 33 19.0	0.0
QUOK	**Quay**	**0.66**	**100**	Pg	Pg	03 33 10.8	-0.1
QUOK				Sg	Sg	03 33 19.6	+0.1
QUOK				IAML		03 33 24.7	
	comp=E,184nm,0.2s						
KAN13	**South Haven SW**	**0.72**	**2**	Pg	Pg	03 33 12.1	-0.2
KAN13				Sg	Sg	03 33 21.9	+0.2
KAN13				IAML		03 33 25.0	
	comp=E,322nm,0.2s						
KAN13				IAML		03 33 34.8	
	comp=N,253nm,0.3s						
KAN14	**Manchester OK**	**0.76**	**331**	Pg	Pg	03 33 12.8	-0.3
KAN14				Sg	Sg	03 33 23.0	+0.1
KAN14				IAML		03 33 25.6	
	comp=N,248nm,0.1s						
OK032	**Salt Plains WL**	**0.77**	**313**	Pg	Pg	03 33 12.3	-0.8
OK032				Sg	Sg	03 33 22.9	-0.1
OK032				IAML		03 33 27.2	
	comp=N,252nm,0.2s						
KAN17	**Caldwell West**	**0.78**	**345**	Pg	Pg	03 33 13.4	0.0
KAN17				Sg	Sg	03 33 23.4	-0.3
KAN17				IAML		03 33 29.6	
	comp=N,220nm,0.3s						
KAN09	**Caldwell North**	**0.85**	**354**	Pg	Pg	03 33 14.2	-0.5
KAN09				Sg	Sg	03 33 26.0	+0.2
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**	Pg	Pg	03 33 14.7	-0.5
OKCSW				Sg	Sg	03 33 26.4	-0.3
OKCSW				IAML		03 33 32.0	
	comp=E,222nm,0.5s						
OKCSW				IAML		03 33 34.4	
	comp=N,203nm,0.8s						
KAN01	**Argonia South**	**0.89**	**347**	Pg	Pg	03 33 14.9	-0.5
KAN01				Sg	Sg	03 33 26.9	-0.1
KAN01				IAML		03 33 28.9	
	comp=N,205nm,0.1s						
DEOK	**Depew**	**0.93**	**118**	Pg	Pg	03 33 15.5	-0.6
DEOK				Sg	Sg	03 33 28.3	+0.1
DEOK				IAML		03 33 30.3	
	comp=E,106nm,0.2s						
DEOK				IAML		03 33 30.5	
	comp=N,125nm,0.2s						
KS20	**Mayfield South**	**0.94**	**358**	Pg	Pg	03 33 15.8	-0.6
KS20				Sg	Sg	03 33 28.7	0.0
KS20				IAML		03 33 31.3	
	comp=N,172nm,0.1s						
KAN10	**Anthony SW Sta**	**0.96**	**331**	Pg	Pg	03 33 16.4	-0.4
KAN10				Sg	Sg	03 33 29.6	+0.3
KAN10				IAML		03 33 33.4	
	comp=N,170nm,0.1s						
KAN06	**Argonia West S**	**1.00**	**344**	Pg	Pg	03 33 16.8	-0.7
KAN06				Sg	Sg	03 33 30.4	-0.2
KS21	**Milan North St**	**1.01**	**353**	IAML		03 33 37.8	
	comp=N,197nm,0.1s						
KS21	**Milan North St**	**1.01**	**353**	Pg	Pg	03 33 17.2	-0.4
OK038	**West end E0370**	**1.02**	**281**	Pg	Pg	03 33 17.1	-0.7
T35A	**Sooner Cattle**	**1.02**	**52**	Pg	Pg	03 33 17.4	-0.4
T35A				Sg	Sg	03 33 30.7	-0.4
T35A				IAML		03 33 32.0	
	comp=N,139nm,0.3s						
T35A				IAML		03 33 34.3	
	comp=E,103nm,0.2s						
FNO	**Franklin**	**1.03**	**175**	Pg	Pg	03 33 17.2	-0.9
FNO				Sg	Sg	03 33 31.5	0.0
FNO				IAML		03 33 33.6	
	comp=E,130nm,0.2s						
CSTR	**Hydro, Custer**	**1.15**	**237**	Pg	Pg	03 33 19.3	-1.1
NOKA	**Waynoka**	**1.20**	**287**	Pg	Pb	03 33 20.0	-1.3
NOKA				IAML		03 33 39.5	
	comp=E,126nm,0.4s						
U32A	**Winter Ranch,**	**1.21**	**275**	Pg	Pb	03 33 20.3	-1.2
U32A				IAML		03 33 40.3	
	comp=N,99nm,0.3s						
U32A				IAML		03 33 44.0	
	comp=E,83nm,0.1s						
TUL3	**Leonard**	**1.44**	**105**		Pn	03 33 24.0	-0.7
TUL3				IAmb_Lg		03 33 44.9	
	comp=Z,27nm,0.8s						
X34A	**Smith Ranch, M**	**1.70**	**189**	Pn	Pb	03 33 29.1	-0.8
X34A				IAmb_Lg		03 33 55.7	
	comp=Z,15nm,0.8s						
WMOK	**Wichita Mounta**	**1.86**	**214**	Pn	Pn	03 33 31.0	+0.5
RLO	**Rose Lookout**	**2.01**	**93**	Pn	Pn	03 33 33.8	+1.2
LOOK	**Love County**	**2.30**	**173**	Pn	Pn	03 33 37.1	+0.5
LOOK				IAmb_Lg		03 34 15.9	
	comp=Z,14nm,1.0s						
R32A	**Long Quarter,**	**2.34**	**336**	Pn	Pn	03 33 37.6	+0.5
X37A	**Clayton**	**2.43**	**134**	Pn	Pn	03 33 39.0	+0.7
X37A				IAmb_Lg		03 34 21.4	
	comp=Z,13nm,0.7s						
U38A	**Gravette**	**2.52**	**86**	Pn	Pn	03 33 40.6	+1.1
WTFS	**Witchita Falls**	**2.63**	**198**	Pn	Pn	03 33 41.2	+0.1
HHAR	**Hobbs**	**2.88**	**89**	Pn	Pn	03 33 45.2	+0.7
KSU1	**Kansas State U**	**2.90**	**14**	Pn	Pn	03 33 44.3	-0.4
Z35A	**Perchaven, San**	**2.96**	**176**	Pn	Pn	03 33 46.0	+0.4
S39A	**Bolivar**	**3.63**	**66**	IAmb_Lg		03 35 00.7	
	comp=Z,8.5nm,0.9s						
MIAR	**Mount Ida**	**3.65**	**117**	Pn	Pn	03 33 55.9	+0.8
AMTX	**Amarillo**	**3.68**	**249**	IAmb_Lg		03 34 57.1	
	comp=Z,8.3nm,0.8s						
MGMO	**Mountain Grove**	**4.30**	**77**	IAmb_Lg		03 35 18.0	
	comp=Z,12nm,0.9s						
WHAR	**Wooly Hollow**	**4.36**	**102**	Pn	Pn	03 34 05.4	+0.7
CCM	**Cathedral Cave**	**5.30**	**69**	IAmb_Lg		03 35 45.3	
	comp=Z,8.3nm,0.8s						
N38A	**Joes South For**	**5.61**	**35**	IAmb_Lg		03 35 58.6	
	comp=Z,11nm,0.8s						
JCT	**Junction City**	**6.10**	**199**	IAmb_Lg		03 36 25.7	
	comp=Z,5.3nm,0.9s						
S44A	**Carbondale**	**6.75**	**76**	IAmb_Lg		03 36 32.0	
	comp=Z,10nm,0.7s						

SJA ***02*** *04:19:49.0±0.9, 20°.70S×70°.05W, h32km±2km, ML3.5, MW3.6*
GUC ***02*** *04:19:51.1±0.7, 20°.69S×70°.05W, h33km±2km, ML3.5*
ISC 02 04:19:50.0±0.9, 20°.74S±0°.02×70°.10W±0°.05, h32km±7km, n27, σ1§50/48, 2C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**0.09**	**210**	*eP*	**Pb**	**04 19 55.8**	**+0.1**
TA01	**Diego Aracena**	**0.19**	**338**	⇑*iP*	**Pb**	**04 19 56.2**	**-0.1**
TA01				*i* S	**Sb**	**04 20 00.7**	**0.0**
TA01	**Diego Aracena**	**0.19**	**338**	*eP*	**Pb**	**04 19 54.7**	**-1.7**
TA02	**Huaiquique**	**0.47**	**357**	⇓*iP*	**Pb**	**04 19 59.5**	**-0.5**
TA02				*i* S	**Sb**	**04 20 06.2**	**-0.7**
TA02				IAML		04 20 06.6	
	comp=E,8μm,0.2s						
TA02	**Huaiquique**	**0.47**	**357**	*eP*	**Pb**	**04 19 59.3**	**-0.7**
TA02				IAML		04 20 07.8	
	comp=Z,4μm,0.1s						
PB02	**IPOC Station P**	**0.61**	**161**	*eP*	**Pb**	**04 20 01.6**	**-0.8**
PB02				IAML		04 20 12.1	
	comp=Z,3μm,0.4s						
PB01	**IPOC Station P**	**0.65**	**118**	⇓*iP*	**Pb**	**04 20 02.6**	**-0.5**
PB01				*i* S	**Sb**	**04 20 11.5**	**-0.5**
PB01				IAML		04 20 13.4	
	comp=N,3μm,0.2s						
PB01	**IPOC Station P**	**0.65**	**118**	*eP*	**Pb**	**04 20 02.5**	**-0.5**
PB01				*eS*	**Sb**	**04 20 11.7**	**-0.3**
PB01				IAML		04 20 14.7	
	comp=Z,1μm,0.1s						
PB07	**IPOC Station P**	**1.00**	**168**	*eP*	**Pn**	**04 20 07.8**	**-0.2**
PB07				*eS*	**Sn**	**04 20 20.9**	**-0.2**
PB07				IAML		04 20 22.0	
	comp=Z,1μm,0.5s						
PB08	**IPOC Station P**	**1.07**	**56**	*eP*	**Pn**	**04 20 09.0**	**-0.1**
PB08				*eS*	**Sb**	**04 20 23.6**	**-0.6**
PB08				IAML		04 20 24.3	
	comp=Z,1μm,0.1s						
PB09	**IPOC Station P**	**1.32**	**143**	*eP*	**Pb**	**04 20 13.6**	**-0.8**
PB09				*eS*	**Sb**	**04 20 31.8**	**+0.7**
PB09				IAML		04 20 32.7	
	comp=Z,1μm,0.2s						
GO01	**Chusmiza**	**1.37**	**39**	⇓*iP*	**Pn**	**04 20 13.4**	**+0.2**
GO01				*i* S	**Sb**	**04 20 30.9**	**-1.7**
GO01				IAML		04 20 32.6	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**1.37**	**39**	*eP*	**Pn**	**04 20 13.4**	**+0.2**
GO01				*eS*	**Sb**	**04 20 31.2**	**-1.4**
PB04	**IPOC Station P**	**1.59**	**181**	*eP*	**Pn**	**04 20 16.2**	**+0.2**
PB04				*eS*	**Sb**	**04 20 38.1**	**-0.5**
PB04				IAML		04 20 40.1	
	comp=Z,879nm,0.3s						
PB06	**IPOC Station P**	**2.02**	**166**	*eP*	**Pn**	**04 20 23.0**	**+1.1**
PB06				*eS*	**Sb**	**04 20 49.4**	**-1.5**
PB06				IAML		04 20 51.6	
	comp=Z,422nm,0.5s						
PB12	**IPOC Station P**	**2.13**	**354**	⇑*iP*	**Pn**	**04 20 23.4**	**0.0**
PB12				*i* S	**Sn**	**04 20 49.5**	**+0.8**
PB12				IAML		04 20 53.5	
	comp=N,218nm,0.5s						
PB12	**IPOC Station P**	**2.13**	**354**	*eP*	**Pn**	**04 20 23.4**	**0.0**
PB12				*eS*	**Sn**	**04 20 50.6**	**+1.9**
PB12				IAML		04 20 51.9	
	comp=Z,193nm,1.0s						
LVC	**Limon Verde**	**2.17**	**149**	*eP*	**Pb**	**04 20 26.6**	**-2.2**
LVC				*i* S	**Sb**	**04 20 53.8**	**-1.6**
LVC				IAML		04 20 59.5	
	comp=Z,1μm,0.4s						
LVC	**Limon Verde**	**2.17**	**149**	*eP*	**Pb**	**04 20 26.9**	**-1.9**
LVC				*eS*	**Sb**	**04 20 55.6**	**+0.2**
LVC				IAML		04 20 57.3	
	comp=Z,172nm,0.3s						
AP01	**Chacalluta**	**2.37**	**355**	*eP*	**Pn**	**04 20 27.5**	**+0.9**
AP01				*i* S	**Sb**	**04 20 58.2**	**-2.5**
AP01				IAML		04 21 04.8	
	comp=N,489nm,0.6s						
AP01	**Chacalluta**	**2.37**	**355**	*eP*	**Pn**	**04 20 27.5**	**+0.9**
AP01				IAML		04 21 12.3	
	comp=Z,207nm,0.5s						
PB16	**IPOC Station P**	**2.46**	**13**	⇓*iP*	**Pn**	**04 20 29.1**	**+0.8**
PB16				*i* S	**Sn**	**04 21 00.3**	**+2.7**
PB16				IAML		04 21 11.6	
	comp=E,132nm,0.5s						
PB16	**IPOC Station P**	**2.46**	**13**	*eP*	**Pn**	**04 20 29.0**	**+0.7**
PB16				*eS*	**Sb**	**04 21 04.2**	**+0.3**
PB16				IAML		04 21 11.2	
	comp=Z,130nm,0.4s						
PB15	**IPOC Station P**	**2.53**	**167**	*eP*	**Pn**	**04 20 30.9**	**+1.9**
PB15				*eS*	**Sb**	**04 21 04.6**	**-1.0**
PB15				IAML		04 21 06.7	
	comp=Z,626nm,0.2s						
AF01	**San Pedro de A**	**2.84**	**141**	⇓*iP*	**Pb**	**04 20 37.5**	**-2.6**
AF01				*i* S	**Sb**	**04 21 19.6**	**+5.1**
GO02	**Mina Guanaco**	**4.43**	**174**	*eP*	**Pn**	**04 20 56.2**	**+1.0**
GO02				*eS*	**Sb**	**04 21 57.7**	**-2.6**
GO02	**Mina Guanaco**	**4.43**	**174**	*eP*	**Pn**	**04 20 57.8**	**+2.5**

IDC ***02*** *04:35:26.8±5.0, 38°.17N×134°.27E, h420km±96km, mbtmp3.6/5, Error ellipse: s-maj=59.4km s-min=30.2km az=4.0*
JMA ***02*** *04:35:29.4±0.3, 38°N±2°×13°5E±°, h412km, MV3.2/25, SEA OF JAPAN*
ISC 02 04:35:28.2±1.2, 38°.29N±0°.10×134°.40E±0°.09, h400km, n13, σ1§25/16, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**2.03**	**102**	*eP*	**Pn**	**04 36 25.9**	**+1.5**
JJH	**Hakui**	**2.33**	**125**	*eP*	**Pn**	**04 36 27.5**	**+1.2**
JSZ	**Suzu**	**2.49**	**109**	*eP*	**Pn**	**04 36 28.8**	**+1.3**
JSD	**Sado**	**3.05**	**93**	P	**Pn**	**04 36 33.1**	**+1.3**
JWT	**Wachi**	**3.10**	**165**	*eP*	**Pn**	**04 36 33.7**	**+1.4**
JWT				*eS*	**S**	**04 37 23.8**	**-0.4**
MJAR	**Matsushiro Arr**	**3.50**	**119**	P	**Pn**	**04 36 36.3**	**+0.6**
	2.5nm,0.4s,baz=297,slow=10,SNR=9.4						
JMM	**Marumori**	**5.06**	**93**	P	**Pn**	**04 36 51.4**	**+0.6**
JMM				*eS*	**S**	**04 37 57.5**	**-0.4**
KSRS	**Korea Array**	**5.19**	**263**	P	**Pn**	**04 36 50.6**	**-1.6**
	0.9nm,0.4s,baz=70,slow=9.8,SNR=2.1						
JFK	**Kawauchi**	**5.21**	**98**	P	**Pn**	**04 36 52.0**	**-0.4**
JFK				S	**S**	**04 37 58.7**	**-2.1**
JMK	**Ichinoseki**	**5.38**	**81**	P	**Pn**	**04 36 55.6**	**+1.5**
USRK	**Ussuriysk Ar.**	**6.18**	**344**	P	**Pn**	**04 37 03.1**	**+0.5**
	8.8nm,0.5s,baz=164,slow=11,SNR=23						
ASAJ	**Asahikawa**	**8.49**	**44**	P	**P**	**04 37 28.9**	**+0.1**
	5.1nm,0.4s,baz=234,slow=7.8,SNR=4.1						
KLR	**Kul'dur**	**11.11**	**351**	P	**P**	**04 37 57.0**	**-0.7**
	1.5nm,0.7s,baz=184,slow=15,SNR=4.3						

NEIC ***02*** *04:46:43.5±0.5, 36°.905N±0°.010×97°.51W±0°.01, h5km±2km, Error ellipse: s-maj=1.6km s-min=1.0km az=215.0*
TUL 02 04:46:44.4±0.5, 36°.91N±0°.01×97°.511W±0°.009, h8km±8km, ML2.3, mb_Lg2.3/13(NEIC), ML2.5/58(NEIC), Error ellipse: s-maj=1.7km s-min=0.8km az=210.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.10**	**15**	Pg	Pg	04 46 46.6	-0.3
KAN13				Sg	Sg	04 46 48.5	-0.1
KAN13				IAML		04 46 49.0	
	comp=N,2μm,0.3s						
KAN09	**Caldwell North**	**0.24**	**339**	Pg	Pg	04 46 49.0	-0.2
KAN09				Sg	Sg	04 46 52.6	+0.2
KAN09				IAML		04 46 55.7	
	comp=E,740nm,0.2s						
KAN09				IAML		04 46 56.4	
	comp=N,1μm,0.2s						
KAN17	**Caldwell West**	**0.24**	**303**	Pg	Pg	04 46 49.0	-0.2
KAN17				Sg	Sg	04 46 52.6	+0.1
KAN17				IAML		04 46 53.0	
	comp=E,512nm,0.2s						
BLOK	**Blackwell**	**0.28**	**122**	Pg	Pg	04 46 49.3	-0.7
BLOK				Sg	Sg	04 46 53.6	-0.1
GC02	**Grant County #**	**0.29**	**258**	Sg	Sg	04 46 53.5	-0.3
KAN01	**Argonia South**	**0.31**	**321**	Pg	Pg	04 46 50.3	-0.3
KAN01				Sg	Sg	04 46 54.8	+0.1
KS20	**Mayfield South**	**0.32**	**354**	Pg	Pg	04 46 50.5	-0.2
KS20				Sg	Sg	04 46 55.1	+0.1
KS20				IAML		04 46 55.4	
	comp=E,429nm,0.2s						
KS20				IAML		04 46 55.4	
	comp=E,377nm,0.2s						
KAN05	**Bluff City Nor**	**0.35**	**304**	Pg	Pg	04 46 50.8	-0.5
KAN05				Sg	Sg	04 46 55.8	-0.2
KAN05				IAML		04 46 57.6	
	comp=E,648nm,0.3s						
KAN05				IAML		04 46 57.6	
	comp=N,763nm,0.3s						
KAN14	**Manchester OK**	**0.36**	**277**	Pg	Pg	04 46 51.1	-0.5
KAN14				Sg	Sg	04 46 56.2	-0.2
KAN14				IAML		04 46 56.4	
	comp=N,694nm,0.2s						
KAN14				IAML		04 46 57.7	
	comp=E,362nm,0.1s						
KS21	**Milan North St**	**0.39**	**342**	Pg	Pg	04 46 51.9	-0.2
KS21				Sg	Sg	04 46 57.6	+0.3
KAN06	**Argonia West S**	**0.43**	**320**	Pg	Pg	04 46 52.6	-0.3
KAN06				Sg	Sg	04 46 58.8	+0.2
KAN08	**Anthony NE Sta**	**0.48**	**311**	Pg	Pg	04 46 53.5	-0.3
KAN08				Sg	Sg	04 46 59.7	-0.4
KAN08				IAML		04 47 02.0	
	comp=N,335nm,0.5s						
KAN08				IAML		04 47 02.0	
	comp=E,328nm,0.4s						
KAN10	**Anthony SW Sta**	**0.51**	**294**	Pg	Pg	04 46 53.9	-0.4
KAN10				IAML		04 47 02.9	
	comp=N,283nm,0.3s						
KAN12	**Harper NE Stat**	**0.55**	**315**	Pg	Pg	04 46 54.6	-0.4
CROK	**Carrier**	**0.56**	**223**	Pg	Pg	04 46 54.4	-0.7
CROK				Sg	Sg	04 47 02.0	-0.4
OK032	**Salt Plains WL**	**0.57**	**259**	Pg	Pg	04 46 54.8	-0.7
OK032				IAML		04 47 08.0	
	comp=N,202nm,0.2s						
OK032				IAML		04 47 11.8	
	comp=N,236nm,0.3s						
OK048	**Pawnee Station**	**0.67**	**137**	Pg	Pg	04 46 56.4	-0.9
OK048				IAML		04 47 07.8	
	comp=N,143nm,0.5s						
OK051	**E0350 and S346**	**0.68**	**127**	Pg	Pg	04 46 56.8	-0.6
OK051				IAML		04 47 09.2	
	comp=N,190nm,0.5s						
OK051				IAML		04 47 13.1	
	comp=N,239nm,0.2s						
T35A	**Sooner Cattle**	**0.80**	**89**	Pg	Pg	04 46 58.8	-1.0
OK033	**Mehan**	**0.98**	**152**	Pg	Pg	04 47 02.6	-0.7
QUOK	**Quay**	**0.98**	**139**	Pg	Pg	04 47 02.4	-0.9
QUOK				IAML		04 47 21.6	
	comp=N,172nm,0.2s						
QUOK				IAML		04 47 22.3	
	comp=E,150nm,0.2s						
OK035	**E0210 Rd and N**	**0.98**	**258**	Pg	Pg	04 47 02.4	-0.9
OK035				IAML		04 47 28.5	
	comp=E,137nm,0.4s						
OK035				IAML		04 47 30.7	
	comp=E,107nm,0.2s						
OK038	**West end E0370**	**1.08**	**247**	Pg	Pg	04 47 04.1	-1.1
OK052	**Battle Ridge R**	**1.08**	**148**	Pg	Pg	04 47 04.0	-1.1
OK029	**Liberty Lake**	**1.11**	**178**	Pg	Pg	04 47 04.6	-1.2
NOKA	**Waynoka**	**1.17**	**257**	Pg	Pg	04 47 05.5	-1.5
NOKA				IAML		04 47 27.1	
	comp=E,137nm,0.2s						
NOKA				IAML		04 47 35.6	
	comp=N,104nm,0.4s						
U32A	**Winter Ranch,**	**1.31**	**247**		Pn	04 47 08.0	-1.1
U32A				IAML		04 47 26.7	
	comp=E,82nm,0.1s						
U32A				IAML		04 47 32.5	
	comp=N,64nm,0.2s						
DEOK	**Depew**	**1.34**	**142**		Pn	04 47 08.2	-1.2
DEOK				IAML		04 47 30.0	
	comp=N,92nm,0.3s						
DEOK				IAML		04 47 30.2	
	comp=E,95nm,0.7s						
OKCSW	**OKLAHOMA CITY**	**1.50**	**178**		Pn	04 47 11.4	-0.2
CSTR	**Hydro, Custer**	**1.58**	**217**		Pn	04 47 12.9	+0.1
FNO	**Franklin**	**1.65**	**177**		Pn	04 47 13.8	+0.1
TUL3	**Leonard**	**1.71**	**125**	Pn	Pn	04 47 14.4	-0.1
ELIS	**Ellis County**	**1.75**	**242**	Pn	Pn	04 47 15.2	0.0
R32A	**Long Quarter,**	**1.78**	**328**	Pn	Pn	04 47 15.9	+0.4
RLO	**Rose Lookout**	**2.14**	**110**	Pn	Pn	04 47 20.7	+0.3
KSU1	**Kansas State U**	**2.30**	**18**	Pn	Pn	04 47 22.2	-0.4
WMOK	**Wichita Mounta**	**2.40**	**206**	Pn	Pn	04 47 23.7	-0.4
U38A	**Gravette**	**2.56**	**100**	Pn	Pn	04 47 26.0	-0.1
U38A				IAmb_Lg		04 48 10.5	
	comp=Z,8.5nm,1.2s						
HHAR	**Hobbs**	**2.94**	**101**	Pn	Pn	04 47 32.3	+0.8
S39A	**Bolivar**	**3.43**	**76**	Pn	Pn	04 47 38.3	+0.2
Z35A	**Perchaven, San**	**3.58**	**177**	IAmb_Lg		04 48 36.9	
	comp=Z,6.8nm,0.7s						
MIAR	**Mount Ida**	**3.98**	**125**	IAmb_Lg		04 48 51.3	
	comp=Z,8.2nm,0.8s						
P38A	**Dawn**	**4.14**	**48**	Pn	Pn	04 47 48.0	+0.1
P38A				IAmb_Lg		04 48 56.9	
	comp=Z,10nm,0.8s						
MGMO	**Mountain Grove**	**4.20**	**85**	Pn	Pn	04 47 49.4	+0.6
WHAR	**Wooly Hollow**	**4.53**	**109**	IAmb_Lg		04 49 15.8	
	comp=Z,7.5nm,1.0s						
ECSD	**EROS Data Cent**	**6.85**	**5**	IAmb_Lg		04 50 39.3	
	comp=Z,2.5nm,1.1s						
WVT	**Waverly**	**7.83**	**93**	IAmb_Lg		04 51 07.8	
	comp=Z,3.7nm,1.3s						

BJI ***02*** *05:13:23.0±0.0, 38°.16N×72°.39E, h116km, mb4.6/35, mB4.9/14*
MOS ***02*** *05:13:23.7±0.9, 38°.07N×72°.52E, h117km, mb4.9/35, Error ellipse: s-maj=5.2km s-min=3.6km az=101.1*
IDC ***02*** *05:13:23.7±2.3, 38°.01N×72°.49E, h106km±20km, mb4.2/23, mbtmp4.6/27, MS3.4/17, Error ellipse: s-maj=14.0km s-min=9.8km az=12.0*
NEIC ***02*** *05:13:25.3±1.5, 38°.04N±0°.06×72°.50E±0°.03, h118km±7km, mb4.8/49, Error ellipse: s-maj=8.8km s-min=2.6km az=197.0*
NNC ***02*** *05:13:25.2±2.4, 38°.26N×72°.20E, h140km±32km, mb4.0, mpv4.4, Error ellipse: s-maj=22.7km s-min=14.0km az=171.0*
BGR ***02*** *05:13:25.8, 38°.15N×73°.14E, h126km, mb5.1*
ISC 02 05:13:23.7±0.4, 38°.04N±0°.04×72°.51E±0°.03, h107km±3km, h108km: pP-P, n399, σ1§61/433, mb4.7/95, 27C-49D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**2.41**	**327**	Pn	**Pn**	**05 14 03.2**	**+1.3**
BTK	**Batken**	**2.41**	**327**	PN	**Pn**	**05 14 03.2**	**+1.3**
KSH	**Kashi**	**3.08**	**60**	P	**Pn**	**05 14 08.5**	**-2.3**
KSH				S	**Sn**	**05 14 42.8**	**-4.3**
AML	**Almayashu**	**4.19**	**12**	P	**Pn**	**05 14 27.0**	**+1.2**
	SNR=259						
AML	**Almayashu**	**4.19**	**12**	⇑*P*	**Pn**	**05 14 26.8**	**+1.0**
	5.7nm,0.3s						
AML				⇑*S*	**Sn**	**05 15 12.5**	**-1.4**
	166nm,0.5s						
AML	**Almayashu**	**4.19**	**12**	PN	**Pn**	**05 14 27.0**	**+1.2**
CEP	**Cherat**	**4.24**	**187**	P	**Pn**	**05 14 28.0**	**+1.7**
CHCP	**Chirah Chowk**	**4.42**	**172**	P	**Pn**	**05 14 30.8**	**+2.2**
NIL	**Nilore**	**4.42**	**172**		**Pn**	**05 14 30.2**	**+1.6**
NIL	**Nilore**	**4.42**	**172**	PN	**Pn**	**05 14 30.3**	**+1.6**
UCH	**Uchtor**	**4.46**	**20**	P	**Pn**	**05 14 31.1**	**+1.6**
	SNR=144						
KBL	**Kabul**	**4.47**	**220**	Pn	**Pn**	**05 14 31.2**	**+1.6**
KBL	**Kabul**	**4.47**	**220**	PN	**Pn**	**05 14 31.2**	**+1.6**
KBL	**Kabul**	**4.47**	**220**	P	**Pn**	**05 14 30.9**	**+1.4**
	SNR=12						
KBL				S	**Sn**	**05 15 24.1**	**+3.4**
IUG	**Iuzhnay**	**4.52**	**336**	*i* P	**Pn**	**05 14 30.4**	**+0.4**
	baz=336						
IUG	**Iuzhnay**	**4.52**	**336**	*i* PN	**Pn**	**05 14 30.4**	**+0.4**
EKS2	**Erkin-Say**	**4.72**	**11**	P	**Pn**	**05 14 34.5**	**+1.8**
	SNR=191						
CHM	**Chimkent**	**4.82**	**333**	*e*P	**Pn**	**05 14 35.8**	**+1.9**
	baz=333						
CHM	**Chimkent**	**4.82**	**333**	*e*PN	**Pn**	**05 14 35.8**	**+1.9**
AAK	**Ala-Archa**	**4.84**	**18**	P	**Pn**	**05 14 36.3**	**+1.9**
	SNR=130						
AAK	**Ala-Archa**	**4.84**	**18**	Pn	**Pn**	**05 14 36.2**	**+1.9**
AAK	**Ala-Archa**	**4.84**	**18**	*d i* PN	**Pn**	**05 14 36.1**	**+1.8**
AAK	**Ala-Archa**	**4.84**	**18**	P	**Pn**	**05 14 30.2**	**-4.1**
AAK				S	**Sn**	**05 15 25.9**	**-3.4**
AAK	**Ala-Archa**	**4.84**	**18**	P	**Pn**	**05 14 36.0**	**+1.6**
	87nm,0.3s,baz=128,slow=1.6,SNR=93						
AAK				S	**Sn**	**05 15 29.5**	**+0.2**
	523nm,0.5s,baz=328,slow=19,SNR=39						
AAK				LR	LR	05 16 09.5	
	comp=Z,81nm,18.3s,baz=196,slow=34						
DZA	**Taraz**	**4.93**	**350**	*e*P	**Pn**	**05 14 36.5**	**+1.0**
	baz=350						
DZA	**Taraz**	**4.93**

THN *eS* **Sn** **05 15 58.3 -3.3**
PRZ Przheval'sk 6.32 44 Pn **Pn** **05 14 56.0 +1.5**
PRZ Przheval'sk 6.32 44 PN **Pn** **05 14 56.0 +1.5**
DHRM DHARAMSHALA 6.56 151 *eP* **Pn** **05 14 57.9 +0.1**
DHRM *eS* **Sn** **05 16 06.5 -4.8**
DHRM IAML 05 16 14.4
comp=E,2μm,0.4s
SATY Saty 6.73 40 *eP* **Pn** **05 15 01.4 +1.4**
baz=41
SATY Saty 6.73 40 *ePN* **Pn** **05 15 01.3 +1.4**
ZHN Zhinishke 6.82 39 *eP* **Pn** **05 15 03.4 +2.2**
baz=41
ZHN Zhinishke 6.82 39 *ePN* **Pn** **05 15 03.4 +2.2**
BTLS Baital 7.09 9 *eP* **Pn** **05 15 05.1 +0.4**
baz=9.5
BTLS Baital 7.09 9 *ePN* **Pn** **05 15 05.1 +0.4**
KPKS Kokpek 7.16 39 *eP* **Pn** **05 15 06.7 +0.9**
baz=40
KPKS Kokpek 7.16 39 *ePN* **Pn** **05 15 06.7 +0.9**
BHK Bhakra 7.35 153 *eP* **Pn** **05 15 08.2 -0.1**
BHK *eS* **Sn** **05 16 24.5 -5.7**
BHK IAML 05 16 29.3
comp=E,1μm,0.5s
SHLS Shalkode 7.35 44 *eP* **Pn** **05 15 12.9 +4.4**
baz=46
SHLS Shalkode 7.35 44 *ePN* **Pn** **05 15 12.8 +4.4**
PDGK Podgornoye 7.49 43 ⇓P **Pn** **05 15 09.7 -0.5**
comp=E,18nm,0.8s
PDGK Podgornoye 7.49 43 PN **Pn** **05 15 09.7 -0.5**
SMLA Simla 7.89 150 *eP* **Pn** **05 15 14.1 -1.5**
SMLA *eS* Sn 05 16 35.7 -7.6
SMLA IAML 05 16 41.4
comp=N,2μm,0.3s
SMLA IAML 05 16 43.1
comp=E,4μm,0.3s
DDI Dehra Dun 8.96 148 *eP* **Pn** **05 15 28.7 -1.6**
DDI *eS* Sn 05 17 00.9 -8.5
DDI IAML 05 17 07.4
comp=E,3μm,0.5s
DDI IAML 05 17 08.8
comp=N,2μm,0.4s
HRA Herat 9.06 249 Pn **Pn** **05 15 30.3 -1.4**
NDI New Delhi 10.13 156 *eP* **Pn** **05 15 43.9 -2.1**
OTUK Ortayu 10.20 359 ⇑P **Pn** **05 15 45.0 -1.9**
comp=N,13nm,0.8s
OTUK Ortayu 10.20 359 P **Pn** **05 15 45.0 -1.9**
KUDL Kundal 10.42 160 *eP* Pn 05 15 46.5 -3.5
PTH Pithoragarh 10.62 141 *eP* Pn 05 15 49.1 -3.8
MAKZ Makanchi 11.20 36 ⇓P **Pn** **05 16 00.8 +0.3**
comp=N,9.8nm,0.6s
MAKZ Makanchi 11.20 36 Pn **Pn** **05 16 00.5 0.0**
MAKZ Makanchi 11.20 36 P **Pn** **05 16 00.5 0.0**
MK31 Makanchi Array 11.34 36 P **Pn** **05 16 03.1 +0.8**
comp=N,6.2nm,0.6s,baz=224,slow=13,SNR=22
MK31 Makanchi Array 11.34 36 **Pn** **05 16 02.7 +0.4**
MK31 Makanchi Array 11.34 36*d i*P **Pn** **05 16 02.9 +0.6**
MKAR Makanchi Array 11.34 36 Pn **Pn** **05 16 02.0 -0.3**
MKAR Makanchi Array 11.34 36 *i* P **Pn** **05 16 03.4 +1.1**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 11.34 36 P **Pn** **05 16 02.7 +0.4**
comp=Z,6.0nm,0.6s,baz=224,slow=14,SNR=22
MKAR LR LR 05 20 50.8
comp=Z,79nm,18.3s,baz=243,slow=39
GEYT Alibeck 11.36 274 Pn Pn 05 15 58.2 -4.4
GEYT Alibeck 11.36 274 P Pn 05 15 58.3 -4.4
GEYT Alibeck 11.36 274 P Pn 05 15 58.5 -4.2
comp=Z,20nm,0.4s,baz=103,slow=12,SNR=22
GEYT S Sn 05 17 56.3 -11
comp=Z,34nm,0.5s,baz=99,slow=18,SNR=8.8
GYA0 ALIBECK ARRAY 11.36 274 P Pn 05 15 58.6 -4.1
GYA0B ALIBECK ARRAY 11.36 274 ⇓P Pn 05 15 57.7 -5.0
GYA0B ⇓S Sn 05 17 59.1 -8.4
WMQ Urumqi 12.85 59 *eP* **Pn** **05 16 23.5 +1.2**
WMQ S **Sn** **05 18 42.5 -1.1**
WMQ pmax pmax
comp=Z,13nm,0.9s
KURBB Kurchatov Arra 13.29 17 P **Pn** **05 16 25.9 -2.1**
comp=Z,3.8nm,0.7s,baz=206,slow=12,SNR=20
KURBB S **Sn** **05 18 55.4 +1.3**
comp=Z,0.5nm,0.5s,baz=153,slow=34,SNR=1.4
KURK Kurchatov 13.40 17 ⇓P **Pn** **05 16 26.1 -3.2**
comp=Z,40nm,1.1s
KURK Kurchatov 13.40 17 Pn **Pn** **05 16 27.0 -2.3**
KURK Kurchatov 13.40 17*ce*P **Pn** **05 16 27.0 -2.3**
KURK Kurchatov 13.40 17 P **Pn** **05 16 26.1 -3.2**
AB31 Akbulak array 14.41 325 ⇑P **Pn** **05 16 38.9 -3.5**
comp=Z,9.3nm,0.3s,baz=134,slow=13,SNR=620
AB31 ⇑S Sn 05 19 11.1 -10
comp=Z,243nm,1.1s,baz=151,slow=19,SNR=50
AB31 Akbulak array 14.41 325 P **Pn** **05 16 39.3 -3.1**
ABKAR Akbulak array 14.41 325 Pn **Pn** **05 16 39.0 -3.4**
ABKAR Akbulak array 14.41 325 Pn **Pn** **05 16 39.0 -3.4**
BVAR Borovoye Array 15.06 355 P **Pn** **05 16 48.7 -1.9**
comp=Z,5.5nm,0.3s,baz=163,slow=12,SNR=36
BVAR S Sn 05 19 25.1 -12
comp=Z,5.2nm,0.7s,baz=168,slow=23,SNR=3.6
BVAR LR LR 05 22 19.1
comp=Z,31nm,18.2s,baz=161,slow=36
BRVK Borovoye 15.10 355 ⇑P **Pn** **05 16 48.3 -2.8**
comp=Z,83nm,0.9s
BRVK Borovoye 15.10 355 Pn **Pn** **05 16 49.6 -1.5**
BRVK IAmb IAmb 05 16 55.5
comp=Z,70nm,0.8s
BRVK Borovoye 15.10 355*d i*P **Pn** **05 16 49.6 -1.5**
BRVK pmax pmax
comp=Z,78nm,1.7s
BRVK Borovoye 15.10 355 P **Pn** **05 16 46.0 -5.1**
DGZ Jazzator, Alta 15.83 38*de*P **Pn** **05 16 59.5 -0.9**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 16.13 325 ⇓P **Pn** **05 17 02.1 -1.8**
comp=Z,48nm,0.8s
AKTO ⇓S **Sn** **05 19 54.0 -8.6**
comp=Z,98nm,1.0s
AKTO Aktyubinsk 16.13 325 P **Pn** **05 17 02.7 -1.3**
AKTO S Sn 05 19 50.7 -12
AKTO Aktyubinsk 16.13 325 P **Pn** **05 17 01.7 -2.3**
comp=Z,31nm,0.3s,baz=131,slow=12,SNR=48
AKTO S Sn 05 19 50.4 -12
comp=Z,35nm,0.7s,baz=58,slow=9.4,SNR=12
JASK Jask - Hormozg 17.34 230 P **P** **05 17 18.2 -0.6**
LSA Lhasa 17.55 113 P **Pn** **05 17 23.1 +1.1**
LSA Lhasa 17.55 113 P **P** **05 17 21.6 0.0**
LSA IAmb IAmb 05 17 27.6
comp=Z,69nm,1.3s
LSA Lhasa 17.55 113 P **P** **05 17 21.6 0.0**
LSA pmax pmax
comp=Z,69nm,1.3s
GOMU GeErMu 17.88 89 P **P** **05 17 25.6 +0.6**
GOMU pmax pmax
comp=Z,30nm,1.0s
ZAA0 Zalesovo Array 18.02 24 ⇓P **P** **05 17 25.5 -0.5**
comp=Z,3.9nm,0.6s
ZAA0 Zalesovo Array 18.02 24 P **P** **05 17 26.2 +0.2**
ZAA0 IAmb IAmb 05 17 28.0
comp=Z,33nm,0.7s
ZALV Zalesovo Beam 18.02 24 *i* P **P** **05 17 26.1 +0.1**
ZALV pmax pmax
comp=Z,35nm,0.4s
ZALV Zalesovo Beam 18.02 24 P **P** **05 17 25.8 -0.2**
comp=Z,34nm,0.4s,baz=218,slow=10,SNR=72
ZALV S **S** **05 20 42.3 -4.7**
comp=Z,1.0nm,0.5s,baz=292,slow=9.2,SNR=1.1
SHME Shamm 18.28 234 P **P** **05 17 28.4 -0.7**
LKRN Lenkeran, Azer 18.61 279 P **P** **05 17 33.7 +1.1**
MDH Madha 18.72 232 P **P** **05 17 33.8 -0.1**
MASF Masafi 18.75 232 P **P** **05 17 34.9 +0.6**
SNR=5.6
WSAR Wadi Sarin 18.95 223 P **P** **05 17 36.6 +0.2**
comp=Z,3.4nm,0.6s,baz=63,slow=8.9,SNR=8.0
UOSS Minazif 19.03 231 **P** **05 17 36.0 -1.3**
UOSS Minazif 19.03 231 P **P** **05 17 36.9 -0.4**
HATD Hatta, Dubai 19.16 231 P **P** **05 17 38.4 -0.3**
WBK Wadi Bani Khal 19.28 221 P **P** **05 17 40.4 +0.4**
ASHO Ashiyiah 19.32 231 P **P** **05 17 40.3 -0.2**
SNR=35
NAZ Nazwa, Dubai 19.34 233 P **P** **05 17 39.9 -0.7**
HOQ Hoqain 19.40 226 P **P** **05 17 41.5 +0.1**
SMDO Samad 19.41 224 P **P** **05 17 42.4 +0.9**
SOHO SOHO 19.44 229 P **P** **05 17 42.1 +0.5**
JLN Jalan Bani Buh 19.44 219 P **P** **05 17 42.3 +0.6**
FAQ Al Faqa, Dubai 19.56 232 P **P** **05 17 42.3 -0.8**
MAK Makhachkala 19.61 292 *eP* **P** **05 17 42.9 -0.5**

MAK *eS* **S** **05 21 17.8 -1.0**
MAK pmax pmax
comp=Z,296nm,1.4s
MAK MLR MLR
comp=Z,64nm,9.0s
SEKA Sheki 19.73 287 P **P** **05 17 45.3 +0.5**
ASUD Al Ashush, Dub 19.81 232 P **P** **05 17 45.5 -0.2**
JMDO Jabal Madar 19.93 222 P **P** **05 17 45.8 -1.2**
ALNE Al Ain 19.97 231 P **P** **05 17 46.9 -0.5**
SNR=7.1
ARQ Araqi 20.05 228 P **P** **05 17 49.4 +1.0**
BSY Bisya 20.12 225 P **P** **05 17 49.5 +0.3**
SVE Sverdlovsk 20.38 341 *eP* **P** **05 17 51.8 +0.2**
SVE *eS* **S** **05 21 34.0 +0.1**
SVE pmax pmax
comp=Z,39nm,0.9s
GANJ Ganja 20.40 286 P **P** **05 17 52.2 +0.2**
SHL Shillong 20.59 122 P **P** **05 17 54.4 +0.1**
SHL Shillong 20.59 122 P **P** **05 17 54.4 +0.1**
SHL pmax pmax
comp=Z,106nm,1.1s
ARU Arti 20.62 338 P **P** **05 17 54.0 -0.1**
ARU IAmb IAmb 05 17 58.4
comp=Z,38nm,0.9s
ARU Arti 20.62 338*d i*P **P** **05 17 54.1 -0.1**
ARU 05 18 31.1
ARU S **S** **05 21 38.0 -0.4**
ARU pmax pmax
comp=Z,54nm,1.0s
ARU Arti 20.62 338 P **P** **05 17 54.2 +0.1**
comp=Z,14nm,0.4s,baz=143,slow=7.7,SNR=34
ARU S **S** **05 21 35.9 -2.5**
comp=Z,2.0nm,0.3s,baz=114,slow=20,SNR=1.5
ARU LR LR 05 26 41.3
comp=Z,127nm,18.1s,baz=148,slow=39
comp=Z,14nm,0.4s
NAX Nakhchivan 21.12 281 P **P** **05 18 00.7 +0.9**
MHTO MHTO 21.14 221 P **P** **05 18 00.7 +0.6**
GTA Gaotai 21.32 78 *eP* **P** **05 18 04.6 +2.6**
GTA pP pP 05 18 28.7 +5.0
GTA pmax pmax
comp=Z,14nm,1.3s
GNI Garni 21.62 284 P **P** **05 18 05.8 +0.5**
GNI IAmb IAmb 05 18 12.9
comp=Z,88nm,1.3s
GNI Garni 21.62 284*de*P **P** **05 18 06.4 +1.1**
GNI pmax pmax
comp=Z,41nm,1.2s
GNI Garni 21.62 284 P **P** **05 18 05.3 +0.1**
comp=Z,14nm,0.6s,baz=165,slow=5.8,SNR=17
comp=Z,14nm,0.6s
ZEI Tsey 22.24 291 *eP* **P** **05 18 10.2 -1.6**
ZEI pmax pmax
comp=Z,33nm,1.2s
BELG Belogornoye 22.50 318*d i*P **P** **05 18 13.6 -0.5**
BELG pmax pmax
comp=Z,28nm,1.1s
NCK Nalchik 22.50 293⇑*eP* **P** **05 18 14.2 -0.1**
NCK pmax pmax
comp=Z,52nm,1.0s
AKH Akhalkalaki 22.52 288 P **P** **05 18 15.7 +1.1**
AKH Akhalkalaki 22.52 288 P **P** **05 18 15.7 +1.1**
AKH pmax pmax
comp=Z,135nm,1.0s
KBZ Khabaz 23.02 294*ce*P **P** **05 18 19.1 -0.2**
KBZ pmax pmax
comp=Z,19nm,1.0s
KBZ Khabaz 23.02 294 P **P** **05 18 17.7 -1.6**
comp=Z,12nm,0.9s,baz=115,slow=8.3,SNR=11
KBZ S **S** **05 22 29.1 +7.5**
comp=Z,3.5nm,1.0s,baz=191,slow=10,SNR=1.9
KBZ LR LR 05 29 11.9
comp=Z,66nm,18.5s,baz=68,slow=41
comp=Z,12nm,0.9s
GOF Gofitskoye 23.05 297*ce*P **P** **05 18 20.6 +1.0**
KVAR Kislovodsk Arr 23.19 294 LR LR 05 29 46.8
comp=Z,103nm,21.7s,baz=272,slow=42
KIV Kislovodsk 23.19 294 *eP* **P** **05 18 21.2 +0.1**
KIV *eS* **S** **05 22 24.5 0.0**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,55nm,14.0s
SHAO Shalim 24.82 221 P **P** **05 18 36.5 +0.6**
LZH Lanzhou 25.02 85 *eP* **P** **05 18 41.3 +3.4**
LZH pP pP 05 19 06.2 +3.6
LZH sP sP 05 19 21.9 +6.3
LZH pmax pmax
comp=Z,13nm,1.0s
ZAK Zakamensk 25.08 51 *eP* **P** **05 18 39.7 +1.6**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
DOK Doka 25.14 225 P **P** **05 18 38.7 0.0**
SNR=6.0
SOC Sochi 25.32 293 *eP* **P** **05 18 38.9 -1.4**
SOC *e* 05 19 20.1
SOC *eS* **S** **05 22 56.0 -2.4**
VRH Novokhopyorsk 25.35 311 *eP* **P** **05 18 40.4 0.0**
VRH pmax pmax
comp=Z,34nm,0.6s
KIRV Kirov 25.42 331*ce*P **P** **05 18 42.2 +1.2**
DMTO DMTO 25.43 222 P **P** **05 18 41.4 0.0**
SNR=17
TNCH TengChong 25.59 113 *eP* **P** **05 18 46.0 +2.9**
TNCH pP pP 05 19 12.9 +5.0
TNCH pmax pmax
comp=Z,34nm,0.5s
WHFO Wadi Hawf 25.90 224 P **P** **05 18 45.2 -0.5**
SNR=14
RBK Rabkut 26.00 223 P **P** **05 18 46.2 -0.5**
SONM Songino Array 26.48 57 P **P** **05 18 51.8 +0.9**
comp=Z,1.2nm,0.3s,baz=254,slow=9.9,SNR=15
SONM LR LR 05 29 50.9
comp=Z,48nm,19.1s,baz=285,slow=37
comp=Z,1.2nm,0.3s
ABTO Aybut 26.62 225 P **P** **05 18 51.7 -0.5**
SNR=5.2
VSR Storozhevoye 26.88 310 *eP* **P** **05 18 51.7 -2.5**
VSR pmax pmax
comp=Z,30nm,1.2s
ULN Ulaanbaatar 26.92 57⇓*eP* **P** **05 18 56.5 +1.6**
ULN pmax pmax
comp=Z,23nm,4.0s
VORR Voronezh 26.99 311 *eP* **P** **05 18 55.8 +0.6**
VORR pmax pmax
comp=Z,35nm,0.4s
PZH PanZhiHua 27.15 106 P **P** **05 19 00.2 +3.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.4s
LPSR Galich'ya Gora 27.44 313 *eP* **P** **05 18 57.1 -2.1**
LPSR pmax pmax
comp=Z,40nm,1.1s
PRGR Permogore 28.90 333 *eP* **P** **05 19 11.3 -0.7**
PRGR *eS* **S** **05 23 54.2 -0.1**
PRGR pmax pmax
comp=Z,28nm,0.8s
MOS Moscow 29.26 319 *eP* **P** **05 19 14.7 -0.6**
MOS *e**PP **pP** **05 19 40.3 +0.2**
MOS *e* 05 20 13.9
MOS pmax pmax
comp=Z,50nm,0.8s
SIM Simferopol' 29.36 296 *eP* **P** **05 19 13.3 -3.1**
SIM *eS* **S** **05 23 57.9 -4.1**
SIM pmax pmax
comp=Z,68nm,1.2s
SIM smax smax
comp=E,63nm,18.8s
SIM MLR MLR
comp=Z,265nm,17.8s
OBN Obninsk 29.59 317*d i*P **P** **05 19 18.9 +0.7**
OBN *SP **sP** **05 19 59.0 +2.8**
OBN pmax pmax
comp=Z,36nm,1.3s
BR131 Keskin Array S 30.15 285 P **P** **05 19 24.5 +1.0**
BR131 IAmb IAmb 05 19 26.0
comp=Z,33nm,1.2s
BR131 Keskin Array S 30.15 285*d i*P **P** **05 19 24.5 +1.0**
BRTR Keskin Array B 30.15 285 P **P** **05 19 23.1 -0.4**
BRTR Keskin Array B 30.15 285*ce*P **P** **05 19 24.8 +1.3**
BRTR pmax pmax
comp=Z,6.0nm,0.6s
BRTR Keskin Array B 30.15 285 P **P** **05 19 24.4 +0.8**
comp=Z,5.6nm,0.6s,baz=101,slow=7.3,SNR=43

comp=Z,5.6nm,0.6s
CMAR Chiang Mai Arr 30.21 123 P **P** **05 19 25.1 +1.0**
comp=Z,2.2nm,0.3s,baz=316,slow=9.4,SNR=6.4
comp=Z,2.2nm,0.3s
KLMR Klimovskoe 30.76 329 *eP* **P** **05 19 27.2 -1.3**
KLMR AMP 05 19 30.4
comp=Z,38nm,1.2s
KLMR *e* 05 25 48.1
KLMR *e* 05 25 48.1
KLMR Klimovskoe 30.76 329 *eP* **P** **05 19 27.2 -1.3**
KLMR pmax pmax
comp=Z,38nm,1.2s
ANTO Ankara 30.77 286 P **P** **05 19 29.9 +1.1**
ANTO IAmb IAmb 05 19 31.8
comp=Z,26nm,1.1s
ANTO Ankara 30.77 286 P **P** **05 19 30.0 +1.1**
ANTO pmax pmax
comp=Z,26nm,1.2s
EIL Elat 32.12 266 LR LR 05 35 08.1
comp=Z,36nm,18.1s,baz=62,slow=41
NRIK Noril'sk 32.40 10 P **P** **05 19 43.4 +0.6**
NRIK IAmb IAmb 05 19 45.1
comp=Z,13nm,1.1s
NRIK Noril'sk 32.40 10*de*P **P** **05 19 43.9 +1.1**
NRIK pmax pmax
comp=Z,14nm,1.1s
NRIK Noril'sk 32.40 10 P **P** **05 19 43.8 +1.0**
comp=Z,8.2nm,0.8s,baz=188,slow=6.2,SNR=7.5
comp=Z,8.2nm,0.8s
AKASG Malin Array Be 32.95 307*ce*P **P** **05 19 48.0 +0.2**
AKASG pmax pmax
comp=Z,5.0nm,0.3s
AKASG Malin Array Be 32.95 307 P **P** **05 19 48.1 +0.2**
comp=Z,3.9nm,0.4s,baz=73,slow=6.8,SNR=36
comp=Z,3.9nm,0.4s
AKBB Malin Array Si 32.95 307 P **P** **05 19 47.6 -0.2**
AKBB IAmb IAmb 05 19 49.1
comp=Z,23nm,1.0s
AKBB Malin Array Si 32.95 307*d i*P **P** **05 19 47.9 +0.1**
ADZR Andozero 32.97 333 *eP* **P** **05 19 48.1 +0.3**
ADZR *e* 05 21 03.6
ADZR pmax pmax
comp=Z,11nm,0.6s
XLT XiLinHaoTe 33.12 66 *eP* **P** **05 19 47.4 -2.1**
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,140nm,3.8s
SORM Soroca 33.38 302 ⇑P **P** **05 19 51.8 +0.3**
SORM Soroca 33.38 302 ⇑P **P** **05 19 51.8 +0.3**
ELL Elmali 33.66 281 P **P** **05 19 54.7 +0.4**
ELL Elmali 33.66 281 P **P** **05 19 54.7 +0.4**
ELL pmax pmax
comp=Z,65nm,0.5s
MNK Minsk 34.29 313 *i* P **P** **05 20 00.3 +1.0**
comp=E,9.0nm,1.2s
MNK *i* P **P** **05 20 00.3 +1.0**
comp=N,11nm,0.7s
MNK *i* P **P** **05 20 00.3 +1.0**
comp=Z,22nm,1.1s,baz=100
MNK *i* pP **pP** **05 20 24.9 +0.4**
MNK *i* PP **PnPn** **05 21 12.6 -4.6**
MNK *i* S **S** **05 25 20.5 +2.1**
MNK *i* sS **sS** **05 26 03.5 +1.0**
MNK *i* SS **SS** **05 27 55.1 +4.3**
MNK Minsk 34.29 313 *i* P **P** **05 20 00.3 +1.0**
MNK *i* *PP **pP** **05 20 24.9 +0.4**
MNK *i* 05 21 12.6
MNK *i* S **S** **05 25 20.5 +2.1**
MNK *i* *SS **sS** **05 26 03.4 +1.0**
MNK *i* 05 30 11.4
MNK pmax pmax
comp=N,11nm,0.7s
MNK pmax pmax
comp=Z,22nm,1.1s
MNK pmax pmax
comp=E,9.0nm,1.2s
VRI Vrincioaia 34.54 298 ⇓P **P** **05 20 02.1 +0.5**
VRI Vrincioaia 34.54 298 ⇓P **P** **05 20 02.1 +0.5**
TESR Tescani 34.56 299 ⇓P **P** **05 20 03.1 +1.3**
PLOR Plostina 34.59 298 ⇓P **P** **05 20 04.3 +2.2**
PLOR Plostina 34.59 298 ⇓P **P** **05 20 04.3 +2.2**
COVR Voineasa-Covas 34.90 298 ⇑P **P** **05 20 07.1 +2.3**
NACGM Naroch 34.98 314 *eP* **P** **05 20 06.1 +0.8**
comp=E,3μm,1.2s
MLR Muntele Rosu 35.11 297 ⇓P **P** **05 20 09.4 +2.7**
MLR Muntele Rosu 35.11 297 P **P** **05 20 07.2 +0.5**
MLR Muntele Rosu 35.11 297 ⇓P **P** **05 20 09.4 +2.7**
DOPR Dopca 35.46 298 ⇑P **P** **05 20 11.2 +1.6**
BURAR Bucovina Array 35.49 301 ⇓P **P** **05 20 11.0 +1.1**
BURAR Bucovina Array 35.49 301 P **P** **05 20 10.3 +0.4**
BURAR Bucovina Array 35.49 301 ⇓P **P** **05 20 11.0 +1.1**
BUR08 Bucovina Ar. S 35.50 301 P **P** **05 20 10.1 +0.1**
BUR08 IAmb IAmb 05 20 12.1
comp=Z,8.5nm,0.9s
VOIR 35.74 297 ⇑P **P** **05 20 13.8 +1.7**
VOIR 35.74 297 ⇑P **P** **05 20 13.8 +1.7**
VSU Vasula 35.76 320⇓*eP* **P** **05 20 11.7 -0.2**
VSU pmax pmax
comp=Z,57nm,1.0s
ARR Arges 36.04 297 ⇑P **P** **05 20 16.3 +1.7**
KARP Karpathos 36.13 280 P **P** **05 20 15.1 -0.3**
LVV L'vov 36.24 305 *eP* **P** **05 20 17.4 +1.3**
LVZ Lovozero 36.49 337 P **P** **05 20 18.2 +0.1**
LVZ IAmb IAmb 05 20 19.6
comp=Z,30nm,1.1s
LVZ Lovozero 36.49 337*de*P **P** **05 20 18.2 +0.1**
LVZ pmax pmax
comp=Z,20nm,1.1s
LOT Lotru 36.64 298 ⇓P **P** **05 20 21.4 +1.6**
APA Apatity 36.70 336⇓*i*P P 05 20 11.1 -8.7
APA *i* *PP pP 05 20 40.0 -5.3
APA pmax pmax
comp=Z,4.0nm,0.9s
APA MLR MLR
comp=Z,400nm,11.0s
FINES FINESS Array B 36.90 325 P **P** **05 20 21.7 +0.1**
FINES FINESS Array B 36.90 325 P **P** **05 20 22.3 +0.7**
comp=Z,13nm,0.4s,baz=118,slow=9.2,SNR=177
FINES LR LR 05 36 40.5
comp=Z,63nm,19.4s,baz=195,slow=38
comp=Z,13nm,0.4s
MARR Marisel-Cluj 36.98 300 ⇑P **P** **05 20 24.1 +1.6**
KWP Kalwaria Pacla 37.10 305 P **P** **05 20 25.2 +1.8**
KWP IAmb IAmb 05 20 25.8
comp=Z,19nm,0.6s
KWP Kalwaria Pacla 37.10 305 P **P** **05 20 25.2 +1.8**
KWP pmax pmax
comp=Z,19nm,0.6s
TRPA Tarpa 37.27 302 ⇑P **P** **05 20 25.7 +0.8**
GZR Gura Zlata 37.34 298 ⇓P **P** **05 20 26.7 +1.1**
GZR Gura Zlata 37.34 298 ⇓P **P** **05 20 26.7 +1.1**
SURR Surduc 37.75 298 ⇓P **P** **05 20 31.1 +2.1**
CRVS Cervenica-Dubn 37.94 303 *eP* **P** **05 20 32.0 +1.4**
CRVS Cervenica-Dubn 37.94 303 *eP* **P** **05 20 32.0 +1.4**
SIRR Siria 38.02 299 ⇓P **P** **05 20 33.1 +1.9**
STHS Stebnicka Huta 38.06 304 *eP* **P** **05 20 31.5 -0.1**
STHS pmax pmax
comp=Z,5.0nm,0.5s
STHS Stebnicka Huta 38.06 304 *eP* **P** **05 20 31.4 -0.1**
NJ2 Nanjing 38.10 85 *eP* **P** **05 20 32.4 +0.3**
NJ2 pP **pP** **05 20 58.5 +0.8**
NJ2 sP **sP** **05 21 10.8 +0.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,140nm,3.5s
BZS Buzias 38.12 298 ⇓P **P** **05 20 33.8 +1.7**
BZS Buzias 38.12 298 ⇓P **P** **05 20 33.8 +1.7**
BOVS Bovan 38.35 295 ⇓P **P** **05 20 35.1 +1.1**
OJC Ojcow 38.96 306 P **P** **05 20 39.6 +0.5**
OJC Ojcow 38.96 306 P **P** **05 20 39.6 +0.5**
OJC pmax pmax
comp=Z,46nm,1.1s
LANS Liptovska Anna 39.24 304 *eP* **P** **05 20 43.5 +2.0**
LANS Liptovska Anna 39.24 304 *eP* **P** **05 20 43.4 +2.0**
VADS Vadso 39.31 338 *eP* **P** **05 20 42.7 +1.0**
VYHS Vyhne 39.70 303 *eP* **P** **05 20 46.9 +1.6**
VYHS pmax pmax
comp=Z,12nm,1.3s
VYHS Vyhne 39.70 303 *eP* **P** **05 20 46.9 +1.6**
MORH Mrgy, Hungar 40.10 299 ⇑P **P** **05 20 49.9 +1.4**
ARA0 ARCESS Array S 40.20 337 *eP* **P** **05 20 50.1 +1.0**
ARCES ARCESS Array B 40.20 337 P **P** **05 20 49.8 +0.7**

ARCES IAmb IAmb 05 21 17.7
comp=Z,23nm,1.3s
ARCES ARCESS Array B 40.20 337 P **P** **05 20 49.8 +0.7**
ARCES pmax pmax
comp=Z,23nm,1.3s
ARCES ARCESS Array B 40.20 337 P **P** **05 20 49.4 +0.4**
comp=Z,3.8nm,0.4s,baz=112,slow=9.4,SNR=73
ARCES LR LR 05 38 38.8
comp=Z,53nm,21.2s,baz=94,slow=38
comp=Z,3.8nm,0.4s
MAUC Maruska 40.29 304 *e*P **P** **05 20 51.8 +1.7**
HEH HeiHe 40.37 54 *e*P **P** **05 20 52.6 +1.9**
HEH pmax pmax
comp=Z,17nm,0.9s
JAVC Velka Javorina 40.44 304 *e*P **P** **05 20 53.4 +2.0**
MORC Moravsky Berou 40.44 305 ⇑P **P** **05 20 52.6 +1.2**
MORC Moravsky Berou 40.44 305 P **P** **05 20 52.0 +0.6**
MORC IAmb IAmb 05 20 53.7
comp=Z,12nm,1.1s
MORC Moravsky Berou 40.44 305 *e*P **P** **05 20 52.6 +1.2**
MORC Moravsky Berou 40.44 305 ⇑P **P** **05 20 52.6 +1.2**
KTK1 Kautokeino 40.71 335 *e*P **P** **05 20 53.9 +0.6**
MODS Modra-Piesok 40.75 303 *e*P **P** **05 20 55.6 +1.7**
MODS pmax pmax
comp=Z,20nm,1.1s
MODS Modra-Piesok 40.75 303 *e*P **P** **05 20 55.6 +1.7**
VRAC Vranov 41.10 304 ⇓P **P** **05 20 58.5 +1.7**
VRAC Vranov 41.10 304 *e*P **P** **05 20 58.3 +1.5**
VRAC Vranov 41.10 304 ⇓P **P** **05 20 58.5 +1.7**
VRAC Vranov 41.10 304 LR LR 05 40 15.3
comp=Z,79nm,18.0s,baz=6.5,slow=39
DPC Dobruska-Polom 41.18 306 *e*P **P** **05 20 59.1 +1.7**
DPC Dobruska-Polom 41.18 306 *e*P **P** **05 20 59.1 +1.7**
HAMF Hammerfest 41.25 338 *e*P **P** **05 20 58.7 +1.1**
KRUC Moravsky 41.25 304 *e*P **P** **05 20 59.5 +1.5**
CHVC Chvalec 41.33 306 *e*P **P** **05 21 00.3 +1.7**
CHVC Chvalec 41.33 306 *e*P **P** **05 21 00.3 +1.7**
UPC Upice 41.36 306 *e*P **P** **05 21 00.4 +1.5**
UPC Upice 41.36 306 *e*P **P** **05 21 00.4 +1.5**
RONA Rosalia, Austr 41.49 302 *i*P **P** **05 21 01.1 +1.1**
comp=Z,6.4nm,0.6s,SNR=5.1
RICI Ricice 41.64 296 *i*P **P** **05 21 01.6 +0.3**
CONA Conrad Observa 41.75 302 *i*P **P** **05 21 03.3 +1.2**
comp=Z,25nm,1.1s,SNR=8.2
MAKA Makarska 41.76 295 *i*P **P** **05 21 02.2 0.0**
LSTV Lastovo 41.97 295 *i*P **P** **05 21 04.0 +0.1**
KIJV Kijevo 42.05 297 *i*P **P** **05 21 05.5 +0.9**
ARSA Arzberg 42.07 302 *i*P **P** **05 21 05.5 +0.8**
comp=Z,6.0nm,0.8s
HVAR Hvar 42.19 295 *i*P **P** **05 21 06.0 +0.3**
PRU Pruhonice 42.35 306 *e*P **P** **05 21 08.2 +1.3**
PRU Pruhonice 42.35 306 *e*P **P** **05 21 08.2 +1.3**
CRES Cresnjev 42.36 299 *i*P **P** **05 21 08.2 +1.2**
PERS Pernice 42.45 301 *i*P **P** **05 21 09.0 +1.2**
SOKA Soboth 42.50 301 *i*P **P** **05 21 09.6 +1.3**
comp=Z,21nm,1.1s,SNR=13
MDJ Mudanjiang 42.61 62 P **P** **05 21 09.9 +0.8**
MDJ pP pP 05 21 35.4 +0.1
MDJ sP sP 05 21 47.3 -0.8
MDJ PP **PP** **05 22 50.8 +1.0**
MDJ ScP **ScP** **05 26 41.9 +1.7**
MDJ PcS **PcS** **05 26 54.9 +3.5**
MDJ S **S** **05 27 21.9 -2.0**
MDJ sS sS 05 28 05.9 -3.0
MDJ SS **SS** **05 30 36.6 -1.0**
MDJ ScS **ScS** **05 30 58.2 -1.0**
MDJ pmax pmax
comp=Z,19nm,1.6s
MDJ pmax pmax
comp=Z,350nm,3.6s
HFS Hagfors 42.62 321 P **P** **05 21 09.3 +0.4**
comp=Z,19nm,0.6s,baz=98,slow=11,SNR=67
comp=Z,19nm,0.6s
BRG Berggiesshubel 42.64 307 *i*P **P** **05 21 11.1 +1.9**
BRG Amp 05 21 12.7
comp=Z,18nm,0.8s
BRG Berggiesshubel 42.64 307 P P 05 21 21.5 +12
BRG Amp 05 21 23.1
comp=Z,3.1nm,0.9s
BRG Berggiesshubel 42.64 307 *i*P **P** **05 21 11.1 +1.9**
BRG pmax pmax
comp=Z,18nm,0.8s
BRG pmax pmax
comp=Z,3.0nm,0.9s
ZVC Zvikov 42.64 305 *e*P **P** **05 21 10.9 +1.6**
CKRC Cesky Krumlov 42.65 304 *e*P **P** **05 21 11.9 +2.5**
CKRC Cesky Krumlov 42.65 304 *e*P **P** **05 21 11.9 +2.5**
ZIRJ Zirje 42.66 296 *i*P **P** **05 21 09.2 -0.3**
MOA Molln 42.82 303 *i*P **P** **05 21 11.5 +0.7**
comp=Z,14nm,1.1s,SNR=5.2
OBKA Obir 42.85 301 *e*P **P** **05 21 12.4 +1.2**
comp=Z,7.3nm,0.8s
VIRC Vir 42.94 297 *i*P **P** **05 21 11.6 -0.1**
LJU Ljubljana 42.95 300 *i*P **P** **05 21 13.3 +1.4**
LJU IAMb 05 21 14.1
comp=Z,17nm,0.9s
HSKC Hora Svate Kat 42.99 307 *e*P **P** **05 21 13.6 +1.5**
NVLJ Novalja 43.01 298 *i*P **P** **05 21 12.3 0.0**
FAUS Fauske 43.01 332 *e*P **P** **05 21 12.9 +0.9**
RABC Rab 43.03 298 *i*P **P** **05 21 12.8 +0.3**
GEC2 GERESS Array S 43.04 304 P **P** **05 21 13.4 +0.7**
GERES GERESS Array B 43.04 304 P **P** **05 21 13.4 +0.7**
GERES GERESS Array B 43.04 304 P **P** **05 21 13.4 +0.7**
GERES GERESS Array B 43.04 304 P **P** **05 21 13.2 +0.6**
comp=Z,1.5nm,0.3s,baz=80,slow=8.2,SNR=9.9
comp=Z,1.5nm,0.3s
MOR8 Moi Rana 43.08 330 *e*P **P** **05 21 12.7 +0.1**
KHC Kasperske Hory 43.08 305 P **P** **05 21 13.7 +0.8**
KHC IAmb IAmb 05 21 15.2
comp=Z,22nm,1.2s
KHC Kasperske Hory 43.08 305 *d*P **P** **05 21 13.9 +1.0**
KHC pmax pmax
comp=Z,27nm,1.1s
KHC Kasperske Hory 43.08 305 *e*P **P** **05 21 14.3 +1.4**
STEI Steigen 43.16 332 *e*P **P** **05 21 13.5 +0.4**
CLL Collm 43.18 308 *i*P **P** **05 21 14.4 +0.8**
CLL *e**PP **pP** **05 21 37.0 -2.7**
CLL pmax pmax
comp=Z,20nm,1.2s
CLL Collm 43.18 308 *i*P **P** **05 21 14.4 +0.8**
comp=Z,20nm,1.2s
CLL *e*(pP) **pP** **05 21 38.0 -1.7**
KSRS Korea Array 43.26 73 P **P** **05 21 14.8 +0.4**
comp=Z,1.1nm,0.4s,baz=289,slow=6.1,SNR=7.0
comp=Z,1.1nm,0.4s
BIOA Bad Ischl, Aus 43.26 302 *i*P **P** **05 21 15.1 +0.7**
comp=Z,8.5nm,0.9s
KLR Kul'dur 43.27 55⇑ *e*P **P** **05 21 14.9 +0.5**
KLR pmax pmax
comp=Z,39nm,2.8s
KLR Kul'dur 43.27 55 LR LR 05 40 32.9
comp=Z,33nm,20.2s,baz=260,slow=38
MYKA Terra Mystica 43.45 301 *i*P **P** **05 21 17.1 +1.2**
comp=Z,7.2nm,0.9s
CUC Castrocucco 43.45 291 P **P** **05 21 17.1 +1.1**
CUC IAmb IAmb 05 21 18.6
comp=Z,17nm,1.0s
PRED Cave del Predi 43.53 301 P **P** **05 21 17.2 +0.6**
KBA Koelnbreinsper 43.57 302 *i*P **P** **05 21 17.8 +0.8**
comp=Z,12nm,1.2s
KONS Konsvik 43.67 330 *e*P **P** **05 21 18.0 +0.8**
LOF Lofoten 43.83 332 *e*P **P** **05 21 18.6 +0.2**
NC303 NORSAR Array S 43.83 322 P **P** **05 21 18.6 -0.1**
NB2 NORSAR Subarra 43.89 322 P **P** **05 21 19.1 -0.1**
comp=Z,7.9nm,0.5s,baz=92,slow=7.9
NB2 NORSAR Subarra 43.89 322 P **P** **05 21 19.1 -0.1**
baz=92,slow=7.9
NOA NORSAR Array B 43.89 322 P **P** **05 21 19.1 -0.1**
comp=Z,8.4nm,0.7s,baz=93,slow=7.7,SNR=21
NOA LR LR 05 39 21.7
comp=Z,41nm,18.3s,baz=320,slow=36
comp=Z,8.4nm,0.7s
TIXI Tiksi 43.90 22 P **P** **05 21 19.4 +0.4**
TIXI IAmb IAmb 05 21 45.3
comp=Z,15nm,1.1s
TIXI Tiksi 43.90 22 P **P** **05 21 19.4 +0.4**
TIXI pmax pmax
comp=Z,15nm,1.1s
LESA Schwarzleotal 43.95 302 *i*P **P** **05 21 20.8 +0.8**
comp=Z,21nm,1.2s
NC204 NORSAR Array S 44.12 322 P **P** **05 21 21.3 +0.3**
STAL STALIGIAL 44.15 301 P **P** **05 21 21.6 +0.1**
STAL IAmb IAmb 05 21 22.7
comp=Z,20nm,1.2s

ABTA Abfaltersbach 44.19 301 *i*P **P** **05 21 21.9 +0.1**
comp=Z,7.1nm,1.0s
GRF Grafenberg Arr 44.52 306 *e*P **P** **05 21 26.2 +1.8**
comp=Z,25nm,1.1s,baz=87,slow=7.0
GRF *e*pP **pP** **05 21 54.8 +4.3**
NRCA Norcia 44.65 296 P **P** **05 21 26.1 +0.5**
NRCA IAmb IAmb 05 21 27.8
comp=Z,14nm,1.0s
WTTA Wattenberg 44.68 302 *i*P **P** **05 21 26.3 +0.4**
comp=Z,21nm,1.1s,SNR=5.3
WATA Walderalm 44.70 302 *i*P **P** **05 21 26.4 +0.4**
comp=Z,6.1nm,0.6s
SQTA Sankt Quirin 44.97 302 *i*P **P** **05 21 28.5 +0.4**
comp=Z,5.8nm,0.7s
MOTA Moosalm 45.02 302 *i*P **P** **05 21 28.5 0.0**
comp=Z,18nm,1.1s
RETA Reutte 45.22 303 *i*P **P** **05 21 30.0 0.0**
comp=Z,5.9nm,0.8s
FETA Feichten 45.33 302 *e*P **P** **05 21 30.9 -0.1**
comp=Z,7.7nm,1.1s
FUORN Ofenpass-Fuorn 45.73 302 P **P** **05 21 34.3 +0.1**
DAVA Damuels 45.84 303 *i*P **P** **05 21 35.5 +0.5**
comp=Z,24nm,0.6s,SNR=8.0
SPB2 Spitsbergen Ar 46.27 346 P **P** **05 21 38.5 +0.8**
SPB2 IAmb IAmb 05 21 51.5
comp=Z,35nm,1.2s
SPA0 Spitsbergen Ar 46.28 346 *e*P **P** **05 21 38.7 +0.8**
SPITS Spitsbergen Ar 46.28 346 P **P** **05 21 39.1 +1.3**
comp=Z,11nm,0.8s,baz=120,slow=12,SNR=10
comp=Z,11nm,0.8s
MSSA Maissana 46.79 299 P **P** **05 21 42.9 +0.5**
SENIN Lac Senin/Sane 47.78 302 P **P** **05 21 50.6 +0.4**
BNI Bardonecchia 48.55 300 P **P** **05 21 56.5 +0.5**
BNI IAmb IAmb 05 21 57.7
comp=Z,10.0nm,0.9s
BNI Bardonecchia 48.55 300 P **P** **05 21 56.5 +0.5**
BNI pmax pmax
comp=Z,10.0nm,1.0s
KEST Kesra 49.70 288 P **P** **05 22 05.5 +0.7**
comp=Z,3.0nm,0.6s,baz=272,slow=2.5,SNR=6.9
comp=Z,3.0nm,0.6s
JMIC Jan Mayen 51.67 336 LR LR 05 46 42.2
comp=Z,55nm,19.3s,baz=152,slow=39
EKA Eskdalemuir Ar 52.03 315 P **P** **05 22 21.6 -0.2**
comp=Z,1.2nm,0.4s,baz=89,slow=7.9,SNR=12
comp=Z,1.2nm,0.4s
ESDC Sonseca Array 57.81 298 P **P** **05 23 03.9 0.0**
comp=Z,2.8nm,0.6s,baz=56,slow=7.3,SNR=22
comp=Z,2.8nm,0.6s
NEEM North Greenlan 59.78 348 *i*P **P** **05 23 17.1 -0.1**
NEEM IAmb IAmb 05 23 19.3
comp=Z,14nm,1.0s
SUMG Summit 60.00 341 P **P** **05 23 19.6 +0.7**
SUMG IAmb IAmb 05 23 20.7
comp=Z,11nm,0.7s
SUMG Summit 60.00 341 P **P** **05 23 19.6 +0.7**
SUMG pmax pmax
comp=Z,11nm,0.7s
SUMG Summit 60.00 341 *i*P **P** **05 23 19.0 +0.1**
SUMG *i*P **P** **05 23 19.0 +0.1**
SUMG IAmb IAmb 05 23 21.4
comp=Z,14nm,1.0s
ICESG Greenland Ices 62.24 338 *i*P **P** **05 23 33.5 -0.4**
ICESG IAmb IAmb 05 23 36.0
comp=Z,18nm,1.1s
DY2G Dye2 65.83 337 *i*P **P** **05 23 58.0 +0.6**
TOA0 Torodi Ar. Sit 66.95 269 P **P** **05 24 03.8 -1.2**
TORD Torodi Ar. Bea 66.95 269 P **P** **05 24 03.7 -1.4**
TORD Torodi Ar. Bea 66.95 269 P **P** **05 24 04.2 -0.9**
comp=Z,4.3nm,0.3s,baz=48,slow=6.2,SNR=207
comp=Z,4.3nm,0.3s
BATI Baumata 67.70 124 P **P** **05 24 10.1 +0.4**
comp=Z,29nm,0.3s,baz=90,slow=1.0,SNR=2.8
TOLK Toolik Lake Re 69.13 15 P **P** **05 24 18.5 +0.7**
TOLK IAmb IAmb 05 24 19.5
comp=Z,12nm,0.9s
IMAR Indian Mountai 70.34 18 P **P** **05 24 25.3 0.0**
H21K Melozitna Rive 70.83 18 P **P** **05 24 28.4 +0.1**
BMAR Burnt Mountain 71.16 14 P **P** **05 24 31.2 +0.9**
CAST Castle Rocks 72.84 19 P **P** **05 24 41.4 +1.0**
ILAR Eielson Array 72.97 17 P **P** **05 24 40.7 -0.3**
comp=Z,2.2nm,0.8s,baz=318,slow=4.8,SNR=21
comp=Z,2.2nm,0.8s
I28M Miner Creek 73.79 13 P **P** **05 24 45.7 -0.3**
SKT Skwentna 74.17 20 P **P** **05 24 47.8 -0.4**
SKT IAmb IAmb 05 24 49.0
comp=Z,11nm,1.0s
K29M Barlow Dome 75.69 13 P **P** **05 24 57.7 +0.7**
YKA Yellowknife Ar 79.65 3 P **P** **05 25 19.3 +0.5**
comp=Z,8.6nm,0.9s,baz=22,slow=8.9,SNR=17
comp=Z,8.6nm,0.9s
BOSA Boshof 79.70 221 LR LR 06 02 21.3
comp=Z,28nm,18.3s,baz=202,slow=37
WRA Warramunga Arr 81.80 123 P **P** **05 25 30.3 -0.6**
comp=Z,1.1nm,0.5s,baz=318,slow=4.2,SNR=54
comp=Z,1.1nm,0.5s
ASAR Alice Springs 84.17 126 P **P** **05 25 42.5 -0.5**
comp=Z,0.5nm,0.5s,baz=316,slow=4.7,SNR=9.1
ASAR LR LR 06 10 51.0
comp=Z,104nm,19.9s,baz=231,slow=41
comp=Z,0.5nm,0.5s
PDAR Pinedale Array 99.55 2 LR LR 06 16 28.4
comp=Z,29nm,18.1s,baz=30,slow=38
PLCA Paso Flores 151.46 253 PKPbc **PKPbc** **05 33 05.0 +0.2**
comp=Z,0.9nm,0.5s,baz=19,slow=9.4,SNR=6.9

PNSN ***02*** *05:30:19.7, 47°.89N×122°.89W, h54km, MD3.2, Fault plane solution: NP1:φ=275.00000°, δ=75.00000°, λ=-10.00000°.*
PGC ***02*** *05:30:19.9, 47°.89N×122°.88W, h52km, ML3.3, ML3.0/34, 52km Wnw of Seattle, Wa Washington*
SEA ***02*** *05:30:19.7±1.4, 47°.89N±0°.02×122°.89W±0°.03, h54km±3km, ML3.3/66, ML3.0(OTT), ML3.1/86(NEIC), Error ellipse: s-maj=3.1km s-min=2.9km az=219.0*
NEIC ***02*** *05:30:20.0±1.5, 47°.89N±0°.02×122°.97W±0°.03, h53km±3km, Error ellipse: s-maj=3.0km s-min=2.9km az=217.0*
ISC 02 05:30:19.5±1.1, 47°.91N±0°.02×122°.97W±0°.02, h57km±5km, n267, σ0=92/319, Washington

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BLN	**Blyn Mountain**	**0.10**	**358**			**Pn**	**05 30 27.6**	**-0.6**
BLN						**Sn**	**05 30 33.7**	**-0.7**
B013	**Quilcene**	**0.10**	**159**			**Pn**	**05 30 27.3**	**-0.8**
B013						**Sn**	**05 30 33.1**	**-1.1**
B013	**Quilcene**	**0.10**	**159**			**Pn**	**05 30 27.4**	**-0.8**
B013						**Sn**	**05 30 33.2**	**-1.1**
SQM	**Sequim**	**0.17**	**342**			**Pn**	**05 30 28.5**	**+0.1**
SQM						**Sn**	**05 30 35.8**	**+1.0**
C04A	**Brinnon**	**0.19**	**181**			**Pn**	**05 30 28.0**	**-0.5**
C04A						**Sn**	**05 30 34.3**	**-0.7**
HDW	**Hoodsport**	**0.27**	**193**			**Pn**	**05 30 28.7**	**-0.5**
KINR	**Kitsap County**	**0.27**	**126**			**Pn**	**05 30 28.6**	**-0.5**
KINR						**Sn**	**05 30 36.0**	**+0.1**
KITP	**Kitsap County**	**0.33**	**136**			**Sn**	**05 30 37.4**	**+0.7**
GNW	**Green Mountain**	**0.36**	**165**			**Pn**	**05 30 28.9**	**-0.9**
GNW						**Sn**	**05 30 36.0**	**-1.2**
GNW				IAML			05 30 37.0	
	comp=N,2μm,0.3s							
GMW	**Gold Mountain**	**0.38**	**161**			**Pn**	**05 30 29.3**	**-0.8**
SWID	**South Whidbey**	**0.38**	**75**			**Pn**	**05 30 29.6**	**-0.4**
B04A	**Port Angeles**	**0.39**	**292**			**Pn**	**05 30 30.2**	**+0.1**
B04A						**Sn**	**05 30 38.5**	**+0.7**
B04A	**Port Angeles**	**0.39**	**292**			**Pn**	**05 30 30.2**	**+0.1**
B04A	**Port Angeles**	**0.39**	**292**	IAML			05 30 38.7	
	comp=N,2μm,0.5s							
B04A				IAML			05 30 39.3	
	comp=E,1μm,0.2s							
BABE	**Bainbridge Sch**	**0.42**	**136**			**Pn**	**05 30 30.5**	**+0.1**
KIMR	**Kitsap County**	**0.43**	**162**			**Pn**	**05 30 29.9**	**-0.5**
KIMR						**Sn**	**05 30 37.8**	**-0.6**
SCCW	**Shoreline CC**	**0.44**	**111**			**Pn**	**05 30 30.4**	**-0.2**
SVOH	**Skagit Valley**	**0.44**	**30**			**Sn**	**05 30 38.5**	**0.0**
MNWA	**Manchester**	**0.45**	**140**			**Pn**	**05 30 30.1**	**-0.7**
LYNC	**Lynnwood City**	**0.46**	**100**			**Pn**	**05 30 30.4**	**-0.4**
LYNC						**Sn**	**05 30 39.0**	**+0.1**
LAWT	**Lawton Element**	**0.46**	**123**			**Pn**	**05 30 31.0**	**+0.2**
BEVT	**Boeing Everett**	**0.47**	**89**			**Pn**	**05 30 30.4**	**-0.4**
BRKS	**Brookside Elem**	**0.48**	**108**			**Pn**	**05 30 30.8**	**-0.2**
ALKI	**Alki Wastewate**	**0.50**	**132**			**Pn**	**05 30 31.4**	**+0.2**
OSD	**Olympics--Snow**	**0.50**	**260**			**Pn**	**05 30 31.9**	**+0.4**
OSD						**Sn**	**05 30 41.1**	**+0.9**
SEA	**Seattle**	**0.51**	**120**			**Pn**	**05 30 31.6**	**+0.2**
EVCC	**Everett Colleg**	**0.52**	**79**			**Pn**	**05 30 31.1**	**-0.3**
EVCC						**Sn**	**05 30 40.3**	**+0.3**
HOLY	**Holy Rosary Sc**	**0.52**	**131**			**Pn**	**05 30 31.8**	**+0.4**
NIHS	**Ingelmoor High**	**0.53**	**108**			**Pn**	**05 30 31.6**	**+0.1**
NIHS						**Sn**	**05 30 41.3**	**+1.1**
NOWS	**NOAA--Sand Poi**	**0.53**	**115**			**Pn**	**05 30 31.7**	**+0.2**
NOWS						**Sn**	**05 30 41.8**	**+1.6**
FINN	**Finn Hill Juni**	**0.53**	**111**			**Pn**	**05 30 31.7**	**+0.2**
FINN						**Sn**	**05 30 41.4**	**+1.2**
KDKW	**Coast Env Seat**	**0.53**	**126**			**Pn**	**05 30 31.2**	**-0.3**
KDKW						**Sn**	**05 30 41.4**	**+1.2**
STW	**Striped Peak**	**0.53**	**297**			**Pn**	**05 30 32.1**	**+0.5**
STW						**Sn**	**05 30 41.6**	**+1.3**
EVGW	**Everett Gatewa**	**0.55**	**96**			**Pn**	**05 30 31.4**	**-0.4**
VGZ	**Gonzales**	**0.56**	**335**			**Pn**	**05 30 31.7**	**-0.1**
VGZ	**Gonzales**	**0.56**	**335**	P		**Pn**	**05 30 31.7**	**-0.1**
VGZ				S		**Sn**	**05 30 40.7**	**-0.1**
KIMB	**Kimball Elemen**	**0.56**	**127**			**Pn**	**05 30 32.2**	**+0.4**
GTWN	**Georgetown Pla**	**0.56**	**129**			**Pn**	**05 30 32.3**	**+0.4**
VVHS	**Vashon High Sc**	**0.60**	**144**			**Pn**	**05 30 31.9**	**-0.4**
SP2	**Seward Park 2**	**0.60**	**126**			**Pn**	**05 30 32.4**	**+0.1**
SP2						**Sn**	**05 30 43.1**	**+1.5**
UWFH	**University of**	**0.64**	**357**			**Pn**	**05 30 32.8**	**+0.1**
SMW	**South Mountain**	**0.64**	**203**			**Pn**	**05 30 33.4**	**+0.4**
EARN	**East Ridge Ele**	**0.65**	**105**			**Pn**	**05 30 32.7**	**-0.2**
EARN						**Sn**	**05 30 43.0**	**+0.4**
ALCT	**Alcott Element**	**0.68**	**112**			**Pn**	**05 30 33.3**	**0.0**
HICC	**Highline Commu**	**0.69**	**139**			**Pn**	**05 30 33.2**	**-0.2**
MPL	**Maple valley S**	**0.69**	**130**			**Pn**	**05 30 33.1**	**-0.2**
OLQ	**Olympics--Lake**	**0.69**	**236**			**Pn**	**05 30 33.9**	**+0.5**
OLQ						**Sn**	**05 30 44.1**	**+0.5**
MBPA	**Monroe Substat**	**0.72**	**91**			**Pn**	**05 30 33.3**	**-0.5**
JCW	**Jim Creek**	**0.75**	**67**			**Pn**	**05 30 33.6**	**-0.6**
OBC	**Olympics--Boni**	**0.76**	**280**			**Pn**	**05 30 35.0**	**+0.6**
CMW	**Cultus Mountai**	**0.77**	**47**			**Pn**	**05 30 34.4**	**-0.1**
TBPA	**Tacoma Substat**	**0.77**	**148**			**Pn**	**05 30 34.4**	**0.0**
MCW	**Mount Constitu**	**0.78**	**7**			**Pn**	**05 30 34.9**	**+0.3**
NLWA	**Neilton Lookou**	**0.80**	**230**			**Pn**	**05 30 35.1**	**+0.2**
NLWA				IAML			05 30 47.8	
	comp=E,606nm,0.3s							
NLWA				IAML			05 30 49.6	
	comp=E,368nm,0.4s							
P403	**Sandy Floe Qua**	**0.80**	**281**			**Pn**	**05 30 35.4**	**+0.6**
B009	**North Saanich**	**0.81**	**336**	P		**Pn**	**05 30 35.1**	**+0.2**
B009				S		**Sn**	**05 30 46.2**	**+0.1**
B011	**North Saanich**	**0.81**	**337**			**Pn**	**05 30 35.1**	**+0.2**
B011	**North Saanich**	**0.81**	**337**	P		**Pn**	**05 30 35.1**	**+0.2**
B011				S		**Sn**	**05 30 46.4**	**+0.2**
PGC	**Sidney**	**0.81**	**337**	Pn		**Pn**	**05 30 35.2**	**+0.3**
PGC				IAML			05 30 47.0	
	comp=N,865nm,0.2s							
PGC				IAML			05 30 48.2	
	comp=E,679nm,0.3s							
PGC	**Sidney**	**0.81**	**337**	P		**Pn**	**05 30 35.2**	**+0.3**
PGC				S		**Sn**	**05 30 46.3**	**+0.1**
B010	**North Saanich**	**0.81**	**337**	P		**Pn**	**05 30 35.1**	**+0.2**
B010				S		**Sn**	**05 30 46.3**	**+0.1**
PA01	**PA01 North**	**0.81**	**337**	P		**Pn**	**05 30 35.2**	**+0.3**
PA01				S		**Sn**	**05 30 46.5**	**+0.3**
HTW	**Haystack Looko**	**0.81**	**97**			**Pn**	**05 30 34.5**	**-0.6**
EGRN	**Evergreen Coll**	**0.84**	**181**			**Pn**	**05 30 35.3**	**0.0**
EGRN						**Sn**	**05 30 47.2**	**+0.3**
PAYL	**Puyallup Schoo**	**0.84**	**148**			**Pn**	**05 30 35.1**	**-0.2**
SYMB	**Survey Mountai**	**0.86**	**320**			**Pn**	**05 30 35.5**	**-0.1**
SYMB						**Sn**	**05 30 47.6**	**+0.1**
SYMB	**Survey Mountai**	**0.86**	**320**	P		**Pn**	**05 30 35.6**	**-0.1**
SYMB				S		**Sn**	**05 30 47.3**	**-0.1**
SMNR	**Sumner High Sc**	**0.86**	**145**			**Pn**	**05 30 35.4**	**-0.3**
SNB	**Saturna Island**	**0.88**	**351**			**Pn**	**05 30 36.4**	**+0.6**
SNB	**Saturna Island**	**0.88**	**351**	P		**Pn**	**05 30 36.4**	**+0.6**
SNB				S		**Sn**	**05 30 48.4**	**+0.5**
C05A	**Tolt Reservoir**	**0.89**	**104**			**Pn**	**05 30 35.3**	**-0.6**
C05A						**Sn**	**05 30 46.8**	**-1.2**
TTW	**Tolt Reservoir**	**0.89**	**104**			**Pn**	**05 30 35.4**	**-0.6**
PCEP	**Pierce County**	**0.92**	**150**			**Pn**	**05 30 36.1**	**-0.2**
RATT	**Rattlesnake La**	**0.92**	**121**			**Pn**	**05 30 35.8**	**-0.6**
OTR	**Olympics--Tyee**	**0.94**	**281**			**Pn**	**05 30 37.4**	**+0.7**
CPW	**Capitol Peak**	**0.94**	**187**			**Pn**	**05 30 36.8**	**+0.1**
CDMR	**Cedar Moraine**	**0.95**	**120**			**Pn**	**05 30 36.4**	**-0.4**
WISH	**Wishkah**	**0.96**	**215**			**Pn**	**05 30 37.4**	**+0.5**
D05A	**Enumclaw**	**0.98**	**137**			**Pn**	**05 30 37.1**	**0.0**
D05A				IAML			05 30 51.2	
	comp=E,455nm,0.4s							
D05A				IAML			05 30 51.4	
	comp=N,549nm,0.5s							
PCFR	**Pierce County**	**0.99**	**159**			**Pn**	**05 30 36.9**	**-0.3**
GHW	**Garrison Hill**	**0.99**	**151**			**Pn**	**05 30 36.8**	**-0.5**
GHW						**Sn**	**05 30 49.7**	**-0.7**
B941	**Kapowsin**	**1.05**	**151**			**Pn**	**05 30 37.4**	**-0.7**
GSM	**Grass Mountain**	**1.06**	**131**			**Pn**	**05 30 37.9**	**-0.5**
C03A	**Quillayute Air**	**1.08**	**273**	Pn		**Pn**	**05 30 39.3**	**+0.9**
C03A				IAML			05 30 54.8	
	comp=E,333nm,0.4s							
C03A				IAML			05 30 58.7	
	comp=N,246nm,0.5s							
GOBB	**Galiano Island**	**1.10**	**341**			**Pn**	**05 30 39.2**	**+0.5**
GOBB	**Galiano Island**	**1.10**	**341**	P		**Pn**	**05 30 39.3**	**+0.5**
RPW	**Rockport**	**1.11**	**60**			**Pn**	**05 30 39.0**	**+0.1**
RRHS	**Rochester High**	**1.11**	**183**			**Pn**	**05 30 39.2**	**+0.3**
MBW	**Mount Baker**	**1.13**	**39**			**Pn**	**05 30 39.6**	**+0.3**
PTRF	**Port Renfrew**	**1.16**	**304**			**Pn**	**05 30 39.4**	**-0.1**
PTRF	**Port Renfrew**	**1.16**	**304**	P		**Pn**	**05 30 39.4**	**-0.1**
PTRF				S		**Sn**	**05 30 54.0**	**-0.3**
B06A	**Marblemount**	**1.16**	**58**			**Pn**	**05 30 39.6**	**0.0**
OCP	**Olym-Cheeka Pk**	**1.18**	**290**			**Pn**	**05 30 40.4**	**+0.5**
RVC	**Mount Rainier-**	**1.18**	**145**			**Pn**	**05 30 39.6**	**-0.3**
PFB	**Port Renfrew**	**1.19**	**304**	P		**Pn**	**05 30 40.1**	**+0.1**
PFB				S		**Sn**	**05 30 55.0**	**-0.1**
B926	**Mesachie Lake**	**1.20**	**320**			**Pn**	**05 30 40.1**	**+0.1**
B926	**Mesachie Lake**	**1.20**	**320**	P		**Pn**	**05 30 40.1**	**+0.1**
B926				S		**Sn**	**05 30 55.0**	**-0.3**
CLRS	**Cowichan Lake**	**1.20**	**320**	Pn		**Pn**	**05 30 40.0**	**0.0**
CLRS				IAML			05 30 55.7	
	comp=N,345nm,0.2s							
CLRS	**Cowichan Lake**	**1.20**	**320**	P		**Pn**	**05 30 40.1**	**0.0**
CLRS				S		**Sn**	**05 30 55.2**	**-0.1**
GPW	**Glacier Peak**	**1.25**	**80**			**Pn**	**05 30 40.9**	**-0.1**
SHUK	**Shuksan-Mt. Ba**	**1.28**	**42**			**Pn**	**05 30 41.9**	**+0.6**
OBSR	**Observation Ro**	**1.28**	**142**			**Pn**	**05 30 41.1**	**-0.3**
FMW	**Mount Fremont**	**1.31**	**138**			**Pn**	**05 30 41.5**	**-0.3**
REMR	**Mount Rainier-**	**1.33**	**145**			**Pn**	**05 30 41.7**	**-0.4**
RCS	**Mount Rainier-**	**1.34**	**141**			**Pn**	**05 30 42.0**	**-0.2**
B019	**Raymond**	**1.34**	**201**			**Pn**	**05 30 42.4**	**+0.5**
RCM	**Mount Rainier-**	**1.36**	**142**			**Pn**	**05 30 42.4**	**-0.2**
PANH	**Panhandle Gap,**	**1.38**	**139**			**Pn**	**05 30 41.4**	**-1.4**
LON	**Longmire**	**1.40**	**145**			**Pn**	**05 30 42.6**	**-0.2**
LON				IAML			05 31 01.2	
	comp=E,186nm,0.3s

SHB	Sechelt	1.79 341		Pn	05 30 48.9	+0.7
SHB	Sechelt	1.79 341	P	Pn	05 30 48.8	+0.7
SHB			S	Sn	05 31 10.4	+0.5
B927	Port Alberni	1.79 318		Pn	05 30 48.6	+0.5
B927	Port Alberni	1.79 318	P	Pn	05 30 48.6	+0.5
B927			S	Sn	05 31 10.1	+0.4
B203	Quarry, Mount	1.79 166		Pn	05 30 48.6	+0.5
HOPB	Hope	1.80 34	P	Pn	05 30 48.7	+0.5
B023	Clatskanie	1.80 183		Pn	05 30 48.3	+0.1
ESD	East Dome	1.80 162		Pn	05 30 49.3	+0.9
ETW	Entiat	1.80 99		Pn	05 30 48.5	+0.1
SWF2	Southwest Flan	1.81 163		Pn	05 30 49.2	+0.7
HSR	South Ridge	1.82 163		Pn	05 30 49.5	+0.8
F04D	Rainier, OR	1.83 181		Pn	05 30 49.4	+0.8
JLK	June Lake	1.85 162		Pn	05 30 49.7	+0.8
NAC	Naches	1.87 128		Pn	05 30 49.7	+0.5
LVP	Lakeview Peak	1.88 168		Pn	05 30 49.8	+0.4
CDFW	Cedar Flats	1.90 160		Pn	05 30 50.5	+0.9
EBG	Ellensburg	1.91 121		Pn	05 30 50.4	+0.6
MTMW	Mount Mitchell	1.96 164		Pn	05 30 51.2	+0.8
CBSW	Chelan Butte S	1.97 92		Pn	05 30 50.5	-0.2
OZB	Mount Ozzard	1.98 303		Pn	05 30 50.7	-0.1
OZB	Mount Ozzard	1.98 303	P	Pn	05 30 50.6	-0.1
OZB			S	Sn	05 31 13.4	-1.1
B012	Ucluelet	1.99 302	P	Pn	05 30 50.9	+0.1
B012			S	Sn	05 31 13.1	-1.4
ASR	Mount Adams--S	2.00 151		Pn	05 30 51.7	+0.8
F04A	Amboy	2.01 169	Pn	Pn	05 30 51.7	+0.6
F04A			IAML		05 31 22.4	
	comp=N,146nm,0.6s					
F04A			IAML		05 31 25.1	
	comp=E,174nm,0.5s					
F03A	Seaside	2.02 192		Pn	05 30 51.2	0.0
TXB	Texada	2.04 332		Pn	05 30 52.3	+0.9
TXB	Texada	2.04 332	P	Pn	05 30 52.3	+0.9
TXB			S	Sn	05 31 13.9	-1.8
WTV	Waterville	2.04 95		Pn	05 30 51.3	-0.3
B022	Seaside	2.06 199		Pn	05 30 51.6	-0.1
YA2	Yakima	2.16 129		Pn	05 30 50.0	-3.1
NCBC	Barkley Canyon	2.21 285	S	Sn	05 31 19.1	-0.7
MXC	Moxie City	2.26 125		Pn	05 30 50.0	-4.4
TOFB	Tofino	2.32 304		Pn	05 30 55.6	+0.4
TOFB	Tofino	2.32 304	P	Pn	05 30 54.9	-0.3
TOFB			S	Sn	05 31 21.0	-1.5
WPO	West Portland	2.34 177		Pn	05 30 57.2	+1.6
SAW	Saint Andrews	2.41 94		Pn	05 30 55.9	-0.7
PGO	Gresham	2.47 172		Pn	05 30 59.0	+1.7
E07A	Sunnyside	2.51 121	Pn	Pn	05 30 57.7	-0.3
E07A			IAML		05 31 42.3	
	comp=N,118nm,0.5s					
E07A			IAML		05 31 45.5	
	comp=E,104nm,0.7s					
WAH2	Wahluke Slope	2.58 115		Pn	05 30 58.7	-0.2
HIYU	Hiyu Mountain	2.60 162		Pn	05 31 00.3	+1.1
VLL	Laurance Lake	2.60 160		Pn	05 31 00.4	+1.1
BENWA	Benson Ranch	2.62 121		Pn	05 30 59.2	-0.1
PNT	Penticton	2.63 56	P	Pn	05 30 59.9	+0.4
CBB	Campbell River	2.65 324	Pn	Pn	05 31 00.5	+0.7
CBB	Campbell River	2.65 324	P	Pn	05 31 00.5	+0.7
SPLB	Strathcona Par	2.66 319	P	Pn	05 31 01.2	+1.3
SNIWA	Snively Ranch	2.68 121		Pn	05 31 00.1	-0.1
LOCW	Locke Island	2.69 115		Pn	05 30 59.9	-0.3
NC89	ODP889	2.70 288	S	Sn	05 31 31.7	+0.1
G03D	McMinnville, O	2.71 184		Pn	05 31 01.0	+0.5
G03D			IAML		05 31 45.6	
	comp=E,80nm,2.5s					
G03D			IAML		05 31 45.8	
	comp=N,66nm,1.1s					
GBL	Gable Mountain	2.73 117		Pn	05 31 00.6	-0.2
G04A	Mulino	2.73 173		Pn	05 31 01.8	+1.0
HOOD	Mount Hood Mea	2.74 160		Pn	05 31 02.4	+1.2
TDH	Tom, Dick, Har	2.74 162		Pn	05 31 02.1	+0.9
HEBO	Mount Hebo	2.75 192	Pn	Pn	05 31 01.1	-0.1
HEBO			IAML		05 31 37.6	
	comp=N,115nm,2.3s					
RSW	Rattlesnake Hi	2.76 122		Pn	05 31 01.2	-0.1
GDR	Gold River	2.76 314		Pn	05 31 02.5	+1.3
GDR	Gold River	2.76 314	P	Pn	05 31 02.4	+1.2
ETB	Estevan Point	2.79 303	P	Pn	05 31 02.4	+0.8
HAWA	Hanford	2.79 122		Pn	05 31 01.3	-0.4
HAWA			IAML		05 31 50.0	
	comp=N,51nm,1.0s					
LLLB	Lillooet	2.79 14	Pn	Pn	05 31 02.5	+0.7
LLLB			IAML		05 31 52.1	
	comp=N,51nm,0.5s					
LLLB	Lillooet	2.79 14	P	Pn	05 31 02.5	+0.7
MJ2	May Junction 2	2.81 118		Pn	05 31 01.5	-0.4
D08A	Wollman Farm,	2.87 106	Pn	Pn	05 31 02.1	-0.7
D08A			IAML		05 31 34.1	
	comp=N,47nm,0.3s					
D08A			IAML		05 31 34.1	
	comp=E,52nm,0.3s					
F07A	Phinny Hill Vi	2.90 133		Pn	05 31 03.5	+0.3
F07A			IAML		05 31 59.0	
	comp=E,64nm,0.5s					
F07A			IAML		05 32 00.3	
	comp=N,57nm,0.6s					
G05A	Wamic	2.90 156	Pn	Pn	05 31 04.1	+0.8
G05A			IAML		05 31 42.6	
	comp=E,43nm,4.4s					
G05A			IAML		05 31 58.8	
	comp=N,46nm,3.7s					
OD2	Odessa Site #2	2.92 99		Pn	05 31 02.5	-1.1
E08A	Dider Farm, El	3.02 117	Pn	Pn	05 31 04.0	-0.8
G06A	Carlson Farm,	3.12 148	Pn	Pn	05 31 06.8	+0.5
C09A	Chrisman Ranch	3.16 90		Pn	05 31 06.0	-0.8
NCRB	Newcastle Ridg	3.22 322		Pn	05 31 09.2	+1.5
NCRB	Newcastle Ridg	3.22 322	P	Pn	05 31 08.8	+1.2
NC27	ODP1027	3.23 269	S	Sn	05 31 41.3	-3.1
WOSB	Woss	3.27 315		Pn	05 31 10.0	+1.7
WOSB	Woss	3.27 315	P	Pn	05 31 09.5	+1.2
WOSB			S	Sn	05 31 45.4	-0.6
H04A	Detroit Lake	3.27 170	Pn	Pn	05 31 09.0	+0.7
H04A			IAML		05 31 49.5	
	comp=E,44nm,0.3s					
H04A			IAML		05 31 53.9	
	comp=N,65nm,0.4s					
COR	Corvallis	3.33 184	Pn	Pn	05 31 10.3	+1.2
COR			IAML		05 31 58.8	
	comp=N,44nm,2.0s					
COR			IAML		05 32 22.0	
	comp=N,36nm,1.9s					
EDB	Eliza Dome	3.37 307	P	Pn	05 31 10.5	+0.8
H04D	Lebanon	3.39 177		Pn	05 31 10.8	+0.9
E09A	Wood Farm, Sta	3.57 111	Pn	Pn	05 31 11.2	-1.1
E09A			IAML		05 32 16.6	
	comp=N,26nm,0.9s					
BROR	Big Rock Looko	3.66 174		Pn	05 31 15.9	+2.3
BUCK	Buck Mountain	3.71 180	Pn	Pn	05 31 15.8	+1.4
BUCK			IAML		05 31 57.5	
	comp=N,39nm,3.6s					
BUCK			IAML		05 32 27.4	
	comp=E,51nm,3.3s					
I05D	Terrebonne, OR	3.75 162		Pn	05 31 15.8	+0.9
I05D			IAML		05 32 19.1	
	comp=N,26nm,3.6s					
I05D			IAML		05 33 08.2	
	comp=E,42nm,4.3s					
G08A	Pilot Rock	3.81 132	Pn	Pn	05 31 15.1	-0.7
PACB	Port Alice, BC	3.90 312	P	Pn	05 31 18.4	+1.6
PACB			S	Sn	05 32 00.0	-1.3
NEW	Newport	3.93 83	Pn	Pn	05 31 16.6	-0.7
MOON	Moon Mountain	3.96 166		Pn	05 31 19.1	+1.4
PHC	Port Hardy	4.05 315	P	Pn	05 31 20.4	+1.6
PHC			S	Sn	05 32 04.2	-0.6
HBO	Huckleberry Mo	4.09 173		Pn	05 31 22.2	+2.5
NCHR	NEPTUNE Canada	4.11 273	S	Sn	05 32 02.6	-3.5
KEMF	NEPTUNE Canada	4.12 273	S	Sn	05 32 02.7	-3.7
I04A	Tendick Farm,	4.13 174		Pn	05 31 21.2	+1.1
I03D	Drain, OR	4.22 184	Pn	Pn	05 31 21.9	+0.7
I03D			IAML		05 32 11.6	
	comp=E,18nm,2.1s					
I03D			IAML		05 32 36.3	
	comp=N,19nm,3.5s					
ASBU	Astronaut Butt	4.24 164		Pn	05 31 22.2	+0.5
KWBU	Kawak Butte, N	4.32 164		Pn	05 31 24.2	+1.4
HOLB	Holberg	4.35 311	Pn	Pn	05 31 24.8	+1.8
HOLB	Holberg	4.35 311	P	Pn	05 31 24.4	+1.3
HOLB			S	Sn	05 32 10.3	-2.1
PINE	Pine Mountain	4.36 160	Pn	Pn	05 31 24.7	+1.4
PINE			IAML		05 32 08.7	
	comp=N,15nm,4.8s					
PINE			IAML		05 32 43.1	
	comp=E,21nm,4.6s					
F10A	Beach Ranch, E	4.38 114	Pn	Pn	05 31 22.9	-0.6
F10A			IAML		05 32 45.7	
	comp=N,26nm,0.8s					
F10A			IAML		05 32 47.8	
	comp=E,30nm,0.8s					
SVIC	Surveyors Ice	4.43 164		Pn	05 31 25.7	+1.4
TMBU	Tom Butte, New	4.49 163		Pn	05 31 25.6	+0.4
I07A	Izee	4.53 147	Pn	Pn	05 31 24.8	-0.8
J05D	Fort Rock, OR	4.78 165		Pn	05 31 30.2	+1.1
DBO	Dodson Butte	4.79 182		Pn	05 31 29.8	+0.6
DBO			IAML		05 32 20.6	
	comp=N,21nm,3.3s					
DBO			IAML		05 33 22.9	
	comp=E,20nm,3.7s					
BMO	Blue Mountains	4.97 126	Pn	Pn	05 31 31.0	-0.6
UBRB	Upper Baezaeko	5.04 352	P	Pn	05 31 33.6	+1.1
UBRB			S	Sn	05 32 27.9	-1.5
KEBM	Edson Butte	5.13 191	Pn	Pn	05 31 33.8	0.0
K02D	Willamette Mer	5.24 186	Pn	Pn	05 31 35.8	+0.5
BBB	Bella Bella	5.41 324	Pn	Pn	05 31 39.5	+2.0
BBB	Bella Bella	5.41 324	P	Pn	05 31 38.8	+1.2
BBB			S	Sn	05 32 35.7	-2.7
J08A	Circle Bar Ran	5.54 144	Pn	Pn	05 31 40.2	+0.8
PLID	Pearl Lake	5.58 118		Pn	05 31 39.5	-0.6
L04D	Klamath Falls	5.71 175	Pn	Pn	05 31 42.9	+1.0
L02F	Cave Junction	5.80 184	Pn	Pn	05 31 43.2	+0.2
KSXB	Camp Six Broad	6.11 186	Pn	Pn	05 31 48.4	+1.1
YBH	Yreka Blue Hor	6.18 178	Pn	Pn	05 31 50.2	+1.9
MSO	Missoula	6.22 97	Pn	Pn	05 31 48.1	-0.7
BUTB	Butedale	6.24 328	P	Pn	05 31 50.2	+1.3
BUTB			S	Sn	05 32 58.0	-0.8
KRMB	Red Mountain	6.42 186	Pn	Pn	05 31 52.1	+0.5
BPMT	Black Pine Rid	6.66 99	Pn	Pn	05 31 54.1	-0.8
CHMT	Chamberlain Mo	6.67 95	Pn	Pn	05 31 54.9	-0.1
KRPM	Rodgers	6.79 187	Pn	Pn	05 31 57.3	+0.7
OVMT	Ovando	6.81 93	Pn	Pn	05 31 55.0	-1.9
HG4B	Hotspring	6.87 313	Pn	Pn	05 31 59.4	+1.9
HG4B	Hotspring	6.87 313	P	Pn	05 31 58.8	+1.2
SNKB	Banks Island	6.99 323	P	Pn	05 32 00.3	+1.3
BAIB	Barry Inlet	7.32 313	P	Pn	05 32 05.4	+1.7
GRNB	Grenville Isla	7.41 326	P	Pn	05 32 07.4	+2.6
DIB	Dawson Inlet,	8.04 315	P	Pn	05 32 14.2	+0.7

*IDC **02** 05:35:05.7±1.4, 37°.56N×56°.04E, h0km, mb3.5/7, mbtmp3.8/12, ML3.8/5, MS3.3/8, Error ellipse: s-maj=23.1km s-min=10.4km az=174.0*
*TEH **02** 05:35:05.8, 37°.76N×56°.14E, h9km±16km, ML4.0*
*NNC **02** 05:35:11.2±3.6, 38°.18N×56°.31E, h0km, mb4.0, Error ellipse: s-maj=37.8km s-min=10.0km az=36.0*

ISC 02 05:35:07.0±1.3, **37°.83N**±0°.06×**56°.10E**±0°.04, **h8**km±11km, **n78**, σ2**s00**/81, **mb3.6**/7, **MS3.7**/3, **8C-2D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	Maraveh tapeh	0.17	182	Pg	Pg	05 35 09.3	-1.2
MRVT				Sg	Sg	05 35 10.9	-2.0
IMND	Minoodasht	0.79	224	Pg	Pg	05 35 20.7	-1.4
GEYT	Alibeck	1.60	86	Pg	Pn	05 35 36.2	+0.6
	167nm,0.3s,baz=251,slow=19,SNR=360						
GEYT				Lg	Lg	05 35 58.2	
	89nm,0.3s,baz=260,slow=13,SNR=5.5						
GEYT				LR	LR	05 36 29.5	
	comp=Z,386nm,18.3s,baz=334,slow=50						
GYA0B	ALIBECK ARRAY	1.60	86	⇑P	Pn	05 35 36.2	+0.5
GYA0B				⇑S	Sb	05 35 58.2	+0.9
ISFR	Sfrayin	1.70	116	Pg	Pn	05 35 35.9	-1.4
SBZV	Sabzevar	1.88	139	Pn	Pn	05 35 38.7	-1.0
IEMG	Emamgholi	2.07	101	Pn	Pn	05 35 42.4	+0.1
IGLO	Ghaloghah	2.24	235	Pn	Pn	05 35 45.1	+0.4
IAKL	Akhelmad	2.45	119	Pn	Pn	05 35 47.9	+0.4
IPAY	Payeh	2.69	120	Pn	Pn	05 35 51.4	+0.5
IKRD	Kardeh	2.92	110	Pn	Pn	05 35 54.9	+0.9
IANJ	Anjilo	2.94	217	Pn	Pn	05 35 55.4	+1.2
ISHM	Shahmirzad	3.02	229	Pn	Pn	05 35 56.7	+1.3
IMOG	Moghan	3.11	122	Pn	Pn	05 35 56.6	-0.1
IPRN	Peran	3.40	243	Pn	Pn	05 36 01.4	+0.9
IFIR	Firoozkooh	3.46	232	Pn	Pn	05 36 02.6	+1.2
ILAS	Lasjerd	3.51	227	Pn	Pn	05 36 02.3	+0.2
IMYA	Miami	3.53	114	Pn	Pn	05 36 02.3	0.0
MZPU	Pul - Mazandar	3.87	250	Pn	Pn	05 36 08.6	+1.5
TNSJ	Nastanj	3.88	174	Pn	Pn	05 36 06.4	-0.6
JRKH	Jarkhoshk	3.91	118	Pn	Pn	05 36 08.3	+0.8
KLST	Kelardasht - M	4.23	254	Pn	Pn	05 36 12.8	+0.8
TBJM	Torbat-e-JAM	4.26	126	Pn	Pn	05 36 12.4	+0.1
TKDS	Koohdasht(Taba	4.29	168	Pn	Pn	05 36 12.3	-0.4
IVRN	Varamin	4.52	233	Pn	Pn	05 36 16.0	+0.2
ISFB	Sefidab	4.67	223	Pn	Pn	05 36 18.2	+0.4
TPRV	Parvadeh(Tabas	4.81	174	Pn	Pn	05 36 19.6	-0.3
IGZV	Ghazvin	4.91	255	Pn	Pn	05 36 22.7	+1.3
AFRZ	Afriz	5.00	151	Pn	Pn	05 36 22.1	-0.3
ANAR	Anarak	5.01	203	Pn	Pn	05 36 22.5	-0.2
KRSH	Karshahi	5.02	221	Pn	Pn	05 36 23.1	+0.4
JIR1	Jirandeh	5.14	259	Pn	Pn	05 36 25.8	+1.3
ITEG	Tejag	5.38	155	Pn	Pn	05 36 27.8	+0.1
SHRT	Shahrakht	5.39	139	Pn	Pn	05 36 27.3	-0.5
IMON	Monand	5.46	147	Pn	Pn	05 36 28.9	-0.1
QSDN	Sirdan	5.68	259	Pn	Pn	05 36 33.2	+1.2
IZEF	Zefreh	5.80	213	Pn	Pn	05 36 34.5	+0.8
IKLH	Kolahrood	5.81	221	Pn	Pn	05 36 33.9	+0.1
IKOO	Kooshah	5.89	155	Pn	Pn	05 36 34.1	-0.8
IDAH	Dahanechah	5.94	148	Pn	Pn	05 36 35.2	-0.3
ISAD	Sadrabad	6.22	199	Pn	Pn	05 36 39.7	+0.2
IBAF	Bafgh	6.24	184	Pn	Pn	05 36 39.4	-0.1
BSRN	Basiran	6.36	156	Pn	Pn	05 36 40.6	-0.5
GRMI	Germi	6.52	281	Pn	Pn	05 36 44.1	+0.7
ISRB	Sarab	6.67	273	Pn	Pn	05 36 47.4	+1.9
IRAM	Ramesheh	6.74	208	Pn	Pn	05 36 47.5	+1.1
IHRS	Heris	7.16	277	Pn	Pn	05 36 53.9	+1.6
KLNJ	Kolanjah	7.75	210	Pn	Pn	05 37 01.6	+1.1
CHMN	Cheshme madani	8.04	171	Pn	Pn	05 37 03.8	-0.6
NGRK	Negar Kerman	8.18	176	Pn	Pn	05 37 06.2	-0.1
IMRD	Marand	8.22	279	Pn	Pn	05 37 09.1	+2.3
ISHB	Shabestar	8.28	276	Pn	Pn	05 37 09.2	+1.6
GNI	Garni	9.14	288	Pn	Pn	05 37 19.5	+0.2
	1.4nm,0.3s,baz=13,slow=18,SNR=2.4						
GNI				Sn	Sn	05 39 00.4	-2.1
	0.8nm,0.3s,baz=322,slow=19,SNR=1.5 4.0nm,0.5s						
KBZ	Khabaz	11.61	305	Pn	Pn	05 37 53.5	+0.7
	0.5nm,0.3s,baz=175,slow=2.7,SNR=6.0						
KBZ				Sn	Sn	05 40 00.2	-2.5
	0.7nm,0.3s,baz=349,slow=13,SNR=4.4 1.7nm,0.3s						
AB31	Akbulak array	11.76	12	⇑Pn	Pn	05 37 56.3	+1.4
	1.1nm,0.3s,baz=203,slow=14,SNR=57						
AB31				⇓Sn	Sn	05 40 01.9	-4.4
	1.9nm,0.5s,baz=200,slow=23,SNR=8.3						
KK31	Karatay Array	12.17	60	⇑Pn	Pn	05 38 02.6	+1.9
	0.7nm,0.4s,baz=243,slow=16,SNR=4.9						
KK31				⇑Sn	Sn	05 40 12.9	-3.7
	1.4nm,0.6s,baz=243,slow=16,SNR=4.9						
AKTO	Aktyubinsk	12.68	6	⇓Pn	Pn	05 38 08.8	+1.3
	5.8nm,0.6s						
AKTO				⇑Sn	Sn	05 40 24.8	-4.0
	7.7nm,1.1s						
AKTO	Aktyubinsk	12.68	6	Pn	Pn	05 38 08.6	+1.0
	3.4nm,0.3s,baz=179,slow=10,SNR=37						
AKTO				Sn	Sn	05 40 26.0	-2.8
	0.7nm,0.3s,baz=310,slow=17,SNR=3.4						
AKTO				LR	LR	05 44 07.1	
	comp=Z,88nm,18.9s,baz=249,slow=42 8.7nm,0.4s						
WSAR	Wadi Sarin	14.70	171	LR	LR	05 44 42.3	
	comp=Z,43nm,19.4s,baz=33,slow=40						
AAK	Ala-Archa	14.85	65	Pn	Pn	05 38 39.8	+2.5
	0.1nm,0.3s,baz=241,slow=10,SNR=1.5						
BELG	Belogornoye	15.73	341	Sn	Sn	05 41 36.8	-6.2
	1.2nm,0.3s,baz=3.5,slow=19,SNR=1.7						
OTUK	Ortayu	15.76	44	⇑P	Pn	05 38 45.6	-3.6
	5.0nm,1.2s						
BRTR	Keskin Array B	17.61	283	LR	LR	05 47 54.1	
	comp=Z,60nm,18.2s,baz=73,slow=44						
BVA0	Borovoye Array	18.15	29	P	P	05 39 23.2	+3.5
	3.9nm,0.8s,baz=210,slow=9.9,SNR=9.8						
BVAR	Borovoye Array	18.15	29	P	P	05 39 21.9	+2.3
	0.1nm,0.3s,baz=214,slow=13,SNR=8.8						
BVAR				S	Sn	05 42 34.2	-7.8
	0.7nm,0.4s,baz=223,slow=37,SNR=2.0 1.8nm,0.5s						
ARU	Arti	18.68	4	P	Pn	05 39 28.1	+2.4
	1.7nm,0.3s,baz=155,slow=6.2,SNR=5.5						
ARU				LR	LR	05 47 45.2	
	comp=Z,73nm,19.2s,baz=204,slow=40 4.2nm,0.3s						
EIL	Elat	19.35	251	LR	LR	05 47 17.1	
	comp=Z,19nm,21.2s,baz=64,slow=38						
KURBB	Kurchatov Arra	20.45	44	P	P	05 39 46.8	+2.1
	0.8nm,0.7s,baz=247,slow=12,SNR=5.0 0.8nm,0.7s						
MK31	Makanchi Array	21.26	57	⇑P	P	05 39 57.1	+3.4
	2.2nm,0.6s,baz=243,slow=9.9,SNR=9.2						
MKAR	Makanchi Array	21.26	57	P	P	05 39 54.9	+1.2
	1.4nm,0.6s,baz=244,slow=10,SNR=9.5 1.4nm,0.6s						
AKASG	Malin Array Be	23.00	313	P	P	05 40 15.0	+2.9
	0.9nm,0.5s,baz=93,slow=8.3,SNR=6.8 0.9nm,0.5s						
MLR	Muntele Rosu	23.69	298	P	P	05 40 21.2	+1.9
	1.4nm,0.6s,baz=105,slow=20,SNR=1.3 1.4nm,0.6s						
ZALV	Zalesovo Beam	25.43	41	P	P	05 40 38.3	+3.3
	0.3nm,0.3s,baz=252,slow=8.9,SNR=3.0 0.3nm,0.3s						
ESDC	Sonseca Array	46.10	292	P	P	05 43 32.0	+0.3
	0.3nm,0.3s,baz=14,slow=5.7,SNR=4.8 0.3nm,0.3s						
BORG	Borgarnes	51.27	328	LR	LR	06 06 11.2	
	comp=Z,34nm,18.1s,baz=128,slow=36						
TORD	Torodi Ar. Bea	54.05	258	P	P	05 44 32.1	-0.1
	0.5nm,1.0s,baz=46,slow=4.6,SNR=2.2 0.5nm,1.0s						
JOW	Kunigami	60.61	78	LR	LR	06 15 44.5	
	comp=Z,56nm,19.4s,baz=234,slow=40						
TGY	Tagaytay City	61.67	94	LR	LR	06 15 34.0	
	comp=Z,153nm,21.8s,baz=198,slow=39						

*NEIC **02** 05:45:25.8±1.7, 21°.87S±0°.08×179°.43W±0°.10, h582km±6km, mb4.8/159, Error ellipse: s-maj=13.4km s-min=10.7km az=109.0*
*NOU **02** 05:45:25.9, 21°.95S×179°.29W, h597km, ML4.9/108, Fiji Islands Region*
*IDC **02** 05:45:26.4±0.6, 21°.81S×179°.47W, h596km±6km, mb4.3/25, mbtmp5.2/27, Error ellipse: s-maj=10.7km s-min=9.7km az=96.0*
*GCMT **02** 05:45:26.8±0.5, 22°.21S±0°.04×179°.44W±0°.04, h598km±3km, MW5.2/58, Moment Tensor Solution. s58,c69; Duration: 1s0 Moment tensor: Scale 10^16^Nm; Mrr0.77±.31; Mθθ-2.59±.53; Mφφ1.82±.47; Mrθ-3.24±.56; Mrφ-1.07±.41; Mθφ-8.13±.41; Best double couple: Mo9.06200×10^16^ NP1:φs205.00000°, δ89.00000°, λ75.00000°. NP2:φs111.00000°, δ15.00000°, λ176.00000°. Principal axes: T 9.6190, Plg44.0000°, Azm100.0000°; N -1.1150, Plg15.0000°, Azm205.0000°; P -8.5050, Plg42.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
*BGR **02** 05:45:27.7, 21°.50S×178°.07W, h606km±5km*

ISC 02 05:45:26.0±0.3, **21°.90S**±0°.04×**179°.43W**±0°.04, **h596**km±3km, **h597**km:**pP-P, n717**, σ1**s17**/802, **mb4.8**/144, **43C-26D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	3.69	9	P	P	05 46 49.9	+0.6
MSVF	Nonsavu	4.78	330	P	P	05 46 57.9	+0.7
MSVF	Nonsavu	4.78	330	P	P	05 46 57.9	+0.7
MSVF	Nonsavu	4.78	330	P	P	05 46 57.2	0.0
	813nm,0.5s,baz=181,slow=4.8,SNR=971						
MSVF				S	S	05 48 10.1	-1.2
	51nm,0.7s,baz=180,slow=20,SNR=0.4						
TAVE	Taveuni	5.19	355	P	P	05 47 01.0	+0.7
DGTI	Dogotuki	5.63	352	P	P	05 47 04.2	+0.3
YSA	Yasawairara	5.90	331	P	P	05 47 06.6	+0.4
RAO	Raoul Island	7.45	170	P	P	05 47 19.1	-0.8
RAO	Raoul Island	7.45	170	P	P	05 47 18.1	-1.7
	1μm,0.2s,baz=73,slow=8.7,SNR=20						
GLKZ	Green Lake	7.45	170	P	P	05 47 19.0	-0.9
NIUE	Niue	9.34	74	P	P	05 47 36.3	-1.9
	baz=9.3,SNR=7.5						
NIUE	Niue	9.34	74	P	P	05 47 37.1	-1.1
NIUE	Niue	9.34	74	P	P	05 47 37.8	-0.4
AFI	Afiamalu	10.77	44	P	P	05 47 48.9	-3.7
AFI	Afiamalu	10.77	44	P	P	05 47 49.6	-3.0
	20nm,0.3s,baz=225,slow=17,SNR=2.9						
AFI				S	S	05 49 44.5	-8.4
	103nm,0.6s,baz=30,slow=23,SNR=8.4						
MARNC	Mare, Loyalty	11.67	270	P	P	05 48 01.1	-0.4
PINNC	Pines Island,	12.18	264	P	P	05 48 07.3	+0.7
LIFNC	LIFOU	12.48	273	P	P	05 48 08.2	-1.4
DZM	Mont Dzumac	13.11	267	P	P	05 48 16.2	0.0
DZM	Mont Dzumac	13.11	267	P	P	05 48 16.3	+0.1
DZM	Mont Dzumac	13.11	267	P	P	05 48 15.6	-0.6
	54nm,0.6s,baz=135,slow=21,SNR=47						
DZM				S	S	05 50 34.0	-1.9
	6.6nm,0.8s,baz=345,slow=19,SNR=1.6						
NOUC	Port Laguerre	13.24	266	P	P	05 48 20.1	+2.7
FUNA	Funafuti	13.37	354	P	P	05 48 17.3	-1.4
OUZ	Omahuta	14.61	203	P	P	05 48 32.3	+1.7
WCZ	Waipu Caves	15.01	200	P	P	05 48 36.3	+2.1
KOUNC	Koumac, New Ca	15.25	272	P	P	05 48 38.8	+2.1
KOUNC	Koumac, New Ca	15.25

CTAO	Charters Tower	32.06 267	P	P	05 51 06.0 +0.3
CTAO			pP	pP	05 52 39.4 -2.2
CTAO			PcP	PcP	05 53 37.2 +0.5
CTAO			ScP	ScP	05 56 27.1 +2.7
XMAS	Kiritimati	32.06 45	P	P	05 51 06.4 +0.7
CMSA	Cobar Meteorol	32.49 245	P	P	05 51 09.8 +0.7
	baz=33,SNR=154				
CMSA	Cobar Meteorol	32.49 245	P	P	05 51 09.5 +0.4
QLP	Quilpie	33.39 255	P	P	05 51 17.2 +0.4
	baz=33,SNR=36				
QLP	Quilpie	33.39 255	P	P	05 51 17.5 +0.7
TOO	Toolangi	34.00 235	P	P	05 51 22.8 +1.0
	baz=34,SNR=4.8				
TOO	Toolangi	34.00 235	P	P	05 51 21.7 -0.1
TOO			IAmb	IAmb	05 51 23.6
	comp=Z,30nm,0.9s				
TOO	Toolangi	34.00 235	P	P	05 51 22.8 +1.0
MTSU	Mount Surprise	34.22 270	P	P	05 51 24.2 +0.4
	baz=34,SNR=42				
MTSU	Mount Surprise	34.22 270	P	P	05 51 24.3 +0.4
PMG	Port Moresby	34.40 286	P	P	05 51 25.6 +0.2
PMG			ScP	ScP	05 56 34.8 +2.0
BRAT	Ballarat	35.19 235	P	P	05 51 32.6 +1.1
PATS	Pohnpei	35.95 320	P	P	05 51 39.3 +1.2
STKA	Stephens Creek	35.99 246	P	P	05 51 39.2 +0.9
	baz=36,SNR=65				
STKA	Stephens Creek	35.99 246	P	P	05 51 39.0 +0.7
STKA			IAmb	IAmb	05 51 39.6
	comp=Z,8.2nm,0.6s				
STKA	Stephens Creek	35.99 246	P	P	05 51 39.3 +0.9
STKA	Stephens Creek	35.99 246	P	P	05 51 38.9 +0.6
	comp=Z,28nm,0.4s,baz=92,slow=10,SNR=74				
STKA			S	S	05 56 32.6 -3.2
	comp=Z,1.2nm,0.6s,baz=98,slow=14,SNR=1.9				
STKA			ScP	ScP	05 56 40.8 +2.4
	comp=Z,10nm,0.9s,baz=30,slow=1.4,SNR=8.4				
	comp=Z,28nm,0.4s				
COEN	Coen	36.38 276	P	P	05 51 42.2 +0.6
COEN	Coen	36.38 276	P	P	05 51 42.6 +0.9
INKA	Innaminka	36.50 253	P	P	05 51 44.2 +1.7
ARPS	Mount Arapiles	36.61 237	P	P	05 51 44.0 +0.7
	baz=37,SNR=7.8				
ARPS	Mount Arapiles	36.61 237	P	P	05 51 43.8 +0.5
MANU	Manus Island	37.85 297	P	P	05 51 53.1 -0.5
QIS	Mount Isa	38.13 264	P	P	05 51 55.5 -0.5
	baz=38,SNR=19				
QIS	Mount Isa	38.13 264	P	P	05 51 55.7 -0.3
HTT	Hallett	38.41 243	P	P	05 51 58.4 +0.3
	baz=38,SNR=31				
HTT	Hallett	38.41 243	P	P	05 51 58.3 +0.3
LCRK	Leigh Creek	38.77 248	P	P	05 52 01.4 +0.4
WHYH	Whyalla	39.49 244	P	P	05 52 07.1 +0.5
JOHN	Johnston Islan	39.60 15	P	P	05 52 08.1 +0.5
TAOE	Nuku Hiva Isla	39.90 77	P	P	05 52 11.3 +1.0
BBOO	Buckleboo	40.74 245	P	P	05 52 16.7 0.0
	baz=41,SNR=110				
BBOO	Buckleboo	40.74 245	P	P	05 52 16.6 0.0
BBOO			IAmb	IAmb	05 52 17.5
	comp=Z,56nm,0.9s				
BBOO	Buckleboo	40.74 245	P	P	05 52 16.7 0.0
OOD	Oodnadatta	40.98 252	P	P	05 52 19.7 +1.1
MULG	Mulgathing	42.36 249	P	P	05 52 29.7 +0.3
AS31	Alice Springs	42.92 258	P	P	05 52 33.9 0.0
AS31			IAmb	IAmb	05 52 34.7
	comp=Z,22nm,0.7s				
ASAR	Alice Springs	42.92 258	P	P	05 52 33.9 0.0
ASAR	Alice Springs	42.92 258	P	P	05 52 33.7 -0.2
	comp=Z,91nm,0.8s,baz=102,slow=6.6,SNR=93				
ASAR			PcP	PcP	05 54 09.8 -0.9
	comp=Z,7.6nm,0.7s,baz=99,slow=3.6,SNR=6.0				
ASAR			ScP	ScP	05 57 08.0 +2.3
	comp=Z,6.4nm,0.9s,baz=108,slow=4.1,SNR=11				
ASAR			S	S	05 58 12.8 -4.1
	comp=Z,11nm,1.0s,baz=96,slow=16,SNR=22				
	comp=Z,91nm,0.8s				
WR0	Warramunga Arr	42.92 264	P	P	05 52 33.2 -0.7
WR0			IAmb	IAmb	05 52 33.7
	comp=Z,39nm,0.9s				
WB0	Warramunga Arr	43.09 264	P	P	05 52 34.5 -0.8
WB2	Warramunga Arr	43.10 264	P	P	05 52 34.7 -0.6
WRAB	Tennant Creek	43.10 264	P	P	05 52 34.6 -0.6
WRAB	Tennant Creek	43.10 264	P	P	05 52 34.7 -0.6
WRAB	Tennant Creek	43.10 264	P	P	05 52 34.7 -0.6
WRAB			ScP	ScP	05 57 08.2 +1.8
WRA	Warramunga Arr	43.11 264	P	P	05 52 34.6 -0.8
WRA	Warramunga Arr	43.11 264	P	P	05 52 34.5 -0.8
	comp=Z,62nm,0.8s,baz=96,slow=7.8,SNR=288				
WRA			PcP	PcP	05 54 11.2 -0.2
	comp=Z,4.5nm,0.7s,baz=93,slow=3.6,SNR=3.7				
WRA			ScP	ScP	05 57 09.2 +2.7
	comp=Z,13nm,0.9s,baz=98,slow=4.2,SNR=18				
WRA			S	S	05 58 13.7 -6.0
	comp=Z,1.9nm,0.9s,baz=94,slow=14,SNR=4.7				
	comp=Z,62nm,0.8s				
WAKE	Wake Island	43.14 341	P	P	05 52 35.5 +0.1
WAKE	Wake Island	43.14 341	P	P	05 52 36.7 +1.3
GENI	Genyem	43.69 290	P	P	05 52 40.8 +0.9
KDU	Kakadu	46.67 273	P	P	05 53 02.1 -0.4
	baz=47,SNR=47				
KDU	Kakadu	46.67 273	P	P	05 53 02.2 -0.4
MLH	Mauna Loa	47.38 31	P	P	05 53 09.1 +1.1
MLH			IAmb	IAmb	05 53 12.0
	comp=Z,55nm,1.1s				
HMH	Humu'ula Sheep	47.43 31	P	P	05 53 09.3 +0.9
HMH			IAmb	IAmb	05 53 10.4
	comp=Z,40nm,0.9s				
FORT	Forrest	47.53 248	P	P	05 53 08.5 -0.2
	baz=48,SNR=64				
FORT	Forrest	47.53 248	P	P	05 53 08.6 -0.2
FORT	Forrest	47.53 248	P	P	05 53 09.3 +0.5
WRKA	Warakurna	47.82 256	P	P	05 53 11.1 0.0
	baz=48,SNR=504				
WRKA	Warakurna	47.82 256	P	P	05 53 11.1 0.0
MTN	Manton Dam	47.87 272	P	P	05 53 10.8 -0.8
	baz=48,SNR=42				
MTN	Manton Dam	47.87 272	P	P	05 53 11.0 -0.5
MTN	Manton Dam	47.87 272	P	P	05 53 10.8 -0.8
KNRA	Kununurra	49.26 268	P	P	05 53 21.8 0.0
	baz=49,SNR=66				
KNRA	Kununurra	49.26 268	P	P	05 53 21.9 +0.1
KNRA	Kununurra	49.26 268	P	P	05 53 21.5 -0.3
SAUI	Saumlaki	49.36 278	P	P	05 53 23.2 +0.6
GUMO	Guam	49.71 312	P	P	05 53 25.3 +0.3
GUMO	Guam	49.71 312	P	P	05 53 25.7 +0.7
GUMO	Guam	49.71 312	P	P	05 53 24.9 -0.1
	comp=Z,146nm,0.8s,baz=157,slow=12,SNR=10				
	comp=Z,146nm,0.8s				
FAKI	Fak Fak	50.55 285	P	P	05 53 30.7 -0.5
FAKI			IAmb	IAmb	05 53 31.8
	comp=Z,80nm,1.0s				
FAKI	Fak Fak	50.55 285	P	P	05 53 31.0 -0.3
BNDI	Bandanaira	51.99 282	P	P	05 53 42.8 +1.2
KMBL	Kambalda	52.78 247	P	P	05 53 46.7 -0.4
	baz=53,SNR=5.6				
KMBL	Kambalda	52.78 247	P	P	05 53 46.7 -0.4
NLAI	Namlea	55.06 282	P	P	05 54 03.1 -0.2
	comp=Z,65nm,1.0s				
SOEI	Soe	55.23 273	P	P	05 54 06.3 +1.6
SOEI	Soe	55.23 273	P	P	05 54 06.1 +1.5
BATI	Baumata	55.64 272	P	P	05 54 08.6 +1.3
	comp=Z,212nm,0.7s,comp=Z,2μm				
PSA00	Pilbara Seismi	56.07 258	P	P	05 54 09.3 -0.9
PSA00			IAmb	IAmb	05 54 10.7
	comp=Z,27nm,0.9s				
PSA00	Pilbara Seismi	56.07 258	P	P	05 54 09.9 -0.3
MEEK	Meekatharra	56.21 252	P	P	05 54 10.3 -0.8
	baz=56,SNR=17				
MEEK	Meekatharra	56.21 252	P	P	05 54 10.7 -0.4
MBWA	Marble Bar	56.26 259	P	P	05 54 11.1 -0.4
MBWA	Marble Bar	56.26 259	P	P	05 54 10.9 -0.6
KLBR	Kellerberrin	56.27 246	P	P	05 54 11.2 -0.2
	baz=56,SNR=33				
KLBR	Kellerberrin	56.27 246	P	P	05 54 11.4 0.0
SBA	Scott Base	56.40 183	P	P	05 54 14.4 +3.0
SBA			IAmb	IAmb	05 54 15.5
	comp=Z,31nm,1.0s				
SBA	Scott Base	56.40 183	P	P	05 54 13.7 +2.3
VNDA	Vanda	56.41 185	P	P	05 54 13.1 +1.6
	comp=Z,7.3nm,0.7s,baz=358,slow=7.9,SNR=56				
	comp=Z,7.3nm,0.7s				
VNDA	Vanda	56.41 185	P	P	05 54 13.5 +2.0
TNTI	Ternate	56.55 286	P	P	05 54 13.5 0.0
TNTI	Ternate	56.55 286	P	P	05 54 14.8 +1.2
TNTI	Ternate	56.55 286	P	P	05 54 13.8 +0.2
NWAO	Narrogin (SRO)	56.56 244	P	P	05 54 13.3 -0.1
	baz=57,SNR=6.7				
NWAO			P	P	05 54 13.3 -0.1
	baz=57,SNR=6.7				
NWAO	Narrogin (SRO)	56.56 244	P	P	05 54 13.2 -0.1
NWAO			IAmb	IAmb	05 54 14.3
	comp=Z,72nm,0.9s				
SANI	Sanana	56.57 283	P	P	05 54 13.3 -0.4
SANI	Sanana	56.57 283	P	P	05 54 12.9 -0.8
	comp=Z,98nm,1.0s,comp=Z,1μm				
RKGY	Rocky Gully	56.61 242	P	P	05 54 14.1 +0.4
	baz=57,SNR=6.7				
BLDU	Ballidu	57.28 247	P	P	05 54 18.0 -0.3
	baz=57,SNR=60				
BLDU	Ballidu	57.28 247	P	P	05 54 17.9 -0.3
MMRI	Maumere	57.50 274	P	P	05 54 19.3 -0.7
MMRI	Maumere	57.50 274	P	P	05 54 21.0 +1.0
MMRI	Maumere	57.50 274	P	P	05 54 19.9 -0.1
	comp=Z,136nm,0.9s				
MUN	Mundaring	57.53 245	P	P	05 54 20.1 +0.2
	baz=58,SNR=4.2				
MUN	Mundaring	57.53 245	P	P	05 54 20.2 +0.2
MORW	Morawa	58.08 249	P	P	05 54 23.5 -0.2
	baz=58,SNR=16				
MORW	Morawa	58.08 249	P	P	05 54 23.4 -0.3
MORW			IAmb	IAmb	05 54 24.5
	comp=Z,45nm,1.1s				
MORW	Morawa	58.08 249	P	P	05 54 23.6 -0.1
LUWI	Luwuk	59.90 282	P	P	05 54 36.2 +0.1
LUWI	Luwuk	59.90 282	P	P	05 54 35.3 -0.8
	comp=Z,195nm,0.5s,comp=Z,12μm				
BKSI	Bukumba	60.65 276	P	P	05 54 40.0 -1.0
	comp=Z,56nm,0.8s,comp=Z,546nm				
CCD	Concordia, Ant	60.78 194	P	P	05 54 42.5 +1.2
CCD			pP	pwP	05 56 39.8 +0.5
GIRL	Giralia	60.91 256	P	P	05 54 43.5 +0.9
	baz=61,SNR=6.7				
KAPI	Kappang	61.10 277	P	P	05 54 43.8 -0.2
KAPI			IAmb	IAmb	05 54 51.9
	comp=Z,42nm,1.4s				
JCJ	Chichijima	61.26 321	P	P	05 54 44.8 +0.2
MRSI	Marisa	61.30 283	P	P	05 54 44.4 -0.8
	comp=Z,47nm,0.6s,comp=Z,793nm				
PLAI	Plampang	61.57 272	P	P	05 54 47.0 0.0
PLAI	Plampang	61.57 272	P	P	05 54 46.7 -0.3
	comp=Z,152nm,1.0s,comp=Z,2μm				
TTSI	Tana Toraja	61.80 279	P	P	05 55 00.7 +12
CASY	Casey	62.13 205	P	P	05 54 50.2 +0.5
TWSI	Taliwang, Sumb	62.43 271	P	P	05 54 52.4 -0.2
	comp=Z,143nm,1.0s,comp=Z,1μm				
TOLI2	Tolitoli	62.61 283	P	P	05 54 53.2 -0.6
TOLI2			IAmb	IAmb	05 54 55.7
	comp=Z,49nm,0.6s				
TOLI2	Tolitoli	62.61 283	P	P	05 54 54.0 +0.2
MPSI	Mapaga	63.09 282	P	P	05 54 56.2 -0.6
	comp=Z,105nm,0.9s				
IGBI	Denpasar	64.02 271	P	P	05 55 02.4 -0.3
	comp=Z,192nm,0.9s				
JAGI	Jajag, Banyuwa	65.06 271	P	P	05 55 08.2 -1.1
JAGI	Jajag, Banyuwa	65.06 271	P	P	05 55 09.1 -0.2
JAGI	Jajag, Banyuwa	65.06 271	P	P	05 55 08.0 -1.3
	comp=Z,97nm,0.8s,comp=Z,2μm				
ABJI	Asem Bagus	65.21 271	P	P	05 55 10.9 +0.7
	comp=Z,71nm,1.0s				
GMJI	Gumukmas	65.78 271	P	P	05 55 12.6 -1.2
	comp=Z,68nm,1.0s				
BLJI	Banyuglugur	65.82 271	P	P	05 55 13.6 -0.5
	comp=Z,159nm,0.7s,comp=Z,4μm				
BBKI	Banjar Baru	66.22 276	P	P	05 55 18.1 +1.6
	comp=Z,66nm,0.5s				
MYLDM	Lahad Datu	66.43 286	P	P	05 55 18.3 +0.5
MYLDM			IAmb	IAmb	05 55 37.8
	comp=Z,32nm,0.9s				
JHJ	Hachijo jima 2	67.15 323	P	P	05 55 21.9 +0.1
	comp=Z,187nm,0.7s,baz=66,slow=20,SNR=2.9				
	comp=Z,187nm,0.7s				
GRJI	Gresik	67.15 272	P	P	05 55 23.5 +1.3
	comp=Z,258nm,1.1s				
NGJI	Ngawi	67.94 271	P	P	05 55 38.7 +12
QSPA	South Pole Qui	68.17 180	P	P	05 55 28.6 +0.9
QSPA			PcP	PcP	05 55 49.9 +1.5
QSPA			pP	pP	05 57 28.4 +1.7
WOJI	Wonogiri, Jawa	68.27 270	P	P	05 55 29.3 +0.3
	comp=Z,118nm,1.0s				
UGM	Wanagama	68.62 270	P	P	05 55 31.1 -0.1
KKM	Kota Kinabalu	68.85 286	P	P	05 55 32.9 +0.3
SMRI	Semarang	69.00 271	P	P	05 55 33.9 +0.5
SMRI	Semarang	69.00 271	P	P	05 55 34.1 +0.7
SMRI	Semarang	69.00 271	P	P	05 55 33.9 +0.5
	comp=Z,132nm,1.2s				
JOW	Kunigami	70.06 311	P	P	05 55 40.3 +0.8
JOW	Kunigami	70.06 311	P	P	05 55 40.1 +0.6
JMM	Marumori	70.24 327	P	P	05 55 40.8 +0.5
JMM			IAmb	IAmb	05 55 41.5
	comp=Z,60nm,1.1s				
JMM	Marumori	70.24 327	P	P	05 55 40.7 +0.5
KPJI	Karang Pucung	70.30 270	P	P	05 55 40.6 -0.5
	comp=Z,114nm,1.0s				
JGF	Kuroka	70.33 324	P	P	05 55 40.5 -0.4
JGF			IAmb	IAmb	05 55 41.7
	comp=Z,23nm,0.9s				
JGF	Kuroka	70.33 324	P	P	05 55 41.6 +0.7
INU	Inuyama	70.33 323	P	P	05 55 41.1 +0.3
INU			IAmb	IAmb	05 55 41.5
	comp=Z,25nm,1.0s				
INU	Inuyama	70.33 323	P	P	05 55 41.2 +0.3
MJAR	Matsushiro Arr	70.56 325	P	P	05 55 41.0 -1.2
	comp=Z,24nm,0.8s,baz=158,slow=5.7,SNR=40				
	comp=Z,24nm,0.8s				
MAJO	Matsushiro	70.57 325	P	P	05 55 42.0 -0.2
MAJO			IAmb	IAmb	05 55 43.1
	comp=Z,31nm,0.8s				
MAJO	Matsushiro	70.57 325	P	P	05 55 43.0 +0.8
MJB9	Matsu-Tunnel	70.57 325	P	P	05 55 43.4 +1.1
MJB9			IAmb	IAmb	05 55 44.1
	comp=Z,31nm,0.8s				
STKI	Sintang	70.68 278	P	P	05 55 44.1 +0.7
	comp=Z,87nm,0.9s				
SBUM	Sibu	70.94 281	P	P	05 55 45.3 +0.4
JSD	Sado	71.66 326	P	P	05 55 49.1 +0.6
JSD			IAmb	IAmb	05 55 50.6
	comp=Z,30nm,0.6s				
JSD	Sado	71.66 326	P	P	05 55 49.9 +1.4
KSM	Kuching	72.30 279	P	P	05 55 53.2 +0.3
KSM	Kuching	72.30 279	P	P	05 55 53.2 +0.3
JTM	Tenmabayashi	72.38 330	P	P	05 55 52.8 +0.2
JNU	Nakatsue	72.40 318	P	P	05 55 53.1 +0.1
JNU			IAmb	IAmb	05 55 54.2
	comp=Z,45nm,1.1s				
JNU	Nakatsue	72.40 318	P	P	05 55 52.4 -0.6
	comp=Z,24nm,0.9s,baz=126,slow=4.8,SNR=6.4				
	comp=Z,24nm,0.9s				
AMKA	Amchitka	72.97 359	P	P	05 55 55.5 -0.2
TWGBT	Beinan	73.03 304	P	P	05 55 56.1 -0.6
TWG	Pinlang	73.03 304	P	P	05 55 55.3 -1.5
YULB	Yu-li	73.17 304	P	P	05 55 56.4 -1.2
YULB			IAmb	IAmb	05 55 59.9
	comp=Z,24nm,0.7s				
YULB	Yu-li	73.17 304	P	P	05 55 57.3 -0.3
NACB	Ninganchiao	73.38 305	P	P	05 55 57.8 -0.9
NACB	Ninganchiao	73.38 305	P	P	05 55 58.5 -0.2
KIWB	Kanaga Island	73.46 1	P	P	05 55 58.6 +0.1
CGJI	Cibinong	73.56 269	P	P	05 56 00.2 +0.2
	comp=Z,83nm,0.8s				
TPUB	Ta-pu	73.64 304	P	P	05 55 59.3 -0.9
TPUB	Ta-pu	73.64 304	P	P	05 55 59.5 -0.7
SSLB	Suanglung	73.65 305	P	P	05 55 59.7 -0.7
SSLB	Suanglung	73.65 305	P	P	05 56 00.0 -0.3
YHNB	Yeheng	73.82 306	P	P	05 56 00.9 -0.4
YHNB			IAmb	IAmb	05 56 02.5
	comp=Z,52nm,0.9s				
YHNB	Yeheng	73.82 306	P	P	05 56 01.8 +0.5
TATO	Taipei	73.90 306	P	P	05 56 01.8 +0.1
TATO	Taipei	73.90 306	P	P	05 56 01.8 +0.1
ATKA	Atka Island	73.93 3	P	P	05 56 00.6 -0.5
ASAJ	Asahikawa	74.34 333	P	P	05 56 04.7 +1.0
	comp=Z,43nm,0.9s,baz=246,slow=6.5,SNR=9.1				
	comp=Z,43nm,0.9s				
PPBI	Pangkal Pinang	74.76 274	P	P	05 56 07.6 +0.8
	comp=Z,17nm,1.3s,comp=Z,4μm				
NIKH	Nikolski High	75.12 7	P	P	05 56 08.0 +0.2
NIKH	Nikolski High	75.12 7	P	P	05 56 07.2 -0.6
	baz=190,SNR=10				
QZH	Quanzhou	76.08 304	⇑iP	P	05 56 14.2 +0.4
QZH			pmax	pmax	
	comp=Z,73nm,0.8s				
UNV	Unalaska Valle	76.25 8	P	P	05 56 13.0 -1.0
	baz=192				
KSRS	Korea Array	77.07 320	P	P	05 56 19.3 +0.4
	comp=Z,6.6nm,0.9s,baz=140,slow=5.8,SNR=13				
	comp=Z,6.6nm,0.9s				
KSAR	Wonju Array Be	77.08 319	P	P	05 56 19.8 +0.8
PEA0B	Petropavlovsk-	77.29 346	P	P	05 56 20.1 +0.3
PEA0B			IAmb	IAmb	05 56 20.8
	comp=Z,44nm,0.7s				
PETK	Petropavlovsk-	77.29 346	P	P	05 56 19.6 -0.2
PETK	Petropavlovsk-	77.29 346	P	P	05 56 19.1 -0.6
	comp=Z,42nm,0.7s,baz=113,slow=6.2,SNR=60				
	comp=Z,42nm,0.7s				
SMAI	San Martin Ant	77.78 159	P	P	05 56 23.7 +1.5
SMAI			IAmb	IAmb	05 56 24.7
	comp=Z,69nm,0.8s				
DLV	T Lat	78.27 288	P	P	05 56 27.3 +1.2
BELA	Belgrano 2	78.34 173	P	P	05 56 25.1 -0.1
BELA			IAmb	IAmb	05 56 26.2
	comp=Z,38nm,0.9s				
MYKOM	Kota Tinggi	78.37 277	P	P	05 56 26.6 +0.2
MYKOM			IAmb	IAmb	05 56 27.2
	comp=Z,26nm,0.9s				
USA0B	Ussuriysk Arra	79.39 327	P	P	05 56 32.7 +1.6
USA0B			IAmb	IAmb	05 56 33.3
	comp=Z,40nm,1.0s				
USRK	Ussuriysk Ar.	79.39 327	P	P	05 56 32.3 +1.2
USRK	Ussuriysk Ar.	79.39 327	P	P	05 56 31.0 -0.1
	comp=Z,27nm,1.0s,baz=127,slow=3.0,SNR=20				
	comp=Z,27nm,1.0s				
SDSI	Sungai Dareh	79.58 273	P	P	05 56 31.5 -1.4
	comp=Z,16nm,0.9s,comp=Z,2μm				
NJ2	Nanjing	79.76 311 ⇓P	P	P	05 56 34.2 +0.9
NJ2			pP	PcP	05 56 38.2 -0.5
NJ2			pmax	pmax	
	comp=Z,27nm,0.8s				
NJ2			pmax	pmax	
	comp=Z,270nm,3.6s				
MAW	Mawson	79.80 200	P	P	05 56 33.8 +0.8
	baz=80,SNR=11				
MAW	Mawson	79.80 200	P	P	05 56 34.0 +1.0
MAW	Mawson	79.80 200	P	P	05 56 33.6 +0.6
	comp=Z,4.4nm,0.6s,baz=134,slow=7.4,SNR=18				
	comp=Z,4.4nm,0.6s				
PKM	Mcpherson Peak	79.92 46	P	P	05 56 36.2 +1.8
	baz=234				
BKNI	Bangkinang	80.41 274	P	P	05 56 37.1 -0.1
BKNI			IAmb	IAmb	05 56 37.5
	comp=Z,40nm,0.5s				
PMSA	Palmer Station	80.53 157	P	P	05 56 37.8 +1.0
PMSA			IAmb	IAmb	05 56 38.8
	comp=Z,34nm,0.8s				
PASC	Pasadena Art C	80.61 47	P	P	05 56 38.0 +0.3
CBX	Cerro Bola	80.64 50	P	P	05 56 38.6 +0.5
KMRM	Mail Ridge	80.68 40	P	P	05 56 38.5 +0.5
KMRM			IAmb	IAmb	05 56 41.0
	comp=Z,36nm,0.8s				
VTX	Valle De La Tr	80.77 51	P	P	05 56 40.6 +1.9
BAR	Barrett	80.83 49	P	P	05 56 40.0 +1.0
MDJ	Mudanjiang	80.91 326	P	P	05 56 40.5 +1.5
MDJ			pP	pP	05 58 42.7 -0.8
MDJ			sP	sP	05 59 43.0 -0.2
MDJ			PP	PP	05 59 53.9 -1.4
MDJ			S	SKSac	06 06 02.8 +1.5
MDJ			ScS	ScS	06 06 15.2 +2.3
MDJ	Mudanjiang	80.91 326	sS	sS	06 09 43.9 +1.8
MDJ	Mudanjiang	80.91 326	SS	SS	06 11 36.1 +4.0
MDJ			pmax	pmax	
	comp=Z,26nm,0.8s				
MDJ			pmax	pmax	
	comp=Z,380nm,3.7s				
MDJ	Mudanjiang	80.91 326	P	P	05 56 40.0 +1.0
VES	Vestal, Richgr	80.95 46	P	P	05 56 39.9 +0.5
	baz=235				
MURC	Murrieta	80.97 48	P	P	05 56 40.8 +1.1
	baz=236				
ESJX	Sierra Juarez	80.98 50	P	P	05 56 41.3 +1.4
ESJX			IAmb	IAmb	05 56 42.7
	comp=Z,19nm,1.4s				
BFSC	Mount Baldy Ra	81.01 48	P	P	05 56 40.1 +0.1
	baz=236				
MONP2	Monument Peak	81.13 49	P	P	05 56 41.6 +0.9
	baz=237,SNR=15				
EDW2	Edwards Air Fo	81.14 47	P	P	05 56 41.8 +1.2
	baz=236,SNR=5.1				
IKP	In-Ko-Pah, Jac	81.22 50	P	P	05 56 42.4 +1.4
	baz=237				
ISA	Isabella, Lake	81.26 46	P	P	05 56 42.4 +1.2
ISA			IAmb	IAmb	05 56 43.4
	comp=Z,14nm,0.8s				
ISA	Isabella, Lake	81.26 46	P	P	05 56 42.3 +1.1
	baz=235,SNR=6.9				
YUH	Yuha Desert	81.35 50	P	P	05 56 42.5 +0.9
SLBS	Sierra La Lagu	81.36 60	P	P	05 56 43.2 +1.3
SLBS			IAmb	IAmb	05 56 43.9
	comp=Z,11nm,0.7s				
CMB	Columbia Colle	81.39 43	P	P	05 56 42.8 +1.1
CMB			IAmb	IAmb	05 56 43.7
	comp=Z,15nm,1.0s				
PFO	Pinyon Flats O	81.49 49	P	P	05 56 43.5 +1.1
PFO	Pinyon Flats O	81.49 49	P	P	05 56 43.6 +1.2
	baz=237				
AFDM	Forest Hills D	81.56 42	P	P	05 56 44.1 +1.6
PMD	Palm Desert	81.57 49	P	P	05 56 44.0 +1.4
SWSC	Sam W. Stewart	81.59 50	P	P	05 56 44.4 +1.6
	baz=237				
ORV	Oroville	81.60 41	P	P	05 56 43.9 +1.2
CWC	Cottonwood Cre	81.96 46	P	P	05 56 46.1 +1.2
	baz=235				
MDPB	Devils Postpil	81.99 44	P	P	05 56 46.2 +1.1
BELC	Belle Mtn. Jos	82.03 49	P	P	05 56 46.5 +1.4
	baz=237,SNR=11				
OMMB	Old Mammoth Mi	82.03 44	P	P	05 56 46.9 +1.6
MPMC	Manual Prospec	82.14 46	P	P	05 56 46.6 +0.8
	baz=236,SNR=9.8				
GSC	Goldstone, Bar	82.18 47	P	P	05 56 46.9 +1.1
GSC	Goldstone, Bar	82.18 47	P	P	05 56 47.0 +1.1
	baz=236,SNR=5.7				
YBH	Yreka Blue Hor	82.21 39	P	P	05 56 47.5 +1.7
WHN	Wuhan	82.21 307	P	P	05 56 47.4 +1.4
WHN			pmax	pmax	
	comp=Z,64nm,1.1s				
BC3	Big Chuckawall	82.22 49	P	P	05 56 47.8 +1.7
	baz=237,SNR=6.2				
HEC	Hector,Ludlow	82.25 48	P	P	05 56 47.0 +0.8
	baz=237				
WAKR	Walker	82.27 43	P	P	05 56 47.7 +1.3
WAKR			IAmb	IAmb	05 56 48.2
	comp=Z,12nm,0.7s				
GLA	Glamis	82.34 50	P	P	05 56 48.5 +1.8
GLA			IAmb	IAmb	05 56 49.4
	comp=Z,23nm,0.9s				
GLA	Glamis	82.34 50	P	P	05 56 48.0 +1.4
	baz=238,SNR=8.1				
PNTR	Pine Nut	82.51 43	P	P	05 56 48.9 +1.3
PNTR			IAmb	IAmb	05 56 49.8
	comp=Z,30nm,0.8s				
DSP	Deep Springs	82.56 45	P	P	05 56 48.8 +1.2
CN2	Changchun	82.61 323	P	P	05 56 47.6 -0.1
CN2			pmax	pmax	
	comp=Z,30nm

N14K	Kuskokwak Cree	82.81	9	P	P	05 56 49.0	+0.8
	baz=197,SNR=8.7						
TUQ	Turquoise Moun	82.86	47	P	P	05 56 50.1	+0.7
	baz=237						
SHOC	Shoshone, Teco	82.87	47	P	P	05 56 50.3	+1.0
	baz=236						
BLYC	Blythe	82.93	49	P	P	05 56 50.9	+1.4
113A	Mohawk Valley,	82.95	51	P	P	05 56 51.0	+1.4
NVAR	Mina Array Bea	82.95	44	P	P	05 56 50.6	+0.8
NVAR	Mina Array Bea	82.95	44	P	P	05 56 50.4	+0.5
	comp=Z,6.2nm,0.8s,baz=225,slow=8.9,SNR=36						
NVAR				pP	pwP	05 58 57.6	-1.4
	comp=Z,6.6nm,1.3s,baz=238,slow=12,SNR=3.7						
	comp=Z,6.2nm,0.8s						
PAHR	Pah Rah Range	83.00	42	P	P	05 56 51.0	+1.0
NV11	Mina Array Sit	83.05	44	P	P	05 56 51.1	+0.9
M13K	Dall Lake	83.06	8	P	P	05 56 50.9	+1.5
	baz=195						
KLR	Kul'dur	83.06	330	P	P	05 56 50.5	+0.7
	comp=Z,9.3nm,0.8s,baz=108,slow=1.5,SNR=18						
	comp=Z,9.3nm,0.8s						
O16K	Kokwok River B	83.07	11	P	P	05 56 48.9	-0.6
	baz=200						
WCT	Wildcat Mounta	83.13	46	P	P	05 56 51.3	+0.8
214A	Organ Pipe Nat	83.22	52	P	P	05 56 52.5	+1.4
	baz=239						
TIA	Tai'an	83.25	313	P	P	05 56 51.8	+0.7
TIA				pmax	pmax		
	comp=Z,43nm,1.0s						
RPSI	Rantau Prapat	83.26	276	P	P	05 56 51.1	-0.5
RPSI				IAmb	IAmb	05 56 52.1	
	comp=Z,24nm,0.8s						
N15K	Kwethluk River	83.28	10	P	P	05 56 51.6	+0.9
	baz=198,SNR=5.8						
PSI	Prapat	83.30	276	P	P	05 56 52.1	+0.1
TPNV	Topopah Spring	83.47	46	P	P	05 56 53.8	+1.4
	baz=236						
PDMCI	Parker Dam,Lak	83.49	49	P	P	05 56 54.1	+1.8
	baz=238,SNR=5.2						
M14K	Bethel	83.57	9	P	P	05 56 53.1	+1.1
	baz=196						
N16K	Nishlik Lake	83.78	10	P	P	05 56 54.2	+1.0
	baz=199						
O18K	Koktuh Hills	83.84	12	P	P	05 56 53.3	-0.1
	baz=202						
GSI	Gunungsitoli	83.99	274	P	P	05 56 56.0	+0.8
GSI	Gunungsitoli	83.99	274	P	P	05 56 56.4	+1.2
	comp=Z,84nm,1.2s						
J05D	Fort Rock, OR	84.02	39	P	P	05 56 56.5	+1.5
L14K	Kuka Creek	84.04	8	P	P	05 56 54.3	0.0
	baz=196						
M16K	Timber Creek	84.27	10	P	P	05 56 57.7	+2.2
	baz=199						
O19K	Port Alsworth	84.33	12	P	P	05 56 55.7	-0.1
	baz=203						
I05D	Terrebonne, OR	84.61	38	P	P	05 56 58.6	+1.0
R11B	Troy Canyon, C	84.68	45	P	P	05 56 58.7	+0.4
	baz=237						
MA2	Magadan	84.79	345	P	P	05 56 57.4	-0.6
	comp=Z,20nm,0.8s,baz=131,slow=9.8,SNR=6.9						
	comp=Z,20nm,0.8s						
TUC	Tucson	84.89	52	P	P	05 57 00.1	+0.8
TUC				IAmb	IAmb	05 57 02.2	
	comp=Z,15nm,0.9s						
TUC	Tucson	84.89	52	P	P	05 57 00.7	+1.4
	baz=240						
SRIT	Nakonsritamara	84.89	281	P	P	05 57 01.6	+2.0
SURA	Surathani	85.09	282	P	P	05 57 02.5	+2.0
ELIB	Princess Elisa	85.10	187	dP	P	05 56 59.6	-0.2
	comp=Z,32nm,0.7s						
ELIB				dpP	pP	05 59 06.0	-0.1
K15K	Wolf Creek Mou	85.11	8	P	P	05 57 00.8	+1.3
	baz=197						
L17K	Donlin	85.43	10	P	P	05 57 00.9	-0.1
	baz=200						
X16A	Lo Mia Camp, P	85.46	50	P	P	05 57 03.3	+1.1
HNS	HongShan	85.52	313	⇓P	P	05 57 02.9	+0.8
HNS				pmax	pmax		
	comp=Z,23nm,0.9s						
NONG	Nongkai	85.53	291	P	P	05 57 03.9	+1.4
LCMT	Little Creek M	85.53	47	P	P	05 57 03.6	+1.2
LYN	LuoYang	85.61	310	⇓P	P	05 57 03.9	+1.3
LYN				pmax	pmax		
	comp=Z,14nm,0.9s						
ENH	Enshi	85.73	305	P	P	05 57 05.1	+1.8
L18K	Granite Mounta	85.77	10	P	P	05 57 03.7	+1.0
	baz=201						
HEH	HeiHe	85.81	329	eP	P	05 57 02.2	-0.9
SPR3	Spring Creek 3	85.85	45	P	P	05 57 04.2	+0.2
M19K	Big River Lodg	85.89	12	P	P	05 57 03.4	+0.1
	baz=203						
PSUT	Pine Spring	85.92	46	P	P	05 57 05.0	+0.8
BJT	Baijiatuau	85.95	316	P	P	05 57 04.8	+0.7
BJI	Beijing	85.96	316	P	P	05 57 05.2	+1.1
BJI				pmax	pmax		
	comp=Z,11nm,0.7s						
L19K	White Mountain	86.06	11	P	P	05 57 04.8	+0.7
L19K				IAmb	IAmb	05 57 05.5	
	comp=Z,14nm,0.8s						
L19K	White Mountain	86.06	11	P	P	05 57 04.6	+0.5
	baz=203						
J16K	Anvik River	86.19	8	P	P	05 57 05.1	+0.4
	baz=198						
GYA	Guiyang	86.19	300	P	P	05 57 06.6	+0.9
GYA				pmax	pmax		
	comp=Z,22nm,1.2s						
GYA				pmax	pmax		
	comp=Z,160nm,3.6s						
SUA	Susitna One	86.22	13	P	P	05 57 05.0	0.0
	baz=206						
TROLL	Troll, Antarti	86.33	181	⇑P	P	05 57 05.3	-0.3
	comp=Z,1μm,0.8s						
PKCU	Pink Cliffs	86.39	47	P	P	05 57 08.4	+1.8
PKCU				IAmb	IAmb	05 57 09.7	
	comp=Z,18nm,1.0s						
J17K	VABM Dome	86.51	9	P	P	05 57 06.9	+0.8
	baz=199						
SKT	Skwentna	86.52	13	P	P	05 57 06.9	+0.6
	baz=206						
GLI	Glacier Island	86.54	15	P	P	05 57 06.4	+0.1
	baz=210						
M22K	Willow	86.61	13	P	P	05 57 06.8	+0.1
	baz=207						
SNAA	Sanae	86.65	179	P	P	05 57 06.3	-0.7
SNAA	Sanae	86.65	179	⇓P	P	05 57 06.3	-0.7
	comp=Z,71nm,0.5s						
SNAA	Sanae	86.65	179	P	P	05 57 06.3	-0.7
	comp=Z,2.6nm,0.5s,baz=208,slow=7.7,SNR=13						
SNAA				pP	pwP	05 59 17.1	+0.5
	comp=Z,4.9nm,1.1s,baz=258,slow=3.7,SNR=4.6						
	comp=Z,2.6nm,0.5s						
KNK	Knik Glacier	86.68	14	P	P	05 57 06.9	-0.1
	baz=209						
PMR	Palmer	86.69	14	P	P	05 57 06.9	-0.1
	baz=208						
LTY	Liberty	86.75	36	P	P	05 57 08.8	+1.0
LTY				IAmb	IAmb	05 57 09.6	
	comp=Z,12nm,1.2s						
MTPU	Mount Pierson	86.78	47	P	P	05 57 09.9	+1.3
MTPU				IAmb	IAmb	05 57 11.4	
	comp=Z,9.3nm,1.0s						
VNA3	Neumayer Olymp	86.83	177	⇑P	P	05 57 07.3	-0.5
	comp=Z,26nm,0.7s						
GHO	Glory Hole Cre	86.89	14	P	P	05 57 08.3	+0.2
GHO				IAmb	IAmb	05 57 09.0	
	comp=Z,29nm,0.7s						
J18K	Innoko River	86.94	10	P	P	05 57 08.6	+0.4
	baz=201						
W18A	Petrified Fore	87.03	50	P	P	05 57 10.3	+0.7
	baz=241						
CUT	Chulitna	87.16	13	P	P	05 57 08.7	-0.5
	baz=207,SNR=5.2						
M23K	Glacier View	87.19	14	P	P	05 57 09.4	0.0
	baz=209						
121A	Cookes Peak, D	87.21	53	P	P	05 57 12.0	+1.6
	baz=242						
BMO	Blue Mountains	87.23	39	P	P	05 57 10.9	+0.7
BMRM	Bremner River	87.24	16	P	P	05 57 10.0	+0.2
	baz=212						
VNA2	Neumayer--Watz	87.26	177	⇑P	P	05 57 09.5	-0.2
	comp=Z,15nm,0.6s,baz=192,slow=3.0						
K20K	Telida	87.29	11	P	P	05 57 10.7	+0.9
	baz=203						
S31K	Pelican	87.30	21	P	P	05 57 11.3	+1.3
	baz=220						
SCM	Sheep Creek Mo	87.31	15	P	P	05 57 10.4	+0.3
	baz=210,SNR=5.9						
SEY	Seymchan	87.44	348	P	P	05 57 10.5	0.0
	comp=Z,15nm,0.7s,baz=142,slow=5.5,SNR=22						
	comp=Z,15nm,0.7s						
CRQE	Cirque	87.46	17	P	P	05 57 11.1	+0.3
	baz=213						
VNA1	Neumayer--Stat	87.49	177	⇑P	P	05 57 10.5	-0.3
	comp=Z,19nm,0.8s						
TGL	Tana Glacier	87.53	17	P	P	05 57 11.9	+0.8
TGL				IAmb	IAmb	05 57 12.5	
	comp=Z,12nm,1.0s						
SRDT	SRDT	87.57	286	P	P	05 57 11.9	-0.3
D08A	Wollman Farm,	87.59	37	P	P	05 57 12.6	+1.0
D08A				IAmb	IAmb	05 57 13.3	
	comp=Z,7.9nm,0.8s						
J19K	Poorman	87.61	10	P	P	05 57 11.7	+0.4
	baz=202						
PNL	Peninsula	87.63	19	P	P	05 57 11.2	-0.3
	baz=217						
CAST	Castle Rocks	87.71	12	P	P	05 57 10.7	-1.1
	baz=205						
N25K	Chitina, Valde	87.78	16	P	P	05 57 13.0	+0.7
N25K				IAmb	IAmb	05 57 13.5	
	comp=Z,8.1nm,0.7s						
N25K	Chitina, Valde	87.78	16	P	P	05 57 12.4	+0.1
	baz=212,SNR=5.1						
GRNC	Granite Creek	87.81	17	P	P	05 57 13.3	+0.7
GRNC				IAmb	IAmb	05 57 13.9	
	comp=Z,10nm,1.0s						
M24K	Tolsona, Glenn	87.82	15	P	P	05 57 13.0	+0.6
	baz=211						
H17K	Granite Mounta	87.86	8	P	P	05 57 12.6	+0.2
	baz=198						
WAT6	Susitna Watana	87.87	14	P	P	05 57 12.6	-0.2
	baz=209						
XAN	Xi'an	87.93	308	⇓P	P	05 57 14.6	+1.0
XAN				pmax	pmax		
	comp=Z,48nm,0.8s						
MCARA	McCarthy VSAT	88.00	17	P	P	05 57 13.7	+0.5
MCARA				IAmb	IAmb	05 57 15.2	
	comp=Z,15nm,1.2s						
MCARA	McCarthy VSAT	88.00	17	P	P	05 57 13.7	+0.5
	baz=213						
J20K	Nowinta River	88.03	11	P	P	05 57 13.6	+0.3
J20K				IAmb	IAmb	05 57 14.3	
	comp=Z,5.8nm,0.8s						
J20K	Nowinta River	88.03	11	P	P	05 57 13.4	+0.1
	baz=203						
KTH	Kantishna Hill	88.06	12	P	P	05 57 12.3	-1.2
KTH				IAmb	IAmb	05 57 13.7	
	comp=Z,15nm,1.0s						
TMUT	Trail Mountain	88.08	46	P	P	05 57 14.3	-0.3
TMUT				IAmb	IAmb	05 57 17.0	
	comp=Z,27nm,1.4s						
CHUM	Lake Minchumin	88.09	12	P	P	05 57 12.8	-0.7
	baz=205						
TRF	Thorofare Moun	88.09	13	P	P	05 57 13.4	-0.3
TRF				IAmb	IAmb	05 57 14.3	
	comp=Z,19nm,0.7s						
TRF	Thorofare Moun	88.09	13	P	P	05 57 13.5	-0.3
	baz=207,SNR=11						
BARN	Barnard Glacie	88.11	17	P	P	05 57 14.0	+0.1
BARN				IAmb	IAmb	05 57 15.4	
	comp=Z,9.8nm,0.8s						
P29M	Windy Craggy	88.11	20	P	P	05 57 14.0	+0.2
	baz=218						
GCSA	Galena City Sc	88.11	9	P	P	05 57 13.2	-0.4
	baz=201						
CTG	Chitna Glacier	88.12	18	P	P	05 57 14.4	+0.4
	baz=215,SNR=5.1						
XLT	XiLinHaoTe	88.12	319	eP	P	05 57 10.0	-4.3
XLT				pmax	pmax		
	comp=Z,13nm,0.9s						
XLT				pmax	pmax		
	comp=Z,140nm,3.8s						
PLID	Pearl Lake	88.13	39	P	P	05 57 15.1	+0.6
PLID				IAmb	IAmb	05 57 16.3	
	comp=Z,18nm,1.5s						
MPU	Maple Canyon	88.16	45	P	P	05 57 13.8	-1.0
MPU				IAmb	IAmb	05 57 16.9	
	comp=Z,7.9nm,1.2s						
HLID	Hailey	88.25	41	P	P	05 57 15.7	+0.7
	baz=237,SNR=11						
O28M	Mount Upton	88.28	18	P	P	05 57 14.9	0.0
	baz=216,SNR=6.1						
G17K	Kiwalik Mounta	88.31	8	P	P	05 57 14.5	-0.1
	baz=197						
C09A	Chrisman Ranch	88.38	36	P	P	05 57 15.0	-0.3
CTU	Camp Tracy	88.43	45	P	P	05 57 17.2	+1.3
CTU				IAmb	IAmb	05 57 17.8	
	comp=Z,7.3nm,0.9s						
MCK	McKinley	88.63	13	P	P	05 57 17.2	+1.1
	baz=208						
MNTX	Cornudas Mount	88.64	55	P	P	05 57 17.9	+1.0
	baz=243						
PAX	Paxson	88.74	15	P	P	05 57 16.1	-0.6
	baz=211						
P30M	Million Dollar	88.74	20	P	P	05 57 18.2	+1.5
	baz=219						
KMI	Kunming	88.81	298	⇓P	P	05 57 19.6	+1.5
KMI				pmax	pmax		
	comp=Z,20nm,1.5s						
KMI				pmax	pmax		
	comp=Z,120nm,4.6s						
BNM	Barren Site	88.82	52	P	P	05 57 18.8	+0.8
M26K	Nabesna, AK	88.86	16	P	P	05 57 17.4	+0.1
	baz=213						
H19K	Roundabout Mou	88.91	9	P	P	05 57 17.4	+0.1
	baz=201						
TX31	Lajitas Ar. Si	88.92	58	P	P	05 57 19.8	+1.4
TX32	Lajitas Array	88.92	58	P	P	05 57 19.8	+1.3
TX32				IAmb	IAmb	05 57 21.0	
	comp=Z,19nm,1.1s						
TXAR	Lajitas Array	88.93	58	P	P	05 57 19.8	+1.3
	comp=Z,9.4nm,0.9s,baz=214,slow=5.9,SNR=95						
TXAR				pP	pP	05 59 27.2	+0.8
	comp=Z,1.7nm,0.9s,baz=214,slow=6.4,SNR=4.2						
	comp=Z,9.4nm,0.9s						
YUK3	Moose Creek	89.03	17	P	P	05 57 19.0	+0.8
	baz=216,SNR=7.1						
M27K	Edge Creek, AK	89.12	17	P	P	05 57 19.6	+1.0
	baz=214,SNR=6.7						
H20K	Anotleneega Mo	89.12	10	P	P	05 57 18.7	+0.3
	baz=203						
GO06	Curarrehue	89.19	133	P	P	05 57 20.7	+1.1
GO06				IAmb	IAmb	05 57 21.7	
	comp=Z,16nm,0.8s						
PV02	Paradox Valley	89.22	48	P	P	05 57 20.1	+0.3
PV21	Cone Mtn., Par	89.23	48	P	P	05 57 20.2	+0.4
PV21				IAmb	IAmb	05 57 21.1	
	comp=Z,5.8nm,0.9s						
BCYI	Bear Canyon	89.27	41	P	P	05 57 20.8	+1.0
PLCA	Paso Flores	89.27	134	P	P	05 57 20.6	+0.8
PLCA				IAmb	IAmb	05 57 22.1	
	comp=Z,18nm,0.9s						
PLCA	Paso Flores	89.27	134	P	P	05 57 21.1	+1.2
	comp=Z,12nm,0.9s,baz=236,slow=5.4,SNR=29						
	comp=Z,12nm,0.9s						
PV01	Paradox Valley	89.31	48	P	P	05 57 20.7	+0.6
PV01				IAmb	IAmb	05 57 21.6	
	comp=Z,5.8nm,1.0s						
ANMO	Albuquerque	89.31	52	P	P	05 57 20.9	+0.8
ANMO				IAmb	IAmb	05 57 22.0	
	comp=Z,8.2nm,1.0s						
ANMO	Albuquerque	89.31	52	P	P	05 57 20.4	+0.2
	baz=243						
I21K	Tanana	89.33	11	P	P	05 57 19.1	-0.2
	baz=205						
CMAR	Chiang Mai Arr	89.34	290	P	P	05 57 21.4	+1.0
	comp=Z,25nm,0.9s,baz=133,slow=3.2,SNR=123						
	comp=Z,25nm,0.9s						
G19K	Purcell Mounta	89.39	9	P	P	05 57 19.4	-0.2
	baz=201						
Q32M	Nakina River	89.42	22	P	P	05 57 20.3	+0.2
	baz=223						
MLY	Manley	89.42	12	P	P	05 57 19.5	-0.3
	baz=206						
CHTO	Chiang Mai	89.48	290	P	P	05 57 22.6	+1.5
H21K	Melozitna Rive	89.62	11	P	P	05 57 21.0	+0.4
H21K	Melozitna Rive	89.62	11	P	P	05 57 21.5	+0.8
	baz=205						
GDL2	Guadalupe Moun	89.64	55	P	P	05 57 22.4	+0.7
HDA	Harding Lake	89.64	13	P	P	05 57 20.6	-0.2
HDA				IAmb	IAmb	05 57 21.1	
	comp=Z,5.5nm,0.6s						
HDA	Harding Lake	89.64	13	P	P	05 57 20.5	-0.2
	baz=210						
E17K	Hotham Inlet	89.69	7	P	P	05 57 20.9	+0.1
	baz=196						
L27K	Beaver Creek,	89.72	16	P	P	05 57 21.6	+0.5
	baz=214						
I23K	Minto, Yukon-K	89.80	12	P	P	05 57 21.0	-0.4
	baz=208						
WHY	Whitehorse	89.81	20	P	P	05 57 22.4	+0.6
	baz=221						
COLA	College	89.86	13	P	P	05 57 21.5	-0.2
COLA	College	89.86	13	P	P	05 57 21.3	-0.4
COLA	College	89.86	13	P	P	05 57 21.8	+0.1
	baz=209						
MCMT	McKenzie Canyo	89.88	41	P	P	05 57 23.5	+0.8
AHID	Auburn Hatcher	89.90	43	P	P	05 57 23.1	+0.3
AHID				IAmb	IAmb	05 57 25.3	
	comp=Z,8.9nm,0.7s						
F19K	Shaleruckik Mo	89.95	8	P	P	05 57 21.9	-0.1
	baz=200						
ILAR	Eielson Array	89.97	13	P	P	05 57 21.8	-0.5
ILAR	Eielson Array	89.97	13	P	P	05 57 21.2	-1.1
	comp=Z,1.8nm,0.7s,baz=220,slow=4.7,SNR=20						
ILAR				pP	pP	05 59 31.8	+1.1
	comp=Z,0.7nm,0.9s,baz=223,slow=8.6,SNR=3.3						
	comp=Z,1.8nm,0.7s						
CLNB	Carlsbad	90.04	55	P	P	05 57 24.1	+0.6
H22K	Ishtalitna Cre	90.09	11	P	P	05 57 22.6	-0.2
	baz=206						
M29M	Somme Creek	90.12	18	P	P	05 57 24.0	+0.8
M29M	Somme Creek	90.12	18	P	P	05 57 23.5	+0.4
	baz=218						
E18K	Tukpahlearik C	90.15	7	P	P	05 57 23.1	+0.1
	baz=197						
J25K	Salcha River,	90.17	14	P	P	05 57 23.5	+0.2
	baz=211						
PZH	PanZhiHua	90.20	298	P	P	05 57 24.5	+0.1
PZH				pmax	pmax		
	comp=Z,30nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,4.1s						
R33M	Jennings River	90.20	23	P	P	05 57 25.2	+1.6
	baz=224						
G21K	Allakaket	90.29	10	P	P	05 57 23.5	-0.2
	baz=204						
S22A	4UR Ranch, Cre	90.34	49	P	P	05 57 25.9	+0.9
	baz=242						
F20K	Avaraart Lake	90.44	9	P	P	05 57 25.2	+0.9
	baz=202						
K27K	Chicken	90.45	15	P	P	05 57 26.4	+1.9
	baz=214						
SNOW	Snow King Moun	90.47	43	P	P	05 57 26.3	+0.9
SNOW				IAmb	IAmb	05 57 27.5	
	comp=Z,9.9nm,0.9s						
O20A	White River Ci	90.48	47	P	P	05 57 26.3	+0.8
	baz=242						
J26L	Joseph Creek	90.49	15	P	P	05 57 25.3	+0.5
J26L				IAmb	IAmb	05 57 26.3	
	comp=Z,11nm,1.1s						
J26L	Joseph Creek	90.49	15	P	P	05 57 25.1	+0.3
	baz=213						
E19K	Redstone River	90.61	8	P	P	05 57 25.8	+0.6
	baz=200						
M30M	Minto, Yukon	90.71	18	P	P	05 57 26.5	+0.7
	baz=219						
L29M	L29M	90.75	17	P	P	05 57 27.2	+1.2
	baz=218						
BW06	Boulder Array	90.89	44	P	P	05 57 27.6	+0.3
BW06				IAmb	IAmb	05 57 29.1	
	comp=Z,4.8nm,1.1s						
BW06	Boulder Array	90.89	44	P	P	05 57 27.7	+0.3
	baz=241						
PD31	Pinedale Array	90.89	44	P	P	05 57 26.9	-0.4
PDAR	Pinedale Array	90.89	44	P	P	05 57 27.4	0.0
	comp=Z,3.1nm,0.9s,baz=186,slow=2.8,SNR=20						
	comp=Z,3.1nm,0.9s						
OVMT	Ovando	90.96	39	P	P	05 57 27.5	+0.1
G22K	Bettles	90.99	11	P	P	05 57 27.0	+0.1
	baz=206						
BOZ	Bozeman (W)	91.01	41	P	P	05 57 28.3	+0.6
	baz=239						
DAWY	Dawson	91.17	16	P	P	05 57 28.0	+0.2
	baz=217						
SDCO	Great Sand Dun	91.27	50	P	P	05 57 30.2	+0.9
SDCO				IAmb	IAmb	05 57 30.8	
	comp=Z,4.7nm,0.8s						
SDCO	Great Sand Dun	91.27	50	P	P	05 57 30.2	+0.9
	baz=243						
DRIO	Del Rio	91.37	59	P	P	05 57 30.4	+0.8
DRIO				IAmb	IAmb	05 57 31.3	
	comp=Z,24nm,0.7s						
K29M	Barlow Dome	91.50	17	P	P	05 57 30.3	+0.9
	baz=218						
E20K	Nigu River	91.50	8	P	P	05 57 29.7	+0.4
	baz=202						
MSTX	Muleshoe	91.61	54	P	P	05 57 30.9	+0.1
	baz=245						
T25A	Trinidad	91.78	51	P	P	05 57 31.7	+0.1
	baz=244						
D20K	Etivluk River	91.87	8	P	P	05 57 31.2	+0.3
	baz=201						
C19K	Lookout Ridge	91.88	7	P	P	05 57 31.3	+0.2
	baz=198						
833A	Chaparral WMA,	91.91	60	P	P	05 57 32.2	+0.2
	baz=246						
MT01	Popeta	92.03	128	P	P	05 57 32.9	+0.2
ISCO	Idaho Springs	92.12	48	P	P	05 57 33.7	+0.5
ISCO	Idaho Springs	92.12	48	P	P	05 57 33.5	+0.3
	baz=243						
I28M	Miner Creek	92.15	15	P	P	05 57 32.5	+0.1
	baz=216						
E23K	Chandalar	92.34	11	P	P	05 57 33.4	+0.1
	baz=208						
N23A	Red Feather La	92.39	47	P	P	05 57 33.1	-1.2
	baz=243						
JCT	Junction City	92.45	58	P	P	05 57 34.4	-0.2
	baz=246						
G26K	Porcupine Rive	92.50	13	P	P	05 57 35.5	+1.6
	baz=213						
C21K	Knifeblade Rid	92.53	9	P	P	05 57 35.0	+1.1
	baz=203						
MT13	San Alfonso	92.79	128	P	P	05 57 36.8	+0.6
MT13				IAmb	IAmb	05 57 38.4	
	comp=Z,13nm,0.7s						
F26K	Sheenjek River	93.06	13	P	P	05 57 35.8	-0.6
	baz=212						
APMT	Aspermont	93.35	55	P	P	05 57 38.6	0.0
APMT				IAmb	IAmb	05 57 39.1	
	comp=Z,7.2nm,1.0s						
ABTX	Abilene, Hawle	93.44	56	P	P	05 57 39.3	+0.3
	baz=246						
SONM	Songino Array	95.94	319	P	P	05 57 49.3	-0.8
	comp=Z,0.7nm,0.6s,baz=141,slow=5.0,SNR=5.4						
SONM				PP	PP	06 01 49.7	-3.5
	comp=Z,0.5nm,0.8s,baz=122,slow=5.3,SNR=4.6						
	comp=Z,0.7nm,0.6s						
ZALV	Zalesovo Beam	110.74	321	PKiKP	PKiKP	06 02 50.5	-1.2
	comp=Z,1.2nm,0.5s,baz=41,slow=0.2,SNR=5.3						
MKAR	Makanchi Array	111.19	313	PKiKP	PKiKP	06 02 51.8	-1.1
	comp=Z,0.6nm,0.5s,baz=152,slow=1.3,SNR=4.6						
MKAR				PKKPbc	PKKPbc	06 13 51.0	-0.6
	comp=Z,2.0nm,0.8s,baz=289,slow=3.7,SNR=7.1						
MKAR				PKKPab	PKKPab	06 14 02.5	+0.7
	comp=Z,1.4nm,0.7s,baz=278,slow=3.4,SNR=5.9						
KURBB	Kurchatov Arra	114.16	317	PKiKP	PKPdf	06 02 57.0	-1.2
	comp=Z,1.3nm,0.5s,baz=109,slow=1.8,SNR=11						
KURBB				PP	PP	06 04 04.3	-0.9
	comp=Z,3.0nm,1.0s,baz=94,slow=6.8,SNR=6.5						
KURBB				SKP		06 05 38.0	
	comp=Z,1.6nm,0.9s,baz=105,slow=1.7,SNR=5.9						
KURBB				PKKPbc	PKKPbc	06 13 41.3

	comp=Z,2.7nm,0.6s,baz=250,slow=0.3,SNR=12					
KLMR	Klimovskoe	132.61 335	ePKPdf	PKPdf	06 03 26.0	-7.3
KLMR			AMP		06 03 38.7	
	comp=Z,26nm,2.0s					
KLMR			ePP	PP	06 05 58.6	-7.9
FINES	FINESS Array B	136.72 342	PKhKP	PKPpre	06 03 28.1	
	comp=Z,0.9nm,0.4s,baz=48,slow=2.8,SNR=5.5					
FINES			PKP	PKPdf	06 03 40.0	-0.9
	comp=Z,1.9nm,0.5s,baz=90,slow=4.2,SNR=5.9					
FINES			SKPbc	SKPbc	06 06 18.2	-0.1
	comp=Z,6.6nm,0.8s,baz=52,slow=3.4,SNR=9.7					
FINES			SKPab	SKPab	06 06 25.6	-0.2
	comp=Z,5.4nm,1.0s,baz=97,slow=11,SNR=3.1					
NB2	NORSAR Subarra	140.19 352	PKP	PKPdf	06 03 40.7	-6.7
	comp=Z,1.1nm,0.5s,baz=10,slow=3.2					
NB2			SKPa		06 06 28.7	
	comp=Z,1.1nm,0.7s,baz=14,slow=2.8					
NOA	NORSAR Array B	140.19 352	PKhKP	PKPpre	06 03 40.2	
	comp=Z,1.9nm,0.6s,baz=14,slow=4.5,SNR=6.1					
NOA			SKPbc	SKPbc	06 06 28.5	+0.5
	comp=Z,1.4nm,0.7s,baz=14,slow=4.4,SNR=3.8					
HFS	Hagfors	140.69 350	PKhKP	PKPpre	06 03 42.0	
	comp=Z,6.4nm,0.5s,baz=72,slow=4.8,SNR=33					
STRU	Stroemstad	142.13 351	*i* P	PKPdf	06 03 46.6	-4.2
TJOU	Tjoern	143.03 350	*i* P	PKPdf	06 03 48.9	-3.4
MBAR	Mbarara	143.04 237		PKPbc	06 03 53.2	+0.9
BORU	Boraas	143.22 349	*i* P	PKPab	06 03 49.6	-1.3
AKASG	Malin Array Be	143.56 329	PKPbc	PKPab	06 03 51.9	-0.6
AKASG	Malin Array Be	143.56 329	PKP	PKPab	06 03 51.6	-0.9
	comp=Z,29nm,0.5s,baz=41,slow=4.3,SNR=161					
AKASG			SKPbc	SKPbc	06 06 36.5	-0.1
	comp=Z,2.9nm,0.7s,baz=42,slow=2.5,SNR=12					
AKBB	Malin Array Si	143.56 329		PKPab	06 03 51.6	-0.9
ONAU	Onsala	143.59 350	*i* P	PKPab	06 03 50.6	-1.7
SUW	Suwalki	143.65 337	PKPbc	PKPbc	06 03 52.7	0.0
FABU	Falkenberg	143.82 349	*i* P	PKPbc	06 03 51.8	-1.3
BLEU	Blekinge	143.84 346	*i* P	PKPbc	06 03 51.3	-1.9
DEL	Delary	144.10 347	*i* P	PKPbc	06 03 52.8	-1.2
BJUU	Bjuv	144.64 348	*i* P	PKPdf	06 03 54.7	-0.6
MUD	Monsted U'grnd	144.91 352	*i* P	PKPdf	06 03 56.2	+0.5
LUNU	Lund	144.97 347	*i* P	PKPdf	06 03 56.2	+0.4
BSD	Bornholm Skovb	145.13 346	*i* P	PKPdf	06 03 56.4	+0.2
SORM	Soroca	145.67 326	⇓P	PKPbc	06 03 58.8	-0.1
EKA	Eskdalemuir Ar	146.50 4	PKPbc	PKPbc	06 04 00.1	-0.9
	comp=Z,7.4nm,0.8s,baz=320,slow=2.4,SNR=8.8					
BR131	Keskin Array S	146.75 310		PKPbc	06 04 02.0	-0.5
BRTR	Keskin Array B	146.75 310		PKPbc	06 04 01.9	-0.5
BRTR	Keskin Array B	146.75 310	PKPbc	PKPbc	06 04 02.0	-0.5
	comp=Z,11nm,0.7s,baz=134,slow=4.3,SNR=42					
VASR	Vaslui	146.91 325	⇑P	PKPbc	06 04 02.5	+0.1
BSEG	Bad Segeberg	147.17 349	*e*PKPbc	PKPbc	06 04 02.9	+0.1
	baz=17,slow=2.4					
BSEG			*e*PKPab	PKPab	06 04 06.7	+0.1
	baz=18,slow=4.2					
TLCR		147.22 322	⇑P	PKPbc	06 04 03.6	+0.3
MMAI	Mount Meron Ar	147.31 297	PKPbc	PKPbc	06 04 04.7	+0.7
	comp=Z,24nm,0.7s,baz=64,slow=3.9,SNR=28					
GHRR		147.48 324	⇑P	PKiKP	06 04 05.2	-0.2
BUR08	Bucovina Ar. S	147.57 328		PKPbc	06 04 05.0	+0.7
BURAR	Bucovina Array	147.59 328	⇑P	PKPbc	06 04 04.8	+0.5
BURAR	Bucovina Array	147.59 328		PKPbc	06 04 04.7	+0.4
TESR	Tescani	147.60 325	⇓P	PKPbc	06 04 04.3	+0.1
CFR	Carcaliu	147.62 322	⇓P	PKPbc	06 04 04.4	+0.1
TPGR	Topolog	147.64 322	⇓P	PKPbc	06 04 04.7	+0.3
RUE	Ruedersdorf	147.82 345	*e*PKPbc	PKPbc	06 04 05.0	+0.5
	baz=17,slow=2.4					
VRI	Vrincioaia	147.97 324	⇑P	PKPbc	06 04 05.1	-0.1
HARR	Harsova	148.02 322	⇓P	PKPbc	06 04 05.6	+0.2
PLOR	Plostina	148.02 325	⇑P	PKPbc	06 04 05.3	-0.1
STHS	Stebnicka Huta	148.03 334	*e*PKP	PKPbc	06 04 04.6	-0.6
MDUB	Mudurnu	148.15 313		PKPbc	06 04 06.2	+0.2
OZUR		148.32 326	⇑P	PKPbc	06 04 06.7	+0.6
CRVS	Cervenica-Dubn	148.34 333	*e*PKP	PKiKP	06 04 06.8	-0.4
CRVS			*e*		06 04 11.9	
CRVS			*e*		06 06 29.2	
TRPA	Tarpa	148.47 331	⇓P	PKPbc	06 04 04.9	-1.3
FLTG	Flechtingen	148.53 347	*e*PKPbc	PKPbc	06 04 06.2	-0.1
	baz=17,slow=2.4					
FLTG			*e*PKPab	PKPab	06 04 11.8	-0.3
	baz=18,slow=4.2					
NRDL	Niedersach Rie	148.59 349	*e*PKPbc	PKPbc	06 04 06.6	+0.2
	baz=17,slow=2.4					
DOPR	Dopca	148.62 326	⇑P	PKiKP	06 04 07.7	-0.2
MLR	Muntele Rosu	148.63 325	⇓P	PKPbc	06 04 06.5	-0.5
ASSE	Asse, Remlinge	148.83 348	*e*PKPbc	PKPbc	06 04 07.2	+0.2
	baz=17,slow=2.4					
ASSE			*e*pPKPbc	pPKPab	06 06 25.4	+1.3
OKC	Ostrava-Krasne	148.86 338	⇑*e*PKP	PKiKP	06 04 07.9	-0.3
OKC			*e*PKPAB	PKPab	06 04 14.5	+0.9
OSTC	Ostas	148.88 341	⇑*e*PKP	PKiKP	06 04 08.2	0.0
OSTC			*e*PKPAB	PKPab	06 04 15.2	+1.5
CHVC	Chvalec	148.90 341	⇑*e*PKP	PKPbc	06 04 07.8	+0.5
CHVC			*e*PKPAB	PKPab	06 04 14.6	+0.8
LANS	Liptovska Anna	148.94 336	*e*PKP	PKiKP	06 04 09.0	+0.6
LANS			*e*		06 04 14.9	
UPC	Upice	148.98 341	⇑*e*PKP	PKPbc	06 04 08.0	+0.5
UPC			*e*PKPAB	PKPab	06 04 14.2	+0.1
CBBR	Cluj-Babes-Bol	148.99 329	⇓P	PKPbc	06 04 08.1	+0.5
CJR	Cluj-Napoca	149.01 328	⇓P	PKPbc	06 04 08.3	+0.5
DPC	Dobruska-Polom	149.02 340	⇑*e*PKP	PKPbc	06 04 08.3	+0.6
DPC			*e*PKPAB	PKPab	06 04 15.3	+0.9
KECS	Kecovo	149.07 334	*e*PKP	PKiKP	06 04 08.9	+0.2
CLL	Collm	149.09 345	*e*PKPbc	PKPbc	06 04 08.0	+0.2
	baz=17,slow=2.4					
CLL			*e*PKPab	PKPab	06 04 14.5	-0.1
	baz=18,slow=4.2					
CLL	Collm	149.09 345	⇓*i*PKPbc	PKPbc	06 04 07.9	+0.2
	comp=Z,37nm,1.0s					
CLL			*i* PKiKP	PKiKP	06 04 09.6	+1.0
	comp=Z,13nm,0.7s					
CLL			*i* PKPab	PKPab	06 04 14.2	-0.3
	comp=Z,24nm,0.8s					
CLL			*e*pPKPbc	pPKPab	06 06 27.0	+1.7
CLL			*e*pPKPab	pPKPbc	06 06 30.0	+6.7
CLL			*e*SKPdf	SKPdf	06 06 38.0	-2.7
	comp=Z,10.0nm,1.1s					
MORC	Moravsky Berou	149.12 338	⇑P	PKiKP	06 04 08.7	-0.1
MORC	Moravsky Berou	149.12 338	*e*PKP	PKPbc	06 04 08.5	+0.6
MORC			*e*		06 04 14.6	
MORC			*e*		06 06 28.8	
VOIR		149.15 325	⇑P	PKPbc	06 04 08.2	+0.1
CLZ	Clausthal	149.16 348	*e*PKPbc	PKPbc	06 04 08.4	+0.4
	baz=17,slow=2.4					
CLZ			*e*pPKPbc	pPKPab	06 06 26.2	+0.6
BRG	Berggiesshubel	149.25 343	*i* PKP	PKiKP	06 04 09.1	+0.1
BRG			Amp		06 04 09.9	
	comp=Z,25nm,0.8s					
BRG	Berggiesshubel	149.25 343	P	PKPab	06 04 16.0	+0.7
BRG			Amp		06 04 16.7	
	comp=Z,20nm,0.8s					
BRG			pPKP	pPKPab	06 06 32.2	+6.3
BRG			Amp		06 06 34.0	
	comp=Z,12nm,1.4s					
BRG	Berggiesshubel	149.25 343	*e*PKPbc	PKiKP	06 04 09.0	+0.1
	baz=17,slow=2.4					
BRG			*e*PKPab	PKPab	06 04 16.1	+0.9
	baz=18,slow=4.2					
BRG			*e*pPKPbc	pPKPab	06 06 28.6	+2.7
MARR	Marisel-Cluj	149.26 329	⇓P	PKPbc	06 04 08.4	0.0
FBE	Freiberg	149.36 344	*e*PKPbc	PKiKP	06 04 09.1	-0.1
	baz=17,slow=2.4					
FBE			*e*PKPab	PKPab	06 04 16.2	+0.5
	baz=18,slow=4.2					
MAUC	Maruska	149.37 338	⇑*e*PKP	PKiKP	06 04 09.3	0.0
MAUC			*e*PKPAB	PKPab	06 04 16.0	+0.2
PVCC	Panska Ves	149.39 342	⇑*e*PKP	PKPbc	06 04 09.0	+0.5
PVCC			*e*PKPAB	PKPab	06 04 17.0	+1.2
ARR	Arges	149.41 326	⇑P	PKiKP	06 04 10.0	+0.4
NEUB	Neuenburg	149.47 346	*e*PKPbc	PKPbc	06 04 09.2	+0.5
	baz=17,slow=2.4					
NEUB			*e*PKPab	PKPab	06 04 16.1	0.0
	baz=18,slow=4.2					
RICC	Richard	149.50 343	⇑*e*PKP	PKiKP	06 04 09.5	0.0
RICC			*e*PKPAB	PKPab	06 04 17.4	+1.1
GTTG	Gottingen	149.52 348	*e*PKPbc	PKPbc	06 04 09.1	+0.4
	baz=17,slow=2.4					
GTTG			*e*PKPab	PKPab	06 04 16.2	-0.2
	baz=18,slow=4.2					
HSKC	Hora Svate Kat	149.62 344	⇑*e*PKP	PKPbc	06 04 09.4	+0.3
VYHS	Vyhne	149.72 336	*e*PKP	PKPbc	06 04 09.8	+0.4
VYHS			*e*		06 04 17.9	
VYHS			*e*		06 06 33.9	
PSZ	Piszkesteto	149.76 334		PKPbc	06 04 09.4	-0.2
PRA	Prague	149.84 342	⇑*e*PKP	PKPbc	06 04 10.0	+0.5
PRA			*e*PKPAB	PKPab	06 04 18.0	+0.3
VRAC	Vranov	149.84 339	*e*PKP	PKPbc	06 04 10.1	+0.5
VRAC			*e*		06 04 18.5	
VRAC			*e*		06 06 31.0	
JAVC	Velka Javorina	149.85 337	*e*PKP	PKiKP	06 04 11.4	+1.1
JAVC			*e*		06 06 33.2	
PRU	Pruhonice	149.88 342	⇑*e*PKP	PKPbc	06 04 09.9	+0.2
PRU			*e*PKPAB	PKPab	06 04 18.5	+0.6
MOX	Moxa	150.03 346	*e*PKPbc	PKPbc	06 04 09.8	-0.2
	baz=17,slow=2.4					
MOX			*e*PKPab	PKPab	06 04 17.8	-0.8
	baz=18,slow=4.2					
TANN	Tannenbergstha	150.05 345	*e*PKPbc	PKPbc	06 04 10.6	+0.5
	baz=17,slow=2.4					
TANN			*e*PKPab	PKPab	06 04 18.6	0.0
	baz=18,slow=4.2					
WERD	Werda	150.05 345	*e*PKPbc	PKPbc	06 04 10.3	+0.2
	baz=17,slow=2.4					
WERD			*e*PKPab	PKPab	06 04 18.8	+0.2
	baz=18,slow=4.2					
PLN	Plauen	150.06 345	*e*PKPbc	PKPbc	06 04 10.4	+0.3
	baz=17,slow=2.4					
BUG	Bochum--Univer	150.06 352	*e*PKPbc	PKPbc	06 04 09.9	0.0
	baz=17,slow=2.4					
KRUC	Moravsky	150.12 339	*e*PKP	PKPbc	06 04 10.6	+0.4
KRUC			*e*		06 04 19.4	
KRUC			*e*		06 06 30.7	
KASTN	Kahler Asten	150.12 350	*e*PKPbc	PKPbc	06 04 10.4	+0.2
	baz=17,slow=2.4					
GUNZ	Gunzen	150.13 345	*e*PKPbc	PKPbc	06 04 10.6	+0.3
	baz=17,slow=2.4					
GUNZ			*e*PKPab	PKPab	06 04 19.4	+0.4
	baz=18,slow=4.2					
WERN	Wernitzgruen	150.19 345	*e*PKPbc	PKiKP	06 04 11.1	+0.1
	baz=17,slow=2.4					
WERN			*e*PKPab	PKPab	06 04 19.7	+0.5
	baz=18,slow=4.2					
SIRR	Siria	150.25 330	⇑P	PKiKP	06 04 11.3	+0.1
GZR	Gura Zlata	150.34 327	⇑P	PKPbc	06 04 11.0	0.0
MODS	Modra-Piesok	150.40 337	*e*PKP	PKiKP	06 04 11.8	+0.4
MODS			*e*		06 04 21.1	
MODS			*e*		06 06 34.9	
SURR	Surduc	150.41 329	⇑P	PKPbc	06 04 11.1	+0.1
ZVC	Zvikov	150.47 342	⇑*e*PKP	PKPbc	06 04 11.3	+0.2
ZVC			*e*PKPAB	PKPab	06 04 21.1	+0.7
MANZ	Manzenberg	150.53 345	*e*PKPbc	PKiKP	06 04 11.7	0.0
	baz=17,slow=2.4					
MANZ			*e*PKPab	PKPab	06 04 20.8	+0.2
	baz=18,slow=4.2					
ROTZ	Rotzenmuhle	150.71 345	*e*PKPbc	PKPbc	06 04 11.7	+0.1
	baz=17,slow=2.4					
BZS	Buzias	150.75 329	⇓P	PKPbc	06 04 11.1	-0.7
MANT	Manisa	150.86 311	PKPdf	PKPdf	06 04 05.2	-1.1
HERR	Herculane	150.89 327	⇑P	PKiKP	06 04 13.0	+0.5
KHC	Kasperske Hory	150.93 342	⇑*e*PKP	PKPbc	06 04 12.3	+0.1
KHC			*e*PKPAB	PKPab	06 04 23.1	+0.7
CKRC	Cesky Krumlov	150.99 341	⇑*e*PKP	PKPbc	06 04 12.5	+0.2
CKRC			*e*PKPAB	PKPab	06 04 23.1	+0.5
GRF	Grafenberg Arr	151.01 346	*e*PKPbc	PKiKP	06 04 12.9	+0.3
	baz=17,slow=2.4					
GRF			*e*PKPab	PKPab	06 04 23.1	+0.4
	baz=18,slow=4.2					
BTNL	Ternell	151.04 353	*d*PKP	PKPbc	06 04 12.5	+0.2
TNS	Taunus Mts	151.06 350	*e*PKPbc	PKPbc	06 04 12.7	+0.3
	baz=17,slow=2.4					
TNS			*e*PKPab	PKPab	06 04 22.9	0.0
	baz=18,slow=4.2					
GEC2	GERESS Array S	151.15 342	*e*PKPbc	PKPbc	06 04 12.5	-0.3
	baz=17,slow=2.4					
GEC2			*e*PKPab	PKPab	06 04 23.3	-0.1
	baz=18,slow=4.2					
GERES	GERESS Array B	151.15 342	PKPbc	PKPbc	06 04 12.5	-0.3
	comp=Z,4.7nm,0.7s,baz=38,slow=2.4,SNR=17					
GERES			PKPab	PKPab	06 04 23.3	-0.1
	comp=Z,2.9nm,0.6s,baz=46,slow=3.9,SNR=7.4					
CONA	Conrad Observa	151.28 338	*i* PKP	PKPbc	06 04 13.3	+0.2
	comp=Z,11nm,0.8s					
CONA			*i* PKP	PKPab	06 04 24.3	+0.4
	comp=Z,9.6nm,0.6s					
BCLA	Clavier	151.30 354	*d*PKP	PKPab	06 04 23.6	-0.2
MDVR	Moldovita	151.31 328	⇑P	PKPbc	06 04 13.2	0.0
RONA	Rosalia, Austr	151.32 338	*i* PKP	PKPbc	06 04 13.3	+0.2
	comp=Z,14nm,0.6s,SNR=9.1					
RONA			*i* PKP	PKPab	06 04 25.0	+0.9
	comp=Z,20nm,1.2s					
BMRD	Maredsous	151.46 354	*d*PKP	PKPbc	06 04 13.0	-0.3
MORH	Mrgy, Hungar	151.63 333	⇑P	PKPbc	06 04 13.9	+0.1
DOU	Dourbes	151.68 355	*d*PKP	PKPbc	06 04 13.2	-0.5
MOA	Molln	151.87 340	*e*PKiKP	PKiKP	06 04 16.3	+1.8
	comp=Z,6.3nm,0.9s					
MOA			*e*PKP	PKPab	06 04 27.2	+0.8
	comp=Z,13nm,0.9s					
ARSA	Arzberg	151.97 338	*i* PKP	PKPab	06 04 27.2	+0.4
	comp=Z,6.1nm,0.7s					
VTS	Vitosha	151.98 323	⇑P	PKiKP	06 04 15.7	+0.7
BOVS	Bovan	152.12 326	⇑P	PKPbc	06 04 13.9	-1.0
BIOA	Bad Ischl, Aus	152.20 341	*i* PKP	PKPab	06 04 28.4	+0.6
	comp=Z,15nm,0.8s					
SOKA	Soboth	152.64 338	*i* PKP	PKPbc	06 04 15.6	-0.5
	comp=Z,7.1nm,1.4s					
SOKA			*i* PKP	PKPab	06 04 29.6	-0.2
	comp=Z,14nm,1.1s					
LESA	Schwarzleotal	152.73 342	*e*PKP	PKPbc	06 04 15.8	-0.5
	comp=Z,2.2nm,0.5s					
LESA			*i* PKP	PKPab	06 04 30.7	+0.6
	comp=Z,29nm,1.9s					
KBA	Koelnbreinsper	152.84 341	*e*PKP	PKPbc	06 04 16.8	+0.1
	comp=Z,1.4nm,0.4s					
KBA			*i* PKP	PKPab	06 04 31.6	+0.9
	comp=Z,9.0nm,0.5s					
OBKA	Obir	152.95 338	*e*PKP	PKiKP	06 04 17.4	+0.5
	comp=Z,2.5nm,0.6s					
OBKA			*e*PKP	PKPab	06 04 30.8	-0.3
	comp=Z,10nm,0.9s,SNR=5.9					
WATA	Walderalm	153.11 343	*e*PKP	PKPbc	06 04 16.7	-0.5
	comp=Z,3.7nm,0.5s					
WATA			*i* PKP	PKPab	06 04 32.2	+0.4
	comp=Z,18nm,1.0s					
MYKA	Terra Mystica	153.15 340	*i* PKP	PKPab	06 04 31.6	-0.3
	comp=Z,6.2nm,0.6s					
WTTA	Wattenberg	153.16 343	*e*PKP	PKPbc	06 04 17.0	-0.3
	comp=Z,4.3nm,0.5s					
WTTA			*i* PKP	PKPab	06 04 32.4	+0.3
	comp=Z,15nm,0.6s					
RETA	Reutte	153.18 345	*e*PKP	PKPbc	06 04 17.5	+0.2
	comp=Z,3.1nm,0.6s					
RETA			*i* PKP	PKPab	06 04 32.2	+0.2
	comp=Z,5.2nm,0.6s					
MOTA	Moosalm	153.23 344	*i* PKP	PKPbc	06 04 17.6	+0.2
	comp=Z,8.7nm,1.2s					
MOTA			*i* PKP	PKPab	06 04 32.4	+0.1
	comp=Z,20nm,1.2s					
SQTA	Sankt Quirin	153.32 344	*e*PKP	PKPbc	06 04 17.4	-0.2
	comp=Z,5.0nm,0.9s					
SQTA			*i* PKP	PKPab	06 04 33.5	+0.8
	comp=Z,7.8nm,0.9s					
ABTA	Abfaltersbach	153.39 341	*i* PKP	PKPbc	06 04 17.4	-0.3
	comp=Z,3.7nm,0.5s					
ABTA			*i* PKP	PKPab	06 04 33.1	+0.1
	comp=Z,13nm,0.6s					
CRNS	Crni Vrh	153.42 338	*i* PKPbc	PKPbc	06 04 17.0	-0.7
CRNS			*i* PKPab	PKPab	06 04 32.4	-0.6
VISS	Visnje	153.46 337	*i* PKPbc	PKPbc	06 04 17.7	-0.1
VISS			*i* PKPab	PKPab	06 04 33.0	-0.2
GBAS	Gorenja Brezov	153.49 338	*i* PKPbc	PKPbc	06 04 17.4	-0.4
GBAS			*i* PKPab	PKPab	06 04 32.9	-0.5
DAVA	Damuels	153.58 346	*i* PKP	PKPab	06 04 33.3	-0.5
	comp=Z,10.0nm,0.7s					
FETA	Feichten	153.62 344	*i* PKP	PKPdf	06 04 10.1	+0.1
	comp=Z,4.2nm,1.1s					
FETA			*i* PKP	PKPab	06 04 34.5	+0.4
	comp=Z,8.3nm,1.0s					
PDG	Podgorica	154.24 327	⇑P	PKPab	06 04 36.1	-0.6
PDG	Podgorica	154.24 327	PKPab	PKPab	06 04 36.6	0.0
CTI	Castel Tesino	154.27 342	PKPab	PKPab	06 04 36.4	-0.4
TUE	Stuetta	154.47 346	PKPab	PKPab	06 04 38.0	+0.3
MATE	Matera	156.84 327	⇑P	PKPab	06 04 47.5	-0.4
TIP	Timpagrande	157.91 325	⇑P	PKPab	06 04 53.3	+0.6
TIP	Timpagrande	157.91 325	PKPab	PKPab	06 04 53.3	+0.6
ESDC	Sonseca Array	161.87 11	PKPab	PKPab	06 05 09.6	-0.3
	comp=Z,2.8nm,1.1s,baz=333,slow=3.1,SNR=8.2					
LIC	Lamto	163.50 160	⇓*i*PKP2	PKPab	06 05 18.4	+0.8
	comp=Z,29nm,0.6s					
KIC	Kosan Boka	163.72 161	⇓*i*PKP2	PKPab	06 05 19.4	+0.9
	comp=Z,35nm,0.7s					
TIC	Toumodi	163.90 160	⇑*i*PKP2	PKPab	06 05 19.9	+0.5
	comp=Z,6.5nm,0.3s					
DBIC	Dimbokro	163.97 160	PKPdf	PKPdf	06 04 21.1	-1.6
DBIC			PKPab	PKPab	06 05 20.4	+0.8
KEST	Kesra	164.23 333	PKPdf	PKPdf	06 04 20.2	-2.2
KEST			PKPab	PKPab	06 05 20.3	-0.2
KEST	Kesra	164.23 333	PKPab	PKPab	06 05 20.1	-0.4
	comp=Z,9.7nm,0.9s,baz=266,slow=1.5,SNR=8.2					
TORD	Torodi Ar. Bea	171.23 187	PKPdf	PKPdf	06 04 26.6	-1.0
TORD	Torodi Ar. Bea	171.23 187	PKP	PKPdf	06 04 26.4	-1.3
	comp=Z,1.4nm,0.8s,baz=270,slow=1.4,SNR=7.2					
TORD			PKPab	PKPab	06 05 51.5	-0.2
	comp=Z,3.3nm,0.8s,baz=172,slow=2.7,SNR=15					
TORD			PP	PP	06 09 41.4	-0.5
	comp=Z,0.9nm,0.8s,baz=156,slow=4.8,SNR=4.6					

WEL ***02*** *06:00:00,41°.71S×174°.32E,h23km,ML4.3,Mw4.2, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}2.17; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-1.98; $M_{r\theta}$0.09; $M_{\theta\phi}$-0.51; $M_{\phi r}$1.08; Fault plane solution: $M_0$2.40000×10^{15} NP1: ϕ_s199.00000°,δ32.00000°,λ97.00000°. NP2:ϕ_s10.00000°, δ58.00000°,λ85.00000°. Principal axes: T -236.4500, Plg76.0000°, Azm266.0000°; N -6.8300, Plg4.0000°, Azm12.0000°; P 243.2800, Plg13.0000°, Azm103.0000°;*

IDC ***02*** *06:00:33.3±0.8,41°.55S×174°.25E,h0km,mb4.3/4, mbtmp4.2/6,ML3.6/2,MS3.7/4 Error ellipse: s-maj=32.8km s-min=22.0km az=112.0*

NOU ***02*** *06:00:35.9,41°.90S×174°.57E,h11km,MLv4.7/14,Cook Strait, New Zealand*

NEIC ***02*** *06:00:36.7±2.3,41°.76S±0°.03×174°.38E±0°.03,h18km±2km, mb4.6/11,Mwr4.2/25,Error ellipse: s-maj=5.1km s-min=1.5km az=148.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.02; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-1.83; $M_{r\theta}$-0.05; $M_{\theta\phi}$-0.58; $M_{\phi r}$0.65; Fault plane solution: $M_0$2.12000×10^{15} NP1:ϕ_s11.18000°,δ53.65000°, λ82.24000°. NP2:ϕ_s204.12000°,δ37.06000°,λ100.39000°. Principal axes: T 2.1312, Plg80.0000°, Azm249.0000°; N -0.0285, Plg6.0000°, Azm16.0000°; P -2.1027, Plg8.0000°, Azm107.0000°;*

WEL ***02*** *06:00:37.6±0.5,42°.52±3°.×17°.4E±°,h13km±4km,M4.4/70, ML4.6/13,MLv4.4/70 Error ellipse: s-maj=0.0km s-min=0.0km az=133.9,confirmed*

NEIC ***02*** *06:00:37.1,41°.76S×174°.36E,h24km*

ISC 02 06:00:36.9±0.7,**41°.78S**±0°.03×**174°.37E**±0°.02,**h23**km±4km, **n189**,σ1§14/213,**mb4.6**/13,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.12	282		Pb	06 00 41.3	-0.1
CMWZ				Sg	Sb	06 00 44.8	+0.2
CMWZ	Cape Campbell	0.12	282	P	Pb	06 00 41.3	-0.1
CMWZ				S	Sb	06 00 44.6	+0.1
BSWZ	Blackbirch Sta	0.38	279		Pb	06 00 44.7	-0.3
BSWZ				Sg	Sb	06 00 50.4	0.0
BSWZ	Blackbirch Sta	0.38	279	P	Pb	06 00 44.7	-0.3
BSWZ				S	Sb	06 00 50.4	0.0
TUWZ	Tuamarina	0.47	317		Pb	06 00 45.7	-0.8
TUWZ				Sg	Sb	06 00 52.0	-1.0
TUWZ	Tuamarina	0.47	317	P	Pb	06 00 45.7	-0.8
TUWZ				S	Sb	06 00 52.0	-1.0
BHW	Baring Head	0.53	46	Pg	Pb	06 00 47.9	+0.5
BHW				Sg	Sn	06 00 56.3	-0.8
SNZO	South Karori	0.53	29		Pb	06 00 47.6	+0.1
SNZO				Sg	Sb	06 00 55.2	+0.5
SNZO	South Karori	0.53	29	P	Pb	06 00 47.4	-0.1
TCW	Tory Channel	0.57	353	Pg	Pb	06 00 47.4	-0.8
TCW				Sg	Sb	06 00 54.7	-1.1
TCW	Tory Channel	0.57	353	P	Pb	06 00 47.4	-0.8
TCW				S	Sb	06 00 54.8	-1.1
WEL	Wellington	0.57	32	P	Pb	06 00 48.6	+0.3
WEL				S	Sb	06 00 57.0	+1.0
PLWZ	Palliser	0.69	73	Pg	Pn	06 00 51.8	+0.5
PLWZ	Palliser	0.69	73	P	Pn	06 00 51.8	+0.5
PLWZ				S	Sn	06 01 03.8	+2.4
MSWZ	Moikau Station	0.75	62	Pg	Pn	06 00 52.9	+0.9
MSWZ					Sn	06 01 04.7	+1.9
MSWZ	Moikau Station	0.75	62	P	Pn	06 00 53.0	+

VRZ	Vera Road	2.66	7	P		Pn	06 01 20.7 +2.4
FWVZ	Far West T-bar	2.67	20	P		Pn	06 01 20.4 +1.7
TUVZ	Tukino	2.69	22	P		Pn	06 01 20.4 +1.5
MHCZ	Mount Hutt	2.71	229	P		Pn	06 01 18.6 -0.4
KAHZ	Kahuranaki	2.75	45	P		Pn	06 01 18.4 -1.1
NGZ	Ngauruhoe	2.76	20	P		Pn	06 01 21.7 +1.8
OTVZ	Oturere	2.79	21	P		Pb	06 01 26.5 +0.5
NNVZ	North Ngauruho	2.81	20	P		Pn	06 01 22.2 +1.7
WTVZ	West Tongariro	2.81	20	P		Pb	06 01 27.5 +1.0
TWVZ	Taurewa	2.82	17	P		Pn	06 01 22.3 +1.7
ETVZ	East Tongariro	2.83	22	P		Pb	06 01 26.8 +0.1
TMVZ	Te Maari	2.84	21	P		Pb	06 01 27.6 +0.6
KRVZ	Karewarewa	2.85	20	P		Pb	06 01 27.8 +0.7
WACZ	Wakanui South	2.86	220	P		Pn	06 01 21.0 0.0
MCHZ	McNeill Hill	2.92	38	P		Pn	06 01 21.5 -0.5
WVZ	Waitaha Valley	2.99	243	P		Pn	06 01 23.3 +0.5
BKZ	Black Stump Fm	3.07	33	Pn		Pn	06 01 23.5 -0.5
BKZ	Black Stump Fm	3.07	33	P		Pn	06 01 23.7 -0.3
BKZ	Black Stump Fm	3.07	33	P		Pn	06 01 23.3 -0.7
BKZ				P		Pb	06 01 23.4 -7.3
RATZ	Rangitukua	3.10	21	P		Pb	06 01 31.8 +0.6
RPZ	Rata Peaks	3.12	230	P		Pn	06 01 24.7 +0.1
RPZ	Rata Peaks	3.12	230	P		Pn	06 01 24.6 -0.1
RPZ	Rata Peaks	3.12	230	Pn		Pn	06 01 24.5 -0.1
	19nm,0.3s,baz=83,slow=2.8,SNR=58						
RPZ				Sn		Sn	06 02 00.5 -0.7
	23nm,0.3s,baz=314,slow=19,SNR=8.1						
RPZ				LR		LR	06 02 55.9
	comp=Z,811nm,18.0s,baz=38,slow=44						
	44nm,0.3s						
ARCZ	Arundel	3.20	226	P		Pn	06 01 25.5 -0.3
ARHZ	Aropaoanui	3.21	39	P		Pn	06 01 24.9 -1.0
NMHZ	Naumai	3.26	36	P		Pn	06 01 25.9 -0.7
HIZ	Hauiti	3.28	7			Pn	06 01 28.9 +2.1
HIZ	Hauiti	3.28	7	P		Pn	06 01 29.2 +2.4
HIZ	Hauiti	3.28	7	P		Pn	06 01 29.0 +2.1
GCSZ	Gaunt Creek Bo	3.36	241	P		Pn	06 01 28.6 +0.7
MTHZ	Maungataniwha	3.48	34	P		Pn	06 01 28.9 -0.7
TMZ	Timaru	3.59	222	P		Pn	06 01 30.7 -0.4
PRRZ	Plateau Road	3.62	26	P		Pb	06 01 38.1 -2.0
MUGZ	Murupara	3.77	30	P		Pn	06 01 34.4 +0.8
FOZ	Fox Glacier	3.79	241	Pn		Pn	06 01 34.5 +0.7
FOZ	Fox Glacier	3.79	241	P		Pn	06 01 34.5 +0.7
PRGZ	Paritu Road	3.91	44	P		Pn	06 01 33.8 -1.8
RIGZ	Rimuhau	4.02	41	P		Pn	06 01 34.9 -2.1
LBZ	Lake Benmore	4.03	228	Pn		Pn	06 01 37.0 -0.2
LBZ	Lake Benmore	4.03	228	P		Pn	06 01 37.4 +0.3
URZ	Urewera	4.09	32	P		Pn	06 01 38.3 +0.3
URZ	Urewera	4.09	32	P		Pn	06 01 36.6 -1.4
URZ	Urewera	4.09	32	Pn		Pn	06 01 36.6 -1.4
	1.5nm,0.3s,baz=245,slow=17,SNR=12						
URZ				Sn		Sn	06 02 22.3 -2.8
	5.7nm,0.3s,baz=180,slow=20,SNR=4.0						
	4.4nm,0.3s						
TOZ	Tahuroa Road	4.13	13	Pn		Pn	06 01 37.7 -0.8
TOZ	Tahuroa Road	4.13	13	P		Pn	06 01 40.2 +1.7
ODZ	Otahua Downs	4.25	218	Pn		Pn	06 01 39.7 -0.4
ODZ	Otahua Downs	4.25	218	P		Pn	06 01 39.8 -0.4
ODZ	Otahua Downs	4.25	218	P		Pn	06 01 39.4 -0.7
RUGZ	Raukumara Rang	4.58	35	P		Pn	06 01 42.9 -1.9
JCZ	Jackson Bay	4.70	239	P		Pn	06 01 46.8 +0.4
JCZ	Jackson Bay	4.70	239	P		Pn	06 01 45.7 -0.8
MKAZ	Moumakai	4.70	8	P		Pn	06 01 47.7 +1.3
AWAZ	Awhitu Peninsu	4.71	3	P		Pn	06 01 49.6 +3.2
HAZ	Te Kaha	4.80	34	P		Pn	06 01 46.3 -1.4
ETAZ	East Tamaki Re	4.83	5	P		Pn	06 01 50.2 +2.0
WTAZ	Waiatarua	4.84	2	P		Pb	06 01 55.0 -6.0
WKZ	Wanaka	4.96	230	Pn		Pn	06 01 49.6 -0.3
WKZ	Wanaka	4.96	230	P		Pn	06 01 49.5 -0.4
EAZ	Earnscleugh	5.05	225	P		Pn	06 01 51.1 -0.1
KUZ	Kuaotunu	5.13	12	P		Pn	06 01 55.9 +3.6
MXZ	Matakaoa Point	5.19	37	Pn		Pn	06 01 51.8 -1.2
TUZ	Tuapeka	5.40	218	P		Pn	06 01 55.6 -0.4
MSZ	Milford Sound	5.53	236	P		Pn	06 01 59.5 +1.8
MLZ	Mavora Lakes	5.79	230	Pn		Pn	06 02 00.8 -0.5
MLZ	Mavora Lakes	5.79	230	P		Pn	06 02 00.8 -0.5
SYZ	Scrubby Hill	6.07	217	P		Pn	06 02 06.4 +1.3
SYZ	Scrubby Hill	6.07	217	P		Pn	06 02 05.3 +0.2
WHZ	Wether Hill Ro	6.21	226	Pn		Pn	06 02 05.5 -1.5
DCZ	Deep Cove	6.41	232	Pn		Pn	06 02 09.1 -0.7
OUZ	Omahuta	6.57	354	P		Pn	06 02 15.0 +3.0
OUZ	Omahuta	6.57	354	P		Pn	06 02 15.0 +3.0
CTZ	Chatham Island	6.92	109	Pn		Pn	06 02 16.9 +0.1
CTZ	Chatham Island	6.92	109	P		Pn	06 02 16.9 +0.1
RAO	Raoul Island	13.97	29	LR		LR	06 08 34.1
	comp=Z,748nm,18.7s,baz=295,slow=35						
EIDS	Eidsvold	25.26	303	P		P	06 06 02.2 +0.9
EIDS				IAmb		IAmb	06 06 19.3
	comp=Z,18nm,1.2s						
BBOO	Buckleboo	31.55	274	P		P	06 06 57.5 +0.1
BBOO				IAmb		IAmb	06 07 18.7
	comp=Z,17nm,1.4s						
AS31	Alice Springs	38.12	285	P		P	06 07 51.5 -2.7
AS31				IAmb		IAmb	06 07 51.8
	comp=Z,1.7nm,0.3s						
ASAR	Alice Springs	38.12	285	P		P	06 07 51.1 -3.1
ASAR	Alice Springs	38.12	285	PcP		PcP	06 10 07.1 -1.8
	comp=Z,0.3nm,0.7s,baz=113,slow=4.5,SNR=1.7						
ASAR				LR		LR	06 23 54.6
	comp=Z,76nm,18.2s,baz=132,slow=37						
FORT	Forrest	38.50	271	P		P	06 07 56.9 -0.4
FORT				IAmb		IAmb	06 08 08.3
	comp=Z,30nm,1.4s						
WR0	Warramunga Arr	40.04	291	P		P	06 08 09.2 -1.1
WRA	Warramunga Arr	40.20	290	P		P	06 08 10.7 -0.9
WRA	Warramunga Arr	40.20	290	P		P	06 08 10.4 -1.2
	comp=Z,4.0nm,0.7s,baz=128,slow=8.0,SNR=39						
WRA				PcP		PcP	06 10 13.8 -1.7
	comp=Z,0.4nm,0.7s,baz=132,slow=2.8,SNR=1.4						
	comp=Z,4.0nm,0.7s						
WB0	Warramunga Arr	40.27	291	P		P	06 08 11.5 -0.8
WB0				IAmb		IAmb	06 08 12.3
	comp=Z,7.0nm,1.1s						
KNRA	Kununurra	46.98	290	P		P	06 09 07.3 +1.1
KNRA				IAmb		IAmb	06 09 16.9
	comp=Z,10nm,1.1s						
MTN	Manton Dam	47.31	295	P		P	06 09 08.6 -0.2
MORW	Morawa	48.35	266	P		P	06 09 16.6 -0.1
PSA00	Pilbara Seismi	49.71	276	P		P	06 09 25.5 -1.7
PSA00				IAmb		IAmb	06 09 27.1
	comp=Z,4.4nm,1.1s						
MAW	Mawson	59.47	204	P		P	06 10 36.5 -0.9
MAW	Mawson	59.47	204	P		P	06 10 38.7 +1.3
	comp=Z,1.2nm,0.8s,baz=105,slow=16,SNR=2.1						
	comp=Z,1.2nm,0.8s						
SNAA	Sanae	66.84	181	P		P	06 11 27.9 +1.5
	comp=Z,1.6nm,0.8s,baz=186,slow=9.3,SNR=4.1						
	comp=Z,1.6nm,0.8s						
CMAR	Chiang Mai Arr	91.73	293	P		P	06 13 42.9 +0.2
	comp=Z,1.5nm,0.3s,baz=156,slow=3.2,SNR=7.1						
CMAR				LR		LR	06 59 57.1
	comp=Z,15nm,18.4s,baz=180,slow=39						
	comp=Z,1.5nm,0.3s						
PZH	PanZhiHua	95.42	301	P		P	06 14 00.6 +1.0
PZH				pmax		pmax	
	comp=Z,20nm,1.0s						
PZH				pmax		pmax	
	comp=Z,50nm,4.4s						
HHC	Hu-ho-hao-te	99.97	317	eP		Pdif	06 14 21.5 +1.7
HHC				pmax		pmax	
	comp=Z,21nm,0.8s						
HHC				pmax		pmax	
	comp=Z,150nm,3.5s						
MKAR	Makanchi Array	120.06	308	PKP		PKPdf	06 19 24.5 -0.5
	comp=Z,0.4nm,0.8s,baz=131,slow=3.3,SNR=1.8						
KURBB	Kurchatov Arra	124.06	310	PKP		PKPdf	06 19 30.9 -1.7
	comp=Z,0.3nm,0.4s,baz=112,slow=1.9,SNR=5.5						
MMAI	Mount Meron Ar	146.51	268	PKPbc		PKPbc	06 20 15.8 -0.4
	comp=Z,0.8nm,0.3s,baz=101,slow=7.5,SNR=1.8						
ARCES	ARCESS Array B	147.83	340	PKPbc		PKPdf	06 20 17.4 +1.7
	comp=Z,2.3nm,0.6s,baz=48,slow=1.8,SNR=7.4						
BRTR	Keskin Array B	150.35	279	PKPbc		PKPbc	06 20 26.1 -0.1
	comp=Z,1.5nm,0.8s,baz=104,slow=5.2,SNR=5.4						
TORD	Torodi Ar. Bea	150.77	195	PKP		PKPdf	06 20 23.0 +1.0
	comp=Z,2.3nm,0.9s,baz=133,slow=0.3,SNR=4.6						
TORD				PKPbc		PKiKP	06 20 28.6 +0.3
	comp=Z,3.1nm,0.6s,baz=142,slow=2.0,SNR=33						
TORD				PKPab		pPKPbc	06 20 35.4 0.0
	comp=Z,1.3nm,0.5s,baz=137,slow=2.3,SNR=8.4						
FINES	FINESS Array B	152.60	327	PKPbc		PKPbc	06 20 29.3 -1.0
	comp=Z,2.4nm,0.8s,baz=49,slow=5.8,SNR=5.4						

IDC 02 06:03:16.2±3.5, 54°.43N×87°.07E, h0km, mbtmp3.1/2, ML2.4/2, Error ellipse: s-maj=31.4km s-min=20.0km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.41	251	I	I	06 12 30.0	
	baz=70,slow=332,SNR=0.8						
ZALV	Zalesovo Beam	1.41	251	Pg	Pn	06 03 41.2	-1.9
	0.8nm,0.3s,baz=66,slow=16,SNR=7.6						
ZALV				Lg	Lg	06 04 01.1	
	1.0nm,0.3s,baz=72,slow=25,SNR=6.1						
KURBB	Kurchatov Arra	6.45	237	Pn	Pn	06 04 53.0	+0.6
	0.1nm,0.3s,baz=55,slow=14,SNR=5.0						
	0.6nm,0.5s						
MKAR	Makanchi Array	8.22	204	Pn	Pn	06 05 18.2	+1.5
	0.1nm,0.3s,baz=23,slow=13,SNR=2.2						
	2.0nm,1.1s						

IDC 02 06:10:36.5±3.4, 33°.64S×178°.71W, h0km, mb3.8/2, mbtmp3.9/3, ML4.0/1, MS3.0/1, Error ellipse: s-maj=75.5km s-min=37.5km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	5.72	215	Pn	Pn	06 12 03.2	+0.5
	4.3nm,0.3s,baz=96,slow=19,SNR=26						
URZ				Sn	Sn	06 13 08.5	-0.6
	2.2nm,0.3s,baz=313,slow=19,SNR=2.1						
	7.4nm,0.3s						
STKA	Stephens Creek	33.29	262	LR	LR	06 28 31.6	
	comp=Z,26nm,20.6s,baz=194,slow=32						
ASAR	Alice Springs	42.44	271	P	P	06 18 33.3	0.0
	0.6nm,0.5s,baz=110,slow=6.9,SNR=9.3						
	0.6nm,0.5s						
WRA	Warramunga Arr	43.73	276	P	P	06 18 43.6	-0.2
	0.6nm,0.3s,baz=117,slow=7.9,SNR=14						
	0.6nm,0.3s						
FINES	FINESS Array B	147.94	338	PKPbc	PKPbc	06 30 22.1	-0.9
	2.3nm,0.8s,baz=48,slow=2.1,SNR=2.2						

*PDG **02** 06:12:55.4±0.4, 43°.34N×20°.58E, h7km, MD2.9/1, ML2.8/10, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*BEO **02** 06:12:55.7±0.3, 43°.35N×20°.58E, h5km±4km, ML2.9/11*
*RHSSO **02** 06:12:57.0±0.6, 43°.37N×20°.46E, h3km±1km, ML2.9/16*

ISC 02 06:12:55.3±1.0, 43°.36N±0°.02×20°.58E±0°.01, h6km±9km, n76, σ1°.09/124, 24C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	Selova	0.42	109	ePg	Pg	06 13 03.3	-0.1
SELS				eSg	Sg	06 13 09.3	+0.4
SJES	Sjenica	0.45	258	ePg	Pg	06 13 03.6	-0.4
SJES				eSg	Sg	06 13 10.5	+0.6
SJES	Sjenica	0.45	258	⇓iPg	Pg	06 13 03.4	-0.6
SJES				eSg	Sg	06 13 09.8	-0.1
GRUS	Gruza	0.54	11	ePg	Pg	06 13 06.5	+0.8
GRUS				eSg	Sg	06 13 14.6	+1.8
IVA	Berane	0.70	226	⇓iPg	Pg	06 13 08.5	-0.2
IVA				i Sg	Sg	06 13 17.5	-0.3
DIVS	Divibare	0.85	330	ePg	Pg	06 13 11.8	+0.1
DIVS				eSg	Sg	06 13 23.9	+1.1
DIVS	Divibare	0.85	330	⇑iPg	Pg	06 13 11.5	-0.2
DIVS				eSg	Sg	06 13 23.0	+0.2
PLE	Pljevlja	0.87	269	⇓iPg	Pg	06 13 11.6	-0.3
PLE				i Sg	Sg	06 13 22.2	-1.0
BOVS	Bovan	0.87	71	⇑P	Pg	06 13 11.9	-0.1
BOVS				⇑S	Sg	06 13 23.5	+0.3
BOVS	Bovan	0.87	71	ePg	Pg	06 13 11.6	-0.4
BOVS				eSg	Sg	06 13 23.6	+0.3
TRUS	Trudelj	0.87	352	ePg	Pg	06 13 12.0	-0.1
PVY	Plav	0.89	211	⇑iPg	Pg	06 13 11.7	-0.6
PVY				i Sg	Sg	06 13 23.2	-0.7
RUDO	Rudo	0.92	287	ePg	Pg	06 13 11.4	-1.5
RUDO				eSg	Sg	06 13 23.2	-1.6
BBLS	Lazići	0.99	301	ePg	Pg	06 13 13.8	-0.5
BBLS				eSg	Sg	06 13 26.8	-0.4
BBLS	Lazići	0.99	301	⇑iPg	Pg	06 13 13.8	-0.5
BBLS				eSg	Sg	06 13 26.4	-0.8
SVIS	Svilajnac	1.02	27	ePg	Pg	06 13 14.9	0.0
SVIS				eSg	Sg	06 13 27.9	-0.2
BARS	Barje	1.06	120	ePg	Pg	06 13 15.0	-0.6
BARS				eSg	Sg	06 13 28.9	-0.4
BARS	Barje	1.06	120	ePg	Pg	06 13 15.2	-0.3
BARS				eSg	Sb	06 13 30.2	+0.1
UPM	Unac-Piva	1.23	263	ePg	Pg	06 13 18.1	-0.9
UPM				eSg	Sg	06 13 33.0	-1.9
UPM	Unac-Piva	1.23	263	⇑iPg	Pg	06 13 18.0	-0.9
UPM				i Sg	Sn	06 13 37.1	+0.8
ZAGS	Zajecar	1.29	69	ePg	Pn	06 13 19.2	-0.7
ZAGS				eSg	Sg	06 13 36.2	-0.5
KUBS	Kucevo	1.32	37	ePg	Pn	06 13 19.8	-0.5
KUBS				eSg	Sg	06 13 37.2	-0.5
NKME	Niksic	1.33	244	⇓iPg	Pn	06 13 19.7	-0.8
NKME				i Sg	Sn	06 13 40.4	+1.9
PDG	Podgorica	1.34	227	⇑P	Pn	06 13 19.8	-0.8
PDG				⇑S	Sb	06 13 36.9	-1.4
PDG	Podgorica	1.34	227	⇑iPg	Pn	06 13 19.6	-1.0
PDG				eSg	Sb	06 13 37.9	-0.4
PDG	Podgorica	1.34	227	⇓iPg	Pn	06 13 19.8	-0.8
PDG				i Sg	Sn	06 13 40.7	+1.9
PRVS	Prvonek	1.39	127	ePg	Pn	06 13 20.9	-0.4
PRVS				eSg	Sb	06 13 40.0	+0.2
TEKS	Tekeris	1.41	328	ePg	Pn	06 13 20.6	-1.0
TEKS				eSg	Sn	06 13 41.2	+0.6
TEKS	Tekeris	1.41	328	ePg	Pn	06 13 20.7	-0.9
TEKS				eSg	Sb	06 13 40.2	-0.2
BEO	Beograd	1.45	357	ePg	Pn	06 13 20.8	-1.3
BEO				eSg	Sn	06 13 42.2	+0.7
CEME	Cevo	1.46	237	⇓iPg	Pn	06 13 21.6	-0.7
CEME				i Sg	Sg	06 13 44.8	+2.5
ZAPS	Zavoj	1.50	93	ePg	Pn	06 13 22.5	-0.4
ZAPS				eSg	Sn	06 13 42.1	-0.8
BLKB	Belogradchik	1.55	79	⇑S	Sn	06 13 43.7	-0.4
DRME	Dracevica, Mon	1.56	222	ePg	Pn	06 13 24.0	+0.4
DRME				eSg	Sb	06 13 44.7	+0.2
DRME	Dracevica, Mon	1.56	222	⇓iPg	Pn	06 13 23.2	-0.4
DRME				i Sg	Sg	06 13 47.0	+1.7
BUM	Brajici-Budva	1.63	230	⇑iPn	Pb	06 13 25.7	-0.1
BUM				i Sn	Sg	06 13 48.8	+1.2
MDVR	Moldovita	1.64	30	⇓P	Pb	06 13 26.7	+0.7
MDVR				⇑S	Sg	06 13 49.5	+1.4
BOSS	Bosilegrad	1.64	121	ePg	Pn	06 13 24.1	-0.7
BOSS				eSg	Sg	06 13 47.9	-0.2
ULC	Ulcinj	1.71	216	⇑iPn	Pn	06 13 26.5	+0.9
ULC				i Sn	Sg	06 13 50.1	0.0
TREB	Trebinje	1.75	249	ePn	Pb	06 13 27.5	-0.4
TREB				eSn	Sn	06 13 49.9	+1.0
HCY	Herceg Novi	1.78	240	⇑iPn	Pn	06 13 27.7	+1.0
HCY				eSn	Sn	06 13 50.2	+0.6
HCY	Herceg Novi	1.78	240	⇑iPn	Pn	06 13 27.4	+0.7
HCY				i Sn	Sg	06 13 52.4	-0.1
NEVS	Nevesinje	1.81	269	ePn	Pn	06 13 27.4	+0.3
NEVS				eSn	Sn	06 13 50.3	0.0
DBRK	Dubrovnik	1.91	250	ePn	Pn	06 13 29.3	+0.9
HERR	Herculane	2.02	40	⇑P	Pn	06 13 29.9	0.0
STIP	Stip	2.04	144	ePn	Pn	06 13 28.3	-2.0
VTS	Vitosha	2.09	110	⇓P	Pn	06 13 29.2	-1.8
STON	Ston	2.16	258	ePn	Pn	06 13 33.1	+1.3
STON	Ston	2.16	258	⇑iPn	Pn	06 13 33.0	+1.1
STON				eSn	Sn	06 13 59.4	+0.4
OHR	Ohrid	2.25	176	ePn	Pn	06 13 33.9	+0.7
OHR				eSg	Sg	06 14 11.0	+3.4
SRE	Strehaia	2.30	55	⇓P	Pn	06 13 34.4	+0.5
BZS	Buzias	2.38	18	⇑P	Pb	06 13 37.5	-1.0
RICI	Ricice	2.51	274	ePn	Pn	06 13 37.9	+1.2
SRKY	Kupres RS	2.57	287	ePn	Pn	06 13 38.3	+0.6
SRKY				eSn	Sn	06 14 09.6	+0.3
GZR	Gura Zlata	2.58	37	⇑P	Pn	06 13 38.7	+1.1
MAKA	Makarska	2.60	270	ePn	Pn	06 13 39.0	+1.1
SURR	Surduc	2.64	24	⇓P	Pn	06 13 39.3	+0.9
MGRS	Mrkonjic Grad	2.74	294	ePn	Pn	06 13 40.8	+1.0
MGRS				eSn	Sn	06 14 13.2	-0.1
LSTV	Lastovo	2.76	259	ePn	Pn	06 13 41.1	+1.0
BLY	Banja Luka	2.81	301	ePn	Pn	06 13 41.8	+1.0
BLY				eSn	Sn	06 14 15.3	+0.2
SIRR	Siria	3.01	14	⇑P	Pn	06 13 45.7	+2.2
HVAR	Hvar	3.02	268	ePn	Pn	06 13 45.5	+1.8
KIJV	Kijevo	3.09	283	ePn	Pn	06 13 46.5	+1.7
LOT	Lotru	3.10	47	⇑P	Pn	06 13 45.4	+0.5
MORH	Mrgy, Hungar	3.17	335	eSn	Sn	06 14 24.9	+1.0
ARR	Arges	3.54	54	⇓P	Pn	06 13 51.5	+0.6
MOSL	Moslavina	3.54	311	ePn	Pn	06 13 50.7	-0.2
MORI	Morici	3.57	280	ePn	Pn	06 13 52.8	+1.5
MARR	Marisel-Cluj	3.78	28	⇑P	Pn	06 13 56.2	+2.1
VOIR		3.82	56	⇑P	Pn	06 13 55.8	+1.0
KALN	Kalnik	4.04	315	ePn	Pn	06 13 57.5	-0.3
DUGI	Dugi Otok	4.05	281	ePn	Pn	06 13 58.6	+0.7
MLR	Muntele Rosu	4.40	59	⇑P	Pn	06 14 02.6	-0.2
ARSA	Arzberg	5.28	319	ePn	Pn	06 14 15.3	+0.6
ARSA				eSn	Sn	06 15 13.7	-2.2
VYHS	Vyhne	5.28	347	ePN	Pn	06 14 16.8	+2.1
MODS	Modra-Piesok	5.52	336	ePN	Pn	06 14 18.5	+0.4
MODS				eSN	Sn	06 15 17.3	-4.5

*NNC **02** 06:29:15.3±1.7, 54°.76N×83°.86E, h0km, mb3.4, mpv2.8, Error ellipse: s-maj=18.4km s-min=6.6km az=30.0, Suspected Mining explosion.*
*IDC **02** 06:29:16.8±1.6, 54°.65N×83°.83E, h0km, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=15.5km s-min=9.6km az=11.0*

ISC 02 06:29:14.4±2.6, 54°.8N±0°.2×84°.04E±0°.09, h0km, n8, σ1°.28/11, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.99	152	I	I	06 35 00.0	
	baz=318,slow=326,SNR=7.4						
ZAA0	Zalesovo Array	0.99	152	⇓P	Pb	06 29 34.2	-0.2
	0.5nm,0.4s						
ZAA0				⇑S	Sb	06 29 48.2	+0.2
	8.0nm,0.8s						
ZALV	Zalesovo Beam	0.99	152	Pg	Pg	06 29 34.0	+0.7
	1.9nm,0.3s,baz=322,slow=15,SNR=14						
ZALV				Lg	Lg	06 29 47.4	
	2.8nm,0.3s,baz=325,slow=25,SNR=8.0						
KURK	Kurchatov	5.27	221	⇑Pn	Pn	06 30 34.3	0.0
	0.9nm,0.6s						
KURK				⇑Pg	Pb	06 30 48.8	+1.5
	3.5nm,1.0s						
KURK				⇑Lg	Lg	06 31 55.1	
	17nm,0.8s						
KURBB	Kurchatov Arra	5.38	221	⇓Pn	Pn	06 30 36.1	+0.3
	0.5nm,0.3s						
KURBB				⇓Pg	Pb	06 30 50.3	+1.2
	1.9nm,0.7s						
KURBB				⇓Lg	Lg	06 32 04.2	
	23nm,0.7s						
KURBB	Kurchatov Arra	5.38	221	Pn	Pn	06 30 35.2	-0.6
	0.1nm,0.3s,baz=39,slow=13,SNR=7.9						
KURBB				Sn	Sn	06 31 35.5	-2.8
	0.1nm,0.3s,baz=39,slow=27,SNR=4.8						
KURBB				Lg	Lg	06 31 59.2	
	0.1nm,0.3s,baz=43,slow=30,SNR=5.7						
	0.7nm,0.5s						
MKAR	Makanchi Array	8.12	189	Pn	Pn	06 31 13.6	+0.2
	0.1nm,0.3s,baz=11,slow=13,SNR=1.7						
	0.4nm,0.4s						
BVAR	Borovoye Array	8.26	263	Pn	Pn	06 31 14.7	-0.6
	0.1nm,0.3s,baz=77,slow=12,SNR=6.4						
	1.0nm,0.4s						

IDC 02 06:33:19.0±13.0, 3°.68N×127°.45E, h0km, mb3.8/3, mbtmp3.8/3, MS3.7/2, Error ellipse: s-maj=213.5km s-min=138.2km az=161.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.43	164	P	P	06 38 38.8	-0.8
	0.4nm,0.5s,baz=344,slow=10,SNR=15						
	0.4nm,0.5s						
ASAR	Alice Springs	27.90	167	P	P	06 39 11.7	+0.7
	0.7nm,0.5s,baz=354,slow=7.9,SNR=22						
ASAR				LR	LR	06 51 23.3	
	comp=Z,53nm,18.7s,baz=276,slow=39						
	0.7nm,0.5s						
HNR	Honiara	34.91	112	LR	LR	06 53 31.3	
	comp=Z,302nm,18.8s,baz=150,slow=35						
STKA	Stephens Creek	37.84	160	P	P	06 40 37.4	-0.1
	1.3nm,0.4s,baz=344,slow=12,SNR=4.9						
	1.3nm,0.4s						

*SJA **02** 06:42:06.6±0.7, 20°.60S×70°.34W, h38km±1km, ML3.6, MW3.6*
*GUC **02** 06:42:08.4±0.8, 20°.59S×70°.38W, h40km±2km, ML3.8*

**ISC 02 06:42:

LVC				*i* S	Sn	06 43 16.4	+1.3
LVC				IAML		06 43 22.2	
	comp=Z,710nm,0.4s						
LVC	**Limon Verde**	**2.41**	**146**	*e*P	**Pn**	**06 42 46.9**	**+0.6**
LVC				*e*S	**Sn**	**06 43 17.9**	**+2.9**
PB15	**IPOC Station P**	**2.72**	**162**	*e*P	**Pn**	**06 42 48.8**	**-1.5**
PB15				*e*S	**Sb**	**06 43 30.8**	**+1.2**
PB15				IAML		06 43 37.7	
	comp=Z,398nm,0.4s						
AF01	**San Pedro de A**	**3.10**	**139**	IAML		06 44 03.3	
	comp=N,588nm,0.4s						
PB14	**IPOC Station P**	**4.00**	**180**	*e*P	Pn	06 43 04.8	-3.3
GO02	**Mina Guanaco**	**4.59**	**171**	*e*P	**Pn**	**06 43 14.1**	**-2.1**
GO02	**Mina Guanaco**	**4.59**	**171**	*e*P	**Pn**	**06 43 14.1**	**-2.1**

*NNC **02** 06:55:17.8±1.5, 54°.22N×86°.63E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=8.2km s-min=6.9km az=68.0, Suspected Mining explosion.*

IDC 02 06:55:21.2±2.5, 54°.15N×86°.38E, h0km, mbtmp3.2/2, ML3.2/2, 4C-2D, Error ellipse: s-maj=20.6km s-min=13.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**258**	I	I	07 01 00.0	
	baz=78,slow=325,SNR=1.5						
ZAA0	**Zalesovo Array**	**0.94**	**258**	⇑P	Pg	06 55 38.6	-0.7
	0.3nm,0.3s,baz=76,slow=18						
ZAA0				⇑S	Sb	06 55 54.0	+0.6
	0.7nm,0.5s,baz=74,slow=27						
ZALV	**Zalesovo Beam**	**0.94**	**258**	Pg	Pg	06 55 38.4	-0.9
	2.7nm,0.3s,baz=76,slow=18,SNR=24						
ZALV				Lg	Lg	06 55 52.5	
	1.4nm,0.3s,baz=75,slow=28,SNR=6.3						
KURK	**Kurchatov**	**5.86**	**237**	⇓Pn	Pn	06 56 49.6	+0.3
	2.2nm,0.8s						
KURK				⇑Lg	Lg	06 58 30.1	
	1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**5.97**	**237**	⇓Pn	Pn	06 56 49.6	-1.1
	2.1nm,0.5s						
KURBB				⇑Lg	Lg	06 58 31.0	
	1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	06 56 51.7	+1.0
	0.4nm,0.3s,baz=54,slow=13,SNR=21						
KURBB				Lg	Lg	06 58 32.4	
	baz=50,slow=30,SNR=1.6						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	06 57 16.9	+0.8
	0.4nm,0.3s,baz=25,slow=13,SNR=14						
	0.5nm,0.3s						

*NNC **02** 07:23:49.1±0.3, 50°.00N×78°.74E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=6.1km s-min=1.6km az=77.0, Suspected Mining explosion.*
*IDC **02** 07:23:51.0±1.0, 50°.05N×78°.75E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=13.9km s-min=6.3km az=66.0*

ISC 02 07:23:49.7±1.0, 49°.96N±0°.05×78°.65E±0°.09, h0km, n17, σ1§28/28, 17C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.63**	**352**	⇑P	**Pg**	**07 24 00.9**	**-0.9**
KUR07				⇑S	**Sg**	**07 24 09.7**	**-0.3**
KUR06	**Kurchatov Arra**	**0.65**	**353**	⇑P	**Pg**	**07 24 01.4**	**-0.8**
KUR06				⇓S	**Sg**	**07 24 10.1**	**-0.5**
KUR14	**Kurchatov Arra**	**0.66**	**357**	⇑P	**Pg**	**07 24 01.4**	**-0.9**
KUR14				⇑S	**Sg**	**07 24 10.0**	**-0.8**
KUR15	**Kurchatov Arra**	**0.66**	**355**	⇑P	**Pg**	**07 24 01.4**	**-1.0**
KUR15				⇑S	**Sg**	**07 24 10.5**	**-0.4**
KURBB	**Kurchatov Arra**	**0.67**	**354**	⇓P	**Pg**	**07 24 01.5**	**-1.0**
	13nm,0.3s						
KURBB				⇑S	**Sg**	**07 24 11.1**	**-0.1**
	90nm,0.8s						
KURBB	**Kurchatov Arra**	**0.67**	**354**	Pg	**Pb**	**07 24 03.4**	**-0.9**
	1.5nm,0.3s,baz=166,slow=18,SNR=16						
KURBB				Lg	Lg	07 24 10.3	
	1.6nm,0.3s,baz=169,slow=31,SNR=11						
KUR16	**Kurchatov Arra**	**0.68**	**352**	⇓P	**Pg**	**07 24 01.8**	**-0.8**
KUR16				⇓S	**Sg**	**07 24 10.6**	**-0.8**
KUR17	**Kurchatov Arra**	**0.68**	**350**	⇓P	**Pg**	**07 24 01.9**	**-0.9**
KUR17				⇑S	**Sg**	**07 24 11.3**	**-0.4**
KUR05	**Kurchatov Arra**	**0.69**	**354**	⇓P	**Pg**	**07 24 02.0**	**-0.8**
KUR05				⇑S	**Sg**	**07 24 10.9**	**-0.9**
KUR04	**Kurchatov Arra**	**0.71**	**355**	⇓P	**Pg**	**07 24 02.4**	**-0.9**
KUR04				⇑S	**Sg**	**07 24 11.2**	**-1.2**
KURK	**Kurchatov**	**0.76**	**359**	⇑P	**Pg**	**07 24 02.8**	**-1.4**
	4.1nm,0.3s						
KURK				⇑S	**Sg**	**07 24 13.4**	**-0.7**
	29nm,0.6s						
MAKZ	**Makanchi**	**3.85**	**144**	⇓Lg	Lg	07 25 53.0	
	7.6nm,0.6s						
MK31	**Makanchi Array**	**3.99**	**141**	⇑Pn	**Pn**	**07 24 52.0**	**-0.1**
	0.1nm,0.1s,baz=318,slow=10.0,SNR=17						
MK31				⇑Pg	**Pg**	**07 25 03.0**	**-3.1**
	0.6nm,0.3s,baz=326,slow=13,SNR=5.5						
MK31				⇑Lg	Lg	07 25 56.2	
	5.2nm,0.6s,baz=340,slow=27,SNR=11						
MKAR	**Makanchi Array**	**3.99**	**141**	Pn	**Pn**	**07 24 53.9**	**+1.7**
	0.2nm,0.3s,baz=320,slow=10,SNR=16						
MKAR				Pg	**Pb**	**07 25 01.2**	**+0.3**
	0.5nm,0.3s,baz=321,slow=13,SNR=4.9						
MKAR				Sn	**Sn**	**07 25 43.0**	**+3.4**
	0.2nm,0.3s,baz=319,slow=16,SNR=1.6						
MKAR				Lg	Lg	07 25 56.9	
	1.1nm,0.3s,baz=322,slow=28,SNR=11						
	0.2nm,0.4s						
OTUK	**Ortayu**	**4.49**	**250**	⇑Pn	**Pn**	**07 24 59.3**	**+0.4**
	0.3nm,0.1s						
OTUK				⇓Lg	Lg	07 26 16.1	
	5.2nm,1.1s						
I46RU	**ZALESOVO INFRA**	**5.52**	**41**	I	I	07 56 20.0	
	baz=225,slow=322,SNR=1.6						
ZALV	**Zalesovo Beam**	**5.52**	**41**	Pn	**Pn**	**07 25 14.6**	**+1.5**
	0.3nm,0.3s,baz=228,slow=14,SNR=3.0						
ZALV				Lg	Lg	07 26 39.3	
	baz=231,slow=25						
	0.7nm,0.3s						

*SJA **02** 07:29:30.8±0.7, 29°.68S×71°.32W, h30km±2km, ML3.3, MW3.5*
*GUC **02** 07:29:31.0±0.8, 29°.70S×71°.22W, h43km±2km, ML3.5*

ISC 02 07:29:32.6±1.2, 29°.69S±0°.02×71°.44W±0°.05, h25km±10km, n40, σ2§20/71, 1C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.29**	**143**	⇓*i*P	**Pb**	**07 29 39.6**	**+0.1**
CO05				*i* S	**Sb**	**07 29 45.2**	**+1.0**
GO04	**Tololo Observa**	**0.74**	**131**	⇓*i*P	Pn	07 29 44.8	-3.0
GO04				*i* S	**Sb**	**07 29 54.4**	**-2.4**
GO04				IAML		07 29 56.3	
	comp=N,6μm,0.5s						
GO04	**Tololo Observa**	**0.74**	**131**	*e*P	**Pn**	**07 29 45.0**	**-2.8**
GO04				*e*S	**Sb**	**07 29 54.9**	**-2.0**
LCO	**Las Campanas**	**0.93**	**44**	⇓*e*P	**Pn**	**07 29 47.7**	**-2.6**
LCO				*i* S	**Sn**	**07 30 00.6**	**-2.5**
LCO				IAML		07 30 01.5	
	comp=N,7μm,0.2s						
LCO	**Las Campanas**	**0.93**	**44**	*e*P	**Pn**	**07 29 48.3**	**-2.1**
LCO				*e*S	**Sn**	**07 30 00.8**	**-2.3**
LCO				IAML		07 30 01.2	
	comp=Z,3μm,0.3s						
CO01	**Juntas del Tor**	**1.21**	**104**	⇓*i*P	**Pn**	**07 29 52.0**	**-2.2**
CO01				*i* S	**Sn**	**07 30 06.3**	**-3.6**
CO01				IAML		07 30 08.0	
	comp=E,870nm,0.1s						
CO01	**Juntas del Tor**	**1.21**	**104**	*e*P	**Pn**	**07 29 51.9**	**-2.2**
CO01				*e*S	**Sn**	**07 30 06.6**	**-3.3**
CO01				IAML		07 30 07.8	
	comp=Z,793nm,0.2s						
CO03	**El Pedregal**	**1.32**	**151**	*e*P	**Pn**	**07 29 53.0**	**-2.6**
CO03				*i* S	**Sn**	**07 30 07.8**	**-4.7**
CO03	**El Pedregal**	**1.32**	**151**	*e*P	Pn	07 29 52.9	-2.7
CO03				*e*S	**Sn**	**07 30 09.3**	**-3.2**
CO03				IAML		07 30 13.6	
	comp=Z,252nm,0.2s						
AC05	**El Transito**	**1.33**	**51**	⇓*i*P	**Pn**	**07 29 54.2**	**-1.4**
AC05				*i* S	**Sn**	**07 30 10.6**	**-2.1**
AC05				IAML		07 30 12.0	
	comp=N,2μm,0.2s						
AC05	**El Transito**	**1.33**	**51**	*e*P	**Pn**	**07 29 54.2**	**-1.4**
AC05				*e*S	**Sn**	**07 30 10.9**	**-1.7**
AC05				IAML		07 30 11.5	
	comp=Z,503nm,0.1s						
AC04	**Llanos de Chal**	**1.51**	**13**	*e*P	**Pn**	**07 29 57.4**	**-0.7**
AC04				*i* S	**Sn**	**07 30 16.9**	**0.0**
AC04				IAML		07 30 22.3	
	comp=E,447nm,0.2s						
AC04	**Llanos de Chal**	**1.51**	**13**	*e*P	**Pn**	**07 29 57.4**	**-0.7**
AC04				*e*S	**Sn**	**07 30 18.0**	**+1.0**
AC04				IAML		07 30 20.7	
	comp=Z,236nm,0.2s						
CO02	**Combarbal**	**1.56**	**166**	⇓*e*P	**Pn**	**07 29 56.6**	**-2.4**
CO02				*i* S	**Sn**	**07 30 16.1**	**-2.3**
CO02				IAML		07 30 22.1	
	comp=E,2μm,0.3s						
CO02	**Combarbal**	**1.56**	**166**	*e*P	**Pn**	**07 29 56.5**	**-2.4**
CO02				*e*S	**Sn**	**07 30 17.1**	**-1.4**
CO02				IAML		07 30 18.8	
	comp=Z,303nm,0.2s						
AROD	**Rodeo**	**1.78**	**106**	*e*P	**Pn**	**07 30 01.6**	**-0.5**
AROD				*e*S	**Sn**	**07 30 23.7**	**-0.3**
ACDV	**Cuesta del Vie**	**2.08**	**104**	*e*P	**Pn**	**07 30 05.9**	**-0.1**
ACDV				*e*S	**Sn**	**07 30 33.3**	**+2.1**
ACDV				IAML		07 30 33.3	
	comp=Z,140nm,0.4s						
GO03	**Copiap**	**2.34**	**27**	*e*P	**Pn**	**07 30 08.6**	**-0.9**
GO03	**Copiap**	**2.34**	**27**	*e*P	**Pn**	**07 30 08.7**	**-0.9**
GO03				*e*S	**Sb**	**07 30 42.5**	**0.0**
DOCA	**Reserva Natura**	**2.40**	**122**	*e*P	**Pn**	**07 30 11.1**	**+0.4**
RTLS	**Leoncito**	**2.80**	**139**	*e*P	**Pn**	**07 30 16.7**	**+0.6**
RTLS				*e*S	**Sb**	**07 30 57.5**	**+1.3**
RTLS				IAML		07 31 03.0	
	comp=Z,183nm,0.4s						
VCA	**Vinchina**	**2.98**	**72**	*e*P	**Pn**	**07 30 20.4**	**+1.9**
VCA				*e*S	**Sb**	**07 31 06.1**	**+4.8**
VCA				IAML		07 31 06.8	
	comp=Z,280nm,0.6s						
ZON	**Zonda**	**3.02**	**129**	*e*P	**Pn**	**07 30 23.4**	**+4.4**
ZON				*e*S	**Sb**	**07 31 02.9**	**+0.7**
RTLL	**Cerro Villicun**	**3.04**	**123**	*e*P	**Pn**	**07 30 20.4**	**+1.3**
RTLL				*e*S	**Sb**	**07 31 01.7**	**-1.1**
RTLL				IAML		07 31 06.7	
	comp=Z,63nm,0.3s						
VA03	**San Esteban**	**3.16**	**166**	*e*P	**Pn**	**07 30 20.6**	**-0.3**
VA03				*i* S	**Sn**	**07 30 58.2**	**+0.3**
VA03				IAML		07 31 11.0	
	comp=E,257nm,0.3s						
VA03	**San Esteban**	**3.16**	**166**	*e*P	**Pn**	**07 30 21.0**	**+0.1**
VA03				*e*S	**Sn**	**07 31 03.1**	**+5.1**
VA03				IAML		07 31 08.4	
	comp=Z,131nm,0.8s						
ROC1	**El Roble**	**3.30**	**174**	*e*P	**Pn**	**07 30 22.0**	**-0.9**
ROC1				*e*S	**Sn**	**07 31 02.1**	**+0.6**
CFA	**Coronel Fontan**	**3.36**	**126**	*e*P	**Pn**	**07 30 22.7**	**-0.8**
CFA				IAML		07 31 14.8	
	comp=Z,33nm,0.3s						
AC02	**Maricunga**	**3.50**	**36**	*e*P	**Pn**	**07 30 25.7**	**-0.2**
AC02				*e*S	**Sn**	**07 31 10.7**	**+4.0**
AC02				IAML		07 31 23.4	
	comp=Z,58nm,0.5s						
PEL	**Peldehue**	**3.51**	**170**	*e*P	**Pn**	**07 30 26.4**	**+0.7**
PEL				*e*S	**Sn**	**07 31 09.8**	**+3.5**
MT02	**Curacav**	**3.57**	**176**	*e*P	**Pn**	**07 30 24.9**	**-1.5**
MT02				*e*S	**Sb**	**07 31 16.9**	**-1.1**
MT02				IAML		07 31 17.2	
	comp=Z,70nm,0.7s						
AC01	**Pan de Azucar**	**3.60**	**12**	*e*P	Pn	07 30 24.5	-2.4
AC01				*e*S	**Sb**	**07 31 19.0**	**+0.1**
AC01				IAML		07 31 25.8	
	comp=Z,47nm,1.2s						
ASAL	**Salagasta**	**3.66**	**143**	*e*P	**Pn**	**07 30 28.8**	**+1.1**
ASAL				*e*S	**Sn**	**07 31 16.1**	**+5.9**
ASAL				IAML		07 31 23.8	
	comp=Z,27nm,0.3s						
MT05	**Renca**	**3.75**	**171**	*e*P	**Pn**	**07 30 29.7**	**+0.8**
MT05				*e*S	**Sb**	**07 31 23.4**	**+0.4**
MT05				IAML		07 31 28.4	
	comp=Z,103nm,0.4s						
MT14	**Cerro Cal¡n**	**3.78**	**168**	*e*P	**Pn**	**07 30 29.5**	**+0.1**
MT14				⇑*i*S	**Sn**	**07 31 13.3**	**+0.2**
MT03	**Universidad Ad**	**3.88**	**168**	*e*P	**Pn**	**07 30 31.3**	**+0.5**
MT03				IAML		07 31 33.8	
	comp=Z,89nm,0.4s						
ACHE	**Chepes**	**4.38**	**111**	*e*P	**Pn**	**07 30 36.7**	**-1.0**
ACHE				*e*S	**Sn**	**07 31 31.8**	**+3.7**
BO01	**Tunca**	**4.70**	**176**	*e*P	**Pn**	**07 30 41.0**	**-1.0**
BO01				*e*S	**Sn**	**07 31 37.5**	**+1.8**
BO01				IAML		07 31 59.7	
	comp=Z,29nm,1.1s						
CYA	**Choya**	**5.09**	**77**	*e*P	**Pn**	**07 30 45.8**	**-1.6**
CYA				IAML		07 31 53.6	
	comp=Z,17nm,0.3s						
BO02	**Sierra Bellavi**	**5.12**	**174**	*e*P	**Pn**	**07 30 47.8**	**0.0**

IDC 02 07:32:32.5±2.9, 54°.31N×85°.95E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=20.4km s-min=11.1km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.76**	**242**	I	I	07 38 10.0	
	baz=61,slow=336,SNR=4.8						
ZALV	**Zalesovo Beam**	**0.76**	**242**	Pg	Pg	07 32 45.6	-1.4
	0.4nm,0.3s,baz=63,slow=18,SNR=3.0						
ZALV				Lg	Lg	07 32 58.0	
	1.8nm,0.3s,baz=61,slow=30,SNR=11						
ZALV				Rg	Rg	07 33 01.9	
	6.3nm,0.4s,baz=64,slow=34,SNR=26						
KURBB	**Kurchatov Arra**	**5.85**	**234**	Pn	Pn	07 34 01.7	+1.3
	0.1nm,0.3s,baz=48,slow=14,SNR=2.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.88**	**199**	Pn	Pn	07 34 28.9	+0.8
	0.1nm,0.3s,baz=16,slow=9.6,SNR=1.5						
	0.2nm,0.3s						

IDC 02 07:46:35.1±2.6, 53°.66N×86°.76E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=22.8km s-min=14.1km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.19**	**285**	Pg	Pg	07 46 57.5	-0.5
	0.5nm,0.3s,baz=104,slow=18,SNR=14						
ZALV				Lg	Lg	07 47 13.7	
	1.7nm,0.3s,baz=104,slow=28,SNR=25						
I46RU	**ZALESOVO INFRA**	**1.19**	**285**	I	I	07 55 30.0	
	baz=102,slow=329,SNR=14						
KURBB	**Kurchatov Arra**	**5.91**	**242**	Pn	Pn	07 48 05.2	+1.4
	0.1nm,0.3s,baz=59,slow=14,SNR=6.1						
KURBB				Lg	Lg	07 49 40.1	
	baz=63,slow=34						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**7.44**	**204**	Pn	Pn	07 48 25.8	+0.8
	0.1nm,0.3s,baz=23,slow=12,SNR=4.2						
	0.7nm,0.5s						

IDC 02 07:54:00.5±2.6, 53°.68N×86°.92E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=24.4km s-min=15.0km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**283**	I	I	08 03 10.0	
	baz=101,slow=329,SNR=7.8						
ZALV	**Zalesovo Beam**	**1.27**	**283**	Pg	Pg	07 54 24.3	-0.6
	3.5nm,0.3s,baz=102,slow=17,SNR=21						
ZALV				Lg	Lg	07 54 41.5	
	4.4nm,0.3s,baz=105,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**6.00**	**243**	Pn	Pn	07 55 31.0	+0.6
	0.1nm,0.3s,baz=58,slow=13,SNR=2.1						
KURBB				Lg	Lg	07 57 11.1	
	0.1nm,0.3s,baz=62,slow=34,SNR=3.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.50**	**205**	Pn	Pn	07 55 52.6	+1.4
	0.3nm,0.3s,baz=28,slow=15,SNR=9.4						
	0.4nm,0.3s						

*IDC **02** 07:54:32.1±3.4, 36°.30N×71°.05E, h174km±28km, mb3.5/8, mbtmp3.9/14, MS2.9/2, Error ellipse: s-maj=28.3km s-min=20.9km az=175.0*

*NNC **02** 07:54:41.8±1.7, 37°.05N×71°.06E, h197km±22km, mb3.1, mpv4.2, Error ellipse: s-maj=18.7km s-min=11.5km az=36.0*

ISC 02 07:54:36.2±0.7, 36°.67N±0°.07×70°.88E±0°.08, h200km, n34, σ1§59/36, mb3.7/8, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.96**	**163**	P	**Pn**	**07 55 26.6**	**+1.0**
THW	**Thamme Wali**	**3.93**	**169**	P	**Pn**	**07 55 37.8**	**+0.6**
SARP	**Sargodha**	**4.96**	**162**	P	**Pn**	**07 55 50.0**	**-0.1**
AML	**Almayashu**	**5.87**	**21**	P	**Pn**	**07 56 02.6**	**+0.5**
	SNR=31						
AML	**Almayashu**	**5.87**	**21**	⇑P	**Pn**	**07 56 02.5**	**+0.4**
	7.3nm,0.5s						
AML				⇓S	**Sn**	**07 57 06.7**	**-3.3**
	25nm,0.6s						
UCH	**Uchtor**	**6.22**	**26**	P	**Pn**	**07 56 07.1**	**+0.4**
	SNR=26						
EKS2	**Erkin-Say**	**6.39**	**20**	P	**Pn**	**07 56 09.2**	**+0.7**
	SNR=15						
KK31	**Karatay Array**	**6.43**	**358**	⇓P	**Pn**	**07 56 09.9**	**+0.9**
	3.5nm,0.2s,baz=181,slow=12,SNR=78						
KK31				⇑S	**Sn**	**07 57 19.6**	**-3.0**
	7.1nm,0.5s,baz=187,slow=24,SNR=6.1						
AAK	**Ala-Archa**	**6.58**	**24**	P	**Pn**	**07 56 11.5**	**+0.5**
	SNR=14						
AAK	**Ala-Archa**	**6.58**	**24**	P	**Pn**	**07 56 11.1**	**+0.1**
	9.9nm,0.3s,baz=185,slow=5.3,SNR=26						
AAK				S	**Sn**	**07 57 23.7**	**-2.5**
	9.5nm,0.6s,baz=180,slow=19,SNR=8.2						
KBK	**Karagaybulak**	**6.75**	**26**	P	**Pn**	**07 56 15.0**	**+1.7**
	SNR=11						
CHMS	**Chumysh**	**6.99**	**24**	P	**Pn**	**07 56 16.4**	**+0.2**
	SNR=6.5						
USP	**Ospenovka**	**7.15**	**22**	P	**Pn**	**07 56 18.9**	**+0.6**
	SNR=8.8						
TKM2	**Tokmak 2**	**7.22**	**29**	P	**Pn**	**07 56 19.9**	**+0.5**
	SNR=7.6						
TKM2	**Tokmak 2**	**7.22**	**29**	⇑P	**Pn**	**07 56 19.3**	**-0.1**
	40nm,0.7s						
GEYT	**Alibeck**	**10.25**	**281**	P	**Pn**	**07 56 57.0**	**-1.5**
	1.1nm,0.4s,baz=88,slow=11,SNR=2.1						
GEYT				S	**Sn**	**07 58 49.2**	**-3.8**
	2.3nm,0.7s,baz=72,slow=9.8,SNR=2.1						
MKAR	**Makanchi Array**	**13.21**	**36**	P	**Pn**	**07 57 35.5**	**-0.7**
	1.0nm,0.8s,baz=212,slow=8.6,SNR=4.4						
AB31	**Akbulak array**	**14.89**	**331**	⇓P	**P**	**07 58 00.2**	**+2.5**
	1.7nm,0.5s,baz=144,slow=12,SNR=44						
KURBB	**Kurchatov Arra**	**14.99**	**19**	P	**Pn**	**07 57 57.0**	**-1.1**
	0.3nm,0.3s,baz=207,slow=12,SNR=1.7						
BVA0	**Borovoye Array**	**16.36**	**359**	⇓P	**Pn**	**07 58 15.6**	**+1.0**
	2.7nm,1.1s,baz=175,slow=20,SNR=12						
BVAR	**Borovoye Array**	**16.36**	**359**	P	**Pn**	**07 58 15.9**	**+1.3**
	1.7nm,0.5s,baz=167,slow=14,SNR=10						
AKTO	**Aktyubinsk**	**16.59**	**330**	⇓P	**Pn**	**07 58 18.7**	**+1.4**
	3.8nm,1.1s						
AKTO	**Aktyubinsk**	**16.59**	**330**	P	**Pn**	**07 58 18.6**	**+1.2**
	2.8nm,0.6s,baz=137,slow=10,SNR=8.5						
WSAR	**Wadi Sarin**	**17.06**	**222**	LR	LR	08 07 07.4	
	comp=Z,27nm,18.7s,baz=238,slow=45						
SONM	**Songino Array**	**28.32**	**56**	LR	LR	08 11 39.0	
	comp=Z,36nm,18.2s,baz=16,slow=36						
AKASG	**Malin Array Be**	**32.76**	**309**	P	**P**	**08 00 51.3**	**+1.2**
	0.4nm,0.4s,baz=80,slow=7.2,SNR=4.9						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**37.29**	**326**	P	**P**	**08 01 30.3**	**+1.8**
	1.7nm,0.8s,baz=117,slow=11,SNR=4.4						
	1.7nm,0.8s						
ARCES	**ARCESS Array B**	**40.95**	**338**	P	**P**	**08 02 00.1**	**+1.3**
	4.8nm,0.9s,baz=118,slow=7.2,SNR=6.6						
	4.8nm,0.9s						
HFS	**Hagfors**	**42.87**	**322**	P	**P**	**08 02 16.1**	**+1.7**
	3.7nm,0.6s,baz=98,slow=11,SNR=9.7						
	3.7nm,0.6s						
NB2	**NORSAR Subarra**	**44.19**	**323**	P	**P**	**08 02 26.5**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.19**	**323**	P	**P**	**08 02 26.2**	**+1.3**
	comp=Z,3.3nm,0.9s,baz=97,slow=7.2,SNR=5.2						
	comp=Z,3.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**65.62**	**268**	P	**P**	**08 04 58.3**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=52,slow=6.6,SNR=7.5						
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**74.64**	**16**	P	**P**	**08 05 53.0**	**0.0**
	comp=Z,0.5nm,1.0s,baz=304,slow=6.5,SNR=4.1						
	comp=Z,0.5nm,1.0s						
WRA	**Warramunga Arr**	**82.16**	**122**	P	**P**	**08 06 32.5**	**-2.3**
	comp=Z,0.3nm,0.9s,baz=328,slow=5.1,SNR=2.3						
	comp=Z,0.3nm,0.9s						

*IDC **02** 07:59:45.9±3.3, 5°.97S×148°.42E, h163km±33km, mb3.4/4, mbtmp3.8/6, Error ellipse: s-maj=53.6km s-min=29.4km az=114.0*

ISC 02 07:59:44.8±1.5, 5°.9S±0°.1×148°.4E±0°.3, h150km, n7, σ1§29/8, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**200**	P	**Pn**	**08 00 40.9**	**-0.5**
	19nm,0.9s,baz=13,slow=18,SNR=3.9						
PMG				S	**Sn**	**08 01 26.5**	**+1.3**
	12nm,0.5s,baz=14,slow=19,SNR=1.4						
WRA	**Warramunga Arr**	**19.56**	**223**	P	**P**	**08 03 59.6**	**-1.5**
	1.5nm,0.6s,baz=42,slow=11,SNR=25						
ASAR	**Alice Springs**	**22.53**	**217**	P	**P**	**08 04 32.8**	**+0.5**
	0.3nm,0.4s,baz=52,slow=9.5,SNR=15						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**54.44**	**298**	P	**P**	**08 08 56.3**	**-0.7**
	1.5nm,0.3s,baz=114,slow=5.4,SNR=4.9						
	1.5nm,0.3s						
SONM	**Songino Array**	**65.00**	**330**	P	**P**	**08 10 10.6**	**+1.8**
	0.4nm,0.4s,baz=121,slow=5.6,SNR=3.5						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**84.83

NEUV	Arroyo Zacate	1.99	343	eP	Pn	08 11 28.4	-0.2
NEUV				eS	Sn	08 11 53.8	0.0
TGIG		2.21	64	eP	Pb	08 11 33.5	-1.3
TGIG				eS	Sn	08 11 60.0	+0.7
TGBT	Tuxtla Gutierr	2.23	64	eP	Pg	08 11 37.2	-0.2
TGBT				eS	Sb	08 12 01.8	-1.4
TUIG	Tuzandepetl	2.34	18	eP	Pn	08 11 34.7	+1.3
TUIG				eS	Sb	08 12 08.7	+2.6
YOIG	Yosondua	2.50	295	eP	Pn	08 11 37.6	+1.7
YOIG				eS	Sn	08 12 08.5	+1.8
PMUV	Sontecomapan	2.73	1	eP	Pn	08 11 38.3	-0.6
PMUV				eS	Sn	08 12 09.1	-3.1
TXIG	Tlaxiaco	2.87	301	eP	Pn	08 11 43.5	+2.5
PNIG	Pinotepa	2.89	282	eP	Pn	08 11 41.0	0.0
PNIG				eS	Sn	08 12 12.1	-3.9
TOIG	Toxpalan	2.90	322	eP	Pn	08 11 44.4	+3.0
TOIG				eS	Sn	08 12 16.9	+0.4
PATR	El Naranjo	2.93	103	eP	Pn	08 11 43.1	+1.3
PATR				eS	Sn	08 12 17.7	+0.4
THIG		2.96	107	eP	Pn	08 11 42.8	+0.9
THIG				eS	Sn	08 12 16.8	-0.8
PAVE	Pavencul	2.96	101	eP	Pn	08 11 44.4	+2.1
PAVE				eS	Sn	08 12 16.3	-1.9
CCIG	Comitan	2.97	80	eP	Pb	08 11 46.4	-1.6
CCIG				eS	Sb	08 12 23.8	-0.8
CHUJ	Union Juarez	3.05	103	eP	Pn	08 11 44.9	+1.4
CHUJ				eS	Sn	08 12 19.8	-0.6
HLIG	Huajuapan de L	3.22	309	eP	Pb	08 11 52.1	-0.1
HLIG				eS	Sn	08 12 28.2	+3.8
TPIG	Tehuac#an	3.33	322	eP	Pn	08 11 50.9	+3.6
TPIG				eS	Sb	08 12 33.0	-1.9
FTIG	Fresnillo de T	3.51	307	eP	Pb	08 11 55.1	-2.1
FTIG				eS	Sn	08 12 33.8	+2.2
TLIG	Tlapa	3.68	299	eP	Pn	08 11 55.1	+3.0
TLIG				eS	Sn	08 12 38.2	+2.4
JAUV	Jalcomulco	3.87	337	eP	Pn	08 11 53.4	-1.1
JAUV				eS	Sb	08 12 47.3	-2.9
LVIG	Laguna Verde	4.07	343	eP	Pn	08 11 59.5	+2.2
LVIG				eS	Sn	08 12 42.2	-3.0
DAIG	Los Arroyos	4.45	286	eP	Pn	08 12 00.3	-2.2
DAIG				eS	Sn	08 12 50.3	-4.3
PPM	Popocatepetl	4.62	315	eP	Pn	08 12 09.2	+3.9
PPM				eS	Sn	08 13 01.6	+2.2
MEIG	Mezcala	4.74	297	eP	Pn	08 12 09.6	+3.0
MEIG				eS	Sn	08 12 59.9	-2.0
YAIG	Yautepec	4.79	310	eP	Pn	08 12 10.7	+3.3
YAIG				eS	Sn	08 13 07.2	+3.9
PLIG	Platanillo	4.87	303	eP	Pn	08 12 14.6	+6.3
PLIG				eS	Sn	08 13 08.8	+3.8
CXUV	Coxquihui	4.91	333	eP	Pn	08 12 09.2	+0.3
CXUV				eS	Sn	08 13 01.5	-4.5
CAIG	El Cayaco	5.03	285	eP	Pn	08 12 11.0	+0.5
CAIG				eS	Sn	08 12 59.8	-9.1
ARIG	Puente Sto Nin	5.52	297	eP	Pn	08 12 20.6	+3.4
ARIG				eS	Sn	08 13 17.7	-3.3
DEIG	Demacu	5.78	321⇓	eP	Pn	08 12 29.6	+8.6
DEIG				eS	Sn	08 13 25.4	-2.4
ZIIG	Zihuatanejo	6.28	287	eP	Pn	08 12 29.6	+2.0
ZIIG				eS	Sn	08 13 32.3	-7.3
CTUV	Llano Grande	6.39	332	eP	Pn	08 12 27.6	-1.6
CTUV				eS	Sn	08 13 45.6	+3.2
MYIG	Mrida	7.28	44	eS	Sn	08 14 02.9	-1.4
TEIG	Tepich	7.91	55	Pn	Pn	08 12 50.4	+0.3
	30nm,0.3s,baz=288,slow=20,SNR=18						
TEIG				Sn	Sn	08 14 15.4	-4.5
	baz=198,slow=20						
TEIG				LR	LR	08 16 28.8	
	comp=Z,366nm,19.3s,baz=338,slow=42						
TXAR	Lajitas Array	15.57	331	Pn	P	08 14 38.0	-1.1
	baz=154,slow=12,SNR=5.5						
	0.4nm,0.7s						
ANMO	Albuquerque	21.58	334	P	P	08 15 47.7	+2.6
	0.5nm,0.5s,baz=98,slow=15,SNR=2.7						
	0.5nm,0.5s						
SDV	Santo Domingo	24.93	103	LR	LR	08 25 59.8	
	comp=Z,40nm,21.9s,baz=262,slow=37						
SJG	San Juan	27.86	81	LR	LR	08 29 15.1	
	comp=Z,16nm,18.1s,baz=344,slow=40						
NVAR	Mina Array Bea	30.36	322	P	P	08 17 09.3	+2.0
	0.5nm,0.7s,baz=141,slow=12,SNR=6.8						
NVAR				LR	LR	08 30 01.8	
	comp=Z,55nm,18.4s,baz=100,slow=38						
	0.5nm,0.7s						
ILAR	Eielson Array	59.98	337	P	P	08 21 01.7	+0.2
	0.8nm,1.0s,baz=116,slow=4.4,SNR=4.6						
	0.8nm,1.0s						

*ATH **02** 08:12:42.3, 40.64N×20.66E, h16km±2km, ML2.4/5,*
Manual Solution by S.Koutrakis This location: 2020/01/09
15:58:18 ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 1
km; Longitude uncertainty: 2 km
*SKO **02** 08:12:45.6, 40.62N×20.78E, h11km, ML2.5*
*THE **02** 08:12:45.2, 40.63N×20.81E, h8km, ML2.1/6, Error ellipse:*
s-maj=1.3km s-min=0.8km az=303.0

ISC 02 08:12:44.9±0.9, 40.61N±0.02×20.79E±0.04, h9km±6km,
n25, σ1°25/43, 1C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	Korca	0.02	355	P	Pg	08 12 46.4	-0.3
KBN				S	Sg	08 12 48.2	+0.2
	3μm,0.2s						
NEST	Nestorio	0.28	134	P	Pg	08 12 50.4	-0.1
NEST				S	Sg	08 12 55.3	+1.1
	500nm,0.4s						
NEST	Nestorio	0.28	134	P	Pg	08 12 50.4	-0.1
NEST				S	Sg	08 12 54.9	+0.8
FNA	Florina	0.48	68	P	Pg	08 12 53.7	-0.6
FNA				S	Sg	08 13 01.3	+0.7
	2μm,0.4s						
FNA	Florina	0.48	68⇑	iPg	Pg	08 12 53.8	-0.6
FNA				i Sg	Sb	08 13 02.1	-0.7
FNA	Florina	0.48	68	P	Pg	08 12 53.7	-0.6
FNA				S	Sg	08 13 01.6	+1.0
PENT	Pentalofos	0.49	147	P	Pg	08 12 53.9	-0.5
PENT				S	Sg	08 13 01.9	+1.0
OHR	Ohrid	0.51	1⇓	iPg	Pg	08 12 54.6	-0.1
OHR				i Sg	Sb	08 13 02.2	-1.3
OHR				eLg	Lg	08 13 03.2	
	comp=E,280nm,0.5s						
OHR				eLg	Lg	08 13 05.3	
	comp=N,102nm,0.4s						
KPRO	Kipourio	0.78	146	P	Pg	08 12 59.2	-0.8
KPRO				S	Sg	08 13 11.3	+1.1
	comp=N,168nm,0.2s						
KPRO	Kipourio	0.78	146	P	Pg	08 12 59.3	-0.8
KPRO				S	Sg	08 13 10.8	+0.6
TIR	Tirane	1.02	317	iPg	Pb	08 13 04.7	0.0
IGT	Igoumenitsa	1.13	198	P	Pb	08 13 06.6	0.0
IGT				S	Sn	08 13 23.7	+1.2
	comp=N,108nm,0.6s						
GRG	Griva	1.27	73	P	Pn	08 13 07.8	-1.1
GRG				S	Sg	08 13 26.4	+0.5
GRG	Griva	1.27	73	iPg	Pn	08 13 08.1	-0.8
GRG				i Sg	Sg	08 13 27.1	+1.2
THL	Klokotos Trika	1.40	137	P	Pn	08 13 10.3	-0.3
THL				S	Sg	08 13 30.7	+0.7
	comp=N,40nm,0.5s						
THL	Klokotos Trika	1.40	137	P	Pn	08 13 08.9	-1.7
SKO	Skopje	1.45	20	eSg	Sg	08 13 31.0	-0.5
STIP	Stip	1.52	44	ePn	Pg	08 13 14.4	+0.4
STIP				eSg	Sg	08 13 39.8	+6.2
VAY	Valandovo	1.53	61	ePn	Pn	08 13 12.1	-0.2
VAY				eSg	Sg	08 13 34.7	+0.7
KNT	Kendrikon	1.69	70	P	Pn	08 13 14.1	-0.5
KNT				S	Sn	08 13 36.1	-0.3
KNT	Kendrikon	1.69	70	ePn	Pn	08 13 14.2	-0.5
KNT				eSg	Sg	08 13 40.4	+1.1
ULC	Ulcinj	1.79	320	ePn	Pb	08 13 17.3	-0.5
LKD2	Lefkada island	1.82	183	P	Pn	08 13 16.9	+0.5
MAKR	Makrakomi, Fth	1.90	147	P	Pn	08 13 18.1	+0.6
BARS	Barje	2.34	19	ePn	Pn	08 13 23.1	-0.4

IDC 02 08:12:47.6±3.4, 54.05N×86.86E, h0km, mbtmp3.3/2,
ML2.4/2, Error ellipse: s-maj=30.6km s-min=17.7km
az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.21	266	I	I	08 20 20.0	
	baz=86,slow=329,SNR=4.4						
ZALV	Zalesovo Beam	1.21	266	Pg	Pg	08 13 09.0	-1.7
	1.1nm,0.3s,baz=86,slow=11,SNR=9.4						
ZALV				Lg	Lg	08 13 28.0	
	0.5nm,0.3s,baz=86,slow=29,SNR=3.2						
KURBB	Kurchatov Arra	6.15	239	Pn	Pn	08 14 20.2	+0.6
	0.1nm,0.3s,baz=53,slow=14,SNR=5.4						
	1.6nm,0.2s						
MKAR	Makanchi Array	7.83	204	Pn	Pn	08 14 44.5	+1.7
	0.1nm,0.3s,baz=22,slow=11,SNR=2.0						
	1.0nm,1.1s						

*IDC **02** 08:39:01.1±3.5, 4.73S×153.00E, h89km±23km, mb3.2/4,*
mbtmp3.5/4, MS2.6/1, Error ellipse: s-maj=50.7km
s-min=31.3km az=90.0

ISC 02 08:39:02.0±1.7, 4.7S±0.2×152.9E±0.2, h100km, n7,
σ0°79/7, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	0.94	292	P	Pn	08 39 20.8	-1.0
	98nm,0.3s,baz=53,slow=20,SNR=17						
KRVT				S	Sn	08 39 37.1	+0.5
	240nm,0.3s,baz=90,slow=20,SNR=8.6						
WRA	Warramunga Arr	23.61	228	P	P	08 44 05.1	+0.9
	1.2nm,0.6s,baz=52,slow=9.8,SNR=20						
	1.2nm,0.6s						
ASAR	Alice Springs	26.32	222	P	P	08 44 28.6	-0.1
	0.2nm,0.5s,baz=57,slow=8.7,SNR=5.5						
	0.2nm,0.5s						
CMAR	Chiang Mai Arr	57.90	295	LR	LR	09 12 19.0	
	comp=Z,5.3nm,19.7s,baz=195,slow=34						
VNDA	Vanda	72.97	178	P	P	08 50 19.9	-0.3
	0.4nm,0.6s,baz=333,slow=8.3,SNR=3.6						
	0.4nm,0.6s						
MKAR	Makanchi Array	80.28	319	P	P	08 51 02.6	+0.6
	0.3nm,0.5s,baz=94,slow=6.0,SNR=2.4						
	0.3nm,0.5s						
TORD	Torodi Ar. Bea	150.35	288	PKPbc	PKiKP	08 58 43.7	+0.1
	0.5nm,0.8s,baz=79,slow=2.5,SNR=4.9						

*MEX **02** 08:41:01.1±0.7, 16.40N×95.12W, h56km±11km, MD4.3*
*NEIC **02** 08:41:01.1±2.5, 16.47N±0.04×95.35W±0.03, h10km±2km,*
mb4.2/54, Md4.4/19(MEX), Error ellipse: s-maj=8.2km
s-min=3.0km az=138.0

ISC 02 08:41:01.5±1.2, 16.43N±0.03×95.21W±0.02, h26km±11km,
n134, σ2°23/188, mb4.3/7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	Santiago Nilte	0.58	77	iP	Pb	08 41 12.2	-0.9
NILT				eS	Sb	08 41 21.1	+0.2
HUIG	Huatulco	1.09	233		Pn	08 41 19.3	-1.9
HUIG					Sn	08 41 33.5	-2.0
HUIG	Huatulco	1.09	233	eP	Pn	08 41 19.2	-1.9
HUIG				eS	Sn	08 41 33.4	-2.0
UXUV	UXUV	1.34	49	eP	Pn	08 41 24.7	+0.2
UXUV				eS	Sb	08 41 42.7	-0.1
NEUV	Arroyo Zacate	1.39	336	eP	Pn	08 41 23.6	-1.7
NEUV				eS	Sn	08 41 41.0	-1.9
OXLC	Oaxaca	1.57	294	iP	Pn	08 41 26.8	-1.1
OXLC				eS	Sn	08 41 46.8	-0.6
OXBJ	Oaxaca	1.59	294	eP	Pn	08 41 26.9	-1.2
OXBJ				eS	Sn	08 41 47.1	-0.9
OXIG	Oaxaca	1.60	294		Pn	08 41 27.1	-1.1
OXIG					Sn	08 41 45.7	-2.5
VHO	Vista Hermosa	1.60	294	iP	Pn	08 41 27.1	-1.2
VHO				eS	Sn	08 41 47.0	-1.2
MIHL	Minatitlan	1.67	22	eP	Pn	08 41 24.9	-4.2
MIHL				eS	Sb	08 41 51.2	-0.9
TUIG	Tuzandepetl	1.76	25	eP	Pn	08 41 31.1	+0.7
TUIG				eS	Sn	08 41 50.2	-1.7
PEIG	Puerto Escondi	1.92	257		Pn	08 41 31.0	-1.5
PEIG					Sn	08 41 54.4	-1.4
PEIG	Puerto Escondi	1.92	257	eP	Pn	08 41 31.0	-1.5
PEIG				eS	Sn	08 41 55.7	-0.1
TGIG		2.03	80		Pb	08 41 37.1	-0.6
TGIG					Sb	08 42 04.7	+2.2
TGIG		2.03	80	eP	Pb	08 41 36.5	-1.2
TGIG				eS	Sn	08 41 56.3	-2.3
PCIG		2.04	111	eP	Pn	08 41 35.5	+1.3
PCIG				eS	Sn	08 41 59.6	+0.7
TGBT	Tuxtla Gutierr	2.06	80	eP	Pn	08 41 30.9	-3.5
TGBT				eS	Sn	08 41 57.6	-1.7
PMUV	Sontecomapan	2.10	2	eP	Pn	08 41 33.6	-1.5
PMUV				eS	Sn	08 42 00.9	+0.4
YOIG	Yosondua	2.28	281	eP	Pn	08 41 38.3	+0.5
YOIG				eS	Sn	08 42 06.6	+1.3
TOIG	Toxpalan	2.43	313	eP	Pn	08 41 40.5	+0.9
TOIG				eS	Sb	08 42 11.4	-2.7
TXIG	Tlaxiaco	2.59	289		Pn	08 41 42.5	+0.6
TXIG	Tlaxiaco	2.59	289	eP	Pn	08 41 42.5	+0.6
PNIG	Pinotepa	2.81	270	eP	Pn	08 41 43.7	-1.0
PNIG				eS	Sn	08 42 14.4	-3.3
HLIG	Huajuapan de L	2.85	300	eP	Pn	08 41 46.8	+1.3
HLIG				eS	Sn	08 42 20.4	+1.3
TPIG	Tehuac#an	2.85	314	eP	Pn	08 41 46.5	+1.0
TPIG				eS	Sn	08 42 21.0	+1.8
CCIG	Comitan	2.95	92	Pn	Pn	08 41 50.2	+3.3
CCIG	Comitan	2.95	92	eP	Pn	08 41 47.6	+0.7
CCIG				eS	Sn	08 42 16.4	-5.1
OZST	Orizaba	3.01	324	eP	Pn	08 41 48.2	+0.5
OZST				eS	Sn	08 42 25.9	+2.9
PATR	El Naranjo	3.15	114	eP	Pn	08 41 51.0	+1.4
PATR				eS	Sn	08 42 22.9	-3.6
FTIG	Fresnillo de T	3.16	298		Pn	08 41 50.6	+0.9
FTIG	Fresnillo de T	3.16	298	eP	Pn	08 41 50.6	+0.9
FTIG				eS	Sn	08 42 25.7	-1.0
PAVE	Pavencul	3.17	113	eP	Pn	08 41 51.5	+1.6
PAVE				eS	Sn	08 42 20.7	-6.3
THIG		3.21	118	eP	Pn	08 41 51.5	+1.2
THIG				eS	Sn	08 42 26.0	-1.8
CHUJ	Union Juarez	3.27	114	eP	Pn	08 41 52.0	+0.7
CHUJ				eS	Sn	08 42 23.7	-5.8
JAUV	Jalcomulco	3.29	333	eP	Pn	08 41 49.2	-2.2
JAUV				eS	Sn	08 42 27.1	-2.7
MGIG	Malinaltepec	3.38	284	eP	Pn	08 41 53.0	+0.2
MGIG				eS	Sn	08 42 34.5	+2.3
TLIG	Tlapa	3.41	290	Pn	Pn	08 41 53.7	+0.6
TLIG	Tlapa	3.41	290	eP	Pn	08 41 54.0	+0.9
TLIG				eS	Sn	08 42 35.7	+2.9
LVIG	Laguna Verde	3.47	341	eP	Pn	08 41 50.9	-2.9
LVIG				eS	Sn	08 42 27.5	-6.6
HMTT	Tlapaneco	3.48	293	eP	Pn	08 41 54.2	+0.1
HMTT				eS	Sn	08 42 36.8	+2.2
HUEH	Huehuetenango	3.73	107		Pn	08 42 01.2	+3.5
PPM	Popocatepetl	4.18	309	eP	Pn	08 42 07.3	+3.2
PPM				eS	Sn	08 42 49.3	-3.1
DAIG	Los Arroyos	4.30	278	eP	Pn	08 42 04.9	-0.4
DAIG				eS	Sn	08 42 49.6	-5.1
CXUV	Coxquihui	4.36	329	eP	Pn	08 42 05.5	-0.5
CXUV				eS	Sn	08 42 56.6	+0.6
YAIG	Yautepec	4.40	304	eP	Pn	08 42 08.6	+1.8
YAIG				eS	Sn	08 42 55.4	-2.0
MEIG	Mezcala	4.47	290	eP	Pn	08 42 08.8	+1.1
MEIG				eS	Sn	08 43 00.2	+1.2
PLIG	Platanillo	4.54	296	eP	Pn	08 42 10.2	+1.5
PLIG				eS	Sn	08 42 57.0	-3.8
MPVM	San Francisco	4.55	308	eP	Pn	08 42 11.2	+2.2
MPVM				eS	Sn	08 42 56.4	-4.8
SCIG	Sabancuy	4.59	56	eP	Pn	08 42 10.5	+1.3
SCIG				eS	Sn	08 43 01.3	-0.4
THVM	De Xico	4.59	309	eP	Pn	08 42 13.7	+4.2
THVM				eS	Sn	08 43 01.3	-0.8
TLVM	San Miguel Top	4.67	307	eP	Pn	08 42 09.6	-1.0
TLVM				eS	Sn	08 43 03.6	-0.5
COVM	Coyoacan	4.75	308	eP	Pn	08 42 16.3	+4.6
COVM				eS	Sn	08 43 01.8	-4.3
UNM	Universidad Na	4.75	308		Pn	08 42 12.6	+0.8
UNM	Universidad Na	4.75	308	eP	Pn	08 42 15.0	+3.2
UNM				eS	Sn	08 43 10.3	+4.1
BJVM	Benito Juarez	4.78	308	eP	Pn	08 42 17.6	+5.5
BJVM				eS	Sn	08 42 58.2	-8.6
AOVM	Tlapan	4.83	306	eP	Pn	08 42 15.9	+2.9
AOVM				eS	Sn	08 43 08.8	+0.5
CJVM	Cuajimalpa	4.86	307	eP	Pn	08 42 16.9	+3.7
CJVM				eS	Sn	08 43 01.8	-6.9
CAIG	El Cayaco	4.89	278	eP	Pn	08 42 12.7	-0.7
CAIG				eS	Sn	08 43 07.1	-2.1
ARIG	Puente Sto Nin	5.24	291	eP	Pn	08 42 19.7	+1.4
ARIG				eS	Sn	08 43 16.5	-1.4
DEIG	Demacu	5.29	317	eP	Pn	08 42 21.7	+2.5
DEIG				eS	Sn	08 43 18.2	-1.3
CTUV	Llano Grande	5.83	330	eP	Pn	08 42 24.7	-1.7
CTUV				eS	Sn	08 43 27.8	-4.6
ESQI	Esquipulas	5.95	107		Pn	08 42 30.8	+2.7
MTO3	Montecristo	5.99	109		Pn	08 42 30.4	+1.7
ZIIG	Zihuatanejo	6.10	282	eP	Pn	08 42 29.8	-0.2
ZIIG				eS	Sn	08 43 35.2	-3.9
TEIG	Tepich	7.58	59		Pn	08 42 51.2	+0.8
TGUH	Tegucigalpa,Un	8.01	106		Pn	08 42 59.3	+2.9
CNGN	Cerro Negro	9.12	114	Pn	Pn	08 43 15.1	+3.6
MATN	Matagalpa	9.63	110	Pn	Pn	08 43 21.6	+3.0
BOAB	BOACO BROADBAN	10.05	112	Pn	Pn	08 43 27.4	+3.2
ACON	Accoyapa	10.69	113	Pn	Pn	08 43 36.3	+3.2
ORTG	Ortega, Santa	11.24	121	Pn	Pn	08 43 44.9	+4.3
ESPN	Las Esperanzas	11.38	110	Pn	Pn	08 43 45.1	+2.7
833A	Chaparral WMA,	12.45	343		Pn	08 43 56.7	-0.4
LCR2	La Lucha 2	12.77	120	Pn	Pn	08 44 03.5	+1.8
RIMA	Rio Macho	12.88	120		Pn	08 44 07.2	+4.0
HNDO	Hondo	13.56	345		Pn	08 44 13.0	+0.8
441A	DeRidder	14.37	7	Pn	Pn	08 44 23.0	-0.2
435B	Jarrell	14.45	352	Pn	Pn	08 44 24.9	+0.5
JCT	Junction City	14.60	344	Pn	Pn	08 44 25.8	-0.7
BRDY	Brady	15.19	348	Pn	Pn	08 44 35.9	+1.6
BRDY				IAmb	IAmb	08 44 42.3	
	comp=Z,8.1nm,0.9s						
OZNA	Ozona	15.40	340		P	08 44 40.2	-1.4
OZNA				IAmb	IAmb	08 44 45.7	
	comp=Z,30nm,1.1s						
WHTX	Lake Whitney,	15.62	353		Pn	08 44 41.2	+1.2
ALPN	Alpine	15.88	332		P	08 44 47.0	+0.1
ALPN				IAmb	IAmb	08 44 51.6	
	comp=Z,14nm,0.7s						
FW13	Cleburne	15.98	353		P	08 44 46.4	-1.5
FW13				IAmb	IAmb	08 44 47.4	
	comp=Z,16nm,0.6s						
FW14	Alvarado	16.00	354		Pn	08 44 45.1	+0.3
FW14				IAmb	IAmb	08 44 49.5	
	comp=Z,20nm,0.6s						
FW16	Waxahatchie	16.05	355	Pn	P	08 44 47.3	-1.4
FW16				IAmb	IAmb	08 44 51.4	
	comp=Z,23nm,0.6s						
FW07	Weatherford	16.37	352	Pn	Pn	08 44 49.7	+0.2
FW07				IAmb	IAmb	08 45 01.1	
	comp=Z,13nm,0.5s						
FW06	Azle	16.60	353		Pn	08 44 53.5	+1.0
FW06				IAmb	IAmb	08 44 58.5	
	comp=Z,18nm,0.6s						
ABTX	Abilene, Hawle	16.61	347	P	P	08 44 54.2	-0.7
ABTX				IAmb	IAmb	08 44 59.3	
	comp=Z,16nm,0.6s						
FW03	Perrin-Whitt E	16.74	352		Pn	08 44 54.3	+0.1
FW03				IAmb	IAmb	08 44 58.1	
	comp=Z,15nm,0.6s						
PECS	Pecos	16.83	334		P	08 44 57.9	+0.4
PECS				IAmb	IAmb	08 45 02.3	
	comp=Z,23nm,1.1s						
425A	Indio Mountain	16.85	330		P	08 44 58.8	+1.1
Z41A	Richland Creek	16.89	7		Pn	08 44 55.8	-0.4
ODSA	Odessa	16.98	338		P	08 45 00.3	+1.2
ODSA				IAmb	IAmb	08 45 03.1	
	comp=Z,9.7nm,0.8s						
146A	Union	17.07	18	Pn	Pn	08 44 57.6	-0.8
146A				IAmb	IAmb	08 45 11.5	
	comp=Z,19nm,1.2s						
WLAR	White Oak Lake	17.28	6	Pn	Pn	08 44 59.9	-1.1
WLAR				IAmb	IAmb	08 45 15.3	
	comp=Z,21nm,1.2s						
APMT	Aspermont	17.39	346		P	08 45 04.1	+0.5
APMT				IAmb	IAmb	08 45 17.7	
	comp=Z,6.3nm,0.7s						
WTFS	Witchita Falls	17.51	351	Pn	Pn	08 45 03.1	-0.7
WTFS				IAmb	IAmb	08 45 09.5	
	comp=Z,16nm,1.0s						
LOOK	Love County	17.57	355	P	Pn	08 45 04.4	-0.3
LOOK				IAmb	IAmb	08 45 23.1	
	comp=Z,18nm,1.0s						
MNTX	Cornudas Mount	17.80	330		Pn	08 45 07.2	-0.2
DKNS	Dickens	17.92	344	P	P	08 45 10.4	+1.0
DKNS				IAmb	IAmb	08 45 18.3	
	comp=Z,15nm,1.1s						
X37A	Clayton	18.08	360	P	P	08 45 12.9	+1.8
X37A				IAmb	IAmb	08 45 16.2	
	comp=Z,11nm,0.7s						
MIAR	Mount Ida	18.10	4	P	P	08 45 12.6	+1.3
X34A	Smith Ranch, M	18.25	353	P	P	08 45 14.1	+1.1
X34A				IAmb	IAmb	08 45 18.9	
	comp=Z,19nm,0.6s						
UALR	University of	18.45	7	P	Pn	08 45 15.7	+0.4
UALR				IAmb	IAmb	08 45 17.4	
	comp=Z,8.8nm,0.7s						
WMOK	Wichita Mounta	18.51	351	P	Pn	08 45 16.0	-0.1
MSTX	Muleshoe	18.74	340	P	Pn	08 45 19.1	0.0
DEOK	Depew	19.36	357		P	08 45 25.5	+0.3
DEOK				IAmb	IAmb	08 45 27.9	
	comp=Z,19nm,1.0s						
TUL3	Leonard	19.41	359	P	P	08 45 25.9	+0.2
OK031	S. Brethren Rd	19.50	356		P	08 45 25.4	-1.3
OK031				IAmb	IAmb	08 45 29.1	
	comp=Z,23nm,1.3s						
OK052	Battle Ridge R	19.53	356		P	08 45 27.1	0.0
OK052				IAmb	IAmb	08 45 30.1	
	comp=Z,15nm,0.8s						
FCAR	Ozark Folk Cen	19.57	7	P	P	08 45 27.6	+0.1
OK033	Mehan	19.59	356		P	08 45 27.8	+0.1
121A	Cookes Peak, D	19.67	327	P	P	08 45 28.2	-0.6
121A				IA

MRSI	Marisa	2.41	17	P	Pn	08 43 01.4	-2.3
MPSI	Mapaga	2.53	329	P	Pn	08 43 04.2	-1.1
GTOI	Gorontalo	3.04	36	P	Pn	08 43 11.2	-1.2
KAPI	Kappang	3.48	205	LR	LR	08 45 03.7	
	comp=Z,48nm,18.9s,baz=328,slow=41						
BKSI	Bulukumba	3.63	198	P	Pn	08 43 21.0	+0.6
WRA	Warramunga Arr	22.10	145	P	P	08 47 16.8	-2.9
	0.4nm,0.8s,baz=315,slow=9.2,SNR=2.5						
	0.4nm,0.8s						
ASAR	Alice Springs	24.94	151	P	P	08 47 45.8	-2.0
	0.3nm,0.6s,baz=345,slow=14,SNR=6.4						
	0.3nm,0.6s						
MKAR	Makanchi Array	59.27	330	P	P	08 52 29.5	+3.6
	0.3nm,0.6s,baz=116,slow=6.6,SNR=2.0						
	0.3nm,0.6s						

IDC 02 08:43:35.5±3.1, 53°76'N×86°88'E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=27.8km s-min=16.1km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.23	280	I	I	08 52 20.0	
	baz=98,slow=329,SNR=4.3						
ZALV	Zalesovo Beam	1.23	280	Pg	Pg	08 43 59.1	0.0
	1.2nm,0.3s,baz=99,slow=17,SNR=11						
ZALV				Lg	Lg	08 44 15.4	
	1.1nm,0.3s,baz=100,slow=31,SNR=14						
KURBB	Kurchatov Arra	6.02	242	Pn	Pn	08 45 06.1	+0.4
	0.1nm,0.3s,baz=57,slow=14,SNR=3.1						
	0.5nm,0.3s						
MKAR	Makanchi Array	7.56	205	Pn	Pn	08 45 28.4	+1.4
	0.1nm,0.3s,baz=22,slow=14,SNR=2.2						
	0.3nm,0.5s						

SKO 02 08:48:25.1, 41°80'N×22°83'E, h15km, ML2.6
ATH 02 08:48:26.0, 41°77'N×22°82'E, h7km±1km, ML2.2/6, Error ellipse: s-maj=2.9km s-min=1.5km az=160.0
BEO 02 08:48:26.4±0.3, 41°84'N×22°82'E, h0km, ML2.2/8
THE 02 08:48:27.3, 41°70'N×22°86'E, h9km±1km, ML2.1/8, Error ellipse: s-maj=1.4km s-min=0.8km az=162.0
ISC 02 08:48:24.7±1.1, 41°80'N±0°02×22°80'E±0°02, h5km±10km, n43, σ0°81/77, 4C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	Krupnik	0.25	80⇑	ePg	Pg	08 48 29.8	+0.1
KKB				i Sg	Sg	08 48 32.8	-0.2
STIP	Stip	0.47	259⇓	iPg	Pg	08 48 31.3	-2.4
STIP				i Sg	Sg	08 48 35.7	-4.1
VAY	Valandovo	0.50	200	ePg	Pb	08 48 36.5	+0.4
VAY				eSg	Sg	08 48 43.0	+2.0
VAY	Valandovo	0.50	200⇑	iPg	Pb	08 48 36.5	+0.4
VAY				i Sg	Sb	08 48 43.4	-0.3
VAY				eLg	Lg	08 48 43.6	
	comp=E,431nm,0.5s						
VAY				eLg	Lg	08 48 43.8	
	comp=N,161nm,0.2s						
KNT	Kendrikon	0.64	173	P	Pg	08 48 37.7	+0.7
KNT				S	Sg	08 48 45.9	+0.6
	comp=N,578nm,0.1s						
KNT	Kendrikon	0.64	173⇑	ePg	Pg	08 48 37.7	+0.7
KNT				i Sg	Sg	08 48 46.5	+1.2
KNT	Kendrikon	0.64	173	P	Pg	08 48 37.6	+0.6
KNT				S	Sg	08 48 46.2	+1.0
BOSS	Bosilegrad	0.74	342	ePg	Pg	08 48 39.6	+0.7
BOSS				eSg	Sg	08 48 48.9	+0.4
MMB	Musomishta	0.76	109⇑	iPg	Pg	08 48 39.1	-0.2
MMB				i Sg	Sg	08 48 48.9	-0.2
VTS	Vitosha	0.88	22	ePg	Pg	08 48 41.8	+0.1
VTS				eSg	Sg	08 48 52.6	-0.6
PRVS	Prvonek	0.89	323	ePg	Pg	08 48 42.5	+0.7
PRVS				eSg	Sb	08 48 54.8	-0.1
GRG	Griva	0.89	200	P	Pg	08 48 42.4	+0.6
GRG				S	Sg	08 48 54.6	+1.3
	comp=N,92nm,0.1s						
GRG	Griva	0.89	200	i Pg	Pg	08 48 42.4	+0.6
GRG				i Sg	Sb	08 48 55.0	+0.2
GRG	Griva	0.89	200	P	Pg	08 48 42.3	+0.5
GRG				S	Sg	08 48 54.5	+1.1
SRS	Serrai	0.91	138	P	Pg	08 48 41.9	-0.2
SRS				S	Sg	08 48 54.2	+0.4
	comp=N,130nm,0.1s						
SRS	Serrai	0.91	138	ePg	Pg	08 48 41.9	-0.2
SRS				i Sg	Sb	08 48 54.4	-1.0
SRS	Serrai	0.91	138	P	Pg	08 48 41.8	-0.2
SRS				S	Sg	08 48 53.7	-0.1
SRS				AML	AML	08 48 58.5	
	comp=E,233μm,0.1s						
SRS				AML	AML	08 48 59.3	
	comp=N,276μm,0.1s						
NVR	Nevrokopi	0.92	119	P	Pb	08 48 43.0	-0.2
NVR				S	Sb	08 48 55.2	-0.5
	comp=N,152nm,0.1s						
NVR	Nevrokopi	0.92	119	P	Pb	08 48 43.0	-0.2
NVR				S	Sb	08 48 55.1	-0.6
NVR				AML	AML	08 48 58.6	
	comp=E,256μm,0.3s						
NVR				AML	AML	08 48 58.8	
	comp=N,368μm,0.2s						
SOH	Sokhos	1.06	156	P	Pg	08 48 45.3	+0.2
SOH				S	Sg	08 48 58.6	-0.2
	comp=N,125nm,0.3s						
SOH	Sokhos	1.06	156	ePg	Pg	08 48 45.3	+0.2
SOH				i Sg	Sb	08 48 59.4	-0.5
SOH	Sokhos	1.06	156	P	Pg	08 48 45.3	+0.2
SOH				S	Sb	08 48 59.3	-0.5
SOH				AML	AML	08 49 00.8	
	comp=E,319μm,0.2s						
SOH				AML	AML	08 49 02.8	
	comp=N,308μm,0.5s						
THE	Thessaloniki	1.17	174	P	Pb	08 48 47.5	+0.1
THE	Thessaloniki	1.17	174	i Sg	Sb	08 49 02.5	-0.4
THE	Thessaloniki	1.17	174	P	Pb	08 48 47.1	-0.3
THE				AML	AML	08 49 02.7	
	comp=E,231μm,0.3s						
THE				AML	AML	08 49 03.5	
	comp=N,223μm,0.4s						
HORT	Hortiatis	1.22	169	P	Pb	08 48 48.5	+0.2
HORT				S	Sb	08 49 04.0	-0.4
	comp=N,60nm,0.3s						
HORT	Hortiatis	1.22	169	P	Pn	08 48 48.3	-0.3
HORT				S	Sb	08 49 03.9	-0.6
HORT				AML	AML	08 49 06.4	
	comp=E,127μm,0.4s						
HORT				AML	AML	08 49 06.8	
	comp=N,105μm,0.3s						
BARS	Barje	1.25	325	ePg	Pb	08 48 49.1	+0.2
BARS				eSg	Sb	08 49 05.0	-0.3
BARS	Barje	1.25	325	i Pg	Pg	08 48 49.4	+0.7
BARS				i Sg	Sn	08 49 06.0	-0.2
KOKK	Kokkinochori,	1.33	137	P	Pn	08 48 49.6	-0.4
KOKK				S	Sg	08 49 07.9	+0.3
	comp=N,45nm,0.2s						
KOKK	Kokkinochori,	1.33	137	P	Pn	08 48 49.4	-0.7
ZAPS	Zavoj	1.48	355	ePg	Pb	08 48 52.9	+0.1
ZAPS				eSg	Sb	08 49 11.9	0.0
PLD	Plovdiv	1.50	76	eSg	Sb	08 49 11.7	-0.6
KAVA	Kavala	1.52	121	P	Pn	08 48 52.5	-0.1
KAVA				S	Sb	08 49 12.1	-0.9
	comp=N,130nm,0.2s						
KAVA	Kavala	1.52	121	P	Pn	08 48 52.4	-0.2
KAVA				S	Sb	08 49 12.2	-0.8
OUR	Ouranopolis	1.71	148	P	Pn	08 48 55.1	-0.1
BLKB	Belogradchik	1.83	357	ePg	Pn	08 48 57.6	+0.7
BLKB				eSg	Sb	08 49 22.2	+0.3
THAS	Thassos island	1.88	129	P	Pn	08 48 56.9	-0.6
SELS	Selova	1.89	319	ePn	Pb	08 48 59.6	-0.1
SELS				eSg	Sg	08 49 25.9	+0.6
BOVS	Bovan	2.00	337	ePn	Pb	08 49 01.5	-0.2
BOVS				eSg	Sb	08 49 28.0	+1.0
ZAGS	Zajecar	2.06	349	ePn	Pn	08 49 00.1	+0.1
RDO	Rodhopi	2.16	107	P	Pn	08 49 02.0	+0.6
RDO				AML	AML	08 49 35.2	
	comp=E,118μm,0.3s						
RDO				AML	AML	08 49 35.4	
	comp=N,96μm,0.3s						
GRUS	Gruza	2.59	325	ePn	Pn	08 49 07.9	+0.6
GRUS				eSn	Sb	08 49 42.6	-1.2

IDC 02 08:54:42.8±2.5, 53°63'N×86°88'E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=23.2km s-min=13.0km az=77.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.27	285	I	I	09 03 55.0	
	baz=102,slow=329,SNR=6.5						
ZALV	Zalesovo Beam	1.27	285	Pg	Pg	08 55 06.3	-0.7
	1.7nm,0.3s,baz=103,slow=17,SNR=19						
ZALV				Lg	Lg	08 55 23.9	
	0.9nm,0.3s,baz=105,slow=29,SNR=4.5						
KURBB	Kurchatov Arra	5.96	243	Pn	Pn	08 56 13.3	+1.1
	0.1nm,0.3s,baz=57,slow=14,SNR=2.2						
KURBB				Lg	Lg	08 57 49.8	
	0.1nm,0.3s,baz=62,slow=35,SNR=1.7						
	0.9nm,0.2s						
MKAR	Makanchi Array	7.45	205	Pn	Pn	08 56 34.1	+1.4
	0.2nm,0.3s,baz=20,slow=12,SNR=7.3						
MKAR				Sn	Sn	08 57 57.4	-0.4
	0.1nm,0.3s,baz=22,slow=25,SNR=1.5						
MKAR				Lg	Lg	08 58 38.2	
	0.1nm,0.3s,baz=27,slow=27,SNR=1.5						
	0.4nm,0.4s						

IDC 02 08:55:48.1±3.9, 5°95S×146°33E, h0km, mb3.3/1, mbtmp3.8/2, ML3.4/1, MS3.4/1, Error ellipse: s-maj=137.3km s-min=54.1km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.15	219	P	Pn	09 00 00.7	-1.0
	0.1nm,0.3s,baz=43,slow=12,SNR=28						
	4.0nm,0.8s						
ASAR	Alice Springs	21.29	213	P	P	09 00 36.1	-0.4
	1.0nm,0.6s,baz=37,slow=10,SNR=13						
ASAR				LR	LR	09 09 57.6	
	comp=Z,101nm,18.3s,baz=37,slow=40						
	1.0nm,0.6s						
TORD	Torodi Ar. Bea	144.43	284	PKP	PKPdf	09 15 28.5	+1.0
	0.2nm,0.5s,baz=102,slow=2.9,SNR=1.3						

KRSC 02 08:57:54.4±1.1, 51°26N×157°62E, h135km±10km, Ml4.2
MOS 02 08:57:54.7±1.0, 51°36N×157°16E, h144km, mb4.0/1, Error ellipse: s-maj=24.7km s-min=5.1km az=73.9
IDC 02 08:57:56.8±1.6, 51°51N×156°98E, h149km±15km, mb3.2/6, mbtmp3.7/7, Error ellipse: s-maj=26.5km s-min=21.3km az=150.0
ISC 02 08:57:55.1±0.8, 51°27N±0°06×157°50E±0°07, h141km±6km, n70, σ1°07/92, mb3.3/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.47	295	PN	Pn	08 58 16.4	+1.3
PAU	Pauzhetka	0.47	295	eP	Pn	08 58 16.4	+1.3
KDTR	Khodutka, Kamc	0.65	34	PN	Pn	08 58 16.2	+0.1
KDTR				S	Sn	08 58 31.1	-1.1
KDTR	Khodutka, Kamc	0.65	34	eP	Pn	08 58 16.2	+0.1
KDTR				eS	Sn	08 58 31.1	-1.1
SKR	Severo-Kuril's	1.05	237	PN	Pn	08 58 19.3	-0.1
SKR				S	Sn	08 58 36.9	-0.9
SKR	Severo-Kuril's	1.05	237	eP	Pn	08 58 19.3	-0.1
SKR				eS	Sn	08 58 36.9	-0.9
ASAK	Asacha	1.14	12	PN	Pn	08 58 20.8	+0.5
ASAK				S	Sn	08 58 39.9	+0.3
ASAK	Asacha	1.14	12	eP	Pn	08 58 20.8	+0.5
ASAK				eS	Sn	08 58 39.9	+0.3
MTVR	Mutnovka	1.28	19	PN	Pn	08 58 22.3	+0.5
MTVR				S	Sn	08 58 42.3	+0.1
MTVR	Mutnovka	1.28	19	eP	Pn	08 58 22.3	+0.5
MTVR				eS	Sn	08 58 42.3	+0.1
GRL	Gorelyy	1.33	15	PN	Pn	08 58 23.2	+1.0
GRL	Gorelyy	1.33	15	eP	Pn	08 58 23.2	+1.0
KRMR	Karymshinskiy	1.61	14	PN	Pn	08 58 25.4	+0.4
KRMR				S	Sn	08 58 47.9	-0.1
KRMR	Karymshinskiy	1.61	14	eP	Pn	08 58 25.4	+0.4
KRMR				eS	Sn	08 58 47.9	-0.1
APC	Apacha	1.67	353	PN	Pn	08 58 25.8	+0.1
APC				S	Sn	08 58 48.4	-0.8
APC	Apacha	1.67	353	eP	Pn	08 58 25.8	+0.1
APC				eS	Sn	08 58 48.4	-0.8
PETK	Petropavlovsk-	1.84	4	P	Pn	08 58 27.1	-0.6
	36nm,0.4s,baz=176,slow=12,SNR=138						
PETK				S	Sn	08 58 52.5	-0.4
	8.6nm,0.4s,baz=143,slow=17,SNR=4.7						
PET	Petropavlovsk	1.89	22	ePn	Pn	08 58 27.8	-0.5
PET				eS	Sn	08 58 53.5	-0.3
PET				pmax	pmax		
	comp=Z,65nm,0.6s						
PET				smax	smax		
	comp=N,289nm,0.6s						
PET				smax	smax		
	comp=E,175nm,0.6s						
PET	Petropavlovsk	1.89	22	eP	Pn	08 58 28.5	+0.3
PET				eS	Sn	08 58 53.2	-0.6
DALK	Dalny	1.92	23	PN	Pn	08 58 29.2	+0.6
DALK				S	Sn	08 58 53.7	-0.7
DALK	Dalny	1.92	23	eP	Pn	08 58 29.2	+0.6
DALK				eS	Sn	08 58 53.7	-0.7
UGLR	Uglovaya	2.10	22	PN	Pn	08 58 32.2	+1.3
UGLR				S	Sn	08 58 58.8	+0.3
UGLR	Uglovaya	2.10	22	eP	Pn	08 58 32.2	+1.3
UGLR				eS	Sn	08 58 58.8	+0.3
AVH	Avacha	2.14	20	PN	Pn	08 58 32.6	+1.4
AVH	Avacha	2.14	20	eP	Pn	08 58 32.6	+1.4
KOK	Koryaka	2.14	19	PN	Pn	08 58 32.7	+1.4
KOK	Koryaka	2.14	19	eP	Pn	08 58 32.7	+1.4
SMAR	Somma	2.15	21	PN	Pn	08 58 32.6	+1.0
SMAR	Somma	2.15	21	eP	Pn	08 58 32.6	+1.0
KRER	Koryakskii	2.17	20	PN	Pn	08 58 33.1	+1.2
KRER	Koryakskii	2.17	20	eP	Pn	08 58 33.1	+1.2
SDLR	Sedlovina	2.18	22	PN	Pn	08 58 32.7	+0.8
SDLR	Sedlovina	2.18	22	eP	Pn	08 58 32.7	+0.8
KRX	Arik	2.21	18	PN	Pn	08 58 33.2	+1.0
KRX				S	Sn	08 58 59.8	-0.9
KRX	Arik	2.21	18	eP	Pn	08 58 33.2	+1.0
KRX				eS	Sn	08 58 59.8	-0.9
NLC	Nalytchevo	2.21	30	PN	Pn	08 58 32.8	+0.7
NLC	Nalytchevo	2.21	30	eP	Pn	08 58 32.8	+0.7
SPN	Mys Shipunski	2.40	39	PN	Pn	08 58 34.6	+0.2
SPN				S	Sn	08 59 02.8	-1.9
SPN	Mys Shipunski	2.40	39	eP	Pn	08 58 34.6	+0.2
SPN				eS	Sn	08 59 02.8	-1.9
GNL	Ganaly	2.44	6	PN	Pn	08 58 35.3	+0.2
GNL	Ganaly	2.44	6	eP	Pn	08 58 35.3	+0.2
MKZ	Mys Kozlova	4.17	36	PN	Pn	08 58 56.8	-0.3
MKZ				S	Sn	08 59 43.0	-2.4
MKZ	Mys Kozlova	4.17	36	eP	Pn	08 58 56.8	-0.3
MKZ				eS	Sn	08 59 43.0	-2.4
KZV	Kizimen	4.20	22	PN	Pn	08 58 58.6	+0.9
KZV	Kizimen	4.20	22	eP	Pn	08 58 58.6	+0.9
TUMD	Tumrok D	4.31	23	eP	Pn	08 58 59.7	+0.7
TUMR	Tumrok	4.32	21	PN	Pn	08 59 00.4	+1.1
TUMR	Tumrok	4.32	21	eP	Pn	08 59 00.4	+1.1
BZMR	Bezymyannaya	5.00	20	PN	Pn	08 59 09.4	+1.1
BZMR	Bezymyannaya	5.00	20	eP	Pn	08 59 09.4	+1.1
BZWR	Bezymyannyi-We	5.03	20	PN	Pn	08 59 09.2	+0.5
BZWR	Bezymyannyi-We	5.03	20	eP	Pn	08 59 09.2	+0.5
BZGR	Bezymyannyi-Gr	5.05	21	PN	Pn	08 59 09.9	+1.0
BZGR	Bezymyannyi-Gr	5.05	21	eP	Pn	08 59 09.9	+1.0
SRDR	Sredinnyy	5.22	14	PN	Pn	08 59 12.3	+1.1
SRDR	Sredinnyy	5.22	14	eP	Pn	08 59 12.3	+1.1
SMKR	Semkarok	5.81	22	PN	Pn	08 59 19.5	+0.4
SMKR	Semkarok	5.81	22	eP	Pn	08 59 19.5	+0.4
ASAJ	Asahikawa	12.32	240	P	Pn	09 00 45.9	+0.3
	comp=E,6.8nm,0.7s,baz=41,slow=19,SNR=4.2						
KURK	Kurchatov	47.34	302	P	P	09 06 12.8	-1.5
KURBB	Kurchatov Arra	47.44	302	P	P	09 06 12.8	-2.3
	comp=E,0.7nm,0.3s,baz=60,slow=7.3,SNR=2.2						
	comp=E,0.7nm,0.3s						
MKAR	Makanchi Array	47.51	296	P	P	09 06 14.0	-1.6
	comp=E,0.2nm,0.4s,baz=51,slow=8.1,SNR=1.7						
	comp=E,0.2nm,0.4s						
BVAR	Borovoye Array	50.27	308	P	P	09 06 34.0	-2.6
BVAR	Borovoye Array	50.27	308	P	P	09 06 34.0	-2.6
	comp=E,0.7nm,0.5s,baz=52,slow=9.5,SNR=2.3						
	comp=E,0.7nm,0.5s						
TXAR	Lajitas Array	72.84	65	P	P	09 09 10.6	+2.1
	comp=E,0.4nm,0.7s,baz=297,slow=5.2,SNR=7.5						
	comp=E,0.4nm,0.7s						
WRA	Warramunga Arr	73.77	203	P	P	09 09 14.6	+0.9
	comp=E,0.5nm,0.9s,baz=17,slow=6.1,SNR=3.2						
	comp=E,0.5nm,0.9s						
ASAR	Alice Springs	77.45	202	P	P	09 09 36.2	+1.7
	comp=E,0.2nm,0.4s,baz=11,slow=4.9,SNR=5.1						
	comp=E,0.2nm,0.4s						
H03N2	Juan Fernandez	135.82	89	T	T	11 47 56.5	
	baz=314,slow=77,SNR=18						
H03N1	Juan Fernandez	135.84	89	T	T	11 47 57.8	
	baz=314,slow=77,SNR=15						
H03N3	Juan Fernandez	135.84	89	T	T	11 47 57.2	
	baz=314,slow=77,SNR=18						

BER 02 08:59:56.6±1.4, 67°63N×26°94E, h0km, ML1.3, Suspected explosion
KOLA 02 08:59:56.6, 69°79N×30°90E, h0km, ML1.9, Error ellipse: s-maj=46.8km s-min=6.0km az=30.0, Norway, Finnmark
HEL 02 08:59:55.1±0.1, 67°71N×26°93E, h0km, ML1.3, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGF	Sodankyl	0.32	210	PG	Pg	09 00 00.8	-0.3
SGF				SG	Sg	09 00 05.5	+0.3
VRF	Varrio	1.02	87	PG	Pg	09 00 13.6	-1.0
VRF				MSG		09 00 26.2	
	comp=Z,3.2nm,0.2s						
VRF				SG	Sg	09 00 26.4	-1.4
RNF	Rovaniemi	1.17	198	PB	Pg	09 00 16.5	-0.9
RNF				SB	Sg	09 00 31.3	-1.2
KLF	Kolari	1.24	249	PG	Pg	09 00 17.6	-1.2
KLF				MSG		09 00 32.7	
	comp=Z,2.2nm,0.2s						
KLF				SG	Sb	09 00 35.8	0.0
HEF	Hetta	1.41	301	eP	Pn	09 00 21.3	-0.7
HEF				eS	Sb	09 00 40.8	-0.1
HEF	Hetta	1.41	301	PN	Pn	09 00 21.3	-0.8
	baz=119						
HEF				MSG		09 00 37.6	
	comp=Z,3.0nm,0.2s						
HEF				SN	Sg	09 00 40.5	+0.1
PAJU	Pajala	1.63	247	PG	Pn	09 00 24.4	-0.7
PAJU				SN	Sn	09 00 46.2	-0.6
KTK1	Kautokeino	1.89	315	eP	Pn	09 00 29.5	+0.9
KTK1				eS	Sb	09 00 53.9	-0.7
KTK1				IAML		09 00 55.3	
	comp=Z,4.9nm,0.4s						
KTK1	Kautokeino	1.89	315	PG	Pn	09 00 29.2	+0.6
KTK1				SG	Sb	09 00 54.0	-0.6
LANU	Lannavaara	1.90	282	PG	Pn	09 00 29.0	+0.3
LANU				SG	Sb	09 00 54.7	-0.1
ARA0	ARCESS Array S	1.90	345	eP	Pb	09 00 30.1	-0.6
ARA0				eS	Sn	09 00 53.1	-0.4
ARCES	ARCESS Array B	1.90	345	P	Pn	09 00 29.3	+0.5
ARCES				S	Sb	09 00 54.2	-0.7
TOF	Tornio	1.94	213	PG	Pn	09 00 29.6	+0.4
	baz=31						
TOF				MSG		09 00 52.6	
	comp=Z,1.8nm,0.2s						
TOF				SG	Sn	09 00 54.6	+0.4
MSF	Maaselka	1.99	154	PG	Pb	09 00 31.2	-1.0
MSF				SG	Sb	09 00 56.6	-0.9
KEV	Kevo	2.05	1	PG	Pb	09 00 32.0	-1.1
KEV				MSG		09 00 56.0	
	comp=Z,1.9nm,0.2s						
KEV				SG	Sb	09 00 59.0	-0.1
KU6	Riekki	2.06	144	PG	Pn	09 00 31.6	+0.7
	baz=324						
KU6				MSG		09 00 56.3	
	comp=Z,1.2nm,0.2s						
KU6				SG	Sn	09 00 57.8	+0.6
ERTU	Ertsjaerv	2.19	240	PB	Pn	09 00 33.1	+0.4
	baz=53						
ERTU				SG	Sb	09 01 02.7	-0.4
APA0	Apatity Array	2.32	90	P	Pb	09 00 36.1	-1.6
APA0				S	Sn	09 01 04.5	+0.9
KALU	Kalix	2.34	219	PB	Pn	09 00 35.5	+0.7
KALU				SG	Sb	09 01 06.1	-1.3
KIF	Kilpisjarvi	2.62	303	PG	Pb	09 00 43.0	+0.3
KIF				MSG		09 01 12.8	
	comp=Z,1.0nm,0.2s						
KIF				SG	Sb	09 01 15.3	-0.1
LVZ	Lovozero	2.94	83	SG	Sb	09 01 23.6	-1.1

BUT 02 09:00:38.6±2.9, 46°87N±0°05×112°53W±0°05, h11km±5km, Error ellipse: s-maj=7.5km s-min=4.2km az=204.0
NEIC 02 09:00:40.0±1.0, 46°88N±0°05×112°68W±0°05, h13km±3km, ML2.8/44, ML3.1/30(BUT), Error ellipse: s-maj=7.6km s-min=3.2km az=212.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVMT	Ovando	0.29	310	Pg	Pg	09 00 45.9	0.0
CHMT	Chamberlain Mo	0.40	275	Pg	Pg	09 00 48.4	+0.5
BPMT	Black Pine Rid	0.69	230	Pg	Pg	09 00 53.3	-0.1
MSO	Missoula	0.87	267		Pg	09 00 56.8	0.0
MSO	Missoula	0.87	267	IAML		09 01 12.9	
	293nm,0.4s						
JTMT	Jette	1.40	309	Pn	Pn	09 01 05.3	0.0
JTMT				Sn	Sn	09 01 23.6	-0.1
JTMT				IAML		09 01 28.1	
	comp=E,116nm,0.4s						
BOZ	Bozeman (W)	1.47	150		Pn	09 01 05.2	-1.1
BOZ	Bozeman (W)	1.47	150	IAML		09 01 24.6	
	comp=E,180nm,0.6s						
DLMT	Dillon	1.52	178		Pn	09 01 06.8	-0.2
DLMT	Dillon	1.52	178	IAML		09 01 27.7	
	comp=E,116nm,0.7s						
DLMT				IAML		09 01 32.9	
	comp=E,133nm,0.9s						
MCMT	McKenzie Canyo	2.06	183	Pn	Pn	09 01 14.0	-0.5
YHL	Hebgen Lake	2.28	152		Pb	09 01 19.6	-1.6
EGMT	Eagleton	2.29	59	Pn	Pn	09 01 17.7	+0.1
GCMT	Greycliff	2.35	116	Pn	Pn	09 01 18.4	-0.1
YHH	Holmes Hill	2.45	148		Pn	09 01 18.7	-1.2
YNR	Norris Junctio	2.58	146	Pn	Pn	09 01 22.4	+0.8
YNR				IAML		09 01 57.6	
	comp=E,38nm,0.4s						
YNR				IAML		09 01 59.0	
	comp=N,35nm,0.5s						
BCYI	Bear Canyon	2.62	192		Pn	09 01 20.8	-1.5
YFT	Old Faithful	2.75	151	Pn	Pn	09 01 24.9	+0.8
YMP	Mirror Lake Pl	2.77	140		Pn	09 01 23.8	-0.6
YMP				IAML		09 02 08.3	
	comp=E,50nm,0.5s						
YMP				IAML		09 02 08.4	
	comp=N,48nm,0.4s						
LKWY	Lake	2.81	145		Pn	09 01 25.1	+0.2
LKWY				IAML		09 02 12.2	
	comp=N,30nm,0.7s		

mb4.2/13, Error ellipse: s-maj=22.3km s-min=11.8km az=53.0
*IDC **02** 09:06:47.3±5.6, 10°.60S×161°.11E, h84km±33km, mb3.7/7, mbtmp4.0/8, MS3.1/6, Error ellipse: s-maj=61.5km s-min=21.7km az=98.0*
ISC 02 09:06:42.6±0.8, 10°.71S±0°.08×161°.5E±0°.1, h61km, n30, σ1§10/27, mb4.0/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.98**	**310**		**Pn**	**09 07 13.7**	**-0.2**
HNR	**Honiara**	**1.98**	**310**	P	**Pn**	**09 07 14.0**	**+0.2**
	6μm,0.6s,baz=156,slow=7.2,SNR=19						
HNR				S	**Sn**	**09 07 35.4**	**-2.2**
	4μm,0.3s,baz=73,slow=13,SNR=2.4						
HNR				LR	LR	09 08 04.3	
	comp=Z,3μm,19.1s,baz=108,slow=47						
KOUNC	**Koumac, New Ca**	**10.14**	**165**	Pn	**Pn**	**09 09 05.2**	**-0.3**
DZM	**Mont Dzumac**	**12.25**	**158**	Pn	**Pn**	**09 09 31.2**	**-3.1**
OUENC	**Ouen Island, N**	**12.72**	**157**	Pn	**Pn**	**09 09 39.6**	**-1.0**
MANU	**Manus Island**	**16.46**	**301**	Pn	**Pn**	**09 10 28.6**	**-1.1**
TARA	**Tarawa**	**16.53**	**44**		**Pn**	**09 10 31.1**	**+0.6**
CTA	**Charters Tower**	**17.38**	**236**	P	**Pn**	**09 10 41.6**	**+0.5**
	1.1nm,0.4s,baz=129,slow=3.9,SNR=3.7						
CTAO	**Charters Tower**	**17.38**	**236**		**Pn**	**09 10 41.2**	**+0.1**
CTAO				IAmb	IAmb	09 10 58.0	
	comp=Z,20nm,1.4s						
EIDS	**Eidsvold**	**17.60**	**213**	P	**P**	**09 10 44.2**	**+0.2**
EIDS				IAmb	IAmb	09 10 48.0	
	comp=Z,14nm,1.0s						
PATS	**Pohnpei**	**17.72**	**350**		**Pn**	**09 10 45.5**	**+0.2**
PATS				IAmb	IAmb	09 11 08.8	
	comp=Z,76nm,1.5s						
COEN	**Coen**	**18.18**	**258**	P	**Pn**	**09 10 51.5**	**+0.6**
WR0	**Warramunga Arr**	**27.53**	**247**	P	**P**	**09 12 24.2**	**+0.4**
WR0				IAmb	IAmb	09 12 31.6	
	comp=Z,7.5nm,1.4s						
WB0	**Warramunga Arr**	**27.61**	**248**	P	**P**	**09 12 24.8**	**+0.3**
WB0				IAmb	IAmb	09 12 25.4	
	comp=Z,4.2nm,0.8s						
WRAB	**Tennant Creek**	**27.70**	**247**	P	**P**	**09 12 26.2**	**+1.0**
WB2	**Warramunga Arr**	**27.70**	**247**	P	**P**	**09 12 24.4**	**-0.8**
WB2				IAmb	IAmb	09 12 53.9	
	comp=Z,5.1nm,1.2s						
WRA	**Warramunga Arr**	**27.71**	**247**	P	**P**	**09 12 25.2**	**-0.2**
WRA	**Warramunga Arr**	**27.71**	**247**	P	**P**	**09 12 25.6**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=77,slow=9.5,SNR=8.1						
	comp=Z,0.8nm,0.6s						
STKA	**Stephens Creek**	**27.96**	**218**	P	**P**	**09 12 29.8**	**+2.3**
	comp=Z,1.3nm,0.7s,baz=24,slow=8.9,SNR=3.4						
STKA				LR	LR	09 23 01.1	
	comp=Z,84nm,19.0s,baz=28,slow=35						
	comp=Z,1.3nm,0.7s						
GUMO	**Guam**	**29.24**	**325**	LR	LR	09 23 44.3	
	comp=Z,30nm,21.2s,baz=144,slow=35						
ASAR	**Alice Springs**	**29.26**	**240**	P	**P**	**09 12 38.4**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=64,slow=9.6,SNR=6.8						
ASAR				LR	LR	09 23 33.4	
	comp=Z,111nm,19.6s,baz=74,slow=35						
	comp=Z,0.5nm,0.7s						
BBOO	**Buckleboo**	**32.11**	**223**	P	**P**	**09 13 04.9**	**+0.7**
KNRA	**Kununurra**	**32.22**	**258**	P	**P**	**09 13 05.8**	**+0.5**
KNRA				IAmb	IAmb	09 13 06.8	
	comp=Z,10.0nm,0.9s						
MJAR	**Matsushiro Arr**	**51.86**	**336**	LR	LR	09 35 02.3	
	comp=Z,15nm,21.3s,baz=98,slow=33						
JNU	**Nakatsue**	**52.46**	**327**	LR	LR	09 35 27.6	
	comp=Z,16nm,20.4s,baz=138,slow=33						
KSRS	**Korea Array**	**57.33**	**328**	LR	LR	09 40 11.6	
	comp=Z,7.3nm,18.8s,baz=110,slow=35						
CMAR	**Chiang Mai Arr**	**68.16**	**295**	P	**P**	**09 17 37.0**	**+0.1**
	comp=Z,2.9nm,0.3s,baz=122,slow=5.3,SNR=5.2						
	comp=Z,2.9nm,0.3s						
SONM	**Songino Array**	**75.97**	**325**	P	**P**	**09 18 23.9**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=139,slow=5.6,SNR=6.2						
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**90.44**	**318**	P	**P**	**09 19 37.0**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=108,slow=3.6,SNR=2.5						
	comp=Z,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**93.76**	**321**	P	**P**	**09 19 53.8**	**+0.9**
	comp=Z,0.1nm,0.2s,baz=141,slow=4.7,SNR=4.2						
	comp=Z,0.1nm,0.2s						

*NOU **02** 09:13:39.4, 41°.82S×174°.51E, h20km, MLv3.7/6, Cook Strait, New Zealand*
*WEL **02** 09:13:40.3±0.4, 42°.5S±3°.×17°.4E±°., h13km±4km, M3.1/24, ML3.3/12, MLv3.1/24, Error ellipse: s-maj=0.0km s-min=0.0km az=133.4, confirmed*
ISC 02 09:13:39.3±1.2, 41°.77S±0°.03×174°.40E±0°.03, h13km±10km, n65, σ0§86/73, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.14**	**279**	P	**Pb**	**09 13 44.2**	**+0.3**
CMWZ				S	**Sb**	**09 13 47.0**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.40**	**278**	P	**Pg**	**09 13 47.6**	**+0.3**
BSWZ				S	**Sg**	**09 13 52.7**	**0.0**
TUWZ	**Tuamarina**	**0.48**	**315**	P	**Pg**	**09 13 48.7**	**-0.2**
SNZO	**South Karori**	**0.51**	**26**	P	**Pb**	**09 13 50.6**	**+0.5**
WEL	**Wellington**	**0.56**	**30**	P	**Pb**	**09 13 51.5**	**+0.6**
WEL				S	**Sb**	**09 13 59.7**	**+1.0**
TCW	**Tory Channel**	**0.57**	**350**	P	**Pg**	**09 13 50.4**	**-0.1**
TCW				S	**Sg**	**09 13 57.4**	**-0.6**
PLWZ	**Palliser**	**0.67**	**73**	P	**Pn**	**09 13 54.8**	**+0.3**
CAW	**Cannon Point**	**0.83**	**37**	P	**Pn**	**09 13 56.2**	**-0.5**
CAW				S	**Sn**	**09 14 07.8**	**-0.9**
PAWZ	**Paruwai Farm**	**0.86**	**64**	P	**Pn**	**09 13 57.3**	**+0.2**
PAWZ				S	**Sn**	**09 14 10.6**	**+1.0**
KHZ	**Kahutara**	**0.91**	**225**	P	**Pn**	**09 13 58.0**	**+0.2**
KHZ	**Kahutara**	**0.91**	**225**	P	**Pg**	**09 13 57.9**	**+0.9**
KHZ				S	**Sn**	**09 14 11.4**	**+0.7**
NNZ	**Nelson**	**0.95**	**305**	P	**Pb**	**09 13 56.8**	**-0.8**
KIW	**Kapiti Island**	**0.99**	**23**	P	**Pg**	**09 13 58.5**	**+0.1**
MTW	**Mount Morrison**	**1.03**	**54**	P	**Pg**	**09 13 59.4**	**+0.3**
DUWZ	**D'Urville Isla**	**1.03**	**339**	P	**Pb**	**09 13 58.4**	**-0.7**
DUWZ				S	**Sb**	**09 14 11.3**	**-1.3**
TRWZ	**Traveller**	**1.03**	**69**	P	**Pn**	**09 13 59.5**	**0.0**
OGWZ	**Otaki Gorge**	**1.11**	**32**	P	**Pg**	**09 14 00.8**	**0.0**
THZ	**Tophouse**	**1.12**	**270**	P	**Pb**	**09 14 00.2**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.21**	**44**	P	**Pn**	**09 14 01.9**	**-0.1**
MRNZ	**Matariki Terra**	**1.29**	**286**	P	**Pn**	**09 14 03.0**	**0.0**
TMWZ	**Te Maipa**	**1.30**	**60**	P	**Pn**	**09 14 02.9**	**-0.2**
TKNZ	**Takaka Hill**	**1.31**	**304**	P	**Pn**	**09 14 03.1**	**-0.2**
MRZ	**Mangatainoka R**	**1.42**	**39**	P	**Pn**	**09 14 04.9**	**+0.1**
TIWZ	**Tintock**	**1.50**	**49**	P	**Pn**	**09 14 05.7**	**-0.2**
GVZ	**Greta Valley S**	**1.57**	**220**	P	**Pn**	**09 14 07.6**	**+0.8**
PRWZ	**Pori Road**	**1.70**	**45**	P	**Pn**	**09 14 08.4**	**-0.2**
QRZ	**Quartz Range**	**1.70**	**303**	P	**Pn**	**09 14 09.4**	**+0.8**
QRZ	**Quartz Range**	**1.70**	**303**	P	**Pn**	**09 14 09.3**	**+0.7**
POWZ	**Post Office Ro**	**1.72**	**37**	P	**Pn**	**09 14 09.1**	**+0.2**
BFZ	**Birch Farm**	**1.77**	**53**	P	**Pn**	**09 14 08.8**	**-0.8**
BFZ	**Birch Farm**	**1.77**	**53**	P	**Pn**	**09 14 08.7**	**-0.9**
LTZ	**Lake Taylor**	**1.88**	**237**	P	**Pn**	**09 14 10.9**	**-0.2**
AMCZ	**Amberley**	**1.91**	**222**	P	**Pg**	**09 14 17.2**	**+1.3**
DSZ	**Denniston Nort**	**1.94**	**270**	P	**Pn**	**09 14 12.5**	**+0.4**
DVHZ	**Dannevirke**	**1.99**	**43**	P	**Pn**	**09 14 11.8**	**-0.8**
ANWZ	**Angora Road**	**2.04**	**51**	P	**Pn**	**09 14 12.7**	**-0.6**
WAZ	**Wanganui**	**2.06**	**13**	P	**Pg**	**09 14 17.9**	**-1.0**
TSZ	**Takapari Road**	**2.08**	**35**	P	**Pn**	**09 14 13.6**	**-0.3**
OKCZ	**Okains Bay**	**2.19**	**206**	P	**Pn**	**09 14 14.5**	**-0.9**
PRHZ	**Porangahau**	**2.26**	**49**	P	**Pn**	**09 14 15.2**	**-1.2**
WPHZ	**Waipukurau**	**2.30**	**43**	P	**Pn**	**09 14 16.3**	**-0.6**
PNHZ	**Pukenui**	**2.30**	**37**	P	**Pn**	**09 14 16.3**	**-0.6**
MQZ	**McQueen's Vall**	**2.32**	**213**	P	**Pn**	**09 14 15.7**	**-1.5**
OXZ	**Oxford**	**2.34**	**228**	P	**Pn**	**09 14 16.2**	**-1.2**
INZ	**Inchbonnie**	**2.39**	**246**	P	**Pn**	**09 14 18.0**	**-0.2**
KHEZ	**Kahui Hut**	**2.49**	**353**	P	**Pb**	**09 14 23.8**	**-0.2**
MOVZ	**Moawhango**	**2.58**	**24**	P	**Pb**	**09 14 25.6**	**+0.2**
KRHZ	**Kereru**	**2.60**	**36**	P	**Pn**	**09 14 20.1**	**-0.9**
BHHZ	**Black Hill Sta**	**2.61**	**30**	P	**Pn**	**09 14 21.9**	**+0.7**
WNVZ	**Wahianoa**	**2.61**	**21**	P	**Pn**	**09 14 22.4**	**+1.2**
WHVZ	**Whangaehu Hut**	**2.65**	**20**	P	**Pb**	**09 14 27.8**	**+1.2**
VRZ	**Vera Road**	**2.66**	**6**	P	**Pn**	**09 14 23.8**	**+2.0**
TUVZ	**Tukino**	**2.68**	**21**	P	**Pn**	**09 14 24.2**	**+2.0**
KAHZ	**Kahuranaki**	**2.73**	**44**	P	**Pn**	**09 14 21.4**	**-1.4**
MHCZ	**Mount Hutt**	**2.73**	**229**	P	**Pn**	**09 14 21.9**	**-1.0**
NGZ	**Ngauruhoe**	**2.75**	**20**	P	**Pb**	**09 14 29.1**	**+0.7**
NNVZ	**North Ngauruho**	**2.79**	**20**	P	**Pb**	**09 14 29.4**	**+0.3**
WACZ	**Wakanui South**	**2.87**	**220**	P	**Pn**	**09 14 23.6**	**-1.1**
WVZ	**Waitaha Valley**	**3.01**	**243**	P	**Pn**	**09 14 27.3**	**+0.7**
RPZ	**Rata Peaks**	**3.14**	**231**	P	**Pn**	**09 14 27.5**	**-1.0**
RPZ	**Rata Peaks**	**3.14**	**231**	P	**Pn**	**09 14 27.7**	**-0.7**
ARCZ	**Arundel**	**3.22**	**226**	P	**Pn**	**09 14 26.9**	**-2.6**
TMZ	**Timaru**	**3.61**	**222**	P	**Pn**	**09 14 33.9**	**-0.9**
ODZ	**Otahua Downs**	**4.27**	**219**	P	**Pn**	**09 14 42.9**	**-1.0**
ODZ	**Otahua Downs**	**4.27**	**219**	P	**Pn**	**09 14 42.7**	**-1.2**

IDC 02 09:17:23.3±49.0, 16°.71S×178°.69W, h556km±62km, mb3.1/3, mbtmp3.9/4, Error ellipse: s-maj=917.2km s-min=125.5km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.27**	**251**	P	P	09 18 40.6	0.0
	3.2nm,0.5s,baz=292,slow=23,SNR=1.9						
STKA	**Stephens Creek**	**38.98**	**240**	P	P	09 24 02.3	-0.1
	1.0nm,0.4s,baz=66,slow=10.0,SNR=4.0						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**44.59**	**258**	P	P	09 24 46.4	-0.4
	0.5nm,0.5s,baz=95,slow=7.3,SNR=17						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**44.87**	**253**	P	P	09 24 48.9	0.0
	2.8nm,0.5s,baz=87,slow=8.1,SNR=80						
	2.8nm,0.5s						

TAP 02 09:23:32.4, 24°.68N×121°.56E, h2km±1km, ML0.4, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou**	**0.04**	**176**	⇓*i* P	Pg	09 23 33.9	+0.6
	baz=167						
ENTT				*i* S	Sg	09 23 35.0	+1.2
	baz=167						
FUSB	**Fushanzhiwuyua**	**0.08**	**16**	P	Pg	09 23 34.6	+0.5
	baz=15						
FUSB				S	Sg	09 23 36.7	+1.5
	baz=15						
NWLT	**Wulai**	**0.11**	**330**	P	Pg	09 23 35.9	+1.3
	baz=330						
NWLT				S	Sg	09 23 37.7	+1.6
	baz=330						

JMA 02 09:24:20.1±0.3, 24°.2N±0°.5×123°.7E±0°.9, h14km±2km, MV1.1/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.15**	**17**	*i* P	Pg	09 24 23.7	-0.1
IRIF				*e*S	Sg	09 24 26.6	+0.3
HATJ	**Hateruma jima**	**0.18**	**141**	*i* P	Pg	09 24 24.1	-0.1
JKRS	**Kuro-shima**	**0.30**	**82**	*e*P	Pg	09 24 26.5	+0.2
JKRS				*e*S	Sg	09 24 31.3	+0.7
JIJ	**Ishigaki jima**	**0.45**	**68**	*e*P	Pg	09 24 29.0	-0.1
JIJ				*e*S	Sg	09 24 34.8	-0.4
JISG	**Ishigakijimahi**	**0.69**	**56**	*e*P	Pg	09 24 33.4	-0.2
JISG				*e*S	Sg	09 24 42.8	+0.1

TAP 02 09:30:45.3, 23°.38N×121°.52E, h28km, ML0.5, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.09**	**222**	*e*P	Pb	09 30 50.3	0.0
	baz=222						
HGSD	**Ruisui**	**0.14**	**322**	P	Pb	09 30 50.9	+0.2
	baz=321						
YULB	**Yu-li**	**0.20**	**272**	*i* P	Pb	09 30 51.8	+0.5
	baz=272						
YULB				S	Sb	09 30 56.3	+0.9
	baz=272						
EHY	**Hungye**	**0.22**	**304**	P	Pb	09 30 51.9	+0.4
	baz=304						
EHY				S	Sb	09 30 56.7	+1.0
	baz=304						
FULB	**Fuli**	**0.28**	**228**	P	Pb	09 30 52.9	+0.6
	baz=228						
FULB				*i* S	Sn	09 30 58.1	-0.6
	baz=228						
SMLT	**Sun Moon Lake**	**0.75**	**311**	*i* P	Pb	09 30 59.9	-0.1
	baz=311						
SMLT				*e*S	Sb	09 31 10.2	+0.3
	baz=311						

*TAP **02** 09:37:51.0, 24°.90N×122°.43E, h14km, ML3.0, C*
*JMA **02** 09:37:51.1±0.3, 25°.N±1°.×122°.5E±0°.4, h2km±3km, MV2.2/8, NW OFF ISHIGAKIJIMA IS*
ISC 02 09:37:51.0±1.0, 24°.86N±0°.02×122°.45E±0°.02, h10km±9km, n67, σ0§76/109, 3C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.45**	**290**	⇓P	**Pg**	**09 37 59.8**	**0.0**
	baz=285						
TWB1				S	**Sg**	**09 38 06.6**	**+1.0**
	baz=285						
EGS		**0.47**	**269**	⇑P	**Pg**	**09 38 00.5**	**+0.3**
	baz=262						
EGS				S	**Sb**	**09 38 08.1**	**-0.4**
	baz=262						
EOS2	**EOS2**	**0.48**	**205**	P	**Pb**	**09 38 01.4**	**-0.1**
	baz=200						
EOS2				*e*S	**Sb**	**09 38 09.6**	**+1.0**
	baz=200						
SXI1	**Grass Mountain**	**0.57**	**294**	⇑*i*P	**Pg**	**09 38 02.5**	**+0.3**
	baz=291						
EOS3	**EOS3**	**0.58**	**192**	⇓P	**Pb**	**09 38 03.8**	**+0.6**
	baz=196						
EOS3				*e*S	**Sn**	**09 38 13.7**	**-1.1**
	baz=196						
TWC	**Suao**	**0.60**	**246**	P	**Pg**	**09 38 02.5**	**-0.2**
	baz=241						
TWC				*i* S	**Sb**	**09 38 11.3**	**-0.9**
	baz=241						
JYNG	**Yonagunijimaku**	**0.60**	**132**	P	**Pg**	**09 38 02.4**	**-0.3**
JYNG				S	**Sg**	**09 38 10.2**	**-0.6**
NWF	**Wu-fen Shan**	**0.64**	**289**	⇓*i*P	**Pb**	**09 38 04.2**	**-0.3**
	baz=286						
NWF				S	**Sb**	**09 38 12.9**	**-0.7**
	baz=286						
WFSB	**Wu-fen Shan**	**0.64**	**289**	P	**Pb**	**09 38 04.2**	**-0.2**
	baz=286						
WFSB				S	**Sb**	**09 38 12.6**	**-0.8**
	baz=286						
YOJ	**Yonaguni jima**	**0.64**	**128**	P	**Pg**	**09 38 03.2**	**-0.3**
YOJ				S	**Sg**	**09 38 11.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.64**	**128**	⇓*e*P	**Pg**	**09 38 03.2**	**-0.3**
	baz=119						
YOJ				*e*S	**Sg**	**09 38 11.9**	**0.0**
	baz=119						
TNOU	**National Taiwa**	**0.68**	**295**	P	**Pg**	**09 38 04.6**	**+0.4**
	baz=292						
TNOU				S	**Sg**	**09 38 13.6**	**+0.5**
	baz=292						
NDS	**Dongshan**	**0.70**	**252**	P	**Pb**	**09 38 05.4**	**-0.1**
	baz=247						
NDS				S	**Sb**	**09 38 14.7**	**-0.5**
	baz=247						
EWUT	**Wuta**	**0.74**	**236**	*i* P	**Pg**	**09 38 05.4**	**+0.2**
	baz=232						
EWUT				*e*S	**Sb**	**09 38 16.9**	**+0.8**
	baz=232						
EOS4	**EOS4**	**0.74**	**189**	P	**Pb**	**09 38 06.4**	**+0.5**
	baz=187						
EOS4				*e*S	**Sn**	**09 38 17.6**	**-0.9**
	baz=187						
ENA	**Nanau**	**0.78**	**237**	*e*P	**Pg**	**09 38 05.3**	**-0.7**
	baz=232						
ENA				*e*S	**Sb**	**09 38 17.3**	**+0.1**
	baz=232						
FUSB	**Fushanzhiwuyua**	**0.79**	**263**	*e*P	**Pg**	**09 38 05.8**	**-0.5**
	baz=260						
NWRT	**Kuosheng**	**0.80**	**296**	P	**Pg**	**09 38 06.1**	**-0.3**
	baz=293						
NWRT				S	**Sg**	**09 38 17.2**	**+0.5**
	baz=293						
TWA	**Mucha**	**0.80**	**279**	*e*P	**Pb**	**09 38 06.7**	**-0.3**
	baz=276						
NHY	**Taipei**	**0.82**	**283**	P	**Pg**	**09 38 06.4**	**-0.5**
	baz=280						
ENTT	**Nioudou**	**0.83**	**255**	P	**Pb**	**09 38 07.5**	**-0.1**
	baz=236						
ENTT				S	**Sb**	**09 38 18.9**	**0.0**
	baz=236						
PCYT	**Pengchaiyu**	**0.84**	**336**	*i* P	**Pg**	**09 38 07.1**	**-0.2**
	baz=336						
PCYT				*e*S	**Sg**	**09 38 17.6**	**-0.7**
	baz=336						
NHDH	**Xindian Distri**	**0.85**	**277**	*e*P	**Pg**	**09 38 06.4**	**-1.0**
	baz=274						
YM08	**YM08**	**0.85**	**293**	*i* P	**Pg**	**09 38 07.5**	**+0.1**
	baz=290						
YM08				*e*S	**Sb**	**09 38 20.0**	**+0.6**
	baz=290						
YM01	**YM01**	**0.85**	**290**	P	**Pb**	**09 38 08.1**	**+0.2**
	baz=287						
YM01				S	**Sb**	**09 38 19.0**	**-0.4**
	baz=287						
NWLT	**Wulai**	**0.86**	**265**	P	**Pb**	**09 38 08.1**	**-0.1**
	baz=261						
NWLT				S	**Sg**	**09 38 19.2**	**+0.2**
	baz=261						
TWY	**Chenhua**	**0.88**	**299**	P	**Pb**	**09 38 08.3**	**-0.1**
	baz=296						
TWY				S	**Sb**	**09 38 20.3**	**+0.1**
	baz=296						
TATO	**Taipei**	**0.88**	**278**	P	**Pb**	**09 38 08.3**	**-0.2**
TATO	**Taipei**	**0.88**	**278**	P	**Pg**	**09 38 08.2**	**+0.2**
	baz=274						
TATO				S	**Sb**	**09 38 20.6**	**+0.2**
	baz=274						
NDT	**Datong Townshi**	**0.89**	**254**	P	**Pg**	**09 38 08.3**	**+0.1**
	baz=250						
NDT				S	**Sg**	**09 38 20.0**	**+0.2**
	baz=250						
LATG	**Datong**	**0.90**	**249**	P	**Pg**	**09 38 08.3**	**-0.1**
	baz=231						
LATG				S	**Sb**	**09 38 21.1**	**+0.1**
	baz=231						
TWS1	**Kuangyinshan**	**0.97**	**285**	*e*P	**Pn**	**09 38 10.8**	**+0.1**
	baz=282						
YHNB	**Yeheng**	**0.99**	**259**	P	**Pb**	**09 38 10.5**	**+0.1**
YHNB	**Yeheng**	**0.99**	**259**	P	**Pg**	**09 38 10.1**	**-0.1**
	baz=265						
YHNB				S	**Sg**	**09 38 23.1**	**-0.1**
	baz=265						
NSK	**Sanguang**	**1.01**	**260**	*i* P	**Pg**	**09 38 10.3**	**-0.1**
	baz=266						
ETL	**Fush Village**	**1.03**	**227**	*i* P	**Pb**	**09 38 11.2**	**+0.2**
	baz=236						
ETL				*e*S	**Sn**	**09 38 25.9**	**-0.1**
	baz=236						
NACB	**Ninganchiao**	**1.03**	**229**	P	**Pg**	**09 38 10.9**	**0.0**
NACB	**Ninganchiao**	**1.03**	**229**	⇑*i*P	**Pg**	**09 38 10.7**	**-0.3**
	baz=236						
NACB				*e*S	**Sb**	**09 38 25.0**	**+0.3**
	baz=236						
NNSB	**Datong**	**1.06**	**246**	*i* P	**Pb**	**09 38 11.5**	**-0.1**
	baz=231						
NNSB				S	**Sb**	**09 38 25.4**	**-0.2**
	baz=231						
NNS	**Nan Shan**	**1.06**	**247**	*e*P	**Pn**	**09 38 12.4**	**+0.2**
	baz=231						
NNS				*e*S	**Sb**	**09 38 25.9**	**+0.1**
	baz=231						
ETLH	**Xiulin Townshi**	**1.09**	**234**	P	**Pg**	**09 38 12.0**	**-0.1**
	baz=231						
ETLH				*e*S	**Sb**	**09 38 26.7**	**+0.2**
	baz=231						
TWD	**Chiawan**	**1.10**	**225**	P	**Pb**	**09 38 12.1**	**0.0**
	baz=232						
TWD				*e*S	**Sg**	**09 38 26.2**	**-0.2**
	baz=232						
NFF	**Wufeng Townshi**	**1.23**	**260**	P	**Pb**	**09 38 13.9**	**-0.6**
	baz=256						
NFF				*e*S	**Sb**	**09 38 30.9**	**+0.4**
	baz=256						
FUSS	**Fushou**	**1.26**	**241**	*e*P	**Pb**	**09 38 14.5**	**-0.5**
	baz=239						
LXIB	**Xiulin Townshi**	**1.26**	**229**	P	**Pn**	**09 38 14.6**	**-0.3**
	baz=226						
LXIB				*e*S	**Sg**	**09 38 31.7**	**+0.1**
	baz=226						
IRIF	**Iriomote-Funau**	**1.28**	**114**	P	**Pb**	**09 38 15.4**	**+0.2**
IRIF				*e*S	**Sn**	**09 38 32.5**	**+0.4**
TWT	**Tachien**	**1.31**	**243**	*e*P	**Pg**	**09 38 18.9**	**+2.8**
	baz=231						
TWT				*e*S	**Sn**	**09 38 35.9**	**+2.6**
	baz=231						
LIOB	**Emei**	**1.32**	**261**	*e*P	**Pg**	**09 38 17.8**	**+1.3**
	baz=258						
LIOB				*e*S	**Sn**	**09 38 33.5**	**+0.2**
	baz=258						
NSTT	**Nanjuang**	**1.34**	**261**	*e*P	**Pg**	**09 38 18.4**	**+1.7**
	baz=258						
CHGB	**Renai**	**1.41**	**236**	*e*P	**Pb**	**09 38 17.8**	**+0.2**
	baz=233						
CHGB				*e*S	**Sb**	**09 38 34.1**	**-1.6**
	baz=233						
OWD	**Renai**	**1.47**	**233**	P	**Pb**	**09 38 18.3**	**-0.3**
	baz=212						
HATJ	**Hateruma jima**	**1.47**	**123**	P	**Pb**	**09 38 18.4**	**0.0**
WHP	**Taichung City**	**1.49**	**247**	*e*P	**Pg**	**09 38 19.2**	**-0.3**
	baz=245						
WHP				*e*S	**Sn**	**09 38 36.0**	**-1.6**
	baz=245						
WUSB	**Renai**	**1.49**	**235**	*e*P	**Pg**	**09 38 19.4**	**-0.3**
	baz=245						
WUSB				*e*S	**Sn**	**09 38 36.5**	**-1.2**
	baz=245						
WARBT	**Fenglin Townsh**	**1.49**	**221**	P	**Pn**	**09 38 18.0**	**0.0**
	baz=218						
WARBT				S	**Sn**	**09 38 37.4**	**-0.2**
	baz=218						
TWQ1	**Liyutan**	**1.61**	**252**	*e*P	**Pb**	**09 38 21.3**	**+0.4**
	baz=266						
WCS	**Beigang Elemen**	**1.61**	**241**	*e*P	**Pg**	**09 38 23.0**	**+1.0**
	baz=238						
WCS				*e*S	**Sg**	**09 38 42.2**	**-0.7**
	baz=238						
JIJ	**Ishigaki jima**	**1.62**	**107**	P	**Pn**	**09 38 20.6**	**+0.9**
VWDT	**VWDT**	**1.62**	**228**	*e*P	**Pg**	**09 38 22.0**	**-0.2**
	baz=208						
HGSD	**Ruisui**	**1.65**	**215**	*e*P	**Pg**	**09 38 22.1**	**-0.6**
	baz=198						
EHY	**Hungye**	**1.69**	**218**

NWF	**Wu-fen Shan**	**0.62 286**	P		**Pb**	**09 38 46.8 +0.8**
	baz=289					
NWF			S		**Sb**	**09 38 54.6 -0.5**
	baz=289					
WFSB	**Wu-fen Shan**	**0.62 286**	⇓P		**Pb**	**09 38 46.2 +0.3**
	baz=289					
WFSB			S		**Sb**	**09 38 54.6 -0.4**
	baz=289					
JYNG	**Yonagunijimaku**	**0.64 134**	P		**Pg**	**09 38 44.8 -0.1**
JYNG			S		**Sg**	**09 38 53.1 -0.1**
TNOU	**National Taiwa**	**0.66 292**	*i* P		**Pb**	**09 38 46.5 +0.1**
	baz=296					
TNOU			*i* S		**Sb**	**09 38 56.3 +0.4**
	baz=296					
YOJ	**Yonaguni jima**	**0.68 130**	P		**Pg**	**09 38 45.4 -0.2**
YOJ			S		**Sg**	**09 38 53.9 -0.5**
YOJ	**Yonaguni jima**	**0.68 130**	⇓*e*P		**Pg**	**09 38 45.4 -0.2**
	baz=125					
EWUT	**Wuta**	**0.76 233**	P		**Pb**	**09 38 47.4 -0.7**
	baz=231					
EWUT			S		**Sb**	**09 38 58.5 -0.2**
	baz=231					
EOS4	**EOS4**	**0.78 188**	*e*P		**Pg**	**09 38 48.0 +0.4**
	baz=184					
EOS4			*e*S		**Sb**	**09 38 59.7 +0.5**
	baz=184					
TWA	**Mucha**	**0.78 276**	*e*P		**Pb**	**09 38 48.4 -0.3**
	baz=277					
FUSB	**Fushanzhiwuyua**	**0.79 260**	*e*P		**Pg**	**09 38 47.9 +0.1**
	baz=260					
ENA	**Nanau**	**0.79 234**	P		**Pb**	**09 38 48.4 -0.4**
	baz=231					
ENA			S		**Sb**	**09 38 59.7 -0.1**
	baz=231					
PCYT	**Pengchaiyu**	**0.80 335**	*i* P		**Pb**	**09 38 49.6 +0.6**
	baz=340					
NHY	**Taipei**	**0.81 280**	*i* P		**Pb**	**09 38 49.0 0.0**
	baz=282					
NHY			*e*S		**Sb**	**09 39 00.8 +0.7**
	baz=282					
YM08	**YM08**	**0.82 291** ⇑*i*P			**Pb**	**09 38 49.6 +0.2**
	baz=293					
YM08			*e*S		**Sb**	**09 39 00.8 +0.1**
	baz=293					
YM01	**YM01**	**0.83 287**	P		**Pb**	**09 38 49.8 +0.3**
	baz=290					
ENTT	**Nioudou**	**0.84 252**	*e*P		**Pn**	**09 38 50.3 -0.7**
	baz=251					
ENTT			*e*S		**Sn**	**09 39 02.0 -1.7**
	baz=251					
TWY	**Chenhua**	**0.85 296**	P		**Pb**	**09 38 49.7 -0.1**
	baz=299					
TWY			*e*S		**Sn**	**09 39 03.2 -0.8**
	baz=299					
NWLT	**Wulai**	**0.86 262**	P		**Pb**	**09 38 50.2 +0.2**
	baz=262					
TATO	**Taipei**	**0.87 275**	*i* P		**Pb**	**09 38 50.0 -0.1**
	baz=276					
TATO			S		**Sb**	**09 39 02.2 +0.1**
	baz=276					
ANP	**Anpu**	**0.88 289**	P		**Pb**	**09 38 50.2 -0.2**
	baz=291					
ANP			*e*S		**Sn**	**09 39 03.7 -1.2**
	baz=291					
NDT	**Datong Townshi**	**0.90 251**	P		**Pb**	**09 38 50.6 +0.1**
	baz=250					
LATG	**Datong**	**0.91 247**	*i* P		**Pb**	**09 38 50.8 0.0**
	baz=246					
LATG			S		**Sb**	**09 39 03.2 -0.1**
	baz=246					
TWS1	**Kuangyinshan**	**0.95 282**	P		**Pb**	**09 38 51.9 +0.4**
	baz=284					
TWS1			S		**Sb**	**09 39 04.7 +0.3**
	baz=284					
YHNB	**Yeheng**	**1.00 257**	P		**Pb**	**09 38 52.5 +0.2**
	baz=257					
YHNB			S		**Sb**	**09 39 05.6 -0.1**
	baz=257					
NSK	**Sanguang**	**1.01 257**	P		**Pb**	**09 38 52.5 0.0**
	baz=257					
NSK			S		**Sn**	**09 39 06.5 -1.5**
	baz=257					
ETL	**Fush Village**	**1.05 225**	P		**Pb**	**09 38 52.9 -0.3**
	baz=223					
NACB	**Ninganchiao**	**1.06 227**	P		**Pb**	**09 38 53.2 -0.2**
	baz=225					
NACB			*e*S		**Sb**	**09 39 07.2 -0.2**
	baz=225					
NNSB	**Datong**	**1.07 244**	P		**Pb**	**09 38 53.6 -0.1**
	baz=243					
NNSB			*e*S		**Sn**	**09 39 09.4 -0.3**
	baz=243					
NNS	**Nan Shan**	**1.07 245**	*e*P		**Pn**	**09 38 54.7 +0.3**
	baz=244					
ETLH	**Xiulin Townshi**	**1.11 232**	P		**Pg**	**09 38 53.8 -0.2**
	baz=230					
ETLH			S		**Sn**	**09 39 10.0 -0.6**
	baz=230					
FUSS	**Fushou**	**1.27 239**	P		**Pn**	**09 38 57.2 +0.1**
	baz=238					
FUSS			S		**Sn**	**09 39 14.4 -0.3**
	baz=238					
LXIB	**Xiulin Townshi**	**1.28 227**	P		**Pb**	**09 38 57.0 -0.2**
	baz=225					
LXIB			S		**Sn**	**09 39 15.2 +0.3**
	baz=225					
IRIF	**Iriomote-Funau**	**1.30 115**	P		**Pn**	**09 38 57.3 0.0**
LIOB	**Emei**	**1.32 259**	*e*P		**Pn**	**09 39 00.2 +2.5**
	baz=259					
LIOB			*i* S		**Sn**	**09 39 15.8 +0.2**
	baz=259					
NSTT	**Nanjuang**	**1.34 259**	*e*P		**Pn**	**09 39 00.1 +2.2**
	baz=258					
CHGB	**Renai**	**1.43 234**	P		**Pb**	**09 39 00.1 +0.3**
	baz=233					
CHGB			S		**Sn**	**09 39 18.7 +0.2**
	baz=233					
WUSB	**Renai**	**1.51 233**	*e*P		**Pg**	**09 39 01.6 +0.1**
	baz=232					
WUSB			*e*S		**Sn**	**09 39 21.3 +0.9**
	baz=232					
HGSD	**Ruisui**	**1.68 214**	P		**Pb**	**09 39 03.5 -0.5**
	baz=212					

GUC 02 09:38:35.6±0.5, 23°.90S×68°.14W, h274km±6km, ML3.7, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.47 331**	⇑*i*P		Pn	09 39 16.1	-0.5
LVC				*i* S	S	09 39 46.9	-2.0
LVC				IAML		09 39 48.5	
	358nm,0.6s						
GO02	**Mina Guanaco**	**1.83 226**		*e*P	Pn	09 39 18.1	-0.9
GO02				*i* S	S	09 39 51.1	-2.4
GO02				IAML		09 39 54.3	
	comp=N,187nm,0.2s						
AC02	**Maricunga**	**3.06 197**		*e*P	Pn	09 39 27.6	-3.1
AC02				*e*S	S	09 40 13.4	-1.2
PB01	**IPOC Station P**	**3.11 336**		*e*P	Pn	09 39 32.6	+1.7
PB01				*i* S	S	09 40 16.4	+1.4
AC01	**Pan de Azucar**	**3.16 224**		*e*P	Pn	09 39 31.6	+0.2
AC01				*i* S	S	09 40 14.8	-0.9
AC06	**Mina Casimiro**	**3.98 210**		*i* S	S	09 40 28.9	-3.1
GO03	**Copiap**	**4.14 207**		*e*P	Pn	09 39 40.4	-1.7
GO03				*i* S	S	09 40 31.2	-4.0
AC04	**Llanos de Chal**	**5.04 211**		*e*P	Pn	09 39 51.8	-0.8
AC04				*i* S	S	09 40 51.8	-2.4

SNET ***02*** *10:22:10.3±1.0, 12°.06N×88°.42W, h15km, ML4.8*
NEIC ***02*** *10:22:14.1±2.7, 12°.30N±0°.05×88°.19W±0°.07, h29km±5km, mb4.9/429, Error ellipse: s-maj=11.0km s-min=6.4km az=57.0*
GCMT ***02*** *10:22:15.1±0.2, 12°.03N±0°.01×88°.62W±0°.01, h19km, MW5.2/125, Moment Tensor Solution. s85, c124; s125, c218; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.59±.02; Mθθ-0.48±.01; Mφφ-0.10±.01; Mrθ0.44±.03; Mrφ0.20±.01; Mθφ-0.44±.03; Best double couple: M0.84700×10^17 NP1:φs128.00000°, δ69.00000°, λ100.00000°. NP2:φs281.00000°, δ23.00000°, λ65.00000°. Principal axes: T 0.8760, Plg65.0000°, Azm56.0000°; N -0.0580, Plg10.0000°, Azm305.0000°; P -0.8180, Plg23.0000°, Azm210.0000°; nsta1 refers to body waves,*

cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
IDC ***02*** *10:22:16.6±2.9, 12°.47N×88°.00W, h56km±25km, mb4.3/15, mbtmp4.6/18, ML3.6/3, MS4.5/60 Error ellipse: s-maj=24.1km s-min=10.9km az=58.0*
ISC 02 10:22:13.9±0.3, 12°.25N±0°.05×88°.28W±0°.05, h35km, n679, σ1§22/494, mb4.9/153, MS4.6/67, 1C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.10**	**23**	*e*P	**Pn**	**10 22 34.0**	**+1.0**
LCY	**Lacayo**	**1.16**	**359**	*e*P	**Pn**	**10 22 34.5**	**+0.6**
PACA	**Pacayal**	**1.21**	**358**	*e*P	**Pn**	**10 22 35.7**	**+1.2**
CRIN	**San Cristobal**	**1.28**	**70**		**Pn**	**10 22 36.9**	**+1.5**
CRIN	**San Cristobal**	**1.28**	**70**	*e*P	**Pn**	**10 22 36.8**	**+1.5**
COEG	**Centro de Oper**	**1.48**	**337**	*e*P	**Pn**	**10 22 38.1**	**-0.1**
LFRS	**El Faro**	**1.56**	**331**	*e*P	**Pn**	**10 22 38.7**	**-0.6**
LALI	**Alcalda de L**	**1.60**	**320**	*e*P	**Pn**	**10 22 39.0**	**-0.6**
LALI				*e*S	**Sn**	**10 22 59.6**	**+0.6**
SNET	**Serv Nac Est T**	**1.70**	**327**	Pn	**Pn**	**10 22 40.7**	**-0.5**
BOQS	**Boqueron**	**1.77**	**326**	*e*P	**Pn**	**10 22 42.2**	**-0.1**
JAYA	**Jayaque - finc**	**1.80**	**321**	*e*P	**Pn**	**10 22 41.0**	**-1.6**
CEDA	**San Andres**	**1.89**	**325**	*e*S	**Sn**	**10 23 09.2**	**+2.8**
TGUH	**Tegucigalpa,Un**	**2.04**	**28**	Pn	**Pn**	**10 22 47.9**	**+2.0**
TGUH	**Tegucigalpa,Un**	**2.04**	**28**	*e*P	**Pn**	**10 22 48.2**	**+2.3**
CEVE	**Cerro Verde**	**2.04**	**320**	*e*P	**Pn**	**10 22 46.2**	**+0.1**
MTO3	**Montecristo**	**2.38**	**334**	Pn	**Pn**	**10 22 51.3**	**+0.6**
MTO3	**Montecristo**	**2.38**	**334**	*e*P	**Pn**	**10 22 51.4**	**+0.6**
MATN	**Matagalpa**	**2.39**	**73**		**Pn**	**10 22 49.9**	**-0.8**
BOAB	**BOACO BROADBAN**	**2.56**	**85**	Pn	**Pn**	**10 22 53.2**	**+0.3**
ACON	**Acoyapa**	**3.05**	**95**		**Pn**	**10 22 59.6**	**-0.1**
ACON	**Acoyapa**	**3.05**	**95**	⇑*i*P	**Pn**	**10 22 59.5**	**-0.1**
BUEV	**Buena Vista**	**3.16**	**117**	*e*P	**Pn**	**10 23 03.0**	**+1.7**
ORTG	**Ortega, Santa**	**3.34**	**124**	Pn	**Pn**	**10 23 03.7**	**-0.1**
LIM1	**Limonal**	**3.34**	**117**	*e*P	**Pn**	**10 23 05.3**	**+1.5**
CLARA	**Aguas Claras**	**3.37**	**115**	*e*P	**Pn**	**10 23 05.6**	**+1.5**
MESS	**Mesas**	**3.37**	**116**	*e*P	**Pn**	**10 23 04.3**	**+0.1**
HORNC	**Hornillas**	**3.40**	**116**	*e*P	**Pn**	**10 23 05.6**	**+1.0**
VMAR	**Armenia, Volca**	**3.41**	**114**	*e*P	**Pn**	**10 23 05.8**	**+1.0**
DUNO	**Dulce Nombre,**	**3.48**	**128**		**Pn**	**10 23 05.8**	**+0.2**
MOTZ	**Rio Naranjo**	**3.50**	**116**	*e*P	**Pn**	**10 23 07.5**	**+1.5**
ACAL	**Aguas Claras**	**3.56**	**117**	*e*P	**Pn**	**10 23 08.6**	**+1.8**
JTS	**Las Juntas de**	**3.80**	**121**	Pn	**Pn**	**10 23 11.4**	**+1.4**
JTS	**Las Juntas de**	**3.80**	**121**	*e*P	**Pn**	**10 23 08.3**	**-1.7**
JTS	**Las Juntas de**	**3.80**	**121**	*e*P	**Pn**	**10 23 11.9**	**+1.9**
ESPN	**Las Esperanzas**	**3.89**	**90**		**Pn**	**10 23 12.7**	**+1.5**
CASO	**Castillo**	**3.92**	**117**	*e*P	**Pn**	**10 23 13.7**	**+2.0**
CEDE	**Laguna Cedeo**	**3.92**	**116**	*e*P	**Pn**	**10 23 12.9**	**+1.2**
SOCE	**Pocosol**	**4.04**	**117**		**Pn**	**10 23 14.6**	**+1.2**
COVE	**Coope Vega, Sa**	**4.09**	**111**		**Pn**	**10 23 18.8**	**+4.8**
ARZA	**Esparza**	**4.19**	**122**	*e*P	**Pn**	**10 23 18.4**	**+3.0**
CPMI	**Catarata Coope**	**4.29**	**117**	*e*P	**Pn**	**10 23 18.7**	**+1.7**
SRA1	**San Ramn**	**4.30**	**120**	*e*P	**Pn**	**10 23 18.3**	**+1.3**
JACO	**JACO, Garabito**	**4.39**	**126**	Pn	**Pn**	**10 23 19.8**	**+1.7**
VPTE	**Poasito**	**4.50**	**117**	*e*P	**Pn**	**10 23 22.1**	**+2.2**
HDC	**Heredia**	**4.66**	**118**		**Pn**	**10 23 24.2**	**+2.3**
HDC	**Heredia**	**4.66**	**118**	*e*P	**Pn**	**10 23 24.7**	**+2.8**
CORON	**Coronado**	**4.77**	**118**	*e*P	**Pn**	**10 23 26.5**	**+3.0**
OCM	**Ochomogo**	**4.84**	**119**	*e*P	**Pn**	**10 23 26.9**	**+2.4**
ABE2	**San Pablo**	**4.86**	**121**	*e*P	**Pn**	**10 23 26.4**	**+1.7**
VIRE	**VIRE**	**4.86**	**117**	*e*P	**Pn**	**10 23 28.0**	**+3.0**
RAZU	**San Marcos de**	**4.91**	**121**	*e*P	**Pn**	**10 23 26.9**	**+1.4**
LLNJ	**Naranjito**	**4.94**	**124**	*e*P	**Pn**	**10 23 27.9**	**+2.1**
VTLA	**Turrialba Volc**	**4.95**	**116**	*e*P	**Pn**	**10 23 28.9**	**+2.7**
REPA	**Paraso**	**4.95**	**119**	*e*P	**Pn**	**10 23 29.1**	**+3.1**
CVTQ	**Turrialba Volc**	**4.96**	**116**	*e*P	**Pn**	**10 23 28.1**	**+1.8**
VTLO	**VTLO**	**4.97**	**116**	*e*P	**Pn**	**10 23 29.3**	**+2.8**
RIMA	**Rio Macho**	**4.99**	**119**	Pn	**Pn**	**10 23 28.3**	**+1.8**
VINA	**Juan Vinas**	**5.03**	**117**	*e*P	**Pn**	**10 23 29.8**	**+2.8**
VERB	**Verbena**	**5.05**	**117**	*e*P	**Pn**	**10 23 29.4**	**+2.1**
IRES	**Siquirres**	**5.15**	**114**	*e*P	**Pn**	**10 23 30.4**	**+1.9**
BATAN	**Batan**	**5.26**	**114**		**Pn**	**10 23 32.0**	**+1.9**
PEZE	**Perez Zeledon,**	**5.34**	**122**		**Pn**	**10 23 32.7**	**+1.4**
DRK0	**Durika**	**5.77**	**121**	*e*P	**Pn**	**10 23 39.0**	**+1.8**
CDITO	**Canoas**	**6.45**	**124**		**Pn**	**10 23 48.3**	**+1.9**
PRVC	**Isla de Provid**	**6.83**	**80**	*e*P	**Pn**	**10 23 52.2**	**+0.4**
TEIG	**Tepich**	**7.93**	**360**	Pn	**Pn**	**10 24 09.2**	**+2.4**
TEIG	**Tepich**	**7.93**	**360**	P	**Pn**	**10 24 07.6**	**+0.9**
	6.6nm,0.3s,baz=159,slow=7.5,SNR=3.6						
TEIG				LR	LR	10 27 31.2	
	comp=Z,51μm,19.4s,baz=308,slow=41						
	108nm,0.9s						
BCIP	**Isla Barro Col**	**8.84**	**109**	Pn	**Pn**	**10 24 19.0**	**-0.3**
BCIP	**Isla Barro Col**	**8.84**	**109**	*e*P	Pn	10 24 24.2	+4.9
FSCY	**Frank Sound, G**	**9.79**	**43**	Pn	**Pn**	**10 24 29.7**	**-2.5**
MTDJ	**Mount Denham**	**11.94**	**59**	*e*P	**Pn**	**10 25 03.8**	**+1.9**
LCBC	**Los crdobas,**	**12.18**	**105**	*e*P	**Pn**	**10 25 02.9**	**-2.1**
APAC	**Apartado, Choc**	**12.30**	**109**	*e*P	**Pn**	**10 25 10.5**	**+3.9**
DBBC	**Dabeiba**	**12.98**	**113**	*e*P	**P**	**10 25 25.5**	**-0.6**
PIZC	**Pizarro, Choco**	**12.99**	**123**	*e*P	Pn	10 25 12.1	-4.0
PAYG	**Puerto Ayora**	**13.00**	**189**	Pn	**Pn**	**10 25 16.7**	**+0.5**
SJCC	**San Jacinto, C**	**13.06**	**99**	*e*P	**Pn**	**10 25 15.6**	**-1.6**
UREC	**San Jos de Ur**	**13.32**	**108**	*e*P	**Pn**	**10 25 20.1**	**-0.5**
PLMC	**San Jos del P**	**13.92**	**121**	*e*P	**Pn**	**10 25 28.4**	**-0.5**
ARGC	**Ariguani, Magd**	**13.97**	**98**	*e*P	**Pn**	**10 25 26.7**	**-2.9**
TUMC	**Tumaco**	**14.03**	**137**	*e*P	**P**	**10 25 41.6**	**+3.9**
ZARC	**Zaragoza, Cauc**	**14.04**	**108**	*e*P	**Pn**	**10 25 30.0**	**-0.4**
YOTC	**Yotoco, Valle**	**14.38**	**124**	*e*P	**Pn**	**10 25 35.1**	**-0.1**
GUY2C	**Guyana, Caldas**	**14.54**	**118**	*e*P	**Pn**	**10 25 40.6**	**+2.8**
JAMC	**Jamundi, Valle**	**14.58**	**127**	*e*P	**P**	**10 25 46.6**	**+2.5**
GTBY	**Guantanamo Bay**	**14.77**	**57**	*e*P	**Pn**	**10 25 41.8**	**+1.5**
NORC	**Norcasia**	**14.81**	**115**	*e*P	**Pn**	**10 25 39.6**	**-1.5**
ANIL	**Santa Ana**	**14.88**	**120**	*e*P	**P**	**10 25 49.5**	**+2.0**
BBAC	**Balboa, Cauca**	**14.93**	**132**	*e*P	**P**	**10 25 48.6**	**+0.7**
POPC	**Popayan, Colom**	**15.01**	**129**	*e*P	**Pn**	**10 25 44.5**	**+0.8**
CRJC	**Cerrejon, Guaj**	**15.13**	**93**	*e*P	**P**	**10 25 49.6**	**-0.4**
PAC1	**Pacto, Paraso**	**15.18**	**141**	*e*P	**Pn**	**10 25 47.0**	**+1.0**
CMBC	**Cumbal**	**15.29**	**137**	*e*P	P	10 26 03.8	+12
ORTC	**Ortega, Tolima**	**15.32**	**122**	*e*P	**P**	**10 25 53.6**	**+1.4**
GCUF	**Volcan Galeras**	**15.41**	**134**	*e*P	**P**	**10 25 56.5**	**+2.9**
OTAV	**Otavalo**	**15.41**	**140**		**Pn**	**10 25 50.4**	**+1.1**
OTAV	**Otavalo**	**15.41**	**140**	*e*P	**Pn**	**10 25 44.5**	**-4.8**
CRUC	**La Cruz**	**15.45**	**133**	*e*P	**P**	**10 25 56.4**	**+2.5**
TULM	**Tulcn-Chalpat**	**15.48**	**137**	Pn	**Pn**	**10 25 51.3**	**+1.0**
TULM				IAmb	IAmb	10 26 11.4	
	comp=Z,125nm,1.2s						
TULM	**Tulcn-Chalpat**	**15.48**	**137**	*e*P	**P**	**10 25 56.1**	**+1.7**
IMBA	**Imbabura, San**	**15.54**	**139**	Pn	**Pn**	**10 25 51.7**	**+0.7**
IMBA				IAmb	IAmb	10 26 20.5	
	comp=Z,119nm,1.1s						
PULU	**Pululahua**	**15.55**	**141**		**Pn**	**10 25 53.5**	**+2.4**
ROSC	**El Rosal**	**15.63**	**117**	Pn	**Pn**	**10 25 52.5**	**+0.3**
ROSC	**El Rosal**	**15.63**	**117**	*e*P	**P**	**10 25 59.1**	**+3.1**
ROSC	**El Rosal**	**15.63**	**117**	P	**Pn**	**10 25 52.9**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=322,slow=11,SNR=1.5						
ROSC				LR	LR	10 33 07.8	
	comp=Z,2μm,18.1s,baz=336,slow=42						
	comp=Z,6.3nm,0.4s						
PRAC	**Prado**	**15.73**	**122**	*e*P	**Pn**	**10 25 54.5**	**+1.4**
BONI	**La Bonita**	**15.85**	**137**	*e*P	**P**	**10 25 59.0**	**+0.8**
BETC	**Betania**	**15.88**	**126**	*e*P	**P**	**10 26 02.1**	**+3.8**
BARC	**Barichara**	**15.91**	**109**	*e*P	**Pn**	**10 25 53.9**	**-1.7**
PAMC	**Pamplona, Colo**	**16.10**	**106**	*e*P	**Pn**	**10 26 00.4**	**+2.1**
GARC	**Garzon, Huila**	**16.14**	**127**	*e*P	**P**	**10 26 02.8**	**+1.4**
SLOR	**San Lorenzo -**	**16.14**	**142**		**Pn**	**10 26 00.6**	**+1.9**
CHIC	**Chingaza**	**16.25**	**117**	*e*P	**P**	**10 26 05.4**	**+2.6**
RUSC	**La Rusia**	**16.27**	**112**	*e*P	**Pn**	**10 25 59.9**	**-0.6**
FLOC	**Florencia**	**16.40**	**129**	*e*P	**P**	**10 26 06.7**	**+2.6**
PIAT	**Ana Tenorio**	**16.50**	**142**	*e*P	**Pn**	**10 25 59.0**	**-4.2**
VILC	**Villavicencio,**	**16.54**	**118**	*e*P	**P**	**10 26 06.4**	**+0.7**
CHSH	**Refugio Sur-Vo**	**16.55**	**145**	Pn	**Pn**	**10 26 04.6**	**+0.6**
DWPF	**Disney Wildern**	**17.02**	**21**	P	**Pn**	**10 26 09.6**	**+0.3**
	baz=203						
COHC	**Cochancay**	**17.15**	**148**	*e*P	**Pn**	**10 26 11.0**	**0.0**
TAMC	**Tame, Arauca**	**17.26**	**108**	*e*P	**Pn**	**10 26 13.0**	**+0.6**
MACC	**Macarena, Meta**	**17.47**	**124**	*e*P	**Pn**	**10 26 15.7**	**+0.7**
SDV	**Santo Domingo**	**17.66**	**99**	P	**Pn**	**10 26 16.9**	**-0.7**
SDV	**Santo Domingo**	**17.66**	**99**	*e*P	**Pn**	**10 26 17.7**	**+0.1**
SDV	**Santo Domingo**	**17.66**	**99**	P	**Pn**	**10 26 16.8**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=294,slow=10,SNR=11						
SDV				LR	LR	10 34 56.3	
	comp=Z,1μm,18.0s,baz=292,slow=44						
	comp=Z,8.9nm,0.6s						
SDDR	**Presa de Saban**	**17.67**	**66**	P	**Pn**	**10 26 16.9**	**-0.6**
SDDR	**Presa de Saban**	**17.67**	**66**	*e*P	**Pn**	**10 26 18.1**	**+0.7**
HBVL	**Hebbronville**	**17.67**	**328**	P	**P**	**10 26 19.3**	**+1.3**
HBVL				IAmb	IAmb	10 26 23.1	
	comp=Z,68nm,0.8s						
PTGC	**Puerto Gaitan,**	**17.86**	**115**	*e*P	**Pn**	**10 26 18.3**	**-1.4**
PTLC	**Puerto Leguiza**	**17.97**	**131**	*e*P	**P**	**10 26 24.6**	**+3.2**
BOSC	**San Juan Bosco**	**18.13**	**147**		**Pn**	**10 26 22.2**	**-1.1**
MCRA	**Macar, Loja**	**18.47**	**153**	*e*P	**P**	**10 26 24.7**	**-2.3**
735A	**Kenedy**	**18.76**	**333**		**P**	**10 26 29.4**	**-0.6**
735A				IAmb	IAmb	10 26 40.9	
	comp=Z,91nm,1.1s						
BRAL	**Brewton**	**18.86**	**3**	P	**P**	**10 26 31.8**	**+0.7**
	baz=184						
HKT	**Hockley**	**18.96**	**339**		**P**	**10 26 32.7**	**+0.6**
HKT				IAmb	IAmb	10 26 40.6	
	comp=Z,86nm,1.3s						
441A	**DeRidder**	**18.96**	**347**	P	**P**	**10 26 31.6**	**-0.6**
833A	**Chaparral WMA,**	**19.07**	**329**		**P**	**10 26 33.9**	**+0.5**
833A	**Chaparral WMA,**	**19.07**	**329**	P	**P**	**10 26 33.7**	**+0.3**
	baz=145,SNR=71						
346A	**Big Creek Wild**	**19.07**	**357**	P	**P**	**10 26 32.9**	**-0.6**
352A	**Blakely**	**19.38**	**9**	P	**Pn**	**10 26 39.6**	**+1.5**
TIGA	**Tifton**	**19.58**	**12**		**P**	**10 26 40.7**	**+1.8**
TIGA				IAmb	IAmb	10 26 43.4	
	comp=Z,91nm,0.9s						
TIGA	**Tifton**	**19.58**	**12**	P	**Pn**	**10 26 41.3**	**+0.8**
	baz=194,SNR=5.6						
250A	**Grady**	**19.72**	**5**	P	**P**	**10 26 41.5**	**+1.1**
250A				IAmb	IAmb	10 26 59.7	
	comp=Z,73nm,1.1s						
VBMS	**Vicksburg**	**19.98**	**354**	P	**Pn**	**10 26 45.6**	**+0.5**
	baz=173,SNR=22						
HNDO	**Hondo**	**20.00**	**331**	IAmb	IAmb	10 26 53.5	
	comp=Z,118nm,0.9s						
BAUV	**El Baul**	**20.16**	**97**	P	**P**	**10 26 43.8**	**-1.6**
NATX	**Nacogdoches**	**20.29**	**344**	P	**P**	**10 26 48.7**	**+2.0**
	baz=162,SNR=13						
435B	**Jarrell**	**20.35**	**336**	P	**P**	**10 26 47.5**	**+0.1**
	baz=153						
DRIO	**Del Rio**	**20.58**	**328**	IAmb	IAmb	10 27 03.6	
	comp=Z,110nm,1.1s						
LRAL	**Lakeview Retre**	**20.72**	**3**		**P**	**10 26 53.0**	**+1.7**
LRAL				IAmb	IAmb	10 26 56.7	
	comp=Z,68nm,1.1s						
LRAL	**Lakeview Retre**	**20.72**	**3**	P	**P**	**10 26 52.8**	**+1.4**
	baz=183,SNR=18						
Z47A	**Carrollton**	**20.85**	**0**	IAmb	IAmb	10 27 21.8	
	comp=Z,79nm,1.1s						
JCT	**Junction City**	**21.05**	**331**	P	**P**	**10 26 55.2**	**+0.2**
	baz=147,SNR=44						
Z51A	**Franklin**	**21.16**	**7**	IAmb	IAmb	10 27 00.9	
	comp=Z,59nm,1.1s						
BRDY	**Brady**	**21.37**	**334**	IAmb	IAmb	10 27 12.1	
	comp=Z,80nm,0.9s						
WHTX	**Lake Whitney,**	**21.38**	**338**	P	**P**	**10 26 58.3**	**-0.2**
	baz=155,SNR=8.1						
GOGA	**Godfrey**	**21.51**	**11**	P	**P**	**10 27 00.6**	**+0.7**
	baz=193,SNR=12						
Y49A	**Blount Mountai**	**21.57**	**4**	IAmb	IAmb	10 27 10.2	
	comp=Z,31nm,0.8s						
ATAH	**Atahualpa**	**21.62**	**152**	P	**P**	**10 27 03.3**	**+1.7**
	comp=Z,11nm,0.8s,baz=338,slow=7.1,SNR=5.6						
ATAH				LR	LR	10 33 56.2	
	comp=Z,1μm,21.0s,baz=337,slow=32						
	comp=Z,11nm,0.8s						
FW16	**Waxahatchie**	**21.63**	**340**	P	**P**	**10 27 01.5**	**+0.3**
FW14	**Alvarado**	**21.66**	**339**	IAmb	IAmb	10 27 31.1	
	comp=Z,101nm,1.2s						
FW13	**Cleburne**	**21.70**	**339**	IAmb	IAmb	10 27 31.0	
	comp=Z,120nm,1.5s						
SAND	**Sanderson**	**21.80**	**326**	IAmb	IAmb	10 27 17.5	
	comp=Z,58nm,1.4s						
Y52A	**Lilburn**	**21.85**	**9**	IAmb	IAmb	10 27 06.5	
	comp=Z,29nm,0.8s						
NHSC	**New Hope**	**22.04**	**18**	P	**P**	**10 27 05.6**	**0.0**
	baz=201						
OZNA	**Ozona**	**22.05**	**329**	IAmb	IAmb	10 27 08.7	
	comp=Z,228nm,1.1s						
SJG	**San Juan**	**22.12**	**72**	P	**P**	**10 27 05.5**	**-1.1**
	comp=Z,8.6nm,0.3s,baz=285,slow=12,SNR=6.9						
	comp=Z,8.6nm,0.3s						
X48A	**Hartselle**	**22.13**	**3**	IAmb	IAmb	10 27 30.3	
	comp=Z,38nm,1.1s						

baz=154,SNR=42
HHAR Hobbs 24.46 349 P P 10 27 29.7 0.0
PBMO Poplar Bluff 24.50 356 P P 10 27 29.6 -0.3
PBMO IAmb IAmb 10 27 37.3
comp=Z,37nm,0.8s
TBTG Tabatinga, AM 24.50 131 eP P 10 27 32.1 +1.9
TUL3 Leonard 24.51 345 P P 10 27 29.6 -0.5
baz=162,SNR=32
TZTN Tazewell 24.56 9 IAmb IAmb 10 27 33.5
comp=Z,45nm,1.1s
TZTN Tazewell 24.56 9 P P 10 27 29.9 -0.6
baz=191
RLO Rose Lookout 24.57 347 P 10 27 30.6 -0.1
RLO IAmb IAmb 10 27 33.0
comp=Z,101nm,1.0s
T47A Sharon Grove 24.65 2 P P 10 27 30.9 -0.4
CNNC Cliffs of the 24.74 21 P P 10 27 31.6 -0.6
baz=205
T42A Van Buren 24.80 355 IAmb IAmb 10 27 33.3
comp=Z,29nm,1.1s
MNTX Cornudas Mount 24.96 324 IAmb IAmb 10 27 37.0
comp=Z,45nm,1.2s
MNTX Cornudas Mount 24.96 324 P P 10 27 33.9 -0.4
baz=137,SNR=47
CZSB Cruzeiro do Su 25.17 141 P P 10 27 37.5 +1.3
CZSB Cruzeiro do Su 25.17 141 eP P 10 27 39.2 +2.9
MSTX Muleshoe 25.34 331 P P 10 27 37.7 -0.1
baz=145,SNR=72
AMTX Amarillo 25.61 334 P P 10 27 40.0 -0.2
baz=148
U59A Littleton 25.79 20 IAmb IAmb 10 27 48.5
comp=Z,23nm,1.0s
CCM Cathedral Cave 25.83 355 P P 10 27 41.2 -0.8
CCM IAmb IAmb 10 27 43.5
comp=Z,41nm,0.8s
CCM Cathedral Cave 25.83 355 P P 10 27 41.5 -0.5
baz=173
BLA Blacksburg 25.83 14 P P 10 27 42.2 +0.1
baz=198
WCI Wyandotte Cave 25.93 4 P P 10 27 41.9 -1.0
WCI IAmb IAmb 10 27 43.4
comp=Z,31nm,0.9s
WCI Wyandotte Cave 25.93 4 P P 10 27 42.3 -0.6
baz=184
T57A Hurt 25.94 17 IAmb IAmb 10 28 10.1
comp=Z,42nm,1.1s
R49A Shelbyville 26.08 6 IAmb IAmb 10 27 45.0
comp=Z,43nm,1.4s
KAN01 Argonia South 26.21 343 P 10 27 45.1 -0.4
KS20 Mayfield South 26.23 343 P 10 27 44.4 -1.2
OLIL Olney 26.37 0 IAmb IAmb 10 27 47.6
comp=Z,25nm,0.9s
T59A Double "B" Far 26.43 20 IAmb IAmb 10 27 49.0
comp=Z,70nm,1.5s
Q44A Meyer Farm, Va 26.55 359 IAmb IAmb 10 27 49.0
comp=Z,29nm,0.8s
NNA Nana 26.62 154 LR LR 10 36 28.6
comp=Z,522nm,18.6s,baz=333,slow=32
R55A Marlinton 26.92 14 IAmb IAmb 10 27 55.1
comp=Z,36nm,0.9s
121A Cookes Peak, D 26.98 322 IAmb IAmb 10 27 58.3
comp=Z,35nm,1.1s
121A Cookes Peak, D 26.98 322 P P 10 27 52.0 -0.7
baz=134,SNR=7.8
Q51A Peebles 27.02 8 IAmb IAmb 10 27 53.9
comp=Z,36nm,0.9s
Q52A Bidwell 27.13 10 IAmb IAmb 10 28 17.1
comp=Z,37nm,1.1s
P48A Milroy 27.21 5 IAmb IAmb 10 27 60.0
comp=Z,30nm,1.2s
P49A Miami Univ. Ec 27.35 6 IAmb IAmb 10 27 55.8
comp=Z,56nm,1.5s
P49A Miami Univ. Ec 27.35 6 P P 10 27 54.5 -1.3
baz=188
Q54A Coxs Mills 27.43 13 IAmb IAmb 10 27 59.0
comp=Z,22nm,0.8s
Y22D IRIS PASSCAL I 27.57 325 P P 10 27 58.5 +0.5
baz=137
Y22F Passcal Instru 27.57 325 P P 10 27 58.2 +0.2
baz=137
CBN Corbin Frederi 27.61 19 P P 10 27 58.5 +0.4
baz=203
R32A Long Quarter, 27.67 342 IAmb IAmb 10 28 01.3
comp=Z,51nm,1.2s
KSU1 Kansas State U 27.74 346 P P 10 27 58.6 -0.7
baz=162,SNR=12
O44A Mansfield 27.79 360 IAmb IAmb 10 27 59.9
comp=Z,18nm,0.8s
P52A Corning 27.81 10 P P 10 27 59.6 -0.2
baz=193
Q56A Snyder Ridge, 27.87 15 IAmb IAmb 10 28 03.8
comp=Z,19nm,0.9s
ANMO Albuquerque 27.97 327 P P 10 28 02.2 +0.7
ANMO Albuquerque 27.97 327 P P 10 28 01.5 -0.1
baz=139
O48B Farmland 28.03 5 P P 10 27 59.8 -1.9
baz=186
SFIN Lafayette 28.03 2 IAmb IAmb 10 28 01.7
comp=Z,27nm,1.1s
SFIN Lafayette 28.03 2 P P 10 28 00.3 -1.5
baz=182
O49A Covington 28.04 6 IAmb IAmb 10 28 02.2
comp=Z,23nm,0.9s
HDIL Hopedale 28.21 358 P P 10 28 02.3 -1.1
baz=178
ACSO Alum Creek Sta 28.26 9 P P 10 28 03.4 -0.4
baz=191
MCWV Mont Chateau 28.30 14 P P 10 28 04.3 +0.1
baz=198
O52A Adamsville 28.33 10 IAmb IAmb 10 28 05.4
comp=Z,25nm,1.1s
CBKS Cedar Bluff 28.35 341 P P 10 28 04.4 -0.3
baz=156,SNR=14
N41A Harden Midland 28.43 356 IAmb IAmb 10 28 06.6
comp=Z,19nm,0.8s
O53A New Philadelph 28.57 11 IAmb IAmb 10 28 07.7
comp=Z,27nm,1.1s
O53A New Philadelph 28.57 11 P P 10 28 06.2 -0.4
baz=194
P57A Homestead Farm 28.60 17 IAmb IAmb 10 28 09.1
comp=Z,23nm,0.9s
T25A Trinidad 28.70 332 P P 10 28 08.3 +0.3
baz=146,SNR=17
TUC Tucson 28.73 318 P P 10 28 08.1 -0.1
baz=129
N49A Columbus Grove 28.78 6 IAmb IAmb 10 28 08.9
comp=Z,39nm,1.2s
BOAV Boa Vista 29.18 107 P P 10 28 10.5 -1.9
BOAV Boa Vista 29.18 107 eP P 10 28 10.7 -1.6
N35A Tabor 29.22 349 P P 10 28 12.1 -0.3
M50A Fremont 29.40 8 IAmb IAmb 10 28 16.0
comp=Z,26nm,0.9s
KSCO Kaye Shedlock' 29.54 337 P P 10 28 15.6 +0.2
baz=150,SNR=14
L42A Oliver, Polo 29.66 358 IAmb IAmb 10 28 17.5
comp=Z,19nm,1.1s
SDCO Great Sand Dun 29.69 332 P P 10 28 17.8 +0.9
SDCO IAmb IAmb 10 28 20.3
comp=Z,31nm,1.1s
SDCO Great Sand Dun 29.69 332 P P 10 28 17.7 +0.7
baz=144,SNR=16
SSPA Standing Stone 29.71 16 P P 10 28 16.6 -0.1
baz=201
L44A Lake County Fo 29.81 1 P P 10 28 17.5 -0.1
baz=181
M53A WI Miller and 29.83 12 P P 10 28 17.3 -0.4
baz=195
SCIA State Center 29.86 353 P P 10 28 17.5 -0.4
baz=170,SNR=8.1
214A Organ Pipe Nat 29.89 315 P P 10 28 17.7 -0.8
baz=125
W18A Petrified Fore 29.94 323 P P 10 28 19.5 +0.5
baz=134
BGNE Belgrade 30.30 345 P P 10 28 22.1 +0.1
baz=160,SNR=9.0
S22A 4UR Ranch, Cre 30.33 330 IAmb IAmb 10 28 34.2
comp=Z,14nm,0.9s
S22A 4UR Ranch, Cre 30.33 330 P P 10 28 23.1 +0.5
baz=142,SNR=14
L34A Svendsen Farm, 30.43 348 IAmb IAmb 10 28 23.4
comp=Z,24nm,0.9s
M57A Sunshine Farm, 30.57 17 IAmb IAmb 10 28 28.4
comp=Z,35nm,1.4s
JFWS Jewell Farm 30.60 357 IAmb IAmb 10 28 28.2
comp=Z,18nm,0.8s
JFWS Jewell Farm 30.60 357 P P 10 28 25.2 +0.7
baz=176
ERPA Erie 30.62 12 P P 10 28 25.3 +0.6
baz=196
MVCO Mesa Verde 30.76 327 IAmb IAmb 10 28 29.9
comp=Z,20nm,1.1s
MVCO Mesa Verde 30.76 327 P P 10 28 27.8 +1.5
baz=139,SNR=8.0
113A Mohawk Valley, 31.02 315 P P 10 28 27.8 -0.6
OGNE Ogallala 31.03 340 P P 10 28 28.5 0.0
baz=153
WUAZ Wupatki 31.19 322 IAmb IAmb 10 28 35.0
comp=Z,16nm,1.1s
WUAZ Wupatki 31.19 322 P P 10 28 30.4 +0.3
baz=132
PAL Palisades 31.30 21 P P 10 28 31.1 +0.4
baz=208
MACA Manacapuru-AM 31.41 117 P P 10 28 31.0 -1.0
ISCO Idaho Springs 31.43 334 IAmb IAmb 10 28 43.9
comp=Z,21nm,1.2s
ISCO Idaho Springs 31.43 334 P P 10 28 32.8 +0.5
baz=146,SNR=10
SMCO Snowmass 31.53 332 IAmb IAmb 10 28 47.7
comp=Z,21nm,0.9s
BINY Binghamton 31.70 18 IAmb IAmb 10 28 37.1
comp=Z,25nm,1.1s
BINY Binghamton 31.70 18 P P 10 28 34.5 +0.3
baz=203
GLA Glamis 31.91 315 P P 10 28 37.3 +1.0
baz=124
PDMCI Parker Dam,Lak 32.17 317 P P 10 28 38.7 +0.2
baz=127
ECSD EROS Data Cent 32.18 349 P P 10 28 37.9 -0.6
baz=164,SNR=23
U15A North Rim 32.35 322 IAmb IAmb 10 28 58.2
comp=Z,18nm,1.5s
N23A Red Feather La 32.48 335 IAmb IAmb 10 29 02.9
comp=Z,12nm,0.9s
N23A Red Feather La 32.48 335 P P 10 28 41.4 0.0
baz=146
HMU Henry Mountain 32.51 326 IAmb IAmb 10 28 46.5
comp=Z,19nm,1.0s
IKP In-Ko-Pah, Jac 32.60 313 P P 10 28 43.3 +0.9
baz=122
SAML Samuel 32.64 129 P P 10 28 41.8 -1.1
SAML Samuel 32.64 129 eP P 10 28 55.1 +12
SAML Samuel 32.64 129 P P 10 28 41.9 -0.9
BC3 Big Chuckawall 32.69 315 P P 10 28 44.1 +0.9
baz=124
J57A Williamstown 32.81 17 P P 10 28 43.0 -0.9
O20A White River Ci 32.88 331 P P 10 28 46.1 +1.2
baz=142,SNR=23
MONP2 Monument Peak 32.95 313 P P 10 28 46.7 +1.1
baz=122
J58A Remsen 32.97 18 IAmb IAmb 10 28 51.0
comp=Z,22nm,1.2s
L61B Northampton 33.00 21 P P 10 28 45.8 +0.1
baz=209
KNB Kanab 33.06 322 IAmb IAmb 10 29 00.4
comp=Z,19nm,1.2s
SPMN Marine on St. 33.09 354 P P 10 28 45.3 -1.1
baz=172,SNR=37
BELC Belle Mtn. Jos 33.26 315 P P 10 28 48.2 0.0
baz=124
J59A Piesco 33.30 18 IAmb IAmb 10 28 49.1
comp=Z,31nm,1.4s
SADO Sadowa 33.34 12 LR LR 10 43 04.7
comp=Z,1μm,19.4s,baz=139,slow=38
TPFO Pinon Flats 33.35 314 P P 10 28 49.7 +0.6
baz=123
PFO Pinyon Flats O 33.36 314 P P 10 28 49.7 +0.6
baz=123
PFO Pinyon Flats O 33.36 314 LR LR 10 44 39.0
comp=Z,1μm,18.1s,baz=123,slow=40
SUSD Miller 33.36 346 P P 10 28 48.5 -0.4
baz=161,SNR=13
P18A Preston Nutter 33.48 328 IAmb IAmb 10 28 58.1
comp=Z,20nm,1.1s
ACCN Adirondack Com 33.49 19 IAmb IAmb 10 28 54.2
comp=Z,26nm,1.2s
V12A Nelson 33.50 319 P P 10 28 50.4 +0.2
COWI Conover 33.74 359 IAmb IAmb 10 28 52.7
comp=Z,15nm,0.7s
NCB Newcomb 33.84 18 IAmb IAmb 10 28 56.4
comp=Z,34nm,1.4s
RDMU Red Mountain 33.86 330 P P 10 28 54.2 +0.8
RDMU IAmb IAmb 10 29 01.8
comp=Z,26nm,1.3s
MURC Murrieta 33.87 314 P P 10 28 54.3 +0.8
baz=122
TCRU Three Creeks R 33.93 325 IAmb IAmb 10 29 10.4
comp=Z,13nm,1.0s
K22A Casper 34.18 336 P P 10 28 56.6 +0.4
baz=147,SNR=11
LONY Lake Ozonia 34.32 17 P P 10 28 57.2 +0.1
baz=204,SNR=7.1
MPU Maple Canyon 34.49 327 IAmb IAmb 10 29 05.0
comp=Z,12nm,1.1s
RSSD Black Hills 34.53 340 P P 10 28 58.8 -0.4
RSSD IAmb IAmb 10 29 04.1
comp=Z,17nm,1.1s
RSSD Black Hills 34.53 340 P P 10 28 59.5 +0.3
baz=152
RSSD Black Hills 34.53 340 P P 10 29 00.6 +1.4
RSSD PcP PcP 10 31 34.7 +1.0
GSC Goldstone, Bar 34.54 316 P P 10 29 00.0 +0.8
baz=124
BFSC Mount Baldy Ra 34.54 314 P P 10 28 59.7 +0.3
baz=122
LPAZ La Paz 34.66 144 P P 10 29 01.9 +0.9
comp=Z,1.5nm,0.5s,baz=336,slow=4.1,SNR=6.3
LPAZ LR LR 10 43 53.8
comp=Z,753nm,19.2s,baz=294,slow=37
comp=Z,1.5nm,0.5s
FRNY Flat Rock 34.82 18 IAmb IAmb 10 29 02.2
comp=Z,22nm,1.1s
EDW2 Edwards Air Fo 35.12 315 P P 10 29 05.1 +0.9
baz=122
TPNV Topopah Spring 35.13 319 P P 10 29 06.1 +1.6
baz=127
TCUT Toone Canyon 35.18 329 IAmb IAmb 10 29 10.0
comp=Z,29nm,1.5s
DUG Dugway, Tooele 35.24 327 P P 10 29 06.3 +0.9
baz=135
FURC Furnace Creek, 35.24 318 P P 10 29 06.8 +1.6
baz=126
MPMC Manual Prospec 35.42 317 P P 10 29 07.7 +0.7
baz=124
BW06 Boulder Array 35.57 333 P P 10 29 09.0 +0.7
baz=142,SNR=7.2
PDAR Pinedale Array 35.57 333 P P 10 29 08.2 -0.1
comp=Z,1.9nm,0.8s,baz=124,slow=7.9,SNR=16
PDAR PcP PcP 10 31 37.4 +0.7
comp=Z,3.5nm,0.8s,baz=139,slow=5.5,SNR=9.3
PDAR LR LR 10 47 50.3
comp=Z,698nm,18.3s,baz=136,slow=43
comp=Z,1.9nm,0.8s
R11B Troy Canyon, C 35.59 322 P P 10 29 09.3 +0.9
baz=130
PB16 IPOC Station P 35.59 148 IAmb IAmb 10 29 25.2
comp=Z,15nm,1.1s
HWUT Hardware Ranch 35.63 329 IAmb IAmb 10 29 22.1
comp=Z,13nm,0.8s
EYMN Ely 35.68 356 P P 10 29 08.7 -0.2
baz=174,SNR=5.3
ARVC Arvin 35.83 315 P P 10 29 10.6 +0.4
baz=122
ISA Isabella, Lake 35.87 316 P P 10 29 12.0 +1.3
baz=123
MDP Montagnes des 35.90 98 LR LR 10 46 00.8
comp=Z,551nm,19.2s,baz=310,slow=40
ID09 Alton 35.92 330 IAmb IAmb 10 29 14.0
comp=Z,17nm,1.1s
ID10 Lander Cutoff 35.99 331 IAmb IAmb 10 29 31.3
comp=Z,21nm,1.2s
CWC Cottonwood Cre 36.03 317 P P 10 29 12.4 +0.2
baz=124
AHID Auburn Hatcher 36.28 331 IAmb IAmb 10 29 20.3
comp=Z,17nm,1.0s
ID06 Fossil Canyon 36.31 331 IAmb IAmb 10 29 39.0
comp=Z,19nm,0.9s
VES Vestal, Richgr 36.38 315 P P 10 29 14.8 -0.2
baz=122
TPH Tonopah 36.43 320 IAmb IAmb 10 29 30.8
comp=Z,22nm,1.1s
AGMN Agassiz Nation 36.49 351 P P 10 29 14.6 -1.1
baz=167,SNR=33
PKME Peaks-Kenny Pk 36.67 23 P P 10 29 17.1 -0.2
baz=212
LOHW Long Hollow 36.71 333 IAmb IAmb 10 29 31.0
comp=Z,12nm,0.8s
MDND Maddock 36.73 347 P P 10 29 17.4 -0.4
baz=161,SNR=11
SMMC Simmler 36.74 314 P P 10 29 18.7 +0.6
baz=121
TPAW Teton Pass 36.77 332 P P 10 29 18.4 -0.1
GO01 Chusmiza 36.87 149 IAmb IAmb 10 29 36.5
comp=Z,12nm,0.9s
VLDQ Val d'Or 36.87 12 IAmb IAmb 10 29 19.7
comp=Z,13nm,0.8s
ELK Elko 36.96 325 LR LR 10 48 00.9
comp=Z,2μm,18.4s,baz=129,slow=42
FLWY Flagg Ranch 37.12 333 IAmb IAmb 10 29 41.0
comp=Z,24nm,0.9s
H17A Grant Village 37.31 333 IAmb IAmb 10 29 38.2
comp=Z,16nm,1.1s
H17A Grant Village 37.31 333 P P 10 29 24.1 +1.0
baz=142
NVAR Mina Array Bea 37.32 320 P P 10 29 23.9 +0.7
NVAR Mina Array Bea 37.32 320 P P 10 29 24.4 +1.1
comp=Z,3.0nm,0.9s,baz=132,slow=7.9,SNR=14
NVAR PcP PcP 10 31 43.5 +1.4
comp=Z,4.4nm,0.8s,baz=138,slow=3.8,SNR=10
NVAR LR LR 10 47 45.5
comp=Z,1μm,18.6s,baz=123,slow=41
comp=Z,3.0nm,0.9s
RLMT Red Lodge 37.34 335 P P 10 29 22.9 -0.4
baz=145,SNR=15
LHV Little Huntoon 37.35 319 IAmb IAmb 10 29 52.5
comp=Z,16nm,1.2s
LKWY Lake 37.37 334 P P 10 29 23.5 -0.1
LKWY IAmb IAmb 10 29 51.7
comp=Z,17nm,1.1s
YMP Mirror Lake Pl 37.40 334 IAmb IAmb 10 29 48.8
comp=Z,26nm,1.0s
LAO LASA Array 37.52 340 P P 10 29 24.3 -0.3
baz=150,SNR=7.2
YHL Hebgen Lake 37.94 333 IAmb IAmb 10 29 42.9
comp=Z,24nm,1.0s
ULM Lac du Bonnet 38.40 352 P P 10 29 30.1 -1.7
comp=Z,40nm,0.6s,baz=170,slow=8.9,SNR=50
ULM LR LR 10 46 42.0
comp=Z,600nm,21.9s,baz=158,slow=38
comp=Z,40nm,0.6s
DGMT Dagmar 38.47 343 P P 10 29 32.4 -0.1
baz=154,SNR=18
HLID Hailey 38.49 329 P P 10 29 33.7 +0.7
baz=136
BOZ Bozeman (W) 38.72 334 IAmb IAmb 10 29 38.8
comp=Z,22nm,1.1s
BOZ Bozeman (W) 38.72 334 P P 10 29 35.1 +0.2
baz=142,SNR=18
SIV San Ignacio 38.88 136 LR LR 10 44 28.5
comp=Z,231nm,19.9s,slow=34
DLMT Dillon 38.96 332 IAmb IAmb 10 29 49.6
comp=Z,39nm,1.2s
LVC Limon Verde 39.51 151 P P 10 29 40.2 -1.6
LVC IAmb IAmb 10 29 47.7
comp=Z,22nm,1.2s
LVC Limon Verde 39.51 151 LR LR 10 43 44.1
comp=Z,249nm,19.3s,baz=326,slow=32
PLID Pearl Lake 40.38 329 P P 10 29 47.5 -1.2
MSO Missoula 40.69 333 IAmb IAmb 10 29 59.7
comp=Z,48nm,1.4s
MSO Missoula 40.69 333 P P 10 29 50.9 -0.2
baz=139,SNR=21
BMO Blue Mountains 40.87 328 P P 10 29 54.5 +1.8
YBH Yreka Blue Hor 41.99 321 LR LR 10 50 41.9
comp=Z,831nm,18.3s,baz=152,slow=41
NEW Newport 43.20 332 P P 10 30 10.7 -0.8
NEW Newport 43.20 332 P P 10 30 12.1 +0.5
baz=136
NEW Newport 43.20 332 LR LR 10 52 41.1
comp=Z,687nm,18.0s,baz=132,slow=42
HOOD Mount Hood Mea 43.50 326 IAmb IAmb 10 30 27.2
comp=Z,32nm,1.0s
FFC Flin Flon 43.72 349 P P 10 30 13.9 -1.7
FFC IAmb IAmb 10 30 16.5
comp=Z,23nm,0.8s
FFC Flin Flon 43.72 349 P P 10 30 15.6 0.0
RPN Rapa Nui 44.16 207 LR LR 10 44 14.2
comp=Z,593nm,18.6s,baz=5.5,slow=30
B06A Marblemount 45.47 329 IAmb IAmb 10 30 30.2
comp=Z,13nm,1.1s
SCHQ Schefferville 45.70 17 P P 10 30 29.6 -1.8
SCHQ Schefferville 45.70 17 P P 10 30 29.6 -1.8
comp=Z,40nm,0.9s,baz=212,slow=6.3,SNR=17
SCHQ LR LR 10 51 20.7
comp=Z,2μm,18.1s,baz=202,slow=38
comp=Z,40nm,0.9s
CO03 El Pedregal 46.06 159 IAmb IAmb 10 30 39.4
comp=Z,23nm,1.1s
H03N2 Juan Fernandez 46.30 169 T T 11 20 16.1
baz=347,slow=76,SNR=5.2
H03N1 Juan Fernandez 46.31 169 T T 11 20 16.3
baz=347,slow=76,SNR=5.2
H03N3 Juan Fernandez 46.32 169 T T 11 20 09.4
baz=347,slow=76,SNR=4.0
LLLB Lillooet 47.06 331 IAmb IAmb 10 30 54.8
comp=Z,14nm,1.0s
ZON Zonda 47.43 157 IAmb IAmb 10 30 50.5
comp=Z,17nm,1.0s
BDFB Brasilia 48.53 124 P P 10 30 53.4 -0.8
BDFB IAmb IAmb 10 30 55.0
comp=Z,16nm,0.9s
BDFB Brasilia 48.53 124 P P 10 30 53.5 -0.6
comp=Z,8.3nm,0.7s,baz=292,slow=12,SNR=8.1
BDFB LR LR 10 53 11.4
comp=Z,841nm,19.1s,baz=309,slow=38
comp=Z,8.3nm,0.7s
CPUP Villa Florida 48.75 142 P P 10 30 57.2 +1.7
CPUP IAmb IAmb 10 31 08.1
comp=Z,20nm,1.1s
CPUP Villa Florida 48.75 142 P P 10 30 54.9 -0.6
comp=Z,3.2nm,0.8s,baz=328,slow=11,SNR=4.0
CPUP LR LR 10 52 49.8
comp=Z,730nm,18.0s,baz=334,slow=38
comp=Z,3.2nm,0.8s
BBB Bella Bella 51.08 330 LR LR 10 57 08.2
comp=Z,351nm,18.7s,baz=139,slow=41
FRB Frobisher Bay 53.27 11 LR LR 10 55 07.0
comp=Z,1μm,19.9s,baz=202,slow=37
YKA Yellowknife Ar 53.59 345 P P 10 31 30.0 -1.3
comp=Z,11nm,0.9s,baz=138,slow=7.5,SNR=18
YKA LR LR 10 56 20.7
comp=Z,518nm,20.6s,baz=152,slow=38
comp=Z,11nm,0.9s
FLDN Fort Liard 54.46 339 P P 10 31 38.3 +0.6
baz=136
KOTAN Kotaneelee Air 54.58 339 P P 10 31 39.3 +0.7
baz=135
LIRD Liard River Hi 54.82 337 P P 10 31 40.5 +0.2
baz=133
T35M Bob Quinn 54.95 333 P P 10 31 42.2 +0.9
baz=127
RCBR Riachuelo 55.08 106 LR LR 10 58 52.5
comp=Z,391nm,18.1s,baz=307,slow=40
PLCA Paso Flores 55.22 164 P P 10 31 43.9 +0.5
PLCA IAmb IAmb 10 31 48.0
comp=Z,16nm,1.1s
PLCA Paso Flores 55.22 164 P P 10 31 44.0 +0.5
comp=Z,7.4nm,0.9s,baz=331,slow=8.3,SNR=11
PLCA LR LR 10 51 33.5
comp=Z,279nm,18.5s,baz=338,slow=32
comp=Z,7.4nm,0.9s
PLCA Paso Flores 55.22 164 P P 10 31 43.7 +0.2
TAOE Nuku Hiva Isla 55.66 250 eLR LR 10 47 58.3
comp=Z,299nm,21.4s
DLBC Dease Lake 55.74 335 P P 10 31 47.0 -0.1
baz=128,SNR=13
U33K Whale Pass 55.74 331 P P 10 31 46.8 -0.2
baz=123
TRQA Tornquist 55.78 155 P P 10 31 47.4 -0.1
TRQA IAmb IAmb 10 31 52.6
comp=Z,22nm,1.3s
S34M Telegraph Cree 55.89 334 IAmb IAmb 10 31 50.0
comp=Z,13nm,1.3s
S34M Telegraph Cree 55.89 334 P P 10 31 49.0 +0.9
baz=126
WTLY Watson Lake, Y 56.31 337 P P 10 31 51.3 +0.2
baz=130,SNR=5.5
R33M Jennings River 56.72 335 P P 10 31 54.4 +0.3
baz=128,SNR=7.1
Q32M Nakina River 56.99 335 IAmb IAmb 10 32 08.0
comp=Z,11nm,0.9s
Q32M Nakina River 56.99 335 P P 10 31 55.8 -0.4
baz=126
TGTN Hyland Airport 57.05 338 P P 10 31 56.5 +0.2
baz=132

S32K	Killisnoo	57.16 332	P	P	10 31 57.4	+0.4
	baz=123					
LL02	Futaleuf	57.19 166	P	P	10 31 58.5	+1.1
SIT	Sitka	57.28 332	P	P	10 31 57.9	0.0
	baz=122					
R32K	Eaglecrest	57.57 333	P	P	10 32 00.5	+0.6
	baz=123					
P33M	Teslin, Yukon	57.95 336	IAmb	IAmb	10 32 04.0	
	comp=Z,16nm,1.5s					
P33M	Teslin, Yukon	57.95 336	P	P	10 32 02.8	0.0
	baz=126					
P32M	Atlin	57.96 335	P	P	10 32 02.8	+0.1
	baz=125					
S31K	Pelican	58.17 332	P	P	10 32 04.1	-0.1
	baz=121					
SKAG	Skagway	58.57 334	P	P	10 32 07.4	+0.5
	baz=123					
N32M	Quiet Lake	58.62 336	P	P	10 32 07.0	-0.3
	baz=126					
MMPY	Sheldon Lake,	58.83 338	IAmb	IAmb	10 32 10.2	
	comp=Z,15nm,1.0s					
MMPY	Sheldon Lake,	58.83 338	P	P	10 32 09.0	+0.2
	baz=129,SNR=8.9					
WHY	Whitehorse	59.05 335	P	P	10 32 10.8	+0.4
	baz=124					
FARO	Faro, Yukon	59.36 337	IAmb	IAmb	10 32 13.3	
	comp=Z,11nm,1.2s					
FARO	Faro, Yukon	59.36 337	P	P	10 32 12.5	+0.1
	baz=126					
COYC	Coyhaique	59.38 167	P	P	10 32 15.5	+2.8
O30N	Mendenhall	59.61 335	IAmb	IAmb	10 32 15.5	
	comp=Z,17nm,1.2s					
O30N	Mendenhall	59.61 335	P	P	10 32 14.1	-0.1
	baz=123,SNR=8.3					
P30M	Million Dollar	59.62 334	P	P	10 32 14.2	-0.1
	baz=122					
P29M	Windy Craggy	59.71 333	IAmb	IAmb	10 32 23.8	
	comp=Z,16nm,1.1s					
P29M	Windy Craggy	59.71 333	P	P	10 32 14.4	-0.4
	baz=121					
M31M	Drury Creek, Y	59.74 337	IAmb	IAmb	10 32 16.2	
	comp=Z,13nm,1.4s					
M31M	Drury Creek, Y	59.74 337	P	P	10 32 15.2	+0.2
	baz=125					
N31M	Braeburn, Yuko	59.88 336	IAmb	IAmb	10 32 17.1	
	comp=Z,16nm,1.1s					
N31M	Braeburn, Yuko	59.88 336	P	P	10 32 15.4	-0.6
	baz=124,SNR=5.4					
SFJD	Kangerlussuaq	60.13 16	LR	LR	10 59 17.6	
	comp=Z,622nm,18.1s,baz=217,slow=37					
HYT	Haines Junctio	60.22 335	P	P	10 32 18.4	-0.1
	baz=121					
N30M	Aishikik Lake	60.39 335	P	P	10 32 19.5	-0.1
	baz=122					
O29M	Mount Kennedy	60.41 334	P	P	10 32 19.4	-0.4
	baz=120					
YUK6	Outpost Mounta	60.65 335	P	P	10 32 21.7	+0.1
	baz=121					
M30M	Minto, Yukon	60.88 337	IAmb	IAmb	10 32 23.7	
	comp=Z,18nm,1.4s					
M30M	Minto, Yukon	60.88 337	P	P	10 32 22.8	0.0
	baz=123,SNR=6.8					
DY2G	Dye2	61.01 18	*i* P	P	10 32 20.8	-3.0
DY2G			IAmb	IAmb	10 32 29.9	
	comp=Z,4.0nm,0.8s					
MAYO	Mayo, Yukon	61.10 338	P	P	10 32 24.6	+0.3
MAYO	Mayo, Yukon	61.10 338	P	P	10 32 24.2	-0.1
	baz=124					
YUK8	Steele Glacier	61.41 335	P	P	10 32 26.0	-0.7
	baz=119					
M29M	Somme Creek	61.46 336	P	P	10 32 26.1	-0.7
	baz=121,SNR=12					
L29M	L29M	61.68 337	P	P	10 32 27.7	-0.5
	baz=122,SNR=6.9					
J30M	Hart River	61.82 339	IAmb	IAmb	10 32 41.7	
	comp=Z,14nm,1.2s					
J30M	Hart River	61.82 339	P	P	10 32 28.7	-0.6
	baz=124					
K29M	Barlow Dome	61.84 338	P	P	10 32 29.3	-0.2
	baz=123					
H31M	Peel River	61.86 340	P	P	10 32 29.3	-0.1
	baz=127					
CTG	Chitna Glacier	61.92 334	P	P	10 32 29.9	-0.1
	baz=118					
YUK3	Moose Creek	61.94 335	P	P	10 32 29.5	-0.8
	baz=119					
I30M	Mount Dempster	62.20 339	IAmb	IAmb	10 32 32.6	
	comp=Z,16nm,1.1s					
I30M	Mount Dempster	62.20 339	P	P	10 32 32.0	+0.1
	baz=125,SNR=6.7					
G31M	Satah River	62.52 341	P	P	10 32 33.6	-0.1
	baz=128,SNR=6.3					
RES	Resolute Bay	62.53 358	LR	LR	11 00 03.7	
	comp=Z,507nm,21.5s,baz=183,slow=36					
CRQE	Cirque	62.59 333	P	P	10 32 34.1	-0.5
	baz=116					
DAWY	Dawson	62.66 337	P	P	10 32 35.0	+0.1
	baz=121					
F31M	Tsiigehtchic	62.67 342	P	P	10 32 34.1	-0.6
	baz=128					
M27K	Edge Creek, AK	62.80 335	P	P	10 32 35.1	-0.8
	baz=118					
KAIM	Kayak Island	62.84 332	P	P	10 32 35.6	-0.4
	baz=114					
MCARA	McCarthy VSAT	62.84 334	P	P	10 32 36.8	+0.8
MCARA			IAmb	IAmb	10 32 58.5	
	comp=Z,13nm,1.0s					
MCARA	McCarthy VSAT	62.84 334	P	P	10 32 36.0	-0.1
	baz=116					
I29M	Ogilvie Camp,	62.95 339	P	P	10 32 36.8	+0.1
	baz=123					
EPYK	Eagle Plains	62.98 340	P	P	10 32 36.6	-0.3
	baz=125					
L27K	Beaver Creek,	63.11 336	IAmb	IAmb	10 32 39.0	
	comp=Z,15nm,1.2s					
L27K	Beaver Creek,	63.11 336	P	P	10 32 37.2	-0.7
	baz=118,SNR=6.9					
INK	Inuvik	63.15 343	P	P	10 32 37.2	-0.7
INK	Inuvik	63.15 343	P	P	10 32 37.2	-0.7
	baz=129,SNR=6.3					
INK	Inuvik	63.15 343	LR	LR	11 06 16.0	
	comp=Z,353nm,18.2s,baz=144,slow=42					
G30M	tAoh Zraii Nji	63.17 341	P	P	10 32 37.6	-0.5
	baz=126					
M26K	Nabesna, AK	63.28 335	P	P	10 32 38.8	-0.3
	baz=117					
ANGG	Ammassalik, Gr	63.31 21	*i* P	P	10 32 36.3	-2.7
ANGG			IAmb	IAmb	10 32 38.2	
	comp=Z,11nm,0.8s					
F30M	Barrier River	63.40 342	P	P	10 32 39.3	-0.3
	baz=126,SNR=5.7					
H29M	Whitestone	63.44 340	P	P	10 32 40.0	+0.1
	baz=123					
Q23K	Middleton Isla	63.55 331	P	P	10 32 40.5	-0.2
	baz=112					
I28M	Miner Creek	63.58 339	P	P	10 32 41.3	+0.3
	baz=121					
K27K	Chicken	63.67 337	IAmb	IAmb	10 32 46.0	
	comp=Z,7.9nm,1.1s					
K27K	Chicken	63.67 337	P	P	10 32 42.1	+0.6
	baz=118					
EYAK	Cordova Ski Ar	63.70 332	P	P	10 32 42.1	+0.4
	baz=113					
G29M	Pine Creek	63.71 340	P	P	10 32 41.2	-0.5
	baz=124,SNR=8.7					
L26K	Log Cabin Wild	63.71 335	P	P	10 32 41.7	-0.1
	baz=117					
I27K	Kandik River	64.26 338	P	P	10 32 45.6	+0.2
	baz=119					
SCRK	Sand Creek	64.39 336	P	P	10 32 46.5	+0.1
	baz=116					
J26L	Joseph Creek	64.47 337	IAmb	IAmb	10 32 48.2	
	comp=Z,16nm,1.2s					
J26L	Joseph Creek	64.47 337	P	P	10 32 46.9	0.0
	baz=117,SNR=7.4					
E29M	Blow River	64.50 342	P	P	10 32 47.5	+0.7
	baz=124,SNR=9.6					
H27K	Steamboat Moun	64.54 339	P	P	10 32 47.6	+0.4
	baz=120,SNR=14					
ICESG	Greenland Ices	64.61 17	*i* P	P	10 32 45.1	-2.8
ICESG			IAmb	IAmb	10 32 47.9	
	comp=Z,11nm,0.8s					
RIDG	Independent Ri	64.63 336	P	P	10 32 47.9	+0.1
	baz=115					
I26K	Coal Creek Min	64.68 338	IAmb	IAmb	10 32 48.9	
	comp=Z,16nm,1.1s					
I26K	Coal Creek Min	64.68 338	P	P	10 32 48.3	+0.2
	baz=118					
F28M	Old Crow	64.70 341	P	P	10 32 47.9	-0.3
	baz=122,SNR=15					
G27K	Doyon Strip	64.88 339	P	P	10 32 49.4	0.0
	baz=120					
K24K	Donnelly Dome	65.03 336	P	P	10 32 50.1	-0.4
	baz=114					
M23K	Glacier View	65.06 333	P	P	10 32 50.4	-0.2
	baz=112					
E28M	Babbage River	65.12 342	P	P	10 32 50.6	-0.3
	baz=123,SNR=12					
J25K	Salcha River,	65.22 337	IAmb	IAmb	10 33 02.5	
	comp=Z,8.3nm,0.9s					
J25K	Salcha River,	65.22 337	P	P	10 32 51.4	-0.3
	baz=115,SNR=5.7					
KNK	Knik Glacier	65.25 333	P	P	10 32 51.4	-0.5
	baz=111					
E27K	Coleen River	65.55 341	P	P	10 32 53.2	-0.5
	baz=120,SNR=9.3					
PRP	Porcupine Dome	65.67 337	P	P	10 32 54.5	-0.1
	baz=116					
G26K	Porcupine Rive	65.68 339	P	P	10 32 54.7	+0.2
	baz=118,SNR=5.7					
RC01	Rabbit Creek A	65.72 332	P	P	10 32 54.4	-0.5
	baz=110					
HDA	Harding Lake	65.75 336	P	P	10 32 55.2	+0.1
	baz=114					
WAT1	Susitna Watana	65.81 334	P	P	10 32 55.2	-0.3
	baz=111					
ILAR	Eielson Array	65.88 336	P	P	10 32 54.5	-1.3
ILAR	Eielson Array	65.88 336	P	P	10 32 54.9	-1.0
	comp=Z,7.5nm,1.1s,baz=116,slow=3.8,SNR=36					
ILAR			LR	LR	11 07 38.2	
	comp=Z,592nm,18.1s,baz=90,slow=41					
	comp=Z,7.5nm,1.1s					
D27M	Malcolm River	65.91 342	P	P	10 32 56.0	-0.1
	baz=122,SNR=5.5					
H25L	Birch Creek	66.10 338	P	P	10 32 56.8	-0.4
	baz=116					
KDAK	Kodiak Island	66.10 328	LR	LR	11 04 29.0	
	comp=Z,272nm,18.5s,baz=115,slow=38					
F26K	Sheenjek River	66.15 340	P	P	10 32 57.4	-0.2
	baz=118,SNR=5.4					
POKR	Poker Plat Res	66.23 337	P	P	10 32 58.4	+0.3
	baz=113					
CAPN	Captain Cook N	66.27 331	P	P	10 32 58.2	-0.2
	baz=108					
MCK	McKinley	66.30 335	P	P	10 32 58.6	0.0
	baz=111					
CUT	Chulitna	66.40 333	P	P	10 32 59.3	+0.1
	baz=110					
G25K	Bearman Lake	66.42 339	P	P	10 32 59.4	+0.2
	baz=115					
MDM	Murphy Dome	66.48 336	IAmb	IAmb	10 33 03.6	
	comp=Z,16nm,1.4s					
F25K	Christian Rive	66.62 339	P	P	10 33 01.0	+0.4
	baz=116,SNR=8.0					
H24K	Noodor Dome	66.69 337	P	P	10 33 01.1	+0.1
	baz=113,SNR=5.8					
TRF	Thorofare Moun	66.76 334	P	P	10 33 01.2	-0.6
	baz=110					
SKT	Skwentna	66.82 333	P	P	10 33 01.2	-0.7
	baz=108					
E25K	Arctic Village	66.83 340	P	P	10 33 01.8	-0.1
	baz=116					
G24K	Hadweenzic Riv	66.89 338	P	P	10 33 02.0	-0.2
	baz=114					
SUMG	Summit	66.98 14	P	P	10 33 01.6	-1.6
SUMG			IAmb	IAmb	10 33 03.8	
	comp=Z,14nm,1.0s					
SUMG	Summit	66.98 14	*i* P	P	10 33 01.0	-2.2
SUMG			*i* P	P	10 33 01.0	-2.2
SUMG			IAmb	IAmb	10 33 04.2	
	comp=Z,5.7nm,0.8s					
I23K	Minto Yukon-K	66.99 336	P	P	10 33 02.7	-0.2
	baz=112,SNR=7.5					
BPAW	Bear Paw Mtn.	67.28 335	IAmb	IAmb	10 33 05.2	
	comp=Z,18nm,1.2s					
BPAW	Bear Paw Mtn.	67.28 335	P	P	10 33 04.1	-0.7
	baz=110					
H23K	Yukon River	67.31 337	IAmb	IAmb	10 33 08.8	
	comp=Z,17nm,1.4s					
H23K	Yukon River	67.31 337	P	P	10 33 05.0	0.0
	baz=112					
F24K	Squaw Lake	67.37 339	P	P	10 33 04.9	-0.5
	baz=114					
PPT	Papeete	67.39 245	LR	LR	10 55 20.3	
	comp=Z,279nm,18.6s,baz=76,slow=29					
PPT2	Papeete2	67.39 245	*e*S	S	10 41 50.0	-10
	comp=Z,148nm,24.0s					
PPT2	Papeete2	67.39 245	*e*LR	LR	10 53 09.3	
	comp=Z,328nm,29.2s					
PPT2			*e*LR	LR	10 53 30.5	
	comp=Z,246nm,22.2s					
PPLA	Purkeypile	67.40 334	P	P	10 33 04.7	-1.0
	baz=108					
C26K	Camden Bay	67.44 342	P	P	10 33 05.6	-0.1
	baz=118					
MLY	Manley	67.50 336	IAmb	IAmb	10 33 06.8	
	comp=Z,11nm,1.1s					
MLY	Manley	67.50 336	P	P	10 33 06.2	-0.1
	baz=110					
CAST	Castle Rocks	67.52 334	IAmb	IAmb	10 33 06.4	
	comp=Z,17nm,1.4s					
CAST	Castle Rocks	67.52 334	P	P	10 33 06.2	-0.2
	baz=108					
D25K	Kavik River	67.63 341	P	P	10 33 07.0	0.0
	baz=116,SNR=12					
CHUM	Lake Minchumin	67.76 335	P	P	10 33 08.6	+0.8
	baz=108					
E24K	Your Creek	67.80 339	P	P	10 33 08.2	+0.1
	baz=114					
EUNU	Eureka	67.82 0	P	P	10 33 07.5	-0.6
EUNU			IAmb	IAmb	10 33 08.3	
	comp=Z,9.3nm,0.8s					
G23K	Bananza Creek	67.82 338	P	P	10 33 08.9	+0.6
	baz=112					
NEEM	North Greenlan	67.91 8	*i* P	P	10 33 07.8	-1.1
NEEM			IAmb	IAmb	10 33 09.3	
	comp=Z,14nm,0.7s					
I21K	Tanana	68.04 336	P	P	10 33 10.3	+0.7
	baz=109					
H22K	Ishtalitna Cre	68.04 337	P	P	10 33 10.0	+0.4
	baz=110					
COLD	Coldfoot	68.08 338	P	P	10 33 10.3	+0.5
	baz=112,SNR=7.1					
E23K	Chandalar	68.19 339	P	P	10 33 10.9	+0.4
	baz=112,SNR=5.4					
D24K	Happy Valley	68.35 340	P	P	10 33 10.5	-1.0
	baz=114					
K20K	Telida	68.35 334	P	P	10 33 10.8	-0.8
	baz=106					
TOLK	Toolik Lake Re	68.39 340	P	P	10 33 11.3	-0.5
	baz=113					
G22K	Bettles	68.45 338	P	P	10 33 11.5	-0.5
	baz=110					
H21K	Melozitna Rive	68.52 336	P	P	10 33 12.4	-0.2
	baz=108					
C24K	Franklin Bluff	68.54 341	P	P	10 33 12.4	-0.2
	baz=114					
J20K	Nowinta River	68.62 335	P	P	10 33 12.8	-0.4
	baz=107					
D23K	Nanushuk River	68.89 340	P	P	10 33 14.5	-0.3
	baz=112					
F22K	John River	68.89 338	P	P	10 33 14.6	-0.3
	baz=110,SNR=5.4					
E22K	Anaktuvuk Pass	68.98 339	P	P	10 33 14.9	-0.6
	baz=110					
G21K	Allakaket	69.06 337	P	P	10 33 15.5	-0.5
	baz=108					
J19K	Poorman	69.19 334	P	P	10 33 16.4	-0.4
	baz=105					
C23K	Itkillik River	69.20 341	P	P	10 33 16.6	-0.1
	baz=112					
F21K	Alatna River	69.28 338	P	P	10 33 16.7	-0.6
	baz=108,SNR=11					
M17K	Holitna River	69.38 331	P	P	10 33 18.2	+0.3
	baz=102					
TBI	Tubuai	69.52 239	*e*S	S	10 42 20.0	-5.1
	comp=Z,701nm,24.0s					
TBI	Tubuai	69.52 239	*e*LR	LR	10 54 17.4	
	comp=Z,2μm,26.8s					
TBI			*e*LR	LR	10 54 34.1	
	comp=Z,7μm,22.5s					
D22K	Ayikyak River	69.54 340	P	P	10 33 18.8	0.0
	baz=110					
H19K	Roundabout Mou	69.93 336	P	P	10 33 20.8	-0.5
	baz=105					
F20K	Avaraart Lake	70.06 337	P	P	10 33 22.1	0.0
	baz=106					
G19K	Purcell Mounta	70.34 336	P	P	10 33 23.8	0.0
	baz=104					
E20K	Nigu River	70.57 339	P	P	10 33 25.1	-0.1
	baz=106					
D20K	Etivluk River	70.85 339	P	P	10 33 26.6	-0.3
	baz=106					
G18K	Tagagawik	70.91 336	P	P	10 33 27.4	+0.1
	baz=103					
A22K	Sinclair Lake	70.98 341	P	P	10 33 27.2	-0.4
	baz=108					
H17K	Granite Mounta	71.22 335	P	P	10 33 28.8	-0.3
	baz=101					
D19K	Kuna River	71.32 339	P	P	10 33 28.9	-0.9
	baz=104					
B20K	Meade River	71.39 340	P	P	10 33 29.4	-0.7
	baz=106					
C19K	Lookout Ridge	71.99 339	P	P	10 33 34.0	+0.1
	baz=103					
E18K	Tukpahlearik C	71.99 337	P	P	10 33 34.0	+0.2
	baz=102					
F17K	Baldwin Pennin	72.05 336	P	P	10 33 34.2	+0.1
	baz=101					
M13K	Dall Lake	72.06 330	P	P	10 33 34.3	0.0
	baz=97					
E17K	Hotham Inlet	72.40 337	P	P	10 33 36.6	+0.5
	baz=100					
K13K	Kusilvak Mount	72.86 331	P	P	10 33 39.5	+0.4
	baz=96					
G15K	Niukluk	72.96 334	P	P	10 33 40.0	+0.5
	baz=98					
JMIC	Jan Mayen	75.16 19	LR	LR	11 07 52.9	
	comp=Z,421nm,18.4s,baz=244,slow=37					
NOR	Nord	75.29 8	*i* P	P	10 33 51.8	-1.1
NOR			IAmb	IAmb	10 33 53.3	
	comp=Z,2.5nm,0.6s					
EKA	Eskdalemuir Ar	77.25 36	P	P	10 34 02.0	-2.5
	comp=Z,2.1nm,0.6s,baz=260,slow=6.0,SNR=5.6					
	comp=Z,2.1nm,0.6s					
RAR	Rarotonga	77.67 245	LR	LR	11 01 57.1	
	comp=Z,151nm,19.9s,baz=34,slow=30					
ESDC	Sonseca Array	77.94 52	P	P	10 34 06.6	-2.2
	comp=Z,0.8nm,0.7s,baz=288,slow=5.9,SNR=6.7					
ESDC			LR	LR	11 05 07.2	
	comp=Z,180nm,19.4s,baz=99,slow=33					
	comp=Z,0.8nm,0.7s					
MDT	Midelt	78.20 59	LR	LR	11 06 00.4	
	comp=Z,386nm,19.2s,baz=308,slow=34					
PMSA	Palmer Station	78.96 170	LR	LR	11 03 01.6	
	comp=Z,190nm,19.2s,baz=344,slow=31					
SPITS	Spitsbergen Ar	81.06 12	LR	LR	11 13 23.1	
	comp=Z,690nm,18.2s,baz=260,slow=38					
KOWA	Kowa	81.54 77	LR	LR	11 07 01.0	
	comp=Z,183nm,21.9s,baz=316,slow=33					
NOA	NORSAR Array B	83.93 29	LR	LR	11 11 31.3	
	comp=Z,188nm,19.1s,baz=275,slow=35					
SHEM	Shemya Is, Ala	84.92 323	LR	LR	11 10 12.6	
	comp=Z,104nm,22.0s,baz=66,slow=34					
HFS	Hagfors	85.35 29	LR	LR	11 12 23.5	
	comp=Z,181nm,19.8s,baz=295,slow=35					
ARCES	ARCESS Array B	86.63 19	LR	LR	11 12 05.4	
	comp=Z,196nm,21.7s,baz=312,slow=35					
DAVOX	Obnivs/Dischmat	86.68 43	LR	LR	11 10 21.9	
	comp=Z,280nm,18.7s,baz=274,slow=33					
AFI	Afiamalu	86.73 255	LR	LR	11 05 28.0	
	comp=Z,152nm,19.5s,baz=123,slow=30					
TORD	Torodi Ar. Bea	87.24 77	LR	LR	11 13 56.3	
	comp=Z,186nm,18.3s,baz=278,slow=36					
CLL	Collm	87.47 38	*e*PP	PP	10 38 23.0	+0.4
CLL			*e*PS	PnS	10 46 41.0	+0.7
CLL			*e*(SSS)		10 54 18.0	
GERES	GERESS Array B	88.61 40	LR	LR	11 10 37.7	
	comp=Z,418nm,20.6s,baz=281,slow=33					
KEST	Kesra	89.02 54	LR	LR	11 11 00.8	
	comp=Z,119nm,20.4s,baz=245,slow=33					
VRAC	Vranov	90.27 39	LR	LR	11 11 52.6	
	comp=Z,417nm,20.4s,baz=272,slow=33					
FINES	FINESS Array B	90.50 26	LR	LR	11 16 59.2	
	comp=Z,324nm,18.2s,baz=277,slow=36					
SEY	Seymchan	91.81 336	LR	LR	11 20 21.6	
	comp=Z,323nm,22.0s,baz=40,slow=38					
VAE	Valguarnera	92.47 51	LR	LR	11 09 38.1	
	comp=Z,306nm,20.5s,baz=322,slow=31					
MA2	Magadan	94.27 334	LR	LR	11 24 52.7	
	comp=Z,190nm,18.4s,baz=70,slow=40					
RAO	Raoul Island	95.58 241	LR	LR	11 08 58.7	
	comp=Z,236nm,21.6s,baz=290,slow=29					
MSVF	Nonsavu	97.10 253	LR	LR	11 10 50.1	
	comp=Z,192nm,18.2s,baz=176,slow=30					
MLR	Muntele Rosu	97.60 40	LR	LR	11 16 48.5	
	comp=Z,247nm,20.4s,baz=292,slow=34					
OBN	Obninsk	98.53 28	LR	LR	11 20 05.7	
	comp=Z,172nm,19.9s,baz=352,slow=35					
NRIK	Noril'sk	98.56 1	LR	LR	11 21 24.1	
	comp=Z,436nm,21.9s,baz=352,slow=36					
DZM	Mont Dzumac	108.53 251	*e*LR	LR	11 12 43.5	
	comp=Z,110nm,22.9s					
BOSA	Boshof	116.33 116	PKP	PKPdf	10 40 55.8	+1.2
	comp=Z,3.5nm,0.8s,baz=293,slow=0.9,SNR=4.8					
KURBB	Kurchatov Arra	116.34 9	PKP	PKiKP	10 40 54.0	+0.2
	comp=Z,1.1nm,0.8s,baz=347,slow=2.0,SNR=9.5					
SONM	Songjino Array	118.77 349	PKP	PKPdf	10 40 59.1	+0.3
	comp=Z,1.0nm,0.7s,baz=8.1,slow=2.0,SNR=7.7					
XLT	XiLinHaoTe	119.87 340	*e*P	PKiKP	10 41 02.4	+1.3
XLT			pmax	pmax		
	comp=Z,18nm,0.8s					
XLT			pmax	pmax		
	comp=Z,220nm,4.5s					
KSRS	Korea Array	120.00 327	PKP	PKPdf	10 41 01.8	+0.5
	comp=Z,2.7nm,0.7s,baz=19,slow=0.9,SNR=9.1					
MKAR	Makanchi Array	120.62 8	PKP	PKPdf	10 41 01.0	-1.3
	comp=Z,1.3nm,0.8s,baz=338,slow=3.1,SNR=4.7					
GEYT	Alibeck	120.98 31	PKP	PKPdf	10 41 02.9	-0.4
	comp=Z,3.3nm,0.5s,baz=351,slow=4.8,SNR=5.1					
HHC	Hu-ho-hao-te	124.06 342	*e*P	PKPdf	10 41 10.3	+1.1
WMQ	Urumqi	124.08 4	*e*P	PKiKP	10 41 10.8	+1.4
WMQ			LR	LR		
	comp=N,340nm,16.3s					
WMQ			LR	LR		
	comp=E,190nm,21.3s					
WMQ			LR	LR		
	comp=Z,390nm,26.9s					
HNS	HongShan	126.10 337	‖PKP	PKPdf	10 41 14.3	+1.3
HNS			*e*PP	PP	10 43 13.9	+8.1
HNS			LR	LR		
	comp=N,150nm,18.5s					
HNS			LR	LR		
	comp=E,280nm,21.0s					
HNS			LR	LR		
	comp=Z,270nm,21.1s					
GTA	Gaotai	128.05 352	*e*PKPbc	PKPdf	10 41 18.2	+1.3
GTA			LR	LR		
	comp=N,150nm,19.3s					
GTA			LR	LR		
	comp=E,160nm,18.9s					
GTA			LR	LR		
	comp=Z,210nm,22.5s					
NJ2	Nanjing	128.86 330	*e*P	PKPdf	10 41 19.6	+1.2
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.6s					
LZH	Lanzhou	130.58 347	*e*PKP	PKiKP	10 41 24.7	+2.0
LZH			LR	LR		
	comp=N,190nm,14.8s					
LZH			LR	LR		
	comp=E,310nm,14.4s					
LZH			LR	LR		
	comp=Z,350nm,17.2s					
XAN	Xi'an	131.14 341	PKP	PKPdf	10 41 24.0	+1.2
XAN			LR	LR		
	comp=N,290nm,20.3s					
XAN			LR	LR		
	comp=E,270nm,21.0s					
XAN			LR	LR		
	comp=Z,410nm,24.4s					
WRA	Warramunga Art	138.44 254	PKP	PKPdf	10 41 36.1	-0.6
	comp=Z,1.6nm,0.9s,baz=95,slow=2.9,SNR=7.6					
ASAR	Alice Springs	138.45 248	PKhKP	PKPpre	10 41 28.7	
	comp=Z,0.3nm,0.7s,baz=98,slow=3.5,SNR=2.2					
ASAR			PKP	PKPdf	10 41 35.2	-1.4
	comp=Z,0.5nm,0.7s,baz=113,slow=3.3,SNR=6.6					
PZH	PanZhiHua	140.26 346	PKP	PKPdf	10 41 40.3	+0.2
CMAR	Chiang Mai Arr	148.66 347	PKPbc	PKPdf	10 41 56.5	+1.9
	comp=Z,10.0nm,0.7s,baz=344,slow=3.8,SNR=41					

GUC 02 10:24:17.7±0.7,36.08S×71.79W,h78km±3km,ML3.8, 7C-7D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ML02	**Panimavida**	**0.43**	**44**	⇑*i*P	Pn	10 24 30.2	-0.5
ML02				*i* S	Sn	10 24 40.0	-0.3
ML02				IAML		10 24 41.3	
	comp=E,9μm,0.4s						
GO05	**Huala**	**1.07**	**354**	⇑*i*P	Pn	10 24 37.5	0.0
GO05				*i* S	Sn	10 24 52.2	-0.2
GO05				IAML		10 24 54.1	
BI05	**Punta Hualpn**	**1.31**	**239**	*e*P	Pn	10 24 40.5	0.0
BI05				*i* S	Sn	10 24 57.1	-0.6
BI05				IAML		10 24 58.8	
	comp=N,2μm,0.1s						
BO02	**Sierra Bellavi**	**1.52**	**33**	⇑*i*P	Pn	10 24 43.2	-0.1
BO02				*i* S	Sn	10 25 02.5	-0.2
BO03	**Pichilemu**	**1.58**	**355**	⇑*i*P	Pn	10 24 43.7	-0.3
BO03				*i* S	Sn	10 25 03.9	-0.1
BO03				IAML		10 25 05.1	
	comp=N,1μm,0.1s						
BO01	**Tunca**	**1.78**	**19**	⇑*i*P	Pn	10 24 46.1	-0.5
BO01				*i* S	Sn	10 25 07.4	-1.1
BO01				IAML		10 25 12.0	
	comp=E,683nm,0.3s						
MT01	**Popeta**	**2.25**	**11**	*e*P	Pn	10 24 52.5	-0.4
MT01				*i* S	Sn	10 25 19.1	-0.8
MT01				IAML		10 25 27.2	
	comp=N,702nm,0.3s						
BO04	**La Punta**	**2.30**	**25**	*e*P	Pn	10 24 53.1	-0.4
BO04				*e*S	Sn	10 25 20.8	-0.3
BO04				IAML		10 25 23.8	
	comp=N,317nm,0.1s						
MT09	**Talagante**	**2.39**	**16**	⇑*i*P	Pn	10 24 54.1	-0.8
MT09				*i* S	Sn	10 25 22.5	-0.8
MT09				IAML		10 25 24.6	
	comp=N,987nm,0.1s						
VA05	**Santo Domingo**	**2.42**	**3**	*e*P	Pn	10 24 53.5	-1.6
VA05				*e*S	Sn	10 25 22.1	-1.7
VA05				IAML		10 25 29.3	
	comp=E,772nm,0.3s						
MT12	**Pirque**	**2.55**	**24**	*e*P	Pn	10 24 56.9	-0.1
MT12				*e*S	Sn	10 25 26.7	-0.4
MT12				IAML		10 25 31.3	
	comp=E,435nm,0.2s						
LMEL	**Las Melosas**	**2.58**	**31**	⇑*i*P	Pn	10 24 58.0	+0.5
LMEL				*i* S	Sn	10 25 29.4	+1.4
LMEL				IAML		10 25 34.5	
	comp=N,445nm,0.2s						
MT13	**San Alfonso**	**2.63**	**28**	*e*P	Pn	10 24 58.6	+0.4
MT13				*e*S	Sn	10 25 29.4	+0.1
MT13				IAML		10 25 34.8	
	comp=E,315nm,0.1s						
MT03	**Universidad Ad**	**2.78**	**23**	*e*P	Pn	10 25 00.2	0.0
MT03				*i* S	Sn	10 25 32.6	-0.3
MT05	**Renca**	**2.81**	**18**	⇓*i*P	Pn	10 25 00.1	-0.5
MT05				*e*S	Sn	10 25 32.7	-0.8
MT05				IAML		10 25 37.6	
	comp=E,570nm,0.2s						
MT02	**Curacav**	**2.86**	**11**	⇓*i*P	Pn	10 25 00.3	-0.8
MT02				*e*S	Sn	10 25 33.0	-1.6
MT02				IAML		10 25 39.5	
	comp=E,180nm,0.6s						
MT14	**Cerro Calın**	**2.87**	**21**	⇓*i*P	Pn	10 25 00.8	-0.5
MT14				*i* S	Sn	10 25 34.7	-0.1
MT14				IAML		10 25 50.2	
	comp=E,428nm,0.2s						
MT04	**Ro Olivares**	**2.99**	**27**	*e*P	Pn	10 25 03.3	+0.1
MT04				*e*S	Sn	10 25 37.6	-0.5
MT04				IAML		10 25 42.8	
	comp=N,204nm,0.3s						
MT08	**Bocatoma Ro**	**3.00**	**30**	*e*P	Pn	10 25 03.9	+0.6
MT08				*e*S	Sn	10 25 39.0	+0.7
FCH	**Farellones**	**3.01**	**25**	*e*P	Pn	10 25 03.4	-0.1
FCH				*i* S	Sn	10 25 37.2	-1.4
FCH				IAML		10 25 42.8	
	comp=N,345nm,0.2s						
PEL	**Peldehue**	**3.06**	**18**	⇓*i*P	Pn	10 25 03.3	-0.7
PEL				*i* S	Sn	10 25 39.2	-0.4
PEL				IAML		10 25 58.6	
	comp=N,232nm,0.4s						
ROCH	**El Roble**	**3.16**	**12**	*e*P	Pn	10 25 05.0	-0.5
ROCH				*e*S	Sn	10 25 41.3	-1.0
ROCH				IAML		10 25 50.4	
	comp=N,419nm,0.3s						
VA03	**San Esteban**	**3.46**	**18**	⇓*i*P	Pn	10 25 08.4	-0.9
VA03				*i* S	Sn	10 25 48.7	-0.6
GO06	**Curarrehue**	**3.51**	**176**	⇓*e*P	Pn	10 25 10.4	+0.4
LR04	**Corral**	**4.01**	**198**	⇓*e*P	Pn	10 25 14.8	-1.9
LR04				*i* S	Sn	10 25 57.4	-5.0

*SOME **02** 10:31:58.5, 44.°65N×82.°25E, h25km*
*NNC **02** 10:32:01.1±1.1, 44.°69N×81.°97E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=12.8km s-min=3.5km az=122.0*
ISC 02 10:32:00.9±2.0, 44.°59N±0.°08×82.°3E±0.°1, h10km, n22, σ1°84/28, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.80**	**231**	P	**Pn**	**10 32 32.1**	**-0.1**
	6.2nm,0.2s						
KTMS				S	**Sn**	**10 32 56.5**	**+1.3**
	25nm,0.3s						
KTMS	**Ketmen**	**1.80**	**231**	*e*P	**Pn**	**10 32 32.1**	**-0.1**
	6.2nm,0.2s						
KTMS				*e*S	**Sn**	**10 32 56.5**	**+1.3**
	25nm,0.3s						
DJR	**Jarkent**	**1.81**	**263**	P	**Pn**	**10 32 31.0**	**-1.2**
	16nm,0.3s						
DJR				S	**Sn**	**10 32 54.6**	**-0.6**
	16nm,0.2s						
DJR	**Jarkent**	**1.81**	**263**	*e*P	**Pn**	**10 32 31.0**	**-1.2**
	16nm,0.3s						
DJR				*e*S	**Sn**	**10 32 54.6**	**-0.6**
	15nm,0.2s						
MK31	**Makanchi Array**	**2.21**	**0**	Pn	**Pn**	**10 32 38.1**	**+0.5**
	3.3nm,0.3s,baz=184,slow=15,SNR=161						
MK31				⇑Sn	**Sn**	**10 33 05.9**	**+0.9**
	4.0nm,0.3s,baz=184,slow=26,SNR=14						
MAKZ	**Makanchi**	**2.23**	**355**	⇓Pn	**Pn**	**10 32 38.2**	**+0.2**
	4.1nm,0.3s						
MAKZ				⇓Sn	**Sn**	**10 33 05.7**	**+0.1**
	5.0nm,0.3s						
KNOS	**Konyrlen**	**2.24**	**265**	Pg	**Pn**	**10 32 37.9**	**-0.3**
	37nm,0.3s						
KNOS				Lg	Lg	10 33 06.2	
	25nm,0.2s						
PDGK	**Podgornoye**	**2.38**	**239**	Pg	**Pn**	**10 32 40.9**	**+0.7**
	7.9nm,0.2s						
PDGK				Lg	Lg	10 33 11.2	
	6.1nm,0.2s						
PDGK	**Podgornoye**	**2.38**	**239**	⇑Pn	**Pn**	**10 32 40.5**	**+0.4**
	6.6nm,0.4s						
PDGK				⇓Lg	Lg	10 33 10.8	
	7.7nm,0.5s						
SHLS	**Shalkode**	**2.49**	**236**	Pg	**Pn**	**10 32 39.5**	**-2.2**
	30nm,0.1s						
SHLS				Lg	Lg	10 33 09.1	
	41nm,0.2s						
SHLS	**Shalkode**	**2.49**	**236**	*e*Pg	**Pn**	**10 32 39.5**	**-2.2**
	30nm,0.1s						
SHLS				*e*Lg	Lg	10 33 09.1	
	41nm,0.2s						
BLB	**Baldybastay**	**2.78**	**261**	Pg	**Pn**	**10 32 47.5**	**+1.9**
	10nm,0.1s						
BLB				Lg	Lg	10 33 22.8	
	24nm,0.2s						
KPKS	**Kokpek**	**2.83**	**248**	Pg	**Pn**	**10 32 48.5**	**+2.2**
	21nm,0.1s						
KPKS				Lg	Lg	10 33 24.6	
	33nm,0.1s						
KPKS	**Kokpek**	**2.83**	**248**	*e*Pg	**Pn**	**10 32 48.5**	**+2.2**
	21nm,0.1s						
KPKS				*e*Lg	Lg	10 33 24.6	
	33nm,0.1s						
SATY	**Saty**	**3.20**	**243**	Pg	**Pn**	**10 32 55.1**	**+3.7**
	5.4nm,0.1s						
SATY				Lg	Lg	10 33 36.1	
	26nm,0.2s						
SATY	**Saty**	**3.20**	**243**	*e*Pg	**Pn**	**10 32 55.1**	**+3.7**
	5.4nm,0.1s						
SATY				*e*Lg	Lg	10 33 36.1	
	26nm,0.2s						
ARXS	**Arharly**	**3.22**	**265**	Pg	**Pn**	**10 32 54.5**	**+2.9**
	7.3nm,0.2s						
ARXS				Lg	Lg	10 33 34.8	
	15nm,0.5s						
ARXS	**Arharly**	**3.22**	**265**	*e*Pg	**Pn**	**10 32 54.5**	**+2.9**
	7.3nm,0.2s						
ARXS				*e*Lg	Lg	10 33 34.8	
	15nm,0.5s						
KTBS	**Karatobe**	**4.13**	**260**	Pg	**Pb**	**10 33 11.8**	**-1.9**
	3.2nm,0.4s						
KTBS				Lg	Lg	10 34 04.3	
	4.3nm,0.3s						
KTBS	**Karatobe**	**4.13**	**260**	*e*Pg	**Pb**	**10 33 11.8**	**-1.9**
	3.2nm,0.4s						
KTBS				*e*Lg	Lg	10 34 04.3	
	4.3nm,0.3s						
KRBS	**Karabastau**	**4.84**	**262**	Pg	**Pb**	**10 33 25.0**	**-0.9**
	1.8nm,0.2s						
KRBS				Lg	Lg	10 34 27.3	
	1.3nm,0.3s						
KRBS	**Karabastau**	**4.84**	**262**	*e*Pg	**Pb**	**10 33 25.0**	**-0.9**
	1.8nm,0.2s						
KRBS				*e*Lg	Lg	10 34 27.3	
	1.3nm,0.3s						

*IDC **02** 11:13:55.4±1.0, 49.°29S×126.°50E, h0km, mb4.0/6, mbtmp4.0/6, MS3.6/1, Error ellipse: s-maj=55.9km s-min=19.0km az=100.0*
*NEIC **02** 11:13:57.2±0.6, 49.°3S±0.°2×126.°7E±0.°4, h10km±2km, mb4.2/9, Error ellipse: s-maj=43.5km s-min=23.1km az=286.0*
ISC 02 11:13:57.0±0.8, 49.°3S±0.°1×126.°7E±0.°2, h10km, n21, σ0°56/18, mb4.2/9, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**15.66**	**74**	Pn	**Pn**	**11 17 37.3**	**-0.3**
H01W1	**Cape Leeuwin H**	**17.06**	**323**	T	T	11 35 37.1	
	baz=152,slow=74,SNR=27						
H01W2	**Cape Leeuwin H**	**17.06**	**323**	T	T	11 35 35.4	
	baz=152,slow=74,SNR=40						
H01W3	**Cape Leeuwin H**	**17.07**	**323**	T	T	11 35 36.3	
	baz=152,slow=74,SNR=46						
STKA	**Stephens Creek**	**20.68**	**38**	P	**P**	**11 18 37.9**	**+0.9**
	0.8nm,0.4s,baz=196,slow=15,SNR=5.4						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**26.17**	**15**	P	**P**	**11 19 31.6**	**0.0**
ASAR	**Alice Springs**	**26.17**	**15**	P	**P**	**11 19 31.9**	**+0.3**
	8.1nm,0.8s,baz=187,slow=10,SNR=48						
ASAR				PcP	**PcP**	**11 22 58.8**	**+0.2**
	0.9nm,1.0s,baz=191,slow=2.0,SNR=6.1						
	8.1nm,0.8s						
AS31	**Alice Springs**	**26.18**	**15**	P	**P**	**11 19 31.8**	**+0.2**
WRA	**Warramunga Arr**	**29.89**	**15**	P	**P**	**11 20 04.3**	**-0.6**
WRA	**Warramunga Arr**	**29.89**	**15**	P	**P**	**11 20 04.7**	**-0.2**
	0.5nm,0.4s,baz=193,slow=8.2,SNR=21						
	0.5nm,0.4s						
WB2	**Warramunga Arr**	**29.89**	**15**	P	**P**	**11 20 04.3**	**-0.6**
WB2				IAmb	IAmb	11 20 36.1	
	comp=Z,7.8nm,1.4s						
WR0	**Warramunga Arr**	**29.91**	**15**	P	**P**	**11 20 04.4**	**-0.5**
WR0				IAmb	IAmb	11 20 13.8	
	comp=Z,8.6nm,1.5s						
WB0	**Warramunga Arr**	**30.07**	**15**	P	**P**	**11 20 05.9**	**-0.6**
WB0				IAmb	IAmb	11 20 32.9	
	comp=Z,4.7nm,1.3s						
VNDA	**Vanda**	**31.37**	**166**	P	**P**	**11 20 16.7**	**-0.7**
VNDA				IAmb	IAmb	11 20 18.8	
	comp=Z,4.4nm,1.4s						
VNDA	**Vanda**	**31.37**	**166**	P	**P**	**11 20 16.9**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=328,slow=8.3,SNR=7.7						
	comp=Z,1.6nm,0.9s						
QSPA	**South Pole Qui**	**40.86**	**180**	P	**P**	**11 21 39.6**	**+0.8**
QSPA				IAmb	IAmb	11 21 42.3	
	comp=Z,7.2nm,1.4s						
DZM	**Mont Dzumac**	**41.48**	**64**	LR	LR	11 36 26.4	
	comp=Z,71nm,19.5s,baz=97,slow=32						
SNAA	**Sanae**	**54.21**	**198**	P	**P**	**11 23 22.9**	**+0.7**
SNAA	**Sanae**	**54.21**	**198**	P	**P**	**11 23 21.4**	**-0.8**
	comp=Z,3.9nm,0.9s,baz=140,slow=9.8,SNR=8.9						
	comp=Z,3.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**71.77**	**332**	P	**P**	**11 25 19.4**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=152,slow=9.7,SNR=2.3						
	comp=Z,0.7nm,0.4s						
ILAR	**Eielson Array**	**131.70**	**35**	PKP	**PKiKP**	**11 33 09.7**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=267,slow=3.4,SNR=4.5						

AFAD 02 11:43:52.3±0.0, 37.°71N×29.°28E, h4km±3km, ML1.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNIZ	**Denizli-Tavas-**	**0.21**	**248**	P	Pg	11 43 57.4	+1.0
DNIZ				S	Sg	11 44 00.7	+1.6
DNIZ				*i* AML	AML	11 44 01.0	
	comp=N,190nm,0.6s						
DNIZ				*i* AML	AML	11 44 03.0	
	comp=E,198nm,0.4s						
TAVA	**DENiZLI_Tavas**	**0.38**	**231**	P	Pg	11 44 00.5	+0.9
IZZE	**Mula-Seydike**	**1.27**	**182**	P	Pn	11 44 19.3	+2.4
IZZE				S	Sn	11 44 37.6	+3.2

*AFAD **02** 11:44:02.3±0.0, 37.°00N×27.°96E, h7km±8km, ML1.8*
ISK 02 11:44:06.0, 36.°92N×27.°31E, h6km, ML1.8/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTB	**Kemer-Bodrum**	**0.06**	**330**	Pg	Pg	11 44 07.9	+0.4
RFTB				Sg	Sg	11 44 09.2	+0.6
BODT	**Bodrum**	**0.15**	**1**	Pg	Pg	11 44 09.5	+0.5
BDRM	**Kayabasi**	**0.19**	**36**	P	Pg	11 44 10.0	+0.3
BDRM				S	Sg	11 44 12.9	+0.7
BDRM	**Kayabasi**	**0.19**	**36**	P	Pg	11 44 09.8	+0.1
BDRM				S	Sg	11 44 13.1	+0.9
BDRM				*i* AML	AML	11 44 14.0	
	comp=E,87nm,0.3s						
RFTD	**Palamutbuku-Ka**	**0.28**	**147**	Pg	Pg	11 44 11.9	+0.5
DAT	**Datca**	**0.29**	**130**	Pg	Pg	11 44 12.2	+0.6
DAT				Sg	Sg	11 44 16.6	+1.2
DAT	**Datca**	**0.29**	**130**	P	Pg	11 44 12.0	+0.4
DAT				*i* AML	AML	11 44 17.0	
	comp=E,79nm,0.2s						
DAT	**Datca**	**0.29**	**130**	P	Pg	11 44 11.9	+0.3
DAT				S	Sg	11 44 16.8	+1.3
DAT				*i* AML	AML	11 44 17.0	
	comp=E,79nm,0.2s						
KOSK	**Kos Island**	**0.31**	**238**	Pg	Pg	11 44 12.7	+0.7
RFTAA	**Mazikoy-Bodrum**	**0.36**	**77**	Pg	Pg	11 44 13.6	+0.6
RFTAA				Sg	Sg	11 44 19.2	+1.4
RFTC	**Emecik-Datca**	**0.43**	**108**	Pg	Pg	11 44 14.9	+0.6
DDIM	**Aydin, Didim**	**0.54**	**355**	P	Pb	11 44 18.0	0.0
DDIM				S	Sb	11 44 25.9	-0.1
DDIM	**Aydin, Didim**	**0.54**	**355**	P	Pb	11 44 17.7	-0.3
DDIM				S	Sb	11 44 26.0	-0.1
TURN	**Turunc**	**0.77**	**100**	Pg	Pg	11 44 21.2	+0.5
TURN	**Turunc**	**0.77**	**100**	P	Pg	11 44 21.1	+0.4
TURN				S	Sb	11 44 31.9	-0.5
TURN				*i* AML	AML	11 44 33.0	
	comp=N,21nm,0.2s						
TURN				*i* AML	AML	11 44 36.0	
	comp=E,27nm,0.4s						
GCAM	**G?zelcaml?**	**0.79**	**356**	Pg	Pb	11 44 21.9	-0.2
GCAM	**G?zelcaml?**	**0.79**	**356**	P	Pg	11 44 21.5	+0.4
GCAM				S	Sb	11 44 33.3	+0.3
GCAM				*i* AML	AML	11 44 35.0	
	comp=E,30nm,0.6s						
GCAM				*i* AML	AML	11 44 37.0	
	comp=N,30nm,0.5s						
YER	**Yerkesik**	**0.81**	**74**	Pg	Pg	11 44 21.9	+0.3
AYDN	**Tasoluk**	**0.87**	**31**	P	Pb	11 44 23.2	-0.4
AYDN				S	Sg	11 44 34.5	+0.3
AYDN				*i* AML	AML	11 44 39.0	
	comp=N,30nm,0.5s						
AYDN				*i* AML	AML	11 44 46.0	
	comp=E,14nm,0.9s						

*NEIC **02** 11:50:01.8±1.5, 37.°3S±0.°1×176.°5E±0.°2, h358km±10km, mb4.2/23, Error ellipse: s-maj=18.6km s-min=15.4km az=105.0*
*NOU **02** 11:50:01.5, 37.°25S×176.°63E, h356km, mb4.4/40, North Island, New Zealand*
*IDC **02** 11:50:03.8±3.3, 37.°15S×176.°66E, h388km±26km, mb3.8/8, mbtmp4.5/8, Error ellipse: s-maj=34.4km s-min=26.5km az=57.0*
*WEL **02** 11:50:05.8±0.9, 37.°3S±9.°9×17.°7E±.°, h312km±8km, M4.6/109, ML4.0/7, MLv4.6/109, Error ellipse: s-maj=0.0km s-min=0.0km az=34.1, confirmed*
ISC 02 11:50:00.9±0.6, 37.°25S±0.°06×176.°66E±0.°07, h358km±5km, n269, σ1°09/278, mb4.2/23, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.51**	**123**	P	**Pn**	**11 50 46.6**	**+0.7**
TGRZ	**Tauranga**	**0.57**	**213**	P	**Pn**	**11 50 46.5**	**+0.5**
OPRZ	**Ohinepanea**	**0.60**	**188**	P	**Pn**	**11 50 46.3**	**+0.2**
OPRZ				S	**S**	**11 51 20.3**	**-2.2**
WHRZ	**Whale Island**	**0.66**	**157**	P	**Pn**	**11 50 47.9**	**+1.6**
WHRZ				S	**S**	**11 51 19.1**	**-3.7**
MARZ	**Manawahe**	**0.73**	**179**	P	**Pn**	**11 50 47.1**	**+0.6**
KARZ	**Kaharoa**	**0.84**	**203**	P	**Pn**	**11 50 47.5**	**+0.7**
EDRZ	**Edgecumbe**	**0.86**	**176**	P	**Pn**	**11 50 47.6**	**+0.6**
OMRZ	**Omania**	**0.89**	**195**	P	**Pn**	**11 50 47.7**	**+0.8**
KUZ	**Kuaotunu**	**0.90**	**304**	P	**Pn**	**11 50 47.3**	**+0.2**
KUZ	**Kuaotunu**	**0.90**	**304**	P	**Pn**	**11 50 47.3**	**+0.2**
NGRZ	**Ngongotaha**	**0.93**	**203**	P	**Pn**	**11 50 48.2**	**+1.0**
TARZ	**Mount Tarawera**	**0.99**	**187**	P	**Pn**	**11 50 48.3**	**+0.9**
UTU	**Utuhina**	**0.99**	**201**	P	**Pn**	**11 50 48.6**	**+1.2**
HAZ	**Te Kaha**	**1.03**	**120**	P	**Pn**	**11 50 47.5**	**0.0**
HAZ				S	**S**	**11 51 21.3**	**-3.6**
HLRZ	**Highlands Stat**	**1.03**	**193**	P	**Pn**	**11 50 48.5**	**+1.0**
TOZ	**Tahuroa Road**	**1.04**	**242**	Pn	**Pn**	**11 50 48.6**	**+1.1**
TOZ	**Tahuroa Road**	**1.04**	**242**	P	**Pn**	**11 50 48.5**	**+1.0**
URZ	**Urewera**	**1.07**	**160**	P	**Pn**	**11 50 47.8**	**+0.2**
URZ	**Urewera**	**1.07**	**160**	P	**Pn**	**11 50 47.6**	**0.0**
URZ				S	**S**	**11 51 22.0**	**-3.2**
RUGZ	**Raukumara Rang**	**1.08**	**132**	P	**Pn**	**11 50 47.4**	**-0.4**
RUGZ				S	**S**	**11 51 21.1**	**-4.5**
RRRZ	**Republican Roa**	**1.09**	**186**	P	**Pn**	**11 50 48.3**	**+0.5**
HSRZ	**Hossack Road**	**1.11**	**197**	P	**Pn**	**11 50 48.8**	**+1.0**
HRRZ	**Handcock Road**	**1.18**	**194**	P	**Pn**	**11 50 49.0**	**+0.9**
GRRZ	**Galatos Road**	**1.18**	**201**	P	**Pn**	**11 50 49.3**	**+1.1**
MKAZ	**Moumakai**	**1.20**	**276**	P	**Pn**	**11 50 49.0**	**+0.7**
MUGZ	**Murupara**	**1.23**	**176**	P	**Pn**	**11 50 48.5**	**+0.2**
PRRZ	**Plateau Road**	**1.27**	**189**	P	**Pn**	**11 50 49.1**	**+0.6**
MWZ	**Matawai**	**1.28**	**148**	P	**Pn**	**11 50 49.0**	**+0.4**
PKGZ	**Pakihiroa**	**1.30**	**120**	P	**Pn**	**11 50 49.2**	**+0.5**
WIAZ	**Waiheke Island**	**1.30**	**290**	P	**Pn**	**11 50 49.3**	**+0.6**
WPRZ	**Whakapapatarin**	**1.33**	**197**	P	**Pn**	**11 50 49.7**	**+0.8**
ALRZ	**Allen Road**	**1.33**	**191**	P	**Pn**	**11 50 49.5**	**+0.6**
MXZ	**Matakaoa Point**	**1.35**	**104**	Pn	**Pn**	**11 50 49.2**	**+0.2**
MXZ	**Matakaoa Point**	**1.35**	**104**	P	**Pn**	**11 50 49.2**	**+0.2**
MXZ	**Matakaoa Point**	**1.35**	**104**	P	**Pn**	**11 50 49.0**	**+0.1**
RAGZ	**Rawiri**	**1.38**	**154**	P	**Pn**	**11 50 49.9**	**+0.8**
GRZ	**Great Barrier**	**1.39**	**316**	P	**Pn**	**11 50 49.3**	**+0.1**
RTZ	**Ruatahuna**	**1.39**	**169**		**Pn**	**11 50 49.5**	**+0.3**
RTZ	**Ruatahuna**	**1.39**	**169**	P	**Pn**	**11 50 49.5**	**+0.3**
RTZ				S	**S**	**11 51 26.2**	**-1.9**
TLZ	**Tolley Road**	**1.40**	**219**	P	**Pn**	**11 50 50.5**	**+1.3**
TWGZ	**Tauwhareparae**	**1.40**	**132**	P	**Pn**	**11 50 50.1**	**+0.9**
KUTZ	**Kaahu Road**	**1.40**	**208**	P	**Pn**	**11 50 50.3**	**+1.1**
ETAZ	**East Tamaki Re**	**1.41**	**282**	P	**Pn**	**11 50 50.0**	**+0.7**
MBAZ	**Motutapu North**	**1.49**	**288**	P	**Pn**	**11 50 50.5**	**+0.8**
WMGZ	**Waiomatatini S**	**1.51**	**113**	P	**Pn**	**11 50 50.1**	**+0.4**
PUZ	**Puketiti**	**1.51**	**123**	P	**Pn**	**11 50 50.0**	**+0.2**
TKGZ	**Te Karaka**	**1.52**	**142**	P	**Pn**	**11 50 50.5**	**+0.7**
WHTZ	**Whakaora**	**1.52**	**201**	P	**Pn**	**11 50 51.1**	**+1.2**
EPAZ	**Eden Park BICE**	**1.57**	**283**	P	**Pn**	**11 50 50.9**	**+0.7**
HBAZ	**Herne Bay Bore**	**1.59**	**284**	P	**Pn**	**11 50 51.0**	**+0.7**
MRHZ	**Matea Rd**	**1.59**	**187**	P	**Pn**	**11 50 50.7**	**+0.4**
MRHZ				S	**S**	**11 51 27.9**	**-2.1**
MTHZ	**Maungataniwha**	**1.61**	**175**	P	**Pn**	**11 50 50.9**	**+0.6**
MTHZ				S	**S**	**11 51 28.3**	**-1.9**
AWAZ	**Awhitu Peninsu**	**1.62**	**276**	P	**Pn**	**11 50 51.4**	**+1.0**
SNGZ	**Shannon Statio**	**1.62**	**161**	P	**Pn**	**11 50 51.2**	**+0.8**
WATZ	**Wairara**	**1.63**	**206**	P	**Pn**	**11 50 51.5**	**+1.0**
WTAZ	**Waiatarua**	**1.69**	**280**	P	**Pn**	**11 50 51.9**	**+1.0**
RIGZ	**Rimuhau**	**1.70**	**149**	P	**Pn**	**11 50 51.8**	**+0.9**
HATZ	**Hinemaiaia**	**1.70**	**195**	P	**Pn**	**11 50 51.4**	**+0.6**
RAHZ	**Arahi**	**1.70**	**169**	P	**Pn**	**11 50 51.9**	**+1.0**
RVAZ	**Riverhead Bore**	**1.73**	**285**	P	**Pn**	**11 50 51.8**	**+0.7**
CNGZ	**Carnagh Statio**	**1.74**	**136**	P	**Pn**	**11 50 52.3**	**+1.2**
RATZ	**Rangitukua**	**1.76**	**203**	P	**Pn**	**11 50 51.9**	**+0.7**
RITZ	**Rihia Road**	**1.84**	**200**	P	**Pn**	**11 50 52.8**	**+1.1**
NMHZ	**Naumai**	**1.85**	**176**	P	**Pn**	**11 50 53.1**	**+1.2**
WHHZ	**Waihua**	**1.88**	**166**	P	**Pn**	**11 50 53.1**	**+1.1**
KATZ	**Kakaramea**	**1.88**	**203**	P	**Pn**	**11 50 53.2**	**+1.0**
HIZ	**Hauiti**	**1.90**	**228**		**Pn**	**11 50 53.0**	**+0.9**
HIZ	**Hauiti**	**1.90**	**228**	P	**Pn**	**11 50 53.7**	**+1.6**
HIZ	**Hauiti**	**1.90**	**228**	P	**Pn**	**11 50 53.5**	**+1.4**
BKZ	**Black Stump Fm**	**1.92**	**184**	Pn	**Pn**	**11 50 52.7**	**+0.4**
BKZ	**Black Stump Fm**	**1.92**	**184**	P	**Pn**	**11 50 52.7**	**+0.4**
BKZ	**Black Stump Fm**	**1.92**	**184**	P	**Pn**	**11 50 52.7**	**+0.4**
PRGZ	**Paritu Road**	**1.93**	**150**	P	**Pn**	**11 50 53.3**	**+1.0**
KNZ	**Kokohu**	**1.94**	**156**	P	**Pn**	**11 50 53.1**	**+0.8**
KRVZ	**Karewarewa**	**2.01**	**203**	P	**Pn**	**11 50 53.7**	**+0.8**
TMVZ	**Te Maari**	**2.01**	**202**	P	**Pn**	**11 50 53.7**	**+0.7**
ETVZ	**East Tongariro**	**2.02**	**201**	P	**Pn**	**11 50 53.8**	**+0.7**
ARHZ	**Aropaoanui**	**2.03**	**173**	P	**Pn**	**11 50 54.1**	**+1.1**
WTVZ	**West Tongariro**	**2.04**	**204**	P	**Pn**	**11 50 53.9**

TCW	Tory Channel	4.37 204			Pn	11 51 13.8	-0.1
TCW	Tory Channel	4.37 204	P		Pn	11 51 13.8	-0.1
BHW	Baring Head	4.38 198			Pn	11 51 13.8	-0.2
PLWZ	Palliser	4.45 194	Pn		Pn	11 51 14.7	-0.2
PLWZ	Palliser	4.45 194	P		Pn	11 51 14.9	0.0
TUWZ	Tuamarina	4.67 206			Pn	11 51 17.2	+0.1
TUWZ	Tuamarina	4.67 206	P		Pn	11 51 17.0	-0.2
NNZ	Nelson	4.71 212			Pn	11 51 17.1	-0.5
NNZ	Nelson	4.71 212	P		Pn	11 51 16.7	-0.8
TKNZ	Takaka Hill	4.75 216			Pn	11 51 16.5	-1.5
TKNZ	Takaka Hill	4.75 216	P		Pn	11 51 16.7	-1.3
QRZ	Quartz Range	4.80 221			Pn	11 51 17.5	-1.2
QRZ	Quartz Range	4.80 221	P		Pn	11 51 17.4	-1.2
QRZ	Quartz Range	4.80 221	P		Pn	11 51 17.2	-1.4
CMWZ	Cape Campbell	4.87 202			Pn	11 51 19.7	+0.3
CMWZ	Cape Campbell	4.87 202	P		Pn	11 51 20.2	+0.8
BSWZ	Blackbirch Sta	4.95 205			Pn	11 51 20.5	+0.3
BSWZ	Blackbirch Sta	4.95 205	P		Pn	11 51 20.2	0.0
MRNZ	Matariki Terra	5.13 215			Pn	11 51 20.9	-1.3
MRNZ	Matariki Terra	5.13 215	P		Pn	11 51 20.9	-1.3
THZ	Tophouse	5.36 212	Pn		Pn	11 51 24.2	-0.5
THZ	Tophouse	5.36 212	P		Pn	11 51 23.8	-0.9
KHZ	Kahutara	5.69 204	Pn		Pn	11 51 28.3	0.0
KHZ	Kahutara	5.69 204	P		Pn	11 51 28.3	0.0
DSZ	Denniston Nort	5.85 218			Pn	11 51 28.9	-1.3
DSZ	Denniston Nort	5.85 218	P		Pn	11 51 28.7	-1.5
GVZ	Greta Valley S	6.35 205			Pn	11 51 35.5	-0.3
GVZ	Greta Valley S	6.35 205	P		Pn	11 51 35.5	-0.3
LTZ	Lake Taylor	6.47 210	Pn		Pn	11 51 36.6	-0.6
LTZ	Lake Taylor	6.47 210	P		Pn	11 51 36.2	-1.0
AMCZ	Amberley	6.67 206			Pn	11 51 38.7	-0.7
AMCZ	Amberley	6.67 206	P		Pn	11 51 39.0	-0.4
INZ	Inchbonnie	6.78 215			Pn	11 51 39.6	-1.0
INZ	Inchbonnie	6.78 215	P		Pn	11 51 39.3	-1.3
OXZ	Oxford	7.02 209			Pn	11 51 42.3	-1.2
OXZ	Oxford	7.02 209	P		Pn	11 51 42.4	-1.2
MQZ	McQueen's Vall	7.13 204	Pn		Pn	11 51 44.1	-0.7
MQZ	McQueen's Vall	7.13 204	P		Pn	11 51 43.9	-0.8
RACZ	Rakaia	7.33 207	P		Pn	11 51 46.4	-0.7
WVZ	Waitaha Valley	7.37 216	P		Pn	11 51 46.5	-1.1
MHCZ	Mount Hutt	7.38 210	P		Pn	11 51 46.6	-1.1
WACZ	Wakanui South	7.62 207	P		Pn	11 51 50.1	-0.4
RPZ	Rata Peaks	7.74 212	Pn		Pn	11 51 50.7	-1.2
RPZ	Rata Peaks	7.74 212	P		Pn	11 51 51.2	-0.7
RPZ	Rata Peaks	7.74 212	P		Pn	11 51 51.0	-0.9
GCSZ	Gaunt Creek Bo	7.75 217	P		Pn	11 51 51.0	-1.0
ARCZ	Arundel	7.88 210	P		Pn	11 51 52.8	-0.8
FOZ	Fox Glacier	8.16 218			Pn	11 51 55.2	-1.6
FOZ	Fox Glacier	8.16 218	P		Pn	11 51 55.5	-1.4
TMZ	Timaru	8.31 209	P		Pn	11 51 58.5	-0.2
LBZ	Lake Benmore	8.65 212			Pn	11 52 02.3	-0.3
LBZ	Lake Benmore	8.65 212	P		Pn	11 52 01.8	-0.8
ODZ	Otahua Downs	9.01 208	P		Pn	11 52 07.8	+0.9
ODZ	Otahua Downs	9.01 208	P		Pn	11 52 07.7	+0.9
ODZ	Otahua Downs	9.01 208	P		Pn	11 52 07.6	+0.7
JCZ	Jackson Bay	9.06 219	P		Pn	11 52 06.9	-0.8
JCZ	Jackson Bay	9.06 219	P		Pn	11 52 06.1	-1.6
WKZ	Wanaka	9.51 215	P		Pn	11 52 11.8	-1.2
WKZ	Wanaka	9.51 215	P		Pn	11 52 11.7	-1.2
EAZ	Earnscleugh	9.70 212	P		Pn	11 52 14.0	-1.1
MLZ	Mavora Lakes	10.34 216	P		Pn	11 52 23.1	+0.4
WHZ	Wether Hill Ro	10.81 214	P		Pn	11 52 27.4	-0.9
SYZ	Scrubby Hill	10.83 209	P		P	11 52 31.4	+2.4
MSVF	Nonsavu	19.48 4	P		P	11 54 01.0	-2.3
KOUNC	Koumac, New Ca	19.82 324	P		P	11 54 06.8	+0.2
	34nm,2.0s						
TOO	Toolangi	24.70 260	P		P	11 54 53.3	+2.3
TOO			IAmb	IAmb		11 54 53.7	
	comp=Z,4.8nm,0.8s						
EIDS	Eidsvold	24.77 291	P		P	11 54 52.8	+1.1
EIDS			IAmb	IAmb		11 55 34.2	
	comp=Z,32nm,1.4s						
EIDS	Eidsvold	24.77 291	P		P	11 54 52.2	+0.6
AFI	Afiamalu	25.43 27	P		P	11 54 59.1	+1.4
CMSA	Cobar Meteorol	26.11 273	P		P	11 55 04.9	+1.4
STKA	Stephens Creek	29.26 270	P		P	11 55 32.6	+1.3
STKA	Stephens Creek	29.26 270	P		P	11 55 32.9	+1.6
STKA	Stephens Creek	29.26 270	P		P	11 55 32.2	+1.0
	comp=Z,2.5nm,0.4s,baz=120,slow=13,SNR=11						
	comp=Z,2.5nm,0.4s						
HTT	Hallett	30.88 266	P		P	11 55 47.2	+1.7
CTA	Charters Tower	31.50 294	P		P	11 55 51.9	+1.0
CTA	Charters Tower	31.50 294	P		P	11 55 51.6	+0.6
	comp=Z,9.4nm,0.5s,baz=136,slow=11,SNR=23						
	comp=Z,9.4nm,0.5s						
CTAO	Charters Tower	31.50 294	P		P	11 55 51.5	+0.5
CTAO			IAmb	IAmb		11 55 52.2	
	comp=Z,11nm,0.6s						
CTAO	Charters Tower	31.50 294	P		P	11 55 52.0	+1.0
INKA	Innaminka	31.58 277	P		P	11 55 53.0	+1.4
LCRK	Leigh Creek	32.47 271	P		P	11 56 00.2	+0.9
BBOO	Buckleboo	33.36 265	P		P	11 56 07.2	+0.4
BBOO			IAmb	IAmb		11 56 08.6	
	comp=Z,7.1nm,0.7s						
BBOO	Buckleboo	33.36 265	P		P	11 56 07.6	+0.8
MTSU	Mount Surprise	34.15 295	P		P	11 56 14.5	+0.7
OOD	Oodnadatta	35.58 273	P		P	11 56 26.5	+0.8
MULG	Mulgathing	35.85 268	P		P	11 56 28.3	+0.3
QIS	Mount Isa	36.18 287	P		P	11 56 31.5	+0.6
AS31	Alice Springs	38.94 278	P		P	11 56 54.0	+0.2
AS31			IAmb	IAmb		11 56 54.6	
	comp=Z,13nm,0.4s						
ASAR	Alice Springs	38.94 278	P		P	11 56 53.7	-0.1
ASAR	Alice Springs	38.94 278	P		P	11 56 54.0	+0.2
	comp=Z,18nm,0.6s,baz=120,slow=8.1,SNR=291						
ASAR			ScP		ScP	12 02 05.7	-3.9
	comp=Z,0.4nm,0.6s,baz=112,slow=3.5,SNR=4.2						
	comp=Z,18nm,0.6s						
WR0	Warramunga Arr	40.42 283	P		P	11 57 05.7	-0.2
WR0			IAmb	IAmb		11 57 07.0	
	comp=Z,10nm,0.8s						
FORT	Forrest	40.44 264	P		P	11 57 05.8	-0.1
FORT			IAmb	IAmb		11 57 06.7	
	comp=Z,18nm,0.6s						
FORT	Forrest	40.44 264	P		P	11 57 06.2	+0.3
WB2	Warramunga Arr	40.58 283	P		P	11 57 06.8	-0.3
WRAB	Tennant Creek	40.58 283	P		P	11 57 06.4	-0.8
WRAB			IAmb	IAmb		11 57 07.3	
	comp=Z,14nm,0.5s						
WRAB	Tennant Creek	40.58 283	P		P	11 57 06.9	-0.3
WRA	Warramunga Arr	40.59 283	P		P	11 57 06.2	-1.0
WRA	Warramunga Arr	40.59 283	P		P	11 57 06.8	-0.5
	comp=Z,8.0nm,0.3s,baz=123,slow=7.0,SNR=71						
WRA			ScP		ScP	12 02 12.3	-3.8
	comp=Z,0.3nm,0.5s,baz=117,slow=3.5,SNR=6.2						
	comp=Z,8.0nm,0.3s						
WB0	Warramunga Arr	40.64 283	P		P	11 57 07.1	-0.5
VNDA	Vanda	40.88 185	P		P	11 57 09.0	+0.2
WRKA	Warakurna	42.72 272	P		P	11 57 23.4	-1.0
KMBL	Kambalda	45.10 261	P		P	11 57 43.1	+0.2
MTN	Manton Dam	47.28 289	P		P	11 57 58.7	-1.2
MTN			IAmb	IAmb		11 58 15.7	
	comp=Z,18nm,1.2s						
KNRA	Kununurra	47.37 284	P		P	11 58 00.4	-0.2
KNRA			IAmb	IAmb		11 58 10.8	
	comp=Z,13nm,1.3s						
KNRA	Kununurra	47.37 284	P		P	11 58 00.4	-0.2
NWAO	Narrogin (SRO)	48.13 256	P		P	11 58 05.8	-0.3
NWAO	Narrogin (SRO)	48.13 256	P		P	11 58 06.2	+0.1
NWAO	Narrogin (SRO)	48.13 256	P		P	11 58 05.8	-0.3
	comp=Z,4.0nm,0.5s,baz=124,slow=11,SNR=1.8						
	comp=Z,4.0nm,0.5s						
MUN	Mundaring	49.30 257	P		P	11 58 15.3	+0.4
BLDU	Ballidu	49.46 259	P		P	11 58 16.1	-0.1
MEEK	Meekatharra	49.70 265	P		P	11 58 17.5	-0.6
MORW	Morawa	50.65 261	P		P	11 58 25.0	-0.1
MORW			IAmb	IAmb		11 58 25.7	
	comp=Z,12nm,1.0s						
MORW	Morawa	50.65 261	P		P	11 58 25.1	+0.1
PSA00	Pilbara Seismi	51.18 271	P		P	11 58 27.7	-1.3
MBWA	Marble Bar	51.48 272	P		P	11 58 30.4	-0.9
MBWA			IAmb	IAmb		11 58 31.1	
	comp=Z,6.4nm,0.6s						
MBWA	Marble Bar	51.48 272	P		P	11 58 30.5	-0.7
QSPA	South Pole Qui	52.87 180	P		P	11 58 42.9	+2.0
QSPA			IAmb	IAmb		11 58 43.8	
	comp=Z,4.5nm,0.6s						
GIRL	Giralia	55.11 267	P		P	11 58 57.1	-0.3
GIRL	Giralia	55.11 267	P		P	11 58 57.9	+0.5
MAW	Mawson	64.32 203	P		P	11 59 59.1	+0.3
	comp=Z,1.1nm,0.7s,baz=109,slow=7.7,SNR=2.6						
	comp=Z,1.1nm,0.7s						

SNAA	Sanae	71.38 180	P		P	12 00 41.3	-1.1
MJAR	Matsushiro Arr	81.61 330	P		P	12 01 38.6	-0.9
	comp=Z,0.6nm,0.4s,baz=173,slow=6.3,SNR=2.7						
	comp=Z,0.6nm,0.4s						
KSRS	Korea Array	86.91 323	P		P	12 02 06.6	+0.8
	comp=Z,1.2nm,0.7s,baz=142,slow=5.6,SNR=3.3						
	comp=Z,1.2nm,0.7s						
MDJ	Mudanjiang	91.93 328	P		P	12 02 28.2	-0.9
MDJ			pmax	pmax			
	comp=Z,10.0nm,0.8s						
MDJ			pmax	pmax			
	comp=Z,160nm,7.0s						
PZH	PanZhiHua	94.67 300	P		P	12 02 45.9	+3.6
PZH			pmax	pmax			
	comp=Z,10.0nm,0.8s						
PZH			pmax	pmax			
	comp=Z,90nm,5.3s						
HHC	Hu-ho-hao-te	97.92 316	eP		P	12 02 56.2	-0.4
HHC			pmax	pmax			
	comp=Z,16nm,0.9s						
HHC			pmax	pmax			
	comp=Z,190nm,4.4s						
ARCES	ARCESS Array B	144.10 343	PKP		PKPab	12 08 51.0	-1.0
	comp=Z,2.6nm,0.9s,baz=346,slow=1.9,SNR=4.2						
FINES	FINESS Array B	149.60 332	PKPbc		PKPbc	12 09 05.7	-1.9
	comp=Z,3.2nm,0.9s,baz=58,slow=3.4,SNR=1.6						
TORD	Torodi Ar. Bea	155.58 192	PKPab		PKPab	12 09 41.2	+0.7
	comp=Z,0.2nm,0.4s,baz=161,slow=2.7,SNR=4.5						

TRN **02** *12:08:33.6, 13°.19N×61°.33W, h133km, MD4.2*
NEIC **02** *12:08:34.7±1.3, 13°.25N±0°.06×61°.28W±0°.08, h136km±7km, mb4.3/15, Error ellipse: s-maj=11.9km s-min=9.3km az=100.0*
IDC **02** *12:08:35.1±1.8, 13°.26N×61°.39W, h150km±17km, mb3.7/13, mbtmp4.1/15, MS3.3/4, Error ellipse: s-maj=15.4km s-min=11.8km az=80.0*
ISC 02 12:08:33.6±0.6,**13°.21N**±0°.03×**61°.31W**±0°.05,**h138**km±4km, **n84**,σ0**98**/97,**mb4.2**/21,**5C-4D**,**Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVB	Belmont	0.08	41	↓iP	Pn	12 08 52.6	+0.5
SVB				eS	Sn	12 09 05.8	-0.5
SVOC	Richmond Hill,	0.10	122	↓iP	Pn	12 08 52.4	+0.3
SVOC				eS	Sn	12 09 05.9	-0.3
SVV	Soufriere Volc	0.14	40	↓iP	Pn	12 08 50.1	-2.1
SVV				eS	Sn	12 09 06.1	-0.3
SSV	Crater Summit	0.16	44	eP	Pn	12 08 50.1	-2.3
BHS	Barnard House	0.20	64	eP	Pn	12 08 52.4	0.0
SFAN	Fancy Village	0.22	37	eP	Pn	12 08 50.2	-2.2
MCLT	Moule a Chique	0.61	36	eP	Pn	12 08 54.3	+0.1
MCLT				eS	Sn	12 09 10.0	+0.1
SLDE	Delcer	0.64	22	eP	Pn	12 08 56.2	+1.9
GCMP	Grenada, Carri	0.73	189	eP	Pn	12 08 55.5	+0.6
GCMP				eS	Sn	12 09 11.8	+0.6
SLCP	Castries, St.	0.85	21	eP	Pn	12 08 56.9	+1.0
SLCP				eS	Sn	12 09 14.1	+1.1
SLBI	Saint Lucia, B	0.87	22	eP	Pn	12 08 56.7	+0.6
SLBI				eS	Sn	12 09 14.0	+0.8
GRHS	Sauteurs	1.03	198	eP	Pn	12 08 57.7	+0.2
GRHS				eS	Sn	12 09 15.4	-0.2
GRW	Mount Saint Ca	1.10	198	↑iP	Pn	12 08 59.0	+0.8
GRW				eS	Sn	12 09 17.3	+0.4
GRGR	Grenville	1.12	198	Pn	Pn	12 08 59.0	+0.7
GRGR	Grenville	1.12	198	eP	Pn	12 08 59.1	+0.7
GRGR				eS	Sn	12 09 17.8	+0.7
MPOM	Morne Pois Mar	1.30	20		Pn	12 08 59.9	-0.2
MPOM	Morne Pois Mar	1.30	20	eP	Pn	12 09 00.2	+0.1
MPOM				eS	Sn	12 09 20.3	-0.1
FDF	Fort de France	1.52	6		Pn	12 09 03.3	+0.8
FDF	Fort de France	1.52	6	↑iP	Pn	12 09 03.3	+0.8
FDF				eS	Sn	12 09 23.9	-0.8
PML	Morne Lenard	1.57	4	eP	Pn	12 09 04.1	+1.1
GBMF	Grand Be	1.59	5	eP	Pn	12 09 04.3	+1.0
CXM	Morne La Croix	1.60	5	eP	Pn	12 09 05.5	+2.0
PCM	Pelee Case Pet	1.60	3	↑eP	Pn	12 09 04.2	+0.8
BAMF	Morne Balai	1.61	6	↓eP	Pn	12 09 04.4	+1.0
BCHC	Barbados, Cave	1.64	92	eP	Pn	12 09 04.6	+0.9
BCHC				eS	Sn	12 09 28.2	+1.5
BBGH	Gun Hill	1.71	92		Pn	12 09 05.3	+0.8
BBGH	Gun Hill	1.71	92	eP	Pn	12 09 05.4	+0.9
BBGH				eS	Sn	12 09 29.6	+1.4
TOSP	Speyside	2.04	158	eP	Pn	12 09 08.5	0.0
TOSP				eS	Sn	12 09 34.5	-0.8
TRN	Trinidad (W)	2.55	182	↑iP	Pn	12 09 15.4	+0.7
TRN				eS	Sn	12 09 45.4	-1.0
TDBA	Terre de Bas,	2.65	353	eP	Pn	12 09 17.3	+1.3
MAGL	Barre de l'ile	2.73	1		Pn	12 09 17.6	+0.7
MAGL	Barre de l'ile	2.73	1	eP	Pn	12 09 17.4	+0.5
MAGL				eS	Sn	12 09 50.6	+0.2
CBE	Ff, Capester	2.86	354		Pn	12 09 20.5	+1.8
CBE	Ff, Capester	2.86	354	↑iP	Pn	12 09 20.2	+1.5
GDSD	La Dsirade Is	3.10	4		Pn	12 09 21.4	-0.3
ABD	La Joyeuse, An	3.25	357		Pn	12 09 24.6	+0.9
ABD	La Joyeuse, An	3.25	357	eP	Pn	12 09 24.2	+0.5
ABD				eS	Sn	12 10 03.0	+0.4
ANBD	Bethesda, Anti	3.84	353	eP	Pn	12 09 31.6	+0.2
ANBD				eS	Sn	12 10 16.0	-0.4
PCRV	Puerto La Cruz	4.44	228	P	Pn	12 09 40.4	+1.0
	50nm,0.4s,baz=20,slow=6.7,SNR=40						
PCRV				S	Sn	12 10 32.4	+1.8
	18nm,0.4s,baz=38,slow=18,SNR=1.2						
SJG	San Juan	6.75	317	P	Pn	12 10 10.6	+0.5
	9.6nm,0.5s,baz=115,slow=7.1,SNR=4.5						
SJG				S	Sn	12 11 24.7	-1.1
	4.7nm,0.5s,baz=314,slow=20,SNR=1.6						
BAUV	El Baul	7.85	238	Pn	Pn	12 10 26.5	+1.4
SDV	Santo Domingo	10.11	246	LR	LR	12 15 59.5	
	comp=Z,29nm,20.0s,baz=338,slow=44						
BOAV	Boa Vista	10.77	176		Pn	12 11 01.3	-2.8
MDP	Montagnes des	11.75	132	P	Pn	12 11 13.1	-3.9
	7.3nm,0.4s,baz=314,slow=16,SNR=13						
MDP				S	Sn	12 13 16.1	-11
	33nm,0.4s,baz=235,slow=22,SNR=12						
BCIP	Isla Barro Col	18.61	259	P	Pn	12 12 42.8	+0.3
MATN	Matagalpa	23.98	272	P	P	12 13 36.4	+0.7
NNA	Nana	29.39	212	LR	LR	12 27 25.9	
	comp=Z,64nm,21.4s,baz=147,slow=38						
LPAZ	La Paz	30.07	193	P	P	12 14 32.3	+1.6
	1.9nm,0.3s,baz=296,slow=12,SNR=7.5						
	1.9nm,0.3s						
LVC	Limon Verde	36.37	192	LR	LR	12 33 55.4	
	comp=Z,47nm,18.1s,baz=238,slow=42						
CPUP	Villa Florida	39.49	174	P	P	12 15 50.6	-0.2
	1.0nm,0.4s,baz=18,slow=5.6,SNR=4.5						
	1.0nm,0.4s						
TXAR	Lajitas Array	42.35	299	P	P	12 16 14.2	-0.2
	0.4nm,0.5s,baz=118,slow=6.3,SNR=13						
TXAR				PcP	PcP	12 18 05.9	+0.5
	0.3nm,0.4s,baz=100,slow=5.4,SNR=6.0						
	0.4nm,0.5s						
TX31	Lajitas Ar. Si	42.35	299	P	P	12 16 15.1	+0.6
TX31				IAmb	IAmb	12 16 52.0	
	comp=Z,5.1nm,1.1s						
MNTX	Cornudas Mount	44.35	302	P	P	12 16 30.4	+0.1
SDCO	Great Sand Dun	46.22	310	P	P	12 16 44.8	-0.5
ULM	Lac du Bonnet	46.45	330	P	P	12 16 45.3	-1.3
	comp=Z,1.9nm,0.4s,baz=134,slow=9.5,SNR=9.9						
	comp=Z,1.9nm,0.4s						
P18A	Preston Nutter	50.34	311	P	P	12 17 17.0	+0.2
BW06	Boulder Array	50.87	315	P	P	12 17 20.4	-0.3
PD31	Pinedale Array	50.87	315	P	P	12 17 20.8	0.0
PD31				IAmb	IAmb	12 17 21.7	
	comp=Z,3.5nm,0.6s						
PDAR	Pinedale Array	50.87	315	P	P	12 17 21.1	+0.4
PDAR	Pinedale Array	50.87	315	P	P	12 17 20.6	-0.1
	comp=Z,3.8nm,0.5s,baz=116,slow=9.8,SNR=80						
	comp=Z,3.8nm,0.5s						
TMUT	Trail Mountain	50.95	310	P	P	12 17 22.1	+0.6
TMUT				IAmb	IAmb	12 17 23.4	
	comp=Z,3.4nm,0.6s						
H10N3	ASCENSION HYDR	50.98	112	T	T	13 12 27.5	
	baz=294,slow=75,SNR=30						
H10N2	ASCENSION HYDR	50.98	112	T	T	13 12 27.8	
	baz=294,slow=75,SNR=33						
H10N1	ASCENSION HYDR	51.00	112	T	T	13 12 29.1	
	baz=294,slow=75,SNR=30						
H10S3	ASCENSION HYDR	51.28	113	T	T	13 12 51.6	
	baz=292,slow=74,SNR=20						
H10S2	ASCENSION HYDR	51.30	113	T	T	13 12 52.8	
	baz=288,slow=74,SNR=8.1						
ID10	Lander Cutoff	51.71	314	P	P	12 17 27.1	+0.1

ID10				IAmb	IAmb	12 18 04.2	
	comp=Z,3.1nm,0.9s						
AHID	Auburn Hatcher	51.93	314	P	P	12 17 28.6	0.0
AHID				IAmb	IAmb	12 18 06.5	
	comp=Z,6.0nm,1.0s						
ID07	Smith Canyon R	52.54	314	P	P	12 17 33.8	+0.6
ID07				IAmb	IAmb	12 18 11.5	
	comp=Z,5.1nm,1.3s						
YHL	Hebgen Lake	52.70	317	P	P	12 17 35.1	+0.8
YHL				IAmb	IAmb	12 17 38.8	
	comp=Z,4.5nm,0.9s						
PSUT	Pine Spring	52.75	309	P	P	12 17 35.7	+1.0
PSUT				IAmb	IAmb	12 17 36.4	
	comp=Z,2.9nm,0.6s						
HLID	Hailey	54.48	314	P	P	12 17 48.2	+0.9
HLID				IAmb	IAmb	12 17 49.4	
	comp=Z,5.4nm,1.2s						
NVAR	Mina Array Bea	56.14	308	P	P	12 17 59.9	+0.7
	comp=Z,0.7nm,0.6s,baz=86,slow=6.8,SNR=7.4						
	comp=Z,0.7nm,0.6s						
ESDC	Sonseca Array	56.64	51	P	P	12 18 03.9	+1.3
	comp=Z,0.8nm,0.6s,baz=265,slow=6.9,SNR=10						
	comp=Z,0.8nm,0.6s						
TORD	Torodi Ar. Bea	61.19	82	P	P	12 18 34.5	+0.2
	comp=Z,0.6nm,0.5s,baz=284,slow=7.3,SNR=9.9						
	comp=Z,0.6nm,0.5s						
EKA	Eskdalemuir Ar	61.32	34	P	P	12 18 33.5	-0.9
	comp=Z,2.4nm,0.8s,baz=271,slow=6.2,SNR=2.0						
	comp=Z,2.4nm,0.8s						
YKA	Yellowknife Ar	61.88	335	P	P	12 18 37.0	-1.1
	comp=Z,1.1nm,0.5s,baz=115,slow=8.6,SNR=7.4						
	comp=Z,1.1nm,0.5s						
DAVOX	Davos/Dischmat	67.62	45	LR	LR	12 44 29.5	
	comp=Z,67nm,19.1s,baz=80,slow=32						
ILAR	Eielson Array	76.27	334	P	P	12 20 06.2	-0.7
	comp=Z,0.3nm,0.5s,baz=95,slow=4.4,SNR=11						
	comp=Z,0.3nm,0.5s						
ARCES	ARCESS Array B	76.61	21	P	P	12 20 09.7	+1.0
	comp=Z,2.1nm,0.7s,baz=268,slow=3.6,SNR=6.8						
	comp=Z,2.1nm,0.7s						
FINES	FINESS Array B	77.26	29	P	P	12 20 12.8	+0.4
	comp=Z,3.2nm,0.7s,baz=260,slow=2.5,SNR=16						
	comp=Z,3.2nm,0.7s						
PZH	PanZhiHua	137.22	23	PKP	PKPdf	12 27 39.9	-1.6
STKA	Stephens Creek	151.95	225	PKPbc	PKPbc	12 28 12.0	-0.9
	comp=Z,1.4nm,0.6s,baz=136,slow=9.2,SNR=6.5						
WRA	Warramunga Arr	163.58	244	PKP	PKPdf	12 28 19.8	-1.2
	comp=Z,0.3nm,0.8s,baz=85,slow=0.5,SNR=5.0						
WRA				PKPab	sPKPdf	12 29 11.7	+0.4
	comp=Z,0.5nm,0.9s,baz=103,slow=4.3,SNR=5.7						

IPEC **02** *12:11:57.8±0.3, 51°.58N×16°.23E, h0km±1km, ML2.0/4, Error ellipse: s-maj=2.1km s-min=1.1km az=21.0*
VIE **02** *12:11:58.6±1.0, 51°.54N×16°.35E, h0km, mb2.5/5, ml2.5/4, Error ellipse: s-maj=9.6km s-min=6.6km az=93.0 68 km NW of Wroclaw Suspected Mining induced.*
PRU **02** *12:12:01.1, 51°.48N×16°.08E, h0km*
ISC 02 12:11:58.9±1.4,**51°.53N**±0°.06×**16°.15E**±0°.04,**h0**km,**n21**, σ1**9**07/41,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	172	ePg	Pg	12 12 12.5	+0.4
KSP				eSg	Sg	12 12 22.1	+1.1
CHVC	Chvalec	0.94	184	ePG	Pg	12 12 17.3	+0.4
CHVC				eSG	Sb	12 12 30.4	-0.7
	comp=Z,27nm,0.3s						
OSTC	Ostas	0.97	177	ePG	Pb	12 12 18.0	-0.6
OSTC				eSG	Sb	12 12 31.3	-0.7
	comp=Z,21nm,0.2s						
UPC	Upice	1.02	185	ePG	Pg	12 12 18.5	0.0
UPC				eSG	Sg	12 12 32.2	+0.4
	comp=Z,40nm,0.3s						
DPC	Dobruska-Polom	1.18	175	ePG	Pg	12 12 21.4	-0.1
DPC				eSG	Sg	12 12 37.0	+0.1
	comp=Z,15nm,0.3s						
PVCC	Panska Ves	1.41	226	ePG	Pn	12 12 25.7	-0.1
PVCC				eSG	Sn	12 12 44.9	-0.2
	comp=Z,122nm,0.2s						
BRG	Berggiesshubel	1.53	246	Pg	Pb	12 12 27.8	-0.3
BRG				Sg	Sg	12 12 48.2	+0.1
BRG				Amp		12 12 49.4	
	comp=Z,41nm,0.3s						
PRU	Pruhonice	1.85	214	ePG	Pb	12 12 32.7	-0.8

HMYD	Mayadein	1.65	344	P		Pb	12 16 09.1 -0.1
	baz=346						
KOT	Kottamia	1.78	15	P		Pb	12 16 11.1 -0.4
	baz=14						
ZNM	Zenema	1.80	49	P		Pn	12 16 11.2 +1.3
	baz=48						
HHAG	Hagoal	1.87	21	P		Pb	12 16 12.3 -0.9
	baz=21						
SUZ	Suez	2.11	39	P		Pn	12 16 15.5 +1.4
	baz=38						
HHRG	Al Ghardaqah	2.23	116	P		Pn	12 16 17.4 +1.5
	baz=117						
GTR	Jabal at Tayr	2.77	194	P		Pn	12 16 23.3 +0.1
	baz=195						
AKRG	Al Kharijah	2.79	195	P		Pn	12 16 23.6 +0.1
	baz=196						
HFRF	Wahat Farafira	2.86	249	P		Pn	12 16 24.3 -0.1
	baz=250						
HDHB	Dhahab	2.96	79	P		Pn	12 16 26.7 +0.9
	baz=78						
HDK1	Dakhla	3.15	213	P		Pn	12 16 28.4 -0.1
	baz=214						
EIL	Elat	3.51	65	Pn		Pn	12 16 34.5 +1.1
EIL				Sn		Sg	12 17 28.1 -3.5
MBRI	Mt Berech	3.53	63	Pn		Pn	12 16 35.0 +1.2
MBRI				Sn		Sg	12 17 29.0 -3.3
KRMI	Paran Flat	3.54	57	Pn		Pn	12 16 34.8 +0.9
KRMI				Sn		Sg	12 17 29.3 -3.3
HRFI	Mount Harif	3.74	60	Pn		Pn	12 16 37.8 +1.2
HRFI				Sn		Sb	12 17 33.9 +3.6
RMNI	Mount Ramon	3.84	51	Pn		Pn	12 16 39.4 +1.4
PRNI	Paran	3.87	56	Pn		Pn	12 16 39.8 +1.4
PRNI				Sn		Sb	12 17 37.5 +3.3
NADB	Abo Dabab	4.04	134	P		Pn	12 16 40.7 0.0
	baz=133						
AKUR	Kurkur	4.49	163	P		Pn	12 16 45.4 -1.5
	baz=163						
YTIR	Yattir	4.57	46	Pn		Pn	12 16 49.5 +1.5
YTIR				Sn		Sb	12 17 54.8 +0.6
NAHD	NAHD	4.58	163	P		Pn	12 16 48.3 +0.2
	baz=162						
NNMR	New North Mara	4.59	165	P		Pn	12 16 48.7 +0.5
	baz=165						
NSKD	New Sinn el Ka	4.63	168	P		Pn	12 16 49.0 +0.2
	baz=167						
MSBI	Mazada	4.69	48	Pn		Pn	12 16 50.8 +1.2
MSBI				Sn		Sb	12 17 57.2 -0.4
KASR	Kasr	4.85	160	P		Pn	12 16 51.6 -0.2
	baz=159						
AWKL	West Kalabsha	4.87	168	P		Pn	12 16 52.7 +0.6
	baz=167						
DSI	Dead Sea	4.87	46	Pn		Pn	12 16 53.7 +1.6
DSI				Sn		Sb	12 18 02.3 -0.6
HAGS	Hagol	5.04	138	P		Pn	12 16 54.5 +0.1
	baz=137						
NNAL	NNAL	5.04	166	P		Pn	12 16 54.7 +0.2
	baz=165						
MABD	Mabed	5.29	170	P		Pn	12 16 58.1 +0.2
	baz=169						
HMSM	Jabal Masmas	5.33	174	P		Pn	12 16 58.9 +0.5
	baz=174						

*EAF **02** 12:17:39.9, 25°.66S×29°.04E, h10km, MC3.5*
*BUL **02** 12:17:40.2±2.0, 25°.65S×29°.02E, h10km, MD3.7*
ISC 02 12:17:38.4±1.4,**25°.63S**±0°.06×**29°.03E**±0°.06,**h10**km,**n10,**
σ1§**73**/20,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	3.01	46	*i* P		Pn	12 18 25.1 -1.2
MOPA				*i* S		Sn	12 19 01.7 -0.8
MOPA	Mopani	3.01	46	*i* P		Pn	12 18 25.1 -1.2
	baz=46						
MOPA				*i* S		Sn	12 19 01.7 -0.8
	baz=46						
LBTB	Lobatse	3.17	280	*i* P		Pn	12 18 28.8 +0.3
LBTB				*i* S		Sn	12 19 04.6 -1.8
LBTB	Lobatse	3.17	280	*i* P		Pn	12 18 28.8 +0.3
	baz=281						
LBTB				*i* S		Sn	12 19 04.6 -1.8
	baz=281						
MUSN	Musina, Limpop	3.42	13	*i* P		Pn	12 18 34.3 +2.5
MUSN				*i* S		Sn	12 19 13.2 +0.7
MUSN	Musina, Limpop	3.42	13	*i* P		Pn	12 18 34.3 +2.5
	baz=13						
MUSN				*i* S		Sn	12 19 13.2 +0.7
	baz=13						
BOSA	Boshof	4.49	228	*i* P		Pn	12 18 48.6 +2.0
BOSA				*i* S		Sn	12 19 37.6 -1.3
BOSA	Boshof	4.49	228	*i* P		Pn	12 18 48.6 +2.0
	baz=228						
BOSA				*i* S		Sn	12 19 37.6 -1.3
	baz=228						
MATP	Matopo	5.21	355	*i* P		Pn	12 18 57.9 +1.4
MATP				*i* S		Sn	12 19 54.4 -2.4
MATP	Matopo	5.21	355	*i* P		Pn	12 18 57.9 +1.4
	baz=354						
MATP				*i* S		Sn	12 19 54.4 -2.4
	baz=354						

*IDC **02** 12:36:15.9±3.6, 36°.42N×71°.17E, h145km±27km, mb3.7/8, mbtmp4.0/15, MS3.6/2, Error ellipse: s-maj=36.9km s-min=16.5km az=159.0*
*NNC **02** 12:36:26.1±2.0, 37°.25N×71°.21E, h202km±28km, mb2.8, mpv3.8, Error ellipse: s-maj=19.5km s-min=12.9km az=20.0*
ISC 02 12:36:18.9±1.2,**36°.83N**±0°.10×**70°.99E**±0°.07,**h150**km,**n31,**
σ1§**67**/37,**mb4.0/8,6C-2D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.70	21	P		Pn	12 37 44.3 +2.4
	SNR=37						
AML	Almayashu	5.70	21	⇑P		Pn	12 37 43.6 +1.8
	1.8nm,0.5s						
AML				⇑S		Sn	12 38 45.6 -1.1
	29nm,0.7s						
UCH	Uchtor	6.04	26	P		Pn	12 37 48.1 +1.6
	SNR=14						
EKS2	Erkin-Say	6.21	19	P		Pn	12 37 51.5 +3.0
	SNR=18						
KK31	Karatay Array	6.28	357	P		Pn	12 37 52.5 +3.2
	4.3nm,0.3s,baz=191,slow=15,SNR=56						
KK31				⇓S		Sn	12 39 00.2 +0.1
	15nm,0.4s,baz=182,slow=16,SNR=16						
AAK	Ala-Archa	6.40	24	P		Pn	12 37 53.1 +2.1
	SNR=7.6						
AAK	Ala-Archa	6.40	24	P		Pn	12 37 52.9 +1.9
	6.8nm,0.3s,baz=174,slow=7.5,SNR=17						
AAK				S		Sn	12 39 03.0 -0.2
	9.2nm,0.4s,baz=123,slow=21,SNR=16						
CHMS	Chumysh	6.81	24	⇑P		Pn	12 37 57.4 +1.0
	6.8nm,0.7s						
CHMS				⇑S		Sn	12 39 11.6 -1.2
	12nm,0.6s						
TKM2	Tokmak 2	7.04	29	P		Pn	12 38 01.1 +1.5
	SNR=11						
TKM2	Tokmak 2	7.04	29	⇑P		Pn	12 38 00.8 +1.2
	5.2nm,0.5s						
TKM2				⇑S		Sn	12 39 17.7 -0.9
	19nm,0.9s						
GEYT	Alibeck	10.30	280	P		Pn	12 38 44.0 +1.1
	3.8nm,0.5s,baz=101,slow=14,SNR=9.7						
GEYT				S		Sn	12 40 37.7 +0.7
	2.4nm,0.5s,baz=290,slow=27,SNR=2.1						
MK31	Makanchi Array	13.03	37	P		Pn	12 39 17.9 -0.5
	1.8nm,0.5s,baz=216,slow=11,SNR=22						
MKAR	Makanchi Array	13.03	37	P		Pn	12 39 18.2 -0.2
	0.8nm,0.6s,baz=202,slow=11,SNR=9.7						
AB31	Akbulak array	14.79	331	P		P	12 39 42.8 +0.2
	0.6nm,0.3s,baz=146,slow=13,SNR=47						
AB31				S		Sn	12 42 21.1 -3.6
	3.7nm,0.7s,baz=145,slow=23,SNR=10						
KURBB	Kurchatov Arra	14.82	19	P		Pn	12 39 41.9 +1.1
	0.7nm,0.3s,baz=206,slow=10,SNR=10						
BVAR	Borovoye Array	16.20	359	P		P	12 39 59.4 +1.2
	1.0nm,0.5s,baz=183,slow=16,SNR=3.5						
AKTO	Aktyubinsk	16.49	330	⇓P		P	12 40 03.7 +2.2
	1.9nm,0.7s						
AKTO	Aktyubinsk	16.49	330	P		P	12 40 02.0 +0.6
	1.7nm,0.4s,baz=132,slow=5.5,SNR=6.4						
AKTO				S		Sn	12 43 04.2 -1.2
	1.3nm,0.5s,baz=148,slow=20,SNR=2.2						
ZALV	Zalesovo Beam	19.62	25	P		P	12 40 35.2 -0.3
	4.4nm,0.4s,baz=222,slow=11,SNR=20						
GNI	Garni	20.79	287	S		S	12 44 28.8 -3.3
	13nm,0.8s,baz=35,slow=8.9,SNR=2.1						
SONM	Songino Array	28.16	56	P		P	12 41 56.1 -1.0
	0.4nm,0.4s,baz=248,slow=7.6,SNR=1.3						
	0.4nm,0.4s						
AKASG	Malin Array Be	32.73	308	P		P	12 42 38.5 +1.4
	0.7nm,0.4s,baz=78,slow=7.6,SNR=4.9						
	0.7nm,0.4s						
FINES	FINESS Array B	37.21	326	P		P	12 43 16.9 +1.5
	3.7nm,0.8s,baz=126,slow=9.8,SNR=8.8						
	3.7nm,0.8s						
ARCES	ARCESS Array B	40.84	337	P		P	12 43 45.6 +0.2
	6.5nm,1.1s,baz=114,slow=9.0,SNR=8.3						
	6.5nm,1.1s						
HFS	Hagfors	42.80	322	P		P	12 44 02.8 +1.3
	4.1nm,0.5s,baz=96,slow=11,SNR=20						
	4.1nm,0.5s						
NB2	NORSAR Subarra	44.11	323	P		P	12 44 12.6 +0.6
	comp=Z,1.3nm,0.5s,baz=97,slow=7.9						
NOA	NORSAR Array B	44.11	323	P		P	12 44 13.0 +1.0
	comp=Z,1.3nm,0.5s,baz=96,slow=7.7,SNR=6.7						
	comp=Z,1.3nm,0.5s						
JOW	Kunigami	49.05	85	LR		LR	13 08 52.2
	comp=Z,24nm,19.3s,baz=234,slow=40						
JHJ	Hachijo jima 2	55.38	72	LR		LR	13 12 56.0
	comp=Z,116nm,18.5s,baz=79,slow=40						
ESDC	Sonseca Array	57.30	298	P		P	12 45 49.6 -1.4
	comp=Z,0.6nm,0.6s,baz=60,slow=7.8,SNR=5.9						
	comp=Z,0.6nm,0.6s						
TORD	Torodi Ar. Bea	65.72	268	P		P	12 46 45.9 -1.8
	comp=Z,2.0nm,0.6s,baz=51,slow=6.5,SNR=15						
	comp=Z,2.0nm,0.6s						

*NEIC **02** 12:39:55.9±0.2, 36°.282N±0°.010×97°.507W±0°.009, h5km±2km, Error ellipse: s-maj=1.5km s-min=0.9km az=161.0*
TUL 02 12:39:56±0.2,**36°.29N**±0°.01×**97°.50W**±0°.01,**h5**km,**ML2.6, mb_Lg2.5**/24(NEIC),**ML2.7**/60(NEIC),**Error ellipse: s-maj=1.5km s-min=1.2km az=179.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.45	299	Pg	Pg	12 40 05.0	+0.4
CROK				Sg	Sg	12 40 11.2	+0.8
OK048	Pawnee Station	0.47	74	Pg	Pg	12 40 05.4	+0.4
OK029	Liberty Lake	0.49	176	Pg	Pg	12 40 05.7	+0.2
OK033	Mehan	0.52	118	Pg	Pg	12 40 06.2	+0.3
OK033				IAML		12 40 15.7	
	498nm,0.3s						
BLOK	Blackwell	0.52	26	Pg	Pg	12 40 06.5	+0.4
BLOK				IAML		12 40 20.8	
	comp=E,608nm,0.2s						
OK051	E0350 and S346	0.58	68		Pg	12 40 07.5	+0.4
OK051				IAML		12 40 19.3	
	comp=E,430nm,0.2s						
OK031	S. Brethren Rd	0.63	122	Pg	Pg	12 40 08.4	+0.3
GC02	Grant County #	0.63	333	Pg	Pg	12 40 08.3	+0.2
OK052	Battle Ridge R	0.64	117	Pg	Pg	12 40 08.5	+0.3
OK052				IAML		12 40 21.1	
	comp=E,455nm,0.3s						
QUOK	Quay	0.65	100	Pg	Pg	12 40 08.7	+0.2
QUOK				IAML		12 40 17.9	
	comp=N,365nm,0.3s						
QUOK				IAML		12 40 20.6	
	comp=E,319nm,0.2s						
KAN13	South Haven SW	0.72	1	Pg	Pg	12 40 10.1	+0.2
KAN13				IAML		12 40 24.1	
	comp=N,373nm,0.3s						
KAN13				IAML		12 40 32.0	
	comp=E,338nm,0.3s						
OK032	Salt Plains WL	0.77	312	Pg	Pg	12 40 10.7	-0.1
OK032				IAML		12 40 27.5	
	comp=E,359nm,0.2s						
OK032				IAML		12 40 28.0	
	comp=E,351nm,0.2s						
KAN17	Caldwell West	0.78	344	Pg	Pg	12 40 11.0	0.0
KAN17				IAML		12 40 29.3	
	comp=E,262nm,0.2s						
KAN17				IAML		12 40 31.2	
	comp=N,297nm,0.3s						
KAN09	Caldwell North	0.85	354		Pg	12 40 12.2	-0.1
KAN05	Bluff City Nor	0.87	340	Pg	Pg	12 40 12.7	-0.1
KAN05				IAML		12 40 31.2	
	comp=N,262nm,0.2s						
KAN05				IAML		12 40 34.1	
	comp=E,248nm,0.2s						
KAN01	Argonia South	0.89	346	Pg	Pg	12 40 13.0	-0.1
DEOK	Depew	0.93	118	Pg	Pg	12 40 13.5	-0.2
DEOK				IAML		12 40 29.4	
	comp=E,232nm,0.1s						
KS20	Mayfield South	0.94	357	Pg	Pg	12 40 13.9	-0.1
KS20				IAML		12 40 29.5	
	comp=E,192nm,0.1s						
KS20				IAML		12 40 33.6	
	comp=E,220nm,0.2s						
KAN10	Anthony SW Sta	0.96	330	Pg	Pg	12 40 14.2	-0.2
KAN10				IAML		12 40 31.1	
	comp=E,197nm,0.1s						
KAN10				IAML		12 40 32.0	
	comp=N,166nm,0.2s						
KAN06	Argonia West S	1.00	343		Pg	12 40 15.0	-0.2
KAN06				IAML		12 40 33.4	
	comp=N,173nm,0.2s						
KAN06				IAML		12 40 33.8	
	comp=E,152nm,0.2s						
KS21	Milan North St	1.00	353	IAML		12 40 33.6	
	comp=E,180nm,0.4s						
KS21				IAML		12 40 36.6	
	comp=E,194nm,0.1s						
KS21	Milan North St	1.00	353	Pg	Pg	12 40 15.0	-0.2
KAN08	Anthony NE Sta	1.01	338		Pg	12 40 15.2	-0.2
T35A	Sooner Cattle	1.01	51	Pg	Pg	12 40 15.3	-0.1
T35A				IAML		12 40 31.4	
	comp=N,141nm,0.6s						
OK038	West end E0370	1.02	281	Pg	Pg	12 40 15.2	-0.4
CSTR	Hydro, Custer	1.16	237		Pg	12 40 17.4	-0.8
NOKA	Waynoka	1.21	287	Pg	Pg	12 40 18.4	-0.7
U32A	Winter Ranch,	1.22	275		Pg	12 40 18.5	-0.8
U32A				IAML		12 40 39.9	
	comp=E,118nm,0.1s						
U32A				IAML		12 41 00.3	
	comp=N,104nm,0.9s						
TUL3	Leonard	1.43	105		Pn	12 40 22.4	-0.3
X34A	Smith Ranch, M	1.71	189	Pg	Pb	12 40 27.8	-0.1
WMOK	Wichita Mounta	1.87	214		Pn	12 40 29.1	+0.5
RLO	Rose Lookout	2.01	93		Pb	12 40 31.8	-1.2
LOOK	Love County	2.31	173	IAmb_Lg		12 41 13.5	
	comp=Z,18nm,1.0s						
X37A	Clayton	2.43	134	IAmb_Lg		12 41 13.8	
	comp=Z,15nm,0.7s						
WTFS	Witchita Falls	2.64	198	IAmb_Lg		12 41 19.1	
	comp=Z,9.0nm,0.8s						
KSU1	Kansas State U	2.89	14	IAmb_Lg		12 41 30.7	
	comp=Z,11nm,0.8s						
S39A	Bolivar	3.62	66	IAmb_Lg		12 41 50.3	
	comp=Z,11nm,0.9s						
DKNS	Dickens	3.84	228	IAmb_Lg		12 42 05.4	
	comp=Z,3.8nm,0.8s						
ABTX	Abilene, Hawle	4.06	206	IAmb_Lg		12 42 09.9	
	comp=Z,12nm,1.1s						
WHAR	Wooly Hollow	4.35	102	IAmb_Lg		12 42 19.0	
	comp=Z,13nm,1.1s						
R40A	Maddies Statio	4.62	63	IAmb_Lg		12 42 22.2	
	comp=Z,17nm,0.8s						
BRDY	Brady	5.14	194	IAmb_Lg		12 42 45.9	
	comp=Z,4.2nm,0.8s						
SGCY	Sterling City	5.30	216	IAmb_Lg		12 42 55.3	
	comp=Z,12nm,0.8s						
N38A	Joes South For	5.60	35	IAmb_Lg		12 43 03.1	
	comp=Z,12nm,0.9s						
HNDO	Hondo	6.91	193	IAmb_Lg		12 43 41.4	
	comp=Z,5.5nm,0.8s						
N23A	Red Feather La	8.05	307	IAmb_Lg		12 44 25.7	
	comp=Z,9.0nm,1.0s						

*SJA **02** 12:46:32.7±0.6, 23°.14S×66°.87W, h222km±5km, ML4.2, MW3.9*
*IDC **02** 12:46:33.6±0.8, 23°.14S×66°.73W, h185km±9km, mb3.3/5, mbtmp4.0/13, Error ellipse: s-maj=13.9km s-min=12.6km az=122.0*
*NEIC **02** 12:46:35.0±1.5, 23°.22S±0°.08×67°.02W±0°.06, h212km±9km, mb4.0/5, ML4.2(GUC), Error ellipse: s-maj=11.0km s-min=7.3km az=192.0*
*GUC **02** 12:46:35.2±0.5, 23°.13S×67°.20W, h232km±7km, ML4.2*
*VAO **02** 12:46:36.8±0.4, 22°.92S×66°.91W, h215km, mb4.0*
ISC 02 12:46:34.4±0.6,**23°.18S**±0°.04×**66°.96W**±0°.04,**h208**km±6km,
n116,σ1§**53**/141,**mb3.8**/6,**Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.15	281		Pn	12 47 07.3	+1.0
AF01	San Pedro de A	1.15	281	*i* P	Pn	12 47 07.6	+1.2
HJA	Humahuaca	1.42	91	*e*P	Pn	12 47 07.4	-1.2
YJA	Yavi	1.67	53	*e*P	Pn	12 47 10.5	-0.2
YJA				*e*S	S	12 47 40.5	+1.8
LVC	Limon Verde	1.89	287	*e*P	Pn	12 47 13.6	+0.8
LVC	Limon Verde	1.89	287	P	Pn	12 47 13.4	+0.6
	309nm,0.5s,baz=102,slow=6.4,SNR=511						
LVC				S	S	12 47 42.1	-0.1
	123nm,0.4s,baz=253,slow=21,SNR=27						
LVC	Limon Verde	1.89	287	*i* P	Pn	12 47 13.4	+0.6
LVC				*e*S	S	12 47 41.8	-0.4
LVC				IAML		12 47 44.3	
	967nm,0.6s						
LVC	Limon Verde	1.89	287	*e*P	Pn	12 47 13.0	+0.2
LVC				*e*S	S	12 47 43.2	+1.0
AZAP	Zapla	2.02	121	*e*P	Pn	12 47 12.9	-1.0
SLA	San Lorenzo	2.03	139	*e*P	Pn	12 47 13.9	0.0
PB15	IPOC Station P	2.31	269	*e*P	Pn	12 47 17.4	+0.4
PB15				*e*S	S	12 47 50.8	+1.1
PB15				IAML		12 47 57.2	
	comp=Z,1μm,0.1s						
ASTB	Santa Barbara	2.42	109	*e*P	Pn	12 47 17.4	-0.7
PB06	IPOC Station P	2.46	281	*e*P	Pn	12 47 18.8	+0.3
PB06				IAML		12 48 01.2	
	comp=Z,348nm,0.4s						
PB09	IPOC Station P	2.52	303	*e*P	Pn	12 47 19.8	+0.6
PB09				*e*S	S	12 47 54.3	+0.6
PB09				IAML		12 47 56.1	
	comp=Z,542nm,0.4s						
ALOL	LOMAS DE OLMED	2.80	104	*e*P	Pn	12 47 20.7	-1.5
FSA	Cafayete	3.05	163	*e*P	Pn	12 47 25.5	+0.3
PB04	IPOC Station P	3.07	285	*e*P	Pn	12 47 25.9	+0.5
PB04				*e*S	S	12 48 04.1	-0.6
PB04				IAML		12 48 10.5	
	comp=Z,526nm,0.5s						
PB07	IPOC Station P	3.07	298	*e*P	Pn	12 47 25.4	-0.1
PB07				*e*S	S	12 48 03.6	-1.3
GO02	Mina Guanaco	3.11	230		Pn	12 47 26.7	+0.7
GO02	Mina Guanaco	3.11	230	*i* P	Pn	12 47 27.1	+1.0
GO02				*e*S	S	12 48 06.5	+0.5
GO02	Mina Guanaco	3.11	230	*e*P	Pn	12 47 26.7	+0.7
GO02				*e*S	S	12 48 07.5	+1.5
PB01	IPOC Station P	3.17	312		Pn	12 47 27.4	+0.8
PB01	IPOC Station P	3.17	312	*e*P	Pn	12 47 26.8	+0.3
PB01				*e*S	S	12 48 05.4	-1.5
PB01	IPOC Station P	3.17	312	*e*P	Pn	12 47 26.9	+0.4
PB01				*e*S	S	12 48 06.3	-0.6
PB01				IAML		12 48 09.2	
	comp=Z,552nm,0.2s						
PB02	IPOC Station P	3.29	304	*e*P	Pn	12 47 27.9	-0.2
PB02				*e*S	S	12 48 07.2	-2.3
PB14	IPOC Station P	3.47	245		Pn	12 47 30.5	+0.3
PB14	IPOC Station P	3.47	245	*e*P	Pn	12 47 30.1	-0.2
PB14				*e*S	S	12 48 12.3	-1.2
PB14				IAML		12 48 15.4	
	comp=Z,158nm,0.1s						
PB08	IPOC Station P	3.65	326		Pn	12 47 33.8	+1.2
PB08	IPOC Station P	3.65	326	*e*P	Pn	12 47 33.8	+1.2
PB08				IAML		12 48 22.9	
	comp=Z,178nm,0.3s						
PATCX	Punta Patache	3.79	308		Pn	12 47 34.3	+0.4
PATCX	Punta Patache	3.79	308	*e*P	Pn	12 47 33.9	-0.1
TA01	Diego Aracena	3.97	310		Pn	12 47 36.4	+0.3
TA01	Diego Aracena	3.97	310	*i* P	Pn	12 47 35.7	-0.4
TA01				*i* Sg	S	12 48 21.4	-2.7
TA01	Diego Aracena	3.97	310	*e*P	Pn	12 47 36.0	0.0
TA01				IAML		12 48 28.7	
	comp=Z,177nm,0.6s						
HMBC	Humberstone	3.97	316	*e*P	Pn	12 47 35.9	-0.4
GO01	Chusmiza	4.07	329		Pn	12 47 38.4	+0.5
GO01	Chusmiza	4.07	329	*i* P	Pn	12 47 38.4	+0.5
GO01				*e*S	S	12 48 26.2	-1.1
TA02	Huaiquique	4.14	314		Pn	12 47 37.9	-0.3
TA02	Huaiquique	4.14	314	*i* P	Pn	12 47 37.8	-0.3
AC02	Maricunga	4.14	208		Pn	12 47 39.2	+0.6
AC02	Maricunga	4.14	208	*i* P	Pn	12 47 39.2	+0.6
AC02				*i* S	S	12 48 29.7	+1.0
AC02	Maricunga	4.14	208	*e*P	Pn	12 47 39.2	+0.6
AC02				*e*S	S	12 48 31.9	+3.1
AC01	Pan de Azucar	4.44	228	Pn	Pn	12 47 41.2	-0.7
AC01	Pan de Azucar	4.44	228	*e*P	Pn	12 47 41.0	-0.8
AC01				*i* S	S	12 48 31.0	-3.8
AC01	Pan de Azucar	4.44	228	*e*P	Pn	12 47 41.2	-0.7
AC01				*e*S	S	12 48 31.5	-3.2
GO03	Copiap	5.30	213	Pn	Pn	12 47 51.8	-1.0
GO03	Copiap	5.30	213	*e*P	Pn	12 47 51.6	-1.2
GO03				*e*S	S	12 48 51.8	-2.8
GO03	Copiap	5.30	213	*e*P	Pn	12 47 51.8	-1.0
GO03				*e*S	S	12 48 52.3	-2.3
CYA	Choya	5.34	169	*e*P	Pn	12 47 54.0	+0.7
PB16	IPOC Station P	5.38	333		Pn	12 47 54.8	+0.3
LCO	Las Campanas	6.71	209	Pn	Pn	12 48 09.2	-1.9
LPAZ	La Paz	6.95	351	*e*P	Pn	12 48 15.0	+0.4
LPAZ	La Paz	6.95	351	P	Pn	12 48 15.3	+0.6
	comp=Z,17nm,0.3s,baz=150,slow=4.7,SNR=54						
LPAZ				S	S	12 49 31.4	-2.7
	comp=Z,4.7nm,0.6s,baz=236,slow=24,SNR=2.0						
BBSD	Serra de San D	8.43	46	*e*P	Pn	12 48 31.8	-1.5
CFA	Coronel Fontan	8.47	187	P	Pn	12 48 32.6	-1.0
	comp=Z,3.1nm,0.3s,baz=6.3,slow=18,SNR=16						
CFA				S	S	12 50 01.6	-7.5
	comp=Z,4.7nm,0.3s,baz=255,slow=20,SNR=7.2						
SIV	San Ignacio	9.05	39	P	Pn	12 48 38.9	-2.5
	comp=Z,3.4nm,0.4s,baz=245,slow=9.7,SNR=15						
SIV				S	S	12 50 15.6	-7.5
	comp=Z,1.6nm,0.8s,baz=203,slow=18,SNR=1.7						
CPUP	Villa Florida	9.29	112	*e*P	Pn	12 48 47.9	+3.5
CPUP	Villa Florida	9.29	112	P	Pn	12 48 42.6	-1.8
	comp=Z,1.1nm,0.6s,baz=318,slow=9.8,SNR=1.5						
MECA	Mercedes	9.96	130	*e*P	P	12 48 58.1	-2.4
ANTJ	Antonio Joao (	10.19	85	*e*P	Pn	12 48 57.8	+1.8
PTLB	Pontes e Lacer	10.66	45	*e*P	Pn	12 49 00.7	-1.3
AQDB	Aquidauana	10.80	78	*e*P	Pn	12 49 05.2	+1.4
UNIS	Unistalda (Bra	12.18	121	*e*P	P	12 49

JANB	Januaria	22.85	73	eP	P	12 51 19.3	-0.7
SGCB	St'o Gabriel d	22.92	360	eP	P	12 51 20.6	+0.1
SMTB	Santa Maria do	23.39	56	eP	P	12 51 24.9	+0.1
SDBA	SAO DESIDERIO	23.54	67	eP	P	12 51 25.7	-0.5
PRPB	Parauapebas	23.64	47	eP	P	12 51 26.5	-0.5
MALB	Monte Alegre	24.52	32	eP	P	12 51 35.7	+0.7
OTAV	Otavalo	25.82	333	eP	P	12 51 46.5	-0.8
BOAV	Boa Vista	26.18	15	eP	P	12 51 50.3	+0.3
GUA01	Guaratinga, BA	26.34	81	eP	P	12 51 51.1	-0.3
SNAA	Sanae	60.10	161	P	P	12 56 20.4	+0.9
SNAA				IAmb	IAmb	12 56 54.6	
	comp=Z,6.3nm,1.5s						
SNAA	Sanae	60.10	161	P	P	12 56 21.5	+2.0
	comp=Z,1.0nm,0.6s,baz=240,slow=10,SNR=7.5						
	comp=Z,1.0nm,0.6s						
TXAR	Lajitas Array	63.04	324	P	P	12 56 41.8	+2.1
	comp=Z,0.2nm,0.6s,baz=129,slow=7.1,SNR=3.1						
	comp=Z,0.2nm,0.6s						
QSPA	South Pole Qui	67.02	180	P	P	12 57 06.9	+2.0
VNDA	Vanda	75.51	190	P	P	12 57 53.8	-1.5
TORD	Torodi Ar. Bea	76.24	69	P	P	12 58 00.3	-0.2
	comp=Z,1.2nm,0.4s,baz=262,slow=5.8,SNR=36						
	comp=Z,1.2nm,0.4s						
NVAR	Mina Array Bea	77.93	321	P	P	12 58 12.9	+3.2
	comp=Z,0.1nm,0.3s,baz=134,slow=7.7,SNR=2.2						
	comp=Z,0.1nm,0.3s						
BOSA	Boshof	81.07	117	P	P	12 58 26.5	-0.4
	comp=Z,2.7nm,0.8s,baz=289,slow=5.1,SNR=2.4						
	comp=Z,2.7nm,0.8s						
ASAR	Alice Springs	129.21	205	PKP	PKiKP	13 05 20.4	+1.1
	comp=Z,0.1nm,0.3s,baz=114,slow=1.6,SNR=1.8						
WRA	Warramunga Arr	132.37	208	PKP	PKiKP	13 05 26.6	+0.9
	comp=Z,0.1nm,0.4s,baz=165,slow=1.8,SNR=5.1						
MKAR	Makanchi Array	145.87	39	PKPbc	PKPab	13 05 50.5	+0.5
	comp=Z,1.6nm,0.7s,baz=305,slow=3.3,SNR=8.8						
CMAR	Chiang Mai Arr	166.00	107	PKPab	PKPab	13 07 16.0	-0.5
	comp=Z,0.2nm,0.3s,baz=239,slow=5.1,SNR=4.2						

*IDC **02** 12:48:16.2±0.7, 33°.17S×178°.82W, h0km, mb4.3/7, mbtmp4.3/8, ML4.3/1, MS3.8/32, Error ellipse: s-maj=25.7km s-min=18.9km az=157.0*
*NEIC **02** 12:48:18.1±1.1, 33°.4S±0°.1×178°.6W±0°.2, h10km±2km, mb4.7/15, Error ellipse: s-maj=26.5km s-min=19.9km az=113.0*

ISC 02 12:48:22.8±0.6, 33°.45S±0°.08×178°.73W±0°.10, h41km, n86, σ2§02/61, mb4.6/15, MS3.9/32, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.76	210	Pn	Pn	12 49 31.1	-0.9
URZ	Urewera	5.87	214	Pn	Pn	12 49 47.1	0.0
	7.9nm,0.3s,baz=350,slow=3.9,SNR=54						
URZ				Sn	Sn	12 50 58.3	+5.2
	18nm,0.3s,baz=210,slow=17,SNR=11						
	22nm,0.4s						
RTZ	Ruatahuna	6.21	213		Pn	12 49 53.4	+1.4
TOZ	Tahuroa Road	6.35	226	Pn	Pn	12 49 54.6	+0.8
BKZ	Black Stump Fm	6.88	213		Pn	12 50 01.9	+0.7
BFZ	Birch Farm	8.26	208		Pn	12 50 18.6	-1.4
MRZ	Mangatainoka R	8.51	211		Pn	12 50 21.5	-1.9
TCW	Tory Channel	9.54	214		Pn	12 50 36.5	-0.9
TUWZ	Tuamarina	9.86	214	Pn	Pn	12 50 40.2	-1.8
NNZ	Nelson	9.97	217	Pn	Pn	12 50 41.3	-2.1
CTZ	Chatham Island	10.40	171	Pn	Pn	12 50 45.5	-3.8
THZ	Tophouse	10.62	216	Pn	Pn	12 50 49.9	-2.4
KHZ	Kahutara	10.83	212		Pn	12 50 51.8	-3.3
OXZ	Oxford	12.22	214		Pn	12 51 11.8	-2.4
RPZ	Rata Peaks	12.98	215	Pn	Pn	12 51 23.9	-0.7
RPZ	Rata Peaks	12.98	215	Pn	Pn	12 51 20.3	-4.3
	0.8nm,0.3s,baz=326,slow=20,SNR=1.8						
RPZ				Sn	Sn	12 53 40.2	-7.5
	0.7nm,0.3s,baz=312,slow=21,SNR=2.3						
ODZ	Otahua Downs	14.19	212	Pn	Pn	12 51 38.6	-2.4
MSVF	Nonsavu	15.92	349	LR	LR	12 56 59.2	
	comp=Z,201nm,19.6s,baz=167,slow=34						
DZM	Mont Dzumac	17.32	307	eP	Pn	12 52 12.1	-9.5
	142nm,30.5s						
DZM				eLR	LR	12 56 31.9	
	comp=Z,720nm,24.8s						
DZM	Mont Dzumac	17.32	307	LR	LR	12 57 49.1	
	comp=Z,702nm,18.6s,baz=124,slow=34						
RAR	Rarotonga	20.75	59	LR	LR	13 00 22.3	
	comp=Z,137nm,19.0s,baz=230,slow=35						
TBI	Tubuai	27.56	76	eLR	LR	13 00 22.8	
	comp=Z,5μm,21.2s						
TBI				eLR	LR	13 00 36.5	
	comp=Z,752nm,22.5s						
PPT2	Papeete2	30.55	66	eP	P	12 54 12.2	-20
	51nm,22.5s						
PPT2				eS	S	12 59 09.9	-22
	68nm,24.8s						
PPT2				eLR	LR	13 01 58.0	
	comp=Z,143nm,21.5s						
PPT2				eLR	LR	13 02 06.4	
	comp=Z,169nm,24.8s						
PPT	Papeete	30.56	66	LR	LR	13 06 18.2	
	comp=Z,165nm,18.4s,baz=242,slow=36						
STKA	Stephens Creek	33.30	262	LR	LR	13 08 07.7	
	comp=Z,340nm,18.9s,baz=58,slow=36						
CTA	Charters Tower	33.81	284	LR	LR	13 06 33.6	
	comp=Z,98nm,19.0s,baz=88,slow=33						
CTAO	Charters Tower	33.81	284	P	P	12 55 02.2	+1.1
CTAO				IAmb	IAmb	12 55 05.3	
	comp=Z,7.8nm,0.7s						
BBOO	Buckleboo	37.64	258	P	P	12 55 34.2	+0.3
BBOO				IAmb	IAmb	12 56 15.2	
	comp=Z,23nm,1.5s						
COEN	Coen	39.62	290	P	P	12 55 51.2	+0.6
COEN				IAmb	IAmb	12 56 04.7	
	comp=Z,16nm,1.2s						
AS31	Alice Springs	42.42	271	P	P	12 56 14.6	+0.9
ASAR	Alice Springs	42.42	271	P	P	12 56 13.5	-0.2
ASAR	Alice Springs	42.42	271	P	P	12 56 14.1	+0.4
	comp=Z,6.9nm,0.6s,baz=112,slow=7.6,SNR=68						
ASAR				PcP	PcP	12 58 05.8	-0.4
	comp=Z,2.5nm,0.9s,baz=116,slow=5.0,SNR=6.0						
ASAR				S	S	13 02 33.6	+0.9
	comp=Z,1.8nm,0.9s,baz=116,slow=15,SNR=12						
ASAR				LR	LR	13 14 15.6	
	comp=Z,137nm,18.7s,baz=132,slow=37						
	comp=Z,6.9nm,0.6s						
WR0	Warramunga Arr	43.51	276	P	P	12 56 22.1	-0.3
WR0				IAmb	IAmb	12 56 24.6	
	comp=Z,9.9nm,1.1s						
WB2	Warramunga Arr	43.68	276	P	P	12 56 23.3	-0.5
WB2				IAmb	IAmb	12 56 25.1	
	comp=Z,16nm,1.2s						
WRAB	Tennant Creek	43.68	276	P	P	12 56 23.6	-0.3
WRAB				IAmb	IAmb	12 56 25.1	
	comp=Z,13nm,1.2s						
WRA	Warramunga Arr	43.69	276	P	P	12 56 23.6	-0.3
WRA	Warramunga Arr	43.69	276	P	P	12 56 23.8	-0.1
	comp=Z,6.1nm,0.8s,baz=117,slow=7.7,SNR=33						
WRA				PcP	PcP	12 58 09.8	-0.7
	comp=Z,1.1nm,0.8s,baz=127,slow=3.0,SNR=2.4						
WRA				S	S	13 02 50.9	-0.4
	comp=Z,1.1nm,1.0s,baz=116,slow=14,SNR=5.8						
WRA				LR	LR	13 13 25.7	
	comp=Z,173nm,20.6s,baz=193,slow=35						
	comp=Z,6.1nm,0.8s						
WB0	Warramunga Arr	43.72	276	P	P	12 56 24.3	+0.1
WB0				IAmb	IAmb	12 56 26.3	
	comp=Z,18nm,1.2s						
FORT	Forrest	44.74	258	P	P	12 56 32.0	-0.2
VNDA	Vanda	45.01	186	P	P	12 56 33.4	-0.3
JAY	Jayapura	48.82	300	LR	LR	13 15 19.5	
	comp=Z,58nm,21.7s,baz=350,slow=33						
KNRA	Kununurra	50.39	277	P	P	12 57 05.7	-10
CASY	Casey	52.17	209	P	P	12 57 30.8	+2.0
CASY				IAmb	IAmb	12 57 32.2	
	comp=Z,10nm,1.0s						
QSPA	South Pole Qui	56.67	180	P	P	12 58 04.2	+2.5
SIJI	Sorong	56.94	294	LR	LR	13 22 14.5	
	comp=Z,74nm,19.4s,baz=78,slow=36						
BATI	Baumata	57.49	280	LR	LR	13 22 01.6	
	comp=Z,85nm,18.3s,baz=196,slow=35						
GUMO	Guam	58.25	317	LR	LR	13 20 51.0	
	comp=Z,39nm,20.0s,baz=142,slow=34						
RPN	Rapa Nui	59.27	104	LR	LR	13 20 16.9	
	comp=Z,33nm,18.0s,baz=256,slow=32						
KAPI	Kappang	63.59	282	LR	LR	13 26 57.2	
	comp=Z,80nm,18.6s,baz=120,slow=37						
DAV	Davao City (W)	66.38	297	LR	LR	13 28 08.9	
	comp=Z,22nm,19.8s,baz=162,slow=36						
JCJ	Chichijima	70.73	323	LR	LR	13 25 17.0	
	comp=Z,26nm,20.3s,baz=126,slow=32						
LEM	Lembang	72.64	273	LR	LR	13 33 54.3	
	comp=Z,102nm,18.2s,baz=164,slow=38						
TROLL	Troll, Antarti	74.83	180	⇑P	P	13 00 00.4	+1.8
	comp=Z,73nm,0.5s						
SNAA	Sanae	75.13	179	P	P	13 00 00.1	-0.1
SNAA				IAmb	IAmb	13 00 12.6	
	comp=Z,14nm,1.3s						
SNAA	Sanae	75.13	179	⇑P	P	13 00 01.4	+1.1
SNAA	Sanae	75.13	179	P	P	13 00 01.0	+0.8
	comp=Z,1.8nm,0.9s,baz=248,slow=5.6,SNR=3.6						
SNAA				LR	LR	13 33 04.7	
	comp=Z,86nm,18.0s,baz=208,slow=36						
	comp=Z,1.8nm,0.9s						
VNA3	Neumayer Olymp	75.31	176	P	P	13 00 03.0	+1.7
VNA2	Neumayer--Watz	75.73	177	P	P	13 00 05.1	+1.4
	baz=181,slow=4.0						
VNA1	Neumayer--Stat	75.97	177	P	P	13 00 11.4	+6.4
JOW	Kunigami	78.27	313	LR	LR	13 33 12.6	
	comp=Z,43nm,18.2s,baz=160,slow=35						
MJAR	Matsushiro Arr	80.40	326	P	P	13 00 27.4	-2.5
	comp=Z,1.0nm,0.8s,baz=150,slow=5.6,SNR=2.3						
	comp=Z,1.0nm,0.8s						
PLCA	Paso Flores	80.89	133	LR	LR	13 30 07.3	
	comp=Z,64nm,18.8s,baz=209,slow=31						
JNU	Nakatsue	81.44	319	LR	LR	13 34 08.1	
	comp=Z,16nm,18.0s,baz=108,slow=34						
KSRS	Korea Array	86.28	320	P	P	13 00 58.0	-2.0
	comp=Z,0.9nm,0.8s,baz=132,slow=4.8,SNR=2.2						
KSRS				LR	LR	13 37 33.0	
	comp=Z,19nm,19.1s,baz=35,slow=34						
	comp=Z,0.9nm,0.8s						
PETK	Petropavlovsk-	88.61	346	P	P	13 01 09.4	-1.5
	comp=Z,5.4nm,1.0s,baz=120,slow=5.0,SNR=4.6						
PETK				LR	LR	13 34 09.2	
	comp=Z,37nm,21.8s,baz=132,slow=31						
	comp=Z,5.4nm,1.0s						
YBH	Yreka Blue Hor	90.81	38	LR	LR	13 34 21.2	
	comp=Z,51nm,20.8s,baz=222,slow=30						
NVAR	Mina Array Bea	90.89	43	P	P	13 01 22.4	+0.2
	comp=Z,0.8nm,0.9s,baz=236,slow=6.0,SNR=4.7						
NVAR				LR	LR	13 33 20.4	
	comp=Z,38nm,20.1s,baz=270,slow=30						
	comp=Z,0.8nm,0.9s						
LVC	Limon Verde	92.99	119	LR	LR	13 36 13.8	
	comp=Z,50nm,18.9s,baz=204,slow=31						
NNA	Nana	93.17	106	LR	LR	13 36 44.7	
	comp=Z,94nm,18.2s,baz=216,slow=31						
ELK	Elko	94.20	43	LR	LR	13 35 23.5	
	comp=Z,43nm,21.6s,baz=238,slow=30						
TXAR	Lajitas Array	94.55	58	LR	LR	13 42 12.6	
	comp=Z,44nm,18.1s,baz=228,slow=34						
ANMO	Albuquerque	95.95	52	LR	LR	13 38 58.1	
	comp=Z,50nm,18.2s,baz=336,slow=32						
MA2	Magadan	96.06	345	LR	LR	13 39 34.7	
	comp=Z,40nm,21.5s,baz=146,slow=32						
CPUP	Villa Florida	98.56	129	LR	LR	13 41 31.3	
	comp=Z,68nm,18.3s,baz=223,slow=32						
KURBB	Kurchatov Arra	122.71	312	PKP	PKPdf	13 07 11.0	-2.5
	comp=Z,0.4nm,0.2s,baz=104,slow=0.9,SNR=4.7						
BVAR	Borovoye Array	128.12	314	PKP	PKPdf	13 07 22.9	-0.9
	comp=Z,1.2nm,0.4s,baz=174,slow=0.9,SNR=8.4						
ARCES	ARCESS Array B	141.42	347	PKhKP	PKPpre	13 07 41.4	
	comp=Z,3.7nm,0.9s,baz=30,slow=4.2,SNR=3.7						
KBZ	Khabaz	146.20	300	PKPbc	PKPdf	13 07 58.5	+1.2
	comp=Z,4.3nm,1.0s,baz=152,slow=3.9,SNR=3.6						
FINES	FINESS Array B	147.76	338	PKPbc	PKPdf	13 07 59.9	+0.5
	comp=Z,6.2nm,0.7s,baz=38,slow=3.8,SNR=21						
MMAI	Mount Meron Ar	151.52	279	PKPbc	PKPbc	13 08 12.7	+0.1
	comp=Z,5.0nm,0.5s,baz=75,slow=6.5,SNR=8.6						
HFS	Hagfors	152.08	347	PKPbc	PKPdf	13 08 10.3	+4.1
	comp=Z,4.2nm,0.8s,baz=13,slow=2.7,SNR=2.5						
HFS				PKPab	pPKPdf	13 08 20.1	+2.8
	comp=Z,2.9nm,0.5s,baz=70,slow=1.7,SNR=10						
AKASG	Malin Array Be	153.26	319	PKPbc	PKPbc	13 08 15.3	-0.5
	comp=Z,0.8nm,0.4s,baz=47,slow=2.9,SNR=4.5						
BRTR	Keskin Array B	153.36	293	PKPbc	PKPbc	13 08 15.8	-0.8
	comp=Z,2.1nm,0.5s,baz=117,slow=5.6,SNR=6.7						
TORD	Torodi Ar. Bea	159.79	181	PKPab	PKPab	13 08 56.9	+0.3
	comp=Z,1.1nm,1.0s,baz=177,slow=3.9,SNR=3.2						
CLL	Collm	160.21	338	ePKPab	PKPab	13 08 57.0	-0.6
GERES	GERESS Array B	162.03	333	PKPab	PKPab	13 09 04.6	-1.2
	comp=Z,1.1nm,0.8s,baz=34,slow=4.9,SNR=1.9						

IDC 02 12:51:26.9±3.0, 7°.93S×117°.49E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=109.4km s-min=31.0km az=54.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.23	128	P	P	12 56 03.8	+0.1
	0.7nm,0.5s,baz=301,slow=12,SNR=32						
WRA				S	S	12 59 44.9	-6.8
	0.3nm,0.7s,baz=304,slow=23,SNR=1.8						
	0.7nm,0.5s						
USRK	Ussurlysk Ar.	53.52	13	P	P	13 00 48.8	-0.5
	3.5nm,0.7s,baz=186,slow=7.3,SNR=6.7						
	3.5nm,0.7s						
SONM	Songino Array	56.38	351	P	P	13 01 10.7	+0.6
	0.8nm,0.6s,baz=168,slow=8.2,SNR=4.5						
	0.8nm,0.6s						
MKAR	Makanchi Array	62.83	334	P	P	13 01 54.2	-0.3
	0.2nm,0.5s,baz=151,slow=6.3,SNR=1.5						
	0.2nm,0.5s						

*SFS **02** 13:12:59.7, 36°.84N×4°.27W, h53km, ML3.1/24, ML3.0/19, MLv3.0/24*
*MDD **02** 13:12:59.8±0.3, 36°.87N×4°.31W, h56km±5km, Mb3.5/26, Error ellipse: s-maj=3.2km s-min=1.9km az=158.0*
*CNRM **02** 13:12:59.4, 36°.72N×4°.37W, h62km, ml2.4*
*INMG **02** 13:13:00.4±1.2, 36°.87N×4°.34W, h29km, ML2.5, Error ellipse: s-maj=3.0km s-min=2.0km az=6.0*
*IGIL **02** 13:13:00.6, 36°.87N×4°.31W, h29km, ML2.5*

ISC 02 13:12:58.4±1.1, 36°.84N±0°.02×4°.30W±0°.02, h50km, n94, σ1§62/165, 23C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	Malaga-Limoner	0.13	234	Sg	Sn	13 13 12.8	+0.9
EMAL				Pg	Pn	13 13 07.8	+1.5
EGOR	Sierra Gorda,	0.31	29	Pg	Pn	13 13 09.0	+1.3
EGOR				⇑iVmb_V		13 13 09.7	
	3μm,SNR=82						
EGOR				Sg	Sn	13 13 17.3	+2.9
EGOR	Sierra Gorda,	0.31	29	Sn	Sn	13 13 15.7	+1.2
EGOR				Pn	Pn	13 13 09.1	+1.3
EMIJ	Mijas	0.47	234	Pg	Pn	13 13 10.5	+1.2
EMIJ				⇑iVmb_V		13 13 15.2	
	4μm,SNR=49						
EMIJ				Sg	Sn	13 13 19.0	+1.9
EMIJ	Mijas	0.47	234	Sn	Sn	13 13 18.2	+1.1
EMIJ				Pn	Pn	13 13 10.5	+1.2
ELGU	Los Guajares,	0.54	87	Pg	Pn	13 13 11.3	+1.1
ELGU				⇑iVmb_V		13 13 13.2	
	5μm,SNR=83						
ELGU				Sg	Sn	13 13 19.9	+1.2
ELGU	Los Guajares,	0.54	87	Sn	Sn	13 13 20.2	+1.5
ELGU				Pn	Pn	13 13 11.1	+1.0
EQTA	Presa de Quent	0.78	62	Sn	Sn	13 13 24.4	+0.3
EQTA				Pn	Pn	13 13 14.7	+1.5
EQUE	Quentar	0.78	62	Pg	Pn	13 13 14.7	+1.4
EQUE				⇑iVmb_V		13 13 20.3	
	832nm,SNR=16						
EQUE				Sg	Sn	13 13 26.0	+2.0
EBER	Berja	1.13	87	Pg	Pn	13 13 19.0	+1.0
EBER				⇑iVmb_V		13 13 26.7	
	652nm,SNR=5.8						
EBER				Sg	Sn	13 13 36.2	+3.6
EBER	Berja	1.13	87	Pn	Pn	13 13 19.4	+1.3
CEU	Ceuta	1.28	223	Pn	Pn	13 13 20.1	+0.3
ECEU	Ceuta	1.28	223	Pg	Pn	13 13 21.3	+1.4
ECEU				⇑iVmb_V		13 13 26.3	
	697nm,SNR=4.8						
ECEU				Sg	Sn	13 13 34.4	-1.5
ECEU	Ceuta	1.28	223	Pn	Pn	13 13 21.3	+1.4
EADA	Adamuz	1.34	351	Pn	Pn	13 13 21.7	+1.0
EADA				⇑iVmb_V		13 13 26.4	
	1μm,SNR=19						
EADA				Sn	Sn	13 13 37.4	-0.2
EADA				Sg		13 13 42.9	
EADA	Adamuz	1.34	351	Pn	Pn	13 13 21.8	+1.0
EADA				Sn	Sn	13 13 37.3	-0.2
EALB	Alboran	1.36	131	Pn	Pn	13 13 20.7	-0.2
EALB				Sn	Sn	13 13 36.8	-1.0
EQES	Quesada	1.37	45	Pn	Pn	13 13 22.2	+1.0
EQES				⇑iVmb_V		13 13 31.5	
	650nm,SNR=10						
EQES				Sn	Sn	13 13 39.0	+0.7
SMIR	Smir Dam	1.45	217	P	Pn	13 13 22.8	+0.7
SMIR				S	Sn	13 13 38.3	-1.7
ECAB	El Cabril	1.52	325	Pn	Pn	13 13 23.8	+0.6
ECAB				⇑iVmb_V		13 13 33.5	
	349nm,SNR=4.9						
ECAB				Sn	Sn	13 13 41.5	-0.4
ECAB				Sg		13 13 49.3	
ECAB	El Cabril	1.52	325	Pn	Pn	13 13 23.0	-0.1
ECAB				Sn	Sn	13 13 41.4	-0.5
PALE	Palemas	1.65	170	P	Pn	13 13 25.4	+0.5
PALE				S	Sn	13 13 45.2	+0.3
PVLZ	Peæn de	1.66	180	Pn	Pn	13 13 26.0	+0.9
PVLZ				Sn	Sn	13 13 45.4	+0.2
ENIJ	Nijar	1.68	85	Pn	Pn	13 13 25.7	+0.4
CHEFC	Chefchaouen	1.92	206	P	Pn	13 13 28.8	0.0
CHEFC				S	Sn	13 13 50.7	-1.1
GOG	Mont Gurugu	1.93	146	P	Pn	13 13 29.2	+0.4
GOG				S	Sn	13 13 51.4	-0.5
EMIN	Mina Concepcio	2.11	297	Pn	Pn	13 13 31.4	+0.3
EMIN				⇑iVmb_V		13 13 33.5	
	934nm,SNR=8.7						
EMIN				Sn	Sn	13 13 54.6	-1.5
EMIN				Sg		13 14 05.5	
EMIN	Mina Concepcio	2.11	297	Pn	Pn	13 13 31.7	+0.5
EMIN				Pg		13 13 33.3	
EMIN				Sn	Sn	13 13 55.6	-0.6
CHAS	Isla Isabel II	2.24	137	Pn	Pn	13 13 32.7	-0.3
CHAS				Sn	Sn	13 13 57.1	-2.4
AKLM	AKL	2.35	171	P	Pn	13 13 33.1	-1.5
AKLM				S	Sn	13 13 59.5	-2.8
TAF	Taforalt	2.54	142	P	Pn	13 13 37.7	+0.6
TAF				S	Sn	13 14 06.3	-0.5
PBAR	Barrancos	2.55	302	⇑ePn	Pn	13 13 37.9	+0.6
PBAR	Barrancos	2.55	302	ePg	Pn	13 13 39.2	+1.9
PBAR				eSn	Sn	13 14 07.1	0.0
PBAR				A	A	13 14 28.8	
	11nm,0.3s						
PBAR	Barrancos	2.55	302	Pn	Pn	13 13 37.9	+0.6
EGRO	El Granado	2.64	286	Pn	Pn	13 13 39.7	+1.3
EGRO				⇑iVmb_V		13 13 40.8	
	675nm,SNR=4.7						
EGRO				Sn	Sn	13 14 08.6	-0.5
EGRO	El Granado	2.64	286	Pn	Pn	13 13 38.5	+0.1
EGRO				Pg		13 13 40.1	
EGRO				Sn	Sn	13 14 09.2	0.0
PAB	San Pablo	2.70	359	Pn	Pn	13 13 41.0	+1.6
PAB				⇑iVmb_V		13 13 43.6	
	110nm,SNR=2.0						
PAB				Sn	Sn	13 14 08.5	-2.4
PAB				Sg		13 14 23.9	
CART	Cartagena	2.74	73	Sn	Sn	13 14 09.4	-2.1
PVAQ	Vaqueiros	2.79	283	ePn	Pn	13 13 41.4	+0.9
PVAQ				eSn	Sn	13 14 11.9	-1.0
PVAQ				A	A	13 14 14.2	
	31nm,0.3s						
PVAQ	Vaqueiros	2.79	283	Pn	Pn	13 13 41.3	+0.9
ETOB	Tobarra	2.83	50	Pn	Pn	13 13 41.6	+0.5
ETOB				⇑iVmb_V		13 13 42.2	
	150nm,SNR=2.4						
ETOB				Sn	Sn	13 14 11.0	-3.1
ETOB	Tobarra	2.83	50	Pn	Pn	13 13 41.6	+0.5
ETOB				Sn	Sn	13 14 11.6	-2.5
JBK	JBK	2.87	150	P	Pn	13 13 42.3	+0.5
JBK				S	Sn	13 14 13.7	-1.5
EBAD	Badajoz	2.88	312	Pn	Pn	13 13 42.4	+0.7
EBAD				⇑iVmb_V		13 13 44.4	
	769nm,SNR=8.4						
EBAD				Sn	Sn	13 14 13.9	-1.2
EBAD	Badajoz	2.88	312	Pn	Pn	13 13 42.4	+0.7
EBAD				Sn	Sn	13 14 13.9	-1.2
PBDV	Barranco-do-Ve	2.93	279	ePn	Pn	13 13 44.8	+2.3
PBDV				eSn	Sn	13 14 15.4	-1.1
PBDV				A	A	13 14 21.4	
	9.9nm,0.7s						
PBEJ	Beja	3.08	294	ePn	Pn	13 13 46.0	+1.6
PBEJ				eSn	Sn	13 14 19.9	-0.1
PBEJ				A	A	13 14 21.0	
	8.0nm,0.4s						
PCVE	Castro Verde	3.09	286	ePn	Pn	13 13 45.9	+1.3
PCVE				eSn	Sn	13 14 20.0	-0.3
PCVE				A	A	13 14 50.2	
	7.1nm,0.5s						
PCVE	Castro Verde	3.09	286	Pn	Pn	13 13 46.0	+1.3
MESJ	Messejana	3.28	289	eP	Pn	13 13 48.4	+1.2
MESJ				eS	Sn	13 14 23.4	-1.6
MESJ				IAML		13 14 25.3	
	comp=E,7.7nm,0.2s						
PESTR	Estremoz	3.30	309	ePn	Pn	13 13 49.0	+1.5
PESTR				eSn	Sn	13 14 23.9	-1.6
PESTR				A	A	13 14 55.5	
	comp=E,7.8nm,0.3s						
PESTR	Estremoz	3.30	309	P	Pn	13 13 49.7	+2.2
PESTR				S	Sn	13 14 27.5	+2.0
PESTR	Estremoz	3.30	309	Pn	Pn	13 13 48.3	+0.8
IFR	Ifrane	3.38	192	Pn	Pn	13 13 50.0	+1.2
EVO	Evora	3.40	301	ePn	Pn	13 13 50.4	+1.6
EVO			

PCBR eSn Sn 13 14 37.7 -2.6
PCBR A A 13 15 11.4
comp=N,4.4nm,0.5s
MD31 MD31 3.98 186 P Pn 13 13 58.7 +1.7
MD31 S Sn 13 14 41.6 -0.8
MDT Midelt 4.02 184 P Pn 13 13 56.6 -1.0
MDT S Sn 13 14 43.7 +0.3
PACT Alcochete 4.08 300⇓ ePn Pn 13 14 00.0 +1.9
PACT eSn Sn 13 14 44.4 -0.1
ETOR Torete 4.34 23 Pn Pn 13 14 02.6 +0.7
ETOR ⇑/Vmb_V 13 14 03.6
comp=N,123nm,SNR=1.9
ETOR Sn Sn 13 14 47.9 -3.3
AVE Averroes 4.36 217 Sn Sn 13 14 50.8 -0.8
MTE Manteigas 4.37 325 ePn Pn 13 14 03.9 +1.7
MTE eSn Sn 13 14 50.3 -1.6
MTE A A 13 15 27.9
comp=N,12nm,0.8s
PMAFR Mafra 4.47 300⇑ ePn Pn 13 14 05.0 +1.4
PMAFR Mafra 4.47 300 Pn Pn 13 14 04.9 +1.4
PCAS Casmilo, Conde 4.60 316⇑ ePn Pn 13 14 06.8 +1.5
PCAS eSn Sn 13 14 55.3 -2.2
PVIS Viseu 4.78 325 ePn Pn 13 14 09.4 +1.5
PVIS eSn Sn 13 14 59.6 -2.4
PVIS A A 13 15 34.5
comp=N,4.3nm,0.5s
MVO Moncorvo 4.81 335 ePn Pn 13 14 10.1 +1.8
MVO eSn Sn 13 15 00.4 -2.4
MVO A A 13 15 39.9
comp=N,8.1nm,0.6s
PVRL Vila Real 5.17 330 ePn Pn 13 14 15.0 +1.9
PVRL eSn Sn 13 15 09.0 -2.5
POLO Lamas de Olo 5.28 330 ePn Pn 13 14 16.6 +1.8
POLO eSn Sn 13 15 13.0 -1.3
POLO A A 13 15 54.9
comp=N,2.1nm,0.6s
PBRG Braganca 5.31 340 ePn Pn 13 14 16.6 +1.5
PBRG eSn Sn 13 15 12.1 -2.8
PBRG A A 13 15 51.0
comp=N,2.6nm,0.4s
ECAL Calabor 5.43 340 Pn Pn 13 14 18.4 +1.5
ECAL Sn Sn 13 15 13.5 -4.5
ELOB Lobios 5.81 331 Sn Sn 13 15 21.5 -5.7
OUZM OUZ 6.26 200 P Pn 13 14 29.2 +1.0
OUZM S Sn 13 15 39.5 +1.0
OUK Oukaimeden 6.35 209 P Pn 13 14 28.2 -1.5
OUK S Sn 13 15 39.6 -1.5
TIO Tiouine 6.39 204 Pn Pn 13 14 30.9 +0.9

IDC 02 13:15:40.0±34.0, 28°89S×63°36E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=845.3km s-min=61.8km az=74.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**19.49**	**205**	T	T	13 40 27.7	
	baz=30,slow=74,SNR=84						
H04N1	**CROZET ISLANDS**	**19.49**	**205**	T	T	13 40 29.5	
	baz=30,slow=74,SNR=105						
H04N3	**CROZET ISLANDS**	**19.50**	**205**	T	T	13 40 31.1	
	baz=30,slow=74,SNR=77						
CMAR	**Chiang Mai Arr**	**58.29**	**40**	P	P	13 25 36.7	-0.1
	0.4nm,0.4s,baz=212,slow=9.4,SNR=2.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**62.64**	**103**	P	P	13 26 06.7	0.0
	1.0nm,0.7s,baz=246,slow=6.0,SNR=14						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**64.42**	**100**	P	P	13 26 18.4	0.0
	1.2nm,0.8s,baz=247,slow=5.9,SNR=8.1						
	1.2nm,0.8s						

IDC 02 13:24:49.2±5.4, 18°47S×174°97W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=174.9km s-min=107.5km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.25**	**243**	P	P	13 32 36.2	0.0
	0.8nm,0.4s,baz=97,slow=19,SNR=2.3						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**47.74**	**260**	P	P	13 33 28.3	-0.1
	0.8nm,0.4s,baz=98,slow=7.4,SNR=39						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**47.79**	**255**	P	P	13 33 28.6	-0.2
	1.3nm,0.4s,baz=86,slow=8.2,SNR=60						
ASAR				PcP	PcP	13 34 57.5	-0.4
	0.3nm,0.7s,baz=93,slow=3.2,SNR=2.1						
	1.3nm,0.4s						

*IDC **02** 13:25:14.8±0.6, 28°68N×51°62E, h0km, mb4.4/28, mbtmp4.4/35, ML3.9/7, MS3.4/19, Error ellipse: s-maj=14.1km s-min=11.0km az=6.0*
*MOS **02** 13:25:15.1±1.0, 28°65N×51°57E, h14km, mb4.7/35, Error ellipse: s-maj=6.9km s-min=4.5km az=101.6*
*NEIC **02** 13:25:16.8±1.3, 28°68N±0°09×51°65E±0°09, h10km±1km, mb4.7/79, Error ellipse: s-maj=16.0km s-min=11.9km az=210.0*
*TEH **02** 13:25:17.3, 28°76N×51°59E, h16km±13km, ML4.3*
*OMAN **02** 13:25:20.0±0.1, 28°49N×51°76E, h7km±1km, mb5.0/19, ml4.2/8, ms2.7/1, Error ellipse: s-maj=2.8km s-min=1.3km az=301.0*
*DSN **02** 13:25:22.1±1.4, 28°63N×52°01E, h15km, ML3.9/11, Error ellipse: s-maj=21.7km s-min=11.1km az=24.0*
ISC 02 13:25:17.0±0.3, 28°75N±0°03×51°64E±0°03, h10km, h10km:pP-P, n382, σ1°34/416, mb4.6/121, MS3.5/14, 30C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.33**	**290**	Pg	**Pg**	13 25 23.1	-0.4
AHBU				Sg	**Sg**	13 25 28.4	+0.5
DSBU	**Dashti - Bushe**	**0.51**	**221**	Pg	**Pg**	13 25 27.1	+0.1
SHI	**Shiraz**	**1.17**	**40**	Pg	**Pb**	13 25 39.9	+0.5
QIR1	**Qir**	**1.26**	**102**	Pg	**Pb**	13 25 41.8	+0.9
JHRM	**Jahrom**	**1.72**	**98**	Pg	**Pb**	13 25 49.4	+0.7
LMD1	**Lamerd**	**1.94**	**136**	Pn	**Pb**	13 25 53.0	+0.4
KLNJ	**Kolanjah**	**2.25**	**359**	Pn	**Pn**	13 25 56.0	+1.3
LAR1	**LAR**	**2.64**	**113**	Pn	**Pn**	13 26 02.8	+3.1
SAKB	**Bahrain**	**2.93**	**200**	P	**Pn**	13 26 06.1	+2.4
SAKB				S	**Sn**	13 26 41.8	+2.9
SAKB	**Bahrain**	**2.93**	**200**	Pn	**Pn**	13 26 04.5	+0.9
IRAM	**Ramesheh**	**3.11**	**12**	Pn	**Pn**	13 26 07.8	+1.4
IBRJ	**Brojen**	**3.17**	**354**	Pn	**Pn**	13 26 08.3	+1.1
AMIS	**Naft Sefid**	**3.55**	**325**	Pn	**Pn**	13 26 13.2	+1.0
ISAD	**Sadrabad**	**3.61**	**29**	Pn	**Pn**	13 26 15.8	+2.5
IGAR	**Gharneh**	**3.66**	**5**	Pn	**Pn**	13 26 15.6	+1.7
IMEH	**Mehriz**	**3.68**	**44**	Pn	**Pn**	13 26 16.9	+2.7
IPIR	**Pirpir**	**3.97**	**351**	Pn	**Pn**	13 26 19.6	+1.3
IZEF	**Zefreh**	**4.17**	**8**	Pn	**Pn**	13 26 22.7	+1.7
ESRB	**Sir Abu**	**4.21**	**146**	Pn	**Pn**	13 26 23.2	+2.1
ICHK	**Chekchek**	**4.22**	**34**	Pn	**Pn**	13 26 23.9	+2.3
GENO	**Geno**	**4.22**	**108**	Pn	**Pn**	13 26 24.0	+2.4
IBAF	**Bafgh**	**4.42**	**49**	Pn	**Pn**	13 26 26.5	+2.2
KHGB	**Koh Gabri**	**4.51**	**68**	Pn	**Pn**	13 26 27.5	+1.9
NGRK	**Negar Kerman**	**4.54**	**77**	Pn	**Pn**	13 26 28.0	+2.0
IKLH	**Kolahrood**	**4.55**	**359**	Pn	**Pn**	13 26 27.3	+1.1
TVBK	**TV Kerman**	**4.63**	**73**	Pn	**Pn**	13 26 30.0	+2.7
ANAR	**Anarak**	**4.77**	**22**	Pn	**Pn**	13 26 30.6	+1.5
ZRDN	**Zarand Kerman**	**4.79**	**61**	Pn	**Pn**	13 26 31.4	+2.0
SHME	**Shamm**	**4.82**	**123**	P	**Pn**	13 26 29.4	-0.2
SHME	**Shamm**	**4.82**	**123**	P	**Pn**	13 26 29.7	+0.1
SHME				S	**Sn**	13 27 25.4	-0.1
QAMS	**Qamsar**	**4.97**	**358**	Pn	**Pn**	13 26 33.1	+1.1
AJN	**Ajban**	**5.13**	**144**	P	**Pn**	13 26 34.4	+0.5
AJN				S	**Sn**	13 27 32.1	-1.1
AJN	**Ajban**	**5.13**	**144**	Pn	**Pn**	13 26 35.8	+1.9
NAZ	**Nazwa, Dubai**	**5.19**	**135**	*i* P	**Pn**	13 26 35.8	+1.2
	SNR=5.9						
NAZ	**Nazwa, Dubai**	**5.19**	**135**	P	**Pn**	13 26 36.1	+1.4
	SNR=5.9						
NAZ				S	**Sn**	13 27 34.6	0.0
NAZ	**Nazwa, Dubai**	**5.19**	**135**	Pn	**Pn**	13 26 36.1	+1.4
KRSH	**Karshahi**	**5.22**	**4**	Pn	**Pn**	13 26 36.0	+0.7
MASF	**Masafi**	**5.25**	**129**	P	**Pn**	13 26 35.9	+0.4
	SNR=12						
MASF				S	**Sn**	13 27 33.2	-3.0
MSFE	**Esma-Masafi**	**5.25**	**129**	*i* P	**Pn**	13 26 35.8	+0.1
	SNR=16						
MSFE				S	**Sn**	13 27 33.5	-2.8
MSFE	**Esma-Masafi**	**5.25**	**129**	Pn	**Pn**	13 26 36.0	+0.3
ASUD	**Al Ashush, Dub**	**5.27**	**140**	*i* P	**Pn**	13 26 37.3	+1.5
	SNR=7.2						
ASUD	**Al Ashush, Dub**	**5.27**	**140**	P	**Pn**	13 26 37.4	+1.6
	SNR=7.2						
ASUD	**Al Ashush, Dub**	**5.27**	**140**	Pn	**Pn**	13 26 37.8	+2.0
CHMN	**Cheshme madani**	**5.27**	**76**	Pn	**Pn**	13 26 38.3	+2.2
FAQ	**Al Faqa, Dubai**	**5.33**	**138**	*i* P	**Pn**	13 26 38.5	+1.9
	SNR=10						
FAQ	**Al Faqa, Dubai**	**5.33**	**138**	P	**Pn**	13 26 37.3	+0.7
	SNR=11						
FAQ	**Al Faqa, Dubai**	**5.33**	**138**	Pn	**Pn**	13 26 37.8	+1.2
MDH	**Madha**	**5.39**	**129**	*i* P	**Pn**	13 26 37.3	-0.1
	SNR=17						
MDH	**Madha**	**5.39**	**129**	P	**Pn**	13 26 37.4	0.0
	SNR=17						
MDH				S	**Sn**	13 27 39.5	-0.1
MDH	**Madha**	**5.39**	**129**	Pn	**Pn**	13 26 37.5	0.0
KHNJ	**Kahnooj**	**5.40**	**97**	Pn	**Pn**	13 26 39.2	+1.5
UOSS	**Minazif**	**5.56**	**132**	Pn	**Pn**	13 26 39.2	-0.6
UOSS	**Minazif**	**5.56**	**132**	*i* P	**Pn**	13 26 39.3	-0.6
	SNR=10						
UOSS	**Minazif**	**5.56**	**132**	P	**Pn**	13 26 39.7	-0.2
UOSS				S	**Sn**	13 27 41.6	-2.3
UOSS	**Minazif**	**5.56**	**132**	Pn	**Pn**	13 26 39.6	-0.2
HATD	**Hatta, Dubai**	**5.60**	**133**	*i* P	**Pn**	13 26 41.3	+0.9
	SNR=20						
HATD	**Hatta, Dubai**	**5.60**	**133**	P	**Pn**	13 26 42.0	+1.6
	SNR=20						
HATD				S	**Sn**	13 27 43.3	-1.5
HATD	**Hatta, Dubai**	**5.60**	**133**	Pn	**Pn**	13 26 42.0	+1.6
ISFB	**Sefidab**	**5.61**	**5**	Pn	**Pn**	13 26 41.5	+1.0
ASHO	**Ashiyiah**	**5.66**	**135**	*i* P	**Pn**	13 26 41.1	-0.1
	SNR=19						
ASHO	**Ashiyiah**	**5.66**	**135**	P	**Pn**	13 26 41.4	+0.3
	SNR=20						
ASHO				S	**Sn**	13 27 44.7	-1.5
ASHO	**Ashiyiah**	**5.66**	**135**	Pn	**Pn**	13 26 41.5	+0.3
IKFM	**Kafar-mosalman**	**5.76**	**327**	Pn	**Pn**	13 26 44.1	+1.5
ALNE	**Al Ain**	**5.95**	**141**	*i* P	**Pn**	13 26 45.7	+0.5
	SNR=20						
ALNE	**Al Ain**	**5.95**	**141**	P	**Pn**	13 26 46.4	+1.2
	SNR=9.6						
ALNE				S	**Sn**	13 27 52.7	-0.8
ALNE	**Al Ain**	**5.95**	**141**	Pn	**Pn**	13 26 46.4	+1.2
MZR	**Muzera**	**5.96**	**163**	*i* P	**Pn**	13 26 46.6	+1.3
	SNR=15						
MZR	**Muzera**	**5.96**	**163**	P	**Pn**	13 26 45.7	+0.4
	SNR=15						
MZR				S	**Sn**	13 27 51.8	-1.9
MZR	**Muzera**	**5.96**	**163**	Pn	**Pn**	13 26 46.8	+1.5
KBAM	**BAM**	**5.98**	**85**	Pn	**Pn**	13 26 48.0	+2.3
HSAM	**Samen**	**6.03**	**335**	Pn	**Pn**	13 26 47.9	+1.4
TPRV	**Parvadeh(Tabas**	**6.08**	**44**	Pn	**Pn**	13 26 48.8	+1.8
IQOM	**Qom**	**6.09**	**356**	Pn	**Pn**	13 26 48.0	+0.7
IVRN	**Varamin**	**6.23**	**1**	Pn	**Pn**	13 26 50.1	+1.1
JASK	**Jask - Hormozg**	**6.24**	**116**	Pn	**Pn**	13 26 51.2	+2.1
SOHO	**SOHO**	**6.35**	**135**	*i* P	**Pn**	13 26 49.6	-1.1
	SNR=13						
SOHO	**SOHO**	**6.35**	**135**	P	**Pn**	13 26 50.7	0.0
SOHO				S	**Sn**	13 28 02.3	-1.0
SOHO	**SOHO**	**6.35**	**135**	Pn	**Pn**	13 26 50.8	+0.1
IKOM	**Komasi**	**6.46**	**328**	Pn	**Pn**	13 26 53.8	+1.5
IHSB	**Hasanabad**	**6.67**	**357**	Pn	**Pn**	13 26 56.1	+0.9
TNSJ	**Nastanj**	**6.71**	**38**	Pn	**Pn**	13 26 57.5	+1.8
TKDS	**Koohdasht(Taba**	**6.75**	**43**	Pn	**Pn**	13 26 57.8	+1.6
IRAZ	**Razeghan**	**6.79**	**348**	Pn	**Pn**	13 26 57.9	+1.0
ARQ	**Araqi**	**6.95**	**140**	P	**Pn**	13 26 59.2	+0.2
	SNR=22						
ARQ				S	**Sn**	13 28 16.7	-1.4
ISHM	**Shahmirzad**	**7.17**	**11**	Pn	**Pn**	13 27 03.8	+1.6
BSRN	**Basiran**	**7.21**	**62**	Pn	**Pn**	13 27 04.9	+2.2
HOQ	**Hoqain**	**7.24**	**134**	P	**Pn**	13 27 03.4	+0.5
HOQ				S	**Sn**	13 28 23.5	-1.7
IKOO	**Kooshah**	**7.33**	**58**	Pn	**Pn**	13 27 06.2	+1.9
ITEG	**Tejag**	**7.38**	**54**	Pn	**Pn**	13 27 07.1	+2.2
IDHR	**Dehrash**	**7.43**	**324**	Pn	**Pn**	13 27 06.9	+1.2
MZPU	**Pul - Mazandar**	**7.67**	**360**	Pn	**Pn**	13 27 11.1	+2.1
KLST	**Kelardasht - M**	**7.76**	**357**	Pn	**Pn**	13 27 12.0	+1.7
BSY	**Bisya**	**7.80**	**139**	P	**Pn**	13 27 11.0	+0.4
	SNR=54						
BSY				S	**Sn**	13 28 37.3	-1.8
BIDO	**Bidbid**	**7.81**	**130**	P	**Pn**	13 27 10.8	+0.1
BIDO				P	**Pn**	13 27 10.8	+0.1
BIDO				S	**Sn**	13 28 37.8	-1.5
BIDO				S	**Sn**	13 28 37.8	-1.5
BIDO	**Bidbid**	**7.81**	**130**	Pn	**Pn**	13 27 11.2	+0.4
AFRZ	**Afriz**	**7.85**	**52**	Pn	**Pn**	13 27 13.3	+1.9
ZHDN	**Zahedan**	**8.05**	**83**	Pn	**Pn**	13 27 15.6	+1.4
SMDO	**Samad**	**8.08**	**133**	P	**Pn**	13 27 14.7	+0.2
	SNR=29						
SMDO				S	**Sn**	13 28 43.8	-2.3
WSAR	**Wadi Sarin**	**8.34**	**130**	Pn	**Pn**	13 27 17.0	-1.1
	2.7nm,0.3s,baz=305,slow=9.4,SNR=24						
WSAR				Sn	**Sn**	13 28 49.0	-3.4
	1.3nm,0.3s,baz=177,slow=17,SNR=5.8						
WSAR				LR	LR	13 31 17.9	
	comp=Z,170nm,18.5s,baz=323,slow=44						
	13nm,0.5s						
JMDO	**Jabal Madar**	**8.62**	**136**	P	**Pn**	13 27 22.2	+0.3
	SNR=7.4						
SHRT	**Shahrakht**	**8.87**	**54**	Pn	**Pn**	13 27 27.7	+2.4
WBK	**Wadi Bani Khal**	**9.00**	**131**	P	**Pn**	13 27 26.9	-0.2
	SNR=9.1						
WBK				S	**Sn**	13 29 07.2	-1.3
SBZV	**Sabzevar**	**9.13**	**32**	Pn	**Pn**	13 27 31.0	+2.1
JLN	**Jalan Bani Buh**	**9.61**	**131**	P	**Pn**	13 27 35.0	-0.5
	SNR=8.4						
MHTO	**MHTO**	**9.63**	**142**	P	**Pn**	13 27 36.0	+0.3
	SNR=10						
DOK	**Doka**	**10.34**	**167**	P	**Pn**	13 27 45.8	+0.3
	SNR=7.1						
IKRD	**Kardeh**	**10.38**	**38**	Pn	**Pn**	13 27 49.2	+3.0
IMYA	**Miami**	**10.40**	**41**	Pn	**Pn**	13 27 48.2	+1.8
IEMG	**Emamgholi**	**10.45**	**32**	Pn	**Pn**	13 27 49.8	+2.7
GEYT	**Alibeck**	**10.63**	**29**	Pn	**Pn**	13 27 50.3	+0.9
GEYT	**Alibeck**	**10.63**	**29**	Pn	**Pn**	13 27 50.7	+1.3
	0.6nm,0.3s,baz=206,slow=13,SNR=3.4						
GEYT				Sn	**Sn**	13 29 46.9	-1.6
	0.4nm,0.3s,baz=149,slow=8.1,SNR=1.1						
GEYT				Lg	Lg	13 30 53.8	
	0.3nm,0.3s,baz=8.9,slow=31,SNR=1.1						
GEYT				LR	LR	13 32 39.5	
	comp=Z,299nm,20.3s,baz=226,slow=42						
	1.4nm,0.3s						
GYA0	**ALIBECK ARRAY**	**10.63**	**29**	*e*P	**Pn**	13 27 49.8	+0.4
GYA0B	**ALIBECK ARRAY**	**10.63**	**29**	Pn	**Pn**	13 27 49.8	+0.4
HRA	**Herat**	**10.64**	**55**		**Pn**	13 27 49.9	+0.2
WHFO	**Wadi Hawf**	**10.96**	**169**	P	**Pn**	13 27 53.8	-0.1
WHFO				S	**Sn**	13 29 53.9	-2.8
DMTO	**DMTO**	**11.39**	**164**	P	**Pn**	13 27 59.5	-0.4
	SNR=5.3						
RBK	**Rabkut**	**11.44**	**168**	P	**Pn**	13 28 00.0	-0.5
ABTO	**Aybut**	**11.45**	**172**	P	**Pn**	13 28 00.8	+0.1
GNI	**Garni**	**12.71**	**335**	*i* P	**Pn**	13 28 18.1	+0.1
GNI	**Garni**	**12.71**	**335**	Pn	Pn	13 28 23.1	+5.1
	0.6nm,0.3s,baz=97,slow=21,SNR=1.4						
GNI				Lg	Lg	13 31 56.7	
	0.8nm,0.3s,baz=184,slow=21,SNR=1.5						
GNI				LR	LR	13 34 29.6	
	comp=Z,20nm,18.8s,baz=170,slow=43						
ASF	**Jabal al Asfar**	**13.17**	**289**	P	**Pn**	13 28 27.6	+3.4
ASF	**Jabal al Asfar**	**13.17**	**289**	Pn	**Pn**	13 28 24.6	+0.4
	0.9nm,0.3s,baz=118,slow=8.6,SNR=3.9						
ASF				Sn	**Sn**	13 30 52.4	+1.6
	0.5nm,0.3s,baz=15,slow=20,SNR=1.3						
ASF				Lg	Lg	13 32 12.8	
	0.5nm,0.3s,baz=307,slow=18,SNR=3.1						
	2.1nm,0.3s						
MAK	**Makhachkala**	**14.57**	**348**	*e*P	**Pn**	13 28 39.9	-3.2
MAK				*e*S	**Sn**	13 31 19.8	-4.8
MAK				pmax	pmax		
	comp=Z,249nm,1.2s						
MAK				MLR	MLR		
	comp=Z,91nm,17.0s						
MMAI	**Mount Meron Ar**	**14.58**	**291**	Pn	**Pn**	13 28 42.6	-0.8
	comp=Z,1.2nm,0.4s,baz=140,slow=18,SNR=1.7						
EIL	**Elat**	**14.61**	**278**	Pn	**Pn**	13 28 42.9	-0.9
	comp=Z,0.3nm,0.3s,baz=88,slow=19,SNR=2.0						
EIL				Lg	Lg	13 33 00.5	
	comp=Z,0.2nm,0.3s,baz=13,slow=14,SNR=2.1						
EIL				LR	LR	13 35 16.4	
	comp=Z,90nm,18.4s,baz=58,slow=41						
	comp=Z,3.2nm,0.8s						
ZEI	**Tsey**	**15.34**	**338**	*e*P	**Pn**	13 28 53.5	-0.2
ZEI				pmax	pmax		
	comp=Z,43nm,1.3s						
KBL	**Kabul**	**15.89**	**64**		**Pn**	13 29 03.2	+2.2
KBL	**Kabul**	**15.89**	**64**	P	**Pn**	13 29 03.2	+2.2
KBL				pmax	pmax		
	comp=Z,16nm,1.2s						
KBL	**Kabul**	**15.89**	**64**	P	**P**	13 29 04.2	-0.5
	SNR=9.4						
NCK	**Nalchik**	**16.07**	**338**	*i* P	**Pn**	13 29 05.5	+2.4
KBZ	**Khabaz**	**16.51**	**337**	*ce*P	**Pn**	13 29 09.4	+0.8
KBZ	**Khabaz**	**16.51**	**337**	Pn	**Pn**	13 29 09.0	+0.4
	comp=Z,0.3nm,0.3s,baz=142,slow=9.9,SNR=9.2						
KBZ				LR	LR	13 36 33.5	
	comp=Z,87nm,19.0s,baz=158,slow=41						
	comp=Z,7.1nm,0.8s						
BNN	**Bunyan**	**16.53**	**312**	Pn	**Pn**	13 29 09.2	+0.2
BNN				IAmb	IAmb	13 29 34.5	
	comp=Z,49nm,1.0s						
KIV	**Kislovodsk**	**16.78**	**337**		**Pn**	13 29 13.2	+1.0
KIV				IAmb	IAmb	13 29 30.6	
	comp=Z,46nm,1.2s						
KIV	**Kislovodsk**	**16.78**	**337**	*e*P	**Pn**	13 29 13.6	+1.4
KIV				pmax	pmax		
	comp=Z,27nm,1.0s						
KIV				MLR	MLR		
	comp=Z,39nm,13.0s						
SOC	**Sochi**	**17.63**	**330**	*e*P	**Pn**	13 29 21.7	-1.0
SOC				*e*		13 32 37.4	
SOC				MLR	MLR		
	comp=Z,58nm,16.0s						
THW	**Thamme Wali**	**17.73**	**72**	P	**Pn**	13 29 24.0	-0.1
CEP	**Cherat**	**18.04**	**69**	P	**Pn**	13 29 26.7	-1.2
BR131	**Keskin Array S**	**18.44**	**311**	P	**P**	13 29 32.4	-0.4
BR131	**Keskin Array S**	**18.44**	**311**	*i* P	**P**	13 29 32.8	-0.1
BRTR	**Keskin Array B**	**18.44**	**311**	P	**P**	13 29 31.5	-1.4
BRTR	**Keskin Array B**	**18.44**	**311**	P	**P**	13 29 32.7	-0.1
	comp=Z,0.4nm,0.3s,baz=134,slow=12,SNR=18						
	comp=Z,9.2nm,0.9s						
ATD	**Arta Tunnel**	**19.00**	**207**	P	**P**	13 29 37.7	-1.3
	comp=Z,0.2nm,0.3s,baz=71,slow=22,SNR=2.5						
ATD				LR	LR	13 38 04.4	
	comp=Z,17nm,18.8s,baz=4.0,slow=41						
ANTO	**Ankara**	**19.08**	**310**	P	**P**	13 29 39.4	-0.3
ANTO	**Ankara**	**19.08**	**310**	P	**P**	13 29 39.4	-0.3
ANTO				pmax	pmax		
	comp=Z,20nm,0.8s						
ELL	**Elmali**	**19.92**	**299**	P	**P**	13 29 50.2	+1.2
ELL	**Elmali**	**19.92**	**299**	P	**P**	13 29 50.2	+1.2
ELL				pmax	pmax		
	comp=Z,74nm,0.7s						
MDUB	**Mudurnu**	**20.44**	**310**	P	**P**	13 29 55.8	+1.2
KK31	**Karatay Array**	**20.88**	**42**	P	**P**	13 29 59.4	+0.2
KK31	**Karatay Array**	**20.88**	**42**	P	**P**	13 29 59.4	+0.2
KK31				pmax	pmax		
	comp=Z,17nm,0.9s						
KKAR	**Karatay Array**	**20.88**	**42**	P	**P**	13 29 59.2	+0.1
KKAR	**Karatay Array**	**20.88**	**42**	P	**P**	13 29 59.3	+0.1
ABKAR	**Akbulak array**	**21.44**	**15**	P	**P**	13 30 05.3	+0.1
DHRM	**DHARAMSHALA**	**21.52**	**75**	*e*P	**P**	13 30 08.1	+1.7
DHRM				IAmb	IAmb	13 30 11.3	
	comp=Z,45nm,0.6s						
KARP	**Karpathos**	**21.78**	**294**	P	**P**	13 30 09.8	+0.8
AKTO	**Aktyubinsk**	**22.19**	**11**	P	**P**	13 30 13.9	+0.7
	comp=Z,3.8nm,0.4s,baz=215,slow=11,SNR=11						
AKTO				LR	LR	13 40 15.8	
	comp=Z,89nm,18.4s,baz=192,slow=40						
	comp=Z,3.8nm,0.4s						
SMLA	**Simla**	**22.23**	**78**	*e*P	**P**	13 30 14.6	+0.8
SMLA				IAmb	IAmb	13 30 20.3	
	comp=Z,37nm,0.9s						
ARLS	**Aral**	**22.58**	**49**	P	**P**	13 30 18.8	+1.1
KSH	**Kashi**	**22.75**	**55**	P	**P**	13 30 17.6	-1.9
KSH				pP	pP	13 30 20.5	-2.1
KSH				pmax	pmax		
	comp=Z,14nm,0.7s						
AAK	**Ala-Archa**	**23.07**	**47**	P	**P**	13 30 23.9	+1.1
AAK	**Ala-Archa**	**23.07**	**47**	*i* P	**P**	13 30 24.7	+1.9
AAK				pmax	pmax		
	comp=Z,15nm,1.3s						
AAK	**Ala-Archa**	**23.07**	**47**	LR	LR	13 40 58.9	
	comp=Z,205nm,19.6s,baz=258,slow=41						
IDI	**Anoyia**	**23.56**	**293**	⇑P	**P**	13 30 27.6	-0.1
IDI	**Anoyia**	**23.56**	**293**	P	**P**	13 30 28.3	+0.5
IDI	**Anoyia**	**23.56**	**293**	P	**P**	13 30 28.7	+0.9
	comp=Z,23nm,0.8s,baz=327,slow=1.9,SNR=7.1						
	comp=Z,23nm,0.8s						
VRH	**Novokhopyorsk**	**23.64**	**344**	*e*P	**P**	13 30 26.3	-1.9
VRH				pmax	pmax		
	comp=Z,30nm,0.7s						
BHPL	**Bhopal**	**23.79**	**97**	*e*P	**P**	13 30 30.9	+0.8
BHPL				IAmb	IAmb	13 30 34.7	
	comp=Z,13nm,0.8s						
BELG	**Belogornoye**	**23.81**	**354**	*i* P	**P**	13 30 30.0	+0.2
BELG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BELG	**Belogornoye**	**23.81**	**354**	P	**P**	13 30 29.8	0.0
	comp=Z,26nm,0.9s,baz=

comp=Z,3.0nm,0.6s
BVAR Borovoye Array 27.92 24 P P 13 31 08.0 +0.8
comp=Z,4.0nm,0.4s,baz=224,slow=7.7,SNR=20
BVAR PcP **PcP** 13 34 22.7 +0.2
comp=Z,1.1nm,0.5s,baz=191,slow=3.0,SNR=2.9
BVAR LR LR 13 43 37.9
comp=Z,75nm,18.1s,baz=244,slow=39
comp=Z,4.0nm,0.4s
ARU Arti 28.10 8 *d iP* **P 13 31 09.6 +0.9**
ARU 13 31 56.5
ARU S **S 13 35 58.2 +4.8**
ARU SS **SnSn 13 37 12.8 +4.2**
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU Arti 28.10 8 LR LR 13 44 39.4
comp=Z,72nm,20.3s,baz=172,slow=41
GZR Gura Zlata 28.19 314 ⇑P **P 13 31 10.0 +0.3**
OBN Obninsk 28.50 342⇑ *eP* **P 13 31 15.0 +2.7**
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,73nm,15.0s
MARR Marisel-Cluj 28.57 317 ⇑P **P 13 31 13.9 +0.7**
MDVR Moldovita 28.61 312 ⇑P **P 13 31 13.9 +0.4**
DIVS Divibare 29.50 310 P **P 13 31 22.0 +0.6**
MAKZ Makanchi 29.73 44 P **P 13 31 23.6 +0.2**
MAKZ Makanchi 29.73 44 P **P 13 31 23.6 +0.2**
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
KURBB Kurchatov Arra 29.80 35 P **P 13 31 24.7 +0.8**
comp=Z,2.6nm,0.2s,baz=235,slow=9.1,SNR=12
comp=Z,2.6nm,0.2s
KIRV Kirov 29.86 358 *ceP* **P 13 31 25.1 +0.8**
KIRV Kirov 29.86 358 LR LR 13 46 48.7
comp=Z,60nm,20.3s,baz=187,slow=43
KURK Kurchatov 29.91 35 P **P 13 31 25.1 +0.3**
KURK Kurchatov 29.91 35 *ceP* **P 13 31 26.9 +2.1**
KURK pmax pmax
comp=Z,7.0nm,1.2s
MK31 Makanchi Array 29.92 45 P **P 13 31 24.9 -0.2**
MK31 Makanchi Array 29.92 45 *i P* **P 13 31 27.4 +2.3**
MKAR Makanchi Array 29.92 45 P **P 13 31 25.3 +0.2**
MKAR Makanchi Array 29.92 45 P **P 13 31 25.3 +0.2**
MKAR Makanchi Array 29.92 45 P **P 13 31 25.9 +0.8**
comp=Z,2.4nm,0.6s,baz=235,slow=8.9,SNR=13
MKAR LR LR 13 45 22.8
comp=Z,170nm,18.2s,baz=229,slow=40
comp=Z,2.4nm,0.6s
CRVS Cervenica-Dubn 30.64 319 *eP* **P 13 31 34.3 +2.9**
CRVS pmax pmax
comp=Z,22nm,1.2s
CRVS Cervenica-Dubn 30.64 319 *eP* **P 13 31 34.3 +2.9**
CUC Castrocucco 31.43 300 P **P 13 31 38.9 +0.4**
CUC IAmb IAmb 13 31 40.8
comp=Z,7.9nm,0.8s
LANS Liptovska Anna 31.91 319 *eP* **P 13 31 43.7 +1.1**
LANS pmax pmax
comp=Z,7.0nm,0.7s
LANS Liptovska Anna 31.91 319 *eP* **P 13 31 43.7 +1.1**
VYHS Vyhne 31.98 317 *eP* **P 13 31 43.6 +0.4**
VYHS pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 31.98 317 *eP* **P 13 31 43.6 +0.4**
OJC Ojcow 32.23 321 P **P 13 31 44.7 -0.7**
OJC IAmb IAmb 13 31 48.9
comp=Z,11nm,0.9s
OJC Ojcow 32.23 321 P **P 13 31 44.7 -0.7**
OJC pmax pmax
comp=Z,11nm,0.9s
WMQ Urumqi 32.43 53 *eP* **P 13 31 50.2 +2.9**
WMQ pmax pmax
comp=Z,18nm,0.7s
KMBO Kilima Mbogo 32.75 207 LR LR 13 46 02.5
comp=Z,160nm,20.1s,baz=88,slow=38
JAVC Velka Javorina 32.84 317 *eP* **P 13 31 51.4 +0.7**
OKC Ostrava-Krasne 32.99 319 *eP* **P 13 31 52.2 +0.2**
OKC Ostrava-Krasne 32.99 319 *eP* **P 13 31 52.2 +0.2**
KLMR Klimovskoe 33.12 349 *eP* **P 13 31 51.7 -1.3**
KLMR *eP* **P 13 31 51.7 -1.3**
KLMR *eP* **P 13 31 51.7 -1.3**
KLMR AMP 13 31 53.2
comp=Z,28nm,0.9s
KLMR *e*S **S 13 37 09.3 -2.7**
KLMR *e*S **S 13 37 09.3 -2.7**
KLMR Klimovskoe 33.12 349 *eP* **P 13 31 51.6 -1.4**
KLMR *e*S **S 13 37 09.2 -2.7**
KLMR pmax pmax
comp=Z,28nm,0.9s
INTR Introdacqua 33.22 304 P **P 13 31 53.5 -0.7**
INTR IAmb IAmb 13 31 57.6
comp=Z,7.8nm,1.2s
MORC Moravsky Berou 33.31 319 ⇓P **P 13 31 54.6 -0.3**
MORC Moravsky Berou 33.31 319 P **P 13 31 54.2 -0.7**
MORC IAmb IAmb 13 31 55.7
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 33.31 319 *eP* **P 13 31 54.5 -0.3**
MORC Moravsky Berou 33.31 319 P **P 13 31 54.2 -0.7**
MORC pmax pmax
comp=Z,6.0nm,0.8s
CONA Conrad Observa 33.57 315 *ep*P pP 13 32 00.8 +0.2
comp=Z,3.2nm,0.8s
VRAC Vranov 33.67 317 *eP* **P 13 31 57.9 0.0**
NRCA Norcia 33.96 305 P **P 13 32 00.5 -0.1**
NRCA IAmb IAmb 13 32 02.6
comp=Z,8.6nm,0.9s
DGZ Jazzator, Alta 34.27 42 *i P* **P 13 32 04.2 +0.9**
DGZ pmax pmax
comp=Z,10.0nm,1.4s
DPC Dobruska-Polom 34.27 319 *eP* **P 13 32 03.3 +0.1**
DPC Dobruska-Polom 34.27 319 *eP* **P 13 32 03.3 +0.1**
OSTC Ostas 34.42 319 *eP* **P 13 32 04.5 0.0**
OSTC Ostas 34.42 319 *eP* **P 13 32 04.5 0.0**
MURB Monte Urbino 34.47 305 P **P 13 32 03.6 -1.4**
MOA Molln 34.55 314 *eP* **P 13 32 05.7 +0.1**
comp=Z,5.1nm,0.7s
PRED Cave del Predi 34.55 311 P **P 13 32 04.4 -1.3**
ZAA0 Zalesovo Array 34.88 34 P **P 13 32 07.0 -1.3**
ZAA0 IAmb IAmb 13 32 14.5
comp=Z,5.4nm,0.8s
ZALV Zalesovo Beam 34.88 34 P **P 13 32 07.0 -1.3**
ZALV Zalesovo Beam 34.88 34 P **P 13 32 08.1 -0.2**
comp=Z,3.4nm,0.5s,baz=232,slow=10,SNR=12
ZALV LR LR 13 48 10.0
comp=Z,67nm,18.7s,baz=194,slow=39
comp=Z,3.4nm,0.5s
KBA Koelnbreinsper 34.89 312 *i P* **P 13 32 09.0 +0.2**
comp=Z,8.1nm,0.8s
BIOA Bad Ischl, Aus 34.89 313 *i P* **P 13 32 08.7 +0.1**
comp=Z,6.6nm,0.5s
ZVC Zvikov 35.16 316 *eP* **P 13 32 10.8 -0.1**
GERES GERESS Array B 35.24 315 P **P 13 32 11.1 -0.6**
GERES GERESS Array B 35.24 315 P **P 13 32 11.6 -0.1**
comp=Z,1.2nm,0.5s,baz=101,slow=6.9,SNR=4.6
GERES PcP **PcP** 13 34 42.6 +0.2
comp=Z,0.5nm,0.4s,baz=35,slow=3.6,SNR=1.5
comp=Z,1.2nm,0.5s
ABTA Abfaltersbach 35.33 311 *eP* **P 13 32 12.9 +0.4**
comp=Z,3.8nm,0.7s
MBAR Mbarara 35.39 218 *ceP* **P 13 32 16.8 +3.5**
MBAR pmax pmax
comp=Z,5.0nm,1.3s
KHC Kasperske Hory 35.42 316 P **P 13 32 12.7 -0.5**
KHC IAmb IAmb 13 32 13.7
comp=Z,4.5nm,0.7s
KHC Kasperske Hory 35.42 316 *i P* **P 13 32 13.0 -0.2**
KHC pmax pmax
comp=Z,10.0nm,0.7s
KHC Kasperske Hory 35.42 316 *eP* **P 13 32 13.4 +0.2**
LESA Schwarzleotal 35.43 313 *i P* **P 13 32 12.9 -0.4**
comp=Z,3.9nm,0.5s
WTTA Wattenberg 36.06 312 *i P* **P 13 32 18.1 -0.7**
comp=Z,9.2nm,0.7s
WATA Walderalm 36.12 312 *i P* **P 13 32 18.7 -0.5**
comp=Z,7.9nm,0.6s
KEST Kesra 36.23 292 P **P 13 32 18.1 -2.2**
KEST IAmb IAmb 13 32 23.1
comp=Z,9.7nm,0.9s
KEST Kesra 36.23 292 P **P 13 32 21.9 +1.6**
comp=Z,8.6nm,0.9s,baz=360,slow=4.1,SNR=8.6
SQTA Sankt Quirin 36.32 312 *i P* **P 13 32 20.6 -0.4**
comp=Z,11nm,0.6s
MOTA Moosalm 36.43 312 *i P* **P 13 32 21.1 -0.9**
comp=Z,8.0nm,0.8s
CLL Collm 36.58 319 *eP* **P 13 32 23.5 +0.5**
comp=Z,9.0nm,1.3s

CLL *i* pP **pP 13 32 27.0 +0.7**
FETA Feichten 36.59 311 *i* P **P 13 32 22.6 -0.7**
comp=Z,7.3nm,0.8s
RETA Reutte 36.69 312 *i* P **P 13 32 23.3 -0.8**
comp=Z,2.9nm,0.5s
FINES FINESS Array B 36.84 340 P **P 13 32 24.5 -0.6**
FINES FINESS Array B 36.84 340 P **P 13 32 24.7 -0.4**
comp=Z,7.8nm,0.8s,baz=146,slow=8.6,SNR=16
FINES PcP **PcP** 13 34 46.2 -0.5
comp=Z,1.6nm,0.7s,baz=116,slow=3.2,SNR=1.6
comp=Z,7.8nm,0.8s
DAVA Damuels 37.21 311 *i* P **P 13 32 28.0 -0.7**
comp=Z,14nm,0.6s
SENIN Lac Senin/Sane 38.73 309 P **P 13 32 40.6 -1.0**
SENIN IAmb IAmb 13 32 44.0
comp=Z,21nm,0.8s
BNI Bardonecchia 38.93 307 P **P 13 32 42.4 -0.7**
BNI IAmb IAmb 13 32 43.8
comp=Z,17nm,1.4s
BNI Bardonecchia 38.93 307 P **P 13 32 42.4 -0.7**
BNI pmax pmax
comp=Z,17nm,1.4s
HFS Hagfors 40.46 332 P **P 13 32 55.1 -0.4**
comp=Z,5.7nm,0.5s,baz=134,slow=8.6,SNR=23
comp=Z,5.7nm,0.5s
LVZ Lovozero 40.47 350 P **P 13 32 55.6 +0.1**
LVZ IAmb IAmb 13 33 17.2
comp=Z,26nm,1.1s
LVZ Lovozero 40.47 350 P **P 13 32 55.6 +0.1**
LVZ pmax pmax
comp=Z,26nm,1.1s
TNCH TengChong 41.77 84 P **P 13 33 08.3 +1.4**
TNCH pP pP 13 33 11.4 +1.2
TNCH pmax pmax
comp=Z,13nm,0.4s
NC405 NORSAR Array S 41.82 332 P **P 13 33 05.5 -1.1**
NC405 IAmb IAmb 13 33 23.0
comp=Z,30nm,1.3s
NB201 NORSAR Array S 41.96 332 P **P 13 33 06.6 -1.2**
NB2 NORSAR Subarra 41.98 332 P **P 13 33 06.7 -1.4**
comp=Z,2.2nm,0.5s,baz=122,slow=8.6
NOA NORSAR Array B 41.98 332 P **P 13 33 07.2 -0.9**
comp=Z,3.1nm,0.6s,baz=123,slow=8.3,SNR=10
comp=Z,3.1nm,0.6s
NAO01 NORSAR Array S 42.02 331 P **P 13 33 07.3 -1.0**
NAO01 IAmb IAmb 13 33 09.9
comp=Z,29nm,1.1s
NC303 NORSAR Array S 42.02 332 P **P 13 33 07.0 -1.3**
NC303 IAmb IAmb 13 33 27.7
comp=Z,24nm,1.4s
NBO00 NORSAR Array S 42.16 332 P **P 13 33 08.8 -0.7**
NBO00 IAmb IAmb 13 33 21.9
comp=Z,20nm,1.2s
KEV Kevo 43.41 348 P **P 13 33 19.4 0.0**
KEV Kevo 43.41 348 P **P 13 33 19.4 0.0**
KEV pmax pmax
comp=Z,45nm,1.5s
ARCES ARCESS Array B 43.52 347 P **P 13 33 20.4 +0.1**
ARCES IAmb IAmb 13 33 21.4
comp=Z,24nm,1.4s
ARCES ARCESS Array B 43.52 347 P **P 13 33 20.4 +0.1**
ARCES pmax pmax
comp=Z,24nm,1.4s
ARCES ARCESS Array B 43.52 347 P **P 13 33 19.8 -0.6**
comp=Z,2.0nm,0.4s,baz=150,slow=8.6,SNR=22
comp=Z,2.0nm,0.4s
CHTO Chiang Mai 44.16 92 P **P 13 33 24.6 -1.5**
CHTO Chiang Mai 44.16 92 P **P 13 33 24.6 -1.5**
PZH PanZhiHua 44.18 81 P **P 13 33 26.1 -0.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,60nm,6.2s
LZH Lanzhou 44.23 67 *eP* **P 13 33 28.6 +1.9**
LZH pP sP 13 33 37.3 +5.9
LZH pmax pmax
comp=Z,18nm,1.1s
CMAR Chiang Mai Arr 44.29 93 P **P 13 33 27.2 0.0**
comp=Z,2.0nm,0.9s,baz=285,slow=8.6,SNR=10
comp=Z,2.0nm,0.9s
KMI Kunming 45.42 82 ⇑P **P 13 33 37.9 +1.5**
KMI pmax pmax
comp=Z,9.0nm,0.7s
NRIK Noril'sk 45.59 17 *ceP* **P 13 33 38.3 +1.4**
NRIK pmax pmax
comp=Z,8.0nm,1.0s
NRIK Noril'sk 45.59 17 P **P 13 33 38.4 +1.4**
comp=Z,2.8nm,0.6s,baz=181,slow=6.8,SNR=5.2
comp=Z,2.8nm,0.6s
SONM Songino Array 45.97 50 P **P 13 33 40.0 -0.4**
comp=Z,2.6nm,0.9s,baz=268,slow=9.4,SNR=15
SONM LR LR 13 56 02.0
comp=Z,51nm,18.2s,baz=260,slow=40
comp=Z,2.6nm,0.9s
ULN Ulaanbaatar 46.41 50 P **P 13 33 43.8 -0.1**
ULN IAmb IAmb 13 33 46.8
comp=Z,7.1nm,1.2s
ULN Ulaanbaatar 46.41 50 *ceP* **P 13 33 45.5 +1.6**
ULN pmax pmax
comp=Z,9.0nm,1.7s
ESDC Sonseca Array 46.60 299 P **P 13 33 45.4 0.0**
comp=Z,1.3nm,0.9s,baz=61,slow=8.3,SNR=8.5
comp=Z,1.3nm,0.9s
PAB San Pablo 46.91 299 P **P 13 33 47.3 -0.5**
PAB IAmb IAmb 13 34 11.9
comp=Z,15nm,1.4s
PAB San Pablo 46.91 299 P **P 13 33 47.3 -0.5**
PAB pmax pmax
comp=Z,15nm,1.5s
EKA Eskdalemuir Ar 47.01 320 P **P 13 33 47.3 -0.9**
comp=Z,2.6nm,0.7s,baz=105,slow=8.0,SNR=5.1
comp=Z,2.6nm,0.7s
BTO Baotou 48.64 60 *eP* **P 13 33 58.8 -2.5**
BTO pP **pP 13 34 03.5 -1.1**
BTO sP **sP 13 34 06.0 +0.1**
BTO pmax pmax
comp=Z,19nm,0.5s
BTO pmax pmax
comp=Z,130nm,2.4s
XAN Xi'an 48.64 69 P **P 13 34 04.0 +2.7**
XAN pmax pmax
comp=Z,10.0nm,1.2s
TOA0 Torodi Ar. Sit 48.81 262 P **P 13 34 02.0 -0.7**
TORD Torodi Ar. Bea 48.81 262 P **P 13 34 01.9 -0.8**
TORD Torodi Ar. Bea 48.81 262 P **P 13 34 02.2 -0.6**
comp=Z,15nm,0.7s,baz=54,slow=8.4,SNR=113
comp=Z,15nm,0.7s
LYN LuoYang 51.43 67 *eP* **P 13 34 24.9 +2.5**
LYN pmax pmax
comp=Z,14nm,0.9s
BOD Bodaibo 51.52 37 *eP* **P 13 34 22.7 0.0**
BOD pmax pmax
comp=Z,15nm,1.2s
SPB2 Spitsbergen Ar 51.97 351 P **P 13 34 24.8 -1.0**
SPITS Spitsbergen Ar 51.97 351 P **P 13 34 25.1 -0.7**
comp=Z,2.1nm,0.4s,baz=89,slow=7.1,SNR=12
comp=Z,2.1nm,0.4s
XLT XiLinHaoTe 52.80 55 *eP* P 13 34 27.4 -5.2
XLT pP pP 13 34 31.5 -4.5
XLT sP sP 13 34 34.1 -3.2
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,160nm,3.7s
NJ2 Nanjing 57.21 69 *eP* **P 13 35 02.5 -2.0**
NJ2 pP **pP 13 35 06.5 -1.4**
NJ2 sP **sP 13 35 09.1 -0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,130nm,3.6s
DBIC Dimbokro 57.55 259 P **P 13 35 06.1 -1.0**
DBIC Dimbokro 57.55 259 P **P 13 35 06.1 -1.0**
KIC Kosan Boka 57.60 259⇑ *iP* **P 13 35 07.1 -0.4**
comp=Z,24nm,0.7s
TIC Toumodi 57.70 259⇓ *iP* **P 13 35 08.2 0.0**
comp=Z,49nm,0.7s
LIC Lamto 57.91 259⇑ *iP* **P 13 35 09.4 -0.3**
comp=Z,93nm,0.6s
TSUM Tsumeb 57.92 219 LR LR 14 00 28.5
comp=Z,69nm,18.6s,baz=160,slow=36
YAK Yakutsk 59.48 32 *eP* **P 13 35 20.0 +0.1**
YAK pmax pmax
comp=Z,10.0nm,1.5s
YAK pmax pmax
comp=N,7.0nm,1.5s

YAK pmax pmax
comp=E,1.0nm,0.8s
HEH HeiHe 59.64 46 *eP* **P 13 35 20.8 -0.4**
MDJ Mudanjiang 62.23 52 P **P 13 35 39.3 +0.4**
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MDJ pmax pmax
comp=Z,300nm,4.4s
BOSA Boshof 62.38 206 P **P 13 35 39.0 -1.1**
comp=Z,3.4nm,0.8s,baz=47,slow=6.6,SNR=3.6
comp=Z,3.4nm,0.8s
KLR Kul'dur 62.60 47 *ceP* **P 13 35 41.3 0.0**
KLR pmax pmax
comp=Z,3.0nm,1.2s
KLR Kul'dur 62.60 47 LR LR 14 05 37.7
comp=Z,142nm,18.4s,baz=244,slow=39
SUMG Summit 62.88 340 P **P 13 35 43.4 +0.1**
SUMG Summit 62.88 340 P **P 13 35 43.4 +0.1**
SUMG pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 62.88 340 *i P* **P 13 35 42.0 -1.3**
SUMG *i* P **P 13 35 42.0 -1.3**
KSRS Korea Array 62.90 60 P **P 13 35 42.4 -1.1**
comp=Z,2.5nm,0.8s,baz=280,slow=6.6,SNR=8.5
KSRS LR LR 14 06 00.1
comp=Z,33nm,19.2s,baz=285,slow=39
comp=Z,2.5nm,0.8s
ICESG Greenland Ices 63.93 336 *i P* **P 13 35 50.0 -0.2**
ICESG IAmb IAmb 13 35 51.5
comp=Z,11nm,0.7s
NEEM North Greenlan 64.87 346 *i P* **P 13 35 55.3 -0.9**
DY2G Dye2 67.06 334 *i P* **P 13 36 09.8 -0.5**
DY2G IAmb IAmb 13 36 11.8
comp=Z,16nm,0.8s
EUNU Eureka 69.04 353 P **P 13 36 22.6 +0.1**
EUNU IAmb IAmb 13 36 23.9
comp=Z,10nm,1.2s
SEY Seymchan 69.47 29 *ceP* **P 13 36 28.3 +3.1**
SEY pmax pmax
comp=Z,14nm,1.7s
SCHQ Schefferville 81.48 329 P **P 13 37 34.3 -0.1**
SCHQ IAmb IAmb 13 37 37.4
comp=Z,9.4nm,0.8s
SCHQ Schefferville 81.48 329 P **P 13 37 33.3 -1.1**
comp=Z,8.5nm,0.7s,baz=65,slow=5.4,SNR=6.5
comp=Z,8.5nm,0.7s
TOLK Toolik Lake Re 81.64 8 P **P 13 37 35.5 +0.5**
TOLK IAmb IAmb 13 37 38.4
comp=Z,16nm,1.4s
INK Inuvik 83.16 2 P **P 13 37 43.1 +0.3**
INK Inuvik 83.16 2 P **P 13 37 43.1 +0.3**
INK pmax pmax
comp=Z,13nm,1.3s
BMAR Burnt Mountain 83.34 6 P **P 13 37 44.8 +0.9**
F28M Old Crow 83.54 4 P **P 13 37 45.0 +0.1**
F28M IAmb IAmb 13 37 46.2
comp=Z,6.4nm,1.1s
IMAR Indian Mountai 83.57 10 P **P 13 37 44.9 -0.1**
F31M Tsiigehtchic 84.02 2 P **P 13 37 47.3 0.0**
H21K Melozitna Rive 84.02 10 P **P 13 37 47.9 +0.5**
H21K IAmb IAmb 13 38 00.9
comp=Z,6.7nm,1.3s
G30M tAoh Zraii Nji 84.38 3 P **P 13 37 49.0 -0.2**
G30M IAmb IAmb 13 38 24.1
comp=Z,9.4nm,1.1s
I23K Minto, Yukon-K 84.99 9 P **P 13 37 51.4 -0.8**
I23K IAmb IAmb 13 37 53.1
comp=Z,4.7nm,1.2s
H29M Whitestone 85.02 4 P **P 13 37 50.9 -1.5**
J20K Nowinta River 85.19 11 P **P 13 37 53.7 +0.4**
J20K IAmb IAmb 13 38 24.0
comp=Z,6.2nm,1.2s
MDM Murphy Dome 85.32 8 P **P 13 37 53.9 -0.1**
H31M Peel River 85.64 2 P **P 13 37 55.5 -0.1**
ILAR Eielson Array 85.67 8 P **P 13 37 54.1 -1.5**
ILAR Eielson Array 85.67 8 P **P 13 37 55.0 -0.6**
comp=Z,0.8nm,0.7s,baz=323,slow=3.2,SNR=9.3
comp=Z,0.8nm,0.7s
I28M Miner Creek 85.68 5 P **P 13 37 55.7 -0.1**
I28M IAmb IAmb 13 37 58.9
comp=Z,3.2nm,0.9s
BPAW Bear Paw Mtn. 85.76 10 P **P 13 37 55.7 -0.4**
BPAW IAmb IAmb 13 37 57.2
comp=Z,6.4nm,0.8s
J25K Salcha River, 86.00 7 P **P 13 37 57.3 -0.1**
J25K IAmb IAmb 13 37 58.1
comp=Z,3.7nm,0.8s
I30M Mount Dempster 86.13 3 P **P 13 37 57.8 -0.3**
I30M IAmb IAmb 13 38 04.7
comp=Z,4.3nm,0.8s
CAST Castle Rocks 86.23 10 P **P 13 37 58.4 -0.1**
CAST IAmb IAmb 13 37 59.5
comp=Z,5.1nm,0.9s
J26L Joseph Creek 86.30 7 P **P 13 37 58.0 -0.9**
KNRA Kununurra 86.56 110 P **P 13 37 58.1 -2.6**
KNRA IAmb IAmb 13 38 02.6
comp=Z,9.6nm,1.1s
DAWY Dawson 87.09 5 P **P 13 38 03.2 +0.5**
DAWY IAmb IAmb 13 38 06.3
comp=Z,7.3nm,1.1s
K29M Barlow Dome 87.44 4 P **P 13 38 04.7 +0.2**
K29M IAmb IAmb 13 38 05.6
comp=Z,4.4nm,0.9s
BCAR Beaver Creek A 87.88 6 P **P 13 38 04.3 -2.2**
L27K Beaver Creek, 87.88 6 P **P 13 38 06.9 +0.4**
L27K IAmb IAmb 13 38 19.9
comp=Z,9.7nm,1.5s
SUA Susitna One 88.29 11 P **P 13 38 08.7 +0.1**
YKA Yellowknife Ar 88.41 354 P **P 13 38 09.0 0.0**
YKA Yellowknife Ar 88.41 354 P **P 13 38 09.0 0.0**
comp=Z,2.0nm,0.7s,baz=348,slow=9.7,SNR=4.5
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 93.28 111 P **P 13 38 31.1 -1.3**
comp=Z,0.7nm,0.8s,baz=314,slow=3.9,SNR=8.4
comp=Z,0.7nm,0.8s
ASAR Alice Springs 94.74 114 P **P 13 38 37.5 -1.5**
comp=Z,1.4nm,0.8s,baz=304,slow=4.6,SNR=30
comp=Z,1.4nm,0.8s

IDC ***02*** *13:25:42.3±2.3,1°.98N×96°.44E,h0km,mb4.0/7, mbtmp4.0/8,ML3.8/1,Error ellipse: s-maj=96.2km s-min=20.1km az=58.0*
NEIC ***02*** *13:25:48.7±1.0,2°.15N±0°.04×96°.7E±0°.1,h30km±7km, mb4.3/9,Error ellipse: s-maj=16.8km s-min=5.6km az=93.0*
ISC 02 13:25:47.5±0.9,2°.12N±0°.09×96°.7E±0°.1,h28km,n41, σ0=66/28,mb4.3/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.22**	**132**		**Pn**	**13 26 09.2**	**+0.4**
RPSI	**Rantau Prapat**	**2.33**	**76**		**Pn**	**13 26 24.2**	**+0.2**
LHMI	**Lhok Sumawe**	**3.10**	**5**	Pn	Pn	13 26 30.3	-4.3
KULM	**Kulim**	**5.07**	**52**		**Pn**	**13 27 01.8**	**0.0**
CM31	**Chiang Mai Arr**	**16.39**	**8**		**Pn**	**13 29 37.4**	**+1.7**
CMAR	**Chiang Mai Arr**	**16.39**	**8**	Pn	**Pn**	**13 29 36.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**16.39**	**8**	Pn	**Pn**	**13 29 37.4**	**+1.7**
	0.1nm,0.3s,baz=198,slow=11,SNR=34						
	3.0nm,0.8s						
CRAI	**Chiangrai**	**18.36**	**11**	P	**P**	**13 29 59.9**	**-0.2**
H08S2	**Diego Garcia H**	**25.99**	**248**	T	T	13 58 08.3	
	baz=69,slow=76,SNR=45						
H08S3	**Diego Garcia H**	**25.99**	**248**	T	T	13 58 05.0	
	baz=69,slow=76,SNR=260						
H08S1	**Diego Carcia H**	**26.01**	**248**	T	T	13 58 13.0	
	baz=69,slow=76,SNR=24						
GOMU	**GeErMu**	**33.95**	**357**	P	**P**	**13 32 28.1**	**-0.8**
GOMU				pP	pP	13 32 33.7	-3.5
GOMU				sP	sP	13 32 35.0	-5.6
GOMU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,94nm,4.7s						
GTA	**Gaotai**	**37.22**	**4**	*eP*	**P**	**13 32 55.8**	**-0.9**
GTA				pP	pP	13 33 00.5	-4.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
H01W3	**Cape Leeuwin H**	**40.30**	**158**	T	T	14 16 11.7	
	baz=333,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**40.31**	**158**	T	T	14 16 12.5	
	baz=333,slow=76,SNR=17						
H01W1	**Cape Leeuwin H**	**40.31**	**158**	T	T	14 16 12.2	
	baz=333,slow=76,SNR=16						
WB0	**Warramunga Arr**	**42.95**	**122**	P	**P**	**13 33 44.3**	**-0.1**

WRA	**Warramunga Arr**	**42.98**	**122**	P	**P**	**13 33 44.3**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=299,slow=9.3,SNR=6.2						
	comp=Z,0.8nm,0.9s						
WB2	**Warramunga Arr**	**42.99**	**122**	P	**P**	**13 33 44.5**	**-0.2**
WB2				IAmb	IAmb	13 33 46.4	
	comp=Z,5.0nm,1.2s						
WR0	**Warramunga Arr**	**43.16**	**122**	P	**P**	**13 33 45.3**	**-0.8**
WR0				IAmb	IAmb	13 34 06.4	
	comp=Z,8.1nm,1.4s						
ASAR	**Alice Springs**	**44.38**	**127**	P	**P**	**13 33 55.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=301,slow=8.5,SNR=5.2						
	comp=Z,0.3nm,0.7s						
MK31	**Makanchi Array**	**46.22**	**346**	P	**P**	**13 34 10.0**	**-0.2**
MK31				IAmb	IAmb	13 34 10.9	
	comp=Z,2.9nm,0.8s						
MKAR	**Makanchi Array**	**46.22**	**346**	P	**P**	**13 34 09.7**	**-0.5**
MKAR	**Makanchi Array**	**46.22**	**346**	P	**P**	**13 34 09.4**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=160,slow=9.2,SNR=13						
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**46.31**	**9**	P	**P**	**13 34 10.5**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=196,slow=7.6,SNR=4.8						
	comp=Z,0.7nm,0.3s						
MAKZ	**Makanchi**	**46.31**	**346**	P	**P**	**13 34 10.9**	**0.0**
MAKZ				IAmb	IAmb	13 34 51.9	
	comp=Z,6.1nm,1.1s						
KURBB	**Kurchatov Arra**	**50.70**	**345**	P	**P**	**13 34 44.5**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=165,slow=6.9,SNR=8.5						
	comp=Z,1.4nm,0.6s						
USA0B	**Ussuriysk Arra**	**52.27**	**32**	P	**P**	**13 34 56.7**	**+0.3**
USRK	**Ussuriysk Ar.**	**52.27**	**32**	P	**P**	**13 34 56.5**	**-0.1**
ZAA0	**Zalesovo Array**	**52.57**	**351**	P	**P**	**13 34 58.4**	**0.0**
ZAA0				IAmb	IAmb	13 34 59.2	
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**52.57**	**351**	P	**P**	**13 34 58.3**	**-0.1**
ZALV	**Zalesovo Beam**	**52.57**	**351**	P	**P**	**13 34 58.6**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=174,slow=5.9,SNR=10						
	comp=Z,3.5nm,0.6s						
BVAR	**Borovoye Array**	**55.21**	**341**	P	**P**	**13 35 17.2**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=140,slow=8.7,SNR=4.2						
	comp=Z,1.1nm,0.5s						
ABKAR	**Akbulak array**	**56.45**	**332**	P	**P**	**13 35 27.1**	**+0.4**
H04N2	**CROZET ISLANDS**	**62.23**	**214**	T	T	14 43 43.6	
	baz=53,slow=75,SNR=272						
H04N1	**CROZET ISLANDS**	**62.25**	**214**	T	T	14 43 35.6	
	baz=53,slow=75,SNR=271						
H04N3	**CROZET ISLANDS**	**62.25**	**214**	T	T	14 43 43.9	
	baz=53,slow=75,SNR=277						
H04S1	**CROZET ISLANDS**	**62.59**	**213**	T	T	14 44 07.4	
	baz=51,slow=75,SNR=88						
H04S3	**CROZET ISLANDS**	**62.60**	**213**	T	T	14 44 00.1	
	baz=51,slow=75,SNR=135						
H04S2	**CROZET ISLANDS**	**62.60**	**213**	T	T	14 44 17.2	
	baz=51,slow=75,SNR=72						
CAMP	**Campotosto**	**83.59**	**312**	P	**P**	**13 38 14.3**	**+0.6**

*TIF **02** 13:28:26.8, 40°.62N×47°.98E, h32km±2km*
*MOS **02** 13:28:28.9±0.0, 41°.17N×47°.93E, h8km, MPVA3.8*
*DRS **02** 13:28:30.3±0.0, 41°.09N×48°.08E, h19km*
ISC 02 13:28:28.8±2.1, 41°.11N±0°.06×47°.96E±0°.07, h8km±11km, n19, σ1§47/37, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	**Akhty**	**0.41**	**335**	*i* Pg	**Pb**	13 28 37.3	-1.2
AKT				*e*Sg	**Sb**	13 28 42.9	-2.0
KSMR	**Kasumkent**	**0.51**	**14**	*i* Pg	**Pb**	13 28 39.8	-0.3
KSMR				*e*Sg	**Sb**	13 28 47.4	-0.3
DRN	**Derbent**	**0.96**	**16**	*e*Pg	**Pn**	13 28 47.5	-1.1
DRN				*e*Sg	**Sb**	13 29 00.1	-0.5
URKR	**Urkarakh**	**1.09**	**347**	*e*Pg	**Pn**	13 28 49.6	-0.9
URKR				*e*Sg	**Sn**	13 29 05.1	-0.7
KMKR	**Kumukh**	**1.21**	**328**	*e*Pg	**Pn**	13 28 52.0	-0.3
KMKR				*i* Sg	**Sn**	13 29 09.6	+0.7
SGKR	**Sergokala**	**1.37**	**351**	*e*Pg	**Pg**	13 28 56.6	+1.6
SGKR				*e*Sg	**Sn**	13 29 15.7	+3.1
GNBR	**Gunib**	**1.48**	**330**	*e*Pg	**Pg**	13 28 57.4	+0.1
GNBR				*i* Sg	**Sg**	13 29 18.6	+2.1
ARKR	**Arakani**	**1.66**	**335**	*e*Pg	**Pg**	13 29 00.1	-0.6
ARKR				*e*Sg	**Sg**	13 29 22.7	+0.5
UNCR	**Uncukul**	**1.83**	**332**	*e*Pg	**Pg**	13 29 04.1	+0.3
UNCR				*e*Sg	**Sg**	13 29 29.4	+1.8
BUJR	**Buynaksk**	**1.83**	**340**	*e*Pg	**Pg**	13 29 03.2	-0.6
BUJR				*e*Sg	**Sg**	13 29 30.8	+3.1
BTLR	**Botlikh**	**2.03**	**321**	*e*Pg	**Pg**	13 29 06.8	-0.8
BTLR				*e*Sg	**Sg**	13 29 34.9	+1.0
DBC	**Dubki**	**2.09**	**337**	*e*Pg	**Pb**	13 29 06.3	-0.7
DBC				*i* Sg	**Sg**	13 29 36.1	+0.1
DLMR	**Dylym**	**2.20**	**334**	*e*Pg	**Pg**	13 29 10.1	-0.8
DLMR				*e*Sg	**Sg**	13 29 40.8	+1.4
DVE	**Vedeno**	**2.30**	**324**	*e*Pg	**Pb**	13 29 09.9	-0.7
DVE				*e*Sg	**Sg**	13 29 40.1	-2.5
SHTL	**Shatili**	**2.61**	**307**	P	**Pb**	13 29 12.9	-3.0
SHTL				S	**Sg**	13 29 53.9	+1.4
GNI	**Garni**	**2.63**	**250**	*e*Pn	**Pb**	13 29 15.2	-1.1
GNI				*e*Sn	**Sb**	13 29 49.1	+0.4
TRLG	**Trialeti**	**2.94**	**280**	P	**Pn**	13 29 15.6	-0.4
ALIG	**Mtskhetisjvari**	**3.38**	**289**	*e*Pn	**Pn**	13 29 23.1	+1.1
ALIG				*e*Sn	**Sn**	13 30 04.1	+1.7
ALIG	**Mtskhetisjvari**	**3.38**	**289**	P	**Pn**	13 29 23.1	+1.1
ALIG				S	**Sn**	13 30 04.1	+1.7

*JMA **02** 13:40:57.2±0.4, 38°.N±1°.×13°.4E±°, h424km±4km, MV3.0/19, SEA OF JAPAN*
*IDC **02** 13:40:58.2±1.1, 37°.91N×134°.47E, h411km±15km, mb2.6/3, mbtmp3.6/7, Error ellipse: s-maj=24.1km s-min=17.9km az=138.0*
ISC 02 13:40:57.9±1.0, 37°.98N±0°.09×134°.52E±0°.08, h407km, n26, σ1§67/29, mb2.9/3, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**1.90**	**93**	*e*P	**P**	13 41 55.4	+1.5
JKG	**Kaga**	**2.23**	**139**	*e*P	**P**	13 41 57.1	+1.1
JSZ	**Suzu**	**2.32**	**102**	*e*P	**P**	13 41 58.2	+1.7
JWT	**Wachi**	**2.78**	**165**	*e*P	**P**	13 42 00.8	+0.8
JSD	**Sado**	**2.95**	**88**	P	**P**	13 42 02.8	+1.6
JSD	**Sado**	**2.95**	**88**	*e*P	**P**	13 42 02.9	+1.7
JHS	**Saijyo**	**3.18**	**201**	*e*P	**P**	13 42 02.8	-0.4
MAJO	**Matsushiro**	**3.27**	**115**	P	**P**	13 42 05.3	+1.4
MJAR	**Matsushiro Arr**	**3.27**	**115**	P	**P**	13 42 05.6	+1.7
	8.2nm,0.7s,baz=297,slow=9.9,SNR=31						
JGF	**Kuroka**	**3.29**	**135**	P	**P**	13 42 05.0	+0.9
JRY	**Ryogami san**	**4.02**	**118**	*e*P	**P**	13 42 12.0	+1.5
JOD2	**Odawara 2**	**4.56**	**125**	*e*P	**P**	13 42 16.8	+1.0
JMM	**Marumori**	**4.96**	**89**	P	**P**	13 42 21.4	+1.8
KSRS	**Korea Array**	**5.26**	**266**	P	**P**	13 42 22.6	0.0
	3.4nm,0.6s,baz=83,slow=11,SNR=14						
JMK	**Ichinoseki**	**5.35**	**77**	*e*P	**P**	13 42 25.3	+1.7
JMK				*e*S	**S**	13 43 33.6	-0.1
JOSM	**Okushiri--Mats**	**5.59**	**41**	*e*P	**P**	13 42 28.7	+2.7
JTM	**Tenmabayashi**	**5.79**	**59**	P	**P**	13 42 30.4	+2.2
JOT	**Ohata**	**6.07**	**54**	*e*P	**P**	13 42 33.4	+2.2
BSO1	**Boso 1**	**6.18**	**121**	*e*P	**P**	13 42 32.4	+0.5
BSO1				*e*S	**S**	13 43 48.1	-1.0
USRK	**Ussuriysk Ar.**	**6.50**	**344**	P	**P**	13 42 37.4	+0.8
	3.8nm,0.6s,baz=174,slow=10,SNR=10						
ERM	**Erimo**	**7.76**	**56**	P	**P**	13 42 51.3	+0.9
JCH	**Churui**	**8.19**	**53**	*e*P	**P**	13 42 56.4	+1.3
JCH				*e*S	**S**	13 44 26.3	-4.7
ASAJ	**Asahikawa**	**8.65**	**42**	P	**P**	13 43 00.5	+0.3
	18nm,0.5s,baz=235,slow=11,SNR=29						
CMAR	**Chiang Mai Arr**	**36.59**	**248**	P	**P**	13 47 27.1	-0.4
	0.8nm,0.6s,baz=46,slow=7.6,SNR=8.3						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**51.64**	**32**	P	**P**	13 49 25.1	+0.7
	0.3nm,0.8s,baz=282,slow=10,SNR=4.2						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**61.32**	**181**	P	**P**	13 50 31.4	-0.9
	0.2nm,0.5s,baz=11,slow=13,SNR=6.7						
	0.2nm,0.5s						

*NOU **02** 13:45:00.3, 39°.81S×172°.66E, h9km, MLv3.6/7, Off W. Coast of N. Island, N.Z.*
*WEL **02** 13:45:02.2±0.6, 40°.S±3°.×17°.3E±°, h4km±3km, M3.3/31, ML3.6/18, MLv3.3/31, Error ellipse: s-maj=0.0km s-min=0.0km az=108.3, confirmed*
ISC 02 13:45:00.9±1.2, 39°.95S±0°.03×172°.95E±0°.04, h8km±12km, n87, σ1§43/96, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	**0.89**	**54**	P	**Pg**	13 45 18.7	+0.6
NMEZ				S	**Sg**	13 45 30.8	+1.1
QRZ	**Quartz Range**	**0.94**	**200**	P	**Pb**	13 45 20.3	+0.9
QRZ	**Quartz Range**	**0.94**	**200**	P	**Pb**	13 45 20.4	+0.9
NBEZ	**Newall Road No**	**0.98**	**47**	P	**Pg**	13 45 20.5	+0.8
NBEZ				S	**Sg**	13 45 33.6	+1.0
KHEZ	**Kahui Hut**	**1.05**	**52**	P	**Pg**	13 45 21.3	+0.2
KHEZ	**Kahui Hut**	**1.05**	**52**	P	**Pg**	13 45 21.4	+0.3
KHEZ				S	**Sg**	13 45 35.3	+0.6
TKNZ	**Takaka Hill**	**1.09**	**179**	P	**Pg**	13 45 21.9	+0.1
TKNZ				S	**Sg**	13 45 35.8	-0.2
PKE	**Pukeiti**	**1.10**	**47**	P	**Pg**	13 45 22.5	+0.4
PKE				S	**Sg**	13 45 37.1	+0.7
NEZ	**North Egmont**	**1.11**	**53**	P	**Pg**	13 45 22.2	-0.1
DUWZ	**D'Urville Isla**	**1.13**	**139**	P	**Pg**	13 45 21.2	-1.5
DUWZ				S	**Sg**	13 45 34.0	-3.4
DREZ	**Durham Road**	**1.23**	**52**	P	**Pg**	13 45 24.2	-0.3
DREZ				S	**Sg**	13 45 40.6	+0.2
NNZ	**Nelson**	**1.31**	**166**	P	**Pn**	13 45 24.6	-1.0
MRNZ	**Matariki Terra**	**1.46**	**186**	P	**Pn**	13 45 27.8	+0.1
MRNZ				S	**Sn**	13 45 47.2	+0.2
WAZ	**Wanganui**	**1.58**	**84**	P	**Pn**	13 45 28.8	-0.6
TCW	**Tory Channel**	**1.62**	**142**	P	**Pn**	13 45 28.9	-0.9
VRZ	**Vera Road**	**1.62**	**60**	P	**Pn**	13 45 29.2	-0.7
TUWZ	**Tuamarina**	**1.66**	**153**	P	**Pn**	13 45 29.6	-0.9
TUWZ				S	**Sn**	13 45 49.9	-2.2
KIW	**Kapiti Island**	**1.75**	**122**	P	**Pn**	13 45 31.3	-0.4
THZ	**Tophouse**	**1.82**	**181**	P	**Pn**	13 45 32.8	+0.2
BSWZ	**Blackbirch Sta**	**1.90**	**159**	P	**Pn**	13 45 34.1	+0.4
OGWZ	**Otaki Gorge**	**1.91**	**118**	P	**Pn**	13 45 34.4	+0.6
SNZO	**South Karori**	**1.91**	**136**	P	**Pn**	13 45 35.4	+1.6
WEL	**Wellington**	**1.93**	**135**	P	**Pn**	13 45 35.3	+1.3
PKVZ	**Pokaka**	**1.96**	**71**	P	**Pn**	13 45 35.6	+1.0
CAW	**Cannon Point**	**1.99**	**126**	P	**Pn**	13 45 35.3	+0.4
DSZ	**Denniston Nort**	**2.00**	**205**	P	**Pn**	13 45 35.8	+0.7
CMWZ	**Cape Campbell**	**2.04**	**152**	P	**Pb**	13 45 38.8	+0.5
HIZ	**Hauiti**	**2.06**	**47**	P	**Pn**	13 45 36.1	+0.2
HIZ	**Hauiti**	**2.06**	**47**	P	**Pn**	13 45 35.9	0.0
TRVZ	**Turoa**	**2.11**	**73**	P	**Pb**	13 45 39.2	-0.4
TWVZ	**Taurewa**	**2.12**	**66**	P	**Pn**	13 45 38.0	+1.2
FWVZ	**Far West T-bar**	**2.13**	**72**	P	**Pn**	13 45 38.7	+1.6
MRZ	**Mangatainoka R**	**2.13**	**110**	P	**Pn**	13 45 37.9	+1.0
WNVZ	**Wahianoa**	**2.14**	**74**	P	**Pn**	13 45 39.6	+2.5
HOWZ	**Holdsworth Sta**	**2.18**	**117**	P	**Pn**	13 45 38.8	+1.2
NGZ	**Ngauruhoe**	**2.19**	**70**	P	**Pn**	13 45 38.9	+1.1
TUVZ	**Tukino**	**2.20**	**73**	P	**Pn**	13 45 39.4	+1.5
WTVZ	**West Tongariro**	**2.21**	**69**	P	**Pn**	13 45 40.4	+2.4
POWZ	**Post Office Ro**	**2.21**	**103**	P	**Pn**	13 45 40.4	+2.5
NNVZ	**North Ngauruho**	**2.22**	**69**	P	**Pn**	13 45 39.3	+1.0
MOVZ	**Moawhango**	**2.23**	**77**	P	**Pn**	13 45 39.7	+1.3
KRVZ	**Karewarewa**	**2.25**	**69**	P	**Pn**	13 45 38.8	+0.2
ETVZ	**East Tongariro**	**2.28**	**70**	P	**Pn**	13 45 41.2	+2.1
TMVZ	**Te Maari**	**2.29**	**70**	P	**Pn**	13 45 40.9	+1.7
MTW	**Mount Morrison**	**2.29**	**123**	P	**Pn**	13 45 40.1	+1.0
TSZ	**Takapari Road**	**2.32**	**94**	P	**Pn**	13 45 40.7	+1.2
PAWZ	**Paruwai Farm**	**2.37**	**128**	P	**Pn**	13 45 42.6	+2.4
PLWZ	**Palliser**	**2.39**	**134**	P	**Pb**	13 45 44.6	+0.4
PRWZ	**Pori Road**	**2.39**	**106**	P	**Pn**	13 45 43.0	+2.6
TIWZ	**Tintock**	**2.39**	**111**	P	**Pb**	13 45 44.0	-0.3
RATZ	**Rangitukua**	**2.44**	**65**	P	**Pb**	13 45 44.2	-1.0
BHHZ	**Black Hill Sta**	**2.45**	**80**	P	**Pn**	13 45 43.1	+1.8
DVHZ	**Dannevirke**	**2.49**	**99**	P	**Pn**	13 45 45.2	+3.3
PNHZ	**Pukenui**	**2.50**	**90**	P	**Pn**	13 45 43.8	+1.8
KHZ	**Kahutara**	**2.51**	**170**	P	**Pn**	13 45 43.1	+1.0
KHZ	**Kahutara**	**2.51**	**170**	P	**Pn**	13 45 43.0	+1.0
TMWZ	**Te Maipa**	**2.52**	**118**	P	**Pn**	13 45 44.8	+2.5
TRWZ	**Traveller**	**2.54**	**126**	P	**Pb**	13 45 47.5	+0.7
TLZ	**Tolley Road**	**2.58**	**52**	P	**Pb**	13 45 46.7	-0.9
BFZ	**Birch Farm**	**2.63**	**107**	P	**Pb**	13 45 47.3	-1.0
BFZ	**Birch Farm**	**2.63**	**107**	P	**Pb**	13 45 47.8	-0.5
KRHZ	**Kereru**	**2.65**	**85**	P	**Pn**	13 45 46.9	+2.8
WPHZ	**Waipukurau**	**2.69**	**94**	P	**Pb**	13 45 49.4	+0.1
BKZ	**Black Stump Fm**	**2.85**	**75**	P	**Pn**	13 45 49.6	+2.8
BKZ	**Black Stump Fm**	**2.85**	**75**	P	**Pb**	13 45 50.5	-1.6
LTZ	**Lake Taylor**	**2.88**	**190**	P	**Pn**	13 45 49.1	+1.9
MCHZ	**McNeill Hill**	**2.94**	**81**	P	**Pb**	13 45 54.9	+1.4
TOZ	**Tahuroa Road**	**2.98**	**43**	P	**Pn**	13 45 48.7	+0.2
INZ	**Inchbonnie**	**3.00**	**202**	P	**Pn**	13 45 49.6	+0.8
GVZ	**Greta Valley S**	**3.02**	**179**	P	**Pn**	13 45 49.7	+0.6
KAHZ	**Kahuranaki**	**3.03**	**88**	P	**Pb**	13 45 55.9	+0.7
MTHZ	**Maungataniwha**	**3.21**	**71**	P	**Pb**	13 45 57.9	-0.3
MKAZ	**Moumakai**	**3.33**	**32**	P	**Pb**	13 45 58.0	-2.2
ETAZ	**East Tamaki Re**	**3.37**	**28**	P	**Pn**	13 45 55.9	+2.1
RVAZ	**Riverhead Bore**	**3.42**	**23**	P	**Pb**	13 46 00.2	-1.6
OXZ	**Oxford**	**3.45**	**191**	P	**Pn**	13 45 55.8	+0.8
OPRZ	**Ohinepanea**	**3.51**	**54**	P	**Pb**	13 46 00.7	-2.7
MBAZ	**Motutapu North**	**3.52**	**26**	P	**Pb**	13 46 01.1	-2.4
WVZ	**Waitaha Valley**	**3.54**	**207**	P	**Pn**	13 45 57.2	+1.0
WIAZ	**Waiheke Island**	**3.59**	**29**	P	**Pb**	13 46 02.0	-2.6
MHCZ	**Mount Hutt**	**3.73**	**196**	P	**Pn**	13 45 59.4	+0.5
GCSZ	**Gaunt Creek Bo**	**3.90**	**209**	P	**Pn**	13 46 02.5	+1.3
WCZ	**Waipu Caves**	**4.15**	**16**	P	**Pn**	13 46 05.5	+0.9
FOZ	**Fox Glacier**	**4.28**	**212**	P	**Pn**	13 46 08.1	+1.6
TMZ	**Timaru**	**4.66**	**197**	P	**Pn**	13 46 11.4	-0.3
JCZ	**Jackson Bay**	**5.16**	**216**	P	**Pn**	13 46 21.1	+2.5
ODZ	**Otahua Downs**	**5.37**	**198**	P	**Pn**	13 46 21.1	-0.3

*IDC **02** 13:54:09.7±1.3, 0°.79N×127°.43E, h0km, mb3.4/4, mbtmp3.4/5, ML2.8/1, Error ellipse: s-maj=60.1km s-min=22.2km az=63.0*
*DJA **02** 13:54:10.1±0.5, 1°.N±4°.×12°.7E±°, h12km±3km, M3.3/7, MLv3.3/7*
ISC 02 13:54:11.4±1.0, 0°.9N±0°.1×127°.60E±0°.06, h10km, n9, σ1§00/11, mb3.5/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.24**	**252**	P	**Pg**	13 54 16.6	+0.2
TNTI				S	**Sg**	13 54 20.8	+1.1
LBMI	**Labuha**	**1.48**	**184**	P	**Pn**	13 54 38.6	+0.5
SANI	**Sanana**	**3.29**	**209**	P	**Pn**	13 55 02.6	-0.5
SWI	**Sorong**	**4.04**	**115**	P	**Pn**	13 55 14.0	+0.7
SIJI	**Sorong**	**4.04**	**115**	Pn	**Pn**	13 55 14.9	+1.4
	0.6nm,0.3s,baz=66,slow=24,SNR=6.4						
SIJI				Sn	**Sn**	13 55 59.6	-1.4
	0.1nm,0.3s,baz=343,slow=19,SNR=0.8						
	2.0nm,0.4s						
WRA	**Warramunga Arr**	**21.69**	**163**	P	**P**	13 59 03.3	+0.7
	0.7nm,0.6s,baz=341,slow=11,SNR=6.4						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**25.12**	**166**	P	**P**	13 59 35.7	-1.1
	0.7nm,0.8s,baz=343,slow=8.2,SNR=9.1						
	0.7nm,0.8s						
SONM	**Songino Array**	**50.29**	**342**	P	**P**	14 03 07.7	-0.6
	0.5nm,0.8s,baz=152,slow=6.5,SNR=2.2						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**60.41**	**326**	P	**P**	14 04 21.1	-0.1
	0.6nm,0.8s,baz=109,slow=10,SNR=3.0						
	0.6nm,0.8s						

*IDC **02** 13:58:27.4±0.9, 42°.90N×36°.44E, h0km, mb3.5/2, mbtmp3.4/7, ML3.1/5, Error ellipse: s-maj=15.7km s-min=11.5km az=161.0*
*ISK **02** 13:58:31.9, 42°.62N×36°.42E, h4km, ML2.9/8*
*AFAD **02** 13:58:32.7±0.0, 42°.71N×36°.31E, h35km±1km, ML2.9*
*MOS **02** 13:58:32.5±0.0, 43°.13N×36°.58E, h14km±1km, MPVA3.8*
*SIGU **02** 13:58:34.0, 43°.05N×36°.44E, h30km, Black Sea District 9*
ISC 02 13:58:32.7±1.9, 42°.94N±0°.03×36°.37E±0°.03, h36km±3km, n49, σ1§36/84, 1D, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SINO	**SINOP_Merkez**	**1.26**	**224**	P	**Pn**	13 58 53.0	-0.8
SINO				S	**Sn**	13 59 07.6	-1.9
SINO				*i* AML	AML	13 59 10.0	
	comp=E,290nm,0.1s						
SINO				*i* AML	AML	13 59 11.0	
	comp=N,323nm,0.3s						
SINP	**Sinop**	**1.34**	**225**	Pn	**Pn**	13 58 54.8	-0.1
SINP				Sn	**Sn**	13 59 11.4	-0.1
DIKM	**Dikmen**	**1.53**	**213**	Pn	**Pn**	13 58 57.2	-0.3
DIKM				Sn	**Sn**	13 59 15.6	-0.5
SAMS	**Samsun-Alacam**	**1.58**	**185**	P	**Pn**	13 58 58.1	-0.1
SAMS				S	**Sn**	13 59 16.6	-0.9
SAMS				*i* AML	AML	13 59 18.0	
	comp=E,300nm,0.2s						
SAMS				*i* AML	AML	13 59 23.0	
	comp=N,317nm,0.3s						
SAMS	**Samsun-Alacam**	**1.58**	**185**	*e*Pn	**Pn**	13 58 58.1	-0.1
KVT	**Kavak**	**1.87**	**188**	Pn	**Pn**	13 59 01.3	-1.0
KVT				Sn	**Sn**	13 59 22.5	-2.2
BOYA	**Sinop/Boyabat-**	**1.88**	**222**	P	**Pn**	13 59 02.1	-0.2
BOYA				S	**Sn**	13 59 24.8	-0.1
BOYA				*i* AML	AML	13 59 25.0	
	comp=N,113nm,0.6s						
BOYA				*i* AML	AML	13 59 26.0	
	comp=E,134nm,0.4s						
HAVZ	**Havza**	**1.93**	**195**	P	**Pn**	13 59 03.7	+0.7
HAVZ				S	**Sn**	13 59 25.1	-0.9
HAVZ				*i* AML	AML	13 59 27.0	
	comp=E,174nm,0.2s						
HAVZ				*i* AML	AML	13 59 34.0	
	comp=N,207nm,0.6s						
ANN	**Anapa**	**2.01**	**22**	*e*Pg	**Pn**	13 59 05.3	+1.2
ANN				*e*Sg	**Sn**	13 59 28.1	+0.1
ANN	**Anapa**	**2.01**	**22**	*e*Pn	**Pn**	13 59 04.9	+0.8
ANN				Pnm		13 59 05.6	
	comp=Z,15nm,0.2s						
ANN				*e*Sn	**Sn**	13 59 28.3	+0.3
ANN				Snm		13 59 28.9	
	comp=N,45nm,0.3s						
ANN				Snm		13 59 29.0	
	comp=E,63nm,0.2s						
GELR	**Gelenjik**	**2.02**	**35**	*e*Pg	**Pn**	13 59 04.6	+0.4
GELR				*e*Sg	**Sn**	13 59 28.2	+0.1
YARM	**Yarimca-Ladik(**	**2.06**	**192**	Pn	**Pn**	13 59 03.9	-0.9
KIZO	**Buyukkizoglu-L**	**2.06**	**189**	Pn	**Pn**	13 59 03.9	-1.0
SPGR	**Shapsug**	**2.18**	**34**	*e*Pg	**Pn**	13 59 07.9	+1.4
SPGR				*e*Sg	**Sn**	13 59 30.8	-1.5
SUDU	**Sudak**	**2.19**	**334**	*e*Pn	**Pn**	13 59 07.0	+0.5
SUDU				Pnm		13 59 14.3	
	comp=Z,16nm,0.2s						
SUDU				*e*Sn	**Sn**	13 59 32.4	+0.1
SUDU				Snm		13 59 35.6	
	comp=N,71nm,0.3s						
SUDU				Snm		13 59 35.6	
	comp=E,78nm,0.2s						
FEO	**Feodosiya**	**2.20**	**342**	*e*Sn	**Sn**	13 59 32.4	-0.1
FEO				Snm		13 59 36.9	
	comp=E,83nm,0.3s						
FEO				Snm		13 59 37.1	
	comp=N,69nm,0.2s						
YAL	**Yalta**	**2.23**	**315**	*e*Pn	**Pn**	13 59 08.6	+1.5
YAL				Pnm		13 59 15.8	
	comp=Z,26nm,0.3s						
YAL				*e*Sn	**Sn**	13 59 34.4	+1.0
YAL				Snm		13 59 38.0	
	comp=E,177nm,0.3s						
YAL				Snm		13 59 38.0	
	comp=N,54nm,0.2s						
ORDU	**Ordu-Boztepe**	**2.24**	**150**	P	**Pn**	13 59 06.7	-0.6
ORDU				S	**Sn**	13 59 33.8	+0.1
ORDU				*i* AML	AML	13 59 55.0	
	comp=N,70nm,0.9s						
ALU	**Alushta**	**2.25**	**321**	*e*Pn	**Pn**	13 59 08.4	+1.0
ALU				Pnm		13 59 10.6	
	comp=Z,10.0nm,0.2s						
ALU				*e*Sn	**Sn**	13 59 33.9	0.0
ALU				Snm		13 59 35.3	
	comp=E,208nm,0.2s						
ALU				Snm		13 59 35.5	
	comp=N,582nm,0.2s						
KAGI	**orum-Kargı**	**2.29**	**219**	P	**Pn**	13 59 08.7	+0.8
KAGI				S	**Sn**	13 59 36.8	+2.0
KAGI				*i* AML	AML	13 59 41.0	
	comp=N,74nm,0.4s						
SEYI	**Kastamonu-Seyd**	**2.34**	**237**	P	**Pn**	13 59 09.1	+0.3

*NEIC **02** 14:08:09.4±1.3, 2°.70N±0°.07×127°.13E±0°.06, h21km±5km, mb4.7/42, Error ellipse: s-maj=13.7km s-min=3.3km az=220.0*
*DJA **02** 14:08:15.0±0.5, 2°.N±6°×12°.7E±°, h67km±5km, M4.2/13, mb4.6/13, mB4.8/7, MLv4.2/13, Mw(mB)4.1/7, MwMwp5.8/1, Mwp5.9/1*
*IDC **02** 14:08:15.3±1.5, 2°.50N×126°.80E, h69km±13km, mb4.1/21, mbtmp4.4/25, MS3.7/18, Error ellipse: s-maj=17.9km s-min=7.5km az=70.0*
ISC 02 14:08:13.5±0.3, 2°.57N±0°.04×126°.93E±0°.06, h53km, n144, σ1§78/143, mb4.6/50, MS3.6/18, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.84**	**166**	Pn	**Pn**	**14 08 41.2**	**-1.5**
TNTI	**Ternate**	**1.84**	**166**	P	**Pn**	**14 08 42.8**	**+0.2**
TNTI	**Ternate**	**1.84**	**166**	P	**Pn**	**14 08 42.1**	**-0.5**
LBMI	**Labuha**	**3.24**	**170**	P	**Pn**	**14 09 03.3**	**+1.5**
GTOI	**Gorontalo**	**4.37**	**244**	P	**Pn**	**14 09 20.2**	**+2.9**
DAV	**Davao City (W)**	**4.67**	**343**	P	**Pn**	**14 09 23.0**	**+1.6**
	131nm,0.4s,baz=166,slow=1.5,SNR=1.6						
DAV				S	**Sn**	**14 10 18.9**	**+4.5**
	176nm,0.4s,baz=232,slow=11,SNR=1.7						
SANI	**Sanana**	**4.68**	**192**	P	**Pn**	**14 09 21.5**	**-0.2**
SANI	**Sanana**	**4.68**	**192**	P	**Pn**	**14 09 21.3**	**-0.4**
MRSI	**Marisa**	**5.41**	**247**	P	**Pn**	**14 09 33.9**	**+2.3**
	198nm,0.6s,3μm0.8nm						
SWI	**Sorong**	**5.51**	**128**	P	**Pn**	**14 09 33.4**	**+0.4**
	38nm,0.8s,612nm0.2nm						
SIJI	**Sorong**	**5.52**	**128**	P	**Pn**	**14 09 35.0**	**+1.9**
	8.5nm,0.3s,baz=323,slow=16,SNR=15						
SIJI				S	**Sn**	**14 10 41.0**	**+5.7**
	11nm,0.7s,baz=219,slow=21,SNR=1.6						
SIJI				LR	LR	14 12 02.5	
	comp=Z,823nm,20.5s,baz=324,slow=41						
NLAI	**Namlea**	**5.77**	**178**	P	**Pn**	**14 09 37.7**	**+1.1**
	15nm,1.2s,7μm0.1nm						
TOLI2	**Tolitoli**	**6.32**	**257**	Pn	**Pn**	**14 09 44.5**	**+0.4**
TOLI2	**Tolitoli**	**6.32**	**257**	P	**Pn**	**14 09 44.4**	**+0.4**
MPSI	**Mapaga**	**7.37**	**253**	P	**Pn**	**14 10 01.9**	**+3.3**
	28nm,0.6s,350nm0.1nm						
FAKI	**Fak Fak**	**7.61**	**136**	Pn	**Pn**	**14 09 59.1**	**-2.7**
MYLDM	**Lahad Datu**	**8.80**	**287**	Pn	**Pn**	**14 10 19.1**	**+0.9**
TTSI	**Tana Toraja**	**9.04**	**232**	P	**Pn**	**14 10 22.8**	**+1.4**
	24nm,0.8s						
KAPI	**Kappang**	**10.40**	**224**	P	**Pn**	**14 10 38.4**	**-1.6**
	4.7nm,0.4s,baz=82,slow=15,SNR=1.5						
BATI	**Baumata**	**13.10**	**194**	P	**Pn**	**14 11 18.9**	**+1.9**
	6.4nm,0.4s,baz=324,slow=17,SNR=1.3						
BBKI	**Banjar Baru**	**13.49**	**244**	P	**Pn**	**14 11 19.7**	**-2.6**
PLAI	**Plampang**	**14.54**	**219**	P	**Pn**	**14 11 38.2**	**+1.8**
PLAI	**Plampang**	**14.54**	**219**	P	**Pn**	**14 11 37.5**	**+1.1**
	65nm,0.9s,28μm						
SBUM	**Sibu**	**14.70**	**270**	Pn	**Pn**	**14 11 39.8**	**+1.4**
TWSI	**Taliwang, Sumb**	**15.05**	**222**	P	**Pn**	**14 11 44.1**	**+1.1**
	88nm,0.8s						
STKI	**Sintang**	**15.65**	**261**	P	**P**	**14 11 53.7**	**-0.3**
MTN	**Manton Dam**	**15.87**	**165**	Pn	**Pn**	**14 11 52.2**	**-1.3**
JAGI	**Jajag, Banyuwa**	**16.81**	**229**		**P**	**14 12 06.7**	**-0.1**
JAGI				IAmb	IAmb	14 12 12.4	
	comp=Z,42nm,1.1s						
KNRA	**Kununurra**	**18.22**	**174**		**P**	**14 12 21.5**	**-0.9**
KNRA	**Kununurra**	**18.22**	**174**	P	**Pn**	**14 12 22.3**	**-0.4**
TWG	**Pinlang**	**20.92**	**345**	P	**P**	**14 12 47.8**	**-3.9**
TWG				IAmb	IAmb	14 13 04.1	
	comp=Z,20nm,0.4s						
YULB	**Yu-li**	**21.41**	**346**	P	**P**	**14 12 53.1**	**-3.9**
YULB	**Yu-li**	**21.41**	**346**	P	**P**	**14 12 54.6**	**-2.4**
LEM	**Lembang**	**21.42**	**244**	P	**P**	**14 12 57.9**	**+0.5**
	comp=Z,16nm,0.4s,baz=30,slow=14,SNR=2.2						
	comp=Z,16nm,0.4s						
TPUB	**Ta-pu**	**21.50**	**344**	P	**P**	**14 12 54.6**	**-3.3**
TPUB				IAmb	IAmb	14 13 34.4	
	comp=Z,22nm,0.9s						
TPUB	**Ta-pu**	**21.50**	**344**	P	**P**	**14 12 55.7**	**-2.2**
SSLB	**Suanglung**	**21.87**	**345**	P	**P**	**14 12 58.6**	**-3.3**
SSLB	**Suanglung**	**21.87**	**345**	P	**P**	**14 13 00.2**	**-1.8**
YHNB	**Yeheng**	**22.62**	**347**	P	**P**	**14 13 05.7**	**-4.3**
YHNB				IAmb	IAmb	14 13 10.3	
	comp=Z,12nm,0.7s						
WB0	**Warramunga Arr**	**23.38**	**162**	P	**P**	**14 13 16.3**	**-1.3**
WB0				IAmb	IAmb	14 13 18.7	
	comp=Z,26nm,1.1s						
WRAB	**Tennant Creek**	**23.52**	**162**	P	**P**	**14 13 17.4**	**-1.6**
WRAB				IAmb	IAmb	14 13 24.5	
	comp=Z,22nm,0.8s						
WRAB	**Tennant Creek**	**23.52**	**162**	P	**P**	**14 13 18.1**	**-0.9**
WRA	**Warramunga Arr**	**23.52**	**162**	P	**P**	**14 13 17.9**	**-1.2**
	comp=Z,13nm,0.7s,baz=342,slow=11,SNR=112						
WRA				S	**S**	**14 17 27.0**	**-2.2**
	comp=Z,0.6nm,0.9s,baz=345,slow=17,SNR=2.9						
	comp=Z,13nm,0.7s						
WB2	**Warramunga Arr**	**23.53**	**162**	P	**P**	**14 13 17.6**	**-1.4**
WB2				IAmb	IAmb	14 13 24.6	
	comp=Z,24nm,0.8s						
WR0	**Warramunga Arr**	**23.60**	**162**	P	**P**	**14 13 18.4**	**-1.4**
WR0				IAmb	IAmb	14 13 19.9	
	comp=Z,17nm,0.8s						
JOW	**Kunigami**	**24.16**	**3**	P	**P**	**14 13 22.5**	**-2.3**
PSA00	**Pilbara Seismi**	**24.98**	**196**	P	**P**	**14 13 31.2**	**-1.0**
PSA00				IAmb	IAmb	14 13 36.2	
	comp=Z,15nm,0.8s						
PSA00	**Pilbara Seismi**	**24.98**	**196**	P	**P**	**14 13 33.3**	**+1.0**
KRVT	**Keravat (AS076**	**25.99**	**105**	LR	LR	14 23 53.6	
	comp=Z,132nm,19.1s,baz=30,slow=36						
QIS	**Mount Isa**	**26.13**	**152**	P	**P**	**14 13 42.5**	**-0.3**
AS31	**Alice Springs**	**26.95**	**166**	P	**P**	**14 13 49.0**	**-1.2**
ASAR	**Alice Springs**	**26.95**	**166**	P	**P**	**14 13 49.0**	**-1.2**
ASAR	**Alice Springs**	**26.95**	**166**	P	**P**	**14 13 49.5**	**-0.6**
	comp=Z,2.5nm,0.4s,baz=347,slow=8.0,SNR=91						
ASAR				PcP	**PcP**	**14 17 12.1**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=343,slow=2.5,SNR=5.2						
ASAR				S	**S**	**14 18 24.7**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=90,slow=18,SNR=1.2						
	comp=Z,2.5nm,0.4s						
WRKA	**Warakurna**	**27.47**	**177**	P	**P**	**14 13 55.0**	**+0.1**
GIRL	**Giralia**	**27.96**	**206**	P	**P**	**14 14 00.3**	**+1.2**
CTA	**Charters Tower**	**29.44**	**141**	LR	LR	14 27 08.5	
	comp=Z,106nm,21.9s,baz=278,slow=38						
MEEK	**Meekatharra**	**30.13**	**195**	P	**P**	**14 14 19.8**	**+1.4**
NJ2	**Nanjing**	**30.30**	**346**	*e*P	**P**	**14 14 21.2**	**+1.4**
NJ2				pP	**pP**	**14 14 27.7**	**-5.0**
NJ2				sP	**pwP**	**14 14 31.4**	**-3.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,250nm,3.7s						
OOD	**Oodnadatta**	**31.34**	**165**	P	**P**	**14 14 29.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**31.64**	**302**	P	**P**	**14 14 30.6**	**-1.3**
CMAR	**Chiang Mai Arr**	**31.64**	**302**	P	**P**	**14 14 31.2**	**-0.6**
	comp=Z,2.6nm,1.0s,baz=117,slow=6.9,SNR=13						
CMAR				LR	LR	14 28 26.8	
	comp=Z,41nm,20.3s,baz=120,slow=38						
	comp=Z,2.6nm,1.0s						
INKA	**Innaminka**	**32.94**	**157**	P	**P**	**14 14 42.6**	**-0.5**
FORT	**Forrest**	**33.18**	**178**	P	**P**	**14 14 44.7**	**-0.4**
FORT	**Forrest**	**33.18**	**178**	P	**P**	**14 14 45.6**	**+0.5**
MULG	**Mulgathing**	**33.37**	**169**	P	**P**	**14 14 47.4**	**+0.6**
PZH	**PanZhiHua**	**33.92**	**317**	P	**P**	**14 14 55.1**	**+3.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,5.2s						
KMBL	**Kambalda**	**34.09**	**188**	P	**P**	**14 14 53.9**	**+0.8**
JGF	**Kuroka**	**34.26**	**15**	P	**P**	**14 14 52.3**	**-2.3**
LCRK	**Leigh Creek**	**34.55**	**163**	P	**P**	**14 14 58.2**	**+1.1**
KSRS	**Korea Array**	**34.73**	**1**	P	**P**	**14 14 59.4**	**+0.9**
	comp=Z,3.5nm,0.7s,baz=178,slow=9.7,SNR=16						
	comp=Z,3.5nm,0.7s						
HNR	**Honiara**	**34.99**	**110**	LR	LR	14 29 14.7	
	comp=Z,922nm,20.6s,baz=298,slow=36						
TNCH	**TengChong**	**35.33**	**312**	P	**P**	**14 15 06.2**	**+2.1**
TNCH				pP	pP	14 15 13.7	-3.5
TNCH				sP	pwP	14 15 17.2	-2.4
TNCH				pmax	pmax		
	comp=Z,11nm,0.3s						
TNCH				pmax	pmax		
	comp=Z,69nm,3.7s						
MJAR	**Matsushiro Arr**	**35.37**	**16**	P	**P**	**14 15 04.6**	**+0.5**
	comp=Z,2.2nm,1.0s,baz=194,slow=8.5,SNR=5.3						
	comp=Z,2.2nm,1.0s						
XAN	**Xi'an**	**35.54**	**334**	⇑P	**P**	**14 15 05.1**	**-0.5**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BBOO	**Buckleboo**	**36.23**	**167**	P	**P**	**14 15 10.9**	**-0.6**
BBOO				IAmb	IAmb	14 15 48.4	
	comp=Z,25nm,1.4s						
EIDS	**Eidsvold**	**36.32**	**141**	P	**P**	**14 15 11.0**	**-1.3**
EIDS				IAmb	IAmb	14 15 30.8	
	comp=Z,28nm,1.4s						
HNS	**HongShan**	**36.44**	**344**	*e*P	**P**	**14 15 14.2**	**+1.0**
NWAO	**Narrogin (SRO)**	**36.48**	**194**	P	**P**	**14 15 14.3**	**+0.8**
NWAO				IAmb	IAmb	14 15 43.3	
	comp=Z,15nm,1.1s						
NWAO	**Narrogin (SRO)**	**36.48**	**194**	P	**P**	**14 15 14.2**	**+0.6**
NWAO				IAmb	IAmb	14 15 43.4	
	comp=Z,50nm,1.1s						
STKA	**Stephens Creek**	**36.98**	**159**	P	**P**	**14 15 17.6**	**-0.3**
STKA	**Stephens Creek**	**36.98**	**159**	P	**P**	**14 15 17.8**	**0.0**
	comp=Z,12nm,0.7s,baz=340,slow=8.9,SNR=28						
STKA				LR	LR	14 32 32.1	
	comp=Z,104nm,19.1s,baz=16,slow=39						
	comp=Z,12nm,0.7s						
BJI	**Beijing**	**38.55**	**347**	P	**P**	**14 15 31.9**	**+0.9**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARMA	**Armidale**	**40.39**	**146**	P	**P**	**14 15 46.5**	**-0.2**
ARMA				IAmb	IAmb	14 16 24.6	
	comp=Z,30nm,1.4s						
HHC	**Hu-ho-hao-te**	**40.56**	**342**	*e*P	**P**	**14 15 48.4**	**+0.5**
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,5.1s						
SHL	**Shillong**	**40.73**	**307**	P	**P**	**14 15 48.4**	**-1.2**
SHL				IAmb	IAmb	14 15 52.3	
	comp=Z,12nm,0.6s						
USRK	**Ussuriysk Ar.**	**41.70**	**5**	P	**P**	**14 15 58.7**	**+1.7**
	comp=Z,5.9nm,1.0s,baz=201,slow=7.7,SNR=4.5						
	comp=Z,5.9nm,1.0s						
MDJ	**Mudanjiang**	**41.94**	**3**	P	**P**	**14 16 00.8**	**+1.8**
MDJ				PP	**PnPn**	**14 17 40.2**	**-2.1**
MDJ				PcS	**PcS**	**14 21 46.6**	**+1.4**
MDJ				S	**S**	**14 22 21.4**	**+7.7**
MDJ				sS	sS	14 22 35.0	-0.8
MDJ				SS	**SnSn**	**14 25 31.2**	**-4.9**
MDJ	**Mudanjiang**	**41.94**	**3**	ScS	ScS	14 26 03.1	+6.2
MDJ				pmax	pmax		
	comp=Z,15nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,450nm,3.5s						
XLT	**XiLinHaoTe**	**42.27**	**348**	*e*P	**P**	**14 16 02.4**	**+0.6**
XLT				pP	pP	14 16 11.2	-4.0
XLT				sP	pwP	14 16 14.2	-3.3
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,130nm,3.8s						
CAN	**Canberra**	**42.99**	**153**	P	**P**	**14 16 06.7**	**-1.0**
CAN				IAmb	IAmb	14 16 39.6	
	comp=Z,20nm,1.4s						
RAMN	**Ramite**	**45.59**	**306**	*e*P	**P**	**14 16 28.5**	**-0.4**
	comp=Z,9.3nm,0.7s						
DZM	**Mont Dzumac**	**45.71**	**124**	LR	LR	14 35 22.3	
	comp=Z,64nm,18.4s,baz=24,slow=36						
JIRN	**Jiri**	**46.22**	**307**	*e*P	**P**	**14 16 33.0**	**-1.0**
	comp=Z,8.9nm,0.6s						
GUN	**Gumba**	**46.57**	**307**	*e*P	**P**	**14 16 36.1**	**-0.7**
	comp=Z,26nm,0.6s						
PKI	**Pulchoki**	**46.81**	**306**	*e*P	**P**	**14 16 38.1**	**-0.5**
	comp=Z,10.0nm,0.9s						
PKIN	**Phulchoki**	**46.82**	**306**	*e*P	**P**	**14 16 38.0**	**-0.6**
	comp=Z,7.5nm,0.7s						
HEH	**HeiHe**	**47.51**	**0**	*e*P	**P**	**14 16 43.8**	**+0.5**
SONM	**Songino Array**	**48.46**	**342**	P	**P**	**14 16 50.8**	**0.0**
	comp=Z,2.3nm,0.6s,baz=158,slow=7.9,SNR=13						
SONM				PcP	**PcP**	**14 18 17.1**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=182,slow=1.9,SNR=3.8						
SONM				LR	LR	14 38 24.9	
	comp=Z,60nm,21.9s,baz=149,slow=37						
	comp=Z,2.3nm,0.6s						
DANN	**Dangsing**	**48.46**	**306**	*e*P	**P**	**14 16 49.6**	**-1.7**
	comp=Z,17nm,0.6s						
PYUN	**Piuthan**	**48.98**	**306**	*e*P	**P**	**14 16 53.8**	**-1.5**
	comp=Z,18nm,0.8s						
WMQ	**Urumqi**	**53.79**	**325**	*e*P	**P**	**14 17 32.7**	**+1.9**
WMQ				LR	LR		
	comp=Z,99nm,24.9s						
PETK	**Petropavlovsk-**	**56.42**	**22**	P	**P**	**14 17 50.7**	**+1.2**
	comp=Z,11nm,1.1s,baz=219,slow=6.7,SNR=3.1						
	comp=Z,11nm,1.1s						
MK31	**Makanchi Array**	**58.62**	**326**	P	**P**	**14 18 04.5**	**-0.6**
MK31				IAmb	IAmb	14 18 05.3	
	comp=Z,3.4nm,0.7s						
MKAR	**Makanchi Array**	**58.62**	**326**	P	**P**	**14 18 04.5**	**-0.7**
MKAR	**Makanchi Array**	**58.62**	**326**	P	**P**	**14 18 04.6**	**-0.5**
	comp=Z,4.1nm,0.5s,baz=120,slow=8.2,SNR=65						
MKAR				LR	LR	14 45 13.4	
	comp=Z,46nm,20.2s,baz=98,slow=38						
	comp=Z,4.1nm,0.5s						
MAKZ	**Makanchi**	**58.80**	**325**	P	**P**	**14 18 06.1**	**-0.4**
MAKZ				IAmb	IAmb	14 18 36.9	
	comp=Z,13nm,1.5s						
KSH	**Kashi**	**59.01**	**316**	P	**P**	**14 18 08.7**	**+0.6**
KSH				pmax	pmax		
	comp=Z,69nm,0.9s						
YAK	**Yakutsk**	**59.35**	**2**	P	**P**	**14 18 09.3**	**-0.6**
LBZ	**Lake Benmore**	**60.62**	**146**	P	**P**	**14 18 18.9**	**0.0**
THZ	**Tophouse**	**60.67**	**142**	P	**P**	**14 18 18.7**	**-0.7**
RPZ	**Rata Peaks**	**60.70**	**145**	LR	LR	14 43 51.2	
	comp=Z,62nm,21.9s,baz=268,slow=35						
AAK	**Ala-Archa**	**61.35**	**318**	LR	LR	14 48 13.9	
	comp=Z,32nm,21.0s,baz=86,slow=39						
URZ	**Urewera**	**61.56**	**137**	LR	LR	14 46 36.6	
	comp=Z,79nm,18.1s,baz=31,slow=37						
BKZ	**Black Stump Fm**	**61.59**	**138**	P	**P**	**14 18 24.5**	**-1.2**
ZAA0	**Zalesovo Array**	**61.71**	**333**	P	**P**	**14 18 25.5**	**-0.6**
ZALV	**Zalesovo Beam**	**61.71**	**333**	P	**P**	**14 18 25.8**	**-0.3**
ZALV	**Zalesovo Beam**	**61.71**	**333**	P	**P**	**14 18 25.4**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=113,slow=6.4,SNR=7.4						
	comp=Z,1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**62.82**	**328**	P	**P**	**14 18 33.3**	**-0.3**
	comp=Z,6.5nm,0.5s,baz=130,slow=6.3,SNR=12						
	comp=Z,6.5nm,0.5s						
KURK	**Kurchatov**	**62.82**	**328**	P	**P**	**14 18 32.9**	**-0.7**
KK31	**Karatay Array**	**64.22**	**317**	P	**P**	**14 18 42.3**	**-0.8**
KK31				IAmb	IAmb	14 18 43.4	
	comp=Z,3.1nm,0.8s						
KKAR	**Karatay Array**	**64.22**	**317**	P	**P**	**14 18 42.4**	**-0.6**
KKAR				IAmb	IAmb	14 18 43.4	
	comp=Z,3.1nm,0.8s						
KKAR	**Karatay Array**	**64.22**	**317**	P	**P**	**14 18 42.3**	**-0.8**
BVAR	**Borovoye Array**	**68.40**	**327**	P	**P**	**14 19 08.9**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=120,slow=8.5,SNR=13						
	comp=Z,2.1nm,0.6s						
BRVK	**Borovoye**	**68.47**	**327**	P	**P**	**14 19 09.1**	**-0.9**
BRVK				IAmb	IAmb	14 19 10.6	
	comp=Z,4.4nm,0.8s						
TIXI	**Tiksi**	**68.99**	**1**	P	**P**	**14 19 11.4**	**-1.5**
TIXI				IAmb	IAmb	14 19 38.8	
	comp=Z,6.1nm,1.0s						
CASY	**Casey**	**69.70**	**187**	P	**P**	**14 19 18.3**	**+1.0**
NRIK	**Noril'sk**	**71.60**	**346**	P	**P**	**14 19 29.2**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=132,slow=7.5,SNR=2.2						
	comp=Z,4.2nm,0.6s						
ABKAR	**Akbulak array**	**73.17**	**321**	P	**P**	**14 19 38.2**	**-0.5**
ARU	**Arti**	**76.02**	**328**	P	**P**	**14 19 54.1**	**-0.9**
ARU				IAmb	IAmb	14 19 55.4	
	comp=Z,9.1nm,0.8s						
VOI	**Vohitsoka**	**81.82**	**248**	P	**P**	**14 20 27.3**	**-0.4**
VNDA	**Vanda**	**82.26**	**173**	P	**P**	**14 20 29.0**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=303,slow=5.8,SNR=12						
	comp=Z,1.1nm,0.5s						
MAW	**Mawson**	**82.74**	**200**	P	**P**	**14 20 31.9**	**+0.6**
MAW	**Mawson**	**82.74**	**200**	P	**P**	**14 20 32.0**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=89,slow=7.4,SNR=7.4						
	comp=Z,1.4nm,0.6s						
IMAR	**Indian Mountai**	**83.31**	**24**	P	**P**	**14 20 34.9**	**+0.5**
ILAR	**Eielson Array**	**86.06**	**25**	P	**P**	**14 20 49.1**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=240,slow=5.6,SNR=3.4						
	comp=Z,0.5nm,0.9s						
BRTR	**Keskin Array B**	**90.91**	**310**	P	**P**	**14 21 13.3**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=101,slow=7.5,SNR=3.6						
	comp=Z,1.3nm,0.7s						
ARCES	**ARCESS Array B**	**91.60**	**340**	P	**P**	**14 21 13.6**	**-0.8**
	comp=Z,3.7nm,0.8s,baz=72,slow=2.9,SNR=9.6						
ARCES				LR	LR	15 06 08.2	
	comp=Z,52nm,18.9s,baz=321,slow=38						
	comp=Z,3.7nm,0.8s						
SPITS	**Spitsbergen Ar**	**91.65**	**349**	LR	LR	15 08 02.3	
	comp=Z,23nm,18.5s,baz=14,slow=39						
FINES	**FINESS Array B**	**92.94**	**332**	P	**P**	**14 21 20.5**	**-0.2**
	comp=Z,3.3nm,1.0s,baz=60,slow=8.2,SNR=1.6						
	comp=Z,3.3nm,1.0s						
DLBC	**Dease Lake**	**94.63**	**31**	LR	LR	14 59 30.9	
	comp=Z,25nm,20.3s,baz=126,slow=32						
IDI	**Anoyia**	**98.33**	**306**	LR	LR	15 12 40.5	
	comp=Z,16nm,21.9s,baz=108,slow=39						
LSZ	**Lusaka**	**99.11**	**255**	LR	LR	15 02 23.7	
	comp=Z,42nm,18.2s,baz=138,slow=33						
NOA	**NORSAR Array B**	**99.91**	**334**	LR	LR	15 11 01.0	
	comp=Z,36nm,19.3s,baz=290,slow=38						
TORD	**Torodi Ar. Bea**	**123.47**	**287**	PKP	**PKPdf**	**14 27 05.8**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=63,slow=2.6,SNR=4.2						

*BUL **02** 14:20:21.6±2.3, 25°.22S×33°.00E, h10km, MD3.9*
*EAF **02** 14:20:23.9, 25°.02S×32°.78E, h10km, MC3.6*
*PRE **02** 14:20:25.8±0.9, 24°.63S×32°.55E, h10km, ML2.6*
ISC 02 14:20:24.6±1.8, 24°.69S±0°.05×32°.64E±0°.09, h10km, n23, σ2§48/36, 1C-3D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**1.58**	**280**	⇓*i*P	**Pb**	**14 20 53.3**	**-0.6**
HOED				*e*S	**Sb**	**14 21 12.9**	**-1.1**
HOED				IAML		14 21 17.5	
	comp=Z,86nm,0.3s						
MOPA	**Mopani**	**1.63**	**316**	*i* P	**Pn**	**14 20 53.3**	**-0.1**
MOPA				*i* S	**Sg**	**14 21 15.6**	**-1.4**
MOPA	**Mopani**	**1.63**	**316**	⇑*i*P	**Pn**	**14 20 53.3**	**-0.1**
MOPA				*e*S	**Sb**	**14 21 14.1**	**-1.3**
MOPA	**Mopani**	**1.63**	**316**	*i* P	**Pn**	**14 20 53.3**	**-0.1**
	baz=320						
MOPA				*i* S	**Sg**	**14 21 15.6**	**-1.4**
	baz=320						
PILG	**Pilgrimsrest,**	**1.77**	**262**	⇓*i*P	**Pb**	**14 20 56.6**	**-0.7**
PILG				*e*S	**Sb**	**14 21 18.7**	**-0.9**
PILG				IAML		14 21 19.9	
	comp=Z,97nm,0.2s						
DULL	**Dullstroom, Mp**	**2.33**	**253**	⇓*i*P	**Pn**	**14 21 04.5**	**+1.2**
DULL				*e*S	**Sn**	**14 21 31.6**	**-0.5**
DULL				IAML		14 21 36.7	
	comp=Z,24nm,0.3s						
MPHEP	**Siloam, Limpop**	**2.87**	**308**	*e*P	**Pn**	**14 21 11.4**	**+0.9**
MPHEP				*e*S	**Sn**	**14 21 43.9**	**-1.3**
MPHEP				IAML		14 21 57.0	
	comp=Z,67nm,0.5s						
MUSN	**Musina, Limpop**	**3.50**	**313**	*i* P	**Pn**	**14 21 20.5**	**+1.4**
MUSN	**Musina, Limpop**	**3.50**	**313**	*e*P	**Pn**	**14 21 20.2**	**+1.0**
MUSN				*e*S	**Sn**	**14 21 58.9**	**-1.7**
MUSN				IAML		14 22 18.4	
	comp=Z,37nm,0.4s						
MUSN	**Musina, Limpop**	**3.50**	**313**	*i* P	**Pn**	**14 21 20.5**	**+1.4**
	baz=315						
LEPH	**Lephalale, Lim**	**4.49**	**280**	*e*P	**Pn**	**14 21 33.9**	**+1.0**
LEPH				*e*S	**Sn**	**14 22 24.0**	**-1.3**
LEPH				IAML		14 22 52.3	
	comp=Z,13nm,0.4s						
MTLB	**Matlabas, Limp**	**5.17**	**279**	*e*P	**Pn**	**14 21 43.1**	**+0.9**
MTLB				*e*S	**Sn**	**14 22 40.0**	**-1.9**
MTLB				IAML		14 23 11.9	
	comp=Z,19nm,0.5s						
MATP	**Matopo**	**5.71**	**317**	*i* P	Pn	14 21 54.1	+4.4
MATP				*i* S	**Sn**	**14 23 02.6**	**+7.2**
MATP	**Matopo**	**5.71**	**317**	*i* P	Pn	14 21 54.1	+4.4
	baz=318						
MATP				*i* S	**Sn**	**14 23 02.6**	**+7.2**
	baz=318						
LBTB	**Lobatse**	**6.40**	**266**	*i* P	**Pn**	**14 22 00.1**	**+1.0**
LBTB				*i* S	**Sn**	**14 23 10.2**	**-2.1**
LBTB	**Lobatse**	**6.40**	**266**	*e*P	**Pn**	**14 22 01.1**	**+1.9**
LBTB				*e*S	**Sn**	**14 23 09.6**	**-2.8**
LBTB				IAML		14 23 50.1	
	comp=Z,5.8nm,0.5s						
LBTB	**Lobatse**	**6.40**	**266**	*i* P	**Pn**	**14 22 00.1**	**+1.0**
	baz=269						
LBTB				*i* S	**Sn**	**14 23 10.2**	**-2.1**
	baz=269						
KSTD	**Kokstad**	**6.60**	**206**	*e*P	**Pn**	**14 22 03.6**	**+1.8**
KSTD				*e*S	**Sn**	**14 23 16.2**	**-1.1**
KSTD				IAML		14 23 19.8	
	comp=Z,5.0nm,0.6s						
BOSA	**Boshof**	**7.67**	**238**	*i* P	**Pn**	**14 22 13.5**	**-3.0**

0.6nm,0.5s
ASAR Alice Springs 57.87 189 P P 14 52 18.2 +1.8
0.3nm,0.5s,baz=360,slow=6.4,SNR=14
0.3nm,0.5s
NVAR Mina Array Bea 76.50 53 P P 14 54 16.5 +1.6
0.2nm,0.8s,baz=316,slow=6.3,SNR=1.3
0.2nm,0.8s

---

*IDC **02** 15:04:22.4±1.4, 5°.28N×73°.62W, h154km±6km, mb2.9/1, mbtmp3.5/2, Error ellipse: s-maj=78.9km s-min=12.8km az=134.0*
*RSNC **02** 15:04:24.1±1.4, 5°.28N×73°.73W, h149km±5km, ML3.2, Mw3.5*
ISC 02 15:04:22.7±0.9, **5°.30N**±0°.03×**73°.70W**±0°.03, **h159**km±6km, **n33**, σ1§45/59, **11C-5D, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.51**	**314**	⇑*i*P	**Pn**	**15 04 45.1**	**-0.1**
SPBC				*e*S	**Sn**	**15 05 01.3**	**-1.1**
SPBC				*i*		15 05 04.7	
	comp=Z,399nm,0.1s						
CHIC	**Chingaza**	**0.67**	**183**	⇑*i*P	**Pn**	**15 04 46.3**	**-0.2**
CHIC				*e*S	**Sn**	**15 05 02.9**	**-1.7**
CHIC				*i*		15 05 04.2	
	comp=Z,307nm,0.4s						
ROSC	**El Rosal**	**0.77**	**234**	⇑*i*P	**Pn**	**15 04 47.9**	**+0.9**
ROSC				*e*S	**Sn**	**15 05 05.9**	**+0.3**
ROSC				*i*		15 05 09.5	
	comp=Z,425nm,0.6s						
ROSC	**El Rosal**	**0.77**	**234**	P	**Pn**	**15 04 47.7**	**+0.7**
	comp=Z,278nm,0.3s,baz=119,slow=11,SNR=87						
ROSC				S	**Sn**	**15 05 05.3**	**-0.3**
	comp=Z,280nm,0.4s,baz=12,slow=16,SNR=5.9						
RUSC	**La Rusia**	**0.85**	**46**	⇑*i*P	**Pn**	**15 04 48.5**	**+0.7**
RUSC				*e*S	**Sn**	**15 05 06.7**	**-0.2**
RUSC				*i*		15 05 09.5	
	comp=Z,157nm,0.3s						
VILC	**Villavicencio,**	**1.18**	**180**	⇑*i*P	**Pn**	**15 04 49.6**	**-0.4**
VILC				*e*S	**Sn**	**15 05 09.9**	**-1.1**
VILC				*i*		15 05 12.6	
	comp=Z,521nm,0.4s						
NORC	**Norcasia**	**1.19**	**283**	⇓*i*P	**Pn**	**15 04 49.9**	**-0.2**
NORC				*e*S	**Sn**	**15 05 09.8**	**-1.2**
NORC				*i*		15 05 10.8	
	comp=Z,211nm,0.1s						
BARC	**Barichara**	**1.39**	**22**	⇓*i*P	**Pn**	**15 04 52.4**	**+0.3**
BARC				*e*S	**Sn**	**15 05 13.9**	**-0.7**
BARC				*i*		15 05 19.4	
	comp=Z,251nm,0.3s						
GUY2C	**Guyana, Caldas**	**1.66**	**268**	*e*P	**Pn**	**15 04 54.9**	**-0.2**
GUY2C				*e*S	**Sn**	**15 05 18.6**	**-1.2**
GUY2C				*i*		15 05 22.7	
	comp=Z,58nm,0.4s						
ANIL	**Santa Ana**	**1.88**	**245**	*e*P	**Pn**	**15 04 57.1**	**-0.1**
ANIL				*e*S	**Sn**	**15 05 22.2**	**-1.7**
ANIL				*i*		15 05 32.2	
	comp=Z,168nm,0.2s						
PTGC	**Puerto Gaitan,**	**1.91**	**125**	⇓*i*P	**Pn**	**15 04 57.4**	**+0.1**
PTGC				*e*S	**Sn**	**15 05 22.8**	**-1.1**
PTGC				*i*		15 05 27.5	
	comp=Z,183nm,0.2s						
PRAC	**Prado**	**1.97**	**217**	⇑*i*P	**Pn**	**15 04 58.0**	**-0.1**
PRAC				*e*S	**Sn**	**15 05 23.9**	**-1.5**
PRAC				*i*		15 05 26.5	
	comp=Z,268nm,0.4s						
HELC	**Santa Helena**	**2.02**	**296**	⇓*i*P	**Pn**	**15 04 59.5**	**+0.5**
HELC				*e*S	**Sn**	**15 05 26.1**	**-0.8**
HELC				*i*		15 05 29.0	
	comp=Z,102nm,0.3s						
ORTC	**Ortega, Tolima**	**2.07**	**228**	*e*P	**Pn**	**15 04 59.0**	**-0.3**
ORTC				*e*S	**Sn**	**15 05 25.6**	**-1.7**
ORTC				*i*		15 05 29.3	
	comp=Z,94nm,0.1s						
TAMC	**Tame, Arauca**	**2.21**	**59**	*i*P	**Pn**	**15 05 02.2**	**+1.3**
TAMC				*e*S	**Sn**	**15 05 30.5**	**+0.2**
TAMC				*i*		15 05 32.7	
	comp=Z,72nm,0.4s						
PAMC	**Pamplona, Colo**	**2.26**	**26**	⇑*i*P	**Pn**	**15 05 03.6**	**+1.7**
PAMC				*e*S	**Sn**	**15 05 32.0**	**0.0**
PAMC				*i*		15 05 36.0	
	comp=Z,42nm,0.3s						
ZARC	**Zaragoza, Cauc**	**2.46**	**332**	⇑*i*P	**Pn**	**15 05 02.8**	**-1.1**
ZARC				*e*S	**Sn**	**15 05 34.1**	**-1.6**
ZARC				*i*		15 05 40.9	
	comp=Z,139nm,0.2s						
PLMC	**San Jos del P**	**2.60**	**261**	*e*P	**Pn**	**15 05 06.7**	**+1.1**
PLMC				*e*S	**Sn**	**15 05 38.9**	**+0.3**
YOTC	**Yotoco, Valle**	**2.94**	**244**	*e*P	**Pn**	**15 05 12.4**	**+2.6**
YOTC				*e*S	**Sn**	**15 05 45.6**	**-0.7**
DBBC	**Dabeiba**	**3.02**	**305**	⇑*i*P	**Pn**	**15 05 11.4**	**+0.6**
DBBC				*e*S	**Sn**	**15 05 48.6**	**+0.6**
DBBC				*i*		15 05 51.3	
	comp=Z,42nm,0.1s						
UREC	**San Jos de Ur**	**3.04**	**323**	⇓*i*P	**Pn**	**15 05 09.5**	**-1.5**
UREC				*e*S	**Sn**	**15 05 45.9**	**-2.6**
MACC	**Macarena, Meta**	**3.14**	**183**	⇑*i*P	**Pn**	**15 05 11.1**	**-1.1**
MACC				*e*S	**Sn**	**15 05 47.0**	**-3.6**
MACC				*i*		15 05 47.6	
	comp=Z,39nm,0.4s						
JAMC	**Jamundi, Valle**	**3.62**	**235**	*e*P	**Pn**	**15 05 18.6**	**+0.1**
JAMC				*e*S	**Sn**	**15 06 00.3**	**-1.4**
APAC	**Apartado, Choc**	**3.85**	**312**	⇑*i*P	**Pn**	**15 05 21.6**	**+0.2**
APAC				*e*S	**Sn**	**15 06 07.1**	**+0.1**
APAC				*i*		15 06 14.3	
	comp=Z,27nm,0.4s						
LCBC	**Los crdobas,**	**4.42**	**323**	*e*S	**Sn**	**15 06 19.6**	**-0.5**
LCBC				*i*		15 06 23.2	
	comp=Z,27nm,0.3s						
ARGC	**Ariguani, Magd**	**4.56**	**353**	*e*P	Pn	15 05 36.8	+6.2
ARGC				*e*S	**Sn**	**15 06 24.2**	**+0.6**
ARGC				*i*		15 06 46.5	
	comp=Z,17nm,0.5s						
SDV	**Santo Domingo**	**4.69**	**40**	*e*S	**Sn**	**15 06 24.9**	**-1.8**
SDV				*i*		15 06 29.8	
	comp=Z,13nm,0.7s						
SDV	**Santo Domingo**	**4.69**	**40**	P	**Pn**	**15 05 32.1**	**-0.3**
	comp=Z,7.2nm,0.3s,baz=123,slow=13,SNR=2.0						
SDV				S	**Sn**	**15 06 25.3**	**-1.5**
	comp=Z,8.5nm,0.3s,baz=310,slow=11,SNR=10						
SJCC	**San Jacinto, C**	**4.80**	**342**	*e*P	**Pn**	**15 05 31.9**	**-1.8**
SJCC				*e*S	**Sn**	**15 06 24.8**	**-4.4**
SJCC				*i*		15 06 28.5	
	comp=Z,18nm,0.3s						
CRJC	**Cerrejon, Guaj**	**5.74**	**8**	*e*S	**Sn**	**15 06 47.6**	**-4.0**
CRJC				*i*		15 06 52.7	
	comp=Z,25nm,0.2s						
ILAR	**Eielson Array**	**78.09**	**335**	P	**P**	**15 16 04.7**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=125,slow=4.7,SNR=1.9						
	comp=Z,0.1nm,0.4s						
ASAR	**Alice Springs**	**147.75**	**233**	PKPbc	**PKPdf**	**15 23 49.0**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=124,slow=3.6,SNR=6.8						
WRA	**Warramunga Arr**	**149.09**	**239**	PKPbc	**PKPbc**	**15 23 52.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=110,slow=2.8,SNR=7.5						

---

*IDC **02** 15:09:51.9±9.8, 20°.92S×179°.14W, h692km±130km, mb2.5/6, mbtmp3.6/6, Error ellipse: s-maj=45.4km s-min=38.2km az=70.0*
ISC 02 15:09:46.3±0.9, **20°.8S**±0°.2×**179°.0W**±0°.2, **h619**km, **n7**, σ1§02/7, **mb3.1**/6, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.53**	**257**	P	**P**	**15 16 58.0**	**+0.6**
	0.7nm,1.1s,baz=80,slow=5.7,SNR=2.6						
	0.7nm,1.1s						
WRA	**Warramunga Arr**	**43.62**	**263**	P	**P**	**15 16 58.2**	**+0.1**
	0.1nm,0.4s,baz=97,slow=7.1,SNR=5.0						
	0.1nm,0.4s						
VNDA	**Vanda**	**57.50**	**185**	P	**P**	**15 18 37.5**	**0.0**
	1.2nm,1.0s,baz=0.0,slow=2.0,SNR=3.0						
	1.2nm,1.0s						
NVAR	**Mina Array Bea**	**81.91**	**44**	P	**P**	**15 21 03.2**	**+0.3**
	0.4nm,0.6s,baz=213,slow=6.5,SNR=3.9						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**88.03**	**58**	P	**P**	**15 21 32.8**	**+0.3**
	0.4nm,0.8s,baz=232,slow=4.0,SNR=3.0						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**88.84**	**13**	P	**P**	**15 21 35.5**	**+0.2**
	0.3nm,0.6s,baz=219,slow=6.3,SNR=4.5						
	0.3nm,0.6s						
AKASG	**Malin Array Be**	**142.83**	**330**	PKP	**PKPdf**	**15 28 08.4**	**-1.9**
	0.8nm,0.3s,baz=44,slow=3.8,SNR=6.8						

---

*NCEDC **02** 16:18:06.7±1.1, 37°.45N±0°.01×118°.83W±0°.02, h3km±6km, ML3.0/7, ML3.1/9(REN), ML2.8/66(NEIC), Error ellipse: s-maj=2.2km s-min=1.5km az=53.0*
*NEIC **02** 16:18:06.9±0.8, 37°.433N±0°.005×118°.83W±0°.01, h5km±4km, Error ellipse: s-maj=1.8km s-min=0.8km az=77.0*
*ANF **02** 16:18:06.8±0.4, 37°.42N×118°.83W, h2km±4km, ML3.2/16, Error ellipse: s-maj=4.2km s-min=3.2km az=96.0*
*REN **02** 16:18:06.8±0.7, 37°.45N±0°.01×118°.83W±0°.02, h5km±4km, Error ellipse: s-maj=2.3km s-min=1.6km az=51.0*
ISC 02 16:18:06.9±0.9, **37°.45N**±0°.02×**118°.83W**±0°.02, **h7**km±7km, **n121**, σ0§64/133, **California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCCR	**Rock Creek Can**	**0.09**	**63**		**Pg**	**16 18 08.9**	**-0.4**
SCHCA	**Scheelite**	**0.14**	**128**		**Pg**	**16 18 09.9**	**0.0**
MCVM	**Convict Lake**	**0.14**	**359**		**Pg**	**16 18 09.8**	**-0.3**
WMD		**0.15**	**92**		**Pg**	**16 18 10.0**	**0.0**
MLCM	**Laurel Creek C**	**0.18**	**337**		**Pg**	**16 18 10.5**	**-0.1**
MLAC	**Mammoth, Mammo**	**0.18**	**358**		**Pg**	**16 18 10.8**	**+0.1**
MLAC					**Sg**	**16 18 13.8**	**+0.4**
MLAC	**Mammoth, Mammo**	**0.18**	**358**	P	**Pg**	**16 18 10.8**	**+0.1**
	baz=178,SNR=209						
MLAC				S	**Sg**	**16 18 13.5**	**+0.1**
	baz=178						
MGPM	**Gravel Pit**	**0.19**	**342**		**Pg**	**16 18 10.8**	**0.0**
MDRNC	**Doe Ridge**	**0.19**	**358**		**Pg**	**16 18 11.0**	**+0.1**
MCBM	**Casa Benchmark**	**0.21**	**344**		**Pg**	**16 18 11.1**	**0.0**
MCBM					**Sg**	**16 18 13.9**	**-0.1**
MCSM	**Casa Diablo Ho**	**0.22**	**343**		**Pg**	**16 18 11.4**	**+0.1**
MMPM	**Mammoth Pass**	**0.23**	**316**		**Pg**	**16 18 11.4**	**-0.1**
MTUM	**Tungsten Hills**	**0.23**	**114**		**Pg**	**16 18 11.6**	**+0.1**
MLHM	**Little Hot Cre**	**0.23**	**2**		**Pg**	**16 18 11.8**	**+0.2**
ORC	**Owens River**	**0.23**	**36**		**Pg**	**16 18 11.6**	**0.0**
MEMM	**East Mammoth H**	**0.24**	**338**		**Pg**	**16 18 11.8**	**+0.1**
MRDM	**Red Cones**	**0.24**	**310**		**Pg**	**16 18 11.7**	**0.0**
MLIM	**Lincoln Peak**	**0.24**	**322**		**Pg**	**16 18 11.9**	**+0.1**
MLIM					**Sg**	**16 18 15.6**	**+0.4**
MMLB	**Mammoth Lakes**	**0.24**	**330**		**Pg**	**16 18 11.9**	**+0.1**
MMSM	**Mammoth Summit**	**0.25**	**319**		**Pg**	**16 18 11.9**	**0.0**
CASR	**Casa Diablo Mo**	**0.25**	**59**		**Pg**	**16 18 12.0**	**+0.1**
MDYM	**Dry Creek**	**0.26**	**325**		**Pg**	**16 18 12.2**	**+0.1**
MDYM					**Sg**	**16 18 16.0**	**+0.4**
MDPB	**Devils Postpil**	**0.27**	**313**		**Pg**	**16 18 12.3**	**-0.1**
MDPB					**Sg**	**16 18 16.1**	**0.0**
MDPB	**Devils Postpil**	**0.27**	**313**	IAML		16 18 16.3	
	comp=E,4μm,0.2s						
MDPB				IAML		16 18 16.5	
	comp=N,3μm,0.5s						
MINS	**Minaret Summit**	**0.28**	**318**		**Pg**	**16 18 12.3**	**-0.2**
BHPR	**Bishop**	**0.31**	**118**		**Pg**	**16 18 13.2**	**+0.2**
MDCM	**Deadman Creek**	**0.32**	**327**		**Pg**	**16 18 13.0**	**-0.2**
MFBM	**Five Bridges**	**0.32**	**93**		**Pg**	**16 18 13.7**	**+0.5**
MCDM	**Chidago Canyon**	**0.32**	**71**		**Pg**	**16 18 13.5**	**+0.3**
BENR	**Benton**	**0.34**	**37**		**Pg**	**16 18 13.4**	**-0.2**
MRCM	**Red Rock Canyo**	**0.34**	**48**		**Pg**	**16 18 13.6**	**-0.1**
MGNR	**McGee Canyon**	**0.38**	**16**		**Pg**	**16 18 14.5**	**+0.1**
KCC	**Kaiser Creek**	**0.41**	**253**		**Pg**	**16 18 14.8**	**0.0**
KCC	**Kaiser Creek**	**0.41**	**253**		**Sg**	**16 18 20.3**	**0.0**
MLNR	**Milner Canyon**	**0.41**	**69**		**Pg**	**16 18 15.1**	**+0.1**
POCCA	**Poleta Canyon**	**0.44**	**101**		**Pg**	**16 18 15.6**	**+0.1**
ANTCA	**Antelope Range**	**0.52**	**24**		**Pg**	**16 18 16.7**	**-0.2**
TIN	**Tinemaha, Big**	**0.62**	**129**		**Pg**	**16 18 18.9**	**+0.1**
TIN	**Tinemaha, Big**	**0.62**	**129**		**Sg**	**16 18 27.7**	**+0.9**
TIN	**Tinemaha, Big**	**0.62**	**129**	P	**Pg**	**16 18 18.8**	**+0.1**
	baz=310,SNR=8.1						
TIN				S	**Sg**	**16 18 27.1**	**+0.3**
	baz=310						
HCK	**Huntoon Valley**	**0.66**	**16**		**Pg**	**16 18 19.6**	**0.0**
DSP	**Deep Springs**	**0.69**	**96**		**Pg**	**16 18 20.0**	**-0.1**
DSP					**Sg**	**16 18 29.2**	**+0.2**
LHV	**Little Huntoon**	**0.84**	**18**		**Pg**	**16 18 23.0**	**-0.1**
LHV				IAML		16 18 34.9	
	comp=N,462nm,0.6s						
LHV				IAML		16 18 37.1	
	comp=E,608nm,0.5s						
LHV	**Little Huntoon**	**0.84**	**18**		**Sg**	**16 18 34.6**	**+0.5**
LHV	**Little Huntoon**	**0.84**	**18**	Pg	**Pg**	**16 18 22.9**	**-0.2**
TVH1	**TV Hill, Hawth**	**1.01**	**3**		**Pg**	**16 18 26.4**	**+0.1**
NV08	**Mina Array Sit**	**1.04**	**23**		**Pg**	**16 18 26.3**	**-0.5**
NV09	**Mina Array Sit**	**1.06**	**21**		**Pg**	**16 18 26.8**	**-0.5**
NVAR	**Mina Array Bea**	**1.07**	**23**		**Pg**	**16 18 26.7**	**-0.6**
NV11	**Mina Array Sit**	**1.12**	**28**		**Pg**	**16 18 27.6**	**-0.8**
WAKR	**Walker**	**1.16**	**336**		**Pg**	**16 18 29.0**	**-0.2**
CWC	**Cottonwood Cre**	**1.17**	**149**		**Pg**	**16 18 28.6**	**-0.7**
CWC	**Cottonwood Cre**	**1.17**	**149**	P	**Pg**	**16 18 28.7**	**-0.5**
	baz=330						
CWC				S	**Sg**	**16 18 43.8**	**-0.6**
	baz=330						
MRHM	**Rocky Hill**	**1.18**	**190**		**Pg**	**16 18 28.4**	**-1.0**
MZP	**Montezuma Peak**	**1.18**	**77**		**Pg**	**16 18 28.9**	**-0.5**
MZP	**Montezuma Peak**	**1.18**	**77**	IAML		16 18 33.0	
	comp=E,59nm,0.5s						
MZP				IAML		16 18 53.0	
	comp=N,68nm,0.7s						
VOG	**Valley Oaks Go**	**1.21**	**202**	P	**Pg**	**16 18 29.7**	**-0.3**
	baz=21						
VOG				S	**Sb**	**16 18 45.9**	**+0.1**
	baz=21						
CGO	**Cerro Gordo**	**1.21**	**137**		**Pg**	**16 18 29.4**	**-0.8**
SPG2	**Springville 2**	**1.24**	**178**		**Pg**	**16 18 29.8**	**-0.9**
GRAC	**Grapevine Rang**	**1.25**	**111**		**Pn**	**16 18 31.2**	**+0.4**
GRAC	**Grapevine Rang**	**1.25**	**111**	Pg	**Pg**	**16 18 30.7**	**-0.1**
GRAC	**Grapevine Rang**	**1.25**	**111**	P	**Pg**	**16 18 30.8**	**0.0**
	baz=292,SNR=12						
GRAC				S	**Sn**	**16 18 48.3**	**+0.4**
	baz=292						
GMN	**Gold Mountain**	**1.26**	**96**		**Pg**	**16 18 30.6**	**-0.4**
GMN	**Gold Mountain**	**1.26**	**96**	IAML		16 18 51.5	
	comp=N,104nm,1.0s						
GMN				IAML		16 18 54.4	
	comp=E,92nm,0.6s						
CMB	**Columbia Colle**	**1.37**	**296**		**Pn**	**16 18 31.7**	**-0.8**
CMB	**Columbia Colle**	**1.37**	**296**	Pn	**Pn**	**16 18 31.6**	**-0.9**
CMB	**Columbia Colle**	**1.37**	**296**	IAML		16 18 51.1	
	comp=E,166nm,0.1s						
CMB				IAML		16 18 52.1	
	comp=N,164nm,0.5s						
TPH	**Tonopah**	**1.42**	**63**		**Pn**	**16 18 33.0**	**-0.3**
TPH				IAML		16 19 00.2	
	comp=N,290nm,0.7s						
SGV	**South Grapevin**	**1.50**	**107**		**Pb**	**16 18 35.1**	**-0.1**
YERR	**Yerington**	**1.57**	**348**		**Pn**	**16 18 35.0**	**-0.4**
YERR				IAML		16 19 03.0	
	comp=E,71nm,0.5s						
VES	**Vestal, Richgr**	**1.61**	**187**		**Pb**	**16 18 36.5**	**-0.6**
VES	**Vestal, Richgr**	**1.61**	**187**	P	**Pb**	**16 18 36.4**	**-0.6**
	baz=7.2,SNR=28						
VES				S	**Sg**	**16 18 58.0**	**-0.8**
	baz=7.2						
WCSM	**Coso Springs S**	**1.65**	**149**		**Pb**	**16 18 37.9**	**+0.2**
PDRM	**Domengine Ranc**	**1.66**	**229**		**Pb**	**16 18 37.8**	**+0.1**
KVN	**Kaiserville**	**1.70**	**19**		**Pn**	**16 18 36.8**	**-0.4**
KVN				IAML		16 19 02.4	
	comp=E,99nm,0.6s						
KVN				IAML		16 19 04.7	
	comp=N,118nm,0.7s						
WASM	**Alta Sierra Ca**	**1.72**	**173**		**Pb**	**16 18 38.5**	**-0.4**
PKEM	**Kettleman Hill**	**1.72**	**217**		**Pb**	**16 18 38.9**	**+0.1**
PNTR	**Pine Nut**	**1.75**	**340**		**Pn**	**16 18 38.0**	**+0.2**
PNTR				IAML		16 19 07.2	
	comp=N,57nm,0.8s						
PNTR				IAML		16 19 08.9	
	comp=E,53nm,0.8s						
MPMC	**Manual Prospec**	**1.75**	**142**	P	**Pn**	**16 18 38.2**	**+0.3**
	baz=323,SNR=33						
MPMC				S	**Sb**	**16 19 01.9**	**+0.1**
	baz=323						
WNMM	**Nine Mile Cany**	**1.76**	**155**		**Pb**	**16 18 39.0**	**-0.4**
ISA	**Isabella, Lake**	**1.80**	**171**		**Pb**	**16 18 39.9**	**-0.3**
ISA	**Isabella, Lake**	**1.80**	**171**	Pn	**Pb**	**16 18 39.7**	**-0.5**
ISA	**Isabella, Lake**	**1.80**	**171**	IAML		16 19 05.4	
	comp=N,151nm,0.3s						
ISA	**Isabella, Lake**	**1.80**	**171**	Pb	**Pb**	**16 18 40.0**	**-0.3**
	baz=351						
ISA				S	**Sb**	**16 19 03.3**	**+0.3**
	baz=351						
WORM	**Onyx Ranch**	**1.81**	**165**		**Pb**	**16 18 40.0**	**-0.3**
WCT	**Wildcat Mounta**	**1.88**	**110**		**Pn**	**16 18 38.8**	**-0.6**
WCT				IAML		16 19 10.5	
	comp=N,88nm,0.6s						
WCT				IAML		16 19 12.6	
	comp=E,65nm,0.4s						
Q09A	**Carvers**	**1.90**	**43**		**Pn**	**16 18 39.9**	**0.0**
Q09A				IAML		16 19 13.5	
	comp=E,173nm,0.8s						
BBGB	**Big Mountain B**	**1.97**	**245**		**Pn**	**16 18 40.2**	**-0.6**
PSMM	**Smith Mountain**	**1.98**	**226**		**Pb**	**16 18 42.1**	**-1.1**
MTOS	**Mt Oso, Westle**	**1.99**	**272**		**Pb**	**16 18 42.8**	**-0.6**
PMPB	**Monarch Peak**	**2.00**	**233**	Pn	**Pn**	**16 18 41.3**	**+0.1**
PKLM	**Kerr Lake**	**2.07**	**217**		**Pn**	**16 18 43.3**	**+1.3**
MPK	**Martis Peak**	**2.08**	**333**		Lg	16 19 13.4	
TRAM	**Private Proper**	**2.11**	**214**		**Pn**	**16 18 43.9**	**+1.2**
TPNV	**Topopah Spring**	**2.12**	**103**		**Pn**	**16 18 42.9**	**0.0**
TPNV				IAML		16 19 19.8	
	comp=E,62nm,0.9s						
TPNV				IAML		16 19 19.8	
	comp=E,79nm,0.6s						
TPNV	**Topopah Spring**	**2.12**	**103**	P	**Pn**	**16 18 43.2**	**+0.4**
	baz=285,SNR=24						
GWY	**Greenwater Val**	**2.14**	**125**	Pn	**Pn**	**16 18 42.4**	**-0.8**
GWY				IAML		16 19 28.9	
	comp=E,32nm,0.8s						
SDH	**Striped Hills**	**2.15**	**111**		**Pn**	**16 18 44.5**	**+1.3**
QSM	**Queen of Sheba**	**2.16**	**133**	Pn	**Pn**	**16 18 43.2**	**-0.1**
QSM				IAML		16 19 31.3	
	comp=E,31nm,0.9s						
QSM				IAML		16 19 37.2	
	comp=N,43nm,1.1s						
LRMC	**Laurel Mtn Rad**	**2.17**	**154**	Pb	**Pb**	**16 18 46.7**	**+0.2**
	baz=335,SNR=14						
LRMC				Sb	**Sg**	**16 19 15.7**	**-0.9**
	baz=335						
SAO	**San Andreas Ge**	**2.20**	**253**		**Pn**	**16 18 43.4**	**-0.4**
TSCN	**Private Proper**	**2.26**	**213**		**Pn**	**16 18 46.3**	**+1.6**
AMDNV	**Amargosa**	**2.27**	**115**		**Pb**	**16 18 46.8**	**-1.3**
PCCM	**Crazy Canyon**	**2.31**	**235**		**Pn**	**16 18 47.1**	**+1.7**
ARVC	**Arvin**	**2.31**	**180**	Pb	**Pb**	**16 18 48.6**	**-0.3**
	baz=0.0,SNR=9.0						
ARVC				Sb	**Sb**	**16 19 18.7**	**+1.0**
	baz=0.0						
CRGC	**Crocker Grade**	**2.31**	**199**		**Pb**	**16 18 47.6**	**-1.4**
SMMC	**Simmler**	**2.33**	**204**	S	**Sb**	**16 19 16.4**	**-1.7**
	baz=23						
CCAC	**Calif City Air**	**2.38**	**164**	Pn	**Pn**	**16 18 46.6**	**+0.3**
RAMR	**Ramage Ranch**	**2.44**	**223**		**Pn**	**16 18 48.8**	**+1.6**
BCW	**Bitter Crk WRg**	**2.54**	**191**		**Pn**	**16 18 48.9**	**+0.3**
EDW2	**Edwards Air Fo**	**2.65**	**165**	Pb	**Pb**	**16 18 55.0**	**+0.4**
	baz=346,SNR=14						
EDW2				Sb	**Sg**	**16 19 29.7**	**-2.2**
	baz=346						
PKM	**Mcpherson Peak**	**2.67**	**198**	S	**Sn**	**16 19 25.5**	**+2.3**
	baz=17						
GSC	**Goldstone, Bar**	**2.69**	**142**	Pn	**Pn**	**16 18 50.9**	**+0.2**
GSC				IAML		16 19 39.9	
	comp=E,26nm,0.5s						
R11B	**Troy Canyon, C**	**2.72**	**70**		**Pn**	**16 18 51.0**	**-0.1**
R11B	**Troy Canyon, C**	**2.72**	**70**	P	**Pn**	**16 18 51.3**	**+0.2**
	baz=252,SNR=34						
R11B				Sb	**Sg**	**16 19 32.5**	**-1.7**
	baz=252						
OSI	**Osito Audit: C**	**2.83**	**178**	Sb	**Sb**	**16 19 33.9**	**+1.3**
	baz=358						
PRN	**Pahroc Range**	**3.01**	**90**	Pn	**Pn**	**16 18 55.3**	**+0.3**
PRN				IAML		16 19 46.5	
	comp=N,28nm,0.7s						
PRN				IAML		16 19 55.8	
	comp=E,41nm,0.8s						
SHPR	**Sheep Range**	**3.08**	**107**	Pn	**Pn**	**16 18 56.2**	**+0.1**
PFO	**Pinyon Flats O**	**4.28**	**153**	Pn	**Pn**	**16 19 13.0**	**+0.4**
PFO				IAML		16 19 55.9	
	comp=E,7.7nm,4.8s						
PFO				IAML		16 20 51.1	
	comp=E,9.9nm,4.8s						
ELK	**Elko**	**4.32**	**39**	Pn	**Pn**	**16 19 13.6**	**+0.4**
ELK				IAML		16 20 27.5	
	comp=E,5.6nm,0.5s						
KNB	**Kanab**	**4.81**	**93**	Pn	**Pn**	**16 19 20.1**	**+0.3**

TAP 02 16:20:41.0, 23°.12N×120°.99E, h5km±1km, ML1.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELDTW	**Lidau**	**0.07**	**17**	*i* P	Pg	16 20 43.3	+0.5
	baz=22						
ELDTW				*i* S	Sg	16 20 44.4	+0.4
	baz=22						
EHD	**Haiduan**	**0.20**	**81**	P	Pg	16 20 45.6	+0.8
	baz=74						
STYH	**Taoyuan**	**0.21**	**284**	*e*P	Pg	16 20 45.5	+0.5
	baz=285						
ECS	**Chishang**	**0.21**	**96**	*e*P	Pg	16 20 45.9	+0.8
	baz=96						
ECS				*e*S	Sg	16 20 49.1	+1.2
	baz=96						
STYT	**Tauyuan**	**0.22**	**281**	*i* P	Pg	16 20 46.0	+0.6
	baz=283						
LONT	**Longtian**	**0.25**	**149**	*e*P	Pg	16 20 46.1	+0.3
	baz=148		

NTC				eS	Sn	16 31 22.7	-0.4
	baz=275						
TWC	**Suao**	**0.52 247**	⇑	*i* P	**Pg**	16 31 12.9	-0.2
TWC	baz=251			eS	Sg	16 31 20.2	+0.1
	baz=251						
EOS3	**EOS3**	**0.52 185**	⇑	P	**Pb**	16 31 14.2	+0.8
EOS3	baz=183			eS	Sb	16 31 22.6	+2.2
	baz=183						
SXI1	**Grass Mountain**	**0.53 302**	⇑	*i* P	**Pb**	16 31 14.4	+0.8
SXI1	baz=303			S	Sb	16 31 21.4	+0.3
	baz=303						
ILA	**Ilan**	**0.57 266**		eP	**Pb**	16 31 14.8	+0.6
ILA	baz=265			eS	Sb	16 31 22.6	+0.7
	baz=265						
NWF	**Wu-fen Shan**	**0.60 296**		eP	**Pb**	16 31 15.8	+1.1
NWF	baz=297			S	Sb	16 31 24.1	+1.2
	baz=297						
WFSB	**Wu-fen Shan**	**0.60 296**		eP	**Pb**	16 31 15.6	+1.0
WFSB	baz=297			S	Sb	16 31 24.0	+1.2
	baz=297						
NDS	**Dongshan**	**0.62 254**		eP	**Pb**	16 31 15.6	+0.5
NDS	baz=246			eS	Sb	16 31 24.3	+0.8
	baz=246						
JYNG	**Yonagunijimaku**	**0.63 124**		P	**Pg**	16 31 16.1	+0.8
JYNG				eS	Sb	16 31 25.2	+1.5
TNOU	**National Taiwa**	**0.64 302**		P	**Pb**	16 31 16.4	+0.9
TNOU	baz=303			S	Sb	16 31 25.1	+1.1
	baz=303						
EWUT	**Wuta**	**0.65 236**	⇑	eP	**Pg**	16 31 15.5	-0.1
EWUT	baz=242			eS	Sb	16 31 24.8	+0.5
	baz=242						
YOJ	**Yonaguni jima**	**0.68 121**		Pg	**Pg**	16 31 16.6	+0.6
YOJ				Sg	Sb	16 31 26.7	+1.6
YOJ	**Yonaguni jima**	**0.68 121**		P	**Pg**	16 31 16.9	+0.8
YOJ	**Yonaguni jima**	**0.68 121**		P	**Pg**	16 31 17.0	+0.8
YOJ				S	Sb	16 31 26.4	+1.3
YOJ	**Yonaguni jima**	**0.68 121**	⇓	P	**Pg**	16 31 16.7	+0.6
YOJ	baz=119			S	Sg	16 31 25.5	+0.4
	baz=119						
EOS4	**EOS4**	**0.69 184**	⇑	P	**Pb**	16 31 17.1	+1.0
EOS4	baz=182			eS	Sn	16 31 27.1	-0.2
	baz=182						
ENA	**Nanau**	**0.69 237**		P	**Pg**	16 31 16.0	-0.3
ENA	baz=235			eS	Sb	16 31 25.7	+0.3
	baz=235						
FUSB	**Fushanzhiwuyua**	**0.71 266**		P	**Pb**	16 31 17.2	+0.4
FUSB	baz=266			S	Sb	16 31 26.8	+0.5
	baz=266						
ENTT	**Nioudou**	**0.75 257**		eP	**Pg**	16 31 17.6	+0.1
ENTT	baz=264			eS	Sb	16 31 27.5	+0.2
	baz=264						
EHP	**Heping Village**	**0.76 229**		eP	**Pn**	16 31 18.6	0.0
NHY	**Taipei**	**0.76 288**		eP	**Pn**	16 31 19.1	+0.4
NHY	baz=288			eS	Sb	16 31 28.9	+1.3
	baz=288						
NHDH	**Xindian Distri**	**0.78 281**		P	**Pn**	16 31 19.2	+0.3
NHDH	baz=281			S	Sn	16 31 29.7	-0.5
	baz=281						
NWLT	**Wulai**	**0.79 268**		eP	**Pb**	16 31 18.7	+0.7
NWLT	baz=267			eS	Sb	16 31 29.1	+0.7
	baz=267						
YM01	**YM01**	**0.80 295**	⇑	*i* P	**Pn**	16 31 19.3	+0.1
YM01	baz=295			S	Sb	16 31 29.9	+1.2
	baz=295						
YM08	**YM08**	**0.80 298**	⇑	*i* P	**Pb**	16 31 18.9	+0.7
YM08	baz=298			*i* S	Sb	16 31 29.4	+0.6
	baz=298						
NDT	**Datong Townshi**	**0.81 255**		eP	**Pb**	16 31 18.9	+0.6
NDT	baz=243			eS	Sb	16 31 29.2	+0.3
	baz=243						
LATG	**Datong**	**0.81 251**		P	**Pg**	16 31 18.8	0.0
LATG	baz=237			S	Sb	16 31 30.1	+0.9
	baz=237						
TAP	**Taipei**	**0.82 286**		eP	**Pn**	16 31 19.7	+0.3
TAP	baz=286			S	Sn	16 31 30.7	-0.4
	baz=286						
TATO	**Taipei**	**0.82 282**		P	**Pn**	16 31 20.1	+0.7
TWY	**Chenhua**	**0.84 304**		P	**Pg**	16 31 19.9	+0.7
TWY	baz=304			S	Sn	16 31 31.7	0.0
	baz=304						
ANP	**Anpu**	**0.86 296**		eP	**Pg**	16 31 20.1	+0.5
ANP	baz=296			eS	Sg	16 31 31.8	+0.8
	baz=296						
PCYT	**Pengchaiyu**	**0.86 342**		eP	**Pb**	16 31 19.7	+0.5
NTST	**Danshui**	**0.91 293**		P	**Pn**	16 31 21.4	+0.7
NTST	baz=303			S	Sn	16 31 33.7	+0.3
	baz=303						
TWS1	**Kuangyinshan**	**0.91 289**		P	**Pn**	16 31 21.1	+0.4
TWS1	baz=289			S	Sn	16 31 33.6	+0.1
	baz=289						
YHNB	**Yeheng**	**0.92 262**			**Pg**	16 31 20.7	+0.1
YHNB				Sg	Sb	16 31 32.2	+0.1
YHNB	**Yeheng**	**0.92 262**		P	**Pn**	16 31 21.3	+0.4
YHNB	**Yeheng**	**0.92 262**		P	**Pg**	16 31 20.7	+0.1
YHNB	baz=261			S	Sb	16 31 32.2	+0.1
	baz=261						
NSK	**Sanguang**	**0.93 262**		P	**Pg**	16 31 21.2	+0.3
NSK	baz=245			S	Sb	16 31 32.5	0.0
	baz=245						
ETL	**Fush Village**	**0.94 227**		eP	**Pb**	16 31 20.9	+0.4
ETL	baz=235			eS	Sb	16 31 33.1	+0.4
	baz=235						
NACB	**Ninganchiao**	**0.95 228**			**Pb**	16 31 20.6	-0.1
NACB	**Ninganchiao**	**0.95 228**		P	**Pb**	16 31 21.0	+0.3
NACB	**Ninganchiao**	**0.95 228**		P	**Pb**	16 31 20.5	-0.1
NACB	baz=237			S	Sb	16 31 32.9	-0.1
	baz=237						
NNSB	**Datong**	**0.98 247**		P	**Pb**	16 31 21.6	+0.4
NNSB	baz=235			S	Sb	16 31 33.5	-0.3
	baz=235						
NNS	**Nan Shan**	**0.98 248**		P	**Pg**	16 31 22.0	+0.1
NNS	baz=236			S	Sg	16 31 34.5	-0.3
	baz=236						
ETLH	**Xiulin Townshi**	**1.01 234**		P	**Pb**	16 31 22.1	+0.3
ETLH	baz=232			eS	Sb	16 31 34.7	0.0
	baz=232						
TWD	**Chiawan**	**1.01 224**		eP	**Pb**	16 31 22.1	+0.3
TWD	baz=230			eS	Sb	16 31 34.9	+0.1
	baz=230						
HWA	**Hwalien**	**1.08 220**		eP	**Pg**	16 31 24.8	+1.0
HWA	baz=199			eS	Sn	16 31 39.1	+1.5
	baz=199						
NCU	**National Centr**	**1.09 279**		eP	**Pg**	16 31 23.9	+0.1
NCU	baz=278			eS	Sn	16 31 38.4	+0.7
	baz=278						
NCUH	**Zhongli**	**1.09 279**		eP	**Pg**	16 31 25.4	+1.5
NCUH	baz=278			eS	Sn	16 31 38.8	+1.0
	baz=278						
NFF	**Wufeng Townshi**	**1.15 261**	⇓	*i* P	**Pg**	16 31 25.2	+0.1
NFF	baz=261			eS	Sg	16 31 40.4	+0.1
	baz=261						
ETM	**Tongmen**	**1.16 224**		P	**Pn**	16 31 24.6	+0.5
ETM	baz=205			eS	Sn	16 31 40.1	+0.6
	baz=205						
LXIB	**Xiulin Townshi**	**1.17 228**		P	**Pn**	16 31 25.0	+0.5
TWT	**Tachien**	**1.22 243**		P	**Pg**	16 31 26.9	+0.4
TWT	baz=242			eS	Sg	16 31 42.7	+0.2
	baz=242						
TDCB	**Techi**	**1.23 244**		eP	**Pg**	16 31 26.5	-0.2
TDCB	baz=234			S	Sg	16 31 42.8	-0.1
	baz=234						
LIOB	**Emei**	**1.24 263**		P	**Pg**	16 31 26.6	-0.3
LIOB	baz=262			eS	Sg	16 31 42.7	-0.4
	baz=262						
NSTT	**Nanjuang**	**1.26 262**		P	**Pb**	16 31 26.5	+0.5
NSTT	baz=261			eS	Sg	16 31 43.1	-0.5
	baz=261						
SBCB	**Hsinchu**	**1.26 270**		eP	**Pb**	16 31 26.7	+0.7
SBCB	baz=269			eS	Sg	16 31 43.5	-0.2
	baz=269						
ESL	**Shilin**	**1.31 221**		eP	**Pb**	16 31 27.1	+0.3
CHGB	**Renai**	**1.32 236**		P	**Pg**	16 31 28.2	-0.2
CHGB	baz=249			S	Sg	16 31 45.1	-0.5
	baz=249						
IRIF	**Iriomote-Funau**	**1.32 111**		P	**Pn**	16 31 26.0	-0.4
IRIF				eS	Sn	16 31 42.6	-0.9
OWD	**Renai**	**1.38 232**		eP	**Pb**	16 31 29.1	+0.9
WHP	**Taichung City**	**1.40 248**		eP	**Pg**	16 31 30.1	+0.3
WHP	baz=247			eS	Sg	16 31 47.4	-0.8
	baz=247						
WUSB	**Renai**	**1.40 235**	⇑	*i* P	**Pb**	16 31 29.4	+0.9
WUSB	baz=241			S	Sg	16 31 47.4	-0.8
	baz=241						
WARBT	**Fenglin Townsh**	**1.41 220**		P	**Pn**	16 31 28.3	+0.7
WARBT	baz=203			eS	Sb	16 31 47.1	+0.9
	baz=203						
NMLH	**Miaoli**	**1.46 260**		eP	**Pg**	16 31 31.3	+0.3
NMLH	baz=259			eS	Sg	16 31 51.4	+1.4
	baz=259						
HATJ	**Hateruma jima**	**1.51 120**		P	**Pn**	16 31 29.0	+0.1
HATJ				eS	Sn	16 31 47.4	-0.6
NSY	**Sanyi**	**1.52 255**		eP	**Pg**	16 31 33.0	+1.0
NSY	baz=254			eS	Sg	16 31 51.9	+0.1
	baz=254						
TWQ1	**Liyutan**	**1.53 253**		eP	**Pg**	16 31 32.6	+0.4
TWQ1	baz=272			eS	Sg	16 31 51.6	-0.4
	baz=272						
WCS	**Beigang Elemen**	**1.53 241**		eP	**Pg**	16 31 32.0	-0.2
WCS	baz=240			eS	Sg	16 31 52.1	0.0
	baz=240						
VWDT	**VWDT**	**1.54 227**		eP	**Pb**	16 31 31.4	+0.6
VWDT	baz=209			eS	Sg	16 31 51.4	-1.1
	baz=209						
HGSD	**Ruisui**	**1.57 214**		P	**Pn**	16 31 30.4	+0.7
HGSD	baz=199			eS	Sn	16 31 50.4	+0.7
	baz=199						
JKRS	**Kuro-shima**	**1.60 111**		P	**Pn**	16 31 30.3	+0.2
JKRS				S	Sn	16 31 49.5	-0.8
EHY	**Hungye**	**1.61 217**		eP	**Pn**	16 31 30.8	+0.4
EHY	baz=201			eS	Sn	16 31 50.5	-0.2
	baz=201						
SMLT	**Sun Moon Lake**	**1.63 236**		eP	**Pg**	16 31 33.7	-0.4
SMLT	baz=247			eS	Sb	16 31 53.8	+1.2
	baz=247						
SSLB	**Suanglung**	**1.65 232**			**Pb**	16 31 33.0	+0.3
SSLB	**Suanglung**	**1.65 232**		P	**Pb**	16 31 33.4	+0.8
SSLB	**Suanglung**	**1.65 232**		eP	**Pb**	16 31 32.9	+0.3
	baz=231						
TYC	**Yuchr**	**1.65 237**		eP	**Pb**	16 31 33.8	+1.1
	baz=220						
JIJ	**Ishigaki jima**	**1.67 105**		P	**Pn**	16 31 31.1	-0.1
JIJ				S	Sn	16 31 51.3	-0.9
YULB	**Yu-li**	**1.72 215**			**Pn**	16 31 32.3	+0.4
YULB	**Yu-li**	**1.72 215**		P	**Pn**	16 31 32.5	+0.7
YULB	**Yu-li**	**1.72 215**		P	**Pn**	16 31 32.1	+0.3
	baz=214						
EYUL	**Yuli**	**1.74 214**		eP	**Pn**	16 31 33.7	+1.6
	baz=200						
TWF1	**Yuli**	**1.75 214**		eP	**Pn**	16 31 32.9	+0.6
	baz=213						
WHYT	**Xinyi Township**	**1.77 232**		eP	**Pb**	16 31 35.5	+0.7
WHYT	baz=242			eS	Sg	16 31 59.0	-1.0
	baz=242						
JISG	**Ishigakijimahi**	**1.78 97**		P	**Pn**	16 31 32.5	-0.1
JISG				S	Sn	16 31 54.1	-0.7
WJS	**Zhushan**	**1.79 237**		eP	**Pb**	16 31 36.2	+1.1
WJS	baz=255			eS	Sg	16 32 00.7	+0.1
	baz=255						
WNT	**Mingjian**	**1.80 239**		P	**Pb**	16 31 36.2	+1.1
WNT	baz=259			eS	Sg	16 31 60.0	-0.7
	baz=259						
FULB	**Fuli**	**1.88 212**		eP	**Pn**	16 31 35.5	+1.4
	baz=195						
ALS	**Alishan**	**1.93 228**		P	**Pb**	16 31 37.7	+0.1
ALS	baz=211			eS	Sb	16 32 02.3	+0.9
	baz=211						
EHD	**Haiduan**	**1.97 213**		eP	**Pn**	16 31 36.7	+1.4
EHD	baz=212			eS	Sn	16 31 59.8	+0.3
	baz=212						
WRL	**Guolierlin Hig**	**2.03 244**		eP	**Pb**	16 31 38.5	-0.7
WRL	baz=260			eS	Sb	16 32 03.5	-0.6
	baz=260						
ELDTW	**Lidau**	**2.03 218**		eP	**Pn**	16 31 37.6	+1.3
EDH	**Donghe**	**2.07 208**		P	**Pn**	16 31 36.8	+0.1
EDH	baz=195			eS	Sn	16 32 02.0	0.0
	baz=195						
WCKO	**Fanlu**	**2.11 230**		eP	**Pb**	16 31 41.1	+0.5
WCKO	baz=213			eS	Sg	16 32 09.0	-1.8
	baz=213						
JTJ	**Tarama**	**2.13 94**		P	**Pn**	16 31 38.4	+0.9
JTJ				eS	Sn	16 32 03.7	+0.3
WTK	**Tuku**	**2.13 239**		eP	**Pb**	16 31 40.5	-0.3
WTK	baz=256			eS	Sb	16 32 07.8	+1.0
	baz=256						
CHN2	**Minshiung**	**2.15 234**		eP	**Pb**	16 31 41.4	+0.3
	baz=250						
STYH	**Taoyuan**	**2.19 222**		P	**Pb**	16 31 40.8	-1.1
STYH	baz=207			eS	Sb	16 32 08.5	-0.1
	baz=207						
TPUB	**Ta-pu**	**2.19 227**			**Pb**	16 31 41.1	-0.8
TPUB	**Ta-pu**	**2.19 227**		P	**Pb**	16 31 41.8	-0.1
TPUB	**Ta-pu**	**2.19 227**		P	**Pb**	16 31 41.5	-0.4
TPUB	baz=210			eS	Sb	16 32 09.7	+1.0
	baz=210						
CHY	**Chiayi**	**2.21 234**		P	**Pb**	16 31 41.1	-1.1
CHY	baz=251			eS	Sb	16 32 10.6	+1.4
	baz=251						
LONT	**Longtian**	**2.21 211**		eP	**Pn**	16 31 39.6	+1.0
WTP	**Ta-pu**	**2.24 226**		P	**Pb**	16 31 42.1	-0.6
	baz=210						
WTP	baz=210			eS	Sb	16 32 09.4	-0.6
LDUT	**Ludao**	**2.28 201**		P	**Pn**	16 31 39.4	-0.2
LDUT	baz=200			eS	Sn	16 32 06.0	-1.2
	baz=200						
WSF	**Szhu**	**2.28 240**		eP	**Pb**	16 31 42.6	-0.8
	baz=238						
TWG	**Pinlang**	**2.31 211**			**Pn**	16 31 42.0	+2.1
SNST	**Tainan City**	**2.33 228**		eP	**Pb**	16 31 44.4	+0.1
	baz=226						
CHN1	**Nanshi**	**2.33 227**		eP	**Pb**	16 31 43.8	-0.6
	baz=225						
SGST	**Jiashian**	**2.37 224**		eP	**Pn**	16 31 43.2	+2.3
	baz=207						
ICHU	**Yijhu**	**2.39 233**		eP	**Pb**	16 31 44.7	-0.7
	baz=250						
ICHU				eS	Sb	16 32 15.7	+1.1
	baz=250						
SLGT	**Liugui**	**2.40 221**		eP	**Pb**	16 31 44.7	-0.8
	baz=206						
SLGT				eS	Sb	16 32 14.1	-0.6
	baz=206						
ECL	**Taimali**	**2.56 211**		eP	**Pn**	16 31 43.7	+0.4
	baz=209						
MATB	**Ma-tsu**	**2.57 302**		eP	**Pn**	16 31 43.4	-0.1
	baz=302						
SSD	**Sandimen**	**2.60 218**		eP	**Pb**	16 31 47.2	-1.6
	baz=203						
SSD				eS	Sn	16 32 18.1	+3.1
	baz=203						
TSMG	**Majia**	**2.62 217**		eP	**Pn**	16 31 47.0	+2.7
	baz=203						
VWUC	**VWUC**	**2.66 275**		eP	**Pn**	16 31 44.5	-0.3
	baz=274						
TSCK	**Chigu Township**	**2.67 232**		eP	**Pn**	16 31 47.9	+3.0
	baz=231						
MASBT	**Mashibuluo**	**2.71 216**		eP	**Pn**	16 31 47.3	+1.9
	baz=203						
EAST	**Anshuo**	**2.79 210**		eP	**Pn**	16 31 48.1	+1.5
	baz=209						
PNG	**Penghu**	**2.85 245**		eP	**Pn**	16 31 48.8	+1.3
	baz=244						
LAY	**Lan-yu**	**2.86 195**		eP	**Pn**	16 31 48.7	+1.2
	baz=194						
PHUB	**P'eng-hu**	**2.86 244**		eP	**Pn**	16 31 48.4	+0.9
	baz=243						
LYUB	**Lan-yu**	**2.89 195**		eP	**Pn**	16 31 47.5	-0.4
	baz=193						
SCZT	**Fangliau**	**2.91 214**		eP	**Pb**	16 31 51.9	-2.2
	baz=200						
WDGT	**Dungji**	**2.92 239**		eP	**Pn**	16 31 50.5	+2.1
	baz=238						
LYJJ	**Jianjiangzhen**	**2.93 307**		eP	**Pn**	16 31 47.6	-0.8
	baz=307						
PTMZ	**Houxiangcun**	**2.96 275**		eP	**Pn**	16 31 48.8	-0.1
	baz=275						
VCHM	**Qimei**	**3.13 240**		eP	**Pn**	16 31 52.1	+0.9
	baz=239						
TWKBT	**Hengchun**	**3.19 207**		eP	**Pn**	16 31 52.8	+0.6
	baz=196						
KNMB	**Chin-men Tao**	**3.64 265**		eP	**Pn**	16 31 58.3	+0.1
	baz=265						
AXDP	**Jialang**	**4.00 272**		eP	**Pn**	16 32 03.8	+0.6
	baz=272						
ZPLA	**Ao Xicun**	**4.30 259**		eP	**Pn**	16 32 07.4	0.0
	baz=258						
JOW	**Kunigami**	**5.69 68**		Pn	Pn	16 32 21.1	-5.3
KSRS	**Korea Array**	**13.47 19**		Pn	P	16 34 27.6	+5.4
	0.1nm,0.3s,baz=203,slow=12,SNR=4.0						
	1.8nm,0.8s						
KS19	**Wonju Array Si**	**13.49 19**		Pn	Pn	16 34 04.2	-9.1
SONM	**Songino Array**	**26.23 335**		P	P	16 36 28.5	-8.4
SONM	**Songino Array**	**26.23 335**		P	**P**	**16 36 38.1**	**+1.2**
	0.5nm,0.5s,baz=146,slow=10.0,SNR=5.2						
	0.5nm,0.5s						
YSS	**Yuzh-Sakhalins**	**27.43 31**		P	**P**	**16 36 41.4**	**-6.0**
YAK	**Yakutsk**	**37.54 6**		P	P	16 38 07.9	-7.7
YAK				IAmb	IAmb	16 38 38.0	
	comp=Z,14nm,1.3s						
KNRA	**Kununurra**	**40.72 171**		P	**P**	**16 38 43.0**	**+0.4**
KNRA				IAmb	IAmb	16 38 45.9	
	comp=Z,9.4nm,1.2s						
WB0	**Warramunga Arr**	**45.83 164**		P	**P**	**16 39 24.3**	**+0.4**
WB0				IAmb	IAmb	16 39 25.9	
	comp=Z,3.0nm,1.1s						
WRA	**Warramunga Arr**	**45.98 164**		P	**P**	**16 39 25.9**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=344,slow=8.6,SNR=14						
	comp=Z,1.9nm,0.8s						
WB2	**Warramunga Arr**	**45.98 164**		P	**P**	**16 39 24.6**	**-0.5**
WB2				IAmb	IAmb	16 39 26.9	
	comp=Z,3.3nm,0.8s						
ASAR	**Alice Springs**	**49.47 166**		P	**P**	**16 39 53.3**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=345,slow=8.8,SNR=11						
	comp=Z,0.6nm,0.7s						

TAP ***02*** *16:33:35.7,24°.82N×122°.32E,h11*^{km}*,ML3.0,C*
JMA ***02*** *16:33:36.1±0.1,24°.8N±0°.7×122°.4E±0°.3,h41*^{km}*±2*^{km}*,*
MV2.5/10,TAIWAN REGION
ISC 02 16:33:35.1±1.0,24°.81N±0°.03×122°.38E±0°.02,h16^{km}**±8**^{km}**,**
n65,σ0°.78/107,2C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40 299**	⇑	*i* P			**Pb**	**16 33 43.6**	**-0.2**
TWB1	baz=303			*i* S			**Sb**	16 33 49.0	-0.8
	baz=303								
EGS		**0.40 274**	⇓	*i* P			**Pb**	16 33 43.6	-0.3
EGS	baz=274			S			**Sb**	16 33 51.0	+1.1
	baz=274								
EOS2	**EOS2**	**0.41 198**		P			**Pg**	16 33 44.1	+0.7
TWC	**Suao**	**0.52 247**		*i* P			**Pg**	16 33 45.1	-0.3
TWC	baz=252			S			**Sb**	16 33 53.9	+0.7
	baz=252								
EOS3	**EOS3**	**0.53 186**		P			**Pg**	16 33 46.2	+0.7
EOS3	baz=180			S			**Sb**	16 33 54.9	+1.6
	baz=180								
SXI1	**Grass Mountain**	**0.53 302**		*i* P			**Pb**	16 33 46.4	+0.2
SXI1	baz=304			*i* S			**Sb**	16 33 53.3	-0.3
	baz=304								
NWF	**Wu-fen Shan**	**0.60 295**	⇑	*i* P			**Pb**	16 33 48.2	+1.0
NWF	baz=297			*i* S			**Sb**	16 33 56.1	+0.6
	baz=297								
WFSB	**Wu-fen Shan**	**0.60 295**		*i* P			**Pb**	16 33 48.2	+1.0
WFSB	baz=297			*i* S			**Sb**	16 33 56.4	+1.0
	baz=297								
NDS	**Dongshan**	**0.63 253**		P			**Pg**	16 33 47.0	-0.4
NDS	baz=243			S			**Sb**	16 33 55.8	-0.4
	baz=243								
JYNG	**Yonagunijimaku**	**0.63 125**		P			**Pg**	16 33 47.9	+0.4
JYNG				S			**Sg**	16 33 56.7	+0.8
TNOU	**National Taiwa**	**0.64 302**		P			**Pb**	16 33 48.6	+0.6
TNOU	baz=304			S			**Sb**	16 33 57.4	+0.8
	baz=304								
EWUT	**Wuta**	**0.66 236**		P			**Pg**	16 33 47.7	-0.3
EWUT	baz=233			S			**Sb**	16 33 56.7	-0.4
	baz=233								
YOJ	**Yonaguni jima**	**0.68 121**		P			**Pg**	16 33 49.2	+0.8
YOJ	**Yonaguni jima**	**0.68 121**		P			**Pg**	16 33 48.9	+0.5
YOJ				S			**Sg**	16 33 57.7	+0.4
YOJ	**Yonaguni jima**	**0.68 121**		P			**Pg**	16 33 49.1	+0.8
EOS4	baz=119			P			**Pg**	16 33 49.2	+0.7
	baz=173								
EOS4				eS			**Sb**	16 33 59.0	+1.2
	baz=173								
ENA	**Nanau**	**0.69 236**		P			**Pg**	16 33 48.5	-0.2
ENA	baz=233			S			**Sb**	16 33 57.7	-0.5
	baz=233								
FUSB	**Fushanzhiwuyua**	**0.72 266**		P			**Pb**	16 33 49.2	-0.1
FUSB	baz=265			eS			**Sb**	16 33 58.7	-0.3
	baz=265								
ENTT	**Nioudou**	**0.76 257**		P			**Pb**	16 33 50.3	+0.4
	baz=255								

ENTT			S		**Sb**	**16 34 00.1 +0.1**
	baz=255					
NHDH	**Xindian Distri**	**0.79 281**	P		**Pn**	**16 33 51.6 0.0**
	baz=281					
NHDH			S		**Sn**	**16 34 02.0 -1.0**
	baz=281					
NWLT	**Wulai**	**0.79 268**	P		**Pb**	**16 33 50.9 +0.3**
	baz=267					
NWLT			S		**Sb**	**16 34 00.9 -0.2**
	baz=267					
YM01	**YM01**	**0.80 295**	⇓ *i* P		**Pb**	**16 33 51.3 +0.5**
	baz=296					
YM01			S		**Sb**	**16 34 02.2 +0.8**
	baz=296					
YM08	**YM08**	**0.80 298**	*i* P		**Pb**	**16 33 51.0 +0.3**
	baz=299					
YM08			S		**Sb**	**16 34 01.9 +0.4**
	baz=299					
NDT	**Datong Townshi**	**0.81 255**	P		**Pb**	**16 33 51.2 +0.3**
	baz=261					
NDT			S		**Sb**	**16 34 02.7 +1.1**
	baz=261					
LATG	**Datong**	**0.82 250**	P		**Pg**	**16 33 50.8 -0.3**
	baz=248					
LATG			*e*S		**Sg**	**16 34 01.2 -0.8**
	baz=248					
TWY	**Chenhua**	**0.84 303**	*i* P		**Pn**	**16 33 52.3 0.0**
	baz=305					
TWY			*i* S		**Sn**	**16 34 04.0 -0.3**
	baz=305					
PCYT	**Pengchaiyu**	**0.86 341**	P		**Pb**	**16 33 52.5 +0.9**
	baz=345					
ANP	**Anpu**	**0.86 296**	*e*S		**Sn**	**16 34 04.2 -0.8**
	baz=297					
NTST	**Danshui**	**0.91 293**	*e*P		**Pb**	**16 33 53.0 +0.5**
	baz=294					
NTST			*e*S		**Sb**	**16 34 05.2 +0.8**
	baz=294					
TWS1	**Kuangyinshan**	**0.92 288**	P		**Pb**	**16 33 53.0 +0.4**
	baz=289					
TWS1			S		**Sn**	**16 34 05.6 -0.6**
	baz=289					
YHNB	**Yeheng**	**0.92 261**	P		**Pb**	**16 33 53.1 +0.4**
YHNB	**Yeheng**	**0.92 261**	*e*P		**Pg**	**16 33 52.6 -0.4**
	baz=254					
YHNB			*e*S		**Sb**	**16 34 04.9 +0.1**
	baz=254					
NSK	**Sanguang**	**0.94 262**	*e*P		**Pg**	**16 33 52.8 -0.4**
	baz=260					
NSK			*e*S		**Sg**	**16 34 04.1 -1.4**
	baz=260					
ETL	**Fush Village**	**0.95 227**	*e*P		**Pg**	**16 33 53.4 -0.1**
	baz=235					
ETL			*e*S		**Sg**	**16 34 05.0 -0.9**
	baz=235					
NACB	**Ninganchiao**	**0.95 228**	P		**Pg**	**16 33 53.4 -0.2**
NACB	**Ninganchiao**	**0.95 228**	P		**Pg**	**16 33 52.7 -0.9**
	baz=237					
NACB			S		**Sg**	**16 34 04.8 -1.3**
	baz=237					
NNSB	**Datong**	**0.98 247**	P		**Pg**	**16 33 53.7 -0.4**
	baz=245					
NNSB			*e*S		**Sb**	**16 34 06.3 -0.3**
	baz=245					
NNS	**Nan Shan**	**0.98 248**	P		**Pb**	**16 33 54.1 +0.2**
	baz=233					
NNS			*e*S		**Sb**	**16 34 07.3 +0.6**
	baz=233					
ETLH	**Xiulin Townshi**	**1.01 234**	*e*P		**Pb**	**16 33 54.8 +0.5**
	baz=239					
ETLH			*e*S		**Sb**	**16 34 07.5 0.0**
	baz=239					
TWD	**Chiawan**	**1.02 224**	*e*P		**Pg**	**16 33 53.1 -1.7**
	baz=227					
NFF	**Wufeng Townshi**	**1.16 261**	*e*P		**Pn**	**16 33 57.3 +0.6**
	baz=267					
NFF			*e*S		**Sn**	**16 34 14.0 +1.7**
	baz=267					
ETM	**Tongmen**	**1.17 224**	*e*P		**Pb**	**16 33 56.6 -0.3**
	baz=201					
LXIB	**Xiulin Townshi**	**1.18 228**	*e*P		**Pb**	**16 33 57.5 +0.3**
	baz=225					
TWT	**Tachien**	**1.23 243**	P		**Pg**	**16 33 58.9 +0.1**
	baz=241					
TWT			*e*S		**Sn**	**16 34 15.2 +1.1**
	baz=241					
TDCB	**Techi**	**1.24 243**	*e*P		**Pn**	**16 33 58.5 +0.6**
	baz=241					
TDCB			*e*S		**Sb**	**16 34 13.8 -0.3**
	baz=241					
LIOB	**Emei**	**1.25 263**	*e*P		**Pn**	**16 33 58.4 +0.5**
	baz=262					
NSTT	**Nanjuang**	**1.26 262**	P		**Pg**	**16 34 00.5 +1.0**
	baz=260					
NSTT			S		**Sn**	**16 34 17.0 +2.2**
	baz=260					
ESL	**Shilin**	**1.32 221**	*e*P		**Pb**	**16 34 00.1 +0.7**
	baz=199					
IRIF	**Iriomote-Funau**	**1.32 111**	P		**Pn**	**16 33 58.1 -0.9**
IRIF			S		**Sb**	**16 34 14.4 -1.9**
CHGB	**Renai**	**1.33 236**	*e*P		**Pb**	**16 34 00.1 +0.3**
	baz=233					
CHGB			*e*S		**Sn**	**16 34 17.2 +0.5**
	baz=233					
OWD	**Renai**	**1.39 232**	*e*P		**Pg**	**16 34 02.0 +0.2**
	baz=223					
WHP	**Taichung City**	**1.41 248**	*e*P		**Pg**	**16 34 01.8 -0.4**
	baz=246					
WHP			*e*S		**Sg**	**16 34 19.3 -1.3**
	baz=246					
WUSB	**Renai**	**1.41 235**	*e*P		**Pg**	**16 34 02.0 -0.2**
	baz=232					
WARBT	**Fenglin Townsh**	**1.42 220**	*e*P		**Pb**	**16 34 01.4 +0.2**
	baz=199					
EGFH	**Guangfu**	**1.43 217**	*e*P		**Pg**	**16 34 03.0 +0.3**
	baz=197					
HATJ	**Hateruma jima**	**1.51 120**	P		**Pn**	**16 34 00.8 -0.6**
HATJ			*e*S		**Sn**	**16 34 19.2 -1.6**
VWDT	**VWDT**	**1.54 227**	*e*P		**Pg**	**16 34 04.3 -0.5**
	baz=224					
JKRS	**Kuro-shima**	**1.59 111**	P		**Pn**	**16 34 02.4 -0.3**
JKRS			S		**Sn**	**16 34 21.6 -1.4**
SSLB	**Suanglung**	**1.65 232**	P		**Pb**	**16 34 05.7 +0.5**
SSLB	**Suanglung**	**1.65 232**	*e*P		**Pb**	**16 34 05.3 +0.1**
	baz=229					
JIJ	**Ishigaki jima**	**1.67 105**	P		**Pn**	**16 34 03.8 +0.1**
JIJ			S		**Sn**	**16 34 23.8 -1.0**
FULB	**Fuli**	**1.89 212**	*e*P		**Pn**	**16 34 08.4 +1.6**
	baz=192					
ELDTW	**Lidau**	**2.04 218**	*e*P		**Pn**	**16 34 09.3 +0.4**
	baz=200					
TPUB	**Ta-pu**	**2.19 227**	*e*P		**Pb**	**16 34 13.5 -1.0**
	baz=207					
WTP	**Ta-pu**	**2.24 226**	*e*P		**Pb**	**16 34 14.5 -0.8**
	baz=207					

*IDC **02** 16:39:36.0±1.1, 4°.88S×150°.72E, h226km±13km, mb3.3/6, mbtmp4.0/8, Error ellipse: s-maj=40.0km s-min=11.9km az=120.0*
*NEIC **02** 16:39:36.3±0.9, 4°.9S±0°.1×150°.8E±0°.1, h230km±9km, mb4.4/18, Error ellipse: s-maj=23.0km s-min=10.8km az=133.0*

ISC 02 16:39:36.4±0.7, **4°.82S**±0°.10×**150°.8E**±0°.1, **h250**km, **n32, σ1°94/27, mb4.1**/14, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.37**	**68**	P	**Pn**	**16 40 11.4**	**-2.4**
	142nm,0.3s,baz=226,slow=24,SNR=309						
RABL	**Rabaul**	**1.54**	**66**	Pn	**Pn**	**16 40 12.4**	**-2.6**
PMG	**Port Moresby**	**5.79**	**218**	Pn	**Pn**	**16 40 59.9**	**-2.0**
PMG	**Port Moresby**	**5.79**	**218**	P	**Pn**	**16 41 00.2**	**-1.7**
	8.3nm,0.7s,baz=250,slow=12,SNR=1.9						
PMG				S	**S**	**16 42 08.3**	**-1.9**
	12nm,0.7s,baz=186,slow=20,SNR=2.8						
CTAO	**Charters Tower**	**15.80**	**196**	P	**Pn**	**16 43 04.8**	**-1.4**
CTAO				IAmb	IAmb	16 43 15.4	
	comp=Z,19nm,1.4s						
GUMO	**Guam**	**19.20**	**342**	P	**Pn**	**16 43 42.5**	**-3.7**
GUMO	**Guam**	**19.20**	**342**	P	**Pn**	**16 43 42.6**	**-3.5**
	comp=Z,24nm,0.4s,baz=210,slow=20,SNR=2.3						
MTN	**Manton Dam**	**20.95**	**246**	P	Pn	16 44 01.7	-5.0
MTN				IAmb	IAmb	16 44 14.6	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**21.79**	**226**	P	**P**	**16 44 09.5**	**+0.9**
WRAB	**Tennant Creek**	**21.93**	**225**	P	**P**	**16 44 10.6**	**+0.7**
WRAB				IAmb	IAmb	16 44 47.5	
	comp=Z,6.4nm,0.9s						
WB2	**Warramunga Arr**	**21.93**	**225**	P	**P**	**16 44 10.9**	**+1.0**
WB2				IAmb	IAmb	16 44 11.5	
	comp=Z,3.8nm,0.3s						
WRA	**Warramunga Arr**	**21.94**	**225**	P	**P**	**16 44 11.2**	**+1.2**
	comp=Z,1.7nm,0.4s,baz=50,slow=10.0,SNR=38						
	comp=Z,1.7nm,0.4s						
DZM	**Mont Dzumac**	**22.92**	**140**	P	**P**	**16 44 18.8**	**-0.2**
DZM				IAmb	IAmb	16 44 53.6	
	comp=Z,31nm,1.3s						
KNRA	**Kununurra**	**24.15**	**242**	P	**P**	**16 44 32.6**	**+2.5**
KNRA				IAmb	IAmb	16 44 33.5	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**24.80**	**219**	P	**P**	**16 44 36.8**	**+0.9**
ASAR	**Alice Springs**	**24.80**	**219**	P	**P**	**16 44 36.5**	**+0.5**
ASAR	**Alice Springs**	**24.80**	**219**	P	**P**	**16 44 36.9**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=52,slow=8.8,SNR=36						
	comp=Z,0.4nm,0.4s						
MORW	**Morawa**	**40.76**	**230**	P	**P**	**16 46 54.4**	**+0.9**
MORW				IAmb	IAmb	16 46 57.2	
	comp=Z,32nm,1.5s						
PETK	**Petropavlovsk-**	**58.01**	**5**	P	P	16 49 06.8	+3.8
	comp=Z,10nm,1.1s,baz=144,slow=5.2,SNR=5.7						
	comp=Z,10nm,1.1s						
SONM	**Songino Array**	**65.26**	**329**	P	P	16 49 54.8	+3.2
	comp=Z,0.5nm,0.5s,baz=129,slow=5.6,SNR=3.5						
	comp=Z,0.5nm,0.5s						
CASY	**Casey**	**67.41**	**196**	P	**P**	**16 50 05.6**	**+0.9**
CASY				IAmb	IAmb	16 50 08.7	
	comp=Z,4.2nm,1.2s						
SDPT	**Sand Point**	**72.14**	**27**	P	**P**	**16 50 35.1**	**+1.5**
KDAK	**Kodiak Island**	**77.12**	**27**	P	**P**	**16 51 03.2**	**+1.0**
MKAR	**Makanchi Array**	**79.00**	**319**	P	**P**	**16 51 14.7**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=99,slow=4.8,SNR=1.8						
	comp=Z,0.2nm,0.6s						
SML	**Sawmill**	**80.99**	**25**	P	P	16 51 26.0	+2.9
IMAR	**Indian Mountai**	**81.09**	**20**	P	P	16 51 26.1	+2.7
ILAR	**Eielson Array**	**82.95**	**22**	P	**P**	**16 51 34.5**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=245,slow=5.4,SNR=5.9						
	comp=Z,0.4nm,0.6s						
J25K	**Salcha River,**	**83.46**	**23**	P	**P**	**16 51 38.1**	**+2.3**
M27K	**Edge Creek, AK**	**83.97**	**26**	P	P	16 51 41.3	+2.8
M27K				IAmb	IAmb	16 52 00.1	
	comp=Z,14nm,1.5s						
QSPA	**South Pole Qui**	**85.14**	**180**	P	**P**	**16 51 44.1**	**-0.2**
K29M	**Barlow Dome**	**86.35**	**25**	P	**P**	**16 51 52.7**	**+2.5**
K29M				IAmb	IAmb	16 51 54.7	
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.37**	**287**	PKPbc	**PKPab**	**16 58 56.1**	**-2.1**
	comp=Z,0.5nm,0.4s,baz=92,slow=2.9,SNR=3.4						

*IDC **02** 16:44:42.9±1.1, 39°.93N×143°.25E, h0km, mb3.6/8, mbtmp3.6/10, ML2.9/2, MS2.7/1, Error ellipse: s-maj=32.1km s-min=18.7km az=75.0*
*JMA **02** 16:44:48.2±0.4, 40°.2N±0°.5×14°.3E±°, h17km±2km, MV3.6/39, NE OFF IWATE PREF*
*NIED **02** 16:44:48.2, 40°.15N×142°.96E, h17km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.34; $M_{\theta\theta}$0.84; $M_{\phi\phi}$1.50; $M_{r\theta}$-1.48; $M_{\theta\phi}$2.74; $M_{\phi r}$0.21; Fault plane solution: M_o3.68000×10^{14} NP1:ϕ_s71.00000°, δ61.00000°, λ-49.00000°. NP2:ϕ_s190.00000°, δ48.00000°, λ-140.00000°.*

ISC 02 16:44:46.0±0.9, **40°.08N**±0°.06×**143°.07E**±0°.07, **h12**km, **n26, σ1°36/28, mb3.6/8, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.93**	**262**	*i* P	**Pb**	**16 45 04.7**	**+0.6**
JTH				*e*S	**Sg**	**16 45 16.1**	**-0.1**
JKEN	**Kujiedanarisaw**	**1.05**	**278**	*e*P	**Pb**	**16 45 05.7**	**-0.4**
MIYJ	**Miyakonagasawa**	**1.08**	**243**	P	**Pn**	**16 45 07.5**	**+0.5**
JANG	**Nango**	**1.23**	**285**	P	**Pn**	**16 45 09.0**	**+0.1**
JKZ	**Kuzumaki**	**1.34**	**267**	P	**Pn**	**16 45 10.9**	**+0.4**
OFUJ	**Ofunato**	**1.47**	**228**	*i* P	**Pg**	**16 45 14.1**	**-0.1**
JOM	**Ohasama**	**1.49**	**247**	P	**Pb**	**16 45 13.8**	**+0.2**
JARK	**Aomorirokkasho**	**1.60**	**306**	P	**Pn**	**16 45 14.1**	**+0.1**
JTM	**Tenmabayashi**	**1.68**	**296**	P	**Pn**	**16 45 16.0**	**+0.8**
JMK	**Ichinoseki**	**1.82**	**232**	P	**Pb**	**16 45 19.6**	**+0.5**
JAH	**Hinai**	**1.87**	**274**	P	**Pb**	**16 45 19.4**	**-0.6**
JEM	**Erimo**	**1.94**	**2**	*e*P	**Pn**	**16 45 19.0**	**+0.2**
JRG	**Rokugo**	**2.00**	**251**	P	**Pb**	**16 45 23.1**	**+0.9**
JOT	**Ohata**	**2.02**	**311**	*e*P	**Pn**	**16 45 20.4**	**+0.6**
JOT				*e*S	**Sn**	**16 45 43.7**	**-1.2**
ASAJ	**Asahikawa**	**4.05**	**355**	Pn	**Pn**	**16 45 48.0**	**+0.1**
	1.1nm,0.3s,baz=197,slow=11,SNR=12						
ASAJ				Sn	**Sn**	**16 46 38.8**	**+3.6**
	1.5nm,0.3s,baz=90,slow=29,SNR=1.7						
	5.8nm,0.7s						
MJAR	**Matsushiro Arr**	**5.20**	**229**	Pn	**Pn**	**16 46 07.5**	**+4.0**
	0.2nm,0.3s,baz=38,slow=12,SNR=26						
USRK	**Ussuriysk Ar.**	**9.20**	**300**	Pn	**Pn**	**16 46 58.4**	**-0.1**
	baz=108,slow=13,SNR=1.9						
	0.9nm,0.7s						
KLR	**Kul'dur**	**12.18**	**322**	LR	LR	16 53 04.3	
	comp=Z,32nm,19.3s,baz=98,slow=40						
SONM	**Songino Array**	**27.31**	**299**	P	**P**	**16 50 31.7**	**+1.1**
	0.6nm,0.5s,baz=77,slow=6.5,SNR=2.5						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**40.89**	**310**	P	**P**	**16 52 27.5**	**-0.2**
	0.4nm,0.3s,baz=101,slow=4.6,SNR=2.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**43.67**	**300**	P	**P**	**16 52 51.4**	**+0.9**
	0.5nm,0.7s,baz=89,slow=11,SNR=3.1						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**45.21**	**306**	P	**P**	**16 53 03.2**	**+0.5**
	1.4nm,0.8s,baz=80,slow=8.4,SNR=9.2						
	1.4nm,0.8s						
ILAR	**Eielson Array**	**46.24**	**34**	P	**P**	**16 53 09.9**	**-0.8**
	0.5nm,0.7s,baz=256,slow=6.0,SNR=5.2						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**49.53**	**311**	P	**P**	**16 53 36.2**	**-0.1**
	0.7nm,0.6s,baz=74,slow=11,SNR=3.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**60.26**	**189**	P	**P**	**16 54 51.3**	**-2.9**
	0.3nm,0.4s,baz=7.0,slow=6.9,SNR=9.1						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**63.98**	**189**	P	**P**	**16 55 18.0**	**-1.2**
	0.2nm,0.6s,baz=8.8,slow=4.8,SNR=6.8						
	0.2nm,0.6s						

ROM 02 17:01:19.2±0.1, **42°.771N**±0°.003×**13°.277E**±0°.005, **h15**km, **ML1.3**/14, **2D, Error ellipse: s-maj=0.4km s-min=0.2km az=77.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1214	**Arquata del Tr**	**0.05**	**257**	⇓P	Pg	17 01 22.3	+0.1
T1214				S	Sg	17 01 24.0	-0.2
T1214				AML	AML		
	comp=E,234μm,0.8s						
T1214				AML	AML		
	comp=N,154μm,1.5s						
T1214				AML	AML		
	comp=N,154μm,0.5s						
MTRA	**Matera**	**0.09**	**99**	⇓P	Pg	17 01 22.6	+0.2
MTRA				S	Sg	17 01 25.0	+0.5
MTRA				AML	AML		
	comp=E,360μm,0.2s						
MTRA				AML	AML		
	comp=N,360μm,0.5s						
MTRA				AML	AML		
	comp=N,360μm,0.5s						
MTRA				AML	AML		
	comp=N,249μm,0.3s						
MTRA				AML	AML		
	comp=E,332μm,0.2s						
MMO1	**Montemonaco**	**0.13**	**16**	P	Pg	17 01 23.1	+0.1
MMO1				S	Sb	17 01 25.9	-0.4
SMA1	**SAN MARTINO**	**0.15**	**163**	P	Pg	17 01 23.4	+0.2
SMA1				S	Sb	17 01 26.4	-0.3
SMA1				AML	AML		
	comp=N,82μm,0.3s						
SMA1				AML	AML		
	comp=E,68μm,0.5s						
MC2	**Monte Cornacci**	**0.15**	**336**	P	Pg	17 01 23.4	0.0
MC2				S	Sb	17 01 26.7	-0.4
RM33	**Pellescritta (**	**0.27**	**190**	P	Pg	17 01 25.1	+0.1
RM33				S	Sb	17 01 29.8	-0.4
RM33				AML	AML		
	comp=N,38μm,0.2s						
RM33				AML	AML		
	comp=E,46μm,0.4s						
TERO	**Teramo**	**0.28**	**122**	P	Pg	17 01 25.3	+0.1
TERO				S	Sb	17 01 30.1	-0.5
TERO				AML	AML		
	comp=E,48μm,0.1s						
TERO				AML	AML		
	comp=N,54μm,0.1s						
T1221	**Campello sul C**	**0.33**	**286**	P	Pg	17 01 25.9	-0.1
T1221				S	Sg	17 01 31.2	+0.6

ROM 02 17:02:18.6±0.1, **42°.679N**±0°.003×**13°.284E**±0°.005, **h12**km, **ML1.9**/51, **1D, Error ellipse: s-maj=0.4km s-min=0.1km az=256.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.06**	**142**	⇓P	Pg	17 02 21.5	+0.4
SMA1				S	Sg	17 02 23.3	+0.4
SMA1				AML	AML		
	comp=E,2465μm,0.1s						
SMA1				AML	AML		
	comp=N,2760μm,0.3s						
SMA1				AML	AML		
	comp=E,2462μm,0.1s						
SMA1				AML	AML		
	comp=N,2752μm,0.1s						
T1214	**Arquata del Tr**	**0.10**	**326**	P	Pg	17 02 21.9	+0.3
T1214				S	Sg	17 02 24.0	+0.3
T1214				AML	AML		
	comp=E,1318μm,0.2s						
T1214				AML	AML		
	comp=N,782μm,1.6s						
T1214				AML	AML		
	comp=E,1270μm,1.6s						
T1214				AML	AML		
	comp=N,754μm,1.6s						
T1214				AML	AML		
	comp=E,1317μm,0.2s						
T1214				AML	AML		
	comp=N,781μm,1.6s						
T1214				AML	AML		
	comp=N,754μm,1.6s						
T1214				AML	AML		
	comp=E,1275μm,1.6s						
T1214				AML	AML		
	comp=N,781μm,0.4s						
T1214				AML	AML		
	comp=N,754μm,0.4s						
T1214				AML	AML		
	comp=E,1172μm,0.2s						
T1214				AML	AML		
	comp=N,757μm,0.2s						
T1214				AML	AML		
	comp=N,747μm,0.2s						
T1214				AML	AML		
	comp=E,1120μm,0.2s						
MTRA	**Matera**	**0.11**	**47**	P	Pg	17 02 21.9	+0.2
MTRA				S	Sg	17 02 24.0	+0.1
MTRA				AML	AML		
	comp=E,1710μm,0.4s						
MTRA				AML	AML		
	comp=N,1400μm,0.5s						
MTRA				AML	AML		
	comp=N,1380μm,0.3s						
MTRA				AML	AML		
	comp=E,1351μm,0.2s						
CAMP	**Campotosto**	**0.17**	**147**	P	Pg	17 02 22.9	+0.3
CAMP				S	Sg	17 02 25.9	+0.6
CAMP				AML	AML		
	comp=N,126μm,0.3s						
CAMP				AML	AML		
	comp=E,195μm,0.1s						
CAMP				AML	AML		
	comp=E,195μm,0.1s						
CAMP				AML	AML		
	comp=N,127μm,0.3s						
RM33	**Pellescritta (**	**0.18**	**197**	P	Pg	17 02 23.1	+0.4
RM33				S	Sg	17 02 26.3	+0.9
RM33				AML	AML		
	comp=E,702μm,0.1s						
RM33				AML	AML		
	comp=N,592μm,0.5s						
RM33				AML	AML		
	comp=E,702μm,0.1s						
RM33				AML	AML		
	comp=E,702μm,0.1s						
RM33				AML	AML		
	comp=N,592μm,0.5s						
RM33				AML	AML		
	comp=N,558μm,0.7s						
RM33				AML	AML		
	comp=N,519μm,0.1s						
RM33				AML	AML		
	comp=N,494μm,0.1s						
RM33				AML	AML		
	comp=E,701μm,0.1s						
RM33				AML	AML		
	comp=E,702μm,0.1s						
LNSS	**Leonessa**	**0.20**	**247**	P	Pg	17 02 23.3	+0.4
LNSS				S	Sg	17 02 26.9	+1.0
LNSS				AML	AML		
	comp=E,938μm,0.2s						
LNSS				AML	AML		
	comp=N,884μm,0.1s						
LNSS				AML	AML		
	comp=N,884μm,0.1s						
LNSS				AML	AML		
	comp=E,937μm,0.2s						
NRCA	**Norcia**	**0.20**	**321**	P	Pg	17 02 23.2	+0.2
NRCA				S	Sg	17 02 26.5	+0.5
NRCA				AML	AML		
	comp=E,794μm,0.1s						
NRCA				AML	AML		
	comp=N,1080μm,0.1s						
MMO1	**Montemonaco**	**0.22**	**8**	P	Pg	17 02 23.7	+0.2
MMO1				S	Sg	17 02 27.4	+0.7
T1247	**Pizzolo (AQ)**	**0.24**	**177**	P	Pb	17 02 24.6	-0.3
T1247				S	Sg	17 02 28.3	+1.3
T1247				AML	AML		
	comp=N,364μm,0.8s						
T1247				AML	AML		
	comp=E,433μm,1.0s						
T1247				AML	AML		
	comp=N,347μm,0.1s						
T1247				AML	AML		
	comp=E,418μm,0.2s						
TERO	**Teramo**	**0.24**	**103**	P	Pg	17 02 23.9	+0.2
TERO				S	Sg	17 02 27.8	+0.6
TERO				AML	AML		
	comp=E,510μm,0.2s						
TERO				AML	AML		
	comp=E,510μm,1.8s						
TERO				AML	AML		
	comp=N,342μm,0.2s						
TERO				AML	AML		
	comp=N,104μm,0.1s						
TERO				AML	AML		
	comp=E,324μm,0.1s						
TERO				AML	AML		
	comp=E,215μm,0.1s						
TERO				AML	AML		
	comp=N,270μm,0.1s						
MC2	**Monte Cornacci**	**0.24**	**344**	P	Pg	17 02 24.0	+0.2
MC2				S	Sg	17 02 28.2	+0.8
GIGS	**Gran Sasso**	**0.31**	**137**	P	Pg	17 02 25.0	0.0
GIGS				S	Sg	17 02 29.9	+0.7
GIGS				AML	AML		
	comp=N,62μm,0.2s						
GIGS				AML	AML		
	comp=E,69μm,0.2s						
GIGS				AML	AML		
	comp=N,50μm,0.1s						
GIGS				AML	AML		
	comp=E,56μm,0.1s						
MF5	**Montefalcone A**	**0.34**	**23**	P	Pb	17 02 26.1	-0.5
MF5				S	Sb	17 02 31.8	-0.2
MF5				AML	AML		
	comp=E,455μm,0.3s						
MF5				AML	AML		
	comp=N,338μm,1.0s						
MF5				AML	AML		
	comp=N,305μm,0.4s						
MF5				AML	AML		
	comp=E,455μm,0.3s						
T1221	**Campello sul C**	**0.37**	**300**	P	Pg	17 02 26.1	+0.1
T1221				S	Sb	17 02 32.1	-0.9
T1221				AML	AML		

comp=N,79μm,0.2s
T1221 AML AML
comp=E,67μm,0.2s
T1221 AML AML
comp=N,87μm,0.2s
GUMA Gualdo di Mace 0.39 6 P Pg 17 02 26.8 +0.5
GUMA S Sb 17 02 33.4 -0.1
GUMA AML AML
comp=E,416μm,0.4s
GUMA AML AML
comp=N,504μm,0.2s
GUMA AML AML
comp=E,416μm,1.6s
GUMA AML AML
comp=E,417μm,0.4s
GUMA AML AML
comp=N,448μm,0.3s
GUMA AML AML
comp=N,505μm,0.2s
GUMA AML AML
comp=E,524μm,0.3s
OFFI Offida 0.39 49 P Pb 17 02 27.5 -0.1
OFFI AML AML
comp=E,651μm,0.3s
OFFI AML AML
comp=N,490μm,0.5s
OFFI AML AML
comp=N,461μm,0.3s
OFFI AML AML
comp=E,651μm,0.3s
ARRO Arrone 0.40 256 P Pg 17 02 26.5 +0.1
ARRO S Sb 17 02 33.0 -0.7
ARRO AML AML
comp=E,148μm,0.8s
ARRO AML AML
comp=N,167μm,1.0s
ARRO AML AML
comp=E,148μm,1.2s
ARRO AML AML
comp=N,163μm,0.2s
ARRO AML AML
comp=E,125μm,0.2s
CSP1 Cessapalombo 0.42 352 P Pg 17 02 26.9 0.0
CSP1 S Sb 17 02 33.6 -0.8
FIAM Fiamignano 0.43 197 P Pg 17 02 27.5 +0.4
FIAM S Sb 17 02 34.0 -0.6
VCEL Villa Celiera 0.50 124 P Pg 17 02 28.9 +0.5
VCEL AML AML
comp=N,104μm,1.1s
VCEL AML AML
comp=N,104μm,0.9s
VCEL AML AML
comp=E,108μm,0.4s
VCEL AML AML
comp=E,99μm,0.2s
VCEL AML AML
comp=N,98μm,0.4s
MOMA Monte Martano 0.54 284 P Pg 17 02 29.4 +0.1
MOMA AML AML
comp=E,94μm,1.3s
MOMA AML AML
comp=N,87μm,1.1s
MOMA AML AML
comp=N,87μm,0.9s
MOMA AML AML
comp=E,94μm,0.7s
MOMA AML AML
comp=E,89μm,0.1s
MOMA AML AML
comp=N,86μm,0.2s
T0110 Collepietro 0.58 141 P Pg 17 02 29.8 -0.2
T0110 AML AML
comp=E,79μm,0.5s
T0110 AML AML
comp=N,68μm,0.4s
T0110 AML AML
comp=N,68μm,0.4s
T0110 AML AML
comp=E,70μm,0.3s
EL6 Elcito 0.66 348 P Pg 17 02 31.2 -0.3
EL6 AML AML
comp=E,62μm,0.2s
EL6 AML AML
comp=N,63μm,0.4s

IDC 02 17:05:20.4±1.2, 0°.80N×127°.51E, h0km, mb3.4/4, mbtmp3.4/5, ML2.9/1, Error ellipse: s-maj=50.2km s-min=20.3km az=55.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.10**	**114**	Pn	Pn	17 06 24.7	+0.3
	0.8nm,0.3s,baz=123,slow=15,SNR=12						
SIJI				Sn	Sn	17 07 13.4	+0.2
	0.1nm,0.3s,baz=16,slow=22,SNR=1.8						
	3.0nm,0.6s						
WRA	**Warramunga Arr**	**21.68**	**162**	P	P	17 10 13.3	+0.4
	0.6nm,0.6s,baz=341,slow=11,SNR=9.0						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**25.10**	**166**	P	P	17 10 46.8	-0.3
	0.3nm,0.6s,baz=346,slow=9.3,SNR=9.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**60.40**	**326**	P	P	17 15 31.5	-0.1
	0.3nm,0.5s,baz=120,slow=9.7,SNR=2.5						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.61**	**328**	P	P	17 15 59.7	0.0
	0.3nm,0.5s,baz=130,slow=6.1,SNR=5.6						
	0.3nm,0.5s						

---

*SFS **02** 17:38:07.2, 37°.01N×4°.87W, h0km, ML2.6/9, ML2.6/8, MLv2.5/9*
*MDD **02** 17:38:08.8±0.3, 37°.05N×4°.82W, h12km, mb_Lg2.6/16, Error ellipse: s-maj=2.9km s-min=1.6km az=178.0*
*INMG **02** 17:38:09.0±1.5, 37°.06N×4°.77W, h14km±4km, ML2.2, Error ellipse: s-maj=2.8km s-min=2.3km az=24.0*
*CNRM **02** 17:38:10.8, 36°.65N×4°.85W, h9km, ml3.0*
ISC 02 17:38:06.8±1.0, 37°.03N±0°.02×4°.82W±0°.02, h11km±8km, n43, σ1§53/92, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.42**	**130**	Sg	**Sg**	**17 38 19.5**	**-1.0**
EMAL				Pg	**Pg**	**17 38 14.9**	**-0.1**
EMIJ	**Mijas**	**0.47**	**175**	Pg	**Pg**	**17 38 15.8**	**-0.2**
EMIJ				Sg	**Sg**	**17 38 22.5**	**+0.3**
EMIJ				*i* Vmb_Lg		17 38 28.9	
EMIJ	**Mijas**	**0.47**	**175**	Sg	**Sg**	**17 38 21.0**	**-1.2**
EMIJ				Pg	**Pg**	**17 38 15.5**	**-0.5**
EGOR	**Sierra Gorda,**	**0.58**	**82**	Pg	**Pg**	**17 38 18.8**	**+0.8**
EGOR				Sg	**Sb**	**17 38 29.0**	**+1.8**
EGOR	**Sierra Gorda,**	**0.58**	**82**	Sg	**Sb**	**17 38 26.8**	**-0.3**
EGOR				Pg	**Pg**	**17 38 18.8**	**+0.8**
ELGU	**Los Guajares,**	**0.97**	**99**	Pg	**Pg**	**17 38 25.8**	**+0.3**
ELGU				Sg	**Sn**	**17 38 41.1**	**+0.9**
ELGU				*i* Vmb_Lg		17 38 48.4	
ELGU	**Los Guajares,**	**0.97**	**99**	Sn	**Sn**	**17 38 41.7**	**+1.5**
ELGU				Pg	**Pg**	**17 38 25.6**	**+0.1**
EQTA	**Presa de Quent**	**1.12**	**81**	Sn	**Sn**	**17 38 46.2**	**+2.4**
EQTA				Pg	**Pb**	**17 38 28.8**	**+0.7**
EQUE	**Quentar**	**1.12**	**81**	Pg	**Pn**	**17 38 29.8**	**+1.3**
EQUE				Sg	**Sn**	**17 38 45.2**	**+1.3**
EQUE				*i* Vmb_Lg		17 38 52.2	
ECAB	**El Cabril**	**1.14**	**336**	Pg	**Pg**	**17 38 28.5**	**-0.2**
ECAB				Sg	**Sg**	**17 38 43.0**	**-0.6**
ECAB				*i* Vmb_Lg		17 38 45.8	
ECAB	**El Cabril**	**1.14**	**336**	Sg	**Sg**	**17 38 42.8**	**-0.8**
ECAB				Pg	**Pg**	**17 38 28.6**	**-0.2**
EADA	**Adamuz**	**1.15**	**10**	Pg	**Pb**	**17 38 29.0**	**+0.3**
EADA				Sg	**Sg**	**17 38 43.5**	**-0.3**
EADA				*i* Vmb_Lg		17 38 46.7	
EADA	**Adamuz**	**1.15**	**10**	Pg	**Pb**	**17 38 28.8**	**+0.2**
EADA				Sg	**Sb**	**17 38 44.3**	**+0.7**
SMIR	**Smir Dam**	**1.42**	**199**	P	**Pn**	**17 38 32.1**	**-0.3**
SMIR				S	**Sn**	**17 38 46.2**	**-4.9**
EBER	**Berja**	**1.56**	**94**	Pg	**Pg**	**17 38 37.8**	**+1.2**
EBER				*i* Vmb_Lg		17 38 43.5	
EBER				Sg	**Sn**	**17 38 55.9**	**+1.2**
EBER	**Berja**	**1.56**	**94**	Pg	**Pg**	**17 38 37.8**	**+1.2**
EQES	**Quesada**	**1.59**	**61**	Pn	**Pb**	**17 38 36.2**	**-0.1**
EQES				Sn	**Sn**	**17 38 54.5**	**-1.0**
EQES				Sg	**Sg**	**17 38 58.2**	**+0.2**
EQES				*i* Vmb_Lg		17 39 03.9	
EMIN	**Mina Concepcio**	**1.64**	**297**	Pn	**Pn**	**17 38 35.7**	**+0.1**
EMIN				Sn	**Sn**	**17 38 54.9**	**-1.7**
EMIN				Sg	**Sb**	**17 38 58.1**	**+0.4**
EMIN				*i* Vmb_Lg		17 39 02.3	
EMIN	**Mina Concepcio**	**1.64**	**297**	Pn	**Pn**	**17 38 35.7**	**+0.1**
EMIN				Sg	**Sg**	**17 38 59.6**	**-0.1**
PBAR	**Barrancos**	**2.10**	**304**	*e*Pn	**Pn**	**17 38 43.3**	**+1.6**
PBAR				*e*Sg	**Sg**	**17 39 14.4**	**+0.3**
PBAR				A	A	17 39 24.7	
	8.0nm,0.5s						
EGRO	**El Granado**	**2.18**	**284**	Pn	**Pn**	**17 38 43.5**	**+0.6**
EGRO				Sn	**Sn**	**17 39 11.2**	**+1.4**
EGRO				Sg	**Sg**	**17 39 17.8**	**+1.0**
GOG	**Mont Gurugu**	**2.34**	**140**	P	**Pn**	**17 38 46.1**	**+1.0**
GOG				S	**Sn**	**17 39 13.5**	**-0.4**
PVAQ	**Vaqueiros**	**2.34**	**280**	*e*Pn	**Pn**	**17 38 45.6**	**+0.5**
PVAQ				*e*Sn	**Sn**	**17 39 14.5**	**+0.7**
PVAQ				A	A	17 39 28.9	
	7.3nm,0.4s						
PVAQ	**Vaqueiros**	**2.34**	**280**	P	**Pb**	**17 38 49.9**	**+1.1**
PVAQ				S	**Sg**	**17 39 21.8**	**-0.1**
PVAQ	**Vaqueiros**	**2.34**	**280**	Pn	**Pn**	**17 38 45.0**	**-0.1**
EBAD	**Badajoz**	**2.44**	**315**	Pn	**Pn**	**17 38 46.5**	**0.0**
EBAD				Sn	**Sn**	**17 39 16.5**	**+0.3**
EBAD				Sg	**Sg**	**17 39 24.2**	**-1.0**
EBAD				*i* Vmb_Lg		17 39 29.3	
PBDV	**Barranco-do-Ve**	**2.49**	**276**	*e*Pn	**Pn**	**17 38 48.9**	**+1.7**
PBDV				*e*Sn	**Sn**	**17 39 19.5**	**+1.9**
PBDV				*e*Sg	**Sg**	**17 39 27.3**	**+0.5**
PBDV				A	A	17 39 32.6	
	7.0nm,0.5s						
PAB	**San Pablo**	**2.54**	**8**	Pn	**Pn**	**17 38 49.6**	**+1.7**
PAB				Sn	**Sn**	**17 39 17.1**	**-1.7**
PAB				Sg	**Sg**	**17 39 26.3**	**-1.9**
PAB				*i* Vmb_Lg		17 39 31.4	
PCVE	**Castro Verde**	**2.63**	**284**	*e*Pn	**Pn**	**17 38 50.9**	**+1.8**
PCVE				*e*Sg	**Sg**	**17 39 31.2**	**-0.1**
PCVE				A	A	17 39 36.5	
	4.9nm,0.4s						
MESJ	**Messejana**	**2.82**	**288**	*e*Sn	**Sn**	**17 39 27.4**	**+1.7**
MESJ				A	A	17 39 45.0	
	4.6nm,0.4s						
PESTR	**Estremoz**	**2.85**	**311**	*e*Pg	**Pb**	**17 38 58.4**	**+0.8**
PESTR				*e*Sg	**Sg**	**17 39 36.9**	**-1.4**
PESTR				A	A	17 39 46.8	
	8.1nm,0.7s						
PESTR	**Estremoz**	**2.85**	**311**	P	**Pg**	**17 39 00.7**	**-0.7**
PESTR				S	**Sg**	**17 39 36.8**	**-1.6**
ETOB	**Tobarra**	**3.05**	**57**	Pn	**Pn**	**17 38 55.2**	**+0.2**
ETOB				Sn	**Sn**	**17 39 29.5**	**-2.0**
ETOB				Sg	**Sg**	**17 39 42.9**	**-1.9**
ETOB				*i* Vmb_Lg		17 39 58.0	
ETOB	**Tobarra**	**3.05**	**57**	Pn	**Pn**	**17 38 55.7**	**+0.8**
ETOB				Sg	**Sg**	**17 39 45.4**	**+0.6**
PMRV	**Marv??o**	**3.13**	**321**	*e*Pn	**Pn**	**17 38 57.2**	**+1.2**
PMRV				*e*Sg	**Sg**	**17 39 45.0**	**-2.3**
PMRV				A	A	17 39 53.0	
	4.8nm,0.7s						
PNCL	**Nicolau / Gran**	**3.13**	**291**	*e*Sg	**Sg**	**17 39 45.3**	**-2.1**
PNCL				A	A	17 39 49.6	
	7.4nm,0.6s						
EPLA	**Plasencia**	**3.18**	**342**	Pn	**Pn**	**17 38 57.8**	**+1.1**
EPLA				Sn	**Sn**	**17 39 33.5**	**-1.1**
EPLA				Sg	**Sg**	**17 39 46.0**	**-2.9**
JBK	**JBK**	**3.26**	**145**	P	**Pn**	**17 38 57.3**	**-0.6**
JBK				S	**Sn**	**17 39 33.7**	**-3.1**
PMTG	**Montargil**	**3.37**	**308**	*e*Pn	**Pn**	**17 39 02.0**	**+2.8**
PMTG				*e*Sn	**Sn**	**17 39 38.7**	**-0.4**
PMTG				*e*Sg	**Sg**	**17 39 53.1**	**-1.8**
PMTG				A	A	17 40 02.8	
	5.6nm,0.8s						
GUD	**Guadarrama**	**3.64**	**8**	Pn	**Pn**	**17 39 04.0**	**+0.9**
GUD				Sn	**Sn**	**17 39 44.7**	**-1.5**
GUD				Sg	**Sg**	**17 39 59.9**	**-3.8**
GUD				*i* Vmb_Lg		17 40 06.6	
EVIV	**Cofrentes, Val**	**3.67**	**52**	Sn	**Sn**	**17 39 42.5**	**-4.3**
EVIV				Sg	**Sg**	**17 40 03.0**	**-1.8**
MDT	**Midelt**	**4.21**	**178**	P	**Pn**	**17 39 11.9**	**+1.0**
MDT				S	**Sn**	**17 39 56.9**	**-3.3**
ETOR	**Torete**	**4.35**	**29**	Pn	**Pn**	**17 39 13.7**	**+0.8**
ETOR				Sn	**Sn**	**17 40 00.5**	**-3.1**
ETOR				*i* Vmb_Lg		17 40 31.1	

JMA 02 17:53:13.8±0.1, 39°.5N±0°.3×142°.6E±0°.6, h29km±1km, MV1.1/24, E OFF IWATE PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.61**	**278**	P	Pb	17 53 25.8	-0.3
MIYJ				*e*S	Sb	17 53 34.4	0.0
JTH	**Tanohata**	**0.72**	**308**	*e*P	Pb	17 53 27.8	-0.2
JTH				*e*S	Sb	17 53 37.1	-0.4
OFUJ	**Ofunato**	**0.83**	**241**	*e*P	Pn	17 53 29.2	-0.4
OFUJ				*e*S	Sb	17 53 40.2	-0.3
JOM	**Ohasama**	**1.01**	**269**	*e*P	Pn	17 53 32.2	0.0
JOM				*e*S	Sn	17 53 45.5	+0.1
JKZ	**Kuzumaki**	**1.10**	**297**	*e*P	Pn	17 53 33.6	+0.3
JKZ				*e*S	Sn	17 53 47.5	-0.1
JMK	**Ichinoseki**	**1.20**	**244**	*e*P	Pn	17 53 35.0	+0.3

---

*IDC **02** 17:53:21.2±0.8, 36°.70N×140°.96E, h0km, mb3.7/11, mbtmp3.8/13, ML3.7/2, MS2.6/3, Error ellipse: s-maj=22.1km s-min=17.3km az=93.0*
*NIED **02** 17:53:28.8, 36°.76N×141°.01E, h61km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.23; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-2.06; $M_{r\theta}$-0.67; $M_{\theta\phi}$-0.47; $M_{\phi r}$-2.29; Fault plane solution: $M_0$3.24000×10^{14} NP1: ϕ_s195.00000°, δ69.00000°, λ92.00000°. NP2:ϕ_s11.00000°, δ21.00000°, λ86.00000°.*
*JMA **02** 17:53:28.8±0.1, 36°.8N±0°.2×141°.0E±0°.5, h61km, MV3.8/40, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
*NEIC **02** 17:53:29.1±1.3, 36°.82N±0°.07×141°.06E±0°.03, h62km±13km, mb4.1/5, Error ellipse: s-maj=9.8km s-min=3.1km az=168.0*
ISC 02 17:53:28.9±0.9, 36°.77N±0°.04×141°.02E±0°.07, h57km±7km, n56, σ0§95/66, mb3.7/14, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**331**	P	**Pn**	**17 53 39.5**	**+0.1**
ONAJ				S	**Sn**	**17 53 47.4**	**+0.3**
JHO	**Hitachi**	**0.40**	**246**	P	**Pn**	**17 53 39.8**	**+0.2**
JHO				S	**Sn**	**17 53 47.4**	**+0.2**
JFFD	**Fukushimafurud**	**0.49**	**311**	*i* P	**Pn**	**17 53 40.8**	**+0.3**
JFFD				S	**Sn**	**17 53 49.2**	**+0.2**
JHYU	**Hitachinakayam**	**0.56**	**219**	*i* P	**Pn**	**17 53 41.3**	**+0.1**
JHYU				S	**Sn**	**17 53 50.4**	**+0.3**
JFK	**Kawauchi**	**0.61**	**349**	P	**Pn**	**17 53 41.9**	**0.0**
JFK				S	**Sn**	**17 53 51.4**	**0.0**
JYT	**Yasato**	**0.86**	**231**	P	**Pn**	**17 53 44.8**	**-0.2**
JYT				S	**Sn**	**17 53 56.4**	**-0.4**
JOTO	**OTAMA OYAMA**	**0.96**	**325**	P	**Pn**	**17 53 46.9**	**+0.6**
JOTO				S	**Sn**	**17 53 60.0**	**+0.8**
JMM	**Marumori**	**1.11**	**351**	Pn	**Pn**	**17 53 48.5**	**+0.1**
JMM	**Marumori**	**1.11**	**351**	P	**Pn**	**17 53 48.7**	**+0.4**
JMM	**Marumori**	**1.11**	**351**	P	**Pn**	**17 53 48.4**	**+0.1**
JMM				S	**Sn**	**17 54 03.2**	**+0.6**
JFY	**Yanaizu**	**1.23**	**301**	⇓P	**Pn**	**17 53 50.2**	**+0.2**
JAG	**Ashikaga**	**1.31**	**255**	P	**Pn**	**17 53 51.0**	**0.0**
JAG				S	**Sn**	**17 54 07.3**	**-0.1**
JKT	**Katashina**	**1.42**	**270**	P	**Pn**	**17 53 53.1**	**+0.5**
JKT				*e*S	**Sn**	**17 54 11.0**	**+0.7**
MJAR	**Matsushiro Arr**	**2.27**	**265**	Pn	**Pn**	**17 54 03.9**	**-0.2**
	2.3nm,0.3s,baz=89,slow=16,SNR=106						
MJAR				Sn	Sn	17 54 20.8	-10
	2.8nm,0.3s,baz=89,slow=16,SNR=7.8						
MJAR				LR	LR	17 55 11.1	
	comp=Z,44nm,21.4s,baz=78,slow=50						
MAJO	**Matsushiro**	**2.28**	**265**	Pn	**Pn**	**17 54 05.2**	**+1.2**
MAJO	**Matsushiro**	**2.28**	**265**	P	**Pn**	**17 54 05.3**	**+1.2**
MJB9	**Matsu-Tunnel**	**2.28**	**265**	Pn	**Pn**	**17 54 06.0**	**+1.9**
JSD	**Sado**	**2.54**	**301**		**Pn**	**17 54 07.4**	**-0.2**
JSD	**Sado**	**2.54**	**301**	P	**Pn**	**17 54 07.5**	**-0.2**
JSG	**Sagara**	**3.12**	**229**	Pn	**Pn**	**17 54 16.1**	**+0.5**
JGF	**Kuroka**	**3.19**	**250**	Pn	**Pn**	**17 54 18.6**	**+2.0**
JGF	**Kuroka**	**3.19**	**250**	P	**Pn**	**17 54 18.6**	**+2.0**
INU	**Inuyama**	**3.54**	**248**	Pn	**Pn**	**17 54 21.5**	**+0.1**
INU	**Inuyama**	**3.54**	**248**	P	**Pn**	**17 54 24.0**	**+2.6**
JHJ	**Hachijo jima 2**	**3.78**	**196**	Pn	**Pn**	**17 54 25.2**	**+0.5**
	13nm,0.3s,baz=66,slow=22,SNR=5.6						
JHJ				Sn	**Sn**	**17 55 06.2**	**-1.7**
	21nm,0.3s,baz=132,slow=22,SNR=8.0						
JHJ2	**Mitsune**	**3.78**	**196**	Pn	**Pn**	**17 54 25.6**	**+0.9**
JHJ2	**Mitsune**	**3.78**	**196**	P	**Pn**	**17 54 25.6**	**+0.9**
JTM	**Tenmabayashi**	**4.01**	**0**	Pn	**Pn**	**17 54 27.9**	**+0.1**
JTM	**Tenmabayashi**	**4.01**	**0**	P	**Pn**	**17 54 29.0**	**+1.2**
ERM	**Erimo**	**5.49**	**17**	Pn	**Pn**	**17 54 47.4**	**-0.6**
ERM	**Erimo**	**5.49**	**17**	P	**Pn**	**17 54 47.5**	**-0.6**
JMN	**Monobe**	**6.58**	**245**	Pn	**Pn**	**17 55 02.6**	**-0.6**
JMN	**Monobe**	**6.58**	**245**	P	**Pn**	**17 55 05.3**	**+2.1**
ASAJ	**Asahikawa**	**7.43**	**9**	Pn	**Pn**	**17 55 13.3**	**-1.4**
	1.0nm,0.3s,baz=200,slow=11,SNR=8.6						
ASAJ				Sn	**Sn**	**17 56 36.6**	**-1.0**
	0.4nm,0.3s,baz=4.3,slow=13,SNR=2.0						
	2.3nm,0.3s						
JKA	**Kamikawa-asahi**	**7.43**	**9**	Pn	**Pn**	**17 55 13.5**	**-1.2**
JCJ	**Chichijima**	**9.70**	**174**	Pn	Pn	17 55 39.5	-6.3
	1.1nm,0.3s,baz=294,slow=20,SNR=1.0						
JCJ				Sn	Sn	17 57 19.6	-14
	4.1nm,0.3s,baz=267,slow=20,SNR=1.3						
	27nm,0.6s						
KSRS	**Korea Array**	**10.49**	**278**	LR	LR	18 00 15.1	
	comp=Z,13nm,18.1s,baz=90,slow=40						
KS19	**Wonju Array Si**	**10.53**	**278**	Pn	**Pn**	**17 55 56.6**	**-0.5**
JOW	**Kunigami**	**14.67**	**231**	Pn	**Pn**	**17 56 53.8**	**+0.5**
YOJ	**Yonaguni jima**	**19.73**	**237**	P	**P**	**17 57 53.7**	**-0.2**
SONM	**Songino Array**	**27.67**	**304**	P	**P**	**17 59 10.7**	**-0.8**
	0.7nm,0.7s,baz=105,slow=7.3,SNR=4.0						
	0.7nm,0.7s						
CRAI	**Chiangrai**	**39.02**	**256**	P	**P**	**18 00 50.1**	**0.0**
CRAI				IAmb	IAmb	18 00 58.0	
	comp=Z,3.6nm,1.4s						
CMAR	**Chiang Mai Arr**	**41.13**	**255**	P	**P**	**18 01 08.1**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=60,slow=5.3,SNR=2.2						
CMAR				LR	LR	18 18 57.9	
	comp=Z,46nm,18.0s,baz=305,slow=37						
	comp=Z,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**41.86**	**313**	P	**P**	**18 01 12.2**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=98,slow=8.0,SNR=4.6						
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**43.99**	**302**	P	**P**	**18 01 28.8**	**-1.8**
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**18 01 29.4**	**-1.2**
MKAR	**Makanchi Array**	**43.99**	**302**	P	**P**	**18 01 30.2**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=93,slow=9.8,SNR=4.6						
	comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**44.20**	**302**	P	**P**	**18 01 31.4**	**-0.9**
MAKZ				IAmb	IAmb	18 02 02.1	
	comp=Z,4.0nm,1.1s						
KURK	**Kurchatov**	**45.85**	**308**	P	**P**	**18 01 43.8**	**-1.4**
KURK				IAmb	IAmb	18 01 46.0	
	comp=Z,2.2nm,0.8s						
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**18 01 44.4**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=85,slow=8.1,SNR=7.5						
	comp=Z,0.9nm,0.3s						
ILAR	**Eielson Array**	**49.88**	**32**	P	**P**	**18 02 16.7**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=267,slow=5.6,SNR=6.2						
	comp=Z,0.5nm,0.7s						
WRA	**Warramunga Arr**	**56.76**	**188**	P	**P**	**18 03 06.1**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=4.7,slow=7.4,SNR=18						
	comp=Z,1.3nm,0.6s						
ASAR	**Alice Springs**	**60.49**	**188**	P	**P**	**18 03 32.4**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=5.0,slow=7.7,SNR=5.5						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**75.40**	**53**	P	**P**	**18 05 08.2**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=284,slow=3.6,SNR=2.2						
	comp=Z,0.1nm,0.3s						
PDAR	**Pinedale Array**	**78.07**	**45**	P	**P**	**18 05 22.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=270,slow=2.8,SNR=3.6						
	comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**90.53**	**52**	P	**P**	**18 06 25.4**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=270,slow=1.3,SNR=3.6						
	comp=Z,0.2nm,0.6s						

IDC 02 17:53:43.0±3.7, 20°.12S×175°.84W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=244.5km s-min=74.2km az=162.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.58**	**256**	P	P	18 02 13.2	+0.2
	1.0nm,0.5s,baz=92,slow=8.1,SNR=28						
ASAR				PcP	PcP	18 03 45.9	-1.5
	0.2nm,0.5s,baz=109,slow=4.3,SNR=4.6						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**46.66**	**261**	P	P	18 02 13.6	-0.1
	0.4nm,0.3s,baz=98,slow=7.5,SNR=28						
	0.4nm,0.3s						
AKASG	**Malin Array Be**	**143.63**	**333**	PKP	PKPdf	18 13 21.1	+1.4
	0.8nm,0.4s,baz=45,slow=4.0,SNR=6.0						

---

*IDC **02** 18:00:23.9±1.2, 24°.66N×122°.30E, h0km, mb3.4/4, mbtmp3.5/6, ML3.1/2, MS2.8/4, Error ellipse: s-maj=40.3km s-min=22.3km az=72.0*
*JMA **02** 18:00:25.7±0.1, 24°.8N±0°.6×122°.4E±0°.2, h46km±1km, MV3.3/13, TAIWAN REGION*
*TAP **02** 18:00:26.1, 24°.80N×122°.28E, h12km, ML3.8, D*
*ASIES **02** 18:00:26.1, 24°.80N×122°.28E, h12km, ML3.8, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.30; $M_{\theta\theta}$0.87; $M_{\phi\phi}$-1.17; $M_{r\theta}$1.80; $M_{\theta\phi}$-0.06; $M_{\phi r}$1.37; Fault plane solution: $M_0$2.49603×10^{21} NP1:ϕ_s47.61000°, δ86.98000°, λ114.47000°. NP2:ϕ_s144.21000°, δ24.65000°, λ7.25000°. Principal axes: T Plg42.8350°, Azm341.1620°; N Plg24.4400°, Azm226.2420°; P Plg37.2610°, Azm116.0160°;*
ISC 02 18:00:25.3±1.0, 24°.80N±0°.02×122°.37E±0°.02, h12km±7km, n124, σ1§03/173, mb3.4/4, 1C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.40**	**277**	⇓*i* P	**Pb**	**18 00 33.4**	**-0.8**
	baz=278						
EGS				S	**Sg**	**18 00 37.9**	**-0.6**
	baz=278						
EOS2	**EOS2**	**0.40**	**198**	⇓*i* P	**Pg**	**18 00 34.1**	**+0.9**
	baz=189						
EOS2				S	**Sb**	**18 00 40.5**	**+0.4**
	baz=189						
TWB1	**Santiao Chiao**	**0.40**	**301**	⇓*i* P	**Pb**	**18 00 33.6**	**-0.7**
	baz=308						
TWB1				*i* S	**Sb**	**18 00 38.6**	**-1.8**
	baz=308						
NTC	**Toucheng**	**0.49**	**277**	*i* P	**Pb**	**18 00 35.5**	**-0.3**
	baz=278						
TWC	**Suao**	**0.51**	**248**	*i* P	**Pg**	**18 00 34.9**	**-0.3**
	baz=250						
TWC				*i* S	**Sg**	**18 00 40.9**	**-1.1**
	baz=250						
EOS3	**EOS3**	**0.51**	**185**	*i* P	**Pg**	**18 00 36.2**	**+0.9**
	baz=176						
EOS3				*i* S	**Sb**	**18 00 44.8**	**+1.4**
	baz=176						
SXI1	**Grass Mountain**	**0.53**	**303**	⇓*i* P	**Pb**	**18 00 36.3**	**-0.3**
	baz=308						
SXI1				*i* S	**Sb**	**18 00 43.2**	**-1.1**
	baz=308						
NWF	**Wu-fen Shan**	**0.60**	**297**	*i* P	**Pb**	**18 00 37.6**	**0.0**
	baz=292						
NWF				*i* S	**Sb**	**18 00 44.4**	**-1.7**
	baz=292						
WFSB	**Wu-fen Shan**	**0.60**	**297**	*i* P	**Pb**	**18

	baz=170						
YOJ	**Yonaguni jima**	**0.68 120**	P		**Pg**	**18 00 38.9**	**+0.5**
YOJ	**Yonaguni jima**	**0.68 120**	P		**Pg**	**18 00 38.7**	**+0.3**
ENA	**Nanau**	**0.68 237**	P		**Pg**	**18 00 38.0**	**-0.5**
	baz=232						
ENA			S		**Sg**	**18 00 46.8**	**-0.6**
	baz=232						
FUSB	**Fushanzhiwuyua**	**0.71 267⇓**	*i* P		**Pb**	**18 00 38.9**	**-0.7**
	baz=266						
FUSB			*i* S		**Sb**	**18 00 48.6**	**-0.7**
	baz=266						
ENTT	**Nioudou**	**0.74 258**	P		**Pb**	**18 00 39.6**	**-0.6**
	baz=256						
ENTT			S		**Sb**	**18 00 50.0**	**-0.2**
	baz=256						
EHP	**Heping Village**	**0.75 230**	*e*S		**Sg**	**18 00 49.1**	**-0.5**
	baz=233						
NHY	**Taipei**	**0.76 288**	P		**Pn**	**18 00 42.1**	**+0.3**
	baz=290						
NHY			S		**Sn**	**18 00 51.4**	**-1.8**
	baz=290						
NHDH	**Xindian Distri**	**0.78 282**	*e*P		**Pn**	**18 00 41.3**	**-0.8**
	baz=273						
NHDH			*e*S		**Sn**	**18 00 51.5**	**-2.2**
	baz=273						
NWLT	**Wulai**	**0.79 269**	P		**Pb**	**18 00 40.3**	**-0.6**
	baz=268						
NWLT			S		**Sb**	**18 00 51.5**	**0.0**
	baz=268						
NDT	**Datong Townshi**	**0.80 256**	P		**Pg**	**18 00 40.4**	**-0.3**
	baz=254						
NDT			S		**Sb**	**18 00 51.7**	**-0.2**
	baz=254						
YM01	**YM01**	**0.80 296⇑**	*i* P		**Pb**	**18 00 41.2**	**+0.1**
	baz=298						
YM01			*i* S		**Sb**	**18 00 52.0**	**+0.1**
	baz=298						
YM08	**YM08**	**0.80 299**	*i* P		**Pb**	**18 00 40.9**	**-0.3**
	baz=301						
YM08			S		**Sb**	**18 00 51.5**	**-0.4**
	baz=301						
LATG	**Datong**	**0.81 251**	P		**Pg**	**18 00 40.5**	**-0.4**
	baz=249						
LATG			S		**Sb**	**18 00 51.7**	**-0.5**
	baz=249						
TAP	**Taipei**	**0.82 287**	*i* P		**Pn**	**18 00 41.9**	**-0.6**
	baz=289						
TAP			S		**Sb**	**18 00 52.2**	**-0.1**
	baz=289						
TATO	**Taipei**	**0.82 283**	P		**Pb**	**18 00 41.5**	**+0.1**
TWY	**Chenhua**	**0.84 304⇓**	*i* P		**Pb**	**18 00 41.9**	**+0.1**
	baz=307						
TWY			*i* S		**Sn**	**18 00 53.6**	**-1.6**
	baz=307						
PCYT	**Pengchaiyu**	**0.87 342**	*i* P		**Pg**	**18 00 41.5**	**-0.6**
	baz=348						
YHNB	**Yeheng**	**0.91 262**	P		**Pb**	**18 00 42.8**	**-0.2**
YHNB	**Yeheng**	**0.91 262**	P		**Pg**	**18 00 42.4**	**-0.5**
	baz=256						
YHNB			S		**Sb**	**18 00 54.3**	**-0.8**
	baz=256						
TWS1	**Kuangyinshan**	**0.91 289**	P		**Pn**	**18 00 44.0**	**+0.2**
	baz=291						
TWS1			S		**Sn**	**18 00 55.6**	**-1.3**
	baz=291						
NSK	**Sanguang**	**0.93 263**	P		**Pg**	**18 00 42.7**	**-0.5**
	baz=256						
NSK			S		**Sb**	**18 00 54.7**	**-0.8**
	baz=256						
ETL	**Fush Village**	**0.93 227**	P		**Pg**	**18 00 43.0**	**-0.2**
	baz=233						
ETL			*e*S		**Sb**	**18 00 55.1**	**-0.5**
	baz=233						
NACB	**Ninganchiao**	**0.94 229**	P		**Pg**	**18 00 42.9**	**-0.5**
NACB	**Ninganchiao**	**0.94 229**	P		**Pg**	**18 00 42.7**	**-0.7**
	baz=234						
NACB			S		**Sg**	**18 00 54.5**	**-1.2**
	baz=234						
NNSB	**Datong**	**0.97 248**	P		**Pg**	**18 00 43.3**	**-0.6**
	baz=246						
NNSB			S		**Sb**	**18 00 56.0**	**-0.8**
	baz=246						
NNS	**Nan Shan**	**0.97 249**	P		**Pg**	**18 00 43.5**	**-0.6**
	baz=238						
NNS			S		**Sb**	**18 00 56.4**	**-0.5**
	baz=238						
ETLH	**Xiulin Townshi**	**1.00 234**	*e*P		**Pg**	**18 00 43.8**	**-0.7**
	baz=238						
ETLH			*e*S		**Sg**	**18 00 56.4**	**-1.2**
	baz=238						
TWD	**Chiawan**	**1.00 225**	*e*P		**Pg**	**18 00 44.3**	**-0.3**
	baz=229						
TWD			*e*S		**Sg**	**18 00 56.6**	**-1.0**
	baz=229						
HWA	**Hwalien**	**1.07 220**	*e*P		**Pn**	**18 00 48.0**	**+1.9**
	baz=223						
NCUH	**Zhongli**	**1.09 279**	P		**Pn**	**18 00 47.6**	**+1.4**
	baz=280						
NFF	**Wufeng Townshi**	**1.15 262**	*e*P		**Pn**	**18 00 47.0**	**-0.1**
	baz=256						
ETM	**Tongmen**	**1.15 224**	*e*P		**Pb**	**18 00 46.6**	**-0.5**
	baz=226						
LXIB	**Xiulin Townshi**	**1.16 228**	P		**Pb**	**18 00 46.6**	**-0.8**
	baz=225						
TWT	**Tachien**	**1.21 244**	*e*P		**Pn**	**18 00 48.5**	**+0.3**
	baz=235						
TWT			*e*S		**Sn**	**18 01 04.2**	**-0.4**
	baz=235						
TDCB	**Techi**	**1.23 244**	*e*P		**Pb**	**18 00 47.9**	**-0.6**
	baz=236						
TDCB			*e*S		**Sn**	**18 01 04.0**	**-0.9**
	baz=236						
LIOB	**Emei**	**1.24 263**	*e*P		**Pg**	**18 00 49.0**	**0.0**
	baz=263						
LIOB			*e*S		**Sn**	**18 01 06.4**	**+1.4**
	baz=263						
NSTT	**Nanjuang**	**1.25 263**	*e*P		**Pg**	**18 00 49.6**	**+0.3**
	baz=284						
SBCB	**Hsinchu**	**1.25 270**	*e*P		**Pg**	**18 00 48.8**	**-0.6**
	baz=290						
ESL	**Shilin**	**1.30 221**	*e*P		**Pg**	**18 00 50.1**	**-0.2**
	baz=224						
ESL			*e*S		**Sg**	**18 01 07.1**	**0.0**
	baz=224						
CHGB	**Renai**	**1.31 236**	*e*P		**Pg**	**18 00 50.1**	**-0.5**
	baz=234						
CHGB			*e*S		**Sn**	**18 01 06.6**	**-0.5**
	baz=234						
IRIF	**Iriomote-Funau**	**1.33 110**	P		**Pn**	**18 00 47.9**	**-1.7**
IRIF			S		**Sn**	**18 01 04.2**	**-2.9**
OWD	**Renai**	**1.37 232**	*e*P		**Pg**	**18 00 51.3**	**-0.4**
	baz=223						
WUSB	**Renai**	**1.39 235**	*e*P		**Pg**	**18 00 51.5**	**-0.5**
	baz=233						
WUSB			*e*S		**Sg**	**18 01 09.1**	**-1.1**
	baz=233						
WHP	**Taichung City**	**1.39 248**	P		**Pg**	**18 00 51.9**	**-0.2**
	baz=248						
WHP			S		**Sg**	**18 01 09.1**	**-1.1**
	baz=248						
WARBT	**Fenglin Townsh**	**1.40 220**	*e*P		**Pn**	**18 00 50.2**	**-0.4**
	baz=236						
EGFH	**Guangfu**	**1.42 217**	*e*P		**Pn**	**18 00 51.0**	**+0.2**
	baz=196						
NMLH	**Miaoli**	**1.46 260**	*e*P		**Pg**	**18 00 54.1**	**+0.9**
	baz=279						
HATJ	**Hateruma jima**	**1.51 119**	P		**Pn**	**18 00 50.9**	**-1.1**
HATJ			*e*S		**Sn**	**18 01 09.3**	**-2.3**
NSY	**Sanyi**	**1.51 256**	*e*P		**Pg**	**18 00 54.8**	**+0.6**
	baz=275						
TWQ1	**Liyutan**	**1.52 253**	*e*P		**Pg**	**18 00 54.9**	**+0.5**
	baz=273						
WCS	**Beigang Elemen**	**1.52 241**	*e*P		**Pg**	**18 00 53.7**	**-0.7**
	baz=241						
VWDT	**VWDT**	**1.53 227**	*e*P		**Pg**	**18 00 54.0**	**-0.6**
	baz=232						
VWDT			*e*S		**Sg**	**18 01 13.9**	**-0.6**
	baz=232						
HGSD	**Ruisui**	**1.56 214**	*e*P		**Pn**	**18 00 53.5**	**+0.7**
	baz=195						
JKRS	**Kuro-shima**	**1.60 110**	P		**Pn**	**18 00 52.1**	**-1.2**
JKRS			S		**Sn**	**18 01 11.4**	**-2.5**
EHY	**Hungye**	**1.60 217**	*e*P		**Pn**	**18 00 53.5**	**+0.1**
	baz=212						
SMLT	**Sun Moon Lake**	**1.62 236**	*e*P		**Pg**	**18 00 56.0**	**-0.4**
	baz=235						
SMLT			*e*S		**Sg**	**18 01 16.7**	**-0.7**
	baz=235						
SSLB	**Suanglung**	**1.64 232**	P		**Pb**	**18 00 55.8**	**+0.4**
SSLB	**Suanglung**	**1.64 232**	*e*P		**Pb**	**18 00 55.7**	**+0.3**
	baz=240						
SSLB			*e*S		**Sg**	**18 01 17.1**	**-0.9**
	baz=240						
TYC	**Yuchr**	**1.64 237**	*e*P		**Pg**	**18 00 56.2**	**-0.5**
	baz=237						
TCU	**Taichung**	**1.67 247**	*e*P		**Pg**	**18 00 58.1**	**+0.8**
	baz=240						
JIJ	**Ishigaki jima**	**1.68 105**	P		**Pn**	**18 00 52.8**	**-1.6**
JIJ			S		**Sn**	**18 01 12.8**	**-3.0**
ECBN	**Changbin**	**1.70 210**	*e*P		**Pn**	**18 00 54.3**	**-0.3**
	baz=190						
YULB	**Yu-li**	**1.71 215**	P		**Pn**	**18 00 54.8**	**0.0**
YULB	**Yu-li**	**1.71 215**	*e*P		**Pn**	**18 00 54.4**	**-0.5**
	baz=211						
EYUL	**Yuli**	**1.73 214**	*e*P		**Pn**	**18 00 55.3**	**+0.1**
	baz=197						
TWF1	**Yuli**	**1.74 214**	*e*P		**Pn**	**18 00 55.6**	**+0.3**
	baz=210						
WHYT	**Xinyi Township**	**1.76 232**	*e*P		**Pb**	**18 00 58.0**	**+0.5**
	baz=231						
JISG	**Ishigakijimahi**	**1.78 96**	P		**Pn**	**18 00 54.0**	**-1.8**
JISG			S		**Sn**	**18 01 15.8**	**-2.6**
WJS	**Zhushan**	**1.78 237**	*e*P		**Pg**	**18 00 59.2**	**-0.3**
	baz=237						
WJS			*e*S		**Sg**	**18 01 23.6**	**+0.9**
	baz=237						
WNT	**Mingjian**	**1.79 239**	*e*P		**Pg**	**18 00 59.6**	**0.0**
	baz=239						
FULB	**Fuli**	**1.87 212**	*e*P		**Pn**	**18 00 56.6**	**-0.5**
	baz=192						
ALS	**Alishan**	**1.92 228**	*e*P		**Pb**	**18 01 00.1**	**-0.2**
	baz=207						
EHD	**Haiduan**	**1.96 213**	*e*P		**Pn**	**18 00 58.4**	**+0.2**
	baz=209						
WRL	**Guolierlin Hig**	**2.02 244**	*e*P		**Pb**	**18 01 02.1**	**+0.1**
	baz=246						
EDH	**Donghe**	**2.06 208**	*e*P		**Pn**	**18 00 59.0**	**-0.7**
	baz=191						
WCKO	**Fanlu**	**2.10 230**	*e*P		**Pb**	**18 01 03.6**	**+0.3**
	baz=228						
JTJ	**Tarama**	**2.13 94**	P		**Pn**	**18 01 00.1**	**-0.6**
JTJ			S		**Sn**	**18 01 25.0**	**-2.0**
STYH	**Taoyuan**	**2.18 222**	*e*P		**Pn**	**18 01 02.9**	**+1.6**
	baz=203						
TPUB	**Ta-pu**	**2.18 227**	P		**Pb**	**18 01 04.1**	**-0.5**
TPUB	**Ta-pu**	**2.18 227**	*e*P		**Pn**	**18 01 02.7**	**+1.3**
	baz=206						
LDUT	**Ludao**	**2.27 201**	*e*P		**Pn**	**18 01 01.7**	**-0.8**
	baz=197						
TWG	**Pinlang**	**2.30 211**	*e*P		**Pn**	**18 01 04.6**	**+1.6**
	baz=207						
SNST	**Tainan City**	**2.32 228**	*e*P		**Pb**	**18 01 07.3**	**+0.2**
	baz=226						
CHN1	**Nanshi**	**2.33 227**	*e*P		**Pb**	**18 01 06.5**	**-0.6**
	baz=225						
SGST	**Jiashian**	**2.36 224**	*e*P		**Pn**	**18 01 05.7**	**+1.8**
	baz=204						
ICHU	**Yijhu**	**2.38 234**	*e*P		**Pb**	**18 01 07.8**	**-0.4**
	baz=234						
SLGT	**Liugui**	**2.39 222**	*e*P		**Pb**	**18 01 07.1**	**-1.1**
	baz=202						
ECL	**Taimali**	**2.55 211**	*e*P		**Pn**	**18 01 07.3**	**+0.9**
	baz=207						
SSD	**Sandimen**	**2.59 218**	*e*P		**Pb**	**18 01 09.9**	**-1.7**
	baz=199						
TSMG	**Majia**	**2.61 217**	*e*P		**Pb**	**18 01 10.4**	**-1.6**
	baz=199						
TSCK	**Chigu Township**	**2.66 232**	*e*P		**Pn**	**18 01 10.2**	**+2.3**
	baz=233						
JMJ	**Miyako jima 2**	**2.66 89**	P		**Pn**	**18 01 09.8**	**+1.9**
MASBT	**Mashibuluo**	**2.69 216**	*e*P		**Pn**	**18 01 10.2**	**+1.7**
	baz=199						
TAWH	**Dawu Township**	**2.80 209**	*e*P		**Pn**	**18 01 10.6**	**+0.8**
	baz=194						
LAY	**Lan-yu**	**2.85 195**	*e*P		**Pn**	**18 01 09.8**	**-0.7**
	baz=191						
PHUB	**P'eng-hu**	**2.85 244**	*e*P		**Pn**	**18 01 11.6**	**+1.0**
	baz=244						
LYUB	**Lan-yu**	**2.88 195**	*e*P		**Pn**	**18 01 08.9**	**-1.9**
	baz=191						
WDGT	**Dungji**	**2.91 239**	*e*P		**Pn**	**18 01 12.7**	**+1.3**
	baz=239						
PTMZ	**Houxiangcun**	**2.96 275**	*e*P		**Pn**	**18 01 11.6**	**-0.4**
	baz=277						
VCHM	**Qimei**	**3.12 240**	*e*P		**Pn**	**18 01 15.1**	**+0.9**
	baz=240						
TWKBT	**Hengchun**	**3.18 207**	*e*P		**Pn**	**18 01 14.7**	**-0.4**
	baz=193						
JOW	**Kunigami**	**5.70 68**	P		**Pn**	**18 01 52.1**	**+2.4**
	13nm,1.0s						
JOW	**Kunigami**	**5.70 68**	Pn		**Pn**	**18 01 51.3**	**+1.6**
	0.9nm,0.3s,baz=258,slow=14,SNR=2.9						
	4.7nm,0.5s						
KSRS	**Korea Array**	**13.48 19**	Pn		**Pn**	**18 03 38.9**	**+2.6**
	0.1nm,0.3s,baz=204,slow=14,SNR=2.0						
KSRS			LR		LR	18 09 36.4	
	comp=Z,38nm,18.0s,baz=190,slow=41						
	1.3nm,0.9s						
DAV	**Davao City (W)**	**17.90 170**	LR		LR	18 11 19.8	
	comp=Z,19nm,19.5s,baz=276,slow=37						
KLR	**Kul'dur**	**25.47 14**	LR		LR	18 16 25.0	
	comp=Z,28nm,19.7s,baz=232,slow=38						
SONM	**Songino Array**	**26.24 335**	P		**P**	**18 06 00.8**	**+0.5**
	0.5nm,0.7s,baz=133,slow=11,SNR=3.5						
SONM			LR		LR	18 16 36.7	
	comp=Z,16nm,20.8s,baz=92,slow=37						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**38.66 315**	P		**P**	**18 07 50.2**	**+1.6**
	0.1nm,0.5s,baz=106,slow=9.1,SNR=1.1						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**45.97 164**	P		**P**	**18 08 47.5**	**-0.9**
	1.1nm,0.9s,baz=346,slow=8.8,SNR=6.9						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**49.46 166**	P		**P**	**18 09 15.4**	**-0.1**
	0.5nm,0.8s,baz=348,slow=6.3,SNR=6.4						
	0.5nm,0.8s						

DJA 02 18:11:01.1±0.5, 10°S±6°×12°0E±°, h49km±12km, M3.8/9, mb4.3/2, MLv3.6/9, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.48**	**170**	P	Pn	18 11 13.5	+1.4
BASI				S	Sn	18 11 23.0	+3.0
MMRI	**Maumere**	**2.04**	**58**	P	Pn	18 11 33.6	+0.5
MMRI				S	Sn	18 11 56.7	-0.7
PLAI	**Plampang**	**2.83**	**288**	P	Pn	18 11 44.5	+0.7
PLAI				S	Sn	18 12 16.6	-0.1
BATI	**Baumata**	**3.16**	**99**	P	Pn	18 11 48.7	+0.3
TWSI	**Taliwang, Sumb**	**3.70**	**285**	P	Pn	18 11 56.8	+1.0
BKSI	**Bulukumba**	**4.41**	**355**	P	Pn	18 12 05.9	+0.4
JAGI	**Jajag, Banyuwa**	**6.38**	**281**	P	Pn	18 12 30.9	-1.8
	21nm,1.4s,0.1nm						

*IDC **02** 18:13:50.4±1.2, 21°.39N×94°.45E, h90km±10km, mb4.0/21, mbtmp4.3/22, MS3.1/11, Error ellipse: s-maj=20.6km s-min=9.1km az=43.0*

*NDI **02** 18:13:51.6±3.5, 21°.42N×94°.49E, h35km±21km, ML4.3, mb4.6(NEIC)*

*NEIC **02** 18:13:51.5±1.4, 21°.44N±0°.06×94°.54E±0°.06, h95km±6km, mb4.6/77, Error ellipse: s-maj=10.3km s-min=7.4km az=214.0*

ISC 02 18:13:51.1±0.3, 21°.40N±0°.04×94°.46E±0°.04, h97km, n180, σ1§73/200, mb4.6/70, 1C, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MND	**Mandalay**	**1.66**	**68**	Pn	**Pn**	**18 14 17.9**	**-1.3**
MND	**Mandalay**	**1.66**	**68**	P	**Pn**	**18 14 18.1**	**-1.1**
SAIH	**SAIHA**	**1.74**	**309**	*e*P	**Pn**	**18 14 21.2**	**+0.8**
SAIH				*e*S	**Sn**	**18 14 43.0**	**+0.4**
AZL	**Aizawl**	**2.84**	**325**	*e*P	**Pn**	**18 14 35.4**	**+0.7**
AZL				*e*S	**Sn**	**18 15 07.3**	**-1.1**
AZL				IAML		18 15 14.0	
	comp=N,1μm,0.2s						
AZL				IAML		18 15 15.2	
	comp=E,1μm,0.2s						
BRDH	**Bariadhala**	**2.90**	**296**	P	**Pn**	**18 14 36.6**	**+1.2**
	comp=E,1μm,0.6s,baz=90,slow=8.4,SNR=51						
BRDH				S	**Sn**	**18 15 08.2**	**-1.4**
	comp=E,3μm,0.3s,baz=90,slow=21,SNR=12						
BELO	**BELONIA**	**3.34**	**304**	*e*P	**Pn**	**18 14 42.8**	**+1.5**
BELO				*e*S	**Sn**	**18 15 20.4**	**+0.4**
IMP	**Imphal**	**3.45**	**352**	*e*P	**Pn**	**18 14 44.7**	**+1.9**
IMP				*e*S	**Sn**	**18 15 20.5**	**-2.3**
IMP				IAML		18 15 22.1	
	comp=N,337nm,0.4s						
SILR	**SILCHAR**	**3.69**	**336**	*e*P	**Pn**	**18 14 47.7**	**+1.7**
AGT	**Agartala**	**3.86**	**310**	*e*P	**Pn**	**18 14 49.2**	**+1.0**
AGT				*e*S	**Sn**	**18 15 31.1**	**-1.5**
AGT				IAML		18 15 34.9	
	comp=E,5μm,0.5s						
AGT				IAML		18 15 35.8	
	comp=N,2μm,0.5s						
KOHI	**KOHIMA**	**4.31**	**356**	*e*P	**Pn**	**18 14 55.6**	**+1.0**
KOHI				*e*S	**Sn**	**18 15 40.4**	**-3.5**
KOHI				IAML		18 15 43.2	
	comp=N,411nm,0.4s						
SHL	**Shillong**	**4.77**	**331**	Pn	**Pn**	**18 15 00.1**	**-0.7**
SHL	**Shillong**	**4.77**	**331**	*e*P	**Pn**	**18 15 00.4**	**-0.4**
SHL				*e*S	**Sn**	**18 15 50.6**	**-4.4**
MOKO	**MOKOCHONG**	**4.90**	**1**	*e*P	**Pn**	**18 15 04.0**	**+1.5**
MOKO				*e*S	**Sn**	**18 15 54.5**	**-3.6**
MOKO				IAML		18 16 04.7	
	comp=N,310nm,0.1s						
CHTO	**Chiang Mai**	**4.94**	**121**	Pn	**Pn**	**18 15 02.2**	**-0.8**
CM31	**Chiang Mai Arr**	**5.14**	**124**		**Pn**	**18 15 05.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**5.14**	**124**	Pn	**Pn**	**18 15 05.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**5.14**	**124**	P	**Pn**	**18 15 05.0**	**-0.7**
	comp=N,21nm,0.6s,baz=302,slow=14,SNR=159						
CMAR				S	Sn	18 16 15.8	+12
	comp=N,26nm,0.6s,baz=312,slow=16,SNR=4.7						
CMAR				ScP	**ScP**	**18 25 34.2**	**+0.6**
	comp=N,0.8nm,0.7s,baz=300,slow=1.8,SNR=6.4						
JORH	**JORHAT**	**5.32**	**358**	*e*S	**Sn**	**18 16 05.0**	**-3.1**
GUWA	**GUWAHATI**	**5.40**	**333**	*e*P	**Pn**	**18 15 08.0**	**-1.2**
GUWA				*e*S	**Sn**	**18 16 04.1**	**-6.0**
GUWA				IAML		18 16 08.6	
	comp=N,522nm,0.2s						
CRAI	**Chiangrai**	**5.66**	**101**	Pn	**Pn**	**18 15 11.9**	**-0.8**
ITAN	**ITANAGAR**	**5.76**	**353**	*e*P	**Pn**	**18 15 13.8**	**-0.2**
ITAN				*e*S	**Sn**	**18 16 13.4**	**-5.3**
ITAN				IAML		18 16 17.5	
	comp=E,697nm,0.2s						
DHUB	**DHUBRI**	**6.15**	**319**	*e*P	**Pn**	**18 15 18.5**	**-0.9**
DHUB				*e*S	**Sn**	**18 16 22.0**	**-6.3**
DHUB				IAML		18 16 29.5	
	comp=N,1μm,0.3s						
GTK	**Tadong**	**7.95**	**319**	*e*P	**Pn**	**18 15 43.1**	**-0.8**
GTK				*e*S	**Sn**	**18 17 05.1**	**-7.3**
GTK				IAML		18 17 10.8	
	comp=N,313nm,0.4s						
GTK				IAML		18 17 13.7	
	comp=E,394nm,0.6s						
BOK	**Bokaro**	**8.27**	**288**	*e*P	**Pn**	**18 15 47.7**	**-0.5**
BOK				*e*S	**Sn**	**18 17 13.9**	**-6.1**
SRDT	**SRDT**	**8.30**	**147**	P	**Pn**	**18 15 48.6**	**-0.1**
KMI	**Kunming**	**8.47**	**62⇑**	P	**Pn**	**18 15 51.0**	**-0.2**
KMI				pmax	pmax		
	comp=Z,32nm,1.5s						
KMI				LR	LR		
	comp=N,120nm,15.2s						
KMI				LR	LR		
	comp=E,81nm,14.6s						
KMI				LR	LR		
	comp=Z,120nm,15.5s						
LSA	**Lhasa**	**8.79**	**341**	P	**Pn**	**18 15 55.9**	**+0.2**
LSA				pmax	pmax		
	comp=Z,59nm,0.5s						
LSA	**Lhasa**	**8.79**	**341**	Pn	**Pn**	**18 15 55.5**	**-0.2**
PBA	**Port Blair**	**9.83**	**190**		**Pn**	**18 16 07.9**	**-1.5**
PBA	**Port Blair**	**9.83**	**190**	*e*P	**Pn**	**18 16 08.0**	**-1.5**
PBA				*e*S	**Sn**	**18 17 51.6**	**-6.4**
GOMU	**GeErMu**	**14.75**	**1**	P	Pn	18 17 08.6	-6.5
GOMU				pP	P	18 17 12.9	-5.7
GOMU				sP		18 17 14.2	
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,47nm,5.9s						
HYB	**Hyderabad**	**15.52**	**258**	*e*P	**P**	**18 17 29.8**	**+3.0**
HYB				*e*sPn	**sPn**	**18 17 53.1**	**+1.4**
HYB				*e*S	**S**	**18 20 26.9**	**+1.5**
BHPL	**Bhopal**	**15.87**	**280**	*e*P	**P**	**18 17 30.2**	**-0.6**
BHPL				*e*S	Sn	18 20 13.6	-11
ENH	**Enshi**	**16.15**	**54**	P	**Pn**	**18 17 31.6**	**-0.8**
ENH				IAmb	IAmb	18 17 35.6	
	comp=Z,22nm,0.8s						
SMLA	**Simla**	**18.26**	**306**	*e*S	S	18 21 08.1	-13
DHRM	**DHARAMSHALA**	**19.45**	**308**	*e*S	**S**	**18 21 36.8**	**-8.2**
GSI	**Gunungsitoli**	**20.20**	**171**		**P**	**18 18 17.8**	**-0.5**
GSI	**Gunungsitoli**	**20.20**	**171**	P	**P**	**18 18 19.4**	**+1.1**
	comp=Z,18nm,2.5s						
PBSI	**Pulau Batu**	**21.65**	**170**	P	**P**	**18 18 35.0**	**+1.2**
	comp=Z,69nm,1.3s						
CHCP	**Chirah Chowk**	**22.36**	**308**	P	**P**	**18 18 41.4**	**+0.2**
NIL	**Nilore**	**22.36**	**308**	P	**P**	**18 18 40.9**	**-0.3**
SISI	**Saibi**	**23.04**	**168**	P	**P**	**18 18 50.0**	**+1.9**
	comp=Z,23nm,1.4s						
WMQ	**Urumqi**	**23.05**	**347**	*e*P	**P**	**18 18 49.6**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,29nm,0.8s						
THW	**Thamme Wali**	**23.14**	**304**	P	**P**	**18 18 49.1**	**+0.1**
CEP	**Cherat**	**23.44**	**307**	P	**P**	**18 18 52.2**	**+0.2**
KSH	**Kashi**	**24.00**	**323**	P	**P**	**18 18 58.3**	**+1.4**
KSH				pP	pP	18 19 16.9	-1.0
KSH				PP	**PnPn**	**18 19 38.8**	**+7.2**
KSH				S	**S**	**18 23 07.6**	**+0.7**
KSH				pmax	pmax		
	comp=Z,64nm,0.5s						
TARG	**Taragay, Kyrgy**	**24.66**	**329**	P	**P**	**18 19 04.9**	**+1.8**
TARG				IAmb	IAmb	18 19 07.4	
	comp=Z,45nm,0.9s						
TWG	**Pinlang**	**24.69**	**82**	P	**P**	**18 19 04.3**	**+1.2**
TWG				IAmb	IAmb	18 19 07.3	
	comp=Z,24nm,1.0s						
PRZ	**Przheval'sk**	**24.97**	**331**	P	**P**	**18 19 07.5**	**+1.8**
PRZ				IAmb	IAmb	18 19 10.6	
	comp=Z,34nm,0.7s						
NRN	**Naryn**	**25.34**	**326**	P	**P**	**18 19 10.6**	**+1.3**
ULHL	**Ulaahol**	**25.81**	**328**	P	**P**	**18 19 15.9**	**+2.5**
	SNR=18						
KBL	**Kabul**	**25.90**	**306**	P	**P**	**18 19 15.4**	**+1.2**
BOOM	**Boomskoye usch**	**26.14**	**328**	P	**P**	**18 19 17.3**	**+1.0**
BOOM				IAmb	IAmb	18 19 45.0	
	comp=Z,23nm,1.2s						
TGY	**Tagaytay City**	**26.22**	**102**	LR	LR	18 31 14.9	
	comp=Z,26nm,19.7s,baz=238,slow=40						
TKM2	**Tokmak 2**	**26.63**	**328**	P	**P**	**18 19 22.6**	**+1.8**
	SNR=8.0						
KBK	**Karagaybulak**

KKAR Karatay Array 29.45 323 P **P 18 19 46.4 +0.7**
JOW Kunigami 31.28 73 LR LR 18 34 05.2
comp=Z,19nm,18.6s,baz=344,slow=39
KURBB Kurchatov Arra 31.74 341 P **P 18 20 06.3 +0.6**
comp=Z,8.2nm,0.7s,baz=153,slow=8.3,SNR=64
KURBB PcP **PcP 18 22 55.8 +0.9**
comp=Z,1.4nm,0.6s,baz=166,slow=2.3,SNR=10
KURBB ScP **ScP 18 26 30.7 +1.1**
comp=Z,2.8nm,0.6s,baz=149,slow=2.8,SNR=22
comp=Z,8.2nm,0.7s
KURK Kurchatov 31.79 341 P **P 18 20 06.4 +0.3**
KURK IAmb IAmb 18 20 07.6
comp=Z,9.6nm,0.7s
KPJI Karang Pucung 31.89 152 P **P 18 20 06.9 -0.5**
KSRS Korea Array 33.04 54 P **P 18 20 17.1 -0.1**
comp=Z,1.0nm,0.9s,baz=244,slow=7.8,SNR=2.1
KSRS LR LR 18 33 49.5
comp=Z,13nm,21.7s,baz=220,slow=36
comp=Z,1.0nm,0.9s
DAV Davao City (W) 33.27 111 LR LR 18 34 13.2
comp=Z,26nm,18.4s,baz=314,slow=37
ZAA0 Zalesovo Array 33.31 350 P **P 18 20 19.4 0.0**
ZALV Zalesovo Beam 33.31 350 P **P 18 20 19.6 +0.2**
ZALV Zalesovo Beam 33.31 350 P **P 18 20 20.0 +0.6**
comp=Z,14nm,0.4s,baz=172,slow=7.9,SNR=84
ZALV PcP **PcP 18 22 58.9 -0.3**
comp=Z,0.6nm,0.3s,baz=168,slow=5.2,SNR=3.2
ZALV ScP **ScP 18 26 33.6 -1.3**
comp=Z,1.3nm,0.6s,baz=150,slow=3.3,SNR=5.9
comp=Z,14nm,0.4s
GEYT Alibeck 35.35 306 P **P 18 20 37.7 +0.4**
GEYT IAmb IAmb 18 20 40.8
comp=Z,8.6nm,1.1s
GEYT Alibeck 35.35 306 P **P 18 20 40.1 +2.8**
comp=Z,4.1nm,0.7s,baz=142,slow=11,SNR=8.1
GEYT ScP **ScP 18 26 43.5 +0.9**
comp=Z,3.5nm,0.6s,baz=100,slow=5.4,SNR=7.8
GYA0B ALIBECK ARRAY 35.35 306 P **P 18 20 37.5 +0.2**
GYA0B IAmb IAmb 18 20 40.8
comp=Z,5.7nm,0.7s
BVAR Borovoye Array 36.58 336 P **P 18 20 48.0 +0.5**
comp=Z,3.0nm,0.5s,baz=139,slow=9.0,SNR=16
comp=Z,3.0nm,0.5s
BRVK Borovoye 36.64 336 P **P 18 20 47.4 -0.6**
BRVK IAmb IAmb 18 20 49.4
comp=Z,3.3nm,0.7s
ABKAR Akbulak array 39.00 324 P **P 18 21 09.2 +1.3**
AKTO Aktyubinsk 40.68 324 LR LR 18 39 04.3
comp=Z,63nm,18.5s,baz=128,slow=37
MJAR Matsushiro Arr 40.79 58 LR LR 18 38 33.0
comp=Z,28nm,19.3s,baz=234,slow=36
SOEI Soe 42.61 134 P **P 18 21 37.3 -0.8**
SOEI IAmb IAmb 18 21 47.0
comp=Z,12nm,0.8s
ARU Arti 43.86 332 P **P 18 21 47.4 -0.1**
GURO Guroymak-BITLI 47.88 303 P **P 18 22 19.6 0.0**
GURO IAmb IAmb 18 22 23.2
comp=Z,10.0nm,1.0s
KBZ Khabaz 47.94 310 P **P 18 22 21.2 +1.4**
comp=Z,3.2nm,1.0s,baz=90,slow=1.0,SNR=4.2
comp=Z,3.2nm,1.0s
NRIK Noril'sk 48.13 357 LR LR 18 46 37.8
comp=Z,36nm,18.7s,baz=184,slow=41
KIV Kislovodsk 48.13 310 P **P 18 22 22.3 +0.9**
KIV IAmb IAmb 18 22 24.1
comp=Z,11nm,0.9s
GUMO Guam 48.54 91 LR LR 18 43 22.3
comp=Z,8.8nm,18.5s,baz=190,slow=36
MBWA Marble Bar 48.98 148 P **P 18 22 28.0 0.0**
PSA00 Pilbara Seismi 49.38 148 P **P 18 22 30.9 -0.1**
PSA00 Pilbara Seismi 49.38 148 P **P 18 22 30.9 -0.1**
PSA00 IAmb IAmb 18 22 32.0
comp=Z,6.2nm,0.7s
GAZ Gaziantep 51.61 301 P **P 18 22 49.5 +1.7**
GAZ IAmb IAmb 18 22 54.4
comp=Z,6.0nm,0.7s
MMAI Mount Meron Ar 53.18 296 LR LR 18 50 18.7
comp=Z,23nm,19.7s,baz=154,slow=41
EIL Elat 53.83 292 LR LR 18 48 25.4
comp=Z,23nm,18.2s,baz=63,slow=38
WB0 Warramunga Arr 56.57 134 P **P 18 23 23.5 -0.4**
WRA Warramunga Arr 56.65 134 P **P 18 23 24.2 -0.3**
comp=Z,3.6nm,0.5s,baz=320,slow=7.5,SNR=170
WRA PcP **PcP 18 24 19.3 -0.4**
comp=Z,1.3nm,0.6s,baz=325,slow=3.7,SNR=11
comp=Z,3.6nm,0.5s
WB2 Warramunga Arr 56.66 134 P **P 18 23 24.1 -0.4**
WB2 IAmb IAmb 18 23 24.8
comp=Z,4.5nm,0.6s
WR0 Warramunga Arr 56.80 134 P **P 18 23 24.9 -0.7**
AKASG Malin Array Be 58.11 317 P **P 18 23 33.9 -0.5**
comp=Z,0.9nm,0.3s,baz=81,slow=6.0,SNR=7.5
AKASG LR LR 18 54 04.2
comp=Z,29nm,18.6s,baz=332,slow=42
comp=Z,0.9nm,0.3s
AKBB Malin Array Si 58.11 317 P **P 18 23 33.8 -0.6**
AKBB IAmb IAmb 18 23 34.5
comp=Z,5.4nm,0.6s
NWAO Narrogin (SRO) 58.24 157 P **P 18 23 34.4 -1.0**
NWAO Narrogin (SRO) 58.24 157 P **P 18 23 34.4 -1.0**
AS31 Alice Springs 59.00 137 P **P 18 23 41.0 +0.1**
ASAR Alice Springs 59.00 137 P **P 18 23 40.8 -0.1**
ASAR Alice Springs 59.00 137 P **P 18 23 41.2 +0.3**
comp=Z,3.1nm,0.7s,baz=320,slow=7.0,SNR=51
ASAR PcP **PcP 18 24 29.2 +0.2**
comp=Z,3.1nm,0.6s,baz=318,slow=3.9,SNR=16
comp=Z,3.1nm,0.7s
MLR Muntele Rosu 60.13 311 P **P 18 23 50.0 +1.4**
MLR IAmb IAmb 18 23 50.7
comp=Z,6.0nm,0.8s
BURAR Bucovina Array 60.62 313 P **P 18 23 52.5 +0.6**
BUR08 Bucovina Ar. S 60.63 313 P **P 18 23 52.6 +0.7**
BUR08 IAmb IAmb 18 24 00.2
comp=Z,6.0nm,1.4s
FINES FINESS Array B 61.11 329 P **P 18 23 54.4 -0.3**
FINES FINESS Array B 61.11 329 P **P 18 23 54.6 -0.1**
comp=Z,1.9nm,0.6s,baz=89,slow=4.8,SNR=11
comp=Z,1.9nm,0.6s
ARCES ARCESS Array B 62.79 338 P **P 18 24 06.0 +0.2**
comp=Z,5.7nm,1.0s,baz=77,slow=6.4,SNR=5.8
comp=Z,5.7nm,1.0s
VOI Vohitsoka 63.37 230 P **P 18 24 09.5 -1.0**
CTAO Charters Tower 65.30 126 P **P 18 24 23.2 +0.1**
CTAO IAmb IAmb 18 25 01.2
comp=Z,13nm,1.4s
SPITS Spitsbergen Ar 66.76 347 P **P 18 24 31.2 -0.3**
comp=Z,10nm,0.9s,baz=99,slow=8.9,SNR=2.6
comp=Z,10nm,0.9s
BBOO Buckleboo 66.97 143 P **P 18 24 33.6 +0.1**
BBOO IAmb IAmb 18 24 34.4
comp=Z,8.3nm,0.8s
HFS Hagfors 67.11 328 P **P 18 24 33.6 -0.4**
comp=Z,4.0nm,0.9s,baz=84,slow=4.6,SNR=8.0
comp=Z,4.0nm,0.9s
MORI Morici 67.54 310 *i* P **P 18 24 36.8 -0.3**
ZIRJ Zirje 67.62 310 *i* P **P 18 24 37.2 -0.3**
VIRC Vir 67.94 310 *i* P **P 18 24 38.9 -0.6**
DUGI Dugi Otok 67.99 310 *i* P **P 18 24 39.4 -0.4**
GERES GERESS Array B 68.21 315 P **P 18 24 41.9 +0.6**
comp=Z,2.7nm,0.6s,baz=80,slow=6.7,SNR=7.6
comp=Z,2.7nm,0.6s
NOA NORSAR Array B 68.27 329 P **P 18 24 40.4 -1.0**
comp=Z,2.2nm,1.0s,baz=90,slow=4.0,SNR=1.6
comp=Z,2.2nm,1.0s
LESA Schwarzleotal 69.10 314 *i* P **P 18 24 46.8 0.0**
comp=Z,4.4nm,0.4s
FDMO Fiordimonte 69.56 309 P **P 18 24 50.5 +0.8**
FDMO IAmb IAmb 18 24 50.7
comp=Z,5.8nm,0.5s
NRCA Norcia 69.58 309 P **P 18 24 50.5 +0.6**
NRCA IAmb IAmb 18 25 31.6
comp=Z,8.7nm,1.4s
STKA Stephens Creek 69.60 138 P **P 18 24 49.9 -0.1**
comp=Z,0.9nm,0.3s,baz=349,slow=9.2,SNR=6.4
comp=Z,0.9nm,0.3s
WTTA Wattenberg 69.82 314 *i* P **P 18 24 50.9 -0.5**
comp=Z,2.2nm,0.4s
SQTA Sankt Quirin 70.11 314 *i* P **P 18 24 52.6 -0.5**
comp=Z,2.5nm,0.4s
MOTA Moosalm 70.16 314 *i* P **P 18 24 53.2 -0.2**
comp=Z,2.0nm,0.5s
RETA Reutte 70.37 314 *i* P **P 18 24 54.5 -0.1**
comp=Z,3.4nm,0.5s
FETA Feichten 70.47 314 *i* P **P 18 24 54.9 -0.5**
comp=Z,1.6nm,0.6s
FUORN Ofenpass-Fuorn 70.86 313 P **P 18 24 58.0 +0.1**
DAVA Damuels 70.99 314 *i* P **P 18 24 57.3 -1.2**
comp=Z,1.9nm,0.6s
SENIN Lac Senin/Sane 72.92 314 P **P 18 25 10.1 -0.1**
BNI Bardonecchia 73.65 312 P **P 18 25 14.5 +0.1**
SSB Saint Sauveur 75.06 313 P **P 18 25 22.3 -0.1**
SSB IAmb IAmb 18 25 26.4
comp=Z,8.9nm,1.4s
TOO Toolangi 75.80 140 P **P 18 25 27.8 +1.3**
TOO IAmb IAmb 18 25 28.6
comp=Z,6.0nm,0.7s
EKA Eskdalemuir Ar 76.87 324 P **P 18 25 32.3 -0.1**
comp=Z,1.0nm,0.5s,baz=69,slow=3.9,SNR=2.5
comp=Z,1.0nm,0.5s
EUNU Eureka 78.74 0 P **P 18 25 43.4 +0.9**
IMAR Indian Mountai 79.08 23 P **P 18 25 43.8 -0.7**
TOLK Toolik Lake Re 79.16 20 P **P 18 25 44.5 -0.4**
TOLK IAmb IAmb 18 25 55.2
comp=Z,14nm,1.4s
H21K Melozitna Rive 79.58 23 P **P 18 25 47.0 -0.2**
J20K Nowinta River 79.79 24 P **P 18 25 47.8 -0.5**
H23K Yukon River 80.66 22 P **P 18 25 53.2 +0.2**
CAST Castle Rocks 80.96 25 P **P 18 25 54.6 0.0**
BPAW Bear Paw Mtn. 81.04 24 P **P 18 25 54.3 -0.7**
BPAW IAmb IAmb 18 26 13.4
comp=Z,7.1nm,1.2s
BMAR Burnt Mountain 81.40 20 P **P 18 25 57.5 +0.5**
MDM Murphy Dome 81.59 22 P **P 18 25 57.7 -0.3**
MDM IAmb IAmb 18 26 14.7
comp=Z,13nm,1.4s
ILAR Eielson Array 82.17 22 P **P 18 25 59.4 -1.6**
comp=Z,1.1nm,0.6s,baz=286,slow=5.1,SNR=19
comp=Z,1.1nm,0.6s
F28M Old Crow 82.71 18 P **P 18 26 03.4 -0.3**
J25K Salcha River, 82.80 22 P **P 18 26 02.4 -1.9**
I26K Coal Creek Min 83.14 21 P **P 18 26 06.0 0.0**
I26K IAmb IAmb 18 26 40.7
comp=Z,9.9nm,1.4s
G29M Pine Creek 83.71 18 P **P 18 26 08.0 -1.0**
G29M IAmb IAmb 18 26 17.2
comp=Z,17nm,1.4s
RES Resolute Bay 83.95 2 P **P 18 26 10.0 0.0**
RES IAmb IAmb 18 26 16.6
comp=Z,6.5nm,1.0s
INK Inuvik 83.98 16 P **P 18 26 09.4 -0.8**
INK IAmb IAmb 18 26 10.5
comp=Z,17nm,1.4s
H29M Whitestone 84.07 19 P **P 18 26 10.1 -0.7**
H29M IAmb IAmb 18 26 42.8
comp=Z,12nm,1.5s
I28M Miner Creek 84.10 20 P **P 18 26 10.4 -0.6**
I28M IAmb IAmb 18 26 45.5
comp=Z,7.5nm,1.4s
KLU Klutina 84.42 25 P **P 18 26 11.9 -0.7**
EPYK Eagle Plains 84.46 18 P **P 18 26 11.2 -1.6**
EPYK IAmb IAmb 18 26 47.2
comp=Z,14nm,1.2s
F31M Tsiigehtchic 84.55 17 P **P 18 26 11.3 -1.8**
N25K Chitina, Valde 84.86 24 P **P 18 26 14.9 0.0**
L27K Beaver Creek, 84.99 22 P **P 18 26 16.0 +0.5**
BCAR Beaver Creek A 85.00 22 P **P 18 26 15.7 +0.2**
BMRM Bremner River 85.24 25 P **P 18 26 16.9 +0.2**
GLB Gilahina Butte 85.26 24 P **P 18 26 17.0 +0.1**
I30M Mount Dempster 85.36 19 P **P 18 26 16.6 -0.7**
I30M IAmb IAmb 18 26 59.6
comp=Z,8.9nm,1.5s
H31M Peel River 85.55 18 P **P 18 26 17.5 -0.7**
H31M IAmb IAmb 18 27 00.7
comp=Z,16nm,1.4s
TORD Torodi Ar. Bea 87.81 283 P **P 18 26 31.9 +1.8**
comp=Z,0.3nm,0.5s,baz=56,slow=5.4,SNR=2.5
comp=Z,0.3nm,0.5s
CASY Casey 88.25 174 P **P 18 26 31.0 +0.1**
MMPY Sheldon Lake, 88.81 19 P **P 18 26 34.5 +0.6**
MMPY IAmb IAmb 18 26 47.4
comp=Z,7.5nm,1.4s
TXAR Lajitas Array 126.62 20 PKP **PKPdf 18 32 43.8 +0.1**
comp=Z,0.3nm,0.6s,baz=50,slow=1.2,SNR=7.1
BAUV El Baul 145.29 329 PKPbc **PKPab 18 33 18.7 +0.2**
BOAV Boa Vista 145.96 311 PKPbc **PKPab 18 33 21.7 +0.6**
ESPN Las Esperanzas 146.59 358 PKPbc **PKPbc 18 33 22.1 -0.1**

BJI ***02*** *18:46:29.8±0.0, 7°.56S×102°.49E, h10km, mb4.5/45, mB5.1/17, Ms4.4/13, Ms7 4.2/13*
NEIC ***02*** *18:46:35±2.6, 7°.03S±0°.04×102°.38E±0°.07, h10km±1km, mb4.6/32, Error ellipse: s-maj=12.5km s-min=6.1km az=252.0*
IDC ***02*** *18:46:36.6±0.9, 6°.68S×102°.58E, h0km, mb4.4/13, mbtmp4.5/14, ML4.7/1, MS3.2/5, Error ellipse: s-maj=28.9km s-min=14.2km az=52.0*
DJA ***02*** *18:46:38.2±2.0, 7°.5±6°×10°.3E±°, h17km±14km, M4.7/20, mB5.2/7, mb4.8/20, MLv4.7/14, Mw(mB)4.6/7*
ISC 02 18:46:36.3±0.7, 6°.94S±0°.08×102°.48E±0°.07, h10km, n137, σ2º**04**/122**, mb4.7**/44**, MS4.1**/12**, 2C-2D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**2.45**	**55**	P	**Pn**	**18 47 14.1**	**-2.3**
LWLI	**Liwa**	**2.48**	**39**	P	**Pn**	**18 47 14.3**	**-2.5**
KLI	**Kotabumi**	**3.14**	**49**	P	**Pn**	**18 47 25.3**	**-0.6**
CGJI	**Cibinong**	**3.21**	**84**	P	**Pn**	**18 47 25.3**	**-1.5**
KSI	**Kapahiang**	**3.27**	**2**	P	**Pn**	**18 47 25.1**	**-2.6**
MASI	**Maura Aman, Be**	**3.79**	**356**	P	**Pn**	**18 47 32.5**	**-2.3**
CBJI	**Citeko**	**4.37**	**83**	P	**Pn**	**18 47 44.5**	**+1.7**
PMBI	**Palembang**	**4.60**	**30**	Pn	**Pn**	**18 47 44.4**	**-1.6**
CNJI	**Cibinong**	**4.63**	**95**	P	**Pn**	**18 47 46.9**	**+0.5**
XMIS	**Christmas Isla**	**4.71**	**138**	Pn	Pn	18 47 44.8	-2.7
LEM	**Lembang**	**5.10**	**89**	Pn	**Pn**	**18 47 55.2**	**+2.2**
LEM	28nm,0.3s,baz=296,slow=10.0,SNR=31 9.9nm,0.3s,baz=146,slow=24,SNR=1.4 96nm,0.5s			Sn	**Sn**	**18 48 51.0**	**-1.2**
JMBI	**JAMBI**	**5.40**	**12**	P	**Pn**	**18 47 55.7**	**-1.3**
CMJI	160nm,0.9s,0.6nm **Cimerak**	**5.98**	**98**	P	**Pn**	**18 48 04.9**	**0.0**
SDSI	244nm,0.6s,4μm1.1nm **Sungai Dareh**	**6.06**	**350**	P	Pn	18 48 02.8	-3.3
PDSI	27nm,0.7s,475nm0.1nm **Padang**	**6.32**	**341**	P	Pn	18 48 06.2	-3.5
KPJI	63nm,0.5s,1μm0.5nm **Karang Pucung**	**6.42**	**94**	P	**Pn**	**18 48 14.1**	**+3.2**
SISI	69nm,0.5s,0.3nm **Saibi**	**6.52**	**329**	P	**Pn**	**18 48 10.8**	**-1.6**
DSRI	66nm,0.7s,0.3nm **Dabo**	**6.75**	**18**	P	**Pn**	**18 48 13.3**	**-2.3**
COCO	33nm,0.9s,0.1nm **West Island**	**7.62**	**226**	Pn	Pn	18 48 24.1	-3.4
SMRI	**Semarang**	**7.91**	**91**	Pn	**Pn**	**18 48 30.9**	**-0.5**
SMRI	**Semarang**	**7.91**	**91**	P	**Pn**	**18 48 34.8**	**+3.4**
SMRI	**Semarang**	**7.91**	**91**	P	**Pn**	**18 48 33.8**	**+2.4**
UGM	129nm,0.7s,0.6nm **Wanagama**	**8.04**	**97**	Pn	**Pn**	**18 48 33.6**	**+0.3**
MYKOM	**Kota Tinggi**	**8.78**	**9**	Pn	**Pn**	**18 48 44.6**	**+1.1**
GSI	**Gunungsitoli**	**9.54**	**329**	Pn	**Pn**	**18 48 50.9**	**-3.0**
GSI	**Gunungsitoli**	**9.54**	**329**	P	**Pn**	**18 48 53.6**	**-0.3**
RPSI	**Rantau Prapat**	**10.21**	**340**	Pn	**Pn**	**18 49 00.9**	**-2.2**
STKI	**Sintang**	**11.36**	**53**	P	**Pn**	**18 49 17.7**	**-1.1**
JAGI	44nm,1.0s **Jajag, Banyuwa**	**11.67**	**98**	Pn	**Pn**	**18 49 20.8**	**-2.2**
MLSI	**Meulaboh, Aceh**	**12.68**	**331**	P	**Pn**	**18 49 36.3**	**-0.6**
SBUM	24nm,0.6s **Sibu**	**13.48**	**47**	Pn	**Pn**	**18 49 47.8**	**0.0**
KAPI	**Kappang**	**17.29**	**85**	LR	LR	18 58 41.7	
BKSI	comp=Z,119nm,19.4s,baz=266,slow=42 **Bulukumba**	**17.62**	**86**	P	**Pn**	**18 50 42.5**	**+0.4**
BASI	26nm,0.8s **Baing, Sumba**	**18.19**	**102**	P	**Pn**	**18 50 51.0**	**+1.9**
KKM	100nm,1.2s,1μm **Kota Kinabalu**	**18.82**	**47**	P	**P**	**18 50 54.8**	**-1.7**
KKM	IAmb IAmb 18 51 32.7 comp=Z,21nm,0.9s						
MPSI	**Mapaga**	**18.82**	**68**	P	**P**	**18 50 56.5**	**+0.1**
MMRI	comp=Z,22nm,1.3s **Maumere**	**19.65**	**96**	P	**P**	**18 51 03.4**	**-2.1**
MMRI	**Maumere**	**19.65**	**96**	P	**P**	**18 51 07.1**	**+1.6**
MMRI	**Maumere**	**19.65**	**96**	P	**P**	**18 51 05.0**	**-0.5**
TOLI2	comp=Z,59nm,1.0s **Tolitoli**	**19.94**	**67**	P	**P**	**18 51 06.9**	**-1.8**
TOLI2	IAmb IAmb 18 51 18.3 comp=Z,15nm,0.9s						
TOLI2	**Tolitoli**	**19.94**	**67**	P	**P**	**18 51 10.6**	**+2.0**
MYLDM	**Lahad Datu**	**20.02**	**53**	P	**P**	**18 51 09.5**	**0.0**
MRSI	**Marisa**	**20.77**	**70**	P	**P**	**18 51 17.9**	**+0.2**
BATI	comp=Z,15nm,0.6s **Baumata**	**21.20**	**100**	P	**P**	**18 51 25.6**	**+3.3**
BATI	comp=Z,148nm,0.6s,comp=Z,1μm **Baumata**	**21.20**	**100**	P	**P**	**18 51 23.6**	**+1.3**
BATI	comp=Z,86nm,0.6s,baz=271,slow=2.2,SNR=34 S			S	**S**	**18 55 10.8**	**-7.4**
SOEI	comp=Z,6.3nm,0.6s,baz=205,slow=21,SNR=2.1 comp=Z,86nm,0.6s **Soe**	**21.74**	**99**	P	**P**	**18 51 27.4**	**-0.8**
SOEI	**Soe**	**21.74**	**99**	P	**P**	**18 51 31.0**	**+2.8**
SOEI	**Soe**	**21.74**	**99**	P	**P**	**18 51 28.8**	**+0.6**
CM31	comp=Z,216nm,0.9s,comp=Z,2μm **Chiang Mai Arr**	**25.48**	**352**		**P**	**18 52 02.9**	**-1.9**
CM31	IAmb IAmb 18 52 07.0 comp=Z,17nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.48**	**352**	P	**P**	**18 52 02.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**25.48**	**352**	P	**P**	**18 52 04.6**	**-0.3**
LBMI	comp=Z,11nm,0.8s,baz=182,slow=8.9,SNR=81 comp=Z,11nm,0.8s **Labuha**	**25.73**	**77**	P	**P**	**18 52 03.5**	**-3.7**
CHTO	comp=Z,29nm,1.3s,comp=Z,1μm **Chiang Mai**	**25.83**	**352**	P	**P**	**18 52 05.7**	**-2.3**
TNTI	**Ternate**	**25.99**	**74**	P	**P**	**18 52 08.3**	**-1.3**
TNTI	IAmb IAmb 18 52 24.7 comp=Z,16nm,0.9s						
QIZ	**Qiongzhong**	**26.81**	**16**	P	**P**	**18 52 17.1**	**+0.2**
QIZ				S	**S**	**18 56 58.8**	**+5.5**
QIZ	comp=Z,140nm,13.1s			LR	LR		
QIZ	comp=Z,200nm,12.0s			LR	LR		
QIZ	comp=Z,160nm,16.8s			LR	LR		
CRAI	**Chiangrai**	**27.08**	**356**	P	**P**	**18 52 17.4**	**-1.9**
CRAI	IAmb IAmb 18 52 21.9 comp=Z,7.4nm,0.8s						
KNRA	**Kununurra**	**27.17**	**111**	P	**P**	**18 52 16.7**	**-3.5**
KNRA	IAmb IAmb 18 52 36.6 comp=Z,7.5nm,0.8s						
MTN	**Manton Dam**	**28.81**	**104**	P	**P**	**18 52 34.4**	**-0.5**
MTN	IAmb IAmb 18 53 10.7 comp=Z,25nm,1.5s						
MND	**Mandalay**	**29.45**	**348**	P	**P**	**18 52 40.2**	**-0.2**
H08S2	**Diego Garcia H**	**29.75**	**267**	T	T	19 24 01.1	
H08S3	baz=94,slow=75,SNR=20 **Diego Garcia H**	**29.76**	**267**	T	T	19 24 33.6	
H08S1	SNR=111 **Diego Carcia H**	**29.77**	**267**	T	T	19 24 04.1	
H01W3	baz=87,slow=75,SNR=5.8 **Cape Leeuwin H**	**29.81**	**160**	T	T	19 24 25.2	
H01W2	baz=339,slow=76,SNR=61 **Cape Leeuwin H**	**29.82**	**160**	T	T	19 24 26.2	
H01W1	baz=339,slow=76,SNR=61 **Cape Leeuwin H**	**29.82**	**160**	T	T	19 24 26.3	
KMI	baz=339,slow=76,SNR=56 **Kunming**	**31.88**	**0**	⇑P	**P**	**18 53 03.1**	**+1.0**
KMI				pP	sP	18 53 07.1	+2.9
KMI				pmax	pmax		
KMI	comp=Z,14nm,1.0s			LR	LR		
KMI	comp=Z,310nm,14.1s			LR	LR		
KMI	comp=Z,140nm,11.5s			LR	LR		
TNCH	comp=Z,330nm,13.4s **TengChong**	**32.01**	**353**	P	**P**	**18 53 06.7**	**+3.4**
TNCH				pmax	pmax		
PZH	comp=Z,6.0nm,0.8s **PanZhiHua**	**33.26**	**359**	P	**P**	**18 53 18.4**	**+4.3**
PZH				S	**S**	**18 58 38.0**	**+3.5**
PZH				pmax	pmax		
PZH	comp=Z,10.0nm,0.9s			pmax	pmax		
PZH	comp=Z,80nm,3.9s			LR	LR		
PZH	comp=Z,180nm,11.3s			LR	LR		
PZH	comp=Z,170nm,12.2s			LR	LR		
GYA	comp=Z,220nm,12.6s **Guiyang**	**33.45**	**7**	P	**P**	**18 53 15.5**	**-0.3**
GYA				pmax	pmax		
GYA	comp=Z,10.0nm,1.1s			LR	LR		
GYA	comp=Z,240nm,13.0s			LR	LR		
GYA	comp=Z,290nm,16.9s			LR	LR		
WRA	comp=Z,230nm,18.2s **Warramunga Arr**	**33.49**	**116**	P	P	18 53 13.3	-2.9
WRA	**Warramunga Arr**	**33.49**	**116**	P	**P**	**18 53 17.5**	**+1.3**
WRA	comp=Z,1.9nm,0.9s,baz=289,slow=10,SNR=10.0			LR	LR	19 07 09.0	
SHL	comp=Z,47nm,21.4s,baz=330,slow=37 comp=Z,1.9nm,0.9s **Shillong**	**33.92**	**343**	P	**P**	**18 53 18.3**	**-1.7**
SHL				IAmb	IAmb	18 53 22.1	
ASAR	comp=Z,7.9nm,0.7s **Alice Springs**	**34.45**	**122**	P	**P**	**18 53 26.5**	**+2.0**
ASAR	comp=Z,0.7nm,0.5s,baz=296,slow=8.0,SNR=9.8			PcP	**PcP**	**18 56 02.8**	**+2.8**
AS31	comp=Z,0.4nm,0.7s,baz=300,slow=2.3,SNR=3.0 comp=Z,0.7nm,0.5s **Alice Springs**	**34.45**	**122**	P	P	18 53 22.4	-2.1
SSLB	**Suanglung**	**35.48**	**30**	P	**P**	**18 53 32.9**	**-0.3**
SSLB				IAmb	IAmb	18 54 14.5	
TAPN	comp=Z,11nm,1.2s **Taplejung**	**36.97**	**338**	*e*P	**P**	**18 53 48.3**	**+2.0**
RAMN	comp=Z,26nm,0.8s **Ramite**	**37.04**	**336**	*e*P	**P**	**18 53 48.8**	**+1.9**
CD2	comp=Z,7.9nm,0.7s **Chengdu**	**37.66**	**2**	P	**P**	**18 53 53.0**	**+1.2**
CD2				S	**S**	**18 59 45.9**	**+4.0**
CD2				LR	LR		
CD2	comp=Z,140nm,10.3s			LR	LR		
CD2	comp=Z,180nm,9.8s			LR	LR		
CD2	comp=Z,240nm,12.7s			LR	LR		
JIRN	**Jiri**	**37.84**	**336**	*e*P	**P**	**18 53 54.8**	**+1.1**
LSA	comp=Z,24nm,0.9s **Lhasa**	**38.03**	**344**	P	**P**	**18 53 55.2**	**-0.2**
PKI	**Pulchoki**	**38.08**	**335**	*e*P	**P**	**18 53 55.7**	**-0.1**
PKIN	comp=Z,6.2nm,0.7s **Phulchoki**	**38.09**	**335**	*e*P	**P**	**18 53 56.1**	**+0.3**
GUN	comp=Z,6.4nm,0.6s **Gumba**	**38.18**	**336**	*e*P	**P**	**18 53 56.8**	**+0.1**
JAY	comp=Z,26nm,0.8s **Jayapura**	**38.34**	**85**	LR	LR	19 12 04.9	
GKN	comp=Z,27nm,20.3s,baz=228,slow=40 **Gorkha**	**38.78**	**334**	*e*P	**P**	**18 54 00.4**	**-1.1**
DANN	comp=Z,26nm,0.9s **Dangsing**	**39.47**	**334**	*e*P	**P**	**18 54 05.1**	**-2.3**
XAN	comp=Z,28nm,0.9s **Xi'an**	**41.21**	**8**	⇑P	**P**	**18 54 20.4**	**-1.1**
XAN				pmax	pmax		
XAN	comp=Z,16nm,0.8s			LR	LR		
XAN	comp=Z,280nm,11.0s			LR	LR		
XAN	comp=Z,180nm,12.0s			LR	LR		
NJ2	comp=Z,260nm,13.7s **Nanjing**	**41.81**	**21**	*e*P	**P**	**18 54 27.3**	**+1.0**
NJ2				pP	**sP**	**18 54 31.2**	**+2.8**
NJ2				sP	**pwP**	**18 54 33.6**	**-1.0**
NJ2				pmax	pmax		
NJ2	comp=Z,6.0nm,0.7s			pmax	pmax		
LZH	comp=Z,140nm,4.5s **Lanzhou**	**42.82**	**2**	*e*P	**P**	**18 54 35.9**	**+1.2**
LZH				pP	pwP	18 54 43.9	+1.0
LZH				pmax	pmax		
LZH	comp=Z,17nm,1.2s			LR	LR		
LZH	comp=Z,210nm,12.6s			LR	LR		
LZH	comp=Z,180nm,14.1s			LR	LR		
LZH	comp=Z,220nm,15.4s			LR	LR		
GOMU	**GeErMu**	**43.51**	**351**	P	**P**	**18 54 41.1**	**+0.6**
GOMU				pP	sP	18 54 45.5	+2.8
GOMU				sP	pP	18 54 47.1	+5.0
GOMU	comp=Z,2.0nm,0.8s			pmax	pmax		
GOMU	comp=Z,38nm,5.1s			pmax	pmax		

STKA	Stephens Creek	44.08	129	P		P	18 54 44.3	-0.5
STKA	Stephens Creek	44.08	129	P		P	18 54 46.5	+1.7
	comp=Z,1.5nm,0.6s,baz=295,slow=8.7,SNR=4.3							
	comp=Z,1.5nm,0.6s							
HNS	HongShan	45.57	14	⇓P		P	18 54 56.4	-0.1
HNS				pmax		pmax		
	comp=Z,10.0nm,0.7s							
GTA	Gaotai	46.19	357	*e*P		P	18 55 01.8	+0.3
GTA				sP		pwP	18 55 11.5	+1.8
GTA				pmax		pmax		
	comp=Z,3.0nm,1.2s							
GTA				LR		LR		
	comp=Z,130nm,16.7s							
GTA				LR		LR		
	comp=Z,91nm,16.4s							
GTA				LR		LR		
	comp=Z,190nm,16.0s							
HHC	Hu-ho-hao-te	48.29	9	*e*P		P	18 55 18.7	+0.9
HHC				pmax		pmax		
	comp=Z,29nm,0.6s							
HHC				pmax		pmax		
	comp=Z,290nm,4.2s							
KSAR	Wonju Array Be	50.13	26	P		P	18 55 31.1	-0.8
KSRS	Korea Array	50.16	26	P		P	18 55 31.6	-0.5
	comp=Z,4.9nm,0.8s,baz=220,slow=7.2,SNR=18							
	comp=Z,4.9nm,0.8s							
KS19	Wonju Array Si	50.17	26	P		P	18 55 30.6	-1.6
KS19				IAmb		IAmb	18 55 57.0	
	comp=Z,18nm,1.2s							
XLT	XiLinHaoTe	52.08	12	*e*P		P	18 55 48.6	+2.0
XLT				pP		pwP	18 55 54.0	-0.9
XLT				sP		sP	18 55 56.8	+8.1
XLT				pmax		pmax		
	comp=Z,8.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,110nm,3.8s							
WMQ	Urumqi	52.27	346	*e*P		P	18 55 49.4	+1.5
WMQ				pP		sP	18 55 52.4	+2.2
WMQ				pmax		pmax		
	comp=Z,28nm,1.1s							
KSH	Kashi	52.33	334	P		P	18 55 48.3	-0.3
KSH				sP		pwP	18 55 59.0	+2.3
KSH				pmax		pmax		
	comp=Z,4.0nm,0.6s							
CN2	Changchun	54.62	20	P		P	18 56 03.7	-1.4
CN2				pmax		pmax		
	comp=Z,10.0nm,1.4s							
SONM	Songino Array	54.65	3	P		P	18 56 05.6	+0.2
SONM				IAmb		IAmb	18 56 19.1	
	comp=Z,6.1nm,1.0s							
SONM	Songino Array	54.65	3	P		P	18 56 05.9	+0.4
	comp=Z,5.3nm,0.8s,baz=178,slow=9.3,SNR=16							
	comp=Z,5.3nm,0.8s							
ULN	Ulaanbaatar	54.72	4	P		P	18 56 04.7	-1.3
ULN				IAmb		IAmb	18 56 19.4	
	comp=Z,4.0nm,0.9s							
BOOM	Boomskoye usch	54.82	336	P		P	18 56 05.4	-1.5
JSD	Sado	55.79	34	P		P	18 56 11.5	-2.2
JSD				IAmb		IAmb	18 56 52.1	
	comp=Z,14nm,1.1s							
MK31	Makanchi Array	56.43	343	P		P	18 56 18.0	-0.1
MK31				IAmb		IAmb	18 56 19.7	
	comp=Z,9.5nm,1.2s							
MKAR	Makanchi Array	56.43	343	P		P	18 56 17.6	-0.5
MKAR	Makanchi Array	56.43	343	P		P	18 56 18.4	+0.2
	comp=Z,7.4nm,0.8s,baz=151,slow=8.2,SNR=15							
MKAR				LR		LR	19 23 22.4	
	comp=Z,22nm,20.3s,baz=288,slow=39							
	comp=Z,7.4nm,0.8s							
MDJ	Mudanjiang	56.84	23	P		P	18 56 24.3	+3.3
MDJ				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,230nm,3.9s							
BNX	BinXian	56.99	21	⇓P		P	18 56 21.9	-0.2
BNX				pmax		pmax		
	comp=Z,19nm,1.1s							
BNX				pmax		pmax		
	comp=Z,260nm,4.2s							
USA0B	Ussuriysk Arra	57.45	25	P		P	18 56 24.4	-1.0
USRK	Ussuriysk Ar.	57.45	25	P		P	18 56 24.5	-0.9
USRK	Ussuriysk Ar.	57.45	25	P		P	18 56 24.9	-0.4
	comp=Z,7.5nm,0.6s,baz=209,slow=4.9,SNR=14							
	comp=Z,7.5nm,0.6s							
H04N2	CROZET ISLANDS	58.43	219	T		T	20 00 42.1	
	baz=64,slow=75,SNR=121							
H04N1	CROZET ISLANDS	58.44	219	T		T	20 00 44.4	
	baz=64,slow=75,SNR=94							
H04N3	CROZET ISLANDS	58.44	219	T		T	20 00 56.7	
	baz=64,slow=75,SNR=104							
H04S1	CROZET ISLANDS	58.65	218	T		T	20 00 50.1	
	baz=63,slow=75,SNR=16							
H04S3	CROZET ISLANDS	58.67	218	T		T	20 00 51.9	
	baz=63,slow=75,SNR=33							
H04S2	CROZET ISLANDS	58.67	218	T		T	20 00 33.4	
	baz=63,slow=75,SNR=19							
HEH	HeiHe	60.94	18	*e*P		P	18 56 48.3	-1.1
KURBB	Kurchatov Arra	60.97	343	P		P	18 56 49.7	+0.1
	comp=Z,2.6nm,0.8s,baz=160,slow=6.6,SNR=6.3							
KURBB				LR		LR	19 25 56.5	
	comp=Z,22nm,18.4s,baz=168,slow=39							
	comp=Z,2.6nm,0.8s							
ZAA0	Zalesovo Array	62.47	348	P		P	18 56 59.6	0.0
ZALV	Zalesovo Beam	62.47	348	P		P	18 56 59.1	-0.5
ZALV	Zalesovo Beam	62.47	348	P		P	18 56 59.6	0.0
	comp=Z,12nm,0.9s,baz=178,slow=4.9,SNR=32							
	comp=Z,12nm,0.9s							
BVAR	Borovoye Array	65.65	339	P		P	18 57 20.3	-0.3
	comp=Z,1.4nm,0.5s,baz=138,slow=10,SNR=4.6							
	comp=Z,1.4nm,0.5s							
MAW	Mawson	66.17	195	P		P	18 57 21.0	-2.7
ABKAR	Akbulak array	67.14	331	P		P	18 57 29.4	-0.8
YAK	Yakutsk	71.92	13	P		P	18 57 58.3	-1.2
MARD	Mardin	72.38	313	P		P	18 57 58.7	-4.2
KLMR	Klimovskoe	83.33	334	*e*P		P	18 59 03.3	+0.1
KLMR				AMP			18 59 06.4	
	comp=Z,27nm,1.9s							
MNK	Minsk	86.78	326	*i* P		P	18 59 13.4	-7.3
	comp=Z,19nm,0.7s,baz=107							
MNK				*i* P		pP	18 59 13.6	-8.6
	comp=E,8.0nm,0.8s							
MNK				*i* P		pP	18 59 13.6	-8.6
	comp=N,23nm,1.1s							
MNK				*i* PP		PP	19 02 35.8	-7.4
MNK				*i* PPP		PPP	19 04 30.1	
MNK				*i* SKS			19 07 01.1	
MNK				*i* S		SKSac	19 09 39.8	-7.8
MNK				*i* SS		SS	19 15 31.0	-9.3
MNK				*i* SSS		SSS	19 19 07.3	
MNK				*i* LQ		LQ	19 31 33.7	
MNK				*i* LR		LR	19 35 07.1	
SNAA	Sanae	88.22	198	P		P	18 59 26.7	-0.8
SNAA				IAmb		IAmb	19 00 06.2	
	comp=Z,8.8nm,1.5s							
SNAA	Sanae	88.22	198	P		P	18 59 31.2	+3.6
	comp=Z,1.5nm,0.8s,baz=105,slow=7.8,SNR=8.2							
	comp=Z,1.5nm,0.8s							
KHC	Kasperske Hory	94.48	319	*e*P		P	18 59 51.0	-5.9
TXAR	Lajitas Array	146.79	45	PKPbc		PKPbc	19 06 21.1	+1.5
	comp=Z,1.5nm,0.9s,baz=298,slow=1.9,SNR=3.5							

SOME ***02*** *18:50:08.7,41˚.67N×72˚.65E,h10km*
KRNET ***02*** *18:50:08.5±0.1,41˚.65N×72˚.63E,h18km,mb3.5*
NNC ***02*** *18:50:09.1±1.0,41˚.68N×72˚.66E,h0km,mb4.4,mpv4.0, Error ellipse: s-maj=10.3km s-min=3.7km az=178.0*
KNET ***02*** *18:50:10.6±0.5,41˚.71N×72˚.81E,h6km±3km,ml3.4, Error ellipse: s-maj=5.9km s-min=3.3km az=131.0*
ISC 02 18:50:09.5±1.2,41˚.64N±0˚.03×72˚.61E±0˚.02,h6km±9km, n80,σ1§67/107,35C-26D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	Arkit	0.51	288	⇓*i*P	Pg	18 50 18.6	-0.7
	baz=87						
ARK				⇓*e*S	Sg	18 50 26.0	+0.1
	baz=87						
MNAS	Manas	0.85	355	⇑*e*P	Pg	18 50 24.6	-1.2
	baz=54						
MNAS				⇑*e*S	Sg	18 50 36.4	-0.4
	baz=54						
AML	Almayashu	0.94	59	⇑P	Pg	18 50 26.1	-1.5
	106nm,0.1s,SNR=56						
AML				⇓S	Sg	18 50 38.1	-1.8
	1μm,0.3s						
AML	Almayashu	0.94	59	⇓P	Pg	18 50 26.0	-1.7
	1.8nm,0.3s						
AML				⇓S	Sg	18 50 38.1	-1.8
	32nm,0.3s						
OHH	Osh	1.13	173	⇑*e*P	Pb	18 50 29.7	-1.7
	baz=74						
OHH				⇑*e*S	Sb	18 50 44.9	-1.4
	baz=74						
MRKS	Merke	1.19	22	P	Pb	18 50 30.8	-1.8
	89nm,0.3s						
MRKS				S	Sb	18 50 46.7	-1.6
	667nm,0.3s						
MRKS	Merke	1.19	22	*e*P	Pb	18 50 30.8	-1.8
	89nm,0.3s						
MRKS				*e*S	Sb	18 50 46.7	-1.6
	667nm,0.3s						
ARLS	Aral	1.30	80	⇑*e*P	Pn	18 50 32.4	-1.9
	baz=80						
ARLS				⇑*e*S	Sb	18 50 49.6	-1.8
	baz=80						
EKS2	Erkin-Say	1.34	40	⇑P	Pn	18 50 33.2	-1.6
	42nm,0.1s,SNR=172						
EKS2				⇓S	Sb	18 50 51.1	-1.4
	52nm,0.2s						
UCH	Uchtor	1.54	67	⇑P	Pn	18 50 36.7	-1.1
	49nm,0.1s,SNR=76						
UCH				⇑S	Sn	18 50 56.9	-1.4
	228nm,0.2s						
DZA	Taraz	1.57	323	P	Pn	18 50 38.1	+0.2
	108nm,0.1s						
DZA				S	Sn	18 50 59.1	+0.6
	907nm,0.3s						
DZA	Taraz	1.57	323	*e*P	Pn	18 50 38.1	+0.2
	108nm,0.1s						
DZA				*e*S	Sn	18 50 59.1	+0.6
	907nm,0.3s						
AAK	Ala-Archa	1.72	54	⇑P	Pn	18 50 40.0	-0.1
	4.1nm,0.1s,SNR=67						
AAK				⇑S	Sn	18 51 02.2	-0.2
	197nm,0.4s						
SFK	Sufi-Kurgan	1.77	157	⇓*e*P	Pn	18 50 40.9	+0.1
	baz=58						
SFK				⇓*e*S	Sn	18 51 04.4	+0.8
	baz=58						
FRU1	Bishkek	1.90	52	⇑*e*P	Pn	18 50 42.9	+0.4
	baz=51						
FRU1				⇑*e*S	Sn	18 51 07.8	+1.0
	baz=51						
IUG	Iuzhnay	1.99	286	*e*Pg	Pn	18 50 46.3	+2.5
	132nm,0.2s						
IUG				*e*Lg	Lg	18 51 12.8	
	321nm,0.3s						
KBK	Karagaybulak	2.01	59	⇑P	Pn	18 50 45.4	+1.3
	82nm,0.2s,SNR=43						
KBK				⇑S	Sb	18 51 11.8	-0.2
	442nm,0.3s						
BTK	Batken	2.09	221	⇑*e*P	Pn	18 50 46.0	+0.9
	baz=22						
BTK				⇑*e*S	Sn	18 51 13.2	+1.8
	baz=22						
CHMS	Chumysh	2.09	49	⇑P	Pn	18 50 46.4	+1.4
	61nm,0.2s,SNR=51						
CHMS				⇓S	Sb	18 51 14.5	+0.6
	143nm,0.3s						
CHMS	Chumysh	2.09	49	⇑Pn	Pn	18 50 46.2	+1.1
	29nm,0.3s						
CHMS				Pg	Pg	18 50 53.2	+3.7
	132nm,0.4s						
CHMS				⇓Sn	Sb	18 51 13.8	-0.2
	79nm,0.4s						
CHMS				Lg	Lg	18 51 25.0	
	497nm,0.5s						
KK31	Karatay Array	2.13	314	Pn	Pn	18 50 47.3	+1.6
	31nm,0.3s,baz=128,slow=14,SNR=1420						
KK31				⇓Sn	Sb	18 51 16.6	+1.4
	59nm,0.3s,baz=133,slow=26,SNR=8.2						
KKAR	Karatay Array	2.13	314	⇑*e*P	Pn	18 50 46.5	+0.9
	baz=13						
KKAR				⇑*e*S	Sn	18 51 14.2	+1.8
	baz=13						
USP	Ospenovka	2.14	40	⇑P	Pn	18 50 47.1	+1.3
	109nm,0.2s,SNR=245						
USP				⇓S	Sb	18 51 15.8	+0.2
	212nm,0.2s						
CHM	Chimkent	2.34	288	*e*Pg	Pb	18 50 53.2	+1.1
	132nm,0.4s						
CHM				*e*Lg	Lg	18 51 25.0	
	497nm,0.5s						
SGDS	Sogindy	2.34	39	Pg	Pn	18 50 51.3	+2.7
	62nm,0.3s						
SGDS				Lg	Lg	18 51 21.8	
	165nm,0.4s						
NRN	Naryn	2.55	94	⇑*e*P	Pn	18 50 51.7	0.0
	baz=94						
NRN				⇑*e*S	Sn	18 51 23.1	-0.2
	baz=94						
TKM2	Tokmak 2	2.56	59	⇑P	Pn	18 50 53.7	+2.0
	48nm,0.2s,SNR=84						
TKM2	Tokmak 2	2.56	59	⇓Pn	Pn	18 50 53.2	+1.6
	48nm,0.7s						
TKM2				⇑Lg	Lg	18 51 28.0	
	57nm,0.4s						
BOOM	Boomskoye usch	2.62	70	⇓*e*P	Pn	18 50 53.0	+0.5
	baz=70						
BOOM				⇓*e*S	Sn	18 51 25.2	+0.5
	baz=70						
ULHL	Ulahol	2.78	76	⇑P	Pn	18 50 55.9	+1.2
	17nm,0.2s,SNR=24						
DGS	Degeres	2.83	55	Pg	Pb	18 51 00.1	-0.4
	74nm,0.5s						
DGS				Lg	Lg	18 51 37.0	
	100nm,0.5s						
DGS	Degeres	2.83	55	*e*Pg	Pb	18 51 00.1	-0.4
	74nm,0.5s						
DGS				*e*Lg	Lg	18 51 37.0	
	100nm,0.5s						
KST	Kastek	2.85	60	Pg	Pb	18 51 00.4	-0.5
	36nm,0.2s						
KST				Lg	Lg	18 51 37.8	
	215nm,0.5s						
KST	Kastek	2.85	60	*e*Pg	Pb	18 51 00.4	-0.5
	36nm,0.2s						
KST				*e*Lg	Lg	18 51 37.8	
	215nm,0.5s						
KRBS	Karabastau	3.05	47	Pg	Pb	18 51 03.9	-0.3
	32nm,0.3s						
KRBS				Lg	Lg	18 51 43.7	
	74nm,0.4s						
KRBS	Karabastau	3.05	47	*e*Pg	Pb	18 51 03.9	-0.3
	32nm,0.3s						
KRBS				*e*Lg	Lg	18 51 43.7	
	74nm,0.4s						
MTBS	Maitube	3.20	61	Pg	Pb	18 51 06.5	-0.1
	34nm,0.3s						
MTBS				Lg	Lg	18 51 48.0	
	128nm,0.5s						
MTBS	Maitube	3.20	61	*e*Pg	Pb	18 51 06.5	-0.1
	34nm,0.3s						
MTBS				*e*Lg	Lg	18 51 48.0	
	128nm,0.5s						
IZV	Izvestkoviy	3.28	64	Pg	Pb	18 51 08.1	0.0
	28nm,0.3s						
IZV				Lg	Lg	18 51 50.4	
	132nm,0.5s						
IZV	Izvestkoviy	3.28	64	*e*Pg	Pb	18 51 08.1	0.0
	28nm,0.3s						
IZV				*e*Lg	Lg	18 51 50.5	
	132nm,0.5s						
KSH	Kashi	3.33	129	Pn	Pn	18 51 04.3	+2.1
KSH				Sn	Sn	18 51 44.6	+2.5
KSH				smax	smax		
	comp=N,78nm,1.0s						
KSH				smax	smax		
	comp=E,52nm,0.6s						
KASK	Kaskelen	3.37	61	⇑Pg	Pb	18 51 10.5	+0.8
KASK				⇓Lg	Lg	18 51 54.3	
TNSS	Tian-Shan	3.50	65	Pg	Pb	18 51 12.5	+0.3
	comp=E,32nm,0.3s						
TNSS				Lg	Lg	18 51 58.0	
	comp=E,68nm,0.5s						
TNSS	Tian-Shan	3.50	65	*e*Pg	Pb	18 51 12.5	+0.3
	comp=E,32nm,0.3s						
TNSS				*e*Lg	Lg	18 51 58.0	
	comp=E,68nm,0.5s						
AAA	Alma-Ata	3.55	62	Pg	Pb	18 51 13.5	+0.8
	comp=E,44nm,0.2s						
AAA				Lg	Lg	18 51 59.7	
	comp=E,275nm,0.5s						
AAA	Alma-Ata	3.55	62	*e*Pg	Pb	18 51 13.5	+0.8
	comp=E,44nm,0.2s						
AAA				*e*Lg	Lg	18 51 59.7	
	comp=E,275nm,0.5s						
BTLS	Baital	3.55	17	Pg	Pb	18 51 13.6	+0.8
	comp=E,12nm,0.1s						
BTLS				Lg	Lg	18 51 59.8	
	comp=E,7.9nm,0.6s						
BTLS	Baital	3.55	17	*e*Pg	Pb	18 51 13.6	+0.8
	comp=E,12nm,0.1s						
BTLS				*e*Lg	Lg	18 51 59.8	
	comp=E,7.9nm,0.6s						
KNDC	Almaty	3.59	63	⇑Pg	Pb	18 51 13.3	0.0
	comp=E,26nm,0.3s						
KNDC				⇓Lg	Lg	18 52 00.3	
	comp=E,234nm,0.6s						
KTBS	Karatobe	3.65	54	Pg	Pb	18 51 14.4	0.0
	comp=E,27nm,0.4s						
KTBS				Lg	Lg	18 52 01.5	
	comp=E,139nm,0.8s						
KTBS	Karatobe	3.65	54	*e*Pg	Pb	18 51 14.4	0.0
	comp=E,27nm,0.4s						
KTBS				*e*Lg	Lg	18 52 01.5	
	comp=E,139nm,0.8s						
KOTS	Kotyrbulak	3.69	63	Pg	Pb	18 51 15.8	+0.7
	comp=E,17nm,0.3s						
KOTS				Lg	Lg	18 52 04.0	
	comp=E,208nm,0.7s						
KOTS	Kotyrbulak	3.69	63	*e*Pg	Pb	18 51 15.8	+0.7
	comp=E,17nm,0.3s						
KOTS				*e*Lg	Lg	18 52 04.0	
	comp=E,208nm,0.7s						
ANVS	Anan'yevo	3.93	71	⇑*e*P	Pn	18 51 11.1	+0.7
	baz=71						
ANVS				⇑*e*S	Sn	18 51 57.2	+0.3
	baz=71						
PRZ	Przheval'sk	4.39	77	⇓*e*P	Pn	18 51 17.5	+0.6
	baz=77						
PRZ				⇓*e*S	Sn	18 52 07.9	-0.5
	baz=77						
KURS	Kuram	4.50	64	Pg	Pb	18 51 30.3	+1.4
	comp=E,8.2nm,0.5s						
KURS				Lg	Lg	18 52 28.9	
	comp=E,22nm,0.8s						
KURS	Kuram	4.50	64	*e*Pg	Pb	18 51 30.3	+1.4
	comp=E,8.2nm,0.5s						
KURS				*e*Lg	Lg	18 52 28.9	
	comp=E,22nm,0.8s						
SATY	Saty	4.52	70	Pg	Pb	18 51 31.4	+2.1
	comp=E,7.0nm,0.3s						
SATY				Lg	Lg	18 52 30.6	
	comp=E,46nm,0.6s						
SATY	Saty	4.52	70	*e*Pg	Pb	18 51 31.4	+2.1
	comp=E,7.0nm,0.3s						
SATY				*e*Lg	Lg	18 52 30.6	
	comp=E,46nm,0.6s						
ZHN	Zhinishke	4.58	69	Pg	Pb	18 51 32.3	+2.1
	comp=E,4.4nm,0.1s						
ZHN				Lg	Lg	18 52 32.0	
	comp=E,41nm,0.2s						
ZHN	Zhinishke	4.58	69	*e*Pg	Pb	18 51 32.3	+2.1
	comp=E,4.4nm,0.1s						
ZHN				*e*Lg	Lg	18 52 32.0	
	comp=E,41nm,0.2s						
ARXS	Arharly	4.61	54	Pg	Pb	18 51 32.8	+2.0
	comp=E,22nm,0.4s						
ARXS				Lg	Lg	18 52 32.6	
	comp=E,43nm,0.6s						
ARXS	Arharly	4.61	54	*e*Pg	Pb	18 51 32.8	+2.0
	comp=E,22nm,0.4s						
ARXS				*e*Lg	Lg	18 52 32.6	
	comp=E,43nm,0.6s						
KPKS	Kokpek	4.84	66	Pg	Pb	18 51 35.8	+1.1
	comp=E,8.6nm,0.3s						
KPKS				Lg	Lg	18 52 38.2	
	comp=E,79nm,0.5s						
KPKS	Kokpek	4.84	66	*e*Pg	Pb	18 51 35.8	+1.1
	comp=E,8.6nm,0.3s						
KPKS				*e*Lg	Lg	18 52 38.2	
	comp=E,79nm,0.5s						
BLB	Baldybastay	4.96	58	Pg	Pb	18 51 38.8	+2.0
	comp=E,6.1nm,0.2s						
BLB				Lg	Lg	18 52 43.1	
	comp=E,36nm,0.7s						
SHLS	Shalkode	5.29	71	Pg	Pg	18 51 52.3	+1.4
	comp=E,6.6nm,0.4s						
SHLS				Lg	Lg	18 53 06.7	
	comp=E,33nm,0.8s						
SHLS	Shalkode	5.29	71	*e*Pg	Pg	18 51 52.3	+1.4
	comp=E,6.6nm,0.4s						
SHLS				*e*Lg	Lg	18 53 06.7	
	comp=E,33nm,0.8s						
PDGK	Podgornoye	5.36	69	Pg	Pb	18 51 45.9	+2.3
	comp=E,2.0nm,0.3s						
PDGK				Lg	Lg	18 52 55.4	
	comp=E,12nm,0.7s						
PDGK	Podgornoye	5.36	69	⇑Pg	Pb	18 51 43.7	+0.1
	comp=E,7.5nm,0.8s						
PDGK				⇓Lg	Lg	18 52 55.7	
	comp=E,32nm,0.9s						
KNOS	Konyrlen	5.53	58	Pg	Pb	18 51 50.4	+3.9
	comp=E,11nm,0.2s						
KNOS				Lg	Lg	18 53 03.1	
	comp=E,21nm,0.9s						
DJR	Jarkent	5.91	61	Pg	Pb	18 51 57.1	+4.2
	comp=E,4.0nm,0.3s						
DJR				Lg	Lg	18 53 14.7	
	comp=E,18nm,0.7s						
DJR	Jarkent	5.91	61	*e*Pg	Pb	18 51 57.1	+4.2
	comp=E,4.0nm,0.3s						
DJR				*e*Lg	Lg	18 53 14.7	
	comp=E,18nm,0.7s						
KTMS	Ketmen	6.00	70	Pg	Pb	18 51 59.2	+4.8
	comp=E,1.0nm,0.2s						
KTMS				Lg	Lg	18 53 18.0	
	comp=E,8.7nm,0.4s						
KTMS	Ketmen	6.00	70	*e*Pg	Pb	18 51 59.2	+4.8
	comp=E,1.0nm,0.2s						
KTMS				*e*Lg	Lg	18 53 18.0	
	comp=E,8.7nm,0.4s						
OTUK	Ortayu	6.60	358	⇑Pn	Pn	18 51 46.8	-0.3
	comp=E,1.9nm,0.6s						
OTUK				⇓Lg	Lg	18 53 38.2	
	comp=E,31nm,0.6s						
MK31	Makanchi Array	8.65	50	⇓Pn	Pn	18 52 16.5	+1.4
	comp=E,5.1nm,0.7s,baz=232,slow=14,SNR=10						
MK31				⇓Lg	Lg	18 54 39.7	
	comp=E,3.7nm,0.7s						
KURK	Kurchatov	9.98	23	⇓Lg	Lg	18 55 24.6	
	comp=E,8.4nm,0.7s						
BVA0	Borovoye Array	11.48	353	⇓Lg	Lg	18 56 11.4	
	comp=E,8.7nm,0.8s						
AB31	Akbulak array	11.70	315	⇑Pn	Pn	18 52 55.3	-1.5
	comp=E,2.4nm,0.7s,baz=118,slow=13,SNR=23						
AB31				⇓Sn	Sn	18 55 03.2	-4.4
	comp=E,0.7nm,0.5s,baz=117,slow=24,SNR=5.7						

IDC ***02*** *19:00:19.6±2.3,33˚.60S×178˚.48W,h0km,mb3.7/2, mbtmp3.9/3,ML4.0/1,Error ellipse: s-maj=63.4km s-min=34.7km az=125.0*
WEL ***02*** *19:00:24.5±1.5,34˚.S±12˚×17˚.8W±1˚.7,h33km,M4.2/3, mB5.0/2,ML4.5/12,MLv4.2/3,Mw(mB)4.4/2,Error ellipse: s-maj=0.0km s-min=0.0km az=115.5,confirmed*
NEIC ***02*** *19:00:27.2±1.2,33˚.9S±0˚.1×178˚.79W±0˚.04,h35km±2km, mb4.4/9,Error ellipse: s-maj=23.1km s-min=6.0km az=6.0*
ISC 02 19:00:25.7±1.1,33˚.80S±0˚.09×178˚.3W±0˚.1,h35km,n33, σ1§93/39,mb4.3/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.64	215	Pn	Pn	19 01 28.1	-5.3
WMGZ	Waiomatatini S	4.80	212	P	Pn	19 01 36.9	+1.4
HAZ	Te Kaha	5.05	218	P	Pn	19 01 39.2	+0.3
HAZ				S	Sn	19 02 38.7	+2.6
PUZ	Puketiti	5.08	212	P	Pn	19 01 38.0	-1.4
PUZ				S	Sn	19 02 38.8	+2.0
RUGZ	Raukumara Rang	5.27	217	P	Pn	19 01 41.2	-0.8
RUGZ				S	Sn	19 02 43

URZ Sn **Sn** **19 02 54.0 0.0**
3.9nm,0.3s,baz=336,slow=21,SNR=8.5
13nm,0.3s
RIGZ Rimuhau 5.82 212 P **Pn** **19 01 49.7 +0.1**
PRGZ Paritu Road 5.95 210 P **Pn** **19 01 51.2 -0.1**
SNGZ Shannon Statio 6.07 214 P **Pn** **19 01 53.9 +0.9**
RTZ Ruatahuna 6.12 217 Pn **Pn** **19 01 49.4 -4.3**
NMHZ Naumai 6.58 215 P **Pn** **19 02 00.6 +0.6**
BKZ Black Stump Fm 6.78 216 Pn **Pn** **19 01 58.4 -4.4**
OUZ Omahuta 6.81 256 P **Pn** **19 02 05.0 +1.9**
BFZ Birch Farm 8.11 211 Pn **Pn** **19 02 18.9 -2.0**
MRZ Mangatainoka R 8.39 214 Pn **Pn** **19 02 22.1 -2.6**
AS31 Alice Springs 42.76 271 P **P** **19 08 17.3 -2.6**
ASAR Alice Springs 42.76 271 P **P** **19 08 17.6 -2.4**
ASAR Alice Springs 42.76 271 P **P** **19 08 17.9 -2.0**
0.6nm,0.7s,baz=112,slow=7.2,SNR=13
ASAR PcP **PcP** **19 10 09.9 -1.2**
0.2nm,0.4s,baz=124,slow=3.4,SNR=5.6
0.6nm,0.7s
WR0 Warramunga Arr 43.88 276 P **P** **19 08 26.7 -2.3**
WR0 IAmb IAmb 19 08 48.1
comp=Z,8.3nm,1.4s
WB2 Warramunga Arr 44.04 276 P **P** **19 08 28.0 -2.3**
WB2 IAmb IAmb 19 08 54.5
comp=Z,7.2nm,1.3s
WRA Warramunga Arr 44.05 276 P **P** **19 08 27.7 -2.7**
WRA Warramunga Arr 44.05 276 P **P** **19 08 28.2 -2.2**
comp=Z,0.5nm,0.3s,baz=117,slow=7.9,SNR=20
WRA PcP **PP** **19 10 14.3 +1.0**
comp=Z,0.3nm,0.9s,baz=121,slow=2.9,SNR=1.8
comp=Z,0.5nm,0.3s
WB0 Warramunga Arr 44.09 276 P **P** **19 08 28.6 -2.1**
WB0 IAmb IAmb 19 08 40.0
comp=Z,6.2nm,1.2s
KNRA Kununurra 50.77 277 P **P** **19 09 20.8 -1.8**
KNRA IAmb IAmb 19 09 46.7
comp=Z,9.8nm,1.2s
PMSA Palmer Station 69.30 155 P **P** **19 11 31.8 +2.8**
SNAA Sanae 74.77 179 P **P** **19 12 01.3 -0.5**
SNAA IAmb IAmb 19 12 21.6
comp=Z,7.1nm,1.5s
CAST Castle Rocks 99.12 12 P **Pdif** **19 14 04.1 +1.4**
FINES FINESS Array B 148.21 338 PKPbc **PKPdf** **19 20 05.1 +1.3**
comp=Z,5.8nm,1.1s,baz=48,slow=2.1,SNR=10.0

---

*IDC **02** 19:01:08.7±0.7,36°.85N×140°.39E, h0km, mb4.0/15, mbtmp4.0/17, ML3.9/2, MS2.7/5, Error ellipse: s-maj=18.4km s-min=14.9km az=98.0*
*NIED **02** 19:01:10.9, 36°.81N×140°.54E, h8km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.16; $M_{\theta\theta}$=4.77; $M_{r\theta}$=3.39; $M_{r\phi}$=3.58; $M_{\theta\phi}$=-0.53; $M_{\phi\phi}$=0.15; Fault plane solution: M_0=6.15000×10^{14} NP1: ϕ_s=272.00000°, δ=63.00000°, λ=-94.00000°. NP2: ϕ_s=101.00000°, δ=27.00000°, λ=-82.00000°.*
*JMA **02** 19:01:10.9±0.0, 36°.8N±0°.1×140°.5E±0°.2, h8km, MD4.2/20, MV4.3/20, NORTHERN IBARAKI PREF*
JMA Felt III J1 at NORTHERN IBARAKI PREF .
*NEIC **02** 19:01:13.1±2.6, 36°.82N±0°.04×140°.70E±0°.09, h38km±9km, mb4.3/12, Error ellipse: s-maj=10.8km s-min=5.3km az=109.0*
ISC 02 19:01:09.6±1.3, 36°.81N±0°.03×140°.48E±0°.03, h12km±8km, n106, σ1§20/77, mb4.2/21, MS2.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.21**	**160**	P	**Pg**	**19 01 15.0**	**+1.0**
JHO	**Hitachi**	**0.21**	**160**	A	A	19 01 15.0	
comp=E,29nm,0.7s,comp=N,50nm,1.5s							
JFFD	**Fukushimafurud**	**0.29**	**13**	*i P*	**Pb**	**19 01 16.5**	**-0.3**
JFFD				S	**Sb**	**19 01 20.4**	**-1.2**
JFFD	**Fukushimafurud**	**0.29**	**13**	A	A	19 01 16.5	
comp=E,12nm,0.6s,comp=N,13nm,1.5s							
ONAJ	**Iwakimizuishiy**	**0.39**	**41**	P	**Pb**	**19 01 17.9**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.39**	**41**	A	A	19 01 17.9	
comp=E,38nm,0.3s,comp=N,21nm,0.3s							
JHYU	**Hitachinakayam**	**0.47**	**169**	A	A	19 01 20.1	
comp=E,20nm,0.6s,comp=N,38nm,0.5s							
JSB	**Shiboa**	**0.48**	**290**	P	**Pn**	**19 01 21.7**	**-0.6**
JSB				S	**Sb**	**19 01 28.8**	**+1.9**
JSB	**Shiboa**	**0.48**	**290**	A	A	19 01 21.7	
comp=E,20nm,3.8s,comp=N,13nm,1.7s							
JYT	**Yasato**	**0.62**	**202**	P	**Pn**	**19 01 23.0**	**-1.1**
JYT				S	**Sb**	**19 01 31.7**	**+0.7**
JYT	**Yasato**	**0.62**	**202**	A	A	19 01 23.0	
comp=E,53nm,0.3s,comp=N,63nm,0.3s							
JFK	**Kawauchi**	**0.64**	**29**	P	**Pn**	**19 01 22.4**	**-2.2**
JFK				*eS*	**Sb**	**19 01 30.8**	**-1.0**
JFK	**Kawauchi**	**0.64**	**29**	A	A	19 01 22.4	
comp=E,7.0nm,3.4s,comp=N,7.0nm,3.7s							
JOTO	**OTAMA OYAMA**	**0.76**	**351**	P	**Pn**	**19 01 25.6**	**-0.6**
JOTO				*eS*	**Sb**	**19 01 35.9**	**+0.8**
JOTO	**OTAMA OYAMA**	**0.76**	**351**	A	A	19 01 25.6	
comp=E,28nm,0.4s,comp=N,22nm,0.3s							
JIHU	**Itakohorinouch**	**0.84**	**177**	A	A	19 01 27.0	
comp=E,28nm,3.5s,comp=N,39nm,6.0s							
JFY	**Yanaizu**	**0.86**	**314**	P	**Pn**	**19 01 27.6**	**0.0**
JAG	**Ashikaga**	**0.91**	**246**	P	**Pn**	**19 01 28.2**	**+0.1**
JAG	**Ashikaga**	**0.91**	**246**	A	A	19 01 28.2	
comp=E,4.0nm,1.4s,comp=N,5.0nm,0.3s							
JMST	**Minamisoumatoc**	**0.97**	**19**	A	A	19 01 29.0	
comp=E,8.0nm,0.4s,comp=N,6.0nm,1.7s							
JMM	**Marumori**	**1.09**	**13**		**Pn**	**19 01 30.4**	**-0.3**
JMM				Sn	**Sb**	**19 01 44.1**	**-0.4**
JMM	**Marumori**	**1.09**	**13**	P	**Pn**	**19 01 30.5**	**-0.1**
JMM	**Marumori**	**1.09**	**13**	A	A	19 01 31.2	
comp=E,10.0nm,0.3s,comp=N,12nm,0.4s							
JYAR	**Yonezawaarcadi**	**1.14**	**347**	A	A	19 01 32.3	
comp=E,7.0nm,2.5s,comp=N,6.0nm,1.1s							
JSMT	**Sammumatsuo**	**1.16**	**181**	A	A	19 01 32.7	
comp=E,24nm,0.2s,comp=N,30nm,0.3s							
TOK	**Tokyo**	**1.26**	**208**	A	A	19 01 34.7	
comp=E,29nm,0.3s,comp=N,13nm,0.3s							
JHU	**Hanno**	**1.36**	**226**	A	A	19 01 36.4	
comp=E,3.0nm,2.0s,comp=N,4.0nm,1.4s							
JNS	**Sasagawa**	**1.37**	**318**	A	A	19 01 36.6	
comp=E,3.0nm,1.4s,comp=N,4.0nm,1.3s							
JCN	**Nagara**	**1.40**	**189**	A	A	19 01 36.7	
comp=E,13nm,1.2s,comp=N,12nm,1.1s							
JYS	**Shiratake**	**1.45**	**347**	A	A	19 01 37.5	
comp=E,8.0nm,0.8s,comp=N,6.0nm,0.4s							
JGK	**Kuni**	**1.50**	**261**	A	A	19 01 38.8	
comp=E,5.0nm,1.1s,comp=N,5.0nm,1.1s							
JOU	**Okura**	**1.56**	**5**	A	A	19 01 39.0	
comp=E,13nm,0.7s,comp=N,16nm,0.5s							
JOFO	**Osakifurukawao**	**1.83**	**11**	A	A	19 01 42.9	
comp=E,18nm,4.7s,comp=N,23nm,1.1s							
TATJ	**Tateyama 2**	**1.83**	**195**	A	A	19 01 43.3	
comp=E,6.0nm,2.8s,comp=N,5.0nm,3.8s							
MJAR	**Matsushiro Arr**	**1.84**	**262**	Pn	**Pb**	**19 01 42.5**	**-0.7**
comp=N,8.2nm,0.3s,baz=86,slow=15,SNR=111							
MJAR				Sn	**Sn**	**19 02 06.4**	**+2.1**
comp=N,19nm,0.3s,baz=113,slow=18,SNR=8.1							
MAJO	**Matsushiro**	**1.84**	**263**	Pn	**Pg**	**19 01 44.3**	**-0.7**
MAJO				Sn	**Sb**	**19 02 08.1**	**+1.8**
MAJO	**Matsushiro**	**1.84**	**263**	P	**Pg**	**19 01 44.3**	**-0.7**
MJB9	**Matsu-Tunnel**	**1.85**	**263**	Pn	**Pg**	**19 01 45.2**	**+0.2**
JJN	**Nakama**	**1.88**	**280**	A	A	19 01 44.5	
comp=E,3.0nm,0.9s,comp=N,2.0nm,1.0s							
JYA	**Atsumi**	**1.89**	**341**	A	A	19 01 44.1	
comp=E,7.0nm,1.7s,comp=N,6.0nm,1.7s							
JOD2	**Odawara 2**	**1.91**	**217**	A	A	19 01 44.7	
comp=E,3.0nm,1.7s,comp=N,3.0nm,2.9s							
JYK	**Kaneyama**	**2.11**	**357**	A	A	19 01 47.2	
comp=E,4.0nm,1.0s,comp=N,7.0nm,1.1s							
JSD	**Sado**	**2.15**	**306**		**Pb**	**19 01 47.5**	**-1.0**
JSD	**Sado**	**2.15**	**306**	P	**Pb**	**19 01 48.9**	**+0.4**
JHTM	**Izuhatsuma**	**2.19**	**213**	A	A	19 01 48.8	
comp=E,6.0nm,5.0s,comp=N,5.0nm,0.9s							
JYYZ	**Yamagatayuza**	**2.25**	**349**	A	A	19 01 49.3	
comp=E,6.0nm,1.7s,comp=N,7.0nm,1.9s							
JGF	**Kuroka**	**2.80**	**245**		**Pb**	**19 01 58.1**	**-1.3**
JGF	**Kuroka**	**2.80**	**245**	P	**Pb**	**19 01 58.2**	**-1.3**
JSG	**Sagara**	**2.83**	**222**	Pn	**Pn**	**19 01 54.7**	**+0.2**
JSG	**Sagara**	**2.83**	**222**	P	**Pb**	**19 01 59.0**	**-1.0**
INU	**Inuyama**	**3.16**	**244**		**Pb**	**19 02 02.3**	**-3.4**
INU	**Inuyama**	**3.16**	**244**	P	**Pb**	**19 02 03.0**	**-2.6**
JHJ	**Hachijo jima 2**	**3.72**	**189**	Pn	**Pn**	**19 02 08.6**	**+1.7**
comp=N,36nm,0.3s,baz=0.0,slow=6.1,SNR=14							
JHJ				Sn	**Sn**	**19 02 50.3**	**-0.3**
comp=N,34nm,0.3s,baz=228,slow=23,SNR=6.9							
comp=N,76nm,0.3s							
JHJ2	**Mitsune**	**3.72**	**189**	Pn	**Pn**	**19 02 09.0**	**+2.2**
JHJ2	**Mitsune**	**3.72**	**189**	P	**Pn**	**19 02 09.3**	**+2.4**
JTM	**Tenmabayashi**	**4.00**	**6**		**Pn**	**19 02 13.6**	**+2.9**
JTM	**Tenmabayashi**	**4.00**	**6**	P	Pb	19 02 14.6	-5.4
ERM	**Erimo**	**5.60**	**21**	Pn	**Pn**	**19 02 32.3**	**-0.3**
ERM	**Erimo**	**5.60**	**21**	P	**Pn**	**19 02 34.1**	**+1.5**
JMN	**Monobe**	**6.21**	**242**	Pn	**Pn**	**19 02 40.4**	**-0.7**
ASAJ	**Asahikawa**	**7.48**	**12**	Pn	**Pn**	**19 02 59.6**	**+1.2**
comp=N,1.4nm,0.3s,baz=265,slow=9.0,SNR=20							
ASAJ				Sn	**Sn**	**19 04 23.4**	**+0.2**
comp=N,0.8nm,0.3s,baz=156,slow=32,SNR=1.6							
comp=N,12nm,0.4s							
JKA	**Kamikawa-asahi**	**7.48**	**12**		**Pn**	**19 02 59.6**	**+1.2**
JNU	**Nakatsue**	**8.69**	**248**	LR	LR	19 06 50.2	
comp=N,62nm,18.6s,baz=53,slow=40							
JCJ	**Chichijima**	**9.79**	**171**	Pn	**Pn**	**19 03 29.0**	**-1.2**
JCJ	**Chichijima**	**9.79**	**171**	P	**Pn**	**19 03 31.5**	**+1.3**
JCJ	**Chichijima**	**9.79**	**171**	Pn	Pn	19 03 25.0	-5.2
comp=N,12nm,0.3s,baz=310,slow=18,SNR=10.0							
JCJ				Sn	Sn	19 05 06.2	-14
comp=N,3.0nm,0.3s,baz=346,slow=22,SNR=1.0							
USRK	**Ussuriysk Ar.**	**9.81**	**321**	Pn	Pn	19 03 39.7	+9.3
comp=N,0.2nm,0.3s,baz=127,slow=11,SNR=5.0							
KSRS	**Korea Array**	**10.05**	**277**	Pn	Pn	19 03 41.4	+7.7
comp=N,0.1nm,0.3s,baz=88,slow=14,SNR=4.3							
KLR	**Kul'dur**	**13.95**	**336**	Pn	**P**	**19 04 34.8**	**-0.3**
comp=N,0.2nm,0.3s,baz=131,slow=9.3,SNR=3.7							
KLR				LR	LR	19 09 13.3	
comp=N,21nm,20.0s,baz=63,slow=35							
YULB	**Yu-li**	**21.26**	**236**	P	**P**	**19 05 56.2**	**+0.5**
GUMO	**Guam**	**23.45**	**169**	LR	LR	19 15 12.7	
comp=N,23nm,19.2s,baz=324,slow=36							
MA2	**Magadan**	**23.74**	**13**	LR	LR	19 17 01.8	
comp=N,9.3nm,18.5s,baz=67,slow=40							
YAK	**Yakutsk**	**26.14**	**348**	P	**P**	**19 06 43.2**	**0.0**
YAK				IAmb	IAmb	19 06 48.3	
comp=Z,8.8nm,1.0s							
SONM	**Songino Array**	**27.30**	**305**	P	**P**	**19 06 53.4**	**-0.6**
comp=Z,1.5nm,0.8s,baz=95,slow=8.3,SNR=6.2							
comp=Z,1.5nm,0.8s							
TIXI	**Tiksi**	**35.43**	**354**	P	**P**	**19 08 03.5**	**-1.6**
TIXI				IAmb	IAmb	19 08 31.6	
comp=Z,2.6nm,0.8s							
FAKI	**Fak Fak**	**40.26**	**193**	P	**P**	**19 08 46.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**40.71**	**255**	P	**P**	**19 08 51.0**	**+0.7**
comp=Z,0.3nm,0.5s,baz=58,slow=7.5,SNR=4.0							
CMAR				LR	LR	19 27 36.6	
comp=Z,10nm,20.0s,baz=165,slow=39							
comp=Z,0.3nm,0.5s							
ZAA0	**Zalesovo Array**	**41.52**	**313**	P	**P**	**19 08 55.6**	**-0.8**
ZAA0				IAmb	IAmb	19 08 59.2	
comp=Z,4.9nm,1.4s							
ZALV	**Zalesovo Beam**	**41.52**	**313**	P	**P**	**19 08 55.3**	**-1.2**
ZALV	**Zalesovo Beam**	**41.52**	**313**	P	**P**	**19 08 56.3**	**-0.1**
comp=Z,1.8nm,0.6s,baz=95,slow=7.6,SNR=6.8							
comp=Z,1.8nm,0.6s							
MKAR	**Makanchi Array**	**43.61**	**302**	P	**P**	**19 09 12.1**	**-1.5**
MKAR	**Makanchi Array**	**43.61**	**302**	P	**P**	**19 09 13.8**	**+0.2**
comp=Z,0.7nm,0.6s,baz=84,slow=9.6,SNR=5.1							
comp=Z,0.7nm,0.6s							
MAKZ	**Makanchi**	**43.82**	**302**	P	**P**	**19 09 14.5**	**-0.8**
MAKZ				IAmb	IAmb	19 09 46.4	
comp=Z,9.9nm,1.5s							
KURBB	**Kurchatov Arra**	**45.55**	**308**	P	**P**	**19 09 29.5**	**+0.5**
comp=Z,0.9nm,0.3s,baz=83,slow=8.0,SNR=9.1							
comp=Z,0.9nm,0.3s							
CAST	**Castle Rocks**	**47.83**	**34**	P	**P**	**19 09 45.8**	**-0.9**
CAST				IAmb	IAmb	19 09 53.9	
comp=Z,8.2nm,1.5s							
ILAR	**Eielson Array**	**50.09**	**32**	P	**P**	**19 10 06.7**	**+2.7**
comp=Z,0.8nm,0.8s,baz=272,slow=6.2,SNR=8.1							
comp=Z,0.8nm,0.8s							
BVAR	**Borovoye Array**	**50.17**	**312**	P	**P**	**19 10 05.5**	**+0.7**
comp=Z,0.6nm,0.5s,baz=72,slow=9.3,SNR=3.7							
comp=Z,0.6nm,0.5s							
WB0	**Warramunga Arr**	**56.56**	**187**	P	**P**	**19 10 52.4**	**+0.4**
WR0	**Warramunga Arr**	**56.73**	**187**	P	**P**	**19 10 53.9**	**+0.7**
WR0				IAmb	IAmb	19 10 58.2	
comp=Z,6.8nm,1.2s							
WB2	**Warramunga Arr**	**56.74**	**187**	P	**P**	**19 10 54.0**	**+0.7**
WRA	**Warramunga Arr**	**56.74**	**187**	P	**P**	**19 10 53.7**	**+0.4**
WRA	**Warramunga Arr**	**56.74**	**187**	P	**P**	**19 10 53.9**	**+0.6**
comp=Z,2.3nm,0.5s,baz=4.4,slow=7.3,SNR=46							
comp=Z,2.3nm,0.5s							
ABKAR	**Abkulak array**	**57.51**	**310**	P	**P**	**19 10 58.8**	**+0.2**
AS31	**Alice Springs**	**60.46**	**187**	P	**P**	**19 11 19.6**	**+0.4**
ASAR	**Alice Springs**	**60.47**	**187**	P	**P**	**19 11 18.9**	**-0.3**
ASAR	**Alice Springs**	**60.47**	**187**	P	**P**	**19 11 20.1**	**+0.8**
comp=Z,1.8nm,0.9s,baz=1.7,slow=4.6,SNR=12							
comp=Z,1.8nm,0.9s							
ARCES	**ARCESS Array B**	**63.95**	**339**	P	**P**	**19 11 43.1**	**+1.0**
comp=Z,4.4nm,1.0s,baz=47,slow=8.0,SNR=1.8							
comp=Z,4.4nm,1.0s							
FINES	**FINESS Array B**	**68.67**	**332**	P	**P**	**19 12 13.3**	**+0.9**
comp=Z,1.5nm,0.8s,baz=42,slow=11,SNR=1.2							
comp=Z,1.5nm,0.8s							
HFS	**Hagfors**	**73.99**	**335**	P	**P**	**19 12 44.7**	**+0.1**
comp=Z,5.0nm,1.0s,baz=72,slow=4.7,SNR=7.1							
comp=Z,5.0nm,1.0s							
AKASG	**Malin Array Be**	**74.02**	**322**	P	**P**	**19 12 43.8**	**-1.1**
comp=Z,1.1nm,0.6s,baz=47,slow=6.1,SNR=4.4							
comp=Z,1.1nm,0.6s							
NOA	**NORSAR Array B**	**74.11**	**337**	P	**P**	**19 12 45.2**	**-0.1**
comp=Z,0.6nm,0.6s,baz=42,slow=6.0,SNR=1.6							
comp=Z,0.6nm,0.6s							
TXAR	**Lajitas Array**	**90.85**	**52**	P	**P**	**19 14 14.8**	**+1.5**
comp=Z,0.9nm,0.7s,baz=270,slow=1.8,SNR=6.2							
comp=Z,0.9nm,0.7s							
LPAZ	**La Paz**	**147.45**	**59**	PKPbc	**PKiKP**	**19 20 56.0**	**-0.8**
comp=Z,1.6nm,0.6s,baz=9.7,slow=3.5,SNR=5.9							
H03N2	**Juan Fernandez**	**147.75**	**96**	T	T	22 05 48.8	
baz=291,slow=76,SNR=22							
H03N3	**Juan Fernandez**	**147.76**	**96**	T	T	22 05 55.0	
baz=291,slow=76,SNR=28							
H03N1	**Juan Fernandez**	**147.76**	**96**	T	T	22 05 49.5	
baz=291,slow=76,SNR=29							

---

*IDC **02** 19:07:57.5±2.3, 43°.57N×105°.24W, h0km, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=53.2km s-min=11.0km az=151.0*
*NEIC **02** 19:07:59.5±1.3, 43°.70N±0°.03×105°.25W±0°.03, h0km±2km, ML3.4/100, Error ellipse: s-maj=7.0km s-min=3.1km az=34.0*
ISC 02 19:07:58.4±1.0, 43°.77N±0°.05×105°.27W±0°.05, h0km, n64, σ1§08/62, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**68**		**Pn**	**19 08 18.5**	**-0.8**
K22A	**Casper**	**1.44**	**220**		**Pn**	**19 08 24.8**	**-1.1**
PHWY	**Pilot Hill**	**2.47**	**183**		**Pn**	**19 08 39.9**	**-0.1**
PHWY				IAML		19 09 25.3	
150nm,0.8s							
RWWY	**Rawlins**	**2.52**	**215**		**Pn**	**19 08 41.9**	**+1.1**
N23A	**Red Feather La**	**2.91**	**190**		**Pn**	**19 08 46.8**	**+0.6**
N23A				IAML		19 09 31.6	
comp=N,162nm,0.8s							
LAO	**LASA Array**	**3.00**	**347**	Pn	**Pn**	**19 08 46.4**	**-0.9**
RLMT	**Red Lodge**	**3.17**	**297**		**Pn**	**19 08 51.1**	**+1.4**
RLMT				IAML		19 09 56.7	
comp=N,63nm,1.0s							
RLMT				IAML		19 10 01.6	
comp=N,74nm,1.1s							
BRIGG	**Briggsdale**	**3.26**	**167**		**Pn**	**19 08 50.4**	**-0.5**
PD31	**Pinedale Array**	**3.29**	**254**		**Pn**	**19 08 53.2**	**+1.9**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**19 08 53.1**	**+1.7**
comp=N,2.5nm,0.3s,baz=77,slow=18,SNR=31							
PDAR				Lg	Lg	19 09 39.9	
comp=N,8.1nm,0.3s,baz=75,slow=35,SNR=1.7							
comp=N,2.5nm,0.3s							
BW06	**Boulder Array**	**3.29**	**254**	Pn	**Pn**	**19 08 52.6**	**+1.3**
YMP	**Mirror Lake Pl**	**3.65**	**287**		**Pn**	**19 08 57.3**	**+1.0**
OGNE	**Ogallala**	**3.70**	**139**		**Pn**	**19 08 56.0**	**-0.8**
LKWY	**Lake**	**3.78**	**284**		**Pb**	**19 09 05.3**	**-0.8**
LKWY				IAML		19 09 23.8	
comp=N,50nm,0.8s							
LKWY				IAML		19 09 31.7	
comp=N,75nm,1.2s							
LOHW	**Long Hollow**	**3.87**	**270**		**Pb**	**19 09 08.3**	**+0.7**
LOHW				IAML		19 10 11.8	
comp=N,36nm,0.9s							
H17A	**Grant Village**	**3.88**	**281**		**Pb**	**19 09 08.4**	**+0.7**
H17A				IAML		19 09 31.5	
comp=E,38nm,1.4s							
H17A				IAML		19 10 19.0	
comp=N,43nm,0.7s							
FLWY	**Flagg Ranch**	**3.94**	**277**		**Pb**	**19 09 10.1**	**+1.4**
FLWY				IAML		19 10 11.1	
comp=N,66nm,3.6s							
FLWY				IAML		19 10 39.4	
comp=N,48nm,2.7s							
MOOW	**Moose Ponds**	**3.97**	**272**		**Pn**	**19 08 59.3**	**-1.3**
ISCO	**Idaho Springs**	**3.97**	**184**		**Pn**	**19 09 02.3**	**+1.5**
SNOW	**Snow King Moun**	**4.00**	**268**		**Pb**	**19 09 09.3**	**-0.5**
SNOW				IAML		19 10 46.3	
comp=N,64nm,1.7s							
YNR	**Norris Junctio**	**4.00**	**286**		**Pn**	**19 09 01.1**	**0.0**
YFT	**Old Faithful**	**4.07**	**282**		**Pn**	**19 09 00.7**	**-1.4**
YFT				IAML		19 09 34.8	
comp=E,44nm,1.4s							
YFT				IAML		19 09 37.4	
comp=N,39nm,1.0s							
REDW	**Red Top Meadow**	**4.08**	**266**		**Pn**	**19 09 01.8**	**-0.4**
IMW	**Indian Meadow**	**4.11**	**274**		**Pn**	**19 09 02.1**	**-0.5**
IMW				IAML		19 10 18.6	
comp=N,44nm,0.5s							
IMW				IAML		19 10 33.8	
comp=N,32nm,1.0s							
TPAW	**Teton Pass**	**4.13**	**268**		**Pn**	**19 09 02.0**	**-1.0**
TPAW				IAML		19 10 31.0	
comp=N,40nm,1.0s							
TPAW				IAML		19 10 32.7	
comp=N,57nm,0.8s							
YHH	**Holmes Hill**	**4.14**	**286**		**Pn**	**19 09 03.0**	**-0.1**
FXWY	**Fox Creek**	**4.18**	**270**		**Pn**	**19 09 01.8**	**-1.7**
O20A	**White River Ci**	**4.25**	**212**		**Pn**	**19 09 05.1**	**+0.6**
ID10	**Lander Cutoff**	**4.30**	**255**		**Pn**	**19 09 04.4**	**-0.9**
ID10				IAML		19 10 30.5	
comp=N,49nm,1.0s							
AHID	**Auburn Hatcher**	**4.38**	**259**		**Pn**	**19 09 05.2**	**-1.0**
AHID				IAML		19 10 30.2	
comp=N,41nm,0.7s							
YHL	**Hebgen Lake**	**4.38**	**286**		**Pb**	**19 09 15.2**	**-1.2**
YHL				IAML		19 10 54.4	
comp=N,42nm,0.9s							
YHL				IAML		19 10 58.1	
comp=E,35nm,0.9s							
RDMU	**Red Mountain**	**4.52**	**227**		**Pb**	**19 09 18.6**	**-0.1**
RDMU				IAML		19 10 30.0	
comp=N,30nm,1.4s							
SUSD	**Miller**	**4.60**	**79**	Pn	**Pn**	**19 09 09.6**	**+0.5**
ID09	**Alton**	**4.60**	**253**		**Pn**	**19 09 08.6**	**-0.8**
ID09				IAML		19 10 36.4	
comp=N,24nm,0.8s							
ID09				IAML		19 10 37.5	
comp=N,40nm,1.0s							
ID05	**Sulphur Canyon**	**4.66**	**258**		**Pn**	**19 09 09.8**	**-0.5**
ID05				IAML		19 10 47.3	
comp=N,37nm,1.9s							
SMCO	**Snowmass**	**4.76**	**196**		**Pn**	**19 09 10.4**	**-1.2**
SMCO				IAML		19 10 41.2	
comp=N,24nm,1.1s							
SMCO				IAML		19 10 42.0	
comp=N,35nm,1.0s							
DGMT	**Dagmar**	**4.76**	**9**		**Pn**	**19 09 11.2**	**-0.2**
BOZ	**Bozeman (W)**	**4.89**	**294**		**Pb**	**19 09 24.8**	**-0.2**
BOZ				IAML		19 10 55.0	
comp=N,17nm,0.9s							
BOZ				IAML		19 10 55.3	
comp=N,17nm,1.1s							
K31A	**O'Neill**	**4.90**	**101**		**Pn**	**19 09 11.5**	**-1.7**
HWUT	**Hardware Ranch**	**5.12**	**247**		**Pn**	**19 09 16.5**	**+0.1**
HWUT				IAML		19 11 36.8	
comp=N,29nm,1.4s							
ID07	**Smith Canyon R**	**5.13**	**258**		**Pn**	**19 09 14.8**	**-1.9**
ID07				IAML		19 12 26.8	
comp=N,15nm,3.5s							
KSCO	**Kaye Shedlock'**	**5.15**	**156**		**Pb**	**19 09 29.9**	**+0.6**
BSUT	**Blindstream Ca**	**5.20**	**234**		**Pn**	**19 09 19.7**	**+1.9**
BSUT				IAML		19 11 02.3	
comp=E,24nm,2.6s							
BSUT				IAML		19 11 38.1	
comp=N,15nm,3.7s							
TCUT	**Toone Canyon**	**5.26**	**242**		**Pn**	**19 09 19.9**	**+1.5**
P18A	**Preston Nutter**	**5.56**	**224**	Pn	**Pn**	**19 09 21.0**	**-1.7**
HVU	**Hansel Valley**	**5.87**	**253**		**Pn**	**19 09 26.2**	**-0.6**
LYMT	**Lyon Mountain**	**5.89**	**305**	Pn	**Pn**	**19 09 26.1**	**-1.0**
SDCO	**Great Sand Dun**	**6.02**	**182**		**Pn**	**19 09 28.8**	**-0.1**
MPU	**Maple Canyon**	**6.05**	**234**		**Pn**	**19 09 28.9**	**-0.3**
SRU	**San Rafael Swe**	**6.10**	**222**		**Pn**	**19 09 30.8**	**+0.9**
S22A	**4UR Ranch, Cre**	**6.13**	**192**		**Pn**	**19 09 29.0**	**-1.4**
**ECSD

comp=Z,1.3nm,0.9s,baz=172,slow=10,SNR=3.1
comp=Z,1.3nm,0.9s
MJAR Matsushiro Arr 35.29 16 P P 19 35 22.6 -0.2
comp=Z,0.4nm,0.4s,baz=196,slow=10,SNR=2.5
comp=Z,0.4nm,0.4s
STKA Stephens Creek 37.05 159 P **P 19 35 36.6 -1.1**
STKA Stephens Creek 37.05 159 P **P 19 35 37.1 -0.7**
comp=Z,1.0nm,0.4s,baz=358,slow=6.7,SNR=9.1
comp=Z,1.0nm,0.4s
SHL Shillong 40.70 307 P **P 19 36 07.6 -1.1**
SHL IAmb IAmb 19 36 09.7
comp=Z,4.0nm,0.8s
LSA Lhasa 43.32 312 P **P 19 36 31.1 +0.8**
LSA IAmb IAmb 19 36 33.0
comp=Z,2.3nm,0.7s
SONM Songino Array 48.39 342 P **P 19 37 10.1 +0.5**
SONM Songino Array 48.39 342 P **P 19 37 10.5 +1.0**
comp=Z,0.8nm,0.7s,baz=150,slow=7.9,SNR=5.4
comp=Z,0.8nm,0.7s
MK31 Makanchi Array 58.56 326 P **P 19 38 24.3 +0.2**
MKAR Makanchi Array 58.56 326 P **P 19 38 23.2 -0.9**
MKAR Makanchi Array 58.56 326 P **P 19 38 24.9 +0.8**
comp=Z,1.7nm,0.6s,baz=123,slow=8.3,SNR=16
comp=Z,1.7nm,0.6s
YAK Yakutsk 59.27 1 P **P 19 38 30.8 +2.2**
NRN Naryn 59.77 317 P **P 19 38 33.5 +0.6**
NRN IAmb IAmb 19 38 34.3
comp=Z,1.6nm,0.8s
BOOM Boomskoye usch 60.28 319 P **P 19 38 37.6 +1.4**
BOOM IAmb IAmb 19 39 07.0
comp=Z,3.1nm,1.3s
ZAA0 Zalesovo Array 61.65 333 P **P 19 38 44.1 -0.8**
ZAA0 IAmb IAmb 19 38 49.7
comp=Z,2.1nm,0.9s
ZALV Zalesovo Beam 61.65 333 P **P 19 38 43.0 -2.0**
ZALV Zalesovo Beam 61.65 333 P **P 19 38 44.2 -0.7**
comp=Z,0.6nm,0.4s,baz=131,slow=7.8,SNR=2.8
comp=Z,0.6nm,0.4s
KURBB Kurchatov Arra 62.76 328 P **P 19 38 53.5 +0.9**
comp=Z,3.2nm,0.6s,baz=132,slow=6.4,SNR=47
comp=Z,3.2nm,0.6s
KURK Kurchatov 62.77 328 P **P 19 38 52.8 +0.2**
KKAR Karatay Array 64.17 317 P **P 19 39 02.6 +0.5**
KKAR Karatay Array 64.17 317 P **P 19 39 01.4 -0.6**
KKAR IAmb IAmb 19 39 04.2
comp=Z,1.6nm,0.8s
BVAR Borovoye Array 68.34 327 P **P 19 39 29.4 +0.9**
comp=Z,1.9nm,0.8s,baz=122,slow=7.7,SNR=5.4
comp=Z,1.9nm,0.8s
ABKAR Abkulak array 73.12 321 P **P 19 39 57.7 0.0**
ARU Arti 75.96 328 P **P 19 40 13.3 -0.7**

ISC 02 19:29:59.4±1.0, 45°.11N±0°.03×14°.50E±0°.03, h15km±9km, n11, σ0°.44/20, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.22**	**357**	*e*Pg	**Pg**	**19 30 04.0**	**-0.4**
RIY				Sg	**Sg**	**19 30 07.6**	**-0.1**
SMRN	**Sveta Marina**	**0.25**	**254**	*e*Pg	**Pg**	**19 30 04.8**	**-0.1**
SMRN				Sg	**Sg**	**19 30 08.9**	**+0.3**
RABC	**Rab**	**0.41**	**150**	*e*Pg	**Pg**	**19 30 07.8**	**+0.2**
RABC				Sg	**Sb**	**19 30 14.2**	**-0.1**
KNDS	**Knezji Dol**	**0.43**	**349**	*i* Pg	**Pg**	**19 30 07.9**	**-0.1**
KNDS				*i* Sg	**Sb**	**19 30 15.1**	**0.0**
KNDS				IAML		19 30 15.4	
comp=Z,3.7nm,0.1s
GBRS Gornja Briga 0.48 27 *i* Pg **Pg 19 30 09.2 +0.3**
GBRS *i* Sg **Sb 19 30 17.0 +0.6**
GBRS IAML 19 30 17.7
comp=Z,2.2nm,0.1s
A253A Karojba, Istri 0.52 291 *e*Pg **Pg 19 30 09.4 -0.2**
A253A Sg **Sb 19 30 17.4 -0.1**
SKDS Skadanscina 0.56 322 *i* Pg **Pg 19 30 09.8 -0.6**
SKDS *e*Sg **Sb 19 30 18.6 -0.1**
SKDS IAML 19 30 19.2
comp=Z,3.0nm,0.1s
BRJN Brijuni 0.57 250 *e*Pg **Pb 19 30 11.7 +0.6**
BRJN Sg **Sb 19 30 18.9 0.0**
NVLJ Novalja 0.60 154 *e*Pg **Pg 19 30 11.3 +0.1**
NVLJ Sg **Sb 19 30 20.6 +0.7**
VIRC Vir 0.90 154 *e*Pg **Pg 19 30 16.0 -0.8**
DUGI Dugi Otok 1.18 160 *e*Pg **Pb 19 30 20.9 -0.6**

NEIC 02 19:55:01.5±1.2, 35°.66N±0°.02×102°.26W±0°.04, h5km±1km, mb_Lg2.7/38, Error ellipse: s-maj=6.0km s-min=2.9km az=54.0, Northwestern Texas-Oklahoma border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMTX	**Amarillo**	**0.91**	**149**		Pg	19 55 18.6	-0.3
MSTX	**Muleshoe**	**1.74**	**194**	Pn	Pn	19 55 31.6	-0.9
MSTX					Sn	19 55 54.9	-0.3
DKNS	**Dickens**	**2.27**	**151**	Pn	Pn	19 55 39.4	-0.4
DKNS					Sn	19 56 09.2	+0.9
T25A	**Trinidad**	**2.28**	**311**		Pn	19 55 39.8	-0.2
T25A					Sn	19 56 09.2	+0.7
ELIS	**Ellis County**	**2.34**	**79**	Pn	Pn	19 55 41.9	+1.2
ELIS				IAmb_Lg		19 56 14.5	
comp=Z,21nm,0.8s
POST Post 2.67 166 Pn 19 55 44.7 -0.5
POST IAmb_Lg 19 56 29.2
comp=Z,37nm,0.8s
U32A Winter Ranch, 2.73 74 Pn Pn 19 55 45.5 -0.6
U32A IAmb_Lg 19 56 29.4
comp=Z,17nm,0.8s
APMT Aspermont 2.92 142 Pn 19 55 48.2 -0.5
APMT IAmb_Lg 19 56 33.5
comp=Z,8.7nm,0.7s
WMOK Wichita Mounta 2.99 107 Pn 19 55 50.3 +0.6
OK035 E0210 Rd and N 3.05 69 Pn Pn 19 55 48.8 -1.7
SDCO Great Sand Dun 3.33 310 Pb 19 56 01.3 0.0
KSCO Kaye Shedlock' 3.35 355 Pn Pn 19 55 54.2 -0.6
KSCO IAmb_Lg 19 56 48.3
comp=Z,19nm,0.7s
ANMO Albuquerque 3.51 259 Pn Pn 19 55 56.4 -0.5
ODSA Odessa 3.54 184 Pn Pn 19 55 55.9 -1.3
ODSA IAmb_Lg 19 57 01.6
comp=Z,17nm,1.0s
WTFS Witchita Falls 3.65 120 Pn Pn 19 55 58.1 -0.6
WTFS IAmb_Lg 19 56 58.7
comp=Z,11nm,1.0s
ABTX Abilene, Hawle 3.73 144 Pn Pn 19 55 59.4 -0.4
CBKS Cedar Bluff 3.73 32 Pn Pn 19 55 59.5 -0.3
CBKS IAmb_Lg 19 57 09.6
comp=Z,19nm,0.7s
SGCY Sterling City 3.86 166 Pn Pn 19 56 01.7 +0.2
SGCY Pb 19 56 10.2 +0.2
SGCY IAmb_Lg 19 57 08.6
comp=Z,36nm,1.0s
R32A Long Quarter, 3.95 45 IAmb_Lg 19 57 16.4
comp=Z,24nm,1.0s
PECS Pecos 4.49 198 IAmb_Lg 19 57 31.6
comp=Z,15nm,0.7s
MNTX Cornudas Mount 4.73 214 Pn 19 56 12.2 -1.4
MNTX IAmb_Lg 19 57 33.6
comp=Z,13nm,0.7s
OZNA Ozona 4.82 168 Pn Pn 19 56 12.3 -2.6
OZNA IAmb_Lg 19 57 46.2
comp=Z,12nm,0.7s
BRDY Brady 5.14 147 Pn Pn 19 56 18.3 -0.9
BRDY IAmb_Lg 19 57 43.1
comp=Z,10nm,0.8s
425A Indio Mountain 5.37 206 Pn 19 56 19.0 -3.5
425A IAmb_Lg 19 57 55.2
comp=Z,12nm,0.8s
ALPN Alpine 5.40 193 IAmb_Lg 19 58 06.8
comp=Z,8.3nm,1.1s
JCT Junction City 5.56 158 IAmb_Lg 19 58 01.5
comp=Z,15nm,0.8s
KSU1 Kansas State U 5.66 51 IAmb_Lg 19 58 10.7
comp=Z,14nm,0.8s
SAND Sanderson 5.69 179 Pn Pn 19 56 23.4 -3.4
SAND IAmb_Lg 19 58 10.5
comp=Z,14nm,1.1s
N23A Red Feather La 5.97 332 IAmb_Lg 19 58 15.7
comp=Z,12nm,0.8s
DRIO Del Rio 6.37 167 IAmb_Lg 19 58 35.3
comp=Z,12nm,0.9s
TX31 Lajitas Ar. Si 6.42 191 Pn Pn 19 56 34.8 -2.0
TX32 Lajitas Array 6.42 191 Pn 19 56 35.4 -1.5
TXAR Lajitas Array 6.42 191 Pn Pn 19 56 35.0 -1.8
HNDO Hondo 6.61 157 IAmb_Lg 19 58 36.5
comp=Z,8.2nm,0.7s

IDC 02 19:55:41.0±1.8, 2°.63S×130°.06E, h0km, mb3.7/3, mbtmp3.7/4, ML3.5/1, MS2.8/1, Error ellipse: s-maj=144.0km s-min=24.7km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.70**	**167**	P	Pn	19 59 47.4	-1.8
0.2nm,0.3s,baz=347,slow=12,SNR=6.0
0.6nm,0.4s
ASAR Alice Springs 21.24 170 P P 20 00 28.2 -0.6
1.6nm,0.6s,baz=346,slow=10.0,SNR=11
ASAR PcP PcP 20 04 35.2 +0.8
1.5nm,1.3s,baz=7.9,slow=2.0,SNR=4.4
1.6nm,0.6s
MJAR Matsushiro Arr 39.70 10 LR LR 20 18 18.6
comp=Z,14nm,19.0s,baz=357,slow=34
MKAR Makanchi Array 64.65 326 P P 20 06 20.6 0.0
0.2nm,0.4s,baz=115,slow=8.3,SNR=2.0
0.2nm,0.4s
KURBB Kurchatov Arra 68.86 328 P P 20 06 47.4 0.0
0.5nm,0.2s,baz=125,slow=5.8,SNR=6.2
0.5nm,0.2s

---

*NOU **02** 20:19:13.4, 17°.86S×177°.74W, h750km, MLv3.9/4, Fiji Islands Region*
*IDC **02** 20:19:23.7±1.3, 17°.94S×178°.41W, h647km±14km, mb3.3/11, mbtmp4.3/14, Error ellipse: s-maj=28.3km s-min=13.4km az=147.0*
*NEIC **02** 20:19:23.5±1.0, 17°.87S±0°.09×178°.3W±0°.1, h647km±9km, mb4.5/23, Error ellipse: s-maj=20.7km s-min=8.2km az=57.0*
ISC 02 20:19:23.2±0.5, 18°.0S±0°.1×178°.33W±0°.09, h650km, n94, σ0°.92/96, mb4.2/23, 13C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.53**	**241**	P	**P**	**20 20 38.4**	**-0.1**
TAVE	**Taveuni**	**1.96**	**310**	P	**P**	**20 20 42.1**	**+0.1**
DGTI	**Dogotuki**	**2.49**	**312**	P	**P**	**20 20 43.7**	**-0.5**
MSVF	**Nonsavu**	**3.46**	**273**	P	**P**	**20 20 49.3**	**+0.1**
MSVF	**Nonsavu**	**3.46**	**273**	P	**P**	**20 20 49.5**	**+0.4**
MSVF	**Nonsavu**	**3.46**	**273**	P	**P**	**20 20 49.6**	**+0.5**
81nm,0.6s,baz=146,slow=1.8,SNR=53
AFI Afiamalu 7.49 58 P **P 20 21 19.1 -0.8**
105nm,0.9s,baz=243,slow=6.8,SNR=6.0
NIUE Niue 8.05 99 P **P 20 21 24.1 -0.6**
MARNC Mare, Loyalty 13.31 253 P **P 20 22 13.2 -0.7**
LIFNC LIFOU 13.90 256 P **P 20 22 19.5 +0.1**
PINNC Pines Island, 14.12 249 P **P 20 22 21.1 -0.2**
OUENC Ouen Island, N 14.60 250 P **P 20 22 24.3 -1.5**
DZM Mont Dzumac 14.88 252 P **P 20 22 27.2 -1.2**
DZM Mont Dzumac 14.88 252 P **P 20 22 29.0 +0.6**
16nm,0.8s,baz=78,slow=17,SNR=7.7
QRZ Quartz Range 24.09 197 P **P 20 23 50.4 -0.5**
PLWZ Palliser 24.15 192 P **P 20 23 49.9 -1.6**
KHZ Kahutara 25.33 194 P **P 20 24 00.7 -1.0**
GVZ Greta Valley S 25.97 195 P **P 20 24 06.4 -0.9**
LTZ Lake Taylor 25.98 196 P **P 20 24 06.2 -1.4**
LTZ IAmb IAmb 20 24 37.4
comp=Z,35nm,1.2s
INZ Inchbonnie 26.16 197 P **P 20 24 07.8 -1.2**
INZ IAmb IAmb 20 24 10.2
comp=Z,53nm,1.2s
EIDS Eidsvold 29.31 250 P **P 20 24 36.5 -0.1**
EIDS IAmb IAmb 20 24 44.0
comp=Z,29nm,1.4s
MLZ Mavora Lakes 29.56 200 P **P 20 24 39.5 +1.1**
ARMA Armidale 29.97 240 P **P 20 24 43.3 +1.0**
ARMA IAmb IAmb 20 24 44.1
comp=Z,16nm,1.1s
CTA Charters Tower 33.51 261 P **P 20 25 12.1 0.0**
comp=Z,4.8nm,0.6s,baz=89,slow=11,SNR=4.0
comp=Z,4.8nm,0.6s
CTAO Charters Tower 33.51 261 P **P 20 25 12.1 0.0**
CTAO IAmb IAmb 20 25 12.7
comp=Z,5.3nm,0.6s
CAN Canberra 33.72 233 P **P 20 25 13.8 +0.1**
CAN IAmb IAmb 20 25 20.3
comp=Z,26nm,1.4s
COEN Coen 37.18 270 P **P 20 25 43.3 +0.9**
COEN IAmb IAmb 20 25 44.0
comp=Z,12nm,0.7s
STKA Stephens Creek 38.66 241 P **P 20 25 55.0 +0.9**
STKA Stephens Creek 38.66 241 P **P 20 25 54.9 +0.9**
comp=Z,1.7nm,0.3s,baz=96,slow=8.7,SNR=13
comp=Z,1.7nm,0.3s
BBOO Buckleboo 43.44 241 P **P 20 26 31.9 +0.4**
BBOO IAmb IAmb 20 27 09.3
comp=Z,33nm,1.4s
WR0 Warramunga Arr 44.50 260 P **P 20 26 39.6 -0.3**
WB0 Warramunga Arr 44.66 260 P **P 20 26 40.6 -0.5**
WB0 IAmb IAmb 20 26 41.3
comp=Z,4.0nm,0.5s
WB2 Warramunga Arr 44.68 260 P **P 20 26 40.9 -0.3**
WRA Warramunga Arr 44.69 260 P **P 20 26 40.6 -0.7**
WRA Warramunga Arr 44.69 260 P **P 20 26 41.0 -0.3**
comp=Z,1.8nm,0.3s,baz=96,slow=7.4,SNR=120
WRA PcP **PcP 20 28 09.2 +0.1**
comp=Z,0.5nm,0.4s,baz=86,slow=3.2,SNR=5.4
comp=Z,1.8nm,0.3s
AS31 Alice Springs 44.84 254 P **P 20 26 42.6 +0.1**
ASAR Alice Springs 44.84 254 P **P 20 26 42.1 -0.4**
ASAR Alice Springs 44.84 254 P **P 20 26 42.6 +0.1**
comp=Z,5.6nm,0.4s,baz=87,slow=8.6,SNR=157
ASAR PcP **PcP 20 28 09.9 +0.3**
comp=Z,1.4nm,0.6s,baz=106,slow=3.7,SNR=9.0
comp=Z,5.6nm,0.4s
FORT Forrest 50.05 245 P **P 20 27 20.8 -0.1**
FORT IAmb IAmb 20 27 47.1
comp=Z,15nm,0.9s
KNRA Kununurra 50.56 264 P **P 20 27 24.8 0.0**
KNRA IAmb IAmb 20 27 45.8
comp=Z,11nm,1.3s
MJAR Matsushiro Arr 68.01 323 P **P 20 29 19.8 -0.1**
comp=Z,1.2nm,0.6s,baz=145,slow=6.0,SNR=3.5
comp=Z,1.2nm,0.6s
QSPA South Pole Qui 72.08 180 P **P 20 29 45.2 +1.6**
QSPA IAmb IAmb 20 29 45.9
comp=Z,6.0nm,0.9s
SSLB Suanglung 72.34 303 P **P 20 29 45.2 -0.5**
SSLB IAmb IAmb 20 29 45.7
comp=Z,6.0nm,0.6s
PEA0B Petropavlovsk- 73.77 345 P **P 20 29 53.2 +0.2**
PETK Petropavlovsk- 73.77 345 P **P 20 29 52.7 -0.3**
PETK Petropavlovsk- 73.77 345 P **P 20 29 53.2 +0.2**
comp=Z,1.9nm,0.6s,baz=112,slow=8.7,SNR=6.2
comp=Z,1.9nm,0.6s
ILAR Eielson Array 85.94 13 P **P 20 30 56.0 0.0**
comp=Z,0.7nm,0.5s,baz=224,slow=4.4,SNR=12
comp=Z,0.7nm,0.5s
TXAR Lajitas Array 85.97 58 P **P 20 30 59.8 +2.7**
comp=Z,1.1nm,0.7s,baz=220,slow=6.9,SNR=14
comp=Z,1.1nm,0.7s
PDAR Pinedale Array 87.35 43 P **P 20 31 04.8 +1.4**
comp=Z,0.6nm,0.6s,baz=197,slow=5.0,SNR=5.6
comp=Z,0.6nm,0.6s
CMAR Chiang Mai Arr 88.98 290 P **P 20 31 13.1 +1.9**
comp=Z,0.5nm,0.6s,baz=90,slow=2.7,SNR=5.2
comp=Z,0.5nm,0.6s
SNAA Sanae 90.53 179 P **P 20 31 17.8 +0.3**
comp=Z,0.9nm,0.6s,baz=193,slow=14,SNR=7.0
comp=Z,0.9nm,0.6s
BVAR Borovoye Array 116.94 321 PKP **PKPdf 20 36 54.5 -1.1**
comp=Z,0.9nm,0.4s,baz=47,slow=1.0,SNR=5.2
ARCES ARCESS Array B 126.40 350 PKP **PKPdf 20 37 13.5 +0.2**
comp=Z,3.3nm,0.8s,baz=45,slow=0.3,SNR=6.2
FINES FINESS Array B 133.27 344 PKP **PKPdf 20 37 26.1 -0.4**
comp=Z,2.6nm,0.8s,baz=64,slow=3.2,SNR=4.4
EKA Eskdalemuir Ar 142.53 5 PKP **PKPdf 20 37 42.2 -1.4**
comp=Z,2.2nm,0.9s,baz=8.4,slow=2.4,SNR=1.7
SORM Soroca 142.89 330 ⇑P **PKPdf 20 37 42.8 -1.7**
BNN Bunyan 143.75 312 PKPbc 20 37 44.1 -1.8
KWP Kalwaria Pacla 144.16 337 PKPab 20 37 47.2 0.0
BUR08 Bucovina Ar. S 144.69 332 PKPdf 20 37 46.8 -1.0
OJC Ojcow 144.70 340 PKPdf **PKPdf 20 37 46.1 -1.4**
BURAR Bucovina Array 144.71 332 ⇑P **PKPab 20 37 49.8 +0.3**
BURAR Bucovina Array 144.71 332 PKPdf **PKPdf 20 37 46.2 -1.5**
TESR Tescani 144.85 330 ⇑P **PKPab 20 37 49.8 -0.1**
BRTR Keskin Array B 144.88 315 PKPdf **PKPdf 20 37 47.2 -1.2**
BRTR Keskin Array B 144.88 315 PKPbc **PKPab 20 37 51.6 +1.1**
comp=Z,0.8nm,0.5s,baz=220,slow=32,SNR=2.3
TPGR Topolog 145.10 326 ⇑P **PKPab 20 37 51.0 0.0**
TRPA Tarpa 145.44 335 ⇑P **PKPab 20 37 51.6 -0.5**
OSTC Ostas 145.48 344 *e*PKP **PKPab 20 37 52.3 0.0**
CLL Collm 145.55 347 PKPdf **PKPdf 20 37 46.8 -2.2**
DPC Dobruska-Polom 145.63 343 *e*PKP **PKPab 20 37 52.5 -0.4**
DOPR Dopca 145.85 330 ⇑P **PKPab 20 37 53.1 -0.8**
MLR Muntele Rosu 145.93 329 ⇑P **PKPbc 20 37 51.5 -0.6**
MLR Muntele Rosu 145.93 329 PKPdf **PKPdf 20 37 48.9 -1.1**
MMAI Mount Meron Ar 146.24 303 PKPbc **PKPbc 20 37 54.5 +1.2**
comp=Z,2.7nm,0.5s,baz=68,slow=4.6,SNR=5.9
MARR Marisel-Cluj 146.35 333 ⇓P **PKPbc 20 37 53.1 -0.1**
PRU Pruhonice 146.43 345 *e*PKP **PKiKP 20 37 54.3 -0.9**
ARR Arges 146.65 330 ⇑P **PKiKP 20 37 55.7 -0.2**
BORIA Eskisehir 146.91 317 PKPdf **PKPdf 20 37 50.6 -1.1**
CSS Mathiatis 147.18 307 PKPdf **PKPdf 20 37 49.3 -2.9**
SIRR Siria 147.29 334 ⇑P **PKiKP 20 37 56.7 -0.4**
KHC Kasperske Hory 147.46 345 PKPbc 20 37 56.4 +0.5
KHC Kasperske Hory 147.46 345 *e*PKP **PKiKP 20 37 57.2 -0.2**
GZR Gura Zlata 147.49 332 ⇑P **PKPbc 20 37 56.1 -0.1**
CKRC Cesky Krumlov 147.57 344 *e*PKP **PKiKP 20 37 57.2 -0.4**
GEC2 GERESS Array S 147.70 345 PKPbc **PKPbc 20 37 57.1 +0.5**
GERES GERESS Array B 147.70 345 PKPbc **PKiKP 20 37 57.5 -0.5**
comp=Z,0.9nm,0.8s,baz=34,slow=3.3,SNR=5.3
HERR Herculane 148.05 332 ⇑P **PKiKP 20 37 58.3 -0.4**
BOVS Bovan 149.34 331 ⇑P **PKPbc 20 38 00.2 -0.4**
VTS Vitosha 149.35 328 ⇑P **PKPbc 20 38 01.0 +0.1**
DIVS Divibare 149.74 333 PKPdf **PKPdf 20 37 54.3 -1.9**
DIVS **PKiKP 20 38 02.1 -0.2**
STAL STALIGIAL 150.35 344 PKPbc 20 38 03.0 0.0
FUORN Ofenpass-Fuorn 150.57 348 PKiKP 20 38 04.8 +0.6
FNA Florina 151.64 327 PKPbc 20 38 06.1 0.0
TORD Torodi Ar. Bea 175.20 180 PKP **PKPdf 20 38 19.3 -1.8**
comp=Z,0.5nm,0.8s,baz=170,slow=2.5,SNR=3.0

KRSC 02 20:46:35.5±0.5, 53°.86N×168°.92E, h61km±25km, Ml3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.19**	**309**	*e*S	Sn	20 47 37.4	+2.0
MKZ	**Mys Kozlova**	**4.28**	**282**	*e*P	Pn	20 47 41.1	+3.1
MKZ				*e*S	Sn	20 48 29.5	+2.9
SMKR	**Semkarok**	**5.07**	**306**	*e*P	Pn	20 47 53.0	+4.1
TUMD	**Tumrok D**	**5.14**	**289**	*e*P	Pn	20 47 54.2	+4.3
TUMD				*e*S	Sn	20 48 51.1	+3.3
KZV	**Kizimen**	**5.19**	**288**	*e*P	Pn	20 47 53.9	+3.3
KZV				*e*S	Sn	20 48 51.6	+2.5
TUMR	**Tumrok**	**5.30**	**289**	*e*P	Pn	20 47 56.7	+4.6
KMNR	**Kamenistaya**	**5.37**	**294**	*e*P	Pn	20 47 56.9	+3.8
KII	**Karymskiy**	**5.60**	**276**	*e*P	Pn	20 48 00.5	+4.4
SMAR	**Somma**	**6.06**	**268**	*e*P	Pn	20 48 06.0	+3.4
AVH	**Avacha**	**6.10**	**269**	*e*P	Pn	20 48 07.6	+4.6
KRX	**Arik**	**6.14**	**270**	*e*P	Pn	20 48 07.7	+4.2
KRMR	**Karymshinskiy**	**6.55**	**265**	*e*P	Pn	20 48 12.1	+3.1
KRMR				*e*S	Sn	20 49 26.2	+4.0
GRL	**Gorelyy**	**6.65**	**263**	*e*P	Pn	20 48 15.3	+4.7

---

*IDC **02** 21:20:12.0±0.6, 56°.03N×163°.28E, h0km, mb4.2/25, mbtmp4.2/28, ML3.8/3, MS3.4/16, Error ellipse: s-maj=17.2km s-min=12.7km az=138.0*
*KRSC **02** 21:20:12.9±1.1, 55°.83N×163°.62E, h16km±15km, Mc4.8, Ml4.7*
*NEIC **02** 21:20:13.8±2.0, 56°.0N±0°.1×163°.4E±0°.2, h14km±5km, mb4.5/50, Error ellipse: s-maj=21.1km s-min=12.9km az=136.0*
*MOS **02** 21:20:14.1±1.1, 56°.03N×163°.73E, h34km, mb4.8/19, MS3.7/5, Error ellipse: s-maj=6.9km s-min=5.0km az=59.5*
ISC 02 21:20:15.5±0.9, 55°.98N±0°.04×163°.54E±0°.04, h27km±5km, n232, σ1°.43/244, mb4.5/63, MS3.4/17, 16C-6D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.46**	**300**	PN	**Pb**	**21 20 23.9**	**-1.3**
KBTR	**Krutoberegovo**	**0.46**	**300**	*e*P	**Pb**	**21 20 23.9**	**-1.3**
KBG	**Krutoberegovo**	**0.54**	**301**	PN	**Pb**	**21 20 25.3**	**-1.2**
KBG				S	**Sb**	**21 20 33.6**	**-0.3**
KBG	**Krutoberegovo**	**0.54**	**301**	*e*P	**Pb**	**21 20 25.3**	**-1.2**
KBG				*e*S	**Sb**	**21 20 33.6**	**-0.3**
SMKR	**Semkarok**	**1.30**	**299**	PN	**Pn**	**21 20 38.3**	**+0.4**
SMKR				S	**Sb**	**21 20 57.1**	**+1.4**
SMKR	**Semkarok**	**1.30**	**299**	*e*P	**Pn**	**21 20 38.3**	**+0.4**
SMKR				*e*S	**Sb**	**21 20 57.1**	**+1.4**
BDR	**Baidarnaya**	**1.43**	**296**	PN	**Pn**	**21 20 40.5**	**+0.8**
BDR				S	**Sb**	**21 21 01.1**	**+1.9**
BDR	**Baidarnaya**	**1.43**	**296**	*e*P	**Pn**	**21 20 40.5**	**+0.8**
BDR				*e*S	**Sb**	**21 21 01.1**	**+1.9**
SRKR	**Sorokina**	**1.48**	**298**	PN	**Pn**	**21 20 41.4**	**+1.0**
SRKR	**Sorokina**	**1.48**	**298**	*e*P	**Pn**	**21 20 41.4**	**+1.0**
CIRR	**Tsirk**	**1.57**	**276**	PN	**Pn**	**21 20 42.2**	**+0.5**
CIRR	**Tsirk**	**1.57**	**276**	*e*P	**Pn**	**21 20 42.2**	**+0.5**
BKI	**Bering**	**1.58**	**118**	*e*S	**Sn**	**21 20 59.5**	**-1.8**
BZGR	**Bezymyannyi-Gr**	**1.60**	**270**	PN	**Pn**	**21 20 42.4**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.60**	**270**	*e*P	**Pn**	**21 20 42.4**	**+0.4**
KLY	**Klyuchi**	**1.65**	**283**	PN	**Pn**	**21 20 41.9**	**-0.7**
KLY				S	**Sn**	**21 21 02.2**	**-0.6**
KLY	**Klyuchi**	**1.65**	**283**	*e*P	**Pn**	**21 20 41.9**	**-0.7**
KLY				*e*S	**Sn**	**21 21 02.2**	**-0.6**
KRSR	**Krestovskiy**	**1.68**	**279**	PN	**Pn**	**21 20 44.0**	**+0.9**
KRSR	**Krestovskiy**	**1.68**	**279**	*e*P	**Pn**	**21 20 44.0**	**+0.9**
BZWR	**Bezymyannyi-We**	**1.71**	**271**	PN	**Pn**	**21 20 43.6**	**0.0**
BZWR	**Bezymyannyi-We**	**1.71**	**271**	*e*P	**Pn**	**21 20 43.6**	**0.0**
BZMR	**Bezymyannaya**	**1.71**	**270**	PN	**Pn**	**21 20 44.2**	**+0.6**
BZMR	**Bezymyannaya**	**1.71**	**270**	*e*P	**Pn**	**21 20 44.2**	**+0.6**
MKZ	**Mys Kozlova**	**1.76**	**217**	PN	**Pn**	**21 20 42.8**	**-1.3**
MKZ	**Mys Kozlova**	**1.76**	**217**	*e*P	**Pn**	**21 20 42.8**	**-1.3**
KIRR	**Kirishev**	**1.80**	**271**	PN	**Pn**	**21 20 45.9**	**+1.1**
KIRR	**Kirishev**	**1.80**	**271**	*e*P	**Pn**	**21 20 45.9**	**+1.1**
KPT	**Kopyto**	**1.86**	**271**	PN	**Pn**	**21 20 46.7**	**+1.1**
KPT	**Kopyto**	**1.86**	**271**	*e*P	**Pn**	**21 20 46.7**	**+1.1**
KMNR	**Kamenistaya**	**1.87**	**265**	PN	**Pn**	**21 20 47.2**	**+1.4**
KMNR				S	**Sb**	**21 21 12.1**	**+0.1**
KMNR	**Kamenistaya**	**1.87**	**265**	*e*P	**Pn**	**21 20 47.2**	**+1.4**
KMNR				*e*S	**Sb**	**21 21 12.1**	**+0.1**
TUMD	**Tumrok D**	**1.94**	**248**	*e*P	**Pn**	**21 20 47.5**	**+0.8**
KZV	**Kizimen**	**2.04**	**246**	PN	**Pn**	**21 20 48.5**	**+0.4**
KZV	**Kizimen**	**2.04**	**246**	*e*P	**Pn**	**21 20 48.5**	**+0.4**
TUMR	**Tumrok**	**2.04**	**252**	PN	**Pn**	**21 20 49.3**	**+1.1**
TUMR	**Tumrok**	**2.04**	**252**	*e*P	**Pn**	**21 20 49.3**	**+1.1**
KOZ	**Kozyrevsk**	**2.06**	**274**	PN	**Pn**	**21 20 49.6**	**+1.4**
KOZ	**Kozyrevsk**	**2.06**	**274**	*e*P	**Pn**	**21 20 49.6**	**+1.4**
SRDR	**Sredinnyy**	**2.16**	**281**	PN	**Pn**	**21 20 51.2**	**+1.5**
SRDR	**Sredinnyy**	**2.16**	**281**	*e*P	**Pn**	**21 20 51.2**	**+1.5**
ESO	**Esso**	**2.72**	**271**	PN	**Pn**	**21 20 58.5**	**+1.2**
ESO	**Esso**	**2.72**	**271**	*e*P	**Pn**	**21 20 58.5**	**+1.2**
KII	**Karymskiy**	**3.05**	**232**	PN	**Pn**	**21 21 02.8**	**+0.9**
KII	**Karymskiy**	**3.05**	**232**	*e*P	**Pn**	**21 21 02.8**	**+0.9**
SPN	**Mys Shipunski**	**3.54**	**217**	PN	**Pn**	**21 21 07.4**	**-1.1**
SPN	**Mys Shipunski**	**3.54**	**217**	*e*P	**Pn**	**21 21 07.4**	**-1.1**
SPN				*e*S	**Sn**	**21 21 47.5**	**-1.9**
NLC	**Nalytchevo**	**3.72**	**223**	PN	**Pn**	**21 21 12.8**	**+1.7**
NLC	**Nalytchevo**	**3.72**	**223**	*e*P	**Pn**	**21 21 12.8**	**+1.7**
SDLR	**Sedlovina**	**3.82**	**227**	PN	**Pn**	**21 21 13.6**	**+1.0**
SDLR	**Sedlovina**	**3.82**	**227**	*e*P	**Pn**	**21 21 13.6**	**+1.0**
KRER	**Koryakskii**	**3.86**	**228**	PN	**Pn**	**21 21 14.3**	**+1.1**
KRER	**Koryakskii**	**3.86**	**228**	*e*P	**Pn**	**21 21 14.3**	**+1.1**
KRX	**Arik**	**3.86**	**229**	PN	**Pn**	**21 21 13.6**	**+0.5**
KRX	**Arik**	**3.86**	**229**	*e*P	**Pn**	**21 21 13.6**	**+0.5**
SMAR	**Somma**	**3.87**	**227**	PN	**Pn**	**21 21 14.1**	**+0.8

PETK Petropavlovsk- 4.45 232 PN **Pn 21 21 21.5 +0.4**
PETK Petropavlovsk- 4.45 232 Pn **Pn 21 21 20.7 -0.4**
comp=Z,3.2nm,0.3s,baz=277,slow=32,SNR=51
PETK Sn **Sn 21 22 14.3 +2.3**
comp=Z,1.9nm,0.3s,baz=45,slow=44,SNR=1.1
comp=Z,8.0nm,0.6s
KRMR Karymshinskiy 4.46 227 PN **Pn 21 21 22.4 +1.2**
KRMR Karymshinskiy 4.46 227 *e*P **Pn 21 21 22.4 +1.2**
GRL Gorelyy 4.69 225 PN **Pn 21 21 26.5 +1.9**
GRL Gorelyy 4.69 225 *e*P **Pn 21 21 26.5 +1.9**
APC Apacha 4.81 233 PN **Pn 21 21 29.7 +3.6**
APC Apacha 4.81 233 *e*P **Pn 21 21 29.7 +3.6**
SKR Severo-Kuril's 6.92 223 *e*PN **Pn 21 21 57.0 +2.1**
SKR pmax pmax
comp=Z,147nm,0.8s
SKR MLR MLR
comp=Z,1μm,15.0s
SHEM Shemya Is, Ala 6.98 113 Pn **Pn 21 21 58.3 +2.6**
comp=Z,2.9nm,0.3s,baz=292,slow=19,SNR=1.7
comp=Z,68nm,1.0s
MA2 Magadan 7.72 303 LR LR 21 25 23.7
comp=Z,185nm,18.5s,baz=105,slow=41
YSS Yuzh-Sakhalins 15.73 244 *e*P **P 21 23 59.5 +0.8**
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS MLR MLR
comp=Z,800nm,14.0s
JKA Kamikawa-asahi 17.85 237 **Pn 21 24 20.8 -0.8**
ASAJ Asahikawa 17.85 237 P **Pn 21 24 21.2 -0.4**
comp=Z,1.1nm,0.3s,baz=56,slow=6.7,SNR=15
comp=Z,18nm,0.8s
YAK Yakutsk 18.30 303*ce*P **Pn 21 24 27.1 +0.2**
YAK pmax pmax
comp=Z,53nm,2.5s
ERM Erimo 19.23 232 P **P 21 24 35.1 -2.2**
ERM IAmb IAmb 21 24 50.6
comp=Z,66nm,1.4s
ERM Erimo 19.23 232 P **P 21 24 35.1 -2.2**
ERM pmax pmax
comp=Z,66nm,1.4s
KLR Kul'dur 20.32 264 P **P 21 24 48.5 -0.6**
comp=Z,1.4nm,0.6s,baz=84,slow=8.3,SNR=3.9
KLR LR LR 21 33 10.6
comp=Z,95nm,19.4s,baz=74,slow=39
comp=Z,1.4nm,0.6s
JTM Tenmabayashi 21.15 234 P **P 21 24 55.3 -2.9**
TIXI Tiksi 21.42 330 P **P 21 25 00.4 -0.4**
TIXI IAmb IAmb 21 25 05.8
comp=Z,14nm,0.9s
TIXI Tiksi 21.42 330*ce*P **P 21 25 02.0 +1.2**
TIXI pmax pmax
comp=Z,14nm,0.8s
M19K Big River Lodg 22.18 57 P **P 21 25 07.9 -1.1**
M19K IAmb IAmb 21 25 10.5
comp=Z,16nm,0.8s
J20K Nowinta River 22.25 51 P **P 21 25 09.2 -0.5**
K20K Telida 22.27 53 P **P 21 25 10.4 +0.3**
IMAR Indian Mountai 22.54 46 P **P 21 25 12.6 -0.2**
H21K Melozitna Rive 22.89 47 P **P 21 25 17.0 +0.4**
CAST Castle Rocks 23.16 53 P **P 21 25 20.9 +1.5**
SKT Skwentna 23.52 57 P **P 21 25 23.9 +1.0**
SKT IAmb IAmb 21 25 35.1
comp=Z,16nm,1.3s
JMM Marumori 23.68 230 P **P 21 25 24.3 -0.3**
JMM IAmb IAmb 21 25 45.1
comp=Z,17nm,1.0s
SUA Susitna One 23.95 58 P **P 21 25 28.0 +0.9**
TRF Thorofare Moun 23.97 53 P **P 21 25 27.7 +0.3**
TRF IAmb IAmb 21 25 40.5
comp=Z,18nm,1.2s
H23K Yukon River 24.25 47 P **P 21 25 29.9 +0.2**
H23K IAmb IAmb 21 25 43.0
comp=Z,15nm,1.1s
I23K Minto, Yukon-K 24.32 49 P **P 21 25 30.6 +0.3**
I23K IAmb IAmb 21 25 43.5
comp=Z,16nm,1.4s
JSD Sado 24.65 234 P **P 21 25 33.1 -0.5**
JSD IAmb IAmb 21 25 56.2
comp=Z,11nm,0.8s
WRH Wood River Hil 24.88 50 P **P 21 25 33.9 -1.6**
WRH IAmb IAmb 21 25 48.4
comp=Z,20nm,1.4s
H24K Noodor Dome 24.93 47 P **P 21 25 34.8 -1.2**
CCB Clear Creek Bu 25.00 50 P **P 21 25 36.0 -0.5**
CCB IAmb IAmb 21 25 52.4
comp=Z,7.6nm,0.9s
PWL Port Wells 25.20 59 P **P 21 25 38.0 -0.3**
ILAR Eielson Array 25.38 50 P **P 21 25 39.8 -0.2**
ILAR Eielson Array 25.38 50 *e*P **P 21 25 40.6 +0.6**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 25.38 50 P **P 21 25 40.4 +0.3**
comp=Z,1.4nm,0.9s,baz=267,slow=7.2,SNR=9.3
ILAR LR LR 21 36 02.0
comp=Z,41nm,18.3s,baz=254,slow=37
comp=Z,1.4nm,0.9s
SCM Sheep Creek Mo 25.51 56 P **P 21 25 41.1 -0.2**
SCM Sheep Creek Mo 25.51 56 P **P 21 25 41.1 -0.2**
SCM pmax pmax
comp=Z,71nm,1.4s
MJA0 Matsu Arr-Jizo 25.89 232 *e*P **P 21 25 45.0 +0.1**
MJA0 pmax pmax
comp=Z,7.0nm,0.8s
MJB9 Matsu-Tunnel 25.91 232 P **P 21 25 45.1 +0.1**
MAJO Matsushiro 25.91 232 P **P 21 25 43.6 -1.5**
MAJO Matsushiro 25.91 232 *i* P **P 21 25 46.4 +1.4**
MJAR Matsushiro Arr 25.91 232 P **P 21 25 44.4 -0.7**
comp=Z,6.9nm,0.7s,baz=28,slow=8.4,SNR=26
MJAR LR LR 21 37 05.9
comp=Z,84nm,18.8s,baz=42,slow=39
comp=Z,6.9nm,0.7s
M24K Tolsona, Glenn 26.00 56 P **P 21 25 45.6 -0.1**
BMAR Burnt Mountain 26.25 43 P **P 21 25 46.8 -1.1**
JGF Kuroka 27.07 232 P **P 21 25 55.5 -0.1**
JGF IAmb IAmb 21 26 06.0
comp=Z,16nm,1.1s
BCAR Beaver Creek A 27.83 53 P **P 21 26 03.3 +1.1**
M27K Edge Creek, AK 27.93 54 P **P 21 26 04.9 +1.8**
M27K IAmb IAmb 21 26 28.9
comp=Z,9.1nm,1.1s
H29M Whitestone 28.78 46 P **P 21 26 11.0 +0.5**
H29M IAmb IAmb 21 26 33.6
comp=Z,14nm,1.4s
G29M Pine Creek 28.83 44 P **P 21 26 12.3 +1.3**
G29M IAmb IAmb 21 26 21.9
comp=Z,10nm,1.1s
M29M Somme Creek 29.46 53 P **P 21 26 16.6 -0.1**
INK Inuvik 30.36 41 LR LR 21 39 26.4
comp=Z,41nm,18.4s,baz=348,slow=38
NRIK Noril'sk 34.76 323 *e*P **P 21 27 03.7 +0.8**
NRIK pmax pmax
comp=Z,3.0nm,0.4s
NRIK Noril'sk 34.76 323 P **P 21 27 03.2 +0.4**
comp=Z,2.5nm,0.5s,baz=76,slow=4.9,SNR=5.0
comp=Z,2.5nm,0.5s
ULN Ulaanbaatar 34.87 281*ce*P **P 21 27 05.6 +1.3**
ULN pmax pmax
comp=Z,6.0nm,2.5s
SONM Songino Array 35.25 281 P **P 21 27 07.2 -0.3**
SONM Songino Array 35.25 281 *e*P **P 21 27 07.5 0.0**
SONM pmax pmax
comp=Z,1.0nm,0.4s
SONM Songino Array 35.25 281 P **P 21 27 07.0 -0.5**
comp=Z,0.8nm,0.4s,baz=63,slow=7.6,SNR=6.9
SONM PcP **PcP 21 29 38.1 +0.5**
comp=Z,0.8nm,0.8s,baz=46,slow=6.2,SNR=2.9
SONM LR LR 21 40 31.4
comp=Z,31nm,20.5s,baz=210,slow=35
comp=Z,0.8nm,0.4s
EUNU Eureka 38.65 15 P **P 21 27 37.3 +1.3**
EUNU IAmb IAmb 21 28 03.9
comp=Z,8.5nm,1.2s
BBB Bella Bella 38.80 66 LR LR 21 41 51.3
comp=Z,22nm,19.6s,baz=186,slow=33
ZALV Zalesovo Beam 42.94 302 PcP **PcP 21 30 01.4 -0.1**
comp=Z,1.5nm,0.8s,baz=50,slow=4.8,SNR=5.1
DGZ Jazzator, Alta 44.22 295 *i* P **P 21 28 21.5 -0.6**
NEW Newport 46.78 64 LR LR 21 47 34.3
comp=Z,32nm,18.1s,baz=272,slow=35
KURK Kurchatov 47.93 301 P **P 21 28 49.5 -1.5**
KURK IAmb IAmb 21 28 50.3
comp=Z,5.8nm,1.0s
KURK Kurchatov 47.93 301*ce*P **P 21 28 50.5 -0.5**
KURK pmax pmax
comp=Z,4.0nm,1.3s
KURBB Kurchatov Arra 48.03 301 P **P 21 28 50.2 -1.6**
comp=Z,2.4nm,0.7s,baz=55,slow=8.1,SNR=20
KURBB PcP **PcP 21 30 19.4 +0.1**
comp=Z,0.8nm,0.7s,baz=46,slow=4.0,SNR=4.6
comp=Z,2.4nm,0.7s
MK31 Makanchi Array 48.72 295 P **P 21 28 55.1 -2.1**
MK31 Makanchi Array 48.72 295 *i* P **P 21 28 55.9 -1.3**
MKAR Makanchi Array 48.72 295 P **P 21 28 55.6 -1.6**
MKAR Makanchi Array 48.72 295 *e*P **P 21 28 55.5 -1.7**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 48.72 295 P **P 21 28 55.3 -1.9**
comp=Z,1.1nm,0.3s,baz=53,slow=6.7,SNR=29
comp=Z,1.1nm,0.3s
MAKZ Makanchi 48.87 296 P **P 21 28 56.5 -1.8**
MAKZ IAmb IAmb 21 29 06.4
comp=Z,11nm,1.4s
MAKZ Makanchi 48.87 296 P **P 21 28 56.6 -1.8**
MAKZ pmax pmax
comp=Z,11nm,1.4s
BVAR Borovoye Array 50.17 308 P **P 21 29 07.1 -1.1**
comp=Z,0.9nm,0.5s,baz=50,slow=7.0,SNR=9.2
BVAR PcP **PcP 21 30 27.1 0.0**
comp=Z,2.4nm,0.7s,baz=50,slow=3.0,SNR=8.4
comp=Z,0.9nm,0.5s
BRVK Borovoye 50.20 308 P **P 21 29 07.2 -1.1**
BRVK Borovoye 50.20 308 *i* P **P 21 29 07.0 -1.3**
BRVK pmax pmax
comp=Z,4.0nm,1.4s
ARU Arti 52.63 318 LR LR 21 54 14.9
comp=Z,47nm,18.3s,baz=132,slow=39
PRGR Permogore 53.06 328 *e*P **P 21 29 29.9 +0.4**
PRGR pmax pmax
comp=Z,16nm,0.8s
KIRV Kirov 54.25 324 *i* P **P 21 29 38.8 +0.5**
ULM Lac du Bonnet 55.40 50 P **P 21 29 49.0 +2.2**
comp=Z,4.2nm,0.8s,baz=351,slow=0.8,SNR=3.2
comp=Z,4.2nm,0.8s
KLMR Klimovskoe 55.44 330 *e*P **P 21 29 45.1 -1.8**
KLMR AMP 21 29 48.8
comp=Z,27nm,1.0s
KLMR Klimovskoe 55.44 330 *e*P **P 21 29 45.1 -1.8**
KLMR pmax pmax
comp=Z,27nm,1.0s
AAK Ala-Archa 55.59 297*ce*P **P 21 29 47.3 -1.2**
AAK pmax pmax
comp=Z,9.0nm,1.7s
KSH Kashi 57.14 293 P **P 21 30 02.2 +2.7**
KSH sP sP 21 30 21.0 +11
KSH pmax pmax
comp=Z,4.0nm,1.0s
KK31 Karatay Array 57.22 300 P **P 21 29 58.0 -1.9**
KK31 IAmb IAmb 21 30 08.2
comp=Z,3.3nm,0.9s
KK31 Karatay Array 57.22 300 P **P 21 29 58.0 -1.9**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 57.22 300 P **P 21 29 58.1 -1.8**
KKAR Karatay Array 57.22 300 P **P 21 29 58.1 -1.8**
ABKAR Akbulak array 57.44 311 P **P 21 30 00.5 -0.8**
FINES FINESS Array B 58.24 338 P **P 21 30 07.4 +0.6**
FINES FINESS Array B 58.24 338 P **P 21 30 06.3 -0.4**
comp=Z,3.3nm,0.8s,baz=23,slow=6.2,SNR=7.7
FINES LR LR 21 59 11.8
comp=Z,29nm,18.3s,baz=66,slow=40
comp=Z,3.3nm,0.8s
BTK Batken 59.35 297 P **P 21 30 14.8 -0.2**
BTK Batken 59.35 297 P **P 21 30 14.8 -0.2**
BTK pmax pmax
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 60.71 259 P **P 21 30 24.3 -0.1**
comp=Z,0.8nm,0.7s,baz=21,slow=6.7,SNR=8.0
comp=Z,0.8nm,0.7s
OBN Obninsk 61.14 328↓*e*P **P 21 30 27.7 +1.0**
OBN 21 31 09.0
OBN 21 32 40.0
OBN S **S 21 38 46.0 +2.2**
OBN SSS SSS 21 45 17.0
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,38nm,14.0s
NB2 NORSAR Subarra 61.30 345 P **P 21 30 28.3 +0.4**
comp=Z,5.2nm,1.1s,baz=20,slow=6.9
NOA NORSAR Array B 61.30 345 P **P 21 30 28.4 +0.5**
comp=Z,2.4nm,0.9s,baz=19,slow=6.9,SNR=5.0
comp=Z,2.4nm,0.9s
HFS Hagfors 61.79 343 P **P 21 30 30.9 -0.2**
comp=Z,4.1nm,0.8s,baz=45,slow=2.9,SNR=2.6
comp=Z,4.1nm,0.8s
SCHQ Schefferville 62.15 30 P **P 21 30 33.9 +0.2**
comp=Z,7.7nm,0.8s,baz=28,slow=15,SNR=2.7
SCHQ LR LR 22 01 25.6
comp=Z,19nm,18.4s,baz=91,slow=40
comp=Z,7.7nm,0.8s
SIJI Sorong 62.43 217 P **P 21 30 37.0 +1.0**
comp=Z,5.6nm,0.7s,baz=19,slow=5.3,SNR=5.5
comp=Z,5.6nm,0.7s
LPSR Galich'ya Gora 62.57 326 *e*P **P 21 30 36.1 -0.3**
LPSR pmax pmax
comp=Z,20nm,0.7s
VRH Novokhopyorsk 62.84 323 *e*P **P 21 30 36.4 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 63.68 325 *e*P **P 21 30 42.9 -0.9**
VSR pmax pmax
comp=Z,10.0nm,0.7s
MNK Minsk 64.06 333 *i* P **P 21 30 43.7 -2.6**
comp=E,10.0nm,1.8s
MNK *i* P **P 21 30 43.7 -2.6**
comp=N,22nm,1.4s
MNK *i* P **P 21 30 43.7 -2.6**
comp=Z,17nm,1.0s,baz=26
MNK *i* pP **pwP 21 30 57.7 +0.2**
MNK *i* PP **PP 21 32 59.2 -7.5**
MNK *i* PPP PPP 21 34 49.1
MNK *i* S **S 21 39 16.3 -4.4**
MNK *i* sS sS 21 39 40.3 +7.0
MNK *i* SS SS 21 43 14.5 -14
MNK *i* SSS SSS 21 46 30.0
MNK *i* LQ LQ 21 52 11.1
MNK *i* LR LR 21 58 58.8
MNK Minsk 64.06 333 *i* P **P 21 30 43.6 -2.6**
MNK *i* *PP **pwP 21 30 57.6 +0.2**
MNK *i* PPP PPP 21 34 49.1
MNK *i* S **S 21 39 16.2 -4.4**
MNK *i* *SS sS 21 39 40.3 +7.0
MNK pmax pmax
comp=E,10.0nm,1.8s
MNK pmax pmax
comp=N,22nm,1.4s
MNK pmax pmax
comp=Z,17nm,1.0s
AKASG Malin Array Be 67.13 330 *e*P **P 21 31 06.8 +0.6**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 67.13 330 P **P 21 31 06.6 +0.4**
comp=Z,2.5nm,0.5s,baz=28,slow=6.2,SNR=12
AKASG LR LR 22 01 37.8
comp=Z,46nm,18.2s,baz=8.5,slow=37
comp=Z,2.5nm,0.5s
AKBB Malin Array Si 67.13 330 P **P 21 31 05.9 -0.3**
AKBB Malin Array Si 67.13 330*ce*P **P 21 31 06.6 +0.4**
AKBB pmax pmax
comp=Z,10.0nm,1.0s
TX31 Lajitas Ar. Si 67.72 70 P **P 21 31 10.3 -0.1**
TX32 Lajitas Array 67.72 70 P **P 21 31 12.1 +1.7**
TX32 IAmb IAmb 21 31 32.5
comp=Z,4.4nm,1.3s
TXAR Lajitas Array 67.72 70 P **P 21 31 11.5 +1.2**
TXAR Lajitas Array 67.72 70 P **P 21 31 11.5 +1.2**
TXAR Lajitas Array 67.72 70 P **P 21 31 11.7 +1.3**
comp=Z,1.3nm,0.7s,baz=301,slow=4.5,SNR=14
comp=Z,1.3nm,0.7s
E62A Clayton Lake 68.51 36 P **P 21 31 15.3 +0.3**
EKA Eskdalemuir Ar 68.52 352 P **P 21 31 15.8 +0.9**
comp=Z,3.6nm,0.9s,baz=7.5,slow=12,SNR=1.8
comp=Z,3.6nm,0.9s
KIV Kislovodsk 68.66 318 *e*P **P 21 31 14.4 -1.6**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,30nm,17.0s
SORM Soroca 69.70 330 ⇑P **P 21 31 22.8 +0.6**
STHS Stebnicka Huta 70.37 335 *e*P P 21 31 31.1 +4.7
STHS Stebnicka Huta 70.37 335 *e* P 21 31 31.1 +4.7
BUR08 Bucovina Ar. S 71.01 332 P **P 21 31 30.8 +0.4**
BUR08 IAmb IAmb 21 31 32.9
comp=Z,4.5nm,0.9s
BURAR Bucovina Array 71.04 332 P **P 21 31 30.8 +0.3**
BURAR IAmb IAmb 21 31 32.8
comp=Z,3.8nm,0.9s
LANS Liptovska Anna 71.04 336 *e*P **P 21 31 33.2 +2.7**
LANS Liptovska Anna 71.04 336 *e* **P 21 31 33.2 +2.7**
TRPA Tarpa 71.25 334 ↓↓P **P 21 31 33.7 +2.0**
TESR Tescani 71.66 330 ⇑P **P 21 31 34.8 +0.5**
VYHS Vyhne 71.80 336 *e* **P 21 31 36.6 +1.5**
GHRR 71.85 329 ↓↓P **P 21 31 37.3 +1.9**
TKL Tuckaleechee C 72.34 52 LR LR 22 04 39.4
comp=Z,25nm,19.9s,baz=23,slow=37
COVR Voineasa-Covas 72.39 330 ↓↓P **P 21 31 41.0 +2.3**
CFR Carcaliu 72.45 329 ⇑P **P 21 31 39.7 +0.7**
GERES GERESS Array B 72.55 340 *e*P **P 21 31 42.4 +2.7**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 72.55 340 P **P 21 31 40.7 +1.0**
comp=Z,0.7nm,0.5s,baz=23,slow=7.2,SNR=3.8
comp=Z,0.7nm,0.5s
TPGR Topolog 72.66 328 ⇑P **P 21 31 41.5 +1.2**
MLR Muntele Rosu 72.79 330 ↓↓P **P 21 31 43.6 +2.4**
MLR Muntele Rosu 72.79 330 LR LR 22 07 30.7
comp=Z,43nm,20.2s,baz=23,slow=39
VOIR 73.08 331 ↓↓P **P 21 31 44.6 +1.8**
ARR Arges 73.26 331 ⇑P **P 21 31 46.0 +2.1**
GZR Gura Zlata 73.73 332 ⇑P **P 21 31 47.1 +0.4**
HERR Herculane 74.30 332 ⇑P **P 21 31 50.6 +0.7**
BRTR Keskin Array B 75.62 322 P **P 21 31 57.3 -0.5**
comp=Z,0.5nm,0.5s,baz=12,slow=7.4,SNR=3.1
comp=Z,0.5nm,0.5s
VTS Vitosha 76.19 331 ⇑P **P 21 32 03.3 +2.3**
PDG Podgorica 77.40 334 ⇑P **P 21 32 08.0 +0.4**
PDG Podgorica 77.40 334 P **P 21 32 07.1 -0.5**
PDG IAmb IAmb 21 32 09.2
comp=Z,4.0nm,0.8s
NRCA Norcia 78.42 338 P **P 21 32 14.6 +1.2**
WB0 Warramunga Arr 79.38 208 P **P 21 32 19.0 +0.3**
WB0 IAmb IAmb 21 32 28.6
comp=Z,4.2nm,1.1s
WB2 Warramunga Arr 79.56 208 P **P 21 32 20.0 +0.3**
WB2 IAmb IAmb 21 32 37.6
comp=Z,7.8nm,1.2s
WRA Warramunga Arr 79.56 208 P **P 21 32 20.0 +0.3**
WRA Warramunga Arr 79.56 208 *e*P **P 21 32 22.1 +2.5**
WRA Warramunga Arr 79.56 208 P **P 21 32 19.8 +0.2**
comp=Z,1.1nm,1.0s,baz=11,slow=5.8,SNR=7.0
comp=Z,1.1nm,1.0s
MMAI Mount Meron Ar 80.97 318 P **P 21 32 27.8 +0.4**
comp=Z,1.8nm,0.6s,baz=46,slow=4.2,SNR=2.7
comp=Z,1.8nm,0.6s
PPT Papeete 83.20 135 LR LR 22 09 38.8
comp=Z,39nm,18.2s,baz=198,slow=36
ASAR Alice Springs 83.23 207 P **P 21 32 39.4 +0.4**
comp=Z,1.3nm,0.9s,baz=8.3,slow=5.3,SNR=7.2
comp=Z,1.3nm,0.9s
ESDC Sonseca Array 84.12 350 P **P 21 32 43.3 -0.4**
ESDC IAmb IAmb 21 32 45.6
comp=Z,3.9nm,1.3s
ESDC Sonseca Array 84.12 350 P **P 21 32 44.7 +1.0**
comp=Z,0.9nm,0.7s,baz=4.2,slow=4.9,SNR=7.4
comp=Z,0.9nm,0.7s
EIL Elat 84.13 317 LR LR 22 14 18.9
comp=Z,23nm,19.2s,baz=8.5,slow=39
KEST Kesra 86.04 339 P **P 21 32 54.2 +0.8**
comp=Z,0.9nm,0.5s,baz=27,slow=4.5,SNR=4.3
comp=Z,0.9nm,0.5s

IDC 02 21:31:52.0±32.0, 8°.11N×107°.16W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=816.5km s-min=92.4km az=130.0, Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**21.37**	**8**	P	P	21 36 41.1	-0.1
	1.1nm,0.9s,baz=186,slow=12,SNR=10						
	1.1nm,0.9s						
PDAR	**Pinedale Array**	**34.58**	**357**	P	P	21 38 42.9	0.0
	1.5nm,1.0s,baz=172,slow=8.1,SNR=7.0						
	1.5nm,1.0s						
ILAR	**Eielson Array**	**63.06**	**342**	P	P	21 42 20.9	-0.1
	1.6nm,0.9s,baz=156,slow=4.7,SNR=8.7						
	1.6nm,0.9s						

IDC 02 21:36:06.4±3.5, 10°.31N×124°.04E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=392.6km s-min=28.8km az=66.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**35.12**	**164**	P	P	21 43 01.8	-0.1
	0.3nm,0.4s,baz=342,slow=7.1,SNR=2.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**50.68**	**324**	P	P	21 45 07.2	-0.5
	0.3nm,0.7s,baz=133,slow=6.5,SNR=2.2						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**53.55**	**332**	P	P	21 45 28.0	-0.9
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**54.80**	**326**	P	P	21 45 39.0	+0.8
	0.6nm,0.6s,baz=124,slow=6.9,SNR=5.7						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**60.39**	**326**	P	P	21 46 17.5	0.0
	0.2nm,0.4s,baz=119,slow=12,SNR=2.2						
	0.2nm,0.4s						

---

*IDC **02** 21:37:55.5±0.5, 19°.41S×167°.74E, h0km, mb4.6/27, mbtmp4.6/29, ML5.4/4, MS3.8/39, Error ellipse: s-maj=14.6km s-min=13.4km az=132.0*

*BJI **02** 21:37:55.3±0.0, 19°.25S×168°.10E, h13km, mb4.8/47, mB5.3/23, Ms5.1/4, Ms7 4.7/5*

*MOS **02** 21:37:55.7±0.9, 19°.45S×167°.68E, h13km, mb5.4/27, Error ellipse: s-maj=10.0km s-min=8.4km az=18.8*

*NOU **02** 21:37:56.1, 19°.36S×167°.89E, h0km, mb4.8/37, Vanuatu Islands Region*

*NEIC **02** 21:37:57.2, 19°.46S×167°.65E, h12km*

*NEIC **02** 21:37:57.1±2.1, 19°.49S±0°.07×167°.68E±0°.07, h10km±1km, mb5.3/143, Mww5.0/17, Error ellipse: s-maj=12.5km s-min=11.6km az=24.0*

*NEIC **02** 21:37:57.2, 19°.66S×167°.54E, h12km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.71; $M_{\theta\theta}$0.19; $M_{\phi\phi}$2.51; $M_{r\theta}$-0.82; $M_{\theta\phi}$-0.39; $M_{\phi r}$3.39; Fault plane solution: $M_0$4.38000×10^{16} NP1: ϕ_s353.51000°, δ18.66000°, λ-84.13000°. NP2: ϕ_s167.31000°, δ71.44000°, λ-91.98000°. Principal axes: T 4.3071, Plg26.0000°, Azm259.0000°; N 0.1358, Plg2.0000°, Azm168.0000°; P -4.4429, Plg64.0000°, Azm74.0000°;*

*GCMT **02** 21:38:02.1±0.2, 19°.36S±0°.02×167°.60E±0°.01, h18km, MW5.0/112, Moment Tensor Solution. s47,c52; s112,c163; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.60±.15; $M_{\theta\theta}$0.38±.09; $M_{\phi\phi}$3.22±.10; $M_{r\theta}$-0.74±.24; $M_{\theta\phi}$-0.98±.06; $M_{\phi r}$1.30±.19; Best double couple: $M_0$3.86400×10^{16} NP1:ϕ_s158.00000°, δ56.00000°, λ-95.00000°. NP2:ϕ_s347.00000°, δ34.00000°, λ-82.00000°. Principal axes: T 3.8150, Plg11.0000°, Azm252.0000°; N 0.0970, Plg4.0000°, Azm161.0000°; P -3.9120, Plg78.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 21:37:59.4±0.5, 19°.41S±0°.04×167°.74E±0°.04, h26km±3km, h21km:pP-P, n579, σ1s22/536, mb5.2/112, MS3.9/43, 15C-15D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**1.44**	**199**		**Pn**	**21 38 20.4**	**-3.4**
LIFNC	**LIFOU**	**1.44**	**199**	P	**Pn**	**21 38 20.9**	**-2.9**
RTV	**Rentapao**	**1.74**	**22**	P	**Pn**	**21 38 25.2**	**-2.8**
MARNC	**Mare, Loyalty**	**2.08**	**172**	Pn	**Pn**	**21 38 29.8**	**-2.9**
MARNC	**Mare, Loyalty**	**2.08**	**172**	P	**Pn**	**21 38 34.0**	**+1.4**
YATNC	**Mamie plateau,**	**2.75**	**197**	P	**Pn**	**21 38 40.2**	**-1.7**
DZM	**Mont Dzumac**	**2.91**	**204**	*e*Pn	**Pn**	**21 38 42.7**	**-1.5**
	308nm,0.8s						
DZM				*e*Sn	**Sn**	**21 39 16.4**	**-2.0**
	1μm,1.1s						
DZM	**Mont Dzumac**	**2.91**	**204**	Pn	**Pn**	**21 38 42.2**	**-2.0**

DZM Mont Dzumac 2.91 204 P **Pn 21 38 43.0 -1.2**
DZM Mont Dzumac 2.91 204 Pn **Pn 21 38 42.7 -1.5**
92nm,0.3s,baz=66,slow=14,SNR=532
DZM Sn **Sn 21 39 16.1 -2.2**
48nm,0.3s,baz=8.2,slow=16,SNR=6.6
DZM LR LR 21 39 22.6
comp=Z,2µm,18.7s,baz=325,slow=30
196nm,0.4s
NOUC Port Laguerre 2.99 206 P **Pn 21 38 44.2 -1.0**
OUENC Ouen Island, N 3.10 195 Pn **Pn 21 38 45.3 -1.5**
OUENC Ouen Island, N 3.10 195 P **Pn 21 38 46.4 -0.4**
ONTNC Ouen Toro 3.12 202 Pn **Pn 21 38 45.7 -1.2**
ONTNC Ouen Toro 3.12 202 P **Pn 21 38 46.2 -0.8**
PINNC Pines Island, 3.20 185 Pn **Pn 21 38 47.0 -1.0**
PINNC Pines Island, 3.20 185 P **Pn 21 38 48.0 0.0**
KOUNC Koumac, New Ca 3.44 250 Pn **Pn 21 38 49.2 -2.1**
KOUNC Koumac, New Ca 3.44 250 P **Pn 21 38 49.9 -1.4**
MSVF Nonsavu 9.92 82 **Pn 21 40 21.2 +0.7**
MSVF Nonsavu 9.92 82 P **Pn 21 40 21.2 +0.7**
MSVF Nonsavu 9.92 82 Pn **Pn 21 40 20.8 +0.2**
0.4nm,0.3s,baz=258,slow=22,SNR=3.2
11nm,0.9s
HNR Honiara 12.46 322 Pn **Pn 21 40 54.6 -0.6**
144nm,0.3s,baz=145,slow=12,SNR=1.3
HNR LR LR 21 44 53.9
comp=Z,4µm,18.7s,baz=188,slow=34
RAO Raoul Island 16.32 130 Pn **Pn 21 41 46.5 -0.4**
147nm,0.3s,baz=55,slow=20,SNR=2.7
EIDS Eidsvold 16.50 246 **P 21 41 50.4 -1.2**
EIDS Eidsvold 16.50 246 P **P 21 41 54.1 +2.5**
RK1H Rockhampton Ha 16.53 253 P **P 21 41 53.1 +1.1**
ARMA Armidale 18.24 230 P **Pn 21 42 09.8 -1.1**
ARMA Armidale 18.24 230 P **P 21 42 12.5 +1.5**
RMQ Roma 18.83 245 P **Pn 21 42 20.2 +2.1**
AUPHS Peel High Scho 19.14 229 P **Pn 21 42 25.0 +3.2**
TV1H Townsville Har 19.76 267 P **Pn 21 42 30.7 +1.5**
36nm,1.1s
CTA Charters Tower 20.23 264 P Pn 21 42 33.8 -1.1
50nm,0.9s,baz=90,slow=11,SNR=31
CTA LR LR 21 49 14.7
comp=Z,627nm,21.4s,baz=82,slow=34
50nm,0.9s
CTAO Charters Tower 20.23 264 P **P 21 42 31.6 -1.2**
CTAO Charters Tower 20.23 264 P Pn 21 42 34.0 -0.8
CTAO Charters Tower 20.23 264 P **P 21 42 31.6 -1.2**
CTAO pmax pmax
comp=Z,69nm,0.9s
AFI Afiamalu 20.37 78 LR LR 21 49 28.3
comp=Z,279nm,18.4s,baz=245,slow=34
URZ Urewera 20.47 158 P **P 21 42 36.4 +1.1**
comp=Z,9.7nm,0.7s,baz=70,slow=10,SNR=5.0
URZ LR LR 21 49 06.9
comp=Z,294nm,18.5s,baz=34,slow=33
comp=Z,9.7nm,0.7s
AULRC Lightning Ridg 20.54 237 P Pn 21 42 38.5 +0.2
RTZ Ruatahuna 20.75 159 P **P 21 42 38.3 0.0**
BKZ Black Stump Fm 21.09 161 P **P 21 42 42.4 +0.4**
MTSU Mount Surprise 22.21 269 P **P 21 42 56.8 +2.7**
PMG Port Moresby 22.25 294 P **P 21 42 55.6 +1.1**
comp=Z,24nm,0.8s,baz=97,slow=4.9,SNR=6.7
PMG LR LR 21 50 37.7
comp=Z,603nm,18.9s,baz=104,slow=34
comp=Z,24nm,0.8s
CNB Canberra Magne 22.68 222 P **P 21 43 02.3 +3.2**
QLP Quilpie 22.76 247 P **P 21 43 02.1 +2.2**
CAN Canberra 22.91 222 P **P 21 43 03.8 +2.3**
CMSA Cobar Meteorol 23.23 234 P **P 21 43 06.9 +2.2**
COEN Coen 24.13 279 P **P 21 43 12.6 -0.9**
COEN IAmb IAmb 21 43 15.9
comp=Z,73nm,1.4s
COEN Coen 24.13 279 P **P 21 43 15.2 +1.7**
comp=Z,47nm,1.7s
RPZ Rata Peaks 24.39 174 LR LR 21 52 29.7
comp=Z,342nm,19.1s,baz=336,slow=36
INKA Innaminka 26.05 246 P **P 21 43 33.3 +2.5**
QIS Mount Isa 26.45 263 P **P 21 43 35.8 +1.2**
STKA Stephens Creek 26.56 237 P **P 21 43 35.3 -0.1**
STKA Stephens Creek 26.56 237 P **P 21 43 38.7 +3.3**
STKA Stephens Creek 26.56 237 *i* P **P 21 43 34.6 -0.8**
STKA Stephens Creek 26.56 237 P **P 21 43 35.7 +0.3**
comp=Z,4.3nm,0.8s,baz=60,slow=9.2,SNR=5.5
STKA LR LR 21 54 25.0
comp=Z,112nm,18.4s,baz=52,slow=37
comp=Z,4.3nm,0.8s
RAR Rarotonga 30.50 99 LR LR 21 53 58.7
comp=Z,117nm,21.3s,baz=300,slow=32
WR0 Warramunga Arr 31.23 263 P **P 21 44 16.2 -0.9**
BBOO Buckleboo 31.29 238 P **P 21 44 16.1 -1.3**
BBOO IAmb IAmb 21 44 30.3
comp=Z,28nm,1.1s
WB0 Warramunga Arr 31.39 264 P **P 21 44 15.7 -2.8**
WB2 Warramunga Arr 31.41 263 P **P 21 44 17.2 -1.5**
WRAB Tennant Creek 31.41 263 *i* P **P 21 44 17.3 -1.4**
WRAB pmax pmax
comp=Z,22nm,3.5s
WRA Warramunga Arr 31.42 263 P **P 21 44 17.2 -1.6**
WRA Warramunga Arr 31.42 263 P **P 21 44 17.3 -1.5**
comp=Z,2.6nm,0.8s,baz=91,slow=8.8,SNR=11
WRA PcP **PcP 21 47 12.0 -0.1**
comp=Z,1.5nm,0.9s,baz=102,slow=2.8,SNR=4.6
WRA LR LR 21 56 24.6
comp=Z,419nm,22.0s,baz=123,slow=35
comp=Z,2.6nm,0.8s
AS31 Alice Springs 31.71 256 P **P 21 44 20.5 -0.8**
ASAR Alice Springs 31.71 256 P **P 21 44 19.4 -1.9**
ASAR Alice Springs 31.71 256 P **P 21 44 20.8 -0.5**
comp=Z,7.5nm,0.6s,baz=84,slow=8.8,SNR=58
ASAR PcP **PcP 21 47 12.1 -0.8**
comp=Z,1.4nm,0.9s,baz=90,slow=2.8,SNR=3.4
ASAR ScP **ScP 21 50 57.1 +2.5**
comp=Z,0.1nm,0.4s,baz=123,slow=3.4,SNR=4.2
ASAR LR LR 21 56 21.1
comp=Z,614nm,20.4s,baz=96,slow=35
comp=Z,7.5nm,0.6s
GENI Genyem 31.71 298 P **P 21 44 23.3 +1.9**
comp=Z,48nm,0.8s
KDU Kakadu 34.49 276 P **P 21 44 47.9 +2.2**
MTN Manton Dam 35.71 275 P **P 21 44 56.0 -0.2**
WRKA Warakurna 36.84 254 P **P 21 45 07.9 +2.1**
KNRA Kununurra 37.29 269 P **P 21 45 08.6 -1.0**
KNRA Kununurra 37.29 269 P **P 21 45 09.3 -0.4**
FORT Forrest 37.49 245 P **P 21 45 10.6 -0.6**
FORT IAmb IAmb 21 45 24.2
comp=Z,29nm,0.8s
FAKI Fak Fak 38.35 291 P **P 21 45 17.1 -1.5**
GUMO Guam 39.78 324 LR LR 22 00 55.0
comp=Z,46nm,18.9s,baz=145,slow=35
TBI Tubuai 39.95 103 *e*S S 21 51 46.0 +10
TBI comp=Z,1µm,45.0s *e*SS **SS 21 54 30.8 -2.2**
TBI comp=Z,4µm,31.5s *e*LR LR 21 56 11.3
TBI comp=Z,4µm,26.8s *e*LR LR 21 56 20.3
TBI comp=Z,2µm,32.2s
SIJI Sorong 40.19 293 P **P 21 45 33.0 -1.0**
comp=Z,12nm,0.9s,baz=97,slow=17,SNR=5.1
SIJI LR LR 22 02 26.8
comp=Z,160nm,20.2s,baz=74,slow=37
comp=Z,12nm,0.9s
PPT2 Papeete2 40.45 95 *e*S **S 21 51 47.1 +3.5**
comp=Z,159nm,27.5s
PPT2 comp=Z,169nm,25.5s *e*SS **SS 21 54 42.3 -1.1**
PPT2 comp=Z,660nm,29.8s *e*LR LR 21 56 37.0
PPT2 comp=Z,454nm,34.0s *e*LR LR 21 56 45.2
PPT Papeete 40.45 95 LR LR 21 58 23.2
comp=Z,70nm,20.0s,baz=195,slow=30
BATI Baumata 43.47 276 LR LR 22 03 18.7
comp=Z,240nm,21.8s,baz=132,slow=35
PSA00 Pilbara Seismi 44.77 259 P **P 21 46 10.0 -1.3**
PSA00 IAmb IAmb 21 46 16.1
comp=Z,63nm,1.6s
MBWA Marble Bar 44.93 259 P **P 21 46 11.8 -0.7**
NWAO Narrogin (SRO) 46.87 243 P **P 21 46 26.4 -1.3**
NWAO Narrogin (SRO) 46.87 243 P **P 21 46 26.4 -1.3**
NWAO pmax pmax
comp=Z,148nm,1.9s
NWAO Narrogin (SRO) 46.87 243 LR LR 22 04 59.2
comp=Z,310nm,21.9s,baz=164,slow=35
MORW Morawa 47.79 248 P **P 21 46 31.6 -3.3**
MORW IAmb IAmb 21 46 51.1
comp=Z,37nm,1.2s
KAPI Kappang 48.85 281 LR LR 22 07 27.5
comp=Z,72nm,19.9s,baz=114,slow=36
TOLI2 Tolitoli 50.37 288 P **P 21 46 54.6 -0.2**
VNDA Vanda 58.22 182 P **P 21 47 52.6 +1.7**
comp=Z,1.9nm,0.8s,baz=320,slow=8.5,SNR=5.0
comp=Z,1.9nm,0.8s
LEM Lembang 59.60 273 P **P 21 48 02.1 +0.2**
comp=Z,17nm,0.7s,baz=94,slow=15,SNR=4.3
LEM LR LR 22 14 16.5
comp=Z,62nm,20.2s,baz=122,slow=37
comp=Z,17nm,0.7s
JOW Kunigami 59.81 319 LR LR 22 09 43.2
comp=Z,69nm,21.5s,baz=221,slow=32
KSM Kuching 60.03 283 P **P 21 48 04.2 -0.4**
KSM IAmb IAmb 21 48 05.7
comp=Z,14nm,0.9s
MJAR Matsushiro Arr 62.26 333 P **P 21 48 18.8 -0.4**
comp=Z,0.9nm,0.6s,baz=131,slow=3.5,SNR=4.1
MJAR LR LR 22 10 46.7
comp=Z,17nm,21.8s,baz=163,slow=32
comp=Z,0.9nm,0.6s
TPUB Ta-pu 62.57 311 P **P 21 48 19.3 -2.2**
TPUB IAmb IAmb 21 48 32.9
comp=Z,25nm,0.9s
SSLB Suanglung 62.64 311 P **P 21 48 20.4 -1.7**
YHNB Yeheng 62.90 312 P **P 21 48 23.1 -0.7**
YHNB IAmb IAmb 21 48 36.1
comp=Z,27nm,0.9s
JNU Nakatsue 62.99 326 LR LR 22 13 01.4
comp=Z,23nm,19.8s,baz=148,slow=33
JKA Kamikawa-asahi 67.28 341 P **P 21 48 52.4 +0.7**
JKA IAmb IAmb 21 48 54.2
comp=Z,27nm,0.9s
ASAJ Asahikawa 67.28 341 P **P 21 48 52.4 +0.7**
ASAJ pmax pmax
comp=Z,27nm,0.9s
ASAJ Asahikawa 67.28 341 P **P 21 48 52.5 +0.7**
comp=Z,21nm,0.8s,baz=135,slow=5.7,SNR=11
ASAJ LR LR 22 15 41.2
comp=Z,60nm,20.3s,baz=172,slow=34
comp=Z,21nm,0.8s
KSRS Korea Array 67.86 327 P **P 21 48 55.9 +0.4**
comp=Z,1.2nm,0.9s,baz=154,slow=7.6,SNR=2.4
KSRS LR LR 22 18 53.2
comp=Z,21nm,18.0s,baz=130,slow=36
comp=Z,1.2nm,0.9s
BKNI Bangkinang 68.19 278 P **P 21 48 58.0 -0.2**
NJ2 Nanjing 69.35 317 *e*P **P 21 49 06.1 +1.1**
NJ2 sP **sP 21 49 12.4 -1.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,120nm,3.6s
NJ2 LR LR
comp=Z,430nm,19.9s
NJ2 LR LR
comp=Z,490nm,18.0s
NJ2 LR LR
comp=Z,400nm,18.9s
YSS Yuzh-Sakhalins 69.79 342 *e*P **P 21 49 09.3 +1.9**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,500nm,17.0s
KULM Kulim 70.39 283 P **P 21 49 11.1 -0.6**
KULM IAmb IAmb 21 49 13.5
comp=Z,49nm,1.6s
QSPA South Pole Qui 70.64 180 P **P 21 49 12.1 -0.6**
QSPA IAmb IAmb 21 49 26.9
comp=Z,30nm,1.4s
RPSI Rantau Prapat 71.01 280 P **P 21 49 14.4 -1.2**
RPSI IAmb IAmb 21 49 27.3
comp=Z,19nm,0.9s
PSI Prapat 71.05 280 P **P 21 49 14.4 -1.6**
PSI pmax pmax
comp=Z,19nm,0.9s
USA0B Ussuriysk Arra 71.25 334 P **P 21 49 16.5 +0.2**
USA0B IAmb IAmb 21 49 18.5
comp=Z,43nm,1.6s
USA0B Ussuriysk Arra 71.25 334 P **P 21 49 16.5 +0.2**
USA0B pmax pmax
comp=Z,43nm,1.6s
USRK Ussuriysk Ar. 71.25 334 P **P 21 49 16.4 +0.1**
USRK Ussuriysk Ar. 71.25 334 P **P 21 49 17.0 +0.7**
USRK Ussuriysk Ar. 71.25 334 P **P 21 49 17.0 +0.7**
comp=Z,1.2nm,0.3s,baz=141,slow=9.1,SNR=9.7
comp=Z,1.2nm,0.3s
GSI Gunungsitoli 71.77 278 P **P 21 49 19.5 -0.7**
GSI IAmb IAmb 21 49 21.7
comp=Z,35nm,1.0s
SHEM Shemya Is, Ala 72.05 4 LR LR 22 14 09.9
comp=Z,81nm,21.4s,baz=246,slow=30
MDJ Mudanjiang 72.61 332 P **P 21 49 25.8 +1.3**
MDJ pP sP 21 49 33.0 -0.3
MDJ PcP **PcP 21 49 43.3 +1.4**
MDJ PP **PP 21 52 09.0 +2.5**
MDJ S **SKiKP 21 58 57.6 +0.1**
MDJ sS sS 21 59 03.0 +4.6
MDJ pmax pmax
comp=Z,12nm,1.2s
MDJ pmax pmax
comp=Z,230nm,3.7s
PETK Petropavlovsk- 72.74 354 P **P 21 49 26.1 +1.1**
comp=Z,10nm,0.8s,baz=131,slow=6.1,SNR=6.3
comp=Z,10nm,0.8s
ATKA Atka Island 73.03 12 P **P 21 49 26.1 -0.7**
CN2 Changchun 73.88 330 P **P 21 49 32.8 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BNX BinXian 74.45 332 ⇑P **P 21 49 35.6 +0.3**
BNX pmax pmax
comp=Z,21nm,0.9s
BNX pmax pmax
comp=Z,120nm,5.3s
NIKH Nikolski High 74.89 14 P **P 21 49 37.3 -0.3**
baz=203
LYN LuoYang 75.09 315 ⇑P **P 21 49 40.2 +1.0**
LYN pmax pmax
comp=Z,23nm,0.8s
HNS HongShan 75.39 319 ⇓P **P 21 49 41.4 +0.5**
HNS pmax pmax
comp=Z,11nm,1.3s
KLR Kul'dur 75.45 337 *i* P **P 21 49 41.4 +0.4**
KLR pmax pmax
comp=Z,24nm,1.4s
KLR Kul'dur 75.45 337 P **P 21 49 42.0 +1.0**
comp=Z,8.3nm,1.0s,baz=83,slow=2.7,SNR=10
comp=Z,8.3nm,1.0s
BJI Beijing 76.19 322 P **P 21 49 46.5 +1.1**
BJI pP **pP 21 49 50.1 -1.7**
BJI pmax pmax
comp=Z,3.0nm,0.8s
UNV Unalaska Valle 76.26 15 P **P 21 49 45.5 0.0**
baz=205
CRAI Chiangrai 76.84 297 P **P 21 49 50.0 +0.4**
KMI Kunming 77.16 303 ⇓P **P 21 49 52.8 +1.2**
KMI pP pP 21 49 56.3 -1.6
KMI S **S 21 59 46.7 +6.9**
KMI pmax pmax
comp=Z,19nm,1.1s
CM31 Chiang Mai Arr 77.28 295 P **P 21 49 52.5 +0.4**
CMAR Chiang Mai Arr 77.28 295 P **P 21 49 52.6 +0.5**
CMAR Chiang Mai Arr 77.28 295 *i* P **P 21 49 53.5 +1.4**
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 77.28 295 P **P 21 49 53.1 +1.0**
comp=Z,5.8nm,1.0s,baz=128,slow=4.0,SNR=34
comp=Z,5.8nm,1.0s
CHTO Chiang Mai 77.44 295 P **P 21 49 52.5 -0.4**
CHTO Chiang Mai 77.44 295 P **P 21 49 52.5 -0.4**
MAW Mawson 77.74 202 P **P 21 49 54.6 +0.8**
comp=Z,2.6nm,0.8s,baz=74,slow=3.1,SNR=4.5
MAW LR LR 22 18 23.7
comp=Z,92nm,21.9s,baz=84,slow=31
comp=Z,2.6nm,0.8s
HEH HeiHe 77.96 335 *e*P **P 21 49 53.9 -1.2**
SPIA Saint Paul Isl 78.49 12 P **P 21 49 57.2 -0.7**
baz=201
PZH PanZhiHua 78.61 303 P **P 21 49 59.0 -0.5**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,70nm,6.3s
XLT XiLinHaoTe 78.75 325 *e*P **P 21 49 58.2 -1.6**
XLT pP pP 21 50 03.1 -3.2
XLT sP sP 21 50 07.7 -0.9
XLT pmax pmax
comp=Z,11nm,0.9s
XLT pmax pmax
comp=Z,100nm,3.6s
SDPT Sand Point 79.22 18 P **P 21 50 01.1 -0.8**
baz=210
HHC Hu-ho-hao-te 79.44 320 *e*P **P 21 50 05.1 +1.5**
HHC pmax pmax
comp=Z,40nm,0.5s
HHC pmax pmax
comp=Z,120nm,6.3s
MA2 Magadan 79.92 351 *i* P **P 21 50 06.0 +0.3**
MA2 pmax pmax
comp=Z,23nm,1.1s
MA2 Magadan 79.92 351 LR LR 22 19 25.7
comp=Z,35nm,21.9s,baz=144,slow=31
S14K Fog Glacier 80.29 18 P **P 21 50 07.2 -0.6**
baz=211
TNCH TengChong 80.51 301 *e*P **P 21 50 11.1 +1.2**
TNCH pP pP 21 50 13.7 -2.6
TNCH pmax pmax
comp=Z,5.0nm,0.6s
ZEA Zeya 80.75 337 *e*P **P 21 50 11.3 +1.0**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
LZH Lanzhou 81.80 313 *e*P **P 21 50 18.0 +1.5**
LZH pP pP 21 50 21.6 -1.3
LZH pmax pmax
comp=Z,14nm,0.9s
BELA Belgrano 2 82.05 175 P **P 21 50 15.7 -1.3**
BELA IAmb IAmb 21 50 30.5
comp=Z,24nm,1.0s
R17K Ugashik Creek 82.37 19 P **P 21 50 18.1 -0.7**
baz=214
O14K Tigyukauivet M 82.40 15 P **P 21 50 18.4 -0.5**
baz=209
O15K Ungalikthiuk R 82.71 16 P **P 21 50 20.3 -0.2**
baz=211
N14K Kuskokwak Cree 82.89 15 P **P 21 50 21.4 +0.1**
baz=209
SEY Seymchan 82.96 353 *c*e*P* **P 21 50 21.4 -0.3**
SEY pmax pmax
comp=Z,14nm,1.1s
SEY Seymchan 82.96 353 P **P 21 50 21.7 0.0**
comp=Z,2.9nm,0.4s,baz=71,slow=3.4,SNR=4.3
comp=Z,2.9nm,0.4s
Q17K Contact Creek 83.04 18 P **P 21 50 21.9 -0.4**
baz=214
P16K Nushagak River 83.08 17 P **P 21 50 22.2 -0.2**
baz=212
N15K Kwethluk River 83.49 16 P **P 21 50 24.6 +0.1**
baz=210
O16K Kokwok River B 83.53 17 P **P 21 50 24.8 +0.1**
baz=212
M14K Bethel 83.55 14 P **P 21 50 25.4 +0.6**
baz=209
Q18K Katmai Hardscr 83.62 19 P **P 21 50 24.7 -0.7**
baz=215
P17K Kvichak River 83.65 18 P **P 21 50 25.2 -0.1**
baz=214
KDAK Kodiak Island 83.68 20 LR LR 22 25 51.3
comp=Z,57nm,18.2s,baz=213,slow=34
M15K Kasigluk River 83.80 15 P **P 21 50 25.6 -0.4**
baz=210
L14K Kuka Creek 83.90 14 P **P 21 50 26.6 +0.1**
baz=208
O17K Koliganek Bris 83.95 17 P **P 21 50 27.1 +0.2**
baz=213
K13K Kusilvak Mount 84.00 13 P **P 21 50 27.7 +0.6**
baz=206
N16K Nishlik Lake 84.10 16 P **P 21 50 28.1 +0.5**
baz=212
SMAI San Martin Ant 84.11 162 P **P 21 50 26.5 -1.2**
SMAI IAmb IAmb 21 50 29.5
comp=Z,42nm,1.3s
P18K Big Mountain, 84.16 18 P **P 21 50 27.4 -0.6**
P18K Big Mountain, 84.16 18 P **P 21 50 27.4 -0.6**
baz=215
Q19K Cape Douglas, 84.26 19 P **P 21 50 28.1 -0.4**
baz=216
Q20K Shuyak Island 84.40 20 P **P 21 50 29.7 +0.6**
baz=217
GAMB Gambell 84.45 9 P **P 21 50 29.5 +0.2**
baz=200
M16K Timber Creek 84.52 16 P **P 21 50 29.8 +0.1**
baz=211,SNR=8.1
N17K Nushagak Hills 84.56 17 P **P 21 50 30.7 +0.7**
baz=213,SNR=7.6
J14K Nanvaranak Lak 84.97 13 P **P 21 50 32.5 +0.6**
baz=207
P19K Oil Pt 84.97 19 P **P 21 50 32.8 +0.7**
baz=217
K15K Wolf Creek Mou 85.00 14 P **P 21 50 32.9 +0.8**
baz=209,SNR=12
N18K Kilae Creek 85.04 17 P **P 21 50 32.7 +0.3**
baz=214
O19K Port Alsworth 85.09 18 P **P 21 50 31.9 -0.7**
O19K Port Alsworth 85.09 18 P **P 21 50 33.0 +0.4**
baz=216
M17K Holitna River 85.23 16 P **P 21 50 34.1 +0.8**
baz=213,SNR=7.8
SVW2 Sparrevohn 85.47 17 P **P 21 50 35.0 +0.5**
O20K Slope Mountain 85.50 19 P **P 21 50 35.1 +0.3**
baz=217
N19K Bonanza Creek 85.55 18 P **P 21 50 34.3 -0.7**
N19K Bonanza Creek 85.55 18 P **P 21 50 35.2 +0.2**
baz=215
L17K Donlin 85.63 15 P **P 21 50 35.0 -0.3**
baz=212,SNR=12
ELIB Princess Elisa 85.72 190 *d*P **P 21 50 35.2 -0.8**
ELIB *d*x x 21 50 48.6
BRSE Bradley Lake S 85.81 20 P **P 21 50 36.1 -0.2**
baz=219
J16K Anvik River 86.08 14 P **P 21 50 37.7 +0.2**
baz=210,SNR=12
L18K Granite Mounta 86.11 16 P **P 21 50 37.8 +0.1**
baz=213,SNR=7.5
K17K Iditarod 86.13 15 P **P 21 50 38.8 +1.1**
baz=212,SNR=11
ULN Ulaanbaatar 86.16 324 P **P 21 50 38.6 +0.1**
ULN IAmb IAmb 21 50 40.2
comp=Z,17nm,1.2s
ULN Ulaanbaatar 86.16 324 *c*e*P* **P 21 50 38.8 +0.3**
ULN pmax pmax
comp=Z,18nm,1.3s
SHL Shillong 86.18 299 P **P 21 50 38.7 -0.4**
SHL Shillong 86.18 299 P **P 21 50 38.7 -0.4**
SHL pmax pmax
comp=Z,10.0nm,1.1s
GTA Gaotai 86.22 314 *e*P **P 21 50 39.6 +0.7**
GTA pP pP 21 50 45.5 +0.1
GTA pmax pmax
comp=Z,2.0nm,1.2s
M19K Big River Lodg 86.46 17 P **P 21 50 40.2 +0.7**
baz=216
SEW Seward 86.51 20 P **P 21 50 40.8 +1.2**
baz=220
SONM Songino Array 86.51 324 P **P 21 50 39.2 -1.0**
SONM Songino Array 86.51 324 P **P 21 50 40.4 +0.3**
comp=Z,4.1nm,0.9s,baz=148,slow=5.9,SNR=19
SONM LR LR 22 28 24.8
comp=Z,20nm,19.7s,baz=144,slow=35
comp=Z,4.1nm,0.9s
SPCR Spurr Chakacha 86.52 18 P **P 21 50 40.7 +0.9**
baz=218
J17K VABM Dome 86.52 14 P **P 21 50 41.4 +1.7**
baz=211,SNR=7.5
L19K White Mountain 86.56 17 P **P 21 50 41.3 +1.3**
L19K IAmb IAmb 21 50 54.8
comp=Z,28nm,0.9s
L19K White Mountain 86.56 17 P **P 21 50 41.6 +1.6**
baz=215,SNR=7.5
I17K Unalakleet 86.58 13 P **P 21 50 41.4 +1.4**
baz=210
YAK Yakutsk 86.62 343 P **P 21 50 40.0 -0.1**
YAK IAmb IAmb 21 50 41.3
comp=Z,30nm,1.1s
YAK Yakutsk 86.62 343 *e*P **P 21 50 40.7 +0.6**
YAK *e**PP **PcP 21 50 44.1 +1.6**
YAK *e* 21 54 02.9
YAK *e*PPP PPP 21 55 56.8
YAK *e*S **SKSac 22 01 06.8 +2.1**
YAK *e*SS **SS 22 06 56.4 -0.5**
YAK pmax pmax
comp=Z,36nm,1.6s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax

comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,309nm,5.1s
YAK pmax pmax
comp=N,214nm,4.8s
YAK pmax pmax
comp=E,275nm,4.0s
YAK smax smax
comp=N,249nm,3.8s
YAK smax smax
comp=E,183nm,4.3s
TNA Tin City 86.71 10 P P 21 50 41.9 +1.4
baz=203
M20K Styx River 86.80 17 P P 21 50 42.1 +1.0
baz=217
TTA Tatalina 86.88 16 P P 21 50 42.4 +0.8
TTA IAmb IAmb 21 50 55.7
comp=Z,18nm,1.0s
TTA Tatalina 86.88 16 P P 21 50 42.4 +0.8
TTA pmax pmax
comp=Z,18nm,1.0s
TTA Tatalina 86.88 16 P P 21 50 42.3 +0.8
baz=214
G15K Niukluk 86.88 12 P P 21 50 42.5 +1.1
baz=207
F14K Arctic Creek 86.90 11 P P 21 50 42.2 +0.8
baz=204
H16K Elim 86.92 12 P P 21 50 42.4 +0.9
baz=208
KMRM Mail Ridge 87.04 46 P P 21 50 43.2 +0.4
SCZ2 Santa Cruz Isl 87.12 53 P P 21 50 42.7 -0.7
baz=244
J18K Innoko River 87.15 15 P P 21 50 43.6 +0.9
baz=213,SNR=7.0
SUA Susitna One 87.16 19 P P 21 50 44.0 +1.0
baz=219
RC01 Rabbit Creek A 87.18 19 P P 21 50 43.5 +0.6
baz=220
PMSA Palmer Station 87.23 160 LR LR 22 26 26.1
comp=Z,75nm,18.0s,baz=86,slow=33
KHMM Horse Mountain 87.33 45 P P 21 50 44.3 -0.1
SKT Skwentna 87.33 18 P P 21 50 44.6 +0.9
baz=218
F15K North Star Dit 87.41 11 P P 21 50 44.7 +0.7
baz=206
SMMC Simmler 87.42 51 P P 21 50 44.7 -0.1
baz=244
PWL Port Wells 87.44 20 P P 21 50 45.1 +0.9
baz=221
SCI2 San Clemente I 87.51 54 P P 21 50 45.0 -0.2
baz=245
G16K Koyuk River 87.56 12 P P 21 50 45.4 +0.7
baz=208
M22K Willow 87.57 19 P P 21 50 45.7 +1.0
baz=219
H17K Granite Mounta 87.67 13 P P 21 50 45.9 +0.7
baz=210
BCW Bitter Crk WRg 87.69 52 P P 21 50 46.3 +0.1
K20K Telida 87.73 16 P P 21 50 45.9 +0.3
baz=216
PMR Palmer 87.75 19 P P 21 50 46.3 +0.7
baz=220
J19K Poorman 87.86 15 P P 21 50 46.8 +0.6
baz=214
G17K Kiwalik Mounta 88.00 13 P P 21 50 48.1 +1.3
baz=210
FMP Fort Macarthur 88.01 53 P P 21 50 47.1 -0.4
baz=245
CUT Chulitna 88.04 18 P P 21 50 48.1 +1.2
baz=219
EYAK Cordova Ski Ar 88.06 21 P P 21 50 47.8 +0.6
baz=223
KAIM Kayak Island 88.08 22 P P 21 50 48.4 +1.2
baz=224
SML Sawmill 88.16 19 P P 21 50 48.5 +0.8
baz=221
H18K Honhosa River 88.19 14 P P 21 50 48.0 +0.3
baz=212
ARVC Arvin 88.20 52 P P 21 50 48.2 -0.3
baz=245
ORV Oroville 88.23 47 P P 21 50 48.5 0.0
ORV IAmb IAmb 21 50 49.7
comp=Z,24nm,1.1s
ORV Oroville 88.23 47 P P 21 50 48.5 0.0
ORV pmax pmax
comp=Z,24nm,1.1s
TROLL Troll, Antarti 88.26 185 ⇑P P **21 50 48.2 -0.1**
comp=Z,627nm,1.0s
TROLL Troll, Antarti 88.26 185 ⇑P pwP 21 51 01.1 -0.6
comp=Z,1μm,0.8s
CAST Castle Rocks 88.32 17 P P 21 50 49.1 +0.8
baz=218
AFDM Forest Hills D 88.33 48 P P 21 50 49.2 +0.2
CMB Columbia Colle 88.33 49 P P 21 50 48.1 -1.0
CMB Columbia Colle 88.33 49 P P 21 50 48.1 -1.0
CMB pmax pmax
comp=Z,25nm,0.9s
M23K Glacier View 88.34 19 P P 21 50 49.0 +0.5
baz=222
J20K Nowinta River 88.38 16 P P 21 50 49.2 +0.6
baz=216
YBH Yreka Blue Hor 88.41 45 P P 21 50 49.7 +0.3
YBH IAmb IAmb 21 51 02.3
comp=Z,24nm,0.9s
YBH Yreka Blue Hor 88.41 45 P P 21 50 49.7 +0.3
YBH pmax pmax
comp=Z,24nm,1.0s
YBH Yreka Blue Hor 88.41 45 P P 21 50 50.0 +0.5
comp=Z,17nm,1.1s,baz=194,slow=2.2,SNR=18
YBH LR LR 22 21 30.6
comp=Z,64nm,21.9s,baz=236,slow=30
comp=Z,17nm,1.1s
SCM Sheep Creek Mo 88.50 20 P P 21 50 50.4 +1.1
baz=222
NVL N'lazarevskaya 88.50 188 *e*P **pwP 21 51 04.5 +1.9**
NVL pmax pmax
comp=Z,11nm,1.0s
CHUM Lake Minchumin 88.62 17 P P 21 50 50.7 +0.9
baz=217
ISA Isabella, Lake 88.69 51 P P 21 50 50.6 -0.3
ISA IAmb IAmb 21 51 03.3
comp=Z,23nm,0.9s
ISA Isabella, Lake 88.69 51 P P 21 50 50.6 -0.3
ISA pmax pmax
comp=Z,23nm,1.0s
ISA Isabella, Lake 88.69 51 P P 21 50 50.8 0.0
baz=245,SNR=5.3
KLU Klutina 88.70 20 P P 21 50 51.6 +1.3
baz=223
BFSC Mount Baldy Ra 88.71 53 P P 21 50 50.2 -0.9
baz=245
EDW2 Edwards Air Fo 88.72 52 P P 21 50 50.7 -0.3
baz=245,SNR=6.4
G18K Tagagawik 88.76 13 P P 21 50 51.3 +1.0
baz=212
MURC Murrieta 88.80 54 P P 21 50 51.0 -0.3
baz=246
I20K Naaghedeneel 88.81 15 P P 21 50 52.1 +1.6
baz=215
TRF Thorofare Moun 88.84 17 P P 21 50 51.6 +0.6
baz=219
WAT1 Susitna Watana 88.87 18 P P 21 50 52.0 +1.0
baz=221
L04D Klamath Falls 88.91 44 P P 21 50 51.9 +0.1
SNAA Sanae 88.92 183 P P 21 50 50.4 -1.0
SNAA IAmb IAmb 21 51 05.1
comp=Z,11nm,0.9s
SNAA Sanae 88.92 183 *ce*P **P 21 50 50.7 -0.6**
SNAA pmax pmax
comp=Z,13nm,1.3s
SNAA Sanae 88.92 183 ⇑P **P 21 50 50.8 -0.5**
comp=Z,118nm,1.0s
SNAA Sanae 88.92 183 ⇑P pwP 21 51 04.0 -0.7
comp=Z,191nm,0.8s
SNAA Sanae 88.92 183 P P 21 50 50.8 -0.6
comp=Z,5.0nm,0.9s,baz=183,slow=4.4,SNR=16
comp=Z,5.0nm,0.9s
WAT6 Susitna Watana 88.93 19 P P 21 50 51.6 +0.2
baz=221
H19K Roundabout Mou 88.94 14 P P 21 50 51.8 +0.7
baz=214
M24K Tolsona, Glenn 89.07 20 P P 21 50 53.1 +1.1
baz=223
MONP2 Monument Peak 89.10 55 P P 21 50 52.6 -0.5
baz=246,SNR=5.7
MESA MESA 89.14 23 P P 21 50 53.6 +1.1
baz=227
MPK Martis Peak 89.14 48 P P 21 50 52.8 -0.3

OMMB Old Mammoth Mi 89.14 50 P P 21 50 53.1 -0.1
OMMB IAmb IAmb 21 51 06.5
comp=Z,28nm,1.4s
BPAW Bear Paw Mtn. 89.16 17 P P 21 50 53.2 +0.9
baz=218
E17K Hotham Inlet 89.16 11 P P 21 50 53.0 +0.8
baz=209
LRMC Laurel Mtn Rad 89.20 52 P P 21 50 53.3 0.0
baz=245
WAKR Walker 89.21 49 P P 21 50 53.6 +0.2
WAKR IAmb IAmb 21 51 06.2
comp=Z,20nm,1.0s
N25K Chitina, Valde 89.22 21 P P 21 50 53.6 +0.9
baz=224
IKP In-Ko-Pah, Jac 89.25 55 P P 21 50 53.1 -0.4
baz=246
RMX La Rumorosa 89.25 55 P P 21 50 53.9 +0.2
RMX IAmb IAmb 21 51 06.8
comp=Z,21nm,0.9s
H20K Anotleneega Mo 89.28 15 P P 21 50 53.7 +0.9
baz=215
CWC Cottonwood Cre 89.31 51 P P 21 50 53.8 0.0
baz=245
G19K Purcell Mounta 89.31 14 P P 21 50 53.7 +0.7
baz=213
PNTR Pine Nut 89.35 48 P P 21 50 54.1 +0.1
PNTR IAmb IAmb 21 51 06.6
comp=Z,23nm,0.9s
PFO Pinyon Flats O 89.36 54 P P 21 50 53.0 -1.2
PFO IAmb IAmb 21 51 07.0
comp=Z,39nm,1.6s
PFO Pinyon Flats O 89.36 54 *i*P **P 21 50 53.9 -0.3**
PFO pmax pmax
comp=Z,21nm,1.1s
PFO Pinyon Flats O 89.36 54 P P 21 50 53.8 -0.3
baz=246
PFO Pinyon Flats O 89.36 54 P P 21 50 53.5 -0.7
comp=Z,4.8nm,0.8s,baz=260,slow=3.1,SNR=5.5
PFO LR LR 22 21 43.5
comp=Z,45nm,21.1s,baz=270,slow=29
comp=Z,4.8nm,0.8s
TPFO Pinon Flats 89.36 54 P P 21 50 53.6 -0.6
baz=246
YUH Yuha Desert 89.39 55 P P 21 50 53.5 -0.6
YUH IAmb IAmb 21 50 55.4
comp=Z,20nm,1.2s
DHY Denali Highway 89.41 19 P P 21 50 54.4 +0.8
baz=222
PMD Palm Desert 89.44 54 P P 21 50 53.9 -0.5
PMD IAmb IAmb 21 51 07.1
comp=Z,14nm,1.1s
MCK McKinley 89.45 18 P P 21 50 54.0 +0.4
baz=220
YERR Yerington 89.56 48 P P 21 50 54.3 -0.7
YERR IAmb IAmb 21 51 08.0
comp=Z,14nm,0.8s
VNA3 Neumayer Olymp 89.56 181 ⇑P **P 21 50 53.7 -0.6**
comp=Z,8.3nm,0.7s
VNA3 Neumayer Olymp 89.56 181 ⇑P pwP 21 51 06.7 -0.9
comp=Z,17nm,0.7s
I04A Tendick Farm, 89.57 43 P P 21 50 53.8 -1.0
MPMC Manual Prospec 89.59 51 P P 21 50 54.2 -1.0
baz=246,SNR=11
SWSC Sam W. Stewart 89.60 55 P P 21 50 54.6 -0.5
baz=246
E18K Tukpahlearik C 89.69 12 P P 21 50 55.1 +0.4
baz=210
H04D Lebanon 89.70 42 P P 21 50 54.1 -1.1
PINM Pinnacle 89.70 23 P P 21 50 55.5 +0.5
baz=228
SIT Sitka 89.74 27 P P 21 50 54.6 -0.5
baz=232
PNL Peninsula 89.74 24 P P 21 50 55.2 +0.1
baz=229
I21K Tanana 89.75 16 P P 21 50 55.4 +0.5
baz=218
F19K Shaleruckik Mo 89.75 13 P P 21 50 56.5 +1.6
baz=212
LHV Little Huntoon 89.76 49 P P 21 50 55.6 -0.1
LHV IAmb IAmb 21 51 08.6
comp=Z,19nm,1.0s
PAHR Pah Rah Range 89.77 47 P P 21 50 55.1 -0.8
PAHR IAmb IAmb 21 51 09.0
comp=Z,30nm,1.1s
DSP Deep Springs 89.78 50 P P 21 50 55.1 -0.7
DSP IAmb IAmb 21 51 08.5
comp=Z,15nm,0.9s
GSC Goldstone, Bar 89.78 52 P P 21 50 54.6 -1.4
GSC IAmb IAmb 21 51 09.1
comp=Z,15nm,1.2s
GSC Goldstone, Bar 89.78 52 P P 21 50 54.6 -1.4
GSC pmax pmax
comp=Z,15nm,1.3s
VNA2 Neumayer--Watz 89.84 182 ⇑P pwP 21 51 08.3 -0.6
comp=Z,18nm,0.7s,baz=167,slow=4.0
BELC Belle Mtn. Jos 89.87 54 P P 21 50 56.6 +0.1
baz=246,SNR=12
CTG Chitna Glacier 89.89 22 P P 21 50 56.9 +0.9
baz=227
H21K Melozitna Rive 89.92 15 P P 21 50 56.3 +0.5
H21K Melozitna Rive 89.92 15 P P 21 50 56.7 +0.9
baz=217
PAX Paxson 89.92 19 P P 21 50 56.6 +0.6
baz=224
HEC Hector,Ludlow 89.95 53 P P 21 50 57.0 +0.3
baz=246,SNR=8.6
MLY Manley 89.95 16 P P 21 50 55.8 -0.2
baz=219
NVAR Mina Array Bea 89.98 49 P P 21 50 56.1 -1.0
NVAR Mina Array Bea 89.98 49 P P 21 50 57.0 0.0
comp=Z,5.0nm,0.8s,baz=226,slow=8.2,SNR=24
NVAR LR LR 22 22 02.8
comp=Z,42nm,21.3s,baz=271,slow=29
comp=Z,5.0nm,0.8s
QSM Queen of Sheba 90.01 52 P P 21 50 56.6 -0.3
QSM IAmb IAmb 21 51 09.7
comp=Z,16nm,1.0s
GRAC Grapevine Rang 90.06 51 P P 21 50 56.9 -0.4
GRAC Grapevine Rang 90.06 51 P P 21 50 57.0 -0.2
baz=246,SNR=8.5
K05A Summer Lake 90.07 44 P P 21 50 56.5 -0.8
NEA2 Nenana 90.07 17 P P 21 50 58.1 +1.5
baz=220
NV11 Mina Array Sit 90.09 49 P P 21 50 56.3 -1.1
NV11 IAmb IAmb 21 51 09.8
comp=Z,15nm,0.9s
J05D Fort Rock, OR 90.09 44 P P 21 50 57.0 -0.3
VNA1 Neumayer--Stat 90.13 181 ⇑P pwP 21 51 09.8 -0.4
comp=Z,14nm,0.9s
BC3 Big Chuckawall 90.15 54 P P 21 50 57.3 -0.5
baz=247,SNR=6.5
C17K DeLong Mountai 90.15 10 P P 21 50 58.0 +1.2
baz=207
O28M Mount Upton 90.18 23 P P 21 50 58.6 +1.2
baz=228
FURC Furnace Creek, 90.22 51 P P 21 50 57.6 -0.2
baz=246
GWY Greenwater Val 90.24 52 IAmb IAmb 21 51 10.9
comp=Z,24nm,1.1s
M26K Nabesna, AK 90.32 21 P P 21 50 59.1 +1.3
baz=226
NLWA Neilton Lookou 90.36 39 IAmb IAmb 21 51 11.9
comp=Z,35nm,1.3s
F20K Avaraart Lake 90.37 14 P P 21 50 59.2 +1.3
baz=214
KVN Kaiserville 90.39 49 IAmb IAmb 21 51 11.2
comp=Z,14nm,0.7s
V35K Ketchikan 90.39 30 P P 21 50 59.1 +0.9
baz=235
E19K Redstone River 90.39 13 P P 21 50 59.4 +1.4
baz=213
GLA Glamis 90.40 55 P P 21 50 58.8 -0.1
baz=247,SNR=5.6
BBB Bella Bella 90.40 34 LR LR 22 30 21.3
comp=Z,33nm,18.4s,baz=238,slow=35
I23K Minto, Yukon-K 90.42 17 P P 21 50 59.8 +1.7
baz=220
SHOC Shoshone, Teco 90.42 52 P P 21 50 58.8 -0.1
baz=246,SNR=5.9
GMRC Granite Mounta 90.44 53 P P 21 50 59.3 +0.2
baz=246,SNR=5.8
G21K Allakaket 90.44 15 P P 21 50 59.6 +1.4
baz=216
H22K Ishtalitna Cre 90.47 16 P P 21 50 59.8 +1.4
baz=218
TUQ Turquoise Moun 90.50 53 P P 21 50 59.3 -0.1
baz=246,SNR=10

WCT Wildcat Mounta 90.52 51 P P 21 50 58.5 -1.0
HDA Harding Lake 90.53 18 P P 21 50 60.0 +1.3
baz=222
IRM Iron Mountain 90.58 54 P P 21 50 59.5 -0.2
baz=247,SNR=5.8
MDM Murphy Dome 90.58 17 IAmb IAmb 21 50 59.2
comp=Z,38nm,1.8s
TPH Tonopah 90.61 50 P P 21 50 59.7 -0.3
TPH Tonopah 90.61 50 P P 21 50 59.7 -0.3
TPH pmax pmax
comp=Z,107nm,1.4s
C18K Utukok River 90.65 11 P P 21 51 00.0 +0.8
baz=209
YUK3 Moose Creek 90.76 22 P P 21 51 00.8 +0.7
baz=228
CBB Campbell River 90.78 36 P P 21 51 01.2 +1.0
CBB IAmb IAmb 21 51 13.7
comp=Z,34nm,1.4s
IL31 90.82 18 IAmb IAmb 21 51 13.3
comp=Z,9.1nm,0.8s
ILAR Eielson Array 90.82 18 P P 21 50 59.2 -0.8
comp=Z,2.2nm,0.8s,baz=244,slow=4.2,SNR=13
ILAR LR LR 22 23 45.3
comp=Z,55nm,20.0s,baz=258,slow=30
comp=Z,2.2nm,0.8s
TPNV Topopah Spring 90.86 51 IAmb IAmb 21 51 14.1
comp=Z,20nm,0.9s
TPNV Topopah Spring 90.86 51 P P 21 51 00.9 -0.2
baz=246,SNR=11
H23K Yukon River 90.89 16 P P 21 51 01.5 +1.2
baz=220
BLYC Blythe 90.90 55 IAmb IAmb 21 51 14.4
comp=Z,29nm,1.1s
SLBS Sierra La Lagu 90.94 65 P P 21 51 01.0 -0.6
F21K Alatna River 91.02 14 P P 21 51 02.0 +1.1
baz=216
D19K Kuna River 91.09 12 P P 21 51 02.1 +0.9
baz=212
113A Mohawk Valley, 91.11 56 IAmb IAmb 21 51 15.4
comp=Z,21nm,1.2s
SCRK Sand Creek 91.11 19 P P 21 51 02.4 +0.8
baz=225
J25K Salcha River, 91.15 18 IAmb IAmb 21 51 17.9
comp=Z,10nm,0.9s
J25K Salcha River, 91.15 18 P P 21 51 03.1 +1.4
baz=224
L27K Beaver Creek, 91.17 21 P P 21 51 02.5 +0.8
baz=227
B18K Kokolik River 91.17 10 P P 21 51 02.5 +1.0
baz=209
NEE2 Needles Airpor 91.22 54 P P 21 51 02.3 -0.3
baz=247
G22K Bettles 91.25 15 P P 21 51 02.0 +0.1
baz=218
E20K Nigu River 91.28 13 P P 21 51 02.8 +0.6
baz=214
LON Longmire 91.30 40 IAmb IAmb 21 51 14.9
comp=Z,9.1nm,0.8s
C19K Lookout Ridge 91.34 11 P P 21 51 03.4 +1.0
baz=211
H24K Noodor Dome 91.34 17 P P 21 51 03.7 +1.2
baz=221
D05A Enumclaw 91.39 40 P P 21 51 03.2 +0.1
PDMCI Parker Dam,Lak 91.41 54 P P 21 51 03.1 -0.3
baz=247
V12A Nelson 91.42 53 IAmb IAmb 21 51 16.6
comp=Z,21nm,1.4s
G23K Bananza Creek 91.45 16 P P 21 51 03.5 +0.6
baz=219
SHPR Sheep Range 91.49 52 IAmb IAmb 21 51 17.3
comp=Z,12nm,1.3s
F22K John River 91.55 14 P P 21 51 04.1 +0.7
baz=217
214A Organ Pipe Nat 91.56 57 P P 21 51 04.1 -0.2
baz=248
I07A Izee 91.57 44 IAmb IAmb 21 51 17.4
comp=Z,18nm,1.0s
D20K Etivluk River 91.58 12 P P 21 51 04.8 +1.3
baz=213
J26L Joseph Creek 91.62 19 P P 21 51 04.4 +0.5
baz=225
K27K Chicken 91.75 20 P P 21 51 05.1 +0.8
baz=226
PRP Porcupine Dome 91.76 18 P P 21 51 05.0 +0.4
baz=223
N30M Aishikik Lake 91.77 23 P P 21 51 05.3 +0.7
baz=231
COLD Coldfoot 91.81 15 P P 21 51 05.2 +0.6
baz=219
R11B Troy Canyon, C 91.90 50 IAmb IAmb 21 51 18.5
comp=Z,18nm,1.9s
R11B Troy Canyon, C 91.90 50 P P 21 51 05.5 -0.4
baz=247
E21K Killik River 91.90 13 P P 21 51 06.0 +1.0
baz=216
W13A Hualapai Mount 91.90 53 IAmb IAmb 21 51 19.1
comp=Z,16nm,1.1s
M29M Somme Creek 91.91 22 P P 21 51 06.0 +0.8
baz=230
J08A Circle Bar Ran 91.94 44 IAmb IAmb 21 51 18.9
comp=Z,20nm,1.0s
T35M Bob Quinn 91.95 29 P P 21 51 05.8 +0.4
baz=236
S34M Telegraph Cree 92.07 28 P P 21 51 06.7 +0.8
baz=236
G24K Hadweenzic Riv 92.10 16 P P 21 51 06.8 +0.9
baz=222
WHY Whitehorse 92.12 25 P P 21 51 06.3 0.0
baz=233
E22K Anaktuvuk Pass 92.14 14 P P 21 51 06.4 +0.3
baz=218
Q32M Nakina River 92.18 27 P P 21 51 06.6 -0.1
baz=235
LTY Liberty 92.23 40 IAmb IAmb 21 51 19.2
comp=Z,11nm,0.8s
I26K Coal Creek Min 92.31 19 P P 21 51 06.1 -0.8
baz=226
C21K Knifeblade Rid 92.32 13 P P 21 51 06.4 -0.5
baz=215
G08A Pilot Rock 92.44 43 P P 21 51 07.4 -0.8
L29M L29M 92.45 22 P P 21 51 06.8 -0.9
baz=230
G25K Bearman Lake 92.52 17 P P 21 51 07.4 -0.4
baz=223
D22K Ayikyak River 92.54 13 P P 21 51 08.0 0.0
baz=217
M30M Minto, Yukon 92.59 22 P P 21 51 07.8 -0.5
baz=231
E23K Chandalar 92.59 15 P P 21 51 08.1 -0.2
baz=220
F24K Squaw Lake 92.61 16 P P 21 51 08.4 +0.1
baz=221
DAWY Dawson 92.65 21 P P 21 51 08.3 -0.3
baz=229
P33M Teslin, Yukon 92.68 25 P P 21 51 08.1 -0.8
baz=234
DLBC Dease Lake 92.85 28 P P 21 51 09.3 -0.4
baz=237
E08A Dider Farm, El 92.89 41 P P 21 51 09.3 -0.7
R33M Jennings River 92.98 27 IAmb IAmb 21 51 23.4
comp=Z,22nm,1.4s
R33M Jennings River 92.98 27 P P 21 51 10.0 -0.3
baz=236
I27K Kandik River 92.98 19 P P 21 51 10.5 +0.4
baz=227
D23K Nanushuk River 93.05 14 P P 21 51 11.0 +0.7
baz=219
ELK Elko 93.08 48 P P 21 51 10.5 -0.9
ELK IAmb IAmb 21 52 49.9
comp=Z,4.4nm,0.5s
ELK Elko 93.08 48 P P 21 51 11.9 +0.5
comp=Z,1.5nm,0.7s,baz=268,slow=3.9,SNR=6.1
ELK LR LR 22 24 11.3
comp=Z,51nm,21.7s,baz=242,slow=30
comp=Z,1.5nm,0.7s
LCMT Little Creek M 93.10 52 IAmb IAmb 21 51 24.4
comp=Z,11nm,0.9s
F25K Christian Rive 93.25 16 P P 21 51 11.6 +0.4
baz=223
G26K Porcupine Rive 93.29 17 P P 21 51 12.2 +0.8
baz=225
TUC Tucson 93.29 57 P P 21 51 11.2 -1.1
TUC IAmb IAmb 21 51 25.7
comp=Z,14nm,1.1s
TUC Tucson 93.29 57 P P 21 51 11.2 -1.1
TUC pmax pmax
comp=Z,14nm,1.1s
TUC Tucson 93.29 57 P P 21 51 11.4 -0.9

baz=249
I28M Miner Creek 93.39 19 P **P 21 51 12.7 +0.7**
baz=228
H27K Steamboat Moun 93.44 18 P **P 21 51 13.2 +1.1**
baz=227
X16A Lo Mia Camp, P 93.52 55 IAmb IAmb 21 51 26.9
comp=Z,14nm,1.0s
B22K Teshekpuk Lake 93.56 12 P **P 21 51 13.7 +1.1**
baz=216
U15A North Rim 93.60 53 IAmb IAmb 21 51 27.1
comp=Z,9.7nm,0.8s
D24K Happy Valley 93.62 14 P **P 21 51 13.6 +0.7**
baz=221
E25K Arctic Village 93.65 16 P **P 21 51 14.1 +1.0**
baz=224
F26K Sheenjek River 93.72 17 P **P 21 51 13.6 +0.2**
baz=225
MFID Camas Ranch 93.72 45 P **P 21 51 13.0 -1.1**
C23K Itkillik River 93.75 13 P **P 21 51 14.4 +1.0**
baz=219
G27K Doyon Strip 93.79 18 P **P 21 51 14.0 +0.2**
baz=227
F10A Beach Ranch, E 93.83 42 IAmb IAmb 21 51 29.8
comp=Z,11nm,1.3s
WUAZ Wupatki 93.97 54 P **P 21 51 14.9 -0.6**
baz=249
DUG Dugway, Tooele 94.59 49 P **P 21 51 17.4 -0.8**
baz=248
MMPY Sheldon Lake, 94.67 24 P **P 21 51 18.5 +0.6**
baz=236
HLID Hailey 94.73 45 P **P 21 51 18.2 -0.7**
HLID Hailey 94.73 45 P **P 21 51 18.5 -0.3**
baz=248
NEW Newport 94.82 40 LR LR 22 33 05.1
comp=Z,14nm,18.1s,baz=246,slow=35
EPYK Eagle Plains 95.00 19 P **P 21 51 19.7 +0.4**
baz=231
E28M Babbage River 95.60 17 P **P 21 51 21.5 -0.5**
baz=229
TCUT Toone Canyon 95.92 49 IAmb IAmb 21 51 37.6
comp=Z,7.7nm,0.6s
E29M Blow River 95.92 18 P **P 21 51 23.2 -0.2**
baz=230
F30M Barrier River 96.06 19 P **P 21 51 24.0 -0.1**
baz=232
G31M Satah River 96.11 20 P **P 21 51 24.4 +0.1**
baz=234
BSUT Blindstream Ca 96.18 49 IAmb IAmb 21 51 38.1
comp=Z,4.3nm,0.7s
WMQ Urumqi 96.30 314 *eP* **P 21 51 26.4 +0.5**
WMQ pmax pmax
comp=Z,11nm,0.7s
ID10 Lander Cutoff 96.77 47 P **P 21 51 26.9 -1.3**
ID10 IAmb IAmb 21 51 40.4
comp=Z,6.3nm,0.9s
INK Inuvik 97.16 19 LR LR 22 30 59.7
comp=Z,33nm,20.4s,baz=180,slow=33
BOZ Bozeman (W) 97.32 44 P **P 21 51 29.6 -0.9**
baz=250
MNTX Cornudas Mount 97.41 59 P **P 21 51 29.6 -1.5**
baz=252
ANMO Albuquerque 97.57 56 *i P* **P 21 51 31.5 -0.5**
ANMO pmax pmax
comp=Z,2.0nm,1.1s
ANMO Albuquerque 97.57 56 LR LR 22 29 16.5
comp=Z,27nm,19.9s,baz=347,slow=32
PDAR Pinedale Array 97.78 47 P **P 21 51 32.1 -0.6**
comp=Z,1.0nm,1.0s,baz=222,slow=2.0,SNR=6.6
PDAR LR LR 22 26 53.0
comp=Z,23nm,21.3s,baz=266,slow=30
comp=Z,1.0nm,1.0s
TXAR Lajitas Array 98.10 62 P **P 21 51 34.5 +0.2**
comp=Z,1.0nm,0.8s,baz=215,slow=5.6,SNR=8.2
TXAR LR LR 22 29 21.0
comp=Z,51nm,18.8s,baz=262,slow=32
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 101.48 28 P **Pdif 21 51 48.5 0.0**
comp=Z,0.8nm,0.7s,baz=251,slow=5.0,SNR=1.8
KURBB Kurchatov Arra 104.26 319 PP **PKiKP 21 56 17.4 -0.4**
comp=Z,2.3nm,1.1s,baz=102,slow=7.2,SNR=8.0
BVAR Borovoye Array 109.64 320 PKiKP **PKiKP 21 56 27.2 -0.5**
comp=Z,1.6nm,0.8s,baz=56,slow=3.7,SNR=7.4
ARU Arti 116.55 324 *i* PKIKP **PKiKP 21 56 41.1 +0.3**
ARU 21 57 47.4
ARU 22 03 53.2
ARU SS SS 22 13 51.2 -0.8
BELG Belogornoye 123.45 321 *i* PKIKP **PKPdf 21 56 53.5 -0.6**
APA Apatity 123.93 341 ⇓*i* PKIKP PKPdf 21 56 44.0 -11
APA pmax pmax
comp=Z,7.0nm,1.2s
APA MLR MLR
comp=Z,500nm,32.0s
KLMR Klimovskoe 125.02 332 *e*PKPdf **PKPdf 21 56 52.9 -4.0**
KLMR AMP 21 57 07.8
comp=Z,10.0nm,1.3s
KLMR Klimovskoe 125.02 332 *e*PKIKP **PKPdf 21 56 52.9 -4.0**
KLMR pmax pmax
comp=Z,10.0nm,1.3s
VRH Novokhopyorsk 127.30 320 *e*PKIKP **PKPdf 21 57 00.3 -1.2**
VRH pmax pmax
comp=Z,9.0nm,0.9s
LPSR Galich'ya Gora 128.51 323 *e*PKIKP **PKPdf 21 57 02.2 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VORR Voronezh 128.65 321 *e*PKIKP **PKPdf 21 57 02.4 -1.7**
VORR pmax pmax
comp=Z,20nm,0.4s
VSR Storozhevoye 128.83 321 *e*PKIKP **PKPdf 21 57 00.3 -4.2**
VSR pmax pmax
comp=Z,5.0nm,0.7s
OBN Obninsk 128.86 326 ⇑*i* PKIKP **PKPdf 21 57 04.3 -0.1**
OBN *e* 21 57 11.1
OBN *i* PS **PS 22 09 20.0 -0.2**
OBN SS SS 22 16 58.0 +30
OBN pmax pmax
comp=Z,26nm,2.5s
FINES FINESS Array B 130.20 337 PKP **PKPdf 21 57 06.3 -0.5**
comp=Z,5.5nm,1.0s,baz=202,slow=4.1,SNR=3.4
SOC Sochi 130.50 311 *i* PKIKP **PKPdf 21 57 07.3 -0.6**
SOC *e* 21 59 20.7
SOC *e*PPP PPP 22 02 11.0
SOC *e* 22 04 18.7
SOC *e*PS **PS 22 09 23.4 -12**
SOC *e*SS SS 22 16 50.0 +0.7
SOC *e*SSS SSS 22 21 36.6
AKASG Malin Array Be 134.79 324 *c i* PKIKP **PKPdf 21 57 15.8 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 134.79 324 PKP **PKPdf 21 57 14.7 -1.1**
comp=Z,1.5nm,0.7s,baz=80,slow=1.7,SNR=4.7
VYHS Vyhne 141.65 326 *e*PKIKP **PKPdf 21 57 25.5 -3.0**
VYHS Vyhne 141.65 326 *e*PKP **PKPdf 21 57 25.5 -3.0**
DPC Dobruska-Polom 141.69 330 *e*PKIKP **PKPdf 21 57 26.1 -2.4**
DPC Dobruska-Polom 141.69 330 *e*PKPDF **PKPdf 21 57 26.1 -2.4**
CLL Collm 142.46 334 *e*PKIKP **PKiKP 21 57 32.0 -0.9**
CLL Collm 142.46 334 *e*PKPdf **PKiKP 21 57 32.0 -0.9**
PRU Pruhonice 142.76 331 *e*PKPDF PKiKP 21 57 45.0 +11
ZVC Zvikov 143.31 331 *e*PKPDF PKPbc 21 57 29.0 +0.5
RONA Rosalia, Austr 143.47 327 *i* PKP PKPbc 21 57 29.8 +0.7
comp=Z,5.1nm,1.0s
RONA *i* pPKiKP pPKiKP 21 57 42.5 +0.7
comp=Z,2.7nm,0.6s
EKA Eskdalemuir Ar 143.48 351 PKhKP PKPpre 21 57 18.6
comp=Z,1.3nm,0.8s,baz=296,slow=28,SNR=3.4
EKA PKP PKPbc 21 57 29.7 +1.0
comp=Z,1.8nm,0.7s,baz=20,slow=2.3,SNR=2.2
DIVS Divibare 143.53 320 *e*P **PKiKP 21 57 35.8 +0.4**
CONA Conrad Observa 143.54 328 *i* PKP PKPbc 21 57 30.4 +1.1
comp=Z,11nm,1.2s,SNR=6.1
CONA *i* pPKiKP pPKiKP 21 57 42.4 +0.3
comp=Z,6.4nm,1.2s
CKRC Cesky Krumlov 143.69 330 *e*PKIKP PKPbc 21 57 30.6 +1.0
CKRC Cesky Krumlov 143.69 330 *e*PKPDF PKPbc 21 57 30.6 +1.0
KHC Kasperske Hory 143.81 331 *e*PKIKP PKPab 21 57 29.4 +0.1
KHC Kasperske Hory 143.81 331 *e*PKPDF PKPab 21 57 29.4 +0.1
GERES GERESS Array B 143.96 331 PKP PKPbc 21 57 31.4 +0.9
comp=Z,3.2nm,0.8s,baz=359,slow=4.9,SNR=9.3
SJES Sjenica 143.98 318 *e*P PKPbc 21 57 31.5 +0.7
BBLS Lazići 144.01 320 *e*P PKPbc 21 57 30.9 +0.1
ARSA Arzberg 144.16 327 *i* PKP PKPbc 21 57 31.3 +0.2
comp=Z,9.4nm,1.1s
RUDO Rudo 144.17 319 *e*P **PKPab 21 57 30.3 -0.5**
FNA Florina 144.26 314 PKPdf **PKPab 21 57 30.4 -0.9**
FNA Florina 144.26 314 PKIKP **PKPab 21 57 30.4 -0.9**
MOA Molln 144.39 329 *i* PKP PKPbc 21 57 32.3 +0.5
comp=Z,21nm,0.9s,SNR=9.2
MOA *i* pPKiKP pPKiKP 21 57 44.5 +0.8
comp=Z,14nm,0.8s
GRF Grafenberg Arr 144.43 334 *e*PKPbc PKPbc 21 57 32.2 +0.3
baz=40,slow=3.0
LOBO Lobor 144.59 325 *i* P **PKPab 21 57 32.4 +0.1**
SOKA Soboth 144.79 327 *i* PKP **PKPab 21 57 33.1 -0.1**
comp=Z,21nm,1.1s,SNR=16
BIOA Bad Ischl, Aus 144.80 329 *i* PKP **PKPab 21 57 33.2 +0.1**
comp=Z,17nm,1.2s,SNR=7.2
BIOA *i* pPKiKP **pPKiKP 21 57 45.4 +0.8**
comp=Z,13nm,0.9s
BLY Banja Luka 144.83 323 *e*P **PKPab 21 57 33.2 0.0**
PDG Podgorica 144.86 318 *e*P **PKPab 21 57 32.4 -1.0**
DRME Dracevica, Mon 145.03 317 *e*P **PKPbc 21 57 33.3 -0.7**
NEVS Nevesinje 145.12 320 *e*P **PKPbc 21 57 34.3 0.0**
CRES Cresnjev 145.13 325 *i* PKPbc **PKPab 21 57 34.5 +0.2**
CRES *i* pPKPbc **sPKPdf 21 57 45.9 +2.2**
OBKA Obir 145.16 327 *i* PKP **PKPbc 21 57 34.3 -0.1**
comp=Z,16nm,1.0s,SNR=7.0
OBKA Obir 145.16 327 *e*P **PKPbc 21 57 34.2 -0.2**
OZLJ Ozalj 145.25 325 *i* P **PKPab 21 57 34.8 +0.1**
A254A Petrova Gora 145.26 324 *i* P **PKPab 21 57 35.0 +0.2**
HCY Herceg Novi 145.33 318 *e*P **PKPbc 21 57 34.7 -0.3**
KBA Koelnbreinsper 145.37 329 *i* PKP **PKPbc 21 57 34.9 -0.3**
comp=Z,22nm,1.0s
DBRK Dubrovnik 145.43 319 *i* P **PKPbc 21 57 34.9 -0.4**
BOJS Bojanci 145.44 325 *e*P **PKPab 21 57 35.7 +0.3**
BOJS Bojanci 145.44 325 *i* PKPbc **PKPab 21 57 35.8 +0.3**
BOJS *i* pPKPbc sPKPbc 21 57 47.1 +2.8
LESA Schwarzleotal 145.45 330 *i* PKP **PKPbc 21 57 35.3 0.0**
comp=Z,42nm,1.1s
LESA *i* pPKiKP **pPKiKP 21 57 47.4 +1.4**
comp=Z,21nm,0.7s
LJU Ljubljana 145.48 326 *i* PKPbc **PKPdf 21 57 35.5 +0.2**
LJU *i* pPKPbc sPKPab 21 57 47.0 +2.6
MYKA Terra Mystica 145.54 328 *i* PKP **PKPdf 21 57 35.0 -0.4**
comp=Z,10.0nm,0.7s,SNR=5.8
RICI Ricice 145.59 321 *i* P **PKPdf 21 57 34.7 -0.9**
STON Ston 145.60 319 *i* P **PKPdf 21 57 34.3 -1.3**
STON Ston 145.60 319 *e*P **PKPdf 21 57 34.8 -0.7**
BTNL Ternell 145.64 339 *d*PKP **PKPdf 21 57 35.6 +0.2**
MEM Membach 145.66 339 *d*PKP **PKPab 21 57 36.3 +0.3**
CEY Cerknica 145.73 326 *e*P **PKPbc 21 57 36.2 0.0**
UDBI Udbina 145.77 323 *i* P **PKPdf 21 57 35.7 -0.2**
BSTI Sart Tilman 145.83 340 *d*PKP **PKPab 21 57 36.8 +0.2**
BHOU Houvegnez 145.88 339 *d*PKP **PKPab 21 57 37.0 +0.1**
ABTA Abfaltersbach 146.01 329 *i* PKP **PKPdf 21 57 36.2 -0.1**
comp=Z,26nm,1.1s,SNR=12
WATA Walderalm 146.03 331 *i* PKP **PKPbc 21 57 37.1 -0.1**
comp=Z,39nm,1.7s,SNR=8.9
BCLA Clavier 146.05 340 *d*PKPdf **PKPdf 21 57 36.0 -0.1**
WTTA Wattenberg 146.06 330 *i* PKP **PKPbc 21 57 37.3 0.0**
comp=Z,39nm,1.2s,SNR=16
BGES Gesves 146.15 340 *d*PKP **PKPab 21 57 38.3 +0.4**
HVAR Hvar 146.18 321 *i* P **PKPdf 21 57 36.9 +0.4**
MORI Morici 146.21 322 *i* P **PKPdf 21 57 37.0 +0.5**
MOTA Moosalm 146.25 331 *e*PKP **PKPbc 21 57 37.9 +0.1**
comp=Z,28nm,1.0s,SNR=14
MOTA *i* pPKiKP **pPKiKP 21 57 49.9 +2.2**
comp=Z,23nm,0.9s
NVLJ Novalja 146.25 324 *i* P **PKPdf 21 57 37.2 +0.6**
SQTA Sankt Quirin 146.29 331 *i* PKP **PKPbc 21 57 37.9 0.0**
comp=Z,26nm,1.0s,SNR=18
SQTA *i* pPKiKP **pPKiKP 21 57 50.0 +2.3**
comp=Z,20nm,0.8s
RETA Reutte 146.30 331 *e*PKP **PKPbc 21 57 38.0 +0.2**
comp=Z,11nm,1.0s,SNR=5.9
RCHB Rochefort 146.31 340 *d*PKP **PKPbc 21 57 37.5 -0.2**
VIRC Vir 146.32 324 *i* P **PKPbc 21 57 37.6 -0.3**
BMRD Maredsous 146.33 340 *d*PKP **PKPbc 21 57 37.9 +0.1**
ZIRJ Zirje 146.37 322 *i* P **PKPdf 21 57 37.3 +0.5**
WLF Walferdange 146.41 338 *d*PKP **PKPab 21 57 38.9 0.0**
DUGI Dugi Otok 146.50 323 *i* P **PKPdf 21 57 37.8 +0.7**
DOU Dourbes 146.56 340 *d*PKP **PKPbc 21 57 38.9 +0.4**
FETA Feichten 146.66 331 *e*PKP **PKPbc 21 57 39.1 0.0**
comp=Z,18nm,0.9s,SNR=7.1
BFO Black Forest 146.69 335 **PKPbc 21 57 39.1 +0.2**
BFO Black Forest 146.69 335 PKP2 **PKPbc 21 57 39.1 +0.2**
DAVA Damuels 146.84 332 *i* PKP **PKPbc 21 57 39.2 -0.4**
comp=Z,17nm,1.1s,SNR=5.3
SGRT San Giovanni R 147.43 319 **PKPbc 21 57 40.5 -0.8**
INTR Introdacqua 148.38 321 PKPbc **PKPbc 21 57 43.2 -0.6**
CASP Castiglione de 149.60 325 PKPbc **PKPbc 21 57 45.2 -1.6**
BNI Bardonecchia 149.98 333 **PKPbc 21 57 46.9 -0.9**
BNI Bardonecchia 149.98 333 PKP2 **PKPbc 21 57 46.9 -0.9**
KEST Kesra 154.96 315 PKPbc **PkiKP 21 57 59.7 +0.4**
comp=Z,3.4nm,0.9s,baz=78,slow=9.3,SNR=4.7
ESDC Sonseca Array 158.57 342 PKPab **PKPab 21 58 29.7 -0.3**
comp=Z,2.8nm,1.0s,baz=16,slow=3.4,SNR=12
TAM Tamanrasset 163.06 285 PKPab **PKPab 21 58 51.1 +0.7**
TAM Tamanrasset 163.06 285 PKP2 **PKPab 21 58 51.1 +0.7**
TORD Torodi Ar. Bea 165.23 247 PKP **PKPdf 21 58 01.6 -0.8**
comp=Z,1.9nm,1.2s,baz=106,slow=2.4,SNR=4.8
TORD PKPab **PKPab 21 58 58.6 -1.2**
comp=Z,2.7nm,1.0s,baz=85,slow=3.5,SNR=7.6

IDC ***02*** *22:06:01.6±1.0, 15°.62S×68°.93W, h262km±5km, mb3.3/2, mbtmp3.9/5, Error ellipse: s-maj=29.5km s-min=23.8km az=71.0*
ISC 02 22:06:00.8±0.7, 15°.5S±0°.1×69°.0W±0°.1, h250km, n14, σ1§55/13, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.13**	**133**	P	**Pn**	**22 06 39.0**	**+1.6**
	33nm,0.3s,baz=321,slow=6.3,SNR=179						
LPAZ				S	**S**	**22 07 08.2**	**+2.2**
	128nm,0.5s,baz=127,slow=22,SNR=70						
SIV	**San Ignacio**	**7.64**	**95**	P	**Pn**	**22 07 49.5**	**-0.1**
	0.9nm,0.4s,baz=271,slow=9.1,SNR=2.3						
ATAH	**Atahualpa**	**12.42**	**311**	P	**Pn**	**22 08 51.2**	**+1.0**
	7.9nm,0.9s,baz=150,slow=21,SNR=4.1						
MCRA	**Macar, Loja**	**15.46**	**315**	*e*P	**P**	**22 09 24.1**	**-1.8**
CFA	**Coronel Fontan**	**16.04**	**178**	P	**P**	**22 09 31.2**	**-0.9**
	3.0nm,0.5s,baz=346,slow=14,SNR=5.8						
COHC	**Cochancay**	**16.44**	**321**	*e*P	P	22 09 27.5	-9.1
PTLC	**Puerto Leguiza**	**16.60**	**339**	*e*P	P	22 09 28.9	-10
SNAA	**Sanae**	**67.95**	**162**	P	**P**	**22 16 31.3**	**-1.3**
	0.6nm,0.5s,baz=304,slow=7.3,SNR=11						
	0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.49**	**72**	P	**P**	**22 17 17.6**	**-0.6**
	0.9nm,0.6s,baz=265,slow=4.3,SNR=10						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**136.29**	**30**	PKP	**PKPdf**	**22 24 51.8**	**-0.7**
	0.1nm,0.4s,baz=324,slow=2.2,SNR=1.5						
ZALV	**Zalesovo Beam**	**136.52**	**22**	PKP	**PKPdf**	**22 24 52.7**	**-0.1**
	1.0nm,0.6s,baz=307,slow=3.5,SNR=4.1						
WRA	**Warramunga Arr**	**137.96**	**214**	PKP	**PKPdf**	**22 24 54.9**	**-1.8**
	0.1nm,0.4s,baz=136,slow=1.5,SNR=4.9						
USRK	**Ussuriysk Ar.**	**146.31**	**332**	PKPbc	**PKPdf**	**22 25 11.3**	**+0.7**
	1.1nm,0.6s,baz=30,slow=4.7,SNR=4.3						
SONM	**Songino Array**	**147.54**	**6**	PKPbc	**PKPdf**	**22 25 15.1**	**+2.4**
	0.2nm,0.4s,baz=350,slow=1.4,SNR=4.3						

SJA ***02*** *22:07:52.1±1.9, 22°.26S×68°.76W, h125km, ML4.5, MW4.4*
VAO ***02*** *22:07:53.2±0.3, 21°.89S×68°.39W, h72km±5km, mb5.1*
NEIC ***02*** *22:07:54.3±1.6, 22°.24S±0°.03×68°.69W±0°.05, h107km±4km, mb4.7/79, Mwr4.4/28, Mwr4.5(GUC), Error ellipse: s-maj=7.9km s-min=2.4km az=61.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=3.78; $M_{\theta\theta}$=0.21; $M_{\phi\phi}$=3.58; $M_{r\theta}$=-0.12; $M_{\theta\phi}$=-1.08; $M_{\phi r}$=-3.95; Fault plane solution: M_0=5.51000×10^{15} NP1:φ=356.42000°, δ=68.23000°, λ=-80.25000°. NP2:φ=151.57000°, δ=23.75000°, λ=-112.97000°. Principal axes: T 5.4647, Plg23.0000°, Azm79.0000°; N 0.0897, Plg9.0000°, Azm173.0000°; P -5.5544, Plg65.0000°, Azm283.0000°;*
GUC ***02*** *22:07:54.4±0.8, 22°.21S×68°.73W, h112km±3km, ML4.6*
NEIC ***02*** *22:07:54.3, 22°.25S×68°.71W, h109km*
IDC ***02*** *22:07:54.6±0.5, 22°.35S×68°.79W, h111km±4km, mb4.0/8, mbtmp4.3/11, MS3.4/6, Error ellipse: s-maj=24.3km s-min=12.6km az=77.0*
ISC 02 22:07:53.8±0.4, 22°.26S±0°.03×68°.64W±0°.04, h109km±4km, n204, σ1§28/237, mb4.6/43, 8C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.43**	**216**	*e*P	**Pn**	**22 08 10.8**	**+0.4**
LVC				*e*S	**Sn**	**22 08 23.3**	**+0.2**
LVC	**Limon Verde**	**0.43**	**216**	P	**Pn**	**22 08 10.8**	**+0.4**
	3μm,0.3s,baz=31,slow=4.4,SNR=1911						
LVC				S	**Sn**	**22 08 22.9**	**-0.1**
	10μm,0.3s,baz=199,slow=2.1,SNR=34						
LVC	**Limon Verde**	**0.43**	**216**	⇓*i* P	**Pn**	**22 08 10.8**	**+0.4**
LVC				*e*S	**Sn**	**22 08 22.9**	**-0.1**
LVC	**Limon Verde**	**0.43**	**216**	*e*P	**Pn**	**22 08 10.9**	**+0.4**
LVC				*e*S	**Sn**	**22 08 23.0**	**-0.1**
LVC				IAML		22 08 24.2	
	comp=Z,16μm,0.4s						
PB09	**IPOC Station P**	**0.73**	**309**	Pn	**Pn**	**22 08 12.6**	**+0.2**
PB09				Sn	**Sn**	**22 08 26.2**	**-0.2**
PB09	**IPOC Station P**	**0.73**	**309**	⇑*i* P	**Pn**	**22 08 12.8**	**+0.3**
PB09				*e*S	**Sn**	**22 08 26.5**	**0.0**
PB09				IAML		22 08 29.4	
	comp=N,16μm,0.5s						
PB09	**IPOC Station P**	**0.73**	**309**	*e*P	**Pn**	**22 08 12.8**	**+0.3**
PB09				*e*S	**Sn**	**22 08 26.9**	**+0.4**
PB09				IAML		22 08 27.9	
	comp=Z,20μm,0.4s						
AF01	**San Pedro de A**	**0.81**	**149**	Pn	**Pn**	**22 08 14.6**	**+1.3**
AF01				Sn	**Sn**	**22 08 29.9**	**+2.0**
AF01	**San Pedro de A**	**0.81**	**149**	⇓*i* P	**Pn**	**22 08 14.8**	**+1.5**
AF01				*e*S	**Sn**	**22 08 30.1**	**+2.1**
AF01				IAML		22 08 32.5	
	comp=E,32μm,0.5s						
PB06	**IPOC Station P**	**0.97**	**243**	Pn	**Pn**	**22 08 14.8**	**+0.1**
PB06				Sn	**Sn**	**22 08 30.1**	**-0.4**
PB06	**IPOC Station P**	**0.97**	**243**	⇑*i* P	**Pn**	**22 08 14.8**	**+0.1**
PB06				*e*S	**Sn**	**22 08 30.3**	**-0.2**
PB06				IAML		22 08 31.5	
	comp=N,23μm,0.6s						
PB06	**IPOC Station P**	**0.97**	**243**	*e*P	**Pn**	**22 08 14.8**	**+0.1**
PB06				*e*S	**Sn**	**22 08 30.8**	**+0.2**
PB06				IAML		22 08 31.3	
	comp=Z,10μm,0.5s						
PB15	**IPOC Station P**	**1.22**	**219**	Pn	**Pn**	**22 08 18.0**	**+0.5**
PB15				Sn	**Sn**	**22 08 36.0**	**+0.6**
PB15	**IPOC Station P**	**1.22**	**219**	⇑*i* P	**Pn**	**22 08 18.0**	**+0.5**
PB15				*e*S	**Sn**	**22 08 36.1**	**+0.8**
PB07	**IPOC Station P**	**1.28**	**294**	Pn	**Pn**	**22 08 17.7**	**-0.4**
PB07				Sn	**Sn**	**22 08 35.1**	**-1.3**
PB07	**IPOC Station P**	**1.28**	**294**	⇑*i* P	**Pn**	**22 08 18.0**	**-0.1**
PB07				*e*S	**Sn**	**22 08 35.3**	**-1.1**
PB07				IAML		22 08 36.6	
	comp=E,19μm,0.3s						
PB07	**IPOC Station P**	**1.28**	**294**	*e*P	**Pn**	**22 08 17.7**	**-0.4**
PB07				*e*S	**Sn**	**22 08 35.5**	**-0.9**
PB07				IAML		22 08 36.9	
	comp=Z,6μm,0.3s						
PB04	**IPOC Station P**	**1.41**	**267**	Pn	**Pn**	**22 08 18.8**	**-0.7**
PB04	**IPOC Station P**	**1.41**	**267**	⇑*i* P	**Pn**	**22 08 19.2**	**-0.4**
PB04				*e*S	**Sn**	**22 08 38.5**	**-0.6**
PB04				IAML		22 08 41.5	
	comp=N,7μm,0.4s						
PB04	**IPOC Station P**	**1.41**	**267**	*e*P	**Pn**	**22 08 19.1**	**-0.4**
PB04				*e*S	**Sn**	**22 08 39.5**	**+0.4**
PB04				IAML		22 08 43.9	
	comp=Z,4μm,0.2s						
PB01	**IPOC Station P**	**1.45**	**327**	Pn	**Pn**	**22 08 19.8**	**-0.2**
PB01	**IPOC Station P**	**1.45**	**327**	*i* P	**Pn**	**22 08 19.9**	**-0.1**
PB01				*e*S	**Sn**	**22 08 38.7**	**-1.2**
PB01				IAML		22 08 40.0	
	comp=E,11μm,0.2s						
PB01	**IPOC Station P**	**1.45**	**327**	*e*P	**Pn**	**22 08 19.8**	**-0.2**
PB01				*e*S	**Sn**	**22 08 38.6**	**-1.2**
PB01				IAML		22 08 43.4	
	comp=Z,3μm,0.2s						
PB02	**IPOC Station P**	**1.50**	**308**	Pn	**Pn**	**22 08 20.3**	**-0.3**
PB02	**IPOC Station P**	**1.50**	**308**	⇑*i* P	**Pn**	**22 08 20.4**	**-0.3**
PB02				*e*S	**Sn**	**22 08 39.5**	**-1.5**
PB02				IAML		22 08 41.0	
	comp=E,10μm,0.3s						
PB02	**IPOC Station P**	**1.50**	**308**	*e*P	**Pn**	**22 08 20.1**	**-0.5**
PB02				*e*S	**Sn**	**22 08 39.8**	**-1.2**
PB02				IAML		22 08 43.3	
	comp=Z,10μm,0.4s						
PATCX	**Punta Patache**	**2.01**	**315**	Pn	**Pn**	**22 08 26.2**	**-0.8**
PATCX	**Punta Patache**	**2.01**	**315**	*i* P	**Pn**	**22 08 26.2**	**-0.8**
PATCX				*e*S	**Sn**	**22 08 50.4**	**-1.9**
PATCX				IAML		22 08 53.1	
	comp=N,5μm,0.5s						
PATCX	**Punta Patache**	**2.01**	**315**	*e*P	**Pn**	**22 08 26.1**	**-0.8**
PATCX				*e*S	**Sn**	**22 08 49.9**	**-2.4**
PATCX				IAML		22 08 58.2	
	comp=Z,3μm,0.5s						
PB08	**IPOC Station P**	**2.16**	**347**	Pn	**Pn**	**22 08 29.5**	**+0.3**
PB08	**IPOC Station P**	**2.16**	**347**	*i* P	**Pn**	**22 08 29.8**	**+0.6**
PB08				*e*S	**Sn**	**22 08 56.5**	**+0.3**
PB08	**IPOC Station P**	**2.16**	**347**	*e*P	**Pn**	**22 08 30.1**	**+0.9**
PB08				*e*S	**Sn**	**22 08 56.9**	**+0.7**
PB08				IAML		22 09 00.3	
	comp=Z,769nm,0.6s						
TA01	**Diego Aracena**	**2.22**	**319**	Pn	**Pn**	**22 08 28.4**	**-1.1**
TA01	**Diego Aracena**	**2.22**	**319**	*i* P	**Pn**	**22 08 28.8**	**-0.7**
TA01				*e*S	**Sn**	**22 08 55.3**	**-1.6**
TA01				IAML		22 09 02.6	
	comp=E,2μm,0.3s						
HMBC	**Humberstone**	**2.29**	**329**	*i* P	**Pn**	**22 08 30.8**	**+0.2**
HMBC				*e*S	**Sn**	**22 08 57.3**	**-1.5**
HMBC				IAML		22 08 58.9	
	comp=N,5μm,0.3s						
TA02	**Huaiquique**	**2.42**	**325**	Pn	**Pn**	**22 08 30.8**	**-1.3**
TA02	**Huaiquique**	**2.42**	**325**	*i* P	**Pn**	**22 08 32.6**	**+0.5**
GO01	**Chusmiza**	**2.63**	**348**	Pn	**Pn**	**22 08 35.5**	**+0.1**
GO01	**Chusmiza**	**2.63**	**348**	*i* P	**Pn**	**22 08 35.7**	**+0.3**
GO01				*e*S	**Sn**	**22 09 06.8**	**-0.4**
GO01				IAML		22 09 10.9	
	comp=N,2μm,0.3s						
PB14	**IPOC Station P**	**2.86**	**214**	Pn	**Pn**	**22 08 37.0**	**-1.2**
PB14	**IPOC Station P**	**2.86**	**214**	⇓*i* P	**Pn**	**22 08 37.8**	**-0.4**
GO02	**Mina Guanaco**	**3.02**	**197**	Pn	**Pn**	**22 08 40.0**	**-0.3**
PB12	**IPOC Station P**	**3.96**	**336**	Pn	**Pn**	**22 08 50.5**	**-2.1**
PB16	**IPOC Station P**	**3.99**	**348**	Pn	**Pn**	**22 08 53.1**	**-0.4**
AC01	**Pan de Azucar**	**4.26**	**204**	Pn	**Pn**	**22 08 54.8**	**-1.9**
AC02	**Maricunga**	**4.58**	**186**	Pn	**Pn**	**22 09 01.3**	**0.0**
PB18	**Visviri**	**4.71**	**350**	Pn	**Pn**	**22 09 01.8**	**-1.5**
AC06	**Mina Casimiro**	**5.31**	**197**	Pn	**Pn**	**22 09 08.0**	**-2.8**
GO03	**Copiap**	**5.50**	**195**	Pn	**Pn**	**22 09 10.9**	**-2.6**
LPAZ	**La Paz**	**5.96**	**5**	Pn	**Pn**	**22 09 21.3**	**+1.1**
LPAZ	**La Paz**	**5.96**	**5**	*e*P	**Pn**	**22 09 22.4**	**+2.3**
LPAZ	**La Paz**	**5.96**	**5**	P	**Pn**	**22 09 22.3**	**+2.1**
	comp=N,7.4nm,0.4s,baz=184,slow=7.7,SNR=7.1						
LPAZ				S	**Sn**	**22 10 21.6**	**-5.9**
	comp=N,19nm,0.6s,baz=187,slow=13,SNR=3.6						
LPAZ				LR	LR	22 11 51.1	
	comp=N,14nm,19.7s,baz=236,slow=39						
AC04	**Llanos de Chal**	**6.32**	**200**	Pn	Pn	22 09 19.9	-4.6
AC05	**El Transito**	**6.71**	**192**	Pn	**Pn**	**22 09 26.8**	**-3.1**
LCO	**Las Campanas**	**6.98**	**195**	Pn	**Pn**	**22 09 29.8**	**-3.8**
CO01	**Juntas del Tor**	**7.80**	**189**	Pn	**Pn**	**22 09 43.1**	**-1.6**
CO05	**La Serena**	**7.98**	**197**	Pn

ALGR Alto Alegre (B 15.51 118 *eP* **Pn 22 11 27.1 +0.5**
ITAB Concordia 15.79 112 Pn 22 11 31.2 +1.3
ITAB IAmb IAmb 22 11 32.6
comp=Z,43nm,0.6s
ITAB Concordia 15.79 112 *eP* **Pn 22 11 29.3 -0.7**
LDASE Londrina, Braz 16.19 97 *eP* **Pn 22 11 33.6 -1.5**
PLTB Pedras Altas 16.39 128 Pn **Pn 22 11 36.1 -1.3**
TRQA Tornquist 16.75 161 Pn **Pn 22 11 40.6 -1.3**
ITRB Iturama 17.26 85 *eP* **P 22 11 48.0 0.0**
CNLB Canela 17.48 117 *eP* **P 22 11 50.3 -0.1**
FRTB Fartura 17.62 97 *eP* **P 22 11 51.8 -0.1**
PLCA Paso Flores 18.49 185 P **P 22 12 01.7 +0.3**
PLCA Paso Flores 18.49 185 P **P 22 12 02.0 +0.6**
comp=Z,2.5nm,0.6s,baz=354,slow=11,SNR=6.2
PLCA LR LR 22 20 08.1
comp=Z,98nm,19.2s,baz=279,slow=40
BB19B Bebedouro 18.73 90 *eP* **P 22 12 03.5 -0.7**
TEFE Tefe 19.04 12 *eP* **P 22 12 06.1 -1.4**
SNDB Serra Nova Dou 19.45 61 *eP* **P 22 12 10.3 -1.8**
RCLB Rio Claro- Sao 19.52 94 *eP* **P 22 12 12.2 -0.6**
IPMB Ipameri, GO 19.64 81 *eP* **P 22 12 13.2 -0.9**
PET01 Itanhaem-SP 19.73 100 *eP* **P 22 12 14.5 -0.4**
NPGB Novo Progresso 19.82 42 *eP* **P 22 12 13.8 -2.2**
MACA Manacapuru-AM 20.49 23 P **P 22 12 21.7 -1.6**
MACA Manacapuru-AM 20.49 23 *eP* **P 22 12 21.4 -1.8**
BDFB Brasilia 20.57 75 P **P 22 12 22.7 -1.5**
BDFB IAmb IAmb 22 12 25.6
comp=Z,21nm,0.7s
BDFB Brasilia 20.57 75 P **P 22 12 22.9 -1.3**
comp=Z,19nm,0.6s,baz=256,slow=11,SNR=24
BDFB LR LR 22 21 38.5
comp=Z,85nm,18.8s,baz=52,slow=40
MCRA Macar, Loja 20.89 327 P **P 22 12 28.0 +0.4**
PARB Paraibuna 21.24 97 *eP* **P 22 12 30.6 -0.8**
BOSC San Juan Bosco 21.27 332 P **P 22 12 30.4 -1.4**
ITTB Itaituba 21.74 37 *eP* **P 22 12 34.0 -2.6**
SGCB SÃo Gabriel d 22.06 4 *eP* **P 22 12 39.2 -0.7**
BSCB Bom Sucesso 22.21 91 *eP* **P 22 12 40.8 -0.8**
COHC Cochancay 22.22 331 P **P 22 12 42.9 +1.3**
PRPB Parauapebas 24.21 51 *eP* **P 22 12 59.0 -1.5**
MALB Monte Alegre 24.63 37 *eP* **P 22 13 02.8 -1.5**
BOAV Boa Vista 25.75 19 P **P 22 13 14.5 +0.1**
BOAV IAmb IAmb 22 13 15.8
comp=Z,9.1nm,0.7s
BOAV Boa Vista 25.75 19 *eP* **P 22 13 15.1 +0.6**
BCIP Isla Barro Col 33.11 339 P **P 22 14 19.5 -0.1**
FDF Fort de France 37.49 12 P **P 22 14 58.2 +1.0**
MTO3 Montecristo 41.71 329 P **P 22 15 33.6 +1.2**
MTO3 IAmb IAmb 22 15 34.6
comp=Z,13nm,0.8s
TEIG Tepich 46.38 334 P **P 22 16 10.4 +1.0**
Y49A Blount Mountai 58.32 343 P **P 22 17 36.9 -0.5**
Y49A IAmb IAmb 22 17 41.9
comp=Z,11nm,1.3s
833A Chaparral WMA, 58.40 328 P **P 22 17 38.5 +0.5**
HNDO Hondo 59.34 329 P **P 22 17 44.8 +0.2**
HNDO IAmb IAmb 22 17 46.0
comp=Z,15nm,0.7s
T57A Hurt 59.78 350 P **P 22 17 47.8 +0.4**
WHTX Lake Whitney, 60.59 332 P **P 22 17 53.6 +0.6**
WVT Waverly 60.85 342 P **P 22 17 54.0 -0.7**
WVT IAmb IAmb 22 17 55.1
comp=Z,10.0nm,0.8s
MIAR Mount Ida 61.27 337 P **P 22 17 56.8 -0.8**
OZNA Ozona 61.39 328 P **P 22 17 58.2 -0.3**
OZNA IAmb IAmb 22 17 60.0
comp=Z,15nm,1.4s
TX31 Lajitas Ar. Si 61.40 325 P **P 22 17 58.6 0.0**
TX31 IAmb IAmb 22 18 21.6
comp=Z,6.5nm,1.1s
TX32 Lajitas Array 61.40 325 P **P 22 17 58.1 -0.6**
TXAR Lajitas Array 61.40 325 P **P 22 17 58.6 0.0**
TXAR Lajitas Array 61.40 325 P **P 22 17 58.8 +0.1**
comp=Z,1.0nm,0.6s,baz=150,slow=8.8,SNR=15
comp=Z,1.0nm,0.6s
WHAR Wooly Hollow 61.48 338 P **P 22 17 58.3 -0.6**
WHAR IAmb IAmb 22 17 59.1
comp=Z,15nm,1.3s
SNAA Sanae 61.48 161 P **P 22 17 58.9 +0.2**
SNAA Sanae 61.48 161 ⇑P **P 22 17 59.8 +1.1**
comp=Z,47nm,0.4s
SNAA Sanae 61.48 161 P **P 22 17 59.1 +0.5**
comp=Z,2.5nm,0.6s,baz=282,slow=8.8,SNR=23
SNAA pP **pP 22 18 26.4 +0.1**
comp=Z,1.2nm,0.6s,baz=258,slow=9.8,SNR=3.1
comp=Z,2.5nm,0.6s
Q56A Snyder Ridge, 61.77 351 P **P 22 18 02.1 +1.2**
Q56A IAmb IAmb 22 18 37.2
comp=Z,16nm,1.4s
X37A Clayton 61.98 335 P **P 22 18 02.5 +0.2**
WTFS Witchita Falls 62.54 332 P **P 22 18 06.2 +0.1**
WTFS IAmb IAmb 22 18 07.1
comp=Z,18nm,0.6s
APMT Aspermont 62.91 331 P **P 22 18 08.6 0.0**
APMT IAmb IAmb 22 18 09.7
comp=Z,14nm,0.9s
TROLL Troll, Antarti 63.20 161 ⇑P **P 22 18 11.6 +1.4**
comp=Z,164nm,0.5s
425A Indio Mountain 63.24 325 P **P 22 18 10.7 -0.3**
425A IAmb IAmb 22 18 12.5
comp=Z,8.6nm,0.8s
FVM French Village 63.33 341 P **P 22 18 10.4 -0.9**
FVM IAmb IAmb 22 18 11.7
comp=Z,12nm,0.7s
CCM Cathedral Cave 63.65 340 P **P 22 18 12.8 -0.5**
CCM IAmb IAmb 22 18 13.4
comp=Z,8.3nm,0.8s
S39A Bolivar 64.00 338 P **P 22 18 15.3 -0.3**
S39A IAmb IAmb 22 18 16.4
comp=Z,12nm,0.7s
MNTX Cornudas Mount 64.17 325 P **P 22 18 17.0 +0.1**
R40A Maddies Statio 64.19 339 P **P 22 18 15.2 -1.6**
R40A IAmb IAmb 22 18 17.3
comp=Z,6.7nm,0.7s
J59A Piesco 65.62 355 P **P 22 18 26.7 +0.6**
J59A IAmb IAmb 22 19 05.2
comp=Z,22nm,1.4s
121A Cookes Peak, D 66.09 324 P **P 22 18 30.1 +0.6**
121A IAmb IAmb 22 18 31.7
comp=Z,3.5nm,0.7s
GGN Saint George 67.07 1 P **P 22 18 35.7 +0.5**
ANMO Albuquerque 67.27 327 P **P 22 18 38.1 +1.1**
ANMO IAmb IAmb 22 18 39.3
comp=Z,7.4nm,0.8s
CBKS Cedar Bluff 67.38 334 P **P 22 18 35.4 -2.0**
TUC Tucson 67.59 322 P **P 22 18 39.2 +0.3**
TUC IAmb IAmb 22 18 41.0
comp=Z,6.6nm,1.2s
QSPA South Pole Qui 67.94 180 P **P 22 18 42.2 +1.4**
QSPA IAmb IAmb 22 18 42.8
comp=Z,8.2nm,0.6s
DBIC Dimbokro 68.71 73 P **P 22 18 45.6 -0.6**
KSCO Kaye Shedlock' 68.76 332 P **P 22 18 46.5 +0.3**
L34A Svendsen Farm, 68.87 338 P **P 22 18 45.7 -0.9**
BGNE Belgrade 69.01 337 P **P 22 18 46.5 -1.0**
S22A 4UR Ranch, Cre 69.66 328 P **P 22 18 52.4 +0.4**
MVCO Mesa Verde 70.07 327 P **P 22 18 53.9 -0.5**
MVCO IAmb IAmb 22 18 56.7
comp=Z,8.7nm,0.8s
ISCO Idaho Springs 70.73 331 P **P 22 18 57.9 -0.6**
ISCO IAmb IAmb 22 19 00.6
comp=Z,5.5nm,0.8s
U15A North Rim 71.47 324 P **P 22 19 03.9 +1.0**
N23A Red Feather La 71.76 331 P **P 22 19 05.6 +1.0**
N23A IAmb IAmb 22 19 06.8
comp=Z,9.2nm,0.8s
PHWY Pilot Hill 71.88 332 P **P 22 19 04.6 -0.7**
PHWY IAmb IAmb 22 19 07.3
comp=Z,12nm,1.4s
KNB Kanab 72.19 324 P **P 22 19 07.7 +0.5**
KNB IAmb IAmb 22 19 10.4
comp=Z,9.8nm,0.9s
O20A White River Ci 72.22 329 P **P 22 19 07.8 +0.5**
O20A IAmb IAmb 22 19 09.7
comp=Z,14nm,0.9s
SRU San Rafael Swe 72.55 327 P **P 22 19 08.9 -0.4**
SRU IAmb IAmb 22 19 11.4
comp=Z,9.0nm,0.8s
MTPU Mount Pierson 72.60 325 P **P 22 19 09.7 -0.1**
P18A Preston Nutter 72.80 328 P **P 22 19 10.9 +0.1**
P18A IAmb IAmb 22 19 13.4
comp=Z,9.4nm,0.8s
MSU Marysvale 72.95 326 P **P 22 19 12.9 +1.2**
RWWY Rawlins 72.97 331 P **P 22 19 11.1 -0.6**
RWWY IAmb IAmb 22 19 14.0
comp=Z,8.9nm,0.8s
RSSD Black Hills 73.59 334 P **P 22 19 15.2 -0.1**
RSSD IAmb IAmb 22 19 17.6
comp=Z,12nm,1.2s
BSUT Blindstream Ca 73.75 328 P **P 22 19 17.3 +0.8**
BSUT IAmb IAmb 22 19 19.0
comp=Z,8.2nm,0.9s
PSUT Pine Spring 73.85 325 P **P 22 19 16.3 -0.7**
DUG Dugway, Tooele 74.53 326 P **P 22 19 21.4 +0.7**
GMN Gold Mountain 74.87 322 P **P 22 19 22.1 -0.8**
PDAR Pinedale Array 74.89 330 P **P 22 19 23.0 +0.1**
comp=Z,0.6nm,0.5s,baz=138,slow=8.8,SNR=8.1
PDAR pP **pP 22 19 52.8 +1.1**
comp=Z,0.6nm,0.5s,baz=123,slow=8.4,SNR=4.1
comp=Z,0.6nm,0.5s
HWUT Hardware Ranch 74.96 328 P **P 22 19 23.4 +0.1**
HWUT IAmb IAmb 22 19 25.2
comp=Z,8.2nm,1.2s
ID10 Lander Cutoff 75.33 329 P **P 22 19 25.1 -0.3**
ID10 IAmb IAmb 22 19 27.4
comp=Z,13nm,0.9s
ULM Lac du Bonnet 76.11 342 P **P 22 19 29.1 -0.2**
comp=Z,2.7nm,0.6s,baz=157,slow=5.9,SNR=4.8
comp=Z,2.7nm,0.6s
ELK Elko 76.19 325 P **P 22 19 29.8 -0.6**
NVAR Mina Array Bea 76.25 322 P **P 22 19 32.0 +1.3**
comp=Z,0.7nm,0.7s,baz=156,slow=6.9,SNR=6.2
NVAR pP **pP 22 20 01.2 +1.6**
comp=Z,1.0nm,0.9s,baz=154,slow=7.9,SNR=3.0
comp=Z,0.7nm,0.7s
FXWY Fox Creek 76.25 330 P **P 22 19 30.2 -0.4**
IMW Indian Meadow 76.41 330 P **P 22 19 31.5 -0.1**
KVN Kaiserville 76.56 323 P **P 22 19 31.4 -1.1**
YHH Holmes Hill 77.05 331 P **P 22 19 36.2 +1.0**
TORD Torodi Ar. Bea 77.37 70 P **P 22 19 38.9 +1.6**
comp=Z,11nm,0.5s,baz=257,slow=5.7,SNR=60
TORD pP **pP 22 20 06.0 -0.3**
comp=Z,3.9nm,0.6s,baz=259,slow=4.2,SNR=3.2
comp=Z,11nm,0.5s
HLID Hailey 77.82 328 P **P 22 19 40.8 +1.4**
HLID IAmb IAmb 22 19 42.2
comp=Z,7.2nm,0.8s
MCMT McKenzie Canyo 78.00 330 P **P 22 19 41.0 +0.6**
PLID Pearl Lake 79.71 328 P **P 22 19 49.9 +0.2**
PLID IAmb IAmb 22 19 51.8
comp=Z,7.6nm,0.8s
PINE Pine Mountain 81.35 325 P **P 22 19 59.5 +1.0**
PINE IAmb IAmb 22 20 00.6
comp=Z,7.9nm,0.7s
I05D Terrebonne, OR 81.93 325 P **P 22 20 01.5 +0.2**
C09A Chrisman Ranch 82.75 329 P **P 22 20 05.4 0.0**
RAR Rarotonga 83.20 250 LR LR 22 48 22.2
comp=Z,83nm,21.8s,baz=42,slow=29
MAW Mawson 83.53 163 P **P 22 20 10.6 +1.3**
comp=Z,2.5nm,0.6s,baz=247,slow=12,SNR=6.5
comp=Z,2.5nm,0.6s
YKA Yellowknife Ar 91.98 340 P **P 22 20 49.8 +0.1**
comp=Z,2.0nm,0.8s,baz=164,slow=9.2,SNR=3.9
comp=Z,2.0nm,0.8s
DAVOX Davos/Dischmat 98.44 43 LR LR 23 03 21.4
comp=Z,32nm,18.7s,baz=82,slow=34
ASAR Alice Springs 129.36 207 PKP **PKPdf 22 26 50.6 +0.3**
comp=Z,1.3nm,0.7s,baz=137,slow=1.8,SNR=12
WRA Warramunga Arr 132.43 210 PKP **PKPdf 22 26 56.6 +0.4**
comp=Z,1.2nm,0.6s,baz=157,slow=1.7,SNR=22
WRA pPKP **pPKPdf 22 27 27.1 +0.5**
comp=Z,0.5nm,0.5s,baz=151,slow=1.9,SNR=3.3
BVAR Borovoye Array 136.27 35 PKP **PKPdf 22 27 02.8 +0.5**
comp=Z,0.6nm,0.6s,baz=343,slow=4.5,SNR=2.6
KURBB Kurchatov Arra 141.83 34 PKP **PKPdf 22 27 13.7 +1.3**
comp=Z,0.3nm,0.6s,baz=314,slow=2.6,SNR=3.8
ZALV Zalesovo Beam 142.53 26 PKP **PKPdf 22 27 14.0 +0.4**
comp=Z,2.0nm,0.6s,baz=306,slow=3.0,SNR=8.4
KSH Kashi 145.37 52 PKPbc **PKPab 22 27 20.4 +0.8**
KSH sPKP 22 27 55.2
MKAR Makanchi Array 146.09 37 PKPbc **PKPbc 22 27 21.1 -0.1**
comp=Z,3.2nm,0.8s,baz=303,slow=3.4,SNR=14
USRK Ussuriysk Ar. 152.28 327 PKPbc **PKiKP 22 27 37.2 +0.1**
comp=Z,1.9nm,0.6s,baz=64,slow=3.4,SNR=5.2
MJAR Matsushiro Ar 152.74 307 PKPbc **PKPbc 22 27 38.3 +0.1**
comp=Z,1.2nm,0.5s,baz=257,slow=11,SNR=4.3
SONM Songino Array 154.17 8 PKP **PKPdf 22 27 32.6 -0.3**
comp=Z,0.9nm,0.8s,baz=11,slow=1.5,SNR=3.0
SONM PKPbc **PKiKP 22 27 41.3 +0.1**
comp=Z,0.8nm,0.6s,baz=289,slow=3.0,SNR=4.5
SONM PKPab **PKPab 22 27 55.8 +0.7**
comp=Z,0.3nm,0.4s,baz=227,slow=35,SNR=2.3
SONM pPKP **pPKPdf 22 28 04.5 +1.0**
comp=Z,1.0nm,0.5s,baz=257,slow=1.4,SNR=4.2
SONM pPKPbc **pPKPbc 22 28 12.8 +1.2**
comp=Z,0.6nm,0.5s,baz=318,slow=4.0,SNR=2.2
PZH PanZhiHua 170.27 62 PKP **PKPdf 22 27 47.4 -2.1**

IDC ***02*** *22:08:48.7±1.9, 15°.98S×177°.68W, h0km, mb3.7/5, mbtmp3.7/6, ML4.9/1, MS3.4/7, Error ellipse: s-maj=120.5km s-min=23.4km az=148.0*
ISC 02 22:08:53.7±1.5, 16°.1S±0°.6×177°.6W±0°.3, h35km, n16, σ0°.77/8, mb3.7/5, MS3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.46**	**248**	Pn	**Pn**	**22 09 58.9**	**-0.1**
	2.3nm,0.3s,baz=218,slow=21,SNR=6.4						
MSVF				Sn	**Sn**	**22 10 50.8**	**+1.0**
	1.4nm,0.3s,baz=166,slow=21,SNR=1.9						
MSVF				LR	LR	22 11 35.1	
	comp=Z,1μm,19.0s,baz=64,slow=37						
	4.7nm,0.4s						
AFI	**Afiamalu**	**6.04**	**70**	LR	LR	22 12 14.8	
	comp=Z,295nm,20.0s,baz=171,slow=34						
RAO	**Raoul Island**	**13.08**	**181**	LR	LR	22 15 37.8	
	comp=Z,409nm,21.9s,baz=228,slow=31						
DZM	**Mont Dzumac**	**16.20**	**246**	*e*LR	LR	22 17 01.1	
	comp=Z,270nm,26.1s						
DZM	**Mont Dzumac**	**16.20**	**246**	LR	LR	22 17 21.6	
	comp=Z,138nm,20.6s,baz=208,slow=32						
RAR	**Rarotonga**	**17.64**	**109**	LR	LR	22 17 01.3	
	comp=Z,108nm,21.2s,baz=301,slow=28						
PPT2	**Papeete2**	**26.86**	**97**	*e*LR	LR	22 20 46.9	
	comp=Z,109nm,28.0s						
PPT2				*e*LR	LR	22 21 06.5	
	comp=Z,153nm,23.0s						
TBI	**Tubuai**	**27.42**	**110**	*e*LR	LR	22 21 14.3	
	comp=Z,4μm,25.0s						
TBI				*e*LR	LR	22 21 24.0	
	comp=Z,1μm,28.5s						
STKA	**Stephens Creek**	**40.18**	**239**	P	**P**	**22 16 26.2**	**-0.7**
	0.9nm,0.3s,baz=69,slow=7.3,SNR=2.6						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**45.74**	**258**	P	**P**	**22 17 11.1**	**-0.9**
	0.3nm,0.9s,baz=92,slow=7.5,SNR=1.7						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**46.04**	**253**	P	**P**	**22 17 14.5**	**+0.1**
	1.5nm,0.6s,baz=85,slow=8.0,SNR=13						
	1.5nm,0.6s						
DAV	**Davao City (W)**	**60.76**	**288**	LR	LR	22 43 41.3	
	comp=Z,21nm,18.5s,baz=134,slow=34						
KSRS	**Korea Array**	**73.89**	**318**	LR	LR	22 46 38.9	
	comp=Z,7.0nm,21.9s,baz=310,slow=31						
ILAR	**Eielson Array**	**83.97**	**13**	P	**P**	**22 21 19.8**	**-0.1**
	0.6nm,1.0s,baz=226,slow=5.5,SNR=4.1						
	0.6nm,1.0s						
TXAR	**Lajitas Array**	**84.39**	**57**	P	**P**	**22 21 23.7**	**+0.7**
	0.4nm,0.9s,baz=224,slow=2.5,SNR=2.7						
	0.4nm,0.9s						
BRTR	**Keskin Array B**	**144.03**	**317**	PKP	**PKPdf**	**22 28 26.3**	**+0.1**
	1.5nm,0.8s,baz=17,slow=1.5,SNR=3.4						

IDC ***02*** *22:20:28.0±1.7, 16°.36S×177°.61W, h0km, mb3.7/6, mbtmp3.7/7, ML4.6/1, MS3.6/27, Error ellipse: s-maj=114.6km s-min=20.8km az=151.0*
ISC 02 22:20:33.0±1.3, 16°.6S±0°.5×177°.5W±0°.2, h35km, n34, σ1°.03/9, mb3.8/6, MS3.7/24, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.44**	**254**	Pn	**Pn**	**22 21 37.1**	**-0.8**
	1.1nm,0.3s,baz=279,slow=23,SNR=5.4						
MSVF				Sn	**Sn**	**22 22 30.1**	**+1.7**
	1.4nm,0.3s,baz=151,slow=18,SNR=4.1						
MSVF				LR	LR	22 23 13.3	
	comp=Z,1μm,19.4s,baz=64,slow=38						
	3.5nm,0.4s						
AFI	**Afiamalu**	**6.10**	**65**	LR	LR	22 23 54.1	
	comp=Z,275nm,20.3s,baz=215,slow=34						
RAO	**Raoul Island**	**12.61**	**182**	LR	LR	22 27 50.9	
	comp=Z,352nm,18.1s,baz=342,slow=34						
DZM	**Mont Dzumac**	**16.13**	**248**	LR	LR	22 29 37.4	
	comp=Z,188nm,18.5s,baz=24,slow=34						
RAR	**Rarotonga**	**17.36**	**108**	LR	LR	22 29 46.4	
	comp=Z,69nm,21.7s,baz=299,slow=32						
URZ	**Urewera**	**22.11**	**191**	LR	LR	22 32 05.3	
	comp=Z,280nm,19.6s,baz=206,slow=31						
PPT2	**Papeete2**	**26.67**	**96**	*e*LR	LR	22 32 25.6	
	comp=Z,257nm,29.5s						
PPT2				*e*LR	LR	22 32 44.3	
	comp=Z,199nm,23.8s						
PPT	**Papeete**	**26.67**	**96**	LR	LR	22 34 12.2	
	comp=Z,56nm,18.9s,baz=242,slow=31						
TBI	**Tubuai**	**27.14**	**109**	*e*LR	LR	22 32 54.3	
	comp=Z,4μm,24.8s						
TBI				*e*LR	LR	22 33 03.9	
	comp=Z,2μm,42.5s						
RPZ	**Rata Peaks**	**28.75**	**197**	LR	LR	22 36 47.3	
	comp=Z,301nm,20.3s,baz=38,slow=34						
KRVT	**Keravat (AS076**	**32.33**	**289**	LR	LR	22 38 31.1	
	comp=Z,135nm,20.4s,baz=46,slow=34						
CTA	**Charters Tower**	**34.57**	**259**	LR	LR	22 39 20.6	
	comp=Z,173nm,19.4s,baz=85,slow=33						
STKA	**Stephens Creek**	**40.06**	**240**	P	**P**	**22 28 05.1**	**+0.1**
	1.9nm,0.7s,baz=65,slow=7.9,SNR=3.0						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**45.77**	**258**	P	**P**	**22 28 50.5**	**-1.0**
	0.4nm,0.8s,baz=95,slow=7.3,SNR=2.3						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**46.03**	**253**	P	**P**	**22 28 52.7**	**-0.8**
	0.8nm,0.7s,baz=85,slow=8.4,SNR=7.2						
ASAR				LR	LR	22 47 22.2	
	comp=Z,188nm,18.2s,baz=103,slow=35						
	0.8nm,0.7s						
SIJI	**Sorong**	**52.83**	**282**	LR	LR	22 51 28.6	
	comp=Z,52nm,20.3s,baz=92,slow=35						
BATI	**Baumata**	**57.46**	**268**	LR	LR	22 53 39.3	
	comp=Z,91nm,19.0s,baz=142,slow=35						
RPN	**Rapa Nui**	**63.45**	**112**	LR	LR	22 52 14.2	
	comp=Z,62nm,19.1s,baz=270,slow=30						
SHEM	**Shemya Is, Ala**	**69.41**	**355**	LR	LR	22 55 32.3	
	comp=Z,53nm,21.9s,baz=280,slow=30						
ASAJ	**Asahikawa**	**70.56**	**331**	LR	LR	22 56 47.6	
	comp=Z,30nm,20.5s,baz=170,slow=31						
PETK	**Petropavlovsk-**	**72.64**	**345**	LR	LR	22 59 50.7	
	comp=Z,27nm,19.2s,baz=118,slow=33						
KDAK	**Kodiak Island**	**76.91**	**13**	LR	LR	23 00 41.0	
	comp=Z,48nm,18.8s,baz=215,slow=32						
YBH	**Yreka Blue Hor**	**76.94**	**39**	LR	LR	22 58 35.1	
	comp=Z,27nm,19.0s,baz=330,slow=30						
NVAR	**Mina Array Bea**	**77.85**	**44**	P	**P**	**22 32 27.4**	**0.0**
	0.1nm,0.3s,baz=224,slow=7.6,SNR=3.0						
	0.1nm,0.3s						
KLR	**Kul'dur**	**79.44**	**329**	LR	LR	23 01 24.7	
	comp=Z,31nm,22.0s,baz=284,slow=31						
MA2	**Magadan**	**80.17**	**344**	LR	LR	23 05 04.2	
	comp=Z,18nm,19.6s,baz=114,slow=34						
BBB	**Bella Bella**	**80.73**	**28**	LR	LR	23 05 31.2	
	comp=Z,22nm,18.2s,baz=192,slow=34						
SEY	**Seychhan**	**82.70**	**347**	LR	LR	23 02 17.5	
	comp=Z,40nm,21.7s,baz=71,slow=30						
ILAR	**Eielson Array**	**84.41**	**13**	P	**P**	**22 33 01.0**	**-0.3**
	1.6nm,1.1s,baz=210,slow=6.9,SNR=4.1						
ILAR				LR	LR	23 03 42.9	
	comp=Z,49nm,19.5s,baz=254,slow=31						
	1.6nm,1.1s						
TXAR	**Lajitas Array**	**84.53**	**57**	P	**P**	**22 33 03.8**	**+0.9**
	0.6nm,0.9s,baz=219,slow=7.0,SNR=3.2						
	0.6nm,0.9s						
SNAA	**Sanae**	**91.89**	**178**	LR	LR	23 15 39.9	
	comp=Z,20nm,18.1s,baz=202,slow=36						
YKA	**Yellowknife Ar**	**92.76**	**24**	LR	LR	23 07 43.7	
	comp=Z,42nm,21.6s,baz=282,slow=31						
ATAH	**Atahualpa**	**96.61**	**99**	LR	LR	23 06 38.0	
	comp=Z,34nm,20.9s,baz=245,slow=29						
BRTR	**Keskin Array B**	**144.47**	**317**	PKP	**PKPdf**	**22 40 06.6**	**+0.5**
	3.0nm,0.8s,baz=40,slow=2.5,SNR=6.9						

NIED ***02*** *22:30:57.9, 31°.04N×138°.99E, h367km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.16; $M_{\theta\theta}$=0.95; $M_{\phi\phi}$=-0.78; $M_{r\theta}$=0.08; $M_{\theta\phi}$=-0.02; $M_{\phi r}$=-0.81; Fault plane solution: M_0=1.15000×10^{15} NP1: ϕ_s=50.00000°, δ=71.00000°, λ=-150.00000°. NP2: ϕ_s=309.00000°, δ=62.00000°, λ=-22.00000°.*
JMA ***02*** *22:30:57.9±0.3, 31°.12N×13°.9E±°, h367km, MV3.8/15, NEAR TORISHIMA IS*
IDC ***02*** *22:31:00.8±0.8, 31°.12N×138°.74E, h322km±7km, mb3.5/22, mbtmp4.2/28, Error ellipse: s-maj=15.9km s-min=10.2km az=74.0*
NEIC ***02*** *22:31:00.5±1.9, 31°.02N±0°.04×139°.0E±0°.1, h329km±7km, mb4.0/27, Error ellipse: s-maj=14.5km s-min=5.0km az=81.0*
ISC 02 22:31:02.1±0.5, 31°.10N±0°.06×138°.96E±0°.07, h350km, n94, σ2°.05/105, mb3.9/34, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.09**	**20**	*e*P	**Pn**	**22 31 52.4**	**-1.5**
JHCJ				*e*S	**S**	**22 32 34.5**	**-1.2**
JHJ	**Hachijo jima 2**	**2.13**	**19**	P	**Pn**	**22 31 52.4**	**-1.8**
	33nm,0.3s,baz=228,slow=16,SNR=15						
JHJ				S	**S**	**22 32 30.9**	**-5.3**
	346nm,0.3s,baz=80,slow=22,SNR=12						
JHJ2	**Mitsune**	**2.13**	**20**	Pn	**Pn**	**22 31 52.5**	**-1.8**
JHJ2	**Mitsune**	**2.13**	**20**	P	**Pn**	**22 31 52.6**	**-1.6**
JHJ2	**Mitsune**	**2.13**	**20**	*e*P	**Pn**	**22 31 52.7**	**-1.6**
JMKN	**Mikurajimanish**	**2.84**	**11**	P	**Pn**	**22 31 57.7**	**-2.2**
JMKN				*e*S	**S**	**22 32 44.1**	**-2.3**
TTO1	**TONANKAI O.B.S**	**3.12**	**324**	P	**Pn**	**22 32 00.7**	**-1.4**
JSG	**Sagara**	**3.63**	**350**	Pn	**Pn**	**22 32 06.5**	**-0.7**
JIE	**Ise**	**3.80**	**331**	P	**Pn**	**22 32 07.6**	**-1.3**
JTNC	**Tanabenakahech**	**3.92**	**315**	P	**Pn**	**22 32 08.0**	**-2.2**
BSO1	**Boso 1**	**3.93**	**25**	P	**Pn**	**22 32 07.2**	**-2.4**
BSO1				S	**S**	**22 32 59.0**	**-5.3**
JOD2	**Odawara 2**	**4.16**	**1**	P	**Pn**	**22 32 10.4**	**-2.2**
JOD2				S	**S**	**22 33 06.2**	**-3.4**
INU	**Inuyama**	**4.54**	**339**	Pn	**Pn**	**22 32 15.6**	**-1.0**
INU	**Inuyama**	**4.54**	**339**	P	**Pn**	**22 32 15.9**	**-0.7**
JGF	**Kuroka**	**4.69**	**344**	Pn	**Pn**	**22 32 17.0**	**-1.2**
JGF	**Kuroka**	**4.69**	**344**	P	**Pn**	**22 32 17.1**	**-1.2**
CBIJ	**Chichi jima**	**4.88**	**144**	P	**Pn**	**22 32 16.6**	**-3.9**
CBIJ				S	**S**	**22 33 17.5**	**-6.4**
JCJ	**Chichijima**	**4.88**	**144**	Pn	**Pn**	**22 32 16.0**	**-4.5**
JCJ	**Chichijima**	**4.88**	**144**	P	**Pn**	**22 32 17.1**	**-3.4**
JCJ	**Chichijima**	**4.88**	**144**	P	Pn	22 32 12.9	-7.6
	37nm,0.3s,baz=300,slow=23,SNR=19						
JCJ				S	S	22 33 10.7	-13
	47nm,0.4s,baz=296,slow=18,SNR=5.4						
JRY	**Ryogami san**	**4.91**	**359**	P	**Pn**	**22 32 18.5**	**-2.1**
JRY				S	**S**	**22 33 20.0**	**-4.1**
JMN	**Monobe**	**5.04**	**303**	Pn	**Pn**	**22 32 20.1**	**-2.0**
JMN	**Monobe**	**5.04**	**303**	P	**Pn**	**22 32 20.5**	**-1.6**
MJAR	**Matsushiro Arr**	**5.47**	**354**	P	**Pn**	**22 32 23.5**	**-3.3**
	6.6nm,0.3s,baz=176,slow=12,SNR=31						
MJAR				S	**S**	**22 33 29.7**	**-5.7**
	2.1nm,0.4s,baz=207,slow=16,SNR=1.2						
MAJO	**Matsushiro**	**5.47**	**354**	Pn	**Pn**	**22 32 24.6**	**-2.2**
MAJO	**Matsushiro**	**5.47**	**354**	P	**Pn**	**22 32 25.1**	**-1.7**
MJB9	**Matsu-Tunnel**	**5.47**	**354**	Pn	**Pn**	**22 32 25.7**	**-1.1**
JMM	**Marumori**	**6.92**	**12**	P	**Pn**	**22 32 41.0**	**-2

comp=Z,10.0nm,1.0s
KLR Kul'dur 18.92 345 P **P 22 34 57.6 -0.8**
comp=Z,3.7nm,0.6s,baz=161,slow=5.1,SNR=14
SONM Songino Array 29.91 313 P **P 22 36 38.2 -0.5**
SONM Songino Array 29.91 313 P **P 22 36 38.7 0.0**
comp=Z,0.8nm,0.4s,baz=118,slow=8.1,SNR=7.9
comp=Z,0.8nm,0.4s
CMAR Chiang Mai Arr 38.25 260 P **P 22 37 49.7 -0.4**
comp=Z,0.8nm,0.4s,baz=49,slow=6.4,SNR=4.3
comp=Z,0.8nm,0.4s
ZAA0 Zalesovo Array 44.64 317 P **P 22 38 40.8 -0.1**
ZALV Zalesovo Beam 44.64 317 P **P 22 38 40.7 -0.2**
ZALV Zalesovo Beam 44.64 317 P **P 22 38 40.2 -0.7**
comp=Z,1.7nm,0.4s,baz=97,slow=7.6,SNR=12
ZALV PcP **PcP 22 40 17.6 +1.0**
comp=Z,2.1nm,0.6s,baz=82,slow=3.6,SNR=8.7
comp=Z,1.7nm,0.4s
MK31 Makanchi Array 45.79 307 P **P 22 38 50.1 +0.1**
MKAR Makanchi Array 45.79 307 P **P 22 38 49.8 -0.2**
comp=Z,2.9nm,0.7s,baz=89,slow=9.7,SNR=18
MKAR ScP **ScP 22 43 42.0 +2.2**
comp=Z,0.4nm,0.6s,baz=82,slow=10.0,SNR=2.4
comp=Z,2.9nm,0.7s
MAKZ Makanchi 46.01 307 P **P 22 38 50.7 -1.0**
NRIK Noril'sk 47.90 338 P **P 22 39 05.9 +0.2**
comp=Z,4.1nm,0.5s,baz=102,slow=12,SNR=3.5
comp=Z,4.1nm,0.5s
KURK Kurchatov 48.20 312 P **P 22 39 08.1 -0.2**
KURK IAmb IAmb 22 39 08.8
comp=Z,9.9nm,1.1s
KURBB Kurchatov Arra 48.26 312 P **P 22 39 08.4 -0.3**
comp=Z,3.4nm,0.4s,baz=91,slow=9.3,SNR=46
KURBB PcP **PcP 22 40 30.3 +0.8**
comp=Z,0.9nm,0.6s,baz=91,slow=4.0,SNR=5.5
comp=Z,3.4nm,0.4s
GSI Gunungsitoli 49.08 241 P **P 22 39 14.8 -0.6**
GSI IAmb IAmb 22 39 16.1
comp=Z,7.3nm,0.5s
WB0 Warramunga Arr 50.76 186 P **P 22 39 28.7 +0.9**
WB0 IAmb IAmb 22 39 29.4
comp=Z,3.4nm,0.7s
WB2 Warramunga Arr 50.94 186 P **P 22 39 29.6 +0.5**
WB2 IAmb IAmb 22 39 30.7
comp=Z,2.8nm,0.7s
WR0 Warramunga Arr 50.94 185 P **P 22 39 29.8 +0.7**
WR0 IAmb IAmb 22 39 29.9
comp=Z,6.9nm,1.3s
WRA Warramunga Arr 50.94 186 P **P 22 39 28.9 -0.2**
WRA Warramunga Arr 50.94 186 P **P 22 39 29.9 +0.8**
comp=Z,2.3nm,0.7s,baz=1.1,slow=7.6,SNR=23
WRA ScP **ScP 22 44 05.5 +3.6**
comp=Z,0.5nm,0.8s,baz=356,slow=4.5,SNR=4.2
comp=Z,2.3nm,0.7s
K20K Telida 52.41 32 P **P 22 39 42.5 +3.2**
J20K Nowinta River 52.45 31 P **P 22 39 43.1 +3.5**
J20K IAmb IAmb 22 39 55.7
comp=Z,6.9nm,1.5s
BVAR Borovoye Array 53.21 315 P **P 22 39 45.8 +0.5**
comp=Z,5.9nm,0.5s,baz=95,slow=8.3,SNR=49
BVAR PcP **PcP 22 40 49.1 +1.1**
comp=Z,1.6nm,0.6s,baz=79,slow=2.9,SNR=6.8
comp=Z,5.9nm,0.5s
BRVK Borovoye 53.27 315 P **P 22 39 46.8 +1.0**
BRVK IAmb IAmb 22 39 47.0
comp=Z,4.6nm,0.6s
CAST Castle Rocks 53.30 32 P **P 22 39 48.7 +2.9**
CAST IAmb IAmb 22 39 51.2
comp=Z,10nm,1.5s
KK31 Karatay Array 54.50 303 P **P 22 39 54.0 -0.8**
KK31 IAmb IAmb 22 39 55.7
comp=Z,4.0nm,0.8s
KKAR Karatay Array 54.50 303 P **P 22 39 54.9 +0.2**
KKAR Karatay Array 54.50 303 P **P 22 39 54.3 -0.5**
KKAR IAmb IAmb 22 39 55.7
comp=Z,4.0nm,0.8s
ASAR Alice Springs 54.67 186 P **P 22 39 57.3 +1.3**
comp=Z,1.0nm,0.5s,baz=16,slow=12,SNR=15
comp=Z,1.0nm,0.5s
ILAR Eielson Array 55.61 30 P **P 22 40 03.7 +1.4**
comp=Z,0.3nm,0.7s,baz=287,slow=6.5,SNR=1.8
comp=Z,0.3nm,0.7s
BCAR Beaver Creek A 57.97 32 P **P 22 40 21.6 +2.9**
ARU Arti 59.55 321 P **P 22 40 29.8 +0.3**
ABKAR Akbulak array 60.31 312 P **P 22 40 34.7 0.0**
FORT Forrest 62.40 191 P **P 22 40 49.3 +0.6**
GEYT Alibeck 65.01 301 P **P 22 41 05.4 -0.4**
comp=Z,2.0nm,0.8s,baz=89,slow=12,SNR=4.0
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 68.84 340 P **P 22 41 30.2 +1.2**
ARCES ARCESS Array B 68.84 340 P **P 22 41 30.2 +1.2**
comp=Z,3.3nm,0.8s,baz=69,slow=8.6,SNR=15
comp=Z,3.3nm,0.8s
FINES FINESS Array B 73.12 332 P **P 22 41 55.3 +0.7**
FINES FINESS Array B 73.12 332 P **P 22 41 55.1 +0.5**
comp=Z,2.0nm,0.4s,baz=70,slow=4.8,SNR=38
comp=Z,2.0nm,0.4s
KBZ Khabaz 73.24 311 P **P 22 41 57.0 +1.2**
comp=Z,3.8nm,0.8s,baz=59,slow=5.4,SNR=8.1
comp=Z,3.8nm,0.8s
AKASG Malin Array Be 77.74 322 P **P 22 42 21.3 +0.4**
comp=Z,2.2nm,0.4s,baz=52,slow=5.3,SNR=14
comp=Z,2.2nm,0.4s
AKBB Malin Array Si 77.74 322 P **P 22 42 21.7 +0.8**
HFS Hagfors 78.64 335 P **P 22 42 26.4 +0.8**
comp=Z,2.9nm,0.7s,baz=72,slow=6.2,SNR=7.1
comp=Z,2.9nm,0.7s
NB2 NORSAR Subarra 78.85 337 P **P 22 42 27.9 +1.1**
comp=Z,0.6nm,0.5s,baz=44,slow=5.3
NOA NORSAR Array B 78.85 337 P **P 22 42 27.9 +1.1**
comp=Z,0.8nm,0.5s,baz=44,slow=5.3,SNR=3.4
comp=Z,0.8nm,0.5s
NVAR Mina Array Bea 80.23 51 P **P 22 42 38.2 +3.3**
comp=Z,0.3nm,0.5s,baz=276,slow=6.0,SNR=4.2
comp=Z,0.3nm,0.5s
BRTR Keskin Array B 81.24 311 P **P 22 42 40.9 +0.8**
BRTR Keskin Array B 81.24 311 P **P 22 42 41.2 +1.1**
comp=Z,1.7nm,0.6s,baz=64,slow=10,SNR=4.1
comp=Z,1.7nm,0.6s
BUR08 Bucovina Ar. S 81.67 321 P **P 22 42 43.5 +1.5**
BUR08 IAmb IAmb 22 43 12.2
comp=Z,5.8nm,1.4s
BURAR Bucovina Array 81.68 321 P **P 22 42 43.3 +1.2**
BURAR IAmb IAmb 22 42 44.8
comp=Z,3.1nm,1.4s
PDAR Pinedale Array 83.31 44 P **P 22 42 53.0 +2.3**
comp=Z,0.2nm,0.7s,baz=299,slow=2.6,SNR=2.3
comp=Z,0.2nm,0.7s
MMAI Mount Meron Ar 83.70 305 P **P 22 42 53.7 +1.0**
comp=Z,1.5nm,0.5s,baz=27,slow=0.9,SNR=2.8
comp=Z,1.5nm,0.5s
TXAR Lajitas Array 95.39 51 P P 22 43 51.4 +3.7
comp=Z,0.3nm,0.6s,baz=289,slow=2.8,SNR=2.8
comp=Z,0.3nm,0.6s
TORD Torodi Ar. Bea 119.84 310 PKP **PKiKP 22 49 12.1 +0.2**
comp=Z,0.2nm,0.4s,baz=27,slow=2.3,SNR=6.6

IDC 02 22:31:04.7±2.0, 6°.92S×129°.43E, h0km, mb3.8/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=119.2km s-min=31.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.79**	**160**	Pn	Pn	22 34 21.0	-0.7
	0.1nm,0.3s,baz=339,slow=13,SNR=6.2						
WRA				Sn	Sn	22 36 43.2	-13
	0.4nm,0.3s,baz=332,slow=23,SNR=9.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**17.19**	**166**	P	Pn	22 35 07.1	+0.6
	0.1nm,0.3s,baz=339,slow=9.5,SNR=6.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	22 42 05.0	0.0
	0.3nm,0.3s,baz=112,slow=8.1,SNR=8.8						
	0.3nm,0.3s						

*IDC **02** 23:00:01.6±1.5, 29°.94N×139°.01E, h378km±26km, mb3.1/7, mbtmp3.9/9, Error ellipse: s-maj=69.6km s-min=20.2km az=73.0*
*NEIC **02** 23:00:01.6±2.2, 29°.95N±0°.09×139°.3E±0°.1, h383km±11km, mb4.0/12, Error ellipse: s-maj=19.9km s-min=10.8km az=63.0*
*JMA **02** 23:00:03.4±0.5, 30°.N±3°.×14°.0E±°, h419km, MV3.5/34, NEAR TORISHIMA IS*
ISC 02 23:00:00.8±0.6, 29°.98N±0°.06×139°.44E±0°.09, h388km, n44, σ1°.75/52, mb3.6/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.14**	**6**	Pn	**Pn**	**23 01 05.2**	**+1.1**
JHJ2				Sn	**S**	**23 01 55.8**	**+0.4**
JHJ2	**Mitsune**	**3.14**	**6**	*e*P	**Pn**	**23 01 07.1**	**+3.0**
JHJ2				*e*S	**S**	**23 01 57.0**	**+1.6**
JHJ	**Hachijo jima 2**	**3.14**	**5**	P	**Pn**	**23 01 06.8**	**+2.6**
	106nm,0.8s,baz=146,slow=23,SNR=7.2						
JHJ				S	**S**	**23 01 56.0**	**+0.5**
	60nm,0.3s,baz=68,slow=23,SNR=9.2						
JCJ	**Chichijima**	**3.75**	**139**	Pn	**Pn**	**23 01 10.5**	**+0.6**
JCJ				Sn	**S**	**23 02 06.8**	**+1.1**
JCJ	**Chichijima**	**3.75**	**139**	P	Pn	23 00 58.7	-11
	17nm,0.3s,baz=12,slow=13,SNR=29						
JCJ				S	**S**	**23 02 02.9**	**-2.8**
	194nm,0.4s,baz=277,slow=23,SNR=17						
TTO1	**TONANKAI O.B.S**	**4.28**	**329**	*e*P	**Pn**	**23 01 17.7**	**+3.2**
JIE	**Ise**	**4.97**	**333**	*e*P	**Pn**	**23 01 24.8**	**+3.0**
JKN2	**Miekihoku**	**5.03**	**328**	P	**Pn**	**23 01 24.7**	**+2.3**
JOD2	**Odawara 2**	**5.28**	**357**	*e*P	**Pn**	**23 01 26.0**	**+0.9**
JOD2				*e*S	**S**	**23 02 31.6**	**-2.0**
JNY	**Yasuok**	**5.53**	**346**	*e*P	**Pn**	**23 01 29.8**	**+2.1**
INU	**Inuyama**	**5.73**	**340**		**Pn**	**23 01 32.1**	**+2.2**
JHU	**Hanno**	**5.86**	**359**	*e*P	**Pn**	**23 01 31.9**	**+0.6**
JHU				*e*S	**S**	**23 02 41.7**	**-3.3**
JGF	**Kuroka**	**5.88**	**343**	Pn	**Pn**	**23 01 33.8**	**+2.3**
JMN	**Monobe**	**6.03**	**310**		**Pn**	**23 01 34.5**	**+1.2**
JRY	**Ryogami san**	**6.04**	**356**	*e*P	**Pn**	**23 01 34.4**	**+1.1**
JRY				*e*S	**S**	**23 02 46.9**	**-1.8**
JAG	**Ashikaga**	**6.43**	**0**	P	**Pn**	**23 01 37.6**	**0.0**
JAG				*e*S	**S**	**23 02 51.9**	**-4.7**
MJAR	**Matsushiro Arr**	**6.63**	**351**	P	**Pn**	**23 01 40.6**	**+0.8**
	2.4nm,0.3s,baz=182,slow=12,SNR=6.8						
MAJO	**Matsushiro**	**6.63**	**351**	Pn	**Pn**	**23 01 40.4**	**+0.6**
MJB9	**Matsu-Tunnel**	**6.63**	**351**	Pn	**Pn**	**23 01 41.2**	**+1.4**
JHO	**Hitachi**	**6.68**	**8**	*e*P	**Pn**	**23 01 41.3**	**+0.9**
JMM	**Marumori**	**7.95**	**8**		**Pn**	**23 01 56.5**	**+1.7**
JSD	**Sado**	**8.10**	**353**		**Pn**	**23 01 56.4**	**-0.1**
JTM	**Tenmabayashi**	**10.87**	**7**	P	**Pn**	**23 02 30.9**	**+2.2**
YHNB	**Yeheng**	**16.90**	**256**	P	**P**	**23 03 32.2**	**-2.1**
YHNB				IAmb	IAmb	23 03 43.6	
	comp=Z,16nm,1.3s						
NACB	**Ninganchiao**	**16.91**	**254**	P	**P**	**23 03 31.9**	**-2.5**
YULB	**Yu-li**	**17.48**	**252**	P	**P**	**23 03 38.5**	**-2.0**
YULB				IAmb	IAmb	23 04 16.2	
	comp=Z,20nm,1.5s						
SSLB	**Suanglung**	**17.60**	**254**	P	**P**	**23 03 40.6**	**-1.1**
SSLB				IAmb	IAmb	23 03 50.2	
	comp=Z,7.1nm,0.9s						
KLR	**Kul'dur**	**20.10**	**345**	P	**P**	**23 04 08.2**	**+1.5**
	comp=Z,2.4nm,0.7s,baz=135,slow=7.1,SNR=3.2						
	comp=Z,2.4nm,0.7s						
PATS	**Pohnpei**	**29.07**	**139**	P	**P**	**23 05 28.3**	**+0.9**
SONM	**Songino Array**	**30.98**	**314**	P	**P**	**23 05 42.6**	**-1.3**
SONM	**Songino Array**	**30.98**	**314**	P	**P**	**23 05 43.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=106,slow=8.6,SNR=2.6						
	comp=Z,0.4nm,0.7s						
MK31	**Makanchi Array**	**46.80**	**308**	P	**P**	**23 07 52.8**	**-0.4**
MKAR	**Makanchi Array**	**46.80**	**308**	P	**P**	**23 07 53.1**	**-0.1**
MKAR	**Makanchi Array**	**46.80**	**308**	P	**P**	**23 07 52.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=97,slow=7.6,SNR=4.3						
	comp=Z,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**49.31**	**313**	P	**P**	**23 08 11.5**	**-0.5**
	comp=Z,1.3nm,0.2s,baz=88,slow=7.5,SNR=5.0						
	comp=Z,1.3nm,0.2s						
PRZ	**Przheval'sk**	**49.81**	**302**	P	**P**	**23 08 16.8**	**+0.7**
PRZ				IAmb	IAmb	23 08 17.6	
	comp=Z,3.9nm,0.5s						
WRA	**Warramunga Arr**	**49.88**	**186**	P	**P**	**23 08 17.6**	**+1.1**
WRA	**Warramunga Arr**	**49.88**	**186**	P	**P**	**23 08 17.4**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=0.7,slow=7.7,SNR=4.8						
	comp=Z,0.1nm,0.4s						
BVAR	**Borovoye Array**	**54.30**	**316**	P	**P**	**23 08 48.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=95,slow=8.3,SNR=9.1						
	comp=Z,0.7nm,0.4s						
KK31	**Karatay Array**	**55.46**	**304**	P	**P**	**23 08 56.4**	**-0.4**
KK31				IAmb	IAmb	23 08 57.4	
	comp=Z,1.6nm,0.6s						
KKAR	**Karatay Array**	**55.46**	**304**	P	**P**	**23 08 57.0**	**+0.1**
NIL	**Nilore**	**55.50**	**292**	P	**P**	**23 08 56.5**	**-0.8**
NIL				IAmb	IAmb	23 08 57.8	
	comp=Z,3.2nm,0.7s						
FINES	**FINESS Array B**	**74.30**	**333**	P	**P**	**23 10 56.8**	**+0.4**
	comp=Z,3.8nm,1.0s,baz=74,slow=6.1,SNR=1.6						
	comp=Z,3.8nm,1.0s						
FDMO	**Fiordimonte**	**92.24**	**324**	P	**P**	**23 12 29.3**	**+1.5**

IDC 02 23:08:32.9±3.1, 33°.33S×178°.33W, h0km, mb3.9/2, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=72.4km s-min=36.4km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.16**	**216**	Pn	Pn	23 10 05.3	+0.2
	2.1nm,0.3s,baz=116,slow=6.6,SNR=12						
URZ				Sn	Sn	23 11 15.3	-0.9
	3.5nm,0.3s,baz=320,slow=23,SNR=7.6						
	4.8nm,0.3s						
ASAR	**Alice Springs**	**42.76**	**270**	P	P	23 16 32.8	+0.5
	1.5nm,0.6s,baz=111,slow=7.6,SNR=20						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**44.01**	**275**	P	P	23 16 41.7	-0.7
	0.7nm,0.5s,baz=116,slow=7.7,SNR=13						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**147.77**	**338**	PKPbc	PKPbc	23 28 17.9	-0.9
	7.6nm,1.1s,baz=48,slow=2.8,SNR=5.3						

*DNK **02** 23:17:38.3±0.8, 61°.06N×21°.47E, h0km, ML2.9(UPP), Suspected explosion*
*HEL **02** 23:17:39.0±0.2, 61°.10N×21°.39E, h0km, ML1.5, Explosion*
*UPP **02** 23:17:39.8±1.0, 61°.02N×21°.20E, h0km, ML2.9*
ISC 02 23:17:37.2±0.9, 61°.08N±0°.03×21°.37E±0°.02, h0km, n28, σ0°.59/42, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.20**	**107**	*e*P	**Pg**	**23 17 42.0**	**+0.9**
RAF	**Rauma**	**0.20**	**107**	*e*P	**Pg**	**23 17 41.9**	**+0.9**
RAF				*e*S	**Sg**	**23 17 44.6**	**+1.0**
KPF	**Kankaanpaa**	**0.82**	**24**	*e*P	**Pg**	**23 17 53.1**	**+0.1**
KPF				*e*S	**Sg**	**23 18 03.5**	**-0.2**
AAL	**Aland**	**1.13**	**217**	P	**Pb**	**23 17 59.0**	**-0.6**
AAL				S	**Sb**	**23 18 14.6**	**-0.2**
AAL	**Aland**	**1.13**	**217**	*e*P	**Pb**	**23 17 59.1**	**-0.4**
AAL	**Aland**	**1.13**	**217**	*e*P	**Pb**	**23 17 59.0**	**-0.6**
AAL				*e*S	**Sb**	**23 18 14.7**	**-0.2**
AAL	**Aland**	**1.13**	**217**	P	**Pb**	**23 17 59.0**	**-0.6**
AAL				S	**Sb**	**23 18 14.6**	**-0.2**
GRAU	**Graesoe**	**1.58**	**243**	P	**Pb**	**23 18 06.6**	**-0.6**
GRAU				S	**Sg**	**23 18 28.4**	**+0.5**
GRAU	**Graesoe**	**1.58**	**243**	P	**Pb**	**23 18 06.6**	**-0.6**
GRAU				S	**Sg**	**23 18 28.4**	**+0.5**
NUR	**Nurmijrvi**	**1.71**	**108**	*e*P	**Pg**	**23 18 09.6**	**-0.3**
NUR				*e*S	**Sg**	**23 18 32.4**	**+0.3**
MEF	**Metsahovi**	**1.73**	**119**	*e*P	**Pg**	**23 18 09.7**	**-0.6**
MEF	**Metsahovi**	**1.73**	**119**	*e*P	**Pb**	**23 18 09.4**	**-0.3**
MEF				*e*S	**Sg**	**23 18 32.7**	**+0.2**
MEF				MSG		23 18 37.4	
	comp=Z,2.1nm,0.1s						
NRTU	**Norrtaelje**	**1.96**	**225**	P	**Pb**	**23 18 13.0**	**-0.6**
NRTU	**Norrtaelje**	**1.96**	**225**	P	**Pb**	**23 18 13.0**	**-0.6**
FLYU	**Flymyra**	**1.97**	**242**	P	**Pb**	**23 18 13.4**	**-0.3**
FLYU	**Flymyra**	**1.97**	**242**	P	**Pb**	**23 18 13.4**	**-0.3**
IGGU	**Iggoen**	**1.99**	**266**	P	**Pb**	**23 18 13.8**	**-0.3**
IGGU	**Iggoen**	**1.99**	**266**	P	**Pb**	**23 18 13.8**	**-0.3**
KEF	**Keuruu**	**2.00**	**55**	*e*P	**Pb**	**23 18 13.8**	**-0.5**
KEF				*e*SG	**Sb**	**23 18 39.9**	**+0.3**
ARNU	**Arnoeviken**	**2.02**	**289**	P	**Pb**	**23 18 14.4**	**-0.3**
ARNU	**Arnoeviken**	**2.02**	**289**	P	**Pb**	**23 18 14.4**	**-0.3**
VAF	**Ylistaro**	**2.06**	**17**	*e*P	**Pb**	**23 18 15.0**	**-0.4**
VAF				*e*SG	**Sb**	**23 18 42.1**	**+0.6**
VAF				MSG		23 18 43.7	
	comp=Z,1.9nm,0.2s						
OSTU	**Oestervaala**	**2.25**	**250**	P	**Pb**	**23 18 18.3**	**-0.4**
OSTU	**Oestervaala**	**2.25**	**250**	P	**Pb**	**23 18 18.3**	**-0.4**
PVF	**Pernaja**	**2.27**	**102**	*e*P	**Pb**	**23 18 18.1**	**-0.9**
PVF				*e*SG	**Sb**	**23 18 48.2**	**+0.7**
PVF				MSG		23 18 51.8	
	comp=Z,1.9nm,0.1s						
FIA0	**FINESS Array S**	**2.30**	**79**	*e*PB	**Pb**	**23 18 19.1**	**-0.4**
FIA0				*e*SG	**Sb**	**23 18 48.8**	**+0.2**
FIA0				MSG		23 18 51.3	
	comp=Z,1.8nm,0.2s						
FIA1	**FINESS Array S**	**2.31**	**79**	*e*SG	**Sb**	**23 18 49.0**	**+0.5**
KAF	**Kangasniemi**	**2.58**	**64**	*e*P	**Pb**	**23 18 22.4**	**-1.8**
KAF				*e*SB	**Sb**	**23 18 56.2**	**-0.2**
KAF				MSG		23 18 57.4	
	comp=Z,1.6nm,0.1s						

*NEIC **02** 23:22:57.2±0.4, 36°.814N±0°.008×97°.612W±0°.008, h2km±3km, Error ellipse: s-maj=1.3km s-min=0.6km az=215.0*
TUL 02 23:22:57.4±0.6, 36°.817N±0°.010×97°.612W±0°.008, h5km±2km, ML2.4, mb_Lg1.9/3(NEIC), ML2.2/50(NEIC), Error ellipse: s-maj=1.4km s-min=0.8km az=197.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.20**	**280**	Pg	Pg	23 23 01.8	+0.4
GC02				Sg	Sg	23 23 04.8	+0.8
KAN13	**South Haven SW**	**0.22**	**29**	Pg	Pg	23 23 02.4	+0.6
KAN13				Sg	Sg	23 23 05.9	+1.1
KAN13				IAML		23 23 06.1	
	comp=N,601nm,0.3s						
KAN13				IAML		23 23 06.1	
	comp=E,646nm,0.2s						
KAN17	**Caldwell West**	**0.26**	**332**	Pg	Pg	23 23 02.9	+0.4
KAN17				IAML		23 23 07.0	
	comp=N,336nm,0.3s						
KAN17				IAML		23 23 07.0	
	comp=E,350nm,0.2s						
KAN14	**Manchester OK**	**0.31**	**297**	Pg	Pg	23 23 04.0	+0.4
KAN14				Sg	Sg	23 23 08.3	+0.6
KAN14				IAML		23 23 08.4	
	comp=E,332nm,0.2s						
KAN09	**Caldwell North**	**0.32**	**359**	Pg	Pg	23 23 03.9	+0.2
KAN09				Sg	Sg	23 23 08.8	+1.0
KAN09				IAML		23 23 09.3	
	comp=N,279nm,0.3s						
KAN09				IAML		23 23 14.9	
	comp=E,317nm,0.6s						
BLOK	**Blackwell**	**0.32**	**100**	Pg	Pg	23 23 04.1	+0.4
BLOK				Sg	Sg	23 23 08.4	+0.5
KAN01	**Argonia South**	**0.36**	**341**	Pg	Pg	23 23 04.3	0.0
KAN01				IAML		23 23 10.1	
	comp=E,244nm,1.0s						
CROK	**Carrier**	**0.43**	**224**		Pg	23 23 06.1	+0.4
CROK				Sg	Sg	23 23 12.0	+0.7
KS21	**Milan North St**	**0.47**	**355**	Pg	Pg	23 23 07.0	+0.5
KS21				Sg	Sg	23 23 13.8	+1.1
KAN06	**Argonia West S**	**0.47**	**335**	Pg	Pg	23 23 07.0	+0.5
KAN06				IAML		23 23 17.1	
	comp=N,133nm,0.1s						
OK032	**Salt Plains WL**	**0.48**	**269**	Pg	Pg	23 23 06.9	+0.3
OK032				IAML		23 23 19.5	
	comp=N,118nm,0.1s						
OK032				IAML		23 23 22.1	
	comp=N,121nm,0.1s						
KAN08	**Anthony NE Sta**	**0.50**	**325**		Pg	23 23 06.4	-0.6
KAN08				IAML		23 23 16.3	
	comp=E,197nm,0.3s						
KAN12	**Harper NE Stat**	**0.57**	**327**	Pg	Pg	23 23 08.8	+0.4
OK048	**Pawnee Station**	**0.67**	**126**	Pg	Pg	23 23 10.5	+0.2
OK048				IAML		23 23 21.5	
	comp=E,74nm,0.4s						
OK051	**E0350 and S346**	**0.70**	**116**	Pg	Pg	23 23 11.0	+0.2
OK051				IAML		23 23 25.0	
	comp=E,129nm,0.2s						
T35A	**Sooner Cattle**	**0.89**	**83**	Pg	Pg	23 23 14.6	+0.1
OK038	**West end E0370**	**0.97**	**250**	Pg	Pg	23 23 15.9	-0.1
QUOK	**Quay**	**0.97**	**131**	Pg	Pg	23 23 16.1	0.0
QUOK				IAML		23 23 34.8	
	comp=N,75nm,0.2s						
QUOK				IAML		23 23 34.9	
	comp=E,67nm,0.2s						
OK029	**Liberty Lake**	**1.03**	**173**	Pg	Pg	23 23 16.9	-0.2
OK029				IAML		23 23 38.4	
	comp=E,41nm,0.2s						
OK052	**Battle Ridge R**	**1.05**	**141**	Pg	Pg	23 23 17.4	-0.1
OK031	**S. Brethren Rd**	**1.06**	**144**	Pg	Pg	23 23 17.6	-0.2
OK031				IAML		23 23 28.2	
	comp=E,53nm,0.1s						
OK031				IAML		23 23 32.9	
	comp=E,64nm,0.1s						
U32A	**Winter Ranch,**	**1.20**	**249**	Pg	Pg	23 23 19.8	-0.6
U32A				IAML		23 23 36.5	
	comp=N,54nm,0.4s						
U32A				IAML		23 23 42.3	
	comp=E,35nm,0.1s						
DEOK	**Depew**	**1.32**	**137**		Pn	23 23 22.2	-0.3
DEOK				IAML		23 23 40.6	
	comp=N,54nm,0.2s						
ELIS	**Ellis County**	**1.64**	**243**	IAmb_Lg		23 23 51.7	
	comp=Z,18nm,0.9s						
TUL3	**Leonard**	**1.73**	**121**		Pb	23 23 29.3	-0.3
W35A	**Tecumseh**	**1.77**	**160**	Pn	Pn	23 23 29.1	+0.4
R32A	**Long Quarter,**	**1.82**	**332**	Pn	Pn	23 23 30.3	+0.8
RLO	**Rose Lookout**	**2.19**	**107**	Pn	Pn	23 23 35.1	+0.7
X34A	**Smith Ranch, M**	**2.22**	**185**	Pg	Pb	23 23 38.9	+1.0
X34A				IAmb_Lg		23 24 09.8	
	comp=Z,5.0nm,0.8s						
WMOK	**Wichita Mounta**	**2.28**	**205**	Pn	Pn	23 23 37.0	+1.3
WMOK				IAmb_Lg		23 24 08.3	
	comp=Z,2.8nm,0.8s						

*IDC **02** 23:31:36.5±0.6, 12°.76N×91°.89E, h0km, mb4.2/25, mbtmp4.2/26, ML3.6/1, MS3.5/34, Error ellipse: s-maj=20.0km s-min=13.2km az=60.0*
*BJI **02** 23:31:40.4±0.0, 12°.64N×92°.10E, h24km, mb4.4/43, mB4.6/19, Ms4.0/15, Ms7 3.8/18*
*NDI **02** 23:31:42.0±3.1, 12°.91N×91°.94E, h70km, ML4.9, mb4.7(NEIC)*
*NEIC **02** 23:31:42.6±2.0, 12°.86N±0°.06×91°.90E±0°.09, h27km±3km, mb4.7/55, Error ellipse: s-maj=13.6km s-min=7.9km az=65.0*
ISC 02 23:31:40.4±0.5, 12°.74N±0°.05×91°.86E±0°.04, h20km±2km, h20km:pP-P, n204, σ1°.57/196, mb4.6/64, MS3.6/38, 16C-9D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.38**	**141**		**Pb**	**23 32 05.9**	**+0.3**
PBA				Sn	**Sg**	**23 32 25.6**	**+0.5**
PBA	**Port Blair**	**1.38**	**141**	*e*P	**Pn**	**23 32 05.3**	**+0.8**
PBA				*e*S	**Sg**	**23 32 25.5**	**+0.3**
PBA				IAML		23 32 27.4	
	comp=E,21μm,0.5s						
PBA				IAML		23 32 28.5	
	comp=N,20μm,0.4s						
SRIT	**Nakonsritamara**	**8.65**	**118**	Pn	**Pn**	**23 33 43.3**	**-1.2**
CM31	**Chiang Mai Arr**	**8.88**	**49**	Pn	**Pn**	**23 33 49

comp=Z,57nm,0.4s
TAPN Taplejung 15.05 346 *e*P **Pn 23 35 09.7 -2.6**
comp=Z,116nm,0.7s
JIRN Jiri 15.76 341 *e*P **Pn 23 35 19.0 -2.7**
comp=Z,28nm,0.3s
PKI Pulchoki 15.94 339 *e*P **Pn 23 35 21.6 -2.4**
comp=Z,53nm,0.6s
PKIN Phulchoki 15.95 339 *e*P **Pn 23 35 21.2 -2.9**
comp=Z,30nm,0.3s
KMI Kunming 16.04 38 ⇑P **P 23 35 30.4 +1.9**
KMI pmax pmax
comp=Z,8.0nm,0.8s
KMI LR LR
comp=Z,190nm,16.8s
KMI LR LR
comp=Z,190nm,18.9s
KMI LR LR
comp=Z,270nm,18.7s
DMN Daman 16.09 338 *e*P **Pn 23 35 23.7 -2.1**
comp=Z,109nm,0.8s
GUN Gumba 16.09 341 *e*P **Pn 23 35 23.2 -2.8**
comp=Z,63nm,0.7s
MYKOM Kota Tinggi 16.11 132 P **P 23 35 28.0 -1.0**
MYKOM IAmb IAmb 23 35 37.2
comp=Z,50nm,0.7s
PZH PanZhiHua 16.54 33 P **Pn 23 35 31.3 -0.2**
PZH S **Sn 23 38 37.1 +2.4**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,110nm,5.9s
PZH LR LR
comp=Z,180nm,14.9s
PZH LR LR
comp=Z,200nm,17.1s
PZH LR LR
comp=Z,240nm,16.3s
GKN Gorkha 16.62 337 *e*P **Pn 23 35 30.6 -1.8**
comp=Z,45nm,0.3s
LSA Lhasa 16.89 358 P **P 23 35 39.0 +0.9**
LSA pmax pmax
comp=Z,6.0nm,0.3s
LSA Lhasa 16.89 358 Pn 23 35 33.5 -2.6
DANN Dangsing 17.27 335 *e*P **Pn 23 35 39.4 -1.4**
comp=Z,90nm,0.7s
PYUN Piuthan 17.38 333 *e*P **Pn 23 35 42.0 -0.1**
comp=Z,37nm,0.3s
QIZ Qiongzhong 18.38 68 P **Pn 23 35 55.3 +1.0**
QIZ S **Sn 23 39 20.6 +1.3**
QIZ LR LR
comp=Z,190nm,10.9s
QIZ LR LR
comp=Z,120nm,10.9s
QIZ LR LR
comp=Z,220nm,10.1s
CD2 Chengdu 21.16 29 P **P 23 36 24.3 -0.1**
CD2 pP sP 23 36 30.5 -1.1
CD2 S **S 23 40 18.5 -0.6**
CD2 LR LR
comp=Z,220nm,14.1s
CD2 LR LR
comp=Z,340nm,19.6s
CD2 LR LR
comp=Z,170nm,13.7s
LZH Lanzhou 25.63 23 *e*P P 23 37 16.1 +7.2
LZH pP pwP 23 37 22.7 +5.1
LZH pmax pmax
comp=Z,15nm,1.0s
LZH LR LR
comp=N,170nm,15.4s
LZH LR LR
comp=E,280nm,17.2s
LZH LR LR
comp=Z,240nm,18.5s
XAN Xi'an 26.28 33 ⇓P **P 23 37 13.1 -1.5**
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN LR LR
comp=Z,350nm,17.2s
XAN LR LR
comp=Z,240nm,15.8s
XAN LR LR
comp=Z,230nm,17.9s
NIL Nilore 26.85 324 P **P 23 37 20.5 +0.7**
NIL IAmb IAmb 23 37 28.8
comp=Z,18nm,0.9s
GTA Gaotai 27.48 13 *e*P **P 23 37 30.7 +5.2**
GTA pmax pmax
comp=Z,9.0nm,0.4s
H08S3 Diego Garcia H 27.93 225 T T 00 06 56.3
baz=44,slow=76,SNR=271
H08S2 Diego Garcia H 27.94 225 T T 00 07 01.1
baz=44,slow=76,SNR=189
H08S1 Diego Carcia H 27.95 225 T T 00 07 01.1
baz=44,slow=76,SNR=126
TWG Pinlang 29.51 66 **P 23 37 43.6 -0.1**
TWG IAmb IAmb 23 37 53.8
comp=Z,20nm,1.1s
SSLB Suanglung 29.67 64 P **P 23 37 43.8 -1.3**
SSLB IAmb IAmb 23 37 54.7
comp=Z,12nm,1.0s
KSH Kashi 30.14 335 P P 23 37 56.0 +6.8
KSH pP pwP 23 38 01.9 +3.6
KSH sP sP 23 38 07.0 +10
KSH pmax pmax
comp=Z,9.0nm,0.8s
WMQ Urumqi 31.18 354 *e*P **P 23 38 01.3 +3.1**
WMQ LR LR
comp=Z,72nm,18.7s
NJ2 Nanjing 31.35 48 *e*P **P 23 37 59.8 0.0**
NJ2 pP **sP 23 38 06.1 -1.1**
NJ2 sP **pwP 23 38 09.6 +1.6**
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 pmax pmax
comp=Z,91nm,3.8s
NRN Naryn 31.77 337 P **P 23 38 03.3 -0.5**
PRZ Przheval'sk 31.86 341 P **P 23 38 04.1 -0.2**
PRZ IAmb IAmb 23 38 14.8
comp=Z,12nm,1.0s
HNS HongShan 31.94 36 ⇑P P 23 38 11.4 +6.5
HNS pmax pmax
comp=Z,12nm,0.7s
BTO Baotou 32.01 27 *e*P **P 23 38 10.1 +4.5**
BTO pP **pwP 23 38 17.5 +3.1**
BTO sP sP 23 38 20.8 +7.7
BTO S **S 23 43 20.2 +3.7**
BTO pmax pmax
comp=Z,12nm,0.7s
BTO pmax pmax
comp=Z,180nm,5.5s
BTO LR LR
comp=Z,250nm,12.4s
BTO LR LR
comp=Z,340nm,17.5s
BTO LR LR
comp=Z,180nm,17.1s
BOOM Boomskoye usch 32.70 338 P **P 23 38 12.0 +0.3**
KAPI Kappang 32.85 121 LR LR 23 53 48.6
comp=Z,47nm,18.8s,baz=294,slow=41
BTK Batken 32.92 330 P **P 23 38 14.1 +0.5**
AAK Ala-Archa 33.38 336 P **P 23 38 18.9 +1.2**
AAK Ala-Archa 33.38 336 LR LR 23 53 27.4
comp=Z,91nm,20.7s,baz=163,slow=39
LUWI Luwuk 33.59 112 P **P 23 38 20.3 +0.6**
DAV Davao City (W) 33.67 96 LR LR 23 53 40.0
comp=Z,33nm,19.4s,baz=31,slow=39
MK31 Makanchi Array 34.89 348 P **P 23 38 30.9 +0.3**
MK31 IAmb IAmb 23 38 39.8
comp=Z,12nm,0.9s
MKAR Makanchi Array 34.89 348 P **P 23 38 30.7 +0.2**
MKAR Makanchi Array 34.89 348 P **P 23 38 30.4 -0.1**
comp=Z,3.1nm,0.8s,baz=168,slow=9.1,SNR=17
MKAR LR LR 23 55 56.6
comp=Z,69nm,18.0s,baz=187,slow=42
comp=Z,3.1nm,0.8s
MAKZ Makanchi 34.96 348 P **P 23 38 31.4 +0.2**
KK31 Karatay Array 35.44 333 P **P 23 38 35.7 +0.4**
KKAR Karatay Array 35.44 333 P **P 23 38 35.8 +0.5**
KKAR Karatay Array 35.44 333 P **P 23 38 36.0 +0.7**
SONM Songino Array 37.03 16 P **P 23 38 49.5 +0.4**
SONM IAmb IAmb 23 38 57.5
comp=Z,11nm,1.3s
SONM Songino Array 37.03 16 P **P 23 38 48.9 -0.2**
comp=Z,1.9nm,0.6s,baz=207,slow=7.1,SNR=10.0
SONM LR LR 23 56 51.2

comp=Z,113nm,18.1s,baz=230,slow=41
comp=Z,1.9nm,0.6s
ULN Ulaanbaatar 37.25 17 P **P 23 38 51.4 +0.5**
XLT XiLinHaoTe 37.38 29 *e*P **P 23 38 50.9 -1.1**
XLT pP sP 23 38 58.8 -0.6
XLT sP pwP 23 39 00.7 -0.1
XLT pmax pmax
comp=Z,9.0nm,1.0s
XLT pmax pmax
comp=Z,82nm,3.7s
GEYT Alibeck 39.13 316 P **P 23 39 07.0 +0.3**
GEYT IAmb IAmb 23 39 17.1
comp=Z,7.7nm,0.7s
GEYT Alibeck 39.13 316 P **P 23 39 05.2 -1.5**
comp=Z,3.0nm,0.5s,baz=128,slow=9.6,SNR=14
GEYT LR LR 23 56 02.0
comp=Z,92nm,21.7s,baz=140,slow=37
comp=Z,3.0nm,0.5s
GYA0B ALIBECK ARRAY 39.13 316 P **P 23 39 07.5 +0.7**
GYA0B IAmb IAmb 23 39 17.1
comp=Z,7.6nm,0.7s
KURBB Kurchatov Arra 39.31 347 P **P 23 39 07.5 -0.5**
comp=Z,3.6nm,0.9s,baz=164,slow=7.9,SNR=17
KURBB LR LR 00 00 02.2
comp=Z,48nm,18.2s,baz=172,slow=43
comp=Z,3.6nm,0.9s
KURK Kurchatov 39.38 347 P **P 23 39 08.6 +0.1**
KURK IAmb IAmb 23 39 17.3
comp=Z,17nm,1.0s
KSRS Korea Array 40.50 46 P **P 23 39 16.4 -1.6**
comp=Z,1.3nm,0.7s,baz=226,slow=8.2,SNR=2.7
KSRS LR LR 23 58 59.9
comp=Z,155nm,19.2s,baz=230,slow=41
comp=Z,1.3nm,0.7s
ZAA0 Zalesovo Array 41.48 354 P **P 23 39 25.9 0.0**
ZALV Zalesovo Beam 41.48 354 **P 23 39 25.3 -0.7**
ZALV Zalesovo Beam 41.48 354 P **P 23 39 25.5 -0.4**
comp=Z,1.4nm,0.5s,baz=177,slow=9.6,SNR=8.4
ZALV LR LR 23 59 13.5
comp=Z,68nm,19.2s,baz=240,slow=40
comp=Z,1.4nm,0.5s
BVAR Borovoye Array 43.69 341 P **P 23 39 43.3 -0.6**
comp=Z,0.9nm,0.5s,baz=141,slow=9.6,SNR=5.5
BVAR LR LR 00 01 04.5
comp=Z,48nm,18.7s,baz=157,slow=40
comp=Z,0.9nm,0.5s
ABKAR Akbulak array 44.91 331 P **P 23 39 54.7 +1.0**
ABKAR IAmb IAmb 23 40 03.1
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 44.91 331 P **P 23 39 54.4 +0.7**
MDJ Mudanjiang 45.21 38 P **P 23 39 57.9 +1.7**
MDJ pP pP 23 40 01.0 -0.6
MDJ PcP **PcP 23 41 36.3 +0.1**
MDJ PP **PP 23 41 43.1 +1.1**
MDJ ScP **ScP 23 45 29.0 +1.1**
MDJ S **S 23 46 37.2 +2.0**
MDJ pmax pmax
comp=Z,5.0nm,0.5s
MDJ pmax pmax
comp=Z,140nm,6.9s
MJAR Matsushiro Arr 47.76 52 LR LR 00 02 56.8
comp=Z,64nm,18.5s,baz=262,slow=39
KLR Kul'dur 48.99 34 LR LR 00 04 27.2
comp=Z,65nm,18.3s,baz=235,slow=40
GNI Garni 49.48 312 LR LR 00 04 49.8
comp=Z,35nm,20.2s,baz=106,slow=40
ARU Arti 50.56 337 LR LR 00 03 58.2
comp=Z,101nm,18.8s,baz=129,slow=38
WB0 Warramunga Arr 52.88 127 P **P 23 40 53.6 -1.7**
WB0 IAmb IAmb 23 40 55.3
comp=Z,6.4nm,0.8s
WRA Warramunga Arr 52.94 127 P **P 23 40 54.4 -1.3**
comp=Z,4.4nm,0.6s,baz=300,slow=10.0,SNR=44
comp=Z,4.4nm,0.6s
WRAB Tennant Creek 52.94 127 P **P 23 40 54.7 -1.1**
WB2 Warramunga Arr 52.95 127 P **P 23 40 54.4 -1.4**
WB2 IAmb IAmb 23 40 55.5
comp=Z,6.1nm,0.6s
BELG Belogornoye 53.02 328 LR LR 00 06 09.4
comp=Z,34nm,19.9s,baz=147,slow=39
WR0 Warramunga Arr 53.10 127 P **P 23 40 56.3 -0.7**
WR0 IAmb IAmb 23 40 57.0
comp=Z,9.2nm,1.1s
AS31 Alice Springs 54.77 131 P **P 23 41 08.2 -0.9**
ASAR Alice Springs 54.77 131 P **P 23 41 08.5 -0.6**
ASAR Alice Springs 54.77 131 P **P 23 41 08.1 -1.0**
comp=Z,5.4nm,0.6s,baz=307,slow=6.7,SNR=64
ASAR LR LR 00 05 22.5
comp=Z,56nm,18.6s,baz=257,slow=37
comp=Z,5.4nm,0.6s
MMAI Mount Meron Ar 55.12 301 LR LR 00 07 20.6
comp=Z,44nm,20.0s,baz=70,slow=39
EIL Elat 55.14 297 LR LR 00 08 32.1
comp=Z,25nm,19.4s,baz=66,slow=40
FORT Forrest 55.52 142 P **P 23 41 14.0 -0.4**
KIRV Kirov 55.68 335 LR LR 00 08 39.4
comp=Z,46nm,18.1s,baz=183,slow=40
VOI Vohitsoka 56.04 232 P **P 23 41 19.7 +1.3**
NRIK Noril'sk 56.62 358 P **P 23 41 22.2 +0.6**
NRIK IAmb IAmb 23 41 29.4
comp=Z,4.2nm,0.7s
NRIK Noril'sk 56.62 358 P **P 23 41 20.2 -1.5**
comp=Z,0.6nm,0.3s,baz=167,slow=18,SNR=1.5
comp=Z,0.6nm,0.3s
BR131 Keskin Array S 57.60 309 P **P 23 41 28.9 -0.5**
BRTR Keskin Array B 57.60 309 P **P 23 41 29.1 -0.2**
BRTR Keskin Array B 57.60 309 P **P 23 41 27.4 -1.9**
comp=Z,1.7nm,0.7s,baz=113,slow=8.0,SNR=4.9
comp=Z,1.7nm,0.7s
ELL Elmali 60.06 305 P **P 23 41 46.3 -0.2**
PURM Purcari 61.65 316 ⇑P **P 23 41 57.9 +1.1**
MBAR Mbarara 62.04 262 LR LR 00 06 55.4
comp=Z,23nm,19.7s,baz=28,slow=34
TLCR 62.12 315 ⇑P **P 23 42 01.3 +1.2**
CFR Carcaliu 62.59 314 ⇑P **P 23 42 03.9 +0.7**
VLDR Vladesti 62.74 315 ⇑P **P 23 42 05.5 +1.2**
AKASG Malin Array Be 62.98 321 P **P 23 42 05.2 -0.5**
AKASG IAmb IAmb 23 42 14.2
comp=Z,5.1nm,1.1s
AKASG Malin Array Be 62.98 321 P **P 23 42 04.2 -1.6**
comp=Z,0.3nm,0.3s,baz=85,slow=3.9,SNR=5.0
comp=Z,0.3nm,0.3s
AKBB Malin Array Si 62.98 321 P **P 23 42 04.9 -0.8**
AKBB IAmb IAmb 23 42 14.0
comp=Z,5.8nm,0.8s
SORM Soroca 62.98 318 ⇑P **P 23 42 05.0 -0.8**
MA2 Magadan 63.57 29 LR LR 00 14 37.7
comp=Z,35nm,18.4s,baz=162,slow=41
VRI Vrincioaia 63.67 315 ⇑P **P 23 42 12.4 +1.9**
PLOR Plostina 63.73 315 ⇑P **P 23 42 12.6 +1.7**
TESR Tescani 63.83 316 ⇑P **P 23 42 11.9 +0.4**
NEHR Nehoiu 63.91 314 ⇓P **P 23 42 14.8 +2.8**
IDI Anoyia 64.00 303 LR LR 00 14 37.7
comp=Z,14nm,18.8s,baz=106,slow=40
COVR Voineasa-Covas 64.03 315 ⇑P **P 23 42 13.8 +0.9**
MLR Muntele Rosu 64.16 314 ⇓P **P 23 42 15.4 +1.5**
MLR Muntele Rosu 64.16 314 P **P 23 42 14.5 +0.7**
MLR Muntele Rosu 64.16 314 P **P 23 42 13.2 -0.6**
comp=Z,7.7nm,0.8s,baz=186,slow=3.0,SNR=14
comp=Z,7.7nm,0.8s
VOIR 64.78 314 ⇓P **P 23 42 18.4 +0.5**
BURAR Bucovina Array 64.97 317 ⇑P **P 23 42 20.2 +1.2**
BURAR Bucovina Array 64.97 317 P **P 23 42 19.2 +0.1**
BUR08 Bucovina Ar. S 64.99 317 P **P 23 42 19.4 +0.2**
BUR08 IAmb IAmb 23 42 28.7
comp=Z,4.9nm,1.0s
ARR Arges 65.06 314 ⇓P **P 23 42 20.1 +0.5**
STKA Stephens Creek 65.08 134 P **P 23 42 19.3 -0.5**
STKA Stephens Creek 65.08 134 P **P 23 42 18.9 -0.9**
comp=Z,1.8nm,0.7s,baz=6.8,slow=7.6,SNR=3.3
comp=Z,1.8nm,0.7s
PETK Petropavlovsk- 65.44 37 LR LR 00 15 37.3
comp=Z,49nm,19.5s,baz=275,slow=40
LOT Lotru 65.67 314 ⇓P **P 23 42 24.2 +0.5**
VTS Vitosha 65.78 311 ⇓P **P 23 42 26.2 +1.8**
MARR Marisel-Cluj 66.27 315 ⇓P **P 23 42 28.0 +0.6**
HERR Herculane 66.57 313 ⇑P **P 23 42 30.1 +0.8**
KWP Kalwaria Pacla 66.91 319 P **P 23 42 31.1 -0.3**
BOVS Bovan 66.97 312 ⇓P **P 23 42 31.2 -0.6**
FINES FINESS Array B 67.39 332 P **P 23 42 33.4 -0.7**
comp=Z,2.2nm,0.6s,baz=101,slow=8.5,SNR=11
comp=Z,2.2nm,0.6s
PSZ Piszkesteto 68.57 317 P **P 23 42 41.9 -0.1**
PSZ IAmb IAmb 23 42 51.0
comp=Z,4.8nm,0.9s
PDG Podgorica 68.70 311 ⇑P **P 23 42 40.3 -2.5**

PDG Podgorica 68.70 311 P **P 23 42 43.5 +0.8**
PDG IAmb IAmb 23 42 50.9
comp=Z,7.5nm,1.2s
H04N2 CROZET ISLANDS 68.81 209 T T 00 57 57.6
baz=43,slow=75,SNR=161
H04N1 CROZET ISLANDS 68.82 209 T T 00 57 58.5
baz=43,slow=75,SNR=132
H04N3 CROZET ISLANDS 68.83 209 T T 00 57 56.1
baz=43,slow=75,SNR=185
OJC Ojcow 68.84 319 P **P 23 42 44.1 +0.6**
LANS Liptovska Anna 68.96 318 *e*P **P 23 42 44.0 -0.3**
H04S1 CROZET ISLANDS 69.26 208 T T 00 58 36.5
baz=39
H04S3 CROZET ISLANDS 69.27 208 T T 00 58 33.0
baz=39
H04S2 CROZET ISLANDS 69.28 208 T T 00 58 38.8
baz=39
MORH Mrgy, Hungar 69.31 315 ⇑P **P 23 42 46.8 +0.3**
VYHS Vyhne 69.32 317 *e*P **P 23 42 47.0 +0.4**
ARCES ARCESS Array B 69.95 340 P **P 23 42 48.9 -1.2**
comp=Z,2.6nm,0.8s,baz=82,slow=9.2,SNR=4.8
ARCES LR LR 00 15 46.8
comp=Z,70nm,19.6s,baz=143,slow=38
comp=Z,2.6nm,0.8s
MORC Moravsky Berou 70.26 318 ⇑P **P 23 42 53.5 +1.2**
MORC Moravsky Berou 70.26 318 P **P 23 42 52.8 +0.5**
MORC IAmb IAmb 23 43 01.8
comp=Z,7.8nm,1.0s
MORC Moravsky Berou 70.26 318 *e*P **P 23 42 52.6 +0.3**
VRAC Vranov 70.85 318 LR LR 00 18 29.3
comp=Z,30nm,18.1s,baz=344,slow=40
KRUC Moravsky 70.97 318 *e*P **P 23 42 57.0 +0.4**
RONA Rosalia, Austr 70.98 316 *i* P **P 23 42 56.0 -0.7**
comp=Z,1.0nm,0.7s
RONA *e*pP **sP 23 43 04.3 -0.2**
comp=Z,5.5nm,1.5s
DPC Dobruska-Polom 71.07 319 *e*P **P 23 42 58.5 +1.2**
DPC *e*pP **pwP 23 43 06.3 -0.5**
OSTC Ostas 71.15 319 *e*P **P 23 42 59.0 +1.3**
OSTC *e*pP **pwP 23 43 06.7 -0.5**
CONA Conrad Observa 71.28 316 *i* P **P 23 42 59.1 +0.4**
comp=Z,2.2nm,1.0s
CONA *e*pP **pwP 23 43 07.4 -0.8**
comp=Z,2.8nm,0.9s
SOKA Soboth 71.82 315 *i* P **P 23 43 02.5 +0.6**
comp=Z,3.2nm,1.0s
SOKA *e*pP **sP 23 43 10.0 +0.3**
comp=Z,6.5nm,1.2s
OBKA Obir 72.15 315 *e*P **P 23 43 04.5 +0.6**
comp=Z,3.7nm,1.1s
OBKA *i* pP **pwP 23 43 12.2 -1.2**
comp=Z,4.6nm,1.0s
ZVC Zvikov 72.42 318 *e*P **P 23 43 05.8 +0.4**
ZVC *e*pP **pwP 23 43 14.4 -0.5**
GEC2 GERESS Array S 72.74 317 P **P 23 43 06.8 -0.6**
GEC2 IAmb IAmb 23 43 16.5
comp=Z,4.7nm,0.8s
GERES GERESS Array B 72.74 317 P **P 23 43 07.8 +0.4**
GERES GERESS Array B 72.74 317 P **P 23 43 07.4 0.0**
comp=Z,2.2nm,0.8s,baz=97,slow=4.4,SNR=6.8
comp=Z,2.2nm,0.8s
SABO M.te Sabotino 72.81 314 P **P 23 43 06.6 -1.2**
SABO IAmb IAmb 23 43 08.2
comp=Z,7.9nm,0.9s
KHC Kasperske Hory 72.82 318 *e*P **P 23 43 08.2 +0.4**
KHC *e*pP **pwP 23 43 16.8 -0.5**
PRED Cave del Predi 72.83 315 P **P 23 43 07.8 -0.1**
PRED IAmb IAmb 23 43 19.0
comp=Z,5.2nm,0.9s
AQU L'Aquila 73.03 311 P **P 23 43 09.2 0.0**
AQU IAmb IAmb 23 43 20.2
comp=Z,6.3nm,1.1s
HFS Hagfors 73.15 329 P **P 23 43 08.4 -1.0**
comp=Z,5.0nm,0.9s,baz=93,slow=8.9,SNR=7.7
HFS LR LR 00 18 14.5
comp=Z,48nm,18.6s,baz=118,slow=38
comp=Z,5.0nm,0.9s
CLL Collm 73.20 320 *e*P **P 23 43 11.0 +1.0**
CLUD Cludinico 73.31 315 P **P 23 43 10.6 -0.1**
CLUD IAmb IAmb 23 43 19.2
comp=Z,10nm,1.0s
STAL STALIGIAL 73.43 315 P **P 23 43 11.3 -0.1**
LESA Schwarzleotal 73.43 316 *e*P **P 23 43 11.3 -0.1**
comp=Z,1.4nm,0.5s
LESA *i* pP **sP 23 43 19.5 +0.3**
comp=Z,1.0nm,0.4s
WTTA Wattenberg 74.14 316 *i* P **P 23 43 15.4 -0.3**
comp=Z,3.1nm,0.7s
WTTA *i* pP **sP 23 43 23.7 +0.2**
comp=Z,2.9nm,0.6s
CTI Castel Tesino 74.17 314 P **P 23 43 15.7 -0.2**
CTI IAmb IAmb 23 43 27.6
comp=Z,12nm,1.4s
NB2 NORSAR Subarra 74.42 330 P **P 23 43 16.4 -0.5**
comp=Z,14nm,1.2s,baz=91,slow=5.9
NOA NORSAR Array B 74.42 330 P **P 23 43 16.5 -0.4**
comp=Z,0.6nm,0.5s,baz=91,slow=5.7,SNR=2.5
NOA LR LR 00 19 10.5
comp=Z,35nm,19.3s,baz=260,slow=38
comp=Z,0.6nm,0.5s
SPITS Spitsbergen Ar 74.64 348 LR LR 00 23 08.9
comp=Z,22nm,18.8s,baz=102,slow=41
RETA Reutte 74.73 316 *i* P **P 23 43 18.8 -0.2**
comp=Z,4.8nm,0.8s
RETA *e*pP **sP 23 43 26.0 -0.7**
comp=Z,4.8nm,0.8s
DAVA Damuels 75.33 316 *i* P **P 23 43 22.2 -0.4**
comp=Z,3.3nm,0.6s
DAVA *i* pP **pwP 23 43 31.1 -1.1**
comp=Z,8.0nm,0.9s
BOSA Boshof 76.34 236 P **P 23 43 28.2 -0.5**
comp=Z,2.8nm,0.7s,baz=102,slow=8.9,SNR=2.4
BOSA LR LR 00 11 50.1
comp=Z,37nm,18.1s,baz=200,slow=32
comp=Z,2.8nm,0.7s
KEST Kesra 76.65 304 P **P 23 43 31.0 +0.7**
comp=Z,2.8nm,0.8s,baz=30,slow=20,SNR=3.1
comp=Z,2.8nm,0.8s
BNI Bardonecchia 77.72 314 P **P 23 43 36.5 +0.3**
BNI IAmb IAmb 23 43 47.5
comp=Z,6.1nm,0.8s
DZM Mont Dzumac 80.87 115 LR LR 00 23 51.5
comp=Z,66nm,18.1s,baz=186,slow=39
JMIC Jan Mayen 81.40 341 LR LR 00 22 29.6
comp=Z,22nm,18.3s,baz=78,slow=38
TAM Tamanrasset 81.84 292 P **P 23 43 58.8 -0.2**
MAW Mawson 82.84 191 P **P 23 44 03.2 +0.3**
comp=Z,1.4nm,0.5s,baz=7.7,slow=3.5,SNR=4.4
comp=Z,1.4nm,0.5s
ESDC Sonseca Array 86.39 310 P **P 23 44 20.4 -1.4**
comp=Z,1.2nm,0.9s,baz=52,slow=2.8,SNR=7.3
comp=Z,1.2nm,0.9s
TORD Torodi Ar. Bea 87.32 283 P **P 23 44 27.2 +0.6**
TORD Torodi Ar. Bea 87.32 283 P **P 23 44 26.4 -0.2**
comp=Z,2.0nm,0.7s,baz=70,slow=5.5,SNR=15
comp=Z,2.0nm,0.7s
MDT Midelt 88.53 303 LR LR 00 31 29.0
comp=Z,22nm,18.4s,baz=156,slow=41
ILAR Eielson Array 91.09 21 P **P 23 44 41.6 -1.8**
comp=Z,0.3nm,0.7s,baz=352,slow=6.4,SNR=2.4
comp=Z,0.3nm,0.7s
URZ Urewera 94.10 128 LR LR 00 29 48.1
comp=Z,24nm,18.6s,baz=30,slow=37
CPUP Villa Florida 148.07 240 PKPbc **PKPdf 23 51 23.2 +1.0**
comp=Z,2.8nm,0.8s,baz=116,slow=9.0,SNR=5.6
PLCA Paso Flores 148.13 206 PKPbc **PKPbc 23 51 25.6 +0.4**
comp=Z,2.4nm,0.9s,baz=144,slow=5.2,SNR=5.7

IDC 02 23:40:03.8±2.9, 3°.55S×129°.23E, h0km, mb3.4/2, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=224.7km s-min=30.6km az=69.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** baz=343,slow=12,SNR=2.0 0.4nm,0.7s	**17.05**	**163**	P		P	Pn	23 44 03.8	+0.1
ASAR	**Alice Springs** 0.8nm,0.4s,baz=351,slow=10.0,SNR=11 0.8nm,0.4s	**20.51**	**168**	P		P	P	23 44 43.6	-0.1
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=117,slow=5.2,SNR=2.3 0.3nm,0.6s	**64.94**	**326**	P		P	P	23 50 45.3	0.0

*IDC **02** 23:44:03.8±1.4, 15°.49S×175°.04W, h248km±15km, mb3.6/7,*

mbtmp4.2/8, Error ellipse: s-maj=53.6km s-min=14.2km az=149.0
NEIC ***02*** *23:44:05.8±2.5, 15°.5S±0°.1×175°.1W±0°.1, h264km±4km, mb4.2/23, Error ellipse: s-maj=17.6km s-min=14.2km az=125.0*

ISC 02 23:44:04.8±0.5, **15°.43S**±0°.09×**175°.07W**±0°.08, **h262**km, **n37**, σ1s**06**/41, **mb4.0**/20, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.53**	**65**		**Pn**	**23 45 04.5**	**+0.7**
AFI				Sn	**S**	**23 45 50.8**	**-0.1**
AFI	**Afiamalu**	**3.53**	**65**	P	**Pn**	**23 45 00.7**	**-3.2**
	52nm,0.3s,baz=208,slow=22,SNR=4.7						
AFI				S	**S**	**23 45 49.2**	**-1.6**
	50nm,0.4s,baz=243,slow=18,SNR=2.5						
NIUE	**Niue**	**6.11**	**127**	Pn	**Pn**	**23 45 35.3**	**+0.9**
NIUE				Sn	**S**	**23 46 45.0**	**-1.4**
SNZO	**South Karori**	**27.27**	**197**	P	**P**	**23 49 26.3**	**+1.2**
LHI	**Lord Howe Isla**	**28.52**	**231**	P	**P**	**23 49 35.2**	**-1.1**
CTAO	**Charters Tower**	**37.06**	**257**	P	**P**	**23 50 50.3**	**0.0**
CTAO				IAmb	IAmb	23 51 18.5	
	comp=Z,11nm,1.3s						
TOO	**Toolangi**	**41.20**	**230**	P	**P**	**23 51 22.6**	**-1.7**
TOO				IAmb	IAmb	23 51 26.1	
	comp=Z,19nm,1.4s						
BBOO	**Buckleboo**	**47.40**	**240**	P	**P**	**23 52 12.9**	**-0.4**
BBOO				IAmb	IAmb	23 52 44.7	
	comp=Z,22nm,1.5s						
WB0	**Warramunga Arr**	**48.22**	**257**	P	**P**	**23 52 19.8**	**0.0**
WB2	**Warramunga Arr**	**48.25**	**257**	P	**P**	**23 52 20.2**	**+0.2**
WRA	**Warramunga Arr**	**48.27**	**257**	P	**P**	**23 52 20.5**	**+0.4**
WRA	**Warramunga Arr**	**48.27**	**257**	P	**P**	**23 52 20.8**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=89,slow=6.9,SNR=26						
	comp=Z,1.2nm,0.5s						
AS31	**Alice Springs**	**48.56**	**252**	P	**P**	**23 52 23.2**	**+0.8**
ASAR	**Alice Springs**	**48.57**	**252**	P	**P**	**23 52 22.5**	**+0.1**
ASAR	**Alice Springs**	**48.57**	**252**	P	**P**	**23 52 22.9**	**+0.5**
	comp=Z,6.1nm,0.4s,baz=88,slow=8.1,SNR=98						
ASAR				PcP	**PcP**	**23 53 44.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=77,slow=6.3,SNR=1.2						
	comp=Z,6.1nm,0.4s						
FORT	**Forrest**	**53.96**	**243**	P	**P**	**23 53 02.0**	**-0.1**
FORT				IAmb	IAmb	23 53 10.0	
	comp=Z,14nm,0.9s						
PSA00	**Pilbara Seismi**	**61.65**	**254**	P	**P**	**23 53 55.5**	**0.0**
PSA00				IAmb	IAmb	23 54 14.8	
	comp=Z,12nm,1.2s						
GIRL	**Giralia**	**66.68**	**252**	P	**P**	**23 54 28.0**	**-0.1**
QSPA	**South Pole Qui**	**74.61**	**180**	P	**P**	**23 55 15.0**	**-0.2**
QSPA				IAmb	IAmb	23 55 20.7	
	comp=Z,5.0nm,1.4s						
NVAR	**Mina Array Bea**	**75.44**	**43**	P	**P**	**23 55 21.3**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=225,slow=8.4,SNR=9.8						
	comp=Z,1.3nm,0.7s						
TCUT	**Toone Canyon**	**81.37**	**43**	P	**P**	**23 55 55.3**	**+2.6**
425A	**Indio Mountain**	**81.49**	**55**	P	**P**	**23 55 54.5**	**+1.0**
425A				IAmb	IAmb	23 55 55.4	
	comp=Z,2.1nm,0.8s						
TXAR	**Lajitas Array**	**81.97**	**57**	P	**P**	**23 55 57.7**	**+1.7**
	comp=Z,0.7nm,1.0s,baz=304,slow=2.9,SNR=4.7						
	comp=Z,0.7nm,1.0s						
ID09	**Alton**	**82.06**	**42**	P	**P**	**23 55 55.4**	**-0.9**
ID09				IAmb	IAmb	23 55 56.8	
	comp=Z,9.5nm,1.2s						
ANMO	**Albuquerque**	**82.06**	**51**	P	**P**	**23 55 57.1**	**+0.7**
CCB	**Clear Creek Bu**	**82.51**	**11**	P	**P**	**23 55 58.4**	**+0.7**
CCB				IAmb	IAmb	23 55 58.5	
	comp=Z,5.1nm,1.2s						
IMAR	**Indian Mountai**	**82.74**	**9**	P	**P**	**23 55 59.0**	**0.0**
IL31		**82.80**	**12**	P	**P**	**23 55 59.3**	**+0.1**
IL31				IAmb	IAmb	23 56 11.6	
	comp=Z,4.4nm,1.2s						
ILAR	**Eielson Array**	**82.80**	**12**	P	**P**	**23 55 59.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=228,slow=5.5,SNR=9.1						
	comp=Z,0.4nm,0.5s						
J25K	**Salcha River,**	**82.96**	**12**	P	**P**	**23 56 00.3**	**+0.1**
J25K				IAmb	IAmb	23 56 41.9	
	comp=Z,4.5nm,1.4s						
S22A	**4UR Ranch, Cre**	**82.98**	**48**	P	**P**	**23 56 00.0**	**-1.2**
S22A				IAmb	IAmb	23 56 03.5	
	comp=Z,3.0nm,0.8s						
YHL	**Hebgen Lake**	**83.34**	**40**	P	**P**	**23 56 04.1**	**+1.2**
YHL				IAmb	IAmb	23 56 17.9	
	comp=Z,2.4nm,1.0s						
PDAR	**Pinedale Array**	**83.37**	**42**	P	**P**	**23 56 03.3**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=254,slow=3.3,SNR=1.8						
	comp=Z,1.2nm,0.6s						
MAW	**Mawson**	**87.24**	**199**	P	**P**	**23 56 21.0**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=182,slow=7.8,SNR=3.8						
	comp=Z,1.4nm,0.6s						
ARCES	**ARCESS Array B**	**124.41**	**351**	PKP	**PKPdf**	**00 02 31.5**	**-0.5**
	comp=Z,4.3nm,1.0s,baz=32,slow=3.4,SNR=4.7						
FINES	**FINESS Array B**	**131.61**	**347**	PKP	**PKPdf**	**00 02 47.2**	**+1.2**
	comp=Z,5.0nm,1.0s,baz=298,slow=3.0,SNR=3.3						
GERES	**GERESS Array B**	**145.91**	**350**	PKPbc	**PKPbc**	**00 03 14.6**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=40,slow=3.8,SNR=1.7						

HEL 02 23:44:11.8±0.2, **67°.65N×33°.71E, h0**km, **ML1.2, Suspected explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.44**	**55**	PG	Pg	23 44 19.8	-0.4
	baz=225						
LVZ				SG	Sg	23 44 23.6	-2.3
VRF	**Varrio**	**1.57**	**276**	MSG		23 44 58.7	
	comp=Z,1.9nm,0.2s						
VRF				SN	Sn	23 45 00.0	-1.8
OLKF	**Oulanka, Finla**	**2.15**	**234**	PG	Pn	23 44 50.0	+1.1
OLKF				MSG		23 45 15.6	
	comp=Z,1.1nm,0.2s						
OLKF				SG	Sb	23 45 18.2	-0.6
KU6	**Riekki**	**2.22**	**225**	PG	Pb	23 44 51.7	-1.0
	baz=40						
KU6				MSG		23 45 17.6	
	comp=Z,0.6nm,0.2s						
KU6				SG	Sb	23 45 20.0	-0.8
MSF	**Maaselka**	**2.54**	**229**	SG	Sb	23 45 30.6	+0.6
RNF	**Rovaniemi**	**3.18**	**254**	PN	Pn	23 45 02.8	-0.2
	baz=78						
ARA0	**ARCESS Array S**	**3.55**	**306**	PN	Pn	23 45 07.0	-1.1
	baz=122						
ARA0				SN	Sn	23 45 48.5	-2.3

HEL 02 23:44:55.7±0.5, **67°.82N×20°.22E, h0**km, **ML1.0, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.71**	**70**	PG	Pg	23 45 08.1	-1.1
LANU				SG	Sg	23 45 17.6	-0.8
KIF	**Kilpisjarvi**	**1.21**	**10**	MSG		23 45 33.5	
	comp=Z,2.3nm,0.2s						
KIF				SG	Sg	23 45 34.2	-0.3
PAJU	**Pajala**	**1.37**	**124**	PB	Pg	23 45 19.9	-2.1
PAJU	**Pajala**	**1.37**	**124**	PG	Pg	23 45 19.9	-2.1
PAJU				SG	Sg	23 45 38.5	-1.2
HEF	**Hetta**	**1.42**	**64**	PG	Pn	23 45 21.0	-1.7
	baz=251						
HEF				MSG		23 45 38.5	
	comp=Z,0.9nm,0.2s						
HEF				SN	Sn	23 45 42.2	+0.1
ERTU	**Ertsjaerv**	**1.49**	**148**	PN	Pn	23 45 22.7	-0.9
ERTU	**Ertsjaerv**	**1.49**	**148**	PG	Pn	23 45 22.7	-0.9
ERTU				SN	Sg	23 45 43.4	0.0
KLF	**Kolari**	**1.55**	**111**	PG	Pn	23 45 23.7	-0.9
KLF				MSG		23 45 42.4	
	comp=Z,0.5nm,0.2s						
KLF				SN	Sn	23 45 44.4	-1.0
KTK1	**Kautokeino**	**1.64**	**42**	PG	Pn	23 45 25.7	0.0
KTK1				SN	Sn	23 45 47.1	-0.3
SGF	**Sodankyl**	**2.44**	**96**	SG	Pn	23 45 35.5	-1.2
SGF	**Sodankyl**	**2.44**	**96**	PN	Pn	23 45 35.5	-1.2
RNF	**Rovaniemi**	**2.56**	**116**	SG	Sb	23 46 14.1	-0.4
ARA0	**ARCESS Array S**	**2.59**	**46**	PB	Pn	23 45 39.2	+0.4
	baz=226						
ARA0				SG	Sb	23 46 14.5	-0.7
KEV	**Kevo**	**3.14**	**49**	SG	Pn	23 45 48.9	+2.6
KEV	**Kevo**	**3.14**	**49**	PB	Pn	23 45 48.9	+2.6
KEV				MSG		23 46 27.9	
	comp=Z,0.4nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUL	**Oulu**	**3.57**	**138**	PN	Pn	23 45 53.9	+1.7

ROM ***03*** *00:09:44.8±0.1, 44°.39N±0°.01×7°.31E±0°.03, h10km±1km, ML0.7/8, Error ellipse: s-maj=2.4km s-min=0.6km az=238.0*
LDG ***03*** *00:09:45.3±0.1, 44°.41N×7°.30E, h7km, Md1.5/4, Ml1.2/2, Error ellipse: s-maj=1.1km s-min=0.7km az=45.0*
STR ***03*** *00:09:45.5±0.3, 44°.N±2°.×°.±°., h5km, MLv0.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=32.9, preliminary*
GEN ***03*** *00:09:45.7, 44°.32N×7°.33E, h15km±1km, Ml0.4*

ISC 03 00:09:44.6±0.8, **44°.41N**±0°.02×**7°.30E**±0°.02, **h14**km±6km, **n53**, σ0s**35**/84, **3D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.16**	**306**	P	**Pb**	**00 09 49.3**	**-0.2**
PZZ				S	**Sg**	**00 09 52.0**	**+0.5**
PZZ	**Stroppo**	**0.16**	**306**	⇓P	**Pb**	**00 09 49.3**	**-0.2**
PZZ				S	**Sg**	**00 09 52.0**	**+0.5**
PZZ				AML	AML		
	comp=E,60μm,0.4s						
PZZ				AML	AML		
	comp=N,46μm,0.5s						
PZZ				AML	AML		
	comp=N,44μm,0.2s						
PZZ	**Stroppo**	**0.16**	**306**	⇓Pg	**Pb**	**00 09 49.3**	**-0.2**
PZZ	**Stroppo**	**0.16**	**306**	Sg	**Sg**	**00 09 51.6**	**+0.1**
STV	**Sant Anna di V**	**0.17**	**173**	P	**Pg**	**00 09 49.1**	**+0.3**
STV				S	**Sg**	**00 09 51.3**	**-0.2**
STV	**Sant Anna di V**	**0.17**	**173**	P	**Pg**	**00 09 49.0**	**+0.3**
STV				S	**Sg**	**00 09 51.3**	**-0.2**
STV				AML	AML		
	comp=N,22μm,0.1s						
STV				AML	AML		
	comp=E,43μm,0.2s						
STV	**Sant Anna di V**	**0.17**	**173**	Sg	**Sg**	**00 09 51.0**	**-0.5**
STV	**Sant Anna di V**	**0.17**	**173**	Pg	**Pg**	**00 09 48.9**	**+0.1**
ENR	**Entracque**	**0.20**	**155**	P	**Pg**	**00 09 49.6**	**+0.3**
ENR				S	**Sg**	**00 09 52.4**	**-0.1**
ENR	**Entracque**	**0.20**	**155**	P	**Pg**	**00 09 49.6**	**+0.3**
ENR				S	**Sg**	**00 09 52.4**	**-0.1**
ENR				AML	AML		
	comp=N,47μm,0.3s						
ENR				AML	AML		
	comp=E,56μm,0.1s						
ENR	**Entracque**	**0.20**	**155**	Sg	**Sg**	**00 09 52.2**	**-0.4**
ENR	**Entracque**	**0.20**	**155**	Pg	**Pg**	**00 09 49.5**	**+0.1**
ISO	**Isola**	**0.29**	**218**	P	**Pb**	**00 09 51.8**	**+0.1**
ISO				S	**Sg**	**00 09 55.5**	**+0.6**
ISO	**Isola**	**0.29**	**218**	Pg	**Pg**	**00 09 51.2**	**+0.5**
ISO				Sg	**Sg**	**00 09 54.9**	**0.0**
SURF	**Saint Ours**	**0.35**	**281**	P	**Pb**	**00 09 52.5**	**-0.3**
SURF				S	**Sg**	**00 09 57.7**	**+0.8**
SURF	**Saint Ours**	**0.35**	**281**	⇓Pg	**Pb**	**00 09 52.6**	**-0.3**
SURF				Sg	**Sg**	**00 09 57.7**	**+0.8**
SPIF	**crte de Spivo**	**0.36**	**187**	Pg	**Pg**	**00 09 52.4**	**+0.4**
SPIF				Sg	**Sg**	**00 09 56.9**	**-0.1**
JAUF	**Jausiers**	**0.39**	**273**	Pg	**Pb**	**00 09 53.2**	**-0.3**
JAUF				Sg	**Sg**	**00 09 58.8**	**+0.7**
GBOS	**Grotte di Boss**	**0.42**	**114**	P	**Pg**	**00 09 53.5**	**+0.4**
GBOS				S	**Sg**	**00 09 59.3**	**+0.4**
GBOS	**Grotte di Boss**	**0.42**	**114**	P	**Pg**	**00 09 53.6**	**+0.4**
GBOS				S	**Sg**	**00 09 59.2**	**+0.4**
GBOS				AML	AML		
	comp=N,8μm,0.7s						
GBOS				AML	AML		
	comp=E,8μm,0.4s						
GBOS	**Grotte di Boss**	**0.42**	**114**	Pg	**Pg**	**00 09 53.5**	**+0.4**
GBOS	**Grotte di Boss**	**0.42**	**114**	Sg	**Sg**	**00 09 59.2**	**+0.2**
BHB	**Bricherasio**	**0.43**	**357**	Sg	**Sg**	**00 09 59.6**	**+0.5**
BHB	**Bricherasio**	**0.43**	**357**	Pg	**Pb**	**00 09 53.8**	**-0.2**
TURF	**col de Turini**	**0.44**	**171**	P	**Pb**	**00 09 54.4**	**+0.1**
TURF				S	**Sg**	**00 10 00.3**	**+0.8**
TURF	**col de Turini**	**0.44**	**171**	Pg	**Pg**	**00 09 53.9**	**+0.4**
TURF				Sg	**Sg**	**00 09 59.8**	**+0.2**
SAOF	**Saorge**	**0.46**	**157**	S	**Sg**	**00 09 59.9**	**-0.2**
SAOF	**Saorge**	**0.46**	**157**	P	**Pb**	**00 09 54.5**	**-0.1**
SAOF				S	**Sg**	**00 10 00.2**	**+0.1**
SAOF	**Saorge**	**0.46**	**157**	Pg	**Pg**	**00 09 54.1**	**+0.2**
SAOF				Sg	**Sg**	**00 10 00.3**	**+0.2**
ENAUX	**Enaux**	**0.48**	**231**	Pg	**Pb**	**00 09 54.9**	**-0.1**
ENAUX				Sg	**Sg**	**00 10 01.2**	**+0.5**
MBDF	**Montbardon**	**0.49**	**310**	*e*Pg	**Pg**	**00 09 54.4**	**0.0**
MBDF	**Montbardon**	**0.49**	**310**	*e*Pg	**Pb**	**00 09 55.0**	**-0.2**
MBDF				*e*Sg	**Sg**	**00 10 00.8**	**-0.2**
MBDF				*e*Sg	**Sb**	**00 10 01.9**	**-0.4**
	comp=E,0.7nm,0.2s						
CREF	**Crivoux**	**0.50**	**286**	Pg	**Pg**	**00 09 55.0**	**+0.4**
CREF				Sg	**Sb**	**00 10 02.5**	**-0.2**
MGRO	**Montegrosso**	**0.52**	**135**	P	**Pg**	**00 09 55.4**	**+0.4**
MGRO				S	**Sg**	**00 10 02.1**	**+0.2**
MGRO	**Montegrosso**	**0.52**	**135**	P	**Pg**	**00 09 55.2**	**+0.2**
MGRO				S	**Sg**	**00 10 02.2**	**+0.2**
MGRO	**Montegrosso**	**0.52**	**135**	Pg	**Pg**	**00 09 55.3**	**+0.4**
MGRO	**Montegrosso**	**0.52**	**135**	Sg	**Sg**	**00 10 02.2**	**+0.2**
MVIF	**Mont Vial**	**0.53**	**192**	Pg	**Pb**	**00 09 55.6**	**-0.1**
MVIF				Sg	**Sg**	**00 10 02.7**	**+0.6**
SBF	**Sospel**	**0.56**	**170**	*e*Pg	**Pg**	**00 09 55.5**	**-0.1**
SBF	**Sospel**	**0.56**	**170**	*e*Pg	**Pb**	**00 09 56.3**	**+0.1**
SBF				*e*Sg	**Sg**	**00 10 03.0**	**-0.1**
	comp=E,1.9nm,0.2s						
SBF				*e*Sg	**Sb**	**00 10 03.5**	**-0.6**
	comp=E,1.7nm,0.2s						
ESCA	**l'Escarene**	**0.58**	**175**	S	**Sb**	**00 10 04.7**	**-0.1**
ESCA	**l'Escarene**	**0.58**	**175**	Pg	**Pb**	**00 09 56.6**	**-0.1**
ESCA				Sg	**Sg**	**00 10 04.3**	**+0.5**
RORO	**Rocca Rossa**	**0.63**	**118**	P	**Pg**	**00 09 57.1**	**+0.2**
RORO				S	**Sb**	**00 10 05.8**	**-0.2**
RORO	**Rocca Rossa**	**0.63**	**118**	Sg	**Sg**	**00 10 05.6**	**+0.3**
RORO	**Rocca Rossa**	**0.63**	**118**	Pg	**Pg**	**00 09 57.1**	**+0.2**
IMI	**Imperia**	**0.66**	**139**	S	**Sg**	**00 10 06.3**	**+0.1**
CANO	**Canova, Maglio**	**0.70**	**107**	S	**Sg**	**00 10 07.9**	**+0.3**
CANO	**Canova, Maglio**	**0.70**	**107**	Pg	**Pb**	**00 09 58.6**	**-0.1**
CANO	**Canova, Maglio**	**0.70**	**107**	Sg	**Sg**	**00 10 07.9**	**+0.3**
PCP	**Piancastagn**	**0.90**	**81**	Pg	**Pn**	**00 10 02.7**	**-0.2**
PCP	**Piancastagn**	**0.90**	**81**	Sg	**Sg**	**00 10 14.6**	**+0.7**
ORIF	**Oris-en-Rattie**	**1.13**	**297**	*e*Pg	**Pb**	**00 10 05.4**	**-0.6**
ORIF				*e*Sg	**Sb**	**00 10 20.5**	**-0.1**
	comp=E,0.5nm,0.2s						
LPG	**La Plagne**	**1.15**	**340**	*e*Pg	**Pb**	**00 10 06.6**	**+0.1**
LPG				*e*Sg	**Sg**	**00 10 22.0**	**0.0**
	comp=E,0.4nm,0.2s						

IDC 03 00:11:37.6±5.7, **6°.98S×102°.51E, h0**km, **mb3.6**/4, **mbtmp3.6**/4, **Error ellipse: s-maj=227.4km s-min=31.8km az=51.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.52**	**352**	P	P	00 17 08.2	+0.2
	0.8nm,0.5s,baz=180,slow=9.3,SNR=5.3						
	0.8nm,0.5s						
H08S2	**Diego Garcia H**	**29.78**	**267**	T	T	00 49 02.8	
	baz=90,slow=74,SNR=19						
H08S3	**Diego Garcia H**	**29.79**	**267**	T	T	00 49 13.9	
	baz=90,slow=74,SNR=32						
H08S1	**Diego Garcia H**	**29.80**	**267**	T	T	00 49 03.1	
	baz=90,slow=74,SNR=6.8						
WRA	**Warramunga Arr**	**33.45**	**116**	P	P	00 18 18.6	0.0
	0.6nm,1.1s,baz=286,slow=12,SNR=1.2						
	0.6nm,1.1s						
MKAR	**Makanchi Array**	**56.48**	**343**	P	P	00 21 20.9	-0.4
	0.5nm,0.6s,baz=155,slow=7.8,SNR=4.6						
	0.5nm,0.6s						
H04N2	**CROZET ISLANDS**	**58.42**	**219**	T	T	01 25 43.2	
	baz=63,slow=75,SNR=5.9						
H04N1	**CROZET ISLANDS**	**58.43**	**219**	T	T	01 25 21.9	
	baz=63,slow=75,SNR=5.2						
H04N3	**CROZET ISLANDS**	**58.43**	**219**	T	T	01 25 28.5	
	baz=63,slow=75,SNR=5.9						
ZALV	**Zalesovo Beam**	**62.51**	**348**	P	P	00 22 03.0	+0.2
	0.3nm,0.3s,baz=150,slow=7.0,SNR=2.0						
	0.3nm,0.3s						

IDC ***03*** *00:34:16.5±1.9, 14°.84S×173°.78W, h0km, mb3.7/6, mbtmp3.7/6, MS3.4/2, Error ellipse: s-maj=136.1km s-min=23.0km az=151.0*

ISC 03 00:34:25.9±1.9, **15°.0S**±0°.7×**173°.8W**±0°.4, **h73**km, **n9**, σ0s**63**/6, **mb3.6**/6, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.21**	**62**	Pn	Pn	00 34 46.3	-14
	74nm,0.3s,baz=206,slow=1.5,SNR=50						
AFI				Sn	Sn	00 35 05.6	-21
	62nm,0.3s,baz=293,slow=21,SNR=7.6						
KRVT	**Keravat (AS076**	**35.27**	**284**	LR	LR	00 54 48.9	
	comp=Z,78nm,19.1s,baz=116,slow=35						
WRA	**Warramunga Arr**	**49.58**	**256**	P	**P**	**00 43 10.6**	**+0.5**
	0.5nm,0.8s,baz=91,slow=7.1,SNR=8.6						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**49.89**	**252**	P	**P**	**00 43 12.0**	**-0.4**
	2.8nm,0.6s,baz=84,slow=8.3,SNR=30						
	2.8nm,0.6s						
NVAR	**Mina Array Bea**	**74.25**	**42**	P	**P**	**00 45 55.5**	**0.0**
	0.6nm,0.7s,baz=211,slow=6.9,SNR=4.2						
	0.6nm,0.7s						
TXAR	**Lajitas Array**	**80.68**	**56**	P	**P**	**00 46 31.9**	**+0.5**
	0.7nm,0.9s,baz=200,slow=9.1,SNR=5.5						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**82.08**	**11**	P	**P**	**00 46 37.9**	**0.0**
	0.2nm,0.6s,baz=221,slow=6.1,SNR=1.8						
	0.2nm,0.6s						
PDAR	**Pinedale Array**	**82.19**	**42**	P	**P**	**00 46 38.5**	**-0.7**
	0.3nm,0.5s,baz=215,slow=4.4,SNR=4.1						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**89.84**	**24**	LR	LR	01 23 04.7	
	comp=Z,15nm,18.0s,baz=350,slow=33						

ISN ***03*** *00:45:23.1±0.9, 34°.91N×46°.43E, h10km±11km, ML3.2*
TEH ***03*** *00:45:23.2, 34°.90N×46°.46E, h9km±40km, ML2.9*
AZER ***03*** *00:45:28.0±4.2, 34°.93N×47°.62E, h10km±999km, Error ellipse: s-maj=3376.0km s-min=53.8km az=354.0*

ISC 03 00:45:23.6±1.1, **34°.92N**±0°.02×**46°.51E**±0°.03, **h9**km±11km, **n26**, σ2s**38**/35, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.24**	**205**	Pg	**Pg**	**00 45 28.4**	**-0.1**
IDHR				Sg	**Sg**	**00 45 33.0**	**+1.2**
IGHG	**Ghaleghazi**	**0.59**	**175**	Pg	**Pb**	**00 45 35.9**	**-0.2**
IGHG				Sg	**Sb**	**00 45 45.8**	**+1.1**
KCHF	**Cheshme Sefid,**	**0.78**	**146**	Pg	**Pb**	**00 45 39.3**	**0.0**
KCHF				Sg	**Sb**	**00 45 51.2**	**+1.2**
IKOM	**Komasi**	**1.11**	**132**	Pg	**Pn**	**00 45 45.4**	**0.0**
IBZA	**Bozab**	**1.20**	**111**	Pg	**Pg**	**00 45 47.5**	**+0.9**
ILBA	**Ilam Banvizeh**	**1.31**	**191**	Pg	**Pn**	**00 45 47.5**	**-0.7**
IKFM	**Kafar-mosalman**	**1.78**	**141**	Pg	**Pg**	**00 45 57.8**	**+0.2**
IKRK	**Kirkuk**	**1.84**	**286**	*e*Pn	**Pb**	**00 45 57.0**	**-0.4**
IKRK				*e*Sn	**Sg**	**00 46 22.0**	**-0.8**
IKRK				AML	AML	00 46 25.3	
	comp=N,353nm,0.5s						
IKRK				AML	AML	00 46 25.6	
	comp=E,261nm,0.2s						
HSAM	**Samen**	**1.86**	**112**	Pn	**Pg**	**00 45 59.1**	**-0.2**
MAHB	**Mahabad**	**1.96**	**341**	Pn	**Pb**	**00 45 59.2**	**-0.3**
HAGD	**Aghdareh**	**2.16**	**92**	Pn	**Pb**	**00 46 03.1**	**+0.1**
BHD	**Baghdad**	**2.41**	**228**	*e*Pn	**Pb**	**00 46 05.0**	**-2.1**
BHD				*e*Sn	**Sb**	**00 46 35.0**	**-2.0**
IHSH	**Hashtrud**	**2.46**	**14**	Pn	**Pb**	**00 46 07.3**	**-0.8**
QSDN	**Sirdan**	**2.68**	**53**	Pn	**Pb**	**00 46 10.8**	**-1.1**
IAZR	**Azarshahr**	**2.79**	**351**	Pn	**Pn**	**00 46 10.7**	**+2.1**
ISRB	**Sarab**	**3.05**	**17**	Pn	**Pb**	**00 46 15.2**	**-2.9**
RAFI	**Al-Rafai**	**3.20**	**186**	*e*Pn	**Pn**	**00 46 16.0**	**+2.0**
RAFI				*e*Sn	**Sb**	**00 46 56.0**	**-3.7**
ITBZ	**Tabriz**	**3.32**	**355**	Pn	**Pn**	**00 46 18.1**	**+2.2**
IHRS	**Heris**	**3.42**	**7**	Pn	**Pn**	**00 46 20.2**	**+2.9**
ISHB	**Shabestar**	**3.44**	**348**	Pn	**Pn**	**00 46 20.6**	**+3.1**
LRK	**Lerik**	**4.00**	**21**	P	**Pb**	**00 46 30.3**	**-4.0**
LRK				S	**Sb**	**00 47 17.9**	**-4.9**
ORD	**Ordubad**	**4.03**	**354**	P	**Pb**	**00 46 36.8**	**+2.1**
ORD				S	**Sg**	**00 47 30.2**	**-2.7**
GRMI	**Germi**	**4.04**	**16**	Pn	**Pn**	**00 46 28.8**	**+3.1**
YRD	**Yardimli**	**4.22**	**19**	P	Pb	00 46 33.4	-4.8
YRD				S	**Sb**	**00 47 24.9**	**-4.4**
IPIR	**Pirpir**	**4.27**	**120**	Pn	**Pn**	**00 46 32.3**	**+3.2**
SBZ	**Shahbuz**	**4.54**	**351**	P	**Pb**	**00 46 45.4**	**+2.0**
SBZ				S	**Sb**	**00 47 41.7**	**+3.4**

IDC ***03*** *00:51:23.9±0.8, 44°.53N×148°.97E, h0km, mb3.9/15, mbtmp3.9/16, ML2.6/1, MS2.9/5, Error ellipse: s-maj=22.8km s-min=20.3km az=141.0*
MOS ***03*** *00:51:28.5±0.9, 44°.45N×148°.87E, h47km, mb4.2/6, Error ellipse: s-maj=12.6km s-min=11.2km az=18.6*
NIED ***03*** *00:51:28.8, 44°.62N×148°.80E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.89; $M_{\theta\theta}$-0.55; $M_{\phi\phi}$-0.34; $M_{r\theta}$0.36; $M_{\theta\phi}$-0.29; $M_{\phi r}$0.84; Fault plane solution: $M_0$1.22000×10^{15} NP1:ϕ_s33.00000°, δ69.00000°, λ78.00000°. NP2:$

comp=E,860nm,0.2s
YUK A A 00 52 37.0
comp=E,180nm,0.2s
NEM2 Nemuro 2 2.48 248 *e*P **Pn** **00 52 06.8 -1.2**
NEM2 *e*S **Sn** **00 52 35.8 -1.2**
NMR Nemuro--Hokkai 2.49 248 *e*PN **Pn** **00 52 06.5 -1.6**
NMR *e*S **Sn** **00 52 37.2 0.0**
NMR Nemuro--Hokkai 2.49 248 *e*P **Pn** **00 52 06.5 -1.6**
NMR *e*S **Sn** **00 52 37.2 0.0**
RUSJ Misakicho 2.64 266 *e*PN **Pn** **00 52 09.9 -0.2**
RUSJ *e*S **Sn** **00 52 44.3 +3.4**
JRA Rausu 2.75 263 *e*P **Pn** **00 52 11.8 +0.1**
JRA *e*S **Sn** **00 52 43.2 -0.4**
JNK Nakash 3.11 258 *e*P **Pn** **00 52 15.7 -0.9**
JAK Akkeshi 3.33 248 *e*P **Pn** **00 52 18.6 -1.0**
JAR Ashorobuto 3.86 256 *e*P **Pn** **00 52 27.1 +0.3**
JOB Onbets 3.95 251 *e*P **Pn** **00 52 28.2 +0.1**
JCH Churui 4.38 249 *e*P **Pn** **00 52 34.1 +0.1**
JCH *e*S **Sn** **00 53 22.4 -1.3**
ERM Erimo 4.80 243 *i* PN **Pn** **00 52 40.6 +0.9**
JNBK Urakawa-nobuka 4.93 248 *e*P **Pn** **00 52 41.3 -0.3**
YSS Yuzh-Sakhalins 5.05 303 *e*PN Pn 00 52 48.3 +5.2
YSS MLR MLR
comp=Z,400nm,18.0s
YSS Yuzh-Sakhalins 5.05 303 *e*P **Pn** **00 52 43.6 +0.5**
UGL Uglegorsk 6.68 318 *e*P **Pn** **00 53 06.2 +0.7**
UGL AMB AMB 00 53 10.0
comp=Z,90nm,0.6s
JANG Nango 6.75 237 *e*P **Pn** **00 53 04.6 -1.9**
JANG *e*S **Sn** **00 54 15.5 -6.5**
SKR Severo-Kuril's 8.01 35 *e*PN Pn 00 53 32.8 +9.0
SKR MLR MLR
comp=Z,800nm,18.0s
OKH Okha 10.02 339 *e*P **Pn** **00 53 52.5 +1.2**
OKH *e*S **Sn** **00 55 39.9 -2.3**
PETK Petropavlovsk- 10.53 30 Pn Pn 00 53 51.3 -6.8
comp=Z,0.3nm,0.3s,baz=206,slow=16,SNR=2.0
comp=Z,6.4nm,1.1s
PET Petropavlovsk 10.82 33 *e*P **Pn** **00 54 00.9 -1.2**
KLR Kul'dur 12.73 299 LR LR 00 59 34.6
comp=Z,57nm,18.7s,baz=237,slow=39
ZEA Zeya 16.97 311 *e*P **Pn** **00 55 21.6 -2.2**
ZEA Zeya 16.97 311 *e*P **Pn** **00 55 21.6 -2.2**
KSRS Korea Array 17.26 254 LR LR 01 02 34.9
comp=Z,41nm,18.2s,baz=60,slow=39
JNU Nakatsue 17.93 238 LR LR 01 02 34.4
comp=Z,32nm,18.0s,baz=42,slow=37
ULN Ulaanbaatar 28.98 292 *i* P **P** **00 57 25.5 +0.6**
ULN pmax pmax
comp=Z,8.0nm,2.4s
ULN Ulaanbaatar 28.98 292 *e*P **P** **00 57 25.5 +0.6**
SONM Songino Array 29.42 292 P **P** **00 57 28.8 0.0**
comp=Z,0.3nm,0.5s,baz=72,slow=11,SNR=2.2
comp=Z,0.3nm,0.5s
ILAR Eielson Array 40.27 37 P **P** **00 59 00.5 -1.3**
comp=Z,0.3nm,0.6s,baz=273,slow=7.9,SNR=2.5
comp=Z,0.3nm,0.6s
DAV Davao City (W) 42.33 216 LR LR 01 16 02.7
comp=Z,15nm,21.7s,baz=96,slow=35
MK31 Makanchi Array 45.44 298 *i* P **P** **00 59 43.9 +0.1**
MKAR Makanchi Array 45.44 298 P **P** **00 59 44.0 +0.2**
comp=Z,0.5nm,0.4s,baz=77,slow=8.4,SNR=7.2
comp=Z,0.5nm,0.4s
KURK Kurchatov 46.25 304 *i* P **P** **00 59 49.9 -0.2**
KURK pmax pmax
comp=Z,6.0nm,1.5s
KURK Kurchatov 46.25 304 *e*P **P** **00 59 49.9 -0.2**
KURBB Kurtchov Arra 46.34 304 P **P** **00 59 50.8 0.0**
comp=Z,0.8nm,0.5s,baz=74,slow=9.2,SNR=5.5
comp=Z,0.8nm,0.5s
CMAR Chiang Mai Arr 48.90 255 P **P** **01 00 13.2 +2.2**
comp=Z,0.8nm,0.3s,baz=45,slow=7.8,SNR=1.4
comp=Z,0.8nm,0.3s
BRVK Borovoye 50.16 310 *i* P **P** **01 00 20.9 +0.7**
BRVK pmax pmax
comp=Z,1.0nm,0.4s
BRVK Borovoye 50.16 310 *e*P **P** **01 00 20.9 +0.7**
FINES FINESS Array B 64.93 334 *i* P **P** **01 02 03.2 -0.6**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 64.93 334 P **P** **01 02 03.3 -0.6**
comp=Z,7.2nm,1.0s,baz=54,slow=9.7,SNR=9.5
comp=Z,7.2nm,1.0s
GEYT Alibeck 65.26 299 P **P** **01 02 07.4 +0.9**
comp=Z,1.9nm,0.7s,baz=114,slow=3.7,SNR=4.0
comp=Z,1.9nm,0.7s
WRA Warramunga Arr 65.33 195 P **P** **01 02 08.0 +1.1**
comp=Z,0.4nm,0.8s,baz=18,slow=7.4,SNR=3.2
comp=Z,0.4nm,0.8s
NVAR Mina Array Bea 66.20 59 P **P** **01 02 13.8 +1.0**
comp=Z,0.2nm,0.5s,baz=312,slow=6.7,SNR=2.5
comp=Z,0.2nm,0.5s
PDAR Pinedale Array 68.57 51 LR LR 01 33 32.8
comp=Z,9.7nm,18.6s,baz=30,slow=37
ASAR Alice Springs 69.04 195 P **P** **01 02 32.8 +2.3**
comp=Z,0.2nm,0.3s,baz=20,slow=6.5,SNR=4.2
comp=Z,0.2nm,0.3s
NB2 NORSAR Subarra 69.51 340 P **P** **01 02 32.8 -0.2**
comp=Z,1.1nm,0.7s,baz=31,slow=6.5
NOA NORSAR Array B 69.51 340 P **P** **01 02 33.1 +0.1**
comp=Z,0.8nm,0.8s,baz=31,slow=6.7,SNR=4.3
comp=Z,0.8nm,0.8s
HFS Hagfors 69.64 338 P **P** **01 02 33.7 0.0**
comp=Z,6.9nm,1.1s,baz=57,slow=5.5,SNR=8.6
comp=Z,6.9nm,1.1s
AKASG Malin Array Be 71.85 324 P **P** **01 02 46.7 -0.7**
comp=Z,0.9nm,0.5s,baz=37,slow=6.0,SNR=4.3
comp=Z,0.9nm,0.5s
GERES GERESS Array B 79.26 332 P **P** **01 03 30.4 +0.5**
comp=Z,0.7nm,0.4s,baz=38,slow=5.6,SNR=5.8
comp=Z,0.7nm,0.4s
TXAR Lajitas Array 81.28 57 P **P** **01 03 42.0 +0.9**
TXAR Lajitas Array 81.28 57 P **P** **01 03 42.0 +0.9**
comp=Z,0.3nm,0.5s,baz=290,slow=3.6,SNR=6.2
comp=Z,0.3nm,0.5s
TORD Torodi Ar. Bea 115.49 324 PKP **PKiKP** **01 10 06.2 -0.6**
comp=Z,0.4nm,1.0s,baz=31,slow=1.7,SNR=1.9

*ATH **03** 00:53:21.8, 38°.82N×26°.43E, h10km±1km, ML2.1/5, Error ellipse: s-maj=2.1km s-min=0.8km az=287.0*
*AFAD **03** 00:53:21.5±0.0, 38°.80N×26°.41E, h7km±2km, ML2.2*
*THE **03** 00:53:21.8, 38°.83N×26°.38E, h10km, ML2.1/5, Error ellipse: s-maj=1.0km s-min=0.5km az=77.0*
*ISK **03** 00:53:21.1, 38°.82N×26°.40E, h10km, ML2.5/21*
ISC 03 00:53:21.7±0.8, 38°.82N±0°.01×26°.41E±0°.02, h13km±6km, n50, σ0s.44/79, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.16**	**178**	P	**Pg**	**00 53 25.3**	**-0.1**
KARB				S	**Sg**	**00 53 27.6**	**-0.4**
EAG3	**Mitilini, Lesv**	**0.29**	**26**	P	**Pg**	**00 53 27.5**	**-0.2**
EAG3				S	**Sg**	**00 53 31.3**	**-0.5**
EAG1	**Polichnitos, L**	**0.30**	**332**	P	**Pg**	**00 53 27.8**	**-0.1**
EAG1				S	**Sg**	**00 53 32.5**	**+0.4**
LESV	**Lesvos island,**	**0.31**	**23**	P	**Pg**	**00 53 27.9**	**-0.2**
LESV				S	**Sg**	**00 53 32.8**	**+0.5**
RFT5	**Foca**	**0.31**	**121**	Pg	**Pg**	**00 53 28.1**	**0.0**
RFT5				Sg	**Sg**	**00 53 32.8**	**+0.4**
EAG2	**Marmaro, Chios**	**0.36**	**220**	P	**Pg**	**00 53 28.9**	**-0.1**
EAG2				S	**Sg**	**00 53 34.1**	**+0.2**
RFT7	**Candarli**	**0.42**	**71**	Pg	**Pg**	**00 53 30.0**	**-0.1**
RFT7				Sg	**Sb**	**00 53 36.6**	**-0.8**
PRK	**Paraskevi**	**0.44**	**346**	P	**Pg**	**00 53 30.4**	**0.0**
PRK				S	**Sg**	**00 53 36.7**	**+0.5**
	230nm,0.3s						
PRK	**Paraskevi**	**0.44**	**346**	P	**Pg**	**00 53 30.2**	**-0.1**
PRK				S	**Sg**	**00 53 36.5**	**+0.2**
PRK				AML	AML	00 53 37.5	
	comp=N,520μm,0.3s						
PRK				AML	AML	00 53 40.2	
	comp=E,407μm,0.5s						
DKL	**Dikili**	**0.46**	**57**	Pg	**Pg**	**00 53 30.9**	**+0.1**
DKL				Sg	**Sb**	**00 53 38.1**	**-0.4**
URLA	**Izmir**	**0.48**	**162**	Pg	**Pg**	**00 53 30.9**	**-0.3**
URLA				Sg	**Sg**	**00 53 38.1**	**+0.4**
URLA	**Izmir**	**0.48**	**162**	P	**Pg**	**00 53 30.8**	**-0.4**
URLA				S	**Sg**	**00 53 37.7**	**0.0**
URLA				*i* AML	AML	00 53 38.0	
	comp=E,246nm,0.3s						
URLA				*i* AML	AML	00 53 40.0	
	comp=E,139nm,0.3s						
CHOS	**Chios island**	**0.51**	**213**	P	**Pg**	**00 53 31.8**	**0.0**
CHOS				S	**Sg**	**00 53 39.0**	**+0.3**
	comp=E,245nm,0.2s						
CHOS	**Chios island**	**0.51**	**213**	P	**Pg**	**00 53 31.6**	**-0.2**
CHOS				S	**Sg**	**00 53 39.2**	**+0.6**
CHOS				AML	AML	00 53 44.1	
	comp=N,430μm,0.2s						
CHOS				AML	AML	00 53 44.1	
	comp=E,581μm,0.2s						
AYVA	**Ayvalik**	**0.53**	**24**	P	**Pg**	**00 53 31.9**	**-0.3**
AYVA				S	**Sg**	**00 53 39.5**	**+0.3**
AYVA				*i* AML	AML	00 53 44.0	
	comp=E,141nm,0.6s						
ZEDA	**zmir-Bergama**	**0.54**	**74**	P	**Pg**	**00 53 32.2**	**-0.2**
ZEDA				S	**Sg**	**00 53 39.9**	**+0.3**
SIGR	**SIGRI**	**0.58**	**312**	Pg	**Pg**	**00 53 33.0**	**0.0**
SIGR				Sg	**Sb**	**00 53 41.7**	**-0.2**
SIGR	**SIGRI**	**0.58**	**312**	P	**Pg**	**00 53 33.1**	**0.0**
SIGR				S	**Sg**	**00 53 40.7**	**0.0**
	comp=E,135nm,0.4s						
SIGR	**SIGRI**	**0.58**	**312**	P	**Pg**	**00 53 33.0**	**0.0**
SIGR				S	**Sg**	**00 53 40.7**	**0.0**
SIGR				AML	AML	00 53 42.3	
	comp=E,312μm,0.4s						
SIGR				AML	AML	00 53 45.5	
	comp=N,302μm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.59**	**173**	P	**Pg**	**00 53 32.8**	**-0.3**
ZEYE				S	**Sb**	**00 53 42.8**	**+0.8**
ZEYE				*i* AML	AML	00 53 45.0	
	comp=N,166nm,0.2s						
ZEYE				*i* AML	AML	00 53 45.0	
	comp=N,194nm,0.2s						
ZEYE				*i* AML	AML	00 53 45.0	
	comp=N,293nm,0.2s						
GPNR	**Gulpinar-Canak**	**0.67**	**342**	Pg	**Pg**	**00 53 34.9**	**+0.2**
RFT2	**Karaagac**	**0.70**	**31**	Pg	**Pg**	**00 53 35.1**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.71**	**343**	P	**Pg**	**00 53 35.4**	**-0.1**
KOCA				S	**Sb**	**00 53 46.6**	**+1.0**
RFT1	**Sazli**	**0.71**	**2**	Pg	**Pg**	**00 53 35.5**	**0.0**
RFT1				Sg	**Sb**	**00 53 45.9**	**+0.2**
PSRA	**Psara**	**0.72**	**247**	P	**Pg**	**00 53 36.0**	**+0.4**
PSRA				S	**Sb**	**00 53 46.0**	**+0.3**
PSRA				AML	AML	00 53 47.6	
	comp=E,460μm,0.3s						
PSRA				AML	AML	00 53 47.9	
	comp=N,358μm,0.3s						
DGB	**zmir**	**0.85**	**154**	P	**Pg**	**00 53 37.8**	**-0.4**
DGB				S	**Sg**	**00 53 49.4**	**+0.1**
DGB				*i* AML	AML	00 53 51.0	
	comp=N,49nm,0.2s						
DGB				*i* AML	AML	00 53 52.0	
	comp=N,60nm,0.5s						
EZN	**Ezine**	**1.00**	**356**	Pg	**Pg**	**00 53 40.3**	**-0.8**
EZN				Sg	**Sb**	**00 53 55.1**	**+1.0**
EZN	**Ezine**	**1.00**	**356**	P	**Pg**	**00 53 40.2**	**-0.8**
EZN				S	**Sg**	**00 53 54.2**	**0.0**
BOZC	**Bozcaada**	**1.05**	**345**	Pg	**Pg**	**00 53 41.6**	**-0.4**
SMG	**Samos**	**1.16**	**163**	P	**Pb**	**00 53 43.5**	**-0.1**
SMG				S	**Sn**	**00 53 59.7**	**+0.3**
	comp=N,135nm,0.2s						
SMG	**Samos**	**1.16**	**163**	P	**Pb**	**00 53 43.4**	**-0.3**
SMG				AML	AML	00 54 03.4	
	comp=E,242μm,0.3s						
SMG				AML	AML	00 54 03.4	
	comp=N,294μm,0.3s						
COMU	**Canakkale**	**1.28**	**2**	Pn	**Pb**	**00 53 45.8**	**+0.2**
CANM	**Can-anakkale**	**1.29**	**23**	Pn	**Pn**	**00 53 44.3**	**-1.1**
GCAM	**G?zelcaml?**	**1.29**	**150**	Pn	**Pn**	**00 53 45.4**	**-0.1**
GADA	**Gvkgeada**	**1.42**	**344**	Pn	**Pn**	**00 53 47.7**	**+0.4**
LIA	**Limnos Island**	**1.43**	**319**	P	**Pn**	**00 53 46.8**	**-0.6**
LIA				S	**Sn**	**00 54 05.1**	**-1.0**
	comp=N,85nm,0.6s						
LIA	**Limnos Island**	**1.43**	**319**	P	**Pn**	**00 53 46.9**	**-0.5**
LPK	**Lapseki**	**1.57**	**10**	Pn	**Pn**	**00 53 49.9**	**+0.6**
GONE	**Gonen-Balikesi**	**1.57**	**39**	Pn	**Pn**	**00 53 49.9**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.57**	**2**	Pn	**Pn**	**00 53 49.8**	**+0.4**
SMTH	**Samothraki Isl**	**1.78**	**338**	P	**Pn**	**00 53 51.9**	**-0.3**
SMTH				S	**Sn**	**00 54 14.6**	**-0.1**
SMTH	**Samothraki Isl**	**1.78**	**338**	P	**Pn**	**00 53 51.9**	**-0.3**
KULA	**Kula-Manisa**	**1.79**	**99**	Pn	**Pn**	**00 53 52.8**	**+0.4**
ERIK	**Erikli-Kesan**	**1.85**	**3**	Pn	**Pn**	**00 53 53.7**	**+0.6**
APE	**Apeiranthos**	**1.88**	**202**	P	**Pn**	**00 53 53.0**	**-0.6**
BODT	**Bodrum**	**1.90**	**158**	Pn	**Pn**	**00 53 54.3**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.96**	**17**	Pn	**Pn**	**00 53 55.3**	**+0.6**
KCTX	**Karacabey (Bur**	**2.09**	**46**	Pn	**Pn**	**00 53 56.9**	**+0.5**
ALN	**Alexandroupoli**	**2.09**	**352**	P	**Pn**	**00 53 56.2**	**-0.2**
RDO	**Rodhopi**	**2.42**	**344**	P	**Pn**	**00 54 01.1**	**+0.2**

IDC 03 01:07:56.3±3.2, 16°.65S×174°.95W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=387.8km s-min=32.9km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.11**	**258**	P	P	01 16 38.2	-0.2
	0.6nm,0.5s,baz=94,slow=7.4,SNR=21						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**48.31**	**253**	P	P	01 16 39.9	-0.1
	1.9nm,0.6s,baz=87,slow=8.5,SNR=18						
	1.9nm,0.6s						
TXAR	**Lajitas Array**	**82.55**	**57**	P	P	01 20 21.6	0.0
	0.3nm,0.8s,baz=243,slow=5.5,SNR=4.0						
	0.3nm,0.8s						

*NEIC **03** 01:39:42.0±0.3, 36°.287N±0°.005×97°.52W±0°.01, h6km±2km, Error ellipse: s-maj=1.4km s-min=0.6km az=67.0*
TUL 03 01:39:42.2±0.4, 36°.29N±0°.01×97°.51W±0°.01, h7km±4km, ML2.6, mb_Lg2.3/11(NEIC), ML2.5/38(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=203.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**299**	Pg	Pg	01 39 50.7	0.0
CROK				Sg	Sg	01 39 57.0	+0.5
CROK				IAML		01 39 57.3	
	comp=N,549nm,0.3s						
OK048	**Pawnee Station**	**0.47**	**74**	Pg	Pg	01 39 51.6	+0.2
OK048				Sg	Sg	01 39 57.9	+0.4
OK029	**Liberty Lake**	**0.49**	**175**	Pg	Pg	01 39 51.8	+0.1
OK029				Sg	Sg	01 39 58.5	+0.3
OK029				IAML		01 39 58.8	
	comp=N,327nm,0.2s						
OK033	**Mehan**	**0.52**	**118**	Pg	Pg	01 39 52.5	+0.2
OK033				IAML		01 40 06.6	
	comp=N,293nm,0.1s						
OK033				IAML		01 40 07.0	
	comp=N,307nm,0.1s						
BLOK	**Blackwell**	**0.53**	**26**	Pg	Pg	01 39 52.6	+0.2
BLOK				IAML		01 40 09.5	
	comp=E,382nm,0.2s						
OK051	**E0350 and S346**	**0.58**	**68**	Pg	Pg	01 39 53.5	+0.1
OK051				IAML		01 40 02.6	
	comp=E,332nm,0.2s						
GC02	**Grant County #**	**0.63**	**333**	Pg	Pg	01 39 54.0	-0.3
OK031	**S. Brethren Rd**	**0.64**	**122**	Pg	Pg	01 39 54.6	+0.1
OK052	**Battle Ridge R**	**0.64**	**117**		Pg	01 39 54.6	0.0
OK052				IAML		01 40 06.0	
	comp=E,188nm,0.2s						
QUOK	**Quay**	**0.66**	**100**	Pg	Pg	01 39 55.0	+0.1
QUOK				IAML		01 40 09.4	
	comp=N,190nm,0.2s						
QUOK				IAML		01 40 11.2	
	comp=E,203nm,0.2s						
KAN01	**Argonia South**	**0.89**	**347**	IAmb_Lg		01 40 12.1	
	comp=Z,18nm,0.7s						
OKCSW	**OKLAHOMA CITY**	**0.89**	**176**	Pg	Pg	01 39 58.9	-0.3
DEOK	**Depew**	**0.93**	**118**	Pg	Pg	01 39 59.7	-0.4
DEOK				IAML		01 40 14.7	
	comp=N,155nm,0.2s						
OK038	**West end E0370**	**1.01**	**281**	Pg	Pg	01 40 01.1	-0.6
T35A	**Sooner Cattle**	**1.01**	**52**		Pg	01 40 01.4	-0.3
T35A				IAML		01 40 16.0	
	comp=N,140nm,0.3s						
T35A				IAML		01 40 16.7	
	comp=E,126nm,0.2s						
NOKA	**Waynoka**	**1.20**	**287**	Pg	Pg	01 40 04.1	-1.1
NOKA				IAML		01 40 28.2	
	comp=E,125nm,0.3s						
U32A	**Winter Ranch,**	**1.21**	**275**	Pg	Pb	01 40 04.3	-1.1
U32A				IAML		01 40 22.7	
	comp=N,109nm,0.1s						
U32A				IAML		01 40 26.7	
	comp=E,118nm,0.1s						
TUL3	**Leonard**	**1.44**	**105**		Pn	01 40 08.1	-0.5
TUL3				IAmb_Lg		01 40 29.4	
	comp=Z,25nm,0.8s						
ELIS	**Ellis County**	**1.56**	**262**		Pn	01 40 10.6	+0.2
X34A	**Smith Ranch, M**	**1.71**	**189**		Pn	01 40 12.7	+0.4
X34A				IAmb_Lg		01 40 37.8	
	comp=Z,22nm,1.0s						
WMOK	**Wichita Mounta**	**1.86**	**214**	Pn	Pn	01 40 14.8	+0.2
RLO	**Rose Lookout**	**2.01**	**93**		Pn	01 40 17.7	+1.2
LOOK	**Love County**	**2.31**	**173**	Pn	Pn	01 40 21.1	+0.5
R32A	**Long Quarter,**	**2.33**	**336**	IAmb_Lg		01 41 01.7	
	comp=Z,11nm,1.1s						
X37A	**Clayton**	**2.43**	**134**	Pn	Pn	01 40 23.0	+0.7
X37A				IAmb_Lg		01 41 01.8	
	comp=Z,17nm,0.9s						
U38A	**Gravette**	**2.52**	**86**		Pn	01 40 25.2	+1.7
HHAR	**Hobbs**	**2.88**	**89**	Pn	Pn	01 40 28.4	-0.1
KSU1	**Kansas State U**	**2.90**	**14**	Pn	Pn	01 40 30.1	+1.4
KSU1	**Kansas State U**	**2.90**	**14**	IAmb_Lg		01 41 13.9	
	comp=Z,6.2nm,0.8s						
X40A	**Basin Creek Fa**	**4.22**	**114**	Pn	Pn	01 40 47.0	+0.1
P38A	**Dawn**	**4.58**	**42**	IAmb_Lg		01 42 08.8	
	comp=Z,6.2nm,0.7s						

*FUNV **03** 01:45:24.2, 10°.38N×62°.23W, h3km, MW3.2*
*TRN **03** 01:45:25.2, 10°.88N×62°.09W, h76km, MD2.9*
ISC 03 01:45:23.6±1.7, 10°.84N±0°.07×62°.24W±0°.06, h74km±21km, n10, σ1s.34/20, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.84**	**103**	⇑*e*P	**Pn**	**01 45 41.0**	**+0.6**
TRN				*e*S	**Sn**	**01 45 52.1**	**-0.7**
CRUV	**Carupano**	**1.00**	**261**	⇓*i*P	**Pn**	**01 45 42.5**	**+0.2**
CRUV				*e*S	**Sn**	**01 45 55.7**	**-0.6**
GRGR	**Grenville**	**1.40**	**24**	⇑*i*P	**Pn**	**01 45 47.8**	**+0.3**
GRGR				*e*S	**Sn**	**01 46 05.3**	**-0.2**
GRHS	**Sauteurs**	**1.49**	**23**	*e*P	**Pn**	**01 45 48.9**	**+0.2**
GRHS				*e*S	**Sn**	**01 46 07.5**	**0.0**
GCMP	**Grenada, Carri**	**1.82**	**26**	*e*P	**Pn**	**01 45 53.2**	**+0.3**
GCMP				*e*S	**Sn**	**01 46 15.0**	**-0.2**
PCRV	**Puerto La Cruz**	**2.45**	**255**	*e*P	**Pn**	**01 46 02.9**	**+1.4**
PCRV				*e*S	**Sn**	**01 46 31.6**	**+1.1**
SVB	**Belmont**	**2.60**	**22**	*e*P	**Pn**	**01 46 04.7**	**+1.2**
SVB				*e*S	**Sn**	**01 46 32.4**	**-1.7**
MCLT	**Moule a Chique**	**3.12**	**24**	*e*P	**Pn**	**01 46 12.1**	**+1.6**
MCLT				*e*S	**Sn**	**01 46 44.8**	**-1.9**
BENV	**Beln**	**5.35**	**261**	*e*P	**Pn**	**01 46 42.5**	**+1.5**
BENV				*e*S	**Sn**	**01 47 40.9**	**-0.5**
BAUV	**El Baul**	**6.02**	**252**	*e*P	**Pn**	**01 46 50.1**	**-0.1**
BAUV				*e*S	**Sn**	**01 47 54.5**	**-3.3**

*VIE **03** 01:50:17.4±0.1, 46°.27N×14°.54E, h15km±1km, mb1.8/15, ml2.1/17, Error ellipse: s-maj=1.0km s-min=0.8km az=160.0 15 km ENE of Kranj*
*LJU **03** 01:50:17.6, 46°.28N×14°.53E, h8km, ML2.1*
*ROM **03** 01:50:18.0±0.2, 46°.29N±0°.02×14°.54E±0°.02, h10km, ML2.5/38, Error ellipse: s-maj=1.9km s-min=1.2km az=332.0*
*PRU **03** 01:50:20.9, 46°.40N×14°.49E, h0km*
ISC 03 01:50:17.4±0.8, 46°.29N±0°.01×14°.54E±0°.01, h11km±5km, n80, σ0s.77/137, 8C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOZS	**Mozjanca**	**0.07**	**271**	⇑*i*Pg	**Pg**	**01 50 19.7**	**-0.2**
MOZS				*i* Sg	**Sg**	**01 50 20.9**	**-0.8**
MOZS				IAML		01 50 21.1	
	comp=Z,2μm,0.1s						
OBKA	**Obir**	**0.22**	**2**	*i* Pg	**Pg**	**01 50 22.9**	**+0.8**
	comp=Z,53nm,0.2s,SNR=348						
OBKA				*e*Sg	**Sg**	**01 50 26.7**	**+1.5**
	comp=Z,150nm,0.2s						
VNDS	**Vrh nad Dolski**	**0.22**	**150**	⇑*i*Pg	**Pg**	**01 50 22.5**	**+0.4**
VNDS				*i* Sg	**Sg**	**01 50 25.5**	**+0.2**
VNDS				IAML		01 50 26.1	
	comp=Z,315nm,0.1s						
LJU	**Ljubljana**	**0.25**	**182**	⇓*i*Pg	**Pg**	**01 50 22.8**	**+0.1**
LJU				*i* Sg	**Sg**	**01 50 25.9**	**-0.1**
LJU				IAML		01 50 26.6	
	comp=Z,55nm,0.1s						
LJU	**Ljubljana**	**0.25**	**182**	P	**Pg**	**01 50 22.7**	**+0.1**
LJU				S	**Sg**	**01 50 26.0**	**-0.1**
LJU				AML	AML		
	comp=E,8825μm,0.3s						
LJU				AML	AML		
	comp=N,9425μm,0.1s						
LJU				AML	AML		
	comp=E,8830μm,0.3s						
LJU				AML	AML		
	comp=E,8826μm,0.3s						
LJU				AML	AML		
	comp=N,9422μm,0.1s						
CRNS	**Crni Vrh**	**0.29**	**222**	⇓*i*Pg	**Pg**	**01 50 23.4**	**+0.1**
CRNS				*i* Sg	**Sg**	**01 50 27.6**	**+0.4**
CRNS				IAML		01 50 28.8	
	comp=Z,113nm,0.1s						
GBAS	**Gorenja Brezov**	**0.36**	**191**	⇓*i*Pg	**Pg**	**01 50 24.6**	**-0.1**
GBAS				*i* Sg	**Sg**	**01 50 29.2**	**-0.4**
GBAS				IAML		01 50 30.1	
	comp=Z,55nm,0.1s						
GORS	**Gorjuse**	**0.38**	**274**	⇑*i*Pg	**Pg**	**01 50 25.2**	**+0.2**
GORS				*i* Sg	**Sg**	**01 50 30.3**	**+0.3**
GORS				IAML		01 50 32.1	
	comp=Z,32nm,0.1s						
PDKS	**Podkum**	**0.39**	**126**	⇑*i*Pg	**Pb**	**01 50 25.9**	**-0.5**
PDKS				*i* Sg	**Sb**	**01 50 31.2**	**-1.3**
PDKS				IAML		01 50 32.2	
	comp=Z,51nm,0.1s						
SOKA	**Soboth**	**0.51**	**41**	*i* Pg	**Pb**	**01 50 28.1**	**-0.4**
	comp=Z,1.3nm,0.2s,SNR=38						
SOKA				*i* Sg	**Sb**	**01 50 35.7**	**-0.3**
	comp=Z,1.6nm,0.0s						
JAVS	**Javornik**	**0.52**	**220**	⇓*i*Pg	**Pg**	**01 50 27.4**	**-0.2**
JAVS				*i* Sg	**Sg**	**01 50 35.0**	**+0.5**
JAVS				IAML		01 50 39.9	
	comp=Z,18nm,0.1s						
PERS	**Pernice**	**0.53**	**49**	⇓*i*Pg	**Pb**	**01 50 28.3**	**-0.3**
PERS				*i* Sg	**Sb**	**01 50 35.8**	**-0.5**
PERS				IAML		01 50 37.4	
	comp=Z,64nm,0.1s						
VOJS	**Vojsko**	**0.53**	**240**	⇓*i*Pg	**Pg**	**01 50 27.4**	**-0.3**
VOJS				*i* Sg	**Sg**	**01 50 35.4**	**+0.7**
VOJS				IAML		01 50 37.8	
	comp=Z,43nm,0.1s						
VISS	**Visnje**	**0.53**	**157**	*i* Pg	**Pg**	**01 50 27.9**	**0.0**
VISS				*i* Sg	**Sg**	**01 50 34.8**	**-0.1**
VISS				IAML		01 50 36.9	
	comp=Z,43nm,0.1s						
CEY	**Cerknica**	**0.56**	**188**	⇓*i*P

SABO	**M.te Sabotino**	**0.72 245**	P	**Pg**	**01 50 30.7**	**-0.8**
SABO			S	**Sg**	**01 50 41.0**	**+0.1**
SABO			AML	AML		
	comp=N,1935μm,0.6s					
SABO			AML	AML		
	comp=E,428μm,0.7s					
SABO			AML	AML		
	comp=E,1750μm,0.7s					
SABO			AML	AML		
	comp=N,545μm,0.6s					
SABO			AML	AML		
	comp=N,1940μm,0.6s					
SABO			AML	AML		
	comp=E,428μm,1.3s					
SABO			AML	AML		
	comp=E,1750μm,1.3s					
SABO			AML	AML		
	comp=N,470μm,0.4s					
SABO			AML	AML		
	comp=N,1670μm,0.4s					
SABO			AML	AML		
	comp=E,342μm,0.2s					
SABO			AML	AML		
	comp=E,1478μm,0.2s					
ACOM	**Acomizza, Ital**	**0.76 290**	⇓P	**Pb**	**01 50 32.4**	**-0.2**
ACOM			S	**Sb**	**01 50 43.5**	**+0.5**
ACOM			AML	AML		
	comp=E,188μm,1.4s					
ACOM			AML	AML		
	comp=N,164μm,0.6s					
ACOM			AML	AML		
	comp=E,178μm,0.4s					
ACOM			AML	AML		
	comp=E,188μm,1.4s					
ACOM			AML	AML		
	comp=N,165μm,0.6s					
ACOM			AML	AML		
	comp=N,167μm,1.4s					
ACOM			AML	AML		
	comp=E,188μm,0.6s					
ACOM			AML	AML		
	comp=N,165μm,1.4s					
ACOM			AML	AML		
	comp=E,179μm,0.3s					
ACOM			AML	AML		
	comp=E,177μm,0.4s					
KNDS	**Knezji Dol**	**0.77 188**	*i* Pg	**Pg**	**01 50 32.1**	**-0.2**
KNDS			*e*Sg	**Sb**	**01 50 43.2**	**-0.2**
KNDS			IAML		01 50 47.1	
	comp=Z,9.4nm,0.1s					
GBRS	**Gornja Briga**	**0.79 166**	*i* Pg	**Pg**	**01 50 32.6**	**0.0**
GBRS			IAML		01 50 46.2	
	comp=Z,24nm,0.1s					
CRES	**Cresnjev**	**0.79 126**	*i* Pg	**Pb**	**01 50 32.8**	**-0.4**
CRES			*e*Sg	**Sb**	**01 50 43.9**	**0.0**
CRES			IAML		01 50 47.1	
	comp=Z,7.4nm,0.1s					
GOLS	**Golise**	**0.81 110**⇑	*i*Pg	**Pb**	**01 50 33.6**	**+0.2**
GOLS			*e*Sg	**Sb**	**01 50 44.4**	**+0.1**
GOLS			IAML		01 50 48.8	
	comp=Z,30nm,0.2s					
PTCC	**Patocco-Chiusa**	**0.83 278**	P	**Pg**	**01 50 33.3**	**-0.2**
PTCC			S	**Sb**	**01 50 45.7**	**+0.7**
PTCC			AML	AML		
	comp=N,121μm,0.9s					
PTCC			AML	AML		
	comp=E,106μm,0.4s					
PTCC			AML	AML		
	comp=E,106μm,0.4s					
SKDS	**Skadanscina**	**0.83 206**	*i* Pg	**Pg**	**01 50 32.7**	**-0.8**
SKDS			*i* Sg	**Sb**	**01 50 44.8**	**-0.2**
SKDS			IAML		01 50 49.0	
	comp=Z,20nm,0.1s					
GCIS	**Gornji Cirnik**	**0.87 119**	*i* Pg	**Pb**	**01 50 34.5**	**0.0**
GCIS			IAML		01 50 50.7	
	comp=Z,26nm,0.1s					
BAD	**Bernadia**	**0.90 267**	P	**Pg**	**01 50 34.6**	**-0.1**
BAD			S	**Sb**	**01 50 47.6**	**+0.5**
BOJS	**Bojanci**	**0.93 148**⇑	*i*Pg	**Pb**	**01 50 35.5**	**-0.1**
BOJS			*e*Sg	**Sb**	**01 50 48.2**	**+0.3**
BOJS			IAML		01 50 52.5	
	comp=Z,20nm,0.1s					
BOJS	**Bojanci**	**0.93 148**	P	**Pb**	**01 50 35.4**	**-0.2**
BOJS			S	**Sb**	**01 50 48.4**	**+0.5**
BOJS			AML	AML		
	comp=N,292μm,0.4s					
BOJS			AML	AML		
	comp=E,380μm,0.3s					
BOJS			AML	AML		
	comp=N,291μm,0.4s					
BOJS			AML	AML		
	comp=E,379μm,0.3s					
OZLJ	**Ozalj**	**0.94 136**	*e*Pg	**Pb**	**01 50 35.6**	**0.0**
RIY	**Rijeka**	**0.97 182**	*e*Pg	**Pg**	**01 50 35.7**	**-0.3**
RIY			Sg	**Sb**	**01 50 49.2**	**+0.3**
GEPF	**Gemona**	**0.97 269**	P	**Pg**	**01 50 35.5**	**-0.6**
GEPF			S	**Sn**	**01 50 50.5**	**-0.2**
GEPF			AML	AML		
	comp=N,160μm,0.8s					
GEPF			AML	AML		
	comp=E,148μm,0.3s					
GEPF			AML	AML		
	comp=N,160μm,1.2s					
GEPF			AML	AML		
	comp=E,149μm,0.3s					
GEPF			AML	AML		
	comp=N,130μm,0.6s					
LOBO	**Lobor**	**1.07 97**	*e*Pg	**Pn**	**01 50 38.0**	**-0.3**
MPRI	**Monte Prat**	**1.08 268**	P	**Pg**	**01 50 37.7**	**-0.5**
MPRI			AML	AML		
	comp=E,96μm,1.1s					
MPRI			AML	AML		
	comp=N,164μm,0.5s					
MPRI			AML	AML		
	comp=E,96μm,0.9s					
MPRI			AML	AML		
	comp=E,84μm,0.3s					
MPRI			AML	AML		
	comp=N,164μm,0.5s					
MPRI			AML	AML		
	comp=N,136μm,0.4s					
A253A	**Karojba, Istri**	**1.12 207**	*e*Pg	**Pg**	**01 50 37.7**	**-1.3**
KBA	**Koelnbreinsper**	**1.14 314**	*i* Pg	**Pn**	**01 50 39.4**	**0.0**
	comp=N,1.4nm,0.3s					
KBA			*e*Sg	**Sn**	**01 50 55.1**	**0.0**
	comp=N,3.8nm,0.2s					
CLUD	**Cludinico**	**1.16 279**	P	**Pg**	**01 50 39.5**	**-0.2**
CLUD			S	**Sn**	**01 50 56.4**	**+1.0**
CLUD			AML	AML		
	comp=N,61μm,1.4s					
CLUD			AML	AML		
	comp=E,53μm,0.6s					
CLUD			AML	AML		
	comp=N,34μm,0.6s					
CLUD			AML	AML		
	comp=N,61μm,0.6s					
CLUD			AML	AML		
	comp=E,57μm,0.8s					
CLUD			AML	AML		
	comp=E,53μm,1.4s					
CLUD			AML	AML		
	comp=N,34μm,0.6s					
ARSA	**Arzberg**	**1.17 35**	*e*Pg	**Pn**	**01 50 40.0**	**+0.2**
	comp=N,2.3nm,0.2s,SNR=9.4					
ARSA			*i* Sn	**Sn**	**01 50 55.8**	**+0.1**
	comp=N,2.4nm,0.2s					
ARSA	**Arzberg**	**1.17 35**	P	**Pn**	**01 50 39.9**	**+0.2**
ARSA			S	**Sn**	**01 50 55.8**	**+0.1**
ARSA			AML	AML		
	comp=E,15μm,0.6s					
ARSA			AML	AML		
	comp=N,14μm,1.4s					
ARSA			AML	AML		
	comp=N,14μm,0.6s					
ARSA			AML	AML		
	comp=N,13μm,0.4s					
ARSA			AML	AML		
	comp=E,15μm,0.6s					
KOGS	**Kog**	**1.19 82**	*i* Pg	**Pn**	**01 50 40.7**	**+0.7**
KOGS			*i* Sg	**Sn**	**01 50 57.8**	**+1.7**
KOGS			IAML		01 51 02.3	
	comp=Z,18nm,0.2s					
KOGS	**Kog**	**1.19 82**	P	**Pn**	**01 50 41.3**	**+1.3**
KOGS			S	**Sn**	**01 50 58.2**	**+2.0**
KOGS			AML	AML		
	comp=E,1069μm,0.4s					
KOGS			AML	AML		
	comp=N,884μm,1.2s					
KOGS			AML	AML		
	comp=N,811μm,0.4s					
KOGS			AML	AML		
	comp=E,1070μm,0.4s					
FVI	**Forni Avoltri**	**1.25 285**	P	**Pb**	**01 50 41.1**	**0.0**
FVI			AML	AML		
	comp=N,55μm,0.4s					
FVI			AML	AML		
	comp=E,48μm,1.0s					
FVI			AML	AML		
	comp=N,55μm,0.3s					
FVI			AML	AML		
	comp=E,47μm,0.3s					
STAL	**STALIGIAL**	**1.27 269**	P	**Pn**	**01 50 40.5**	**-0.5**
STAL			AML	AML		
	comp=E,270μm,0.8s					
STAL			AML	AML		
	comp=N,416μm,1.3s					
STAL			AML	AML		
	comp=E,308μm,1.3s					
STAL			AML	AML		
	comp=N,258μm,0.3s					
STAL			AML	AML		
	comp=N,416μm,0.7s					
STAL			AML	AML		
	comp=E,270μm,1.2s					
STAL			AML	AML		
	comp=E,308μm,0.7s					
STAL			AML	AML		
	comp=N,258μm,0.3s					
STAL			AML	AML		
	comp=N,365μm,0.2s					
STAL			AML	AML		
	comp=E,248μm,0.3s					
STAL			AML	AML		
	comp=E,300μm,0.2s					
SMRN	**Sveta Marina**	**1.29 192**	*e*Pn	**Pb**	**01 50 41.6**	**0.0**
A254A	**Petrova Gora**	**1.32 137**	*e*Pn	**Pg**	**01 50 42.6**	**-0.1**
POLC	**Polcenigo**	**1.44 260**	P	**Pg**	**01 50 45.4**	**+0.3**
POLC			AML	AML		
	comp=N,360μm,1.4s					
POLC			AML	AML		
	comp=N,360μm,0.6s					
POLC			AML	AML		
	comp=E,525μm,0.3s					
POLC			AML	AML		
	comp=E,525μm,0.3s					
POLC			AML	AML		
	comp=N,310μm,0.2s					
CIMO	**Cimolais**	**1.46 271**	P	**Pg**	**01 50 45.3**	**-0.1**
CIMO			AML	AML		
	comp=E,50μm,0.4s					
CIMO			AML	AML		
	comp=N,66μm,0.5s					
CIMO			AML	AML		
	comp=N,51μm,0.5s					
CIMO			AML	AML		
	comp=E,50μm,1.6s					
CIMO			AML	AML		
	comp=E,36μm,0.4s					
CIMO			AML	AML		
	comp=N,51μm,0.5s					
CIMO			AML	AML		
	comp=N,66μm,0.5s					
CIMO			AML	AML		
	comp=E,33μm,0.4s					
CIMO			AML	AML		
	comp=E,50μm,0.4s					
ABTA	**Abfaltersbach**	**1.47 289**	*e*Pg	**Pg**	**01 50 45.5**	**-0.2**
	comp=E,0.4nm,0.1s,SNR=8.4					
ABTA			*e*Sg	**Sg**	**01 51 06.7**	**+1.9**
	comp=E,2.5nm,0.3s					
BRJN	**Brijuni**	**1.49 202**	*e*Pn	**Pb**	**01 50 45.3**	**+0.2**
BRJN	**Brijuni**	**1.49 202**	P	**Pb**	**01 50 45.4**	**+0.3**
BRJN			S	**Sg**	**01 51 06.5**	**+1.0**
BIOA	**Bad Ischl, Aus**	**1.53 337**	*e*Pg	**Pg**	**01 50 47.3**	**+0.5**
	comp=E,1.8nm,0.2s					
BIOA			*e*Sn	**Sg**	**01 51 05.8**	**-0.9**
	comp=E,0.6nm,0.2s,SNR=5.3					
RABC	**Rab**	**1.55 174**	*e*Pn	**Pg**	**01 50 46.9**	**-0.3**
MOA	**Molln**	**1.57 353**	*e*Pg	**Pg**	**01 50 48.0**	**+0.5**
	comp=E,0.3nm,0.2s					
MOA			*i* Sg	**Sg**	**01 51 09.9**	**+2.0**
	comp=E,4.3nm,0.6s					
PLIT	**Plitvice**	**1.61 151**	*e*Pn	**Pb**	**01 50 46.6**	**-0.4**
LESA	**Schwarzleotal**	**1.71 312**	*e*Pg	**Pg**	**01 50 49.7**	**-0.4**
	comp=E,2.9nm,0.2s					
LESA			*i* Sn	**Sn**	**01 51 09.5**	**+0.5**
	comp=E,4.3nm,0.3s					
VARN	**Col Varnada, M**	**1.72 261**	P	**Pb**	**01 50 48.8**	**-0.3**
VARN			S	**Sg**	**01 51 13.2**	**+0.5**
VARN			AML	AML		
	comp=N,287μm,1.5s					
VARN			AML	AML		
	comp=E,489μm,0.6s					
VARN			AML	AML		
	comp=E,494μm,0.6s					
VARN			AML	AML		
	comp=N,296μm,1.5s					
VARN			AML	AML		
	comp=E,494μm,0.6s					
VARN			AML	AML		
	comp=E,489μm,0.6s					
VARN			AML	AML		
	comp=N,258μm,0.3s					
VARN			AML	AML		
	comp=N,260μm,0.3s					
NVLJ	**Novalja**	**1.75 172**	*e*Pn	**Pb**	**01 50 49.6**	**+0.2**
RONA	**Rosalia, Austr**	**1.85 40**	*e*Pg	**Pg**	**01 50 53.5**	**+0.6**
	comp=N,0.4nm,0.1s					
RONA			*e*Sn	**Sn**	**01 51 12.9**	**+0.4**
	comp=N,1.2nm,0.4s					
CONA	**Conrad Observa**	**1.87 28**	*e*Pg	**Pg**	**01 50 53.9**	**+0.7**
	comp=N,1.8nm,0.2s					
CONA			*e*Sn	**Sn**	**01 51 12.6**	**-0.4**
	comp=N,0.9nm,0.3s					
CTI	**Castel Tesino**	**2.02 264**	P	**Pb**	**01 50 53.5**	**-0.7**
CTI			AML	AML		
	comp=N,104μm,0.2s					
CTI			AML	AML		
	comp=E,100μm,0.5s					
CTI			AML	AML		
	comp=N,104μm,0.2s					
VIRC	**Vir**	**2.03 170**	*e*Pn	**Pb**	**01 50 53.8**	**-0.5**
WTTA	**Wattenberg**	**2.22 297**	*e*Pn	**Pn**	**01 50 54.1**	**-0.2**
	comp=N,1.0nm,0.2s					
WTTA			*e*Sn	**Sn**	**01 51 21.0**	**-0.7**
	comp=N,1.9nm,0.3s					
DUGI	**Dugi Otok**	**2.33 171**	*e*Pn	**Pb**	**01 50 57.7**	**-1.7**
SQTA	**Sankt Quirin**	**2.47 293**	*i* Pn	**Pn**	**01 50 57.9**	**+0.3**
	comp=N,0.8nm,0.2s					
SQTA			*e*Sn	**Sn**	**01 51 28.7**	**+0.8**
	comp=N,1.3nm,0.2s					
CKRC	**Cesky Krumlov**	**2.53 357**	*e*SG	**Sg**	**01 51 37.4**	**-1.4**
MORI	**Morici**	**2.56 161**	*e*Pn	**Pb**	**01 51 01.4**	**-1.9**
MOTA	**Moosalm**	**2.58 295**	*i* Pn	**Pn**	**01 50 59.8**	**+0.5**
	comp=N,0.3nm,0.1s					
MOTA			*e*Sn	**Sn**	**01 51 31.0**	**+0.3**
	comp=N,0.9nm,0.3s					
FETA	**Feichten**	**2.72 287**	*e*Pg	**Pg**	**01 51 08.9**	**-0.7**
	comp=N,0.5nm,0.4s					
FETA			*i* Sn	**Sn**	**01 51 34.1**	**-0.1**
	comp=N,0.3nm,0.3s					
RETA	**Reutte**	**2.85 296**	*i* Pg	**Pg**	**01 51 11.7**	**-0.4**
	comp=N,0.3nm,0.1s					
RETA			*e*Sg	**Sg**	**01 51 51.5**	**+2.4**
	comp=N,0.5nm,0.3s					
KHC	**Kasperske Hory**	**2.91 347**	*e*PG	**Pg**	**01 51 11.0**	**-2.2**
KHC			*e*SN	**Sb**	**01 51 41.9**	**-3.0**
KHC			*e*SG	**Sg**	**01 51 50.5**	**-0.4**
	comp=N,2.1nm,0.6s					
ZVC	**Zvikov**	**3.16 356**	*e*SG	**Sg**	**01 51 56.7**	**-2.0**
DAVA	**Damuels**	**3.35 289**	*e*Pg	**Pg**	**01 51 21.9**	**+0.3**
	comp=N,0.4nm,0.2s					
DAVA			*i* Sn	**Sn**	**01 51 51.7**	**+2.0**
	comp=N,1.9nm,0.4s					
DPC	**Dobruska-Polom**	**4.23 16**	*e*SG	**Sg**	**01 52 32.4**	**-0.8**

*IDC **03** 02:39:08.2±0.8, 2°.19S×139°.27E, h0km, mb4.0/7, mbtmp4.1/8, ML4.3/1, MS3.3/5, Error ellipse: s-maj=21.4km s-min=12.9km az=24.0*
*NEIC **03** 02:39:20.3±1.4, 2°.9S±0°.1×139°.0E±0°.1, h35km±2km, mb4.5/24, Error ellipse: s-maj=20.4km s-min=18.2km*
az=30.0

ISC 03 02:39:13.1±0.7, 2°.26S±0°.09×139°.37E±0°.07, h27km, n54, σ1§60/48, mb4.3/16, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.35**	**101**	Pg	**Pn**	**02 39 35.8**	**-0.5**
	86nm,0.3s,baz=256,slow=9.7,SNR=269						
JAY				Lg	Lg	02 39 54.4	
	76nm,0.3s,baz=130,slow=23,SNR=22						
JAY				LR	LR	02 40 06.3	
	comp=Z,290nm,21.2s,baz=167,slow=40						
FAKI	**Fak Fak**	**7.15**	**265**	Pn	**Pn**	**02 40 55.6**	**-0.3**
SIJI	**Sorong**	**8.22**	**280**	LR	LR	02 45 03.8	
	comp=Z,162nm,18.2s,baz=40,slow=44						
COEN	**Coen**	**12.21**	**162**	Pn	**Pn**	**02 42 05.8**	**+0.4**
MTN	**Manton Dam**	**13.31**	**217**		**Pn**	**02 42 18.2**	**-2.2**
KNRA	**Kununurra**	**16.94**	**217**		**Pn**	**02 43 07.9**	**-0.5**
KNRA	**Kununurra**	**16.94**	**217**	P	**Pn**	**02 43 08.3**	**-0.1**
WB0	**Warramunga Arr**	**18.07**	**195**	P	**Pn**	**02 43 20.9**	**-1.5**
QIS	**Mount Isa**	**18.19**	**179**	P	**Pn**	**02 43 23.1**	**-0.8**
WR0	**Warramunga Arr**	**18.21**	**195**	P	**Pn**	**02 43 22.1**	**-2.0**
WRAB	**Tennant Creek**	**18.24**	**195**	Pn	**Pn**	**02 43 20.6**	**-3.8**
WRAB				IAmb	IAmb	02 43 34.1	
	comp=Z,14nm,0.3s						
WB2	**Warramunga Arr**	**18.25**	**195**		**Pn**	**02 43 22.1**	**-2.5**
WB2				IAmb	IAmb	02 43 34.1	
	comp=Z,14nm,0.4s						
WRA	**Warramunga Arr**	**18.25**	**195**		**Pn**	**02 43 22.3**	**-2.3**
WRA	**Warramunga Arr**	**18.25**	**195**	P	**Pn**	**02 43 22.9**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=17,slow=12,SNR=26						
	comp=Z,4.2nm,0.5s						
CTA	**Charters Tower**	**18.95**	**160**	LR	LR	02 52 04.2	
	comp=Z,85nm,19.8s,baz=14,slow=41						
CTAO	**Charters Tower**	**18.95**	**160**		**P**	**02 43 33.5**	**+1.2**
KAPI	**Kappang**	**19.77**	**261**	LR	LR	02 52 25.1	
	comp=Z,54nm,18.2s,baz=100,slow=40						
AS31	**Alice Springs**	**21.93**	**194**		**P**	**02 44 03.3**	**-1.4**
AS31				IAmb	IAmb	02 44 08.9	
	comp=Z,5.6nm,0.5s						
ASAR	**Alice Springs**	**21.93**	**194**		**P**	**02 44 03.6**	**-1.1**
ASAR	**Alice Springs**	**21.93**	**194**	P	**P**	**02 44 04.0**	**-0.7**
	comp=Z,5.6nm,0.5s,baz=26,slow=12,SNR=52						
ASAR				LR	LR	02 53 34.1	
	comp=Z,132nm,20.8s,baz=17,slow=39						
	comp=Z,5.6nm,0.5s						
WRKA	**Warakurna**	**25.04**	**204**	P	**P**	**02 44 33.8**	**-1.5**
INKA	**Innaminka**	**25.37**	**177**	P	**P**	**02 44 40.5**	**+2.3**
EIDS	**Eidsvold**	**25.60**	**155**	P	**P**	**02 44 40.1**	**-0.2**
EIDS				IAmb	IAmb	02 45 23.3	
	comp=Z,29nm,1.3s						
OOD	**Oodnadatta**	**25.64**	**188**	P	**P**	**02 44 40.9**	**+0.3**
MBWA	**Marble Bar**	**26.82**	**224**	P	**P**	**02 44 50.5**	**-0.9**
MBWA				IAmb	IAmb	02 45 20.9	
	comp=Z,16nm,1.4s						
PSA00	**Pilbara Seismi**	**27.01**	**223**	P	**P**	**02 44 52.6**	**-0.5**
PSA00				IAmb	IAmb	02 44 53.5	
	comp=Z,16nm,1.3s						
PSA00	**Pilbara Seismi**	**27.01**	**223**	P	**P**	**02 44 52.9**	**-0.2**
PSA00				IAmb	IAmb	02 44 53.3	
	comp=Z,9.3nm,1.5s						
LCRK	**Leigh Creek**	**28.06**	**182**	P	**P**	**02 45 02.4**	**+0.1**
MULG	**Mulgathing**	**28.32**	**190**	P	**P**	**02 45 04.7**	**0.0**
STKA	**Stephens Creek**	**29.54**	**176**	P	**P**	**02 45 15.3**	**-0.2**
STKA	**Stephens Creek**	**29.54**	**176**	P	**P**	**02 45 14.9**	**-0.6**
	comp=Z,1.8nm,0.5s,baz=339,slow=9.9,SNR=7.3						
	comp=Z,1.8nm,0.5s						
ARMA	**Armidale**	**30.32**	**159**	P	**P**	**02 45 23.8**	**+1.2**
ARMA				IAmb	IAmb	02 45 41.9	
	comp=Z,9.8nm,1.2s						
FORT	**Forrest**	**30.32**	**200**	P	**P**	**02 45 22.2**	**-0.2**
FORT				IAmb	IAmb	02 46 06.6	
	comp=Z,46nm,1.2s						
FORT	**Forrest**	**30.32**	**200**	P	**P**	**02 45 22.1**	**-0.3**
BBOO	**Buckleboo**	**30.55**	**185**	P	**P**	**02 45 23.8**	**-0.7**
BBOO				IAmb	IAmb	02 45 24.4	
	comp=Z,13nm,1.1s						
BBOO	**Buckleboo**	**30.55**	**185**	P	**P**	**02 45 24.0**	**-0.5**
HTT	**Hallett**	**31.01**	**181**	P	**P**	**02 45 28.9**	**+0.3**
GIRL	**Giralia**	**31.71**	**228**	P	**P**	**02 45 35.2**	**+0.4**
KMBL	**Kambalda**	**33.33**	**208**	P	**P**	**02 45 48.0**	**-0.9**
NWAO	**Narrogin (SRO)**	**36.91**	**212**	P	**P**	**02 46 19.3**	**-0.4**
BKNI	**Bangkinang**	**38.41**	**273**	P	**P**	**02 46 37.5**	**+4.8**
CMAR	**Chiang Mai Arr**	**44.79**	**299**	P	**P**	**02 47 22.5**	**-2.5**
	comp=Z,0.8nm,0.3s,baz=132,slow=6.6,SNR=4.3						
	comp=Z,0.8nm,0.3s						
SNZO	**South Karori**	**50.22**	**145**	P	**P**	**02 48 09.4**	**+2.6**
MKAR	**Makanchi Array**	**69.84**	**322**	P	**P**	**02 50 20.8**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=109,slow=5.5,SNR=5.7						
	comp=Z,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**73.75**	**325**	P	**P**	**02 50 43.5**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=113,slow=5.4,SNR=4.4						
	comp=Z,0.5nm,0.5s						
BVAR	**Borovoye Array**	**79.33**	**325**	P	**P**	**02 51 14.6**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=122,slow=5.6,SNR=5.1						
	comp=Z,0.9nm,0.5s						
CNPM	**China Poot**	**81.63**	**29**	P	P	02 51 38.7	+10
MSEY	**Mahe Island**	**83.74**	**266**	P	**P**	**02 51 43.0**	**+2.4**
HDA	**Harding Lake**	**85.03**	**25**	P	P	02 51 54.9	+8.9
HDA				IAmb	IAmb	02 52 23.9	
	comp=Z,6.1nm,1.3s						
ILAR	**Eielson Array**	**85.15**	**24**	P	**P**	**02 51 45.4**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=267,slow=4.7,SNR=9.7						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**87.68**	**180**	P	**P**	**02 51 57.7**	**-1.5**
QSPA				IAmb	IAmb	02 52 25.0	
	comp=Z,5.7nm,1.4s						
YBH	**Yreka Blue Hor**	**97.41**	**48**	LR	LR	03 30 30.4	
	comp=Z,15nm,19.0s,baz=45,slow=32						
TORD	**Torodi Ar. Bea**	**136.76**	**287**	PKP	**PKPdf**	**02 58 33.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=81,slow=2.3,SNR=6.2						
LPAZ	**La Paz**	**147.17**	**125**	PKPbc	**PKPdf**	**02 58 55.6**	**+2.2**
	comp=Z,1.8nm,0.8s,baz=258,slow=8.3,SNR=6.1						

*UCR **03** 02:59:50.5±1.1, 5°.94N×82°.67W, h20km±999km, MW3.8*
*UPA **03** 02:59:54.3±0.5, 6°.30N×82°.60W, h10km±37km, MW4.0*

ISC 03 02:59:45.8±1.3, 6°.19N±0°.05×83°.05W±0°.07, h10km, n49, σ2§07/59, 3C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**2.01**	**5**	*e*P	**Pg**	**03 00 25.8**	**+1.4**
PTPM				*e*S	**Sg**	**03 00 50.2**	**-0.3**
LOCO3	**Loma Colorada,**	**2.29**	**16**	*e*P	**Pg**	**03 00 29.3**	**-0.5**
DVD	**David**	**2.31**	**15**	*e*P	**Pg**	**03 00 29.3**	**-0.9**
DVD				*e*S	**Sn**	**03 00 52.9**	**+0.4**
CDITO	**Canoas**	**2.38**	**4**⇑	*e*P	**Pg**	**03 00 31.2**	**-0.3**
CDITO	**Canoas**	**2.38**	**4**	*e*P	**Pg**	**03 00 31.0**	**-0.5**
BCO2	**Palmira**	**2.57**	**12**⇓	*e*P	**Pb**	**03 00 33.7**	**+1.5**
MLIR3	**Monte Lirio, C**	**2.60**	**5**⇓	*e*P	**Pg**	**03 00 35.4**	**-0.3**
BRU2	**Volcan**	**2.61**	**8**⇓	*i*P	**Pg**	**03 00 35.1**	**-0.9**
BRU2				*e*S	**Sg**	**03 01 08.2**	**-1.8**
BRU2	**Volcan**	**2.61**	**8**	*e*P	**Pg**	**03 00 35.1**	**-0.9**
BC3P	**Paso Ancho**	**2.65**	**9**⇑	*e*P	**Pg**	**03 00 35.7**	**-1.0**
CTCR	**Cotoan**	**2.71**	**6**	*e*P	**Pb**	**03 00 36.2**	**+1.7**
CHGR2	**Aguacate**	**2.88**	**18**	*e*P	**Pb**	**03 00 37.2**	**-0.1**
CHIT3	**Chitre**	**3.15**	**56**	*e*P	**Pn**	**03 00 37.3**	**+1.9**
CHIT3				*e*S	**Sn**	**03 01 11.1**	**-2.1**
AZU	**Azuero**	**3.18**	**60**⇓	*i*P	**Pn**	**03 00 37.3**	**+1.3**
AZU				*e*S	**Sn**	**03 01 10.9**	**-3.1**
AZU	**Azuero**	**3.18**	**60**⇓	*i*P	**Pn**	**03 00 37.2**	**+1.3**
AZU				*e*S	**Sn**	**03 01 10.0**	**-4.0**
AZU				*i*		03 01 18.0	
	comp=Z,84nm,0.6s						
AZU	**Azuero**	**3.18**	**60**	*e*P	**Pn**	**03 00 37.0**	**+1.1**
CNI2	**El Empalme, Bo**	**3.27**	**10**⇓	*e*P	**Pb**	**03 00 45.5**	**+1.6**
CNI2				*e*S	**Sb**	**03 01 21.8**	**-2.0**
CDM	**Cerro de Muert**	**3.42**	**348**	*e*P	**Pb**	**03 00 48.1**	**+1.3**
ABE2	**San Pablo**	**3.63**	**344**	*e*P	**Pb**	**03 00 51.6**	**+1.3**
LCR2	**La Lucha 2**	**3.66**	**345**	*e*P	**Pb**	**03 00 51.3**	**+0.6**
PCAYA	**Pacayas**	**3.78**	**349**	*e*P	**Pb**	**03 00 53.7**	**+0.8**
OCM	**Ochomogo**	**3.79**	**346**	*e*P	**Pb**	**03 00 53.5**	**+0.4**
JACO	**JACO, Garabito**	**3.80**	**335**	*e*P	**Pb**	**03 00 52.7**	**-0.4**
ICR3	**Volcano Irazu**	**3.85**	**348**	*e*P	**Pb**	**03 00 54.3**	**+0.2**
HAYA	**Volcan Irazu**	**3.85**	**348**	*e*P	**Pb**	**03 00 54.8**	**+0.7**
BATAN	**Batan**	**3.90**	**355**	*e*P	**Pb**	**03 00 55.6**	**+0.9**
BCIP	**Isla Barro Col**	**4.35**	**47**	*e*P	**Pn**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
UPA				*i*		03 01 53.8	
	comp=Z,498nm,0.1s						
JTS	**Las Juntas de**	**4.49**	**335**	*eP*	**Pb**	**03 01 03.5**	**-1.3**
MALC	**Bahia Malaga**	**6.09**	**111**	*eP*	**Pn**	**03 01 16.9**	**+1.0**
APAC	**Apartado, Choc**	**6.64**	**75**	*eP*	Pn	03 01 31.5	+7.9
APAC				*i*		03 02 26.0	
	comp=Z,2.7nm,0.4s						
APAC				*eS*	**Sn**	**03 02 34.9**	**-4.5**
PLMC	**San Jos del P**	**6.85**	**100**	*eP*	**Pn**	**03 01 27.7**	**+1.2**
JAMC	**Jamundi, Valle**	**7.01**	**115**	*eP*	**Pn**	**03 01 28.4**	**-0.4**
YOTC	**Yotoco, Valle**	**7.03**	**108**	*eP*	**Pn**	**03 01 29.2**	**+0.3**
BBAC	**Balboa, Cauca**	**7.11**	**125**	⇑*iP*	**Pn**	**03 01 30.7**	**+0.5**
PAC1	**Pacto, Paraso**	**7.25**	**144**	*eP*	**Pn**	**03 01 31.9**	**-0.2**
POPC	**Popayan, Colom**	**7.31**	**119**	*eP*	**Pn**	**03 01 33.4**	**+0.4**
GCUF	**Volcan Galeras**	**7.53**	**131**	*eP*	**Pn**	**03 01 37.7**	**+1.5**
CRUC	**La Cruz**	**7.62**	**127**	*eP*	**Pn**	**03 01 38.9**	**+1.6**
GUY2C	**Guyana, Caldas**	**7.71**	**97**	*eP*	**Pn**	**03 01 43.0**	**+4.3**
ANIL	**Santa Ana**	**7.80**	**102**	*eP*	**Pn**	**03 01 41.6**	**+1.9**
ORTC	**Ortega, Tolima**	**8.10**	**106**	*eP*	**Pn**	**03 01 45.9**	**+2.3**
NORC	**Norcasia**	**8.16**	**94**	*eP*	**Pn**	**03 01 48.8**	**+4.3**
PRAC	**Prado**	**8.49**	**106**	*eP*	**Pn**	**03 01 51.9**	**+2.8**
GARC	**Garzon, Huila**	**8.52**	**117**	*eP*	**Pn**	**03 01 53.0**	**+3.5**
PIAT	**Ana Tenorio**	**8.59**	**146**	*eP*	**Pn**	**03 01 55.0**	**+4.3**
CHIC	**Chingaza**	**9.40**	**99**	*eP*	**Pn**	**03 02 06.4**	**+4.5**
VILC	**Villavicencio,**	**9.54**	**102**	*eP*	**Pn**	**03 02 06.7**	**+3.2**

*SNET **03** 03:00:35.5±0.9, 13°.31N×89°.89W, h35km±3km, ML3.3*
*GCG **03** 03:00:37.5±0.4, 13°.44N×90°.04W, h73km±27km, MD3.5*
ISC 03 03:00:35.0±1.7, **13°.31N**±0°.08×**89°.91W**±0°.05, **h27**km±14km, **n28**, σ0°**38**/36, **6D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAYA	**Jayaque - finc**	**0.57**	**53**	⇓*eP*	**Pb**	**03 00 47.0**	**+0.4**
JAYA				*eS*	**Sn**	**03 00 55.9**	**-0.1**
JAYA				IAML		03 00 59.0	
	comp=Z,2μm,0.2s						
CEVE	**Cerro Verde**	**0.59**	**29**	*eP*	**Pn**	**03 00 47.7**	**-0.2**
CEVE				IAML		03 01 04.2	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**0.60**	**28**	*eP*	**Pn**	**03 00 47.7**	**-0.2**
SBLS				*eS*	**Sn**	**03 00 57.8**	**+0.9**
NUBE	**Las Nubes**	**0.60**	**12**	⇓*iP*	**Pn**	**03 00 47.5**	**-0.5**
NUBE				*eS*	**Sn**	**03 00 57.0**	**+0.1**
LALI	**Alcalda de L**	**0.60**	**73**	*eP*	**Pb**	**03 00 47.2**	**+0.2**
SNJE	**San Jose**	**0.63**	**28**	*eP*	**Pn**	**03 00 48.0**	**-0.4**
RTR	**El Retiro**	**0.64**	**24**	*eP*	**Pn**	**03 00 48.3**	**-0.2**
CEDA	**San Andres**	**0.70**	**46**	*eP*	**Pb**	**03 00 49.0**	**+0.2**
CEDA				IAML		03 01 04.6	
	comp=Z,1μm,0.5s						
SLOZ	**Alcaldia de Sa**	**0.72**	**10**	⇓*iP*	**Pn**	**03 00 49.2**	**-0.3**
SLOZ				*eS*	**Sn**	**03 01 00.6**	**+0.9**
BOQS	**Boqueron**	**0.75**	**56**	*eP*	**Pb**	**03 00 49.8**	**+0.2**
SNET	**Serv Nac Est T**	**0.76**	**61**	*eP*	**Pb**	**03 00 49.7**	**0.0**
UEES	**Universidad Ev**	**0.77**	**58**	*eP*	**Pb**	**03 00 49.8**	**-0.1**
UEES				IAML		03 01 04.1	
	comp=Z,702nm,0.4s						
LFRS	**El Faro**	**0.88**	**69**	*eP*	**Pb**	**03 00 51.4**	**-0.5**
LFRS				*eS*	**Sb**	**03 01 03.3**	**-0.1**
LFU	**La Fuente**	**0.89**	**61**	*eP*	**Pb**	**03 00 52.0**	**+0.1**
SJTE	**Alcalda de S**	**0.93**	**71**	⇓*eP*	**Pn**	**03 00 51.9**	**-0.5**
PAVA	**Las Pavas**	**1.03**	**67**	*eP*	**Pn**	**03 00 54.1**	**+0.3**
COEG	**Centro de Oper**	**1.05**	**73**	*eP*	**Pn**	**03 00 53.9**	**-0.2**
TECO	**Alcaldia de Te**	**1.12**	**78**	*eP*	**Pn**	**03 00 54.6**	**-0.5**
MTO3	**Montecristo**	**1.21**	**26**	⇓*eP*	**Pn**	**03 00 56.1**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.22**	**71**	⇓*eP*	**Pn**	**03 00 56.3**	**-0.1**
NBG	**Las Nubes**	**1.34**	**342**	*eP*	**Pb**	**03 00 59.4**	**-0.3**
NBG				*eS*	**Sb**	**03 01 16.3**	**-0.2**
ESQI	**Esquipulas**	**1.36**	**24**	*eP*	**Pn**	**03 00 58.2**	**-0.1**
TECA	**Tecapa**	**1.39**	**82**	*eP*	**Pn**	**03 00 58.4**	**-0.4**
FUG	**Fuego 3**	**1.45**	**322**	*eP*	**Pn**	**03 00 59.9**	**+0.3**
FUG				*eS*	**Sn**	**03 01 17.9**	**+0.1**
PACA	**Pacayal**	**1.56**	**84**	*eP*	**Pn**	**03 01 01.4**	**+0.4**
LCND	**La Caada**	**1.97**	**90**	*eP*	**Pn**	**03 01 06.6**	**-0.1**
CNCH	**Conchagua**	**2.02**	**91**	*eP*	**Pn**	**03 01 07.6**	**+0.1**
STG3	**Santiaguito 3,**	**2.13**	**311**	*eP*	**Pn**	**03 01 09.4**	**+0.4**
STG3				*eS*	**Sn**	**03 01 34.0**	**-0.6**

*TAP **03** 03:00:44.0, 24°.91N×122°.43E, h14km, ML3.5, C*
*JMA **03** 03:00:44.2±0.2, 24°.8N±0°.9×122°.4E±0°.4, h6km±3km,*
MV2.8/11, NW OFF ISHIGAKIJIMA IS
ISC 03 03:00:43.9±1.1, **24°.89N**±0°.02×**122°.45E**±0°.02, **h10**km±9km, **n94**, σ0°**59**/140, **1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.44**	**286**	*i* P	**Pg**	**03 00 53.0**	**+0.6**
	baz=284						
TWB1				*i* S	**Sb**	**03 00 59.3**	**-0.9**
	baz=284						
EGS		**0.47**	**265**	*i* P	**Pg**	**03 00 53.6**	**+0.4**
	baz=261						
EGS				S	**Sb**	**03 01 01.4**	**+0.1**
	baz=261						
EOS2	**EOS2**	**0.51**	**203**	*eP*	**Pb**	**03 00 54.9**	**+0.1**
	baz=200						
EOS2				S	**Sb**	**03 01 03.1**	**+0.9**
	baz=200						
SXI1	**Grass Mountain**	**0.56**	**292**	⇑*iP*	**Pb**	**03 00 55.5**	**-0.3**
	baz=290						
SXI1				*eS*	**Sb**	**03 01 03.5**	**-0.4**
	baz=290						
EOS3	**EOS3**	**0.61**	**192**	*i* P	**Pb**	**03 00 56.7**	**+0.2**
	baz=187						
EOS3				*i* S	**Sb**	**03 01 06.2**	**+1.0**
	baz=187						
TWC	**Suao**	**0.61**	**243**	*i* P	**Pg**	**03 00 55.6**	**-0.2**
	baz=240						
TWC				*eS*	**Sg**	**03 01 04.2**	**+0.3**
	baz=240						
JYNG	**Yonagunijimaku**	**0.63**	**134**	P	**Pg**	**03 00 55.7**	**-0.3**
JYNG				S	**Sg**	**03 01 04.1**	**-0.2**
NWF	**Wu-fen Shan**	**0.64**	**287**	P	**Pb**	**03 00 57.0**	**-0.1**
	baz=285						
NWF				S	**Sb**	**03 01 05.6**	**-0.5**
	baz=285						
WFSB	**Wu-fen Shan**	**0.64**	**287**	*i* P	**Pb**	**03 00 57.0**	**0.0**
	baz=285						
WFSB				*eS*	**Sb**	**03 01 05.5**	**-0.5**
	baz=285						
YOJ	**Yonaguni jima**	**0.66**	**130**	P	**Pg**	**03 00 56.6**	**-0.1**
YOJ				*eS*	**Sg**	**03 01 05.2**	**-0.2**
YOJ	**Yonaguni jima**	**0.66**	**130**	*eP*	**Pg**	**03 00 56.3**	**-0.4**
	baz=119						
YOJ				*eS*	**Sg**	**03 01 05.4**	**0.0**
	baz=119						
TNOU	**National Taiwa**	**0.67**	**293**	P	**Pg**	**03 00 57.2**	**+0.4**
	baz=291						
TNOU				*eS*	**Sb**	**03 01 06.3**	**-0.6**
	baz=291						
NDS	**Dongshan**	**0.71**	**249**	P	**Pb**	**03 00 58.1**	**-0.3**
	baz=247						
NDS				*eS*	**Sb**	**03 01 08.5**	**+0.2**
	baz=247						
EWUT	**Wuta**	**0.75**	**234**	P	**Pb**	**03 00 58.7**	**-0.3**
	baz=232						
EWUT				*eS*	**Sb**	**03 01 10.2**	**+0.8**
	baz=232						
EOS4	**EOS4**	**0.77**	**189**	*eP*	**Pb**	**03 00 59.3**	**+0.1**
	baz=180						
EOS4				*eS*	**Sb**	**03 01 10.0**	**+0.4**
	baz=180						
NWRT	**Kuosheng**	**0.78**	**294**	*eP*	**Pb**	**03 00 59.8**	**+0.3**
	baz=292						
NWRT				*eS*	**Sb**	**03 01 10.7**	**+0.4**
	baz=292						
ENA	**Nanau**	**0.79**	**235**	*eP*	**Pb**	**03 00 59.5**	**-0.2**
	baz=232						
ENA				*eS*	**Sb**	**03 01 11.3**	**+0.8**
	baz=232						
TWA	**Mucha**	**0.79**	**277**	*eP*	**Pg**	**03 00 59.3**	**+0.1**
	baz=275						
TWA				*eS*	**Sb**	**03 01 10.0**	**-0.5**
	baz=275						
FUSB	**Fushanzhiwuyua**	**0.80**	**261**	*eP*	**Pb**	**03 00 59.5**	**-0.3**
	baz=259						
FUSB				*eS*	**Sb**	**03 01 09.9**	**-0.8**
	baz=259						
PCYT	**Pengchaiyu**	**0.81**	**335**	*eP*	**Pg**	**03 00 59.3**	**-0.3**
	baz=328						
YM08	**YM08**	**0.84**	**291**	*eP*	**Pg**	**03 01 00.1**	**+0.1**
	baz=290						
YM08				*eS*	**Sb**	**03 01 12.8**	**+1.0**
	baz=290						
YM01	**YM01**	**0.84**	**288**	*eP*	**Pg**	**03 01 00.1**	**0.0**
	baz=286						
YM01				*eS*	**Sb**	**03 01 12.6**	**+0.7**
	baz=286						
ENTT	**Nioudou**	**0.84**	**253**	P	**Pb**	**03 01 00.4**	**-0.1**
	baz=251						
ENTT				*eS*	**Sb**	**03 01 12.7**	**+0.8**
	baz=251						
NHDH	**Xindian Distri**	**0.84**	**275**	P	**Pb**	**03 01 00.4**	**-0.2**
	baz=273						
NHDH				*eS*	**Sb**	**03 01 12.3**	**+0.3**
	baz=273						
TWY	**Chenhua**	**0.86**	**297**	P	**Pb**	**03 01 01.1**	**+0.2**
	baz=295						
TWY				S	**Sn**	**03 01 13.9**	**-0.8**
	baz=295						
NWLT	**Wulai**	**0.87**	**263**	*eP*	**Pb**	**03 01 01.0**	**-0.1**
	baz=261						
NWLT				S	**Sb**	**03 01 13.6**	**+0.9**
	baz=261						
TAP	**Taipei**	**0.87**	**280**	*eS*	**Sn**	**03 01 14.0**	**-0.9**
	baz=278						
NSM	**Shimen**	**0.88**	**297**	*eP*	**Pb**	**03 01 01.7**	**+0.5**
	baz=296						
NSM				*eS*	**Sn**	**03 01 14.7**	**-0.3**
	baz=296						
TATO	**Taipei**	**0.88**	**276**	P	**Pn**	**03 01 02.2**	**-0.1**
TATO	**Taipei**	**0.88**	**276**	*eP*	**Pg**	**03 00 59.8**	**-1.0**
	baz=274						
TATO				*eS*	**Sb**	**03 01 13.0**	**0.0**
	baz=274						
ANP	**Anpu**	**0.90**	**290**	*eP*	**Pb**	**03 01 01.8**	**+0.2**
	baz=288						
NDT	**Datong Townshi**	**0.90**	**252**	*eP*	**Pb**	**03 01 01.6**	**0.0**
	baz=250						
NDT				*eS*	**Sn**	**03 01 14.9**	**-0.7**
	baz=250						
LATG	**Datong**	**0.91**	**248**	P	**Pg**	**03 01 01.4**	**0.0**
	baz=245						
LATG				*eS*	**Sb**	**03 01 14.0**	**0.0**
	baz=245						
NTST	**Danshui**	**0.95**	**287**	*eP*	**Pg**	**03 01 02.1**	**0.0**
	baz=286						
TWS1	**Kuangyinshan**	**0.96**	**283**	*eP*	**Pn**	**03 01 03.2**	**-0.2**
	baz=282						
YHNB	**Yeheng**	**1.00**	**258**	P	**Pb**	**03 01 03.4**	**+0.1**
YHNB	**Yeheng**	**1.00**	**258**	*eP*	**Pb**	**03 01 03.2**	**-0.2**
	baz=267						
NSK	**Sanguang**	**1.02**	**258**	P	**Pg**	**03 01 03.4**	**0.0**
	baz=266						
ETL	**Fush Village**	**1.05**	**226**	P	**Pb**	**03 01 04.1**	**0.0**
	baz=225						
NACB	**Ninganchiao**	**1.06**	**228**	P	**Pg**	**03 01 03.8**	**-0.4**
NACB	**Ninganchiao**	**1.06**	**228**	*eP*	**Pg**	**03 01 03.6**	**-0.6**
	baz=236						
NACB				*eS*	**Sg**	**03 01 17.5**	**-0.4**
	baz=236						
NNSB	**Datong**	**1.07**	**245**	*eP*	**Pb**	**03 01 04.5**	**-0.1**
	baz=230						
NNSB				*eS*	**Sn**	**03 01 19.9**	**-0.1**
	baz=230						
NNSH	**Datong**	**1.07**	**245**	*eP*	**Pg**	**03 01 04.2**	**-0.3**
	baz=231						
NNSH				*eS*	**Sn**	**03 01 19.5**	**-0.6**
	baz=231						
NNS	**Nan Shan**	**1.08**	**246**	*eP*	**Pb**	**03 01 04.8**	**+0.1**
	baz=231						
NNS				*eS*	**Sn**	**03 01 19.4**	**-0.7**
	baz=231						
ETLH	**Xiulin Townshi**	**1.11**	**233**	P	**Pg**	**03 01 05.0**	**-0.3**
	baz=231						
ETLH				*eS*	**Sn**	**03 01 20.3**	**-0.7**
	baz=231						
TWD	**Chiawan**	**1.12**	**224**	P	**Pg**	**03 01 05.2**	**-0.2**
	baz=232						
TWD				*eS*	**Sn**	**03 01 20.6**	**-0.4**
	baz=232						
NCUH	**Zhongli**	**1.15**	**274**	*eP*	**Pb**	**03 01 05.9**	**0.0**
	baz=272						
NCUH				*eS*	**Sn**	**03 01 24.8**	**+2.9**
	baz=272						
ETM	**Tongmen**	**1.27**	**224**	*eP*	**Pn**	**03 01 07.3**	**-0.3**
	baz=204						
ETM				*eS*	**Sn**	**03 01 24.9**	**+0.2**
	baz=204						
FUSS	**Fushou**	**1.27**	**240**	*eP*	**Pn**	**03 01 07.8**	**-0.1**
	baz=229						
FUSS				*eS*	**Sn**	**03 01 24.9**	**-0.3**
	baz=229						
LXIB	**Xiulin Townshi**	**1.28**	**228**	*eP*	**Pn**	**03 01 07.9**	**-0.1**
	baz=235						
LXIB				*eS*	**Sn**	**03 01 25.4**	**+0.2**
	baz=235						
IRIF	**Iriomote-Funau**	**1.29**	**115**	P	**Pb**	**03 01 08.3**	**+0.2**
WHF	**Hehuan Shan**	**1.31**	**236**	*i* P	**Pg**	**03 01 09.1**	**0.0**
	baz=234						
WHF				*eS*	**Sg**	**03 01 25.9**	**-0.3**
	baz=234						
TWT	**Tachien**	**1.32**	**242**	*eP*	**Pb**	**03 01 08.8**	**0.0**
	baz=231						
LIOB	**Emei**	**1.33**	**260**	*eP*	**Pb**	**03 01 08.8**	**0.0**
	baz=259						
TDCB	**Techi**	**1.34**	**242**	*eP*	**Pg**	**03 01 09.6**	**+0.1**
	baz=231						
TDCB				*eS*	**Sg**	**03 01 28.6**	**+1.6**
	baz=231						
NSTT	**Nanjuang**	**1.34**	**259**	*eP*	**Pb**	**03 01 09.1**	**0.0**
	baz=258						
ESL	**Shilin**	**1.42**	**221**	*eP*	**Pg**	**03 01 11.3**	**+0.2**
	baz=219						
CHGB	**Renai**	**1.43**	**235**	P	**Pg**	**03 01 11.0**	**-0.3**
	baz=234						
HATJ	**Hateruma jima**	**1.49**	**124**	*eP*	**Pn**	**03 01 10.6**	**-0.1**
OWD	**Renai**	**1.49**	**232**	*eP*	**Pb**	**03 01 11.7**	**0.0**
	baz=230						
WHP	**Taichung City**	**1.50**	**246**	*eP*	**Pg**	**03 01 12.7**	**0.0**
	baz=244						
WHP				*eS*	**Sg**	**03 01 31.5**	**-0.6**
	baz=244						
WUSB	**Renai**	**1.51**	**234**	P	**Pb**	**03 01 12.2**	**+0.2**
	baz=232						
WUSB				*eS*	**Sg**	**03 01 32.2**	**-0.2**
	baz=232						
WARBT	**Fenglin Townsh**	**1.52**	**220**	*eP*	**Pb**	**03 01 11.8**	**-0.3**
	baz=200						
JKRS	**Kuro-shima**	**1.56**	**114**	*eP*	**Pb**	**03 01 12.9**	**+0.1**
JIJ	**Ishigaki jima**	**1.63**	**108**	*eP*	**Pn**	**03 01 12.3**	**-0.2**
WCS	**Beigang Elemen**	**1.63**	**240**	*eP*	**Pb**	**03 01 14.4**	**+0.4**
	baz=238						
WCS				*eS*	**Sb**	**03 01 34.0**	**-0.6**
	baz=238						
VWDT	**VWDT**	**1.64**	**227**	*eP*	**Pb**	**03 01 14.4**	**+0.1**
	baz=208						
HGSD	**Ruisui**	**1.68**	**214**	*eP*	**Pn**	**03 01 13.7**	**+0.5**
	baz=198						
EHY	**Hungye**	**1.72**	**217**	*eP*	**Pn**	**03 01 14.2**	**+0.4**
	baz=215						
SMLT	**Sun Moon Lake**	**1.73**	**235**	*eP*	**Pg**	**03 01 16.7**	**-0.5**
	baz=220						
SSLB	**Suanglung**	**1.75**	**232**	P	**Pg**	**03 01 16.9**	**-0.6**
SSLB	**Suanglung**	**1.75**	**232**	*eP*	**Pb**	**03 01 16.4**	**+0.3**
	baz=236						
SSLB				*eS*	**Sb**	**03 01 38.1**	**-0.1**
	baz=236						
TCU	**Taichung**	**1.78**	**246**	*eP*	**Pn**	**03 01 15.4**	**+0.8**
	baz=244						
YULB	**Yu-li**	**1.82**	**216**	P	**Pg**	**03 01 19.3**	**+0.4**
YULB	**Yu-li**	**1.82**	**216**	*eP*	**Pn**	**03 01 15.8**	**+0.5**
	baz=214						
EYUL	**Yuli**	**1.85**	**214**	*eP*	**Pn**	**03 01 16.1**	**+0.5**
	baz=200						
WHYT	**Xinyi Township**	**1.88**	**231**	*eP*	**Pb**	**03 01 18.3**	**0.0**
	baz=230						
WJS	**Zhushan**	**1.90**	**236**	*eP*	**Pg**	**03 01 19.5**	**-0.8**
	baz=235						
WNT	**Mingjian**	**1.90**	**238**	*eP*	**Pb**	**03 01 17.7**	**-0.9**
	baz=256						
FULB	**Fuli**	**1.99**	**212**	*eP*	**Pn**	**03 01 17.3**	**-0.2**
	baz=196						
ALS	**Alishan**	**2.04**	**228**	*eP*	**Pb**	**03 01 20.2**	**-0.8**
	baz=209						
EHD	**Haiduan**	**2.07**	**214**	*eP*	**Pn**	**03 01 19.2**	**+0.5**
	baz=212						
EHD				*eS*	**Sn**	**03 01 45.6**	**+1.0**
	baz=212						
ELDTW	**Lidau**	**2.14**	**218**	*eP*	**Pn**	**03 01 19.2**	**-0.5**
	baz=203						
EDH	**Donghe**	**2.18**	**209**	*eP*	**Pn**	**03 01 20.2**	**+0.1**
	baz=194						
TPUB	**Ta-pu**	**2.29**	**227**	P	**Pg**	**03 01 26.8**	**-1.1**
TPUB	**Ta-pu**	**2.29**	**227**	*eP*	**Pn**	**03 01 22.4**	**+0.6**
	baz=210						
STYH	**Taoyuan**	**2.30**	**222**	*eP*	**Pn**	**03 01 22.7**	**+0.9**
	baz=205						
WTP	**Ta-pu**	**2.34**	**226**	*eP*	**Pb**	**03 01 25.1**	**-1.1**
	baz=208						
LDUT	**Ludao**	**2.38**	**202**	*eP*	**Pn**	**03 01 22.6**	**-0.4**
	baz=201						
TWG	**Pinlang**	**2.42**	**212**	*eP*	**Pn**	**03 01 24.2**	**+0.8**
	baz=210						
CHN1	**Nanshi**	**2.44**	**226**	*eP*	**Pb**	**03 01 26.8**	**-1.1**
	baz=225						
VWUC	**VWUC**	**2.73**	**273**	*eP*	**Pn**	**03 01 26.4**	**-1.3**
	baz=271						
MASBT	**Mashibuluo**	**2.81**	**217**	*eP*	**Pn**	**03 01 30.2**	**+1.4**
	baz=203						
LYJJ	**Jianjiangzhen**	**2.94**	**305**	*eP*	**Pn**	**03 01 31.9**	**+1.3**
	baz=303						

*TAP **03** 03:04:04.0, 24°.88N×122°.38E, h4km±1km, ML2.7, D*
*JMA **03** 03:04:04.1±0.1, 24°.9N±0°.3×122°.5E±0°.2, h23km±1km,*
MV2.0/6, NW OFF ISHIGAKIJIMA IS
ISC 03 03:04:03.6±1.1, **24°.88N**±0°.03×**122°.47E**±0°.03, **h14**km±9km, **n34**, σ0°**41**/49, **4C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.45**	**287**	⇑*iP*	**Pg**	**03 04 12.5**	**-0.1**
	baz=290						
TWB1				*i* S	**Sg**	**03 04 18.6**	**-0.1**
	baz=290						
EGS		**0.48**	**267**	P	**Pg**	**03 04 13.4**	**+0.2**
	baz=265						
EGS				*eS*	**Sb**	**03 04 21.6**	**+0.7**
	baz=265						
EOS2	**EOS2**	**0.50**	**205**	*eP*	**Pb**	**03 04 14.5**	**+0.4**
	baz=196						
EOS2				*eS*	**Sb**	**03 04 22.6**	**+1.3**
	baz=196						
SXI1	**Grass Mountain**	**0.58**	**292**	⇑*iP*	**Pg**	**03 04 15.2**	**+0.3**
	baz=295						
EOS3	**EOS3**	**0.60**	**193**	*eP*	**Pb**	**03 04 16.4**	**+0.6**
	baz=185						
EOS3				*i* S	**Sn**	**03 04 26.6**	**-0.4**
	baz=185						
JYNG	**Yonagunijimaku**	**0.61**	**134**	*eP*	**Pg**	**03 04 15.5**	**0.0**
JYNG				S	**Sg**	**03 04 23.6**	**+0.1**
TWC	**Suao**	**0.62**	**245**	P	**Pg**	**03 04 15.5**	**-0.3**
	baz=240						
YOJ	**Yonaguni jima**	**0.65**	**130**	P	**Pg**	**03 04 16.1**	**-0.2**
NWF	**Wu-fen Shan**	**0.65**	**288**	*eP*	**Pb**	**03 04 16.9**	**+0.1**
	baz=289						
NWF				*i* S	**Sb**	**03 04 25.9**	**+0.1**
	baz=289						
WFSB	**Wu-fen Shan**	**0.65**	**288**	*eP*	**Pb**	**03 04 16.8**	**0.0**
	baz=289						
WFSB				*eS*	**Sb**	**03 04 25.7**	**0.0**
	baz=289						
TNOU	**National Taiwa**	**0.69**	**294**	*eP*	**Pb**	**03 04 17.4**	**0.0**
	baz=296						
EWUT	**Wuta**	**0.76**	**236**	*eP*	**Pg**	**03 04 18.2**	**-0.2**
	baz=231						
EWUT				*eS*	**Sb**	**03 04 28.6**	**-0.2**
	baz=231						
EOS4	**EOS4**	**0.76**	**190**	*eP*	**Pb**	**03 04 19.2**	**+0.7**
	baz=184						
EOS4				*eS*	**Sn**	**03 04 30.1**	**-0.7**
	baz=184						
FUSB	**Fushanzhiwuyua**	**0.81**	**262**	*eP*	**Pg**	**03 04 19.3**	**0.0**
	baz=260						
PCYT	**Pengchaiyu**	**0.83**	**335**	*eP*	**Pg**	**03 04 19.9**	**+0.1**
	baz=340						
ENTT	**Nioudou**	**0.85**	**254**	P	**Pb**	**03 04 20.3**	**+0.1**
	baz=252						
YM08	**YM08**	**0.85**	**292**	*eP*	**Pb**	**03 04 20.4**	**+0.1**
	baz=293						
YM01	**YM01**	**0.86**	**289**	⇑*eP*	**Pb**	**03 04 20.7**	**+0.4**
	baz=290						
NWLT	**Wulai**	**0.88**	**264**	*eP*	**Pb**	**03 04 21.1**	**+0.4**
	baz=263						
TWY	**Chenhua**	**0.88**	**297**	*eS*	**Sn**	**03 04 33.8**	**-0.4**
	baz=299						
NDT	**Datong Townshi**	**0.91**	**253**	*eP*	**Pb**	**03 04 21.3**	**+0.2**
	baz=250						
ANP	**Anpu**	**0.91**	**290**	*eP*	**Pb**	**03 04 21.7**	**+0.4**
	baz=291						
LATG	**Datong**	**0.92**	**249**	*eP*	**Pb**	**03 04 21.4**	**0.0**
	baz=246						
LATG				*eS*	**Sb**	**03 04 33.7**	**+0.2**
	baz=246						
YHNB	**Yeheng**	**1.01**	**259**	*eP*	**Pn**	**03 04 23.4**	**-0.1**
	baz=257						
NSK	**Sanguang**	**1.03**	**259**	*eP*	**Pn**	**03 04 23.6**	**0.0**
	baz=257						
NACB	**Ninganchiao**	**1.06**	**229**	*eP*	**Pb**	**03 04 23.6**	**-0.1**
	baz=225						
NACB				*eS*	**Sb**	**03 04 37.2**	**-0.2**
	baz=225						
NNSB	**Datong**	**1.08**	**246**	*eP*	**Pg**	**03 04 24.3**	**-0.2**
	baz=243						
NNSB				*eS*	**Sn**	**03 04 40.2**	**+0.9**
	baz=243						
ETLH	**Xiulin Townshi**	**1.12**	**234**	⇑*eP*	**Pb**	**03 04 24.8**	**0.0**
	baz=230						
IRIF	**Iriomote-Funau**	**1.27**	**115**	*eP*	**Pn**	**03 04 26.4**	**-0.6**
LXIB	**Xiulin Townshi**	**1.28**	**229**	*eP*	**Pb**	**03 04 27.7**	**+0.1**
	baz=225						
LXIB				*eS*	**Sn**	**03 04 44.4**	**+0.1**
	baz=225						
WHF	**Hehuan Shan**	**1.31**	**237**	*eP*	**Pg**	**03 04 28.7**	**-0.2**
	baz=234						
CHGB	**Renai**	**1.43**	**236**	*eP*	**Pg**	**03 04 30.7**	**-0.4**
	baz=233						
CHGB				*eS*	**Sg**	**03 04 49.4**	**-0.4**
	baz=233						
WUSB	**Renai**	**1.51**	**235**	*eP*	**Pg**	**03 04 32.3**	**-0.3**
	baz=232						
WUSB				*eS*	**Sg**	**03 04 52.0**	**-0.3**
	baz=

1.8nm,0.8s,baz=97,slow=7.5,SNR=18
1.8nm,0.8s
WRA Warramunga Arr 44.60 263 P P 03 29 57.5 -0.4
0.5nm,0.4s,baz=98,slow=7.7,SNR=16
0.5nm,0.4s
ILAR Eielson Array 88.84 13 P P 03 34 29.1 +0.4
0.2nm,0.5s,baz=223,slow=6.5,SNR=4.4
0.2nm,0.5s
HFS Hagfors 140.10 351 PKhKP PKPpre 03 40 53.3
5.4nm,1.1s,baz=46,slow=4.4,SNR=4.4
AKASG Malin Array Be 143.54 331 PKP PKPab 03 41 03.9 -0.4
1.4nm,0.4s,baz=40,slow=4.4,SNR=8.9

---

*IDC **03** 03:31:41.5±1.3,24°.07S×68°.13W,h89km±19km,mb3.6/2, mbtmp4.0/5,Error ellipse: s-maj=28.7km s-min=13.5km az=83.0*
*SJA **03** 03:31:42.0±0.6,23°.94S×68°.47W,h134km±5km,ML3.4, MW3.5*
*GUC **03** 03:31:43.0±0.6,23°.95S×68°.40W,h109km±5km,ML3.7*
ISC 03 03:31:42.9±0.9,23°.97S±0°.03×68°.45W±0°.05,h121km±9km, n49,σ1§81/76,5C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.05**	**14**	⇓*iP*	**Pn**	**03 32 05.0**	**-0.8**
AF01				*i* S	**Sn**	**03 32 22.0**	**-1.1**
AF01				IAML		03 32 24.6	
	comp=E,4μm,0.5s						
LVC	**Limon Verde**	**1.42**	**343**	P	**Pn**	**03 32 10.2**	**+0.3**
	comp=E,82nm,0.3s,baz=150,slow=10,SNR=355						
LVC				S	**Sn**	**03 32 29.6**	**-0.7**
	comp=E,242nm,0.4s,baz=53,slow=23,SNR=47						
LVC	**Limon Verde**	**1.42**	**343**	⇑*eP*	**Pn**	**03 32 09.7**	**-0.3**
LVC				*i* S	**Sn**	**03 32 29.9**	**-0.4**
LVC				IAML		03 32 32.4	
	comp=E,2μm,0.3s						
LVC	**Limon Verde**	**1.42**	**343**	*eP*	**Pn**	**03 32 10.2**	**+0.3**
LVC				*eS*	**Sn**	**03 32 31.1**	**+0.8**
LVC				IAML		03 32 32.2	
	comp=Z,254nm,0.4s						
GO02	**Mina Guanaco**	**1.57**	**221**	⇑*iP*	**Pn**	**03 32 12.6**	**+1.0**
GO02				*i* S	**Sn**	**03 32 35.1**	**+1.7**
GO02				IAML		03 32 37.7	
	comp=E,664nm,0.4s						
GO02	**Mina Guanaco**	**1.57**	**221**	*eP*	**Pn**	**03 32 12.6**	**+1.0**
GO02				*eS*	**Sn**	**03 32 35.7**	**+2.3**
PB06	**IPOC Station P**	**1.63**	**321**	⇑*iP*	**Pn**	**03 32 12.6**	**+0.5**
PB06				*i* S	**Sn**	**03 32 34.6**	**+0.3**
PB06				IAML		03 32 35.8	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**1.63**	**321**	*eP*	**Pn**	**03 32 12.5**	**+0.3**
PB06				*eS*	**Sn**	**03 32 34.9**	**+0.6**
PB06				IAML		03 32 37.5	
	comp=Z,628nm,0.6s						
PB14	**IPOC Station P**	**1.90**	**250**	⇓*iP*	**Pn**	**03 32 16.0**	**+0.5**
PB14				*i* S	**Sn**	**03 32 40.6**	**+0.3**
PB14	**IPOC Station P**	**1.90**	**250**	*eP*	**Pn**	**03 32 15.9**	**+0.4**
PB14				IAML		03 32 50.0	
	comp=Z,146nm,0.2s						
PB04	**IPOC Station P**	**2.26**	**316**	*eP*	**Pn**	**03 32 20.9**	**+1.0**
PB04				*i* S	**Sn**	**03 32 49.0**	**+0.8**
PB04				IAML		03 33 01.4	
	comp=N,378nm,0.3s						
PB04	**IPOC Station P**	**2.26**	**316**	*eP*	**Pn**	**03 32 21.4**	**+1.5**
PB04				*eS*	**Sn**	**03 32 45.9**	**-2.3**
PB04				IAML		03 32 56.2	
	comp=Z,277nm,0.2s						
PB09	**IPOC Station P**	**2.29**	**341**	⇑*iP*	**Pn**	**03 32 21.4**	**+1.2**
PB09				*i* S	**Sn**	**03 32 51.3**	**+2.5**
PB09				IAML		03 32 58.4	
	comp=E,214nm,0.2s						
PB09	**IPOC Station P**	**2.29**	**341**	*eP*	**Pn**	**03 32 21.5**	**+1.2**
PB09				*eS*	**Sn**	**03 32 50.8**	**+2.0**
PB09				IAML		03 32 59.3	
	comp=Z,174nm,0.3s						
PB07	**IPOC Station P**	**2.60**	**329**	*eP*	**Pn**	**03 32 25.0**	**+0.7**
PB07				*eS*	**Sn**	**03 32 57.1**	**+1.1**
PB07				IAML		03 33 05.9	
	comp=E,235nm,0.5s						
PB07	**IPOC Station P**	**2.60**	**329**	*eP*	**Pn**	**03 32 24.3**	**0.0**
PB07				*eS*	**Sn**	**03 32 52.7**	**-3.3**
PB07				IAML		03 33 02.1	
	comp=Z,196nm,0.4s						
SLA	**San Lorenzo**	**2.79**	**106**	*eP*	**Pn**	**03 32 27.7**	**+1.1**
HJA	**Humahuaca**	**2.89**	**75**	*eP*	**Pn**	**03 32 29.8**	**+1.6**
AC01	**Pan de Azucar**	**2.91**	**222**	*eP*	**Pn**	**03 32 28.2**	**+0.1**
AC01				*eS*	**Sn**	**03 33 02.9**	**-0.1**
AC01				IAML		03 33 11.5	
	comp=E,144nm,0.4s						
AC01	**Pan de Azucar**	**2.91**	**222**	*eP*	**Pn**	**03 32 27.0**	**-1.1**
AC01				IAML		03 33 12.0	
	comp=Z,78nm,0.4s						
AC02	**Maricunga**	**2.92**	**192**	*eP*	**Pn**	**03 32 30.0**	**+1.4**
AC02				*eS*	**Sn**	**03 33 04.8**	**+1.0**
AC02				IAML		03 33 12.2	
	comp=E,88nm,0.2s						
AC02	**Maricunga**	**2.92**	**192**	*eP*	**Pn**	**03 32 29.8**	**+1.2**
PB02	**IPOC Station P**	**2.96**	**333**	*eP*	**Pn**	**03 32 29.5**	**+0.7**
PB02				IAML		03 33 14.6	
	comp=E,271nm,0.5s						
PB02	**IPOC Station P**	**2.96**	**333**	*eP*	**Pn**	**03 32 29.0**	**+0.1**
PB02				*eS*	**Sn**	**03 33 08.7**	**+4.5**
PB01	**IPOC Station P**	**3.07**	**342**	*eP*	**Pn**	**03 32 31.2**	**+0.9**
PB01				*eS*	**Sn**	**03 33 07.9**	**+1.1**
PB01				IAML		03 33 15.7	
	comp=E,220nm,0.1s						
PB01	**IPOC Station P**	**3.07**	**342**	*eP*	**Pn**	**03 32 30.2**	**-0.1**
PB01				IAML		03 33 13.7	
	comp=Z,116nm,0.2s						
FSA	**Cafayete**	**3.09**	**134**	*eP*	**Pn**	**03 32 31.6**	**+0.9**
YJA	**Yavi**	**3.24**	**57**	*eP*	**Pn**	**03 32 34.1**	**+1.2**
PATCX	**Punta Patache**	**3.51**	**333**	*eP*	**Pn**	**03 32 36.9**	**+0.8**
PATCX				*eS*	**Sn**	**03 33 21.6**	**+4.4**
PATCX	**Punta Patache**	**3.51**	**333**	*eP*	**Pn**	**03 32 36.9**	**+0.8**
PATCX				*eS*	Sn	03 33 07.3	-10
TA01	**Diego Aracena**	**3.75**	**334**	*eP*	**Pn**	**03 32 39.9**	**+0.7**
TA01				IAML		03 33 52.5	
	comp=Z,44nm,1.6s						
AC06	**Mina Casimiro**	**3.78**	**207**	⇑*eP*	**Pn**	**03 32 38.8**	**-0.8**
AC06				*eS*	**Sn**	**03 33 22.8**	**-0.7**
PB08	**IPOC Station P**	**3.87**	**350**	*eP*	**Pn**	**03 32 42.1**	**+1.0**
PB08				*i* S	**Sn**	**03 33 25.9**	**-0.3**
PB08	**IPOC Station P**	**3.87**	**350**	*eP*	**Pn**	**03 32 41.3**	**+0.1**
HMBC	**Humberstone**	**3.91**	**340**	*eP*	**Pn**	**03 32 42.6**	**+1.2**
HMBC				*eS*	Sn	03 33 36.2	+9.4
GO03	**Copiap**	**3.95**	**204**	*eP*	**Pn**	**03 32 41.0**	**-0.8**
GO03				*eS*	**Sn**	**03 33 26.9**	**-0.6**
GO03	**Copiap**	**3.95**	**204**	*eP*	**Pn**	**03 32 41.3**	**-0.6**
GO03				*eS*	**Sn**	**03 33 35.0**	**+7.4**
ALOL	**LOMAS DE OLMED**	**4.09**	**89**	*eP*	**Pn**	**03 32 43.6**	**-0.1**
GO01	**Chusmiza**	**4.34**	**351**	*eP*	**Pn**	**03 32 47.7**	**+0.2**
GO01				*i* S	**Sn**	**03 33 36.5**	**-1.0**
GO01	**Chusmiza**	**4.34**	**351**	*eP*	**Pn**	**03 32 47.4**	**-0.1**
VCA	**Vinchina**	**4.75**	**177**	*eP*	**Pn**	**03 32 53.8**	**+1.1**
VCA				IAML		03 33 57.7	
	comp=Z,18nm,3.0s						
AC04	**Llanos de Chal**	**4.83**	**209**	*eP*	**Pn**	**03 32 51.5**	**-2.1**
AC04				*eS*	**Sn**	**03 33 44.6**	**-3.9**
AC05	**El Transito**	**5.11**	**198**	*eP*	**Pn**	**03 32 57.7**	**+0.2**
CFA	**Coronel Fontan**	**7.61**	**179**	P	**Pn**	**03 33 30.1**	**-1.0**
	comp=Z,2.2nm,0.3s,baz=334,slow=10,SNR=22						
CFA				S	**Sn**	**03 34 50.1**	**-5.6**
	comp=Z,1.9nm,0.3s,baz=247,slow=17,SNR=6.3						
LPAZ	**La Paz**	**7.65**	**2**	P	**Pn**	**03 33 32.4**	**0.0**
	comp=Z,1.2nm,0.3s,baz=170,slow=5.6,SNR=8.3						
SIV	**San Ignacio**	**10.54**	**42**	P	**Pn**	**03 34 07.7**	**-3.1**
	comp=Z,9.9nm,0.5s,baz=225,slow=11,SNR=41						
BDFB	**Brasilia**	**20.92**	**70**	P	**P**	**03 36 14.2**	**-1.9**
	comp=Z,2.4nm,0.6s,baz=236,slow=12,SNR=4.5						
	comp=Z,2.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.80**	**70**	P	**P**	**03 43 28.4**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=260,slow=5.3,SNR=9.8						
	comp=Z,1.3nm,0.8s						
WRA	**Warramunga Arr**	**131.03**	**209**	PKP	**PKiKP**	**03 50 43.2**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=164,slow=1.5,SNR=5.7						

---

*IDC **03** 04:06:23.5±2.0,5°.92S×151°.06E,h63km±17km,mb3.4/5, mbtmp3.7/6,MS2.9/1,Error ellipse: s-maj=71.8km s-min=13.1km az=127.0*
ISC 03 04:06:21.9±1.3,6°.1S±0°.2×151°.3E±0°.3,h50km,n9, σ1§50/10,mb3.5/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.89**	**23**	P	**Pn**	**04 06 52.3**	**+0.5**
	690nm,0.4s,baz=46,slow=24,SNR=64						
KRVT				S	**Sn**	**04 07 16.4**	**+2.0**
	580nm,0.3s,baz=7.5,slow=0.1,SNR=6.8						
PMG	**Port Moresby**	**5.28**	**231**	P	**Pn**	**04 07 39.7**	**+1.5**
	12nm,0.4s,baz=66,slow=12,SNR=2.5						
PMG				S	**Sn**	**04 08 38.6**	**+0.8**
	25nm,0.4s,baz=353,slow=23,SNR=5.7						
CTA	**Charters Tower**	**14.78**	**199**	LR	LR	04 14 44.1	
	comp=Z,44nm,19.9s,baz=83,slow=34						
WRA	**Warramunga Arr**	**21.49**	**228**	P	**P**	**04 11 05.7**	**-1.0**
	1.2nm,0.5s,baz=52,slow=10,SNR=18						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**24.21**	**222**	P	**P**	**04 11 34.0**	**-0.2**
	0.7nm,0.5s,baz=58,slow=9.2,SNR=10						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**80.29**	**319**	P	**P**	**04 18 26.8**	**-0.8**
	0.2nm,0.5s,baz=111,slow=7.9,SNR=1.7						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**83.88**	**22**	P	**P**	**04 18 44.2**	**-1.9**
	0.3nm,0.5s,baz=255,slow=4.6,SNR=2.5						
	0.3nm,0.5s						
NVAR	**Mina Array Bea**	**94.04**	**52**	P	**P**	**04 19 36.9**	**+1.5**
	0.8nm,0.8s,baz=267,slow=6.4,SNR=6.4						
	0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.23**	**285**	PKPbc	**PKPbc**	**04 26 05.0**	**-1.1**
	4.0nm,0.7s,baz=45,slow=3.1,SNR=37						

---

*IDC **03** 04:08:13.8±2.0,36°.64N×140°.53E,h0km,mb3.6/4, mbtmp3.6/4,MS2.7/2,Error ellipse: s-maj=39.1km s-min=28.2km az=54.0*
*JMA **03** 04:08:14.9±0.0,36°.9N±0°.1×140°.5E±0°.2,h9km,MV3.6/20, MID FUKUSHIMA PREF*
JMA Felt I J1 at MID FUKUSHIMA PREF .
*NIED **03** 04:08:14.9,36°.86N×140°.54E,h9km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.10; $M_{\theta\theta}$=0.33; $M_{\phi\phi}$=1.43; $M_{r\theta}$=0.16; $M_{\theta\phi}$=-1.27; $M_{\phi r}$=1.59; Fault plane solution: M_0=2.34000×10^{14} NP1: ϕ_s=177.00000°,δ=72.00000°,λ=-63.00000°. NP2: ϕ_s=298.00000°,δ=33.00000°,λ=-144.00000°.*
ISC 03 04:08:14.7±1.0,36.86N±0°.03×140°.55E±0°.05,h10km±8km, n14,σ1§01/19,mb3.6/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.23**	**3**	*i* P	**Pg**	**04 08 19.6**	**0.0**
JFFD				S	**Sg**	**04 08 22.8**	**0.0**
JHO	**Hitachi**	**0.24**	**176**	*i* P	**Pg**	**04 08 19.9**	**+0.2**
JHO				S	**Sg**	**04 08 23.4**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.32**	**39**	*i* P	**Pg**	**04 08 21.0**	**-0.1**
ONAJ				S	**Sg**	**04 08 25.4**	**0.0**
JSB	**Shiboa**	**0.52**	**283**	S	**Sg**	**04 08 32.9**	**+1.4**
JOTO	**OTAMA OYAMA**	**0.72**	**346**	*i* P	**Pg**	**04 08 28.7**	**0.0**
JOTO				S	**Sg**	**04 08 38.1**	**-0.1**
JFY	**Yanaizu**	**0.87**	**309**	*i* P	**Pg**	**04 08 31.3**	**-0.2**
JFY				S	**Sg**	**04 08 42.7**	**-0.1**
JAG	**Ashikaga**	**0.98**	**244**	*i* P	**Pb**	**04 08 32.8**	**-1.0**
JAG				S	**Sb**	**04 08 46.0**	**-0.7**
MJAR	**Matsushiro Arr**	**1.91**	**261**	Pn	**Pn**	**04 08 47.0**	**-0.3**
	6.4nm,0.3s,baz=84,slow=16,SNR=133						
MJAR				Sn	**Sn**	**04 09 10.9**	**-0.5**
	6.6nm,0.3s,baz=98,slow=19,SNR=6.5						
KSRS	**Korea Array**	**10.10**	**277**	LR	LR	04 14 21.9	
	comp=Z,25nm,19.4s,baz=70,slow=36						
SEY	**Seymchan**	**27.10**	**12**	LR	LR	04 26 23.5	
	comp=Z,29nm,20.8s,baz=38,slow=40						
ZALV	**Zalesovo Beam**	**41.52**	**313**	P	**P**	**04 16 03.8**	**+1.8**
	0.6nm,0.4s,baz=72,slow=9.3,SNR=2.3						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**43.63**	**302**	P	**P**	**04 16 21.9**	**+2.7**
	0.1nm,0.3s,baz=82,slow=5.6,SNR=2.1						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**45.56**	**308**	P	**P**	**04 16 35.0**	**+0.4**
	0.4nm,0.3s,baz=83,slow=8.1,SNR=4.1						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**56.79**	**187**	P	**P**	**04 17 58.2**	**-1.0**
	0.5nm,0.8s,baz=4.9,slow=7.2,SNR=5.2						
	0.5nm,0.8s						

IDC 03 04:59:27.4±2.2,1°.67N×126°.13E,h0km,mb3.5/3, mbtmp3.6/3,MS3.6/2,Error ellipse: s-maj=175.9km s-min=28.0km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.94**	**160**	P	P	05 04 32.9	-0.5
	1.3nm,0.5s,baz=338,slow=11,SNR=20						
WRA				LR	LR	05 14 59.6	
	comp=Z,188nm,21.4s,baz=82,slow=41						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**26.30**	**164**	P	P	05 05 05.3	+0.5
	0.2nm,0.3s,baz=348,slow=12,SNR=4.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**58.91**	**326**	P	P	05 09 28.3	0.0
	0.2nm,0.3s,baz=120,slow=8.1,SNR=2.8						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**68.72**	**328**	LR	LR	05 43 30.7	
	comp=Z,32nm,18.2s,baz=313,slow=38						

IDC 03 05:17:35.8±3.1,16°.55S×177°.70W,h421km±27km, mb3.0/4,mbtmp3.7/5,Error ellipse: s-maj=108.2km s-min=24.2km az=150.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.23**	**253**	P	P	05 18 51.4	+0.1
	10nm,0.7s,baz=184,slow=21,SNR=5.0						
WRA	**Warramunga Arr**	**45.56**	**258**	P	P	05 25 16.9	+0.5
	0.2nm,0.3s,baz=94,slow=7.3,SNR=7.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**45.82**	**253**	P	P	05 25 17.9	-0.5
	0.8nm,0.4s,baz=88,slow=7.9,SNR=19						
	0.8nm,0.4s						
ILAR	**Eielson Array**	**84.42**	**13**	P	P	05 29 21.7	-0.3
	0.5nm,0.4s,baz=223,slow=5.2,SNR=10.0						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**84.70**	**57**	P	P	05 29 24.6	+0.3
	0.4nm,0.8s,baz=234,slow=4.3,SNR=4.9						
	0.4nm,0.8s						

---

*MEX **03** 05:30:27.4±0.8,15°.02N×94°.40W,h14km±13km,MD4.9*
*IDC **03** 05:30:28.5±4.1,15°.19N×94°.07W,h40km±34km,mb4.2/16, mbtmp4.4/17,ML4.5/1,MS4.0/42,Error ellipse: s-maj=27.4km s-min=13.5km az=58.0*
*MOS **03** 05:30:30.8±1.1,15°.40N×93°.95W,h56km,mb5.3/6,Error ellipse: s-maj=9.5km s-min=5.5km az=105.0*
*GCMT **03** 05:30:30.0±0.3,15°.27N±0°.02×94°.25W±0°.02,h32km±1km, MW4.9/75,Moment Tensor Solution. s33,c40; s75,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.31±.21; $M_{\theta\theta}$=2.73±.12; $M_{\phi\phi}$=0.42±.12; $M_{r\theta}$=0.39±.12; $M_{\theta\phi}$=0.87±.08; $M_{\phi r}$=-1.13±.14; Best double couple: M_0=2.94000×10^{16} NP1:ϕ_s=127.00000°,δ=57.00000°,λ=119.00000°. NP2: ϕ_s=261.00000°,δ=43.00000°,λ=54.00000°. Principal axes: T 2.8390, Plg65.0000°, Azm91.0000°; N 0.2060, Plg24.0000°, Azm290.0000°; P -3.0400, Plg7.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 05:30:32.0±2.7,15°.31N±0°.08×94°.12W±0°.07,h57km±7km, mb4.9/336,Md4.8/18(MEX) Error ellipse: s-maj=12.6km s-min=8.0km az=209.0*
*GCG **03** 05:31:05.2±0.3,14°.61N×91°.67W,h10km,MD4.7*
ISC 03 05:30:29.7±0.5,15°.13N±0°.05×94°.25W±0°.04,h47km±4km, h48km:pP-P,n729,σ1§73/609,mb4.9/142,MS4.0/44, 5C-13D,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.15**	**60**		**Pn**	**05 30 47.2**	**-2.2**
PCIG					**Sn**	**05 31 03.1**	**-0.9**
PCIG		**1.15**	**60**	*eP*	**Pn**	**05 30 47.2**	**-2.2**
PCIG				*eS*	**Sn**	**05 31 03.4**	**-0.7**
HUIG	**Huatulco**	**1.90**	**290**	*eP*	Pn	05 30 54.6	-5.1
HUIG				*eS*	Sn	05 31 13.7	-8.7
THIG		**1.93**	**96**	*eP*	**Pn**	**05 30 58.5**	**-1.6**
THIG				*eS*	**Sn**	**05 31 22.3**	**-0.9**
TGIG		**1.97**	**33**		**Pn**	**05 30 59.8**	**-0.9**
TGIG					**Sn**	**05 31 24.8**	**+0.6**
TGIG		**1.97**	**33**	*eP*	**Pn**	**05 30 59.8**	**-0.9**
TGIG				*i* S	**Sn**	**05 31 25.4**	**+1.2**
UXUV	**UXUV**	**2.18**	**3**	*eP*	**Pn**	**05 31 02.1**	**-1.5**
UXUV				*eS*	**Sn**	**05 31 28.3**	**-1.0**
CCIG	**Comitan**	**2.34**	**60**	*eP*	**Pn**	**05 31 06.5**	**+0.6**
CCIG				*eS*	**Sn**	**05 31 35.8**	**+2.3**
RTAL	**Retalhuleu**	**2.54**	**103**		**Pn**	**05 31 07.9**	**-0.6**
STG3	**Santiaguito 3,**	**2.63**	**99**	*eP*	**Pn**	**05 31 09.4**	**-0.4**
HUEH	**Huehuetenango**	**2.66**	**86**		**Pn**	**05 31 11.3**	**+1.0**
SULM	**Suchitepequez,**	**2.73**	**107**	*eP*	**Pn**	**05 31 11.9**	**+0.9**
TUIG	**Tuzandepetl**	**2.90**	**357**	*eP*	**Pn**	**05 31 11.7**	**-1.6**
TUIG				*eS*	**Sn**	**05 31 47.2**	**+0.3**
PEIG	**Puerto Escondi**	**2.92**	**288**	*eP*	Pn	05 31 08.9	-4.8
PEIG				*eS*	Sn	05 31 37.4	-10
OXIG	**Oaxaca**	**3.07**	**309**		**Pn**	**05 31 14.0**	**-2.0**
VHO	**Vista Hermosa**	**3.07**	**309**	*eP*	**Pn**	**05 31 14.1**	**-1.9**
VHO				*eS*	**Sn**	**05 31 46.9**	**-4.6**
FUG	**Fuego 3**	**3.37**	**101**	*eP*	**Pn**	**05 31 20.9**	**+0.9**
PMUV	**Sontecomapan**	**3.50**	**346**	*eP*	**Pn**	**05 31 17.8**	**-3.9**
PMUV				*eS*	**Sn**	**05 31 60.0**	**-2.0**
PCG	**Pacaya**	**3.60**	**101**	*eP*	**Pn**	**05 31 22.9**	**-0.4**
YOIG	**Yosondua**	**3.60**	**299**	*eP*	**Pn**	**05 31 21.0**	**-2.3**
YOIG				*eS*	**Sn**	**05 31 57.5**	**-7.3**
NBG	**Las Nubes**	**3.81**	**98**	*eP*	Pn	05 31 31.0	+4.8
PNIG	**Pinotepa**	**3.94**	**289**	*i* P	Pn	05 31 23.9	-3.7
PNIG				*eS*	Sn	05 32 01.4	-11
TXIG	**Tlaxiaco**	**3.98**	**303**	*eP*	**Pn**	**05 31 26.9**	**-1.6**
TXIG				*eS*	**Sn**	**05 32 11.3**	**-2.8**
TOIG	**Toxpalan**	**4.00**	**318**	*eP*	**Pn**	**05 31 28.4**	**-0.2**
TOIG				*eS*	**Sn**	**05 32 15.0**	**+0.8**
HLIG	**Huajuapan de L**	**4.34**	**309**	*eP*	**Pn**	**05 31 32.8**	**-0.6**
HLIG				*eS*	**Sn**	**05 32 19.1**	**-3.7**
TPIG	**Tehuac#an**	**4.43**	**318**	*eP*	**Pn**	**05 31 34.2**	**-0.3**
TPIG				*eS*	**Sn**	**05 32 17.7**	**-7.2**
FTIG	**Fresnillo de T**	**4.64**	**307**	*eP*	**Pn**	**05 31 36.7**	**-0.6**
FTIG				*eS*	**Sn**	**05 32 23.8**	**-6.2**
ESQI	**Esquipulas**	**4.78**	**96**		**Pn**	**05 31 40.6**	**+1.3**
MTO3	**Montecristo**	**4.79**	**98**	Pn	**Pn**	**05 31 39.9**	**+0.4**
TLIG	**Tlapa**	**4.80**	**301**	*i* P	**Pn**	**05 31 38.2**	**-1.4**
TLIG				*eS*	Sn	05 32 26.1	-7.9
SCIG	**Sabancuy**	**4.82**	**37**	*eP*	**Pn**	**05 31 38.7**	**-1.0**
SCIG				*eS*	**Sn**	**05 32 32.6**	**-1.6**
LVIG	**Laguna Verde**	**5.02**	**336**	*eP*	Pn	05 31 37.6	-4.8
LVIG				*eS*	**Sn**	**05 32 35.6**	**-3.5**
SNET	**Serv Nac Est T**	**5.07**	**106**	Pn	**Pn**	**05 31 43.8**	**+0.5**
DAIG	**Los Arroyos**	**5.52**	**291**	*eP*	**Pn**	**05 31 46.9**	**-2.5**
DAIG				*eS*	Sn	05 32 43.6	-8.0
PPM	**Popocatepetl**	**5.73**	**314**	*eP*	**Pn**	**05 31 54.5**	**+1.8**
PPM				*eS*	**Sn**	**05 32 54.1**	**-3.3**
MEIG	**Mezcala**	**5.85**	**299**	*eP*	**Pn**	**05 31 53.1**	**-0.9**
MEIG				*eS*	Sn	05 32 51.5	-8.4
YAIG	**Yautepec**	**5.92**	**310**	*eP*	**Pn**	**05 31 55.3**	**+0.4**
YAIG				*eS*	**Sn**	**05 32 55.7**	**-5.9**
PLIG	**Platanillo**	**5.99**	**304**	*eP*	**Pn**	**05 31 55.7**	**-0.2**
PLIG				*eS*	**Sn**	**05 32 57.5**	**-5.7**
CAIG	**El Cayaco**	**6.09**	**289**	*eP*	**Pn**	**05 31 54.4**	**-2.8**
CAIG				*eS*	Sn	05 32 55.5	-10
UNM	**Universidad Na**	**6.29**	**312**	P	**Pn**	**05 32 04.6**	**+4.4**
UNM	**Universidad Na**	**6.29**	**312**	*eP*	**Pn**	**05 32 02.3**	**+2.1**
UNM				*eS*	**Sn**	**05 33 08.7**	**-2.3**
ARIG	**Puente Sto Nin**	**6.63**	**299**	*eP*	**Pn**	**05 32 04.0**	**-0.6**
ARIG				*eS*	**Sn**	**05 33 14.9**	**-4.0**
TGUH	**Tegucigalpa,Un**	**6.84**	**98**	Pn	**Pn**	**05 32 07.6**	**0.0**
TGUH	**Tegucigalpa,Un**	**6.84**	**98**	*eP*	**Pn**	**05 32 07.4**	**-0.2**
DEIG	**Demacu**	**6.87**	**319**	*eP*	**Pn**	**05 32 10.1**	**+1.9**
DEIG				*eS*	**Sn**	**05 33 26.8**	**+1.6**
MYIG	**Mrida**	**7.21**	**36**	*eP*	**Pn**	**05 32 11.4**	**-1.2**
MYIG				*eS*	**Sn**	**05 33 31.9**	**-1.3**
ZIIG	**Zihuatanejo**	**7.35**	**291**	*i* P	**Pn**	**05 32 12.8**	**-1.7**
ZIIG				*eS*	Sn	05 33 27.7	-8.9
CRIN	**San Cristobal**	**7.40**	**108**		**Pn**	**05 32 16.7**	**+1.5**
TEIG	**Tepich**	**7.63**	**47**	Pn	**Pn**	**05 32 16.2**	**-2.1**
TEIG	**Tepich**	**7.63**	**47**	*eP*	**Pn**	**05 32 17.8**	**-0.4**
TEIG	**Tepich**	**7.63**	**47**	Pn	**Pn**	**05 32 15.0**	**-3.3**
	465nm,0.3s,baz=35,slow=1.6,SNR=33						
TEIG				Sn	**Sn**	**05 33 41.0**	**-2.3**
	694nm,0.3s,baz=221,slow=22,SNR=6.3						
TEIG				LR	LR	05 35 41.6	
	comp=Z,7μm,21.2s,baz=24,slow=42						
CNGN	**Cerro Negro**	**7.79**	**109**	Pn	**Pn**	**05 32 21.2**	**+0.7**
MATN	**Matagalpa**	**8.37**	**104**		**Pn**	**05 32 28.0**	**-0.6**
RPIG	**Rio Verde**	**8.64**	**322**	*eP*	**Pn**	**05 32 33.9**	**+1.6**
RPI

HKT	Hockley	14.83	355	*d iP*		Pn	05 33 56.3	-0.1
HKT				pmax	pmax			
	comp=Z,38nm,1.4s							
BCIP	Isla Barro Col	15.28	111	Pn		Pn	05 34 01.8	-0.6
BCIP	Isla Barro Col	15.28	111	P		Pn	05 34 01.8	-0.6
BCIP	Isla Barro Col	15.28	111	*eP*		Pn	05 34 02.2	-0.2
DRIO	Del Rio	15.39	339	IAmb	IAmb	IAmb	05 34 10.0	
	comp=Z,27nm,0.8s							
AZU	Azuero	15.51	116	*eP*		P	05 34 11.7	+2.7
HPIG		15.85	320	*eP*		Pn	05 34 08.7	-1.1
JCT	Junction City	16.11	342	IAmb	IAmb	IAmb	05 34 19.1	
	comp=Z,84nm,1.0s							
JCT	Junction City	16.11	342	P		Pn	05 34 13.3	+0.3
JCT	Junction City	16.11	342	P		Pn	05 34 13.9	+0.9
	baz=159,SNR=36							
SAND	Sanderson	16.44	335	IAmb	IAmb	IAmb	05 34 25.7	
	comp=Z,87nm,1.3s							
NATX	Nacogdoches	16.56	359			Pn	05 34 17.2	-1.4
NATX				IAmb	IAmb	IAmb	05 34 28.1	
	comp=Z,51nm,0.9s							
NATX	Nacogdoches	16.56	359	P		Pn	05 34 17.5	-1.2
	baz=176							
344A	Westbrook Farm	16.57	11	P		Pn	05 34 16.6	-2.1
344A				IAmb	IAmb	IAmb	05 34 22.7	
	comp=Z,128nm,1.4s							
TX31	Lajitas Ar. Si	16.60	330	IAmb	IAmb	IAmb	05 34 24.5	
	comp=Z,128nm,1.1s							
TXAR	Lajitas Array	16.60	330	Pn		Pn	05 34 19.8	+0.6
	comp=Z,0.4nm,0.3s,baz=153,slow=12,SNR=60							
TXAR				LR	LR	LR	05 41 13.0	
	comp=Z,254nm,21.4s,baz=138,slow=39							
	comp=Z,37nm,1.1s							
BRDY	Brady	16.66	346	IAmb	IAmb	IAmb	05 34 23.2	
	comp=Z,44nm,0.9s							
237A	Washetta, Mont	16.86	355	IAmb	IAmb	IAmb	05 34 27.3	
	comp=Z,130nm,1.1s							
OZNA	Ozona	16.94	339			Pn	05 34 23.5	+0.1
OZNA				IAmb	IAmb	IAmb	05 34 25.3	
	comp=Z,159nm,1.2s							
WHTX	Lake Whitney,	17.04	351	P		Pn	05 34 24.9	+0.3
	baz=168,SNR=12							
UPD2	Meteti	17.18	111	*eP*		Pn	05 34 25.2	-1.3
BRAL	Brewton	17.28	21	P		Pn	05 34 25.4	-2.2
	baz=203							
VBMS	Vicksburg	17.35	11	P		Pn	05 34 26.1	-2.4
VBMS				IAmb	IAmb	IAmb	05 34 30.7	
	comp=Z,121nm,1.4s							
VBMS	Vicksburg	17.35	11	P		Pn	05 34 27.0	-1.4
	baz=191							
FW13	Cleburne	17.39	351	P		Pn	05 34 27.5	-1.5
FW13				IAmb	IAmb	IAmb	05 34 40.0	
	comp=Z,95nm,0.7s							
FW14	Alvarado	17.40	352	P		Pn	05 34 28.4	-0.7
FW14				IAmb	IAmb	IAmb	05 34 39.9	
	comp=Z,143nm,0.8s							
ALPN	Alpine	17.46	332	IAmb	IAmb	IAmb	05 34 33.0	
	comp=Z,71nm,1.0s							
DWPF	Disney Wildern	17.56	41	P		Pn	05 34 28.4	-2.7
	baz=225							
143A	Socs Landing,	17.69	8	IAmb	IAmb	IAmb	05 34 32.9	
	comp=Z,64nm,1.1s							
FW07	Weatherford	17.79	350	IAmb	IAmb	IAmb	05 34 43.1	
	comp=Z,75nm,1.4s							
SGCY	Sterling City	17.85	341	IAmb	IAmb	IAmb	05 34 39.1	
	comp=Z,169nm,1.0s							
FW06	Azle	18.02	351			Pn	05 34 36.0	-0.6
FW06				IAmb	IAmb	IAmb	05 34 48.6	
	comp=Z,92nm,1.0s							
Z38A	Mt. Pleasant	18.07	358	P		Pn	05 34 37.2	-0.1
Z38A				IAmb	IAmb	IAmb	05 34 41.7	
	comp=Z,98nm,1.0s							
ABTX	Abilene, Hawle	18.10	345	IAmb	IAmb	IAmb	05 34 47.9	
	comp=Z,118nm,0.8s							
ABTX	Abilene, Hawle	18.10	345	P		Pn	05 34 37.6	-0.1
	baz=162,SNR=38							
FW03	Perrin-Whitt E	18.17	350	P		Pn	05 34 38.6	+0.1
FW03				IAmb	IAmb	IAmb	05 34 50.9	
	comp=Z,105nm,1.0s							
250A	Grady	18.29	22	P		P	05 34 38.8	-0.8
250A				IAmb	IAmb	IAmb	05 34 50.3	
	comp=Z,259nm,1.8s							
Z35A	Perchaven, San	18.33	352	IAmb	IAmb	IAmb	05 34 48.9	
	comp=Z,144nm,0.9s							
352A	Blakely	18.38	26	P		P	05 34 37.5	-3.2
PECS	Pecos	18.41	333	P		Pn	05 34 42.8	+1.3
PECS				IAmb	IAmb	IAmb	05 34 45.3	
	comp=Z,35nm,1.1s							
WLAR	White Oak Lake	18.51	3			P	05 34 41.8	-0.3
WLAR				IAmb	IAmb	IAmb	05 34 45.9	
	comp=Z,91nm,1.0s							
ODSA	Odessa	18.53	337	IAmb	IAmb	IAmb	05 34 49.4	
	comp=Z,235nm,1.1s							
SN01	Snyder 1	18.66	342	IAmb	IAmb	IAmb	05 34 46.3	
	comp=Z,102nm,0.9s							
APAC	Apartado, Choc	18.74	111	*eP*		Pn	05 34 46.1	+0.5
CCAR	Cane Creek	18.84	6	P		Pn	05 34 46.6	-0.1
CCAR				IAmb	IAmb	IAmb	05 34 54.1	
	comp=Z,125nm,1.4s							
Z47A	Carrollton	18.85	16	IAmb	IAmb	IAmb	05 34 48.4	
	comp=Z,57nm,0.8s							
GTBY	Guantanamo Bay	18.86	73	P		P	05 34 44.2	-1.9
GTBY				IAmb	IAmb	IAmb	05 34 47.2	
	comp=Z,56nm,0.7s							
GTBY	Guantanamo Bay	18.86	73	*eP*		P	05 34 44.4	-1.7
APMT	Aspermont	18.88	345	IAmb	IAmb	IAmb	05 34 55.4	
	comp=Z,131nm,1.3s							
TIGA	Tifton	18.94	29	P		Pn	05 34 46.8	-1.0
TIGA				IAmb	IAmb	IAmb	05 34 56.9	
	comp=Z,214nm,1.4s							
TIGA	Tifton	18.94	29	P		P	05 34 46.3	-0.5
	baz=213							
WTFS	Witchita Falls	18.95	349	IAmb	IAmb	IAmb	05 35 01.1	
	comp=Z,138nm,1.1s							
LRAL	Lakeview Retre	19.01	19	P		P	05 34 46.9	-0.6
	baz=201							
POST	Post	19.03	341	IAmb	IAmb	IAmb	05 34 53.2	
	comp=Z,92nm,0.9s							
Y45A	Yeager Farm, C	19.14	12	IAmb	IAmb	IAmb	05 34 52.8	
	comp=Z,91nm,1.1s							
SJCC	San Jacinto, C	19.33	103	*eP*		P	05 34 49.7	-1.5
MIAR	Mount Ida	19.35	2	P		P	05 34 50.2	-1.0
MIAR				IAmb	IAmb	IAmb	05 34 51.8	
	comp=Z,41nm,0.8s							
MIAR	Mount Ida	19.35	2	P		P	05 34 50.5	-0.7
MIAR	Mount Ida	19.35	2	P		P	05 34 50.7	-0.5
	baz=181,SNR=23							
MNTX	Cornudas Mount	19.38	330	P		Pn	05 34 52.6	-0.4
	baz=145,SNR=26							
X37A	Clayton	19.41	357	IAmb	IAmb	IAmb	05 35 02.4	
	comp=Z,85nm,0.8s							
DKNS	Dickens	19.42	343	IAmb	IAmb	IAmb	05 34 54.1	
	comp=Z,180nm,1.0s							
152A	Waverly Hall	19.50	25	P		P	05 34 52.7	-0.2
152A				IAmb	IAmb	IAmb	05 35 04.6	
	comp=Z,52nm,0.9s							
UALR	University of	19.64	5	P		P	05 34 53.0	-1.4
UALR				IAmb	IAmb	IAmb	05 35 04.5	
	comp=Z,37nm,0.8s							
UREC	San Jos de Ur	19.75	110	*eP*		P	05 34 56.1	+0.3
OXF	Oxford	19.79	12	IAmb	IAmb	IAmb	05 35 00.9	
	comp=Z,82nm,1.0s							
OXF	Oxford	19.79	12	P		P	05 34 55.1	-0.9
	baz=193,SNR=7.5							
SMRC	Santa Marta, M	19.89	99	*eP*		P	05 34 55.4	-2.0
GR1C	Gorgona, Isla	19.91	126	*eP*		Pn	05 35 00.8	+1.3
WMOK	Wichita Mounta	19.95	349	IAmb	IAmb	IAmb	05 35 07.8	
	comp=Z,111nm,1.7s							
WMOK	Wichita Mounta	19.95	349	P		P	05 34 57.7	-0.1
WMOK	Wichita Mounta	19.95	349	P		P	05 34 57.5	-0.4
	baz=166,SNR=20							
Y49A	Blount Mountai	19.95	19			P	05 34 57.4	-0.5
WHAR	Wooly Hollow	20.16	5	IAmb	IAmb	IAmb	05 35 12.6	
	comp=Z,68nm,1.2s							
MSTX	Muleshoe	20.28	339	IAmb	IAmb	IAmb	05 35 05.5	
	comp=Z,85nm,0.9s							
MSTX	Muleshoe	20.28	339	P		P	05 35 01.8	+0.2
	baz=155,SNR=41							
X48A	Hartselle	20.31	17	IAmb	IAmb	IAmb	05 35 15.5	
	comp=Z,42nm,0.9s							
PLMC	San Jos del P	20.38	118	*eP*		Pn	05 35 04.2	-1.0
ZARC	Zaragoza, Cauc	20.46	110	*eP*		P	05 35 01.9	-1.6
HBAR	Harrisburg	20.60	8	IAmb	IAmb	IAmb	05 35 09.7	
	comp=Z,63nm,1.0s							
GOGA	Godfrey	20.66	26	P		P	05 35 03.9	-1.6
GOGA				IAmb	IAmb	IAmb	05 35 19.0	
	comp=Z,41nm,0.9s							
GOGA	Godfrey	20.66	26	P		P	05 35 03.9	-1.6
GOGA	Godfrey	20.66	26	P		P	05 35 04.9	-0.6
	baz=210,SNR=6.1							
DEOK	Depew	20.73	355			P	05 35 04.9	-1.3
DEOK				IAmb	IAmb	IAmb	05 35 18.4	
	comp=Z,89nm,0.9s							
TUL3	Leonard	20.74	356	P		P	05 35 06.3	-0.1
	baz=175,SNR=27							
FCAR	Ozark Folk Cen	20.77	5	P		P	05 35 05.4	-1.2
FCAR				IAmb	IAmb	IAmb	05 35 11.5	
	comp=Z,49nm,0.8s							
AMTX	Amarillo	20.78	343	P		P	05 35 07.6	+0.7
	baz=158							
Y52A	Lilburn	20.81	24	IAmb	IAmb	IAmb	05 35 21.1	
	comp=Z,56nm,0.9s							
CSTR	Hydro, Custer	20.82	350			P	05 35 07.2	0.0
YOTC	Yotoco, Valle	20.82	120	*eP*		P	05 35 06.9	-0.6
FPAL	Fort Paine	20.84	20	IAmb	IAmb	IAmb	05 35 13.8	
	comp=Z,105nm,1.2s							
OK031	S. Brethren Rd	20.87	354	IAmb	IAmb	IAmb	05 35 16.6	
	comp=Z,71nm,0.8s							
RLO	Rose Lookout	20.96	358	IAmb	IAmb	IAmb	05 35 12.2	
	comp=Z,44nm,0.8s							
JAMC	Jamundi, Valle	20.98	123	*eP*		P	05 35 10.5	+1.1
GUY2C	Guyana, Caldas	21.01	116	*eP*			05 35 11.8	
LCAR	Lake Charles	21.04	7	P		P	05 35 06.9	-2.7
GNAR	Gosnell	21.10	10	IAmb	IAmb	IAmb	05 35 25.6	
	comp=Z,62nm,0.8s							
X51A	Calhoun	21.13	22	P		P	05 35 11.1	+0.6
319A	Douglas	21.23	322	IAmb	IAmb	IAmb	05 35 21.0	
	comp=Z,35nm,0.9s							
U38A	Gravette	21.23	360	IAmb	IAmb	IAmb	05 35 24.0	
	comp=Z,40nm,0.8s							
BBAC	Balboa, Cauca	21.24	126	*eP*		P	05 35 13.9	+1.7
121A	Cookes Peak, D	21.26	327	IAmb	IAmb	IAmb	05 35 16.1	
	comp=Z,88nm,0.9s							
121A	Cookes Peak, D	21.26	327	P		P	05 35 14.5	+2.4
	baz=140,SNR=73							
NORC	Norcasia	21.29	114	*eP*		P	05 35 13.8	+1.3
OK048	Pawnee Station	21.34	354			P	05 35 11.1	-1.7
OK048				IAmb	IAmb	IAmb	05 35 15.6	
	comp=Z,66nm,0.8s							
ANIL	Santa Ana	21.35	118	*eP*		P	05 35 17.4	+4.0
SWET	Sewanee	21.36	19	P		P	05 35 12.4	-0.6
SWET				IAmb	IAmb	IAmb	05 35 25.8	
	comp=Z,148nm,1.9s							
POPC	Popayan, Colom	21.37	124	*eP*		P	05 35 14.2	+0.6
CMBC	Cumbal	21.49	129	*eP*		P	05 35 18.4	+3.3
OTAV	Otavalo	21.51	132	P		P	05 35 16.2	+0.9
OTAV	Otavalo	21.51	132	P		P	05 35 16.2	+0.9
OTAV	Otavalo	21.51	132	*eP*		P	05 35 16.0	+0.7
W50A	Signal Mountai	21.54	20	IAmb	IAmb	IAmb	05 35 31.3	
	comp=Z,52nm,0.9s							
V48A	Smith Brothers	21.58	17	IAmb	IAmb	IAmb	05 35 28.4	
	comp=Z,51nm,1.4s							
GCUF	Volcan Galeras	21.67	128	*eP*		P	05 35 19.0	+2.0
TULM	Tulcn-Chalpat	21.67	130	IAmb	IAmb	IAmb	05 35 26.4	
	comp=Z,57nm,1.0s							
WVT	Waverly	21.69	14	P		P	05 35 13.8	-2.7
WVT	Waverly	21.69	14	P		P	05 35 13.8	-2.7
WVT	Waverly	21.69	14	P		P	05 35 15.6	-1.0
	baz=196							
ORTC	Ortega, Tolima	21.78	119	*eP*		P	05 35 20.1	+2.3
T35A	Sooner Cattle	21.80	355	IAmb	IAmb	IAmb	05 35 19.6	
	comp=Z,70nm,1.1s							
PBMO	Poplar Bluff	21.83	8	P		P	05 35 15.5	-2.6
PBMO				IAmb	IAmb	IAmb	05 35 32.5	
	comp=Z,36nm,0.8s							
SPBC	San Pablo de B	21.95	113	*eP*		P	05 35 20.4	+0.8
MGMO	Mountain Grove	22.01	4	IAmb	IAmb	IAmb	05 35 36.0	
	comp=Z,54nm,1.1s							
BONI	La Bonita	22.04	130	*eP*		P	05 35 25.6	+4.9
KAN17	Caldwell West	22.05	352			P	05 35 21.2	+0.8
ROSC	El Rosal	22.11	115	P		P	05 35 23.9	+2.2
ROSC	El Rosal	22.11	115	*eP*		P	05 35 24.1	+2.5
ROSC	El Rosal	22.11	115	P		P	05 35 22.4	+0.7
	comp=Z,48nm,0.8s,baz=342,slow=2.1,SNR=25							
PRAC	Prado	22.19	119	*eP*		P	05 35 22.7	+0.6
BG3	Lake Jocassee	22.25	25	IAmb	IAmb	IAmb	05 35 37.9	
	comp=Z,53nm,1.1s							
SDDR	Presa de Saban	22.28	77	P		P	05 35 21.3	-1.9
SDDR	Presa de Saban	22.28	77	*eP*		P	05 35 22.3	-0.9
BARC	Barichara	22.34	110	*eP*		P	05 35 25.0	+1.0
V51A	Loudon	22.42	22	IAmb	IAmb	IAmb	05 35 33.4	
	comp=Z,57nm,1.1s							
CGM3	Cape Girardeau	22.46	10	IAmb	IAmb	IAmb	05 35 33.7	
	comp=Z,44nm,1.1s							
CHSH	Refugio Sur-Vo	22.46	136	IAmb	IAmb	IAmb	05 35 50.8	
	comp=Z,30nm,0.9s							
S39A	Bolivar	22.49	2	IAmb	IAmb	IAmb	05 35 25.9	
	comp=Z,32nm,0.8s							
PAMC	Pamplona, Colo	22.50	108	*eP*		P	05 35 29.4	+3.5
TKL	Tuckaleechee C	22.50	23	IAmb	IAmb	IAmb	05 35 34.0	
	comp=Z,85nm,1.1s							
TKL	Tuckaleechee C	22.50	23	LR	LR	LR	05 46 46.6	
	comp=Z,299nm,18.5s,baz=198,slow=44							
PIAT	Ana Tenorio	22.51	134	*eP*		P	05 35 27.1	+1.1
GARC	Garzon, Huila	22.53	123	*eP*		P	05 35 27.9	+1.8
ANMO	Albuquerque	22.58	333	P		P	05 35 26.5	+0.2
ANMO	Albuquerque	22.58	333	*deP*		P	05 35 26.9	+0.5
ANMO				pmax	pmax			
	comp=Z,29nm,1.2s							
ANMO	Albuquerque	22.58	333	P		P	05 35 27.7	+1.3
	baz=147							
U49A	Red Boiling Sp	22.60	18	IAmb	IAmb	IAmb	05 35 41.1	
	comp=Z,42nm,1.0s							
T47A	Sharon Grove	22.68	15	IAmb	IAmb	IAmb	05 35 50.0	
	comp=Z,28nm,0.8s							
CHIC	Chingaza	22.72	115	*eP*		P	05 35 31.1	+2.8
FLOC	Florencia	22.76	125	*eP*		P	05 35 29.9	+1.6
TUC	Tucson	22.79	322	P		P	05 35 30.0	+1.6
TUC	Tucson	22.79	322	P		P	05 35 30.0	+1.6
TUC	Tucson	22.79	322	P		P	05 35 30.6	+2.2
	baz=134							
V53A	Saluda	22.88	25	P		P	05 35 27.8	-1.6
V53A				IAmb	IAmb	IAmb	05 35 50.5	
	comp=Z,30nm,0.7s							
COHC	Cochancay	22.93	138	*eP*		P	05 35 29.0	-0.9
CCM	Cathedral Cave	22.99	6	P		P	05 35 27.6	-2.8
CCM				IAmb	IAmb	IAmb	05 35 30.9	
	comp=Z,45nm,1.0s							
CCM	Cathedral Cave	22.99	6	P		P	05 35 27.6	-2.8
CCM	Cathedral Cave	22.99	6	P		P	05 35 29.5	-0.9
	baz=187							
VILC	Villavicencio,	23.01	116	*eP*		P	05 35 33.2	+2.3
KMSC	Kings Mountain	23.06	28	P		P	05 35 30.3	-0.8
	baz=213							
R40A	Maddies Statio	23.14	4	IAmb	IAmb	IAmb	05 35 33.0	
	comp=Z,48nm,0.7s							
TZTN	Tazewell	23.37	22	P		P	05 35 32.1	-2.0
TZTN				IAmb	IAmb	IAmb	05 35 45.0	
	comp=Z,83nm,1.4s							
TZTN	Tazewell	23.37	22	P		P	05 35 33.4	-0.7
	baz=206							
SLM	Saint Louis	23.68	8	P		P	05 35 35.9	-1.1
SLM				IAmb	IAmb	IAmb	05 35 37.9	
	comp=Z,102nm,1.4s							
T25A	Trinidad	23.71	339	P		P	05 35 38.9	+1.3
	baz=154,SNR=34							
214A	Organ Pipe Nat	23.81	318	P		P	05 35 39.1	+0.7
214A	Organ Pipe Nat	23.81	318	P		P	05 35 40.4	+2.0
	baz=130							
MACC	Macarena, Meta	23.91	121	*eP*		P	05 35 41.4	+2.0
SDV	Santo Domingo	23.91	102	P		P	05 35 40.4	+0.8
SDV				IAmb	IAmb	IAmb	05 35 42.0	
	comp=Z,26nm,0.8s							
SDV	Santo Domingo	23.91	102	LR	LR	LR	05 45 59.8	
	comp=Z,376nm,20.6s,baz=286,slow=39							
BOSC	San Juan Bosco	23.94	138	P		P	05 35 42.6	+2.8
X18A	Snowflake	23.94	327	P		P	05 35 40.5	+0.8
KSU1	Kansas State U	23.97	355	IAmb	IAmb	IAmb	05 35 58.8	
	comp=Z,49nm,0.8s							
KSU1	Kansas State U	23.97	355	P		P	05 35 39.7	0.0
	baz=174,SNR=9.2							
MCRA	Macar, Loja	24.00	143	*eP*		P	05 35 39.9	-0.3
U54A	Nelsons Funny	24.02	25	P		P	05 35 39.9	-0.4
U54A				IAmb	IAmb	IAmb	05 35 58.2	
	comp=Z,35nm,0.8s							
WCI	Wyandotte Cave	24.06	16	P		P	05 35 38.1	-2.5
WCI				IAmb	IAmb	IAmb	05 36 07.6	
	comp=Z,36nm,0.8s							
WCI	Wyandotte Cave	24.06	16	P		P	05 35 38.1	-2.5
WCI	Wyandotte Cave	24.06	16	P		P	05 35 39.8	-0.7
	baz=198							
CBKS	Cedar Bluff	24.09	349	P		P	05 35 41.8	+1.0
CBKS	Cedar Bluff	24.09	349	P		P	05 35 41.6	+0.8
	baz=166,SNR=12							
Q44A	Meyer Farm, Va	24.13	10	IAmb	IAmb	IAmb	05 35 41.3	
	comp=Z,43nm,0.8s							
OLIL	Olney	24.13	12	IAmb	IAmb	IAmb	05 35 41.5	
	comp=Z,54nm,0.8s							
W18A	Petrified Fore	24.29	328	P		P	05 35 44.9	+2.1
	baz=140,SNR=5.9							
PTLC	Puerto Leguiza	24.30	126	*eP*		P	05 35 47.3	+4.3
PTGC	Puerto Gaitan,	24.33	114	*eP*		P	05 35 43.5	+0.3
P38A	Dawn	24.41	1	IAmb	IAmb	IAmb	05 35 44.0	
	comp=Z,105nm,1.6s							
SDCO	Great Sand Dun	24.64	338	IAmb	IAmb	IAmb	05 35 58.9	
	comp=Z,46nm,0.9s							
SDCO	Great Sand Dun	24.64	338	P		P	05 35 46.9	+0.8
	baz=152,SNR=39							
X16A	Lo Mia Camp, P	24.68	324	IAmb	IAmb	IAmb	05 36 00.3	
	comp=Z,36nm,0.9s							
P43A	Skaggs, Pawnee	24.77	9	IAmb	IAmb	IAmb	05 35 47.6	
	comp=Z,32nm,0.8s							
BLO	Bloomington	24.90	14	IAmb	IAmb	IAmb	05 35 48.6	
	comp=Z,36nm,0.8s							
KSCO	Kaye Shedlock'	24.91	344	IAmb	IAmb	IAmb	05 36 01.5	
	comp=Z,74nm,1.1s							
KSCO	Kaye Shedlock'	24.91	344	P		P	05 35 49.9	+1.5
	baz=160,SNR=5.6							
S22A	4UR Ranch, Cre	25.14	336	P		P	05 35 52.6	+1.9
	baz=150,SNR=20							
BLA	Blacksburg	25.20	27	P		P	05 35 49.9	-1.0
	baz=212							
MVCO	Mesa Verde	25.38	333	P		P	05 35 52.8	0.0
MVCO				IAmb	IAmb	IAmb	05 36 06.9	
	comp=Z,25nm,0.9s							
MVCO	Mesa Verde	25.38	333	P		P	05 35 54.4	+1.6
	baz=146,SNR=25							
O44A	Mansfield	25.44	10	IAmb	IAmb	IAmb	05 35 53.0	
	comp=Z,29nm,0.8s							
P48A	Milroy	25.45	16	IAmb	IAmb	IAmb	05 35 52.5	
	comp=Z,25nm,0.8s							
WUAZ	Wupatki	25.45	326	IAmb	IAmb	IAmb	05 36 08.5	
	comp=Z,62nm,0.9s							
WUAZ	Wupatki	25.45	326	P		P	05 35 54.9	+1.5
	baz=138,SNR=19							
Q24A	Divide	25.61	340	P		P	05 35 56.1	+1.2
	baz=154,SNR=5.3							
N41A	Harden Midland	25.66	6	IAmb	IAmb	IAmb	05 35 55.1	
	comp=Z,56nm,0.8s							
Q51A	Peebles	25.67	20	IAmb	IAmb	IAmb	05 36 15.1	
	comp=Z,31nm,0.9s							
N33A	J Bar K, Exete	25.67	354	P		P	05 35 54.8	-0.3
HDIL	Hopedale	25.70	9	IAmb	IAmb	IAmb	05 35 55.5	
	comp=Z,46nm,0.8s							
HDIL	Hopedale	25.70	9	P		P	05 35 54.4	-1.1
	baz=190,SNR=10.0							
P49A	Miami Univ. Ec	25.71	17	IAmb	IAmb	IAmb	05 36 23.6	
	comp=Z,62nm,1.4s							
P49A	Miami Univ. Ec	25.71	17	P		P	05 35 54.4	-1.1
	baz=201							
P51A	Williamsport	26.18	20	IAmb	IAmb	IAmb	05 36 20.1	
	comp=Z,39nm,0.9s							
PDMCI	Parker Dam,Lak	26.20	320	P		P	05 36 01.5	+1.5
	baz=131							
O48B	Farmland	26.27	16	IAmb	IAmb	IAmb	05 36 20.2	
	comp=Z,37nm,0.9s							
O48B	Farmland	26.27	16	P		P	05 35 59.2	-1.3
	baz=200,SNR=6.7							
YUH	Yuha Desert	26.31	315	P		P	05 36 02.7	+1.7
BAUV	El Baul	26.35	100	P		P	05 36 00.9	-0.6
BAUV				IAmb	IAmb	IAmb	05 36 41.5	
	comp=Z,23nm,0.8s							
SWSC	Sam W. Stewart	26.40	316	P		P	05 36 04.7	+2.8
	baz=126							
BGNE	Belgrade	26.41	353	IAmb	IAmb	IAmb	05 36 35.3	
	comp=Z,45nm,0.8s							
BGNE	Belgrade	26.41	353	P		P	05 36 01.7	-0.1
	baz=171							
O49A	Covington	26.43	17	IAmb	IAmb	IAmb	05 36 30.3	
	comp=Z,34nm,0.9s							
IKP	In-Ko-Pah, Jac	26.44	315	P		P	05 36 05.1	+2.8
	baz=125							
SMCO	Snowmass	26.44	337	IAmb	IAmb	IAmb	05 36 18.0	
	comp=Z,40nm,1.0s							
ISCO	Idaho Springs	26.52	340	P		P	05 36 01.3	-1.9
ISCO	Idaho Springs	26.52	340	P		P	05 36 04.8	+1.6
ISCO	Idaho Springs	26.52	340	P		P	05 36 04.0	+0.8
	baz=154,SNR=17							
OGNE	Ogallala	26.60	347	P		P	05 36 04.8	+1.1
	baz=162,SNR=12							
BC3	Big Chuckawall	26.61	318	P		P	05 36 05.8	+1.9
	baz=128							
P52A	Corning	26.63	21	IAmb	IAmb	IAmb	05 36 43.0	
	comp=Z,36nm,1.1s							
P52A	Corning	26.63	21	P		P	05 36 03.0	-0.8
	baz=206							
SCIA	State Center

baz=201
ECSD EROS Data Cent 28.58 356 IAmb IAmb 05 36 21.9
comp=Z,33nm,1.0s
ECSD EROS Data Cent 28.58 356 P **P** **05 36 21.2 -0.1**
baz=175,SNR=15
RWWY Rawlins 28.75 340 IAmb IAmb 05 36 34.3
comp=Z,67nm,1.2s
I37A Lemond, Waseca 28.80 1 IAmb IAmb 05 37 21.3
comp=Z,50nm,1.1s
I40A Norwalk 28.84 5 IAmb IAmb 05 36 24.6
comp=Z,17nm,0.8s
QSM Queen of Sheba 28.97 320 P **P** **05 36 26.4 +1.6**
PSUT Pine Spring 29.02 327 P **P** **05 36 25.0 -0.4**
BSUT Blindstream Ca 29.12 334 IAmb IAmb 05 36 37.3
comp=Z,24nm,1.3s
TPNV Topopah Spring 29.24 322 P **P** **05 36 29.5 +2.1**
baz=132
FURC Furnace Creek, 29.29 321 P **P** **05 36 29.4 +1.8**
baz=130
PCRV Puerto La Cruz 29.30 96 LR LR 05 49 55.1
comp=Z,326nm,20.4s,slow=40
K22A Casper 29.39 341 P **P** **05 36 28.7 0.0**
baz=155,SNR=5.7
MPMC Manual Prospec 29.42 319 P **P** **05 36 31.3 +2.3**
baz=128
S11A Rachel 29.42 324 IAmb IAmb 05 36 40.4
comp=Z,23nm,1.2s
SUSD Miller 29.49 353 P **P** **05 36 29.7 +0.4**
SUSD Miller 29.49 353 P **P** **05 36 29.9 +0.6**
baz=170,SNR=5.9
DUG Dugway, Tooele 29.77 331 P **P** **05 36 34.6 +2.6**
baz=141,SNR=7.6
R11B Troy Canyon, C 29.82 325 P **P** **05 36 34.3 +1.7**
baz=134
TCUT Toone Canyon 29.88 333 IAmb IAmb 05 36 44.5
comp=Z,38nm,0.9s
GRAC Grapevine Rang 29.94 321 P **P** **05 36 35.4 +1.9**
baz=130
SPMN Marine on St. 30.03 2 P **P** **05 36 32.8 -1.3**
baz=182,SNR=41
RSSD Black Hills 30.08 346 P **P** **05 36 35.8 +1.0**
RSSD IAmb IAmb 05 37 33.3
comp=Z,27nm,1.6s
RSSD Black Hills 30.08 346 P **P** **05 36 35.8 +1.0**
RSSD Black Hills 30.08 346 P **P** **05 36 36.6 +1.8**
baz=160
G40A Rib Lake 30.24 6 IAmb IAmb 05 36 35.8
comp=Z,21nm,1.1s
VES Vestal, Richgr 30.31 317 P **P** **05 36 39.0 +2.3**
baz=126
BW06 Boulder Array 30.52 337 P **P** **05 36 40.3 +1.5**
baz=149
PD31 Pinedale Array 30.52 337 P **P** **05 36 38.7 0.0**
PDAR Pinedale Array 30.52 337 P **P** **05 36 37.6 -1.2**
PDAR Pinedale Array 30.52 337 P **P** **05 36 38.8 0.0**
comp=Z,2.8nm,0.8s,baz=138,slow=8.4,SNR=21
PDAR LR LR 05 51 49.9
comp=Z,281nm,18.4s,baz=164,slow=42
comp=Z,2.8nm,0.8s
F36A Milaca 30.65 1 IAmb IAmb 05 36 39.5
comp=Z,44nm,1.0s
F33A 5 Mile Ranch, 30.67 357 IAmb IAmb 05 36 39.0
comp=Z,13nm,0.8s
GLMI Grayling 30.71 13 P **P** **05 36 39.3 -0.8**
baz=198,SNR=6.5
HVU Hansel Valley 31.01 333 IAmb IAmb 05 36 54.2
comp=Z,20nm,0.9s
ID06 Fossil Canyon 31.11 335 IAmb IAmb 05 36 54.3
comp=Z,34nm,1.1s
AHID Auburn Hatcher 31.11 336 IAmb IAmb 05 36 57.0
comp=Z,16nm,1.0s
ID05 Sulphur Canyon 31.16 335 IAmb IAmb 05 37 02.8
comp=Z,24nm,1.5s
CZSB Cruzeiro do Su 31.18 135 P **P** **05 36 46.3 +1.8**
CZSB IAmb IAmb 05 36 46.6
comp=Z,13nm,0.7s
ID07 Smith Canyon R 31.32 334 IAmb IAmb 05 36 56.7
comp=Z,17nm,1.0s
ELK Elko 31.38 328 P **P** **05 36 48.7 +2.4**
ELK Elko 31.38 328 LR LR 05 51 20.5
comp=Z,941nm,18.1s,baz=144,slow=40
MDPB Devils Postpil 31.40 320 P **P** **05 36 48.3 +1.7**
NVAR Mina Array Bea 31.44 322 P **P** **05 36 47.5 +0.7**
NVAR Mina Array Bea 31.44 322 P **P** **05 36 47.2 +0.3**
comp=Z,2.7nm,0.8s,baz=139,slow=9.1,SNR=20
NVAR LR LR 05 50 59.9
comp=Z,880nm,18.4s,baz=135,slow=39
comp=Z,2.7nm,0.8s
LHV Little Huntoon 31.44 322 P **P** **05 36 47.1 +0.5**
LOHW Long Hollow 31.64 337 IAmb IAmb 05 36 59.4
comp=Z,25nm,0.9s
TPAW Teton Pass 31.67 337 P **P** **05 36 50.3 +1.4**
TPAW IAmb IAmb 05 37 01.7
comp=Z,27nm,0.9s
MOOW Moose Ponds 31.81 337 P **P** **05 36 50.2 +0.1**
MOOW IAmb IAmb 05 37 00.8
comp=Z,12nm,0.9s
NNA Nana 31.98 146 LR LR 05 47 35.3
comp=Z,192nm,21.0s,baz=332,slow=32
FLWY Flagg Ranch 32.08 337 IAmb IAmb 05 37 09.4
comp=Z,14nm,0.8s
SADO Sadowa 32.20 20 LR LR 05 52 19.4
comp=Z,198nm,18.1s,baz=196,slow=41
RLMT Red Lodge 32.48 340 IAmb IAmb 05 37 06.6
comp=Z,27nm,1.0s
RLMT Red Lodge 32.48 340 P **P** **05 36 57.2 +1.3**
baz=152,SNR=7.9
EYMN Ely 32.80 3 IAmb IAmb 05 36 57.5
comp=Z,24nm,0.9s
EYMN Ely 32.80 3 P **P** **05 36 57.2 -1.3**
baz=184
YHL Hebgen Lake 32.91 338 IAmb IAmb 05 37 12.2
comp=Z,16nm,0.9s
MDND Maddock 32.93 353 P **P** **05 36 58.9 -0.7**
baz=170
L61B Northampton 32.95 30 P **P** **05 36 58.5 -1.3**
baz=220
AGMN Agassiz Nation 33.10 358 P **P** **05 37 00.5 -0.5**
baz=177,SNR=24
B35A Bob, Littlefor 33.14 1 P **P** **05 36 58.9 -2.5**
HLID Hailey 33.16 333 IAmb IAmb 05 37 15.0
comp=Z,15nm,0.8s
HLID Hailey 33.16 333 P **P** **05 37 03.0 +1.1**
baz=142,SNR=23
MFID Camas Ranch 33.69 331 P **P** **05 37 04.0 -2.3**
BOZ Bozeman (W) 33.72 338 IAmb IAmb 05 37 21.4
comp=Z,10nm,0.9s
BOZ Bozeman (W) 33.72 338 P **P** **05 37 08.2 +1.6**
baz=148
LONY Lake Ozonia 33.80 26 P **P** **05 37 06.6 -0.6**
baz=215
DGMT Dagmar 34.24 348 P **P** **05 37 12.2 +1.2**
baz=162,SNR=5.6
WVOR Wild Horse Val 34.36 327 IAmb IAmb 05 37 24.9
comp=Z,30nm,1.1s
WVOR Wild Horse Val 34.36 327 P **P** **05 37 13.9 +1.7**
LBNH Lisbon 34.67 29 P **P** **05 37 13.6 -1.1**
baz=220
ULM Lac du Bonnet 35.05 358 P **P** **05 37 15.3 -2.6**
ULM Lac du Bonnet 35.05 358 P **P** **05 37 15.5 -2.4**
comp=Z,30nm,0.9s,baz=184,slow=9.0,SNR=28
ULM LR LR 05 54 05.0
comp=Z,136nm,19.4s,baz=166,slow=40
comp=Z,30nm,0.9s
PLID Pearl Lake 35.06 333 P **P** **05 37 17.9 -0.5**
PLID IAmb IAmb 05 37 29.0
comp=Z,19nm,0.8s
EGMT Eagleton 35.22 342 P **P** **05 37 21.3 +1.8**
baz=153
BMO Blue Mountains 35.47 331 IAmb IAmb 05 37 31.4
comp=Z,12nm,1.2s
BOAV Boa Vista 35.58 108 P **P** **05 37 21.3 -1.7**
BOAV IAmb IAmb 05 37 23.5
comp=Z,9.0nm,0.8s
MSO Missoula 35.62 337 IAmb IAmb 05 37 35.5
comp=Z,17nm,1.1s
MSO Missoula 35.62 337 P **P** **05 37 24.1 +1.1**
baz=145
YBH Yreka Blue Hor 36.15 323 LR LR 05 54 07.1
comp=Z,550nm,18.7s,baz=147,slow=39
F10A Beach Ranch, E 36.30 333 P **P** **05 37 28.9 +0.1**
F10A IAmb IAmb 05 37 39.1
comp=Z,25nm,0.9s
G08A Pilot Rock 36.58 330 P **P** **05 37 31.9 +0.7**
G08A IAmb IAmb 05 37 41.5
comp=Z,21nm,1.7s
ETMB Extrema 37.23 130 IAmb IAmb 05 37 37.7
comp=Z,16nm,0.8s
H04A Detroit Lake 37.77 327 IAmb IAmb 05 37 54.9
comp=Z,19nm,0.9s
NEW Newport 38.05 335 P **P** **05 37 45.2 +1.7**
baz=142
NEW Newport 38.05 335 LR LR 05 55 58.7
comp=Z,363nm,18.7s,baz=142,slow=40
C09A Chrisman Ranch 38.16 334 IAmb IAmb 05 37 56.4
comp=Z,20nm,0.9s
LTY Liberty 38.83 331 IAmb IAmb 05 38 01.1
comp=Z,40nm,1.6s
SAML Samuel 38.99 126 P **P** **05 37 49.5 -2.3**
SAML Samuel 38.99 126 P **P** **05 37 49.5 -2.3**
SAML Samuel 38.99 126 P **P** **05 37 49.9 -1.9**
SAML pP **pP** **05 38 03.6 -0.8**
SAML sP **sP** **05 38 10.1 +0.2**
LON Longmire 39.01 330 IAmb IAmb 05 38 02.4
comp=Z,11nm,0.9s
D05A Enumclaw 39.41 330 IAmb IAmb 05 38 10.9
comp=Z,38nm,1.2s
FFC Flin Flon 39.97 353 P **P** **05 37 59.0 -0.5**
FFC Flin Flon 39.97 353 *e*P **P** **05 37 58.0 -1.4**
FFC Flin Flon 39.97 353 P **P** **05 37 59.4 0.0**
FFC pP **pP** **05 38 13.1 +1.0**
GNW Green Mountain 40.08 330 IAmb IAmb 05 38 10.4
comp=Z,10nm,0.9s
LPAZ La Paz 40.49 139 P **P** **05 38 04.1 -0.9**
LPAZ La Paz 40.49 139 *e*P **P** **05 38 05.3 +0.4**
LPAZ La Paz 40.49 139 P **P** **05 38 04.0 -0.9**
comp=Z,3.1nm,0.7s,baz=323,slow=6.8,SNR=15
LPAZ LR LR 05 55 19.7
comp=Z,141nm,19.0s,baz=320,slow=37
comp=Z,3.1nm,0.7s
LPAZ La Paz 40.49 139 P **P** **05 38 05.0 +0.1**
EDM Edmonton 40.89 343 P **P** **05 38 06.4 -0.7**
LLLB Lillooet 41.84 334 IAmb IAmb 05 38 25.1
comp=Z,15nm,1.0s
MDP Montagnes des 42.08 99 LR LR 05 57 49.1
comp=Z,214nm,19.6s,baz=306,slow=39
BRLDA Berland Lookou 42.89 340 IAmb IAmb 05 38 36.0
comp=Z,24nm,1.1s
VILB Vilhena 43.75 128 IAmb IAmb 05 38 35.8
comp=Z,19nm,0.8s
RPN Rapa Nui 44.48 199 LR LR 05 52 17.5
comp=Z,114nm,20.2s,baz=44,slow=29
SCHQ Schefferville 44.97 22 LR LR 05 59 48.9
comp=Z,283nm,19.8s,baz=235,slow=39
SIV San Ignacio 45.05 132 LR LR 05 57 06.4
comp=Z,268nm,19.9s,baz=295,slow=36
BBB Bella Bella 45.72 331 LR LR 06 01 33.8
comp=Z,199nm,18.4s,baz=142,slow=41
PTLB Pontes e Lacer 46.12 130 P **P** **05 38 48.8 -0.8**
YKA Yellowknife Ar 49.45 348 P **P** **05 39 13.6 -1.2**
YKA Yellowknife Ar 49.45 348 *e*P **P** **05 39 13.6 -1.2**
YKA Yellowknife Ar 49.45 348 P **P** **05 39 13.7 -1.1**
comp=Z,4.8nm,0.9s,baz=150,slow=7.5,SNR=7.7
YKA PP **PP** **05 41 08.2 -1.0**
comp=Z,3.3nm,0.9s,baz=149,slow=8.6,SNR=3.5
comp=Z,4.8nm,0.9s
T35M Bob Quinn 49.85 335 P **P** **05 39 20.1 +2.1**
baz=132
KOTAN Kotaneelee Air 49.91 341 P **P** **05 39 20.7 +2.4**
baz=141
CRAG Craig 50.11 332 P **P** **05 39 20.3 +0.4**
baz=127
U33K Whale Pass 50.51 333 P **P** **05 39 23.6 +0.8**
baz=128
DLBC Dease Lake 50.75 337 IAmb IAmb 05 39 36.7
comp=Z,18nm,1.1s
DLBC Dease Lake 50.75 337 P **P** **05 39 26.1 +1.3**
baz=133
S34M Telegraph Cree 50.83 336 P **P** **05 39 26.5 +1.2**
baz=131
TAOE Nuku Hiva Isla 51.35 245 *e*T T 06 34 27.6
comp=Z,62nm,0.2s
FRB Frobisher Bay 51.74 14 LR LR 06 04 53.0
comp=Z,134nm,18.2s,baz=180,slow=40
R33M Jennings River 51.76 337 P **P** **05 39 34.0 +1.5**
baz=132
Q32M Nakina River 51.97 336 P **P** **05 39 36.4 +2.3**
baz=130
WRGLY Wrigley 52.20 344 P **P** **05 39 36.3 +0.8**
baz=143
TGTN Hyland Airport 52.32 340 P **P** **05 39 37.8 +1.3**
baz=136
R32K Eaglecrest 52.44 334 P **P** **05 39 39.6 +2.2**
baz=128
CFA Coronel Fontan 52.75 152 LR LR 05 57 33.1
comp=Z,122nm,20.8s,baz=304,slow=31
MT08 Bocatoma Ro 53.55 155 IAmb IAmb 05 40 04.3
comp=Z,29nm,1.4s
MMPY Sheldon Lake, 54.09 340 P **P** **05 39 50.8 +1.3**
baz=134
FARO Faro, Yukon 54.54 339 P **P** **05 39 54.6 +1.9**
baz=131
CPUP Villa Florida 54.66 139 P **P** **05 39 52.3 -1.7**
comp=Z,2.0nm,0.8s,baz=319,slow=9.1,SNR=5.1
comp=Z,2.0nm,0.8s
CPUP Villa Florida 54.66 139 P **P** **05 39 52.0 -2.0**
CPUP pP **pP** **05 40 06.0 -1.0**
BDFB Brasilia 54.96 122 P **P** **05 39 56.3 -0.3**
BDFB IAmb IAmb 05 40 01.5
comp=Z,12nm,0.7s
BDFB Brasilia 54.96 122 P **P** **05 39 54.9 -1.6**
comp=Z,7.6nm,0.6s,baz=288,slow=6.7,SNR=12
BDFB LR LR 06 04 25.9
comp=Z,143nm,21.5s,baz=310,slow=37
comp=Z,7.6nm,0.6s
M30M Minto, Yukon 55.99 338 P **P** **05 40 04.5 +1.3**
baz=128
M29M Somme Creek 56.53 337 P **P** **05 40 07.3 +0.2**
M29M Somme Creek 56.53 337 P **P** **05 40 08.1 +1.0**
baz=126
IVI Ivigtut 56.55 25 P **P** **05 40 09.7 +2.6**
L29M L29M 56.80 338 P **P** **05 40 10.8 +1.9**
baz=126
MCARA McCarthy VSAT 57.74 335 P **P** **05 40 17.7 +2.1**
baz=120
M27K Edge Creek, AK 57.79 336 P **P** **05 40 17.4 +1.3**
baz=122
DAWY Dawson 57.83 338 P **P** **05 40 17.7 +1.5**
baz=126
L27K Beaver Creek, 58.16 337 P **P** **05 40 20.0 +1.5**
baz=122
F31M Tsiigehtchic 58.21 343 P **P** **05 40 19.9 +1.2**
baz=133
I29M Ogilvie Camp, 58.24 340 P **P** **05 40 20.1 +1.1**
baz=127
EPYK Eagle Plains 58.37 341 P **P** **05 40 20.7 +0.8**
baz=130
N25K Chitina, Valde 58.51 334 P **P** **05 40 22.4 +1.4**
baz=119
G30M tAoh Zraii Nji 58.61 342 P **P** **05 40 22.5 +0.9**
baz=130
L26K Log Cabin Wild 58.72 336 P **P** **05 40 23.2 +0.7**
baz=121
INK Inuvik 58.76 344 IAmb IAmb 05 40 35.8
comp=Z,16nm,1.0s
INK Inuvik 58.76 344 P **P** **05 40 23.4 +0.9**
baz=134
INK Inuvik 58.76 344 LR LR 06 09 42.3
comp=Z,246nm,18.5s,baz=172,slow=40
K27K Chicken 58.78 338 P **P** **05 40 23.3 +0.5**
baz=123
H29M Whitestone 58.79 341 P **P** **05 40 24.1 +1.3**
baz=128
F30M Barrier River 58.90 343 P **P** **05 40 23.5 0.0**
baz=131
G29M Pine Creek 59.11 341 P **P** **05 40 25.0 0.0**
baz=128
SFJD Kangerlussuaq 59.12 18 LR LR 06 09 44.0
comp=Z,61nm,18.2s,baz=218,slow=40
SCRK Sand Creek 59.46 337 P **P** **05 40 28.6 +0.9**
baz=121
I27K Kandik River 59.49 339 P **P** **05 40 27.7 0.0**
baz=124
PAX Paxson 59.53 336 P **P** **05 40 28.0 -0.1**
baz=119
RES Resolute Bay 59.56 360 LR LR 06 08 46.6
comp=Z,120nm,21.2s,baz=205,slow=39
J26L Joseph Creek 59.58 338 IAmb IAmb 05 40 39.8
comp=Z,16nm,1.3s
J26L Joseph Creek 59.58 338 P **P** **05 40 29.1 +0.6**
baz=122
RIDG Independent Ri 59.67 337 P **P** **05 40 29.8 +0.8**
baz=120
PLCA Paso Flores 59.77 159 P **P** **05 40 30.0 +0.1**
comp=Z,1.8nm,0.8s,baz=310,slow=12,SNR=3.1
PLCA LR LR 06 00 56.2
comp=Z,68nm,19.3s,baz=334,slow=31
comp=Z,1.8nm,0.8s
PLCA Paso Flores 59.77 159 P **P** **05 40 30.3 +0.4**
PLCA sP **sP** **05 40 51.0 +2.6**
H27K Steamboat Moun 59.82 340 P **P** **05 40 31.9 +1.9**
baz=124
E29M Blow River 60.02 343 P **P** **05 40 32.4 +1.2**
baz=129
F28M Old Crow 60.11 342 P **P** **05 40 32.9 +1.0**
F28M IAmb IAmb 05 40 42.4
comp=Z,21nm,1.2s
F28M Old Crow 60.11 342 P **P** **05 40 32.5 +0.6**
baz=127
G27K Doyon Strip 60.20 340 P **P** **05 40 34.1 +1.6**
baz=125
O22K Cooper Landing 60.24 332 P **P** **05 40 34.6 +1.7**
baz=113
WAT6 Susitna Watana 60.27 335 P **P** **05 40 34.0 +0.7**
baz=116
J25K Salcha River, 60.31 337 P **P** **05 40 34.5 +1.1**
baz=120
KDAK Kodiak Island 60.62 328 LR LR 06 07 44.0
comp=Z,112nm,19.0s,baz=137,slow=37
E28M Babbage River 60.62 343 P **P** **05 40 36.9 +1.5**
baz=128
HDA Harding Lake 60.80 337 P **P** **05 40 38.1 +1.4**
baz=118
IL31 60.95 337 P **P** **05 40 38.3 +0.7**
IL31 IAmb IAmb 05 40 48.4
comp=Z,14nm,1.1s
ILAR Eielson Array 60.95 337 P **P** **05 40 38.0 +0.3**
comp=Z,2.0nm,0.8s,baz=175,slow=4.0,SNR=16
ILAR PP **PP** **05 42 55.6 +3.5**
comp=Z,2.8nm,0.9s,baz=108,slow=7.4,SNR=6.5
ILAR LR LR 06 10 01.7
comp=Z,187nm,18.1s,baz=108,slow=39
comp=Z,2.0nm,0.8s
E27K Coleen River 60.98 342 P **P** **05 40 38.8 +0.9**
baz=125
SUA Susitna One 61.09 333 P **P** **05 40 40.1 +1.3**
baz=113
MCK McKinley 61.27 336 P **P** **05 40 41.4 +1.6**
baz=116
H25L Birch Creek 61.31 339 P **P** **05 40 41.8 +1.8**
baz=120
POKR Poker Plat Res 61.32 337 P **P** **05 40 40.8 +0.6**
baz=118
RCBR Riachuelo 61.44 105 LR LR 06 08 24.6
comp=Z,160nm,21.3s,baz=279,slow=37
R18K Karluk 61.50 328 P **P** **05 40 43.8 +2.3**
baz=107
SKT Skwentna 61.63 333 P **P** **05 40 44.7 +2.4**
baz=112
N20K Mount Spurr 61.64 332 P **P** **05 40 43.2 +0.7**
baz=111
SPCR Spurr Chakacha 61.64 332 P **P** **05 40 44.2 +1.7**
baz=111
G25K Bearman Lake 61.66 339 P **P** **05 40 44.7 +2.3**
baz=120
TRF Thorofare Moun 61.70 335 P **P** **05 40 44.8 +1.8**
baz=114
NEA2 Nenana 61.70 336 P **P** **05 40 45.1 +2.3**
baz=116
H24K Noodor Dome 61.83 338 P **P** **05 40 44.2 +0.6**
baz=118
F25K Christian Rive 61.93 340 P **P** **05 40 45.2 +0.9**
baz=121
I23K Minto, Yukon-K 62.06 337 P **P** **05 40 46.5 +1.4**
baz=116
G24K Hadweenzic Riv 62.10 339 P **P** **05 40 46.8 +1.4**
baz=118
BPAW Bear Paw Mtn. 62.25 335 P **P** **05 40 46.5 +0.1**
baz=114
M20K Styx River 62.30 333 P **P** **05 40 48.6 +1.7**
baz=110
CAST Castle Rocks 62.42 335 P **P** **05 40 48.3 +0.7**
baz=112
H23K Yukon River 62.43 338 P **P** **05 40 49.6 +1.9**
baz=116
MLY Manley 62.54 336 P **P** **05 40 47.5 -1.0**
MLY IAmb IAmb 05 40 59.0
comp=Z,12nm,0.8s
MLY Manley 62.54 336 P **P** **05 40 48.8 +0.4**
baz=114
N19K Bonanza Creek 62.54 331 P **P** **05 40 48.7 +0.1**
baz=109
CHUM Lake Minchumin 62.70 335 P **P** **05 40 50.2 +0.8**
baz=112
M19K Big River Lodg 62.87 333 P **P** **05 40 51.3 +0.7**
baz=109
P17K Kvichak River 62.98 329 P **P** **05 40 52.9 +1.6**
baz=106
G23K Bananza Creek 63.00 338 P **P** **05 40 52.1 +0.6**
baz=116
I21K Tanana 63.08 336 P **P** **05 40 53.2 +1.3**
baz=113
E24K Your Creek 63.11 340 P **P** **05 40 52.4 +0.2**
baz=118
H22K Ishtalitna Cre 63.14 337 P **P** **05 40 53.7 +1.3**
baz=114
N18K Kilae Creek 63.16 331 P **P** **05 40 54.7 +2.1**
baz=107
L19K White Mountain 63.16 333 P **P** **05 40 54.0 +1.4**
baz=109
K20K Telida 63.23 334 P **P** **05 40 52.8 -0.2**
K20K Telida 63.23 334 P **P** **05 40 53.7 +0.7**
baz=110
COLD Coldfoot 63.30 339 P **P** **05 40 54.6 +1.3**
baz=116
E23K Chandalar 63.47 340 P **P** **05 40 56.1 +1.4**
baz=117
PPT Papeete 63.49 241 LR LR 06 01 06.5
comp=Z,106nm,20.9s,baz=80,slow=29
PPT2 Papeete2 63.50 241 *e*LR LR 05 59 35.9
comp=Z,200nm,26.2s
J20K Nowinta River 63.56 335 P **P** **05 40 56.0 +0.9**
J20K IAmb IAmb 05 41 04.9
comp=Z,14nm,1.1s
J20K Nowinta River 63.56 335 P **P** **05 40 57.3 +2.2**
baz=111,SNR=5.5
H21K Melozitna Rive 63.59 337 P **P** **05 40 56.0 +0.7**
baz=113
G22K Bettles 63.62 338 P **P** **05 40 57.1 +1.6**
baz=114
ICESG Greenland Ices 63.71 19 *i*P **P** **05 40 54.8 -1.7**
TOLK Toolik Lake Re 63.73 340 P **P** **05 40 58.1 +1.8**
baz=117
O16K Kokwok River B 63.91 329 P **P** **05 40 58.9 +1.5**
baz=105
I20K Naaghedeneel 63.91 336 P **P** **05 40 58.5 +1.1**
baz=111
M17K Holitna River 64.09 331 P **P** **05 40 59.8 +1.2**
baz=106
J19K Poorman 64.10 335 P **P** **05 40 59.1 +0.4**
baz=109
F22K John River 64.11 339 P **P** **05 40 59.9 +1.1**
baz=114
G21K Allakaket 64.19 338 P **P** **05 41 00.2 +1.0**
baz=112
D23K Nanushuk River 64.24 340 P **P** **05 41 00.4 +0.9**
baz=116
E22K Anaktuvuk Pass 64.25 339 P **P** **05 41 00.5 +0.9**
baz=115
H20K Anotleneega Mo 64.32 336 P **P** **05 41 01.4 +1.2**
baz=110
J18K Innoko River 64.39 334 P **P** **05 41 01.7 +1.1**
baz=108
F21K Alatna River 64.45 338 P **P** **05 41 02.1 +1.1**
baz=113
M16K Timber Creek 64.69 331 P **P** **05 41 03.6 +1.0**
baz=105
H19K Roundabout Mou 64.95 336 P **P** **05 41 05.9 +1.7**
baz=109
EUNU Eureka 65.06 1 P **P** **05 41 04.4 -0.3**
E21K Killik River 65.11 339 P **P** **05 41 06.1 +0.9**
baz=113
L16K Owhat River 65.11 332 P **P** **05 41 05.2 -0.1**
baz=104
F20K Avaraart Lake 65.20 338 P **P** **05 41 08.1 +2.3**
baz=110
G19K Purcell Mounta 65.40 337 P **P** **05 41 08.1 +1.0**
baz=109
H18K Honhosa River 65.59 335 P **P** **05 41 10.1 +1.7**
baz=107
SUMG Summit 65.74 16 P **P** **05 41 07.6 -2.1**
SUMG Summit 65.74 16 P **P** **05 41 10.7 +1.0**
SUMG Summit 65.74 16 *i*P **P** **05 41 08.0 -1.7**

N14K	**Kuskokwak Cree**	**65.75**	**329**	P		**P**	**05 41 10.3 +0.9**
	baz=102						
E20K	**Nigu River**	**65.80**	**339**	P		**P**	**05 41 11.6 +1.8**
	baz=110						
F19K	**Shaleruckik Mo**	**65.89**	**337**	P		**P**	**05 41 11.5 +1.3**
	baz=108						
E19K	**Redstone River**	**65.89**	**338**	P		**P**	**05 41 11.2 +0.9**
	baz=109						
G18K	**Tagagawik**	**65.93**	**336**	P		**P**	**05 41 11.6 +1.0**
	baz=107						
J16K	**Anvik River**	**66.02**	**333**	P		**P**	**05 41 12.9 +1.7**
	baz=104						
M14K	**Bethel**	**66.06**	**330**	P		**P**	**05 41 13.2 +1.8**
	baz=102						
D20K	**Etivluk River**	**66.11**	**339**	P		**P**	**05 41 13.2 +1.5**
	baz=110						
TBI	**Tubuai**	**66.15**	**236**	*e*LR		LR	06 00 55.9
TBI	comp=Z,2μm,24.5s						
				*e*LR		LR	06 01 03.7
	comp=Z,634nm,26.8s						
TBI	**Tubuai**	**66.15**	**236**	*e*T		T	06 53 00.1
	comp=Z,5.6nm,0.2s						
H17K	**Granite Mounta**	**66.16**	**335**	P		**P**	**05 41 13.9 +1.8**
	baz=105						
K15K	**Wolf Creek Mou**	**66.20**	**332**	P		**P**	**05 41 13.4 +1.1**
	baz=103						
I17K	**Unalakleet**	**66.21**	**334**	P		**P**	**05 41 14.1 +1.7**
	baz=104						
G17K	**Kiwalik Mounta**	**66.61**	**335**	P		**P**	**05 41 16.6 +1.7**
	baz=105						
E18K	**Tukpahlearik C**	**67.12**	**337**	P		**P**	**05 41 18.7 +0.6**
	baz=106						
J14K	**Nanvaranak Lak**	**67.21**	**332**	P		**P**	**05 41 20.2 +1.5**
	baz=101						
G16K	**Koyuk River**	**67.28**	**335**	P		**P**	**05 41 20.5 +1.5**
	baz=103						
E17K	**Hotham Inlet**	**67.49**	**337**	P		**P**	**05 41 21.7 +1.3**
	baz=104						
G15K	**Niukluk**	**67.88**	**334**	P		**P**	**05 41 24.2 +1.2**
	baz=102						
F15K	**North Star Dit**	**68.28**	**335**	P		**P**	**05 41 26.4 +1.0**
	baz=101						
RAR	**Rarotonga**	**73.73**	**242**	LR		LR	06 07 30.7
	comp=Z,44nm,18.0s,baz=30,slow=30						
JMIC	**Jan Mayen**	**74.43**	**20**	LR		LR	06 16 08.2
	comp=Z,126nm,18.5s,baz=248,slow=37						
EKA	**Eskdalemuir Ar**	**78.33**	**36**	P		**P**	**05 42 23.9 -0.9**
	comp=Z,5.8nm,0.8s,baz=288,slow=5.3,SNR=8.1						
	comp=Z,5.8nm,0.8s						
ESDC	**Sonseca Array**	**80.73**	**51**	P		**P**	**05 42 36.3 -2.0**
ESDC	**Sonseca Array**	**80.73**	**51**	P		**P**	**05 42 36.5 -1.8**
	comp=Z,2.2nm,0.9s,baz=286,slow=6.2,SNR=11						
ESDC				LR		LR	06 14 49.8
	comp=Z,100nm,19.1s,baz=290,slow=33						
	comp=Z,2.2nm,0.9s						
GRR	**Gorron**	**81.07**	**42**	*e*P		**P**	**05 42 38.9 -1.0**
FLN	**La Foliniere**	**81.23**	**42**	*e*P		**P**	**05 42 41.7 +1.0**
MDT	**Midelt**	**81.67**	**58**	LR		LR	06 15 23.0
	comp=Z,62nm,19.5s,baz=330,slow=33						
AFI	**Afiamalu**	**81.91**	**253**	LR		LR	06 09 27.8
	comp=Z,78nm,21.4s,baz=134,slow=28						
MFF	**Saint Martin d**	**81.94**	**44**	*e*P		**P**	**05 42 44.1 -0.4**
ETSF	**Etsaut**	**82.52**	**48**	*e*P		**P**	**05 42 46.9 -0.8**
LFF	**La Frestale**	**82.94**	**45**	*e*P		**P**	**05 42 50.5 +0.8**
RJF	**Les Rejaudoux**	**83.38**	**45**	*e*P		**P**	**05 42 51.0 -1.1**
TCF	**Toulx Ste Croi**	**83.60**	**44**	*e*P		**P**	**05 42 51.8 -1.4**
CAF	**Calviac**	**83.86**	**45**	*e*P		**P**	**05 42 54.9 +0.4**
BGF	**Bois d'Agland**	**83.95**	**44**	*e*P		**P**	**05 42 53.8 -1.1**
DOU	**Dourbes**	**84.11**	**40**	*d*P		**P**	**05 42 55.5 -0.1**
BMRD	**Maredsous**	**84.15**	**40**	*d*P		**P**	**05 42 55.7 -0.1**
NB2	**NORSAR Subarra**	**84.19**	**28**	P		**P**	**05 42 56.5 +0.6**
	comp=Z,1.7nm,0.8s,baz=292,slow=5.1						
NOA	**NORSAR Array B**	**84.19**	**28**	P		**P**	**05 42 54.8 -1.1**
	comp=Z,3.3nm,0.9s,baz=292,slow=5.0,SNR=7.7						
NOA				LR		LR	06 18 33.2
	comp=Z,45nm,21.7s,baz=295,slow=34						
	comp=Z,3.3nm,0.9s						
AVF	**Avril sur Loir**	**84.23**	**43**	*e*P		**P**	**05 42 54.8 -1.5**
SSF	**Saint Saulge**	**84.25**	**43**	*e*P		**P**	**05 42 55.1 -1.3**
BGES	**Gesves**	**84.33**	**39**	*d*P		**P**	**05 42 56.4 -0.3**
	comp=Z,12nm,0.7s						
MTLF	**Montolieu**	**84.38**	**47**	*e*P		**P**	**05 42 56.5 -0.7**
BCLA	**Clavier**	**84.45**	**39**	*d*P		**P**	**05 42 55.5 -1.9**
HFS	**Hagfors**	**85.67**	**29**	LR		LR	06 20 58.4
	comp=Z,73nm,19.1s,baz=298,slow=35						
ARCES	**ARCESS Array B**	**85.75**	**18**	P		**P**	**05 43 02.4 -1.1**
	comp=Z,2.6nm,0.6s,baz=345,slow=8.8,SNR=6.9						
ARCES				LR		LR	06 22 50.6
	comp=Z,124nm,18.3s,baz=294,slow=37						
	comp=Z,2.6nm,0.6s						
HAU	**Haudompre**	**85.82**	**41**	*e*P		**P**	**05 43 03.5 -0.8**
ECH	**Echery**	**86.27**	**41**	P		**P**	**05 43 05.1 -1.4**
ECH				IAmb		IAmb	05 43 09.0
	comp=Z,12nm,1.0s						
ECH	**Echery**	**86.27**	**41**	P		**P**	**05 43 05.8 -0.8**
CDF	**Champ du Feu**	**86.29**	**41**	*e*P		**P**	**05 43 06.0 -0.7**
ORIF	**Oris-en-Rattie**	**86.46**	**44**	*e*P		**P**	**05 43 08.7 +1.1**
SEY	**Seymchan**	**86.83**	**335⇓**	*e*P		**P**	**05 43 09.3 +0.4**
SEY				pmax		pmax	
	comp=Z,39nm,2.5s						
BNI	**Bardonecchia**	**86.96**	**44**	P		**P**	**05 43 09.1 -1.0**
BNI	**Bardonecchia**	**86.96**	**44**	P		**P**	**05 43 09.9 -0.2**
MBDF	**Montbardon**	**87.12**	**44**	*e*P		**P**	**05 43 10.5 -0.4**
LMR	**La Mourre**	**87.38**	**46**	*e*P		**P**	**05 43 11.3 -0.7**
TIC	**Toumodi**	**87.56**	**84⇓**	*i*P		**P**	**05 43 12.0 -1.4**
	comp=Z,2.1nm,0.3s						
LIC	**Lamto**	**87.66**	**84⇑**	*i*P		**P**	**05 43 13.4 -0.5**
	comp=Z,49nm,0.8s						
KIC	**Kosan Boka**	**87.90**	**84⇑**	*i*P		**P**	**05 43 14.5 -0.5**
	comp=Z,27nm,0.8s						
TUE	**Stuetta**	**88.25**	**42**	IAmb		IAmb	05 43 17.7
	comp=Z,6.6nm,0.9s						
TIXI	**Tiksi**	**88.70**	**347⇓**	*e*P		**P**	**05 43 20.1 +2.4**
TIXI				pmax		pmax	
	comp=Z,8.0nm,1.2s						
CLL	**Collm**	**88.74**	**37**	*e*P		**P**	**05 43 18.0 -0.3**
CLL				*e*PP		**pP**	**05 43 34.0 +1.8**
CLL				pmax		pmax	
	comp=Z,45nm,2.3s						
MA2	**Magadan**	**89.10**	**333⇑**	*e*P		**P**	**05 43 22.9 +3.1**
KHC	**Kasperske Hory**	**89.93**	**39⇑**	*e*P		**P**	**05 43 24.9 +0.9**
KHC				pmax		pmax	
	comp=Z,28nm,3.0s						
KHC	**Kasperske Hory**	**89.93**	**39**	*e*P		**P**	**05 43 22.3 -1.7**
GERES	**GERESS Array B**	**90.11**	**39**	P		**P**	**05 43 25.5 +0.6**
	comp=Z,1.2nm,0.7s,baz=356,slow=1.4,SNR=4.2						
	comp=Z,1.2nm,0.7s						
DPC	**Dobruska-Polom**	**91.05**	**37**	*e*P		**P**	**05 43 28.7 -0.5**
DPC	**Dobruska-Polom**	**91.05**	**37**	*e*P		**P**	**05 43 28.7 -0.5**
KRUC	**Moravsky**	**91.64**	**38**	*e*P		**P**	**05 43 31.3 -0.6**
VRAC	**Vranov**	**91.66**	**38**	*e*P		**P**	**05 43 32.6 +0.6**
VRAC	**Vranov**	**91.66**	**38**	LR		LR	06 20 23.7
	comp=Z,41nm,21.2s,baz=304,slow=33						
KEST	**Kesra**	**91.95**	**52**	P		**P**	**05 43 33.0 -0.6**
	comp=Z,5.8nm,1.0s,baz=283,slow=9.8,SNR=4.0						
	comp=Z,5.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**92.23**	**76**	P		**P**	**05 43 33.8 -1.4**
	comp=Z,0.5nm,0.6s,baz=294,slow=4.2,SNR=4.3						
TORD				LR		LR	06 22 47.8
	comp=Z,71nm,20.0s,baz=310,slow=34						
	comp=Z,0.5nm,0.6s						
MODS	**Modra-Piesok**	**92.47**	**38**	*e*P		**P**	**05 43 38.3 +2.6**
MODS	**Modra-Piesok**	**92.47**	**38**	*e*P		**P**	**05 43 38.3 +2.6**
YAK	**Yakutsk**	**95.69**	**341⇑**	*e*P		**P**	**05 43 50.6 +0.4**
YAK				pmax		pmax	
	comp=Z,8.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**99.86**	**324⇓**	*e*P		**Pdif**	**05 44 10.4 +1.1**
YSS				pmax		pmax	
	comp=Z,75nm,2.2s						
DZM	**Mont Dzumac**	**103.99**	**251**	*e*LR		LR	06 19 06.5
	comp=Z,142nm,22.1s						
MDJ	**Mudanjiang**	**108.42**	**329**	Pdif		**Pdif**	**05 44 49.2 +1.8**
MDJ				PP		**PKiKP**	**05 48 59.8 +6.6**
MDJ				AMB		AMB	
	comp=Z,250nm,6.0s						
ULN	**Ulaanbaatar**	**114.47**	**344⇓**	*i*PKIKP		PKPdf	05 49 06.2 +1.4
HHC	**Hu-ho-hao-te**	**119.38**	**338**	*e*P		**PKiKP**	**05 49 18.1 +3.6**
WMQ	**Urumqi**	**121.31**	**358**	*e*P		**PKiKP**	**05 49 19.6 +1.5**
WMQ				LR		LR	
	comp=Z,130nm,22.7s						
BOSA	**Boshof**	**122.81**	**114**	PKP		**PKPdf**	**05 49 20.2 -1.1**
	comp=Z,2.5nm,0.9s,baz=34,slow=3.6,SNR=1.9						
NJ2	**Nanjing**	**123.37**	**326**	*e*P		**PKiKP**	**05 49 23.4 +1.0**
NJ2				pmax		pmax	
	comp=Z,11nm,0.5s						
MAW	**Mawson**	**125.49**	**169**	PKP		**PKPdf**	**05 49 24.4 -0.6**
	comp=Z,0.7nm,0.6s,baz=207,slow=7.3,SNR=2.0						
WRA	**Warramunga Arr**	**133.54**	**257**	PKP		**PKPdf**	**05 49 41.6 -0.2**
	comp=Z,0.2nm,0.6s,baz=88,slow=2.9,SNR=5.0						
ASAR	**Alice Springs**	**133.97**	**252**	PKP		**PKPdf**	**05 49 42.2 -0.3**
	comp=Z,0.2nm,0.3s,baz=102,slow=1.8,SNR=4.2						
PZH	**PanZhiHua**	**135.79**	**339**	PKP		**PKPdf**	**05 49 46.7 +0.6**
CMAR	**Chiang Mai Arr**	**144.19**	**338**	PKIKP		**PKPab**	**05 49 59.0 0.0**
CMAR	**Chiang Mai Arr**	**144.19**	**338**	PKP		**PKPab**	**05 49 59.0 0.0**
	comp=Z,1.3nm,0.3s,baz=348,slow=3.4,SNR=8.2						

NEIC ***03*** *05:39:12.8±2.9, 16°.21N±0°.02×95°.86W±0°.03, h10km±1km, mb4.0/5, Md4.4/27(MEX), Error ellipse: s-maj=5.3km s-min=3.0km az=104.0*
MEX ***03*** *05:39:14.8±1.1, 16°.08N×95°.79W, h34km±29km, MD4.4*
IDC ***03*** *05:39:17.0±6.2, 16°.87N×95°.57W, h0km, mb3.5/4, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=114.4km s-min=31.6km az=2.0*
ISC 03 05:39:11.6±1.2, 16°.23N±0°.03×95°.81W±0°.02, h1km±9km, n70, σ2°.06/117, mb3.4/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.54**	**212**		**Pg**	**05 39 22.1**	**+0.1**
HUIG					**Sg**	**05 39 29.5**	**+0.5**
HUIG	**Huatulco**	**0.54**	**212**	*i* P	**Pg**	**05 39 22.1**	**+0.1**
HUIG				*i* S	**Sg**	**05 39 29.5**	**+0.5**
NILT	**Santiago Nilte**	**1.19**	**74**	*e*P	**Pg**	**05 39 33.7**	**-0.8**
NILT				*e*S	**Sg**	**05 39 49.6**	**-0.4**
OXLC	**Oaxaca**	**1.19**	**314**	*i* P	**Pg**	**05 39 34.2**	**-0.3**
OXLC				*e*S	**Sg**	**05 39 50.1**	**+0.1**
OXBJ	**Oaxaca**	**1.21**	**314**		**Pg**	**05 39 34.3**	**-0.5**
OXBJ					**Sg**	**05 39 50.3**	**-0.2**
OXBJ	**Oaxaca**	**1.21**	**314**	*i* P	**Pg**	**05 39 34.3**	**-0.5**
OXBJ				*e*S	**Sg**	**05 39 50.7**	**+0.2**
OXIG	**Oaxaca**	**1.22**	**314**		**Pg**	**05 39 34.5**	**-0.5**
OXIG					**Sg**	**05 39 51.5**	**+0.7**
VHO	**Vista Hermosa**	**1.22**	**314**	*e*P	**Pg**	**05 39 34.5**	**-0.5**
VHO				*e*S	**Sg**	**05 39 51.6**	**+0.7**
PEIG	**Puerto Escondi**	**1.31**	**260**		**Pn**	**05 39 35.1**	**-1.9**
PEIG					**Sb**	**05 39 52.3**	**-2.0**
PEIG	**Puerto Escondi**	**1.31**	**260**	*i* P	**Pn**	**05 39 35.1**	**-1.9**
PEIG				*e*S	**Sb**	**05 39 52.4**	**-2.0**
NEUV	**Arroyo Zacate**	**1.48**	**0**	*i* P	**Pn**	**05 39 39.2**	**-0.2**
NEUV				*e*S	**Sn**	**05 39 58.3**	**-1.0**
YOIG	**Yosondua**	**1.78**	**291**		**Pn**	**05 39 43.2**	**-0.6**
YOIG					**Sn**	**05 40 06.1**	**-1.1**
YOIG	**Yosondua**	**1.78**	**291**	*i* P	**Pn**	**05 39 43.2**	**-0.6**
YOIG				*e*S	**Sn**	**05 40 06.1**	**-1.1**
UXUV	**UXUV**	**1.93**	**56**	*e*P	**Pn**	**05 39 44.6**	**-1.0**
UXUV				*e*S	**Sb**	**05 40 11.6**	**-0.6**
TXIG	**Tlaxiaco**	**2.13**	**299**	*e*P	**Pn**	**05 39 49.3**	**+0.6**
TXIG				*e*S	**Sn**	**05 40 16.3**	**+0.2**
TOIG	**Toxpalan**	**2.21**	**327**	*e*P	**Pb**	**05 39 51.7**	**-0.8**
TOIG				*e*S	**Sn**	**05 40 17.3**	**-0.3**
PNIG	**Pinotepa**	**2.23**	**274**		**Pn**	**05 39 48.8**	**-1.0**
PNIG					**Sn**	**05 40 15.6**	**-2.4**
PNIG	**Pinotepa**	**2.23**	**274**	*e*P	**Pn**	**05 39 48.8**	**-1.0**
PNIG				*e*S	**Sn**	**05 40 15.6**	**-2.4**
TUIG	**Tuzandepetl**	**2.23**	**36**	*e*P	**Pn**	**05 39 50.3**	**+0.5**
TUIG				*e*S	**Sb**	**05 40 19.7**	**-1.3**
PMUV	**Sontecomapan**	**2.39**	**16**	*e*P	**Pn**	**05 39 50.5**	**-1.7**
PMUV				*e*S	**Sb**	**05 40 24.0**	**-1.7**
PCIG		**2.55**	**101**		**Pn**	**05 39 53.3**	**-0.9**
PCIG					**Sn**	**05 40 24.2**	**-1.6**
PCIG		**2.55**	**101**	*e*P	**Pn**	**05 39 53.3**	**-0.9**
PCIG				*e*S	**Sn**	**05 40 24.2**	**-1.6**
TPIG	**Tehuac#an**	**2.63**	**326**	*e*P	**Pb**	**05 39 58.3**	**-1.5**
TPIG				*e*S	**Sn**	**05 40 28.9**	**+0.7**
TGIG		**2.64**	**78**		**Pn**	**05 39 56.5**	**+1.1**
TGIG					**Sb**	**05 40 30.9**	**-1.8**
TGIG		**2.64**	**78**	*e*P	**Pn**	**05 39 56.5**	**+1.1**
TGIG				*e*S	**Sn**	**05 40 27.8**	**-0.3**
FTIG	**Fresnillo de T**	**2.78**	**307**	*e*P	**Pb**	**05 40 00.4**	**-1.8**
FTIG				*e*S	**Sn**	**05 40 32.6**	**+0.9**
TLIG	**Tlapa**	**2.95**	**297**	*e*P	**Pn**	**05 40 00.9**	**+1.1**
TLIG				*e*S	**Sn**	**05 40 38.6**	**+2.6**
JAUV	**Jalcomulco**	**3.26**	**343**	*e*P	**Pn**	**05 40 02.9**	**-1.1**
JAUV				*e*S	**Sb**	**05 40 46.9**	**-3.7**
LVIG	**Laguna Verde**	**3.52**	**351**	*e*P	**Pn**	**05 40 05.6**	**-1.9**
LVIG				*e*S	**Sn**	**05 40 47.9**	**-2.0**
CCIG	**Comitan**	**3.53**	**89**	*e*P	**Pn**	**05 40 09.9**	**+2.1**
CCIG				*e*S	**Sn**	**05 40 49.5**	**-0.8**
PATR	**El Naranjo**	**3.62**	**107**	*e*P	**Pn**	**05 40 08.5**	**-0.6**
PATR				*e*S	**Sn**	**05 40 48.4**	**-4.2**
PAVE	**Pavencul**	**3.65**	**106**	*e*P	**Pn**	**05 40 09.8**	**+0.3**
PAVE				*e*S	**Sn**	**05 40 52.1**	**-1.3**
THIG		**3.66**	**111**	*e*P	**Pn**	**05 40 06.6**	**-2.9**
THIG				*e*S	Sn	05 40 42.2	-11
CHUJ	**Union Juarez**	**3.74**	**107**	*e*P	**Pn**	**05 40 10.4**	**-0.4**
CHUJ				*e*S	**Sn**	**05 40 51.5**	**-4.2**
DAIG	**Los Arroyos**	**3.77**	**283**	*e*P	**Pn**	**05 40 10.5**	**-0.4**
DAIG				*e*S	**Sn**	**05 40 51.9**	**-4.1**
PPM	**Popocatepetl**	**3.90**	**317**	*e*P	**Pn**	**05 40 16.3**	**+3.1**
PPM				*e*S	**Sn**	**05 41 01.5**	**+1.6**
MEIG	**Mezcala**	**4.01**	**295**	*e*P	**Pn**	**05 40 15.7**	**+1.3**
MEIG				*e*S	**Sn**	**05 41 00.4**	**-1.8**
YAIG	**Yautepec**	**4.06**	**311**	*e*P	**Pn**	**05 40 17.3**	**+2.2**
YAIG				*e*S	**Sn**	**05 41 01.7**	**-1.8**
PLIG	**Platanillo**	**4.13**	**302**	*e*P	**Pn**	**05 40 17.7**	**+1.7**
PLIG				*e*S	**Sn**	**05 41 05.1**	**0.0**
HUEH	**Huehuetenango**	**4.25**	**102**		**Pn**	**05 40 19.3**	**+1.6**
CXUV	**Coxquihui**	**4.27**	**337**	*e*P	**Pn**	**05 40 18.3**	**+0.4**
CXUV				*e*S	**Sn**	**05 41 08.6**	**+0.2**
RTAL	**Retalhuleu**	**4.32**	**113**	Pn	**Pn**	**05 40 17.8**	**-0.7**
UNM	**Universidad Na**	**4.45**	**314**	Pn	**Pn**	**05 40 21.6**	**+1.0**
ARIG	**Puente Sto Nin**	**4.79**	**296**	*e*P	**Pn**	**05 40 26.8**	**+1.8**
ARIG				*e*S	**Sn**	**05 41 14.1**	**-7.1**
DEIG	**Demacu**	**5.08**	**323**	*e*P	Pb	05 40 36.7	-4.8
DEIG				*e*S	**Sn**	**05 41 28.9**	**+0.3**
SCIG	**Sabancuy**	**5.18**	**58**	*e*P	**Pn**	**05 40 30.5**	**+0.1**
SCIG				*e*S	**Sn**	**05 41 25.8**	**-5.1**
ZIIG	**Zihuatanejo**	**5.58**	**285**	*e*P	**Pn**	**05 40 36.6**	**+0.7**
ZIIG				*e*S	**Sn**	**05 41 32.6**	**-8.2**
CTUV	**Llano Grande**	**5.74**	**336**	*e*P	**Pn**	**05 40 39.2**	**+1.1**
CTUV				*e*S	**Sn**	**05 41 45.8**	**+1.1**
ESQI	**Esquipulas**	**6.46**	**104**	Pn	**Pn**	**05 40 48.8**	**+0.8**
MTO3	**Montecristo**	**6.48**	**105**		**Pn**	**05 40 49.9**	**+1.4**
RPIG	**Rio Verde**	**6.87**	**326**	*e*P	**Pn**	**05 40 50.5**	**-3.2**
RPIG				*e*S	**Sn**	**05 42 10.2**	**-2.4**
MYIG	**Mrida**	**7.43**	**50**	*e*P	**Pn**	**05 41 03.8**	**+2.5**
MYIG				*e*S	**Sn**	**05 42 22.4**	**-3.9**
MMIG	**Aquila**	**7.49**	**287**	*e*P	**Pn**	**05 41 02.8**	**+0.8**
MMIG				*e*S	**Sn**	**05 42 24.9**	**-2.7**
GTIG	**Gomez Farias**	**7.50**	**336**	*e*P	**Pn**	**05 41 05.2**	**+2.9**
GTIG				*e*S	**Sn**	**05 42 25.6**	**-2.5**
TEIG	**Tepich**	**8.19**	**60**		**Pn**	**05 41 10.6**	**-1.1**
TEIG	**Tepich**	**8.19**	**60**	Pn	**Pn**	**05 41 10.1**	**-1.6**
	70nm,0.3s,baz=191,slow=5.6,SNR=29						
TEIG				Sn	**Sn**	**05 42 38.9**	**-6.0**
	55nm,0.3s,baz=288,slow=23,SNR=2.7						
ZAIG	**Zacatecas**	**9.10**	**317**	*e*	**Pn**	**05 41 27.2**	**+2.7**
CNGN	**Cerro Negro**	**9.57**	**112**	Pn	**Pn**	**05 41 32.8**	**+2.0**
MATN	**Matagalpa**	**10.12**	**108**	Pn	**Pn**	**05 41 39.9**	**+1.7**
BOAB	**BOACO BROADBAN**	**10.52**	**110**	Pn	**Pn**	**05 41 44.7**	**+0.9**
TXAR	**Lajitas Array**	**14.91**	**332**	Pn	**Pn**	**05 42 44.4**	**+0.6**
	baz=156,slow=12,SNR=4.8						
	0.9nm,0.8s						
ALPN	**Alpine**	**15.80**	**334**	Pn	**Pn**	**05 42 56.6**	**+1.0**
ALPN				IAmb	IAmb	05 43 04.5	
	comp=Z,6.9nm,0.8s						
X37A	**Clayton**	**18.29**	**1**		**P**	**05 43 28.1**	**+1.1**
MIAR	**Mount Ida**	**18.35**	**6**		**Pn**	**05 43 27.2**	**-0.3**
MIAR				IAmb	IAmb	05 43 36.3	
	comp=Z,13nm,1.2s						
FCAR	**Ozark Folk Cen**	**19.86**	**9**		**Pn**	**05 43 46.1**	**+0.4**
FCAR				IAmb	IAmb	05 43 49.0	
	comp=Z,9.1nm,0.8s						
ANMO	**Albuquerque**	**20.94**	**335**	P	**P**	**05 43 57.0**	**+0.8**
ANMO	**Albuquerque**	**20.94**	**335**	P	Pn	05 43 57.4	-1.3
	comp=Z,1.9nm,0.8s,baz=146,slow=16,SNR=4.0						
	comp=Z,1.9nm,0.8s						
PDAR	**Pinedale Array**	**28.95**	**339**	P	**P**	**05 45 14.7**	**+1.9**
	comp=Z,0.5nm,0.9s,baz=133,slow=6.3,SNR=1.5						
	comp=Z,0.5nm,0.9s						
NVAR	**Mina Array Bea**	**29.65**	**323**	P	**P**	**05 45 21.1**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=126,slow=9.3,SNR=8.2						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**59.36**	**337**	P	**P**	**05 49 16.9**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=132,slow=6.5,SNR=4.3						
	comp=Z,0.2nm,0.6s						

SNET ***03*** *05:42:56.7±1.3, 12°.17N×88°.47W, h21km±8km, ML3.5*
NEIC ***03*** *05:43:00.5±2.3, 12°.37N±0°.06×88°.27W±0°.07, h49km±22km, mb4.2/9, Error ellipse: s-maj=12.7km s-min=2.0km az=49.0*
ISC 03 05:42:59.4±1.2, 12°.28N±0°.07×88°.37W±0°.07, h35km, n41, σ1°.41/44, mb4.3/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**1.06**	**349**	*e*P	**Pn**	**05 43 17.2**	**-0.7**
ALJI				*e*S	**Sn**	**05 43 33.1**	**+1.7**
LCND	**La Caada**	**1.13**	**24**	*e*P	**Pn**	**05 43 18.5**	**-0.2**
LCND				IAML		05 43 35.0	
	comp=Z,423nm,0.4s						
LCND				*e*S	**Sn**	**05 43 37.0**	**+4.0**
TECO	**Alcaldia de Te**	**1.32**	**342**	*e*P	**Pn**	**05 43 20.3**	**-1.1**
CRIN	**San Cristobal**	**1.35**	**72**		**Pn**	**05 43 21.5**	**-0.5**
COEG	**Centro de Oper**	**1.43**	**340**	*e*P	**Pn**	**05 43 21.9**	**-1.0**
COEG				IAML		05 43 47.5	
	comp=Z,666nm,0.3s						
SCLA	**Alcaldia de Sa**	**1.46**	**346**	*e*P	**Pn**	**05 43 23.0**	**-0.4**
SJTE	**Alcalda de S**	**1.47**	**335**	*e*P	**Pn**	**05 43 22.3**	**-1.3**
PAVA	**Las Pavas**	**1.53**	**339**	*e*P	**Pn**	**05 43 23.8**	**-0.6**
PAVA				*e*S	**Sn**	**05 43 44.8**	**+1.6**
SNET	**Serv Nac Est T**	**1.64**	**329**	Pn	**Pn**	**05 43 25.0**	**-0.8**
CNGN	**Cerro Negro**	**1.65**	**82**		**Pn**	**05 43 24.9**	**-1.1**
UEES	**Universidad Ev**	**1.66**	**329**	*e*P	**Pn**	**05 43 25.7**	**-0.5**
JAYA	**Jayaque - finc**	**1.73**	**323**	*e*P	**Pn**	**05 43 25.9**	**-1.2**
JAYA				IAML		05 43 50.2	
	comp=Z,856nm,0.2s						
CEVE	**Cerro Verde**	**1.97**	**322**	*e*P	**Pn**	**05 43 30.9**	**+0.3**
SNJE	**San Jose**	**1.99**	**323**	*e*P	**Pn**	**05 43 29.7**	**-1.1**
TGUH	**Tegucigalpa,Un**	**2.06**	**31**	Pn	**Pn**	**05 43 31.0**	**-0.7**
NUBE	**Las Nubes**	**2.12**	**320**	*e*P	**Pn**	**05 43 31.7**	**-0.8**
SLOZ	**Alcaldia de Sa**	**2.22**	**322**	*e*P	**Pn**	**05 43 33.1**	**-0.7**
MTO3	**Montecristo**	**2.32**	**335**	Pn	**Pn**	**05 43 35.4**	**0.0**
ESQI	**Esquipulas**	**2.46**	**337**	Pn	**Pn**	**05 43 37.5**	**+0.3**
MATN	**Matagalpa**	**2.47**	**75**	Pn	**Pn**	**05 43 35.1**	**-2.2**
BOAB	**BOACO BROADBAN**	**2.65**	**86**	Pn	**Pn**	**05 43 39.2**	**-0.4**
ACON	**Acoyapa**	**3.14**	**95**		**Pn**	**05 43 47.2**	**+0.8**
ORTG	**Ortega, Santa**	**3.43**	**123**	Pn	**Pn**	**05 43 48.9**	**-1.6**
DUNO	**Dulce Nombre,**	**3.57**	**127**	Pn	**Pn**	**05 43 51.0**	**-1.3**
JTS	**Las Juntas de**	**3.89**	**120**	Pn	**Pn**	**05 43 56.1**	**-0.6**
RTAL	**Retalhuleu**	**3.93**	**305**	Pn	**Pn**	**05 44 00.0**	**+2.6**
ESPN	**Las Esperanzas**	**3.98**	**91**	Pn	**Pn**	**05 43 57.6**	**-0.3**
JACO	**JACO, Garabito**	**4.47**	**125**	Pn	**Pn**	**05 44 08.2**	**+3.4**
LCR2	**La Lucha 2**	**4.97**	**120**	Pn	**Pn**	**05 44 11.8**	**0.0**
RIMA	**Rio Macho**	**5.08**	**119**	Pn	**Pn**	**05 44 12.1**	**-1.2**
DRK0	**Durika**	**5.86**	**120**	Pn	**Pn**	**05 44 24.4**	**+0.4**
BCIP	**Isla Barro Col

NIUE	Niue	11.11 63	P	P	06 29 50.7	-1.1
OUZ	Omahuta	11.88 205	P	P	06 30 02.5	+2.9
OUENC	Ouen Island, N	11.92 277	P	P	06 29 57.5	-2.7
WCZ	Waipu Caves	12.27 201	P	P	06 30 06.6	+3.0
DZM	Mont Dzumac	12.36 279	P	P	06 30 04.9	0.0
DZM	Mont Dzumac	12.36 279	P	P	06 30 05.6	+0.7
	7.5nm,0.8s,baz=79,slow=18,SNR=3.0					
KUZ	Kuaotunu	12.65 194	P	P	06 30 08.7	+1.2
PUZ	Puketiti	13.57 185	P	P	06 30 20.9	+3.7
URZ	Urewera	13.87 188	P	P	06 30 18.7	-1.6
URZ			S	S	06 32 43.9	-3.0
URZ	Urewera	13.87 188	P	P	06 30 19.3	-0.9
	10.0nm,0.5s,baz=328,slow=3.2,SNR=13					
URZ			S	S	06 32 42.8	-4.0
	9.5nm,0.6s,baz=164,slow=21,SNR=14					
MWZ	Matawai	13.89 187	P	P	06 30 20.1	-0.5
HIZ	Hauiti	14.53 195	P	P	06 30 26.4	-0.9
HIZ	Hauiti	14.53 195	P	P	06 30 31.6	+4.4
BKZ	Black Stump Fm	14.85 190	P	P	06 30 29.0	-1.5
BKZ	Black Stump Fm	14.85 190	P	P	06 30 30.0	-0.6
NGZ	Ngauruhoe	15.01 192	P	P	06 30 33.5	+1.1
VRZ	Vera Road	15.14 195	P	P	06 30 36.8	+3.3
NEZ	North Egmont	15.44 196	P	P	06 30 39.1	+2.4
PXZ	Pawanui	15.65 188	P	P	06 30 38.8	+0.1
TSZ	Takapari Road	15.80 190	P	P	06 30 41.3	+0.9
BFZ	Birch Farm	16.37 189	P	P	06 30 43.8	-2.1
BFZ			IAmb	IAmb	06 31 02.1	
	comp=Z,45nm,1.4s					
BFZ	Birch Farm	16.37 189	P	P	06 30 43.2	-2.8
MRZ	Mangatainoka R	16.46 191	P	P	06 30 43.9	-2.9
PAWZ	Paruwai Farm	17.18 191	P	P	06 30 52.6	-1.0
TCW	Tory Channel	17.24 194	P	P	06 30 54.0	-0.1
SNZO	South Karori	17.25 193	P	P	06 30 53.5	-0.6
BHW	Baring Head	17.31 192	P	P	06 30 54.4	-0.4
QRZ	Quartz Range	17.32 198	P	P	06 30 55.2	+0.4
QRZ	Quartz Range	17.32 198	P	P	06 30 55.1	+0.3
NNZ	Nelson	17.46 196	P	P	06 30 55.0	-1.1
MRNZ	Matariki Terra	17.79 197	P	P	06 30 59.0	-0.1
MRNZ	Matariki Terra	17.79 197	P	P	06 30 59.1	-0.1
THZ	Tophouse	18.09 196	P	P	06 31 01.9	-0.1
THZ			IAmb	IAmb	06 31 20.6	
	comp=Z,26nm,1.1s					
THZ	Tophouse	18.09 196	P	P	06 31 01.8	-0.1
THZ			S	S	06 34 00.2	-0.5
DSZ	Denniston Nort	18.38 199	P	P	06 31 05.0	+0.4
KHZ	Kahutara	18.55 194	P	P	06 31 05.2	-0.9
GVZ	Greta Valley S	19.19 195	P	P	06 31 10.9	-1.0
LTZ	Lake Taylor	19.21 197	P	P	06 31 10.8	-1.4
LTZ			IAmb	IAmb	06 31 14.2	
	comp=Z,19nm,0.6s					
LTZ	Lake Taylor	19.21 197	P	P	06 31 11.0	-1.1
INZ	Inchbonnie	19.38 198	P	P	06 31 13.2	-0.5
INZ	Inchbonnie	19.38 198	P	P	06 31 13.2	-0.5
OXZ	Oxford	19.78 197	P	P	06 31 16.7	-0.6
WVZ	Waitaha Valley	19.91 199	P	P	06 31 18.7	+0.3
MQZ	McQueen's Vall	19.98 195	P	P	06 31 18.3	-0.8
MHCZ	Mount Hutt	20.09 197	P	P	06 31 20.2	+0.1
RPZ	Rata Peaks	20.40 198	P	P	06 31 22.4	-0.6
RPZ	Rata Peaks	20.40 198	P	P	06 31 23.0	0.0
	comp=Z,9.9nm,0.5s,baz=73,slow=2.3,SNR=5.3					
	comp=Z,9.9nm,0.5s					
FOZ	Fox Glacier	20.61 201	P	P	06 31 24.9	+0.1
FOZ	Fox Glacier	20.61 201	P	P	06 31 24.7	-0.1
TMZ	Timaru	21.03 197	P	P	06 31 29.1	+0.4
JCZ	Jackson Bay	21.43 202	P	P	06 31 32.3	0.0
MLZ	Mavora Lakes	22.80 201	P	P	06 31 45.0	+0.5
WHZ	Wether Hill Ro	23.32 201	P	P	06 31 49.2	+0.1
WHZ			IAmb	IAmb	06 31 51.3	
	comp=Z,26nm,0.8s					
WHZ	Wether Hill Ro	23.32 201	P	P	06 31 49.2	+0.1
HNR	Honiara	24.02 305	P	P	06 31 55.2	-0.5
ARMA	Armidale	25.49 250	P	P	06 32 08.4	-0.4
ARMA			IAmb	IAmb	06 32 17.8	
	comp=Z,16nm,1.1s					
EIDS	Eidsvold	25.88 262	P	P	06 32 13.2	+1.1
EIDS			IAmb	IAmb	06 32 57.0	
	comp=Z,13nm,1.4s					
CAN	Canberra	28.54 241	P	P	06 32 34.8	-0.6
CAN			IAmb	IAmb	06 32 38.0	
	comp=Z,34nm,1.5s					
CTA	Charters Tower	31.14 271	P	P	06 32 59.2	+1.2
	comp=Z,26nm,0.5s,baz=93,slow=11,SNR=46					
	comp=Z,26nm,0.5s					
CTAO	Charters Tower	31.14 271	P	P	06 32 59.0	+1.0
CTAO			IAmb	IAmb	06 32 59.9	
	comp=Z,22nm,0.7s					
TOO	Toolangi	31.83 238	P	P	06 33 04.6	+0.8
TOO			IAmb	IAmb	06 33 05.5	
	comp=Z,5.5nm,0.6s					
TAU	Tasmania Unive	32.27 227	P	P	06 33 07.6	+0.3
STKA	Stephens Creek	34.18 249	P	P	06 33 24.6	+0.9
STKA	Stephens Creek	34.18 249	P	P	06 33 24.0	+0.3
	comp=Z,7.7nm,0.4s,baz=95,slow=11,SNR=37					
	comp=Z,7.7nm,0.4s					
BBOO	Buckleboo	38.89 248	P	P	06 34 02.6	+0.2
BBOO			IAmb	IAmb	06 34 03.2	
	comp=Z,9.3nm,0.9s					
AS31	Alice Springs	41.60 261	P	P	06 34 24.3	0.0
ASAR	Alice Springs	41.60 261	P	P	06 34 23.9	-0.4
ASAR	Alice Springs	41.60 261	P	P	06 34 24.6	+0.4
	comp=Z,2.5nm,0.4s,baz=93,slow=7.2,SNR=70					
	comp=Z,2.5nm,0.4s					
WR0	Warramunga Arr	41.84 267	P	P	06 34 25.9	-0.3
WB2	Warramunga Arr	42.02 267	P	P	06 34 27.5	-0.1
WB2			IAmb	IAmb	06 34 28.2	
	comp=Z,12nm,1.0s					
WRAB	Tennant Creek	42.02 267	P	P	06 34 27.4	-0.2
WRAB			IAmb	IAmb	06 34 28.2	
	comp=Z,9.4nm,0.8s					
WB0	Warramunga Arr	42.02 267	P	P	06 34 27.6	-0.1
WB0			IAmb	IAmb	06 34 28.2	
	comp=Z,10nm,0.7s					
WRA	Warramunga Arr	42.03 267	P	P	06 34 26.7	-0.9
WRA	Warramunga Arr	42.03 267	P	P	06 34 27.6	-0.1
	comp=Z,7.2nm,0.4s,baz=98,slow=8.3,SNR=129					
WRA			ScP	ScP	06 39 13.2	+2.9
	comp=Z,1.5nm,0.9s,baz=99,slow=4.4,SNR=6.6					
	comp=Z,7.2nm,0.4s					
FORT	Forrest	45.78 250	P	P	06 34 56.4	-0.2
KNRA	Kununurra	48.35 270	P	P	06 35 16.4	+0.3
KNRA			IAmb	IAmb	06 35 17.2	
	comp=Z,10nm,0.6s					
PSA00	Pilbara Seismi	54.72 260	P	P	06 36 01.2	-0.9
MORW	Morawa	56.35 250	P	P	06 36 12.7	-0.6
MORW			IAmb	IAmb	06 36 14.1	
	comp=Z,13nm,1.0s					
CASY	Casey	59.41 206	P	P	06 36 33.5	+0.1
QSPA	South Pole Qui	65.57 180	P	P	06 37 15.0	+1.5
MAW	Mawson	77.06 201	P	P	06 38 21.6	+1.2
MAW	Mawson	77.06 201	P	P	06 38 21.6	+1.2
	comp=Z,2.1nm,0.5s,baz=98,slow=3.9,SNR=10					
	comp=Z,2.1nm,0.5s					
SNAA	Sanae	84.06 179	P	P	06 38 56.9	+0.1
	comp=Z,0.3nm,0.4s,baz=209,slow=10,SNR=6.0					
	comp=Z,0.3nm,0.4s					
PINE	Pine Mountain	87.08 39	P	P	06 39 11.8	-0.1
PINE			IAmb	IAmb	06 39 48.2	
	comp=Z,4.7nm,1.1s					
J08A	Circle Bar Ran	88.24 40	P	P	06 39 17.1	-0.1
J08A			IAmb	IAmb	06 39 23.9	
	comp=Z,8.8nm,0.7s					
TXAR	Lajitas Array	91.04 58	P	P	06 39 32.2	+1.7
	comp=Z,1.0nm,0.8s,baz=214,slow=5.6,SNR=5.5					
	comp=Z,1.0nm,0.8s					
ILAR	Eielson Array	92.70 14	P	P	06 39 36.8	-0.4
	comp=Z,0.2nm,0.8s,baz=216,slow=5.6,SNR=1.8					
	comp=Z,0.2nm,0.8s					
HFS	Hagfors	143.08 348	PKP	PKPab	06 45 53.3	+0.3
	comp=Z,2.9nm,0.3s,baz=60,slow=3.9,SNR=19					
EKA	Eskdalemuir Ar	149.15 3	PKPbc	PKPbc	06 46 10.4	-0.1
	comp=Z,0.3nm,0.3s,baz=340,slow=2.8,SNR=4.0					

IDC ***03*** *06:31:12.2±8.4, 11°.83S×166°.76E, h108km±79km, mb3.9/5, mbtmp4.2/6, ML4.0/1, MS3.3/1, Error ellipse: s-maj=58.9km s-min=53.8km az=148.0*

ISC 03 06:31:21.9±2.5, 12°.3S±0°.1×167°.1E±0°.3, h220km, n6, σ19°77/7, mb4.1/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.71	183	P	Pn	06 33 35.7	-1.5
	1.3nm,0.3s,baz=308,slow=20,SNR=21						
DZM				S	S	06 35 27.4	+1.0
	9.9nm,0.9s,baz=175,slow=17,SNR=1.9						
DZM				LR	LR	06 36 34.5	
	comp=Z,139nm,18.3s,baz=251,slow=32						
	4.2nm,0.4s						
CTA	Charters Tower	21.41	246	P	P	06 35 51.5	-1.4
	16nm,0.8s,baz=82,slow=10,SNR=20						
	16nm,0.8s						
STKA	Stephens Creek	30.45	226	P	P	06 37 16.6	+2.4
	2.9nm,0.6s,baz=40,slow=10,SNR=7.9						
	2.9nm,0.6s						
WRA	Warramunga Arr	32.30	252	P	P	06 37 29.6	-0.9
	1.2nm,0.7s,baz=84,slow=9.0,SNR=6.0						
	1.2nm,0.7s						
ASAR	Alice Springs	33.41	246	P	P	06 37 39.6	-0.6
	1.2nm,0.7s,baz=69,slow=9.5,SNR=12						
	1.2nm,0.7s						
MKAR	Makanchi Array	95.34	317	P	P	06 44 21.6	+0.5
	0.7nm,0.6s,baz=91,slow=5.8,SNR=3.6						
	0.7nm,0.6s						

AFAD ***03*** *06:31:14.0±0.0, 38°.68N×29°.03E, h3km±3km, ML1.6*

ISK 03 06:31:33.2, 37°.20N×28°.20E, h0km, ML1.3/10, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.09	136	Pg	Pg	06 31 35.9	+1.0
YER				Sg	Sg	06 31 37.5	+1.4
MULA	Mugla, Merkez-	0.11	59	P	Pg	06 31 35.8	+0.5
MLSB	Milas	0.35	286	Pg	Pg	06 31 40.4	+0.4
RFTAA	Mazikoy-Bodrum	0.42	241	Pg	Pg	06 31 41.8	+0.6
RFTAA				Sg	Sg	06 31 48.3	+1.7
TURN	Turunc	0.42	176	Pg	Pg	06 31 42.0	+0.7
TURN				Sg	Sg	06 31 48.4	+1.6
RFTC	Emecik-Datca	0.52	216	Pg	Pg	06 31 43.9	+0.7
DALY	Dalyan (Mula)	0.53	137	Pg	Pg	06 31 43.9	+0.6
AYDN	Tasoluk	0.53	331	P	Pg	06 31 43.5	+0.2
AYDN				S	Sg	06 31 49.2	-1.0
AYDN				*i* AML	AML	06 31 51.0	
	comp=N,25nm,0.5s						
AYDN				*i* AML	AML	06 31 52.0	
	comp=E,24nm,0.3s						
DAT	Datca	0.69	227	Pg	Pg	06 31 47.2	+0.8
BODT	Bodrum	0.73	259	Pg	Pb	06 31 48.3	-0.5
RFTD	Palamutbuku-Ka	0.77	228	Pg	Pg	06 31 48.3	+0.4
FETY	Fethiye	0.90	128	Pg	Pg	06 31 51.1	+0.6

GCG ***03*** *06:32:27.1±0.3, 15°.56N×94°.42W, h50km, MD4.4*
MEX ***03*** *06:32:29.0±1.1, 14°.83N×94°.34W, h16km±999km, MD4.6*
IDC ***03*** *06:32:33.4±4.0, 15°.04N×93°.99W, h52km±34km, mb4.0/12, mbtmp4.2/13, ML5.2/2, MS3.6/18, Error ellipse: s-maj=26.3km s-min=15.6km az=52.0*
NEIC ***03*** *06:32:33.5±2.5, 15°.10N±0°.07×94°.15W±0°.06, h42km±5km, mb4.5/135, Md4.6/16(MEX), Error ellipse: s-maj=10.2km s-min=7.6km az=191.0*

ISC 03 06:32:30.9±1.4, 14°.92N±0°.05×94°.30W±0°.04, h34km±4km, n209, σ2.01/188, mb4.5/57, MS3.6/17, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.30	53		Pn	06 32 49.4	-3.2
PCIG					Sn	06 33 05.9	-2.9
PCIG		1.30	53	*e*P	Pn	06 32 49.7	-2.9
PCIG				*e*S	Sn	06 33 05.4	-3.4
NILT	Santiago Nilte	1.67	349	*e*P	Pn	06 32 54.5	-3.1
NILT				*e*S	Sn	06 33 16.4	-1.4
HUIG	Huatulco	1.94	296		Sn	06 33 18.8	-5.8
HUIG	Huatulco	1.94	296	*i* P	Pn	06 32 58.6	-2.8
HUIG				*e*S	Sn	06 33 20.0	-4.6
THIG		1.96	90	*e*P	Pn	06 32 59.2	-2.5
THIG				*e*S	Sn	06 33 23.6	-1.6
PATR	El Naranjo	2.00	84	*e*P	Pn	06 32 59.9	-2.6
PATR				*e*S	Sn	06 33 24.2	-2.3
PAVE	Pavencul	2.07	82	*e*P	Pn	06 33 00.8	-2.6
PAVE				*e*S	Sn	06 33 26.4	-1.7
CHUJ	Union Juarez	2.12	85	*e*P	Pn	06 33 01.8	-2.4
CHUJ				*e*S	Sn	06 33 29.3	-0.2
TGIG		2.17	31		Pn	06 33 03.0	-1.6
TGIG					Sn	06 33 28.8	-1.5
TGIG		2.17	31	*e*P	Pn	06 33 03.0	-1.6
TGIG				*e*S	Sn	06 33 29.5	-0.9
TGBT	Tuxtla Gutierr	2.18	32	*e*P	Pn	06 33 03.6	-1.1
TGBT				*e*S	Sn	06 33 29.1	-1.6
UXUV	UXUV	2.39	3	*e*P	Pn	06 33 06.4	-1.3
UXUV				*e*S	Sn	06 33 34.6	-1.1
CCIG	Comitan	2.48	57	*e*P	Pn	06 33 09.2	+0.2
CCIG				*e*S	Sn	06 33 37.0	-1.4
RTAL	Retalhuleu	2.55	99	Pn	Pn	06 33 08.8	-1.1
STG3	Santiaguito 3,	2.65	94	*e*P	Pn	06 33 10.1	-1.2
SULM	Suchitepequez,	2.71	103	*e*P	Pn	06 33 12.8	+0.7
SULM				*e*S	Sb	06 33 48.5	-3.2
HUEH	Huehuetenango	2.73	81		Pn	06 33 12.3	-0.2
PEIG	Puerto Escondi	2.95	292	*i* P	Pn	06 33 13.1	-2.2
TUIG	Tuzandepetl	3.10	358	*e*P	Pn	06 33 15.4	-2.0
TUIG				*e*S	Sn	06 33 53.9	+0.7
NEUV	Arroyo Zacate	3.13	333	*e*P	Pn	06 33 15.5	-2.3
NEUV				*e*S	Sn	06 33 53.1	-1.0
OXLC	Oaxaca	3.15	313	*e*P	Pn	06 33 16.7	-1.6
OXLC				*e*S	Sn	06 33 55.1	+0.3
OXBJ	Oaxaca	3.16	313	*e*P	Pn	06 33 16.7	-1.8
OXBJ				*e*S	Sn	06 33 56.5	+1.4
VHO	Vista Hermosa	3.17	313	*e*P	Pn	06 33 18.6	0.0
VHO				*e*S	Sn	06 33 55.2	-0.1
FUG	Fuego 3	3.38	98	*e*P	Pn	06 33 21.8	+0.4
YOIG	Yosondua	3.67	302	*e*P	Pn	06 33 25.0	-0.5
YOIG				*e*S	Sn	06 34 04.3	-3.5
PMUV	Sontecomapan	3.69	348	*e*P	Pn	06 33 22.8	-2.8
PMUV				*e*S	Sn	06 34 04.4	-3.6
NBG	Las Nubes	3.84	94	*e*P	Pn	06 33 29.6	+1.8
PNIG	Pinotepa	3.97	292	*i* P	Pn	06 33 27.6	-1.7
PNIG				*e*S	Sn	06 34 06.9	-7.9
TXIG	Tlaxiaco	4.06	305	*e*P	Pn	06 33 30.9	0.0
TXIG				*e*S	Sn	06 34 14.9	-2.5
TOIG	Toxpalan	4.12	320	*e*P	Pn	06 33 32.5	+0.9
TOIG				*e*S	Sn	06 34 18.1	-0.7
HLIG	Huajuapan de L	4.44	311	*e*P	Pn	06 33 36.8	+0.8
HLIG				*e*S	Sn	06 34 25.8	-0.8
TPIG	Tehuac#an	4.55	320	*e*P	Pn	06 33 39.6	+2.0
TPIG				*e*S	Sn	06 34 32.4	+3.0
FTIG	Fresnillo de T	4.73	309	*e*P	Pn	06 33 41.0	+1.1
FTIG				*e*S	Sn	06 34 32.7	-1.0
MTO3	Montecristo	4.81	96	Pn	Pn	06 33 41.0	0.0
ESQI	Esquipulas	4.81	94		Pn	06 33 41.7	+0.7
TLIG	Tlapa	4.87	303	*i* P	Pn	06 33 42.5	+0.7
TLIG				*e*S	Sn	06 34 36.6	-0.5
SCIG	Sabancuy	5.01	36	*e*P	Pn	06 33 42.2	-1.4
SCIG				*e*S	Sn	06 34 37.2	-3.2
JAUV	Jalcomulco	5.03	332	*e*P	Pn	06 33 42.0	-1.9
JAUV				*e*S	Sn	06 34 36.4	-4.6
SNET	Serv Nac Est T	5.06	103	Pn	Pn	06 33 44.4	-0.1
LVIG	Laguna Verde	5.19	337	*e*P	Pn	06 33 41.7	-4.4
LVIG				*e*S	Sn	06 34 39.8	-5.0
DAIG	Los Arroyos	5.56	293	*e*P	Pn	06 33 50.7	-0.5
DAIG				*e*S	Sn	06 34 46.3	-7.6
PPM	Popocatepetl	5.84	315	*e*P	Pn	06 33 58.6	+3.0
PPM				*e*S	Sn	06 35 04.7	+3.0
MEIG	Mezcala	5.92	301	*i* P	Pn	06 33 57.4	+1.1
MEIG				*e*S	Sn	06 35 02.9	0.0
YAIG	Yautepec	6.02	311	*e*P	Pn	06 33 59.5	+1.8
YAIG				*e*S	Sn	06 35 02.1	-3.4
PLIG	Platanillo	6.07	305	*i* P	Pn	06 33 59.5	+1.3
PLIG				*e*S	Sn	06 35 04.2	-2.5
CXUV	Coxquihui	6.10	329	*e*P	Pn	06 33 58.4	-0.3
CXUV				*e*S	Sn	06 35 08.0	+0.7
CAIG	El Cayaco	6.12	291	*e*P	Pn	06 33 58.4	-0.5
CAIG				*e*S	Sn	06 35 01.1	-6.7
UNM	Universidad Na	6.40	314	Pn	Pn	06 34 06.7	+3.6
ARIG	Puente Sto Nin	6.69	301	*i* P	Pn	06 34 08.6	+1.7
ARIG				*e*S	Sn	06 35 20.7	-1.2
TGUH	Tegucigalpa,Un	6.86	96	Pn	Pn	06 34 10.0	+0.8
DEIG	Demacu	7.00	321	*e*P	Pn	06 34 12.1	+0.9
DEIG				*e*S	Sn	06 35 25.3	-4.6
ZIIG	Zihuatanejo	7.38	292	*i* P	Pn	06 34 17.0	+0.7
ZIIG				*e*S	Sn	06 35 37.7	-1.2
MYIG	Mrida	7.41	35	*e*P	Pn	06 34 17.0	+0.4
MYIG				*e*S	Sn	06 35 36.8	-2.7
CTUV	Llano Grande	7.57	330	*e*P	Pn	06 34 21.2	+2.4
CTUV				*e*S	Sn	06 35 46.6	+3.1
TEIG	Tepich	7.80	47	Pn	Pn	06 34 20.2	-1.8
TEIG	Tepich	7.80	47	P	Pn	06 34 20.8	-1.2
	271nm,0.3s,baz=20,slow=1.6,SNR=147						
TEIG				S	Sn	06 35 45.0	-4.1
	2μm,0.7s,baz=283,slow=23,SNR=9.4						
TEIG				LR	LR	06 37 40.6	
	comp=Z,4μm,18.4s,baz=351,slow=41						
MATN	Matagalpa	8.37	103		Pn	06 34 28.9	-1.0
BOAB	BOACO BROADBAN	8.74	105	Pn	Pn	06 34 35.3	+0.4
RPIG	Rio Verde	8.78	323	*e*P	Pn	06 34 33.6	-2.0
RPIG				*e*S	Sn	06 36 18.6	+5.1
MMIG	Aquila	9.30	292	*i* P	Pn	06 34 43.8	+1.2
MMIG				*e*S	Sn	06 36 21.4	-4.6
GTIG	Gomez Farias	9.32	331	*e*P	Pn	06 34 44.3	+1.5
GTIG				*e*S	Sn	06 36 26.8	+0.2
ACON	Acoyapa	9.35	107		Pn	06 34 42.9	-0.4
ORTG	Ortega, Santa	9.74	117	Pn	Pn	06 34 50.8	+2.0
DUNO	Dulce Nombre,	9.85	118		Pn	06 34 51.3	+1.2
JTS	Las Juntas de	10.21	116		Pn	06 34 57.5	+2.3
ARE1	Arenal 1	10.34	114		Pn	06 34 59.4	+2.5
JACO	JACO, Garabito	10.77	118	Pn	Pn	06 35 04.4	+1.6
ZAIG	Zacatecas	11.05	316	*e*P	Pn	06 35 07.7	+0.8
ZAIG				*e*S	Sn	06 37 11.0	+1.5
CJM	Chamela	11.23	295	*e*P	Pn	06 35 11.2	+2.1
CJM				*e*S	Sn	06 37 07.0	-6.4
LCR2	La Lucha 2	11.29	116		Pn	06 35 11.8	+1.7
RIMA	Rio Macho	11.41	115		Pn	06 35 13.3	+1.6
ANIG	Ahuacatlan	11.48	304	*i* P	Pn	06 35 16.2	+3.6
SOR	Soroa	13.24	52	Pn	Pn	06 35 33.7	-2.8
HNDO	Hondo	15.25	343		Pn	06 36 04.6	+0.8
HNDO				IAmb	IAmb	06 36 19.0	
	comp=Z,20nm,0.7s						
AZU	Azuero	15.46	116	*e*P	P	06 36 10.2	-0.5
DRIO	Del Rio	15.57	339	Pn	Pn	06 36 08.4	+0.5
DRIO				IAmb	IAmb	06 36 27.3	
	comp=Z,9.0nm,0.9s						
435B	Jarrell	16.08	350	IAmb	IAmb	06 36 26.5	
	comp=Z,37nm,0.6s						
SAND	Sanderson	16.61	336	IAmb	IAmb	06 36 39.9	
	comp=Z,7.4nm,0.8s						
TXAR	Lajitas Array	16.75	330	P	P	06 36 24.8	-0.2
	comp=Z,0.5nm,0.3s,baz=153,slow=12,SNR=30						
	comp=Z,3.2nm,0.6s						
TX31	Lajitas Ar. Si	16.75	330	IAmb	IAmb	06 36 47.9	
	comp=Z,23nm,1.0s						
BRDY	Brady	16.85	346		P	06 36 26.0	0.0
BRDY				IAmb	IAmb	06 36 42.4	
	comp=Z,12nm,0.7s						
OZNA	Ozona	17.12	340	IAmb	IAmb	06 36 49.6	
	comp=Z,22nm,0.7s						
WHTX	Lake Whitney,	17.24	351	IAmb	IAmb	06 36 44.5	
	comp=Z,24nm,0.8s						
FW13	Cleburne	17.59	351	IAmb	IAmb	06 36 44.2	
	comp=Z,23nm,0.8s						
ALPN	Alpine	17.62	332		P	06 36 35.4	+0.7
ALPN				IAmb	IAmb	06 36 37.0	
	comp=Z,15nm,0.8s						
SGCY	Sterling City	18.03	341	IAmb	IAmb	06 36 50.3	
	comp=Z,31nm,0.8s						
FW06	Azle	18.22	351	IAmb	IAmb	06 37 01.0	
	comp=Z,30nm,1.0s						
ABTX	Abilene, Hawle	18.29	345	IAmb	IAmb	06 36 44.0	
	comp=Z,17nm,0.8s						
PECS	Pecos	18.57	333	IAmb	IAmb	06 37 01.5	
	comp=Z,8.5nm,0.8s						
ODSA	Odessa	18.70	338	IAmb	IAmb	06 36 49.9	
	comp=Z,22nm,0.8s						
SN01	Snyder 1	18.84	343	IAmb	IAmb	06 36 56.4	
	comp=Z,16nm,0.6s						
APMT	Aspermont	19.07	345	IAmb	IAmb	06 37 08.6	
	comp=Z,16nm,0.9s						
WTFS	Witchita Falls	19.14	349	IAmb	IAmb	06 37 05.2	
	comp=Z,18nm,0.7s						
POST	Post	19.21	341	IAmb	IAmb	06 37 05.4	
	comp=Z,18nm,0.7s						
MIAR	Mount Ida	19.55	2	P	P	06 36 55.0	-0.7
MIAR				IAmb	IAmb	06 37 14.6	
	comp=Z,32nm,1.4s						
DKNS	Dickens	19.61	343	IAmb	IAmb	06 36 60.0	
	comp=Z,20nm,0.8s						
X37A	Clayton	19.61	357	P	Pn	06 36 57.3	-0.5
X37A				IAmb	IAmb	06 37 08.4	
	comp=Z,14nm,0.7s						
UREC	San Jos de Ur	19.72	109	*e*P	P	06 36 56.2	-1.5
WMOK	Wichita Mounta	20.14	349	IAmb	IAmb	06 37 37.5	
	comp=Z,16nm,1.1s						
PLMC	San Jos del P	20.33	117	*i* P	P	06 37 03.3	-1.0
ZARC	Zaragoza, Cauc	20.43	109	*e*P	P	06 37 03.0	-2.5
MSTX	Muleshoe	20.46	339	IAmb	IAmb	06 37 24.7	
	comp=Z,20nm,1.0s						
YOTC	Yotoco, Valle	20.75	120	*e*P	P	06 37 10.2	+1.1
JAMC	Jamundi, Valle	20.91	122	*i* P	P	06 37 09.4	-1.4
GUY2C	Guyana, Caldas	20.96	115	*i* P	P	06 37 13.0	+1.3
FCAR	Ozark Folk Cen	20.97	5	P	P	06 37 10.9	-0.2
FCAR				IAmb	IAmb	06 37 13.9	
	comp=Z,14nm,0.6s						
OK029	Liberty Lake	20.98	353	IAmb	IAmb	06 37 16.1

MACC	Macarena, Meta	23.84	120	*i* P		P	06 37 42.9 +1.7
T25A	Trinidad	23.89	340	P		P	06 37 43.4 +1.7
T25A				IAmb		IAmb	06 37 59.8
	comp=Z,12nm,0.8s						
SDV	Santo Domingo	23.91	102	LR		LR	06 49 06.3
	comp=Z,142nm,18.9s,baz=278,slow=42						
X18A	Snowflake	24.09	327	IAmb		IAmb	06 37 47.2
	comp=Z,8.1nm,0.8s						
OLIL	Olney	24.34	12	IAmb		IAmb	06 37 46.0
	comp=Z,11nm,0.7s						
P38A	Dawn	24.62	1	IAmb		IAmb	06 37 47.9
	comp=Z,6.8nm,0.6s						
X16A	Lo Mia Camp, P	24.82	325	IAmb		IAmb	06 37 54.6
	comp=Z,8.8nm,0.9s						
WUAZ	Wupatki	25.60	326	IAmb		IAmb	06 38 02.4
	comp=Z,10nm,0.8s						
N38A	Joes South For	25.80	2	P		P	06 37 57.9 -0.8
BAUV	El Baul	26.35	100	P		P	06 38 03.5 -0.5
OGNE	Ogallala	26.79	347	IAmb		IAmb	06 38 13.5
	comp=Z,16nm,0.8s						
PFO	Pinyon Flats O	27.36	317	LR		LR	06 50 34.0
	comp=Z,236nm,18.1s,baz=130,slow=39						
JFWS	Jewell Farm	28.11	6	IAmb		IAmb	06 38 20.2
	comp=Z,10nm,0.6s						
ECSD	EROS Data Cent	28.79	357	IAmb		IAmb	06 38 25.9
	comp=Z,5.3nm,0.7s						
PCRV	Puerto La Cruz	29.32	96	LR		LR	06 52 18.2
	comp=Z,40nm,18.0s,slow=41						
TCUT	Toone Canyon	30.04	334	P		P	06 38 38.0 +1.0
TCUT				IAmb		IAmb	06 38 40.2
	comp=Z,7.3nm,0.8s						
SPMN	Marine on St.	30.23	2	P		P	06 38 36.5 -1.9
PDAR	Pinedale Array	30.70	338	P		P	06 38 43.4 +0.6
	comp=Z,0.7nm,0.8s,baz=134,slow=8.5,SNR=7.1						
PDAR				LR		LR	06 52 14.9
	comp=Z,40nm,18.2s,baz=159,slow=38						
	comp=Z,0.7nm,0.8s						
F36A	Milaca	30.85	1	IAmb		IAmb	06 39 21.4
	comp=Z,14nm,1.4s						
CZSB	Cruzeiro do Su	31.06	135	IAmb		IAmb	06 38 51.4
	comp=Z,13nm,1.1s						
HVU	Hansel Valley	31.18	333	IAmb		IAmb	06 38 49.9
	comp=Z,5.3nm,0.7s						
ELK	Elko	31.53	329	LR		LR	06 53 07.8
	comp=Z,189nm,18.8s,baz=151,slow=39						
NVAR	Mina Array Bea	31.57	322	P		P	06 38 52.6 +2.1
	comp=Z,2.8nm,0.7s,baz=136,slow=9.0,SNR=25						
NVAR				LR		LR	06 53 15.5
	comp=Z,535nm,19.3s,baz=132,slow=39						
	comp=Z,2.8nm,0.7s						
REDW	Red Top Meadow	31.69	337	P		P	06 38 52.1 +0.5
SNOW	Snow King Moun	31.74	337	P		P	06 38 53.2 +1.2
LOHW	Long Hollow	31.81	337	IAmb		IAmb	06 38 55.1
	comp=Z,3.0nm,0.7s						
NNA	Nana	31.84	146	LR		LR	06 49 02.0
	comp=Z,46nm,20.2s,baz=301,slow=31						
TPAW	Teton Pass	31.84	337	IAmb		IAmb	06 39 00.6
	comp=Z,4.0nm,0.8s						
IMW	Indian Meadow	32.18	337	IAmb		IAmb	06 39 29.0
	comp=Z,7.7nm,1.5s						
AGMN	Agassiz Nation	33.31	358	IAmb		IAmb	06 39 07.8
	comp=Z,6.5nm,0.7s						
HLID	Hailey	33.33	333	P		P	06 39 07.3 +1.6
WVOR	Wild Horse Val	34.51	327	IAmb		IAmb	06 39 23.9
	comp=Z,6.4nm,1.2s						
PLID	Pearl Lake	35.23	333	IAmb		IAmb	06 39 24.2
	comp=Z,4.0nm,0.8s						
ULM	Lac du Bonnet	35.26	358	P		P	06 39 20.3 -1.9
	comp=Z,3.2nm,0.6s,baz=182,slow=7.3,SNR=5.4						
	comp=Z,3.2nm,0.6s						
BOAV	Boa Vista	35.56	107	P		P	06 39 24.0 -1.2
BOAV				IAmb		IAmb	06 39 25.4
	comp=Z,4.3nm,0.7s						
YBH	Yreka Blue Hor	36.28	323	LR		LR	06 56 03.1
	comp=Z,271nm,19.0s,baz=154,slow=39						
F10A	Beach Ranch, E	36.46	333	IAmb		IAmb	06 39 36.9
	comp=Z,5.7nm,0.8s						
ETMB	Extrema	37.13	130	P		P	06 39 38.6 -0.1
NEW	Newport	38.21	335	LR		LR	06 57 45.8
	comp=Z,119nm,21.6s,baz=147,slow=40						
SAML	Samuel	38.91	126	P		P	06 39 52.5 -1.1
SAML				IAmb		IAmb	06 39 58.3
	comp=Z,4.5nm,0.8s						
LON	Longmire	39.16	330	IAmb		IAmb	06 39 58.2
	comp=Z,3.9nm,0.8s						
MDP	Montagnes des	42.09	99	LR		LR	07 00 16.2
	comp=Z,72nm,19.2s,baz=270,slow=40						
VILB	Vilhena	43.66	128	P		P	06 40 32.8 +0.1
VILB				IAmb		IAmb	06 40 33.2
	comp=Z,17nm,1.2s						
SCHQ	Schefferville	45.17	22	LR		LR	07 01 28.2
	comp=Z,52nm,18.8s,baz=156,slow=39						
BBB	Bella Bella	45.88	331	LR		LR	07 00 30.9
	comp=Z,75nm,18.1s,baz=200,slow=36						
PTLB	Pontes e Lacer	46.02	129	P		P	06 40 51.2 -0.2
PTLB				IAmb		IAmb	06 40 51.9
	comp=Z,6.0nm,0.8s						
CPUP	Villa Florida	54.53	138	P		P	06 41 55.0 -0.7
	comp=Z,4.7nm,1.1s,baz=339,slow=9.9,SNR=7.0						
	comp=Z,4.7nm,1.1s						
BDFB	Brasilia	54.89	122	P		P	06 41 59.1 +0.4
BDFB	Brasilia	54.89	122	P		P	06 41 57.5 -1.2
	comp=Z,5.6nm,0.7s,baz=293,slow=12,SNR=8.2						
BDFB				LR		LR	07 05 22.4
	comp=Z,55nm,18.4s,baz=347,slow=36						
	comp=Z,5.6nm,0.7s						
SFJD	Kangerlussuaq	59.33	18	LR		LR	07 09 01.1
	comp=Z,38nm,18.3s,baz=141,slow=37						
PLCA	Paso Flores	59.59	159	P		P	06 42 32.5 +1.2
	comp=Z,3.7nm,1.0s,baz=0.7,slow=3.4,SNR=4.4						
	comp=Z,3.7nm,1.0s						
ILAR	Eielson Array	61.13	337	P		P	06 42 42.0 +0.5
	comp=Z,1.1nm,0.8s,baz=168,slow=4.6,SNR=18						
	comp=Z,1.1nm,0.8s						
MLY	Manley	62.71	337	P		P	06 42 53.0 +0.8
MLY				IAmb		IAmb	06 42 54.0
	comp=Z,3.6nm,0.7s						
EKA	Eskdalemuir Ar	78.52	36	P		P	06 44 27.1 -1.6
	comp=Z,1.4nm,0.5s,baz=292,slow=5.4,SNR=5.2						
	comp=Z,1.4nm,0.5s						
ESDC	Sonseca Array	80.89	51	P		P	06 44 40.9 -1.0
	comp=Z,1.1nm,0.8s,baz=286,slow=5.7,SNR=6.0						
	comp=Z,1.1nm,0.8s						
NB2	NORSAR Subarra	84.39	28	P		P	06 45 00.3 +0.6
	comp=Z,1.3nm,0.7s,baz=292,slow=5.3						
NOA	NORSAR Array B	84.39	28	P		P	06 45 00.7 +1.0
	comp=Z,1.5nm,0.7s,baz=292,slow=5.2,SNR=7.1						
	comp=Z,1.5nm,0.7s						
ARCES	ARCESS Array B	85.96	18	P		P	06 45 06.5 -0.7
	comp=Z,3.0nm,0.8s,baz=317,slow=5.1,SNR=8.6						
	comp=Z,3.0nm,0.8s						
TORD	Torodi Ar. Bea	92.32	76	P		P	06 45 37.1 -1.3
	comp=Z,0.6nm,0.6s,baz=321,slow=3.9,SNR=6.5						
	comp=Z,0.6nm,0.6s						
WRA	Warramunga Arr	133.45	257	PKP		PKiKP	06 51 45.4 -0.3
	comp=Z,0.7nm,0.9s,baz=89,slow=2.7,SNR=3.1						
CMAR	Chiang Mai Arr	144.36	338	PKP		PKPbc	06 52 03.0 +0.2
	comp=Z,0.5nm,0.3s,baz=46,slow=3.9,SNR=1.9						

OMAN 03 06:47:19.2±0.3, 21°.82N×61°.66E, h12km±7km, mb4.0/7, ml3.7/10, ms2.4/1, Error ellipse: s-maj=14.9km s-min=1.9km az=278.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	Jalan Bani Buh	2.12	279	P	Pn	06 47 54.3	-0.1
JLN	SNR=71			S	Sn	06 48 20.1	-0.5
	SNR=24						
WBK	Wadi Bani Khal	2.62	288	P	Pn	06 48 01.8	+0.5
WBK	SNR=114			S	Sn	06 48 33.9	+0.9
JMDO	Jabal Madar	3.35	280	P	Pn	06 48 11.6	+0.2
JMDO	SNR=57			S	Sn	06 48 51.8	+0.8
MHTO	MHTO	3.54	257	P	Pn	06 48 14.5	+0.5
MHTO	SNR=72			S	Sn	06 48 56.9	+1.1
SMDO	Samad	3.56	291	P	Pn	06 48 14.8	+0.5
SMDO	SNR=34			S	Sn	06 48 57.7	+1.2
BIDO	Bidbid	3.68	298	P	Pn	06 48 16.5	+0.6
BIDO	SNR=7.4			S	Sn	06 48 59.6	+0.4
BSY	Bisya	4.24	283	P	Pn	06 48 23.9	+0.4
BSY	SNR=5.3						
HOQ	Hoqain	4.38	294	P	Pn	06 48 25.8	+0.2
HOQ				S	Sn	06 49 17.7	+1.1
ARQ	Araqi	4.99	289	P	Pn	06 48 34.1	+0.3
ARQ	SNR=9.5			S	Sn	06 49 32.5	+1.0
SOHO	SOHO	5.26	297	P	Pn	06 48 37.7	+0.2
SOHO				S	Sn	06 49 39.1	+1.0
JASK	Jask - Hormozg	5.32	320	P	Pn	06 48 38.5	+0.1
ASHO	Ashiyiah	5.89	300	P	Pn	06 48 46.4	0.0
ASHO				S	Sn	06 49 54.7	+0.9
UOSS	Minazif	5.90	303	P	Pn	06 48 46.3	-0.1
MDH	Madha	6.02	306	P	Pn	06 48 48.0	0.0
MASF	Masafi	6.16	306	P	Pn	06 48 50.3	+0.2
MASF				S	Sn	06 50 01.4	+0.9
FAQ	Al Faqa, Dubai	6.29	299	P	Pn	06 48 52.5	+0.7
FAQ				S	Sn	06 50 05.4	+1.7
SHME	Shamm	6.57	311	P	Pn	06 48 56.1	+0.4
DMTO	DMTO	7.53	238	P	Pn	06 49 09.1	+0.3
DMTO				S	Sn	06 50 35.5	+1.3
DOK	Doka	7.76	247	P	Pn	06 49 12.2	+0.2
DOK	SNR=16			S	Sn	06 50 38.7	-1.1
RBK	Rabkut	8.24	240	P	Pn	06 49 19.0	+0.4
RBK				S	Sn	06 50 51.9	+0.2
WHFO	Wadi Hawf	8.38	244	P	Pn	06 49 20.9	+0.4
WHFO	SNR=21			S	Sn	06 50 56.1	+0.9
ABTO	Aybut	9.05	242	P	Pn	06 49 29.7	-0.1

IDC 03 06:47:34.1±1.9, 3°.64N×127°.88E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=142.8km s-min=23.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.28	165	P	P	06 52 53.0	-0.3
	1.0nm,0.6s,baz=345,slow=10,SNR=12						
	1.0nm,0.6s						
ASAR	Alice Springs	27.77	168	P	P	06 53 25.2	+0.3
	0.2nm,0.4s,baz=354,slow=8.0,SNR=5.5						
	0.2nm,0.4s						
MKAR	Makanchi Array	58.29	325	P	P	06 57 31.4	+0.5
	0.3nm,0.5s,baz=116,slow=7.9,SNR=4.7						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	62.44	327	P	P	06 57 58.4	-0.7
	0.4nm,0.6s,baz=123,slow=6.9,SNR=2.2						
	0.4nm,0.6s						

MEX 03 06:54:40.1±0.4, 14°.97N×94°.27W, h26km±28km, MD4.3
GCG 03 06:54:44.5±1.2, 14°.82N×93°.96W, h50km±353km, MD4.1

ISC 03 06:54:35.0±1.7, 15°.04N±0°.05×94°.21W±0°.03, h5km±10km, n40, σ2°.67/72, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.16	55	*i* P	Pn	06 54 59.1	+1.2
PCIG				*i* S	Sn	06 55 14.4	+0.3
NILT	Santiago Nilte	1.57	345	*i* P	Pn	06 55 04.8	+1.3
NILT				*eS*	Sb	06 55 23.8	-0.9
THIG		1.88	94	*eP*	Pn	06 55 08.4	+0.6
THIG				*eS*	Sn	06 55 30.6	-1.3
PATR	El Naranjo	1.91	87	*eP*	Pn	06 55 09.7	+1.3
PATR				*eS*	Sn	06 55 33.4	+0.4
PAVE	Pavencul	1.97	85	*eP*	Pn	06 55 10.7	+1.5
PAVE				*eS*	Sn	06 55 34.0	-0.4
HUIG	Huatulco	1.97	292	*i P*	Pn	06 55 09.3	+0.2
HUIG				*eS*	Sn	06 55 29.5	-4.7
TGIG		2.02	31	*eP*	Pb	06 55 12.8	+0.6
TGIG				*eS*	Sg	06 55 38.8	-1.1
CHUJ	Union Juarez	2.03	88	*eP*	Pn	06 55 11.9	+1.8
CHUJ				*eS*	Sn	06 55 35.2	-0.7
TGBT	Tuxtla Gutierr	2.03	32	*i P*	Pg	06 55 14.3	+0.3
TGBT				*eS*	Sg	06 55 39.9	-0.5
UXUV	UXUV	2.27	1	*eP*	Pb	06 55 16.6	+0.2
UXUV				*eS*	Sb	06 55 43.6	-1.2
CCIG	Comitan	2.34	58	*eP*	Pb	06 55 18.4	+0.5
CCIG				*eS*	Sg	06 55 48.2	-2.2
STG3	Santiaguito 3,	2.57	97	*eP*	Pn	06 55 20.2	+2.7
STG3				*eS*	Sn	06 55 49.9	+0.7
SULM	Suchitepequez,	2.66	106	*eP*	Pn	06 55 21.8	+3.3
TUIG	Tuzandepetl	2.98	356	*eP*	Pn	06 55 25.7	+2.7
TUIG				*eS*	Sn	06 55 60.0	+0.8
PEIG	Puerto Escondi	2.99	289	*eP*	Pn	06 55 23.5	+0.4
PEIG				*eS*	Sn	06 55 52.6	-6.8
NEUV	Arroyo Zacate	3.07	330	*eP*	Pn	06 55 26.2	+2.0
NEUV				*eS*	Sn	06 56 00.1	-1.2
VHO	Vista Hermosa	3.16	310	*eP*	Pn	06 55 28.6	+2.9
VHO				*eS*	Sn	06 56 01.9	-2.0
FUG	Fuego 3	3.31	100	*eP*	Pn	06 55 30.7	+3.1
FUG				*eS*	Sn	06 56 06.8	-0.7
PMUV	Sontecomapan	3.59	346	*eP*	Pn	06 55 30.8	-0.7
PMUV				*eS*	Sn	06 56 11.0	-3.3
YOIG	Yosondua	3.69	300	*eP*	Pn	06 55 36.2	+3.3
YOIG				*eS*	Sn	06 56 14.6	-2.3
NBG	Las Nubes	3.76	96	*eP*	Pb	06 55 40.1	-1.9
PNIG	Pinotepa	4.01	290	*eP*	Pn	06 55 38.5	+1.3
PNIG				*eS*	Sn	06 56 17.4	-7.1
PNIG				*e*		06 56 17.4	
TXIG	Tlaxiaco	4.07	303	*eP*	Pn	06 55 42.0	+3.8
TXIG				*eS*	Sn	06 56 27.0	+0.6
TOIG	Toxpalan	4.09	318	*eP*	Pn	06 55 43.3	+5.0
TOIG				*eS*	Sn	06 56 27.1	+0.3
HLIG	Huajuapan de L	4.43	309	*eP*	Pn	06 55 46.5	+3.4
HLIG				*eS*	Sn	06 56 38.5	+3.3
TPIG	Tehuac#an	4.52	318	*eP*	Pn	06 55 48.6	+4.3
TPIG				*eS*	Sn	06 56 34.2	-3.2
FTIG	Fresnillo de T	4.72	308	*eP*	Pn	06 55 51.0	+4.0
FTIG				*eS*	Sn	06 56 42.0	-0.3
SCIG	Sabancuy	4.86	36	*eP*	Pn	06 55 50.8	+2.0
SCIG				*eS*	Sn	06 56 44.3	-1.1
TLIG	Tlapa	4.88	302	*eP*	Pn	06 55 52.2	+3.0
TLIG				*eS*	Sn	06 56 44.0	-2.2
JAUV	Jalcomulco	4.97	330	*eP*	Pn	06 55 51.3	+1.0
JAUV				*eS*	Sn	06 56 45.0	-3.2
LVIG	Laguna Verde	5.11	336	*eP*	Pn	06 55 50.4	-1.9
LVIG				*eS*	Sn	06 56 46.3	-5.5
DAIG	Los Arroyos	5.59	291	*eP*	Pn	06 56 00.9	+2.0
DAIG				*eS*	Sn	06 56 58.3	-5.3
PPM	Popocatepetl	5.82	314	*eP*	Pn	06 56 08.7	+6.1
PPM				*eS*	Sn	06 57 15.9	+5.9
MEIG	Mezcala	5.93	300	*eP*	Pn	06 56 08.2	+4.5
MEIG				*eS*	Sn	06 57 10.4	-1.7
YAIG	Yautepec	6.01	310	*eP*	Pn	06 56 09.2	+4.4
YAIG				*eS*	Sn	06 57 13.1	-0.9
PLIG	Platanillo	6.07	304	*eP*	Pn	06 56 09.3	+3.8
PLIG				*eS*	Sn	06 57 09.9	-5.6
CAIG	El Cayaco	6.16	290	*eP*	Pn	06 56 09.4	+2.7
CAIG				*eS*	Sn	06 57 10.9	-6.6
ARIG	Puente Sto Nin	6.71	300	*eP*	Pn	06 56 19.0	+4.7
ARIG				*eS*	Sn	06 57 28.7	-2.5
MYIG	Mrida	7.26	35	*eP*	Pn	06 56 23.5	+1.7
MYIG				*eS*	Sn	06 57 44.8	+0.1
ZIIG	Zihuatanejo	7.42	291	*eP*	Pn	06 56 27.6	+3.6

IDC 03 06:59:20.7±0.9, 54°.57N×161°.76W, h0km, mb3.9/14, mbtmp3.9/17, ML3.9/3, MS3.1/12, Error ellipse: s-maj=27.4km s-min=13.4km az=174.0
NEIC 03 06:59:26.0±1.8, 54°.57N±0°.05×161°.38W±0°.04, h19km±6km, mb4.2/20, ML4.5/18, ML4.1(AEIC), Error ellipse: s-maj=6.9km s-min=3.1km az=167.0
AEIC 03 06:59:28.2±1.7, 54°.60N±0°.05×161°.39W±0°.05, h20km±6km, Error ellipse: s-maj=7.8km s-min=4.6km az=177.0

ISC 03 06:59:27.7±1.0, 54°.66N±0°.07×161°.37W±0°.04, h48km±10km, n380, σ1°.04/368, mb4.2/20, MS3.1/10, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DT1	Dutton Round H	0.69	311		Pn	06 59 40.5	-0.8
HAG	Hague Volcano	0.73	335		Pn	06 59 41.7	-0.1
HAG					Sn	06 59 52.7	+0.7
PS4A	Pavlof South-4	0.75	338		Pn	06 59 41.9	-0.1
PS4A					Sn	06 59 52.7	+0.3
PVV	Pavlof Volcano	0.76	342		Pn	06 59 42.0	-0.1
PVV					Sn	06 59 52.2	-0.5
PS1A	Pavlof South-1	0.80	345		Pn	06 59 42.8	+0.1
PS1A					Sn	06 59 53.6	+0.1
PN7A	Pavlof North-7	0.86	335		Pn	06 59 44.0	+0.4
SDPT	Sand Point	0.86	36		Pn	06 59 44.0	+0.4
SDPT					Sn	06 59 56.1	+1.0
SDPT	Sand Point	0.86	36	IAML		06 59 56.9	
	comp=N,17μm,0.2s						
SDPT	Sand Point	0.86	36	P	Pn	06 59 43.9	+0.4
SDPT	Sand Point	0.86	36	P	Pn	06 59 44.0	+0.4
	baz=216,SNR=318						
CNBA	Chernabura Isl	1.05	80	Pn	Pn	06 59 45.6	-0.4
CNBA	Chernabura Isl	1.05	80		Sn	06 59 58.9	-0.6
CHNA	Chernabura Isl	1.05	80	P	Pn	06 59 45.5	-0.5
	baz=258,SNR=78						
FALS	False Pass	1.20	280		Pn	06 59 47.5	-0.6
FALS					Sn	07 00 02.7	-0.5
FALS	False Pass	1.20	280	P	Pn	06 59 47.9	-0.2
FALS	False Pass	1.20	280	P	Pn	06 59 47.7	-0.4
	baz=101,SNR=45						
ISLZ	Isanotski Laza	1.36	274		Pn	06 59 49.9	-0.4
ISLZ					Sn	07 00 06.6	-0.6
BRPK	Brown Peak	1.38	271		Pn	06 59 50.3	-0.2
SSLS	Shishaldin Sou	1.53	273		Pn	06 59 52.9	+0.2
SSLN	Shishaldin Nor	1.53	277		Pn	06 59 53.4	+0.8
SSLN					Sn	07 00 12.4	+1.1
SSBA	Shishaldin	1.60	275		Pn	06 59 53.7	+0.1
SSBA					Sn	07 00 13.9	+0.7
VNWF	Veniaminof 8	1.82	34		Pn	06 59 58.0	+1.3
VNSS	Veniaminof 8	1.92	34		Pn	06 59 59.5	+1.5
S14K	Fog Glacier	1.93	32	P	Pn	06 59 59.6	+1.4
	baz=213,SNR=63						
VNFG	Fog Glacier, M	1.93	32	IAML		07 00 39.8	
	comp=N,4μm,0.6s						
VNFG				IAML		07 00 40.1	
	comp=E,4μm,0.6s						
WESP	Westdahl Peak	1.96	267		Pn	06 59 58.9	+0.4
VNSG	Veniaminof 6	1.97	41		Pn	06 59 59.6	+1.0
CHGN	Chignik	2.36	44		Pn	07 00 05.0	+1.2
CHGN	Chignik	2.36	44	IAML		07 00 40.9	
	comp=E,2μm,0.5s						
CHGN	Chignik	2.36	44	P	Pn	07 00 05.1	+1.2
	baz=226,SNR=39						
AKSA	Akutan Strait	2.58	260		Pn	07 00 07.7	+0.7
AKUT	Akutan	2.62	260		Pn	07 00 08.0	+0.5
AKUT	Akutan	2.62	260	IAML		07 00 50.2	
	comp=E,1μm,0.6s						
AKUT	Akutan	2.62	260	P	Pn	07 00 08.3	+0.7
AKLV	Akutan Long Va	2.72	261		Pn	07 00 09.2	+0.2
AKBBA	Akutan Broad B	2.73	260		Pn	07 00 09.1	+0.1
AKV	Akutan Volcano	2.74	261		Pn	07 00 09.3	+0.1
AKGG	Akutan Green G	2.74	262		Pn	07 00 09.5	+0.4
ZRO	Akutan Zero	2.75	260		Pn	07 00 09.6	+0.2
AKMO	Akutan Morgan	2.77	260		Pn	07 00 09.8	+0.2
AKRB	Akutan Reef Bi	2.80	261		Pn	07 00 10.7	+0.8
ANON	Aniakchak	2.90	37		Pn	07 00 12.4	+1.1
ANNE	Aniakchak Nort	2.94	38		Pn	07 00 13.1	+1.2
UNV	Unalaska Valle	3.12	257		Pn	07 00 14.1	-0.2
UNV	Unalaska Valle	3.12	257	P	Pn	07 00 14.3	0.0
UNV	Unalaska Valle	3.12	257	P	Pn	07 00 14.2	-0.2
	baz=74,SNR=14						
MTBL	Makushin Table	3.18	260		Pn	07 00 15.7	+0.4
MNAT	Makushin Natee	3.21	258		Pn	07 00 15.3	-0.3
MSW	Makushin Switc	3.26	259		Pn	07 00 16.0	-0.3
MGOD	Makushin Gods	3.34	257		Pn	07 00 17.4	0.0
MAPS	Pakushin South	3.38	258		Pn	07 00 17.6	-0.3
CHIR	Chirikof Islan	3.49	68		Pn	07 00 19.7	+0.2
CHIR				IAML		07 01 22.8	
	comp=N,1μm,1.0s						
CHIR	Chirikof Islan	3.49	68	P	Pn	07 00 19.7	+0.2
	baz=252						
R16K	Pilot Point	3.61	35		Pn	07 00 22.4	+1.3
R16K	Pilot Point	3.61	35	IAML		07 01 36.0	
	comp=N,552nm,1.1s						
R16K				IAML		07 02 13.9	
	comp=E,492nm,2.9s						
R16K	Pilot Point	3.61	35	P	Pn	07 00 22.4	+1.3
	baz=217						
R17K	Ugashik Creek	4.09	41	P	Pn	07 00 29.1	+1.4
	baz=225,SNR=28						
PLK1	Peulik 1	4.12	38		Pn	07 00 29.5	+1.4
PLK3	Peulik 3	4.17	41		Pn	07 00 30.5	+1.7
OKCE	Okmok Cone E	4.19	256		Pn	07 00 29.1	+0.1
SII	Sitkinak Islan	4.50	62		Pn	07 00 33.2	-0.2
SII	Sitkinak Islan	4.50	62	P	Pn	07 00 33.3	0.0
SII	Sitkinak Islan	4.50	62	P	Pn	07 00 33.1	-0.2
	baz=247						
O14K	Tigyukauivet M	4.61	1	P	Pn	07 00 35.2	+0.4
	baz=181,SNR=7.4						
O15K	Ungalikthiuk R	4.61	10		Pn	07 00 35.0	+0.1
O15K	Ungalikthiuk R	4.61	10	P	Pn	07 00 35.2	+0.4
	baz=191,SNR=6.2						
Q17K	Contact Creek	4.72	38	P	Pn	07 00 37.2	+0.7
	baz=222,SNR=13						
NIKH	Nikolski High	4.74	252	P	Pn	07 00 38.2	+1.6
P16K	Nushagak River	4.76	22		Pn	07 00 37.6	+0.7
P16K	Nushagak River	4.76	22	P	Pn	07 00 37.4	+0.5
	baz=204						
Q16K	King Salmon	4.80	31	P	Pn	07 00 38.6	+1.3
	baz=215,SNR=7.8						
R18K	Karluk	4.85	50		Pn	07 00 38.9	+0.9
R18K	Karluk	4.85	50	IAML		07 01 52.3	
	comp=E,289nm,0.5s						
R18K				IAML		07 01 56.0	
	comp=N,347nm,0.6s						
R18K	Karluk	4.85	50	P	Pn	07 00 38.4	+0.4
	baz=236						
KABR	Katmai Barrier	4.98	43		Pn	07 00 40.7	+0.8
O16K	Kokwok River B	5.26	18		Pn	07 00 43.7	0.0
O16K	Kokwok River B	5.26	18	P	Pn	07 00 43.9	+0.2
	baz=201,SNR=21						
N14K	Kuskokwak Cree	5.29	358		Pn	07 00 44.7

baz=192,SNR=7.7
P19K Oil Pt 6.68 38 Pn 07 01 05.3 +2.1
N18K Kilae Creek 6.72 24 Pn 07 01 03.8 +0.1
N18K Kilae Creek 6.72 24 P Pn 07 01 04.2 +0.5
baz=208
O19K Port Alsworth 6.73 32 Pn 07 01 04.9 +1.1
O19K Port Alsworth 6.73 32 P Pn 07 01 05.3 +1.5
baz=217,SNR=18
L14K Kuka Creek 6.74 355 P Pn 07 01 04.4 +0.5
baz=174,SNR=24
ILSW Iliamna Southw 6.95 36 Pn 07 01 08.9 +1.9
IVE Iliamna Volcan 7.02 37 Pn 07 01 09.1 +1.2
M17K Holitna River 7.08 16 P Pn 07 01 09.2 +0.5
baz=199,SNR=11
L16K Owhat River 7.15 7 Pn 07 01 09.2 -0.3
L16K Owhat River 7.15 7 P Pn 07 01 09.7 +0.2
baz=189,SNR=6.1
SVW2 Sparrevohn 7.16 23 Pn 07 01 10.6 +0.9
N19K Bonanza Creek 7.19 28 Pn 07 01 11.8 +1.6
N19K Bonanza Creek 7.19 28 P Pn 07 01 11.9 +1.7
baz=214,SNR=18
O20K Slope Mountain 7.20 37 Pn 07 01 12.0 +1.6
O20K Slope Mountain 7.20 37 P Pn 07 01 11.7 +1.3
baz=225
CNPM China Poot 7.37 44 Pn 07 01 12.6 0.0
RDWB Redoubt West 7.43 35 Pn 07 01 15.2 +1.6
RDSO Redoubt South 7.43 35 Pn 07 01 15.2 +1.6
RSO Redoubt South 7.44 35 Pn 07 01 15.4 +1.7
NCT North Crescent 7.45 34 Pn 07 01 15.3 +1.5
K13K Kusilvak Mount 7.50 348 Pn 07 01 14.8 +0.5
K13K Kusilvak Mount 7.50 348 P Pn 07 01 14.7 +0.3
baz=165,SNR=14
RDT Redoubt 7.63 35 Pn 07 01 17.7 +1.4
K15K Wolf Creek Mou 7.66 359 Pn 07 01 16.9 +0.4
K15K Wolf Creek Mou 7.66 359 P Pn 07 01 16.7 +0.2
baz=179,SNR=8.8
L17K Donlin 7.67 11 Pn 07 01 17.0 +0.2
BRSE Bradley Lake S 7.70 44 P Pn 07 01 17.7 +0.6
baz=233
L18K Granite Mounta 7.97 16 P Pn 07 01 21.3 +0.5
baz=200,SNR=8.3
ATKA Atka Island 8.04 257 Pn 07 01 22.1 +0.3
ATKA Atka Island 8.04 257 P Pn 07 01 22.0 +0.2
M19K Big River Lodg 8.14 24 Pn 07 01 23.6 +0.5
M19K Big River Lodg 8.14 24 P Pn 07 01 24.3 +1.1
baz=210
SPNN North Nagishla 8.15 31 Pn 07 01 25.2 +1.8
N20K Mount Spurr 8.17 33 P Pn 07 01 24.5 +0.9
baz=220,SNR=6.2
SPCR Spurr Chakacha 8.17 33 Pn 07 01 25.0 +1.4
SPCR Spurr Chakacha 8.17 33 P Pn 07 01 23.8 +0.2
baz=220,SNR=5.4
J14K Nanvaranak Lak 8.20 353 Pn 07 01 24.0 +0.1
J14K Nanvaranak Lak 8.20 353 P Pn 07 01 24.1 +0.2
baz=171,SNR=7.7
SPCP Crater Peak Br 8.24 33 Pn 07 01 23.9 -0.7
K17K Iditarod 8.24 10 Pn 07 01 24.5 0.0
K17K Iditarod 8.24 10 P Pn 07 01 24.9 +0.4
baz=192,SNR=5.8
L19K White Mountain 8.28 22 Pn 07 01 25.1 0.0
L19K White Mountain 8.28 22 P Pn 07 01 25.8 +0.7
baz=207,SNR=6.1
SEW Seward 8.44 45 Pn 07 01 27.1 0.0
M20K Styx River 8.44 28 Pn 07 01 29.1 +1.8
M20K Styx River 8.44 28 P Pn 07 01 29.6 +2.3
baz=214,SNR=13
STLK Strandline Lak 8.51 32 Pn 07 01 29.9 +1.6
J16K Anvik River 8.66 2 Pn 07 01 30.2 -0.1
J16K Anvik River 8.66 2 P Pn 07 01 30.7 +0.4
baz=183,SNR=7.7
SUA Susitna One 8.84 35 Pn 07 01 33.2 +0.4
SUA Susitna One 8.84 35 P Pn 07 01 33.2 +0.4
baz=224
J17K VABM Dome 8.85 7 P Pn 07 01 32.7 -0.1
baz=189
RC01 Rabbit Creek A 8.94 39 P Pn 07 01 35.0 +1.0
baz=229
SKT Skwentna 8.97 31 Pn 07 01 36.0 +1.4
SKT Skwentna 8.97 31 P Pn 07 01 36.2 +1.6
baz=219,SNR=7.5
J18K Innoko River 9.15 13 P Pn 07 01 37.3 +0.3
baz=197
P23K Montague Islan 9.25 49 Pn 07 01 37.4 -0.9
M22K Willow 9.26 35 P Pn 07 01 38.2 -0.2
baz=225
PWL Port Wells 9.33 43 Pn 07 01 38.2 -1.2
PWL Port Wells 9.33 43 P Pn 07 01 39.6 +0.2
baz=234
PMR Palmer 9.49 38 Pn 07 01 42.2 +0.7
PMR Palmer 9.49 38 P Pn 07 01 42.0 +0.5
baz=228
K20K Telida 9.50 20 Pn 07 01 41.8 +0.1
K20K Telida 9.50 20 P Pn 07 01 42.3 +0.6
baz=206,SNR=6.1
PPLA Purkeypile 9.53 26 P Pn 07 01 42.9 +0.7
baz=214
KNK Knik Glacier 9.62 40 Pn 07 01 41.6 -1.7
KNK Knik Glacier 9.62 40 P Pn 07 01 42.6 -0.8
baz=231
GHO Glory Hole Cre 9.68 38 Pn 07 01 41.8 -2.5
CUT Chulitna 9.69 32 Pn 07 01 44.5 +0.3
CUT Chulitna 9.69 32 P Pn 07 01 44.0 -0.2
baz=222
J19K Poorman 9.81 15 Pn 07 01 45.8 -0.2
J19K Poorman 9.81 15 P Pn 07 01 46.0 0.0
baz=200,SNR=12
GLI Glacier Island 9.84 45 P Pn 07 01 45.9 -0.5
baz=237
HIN Hinchinbrook I 9.84 48 Pn 07 01 45.2 -1.1
SML Sawmill 9.92 38 P Pn 07 01 47.2 -0.3
baz=229
CAST Castle Rocks 9.99 25 Pn 07 01 49.1 +0.6
CAST Castle Rocks 9.99 25 P Pn 07 01 48.3 -0.2
baz=213
FID Port Fidalgo 10.03 46 Pn 07 01 46.9 -2.1
M23K Glacier View 10.13 40 P Pn 07 01 49.6 -0.8
baz=231
J20K Nowinta River 10.23 18 P Pn 07 01 51.4 -0.3
baz=204,SNR=14
EYAK Cordova Ski Ar 10.24 48 P Pn 07 01 51.7 -0.1
SCM Sheep Creek Mo 10.30 40 P Pn 07 01 52.1 -0.7
baz=232
CHUM Lake Minchumin 10.34 23 P Pn 07 01 53.1 0.0
baz=211
H17K Granite Mounta 10.34 3 P Pn 07 01 52.6 -0.6
baz=185
GCSA Galena City Sc 10.37 11 P Pn 07 01 52.7 -0.9
baz=195
G15K Niukluk 10.46 354 P Pn 07 01 54.3 -0.5
baz=172
TRF Thorofare Moun 10.49 28 P Pn 07 01 54.5 -0.8
baz=218,SNR=6.0
WAT1 Susitna Watana 10.54 34 P Pn 07 01 54.2 -1.7
baz=225
H18K Honhosa River 10.64 7 P Pn 07 01 58.6 +1.3
baz=190
WAT6 Susitna Watana 10.64 36 P Pn 07 01 55.4 -2.1
baz=228
KLU Klutina 10.65 44 P Pn 07 01 56.8 -0.7
baz=237,SNR=14
I20K Naaghedeneel 10.74 16 P Pn 07 01 58.2 -0.5
baz=202
G16K Koyuk River 10.78 358 P Pn 07 01 59.3 0.0
baz=177
BPAW Bear Paw Mtn. 10.83 25 Pn Pn 07 01 59.4 -0.6
BPAW Bear Paw Mtn. 10.83 25 P Pn 07 02 00.8 +0.8
baz=214
G17K Kiwalik Mounta 10.89 2 P Pn 07 02 00.9 +0.2
baz=182
M24K Tolsona, Glenn 10.90 41 P Pn 07 02 00.5 -0.5
baz=234
BMRM Bremner River 10.93 48 P Pn 07 02 00.6 -0.8
baz=242
MCK McKinley 11.09 30 P Pn 07 02 03.1 -0.4
baz=220
DHY Denali Highway 11.10 35 P Pn 07 02 01.8 -1.9
baz=227
H19K Roundabout Mou 11.18 11 P Pn 07 02 04.6 +0.1
baz=195
F15K North Star Dit 11.21 353 P Pn 07 02 05.0 0.0
baz=170
H20K Anotleneega Mo 11.34 14 P Pn 07 02 07.0 +0.2
baz=200,SNR=8.5
G18K Tagagawik 11.36 6 P Pn 07 02 07.1 0.0
baz=188,SNR=5.4
HARP HAARP 11.46 41 P Pn 07 02 08.0 -0.5
baz=235
GLB Gilahina Butte 11.50 47 Pn Pn 07 02 07.9 -1.2
CRQE Cirque 11.50 51 P Pn 07 02 09.2 0.0
baz=246
I21K Tanana 11.54 20 P Pn 07 02 09.6 0.0
baz=208
MLY Manley 11.68 23 P Pn 07 02 12.2 +0.7
baz=212
PAX Paxson 11.69 38 P Pn 07 02 10.8 -0.9
baz=232,SNR=9.4
NEA2 Nenana 11.72 27 P Pn 07 02 12.3 +0.2
baz=217
H21K Melozitna Rive 11.81 18 Pn Pn 07 02 14.2 +0.8
H21K Melozitna Rive 11.81 18 P Pn 07 02 14.5 +1.1
baz=205,SNR=6.3
I23K Minto, Yukon-K 12.10 25 P Pn 07 02 18.1 +1.0
baz=215,SNR=8.6
COLA College 12.27 28 P Pn 07 02 19.3 -0.2
baz=220
H22K Ishtalitna Cre 12.29 20 P Pn 07 02 20.0 +0.2
baz=208
M26K Nabesna, AK 12.31 44 P Pn 07 02 20.2 +0.1
baz=239
CTG Chitna Glacier 12.38 51 P Pn 07 02 21.8 +0.7
baz=248
RIDG Independent Ri 12.39 36 P Pn 07 02 20.4 -0.9
baz=230,SNR=10
IL31 12.46 30 Pn 07 02 18.4 -3.7
ILAR Eielson Array 12.46 30 Pn Pn 07 02 18.6 -3.6
comp=N,0.5nm,0.3s,baz=221,slow=14,SNR=21
comp=N,2.4nm,0.7s
G21K Allakaket 12.49 15 P Pn 07 02 22.5 -0.1
baz=202
L26K Log Cabin Wild 12.50 41 P Pn 07 02 22.3 -0.5
baz=236
POKR Poker Plat Res 12.57 28 P Pn 07 02 23.6 -0.1
baz=220
PINM Pinnacle 12.60 56 P Pn 07 02 23.2 -0.9
baz=254
F20K Avaraart Lake 12.73 10 P Pn 07 02 25.1 -0.6
baz=195
M27K Edge Creek, AK 12.74 45 P Pn 07 02 25.2 -0.9
baz=241
J25K Salcha River, 12.80 32 P Pn 07 02 25.0 -1.8
baz=226
O28M Mount Upton 12.84 53 P Pn 07 02 26.4 -1.1
baz=251
SCRK Sand Creek 12.84 36 P Pn 07 02 25.9 -1.5
baz=231
PNL Peninsula 12.91 58 P Pn 07 02 28.9 +0.6
PNL Peninsula 12.91 58 P Pn 07 02 28.4 +0.1
baz=257
E19K Redstone River 13.00 7 P Pn 07 02 30.5 +1.1
baz=191
H24K Noodor Dome 13.02 25 Pn Pn 07 02 31.7 +1.9
H24K Noodor Dome 13.02 25 P Pn 07 02 29.5 -0.3
baz=217
YUK3 Moose Creek 13.08 49 P Pn 07 02 30.6 -0.3
baz=246,SNR=6.7
L27K Beaver Creek, 13.11 42 Pn Pn 07 02 29.5 -1.6
L27K Beaver Creek, 13.11 42 P Pn 07 02 30.2 -0.8
baz=239
BCAR Beaver Creek A 13.13 42 Pn Pn 07 02 28.8 -2.5
F21K Alatna River 13.16 14 P Pn 07 02 32.5 +0.8
baz=200
G22K Bettles 13.19 17 P Pn 07 02 33.2 +1.2
baz=206
YUK8 Steele Glacier 13.21 51 P Pn 07 02 33.4 +0.8
baz=249
G23K Bananza Creek 13.28 20 P Pn 07 02 33.8 +0.6
baz=210
J26L Joseph Creek 13.31 35 P Pn 07 02 32.9 -0.9
baz=230
O29M Mount Kennedy 13.46 56 P Pn 07 02 36.1 +0.1
baz=255,SNR=7.9
K27K Chicken 13.54 38 P Pn 07 02 35.7 -1.2
baz=235
F22K John River 13.62 15 P Pn 07 02 37.5 -0.4
baz=203
COLD Coldfoot 13.69 19 P Pn 07 02 38.6 -0.4
baz=208
P29M Windy Craggy 13.72 59 P Pn 07 02 40.1 +0.6
baz=259
G24K Hadweenzic Riv 13.82 24 P Pn 07 02 41.3 +0.7
baz=216,SNR=6.5
E20K Nigu River 13.86 8 P Pn 07 02 43.7 +2.3
baz=193
I26K Coal Creek Min 13.97 33 P Pn 07 02 40.1 -2.6
baz=229
P30M Million Dollar 14.21 57 P Pn 07 02 47.1 +1.1
baz=258
M29M Somme Creek 14.21 48 Pn Pn 07 02 45.3 -0.7
M29M Somme Creek 14.21 48 P Pn 07 02 45.7 -0.3
baz=247,SNR=12
E22K Anaktuvuk Pass 14.25 15 P Pn 07 02 48.1 +1.6
baz=203
E21K Killik River 14.26 11 P Pn 07 02 48.2 +1.6
baz=198
S31K Pelican 14.31 66 P Pn 07 02 47.6 +0.4
baz=267
PLBC Pleasant Camp 14.38 60 P Pn 07 02 48.7 +0.5
baz=261
F24K Squaw Lake 14.40 21 P Pn 07 02 50.7 +2.2
baz=213
L29M L29M 14.62 45 P Pn 07 02 53.8 +2.4
baz=245,SNR=6.6
I27K Kandik River 14.65 34 P P 07 02 54.6 -2.6
baz=231
D22K Ayikyak River 14.83 12 P P 07 02 58.3 -0.7
baz=200
C21K Knifeblade Rid 14.86 9 P P 07 02 59.4 0.0
baz=195
F25K Christian Rive 14.96 24 P P 07 03 00.4 -0.1
baz=218
M30M Minto, Yukon 14.98 48 P P 07 03 00.7 0.0
baz=249
TOLK Toolik Lake Re 15.06 17 P P 07 03 01.2 -0.4
baz=207
H27K Steamboat Moun 15.09 32 P P 07 03 00.1 -1.9
baz=229
N31M Braeburn, Yuko 15.09 53 P P 07 02 59.9 -2.1
baz=254
K29M Barlow Dome 15.18 43 P P 07 03 00.8 -2.3
baz=244,SNR=6.8
WHY Whitehorse 15.33 56 P Pn 07 03 01.9 +1.2
baz=258
G27K Doyon Strip 15.43 30 P Pn 07 03 02.9 +0.9
baz=227
I29M Ogilvie Camp, 15.63 38 P Pn 07 03 05.0 +0.5
baz=238
MAYO Mayo, Yukon 15.74 45 Pn Pn 07 03 04.8 -1.1
MAYO Mayo, Yukon 15.74 45 P Pn 07 03 06.2 +0.3
baz=247
P32M Atlin 15.74 61 P P 07 03 07.5 -1.7
baz=264
M31M Drury Creek, Y 15.92 51 Pn Pn 07 03 08.9 +0.6
M31M IAmb IAmb 07 03 14.4
comp=Z,20nm,1.0s
M31M Drury Creek, Y 15.92 51 P Pn 07 03 08.8 +0.6
baz=254,SNR=5.3
J30M Hart River 15.98 42 Pn 07 03 09.2 +0.1
J30M IAmb IAmb 07 03 27.1
comp=Z,28nm,1.2s
J30M Hart River 15.98 42 P Pn 07 03 09.2 +0.1
baz=243
H29M Whitestone 16.09 35 P Pn 07 03 11.1 +0.8
baz=235
I30M Mount Dempster 16.26 39 P Pn 07 03 13.0 +0.4
baz=241,SNR=5.1
P33M Teslin, Yukon 16.26 58 P Pn 07 03 13.3 +0.7
baz=262
FARO Faro, Yukon 16.40 51 IAmb IAmb 07 03 36.8
comp=Z,12nm,0.9s
FARO Faro, Yukon 16.40 51 P P 07 03 15.3 -1.2
baz=255
Q32M Nakina River 16.43 63 P Pn 07 03 15.1 +0.2
baz=267
F28M Old Crow 16.49 30 P Pn 07 03 15.9 +0.5
baz=228
G29M Pine Creek 16.61 33 IAmb IAmb 07 03 21.4
comp=Z,16nm,1.1s
G29M Pine Creek 16.61 33 P Pn 07 03 16.9 0.0
baz=234
EPYK Eagle Plains 16.73 36 Pn 07 03 18.8 +0.3
EPYK IAmb IAmb 07 03 23.1
comp=Z,27nm,1.2s
EPYK Eagle Plains 16.73 36 P Pn 07 03 17.9 -0.5
baz=237
S34M Telegraph Cree 17.03 67 P P 07 03 22.7 -0.7
baz=272
R33M Jennings River 17.12 62 P P 07 03 24.1 -0.5
baz=267
G30M tAoh Zraii Nji 17.23 34 IAmb IAmb 07 03 51.1
comp=Z,27nm,1.5s
G30M tAoh Zraii Nji 17.23 34 P Pn 07 03 24.0 -0.7
baz=236
H31M Peel River 17.28 39 IAmb IAmb 07 03 45.4
comp=Z,14nm,1.0s
H31M Peel River 17.28 39 P Pn 07 03 24.8 -0.5
baz=243
MMPY Sheldon Lake, 17.44 51 IAmb IAmb 07 03 37.2
comp=Z,18nm,1.3s
MMPY Sheldon Lake, 17.44 51 P Pn 07 03 27.1 -0.1
baz=256
T35M Bob Quinn 17.56 70 P P 07 03 28.6 -0.7
baz=275
DLBC Dease Lake 17.60 65 P Pn 07 03 28.8 -0.4
baz=271
DLBC Dease Lake 17.60 65 P P 07 03 29.2 -0.6
comp=Z,0.2nm,0.3s,baz=244,slow=13,SNR=3.9
comp=Z,4.3nm,0.9s
F30M Barrier River 17.72 33 P Pn 07 03 30.2 -0.5
baz=235
G31M Satah River 17.85 36 P Pn 07 03 31.4 -0.8
baz=240
F31M Tsiigehtchic 18.29 35 P P 07 03 37.0 -0.2
baz=239
TGTN Hyland Airport 18.63 55 P Pn 07 03 41.9 +0.1
baz=263
INK Inuvik 18.82 33 P Pn 07 03 44.3 +0.4
INK Inuvik 18.82 33 P Pn 07 03 44.1 +0.2
baz=237
INK Inuvik 18.82 33 P P 07 03 40.3 -2.7
comp=Z,7.7nm,0.9s,baz=195,slow=5.5,SNR=13
INK LR LR 07 10 56.4
comp=Z,109nm,18.9s,baz=184,slow=37
LIRD Liard River Hi 19.61 62 P Pn 07 03 53.1 -0.3
baz=271
PETK Petropavlovsk- 23.94 283 P P 07 04 33.6 -3.4
comp=Z,3.5nm,0.5s,baz=79,slow=13,SNR=25
comp=Z,3.5nm,0.5s
YKA Yellowknife Ar 25.09 53 P P 07 04 48.6 +1.1
comp=Z,2.7nm,0.9s,baz=278,slow=9.3,SNR=4.4
comp=Z,2.7nm,0.9s
MA2 Magadan 25.98 300 LR LR 07 15 28.7
comp=Z,12nm,18.7s,baz=104,slow=38
NEW Newport 27.92 85 LR LR 07 14 29.9
comp=Z,17nm,19.1s,baz=304,slow=32
YBH Yreka Blue Hor 28.44 101 LR LR 07 14 29.9
comp=Z,38nm,19.4s,baz=304,slow=32
J08A Circle Bar Ran 29.86 94 P P 07 05 32.3 +1.9
J08A IAmb IAmb 07 05 33.1
comp=Z,3.4nm,0.7s
HLID Hailey 32.09 91 P P 07 05 49.5 -0.8
baz=307
NVAR Mina Array Bea 33.16 101 P P 07 06 01.3 +1.7
comp=Z,0.4nm,0.6s,baz=309,slow=9.1,SNR=4.0
comp=Z,0.4nm,0.6s
ELK Elko 33.38 95 P P 07 06 03.5 +1.9
ELK IAmb IAmb 07 06 04.3
comp=Z,3.0nm,0.9s
ELK Elko 33.38 95 LR LR 07 17 11.6
comp=Z,22nm,18.7s,baz=329,slow=32
R11B Troy Canyon, C 34.77 99 P P 07 06 15.6 +2.0
R11B Troy Canyon, C 34.77 99 P P 07 06 14.1 +0.6
baz=313
DUG Dugway, Tooele 35.14 94 P P 07 06 18.1 +1.5
baz=311
MPMC Manual Prospec 35.28 103 P P 07 06 19.9 +1.8
baz=316
PDAR Pinedale Array 35.40 88 P P 07 06 20.6 +1.6
comp=Z,0.2nm,0.6s,baz=280,slow=7.2,SNR=2.2
comp=Z,0.2nm,0.6s
RSSD Black Hills 37.77 82 P P 07 06 39.6 +0.5
baz=307
O20A White River Ci 37.83 90 P P 07 06 40.1 +0.5
baz=311
IKP In-Ko-Pah, Jac 38.55 106 P P 07 06 45.8 +0.1
baz=319
N23A Red Feather La 38.67 87 P P 07 06 45.6 -1.2
baz=310
ULM Lac du Bonnet 38.86 69 P P 07 06 47.8 -0.2
comp=Z,3.3nm,0.7s,baz=304,slow=9.3,SNR=4.5
ULM LR LR 07 21 19.3
comp=Z,29nm,18.6s,baz=3.5,slow=34
comp=Z,3.3nm,0.7s
MVCO Mesa Verde 39.64 94 P P 07 06 54.4 -0.5
baz=314
AGMN Agassiz Nation 39.95 71 P P 07 06 57.0 0.0
baz=305
T25A Trinidad 42.06 90 P P 07 07 15.1 +0.3
baz=313
ECSD EROS Data Cent 42.25 77 P P 07 07 15.6 -0.4
baz=309
ANMO Albuquerque 42.40 95 LR LR 07 23 54.7
comp=Z,28nm,18.8s,baz=133,slow=35
SPMN Marine on St. 43.46 73 P P 07 07 26.1 +0.3
baz=306
MJAR Matsushiro Arr 44.48 272 P P 07 07 31.9 -2.2
comp=Z,1.3nm,0.3s,baz=34,slow=6.3,SNR=4.1
comp=Z,1.3nm,0.3s
MSTX Muleshoe 45.23 92 P P 07 07 40.5 +0.3
baz=316
KSU1 Kansas State U 45.25 82 P P 07 07 40.6 +0.4
baz=312
JHJ Hachijo jima 2 45.98 267 LR LR 07 24 22.3
comp=Z,32nm,21.7s,baz=94,slow=33
KAN09 Caldwell North 46.01 85 P P 07 07 48.2 +2.1
WMOK Wichita Mounta 47.01 88 P P 07 07 53.6 -0.4
baz=315
TXAR Lajitas Array 48.11 97 P P 07 08 03.7 +1.0
comp=Z,0.3nm,0.6s,baz=306,slow=7.2,SNR=3.8
TXAR LR LR 07 26 54.3
comp=Z,14nm,19.6s,baz=9.0,slow=34
comp=Z,0.3nm,0.6s
HDIL Hopedale 48.45 76 P P 07 08 04.8 -0.2
baz=312
KSRS Korea Array 49.79 280 P P 07 08 14.6 -0.7
comp=Z,2.1nm,0.8s,baz=52,slow=6.6,SNR=2.9
comp=Z,2.1nm,0.8s
SFIN Lafayette 49.80 74 P P 07 08 15.6 +0.3
baz=313
MIAR Mount Ida 50.16 84 P P 07 08 18.6 +0.4
baz=316
XLT XiLinHaoTe 51.91 294 eP P 07 08 30.7 -0.7
XLT pmax pmax
comp=Z,13nm,0.8s
XLT pmax pmax
comp=Z,100nm,4.9s
WVT Waverly 52.34 79 P P 07 08 34.6 +0.1
baz=315
OXF Oxford 52.59 81 P P 07 08 35.5 -0.8
baz=316
SONM Songino Array 54.12 304 P P 07 08 46.2 -1.4
comp=Z,1.3nm,0.7s,baz=46,slow=6.4,SNR=6.3
comp=Z,1.3nm,0.7s
TKL Tuckaleechee C 54.97 76 LR LR 07 31 52.1
comp=Z,31nm,18.4s,baz=4.5,slow=35
LBNH Lisbon 55.26 61 P P 07 08 56.3 +0.5
baz=315
HHC Hu-ho-hao-te 56.44 295 eP P 07 09 07.0 +2.6
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,110nm,5.1s
KURBB Kurchatov Arra 63.78 322 P P 07 09 53.0 -1.3
comp=Z,0.3nm,0.4s,baz=32,slow=6.4,SNR=2.7
comp=Z,0.3nm,0.4s
BVAR Borovoye Array 64.45 328 P P 07 09 58.0 -0.7
comp=Z,1.6nm,0.7s,baz=46,slow=6.4,SNR=7.2
comp=Z,1.6nm,0.7s
WMQ Urumqi 65.72 312 eP P 07 10 09.3 +2.2
WMQ pP pP 07 10 18.4 -2.3
WMQ sP sP 07 10 23.1 -3.0
WMQ pmax pmax
comp=Z,13nm,0.7s
PZH PanZhiHua 72.61 291 P P 07 10 52.4 +2.2
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
AKASG Malin Array Be 74.64 353 P P 07 10 59.9 -1.5
comp=Z,1.2nm,0.5s,baz=7.8,slow=6.0,SNR=5.1
comp=Z,1.2nm,0.5s
CMAR Chiang Mai Arr 80.60 288 P P 07 11 34.2 -1.0
comp=Z,2.3nm,0.7s,baz=23,slow=5.9,SNR=11
comp=Z,2.3nm,0.7s

ESDC	Sonseca Array	84.06	17	P	P	07 11 55.1	+2.0
	comp=Z,1.0nm,1.1s,baz=334,slow=4.4,SNR=4.1						
	comp=Z,1.0nm,1.1s						
MDT	Midelt	90.61	19	LR	LR	07 57 41.7	
	comp=Z,33nm,18.2s,baz=360,slow=39						
H03N2	Juan Fernandez	112.49	116	T	T	09 20 30.9	
	baz=323,slow=76,SNR=3.8						
H03N1	Juan Fernandez	112.50	116	T	T	09 20 38.0	
	baz=323,slow=76,SNR=3.9						
H03N3	Juan Fernandez	112.50	116	T	T	09 20 26.6	
	baz=323						

IDC 03 07:05:37.0±3.8, 54°.34N×87°.52E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=34.2km s-min=21.4km az=36.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.63	257	I	I	07 15 30.0	
	baz=77,slow=330,SNR=2.8						
ZALV	Zalesovo Beam	1.63	257	Pg	Pn	07 06 05.2	-1.9
	0.9nm,0.3s,baz=76,slow=17,SNR=7.9						
ZALV				Lg	Lg	07 06 29.9	
	0.7nm,0.3s,baz=76,slow=32,SNR=5.5						
KURBB	Kurchatov Arra	6.63	240	Pn	Pn	07 07 15.7	+0.1
	0.1nm,0.3s,baz=55,slow=14,SNR=4.6						
	0.3nm,0.3s						
MKAR	Makanchi Array	8.25	206	Pn	Pn	07 07 39.8	+1.9
	0.1nm,0.3s,baz=27,slow=14,SNR=1.3						
	0.2nm,0.6s						

NNC 03 07:15:58.2±4.0, 48°.63N×77°.80E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=32.1km s-min=17.1km az=56.0, Suspected Mining explosion.

IDC 03 07:14:59.0±3.6, 54°.33N×86°.99E, h0km, mbtmp2.8/1, ML2.7/1, 3C-3D, Error ellipse: s-maj=29.3km s-min=17.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.34	254	I	I	07 24 05.0	
	baz=72,slow=327,SNR=30						
ZALV	Zalesovo Beam	1.34	254	Pg	Pg	07 15 23.1	-1.5
	1.8nm,0.3s,baz=72,slow=16,SNR=22						
ZALV				Lg	Lg	07 15 42.0	
	1.9nm,0.3s,baz=77,slow=27,SNR=10						
KURK	Kurchatov	6.26	238	⇓Pg	Pn	07 16 37.9	+5.4
	3.0nm,0.7s						
KURK				⇓Lg	Lg	07 17 05.3	
	2.3nm,0.5s						
KURBB	Kurchatov Arra	6.37	238	⇓Pg	Pn	07 16 35.7	+1.8
	2.1nm,0.5s,baz=197,slow=16						
KURBB				⇑Lg	Lg	07 17 03.0	
	5.0nm,0.8s,baz=193,slow=22						
KURBB	Kurchatov Arra	6.37	238	Lg	Lg	07 18 20.9	
	baz=57,slow=31,SNR=3.6						
MK31	Makanchi Array	8.12	204	⇑Pg	Pn	07 17 05.3	+7.3
	0.2nm,0.3s,baz=28,slow=15,SNR=4.7						
MK31				⇑Lg	Lg	07 17 47.3	
	0.7nm,0.6s						
MKAR	Makanchi Array	8.12	204	Pn	Pn	07 16 59.9	+1.9
	0.1nm,0.3s,baz=24,slow=12,SNR=2.1						
MKAR				Lg	Lg	07 19 17.0	
	baz=25,slow=38						
	0.3nm,0.5s						

IDC 03 07:32:48.1±2.3, 0°.87N×127°.54E, h0km, mb3.3/3, mbtmp3.3/3, MS2.2/1, Error ellipse: s-maj=168.1km s-min=28.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	9.74	233	LR	LR	07 39 17.9	
	comp=Z,14nm,21.2s,baz=77,slow=40						
WRA	Warramunga Arr	21.73	163	P	P	07 37 40.0	-1.2
	0.6nm,0.6s,baz=342,slow=11,SNR=8.1						
	0.6nm,0.6s						
ASAR	Alice Springs	25.16	166	P	P	07 38 16.3	+0.9
	0.7nm,0.8s,baz=353,slow=15,SNR=6.7						
	0.7nm,0.8s						
MKAR	Makanchi Array	60.35	326	P	P	07 42 58.9	-0.2
	0.2nm,0.5s,baz=123,slow=5.3,SNR=1.9						
	0.2nm,0.5s						

LJU 03 07:40:06.8, 46°.07N×15°.15E, h10km, ML0.3, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDKS	Podkum	0.10	268	⇑iPg	Pg	07 40 09.8	+0.3
PDKS				iSg	Sg	07 40 11.7	+0.3
PDKS				IAML		07 40 12.3	
	comp=Z,4.8nm,0.1s						
LEGS	Legarje	0.17	134	⇓iPg	Pg	07 40 10.6	+0.2
LEGS				iSg	Sg	07 40 13.2	+0.3
VISS	Visnje	0.34	219	iSg	Sg	07 40 18.4	+0.4
VISS				IAML		07 40 19.1	
	comp=Z,0.9nm,0.1s						

VIE 03 07:40:24.2±0.2, 46°.69N×13°.82E, h0km, mb0.2/1, ml1.0/3, Error ellipse: s-maj=1.7km s-min=1.3km az=7.0 5 km SSE of Afritz Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYKA	Terra Mystica	0.13	246	ePg	Pg	07 40 26.6	-0.2
	0.5nm,0.1s						
MYKA				iSg	Sg	07 40 28.7	+0.1
	1.5nm,0.1s						
KBA	Koelnbreinsper	0.51	321	ePg	Pg	07 40 34.3	+0.3
	0.1nm,0.1s						
KBA				iSg	Sg	07 40 41.5	+0.8
	0.3nm,0.1s						
OBKA	Obir	0.53	109	eSg	Sg	07 40 42.0	+0.7
	3.1nm,0.3s						

TRN 03 08:01:49.0, 10°.83N×62°.45W, h26km, MD3.6
FUNV 03 08:01:51.2, 10°.82N×62°.33W, h27km, MW3.4

ISC 03 08:01:49.0±1.6, 10°.79N±0°.08×62°.34W±0°.06, h92km±16km, n17, σ1°.09/29, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.89	263	⇓iP	Pn	08 02 08.3	+0.7
CRUV				eS	Sn	08 02 20.4	-1.2
TRN	Trinidad (W)	0.93	98	eP	Pn	08 02 08.8	+0.8
TRN				eS	Sn	08 02 21.7	-0.6
GRGR	Grenville	1.50	27	eP	Pn	08 02 14.7	-0.2
GRGR				eS	Sn	08 02 33.3	-1.1
GRHS	Sauteurs	1.58	25	eP	Pn	08 02 16.0	0.0
GRHS				eS	Sn	08 02 35.4	-1.0
CUMV	Cumana_UDO	1.86	259	eP	Pn	08 02 21.4	+2.0
CUMV				eS	Sn	08 02 43.7	+1.0
GCMP	Grenada, Carri	1.91	28	eP	Pn	08 02 20.2	0.0
GCMP				eS	Sn	08 02 42.8	-1.1
PCRV	Puerto La Cruz	2.34	255	eP	Pn	08 02 27.3	+1.5
PCRV				eS	Sn	08 02 53.5	-0.6
SVOC	Richmond Hill,	2.59	25	eP	Pn	08 02 30.5	+1.3
SVOC				eS	Sn	08 02 59.3	-0.7
SVB	Belmont	2.69	23	eP	Pn	08 02 31.4	+0.9
SVB				eS	Sn	08 03 02.6	+0.3
SVV	Soufriere Volc	2.75	23	eP	Pn	08 02 31.9	+0.7
SSV	Crater Summit	2.76	24	eS	Sn	08 03 03.9	-0.2
MCLT	Moule a Chique	3.21	25	eP	Pn	08 02 38.0	+0.5
MCLT				eS	Sn	08 03 14.9	0.0
SLBI	Saint Lucia, B	3.48	22	eP	Pn	08 02 42.0	+0.9
SLBI				eS	Sn	08 03 21.2	-0.1
CACV	CAICARA DEL OR	5.24	233	eP	Pn	08 03 00.3	-4.7
CACV				eS	Sn	08 03 53.1	-11
BENV	Beln	5.24	261	eP	Pn	08 03 06.3	+1.2
BENV				eS	Sn	08 04 02.8	-1.5
BAUV	El Baul	5.91	252	eP	Pn	08 03 13.9	-0.3
BAUV				eS	Sn	08 04 17.8	-2.8
BAUV	El Baul	5.91	252	eP	Pn	08 03 13.8	-0.3

TAP 03 08:07:01.2, 24°.88N×122°.40E, h1km, ML3.0, C
JMA 03 08:07:01.8±0.1, 24°.8N±0°.9×122°.5E±0°.4, h0km, MV2.8/11, NW OFF ISHIGAKIJIMA IS

ISC 03 08:07:01.3±1.1, 24°.93N±0°.04×122°.48E±0°.02, h8km±10km, n40, σ0°.66/52, 4C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.45	280	iP	Pb	08 07 10.7	-0.8
	baz=289						
TWB1				iS	Sg	08 07 16.9	+0.9
	baz=289						
EGS		0.50	261	eP	Pg	08 07 11.6	+0.6
	baz=265						
EGS				eS	Sg	08 07 15.5	-2.1
	baz=265						
EOS2	EOS2	0.55	204	eP	Pg	08 07 12.5	+0.6
	baz=193						
SXI1	Grass Mountain	0.57	287	eP	Pb	08 07 13.6	-0.1
	baz=294						
SXI1				eS	Sb	08 07 22.1	+0.2
	baz=294						
JYNG	Yonagunijimaku	0.64	138	P	Pg	08 07 13.4	-0.2
JYNG				eS	Sg	08 07 22.0	+0.1
NWF	Wu-fen Shan	0.65	283	⇓iP	Pb	08 07 15.0	+0.1
	baz=289						
WFSB	Wu-fen Shan	0.65	283	⇓eP	Pb	08 07 15.0	+0.1
	baz=289						
EOS3	EOS3	0.66	193	eP	Pg	08 07 14.6	+0.7
	baz=178						
EOS3				eS	Sb	08 07 24.8	+0.7
	baz=178						
TWC	Suao	0.66	241	iP	Pg	08 07 13.4	-0.4
	baz=254						
TWC				S	Sb	08 07 23.9	-0.3
	baz=254						
YOJ	Yonaguni jima	0.67	134	P	Pg	08 07 14.2	0.0
YOJ				eS	Sg	08 07 22.8	-0.1
TNOU	National Taiwa	0.68	289	eP	Pb	08 07 15.5	+0.1
	baz=295						
PCYT	Pengchaiyu	0.79	332	eP	Pn	08 07 18.1	-0.6
	baz=353						
EWUT	Wuta	0.80	233	eP	Pg	08 07 16.4	-0.2
	baz=232						
EOS4	EOS4	0.82	190	eP	Pg	08 07 17.1	+0.2
	baz=172						
EOS4				eS	Sg	08 07 28.1	+0.6
	baz=172						
FUSB	Fushanzhiwuyua	0.83	258	eP	Pb	08 07 17.6	-0.3
	baz=246						
YM08	YM08	0.85	288	⇑eP	Pb	08 07 18.5	+0.2
	baz=293						
YM01	YM01	0.85	285	eP	Pn	08 07 18.9	-0.8
	baz=290						
ENTT	Nioudou	0.88	251	eP	Pb	08 07 18.7	0.0
	baz=252						
LATG	Datong	0.95	246	eP	Pg	08 07 19.3	-0.3
	baz=247						
LATG				eS	Sg	08 07 31.8	-0.1
	baz=247						
YHNB	Yeheng	1.03	256	eP	Pg	08 07 21.2	0.0
	baz=257						
NACB	Ninganchiao	1.10	227	eP	Pg	08 07 21.2	-1.2
	baz=226						
NNSB	Datong	1.11	244	eP	Pg	08 07 22.1	-0.5
	baz=243						
NNS	Nan Shan	1.12	244	P	Pg	08 07 22.7	0.0
	baz=244						
ETLH	Xiulin Townshi	1.16	232	eP	Pg	08 07 23.0	-0.5
	baz=230						
TWD	Chiawan	1.17	224	eP	Pb	08 07 23.1	-0.5
	baz=222						
NFF	Wufeng Townshi	1.27	257	eP	Pg	08 07 27.4	+1.7
	baz=248						
IRIF	Iriomote-Funau	1.28	117	eP	Pg	08 07 26.0	+0.1
LXIB	Xiulin Townshi	1.33	227	⇑eP	Pn	08 07 25.7	-0.5
	baz=225						
WHF	Hehuan Shan	1.35	235	eP	Pn	08 07 26.8	-0.1
	baz=233						
LIOB	Emei	1.36	258	eP	Pg	08 07 29.1	+1.7
	baz=250						
NSTT	Nanjuang	1.38	258	⇓iP	Pg	08 07 29.1	+1.4
	baz=258						
CHGB	Renai	1.47	234	⇑eP	Pb	08 07 28.9	-0.1
	baz=234						
CHGB				eS	Sn	08 07 48.0	+0.1
	baz=234						
HATJ	Hateruma jima	1.49	125	eP	Pg	08 07 29.5	-0.3
HATJ				eS	Sg	08 07 49.3	+0.2
WHP	Taichung City	1.54	245	eP	Pg	08 07 30.6	-0.2
	baz=244						
WUSB	Renai	1.55	233	eP	Pn	08 07 29.8	+0.5
	baz=222						
JKRS	Kuro-shima	1.55	116	eP	Pn	08 07 29.5	+0.3
JKRS				S	Sn	08 07 49.5	-0.1
JIJ	Ishigaki jima	1.61	110	eP	Pb	08 07 31.1	-0.2
HGSD	Ruisui	1.72	214	eP	Pb	08 07 32.9	-0.3
	baz=194						
SSLB	Suanglung	1.79	231	⇑eP	Pb	08 07 34.7	+0.2
	baz=227						
YULB	Yu-li	1.87	215	eP	Pn	08 07 34.1	+0.4
	baz=210						

UCR 03 08:10:12.5±1.2, 5°.12N×82°.82W, h35km±999km, MW3.8

ISC 03 08:10:11.6±2.3, 5°.0N±0°.2×82°.9W±0°.2, h35km, n58, σ1°.13/60, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDSV	San Vito	3.78	359	eP	Pn	08 11 07.0	-0.6
AZU	Azuero	3.81	43	eP	Pn	08 11 06.0	-1.7
EDPN	Palmar Norte	3.96	352	eP	Pn	08 11 09.3	-0.5
EDPN				eS	Sn	08 11 54.5	-0.6
POTG	Potrero Grande	4.02	357	eP	Pn	08 11 10.1	-0.7
EDBA	Buenos Aires	4.14	355	eP	Pn	08 11 12.4	0.0
DRK0	Durika	4.24	356	eP	Pn	08 11 13.2	-0.6
DRK0				eS	Sn	08 12 01.6	-0.6
LLNJ	Naranjito	4.59	345	eP	Pn	08 11 18.0	-0.5
RAZU	San Marcos de	4.75	347	eP	Pn	08 11 21.3	+0.5
ABE2	San Pablo	4.80	346	eP	Pn	08 11 21.3	-0.3
RIMA	Rio Macho	4.82	349	eP	Pn	08 11 22.0	+0.2
REPA	Paraso	4.88	349	eP	Pn	08 11 23.8	+1.1
REPA				eS	Sn	08 12 18.2	+0.2
ACOS	Acosta	4.91	345	eP	Pn	08 11 22.4	-0.7
VINA	Juan Vinas	4.92	350	eP	Pn	08 11 23.8	+0.6
JACO	JACO, Garabito	4.93	340	eP	Pn	08 11 23.1	-0.2
OCM	Ochomogo	4.96	348	eP	Pn	08 11 24.0	+0.2
VERB	Verbena	4.96	351	eP	Pn	08 11 24.5	+0.7
RAFA	San Farael, Vo	4.99	350	eP	Pn	08 11 25.4	+1.0
LUJA	Lujan	5.01	347	eP	Pn	08 11 26.0	+1.5
ICR3	Volcano Irazu	5.02	350	eP	Pn	08 11 25.4	+0.6
VIRE	VIRE	5.02	349	eP	Pn	08 11 25.4	+0.7
HAYA	Volcan Irazu	5.02	349	eP	Pn	08 11 25.8	+0.9
VICA	Volcano Irazu	5.03	349	eP	Pn	08 11 25.3	+0.4
CORON	Coronado	5.04	348	eP	Pn	08 11 25.8	+0.8
SANTA	Santa Ana	5.05	346	eP	Pn	08 11 25.0	0.0
VTLO	VTLO	5.06	351	eP	Pn	08 11 25.9	+0.6
LCOCO	El Coco	5.08	353	eP	Pn	08 11 26.2	+1.0
CVIMO	Finca Echandi	5.08	348	eP	Pn	08 11 26.2	+0.7
IRES	Siquirres	5.08	353	eP	Pn	08 11 26.5	+1.1
HDC	Heredia	5.10	347	eP	Pn	08 11 26.2	+0.6
HDC3	Heredia 3	5.10	347	eP	Pn	08 11 26.0	+0.4
SRA1	San Ramn	5.27	343	eP	Pn	08 11 28.2	+0.2
VPTE	Poasito	5.28	346	eP	Pn	08 11 28.8	+0.5
CPMI	Catarata Coope	5.43	345	eP	Pn	08 11 30.5	+0.1
INDI	Punta indio, G	5.46	332	eP	Pn	08 11 31.5	+1.0
NYURE	Nandayure	5.47	335	eP	Pn	08 11 31.2	+0.6
PTAC	Punta Ardita,	5.50	67	eP	Pn	08 11 29.1	-1.9
POPE	POPE, Guanacas	5.53	335	eP	Pn	08 11 31.9	+0.3
ITAL	Pital	5.57	346	eP	Pn	08 11 33.0	+0.9
NARJA	Naranjal	5.58	332	eP	Pn	08 11 32.7	+0.6
SOCE	Pocosol	5.60	343	eP	Pn	08 11 33.5	+1.1
JUNT	Juntas	5.61	339	eP	Pn	08 11 33.1	+0.4
JTS	Las Juntas de	5.62	339	eP	Pn	08 11 33.6	+0.9
JTS	Las Juntas de	5.62	339	eP	Pn	08 11 34.5	+1.8
DUNO	Dulce Nombre,	5.65	333	eP	Pn	08 11 33.7	+0.6
CASO	Castillo	5.68	342	eP	Pn	08 11 34.2	+0.6
ARE1	Arenal 1	5.70	342	eP	Pn	08 11 35.9	+2.0
JUD3	Juan Diaz 3	5.74	333	eP	Pn	08 11 35.1	+0.6
PLVR	Palo Verde	5.83	336	eP	Pn	08 11 35.9	+0.2
BBAC	Balboa, Cauca	6.39	118	eP	Pn	08 11 37.0	-6.5
JAMC	Jamundi, Valle	6.47	106	eP	Pn	08 11 43.4	-1.2
PLMC	San Jos del P	6.61	91	eP	Pn	08 11 43.5	-2.8
YOTC	Yotoco, Valle	6.63	99	eP	Pn	08 11 45.6	-1.0
POPC	Popayan, Colom	6.69	111	eP	Pn	08 11 46.7	-0.9
APAC	Apartado, Choc	6.92	65	eP	Pn	08 11 53.7	+3.2
GUY2C	Guyana, Caldas	7.52	88	eP	Pn	08 11 58.1	-1.1
ORTC	Ortega, Tolima	7.72	98	eP	Pn	08 12 02.8	+1.2
UREC	San Jos de Ur	7.82	69	eP	Pn	08 12 00.5	-2.5
PRAC	Prado	8.11	99	eP	Pn	08 12 09.7	+2.7

PRE 03 08:20:37.2±1.1, 26°.43S×27°.37E, h2km, ML2.3
EAF 03 08:20:38.9, 26°.64S×27°.46E, h2km, MC3.3
BUL 03 08:20:41.5±1.1, 26°.63S×27°.44E, h10km±12km, MD3.4

ISC 03 08:20:37.4±0.8, 26°.51S±0°.03×27°.40E±0°.03, h10km, n20, σ1°.85/40, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	Koster	0.80	325	eP	Pg	08 20 51.4	-1.4
KSR				eS	Sg	08 21 01.1	-2.1
KSR				IAML		08 21 02.9	
	comp=Z,196nm,0.3s						
SLR	Silverton	1.11	46	eP	Pn	08 20 58.4	-0.7
SLR				eS	Sn	08 21 13.3	-1.1
SLR				IAML		08 21 19.9	
	comp=Z,36nm,0.2s						
SNKL	Senekal, Frees	1.79	169	eP	Pg	08 21 11.4	-0.3
SNKL				eS	Sg	08 21 35.4	+0.4
SNKL				IAML		08 21 38.6	
	comp=Z,82nm,0.2s						
SWZ	Schweizer	1.97	250	eP	Pb	08 21 12.9	-0.5
SWZ				eS	Sb	08 21 38.4	+0.4
SWZ				IAML		08 21 41.7	
	comp=Z,67nm,0.6s						
LBTB	Lobatse	2.21	312	iP	Pb	08 21 18.0	+0.6
LBTB				iS	Sb	08 21 45.2	+0.4
LBTB	Lobatse	2.21	312	eP	Pn	08 21 14.9	+0.7
LBTB				eS	Sn	08 21 41.3	-0.3
LBTB				IAML		08 21 47.0	
	comp=Z,55nm,0.2s						
LBTB	Lobatse	2.21	312	iP	Pb	08 21 18.0	+0.6
	baz=314						
LBTB				iS	Sb	08 21 45.2	+0.4
	baz=314						
CRLN	Carolina, Mapu	2.41	78	eP	Pn	08 21 18.4	+1.3
CRLN				eS	Sb	08 21 48.4	-2.4
CRLN				IAML		08 21 51.0	
	comp=Z,15nm,0.3s						
LEPH	Lephalale, Lim	2.66	8	eP	Pn	08 21 21.1	+0.6
LEPH				eS	Sn	08 21 52.0	-0.9
LEPH				IAML		08 22 04.8	
	comp=Z,13nm,0.3s						
BOSA	Boshof	2.83	222	iP	Pb	08 21 25.6	-2.5
BOSA				iS	Sn	08 21 55.5	-1.6
BOSA	Boshof	2.83	222	eP	Pn	08 21 24.6	+1.8
BOSA				eS	Sn	08 21 59.0	+2.0
BOSA				IAML		08 22 06.7	
	comp=Z,16nm,0.4s						
BOSA	Boshof	2.83	222	iP	Pb	08 21 25.6	-2.5
	baz=224						
BOSA				iS	Sn	08 21 55.5	-1.6
	baz=224						
PILG	Pilgrimsrest,	3.37	63	eP	Pn	08 21 31.8	+1.4
PILG				eS	Sn	08 22 11.6	+1.1
PILG				IAML		08 22 30.1	
	comp=Z,12nm,0.4s						
KSTD	Kokstad	4.42	158	eP	Pn	08 21 48.2	+3.4
KSTD				eS	Sn	08 22 39.3	+2.9
KSTD				IAML		08 23 01.7	
	comp=Z,6.4nm,0.4s						
MOPA	Mopani	4.69	51	iP	Pn	08 21 50.4	+2.1
MOPA				iS	Sn	08 22 41.7	-1.1
MOPA	Mopani	4.69	51	iP	Pn	08 21 50.4	+2.1
	baz=50						
MOPA				iS	Sn	08 22 41.7	-1.1
	baz=50						
MUSN	Musina, Limpop	4.76	29	iP	Pn	08 21 52.7	+3.4
MUSN				iS	Sn	08 22 45.3	+0.7
MUSN	Musina, Limpop	4.76	29	iP	Pn	08 21 52.7	+3.4
	baz=27						
MUSN				iS	Sn	08 22 45.3	+0.7
	baz=27						
MATP	Matopo	6.14	10	iP	Pn	08 22 11.7	+3.4
MATP				iS	Sn	08 23 18.3	-0.4
MATP	Matopo	6.14	10	iP	Pn	08 22 11.7	+3.4
	baz=9.0						
MATP				iS	Sn	08 23 18.3	-0.4
	baz=9.0						

SJA 03 08:27:08.9±0.7, 33°.02S×72°.25W, h11km, ML4.2, MW4.0
IDC 03 08:27:11.0±1.0, 32°.97S×71°.74W, h0km, mb4.1/6, mbtmp3.9/10, ML3.9/4, MS3.4/4, Error ellipse: s-maj=36.3km s-min=20.5km az=93.0
GUC 03 08:27:13.7±0.9, 33°.03S×72°.00W, h31km±5km, ML4.4
NEIC 03 08:27:13.4±1.6, 33°.02S±0°.04×72°.01W±0°.06, h19km±6km, mb4.3/9, Mwr4.0/45, ML4.4(GUC), Error ellipse: s-maj=7.5km s-min=5.4km az=109.0

ISC 03 08:27:11.4±1.3, 33°.01S±0°.02×72°.08W±0°.04, h10km±8km, n110, σ1°.33/145, mb4.2/10, 5C-16D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.36	92	eP	Pb	08 27 20.5	+0.7
VA01				Sg	Sb	08 27 25.4	-0.3
VA01	Torpederas	0.36	92	⇓iP	Pb	08 27 20.6	+0.7
VA01				iS	Sb	08 27 25.3	-0.3
VA01				IAML		08 27 25.6	
	comp=E,39μm,0.3s						
VA01	Torpederas	0.36	92	eP	Pg	08 27 19.8	+1.3
VA05	Santo Domingo	0.75	149		Pb	08 27 26.9	+0.3
VA05				Sg	Sb	08 27 36.5	-0.5
VA05	Santo Domingo	0.75	149	⇓iP	Pb	08 27 27.0	+0.4
VA05				iS	Sb	08 27 36.5	-0.5
VA05				IAML		08 27 37.1	
	comp=E,20μm,0.2s						
MT02	Curacav	0.83	108		Pb	08 27 27.4	-0.5
ROC1	El Roble	0.89	88		Pb	08 27 28.8	-0.4
ROC1				Sg	Sb	08 27 39.8	-1.4
ROCH	El Roble	0.90	88	⇓iP	Pb	08 27 28.9	-0.3
ROCH				iS	Sb	08 27 39.4	-1.9
MT01	Popeta	1.10	141		Pb	08 27 32.2	-0.3
MT01	Popeta	1.10	141	⇓iP	Pb	08 27 32.2	-0.3
MT01				iS	Sb	08 27 45.4	-1.5
PEL	Peldehue	1.18	97		Pn	08 27 33.6	-0.4
PEL	Peldehue	1.18	97	⇓iP	Pn	08 27 33.6	-0.4
PEL				iS	Sb	08 27 48.3	-0.8
MT05	Renca	1.19	109		Pn	08 27 33.6	-0.5
MT05	Renca	1.19	109	⇓iP	Pn	08 27 33.7	-0.5
MT05				iS	Sb	08 27 47.8	-1.6
MT05				IAML		08 27 51.9	
	comp=E,16μm,0.3s						
MT05	Renca	1.19	109	eP	Pn	08 27 33.8	-0.4
MT05				eS	Sg	08 27 50.9	+1.3
MT05				IAML		08 27 51.7	
	comp=Z,3μm,0.2s						
MT09	Talagante	1.19	130	Pn	Pn	08 27 33.7	-0.5
MT09	Talagante	1.19	130	⇓iP	Pn	08 27 33.8	-0.5
MT09				iS	Sb	08 27 47.9	-1.8
MT09				IAML		08 27 52.0	
	comp=E,13μm,0.3s						
VA03	San Esteban	1.31	80		Pn	08 27 35.2	-0.6
VA03	San Esteban	1.31	80	⇓iP	Pn	08 27 35.3	-0.6
VA03				iS	Sb	08 27 51.9	-1.1
VA03	San Esteban	1.31	80	eP	Pn	08 27 35.5	-0.3
VA03				eS	Sg	08 27 54.0	+0.5
VA03				IAML		08 27 56.6	
	comp=Z,3μm,0.3s						
MT14	Cerro Calı̨n	1.35	107	⇓iP	Pn	08 27

BO03 *i* S **Sn** **08 27 55.5 -2.1**
FCH Farellones 1.53 102 ⇓*i*P **Pn** **08 27 39.3 +0.1**
FCH *i* S **Sb** **08 27 58.6 -1.1**
FCH IAML 08 28 02.8
comp=N,6μm,0.2s
BO04 La Punta 1.57 129 **Pn** **08 27 39.6 +0.2**
BO04 La Punta 1.57 129 ⇑*i*P **Pn** **08 27 39.7 +0.3**
BO04 *i* S **Sn** **08 27 59.3 -0.5**
BO04 IAML 08 28 02.2
comp=N,6μm,0.4s
BO01 Tunca 1.61 149 **Pn** **08 27 39.8 0.0**
BO01 Tunca 1.61 149 ⇑*i*P **Pn** **08 27 39.8 0.0**
BO01 *i* S **Sn** **08 27 58.1 -2.6**
BO01 Tunca 1.61 149 *e*P **Pn** **08 27 39.9 0.0**
BO01 *e*S **Sn** **08 28 00.1 -0.5**
BO01 IAML 08 28 01.2
comp=Z,1μm,0.4s
MT13 San Alfonso 1.67 117 **Pn** **08 27 41.5 +0.8**
MT13 San Alfonso 1.67 117 ⇓*i*P **Pn** **08 27 41.6 +0.8**
MT13 *i* S **Sn** **08 28 02.0 -0.4**
MT13 IAML 08 28 05.4
comp=E,14μm,0.3s
MT04 Ro Olivares 1.67 104 ⇓*i*P **Pn** **08 27 41.5 +0.5**
MT04 *i* S **Sb** **08 28 02.3 -1.4**
MT04 IAML 08 28 05.7
comp=N,6μm,0.2s
LMEL Las Melosas 1.78 119 **Pn** **08 27 43.3 +0.9**
LMEL Las Melosas 1.78 119 ⇓*i*P **Pn** **08 27 43.2 +0.9**
LMEL *i* S **Sb** **08 28 05.5 -1.1**
LMEL IAML 08 28 09.7
comp=N,9μm,0.4s
MT08 Bocatoma Ro 1.78 105 **Pn** **08 27 43.5 +1.0**
MT08 Bocatoma Ro 1.78 105 ⇓*i*P **Pn** **08 27 43.5 +1.0**
MT08 *i* S **Sb** **08 28 05.2 -1.6**
GO05 Huala 2.00 177 Pn **Pn** **08 27 45.3 +0.1**
GO05 Huala 2.00 177 ⇑*i*P **Pn** **08 27 45.4 +0.1**
GO05 Huala 2.00 177 *e*P **Pn** **08 27 44.8 -0.5**
GO05 *e*S **Sb** **08 28 12.1 -0.7**
CO02 Combarbal 2.02 27 **Pn** **08 27 46.7 +1.1**
CO02 Combarbal 2.02 27 ⇑*i*P **Pn** **08 27 46.7 +1.1**
CO02 *i* S **Sn** **08 28 11.9 +0.9**
CO02 Combarbal 2.02 27 *e*P **Pn** **08 27 46.4 +0.7**
CO02 *e*S **Sn** **08 28 10.9 -0.1**
CO02 IAML 08 28 20.2
comp=Z,2μm,0.3s
BO02 Sierra Bellavi 2.08 149 Pn **Pn** **08 27 47.3 +0.9**
BO02 Sierra Bellavi 2.08 149 *e*P **Pn** **08 27 46.6 +0.2**
BO02 *e*S **Sg** **08 28 18.4 +0.1**
BO02 IAML 08 28 21.7
comp=Z,2μm,0.3s
CO03 El Pedregal 2.47 29 **Pn** **08 27 52.6 +0.8**
CO03 El Pedregal 2.47 29 *e*P **Pn** **08 27 52.3 +0.6**
CO03 *e*S **Sn** **08 28 22.9 +0.9**
CO03 IAML 08 28 32.0
comp=Z,1μm,0.6s
RTLS Leoncito 2.64 64 *e*P **Pn** **08 27 56.8 +2.4**
RTLS *e*S **Sb** **08 28 30.4 -1.3**
RTLS IAML 08 28 39.1
comp=Z,1μm,0.8s
AAGR Agrelo 2.73 92 *e*P **Pb** **08 27 58.5 -1.9**
AAGR *e*S **Sg** **08 28 39.6 +0.4**
AAGR IAML 08 28 45.0
comp=Z,477nm,0.5s
ASAL Salagasta 2.76 82 *e*P **Pb** **08 27 58.8 -2.2**
ML02 Panimavida 2.80 169 Pn **Pn** **08 27 57.0 +0.7**
AVIZ Vizcacheras 3.02 100 *e*P **Pn** **08 27 57.9 -1.5**
AVIZ *e*P **Pb** **08 28 02.6 -2.7**
GO04 Tololo Observa 3.03 21 **Pn** **08 28 00.5 +0.8**
GO04 Tololo Observa 3.03 21 *e*P **Pn** **08 28 00.6 +1.0**
GO04 *e*S **Sg** **08 28 51.4 +2.6**
GO04 IAML 08 28 59.2
comp=Z,705nm,0.3s
CO05 La Serena 3.16 13 **Pn** **08 28 02.0 +0.8**
ZON Zonda 3.23 64 *e*P **Pb** **08 28 06.6 -2.2**
ZON *e*S **Sb** **08 28 48.4 +0.1**
ZON IAML 08 28 53.9
comp=Z,265nm,0.5s
CO01 Juntas del Tor 3.47 30 **Pn** **08 28 07.4 +1.7**
CO01 Juntas del Tor 3.47 30 *e*P **Pn** **08 28 07.2 +1.5**
CO01 *e*P Pb 08 28 07.9 -5.1
CO01 *e*S **Sb** **08 28 53.4 -1.9**
CO01 IAML 08 29 01.7
comp=Z,397nm,1.1s
RFA San Rafael 3.48 121 *e*P **Pn** **08 28 07.9 +2.2**
RFA *e*S **Sg** **08 29 03.8 +0.6**
CFA Coronel Fontan 3.54 68 Pn **Pn** **08 28 08.9 +2.4**
comp=Z,10nm,0.3s,baz=231,slow=11,SNR=148
CFA Lg Lg 08 29 00.1
comp=Z,32nm,0.3s,baz=105,slow=13,SNR=4.6
CFA Coronel Fontan 3.54 68 *e*P **Pn** **08 28 09.1 +2.7**
CFA *e*S **Sb** **08 28 57.9 +0.7**
LCO Las Campanas 4.16 17 **Pn** **08 28 15.8 +0.6**
LCO Las Campanas 4.16 17 *e*P Pn 08 28 10.9 -4.3
LCO *e*P Pb 08 28 16.3 -8.5
LCO *e*S **Sb** **08 29 10.9 -4.3**
LCO *e*S **Sg** **08 29 20.1 -4.9**
LCO IAML 08 29 24.9
comp=Z,558nm,0.8s
AC05 El Transito 4.44 21 **Pn** **08 28 19.4 +0.5**
AC05 El Transito 4.44 21 *e*P **Pn** **08 28 20.7 +1.7**
AC05 *e*S **Sb** **08 29 20.4 -2.8**
AC05 IAML 08 29 37.2
comp=Z,356nm,0.6s
AC04 Llanos de Chal 4.87 11 **Pn** **08 28 24.4 -0.3**
AC04 Llanos de Chal 4.87 11 *e*P **Pn** **08 28 24.8 +0.2**
AC04 *e*S **Sb** **08 29 37.4 +2.0**
ACHE Chepes 4.95 70 *e*P **Pn** **08 28 28.6 +2.7**
ACHE *e*S **Sn** **08 29 28.4 +5.0**
GO03 Copiap 5.63 17 **Pn** **08 28 35.2 0.0**
H03N1 Juan Fernandez 5.74 264 T T 08 35 32.2
baz=89,slow=74,SNR=221
H03N3 Juan Fernandez 5.75 264 T T 08 35 15.7
baz=89,slow=74,SNR=259
H03N2 Juan Fernandez 5.76 264 T T 08 35 18.9
baz=89,slow=74,SNR=230
H03S1 Juan Fernandez 5.77 260 T T 08 34 48.4
baz=83,slow=75,SNR=2611
H03S3 Juan Fernandez 5.77 260 T T 08 34 49.7
baz=83,slow=75,SNR=2452
H03S2 Juan Fernandez 5.79 260 T T 08 34 49.9
baz=83,slow=75,SNR=3312
AC06 Mina Casimiro 5.83 15 **Pn** **08 28 37.5 -0.4**
GO06 Curarrehue 6.58 176 Pn **Pn** **08 28 48.5 +0.2**
LR03 Panguipulli 6.61 182 Pn **Pn** **08 28 49.3 +0.6**
AC02 Maricunga 6.66 23 Pn **Pn** **08 28 50.5 +0.7**
LR04 Corral 6.94 189 Pn **Pn** **08 28 53.5 +0.3**
PLCA Paso Flores 7.80 171 Pn **Pn** **08 29 06.6 +1.5**
comp=Z,1.2nm,0.3s,baz=339,slow=11,SNR=19
comp=Z,3.0nm,0.4s
TRQA Tornquist 9.64 124 Pn **Pn** **08 29 31.2 +0.9**
LVC Limon Verde 10.73 16 LR LR 08 34 15.6
comp=Z,96nm,20.6s,baz=205,slow=40
ITQB Itaqui 13.62 80 Pn **Pn** **08 30 25.1 +0.5**
CPUP Villa Florida 14.44 66 Pn **Pn** **08 30 32.3 -3.6**
comp=Z,0.1nm,0.3s,baz=226,slow=8.7,SNR=3.0
comp=Z,1.2nm,0.8s
LPAZ La Paz 17.03 13 Pn **Pn** **08 31 10.4 +0.1**
comp=Z,0.1nm,0.3s,baz=194,slow=7.0,SNR=5.0
comp=Z,0.9nm,0.5s
SIV San Ignacio 19.66 33 P **P** **08 31 39.1 -1.4**
baz=206,slow=8.6,SNR=11
SIV LR LR 08 40 41.5
comp=Z,86nm,21.8s,baz=131,slow=42
comp=Z,1.3nm,0.6s
PTLB Pontes e Lacer 21.06 37 **P** **08 31 55.3 -0.4**
EFI East Falkland 21.27 155 P **P** **08 31 57.7 0.0**
ETMB Extrema 23.71 15 P **P** **08 32 24.5 +0.9**
ETMB IAmb IAmb 08 32 25.9
comp=Z,8.8nm,1.1s
SAML Samuel 25.32 21 P **P** **08 32 37.6 -0.7**
SAML IAmb IAmb 08 32 41.4
comp=Z,3.8nm,0.9s
BDFB Brasilia 27.82 57 P **P** **08 32 59.5 -1.6**
comp=Z,2.8nm,0.6s,baz=226,slow=3.3,SNR=4.7
BDFB LR LR 08 45 08.2
comp=Z,232nm,18.4s,baz=141,slow=39
comp=Z,2.8nm,0.6s
TBTG Tabatinga, AM 28.75 5 P **P** **08 33 10.1 +0.9**
BOAV Boa Vista 36.87 19 P **P** **08 34 20.4 +0.3**
BOAV IAmb IAmb 08 34 25.3
comp=Z,8.5nm,1.4s
BELA Belgrano 2 47.86 170 P **P** **08 35 49.3 +0.4**
SNAA Sanae 52.51 158 P **P** **08 36 24.5 +0.2**
SNAA IAmb IAmb 08 37 02.8
comp=Z,5.9nm,1.5s
SNAA Sanae 52.51 158 P **P** **08 36 24.8 +0.5**
comp=Z,1.2nm,0.7s,baz=269,slow=7.5,SNR=7.0
comp=Z,1.2nm,0.7s
QSPA South Pole Qui 57.22 180 P **P** **08 36 59.8 +1.2**
QSPA IAmb IAmb 08 37 42.7
comp=Z,6.2nm,1.4s
TXAR Lajitas Array 68.86 331 P **P** **08 38 17.6 +1.4**
comp=Z,0.2nm,0.6s,baz=151,slow=8.6,SNR=4.8
comp=Z,0.2nm,0.6s
MAW Mawson 74.14 164 P **P** **08 38 47.9 +0.4**
comp=Z,0.6nm,0.4s,baz=229,slow=9.3,SNR=2.2
comp=Z,0.6nm,0.4s
BOSA Boshof 80.56 118 P **P** **08 39 24.3 -0.1**
comp=Z,2.8nm,0.7s,baz=236,slow=3.6,SNR=4.8
comp=Z,2.8nm,0.7s
TORD Torodi Ar. Bea 83.91 70 P **P** **08 39 41.9 +0.1**
comp=Z,2.5nm,0.8s,baz=275,slow=3.7,SNR=17
comp=Z,2.5nm,0.8s
FRB Frobisher Bay 96.47 2 LR LR 09 29 50.1
comp=Z,15nm,18.1s,baz=338,slow=39
BVAR Borovoye Array 146.57 42 PKPbc **PKPbc** **08 46 53.3 +0.7**
comp=Z,1.6nm,0.8s,baz=276,slow=5.8,SNR=4.2
KURBB Kurchatov Arra 152.17 42 PKPbc **PKiKP** **08 47 07.5 +0.5**
comp=Z,0.4nm,0.3s,baz=292,slow=3.3,SNR=2.0
ZALV Zalesovo Beam 153.40 31 PKPbc **PKiKP** **08 47 10.7 +1.2**
comp=Z,0.5nm,0.3s,baz=298,slow=3.2,SNR=3.7
MKAR Makanchi Array 156.13 47 PKPab **PKPab** **08 47 33.5 0.0**
comp=Z,0.5nm,0.7s,baz=292,slow=3.8,SNR=3.8
PZH PanZhiHua 171.58 139 PKP **PKPdf** **08 47 20.5 -0.2**

IDC 03 08:44:05.8±58.0, 22°.51S×178°.58W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1053.0km s-min=151.7km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.47**	**246**	P	P	08 51 11.7	-1.1
	0.8nm,0.5s,baz=90,slow=10,SNR=5.8						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**43.57**	**259**	P	P	08 52 11.7	-0.2
	0.6nm,0.4s,baz=99,slow=7.2,SNR=24						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**43.83**	**264**	P	P	08 52 14.7	+0.7
	3.0nm,0.6s,baz=99,slow=8.4,SNR=37						
	3.0nm,0.6s						

IDC 03 08:52:28.7±2.1, 54°.46N×83°.68E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=16.6km s-min=10.1km az=159.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.84**	**127**	I	I	08 57 30.0	
	baz=308,slow=324,SNR=3.9						
ZALV	**Zalesovo Beam**	**0.84**	**127**	Pg	Pg	08 52 44.6	-0.2
	1.9nm,0.3s,baz=311,slow=17,SNR=14						
ZALV				Lg	Lg	08 52 57.3	
	3.1nm,0.3s,baz=305,slow=28,SNR=15						
KURBB	**Kurchatov Arra**	**4.96**	**221**	Pn	Pn	08 53 45.3	+0.9
	0.1nm,0.3s,baz=34,slow=13,SNR=1.8						
KURBB				Lg	Lg	08 55 07.3	
	baz=39,slow=30,SNR=2.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.72**	**187**	Pn	Pn	08 54 21.3	-1.0
	baz=11,slow=15,SNR=2.6						
	0.3nm,0.6s						

*IDC **03** 08:54:51.8±2.1, 21°.58N×143°.34E, h258km±20km, mb3.7/16, mbtmp4.4/20, Error ellipse: s-maj=18.9km s-min=11.4km az=83.0*
*NEIC **03** 08:54:53.9±0.9, 21°.6N±0°.1×143°.3E±0°.2, h275km±9km, mb4.3/34, Error ellipse: s-maj=27.7km s-min=15.1km az=92.0*
ISC 03 08:54:51.1±0.7, 21°.56N±0°.08×143°.3E±0°.1, h250km, n61, σ0=91/62, mb4.2/32, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.61**	**349**	Pn	**Pn**	**08 56 16.6**	**+2.3**
JCJ	**Chichijima**	**5.61**	**349**	P	**Pn**	**08 56 13.4**	**-0.9**
	76nm,0.4s,baz=106,slow=16,SNR=44						
JCJ				S	**S**	**08 57 18.8**	**-2.2**
	29nm,0.3s,baz=144,slow=23,SNR=6.7						
JHJ	**Hachijo jima 2**	**11.94**	**345**	P	**Pn**	**08 57 35.8**	**+1.9**
	122nm,0.8s,baz=86,slow=21,SNR=5.0						
MJAR	**Matsushiro Arr**	**15.59**	**344**	P	**P**	**08 58 18.0**	**+0.7**
	1.9nm,0.3s,baz=163,slow=10.0,SNR=12						
MAJO	**Matsushiro**	**15.59**	**344**	P	**P**	**08 58 18.5**	**+1.2**
MAJO				IAmb	IAmb	08 58 26.9	
	comp=Z,19nm,1.4s						
JNU	**Nakatsue**	**15.96**	**319**	P	**P**	**08 58 22.7**	**+1.2**
	comp=Z,6.6nm,0.7s,baz=164,slow=3.7,SNR=4.6						
JMM	**Marumori**	**16.40**	**353**	P	**Pn**	**08 58 28.3**	**+0.5**
JSD	**Sado**	**17.00**	**346**	P	**P**	**08 58 33.5**	**+0.8**
ERM	**Erimo**	**20.40**	**360**	P	**P**	**08 59 10.8**	**+1.6**
KSRS	**Korea Array**	**20.71**	**323**	P	**P**	**08 59 13.0**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=150,slow=8.6,SNR=14						
	comp=Z,2.8nm,0.6s						
KSAR	**Wonju Array Be**	**20.73**	**323**	P	**P**	**08 59 13.3**	**+0.5**
KS19	**Wonju Array Si**	**20.78**	**323**	P	**P**	**08 59 13.6**	**+0.3**
KS19				IAmb	IAmb	08 59 41.5	
	comp=Z,37nm,1.2s						
SONM	**Songino Array**	**39.54**	**320**	P	**P**	**09 01 59.2**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=133,slow=8.8,SNR=2.3						
	comp=Z,0.7nm,0.4s						
KNRA	**Kununurra**	**39.67**	**202**	P	**P**	**09 01 59.6**	**+0.4**
KNRA				IAmb	IAmb	09 02 00.0	
	comp=Z,5.5nm,0.6s						
WB0	**Warramunga Arr**	**41.99**	**193**	P	**P**	**09 02 18.1**	**0.0**
WR0	**Warramunga Arr**	**42.15**	**192**	P	**P**	**09 02 19.1**	**-0.3**
WB2	**Warramunga Arr**	**42.17**	**193**	P	**P**	**09 02 19.8**	**+0.2**
WRA	**Warramunga Arr**	**42.17**	**193**	P	**P**	**09 02 19.6**	**-0.1**
WRA	**Warramunga Arr**	**42.17**	**193**	P	**P**	**09 02 19.8**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=15,slow=9.4,SNR=86						
	comp=Z,2.9nm,0.6s						
AS31	**Alice Springs**	**45.88**	**192**	P	**P**	**09 02 48.7**	**-0.2**
ASAR	**Alice Springs**	**45.88**	**192**	P	**P**	**09 02 48.5**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=17,slow=10,SNR=18						
	comp=Z,0.8nm,0.6s						
SDPT	**Sand Point**	**53.43**	**36**	P	**P**	**09 03 44.9**	**-0.3**
FORT	**Forrest**	**54.07**	**196**	P	**P**	**09 03 49.8**	**-0.3**
FORT				IAmb	IAmb	09 03 57.2	
	comp=Z,29nm,1.1s						
ZALV	**Zalesovo Beam**	**54.41**	**322**	P	**P**	**09 03 52.0**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=96,slow=9.1,SNR=9.1						
	comp=Z,3.1nm,0.6s						
CHGN	**Chignik**	**54.80**	**35**	P	**P**	**09 03 53.3**	**-1.8**
MK31	**Makanchi Array**	**54.90**	**313**	P	**P**	**09 03 55.8**	**-0.2**
MKAR	**Makanchi Array**	**54.90**	**313**	P	**P**	**09 03 55.6**	**-0.5**
MKAR	**Makanchi Array**	**54.90**	**313**	P	**P**	**09 03 55.8**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=88,slow=8.4,SNR=5.8						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**57.68**	**317**	P	**P**	**09 04 15.2**	**-0.3**
KURBB	**Kurchatov Arra**	**57.73**	**317**	P	**P**	**09 04 15.3**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=92,slow=7.6,SNR=26						
	comp=Z,1.6nm,0.4s						
NRIK	**Noril'sk**	**58.18**	**340**	P	**P**	**09 04 18.3**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=108,slow=8.0,SNR=5.3						
	comp=Z,2.3nm,0.5s						
KDAK	**Kodiak Island**	**58.23**	**35**	P	**P**	**09 04 19.0**	**-0.1**
K20K	**Telida**	**58.72**	**28**	P	**P**	**09 04 23.2**	**+0.8**
K20K				IAmb	IAmb	09 05 04.0	
	comp=Z,11nm,1.5s						
J20K	**Nowinta River**	**58.90**	**27**	P	**P**	**09 04 25.3**	**+1.7**
J20K				IAmb	IAmb	09 05 08.0	
	comp=Z,7.1nm,1.4s						
SKT	**Skwentna**	**59.54**	**30**	P	**P**	**09 04 27.6**	**-0.6**
SKT				IAmb	IAmb	09 04 59.1	
	comp=Z,12nm,1.4s						
IMAR	**Indian Mountai**	**59.55**	**25**	P	**P**	**09 04 28.3**	**+0.2**
BPAW	**Bear Paw Mtn.**	**60.22**	**27**	P	**P**	**09 04 33.0**	**+0.3**
BPAW				IAmb	IAmb	09 04 34.5	
	comp=Z,4.7nm,0.7s						
RC01	**Rabbit Creek A**	**60.23**	**31**	P	**P**	**09 04 33.0**	**+0.3**
GHO	**Glory Hole Cre**	**60.72**	**30**	P	**P**	**09 04 35.7**	**-0.5**
I23K	**Minto, Yukon-K**	**61.12**	**26**	P	**P**	**09 04 40.0**	**+1.3**
I23K				IAmb	IAmb	09 04 41.2	
	comp=Z,2.6nm,0.6s						
TOLK	**Toolik Lake Re**	**61.79**	**23**	P	**P**	**09 04 43.7**	**+0.5**
TOLK				IAmb	IAmb	09 04 49.1	
	comp=Z,19nm,1.4s						
IL31		**62.09**	**27**	P	**P**	**09 04 44.3**	**-0.9**
IL31				IAmb	IAmb	09 04 45.8	
	comp=Z,8.2nm,1.3s						
ILAR	**Eielson Array**	**62.09**	**27**	P	**P**	**09 04 44.4**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=259,slow=5.3,SNR=18						
J25K	**Salcha River,**	**62.72**	**27**	P	**P**	**09 04 48.4**	**-1.0**
BVAR	**Borovoye Array**	**62.87**	**320**	P	**P**	**09 04 50.3**	**-0.3**
	comp=Z,4.1nm,0.4s,baz=89,slow=6.8,SNR=16						
	comp=Z,4.1nm,0.4s						
SCRK	**Sand Creek**	**63.25**	**28**	P	**P**	**09 04 53.1**	**+0.1**
SCRK				IAmb	IAmb	09 04 54.2	
	comp=Z,4.1nm,0.8s						
BMAR	**Burnt Mountain**	**63.41**	**24**	P	**P**	**09 04 55.5**	**+1.6**
J26L	**Joseph Creek**	**63.48**	**28**	P	**P**	**09 04 54.5**	**0.0**
J26L				IAmb	IAmb	09 04 56.2	
	comp=Z,10nm,1.5s						
DAWY	**Dawson**	**65.27**	**28**	P	**P**	**09 05 06.4**	**+0.5**
DAWY				IAmb	IAmb	09 05 07.5	
	comp=Z,3.5nm,1.0s						
G29M	**Pine Creek**	**65.92**	**25**	P	**P**	**09 05 10.8**	**+0.7**
G29M				IAmb	IAmb	09 05 47.6	
	comp=Z,7.7nm,1.1s						
G30M	**tAoh Zraii Nji**	**66.63**	**25**	P	**P**	**09 05 14.2**	**-0.4**
G30M				IAmb	IAmb	09 05 29.2	
	comp=Z,15nm,1.5s						
H31M	**Peel River**	**67.41**	**26**	P	**P**	**09 05 20.2**	**+0.7**
H31M				IAmb	IAmb	09 05 37.8	
	comp=Z,17nm,1.5s						
ARU	**Arti**	**69.47**	**324**	P	**P**	**09 05 31.3**	**-1.0**
	comp=Z,4.6nm,0.2s,baz=78,slow=5.0,SNR=3.7						
	comp=Z,4.6nm,0.2s						
ABKAR	**Akbulak array**	**69.75**	**316**	P	**P**	**09 05 33.2**	**-0.9**
ABKAR				IAmb	IAmb	09 05 34.2	
	comp=Z,2.8nm,0.6s						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**09 06 12.8**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=295,slow=8.8,SNR=6.2						
	comp=Z,1.2nm,0.5s						
ARCES	**ARCESS Array B**	**79.10**	**342**	P	**P**	**09 06 27.4**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=72,slow=8.0,SNR=15						
	comp=Z,3.4nm,0.6s						
KBZ	**Khabaz**	**82.57**	**314**	P	**P**	**09 06 46.3**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=94,slow=5.2,SNR=3.6						
	comp=Z,2.8nm,0.8s						
NVAR	**Mina Array Bea**	**83.11**	**52**	P	**P**	**09 06 50.1**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=279,slow=4.6,SNR=11						
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**83.37**	**335**	P	**P**	**09 06 48.7**	**-1.3**
	comp=Z,7.3nm,0.8s,baz=68,slow=5.4,SNR=26						
	comp=Z,7.3nm,0.8s						
HFS	**Hagfors**	**88.91**	**337**	P	**P**	**09 07 15.2**	**-1.8**
	comp=Z,4.1nm,1.0s,baz=84,slow=5.9,SNR=1.7						
	comp=Z,4.1nm,1.0s						
LPAZ	**La Paz**	**149.80**	**85**	PKPbc	**PKPbc**	**09 14 14.0**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=14,slow=1.9,SNR=4.9						

*LDG **03** 09:10:28.2±0.1, 45°.41N×6°.35E, h4km, Ml2.2/2, Error ellipse: s-maj=1.7km s-min=1.3km az=98.0*
STR 03 09:10:27.9±0.3, 45°N±2°×°±°, h4km, MLv1.4/11, Error ellipse: s-maj=0.0km s-min=0.0km az=99.5, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	**Grand'Maison**	**0.27**	**218**	Pg	Pg	09 10 33.4	+0.3
LPG	**La Plagne**	**0.30**	**74**	*e*Pg	Pg	09 10 34.7	+0.9
LPG				*e*Sg	Sg	09 10 38.6	+0.8
	13nm,0.2s						
RSL	**Roselend**	**0.34**	**36**	Pg	Pg	09 10 34.6	0.0
LSD	**Lago del Serru**	**0.56**	**85**	Pg	Pg	09 10 38.2	-0.5
LSD	**Lago del Serru**	**0.56**	**85**	Sg	Sg	09 10 46.4	+0.4
ORIF	**Oris-en-Rattie**	**0.59**	**214**	*e*Pg	Pg	09 10 39.8	+0.4
ORIF				*e*Sg	Sg	09 10 47.2	+0.1
	7.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.59**	**214**	Pg	Pg	09 10 39.7	+0.4
MBDF	**Montbardon**	**0.75**	**156**	*e*Pg	Pg	09 10 42.3	0.0
MBDF				*e*Sg	Sg	09 10 51.9	-0.2
	2.8nm,0.5s						
OG35	**Corcelles**	**0.83**	**320**	Pg	Pg	09 10 44.1	+0.2
CREF	**Crivoux**	**0.89**	**167**	Pg	Pg	09 10 45.3	+0.4
CREF				Sg	Sg	09 10 57.2	+0.7
OGAG	**Argentiere**	**0.97**	**172**	Pg	Pg	09 10 39.7	-6.8
OGAG				Sg	Sg	09 10 48.7	-10
GIMEL	**St. Georges /**	**1.12**	**357**	Pn	Pn	09 10 50.4	-0.2
GIMEL				Sn	Sn	09 11 06.9	+0.4
CABF	**La Chapelle**	**1.21**	**352**	*e*Pn	Pg	09 10 50.5	-0.7
CABF	**La Chapelle**	**1.21**	**352**	*e*P	Pn	09 10 52.6	+0.8
CABF				*e*Sn	Sg	09 11 06.7	-0.2
	2.7nm,0.2s						
SSB	**Saint Sauveur**	**1.28**	**265**	Pg	Pg	09 10 51.7	-0.7
SSB				Sg	Sg	09 11 09.0	0.0
OGDI	**Digne**	**1.30**	**181**	Pg	Pg	09 10 52.9	0.0
VIVF	**Saint-Julien-l**	**1.31**	**245**	*e*Pg	Pg	09 10 52.4	-0.6
VIVF				*e*Sg	Sg	09 11 09.4	-0.6
	4.4nm,0.2s						

STR 03 09:10:32.2±0.5, 45°N±3°×°±°, h3km, MLv1.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=116.2, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	**Grand'Maison**	**0.26**	**216**	Pg	Pg	09 10 37.0	-0.3
GDM				Sg	Sg	09 10 41.0	+0.2
RSL	**Roselend**	**0.34**	**37**	Pg	Pg	09 10 38.8	0.0
RSL				Sg	Sg	09 10 42.9	-0.3
LSD	**Lago del Serru**	**0.56**	**85**	Pg	Pg	09 10 43.4	+0.4
LSD	**Lago del Serru**	**0.56**	**85**	Sg	Sg	09 10 50.6	+0.2
ORIF	**Oris-en-Rattie**	**0.59**	**213**	Pg	Pg	09 10 43.6	0.0
ORIF	**Oris-en-Rattie**	**0.59**	**213**	Sg	Sg	09 10 51.3	+0.1
OG35	**Corcelles**	**0.82**	**320**	Sg	Sg	09 10 58.8	+0.2
OGAG	**Argentiere**	**0.97**	**171**	Pg	Pg	09 10 44.8	-6.0

ROM 03 09:11:07.5±0.3, 38°.34N±0°.03×15°.20E±0°.02, h114km±2km, ML2.3/12, 7C, Error ellipse: s-maj=3.5km s-min=1.2km az=161.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILZ	**Milazzo**	**0.07**	**163**	⇑*i*P	Pn	09 11 23.0	-0.2
MILZ				S	Sn	09 11 34.5	-0.4
MILZ				AML	AML		
	comp=N,162μm,0.5s						
MILZ				AML	AML		
	comp=E,212μm,0.5s						
MILZ				AML	AML		
	comp=E,212μm,0.5s						
MILZ				AML	AML		
	comp=N,140μm,0.5s						
VPL	**Vulcano Piano**	**0.18**	**282**	⇑*i*P	Pn	09 11 23.6	+0.2
VPL				S	Sn	09 11 35.7	+0.4
VPL				AML	AML		
	comp=E,544μm,1.4s						
VPL				AML	AML		
	comp=N,684μm,1.3s						
VPL				AML	AML		
	comp=N,611μm,0.5s						
VPL				AML	AML		
	comp=E,508μm,0.6s						
MSRU	**Castanea**	**0.25**	**108**	⇑*i*P	Pn	09 11 23.4	-0.2
MSRU				S	Sn	09 11 35.4	-0.4
MSRU				AML	AML		
	comp=E,273μm,0.4s						
MSRU				AML	AML		
	comp=N,162μm,1.5s						
MSRU				AML	AML		
	comp=E,273μm,0.4s						
MSRU				AML	AML		
	comp=N,143μm,0.3s						
AIO	**Antillo**	**0.37**	**176**	⇑*i*P	Pn	09 11 24

JOPP				S	Sn	09 11 39.2	+0.1
JOPP				AML	AML		
	comp=N,66μm,0.6s						
JOPP				AML	AML		
	comp=E,62μm,0.2s						
JOPP				AML	AML		
	comp=E,62μm,0.2s						
JOPP				AML	AML		
	comp=N,65μm,0.2s						
SOI	**Samo**	**0.72**	**112** ⇑	*i*P	Pn	09 11 26.6	+0.1
SOI				S	Sn	09 11 40.6	-0.1
SOI				AML	AML		
	comp=E,63μm,0.6s						
SOI				AML	AML		
	comp=E,63μm,0.6s						
SOI				AML	AML		
	comp=N,90μm,0.6s						
SOI				AML	AML		
	comp=N,90μm,0.6s						
SOI				AML	AML		
	comp=E,63μm,0.6s						
PLAC	**Placanica**	**0.98**	**83** ⇑	*i*P	Pn	09 11 29.4	+0.5
PLAC				S	Sn	09 11 45.6	+0.6
PLAC				AML	AML		
	comp=E,84μm,0.4s						
PLAC				AML	AML		
	comp=N,112μm,0.5s						
PLAC				AML	AML		
	comp=E,116μm,0.5s						
PLAC				AML	AML		
	comp=N,112μm,0.5s						
PLAC				AML	AML		
	comp=N,92μm,0.8s						
PLAC				AML	AML		
	comp=E,84μm,0.4s						

ROM 03 09:11:53.9±0.1, 38°.382N±0°.009×14°.772E±0°.009, h11km, ML1.3/7, Error ellipse: s-maj=1.0km s-min=0.8km az=11.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVGP	**Vulcano Grotta**	**0.15**	**84**	P	Pg	09 11 57.8	+0.5
IVGP				S	Sg	09 12 00.3	+0.6
IVGP				AML	AML		
	comp=N,82μm,0.1s						
IVGP				AML	AML		
	comp=E,83μm,0.1s						
LLI	**Lipari**	**0.15**	**66**	P	Pb	09 11 58.6	-0.2
LLI				AML	AML		
	comp=E,716μm,0.6s						
LLI				AML	AML		
	comp=N,393μm,0.3s						
VPL	**Vulcano Piano**	**0.17**	**91**	P	Pg	09 11 58.1	+0.5
VPL				S	Sg	09 12 01.2	+1.0
VPL				AML	AML		
	comp=E,350μm,0.3s						
VPL				AML	AML		
	comp=N,365μm,0.1s						
IFIL	**Filicudi I Eol**	**0.24**	**318**	P	Pg	09 11 59.3	+0.4
IFIL				S	Sg	09 12 03.1	+0.8
IFIL				AML	AML		
	comp=E,795μm,0.8s						
IFIL				AML	AML		
	comp=N,337μm,1.3s						
IFIL				AML	AML		
	comp=E,632μm,0.1s						
IFIL				AML	AML		
	comp=N,289μm,0.1s						
MUCR	**Ucria**	**0.35**	**167**	P	Pg	09 12 00.9	0.0
MUCR				AML	AML		
	comp=N,56μm,0.3s						
MUCR				AML	AML		
	comp=E,33μm,0.3s						
IACL	**Alicudi**	**0.36**	**295**	P	Pg	09 12 01.3	+0.3
IACL				S	Sb	09 12 07.0	-1.0
MSFR	**San Fratello**	**0.38**	**202**	P	Pg	09 12 01.9	+0.5
MSFR				S	Sg	09 12 07.1	+0.7
PLLN	**Pollina**	**0.63**	**232**	P	Pb	09 12 07.1	+0.1

*NOU **03** 10:05:47.9, 41°.90S×174°.57E, h10km, MLv3.7/8, Cook Strait, New Zealand*
*WEL **03** 10:05:49.3±0.4, 42°.3S±3°.×17°.4E±°., h13km±4km, M3.0/31, ML3.2/16, MLv3.0/31, Error ellipse: s-maj=0.0km s-min=0.0km az=137.6, confirmed*
ISC 03 10:05:48.4±1.1, 41°.79S±0°.03×174°.42E±0°.03, h14km±9km, n71, σ0.97/77, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.16**	**283**	P	**Pb**	**10 05 53.4**	**+0.3**
CMWZ				S	**Sg**	**10 05 56.4**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.41**	**280**	P	**Pg**	**10 05 56.8**	**+0.1**
BSWZ				S	**Sg**	**10 06 02.1**	**-0.2**
TUWZ	**Tuamarina**	**0.51**	**315**	P	**Pg**	**10 05 57.9**	**-0.5**
TUWZ				S	**Sg**	**10 06 03.2**	**-1.9**
SNZO	**South Karori**	**0.52**	**24**	P	**Pb**	**10 05 59.4**	**+0.1**
WEL	**Wellington**	**0.56**	**28**	P	**Pb**	**10 06 00.6**	**+0.5**
WEL				S	**Sb**	**10 06 08.9**	**+0.9**
TCW	**Tory Channel**	**0.58**	**349**	P	**Pg**	**10 05 59.5**	**-0.4**
PLWZ	**Palliser**	**0.66**	**71**	P	**Pn**	**10 06 03.8**	**+0.5**
CAW	**Cannon Point**	**0.83**	**36**	P	**Pb**	**10 06 05.3**	**+0.6**
PAWZ	**Paruwai Farm**	**0.86**	**62**	P	**Pn**	**10 06 06.4**	**+0.3**
KHZ	**Kahutara**	**0.91**	**226**	P	**Pb**	**10 06 06.8**	**+0.9**
KHZ	**Kahutara**	**0.91**	**226**	P	**Pn**	**10 06 07.0**	**+0.2**
KHZ				S	**Sn**	**10 06 20.0**	**+0.4**
NNZ	**Nelson**	**0.97**	**306**	P	**Pg**	**10 06 06.0**	**-1.1**
KIW	**Kapiti Island**	**0.99**	**22**	P	**Pg**	**10 06 07.5**	**-0.1**
MTW	**Mount Morrison**	**1.03**	**53**	P	**Pn**	**10 06 08.5**	**+0.2**
TRWZ	**Traveller**	**1.03**	**68**	P	**Pn**	**10 06 08.6**	**+0.2**
DUWZ	**D'Urville Isla**	**1.05**	**339**	P	**Pb**	**10 06 07.6**	**-0.8**
DUWZ				S	**Sg**	**10 06 20.6**	**-1.9**
OGWZ	**Otaki Gorge**	**1.12**	**30**	P	**Pb**	**10 06 09.9**	**+0.3**
THZ	**Tophouse**	**1.13**	**271**	P	**Pb**	**10 06 09.4**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.21**	**43**	P	**Pn**	**10 06 10.9**	**0.0**
TMWZ	**Te Maipa**	**1.30**	**59**	P	**Pn**	**10 06 12.0**	**-0.1**
MRNZ	**Matariki Terra**	**1.31**	**287**	P	**Pn**	**10 06 12.1**	**-0.1**
TKNZ	**Takaka Hill**	**1.33**	**304**	P	**Pn**	**10 06 12.2**	**-0.3**
MRZ	**Mangatainoka R**	**1.42**	**38**	P	**Pn**	**10 06 13.9**	**+0.1**
GVZ	**Greta Valley S**	**1.56**	**221**	P	**Pn**	**10 06 15.8**	**0.0**
PRWZ	**Pori Road**	**1.70**	**44**	P	**Pn**	**10 06 17.4**	**-0.2**
OHWZ	**Ohakea**	**1.72**	**23**	P	**Pb**	**10 06 20.8**	**+1.1**
QRZ	**Quartz Range**	**1.72**	**303**	P	**Pn**	**10 06 18.7**	**+0.8**
QRZ	**Quartz Range**	**1.72**	**303**	P	**Pn**	**10 06 18.7**	**+0.8**
POWZ	**Post Office Ro**	**1.73**	**37**	P	**Pn**	**10 06 18.1**	**+0.1**
BFZ	**Birch Farm**	**1.76**	**52**	P	**Pn**	**10 06 17.7**	**-0.8**
BFZ	**Birch Farm**	**1.76**	**52**	P	**Pn**	**10 06 17.7**	**-0.8**
LTZ	**Lake Taylor**	**1.88**	**237**	P	**Pn**	**10 06 20.0**	**-0.1**
AMCZ	**Amberley**	**1.91**	**223**	P	**Pg**	**10 06 26.8**	**+1.7**
DSZ	**Denniston Nort**	**1.96**	**270**	P	**Pn**	**10 06 21.6**	**+0.4**
DVHZ	**Dannevirke**	**1.99**	**42**	P	**Pn**	**10 06 20.8**	**-0.8**
WAZ	**Wanganui**	**2.07**	**12**	P	**Pb**	**10 06 25.1**	**-0.7**
TSZ	**Takapari Road**	**2.08**	**35**	P	**Pn**	**10 06 22.6**	**-0.4**
OKCZ	**Okains Bay**	**2.18**	**207**	P	**Pn**	**10 06 23.6**	**-0.7**
WPHZ	**Waipukurau**	**2.30**	**42**	P	**Pn**	**10 06 25.4**	**-0.5**
PNHZ	**Pukenui**	**2.31**	**36**	P	**Pn**	**10 06 25.4**	**-0.6**
MQZ	**McQueen's Vall**	**2.32**	**214**	P	**Pn**	**10 06 24.7**	**-1.4**
OXZ	**Oxford**	**2.34**	**228**	P	**Pg**	**10 06 32.7**	**-0.5**
INZ	**Inchbonnie**	**2.40**	**246**	P	**Pn**	**10 06 27.3**	**0.0**
KHEZ	**Kahui Hut**	**2.51**	**353**	P	**Pn**	**10 06 31.6**	**+2.8**
KHEZ	**Kahui Hut**	**2.51**	**353**	P	**Pb**	**10 06 32.1**	**-1.1**
NEZ	**North Egmont**	**2.52**	**354**	P	**Pb**	**10 06 32.7**	**-0.9**
MTVZ	**Mangateitei**	**2.53**	**19**	P	**Pb**	**10 06 35.5**	**+1.9**
MOVZ	**Moawhango**	**2.58**	**24**	P	**Pb**	**10 06 34.8**	**+0.2**
KRHZ	**Kereru**	**2.60**	**35**	P	**Pn**	**10 06 29.3**	**-0.8**
PKE	**Pukeiti**	**2.61**	**353**	P	**Pb**	**10 06 36.3**	**+1.3**
BHHZ	**Black Hill Sta**	**2.61**	**29**	P	**Pb**	**10 06 35.3**	**+0.3**
WNVZ	**Wahianoa**	**2.62**	**20**	P	**Pb**	**10 06 36.1**	**+1.0**
WHVZ	**Whangaehu Hut**	**2.65**	**20**	P	**Pb**	**10 06 36.0**	**+0.2**
TUVZ	**Tukino**	**2.69**	**21**	P	**Pb**	**10 06 35.1**	**-1.2**
KAHZ	**Kahuranaki**	**2.73**	**44**	P	**Pn**	**10 06 30.4**	**-1.4**
NGZ	**Ngauruhoe**	**2.76**	**19**	P	**Pb**	**10 06 37.2**	**-0.3**
SNVZ	**South Ngauruho**	**2.76**	**20**	P	**Pb**	**10 06 37.2**	**-0.4**
OTVZ	**Oturere**	**2.79**	**20**	P	**Pn**	**10 06 33.6**	**+0.9**
NNVZ	**North Ngauruho**	**2.80**	**19**	P	**Pn**	**10 06 35.1**	**+2.1**
WTVZ	**West Tongariro**	**2.81**	**19**	P	**Pb**	**10 06 39.6**	**+1.1**
ETVZ	**East Tongariro**	**2.82**	**21**	P	**Pb**	**10 06 38.0**	**-0.7**
TMVZ	**Te Maari**	**2.84**	**21**	P	**Pb**	**10 06 38.6**	**-0.4**
KRVZ	**Karewarewa**	**2.84**	**20**	P	**Pb**	**10 06 39.6**	**+0.6**
WVZ	**Waitaha Valley**	**3.02**	**244**	P	**Pn**	**10 06 36.3**	**+0.6**
RPZ	**Rata Peaks**	**3.14**	**231**	P	**Pn**	**10 06 36.6**	**-0.9**
HIZ	**Hauiti**	**3.29**	**6**	P	**Pn**	**10 06 41.6**	**+2.1**
HIZ	**Hauiti**	**3.29**	**6**	P	**Pn**	**10 06 41.5**	**+2.1**
MRHZ	**Matea Rd**	**3.32**	**28**	P	**Pb**	**10 06 45.8**	**-1.3**
TMZ	**Timaru**	**3.60**	**223**	P	**Pn**	**10 06 42.8**	**-1.0**
ODZ	**Otahua Downs**	**4.26**	**219**	P	**Pn**	**10 06 52.6**	**-0.3**
ODZ	**Otahua Downs**	**4.26**	**219**	P	**Pn**	**10 06 51.5**	**-1.3**

*SNET **03** 10:40:15.7±0.9, 12°.15N×87°.94W, h13km±12km, ML3.6*
*IDC **03** 10:40:20.7±15.0, 13°.33N×87°.57W, h0km, mb3.5/3, mbtmp3.5/3, MS3.0/2, Error ellipse: s-maj=295.4km s-min=196.5km az=9.0*
ISC 03 10:40:20.4±2.9, 12°.3N±0°.2×87°.9W±0°.2, h50km, n15, σ1.66/15, mb3.5/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.97**	**359**	*e*P	**Pn**	**10 40 35.8**	**-2.0**
LCND				*e*S	**Sn**	**10 40 52.4**	**+1.8**
LCND				IAML		10 40 55.6	
	comp=Z,3μm,0.4s						
ALJI	**Alcalda de J**	**1.20**	**325**	*e*P	**Pn**	**10 40 39.0**	**-1.9**
ALJI				*e*S	**Sn**	**10 40 56.5**	**+0.4**
TECO	**Alcaldia de Te**	**1.49**	**323**	*e*P	**Pn**	**10 40 43.0**	**-1.8**
SCLA	**Alcaldia de Sa**	**1.60**	**328**	*e*P	**Pn**	**10 40 44.7**	**-1.6**
COEG	**Centro de Oper**	**1.62**	**322**	*e*P	**Pn**	**10 40 45.2**	**-1.4**
COEG				IAML		10 41 17.3	
	comp=Z,589nm,0.3s						
SJTE	**Alcalda de S**	**1.69**	**319**	*e*P	**Pn**	**10 40 46.4**	**-1.2**
PAVA	**Las Pavas**	**1.72**	**323**	*e*P	**Pn**	**10 40 47.0**	**-1.1**
JAYA	**Jayaque - finc**	**2.03**	**311**	*e*P	**Pn**	**10 40 50.5**	**-1.8**
JAYA				IAML		10 41 25.2	
	comp=Z,207nm,0.2s						
CEVE	**Cerro Verde**	**2.27**	**311**	*e*P	**Pn**	**10 40 54.6**	**-1.1**
SNJE	**San Jose**	**2.28**	**312**	*e*P	**Pn**	**10 40 54.5**	**-1.4**
SDV	**Santo Domingo**	**17.28**	**100**	LR	LR	10 52 47.8	
	comp=Z,30nm,19.1s,baz=269,slow=43						
TXAR	**Lajitas Array**	**22.41**	**321**	P	**P**	**10 45 15.1**	**0.0**
	comp=Z,3.5nm,0.9s,baz=137,slow=10.0,SNR=20						
	comp=Z,3.5nm,0.9s						
PFO	**Pinyon Flats O**	**33.59**	**314**	LR	LR	11 01 46.5	
	comp=Z,38nm,18.9s,baz=175,slow=39						
PDAR	**Pinedale Array**	**35.69**	**332**	P	**P**	**10 47 14.3**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=130,slow=9.6,SNR=2.7						
	comp=Z,0.4nm,0.8s						
NVAR	**Mina Array Bea**	**37.52**	**319**	P	**P**	**10 47 32.2**	**+2.2**
	comp=Z,0.5nm,0.9s,baz=124,slow=7.8,SNR=2.4						
	comp=Z,0.5nm,0.9s						

IDC 03 10:43:55.6±7.7, 30°.17S×177°.56W, h0km, mb3.2/2, mbtmp3.2/2, MS3.2/1, Error ellipse: s-maj=320.7km s-min=61.4km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**13.01**	**341**	LR	LR	10 51 00.6	
	comp=Z,100nm,18.2s,baz=174,slow=33						
ASAR	**Alice Springs**	**43.51**	**266**	P	P	10 52 00.6	-0.5
	0.1nm,0.5s,baz=106,slow=7.3,SNR=1.3						
	0.1nm,0.5s						
WRA	**Warramunga Arr**	**44.47**	**272**	P	P	10 52 09.0	+0.1
	0.2nm,0.3s,baz=110,slow=8.2,SNR=16						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**145.06**	**340**	PKPbc	PKPbc	11 03 32.8	-0.9
	4.2nm,1.1s,baz=28,slow=6.3,SNR=4.0						

LVSN 03 10:45:26.4±1.4, 59°.22N×27°.55E, h0km±397km, ML2.3, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARBE	**Arbavere**	**0.83**	**286**	*e*P	Pg	10 45 40.6	-1.7
ARBE				*e*S	Sg	10 45 52.1	-1.1
ARBE				AML	AML	10 46 03.0	
	comp=Z,110nm,0.7s						
ARBE				AML	AML	10 46 32.4	
	comp=E,112nm,0.7s						
ARBE				AML	AML	10 46 33.2	
	comp=N,158nm,0.9s						
MEF	**Metsahovi**	**1.89**	**303**	*e*P	Pn	10 45 59.0	-0.8
MEF				AML	AML	10 46 15.6	
	comp=N,54nm,0.6s						
MEF				AML	AML	10 46 15.9	
	comp=E,60nm,0.6s						
MEF				AML	AML	10 46 16.9	
	comp=Z,26nm,0.7s						
MTSE	**Matsula**	**2.00**	**257**	*e*P	Pn	10 46 00.8	-0.6

HEL 03 10:46:05.0±0.1, 60°.37N×24°.91E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEL1	**Helsinki**	**0.19**	**183**	PG	Pg	10 46 08.4	-0.3
	baz=360						
HEL1				SG	Sg	10 46 11.0	0.0
NUR	**Nurmijrvi**	**0.19**	**318**	PG	Pg	10 46 08.4	-0.2
	baz=142						
NUR				SG	Sg	10 46 11.1	-0.1
MEF	**Metsahovi**	**0.29**	**240**	PG	Pg	10 46 10.4	-0.2
MEF				SG	Sg	10 46 14.3	-0.1
PVF	**Pernaja**	**0.51**	**69**	PG	Pg	10 46 14.1	-0.6
PVF				MSG		10 46 21.4	
	comp=Z,5.2nm,0.2s						
PVF				SG	Sg	10 46 21.4	+0.2
VJF	**Virojoki**	**1.32**	**81**	MSG		10 46 44.9	
	comp=Z,4.3nm,0.2s						
VJF				SN	Sn	10 46 50.1	+1.1
RAF	**Rauma**	**1.68**	**294**	PG	Pn	10 46 35.2	-0.4
RAF				MSG		10 46 55.3	
	comp=Z,2.1nm,0.2s						
KEF	**Keuruu**	**1.81**	**359**	PG	Pb	10 46 39.1	+0.2
	baz=183						
KEF				MSG		10 46 58.9	
	comp=Z,1.7nm,0.2s						
VAF	**Ylistaro**	**2.89**	**339**	MSG		10 47 30.2	
	comp=Z,0.7nm,0.2s						
VAF				SB	Sb	10 47 31.2	-1.9

NOU 03 11:02:31.0, 22°.15S×171°.70E, h0km, MLv4.7/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.47**	**280**	P	Pn	11 03 26.5	+0.2
PINNC	**Pines Island,**	**3.96**	**263**	P	Pn	11 03 33.0	-0.1
LIFNC	**LIFOU**	**4.37**	**287**	P	Pn	11 03 38.6	-0.1
YATNC	**Mamie plateau,**	**4.46**	**270**	P	Pn	11 03 39.2	-0.7
OUENC	**Ouen Island, N**	**4.51**	**266**	P	Pn	11 03 40.5	-0.1
ONTNC	**Ouen Toro**	**4.86**	**267**	P	Pn	11 03 45.7	+0.2
DZM	**Mont Dzumac**	**4.87**	**270**	P	Pn	11 03 45.6	-0.1
NOUC	**Port Laguerre**	**5.00**	**270**	P	Pn	11 03 47.6	+0.2
	78nm,0.5s						

*BJI **03** 11:17:46.3±0.0, 23°.10N×106°.20E, h10km, mb4.2/19, mB4.6/11, ML4.4/11, Ms4.3/29, Ms7 4.2/27*
*IDC **03** 11:17:47.3±0.9, 23°.20N×106°.37E, h0km, mb3.8/8, mbtmp3.7/9, MS3.5/37, Error ellipse: s-maj=28.5km s-min=16.6km az=65.0*
*NEIC **03** 11:17:48.6±1.1, 23°.10N±0°.08×106°.27E±0°.09, h12km±4km, mb4.2/12, Error ellipse: s-maj=12.7km s-min=9.4km az=132.0*
ISC 03 11:17:48.5±0.6, 23°.16N±0°.05×106°.18E±0°.04, h10km, n77, σ1.77/59, mb4.0/14, MS3.5/35, 2C-2D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**3.31**	**8**	Pn	**Pn**	**11 18 39.5**	**-1.1**
GYA				Sn	**Sn**	**11 19 20.5**	**+0.4**
GYA				Sg	**Sg**	**11 19 33.4**	**-1.6**
GYA				smax	smax		
	comp=N,2μm,0.8s						
GYA				smax	smax		
	comp=E,3μm,1.0s						
GYA				LR	LR		
	comp=N,2μm,3.8s						
GYA				LR	LR		
	comp=E,2μm,3.8s						
KMI	**Kunming**	**3.70**	**303**	⇑Pn	**Pn**	**11 18 47.1**	**+1.1**
KMI				Sg	**Sg**	**11 19 48.2**	**+0.7**
KMI				smax	smax		
	comp=N,340nm,0.7s						
KMI				smax	smax		
	comp=E,430nm,0.9s						
KMI				LR	LR		
	comp=N,2μm,4.0s						
KMI				LR	LR		
	comp=E,4μm,4.1s						
KMI				LR	LR		
	comp=Z,2μm,4.4s						
GULI	**GuiLin**	**4.37**	**60**	Pn	**Pn**	**11 18 57.9**	**+2.9**
GULI				Sn	**Sb**	**11 19 54.3**	**-4.0**
GULI				LR	LR		
	comp=N,2μm,6.9s						
GULI				LR	LR		
	comp=E,1μm,6.4s						
GULI				LR	LR		
	comp=Z,1μm,8.9s						
PZH	**PanZhiHua**	**5.23**	**310**	Pn	**Pn**	**11 19 09.2**	**+2.3**
PZH				Sn	**Sn**	**11 20 06.8**	**-0.5**
PZH				Sg	**Sg**	**11 20 34.4**	**-2.0**
PZH				LR	LR		
	comp=N,2μm,7.9s						
PZH				LR	LR		
	comp=E,2μm,8.0s						
PZH				LR	LR		
	comp=Z,3μm,9.1s						
QIZ	**Qiongzhong**	**5.35**	**140**	Pn	**Pn**	**11 19 06.5**	**-2.0**
QIZ				smax	smax		
	comp=N,160nm,1.4s						
QIZ				smax	smax		
	comp=E,130nm,1.1s						
QIZ	**Qiongzhong**	**5.35**	**140**	Pn	**Pn**	**11 19 06.5**	**-2.0**
CRAI	**Chiangrai**	**6.14**	**243**		**Pn**	**11 19 19.5**	**+0.1**
GZH	**Guangzhou**	**6.59**	**89**	Pn	**Pn**	**11 19 27.7**	**+2.1**
GZH				Sn	**Sn**	**11 20 47.2**	**+6.3**
GZH				smax	smax		
	comp=N,220nm,0.8s						
GZH				smax	smax		
	comp=E,210nm,1.1s						
TNCH	**TengChong**	**7.24**	**286**	Pn	**Pn**	**11 19 34.5**	**-0.2**
TNCH				Sn	**Sn**	**11 20 58.4**	**+1.3**
TNCH				Sg	**Sg**	**11 21 42.1**	**+1.0**
TNCH				smax	smax		
	comp=N,170nm,1.3s						
TNCH				smax	smax		
	comp=E,190nm,1.3s						
TNCH				LR	LR		
	comp=N,2μm,4.1s						
TNCH				LR	LR		
	comp=E,900nm,4.1s						
TNCH				LR	LR		
	comp=Z,1μm,9.7s						
ENH	**Enshi**	**7.67**	**22**	Pn	**Pn**	**11 19 39.8**	**-0.6**
CNSH	**ChangSha**	**7.88**	**49**	⇓P	**Pn**	**11 19 42.2**	**-1.0**
CNSH				smax	smax		
	comp=N,260nm,1.0s						
CNSH				smax	smax		
	comp=E,280nm,0.8s						
CD2	**Chengdu**	**8.01**	**345**	P	**Pn**	**11 19 44.2**	**-0.9**
CD2				S	**Sn**	**11 21 17.3**	**+1.4**
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				pmax	pmax		
	comp=Z,100nm,3.5s						
CD2				LR	LR		
	comp=N,2μm,6.1s						
CD2				LR	LR		
	comp=Z,2μm,10.9s						
CMAR	**Chiang Mai Arr**	**8.23**	**237**	Pn	**Pn**	**11 19 50.7**	**+2.6**
	0.2nm,0.3s,baz=49,slow=11,SNR=1.5						
CMAR				Lg	Lg	11 22 14.1	
	0.2nm,0.3s,baz=59,slow=28,SNR=5.3						
CMAR				LR	LR	11 23 33.4	
	comp=Z,164nm,18.3s,baz=55,slow=41						
WHN	**Wuhan**	**10.35**	**43**	P	**Pn**	**11 20 17.5**	**+0.4**
XAN	**Xi'an**	**11.10**	**12**	⇑P	**Pn**	**11 20 26.1**	**-1.3**
XAN				S	**Sn**	**11 22 33.4**	**+1.7**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,210nm,4.4s						
XAN				LR	LR		
	comp=N,1μm,6.8s						
XAN				LR	LR		
	comp=E,390nm,6.1s						
XAN				LR	LR		
	comp=Z,2μm,8.6s						
LYN	**LuoYang**	**12.61**	**24**	*e*P	**Pn**	**11 20 46.6**	**-1.4**
LYN				SS	Sn	11 23 24.5	+16
LYN				pmax	pmax		
	comp=Z,14nm,0.7s						
LYN				pmax	pmax		
	comp=Z,130nm,4.0s						
LYN				LR	LR		
	comp=N,1μm,8.8s						
LYN				LR	LR		
	comp=E,630nm,8.7s						
LYN				LR	LR		
	comp=Z,1μm,8.3s						
HNS	**HongShan**	**15.97**	**25**	⇓P	**Pn**	**11 21 33.6**	**+0.2**
HNS				*e*S	**Sn**	**11 24 33.2**	**+2.7**
HNS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HNS				LR	LR		
	comp=N,340nm,10.1s						
HNS				LR	LR		
	comp=E,190nm,8.4s						
HNS				LR	LR		
	comp=Z,280nm,9.6s						
GOMU	**GeErMu**	**16.30**	**325**	P	**Pn**	**11 21 35.2**	**-2.8**
GOMU				pP	P	11 21 39.3	-1.7
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GOMU				LR	LR		
	comp=N,460nm,9.0s						
GOMU				LR	LR		
	comp=E,220nm,9.3s						
GOMU				LR	LR		
	comp=Z,580nm,9.5s						
TGY	**Tagaytay City**	**16.62**	**120**	LR	LR	11 27 23.0	
	comp=Z,250nm,21.9s,baz=354,slow=35						
BTO	**Baotou**	**17.69**	**10**	*e*P	**Pn**	**11 21 56.0**	**+0.8**
BTO				S	**S**	**11 25 19.4**	**-0.4**
BTO				pmax	pmax		
	comp=Z,22nm,0.4s						
BTO				pmax	pmax		
	comp=Z,110nm,3.3s						
BTO				LR	LR		
	comp=N,530nm,10.7s						
BTO				LR	LR		
	comp=E,2μm,14.6s						
BTO				LR	LR		
	comp=Z,1μm,12.0s						
HHC	**Hu-ho-hao-te**	**18.21**	**13**	*e*P	**Pn**	**11 22 00.3**	**-1.2**
HHC				S	**Sn**	**11 25 27.1**	**+2.2**
HHC				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC				pmax	pmax		
	comp=Z,190nm,5.1s						
HHC				LR	LR		
	comp=E,430nm,9.3s						
HHC				LR	LR		
	comp=Z,670nm,12.6s						
JOW	**Kunigami**	**20.35**	**75**	LR	LR	11 31 11.9	
	comp=Z,129nm,19.7s,baz=326,slow=40						
KSRS	**Korea Array**	**23.49**	**48**	LR	LR	11 33 41.5	
	comp=Z,77nm,19.0s,baz=235,slow=41						
JNU	**Nakatsue**	**23.88**	**60**	LR	LR	11 32 09.4	
	comp=Z,83nm,18.2s,baz=240,slow=36						
DAV	**Davao City (W)**	**24.58**	**128**	LR	LR	11 32 58.4	
	comp=Z,151nm,18.4s,baz=325,slow=37						
SONM	**Songino Array**	**24.62**	**0**	P	**P**	**11 23 10.5**	**+1.3**
SONM	**Songino Array**	**24.62**	**0**	P	**P**	**11 23 10.0**	**+0.8**
	1.5nm,0.8s,baz=175,slow=9.0,SNR=8.5						
SONM				LR	LR	11 33 54.5	
	comp=Z,136nm,19.8s,baz=182,slow=39						
	1.5nm,0.8s						
ULN	**Ulaanbaatar**	**24.66**	**1**	P	**P**	**11 23 10.8**	**+1.2**
ULN				IAmb	IAmb	11 23 12.4	
	comp=Z,4.6nm,0.9s						
WMQ	**

MKAR				LR	LR	11 37 35.4	
	comp=Z,129nm,20.7s,baz=142,slow=39 comp=Z,0.6nm,0.9s						
MJAR	**Matsushiro Arr**	**30.66**	**57**	LR	LR	11 35 52.2	
	comp=Z,40nm,19.0s,baz=222,slow=36						
NIL	**Nilore**	**30.67**	**297**	P	**P**	**11 24 03.0**	**-0.5**
KAPI	**Kappang**	**30.98**	**153**	LR	LR	11 36 59.4	
	comp=Z,42nm,18.9s,baz=302,slow=37						
AAK	**Ala-Archa**	**32.66**	**314**	LR	LR	11 39 28.5	
	comp=Z,292nm,21.6s,baz=114,slow=40						
JCJ	**Chichijima**	**32.76**	**76**	LR	LR	11 37 13.8	
	comp=Z,25nm,21.4s,baz=176,slow=36						
KLR	**Kul'dur**	**32.90**	**31**	LR	LR	11 38 27.9	
	comp=Z,32nm,18.1s,baz=224,slow=38						
SIJI	**Sorong**	**34.15**	**131**	LR	LR	11 38 10.4	
	comp=Z,27nm,21.6s,baz=54,slow=36						
ZAA0	**Zalesovo Array**	**34.70**	**338**	P	**P**	**11 24 38.0**	**-0.4**
ZAA0				IAmb	IAmb	11 25 08.5	
	comp=Z,3.6nm,0.9s						
ZALV	**Zalesovo Beam**	**34.70**	**338**	P	**P**	**11 24 38.7**	**+0.2**
ZALV	**Zalesovo Beam**	**34.70**	**338**	P	**P**	**11 24 38.0**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=120,slow=8.8,SNR=5.9						
ZALV				LR	LR	11 40 12.4	
	comp=Z,109nm,19.3s,baz=160,slow=39 comp=Z,1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**34.84**	**329**	P	**P**	**11 24 40.4**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=137,slow=9.5,SNR=20						
KURBB				LR	LR	11 40 13.4	
	comp=Z,91nm,19.4s,baz=178,slow=39 comp=Z,1.7nm,0.8s						
KURK	**Kurchatov**	**34.86**	**329**	P	**P**	**11 24 40.0**	**+0.2**
KURK				IAmb	IAmb	11 24 42.2	
	comp=Z,3.5nm,0.8s						
ASAJ	**Asahikawa**	**36.41**	**46**	LR	LR	11 40 21.3	
	comp=Z,46nm,18.9s,baz=196,slow=37						
BATI	**Baumata**	**37.32**	**151**	LR	LR	11 40 54.6	
	comp=Z,108nm,18.3s,baz=297,slow=37						
GUMO	**Guam**	**37.83**	**98**	LR	LR	11 40 25.7	
	comp=Z,34nm,19.6s,baz=266,slow=36						
BVAR	**Borovoye Array**	**40.30**	**327**	P	**P**	**11 25 27.0**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=110,slow=8.0,SNR=1.8						
BVAR				LR	LR	11 43 50.1	
	comp=Z,81nm,18.1s,baz=98,slow=39 comp=Z,0.4nm,0.4s						
BRVK	**Borovoye**	**40.38**	**327**	P	**P**	**11 25 26.4**	**-0.1**
GEYT	**Alibeck**	**43.47**	**301**	P	**P**	**11 25 51.4**	**-0.7**
ABKAR	**Akbulak array**	**44.56**	**318**	P	**P**	**11 26 00.6**	**+0.1**
ABKAR				IAmb	IAmb	11 26 03.2	
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**44.56**	**318**	P	**P**	**11 26 00.2**	**-0.4**
AKTO	**Aktyubinsk**	**46.11**	**319**	P	**P**	**11 26 14.2**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=96,slow=13,SNR=4.3 comp=Z,1.3nm,0.6s						
ARU	**Arti**	**47.95**	**326**	LR	LR	11 48 31.1	
	comp=Z,54nm,18.1s,baz=148,slow=38						
PETK	**Petropavlovsk-**	**48.91**	**39**	LR	LR	11 48 52.4	
	comp=Z,33nm,18.3s,baz=151,slow=38						
WB0	**Warramunga Arr**	**50.78**	**145**	P	**P**	**11 26 46.6**	**-2.6**
WB0				IAmb	IAmb	11 27 01.8	
	comp=Z,6.7nm,1.3s						
WRA	**Warramunga Arr**	**50.90**	**145**	P	**P**	**11 26 48.5**	**-1.6**
WRA	**Warramunga Arr**	**50.90**	**145**	P	**P**	**11 26 49.0**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=330,slow=8.5,SNR=16 comp=Z,1.4nm,0.8s						
WB2	**Warramunga Arr**	**50.90**	**145**	P	**P**	**11 26 50.1**	**0.0**
WR0	**Warramunga Arr**	**51.02**	**145**	P	**P**	**11 26 49.8**	**-1.1**
WR0				IAmb	IAmb	11 26 52.9	
	comp=Z,5.3nm,1.1s						
KIRV	**Kirov**	**53.32**	**327**	LR	LR	11 53 17.6	
	comp=Z,55nm,19.3s,baz=193,slow=40						
ASAR	**Alice Springs**	**53.78**	**148**	P	**P**	**11 27 08.9**	**-2.6**
ASAR	**Alice Springs**	**53.78**	**148**	P	**P**	**11 27 12.1**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=325,slow=7.4,SNR=13 comp=Z,0.4nm,0.5s						
GNI	**Garni**	**53.95**	**304**	LR	LR	11 54 47.7	
	comp=Z,29nm,19.3s,baz=134,slow=41						
NWAO	**Narrogin (SRO)**	**56.76**	**169**	LR	LR	11 53 57.8	
	comp=Z,61nm,18.0s,baz=230,slow=38						
CTA	**Charters Tower**	**58.10**	**135**	LR	LR	11 54 41.5	
	comp=Z,20nm,19.3s,baz=90,slow=38						
BRTR	**Keskin Array B**	**62.49**	**304**	LR	LR	12 00 04.0	
	comp=Z,30nm,18.0s,baz=46,slow=40						
BBOO	**Buckleboo**	**62.54**	**152**	P	**P**	**11 28 10.3**	**-2.3**
AKASG	**Malin Array Be**	**64.28**	**317**	LR	LR	12 00 45.3	
	comp=Z,107nm,18.9s,baz=135,slow=40						
ARCES	**ARCESS Array B**	**65.26**	**338**	LR	LR	12 00 29.8	
	comp=Z,73nm,18.6s,baz=226,slow=39						
NOA	**NORSAR Array B**	**72.37**	**329**	LR	LR	12 03 49.6	
	comp=Z,47nm,20.9s,baz=5.0,slow=38						
VRAC	**Vranov**	**72.54**	**317**	LR	LR	12 03 31.4	
	comp=Z,65nm,18.3s,baz=66,slow=38						
CLL	**Collm**	**74.19**	**319**	*e*Px	Px	11 29 29.0	
GERES	**GERESS Array B**	**74.50**	**317**	LR	LR	12 07 57.0	
	comp=Z,62nm,19.8s,baz=184,slow=40						
DAVOX	**Davos/Dischmat**	**77.60**	**316**	LR	LR	12 08 03.0	
	comp=Z,48nm,19.7s,baz=84,slow=39						
INK	**Inuvik**	**79.02**	**19**	LR	LR	12 07 59.5	
	comp=Z,19nm,20.8s,baz=3.0,slow=38						
RES	**Resolute Bay**	**81.44**	**6**	LR	LR	12 08 55.3	
	comp=Z,21nm,18.6s,baz=52,slow=38						
YKA	**Yellowknife Ar**	**88.69**	**18**	LR	LR	12 16 03.6	
	comp=Z,13nm,18.2s,baz=353,slow=39						
ESDC	**Sonseca Array**	**89.77**	**314**	LR	LR	12 17 27.8	
	comp=Z,48nm,18.1s,baz=356,slow=40						

HEL 03 11:29:07.3±0.1, 63°.98N×28°.13E, $h0^{km}$, ML1.5, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.61**	**194**	PG	Pg	11 29 18.1	-0.8
NIF				SG	Sg	11 29 26.3	-0.4
RMF	**Romuvaara**	**0.83**	**72**	PG	Pg	11 29 22.8	-0.4
RMF				MSG		11 29 33.0	
	comp=Z,3.4nm,0.2s						
RMF				SB	Sg	11 29 33.5	-0.4
OUL	**Oulu**	**1.47**	**320**	PN	Pn	11 29 34.2	-0.8
OUL				SN	Sn	11 29 57.2	+2.2
OUF	**Merijarvi**	**1.54**	**286**	PG	Pn	11 29 35.1	-0.8
OUF				MSG		11 29 53.4	
	comp=Z,3.1nm,0.2s						
OUF				SG	Sn	11 29 55.1	-1.4
OBF4	**Vikkela, Lumij**	**1.56**	**304**	PG	Pn	11 29 35.5	-0.7
OBF4				MSG		11 29 54.0	
	comp=Z,3.1nm,0.2s						
OBF4				SN	Sg	11 29 57.6	+0.3
OBF0	**Syolatti, Pyha**	**1.78**	**289**	PG	Pn	11 29 39.2	0.0
OBF0				MSG		11 30 00.2	
	comp=Z,4.9nm,0.2s						
OBF0				SG	Sn	11 30 02.1	-0.3
JOF	**Joensuu**	**1.78**	**125**	PG	Pn	11 29 39.4	+0.1
	baz=305						
JOF				SN	Sn	11 30 02.4	-0.2
MSF	**Maaselka**	**1.98**	**11**	PG	Pn	11 29 42.9	+0.9
MSF				SG	Sn	11 30 08.1	+0.6
KAF	**Kangasniemi**	**2.05**	**205**	PG	Pn	11 29 43.5	+0.6
	baz=19						
KAF				MSG		11 30 08.2	
	comp=Z,4.3nm,0.2s						
KAF				SG	Sn	11 30 10.1	+1.0
KU6	**Riekki**	**2.19**	**19**	PG	Pn	11 29 46.3	+1.4
KU6				MSG		11 30 12.1	
	comp=Z,1.7nm,0.2s						
KU6				SG	Sn	11 30 13.9	+1.2
KEF	**Keuruu**	**2.34**	**221**	PG	Pn	11 29 48.6	+1.6
KEF				MSG		11 30 16.8	
	comp=Z,2.5nm,0.2s						
KEF				SG	Sb	11 30 19.3	-0.5
OLKF	**Oulanka, Finla**	**2.42**	**12**	PG	Pb	11 29 50.4	-1.2
OLKF				MSG		11 30 18.6	
	comp=Z,1.4nm,0.2s						
OLKF				SG	Sb	11 30 20.3	-1.5
RUF	**Ruokolahti**	**2.59**	**171**	PG	Pb	11 29 52.6	-2.0
	baz=349						
RUF				MSG		11 30 23.7	
	comp=Z,1.7nm,0.2s						
RUF				SG	Sb	11 30 26.5	-0.4
VAF	**Ylistaro**	**2.62**	**251**	PB	Pn	11 29 52.8	+2.1
VAF				MSG		11 30 24.5	
	comp=Z,1.5nm,0.2s						
VAF				SB	Sb	11 30 26.2	-1.5
FIA0	**FINESS Array S**	**2.71**	**201**	PB	Pn	11 29 54.0	+1.9
	baz=20						
FIA0				MSG		11 30 27.1	
	comp=Z,0.9nm,0.2s						
FIA0				SB	Sb	11 30 28.9	-1.5
RNF	**Rovaniemi**	**2.79**	**342**	SG	Sb	11 30 32.0	-0.5
UMAU	**Umeaa**	**3.29**	**272**	PN	Pn	11 29 59.5	-0.5
	baz=90						
ERTU	**Ertsjaerv**	**3.59**	**319**	PN	Pn	11 30 05.3	+1.1
ERTU				SN	Sn	11 30 48.1	+0.8
KLF	**Kolari**	**3.70**	**334**	SN	Sn	11 30 50.2	+0.4
VSVD	**Vaisvydziai**	**8.29**	**197**	*e*P	Pg	11 31 47.4	+1.4

*LVSN **03** 11:29:34.7±1.6, 59°.21N×28°.15E, $h0^{km}$±12km, ML1.9*
*EST **03** 11:29:35.1±0.1, 59°.23N×27°.77E, $h0^{km}$, ML1.3(HEL), Explosion*

HEL 03 11:29:35.2±0.2, 59°.21N×27°.75E, $h0^{km}$, ML1.5, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE03	**Tooma soojaam,**	**0.84**	**247**	*e*P	Pg	11 29 50.0	-1.3
EE03				*e*S	Sg	11 30 01.1	-0.9
VSU	**Vasula**	**0.92**	**215**	*e*P	Pg	11 29 52.1	-0.7
ARBE	**Arbavere**	**0.93**	**285**	*e*P	Pb	11 29 54.2	0.0
ARBE				AML	AML	11 30 12.8	
	comp=N,80nm,0.8s						
ARBE				AML	AML	11 30 12.9	
	comp=Z,69nm,0.5s						
ARBE				AML	AML	11 30 18.4	
	comp=E,72nm,0.6s						
ARBE	**Arbavere**	**0.93**	**285**	*e*P	Pg	11 29 51.8	-1.3
ARBE				*e*S	Sg	11 30 02.9	-2.3
VJF	**Virojoki**	**1.33**	**356**	*e*P	Pg	11 29 58.4	-2.3
VJF				MSG		11 30 15.4	
	comp=Z,2.5nm,0.2s						
VJF				*e*SB	Sg	11 30 16.5	-1.4
EE07	**Piusa Caves, O**	**1.39**	**186**	*e*P	Pg	11 30 00.3	-1.4
EE07				*e*S	Sg	11 30 18.0	-1.6
EE08	**Sarghaua, Vand**	**1.42**	**248**	*e*P	Pn	11 30 00.5	-1.7
EE08				*e*PN	Pg	11 30 02.3	0.0
EE08				*e*SN	Sn	11 30 21.9	+0.4
PVF	**Pernaja**	**1.64**	**325**	PN	Pn	11 30 04.6	-0.7
PVF	**Pernaja**	**1.64**	**325**	*e*PG	Pn	11 30 04.6	-0.7
PVF				MSG		11 30 24.2	
	comp=Z,1.3nm,0.2s						
PVF				*e*SG	Sn	11 30 25.4	-1.6
HEL1	**Helsinki**	**1.75**	**305**	*e*SN	Sn	11 30 29.4	-0.2
MEF	**Metsahovi**	**1.98**	**302**	*e*P	Pn	11 30 10.3	+0.4
MEF				*e*S	Sn	11 30 35.9	+0.6
MEF				AML	AML	11 30 38.1	
	comp=N,7.8nm,0.5s						
MEF				AML	AML	11 31 18.7	
	comp=E,7.6nm,0.7s						
MEF				AML	AML	11 31 19.9	
	comp=Z,7.3nm,0.6s						
MEF	**Metsahovi**	**1.98**	**302**	PN	Pn	11 30 10.7	+0.8
MEF	**Metsahovi**	**1.98**	**302**	*e*PG	Pn	11 30 10.6	+0.7
MEF				*e*SG	Sn	11 30 35.8	+0.5
MEF				MSG		11 30 36.8	
	comp=Z,1.2nm,0.1s						
NUR	**Nurmijrvi**	**2.03**	**311**	PB	Pn	11 30 11.6	+0.9
NUR	**Nurmijrvi**	**2.03**	**311**	*e*PG	Pn	11 30 11.5	+0.9
NUR				MSG		11 30 35.6	
	comp=Z,1.6nm,0.2s						
NUR				*e*SG	Sn	11 30 37.6	+0.9
MTSE	**Matsula**	**2.10**	**258**	*e*P	Pn	11 30 11.8	+0.2
MTSE				*e*S	Sb	11 30 39.6	-1.0
MTSE	**Matsula**	**2.10**	**258**	*e*PB	Pn	11 30 12.2	+0.6
MTSE				*e*SG	Sb	11 30 40.1	-0.6
EE01	**Perakula, Nova**	**2.12**	**272**	*e*PB	Pn	11 30 12.6	+0.7
EE01				*e*SB	Sn	11 30 39.8	+0.9
FIA0	**FINESS Array S**	**2.39**	**340**	*e*PB	Pn	11 30 16.4	+0.9
FIA1	**FINESS Array S**	**2.39**	**340**	*e*PB	Pn	11 30 16.4	+0.9

*IDC **03** 12:43:33.4±0.9, 3°.22N×128°.61E, $h0^{km}$, mb3.7/7, mbtmp3.7/8, ML3.1/1, MS2.8/4, Error ellipse: s-maj=51.1km s-min=17.0km az=73.0*
*DJA **03** 12:43:37.1±0.9, 3°N±8°×12°9E±°, $h10^{km}$, M4.2/11, mB5.1/4, mb4.4/8, MLv3.9/11, Mw(mB)4.5/4*

ISC 03 12:43:38.9±0.8, 3°.22N±0°.09×128°.9E±0°.1, $h35^{km}$, n23, σ0°95/19, mb3.9/7, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.87**	**212**	P	**Pn**	**12 44 22.1**	**-0.1**
LBMI	**Labuha**	**4.07**	**200**	P	**Pn**	**12 44 38.9**	**+0.1**
SIJI	**Sorong**	**4.70**	**150**	Pn	**Pn**	**12 44 47.7**	**+0.3**
	0.8nm,0.3s,baz=269,slow=23,SNR=9.2						
SIJI				Sn	**Sn**	**12 45 38.8**	**-1.9**
	0.6nm,0.3s,baz=183,slow=23,SNR=1.5 2.5nm,0.3s						
SANI	**Sanana**	**5.98**	**209**	P	**Pn**	**12 45 04.4**	**-0.7**
	19nm,1.1s,0.1nm						
GTOI	**Gorontalo**	**6.42**	**247**	P	**Pn**	**12 45 11.8**	**+0.8**
	23nm,0.7s,0.1nm						
NLAI	**Namlea**	**6.66**	**196**	P	**Pn**	**12 45 14.6**	**+0.3**
FAKI	**Fak Fak**	**6.95**	**151**	P	**Pn**	**12 45 19.4**	**+1.0**
	9.9nm,1.4s,0.1nm						
MRSI	**Marisa**	**7.47**	**249**	P	**Pn**	**12 45 26.1**	**+0.6**
	73nm,0.7s,658nm0.3nm						
MPSI	**Mapaga**	**9.44**	**253**	P	**Pn**	**12 45 52.5**	**0.0**
	14nm,0.8s						
TTSI	**Tana Toraja**	**11.00**	**236**	P	**Pn**	**12 46 13.5**	**-0.4**
	18nm,0.8s,1μm						
JAY	**Jayapura**	**13.10**	**116**	LR	LR	12 51 28.0	
	comp=Z,40nm,19.4s,baz=16,slow=36						
BATI	**Baumata**	**14.32**	**201**	LR	LR	12 53 56.5	
	comp=Z,88nm,18.2s,baz=316,slow=44						
GUMO	**Guam**	**18.85**	**56**	LR	LR	12 54 10.1	
	comp=Z,23nm,19.7s,baz=196,slow=33						
GMJI	**Gumukmas**	**19.18**	**233**	P	**Pn**	**12 48 01.0**	**+0.1**
WRA	**Warramunga Arr**	**23.62**	**167**	P	**P**	**12 48 47.0**	**0.0**
	2.5nm,0.8s,baz=348,slow=10,SNR=15 2.5nm,0.8s						
ASAR	**Alice Springs**	**27.16**	**170**	P	**P**	**12 49 18.4**	**-0.9**
	0.2nm,0.5s,baz=1.9,slow=8.8,SNR=7.3 0.2nm,0.5s						
HNR	**Honiara**	**33.39**	**112**	LR	LR	13 02 53.7	
	comp=Z,499nm,18.8s,baz=108,slow=34						
KSRS	**Korea Array**	**34.09**	**359**	LR	LR	13 03 11.8	
	comp=Z,8.2nm,20.3s,baz=325,slow=35						
STKA	**Stephens Creek**	**36.93**	**162**	P	**P**	**12 50 46.4**	**+1.7**
	0.9nm,0.5s,baz=325,slow=12,SNR=3.2 0.9nm,0.5s						
PETK	**Petropavlovsk-**	**55.12**	**21**	P	**P**	**12 53 08.1**	**+0.5**
	2.0nm,0.8s,baz=198,slow=2.9,SNR=6.0 2.0nm,0.8s						
MKAR	**Makanchi Array**	**59.22**	**324**	P	**P**	**12 53 35.8**	**-1.0**
	0.7nm,0.5s,baz=116,slow=8.1,SNR=10 0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**63.35**	**327**	P	**P**	**12 54 02.9**	**-1.7**
	0.8nm,0.6s,baz=124,slow=6.1,SNR=6.3 0.8nm,0.6s						
ILAR	**Eielson Array**	**84.64**	**25**	P	**P**	**12 56 08.9**	**+0.1**
	0.3nm,0.9s,baz=253,slow=5.6,SNR=1.4 0.3nm,0.9s						

*DJA **03** 12:50:07.7±0.3, 0°N±4°×12°2E±°, $h98^{km}$±8km, M4.0/12, mb4.2/7, mB4.9/2, MLv4.0/12, Mw(mB)4.2/2*
*IDC **03** 12:50:10.0±10.0, 0°.87N×122°.99E, $h147^{km}$±106km, mb3.3/6, mbtmp3.7/6, Error ellipse: s-maj=206.1km s-min=18.2km az=62.0*

ISC 03 12:50:06.9±1.1, 0°.31N±0°.09×122°.02E±0°.06, $h115^{km}$±10km, n15, σ0°75/16, mb3.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.18**	**335**	P	**Pn**	**12 50 22.8**	**-0.1**
GTOI	**Gorontalo**	**1.04**	**72**	P	**Pn**	**12 50 29.3**	**+0.3**
LUWI	**Luwuk**	**1.54**	**151**	P	**Pn**	**12 50 34.1**	**-0.5**
MPSI	**Mapaga**	**2.12**	**271**	P	**Pn**	**12 50 41.8**	**+0.1**
TTSI	**Tana Toraja**	**4.00**	**213**	P	**Pn**	**12 51 06.8**	**+0.5**
SANI	**Sanana**	**4.61**	**121**	P	**Pn**	**12 51 13.6**	**-1.0**
TNTI	**Ternate**	**5.37**	**85**	P	**Pn**	**12 51 25.5**	**+0.7**
	22nm,0.6s,2μm0.3nm						
LBMI	**Labuha**	**5.56**	**100**	P	**Pn**	**12 51 27.6**	**+0.1**
	30nm,0.6s,0.2nm						
NLAI	**Namlea**	**6.19**	**125**	P	**Pn**	**12 51 36.2**	**+0.3**
	8.3nm,0.9s,0.1nm						
WRA	**Warramunga Arr**	**23.48**	**150**	P	**P**	**12 55 07.1**	**+0.7**
	0.6nm,0.7s,baz=337,slow=9.4,SNR=8.6 0.6nm,0.7s						
ASAR	**Alice Springs**	**26.49**	**155**	P	**P**	**12 55 34.0**	**+0.4**
	0.3nm,0.6s,baz=342,slow=14,SNR=13						
ASAR				PcP	**PcP**	**12 58 54.7**	**-1.2**
	0.1nm,0.3s,baz=341,slow=2.1,SNR=5.1 0.3nm,0.6s						
STKA	**Stephens Creek**	**36.99**	**152**	P	**P**	**12 57 06.2**	**+0.8**
	1.0nm,0.5s,baz=333,slow=11,SNR=3.2 1.0nm,0.5s						
MKAR	**Makanchi Array**	**57.83**	**329**	P	**P**	**12 59 46.5**	**0.0**
	0.8nm,0.4s,baz=130,slow=8.4,SNR=14 0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**61.63**	**336**	P	**P**	**13 00 11.0**	**-1.3**
	0.4nm,0.3s,baz=131,slow=8.0,SNR=1.6 0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**62.20**	**330**	P	**P**	**13 00 15.9**	**-0.3**
	1.2nm,0.7s,baz=131,slow=6.2,SNR=8.6 1.2nm,0.7s						

*IDC **03** 12:52:05.1±3.2, 36°.57N×140°.91E, $h0^{km}$, mb3.4/2, mbtmp3.3/3, ML2.2/1, MS2.0/1, Error ellipse: s-maj=61.0km s-min=29.6km az=30.0*
*JMA **03** 12:52:15.8±0.1, 35°.9N±0°.3×140°.3E±0°.4, $h44^{km}$±1km, MV2.4/39, SOUTHERN IBARAKI PREF*

ISC 03 12:52:16.2±3.5, 35°.86N±0°.06×140°.3E±0°.2, $h45^{km}$±34km, n11, σ1°916/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.24**	**64**	P	**Pn**	**12 52 24.1**	**-0.1**
JIHU				*e*S	**Sn**	**12 52 30.4**	**+0.5**
JSMT	**Sammumatsuo**	**0.27**	**146**	P	**Pn**	**12 52 24.5**	**0.0**
JSMT				*e*S	**Sn**	**12 52 30.4**	**+0.1**
JYT	**Yasato**	**0.37**	**351**	*i* P	**Pn**	**12 52 25.0**	**-0.6**
JYT				S	**Sn**	**12 52 31.6**	**-0.5**
JAG	**Ashikaga**	**0.86**	**311**	*i* P	**Pn**	**12 52 31.5**	**-0.4**
BSO3	**Boso 3**	**1.08**	**169**	P	Pn	12 52 34.5	-0.1
JRY	**Ryogami san**	**1.12**	**278**	*i* P	**Pn**	**12 52 35.4**	**0.0**
JOD2	**Odawara 2**	**1.13**	**238**	P	**Pn**	**12 52 35.2**	**-0.4**
JOD2				*e*S	**Sn**	**12 52 49.4**	**-0.5**
JKT	**Katashina**	**1.22**	**318**	*e*P	**Pn**	**12 52 36.8**	**-0.1**
MJAR	**Matsushiro Arr**	**1.79**	**293**	Pn	**Pn**	**12 52 43.1**	**-1.5**
	0.7nm,0.3s,baz=92,slow=15,SNR=29						
MJAR				Sn	**Sn**	**12 53 09.2**	**+2.9**
	0.6nm,0.3s,baz=83,slow=24,SNR=3.8						
MJAR				LR	LR	12 53 45.7	
	comp=Z,34nm,20.6s,baz=72,slow=46 13nm,0.7s						
WRA	**Warramunga Arr**	**55.78**	**187**	P	P	13 01 47.7	-0.9
	0.3nm,0.6s,baz=1.3,slow=7.7,SNR=7.0 0.3nm,0.6s						
ASAR	**Alice Springs**	**59.51**	**187**	P	P	13 02 17.1	+2.3
	0.4nm,1.0s,baz=6.1,slow=9.6,SNR=1.9 0.4nm,1.0s						

WEL 03 12:53:35.6±1.8, 35°S±21°×17°9E±1°9, $h249^{km}$±26km, M4.2/20, ML4.2/12, MLv4.2/20, Error ellipse: s-maj=0.0km s-min=0.0km az=38.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.83**	**192**	P	Pn	12 54 26.3	+0.2
WMGZ	**Waiomatatini S**	**3.06**	**190**	P	Pn	12 54 29.5	+0.9
WMGZ				S	S	12 55 11.2	+0.5
HAZ	**Te Kaha**	**3.13**	**199**	P	Pn	12 54 29.3	-0.1
HAZ				S	S	12 55 12.3	+0.3
KUZ	**Kuaotunu**	**3.35**	**234**	P	Pn	12 54 31.3	-0.5
URZ	**Urewera**	**3.80**	**204**	P	Pn	12 54 36.5	-0.4
URZ				S	S	12 55 26.1	+0.4
MKAZ	**Moumakai**	**3.92**	**233**	P	Pn	12 54 38.0	-0.3
MUGZ	**Murupara**	**4.12**	**206**	P	Pn	12 54 40.4	-0.2
RTZ	**Ruatahuna**	**4.17**	**203**	P	Pn	12 54 41.1	-0.2
SNGZ	**Shannon Statio**	**4.21**	**199**	P	Pn	12 54 41.9	+0.1
PRGZ	**Paritu Road**	**4.23**	**193**	P	Pn	12 54 41.7	-0.3
ALRZ	**Allen Road**	**4.35**	**210**	P	Pn	12 54 44.2	+0.7
RAHZ	**Arahi**	**4.41**	**201**	P	Pn	12 54 43.9	-0.2
MTHZ	**Maungataniwha**	**4.43**	**203**	P	Pn	12 54 44.3	0.0
MHGZ	**Mahia Peninsul**	**4.45**	**192**	P	Pn	12 54 44.3	-0.3
TLZ	**Tolley Road**	**4.53**	**218**	P	Pn	12 54 47.3	+1.7
MRHZ	**Matea Rd**	**4.56**	**207**	P	Pn	12 54 46.1	+0.2
NMHZ	**Naumai**	**4.66**	**202**	P	Pn	12 54 47.0	-0.2
ARHZ	**Aropaoanui**	**4.76**	**200**	P	Pn	12 54 47.8	-0.6
BKZ	**Black Stump Fm**	**4.83**	**205**	P	Pn	12 54 48.8	-0.4
MCHZ	**McNeill Hill**	**5.01**	**202**	P	Pn	12 54 50.9	-0.5
HIZ	**Tauiti**	**5.03**	**221**	P	Pn	12 54 54.2	+2.6
KWHZ	**Kaweka Forest**	**5.08**	**204**	P	Pn	12 54 51.5	-0.8
TMVZ	**Te Maari**	**5.09**	**211**	P	Pn	12 54 52.5	0.0
ETVZ	**East Tongariro**	**5.10**	**211**	P	Pn	12 54 52.7	+0.1
CKHZ	**Cape Kidnapper**	**5.11**	**198**	P	Pn	12 54 51.6	-0.9
TWVZ	**Taurewa**	**5.17**	**213**	P	Pn	12 54 53.8	+0.4
SNVZ	**South Ngauruho**	**5.17**	**211**	P	Pn	12 54 53.5	-0.1
NGZ	**Ngauruhoe**	**5.18**	**211**	P	Pn	12 54 54.2	+0.5
TUVZ	**Tukino**	**5.24**	**211**	P	Pn	12 54 54.4	+0.1
BHHZ	**Black Hill Sta**	**5.27**	**206**	P	Pn	12 54 53.9	-0.7
FWVZ	**Far West T-bar**	**5.27**	**211**	P	Pn	12 54 54.5	-0.3
KAHZ	**Kahuranaki**	**5.29**	**199**	P	Pn	12 54 54.0	-0.8
KRHZ	**Kereru**	**5.30**	**203**	P	Pn	12 54 53.6	-1.3
WNVZ	**Wahianoa**	**5.31**	**211**	P	Pn	12 54 55.3	+0.1
MOVZ	**Moawhango**	**5.31**	**209**	P	Pn	12 54

comp=Z,49nm,18.4s,baz=67,slow=30
PLCA Paso Flores 46.76 145 LR LR 13 21 16.6
comp=Z,134nm,19.4s,baz=333,slow=30
PDAR Pinedale Array 47.73 355 P P 13 06 39.3 -1.9
0.6nm,0.9s,baz=159,slow=5.3,SNR=3.9
0.6nm,0.9s
YBH Yreka Blue Hor 49.40 342 LR LR 13 23 05.1
comp=Z,55nm,19.0s,baz=189,slow=30
CPUP Villa Florida 49.64 121 LR LR 13 24 58.1
comp=Z,54nm,18.2s,baz=238,slow=33
RAR Rarotonga 56.07 248 LR LR 13 27 09.0
comp=Z,20nm,18.1s,baz=154,slow=31
SCHQ Schefferville 67.21 22 LR LR 13 36 17.3
comp=Z,38nm,21.1s,baz=276,slow=34
KDAK Kodiak Island 73.56 335 LR LR 13 33 31.0
comp=Z,51nm,20.1s,baz=124,slow=29
ILAR Eielson Array 76.29 343 P P 13 09 53.6 +1.0
0.5nm,0.8s,baz=152,slow=4.0,SNR=4.9
0.5nm,0.8s
URZ Urewera 77.97 232 LR LR 13 40 11.9
comp=Z,56nm,19.1s,baz=210,slow=32
SFJD Kangerlussuaq 81.20 19 LR LR 13 45 18.7
comp=Z,24nm,21.5s,baz=177,slow=35
SHEM Shemya Is, Ala 88.81 323 LR LR 13 41 46.8
comp=Z,54nm,18.8s,baz=290,slow=30
CMAR Chiang Mai Arr 153.60 302 PKPbc PKPbc 13 18 03.7 -0.4
0.4nm,0.4s,baz=67,slow=3.0,SNR=1.2

*SDD **03** 12:59:48.7±3.6, 19°.31N×73°.90W, h242km±26km, MD4.1, ML3.2, MW3.6*
*OSPL **03** 12:59:53.8±1.3, 18°.33N×74°.04W, h4km±10km, ML2.8*
*SSNC **03** 12:59:53.0±1.2, 18°.20N×74°.04W, h7km±15km, MD3.1, ML2.6, MW2.8*
ISC 03 12:59:51.5±1.1, 18°.31N±0°.06×74°.08W±0°.03, h10km, n20, σ1§64/35, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.87**	**356**	*e*P	**Pn**	**13 00 23.5**	**0.0**
MASC				*e*S	**Sn**	13 00 43.5	**-3.7**
MASC				IAML		13 00 47.8	
	comp=N,25nm,0.3s						
MASC				IAML		13 00 48.1	
	comp=E,30nm,0.2s						
MASC	**Masc**	**1.87**	**356**	*i* P	**Pn**	**13 00 23.8**	**+0.3**
MASC				*e*S	**Sn**	**13 00 47.3**	**+0.2**
MASC				IAML		13 00 56.8	
	comp=Z,18nm,0.4s						
GTBY	**Guantanamo Bay**	**1.89**	**329**	*e*P	**Pn**	**13 00 24.5**	**+0.8**
GTBY	**Guantanamo Bay**	**1.89**	**329**	*e*Pg	**Pn**	**13 00 24.3**	**+0.6**
GTBY				*e*Sg	**Sn**	**13 00 48.2**	**+0.6**
GTBY				IAML		13 00 53.0	
	comp=Z,39nm,0.3s						
GTBY	**Guantanamo Bay**	**1.89**	**329**	*i* P	**Pn**	**13 00 24.4**	**+0.7**
GTBY				*e*S	**Sn**	**13 00 48.3**	**+0.7**
GTBY				IAML		13 00 53.0	
	comp=Z,39nm,0.3s						
GTMO	**Guantanamo**	**2.03**	**331**	*e*P	**Pn**	**13 00 24.7**	**-1.0**
JIDR	**Jimani**	**2.12**	**85**	*e*Pg	**Pn**	**13 00 28.4**	**+1.4**
JIDR				*e*Sg	**Sb**	**13 00 58.4**	**+2.0**
JIDR				IAML		13 01 12.2	
	comp=Z,112nm,0.8s						
LOPE2	**Hotel El Peder**	**2.23**	**97**	*i* P	**Pn**	**13 00 28.6**	**+0.1**
LOPE2				*e*S	**Sn**	**13 00 55.4**	**-0.8**
LOPE2				IAML		13 01 02.3	
	comp=Z,99nm,0.8s						
RCC	**Rio Carpintero**	**2.27**	**318**	*e*P	**Pn**	**13 00 29.8**	**+0.7**
RCC				*e*S	**Sn**	**13 00 57.1**	**-0.1**
RCC				*e*Sg	**Sb**	**13 01 00.8**	**0.0**
MOAC	**Moa**	**2.49**	**341**	*e*P	**Pn**	**13 00 34.4**	**+2.4**
MOAC				*e*S	**Sn**	**13 01 04.9**	**+2.4**
NEDR	**Neiba UASD**	**2.53**	**86**	*e*Pg	**Pn**	**13 00 34.7**	**+2.1**
NEDR				*e*Sg	**Sb**	**13 01 07.5**	**-0.8**
NEDR				IAML		13 01 33.2	
	comp=Z,57nm,0.7s						
PODR	**Polo**	**2.66**	**93**	*e*Pg	**Pn**	**13 00 35.1**	**+0.5**
PODR				*e*Sg	**Sb**	**13 01 12.8**	**+0.6**
PODR				IAML		13 01 23.7	
	comp=Z,40nm,0.5s						
SDDR	**Presa de Saban**	**2.73**	**75**	*e*Pg	**Pn**	**13 00 35.8**	**+0.4**
SDDR				*e*Sg	**Sn**	**13 01 08.0**	**-0.5**
SDDR				IAML		13 01 30.9	
	comp=Z,45nm,1.5s						
SDDR	**Presa de Saban**	**2.73**	**75**	*e*P	**Pn**	**13 00 36.7**	**+1.2**
SDDR				IAML		13 01 18.7	
	comp=Z,36nm,1.1s						
LMGC	**Las Mercedes**	**3.27**	**303**	*e*P	**Pn**	**13 00 40.8**	**-2.0**
LMGC				*e*S	**Sn**	**13 01 17.3**	**-4.5**
LMGC				IAML		13 01 20.9	
	comp=N,18nm,0.2s						
LMGC				IAML		13 01 21.7	
	comp=E,14nm,0.2s						
MTDJ	**Mount Denham**	**3.29**	**269**	*e*P	**Pn**	**13 00 43.8**	**+0.7**
MTDJ	**Mount Denham**	**3.29**	**269**	*e*Pg	**Pn**	**13 00 44.6**	**+1.5**
MTDJ				*e*Sg	**Sb**	**13 01 29.7**	**-0.4**
MTDJ				IAML		13 01 36.5	
	comp=Z,30nm,1.1s						
MTDJ	**Mount Denham**	**3.29**	**269**	*i* P	**Pn**	**13 00 45.7**	**+2.6**
MTDJ				*e*S	**Sn**	**13 01 22.4**	**+0.1**
BANI	**BANI**	**3.53**	**88**	*e*Pg	**Pn**	**13 00 44.6**	**-1.9**
BANI				*e*Sg	**Sn**	**13 01 26.1**	**-2.3**
BANI				IAML		13 01 42.5	
	comp=Z,50nm,2.8s						
HATOM	**Hato Mayor del**	**4.48**	**83**	*e*Pg	Pn	13 00 54.4	-5.1
HATOM				*e*Sg	Sn	13 01 40.2	-12
HATOM				IAML		13 02 10.2	
	comp=Z,22nm,2.5s						

*IDC **03** 13:06:16.9±1.5, 6°.24S×129°.02E, h0km, mb4.3/2, mbtmp4.3/5, ML4.2/3, Error ellipse: s-maj=56.6km s-min=27.2km az=77.0*
*NEIC **03** 13:06:28.0±1.4, 6°.03S±0°.06×130°.3E±0°.1, h115km±4km, mb4.2/6, Error ellipse: s-maj=16.2km s-min=8.9km az=90.0*
*DJA **03** 13:06:28.3±0.3, 6°.5S±3°×13°.1E±°, h171km±9km, M4.4/13, mb4.2/9, mB5.2/6, MLv4.4/13, Mw(mB)4.5/6*
ISC 03 13:06:28.4±0.7, 6°.04S±0°.05×130°.59E±0°.07, h150km, n37, σ2§29/41, mb4.2/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.65**	**336**	P	**Pn**	**13 07 01.1**	**+1.5**
SAUI	**Saumlaki**	**2.06**	**160**	Pn	**Pn**	**13 07 03.1**	**-1.2**
SAUI	**Saumlaki**	**2.06**	**160**	P	**Pn**	**13 07 05.2**	**+1.0**
FAKI	**Fak Fak**	**3.51**	**28**		**Pn**	**13 07 22.0**	**-0.4**
FAKI	**Fak Fak**	**3.51**	**28**	P	**Pn**	**13 07 22.0**	**-0.4**
KMPI	**Kaimana, Papua**	**3.90**	**53**	P	**Pn**	**13 07 27.9**	**+0.5**
NLAI	**Namlea**	**4.45**	**308**	P	**Pn**	**13 07 36.4**	**+1.8**
SIJI	**Sorong**	**5.18**	**8**	Pn	**Pn**	**13 07 44.1**	**-0.1**
	22nm,0.3s,baz=243,slow=23,SNR=153						
SIJI				Sn	**Sn**	**13 08 39.0**	**-4.4**
	12nm,0.3s,baz=212,slow=23,SNR=12						
	62nm,0.2s						
SWI	**Sorong**	**5.18**	**7**	P	**Pn**	**13 07 43.7**	**-0.6**
SWI				S	**Sn**	**13 08 39.9**	**-3.6**
RKPI	**Ransiki, Papua**	**5.75**	**39**	P	**Pn**	**13 07 51.6**	**-0.2**
	143nm,0.5s,15μm0.7nm						
RKPI				S	**Sn**	**13 08 54.5**	**-2.5**
	143nm,0.5s,15μm0.7nm						
SANI	**Sanana**	**6.06**	**311**	P	**Pn**	**13 07 57.4**	**+1.4**
	5.2nm,1.0s,0.0nm						
LBMI	**Labuha**	**6.18**	**330**	P	**Pn**	**13 07 58.1**	**+0.5**
	15nm,0.7s,0.1nm						
LBMI				S	**Sn**	**13 09 04.1**	**-3.4**
	15nm,0.7s,0.1nm						
MTN	**Manton Dam**	**6.79**	**176**		**Pn**	**13 08 06.0**	**+0.3**
SOEI	**Soe**	**7.27**	**239**	Pn	**Pn**	**13 08 08.7**	**-3.5**
SOEI	**Soe**	**7.27**	**239**	P	**Pn**	**13 08 12.5**	**+0.3**
	14nm,0.7s,0.1nm						
MMRI	**Maumere**	**8.68**	**252**	Pn	Pn	13 08 26.2	-4.7
KNRA	**Kununurra**	**9.75**	**190**		**Pn**	**13 08 44.3**	**-0.8**
TTSI	**Tana Toraja**	**11.14**	**285**	P	**Pn**	**13 09 03.9**	**+0.4**
	11nm,0.9s,862nm						
WB0	**Warramunga Arr**	**14.14**	**165**	**Pn**	**Pn**	**13 09 40.7**	**-1.5**
WRAB	**Tennant Creek**	**14.29**	**166**	Pn	**Pn**	**13 09 42.5**	**-1.6**
WRA	**Warramunga Arr**	**14.30**	**166**	**Pn**	**Pn**	**13 09 43.1**	**-1.0**
	0.6nm,0.3s,baz=338,slow=13,SNR=35						
WRA				Sn	Sn	13 12 12.8	-10
	1.5nm,0.3s,baz=333,slow=23,SNR=12						
	0.6nm,0.2s						
WB2	**Warramunga Arr**	**14.30**	**166**	Pn	**Pn**	**13 09 42.0**	**-2.2**
WR0	**Warramunga Arr**	**14.36**	**165**	Pn	**Pn**	**13 09 42.9**	**-2.1**

COEN	**Coen**	**14.68**	**123**	Pn	**P**	**13 09 52.4**	**+1.3**
AS31	**Alice Springs**	**17.82**	**170**	P	**Pn**	**13 10 28.2**	**+1.1**
ASAR	**Alice Springs**	**17.82**	**170**	P	**Pn**	**13 10 28.6**	**+1.4**
ASAR	**Alice Springs**	**17.82**	**170**	P	**Pn**	**13 10 29.0**	**+1.8**
	0.9nm,0.3s,baz=346,slow=11,SNR=98						
ASAR				S	**S**	**13 13 35.7**	**-7.3**
	0.9nm,0.7s,baz=357,slow=28,SNR=4.2						
	2.9nm,0.5s						
PSA00	**Pilbara Seismi**	**18.62**	**213**	P	**P**	**13 10 34.3**	**-0.2**
PSA00				IAmb	IAmb	13 11 17.6	
	comp=Z,8.3nm,1.4s						
KKM	**Kota Kinabalu**	**18.70**	**310**	P	**P**	**13 10 33.6**	**-2.0**
KKM				IAmb	IAmb	13 11 17.1	
	comp=Z,16nm,1.0s						
USA0B	**Ussuriysk Arra**	**50.02**	**1**	P	**P**	**13 15 10.2**	**+2.7**
USRK	**Ussuriysk Ar.**	**50.02**	**1**	P	**P**	**13 15 10.0**	**+2.5**
MK31	**Makanchi Array**	**67.75**	**326**	P	**P**	**13 17 12.1**	**+2.2**
MK31				IAmb	IAmb	13 17 47.9	
	comp=Z,4.0nm,1.4s						
MKAR	**Makanchi Array**	**67.75**	**326**	P	**P**	**13 17 12.3**	**+2.5**
MKAR	**Makanchi Array**	**67.75**	**326**	P	**P**	**13 17 12.8**	**+2.9**
	comp=Z,2.1nm,0.4s,baz=116,slow=7.2,SNR=44						
	comp=Z,2.1nm,0.4s						
MAKZ	**Makanchi**	**67.93**	**326**	P	**P**	**13 17 13.6**	**+2.6**
MAKZ				IAmb	IAmb	13 17 41.1	
	comp=Z,7.3nm,1.2s						
KURBB	**Kurchatov Arra**	**72.00**	**328**	P	**P**	**13 17 37.8**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=130,slow=5.1,SNR=6.7						
	comp=Z,0.8nm,0.3s						
VNDA	**Vanda**	**73.33**	**173**	P	**P**	**13 17 44.1**	**+1.0**

*JMA **03** 13:17:52.5±0.1, 43°.4N±0°.4×145°.0E±0°.6, h96km±1km, MV2.7/38, NEMURO REGION*
*SKHL **03** 13:17:53.2±0.0, 43°.40N×145°.10E, h98km±5km, mb4.1/3, msha5.1/3*
ISC 03 13:17:52.6±1.9, 43°.41N±0°.06×145°.04E±0°.04, h96km±12km, n16, σ0§36/30, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNK	**Nakash**	**0.29**	**306**	*e*P	**Pn**	**13 18 06.4**	**-0.3**
JNK				*e*S	**Sn**	**13 18 16.8**	**-0.4**
JKHN	**Kushirohamanak**	**0.34**	**165**	*i* P	**Pn**	**13 18 07.2**	**+0.3**
JKHN				*e*S	**Sn**	**13 18 17.8**	**+0.3**
JNSB	**Nemuroshibetsu**	**0.36**	**356**	*i* P	**Pn**	**13 18 07.1**	**+0.1**
JNSB				*e*S	**Sn**	**13 18 18.2**	**+0.4**
AKK	**Akkeshi**	**0.42**	**200**	*i* P	**Pn**	**13 18 07.4**	**0.0**
AKK				AMB	AMB	13 18 07.5	
	70nm,0.2s						
AKK				*e*S	**Sn**	**13 18 18.1**	**-0.3**
AKK				A	A	13 18 18.5	
	610nm,0.4s						
AKK				A	A	13 18 18.5	
	300nm,0.4s						
JAK	**Akkeshi**	**0.49**	**211**	P	**Pn**	**13 18 07.9**	**+0.1**
JAK				*e*S	**Sn**	**13 18 19.3**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.50**	**95**	*i* P	**Pn**	**13 18 08.0**	**+0.1**
NMR				*e*S	**Sn**	**13 18 19.1**	**-0.3**
NEM2	**Nemuro 2**	**0.52**	**95**	*i* P	**Pn**	**13 18 08.0**	**0.0**
NEM2				*e*S	**Sn**	**13 18 19.1**	**-0.4**
JRA	**Rausu**	**0.53**	**6**	P	**Pn**	**13 18 08.0**	**-0.1**
JRA				*e*S	**Sn**	**13 18 19.8**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.86**	**44**	*e*P	**Pn**	**13 18 11.4**	**+0.2**
YUK				AMB	AMB	13 18 12.4	
	100nm,0.3s						
YUK				*e*S	**Sn**	**13 18 26.2**	**+1.1**
YUK				A	A	13 18 29.6	
	140nm,0.2s						
YUK				A	A	13 18 29.6	
	220nm,0.2s						
JAR	**Ashorobuto**	**0.93**	**263**	*i* P	**Pn**	**13 18 12.2**	**+0.2**
JAR				*e*S	**Sn**	**13 18 26.7**	**+0.1**
JTKR	**Abashiri--Toko**	**0.99**	**305**	P	**Pn**	**13 18 12.5**	**-0.1**
JTKR				*e*S	**Sn**	**13 18 27.2**	**-0.4**
JOB	**Onbets**	**1.02**	**240**	*e*S	**Sn**	**13 18 28.4**	**+0.2**
JMP	**Maruseppu**	**1.35**	**297**	*e*P	**Pn**	**13 18 16.8**	**-0.1**
JMP				*e*S	**Sn**	**13 18 34.8**	**-0.4**
SHO	**Shikotan**	**1.38**	**70**	*i* P	**Pn**	**13 18 17.1**	**0.0**
SHO				AMB	AMB	13 18 18.1	
	20nm,0.3s						
SHO				*e*S	**Sn**	**13 18 34.9**	**-0.7**
SHO				A	A	13 18 35.6	
	70nm,0.2s						
SHO				A	A	13 18 35.6	
	230nm,0.2s						
JCH	**Churui**	**1.47**	**238**	*e*P	**Pn**	**13 18 18.2**	**0.0**
JCH				*e*S	**Sn**	**13 18 37.4**	**-0.2**
JKK2	**Kamakawa 2**	**1.73**	**286**	*e*P	**Pn**	**13 18 21.8**	**+0.3**

*IDC **03** 13:48:32.9±2.9, 25°.01N×94°.81E, h67km±29km, mb3.7/9, mbtmp4.0/11, ML3.3/2, MS3.3/5, Error ellipse: s-maj=20.9km s-min=15.1km az=49.0*
*NDI **03** 13:48:34.2±3.5, 25°.14N×94°.74E, h34km±9km, ML4.1, mb4.5(NEIC)*
*NEIC **03** 13:48:34.4±1.8, 25°.04N±0°.06×94°.73E±0°.03, h77km±7km, mb4.5/36, Error ellipse: s-maj=9.5km s-min=3.0km az=166.0*
ISC 03 13:48:33.3±0.6, 25°.09N±0°.03×94°.73E±0°.04, h68km±5km, n108, σ1§53/118, mb4.4/29, 2C-1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.76**	**250**	*e*P	**Pn**	**13 48 48.7**	**-0.1**
IMP				*e*S	**Sn**	**13 49 00.8**	**+0.6**
IMP				IAML		13 49 02.0	
	comp=N,7μm,0.6s						
KOHI	**KOHIMA**	**0.84**	**318**	*e*P	**Pn**	**13 48 50.1**	**+0.2**
KOHI				*e*S	**Sn**	**13 49 03.2**	**+1.1**
KOHI				IAML		13 49 04.8	
	comp=N,4μm,0.6s						
MOKO	**MOKOCHONG**	**1.24**	**351**	*e*P	**Pn**	**13 48 55.6**	**+0.6**
MOKO				*e*S	**Sn**	**13 49 11.8**	**+0.7**
MOKO				IAML		13 49 17.1	
	comp=E,7μm,0.3s						
JORH	**JORHAT**	**1.70**	**345**	*e*S	**Sn**	**13 49 22.6**	**+0.9**
SILR	**SILCHAR**	**1.77**	**260**	*e*P	**Pn**	**13 49 03.9**	**+2.0**
SILR				*e*S	**Sn**	**13 49 26.0**	**+2.4**
SILR				IAML		13 49 29.3	
	comp=E,3μm,0.6s						
ITAN	**ITANAGAR**	**2.23**	**336**	*e*S	**Sn**	**13 49 34.0**	**-0.7**
AZL	**Aizawl**	**2.29**	**234**	*e*P	**Pn**	**13 49 09.5**	**+0.5**
AZL				*e*S	**Sn**	**13 49 36.7**	**+0.4**
AZL				IAML		13 49 40.3	
	comp=E,1μm,0.3s						
TEZP	**TEZPUR**	**2.31**	**312**	*e*P	**Pn**	**13 49 08.2**	**-0.9**
TEZP				*e*S	**Sn**	**13 49 34.1**	**-2.3**
TEZP				IAML		13 49 37.8	
	comp=N,2μm,0.1s						
ZIRO	**ZIRO**	**2.55**	**342**	*e*P	**Pn**	**13 49 12.1**	**-0.5**
ZIRO				*e*S	**Sn**	**13 49 40.7**	**-1.9**
ZIRO				IAML		13 49 53.1	
	comp=E,5μm,0.5s						
SHL	**Shillong**	**2.62**	**281**	*e*P	**Pn**	**13 49 13.0**	**-0.5**
SHL				*e*S	**Sn**	**13 49 42.6**	**-1.7**
SHL				IAML		13 49 43.7	
	comp=E,788nm,0.2s						
GUWA	**GUWAHATI**	**2.95**	**292**	*e*P	**Pn**	**13 49 17.1**	**-0.7**
GUWA				*e*S	**Sn**	**13 49 49.2**	**-2.9**
GUWA				IAML		13 49 51.2	
	comp=N,1μm,0.2s						
GUWA				IAML		13 49 51.4	
	comp=E,1μm,0.2s						
SAIH	**SAIHA**	**3.04**	**212**	*e*P	**Pn**	**13 49 19.9**	**+0.6**
SAIH				*e*S	**Sn**	**13 49 56.3**	**+1.7**
SAIH				IAML		13 50 01.6	
	comp=N,472nm,0.7s						
SAIH				IAML		13 50 01.9	
	comp=E,653nm,0.6s						
MND	**Mandalay**	**3.32**	**157**	Pn	**Pn**	**13 49 22.9**	**0.0**
AGT	**Agartala**	**3.39**	**250**	*e*S	**Sn**	**13 50 04.0**	**+1.1**
AGT				IAML		13 50 05.9	
	comp=N,2μm,0.7s						
TNCH	**TengChong**	**3.44**	**90**	Pn	**Pn**	**13 49 25.7**	**+1.0**
TNCH				Pg		13 49 36.0	
TNCH				Sn	**Sn**	**13 50 06.0**	**+1.6**
TNCH				Sg		13 50 19.7	
TNCH				smax	smax		
	comp=N,170nm,1.5s						
TNCH				smax	smax		
	comp=E,130nm,1.5s						
TNCH				LR	LR		
	comp=N,570nm,2.4s						
TNCH				LR	LR		
	comp=E,630nm,2.4s						
BELO	**BELONIA**	**3.51**	**239**	*e*S	**Sn**	**13 50 06.1**	**+0.2**
BRDH	**Bariadhala**	**3.71**	**230**	P	**Pn**	**13 49 27.6**	**-0.6**
	comp=E,6.3nm,0.3s,baz=270,slow=19,SNR=1.4						
BRDH				S	**Sn**	**13 50 10.6**	**-0.1**
	comp=E,187nm,0.3s,baz=270,slow=23,SNR=10						
	comp=E,107nm,0.4s						
DHUB	**DHUBRI**	**4.37**	**283**	*e*P	**Pn**	**13 49 37.5**	**+0.2**
DHUB				*e*S	**Sn**	**13 50 24.6**	**-2.3**
DHUB				IAML		13 50 27.3	
	comp=E,671nm,0.2s						
LSA	**Lhasa**	**5.58**	**326**	P	Pn	13 50 06.7	+12
LSA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LSA	**Lhasa**	**5.58**	**326**	Pn	**Pn**	**13 49 55.5**	**+1.3**
GTK	**Tadong**	**5.93**	**293**	*e*P	**Pn**	**13 50 01.7**	**+2.9**
GTK				*e*S	**Sn**	**13 51 02.9**	**-2.5**
GTK				IAML		13 51 08.4	
	comp=E,125nm,0.3s						
PZH	**PanZhiHua**	**6.48**	**76**	P	**Pn**	**13 50 08.3**	**+2.1**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
TAPN	**Taplejung**	**6.69**	**291**	*e*P	**Pn**	**13 50 10.0**	**+0.7**
	comp=Z,81nm,0.4s						
ODAN	**Odare**	**6.83**	**286**	*e*P	**Pn**	**13 50 11.1**	**-0.1**
	comp=Z,89nm,0.4s						
CRAI	**Chiangrai**	**7.12**	**132**	Pn	**Pn**	**13 50 15.2**	**+0.4**
KMI	**Kunming**	**7.26**	**88**	⇑P	Pn	13 50 21.8	+4.8
KMI				pmax	pmax		
	comp=Z,12nm,0.8s						
KMI				LR	LR		
	comp=N,87nm,4.6s						
KMI				LR	LR		
	comp=E,100nm,4.4s						
KMI				LR	LR		
	comp=Z,88nm,8.2s						
CHTO	**Chiang Mai**	**7.37**	**147**	Pn	**Pn**	**13 50 18.8**	**+0.4**
RAMN	**Ramite**	**7.54**	**286**	*e*P	**Pn**	**13 50 20.9**	**0.0**
	comp=Z,44nm,0.4s						
CM31	**Chiang Mai Arr**	**7.68**	**149**		**Pn**	**13 50 22.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**7.68**	**149**	Pn	**Pn**	**13 50 22.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**7.68**	**149**	P	**Pn**	**13 50 21.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=327,slow=13,SNR=42						
	comp=Z,8.6nm,1.0s						
JIRN	**Jiri**	**8.07**	**290**	*e*P	**Pn**	**13 50 28.1**	**-0.1**
	comp=Z,36nm,0.4s						
GUN	**Gumba**	**8.41**	**291**	*e*P	**Pn**	**13 50 32.6**	**-0.2**
	comp=Z,50nm,0.4s						
PKI	**Pulchoki**	**8.72**	**288**	*e*P	**Pn**	**13 50 36.0**	**-1.0**
	comp=Z,22nm,0.4s						
PKIN	**Phulchoki**	**8.73**	**288**	*e*P	**Pn**	**13 50 35.9**	**-1.2**
	comp=Z,26nm,0.4s						
KKN	**Kakani**	**8.88**	**290**	*e*P	**Pn**	**13 50 38.2**	**-1.0**
	comp=Z,20nm,0.2s						
DMN	**Daman**	**8.99**	**288**	*e*P	**Pn**	**13 50 39.6**	**-1.0**
	comp=Z,12nm,0.3s						
GKN	**Gorkha**	**9.49**	**290**	*e*P	**Pn**	**13 50 46.2**	**-1.2**
	comp=Z,51nm,0.4s						
KOLN	**Koldanda**	**10.32**	**287**	*e*P	**Pn**	**13 50 56.4**	**-2.4**
	comp=Z,26nm,0.6s						
DANN	**Dangsing**	**10.33**	**291**	*e*P	**Pn**	**13 50 56.4**	**-2.6**
	comp=Z,29nm,0.6s						
GYA	**Guiyang**	**10.85**	**80**	P	**Pn**	**13 51 09.9**	**+4.0**
GYA				pmax	pmax		
	comp=Z,26nm,0.8s						
PYUN	**Piuthan**	**10.92**	**288**	*e*P	**Pn**	**13 51 04.0**	**-3.0**
	comp=Z,22nm,0.6s						
GOMU	**GeErMu**	**11.07**	**0**	P	**Pn**	**13 51 06.3**	**-2.8**
GOMU				pP		13 51 09.4	
GOMU				sP		13 51 10.7	
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GOMU				pmax	pmax		
	comp=Z,70nm,4.7s						
LZH	**Lanzhou**	**13.47**	**33**	*e*P	**Pn**	**13 51 40.0**	**-1.6**
LZH				pP	P	13 51 48.9	+0.4
LZH				pmax	pmax		
	comp=Z,19nm,1.6s						
ENH	**Enshi**	**14.05**	**65**	Pn	**Pn**	**13 51 49.3**	**+0.1**
GTA	**Gaotai**	**14.91**	**15**	*e*P	**P**	**13 52 05.0**	**+0.6**
GTA				sP	Pn	13 52 36.8	+36
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XAN	**Xi'an**	**15.22**	**51**	⇑P	**P**	**13 52 06.2**	**-1.6**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HYB	**Hyderabad**	**16.89**	**246**	*e*P	**P**	**13 52 26.5**	**+0.1**
HYB				*e*S	**S**	**13 55 39.8**	**+0.5**
WMQ	**Urumqi**	**19.55**	**345**	*e*P	**Pn**	**13 52 57.6**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,17nm,0.6s						
KULM	**Kulim**	**20.50**	**163**	P	**P**	**13 53 05.8**	**0.0**
KSH	**Kashi**	**21.34**	**317**	P	**P**	**13 53 21.0**	**+6.0**
KSH				pP	pP	13 53 33.3	+3.4
KSH				PP	sP	13 53 46.2	+7.5
NJ2	**Nanjing**	**22.27**	**66**	*e*P	**P**	**13 53 25.2**	**+0.4**
NJ2				pP	**pP**	**13 53 38.7**	**-0.6**
NJ2				sP	**sP**	**13 53 48.6**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GSI	**Gunungsitoli**	**23.81**	**173**	P	**P**	**13 53 40.1**	**0.0**
GSI				IAmb	IAmb	13 53 41.1	
	comp=Z,28nm,0.8s						
MK31	**Makanchi Array**	**23.82**	**339**	P	**P**	**13 53 40.5**	**+0.5**
MKAR	**Makanchi Array**	**23.82**	**339**	P	**P**	**13 53 40.8**	**+0.8**
MKAR	**Makanchi Array**	**23.82**	**339**	P	**P**	**13 53 40.5**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=148,slow=9.8,SNR=24						
MKAR				LR	LR	14 04 22.1	
	comp=Z,42nm,20.1s,baz=56,slow=40						
	comp=Z,2.0nm,0.7s						
MAKZ	**Makanchi**	**23.94**	**338**	P	**P**	**13 53 42.0**	**+0.9**
SONM	**Songino Array**	**24.50**	**19**	P	**P**	**13 53 47.2**	**+0.9**
SONM	**Songino Array**	**24.50**	**19**	P	**P**	**13 53 46.5**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=199,slow=8.6,SNR=11						
	comp=Z,2.1nm,0.8s						
BVAR	**Borovoye Array**	**33.37**	**333**	LR	LR	14 10 11.6	
	comp=Z,44nm,18.6s,baz=317,slow=39						
MDJ	**Mudanjiang**	**34.

WB2 IAmb IAmb 13 58 59.4
comp=Z,8.9nm,1.4s
WR0 Warramunga Arr 59.20 135 P **P 13 58 26.3 -1.4**
WR0 IAmb IAmb 13 58 27.0
comp=Z,3.8nm,0.8s
NWAO Narrogin (SRO) 61.56 159 P **P 13 58 41.8 -1.6**
AS31 Alice Springs 61.57 139 P **P 13 58 42.8 -1.0**
ASAR Alice Springs 61.57 139 P **P 13 58 42.6 -1.2**
comp=Z,2.5nm,0.7s,baz=318,slow=6.6,SNR=44
comp=Z,2.5nm,0.7s
KEK Kerkira 63.24 303 P **P 13 58 55.0 +0.3**
KEK IAmb IAmb 13 59 10.8
comp=Z,7.7nm,0.8s
VRAC Vranov 63.84 314 LR LR 14 33 10.8
comp=Z,35nm,19.1s,baz=32,slow=42
HFS Hagfors 64.16 327 P **P 13 59 01.2 +0.8**
comp=Z,2.2nm,0.6s,baz=113,slow=3.9,SNR=4.5
comp=Z,2.2nm,0.6s
GERES GERESS Array B 65.79 314 P **P 13 59 11.6 +0.2**
comp=Z,0.6nm,0.5s,baz=62,slow=9.0,SNR=3.3
comp=Z,0.6nm,0.5s
DAVOX Davos/Dischmat 68.76 313 LR LR 14 33 44.5
comp=Z,46nm,19.9s,baz=263,slow=39
BBOO Buckleboo 69.76 144 P **P 13 59 34.6 -1.7**
BBOO IAmb IAmb 14 00 15.3
comp=Z,10nm,1.1s
IMAR Indian Mountai 75.60 23 P **P 14 00 09.8 -0.7**
J20K Nowinta River 76.35 25 P **P 14 00 15.3 +0.5**
J20K IAmb IAmb 14 00 25.1
comp=Z,6.0nm,1.4s
K20K Telida 76.78 26 P **P 14 00 18.1 +0.8**
K20K IAmb IAmb 14 00 42.7
comp=Z,6.2nm,1.4s
MLY Manley 77.17 23 P **P 14 00 19.6 +0.2**
BMAR Burnt Mountain 77.85 20 P **P 14 00 24.5 +1.3**
MDM Murphy Dome 78.10 23 P **P 14 00 24.5 -0.1**
MDM IAmb IAmb 14 00 52.6
comp=Z,7.3nm,1.3s
SKT Skwentna 78.50 26 P **P 14 00 26.5 -0.4**
ILAR Eielson Array 78.68 23 P **P 14 00 26.5 -1.3**
comp=Z,0.3nm,0.9s,baz=317,slow=5.2,SNR=1.6
comp=Z,0.3nm,0.9s
KDAK Kodiak Island 80.28 30 P **P 14 00 37.2 +0.6**
H29M Whitestone 80.52 19 P **P 14 00 37.7 0.0**
H29M IAmb IAmb 14 00 41.4
comp=Z,5.9nm,1.2s
G30M tAoh Zraii Nji 80.61 18 P **P 14 00 38.2 -0.1**
G30M IAmb IAmb 14 01 07.8
comp=Z,4.0nm,1.0s
L27K Beaver Creek, 81.50 23 P **P 14 00 43.5 +0.4**
L27K IAmb IAmb 14 01 05.3
comp=Z,3.8nm,1.1s
BCAR Beaver Creek A 81.51 23 P **P 14 00 44.0 +0.9**
C36M Paulatuk 81.74 13 P **P 14 00 43.8 -0.3**
C36M IAmb IAmb 14 00 49.6
comp=Z,18nm,1.4s
H31M Peel River 81.98 18 P **P 14 00 45.4 -0.2**
H31M IAmb IAmb 14 00 52.1
comp=Z,13nm,1.4s
K29M Barlow Dome 82.41 21 P **P 14 00 48.4 +0.4**
K29M IAmb IAmb 14 01 20.2
comp=Z,8.3nm,1.4s
GRHM Grahamstown, E 87.14 231 P **P 14 01 12.2 +0.2**
TORD Torodi Ar. Bea 87.21 283 P **P 14 01 13.9 +1.1**
comp=Z,0.3nm,0.8s,baz=60,slow=3.8,SNR=1.7
comp=Z,0.3nm,0.8s
ELIB Princess Elisa 108.09 198 *d*PKP **PKiKP 14 06 59.3 +6.6**

*IDC **03** 14:19:41.4±42.0, 36.°89S×175.°67E, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=745.3km s-min=190.9km az=110.0*
*NOU **03** 14:19:42.8, 39.°70S×176.°11E, h96km, MLv4.1/15, North Island, New Zealand*
*NEIC **03** 14:19:43.8±2.5, 39.°65S±0.°05×175.°9E±0.°1, h77km±11km, mb4.6/10, Error ellipse: s-maj=12.5km s-min=7.1km az=107.0*
*WEL **03** 14:19:45.4±0.7, 40.°S±4.°×17.°6E±.°, h56km±6km, M3.9/104, ML4.2/23, MLv3.9/104, Error ellipse: s-maj=0.0km s-min=0.0km az=48.4, confirmed*
ISC 03 14:19:44.5±0.7, 39.°65S±0.°03×176.°00E±0.°03, h77km±5km, n224, σ1°30/252, mb4.5/13, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHHZ	**Black Hill Sta**	**0.17**	**16**	P	**Pn**	**14 19 56.2**	**+0.2**
BHHZ				S	**Sn**	**14 20 04.5**	**+0.2**
KRHZ	**Kereru**	**0.28**	**89**	P	**Pn**	**14 19 56.5**	**+0.1**
KRHZ				S	**Sn**	**14 20 05.5**	**+0.3**
PNHZ	**Pukenui**	**0.30**	**150**	P	**Pn**	**14 19 56.9**	**+0.3**
PNHZ				S	**Sn**	**14 20 06.0**	**+0.5**
MOVZ	**Moawhango**	**0.31**	**321**	P	**Pn**	**14 19 56.6**	**-0.1**
MOVZ				S	**Sn**	**14 20 04.9**	**-0.7**
KWHZ	**Kaweka Forest**	**0.40**	**55**	P	**Pn**	**14 19 57.2**	**0.0**
KWHZ				S	**Sn**	**14 20 06.4**	**-0.2**
TSZ	**Takapari Road**	**0.41**	**185**	P	**Pn**	**14 19 57.8**	**+0.5**
TSZ				S	**Sn**	**14 20 07.1**	**+0.4**
WNVZ	**Wahianoa**	**0.45**	**316**	P	**Pn**	**14 19 57.8**	**0.0**
WNVZ				S	**Sn**	**14 20 07.1**	**-0.4**
TUVZ	**Tukino**	**0.47**	**325**	P	**Pn**	**14 19 58.0**	**+0.1**
TUVZ				S	**Sn**	**14 20 07.2**	**-0.6**
WHVZ	**Whangaehu Hut**	**0.49**	**319**	P	**Pn**	**14 19 58.2**	**0.0**
WHVZ				S	**Sn**	**14 20 07.7**	**-0.5**
TRVZ	**Turoa**	**0.50**	**315**	P	**Pn**	**14 19 58.3**	**+0.1**
TRVZ				S	**Sn**	**14 20 07.9**	**-0.5**
FWVZ	**Far West T-bar**	**0.53**	**318**	P	**Pn**	**14 19 58.5**	**0.0**
FWVZ				S	**Sn**	**14 20 08.2**	**-0.6**
WPHZ	**Waipukurau**	**0.53**	**141**	P	**Pn**	**14 19 58.9**	**+0.6**
WPHZ				S	**Sn**	**14 20 09.5**	**+0.9**
SNVZ	**South Ngauruho**	**0.54**	**329**	P	**Pn**	**14 19 58.6**	**0.0**
OTVZ	**Oturere**	**0.55**	**332**	P	**Pn**	**14 19 58.7**	**0.0**
OTVZ				S	**Sn**	**14 20 08.7**	**-0.4**
ETVZ	**East Tongariro**	**0.56**	**336**	P	**Pn**	**14 19 58.7**	**0.0**
ETVZ				S	**Sn**	**14 20 08.7**	**-0.5**
NGZ	**Ngauruhoe**	**0.57**	**327**	P	**Pn**	**14 19 58.9**	**+0.1**
NGZ				S	**Sn**	**14 20 09.0**	**-0.3**
MCHZ	**McNeill Hill**	**0.57**	**69**	P	**Pn**	**14 19 59.3**	**+0.6**
TMVZ	**Te Maari**	**0.58**	**336**	P	**Pn**	**14 19 58.9**	**0.0**
NNVZ	**North Ngauruho**	**0.60**	**330**	P	**Pn**	**14 19 59.2**	**+0.1**
BKZ	**Black Stump Fm**	**0.61**	**38**		**Pn**	**14 19 59.1**	**0.0**
BKZ				Sn	**Sn**	**14 20 09.1**	**-0.8**
BKZ	**Black Stump Fm**	**0.61**	**38**	P	**Pn**	**14 19 59.2**	**0.0**
BKZ	**Black Stump Fm**	**0.61**	**38**	P	**Pn**	**14 19 59.0**	**-0.1**
BKZ				S	**Sn**	**14 20 09.6**	**-0.4**
KRVZ	**Karewarewa**	**0.62**	**333**	P	**Pn**	**14 19 59.2**	**0.0**
KRVZ				S	**Sn**	**14 20 09.9**	**-0.2**
WTVZ	**West Tongariro**	**0.62**	**329**	P	**Pn**	**14 19 59.2**	**-0.1**
PKVZ	**Pokaka**	**0.62**	**305**	P	**Pn**	**14 19 59.5**	**+0.3**
PKVZ				S	**Sn**	**14 20 10.2**	**+0.1**
DVHZ	**Dannevirke**	**0.66**	**169**	P	**Pn**	**14 19 60.0**	**+0.4**
DVHZ				S	**Sn**	**14 20 11.0**	**+0.3**
KAHZ	**Kahuranaki**	**0.69**	**102**	P	**Pn**	**14 20 00.4**	**+0.5**
KATZ	**Kakaramea**	**0.71**	**340**	P	**Pn**	**14 20 00.2**	**-0.1**
TWVZ	**Taurewa**	**0.73**	**323**	P	**Pn**	**14 20 00.0**	**-0.3**
TWVZ				S	**Sn**	**14 20 11.2**	**-0.9**
HATZ	**Hinemaiaia**	**0.76**	**5**	P	**Pn**	**14 20 00.1**	**-0.5**
HATZ				S	**Sn**	**14 20 11.0**	**-1.6**
POWZ	**Post Office Ro**	**0.76**	**194**	P	**Pn**	**14 20 01.1**	**+0.5**
POWZ				S	**Sn**	**14 20 13.4**	**+0.8**
PXZ	**Pawanui**	**0.76**	**120**	P	**Pn**	**14 20 01.0**	**+0.4**
PXZ				S	**Sn**	**14 20 13.4**	**+0.8**
OHWZ	**Ohakea**	**0.77**	**223**	P	**Pn**	**14 20 02.0**	**+1.3**
OHWZ				S	**Sn**	**14 20 15.4**	**+2.7**
PRHZ	**Porangahau**	**0.79**	**142**	P	**Pn**	**14 20 01.5**	**+0.6**
WAZ	**Wanganui**	**0.79**	**262**	P	**Pn**	**14 20 02.3**	**+1.4**
WAZ				S	**Sn**	**14 20 15.4**	**+2.2**
RATZ	**Rangitukua**	**0.80**	**347**	P	**Pn**	**14 20 00.7**	**-0.4**
CKHZ	**Cape Kidnapper**	**0.83**	**91**	P	**Pn**	**14 20 01.8**	**+0.5**
NMHZ	**Naumai**	**0.83**	**49**	P	**Pn**	**14 20 01.8**	**+0.3**
NMHZ				S	**Sn**	**14 20 15.1**	**+1.0**
ARHZ	**Aropaoanui**	**0.86**	**64**	P	**Pn**	**14 20 01.9**	**+0.2**
ARHZ				S	**Sn**	**14 20 15.1**	**+0.6**
MRHZ	**Matea Rd**	**0.88**	**22**	P	**Pn**	**14 20 01.3**	**-0.7**
MRHZ				S	**Sn**	**14 20 13.2**	**-1.7**
ANWZ	**Angora Road**	**0.89**	**156**	P	**Pn**	**14 19 59.9**	**-2.1**
PRWZ	**Pori Road**	**0.90**	**182**	P	**Pn**	**14 20 02.9**	**+0.7**
WATZ	**Wairara**	**0.96**	**347**	P	**Pn**	**14 20 02.5**	**-0.5**
WHTZ	**Whakaora**	**0.98**	**358**	P	**Pn**	**14 20 03.1**	**-0.2**
MTHZ	**Maungataniwha**	**1.03**	**40**	P	**Pn**	**14 20 03.6**	**-0.2**
BFZ	**Birch Farm**	**1.05**	**170**		**Pn**	**14 20 04.1**	**+0.1**
BFZ	**Birch Farm**	**1.05**	**170**	P	**Pn**	**14 20 04.3**	**+0.3**
BFZ	**Birch Farm**	**1.05**	**170**	P	**Pn**	**14 20 04.3**	**+0.3**
MRZ	**Mangatainoka R**	**1.06**	**198**	Pn	**Pn**	**14 20 04.2**	**+0.2**
MRZ	**Mangatainoka R**	**1.06**	**198**	P	**Pn**	**14 20 04.3**	**+0.2**
VRZ	**Vera Road**	**1.10**	**298**	P	**Pn**	**14 20 04.7**	**+0.1**
WHHZ	**Waihua**	**1.11**	**59**	P	**Pn**	**14 20 04.8**	**0.0**
RAHZ	**Arahi**	**1.11**	**49**	P	**Pn**	**14 20 04.6**	**-0.2**
ALRZ	**Allen Road**	**1.12**	**14**	P	**Pn**	**14 20 04.1**	**-0.8**
TIWZ	**Tintock**	**1.13**	**185**	P	**Pn**	**14 20 05.3**	**+0.3**
WPRZ	**Whakapapatarin**	**1.14**	**6**	P	**Pn**	**14 20 04.4**	**-0.7**
KUTZ	**Kaahu Road**	**1.17**	**353**	P	**Pn**	**14 20 05.0**	**-0.5**
PRRZ	**Plateau Road**	**1.19**	**15**	P	**Pn**	**14 20 05.0**	**-0.8**
LREZ	**Lake Rotokare**	**1.25**	**278**	P	**Pn**	**14 20 07.4**	**+0.9**
CPWZ	**Castlepoint**	**1.27**	**173**	P	**Pn**	**14 20 07.4**	**+0.7**
HRRZ	**Handcock Road**	**1.28**	**10**	P	**Pn**	**14 20 06.3**	**-0.6**
RTZ	**Ruatahuna**	**1.28**	**37**	Pn	**Pn**	**14 20 06.0**	**-0.9**
RTZ	**Ruatahuna**	**1.28**	**37**	P	**Pn**	**14 20 06.2**	**-0.8**
GRRZ	**Galatos Road**	**1.30**	**4**	P	**Pn**	**14 20 06.8**	**-0.4**
HOWZ	**Holdsworth Sta**	**1.30**	**197**	P	**Pn**	**14 20 07.0**	**-0.1**
MUGZ	**Murupara**	**1.31**	**27**	P	**Pn**	**14 20 06.1**	**-1.2**
OGWZ	**Otaki Gorge**	**1.33**	**208**	P	**Pn**	**14 20 07.6**	**+0.1**
HSRZ	**Hossack Road**	**1.35**	**8**	P	**Pn**	**14 20 07.1**	**-0.7**
SNGZ	**Shannon Statio**	**1.35**	**51**	P	**Pn**	**14 20 07.3**	**-0.5**
TLZ	**Tolley Road**	**1.37**	**344**	P	**Pn**	**14 20 07.3**	**-0.7**
RRRZ	**Republican Roa**	**1.37**	**17**	P	**Pn**	**14 20 07.1**	**-0.9**
HLRZ	**Highlands Stat**	**1.42**	**11**	P	**Pn**	**14 20 08.9**	**+0.2**
KNZ	**Kokohu**	**1.44**	**65**	P	**Pn**	**14 20 08.2**	**-0.7**
HIZ	**Hauiti**	**1.44**	**321**		**Pn**	**14 20 08.7**	**-0.3**
HIZ	**Hauiti**	**1.44**	**321**	P	**Pn**	**14 20 08.9**	**-0.1**
HIZ	**Hauiti**	**1.44**	**321**	P	**Pn**	**14 20 08.8**	**-0.1**
TMWZ	**Te Maipa**	**1.46**	**183**	P	**Pn**	**14 20 09.0**	**-0.2**
PREZ	**Palmer Road**	**1.46**	**282**	P	**Pn**	**14 20 10.6**	**+1.4**
TARZ	**Mount Tarawera**	**1.47**	**16**	P	**Pn**	**14 20 08.7**	**-0.6**
DREZ	**Durham Road**	**1.47**	**288**	P	**Pn**	**14 20 10.3**	**+1.0**
KIW	**Kapiti Island**	**1.47**	**214**	P	**Pn**	**14 20 09.3**	**0.0**
UTU	**Utuhina**	**1.48**	**6**	P	**Pn**	**14 20 09.0**	**-0.5**
NEZ	**North Egmont**	**1.52**	**284**	P	**Pn**	**14 20 11.3**	**+1.2**
MKRZ	**Makatiti**	**1.55**	**14**	P	**Pn**	**14 20 10.2**	**-0.3**
NGRZ	**Ngongotaha**	**1.55**	**5**	P	**Pn**	**14 20 09.9**	**-0.5**
MTW	**Mount Morrison**	**1.55**	**194**	P	**Pn**	**14 20 09.9**	**-0.5**
MHGZ	**Mahia Peninsul**	**1.56**	**72**	P	**Pn**	**14 20 09.9**	**-0.6**
OMRZ	**Omania**	**1.57**	**11**	P	**Pn**	**14 20 09.8**	**-0.8**
KHEZ	**Kahui Hut**	**1.58**	**282**	P	**Pn**	**14 20 12.3**	**+1.5**
KHEZ	**Kahui Hut**	**1.58**	**282**	P	**Pn**	**14 20 11.9**	**+1.1**
RAGZ	**Rawiri**	**1.59**	**44**	P	**Pn**	**14 20 10.5**	**-0.5**
CAW	**Cannon Point**	**1.62**	**206**	P	**Pn**	**14 20 10.9**	**-0.4**
PKE	**Pukeiti**	**1.63**	**286**	P	**Pn**	**14 20 12.4**	**+1.0**
PRGZ	**Paritu Road**	**1.63**	**64**	P	**Pn**	**14 20 10.7**	**-0.7**
URZ	**Urewera**	**1.64**	**32**	P	**Pn**	**14 20 10.3**	**-1.1**
URZ	**Urewera**	**1.64**	**32**	P	**Pn**	**14 20 10.0**	**-1.4**
KARZ	**Kaharoa**	**1.64**	**7**	P	**Pn**	**14 20 11.0**	**-0.6**
EDRZ	**Edgecumbe**	**1.65**	**21**	P	**Pn**	**14 20 10.6**	**-1.1**
NMEZ	**Namu Road**	**1.66**	**278**	P	**Pn**	**14 20 12.6**	**+0.9**
RIGZ	**Rimuhau**	**1.66**	**56**	P	**Pn**	**14 20 11.0**	**-0.8**
MARZ	**Manawahe**	**1.74**	**18**	P	**Pn**	**14 20 11.9**	**-1.1**
TRWZ	**Traveller**	**1.76**	**188**	P	**Pn**	**14 20 12.5**	**-0.7**
MWZ	**Matawai**	**1.77**	**43**	P	**Pn**	**14 20 12.2**	**-1.1**
PAWZ	**Paruwai Farm**	**1.79**	**194**	P	**Pn**	**14 20 12.6**	**-0.8**
KMRZ	**Kaimai**	**1.80**	**358**	P	**Pn**	**14 20 13.4**	**-0.3**
OPRZ	**Ohinepanea**	**1.85**	**14**	P	**Pn**	**14 20 13.1**	**-1.2**
TKGZ	**Te Karaka**	**1.88**	**51**	P	**Pn**	**14 20 13.7**	**-0.9**
WEL	**Wellington**	**1.89**	**210**	P	**Pn**	**14 20 14.0**	**-0.7**
TGRZ	**Tauranga**	**1.93**	**6**	P	**Pn**	**14 20 14.9**	**-0.4**
SNZO	**South Karori**	**1.93**	**210**		**Pn**	**14 20 14.4**	**-0.9**
SNZO	**South Karori**	**1.93**	**210**	P	**Pn**	**14 20 14.5**	**-0.9**
WHRZ	**Whale Island**	**1.95**	**23**	P	**Pn**	**14 20 14.6**	**-1.0**
TOZ	**Tahuroa Road**	**1.96**	**348**		**Pn**	**14 20 15.2**	**-0.4**
TOZ	**Tahuroa Road**	**1.96**	**348**	P	**Pn**	**14 20 15.3**	**-0.4**
BHW	**Baring Head**	**1.96**	**206**		**Pn**	**14 20 14.6**	**-1.1**
DUWZ	**D'Urville Isla**	**1.96**	**234**	P	**Pn**	**14 20 15.1**	**-0.8**
PLWZ	**Palliser**	**2.00**	**196**		**Pn**	**14 20 14.9**	**-1.4**
PLWZ	**Palliser**	**2.00**	**196**	P	**Pn**	**14 20 15.1**	**-1.2**
TCW	**Tory Channel**	**2.04**	**220**		**Pn**	**14 20 15.8**	**-1.0**
TCW	**Tory Channel**	**2.04**	**220**	P	**Pn**	**14 20 16.0**	**-0.8**
CNGZ	**Carnagh Statio**	**2.07**	**57**	P	**Pn**	**14 20 16.4**	**-0.9**
RUGZ	**Raukumara Rang**	**2.13**	**38**	P	**Pn**	**14 20 16.6**	**-1.6**
HAZ	**Te Kaha**	**2.35**	**37**	P	**Pn**	**14 20 18.9**	**-2.0**
PUZ	**Puketiti**	**2.36**	**49**	P	**Pn**	**14 20 19.7**	**-1.5**
TUWZ	**Tuamarina**	**2.37**	**221**		**Pn**	**14 20 20.1**	**-1.2**
TUWZ	**Tuamarina**	**2.37**	**221**	P	**Pn**	**14 20 20.1**	**-1.2**
MYRZ	**Mayor Island**	**2.37**	**5**	P	**Pn**	**14 20 21.2**	**-0.2**
PKGZ	**Pakihiroa**	**2.39**	**43**	P	**Pn**	**14 20 20.5**	**-1.1**
CMWZ	**Cape Campbell**	**2.50**	**212**	Pn	**Pn**	**14 20 22.0**	**-0.9**
NNZ	**Nelson**	**2.54**	**231**	Pn	**Pn**	**14 20 22.4**	**-1.1**
NNZ	**Nelson**	**2.54**	**231**	P	**Pn**	**14 20 22.4**	**-1.1**
BSWZ	**Blackbirch Sta**	**2.62**	**217**		**Pn**	**14 20 23.3**	**-1.3**
BSWZ	**Blackbirch Sta**	**2.62**	**217**	P	**Pn**	**14 20 23.5**	**-1.1**
MKAZ	**Motamakai**	**2.63**	**345**	P	**Pn**	**14 20 24.3**	**-0.4**
WMGZ	**Waiomatatini S**	**2.63**	**47**	P	**Pn**	**14 20 23.2**	**-1.5**
TKNZ	**Takaka Hill**	**2.71**	**238**		**Pn**	**14 20 24.4**	**-1.4**
TKNZ	**Takaka Hill**	**2.71**	**238**	P	**Pn**	**14 20 24.5**	**-1.3**
MXZ	**Matakaoa Point**	**2.76**	**42**	Pn	**Pn**	**14 20 25.1**	**-1.4**
MXZ	**Matakaoa Point**	**2.76**	**42**	P	**Pn**	**14 20 25.4**	**-1.1**
MXZ	**Matakaoa Point**	**2.76**	**42**	P	**Pn**	**14 20 25.3**	**-1.2**
AWAZ	**Awhitu Peninsu**	**2.79**	**337**	P	**Pn**	**14 20 27.1**	**+0.1**
ETAZ	**East Tamaki Re**	**2.82**	**342**	P	**Pn**	**14 20 27.1**	**-0.2**
QRZ	**Quartz Range**	**2.91**	**245**	Pn	**Pn**	**14 20 26.7**	**-1.7**
QRZ	**Quartz Range**	**2.91**	**245**	P	**Pn**	**14 20 26.8**	**-1.7**
QRZ	**Quartz Range**	**2.91**	**245**	P	**Pn**	**14 20 26.8**	**-1.7**
KUZ	**Kuaotunu**	**2.91**	**356**	P	**Pn**	**14 20 27.9**	**-0.6**
KUZ	**Kuaotunu**	**2.91**	**356**	P	**Pn**	**14 20 28.0**	**-0.6**
WIAZ	**Waiheke Island**	**2.93**	**346**	P	**Pn**	**14 20 28.6**	**-0.3**
WTAZ	**Waiatarua**	**2.94**	**337**	P	**Pn**	**14 20 29.3**	**+0.3**
EPAZ	**Eden Park BICE**	**2.94**	**340**	P	**Pn**	**14 20 28.9**	**-0.1**
HBAZ	**Herne Bay Bore**	**2.97**	**340**	P	**Pn**	**14 20 29.6**	**-0.1**
MBAZ	**Motutapu North**	**3.00**	**343**	P	**Pn**	**14 20 29.6**	**-0.3**
MRNZ	**Matariki Terra**	**3.03**	**234**		**Pn**	**14 20 28.7**	**-1.4**
MRNZ	**Matariki Terra**	**3.03**	**234**	P	**Pn**	**14 20 29.2**	**-1.0**
RVAZ	**Riverhead Bore**	**3.09**	**338**	P	**Pn**	**14 20 30.9**	**0.0**
THZ	**Tophouse**	**3.16**	**227**	Pn	**Pn**	**14 20 30.8**	**-1.2**
THZ	**Tophouse**	**3.16**	**227**	P	**Pn**	**14 20 30.9**	**-1.2**
KHZ	**Kahutara**	**3.33**	**213**	Pn	**Pn**	**14 20 32.1**	**-2.1**
KHZ	**Kahutara**	**3.33**	**213**	P	**Pn**	**14 20 32.3**	**-2.0**
KHZ	**Kahutara**	**3.33**	**213**	P	**Pn**	**14 20 32.3**	**-2.0**
GRZ	**Great Barrier**	**3.42**	**353**	P	**Pn**	**14 20 35.0**	**-0.5**
DSZ	**Denniston Nort**	**3.82**	**235**	Pn	**Pn**	**14 20 38.7**	**-2.1**
DSZ	**Denniston Nort**	**3.82**	**235**	P	**Pn**	**14 20 38.8**	**-2.1**
WCZ	**Waipu Caves**	**3.93**	**340**	P	**Pn**	**14 20 42.8**	**+0.4**
GVZ	**Greta Valley S**	**4.00**	**213**	Pn	**Pn**	**14 20 41.1**	**-2.3**
GVZ	**Greta Valley S**	**4.00**	**213**	P	**Pn**	**14 20 41.0**	**-2.3**
LTZ	**Lake Taylor**	**4.21**	**221**		**Pn**	**14 20 43.8**	**-2.4**
LTZ	**Lake Taylor**	**4.21**	**221**	P	**Pn**	**14 20 44.1**	**-2.1**
AMCZ	**Amberley**	**4.33**	**214**	Pn	**Pn**	**14 20 46.2**	**-1.7**
AMCZ	**Amberley**	**4.33**	**214**	P	**Pn**	**14 20 46.4**	**-1.4**
INZ	**Inchbonnie**	**4.61**	**227**	Pn	**Pn**	**14 20 49.3**	**-2.4**
INZ	**Inchbonnie**	**4.61**	**227**	P	**Pn**	**14 20 50.0**	**-1.6**
OKCZ	**Okains Bay**	**4.63**	**207**	P	**Pn**	**14 20 48.8**	**-3.2**
OXZ	**Oxford**	**4.73**	**218**		**Pn**	**14 20 50.7**	**-2.6**
OXZ	**Oxford**	**4.73**	**218**	P	**Pn**	**14 20 50.7**	**-2.6**
AKCZ	**Akaroa Harbour**	**4.81**	**208**	P	**Pn**	**14 20 51.8**	**-2.6**
OUZ	**Omahuta**	**4.82**	**336**	P	**Pn**	**14 20 54.7**	**+0.2**
OUZ	**Omahuta**	**4.82**	**336**	P	**Pn**	**14 20 54.7**	**+0.2**
RACZ	**Rakaia**	**5.00**	**214**	P	**Pn**	**14 20 54.4**	**-2.5**
MHCZ	**Mount Hutt**	**5.11**	**219**	P	**Pn**	**14 20 56.3**	**-2.2**
WVZ	**Waitaha Valley**	**5.24**	**227**	P	**Pn**	**14 20 59.6**	**-0.6**
WACZ	**Wakanui South**	**5.30**	**215**	P	**Pn**	**14 20 58.3**	**-2.7**
RPZ	**Rata Peaks**	**5.50**	**221**	Pn	**Pn**	**14 21 01.4**	**-2.4**
RPZ	**Rata Peaks**	**5.50**	**221**	P	**Pn**	**14 21 02.4**	**-1.4**
RPZ	**Rata Peaks**	**5.50**	**221**	P	**Pn**	**14 21 01.6**	**-2.1**
ARCZ	**Arundel**	**5.61**	**218**	P	**Pn**	**14 21 03.1**	**-2.2**
GCSZ	**Gaunt Creek Bo**	**5.62**	**227**	P	**Pn**	**14 21 05.3**	**-0.1**
TMZ	**Timaru**	**6.02**	**217**	P	**Pn**	**14 21 08.1**	**-2.8**
FOZ	**Fox Glacier**	**6.05**	**228**	P	**Pn**	**14 21 10.9**	**-0.4**
LBZ	**Lake Benmore**	**6.42**	**221**	P	**Pn**	**14 21 14.3**	**-1.9**
ODZ	**Otahua Downs**	**6.69**	**215**	Pn	**Pn**	**14 21 17.6**	**-2.4**
ODZ	**Otahua Downs**	**6.69**	**215**	P	**Pn**	**14 21 17.6**	**-2.4**
ODZ	**Otahua Downs**	**6.69**	**215**	P	**Pn**	**14 21 17.0**	**-3.0**
CTZ	**Chatham Island**	**6.87**	**129**	P	**Pn**	**14 21 22.5**	**+0.1**
JCZ	**Jackson Bay**	**6.97**	**228**	P	**Pn**	**14 21 23.9**	**0.0**
JCZ	**Jackson Bay**	**6.97**	**228**	P	**Pn**	**14 21 21.8**	**-2.1**
WKZ	**Wanaka**	**7.32**	**223**	Pn	**Pn**	**14 21 26.2**	**-2.4**
EAZ	**Earnscleugh**	**7.46**	**219**	P	**Pn**	**14 21 28.0**	**-2.5**
TUZ	**Tuapeka**	**7.85**	**215**	P	**Pn**	**14 21 33.4**	**-2.4**
MLZ	**Mavora Lakes**	**8.15**	**223**	P	**Pn**	**14 21 38.4**	**-1.7**
SYZ	**Scrubby Hill**	**8.52**	**214**	P	**Pn**	**14 21 43.0**	**-1.9**
SYZ	**Scrubby Hill**	**8.52**	**214**	P	**Pn**	**14 21 43.0**	**-1.9**
GLKZ	**Green Lake**	**11.51**	**28**	P	**Pn**	**14 22 23.9**	**-1.9**
STKA	**Stephens Creek**	**28.84**	**275**		**P**	**14 25 32.3**	**-3.3**
STKA	**Stephens Creek**	**28.84**	**275**		**P**	**14 25 37.5**	**+2.0**
0.8nm,0.4s,baz=131,slow=13,SNR=3.9
0.8nm,0.4s
CTAO Charters Tower 32.11 299 P **P 14 26 00.8 -3.6**
CTAO IAmb IAmb 14 26 01.3
comp=Z,7.8nm,1.2s
BBOO Buckleboo 32.73 269 P **P 14 26 09.6 -0.2**
BBOO IAmb IAmb 14 26 48.3
comp=Z,29nm,1.5s
COEN Coen 38.54 302 P **P 14 26 59.1 -0.5**
AS31 Alice Springs 38.84 281 P **P 14 27 01.2 -1.0**
ASAR Alice Springs 38.84 281 P **P 14 27 01.0 -1.1**
ASAR Alice Springs 38.84 281 P **P 14 27 01.6 -0.5**
comp=Z,2.4nm,0.7s,baz=131,slow=9.2,SNR=50
comp=Z,2.4nm,0.7s
FORT Forrest 39.76 268 P **P 14 27 09.2 -0.5**
WR0 Warramunga Arr 40.54 287 P **P 14 27 15.8 -0.4**
WR0 IAmb IAmb 14 27 23.6
comp=Z,7.9nm,1.5s
WB2 Warramunga Arr 40.69 286 P **P 14 27 17.1 -0.4**
WB2 IAmb IAmb 14 27 18.1
comp=Z,4.6nm,0.6s
WRA Warramunga Arr 40.70 286 P **P 14 27 16.6 -0.9**
comp=Z,2.9nm,0.6s,baz=122,slow=7.8,SNR=72
comp=Z,2.9nm,0.6s
KNRA Kununurra 47.50 286 P **P 14 28 11.3 -0.6**
KNRA IAmb IAmb 14 28 38.0
comp=Z,7.2nm,1.0s
MTN Manton Dam 47.62 291 P **P 14 28 12.1 -0.8**
MTN IAmb IAmb 14 28 14.3
comp=Z,13nm,1.1s
NJ2 Nanjing 88.86 314 *e*P **P 14 32 31.5 +1.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
MDJ Mudanjiang 93.71 329 P **P 14 32 54.8 +2.7**
MDJ pP PcP 14 32 58.0 +5.5
MDJ sP pP 14 33 01.4 -12
MDJ PP PP 14 36 19.7 -19
MDJ Mudanjiang 93.71 329 S **S 14 43 57.6 +3.1**
MDJ Mudanjiang 93.71 329 ScS **S 14 44 00.9 +6.4**
MDJ Mudanjiang 93.71 329 SS SS 14 50 03.0 -12
MDJ pmax pmax
comp=Z,8.0nm,2.2s
MDJ pmax pmax
comp=Z,260nm,6.2s
PZH PanZhiHua 95.42 300 P **P 14 33 00.5 0.0**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
HHC Hu-ho-hao-te 99.29 316 *e*P **Pdif 14 33 19.4 +1.8**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,160nm,4.5s

IDC 03 14:20:30.3±2.1, 6.°45S×149.°47E, h81km±24km, mb2.8/1, mbtmp3.7/4, Error ellipse: s-maj=67.4km s-min=15.7km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.32**	**50**	P	Pn	14 21 20.2	+0.2
41nm,0.5s,baz=228,slow=24,SNR=15							
PMG	**Port Moresby**	**3.73**	**218**	P	Pn	14 21 25.1	-0.4

PUH				IAML		14 26 19.1	
	comp=E,446nm,0.1s						
PUH				IAML		14 26 28.9	
	comp=N,648nm,0.6s						
KNHH	**Kane Nui o Ham**	**0.67 164**		Pg		14 26 09.1	-1.9
NPOC	**North of Pu'u**	**0.68 159**		Sg		14 26 17.1	-3.0
STCH	**Steam Cracks**	**0.68 160**		Pg		14 26 09.1	-2.0
STCH				Sg		14 26 17.0	-3.1
STCH	**Steam Cracks**	**0.68 160**	IAML			14 26 20.1	
	comp=E,659nm,0.1s						
STCH			IAML			14 26 20.5	
	comp=N,427nm,0.1s						
JOKA	**Jonika Flow**	**0.68 150**		Pg		14 26 09.2	-2.0
JOKA				Sg		14 26 20.0	-0.2
JCUZ	**Jacuzzi**	**0.69 158**		Sg		14 26 17.2	-3.1
JCUZ	**Jacuzzi**	**0.69 158**	Pg	Pg		14 26 09.2	-2.1
JCUZ	**Jacuzzi**	**0.69 158**	IAML			14 26 21.8	
	comp=E,308nm,0.4s						
JCUZ			IAML			14 26 22.0	
	comp=N,325nm,0.5s						
HLP	**Hilina Pali**	**0.73 175**		Sg		14 26 21.7	0.0
HLP			IAML			14 26 31.4	
	comp=N,362nm,0.7s						
HLP			IAML			14 26 38.6	
	comp=E,398nm,1.3s						
HLP	**Hilina Pali**	**0.73 175**		Pg		14 26 09.8	-2.2
CPH	**Captain Cook**	**0.74 224**		Pg		14 26 10.9	-1.4
HTC	**Hot Caves**	**0.79 182**		Pg		14 26 11.1	-2.0
KHU	**Kahuku**	**0.81 197**		Sg		14 26 23.2	-1.1
KHU	**Kahuku**	**0.81 197**		Pg		14 26 11.2	-2.4
KHU	**Kahuku**	**0.81 197**	IAML			14 26 25.1	
	comp=E,308nm,1.7s						
KHU	**Kahuku**	**0.81 197**	IAML			14 26 23.1	
	comp=N,262nm,0.2s						
HLK	**Haleakala**	**1.10 312**		Pb		14 26 15.1	-3.8
HLK	**Haleakala**	**1.10 312**	IAML			14 26 32.6	
	comp=E,259nm,3.6s						
HLK			IAML			14 26 36.0	
	comp=N,208nm,3.7s						
KHLH	**Kahului Airpor**	**1.31 311**	Pn	Pn		14 26 18.6	-3.4
KEKH	**Kekaha**	**4.50 296**	Pn	Pn		14 27 01.9	-3.9

*NEIC **03** 14:35:57.9±0.5, 36°.45N±0°.02×98°.82W±0°.03, h4km±4km, Error ellipse: s-maj=3.6km s-min=1.8km az=114.0*
TUL 03 14:35:57.4±0.8, 36°.46N±0°.01×98°.82W±0°.02, h6km±5km, ML2.6, mb_Lg2.2/4(NEIC), ML2.5/16(NEIC), Error ellipse: s-maj=2.9km s-min=1.7km az=113.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.07**	**72**	Pg	Pg	14 35 59.5	+0.3
OK038				Sg	Sg	14 36 00.9	+0.6
U32A	**Winter Ranch,**	**0.17**	**242**	Pg	Pg	14 36 01.0	+0.2
U32A				Sg	Sg	14 36 03.4	+0.4
U32A				IAML		14 36 04.3	
	comp=E,2μm,0.1s						
U32A				IAML		14 36 04.3	
	comp=N,1μm,0.1s						
NOKA	**Waynoka**	**0.20**	**333**	Pg	Pg	14 36 01.8	+0.4
NOKA				Sg	Sg	14 36 04.9	+0.9
NOKA				IAML		14 36 05.2	
	comp=E,2μm,0.2s						
OK035	**E0210 Rd and N**	**0.27**	**20**	Pg	Pg	14 36 03.0	+0.3
OK035				IAML		14 36 07.5	
	comp=E,669nm,0.2s						
OK032	**Salt Plains WL**	**0.60**	**55**	Pg	Pg	14 36 08.9	-0.1
OK032				IAML		14 36 30.3	
	comp=E,164nm,0.2s						
ELIS	**Ellis County**	**0.62**	**231**	Pg	Pg	14 36 09.4	+0.1
ELIS				IAML		14 36 24.4	
	comp=N,281nm,0.2s						
ELIS				IAML		14 36 25.9	
	comp=E,193nm,0.2s						
CROK	**Carrier**	**0.68**	**86**	Pg	Pg	14 36 10.8	+0.4
CROK				IAML		14 36 29.7	
	comp=N,169nm,0.2s						
CSTR	**Hydro, Custer**	**0.82**	**172**	Pg	Pg	14 36 12.7	-0.4
KAN14	**Manchester OK**	**0.85**	**54**	Pg	Pg	14 36 13.2	-0.6
GC02	**Grant County #**	**0.87**	**63**	Pg	Pg	14 36 13.5	-0.6
KAN10	**Anthony SW Sta**	**0.88**	**41**	Pg	Pg	14 36 14.7	+0.3
KAN05	**Bluff City Nor**	**1.00**	**49**	Pg	Pg	14 36 16.4	-0.2
KAN08	**Anthony NE Sta**	**1.03**	**41**	Pg	Pg	14 36 16.8	-0.3
KAN17	**Caldwell West**	**1.03**	**55**	Pg	Pg	14 36 16.5	-0.7
KAN01	**Argonia South**	**1.10**	**51**	Pg	Pg	14 36 17.9	-0.6
KAN06	**Argonia West S**	**1.10**	**44**	Pg	Pg	14 36 18.0	-0.6
KAN09	**Caldwell North**	**1.18**	**55**	Pg	Pg	14 36 19.5	-0.6
KS20	**Mayfield South**	**1.28**	**52**	Pg	Pn	14 36 21.1	-0.7
BLOK	**Blackwell**	**1.33**	**76**		Pb	14 36 22.6	-0.1
OK048	**Pawnee Station**	**1.52**	**91**		Pb	14 36 25.9	0.0
OK031	**S. Brethren Rd**	**1.68**	**107**	Pn	Pb	14 36 28.1	-0.7
WMOK	**Wichita Mounta**	**1.72**	**179**	Pn	Pn	14 36 27.7	-0.1
T35A	**Sooner Cattle**	**1.91**	**75**	Pn	Pb	14 36 31.6	-1.1
R32A	**Long Quarter,**	**1.96**	**3**	Pn	Pn	14 36 32.1	+0.8
X34A	**Smith Ranch, M**	**2.02**	**156**	Pn	Pn	14 36 32.9	+0.9
X34A				IAmb_Lg		14 37 01.3	
	comp=Z,11nm,1.0s						
WTFS	**Witchita Falls**	**2.70**	**174**	Pn	Pn	14 36 41.7	+0.3
AMTX	**Amarillo**	**2.81**	**237**	IAmb_Lg		14 37 33.3	
	comp=Z,7.5nm,0.8s						

*IDC **03** 14:46:43.7±2.6, 9°.83S×112°.37E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=128.9km s-min=28.1km az=47.0*
*DJA **03** 14:46:46.7±0.6, 10°.S±7°.×11°.3E±°, h10km, M4.0/12, mb4.3/2, MLv3.8/12*
ISC 03 14:46:50.6±1.3, 9°.7S±0°.1×112°.94E±0°.06, h36km, n13, σ1§11/13, mb3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.50**	**20**	P	**Pn**	**14 47 15.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**1.71**	**45**	P	**Pn**	**14 47 18.0**	**+0.1**
BLJI	**Banyuglugur**	**2.04**	**19**	P	**Pn**	**14 47 23.4**	**+0.9**
ABJI	**Asem Bagus**	**2.28**	**34**	P	**Pn**	**14 47 26.2**	**+0.5**
WOJI	**Wonogiri, Jawa**	**2.71**	**313**	P	**Pn**	**14 47 31.8**	**+0.1**
SRBI	**Singaraja**	**2.76**	**55**	P	**Pn**	**14 47 32.0**	**-0.3**
UGM	**Wanagama**	**2.97**	**306**	P	**Pn**	**14 47 35.1**	**-0.2**
TWSI	**Taliwang, Sumb**	**4.01**	**77**	P	**Pn**	**14 47 48.9**	**-0.6**
KPJI	**Karang Pucung**	**4.61**	**300**	P	**Pn**	**14 47 58.1**	**+0.4**
PLAI	**Plampang**	**4.85**	**80**	P	**Pn**	**14 48 00.6**	**-0.5**
WRA	**Warramunga Arr**	**23.03**	**119**	P	**P**	**14 51 55.0**	**+2.1**
	0.4nm,0.7s,baz=292,slow=11,SNR=4.8 0.4nm,0.7s						
ASAR	**Alice Springs**	**24.37**	**127**	P	**P**	**14 52 07.0**	**+1.5**
	0.8nm,0.7s,baz=301,slow=8.6,SNR=15 0.8nm,0.7s						
MKAR	**Makanchi Array**	**62.53**	**337**	P	**P**	**14 57 08.8**	**-1.9**
	0.3nm,0.5s,baz=140,slow=7.0,SNR=3.9 0.3nm,0.5s						

*BEO **03** 15:12:38.0±0.6, 40°.51N×23°.48E, h10km±2km, ML3.2/11*
*SOF **03** 15:12:38.8, 40°.70N×23°.36E, h9km, MD3.5*
*THE **03** 15:12:40.7, 40°.71N×23°.37E, h7km±1km, ML3.2/8, Error ellipse: s-maj=1.1km s-min=0.4km az=335.0*
*ATH **03** 15:12:40.5, 40°.70N×23°.38E, h9km±1km, ML3.3/24, Manual Solution by G.Panopoulou First location: 2019/06/06 13:36:25, This location: 2019/06/06 13:34:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*ISK **03** 15:12:40.1, 40°.72N×23°.36E, h6km, ML3.3/26*
*SKO **03** 15:12:40.8, 40°.70N×23°.39E, h2km, ML3.2*
*AFAD **03** 15:12:49.0±0.0, 40°.46N×23°.31E, h36km, MW3.6*
ISC 03 15:12:40.7±0.8, 40°.71N±0°.01×23°.38E±0°.01, h10km±5km, n157, σ0§97/241, 22C-10D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.12**	**352**	P	**Pg**	**15 12 43.7**	**+0.1**
SOH				S	**Sg**	**15 12 45.5**	**-0.2**
SOH	**Sokhos**	**0.12**	**352**	⇓*i* Pg	**Pg**	**15 12 43.8**	**+0.1**
SOH				*i* Sg	**Sg**	**15 12 45.7**	**0.0**
SOH	**Sokhos**	**0.12**	**352**	P	**Pg**	**15 12 43.7**	**+0.1**
SOH				S	**Sg**	**15 12 45.6**	**0.0**
NGRA	**Nigrita**	**0.22**	**25**	P	**Pg**	**15 12 45.3**	**-0.1**
NGRA				S	**Sg**	**15 12 48.6**	**+0.2**
HORT	**Hortiatis**	**0.24**	**243**	Pg	**Pg**	**15 12 45.7**	**+0.1**
HORT				Sg	**Sg**	**15 12 49.1**	**+0.2**
HORT	**Hortiatis**	**0.24**	**243**	P	**Pg**	**15 12 45.7**	**+0.1**
HORT				S	**Sg**	**15 12 48.6**	**-0.3**
	18μm,0.2s						
HORT	**Hortiatis**	**0.24**	**243**	P	**Pg**	**15 12 45.8**	**+0.1**
HORT				S	**Sg**	**15 12 48.8**	**0.0**
THE	**Thessaloniki**	**0.32**	**257**	P	**Pg**	**15 12 47.0**	**-0.1**
THE				S	**Sg**	**15 12 51.2**	**-0.1**
	10μm,0.3s						
THE	**Thessaloniki**	**0.32**	**257**	⇑*i* Pg	**Pg**	**15 12 46.9**	**-0.1**
THE				*i* Sg	**Sg**	**15 12 51.3**	**-0.1**
THE	**Thessaloniki**	**0.32**	**257**	P	**Pg**	**15 12 47.0**	**-0.1**
THE				S	**Sg**	**15 12 51.2**	**-0.1**
OREA	**Oraiokastro**	**0.35**	**274**	P	**Pg**	**15 12 47.6**	**-0.1**
OREA				S	**Sg**	**15 12 52.5**	**+0.2**
SRS	**Serrai**	**0.44**	**22**	P	**Pg**	**15 12 48.7**	**-0.7**
SRS				S	**Sg**	**15 12 55.1**	**-0.2**
SRS	**Serrai**	**0.44**	**22**	*e*Pg	**Pg**	**15 12 48.7**	**-0.7**
SRS				*e*Sg	**Sb**	**15 12 59.7**	**+2.4**
SRS	**Serrai**	**0.44**	**22**	⇑*i* Pg	**Pg**	**15 12 48.7**	**-0.7**
SRS				*i* Sg	**Sg**	**15 12 55.6**	**+0.4**
SRS	**Serrai**	**0.44**	**22**	P	**Pg**	**15 12 48.7**	**-0.7**
SRS				S	**Sg**	**15 12 54.9**	**-0.3**
KOKK	**Kokkinochori,**	**0.49**	**77**	P	**Pg**	**15 12 50.0**	**-0.2**
KOKK	**Kokkinochori,**	**0.49**	**77**	P	**Pg**	**15 12 50.1**	**-0.1**
KOKK				S	**Sg**	**15 12 56.4**	**-0.2**
KNT	**Kendrikon**	**0.58**	**322**	Pg	**Pg**	**15 12 51.5**	**-0.5**
KNT				Sg	**Sg**	**15 12 59.3**	**-0.4**
KNT	**Kendrikon**	**0.58**	**322**	P	**Pg**	**15 12 51.4**	**-0.5**
KNT				S	**Sg**	**15 12 59.3**	**-0.4**
	2μm,0.2s						
KNT	**Kendrikon**	**0.58**	**322**	⇑*i* Pg	**Pg**	**15 12 51.5**	**-0.5**
KNT				*i* Sg	**Sg**	**15 12 59.3**	**-0.4**
KNT	**Kendrikon**	**0.58**	**322**	P	**Pg**	**15 12 51.6**	**-0.5**
KNT				S	**Sg**	**15 12 59.1**	**-0.6**
OUR	**Ouranopolis**	**0.59**	**129**	Pg	**Pg**	**15 12 52.2**	**0.0**
OUR				Sg	**Sb**	**15 13 00.9**	**-0.7**
OUR	**Ouranopolis**	**0.59**	**129**	P	**Pg**	**15 12 52.2**	**0.0**
OUR				S	**Sb**	**15 13 00.7**	**-0.9**
	4μm,0.2s						
OUR	**Ouranopolis**	**0.59**	**129**	P	**Pb**	**15 12 52.5**	**-0.7**
OUR				S	**Sg**	**15 12 59.4**	**-0.6**
NVR	**Nevrokopi**	**0.74**	**30**	P	**Pg**	**15 12 55.0**	**0.0**
NVR				S	**Sb**	**15 13 05.5**	**-0.5**
	1μm,0.4s						
NVR	**Nevrokopi**	**0.74**	**30**	P	**Pb**	**15 12 55.4**	**-0.4**
NVR				S	**Sg**	**15 13 04.3**	**-0.4**
GRG	**Griva**	**0.78**	**289**	Pg	**Pg**	**15 12 55.0**	**-0.8**
GRG				Sg	**Sb**	**15 13 06.4**	**-0.6**
GRG	**Griva**	**0.78**	**289**	P	**Pg**	**15 12 55.2**	**-0.6**
GRG				S	**Sb**	**15 13 06.9**	**-0.1**
	2μm,0.3s						
GRG	**Griva**	**0.78**	**289**	⇓*i* Pg	**Pg**	**15 12 54.9**	**-0.8**
GRG				*i* Sg	**Sb**	**15 13 07.0**	**0.0**
GRG	**Griva**	**0.78**	**289**	P	**Pg**	**15 12 55.7**	**-0.1**
GRG				S	**Sg**	**15 13 05.5**	**-0.4**
KVLA	**Kavala**	**0.80**	**73**	P	**Pg**	**15 12 56.3**	**+0.1**
KVLA				S	**Sg**	**15 13 05.7**	**-0.9**
VERN	**Vergina**	**0.83**	**255**	P	**Pb**	**15 12 57.3**	**+0.1**
VAY	**Valandovo**	**0.86**	**316**	*e*Pg	**Pg**	**15 12 57.4**	**0.0**
VAY				*e*Sg	**Sb**	**15 13 09.9**	**+0.4**
VAY	**Valandovo**	**0.86**	**316**	⇑*i* Pg	**Pg**	**15 12 57.3**	**-0.1**
VAY				*i* Sg	**Sb**	**15 13 09.1**	**-0.3**
VAY				*e*Lg	Lg	15 13 09.6	
	comp=E,709nm,0.5s						
VAY				*e*Lg	Lg	15 13 11.1	
	comp=N,581nm,0.5s						
MMB	**Musomishta**	**0.89**	**19**	⇑*i* Pg	**Pg**	**15 12 57.0**	**-0.8**
MMB				*i* Sg	**Sb**	**15 13 10.5**	**+0.4**
MMB	**Musomishta**	**0.89**	**19**	P	**Pg**	**15 12 56.7**	**-1.1**
KAVA	**Kavala**	**0.91**	**71**	P	**Pg**	**15 12 57.9**	**-0.4**
KAVA				S	**Sb**	**15 13 10.7**	**-0.1**
	comp=N,6μm,0.3s						
KAVA	**Kavala**	**0.91**	**71**	P	**Pg**	**15 12 57.9**	**-0.4**
KAVA				S	**Sg**	**15 13 09.6**	**-0.6**
KTI	**Kastanea**	**1.01**	**252**	P	**Pg**	**15 12 59.6**	**-0.5**
THAS	**Thassos island**	**1.03**	**95**	P	**Pg**	**15 13 00.1**	**-0.4**
THAS	**Thassos island**	**1.03**	**95**	P	**Pg**	**15 13 00.3**	**-0.2**
THAS				S	**Sg**	**15 13 13.6**	**-0.3**
KKB	**Krupnik**	**1.15**	**351**	*i* Pg	**Pb**	**15 13 01.8**	**-0.9**
KKB				*i* Sg	**Sb**	**15 13 17.8**	**+0.1**
KKB	**Krupnik**	**1.15**	**351**	P	**Pb**	**15 13 01.5**	**-1.2**
XANC	**Avdira**	**1.23**	**77**	P	**Pn**	**15 13 02.8**	**-1.1**
XANC				S	**Sb**	**15 13 19.4**	**-0.5**
STIP	**Stip**	**1.33**	**318**	⇓*i* Pg	**Pn**	**15 13 03.6**	**-1.8**
STIP				*i* Sg	**Sb**	**15 13 22.2**	**-0.8**
XOR	**Xorichti**	**1.35**	**186**	P	**Pn**	**15 13 05.0**	**-0.6**
XOR	**Xorichti**	**1.35**	**186**	P	**Pn**	**15 13 05.5**	**0.0**
XOR				S	**Sb**	**15 13 22.8**	**-0.5**
NEO	**Neokhori**	**1.40**	**185**	P	**Pn**	**15 13 05.7**	**-0.7**
NEO	**Neokhori**	**1.40**	**185**	P	**Pn**	**15 13 05.9**	**-0.5**
RZN	**Rozhen**	**1.43**	**46**	P	**Pn**	**15 13 06.5**	**-0.3**
FNA	**Florina**	**1.52**	**274**	Pn	**Pn**	**15 13 08.2**	**+0.2**
FNA				Sn	**Sb**	**15 13 28.7**	**+0.4**
FNA	**Florina**	**1.52**	**274**	P	**Pn**	**15 13 07.8**	**-0.2**
FNA	**Florina**	**1.52**	**274**	*e*Pg	**Pn**	**15 13 08.2**	**+0.2**
FNA				*e*Sg	**Sg**	**15 13 30.0**	**+0.4**
FNA	**Florina**	**1.52**	**274**	P	**Pn**	**15 13 08.2**	**+0.2**
FNA				S	**Sb**	**15 13 28.8**	**+0.4**
THL	**Klokotos Trika**	**1.54**	**223**	P	**Pn**	**15 13 08.0**	**-0.3**
THL				S	**Sn**	**15 13 27.7**	**-0.7**
LIA	**Limnos Island**	**1.60**	**120**	P	**Pn**	**15 13 08.3**	**-0.7**
LIA	**Limnos Island**	**1.60**	**120**	P	**Pn**	**15 13 08.8**	**-0.3**
LIA				S	**Sn**	**15 13 28.8**	**-0.9**
SMTH	**Samothraki Isl**	**1.66**	**97**	P	**Pn**	**15 13 10.4**	**+0.5**
RDO	**Rodhopi**	**1.70**	**74**	Pn	**Pn**	**15 13 10.8**	**+0.4**
RDO				Sn	**Sb**	**15 13 34.1**	**+0.7**
RDO	**Rodhopi**	**1.70**	**74**	P	**Pn**	**15 13 09.7**	**-0.7**
RDO				S	**Sb**	**15 13 33.1**	**-0.3**
	comp=N,498nm,0.5s						
RDO	**Rodhopi**	**1.70**	**74**	P	**Pn**	**15 13 10.8**	**+0.4**
RDO				S	**Sn**	**15 13 32.4**	**+0.2**
KPRO	**Kipourio**	**1.71**	**245**	P	**Pn**	**15 13 10.5**	**-0.1**
KPRO	**Kipourio**	**1.71**	**245**	P	**Pn**	**15 13 11.2**	**+0.5**
KDZ	**Kurdzhali**	**1.75**	**57**	Pn	**Pb**	**15 13 12.0**	**-0.9**
KDZ				Sn	**Sb**	**15 13 35.1**	**+0.2**
KDZ	**Kurdzhali**	**1.75**	**57**	P	**Pn**	**15 13 10.5**	**-0.6**
PLNA	**Plana**	**1.77**	**1**	P	**Pn**	**15 13 11.5**	**0.0**
PLD	**Plovdiv**	**1.77**	**35**	Pn	**Pn**	**15 13 11.6**	**+0.2**
PLD				Sn	**Sn**	**15 13 34.5**	**+0.5**
PLD	**Plovdiv**	**1.77**	**35**	*e*Pg	**Pb**	**15 13 12.9**	**-0.4**
PLD				*e*Sg	**Sb**	**15 13 35.8**	**+0.3**
PLD	**Plovdiv**	**1.77**	**35**	*i* Pn	**Pn**	**15 13 11.6**	**+0.2**
PLD	**Plovdiv**	**1.77**	**35**	P	**Pb**	**15 13 12.8**	**-0.5**
PENT	**Pentalofos**	**1.78**	**254**	P	**Pn**	**15 13 12.1**	**+0.4**
NEST	**Nestorio**	**1.80**	**261**	P	**Pn**	**15 13 11.8**	**0.0**
NEST	**Nestorio**	**1.80**	**261**	P	**Pn**	**15 13 12.5**	**+0.6**
AGG	**Agios Georgios**	**1.86**	**206**	Pn	**Pn**	**15 13 13.0**	**+0.3**
AGG				Sn	**Sb**	**15 13 37.5**	**-0.7**
AGG	**Agios Georgios**	**1.86**	**206**	P	**Pn**	**15 13 12.6**	**-0.1**
AGG				S	**Sb**	**15 13 37.1**	**-1.1**
AIDA	**Aidipsos**	**1.87**	**188**	P	**Pn**	**15 13 12.6**	**-0.1**
PGB	**Panagyurishte**	**1.90**	**18**	P	**Pb**	**15 13 15.6**	**+0.1**
BOSS	**Bosilegrad**	**1.91**	**340**	*e*Pn	**Pn**	**15 13 13.4**	**+0.1**
BOSS				*e*Sn	**Sb**	**15 13 40.7**	**+1.1**
VTS	**Vitosha**	**1.91**	**357**	⇓P	**Pb**	**15 13 14.8**	**-1.0**
VTS				⇑S	**Sn**	**15 13 34.6**	**-3.2**
VTS	**Vitosha**	**1.91**	**357**	*e*Pg	**Pb**	**15 13 15.1**	**-0.7**
VTS	**Vitosha**	**1.91**	**357**	*i* Pn	**Pb**	**15 13 15.0**	**-0.7**
VTS				*i* Sn	**Sb**	**15 13 40.8**	**+1.0**
VTS				*i* Sg	**Sg**	**15 13 44.0**	**+1.8**
VTS	**Vitosha**	**1.91**	**357**	P	**Pn**	**15 13 13.3**	**-0.2**
ALEX	**Alexandroupoli**	**1.93**	**85**	P	**Pn**	**15 13 13.5**	**0.0**
MAKR	**Makrakomi, Fth**	**1.94**	**210**	P	**Pn**	**15 13 14.2**	**+0.4**
MAKR				S	**Sn**	**15 13 38.6**	**+0.3**
GADA	**Gvkgeada**	**1.99**	**104**	Pn	**Pb**	**15 13 15.9**	**-1.2**
GADA				Sn	**Sb**	**15 13 41.7**	**-0.2**
OHR	**Ohrid**	**1.99**	**283**	*i* Pn	**Pb**	**15 13 17.0**	**-0.1**
OHR				*i* Sn	**Sb**	**15 13 41.0**	**-1.0**
OHR				*i* Sg	**Sg**	**15 13 49.2**	**+4.4**
OHR				*e*Lg	Lg	15 13 50.7	
	comp=N,180nm,1.1s						
GOKA	**anakkale-Gk**	**2.00**	**104**	P	**Pg**	**15 13 20.2**	**+1.1**
GOKA				S	**Sg**	**15 13 45.3**	**+0.3**
GOKA				*i* AML	AML	15 13 48.0	
	comp=N,485nm,0.3s						
AXAR	**Agios Charalam**	**2.02**	**196**	P	**Pn**	**15 13 15.1**	**+0.3**
AXAR				S	**Sn**	**15 13 39.5**	**-0.5**
ATAL	**Atalanti**	**2.03**	**188**	P	**Pn**	**15 13 14.8**	**-0.2**
ALN	**Alexandroupoli**	**2.04**	**84**	Pn	**Pn**	**15 13 16.3**	**+1.3**
ALN				Sn	**Sb**	**15 13 42.6**	**-0.6**
ALN	**Alexandroupoli**	**2.04**	**84**	P	**Pn**	**15 13 14.2**	**-0.8**
PRVS	**Prvonek**	**2.05**	**332**	*e*Pn	**Pn**	**15 13 15.3**	**+0.1**
PRVS				*e*Sn	**Sb**	**15 13 44.0**	**+0.5**
LKR	**Lokris**	**2.07**	**188**	P	**Pn**	**15 13 15.4**	**-0.1**
ENEZ	**Enez**	**2.11**	**88**	Pn	**Pb**	**15 13 17.7**	**-1.4**
ENEZ				Sn	**Sb**	**15 13 44.6**	**-0.7**
CAVK	**Edirne/Enez-Ca**	**2.12**	**89**	P	**Pg**	**15 13 20.5**	**-0.9**
DIM	**Dimitrovgrad**	**2.13**	**50**	P	**Pb**	**15 13 19.4**	**0.0**
KYMI	**Kymi, Euboea I**	**2.15**	**165**	P	**Pn**	**15 13 16.1**	**-0.5**
EVR	**Evrytania**	**2.16**	**215**	P	**Pn**	**15 13 16.9**	**+0.1**
EVR				S	**Sn**	**15 13 43.6**	**-0.1**
BOZC	**Bozcaada**	**2.22**	**112**	Pn	**Pn**	**15 13 18.7**	**+1.1**
GELI	**Tayfur-Gelibol**	**2.38**	**96**	Pn	**Pb**	**15 13 21.7**	**-2.0**
ERIK	**Erikli-Kesan**	**2.39**	**90**	Pn	**Pn**	**15 13 21.0**	**+1.2**
ERIK				Sn	**Sb**	**15 13 51.2**	**-2.0**
CNKL	**anakkale-Mer**	**2.39**	**105**	P	**Pg**	**15 13 27.2**	**+0.7**
CNKL				S	**Sb**	**15 13 54.0**	**+0.7**
CNKL				*i* AML	AML	15 13 58.0	
	comp=N,63nm,0.4s						
ANX	**Ano Chora**	**2.39**	**208**	P	**Pn**	**15 13 20.5**	**+0.5**
ANX				S	**Sn**	**15 13 49.2**	**-0.2**
BARS	**Barje**	**2.41**	**332**	*e*Pn	**Pn**	**15 13 20.2**	**0.0**
BARS				*e*Sn	**Sb**	**15 13 54.4**	**+0.5**
BARS	**Barje**	**2.41**	**332**	*i* Pn	**Pn**	**15 13 20.0**	**-0.2**
SIGR	**SIGRI**	**2.42**	**127**	Pn	**Pn**	**15 13 21.9**	**+1.6**
SIGR	**SIGRI**	**2.42**	**127**	P	**Pn**	**15 13 20.0**	**-0.4**
EZN	**Ezine**	**2.42**	**110**	Pn	**Pn**	**15 13 21.1**	**+0.8**
KOCA	**Canakkale, Ayv**	**2.44**	**119**	P	**Pb**	**15 13 25.3**	**+0.6**
COMU	**Canakkale**	**2.44**	**103**	Pn	**Pn**	**15 13 21.6**	**+0.9**
VIL2	**Platees**	**2.49**	**182**	P	**Pn**	**15 13 22.0**	**+0.6**
UKOP	**Uzunkopru-Edir**	**2.50**	**79**	Pn	**Pn**	**15 13 22.4**	**+0.9**
PVO	**Paravola**	**2.53**	**215**	P	**Pn**	**15 13 22.2**	**+0.4**
PVO				S	**Sn**	**15 13 52.3**	**-0.3**
LPK	**Lapseki**	**2.60**	**96**	Pn	**Pn**	**15 13 24.7**	**+1.9**
BAYC	**CANAKKALE_Bayr**	**2.61**	**111**	P	**Pn**	**15 13 24.3**	**+1.3**
ZAPS	**Zavoj**	**2.62**	**348**	*e*Pn	**Pn**	**15 13 24.1**	**+0.9**
ZAPS				*e*Sn	**Sn**	**15 13 55.3**	**+0.2**
RFT1	**Sazli**	**2.63**	**115**	Pn	**Pn**	**15 13 24.3**	**+1.1**
DION	**Dionisos Attik**	**2.66**	**170**	P	**Pn**	**15 13 23.4**	**-0.2**
LAKA	**Lakka**	**2.69**	**204**	P	**Pn**	**15 13 24.4**	**+0.3**
EAG1	**Polichnitos, L**	**2.72**	**126**	P	**Pn**	**15 13 24.3**	**-0.2**
EDRB	**Edirne**	**2.78**	**65**	Pn	**Pn**	**15 13 26.8**	**+1.5**
KLV	**Kalavryta, Ach**	**2.82**	**200**	P	**Pn**	**15 13 26.6**	**+0.6**
GUR	**Goura**	**2.88**	**196**	P	**Pn**	**15 13 27.1**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.89**	**89**	Pn	**Pn**	**15 13 28.7**	**+1.8**
SART	**Tekirdag**	**2.89**	**89**	P	**Pg**	**15 13 34.3**	**-1.9**
CANM	**Can-anakkale**	**2.90**	**103**	Pn	**Pn**	**15 13 28.7**	**+1.9**
BLKB	**Belogradchik**	**2.96**	**350**	⇑S	**Sn**	**15 14 02.6**	**-0.8**
RFT2	**Karaagac**	**2.97**	**114**	Pn	**Pn**	**15 13 29.5**	**+1.6**
KIRK	**Kırklareli**	**3.00**	**68**	P	**Pb**	**15 13 35.1**	**+0.8**
KIRK				S	**Sb**	**15 14 13.5**	**+2.4**
KIRK				*i* AML	AML	15 14 20.0	
	comp=N,70nm,1.1s						
KIRK				*i* AML	AML	15 14 21.0	
	comp=N,56nm,0.4s						
SELS	**Selova**	**3.02**	**327**	*e*Pn	**Pn**	**15 13 28.4**	**-0.2**
SELS				*e*Sn	**Sn**	**15 14 07.5**	**+2.6**
BUHA	**Balikesir, Bur**	**3.08**	**112**	P	**Pg**	**15 13 42.2**	**+2.4**
CHOS	**Chios island**	**3.11**	**137**	P	**Pn**	**15 13 29.6**	**-0.2**
BOVS	**Bovan**	**3.18**	**338**	⇑P	**Pn**	**15 13 30.1**	**-0.7**
BOVS				⇑S	**Sn**	**15 14 06.6**	**-2.1**
BOVS	**Bovan**	**3.18**	**338**	*e*Pn	**Pn**	**15 13 30.1**	**-0.7**
BOVS				*e*Sn	**Sn**	**15 14 11.9**	**+3.2**
SZH	**Straz

CMAR	**Chiang Mai Arr**	**3.83**	**96**	Pn	**Pn**	**15 21 05.2**	**0.0**
CMAR	**Chiang Mai Arr**	**3.83**	**96**	Pn	**Pn**	**15 21 06.8**	**+1.7**
	0.5nm,0.3s,baz=269,slow=14,SNR=12						
CMAR				Lg	Lg	15 22 13.2	
	1.5nm,0.3s,baz=270,slow=31,SNR=7.7						
CMAR				LR	LR	15 23 10.5	
	comp=Z,85nm,18.8s,baz=260,slow=46						
	1.9nm,0.5s						
SAIH	**SAIHA**	**4.02**	**333**	*e*P	**Pn**	**15 21 09.7**	**+1.9**
SAIH				*e*S	**Sn**	**15 21 59.1**	**+5.4**
SAIH				IAML		15 22 16.7	
	comp=E,93nm,0.9s						
AZL	**Aizawl**	**5.26**	**337**	*e*P	**Pn**	**15 21 26.1**	**+1.3**
AZL				*e*S	Sn	15 21 46.8	-37
AZL				IAML		15 21 49.8	
	comp=N,34nm,0.5s						
AZL				IAML		15 21 52.6	
	comp=E,28nm,0.7s						
CRAI	**Chiangrai**	**5.30**	**75**		**Pn**	**15 21 27.4**	**+2.0**
IMP	**Imphal**	**5.98**	**351**	*e*P	**Pn**	**15 21 34.6**	**-0.2**
KOHI	**KOHIMA**	**6.84**	**354**	*e*P	**Pn**	**15 21 48.3**	**+1.7**
SHL	**Shillong**	**7.22**	**338**	*e*P	**Pn**	**15 21 51.5**	**-0.4**
SHL				*e*S	**Sn**	**15 23 10.1**	**-2.6**
MOKO	**MOKOCHONG**	**7.41**	**357**	*e*P	**Pn**	**15 21 56.6**	**+2.2**
TEZP	**TEZPUR**	**7.94**	**346**	*e*P	**Pn**	**15 22 03.7**	**+2.2**
ODAN	**Odare**	**10.54**	**320**	*e*P	**Pn**	**15 22 35.4**	**-2.1**
	comp=E,31nm,1.4s						
TAPN	**Taplejung**	**10.72**	**323**	*e*P	**Pn**	**15 22 38.6**	**-1.4**
	comp=E,12nm,0.6s						
RAMN	**Ramite**	**11.10**	**318**	*e*P	**Pn**	**15 22 42.9**	**-2.2**
	comp=E,8.4nm,0.5s						
JIRN	**Jiri**	**11.86**	**319**	*e*P	**Pn**	**15 22 53.5**	**-2.1**
	comp=E,6.6nm,0.4s						
GUN	**Gumba**	**12.23**	**319**	*e*P	**Pn**	**15 22 59.2**	**-1.5**
	comp=E,10nm,0.6s						
PKI	**Pulchoki**	**12.29**	**316**	*e*P	**Pn**	**15 23 00.0**	**-1.5**
	comp=E,8.6nm,0.6s						
GKN	**Gorkha**	**13.09**	**316**	*e*P	**Pn**	**15 23 10.8**	**-1.5**
	comp=E,9.7nm,0.4s						
KOLN	**Koldanda**	**13.65**	**312**	*e*P	**Pn**	**15 23 17.9**	**-2.0**
	comp=E,20nm,0.6s						
DANN	**Dangsing**	**13.90**	**315**	*e*P	**Pn**	**15 23 22.1**	**-1.4**
	comp=E,17nm,0.7s						
PYUN	**Piuthan**	**14.27**	**312**	*e*P	**Pn**	**15 23 26.8**	**-1.7**
	comp=E,8.8nm,0.5s						
HYB	**Hyderabad**	**15.63**	**267**	*e*P	**P**	**15 23 53.8**	**+3.6**
KKM	**Kota Kinabalu**	**24.35**	**119**	P	**P**	**15 25 23.8**	**+0.2**
KKM				IAmb	IAmb	15 26 05.5	
	comp=Z,23nm,1.0s						
MKAR	**Makanchi Array**	**29.71**	**342**	P	**P**	**15 26 10.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=147,slow=9.2,SNR=6.9						
	comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**30.35**	**15**	P	**P**	**15 26 18.2**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=198,slow=9.0,SNR=3.5						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**34.25**	**341**	P	**P**	**15 26 50.1**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=150,slow=8.7,SNR=6.7						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**34.30**	**342**	P	**P**	**15 26 51.5**	**0.0**
ZALV	**Zalesovo Beam**	**35.85**	**350**	P	**P**	**15 27 05.1**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=142,slow=7.4,SNR=6.0						
	comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**39.04**	**337**	LR	LR	15 46 16.6	
	comp=Z,32nm,18.6s,baz=297,slow=40						
ABKAR	**Akbulak array**	**41.29**	**325**	P	**P**	**15 27 49.6**	**-1.0**
JCJ	**Chichijima**	**44.05**	**70**	LR	LR	15 47 11.7	
	comp=Z,55nm,20.7s,baz=117,slow=37						
YSS	**Yuzh-Sakhalins**	**47.94**	**43**	P	**P**	**15 28 42.3**	**-1.4**
YAK	**Yakutsk**	**49.42**	**21**	P	**P**	**15 28 52.2**	**-2.6**
YAK				IAmb	IAmb	15 29 33.6	
	comp=Z,6.5nm,1.1s						
BELG	**Belogornoye**	**49.63**	**324**	LR	LR	15 52 48.7	
	comp=Z,42nm,18.4s,baz=130,slow=40						
WB0	**Warramunga Arr**	**54.53**	**133**	P	**P**	**15 29 34.1**	**+0.7**
WB0				IAmb	IAmb	15 29 56.1	
	comp=Z,5.8nm,1.2s						
WRA	**Warramunga Arr**	**54.61**	**133**	P	**P**	**15 29 34.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=320,slow=7.4,SNR=8.0						
	comp=Z,0.6nm,0.6s						
TIXI	**Tiksi**	**56.35**	**12**	P	**P**	**15 29 45.1**	**-0.7**
TIXI				IAmb	IAmb	15 30 28.0	
	comp=Z,3.5nm,1.0s						
ASAR	**Alice Springs**	**56.88**	**136**	P	**P**	**15 29 51.7**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=316,slow=7.1,SNR=18						
	comp=Z,0.7nm,0.6s						
IMAR	**Indian Mountai**	**81.22**	**23**	P	**P**	**15 32 21.4**	**+0.8**
TOLK	**Toolik Lake Re**	**81.37**	**20**	P	**P**	**15 32 22.4**	**+1.0**
TOLK				IAmb	IAmb	15 32 45.9	
	comp=Z,16nm,1.3s						
J20K	**Nowinta River**	**81.88**	**24**	P	**P**	**15 32 24.9**	**+0.8**
MLY	**Manley**	**82.77**	**23**	P	**P**	**15 32 29.6**	**+0.7**
CAST	**Castle Rocks**	**83.05**	**25**	P	**P**	**15 32 30.8**	**+0.5**
CAST				IAmb	IAmb	15 32 59.6	
	comp=Z,5.5nm,1.2s						
BPAW	**Bear Paw Mtn.**	**83.14**	**24**	P	**P**	**15 32 31.4**	**+0.6**
BPAW				IAmb	IAmb	15 32 49.5	
	comp=Z,9.4nm,1.4s						
BMAR	**Burnt Mountain**	**83.60**	**20**	P	**P**	**15 32 34.5**	**+1.4**
MDM	**Murphy Dome**	**83.73**	**22**	P	**P**	**15 32 34.4**	**+0.6**
MDM				IAmb	IAmb	15 32 36.6	
	comp=Z,3.2nm,0.8s						
POKR	**Poker Plat Res**	**83.93**	**22**	P	**P**	**15 32 35.6**	**+0.9**
POKR				IAmb	IAmb	15 33 02.1	
	comp=Z,5.4nm,0.9s						
ILAR	**Eielson Array**	**84.31**	**22**	P	**P**	**15 32 36.1**	**-0.6**
ILAR	**Eielson Array**	**84.31**	**22**	P	**P**	**15 32 36.0**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=298,slow=4.0,SNR=8.4						
	comp=Z,0.4nm,0.7s						
J25K	**Salcha River,**	**84.94**	**22**	P	**P**	**15 32 39.6**	**-0.4**
J26L	**Joseph Creek**	**85.65**	**22**	P	**P**	**15 32 43.9**	**+0.3**
J26L				IAmb	IAmb	15 33 00.9	
	comp=Z,4.8nm,1.2s						
SCRK	**Sand Creek**	**85.80**	**22**	P	**P**	**15 32 44.7**	**+0.3**
SCRK				IAmb	IAmb	15 33 14.8	
	comp=Z,4.7nm,1.4s						
INK	**Inuvik**	**86.26**	**16**	P	**P**	**15 32 46.6**	**+0.3**
H29M	**Whitestone**	**86.29**	**19**	P	**P**	**15 32 47.0**	**+0.4**
G30M	**tAoh Zraii Nji**	**86.43**	**18**	P	**P**	**15 32 47.2**	**-0.1**
N25K	**Chitina, Valde**	**86.95**	**24**		**P**	**15 32 51.4**	**+1.4**
BCAR	**Beaver Creek A**	**87.14**	**22**	P	**P**	**15 32 50.4**	**-0.4**
M27K	**Edge Creek, AK**	**87.54**	**23**	P	**P**	**15 32 52.0**	**-0.9**
M27K				IAmb	IAmb	15 33 16.7	
	comp=Z,6.0nm,1.4s						

IDC 03 15:23:55.8±3.9, 18°.59N×146°.00E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=163.1km s-min=22.3km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.96**	**197**	P	P	15 31 33.3	+1.1
	1.3nm,0.6s,baz=13,slow=8.8,SNR=6.4						
WRA				PcP	PcP	15 33 35.1	-2.7
	0.3nm,0.5s,baz=15,slow=3.5,SNR=3.3						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**43.62**	**196**	P	P	15 32 01.9	-0.4
	0.3nm,0.5s,baz=14,slow=6.9,SNR=20						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.75**	**314**	P	P	15 33 56.3	+0.6
	0.2nm,0.5s,baz=89,slow=7.9,SNR=2.0						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**61.59**	**318**	P	P	15 34 14.8	-0.3
	0.5nm,0.6s,baz=93,slow=7.3,SNR=7.7						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**66.74**	**320**	P	P	15 34 49.2	+0.4
	1.6nm,0.5s,baz=93,slow=7.0,SNR=10						
	1.6nm,0.5s						

IDC 03 15:29:19.5±2.1, 6°.66S×128°.91E, h0km, mb3.7/1, mbtmp3.3/3, ML3.3/2, MS2.7/1, Error ellipse: s-maj=131.7km s-min=31.8km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.22**	**159**	Pn	Pn	15 32 42.0	-0.3
	0.2nm,0.3s,baz=337,slow=13,SNR=3.4						
WRA				Sn	Sn	15 35 07.7	-13
	0.2nm,0.3s,baz=336,slow=22,SNR=8.2						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**17.58**	**165**	P	Pn	15 33 26.4	+0.3
	0.1nm,0.3s,baz=348,slow=10.0,SNR=6.3						
ASAR				S	Sn	15 36 32.9	-10
	0.3nm,0.7s,baz=353,slow=35,SNR=5.4						
	0.2nm,0.5s						
JOW	**Kunigami**	**33.30**	**359**	LR	LR	15 50 55.7	
	comp=Z,12nm,18.4s,baz=113,slow=39						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	15 40 16.6	0.0
	0.3nm,0.4s,baz=124,slow=6.8,SNR=7.2						
	0.3nm,0.4s						

IDC 03 15:30:56.0±68.0, 21°.85S×175°.70W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=1268.0km s-min=184.5km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.17**	**246**	P	P	15 38 25.5	-0.2
	1.5nm,0.9s,baz=90,slow=6.1,SNR=3.9						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**46.31**	**258**	P	P	15 39 24.9	+1.0
	0.4nm,0.7s,baz=88,slow=7.2,SNR=5.1						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**46.55**	**263**	P	P	15 39 24.9	-0.9
	0.4nm,0.6s,baz=104,slow=8.4,SNR=13						
	0.4nm,0.6s						

IDC 03 15:40:11.2±1.9, 6°.77S×128°.62E, h0km, mb3.3/1, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=59.3km s-min=29.3km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.42**	**24**	Pn	Pn	15 41 47.7	+0.5
	1.6nm,0.3s,baz=196,slow=23,SNR=31						
SIJI				Sn	Sn	15 42 49.1	-12
	0.8nm,0.3s,baz=248,slow=22,SNR=1.7						
	5.4nm,0.2s						
WRA	**Warramunga Arr**	**14.23**	**158**	Pn	Pn	15 43 33.2	-1.0
	0.2nm,0.3s,baz=336,slow=13,SNR=19						
WRA				Sn	Sn	15 45 59.1	-14
	0.4nm,0.3s,baz=358,slow=23,SNR=9.1						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**17.56**	**164**	P	P	15 44 18.4	-0.3
	0.1nm,0.3s,baz=346,slow=11,SNR=15						
ASAR				S	Sn	15 47 25.3	-8.6
	0.5nm,0.8s,baz=358,slow=28,SNR=4.8						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**67.28**	**327**	P	P	15 51 07.6	-0.2
	0.2nm,0.5s,baz=135,slow=6.0,SNR=2.6						
	0.2nm,0.5s						

*FUNV **03** 15:51:59.7, 11°.85N×70°.89W, h24km, MW3.1*
*RSNC **03** 15:52:02.1±0.9, 11°.69N×71°.02W, h69km±15km, ML2.7*

ISC 03 15:51:56.5±1.3, 11°.84N±0°.09×70°.89W±0°.04, h10km, n13, σ2°.05/25, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**1.08**	**263**	⇓*i*P	**Pb**	**15 52 19.2**	**+1.8**
URIC				*e*S	**Sb**	**15 52 33.2**	**+1.6**
URIC				*i*		15 52 34.0	
	comp=Z,110nm,0.2s						
SIQV	**Siquisique**	**1.60**	**138**	*e*P	**Pn**	**15 52 26.3**	**+1.4**
SIQV				*e*S	**Sn**	**15 52 45.5**	**0.0**
CURV	**Curarigua**	**2.04**	**153**	*e*P	**Pn**	**15 52 32.0**	**+1.1**
CURV				*e*S	**Sn**	**15 52 55.3**	**-1.3**
CRJC	**Cerrejon, Guaj**	**2.11**	**247**	*e*P	**Pn**	**15 52 32.2**	**+0.2**
CRJC				*e*S	**Sn**	**15 52 56.6**	**-1.9**
CRJC				*i*		15 52 57.9	
	comp=Z,92nm,0.2s						
SDV	**Santo Domingo**	**2.95**	**175**	*e*P	**Pn**	**15 52 44.9**	**+1.2**
SDV				*e*S	**Sn**	**15 53 17.1**	**-2.2**
TURV	**Turiamo**	**3.30**	**115**	*e*P	**Pn**	**15 52 48.2**	**-0.1**
TURV				*e*S	**Sn**	**15 53 25.2**	**-2.4**
SMRC	**Santa Marta, M**	**3.33**	**259**	*e*P	**Pn**	**15 52 50.3**	**+1.6**
SMRC				*e*S	**Sn**	**15 53 24.9**	**-3.5**
SOCV	**Socops**	**3.54**	**179**	*e*P	**Pn**	**15 52 52.4**	**+0.8**
SOCV				*e*S	**Sn**	**15 53 31.2**	**-2.3**
BENV	**Beln**	**3.74**	**120**	*e*P	**Pn**	**15 52 55.2**	**+0.8**
BENV				*e*S	**Sn**	**15 53 35.7**	**-2.8**
ARGC	**Ariguani, Magd**	**3.84**	**239**	*e*S	**Sn**	**15 53 38.0**	**-3.0**
BAUV	**El Baul**	**4.02**	**136**	*e*P	**Pn**	**15 52 58.9**	**+0.7**
BAUV				*e*S	**Sn**	**15 53 43.3**	**-2.1**
TACV	**Tcata**	**4.16**	**114**	*e*P	**Pn**	**15 53 00.5**	**+0.3**
TACV				*e*S	**Sn**	**15 53 45.7**	**-3.1**
SJCC	**San Jacinto, C**	**4.63**	**246**	*e*P	**Pn**	**15 53 06.7**	**0.0**
SJCC				*e*S	**Sn**	**15 53 56.9**	**-3.7**
SJCC				*i*		15 54 02.6	
	comp=Z,7.0nm,0.4s						

*IDC **03** 16:02:46.6±1.2, 13°.71N×147°.08E, h0km, mb3.9/10, mbtmp3.9/11, ML4.0/1, MS3.0/2, Error ellipse: s-maj=28.6km s-min=19.6km az=95.0*
*NEIC **03** 16:02:47.9±1.3, 13°.60N±0°.09×147°.08E±0°.09, h10km±1km, mb4.5/10, Error ellipse: s-maj=15.2km s-min=15.0km az=21.0*

ISC 03 16:02:50.6±0.7, 13°.6N±0°.1×147°.16E±0°.09, h35km, n26, σ1°.17/25, mb4.2/16, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.22**	**270**	Pn	**Pn**	**16 03 23.3**	**-1.6**
GUMO	**Guam**	**2.22**	**270**	Pn	**Pn**	**16 03 24.0**	**-0.9**
	45nm,0.3s,baz=81,slow=4.3,SNR=26						
GUMO				Sn	**Sn**	**16 03 50.4**	**-0.9**
	91nm,0.3s,baz=189,slow=21,SNR=4.0						
	106nm,0.3s						
PATS	**Pohnpei**	**12.86**	**120**	Pn	**Pn**	**16 05 48.2**	**-2.8**
RABL	**Rabaul**	**18.35**	**164**	P	**Pn**	**16 07 03.5**	**+1.1**
JNU	**Nakatsue**	**24.46**	**325**	LR	LR	16 16 28.3	
	comp=Z,19nm,18.7s,baz=96,slow=34						
KSRS	**Korea Array**	**29.31**	**328**	P	**P**	**16 08 48.4**	**-1.4**
	1.5nm,0.8s,baz=145,slow=9.6,SNR=4.8						
	1.5nm,0.8s						
WB0	**Warramunga Arr**	**35.45**	**201**	P	**P**	**16 09 44.0**	**+0.2**
WB0				IAmb	IAmb	16 09 59.5	
	comp=Z,8.5nm,1.4s						
WR0	**Warramunga Arr**	**35.58**	**201**	P	**P**	**16 09 44.9**	**+0.1**
WR0				IAmb	IAmb	16 09 47.2	
	comp=Z,6.9nm,1.4s						
WRAB	**Tennant Creek**	**35.62**	**201**	P	**P**	**16 09 44.5**	**-0.7**
WRAB				IAmb	IAmb	16 09 48.1	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**35.63**	**201**	P	**P**	**16 09 46.7**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=28,slow=9.6,SNR=11						
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**39.23**	**199**	P	**P**	**16 10 17.4**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=24,slow=6.6,SNR=6.7						
	comp=Z,0.3nm,0.8s						
ONTNC	**Ouen Toro**	**40.38**	**152**	P	**P**	**16 10 25.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**46.49**	**283**	P	**P**	**16 11 16.1**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=84,slow=5.9,SNR=8.4						
	comp=Z,0.8nm,0.5s						
BBOO	**Buckleboo**	**47.34**	**193**	P	**P**	**16 11 21.8**	**+0.7**
SONM	**Songino Array**	**48.03**	**324**	P	**P**	**16 11 26.1**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=132,slow=7.1,SNR=5.6						
	comp=Z,1.1nm,0.7s						
AFI	**Afiamalu**	**49.00**	**122**	LR	LR	16 29 35.9	
	comp=Z,27nm,18.8s,baz=161,slow=33						
ZALV	**Zalesovo Beam**	**62.92**	**324**	P	**P**	**16 13 13.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=102,slow=9.5,SNR=2.1						
	comp=Z,0.6nm,0.5s						
MK31	**Makanchi Array**	**63.04**	**316**	P	**P**	**16 13 14.2**	**-0.1**
MKAR	**Makanchi Array**	**63.04**	**316**	P	**P**	**16 13 14.4**	**+0.1**
MKAR	**Makanchi Array**	**63.04**	**316**	P	**P**	**16 13 15.2**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=90,slow=9.2,SNR=14						
	comp=Z,0.8nm,0.5s						
MAKZ	**Makanchi**	**63.25**	**316**	P	**P**	**16 13 16.5**	**+0.8**
MAKZ				IAmb	IAmb	16 13 22.8	
	comp=Z,6.5nm,1.4s						
I21K	**Tanana**	**65.70**	**24**	P	**P**	**16 13 33.2**	**+1.9**
I21K				IAmb	IAmb	16 14 08.4	
	comp=Z,4.1nm,0.6s						
KURK	**Kurchatov**	**66.02**	**320**	P	**P**	**16 13 33.4**	**-0.3**
KURK				IAmb	IAmb	16 13 34.8	
	comp=Z,4.7nm,0.8s						
KURBB	**Kurchatov Arra**	**66.06**	**320**	P	**P**	**16 13 34.5**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=98,slow=6.7,SNR=45						
	comp=Z,4.2nm,0.8s						
ILAR	**Eielson Array**	**67.62**	**25**	P	**P**	**16 13 44.8**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=254,slow=5.7,SNR=2.2						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**71.31**	**322**	P	**P**	**16 14 07.2**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=109,slow=6.7,SNR=6.5						
	comp=Z,1.4nm,0.6s						

ISC 03 16:10:12.9±1.1, 27°.01N±0°.03×111°.35W±0°.05, h10km, n9, σ0°.72/12, 3C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNIRB	**San Nicol¡s**	**0.50**	**201**	⇓*e*P	**Pg**	**16 10 22.9**	**+0.3**
SNIRB				*e*S	**Sg**	**16 10 29.1**	**0.0**
SNIRB				IAML		16 10 32.5	
	comp=N,2μm,0.2s						
SNIRB				⇓*e*		16 10 40.1	
SNIRB				IAML		16 10 40.1	
	comp=E,3μm,0.5s						
SRIG	**Santa Rosalia**	**0.85**	**292**	*e*P	**Pg**	**16 10 29.0**	**-0.3**
SRIG				*e*S	**Sg**	**16 10 40.7**	**+0.3**
SRIG				⇑*e*		16 10 45.4	
SRIG				IAML		16 10 45.4	
	comp=E,392nm,0.6s						
SRIG				⇑*e*		16 10 45.6	
SRIG				IAML		16 10 45.6	
	comp=N,616nm,1.0s						
GUYB	**Guaymas**	**0.98**	**26**	*e*P	**Pg**	**16 10 32.0**	**+0.1**
GUYB				*e*S	**Sg**	**16 10 44.4**	**-0.4**
GUYB				⇓*e*		16 10 53.8	
GUYB				IAML		16 10 53.8	
	comp=E,168nm,0.8s						
NE77	**Loreto B.C.S**	**0.99**	**180**	*e*P	**Pg**	**16 10 31.1**	**-0.9**
CDOB	**Cd. Obregon**	**1.16**	**69**	*e*P	**Pn**	**16 10 36.2**	**+1.0**
NE80	**Navojoa**	**1.90**	**92**	*e*P	**Pn**	**16 10 44.4**	**-1.0**
NE80				IAML		16 11 26.5	
	comp=N,60nm,0.7s						
NE80				⇑*e*		16 11 26.5	
BKIRB	**Bahia Kino**	**1.93**	**343**	*e*P	**Pn**	**16 10 46.2**	**+0.4**
SFQB	**San Francisqui**	**1.93**	**317**	*e*P	**Pn**	**16 10 45.3**	**-0.5**
SLBS	**Sierra La Lagu**	**3.54**	**159**	*e*P	**Pn**	**16 11 09.2**	**+1.0**

IDC 03 16:18:16.4±3.3, 33°.57S×178°.68W, h0km, mb3.5/2, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=75.4km s-min=37.3km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.79**	**215**	Pn	Pn	16 19 43.8	+0.3
	2.1nm,0.3s,baz=340,slow=3.7,SNR=22						
URZ				Sn	Sn	16 20 49.7	-1.0
	1.2nm,0.3s,baz=292,slow=9.1,SNR=2.1						
	4.2nm,0.3s						
ASAR	**Alice Springs**	**42.47**	**271**	P	P	16 26 13.4	+0.1
	0.5nm,0.8s,baz=108,slow=7.4,SNR=5.6						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**43.74**	**276**	P	P	16 26 23.6	-0.1
	0.3nm,0.3s,baz=116,slow=8.3,SNR=12						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**147.89**	**338**	PKPbc	PKPbc	16 38 01.6	-1.0
	4.7nm,0.9s,baz=72,slow=4.5,SNR=3.4						

WEL 03 16:26:24.6±1.6, 34°S±10°×178°E±1°8, h33km, M4.0/13, ML4.0/9, MLv4.0/13, Error ellipse: s-maj=0.0km s-min=0.0km az=97.0, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.65**	**196**	P	Pn	16 27 19.3	+0.6
WMGZ	**Waiomatatini S**	**3.87**	**193**	P	Pn	16 27 22.7	+0.9
HAZ	**Te Kaha**	**3.97**	**201**	P	Pn	16 27 24.4	+1.3
HAZ				S	Sn	16 28 10.0	+1.6
PKGZ	**Pakihiroa**	**4.01**	**197**	P	Pn	16 27 23.9	+0.1
PUZ	**Puketiti**	**4.15**	**194**	P	Pn	16 27 25.1	-0.5
PUZ				S	Sn	16 28 14.5	+1.5
RUGZ	**Raukumara Rang**	**4.19**	**201**	P	Pn	16 27 26.4	+0.1
CNGZ	**Carnagh Statio**	**4.56**	**193**	P	Pn	16 27 30.6	-0.6
MWZ	**Matawai**	**4.58**	**200**	P	Pn	16 27 30.6	-1.0
TKGZ	**Te Karaka**	**4.59**	**197**	P	Pn	16 27 30.3	-1.4
URZ	**Urewera**	**4.64**	**204**	P	Pn	16 27 32.4	0.0
URZ				S	Sn	16 28 24.4	-0.6
WCZ	**Waipu Caves**	**4.66**	**245**	P	Pn	16 27 33.1	+0.4
RAGZ	**Rawiri**	**4.76**	**200**	P	Pn	16 27 31.8	-2.3
RIGZ	**Rimuhau**	**4.87**	**197**	P	Pn	16 27 34.1	-1.4
MUGZ	**Murupara**	**4.96**	**206**	P	Pn	16 27 36.8	+0.1
RTZ	**Ruatahuna**	**5.00**	**204**	P	Pn	16 27 35.2	-2.2
SNGZ	**Shannon Statio**	**5.05**	**200**	P	Pn	16 27 36.1	-1.8
RAHZ	**Arahi**	**5.25**	**201**	P	Pn	16 27 39.9	-0.8
MHGZ	**Mahia Peninsul**	**5.26**	**194**	P	Pn	16 27 40.1	-0.8
MTHZ	**Maungataniwha**	**5.27**	**204**	P	Pn	16 27 40.0	-1.0
MRHZ	**Matea Rd**	**5.40**	**207**	P	Pn	16 27 41.6	-1.2
ARHZ	**Aropaoanui**	**5.59**	**201**	P	Pn	16 27 43.7	-1.7
BKZ	**Black Stump Fm**	**5.67**	**205**	P	Pn	16 27 44.1	-2.4
HIZ	**Hauiti**	**5.84**	**219**	P	Pn	16 27 50.6	+1.8
BHHZ	**Black Hill Sta**	**6.11**	**206**	P	Pn	16 27 49.9	-2.6
KRHZ	**Kereru**	**6.14**	**204**	P	Pn	16 27 50.0	-2.9
MTVZ	**Mangateitei**	**6.25**	**210**	P	Pn	16 27 56.6	+2.1
PXZ	**Pawanui**	**6.34**	**199**	P	Pn	16 27 51.9	-3.9
PNHZ	**Pukenui**	**6.44**	**204**	P	Pn	16 27 53.2	-3.9
PRHZ	**Porangahau**	**6.63**	**200**	P	Pn	16 27 56.5	-3.2
TSZ	**Takapari Road**	**6.65**	**204**	P	Pn	16 27 55.9	-4.

comp=E,26nm,0.5s
PKIN Phulchoki 15.25 111 *e*P **Pn 16 32 32.6 -2.8**
comp=E,30nm,0.4s
PKI Pulchoki 15.27 111 *e*P **Pn 16 32 32.4 -3.2**
comp=E,34nm,0.6s
GUN Gumba 15.47 109 *e*P **Pn 16 32 35.9 -2.5**
comp=E,36nm,0.4s
JIRN Jiri 15.83 109 *e*P **Pn 16 32 40.7 -2.4**
comp=E,36nm,0.5s
MAKZ Makanchi 15.97 33 P **P 16 32 48.3 +0.4**
MAKZ IAmb IAmb 16 32 55.2
comp=Z,2.9nm,0.8s
MK31 Makanchi Array 16.10 34 ⇓P **P 16 32 49.3 -0.1**
comp=Z,0.9nm,0.5s,baz=222,slow=8.8,SNR=17
MK31 Makanchi Array 16.10 34 Pn **Pn 16 32 46.9 +0.8**
MKAR Makanchi Array 16.10 34 Pn **Pn 16 32 46.3 +0.2**
MKAR Makanchi Array 16.10 34 Pn **Pn 16 32 45.0 -1.1**
baz=238,slow=8.3,SNR=3.7
comp=Z,0.7nm,0.8s
RAMN Ramite 16.49 111 *e*P **Pn 16 32 48.0 -3.4**
comp=Z,28nm,0.7s
AB31 Akbulak array 16.71 338 P **Pn 16 32 55.2 +1.4**
comp=Z,0.5nm,0.5s,baz=157,slow=13,SNR=15
ABKAR Akbulak array 16.71 338 Pn **Pn 16 32 53.2 -0.6**
TAPN Taplejung 17.17 108 *e*P **Pn 16 32 58.2 -1.9**
comp=Z,22nm,0.8s
KURBB Kurchatov Arra 17.90 19 ⇑P **P 16 33 10.1 +0.8**
comp=Z,2.3nm,0.6s
KURBB Kurchatov Arra 17.90 19 P **Pn 16 33 08.6 0.0**
comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=11
comp=Z,0.9nm,0.8s
AKTO Aktyubinsk 18.35 337 P **Pn 16 33 16.6 +2.4**
comp=Z,0.2nm,0.3s,baz=164,slow=2.7,SNR=2.5
comp=Z,0.6nm,0.3s
HYB Hyderabad 18.52 151 *e*P P 16 33 03.9 -12
BVA0 Borovoye Array 19.00 2 ⇑P **P 16 33 22.0 +0.7**
comp=Z,1.0nm,0.5s,baz=162,slow=9.8,SNR=10.0
BVAR Borovoye Array 19.00 2 P **P 16 33 21.9 +0.6**
comp=Z,0.1nm,0.3s,baz=166,slow=8.2,SNR=7.3
comp=Z,0.6nm,0.4s
SHL Shillong 21.31 107 P **P 16 33 48.3 +1.4**
SHL IAmb IAmb 16 33 49.3
comp=Z,8.9nm,0.4s
ZAA0 Zalesovo Array 22.73 24 P **P 16 34 01.3 -0.3**
ZAA0 IAmb IAmb 16 34 07.2
comp=Z,3.6nm,0.8s
ZALV Zalesovo Beam 22.73 24 P **P 16 34 01.4 -0.2**
ZALV Zalesovo Beam 22.73 24 P **P 16 33 59.6 -2.0**
comp=Z,0.9nm,0.3s,baz=218,slow=10,SNR=6.9
comp=Z,0.9nm,0.3s
CMAR Chiang Mai Arr 30.64 113 P **P 16 35 14.8 +0.4**
comp=Z,0.5nm,0.7s,baz=298,slow=9.5,SNR=7.1
comp=Z,0.5nm,0.7s
KARP Karpathos 34.45 285 P **P 16 35 47.5 0.0**
PETK Petropavlovsk- 62.71 43 P **P 16 39 24.9 +0.3**
WB0 Warramunga Arr 81.84 120 P **P 16 41 19.5 +0.2**
WB0 IAmb IAmb 16 42 00.9
comp=Z,10nm,1.5s
WRA Warramunga Arr 81.91 121 P **P 16 41 19.6 -0.1**
comp=Z,0.6nm,0.8s,baz=317,slow=6.0,SNR=9.8
comp=Z,0.6nm,0.8s
WRAB Tennant Creek 81.91 121 P **P 16 41 20.3 +0.7**
WRAB IAmb IAmb 16 41 49.8
comp=Z,13nm,0.5s
WB2 Warramunga Arr 81.92 121 P **P 16 41 19.7 0.0**
WB2 IAmb IAmb 16 41 38.7
comp=Z,6.8nm,1.3s
BERG Berg Lake 82.08 16 P **P 16 41 18.7 -1.3**
AS31 Alice Springs 84.03 124 P **P 16 41 31.1 +0.5**
AS31 IAmb IAmb 16 42 03.3
comp=Z,1.8nm,1.5s
ASAR Alice Springs 84.03 124 P **P 16 41 30.1 -0.5**
ASAR Alice Springs 84.03 124 P **P 16 41 31.2 +0.6**
comp=Z,0.6nm,0.5s,baz=312,slow=5.0,SNR=20
comp=Z,0.6nm,0.5s

---

*IDC **03** 17:03:07.5±0.6,2°.40S×140°.17E,h0km,mb4.2/9,*
mbtmp4.4/12,ML2.0/1,MS3.2/13,Error ellipse:
s-maj=18.8km s-min=7.3km az=17.0
*NEIC **03** 17:03:09.1±1.5,2°.52S±0°.05×140°.17E±0°.05,h10km±1km,*
mb4.7/56,Error ellipse: s-maj=7.9km s-min=7.8km
az=33.0
*DJA **03** 17:03:09.5±0.5,2°.S±5°.×14°.0E±°,h16km±4km,M4.7/19,*
mB5.3/2,mb4.7/19,MLv4.7/5,Mw(mB)4.8/2
ISC 03 17:03:11.2±0.7,2°.63S±0°.05×140°.24E±0°.05,h25km±4km,
n121,σ1$49/115,mb4.6/38,MS3.2/9,1C,Near north coast
of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.08**	**298**	P	**Pb**	**17 03 15.9**	**+0.3**
GENI	**Genyem**	**0.08**	**298**	P	**Pb**	**17 03 15.9**	**+0.3**
JAY	**Jayapura**	**0.48**	**76**	P	**Pb**	**17 03 18.9**	**-2.2**
JAY	**Jayapura**	**0.48**	**76**	Pg	**Pb**	**17 03 18.6**	**-2.5**
	3μm,0.3s,baz=244,slow=10						
JAY				Lg	Lg	17 03 25.2	
	8μm,0.3s,baz=126,slow=17,SNR=48						
SMPI	**Sarmi**	**1.65**	**293**	P	**Pn**	**17 03 37.7**	**-0.9**
RKPI	**Ransiki, Papua**	**6.16**	**280**	P	**Pn**	**17 04 39.9**	**-0.7**
	63nm,0.6s,2μm0.5nm						
KMPI	**Kaimana, Papua**	**6.60**	**261**	P	**Pn**	**17 04 46.9**	**+0.2**
	185nm,0.8s,0.6nm						
FAKI	**Fak Fak**	**7.98**	**268**		**Pn**	**17 05 03.5**	**-2.3**
FAKI	**Fak Fak**	**7.98**	**268**	P	**Pn**	**17 05 05.6**	**-0.1**
	31nm,0.9s						
SIJI	**Sorong**	**9.13**	**281**	LR	LR	17 09 08.7	
	comp=Z,105nm,18.9s,baz=96,slow=40						
PMG	**Port Moresby**	**9.63**	**135**	Pn	**Pn**	**17 05 29.1**	**+0.8**
PMG	**Port Moresby**	**9.63**	**135**	Pn	**Pn**	**17 05 31.2**	**+3.0**
	0.7nm,0.3s,baz=301,slow=5.6,SNR=3.6						
PMG				LR	LR	17 10 13.5	
	comp=Z,271nm,20.8s,baz=319,slow=43						
	17nm,1.0s						
COEN	**Coen**	**11.63**	**166**	Pn	**Pn**	**17 05 57.0**	**+1.3**
KDU	**Kakadu**	**12.61**	**217**	P	**Pn**	**17 06 09.3**	**+0.2**
LBMI	**Labuha**	**12.88**	**279**	P	**Pn**	**17 06 12.4**	**-0.5**
	46nm,1.1s						
MTN	**Manton Dam**	**13.57**	**221**	Pn	**Pn**	**17 06 20.8**	**-1.4**
MTN	**Manton Dam**	**13.57**	**221**	P	**Pn**	**17 06 22.6**	**+0.3**
SANI	**Sanana**	**14.25**	**272**	P	**Pn**	**17 06 31.8**	**+0.3**
	23nm,1.1s						
MTSU	**Mount Surprise**	**15.92**	**166**	P	**P**	**17 06 58.3**	**+1.1**
GUMO	**Guam**	**16.75**	**16**	LR	LR	17 12 11.4	
	comp=Z,61nm,21.4s,baz=201,slow=33						
KNRA	**Kununurra**	**17.20**	**220**		**Pn**	**17 07 09.2**	**-0.7**
KNRA				IAmb	IAmb	17 07 14.8	
	comp=Z,36nm,0.9s						
KNRA	**Kununurra**	**17.20**	**220**	P	**Pn**	**17 07 10.4**	**+0.5**
SOEI	**Soe**	**17.37**	**245**	P	**Pn**	**17 07 10.6**	**-1.7**
SOEI				IAmb	IAmb	17 07 26.3	
	comp=Z,72nm,1.0s						
SOEI	**Soe**	**17.37**	**245**	P	**P**	**17 07 14.1**	**+0.7**
	comp=Z,70nm,1.2s						
DAV	**Davao City (W)**	**17.52**	**303**	P	**Pn**	**17 07 12.0**	**-1.9**
GTOI	**Gorontalo**	**17.52**	**280**	P	**P**	**17 07 15.6**	**+0.6**
	comp=Z,12nm,0.7s						
LUWI	**Luwuk**	**17.52**	**275**	P	**Pn**	**17 07 13.8**	**-0.2**
	comp=Z,26nm,1.0s,comp=Z,2μm						
QIS	**Mount Isa**	**17.83**	**182**	P	**P**	**17 07 18.8**	**+0.4**
WB0	**Warramunga Arr**	**17.96**	**198**		**Pn**	**17 07 19.2**	**-0.3**
BATI	**Baumata**	**18.10**	**245**	P	**P**	**17 07 21.8**	**+0.5**
	comp=Z,78nm,0.7s						
BATI	**Baumata**	**18.10**	**245**	P	**P**	**17 07 22.7**	**+1.4**
	comp=Z,45nm,0.6s,baz=167,slow=1.4,SNR=14						
WR0	**Warramunga Arr**	**18.10**	**197**	P	**Pn**	**17 07 20.7**	**-0.4**
WRAB	**Tennant Creek**	**18.14**	**198**	P	**P**	**17 07 22.1**	**+0.4**
WRAB				IAmb	IAmb	17 07 27.9	
	comp=Z,30nm,0.7s						
WRAB	**Tennant Creek**	**18.14**	**198**	P	**P**	**17 07 23.4**	**+1.7**
WB2	**Warramunga Arr**	**18.14**	**198**	P	**Pn**	**17 07 20.2**	**-1.5**
WB2				IAmb	IAmb	17 07 28.1	
	comp=Z,30nm,0.7s						
WRA	**Warramunga Arr**	**18.15**	**198**		**Pn**	**17 07 20.2**	**-1.5**
WRA	**Warramunga Arr**	**18.15**	**198**	P	**P**	**17 07 22.7**	**+0.9**
	comp=Z,21nm,0.8s,baz=22,slow=12,SNR=126						
WRA				S	**Sn**	**17 10 36.5**	**-7.1**
	comp=Z,3.8nm,1.0s,baz=16,slow=21,SNR=5.3						
CTA	**Charters Tower**	**18.32**	**162**	LR	LR	17 15 02.8	
	comp=Z,138nm,19.5s,baz=26,slow=38						
CTAO	**Charters Tower**	**18.32**	**162**	P	**Pn**	**17 07 23.8**	**0.0**
MMRI	**Maumere**	**18.87**	**251**	P	**P**	**17 07 26.3**	**-3.6**
TOLI2	**Tolitoli**	**19.80**	**281**	P	**P**	**17 07 37.8**	**-2.2**
AS31	**Alice Springs**	**21.79**	**196**	P	**P**	**17 08 01.3**	**-0.2**
ASAR	**Alice Springs**	**21.79**	**196**	P	**P**	**17 08 01.8**	**+0.3**
ASAR	**Alice Springs**	**21.79**	**196**	P	**P**	**17 08 02.9**	**+1.4**
	comp=Z,10nm,0.5s,baz=24,slow=12,SNR=213						
ASAR				LR	LR	17 17 11.6	
	comp=Z,99nm,20.2s,baz=13,slow=38						
	comp=Z,10nm,0.5s						
QLP	**Quilpie**	**24.12**	**171**	P	**P**	**17 08 29.2**	**+4.0**
	comp=Z,23nm,1.5s						
EIDS	**Eidsvold**	**24.91**	**156**	P	**P**	**17 08 33.5**	**+1.2**
EIDS				IAmb	IAmb	17 08 42.4	
	comp=Z,12nm,0.8s						
WRKA	**Warakurna**	**25.08**	**206**	P	**P**	**17 08 34.8**	**+0.8**
KKM	**Kota Kinabalu**	**25.49**	**290**	P	**P**	**17 08 36.5**	**-1.4**
MBWA	**Marble Bar**	**27.16**	**226**	P	**P**	**17 08 52.1**	**-0.7**
MBWA				IAmb	IAmb	17 09 17.6	
	comp=Z,12nm,1.1s						
PSA00	**Pilbara Seismi**	**27.35**	**225**	P	**P**	**17 08 53.7**	**-0.8**
PSA00	**Pilbara Seismi**	**27.35**	**225**	P	**P**	**17 08 54.6**	**+0.1**
PSA00				IAmb	IAmb	17 09 12.5	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**29.12**	**178**	P	**P**	**17 09 09.9**	**-0.3**
STKA	**Stephens Creek**	**29.12**	**178**	P	**P**	**17 09 10.7**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=348,slow=10,SNR=4.9						
	comp=Z,1.5nm,0.5s						
KOUNC	**Koumac, New Ca**	**29.45**	**129**	P	**P**	**17 09 13.6**	**+0.4**
FORT	**Forrest**	**30.27**	**201**	P	**P**	**17 09 20.6**	**+0.1**
BBOO	**Buckleboo**	**30.28**	**187**	P	**P**	**17 09 20.3**	**-0.2**
BBOO				IAmb	IAmb	17 10 04.0	
	comp=Z,25nm,1.5s						
JOW	**Kunigami**	**31.48**	**339**	LR	LR	17 22 18.1	
	comp=Z,36nm,18.3s,baz=54,slow=37						
JHJ	**Hachijo jima 2**	**35.56**	**359**	LR	LR	17 21 33.3	
	comp=Z,34nm,18.9s,baz=240,slow=31						
JNU	**Nakatsue**	**36.64**	**347**	P	**P**	**17 10 15.1**	**-0.8**
JNU	**Nakatsue**	**36.64**	**347**	LR	LR	17 23 28.7	
	comp=Z,33nm,19.6s,baz=134,slow=34						
NJ2	**Nanjing**	**40.02**	**331**	*e*P	**P**	**17 10 45.2**	**+1.0**
NJ2				pP	**pP**	**17 10 52.4**	**+0.6**
NJ2				sP	**sP**	**17 10 54.4**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,220nm,3.5s						
TAU	**Tasmania Unive**	**40.60**	**172**	P	**P**	**17 10 51.7**	**+2.8**
KSRS	**Korea Array**	**41.49**	**345**	LR	LR	17 26 12.1	
	comp=Z,24nm,21.2s,baz=150,slow=34						
RPSI	**Rantau Prapat**	**41.63**	**277**	P	**P**	**17 10 55.7**	**-2.2**
RPSI				IAmb	IAmb	17 10 58.2	
	comp=Z,11nm,0.9s						
GSI	**Gunungsitoli**	**42.83**	**275**	P	**P**	**17 11 05.2**	**-2.5**
GSI				IAmb	IAmb	17 11 08.5	
	comp=Z,12nm,0.6s						
CM31	**Chiang Mai Arr**	**45.73**	**299**	P	**P**	**17 11 30.7**	**-0.1**
CM31				IAmb	IAmb	17 11 31.8	
	comp=Z,5.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**45.73**	**299**	P	**P**	**17 11 28.7**	**-2.0**
CMAR	**Chiang Mai Arr**	**45.73**	**299**	P	**P**	**17 11 30.2**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=120,slow=6.3,SNR=19						
	comp=Z,2.0nm,0.8s						
CHTO	**Chiang Mai**	**45.86**	**299**	P	**P**	**17 11 30.2**	**-1.6**
PZH	**PanZhiHua**	**47.12**	**310**	P	**P**	**17 11 43.3**	**+1.5**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
MDJ	**Mudanjiang**	**47.99**	**350**	⇑P	P	17 11 56.2	+8.2
MDJ				pP	PcP	17 13 11.0	-4.9
MDJ				S	**S**	**17 18 49.3**	**+4.8**
MDJ				sS	pS	17 18 54.5	+1.0
CD2	**Chengdu**	**48.16**	**317**	P	**P**	**17 11 49.1**	**-0.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
RTZ	**Ruatahuna**	**49.05**	**142**	P	**P**	**17 11 57.0**	**+0.5**
RTZ				IAmb	IAmb	17 12 37.1	
	comp=Z,11nm,1.3s						
TUWZ	**Tuamarina**	**49.09**	**146**	P	**P**	**17 11 57.4**	**+0.8**
BKZ	**Black Stump Fm**	**49.09**	**143**	P	**P**	**17 11 56.8**	**+0.1**
BKZ				IAmb	IAmb	17 12 15.8	
	comp=Z,12nm,1.2s						
LBZ	**Lake Benmore**	**49.28**	**152**	P	**P**	**17 11 59.7**	**+1.7**
KHZ	**Kahutara**	**49.54**	**148**	P	**P**	**17 12 00.4**	**+0.4**
HHC	**Hu-ho-hao-te**	**50.56**	**332**	*e*P	**P**	**17 12 11.1**	**+3.2**
HHC				pmax	pmax		
	comp=Z,24nm,0.6s						
HHC				pmax	pmax		
	comp=Z,210nm,4.9s						
GTA	**Gaotai**	**55.92**	**323**	*e*P	**P**	**17 12 47.5**	**+0.1**
GTA				pP	pP	17 12 54.7	-0.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**58.31**	**334**	LR	LR	17 38 53.4	
	comp=Z,22nm,19.1s,baz=60,slow=37						
WMQ	**Urumqi**	**65.90**	**321**	*e*P	**P**	**17 13 56.6**	**+1.5**
CASY	**Casey**	**66.88**	**193**	P	**P**	**17 14 02.6**	**+1.8**
CASY				IAmb	IAmb	17 14 44.8	
	comp=Z,7.4nm,1.2s						
MK31	**Makanchi Array**	**70.66**	**322**	P	**P**	**17 14 23.8**	**-1.0**
MK31				IAmb	IAmb	17 14 30.7	
	comp=Z,4.7nm,1.0s						
MKAR	**Makanchi Array**	**70.66**	**322**	P	**P**	**17 14 24.0**	**-0.9**
MKAR	**Makanchi Array**	**70.66**	**322**	P	**P**	**17 14 24.5**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=105,slow=8.6,SNR=15						
	comp=Z,2.4nm,0.7s						
MAKZ	**Makanchi**	**70.86**	**322**	P	**P**	**17 14 25.2**	**-0.9**
MAKZ				IAmb	IAmb	17 14 31.8	
	comp=Z,5.1nm,0.8s						
KSH	**Kashi**	**72.14**	**313**	P	**P**	**17 14 35.7**	**+1.6**
KSH				pP	pP	17 14 41.0	-1.1
KSH				sP	sP	17 14 46.5	+1.4
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ZALV	**Zalesovo Beam**	**72.64**	**329**	P	**P**	**17 14 34.9**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=104,slow=6.3,SNR=5.6						
	comp=Z,1.1nm,0.5s						
BOOM	**Boomskoye usch**	**73.15**	**316**	P	**P**	**17 14 39.6**	**-0.5**
KURBB	**Kurchatov Arra**	**74.54**	**324**	P	**P**	**17 14 46.1**	**-1.8**
	comp=Z,2.0nm,1.0s,baz=112,slow=5.7,SNR=11						
	comp=Z,2.0nm,1.0s						
KK31	**Karatay Array**	**77.14**	**315**	P	**P**	**17 15 02.5**	**-0.4**
KKAR	**Karatay Array**	**77.14**	**315**	P	**P**	**17 15 01.4**	**-1.5**
KKAR	**Karatay Array**	**77.14**	**315**	P	**P**	**17 15 02.6**	**-0.3**
KKAR				IAmb	IAmb	17 15 09.4	
	comp=Z,4.7nm,1.5s						
BVAR	**Borovoye Array**	**80.12**	**325**	P	**P**	**17 15 18.1**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=112,slow=7.3,SNR=11						
BVAR				LR	LR	17 53 12.6	
	comp=Z,18nm,18.0s,baz=308,slow=38						
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**80.19**	**325**	P	**P**	**17 15 18.5**	**-0.9**
BRVK				IAmb	IAmb	17 15 25.3	
	comp=Z,8.2nm,1.4s						
L19K	**White Mountain**	**80.88**	**25**	P	**P**	**17 15 23.1**	**+0.1**
L19K				IAmb	IAmb	17 15 24.0	
	comp=Z,8.2nm,1.2s						
M19K	**Big River Lodg**	**80.97**	**26**	P	**P**	**17 15 23.6**	**+0.1**
M19K				IAmb	IAmb	17 15 50.1	
	comp=Z,12nm,1.5s						
K20K	**Telida**	**81.68**	**25**	P	**P**	**17 15 27.2**	**+0.1**
J20K	**Nowinta River**	**81.97**	**24**	P	**P**	**17 15 28.4**	**-0.2**
CAST	**Castle Rocks**	**82.53**	**25**	P	**P**	**17 15 31.2**	**-0.5**
CAST				IAmb	IAmb	17 15 48.0	
	comp=Z,7.3nm,1.4s						
IMAR	**Indian Mountai**	**82.84**	**22**	P	**P**	**17 15 33.4**	**+0.2**
SML	**Sawmill**	**83.63**	**27**	P	**P**	**17 15 37.1**	**-0.3**
MLY	**Manley**	**83.65**	**24**	P	**P**	**17 15 37.8**	**+0.3**
MLY				IAmb	IAmb	17 15 54.9	
	comp=Z,4.1nm,1.5s						
RND	**Reindeer**	**83.89**	**25**	P	**P**	**17 15 38.8**	**0.0**
RND				IAmb	IAmb	17 15 39.1	
	comp=Z,7.4nm,1.2s						
I23K	**Minto, Yukon-K**	**84.24**	**24**	P	**P**	**17 15 40.9**	**+0.5**
I23K				IAmb	IAmb	17 15 47.2	
	comp=Z,8.0nm,1.4s						
H23K	**Yukon River**	**84.39**	**23**	P	**P**	**17 15 42.0**	**+0.8**
H23K				IAmb	IAmb	17 16 13.2	
	comp=Z,5.2nm,1.2s						
DHY	**Denali Highway**	**84.43**	**26**	P	**P**	**17 15 41.2**	**-0.4**
DHY				IAmb	IAmb	17 15 56.0	
	comp=Z,5.5nm,1.2s						
H24K	**Noodor Dome**	**85.05**	**23**	P	**P**	**17 15 44.8**	**+0.3**
H24K				IAmb	IAmb	17 16 07.1	
	comp=Z,5.8nm,1.2s						
ILAR	**Eielson Array**	**85.13**	**24**	P	**P**	**17 15 44.3**	**-0.6**
ILAR	**Eielson Array**	**85.13**	**24**	P	**P**	**17 15 42.8**	**-2.1**
	comp=Z,1.3nm,0.9s,baz=259,slow=4.4,SNR=7.9						
ILAR				LR	LR	17 48 02.9	
	comp=Z,11nm,21.1s,baz=47,slow=32						
	comp=Z,1.3nm,0.9s						
GEYT	**Alibeck**	**85.39**	**308**	P	**P**	**17 15 45.2**	**-1.6**
GEYT				IAmb	IAmb	17 15 48.0	
	comp=Z,6.4nm,1.0s						
GEYT	**Alibeck**	**85.39**	**308**	P	**P**	**17 15 46.5**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=172,slow=1.0,SNR=6.1						
	comp=Z,2.5nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**85.39**	**308**	P	**P**	**17 15 44.9**	**-1.9**
ABKAR	**Akbulak array**	**85.64**	**320**	P	**P**	**17 15 46.7**	**-1.1**
M27K	**Edge Creek, AK**	**86.70**	**27**	P	**P**	**17 15 52.8**	**-0.1**
BMAR	**Burnt Mountain**	**86.76**	**22**	P	**P**	**17 15 53.5**	**+0.5**
BCAR	**Beaver Creek A**	**86.89**	**26**	P	**P**	**17 15 54.0**	**+0.3**
QSPA	**South Pole Qui**	**87.32**	**180**	P	**P**	**17 15 55.3**	**-0.5**
INK	**Inuvik**	**91.03**	**22**	LR	LR	17 50 51.7	
	comp=Z,14nm,21.5s,baz=182,slow=32						
LPAZ	**La Paz**	**146.25**	**125**	PKPbc	**PKPab**	**17 22 52.6**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=274,slow=5.0,SNR=6.9						
CPUP	**Villa Florida**	**146.57**	**151**	PKPbc	**PKPab**	**17 22 52.3**	**0.0**
	comp=Z,2.9nm,0.8s,baz=186,slow=4.0,SNR=4.9						

---

*THE **03** 17:03:28.2,38°.91N×21°.12E,h11km±1km,ML1.9/7,Error*
ellipse: s-maj=1.6km s-min=0.3km az=192.0
ATH 03 17:03:27.9,38°.91N×21°.12E,h17km±2km,ML2.0/12,
Manual Solution by G.Panopoulou First location:
2019/06/06 16:57:05, This location: 2019/06/06 16:55:39
ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude
uncertainty: 1 km; Longitude uncertainty: 1 km,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARTB	**Arta**	**0.27**	**336**	P	Pg	17 03 32.8	-1.0
ARTB				S	Sg	17 03 37.8	0.0
TSLK	**Tsoukalades, L**	**0.37**	**256**	P	Pg	17 03 35.7	+0.1
TSLK	**Tsoukalades, L**	**0.37**	**256**	P	Pb	17 03 36.0	0.0
TSLK				S	Sb	17 03 41.4	-0.1
NYDR	**Nydri-Lefkada**	**0.38**	**239**	P	Pg	17 03 35.9	+0.1
NYDR				S	Sb	17 03 41.5	-0.4
NYDR	**Nydri-Lefkada**	**0.38**	**239**	P	Pg	17 03 35.8	0.0
NYDR				S	Sg	17 03 41.4	+0.3
PVO	**Paravola**	**0.44**	**133**	P	Pg	17 03 36.0	-0.8
PVO				S	Sg	17 03 42.9	+0.2
	445nm,0.4s						
PVO	**Paravola**	**0.44**	**133**	P	Pg	17 03 35.9	-0.9
PVO				S	Sb	17 03 44.0	+0.5
EVGI	**Lefkada island**	**0.46**	**231**	P	Pg	17 03 37.3	0.0
EVGI				S	Sb	17 03 44.5	+0.3
	245nm,0.1s						
EVGI	**Lefkada island**	**0.46**	**231**	P	Pg	17 03 37.4	+0.1
EVGI				S	Sg	17 03 43.2	-0.4
DRAG	**Dragano-Lefkad**	**0.48**	**242**	P	Pg	17 03 37.4	-0.2
DRAG				S	Sb	17 03 44.8	+0.1
DRAG	**Dragano-Lefkad**	**0.48**	**242**	P	Pg	17 03 37.4	-0.2
DRAG				S	Sg	17 03 43.7	-0.5
EVR	**Evrytania**	**0.54**	**90**	P	Pb	17 03 38.9	-0.1
EVR				S	Sg	17 03 46.1	+0.1
EVR	**Evrytania**	**0.54**	**90**	P	Pb	17 03 39.2	+0.2
FSK	**Fiskardo**	**0.63**	**224**	P	Pg	17 03 39.8	-0.5
FSK				S	Sb	17 03 49.0	+0.1
	108nm,0.2s						
FSK	**Fiskardo**	**0.63**	**224**	P	Pg	17 03 39.9	-0.4
FSK				S	Sb	17 03 48.8	-0.1
ANX	**Ano Chora**	**0.71**	**117**	P	Pg	17 03 41.0	-0.8
ANX	**Ano Chora**	**0.71**	**117**	P	Pg	17 03 41.3	-0.4
ANX				S	Sb	17 03 51.6	+0.3
JAN	**Janina**	**0.77**	**345**	P	Pg	17 03 43.0	0.0
EFP	**Efpalio**	**0.79**	**128**	P	Pg	17 03 43.2	-0.1
EFP				S	Sg	17 03 54.6	+0.9
	75nm,0.4s						
EFP	**Efpalio**	**0.79**	**128**	P	Pg	17 03 43.5	+0.2
VLS	**Valsamata**	**0.84**	**209**	P	Pb	17 03 43.5	-0.6
VLS				S	Sn	17 03 56.5	-0.5
	52nm,0.2s						
VLS	**Valsamata**	**0.84**	**209**	P	Pb	17 03 43.4	-0.7
VLS				S	Sg	17 03 55.9	+0.4
IGT	**Igoumenitsa**	**0.87**	**316**	P	Pg	17 03 44.7	-0.1
IGT				S	Sn	17 03 57.4	-0.2
	198nm,0.4s						
RLS	**Riolos of Patr**	**0.90**	**162**	P	Pb	17 03 44.7	-0.3
PSDA	**Pessada-Kefalo**	**0.90**	**208**	P	Pb	17 03 44.6	-0.5
PSDA				S	Sb	17 03 56.9	+0.2
TRIZ	**Trizonia**	**0.93**	**126**	P	Pb	17 03 45.4	-0.1
AGG	**Agios Georgios**	**0.95**	**83**	P	Pb	17 03 45.9	-0.1
AGG				S	Sn	17 04 00.2	+0.5
	58nm,0.4s						
AGG	**Agios Georgios**	**0.95**	**83**	P	Pb	17 03 46.0	0.0
AGG				S	Sb	17 03 57.4	-0.9
THL	**Klokotos Trika**	**0.95**	**47**	P	Pb	17 03 46.0	0.0
THL	**Klokotos Trika**	**0.95**	**47**	P	Pb	17 03 45.5	-0.4
LAKA	**Lakka**	**0.95**	**135**	P	Pg	17 03 46.3	-0.1
LAKA				S	Sn	17 03 59.9	+0.1
LAKA	**Lakka**	**0.95**	**135**	P	Pg	17 03 46.4	0.0
KALE	**Kalithea**	**0.96**	**123**	P	Pb	17 03 45.9	-0.2
KALE	**Kalithea**	**0.96**	**123**	P	Pb	17 03 46.2	+0.1
KALE				S	Sg	17 03 59.0	-0.1
KLV	**Kalavryta, Ach**	**1.19**	**137**	P	Pn	17 03 49.9	+0.1
KLV	**Kalavryta, Ach**	**1.19**	**137**	P	Pb	17 03 50.0	-0.1
AXAR	**Agios Charalam**	**1.21**	**97**	P	Pb	17 03 50.5	+0.1
KEK	**Kerkira**	**1.30**	**308**

WRA Warramunga Arr 23.27 224 P P 17 22 36.3 -0.5
1.5nm,0.6s,baz=50,slow=9.8,SNR=9.6
1.5nm,0.6s
ASAR Alice Springs 26.18 218 P P 17 23 03.2 -0.7
0.4nm,0.4s,baz=58,slow=9.2,SNR=7.8
0.4nm,0.4s
TORD Torodi Ar. Bea 148.44 290 PKPbc PKPbc 17 37 16.9 -0.2
0.3nm,0.4s,baz=71,slow=2.3,SNR=4.3

*NEIC **03** 17:17:49.6±2.1,9.°80S±0.°07×119.°89E±0.°08,h70km±6km, mb4.1/9,Error ellipse: s-maj=11.0km s-min=10.3km az=53.0*
*DJA **03** 17:17:50.2±0.2,10.°S±3.°×12.°0E±.°,h79km±8km,M4.3/16, mb4.4/10,MLv4.3/16*
*IDC **03** 17:17:53.0±4.0,9.°56S×120.°15E,h91km±34km,mb3.5/5, mbtmp3.9/9,MS3.1/2,Error ellipse: s-maj=49.9km s-min=10.9km az=52.0*
ISC 03 17:17:51.1±0.5,9.°82S±0.°05×119.°97E±0.°05,h100km,n73, σ1°83/76,mb3.9/7,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.71**	**124**	P	**Pn**	**17 18 07.1**	**-1.6**
PLAI	**Plampang**	**2.38**	**294**	P	**Pn**	**17 18 27.7**	**-1.0**
PLAI	**Plampang**	**2.38**	**294**	P	**Pn**	**17 18 27.3**	**-1.4**
MMRI	**Maumere**	**2.53**	**62**		**Pn**	**17 18 28.7**	**-1.9**
MMRI	**Maumere**	**2.53**	**62**	P	**Pn**	**17 18 28.9**	**-1.7**
MMRI	**Maumere**	**2.53**	**62**	P	**Pn**	**17 18 28.9**	**-1.7**
TWSI	**Taliwang, Sumb**	**3.24**	**289**	P	**Pn**	**17 18 40.0**	**0.0**
BATI	**Baumata**	**3.65**	**96**	P	**Pn**	**17 18 45.3**	**-0.4**
BATI	**Baumata**	**3.65**	**96**	P	**Pn**	**17 18 46.5**	**+0.8**
	105nm,0.4s,baz=306,slow=1.3,SNR=46						
BATI				S	**Sn**	**17 19 26.9**	**-1.0**
	96nm,0.4s,baz=11,slow=19,SNR=23						
SOEI	**Soe**	**4.23**	**89**		**Pn**	**17 18 53.9**	**+0.3**
SOEI	**Soe**	**4.23**	**89**	P	**Pn**	**17 18 52.9**	**-0.7**
BKSI	**Bulukumba**	**4.47**	**2**	P	**Pn**	**17 18 56.1**	**-0.6**
KAPI	**Kappang**	**4.78**	**357**		**Pn**	**17 18 59.9**	**-1.0**
KAPI					**Sn**	**17 19 54.0**	**-1.2**
KAPI	**Kappang**	**4.78**	**357**	P	**Pn**	**17 19 00.5**	**-0.4**
KAPI	**Kappang**	**4.78**	**357**	P	**Pn**	**17 18 59.8**	**-1.0**
	51nm,0.4s,baz=183,slow=5.0,SNR=29						
KAPI				S	**Sn**	**17 19 51.1**	**-4.0**
	31nm,0.3s,baz=253,slow=21,SNR=10						
DNP	**Denpasar**	**4.84**	**283**	P	**Pn**	**17 19 02.0**	**+0.3**
IGBI	**Denpasar**	**4.87**	**281**	P	**Pn**	**17 19 01.1**	**-1.0**
SRBI	**Singaraja**	**5.01**	**290**	P	**Pn**	**17 19 02.4**	**-1.6**
	46nm,1.6s,0.2nm						
JAGI	**Jajag, Banyuwa**	**5.90**	**283**		**Pn**	**17 19 13.8**	**-2.4**
JAGI	**Jajag, Banyuwa**	**5.90**	**283**	P	**Pn**	**17 19 14.3**	**-1.9**
JAGI	**Jajag, Banyuwa**	**5.90**	**283**	P	**Pn**	**17 19 14.0**	**-2.2**
	27nm,0.9s,0.3nm						
GMJI	**Gumukmas**	**6.63**	**283**	P	**Pn**	**17 19 24.3**	**-1.7**
	24nm,1.5s,0.1nm						
TTSI	**Tana Toraja**	**6.73**	**359**	P	**Pn**	**17 19 27.2**	**-0.2**
	22nm,0.6s,0.1nm						
LUWI	**Luwuk**	**9.15**	**18**	Pn	**Pn**	**17 19 57.4**	**-3.0**
UGM	**Wanagama**	**9.53**	**281**		**Pn**	**17 20 02.5**	**-3.1**
UGM	**Wanagama**	**9.53**	**281**	P	**Pn**	**17 20 05.7**	**+0.2**
UGM	**Wanagama**	**9.53**	**281**	P	**Pn**	**17 20 04.4**	**-1.1**
	169nm,1.6s						
KNRA	**Kununurra**	**10.36**	**125**		**Pn**	**17 20 16.1**	**-0.7**
KNRA	**Kununurra**	**10.36**	**125**	P	**Pn**	**17 20 16.6**	**-0.2**
MBWA	**Marble Bar**	**11.28**	**181**	Pn	**Pn**	**17 20 27.9**	**-1.3**
MBWA	**Marble Bar**	**11.28**	**181**	P	**Pn**	**17 20 29.5**	**+0.3**
SAUI	**Saumlaki**	**11.34**	**82**	Pn	**Pn**	**17 20 30.2**	**+0.1**
MTN	**Manton Dam**	**11.35**	**106**		**Pn**	**17 20 27.9**	**-2.2**
MTN	**Manton Dam**	**11.35**	**106**	P	**Pn**	**17 20 28.8**	**-1.4**
PSA00	**Pilbara Seismi**	**11.69**	**181**	Pn	**Pn**	**17 20 32.6**	**-2.1**
PSA00	**Pilbara Seismi**	**11.69**	**181**	Pn	**Pn**	**17 20 33.2**	**-1.4**
PSA00	**Pilbara Seismi**	**11.69**	**181**	P	**Pn**	**17 20 35.3**	**+0.6**
BBJI	**Bungbulang**	**12.41**	**280**	P	**Pn**	**17 20 43.7**	**-0.7**
GIRL	**Giralia**	**13.89**	**203**	Pn	**Pn**	**17 21 01.3**	**-2.4**
GIRL	**Giralia**	**13.89**	**203**	P	**P**	**17 21 05.9**	**-2.6**
FAKI	**Fak Fak**	**13.99**	**61**	Pn	**Pn**	**17 21 03.6**	**-1.4**
FAKI	**Fak Fak**	**13.99**	**61**	P	**Pn**	**17 21 05.6**	**+0.6**
KASI	**Kota Agung**	**15.92**	**284**	P	**P**	**17 21 30.6**	**-0.6**
	25nm,0.9s						
KKM	**Kota Kinabalu**	**16.20**	**346**	P	**P**	**17 21 34.6**	**+0.2**
KKM				IAmb	IAmb	17 22 06.6	
	comp=Z,27nm,1.2s						
MEEK	**Meekatharra**	**16.78**	**184**	P	**P**	**17 21 43.8**	**+3.2**
WB0	**Warramunga Arr**	**17.08**	**127**	P	**P**	**17 21 44.8**	**+0.8**
WRKA	**Warakurna**	**17.08**	**153**	P	**P**	**17 21 48.9**	**+4.9**
WRA	**Warramunga Arr**	**17.13**	**128**	P	**P**	**17 21 45.2**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=304,slow=14,SNR=31						
WRA				S	Sn	17 24 43.6	-12
	comp=Z,1.1nm,0.5s,baz=311,slow=26,SNR=6.3						
WRAB	**Tennant Creek**	**17.14**	**128**	P	**P**	**17 21 46.6**	**+2.0**
WB2	**Warramunga Arr**	**17.14**	**128**	P	**P**	**17 21 44.7**	**0.0**
WB2				IAmb	IAmb	17 21 46.8	
	comp=Z,3.3nm,0.6s						
WR0	**Warramunga Arr**	**17.30**	**127**	P	**Pn**	**17 21 47.0**	**+0.5**
ASAR	**Alice Springs**	**19.15**	**138**	P	**Pn**	**17 22 10.1**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=329,slow=14,SNR=22						
ASAR				S	**S**	**17 25 31.7**	**-6.9**
	comp=Z,0.8nm,0.6s,baz=305,slow=22,SNR=3.8						
ASAR				LR	LR	17 29 29.3	
	comp=Z,57nm,20.4s,baz=54,slow=36						
COEN	**Coen**	**23.07**	**103**	P	**P**	**17 22 49.8**	**+1.5**
COEN				IAmb	IAmb	17 23 20.1	
	comp=Z,14nm,1.1s						
NWAO	**Narrogin (SRO)**	**23.14**	**186**	P	**P**	**17 22 50.5**	**+1.8**
NWAO	**Narrogin (SRO)**	**23.14**	**186**	P	**P**	**17 22 50.5**	**+1.8**
GSI	**Gunungsitoli**	**24.89**	**295**	P	**P**	**17 23 03.9**	**-0.9**
GSI				IAmb	IAmb	17 23 36.5	
	comp=Z,7.4nm,1.2s						
STKA	**Stephens Creek**	**29.71**	**141**	LR	LR	17 38 01.1	
	comp=Z,39nm,20.1s,baz=165,slow=40						
CMAR	**Chiang Mai Arr**	**34.93**	**323**	P	**P**	**17 24 35.6**	**+2.0**
	comp=Z,0.8nm,0.5s,baz=156,slow=7.3,SNR=7.2						
	comp=Z,0.8nm,0.5s						
TAPN	**Taplejung**	**48.41**	**321**	*e*P	**P**	**17 26 25.3**	**+1.6**
	comp=Z,7.5nm,0.7s						
RAMN	**Ramite**	**48.83**	**319**	*e*P	**P**	**17 26 28.3**	**+1.4**
	comp=Z,4.4nm,0.4s						
JIRN	**Jiri**	**49.59**	**320**	*e*P	**P**	**17 26 34.4**	**+1.6**
	comp=Z,5.7nm,0.5s						
GUN	**Gumba**	**49.96**	**320**	*e*P	**P**	**17 26 37.1**	**+1.5**
	comp=Z,6.4nm,0.5s						
PKI	**Pulchoki**	**50.03**	**319**	*e*P	**P**	**17 26 37.4**	**+1.3**
	comp=Z,1.7nm,0.3s						
GKN	**Gorkha**	**50.82**	**319**	*e*P	**P**	**17 26 42.8**	**+0.9**
	comp=Z,4.4nm,0.4s						
DANN	**Dangsing**	**51.63**	**318**	*e*P	**P**	**17 26 49.1**	**+1.0**
	comp=Z,7.6nm,0.5s						
PYUN	**Piuthan**	**51.97**	**318**	*e*P	**P**	**17 26 51.7**	**+1.2**
	comp=Z,2.8nm,0.4s						
SONM	**Songino Array**	**58.65**	**349**	P	**P**	**17 27 39.1**	**+1.1**
SONM				IAmb	IAmb	17 28 13.5	
	comp=Z,2.1nm,1.4s						
SONM	**Songino Array**	**58.65**	**349**	P	**P**	**17 27 39.5**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=166,slow=8.5,SNR=9.3						
	comp=Z,0.8nm,0.4s						
MKAR	**Makanchi Array**	**65.62**	**333**	P	**P**	**17 28 24.8**	**+0.3**
MKAR	**Makanchi Array**	**65.62**	**333**	P	**P**	**17 28 26.2**	**+1.7**
	comp=Z,0.6nm,0.5s,baz=151,slow=6.6,SNR=12						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**70.13**	**333**	P	**P**	**17 28 55.0**	**+2.3**
	comp=Z,0.2nm,0.5s,baz=140,slow=5.0,SNR=4.5						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**70.15**	**339**	P	**P**	**17 28 54.3**	**+1.6**
ZALV	**Zalesovo Beam**	**70.15**	**339**	P	**P**	**17 28 54.6**	**+1.9**
	comp=Z,0.7nm,0.4s,baz=140,slow=5.7,SNR=4.0						
	comp=Z,0.7nm,0.4s						

TAP 03 17:18:57.2,23.°75N×122.°02E,h37km,ML1.6,C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.44**	**300**	*e*P	Pn	17 19 07.5	+0.7
	baz=295						
EOS4	**EOS4**	**0.46**	**37**	*i* P	Pn	17 19 06.5	-0.2
	baz=37						
EOS4				S	Sn	17 19 13.5	0.0
	baz=37						
ESL	**Shilin**	**0.54**	**276**	*e*P	Pn	17 19 07.4	-1.1
	baz=271						
ESL				S	Sn	17 19 15.7	-0.6
	baz=271						
EGFH	**Guangfu**	**0.55**	**261**	P	Pn	17 19 08.0	-0.6
	baz=254						
EGFH				*e*S	Sn	17 19 16.4	-0.1
	baz=254						
WARBT	**Fenglin Townsh**	**0.58**	**267**	P	Pn	17 19 08.1	-1.0
	baz=262						
WARBT				*e*S	Sn	17 19 16.8	-0.6
	baz=262						
EOS3	**EOS3**	**0.60**	**27**	*e*P	Pn	17 19 09.0	-0.2
	baz=20						
EOS3				*e*S	Sn	17 19 17.8	+0.3
	baz=20						
HGSD	**Ruisui**	**0.61**	**245**	P	Pn	17 19 08.3	-1.1
	baz=244						
HGSD				*e*S	Sn	17 19 17.2	-0.8
	baz=244						
LXIB	**Xiulin Townshi**	**0.62**	**296**	*e*S	Sn	17 19 18.1	-0.3
	baz=296						
ETLH	**Xiulin Townshi**	**0.67**	**313**	*e*P	Pn	17 19 09.5	-0.8
	baz=313						
ETLH				*e*S	Sn	17 19 19.5	-0.1
	baz=313						
EHY	**Hungye**	**0.69**	**249**	*e*P	Pn	17 19 09.6	-0.9
	baz=249						
EHY				S	Sn	17 19 19.5	-0.4
	baz=249						
YULB	**Yu-li**	**0.75**	**242**	P	Pn	17 19 11.1	-0.2
	baz=256						
YULB				S	Sn	17 19 21.5	0.0
	baz=256						
EYUL	**Yuli**	**0.76**	**238**	*e*P	Pn	17 19 11.1	-0.2
	baz=230						
EYUL				*e*S	Sn	17 19 21.9	+0.3
	baz=230						
TWF1	**Yuli**	**0.78**	**239**	*e*S	Sn	17 19 22.7	+0.6
	baz=231						
WHF	**Hehuan Shan**	**0.79**	**300**	*e*S	Sn	17 19 23.6	+0.5
	baz=292						
OWD	**Renai**	**0.80**	**285**	*e*S	Sn	17 19 22.6	-0.2
	baz=292						
VWDT	**VWDT**	**0.81**	**270**	*e*P	Pn	17 19 12.2	+0.2
	baz=270						
VWDT				*e*S	Sn	17 19 23.2	+0.4
	baz=270						
CHGB	**Renai**	**0.83**	**292**	*e*P	Pn	17 19 12.6	0.0
	baz=295						
CHGB				*e*S	Sn	17 19 24.8	+1.0
	baz=295						
WUSB	**Renai**	**0.86**	**286**	P	Pn	17 19 12.9	0.0
	baz=286						
WUSB				*e*S	Sn	17 19 24.7	+0.3
	baz=286						
FUSS	**Fushou**	**0.86**	**305**	P	Pn	17 19 13.0	0.0
	baz=305						
FUSS				S	Sn	17 19 24.4	-0.2
	baz=305						
FULB	**Fuli**	**0.87**	**230**	P	Pn	17 19 12.6	-0.3
	baz=221						
FULB				S	Sn	17 19 23.7	-0.6
	baz=221						
NNSB	**Datong**	**0.89**	**319**	*e*P	Pn	17 19 12.9	-0.4
	baz=311						
NNSB				*e*S	Sn	17 19 25.7	+0.6
	baz=311						
LATG	**Datong**	**0.90**	**330**	*e*P	Pn	17 19 13.5	+0.1
	baz=330						
LATG				*e*S	Sn	17 19 25.3	0.0
	baz=330						
TDCB	**Techi**	**0.93**	**302**	*e*P	Pn	17 19 14.2	+0.4
	baz=302						
TDCB				*e*S	Sn	17 19 27.6	+1.5
	baz=302						
EHD	**Haiduan**	**0.96**	**231**	*e*P	Pn	17 19 13.1	-1.1
	baz=224						
EHD				*e*S	Sn	17 19 26.1	-0.4
	baz=224						
EDH	**Donghe**	**1.02**	**220**	*e*P	Pn	17 19 14.3	-0.6
	baz=220						
ELDTW	**Lidau**	**1.08**	**239**	*e*P	Pn	17 19 15.0	-0.9
	baz=238						
ELDTW				*e*S	Sn	17 19 28.9	-0.7
	baz=238						
YHNB	**Yeheng**	**1.08**	**327**	*e*P	Pn	17 19 16.8	+0.9
	baz=327						
YHNB				*e*S	Sn	17 19 30.2	+0.5
	baz=327						
ALS	**Alishan**	**1.14**	**258**	*e*P	Pn	17 19 17.7	+0.9
	baz=268						
ALS				*e*S	Sn	17 19 32.7	+1.3
	baz=268						
LDUT	**Ludao**	**1.19**	**205**	*e*P	Pn	17 19 16.5	-0.7
	baz=205						
LDUT				*e*S	Sn	17 19 30.8	-1.3
	baz=205						

JMA 03 17:19:54.7±0.5,24.°N±1.°×12.°4E±.°,h13km±2km,MV1.4/7, NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.16**	**60**	*i* P	Pg	17 19 58.4	0.0
HATJ				*e*S	Sg	17 20 01.0	-0.1
IRIF	**Iriomote-Funau**	**0.36**	**11**	P	Pg	17 20 02.1	+0.1
IRIF				*e*S	Sg	17 20 06.9	0.0
JKRS	**Kuro-shima**	**0.41**	**51**	P	Pg	17 20 03.2	+0.2
JKRS				*e*S	Sg	17 20 09.0	+0.5
JIJ	**Ishigaki jima**	**0.59**	**49**	P	Pg	17 20 05.7	-0.5
JISG	**Ishigakijimahi**	**0.85**	**45**	P	Pg	17 20 10.6	-0.7
JISG				*e*S	Sg	17 20 21.5	-0.9
JTJ	**Tarama**	**1.16**	**55**	*e*S	Sg	17 20 32.2	0.0

*TRN **03** 17:25:17.5,18.°76N×63.°89W,h167km,MD4.5*
*IDC **03** 17:25:19.5±3.5,18.°01N×64.°25W,h132km±25km,mb3.5/5, mbtmp3.9/6,Error ellipse: s-maj=46.6km s-min=17.1km az=65.0*
*NEIC **03** 17:25:20.9±2.1,17.°95N±0.°06×64.°34W±0.°07,h136km±9km, mb4.1/18,ML4.0/18,Error ellipse: s-maj=11.6km s-min=6.6km az=49.0*
ISC 03 17:25:19.8±0.7,18.°09N±0.°08×64.°35W±0.°05,h128km,n52, σ1°87/60,mb4.0/11,1D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**1.71**	**271**	Pn	**Pn**	**17 25 52.7**	**+2.6**
SJG				Sn	**Sn**	**17 26 16.3**	**+2.9**
SJG				IAML		17 26 17.1	
	952nm,0.6s						
SJG				IAML		17 26 17.1	
	1μm,0.6s						
SJG	**San Juan**	**1.71**	**271**	P	**Pn**	**17 25 52.8**	**+2.6**
	176nm,0.3s,baz=102,slow=10,SNR=55						
SJG				S	**Sn**	**17 26 15.7**	**+2.3**
	396nm,0.3s,baz=318,slow=23,SNR=84						
SJG				LR	LR	17 26 34.1	
	comp=Z,44nm,20.8s,baz=166,slow=41						
MBFL	**Flemmings, Mon**	**2.44**	**123**	*e*P	**Pn**	**17 26 01.1**	**+2.0**
MBFL				*e*S	**Sn**	**17 26 32.8**	**+3.5**
ANBD	**Bethesda, Anti**	**2.67**	**112**	⇓*i*P	**Pn**	**17 26 02.7**	**+0.6**
ANBD				*e*S	**Sn**	**17 26 34.2**	**-0.4**
ABD	**La Joyeuse, An**	**3.17**	**120**	Pn	**Pn**	**17 26 09.1**	**+0.6**
ABD				Sn	**Sn**	**17 26 45.5**	**-0.7**
ABD				IAML		17 26 52.6	
	comp=N,260nm,0.5s						
ABD				IAML		17 26 56.7	
	comp=E,278nm,0.4s						
ABD	**La Joyeuse, An**	**3.17**	**120**	*e*P	**Pn**	**17 26 09.0**	**+0.5**
ABD				*e*S	**Sn**	**17 26 48.0**	**+1.8**
CBE	**Ff, Capester**	**3.30**	**127**		**Pn**	**17 26 12.2**	**+1.9**
CBE	**Ff, Capester**	**3.30**	**127**	*e*P	**Pn**	**17 26 12.3**	**+1.9**
CBE				*e*S	**Sn**	**17 26 53.1**	**+3.7**
TDBA	**Terre de Bas,**	**3.42**	**130**	*e*P	**Pn**	**17 26 14.5**	**+2.6**
GDSD	**La Dsirade Is**	**3.60**	**119**	Pn	**Pn**	**17 26 14.2**	**0.0**
GDSD				IAML		17 26 59.0	
	comp=E,166nm,0.3s						
MAGL	**Barre de l'ile**	**3.62**	**126**	Pn	**Pn**	**17 26 15.9**	**+1.3**
MAGL				IAML		17 27 01.0	
	comp=E,339nm,0.4s						
MAGL				IAML		17 27 12.6	
	comp=N,214nm,1.1s						
MAGL	**Barre de l'ile**	**3.62**	**126**	*e*P	**Pn**	**17 26 16.0**	**+1.5**
MAGL				*e*S	**Sn**	**17 26 58.3**	**+1.4**
FDF	**Fort de France**	**4.54**	**137**	Pn	**Pn**	**17 26 23.5**	**-3.2**
FDF				IAML		17 27 37.2	
	comp=N,108nm,1.2s						
FDF	**Fort de France**	**4.54**	**137**	*e*P	**Pn**	**17 26 28.7**	**+2.0**
FDF	**Fort de France**	**4.54**	**137**	*e*S	**Sn**	**17 27 21.2**	**+2.5**
MPOM	**Morne Pois Mar**	**4.94**	**137**	Pn	**Pn**	**17 26 28.9**	**-3.1**
MPOM	**Morne Pois Mar**	**4.94**	**137**	*e*P	**Pn**	**17 26 34.8**	**+2.8**
MPOM	**Morne Pois Mar**	**4.94**	**137**	*e*S	**Sn**	**17 27 31.3**	**+3.0**
SLBI	**Saint Lucia, B**	**5.18**	**141**	*e*P	**Pn**	**17 26 37.3**	**+1.9**
SLBI	**Saint Lucia, B**	**5.18**	**141**	*e*S	**Sn**	**17 27 38.0**	**+3.8**
MCLT	**Moule a Chique**	**5.45**	**143**	*e*S	**Sn**	**17 27 43.7**	**+3.0**
SC01	**Santiago de lo**	**6.19**	**283**	Pn	**Pn**	**17 26 48.9**	**+0.1**
SDDR	**Presa de Saban**	**6.64**	**279**		**Pn**	**17 26 56.4**	**+1.3**
BBGH	**Gun Hill**	**6.74**	**136**	*e*P	**Pn**	**17 26 58.8**	**+2.4**
BBGH	**Gun Hill**	**6.74**	**136**	*e*S	**Sn**	**17 28 10.3**	**-1.6**
HATO	**Hato, Curacao**	**7.37**	**218**	Pn	**Pn**	**17 27 03.5**	**-1.3**
GTBY	**Guantanamo Bay**	**10.34**	**282**	Pn	**Pn**	**17 27 45.0**	**+0.2**
BOAV	**Boa Vista**	**16.04**	**166**	P	**Pn**	**17 28 56.8**	**-1.5**
BOAV				IAmb	IAmb	17 28 59.3	
	comp=Z,6.4nm,0.8s						
OTAV	**Otavalo**	**22.52**	**220**	P	**P**	**17 30 08.6**	**-1.0**
OTAV				IAmb	IAmb	17 30 12.4	
	comp=Z,13nm,0.9s						
SAML	**Samuel**	**26.89**	**177**	P	**P**	**17 30 48.7**	**-0.2**
SAML				IAmb	IAmb	17 30 50.1	
	comp=Z,4.0nm,1.1s						
CCM	**Cathedral Cave**	**30.78**	**316**	P	**P**	**17 31 23.1**	**-0.2**
MGMO	**Mountain Grove**	**31.01**	**313**	P	**P**	**17 31 25.1**	**-0.1**
LPAZ	**La Paz**	**34.37**	**186**	P	**P**	**17 31 55.6**	**+0.3**
LPAZ				IAmb	IAmb	17 31 57.7	
	comp=Z,3.2nm,0.9s						
LPAZ	**La Paz**	**34.37**	**186**	P	**P**	**17 31 54.1**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=28,slow=6.1,SNR=7.2						
	comp=Z,1.0nm,0.3s						
WMOK	**Wichita Mounta**	**34.80**	**305**	P	**P**	**17 31 58.5**	**+0.2**
PB16	**IPOC Station P**	**36.55**	**188**	P	**P**	**17 32 11.6**	**-2.4**
PB16				IAmb	IAmb	17 32 39.6	
	comp=Z,8.4nm,1.4s						
TXAR	**Lajitas Array**	**37.54**	**295**	P	**P**	**17 32 22.8**	**+1.0**
TXAR	**Lajitas Array**	**37.54**	**295**	P	**P**	**17 32 22.4**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=117,slow=7.5,SNR=4.9						
	comp=Z,0.3nm,0.4s						
TX32	**Lajitas Array**	**37.54**	**295**	P	**P**	**17 32 23.0**	**+1.2**
PB08	**IPOC Station P**	**38.29**	**187**	P	**P**	**17 32 26.2**	**-2.1**
425A	**Indio Mountain**	**38.89**	**297**	P	**P**	**17 32 33.5**	**+0.4**
425A				IAmb	IAmb	17 33 10.7	
	comp=Z,3.4nm,1.3s						
PB01	**IPOC Station P**	**39.22**	**188**	P	**P**	**17 32 33.3**	**-2.5**
MNTX	**Cornudas Mount**	**39.38**	**298**	P	**P**	**17 32 37.4**	**+0.4**
MNTX				IAmb	IAmb	17 32 57.6	
	comp=Z,3.7nm,1.4s						
ULM	**Lac du Bonnet**	**40.79**	**329**	P	**P**	**17 32 47.2**	**-1.1**
ULM				IAmb	IAmb	17 33 25.5	
	comp=Z,9.3nm,1.2s						
ULM	**Lac du Bonnet**	**40.79**	**329**	P	**P**	**17 32 48.1**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=122,slow=9.1,SNR=5.1						
	comp=Z,3.1nm,0.6s						
BNM	**Barren Site**	**40.88**	**302**	P	**P**	**17 32 50.1**	**+0.5**
PD31	**Pinedale Array**	**45.39**	**313**	P	**P**	**17 33 26.0**	**+0.2**
PDAR	**Pinedale Array**	**45.39**	**313**	P	**P**	**17 33 26.3**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=117,slow=10,SNR=7.3						
	comp=Z,0.6nm,0.5s						
BW06	**Boulder Array**	**45.39**	**313**	P	**P**	**17 33 25.8**	**0.0**
PSUT	**Pine Spring**	**47.48**	**306**	P	**P**	**17 33 43.7**	**+1.6**
PSUT				IAmb	IAmb	17 33 46.4	
	comp=Z,2.4nm,0.8s						
ILAR	**Eielson Array**	**70.62**	**333**	P	**P**	**17 36 20.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=91,slow=4.3,SNR=6.2						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**162.07**	**249**	PKPab	**PKPab**	**17 45 52.9**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=113,slow=4.0,SNR=8.9						

*FUNV **03** 17:25:34.4,11.°72N×71.°27W,h17km,MW3.8*
*RSNC **03** 17:25:37.0±3.1,11.°49N×71.°32W,h10km,ML3.6,Mw3.7*
ISC 03 17:25:33.5±1.3,11.°51N±0.°06×71.°30W±0.°03,h10km,n41, σ2°48/71,2D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.71**	**286**	⇓*i*P	**Pn**	**17 25 52.2**	**+2.7**
URIC				*e*S	**Sn**	**17 26 04.2**	**+3.7**
URIC				*i*		17 26 04.9	
	comp=Z,891nm,0.1s						
CRJC	**Cerrejon, Guaj**	**1.63**	**253**	⇓*i*P	**Pn**	**17 26 03.5**	**+1.2**
CRJC				*e*S	**Sn**	**17 26 24.7**	**+1.2**
CRJC				*i*		17 26 27.3	
	comp=Z,911nm,0.4s						
SIQV	**Siquisique**	**1.69**	**120**	*i* P	**Pn**	**17 26 05.0**	**+1.8**
SIQV				*e*S	**Sn**	**17 26 26.9**	**+1.9**
MCQV	**Machiques**	**1.90**	**220**	*e*P	**Pn**	**17 26 08.3**	**+2.4**
MCQV				*e*S	**Sn**	**17 26 32.9**	**+3.1**
CURV	**Curarigua**	**1.98**	**138**	*i* P	**Pn**	**17 26 08.7**	**+1.5**
CURV				*e*S	**Sn**	**17 26 34.1**	**+1.9**
JACV	**Jacura**	**2.46**	**100**	*e*P	**Pn**	**17 26 13.8**	**+0.1**
JACV				*e*S	**Sn**	**17 26 42.6**	**-1.2**
TEPV	**Terepaima**	**2.58**	**126**	*e*P	**Pn**	**17 26 16.4**	**+1.0**
TEPV				*e*S	**Sn**	**17 26 46.9**	**+0.1**
SANV	**Sanarito**	**2.64**	**139**	*e*P	**Pn**	**17 26 18.2**	**+1.8**
SANV				*e*S	**Sn**	**17 26 49.5**	**+0.9**
SDV	**Santo Domingo**	**2.69**	**166**	*e*P	**Pn**	**17 26 18.6**	**+1.6**
SDV				*e*S	**Sn**	**17 26 50.2**	**+0.4**
SMRC	**Santa Marta, M**	**2.89**	**263**	*e*P	**Pn**	**17 26 18.2**	**-1.4**
SMRC				*e*S	**Sn**	**17 26 51.8**	**-2.7**
SMRC				*i*		17 27 00.2	
	comp=Z,125

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUY2C	**Guyana, Caldas**	**7.43**	**213**	*eP*	**Pn**	**17 27 23.8**	**+1.3**
GUY2C				*eS*	**Sn**	**17 28 47.9**	**+0.8**
GUY2C				*i*		17 29 10.3	
	comp=Z,21nm,0.6s						
VILC	**Villavicencio,**	**7.73**	**198**	*eP*	**Pn**	**17 27 26.2**	**0.0**
VILC				*eS*	**Sn**	**17 28 51.0**	**-2.9**
PLMC	**San Jos del P**	**8.21**	**217**	*eP*	**Pn**	**17 27 33.0**	**+0.2**
PLMC				*eS*	**Sn**	**17 29 06.8**	**+1.0**
PLMC				*i*		17 29 19.3	
	comp=Z,9.0nm,0.3s						
ORTC	**Ortega, Tolima**	**8.51**	**208**	*eP*	**Pn**	**17 27 35.8**	**-1.1**
ORTC				*eS*	**Sn**	**17 29 11.6**	**-1.4**
ORTC				*i*		17 29 20.0	
	comp=Z,9.3nm,0.6s						
PRAC	**Prado**	**8.52**	**205**	*eP*	**Pn**	**17 27 40.5**	**+3.3**
PRAC				*eS*	**Sn**	**17 29 09.4**	**-4.0**
PRAC				*i*		17 29 41.8	
	comp=Z,8.2nm,0.6s						
YOTC	**Yotoco, Valle**	**9.00**	**214**	*eP*	**Pn**	**17 27 46.0**	**+2.3**
YOTC				*eS*	**Sn**	**17 29 21.1**	**-4.1**
YOTC				*i*		17 29 27.8	
	comp=Z,4.3nm,0.3s						
MACC	**Macarena, Meta**	**9.64**	**195**	*eP*	Pn	17 27 49.5	-3.0
MACC				*eS*	Sn	17 29 33.0	-8.0
JAMC	**Jamundi, Valle**	**9.81**	**213**	*eP*	**Pn**	**17 27 57.7**	**+2.7**
JAMC				*eS*	Sn	17 29 34.1	-11
JAMC				*i*		17 29 34.2	
	comp=Z,11nm,0.2s						

FUNV ***03*** *18:02:48.1, 11.°02N×72.°83W, h4km, MW3.1*
RSNC ***03*** *18:02:50.0±1.6, 11.°13N×72.°81W, h0km±5km, ML2.1*
ISC 03 18:02:49.0±1.0, 11.°02N±0.°04×72.°73W±0.°03, h11km±8km, n12, σ1§02/20, 2C, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.15**	**271**	⇑*iP*	**Pg**	**18 02 51.8**	**-0.8**
CRJC				*eS*	**Sg**	**18 02 56.2**	**+1.2**
MCQV	**Machiques**	**0.98**	**169**	*eP*	**Pg**	**18 03 07.3**	**-0.6**
MCQV				*eS*	**Sg**	**18 03 20.6**	**-0.1**
URIC	**Uribia, Colomb**	**0.99**	**47**	⇑*iP*	**Pg**	**18 03 07.6**	**-0.6**
URIC				*eS*	**Sg**	**18 03 22.0**	**+0.9**
URIC				*i*		18 03 25.8	
	comp=Z,43nm,0.2s						
SMRC	**Santa Marta, M**	**1.47**	**276**	*eP*	**Pn**	**18 03 14.3**	**-1.2**
SMRC				*eS*	**Sn**	**18 03 34.2**	**-0.5**
ARGC	**Ariguani, Magd**	**1.89**	**232**	*eP*	**Pn**	**18 03 20.8**	**-0.4**
ARGC				*eS*	**Sb**	**18 03 47.2**	**+0.2**
SJCC	**San Jacinto, C**	**2.65**	**245**	*eP*	**Pn**	**18 03 33.5**	**+1.7**
SJCC				*eS*	**Sn**	**18 04 05.1**	**+1.1**
CURV	**Curarigua**	**2.90**	**110**	*eP*	**Pn**	**18 03 36.4**	**+1.2**
CURV				*eS*	**Sn**	**18 04 11.4**	**+1.3**
SOCV	**Socops**	**3.29**	**146**	*eP*	**Pn**	**18 03 40.8**	**+0.3**
SOCV				*eS*	**Sn**	**18 04 18.0**	**-1.5**
MAPV	**Macapo**	**4.37**	**105**	*eP*	**Pn**	**18 03 54.3**	**-1.0**
TURV	**Turiamo**	**4.84**	**96**	*eP*	**Pn**	**18 04 01.5**	**-0.3**
BAUV	**El Baul**	**5.06**	**114**	*eP*	**Pn**	**18 04 05.3**	**+0.5**
BENV	**Beln**	**5.15**	**101**	*eP*	**Pn**	**18 04 05.6**	**-0.6**

NNC ***03*** *18:03:26.4±1.7, 45.°61N×81.°84E, h0km, mb2.5, mpv2.5, Error ellipse: s-maj=26.5km s-min=10.0km az=115.0*
SOME ***03*** *18:03:28.2, 45.°58N×81.°80E, h25km*
ASRS ***03*** *18:03:43.8±1.0, 47.°N±5.°×8.°2E±.°, h10km, MLh3.2/4, Error ellipse: s-maj=10.8km s-min=5.7km az=4.7, confirmed*
ISC 03 18:03:27.6±0.9, 45.°76N±0.°05×81.°79E±0.°06, h10km, n24, σ2§30/28, 2C-5D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.06**	**7**	Pg	**Pn**	**18 03 49.4**	**+0.9**
MAKZ				Sg	**Sn**	**18 04 05.6**	**+2.3**
MK31	**Makanchi Array**	**1.09**	**18**	⇓P	**Pn**	**18 03 49.6**	**+0.6**
	0.9nm,0.2s,baz=196,slow=17,SNR=274						
MK31				⇑S	**Sn**	**18 04 05.9**	**+1.6**
	11nm,0.4s,baz=193,slow=32,SNR=10.0						
MKAR	**Makanchi Array**	**1.09**	**18**	Pg	**Pn**	**18 03 49.8**	**+0.8**
MKAR				Sg	**Sg**	**18 04 03.5**	**+0.6**
DJR	**Jarkent**	**2.01**	**226**	*eP*	**Pn**	**18 04 02.2**	**+0.6**
	1.8nm,0.2s						
DJR				*eS*	**Sn**	**18 04 26.9**	**+0.1**
	20nm,0.1s						
KTMS	**Ketmen**	**2.53**	**204**	*ePg*	**Pn**	**18 04 09.6**	**+0.8**
	0.7nm,0.1s						
KTMS				*eLg*	Lg	18 04 39.4	
	5.2nm,0.2s						
ZSN	**Zaisan**	**2.72**	**50**	*ePg*	**Pb**	**18 04 14.9**	**-1.4**
	2.0nm,0.1s						
ZSN				*eLg*	Lg	18 04 48.6	
	15nm,0.4s						
PDGK	**Podgornoye**	**2.93**	**215**	⇓*Pg*	**Pb**	**18 04 19.7**	**-0.3**
	1.4nm,0.5s						
PDGK				⇑*Lg*	Lg	18 04 52.7	
	8.4nm,0.5s						
SHLS	**Shalkode**	**3.08**	**213**	*ePg*	**Pn**	**18 04 17.1**	**+0.6**
	1.8nm,0.3s						
SHLS				*eLg*	Lg	18 04 52.0	
	13nm,0.3s						
KPKS	**Kokpek**	**3.19**	**225**	*ePg*	**Pb**	**18 04 22.5**	**-1.8**
	1.4nm,0.1s						
KPKS				*eLg*	Lg	18 05 01.6	
	23nm,0.2s						
ARXS	**Arharly**	**3.21**	**243**	*ePg*	**Pb**	**18 04 24.8**	**+0.2**
	2.0nm,0.2s						
ARXS				*eLg*	Lg	18 05 05.4	
	7.5nm,0.1s						
UZB	**Uzynbulak**	**3.27**	**218**	*ePg*	**Pb**	**18 04 23.5**	**-2.3**
	1.3nm,0.1s						
UZB				*eLg*	Lg	18 05 03.1	
	5.2nm,0.1s						
SATY	**Saty**	**3.62**	**223**	*ePg*	**Pb**	**18 04 30.7**	**-1.1**
	0.7nm,0.1s						
SATY				*eLg*	Lg	18 05 15.5	
	16nm,0.4s						
KTBS	**Karatobe**	**4.17**	**242**	*ePg*	**Pb**	**18 04 41.6**	**+0.5**
	0.7nm,0.2s						
KTBS				*eLg*	Lg	18 05 34.2	
	4.7nm,0.2s						
KOTS	**Kotyrbulak**	**4.19**	**235**	*ePg*	**Pb**	**18 04 42.0**	**+0.6**
	2.6nm,0.3s						
KOTS				*eLg*	Lg	18 05 34.9	
	7.7nm,0.2s						
KURBB	**Kurchatov Arra**	**5.33**	**337**	⇓*Lg*	Lg	18 06 20.9	
	7.2nm,0.7s						
KURK	**Kurchatov**	**5.39**	**338**	⇓*Lg*	Lg	18 06 22.7	
	2.7nm,0.6s						
KURK	**Kurchatov**	**5.39**	**338**	Pg	**Pg**	**18 05 07.9**	**-2.9**
KURK				Sg	**Sb**	**18 06 10.5**	**+3.9**
DGZ	**Jazzator, Alta**	**5.48**	**42**	Pg	**Pg**	**18 05 13.4**	**+0.8**
DGZ				Sg	**Sg**	**18 06 21.2**	**-2.3**
CHBI	**Chibit, Altay**	**5.96**	**38**	Sg	**Sg**	**18 06 37.3**	**-1.4**
AKAR	**Aktash**	**6.01**	**38**	Sg	**Sg**	**18 06 37.3**	**-3.2**
ELDR	**Elanda**	**6.17**	**26**	Sg	**Sg**	**18 06 38.0**	**-7.4**
CUR	**Chagan-Uzun**	**6.19**	**43**	Pg	**Pg**	**18 05 28.5**	**+2.4**
CUR				Sg	**Sg**	**18 06 44.6**	**-1.6**
ULGR	**Ulagan, Altay**	**6.38**	**38**	Sg	**Sg**	**18 06 50.7**	**-1.7**
OTUK	**Ortayu**	**6.92**	**294**	⇓*Lg*	Lg	18 07 10.7	
	2.4nm,0.8s						

NEIC ***03*** *18:24:17.9±0.6, 19.°385N±0.°010×155.°33W±0.°01, h8km±2km, Error ellipse: s-maj=1.6km s-min=1.2km az=137.0*
HVO 03 18:24:17.8±0.6, 19.°41N±0.°01×155.°324W±0.°009, h7km±2km, ML2.7/34, ML2.6/48(NEIC), Error ellipse: s-maj=1.7km s-min=1.2km az=160.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.02**	**90**		Pg	18 24 19.4	+0.1
WRMHI				Sg	Sg	18 24 20.4	+0.1
SDHHI	**Sand Hill**	**0.03**	**121**		Pg	18 24 19.6	+0.2
SDHHI				Sg	Sg	18 24 20.7	+0.2
UWE	**Uwekahuna**	**0.03**	**64**		Pg	18 24 19.6	+0.2
UWE				Sg	Sg	18 24 20.8	+0.3
UWE				IAML		18 24 21.2	
	comp=N,6μm,0.4s						
UWE				IAML		18 24 21.3	
	comp=E,9μm,0.4s						
OBL	**Observatory Le**	**0.04**	**74**		Pg	18 24 19.5	+0.1
OBL				Sg	Sg	18 24 20.8	+0.2
OBL				IAML		18 24 21.6	
	comp=N,6μm,0.4s						
OBL				IAML		18 24 21.8	
	comp=E,7μm,0.2s						
NPH	**North Pit**	**0.04**	**83**		Pg	18 24 19.5	+0.1
UWB	**Uwekahuna B**	**0.05**	**68**		Pg	18 24 19.6	+0.1
UWB				Sg	Sg	18 24 20.8	+0.2
UWB				IAML		18 24 21.1	
	comp=N,3μm,0.5s						
RIM	**Rim**	**0.05**	**103**		Pg	18 24 19.7	+0.2
RIM				IAML		18 24 21.5	
	comp=E,2μm,0.5s						
RIM				IAML		18 24 21.8	
	comp=N,3μm,0.4s						
KKO	**Keanakako`i**	**0.06**	**99**		Pg	18 24 19.9	+0.3
KKO				IAML		18 24 21.7	
	comp=E,2μm,0.4s						
SBLHI	**Steaming Bluff**	**0.06**	**69**		Pg	18 24 19.6	0.0
SBLHI				IAML		18 24 21.3	
	comp=E,3μm,0.4s						
SBLHI				IAML		18 24 21.8	
	comp=N,3μm,0.4s						
BYL	**Byron's Ledge**	**0.06**	**85**		Pg	18 24 19.8	+0.2
HATHI	**Halema'uma'u T**	**0.06**	**75**		Pg	18 24 19.8	+0.2
HATHI				IAML		18 24 21.6	
	comp=E,3μm,0.4s						
HATHI				IAML		18 24 22.1	
	comp=N,2μm,0.2s						
RSD	**Rainshed**	**0.07**	**38**		Pg	18 24 20.0	+0.2
RSD				IAML		18 24 21.9	
	comp=N,5μm,0.1s						
RSD				IAML		18 24 22.1	
	comp=E,4μm,0.1s						
MLH	**Mauna Loa**	**0.10**	**326**		Pg	18 24 20.5	+0.1
PUH	**Pauahi**	**0.11**	**108**		Pg	18 24 20.5	+0.3
PUH				IAML		18 24 23.5	
	comp=E,1μm,0.3s						
PUH				IAML		18 24 23.9	
	comp=N,1μm,0.4s						
HLP	**Hilina Pali**	**0.11**	**172**		Pg	18 24 20.8	+0.5
HLP				IAML		18 24 23.3	
	comp=N,3μm,0.4s						
AIN	**Ainahou**	**0.13**	**255**		Pg	18 24 21.3	+0.6
KNHH	**Kane Nui o Ham**	**0.15**	**100**		Pg	18 24 21.3	+0.3
HTC	**Hot Caves**	**0.18**	**202**		Pg	18 24 21.9	+0.4
STCH	**Steam Cracks**	**0.19**	**96**		Pg	18 24 21.9	+0.2
STCH	**Steam Cracks**	**0.19**	**96**	IAML		18 24 27.4	
	comp=N,360nm,0.6s						
STCH				IAML		18 24 27.8	
	comp=E,458nm,0.1s						
NPOC	**North of Pu'u**	**0.20**	**94**		Pg	18 24 22.1	+0.2
JCUZ	**Jacuzzi**	**0.21**	**96**		Pg	18 24 22.3	+0.2
JCUZ	**Jacuzzi**	**0.21**	**96**	IAML		18 24 25.4	
	comp=N,284nm,1.3s						
JCUZ				IAML		18 24 26.1	
	comp=E,286nm,0.7s						
HMH	**Humu`ula Sheep**	**0.25**	**322**		Pg	18 24 23.2	+0.4
HMH				IAML		18 24 27.3	
	comp=E,2μm,0.3s						
MWH	**Moku`aweowe**	**0.27**	**287**		Pg	18 24 23.4	0.0
MWH				IAML		18 24 31.0	
	comp=N,857nm,0.4s						
MWH				IAML		18 24 32.7	
	comp=E,1μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.27**	**298**		Pg	18 24 23.4	+0.1
MLOA				IAML		18 24 32.0	
	comp=E,837nm,0.3s						
MLOA				IAML		18 24 32.6	
	comp=N,1μm,0.6s						
JOKA	**Jonika Flow**	**0.30**	**85**		Pg	18 24 23.6	-0.2
KHU	**Kahuku**	**0.32**	**240**		Pg	18 24 24.0	-0.1
KHU				IAML		18 24 29.0	
	comp=E,1μm,0.2s						
KHU				IAML		18 24 29.1	
	comp=N,836nm,0.1s						
ALEP	**Alea Permanent**	**0.33**	**294**		Pg	18 24 24.3	-0.1
ALEP					Sg	18 24 29.1	+0.3
POHA	**Pohakuloa**	**0.40**	**331**		Pg	18 24 25.2	-0.5
HUH	**Hualalai**	**0.56**	**300**		Pg	18 24 29.1	+0.5
KHLU	**Kahalu`u**	**0.57**	**289**		Sg	18 24 36.7	+0.5
KHLU	**Kahalu`u**	**0.57**	**289**		Pg	18 24 28.4	-0.3
HPAH	**Hawaii Prepara**	**0.71**	**331**	Pg	Pg	18 24 29.9	-1.7
MHA	**Mahukona**	**0.95**	**325**	Pg	Pg	18 24 34.0	-2.0

NEIC ***03*** *18:34:25.4±2.2, 7.°20S±0.°04×129.°14E±0.°08, h139km±16km, mb4.0/8, Error ellipse: s-maj=12.2km s-min=2.6km az=112.0*
IDC ***03*** *18:34:26.4±2.1, 7.°35S×129.°00E, h143km±27km, mb3.0/1, mbtmp3.9/5, Error ellipse: s-maj=27.6km s-min=20.0km az=128.0*
ISC 03 18:34:24.5±0.7, 7.°27S±0.°05×129.°10E±0.°05, h131km, n33, σ2§59/40, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.29**	**108**	Pn	**Pn**	**18 35 03.3**	**+1.1**
SAUI				Sn	**Sn**	**18 35 33.6**	**+2.5**
SAUI	**Saumlaki**	**2.29**	**108**	P	Pn	18 35 08.0	+5.8
FAKI	**Fak Fak**	**5.34**	**36**	Pn	**Pn**	**18 35 42.7**	**+0.5**
FAKI				Sn	**Sn**	**18 36 40.6**	**-2.1**
SOEI	**Soe**	**5.38**	**242**		**Pn**	**18 35 45.1**	**+2.2**
SOEI				Sn	**Sn**	**18 36 45.3**	**+1.4**
SOEI	**Soe**	**5.38**	**242**	P	**Pn**	**18 35 46.9**	**+4.0**
MTN	**Manton Dam**	**5.89**	**160**		**Pn**	**18 35 52.4**	**+2.7**
MTN				Sn	**Sn**	**18 36 55.4**	**-0.7**
MTN	**Manton Dam**	**5.89**	**160**	P	**Pn**	**18 35 52.7**	**+3.1**
BATI	**Baumata**	**6.12**	**241**	P	**Pn**	**18 35 54.0**	**+1.4**
	33nm,0.5s,baz=275,slow=1.2,SNR=20						
BATI				S	**Sn**	**18 37 00.8**	**-0.7**
	60nm,0.7s,baz=2.3,slow=23,SNR=12						
KDU	**Kakadu**	**6.33**	**149**	P	**Pn**	**18 35 58.2**	**+2.7**
SIJI	**Sorong**	**6.71**	**19**	P	**Pn**	**18 36 02.8**	**+2.1**
	3.0nm,0.2s,baz=197,slow=21,SNR=8.1						
SIJI				S	**Sn**	**18 37 14.2**	**-1.7**
	4.7nm,0.3s,baz=290,slow=23,SNR=7.0						
MMRI	**Maumere**	**6.93**	**258**	Pn	**Pn**	**18 36 06.7**	**+3.0**
KNRA	**Kununurra**	**8.36**	**182**		**Pn**	**18 36 24.3**	**+1.4**
KNRA	**Kununurra**	**8.36**	**182**	P	**Pn**	**18 36 24.4**	**+1.5**
TOLI2	**Tolitoli**	**11.75**	**315**	Pn	**Pn**	**18 37 04.8**	**-3.5**
WB0	**Warramunga Arr**	**13.45**	**158**	Pn	**Pn**	**18 37 29.4**	**-0.9**
WRAB	**Tennant Creek**	**13.58**	**158**	Pn	**Pn**	**18 37 32.7**	**+0.7**
WRA	**Warramunga Arr**	**13.59**	**159**	P	**Pn**	**18 37 31.1**	**-0.9**
	1.8nm,0.9s,baz=331,slow=12,SNR=26						
WRA				S	**Sn**	**18 39 54.5**	**-7.7**
	4.9nm,0.9s,baz=327,slow=23,SNR=11						
WR0	**Warramunga Arr**	**13.68**	**158**	Pn	**Pn**	**18 37 32.0**	**-1.1**
COEN	**Coen**	**15.34**	**117**		**P**	**18 37 56.7**	**+0.7**
COEN				IAmb	IAmb	18 38 10.5	
	comp=Z,21nm,1.4s						
COEN	**Coen**	**15.34**	**117**	P	**P**	**18 37 57.3**	**+1.3**
PSA00	**Pilbara Seismi**	**16.80**	**211**		**Pn**	**18 38 13.5**	**+1.5**
PSA00				IAmb	IAmb	18 38 16.0	
	comp=Z,8.5nm,0.8s						
PSA00	**Pilbara Seismi**	**16.80**	**211**		**P**	**18 38 11.8**	**-0.3**
PSA00				IAmb	IAmb	18 38 34.1	
	comp=Z,11nm,1.4s						
AS31	**Alice Springs**	**16.95**	**165**	P	**P**	**18 38 13.7**	**0.0**
ASAR	**Alice Springs**	**16.95**	**165**	P	**Pn**	**18 38 14.7**	**+0.8**
ASAR	**Alice Springs**	**16.95**	**165**	P	**Pn**	**18 38 14.4**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=339,slow=10,SNR=62						
ASAR				S	**Sn**	**18 41 15.3**	**-7.6**
	comp=Z,1.1nm,0.7s,baz=322,slow=16,SNR=5.8						
WRKA	**Warakurna**	**17.69**	**182**	P	**Pn**	**18 38 24.5**	**+1.7**
OOD	**Oodnadatta**	**21.35**	**164**	P	**P**	**18 39 05.0**	**+3.6**
MULG	**Mulgathing**	**23.36**	**169**	P	**P**	**18 39 24.1**	**+2.7**
BBOO	**Buckleboo**	**26.23**	**167**	P	**P**	**18 39 47.2**	**-0.1**
STKA	**Stephens Creek**	**27.12**	**156**	P	**P**	**18 39 56.0**	**+0.6**
STKA				IAmb	IAmb	18 40 26.2	
	comp=Z,2.0nm,1.4s						
NWAO	**Narrogin (SRO)**	**27.81**	**202**	P	**P**	**18 40 00.8**	**-0.7**
NWAO	**Narrogin (SRO)**	**27.81**	**202**	P	**P**	**18 40 00.8**	**-0.7**
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**18 45 10.7**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=114,slow=7.3,SNR=2.0						
	comp=Z,0.1nm,0.4s						

SJA ***03*** *18:34:52.4±1.6, 21.°07S×67.°17W, h175km, ML3.7, MW3.6*
GUC ***03*** *18:34:53.6±0.8, 21.°17S×67.°55W, h230km±9km, ML3.8*
SCB ***03*** *18:34:53.4±1.3, 21.°26S×67.°30W, h188km±10km, ML3.6/3, MW3.7, Error ellipse: s-maj=4.6km s-min=3.1km az=0.0*
ISC 03 18:34:52.0±1.5, 21.°24S±0.°04×67.°32W±0.°04, h210km±12km, n50, σ1§29/81, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.57**	**91**	Pg	**Pn**	**18 35 27.7**	**0.0**
MOCB				Sg	**Sn**	**18 35 53.2**	**-2.2**
MOCB				IAML		18 35 54.9	
	120nm,0.4s						
PB09	**IPOC Station P**	**1.87**	**253**	Pg	**Pn**	**18 35 30.8**	**+0.7**
PB09	**IPOC Station P**	**1.87**	**253**	*eP*	**Pn**	**18 35 31.5**	**+1.3**
PB09				*eS*	**Sn**	**18 36 01.1**	**+1.3**
PB09				IAML		18 36 02.5	
	comp=E,149nm,0.3s						
PB09	**IPOC Station P**	**1.87**	**253**	*eP*	**Pn**	**18 35 30.8**	**+0.7**
PB09				*eS*	**Sn**	**18 36 00.1**	**+0.3**
PB09				IAML		18 36 02.7	
	comp=Z,135nm,0.1s						
YJA	**Yavi**	**1.92**	**119**	*eP*	**Pn**	**18 35 32.0**	**+1.0**
YJA				*eS*	**Sn**	**18 36 00.3**	**-1.0**
LVC	**Limon Verde**	**2.00**	**227**	Pg	**Pn**	**18 35 32.3**	**+0.6**
LVC	**Limon Verde**	**2.00**	**227**	*eP*	**Pn**	**18 35 32.8**	**+1.1**
LVC				*eS*	**Sn**	**18 36 02.5**	**-0.1**
LVC				IAML		18 36 04.6	
	comp=Z,309nm,0.8s						
LVC	**Limon Verde**	**2.00**	**227**	*eP*	**Pn**	**18 35 32.8**	**+1.1**
LVC				*eS*	**Sn**	**18 36 03.3**	**+0.6**
PB01	**IPOC Station P**	**2.03**	**275**	Pg	**Pn**	**18 35 32.1**	**+0.5**
PB01				Sg	**Sn**	**18 36 02.1**	**-0.4**
PB01				IAML		18 36 02.6	
	comp=Z,273nm,0.2s						
PB01	**IPOC Station P**	**2.03**	**275**	*eP*	**Pn**	**18 35 32.2**	**+0.5**
PB01				*eS*	**Sn**	**18 36 02.0**	**-0.4**
PB01				IAML		18 36 03.0	
	comp=E,338nm,0.1s						
PB01	**IPOC Station P**	**2.03**	**275**	*eP*	**Pn**	**18 35 32.1**	**+0.5**
PB01				*eS*	**Sn**	**18 36 02.4**	**-0.1**
PB01				IAML		18 36 03.0	
	comp=Z,274nm,0.2s						
PB08	**IPOC Station P**	**2.03**	**302**	Pg	**Pn**	**18 35 32.7**	**+0.7**
PB08	**IPOC Station P**	**2.03**	**302**	*eP*	**Pn**	**18 35 32.9**	**+0.9**
PB08				*i* S	**Sn**	**18 36 02.4**	**-0.8**
PB08				IAML		18 36 04.1	
	comp=N,116nm,0.3s						
PB08	**IPOC Station P**	**2.03**	**302**	*eP*	**Pn**	**18 35 32.9**	**+0.9**
PB08				*eS*	**Sn**	**18 36 03.0**	**-0.1**
GO01	**Chusmiza**	**2.35**	**311**	Pg	**Pn**	**18 35 35.7**	**+0.3**
GO01	**Chusmiza**	**2.35**	**311**	*eP*	**Pn**	**18 35 35.9**	**+0.5**
GO01				*eS*	**Sn**	**18 36 11.8**	**+2.6**
PB02	**IPOC Station P**	**2.40**	**268**	Pg	**Pn**	**18 35 36.3**	**+0.8**
PB02				Sg	**Sn**	**18 36 07.7**	**-1.8**
PB02				IAML		18 36 09.7	
	comp=N,408nm,0.2s						
PB02	**IPOC Station P**	**2.40**	**268**	*eP*	**Pn**	**18 35 36.1**	**+0.6**
PB02				*i* S	**Sn**	**18 36 07.9**	**-1.6**
PB02				IAML		18 36 10.4	
	comp=E,591nm,0.1s						
PB02	**IPOC Station P**	**2.40**	**268**	*eP*	**Pn**	**18 35 36.0**	**+0.5**
PB02				*eS*	**Sn**	**18 36 08.4**	**-1.1**
PB02				IAML		18 36 09.6	
	comp=Z,580nm,0.2s						
PB07	**IPOC Station P**	**2.43**	**258**	Pg	**Pn**	**18 35 36.9**	**+0.9**
PB07	**IPOC Station P**	**2.43**	**258**	*eP*	**Pn**	**18 35 36.4**	**+0.4**
PB07				*i* S	**Sn**	**18 36 08.5**	**-1.7**
PB07				IAML		18 36 09.1	
	comp=E,563nm,0.4s						
PB07	**IPOC Station P**	**2.43**	**258**	*eP*	**Pn**	**18 35 36.6**	**+0.7**
PB07				*eS*	**Sn**	**18 36 09.0**	**-1.2**
PB07				IAML		18 36 10.0	
	comp=Z,300nm,0.1s						
PB06	**IPOC Station P**	**2.54**	**235**	Pg	**Pn**	**18 35 38.0**	**+0.9**
PB06	**IPOC Station P**	**2.54**	**235**	*eP*	**Pn**	**18 35 38.1**	**+0.9**
PB06				*i* S	**Sn**	**18 36 12.4**	**0.0**
PB06				IAML		18 36 14.7	
	comp=E,261nm,0.2s						
PB06	**IPOC Station P**	**2.54**	**235**	*eP*	**Pn**	**18 35 38.1**	**+1.0**
PB06				*eS*	**Sn**	**18 36 13.0**	**+0.6**
PB06				IAML		18 36 16.4	
	comp=Z,152nm,0.1s						
PATCX	**Punta Patache**	**2.67**	**279**	*eP*	**Pn**	**18 35 38.8**	**+0.3**
PATCX				*eS*	**Sn**	**18 36 14.0**	**-0.9**
PATCX				IAML		18 36 15.1	
	comp=Z,219nm,0.6s						
TA01	**Diego Aracena**	**2.75**	**284**	*eP*	**Pn**	**18 35 39.1**	**-0.2**
TA01				*i* S	**Sn**	**18 36 13.6**	**-2.7**
TA01				IAML		18 36 14.7	
	comp=E,434nm,0.3s						
TA01	**Diego Aracena**	**2.75**	**284**	*eP*	**Pn**	**18 35 39.5**	**+0.1**
TA01				*eS*	**Sn**	**18 36 14.2**	**-2.1**
TA01				IAML		18 36 14.7	
	comp=Z,117nm,0.6s						
PB15	**IPOC Station P**	**2.79**	**225**	Pg	**Pn**	**18 35 40.7**	**+0.8**
PB15	**IPOC Station P**	**2.79**	**225**	*eP*	**Pn**	**18 35 40.5**	**+0.5**
PB15				*eS*	**Sn**	**18 36 17.9**	**+0.4**
PB15				IAML		18 36 21.8	
	comp=Z,515nm,0.2s						
TA02	**Huaiquique**	**2.80**	**290**	Pg	**Pn**	**18 35 40.2**	**+0.4**
TA02	**Huaiquique**	**2.80**	**290**	*eP*	**Pn**	**18 35 39.2**	**-0.6**
TA02				*i* S	**Sn**	**18 36 14.0**	**-3.2**
PB04	**IPOC Station P**	**2.84**	**247**	Pg	**Pn**	**18 35 41.6**	**+1.1**
PB04	**IPOC Station P**	**2.84**	**247**	*eP*	**Pn**	**18 35 41.0**	**+0.6**
PB04				*i* S	**Sn**	**18 36 16.2**	**-2.2**
PB04				IAML		18 36 19.5	
	comp=E,273nm,0.1s						
PB04	**IPOC Station P**	**2.84**	**247**	*eP*	**Pn**	**18 35 41.4**	**+0.9**
PB04				*eP*		18 35 41.5	
PB04				*eS*	**Sn**	**18 36 17.2**	**-1.2**
PB04				IAML		18 36 19.6	
	comp=Z,160nm

DJR	**Jarkent** 44nm,0.3s	**1.45 119**	P	**Pn**	**18 51 51.9**	**+0.2**
DJR	157nm,0.3s		S	**Sb**	**18 52 11.2**	**+0.1**
DJR	**Jarkent** 44nm,0.3s	**1.45 119**	*e*P	**Pn**	**18 51 51.9**	**+0.2**
DJR	320nm,0.1s		*e*S	**Sb**	**18 52 11.2**	**+0.1**
KURS	**Kuram** 50nm,0.2s	**1.57 176**	P	**Pb**	**18 51 54.2**	**-0.2**
KURS	286nm,0.2s		S	**Sg**	**18 52 15.9**	**+0.4**
KURS	**Kuram** 50nm,0.2s	**1.57 176**	*e*P	**Pb**	**18 51 54.2**	**-0.2**
KURS	286nm,0.2s		*e*S	**Sg**	**18 52 15.9**	**+0.4**
KTBS	**Karatobe** 58nm,0.2s	**1.65 216**	P	**Pn**	**18 51 54.4**	**-0.1**
KTBS	620nm,0.4s		S	**Sn**	**18 52 15.7**	**-0.2**
KTBS	**Karatobe** 58nm,0.2s	**1.65 216**	*e*P	**Pn**	**18 51 54.4**	**-0.1**
KTBS	668nm,0.2s		*e*S	**Sn**	**18 52 15.7**	**-0.2**
KPKS	**Kokpek** 17nm,0.1s	**1.66 163**	P	**Pb**	**18 51 55.3**	**-0.7**
KPKS	630nm,0.5s		S	**Sb**	**18 52 17.5**	**+0.5**
KPKS	**Kokpek** 42nm,0.1s	**1.66 163**	*e*P	**Pb**	**18 51 55.2**	**-0.7**
KPKS	630nm,0.2s		*e*S	**Sb**	**18 52 17.5**	**+0.5**
ZHN	**Zhinishke** 21nm,0.2s	**1.91 171**	Pg	**Pb**	**18 51 60.0**	**-0.3**
ZHN	768nm,0.3s		Lg	Lg	18 52 25.5	
ZHN	**Zhinishke** 21nm,0.2s	**1.91 171**	*e*Pg	**Pb**	**18 51 60.0**	**-0.3**
ZHN	1μm,0.1s		*e*Lg	Lg	18 52 25.5	
KOTS	**Kotyrbulak** 14nm,0.1s	**1.94 200**	P	**Pb**	**18 52 00.2**	**-0.5**
KOTS	315nm,0.3s		S	**Sb**	**18 52 25.7**	**+0.6**
KOTS	**Kotyrbulak** 14nm,0.1s	**1.94 200**	*e*Pg	**Pb**	**18 52 00.2**	**-0.5**
KOTS	315nm,0.3s		*e*Lg	Lg	18 52 25.8	
KNDC	**Almaty** 17nm,0.2s	**1.99 203**	⇑Pn	**Pn**	**18 51 59.6**	**+0.4**
KNDC	326nm,0.5s		⇑Sn	**Sg**	**18 52 27.9**	**-1.1**
AAA	**Alma-Ata**	**2.01 204**	Pg	**Pb**	**18 52 01.5**	**-0.4**
AAA			Lg	Lg	18 52 28.2	
AAA	**Alma-Ata** 41nm,0.1s	**2.01 204**	*e*Pg	**Pb**	**18 52 01.5**	**-0.4**
AAA	320nm,0.1s		*e*Lg	Lg	18 52 28.2	
SATY	**Saty** 23nm,0.1s	**2.02 172**	Pg	**Pb**	**18 52 02.2**	**+0.1**
SATY	844nm,0.2s		Lg	Lg	18 52 29.0	
SATY	**Saty** 23nm,0.1s	**2.02 172**	*e*Pg	**Pb**	**18 52 02.2**	**+0.1**
SATY	844nm,0.2s		*e*Lg	Lg	18 52 29.0	
PDGK	**Podgornoye** 8.5nm,0.2s	**2.02 148**	Pg	**Pb**	**18 51 01.3**	**-0.9**
PDGK	54nm,0.2s		Lg	Lg	18 52 28.0	
PDGK	**Podgornoye** 8.5nm,0.2s	**2.02 148**	⇑Pn	**Pn**	**18 52 00.0**	**+0.4**
PDGK	84nm,0.6s		⇓Sn	**Sb**	**18 52 28.9**	**+1.3**
UZB	**Uzynbulak** 28nm,0.2s	**2.04 159**	Pg	**Pb**	**18 51 01.9**	**-0.5**
UZB	377nm,0.2s		Lg	Lg	18 52 29.2	
UZB	**Uzynbulak** 28nm,0.1s	**2.04 159**	*e*Pg	**Pb**	**18 51 01.9**	**-0.5**
UZB	377nm,0.2s		*e*Lg	Lg	18 52 29.2	
SHLS	**Shalkode** 14nm,0.1s	**2.16 151**	Pg	**Pg**	**18 52 07.4**	**+0.9**
SHLS	114nm,0.2s		Lg	Lg	18 52 38.0	
SHLS	**Shalkode** 14nm,0.1s	**2.16 151**	*e*Pg	**Pg**	**18 52 07.4**	**+0.9**
SHLS	114nm,0.2s		*e*Lg	Lg	18 52 38.0	
TNSS	**Tian-Shan** 15nm,0.2s	**2.16 201**	Pg	**Pb**	**18 52 04.1**	**-0.7**
TNSS	52nm,0.4s		Lg	Lg	18 52 32.4	
TNSS	**Tian-Shan** 15nm,0.1s	**2.16 201**	*e*Pg	**Pb**	**18 52 04.0**	**-0.7**
TNSS	52nm,0.4s		*e*Lg	Lg	18 52 32.4	
KRBS	**Karabastau** 21nm,0.3s	**2.17 232**	Pg	**Pn**	**18 52 02.1**	**+0.6**
KRBS	82nm,0.3s		Lg	Lg	18 52 29.8	
KRBS	**Karabastau** 21nm,0.3s	**2.17 232**	*e*Pg	**Pn**	**18 52 02.1**	**+0.6**
KRBS	82nm,0.3s		*e*Lg	Lg	18 52 29.8	
MTBS	**Maitube** 3.4nm,0.2s	**2.24 211**	Pg	**Pn**	**18 52 03.6**	**+1.0**
MTBS	72nm,0.3s		Lg	Lg	18 52 31.5	
MTBS	**Maitube** 8.1nm,0.2s	**2.24 211**	*e*Pg	**Pn**	**18 52 03.6**	**+1.0**
MTBS	72nm,0.3s		*e*Lg	Lg	18 52 31.5	
IZV	**Izvestkoviy** 3.2nm,0.1s	**2.26 207**	Pg	**Pb**	**18 52 04.1**	**-2.1**
IZV	53nm,0.2s		Lg	Lg	18 52 32.5	
IZV	**Izvestkoviy** 3.2nm,0.1s	**2.26 207**	*e*Pg	**Pb**	**18 52 04.1**	**-2.1**
IZV	53nm,0.2s		*e*Lg	Lg	18 52 32.5	
KTMS	**Ketmen** 9.0nm,0.1s	**2.32 133**	Pg	**Pb**	**18 52 06.8**	**-0.4**
KTMS	44nm,0.2s		Lg	Lg	18 52 37.0	
KTMS	**Ketmen** 9.0nm,0.1s	**2.32 133**	*e*Pg	**Pb**	**18 52 06.8**	**-0.4**
KTMS	44nm,0.2s		*e*Lg	Lg	18 52 37.0	
DGS	**Degeres** 12nm,0.3s	**2.43 223**	Pg	**Pb**	**18 52 07.9**	**-1.3**
DGS	97nm,0.5s		Lg	Lg	18 52 38.9	
DGS	**Degeres** 12nm,0.3s	**2.43 223**	*e*Pg	**Pb**	**18 52 07.9**	**-1.3**
DGS	97nm,0.5s		*e*Lg	Lg	18 52 38.9	
KST	**Kastek** 7.0nm,0.2s	**2.50 217**	Pg	**Pb**	**18 52 09.3**	**-1.1**
KST	64nm,0.4s		Lg	Lg	18 52 41.2	
KST	**Kastek** 7.0nm,0.2s	**2.50 217**	*e*Pg	**Pb**	**18 52 09.3**	**-1.1**
KST	64nm,0.4s		*e*Lg	Lg	18 52 41.2	
TKM2	**Tokmak 2** SNR=6.0	**2.76 220**	P	**Pn**	**18 52 10.1**	**+0.2**
TKM2	**Tokmak 2** 4.1nm,0.3s	**2.76 220**	⇓Pn	**Pn**	**18 52 09.6**	**-0.2**
TKM2	18nm,0.3s		⇑Lg	Lg	18 52 49.1	
SGDS	**Sogindy** 2.4nm,0.3s	**2.92 238**	Pg	**Pb**	**18 52 16.4**	**-1.0**
SGDS	15nm,0.2s		Lg	Lg	18 52 53.3	
ULHL	**Ulahol** SNR=61	**3.09 205**	P	**Pn**	**18 52 16.0**	**+1.6**
USP	**Ospenovka** SNR=6.0	**3.10 236**	P	**Pg**	**18 52 22.6**	**-1.9**
CHMS	**Chumysh** SNR=5.1	**3.13 230**	P	**Pn**	**18 52 14.4**	**-0.4**
CHMS	**Chumysh** 3.3nm,0.4s	**3.13 230**	⇓Pg	**Pb**	**18 52 21.8**	**+0.8**
CHMS	18nm,0.4s		⇑Lg	Lg	18 53 00.1	
KBK	**Karagaybulak** SNR=7.9	**3.27 224**	P	**Pn**	**18 52 17.7**	**+0.9**
MK31	**Makanchi Array** 5.0nm,0.3s,baz=236,slow=15,SNR=504	**3.45 58**	⇑Pn	**Pn**	**18 52 18.7**	**-0.4**
MK31	1.3nm,0.2s,baz=239,slow=29,SNR=4.1		⇑Sn	**Sn**	**18 52 59.3**	**-0.9**
MK31	2.6nm,0.3s,baz=234,slow=28,SNR=4.2		⇑Lg	Lg	18 53 11.8	
AAK	**Ala-Archa** SNR=5.7	**3.52 228**	P	**Pn**	**18 52 20.3**	**+0.1**
UCH	**Uchtor** SNR=5.2	**3.81 223**	P	**Pn**	**18 52 25.4**	**+0.9**
EKS2	**Erkin-Say** SNR=5.7	**3.89 234**	P	**Pn**	**18 52 25.1**	**-0.2**
MRKS	**Merke** 3.1nm,0.3s	**4.17 238**	Pg	**Pb**	**18 52 39.7**	**+1.0**
MRKS	25nm,0.2s		Lg	Lg	18 53 33.3	
MRKS	**Merke** 3.1nm,0.3s	**4.17 238**	*e*Pg	**Pb**	**18 52 39.7**	**+1.0**
MRKS	25nm,0.2s		*e*Lg	Lg	18 53 33.3	
AML	**Almayashu** 5.8nm,0.7s	**4.29 229**	⇓Lg	Lg	18 53 40.1	
OTUK	**Ortayu** 1.4nm,0.3s	**5.05 311**	⇑Pg	**Pb**	**18 52 55.6**	**+1.9**
OTUK	18nm,0.6s		⇓Lg	Lg	18 53 58.1	
KURBB	**Kurchatov Arra** 17nm,0.5s	**5.58 3**	⇑Lg	Lg	18 54 17.2	
KURK	**Kurchatov** 35nm,0.7s	**5.68 4**	⇑Lg	Lg	18 54 19.1	
KK31	**Karatay Array** 0.4nm,0.2s,baz=0.0,slow=0.1,SNR=6.5	**5.75 253**	⇑Pn	Pb	18 52 57.6	-8.1
KK31	1.1nm,0.3s,baz=66,slow=16,SNR=4.3		⇑Pg	Pg	18 53 09.1	-6.2
KK31	6.4nm,0.4s,baz=61,slow=29,SNR=9.5		⇑Lg	Lg	18 54 21.6	
BVA0	**Borovoye Array** 7.6nm,1.1s,baz=133,slow=29,SNR=3.6	**9.42 331**	⇑Lg	Lg	18 56 17.3	

IDC 03 19:04:06.1±5.5, 7.66S×123.21E, h249km±35km, mb3.3/1, mbtmp3.6/4, Error ellipse: s-maj=131.0km s-min=60.7km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 17nm,0.3s,baz=331,slow=3.3,SNR=16	**2.57**	**170**	P	Pn	19 04 55.0	+1.0
BATI	68nm,0.3s,baz=127,slow=8.6,SNR=14			S	S	19 05 32.0	+0.1
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=317,slow=12,SNR=11	**16.29**	**140**	P	P	19 07 40.0	-0.3
WRA	0.5nm,0.9s,baz=313,slow=23,SNR=3.6			S	S	19 10 41.2	+3.0
ASAR	**Alice Springs** 0.8nm,0.8s,baz=332,slow=14,SNR=6.9	**18.93**	**148**	P	P	19 08 10.1	+1.2
STKA	**Stephens Creek** 0.7nm,0.4s,baz=335,slow=14,SNR=3.8	**29.56**	**147**	P	P	19 09 46.8	-1.2
	0.7nm,0.4s						

*IDC **03** 19:04:25.0±0.5, 55.26S×28.72W, h0km, mb4.9/10, mbtmp4.9/12, ML4.8/2, MS4.2/39, Error ellipse: s-maj=23.8km s-min=16.2km az=47.0*
*MOS **03** 19:04:25.0±1.2, 55.26S×28.82W, h10km, mb5.4/9, Error ellipse: s-maj=19.2km s-min=12.0km az=122.7*
*NEIC **03** 19:04:26.2±1.3, 55.26S±0.08×28.8W±0.1, h10km±1km, mb5.2/84, Error ellipse: s-maj=14.0km s-min=13.1km az=178.0*
*GCMT **03** 19:04:31.2±0.2, 55.22S±0.02×28.56W±0.03, h12km, MW5.0/93, Moment Tensor Solution. s36,c42; s93,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.45±.09; $M_{\theta\theta}$-1.85±.09; $M_{\phi\phi}$0.39±.09; $M_{r\theta}$-1.76±.26; $M_{\theta\phi}$2.13±.07; $M_{\phi r}$2.69±.25; Best double couple: $M_0$4.13100×10^{16} NP1:ϕ_s329.00000°, δ77.00000°, λ117.00000°. NP2: ϕ_s83.00000°, δ30.00000°, λ27.00000°. Principal axes: T 3.6630, Plg51.0000°, Azm270.0000°; N 0.9280, Plg27.0000°, Azm142.0000°; P -4.5980, Plg27.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 19:04:25.7±0.3, 55.27S±0.06×28.85W±0.05, h10km, n262, σ1§18/238, mb5.2/55, MS4.2/43, 11C-9D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.53**	**280**	Pn	**Pn**	**19 05 35.0**	**+0.7**
HOPE				Sn	**Sn**	**19 06 22.4**	**-4.5**
HOPE	**Hope Point**	**4.53**	**280**	P	**Pn**	**19 05 35.0**	**+0.7**
HOPE						19 06 22.4	
ORCD	**Orcadas**	**10.04**	**230**		**Pn**	**19 06 49.4**	**-0.4**
ORCD				Sn	**Sn**	**19 08 40.8**	**-1.5**
EFI	**East Falkland**	**17.69**	**270**	P	**Pn**	**19 08 29.6**	**-2.3**
EFI	**East Falkland**	**17.69**	**270**	*e*P	**P**	**19 08 34.5**	**+1.7**
VNA1	**Neumayer--Stat** comp=Z,26nm,0.7s	**17.87**	**158**	⇑P	**P**	**19 08 36.0**	**+1.3**
VNA3	**Neumayer Olymp** comp=Z,21nm,0.7s	**18.04**	**160**	⇑P	**P**	**19 08 38.1**	**+1.4**
VNA2	**Neumayer--Watz** comp=Z,15nm,0.6s,baz=315,slow=14	**18.27**	**157**	⇑P	**P**	**19 08 40.1**	**+1.0**
PMSA	**Palmer Station**	**19.72**	**227**	P	**Pn**	**19 08 57.5**	**+1.1**
PMSA	comp=Z,133nm,1.3s			IAmb	IAmb	19 09 03.8	
PMSA	**Palmer Station** comp=Z,1.0nm,0.3s,baz=81,slow=8.2,SNR=7.1	**19.72**	**227**	P	**Pn**	**19 08 57.3**	**+0.9**
PMSA	comp=Z,805nm,20.6s,baz=70,slow=32			LR	LR	19 15 02.7	
SNAA	**Sanae** comp=Z,24nm,0.8s	**19.84**	**156**	P	**P**	**19 08 56.3**	**-0.1**
SNAA	**Sanae**	**19.84**	**156***c*	*i*P	**P**	**19 08 56.9**	**+0.6**
SNAA	comp=Z,39nm,0.9s			pmax	pmax		
SNAA	**Sanae** comp=Z,428nm,0.4s	**19.84**	**156**	⇑P	**P**	**19 08 57.1**	**+0.8**
SNAA	**Sanae** comp=Z,6.4nm,0.3s,baz=304,slow=10,SNR=184	**19.84**	**156**	P	**P**	**19 08 57.1**	**+0.8**
SNAA	comp=Z,333nm,18.1s,baz=319,slow=36			LR	LR	19 16 22.4	
TROLL	**Troll, Antarti** comp=Z,1μm,0.7s	**21.36**	**154**	⇑P	**P**	**19 09 13.2**	**+0.3**
TRIS	**Tristan da Cun**	**21.41**	**39**	P	**P**	**19 09 13.0**	**-0.5**
SMAI	**San Martin Ant**	**21.77**	**219**	P	**P**	**19 09 18.6**	**+1.5**
SMAI	comp=Z,61nm,1.0s			IAmb	IAmb	19 09 27.6	
MG01	**Puerto William**	**22.00**	**255**	P	**P**	**19 09 20.4**	**+0.7**
MG01	comp=Z,81nm,0.9s			IAmb	IAmb	19 09 22.8	
BELA	**Belgrano 2**	**22.79**	**183**	P	**P**	**19 09 28.1**	**+0.1**
NVL	**N'lazarevskaya**	**23.43**	**147**	*e*P	**P**	**19 09 29.2**	**-5.4**
NVL				*e*S	**S**	**19 13 41.7**	**-5.8**
NVL	comp=Z,5.0nm,0.8s			pmax	pmax		
NVL	comp=N,448nm,11.7s			smax	smax		
MG02	**Cerro Sombrero**	**23.61**	**259**	P	**P**	**19 09 37.0**	**+0.5**
GO10	**Punta Arenas**	**24.49**	**257**	P	**P**	**19 09 45.4**	**+0.5**
MG04	**Isla Riesco**	**24.90**	**258**	P	**P**	**19 09 49.4**	**+1.0**
MG05	**Puerto Natales**	**25.90**	**260**	P	**P**	**19 09 56.5**	**-1.0**
GO09	**Cerro Castillo**	**25.99**	**261**	P	**P**	**19 09 59.1**	**+0.8**
TRQA	**Tornquist**	**28.15**	**294**	P	**P**	**19 10 18.0**	**+0.1**
TRQA	comp=Z,36nm,1.4s			IAmb	IAmb	19 10 33.8	
TRQA	**Tornquist**	**28.15**	**294**	*e*P	**P**	**19 10 18.4**	**+0.5**
COYC	**Coyhaique**	**28.77**	**271**	P	**P**	**19 10 24.5**	**+1.2**
COYC	comp=Z,45nm,1.3s			IAmb	IAmb	19 10 51.5	
PLTB	**Pedras Altas**	**29.28**	**313**	P	**P**	**19 10 27.6**	**-0.3**
PLCA	**Paso Flores** comp=Z,348nm,20.6s,baz=134,slow=37	**30.93**	**280**	LR	LR	19 23 20.9	
ITQB	**Itaqui**	**32.37**	**311**	P	**P**	**19 10 55.4**	**+0.1**
ITQB	comp=Z,42nm,1.0s			IAmb	IAmb	19 10 57.3	
ITAB	**Concordia**	**32.72**	**319**	P	**P**	**19 10 58.2**	**0.0**
QSPA	**South Pole Qui**	**34.98**	**180**	P	**P**	**19 11 19.5**	**+1.7**
BO02	**Sierra Bellavi**	**35.29**	**288**	P	**P**	**19 11 20.7**	**0.0**
CPUP	**Villa Florida**	**35.59**	**313**	P	**P**	**19 11 23.6**	**+0.4**
CPUP	comp=Z,42nm,0.9s			IAmb	IAmb	19 11 25.0	
CPUP	**Villa Florida**	**35.59**	**313**	P	**P**	**19 11 24.0**	**+0.8**
CPUP	**Villa Florida** comp=Z,44nm,1.0s,baz=149,slow=7.6,SNR=55	**35.59**	**313**	P	**P**	**19 11 23.9**	**+0.8**
CPUP	comp=Z,348nm,20.7s,baz=158,slow=35			LR	LR	19 24 59.3	
LMEL	**Las Melosas** comp=Z,44nm,1.0s	**35.69**	**290**	P	**P**	**19 11 24.9**	**+0.7**
LMEL	comp=Z,24nm,1.1s			IAmb	IAmb	19 11 40.1	
GO05	**Huala**	**35.76**	**286**	P	**P**	**19 11 24.4**	**-0.2**
BO04	**La Punta**	**35.80**	**289**	P	**P**	**19 11 24.3**	**-0.7**
MT13	**San Alfonso**	**35.81**	**290**	P	**P**	**19 11 25.1**	**-0.1**
MT13	comp=Z,79nm,1.9s			IAmb	IAmb	19 11 43.5	
MT08	**Bocatoma Ro**	**35.90**	**290**	P	**P**	**19 11 26.6**	**+0.6**
MT08	comp=Z,27nm,0.9s			IAmb	IAmb	19 11 30.1	
MT03	**Universidad Ad**	**36.12**	**290**	P	**P**	**19 11 28.1**	**+0.3**
MT03	comp=Z,38nm,1.0s			IAmb	IAmb	19 11 31.1	
MT09	**Talagante**	**36.17**	**289**	P	**P**	**19 11 28.1**	**-0.2**
MT09	comp=Z,71nm,1.3s			IAmb	IAmb	19 11 30.5	
MT01	**Popeta**	**36.24**	**288**	P	**P**	**19 11 28.5**	**-0.3**
MT01	comp=Z,26nm,0.9s			IAmb	IAmb	19 11 45.5	
CFA	**Coronel Fontan** comp=Z,464nm,20.8s,baz=135,slow=36	**36.38**	**294**	LR	LR	19 26 14.2	
PEL	**Peldehue**	**36.49**	**290**	P	**P**	**19 11 31.2**	**+0.3**
PEL	**Peldehue**	**36.49**	**290**	P	**P**	**19 11 31.2**	**+0.3**
PEL	comp=Z,78nm,1.1s			pmax	pmax		
VA05	**Santo Domingo**	**36.60**	**288**	P	**P**	**19 11 32.6**	**+0.8**
MT02	**Curacav**	**36.64**	**289**	P	**P**	**19 11 32.2**	**0.0**
MT02	comp=Z,53nm,1.2s			IAmb	IAmb	19 11 47.2	
ZON	**Zonda**	**36.66**	**294**	P	**P**	**19 11 32.5**	**+0.1**
ZON	**Zonda**	**36.66**	**294**	P	**P**	**19 11 32.5**	**+0.1**
ZON	comp=Z,17nm,0.9s			pmax	pmax		
VA03	**San Esteban**	**36.71**	**290**	P	**P**	**19 11 34.0**	**+1.2**
VA03	comp=Z,50nm,0.9s			IAmb	IAmb	19 11 47.8	
ROC1	**El Roble**	**36.79**	**290**	P	**P**	**19 11 33.9**	**+0.1**
ROC1	comp=Z,36nm,0.8s			IAmb	IAmb	19 11 51.4	
TRCB	**Terra Rica**	**36.95**	**322**	P	**P**	**19 11 34.8**	**-0.1**
VA01	**Torpederas**	**37.10**	**289**	P	**P**	**19 11 35.9**	**-0.1**
CO02	**Combarbal**	**38.16**	**291**	P	**P**	**19 11 45.0**	**-0.2**
CO02	comp=Z,78nm,1.4s			IAmb	IAmb	19 11 48.8	
CO03	**El Pedregal**	**38.28**	**292**	P	**P**	**19 11 46.6**	**+0.4**
CO03	comp=Z,108nm,2.0s			IAmb	IAmb	19 12 14.3	
CO01	**Juntas del Tor**	**38.64**	**294**	P	**P**	**19 11 49.5**	**+0.1**
GO04	**Tololo Observa**	**38.86**	**293**	P	**P**	**19 11 51.6**	**+0.4**
GO04	comp=Z,79nm,1.3s			IAmb	IAmb	19 11 53.7	
CO05	**La Serena**	**39.29**	**292**	P	**P**	**19 11 54.5**	**0.0**
CO05	comp=Z,61nm,0.8s			IAmb	IAmb	19 12 09.7	
AQDB	**Aquidauana**	**40.19**	**319**	P	**P**	**19 12 02.1**	**0.0**
GO03	**Copiap**	**40.63**	**296**	P	**P**	**19 12 05.0**	**-0.8**
GO03	comp=Z,81nm,1.7s			IAmb	IAmb	19 12 20.2	
AC02	**Maricunga**	**40.68**	**298**	P	**P**	**19 12 05.9**	**-0.8**
AC02	comp=Z,42nm,1.4s			IAmb	IAmb	19 12 42.9	
AC06	**Mina Casimiro**	**40.88**	**296**	P	**P**	**19 12 07.5**	**-0.3**
AC06	comp=Z,78nm,1.6s			IAmb	IAmb	19 12 22.2	
MAW	**Mawson**	**41.33**	**145**	P	**P**	**19 12 11.4**	**+0.4**
MAW	**Mawson**	**41.33**	**145**	P	**P**	**19 12 11.4**	**+0.4**
MAW	comp=Z,2.0nm,0.9s			pmax	pmax		
MAW	**Mawson** comp=Z,5.7nm,0.8s,baz=227,slow=9.3,SNR=10	**41.33**	**145**	P	**P**	**19 12 11.6**	**+0.6**
MAW	comp=Z,238nm,18.1s,baz=255,slow=36			LR	LR	19 29 00.4	
SUR	**Sutherland** comp=Z,350nm,19.1s,baz=183,slow=32	**41.37**	**77**	LR	LR	19 26 37.2	
BDFB	**Brasilia**	**42.22**	**332**	P	**P**	**19 12 19.1**	**+0.2**
BDFB	**Brasilia** comp=Z,8.5nm,0.8s,baz=165,slow=7.3,SNR=8.2	**42.22**	**332**	P	**P**	**19 12 19.8**	**+0.8**
BDFB	comp=Z,375nm,18.1s,baz=147,slow=37			LR	LR	19 30 32.6	
GO02	**Mina Guanaco** comp=Z,8.5nm,0.8s	**42.29**	**299**	P	**P**	**19 12 19.7**	**0.0**
GO02	comp=Z,23nm,0.8s			IAmb	IAmb	19 12 37.4	
PB15	**IPOC Station P**	**43.86**	**300**	P	**P**	**19 12 32.9**	**+0.6**
LVC	**Limon Verde**	**44.09**	**301**	P	**P**	**19 12 35.0**	**+0.7**
LVC	**Limon Verde**	**44.09**	**301**	*e*P	**P**	**19 12 35.0**	**+0.7**
LVC	**Limon Verde** comp=Z,150nm,21.8s,baz=168,slow=35	**44.09**	**301**	LR	LR	19 29 55.8	
PB09	**IPOC Station P**	**44.94**	**302**	P	**P**	**19 12 41.7**	**+0.8**
PB07	**IPOC Station P**	**45.32**	**301**	P	**P**	**19 12 44.5**	**+0.6**
PB07	comp=Z,56nm,1.5s			IAmb	IAmb	19 13 20.3	
PB02	**IPOC Station P**	**45.66**	**301**	P	**P**	**19 12 47.5**	**+0.9**
PB01	**IPOC Station P**	**45.70**	**302**	P	**P**	**19 12 47.2**	**+0.4**
PB01	comp=Z,24nm,0.9s			IAmb	IAmb	19 13 05.1	
PTLB	**Pontes e Lacer**	**46.08**	**318**	P	**P**	**19 12 49.8**	**+0.1**
PB08	**IPOC Station P**	**46.31**	**303**	P	**P**	**19 12 52.4**	**+0.4**
PB08	comp=Z,28nm,1.1s			IAmb	IAmb	19 12 58.8	
BOSA	**Boshof**	**46.71**	**78**	P	**P**	**19 12 54.3**	**-0.5**
BOSA	comp=Z,68nm,1.8s			IAmb	IAmb	19 14 24.1	
BOSA	**Boshof** comp=Z,4.6nm,0.7s,baz=218,slow=8.6,SNR=13	**46.71**	**78**	P	**P**	**19 12 54.9**	**+0.1**
BOSA	comp=Z,353nm,18.4s,baz=210,slow=30			LR	LR	19 28 04.2	
GO01	**Chusmiza** comp=Z,4.6nm,0.7s	**46.73**	**303**	P	**P**	**19 12 55.6**	**+0.1**
GO01	comp=Z,34nm,0.9s			IAmb	IAmb	19 13 15.1	
H10S2	**ASCENSION HYDR** baz=30,slow=74,SNR=3.3	**47.55**	**19**	T	T	20 04 27.5	
H10S3	**ASCENSION HYDR** baz=190,slow=74,SNR=6.4	**47.55**	**19**	T	T	20 04 28.6	
H10N1	**ASCENSION HYDR** baz=198,SNR=2.5	**48.67**	**19**	T	T	20 05 50.4	
H10N3	**ASCENSION HYDR** baz=198,SNR=5.3	**48.67**	**19**	T	T	20 05 49.8	
H10N2	**ASCENSION HYDR** baz=198,SNR=7.4	**48.68**	**19**	T	T	20 05 51.4	
H04S2	**CROZET ISLANDS** baz=230,slow=76,SNR=4.6	**48.73**	**116**	T	T	20 06 11.9	
H04S3	**CROZET ISLANDS** baz=230,slow=76,SNR=4.1	**48.74**	**116**	T	T	20 06 29.2	
H04S1	**CROZET ISLANDS** baz=230,slow=76,SNR=4.5	**48.75**	**116**	T	T	20 06 11.9	
VILB	**Vilhena**	**48.77**	**318**	P	**P**	**19 13 10.6**	**-0.1**
LPAZ	**La Paz**	**49.16**	**307**	P	**P**	**19 13 15.7**	**+1.3**
LPAZ	**La Paz**	**49.16**	**307**	P	**P**	**19 13 15.7**	**+1.3**
LPAZ	comp=Z,148nm,1.9s			pmax	pmax		
LPAZ	**La Paz**	**49.16**	**307**	*e*P	**P**	**19 13 16.1**	**+1.7**
LPAZ	**La Paz** comp=Z,18nm,0.7s,baz=133,slow=6.1,SNR=40	**49.16**	**307**	P	**P**	**19 13 16.2**	**+1.9**
LPAZ	comp=Z,150nm,18.6s,baz=158,slow=40			LR	LR	19 37 09.0	
RCBR	**Riachuelo** comp=Z,191nm,18.1s,baz=206,slow=33	**49.63**	**351**	LR	LR	19 31 56.3	
LBTB	**Lobatse**	**49.70**	**75**	P	**P**	**19 13 17.7**	**-0.2**
LBTB	comp=Z,70nm,1.8s			IAmb	IAmb	19 14 03.5	
LBTB	**Lobatse**	**49.70**	**75**	P	**P**	**19 13 17.7**	**-0.2**
LBTB	comp=Z,70nm,1.8s			pmax	pmax		
TSUM	**Tsumeb**	**50.15**	**63**	P	**P**	**19 13 21.1**	**-0.2**
TSUM	comp=Z,30nm,1.4s			IAmb	IAmb	19 13 23.1	
TSUM	**Tsumeb** comp=Z,214nm,19.6s,baz=149,slow=32	**50.15**	**63**	LR	LR	19 31 26.6	
POGA	**Pongola**	**51.33**	**83**	P	**P**	**19 13 29.5**	**-0.5**
SAML	**Samuel**	**53.59**	**316**	P	**P**	**19 13 47.3**	**+0.4**
SAML	**Samuel**	**53.59**	**316**	P	**P**	**19 13 47.3**	**+0.4**
SAML	comp=Z,64nm,1.5s			pmax	pmax		
SAML	**Samuel**	**53.59**	**316**	*e*P	**P**	**19 13 45.3**	**-1.6**
ETMB	**Extrema**	**54.04**	**312**	P	**P**	**19 13 50.4**	**+0.2**
ETMB	comp=Z,24nm,1.1s			IAmb	IAmb	19 13 52.1	
CASY	**Casey**	**54.95**	**161**	P	**P**	**19 13 56.5**	**+0.3**

CASY IAmb IAmb 19 14 10.0
comp=Z,18nm,1.1s
MATP Matopo 54.97 75 LR LR 19 34 53.4
comp=Z,59nm,19.6s,baz=241,slow=33
NNA Nana 57.04 300 LR LR 19 41 59.9
comp=Z,110nm,18.1s,baz=159,slow=40
MACA Manacapuru-AM 57.97 322 P **P 19 14 17.4 -0.8**
LSZ Lusaka 58.99 71 LR LR 19 38 45.8
comp=Z,326nm,18.1s,baz=201,slow=35
ATAH Atahualpa 61.99 301 LR LR 19 43 43.0
comp=Z,152nm,19.4s,baz=138,slow=38
RPN Rapa Nui 62.85 261 LR LR 19 37 47.3
comp=Z,159nm,18.9s,baz=132,slow=32
BOAV Boa Vista 63.09 324 P **P 19 14 52.8 -0.5**
MDP Montagnes des 63.31 333 LR LR 19 42 37.9
comp=Z,292nm,18.1s,baz=146,slow=36
LIC Lamto 64.40 26⇑*eP* **P 19 15 02.1 +0.3**
comp=Z,14nm,0.8s
KIC Kosan Boka 64.60 27⇑*eP* **P 19 15 01.1 -2.1**
comp=Z,19nm,1.1s
TIC Toumodi 64.80 26⇑*eP* **P 19 15 03.8 -0.7**
comp=Z,14nm,0.9s
DBIC Dimbokro 64.87 27 P **P 19 15 04.3 -0.5**
DBIC Dimbokro 64.87 27 P **P 19 15 04.4 -0.5**
MCRA Macar, Loja 65.14 301 P **P 19 15 07.1 +0.3**
MCRA Macar, Loja 65.14 301 *eP* **P 19 15 05.4 -1.5**
BOSC San Juan Bosco 65.49 303 P **P 19 15 09.7 +0.5**
ABPO Ambohimpanom 66.68 90 P **P 19 15 15.8 -1.1**
ABPO IAmb IAmb 19 15 21.3
comp=Z,21nm,1.2s
ABPO Ambohimpanom 66.68 90 P **P 19 15 15.8 -1.1**
ABPO pmax pmax
comp=Z,21nm,1.3s
OTAV Otavalo 68.44 305 P **P 19 15 27.1 -1.1**
OTAV IAmb IAmb 19 15 44.3
comp=Z,16nm,1.1s
OTAV Otavalo 68.44 305 *eP* **P 19 15 27.2 -1.1**
PRAC Prado 69.90 310 *eP* **P 19 15 36.5 -0.4**
ORTC Ortega, Tolima 70.23 310 *eP* **P 19 15 39.7 +0.8**
JAMC Jamundi, Valle 70.25 308 *eP* **P 19 15 40.5 +1.3**
ROSC El Rosal 70.66 311 P **P 19 15 43.4 +1.5**
comp=Z,12nm,0.5s,baz=216,slow=19,SNR=3.6
ROSC LR LR 19 47 14.7
comp=Z,153nm,21.9s,baz=116,slow=36
comp=Z,12nm,0.5s
YOTC Yotoco, Valle 70.78 309 *eP* **P 19 15 43.0 +0.7**
RUSC La Rusia 71.08 313 *eP* **P 19 15 44.7 +0.2**
GUY2C Guyana, Caldas 71.45 310 *eP* **P 19 15 47.2 +0.4**
NORC Norcasia 71.54 311 *eP* **P 19 15 45.6 -1.3**
PCRV Puerto La Cruz 71.75 323 LR LR 19 48 32.9
comp=Z,127nm,19.2s,slow=37
BAUV El Baul 71.85 319 P **P 19 15 48.3 -0.2**
KOWA Kowa 72.60 25 P **P 19 15 52.5 -0.6**
KOWA IAmb IAmb 19 15 55.1
comp=Z,18nm,1.2s
KOWA Kowa 72.60 25 LR LR 19 40 48.8
comp=Z,132nm,20.9s,baz=194,slow=30
MBAR Mbarara 72.65 65⇓*iP* **P 19 15 56.0 +2.3**
MBAR pmax pmax
comp=Z,13nm,1.6s
MBAR Mbarara 72.65 65 LR LR 19 44 05.8
comp=Z,255nm,20.8s,baz=206,slow=33
SDV Santo Domingo 72.79 316 P **P 19 15 54.7 +0.2**
SDV IAmb IAmb 19 15 56.3
comp=Z,23nm,0.9s
SDV Santo Domingo 72.79 316 LR LR 19 48 47.9
comp=Z,263nm,20.2s,baz=140,slow=37
TOA0 Torodi Ar. Sit 72.86 31 P **P 19 15 54.7 +0.1**
TOA0 IAmb IAmb 19 15 56.3
comp=Z,17nm,0.9s
TORD Torodi Ar. Bea 72.86 31 IAmb IAmb 19 15 56.3
comp=Z,15nm,0.9s
TORD Torodi Ar. Bea 72.86 31 P **P 19 15 55.3 +0.7**
comp=Z,15nm,1.0s,baz=195,slow=4.5,SNR=46
TORD LR LR 19 40 50.3
comp=Z,493nm,21.9s,baz=164,slow=30
comp=Z,15nm,1.0s
ZARC Zaragoza, Cauc 73.27 312 *eP* **P 19 15 54.8 -2.3**
UREC San Jos de Ur 73.79 311 *eP* **P 19 16 00.7 +0.5**
PTAC Punta Ardita, 74.24 309 *eP* **P 19 16 01.5 -1.3**
KMBO Kilima Mbogo 75.66 71⇓*eP* **P 19 16 10.6 -0.7**
KMBO Kilima Mbogo 75.66 71 LR LR 19 46 33.9
comp=Z,369nm,20.0s,baz=96,slow=34
SJG San Juan 79.66 324 LR LR 19 56 09.0
comp=Z,38nm,18.0s,baz=114,slow=39
RPZ Rata Peaks 79.94 195 LR LR 19 49 32.4
comp=Z,169nm,18.8s,baz=130,slow=34
JTS Las Juntas de 80.30 304 P **P 19 16 37.1 +0.4**
JTS IAmb IAmb 19 16 40.3
comp=Z,17nm,1.0s
JTS Las Juntas de 80.30 304⇓*eP* **P 19 16 38.1 +1.3**
ACON Acoyapa 81.86 305 P **P 19 16 45.2 +0.2**
TAM Tamanrasset 83.11 32 P **P 19 16 51.5 -0.1**
TAM Tamanrasset 83.11 32 P **P 19 16 51.5 -0.1**
TAM pmax pmax
comp=Z,7.0nm,1.0s
RTZ Ruatahuna 83.90 200 P **P 19 16 55.9 +0.3**
RTZ IAmb IAmb 19 16 58.3
comp=Z,16nm,1.2s
URZ Urewera 84.22 200 LR LR 19 49 12.3
comp=Z,134nm,21.9s,baz=213,slow=32
MTO3 Montecristo 85.97 302 P **P 19 17 06.4 +0.2**
TBI Tubuai 86.82 232 *eLR* LR 19 44 17.8
comp=Z,3μm,23.5s
TBI *eLR* LR 19 44 27.1
comp=Z,798nm,28.0s
ATD Arta Tunnel 89.24 69 LR LR 19 56 32.3
comp=Z,15nm,18.2s,baz=186,slow=35
MDT Midelt 90.17 20 LR LR 19 51 38.8
comp=Z,105nm,21.9s,baz=176,slow=31
TEIG Tepich 90.49 306 LR LR 20 01 39.3
comp=Z,343nm,18.7s,baz=198,slow=38
RAO Raoul Island 91.73 207 LR LR 19 49 00.5
comp=Z,103nm,21.8s,baz=112,slow=29
PPT2 Papeete2 91.86 235 *eLR* LR 19 46 44.6
comp=Z,184nm,25.5s
PPT2 *eLR* LR 19 46 50.3
comp=Z,154nm,28.2s
PPT Papeete 91.88 235 LR LR 19 49 22.4
comp=Z,72nm,21.4s,baz=182,slow=29
STKA Stephens Creek 92.82 172⇓*eP* **P 19 17 38.4 +0.1**
STKA Stephens Creek 92.82 172 P **P 19 17 38.5 +0.2**
comp=Z,3.1nm,0.9s,baz=147,slow=8.0,SNR=4.8
STKA LR LR 19 58 25.8
comp=Z,334nm,19.2s,baz=200,slow=35
comp=Z,3.1nm,0.9s
RAR Rarotonga 93.14 225 LR LR 19 53 54.7
comp=Z,54nm,20.1s,baz=110,slow=32
KEST Kesra 96.37 30 LR LR 19 56 00.6
comp=Z,416nm,21.3s,baz=172,slow=32
ESDC Sonseca Array 96.94 19 P **P 19 17 58.7 +1.9**
ESDC IAmb IAmb 19 18 18.9
comp=Z,14nm,2.0s
ESDC Sonseca Array 96.94 19 P **P 19 17 57.0 +0.3**
comp=Z,1.6nm,1.0s,baz=197,slow=4.4,SNR=6.7
ESDC LR LR 19 56 30.2
comp=Z,143nm,21.0s,baz=190,slow=32
comp=Z,1.6nm,1.0s
ASAR Alice Springs 100.01 164 P **Pdif 19 18 10.3 -0.8**
comp=Z,3.0nm,1.0s,baz=203,slow=3.8,SNR=11
ASAR PP **PP 19 22 14.8 -0.5**
comp=Z,1.0nm,0.8s,baz=182,slow=8.0,SNR=6.4
ASAR LR LR 19 59 25.0
comp=Z,118nm,22.0s,baz=223,slow=33
comp=Z,3.0nm,1.0s
DZM Mont Dzumac 101.87 194 *eLR* LR 19 51 31.9
comp=Z,238nm,21.9s
WRA Warramunga Arr 103.73 164 Pdiff **Pdif 19 18 29.8 +2.1**
comp=Z,1.0nm,1.0s,baz=194,slow=4.2,SNR=3.1
KIV Kislovodsk 115.87 50 *i* PKIKP **PKiKP 19 23 08.4 +0.7**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,80nm,22.0s
MAK Makhachkala 117.25 53 *i* P **Pdif 19 19 30.6 +3.7**
MAK *i* 19 23 07.5
MAK *e* 19 29 58.8
MAK pmax pmax
comp=Z,217nm,1.3s
PLID Pearl Lake 123.96 301 PKPdf **PKiKP 19 23 24.2 +0.5**
FINES FINESS Array B 124.14 28 PKP **PKiKP 19 23 23.3 +0.1**
comp=Z,3.6nm,0.9s,baz=354,slow=1.9,SNR=8.1
ICESG Greenland Ices 124.31 355 *eP* **PKPdf 19 23 23.4 -0.1**
BMO Blue Mountains 124.43 300 PKPdf **PKiKP 19 23 24.8 +0.3**
BMO Blue Mountains 124.43 300 PKIKP **PKiKP 19 23 24.8 +0.3**
BELG Belogornoye 124.48 46⇓*i* PKIKP **PKiKP 19 23 25.5 +1.4**
PYUN Piuthan 124.92 90 *eP* **PKPdf 19 23 25.8 0.0**
comp=Z,13nm,0.9s
DANN Dangsing 125.55 91 *eP* **PKPdf 19 23 26.7 -0.4**
comp=Z,17nm,0.8s
G08A Pilot Rock 125.56 300 PKPdf **PKiKP 19 23 27.4 +0.6**
DMN Daman 125.75 92 *eP* **PKPdf 19 23 27.6 +0.1**
comp=Z,16nm,1.1s
GKN Gorkha 125.78 92 *eP* **PKPdf 19 23 26.3 -1.1**
comp=Z,12nm,1.0s
PKIN Phulchoki 125.89 93 *eP* **PKPdf 19 23 27.7 -0.1**
comp=Z,16nm,1.3s
PKI Pulchoki 125.90 93 *eP* **PKPdf 19 23 27.7 -0.2**
comp=Z,10nm,1.2s
RAMN Ramite 126.10 94 *eP* **PKiKP 19 23 29.2 +0.6**
comp=Z,8.3nm,0.7s
CMAR Chiang Mai Arr 126.23 112 PKP **PKiKP 19 23 28.7 0.0**
comp=Z,1.9nm,1.0s,baz=240,slow=3.8,SNR=9.3
JIRN Jiri 126.41 93 *eP* **PKPdf 19 23 28.7 -0.2**
comp=Z,16nm,1.0s
CHTO Chiang Mai 126.52 111 **PKiKP 19 23 29.1 -0.2**
CHTO Chiang Mai 126.52 111 PKIKP **PKiKP 19 23 29.1 -0.2**
TAPN Taplejung 127.04 95 *eP* **PKPdf 19 23 29.7 -0.3**
comp=Z,10.0nm,0.8s
MND Mandalay 127.59 106 PKPdf **PKPdf 19 23 30.7 -0.1**
ABKAR Akbulak array 127.71 56 PKPdf **PKPdf 19 23 30.3 +0.2**
SUMG Summit 127.73 356 *i* P **PKiKP 19 23 31.0 +0.4**
KKAR Karatay Array 128.80 68 PKPdf **PKPdf 19 23 32.0 -0.5**
KKAR Karatay Array 128.80 68 PKIKP **PKPdf 19 23 32.0 -0.5**
KSH Kashi 129.27 75 PKP **PKiKP 19 23 34.8 +0.4**
PRGR Permogore 130.35 37 *e*PKIKP **PKPdf 19 23 35.1 +0.4**
PRGR pmax pmax
comp=Z,11nm,0.9s
ARCES ARCESS Array B 130.57 22 PKP **PKPdf 19 23 35.2 +0.2**
comp=Z,2.9nm,0.7s,baz=358,slow=2.9,SNR=5.7
AAK Ala-Archa 130.61 71⇓*e*PKIKP **PKPdf 19 23 36.2 +0.1**
TNCH TengChong 131.31 106 PKP **PKPdf 19 23 32.1 -6.0**
ARU Arti 131.88 48 PKPdf **PKPdf 19 23 37.6 -0.2**
ARU Arti 131.88 48 *i* PKIKP **PKiKP 19 23 38.1 +0.3**
SVE Sverdlovsk 133.02 49 *e*PKIKP **PKiKP 19 23 41.9 +0.7**
PZH PanZhiHua 134.24 108 PKP **PKiKP 19 23 44.6 -0.2**
YKA Yellowknife Ar 134.96 319 PKP **PKiKP 19 23 44.2 -0.7**
comp=Z,2.8nm,0.9s,baz=135,slow=1.6,SNR=4.3
BRVK Borovoye 135.13 58⇑*e*PKIKP **PKPdf 19 23 44.7 +0.6**
BVAR Borovoye Array 135.16 58 PKP **PKPdf 19 23 44.8 +0.6**
comp=Z,4.8nm,0.9s,baz=241,slow=3.1,SNR=13
MKAR Makanchi Array 137.53 72 PKP **PKiKP 19 23 50.1 -0.6**
comp=Z,1.1nm,0.9s,baz=270,slow=2.1,SNR=5.7
GOMU GeErMu 137.63 93 PKP **PKiKP 19 23 51.8 +0.1**
KURBB Kurchatov Arra 137.82 65 PKP **PKPdf 19 23 49.1 0.0**
comp=Z,2.2nm,0.2s,baz=239,slow=2.9,SNR=5.9
KURK Kurchatov 137.93 65⇑*e*PKIKP **PKiKP 19 23 50.8 -0.5**
WMQ Urumqi 138.68 79 *e*PKP **PKiKP 19 23 52.4 -0.8**
CD2 Chengdu 138.78 106 PKP **PKPdf 19 23 52.0 +0.4**
DGZ Jazzator, Alta 142.02 71⇓*e*PKIKP **PKPdf 19 23 57.5 +0.5**
GTA Gaotai 142.71 93 *e*PKP **PKPdf 19 23 55.6 -3.0**
ZALV Zalesovo Beam 142.87 64 PKP **PKPdf 19 23 56.1 -2.0**
comp=Z,1.0nm,0.5s,baz=200,slow=3.0,SNR=5.4
HYT Haines Junctio 143.57 309 **PKPdf 19 23 58.3 -1.1**
N30M Aishikik Lake 143.64 310 PKPbc 19 23 57.9 +1.0
XAN Xi'an 143.98 108 PKP **PKPdf 19 24 00.2 -0.7**
XAN LR LR
comp=Z,320nm,14.4s
XAN LR LR
comp=Z,420nm,16.1s
XAN LR LR
comp=Z,220nm,14.1s
J30M Hart River 144.48 315 PKPdf **PKPdf 19 24 00.3 -0.5**
INK Inuvik 144.60 322 PKPdf **PKPdf 19 24 00.4 -0.3**
INK Inuvik 144.60 322 PKIKP **PKPdf 19 24 00.4 -0.3**
EPYK Eagle Plains 145.21 318 **PKPdf 19 24 02.3 +0.3**
DAWY Dawson 145.57 313 PKPdf **PKPdf 19 24 02.2 -0.4**
F28M Old Crow 146.74 319 PKPdf **PKPdf 19 24 04.4 -0.1**
F28M **PKPab 19 24 07.5 0.0**
SCRK Sand Creek 147.48 312 PKPdf **PKPdf 19 24 05.5 -0.5**
SCRK PKPbc **pPKPbc 19 24 09.7 -0.9**
NJ2 Nanjing 147.55 122 *e*PKPbc **PKPdf 19 24 06.4 -0.5**
NJ2 pPKP **PKPbc 19 24 10.2 +0.6**
NJ2 sPKP 19 24 15.7
PRP Porcupine Dome 148.49 315 **PKPbc 19 24 11.7 +0.5**
HDA Harding Lake 148.84 312 **PKPbc 19 24 12.6 +0.6**
ILAR Eielson Array 148.89 313 PKP **PKPdf 19 24 07.1 -1.0**
comp=Z,36nm,0.9s,baz=94,slow=0.8,SNR=11
ILAR PKPbc **PKiKP 19 24 12.9 -0.5**
comp=Z,36nm,0.9s,baz=126,slow=1.7,SNR=160
NRIK Noril'sk 148.98 38 **PKiKP 19 24 13.2 -0.3**
NRIK Noril'sk 148.98 38⇓*e*PKP2 **PKPbc 19 24 12.6 +0.4**
NRIK Noril'sk 148.98 38 PKPbc **PKPbc 19 24 12.4 +0.2**
comp=Z,5.0nm,0.8s,baz=232,slow=6.0,SNR=5.0
POKR Poker Plat Res 149.19 313 **PKPbc 19 24 12.8 0.0**
BTO Baotou 149.30 101 *e*PKPbc **PKPdf 19 24 11.2 +1.5**
BTO PP **PP 19 27 52.7 +6.1**
BTO SS SS 19 47 00.3 +0.7
BTO LR LR
comp=Z,490nm,14.1s
BTO LR LR
comp=Z,480nm,15.9s
BTO LR LR
comp=Z,280nm,17.5s
H24K Noodor Dome 149.50 315 **PKPbc 19 24 14.2 +0.5**
HNS HongShan 149.61 111⇓PKPbc **PKPbc 19 24 12.9 -1.8**
SUA Susitna One 149.83 306 **PKiKP 19 24 15.6 0.0**
I23K Minto, Yukon-K 150.00 313 **PKPbc 19 24 14.9 +0.1**
HHC Hu-ho-hao-te 150.33 102 *e*PKPbc **PKPdf 19 24 08.5 -2.8**
MOY Mondy 150.46 76 *e*PKIKP **PKiKP 19 24 18.2 +1.0**
MOY pmax pmax
comp=Z,37nm,1.7s
TOLK Toolik Lake Re 150.48 320 PKPdf **PKPdf 19 24 10.9 +0.4**
TOLK **PKPbc 19 24 16.2 +0.3**
ILSW Iliamna Southw 150.57 302 PKPdf **PKPdf 19 24 09.0 -2.1**
ILSW **PKPbc 19 24 16.6 +0.1**
ZAK Zakamensk 151.14 80 *e*PKIKP **PKPbc 19 24 17.6 -0.5**
ZAK pmax pmax
comp=Z,14nm,1.2s
O18K Koktuh Hills 151.54 301 **PKiKP 19 24 19.2 +0.1**
SONM Songino Array 151.62 86 PKPdf **PKPdf 19 24 11.6 -1.5**
SONM **PKiKP 19 24 19.6 -0.1**
SONM Songino Array 151.62 86 PKP **PKPdf 19 24 12.8 -0.3**
comp=Z,0.4nm,0.7s,baz=94,slow=24,SNR=5.2
SONM PKPbc **PKiKP 19 24 19.7 -0.1**
comp=Z,7.3nm,0.8s,baz=219,slow=3.5,SNR=35
SONM PKPab **sPKPab 19 24 30.4 -0.2**
comp=Z,10.0nm,0.7s,baz=224,slow=3.0,SNR=14
J20K Nowinta River 151.89 311 **PKiKP 19 24 19.9 +0.3**
IMAR Indian Mountai 151.91 315 **PKPdf 19 24 10.9 -1.9**
IMAR PKPbc **PKiKP 19 24 20.2 +0.6**
IMAR PKPab **sPKPab 19 24 32.9 +1.6**
ULN Ulaanbaatar 152.01 87 **PKPbc 19 24 20.4 +0.1**
ULN Ulaanbaatar 152.01 87 PKIKP **PKPbc 19 24 20.4 +0.1**
MDJ Mudanjiang 162.58 119 PKP **PKPdf 19 24 27.3 +0.4**
MDJ AMB AMB
comp=Z,220nm,6.0s

*IPEC **03** 19:18:27.8±0.1, 50°.26N×18°.88E, h1km, ML2.1/3, Error ellipse: s-maj=2.4km s-min=0.8km az=170.0*
PRU 03 19:18:28.1, 50°.28N×18°.84E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.62**	**95**	*e*Pg	Pg	19 18 39.0	-1.0
OJC				*e*Sg	Sg	19 18 47.0	-1.0
OKC	**Ostrava-Krasne**	**0.63**	**225**	*e*PG	Pg	19 18 39.7	-0.4
OKC				*e*SG	Sg	19 18 49.1	+0.8
	comp=Z,14nm,0.4s						
MORC	**Moravsky Berou**	**0.98**	**239**	*e*Pg	Pg	19 18 46.8	0.0
	baz=60						
MORC				*e*Sg	Sg	19 18 58.9	-0.5
	25nm,0.4s,baz=60						
MORC	**Moravsky Berou**	**0.98**	**239**	*e*PG	Pg	19 18 46.9	+0.1
MORC				*e*SG	Sg	19 18 59.0	-0.4
MAUC	**Maruska**	**1.13**	**216**	*e*PG	Pg	19 18 48.8	-0.9
MAUC				*e*SG	Sg	19 19 03.9	-0.3
	comp=Z,96nm,0.4s						
LANS	**Liptovska Anna**	**1.20**	**160**	*e*PG	Pg	19 18 50.4	-0.7
LANS				*e*SG	Sg	19 19 05.9	-0.8
LANS				*e*LG	Lg	19 19 10.7	
NIE	**Niedzica**	**1.28**	**132**	*e*Pg	Pg	19 18 52.7	+0.1
NIE				*e*Sg	Sb	19 19 09.7	-0.3
DPC	**Dobruska-Polom**	**1.62**	**273**	*e*PG	Pn	19 18 57.4	-0.5
DPC				*e*SG	Sn	19 19 19.5	0.0
	comp=Z,10nm,0.3s						
OSTC	**Ostas**	**1.70**	**280**	*e*PG	Pn	19 18 58.8	-0.3
OSTC				*e*SG	Sg	19 19 22.8	+0.1
	comp=Z,7.5nm,0.5s						
KSP	**Ksiaz**	**1.72**	**290**	*e*Pg	Pg	19 19 01.1	0.0
KSP				*e*Sg	Sg	19 19 24.0	+0.7
VRAC	**Vranov**	**1.75**	**237**	*e*Pn	Pn	19 18 59.3	-0.4
	baz=56						
VRAC				*e*Sg	Sn	19 19 22.9	+0.2
	14nm,0.3s,baz=56						
VRAC	**Vranov**	**1.75**	**237**	*e*PN	Pn	19 18 59.4	-0.3
VRAC				*e*SG	Sn	19 19 23.0	+0.3
STHS	**Stebnicka Huta**	**1.78**	**118**	*e*PN	Pn	19 18 59.9	-0.2
STHS				*e*SN	Sn	19 19 23.2	-0.3
STHS				*e*LG	Lg	19 19 31.9	
VYHS	**Vyhne**	**1.79**	**180**	*e*P	Pn	19 18 59.8	-0.4
VYHS	**Vyhne**	**1.79**	**180**	*e*PN	Pn	19 18 59.8	-0.4
VYHS				*e*SN	Sn	19 19 22.2	-1.4
CHVC	**Chvalec**	**1.81**	**281**	*e*PG	Pn	19 19 00.2	-0.3
CHVC				*e*SG	Sb	19 19 25.0	-0.3
	comp=Z,4.5nm,0.3s						
UPC	**Upice**	**1.82**	**278**	*e*SG	Sg	19 19 26.5	-0.2
	comp=Z,4.2nm,0.3s						
KRUC	**Moravsky**	**2.00**	**233**	*e*Pn	Pn	19 19 03.0	-0.2
	baz=52						
KRUC				*e*Sg	Sb	19 19 30.6	-0.2
	12nm,0.6s,baz=52						
KECS	**Kecovo**	**2.10**	**148**	*e*SN	Sn	19 19 27.7	-3.5
GOPC	**GO Pecny, Ondr**	**2.63**	**264**	*e*SG	Sg	19 19 51.1	-1.6
	comp=Z,5.5nm,0.5s						
PVCC	**Panska Ves**	**2.74**	**277**	*e*SG	Sg	19 19 55.5	-0.7
	comp=Z,7.1nm,0.3s						
PRU	**Pruhonice**	**2.78**	**266**	*e*SG	Sg	19 19 56.0	-1.4
	comp=Z,3.2nm,0.5s						
ZVC	**Zvikov**	**3.12**	**256**	*e*PG	Pb	19 19 23.5	-1.0
ZVC				*e*SG	Sg	19 20 06.4	-2.0
	comp=Z,4.0nm,0.7s						
BRG	**Berggiesshubel**	**3.18**	**283**	Sg	Sg	19 20 08.8	-1.3
BRG				Amp		19 20 12.2	
	comp=Z,3.6nm,0.4s						
CKRC	**Cesky Krumlov**	**3.29**	**245**	*e*SG	Sg	19 20 12.1	-1.7
HSKC	**Hora Svate Kat**	**3.47**	**277**	*e*SG	Sg	19 20 17.7	-1.9
KHC	**Kasperske Hory**	**3.60**	**253**	*e*PG	Pb	19 19 32.4	-0.3
KHC				*e*SG	Sg	19 20 21.7	-2.1
	comp=Z,6.0nm,0.5s						
NKC	**Novy Kostel**	**4.10**	**272**	*e*SG	Sg	19 20 38.1	-1.7

*SOME **03** 19:37:47.3, 42°.07N×73°.35E, h15km*
*KRNET **03** 19:37:47.1±0.1, 42°.09N×73°.35E, h18km, mb2.0*
*NNC **03** 19:37:49.0±0.9, 42°.16N×73°.40E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=6.7km s-min=3.8km az=25.0*
ISC 03 19:37:47.2±1.0, **42°.08N**±0°.03×**73°.35E**±0°.02, **h12**km±11km, **n25**, σ0°.67/40, **14C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.26**	**79**	⇓P	**Pg**	**19 37 53.2**	**+0.3**
	0.2nm,0.2s						
AML				⇑S	**Sg**	**19 37 56.6**	**-0.1**
	1.4nm,0.3s						
MRKS	**Merke**	**0.67**	**352**	P	**Pg**	**19 38 00.4**	**+0.1**
	14nm,0.1s						
MRKS				S	**Sg**	**19 38 09.2**	**+0.1**
	30nm,0.1s						
MRKS	**Merke**	**0.67**	**352**	*e*P	**Pg**	**19 38 00.4**	**+0.1**
	14nm,0.1s						
MRKS				*e*S	**Sg**	**19 38 09.2**	**+0.1**
	30nm,0.1s						
MNAS	**Manas**	**0.74**	**303**	⇓*iP*	**Pg**	**19 38 01.4**	**-0.3**
	baz=3.0						
MNAS				⇓*iS*	**Sg**	**19 38 11.6**	**+0.1**
	baz=3.0						
ARLS	**Aral**	**0.76**	**107**	⇓*iP*	**Pg**	**19 38 01.8**	**-0.2**
	baz=8.0						
ARLS				⇓*iS*	**Sg**	**19 38 12.2**	**+0.2**
	baz=8.0						
ARK	**Arkit**	**1.07**	**255**	⇑*iP*	**Pb**	**19 38 07.6**	**-0.2**
	baz=55						
ARK				⇑*iS*	**Sg**	**19 38 22.4**	**+0.5**
	baz=55						
OHH	**Osh**	**1.61**	**195**	⇓*iP*	**Pb**	**19 38 17.2**	**+0.2**
	baz=95						
OHH				⇓*iS*	**Sg**	**19 38 39.1**	**-0.1**
	baz=95						
SGDS	**Sogindy**	**1.66**	**34**	P	**Pb**	**19 38 18.0**	**+0.2**
	1.2nm,0.1s						
SGDS				S	**Sb**	**19 38 39.3**	**+0.6**
	3.4nm,0.1s						
TRKS	**Terek-Say**	**1.74**	**252**	⇑*e*P	**Pb**	**19 38 19.1**	**-0.1**
	baz=50						
TRKS				⇑*e*S	**Sg**	**19 38 42.6**	**-0.6**
	baz=50						
TKM2	**Tokmak 2**	**1.86**	**63**	⇑P	**Pg**	**19 38 22.3**	**-0.6**
	3.8nm,0.3s						
TKM2				⇑S	**Sg**	**19 38 45.7**	**-1.4**
	1.0nm,0.3s						
BOOM	**Boomskoye usch**	**1.97**	**77**	⇓*iP*	**Pb**	**19 38 23.2**	**+0.1**
	baz=77						
BOOM				⇓*iS*	**Sg**	**19 38 49.1**	**-1.4**
	baz=77						
SFK	**Sufi-Kurgan**	**2.07**	**177**	⇑*iP*	**Pb**	**19 38 24.8**	**-0.1**
	baz=77						
SFK				⇑*iS*	**Sb**	**19 38 52.3**	**+1.6**
	baz=77						
NRN	**Naryn**	**2.09**	**107**	⇑*iP*	**Pb**	**19 38 24.6**	**-0.6**
	baz=8.0						
NRN				⇑*iS*	**Sb**	**19 38 52.0**	**+0.8**
	baz=8.0						
DGS	**Degeres**	**2.13**	**56**	Pg	**Pb**	**19 38 26.7**	**+0.9**
	3.2nm,0.3s						
DGS				Lg	Lg	19 38 55.0	
	4.9nm,0.3s						
DGS	**Degeres**	**2.13**	**56**	*e*Pg	**Pb**	**19 38 26.7**	**+0.9**
	3.2nm,0.3s						
DGS				*e*Lg	Lg	19 38 55.0	
	4.9nm,0.1s						
KST	**Kastek**	**2.16**	**63**	Pg	**Pg**	**19 38 28.0**	**-0.6**
	4.0nm,0.2s						
KST				Lg	Lg	19 38 57.2	
	6.4nm,0.4s						
KST	**Kastek**	**2.16**	**63**	*e*Pg	**Pg**	**19 38 27.5**	**-1.1**
	4.0nm,0.2s						
KST				*e*Lg	Lg	19 38 56.2	
	6.4nm,0.4s						
KK31	**Karatay Array**	**2.33**	**297**	⇑Pn	**Pg**	**19 38 32.6**	**+0.7**
	0.2nm,0.3s,baz=125,slow=17,SNR=7.0						
KK31				⇓Sn	**Sg**	**19 39 02.4**	**+0.3**
	0.7nm,0.3s,baz=121,slow=26,SNR=7.8						
KKAR	**Karatay Array**	**2.33**	**297**	⇑*iP*	**Pb**	**19 38 28.0**	**-1.2**
	baz=97						
KKAR				⇑*iS*	**Sb**	**19 38 57.9**	**0.0**
	baz=97						
KRBS	**Karabastau**	**2.35**	**46**	Pg	**Pb**	**19 38 29.4**	**-0.1**
	1.0nm,0.3s						
KRBS				Lg	Lg	19 39 00.1	
	1.9nm,0.2s						
KRBS	**Karabastau**	**2.35**	**46**	*e*Pg	**Pb**	**19 38 29.4**	**-0.1**
	1.0nm,0.3s						
KRBS				*e*Lg	Lg	19 38 59.4	
	1.9nm,0.2s						
IUG	**Iuzhnay**	**2.47**	**273**	Pg	**Pg**	**19 38 33.8**	**-0.7**
	2.8nm,0.2s						
IUG				Lg	Lg	19 39 07.3	
	5.0nm,0.3s						
IUG	**Iuzhnay**	**2.47**	**273**	*e*Pg	**Pg**	**19 38 33.8**	**-0.7**
	2.8nm,2.3s						
IUG				*e*Lg	Lg	19 39 07.3	
	5.0nm,0.3s						
KTBS	**Karatobe**	**2.94**	**55**	Pg	**Pb**	**19 38 40.3**	**+0.6**
	0.4nm,0.2s						
KTBS	**Karatobe**	**2.94**	**55**	*e*Pg	**Pb**	**19 38 40.3**	**+0.6**
	0.5nm,0.2s						
KTBS				*e*Lg	Lg	19 39 18.1	
	3.6nm,0.2s						

*KRNET **03** 19:39:14.9±0.1, 42°.12N×73°.37E, h14km, mb2.6*
*NNC **03** 19:39:16.5±0.6, 42°.17N×73°.40E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=5.1km s-min=3.0km az=21.0*
*KNET **03** 19:39:17.2±0.3, 42°.18N×73°.51E, h10km, ml2.0, Error ellipse: s-maj=2.1km s-min=1.0km az=83.0*
ISC 03 19:39:15.3±1.1, **42°.17N**±0°.03×**73°.35E**±0°.02, **h3**km±10km, **n38**, σ0°.88/61, **32C-11D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.26**	**99**	P	**Pg**	**19 39 20.7**	**+0.4**
	241nm,0.1s,SNR=336						
AML				⇑S	**Sg**	**19 39 24.1**	**+0.4**

714nm,0.2s
AML Almayashu 0.26 99 ⇑P Pg 19 39 20.7 +0.4
1.3nm,0.2s
AML ⇑S Sg 19 39 24.3 +0.5
10nm,0.3s
MRKS Merke 0.58 351 P Pb 19 39 27.8 -0.4
71nm,0.1s
MRKS S Sb 19 39 35.9 -1.0
262nm,0.3s
EKS2 Erkin-Say 0.58 32 ⇑P Pb 19 39 27.6 -0.7
4.3nm,0.1s,SNR=31
EKS2 ⇑S Sb 19 39 35.6 -1.4
27nm,0.1s
MNAS Manas 0.70 297 ⇓iP Pg 19 39 29.1 +0.3
baz=0.0
MNAS ⇓iS Sg 19 39 39.2 +1.2
baz=0.0
ARLS Aral 0.79 113 ⇓iP Pg 19 39 29.4 -1.0
baz=10.0
ARLS ⇓iS Sg 19 39 39.7 -0.9
baz=10.0
UCH Uchtor 0.86 86 ⇑P Pg 19 39 31.6 -0.3
13nm,0.1s,SNR=14
UCH ⇓S Sg 19 39 43.3 +0.1
43nm,0.2s
AAK Ala-Archa 0.97 61 ⇑P Pg 19 39 34.0 +0.1
14nm,0.2s,SNR=9.8
AAK ⇑S Sg 19 39 47.1 +0.8
21nm,0.2s
ARK Arkit 1.10 251 ⇑iP Pg 19 39 35.6 -0.8
baz=54
ARK ⇑iS Sg 19 39 50.7 0.0
baz=54
FRU1 Bishkek 1.14 55 ⇑iP Pg 19 39 36.9 -0.3
baz=53
FRU1 ⇑iS Sb 19 39 52.8 -0.2
baz=53
KBK Karagaybulak 1.28 67 ⇑P Pg 19 39 39.6 -0.3
16nm,0.1s
CHMS Chumysh 1.32 51 ⇑P Pn 19 39 40.7 -0.1
7.5nm,0.2s,SNR=13
CHMS ⇓S Sn 19 39 58.8 -0.2
14nm,0.1s
USP Ospenovka 1.38 37 ⇑P Pg 19 39 42.1 +0.3
7.1nm,0.1s,SNR=8.9
USP ⇑S Sn 19 40 00.8 +0.3
36nm,0.2s
SGDS Sogindy 1.59 36 P Pb 19 39 45.5 +0.1
3.5nm,0.2s
SGDS S Sg 19 40 06.7 +0.4
20nm,0.1s
OHH Osh 1.70 195 ⇑iP Pn 19 39 45.4 -0.6
baz=96
OHH ⇑iS Sn 19 40 07.6 -0.7
baz=96
TRKS Terek-Say 1.77 250 ⇑eP Pn 19 39 47.9 +0.8
baz=49
TRKS ⇑eS Sg 19 40 12.1 -0.2
baz=49
TKM2 Tokmak 2 1.82 65 ⇑P Pb 19 39 49.0 -0.4
64nm,0.2s,SNR=66
TKM2 ⇑S Sg 19 40 14.4 +0.6
29nm,0.1s
TKM2 Tokmak 2 1.82 65 ⇓P Pb 19 39 49.3 -0.1
28nm,0.3s
TKM2 ⇑S Sg 19 40 14.4 +0.6
9.3nm,0.3s
BOOM Boomskoye usch 1.94 80 ⇑iP Pb 19 39 50.6 -0.9
baz=78
BOOM ⇑iS Sb 19 40 16.6 +0.3
baz=78
DGS Degeres 2.08 58 Pg Pb 19 39 54.2 +0.4
28nm,0.4s
DGS Lg Lg 19 40 22.8
35nm,0.3s
NRN Naryn 2.11 110 ⇓iP Pn 19 39 52.3 +0.4
baz=9.0
NRN ⇓iS Sn 19 40 19.5 +0.7
baz=9.0
KST Kastek 2.12 65 Pg Pb 19 39 54.8 +0.4
28nm,0.2s
KST Lg Lg 19 40 24.3
45nm,0.5s
ULHL Ulahol 2.15 87 ⇑P Pb 19 39 54.6 -0.5
9.4nm,0.2s,SNR=26
SFK Sufi-Kurgan 2.16 177 ⇑iP Pn 19 39 52.8 +0.4
baz=77
SFK ⇑iS Sn 19 40 20.5 +0.7
baz=77
KRBS Karabastau 2.29 47 Pg Pb 19 39 56.9 -0.4
6.3nm,0.3s
KRBS Lg Lg 19 40 28.4
20nm,0.3s
KK31 Karatay Array 2.29 295 ⇓Pn Pb 19 39 57.1 -0.3
1.0nm,0.2s,baz=117,slow=15,SNR=23
KK31 ⇓Sn Sg 19 40 29.4 +0.4
6.4nm,0.3s,baz=113,slow=25,SNR=12
KKAR Karatay Array 2.29 295 ⇑iP Pb 19 39 55.8 -1.6
baz=96
KKAR ⇑iS Sb 19 40 25.7 -0.5
baz=96
MTBS Maitube 2.46 66 Pg Pb 19 40 00.8 +0.5
29nm,0.4s
MTBS Lg Lg 19 40 33.8
16nm,0.4s
IUG Iuzhnay 2.47 271 Pg Pb 19 40 01.3 +0.9
21nm,0.2s
IUG Lg Lg 19 40 34.0
32nm,0.3s
BTK Batken 2.85 223 ⇑iP Pn 19 40 02.7 +0.9
baz=24
BTK ⇑iS Sn 19 40 37.6 +0.9
baz=24
KTBS Karatobe 2.89 57 Pg Pb 19 40 07.7 +0.1
2.1nm,0.2s
KTBS Lg Lg 19 40 45.3
28nm,0.5s
BTLS Baital 2.91 10 Pg Pb 19 40 08.7 +0.8
2.3nm,0.2s
BTLS Lg Lg 19 40 46.8
16nm,0.3s
SATY Saty 3.83 75 Pg Pb 19 40 25.2 +1.5
4.3nm,0.1s
SATY Lg Lg 19 41 15.7
15nm,0.4s
ARXS Arharly 3.86 57 Pg Pb 19 40 26.0 +2.0
6.1nm,0.5s
ARXS Lg Lg 19 41 17.0
8.8nm,0.6s
KPKS Kokpek 4.13 70 Pg Pg 19 40 32.2 -2.3
5.7nm,0.4s
KPKS Lg Lg 19 41 26.2
8.1nm,0.5s
BLB Baldybastay 4.22 61 Pg Pg 19 40 33.5 -2.6
1.6nm,0.1s
BLB Lg Lg 19 41 30.3
9.2nm,0.6s
UZB Uzynbulak 4.29 75 Pg Pb 19 40 32.0 +0.5
4.0nm,0.4s
UZB Lg Lg 19 41 27.5
4.2nm,0.3s
PDGK Podgornoye 4.67 74 Pg Pb 19 40 39.9 +2.0
0.7nm,0.4s
PDGK Lg Lg 19 41 42.2
1.6nm,0.6s

IDC 03 19:41:10.5±7.1, 8°.99S×113°.92E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=134.6km s-min=102.4km az=23.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.54**	**121**	P	P	19 46 11.2	-1.1
	0.8nm,0.5s,baz=295,slow=12,SNR=23						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**24.05**	**130**	P	P	19 46 28.1	+0.4
	0.9nm,0.6s,baz=305,slow=9.0,SNR=12						
	0.9nm,0.6s						
STKA	**Stephens Creek**	**34.32**	**136**	P	P	19 47 59.6	+0.6
	0.9nm,0.5s,baz=299,slow=10,SNR=3.4						
	0.9nm,0.5s						

*IDC **03** 19:52:52.0±1.8, 3°.83N×128°.45E, h0km, mb4.0/8, mbtmp4.0/8, MS2.5/2, Error ellipse: s-maj=197.6km s-min=16.0km az=69.0*
*NEIC **03** 19:53:01.1±2.4, 3°.82N±0°.10×128°.4E±0°.1, h62km±8km, mb4.3/14, Error ellipse: s-maj=18.2km s-min=13.7km az=66.0*

ISC 03 19:52:58.5±0.6, 3°.82N±0°.09×128°.3E±0°.2, h46km, n35, σ0.75/31, mb4.3/14, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.18**	**198**		**Pn**	**19 53 46.7**	**+0.6**
DAV	**Davao City (W)**	**4.24**	**320**	LR	LR	19 55 56.5	
	comp=Z,72nm,19.6s,baz=144,slow=43						
SIJI	**Sorong**	**5.50**	**148**	LR	LR	19 56 12.4	
	comp=Z,44nm,20.5s,baz=90,slow=37						
LUWI	**Luwuk**	**7.37**	**229**		Pn	19 54 47.2	+3.6
FAKI	**Fak Fak**	**7.75**	**150**	Pn	**Pn**	**19 54 48.9**	**+0.1**
TOLI2	**Tolitoli**	**8.02**	**251**	Pn	Pn	19 54 56.3	+3.8
MYLDM	**Lahad Datu**	**9.90**	**278**	Pn	Pn	19 55 22.4	+4.0
KNRA	**Kununurra**	**19.37**	**179**	P	**Pn**	**19 57 21.2**	**-0.8**
KNRA				IAmb	IAmb	19 57 50.6	
	comp=Z,30nm,1.5s						
WB0	**Warramunga Arr**	**24.18**	**166**	P	**P**	**19 58 09.7**	**-1.1**
WB0				IAmb	IAmb	19 58 12.0	
	comp=Z,8.1nm,0.8s						
WRA	**Warramunga Arr**	**24.34**	**166**	P	**P**	**19 58 11.8**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=345,slow=10,SNR=32						
	comp=Z,3.5nm,0.7s						
WB2	**Warramunga Arr**	**24.34**	**166**	P	**P**	**19 58 10.6**	**-1.7**
WB2				IAmb	IAmb	19 58 13.6	
	comp=Z,5.3nm,0.8s						
ASAR	**Alice Springs**	**27.85**	**169**	P	**P**	**19 58 44.4**	**+0.4**
ASAR	**Alice Springs**	**27.85**	**169**	P	**P**	**19 58 43.1**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=351,slow=7.6,SNR=12						
	comp=Z,0.3nm,0.4s						
BBOO	**Buckleboo**	**37.16**	**169**	P	**P**	**20 00 05.9**	**+0.8**
STKA	**Stephens Creek**	**37.67**	**161**	P	**P**	**20 00 09.4**	**-0.1**
STKA	**Stephens Creek**	**37.67**	**161**	P	**P**	**20 00 09.1**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=345,slow=6.1,SNR=4.1						
	comp=Z,1.3nm,0.7s						
SONM	**Songino Array**	**47.75**	**340**	P	**P**	**20 01 31.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=150,slow=8.6,SNR=4.5						
	comp=Z,0.7nm,0.7s						
MK31	**Makanchi Array**	**58.41**	**324**	P	**P**	**20 02 49.9**	**+0.4**
MK31				IAmb	IAmb	20 03 26.8	
	comp=Z,4.0nm,1.4s						
MKAR	**Makanchi Array**	**58.41**	**324**	P	**P**	**20 02 49.2**	**-0.3**
MKAR				PcP	**PcP**	**20 03 39.0**	**-1.0**
MKAR	**Makanchi Array**	**58.41**	**324**	P	**P**	**20 02 50.1**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=117,slow=8.0,SNR=26						
	comp=Z,1.3nm,0.5s						
MAKZ	**Makanchi**	**58.60**	**324**	P	**P**	**20 02 51.2**	**+0.4**
ZALV	**Zalesovo Beam**	**61.25**	**332**	P	**P**	**20 03 08.1**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=108,slow=9.5,SNR=2.4						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**62.54**	**327**	P	**P**	**20 03 17.8**	**+0.2**
	comp=Z,1.5nm,0.2s,baz=123,slow=6.3,SNR=13						
	comp=Z,1.5nm,0.2s						
BVAR	**Borovoye Array**	**68.13**	**327**	P	**P**	**20 03 54.4**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=132,slow=7.4,SNR=12						
	comp=Z,2.0nm,0.6s						
BRVK	**Borovoye**	**68.20**	**327**	P	**P**	**20 03 53.8**	**-0.4**
BRVK				IAmb	IAmb	20 03 55.1	
	comp=Z,2.8nm,0.7s						
CASY	**Casey**	**71.10**	**188**	P	**P**	**20 04 12.8**	**+1.1**
CASY				IAmb	IAmb	20 04 31.4	
	comp=Z,6.4nm,1.1s						
GEYT	**Alibeck**	**72.09**	**309**	P	**P**	**20 04 17.7**	**-0.7**
ABKAR	**Akbulak array**	**73.10**	**320**	P	**P**	**20 04 23.2**	**-0.9**
ARU	**Arti**	**75.72**	**327**	P	**P**	**20 04 38.8**	**-0.3**
M20K	**Styx River**	**81.24**	**28**	P	**P**	**20 05 10.6**	**+1.0**
IMAR	**Indian Mountai**	**81.61**	**24**	P	**P**	**20 05 12.1**	**+0.7**
CAST	**Castle Rocks**	**81.94**	**27**	P	**P**	**20 05 13.8**	**+0.6**
CAST				IAmb	IAmb	20 05 18.0	
	comp=Z,4.5nm,1.4s						
BWN	**Browne**	**83.18**	**26**	P	**P**	**20 05 20.6**	**+1.0**
BMAR	**Burnt Mountain**	**85.38**	**23**	P	**P**	**20 05 31.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**124.42**	**289**	PKP	**PKiKP**	**20 11 54.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=18,slow=3.0,SNR=4.2						

*KRSC **03** 20:11:45.9±1.4, 55°.18N×167°.01E, h40km±17km, Ml4.8*
*IDC **03** 20:11:46.8±0.7, 55°.33N×166°.83E, h0km, mb4.1/16, mbtmp4.1/19, ML4.0/3, MS3.5/16, Error ellipse: s-maj=20.4km s-min=14.0km az=162.0*
*MOS **03** 20:11:50.4±0.9, 55°.25N×166°.74E, h41km, mb4.6/25, MS3.4/5, Error ellipse: s-maj=6.7km s-min=5.2km az=168.6*
*NEIC **03** 20:11:50.7±1.6, 55°.3N±0°.1×166°.9E±0°.1, h27km±5km, mb4.5/75, Error ellipse: s-maj=18.2km s-min=8.4km az=179.0*

ISC 03 20:11:51.5±0.4, 55°.18N±0°.05×166°.84E±0°.04, h35km, n397, σ1.40/417, mb4.4/76, MS3.5/19, 8C-8D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.50**	**273**	PN	**Pn**	**20 11 58.6**	**-3.4**
BKI				S	**Sn**	**20 12 06.2**	**-3.1**
BKI	**Bering**	**0.50**	**273**	*eP*	**Pn**	**20 11 58.6**	**-3.4**
BKI				*eS*	**Sn**	**20 12 06.6**	**-2.7**
KBTR	**Krutoberegovo**	**2.50**	**296**	PN	**Pn**	**20 12 27.1**	**-2.4**
KBTR				S	**Sn**	**20 12 57.5**	**-1.2**
KBG	**Krutoberegovo**	**2.57**	**296**	PN	**Pn**	**20 12 28.0**	**-2.6**
KBG				S	**Sn**	**20 12 59.6**	**-1.0**
KBG	**Krutoberegovo**	**2.57**	**296**	*eP*	**Pn**	**20 12 28.0**	**-2.6**
MKZ	**Mys Kozlova**	**3.02**	**260**	PN	**Pn**	**20 12 35.9**	**-0.7**
MKZ				S	**Sn**	**20 13 12.1**	**+0.6**
MKZ	**Mys Kozlova**	**3.02**	**260**	*eP*	**Pn**	**20 12 35.5**	**-1.2**
MKZ				*eS*	**Sn**	**20 13 11.1**	**-0.4**
SMKR	**Semkarok**	**3.33**	**297**	PN	**Pn**	**20 12 39.7**	**-1.4**
SMKR	**Semkarok**	**3.33**	**297**	*eP*	**Pn**	**20 12 40.6**	**-0.5**
SMKR				*eS*	**Sn**	**20 13 21.1**	**+1.7**
BDR	**Baidarnaya**	**3.46**	**296**	PN	**Pn**	**20 12 42.7**	**-0.2**
BDR	**Baidarnaya**	**3.46**	**296**	*eP*	**Pn**	**20 12 42.6**	**-0.3**
SRKR	**Sorokina**	**3.51**	**297**	PN	**Pn**	**20 12 43.2**	**-0.4**
SRKR	**Sorokina**	**3.51**	**297**	*eP*	**Pn**	**20 12 43.7**	**+0.1**
ZLN	**Zelenaya**	**3.52**	**286**	PN	**Pn**	**20 12 44.1**	**+0.4**
ZLN	**Zelenaya**	**3.52**	**286**	*eP*	**Pn**	**20 12 44.1**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**3.57**	**285**	PN	**Pn**	**20 12 44.3**	**-0.1**
BZGR				S	**Sn**	**20 13 27.6**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**3.57**	**285**	*eP*	**Pn**	**20 12 44.5**	**+0.1**
CIRR	**Tsirk**	**3.57**	**288**	PN	**Pn**	**20 12 44.3**	**-0.1**
CIRR	**Tsirk**	**3.57**	**288**	*eP*	**Pn**	**20 12 44.4**	**-0.1**
LGNR	**Loginova**	**3.60**	**287**	PN	**Pn**	**20 12 45.7**	**+0.8**
LGNR	**Loginova**	**3.60**	**287**	*eP*	**Pn**	**20 12 45.8**	**+0.9**
BZP	**Bezymyannyi-Pe**	**3.65**	**284**	*eP*	**Pn**	**20 12 45.4**	**-0.1**
KLY	**Klyuchi**	**3.67**	**291**	PN	**Pn**	**20 12 44.0**	**-1.7**
KLY	**Klyuchi**	**3.67**	**291**	*eP*	**Pn**	**20 12 44.0**	**-1.7**
KLY				*eS*	**Sn**	**20 13 27.7**	**0.0**
BZMR	**Bezymyannaya**	**3.68**	**284**	PN	**Pn**	**20 12 46.2**	**+0.2**
BZWR	**Bezymyannyi-We**	**3.68**	**285**	PN	**Pn**	**20 12 46.3**	**+0.3**
BZWR	**Bezymyannyi-We**	**3.68**	**285**	*eP*	**Pn**	**20 12 46.3**	**+0.3**
TUMD	**Tumrok D**	**3.69**	**273**	*eP*	**Pn**	**20 12 45.8**	**-0.1**
TUMD				*eS*	**Sn**	**20 13 30.0**	**+1.8**
KRSR	**Krestovskiy**	**3.70**	**289**	*eS*	**Sn**	**20 13 31.6**	**+3.1**
KZV	**Kizimen**	**3.75**	**272**	PN	**Pn**	**20 12 46.9**	**0.0**
KZV	**Kizimen**	**3.75**	**272**	*eP*	**Pn**	**20 12 47.0**	**0.0**
KZV				*eS*	**Sn**	**20 13 31.3**	**+1.3**
KIRR	**Kirishev**	**3.77**	**285**	PN	**Pn**	**20 12 47.7**	**+0.5**
KIRR	**Kirishev**	**3.77**	**285**	*eP*	**Pn**	**20 12 47.6**	**+0.5**
KIRR				*eS*	**Sn**	**20 13 32.9**	**+2.6**
KMNR	**Kamenistaya**	**3.80**	**281**	PN	**Pn**	**20 12 48.5**	**+0.9**
KMNR	**Kamenistaya**	**3.80**	**281**	*eP*	**Pn**	**20 12 48.4**	**+0.9**
KMNR				*eS*	**Sn**	**20 13 34.2**	**+3.2**
TUMR	**Tumrok**	**3.83**	**274**	PN	**Pn**	**20 12 45.7**	**-2.3**
TUMR				S	**Sn**	**20 13 29.6**	**-2.2**
TUMR	**Tumrok**	**3.83**	**274**	*eP*	**Pn**	**20 12 48.6**	**+0.7**
TUMR				*eS*	**Sn**	**20 13 34.1**	**+2.3**
KPT	**Kopyto**	**3.84**	**285**	PN	**Pn**	**20 12 48.6**	**+0.6**
KPT	**Kopyto**	**3.84**	**285**	*eP*	**Pn**	**20 12 48.5**	**+0.4**
KOZ	**Kozyrevsk**	**4.04**	**285**	PN	**Pn**	**20 12 51.9**	**+1.1**
KOZ	**Kozyrevsk**	**4.04**	**285**	*eP*	**Pn**	**20 12 51.9**	**+1.1**
SRDR	**Sredinnyy**	**4.18**	**289**	PN	**Pn**	**20 12 53.1**	**+0.3**
SRDR	**Sredinnyy**	**4.18**	**289**	*eP*	**Pn**	**20 12 53.0**	**+0.3**
KII	**Karymskiy**	**4.45**	**258**	PN	**Pn**	**20 12 56.6**	**+0.2**
KII	**Karymskiy**	**4.45**	**258**	*eP*	**Pn**	**20 12 56.6**	**+0.2**
SPN	**Mys Shipunski**	**4.52**	**245**	PN	**Pn**	**20 12 56.9**	**-0.4**
SPN	**Mys Shipunski**	**4.52**	**245**	*eP*	**Pn**	**20 12 56.9**	**-0.4**
SPN				*eS*	**Sn**	**20 13 48.0**	**-0.5**
OSSR	**Ossora**	**4.57**	**335**	PN	**Pn**	**20 12 55.2**	**-2.7**
OSSR	**Ossora**	**4.57**	**335**	*eP*	**Pn**	**20 12 55.3**	**-2.7**
ESO	**Esso**	**4.68**	**282**	PN	**Pn**	**20 12 59.8**	**+0.3**
ESO	**Esso**	**4.68**	**282**	*eP*	**Pn**	**20 13 00.7**	**+1.2**
NLC	**Nalytchevo**	**4.84**	**248**	PN	**Pn**	**20 13 02.4**	**+0.7**
NLC	**Nalytchevo**	**4.84**	**248**	*eP*	**Pn**	**20 13 02.3**	**+0.6**
SHEM	**Shemya Is, Ala**	**4.94**	**117**	Pn	**Pn**	**20 13 01.5**	**-1.6**
	36nm,0.3s,baz=6.0,slow=3.2,SNR=30						
SHEM				Sn	**Sn**	**20 13 56.7**	**-2.3**
	7.3nm,0.3s,baz=343,slow=23,SNR=7.4						
	108nm,0.4s						
SMY	**Shemya**	**4.94**	**117**	Pn	**Pn**	**20 13 01.8**	**-1.3**
SMY				Sn	**Sn**	**20 13 56.2**	**-2.8**
SDLR	**Sedlovina**	**5.04**	**251**	PN	**Pn**	**20 13 04.6**	**0.0**
SDLR	**Sedlovina**	**5.04**	**251**	*eP*	**Pn**	**20 13 04.5**	**0.0**
SDLR				*eS*	**Sn**	**20 14 01.0**	**-0.5**
SMAR	**Somma**	**5.09**	**251**	PN	**Pn**	**20 13 05.3**	**-0.1**
SMAR	**Somma**	**5.09**	**251**	*eP*	**Pn**	**20 13 05.1**	**-0.3**
KRER	**Koryakskii**	**5.10**	**252**	PN	**Pn**	**20 13 05.9**	**+0.4**
KRER	**Koryakskii**	**5.10**	**252**	*eP*	**Pn**	**20 13 06.1**	**+0.6**
KRER				*eS*	**Sn**	**20 14 03.2**	**0.0**
UGLR	**Uglovaya**	**5.10**	**251**	PN	**Pn**	**20 13 06.2**	**+0.8**
UGLR	**Uglovaya**	**5.10**	**251**	*eP*	**Pn**	**20 13 05.8**	**+0.4**
AVH	**Avacha**	**5.12**	**251**	PN	**Pn**	**20 13 06.2**	**+0.5**
AVH	**Avacha**	**5.12**	**251**	*eP*	**Pn**	**20 13 06.4**	**+0.7**
AVH				*eS*	**Sn**	**20 14 04.6**	**+1.0**
KRX	**Arik**	**5.13**	**253**	PN	**Pn**	**20 13 06.4**	**+0.5**
KRX	**Arik**	**5.13**	**253**	*eP*	**Pn**	**20 13 06.2**	**+0.3**
KOK	**Koryaka**	**5.17**	**252**	PN	**Pn**	**20 13 07.0**	**+0.6**
KOK	**Koryaka**	**5.17**	**252**	*eP*	**Pn**	**20 13 06.9**	**+0.6**
DALK	**Dalny**	**5.22**	**249**	PN	**Pn**	**20 13 06.8**	**-0.2**
DALK	**Dalny**	**5.22**	**249**	*eP*	**Pn**	**20 13 06.7**	**-0.2**
PET	**Petropavlovsk**	**5.28**	**249**		**Pn**	**20 13 07.0**	**-0.8**
PET				Sn	**Sn**	**20 14 04.3**	**-2.9**
PET	**Petropavlovsk**	**5.28**	**249**	*e*PN	**Pn**	**20 13 07.5**	**-0.2**
PET				pmax	pmax		
	comp=Z,104nm,0.4s						
PET				MLR	MLR		
	comp=Z,300nm,14.0s						
PET	**Petropavlovsk**	**5.28**	**249**	*eP*	**Pn**	**20 13 08.0**	**+0.2**
TILK	**Tilichiki**	**5.29**	**356**	*eP*	**Pn**	**20 13 06.6**	**-1.3**
GNL	**Ganaly**	**5.40**	**258**	PN	**Pn**	**20 13 10.4**	**+0.9**
GNL	**Ganaly**	**5.40**	**258**	*eP*	**Pn**	**20 13 10.4**	**+0.9**
RUS	**Russkaya**	**5.65**	**244**	PN	Pn	20 13 04.7	-8.1
KRMR	**Karymshinskiy**	**5.65**	**249**	PN	**Pn**	**20 13 13.1**	**+0.3**
KRMR	**Karymshinskiy**	**5.65**	**249**	*eP*	**Pn**	**20 13 12.9**	**+0.1**
PEA0B	**Petropavlovsk-**	**5.76**	**253**	Pn	**Pn**	**20 13 14.4**	**+0.1**
PEA0B				Sn	**Sn**	**20 14 19.5**	**+0.4**
PEA0B	**Petropavlovsk-**	**5.76**	**253⇑**	*e*PN	**Pn**	**20 13 14.8**	**+0.5**
PETK	**Petropavlovsk-**	**5.76**	**253**	Pn	**Pn**	**20 13 13.5**	**-0.8**
PETK	**Petropavlovsk-**	**5.76**	**253**	Pn	**Pn**	**20 13 13.9**	**-0.4**
	comp=Z,14nm,0.3s,baz=77,slow=33,SNR=140						
PETK				Sn	**Sn**	**20 14 20.2**	**+1.1**
	comp=Z,10nm,0.3s,baz=26,slow=17,SNR=6.9						
PETK				LR	LR	20 15 42.0	
	comp=Z,280nm,20.5s,baz=45,slow=40						
	comp=Z,55nm,0.5s						
MTVR	**Mutnovka**	**5.79**	**246**	Pn	**Pn**	**20 13 16.1**	**+1.2**
GRL	**Gorelyy**	**5.81**	**247**	PN	**Pn**	**20 13 15.9**	**+0.7**
GRL	**Gorelyy**	**5.81**	**247**	*eP*	**Pn**	**20 13 15.4**	**+0.2**
ASAK	**Asacha**	**5.99**	**246**	PN	**Pn**	**20 13 18.3**	**+0.6**
ASAK	**Asacha**	**5.99**	**246**	*eP*	**Pn**	**20 13 18.2**	**+0.6**
APC	**Apacha**	**6.13**	**252**	PN	**Pn**	**20 13 20.6**	**+1.2**
APC	**Apacha**	**6.13**	**252**	*eP*	**Pn**	**20 13 21.0**	**+1.5**
KDTR	**Khodutka, Kamc**	**6.22**	**241**	PN	**Pn**	**20 13 19.9**	**-0.7**
KDTR	**Khodutka, Kamc**	**6.22**	**241**	*eP*	**Pn**	**20 13 20.0**	**-0.7**
PAU	**Pauzhetka**	**7.06**	**242**	PN	**Pn**	**20 13 34.0**	**+1.8**
PAU	**Pauzhetka**	**7.06**	**242**	*eP*	**Pn**	**20 13 34.2**	**+2.0**
KMSK	**Kamenskaya**	**7.32**	**358**	*eP*	**Pn**	**20 13 34.0**	**-1.6**
SKR	**Severo-Kuril's**	**7.89**	**240**	*e*PN	**Pn**	**20 13 43.1**	**-0.4**
SKR				pmax	pmax		
	comp=Z,43nm,0.4s						
SKR				MLR	MLR		
	comp=Z,2μm,17.0s						
SKR	**Severo-Kuril's**	**7.89**	**240**	*eP*	**Pn**	**20 13 43.0**	**-0.5**
AMKA	**Amchitka**	**8.38**	**112**	Pn	**Pn**	**20 13 50.4**	**+0.1**
MA2	**Magadan**	**9.72**	**303**	LR	LR	20 17 49.5	
	comp=Z,152nm,20.2s,baz=108,slow=38						
ADK	**Adak**	**10.35**	**102**	Pn	**Pn**	**20 14 15.3**	**-1.9**
ADK	**Adak**	**10.35**	**102**	PN	**Pn**	**20 14 15.3**	**-1.9**
SEY	**Seymchan**	**10.73**	**322**	LR	LR	20 18 52.5	
	comp=Z,158nm,18.5s,baz=134,slow=40						
ATKA	**Atka Island**	**11.63**	**97**	Pn	**Pn**	**20 14 31.9**	**-2.8**
M11K	**Mekoryuk**	**15.23**	**59**	P	**Pn**	**20 15 22.2**	**-1.3**
	baz=263						
UNV	**Unalaska Valle**	**15.51**	**84**		**Pn**	**20 15 29.4**	**+2.2**
UNV	**Unalaska Valle**	**15.51**	**84**	P	**P**	**20 15 31.1**	**-0.1**
	baz=286,SNR=6.8						
AKUT	**Akutan**	**15.85**	**82**	Pn	**Pn**	**20 15 29.6**	**-2.0**
TNA	**Tin City**	**16.11**	**40**	P	**Pn**	**20 15 32.8**	**-2.0**
	baz=242						
M13K	**Dall Lake**	**16.64**	**60**	P	**Pn**	**20 15 41.3**	**-0.3**
	baz=266						
ANM	**Nome**	**16.67**	**45**	P	**Pn**	**20 15 42.7**	**+0.6**
	baz=249						
J14K	**Nanvaranak Lak**	**16.91**	**51**	P	**Pn**	**20 15 45.2**	**+0.2**
	baz=258						
FALS	**False Pass**	**17.00**	**79**	P	**Pn**	**20 15 45.8**	**-0.5**
	baz=284						
L14K	**Kuka Creek**	**17.06**	**56**	P	**P**	**20 15 48.2**	**-0.2**
	baz=263,SNR=9.3						
YSS	**Yuzh-Sakhalins**	**17.16**	**251**	*eP*	**P**	**20 15 51.8**	**+2.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
M14K	**Bethel**	**17.35**	**59**	P	**P**	**20 15 51.7**	**+0.2**
	baz=266,SNR=7.0						
F15K	**North Star Dit**	**17.39**	**41**	P	**P**	**20 15 53.0**	**+0.9**
	baz=247						
N14K	**Kuskokwak Cree**	**17.44**	**61**	P	**Pn**	**20 15 52.1**	**+0.5**
	baz=269						
O14K	**Tigyukauivet M**	**17.64**	**64**	P	**Pn**	**20 15 54.4**	**+0.2**
	baz=271						
K15K	**Wolf Creek Mou**	**17.75**	**54**	P	**Pn**	**20 15 56.2**	**+0.8**
	baz=261						
M15K	**Kasigluk River**	**17.97**	**59**	P	**Pn**	**20 15 58.6**	**+0.5**
	baz=267,SNR=5.9						
H16K	**Elim**	**17.97**	**46**	P	**P**	**20 15 59.9**	**+1.4**
	baz=253						
N15K	**Kwethluk River**	**18.24**	**61**	P	**Pn**	**20 16 02.2**	**+0.7**
	baz=269						
C16K	**Lisburne Hills**	**18.35**	**33**	P	**Pn**	**20 16 04.1**	**+1.4**
	baz=239						
O15K	**Ungalikthiuk R**	**18.39**	**64**	P	**Pn**	**20 16 04.2**	**+0.9**
	baz=273						
SDPT	**Sand Point**	**18.54**	**76**	P	**P**	**20 16 04.2**	**-0.5**
SDPT				IAmb	IAmb	20 16 18.0	
	comp=Z,35nm,1.0s						
L16K	**Owhat River**	**18.63**	**56**	P	**Pn**	**20 16 08.8**	**+2.6**
	baz=265,SNR=7.6						
S14K	**Fog Glacier**	**18.86**	**73**	P	**Pn**	**20 16 09.4**	**+0.3**
	baz=281						
G17K	**Kiwal

N17K	**Nushagak Hills**	19.69	60	P	P	20 16 18.2	+0.9
	baz=271						
H18K	**Honhosa River**	19.70	46	P	Pn	20 16 19.2	+0.1
	baz=257						
O17K	**Koliganek Bris**	19.76	62	P	P	20 16 18.0	0.0
	baz=273						
G18K	**Tagagawik**	19.78	43	P	P	20 16 18.9	+0.7
	baz=254						
L18K	**Granite Mounta**	19.99	55	P	P	20 16 20.3	-0.2
	baz=266						
J18K	**Innoko River**	20.10	51	P	P	20 16 20.4	-1.3
	baz=263						
P17K	**Kvichak River**	20.12	63	P	P	20 16 22.5	+0.5
	baz=275						
GCSA	**Galena City Sc**	20.23	47	P	P	20 16 22.6	-0.6
	baz=259						
YAK	**Yakutsk**	20.29	305	P	P	20 16 21.7	-2.1
YAK	**Yakutsk**	20.29	305	*e*P	P	20 16 22.9	-0.9
YAK				*e*		20 16 41.3	
YAK				*e*SS	Sn	20 20 44.8	+32
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,26nm,0.9s						
YAK				pmax	pmax		
	comp=E,11nm,1.3s						
YAK				pmax	pmax		
	comp=Z,43nm,1.1s						
YAK				MLR	MLR		
	comp=Z,158nm,17.0s						
YAK				MLR	MLR		
	comp=E,102nm,13.0s						
N18K	**Kilae Creek**	20.33	59	P	P	20 16 24.3	0.0
N18K	**Kilae Creek**	20.33	59	P	P	20 16 24.7	+0.5
	baz=272						
ERM	**Erimo**	20.33	239	P	P	20 16 25.4	+1.0
ERM	**Erimo**	20.33	239	P	P	20 16 25.4	+1.0
ERM				pmax	pmax		
	comp=Z,40nm,1.0s						
R17K	**Ugashik Creek**	20.34	68	P	P	20 16 24.5	+0.2
	baz=279,SNR=6.3						
G19K	**Purcell Mounta**	20.46	43	P	P	20 16 27.1	+1.4
	baz=256						
Q17K	**Contact Creek**	20.51	66	P	P	20 16 26.3	0.0
	baz=278,SNR=7.7						
H19K	**Roundabout Mou**	20.57	45	P	Pn	20 16 29.6	+0.4
	baz=258,SNR=7.5						
C19K	**Lookout Ridge**	20.60	34	P	P	20 16 27.3	+0.1
	baz=245						
J19K	**Poorman**	20.65	50	P	P	20 16 28.9	+1.2
	baz=263						
O18K	**Koktuh Hills**	20.70	61	P	P	20 16 28.2	-0.1
O18K				IAmb	IAmb	20 16 32.9	
	comp=Z,19nm,1.1s						
O18K	**Koktuh Hills**	20.70	61	P	P	20 16 29.3	+1.0
	baz=274						
P18K	**Big Mountain,**	20.73	63	P	P	20 16 28.3	-0.3
P18K				IAmb	IAmb	20 16 32.9	
	comp=Z,16nm,0.9s						
P18K	**Big Mountain,**	20.73	63	P	P	20 16 28.8	+0.2
	baz=276						
E19K	**Redstone River**	20.79	40	P	P	20 16 30.1	+0.9
	baz=252						
D19K	**Kuna River**	20.84	37	P	P	20 16 30.0	+0.2
	baz=248						
L19K	**White Mountain**	20.84	55	P	P	20 16 29.9	+0.1
L19K	**White Mountain**	20.84	55	P	P	20 16 30.6	+0.7
	baz=268						
Q18K	**Katmai Hardscr**	20.92	65	P	P	20 16 30.5	-0.3
	baz=278,SNR=6.4						
N19K	**Bonanza Creek**	21.02	59	P	P	20 16 31.6	-0.2
N19K				IAmb	IAmb	20 16 33.4	
	comp=Z,12nm,0.9s						
N19K	**Bonanza Creek**	21.02	59	P	P	20 16 32.3	+0.6
	baz=272						
M19K	**Big River Lodg**	21.05	56	P	P	20 16 31.4	-0.7
H20K	**Anotleneega Mo**	21.21	46	P	P	20 16 34.9	+1.3
	baz=260						
F20K	**Avaraart Lake**	21.23	41	P	P	20 16 35.8	+2.0
	baz=255						
K20K	**Telida**	21.27	52	P	P	20 16 33.8	-0.6
K20K	**Telida**	21.27	52	P	P	20 16 34.1	-0.3
	baz=266						
J20K	**Nowinta River**	21.32	49	P	P	20 16 34.4	-0.5
J20K	**Nowinta River**	21.32	49	P	P	20 16 35.2	+0.3
	baz=264						
R18K	**Karluk**	21.37	68	P	P	20 16 35.1	-0.4
	baz=281						
E20K	**Nigu River**	21.42	38	P	P	20 16 37.8	+1.8
	baz=251						
D20K	**Etivluk River**	21.43	37	P	P	20 16 36.9	+0.8
	baz=250						
Q19K	**Cape Douglas,**	21.59	64	P	P	20 16 37.8	-0.1
	baz=278						
M20K	**Styx River**	21.65	56	P	P	20 16 38.7	+0.2
M20K				IAmb	IAmb	20 16 53.5	
	comp=Z,17nm,1.4s						
M20K	**Styx River**	21.65	56	P	P	20 16 39.9	+1.3
	baz=271						
P19K	**Oil Pt**	21.72	62	P	P	20 16 39.6	+0.4
	baz=276						
SII	**Sitkinak Islan**	21.72	70	P	P	20 16 39.5	+0.3
	baz=283						
IMAR	**Indian Mountai**	21.76	45	P	P	20 16 38.6	-0.9
G21K	**Allakaket**	21.96	43	P	P	20 16 43.3	+1.6
	baz=259						
H21K	**Melozitna Rive**	22.08	46	P	P	20 16 42.8	-0.3
H21K	**Melozitna Rive**	22.08	46	P	P	20 16 45.0	+1.9
	baz=262						
CHUM	**Lake Minchumin**	22.09	50	P	P	20 16 45.1	+1.9
	baz=266						
PPLA	**Purkeypile**	22.10	53	P	P	20 16 44.7	+1.2
	baz=269						
N20K	**Mount Spurr**	22.11	57	P	P	20 16 43.9	+0.4
	baz=273						
SPCR	**Spurr Chakacha**	22.11	57	P	P	20 16 43.9	+0.4
	baz=273						
F21K	**Alatna River**	22.12	41	P	P	20 16 44.8	+1.3
	baz=257						
KLR	**Kul'dur**	22.14	269⇑	*e*P	P	20 16 44.1	+0.3
KLR				pmax	pmax		
	comp=Z,20nm,1.9s						
KLR				MLR	MLR		
	comp=Z,101nm,15.0s						
KLR	**Kul'dur**	22.14	269	LR	LR	20 26 16.0	
	comp=Z,100nm,18.1s,baz=109,slow=39						
CAST	**Castle Rocks**	22.17	52	P	P	20 16 45.3	+1.3
CAST	**Castle Rocks**	22.17	52	P	P	20 16 45.7	+1.7
	baz=268						
Q20K	**Shuyak Island**	22.28	64	P	P	20 16 45.3	+0.1
	baz=279						
SYI	**Shuyak Island**	22.28	64	P	P	20 16 44.5	-0.7
KDAK	**Kodiak Island**	22.32	67	P	P	20 16 44.3	-1.3
KDAK				IAmb	IAmb	20 16 46.2	
	comp=Z,23nm,1.1s						
KDAK	**Kodiak Island**	22.32	67⇓	*e*P	P	20 16 45.3	-0.4
KDAK				pmax	pmax		
	comp=Z,127nm,2.3s						
KDAK	**Kodiak Island**	22.32	67	P	P	20 16 46.1	+0.4
	baz=281						
SKT	**Skwentna**	22.41	55	P	P	20 16 47.7	+1.1
	baz=272						
B21K	**Ikpikpuk River**	22.43	35	P	P	20 16 45.5	-1.2
	baz=250						
BPAW	**Bear Paw Mtn.**	22.69	50	P	P	20 16 50.0	+0.5
BPAW	**Bear Paw Mtn.**	22.69	50	P	P	20 16 49.7	+0.1
	baz=267						
KTH	**Kantishna Hill**	22.69	51	P	P	20 16 49.0	-0.6
CNPM	**China Poot**	22.74	62	P	P	20 16 48.5	-1.7
SUA	**Susitna One**	22.80	57	P	P	20 16 49.6	-1.3
SUA				IAmb	IAmb	20 16 52.2	
	comp=Z,13nm,1.0s						
SUA	**Susitna One**	22.80	57	P	P	20 16 49.6	-1.3
	baz=274						
G22K	**Bettles**	22.82	43	P	P	20 16 51.2	+0.4
	baz=260						
ZEA	**Zeya**	22.85	283	*e*P	P	20 16 52.0	+0.7
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MLY	**Manley**	22.87	47	P	P	20 16 50.8	-0.7
MLY	**Manley**	22.87	47	P	P	20 16 51.7	+0.2
	baz=265						
BRSE	**Bradley Lake S**	22.96	61	P	P	20 16 50.7	-1.7
	baz=278						
TRF	**Thorofare Moun**	22.98	52	P	P	20 16 52.7	0.0
TRF				IAmb	IAmb	20 17 06.6	
	comp=Z,21nm,1.4s						
TRF	**Thorofare Moun**	22.98	52	P	P	20 16 51.6	-1.1
	baz=269						
CUT	**Chulitna**	22.99	54	P	P	20 16 53.3	+0.7
	baz=272						
TIXI	**Tiksi**	23.05	330	P	P	20 16 50.9	-2.2
TIXI				IAmb	IAmb	20 17 02.6	
	comp=Z,8.4nm,0.7s						
TIXI	**Tiksi**	23.05	330⇑	*e*P	P	20 16 52.3	-0.8
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TIXI				MLR	MLR		
	comp=Z,59nm,15.0s						
BWN	**Browne**	23.36	50	P	P	20 16 56.7	+0.4
G23K	**Bananza Creek**	23.36	43	P	P	20 16 56.9	+0.5
	baz=262						
I23K	**Minto, Yukon-K**	23.46	47	P	P	20 16 56.9	-0.4
I23K				IAmb	IAmb	20 17 11.4	
	comp=Z,13nm,1.4s						
I23K	**Minto, Yukon-K**	23.46	47	P	P	20 16 58.6	+1.4
	baz=266						
NEA2	**Nenana**	23.55	49	P	P	20 16 58.2	0.0
NEA2	**Nenana**	23.55	49	P	P	20 16 59.6	+1.4
	baz=268						
MCK	**McKinley**	23.59	51	P	P	20 16 59.4	+0.8
	baz=270						
GHO	**Glory Hole Cre**	23.65	56	P	P	20 16 59.3	0.0
E23K	**Chandalar**	23.75	40	P	P	20 17 00.1	0.0
	baz=259						
WAT1	**Susitna Watana**	23.77	53	P	P	20 17 01.0	+0.6
	baz=272						
TOLK	**Toolik Lake Re**	23.88	39	P	P	20 17 01.5	+0.1
	baz=258						
KNK	**Knik Glacier**	23.90	57	P	P	20 17 00.9	-0.7
KNK				IAmb	IAmb	20 17 36.7	
	comp=Z,34nm,1.5s						
KNK	**Knik Glacier**	23.90	57	P	P	20 17 01.7	+0.2
	baz=276						
MDM	**Murphy Dome**	23.93	48	P	P	20 17 01.2	-0.6
SML	**Sawmill**	23.93	56	P	P	20 17 01.4	-0.5
SML				IAmb	IAmb	20 17 11.7	
	comp=Z,17nm,1.2s						
SML	**Sawmill**	23.93	56	P	P	20 17 02.3	+0.4
	baz=275						
PWL	**Port Wells**	24.02	58	P	P	20 17 01.7	-1.0
PWL				IAmb	IAmb	20 17 03.9	
	comp=Z,24nm,1.0s						
PWL	**Port Wells**	24.02	58	P	P	20 17 03.1	+0.4
	baz=277						
CCB	**Clear Creek Bu**	24.10	49	P	P	20 17 02.3	-1.0
WAT6	**Susitna Watana**	24.15	54	P	P	20 17 03.5	-0.6
	baz=274						
M23K	**Glacier View**	24.22	56	P	P	20 17 04.4	-0.1
	baz=275						
D24K	**Happy Valley**	24.26	38	P	P	20 17 04.1	-0.7
	baz=258						
POKR	**Poker Plat Res**	24.27	47	P	P	20 17 04.7	-0.3
	baz=268						
DHY	**Denali Highway**	24.30	52	P	P	20 17 04.2	-1.2
DHY	**Denali Highway**	24.30	52	P	P	20 17 05.1	-0.2
	baz=273						
G24K	**Hadweenzic Riv**	24.36	44	P	P	20 17 05.5	-0.3
	baz=265						
SCM	**Sheep Creek Mo**	24.40	55	P	P	20 17 05.7	-0.5
SCM				IAmb	IAmb	20 17 07.5	
	comp=Z,18nm,1.0s						
SCM	**Sheep Creek Mo**	24.40	55	P	P	20 17 05.7	-0.5
SCM				pmax	pmax		
	comp=Z,18nm,1.0s						
SCM	**Sheep Creek Mo**	24.40	55	P	P	20 17 06.3	+0.1
	baz=276						
HDA	**Harding Lake**	24.46	49	P	P	20 17 06.8	+0.1
	baz=270						
IL31		24.49	48	P	P	20 17 05.9	-1.0
IL31				IAmb	IAmb	20 17 22.1	
	comp=Z,16nm,1.4s						
ILAR	**Eielson Array**	24.49	48	P	P	20 17 05.7	-1.3
ILAR	**Eielson Array**	24.49	48	P	P	20 17 05.7	-1.3
ILAR	**Eielson Array**	24.49	48	P	P	20 17 06.3	-0.7
	comp=Z,3.5nm,0.8s,baz=257,slow=8.2,SNR=25						
ILAR				LR	LR	20 27 21.3	
	comp=Z,81nm,19.2s,baz=100,slow=38						
	comp=Z,3.5nm,0.8s						
GLI	**Glacier Island**	24.62	58	P	P	20 17 07.8	-0.3
GLI	**Glacier Island**	24.62	58	P	P	20 17 07.7	-0.4
	baz=278						
USRK	**Ussuriysk Ar.**	24.81	258	LR	LR	20 28 37.3	
	comp=Z,99nm,18.1s,baz=156,slow=41						
M24K	**Tolsona, Glenn**	24.92	55	P	P	20 17 10.7	-0.1
M24K	**Tolsona, Glenn**	24.92	55	P	P	20 17 10.8	-0.1
	baz=276						
PRP	**Porcupine Dome**	25.08	47	P	P	20 17 13.4	+1.0
	baz=269						
KLU	**Klutina**	25.10	56	P	P	20 17 12.1	-0.5
KLU				IAmb	IAmb	20 17 14.1	
	comp=Z,7.3nm,0.9s						
KLU	**Klutina**	25.10	56	P	P	20 17 12.3	-0.3
	baz=277						
J25K	**Salcha River,**	25.14	49	P	P	20 17 11.2	-1.8
	baz=271						
D25K	**Kavik River**	25.15	38	P	P	20 17 13.5	+0.6
	baz=260						
F25K	**Christian Rive**	25.17	42	P	P	20 17 13.2	+0.1
	baz=264						
PAX	**Paxson**	25.17	53	P	P	20 17 13.4	+0.1
	baz=275						
E25K	**Arctic Village**	25.26	40	P	P	20 17 14.6	+0.7
	baz=263						
EYAK	**Cordova Ski Ar**	25.32	58	P	P	20 17 17.3	+2.9
	baz=280						
RIDG	**Independent Ri**	25.40	51	P	P	20 17 15.6	+0.3
	baz=273						
BMAR	**Burnt Mountain**	25.56	42	P	P	20 17 16.6	0.0
N25K	**Chitina, Valde**	25.72	56	P	P	20 17 17.7	-0.5
N25K				IAmb	IAmb	20 17 39.4	
	comp=Z,8.2nm,1.1s						
N25K	**Chitina, Valde**	25.72	56	P	P	20 17 16.9	-1.2
	baz=278						
SCRK	**Sand Creek**	25.77	50	P	P	20 17 17.0	-1.7
SCRK	**Sand Creek**	25.77	50	P	P	20 17 18.1	-0.6
	baz=274						
JSD	**Sado**	25.79	240	P	P	20 17 18.7	-0.2
BMRM	**Bremner River**	25.81	57	P	P	20 17 18.6	-0.3
	baz=279						
G26K	**Porcupine Rive**	25.84	43	P	P	20 17 19.7	+0.6
	baz=268						
MDJ	**Mudanjiang**	25.91	262	P	P	20 17 21.9	+1.9
MDJ				pP	pP	20 17 24.7	-5.2
MDJ				sP	sP	20 17 26.2	-8.0
MDJ				PP	PnPn	20 18 13.0	+15
MDJ				PcP	**PcP**	**20 20 47.5**	**-0.4**
MDJ				S	**S**	**20 21 46.3**	**-1.2**
MDJ				SS	**SnSn**	**20 22 31.5**	**-14**
MDJ				ScP	ScP	20 24 35.8	+11
MDJ				PcS	PcS	20 24 37.1	+8.5
MDJ	**Mudanjiang**	25.91	262	ScS	ScS	20 28 24.2	+10
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.3s						
VRDI	**Verde Repeater**	26.32	56	P	P	20 17 23.5	-0.2
VRDI				IAmb	IAmb	20 17 35.0	
	comp=Z,11nm,1.1s						
M26K	**Nabesna, AK**	26.36	54	P	P	20 17 23.7	-0.2
	baz=278						
CRQE	**Cirque**	26.57	57	P	P	20 17 24.9	-1.1
	baz=281						
L27K	**Beaver Creek,**	26.82	52	P	P	20 17 27.8	-0.2
L27K				IAmb	IAmb	20 17 37.6	
	comp=Z,15nm,1.1s						
L27K	**Beaver Creek,**	26.82	52	P	P	20 17 28.5	+0.5
	baz=277						
BCAR	**Beaver Creek A**	26.83	52	P	P	20 17 27.6	-0.6
MJB9	**Matsu-Tunnel**	26.99	238	P	P	20 17 29.6	-0.2
MAJO	**Matsushiro**	26.99	238	P	P	20 17 30.3	+0.5
MAJO	**Matsushiro**	26.99	238	P	P	20 17 30.3	+0.5
MAJO				pmax	pmax		
	comp=Z,18nm,0.7s						
MJAR	**Matsushiro Arr**	26.99	238	P	P	20 17 31.9	+2.1
	comp=Z,3.2nm,0.9s,baz=32,slow=8.0,SNR=5.8						
	comp=Z,3.2nm,0.9s						
D27M	**Malcolm River**	27.04	38	P	P	20 17 30.8	+0.8
	baz=266						
I28M	**Miner Creek**	27.42	47	P	P	20 17 34.6	+1.1
	baz=274						
YUK3	**Moose Creek**	27.64	55	P	P	20 17 35.2	-0.4
	baz=281						
G29M	**Pine Creek**	28.11	43	P	P	20 17 39.1	-0.5
	baz=273						
M29M	**Somme Creek**	28.44	53	P	P	20 17 45.2	+2.6
	baz=281						
L29M	**L29M**	28.47	51	P	P	20 17 42.8	-0.1
	baz=280						
O29M	**Mount Kennedy**	28.85	57	P	P	20 17 46.3	0.0
	baz=285						
HYT	**Haines Junctio**	29.24	56	P	P	20 17 50.3	+0.6
	baz=284						
P33M	**Teslin, Yukon**	31.63	56	P	P	20 18 11.9	+1.1
	baz=288						
KSRS	**Korea Array**	31.66	252	P	P	20 18 12.4	+1.3
	comp=Z,0.7nm,0.5s,baz=43,slow=9.0,SNR=4.3						
KSRS				LR	LR	20 30 23.4	
	comp=Z,47nm,21.1s,baz=125,slow=35						
	comp=Z,0.7nm,0.5s						
R33M	**Jennings River**	32.79	57	P	P	20 18 22.4	+1.3
	baz=291						
C36M	**Paulatuk**	33.02	37	P	P	20 18 22.6	-0.1
	baz=281						
JNU	**Nakatsue**	33.37	244	LR	LR	20 33 39.4	
	comp=Z,57nm,18.7s,baz=116,slow=39						
DLBC	**Dease Lake**	33.59	58	P	P	20 18 29.4	+1.4
DLBC				IAmb	IAmb	20 18 30.4	
	comp=Z,5.8nm,0.8s						
HG4B	**Hotspring**	35.71	68	P	P	20 18 46.5	+0.3
NRIK	**Noril'sk**	36.52	324⇓	*e*P	P	20 18 52.3	-0.6
NRIK				pmax	pmax		
	comp=Z,15nm,2.9s						
ULN	**Ulaanbaatar**	36.87	284⇑	*e*P	P	20 18 55.4	-1.0
ULN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SONM	**Songino Array**	37.25	285	P	P	20 19 00.6	+1.0
	comp=Z,1.6nm,0.7s,baz=55,slow=8.0,SNR=11						
SONM				LR	LR	20 35 44.6	
	comp=Z,120nm,19.5s,baz=314,slow=39						
	comp=Z,1.6nm,0.7s						
BBB	**Bella Bella**	37.40	67	LR	LR	20 33 33.2	
	comp=Z,66nm,18.4s,baz=311,slow=35						
HHC	**Hu-ho-hao-te**	38.59	272	*e*P	P	20 19 08.1	-2.8
HHC				sP	pP	20 19 18.6	-2.5
HHC				S	S	**20 25 06.7**	**+2.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				LR	LR		
	comp=N,460nm,14.1s						
HHC				LR	LR		
	comp=E,300nm,13.1s						
HHC				LR	LR		
	comp=Z,220nm,13.5s						
BTO	**Baotou**	39.64	273	*e*P	P	20 19 16.3	-3.4
BTO				pP	pP	20 19 20.8	-9.1
BTO				sP	sP	20 19 23.4	-11
BTO				pmax	pmax		
	comp=Z,18nm,0.4s						
BTO				pmax	pmax		
	comp=Z,200nm,5.3s						
EDM	**Edmonton**	44.31	58	P	P	20 19 57.4	-0.2
EDM	**Edmonton**	44.31	58	P	P	20 19 57.4	-0.2
EDM				pmax	pmax		
	comp=Z,20nm,1.1s						
NEW	**Newport**	45.42	66	P	P	20 20 12.7	+6.3
	baz=309						
DGZ	**Jazzator, Alta**	46.25	298⇓	*i*P	P	20 20 12.9	-0.2
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA	**Gaotai**	46.26	279	*e*P	P	20 20 14.1	+0.8
GTA				sP	sP	20 20 28.0	+0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GTA				LR	LR		
	comp=N,130nm,17.4s						
GTA				LR	LR		
	comp=E,150nm,17.8s						
GTA				LR	LR		
	comp=Z,120nm,19.6s						
LZH	**Lanzhou**	46.26	273	*e*P	P	20 20 14.1	+0.7
LZH				pP	pP	20 20 20.1	-3.6
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
LZH				LR	LR		
	comp=N,260nm,14.1s						
LZH				LR	LR		
	comp=E,220nm,13.2s						
LZH				LR	LR		
	comp=Z,190nm,15.8s						
YBH	**Yreka Blue Hor**	46.62	76	LR	LR	20 39 56.2	
	comp=Z,49nm,18.1s,baz=314,slow=36						
MSO	**Missoula**	48.00	65	P	P	20 20 34.3	+7.6
	baz=311						
ELMT	**Elliston**	48.95	65	P	P	20 20 33.3	-0.9
KURK	**Kurchatov**	49.93	304	P	P	20 20 39.7	-1.6
KURK	**Kurchatov**	49.93	304⇑	*e*P	P	20 20 40.2	-1.1
KURK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WMQ	**Urumqi**	49.95	292	*e*P	P	20 20 42.6	+0.9
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				LR	LR		
	comp=N,390nm,14.7s						
WMQ				LR	LR		
	comp=E,470nm,15.5s						
WMQ				LR	LR		
	comp=Z,73nm,18.7s						
BOZ	**Bozeman (W)**	50.02	65	P	P	20 20 52.7	+10
	baz=313						
KURBB	**Kurchatov Arra**	50.04	304	P	P	20 20 41.6	-0.5
	comp=Z,4.5nm,0.8s,baz=54,slow=7.6,SNR=27						
	comp=Z,4.5nm,0.8s						
CD2	**Chengdu**	50.06	268	P	P	20 20 40.7	-1.9
WAKR	**Walker**	50.66	77	P	P	20 20 46.9	-0.4
WAKR				IAmb	IAmb	20 20 49.3	
	comp=Z,4.3nm,0.6s						
MK31	**Makanchi Array**	50.75	298	P	P	20 20 46.5	-1.1
MK31	**Makanchi Array**	50.75	298	*c i*P	P	20 20 46.8	-0.8
MKAR	**Makanchi Array**	50.75	298	P	P	20 20 46.2	-1.4
MKAR	**Makanchi Array**	50.75	298	P	P	20 20 46.9	-0.7
	comp=Z,2.0nm,0.6s,baz=52,slow=6.6,SNR=21						
MKAR				LR	LR	20 43 29.1	
	comp=Z,42nm,19.7s,baz=45,slow=38						
	comp=Z,2.0nm,0.6s						
MAKZ	**Makanchi**	50.90	298	P	P	20 20 47.1	-1.7
MAKZ				IAmb	IAmb	20 20 51.5	
	comp=Z,8.0nm,1.4s						
MAKZ	**Makanchi**	50.90	298	P	P	20 20 47.1	-1.7
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
H17A	**Grant Village**	51.38	65	P	P	20 20 52.2	-0.4
H17A				IAmb	IAmb	20 21 35.3	
	comp=Z,4.1nm,0.6s						
H17A	**Grant Village**	51.38	65	P	P	20 21 03.8	+11
	baz=314						
IMW	**Indian Meadow**	51.53	66	P	P	20 20 54.8	+1.0
IMW				IAmb	IAmb	20 21 04.1	
	comp=Z,4.8nm,0.8s						
RLMT	**Red Lodge**	51.56	64	P	P	20 20 54.0	+0.1
RLMT				IAmb	IAmb	20 21 04.1	
	comp=Z,7.9nm,0.9s						
RLMT	**Red Lodge**	51.56	64	P	P	20 21 00.7	+6.7
	baz=314						
FXWY	**Fox Creek**	51.66	66	P	P	20 20 55.2	+0.5
FXWY				IAmb	IAmb	20 21 05.3	
	comp=Z,5.1nm,1.1s						
ID07	**Smith Canyon R**	51.87	68		P	20 20 56.2	-0.1
ID07				IAmb	IAmb	20 21 06.9	
	comp=Z,6.7nm,0.8s						
LOHW	**Long Hollow**	51.90	66	P	P	20 20 56.4	-0.1
BVAR	**Borovoye Array**	52.13	311	P	P	20 20 56.9	-0.9
	comp=Z,3.4nm,0.8s,baz=49,slow=8.4,SNR=13						
BVAR				LR	LR	20 44 26.7	
	comp=Z,57nm,19.0s,baz=46,slow=38						
	comp=Z,3.4nm,0.8s						
BRVK	**Borovoye**	52.15	311	*de*P	P	20 20 57.4	-0.5
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PD31	**Pinedale Array**	53.04	66	P	P	20 21 04.4	-0.6
PD31				IAmb	IAmb	20 21 14.9	
	comp=Z,4.0nm,0.9s						
PDAR	**Pinedale Array**	53.04	66	P	P	20 21 04.7	-0.3
PDAR	**Pinedale Array**	53.04	66	P	P	20 21 05.8	+0

ARU	**Arti**	**54.47**	**320**	*c*	*i*P	**P**	**20 21 15.0 +0.1**
ARU					S	**S**	**20 28 55.7 +4.9**
ARU					SS	**SS**	**20 32 27.8 -4.8**
ARU					pmax	pmax	
	comp=Z,8.0nm,1.9s						
PZH	**PanZhiHua**	**54.55**	**266**		P	**P**	**20 21 16.7 +0.7**
PZH					pmax	pmax	
	comp=Z,10.0nm,0.8s						
PZH					pmax	pmax	
	comp=Z,100nm,5.7s						
RSSD	**Black Hills**	**54.93**	**62**		P	**P**	**20 21 18.6 -0.1**
RSSD					IAmb	IAmb	20 21 27.9
	comp=Z,4.7nm,0.8s						
RSSD	**Black Hills**	**54.93**	**62**		P	**P**	**20 21 18.6 -0.1**
RSSD					pmax	pmax	
	comp=Z,5.0nm,0.8s						
RSSD	**Black Hills**	**54.93**	**62**		P	**P**	**20 21 21.0 +2.2**
	baz=316						
HEC	**Hector,Ludlow**	**55.02**	**78**		P	**P**	**20 21 19.8 +0.5**
	baz=317						
SRU	**San Rafael Swe**	**55.12**	**70**		P	**P**	**20 21 20.7 +0.6**
SRU	**San Rafael Swe**	**55.12**	**70**		P	**P**	**20 21 20.7 +0.6**
SRU					pmax	pmax	
	comp=Z,13nm,0.7s						
GMRC	**Granite Mounta**	**55.43**	**77**		P	**P**	**20 21 22.9 +0.6**
	baz=318						
O20A	**White River Ci**	**55.61**	**68**		P	**P**	**20 21 27.6 +4.0**
	baz=316						
PFO	**Pinyon Flats O**	**55.85**	**79**	⇓	*e*P	**P**	**20 21 29.5 +4.2**
PFO					pmax	pmax	
	comp=Z,14nm,1.8s						
IRM	**Iron Mountain**	**56.18**	**78**		P	**P**	**20 21 28.6 +1.0**
	baz=318						
ISCO	**Idaho Springs**	**57.24**	**66**		P	**P**	**20 21 36.4 +1.0**
ISCO					IAmb	IAmb	20 21 45.9
	comp=Z,5.6nm,0.9s						
ISCO	**Idaho Springs**	**57.24**	**66**		P	**P**	**20 21 36.4 +1.0**
ISCO					pmax	pmax	
	comp=Z,6.0nm,1.0s						
ISCO	**Idaho Springs**	**57.24**	**66**		P	**P**	**20 21 38.5 +3.1**
	baz=317						
AAK	**Ala-Archa**	**57.62**	**299**	*ce*	P	**P**	**20 21 37.8 0.0**
AAK					pmax	pmax	
	comp=Z,4.0nm,1.3s						
AAK	**Ala-Archa**	**57.62**	**299**		LR	LR	20 48 47.3
	comp=Z,70nm,18.9s,baz=42,slow=39						
S22A	**4UR Ranch, Cre**	**58.10**	**69**		P	**P**	**20 21 43.9 +2.5**
	baz=318						
KSH	**Kashi**	**59.17**	**296**		P	**P**	**20 21 52.6 +3.9**
KSH					pP	pP	20 21 59.1 -0.2
KSH					pmax	pmax	
	comp=Z,3.0nm,1.0s						
ABKAR	**Akbulak array**	**59.36**	**313**		P	**P**	**20 21 47.9 -1.8**
ABKAR					IAmb	IAmb	20 21 57.5
	comp=Z,4.6nm,1.4s						
BELG	**Belogornoye**	**61.59**	**323**	⇓	*e*P	**P**	**20 22 05.4 +0.6**
BELG					pmax	pmax	
	comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**62.44**	**263**		P	**P**	**20 22 12.2 +1.2**
	comp=Z,1.0nm,0.7s,baz=27,slow=7.1,SNR=10						
CMAR					LR	LR	20 51 44.9
	comp=Z,41nm,18.1s,baz=330,slow=38						
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**62.53**	**347**		P	**P**	**20 22 10.5 -0.6**
	comp=Z,1.9nm,0.8s,baz=17,slow=6.7,SNR=3.5						
	comp=Z,1.9nm,0.8s						
MNTX	**Cornudas Mount**	**63.43**	**72**		P	**P**	**20 22 17.9 +0.5**
MNTX					IAmb	IAmb	20 22 28.1
	comp=Z,5.0nm,0.8s						
425A	**Indio Mountain**	**64.35**	**73**		P	**P**	**20 22 24.0 +0.3**
425A					IAmb	IAmb	20 22 34.1
	comp=Z,3.9nm,1.0s						
MNK	**Minsk**	**65.60**	**335**		*i* P	**P**	**20 22 30.1 -1.2**
MNK	comp=E,8.0nm,1.2s						
					i P	**P**	**20 22 30.1 -1.2**
	comp=N,8.0nm,0.7s						
MNK					*i* P	**P**	**20 22 30.1 -1.2**
	comp=Z,26nm,0.7s,baz=24						
MNK					*i* PP	**PP**	**20 24 54.9 -0.2**
MNK					*i* PPP	PPP	20 26 26.7
MNK					*i* S	**S**	**20 31 14.7 +0.9**
MNK					*i* SS	**SS**	**20 35 27.8 +0.9**
MNK					*i* SSS	SSS	20 38 31.1
MNK					*i* LQ	LQ	20 46 33.6
MNK					*i* LR	LR	20 50 37.6
MNK					*i* LRM	MLR	20 54 35.0
	comp=Z,127nm,20.3s						
MNK					*i* LRM	MLR	20 54 46.2
	comp=N,195nm,17.1s						
MNK					*i* LRM	MLR	20 55 04.5
	comp=E,36nm,12.5s						
MNK	**Minsk**	**65.60**	**335**		*i* P	**P**	**20 22 30.0 -1.2**
MNK					*i*		20 24 54.8
MNK					*i* PPP	PPP	20 26 26.7
MNK					*i* S	**S**	**20 31 14.6 +0.9**
MNK					*i* SS	**SS**	**20 35 27.8 +0.9**
MNK					pmax	pmax	
	comp=E,8.0nm,1.2s						
MNK					pmax	pmax	
	comp=Z,26nm,0.7s						
MNK					pmax	pmax	
	comp=N,8.0nm,0.7s						
MNK					MLR	MLR	
	comp=Z,127nm,20.0s						
MNK					MLR	MLR	
	comp=N,195nm,17.0s						
MNK					MLR	MLR	
	comp=E,36nm,12.0s						
TX32	**Lajitas Array**	**66.19**	**73**		P	**P**	**20 22 34.8 -0.8**
TXAR	**Lajitas Array**	**66.19**	**73**		P	**P**	**20 22 36.6 +1.1**
	comp=E,1.8nm,0.6s,baz=301,slow=4.2,SNR=13						
	comp=E,1.8nm,0.6s						
AKASG	**Malin Array Be**	**68.73**	**333**		P	**P**	**20 22 50.8 -0.3**
	comp=E,1.1nm,0.5s,baz=27,slow=6.2,SNR=4.1						
	comp=E,1.1nm,0.5s						
LANS	**Liptovska Anna**	**72.50**	**338**		*e*P	**P**	**20 23 16.1 +1.9**
LANS					pmax	pmax	
	comp=Z,4.0nm,0.8s						
LANS	**Liptovska Anna**	**72.50**	**338**		*e*P	**P**	**20 23 16.0 +1.9**
KHC	**Kasperske Hory**	**73.67**	**342**	⇓	*i*P	**P**	**20 23 22.1 +1.0**
KHC					pmax	pmax	
	comp=Z,55nm,4.5s						
GERES	**GERESS Array B**	**73.92**	**342**		P	**P**	**20 23 22.6 0.0**
	comp=Z,1.1nm,0.7s,baz=27,slow=4.5,SNR=4.1						
	comp=Z,1.1nm,0.7s						
WATA	**Walderalm**	**75.75**	**343**		*i* P	**P**	**20 23 34.4 +1.1**
	comp=Z,1.1nm,0.4s						
WTTA	**Wattenberg**	**75.81**	**343**		*i* P	**P**	**20 23 34.8 +1.2**
	comp=Z,0.3nm,0.2s						
MOTA	**Moosalm**	**75.82**	**343**		*i* P	**P**	**20 23 34.1 +0.4**
	comp=Z,0.5nm,0.3s						
OBKA	**Obir**	**76.01**	**341**		*e*P	**P**	**20 23 35.8 +1.0**
	comp=Z,5.0nm,0.7s						
DAVA	**Damuels**	**76.07**	**344**		*e*P	**P**	**20 23 35.7 +0.5**
	comp=Z,2.9nm,0.8s						
FETA	**Feichten**	**76.19**	**343**		*e*P	**P**	**20 23 36.8 +0.9**
	comp=Z,0.4nm,0.4s						
WRAB	**Tennant Creek**	**79.77**	**211**	⇓	*e*P	**P**	**20 23 58.2 +2.5**
WRAB					pmax	pmax	
	comp=Z,14nm,1.8s						
WRA	**Warramunga Arr**	**79.78**	**211**		*i* P	**P**	**20 23 56.5 +0.7**
WRA					pmax	pmax	
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**79.78**	**211**		P	**P**	**20 23 56.5 +0.7**
	comp=Z,0.4nm,0.4s,baz=24,slow=6.1,SNR=10						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**83.43**	**210**		P	**P**	**20 24 16.1 +1.2**
	comp=Z,0.8nm,0.6s,baz=17,slow=4.6,SNR=8.0						
	comp=Z,0.8nm,0.6s						
ESDC	**Sonseca Array**	**85.19**	**353**		P	**P**	**20 24 24.5 +0.6**
	comp=Z,2.3nm,1.0s,baz=2.9,slow=5.0,SNR=10						
	comp=Z,2.3nm,1.0s						

NNC 03 20:14:49.0±10.0, 36°93N×70°23E, h0km, mb3.6, mpv3.2, 3C-1D, Error ellipse: s-maj=83.2km s-min=78.5km az=150.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.85**	**26**	⇑	P		Pn	20 16 17.9	+0.6
	1.1nm,0.6s								
AML				⇑	S		Sn	20 17 25.3	+0.1
	1.3nm,0.5s								
KK31	**Karatay Array**	**6.17**	**2**		P		Pn	20 16 24.6	+3.2
	0.5nm,0.3s,baz=183,slow=13,SNR=7.3								
KK31				⇑	S		Sn	20 17 35.5	+2.8
	1.9nm,0.4s,baz=186,slow=22,SNR=8.3								
TKM2	**Tokmak 2**	**7.27**	**33**	⇓	P		Pn	20 16 34.8	-1.8
	1.5nm,0.5s								

IDC ***03*** *20:39:02.7±0.3, 13°52N×49°27W, h0km, mb5.3/33, mbtmp5.3/36, ML5.8/3, MS4.9/73, Error ellipse: s-maj=12.7km s-min=9.0km az=125.0*

MOS ***03*** *20:39:03.4±1.0, 13°50N×49°33W, h18km, mb5.7/74, MS5.0/47, Error ellipse: s-maj=6.4km s-min=4.3km az=52.0*

NEIC ***03*** *20:39:04.7±1.6, 13°46N±0°07×49°33W±0°08, h10km±1km, mb5.8/853, Ms_20 5.1/743, Mwb5.5/48, Mww5.7/12, Error ellipse: s-maj=13.0km s-min=12.5km az=80.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr-0.04; Mθθ1.23; Mφφ-1.18; Mrθ-0.79; Mrφ2.02; Mθφ-0.21; Fault plane solution: M0 2.49000×10^17 NP1: φs286.38000°, δ82.17000°, λ15.70000°. NP2: φs194.19000°, δ74.45000°, λ171.87000°. Principal axes: T 2.6050, Plg17.0000°, Azm151.0000°; N -0.2602, Plg72.0000°, Azm312.0000°; P -2.3449, Plg5.0000°, Azm60.0000°;*

INMG ***03*** *20:39:04.0, 13°39N×49°25W, h10km, MW5.8*

NEIC ***03*** *20:39:05.3, 13°52N×49°09W, h26km, Moment Tensor Solution. Duration: 32 Moment tensor: Scale 10^17 Nm; Mrr0.32; Mθθ1.71; Mφφ-2.03; Mrθ-3.56; Mφφ3.26; Mθφ0.12; Fault plane solution: M0 5.15000×10^17 NP1: φs191.12000°, δ47.87000°, λ173.96000°. NP2: φs285.18000°, δ85.53000°, λ42.28000°. Principal axes: T 5.4973, Plg32.0000°, Azm157.0000°; N -0.6944, Plg48.0000°, Azm290.0000°; P -4.8029, Plg25.0000°, Azm50.0000°;*

BJI ***03*** *20:39:05.0±0.0, 13°50N×49°20W, h10km, mB5.7/10, Ms5.5/30, Ms7 5.2/30*

NEIC ***03*** *20:39:05.3, 13°42N×49°39W, h26km*

NEIC ***03*** *20:39:05.5, 13°43N×49°41W, h10km*

GCMT ***03*** *20:39:07.7±0.1, 13°51N±0°01×49°35W±0°01, h19km, MW5.6/156, Moment Tensor Solution. s124,c220; s156,c317; Duration: 16 Moment tensor: Scale 10^17 Nm; Mrr0.34±.04; Mθθ1.56±.04; Mφφ-1.90±.04; Mrθ-0.31±.09; Mrφ2.80±.04; Mθφ-0.92±.10; Best double couple: M0 3.43700×10^17 NP1: φs195.00000°, δ87.00000°, λ163.00000°. NP2: φs286.00000°, δ73.00000°, λ3.00000°. Principal axes: T 3.3010, Plg14.0000°, Azm149.0000°; N 0.2770, Plg73.0000°, Azm5.0000°; P -3.5730, Plg10.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***03*** *20:39:10.4, 13°71N×48°74W, h33km, mb5.3, Ms4.9*

ISC 03 20:39:04.2±0.5, 13°39N±0°04×49°36W±0°03, h12km±2km, h12km:pP-P, n2048, σ1°42/1700, mb5.7/607, MS5.1/470, 51C-50D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**8.85**	**202**		Pn		**Pn**	**20 41 12.3**	**+0.3**
	87nm,0.3s,baz=13,slow=15,SNR=339								
MDP					Sn		**Sn**	**20 42 43.6**	**-8.2**
	146nm,0.3s,baz=352,slow=5.9,SNR=9.5								
MDP					LR		LR	20 44 16.2	
	comp=Z,8μm,19.0s,baz=26,slow=35								
	985nm,0.7s								
BBGH	**Gun Hill**	**9.94**	**270**		Pn		**Pn**	**20 41 28.6**	**+1.7**
BBGH					Sn		**Sn**	**20 43 13.7**	**-4.8**
BBGH	**Gun Hill**	**9.94**	**270**	*e*	P		**Pn**	**20 41 29.5**	**+2.6**
BBGH	**Gun Hill**	**9.94**	**270**	*e*	P		**Pn**	**20 41 27.1**	**+0.2**
BCHC	**Barbados, Cave**	**10.01**	**270**	*e*	P		**Pn**	**20 41 30.3**	**+2.4**
H05S1	**Guadeloupe/Mar**	**11.20**	**277**		T		T	20 53 18.1	
	SNR=31								
MPOM	**Morne Pois Mar**	**11.22**	**277**		Pn		**Pn**	**20 41 44.1**	**-0.4**
MPOM					Sn		Sn	20 43 38.8	-11
MPOM	**Morne Pois Mar**	**11.22**	**277**	*e*	P		Pn	20 41 38.3	-6.2
SLBI	**Saint Lucia, B**	**11.31**	**275**	*e*	P		**Pn**	**20 41 44.8**	**-0.9**
SSV	**Crater Summit**	**11.52**	**271**	*e*	P		**Pn**	**20 41 48.5**	**-0.2**
FDF	**Fort de France**	**11.52**	**278**		Pn		**Pn**	**20 41 48.7**	**0.0**
FDF					Sn		Sn	20 43 46.0	-12
FDF	**Fort de France**	**11.52**	**278**		P		**Pn**	**20 41 48.7**	**0.0**
FDF	**Fort de France**	**11.52**	**278**	*e*	P		**Pn**	**20 41 47.2**	**-1.5**
SVOC	**Richmond Hill,**	**11.55**	**270**	*e*	P		**Pn**	**20 41 48.7**	**-0.4**
SVB	**Belmont**	**11.58**	**271**	*e*	P		**Pn**	**20 41 47.9**	**-1.6**
GDSD	**La Dsirade Is**	**11.69**	**286**				**Pn**	**20 41 49.4**	**-1.6**
GCMP	**Grenada, Carri**	**11.80**	**267**	*e*	P		**Pn**	**20 41 49.0**	**-3.5**
MAGL	**Barre de l'ile**	**11.82**	**284**				**Pn**	**20 41 51.9**	**-0.8**
MAGL	**Barre de l'ile**	**11.82**	**284**	*e*	P		**Pn**	**20 41 51.9**	**-0.8**
GRGR	**Grenville**	**12.06**	**265**		Pn		**Pn**	**20 41 55.3**	**-0.8**
GRGR	**Grenville**	**12.06**	**265**	*e*	P		**Pn**	**20 41 55.4**	**-0.7**
GRGR	**Grenville**	**12.06**	**265**	*e*	P		**Pn**	**20 41 55.3**	**-0.8**
GRW	**Mount Saint Ca**	**12.06**	**266**	*e*	P		**Pn**	**20 41 56.7**	**+0.5**
TRN	**Trinidad (W)**	**12.10**	**258**	*e*	P		**Pn**	**20 41 57.6**	**+1.1**
ABD	**La Joyeuse, An**	**12.12**	**286**				**Pn**	**20 41 55.4**	**-1.4**
ABD	**La Joyeuse, An**	**12.12**	**286**	*e*	P		**Pn**	**20 41 54.7**	**-2.1**
CBE	**Ff, Capester**	**12.15**	**284**				**Pn**	**20 41 57.3**	**+0.1**
CBE	**Ff, Capester**	**12.15**	**284**	*e*	P		**Pn**	**20 41 57.0**	**-0.2**
ANBD	**Bethesda, Anti**	**12.52**	**288**	*e*	P		**Pn**	**20 41 59.0**	**-3.2**
ANDO	**Antigua, Disas**	**12.59**	**289**	*e*	P		**Pn**	**20 42 01.2**	**-2.1**
MLYT	**Lee's Yard**	**12.83**	**287**	*e*	P		**Pn**	**20 42 06.8**	**+0.2**
MBFL	**Flemmings, Mon**	**12.86**	**287**	*e*	P		**Pn**	**20 42 06.2**	**-0.8**
PCRV	**Puerto La Cruz**	**15.29**	**260**		Pn		**Pn**	**20 42 39.6**	**-0.6**
	31nm,0.3s,baz=106,slow=4.2,SNR=50								
	116nm,0.5s								
BOAV	**Boa Vista**	**15.53**	**226**		Pn		**Pn**	**20 42 42.9**	**-0.4**
BOAV	**Boa Vista**	**15.53**	**226**	*e*	P		**Pn**	**20 42 42.2**	**-1.1**
MALB	**Monte Alegre**	**15.91**	**198**	*e*	P		**Pn**	**20 42 48.0**	**-0.1**
SJG	**San Juan**	**16.83**	**288**		Pn		**Pn**	**20 42 59.3**	**-0.6**
SJG					IAmb		IAmb	20 43 06.2	
	comp=Z,911nm,1.4s								
SJG	**San Juan**	**16.83**	**288**		Pn		**Pn**	**20 42 59.5**	**-0.4**
	comp=Z,38nm,0.3s,baz=99,slow=14,SNR=74								
SJG					Sn		**Sn**	**20 46 00.5**	**-6.4**
	comp=Z,13nm,0.3s,baz=315,slow=22,SNR=5.6								
SJG					LR		LR	20 48 39.4	
	comp=Z,6μm,19.4s,baz=106,slow=34								
	comp=Z,144nm,0.5s								
ITTB	**Itaituba**	**18.74**	**200**	*e*	P		**Pn**	**20 43 24.2**	**+0.6**
BAUV	**El Baul**	**18.85**	**259**		P		**P**	**20 43 24.2**	**-0.1**
BAUV	**El Baul**	**18.85**	**258**	*e*	P		**P**	**20 43 22.2**	**-2.2**
HATO	**Hato, Curacao**	**19.16**	**269**		P		**Pn**	**20 43 28.5**	**-0.1**
PRPB	**Parauapebas**	**19.44**	**181**	*e*	P		**Pn**	**20 43 32.8**	**+0.8**
MACA	**Manacapuru-AM**	**19.92**	**215**				**Pn**	**20 43 38.4**	**+0.7**
MACA	**Manacapuru-AM**	**19.92**	**215**	*e*	P		**Pn**	**20 43 39.3**	**+1.6**
NPGB	**Novo Progresso**	**21.16**	**197**	*e*	P		**P**	**20 43 51.2**	**+1.7**
SDV	**Santo Domingo**	**21.35**	**260**				**P**	**20 43 52.5**	**+0.7**
SDV					IAmb		IAmb	20 43 57.1	
	comp=Z,285nm,1.1s								
SDV	**Santo Domingo**	**21.35**	**260**	*e*	P		**P**	**20 43 52.9**	**+1.2**
SDV	**Santo Domingo**	**21.35**	**260**	*e*	P		**P**	**20 43 53.7**	**+2.0**
SDV	**Santo Domingo**	**21.35**	**260**		P		**P**	**20 43 52.5**	**+0.7**
	comp=Z,176nm,0.9s,baz=79,slow=8.6,SNR=40								
SDV					LR		LR	20 53 20.1	
	comp=Z,1μm,20.4s,baz=77,slow=40								
	comp=Z,176nm,0.9s								
SDDR	**Presa de Saban**	**21.78**	**288**		P		**P**	**20 43 56.3**	**+0.1**
SDDR							**S**	**20 47 58.0**	**+1.0**
SDDR					IAMs_20		IAMs_20	20 51 02.2	
	comp=Z,7μm,21.0s								
SDDR	**Presa de Saban**	**21.78**	**288**	*e*	P		**P**	**20 43 58.3**	**+2.2**
SGCB	**S.o Gabriel d**	**22.07**	**234**	*e*	P		**P**	**20 44 02.4**	**+3.1**
URIC	**Uribia, Colomb**	**22.16**	**268**	*e*	P		**P**	**20 44 00.2**	**0.0**
SMTB	**Santa Maria do**	**22.18**	**175**	*e*	P		**P**	**20 44 01.9**	**+1.5**
CRJC	**Cerrejon, Guaj**	**23.11**	**267**	*e*	P		**P**	**20 44 10.1**	**-0.3**
TAMC	**Tame, Arauca**	**23.14**	**255**	*e*	P		**P**	**20 44 13.1**	**+2.4**
RCBR	**Riachuelo**	**23.30**	**144**	*e*	P		**P**	**20 44 13.8**	**+1.5**
RCBR	**Riachuelo**	**23.30**	**144**		LR		LR	20 51 38.8	
	comp=Z,3μm,18.3s,baz=328,slow=32								
BBSR	**BB Station**	**23.54**	**326**		P		**P**	**20 44 14.7**	**+0.2**
BBSR					IAmb		IAmb	20 44 25.2	
	comp=Z,447nm,1.3s								
BBSR	**BB Station**	**23.54**	**326**		IAMs_20		IAMs_20	20 50 18.0	
	comp=Z,6μm,21.0s								
BBSR	**BB Station**	**23.54**	**326**		P		**P**	**20 44 16.8**	**+2.3**
	baz=140								
BBSR					S		**S**	**20 48 30.3**	**+2.0**
	baz=140								
LL6C	**La Loma 6 Bece**	**23.70**	**264**	*e*	P		**P**	**20 44 16.3**	**0.0**
PAMC	**Pamplona, Colo**	**23.73**	**258**	*e*	P		**P**	**20 44 18.1**	**+1.1**
PTGC	**Puerto Gaitan,**	**24.27**	**250**	*e*	P		**P**	**20 44 23.8**	**+2.2**
SMRC	**Santa Marta, M**	**24.40**	**268**	*e*	P		**P**	**20 44 23.2**	**+0.4**
BARC	**Barichara**	**24.40**	**256**	*e*	P		**P**	**20 44 25.0**	**+1.9**
RUSC	**La Rusia**	**24.53**	**255**	*e*	P		**P**	**20 44 26.7**	**+2.1**
ARGC	**Ariguani, Magd**	**24.63**	**264**	*e*	P		**P**	**20 44 25.3**	**+0.4**
CLDB	**Colider**	**24.94**	**195**	*e*	P		**P**	**20 44 29.8**	**+2.2**
SACV	**Santiago Islan**	**25.01**	**83**		P		**P**	**20 44 28.1**	**-0.2**
SACV					IAmb		IAmb	20 44 40.1	
	comp=Z,129nm,0.9s								
SNDB	**Serra Nova Dou**	**25.27**	**184**	*e*	P		**P**	**20 44 32.8**	**+2.2**
GTBY	**Guantanamo Bay**	**25.50**	**288**		P		**P**	**20 44 33.6**	**+0.9**
GTBY	**Guantanamo Bay**	**25.50**	**288**	*e*	P		**P**	**20 44 34.0**	**+1.4**
SJCC	**San Jacinto, C**	**25.52**	**265**	*e*	P		**P**	**20 44 33.2**	**+0.1**
SPBC	**San Pablo de B**	**25.54**	**255**	*e*	P		**P**	**20 44 36.1**	**+2.9**
CHIC	**Chingaza**	**25.58**	**252**	*e*	P		**P**	**20 44 35.6**	**+1.7**
VILC	**Villavicencio,**	**25.73**	**251**	*e*	P		**P**	**20 44 37.5**	**+2.5**
ZARC	**Zaragoza, Cauc**	**25.74**	**259**	*e*	P		**P**	**20 44 35.8**	**+0.8**
PDRB	**Porto dos Gac**	**25.89**	**197**	*e*	P		**P**	**20 44 38.7**	**+2.4**
SDBA	**SAO DESIDERIO**	**26.01**	**170**	*e*	P		**P**	**20 44 38.0**	**+0.6**
ROSC	**El Rosal**	**26.05**	**253**		P		**P**	**20 44 37.6**	**-0.6**
ROSC	**El Rosal**	**26.05**	**253**	*e*	P		**P**	**20 44 41.0**	**+2.8**
ROSC	**El Rosal**	**26.05**	**253**		P		**P**	**20 44 40.3**	**+2.1**
	comp=Z,34nm,0.6s,baz=80,slow=5.7,SNR=6.2								
ROSC					LR		LR	20 55 11.5	
	comp=Z,4μm,21.0s,baz=60,slow=37								
	comp=Z,34nm,0.6s								
SAML	**Samuel**	**26.10**	**212**		P		**P**	**20 44 39.4**	**+1.3**
SAML					IAmb		IAmb	20 45 05.8	
	comp=Z,148nm,0.9s								
SAML	**Samuel**	**26.10**	**212**		P		**P**	**20 44 39.4**	**+1.3**
SAML					pmax		pmax		
	comp=Z,148nm,0.9s								
SAML					MLR		MLR		
	comp=Z,4μm,22.0s								
SAML	**Samuel**	**26.10**	**212**	*e*	P		**P**	**20 44 40.2**	**+2.1**
SAML	**Samuel**	**26.10**	**212**	*e*	P		**P**	**20 44 40.1**	**+2.0**
NORC	**Norcasia**	**26.32**	**255**	*e*	P		**P**	**20 44 40.3**	**+0.1**
UREC	**San Jos de Ur**	**26.32**	**260**	*e*	P		**P**	**20 44 36.3**	**-4.0**
MACC	**Macarena, Meta**	**26.68**	**247**	*e*	P		**P**	**20 44 44.8**	**+1.4**
TBTG	**Tabatinga, AM**	**26.86**	**231**		P		**P**	**20 44 46.3**	**+1.3**
TBTG					IAmb		IAmb	20 45 16.0	
	comp=Z,272nm,1.1s								
LCBC	**Los crdobas,**	**26.88**	**263**	*e*	P		**P**	**20 44 49.0**	**+3.8**
GUY2C	**Guyana, Caldas**	**26.89**	**255**	*e*	P		**P**	**20 44 46.3**	**+0.4**
PRAC	**Prado**	**26.98**	**251**	*e*	P		**P**	**20 44 47.5**	**+1.3**
ORTC	**Ortega, Tolima**	**27.24**	**252**	*e*	P		**P**	**20 44 49.6**	**+1.1**
APAC	**Apartado, Choc**	**27.29**	**261**	*e*	P		**P**	**20 44 51.4**	**+2.4**
MTDJ	**Mount Denham**	**27.52**	**284**		P		**P**	**20 44 51.0**	**-0.1**
MTDJ					IAmb		IAmb	20 45 27.6	
	comp=Z,227nm,1.1s								
PLMC	**San Jos del P**	**27.86**	**255**	*e*	P		**P**	**20 44 58.5**	**+4.3**
GARC	**Garzon, Huila**	**28.15**	**249**	*e*	P		**P**	**20 44 59.2**	**+2.3**
YOTC	**Yotoco, Valle**	**28.24**	**253**	*e*	P		**P**	**20 44 56.6**	**-1.0**
VILB	**Vilhena**	**28.29**	**203**		P		**P**	**20 44 59.2**	**+1.3**
VILB	**Vilhena**	**28.29**	**203**	*e*	P		**P**	**20 44 60.0**	**+2.1**
PTLC	**Puerto Leguiza**	**28.42**	**245**	*e*	P		**P**	**20 45 02.8**	**+3.7**
ETMB	**Extrema**	**28.49**	**217**		P		**P**	**20 45 00.6**	**+1.0**
ETMB					IAmb		IAmb	20 45 38.0	
	comp=Z,130nm,0.8s								
ETMB	**Extrema**	**28.49**	**217**	*e*	P		**P**	**20 45 01.3**	**+1.7**
UPD2	**Meteti**	**28.53**	**263**	*e*	P		**P**	**20 45 00.5**	**+0.5**
FLOC	**Florencia**	**28.55**	**248**	*e*	P		**P**	**20 45 01.0**	**+0.8**
PTAC	**Punta Ardita,**	**28.66**	**260**	*e*	P		**P**	**20 45 01.7**	**+0.6**
JANB	**Januaria**	**28.70**	**170**	*e*	P		**P**	**20 45 02.1**	**+0.6**
JAMC	**Jamundi, Valle**	**28.82**	**252**	*e*	P		**P**	**20 45 01.2**	**-1.7**
BDFB	**Brasilia**	**28.87**	**177**		P		**P**	**20 45 04.7**	**+1.6**
BDFB	**Brasilia**	**28.87**	**177**		P		**P**	**20 45 04.8**	**+1.7**
	comp=Z,195nm,0.7s,baz=356,slow=10.0,SNR=237								
BDFB					LR		LR	20 57 35.0	
	comp=Z,2μm,19.2s,baz=350,slow=38								
	comp=Z,195nm,0.7s								
ARAG	**Araguaiana, MT**	**29.01**	**185**	*e*	P		**P**	**20 45 06.9**	**+2.7**
POPC	**Popayan, Colom**	**29.08**	**251**	*e*	P		**P**	**20 45 05.7**	**+0.5**
SALV	**Santo Antonio**	**29.77**	**192**	*e*	P		**P**	**20 45 13.6**	**+2.6**
CBCY	**The Bluff, Cay**	**29.79**	**286**		IAMs_20		IAMs_20	20 55 56.4	
	comp=Z,4μm,19.0s								
UPA	**Univ. de Panam**	**29.91**	**265**	*e*	P		**P**	**20 45 12.5**	**+0.2**
BCIP	**Isla Barro Col**	**30.17**	**265**		P		**P**	**20 45 15.2**	**+0.6**
BCIP					IAmb		IAmb	20 45 45.0	

BOSC	San Juan Bosco	33.26	242	P	P	20 45 41.2 -0.7
Y60A	Bolivia	33.27	313	IAms_20	IAms_20	20 55 39.3
	comp=Z,4μm,20.0s					
HAL	Halifax	33.43	341	P	P	20 45 43.6 +0.7
HAL				IAmb	IAmb	20 45 48.0
	comp=Z,140nm,1.2s					
HAL				IAms_20	IAms_20	20 56 04.6
	comp=Z,4μm,21.0s					
HAL	Halifax	33.43	341	P	P	20 45 43.6 +0.7
HAL				pmax	pmax	
	comp=Z,140nm,1.2s					
HAL				MLR	MLR	
	comp=Z,4μm,21.0s					
BATAN	Batan	33.45	268	P	P	20 45 44.4 +1.0
BATAN				IAmb	IAmb	20 46 31.8
	comp=Z,148nm,1.0s					
DRK0	Durika	33.46	267	P	P	20 45 43.6 -0.2
DRK0				IAmb	IAmb	20 46 04.0
	comp=Z,128nm,0.8s					
SRBA	San Rafael, Bu	33.58	267	P	P	20 45 45.6 +0.8
SRBA				IAmb	IAmb	20 45 51.8
	comp=Z,61nm,0.8s					
COHC	Cochancay	33.59	244	P	P	20 45 44.8 +0.2
COHC	Cochancay	33.59	244	eP	P	20 45 48.4 +3.8
M65A	Busby, Falmout	33.64	331	P	P	20 45 45.4 +0.7
M65A				IAmb	IAmb	20 45 55.7
	comp=Z,109nm,0.7s					
M65A				IAms_20	IAms_20	20 56 25.1
	comp=Z,3μm,19.0s					
M65A	Busby, Falmout	33.64	331	P	P	20 45 45.5 +0.7
	baz=140					
RIB01	Linhares ES	33.67	165	eP	P	20 45 46.5 +1.3
S61A	Accomac	33.68	321	P	P	20 45 44.7 -0.4
S61A				IAms_20	IAms_20	20 57 09.1
	comp=Z,3μm,18.0s					
CNNC	Cliffs of the	33.69	315	P	P	20 45 46.5 +1.2
CNNC				IAmb	IAmb	20 45 56.7
	comp=Z,74nm,0.5s					
CNNC				IAms_20	IAms_20	20 56 00.6
	comp=Z,5μm,20.0s					
CNNC	Cliffs of the	33.69	315	P	P	20 45 46.1 +0.7
	baz=123					
PEZE	Perez Zeledon,	33.86	267	P	P	20 45 48.1 +0.9
PEZE				IAmb	IAmb	20 45 56.0
	comp=Z,53nm,0.6s					
R61A	Willards	33.89	322	P	P	20 45 47.6 +0.7
R61A				IAms_20	IAms_20	20 56 03.7
	comp=Z,3μm,20.0s					
MACI	Morro de la Ar	33.94	59	P	P	20 45 46.9 -0.9
MACI				IAmb	IAmb	20 46 09.2
	comp=Z,140nm,1.1s					
RIMA	Rio Macho	33.98	268	P	P	20 45 48.3 0.0
RIMA				IAmb	IAmb	20 46 08.8
	comp=Z,197nm,1.4s					
T60A	Surry	34.02	319	P	P	20 45 47.9 -0.2
L64A	Middleborough	34.02	331	P	P	20 45 47.2 -0.9
L64A				IAmb	IAmb	20 45 59.2
	comp=Z,144nm,1.4s					
L64A				IAms_20	IAms_20	20 55 43.1
	comp=Z,3μm,21.0s					
L64A	Middleborough	34.02	331	S	S	20 51 15.4 +2.2
	baz=140					
L64A				S	S	20 51 15.4 +2.2
	baz=140					
W59A	Clinton	34.04	315	IAms_20	IAms_20	20 56 43.6
	comp=Z,4μm,20.0s					
ESPN	Las Esperanzas	34.08	272	P	P	20 45 48.4 -0.5
HDC	Heredia	34.19	268	P	P	20 45 50.9 +0.8
HDC				IAmb	IAmb	20 46 09.9
	comp=Z,93nm,1.0s					
M63A	Gales Ferry	34.21	329	P	P	20 45 49.3 -0.4
M63A				IAmb	IAmb	20 45 55.1
	comp=Z,273nm,1.8s					
M63A	Gales Ferry	34.21	329	S	S	20 51 17.1 +1.0
	baz=138					
M63A				S	S	20 51 17.1 +1.0
	baz=138					
AQDB	Aquidauana	34.23	191	P	P	20 45 51.1 +1.1
AQDB				IAmb	IAmb	20 45 54.6
	comp=Z,207nm,1.2s					
AQDB	Aquidauana	34.23	191	eP	P	20 45 52.5 +2.5
U59A	Littleton	34.25	317	P	P	20 45 49.3 -0.8
U59A				IAmb	IAmb	20 46 01.6
	comp=Z,123nm,1.1s					
U59A				IAms_20	IAms_20	20 56 17.2
	comp=Z,3μm,20.0s					
BB19B	Bebedouro	34.25	179	eP	P	20 45 52.7 +2.4
NHSC	New Hope	34.26	310	P	P	20 45 50.8 +0.6
	baz=118					
Y58A	Scranton	34.26	312	P	P	20 45 49.6 -0.7
Y58A				IAmb	IAmb	20 46 01.9
	comp=Z,142nm,0.9s					
Y58A				IAms_20	IAms_20	20 55 44.6
	comp=Z,3μm,22.0s					
BRYW	Bryant College	34.34	330	P	P	20 45 51.8 +0.9
BRYW				IAmb	IAmb	20 45 56.2
	comp=Z,118nm,1.3s					
BRYW				IAms_20	IAms_20	20 56 25.6
	comp=Z,3μm,20.0s					
COVE	Coope Vega, Sa	34.36	269	P	P	20 45 51.1 -0.2
257A	Skidaway Islan	34.40	308	IAms_20	IAms_20	20 57 47.2
	comp=Z,3μm,18.0s					
BDQN	Bodoquena, MS	34.40	192	eP	P	20 45 53.7 +2.1
T59A	Double "B" Far	34.45	318	P	P	20 45 51.5 -0.3
T59A				IAmb	IAmb	20 46 03.2
	comp=Z,195nm,1.6s					
T59A				IAms_20	IAms_20	20 56 53.4
	comp=Z,4μm,18.0s					
P61A	Hammonton	34.45	324	P	P	20 45 51.9 +0.1
BSCB	Bom Sucesso	34.47	172	eP	P	20 45 53.7 +1.5
BCX	Boston College	34.48	331	P	P	20 45 51.9 -0.2
UCCT	U. Connecticut	34.59	329	P	P	20 45 52.1 -0.9
WES	Weston	34.59	331	P	P	20 45 52.3 -0.7
WES				IAms_20	IAms_20	20 56 54.3
	comp=Z,3μm,20.0s					
WES	Weston	34.59	331	P	P	20 45 52.3 -0.7
WES				pmax	pmax	
	comp=Z,66nm,1.0s					
WES				MLR	MLR	
	comp=Z,3μm,20.0s					
YLE	Yale	34.59	328	P	P	20 45 52.4 -0.7
N62A	Caumsett State	34.60	327	P	P	20 45 53.7 +0.6
SOCE	Pocosol	34.62	269	P	P	20 45 53.3 -0.4
SOCE				IAmb	IAmb	20 46 49.2
	comp=Z,56nm,0.7s					
EOSO	Osorio	34.69	60	P	P	20 45 56.3 +2.2
WSPT	Westport, CT	34.70	327	P	P	20 45 53.3 -0.6
WSPT				IAmb	IAmb	20 46 05.2
	comp=Z,141nm,1.0s					
ARE1	Arenal 1	34.70	269	P	P	20 45 54.3 -0.1
ARE1				IAmb	IAmb	20 46 18.3
	comp=Z,78nm,0.9s					
CPNY	Central Park	34.76	326	P	P	20 45 53.9 -0.6
CPNY				IAmb	IAmb	20 46 06.3
	comp=Z,104nm,1.1s					
JACO	JACO, Garabito	34.77	268	P	P	20 45 54.1 -0.8
FOR	Fordham	34.77	326	P	P	20 45 55.5 +0.9
	baz=135,SNR=7.0					
EMMW	East Machias	34.83	337	P	P	20 45 54.9 0.0
EMMW				IAmb	IAmb	20 46 06.0
	comp=Z,103nm,0.9s					
EMMW				IAms_20	IAms_20	20 56 41.4
	comp=Z,3μm,22.0s					
EMMW	East Machias	34.83	337	P	P	20 45 57.7 +2.7
	baz=148,SNR=9.2					
V58A	Windy Hill, Pi	34.83	315	P	P	20 45 54.4 -0.8
V58A				IAms_20	IAms_20	20 56 35.7
	comp=Z,4μm,20.0s					
LPAZ	La Paz	34.84	213	P	P	20 45 56.2 +0.1
LPAZ				IAmb	IAmb	20 46 03.7
	comp=Z,155nm,0.8s					
LPAZ	La Paz	34.84	213	eP	P	20 45 58.5 +2.3
LPAZ	La Paz	34.84	213	eP	P	20 45 58.4 +2.3
LPAZ	La Paz	34.84	213	P	P	20 45 58.5 +2.3
	comp=Z,150nm,0.9s,baz=18,slow=8.5,SNR=206					
LPAZ				LR	LR	21 00 14.5
	comp=Z,2μm,20.0s,baz=32,slow=36					
	comp=Z,150nm,0.9s					
Y57A	Sumter	34.84	311	P	P	20 45 55.3 0.0
Y57A				IAmb	IAmb	20 46 07.0
	comp=Z,114nm,1.0s					
Y57A				IAms_20	IAms_20	20 56 13.0
	comp=Z,3μm,21.0s					
PANJ	Princeton	34.88	325	P	P	20 45 56.8 +1.2
	baz=133					
PAL	Palisades	34.88	327	P	P	20 45 55.1 -0.4
PAL	Palisades	34.88	327	P	P	20 45 55.1 -0.4
PAL				pmax	pmax	
	comp=Z,323nm,1.6s					
PAL				MLR	MLR	
	comp=Z,3μm,21.0s					
PAL	Palisades	34.88	327	P	P	20 45 56.1 +0.6
	baz=135,SNR=8.5					
PAL	Palisades	34.88	327	P	P	20 45 56.0 +0.4
	baz=135,SNR=8.5					
LMN	Caledonia Moun	34.90	341	P	P	20 45 55.4 -0.3
LMN				IAmb	IAmb	20 46 00.8
	comp=Z,259nm,1.6s					
LMN				IAms_20	IAms_20	20 57 20.5
	comp=Z,4μm,20.0s					
GGN	Saint George	34.95	338	P	P	20 45 55.4 -0.6
GGN				IAmb	IAmb	20 46 07.2
	comp=Z,144nm,0.9s					
ACON	Acoyapa	34.96	272	P	P	20 45 56.4 -0.1
ACON	Acoyapa	34.96	272	eP	P	20 45 59.4 +2.8
JTS	Las Juntas de	34.96	269	P	P	20 45 56.6 +0.1
JTS	Las Juntas de	34.96	269	eP	P	20 45 57.2 +0.6
SALI	Salinas	34.99	246	P	P	20 45 57.3 +0.5
SALI				IAmb	IAmb	20 46 09.8
	comp=Z,217nm,1.1s					
QUA2	Belchertown	35.01	330	P	P	20 45 56.4 -0.2
QUA2				IAmb	IAmb	20 46 08.0
	comp=Z,138nm,1.0s					
QUA2				IAms_20	IAms_20	20 56 46.4
	comp=Z,3μm,19.0s					
QUA2	Belchertown	35.01	330	P	P	20 45 57.6 +1.0
	baz=138					
GEDE	Greenville	35.03	324	P	P	20 45 57.6 +0.8
	baz=131					
CBN	Corbin Frederi	35.06	320	P	P	20 45 57.0 -0.2
CBN				IAmb	IAmb	20 46 08.4
	comp=Z,126nm,0.9s					
CBN	Corbin Frederi	35.06	320	P	P	20 45 57.9 +0.7
	baz=127					
WUPA	West Chester U	35.09	324	P	P	20 45 56.4 -1.0
W57A	Gilead	35.11	313	P	P	20 45 58.4 +0.7
W57A				IAmb	IAmb	20 46 09.2
	comp=Z,126nm,1.2s					
W57A				IAms_20	IAms_20	20 56 45.1
	comp=Z,4μm,20.0s					
W57A	Gilead	35.11	313	P	P	20 45 58.8 +1.1
	baz=120					
W57A				P	P	20 45 58.8 +1.1
	baz=120					
MCRA	Macar, Loja	35.13	242	P	P	20 45 58.1 0.0
MCRA	Macar, Loja	35.13	242	eP	P	20 45 58.7 +0.6
PMOZ	Porto Moniz, M	35.13	51	eP	P	20 45 57.5 -0.5
	comp=Z,390nm,1.5s					
PMOZ				eS	S	20 51 39.1 +8.2
PMOZ				eSS	SS	20 53 59.5 -4.1
PMOZ				eLR	LR	20 55 02.8
	comp=Z,818nm,22.0s					
PMOZ	Porto Moniz, M	35.13	51	P	P	20 45 57.1 -0.8
PMOZ	Porto Moniz, M	35.13	51	P	P	20 45 57.3 -0.7
TRNY	Table Rock, Ra	35.15	327	P	P	20 45 57.9 0.0
TRNY				IAmb	IAmb	20 46 09.2
	comp=Z,160nm,1.4s					
TRNY				IAms_20	IAms_20	20 57 09.1
	comp=Z,3μm,20.0s					
KSCT	Kent School, K	35.18	328	P	P	20 45 57.9 -0.1
KSCT				IAmb	IAmb	20 46 09.3
	comp=Z,160nm,1.0s					
BIRD	Birdtown, Kers	35.20	312	P	P	20 45 57.9 -0.4
BIRD				IAmb	IAmb	20 46 10.1
	comp=Z,164nm,1.2s					
BIRD				IAms_20	IAms_20	20 56 57.3
	comp=Z,3μm,20.0s					
BRNY	Black Rk. Fore	35.23	327	P	P	20 45 59.4 +0.8
	baz=135,SNR=27					
R58B	Mineral	35.24	319	P	P	20 45 58.4 -0.3
R58B				IAmb	IAmb	20 46 10.7
	comp=Z,180nm,1.4s					
R58B				IAms_20	IAms_20	20 56 45.3
	comp=Z,3μm,22.0s					
K62A	Royalston	35.24	330	P	P	20 45 59.3 +0.6
K62A				IAmb	IAmb	20 46 10.8
	comp=Z,199nm,1.5s					
K62A				IAms_20	IAms_20	20 56 52.5
	comp=Z,4μm,21.0s					
K62A	Royalston	35.24	330	P	P	20 45 59.8 +1.2
	baz=139,SNR=7.8					
K62A				P	P	20 45 59.8 +1.2
	baz=139,SNR=7.8					
G65A	Princeton	35.28	338	P	P	20 45 59.0 +0.1
G65A				IAmb	IAmb	20 46 03.7
	comp=Z,289nm,1.8s					
G65A				IAms_20	IAms_20	20 57 15.6
	comp=Z,3μm,20.0s					
G65A	Princeton	35.28	338	P	P	20 46 02.1 +3.2
	baz=148,SNR=5.7					
G65A				P	P	20 46 02.1 +3.2
	baz=148,SNR=5.7					
FUL	Funchal	35.29	52	eP	P	20 46 01.1 +1.9
	comp=Z,192nm,1.9s					
L61B	Northampton	35.30	330	P	P	20 45 59.1 -0.1
L61B				IAmb	IAmb	20 46 10.4
	comp=Z,138nm,0.9s					
L61B				IAms_20	IAms_20	20 56 54.0
	comp=Z,3μm,20.0s					
L61B	Northampton	35.30	330	P	P	20 45 59.8 +0.7
	baz=138,SNR=28					
L61B	Northampton	35.30	330	P	P	20 45 59.9 +0.7
	baz=138,SNR=28					
PMAR	Madeira	35.30	51	eP	P	20 45 59.6 0.0
	comp=Z,223nm,1.5s					
ODNJ	Ogdensburg	35.31	326	P	P	20 45 59.1 -0.1
ODNJ				IAms_20	IAms_20	20 56 20.4
	comp=Z,3μm,22.0s					
ODNJ	Ogdensburg	35.31	326	P	P	20 46 00.4 +1.1
	baz=134,SNR=8.6					
ATAH	Atahualpa	35.32	236	P	P	20 46 02.4 +2.3
	comp=Z,100nm,0.8s,baz=66,slow=5.1,SNR=48					
ATAH				LR	LR	21 01 06.5
	comp=Z,3μm,18.7s,baz=58,slow=37					
	comp=Z,100nm,0.8s					
BOAB	BOACO BROADBAN	35.38	273	P	P	20 46 00.3 +0.1
BOAB	BOACO BROADBAN	35.38	273	P	P	20 46 01.8 +1.6
LUPA	Lehigh Univers	35.41	325	P	P	20 46 00.4 +0.3
LUPA				IAms_20	IAms_20	20 56 36.8
	comp=Z,4μm,22.0s					
ORTG	Ortega, Santa	35.44	269	P	P	20 46 01.7 +0.9
DUNO	Dulce Nombre,	35.52	269	P	P	20 45 60.0 -1.4
NPNY	Mohonk Preserv	35.54	327	P	P	20 46 02.3 +1.1
	baz=135,SNR=36					
I63A	Otisfield	35.56	333	IAmb	IAmb	20 46 12.8
	comp=Z,111nm,1.1s					
I63A				IAms_20	IAms_20	20 56 51.8
	comp=Z,4μm,22.0s					
I63A	Otisfield	35.56	333	P	P	20 46 04.5 +3.2
	baz=143,SNR=10					
I63A				P	P	20 46 04.5 +3.2
	baz=143,SNR=10					
MVL	Millersville	35.57	323	P	P	20 46 02.2 +0.7
MVL				IAms_20	IAms_20	20 56 54.1
	comp=Z,3μm,22.0s					
WVL	Waterville	35.58	335	P	P	20 46 02.0 +0.5
WVL				IAmb	IAmb	20 46 12.7
	comp=Z,246nm,1.9s					
WVL				IAms_20	IAms_20	20 58 02.4
	comp=Z,5μm,20.0s					
WVL	Waterville	35.58	335	P	P	20 46 03.4 +1.9
	baz=144,SNR=8.0					
T57A	Hurt	35.58	317	IAms_20	IAms_20	20 56 57.5
	comp=Z,4μm,22.0s					
T57A	Hurt	35.58	317	P	P	20 46 03.0 +1.3
	baz=124					
T57A				P	P	20 46 03.0 +1.3
	baz=124					
FFD	Franklin Falls	35.58	332	P	P	20 46 01.7 +0.2
FFD				IAmb	IAmb	20 46 13.0
	comp=Z,166nm,1.2s					
MATN	Matagalpa	35.59	274	P	P	20 46 02.2 +0.1
JSC	Jenkinsville	35.60	311	P	P	20 46 01.4 -0.5
JSC				IAms_20	IAms_20	20 56 37.1
	comp=Z,3μm,21.0s					
JSC	Jenkinsville	35.60	311	P	P	20 46 01.4 -0.5
JSC				pmax	pmax	
	comp=Z,82nm,1.1s					
JSC				MLR	MLR	
	comp=Z,3μm,21.0s					
JSC	Jenkinsville	35.60	311	P	P	20 46 03.0 +1.1
	baz=118					
RCLB	Rio Claro- Sao	35.63	177	eP	P	20 46 04.4 +2.2
I62A	Tamworth	35.75	332	P	P	20 46 02.9 -0.1
I62A				IAmb	IAmb	20 46 16.5
	comp=Z,259nm,1.9s					
I62A				IAms_20	IAms_20	20 56 47.0
	comp=Z,3μm,21.0s					
I62A	Tamworth	35.75	332	P	P	20 46 06.0 +2.9
	baz=141,SNR=12					
I62A				P	P	20 46 06.0 +2.9
	baz=141,SNR=12					
MURT	Porto Murtinho	35.76	193	eP	P	20 46 05.4 +2.2
ANTJ	Antonio Joao (	35.77	191	eP	P	20 46 05.8 +2.4
S57A	Dark Hollow, R	35.81	318	P	P	20 46 03.9 +0.2
S57A				IAms_20	IAms_20	20 57 35.6
	comp=Z,4μm,20.0s					
S57A	Dark Hollow, R	35.81	318	P	P	20 46 04.5 +0.9
	baz=125,SNR=16					
S57A				P	P	20 46 04.5 +0.9
	baz=125,SNR=16					
DUB01	Friburgo-RJ	35.91	169	eP	P	20 46 05.9 +1.3
J61A	Chester	35.91	331	IAmb	IAmb	20 46 16.0
	comp=Z,112nm,0.9s					
J61A				IAms_20	IAms_20	20 57 43.2
	comp=Z,3μm,20.0s					
J61A	Chester	35.91	331	P	P	20 46 05.3 +0.9
	baz=139,SNR=17					
J61A				P	P	20 46 05.3 +0.9
	baz=139,SNR=17					
VAS01	Vassouras-RJ	35.92	171	eP	P	20 46 06.5 +1.8
PAGS	Pennsylvania G	35.93	323	P	P	20 46 04.1 -0.5
PAGS				IAmb	IAmb	20 46 15.8
	comp=Z,131nm,0.8s					
PAGS				IAms_20	IAms_20	20 57 16.8
	comp=Z,5μm,21.0s					
U56A	King	36.00	315	P	P	20 46 05.5 +0.2
U56A				IAmb	IAmb	20 46 17.1
	comp=Z,172nm,1.4s					
U56A				IAms_20	IAms_20	20 57 53.6
	comp=Z,4μm,18.0s					
TRY	Troy	36.00	329	P	P	20 46 05.3 +0.1
TRY				IAmb	IAmb	20 46 16.8
	comp=Z,119nm,1.1s					
TRY	Troy	36.00	329	P	P	20 46 05.8 +0.7
	baz=137,SNR=7.9					
PKME	Peaks-Kenny Pk	36.00	336	IAms_20	IAms_20	20 57 35.6
	comp=Z,3μm,21.0s					
PKME	Peaks-Kenny Pk	36.00	336	P	P	20 46 06.6 +1.5
	baz=146,SNR=7.5					
PKME	Peaks-Kenny Pk	36.00	336	P	P	20 46 06.0 +0.9
	baz=146,SNR=7.5					
HNH	Hanover	36.06	331	IAmb	IAmb	20 46 17.2
	comp=Z,132nm,0.9s					
HNH				IAms_20	IAms_20	20 57 38.1
	comp=Z,3μm,20.0s					
KMSC	Kings Mountain	36.06	312	P	P	20 46 06.3 +0.5
KMSC				IAmb	IAmb	20 46 17.4
	comp=Z,93nm,0.9s					
KMSC				IAms_20	IAms_20	20 57 24.3
	comp=Z,3μm,21.0s					
KMSC	Kings Mountain	36.06	312	P	P	20 46 07.5 +1.7
	baz=119,SNR=8.6					
KMSC	Kings Mountain	36.06	312	P	P	20 46 06.3 +0.5
	baz=119,SNR=8.6					
TRCB	Terra Rica	36.10	185	eP	P	20 46 08.9 +2.7
F64A	Sherman	36.14	337	P	P	20 46 07.3 +1.0
F64A				IAms_20	IAms_20	20 57 50.2
	comp=Z,3μm,20.0s					
F64A	Sherman	36.14	337	P	P	20 46 07.1 +0.8
	baz=148,SNR=9.9					
F64A				P	P	20 46 07.1 +0.8
	baz=148,SNR=9.9					
TIGA	Tifton	36.18	305	P	P	20 46 07.5 +0.6
TIGA				IAmb	IAmb	20 46 19.2
	comp=Z,180nm,1.1s					
TIGA				IAms_20	IAms_20	20 59 47.6
	comp=Z,3μm,20.0s					
TIGA	Tifton	36.18	305	P	P	20 46 08.3 +1.4
	baz=112					
TIGA	Tifton	36.18	305	P	P	20 46 09.0 +2.1
	baz=112					
H62A	Milan	36.22	333	P	P	20 46 07.6 +0.5
H62A				IAmb	IAmb	20 46 18.8
	comp=Z,101nm,0.9s					
H62A				IAms_20	IAms_20	20 57 23.5
	comp=Z,3μm,20.0s					
H62A	Milan	36.22	333	P	P	20 46 08.8 +1.7
	baz=142,SNR=14					
H62A				P	P	20 46 08.8 +1.7
	baz=142,SNR=14					
P57A	Homestead Farm	36.23	321	P	P	20 46 06.9 -0.3
P57A				IAmb	IAmb	20 46 19.0
	comp=Z,92nm,0.9s					
P57A				IAms_20	IAms_20	20 58 07.2
	comp=Z,3μm,19.0s					
P57A	Homestead Farm	36.23	321	P	P	20 46 09.3 +2.1
	baz=128					
P57A				P	P	20 46 09.3 +2.1
	baz=128					
KSPA	Keystone Colle	36.27	326	P	P	20 46 07.6 +0.1
KSPA				IAmb	IAmb	20 46 19.8
	comp=Z,153nm,1.0s					
KSPA				IAms_20	IAms_20	20 57 54.8
	comp=Z,3μm,20.0s					
KSPA	Keystone Colle	36.27	326	P	P	20 46 08.4 +0.9
	baz=133,SNR=17					
F63A	Nahmakanta, Br	36.29	336	P	P	20 46 10.1 +2.5
	baz=146,SNR=5.9					
F63A				P	P	20 46 10.1 +2.5
	baz=146,SNR=5.9					
LBNH	Lisbon	36.30	332	IAmb	IAmb	20 46 19.4
	comp=Z,98nm,0.9s					
LBNH	Lisbon	36.30	332	P	P	20 46 09.2 +1.5
	baz=141,SNR=15					
LBNH	Lisbon	36.30	332	P	P	20 46 09.4 +1.6
	baz=141,SNR=15					
L59A	Walton	36.32	327	P	P	20 46 08.8 +0.9
L59A				IAmb	IAmb	20 46 13.8
	comp=Z,130nm,1.3s					
L59A	Walton	36.32	327	P	P	20 46 09.1 +1.2
	baz=135					
L59A				P	P	20 46 09.1 +1.2
	baz=135					
N58A	Sunbury	36.33	324	IAmb	IAmb	20 46 19.5
	comp=Z,91nm,0.8s					
N58A				IAms_20	IAms_20	20 57 29.2
	comp=Z,3μm,21.0s					
N58A	Sunbury	36.33	324	P	P	20 46 09.3 +1.3
	baz=131,SNR=17					
N58A				P	P	20 46 09.3 +1.3
	baz=131,SNR=17					
HCNY	Howe Caverns	36.35	328	P	P	20 46 09.7 +1.6
	baz=136,SNR=9.9					
CNGN	Cerro Negro	36.38	273	P	P	20 46 08.3 -0.5
CNGN				IAmb	IAmb	20 46 28.6
	comp=Z,215nm,1.2s					
DRLN	Deer Lake	36.39	351	P	P	20 46 09.9 +1.6
G62A	West of Eustis	36.47	335	IAms_20	IAms_20	20 57 30.0
	comp=Z,4μm,20.0s					
G62A	West of Eustis	36.47	335	P	P	20 46 10.8 +1.7
	baz=144,SNR=9.2					
G62A				P	P	20 46 10.8 +1.7
	baz=144,SNR=9.2					
BLA	Blacksburg	36.48	316	IAmb	IAmb	20 46 21.4
	comp=Z,173nm,1.1s					
BLA				IAms_20	IAms_20	20 57 36.3
	comp=Z,4μm,21.0s					
BLA	Blacksburg	36.48	316	P	P	20 46 10.0 +0.6
	baz=122					
ACCN	Adirondack Com	36.48	330	P	P	20 46 09.8 +0.5
ACCN				IAmb	IAmb	20 46 20.7
	comp=Z,238nm,2.0s					
ACCN	Adirondack Com	36.48	330	P	P	20 46 11.6 +2.3
	baz=138					
ESAR	Angra dos Reis	36.50	172	eP	P	20 46 12.0 +2.4
FRTB	Fartura	36.51	180	eP	P	20 46 12.5 +2.8
MCVT	Middlebury Col	36.58	331	P	P	20 46 11.3 +1.1
	baz=139,SNR=13					
LDASE	Londrina, Braz	36.60	183	eP	P	20 46 13.3 +2.8
E63A	Oxbow	36.64	338	P	P	20 46 13.6 +3.1
	baz=148,SNR=21					
E63A				P	P	20 46 13.6 +3.1
	baz=148,SNR=21					
Q56A	Snyder Ridge,	36.70	320	IAmb	IAmb	20 46 23.3
	comp=Z,111nm,0.8s					
Q56A	Snyder Ridge,	36.70	320	P	P	20 46 13.2 +1.9
	baz=126,SNR=12					
Q56A				P	P	20 46 13.2 +1.9

baz=126,SNR=12
PQI Presque Isle 36.70 338 IAMs_20 IAMs_20 20 57 59.1
comp=Z,3µm,21.0s
VT1 Waterbury 36.76 332 P **P** **20 46 12.0 +0.4**
F62A Pittston Farm, 36.79 336 P **P** **20 46 12.8 +0.9**
F62A IAMs_20 IAMs_20 20 58 40.5
comp=Z,4µm,20.0s
F62A Pittston Farm, 36.79 336 P **P** **20 46 14.1 +2.2**
baz=145,SNR=9.9
F62A P **P** **20 46 14.1 +2.2**
baz=145,SNR=9.9
TGUH Tegucigalpa,Un 36.82 276 P **P** **20 46 13.2 +0.6**
TGUH Tegucigalpa,Un 36.82 276 *e*P **P** **20 46 13.2 +0.6**
BINY Binghamton 36.83 326 IAmb IAmb 20 46 23.9
comp=Z,152nm,0.9s
BINY Binghamton 36.83 326 P **P** **20 46 13.3 +1.0**
baz=133,SNR=29
BINY Binghamton 36.83 326 P **P** **20 46 12.8 +0.5**
baz=133,SNR=29
GOGA Godfrey 36.87 309 P **P** **20 46 14.1 +1.4**
baz=114
GOGA Godfrey 36.87 309 P **P** **20 46 13.7 +1.0**
baz=114
R55A Marlinton 36.87 318 IAmb IAmb 20 46 25.4
comp=Z,160nm,1.1s
R55A IAMs_20 IAMs_20 20 58 49.5
comp=Z,3µm,19.0s
R55A Marlinton 36.87 318 P **P** **20 46 15.0 +2.3**
baz=124,SNR=11
R55A P **P** **20 46 15.0 +2.3**
baz=124,SNR=11
SSPA Standing Stone 36.88 323 P **P** **20 46 12.9 +0.3**
SSPA IAmb IAmb 20 46 24.3
comp=Z,113nm,0.8s
SSPA Standing Stone 36.88 323 IAMs_20 IAMs_20 20 57 45.8
comp=Z,3µm,22.0s
SSPA Standing Stone 36.88 323 P **P** **20 46 13.7 +1.0**
baz=129
SSPA Standing Stone 36.88 323 P **P** **20 46 13.8 +1.1**
baz=129,SNR=20
M57A Sunshine Farm, 36.89 324 IAMs_20 IAMs_20 20 57 46.1
comp=Z,4µm,21.0s
M57A Sunshine Farm, 36.89 324 P **P** **20 46 13.8 +1.0**
baz=131,SNR=40
M57A P **P** **20 46 13.8 +1.0**
baz=131,SNR=40
J59A Piesco 36.95 329 P **P** **20 46 14.4 +1.1**
baz=136,SNR=11
J59A P **P** **20 46 14.4 +1.1**
baz=136,SNR=11
PABK Blue Knob Stat 37.06 322 P **P** **20 46 15.2 +0.8**
baz=128
U54A Nelsons Funny 37.08 314 P **P** **20 46 15.0 +0.4**
U54A IAmb IAmb 20 46 26.7
comp=Z,146nm,0.9s
U54A IAMs_20 IAMs_20 20 57 56.3
comp=Z,4µm,21.0s
U54A Nelsons Funny 37.08 314 P **P** **20 46 15.8 +1.2**
baz=120
U54A P **P** **20 46 15.8 +1.2**
baz=120
NNA Nana 37.13 228 P **P** **20 46 13.7 -1.4**
NNA Nana 37.13 228‖ *e*P **P** **20 46 13.8 -1.4**
NNA pmax pmax
comp=Z,156nm,2.5s
NNA Nana 37.13 228 LR LR 21 01 33.8
comp=Z,2µm,21.5s,baz=43,slow=36
BG3 Lake Jocassee 37.15 311 IAmb IAmb 20 46 27.5
comp=Z,124nm,1.0s
CASEE Lake Jocassee 37.15 311 P **P** **20 46 16.4 +1.2**
baz=117,SNR=10
NCB Newcomb 37.19 330 IAMs_20 IAMs_20 20 58 00.9
comp=Z,3µm,20.0s
NCB Newcomb 37.19 330 P **P** **20 46 15.7 +0.4**
baz=137,SNR=14
E62A Clayton Lake 37.22 337 IAmb IAmb 20 46 21.0
comp=Z,218nm,1.9s
E62A IAMs_20 IAMs_20 20 57 30.7
comp=Z,3µm,22.0s
E62A Clayton Lake 37.22 337 P **P** **20 46 16.2 +0.7**
baz=146,SNR=9.1
E62A P **P** **20 46 16.2 +0.7**
baz=146,SNR=9.1
352A Blakely 37.26 305 IAmb IAmb 20 46 30.5
comp=Z,197nm,1.0s
352A IAMs_20 IAMs_20 20 58 14.6
comp=Z,2µm,18.0s
J58A Remsen 37.27 328 P **P** **20 46 16.4 +0.3**
J58A IAmb IAmb 20 46 27.9
comp=Z,135nm,1.0s
J58A Remsen 37.27 328 P **P** **20 46 17.1 +1.0**
baz=135,SNR=30
J58A P **P** **20 46 17.1 +1.0**
baz=135,SNR=30
V53A Saluda 37.38 312 P **P** **20 46 16.6 -0.4**
V53A IAmb IAmb 20 46 29.0
comp=Z,117nm,1.1s
V53A IAMs_20 IAMs_20 20 58 16.1
comp=Z,3µm,20.0s
V53A Saluda 37.38 312 P **P** **20 46 17.8 +0.7**
baz=118
V53A P **P** **20 46 17.8 +0.7**
baz=118
S54A Dingess, Beckl 37.39 316 IAMs_20 IAMs_20 20 57 28.4
comp=Z,4µm,22.0s
S54A Dingess, Beckl 37.39 316 P **P** **20 46 18.1 +0.9**
baz=122
S54A P **P** **20 46 18.1 +0.9**
baz=122
D62A Allapoint, All 37.43 338 IAMs_20 IAMs_20 20 57 50.3
comp=Z,3µm,22.0s
D62A Allapoint, All 37.43 338 P **P** **20 46 18.2 +0.9**
baz=147
D62A P **P** **20 46 18.2 +0.9**
baz=147
MCWV Mont Chateau 37.47 320 IAmb IAmb 20 46 29.7
comp=Z,185nm,0.9s
MCWV IAMs_20 IAMs_20 20 58 15.6
comp=Z,3µm,21.0s
MCWV Mont Chateau 37.47 320 P **P** **20 46 18.8 +1.0**
baz=126,SNR=6.0
MCWV Mont Chateau 37.47 320 P **P** **20 46 19.0 +1.2**
baz=126,SNR=6.0
K57A Scipio Center 37.48 326 IAmb IAmb 20 46 29.3
comp=Z,128nm,0.8s
K57A IAMs_20 IAMs_20 20 59 20.8
comp=Z,3µm,18.0s
K57A Scipio Center 37.48 326 P **P** **20 46 18.2 +0.4**
baz=133,SNR=18
PET01 Itanhaem-SP 37.50 177 *e*P **P** **20 46 20.7 +2.6**
Y52A Lilburn 37.51 309 IAMs_20 IAMs_20 20 59 20.5
comp=Z,3µm,18.0s
Y52A Lilburn 37.51 309 P **P** **20 46 19.0 +0.9**
baz=114
Y52A P **P** **20 46 19.0 +0.9**
baz=114
FRNY Flat Rock 37.53 331 P **P** **20 46 17.4 -0.8**
FRNY Flat Rock 37.53 331 P **P** **20 46 19.2 +1.0**
baz=139,SNR=15
152A Waverly Hall 37.53 307 P **P** **20 46 18.6 +0.2**
baz=112,SNR=9.0
L56A Greenwood 37.66 325 IAmb IAmb 20 46 30.6
comp=Z,178nm,0.8s
L56A IAMs_20 IAMs_20 20 58 09.4
comp=Z,3µm,22.0s
L56A Greenwood 37.66 325 P **P** **20 46 19.5 +0.1**
baz=131,SNR=28
L56A P **P** **20 46 19.5 +0.1**
baz=131,SNR=28
J57A Williamstown 37.68 328 IAmb IAmb 20 46 31.1
comp=Z,119nm,1.1s
J57A Williamstown 37.68 328 P **P** **20 46 19.7 +0.3**
baz=134,SNR=12
J57A P **P** **20 46 19.7 +0.3**
baz=134,SNR=12
Q54A Coxs Mills 37.72 318 P **P** **20 46 18.2 -1.7**
Q54A IAmb IAmb 20 46 25.1
comp=Z,383nm,2.0s
Q54A IAMs_20 IAMs_20 20 58 14.1
comp=Z,3µm,20.0s
TEIG Tepich 37.80 286 P **P** **20 46 20.0 -0.8**
TEIG IAmb IAmb 20 46 33.4
comp=Z,202nm,1.1s
TEIG Tepich 37.80 286 LR LR 21 00 15.0
comp=Z,8µm,21.0s,baz=222,slow=34
LONY Lake Ozonia 37.84 330 IAMs_20 IAMs_20 20 58 21.1
comp=Z,3µm,21.0s
LONY Lake Ozonia 37.84 330 P **P** **20 46 22.1 +1.3**
baz=137,SNR=6.6
MCR1 Marechal Candi 37.89 187 *e*P **P** **20 46 23.4 +2.0**
PB12 IPOC Station P 37.93 214 P **P** **20 46 20.2 -1.7**
BMNY Brushton-Moira 37.96 331 P **P** **20 46 22.1 +0.3**
baz=138,SNR=15
PTGB Pitanga 37.97 184 *e*P **P** **20 46 24.5 +2.4**
V52A Sevierville 38.02 312 IAMs_20 IAMs_20 20 58 37.1
comp=Z,3µm,19.0s
V52A Sevierville 38.02 312 P **P** **20 46 23.8 +1.3**
baz=117
J56A Wolcott 38.04 327 IAmb IAmb 20 46 33.8
comp=Z,239nm,1.8s
J56A IAMs_20 IAMs_20 20 59 46.5
comp=Z,2µm,19.0s
MNTQ Montreal, Queb 38.05 332 IAMs_20 IAMs_20 20 58 49.7
comp=Z,3µm,20.0s
TKL Tuckaleechee C 38.07 312 P **P** **20 46 21.9 -1.0**
TKL IAmb IAmb 20 46 34.6
comp=Z,130nm,1.1s
TKL IAMs_20 IAMs_20 20 58 02.3
comp=Z,3µm,22.0s
TKL Tuckaleechee C 38.07 312 P **P** **20 46 21.9 -1.0**
TKL pmax pmax
comp=Z,130nm,1.1s
TKL MLR MLR
comp=Z,3µm,22.0s
TKL Tuckaleechee C 38.07 312 P **P** **20 46 22.5 -0.4**
baz=117,SNR=8.7
TKL Tuckaleechee C 38.07 312 LR LR 20 58 49.1
comp=Z,2µm,21.2s,baz=119,slow=31
R53A Hurricane 38.10 317 IAMs_20 IAMs_20 20 59 08.2
comp=Z,4µm,18.0s
R53A Hurricane 38.10 317 P **P** **20 46 23.9 +0.8**
baz=122,SNR=7.4
R53A P **P** **20 46 23.9 +0.8**
baz=122,SNR=7.4
O54A Avella 38.11 320 IAMs_20 IAMs_20 20 58 46.5
comp=Z,3µm,20.0s
MMNY Mt. Morris Dam 38.24 325 IAmb IAmb 20 46 35.3
comp=Z,178nm,0.8s
MMNY IAMs_20 IAMs_20 20 58 56.9
comp=Z,3µm,20.0s
LMQ La Malbaie 38.29 337 P **P** **20 46 24.5 -0.1**
LMQ IAMs_20 IAMs_20 20 58 27.2
comp=Z,3µm,20.0s
TZTN Tazewell 38.31 313 IAmb IAmb 20 46 37.0
comp=Z,134nm,1.1s
TZTN IAMs_20 IAMs_20 20 58 43.8
comp=Z,3µm,21.0s
TZTN Tazewell 38.31 313 P **P** **20 46 25.1 +0.2**
baz=118
TZTN Tazewell 38.31 313 P **P** **20 46 26.2 +1.3**
baz=118
P53A Whipple 38.36 319 IAmb IAmb 20 46 37.0
comp=Z,167nm,1.2s
P53A IAMs_20 IAMs_20 20 59 54.0
comp=Z,3µm,18.0s
PAMR Moraine State 38.39 321 P **P** **20 46 26.4 +0.9**
baz=127
X51A Calhoun 38.39 309 IAmb IAmb 20 46 38.5
comp=Z,323nm,1.9s
X51A IAMs_20 IAMs_20 20 59 48.1
comp=Z,3µm,19.0s
250A Grady 38.51 305 IAMs_20 IAMs_20 21 01 19.1
comp=Z,3µm,19.0s
CPCT Cooper Cave 38.52 311 P **P** **20 46 25.7 -0.9**
J55A Hilton 38.55 326 IAmb IAmb 20 46 37.8
comp=Z,108nm,0.8s
J55A IAMs_20 IAMs_20 20 59 54.9
comp=Z,3µm,19.0s
J55A Hilton 38.55 326 P **P** **20 46 27.0 +0.3**
baz=132,SNR=15
J55A P **P** **20 46 27.0 +0.3**
baz=132,SNR=15
V51A Loudon 38.55 312 IAMs_20 IAMs_20 20 59 03.2
comp=Z,2µm,19.0s
V51A Loudon 38.55 312 P **P** **20 46 27.1 +0.2**
baz=116
Q52A Bidwell 38.65 317 IAmb IAmb 20 46 39.2
comp=Z,157nm,1.1s
Q52A IAMs_20 IAMs_20 20 59 24.6
comp=Z,4µm,19.0s
Q52A Bidwell 38.65 317 P **P** **20 46 28.6 +0.9**
baz=122
Q52A P **P** **20 46 28.6 +0.9**
baz=122
O53A New Philadelph 38.67 320 IAmb IAmb 20 46 39.5
comp=Z,124nm,1.0s
O53A IAMs_20 IAMs_20 20 59 35.3
comp=Z,3µm,20.0s
O53A New Philadelph 38.67 320 P **P** **20 46 28.8 +0.9**
baz=125
YJA Yavi 38.73 204 *e*P **P** **20 46 30.0 +0.9**
N53A Lisbon 38.76 321 P **P** **20 46 28.0 -0.6**
N53A IAmb IAmb 20 46 40.4
comp=Z,171nm,0.8s
N53A IAMs_20 IAMs_20 20 58 56.6
comp=Z,3µm,21.0s
N53A Lisbon 38.76 321 P **P** **20 46 29.3 +0.6**
baz=126,SNR=8.2
N53A P **P** **20 46 29.3 +0.6**
baz=126,SNR=8.2
ALLY Alegheny Colle 38.84 322 IAmb IAmb 20 46 40.7
comp=Z,156nm,0.9s
ALLY Alegheny Colle 38.84 322 P **P** **20 46 29.8 +0.5**
baz=127,SNR=6.8
S51A Beattyville 38.87 315 IAMs_20 IAMs_20 20 59 02.5
comp=Z,4µm,20.0s
S51A Beattyville 38.87 315 P **P** **20 46 30.2 +0.6**
baz=119,SNR=11
S51A P **P** **20 46 30.2 +0.6**
baz=119,SNR=11
BRAL Brewton 38.87 303 IAMs_20 IAMs_20 20 58 42.7
comp=Z,3µm,19.0s
BRAL Brewton 38.87 303 P **P** **20 46 30.7 +1.0**
baz=108
P52A Corning 38.92 318 P **P** **20 46 29.8 -0.2**
P52A IAMs_20 IAMs_20 20 58 50.8
comp=Z,3µm,22.0s
P52A Corning 38.92 318 P **P** **20 46 30.9 +0.9**
baz=123,SNR=6.0
O52A Adamsville 38.99 319 IAmb IAmb 20 46 42.2
comp=Z,158nm,0.9s
O52A IAMs_20 IAMs_20 20 59 03.8
comp=Z,3µm,20.0s
O52A Adamsville 38.99 319 P **P** **20 46 31.6 +1.0**
baz=124,SNR=6.1
O52A P **P** **20 46 31.6 +1.0**
baz=124,SNR=6.1
W50A Signal Mountai 39.00 310 IAmb IAmb 20 46 43.0
comp=Z,184nm,1.2s
W50A Signal Mountai 39.00 310 P **P** **20 46 30.8 +0.1**
baz=115,SNR=13
J54A Appleton 39.00 325 IAmb IAmb 20 46 41.6
comp=Z,123nm,0.8s
J54A IAMs_20 IAMs_20 20 59 41.0
comp=Z,3µm,20.0s
J54A Appleton 39.00 325 P **P** **20 46 32.0 +1.4**
baz=131,SNR=9.2
J54A P **P** **20 46 32.0 +1.4**
baz=131,SNR=9.2
TRQ Mont Tremblant 39.02 332 P **P** **20 46 30.4 -0.3**
M53A WI Miller and 39.03 322 IAmb IAmb 20 46 42.1
comp=Z,142nm,0.8s
M53A IAMs_20 IAMs_20 20 59 52.9
comp=Z,3µm,19.0s
M53A WI Miller and 39.03 322 P **P** **20 46 31.7 +0.8**
baz=127,SNR=13
ERPA Erie 39.04 323 P **P** **20 46 30.6 -0.3**
ERPA IAmb IAmb 20 46 43.0
comp=Z,151nm,0.9s
ERPA IAMs_20 IAMs_20 20 58 40.9
comp=Z,4µm,22.0s
ERPA Erie 39.04 323 P **P** **20 46 31.9 +1.0**
baz=128,SNR=6.3
ERPA Erie 39.04 323 P **P** **20 46 31.7 +0.8**
baz=128,SNR=6.3
ESFA Espinillo Form 39.14 193 *e*P **P** **20 46 34.4 +2.6**
FRBT Francisco Belt 39.29 185 *e*P **P** **20 46 35.6 +2.4**
Y49A Blount Mountai 39.30 308 IAMs_20 IAMs_20 21 00 21.0
comp=Z,3µm,19.0s
Q51A Peebles 39.39 317 IAmb IAmb 20 46 45.6
comp=Z,163nm,0.9s
Q51A IAMs_20 IAMs_20 20 58 42.4
comp=Z,4µm,22.0s
Q51A Peebles 39.39 317 P **P** **20 46 34.5 +0.6**
baz=121,SNR=7.7
Q51A P **P** **20 46 34.5 +0.6**
baz=121,SNR=7.7
P51A Williamsport 39.44 317 IAmb IAmb 20 46 45.7
comp=Z,172nm,1.0s
P51A IAMs_20 IAMs_20 20 59 49.7
comp=Z,3µm,20.0s
P51A Williamsport 39.44 317 P **P** **20 46 35.2 +0.9**
baz=122,SNR=5.8
P51A P **P** **20 46 35.2 +0.9**
baz=122,SNR=5.8
T50A Nancy 39.45 313 P **P** **20 46 33.5 -0.9**
T50A IAMs_20 IAMs_20 20 59 31.0
comp=Z,3µm,20.0s
T50A Nancy 39.45 313 P **P** **20 46 35.6 +1.2**
baz=117
T50A P **P** **20 46 35.6 +1.2**
baz=117
LRAL Lakeview Retre 39.45 306 P **P** **20 46 35.3 +0.7**
baz=111,SNR=8.2
TA01 Diego Aracena 39.47 212 P **P** **20 46 34.3 -0.4**
M52A Chesterland 39.51 321 IAmb IAmb 20 46 46.0
comp=Z,217nm,0.8s
M52A IAMs_20 IAMs_20 21 00 16.4
comp=Z,3µm,19.0s
M52A Chesterland 39.51 321 P **P** **20 46 36.0 +1.1**
baz=126,SNR=9.9
M52A P **P** **20 46 36.0 +1.1**
baz=126,SNR=9.9
PB01 IPOC Station P 39.52 210 IAmb IAmb 20 46 37.2
comp=Z,221nm,1.0s
HJA Humahuaca 39.62 204 *e*P **P** **20 46 37.0 +0.7**
ALOL LOMAS DE OLMEC 39.65 201 *e*P **P** **20 46 37.3 +1.1**
PATCX Punta Patache 39.67 211 P **P** **20 46 35.5 -1.0**
PATCX IAmb IAmb 20 46 43.1
comp=Z,218nm,1.0s
R50A Paris 39.69 315 IAMs_20 IAMs_20 20 59 27.2
comp=Z,4µm,22.0s
N51A Ashland 39.78 320 IAMs_20 IAMs_20 21 00 18.6
comp=Z,3µm,19.0s
ACSO Alum Creek Sta 39.79 319 IAmb IAmb 20 46 48.7
comp=Z,138nm,0.9s
ACSO IAMs_20 IAMs_20 21 00 02.4
comp=Z,3µm,21.0s
ACSO Alum Creek Sta 39.79 319 P **P** **20 46 38.2 +0.9**
baz=123
ACSO Alum Creek Sta 39.79 319 P **P** **20 46 37.3 +0.1**
baz=123,SNR=6.0
U49A Red Boiling Sp 39.90 312 IAMs_20 IAMs_20 20 59 37.4
comp=Z,3µm,19.0s
U49A Red Boiling Sp 39.90 312 P **P** **20 46 38.8 +0.6**
baz=116,SNR=10
PB02 IPOC Station P 39.96 211 P **P** **20 46 38.3 -0.6**
X48A Hartselle 40.01 308 IAMs_20 IAMs_20 21 00 59.8
comp=Z,2µm,19.0s
X48A Hartselle 40.01 308 P **P** **20 46 40.1 +1.0**
baz=112,SNR=12
PB09 IPOC Station P 40.04 209 P **P** **20 46 39.3 -0.4**
CPUP Villa Florida 40.23 191 P **P** **20 46 41.3 +0.3**
CPUP IAMs_20 IAMs_20 21 03 39.2
comp=Z,2µm,19.0s
CPUP Villa Florida 40.23 191 P **P** **20 46 42.9 +2.0**
comp=Z,229nm,0.8s,baz=17,slow=8.1,SNR=384
CPUP LR LR 21 03 19.1
comp=Z,2µm,20.7s,baz=14,slow=36
comp=Z,229nm,0.8s
SADO Sadowa 40.26 327 P **P** **20 46 40.6 -0.5**
SADO Sadowa 40.26 327 LR LR 21 00 57.3
comp=Z,2µm,19.7s,baz=164,slow=33
R49A Shelbyville 40.27 315 IAMs_20 IAMs_20 20 59 56.8
comp=Z,4µm,21.0s
R49A Shelbyville 40.27 315 P **P** **20 46 42.3 +1.0**
baz=118,SNR=18
R49A P **P** **20 46 42.3 +1.0**
baz=118,SNR=18
PB07 IPOC Station P 40.30 210 P **P** **20 46 41.3 -0.5**
PB07 IPOC Station P 40.30 210 P **P** **20 46 44.7 +2.9**
V48A Smith Brothers 40.34 310 P **P** **20 46 43.5 +1.6**
baz=114,SNR=10
Z47A Carrollton 40.35 306 IAMs_20 IAMs_20 21 04 59.0
comp=Z,2µm,18.0s
Z47A Carrollton 40.35 306 P **P** **20 46 42.2 +0.2**
baz=110
AZAP Zapla 40.41 202 *e*P **P** **20 46 42.8 0.0**
M50A Fremont 40.47 320 IAmb IAmb 20 46 54.3
comp=Z,139nm,0.8s
M50A IAMs_20 IAMs_20 21 00 40.9
comp=Z,3µm,19.0s
ITAB Concordia 40.47 184 P **P** **20 46 43.4 +0.5**
ITAB IAmb IAmb 20 46 47.2
comp=Z,277nm,1.2s
ITAB Concordia 40.47 184 *e*P **P** **20 46 45.1 +2.2**
H10N3 ASCENSION HYDR 40.53 119 T T 21 29 46.1
baz=301,slow=75,SNR=9.1
H10N2 ASCENSION HYDR 40.54 119 T T 21 29 38.1
baz=301,slow=75,SNR=3.8
AF01 San Pedro de A 40.55 207 P **P** **20 46 43.8 -0.2**
AF01 IAmb IAmb 20 47 40.7
comp=Z,124nm,1.0s
H10N1 ASCENSION HYDR 40.55 119 T T 21 29 47.6
baz=301,slow=75,SNR=9.2
P49A Miami Univ. Ec 40.57 317 IAmb IAmb 20 46 55.1
comp=Z,184nm,0.9s
P49A IAMs_20 IAMs_20 21 00 04.5
comp=Z,3µm,20.0s
P49A Miami Univ. Ec 40.57 317 P **P** **20 46 44.3 +0.6**
baz=120,SNR=6.2
P49A Miami Univ. Ec 40.57 317 P **P** **20 46 44.3 +0.6**
baz=120,SNR=6.2
LVC Limon Verde 40.59 208 P **P** **20 46 44.0 -0.4**
LVC Limon Verde 40.59 208 IAMs_20 IAMs_20 21 01 26.4
comp=Z,3µm,22.0s
LVC Limon Verde 40.59 208 P **P** **20 46 44.0 -0.4**
LVC pmax pmax
comp=Z,65nm,1.0s
LVC MLR MLR
comp=Z,2µm,22.0s
LVC Limon Verde 40.59 208 *e*P **P** **20 46 45.3 +0.9**
LVC Limon Verde 40.59 208 LR LR 21 06 13.1
comp=Z,739nm,18.5s,baz=14,slow=40
LVC Limon Verde 40.59 208 *e*P **P** **20 46 41.1 -3.2**
O49A Covington 40.65 318 IAMs_20 IAMs_20 21 00 36.6
comp=Z,3µm,19.0s
CRSM Crissiumal (Br 40.89 186 *e*P **P** **20 46 48.8 +2.3**
346A Big Creek Wild 40.91 303 IAMs_20 IAMs_20 21 00 16.7
comp=Z,3µm,20.0s
N49A Columbus Grove 40.93 319 IAmb IAmb 20 46 57.8
comp=Z,117nm,0.9s
N49A IAMs_20 IAMs_20 21 00 46.1
comp=Z,3µm,19.0s
N49A Columbus Grove 40.93 319 P **P** **20 46 48.0 +1.3**
baz=122,SNR=6.1
N49A P **P** **20 46 48.0 +1.3**
baz=122,SNR=6.1
TICA Tres Isletas 40.97 195 *e*P **P** **20 46 49.2 +2.1**
PB06 IPOC Station P 40.98 209 P **P** **20 46 47.5 +0.1**
PB06 IAmb IAmb 20 46 53.0
comp=Z,100nm,0.8s
H10S3 ASCENSION HYDR 40.98 121 T T 21 30 41.9
baz=298,slow=74,SNR=4.2
K50A Casco 40.99 322 IAMs_20 IAMs_20 21 00 05.7
comp=Z,3µm,22.0s
K50A Casco 40.99 322 P **P** **20 46 48.9 +1.8**
baz=126,SNR=6.2
K50A P **P** **20 46 48.9 +1.8**
baz=126,SNR=6.2
PLAL Pickwick Lake 40.99 308 IAmb IAmb 20 46 59.2
comp=Z,225nm,1.2s
H10S2 ASCENSION HYDR 41.00 121 T T 21 31 07.8
baz=282,slow=74,SNR=2.8
P48A Milroy 41.01 316 IAMs_20 IAMs_20 21 00 59.2
comp=Z,3µm,19.0s
P48A Milroy 41.01 316 P **P** **20 46 48.5 +1.2**
baz=119
P48A P **P** **20 46 48.5 +1.2**
baz=119
SLA San Lorenzo 41.03 203 *e*P **P** **20 46 48.0 +0.2**
WCI Wyandotte Cave 41.03 314 P **P** **20 46 47.3 -0.2**
WCI IAmb IAmb 20 46 59.4
comp=Z,307nm,1.9s
WCI Wyandotte Cave 41.03 314 IAMs_20 IAMs_20 21 00 19.7
comp=Z,4µm,21.0s
WCI Wyandotte Cave 41.03 314 P **P** **20 46 47.3 -0.2**
WCI pmax pmax
comp=Z,307nm,2.0s
WCI MLR MLR
comp=Z,4µm,21.0s
WCI Wyandotte Cave 41.03 314 P **P** **20 46 48.4 +0.9**
baz=117

WCI	**Wyandotte Cave**	**41.03 314**	P	**P**	**20 46 48.6 +1.1**	
	baz=117					
T47A	**Sharon Grove**	**41.07 312**	IAMs_20	IAMs_20	21 00 22.7	
	comp=Z,3μm,20.0s					
O48B	**Farmland**	**41.22 317**	IAMs_20	IAMs_20	21 00 00.3	
	comp=Z,3μm,22.0s					
O48B	**Farmland**	**41.22 317**	P	**P**	**20 46 49.7 +0.6**	
	baz=120,SNR=5.5					
O48B	**Farmland**	**41.22 317**	P	**P**	**20 46 50.1 +1.0**	
	baz=120,SNR=5.5					
WVT	**Waverly**	**41.25 310**	P	**P**	**20 46 48.8 -0.6**	
WVT			IAmb	IAmb	20 47 00.9	
	comp=Z,262nm,1.6s					
WVT	**Waverly**	**41.25 310**	P	**P**	**20 46 48.8 -0.6**	
WVT			pmax	pmax		
	comp=Z,262nm,1.6s					
WVT			MLR	MLR		
	comp=Z,2μm,18.0s					
WVT	**Waverly**	**41.25 310**	P	**P**	**20 46 50.0 +0.7**	
	baz=113					
WVT	**Waverly**	**41.25 310**	P	**P**	**20 46 49.2 -0.1**	
	baz=113,SNR=25					
AAM	**Ann Arbor**	**41.35 321**	IAMs_20	IAMs_20	21 01 17.2	
	comp=Z,3μm,19.0s					
AAM	**Ann Arbor**	**41.35 321**	P	**P**	**20 46 50.7 +0.7**	
	baz=124					
PB15	**IPOC Station P**	**41.36 209**	IAmb	IAmb	20 46 55.7	
	comp=Z,130nm,0.8s					
PB15	**IPOC Station P**	**41.36 209**	*e*P	**P**	**20 46 51.8 +1.2**	
BLO	**Bloomington**	**41.62 315**	IAMs_20	IAMs_20	21 00 14.4	
	comp=Z,4μm,22.0s					
L48A	**N Adams**	**41.64 320**	IAMs_20	IAMs_20	21 00 44.8	
	comp=Z,3μm,21.0s					
L48A	**N Adams**	**41.64 320**	P	**P**	**20 46 52.8 +0.3**	
	baz=123,SNR=5.7					
L48A			P	**P**	**20 46 52.8 +0.3**	
	baz=123,SNR=5.7					
SCCA	**San Cayetano,**	**41.70 192**	*e*P	**P**	**20 46 54.8 +1.8**	
Y45A	**Yeager Farm, C**	**41.74 306**	IAmb	IAmb	20 47 05.5	
	comp=Z,147nm,0.9s					
Y45A			IAMs_20	IAMs_20	21 00 42.6	
	comp=Z,2μm,20.0s					
VLDQ	**Val d'Or**	**41.75 332**	P	**P**	**20 46 54.7 +1.5**	
VLDQ			IAMs_20	IAMs_20	21 00 58.8	
	comp=Z,3μm,20.0s					
I49A	**Point Hope**	**41.79 323**	P	**P**	**20 46 54.0 +0.3**	
I49A			IAMs_20	IAMs_20	21 01 08.9	
	comp=Z,4μm,21.0s					
OXF	**Oxford**	**41.85 307**	IAMs_20	IAMs_20	21 01 57.6	
	comp=Z,2μm,19.0s					
OXF	**Oxford**	**41.85 307**	P	**P**	**20 46 54.9 +0.6**	
	baz=110,SNR=9.5					
OXF	**Oxford**	**41.85 307**	P	**P**	**20 46 54.5 +0.2**	
	baz=110,SNR=9.5					
USIN	**University of**	**41.88 313**	IAMs_20	IAMs_20	21 00 58.4	
	comp=Z,3μm,19.0s					
N47A	**Urbana**	**41.89 318**	IAmb	IAmb	20 47 05.6	
	comp=Z,133nm,0.9s					
N47A			IAMs_20	IAMs_20	21 01 15.5	
	comp=Z,3μm,19.0s					
N47A	**Urbana**	**41.89 318**	P	**P**	**20 46 54.7 +0.2**	
	baz=120,SNR=5.3					
N47A			P	**P**	**20 46 54.7 +0.2**	
	baz=120,SNR=5.3					
344A	**Westbrook Farm**	**41.96 302**	IAmb	IAmb	20 47 08.3	
	comp=Z,182nm,1.1s					
344A			IAMs_20	IAMs_20	21 01 47.7	
	comp=Z,3μm,20.0s					
OUK	**Oukaimeden**	**41.99 58**	P	**P**	**20 46 57.0 +1.0**	
VBMS	**Vicksburg**	**42.00 304**	P	**P**	**20 46 56.0 +0.4**	
	baz=107					
ALGR	**Alto Alegre (B**	**42.09 185**	*e*P	**P**	**20 46 58.7 +2.4**	
UTMT	**University of**	**42.10 310**	IAMs_20	IAMs_20	21 00 18.2	
	comp=Z,2μm,22.0s					
T45A	**Paducah**	**42.20 311**	IAMs_20	IAMs_20	21 01 06.8	
	comp=Z,2μm,18.0s					
P46A	**Rosedale**	**42.30 315**	IAmb	IAmb	20 47 09.7	
	comp=Z,122nm,0.8s					
P46A			IAMs_20	IAMs_20	21 01 09.3	
	comp=Z,3μm,20.0s					
P46A	**Rosedale**	**42.30 315**	P	**P**	**20 46 58.4 +0.5**	
	baz=118,SNR=8.3					
TIO	**Tiouine**	**42.42 59**	P	**P**	**20 46 58.3 -0.9**	
HICK	**Hickman**	**42.45 310**	IAMs_20	IAMs_20	21 00 26.4	
	comp=Z,2μm,22.0s					
FSA	**Cafayete**	**42.47 202**	*e*P	**P**	**20 46 58.5 -1.0**	
MET	**Memphis--Engin**	**42.47 308**	IAMs_20	IAMs_20	21 02 15.8	
	comp=Z,2μm,18.0s					
CNLB	**Canela**	**42.48 182**	*e*P	**P**	**20 47 01.9 +2.5**	
OLIL	**Olney**	**42.52 314**	IAmb	IAmb	20 47 11.7	
	comp=Z,135nm,1.1s					
OLIL			IAMs_20	IAMs_20	21 01 17.3	
	comp=Z,3μm,21.0s					
OLIL	**Olney**	**42.52 314**	P	**P**	**20 47 01.7 +2.0**	
	baz=116					
UNIS	**Unistalda (Bra**	**42.57 187**	*e*P	**P**	**20 47 01.3 +1.2**	
SFIN	**Lafayette**	**42.58 316**	IAMs_20	IAMs_20	21 01 16.7	
	comp=Z,3μm,20.0s					
SFIN	**Lafayette**	**42.58 316**	P	**P**	**20 47 00.5 +0.4**	
	baz=118					
SFIN	**Lafayette**	**42.58 316**	P	**P**	**20 47 01.1 +1.0**	
	baz=118					
J47A	**Sunmer**	**42.58 321**	IAMs_20	IAMs_20	21 01 15.8	
	comp=Z,3μm,21.0s					
OUZM	**OUZ**	**42.83 59**	P	**P**	**20 47 03.0 +0.4**	
AHML	**Horco Molle**	**42.84 201**	*e*P	**P**	**20 47 01.9 -0.6**	
L46A	**Eue Claire**	**42.85 319**	IAMs_20	IAMs_20	21 01 46.0	
	comp=Z,3μm,20.0s					
143A	**Socs Landing,**	**42.86 304**	IAMs_20	IAMs_20	21 02 55.4	
	comp=Z,2μm,18.0s					
SIUC	**Southern Illin**	**42.90 312**	P	**P**	**20 47 03.6 +0.8**	
SIUC			IAmb	IAmb	20 47 15.5	
	comp=Z,269nm,1.2s					
SIUC			IAMs_20	IAMs_20	21 01 38.3	
	comp=Z,3μm,20.0s					
S44A	**Carbondale**	**42.92 312**	IAmb	IAmb	20 47 15.5	
	comp=Z,243nm,1.1s					
S44A			IAMs_20	IAMs_20	21 01 38.8	
	comp=Z,3μm,20.0s					
S44A	**Carbondale**	**42.92 312**	P	**P**	**20 47 03.6 +0.6**	
	baz=114,SNR=17					
PB14	**IPOC Station P**	**43.01 209**	P	**P**	**20 47 04.3 +0.1**	
PB14			IAmb	IAmb	20 47 10.2	
	comp=Z,171nm,0.9s					
CGM3	**Cape Girardeau**	**43.06 311**	IAmb	IAmb	20 47 16.2	
	comp=Z,307nm,1.4s					
GO02	**Mina Guanaco**	**43.10 207**	IAmb	IAmb	20 47 10.9	
	comp=Z,393nm,1.6s					
GO02			IAMs_20	IAMs_20	21 05 20.8	
	comp=Z,3μm,21.0s					
PFVI	**Vila Bisbo**	**43.16 49**	*e*S	**S**	**20 53 26.1 -5.3**	
PFVI			*e*SS	**SnSn**	**20 56 52.5 -8.4**	
HBAR	**Harrisburg**	**43.17 308**	IAMs_20	IAMs_20	21 02 38.5	
	comp=Z,2μm,18.0s					
Q44A	**Meyer Farm, Va**	**43.24 313**	IAmb	IAmb	20 47 17.4	
	comp=Z,276nm,1.1s					
Q44A			IAMs_20	IAMs_20	21 01 39.3	
	comp=Z,3μm,21.0s					
Q44A	**Meyer Farm, Va**	**43.24 313**	P	**P**	**20 47 06.8 +1.2**	
	baz=115,SNR=13					
MECA	**Mercedes**	**43.28 191**	*e*P	**P**	**20 47 07.0 +1.1**	
GLMI	**Grayling**	**43.35 323**	P	**P**	**20 47 06.5 +0.1**	
GLMI			IAmb	IAmb	20 47 17.9	
	comp=Z,209nm,0.8s					
GLMI			IAMs_20	IAMs_20	21 01 35.6	
	comp=Z,3μm,21.0s					
GLMI	**Grayling**	**43.35 323**	P	**P**	**20 47 07.2 +0.8**	
	baz=125					
MORF	**Marmelete**	**43.35 49**	*e*P	**P**	**20 47 07.3 +0.7**	
	comp=Z,97nm,1.8s					
MORF			*e*S	**S**	**20 53 34.6 +0.3**	
MORF	**Marmelete**	**43.35 49**	*e*S	**S**	**20 53 36.4 +2.0**	
MORF			IAMs_20	IAMs_20	20 59 07.7	
	comp=Z,2μm,24.3s					
ITQB	**Itaqui**	**43.38 189**	P	**P**	**20 47 07.7 +1.0**	
ITQB	**Itaqui**	**43.38 189**	*e*P	**P**	**20 47 08.4 +1.8**	
O44A	**Mansfield**	**43.40 315**	IAmb	IAmb	20 47 18.4	
	comp=Z,146nm,1.0s					
O44A			IAMs_20	IAMs_20	21 02 15.6	
	comp=Z,3μm,19.0s					
PBMO	**Poplar Bluff**	**43.43 310**	IAmb	IAmb	20 47 18.6	
	comp=Z,125nm,1.1s					
PBMO	**Poplar Bluff**	**43.43 310**	P	**P**	**20 47 07.2 +0.1**	
	baz=112,SNR=10					
CCAR	**Cane Creek**	**43.51 305**	IAMs_20	IAMs_20	21 04 37.6	
	comp=Z,2μm,19.0s					
SCHQ	**Schefferville**	**43.55 345**	P	**P**	**20 47 08.3 +0.4**	
	comp=Z,41nm,0.8s,baz=147,slow=7.5,SNR=22					
SCHQ			LR	LR	21 03 06.2	
	comp=Z,4μm,20.0s,baz=162,slow=33					
	comp=Z,41nm,0.8s					
PMAFR	**Mafra**	**43.56 47**	*e*P	P	20 47 13.9 +5.8	
PMAFR			*e*S	**S**	**20 53 38.7 +1.5**	
PMAFR			*e*SS	**SS**	**20 56 55.2 +3.3**	
ZGR	**Zagora**	**43.60 60**	P	**P**	**20 47 10.0 +1.2**	
M44A	**Midewin, Midew**	**43.69 317**	IAMs_20	IAMs_20	21 01 25.1	
	comp=Z,3μm,22.0s					
CPSB	**Cacapava Do Su**	**43.72 185**	*e*P	**P**	**20 47 11.4 +2.1**	
PNCL	**Nicolau / Gran**	**43.76 48**	*e*P	**P**	**20 47 12.1 +2.4**	
PNCL			*e*S	**S**	**20 53 40.5 +0.4**	
PNCL			*e*SS	**SS**	**20 56 57.7 +1.9**	
HQIL	**Hanson Quary C**	**43.76 318**	IAMs_20	IAMs_20	21 02 22.9	
	comp=Z,3μm,20.0s					
RODS	**Rosario do Sul**	**43.84 187**	*e*P	**P**	**20 47 12.3 +1.8**	
PBDV	**Barranco-do-Ve**	**43.86 50**	*e*P	**P**	**20 47 10.6 -0.1**	
PBDV			*e*S	**S**	**20 53 39.2 -2.6**	
MESJ	**Messejana**	**43.88 49**	*e*P	**P**	**20 47 11.9 +1.2**	
	comp=Z,69nm,1.9s					
MESJ	**Messejana**	**43.88 49**	*e*P	**P**	**20 47 11.7 +1.0**	
MESJ			*e*S	**S**	**20 53 44.0 +2.2**	
MESJ	**Messejana**	**43.88 49**	*e*P	**P**	**20 47 11.7 +1.0**	
MESJ			*e*S	**S**	**20 53 44.0 +2.2**	
MESJ			IAMs_20	IAMs_20	20 59 32.9	
	comp=Z,2μm,15.3s					
I45A	**Fountain**	**43.88 321**	IAMs_20	IAMs_20	21 02 05.5	
	comp=Z,3μm,21.0s					
FVM	**French Village**	**43.88 312**	IAmb	IAmb	20 47 22.3	
	comp=Z,171nm,1.1s					
FVM	**French Village**	**43.88 312**	P	**P**	**20 47 11.3 +0.6**	
	baz=113,SNR=23					
P43A	**Skaggs, Pawnee**	**43.91 314**	IAmb	IAmb	20 47 23.2	
	comp=Z,271nm,1.2s					
P43A			IAMs_20	IAMs_20	21 02 10.0	
	comp=Z,3μm,21.0s					
P43A	**Skaggs, Pawnee**	**43.91 314**	P	**P**	**20 47 12.2 +1.2**	
	baz=115					
PCVE	**Castro Verde**	**43.93 49**	*e*P	**P**	**20 47 11.1 0.0**	
	comp=Z,105nm,1.5s					
PCVE			*e*S	**S**	**20 53 42.5 -0.1**	
PCVE			*e*SS	**SS**	**20 57 02.0 +2.8**	
PCVE	**Castro Verde**	**43.93 49**	P	**P**	**20 47 10.5 -0.6**	
KOWA	**Kowa**	**43.96 83**	P	**P**	**20 47 10.4 -1.3**	
KOWA			IAmb	IAmb	20 47 22.9	
	comp=Z,245nm,1.7s					
KOWA			IAMs_20	IAMs_20	21 01 31.7	
	comp=Z,2μm,19.0s					
KOWA	**Kowa**	**43.96 83**	P	**P**	**20 47 11.0 -0.7**	
KOWA	**Kowa**	**43.96 83**	LR	LR	21 03 50.0	
	comp=Z,1μm,18.3s,baz=264,slow=34					
L44A	**Lake County Fo**	**43.98 318**	IAMs_20	IAMs_20	21 02 29.8	
	comp=Z,3μm,20.0s					
L44A	**Lake County Fo**	**43.98 318**	P	**P**	**20 47 12.0 +0.5**	
	baz=119,SNR=5.3					
SLM	**Saint Louis**	**44.00 312**	P	**P**	**20 47 11.1 -0.6**	
SLM			IAmb	IAmb	20 47 23.1	
	comp=Z,130nm,1.2s					
SLM			IAMs_20	IAMs_20	21 02 36.5	
	comp=Z,3μm,20.0s					
SLM	**Saint Louis**	**44.00 312**	P	**P**	**20 47 11.1 -0.6**	
SLM			pmax	pmax		
	comp=Z,130nm,1.3s					
SLM			MLR	MLR		
	comp=Z,3μm,20.0s					
T42A	**Van Buren**	**44.02 310**	IAMs_20	IAMs_20	21 02 13.6	
	comp=Z,2μm,21.0s					
T42A	**Van Buren**	**44.02 310**	P	**P**	**20 47 11.6 -0.3**	
	baz=111					
E46A	**Sault Ste Mari**	**44.08 325**	IAmb	IAmb	20 47 23.5	
	comp=Z,174nm,0.9s					
E46A			IAMs_20	IAMs_20	21 03 32.4	
	comp=Z,2μm,18.0s					
E46A	**Sault Ste Mari**	**44.08 325**	P	**P**	**20 47 12.9 +0.7**	
	baz=127,SNR=18					
PVAQ	**Vaqueiros**	**44.08 50**	*e*P	**P**	**20 47 12.3 -0.1**	
PVAQ			*e*S	**S**	**20 53 45.9 +1.0**	
PVAQ			*e*SS	**ScS**	**20 57 08.0 -3.4**	
PVAQ			*e*LR	LR	20 59 08.3	
	comp=Z,631nm,18.0s					
G45A	**Suttons Bay**	**44.09 323**	IAmb	IAmb	20 47 23.8	
	comp=Z,170nm,0.9s					
G45A			IAMs_20	IAMs_20	21 01 48.0	
	comp=Z,4μm,22.0s					
TIC	**Toumodi**	**44.12 94⇑**	*e*P	**P**	**20 47 12.5 -0.5**	
	comp=Z,55nm,1.2s					
HDIL	**Hopedale**	**44.15 315**	IAmb	IAmb	20 47 24.1	
	comp=Z,213nm,1.2s					
HDIL			IAMs_20	IAMs_20	21 02 16.7	
	comp=Z,4μm,22.0s					
HDIL	**Hopedale**	**44.15 315**	P	**P**	**20 47 13.8 +0.9**	
	baz=116					
LIC	**Lamto**	**44.20 95⇑**	*i*P	**P**	**20 47 13.4 -0.2**	
	comp=Z,109nm,1.0s					
PBEJ	**Beja**	**44.20 49**	*e*P	**P**	**20 47 13.1 -0.3**	
UALR	**University of**	**44.22 306**	IAmb	IAmb	20 47 25.1	
	comp=Z,150nm,1.1s					
UALR			IAMs_20	IAMs_20	21 03 23.4	
	comp=Z,2μm,20.0s					
DBIC	**Dimbokro**	**44.27 94**	P	**P**	**20 47 13.5 -0.7**	
DBIC	**Dimbokro**	**44.27 94**	P	**P**	**20 47 13.5 -0.7**	
EVO	**Evora**	**44.29 48**	*e*P	**P**	**20 47 13.8 -0.2**	
	comp=Z,78nm,1.3s					
WHAR	**Wooly Hollow**	**44.34 307**	IAMs_20	IAMs_20	21 04 13.5	
	comp=Z,2μm,18.0s					
PMTG	**Montargil**	**44.35 47**	*e*P	**P**	**20 47 13.9 -0.6**	
	comp=Z,79nm,1.5s					
PMTG			*e*S	**S**	**20 53 48.1 -0.7**	
PMTG			*e*SS	**ScS**	**20 57 10.5 -2.6**	
AC02	**Maricunga**	**44.36 206**	IAmb	IAmb	20 47 21.7	
	comp=Z,80nm,0.9s					
FCAR	**Ozark Folk Cen**	**44.41 308**	IAmb	IAmb	20 47 26.1	
	comp=Z,200nm,1.3s					
FCAR			IAMs_20	IAMs_20	21 03 44.2	
	comp=Z,2μm,20.0s					
KIC	**Kosan Boka**	**44.45 95⇓**	*e*P	**P**	**20 47 15.1 -0.5**	
	comp=Z,107nm,0.9s					
CCM	**Cathedral Cave**	**44.51 311**	P	**P**	**20 47 15.8 +0.1**	
CCM			IAmb	IAmb	20 47 27.7	
	comp=Z,168nm,1.1s					
CCM	**Cathedral Cave**	**44.51 311**	IAMs_20	IAMs_20	21 02 27.9	
	comp=Z,2μm,19.0s					
CCM	**Cathedral Cave**	**44.51 311**	P	**P**	**20 47 15.8 +0.1**	
CCM			pmax	pmax		
	comp=Z,168nm,1.2s					
CCM			MLR	MLR		
	comp=Z,2μm,19.0s					
CCM	**Cathedral Cave**	**44.51 311**	P	**P**	**20 47 16.1 +0.3**	
	baz=112					
CCM	**Cathedral Cave**	**44.51 311**	P	**P**	**20 47 15.9 +0.1**	
	baz=112,SNR=16					
K43A	**Burlington**	**44.51 319**	IAmb	IAmb	20 47 26.8	
	comp=Z,132nm,1.1s					
WLAR	**White Oak Lake**	**44.51 305**	IAMs_20	IAMs_20	21 05 12.1	
	comp=Z,2μm,19.0s					
CYA	**Choya**	**44.53 201**	*e*P	**P**	**20 47 15.0 -1.0**	
PCAS	**Casmilo, Conde**	**44.57 46**	*e*P	**P**	**20 47 15.6 -0.6**	
	comp=Z,65nm,1.7s					
PCAS			*e*S	**S**	**20 53 52.7 +0.8**	
PCAS			*e*SS	**ScS**	**20 57 14.4 0.0**	
COI	**Coimbra**	**44.69 46**	*e*P	**P**	**20 47 17.1 -0.1**	
	comp=Z,101nm,1.3s					
COI			*e*S	**S**	**20 53 55.0 +1.4**	
COI			*e*SS	**ScS**	**20 57 16.3 +1.2**	
COI	**Coimbra**	**44.69 46**	IAmb	IAmb	20 47 44.0	
	comp=Z,101nm,1.2s					
COI			IAMs_20	IAMs_20	21 00 19.4	
	comp=Z,2μm,22.0s					
PESTR	**Estremoz**	**44.73 48**	*e*P	**P**	**20 47 17.7 +0.2**	
	comp=Z,40nm,2.0s					
PESTR			*e*S	**S**	**20 53 54.3 0.0**	
PESTR			*e*SS	**ScS**	**20 57 17.5 +2.0**	
CZD	**Col de Zad**	**44.78 56**	P	**P**	**20 47 20.0 +1.6**	
PBAR	**Barrancos**	**44.87 49**	*e*P	**P**	**20 47 18.6 0.0**	
	comp=Z,48nm,1.4s					
PBAR			*e*S	**S**	**20 53 56.7 +0.5**	
PBAR			*e*SS	**SS**	**20 57 22.1 +4.6**	
MGMO	**Mountain Grove**	**44.94 310**	IAmb	IAmb	20 47 30.4	
	comp=Z,89nm,1.1s					
MGMO			IAMs_20	IAMs_20	21 02 16.4	
	comp=Z,2μm,20.0s					
PTO	**Porto**	**44.96 44**	*e*P	**P**	**20 47 19.0 -0.3**	
H43A	**Windswept, Lux**	**45.04 321**	IAmb	IAmb	20 47 31.4	
	comp=Z,129nm,0.9s					
H43A			IAMs_20	IAMs_20	21 02 16.4	
	comp=Z,2μm,21.0s					
L42A	**Oliver, Polo**	**45.05 317**	IAMs_20	IAMs_20	21 02 06.6	
	comp=Z,3μm,21.0s					
L42A	**Oliver, Polo**	**45.05 317**	P	**P**	**20 47 20.6 +0.5**	
	baz=117,SNR=7.7					
ARF	**Arif**	**45.07 59**	P	**P**	**20 47 21.0 +0.5**	
PLTB	**Pedras Altas**	**45.08 185**	P	**P**	**20 47 21.6 +1.3**	
PLTB			IAmb	IAmb	20 47 23.3	
	comp=Z,92nm,1.0s					
PLTB	**Pedras Altas**	**45.08 185**	*e*P	**P**	**20 47 22.2 +1.9**	
MDT	**Midelt**	**45.08 57**	P	**P**	**20 47 21.4 +0.8**	
MDT	**Midelt**	**45.08 57**	LR	LR	21 02 01.9	
	comp=Z,739nm,21.3s,baz=314,slow=31					
PMRV	**Marv??o**	**45.09 47**	*e*P	**P**	**20 47 19.9 -0.5**	
	comp=Z,56nm,1.7s					
PMRV			*e*S	**S**	**20 54 00.7 +1.2**	
PMRV			*e*LR	LR	20 59 33.2	
	comp=Z,2μm,20.0s					
LCRM	**LCR**	**45.11 56**	P	**P**	**20 47 22.0 +1.2**	
U40A	**Yellville**	**45.12 308**	P	**P**	**20 47 20.6 0.0**	
	baz=109,SNR=37					
U40A			P	**P**	**20 47 20.6 0.0**	
	baz=109,SNR=37					
MIAR	**Mount Ida**	**45.12 306**	IAmb	IAmb	20 47 39.7	
	comp=Z,71nm,0.9s					
MIAR	**Mount Ida**	**45.12 306**	P	**P**	**20 47 21.5 +0.7**	
	baz=107,SNR=12					
MIAR	**Mount Ida**	**45.12 306**	P	**P**	**20 47 20.5 -0.2**	
	baz=107,SNR=12					
PCBR	**Castelo Branco**	**45.19 46**	*e*P	**P**	**20 47 20.6 -0.6**	
	comp=Z,77nm,1.4s					
PVIS	**Viseu**	**45.26 45**	*e*P	**P**	**20 47 21.4 -0.4**	
N41A	**Harden Midland**	**45.29 315**	P	**P**	**20 47 22.2 +0.3**	
	baz=115,SNR=6.6					
NATX	**Nacogdoches**	**45.29 302**	IAMs_20	IAMs_20	21 03 31.2	
	comp=Z,2μm,20.0s					
NATX	**Nacogdoches**	**45.29 302**	P	**P**	**20 47 21.8 -0.3**	
	baz=103					
NATX	**Nacogdoches**	**45.29 302**	P	**P**	**20 47 23.3 +1.2**	
	baz=103					
R40A	**Maddies Statio**	**45.34 311**	IAmb	IAmb	20 47 33.4	
	comp=Z,126nm,1.0s					
R40A			IAMs_20	IAMs_20	21 02 54.5	
	comp=Z,2μm,20.0s					
R40A	**Maddies Statio**	**45.34 311**	P	**P**	**20 47 21.9 -0.6**	
	baz=111,SNR=32					
MTE	**Manteigas**	**45.37 46**	*e*P	**P**	**20 47 22.3 -0.4**	
	comp=Z,88nm,1.6s					
MTE			*e*S	**S**	**20 54 06.7 +3.0**	
MTE			*e*SS	**SS**	**20 57 27.1 +0.2**	
MTE			*e*LR	LR	20 59 53.5	
	comp=Z,2μm,20.0s					
MTE	**Manteigas**	**45.37 46**	P	**P**	**20 47 22.0 -0.8**	
MTE			IAMs_20	IAMs_20	21 01 35.5	
	comp=Z,3μm,22.0s					
I42A	**Draeger Farm,**	**45.46 320**	P	**P**	**20 47 23.0 -0.2**	
I42A			IAmb	IAmb	20 47 34.5	
	comp=Z,264nm,1.8s					
I42A			IAMs_20	IAMs_20	21 03 03.4	
	comp=Z,3μm,20.0s					
GO03	**Copiap**	**45.49 206**	IAMs_20	IAMs_20	21 06 45.5	
	comp=Z,3μm,21.0s					
PGAV	**Gavieira, Arco**	**45.55 43**	*e*P	**P**	**20 47 23.8 -0.3**	
	comp=Z,94nm,1.9s					
PGAV			*e*S	**S**	**20 54 10.1 +3.9**	
PGAV			*e*SS	**SS**	**20 57 26.7 -3.3**	
PGAV			*e*LR	LR	20 59 41.6	
	comp=Z,2μm,20.0s					
E43A	**Lone Tree Farm**	**45.61 324**	IAMs_20	IAMs_20	21 03 35.3	
	comp=Z,3μm,20.0s					
E43A	**Lone Tree Farm**	**45.61 324**	P	**P**	**20 47 24.7 +0.3**	
	baz=124					
POLO	**Lamas de Olo**	**45.61 44**	*e*P	**P**	**20 47 24.0 -0.6**	
	comp=Z,37nm,1.6s					
POLO			*e*S	**S**	**20 54 08.9 +1.8**	
POLO			*e*SS	**SS**	**20 57 34.0 +2.9**	
PVRL	**Vila Real**	**45.62 44**	*e*P	**P**	**20 47 24.3 -0.3**	
	comp=Z,54nm,2.1s					
P40A	**Paris**	**45.65 313**	IAmb	IAmb	20 47 35.9	
	comp=Z,176nm,1.1s					
P40A			IAMs_20	IAMs_20	21 03 37.5	
	comp=Z,3μm,20.0s					
P40A	**Paris**	**45.65 313**	P	**P**	**20 47 25.0 +0.1**	
	baz=113,SNR=22					
VCA	**Vinchina**	**45.67 203**	*e*P	**P**	**20 47 26.1 +0.8**	
ACLC	**CERRO LA CRUZ**	**45.83 202**	*e*P	**P**	**20 47 25.8 -0.7**	
JFWS	**Jewell Farm**	**45.85 318**	IAmb	IAmb	20 47 37.6	
	comp=Z,116nm,0.9s					
JFWS	**Jewell Farm**	**45.85 318**	IAMs_20	IAMs_20	21 03 36.7	
	comp=Z,3μm,21.0s					
JFWS	**Jewell Farm**	**45.85 318**	P	**P**	**20 47 26.7 +0.4**	
	baz=117					
HKT	**Hockley**	**45.90 299**	P	**P**	**20 47 27.0 +0.1**	
HKT			IAmb	IAmb	20 47 38.5	
	comp=Z,83nm,1.1s					
HKT	**Hockley**	**45.90 299**	*de*P	**P**	**20 47 27.1 +0.2**	
HKT			pmax	pmax		
	comp=Z,113nm,1.9s					
HKT	**Hockley**	**45.90 299**	P	**P**	**20 47 27.6 +0.7**	
	baz=101					
Z38A	**Mt. Pleasant**	**45.91 303**	IAMs_20	IAMs_20	21 07 13.6	
	comp=Z,2μm,18.0s					
S39A	**Bolivar**	**45.91 310**	P	**P**	**20 47 27.1 +0.1**	
	baz=110,SNR=71					
HHAR	**Hobbs**	**45.92 308**	IAmb	IAmb	20 47 37.8	
	comp=Z,119nm,1.4s					
HHAR			IAMs_20	IAMs_20	21 04 27.9	
	comp=Z,2μm,19.0s					
F42A	**Maple Grove Fa**	**45.94 322**	IAmb	IAmb	20 47 38.2	
	comp=Z,75nm,0.8s					
F42A			IAMs_20	IAMs_20	21 03 28.1	
	comp=Z,3μm,21.0s					
MVO	**Moncorvo**	**46.05 45**	*e*P	**P**	**20 47 27.5 -0.5**	
	comp=Z,63nm,1.5s					
MVO			*e*S	**S**	**20 54 16.7 +3.3**	
MVO			*e*SS	**SS**	**20 57 42.0 +3.6**	
MVO			*e*LR	LR	21 00 05.4	
	comp=Z,2μm,22.0s					
L40A	**Anamosa**	**46.11 316**	IAMs_20	IAMs_20	21 04 05.7	
	comp=Z,2μm,18.0s					
L40A	**Anamosa**	**46.11 316**	P	**P**	**20 47 28.3 -0.1**	
	baz=116,SNR=15					
PALE	**Palemas**	**46.26 54**	P	**P**	**20 47 30.1 +0.3**	
237A	**Washetta, Mont**	**46.29 302**	IAMs_20	IAMs_20	21 04 01.8	
	comp=Z,

comp=Z,2µm,20.0s
G40A Rib Lake 46.94 321 P P 20 47 35.5 +0.5
baz=119,SNR=13
N38A Joes South For 46.98 314 P P 20 47 35.8 +0.6
baz=113,SNR=5.7
JBK JBK 47.11 55 P P 20 47 36.2 -0.4
AVFE Valle Fertil 47.13 201 *eP* **P 20 47 36.8 +0.2**
TUL3 Leonard 47.25 307 P P 20 47 37.8 +0.3
baz=106,SNR=20
TUL3 Leonard 47.25 307 P P 20 47 37.8 +0.3
baz=106,SNR=20
FW16 Waxahatchie 47.30 302 IAmb IAmb 20 47 50.1
comp=Z,168nm,1.0s
ACDV Cuesta del Vie 47.31 203 *eP* **P 20 47 38.8 +0.7**
PAB San Pablo 47.32 48 P P 20 47 37.0 -1.0
PAB San Pablo 47.32 48 P P 20 47 38.7 +0.7
PAB San Pablo 47.32 48 P P 20 47 37.0 -1.0
PAB pmax pmax
comp=Z,18nm,0.8s
PAB MLR MLR
comp=Z,2µm,22.0s
SCIA State Center 47.40 315 IAMs_20 IAMs_20 21 04 15.8
comp=Z,3µm,20.0s
SCIA State Center 47.40 315 P P 20 47 39.1 +0.5
baz=114
K38A Parkersburg 47.40 316 IAMs_20 IAMs_20 21 04 55.8
comp=Z,2µm,19.0s
K38A Parkersburg 47.40 316 P P 20 47 38.2 -0.4
baz=115
735A Kenedy 47.42 297 P P 20 47 38.2 -0.7
AROD Rodeo 47.44 204 *eP* **P 20 47 40.5 +1.2**
CO01 Juntas del Tor 47.52 205 IAMs_20 IAMs_20 21 09 42.3
comp=Z,2µm,19.0s
435B Jarrell 47.54 300 IAmb IAmb 20 47 51.0
comp=Z,111nm,0.9s
435B Jarrell 47.54 300 P P 20 47 40.0 +0.2
baz=100
ESDC Sonseca Array 47.64 48 P P 20 47 39.9 -0.6
comp=Z,14nm,1.0s,baz=250,slow=8.3,SNR=65
ESDC LR LR 21 03 07.2
comp=Z,2µm,21.6s,baz=246,slow=30
comp=Z,14nm,1.0s
ESBB Sonseca Array 47.64 48 P P 20 47 39.2 -1.3
WHTX Lake Whitney, 47.66 301 P P 20 47 41.1 +0.4
baz=101,SNR=15
WHTX Lake Whitney, 47.66 301 P P 20 47 41.4 +0.7
baz=101,SNR=15
ACCO Cerro Coronel 47.66 203 *eP* **P 20 47 41.3 +0.3**
FIGM Figuig 47.68 59 P P 20 47 41.0 0.0
FW13 Cleburne 47.71 302 IAmb IAmb 20 47 53.4
comp=Z,252nm,1.0s
IVI Ivigtut 47.75 1 IAMs_20 IAMs_20 21 06 05.1
comp=Z,2µm,18.0s
Z35A Perchaven, San 47.77 303 IAMs_20 IAMs_20 21 05 51.9
comp=Z,2µm,19.0s
NRS Narsarsuaq 47.78 3 P P 20 47 41.1 0.0
NRS IAmb IAmb 20 48 07.5
comp=Z,103nm,1.1s
NRS IAMs_20 IAMs_20 21 02 18.0
comp=Z,3µm,21.0s
NRS Narsarsuaq 47.78 3 P P 20 47 41.1 0.0
NRS pmax pmax
comp=Z,103nm,1.1s
NRS MLR MLR
comp=Z,3µm,21.0s
NRS Narsarsuaq 47.78 3 *i* P **P 20 47 42.7 +1.6**
NRS IAmb IAmb 20 47 47.3
comp=Z,61nm,1.1s
LOOK Love County 47.86 304 P 20 47 41.9 -0.4
LOOK IAmb IAmb 20 49 20.4
comp=Z,80nm,0.9s
FW06 Azle 47.94 302 IAmb IAmb 20 47 54.7
comp=Z,243nm,1.0s
FW06 IAMs_20 IAMs_20 21 08 39.5
comp=Z,2µm,19.0s
GO04 Tololo Observa 47.98 205 P P 20 47 43.3 -0.1
GO04 IAmb IAmb 20 47 44.6
comp=Z,60nm,0.9s
FW07 Weatherford 48.08 302 IAmb IAmb 20 47 55.3
comp=Z,132nm,1.0s
FW07 IAMs_20 IAMs_20 21 10 43.0
comp=Z,2µm,19.0s
OK031 S. Brethren Rd 48.08 307 IAMs_20 IAMs_20 21 06 32.0
comp=Z,2µm,20.0s
T35A Sooner Cattle 48.09 308 P P 20 47 43.9 -0.1
T35B Sooner Cattle 48.09 308 P P 20 47 43.5 -0.5
baz=106,SNR=18
OK051 E0350 and S346 48.23 307 P P 20 47 44.7 -0.3
CFA Coronel Fontan 48.27 202 P P 20 47 46.2 +0.9
comp=Z,76nm,0.9s,baz=19,slow=7.7,SNR=90
CFA LR LR 21 09 51.5
comp=Z,3µm,19.1s,baz=7.0,slow=38
comp=Z,76nm,0.9s
CFA Coronel Fontan 48.27 202 *eP* **P 20 47 46.0 +0.6**
ZON Zonda 48.37 202 P P 20 47 46.6 +0.4
ZON IAmb IAmb 20 47 57.7
comp=Z,64nm,1.0s
ZON Zonda 48.37 202 P P 20 47 46.6 +0.4
ZON pmax pmax
comp=Z,64nm,1.0s
FW03 Perrin-Whitt E 48.38 302 IAmb IAmb 20 47 57.6
comp=Z,146nm,0.8s
FW03 IAMs_20 IAMs_20 21 08 58.9
comp=Z,2µm,20.0s
I37A Lemond, Waseca 48.39 318 IAMs_20 IAMs_20 21 05 14.1
comp=Z,3µm,21.0s
I37B Waseca 48.39 318 P P 20 47 46.9 +0.7
baz=115,SNR=9.4
E38A The Farm, Brul 48.42 322 IAmb IAmb 20 47 57.0
comp=Z,58nm,0.8s
E38A The Farm, Brul 48.42 322 P P 20 47 48.0 +1.7
baz=119,SNR=13
OK029 Liberty Lake 48.52 306 IAMs_20 IAMs_20 21 06 53.7
comp=Z,2µm,20.0s
CO03 El Pedregal 48.52 205 P P 20 47 47.4 0.0
CO03 IAmb IAmb 20 47 52.7
comp=Z,63nm,1.0s
CO03 IAMs_20 IAMs_20 21 08 46.8
comp=Z,2µm,21.0s
SPMN Marine on St. 48.54 320 IAMs_20 IAMs_20 21 05 37.9
comp=Z,2µm,18.0s
SPMN Marine on St. 48.54 320 P P 20 47 47.8 +0.5
baz=117,SNR=8.9
BLOK Blackwell 48.59 307 IAMs_20 IAMs_20 21 04 27.4
comp=Z,3µm,19.0s
N35A Tabor 48.70 313 P P 20 47 48.5 -0.1
baz=110
833A Chaparral WMA, 48.73 296 P P 20 47 48.6 -0.4
833A Chaparral WMA, 48.73 296 P P 20 47 49.2 +0.2
baz=97,SNR=16
833A Chaparral WMA, 48.73 296 P P 20 47 49.3 +0.2
baz=97,SNR=16
CO06 Fray Jorge 48.77 206 IAmb IAmb 20 47 54.8
comp=Z,84nm,1.0s
HNDO Hondo 48.79 298 IAmb IAmb 20 48 01.6
comp=Z,296nm,1.1s
KSU1 Kansas State U 48.81 311 P P 20 47 49.5 -0.1
baz=108,SNR=14
KSU1 Kansas State U 48.81 311 P P 20 47 49.0 -0.6
baz=108,SNR=14
BRDY Brady 48.82 300 IAmb IAmb 20 48 00.6
comp=Z,180nm,0.9s
RTLS Leoncito 48.83 203 *eP* **P 20 47 50.1 +0.2**
WTFS Witchita Falls 48.85 303 IAmb IAmb 20 48 01.0
comp=Z,142nm,1.0s
KAN13 South Haven SW 48.86 308 P 20 47 49.9 0.0
EYMN Ely 49.04 323 IAMs_20 IAMs_20 21 06 02.2
comp=Z,2µm,20.0s
EYMN Ely 49.04 323 P P 20 47 51.1 -0.1
baz=120,SNR=6.1
KAN01 Argonia South 49.11 308 P 20 47 50.8 -1.1
AUSP Uspallata 49.24 203 *eP* **P 20 47 54.2 +1.1**
F36A Milaca 49.28 320 IAmb IAmb 20 48 04.6
comp=Z,146nm,1.3s
F36A IAMs_20 IAMs_20 21 05 22.4
comp=Z,2µm,21.0s
F36A Milaca 49.28 320 P P 20 47 52.6 -0.3
baz=116,SNR=14
WMOK Wichita Mounta 49.32 304 P 20 47 52.5 -1.0
WMOK IAmb IAmb 20 48 04.0
comp=Z,72nm,1.1s
WMOK Wichita Mounta 49.32 304 IAMs_20 IAMs_20 21 08 22.9
comp=Z,2µm,20.0s
WMOK Wichita Mounta 49.32 304 P P 20 47 52.6 -1.0
WMOK pmax pmax
comp=Z,72nm,1.1s
WMOK MLR MLR
comp=Z,2µm,20.0s
WMOK Wichita Mounta 49.32 304 P P 20 47 53.0 -0.5
baz=103,SNR=31
WMOK Wichita Mounta 49.32 304 P P 20 47 53.1 -0.5
baz=103,SNR=31
ASAL Salagasta 49.37 202 *eP* **P 20 47 54.7 +0.9**
JCT Junction City 49.37 299 P P 20 47 54.0 -0.1
baz=99,SNR=23
JCT Junction City 49.37 299 P P 20 47 53.9 -0.1
baz=99,SNR=23
ABTX Abilene, Hawle 49.60 302 IAmb IAmb 20 48 06.5
comp=Z,143nm,1.0s
ABTX Abilene, Hawle 49.60 302 P P 20 47 55.8 +0.1
baz=100,SNR=25
ABTX Abilene, Hawle 49.60 302 P P 20 47 55.3 -0.3
baz=100,SNR=25
L34A Svendsen Farm, 49.60 314 P P 20 47 54.9 -0.6
baz=111,SNR=13
TOA0 Torodi Ar. Sit 49.61 84 P P 20 47 54.2 -1.7
TORD Torodi Ar. Bea 49.61 84 P P 20 47 54.1 -1.9
TORD Torodi Ar. Bea 49.61 84 P P 20 47 54.9 -1.1
comp=Z,25nm,0.8s,baz=292,slow=7.4,SNR=139
TORD LR LR 21 06 32.8
comp=Z,1µm,19.3s,baz=266,slow=33
comp=Z,25nm,0.8s
AAGR Agrelo 49.81 201 *eP* **P 20 47 58.5 +1.2**
U32A Winter Ranch, 49.88 306 P P 20 47 57.9 +0.1
baz=104,SNR=8.6
DRIO Del Rio 49.93 297 P P 20 47 57.8 -0.4
DRIO IAmb IAmb 20 48 10.1
comp=Z,309nm,1.7s
N33B J Bar K, Exete 49.95 312 P P 20 47 58.7 +0.5
baz=109
APMT Aspermont 50.12 302 IAmb IAmb 20 48 10.4
comp=Z,114nm,0.9s
ELIS Ellis County 50.13 306 IAmb IAmb 20 48 11.1
comp=Z,154nm,1.0s
VA03 San Esteban 50.17 203 IAmb IAmb 20 48 01.9
comp=Z,53nm,0.8s
R32A Long Quarter, 50.19 309 P P 20 48 00.1 0.0
R32A IAMs_20 IAMs_20 21 06 53.7
comp=Z,2µm,18.0s
R32A Long Quarter, 50.19 309 P P 20 48 00.6 +0.5
baz=106,SNR=8.7
ECSD EROS Data Cent 50.41 316 IAMs_20 IAMs_20 21 06 00.5
comp=Z,2µm,21.0s
ECSD EROS Data Cent 50.41 316 P P 20 48 01.5 -0.2
baz=112,SNR=22
ECSD EROS Data Cent 50.41 316 P P 20 48 01.1 -0.5
baz=112,SNR=22
ROC1 El Roble 50.53 204 P P 20 48 02.2 -0.7
ROC1 IAmb IAmb 20 48 08.7
comp=Z,128nm,0.9s
ROC1 El Roble 50.53 204 *eP* **P 20 48 02.9 0.0**
B35A Bob, Littlefor 50.55 323 P P 20 48 02.3 -0.3
B35A IAmb IAmb 20 48 13.1
comp=Z,79nm,0.9s
B35A IAMs_20 IAMs_20 21 06 29.0
comp=Z,3µm,20.0s
PEL Peldehue 50.55 203 P P 20 48 02.5 -0.3
PEL Peldehue 50.55 203 P P 20 48 02.5 -0.3
PEL pmax pmax
comp=Z,55nm,1.0s
OZNA Ozona 50.57 299 IAmb IAmb 20 48 14.1
comp=Z,140nm,1.1s
MT08 Bocatoma Ro 50.57 202 P P 20 48 03.5 +0.3
BGNE Belgrade 50.67 313 P P 20 48 03.8 +0.2
baz=109
SN01 Snyder 1 50.67 302 IAmb IAmb 20 48 15.7
comp=Z,102nm,1.5s
SN01 IAMs_20 IAMs_20 21 11 31.8
comp=Z,2µm,19.0s
SGCY Sterling City 50.72 300 IAmb IAmb 20 48 15.0
comp=Z,106nm,1.1s
NUUK Nuuk 50.75 359 *i* P **P 20 48 06.4 +2.6**
NUUK IAmb IAmb 20 48 08.1
comp=Z,122nm,1.1s
MT05 Renca 50.80 203 IAmb IAmb 20 48 06.4
comp=Z,68nm,0.8s
MT05 IAMs_20 IAMs_20 21 11 23.0
comp=Z,2µm,20.0s
MT03 Universidad Ad 50.80 203 IAMs_20 IAMs_20 21 09 34.1
comp=Z,2µm,19.0s
MT02 Curacav 50.83 204 P P 20 48 05.0 +0.1
DKNS Dickens 50.84 303 IAmb IAmb 20 48 15.8
comp=Z,67nm,0.8s
MT13 San Alfonso 50.94 203 IAMs_20 IAMs_20 21 11 30.8
comp=Z,2µm,20.0s
LMEL Las Melosas 51.00 202 IAMs_20 IAMs_20 21 11 23.5
comp=Z,2µm,18.0s
F33A 5 Mile Ranch, 51.02 319 IAmb IAmb 20 48 17.6
comp=Z,133nm,1.4s
F33A 5 Mile Ranch, 51.02 319 P P 20 48 06.7 +0.5
baz=114,SNR=7.8
CBKS Cedar Bluff 51.06 309 P P 20 48 06.9 +0.2
baz=106,SNR=7.1
CBKS Cedar Bluff 51.06 309 P P 20 48 06.9 +0.2
baz=106,SNR=7.1
POST Post 51.21 302 IAmb IAmb 20 48 18.8
comp=Z,129nm,0.9s
MT09 Talagante 51.23 203 P P 20 48 08.0 -0.1
MT09 IAmb IAmb 20 48 09.6
comp=Z,65nm,0.8s
SAND Sanderson 51.29 298 IAmb IAmb 20 48 19.7
comp=Z,111nm,1.0s
CCA1 Carnmenellis 51.30 35 *eP* **P 20 48 07.3 -0.9**
CCA1 IAmb IAmb 20 48 08.9
comp=Z,95nm,1.0s
IWEX Carrickbyrne, 51.60 32 *eP* **P 20 48 09.1 -1.3**
AMTX Amarillo 51.69 304 IAmb IAmb 20 48 22.2
comp=Z,127nm,0.9s
AMTX IAMs_20 IAMs_20 21 07 54.6
comp=Z,2µm,20.0s
AMTX Amarillo 51.69 304 P P 20 48 11.0 -0.5
baz=101
AMTX Amarillo 51.69 304 P P 20 48 11.3 -0.2
baz=101,SNR=30
BO01 Tunca 51.81 203 IAmb IAmb 20 48 13.8
comp=Z,68nm,0.8s
ODSA Odessa 51.94 300 IAmb IAmb 20 48 23.9
comp=Z,65nm,0.9s
D32A Dogwood Acres, 52.00 320 IAMs_20 IAMs_20 21 06 45.5
comp=Z,3µm,21.0s
BO02 Sierra Bellavi 52.06 202 P P 20 48 14.1 0.0
BO02 IAmb IAmb 20 48 19.5
comp=Z,71nm,0.8s
FRB Frobisher Bay 52.06 349 LR LR 21 09 35.6
comp=Z,1µm,18.3s,baz=142,slow=35
HTL Hartland 52.11 34 *eP* **P 20 48 13.8 -0.3**
HTL IAmb IAmb 20 48 15.0
comp=Z,66nm,1.0s
SUSD Miller 52.24 316 IAMs_20 IAMs_20 21 07 05.9
comp=Z,2µm,21.0s
SUSD Miller 52.24 316 P P 20 48 15.1 -0.3
baz=110,SNR=8.1
SUSD Miller 52.24 316 P P 20 48 14.7 -0.7
baz=110,SNR=8.1
MSTX Muleshoe 52.41 303 IAmb IAmb 20 48 27.9
comp=Z,154nm,1.0s
MSTX Muleshoe 52.41 303 P P 20 48 17.0 0.0
baz=100,SNR=45
MSTX Muleshoe 52.41 303 P P 20 48 16.1 -0.8
baz=100,SNR=45
RSBS Rosebush, Pemb 52.45 33 *eP* **P 20 48 15.2 -1.5**
RSBS IAmb IAmb 20 48 17.1
comp=Z,59nm,1.0s
TRQA Tornquist 52.52 193 P P 20 48 16.9 -0.5
TRQA IAMs_20 IAMs_20 21 09 22.1
comp=Z,2µm,20.0s
TRQA Tornquist 52.52 193 P P 20 48 16.9 -0.5
TRQA pmax pmax
comp=Z,78nm,1.8s
TRQA MLR MLR
comp=Z,2µm,20.0s
TXAR Lajitas Array 52.56 297 PcP **PcP 20 49 26.2 -2.2**
TXAR Lajitas Array 52.56 297 P **P 20 48 18.3 +0.2**
comp=Z,26nm,0.8s,baz=115,slow=7.3,SNR=76
TXAR LR LR 21 12 38.2
comp=Z,246nm,21.8s,baz=74,slow=38
comp=Z,26nm,0.8s
TX31 Lajitas Ar. Si 52.56 297 P P 20 48 17.6 -0.6
baz=95,SNR=73
TX32 Lajitas Array 52.56 297 PcP **PcP 20 49 25.8 -2.6**
ISOG Isortoq, Green 52.58 5 *eP* **P 20 48 17.5 0.0**
ISOG IAmb IAmb 20 48 21.5
comp=Z,75nm,1.0s
ALPN Alpine 52.65 298 IAmb IAmb 20 48 30.0
comp=Z,124nm,1.0s
ETOS Mallorca 52.65 50 P **P 20 48 17.7 -0.8**
ULM Lac du Bonnet 52.68 324 IAmb IAmb 20 48 28.1
comp=Z,116nm,0.8s
ULM IAMs_20 IAMs_20 21 07 41.3
comp=Z,3µm,20.0s
ULM Lac du Bonnet 52.68 324 P P 20 48 19.9 +1.4
comp=Z,96nm,0.7s,baz=108,slow=7.3,SNR=82
ULM LR LR 21 07 22.0
comp=Z,3µm,21.8s,baz=113,slow=32
comp=Z,96nm,0.7s
TAM Tamanrasset 52.75 71 P P 20 48 19.8 +0.1
TAM Tamanrasset 52.75 71 P P 20 48 19.8 +0.1
TAM pmax pmax
comp=Z,34nm,1.1s
TAM MLR MLR
comp=Z,700nm,19.0s
ANGG Ammassalik, Gr 52.78 6 P P 20 48 18.6 -0.3
ANGG IAmb IAmb 20 48 29.2
comp=Z,80nm,1.0s
PECS Pecos 52.95 299 IAmb IAmb 20 48 35.0
comp=Z,28nm,0.9s
DY2G Dye2 53.07 2 *i* P **P 20 48 20.6 -0.8**
DY2G IAmb IAmb 20 48 24.7
comp=Z,291nm,1.4s
ML02 Panimavida 53.16 202 IAmb IAmb 20 48 24.2
comp=Z,126nm,0.9s
KSCO Kaye Shedlock' 53.30 309 P P 20 48 22.6 -0.8
baz=103
OGNE Ogallala 53.33 311 IAMs_20 IAMs_20 21 07 21.9
comp=Z,2µm,22.0s
OGNE Ogallala 53.33 311 P P 20 48 23.7 +0.1
baz=105
OGNE Ogallala 53.33 311 P P 20 48 23.6 +0.1
baz=105
MCH1 Michaelchurch 53.41 34 *eP* **P 20 48 22.8 -1.0**
MCH1 IAmb IAmb 20 48 24.1
comp=Z,40nm,1.0s
EJON La Jonquera 53.43 47 P P 20 48 22.5 -1.7
MONM Monmouth 53.44 34 *eP* **P 20 48 23.8 -0.3**
MONM IAmb IAmb 20 48 24.6
comp=Z,127nm,1.1s
SFJD Kangerlussuaq 53.56 359 P P 20 48 24.6 -0.1
SFJD IAmb IAmb 20 48 50.7
comp=Z,90nm,1.1s
SFJD Kangerlussuaq 53.56 359 IAMs_20 IAMs_20 21 08 07.8
comp=Z,2µm,19.0s
SFJD Kangerlussuaq 53.56 359 P P 20 48 24.6 -0.1
SFJD pmax pmax
comp=Z,90nm,1.1s
SFJD Kangerlussuaq 53.56 359 *i* P **P 20 48 24.6 -0.1**
SFJD IAmb IAmb 20 48 28.1
comp=Z,160nm,1.4s
SFJD Kangerlussuaq 53.56 359 LR LR 21 08 29.2
comp=Z,2µm,18.3s,baz=178,slow=33
HLM1 Long Mynd 53.72 33 *eP* **P 20 48 25.4 -0.7**
HLM1 IAmb IAmb 20 48 26.4
comp=Z,65nm,1.1s
FOEL Foel Wylfa 53.74 33 *eP* **P 20 48 25.0 -1.2**
MDND Maddock 53.90 320 P P 20 48 27.2 -0.3
baz=112
WOL Wolverton 54.07 35 *eP* **P 20 48 28.5 -0.2**
E28A Huff 54.13 318 IAMs_20 IAMs_20 21 09 10.8
comp=Z,2µm,20.0s
MNTX Cornudas Mount 54.28 299 P P 20 48 29.8 -0.8
MNTX IAmb IAmb 20 48 41.8
comp=Z,106nm,1.1s
MNTX Cornudas Mount 54.28 299 P P 20 48 30.8 +0.2
baz=96,SNR=62
MNTX Cornudas Mount 54.28 299 P P 20 48 30.8 +0.2
baz=96,SNR=62
T25A Trinidad 54.28 306 IAmb IAmb 20 48 43.0
comp=Z,148nm,1.3s
T25A Trinidad 54.28 306 P P 20 48 31.5 +0.7
baz=101,SNR=23
NEWG New Galloway 54.35 30 *eP* **P 20 48 30.1 -0.5**
KESW Keswick, Cumbr 54.64 31 *eP* **P 20 48 32.5 -0.2**
CWF Charnwood Fore 54.67 34 *eP* **P 20 48 32.5 -0.5**
CWF IAmb IAmb 20 48 33.2
comp=Z,104nm,1.0s
LBWR Ladybower, Pea 54.76 33 *eP* **P 20 48 33.7 0.0**
LBWR IAmb IAmb 20 48 34.8
comp=Z,216nm,1.0s
BORG Borgarnes 54.81 14 P P 20 48 34.4 +0.6
BORG IAmb IAmb 20 48 45.6
comp=Z,116nm,1.2s
BORG Borgarnes 54.81 14 P P 20 48 34.4 +0.6
BORG pmax pmax
comp=Z,116nm,1.3s
BORG Borgarnes 54.81 14 LR LR 21 06 34.3
comp=Z,1µm,18.3s,baz=218,slow=30
CLF Chambon-Foret 54.82 40 IAmb IAmb 20 48 35.2
comp=Z,123nm,1.4s
ESK Eskdalemuir 54.96 30 *eP* **P 20 48 33.2 -1.8**
EKA Eskdalemuir Ar 54.99 30 P P 20 48 33.8 -1.5
comp=Z,18nm,1.1s,baz=230,slow=6.4,SNR=10
comp=Z,18nm,1.1s
EPT El Paso 55.24 299 IAMs_20 IAMs_20 21 14 48.9
comp=Z,1µm,18.0s
SDCO Great Sand Dun 55.25 307 IAmb IAmb 20 48 49.5
comp=Z,75nm,1.1s
SDCO Great Sand Dun 55.25 307 P P 20 48 38.8 +0.9
baz=100,SNR=60
SDCO Great Sand Dun 55.25 307 P P 20 48 37.7 -0.2
baz=100,SNR=60
EDI Edinburgh 55.28 30 *eP* **P 20 48 36.2 -1.1**
ANMO Albuquerque 55.57 303 P P 20 48 40.3 +0.2
ANMO IAmb IAmb 20 48 52.1
comp=Z,192nm,1.6s
ANMO Albuquerque 55.57 303 IAMs_20 IAMs_20 21 10 08.4
comp=Z,2µm,21.0s
ANMO Albuquerque 55.57 303 *de* P **P 20 48 40.3 +0.2**
ANMO pmax pmax
comp=Z,97nm,1.7s
ANMO Albuquerque 55.57 303 P P 20 48 41.0 +0.9
baz=98
ANMO Albuquerque 55.57 303 P P 20 48 40.4 +0.3
baz=98,SNR=35
ANMO Albuquerque 55.57 303 LR LR 21 10 42.2
comp=Z,2µm,21.4s,baz=191,slow=34
RSSD Black Hills 55.61 315 P P 20 48 40.1 -0.2
RSSD Black Hills 55.61 315 P P 20 48 40.1 -0.2
RSSD pmax pmax
comp=Z,38nm,1.0s
RSSD MLR MLR
comp=Z,3µm,19.0s
RSSD Black Hills 55.61 315 P P 20 48 40.8 +0.5
baz=106
ELMS Elmsett, Ipswi 55.65 35 *eP* **P 20 48 39.3 -0.8**
WACR West Acre 55.72 34 *eP* **P 20 48 40.0 -0.6**
WACR IAmb IAmb 20 48 41.0
comp=Z,371nm,1.0s
ISCO Idaho Springs 55.73 309 IAmb IAmb 20 48 53.5
comp=Z,100nm,1.1s
ISCO IAMs_20 IAMs_20 21 08 58.4
comp=Z,2µm,21.0s
ISCO Idaho Springs 55.73 309 P P 20 48 42.0 +0.7
baz=102,SNR=39
ISCO Idaho Springs 55.73 309 P P 20 48 42.1 +0.8
baz=102,SNR=39
ILULI Ilulissat 55.79 359 IAmb IAmb 20 49 14.5
comp=Z,146nm,1.6s
ILULI IAMs_20 IAMs_20 21 09 43.7
comp=Z,2µm,19.0s
Y22D IRIS PASSCAL I 55.84 302 IAMs_20 IAMs_20 21 14 33.5
comp=Z,1µm,20.0s
Y22D IRIS PASSCAL I 55.84 302 P P 20 48 43.1 +1.1
baz=97
Y22F Passcal Instru 55.84 302 P P 20 48 42.7 +0.7
baz=97
Y22A Socorro 55.86 302 P P 20 48 42.8 +0.6
baz=97,SNR=35
PHWY Pilot Hill 55.93 311 IAmb IAmb 20 48 54.4
comp=Z,136nm,1.2s
PHWY IAMs_20 IAMs_20 21 11 01.6
comp=Z,2µm,19.0s
ICESG Greenland Ices 56.01 4 *i* P **P 20 48 41.2 -1.6**
ICESG IAmb IAmb 20 48 45.7
comp=Z,162nm,1.1s
MCD Coleburn Disti 56.13 28 *eP* **P 20 48 41.8 -1.7**
MCD IAmb IAmb 20 48 43.7
comp=Z,78nm,1.1s
DRUM Mains of Drumt 56.13 29 *eP* **P 20 48 42.6 -0.8**
DRUM IAmb IAmb 20 48 44.0
comp=Z,98nm,1.1s
FCC Fort Churchill 56.17 334 IAmb IAmb 20 48 46.9
comp=Z,107nm,1.1s

N23A	Red Feather La	56.20	310		P	P	20 48 45.8	+1.2	
	baz=102,SNR=41								
S22A	4UR Ranch, Cre	56.28	307		P	P	20 48 45.2	-0.1	
S22A					IAmb	IAmb	20 48 57.5		
	comp=Z,174nm,1.4s								
S22A	4UR Ranch, Cre	56.28	307		P	P	20 48 46.6	+1.3	
	baz=99,SNR=24								
BIGH	Upper Bighouse	56.33	27	eP	P	P	20 48 44.0	-0.9	
121A	Cookes Peak, D	56.39	300		IAmb	IAmb	20 48 58.5		
	comp=Z,136nm,1.1s								
121A					IAMs_20	IAMs_20	21 11 41.2		
	comp=Z,1μm,19.0s								
121A	Cookes Peak, D	56.39	300		P	P	20 48 47.2	+1.2	
	baz=95,SNR=54								
121A	Cookes Peak, D	56.39	300		P	P	20 48 47.4	+1.4	
	baz=95,SNR=54								
SMCO	Snowmass	56.64	308		IAmb	IAmb	20 48 59.9		
	comp=Z,107nm,1.4s								
SMCO					IAMs_20	IAMs_20	21 11 51.6		
	comp=Z,2μm,19.0s								
KEST	Kesra	56.97	56		P	P	20 48 49.3	-0.6	
KEST					IAmb	IAmb	20 49 00.8		
	comp=Z,59nm,0.9s								
KEST	Kesra	56.97	56		P	P	20 48 49.8	-0.2	
	comp=Z,46nm,0.9s,baz=206,slow=3.2,SNR=27								
KEST					LR	LR	21 10 12.9		
	comp=Z,774nm,21.8s,baz=236,slow=33								
	comp=Z,46nm,0.9s								
DOU	Dourbes	56.99	38	dP	P	P	20 48 48.8	-0.9	
	comp=Z,28nm,1.0s								
DGMT	Dagmar	57.00	320		IAmb	IAmb	20 49 01.0		
	comp=Z,117nm,0.9s								
DGMT	Dagmar	57.00	320		P	P	20 48 50.1	+0.3	
	baz=108,SNR=15								
DGMT	Dagmar	57.00	320		P	P	20 48 49.8	-0.1	
	baz=108,SNR=15								
K22A	Casper	57.00	312		IAMs_20	IAMs_20	21 10 02.0		
	comp=Z,2μm,19.0s								
K22A	Casper	57.00	312		P	P	20 48 50.4	+0.2	
	baz=103,SNR=7.5								
K22A	Casper	57.00	312		P	P	20 48 50.1	-0.1	
	baz=103								
BMRD	Maredsous	57.16	38	dP	P	P	20 48 50.1	-0.8	
	comp=Z,27nm,1.1s								
RWWY	Rawlins	57.30	311		P	P	20 48 52.6	+0.2	
RWWY					IAmb	IAmb	20 49 04.3		
	comp=Z,173nm,1.4s								
RWWY					IAMs_20	IAMs_20	21 10 14.9		
	comp=Z,2μm,22.0s								
PLCA	Paso Flores	57.32	199	eP	P	P	20 48 54.2	+2.0	
PLCA	Paso Flores	57.32	199		P	P	20 48 54.1	+2.0	
	comp=Z,85nm,0.8s,baz=21,slow=8.0,SNR=98								
	comp=Z,85nm,0.8s								
BGES	Gesves	57.38	38	dP	P	P	20 48 51.8	-0.6	
	comp=Z,49nm,1.0s								
RCHB	Rochefort	57.39	38	dP	P	P	20 48 51.5	-1.1	
	comp=Z,26nm,1.1s								
MVCO	Mesa Verde	57.52	306		P	P	20 48 53.4	-0.6	
MVCO	Mesa Verde	57.52	306		P	P	20 48 54.5	+0.5	
	baz=98,SNR=7.9								
BCLA	Clavier	57.52	38	dP	P	P	20 48 52.6	-0.9	
	comp=Z,42nm,1.0s								
SENIN	Lac Senin/Sane	57.56	43		IAmb	IAmb	20 49 06.6		
	comp=Z,126nm,1.0s								
319A	Douglas	57.56	299		IAmb	IAmb	20 49 06.8		
	comp=Z,122nm,1.0s								
BSTI	Sart Tilman	57.74	38	dP	P	P	20 48 54.9	-0.1	
	comp=Z,10nm,0.9s								
O20A	White River Ci	57.77	309		IAmb	IAmb	20 49 08.4		
	comp=Z,126nm,1.3s								
O20A					IAMs_20	IAMs_20	21 10 05.5		
	comp=Z,1μm,19.0s								
O20A	White River Ci	57.77	309		P	P	20 48 56.8	+1.0	
	baz=100,SNR=19								
LAO	LASA Array	57.79	317		IAMs_20	IAMs_20	21 11 28.6		
	comp=Z,2μm,20.0s								
LAO	LASA Array	57.79	317		P	P	20 48 56.0	+0.5	
	baz=106								
WLF	Walferdange	57.79	39		IAmb	IAmb	20 48 56.0		
	comp=Z,63nm,1.0s								
WLF					IAMs_20	IAMs_20	21 09 10.9		
	comp=Z,1μm,20.0s								
WLF	Walferdange	57.79	39	dP	P	P	20 48 54.6	-0.8	
	comp=Z,36nm,1.0s								
BHOU	Houvegnez	57.92	38	dP	P	P	20 48 56.5	+0.1	
	comp=Z,37nm,1.2s								
FFC	Flin Flon	57.99	327		P	P	20 48 56.8	+0.1	
FFC					IAmb	IAmb	20 49 06.9		
	comp=Z,133nm,1.6s								
FFC	Flin Flon	57.99	327		IAMs_20	IAMs_20	21 11 37.6		
	comp=Z,2μm,19.0s								
FFC	Flin Flon	57.99	327		P	P	20 48 56.8	+0.1	
FFC					pmax	pmax			
	comp=Z,133nm,1.6s								
FFC					MLR	MLR			
	comp=Z,2μm,19.0s								
SLBS	Sierra La Lagu	57.99	290		P	P	20 48 57.4	0.0	
SLBS					IAmb	IAmb	20 49 10.7		
	comp=Z,122nm,1.2s								
MEM	Membach	58.01	38	dP	P	P	20 48 56.0	-0.9	
	comp=Z,25nm,0.8s								
BTNL	Ternell	58.08	38	dP	P	P	20 48 57.2	-0.2	
	comp=Z,26nm,1.2s								
W18A	Petrified Fore	58.26	303		IAmb	IAmb	20 49 11.5		
	comp=Z,128nm,1.1s								
W18A					IAMs_20	IAMs_20	21 13 15.6		
	comp=Z,2μm,20.0s								
W18A	Petrified Fore	58.26	303		P	P	20 48 59.9	+0.7	
	baz=96,SNR=18								
SARZ	Sarezzano	58.28	45		S	PcP	20 49 51.5	+1.5	
LL03	Petrohue	58.29	200		P	P	20 48 59.8	+0.9	
X18A	Snowflake	58.38	302		IAMs_20	IAMs_20	21 12 46.8		
	comp=Z,2μm,19.0s								
MSSA	Maissana	58.58	46		IAmb	IAmb	20 49 01.5		
	comp=Z,69nm,1.1s								
BFO	Black Forest	58.77	41		P	P	20 49 00.9	-1.4	
BFO	Black Forest	58.77	41		P	P	20 49 00.9	-1.4	
BFO					pmax	pmax			
	comp=Z,49nm,1.1s								
BFO	Black Forest	58.77	41	eP	P	P	20 49 01.3	-1.0	
	comp=Z,58nm,1.2s,baz=255,slow=6.8								
RDMU	Red Mountain	58.85	309		IAMs_20	IAMs_20	21 12 57.9		
	comp=Z,1μm,18.0s								
TUC	Tucson	58.90	300		P	P	20 49 03.9	+0.3	
TUC	Tucson	58.90	300		P	P	20 49 03.9	+0.3	
TUC					pmax	pmax			
	comp=Z,107nm,0.9s								
TUC					MLR	MLR			
	comp=Z,1μm,18.0s								
TUC	Tucson	58.90	300		P	P	20 49 03.9	+0.3	
	baz=94								
BUG	Bochum--Univer	59.03	38	eP	P	P	20 49 03.2	-0.8	
	comp=Z,31nm,0.9s,baz=255,slow=6.8								
P18A	Preston Nutter	59.22	308		IAMs_20	IAMs_20	21 11 12.7		
	comp=Z,2μm,20.0s								
BW06	Boulder Array	59.22	312		P	P	20 49 05.0	-0.7	
BW06					IAmb	IAmb	20 49 17.4		
	comp=Z,67nm,1.2s								
BW06					IAMs_20	IAMs_20	21 11 36.6		
	comp=Z,2μm,21.0s								
BW06	Boulder Array	59.22	312		P	P	20 49 05.6	-0.2	
	baz=100,SNR=33								
PD31	Pinedale Array	59.22	312		IAmb	IAmb	20 49 17.4		
	comp=Z,60nm,1.2s								
PDAR	Pinedale Array	59.22	312		P	P	20 49 05.1	-0.7	
	comp=Z,7.8nm,0.8s,baz=110,slow=8.5,SNR=24								
PDAR					LR	LR	21 11 47.5		
	comp=Z,1μm,21.8s,baz=112,slow=33								
	comp=Z,7.8nm,0.8s								
PRMA	PARMA	59.23	46		IAmb	IAmb	20 49 06.1		
	comp=Z,112nm,1.2s								
CASP	Castiglione de	59.23	48		IAmb	IAmb	20 49 07.0		
	comp=Z,68nm,1.2s								
ZONE	Zone	59.31	45		S	PcP	20 49 51.3	-2.9	
TNS	Taunus Mts	59.38	39	eP	P	P	20 49 05.8	-0.7	
	comp=Z,121nm,1.8s,baz=255,slow=6.8								
DAVOX	Davos/Dischmat	59.39	43		LR	LR	21 12 40.4		
	comp=Z,1μm,18.4s,baz=256,slow=34								
POPM	Popiglio	59.40	47		S	P	20 49 04.3	-2.4	
LL01	San Ignacio de	59.41	200		P	P	20 49 07.0	+0.4	
LL01					IAmb	IAmb	20 49 08.9		
	comp=Z,65nm,1.0s								
STU	Stuttgart	59.44	41		IAmb	IAmb	20 49 07.6		
	comp=Z,69nm,1.3s								
STU	Stuttgart	59.44	41	eP	P	P	20 49 05.6	-1.3	
	comp=Z,122nm,1.1s,baz=255,slow=6.8								
RLMT	Red Lodge	59.48	315		IAmb	IAmb	20 49 19.6		
	comp=Z,71nm,0.9s								
RLMT					IAMs_20	IAMs_20	21 12 10.4		
	comp=Z,2μm,20.0s								
RLMT	Red Lodge	59.48	315		P	P	20 49 07.9	+0.4	
	baz=102,SNR=23								
DAVA	Damuels	59.51	43	i	P	P	20 49 07.0	-0.7	
	comp=Z,42nm,1.1s,SNR=14								
SUMG	Summit	59.52	4		IAMs_20	IAMs_20	21 10 46.2		
	comp=Z,1μm,20.0s								
SUMG	Summit	59.52	4	i	P	P	20 49 06.0	-1.5	
SUMG					IAmb	IAmb	20 49 11.2		
	comp=Z,75nm,0.9s								
X16A	Lo Mia Camp, P	59.60	302		IAMs_20	IAMs_20	21 13 24.0		
	comp=Z,2μm,21.0s								
IBBN	Ibbenburen	59.60	37	eP	P	P	20 49 07.2	-0.7	
	comp=Z,78nm,1.0s,baz=255,slow=6.8								
FUORN	Ofenpass-Fuorn	59.61	44		P	P	20 49 07.3	-1.1	
ZCCA	Zocca	59.61	46		IAmb	IAmb	20 49 31.0		
	comp=Z,126nm,1.2s								
WUAZ	Wupatki	59.63	303		P	P	20 49 09.2	+0.5	
WUAZ					IAMs_20	IAMs_20	21 12 41.0		
	comp=Z,2μm,22.0s								
WUAZ	Wupatki	59.63	303		P	P	20 49 09.5	+0.8	
	baz=95,SNR=24								
OSSC	Osservatorio P	59.64	47		IAmb	IAmb	20 49 12.5		
	comp=Z,73nm,0.9s								
KASTN	Kahler Asten	59.65	38	eP	P	P	20 49 07.5	-0.8	
	comp=Z,41nm,1.3s,baz=255,slow=6.8								
NDIM	Novi di Modena	59.66	46		S	P	20 49 19.7	+11	
BSUT	Blindstreuca	59.74	309		IAMs_20	IAMs_20	21 13 27.5		
	comp=Z,1μm,18.0s								
UBR	Ueberruh	59.75	42	eP	P	P	20 49 08.5	-0.7	
	comp=Z,51nm,1.1s,baz=255,slow=6.8								
TMUT	Trail Mountain	59.91	308		IAmb	IAmb	20 49 25.3		
	comp=Z,61nm,1.0s								
LL02	Futaleuf	59.95	199		P	P	20 49 11.0	+0.6	
LL02					IAmb	IAmb	20 49 13.1		
	comp=Z,59nm,1.1s								
FETA	Feichten	60.01	43	i	P	P	20 49 10.4	-0.7	
	comp=Z,60nm,1.1s,SNR=31								
YMP	Mirror Lake Pl	60.02	314		IAmb	IAmb	20 49 32.0		
	comp=Z,104nm,1.1s								
MFNL	Monte Finestre	60.06	54	⇓	P	P	20 49 12.2	+0.8	
RETA	Reutte	60.14	43	eP	P	P	20 49 11.1	-0.7	
	comp=Z,24nm,1.0s,SNR=18								
ID10	Lander Cutoff	60.14	311		IAmb	IAmb	20 49 23.8		
	comp=Z,93nm,1.1s								
SNOW	Snow King Moun	60.20	313		IAmb	IAmb	20 49 23.9		
	comp=Z,129nm,1.4s								
H17A	Grant Village	60.24	314		P	P	20 49 13.8	+0.9	
	baz=101,SNR=7.8								
MOOW	Moose Ponds	60.25	313		P	P	20 49 12.1	-0.8	
TEOL	Teolo	60.30	45		P	P	20 49 11.1	-1.8	
MPU	Maple Canyon	60.33	309		IAmb	IAmb	20 49 25.9		
	comp=Z,65nm,1.3s								
MPU					IAMs_20	IAMs_20	21 12 36.2		
	comp=Z,2μm,19.0s								
MOTA	Moosalm	60.33	43	i	P	P	20 49 12.3	-1.0	
	comp=Z,41nm,1.0s,SNR=28								
AHID	Auburn Hatcher	60.34	312		IAmb	IAmb	20 49 24.5		
	comp=Z,147nm,1.4s								
AHID					IAMs_20	IAMs_20	21 12 25.2		
	comp=Z,2μm,20.0s								
TPAW	Teton Pass	60.35	313		IAmb	IAmb	20 49 32.2		
	comp=Z,65nm,1.0s								
SQTA	Sankt Quirin	60.37	43	eP	P	P	20 49 12.6	-0.9	
	comp=Z,78nm,1.2s,SNR=36								
IMW	Indian Meadow	60.41	313		IAmb	IAmb	20 49 26.0		
	comp=Z,153nm,1.4s								
CTI	Castel Tesino	60.42	44		P	P	20 49 12.2	-1.6	
CTI					IAmb	IAmb	20 49 14.0		
	comp=Z,86nm,1.0s								
CTI	Castel Tesino	60.42	44		P	P	20 49 12.2	-1.6	
CTI					pmax	pmax			
	comp=Z,86nm,1.0s								
FXWY	Fox Creek	60.43	313		IAmb	IAmb	20 49 25.1		
	comp=Z,69nm,1.4s								
EGMT	Eagleton	60.45	318		IAMs_20	IAMs_20	21 15 39.0		
	comp=Z,2μm,18.0s								
EGMT	Eagleton	60.45	318		P	P	20 49 14.2	+0.2	
	baz=103,SNR=11								
CESX	Cesi	60.45	48		IAmb	IAmb	20 49 14.9		
	comp=Z,62nm,1.2s								
U15A	North Rim	60.45	304		IAmb	IAmb	20 49 26.9		
	comp=Z,114nm,1.1s								
U15A					IAMs_20	IAMs_20	21 12 55.6		
	comp=Z,2μm,22.0s								
HWUT	Hardware Ranch	60.50	310		IAMs_20	IAMs_20	21 12 32.6		
	comp=Z,1μm,20.0s								
CTU	Camp Tracy	60.51	309		IAmb	IAmb	20 49 26.1		
	comp=Z,155nm,1.6s								
CTU					IAMs_20	IAMs_20	21 14 02.8		
	comp=Z,1μm,20.0s								
MURB	Monte Urbino	60.52	48		IAmb	IAmb	20 49 29.3		
	comp=Z,77nm,1.1s								
MTPU	Mount Pierson	60.52	306		IAmb	IAmb	20 49 27.2		
	comp=Z,81nm,1.0s								
MTPU					IAMs_20	IAMs_20	21 12 01.4		
	comp=Z,1μm,22.0s								
ID06	Fossil Canyon	60.56	311		P	P	20 49 14.8	-0.2	
PKCU	Pink Cliffs	60.56	306		IAmb	IAmb	20 49 27.1		
	comp=Z,114nm,1.2s								
PKCU					IAMs_20	IAMs_20	21 12 02.5		
	comp=Z,1μm,22.0s								
ID05	Sulphur Canyon	60.58	312		IAmb	IAmb	20 49 26.9		
	comp=Z,67nm,0.9s								
ID05					IAMs_20	IAMs_20	21 12 34.6		
	comp=Z,2μm,19.0s								
214A	Organ Pipe Nat	60.60	299		P	P	20 49 15.7	+0.5	
214A					IAmb	IAmb	20 49 27.7		
	comp=Z,130nm,1.2s								
214A	Organ Pipe Nat	60.60	299		P	P	20 49 16.3	+1.0	
	baz=92,SNR=28								
FUR	Furstenfeldbru	60.63	42	eP	P	P	20 49 14.3	-0.9	
	comp=Z,47nm,1.1s,baz=255,slow=6.8								
WATA	Walderalm	60.64	43	eP	P	P	20 49 14.2	-1.2	
	comp=Z,41nm,1.3s,SNR=18								
RETH	Rethem/Aller,	60.66	37	eP	P	P	20 49 14.8	-0.3	
	comp=Z,86nm,1.3s,baz=255,slow=6.8								
WTTA	Wattenberg	60.67	43	i	P	P	20 49 14.6	-1.0	
	comp=Z,43nm,1.5s,SNR=12								
GTTG	Gottingen	60.67	38	eP	P	P	20 49 14.8	-0.5	
	comp=Z,67nm,1.2s,baz=255,slow=6.8								
TCRU	Three Creeks R	60.79	307		IAmb	IAmb	20 49 29.0		
	comp=Z,47nm,1.0s								
GRFO	Grafenberg	60.96	40		P	P	20 49 16.6	-0.7	
GRFO					IAMs_20	IAMs_20	21 12 03.7		
	comp=Z,1μm,18.0s								
GRFO	Grafenberg	60.96	40		P	P	20 49 16.6	-0.7	
GRFO					pmax	pmax			
	comp=Z,36nm,1.2s								
GRFO					MLR	MLR			
	comp=Z,1μm,18.0s								
GRA1	Grafenberg Arr	60.96	40		IAMs_20	IAMs_20	21 12 04.7		
	comp=Z,1μm,18.0s								
GRF	Grafenberg Arr	60.96	40	eP	P	P	20 49 16.1	-1.3	
	comp=Z,49nm,1.4s,baz=255,slow=6.8								
GRF				eL	L	L	21 12 14.0		
	comp=Z,856nm,19.4s								
CLZ	Clausthal	61.00	38	eP	P	P	20 49 16.8	-0.8	
	comp=Z,47nm,1.1s,baz=255,slow=6.8								
AQU	L'Aquila	61.01	49		IAmb	IAmb	20 50 01.2		
	comp=Z,62nm,1.0s								
ID07	Smith Canyon R	61.01	311		IAmb	IAmb	20 49 30.2		
	comp=Z,92nm,1.1s								
NRDL	Niedersach Rie	61.03	37	eP	P	P	20 49 17.4	-0.2	
	comp=Z,71nm,1.1s,baz=255,slow=6.8								
GUMA	Gualdo di Mace	61.07	48		IAmb	IAmb	20 49 44.0		
	comp=Z,56nm,1.1s								
TRIS	Tristan da Cun	61.10	147		P	P	20 49 19.4	+1.1	
PIX	Pinacate	61.14	299		P	P	20 49 19.4	+0.5	
PIX					IAmb	IAmb	20 49 31.5		
	comp=Z,87nm,1.2s								
ABTA	Abfaltersbach	61.15	44	eP	P	P	20 49 17.6	-1.2	
	comp=Z,28nm,1.0s,SNR=20								
BOZ	Bozeman (W)	61.20	315		IAMs_20	IAMs_20	21 13 25.1		
	comp=Z,1μm,19.0s								
BOZ	Bozeman (W)	61.20	315		P	P	20 49 19.8	+0.5	
	baz=100,SNR=28								
DUG	Dugway, Tooele	61.25	309		IAmb	IAmb	20 49 31.5		
	comp=Z,98nm,1.1s								
DUG					IAMs_20	IAMs_20	21 13 14.5		
	comp=Z,1μm,20.0s								
DUG	Dugway, Tooele	61.25	309		P	P	20 49 20.1	+0.5	
	baz=97,SNR=34								
ASSE	Asse, Remlinge	61.26	38	eP	P	P	20 49 18.9	-0.3	
	comp=Z,35nm,1.1s,baz=255,slow=6.8								
ASK	Askoy	61.35	27	eP	P	P	20 49 19.8	0.0	
BER	Bergen	61.37	28	eP	P	P	20 49 19.6	-0.3	
LESA	Schwarzleotal	61.39	43	eP	P	P	20 49 19.2	-1.2	
	comp=Z,31nm,1.3s								
HVU	Hansel Valley	61.42	310		IAMs_20	IAMs_20	21 11 19.9		
	comp=Z,1μm,20.0s								
113A	Mohawk Valley,	61.44	300		IAmb	IAmb	20 49 32.8		
	comp=Z,69nm,1.3s								
MOX	Moxa	61.44	39	eP	P	P	20 49 19.6	-1.0	
	comp=Z,18nm,1.0s,baz=255,slow=6.8								
BLS5	Blasjo	61.49	29	eP	P	P	20 49 20.8	+0.1	
BGU	Big Grassy Mou	61.50	309		IAMs_20	IAMs_20	21 12 39.1		
	comp=Z,1μm,18.0s								
BSEG	Bad Segeberg	61.57	35	eP	P	P	20 49 20.5	-0.8	
	comp=Z,56nm,0.9s,baz=255,slow=6.8								
MANZ	Manzenberg	61.59	40	eP	P	P	20 49 20.6	-1.0	
	comp=Z,3.2nm,1.1s,baz=255,slow=6.8								
ROTZ	Rotzenmuhle	61.60	40	eP	P	P	20 49 20.5	-1.1	
	comp=Z,4.6nm,1.0s,baz=255,slow=6.8								
FLTG	Flechtingen	61.65	37	eP	P	P	20 49 21.0	-0.9	
	comp=Z,63nm,1.2s,baz=255,slow=6.8								
W13A	Hualapai Mount	61.65	303		IAmb	IAmb	20 49 35.0		
	comp=Z,52nm,1.0s								
W13A					IAMs_20	IAMs_20	21 14 40.4		
	comp=Z,2μm,21.0s								
NEUB	Neuenburg	61.68	39	eP	P	P	20 49 21.1	-1.0	
	comp=Z,60nm,0.8s,baz=255,slow=6.8								
PAOL	Paolisi	61.70	51		P	P	20 49 21.5	-1.0	
PAOL					IAmb	IAmb	20 49 43.3		
	comp=Z,63nm,1.3s								
PLN	Plauen	61.74	40	eP	P	P	20 49 21.8	-0.8	
	comp=Z,22nm,1.1s,baz=255,slow=6.8								
SABO	M.te Sabotino	61.74	45		IAmb	IAmb	20 49 23.5		
	comp=Z,61nm,1.2s								
MUD	Monsted U'grnd	61.74	33	i	P	P	20 49 20.9	-1.5	
MUD					IAmb	IAmb	20 49 23.8		
	comp=Z,104nm,1.2s								
PRED	Cave del Predi	61.80	44		IAmb	IAmb	20 49 24.1		
	comp=Z,92nm,1.2s								
GUNZ	Gunzen	61.81	40	eP	P	P	20 49 22.5	-0.7	
	comp=Z,26nm,1.1s,baz=255,slow=6.8								
PDMCI	Parker Dam,Lak	61.82	302		P	P	20 49 24.4	+1.0	
	baz=93,SNR=20								
WERD	Werda	61.82	40	eP	P	P	20 49 22.3	-0.9	
	comp=Z,18nm,1.1s,baz=255,slow=6.8								
WERN	Wernitzgruen	61.83	40	eP	P	P	20 49 22.6	-0.6	
	comp=Z,63nm,1.1s,baz=255,slow=6.8								
DLMT	Dillon	61.83	314		IAMs_20	IAMs_20	21 13 53.7		
	comp=Z,2μm,20.0s								
NKC	Novy Kostel	61.86	40	eP	P	P	20 49 22.9	-0.5	
NKC				e			20 49 31.6		
NKC				eS		S	20 57 46.6	-0.3	
NKC					MLR	MLR			
	comp=Z,1μm,17.0s								
NKC	Novy Kostel	61.86	40	eP	P	P	20 49 22.9	-0.5	
NKC				ex		x	20 49 31.6		
NKC				eS		S	20 57 46.6	-0.3	
NKC					AMS	AMS	21 13 00.0		
	comp=Z,1μm,17.0s								
GORT1	Trebel	61.87	37	eP	P	P	20 49 22.7	-0.6	
	comp=Z,51nm,1.2s,baz=255,slow=6.8								
MYKA	Terra Mystica	61.89	44	eP	P	P	20 49 22.7	-1.0	
	comp=Z,35nm,1.2s,SNR=12								
BEMT	Mount Belmont	61.89	316		P	P	20 49 23.0	-1.0	
TANN	Tannenbergstha	61.91	40	eP	P	P	20 49 23.1	-0.7	
	comp=Z,24nm,1.1s,baz=255,slow=6.8								
BIOA	Bad Ischl, Aus	62.08	43	eP	P	P	20 49 23.6	-1.4	
	comp=Z,35nm,1.3s,SNR=16								
HYA	Hoyanger	62.09	27	eP	P	P	20 49 25.1	+0.5	
BLYC	Blythe	62.11	301		IAmb	IAmb	20 49 37.6		
	comp=Z,88nm,1.1s								
MCRV	Calabrutti - M	62.12	51		S	P	20 49 19.3	-6.2	
COYC	Coyhaique	62.18	198		P	P	20 49 25.9	+0.4	
COYC					IAmb	IAmb	20 49 32.0		
	comp=Z,50nm,1.0s								
NEE2	Needles Airpor	62.23	302		P	P	20 49 26.9	+0.7	
	baz=93								
CEY	Cerknica	62.27	45	⇓i	P	P	20 49 25.1	-1.2	
CEY	Cerknica	62.27	45	i	P	P	20 49 25.2	-1.0	
SPR3	Spring Creek 3	62.29	307		IAmb	IAmb	20 49 39.1		
	comp=Z,96nm,1.3s								
SFX	San Felipe	62.32	298		P	P	20 49 27.0	+0.2	
KHC	Kasperske Hory	62.33	41	eP	P	P	20 49 25.8	-0.8	
KHC				e			20 49 28.9		
KHC				e			20 49 34.9		
KHC				eS		S	20 57 48.3	-4.7	
KHC					MLR	MLR			
	comp=Z,900nm,18.2s								
KHC	Kasperske Hory	62.33	41	eP	P	P	20 49 25.8	-0.8	
KHC				epP		pP	20 49 28.9	+0.2	
KHC				ex		x	20 49 34.9		
KHC				eS		S	20 57 48.3	-4.7	
KHC					AMS	AMS	21 14 10.0		
	comp=Z,900nm,18.2s								
GLA	Glamis	62.34	300		P	P	20 49 27.7	+0.7	
	baz=92								
GEC2	GERESS Array S	62.35	42

SHPR	Sheep Range	62.77	304	P	P	20 49 30.1	+0.1
ZVC	Zvikov	62.79	41	eP	P	20 49 28.5	-1.1
ZVC				ex	x	20 49 37.6	
ZVC				AMS	AMS	21 12 50.0	
	comp=Z,900nm,20.1s						
BOJS	Bojanci	62.80	46⇓	iP	P	20 49 29.2	-0.6
BOJS	Bojanci	62.80	46	S	P	20 49 29.0	-0.8
SKAR	Skarslia	62.84	28	eP	P	20 49 30.2	+0.4
SOKA	Soboth	62.84	44	eP	P	20 49 28.5	-1.6
	comp=Z,12nm,1.1s,SNR=10						
HLID	Hailey	62.85	312	P	P	20 49 30.8	+0.4
	baz=97,SNR=29						
AKN	Aaknes	62.86	26	eP	P	20 49 30.0	+0.1
BC3	Big Chuckawall	62.88	301	P	P	20 49 31.3	+0.6
	baz=92,SNR=12						
BRG	Berggiesshubel	62.93	39⇑	iP	P	20 49 30.9	+0.4
BRG				Amp		20 49 32.5	
	comp=Z,45nm,1.2s						
BRG	Berggiesshubel	62.93	39	P	P	20 49 40.9	+10
BRG				Amp		20 49 43.6	
	comp=Z,25nm,1.2s						
BRG	Berggiesshubel	62.93	39	Amp		20 49 52.2	
	comp=Z,32nm,1.2s						
BRG	Berggiesshubel	62.93	39	SS	SS	21 02 11.0	+5.5
BRG				Amp		21 12 15.0	
	comp=N,0.4nm,18.3s						
BRG				Amp		21 12 21.0	
	comp=E,0.6nm,18.3s						
BRG				Amp		21 12 25.0	
	comp=Z,1.2nm,18.2s						
BRG	Berggiesshubel	62.93	39⇑	iP	P	20 49 30.9	+0.4
BRG						20 49 40.9	
BRG				S	S	20 58 06.0	+5.7
BRG				SS	SS	21 02 11.0	+5.5
BRG				pmax	pmax		
	comp=Z,45nm,1.3s						
BRG				pmax	pmax		
	comp=Z,25nm,1.2s						
BRG				pmax	pmax		
	comp=Z,32nm,1.2s						
BRG				pmax	pmax		
	comp=N,351nm,18.3s						
BRG				MLR	MLR		
	comp=E,612nm,18.3s						
BRG				MLR	MLR		
	comp=Z,1μm,18.2s						
BRG	Berggiesshubel	62.93	39	eP	P	20 49 30.3	-0.3
	comp=Z,38nm,1.2s,baz=255,slow=6.8						
BRG	Berggiesshubel	62.93	39	P	P	20 49 51.2	+21
RICC	Richard	62.96	40	eP	P	20 49 30.7	0.0
RICC				AMS	AMS	21 12 40.0	
	comp=Z,900nm,17.5s						
MSO	Missoula	63.00	316	IAmb	IAmb	20 49 35.2	
	comp=Z,69nm,1.6s						
MSO	Missoula	63.00	316	P	P	20 49 32.0	+0.8
	baz=99,SNR=8.0						
PRA	Prague	63.07	40	eP	P	20 49 31.2	-0.3
PRA				eS	S	20 57 58.2	-3.9
PRA				MLR	MLR		
	comp=Z,1μm,17.7s						
PRA	Prague	63.07	40	eP	P	20 49 31.2	-0.3
PRA				eS	S	20 57 58.2	-3.9
PRA				AMS	AMS	21 14 00.0	
	comp=Z,1μm,17.7s						
GMRC	Granite Mounta	63.09	302	P	P	20 49 32.9	+0.8
	baz=92,SNR=22						
GCIS	Gornji Cirnik	63.12	45	iP	P	20 49 31.2	-0.6
PRU	Pruhonice	63.12	41	eP	P	20 49 30.8	-1.0
PRU				eS	S	20 57 55.5	-7.2
PRU				MLR	MLR		
	comp=Z,1μm,18.4s						
PRU	Pruhonice	63.12	41	eP	P	20 49 30.8	-1.0
PRU				eS	S	20 57 55.5	-7.2
PRU				AMS	AMS	21 14 00.0	
	comp=Z,1μm,18.4s						
ELK	Elko	63.15	309	IAmb	IAmb	20 49 44.1	
	comp=Z,65nm,1.1s						
ELK				IAMs_20	IAMs_20	21 13 29.7	
	comp=Z,1μm,20.0s						
ELK	Elko	63.15	309	LR	LR	21 15 53.6	
	comp=Z,873nm,20.0s,baz=98,slow=35						
SWSC	Sam W. Stewart	63.16	300	P	P	20 49 33.1	+0.7
	baz=91,SNR=6.4						
RUE	Ruedersdorf	63.19	38	eP	P	20 49 31.6	-0.6
RUE	Ruedersdorf	63.19	38	eP	P	20 49 31.5	-0.6
	comp=Z,81nm,1.1s,baz=255,slow=6.8						
R11B	Troy Canyon, C	63.22	306	IAmb	IAmb	20 49 45.0	
	comp=Z,56nm,1.1s						
R11B	Troy Canyon, C	63.22	306	P	P	20 49 33.7	+0.8
	baz=94,SNR=47						
PVCC	Panska Ves	63.25	40	eP	P	20 49 32.1	-0.5
PVCC				MLR	MLR		
	comp=Z,1μm,18.0s						
PVCC	Panska Ves	63.25	40	eP	P	20 49 32.1	-0.5
PVCC				AMS	AMS	21 13 10.0	
	comp=Z,1μm,18.0s						
YUH	Yuha Desert	63.26	300	IAmb	IAmb	20 49 45.6	
	comp=Z,82nm,1.1s						
GOPC	GO Pecny, Ondr	63.26	41	eP	P	20 49 32.4	-0.4
GOPC				eS	S	20 58 03.9	-0.7
GOPC				MLR	MLR		
	comp=Z,1μm,17.8s						
GOPC	GO Pecny, Ondr	63.26	41	eP	P	20 49 32.4	-0.4
GOPC				eS	S	20 58 03.9	-0.7
GOPC				AMS	AMS	21 14 10.0	
	comp=Z,1μm,17.8s						
ARSA	Arzberg	63.26	44	eP	P	20 49 31.5	-1.4
	comp=Z,29nm,1.0s,SNR=14						
ESJX	Sierra Juarez	63.27	299	P	P	20 49 34.1	+0.8
ESJX				IAmb	IAmb	20 49 46.0	
	comp=Z,108nm,1.4s						
TUQ	Turquoise Moun	63.33	303	P	P	20 49 34.1	+0.4
	baz=92						
BELC	Belle Mtn. Jos	63.35	301	P	P	20 49 34.7	+0.9
	baz=91,SNR=6.1						
RMX	La Rumorosa	63.38	300	IAmb	IAmb	20 49 48.1	
	comp=Z,56nm,1.1s						
IKP	In-Ko-Pah, Jac	63.41	300	P	P	20 49 35.3	+1.1
	baz=91,SNR=7.1						
TREC	Trest	63.59	41	eP	P	20 49 34.4	-0.6
TREC				e		20 49 38.1	
TREC				MLR	MLR		
	comp=Z,1μm,18.3s						
TREC	Trest	63.59	41	eP	P	20 49 34.4	-0.6
TREC				epP	sP	20 49 38.1	-0.1
TREC				AMS	AMS	21 15 00.0	
	comp=Z,1μm,18.3s						
CONA	Conrad Observa	63.60	43	eP	P	20 49 34.0	-1.2
	comp=Z,31nm,1.0s,SNR=24						
HEC	Hector,Ludlow	63.65	302	P	P	20 49 36.4	+0.7
	baz=92,SNR=25						
PMD	Palm Desert	63.65	301	IAmb	IAmb	20 49 48.0	
	comp=Z,93nm,1.3s						
TPNV	Topopah Spring	63.66	305	IAmb	IAmb	20 49 48.5	
	comp=Z,104nm,1.1s						
TPNV				IAMs_20	IAMs_20	21 14 48.6	
	comp=Z,1μm,22.0s						
TPNV	Topopah Spring	63.66	305	P	P	20 49 36.8	+1.0
	baz=93,SNR=7.4						
MONP2	Monument Peak	63.68	300	P	P	20 49 37.2	+1.1
	baz=91,SNR=26						
OSL	Oslo	63.69	29	eP	P	20 49 32.5	-2.9
DOMB	Dombas	63.70	27	eP	P	20 49 35.7	+0.2
TPFO	Pinon Flats	63.72	301	P	P	20 49 37.0	+0.7
	baz=91						
PFO	Pinyon Flats O	63.72	301	P	P	20 49 36.6	+0.4
PFO				IAmb	IAmb	20 49 48.6	
	comp=Z,79nm,1.2s						
PFO	Pinyon Flats O	63.72	301⇑	eP	P	20 49 37.5	+1.2
PFO				pmax	pmax		
	comp=Z,116nm,1.3s						
PFO	Pinyon Flats O	63.72	301	P	P	20 49 37.2	+1.0
	baz=91						
PFO	Pinyon Flats O	63.72	301	LR	LR	21 18 44.3	
	comp=Z,570nm,18.1s,baz=98,slow=37						
TKX	Tecate	63.83	300	IAmb	IAmb	20 49 48.9	
	comp=Z,65nm,1.2s						
RONA	Rosalia, Austr	63.85	43	eP	P	20 49 35.7	-1.0
	comp=Z,41nm,0.9s,SNR=25						
MFID	Camas Ranch	63.85	312	IAMs_20	IAMs_20	21 14 30.3	
	comp=Z,2μm,19.0s						
CBX	Cerro Bola	63.88	300	IAmb	IAmb	20 49 49.6	
	comp=Z,41nm,1.0s						
BAR	Barrett	63.89	300	IAmb	IAmb	20 49 49.4	
	comp=Z,76nm,1.0s						
MGRS	Mrkonjic Grad	63.95	47	eP	P	20 49 37.1	-0.3
SRKY	Kupres RS	63.96	47	eP	P	20 49 37.5	-0.1
GWY	Greenwater Val	63.97	304	IAmb	IAmb	20 49 50.8	
	comp=Z,97nm,1.2s						
GSC	Goldstone, Bar	64.05	303	IAMs_20	IAMs_20	21 16 51.9	
	comp=Z,1μm,19.0s						
GSC	Goldstone, Bar	64.05	303	P	P	20 49 39.0	+0.7
	baz=92,SNR=6.9						
BLY	Banja Luka	64.06	47	eP	P	20 49 36.6	-1.5
NAO01	NORSAR Array S	64.08	28	P	P	20 49 38.0	0.0
NAO01				IAmb	IAmb	20 50 15.4	
	comp=Z,157nm,1.8s						
NBO00	NORSAR Array S	64.09	28	P	P	20 49 38.2	+0.1
NBO00				IAmb	IAmb	20 49 41.5	
	comp=Z,83nm,1.3s						
BBRC	Big Bear Solar	64.12	302	P	P	20 49 39.6	+0.6
	baz=91						
QSM	Queen of Sheba	64.12	304	IAMs_20	IAMs_20	21 15 32.8	
	comp=Z,1μm,20.0s						
FURC	Furnace Creek,	64.13	304	P	P	20 49 39.5	+0.8
	baz=92						
KRUC	Moravsky	64.14	42	eP	P	20 49 37.9	-0.7
UPC	Upice	64.15	40	eP	P	20 49 38.2	-0.4
UPC				e		20 49 41.3	
UPC				eS	S	20 58 16.7	+1.2
UPC				MLR	MLR		
	comp=Z,1μm,16.3s						
UPC	Upice	64.15	40	eP	P	20 49 38.2	-0.4
UPC				epP	sP	20 49 41.3	-0.5
UPC				eS	S	20 58 16.7	+1.2
UPC				AMS	AMS	21 14 30.0	
	comp=Z,1μm,16.3s						
NC204	NORSAR Array S	64.17	28	IAmb	IAmb	20 49 42.7	
	comp=Z,113nm,1.4s						
CHVC	Chvalec	64.19	40	eP	P	20 49 38.2	-0.7
CHVC				e		20 49 41.9	
CHVC				MLR	MLR		
	comp=Z,1μm,16.0s						
CHVC	Chvalec	64.19	40	eP	P	20 49 38.2	-0.7
CHVC				ex	x	20 49 41.9	
CHVC				AMS	AMS	21 14 10.0	
	comp=Z,1μm,16.0s						
RRX	Edison Barstow	64.19	302	P	P	20 49 40.0	+0.8
	baz=91						
STON	Ston	64.22	49	eP	P	20 49 37.1	-2.1
109C	Camp Elliot, M	64.25	300	P	P	20 49 40.4	+0.8
	baz=90						
OSTC	Ostas	64.28	40	eP	P	20 49 38.8	-0.7
OSTC				e		20 49 42.4	
OSTC				e		20 49 47.8	
OSTC				eS	S	20 58 14.9	-2.4
OSTC				MLR	MLR		
	comp=Z,1μm,20.7s						
OSTC	Ostas	64.28	40	eP	P	20 49 38.8	-0.7
OSTC				ex	x	20 49 42.4	
OSTC				ex	x	20 49 47.8	
OSTC				eS	S	20 58 14.9	-2.4
OSTC				AMS	AMS	21 14 20.0	
	comp=Z,1μm,20.7s						
NB2	NORSAR Subarra	64.30	28	P	P	20 49 38.9	-0.5
	comp=Z,6.1nm,0.9s,baz=249,slow=6.9						
NB2	NORSAR Subarra	64.30	28	P	P	20 49 38.9	-0.5
	baz=249,slow=6.9						
NOA	NORSAR Array B	64.30	28	P	P	20 49 39.2	-0.2
	comp=Z,23nm,1.1s,baz=249,slow=6.8,SNR=20						
NOA				LR	LR	21 11 42.3	
	comp=Z,912nm,21.1s,baz=240,slow=31						
	comp=Z,23nm,1.1s						
VRAC	Vranov	64.31	42	⇑P	P	20 49 39.6	-0.1
VRAC	Vranov	64.31	42	eP	P	20 49 39.3	-0.4
VRAC	Vranov	64.31	42	P	P	20 49 39.5	-0.1
DPC	Dobruska-Polom	64.31	40	eP	P	20 49 38.9	-0.8
DPC				e		20 49 42.5	
DPC				e		20 49 49.2	
DPC				eS	S	20 58 16.1	-1.6
DPC				MLR	MLR		
	comp=Z,1μm,19.4s						
DPC	Dobruska-Polom	64.31	40	eP	P	20 49 38.9	-0.8
DPC				epP	sP	20 49 42.5	-0.4
DPC				ex	x	20 49 49.2	
DPC				eS	S	20 58 16.1	-1.6
DPC				AMS	AMS	21 14 40.0	
	comp=Z,1μm,19.4s						
MURC	Murrieta	64.33	301	P	P	20 49 40.5	+0.3
	baz=91						
NC602	NORSAR Array S	64.34	28	IAmb	IAmb	20 50 11.3	
	comp=Z,78nm,1.6s						
NC602	NORSAR Array S	64.34	28	eP	P	20 49 39.2	-0.5
NC303	NORSAR Array S	64.43	28	P	P	20 49 39.8	-0.5
NC303				IAmb	IAmb	20 49 44.5	
	comp=Z,63nm,1.2s						
ZST	Bratislava	64.47	43	eP	P	20 49 40.2	-0.5
ZST				pmax	pmax		
	comp=Z,66nm,1.0s						
ZST	Bratislava	64.47	43	eP	P	20 49 40.2	-0.5
Q09A	Carvers	64.50	307	IAMs_20	IAMs_20	21 16 07.6	
	comp=Z,1μm,19.0s						
ELS	Elsinore Mount	64.53	301	P	P	20 49 42.0	+0.5
ELS				IAmb	IAmb	20 49 53.5	
	comp=Z,54nm,1.1s						
ELS				IAMs_20	IAMs_20	21 21 43.7	
	comp=Z,972nm,18.0s						
GRAC	Grapevine Rang	64.56	305	IAMs_20	IAMs_20	21 15 29.3	
	comp=Z,2μm,22.0s						
GRAC	Grapevine Rang	64.56	305	P	P	20 49 42.2	+0.5
	baz=92						
MODS	Modra-Piesok	64.61	43	eP	P	20 49 41.2	-0.5
MODS				pmax	pmax		
	comp=Z,47nm,1.0s						
MODS	Modra-Piesok	64.61	43	eP	P	20 49 41.2	-0.5
MPMC	Manual Prospec	64.63	304	P	P	20 49 42.8	+0.6
	baz=92,SNR=17						
TREB	Trebinje	64.69	49	eP	P	20 49 41.5	-0.8
BFSC	Mount Baldy Ra	64.73	302	P	P	20 49 43.7	+0.8
	baz=91,SNR=5.3						
HCY	Herceg Novi	64.77	49	eP	P	20 49 42.3	-0.5
LRMC	Laurel Mtn Rad	64.77	303	P	P	20 49 43.6	+0.5
	baz=91						
JAVC	Velka Javorina	64.94	42	eP	P	20 49 43.9	0.0
MORC	Moravsky Berou	64.99	41	⇑P	P	20 49 44.2	0.0
MORC	Moravsky Berou	64.99	41	eP	P	20 49 43.7	-0.5
MORC	Moravsky Berou	64.99	41	P	P	20 49 44.2	0.0
EDW2	Edwards Air Fo	65.01	302	P	P	20 49 45.5	+0.8
	baz=91,SNR=7.5						
CCAC	Calif City Air	65.03	303	IAMs_20	IAMs_20	21 17 32.0	
	comp=Z,2μm,20.0s						
DSP	Deep Springs	65.05	305	IAMs_20	IAMs_20	21 16 44.4	
	comp=Z,1μm,20.0s						
BMO	Blue Mountains	65.06	313	IAmb	IAmb	20 49 55.3	
	comp=Z,109nm,1.8s						
CWC	Cottonwood Cre	65.11	304	P	P	20 49 45.9	+0.5
	baz=91						
MAUC	Maruska	65.11	42	eP	P	20 49 45.4	+0.4
MAUC				AMS	AMS	21 16 40.0	
	comp=Z,900nm,16.8s						
F10A	Beach Ranch, E	65.13	315	P	P	20 49 45.3	0.0
PASC	Pasadena Art C	65.16	302	IAMs_20	IAMs_20	21 19 36.5	
	comp=Z,1μm,19.0s						
HFS	Hagfors	65.17	29	P	P	20 49 44.8	-0.3
	comp=Z,20nm,0.8s,baz=234,slow=5.0,SNR=16						
HFS				LR	LR	21 11 52.3	
	comp=Z,1μm,21.7s,baz=255,slow=30						
	comp=Z,20nm,0.8s						
SRO	Srobarova	65.22	43	eP	P	20 49 45.2	-0.4
SRO				pmax	pmax		
	comp=Z,30nm,1.2s						
SRO	Srobarova	65.22	43	eP	P	20 49 45.2	-0.4
KVN	Kaiserville	65.22	307	IAMs_20	IAMs_20	21 14 54.8	
	comp=Z,1μm,21.0s						
EFI	East Falkland	65.23	186	ceP	P	20 49 46.6	+1.2
EFI				pmax	pmax		
	comp=Z,174nm,1.5s						
NV11	Mina Array Sit	65.24	306	IAMs_20	IAMs_20	21 19 11.3	
	comp=Z,1μm,20.0s						
MORH	Mrgy, Hungar	65.25	45	⇑P	P	20 49 45.6	-0.2
TIN	Tinemaha, Big	65.25	305	P	P	20 49 46.9	+0.7
	baz=92						
FMP	Fort Macarthur	65.25	301	P	P	20 49 46.2	+0.1
	baz=90						
DRME	Dracevica, Mon	65.26	50	eP	P	20 49 46.1	+0.1
DECC	Green Verdugo	65.29	302	P	P	20 49 47.0	+0.6
	baz=90						
PDG	Podgorica	65.33	49	⇑P	P	20 49 46.7	+0.3
PDG	Podgorica	65.33	49	IAmb	IAmb	20 50 08.2	
	comp=Z,80nm,1.2s						
PDG	Podgorica	65.33	49	⇓iP	P	20 49 46.5	+0.1
NEW	Newport	65.34	317	P	P	20 49 45.7	-0.8
NEW				IAmb	IAmb	20 49 59.1	
	comp=Z,40nm,0.8s						
NEW	Newport	65.34	317	IAMs_20	IAMs_20	21 14 35.5	
	comp=Z,2μm,22.0s						
NEW	Newport	65.34	317	P	P	20 49 45.7	-0.8
NEW				pmax	pmax		
	comp=Z,40nm,0.8s						
NEW				MLR	MLR		
	comp=Z,2μm,22.0s						
NEW	Newport	65.34	317	P	P	20 49 46.4	-0.1
	baz=98,SNR=10						
NEW	Newport	65.34	317	LR	LR	21 15 31.4	
	comp=Z,1μm,21.6s,baz=96,slow=34						
NVAR	Mina Array Bea	65.36	306	P	P	20 49 47.0	+0.1
	comp=Z,6.4nm,0.8s,baz=73,slow=6.8,SNR=24						
NVAR				LR	LR	21 17 28.3	
	comp=Z,753nm,20.6s,baz=98,slow=35						
	comp=Z,6.4nm,0.8s						
VLO	Vlora	65.38	52	IAmb	IAmb	20 50 11.2	
	comp=Z,117nm,1.3s						
OKC	Ostrava-Krasne	65.39	41	eP	P	20 49 46.6	-0.1
OKC				e		20 49 55.2	
OKC				eS	S	20 58 31.1	+0.3
OKC				MLR	MLR		
	comp=Z,1μm,15.9s						
OKC	Ostrava-Krasne	65.39	41	eP	P	20 49 46.6	-0.1
OKC				ex	x	20 49 55.2	
OKC				eS	S	20 58 31.1	+0.3
OKC				AMS	AMS	21 15 40.0	
	comp=Z,1μm,15.9s						
ISA	Isabella, Lake	65.42	303	IAmb	IAmb	20 49 60.0	
	comp=Z,123nm,1.3s						
ISA				IAMs_20	IAMs_20	21 16 03.1	
	comp=Z,2μm,22.0s						
ISA	Isabella, Lake	65.42	303	P	P	20 49 48.0	+0.7
	baz=91,SNR=19						
SCI2	San Clemente I	65.47	300	P	P	20 49 48.1	+0.5
	baz=90						
RUDO	Rudo	65.50	48	eP	P	20 49 45.4	-2.2
LHV	Little Huntoon	65.51	306	IAmb	IAmb	20 50 00.0	
	comp=Z,113nm,1.2s						
LHV				IAMs_20	IAMs_20	21 16 46.4	
	comp=Z,1μm,19.0s						
BBLS	Lazići	65.55	48⇓	iP	P	20 49 47.7	-0.3
KEK	Kerkira	65.57	52	P	P	20 49 46.8	-1.3
OSI	Osito Audit: C	65.61	302	P	P	20 49 48.9	+0.4
	baz=90						
VYHS	Vyhne	65.65	43	eP	P	20 49 47.6	-0.9
VYHS				pmax	pmax		
	comp=Z,34nm,1.2s						
VYHS	Vyhne	65.65	43	eP	P	20 49 47.6	-0.9
TEKS	Tekeris	65.70	47	eP	P	20 49 47.5	-1.3
TIR	Tirane	65.71	51	P	P	20 49 49.0	+0.1
TIR				IAmb	IAmb	20 50 06.2	
	comp=Z,102nm,1.4s						
TIR	Tirane	65.71	51	P	P	20 49 49.1	+0.1
TIR				pmax	pmax		
	comp=Z,102nm,1.4s						
TIR				MLR	MLR		
	comp=Z,600nm,21.0s						
MLAC	Mammoth, Mammo	65.75	305	P	P	20 49 50.2	+0.7
	baz=92						
J08A	Circle Bar Ran	65.77	312	IAmb	IAmb	20 50 01.4	
	comp=Z,122nm,1.3s						
E09A	Wood Farm, Sta	65.82	315	IAmb	IAmb	20 50 00.9	
	comp=Z,88nm,1.4s						
WVOR	Wild Horse Val	65.82	311	IAMs_20	IAMs_20	21 17 26.5	
	comp=Z,1μm,19.0s						
NSS	Namsos	65.83	25	eP	P	20 49 49.3	0.0
OMMB	Old Mammoth Mi	65.88	305	IAmb	IAmb	20 50 02.9	
	comp=Z,99nm,1.2s						
OMMB				IAMs_20	IAMs_20	21 15 15.2	
	comp=Z,1μm,21.0s						
SJES	Sjenica	65.92	48⇓	iP	P	20 49 50.2	-0.2
VES	Vestal, Richgr	65.92	303	P	P	20 49 51.0	+0.6
	baz=90						
MDPB	Devils Postpil	65.94	305	IAMs_20	IAMs_20	21 15 39.9	
	comp=Z,1μm,22.0s						
IGT	Igoumenitsa	65.98	53	P	P	20 49 46.7	-4.0
DIVS	Divibare	65.99	48⇓	iP	P	20 49 50.6	-0.2
C09A	Chrisman Ranch	66.05	317	IAmb	IAmb	20 50 02.2	
	comp=Z,68nm,1.4s						
YERR	Yerington	66.11	307	IAMs_20	IAMs_20	21 22 06.2	
	comp=Z,945nm,18.0s						
LANS	Liptovska Anna	66.15	42	eP	P	20 49 52.4	+0.7
LANS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LANS	Liptovska Anna	66.15	42	eP	P	20 49 52.4	+0.7
VIKU	Vikbolandet	66.22	32	eP	P	20 49 51.9	+0.1
RES	Resolute Bay	66.24	348	LR	LR	21 16 13.8	
	comp=Z,3μm,20.2s,baz=128,slow=34						
PAHR	Pah Rah Range	66.25	308	IAMs_20	IAMs_20	21 18 48.8	
	comp=Z,1μm,21.0s						
WAKR	Walker	66.25	306	IAMs_20	IAMs_20	21 15 39.0	
	comp=Z,1μm,21.0s						
G08A	Pilot Rock	66.27	314	P	P	20 49 51.8	-0.8
G08A				IAmb	IAmb	20 50 04.0	
	comp=Z,59nm,1.3s						
SNCC	San Nicolas Is	66.28	301	P	P	20 49 53.1	+0.3
	baz=89						
PSZ	Piszkesteto	66.29	43	⇓P	P	20 49 52.8	+0.1
PSZ	Piszkesteto	66.29	43	P	P	20 49 52.7	+0.1
SCZ2	Santa Cruz Isl	66.37	301	P	P	20 49 53.7	+0.4
	baz=89						
PNTR	Pine Nut	66.39	307	P	P	20 49 53.2	-0.5
PNTR				IAmb	IAmb	20 50 13.7	
	comp=Z,40nm,0.8s						
OHR	Ohrid	66.40	51	iP	P	20 49 54.9	+1.5
D08A	Wollman Farm,	66.41	316	IAmb	IAmb	20 50 04.2	
	comp=Z,75nm,1.5s						
D08A				IAMs_20	IAMs_20	21 17 03.8	
	comp=Z,2μm,19.0s						
SBC	Santa Barbara	66.43	302	P	P	20 49 54.3	+0.6
	baz=90						
E08A	Dider Farm, El	66.45	315	IAMs_20	IAMs_20	21 16 56.9	
	comp=Z,2μm,20.0s						
BSZH	Besenyszg	66.47	44	⇑P	P	20 49 54.1	+0.5
PKM	Mcpherson Peak	66.51	302	P	P	20 49 55.1	+0.7
	baz=90						
NEST	Nestorio	66.56	52	P	P	20 49 54.6	0.0
SMMC	Simmler	66.66	303	P	P	20 49 55.4	+0.2
	baz=90						
MPK	Martis Peak	66.73	307	IAMs_20	IAMs_20	21 20 03.8	
	comp=Z,1μm,18.0s						
KECS	Kecovo	66.74	43	eP	P	20 49 56.0	+0.6
KECS				pmax	pmax		
	comp=Z,39nm,1.3s						
KECS	Kecovo	66.74	43	eP	P	20 49 56.0	+0.6
HAWA	Hanford	66.77	315	IAmb	IAmb	20 50 07.4	
	comp=Z,172nm,1.9s						
KPRO	Kipourio	66.78	52	P	P	20 49 56.0	0.0
YKAW1	Yellowknife Wh	66.80	333	IAMs_20	IAMs_20	21 16 15.7	
	comp=Z,3μm,20.0s						
FNA	Florina	66.82	51	P	P	20 49 54.9	-1.3
FNA	Florina	66.82	51	P	P	20 49 55.5	-0.7
FNA	Florina	66.82	51	P	P	20 49 55.5	-0.7
FNA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YKA	Yellowknife Ar	66.86	333	iP	P	20 49 57.2	+1.3
YKA				pmax	pmax		
	comp=Z,25nm,0.8s						
YKA	Yellowknife Ar	66.86	333	P	P	20 49 54.6	-1.3
	comp=Z,22nm,0.8s,baz=104,slow=7.3,SNR=26						
YKA				LR	LR	21

BZS Buzias 67.26 46 ⇑P **P 20 49 59.1 +0.4**
BZS Buzias 67.26 46 P **P 20 49 58.7 -0.1**
MDVR Moldovita 67.27 47 ⇑P **P 20 49 58.8 -0.1**
THL Klokotos Trika 67.28 53 P **P 20 49 57.5 -1.5**
TRIZ Trizonia 67.30 54 P **P 20 49 59.2 0.0**
PMPB Monarch Peak 67.31 304 P **P 20 49 59.9 +0.5**
PMPB IAMs_20 IAMs_20 21 17 26.1
comp=Z,2µm,21.0s
STHS Stebnicka Huta 67.33 42 *e*P **P 20 49 59.1 -0.1**
STHS pmax pmax
comp=Z,8.0nm,1.0s
STHS Stebnicka Huta 67.33 42 *e*P **P 20 49 59.1 -0.1**
SIRR Siria 67.33 45 ⇑P **P 20 49 59.5 +0.2**
MOR8 Moi Rana 67.37 23 *e*P **P 20 50 00.0 +0.9**
TYRN Tyrnavos 67.45 52 P **P 20 49 59.1 -1.0**
AFDM Forest Hills D 67.46 307 IAmb IAmb 20 50 11.9
comp=Z,62nm,1.3s
STIP Stip 67.47 50 *i* P **P 20 50 01.4 +1.2**
K05A Summer Lake 67.50 311 IAMs_20 IAMs_20 21 16 51.9
comp=Z,1µm,19.0s
GUR Goura 67.51 54 P **P 20 50 00.7 0.0**
PINE Pine Mountain 67.59 312 P **P 20 50 01.5 +0.3**
GRG Griva 67.61 51 P **P 20 50 00.0 -1.1**
LTY Liberty 67.61 316 IAMs_20 IAMs_20 21 17 58.6
comp=Z,2µm,19.0s
LOF Lofoten 67.70 21 *e*P **P 20 50 00.9 -0.2**
VAY Valandovo 67.74 51 *i* P P 20 49 56.2 -5.7
AXAR Agios Charalam 67.77 53 P **P 20 50 02.0 -0.1**
HERR Herculane 67.78 47 ⇑P **P 20 50 02.1 +0.1**
SAO San Andreas Ge 67.83 304 IAMs_20 IAMs_20 21 17 43.8
comp=Z,2µm,22.0s
DJES Djerdap 67.84 47 ⇓P **P 20 50 02.9 +0.4**
MG05 Puerto Natales 67.84 195 P **P 20 50 04.0 +1.9**
ORV Oroville 67.88 307 IAmb IAmb 20 50 14.4
comp=Z,111nm,1.6s
ORV IAMs_20 IAMs_20 21 17 38.0
comp=Z,1µm,21.0s
G05A Wamic 67.93 314 P **P 20 50 04.5 +1.4**
G05A IAmb IAmb 20 50 14.8
comp=Z,159nm,1.7s
KNT Kendrikon 67.99 51 P **P 20 50 02.6 -0.9**
ATAL Atalanti 68.05 54 P **P 20 50 02.8 -1.1**
GZR Gura Zlata 68.06 46 ⇑P **P 20 50 03.9 -0.1**
GZR Gura Zlata 68.06 46 P **P 20 50 03.6 -0.3**
TRPA Tarpa 68.07 43 ⇑P **P 20 50 03.6 -0.2**
FAUS Fauske 68.08 22 *e*P **P 20 50 04.1 +0.6**
K04D Chiloquin, OR 68.13 311 IAmb IAmb 20 50 28.4
comp=Z,86nm,0.9s
K04D IAMs_20 IAMs_20 21 17 11.6
comp=Z,1µm,21.0s
DEV Deva 68.17 46 ⇑P **P 20 50 04.8 +0.3**
DEV Deva 68.17 46 P **P 20 50 04.8 +0.3**
STEI Steigen 68.24 22 *e*P **P 20 50 05.2 +0.7**
B06A Marblemount 68.26 317 IAMs_20 IAMs_20 21 18 19.6
comp=Z,2µm,20.0s
VTS Vitosha 68.28 49 P **P 20 50 04.0 -1.4**
KWP Kalwaria Pacla 68.30 42 IAmb IAmb 20 50 48.0
comp=Z,59nm,1.2s
MARR Marisel-Cluj 68.37 45 ⇑P **P 20 50 05.9 0.0**
PLNA Plana 68.41 49 P **P 20 50 07.0 +0.7**
SRS Serrai 68.51 51 P **P 20 50 05.4 -1.4**
H04A Detroit Lake 68.52 313 IAmb IAmb 20 50 17.9
comp=Z,130nm,1.7s
MMB Musomishta 68.64 50 P **P 20 50 06.0 -1.6**
CJR Cluj-Napoca 68.70 45 ⇑P **P 20 50 08.2 +0.3**
CJR Cluj-Napoca 68.70 45 P **P 20 50 08.1 +0.3**
NVR Nevrokopi 68.72 51 P **P 20 50 07.7 -0.4**
F04A Amboy 68.74 314 IAmb IAmb 20 50 19.0
comp=Z,83nm,1.6s
YBH Yreka Blue Hor 68.82 310 P **P 20 50 10.2 +1.4**
YBH IAMs_20 IAMs_20 21 17 04.0
comp=Z,1µm,22.0s
YBH Yreka Blue Hor 68.82 310 P **P 20 50 10.2 +1.4**
YBH pmax pmax
comp=Z,49nm,1.5s
YBH MLR MLR
comp=Z,1µm,22.0s
YBH Yreka Blue Hor 68.82 310 LR LR 21 18 12.3
comp=Z,927nm,21.9s,baz=84,slow=34
GDXM Geysers 68.88 307 IAMs_20 IAMs_20 21 17 25.6
comp=Z,1µm,19.0s
MCCM Marconi Confer 68.95 306 IAMs_20 IAMs_20 21 17 23.6
comp=Z,1µm,20.0s
SUW Suwalki 69.02 37 IAmb IAmb 20 50 10.8
comp=Z,86nm,1.2s
SUW IAMs_20 IAMs_20 21 15 52.7
comp=Z,1µm,19.0s
SUW Suwalki 69.02 37 *e*P **P 20 50 09.3 -0.3**
BUCK Buck Mountain 69.08 312 IAmb IAmb 20 50 25.8
comp=Z,74nm,1.4s
HOPS Hopland Field 69.09 307 IAMs_20 IAMs_20 21 21 08.3
comp=Z,1µm,21.0s
F04D Rainier, OR 69.16 314 IAMs_20 IAMs_20 21 18 13.5
comp=Z,1µm,20.0s
VLAD Vladila 69.16 48 ⇑P **P 20 50 11.2 +0.5**
LVV L'vov 69.17 42 *e*P **P 20 50 10.5 -0.2**
LVV *e* 20 50 28.5
LVV *e*S **S 20 59 12.6 -3.8**
LVV *e*PS **PnS 20 59 44.2 +2.9**
LVV *e*SS **SS 21 03 36.6 -5.9**
LVV pmax pmax
comp=Z,90nm,1.4s
ARCR ARCALIA 69.24 45 ⇑P **P 20 50 10.9 -0.3**
DBO Dodson Butte 69.24 311 IAmb IAmb 20 50 22.5
comp=Z,156nm,1.9s
RAF Rauma 69.25 30 *e*P **P 20 50 10.8 -0.1**
G03D McMinnville, O 69.30 313 IAMs_20 IAMs_20 21 18 29.5
comp=Z,1µm,18.0s
I03D Drain, OR 69.33 312 IAmb IAmb 20 50 23.2
comp=Z,144nm,1.8s
ALE Alert 69.35 358 IAMs_20 IAMs_20 21 17 10.9
comp=Z,2µm,20.0s
ARR Arges 69.36 46 ⇑P **P 20 50 12.1 +0.1**
L02F Cave Junction 69.47 310 P **P 20 50 13.0 +0.3**
L02F IAmb IAmb 20 50 45.4
comp=Z,82nm,1.5s
L02F IAMs_20 IAMs_20 21 19 38.0
comp=Z,967nm,19.0s
KCPM Cahto Peak 69.48 308 IAMs_20 IAMs_20 21 15 49.5
comp=Z,1µm,21.0s
PGC Sidney 69.57 317 IAmb IAmb 20 50 30.7
comp=Z,76nm,1.4s
B04A Port Angeles 69.58 316 IAmb IAmb 20 50 24.1
comp=Z,122nm,1.6s
B04A IAMs_20 IAMs_20 21 18 33.5
comp=Z,1µm,19.0s
KMRM Mail Ridge 69.58 308 IAMs_20 IAMs_20 21 22 11.9
comp=Z,1µm,19.0s
KHMM Horse Mountain 69.59 309 P **P 20 50 14.2 +0.6**
KHMM IAmb IAmb 20 50 32.1
comp=Z,65nm,1.1s
KHMM IAMs_20 IAMs_20 21 20 49.3
comp=Z,1µm,20.0s
HUMR Humele 69.59 47 ⇑P **P 20 50 13.5 +0.1**
IDI Anoyia 69.61 57 ⇓P **P 20 50 14.0 +0.3**
IDI Anoyia 69.61 57 P **P 20 50 12.9 -0.9**
IDI IAmb IAmb 20 50 15.9
comp=Z,94nm,1.1s
IDI Anoyia 69.61 57 LR LR 21 19 10.5
comp=Z,357nm,20.9s,baz=272,slow=35
PABE Paberze 69.63 36 P **P 20 50 11.7 -1.6**
PABE IAmb IAmb 20 50 25.1
comp=Z,53nm,1.0s
PABE Paberze 69.63 36 *e*P **P 20 50 13.5 +0.1**
NOR Nord 69.63 5 *i* P **P 20 50 11.3 -1.7**
NOR IAmb IAmb 20 50 16.2
comp=Z,29nm,0.9s
VSVD Vaisvydziai 69.66 35 *e*P **P 20 50 13.6 0.0**
VOIR 69.66 46 ⇓P **P 20 50 14.0 +0.1**
VOIR 69.66 46 P **P 20 50 14.0 +0.1**
KSXB Camp Six Broad 69.70 310 IAmb IAmb 20 50 28.4
comp=Z,94nm,1.1s
KSXB IAMs_20 IAMs_20 21 18 50.1
comp=Z,1µm,20.0s
KRMB Red Mountain 69.72 310 IAMs_20 IAMs_20 21 17 54.7
comp=Z,2µm,22.0s
J01E Myrtle Point 69.74 311 P **P 20 50 14.2 -0.2**
NLWA Neilton Lookou 69.80 316 IAmb IAmb 20 50 26.8
comp=Z,159nm,1.5s
NLWA IAMs_20 IAMs_20 21 17 51.4
comp=Z,1µm,20.0s
KRPM Rodgers 69.81 309 P **P 20 50 14.9 0.0**
KRPM IAMs_20 IAMs_20 21 17 23.1
comp=Z,1µm,21.0s
JCC Jacoby Creek, 69.82 309 IAMs_20 IAMs_20 21 21 06.3
comp=Z,1µm,18.0s
BURAR Bucovina Array 69.84 44 ⇑P **P 20 50 15.2 +0.2**
BURAR Bucovina Array 69.84 44 P **P 20 50 15.2 +0.2**
KMPM Mount Pierce 69.89 308 IAMs_20 IAMs_20 21 21 50.2
comp=Z,1µm,18.0s
DOPR Dopca 69.91 46 ⇑P **P 20 50 15.2 -0.2**
MTSE Matsula 69.92 32 *e*P **P 20 50 15.4 +0.3**
KBO Bosley Butte 69.96 310 IAMs_20 IAMs_20 21 19 36.9
comp=Z,1µm,18.0s
RDO Rodhopi 69.98 51 P **P 20 50 14.0 -1.8**
RDO Rodhopi 69.98 51 IAmb IAmb 20 50 17.9
comp=Z,90nm,1.4s
TRO Tromso 70.03 20 *e*P **P 20 50 16.1 +0.6**
CLRS Cowichan Lake 70.03 317 IAmb IAmb 20 50 34.1
comp=Z,88nm,1.5s
CLRS IAMs_20 IAMs_20 21 16 45.4
comp=Z,1µm,21.0s
KEBM Edson Butte 70.04 311 P **P 20 50 16.8 +0.5**
KEBM IAmb IAmb 20 50 32.0
comp=Z,115nm,1.2s
OZUR 70.19 46 ⇑P **P 20 50 17.1 -0.1**
C03A Quillayute Air 70.28 316 IAMs_20 IAMs_20 21 24 16.3
comp=Z,1µm,20.0s
MLR Muntele Rosu 70.29 46 ⇓P **P 20 50 18.0 +0.1**
MLR Muntele Rosu 70.29 46 IAmb IAmb 20 50 38.6
comp=Z,135nm,1.3s
MLR Muntele Rosu 70.29 46 P **P 20 50 17.6 -0.3**
MLR Muntele Rosu 70.29 46 LR LR 21 17 20.3
comp=Z,591nm,21.5s,baz=268,slow=33
SGRR Singureni 70.30 48 ⇑P **P 20 50 17.7 0.0**
ALN Alexandroupoli 70.37 51 P **P 20 50 13.6 -4.6**
ALN Alexandroupoli 70.37 51 IAmb IAmb 20 50 19.5
comp=Z,57nm,1.2s
MEF Metsahovi 70.41 31 *e*P **P 20 50 18.3 +0.2**
COVR Voineasa-Covas 70.48 46 ⇑P **P 20 50 19.0 +0.1**
JETT Jettan, Norway 70.51 20 *e*P **P 20 50 18.9 +0.3**
NEHR Nehoiu 70.54 46 ⇑P **P 20 50 19.8 +0.5**
FLDN Fort Liard 70.59 329 IAmb IAmb 20 50 30.1
comp=Z,83nm,0.9s
FLDN Fort Liard 70.59 329 P **P 20 50 20.3 +1.1**
baz=97
LOZB Loznitsa 70.75 49 ⇑P **P 20 50 20.4 -0.1**
PLOR Plostina 70.79 46 ⇑P **P 20 50 20.4 -0.5**
PLOR Plostina 70.79 46 P **P 20 50 20.3 -0.5**
TESR Tescani 70.80 45 ⇑P **P 20 50 20.8 +0.1**
VRI Vrincioaia 70.84 46 ⇑P **P 20 50 20.8 -0.3**
VRI Vrincioaia 70.84 46 P **P 20 50 20.7 -0.3**
ISAL Salakas 70.86 36 *e*P **P 20 50 21.1 +0.2**
EDRB Edirne 70.88 50 P **P 20 50 16.9 -4.4**
IIGN Ignalina 70.89 36 *e*P **P 20 50 21.2 +0.1**
WRGLY Wrigley 70.98 333 IAmb IAmb 20 50 32.5
comp=Z,87nm,0.9s
WRGLY Wrigley 70.98 333 P **P 20 50 22.4 +0.9**
baz=98,SNR=6.7
IDID Didziasalis 71.19 36 *e*P **P 20 50 18.6 -4.4**
NACGM Naroch 71.19 36 *e*P **P 20 50 22.6 -0.3**
comp=E,3µm,1.2s
PRD Provadia 71.35 49 P **P 20 50 22.0 -2.1**
KTK1 Kautokeino 71.37 21 *e*P **P 20 50 23.8 0.0**
FINES FINESS Array B 71.37 29 P **P 20 50 23.4 -0.5**
comp=E,17nm,0.8s,baz=298,slow=4.1,SNR=22
FINES LR LR 21 15 33.9
comp=E,1µm,21.9s,baz=272,slow=31
comp=E,17nm,0.8s
VSU Vasula 71.42 33 *d i* P **P 20 50 22.9 -1.3**
VSU pmax pmax
comp=Z,204nm,1.0s
VSU Vasula 71.42 33 *e*P **P 20 50 24.4 +0.1**
KBS Kingsbay 71.57 10 P **P 20 50 25.4 +0.6**
KBS IAmb IAmb 20 50 29.8
comp=Z,55nm,1.1s
KBS Kingsbay 71.57 10 *de*P **P 20 50 25.7 +0.8**
KBS pmax pmax
comp=Z,70nm,1.3s
KBS Kingsbay 71.57 10 *e*P **P 20 50 25.9 +1.0**
KBS Kingsbay 71.57 10 *i* P **P 20 50 26.1 +1.3**
ICOR Ion Corvin 71.61 48 ⇑P **P 20 50 25.7 0.0**
HARR Harsova 71.70 47 ⇑P **P 20 50 25.5 -0.8**
HARR Harsova 71.70 47 P **P 20 50 25.4 -0.8**
MNK Minsk 71.80 37 *i* P **P 20 50 24.4 -2.3**
comp=E,16nm,1.2s
MNK *i* P **P 20 50 24.4 -2.3**
comp=N,10.0nm,1.2s
MNK *i* P **P 20 50 24.4 -2.3**
comp=Z,64nm,1.2s,baz=268
MNK *i* PP **PP 20 53 03.2 -2.7**
MNK *i* S **S 20 59 45.3 -1.7**
MNK *i* SS **SS 21 04 21.4 -1.3**
MNK *i* SSS SSS 21 07 43.0
MNK *i* LQ LQ 21 16 11.1
MNK *i* LR LR 21 20 01.3
MNK *i* LRM MLR 21 22 06.2
comp=Z,1µm,17.2s
MNK *i* LRM MLR 21 22 08.4
comp=E,205nm,13.6s
MNK *i* LRM MLR 21 22 12.9
comp=N,242nm,11.8s
MNK Minsk 71.80 37 *i* P **P 20 50 24.3 -2.3**
MNK *i* 20 53 03.2
MNK *i* S **S 20 59 45.2 -1.7**
MNK *i* SS **SS 21 04 21.4 -1.3**
MNK pmax pmax
comp=N,10.0nm,1.2s
MNK pmax pmax
comp=Z,64nm,1.2s
MNK pmax pmax
comp=E,16nm,1.2s
MNK MLR MLR
comp=Z,1µm,17.0s
MNK MLR MLR
comp=E,205nm,14.0s
MNK MLR MLR
comp=N,242nm,12.0s
LIRD Liard River Hi 71.83 328 P **P 20 50 28.4 +1.6**
baz=94,SNR=6.9
CFR Carcaliu 71.84 47 ⇑P **P 20 50 26.5 -0.6**
CFR Carcaliu 71.84 47 P **P 20 50 26.4 -0.6**
HAMF Hammerfest 71.85 20 *e*P **P 20 50 27.4 +0.8**
TIRR Tirgusor 72.05 47 IAMs_20 IAMs_20 21 18 48.4
comp=Z,1µm,20.0s
SPA0 Spitsbergen Ar 72.08 11 *e*P **P 20 50 29.6 +1.6**
SPITS Spitsbergen Ar 72.08 11 P **P 20 50 27.9 -0.1**
comp=Z,30nm,0.9s,baz=153,slow=9.4,SNR=11
SPITS LR LR 21 15 21.1
comp=Z,852nm,18.9s,baz=210,slow=30
comp=Z,30nm,0.9s
SPB2 Spitsbergen Ar 72.08 11 P **P 20 50 28.6 +0.6**
SPB2 IAmb IAmb 20 50 59.5
comp=Z,84nm,1.2s
ARG Arkhangelos 72.19 56 P **P 20 50 28.1 -1.3**
ARG IAmb IAmb 20 51 04.9
comp=Z,84nm,1.2s
ARG Arkhangelos 72.19 56 P **P 20 50 28.1 -1.3**
ARG pmax pmax
comp=Z,84nm,1.2s
ARA0 ARCESS Array S 72.26 21 *e*P **P 20 50 28.7 -0.4**
ARCES ARCESS Array B 72.26 21 P **P 20 50 27.7 -1.4**
ARCES IAmb IAmb 20 50 41.4
comp=Z,82nm,1.1s
ARCES ARCESS Array B 72.26 21 P **P 20 50 28.3 -0.9**
comp=Z,53nm,1.0s,baz=260,slow=3.7,SNR=27
ARCES LR LR 21 15 14.1
comp=Z,1µm,21.6s,baz=258,slow=30
comp=Z,53nm,1.0s
AKASG Malin Array Be 72.54 41 *i* P **P 20 50 30.0 -1.1**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 72.54 41 P **P 20 50 30.0 -1.1**
comp=Z,10nm,0.9s,baz=272,slow=5.1,SNR=19
AKASG LR LR 21 18 29.5
comp=Z,705nm,21.0s,baz=264,slow=33
comp=Z,10nm,0.9s
AKBB Malin Array Si 72.54 41 ⇓*i* P **P 20 50 29.5 -1.6**
AKBB pmax pmax
comp=Z,19nm,1.0s
BBB Bella Bella 72.66 321 P **P 20 50 33.0 +1.3**
BBB Bella Bella 72.66 321 LR LR 21 19 55.9
comp=Z,2µm,21.7s,baz=82,slow=34
KEV Kevo 72.81 21 P **P 20 50 31.2 -1.1**
KEV IAmb IAmb 20 50 44.3
comp=Z,84nm,1.0s
KEV Kevo 72.81 21 P **P 20 50 31.3 -1.1**
KEV pmax pmax
comp=Z,84nm,1.0s
A36M Sachs Harbour 72.99 342 P **P 20 50 35.3 +1.9**
baz=99,SNR=6.5
TGTN Hyland Airport 73.05 331 P **P 20 50 35.7 +1.7**
baz=93,SNR=16
PUL Pulkovo 73.34 31 ⇓*e*P **P 20 50 36.4 +0.7**
PUL pmax pmax
comp=Z,85nm,1.0s
TSUM Tsumeb 73.44 115 P **P 20 50 36.1 -1.0**
TSUM Tsumeb 73.44 115 *e*P **P 20 50 36.4 -0.8**
TSUM Tsumeb 73.44 115 LR LR 21 15 50.6
comp=Z,3µm,19.9s,baz=295,slow=30
ELL Elmali 73.58 55 P **P 20 50 37.4 -0.4**
ELL Elmali 73.58 55 P **P 20 50 37.4 -0.4**
ELL pmax pmax
comp=Z,236nm,1.0s
VADS Vadso 73.66 20 *e*P **P 20 50 37.5 +0.1**
DLBC Dease Lake 73.82 327 IAmb IAmb 20 50 50.5
comp=Z,82nm,0.9s
DLBC Dease Lake 73.82 327 P **P 20 50 40.1 +1.5**
baz=91,SNR=12
DLBC Dease Lake 73.82 327 LR LR 21 22 02.7
comp=Z,1µm,18.7s,baz=87,slow=35
T35M Bob Quinn 73.93 326 P **P 20 50 40.0 +0.7**
T35M IAmb IAmb 20 50 44.5
comp=Z,93nm,1.4s
T35M IAMs_20 IAMs_20 21 26 17.2
comp=Z,1µm,20.0s
T35M Bob Quinn 73.93 326 P **P 20 50 40.2 +0.9**
baz=90,SNR=11
R33M Jennings River 74.32 328 P **P 20 50 41.1 -0.6**
R33M IAmb IAmb 20 50 53.4
comp=Z,88nm,0.9s
R33M IAMs_20 IAMs_20 21 24 44.4
comp=Z,1µm,20.0s
R33M Jennings River 74.32 328 P **P 20 50 43.0 +1.4**
baz=90,SNR=25
S34M Telegraph Cree 74.40 327 IAmb IAmb 20 50 53.8
comp=Z,79nm,0.9s
S34M Telegraph Cree 74.40 327 P **P 20 50 43.2 +1.2**
baz=90,SNR=5.7
MMPY Sheldon Lake, 74.49 332 P **P 20 50 43.7 +1.2**
baz=91,SNR=5.2
V35K Ketchikan 74.71 324 IAMs_20 IAMs_20 21 21 15.0
comp=Z,1µm,18.0s
V35K Ketchikan 74.71 324 P **P 20 50 44.7 +1.0**
baz=88
APA Apatity 74.96 23 *i*P **P 20 50 43.3 -1.7**
APA *i* 20 50 55.8
APA *i* S **SKiKP 21 00 15.0 +5.6**
APA *i* SSS SSS 21 08 21.0
APA pmax pmax
comp=Z,36nm,0.9s
Q32M Nakina River 74.99 328 IAmb IAmb 20 50 57.4
comp=Z,82nm,0.8s
Q32M IAMs_20 IAMs_20 21 21 48.2
comp=Z,1µm,20.0s
Q32M Nakina River 74.99 328 P **P 20 50 46.6 +1.0**
baz=89,SNR=10.0
P33M Teslin, Yukon 75.25 329 IAmb IAmb 20 50 58.1
comp=Z,54nm,0.8s
P33M Teslin, Yukon 75.25 329 P **P 20 50 47.9 +1.0**
baz=89,SNR=14
DIB Dawson Inlet, 75.29 322 P **P 20 50 47.2 0.0**
N32M Quiet Lake 75.36 330 IAmb IAmb 20 51 00.1
comp=Z,52nm,0.8s
N32M Quiet Lake 75.36 330 P **P 20 50 47.8 +0.3**
baz=89
T33K Petersburg 75.41 326 P **P 20 50 49.0 +1.2**
baz=88
LVZ Lovozero 75.44 23 *de*P **P 20 50 50.1 +2.3**
FARO Faro, Yukon 75.46 331 IAmb IAmb 20 50 58.9
comp=Z,58nm,0.9s
FARO Faro, Yukon 75.46 331 P **P 20 50 48.5 +0.4**
baz=89,SNR=18
INK Inuvik 75.50 338 IAmb IAmb 20 50 51.5
comp=Z,92nm,0.9s
INK Inuvik 75.50 338 P **P 20 50 48.4 +0.3**
baz=90,SNR=20
INK Inuvik 75.50 338 LR LR 21 21 53.7
comp=Z,3µm,20.3s,baz=94,slow=34
U33K Whale Pass 75.53 325 P **P 20 50 49.5 +1.0**
baz=88
ANTO Ankara 75.57 52 P **P 20 50 49.3 +0.1**
ANTO Ankara 75.57 52 P **P 20 50 49.3 +0.1**
ANTO pmax pmax
comp=Z,17nm,0.9s
F31M Tsiigehtchic 75.58 337 IAmb IAmb 20 50 51.9
comp=Z,76nm,1.1s
F31M Tsiigehtchic 75.58 337 P **P 20 50 49.3 +0.7**
baz=90,SNR=9.6
P32M Atlin 75.72 329 P **P 20 50 50.6 +1.0**
baz=88,SNR=7.1
G31M Satah River 75.79 336 P **P 20 50 50.9 +1.1**
baz=89,SNR=13
H31M Peel River 75.84 335 IAmb IAmb 20 51 00.4
comp=Z,69nm,0.9s
H31M Peel River 75.84 335 P **P 20 50 51.2 +1.1**
baz=89,SNR=20
M31M Drury Creek, Y 75.95 331 P **P 20 50 52.3 +1.4**
baz=88,SNR=10
R32K Eaglecrest 76.19 327 P **P 20 50 51.9 -0.4**
baz=87
BR131 Keskin Array S 76.23 52 P **P 20 50 52.1 -0.9**
BR131 Keskin Array S 76.23 52 *d i*P **P 20 50 52.6 -0.5**
BRTR Keskin Array B 76.23 52 *i* P **P 20 50 53.0 -0.1**
BRTR pmax pmax
comp=Z,11nm,1.0s
BRTR Keskin Array B 76.23 52 P **P 20 50 53.0 -0.1**
comp=Z,10nm,1.0s,baz=262,slow=4.7,SNR=13
BRTR LR LR 21 22 36.7
comp=Z,199nm,20.4s,baz=292,slow=34
comp=Z,10nm,1.0s
WHY Whitehorse 76.25 330 P **P 20 50 53.1 +0.4**
baz=87
S32K Killisnoo 76.27 326 IAMs_20 IAMs_20 21 24 41.0
comp=Z,1µm,19.0s
S32K Killisnoo 76.27 326 P **P 20 50 52.9 +0.2**
baz=87
F30M Barrier River 76.36 337 P **P 20 50 54.2 +1.1**
baz=88,SNR=16
CSS Mathiatis 76.53 57 P **P 20 50 54.5 -0.2**
G30M tAoh Zraii Nji 76.56 336 P **P 20 50 54.5 +0.3**
baz=88,SNR=8.3
MAYO Mayo, Yukon 76.58 333 P **P 20 50 54.2 -0.2**
baz=87
N31M Braeburn, Yuko 76.64 331 IAmb IAmb 20 51 05.9
comp=Z,88nm,0.9s
N31M Braeburn, Yuko 76.64 331 P **P 20 50 55.0 +0.1**
baz=87,SNR=13
I30M Mount Dempster 76.70 334 IAmb IAmb 20 50 58.4
comp=Z,46nm,0.9s
I30M IAMs_20 IAMs_20 21 22 31.3
comp=Z,1µm,20.0s
I30M Mount Dempster 76.70 334 P **P 20 50 55.6 +0.3**
baz=87,SNR=22
J30M Hart River 76.72 334 P **P 20 50 55.7 +0.3**
baz=87,SNR=16
EPYK Eagle Plains 76.78 336 P **P 20 50 56.0 +0.5**
baz=87,SNR=5.9
OBN Obninsk 76.82 36 P **P 20 50 56.1 +0.2**
OBN IAmb IAmb 20 51 08.1
comp=Z,103nm,1.1s
OBN Obninsk 76.82 36 *d i*P **P 20 50 55.8 0.0**
OBN *i* 20 51 06.6
OBN *i* S **S 21 00 34.3 -8.8**
OBN pmax pmax
comp=Z,104nm,1.3s
OBN Obninsk 76.82 36 LR LR 21 22 33.4
comp=Z,1µm,18.1s,baz=294,slow=34
R31K City Hall, Gus 76.82 327 P **P 20 50 56.2 +0.4**
baz=86
O30N Mendenhall 76.84 330 IAmb IAmb 20 51 07.4
comp=Z,78nm,0.9s
O30N Mendenhall 76.84 330 P **P 20 50 56.9 +0.9**
baz=86,SNR=16
ADZR Andozero 77.05 27 *e*P **P 20 50 58.1 +1.1**
ADZR pmax pmax
comp=Z,22nm,0.7s
M30M Minto, Yukon 77.05 332 P **P 20 50 57.9 +0.7**
baz=86,SNR=18
PLBC Pleasant Camp 77.07 328 P **P 20 50 58.4 +1.2**
baz=86
S31K Pelican 77.12 327 P **P 20 50 57.2 -0.3**
baz=85
E29M Blow River 77.12 338 P **P 20 50 58.0 +0.7**
baz=86,SNR=13
G29M Pine Creek 77.27 336 IAmb IAmb 20 51 01.8
comp=Z,180nm,1.6s

G29M Pine Creek 77.27 336 P **P 20 50 59.5 +1.2**
baz=86,SNR=14
N30M Aishikik Lake 77.27 331 IAmb IAmb 20 51 09.5
comp=Z,50nm,0.9s
N30M Aishikik Lake 77.27 331 P **P 20 50 59.3 +0.9**
baz=85,SNR=10
K29M Barlow Dome 77.29 333 IAmb IAmb 20 51 17.9
comp=Z,120nm,1.4s
K29M Barlow Dome 77.29 333 P **P 20 50 57.6 -0.9**
baz=86,SNR=38
P30M Million Dollar 77.32 329 P **P 20 50 59.3 +0.7**
baz=85,SNR=7.0
D28M Stokes Point 77.36 339 P **P 20 50 59.6 +1.0**
baz=86
MOS Moscow 77.36 35 *e*P **P 20 50 58.1 -0.8**
MOS *e* 20 51 09.5
MOS *e*S **S 21 00 48.8 -0.2**
MOS pmax pmax
comp=Z,97nm,1.1s
H29M Whitestone 77.46 335 IAmb IAmb 20 51 02.8
comp=Z,63nm,0.8s
H29M Whitestone 77.46 335 P **P 20 50 58.9 -0.4**
baz=85,SNR=21
I29M Ogilvie Camp, 77.50 335 IAMs_20 IAMs_20 21 22 30.4
comp=Z,1µm,20.0s
I29M Ogilvie Camp, 77.50 335 P **P 20 50 58.5 -1.1**
baz=85,SNR=11
HYT Haines Junctio 77.53 330 IAmb IAmb 20 51 11.5
comp=Z,61nm,1.0s
HYT Haines Junctio 77.53 330 P **P 20 51 00.3 +0.3**
baz=85,SNR=10
L29M L29M 77.62 332 P **P 20 51 00.7 +0.4**
baz=85,SNR=22
P29M Windy Craggy 77.75 329 P **P 20 51 01.8 +0.7**
baz=84
M29M Somme Creek 77.83 332 P **P 20 51 02.6 +1.0**
baz=84,SNR=18
KLMR Klimovskoe 77.88 30 *e*P **P 20 50 59.7 -2.0**
KLMR AMP 20 51 14.0
comp=Z,126nm,1.1s
KLMR LQ LQ 21 12 48.6
KLMR LQ LQ 21 12 48.6
KLMR LR LR 21 16 47.6
KLMR Klimovskoe 77.88 30 *e*P **P 20 50 59.7 -2.0**
KLMR pmax pmax
comp=Z,126nm,1.1s
F28M Old Crow 77.93 337 P **P 20 51 00.8 -1.1**
F28M IAmb IAmb 20 51 13.5
comp=Z,48nm,0.9s
F28M Old Crow 77.93 337 P **P 20 51 03.2 +1.3**
baz=84,SNR=14
YUK6 Outpost Mounta 77.93 330 P **P 20 51 03.3 +1.0**
baz=84,SNR=11
YUK4 Talbot Arm 78.03 330 P **P 20 51 03.7 +0.8**
baz=84,SNR=8.6
BNN Bunyan 78.03 53 IAmb IAmb 20 51 14.8
comp=Z,77nm,1.0s
DAWY Dawson 78.09 333 IAmb IAmb 20 51 06.7
comp=Z,122nm,1.5s
DAWY Dawson 78.09 333 P **P 20 51 03.0 +0.1**
baz=84,SNR=16
O29M Mount Kennedy 78.10 329 IAmb IAmb 20 51 14.8
comp=Z,77nm,1.1s
O29M IAMs_20 IAMs_20 21 29 37.5
comp=Z,1µm,18.0s
O29M Mount Kennedy 78.10 329 P **P 20 51 03.6 +0.4**
baz=84,SNR=7.4
D27M Malcolm River 78.16 339 P **P 20 51 03.2 0.0**
baz=84
I28M Miner Creek 78.17 335 IAmb IAmb 20 51 15.3
comp=Z,133nm,1.9s
I28M Miner Creek 78.17 335 P **P 20 51 03.7 +0.2**
baz=84,SNR=13
ANN Anapa 78.44 47 *e*P **P 20 51 02.0 -3.1**
ANN *e**PP **pP 20 51 05.7 -1.8**
ANN *e*S **S 21 00 57.3 -3.8**
ANN pmax pmax
comp=Z,62nm,1.4s
ANN MLR MLR
comp=N,153nm,10.0s
ANN MLR MLR
comp=Z,803nm,19.0s
ANN MLR MLR
comp=E,200nm,9.0s
LPSR Galich'ya Gora 78.46 38 *e*P **P 20 51 03.6 -1.5**
LPSR pmax pmax
comp=Z,50nm,1.0s
MMAI Mount Meron Ar 78.49 59 P **P 20 51 06.0 +0.2**
comp=Z,20nm,0.8s,baz=317,slow=4.5,SNR=20
MMAI LR LR 21 29 39.9
comp=Z,92nm,18.4s,baz=267,slow=39
comp=Z,20nm,0.8s
E27K Coleen River 78.51 338 P **P 20 51 05.7 +0.6**
baz=83,SNR=16
YUK8 Steele Glacier 78.57 330 P **P 20 51 06.2 +0.3**
baz=83
PNL Peninsula 78.59 329 P **P 20 51 06.7 +1.0**
baz=83
EIL Elat 78.62 62 LR LR 21 24 20.7
comp=Z,498nm,21.9s,baz=270,slow=35
G27K Doyon Strip 78.71 336 P **P 20 51 06.9 +0.7**
baz=82,SNR=14
PMSA Palmer Station 78.73 186 P **P 20 51 07.1 +1.0**
PMSA Palmer Station 78.73 186 LR LR 21 29 24.7
comp=Z,425nm,18.4s,baz=16,slow=38
H27K Steamboat Moun 78.73 336 P **P 20 51 06.3 -0.1**
baz=82,SNR=10
VORR Voronezh 78.74 39 *e*P **P 20 51 05.5 -1.2**
VORR pmax pmax
comp=Z,59nm,1.5s
VSR Storozhevoye 78.78 40 *e*P **P 20 51 04.0 -2.9**
VSR pmax pmax
comp=Z,50nm,1.0s
O28M Mount Upton 78.84 330 P **P 20 51 07.8 +0.3**
baz=83,SNR=12
YUK3 Moose Creek 78.84 331 P **P 20 51 07.5 +0.2**
baz=82,SNR=9.2
I27K Kandik River 78.85 335 P **P 20 51 06.8 -0.3**
baz=82,SNR=11
VORD Divnogorie 78.89 40 *e*P **P 20 51 05.6 -1.9**
VORD pmax pmax
comp=Z,30nm,1.2s
GHAJ Ghor Haditha 78.89 60 P **P 20 51 07.8 0.0**
BVCY Beaver Creek 78.95 332 P **P 20 51 06.4 -1.2**
baz=82
PINM Pinnacle 78.96 329 P **P 20 51 07.7 -0.1**
baz=82
LOGN Logan Glacier 79.23 330 IAmb IAmb 20 51 21.0
comp=Z,91nm,1.0s
K27K Chicken 79.27 333 P **P 20 51 10.3 +1.0**
baz=82
L27K Beaver Creek, 79.30 332 IAmb IAmb 20 51 20.5
comp=Z,60nm,0.9s
L27K Beaver Creek, 79.30 332 P **P 20 51 09.6 0.0**
baz=82,SNR=45
GAZ Gaziantep 79.34 54 P **P 20 51 09.7 -0.7**
CTGM Chitina Glacie 79.37 330 IAmb IAmb 20 51 21.9
comp=Z,84nm,0.9s
CTG Chitna Glacier 79.37 330 P **P 20 51 10.3 +0.2**
baz=82,SNR=11
M27K Edge Creek, AK 79.42 332 IAmb IAmb 20 51 37.5
comp=Z,76nm,1.1s
M27K Edge Creek, AK 79.42 332 P **P 20 51 10.7 +0.3**
baz=81,SNR=11
C26K Camden Bay 79.43 340 P **P 20 51 09.6 -0.5**
baz=80
BARN Barnard Glacie 79.51 330 IAmb IAmb 20 51 22.6
comp=Z,89nm,1.0s
G26K Porcupine Rive 79.52 336 P **P 20 51 10.5 -0.1**
baz=81,SNR=34
I26K Coal Creek Min 79.53 335 IAmb IAmb 20 51 22.2
comp=Z,153nm,1.9s
I26K Coal Creek Min 79.53 335 P **P 20 51 10.5 -0.2**
baz=81
F26K Sheenjek River 79.53 337 P **P 20 51 10.6 -0.1**
baz=80,SNR=14
GRNC Granite Creek 79.61 330 P **P 20 51 11.0 -0.5**
GRNC IAmb IAmb 20 51 24.8
comp=Z,218nm,1.9s
J26L Joseph Creek 79.83 334 P **P 20 51 11.8 -0.7**
baz=80,SNR=36
UPI Upington 79.86 122 *e*P **P 20 51 13.6 +0.3**
UPI IAmb IAmb 20 51 15.1
comp=Z,134nm,1.3s
ASF Jabal al Asfar 79.87 59 LR LR 21 26 41.1
comp=Z,151nm,21.8s,baz=291,slow=36
M26K Nabesna, AK 79.93 332 P **P 20 51 12.7 -0.4**
baz=80,SNR=5.1
L26K Log Cabin Wild 79.99 332 P **P 20 51 12.6 -0.7**
L26K Log Cabin Wild 79.99 332 P **P 20 51 13.3 0.0**
baz=80,SNR=17
E25K Arctic Village 79.99 338 P **P 20 51 13.5 +0.3**
baz=79,SNR=15
D25K Kavik River 80.05 339 P **P 20 51 14.0 +0.4**
baz=79,SNR=18
SCRK Sand Creek 80.11 333 P **P 20 51 14.4 +0.4**
baz=80,SNR=17
MCARA McCarthy VSAT 80.11 331 IAmb IAmb 20 51 25.5
comp=Z,140nm,1.0s
MCARA McCarthy VSAT 80.11 331 P **P 20 51 14.6 +0.6**
baz=80,SNR=12
F25K Christian Rive 80.12 337 P **P 20 51 14.7 +0.7**
baz=79,SNR=41
TGL Tana Glacier 80.13 330 IAmb IAmb 20 51 25.4
comp=Z,87nm,1.0s
FYU Fort Yukon 80.15 336 IAmb IAmb 20 51 27.0
comp=Z,193nm,1.7s
CER Ceres 80.18 128 *e*P **P 20 51 15.1 +0.3**
CER IAmb IAmb 20 51 17.3
comp=Z,20nm,0.8s
SOC Sochi 80.24 47 *e*P **P 20 51 14.7 -0.3**
SOC *e* 20 54 23.2
SOC *e*PPP PPP 20 56 05.7
SOC *e*S **S 21 01 22.1 +1.8**
SOC *e*SS **SS 21 06 26.7 -4.2**
SOC *e*SSS SSS 21 09 49.2
SOC pmax pmax
comp=Z,46nm,0.6s
SOC MLR MLR
comp=Z,300nm,16.0s
CRQE Cirque 80.25 330 P **P 20 51 14.7 -0.2**
baz=80
CRQM Cirque 80.28 330 IAmb IAmb 20 51 34.0
comp=Z,124nm,1.2s
VRDI Verde Repeater 80.34 331 P **P 20 51 14.9 -0.5**
VRH Novokhopyorsk 80.37 40 *e*P **P 20 51 14.8 -0.7**
VRH pmax pmax
comp=Z,57nm,1.6s
H25L Birch Creek 80.44 336 P **P 20 51 16.0 +0.4**
baz=79
G25K Bearman Lake 80.45 336 P **P 20 51 16.6 +0.9**
baz=78,SNR=12
PRP Porcupine Dome 80.47 335 IAmb IAmb 20 51 20.1
comp=Z,84nm,0.9s
PRP Porcupine Dome 80.47 335 P **P 20 51 16.5 +0.5**
baz=79,SNR=20
GLB Gilahina Butte 80.48 331 P **P 20 51 16.1 +0.1**
MBAR Mbarara 80.50 93 P **P 20 51 16.4 -0.8**
MBAR Mbarara 80.50 93 *ce*P **P 20 51 19.0 +1.8**
MBAR pmax pmax
comp=Z,17nm,1.1s
MBAR Mbarara 80.50 93 *e*P P 20 51 26.5 +9.3
MBAR Mbarara 80.50 93 *e*P **P 20 51 19.9 +2.7**
MBAR IAmb IAmb 20 51 39.9
comp=Z,16nm,0.9s
MBAR Mbarara 80.50 93 *e*P P 20 51 26.5 +9.3
baz=94
MBAR Mbarara 80.50 93 *e*P P 20 51 26.5 +9.3
baz=102
RIDG Independent Ri 80.52 333 IAmb IAmb 20 51 28.1
comp=Z,66nm,0.9s
RIDG Independent Ri 80.52 333 P **P 20 51 16.5 +0.3**
baz=79,SNR=30
J25K Salcha River, 80.58 334 P **P 20 51 16.3 -0.3**
baz=79,SNR=13
PRGR Permogore 80.69 29 ⇓ *i*P **P 20 51 17.0 0.0**
PRGR pmax pmax
comp=Z,161nm,0.9s
C24K Franklin Bluff 80.76 340 P **P 20 51 17.8 +0.5**
baz=77
N25K Chitina, Valde 80.82 331 IAmb IAmb 20 51 29.0
comp=Z,78nm,1.1s
N25K Chitina, Valde 80.82 331 P **P 20 51 18.1 +0.2**
baz=79,SNR=10
K24K Donnelly Dome 80.92 333 P **P 20 51 19.0 +0.7**
baz=78,SNR=6.9
HARP HAARP 80.92 332 P **P 20 51 19.0 +0.7**
baz=79,SNR=14
D24K Happy Valley 80.94 339 P **P 20 51 18.5 +0.3**
baz=76
BMRM Bremner River 80.94 331 P **P 20 51 18.2 -0.3**
baz=79
PAX Paxson 80.95 333 P **P 20 51 18.8 +0.2**
baz=78,SNR=17
F24K Squaw Lake 80.97 337 P **P 20 51 19.2 +0.6**
baz=77,SNR=12
SUR Sutherland 80.98 126 P **P 20 51 20.0 +0.6**
SUR IAmb IAmb 20 51 21.5
comp=Z,68nm,1.1s
SUR Sutherland 80.98 126 LR LR 21 20 11.5
comp=Z,787nm,18.7s,baz=302,slow=30
G24K Hadweenzic Riv 81.00 337 P **P 20 51 19.1 +0.4**
baz=77,SNR=20
E24K Your Creek 81.07 338 P **P 20 51 19.7 +0.6**
baz=76
MATJ Matjiesfontein 81.14 127 *e*P **P 20 51 20.8 +0.7**
MATJ IAmb IAmb 20 51 32.2
comp=Z,418nm,1.7s
IL31 81.19 335 IAmb IAmb 20 51 23.5
comp=Z,110nm,0.8s
ILAR Eielson Array 81.19 335 P **P 20 51 19.1 -0.5**
comp=Z,77nm,0.8s,baz=78,slow=4.8,SNR=81
ILAR LR LR 21 25 28.5
comp=Z,835nm,21.8s,baz=53,slow=34
comp=Z,77nm,0.8s
FRAZ Fraserburg 81.28 126 *e*P **P 20 51 20.2 -0.7**
FRAZ IAmb IAmb 20 51 24.1
comp=Z,111nm,1.5s
HDA Harding Lake 81.29 334 IAmb IAmb 20 51 30.6
comp=Z,141nm,1.9s
HDA Harding Lake 81.29 334 P **P 20 51 21.1 +0.8**
baz=77,SNR=10
TOLK Toolik Lake Re 81.32 339 IAmb IAmb 20 51 24.9
comp=Z,120nm,1.6s
TOLK Toolik Lake Re 81.32 339 P **P 20 51 21.4 +1.0**
baz=76,SNR=6.2
POKR Poker Plat Res 81.34 335 P **P 20 51 20.0 -0.5**
POKR Poker Plat Res 81.34 335 P **P 20 51 21.5 +1.1**
baz=77,SNR=6.0
H24K Noodor Dome 81.35 336 IAmb IAmb 20 51 31.9
comp=Z,72nm,1.1s
H24K Noodor Dome 81.35 336 P **P 20 51 21.1 +0.5**
baz=77,SNR=18
C23K Itkillik River 81.38 340 P **P 20 51 21.6 +1.1**
baz=75,SNR=6.9
M24K Tolsona, Glenn 81.45 332 P **P 20 51 21.8 +0.6**
baz=78
KLU Klutina 81.46 331 P **P 20 51 22.3 +1.0**
baz=78,SNR=7.1
E23K Chandalar 81.48 338 P **P 20 51 22.1 +0.8**
baz=76,SNR=19
COLA College 81.56 335 P **P 20 51 21.1 -0.5**
COLA College 81.56 335 *de*P **P 20 51 21.9 +0.3**
COLA pmax pmax
comp=Z,61nm,1.5s
COLA College 81.56 335 P **P 20 51 21.9 +0.3**
baz=77
EYAK Cordova Ski Ar 81.58 330 P **P 20 51 21.8 0.0**
baz=78
CCB Clear Creek Bu 81.60 335 IAmb IAmb 20 51 32.4
comp=Z,72nm,0.9s
CCB IAMs_20 IAMs_20 21 25 39.7
comp=Z,1µm,20.0s
D23K Nanushuk River 81.63 339 P **P 20 51 22.3 +0.3**
baz=75
MDM Murphy Dome 81.70 335 IAmb IAmb 20 51 26.3
comp=Z,83nm,0.9s
WRH Wood River Hil 81.76 334 IAmb IAmb 20 51 33.3
comp=Z,86nm,1.0s
DHY Denali Highway 81.78 333 P **P 20 51 23.3 +0.3**
baz=77,SNR=9.5
LSZ Lusaka 81.82 108 P **P 20 51 24.7 +0.7**
LSZ Lusaka 81.82 108 P **P 20 51 24.7 +0.7**
LSZ pmax pmax
comp=Z,17nm,0.9s
LSZ Lusaka 81.82 108 LR LR 21 23 02.8
comp=Z,377nm,18.6s,baz=292,slow=32
FID Port Fidalgo 81.89 331 IAmb IAmb 20 51 34.5
comp=Z,85nm,0.9s
COLD Coldfoot 81.91 337 P **P 20 51 24.2 +0.8**
baz=75,SNR=18
G23K Bananza Creek 81.98 337 P **P 20 51 24.4 +0.5**
baz=75,SNR=36
H23K Yukon River 82.02 336 IAmb IAmb 20 51 36.6
comp=Z,73nm,1.0s
H23K IAMs_20 IAMs_20 21 24 19.2
comp=Z,1µm,20.0s
H23K Yukon River 82.02 336 P **P 20 51 24.8 +0.7**
baz=75
SCM Sheep Creek Mo 82.04 332 IAmb IAmb 20 51 35.1
comp=Z,98nm,1.0s
SCM Sheep Creek Mo 82.04 332 P **P 20 51 25.0 +0.7**
baz=77,SNR=9.1
WAT6 Susitna Watana 82.05 332 P **P 20 51 24.1 -0.4**
baz=76,SNR=13
GRD1 Great Renaissa 82.12 80 *e*P P 20 51 33.7 +8.1
baz=71
I23K Minto, Yukon-K 82.12 335 IAmb IAmb 20 51 28.6
comp=Z,63nm,0.8s
I23K Minto, Yukon-K 82.12 335 P **P 20 51 25.2 +0.6**
baz=75,SNR=46
NEA2 Nenana 82.14 335 IAmb IAmb 20 51 28.4
comp=Z,47nm,0.8s
NEA2 IAMs_20 IAMs_20 21 26 24.0
comp=Z,1µm,19.0s
NEA2 Nenana 82.14 335 P **P 20 51 25.1 +0.4**
baz=76,SNR=18
GLI Glacier Island 82.15 331 IAmb IAmb 20 51 57.5
comp=Z,67nm,1.0s
GLI Glacier Island 82.15 331 P **P 20 51 25.1 +0.3**
baz=77
B22K Teshekpuk Lake 82.16 341 P **P 20 51 25.3 +0.6**
baz=72
M23K Glacier View 82.23 332 P **P 20 51 25.4 +0.2**
baz=76,SNR=7.0
E22K Anaktuvuk Pass 82.26 338 P **P 20 51 25.7 +0.4**
baz=74
KIV Kislovodsk 82.29 47 P **P 20 51 26.4 +0.3**
KIV Kislovodsk 82.29 47 *e*P **P 20 51 25.9 -0.2**
KIV *e*S **S 21 01 42.1 +0.3**
KIV *e*SS **SS 21 07 03.7 +2.0**
KIV pmax pmax
comp=Z,22nm,1.1s
MCK McKinley 82.30 334 P **P 20 51 25.5 -0.1**
baz=76,SNR=14
KVAR Kislovodsk Arr 82.30 47 LR LR 21 27 21.7
comp=Z,121nm,19.8s,baz=217,slow=35
SMAI San Martin Ant 82.30 187 P **P 20 51 26.6 +1.4**
SMAI IAmb IAmb 20 51 28.7
comp=Z,61nm,0.9s
GOF Gofitskoye 82.33 46 *ce*P **P 20 51 26.4 +0.3**
RND Reindeer 82.35 333 IAmb IAmb 20 51 38.0
comp=Z,71nm,1.1s
D22K Ayikyak River 82.35 339 P **P 20 51 26.6 +0.9**
baz=73,SNR=11
WAT1 Susitna Watana 82.36 333 P **P 20 51 26.3 +0.4**
baz=76
LBTB Lobatse 82.39 118 P **P 20 51 26.6 -0.3**
LBTB IAmb IAmb 20 51 28.6
comp=Z,95nm,1.6s
LBTB Lobatse 82.39 118 P **P 20 51 26.6 -0.3**
LBTB pmax pmax
comp=Z,95nm,1.6s
LBTB Lobatse 82.39 118 *e*P **P 20 51 26.8 -0.1**
LBTB IAmb IAmb 20 51 44.8
comp=Z,630nm,3.3s
KBZ Khabaz 82.49 47 *de*P **P 20 51 27.5 +0.6**
KBZ pmax pmax
comp=Z,17nm,1.0s
KBZ Khabaz 82.49 47 P **P 20 51 26.7 -0.2**
comp=Z,8.9nm,0.9s,baz=278,slow=1.7,SNR=14
KBZ LR LR 21 24 08.4
comp=Z,258nm,21.9s,baz=292,slow=33
comp=Z,8.9nm,0.9s
G22K Bettles 82.49 337 P **P 20 51 27.0 +0.5**
baz=74,SNR=13
SML Sawmill 82.51 332 IAmb IAmb 20 51 30.9
comp=Z,164nm,1.8s
SML Sawmill 82.51 332 P **P 20 51 27.1 +0.4**
baz=76,SNR=6.0
F22K John River 82.57 338 P **P 20 51 27.1 +0.2**
baz=73
KNK Knik Glacier 82.67 331 IAmb IAmb 20 51 38.6
comp=Z,85nm,1.1s
KNK Knik Glacier 82.67 331 P **P 20 51 27.8 +0.3**
baz=76,SNR=5.2
MLY Manley 82.72 335 IAmb IAmb 20 51 31.6
comp=Z,41nm,0.8s
MLY Manley 82.72 335 P **P 20 51 28.4 +0.7**
baz=74,SNR=21
H22K Ishtalitna Cre 82.73 336 P **P 20 51 28.4 +0.6**
baz=74
PWL Port Wells 82.74 331 IAmb IAmb 20 51 38.9
comp=Z,78nm,1.0s
PWL Port Wells 82.74 331 P **P 20 51 27.8 -0.2**
baz=76
B21K Ikpikpuk River 82.77 340 P **P 20 51 28.5 +0.6**
baz=71
GHO Glory Hole Cre 82.79 332 IAmb IAmb 20 51 39.3
comp=Z,81nm,1.0s
SWZ Schweizer 82.86 120 *e*P **P 20 51 27.8 -1.4**
SWZ IAmb IAmb 20 51 30.7
comp=Z,523nm,2.9s
GURO Guroymak-BITLI 82.86 52 P **P 20 51 28.3 -0.8**
E21K Killik River 82.93 339 P **P 20 51 29.3 +0.5**
baz=72
TRF Thorofare Moun 82.96 334 P **P 20 51 29.5 +0.3**
baz=74,SNR=24
C21K Knifeblade Rid 82.98 340 P **P 20 51 29.9 +0.9**
baz=71,SNR=7.9
BPAW Bear Paw Mtn. 83.08 334 IAmb IAmb 20 51 40.2
comp=Z,83nm,1.0s
BPAW IAMs_20 IAMs_20 21 26 23.7
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 83.08 334 P **P 20 51 30.0 +0.4**
baz=74,SNR=28
F21K Alatna River 83.14 338 P **P 20 51 30.7 +0.8**
baz=72,SNR=9.1
ROOI Rooidraai Farm 83.18 126 *e*P **P 20 51 30.9 +0.1**
ROOI IAmb IAmb 20 51 43.3
comp=Z,82nm,1.2s
KTH Kantishna Hill 83.20 334 IAmb IAmb 20 51 41.2
comp=Z,91nm,1.0s
KIRV Kirov 83.21 31 *de*P **P 20 51 29.4 -0.9**
KIRV Kirov 83.21 31 LR LR 21 23 05.4
comp=Z,2µm,21.6s,baz=290,slow=32
MRCO Marico , North 83.22 118 *e*P **P 20 51 31.8 +0.6**
MRCO IAmb IAmb 20 51 32.9
comp=Z,136nm,1.4s
CUT Chulitna 83.23 333 P **P 20 51 31.4 +1.0**
baz=74
BOSA Boshof 83.26 121 P **P 20 51 31.2 -0.1**
BOSA IAmb IAmb 20 51 32.9
comp=Z,69nm,1.2s
BOSA Boshof 83.26 121 *e*P **P 20 51 31.9 +0.6**
BOSA IAmb IAmb 20 51 32.4
comp=Z,74nm,1.2s
BOSA Boshof 83.26 121 P **P 20 51 31.1 -0.2**
comp=Z,25nm,1.0s,baz=286,slow=2.9,SNR=13
BOSA LR LR 21 20 45.5
comp=Z,1µm,20.5s,baz=286,slow=30
comp=Z,25nm,1.0s
M22K Willow 83.34 332 P **P 20 51 32.0 +1.0**
baz=74,SNR=7.9
RC01 Rabbit Creek A 83.34 331 IAmb IAmb 20 51 42.1
comp=Z,60nm,1.1s
RC01 Rabbit Creek A 83.34 331 P **P 20 51 31.6 +0.5**
baz=74,SNR=6.4
H21K Melozitna Rive 83.36 336 IAmb IAmb 20 51 42.3
comp=Z,56nm,1.0s
H21K Melozitna Rive 83.36 336 P **P 20 51 31.2 +0.2**
baz=72,SNR=35
G21K Allakaket 83.37 337 P **P 20 51 31.6 +0.6**
baz=72,SNR=59
SIRT Sirnak 83.38 53 P **P 20 51 31.1 -0.7**
ZEI Tsey 83.39 48 *e*P **P 20 51 31.9 0.0**
ZEI pmax pmax
comp=Z,20nm,1.2s
B20K Meade River 83.47 341 P **P 20 51 32.3 +0.8**
baz=69
SEW Seward 83.47 330 P **P 20 51 31.9 +0.2**
baz=75
O22K Cooper Landing 83.50 331 P **P 20 51 32.1 +0.3**
baz=74
MATP Matopo 83.56 113 LR LR 21 23 06.9
comp=Z,343nm,18.9s,baz=257,slow=32
KRI Karoi 83.56 109 *e*P **P 20 51 34.1 +0.9**
CHUM Lake Minchumin 83.70 334 P **P 20 51 32.3 -0.4**
baz=72,SNR=36
SUA Susitna One 83.71 332 P **P 20 51 33.1 0.0**
baz=74,SNR=10

BELG	**Belogornoye**	**83.72**	**38**	*d iP*	**P**	**20 51 32.5**	**-0.6**
BELG				pmax	pmax		
	comp=Z,17nm,1.0s						
BELG	**Belogornoye**	**83.72**	**38**	LR	LR	21 26 45.8	
	comp=Z,897nm,18.1s,baz=313,slow=34						
CAST	**Castle Rocks**	**83.74**	**334**	IAmb	IAmb	20 51 42.9	
	comp=Z,48nm,1.3s						
CAST				IAMs_20	IAMs_20	21 27 42.3	
	comp=Z,1μm,20.0s						
CAST	**Castle Rocks**	**83.74**	**334**	P	**P**	**20 51 33.0**	**-0.1**
	baz=73,SNR=14						
D20K	**Etivluk River**	**83.75**	**339**	P	**P**	**20 51 34.0**	**+0.9**
	baz=69						
E20K	**Nigu River**	**83.77**	**339**	P	**P**	**20 51 33.4**	**+0.2**
	baz=70,SNR=8.9						
SKT	**Skwentna**	**83.92**	**332**	IAmb	IAmb	20 51 44.9	
	comp=Z,99nm,1.1s						
SKT	**Skwentna**	**83.92**	**332**	P	**P**	**20 51 34.3**	**+0.3**
	baz=73,SNR=17						
LEPH	**Lephalale, Lim**	**83.94**	**116**	*e*P	**P**	**20 51 36.3**	**+1.4**
LEPH				IAmb	IAmb	20 51 52.6	
	comp=Z,18nm,0.9s						
PPLA	**Purkeypile**	**83.94**	**333**	P	**P**	**20 51 34.4**	**+0.1**
	baz=72,SNR=19						
F20K	**Avaraart Lake**	**84.03**	**338**	P	**P**	**20 51 35.1**	**+0.7**
	baz=70						
LODK	**Lodwar**	**84.08**	**88**	P	**P**	**20 51 35.9**	**+0.1**
LODK				IAMs_20	IAMs_20	21 22 31.1	
	comp=Z,637nm,19.0s						
LODK	**Lodwar**	**84.08**	**88**	*e*P	**P**	**20 51 36.3**	**+0.5**
LODK	**Lodwar**	**84.08**	**88**	*e*P	**P**	**20 51 36.3**	**+0.5**
	baz=100						
HVD	**Gariep Dam**	**84.11**	**123**	*e*P	**P**	**20 51 36.0**	**+0.3**
HVD				IAmb	IAmb	20 51 38.4	
	comp=Z,163nm,1.3s						
NYAT	**Nyati, Northwe**	**84.19**	**118**	*e*P	**P**	**20 51 36.5**	**+0.4**
NYAT				IAmb	IAmb	20 52 08.2	
	comp=Z,160nm,2.0s						
BRSE	**Bradley Lake S**	**84.20**	**330**	P	**P**	**20 51 36.0**	**+0.6**
	baz=73						
H20K	**Anotleneega Mo**	**84.23**	**336**	P	**P**	**20 51 35.5**	**0.0**
	baz=70,SNR=18						
BRLK	**Bradley Lake**	**84.26**	**330**	IAmb	IAmb	20 51 46.9	
	comp=Z,54nm,0.9s						
I20K	**Naaghedeneel**	**84.31**	**335**	P	**P**	**20 51 36.5**	**+0.7**
	baz=71,SNR=14						
D19K	**Kuna River**	**84.35**	**339**	P	**P**	**20 51 36.9**	**+0.8**
	baz=68,SNR=9.4						
J20K	**Nowinta River**	**84.37**	**335**	IAMs_20	IAMs_20	21 28 33.0	
	comp=Z,957nm,19.0s						
J20K	**Nowinta River**	**84.37**	**335**	P	**P**	**20 51 37.3**	**+1.1**
	baz=71,SNR=16						
E19K	**Redstone River**	**84.43**	**338**	P	**P**	**20 51 37.3**	**+0.8**
	baz=68,SNR=50						
HRAO	**HartRAO**	**84.45**	**118**	*e*P	**P**	**20 51 37.9**	**+0.3**
HRAO				IAmb	IAmb	20 51 39.1	
	comp=Z,58nm,1.4s						
N20K	**Mount Spurr**	**84.46**	**332**	P	**P**	**20 51 37.1**	**+0.3**
	baz=72,SNR=9.7						
PRYS	**Parys**	**84.49**	**119**	*e*P	**P**	**20 51 36.9**	**-0.8**
PRYS				IAmb	IAmb	20 51 39.1	
	comp=Z,85nm,1.5s						
CNPM	**China Poot**	**84.50**	**330**	IAmb	IAmb	20 51 48.4	
	comp=Z,71nm,1.0s						
GNI	**Garni**	**84.58**	**50**	P	**P**	**20 51 38.3**	**+0.3**
GNI				IAmb	IAmb	20 52 00.7	
	comp=Z,70nm,1.2s						
GNI	**Garni**	**84.58**	**50**	*d iP*	**P**	**20 51 38.6**	**+0.6**
GNI				pmax	pmax		
	comp=Z,79nm,1.7s						
GNI	**Garni**	**84.58**	**50**	LR	LR	21 29 42.0	
	comp=Z,159nm,18.9s,baz=300,slow=36						
C19K	**Lookout Ridge**	**84.60**	**340**	P	**P**	**20 51 38.4**	**+1.0**
	baz=66,SNR=7.6						
K20K	**Telida**	**84.61**	**334**	IAMs_20	IAMs_20	21 27 39.3	
	comp=Z,872nm,19.0s						
K20K	**Telida**	**84.61**	**334**	P	**P**	**20 51 37.5**	**0.0**
	baz=71,SNR=20						
M20K	**Styx River**	**84.67**	**332**	IAmb	IAmb	20 51 55.2	
	comp=Z,138nm,1.8s						
M20K	**Styx River**	**84.67**	**332**	P	**P**	**20 51 38.2**	**+0.3**
	baz=72						
H19K	**Roundabout Mou**	**84.83**	**336**	P	**P**	**20 51 39.5**	**+1.1**
	baz=69,SNR=7.7						
F19K	**Shaleruckik Mo**	**84.86**	**338**	P	**P**	**20 51 39.3**	**+0.7**
	baz=68,SNR=5.8						
G19K	**Purcell Mounta**	**84.86**	**337**	P	**P**	**20 51 39.9**	**+1.2**
	baz=68,SNR=13						
SLR	**Silverton**	**84.92**	**118**	*e*P	**P**	**20 51 40.5**	**+0.7**
SLR				IAmb	IAmb	20 51 41.5	
	comp=Z,58nm,1.4s						
RUST	**Rust De Winter**	**84.98**	**117**	*e*P	**P**	**20 51 42.4**	**+2.3**
RUST				IAmb	IAmb	20 52 16.7	
	comp=Z,3μm,5.5s						
O20K	**Slope Mountain**	**85.00**	**331**	P	**P**	**20 51 40.6**	**+1.0**
	baz=72						
J19K	**Poorman**	**85.05**	**335**	P	**P**	**20 51 39.9**	**+0.3**
	baz=70,SNR=14						
B18K	**Kokolik River**	**85.22**	**341**	P	**P**	**20 51 41.4**	**+1.1**
	baz=64						
M19K	**Big River Lodg**	**85.23**	**333**	IAmb	IAmb	20 51 51.6	
	comp=Z,71nm,1.1s						
M19K	**Big River Lodg**	**85.23**	**333**	P	**P**	**20 51 41.3**	**+0.7**
	baz=70						
SNKL	**Senekal, Frees**	**85.25**	**120**	*e*P	**P**	**20 51 41.2**	**-0.4**
SNKL				IAmb	IAmb	20 51 43.2	
	comp=Z,113nm,1.4s						
ILSW	**Iliamna Southw**	**85.28**	**331**	IAmb	IAmb	20 51 51.9	
	comp=Z,67nm,1.3s						
GCSA	**Galena City Sc**	**85.29**	**336**	P	**P**	**20 51 41.1**	**+0.4**
	baz=68,SNR=7.1						
MUSN	**Musina, Limpop**	**85.30**	**114**	*e*P	**P**	**20 51 42.7**	**+1.0**
MUSN				IAmb	IAmb	20 51 43.9	
	comp=Z,106nm,1.6s						
C18K	**Utukok River**	**85.32**	**340**	P	**P**	**20 51 41.8**	**+0.7**
	baz=65,SNR=6.1						
L19K	**White Mountain**	**85.34**	**333**	IAmb	IAmb	20 51 51.9	
	comp=Z,52nm,1.1s						
L19K	**White Mountain**	**85.34**	**333**	P	**P**	**20 51 41.7**	**+0.6**
	baz=70,SNR=13						
G18K	**Tagagawik**	**85.54**	**337**	P	**P**	**20 51 42.8**	**+0.8**
	baz=67,SNR=6.4						
E18K	**Tukpahlearik C**	**85.64**	**339**	P	**P**	**20 51 43.4**	**+0.9**
	baz=65,SNR=7.7						
N19K	**Bonanza Creek**	**85.64**	**332**	IAmb	IAmb	20 51 46.5	
	comp=Z,150nm,1.9s						
N19K	**Bonanza Creek**	**85.64**	**332**	P	**P**	**20 51 43.7**	**+0.9**
	baz=70,SNR=6.2						
J18K	**Innoko River**	**85.69**	**335**	P	**P**	**20 51 43.1**	**+0.2**
	baz=69						
KDAK	**Kodiak Island**	**85.70**	**328**	P	**P**	**20 51 43.8**	**+0.8**
KDAK	**Kodiak Island**	**85.70**	**328**	*de*P	**P**	**20 51 45.6**	**+2.6**
KDAK				pmax	pmax		
	comp=Z,163nm,1.4s						
KDAK	**Kodiak Island**	**85.70**	**328**	P	**P**	**20 51 43.8**	**+0.8**
	baz=72						
KDAK	**Kodiak Island**	**85.70**	**328**	LR	LR	21 29 13.2	
	comp=Z,941nm,19.8s,baz=77,slow=35						
H18K	**Honhosa River**	**85.72**	**336**	P	**P**	**20 51 43.6**	**+0.6**
	baz=67,SNR=17						
MPHEP	**Siloam, Limpop**	**85.76**	**115**	*e*P	**P**	**20 51 44.3**	**+0.3**
MPHEP				IAmb	IAmb	20 51 46.0	
	comp=Z,67nm,1.4s						
Q19K	**Cape Douglas,**	**85.86**	**330**	IAMs_20	IAMs_20	21 27 51.6	
	comp=Z,1μm,21.0s						
Q19K	**Cape Douglas,**	**85.86**	**330**	P	**P**	**20 51 44.0**	**+0.1**
	baz=71						
MAK	**Makhachkala**	**85.93**	**47**	*e*P	P	20 51 38.8	-5.7
MAK				*e*		20 54 59.1	
MAK				*e*PPP	PPP	20 56 57.0	
MAK				*e*		21 02 00.1	
MAK				*e*SS	SS	21 07 52.6	-2.7
MAK				*e*SSS	SSS	21 11 24.7	
MAK				pmax	pmax		
	comp=Z,164nm,1.1s						
MAK				MLR	MLR		
	comp=Z,529nm,17.0s						
C17K	**DeLong Mountai**	**86.06**	**340**	P	**P**	**20 51 45.3**	**+0.7**
	baz=63						
WLRA	**Wolmera**	**86.06**	**82**	*e*P	**P**	**20 51 44.2**	**-1.9**
	baz=74						
FURI	**Furi**	**86.08**	**82**	IAMs_20	IAMs_20	21 31 43.7	
	comp=Z,814nm,18.0s						
FURI	**Furi**	**86.08**	**82**	*e*P	P	20 51 39.0	-7.2
FURI				IAMs_20	IAMs_20	21 22 14.6	
	comp=Z,3μm,20.1s						
FURI	**Furi**	**86.08**	**82**	*e*P	P	20 51 39.0	-7.2
	baz=74						
FURI				IAMs_20	IAMs_20	21 22 14.6	
	comp=Z,3μm,20.1s,baz=74						
L18K	**Granite Mounta**	**86.13**	**333**	P	**P**	**20 51 45.8**	**+0.7**
	baz=68,SNR=7.7						
E17K	**Hotham Inlet**	**86.21**	**339**	P	**P**	**20 51 46.6**	**+1.2**
	baz=64,SNR=12						
DILA	**Dilla**	**86.25**	**84**	*e*P	P	20 51 38.4	-8.5
DILA	**Dilla**	**86.25**	**84**	*e*P	P	20 51 38.4	-8.5
	baz=80						
F17K	**Baldwin Pennin**	**86.28**	**338**	P	**P**	**20 51 46.3**	**+0.6**
	baz=65						
O18K	**Koktuh Hills**	**86.30**	**331**	P	**P**	**20 51 46.7**	**+0.7**
	baz=70,SNR=14						
N18K	**Kilae Creek**	**86.33**	**332**	P	**P**	**20 51 46.6**	**+0.5**
	baz=69						
H17K	**Granite Mounta**	**86.41**	**336**	P	**P**	**20 51 46.5**	**+0.2**
	baz=66,SNR=14						
G17K	**Kiwalik Mounta**	**86.46**	**337**	P	**P**	**20 51 47.0**	**+0.4**
	baz=65,SNR=13						
P18K	**Big Mountain,**	**86.47**	**330**	IAmb	IAmb	20 51 57.4	
	comp=Z,82nm,1.2s						
P18K	**Big Mountain,**	**86.47**	**330**	P	**P**	**20 51 47.8**	**+0.9**
	baz=70,SNR=5.3						
Q18K	**Katmai Hardscr**	**86.63**	**330**	P	**P**	**20 51 48.4**	**+0.7**
	baz=70,SNR=8.5						
K17K	**Iditarod**	**86.64**	**334**	P	**P**	**20 51 48.6**	**+1.0**
	baz=67,SNR=8.7						
J17K	**VABM Dome**	**86.70**	**335**	P	**P**	**20 51 49.3**	**+1.5**
	baz=66,SNR=15						
R18K	**Karluk**	**86.72**	**329**	P	**P**	**20 51 49.6**	**+1.6**
	baz=70						
M17K	**Holitna River**	**86.77**	**333**	P	**P**	**20 51 49.6**	**+1.3**
	baz=68						
PILG	**Pilgrimsrest,**	**86.79**	**116**	*e*P	**P**	**20 51 47.5**	**-1.8**
PILG				IAmb	IAmb	20 52 03.7	
	comp=Z,624nm,3.5s						
HOED	**Hoedspruit, Li**	**86.84**	**116**	*e*P	**P**	**20 51 51.0**	**+1.6**
HOED				IAmb	IAmb	20 51 51.9	
	comp=Z,65nm,1.9s						
C16K	**Lisburne Hills**	**86.86**	**340**	P	**P**	**20 51 50.0**	**+1.5**
	baz=61						
L17K	**Donlin**	**86.86**	**334**	P	**P**	**20 51 49.8**	**+1.1**
	baz=67,SNR=15						
SII	**Sitkinak Islan**	**86.92**	**328**	P	**P**	**20 51 50.2**	**+1.1**
	baz=70						
BEKO	**Bekoji**	**86.95**	**83**	*e*P	P	20 51 39.9	-11
	baz=77						
KMBO	**Kilima Mbogo**	**86.96**	**92**	IAMs_20	IAMs_20	21 25 36.5	
	comp=Z,993nm,18.0s						
KMBO	**Kilima Mbogo**	**86.96**	**92**	*e*P	P	20 51 56.0	+5.6
KMBO				IAmb	IAmb	20 52 20.3	
	comp=Z,9.4nm,0.9s						
KMBO	**Kilima Mbogo**	**86.96**	**92**	P	**P**	**20 51 51.6**	**+1.3**
	comp=Z,2.8nm,0.7s,baz=272,slow=7.5,SNR=3.1						
KMBO				LR	LR	21 28 19.6	
	comp=Z,384nm,20.5s,baz=274,slow=34						
N17K	**Nushagak Hills**	**86.98**	**332**	P	**P**	**20 51 49.6**	**+0.3**
	baz=68						
MOPA	**Mopani**	**87.00**	**115**	*e*P	**P**	**20 51 54.5**	**+4.4**
P17K	**Kvichak River**	**87.13**	**330**	P	**P**	**20 51 50.1**	**+0.1**
	baz=69						
G16K	**Koyuk River**	**87.15**	**337**	P	**P**	**20 51 50.8**	**+0.9**
	baz=64,SNR=15						
I17K	**Unalakleet**	**87.16**	**336**	P	**P**	**20 51 51.0**	**+1.0**
	baz=65						
Q17K	**Contact Creek**	**87.19**	**330**	P	**P**	**20 51 50.7**	**+0.2**
	baz=69,SNR=8.1						
O17K	**Koliganek Bris**	**87.22**	**331**	P	**P**	**20 51 51.0**	**+0.6**
	baz=68						
J16K	**Anvik River**	**87.37**	**335**	P	**P**	**20 51 51.3**	**+0.2**
	baz=65,SNR=7.5						
Q16K	**King Salmon**	**87.42**	**330**	P	**P**	**20 51 51.2**	**-0.1**
	baz=68,SNR=5.4						
H16K	**Elim**	**87.44**	**337**	P	**P**	**20 51 51.1**	**-0.3**
	baz=64						
L16K	**Owhat River**	**87.55**	**333**	P	**P**	**20 51 52.4**	**+0.5**
	baz=66,SNR=12						
M16K	**Timber Creek**	**87.59**	**333**	P	**P**	**20 51 52.6**	**+0.4**
	baz=66,SNR=14						
TEND	**Ethiopian Broa**	**87.67**	**79**	*e*P	P	20 51 40.7	-13
	baz=66						
R17K	**Ugashik Creek**	**87.67**	**329**	P	**P**	**20 51 53.6**	**+0.9**
	baz=68						
N16K	**Nishlik Lake**	**87.73**	**332**	P	**P**	**20 51 53.8**	**+0.9**
	baz=67,SNR=11						
O16K	**Kokwok River B**	**87.76**	**331**	P	**P**	**20 51 54.3**	**+1.3**
	baz=67						
F15K	**North Star Dit**	**87.85**	**338**	P	**P**	**20 51 55.0**	**+1.6**
	baz=62,SNR=8.1						
P16K	**Nushagak River**	**87.93**	**331**	P	**P**	**20 51 55.2**	**+1.3**
	baz=67						
G15K	**Niukluk**	**87.96**	**337**	P	**P**	**20 51 54.3**	**+0.4**
	baz=62						
K15K	**Wolf Creek Mou**	**88.18**	**334**	P	**P**	**20 51 55.6**	**+0.7**
	baz=64,SNR=6.5						
VNA1	**Neumayer--Stat**	**88.42**	**167**	⇑P	**P**	**20 51 57.1**	**+1.4**
	comp=Z,43nm,1.1s						
N15K	**Kwethluk River**	**88.45**	**332**	P	**P**	**20 51 56.6**	**+0.3**
	baz=66						
M15K	**Kasigluk River**	**88.50**	**333**	P	**P**	**20 51 57.0**	**+0.5**
	baz=65,SNR=11						
ARU	**Arti**	**88.57**	**32**	P	**P**	**20 51 56.7**	**-0.2**
ARU	**Arti**	**88.57**	**32**	⇑*iP*	**P**	**20 51 57.1**	**+0.2**
ARU				pmax	pmax		
	comp=Z,30nm,1.4s						
ARU	**Arti**	**88.57**	**32**	LR	LR	21 26 34.4	
	comp=Z,1μm,21.9s,baz=288,slow=32						
VNA3	**Neumayer Olymp**	**88.59**	**168**	⇑P	**P**	**20 51 57.5**	**+0.9**
	comp=Z,50nm,0.9s						
O15K	**Ungalikthiuk R**	**88.74**	**331**	P	**P**	**20 51 58.5**	**+0.8**
	baz=66						
J14K	**Nanvaranak Lak**	**88.82**	**335**	P	**P**	**20 51 58.9**	**+0.9**
	baz=62,SNR=8.5						
VNA2	**Neumayer--Watz**	**88.82**	**167**	⇑P	**P**	**20 51 58.6**	**+0.9**
	comp=Z,19nm,1.1s,baz=327,slow=5.0						
M14K	**Bethel**	**89.04**	**333**	P	**P**	**20 52 00.0**	**+1.0**
	baz=64,SNR=12						
L14K	**Kuka Creek**	**89.09**	**334**	P	**P**	**20 52 00.2**	**+0.9**
	baz=63,SNR=21						
TNA	**Tin City**	**89.11**	**339**	P	**P**	**20 51 60.0**	**+0.7**
	baz=59						
N14K	**Kuskokwak Cree**	**89.28**	**332**	P	**P**	**20 52 00.7**	**+0.5**
	baz=64,SNR=6.0						
O14K	**Tigyukauivet M**	**89.38**	**332**	P	**P**	**20 52 01.2**	**+0.5**
	baz=64,SNR=6.4						
SVE	**Sverdlovsk**	**89.47**	**31**	*e*P	**P**	**20 52 02.9**	**+1.8**
SVE				*e*S	**SKSac**	**21 02 33.1**	**+1.8**
SVE				pmax	pmax		
	comp=Z,24nm,1.1s						
SVE				MLR	MLR		
	comp=Z,660nm,16.0s						
ATD	**Arta Tunnel**	**89.48**	**78**	LR	LR	21 29 01.7	
	comp=Z,51nm,21.8s,baz=276,slow=34						
K13K	**Kusilvak Mount**	**89.66**	**335**	P	**P**	**20 52 02.8**	**+0.9**
	baz=62,SNR=7.9						
S14K	**Fog Glacier**	**89.79**	**328**	P	**P**	**20 52 03.6**	**+0.7**
	baz=66						
M13K	**Dall Lake**	**89.81**	**333**	P	**P**	**20 52 03.6**	**+1.0**
	baz=63,SNR=6.8						
SNAA	**Sanae**	**90.37**	**167**	P	**P**	**20 52 05.2**	**+0.2**
SNAA				IAmb	IAmb	20 52 07.2	
	comp=Z,71nm,1.5s						
SNAA				IAMs_20	IAMs_20	21 28 45.4	
	comp=Z,893nm,19.0s						
SNAA	**Sanae**	**90.37**	**167**	*c iP*	**P**	**20 52 05.6**	**+0.6**
SNAA				pmax	pmax		
	comp=Z,57nm,1.6s						
SNAA	**Sanae**	**90.37**	**167**	*e*P	**P**	**20 52 05.0**	**+0.1**
SNAA	**Sanae**	**90.37**	**167**	⇑P	**P**	**20 52 05.6**	**+0.6**
	comp=Z,314nm,1.0s						
SNAA	**Sanae**	**90.37**	**167**	P	**P**	**20 52 05.6**	**+0.6**
	comp=Z,18nm,1.0s,baz=321,slow=4.6,SNR=36						
SNAA				LR	LR	21 32 08.2	
	comp=Z,357nm,18.3s,baz=318,slow=35						
	comp=Z,18nm,1.0s						
AKTO	**Aktyubinsk**	**90.51**	**38**	LR	LR	21 28 41.2	
	comp=Z,761nm,21.0s,baz=264,slow=33						
BELA	**Belgrano 2**	**91.48**	**177**	P	**P**	**20 52 09.2**	**-0.8**
BELA				IAMs_20	IAMs_20	21 35 36.6	
	comp=Z,698nm,20.0s						
TROLL	**Troll, Antarti**	**91.83**	**166**	⇑P	**P**	**20 52 12.8**	**+0.9**
	comp=Z,485nm,0.8s						
NRIK	**Noril'sk**	**92.13**	**14**	*c iP*	**P**	**20 52 14.1**	**+0.8**
NRIK				pmax	pmax		
	comp=Z,22nm,1.0s						
NRIK	**Noril'sk**	**92.13**	**14**	P	**P**	**20 52 13.2**	**0.0**
	comp=Z,13nm,0.9s,baz=348,slow=2.9,SNR=11						
NRIK				LR	LR	21 30 17.8	
	comp=Z,450nm,21.2s,baz=313,slow=33						
	comp=Z,13nm,0.9s						
TAOE	**Nuku Hiva Isla**	**92.78**	**262**	*e*S	**S**	**21 03 15.2**	**-8.2**
	comp=Z,225nm,26.4s						
TAOE	**Nuku Hiva Isla**	**92.78**	**262**	*e*LR	LR	21 22 09.8	
	comp=Z,1μm,33.1s						
NVL	**N'lazarevskaya**	**93.53**	**163**	*e*P	**P**	**20 52 21.5**	**+2.0**
NVL				pmax	pmax		
	comp=Z,30nm,1.1s						
TIXI	**Tiksi**	**95.16**	**1**	P	**P**	**20 52 26.4**	**-0.8**
TIXI				IAMs_20	IAMs_20	21 32 41.1	
	comp=Z,595nm,21.0s						
TIXI	**Tiksi**	**95.16**	**1**	⇓*eP*	**P**	**20 52 28.9**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,15nm,1.2s						
GEYT	**Alibeck**	**95.18**	**49**	P	**P**	**20 52 27.7**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=280,slow=8.6,SNR=1.9						
GEYT				LR	LR	21 35 38.4	
	comp=Z,176nm,19.9s,baz=328,slow=36						
BRVK	**Borovoye**	**96.14**	**32**	P	**P**	**20 52 31.8**	**-0.2**
BRVK	**Borovoye**	**96.14**	**32**	IAMs_20	IAMs_20	21 31 19.7	
	comp=Z,814nm,20.0s						
BRVK	**Borovoye**	**96.14**	**32**	⇓*eP*	**P**	**20 52 32.5**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BVAR	**Borovoye Array**	**96.22**	**32**	P	**P**	**20 52 32.5**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=282,slow=2.7,SNR=9.3						
BVAR				PP	**PP**	**20 56 25.4**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=291,slow=9.4,SNR=3.8						
BVAR				LR	LR	21 31 15.9	
	comp=Z,892nm,20.3s,baz=306,slow=33						
	comp=Z,3.3nm,0.8s						
ELIB	**Princess Elisa**	**97.38**	**163**	*d*P	Pdif	20 52 38.1	+0.7
	comp=Z,6.9nm,0.0s						
ELIB				*d*PP	**PP**	**20 56 35.2**	**+0.9**
ELIB				*d*PKP	**PKiKP**	**20 57 07.8**	**-4.4**
KURK	**Kurchatov**	**101.72**	**31**	⇓*eP*	**Pdif**	**20 52 57.3**	**+0.3**
KURK				pmax	pmax		
	comp=Z,14nm,3.9s						
KURBB	**Kurchatov Arra**	**101.73**	**31**	P	**Pdif**	**20 52 56.5**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=314,slow=5.0,SNR=6.9						
KURBB				PP	**PP**	**20 57 07.9**	**+0.9**
	comp=Z,2.2nm,0.9s,baz=307,slow=8.5,SNR=6.1						
ZALV	**Zalesovo Beam**	**102.43**	**26**	P	**Pdif**	**20 52 59.7**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=302,slow=8.6,SNR=4.6						
ZALV				PP	**PKiKP**	**20 57 18.3**	**-3.3**
	comp=Z,2.2nm,0.8s,baz=302,slow=8.4,SNR=3.6						
YAK	**Yakutsk**	**104.82**	**0**	IAMs_20	IAMs_20	21 40 49.2	
	comp=Z,504nm,20.0s						
MSEY	**Mahe Island**	**105.48**	**91**	IAMs_20	IAMs_20	21 35 32.5	
	comp=Z,797nm,20.0s						
MAKZ	**Makanchi**	**105.92**	**32**	IAMs_20	IAMs_20	21 36 21.3	
	comp=Z,866nm,22.0s						
MKAR	**Makanchi Array**	**106.09**	**32**	Pdiff	**Pdif**	**20 53 18.8**	**+2.1**
	comp=Z,0.6nm,0.9s,baz=290,slow=6.0,SNR=2.5						
MKAR				PP	**PP**	**20 57 37.5**	**-2.1**
	comp=Z,2.1nm,1.0s,baz=330,slow=7.0,SNR=4.4						
MKAR				PKKPbc	**PKKPdf**	**21 08 59.9**	**-2.7**
	comp=Z,2.0nm,0.8s,baz=116,slow=5.5,SNR=3.8						
WMQ	**Urumqi**	**110.91**	**32**	*e*PKP	**PKiKP**	**20 57 38.4**	**+0.6**
WMQ				LR	LR		
	comp=Z,680nm,23.3s						
WMQ				LR	LR		
	comp=Z,560nm,19.5s						
WMQ				LR	LR		
	comp=Z,850nm,29.7s						
SONM	**Songino Array**	**115.33**	**18**	PKP	**PKPdf**	**20 57 48.3**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=338,slow=1.1,SNR=6.2						
SONM				PKKPbc	**PKKPbc**	**21 08 21.2**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=135,slow=5.5,SNR=3.9						
ULN	**Ulaanbaatar**	**115.49**	**17**	IAMs_20	IAMs_20	21 50 15.5	
	comp=Z,590nm,18.0s						
HIA	**Hailar**	**116.88**	**8**	IAMs_20	IAMs_20	21 50 58.7	
	comp=Z,453nm,20.0s						
YSS	**Yuzh-Sakhalins**	**118.96**	**351**	*e*PKIKP	**PKPdf**	**20 57 52.3**	**-0.7**
YSS				*e*		20 59 09.2	
YSS				*e*		21 04 43.3	
YSS				*e*		21 15 25.8	
GTA	**Gaotai**	**120.12**	**27**	*e*PKP	**PKiKP**	**20 57 58.6**	**+2.8**
GTA				LR	LR		
	comp=Z,440nm,20.4s						
GTA				LR	LR		
	comp=Z,270nm,19.3s						
GTA				LR	LR		
	comp=Z,630nm,21.4s						
XLT	**XiLinHaoTe**	**121.46**	**12**	*e*PKP	PKiKP	20 58 07.5	+9.3
XLT				LR	LR		
	comp=N,30nm,19.3s						
XLT				LR	LR		
	comp=E,310nm,14.2s						
XLT				LR	LR		
	comp=Z,430nm,18.8s						
MDJ	**Mudanjiang**	**122.27**	**1**	PKP	**PKPdf**	**20 57 59.0**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,320nm,3.9s						
CN2	**Changchun**	**122.89**	**4**	*e*PKP	**PKPdf**	**20 57 58.9**	**-1.8**
CN2				*e*PP	**PP**	**20 59 40.5**	**+2.8**
CN2				SKS	**SKSac**	**21 05 05.7**	**+3.9**
CN2				SKKS	**SKKSac**	**21 06 33.7**	**-4.5**
CN2				*e*SS	**SS**	**21 16 27.9**	**+7.9**
CN2				AMB	AMB		
	comp=Z,120nm,3.5s						
CN2				LR	LR		
	comp=Z,440nm,20.0s						
CN2				LR	LR		
	comp=Z,260nm,20.0s						
CN2				LR	LR		
	comp=Z,290nm,21.0s						
HHC	**Hu-ho-hao-te**	**123.21**	**17**	*e*PKP	**PKPdf**	**20 57 58.0**	**-3.5**
HHC				PP	**PP**	**20 59 44.2**

comp=Z,470nm,19.8s
ENH Enshi 132.05 25 IAMs_20 IAMs_20 21 53 30.2
comp=Z,588nm,21.0s
KMI Kunming 133.03 35 ⇑PKP **PKiKP** **20 58 23.8 +1.8**
KMI LR LR
comp=Z,440nm,22.0s
KMI LR LR
comp=Z,210nm,17.8s
KMI LR LR
comp=Z,690nm,23.5s
TOZ Tahuroa Road 133.41 230 IAMs_20 IAMs_20 21 44 11.9
comp=Z,621nm,22.0s
NJ2 Nanjing 133.43 14 *e*PKP **PKPdf** **20 58 20.1 -1.0**
GYA Guiyang 134.04 30 PKP **PKiKP** **20 58 26.2 +2.3**
GYA PP **PP** **21 00 53.0 +1.4**
GYA AMB AMB
comp=Z,100nm,5.0s
GYA LR LR
comp=Z,330nm,17.7s
GYA LR LR
comp=Z,270nm,20.6s
GYA LR LR
comp=Z,410nm,21.4s
CMAR Chiang Mai Arr 135.52 45 PKhKP PKPpre 20 58 19.9
comp=Z,0.8nm,0.7s,baz=278,slow=4.8,SNR=5.2
CMAR PKP **PKiKP** **20 58 26.2 -0.6**
comp=Z,2.5nm,0.9s,baz=295,slow=4.0,SNR=13
HKPS Hong Kong Po S 141.04 25 IAMs_20 IAMs_20 21 59 42.3
comp=Z,550nm,22.0s
QIZ Qiongzhong 141.82 33 PKP **PKPdf** **20 58 34.4 -2.5**
QIZ PP **PP** **21 01 40.2 +0.2**
QIZ SS SS 21 20 15.5 +3.8
QIZ LR LR
comp=Z,670nm,17.2s
QIZ LR LR
comp=Z,270nm,17.7s
QIZ LR LR
comp=Z,320nm,16.0s
QIZ Qiongzhong 141.82 33 IAMs_20 IAMs_20 21 59 32.9
comp=Z,467nm,22.0s
YULB Yu-li 142.32 14 IAMs_20 IAMs_20 22 01 27.5
comp=Z,512nm,21.0s
GSI Gunungsitoli 144.11 69 PKPdf **PKPab** **20 58 38.2 -0.4**
PSI Prapat 144.65 65 PKIKP **PKPab** **20 58 38.5 -2.2**
RPSI Rantau Prapat 144.70 65 PKPdf **PKPab** **20 58 38.5 -2.3**
DZM Mont Dzumac 144.90 251 *e*SS SS 21 20 14.6 -35
comp=Z,260nm,31.7s
DZM Mont Dzumac 144.90 251 *e*LR LR 21 46 02.9
comp=Z,411nm,22.9s
DZM Mont Dzumac 144.90 251 PKPdf **PKPab** **20 58 40.2 -1.2**
DZM Mont Dzumac 144.90 251 PKPbc **PKPdf** **20 58 42.5 +0.2**
comp=Z,34nm,0.9s,baz=89,slow=10,SNR=6.8
KULM Kulim 144.91 60 PKPdf **PKPab** **20 58 39.7 -1.9**
KULM IAMs_20 IAMs_20 22 04 42.4
comp=Z,364nm,21.0s
KOUNC Koumac, New Ca 147.09 253 **PKPdf** **20 58 43.2 -2.7**
MYKOM Kota Tinggi 149.44 62 IAMs_20 IAMs_20 22 01 25.9
comp=Z,468nm,22.0s
PMBI Palembang 152.40 70 IAMs_20 IAMs_20 22 02 51.2
comp=Z,434nm,20.0s
LWLI Liwa 152.50 75 PKP **PKPbc** **20 58 59.7 -2.1**
TOO Toolangi 152.52 206 PKPdf **PKPdf** **20 58 51.8 -2.3**
TOO PKPbc **PKPbc** **20 59 00.8 -0.2**
TOO PKPab **PKPab** **20 59 11.1 -0.2**
TOO Toolangi 152.52 206 PKIKP **PKPdf** **20 58 51.8 -2.3**
TOO 20 59 00.8
TOO 20 59 11.1
KKM Kota Kinabalu 155.96 37 IAMs_20 IAMs_20 22 12 02.1
comp=Z,359nm,21.0s
RABL Rabaul 156.88 291 IAMs_20 IAMs_20 22 06 23.1
comp=Z,333nm,19.0s
NWAO Narrogin (SRO) 157.02 150 PKPab **PKPab** **20 59 30.6 +0.1**
comp=Z,22nm,1.0s,baz=210,slow=8.7,SNR=3.7
STKA Stephens Creek 159.03 207 PKPdf **PKPdf** **20 59 01.7 -1.2**
STKA **PKPab** **20 59 38.8 -0.4**
STKA Stephens Creek 159.03 207 PKIKP **PKPdf** **20 59 01.7 -1.2**
STKA Stephens Creek 159.03 207 PKPab **PKPab** **20 59 39.2 0.0**
comp=Z,11nm,1.1s,baz=239,slow=1.4,SNR=5.4
PSA00 Pilbara Seismi 166.88 130 PKPdf **PKPdf** **20 59 09.5 -1.2**
PSA00 **PKPab** **21 00 11.8 -2.2**
ASAR Alice Springs 169.32 196 **PKPdf** **20 59 10.7 -1.7**
ASAR PKPab **PKPab** **21 00 23.2 -1.4**
ASAR Alice Springs 169.32 196 PKP **PKPdf** **20 59 12.3 -0.1**
comp=Z,0.7nm,0.8s,baz=112,slow=1.0,SNR=5.1
ASAR PKPab **PKPab** **21 00 24.4 -0.2**
comp=Z,7.7nm,0.9s,baz=162,slow=4.6,SNR=9.0
WRA Warramunga Arr 172.58 208 **PKPdf** **20 59 11.6 -2.6**
WRA PKPab **PKPab** **21 00 37.9 -1.2**
WRA Warramunga Arr 172.58 208 PKIKP **PKPdf** **20 59 11.6 -2.6**
WRA 21 00 37.9
WRA Warramunga Arr 172.58 208 PKP **PKPdf** **20 59 12.2 -2.0**
comp=Z,2.8nm,0.9s,baz=309,slow=0.5,SNR=12
WRA PKPab **PKPab** **21 00 39.4 +0.3**
comp=Z,2.8nm,0.8s,baz=167,slow=4.0,SNR=5.2

IDC 03 20:45:45.7±1.9, 11°.98S×123°.56E, h0km, mb3.6/2, mbtmp3.8/4, ML4.0/2, Error ellipse: s-maj=59.6km s-min=25.3km az=71.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.77**	**3**	Pn	Pn	20 46 17.5	-0.1
	17nm,0.3s,baz=302,slow=2.2,SNR=15						
BATI				Sn	Sn	20 46 40.2	-0.7
	48nm,0.3s,baz=206,slow=21,SNR=14						
WRA	**Warramunga Arr**	**13.04**	**129**	Pn	Pn	20 48 52.1	-0.3
	0.8nm,0.3s,baz=300,slow=14,SNR=74						
WRA				Sn	Sn	20 51 10.7	-7.5
	0.6nm,0.3s,baz=303,slow=25,SNR=7.8						
	5.3nm,0.8s						
ASAR	**Alice Springs**	**15.22**	**141**	Pn	Pn	20 49 21.7	-0.4
	0.7nm,0.3s,baz=316,slow=12,SNR=46						
ASAR				Sn	Sn	20 52 05.6	-6.0
	0.4nm,0.3s,baz=317,slow=23,SNR=9.4						
	1.8nm,0.4s						
SONM	**Songino Array**	**61.48**	**347**	P	P	20 56 05.2	+0.9
	0.4nm,0.7s,baz=164,slow=9.6,SNR=2.8						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**69.18**	**331**	P	P	20 56 53.8	-0.3
	0.4nm,0.7s,baz=143,slow=4.4,SNR=4.2						
	0.4nm,0.7s						

ROM 03 20:48:02.2±0.1, 42°.778N±0°.004×12°.784E±0°.007, h10km, ML0.7/16, 2C-1D, Error ellipse: s-maj=0.6km s-min=0.5km az=126.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1221	**Campello sul C**	**0.10**	**29**	⇑P	Pg	20 48 05.3	+0.4
T1221				S	Sg	20 48 07.2	+0.4
T1221				AML	AML		
	comp=N,197μm,13.9s						
T1221				AML	AML		
	comp=N,76μm,1.2s						
T1221				AML	AML		
	comp=E,41μm,0.1s						
T1221				AML	AML		
	comp=E,69μm,2.0s						
ARRO	**Arrone**	**0.20**	**184**	⇓P	Pg	20 48 07.1	+0.7
ARRO				AML	AML		
	comp=N,18μm,0.2s						
ARRO				AML	AML		
	comp=E,19μm,1.3s						
CESI	**CESI - Serrava**	**0.24**	**21**	P	Pg	20 48 07.9	+0.7
CESI				S	Sg	20 48 12.1	+1.4
CESI				AML	AML		
	comp=E,38μm,0.3s						
CESI				AML	AML		
	comp=N,40μm,0.1s						
CESI				AML	AML		
	comp=N,39μm,0.1s						
CESI				AML	AML		
	comp=E,38μm,0.3s						
ASSB	**Assisi San Ben**	**0.28**	**341**	P	Pg	20 48 08.5	+0.5
ASSB				S	Sb	20 48 13.3	-0.9
ASSB				AML	AML		
	comp=E,14μm,1.4s						
ASSB				AML	AML		
	comp=N,14μm,0.1s						
FDMO	**Fiordimonte**	**0.34**	**41**	⇑P	Pg	20 48 09.5	+0.4
FDMO				S	Sb	20 48 15.1	-0.8
FDMO				AML	AML		
	comp=N,9μm,1.9s						
FDMO				AML	AML		
	comp=E,12μm,2.6s						

IDC 03 20:49:33.3±4.7, 11°.42N×88°.16W, h0km, mb3.6/2, mbtmp3.7/2, Error ellipse: s-maj=347.5km s-min=64.3km az=49.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**22.95**	**323**	P	P	20 54 39.1	-0.4
	4.6nm,1.0s,baz=136,slow=10,SNR=6.3						
	4.6nm,1.0s						
PDAR	**Pinedale Array**	**36.36**	**333**	P	P	20 56 39.7	+0.3
	0.3nm,0.6s,baz=138,slow=11,SNR=2.1						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**149.50**	**347**	PKPbc	PKPbc	21 09 25.1	-0.5
	0.3nm,0.3s,baz=350,slow=3.7,SNR=4.4						

---

*IDC **03** 20:51:00.2±1.0, 13°.56N×49°.24W, h0km, mb4.0/6, mbtmp4.2/9, ML4.5/3, Error ellipse: s-maj=27.0km s-min=22.5km az=132.0*
ISC 03 20:51:01.7±0.9, 13°.5N±0°.1×49°.3W±0°.1, h10km, n10, σ0°.68/9, mb4.0/6, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**9.00**	**202**	Pn	**Pn**	**20 53 11.4**	**-0.6**
	3.2nm,0.3s,baz=11,slow=15,SNR=21						
MDP				Sn	Sn	20 54 39.6	-14
	12nm,0.3s,baz=138,slow=16,SNR=10.0						
	13nm,0.3s						
H05S1	**Guadeloupe/Mar**	**11.28**	**276**	T	T	21 05 20.2	
	SNR=5.9						
PCRV	**Puerto La Cruz**	**15.41**	**259**	Pn	**Pn**	**20 54 38.7**	**-0.8**
	1.7nm,0.3s,baz=196,slow=21,SNR=1.9						
	7.6nm,0.4s						
SJG	**San Juan**	**16.88**	**288**	Pn	**Pn**	**20 54 58.3**	**+0.1**
	2.4nm,0.3s,baz=170,slow=24,SNR=1.9						
	5.3nm,0.3s						
LPAZ	**La Paz**	**35.00**	**213**	P	**P**	**20 57 56.3**	**+1.0**
	9.0nm,0.8s,baz=44,slow=9.0,SNR=1.3						
	9.0nm,0.8s						
CPUP	**Villa Florida**	**40.38**	**191**	P	**P**	**20 58 40.2**	**+0.3**
	5.0nm,0.9s,baz=0.0,slow=6.1,SNR=3.0						
	5.0nm,0.9s						
ESDC	**Sonseca Array**	**47.49**	**48**	P	**P**	**20 59 37.4**	**+0.3**
	0.5nm,1.1s,baz=245,slow=8.3,SNR=2.1						
	0.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**49.51**	**84**	P	**P**	**20 59 52.5**	**-0.5**
	1.2nm,0.9s,baz=315,slow=5.1,SNR=4.4						
	1.2nm,0.9s						
TXAR	**Lajitas Array**	**52.59**	**297**	P	**P**	**21 00 16.5**	**+0.4**
	1.0nm,0.8s,baz=123,slow=7.4,SNR=8.6						
	1.0nm,0.8s						
ILAR	**Eielson Array**	**81.11**	**335**	P	**P**	**21 03 16.6**	**-0.5**
	1.8nm,0.8s,baz=71,slow=5.2,SNR=17						
	1.8nm,0.8s						

---

*NEIC **03** 20:52:08.7±1.5, 6°.05S±0°.07×151°.7E±0°.1, h47km±8km, mb4.6/44, Error ellipse: s-maj=16.0km s-min=7.9km az=117.0*
*IDC **03** 20:52:09.4±2.7, 6°.00S×151°.64E, h65km±15km, mb3.7/7, mbtmp4.1/8, MS3.8/4, Error ellipse: s-maj=55.4km s-min=9.0km az=121.0*
ISC 03 20:52:08.1±0.7, 6°.06S±0°.07×151°.8E±0°.1, h50km, n68, σ1°.12/68, mb4.5/28, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.76**	**8**	P	**Pn**	**20 52 36.1**	**-0.1**
	831nm,0.6s,baz=12,slow=0.7,SNR=63						
KRVT				S	**Sn**	**20 52 58.6**	**+1.2**
	1μm,0.4s,baz=66,slow=0.9,SNR=15						
KRVT				LR	LR	20 53 32.3	
	comp=Z,435nm,20.1s,baz=48,slow=48						
RABL	**Rabaul**	**1.90**	**12**		**Pn**	**20 52 37.2**	**-1.0**
RABL				Sn	**Sn**	**20 53 00.6**	**-0.2**
PMG	**Port Moresby**	**5.66**	**234**		**Pn**	**20 53 31.1**	**+1.4**
PMG				Sn	**Sn**	**20 54 31.1**	**-2.3**
PMG	**Port Moresby**	**5.66**	**234**	P	**Pn**	**20 53 30.5**	**+0.8**
	43nm,0.8s,baz=42,slow=7.8,SNR=12						
PMG				S	**Sn**	**20 54 33.2**	**-0.1**
	63nm,0.4s,baz=106,slow=19,SNR=11						
MANU	**Manus Island**	**5.94**	**312**		**Pn**	**20 53 34.8**	**+1.2**
HNR	**Honiara**	**8.76**	**113**	LR	LR	20 57 07.5	
	comp=Z,1μm,21.2s,baz=102,slow=34						
JAY	**Jayapura**	**11.59**	**287**	LR	LR	20 58 45.2	
	comp=Z,104nm,20.7s,baz=165,slow=35						
CTA	**Charters Tower**	**14.94**	**201**	LR	LR	21 00 51.3	
	comp=Z,87nm,18.5s,baz=75,slow=35						
EIDS	**Eidsvold**	**19.21**	**182**	Pn	**Pn**	**20 56 29.5**	**+0.1**
MTN	**Manton Dam**	**21.44**	**250**	P	**P**	**20 56 54.9**	**+2.6**
MTN				IAmb	IAmb	20 56 59.2	
	comp=Z,24nm,1.4s						
WB0	**Warramunga Arr**	**21.71**	**230**	P	**P**	**20 56 54.6**	**-0.6**
WR0	**Warramunga Arr**	**21.71**	**229**	P	**P**	**20 56 55.1**	**-0.1**
WB2	**Warramunga Arr**	**21.84**	**229**	P	**P**	**20 56 56.2**	**-0.4**
WRA	**Warramunga Arr**	**21.85**	**229**	P	**P**	**20 56 56.3**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=54,slow=10.0,SNR=24						
	comp=Z,3.5nm,0.6s						
KNRA	**Kununurra**	**24.51**	**245**	P	**P**	**20 57 23.5**	**+0.4**
KNRA				IAmb	IAmb	20 57 56.0	
	comp=Z,15nm,1.2s						
AS31	**Alice Springs**	**24.54**	**223**	P	**P**	**20 57 21.9**	**-1.4**
ASAR	**Alice Springs**	**24.54**	**223**	P	**P**	**20 57 21.5**	**-1.8**
ASAR	**Alice Springs**	**24.54**	**223**	P	**P**	**20 57 22.8**	**-0.5**
	comp=Z,2.9nm,0.8s,baz=57,slow=9.2,SNR=31						
	comp=Z,2.9nm,0.8s						
FORT	**Forrest**	**33.17**	**219**	P	**P**	**20 58 39.4**	**-0.7**
SONM	**Songino Array**	**66.85**	**329**	P	**P**	**21 02 53.9**	**-1.1**
SONM	**Songino Array**	**66.85**	**329**	P	**P**	**21 02 53.7**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=149,slow=5.4,SNR=4.1						
	comp=Z,0.7nm,0.6s						
P19K	**Oil Pt**	**78.50**	**25**	P	**P**	**21 04 04.5**	**+0.6**
CNPM	**China Poot**	**79.28**	**26**	P	**P**	**21 04 08.8**	**+0.7**
L19K	**White Mountain**	**79.30**	**23**	P	**P**	**21 04 09.1**	**+0.9**
L19K				IAmb	IAmb	21 04 10.6	
	comp=Z,5.7nm,0.9s						
K20K	**Telida**	**80.27**	**22**	P	**P**	**21 04 14.1**	**+0.7**
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**21 04 13.9**	**-1.6**
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**21 04 14.6**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=106,slow=5.9,SNR=1.9						
	comp=Z,0.2nm,0.6s						
J20K	**Nowinta River**	**80.72**	**21**	P	**P**	**21 04 16.9**	**+1.2**
CAST	**Castle Rocks**	**81.05**	**22**		**P**	**21 04 18.0**	**+0.4**
CAST				IAmb	IAmb	21 04 19.2	
	comp=Z,6.9nm,1.1s						
PWL	**Port Wells**	**81.21**	**25**	P	**P**	**21 04 19.6**	**+1.2**
GHO	**Glory Hole Cre**	**81.42**	**24**	P	**P**	**21 04 20.3**	**+0.7**
GHO				IAmb	IAmb	21 04 48.5	
	comp=Z,16nm,1.2s						
KTH	**Kantishna Hill**	**81.56**	**22**	P	**P**	**21 04 19.8**	**-0.5**
KTH				IAmb	IAmb	21 04 28.3	
	comp=Z,12nm,1.5s						
ZALV	**Zalesovo Beam**	**81.63**	**327**	P	**P**	**21 04 18.8**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=128,slow=5.6,SNR=3.6						
	comp=Z,0.9nm,0.4s						
SML	**Sawmill**	**81.68**	**25**	P	**P**	**21 04 21.8**	**+0.8**
SML				IAmb	IAmb	21 04 22.8	
	comp=Z,7.1nm,0.7s						
BPAW	**Bear Paw Mtn.**	**81.83**	**22**	P	**P**	**21 04 21.6**	**0.0**
IMAR	**Indian Mountai**	**81.90**	**20**	P	**P**	**21 04 22.8**	**+0.8**
MLY	**Manley**	**82.42**	**21**	P	**P**	**21 04 25.2**	**+0.4**
DHY	**Denali Highway**	**82.69**	**24**	P	**P**	**21 04 27.4**	**+1.0**
DHY				IAmb	IAmb	21 04 45.1	
	comp=Z,9.1nm,1.4s						
NEA2	**Nenana**	**82.80**	**22**	P	**P**	**21 04 26.6**	**-0.1**
NEA2				IAmb	IAmb	21 04 27.4	
	comp=Z,3.3nm,0.5s						
GLB	**Gilahina Butte**	**83.43**	**26**	P	**P**	**21 04 30.9**	**+0.8**
IL31		**83.70**	**22**	P	**P**	**21 04 30.7**	**-0.6**
IL31				IAmb	IAmb	21 04 31.6	
	comp=Z,4.3nm,0.7s						
ILAR	**Eielson Array**	**83.70**	**22**	P	**P**	**21 04 31.3**	**-0.1**
ILAR	**Eielson Array**	**83.70**	**22**	P	**P**	**21 04 30.3**	**-1.1**
	comp=Z,3.2nm,0.7s,baz=248,slow=5.2,SNR=27						
	comp=Z,3.2nm,0.7s						
H24K	**Noodor Dome**	**83.86**	**21**	P	**P**	**21 04 32.5**	**+0.3**
H24K				IAmb	IAmb	21 04 43.2	
	comp=Z,4.8nm,1.4s						
QSPA	**South Pole Qui**	**83.91**	**180**	P	**P**	**21 04 32.7**	**+0.1**
QSPA				IAmb	IAmb	21 04 34.1	
	comp=Z,4.0nm,1.0s						
RIDG	**Independent Ri**	**84.01**	**24**	P	**P**	**21 04 34.0**	**+1.0**
RIDG				IAmb	IAmb	21 04 37.9	
	comp=Z,10nm,1.3s						
J25K	**Salcha River,**	**84.20**	**23**	P	**P**	**21 04 34.0**	**0.0**
J25K				IAmb	IAmb	21 04 35.7	
	comp=Z,7.4nm,0.7s						
BARN	**Barnard Glacie**	**84.22**	**27**	P	**P**	**21 04 35.9**	**+1.6**
L26K	**Log Cabin Wild**	**84.31**	**25**	P	**P**	**21 04 36.1**	**+1.6**
L26K				IAmb	IAmb	21 04 36.8	
	comp=Z,3.2nm,0.7s						
SCRK	**Sand Creek**	**84.46**	**24**	P	**P**	**21 04 35.4**	**+0.1**
M27K	**Edge Creek, AK**	**84.64**	**25**	P	**P**	**21 04 37.4**	**+1.1**
M27K				IAmb	IAmb	21 04 38.9	
	comp=Z,6.8nm,0.7s						
J26L	**Joseph Creek**	**84.85**	**23**	P	**P**	**21 04 38.3**	**+1.0**
J26L				IAmb	IAmb	21 04 40.6	
	comp=Z,2.6nm,0.8s						
L27K	**Beaver Creek,**	**84.95**	**25**	P	**P**	**21 04 39.0**	**+1.3**
BCAR	**Beaver Creek A**	**84.97**	**25**	P	**P**	**21 04 39.4**	**+1.5**
K27K	**Chicken**	**85.24**	**24**	P	**P**	**21 04 40.0**	**+0.8**
K27K				IAmb	IAmb	21 05 08.0	
	comp=Z,4.6nm,1.4s						
I26K	**Coal Creek Min**	**85.36**	**22**	P	**P**	**21 04 40.4**	**+0.7**
I26K				IAmb	IAmb	21 05 22.7	
	comp=Z,4.6nm,1.2s						
BMAR	**Burnt Mountain**	**85.77**	**20**	P	**P**	**21 04 43.4**	**+1.6**
HYT	**Haines Junctio**	**86.02**	**28**	P	**P**	**21 04 44.2**	**+1.0**
O30N	**Mendenhall**	**86.65**	**28**	P	**P**	**21 04 47.4**	**+1.1**
O30N				IAmb	IAmb	21 05 02.0	
	comp=Z,8.3nm,1.2s						
HG4B	**Hotspring**	**86.88**	**37**	P	**P**	**21 04 49.6**	**+2.1**
K29M	**Barlow Dome**	**87.04**	**25**	P	**P**	**21 04 50.1**	**+1.9**
I29M	**Ogilvie Camp,**	**87.25**	**23**	P	**P**	**21 04 49.9**	**+0.8**
I29M				IAmb	IAmb	21 04 51.1	
	comp=Z,6.9nm,1.0s						
F28M	**Old Crow**	**87.50**	**21**	P	**P**	**21 04 51.2**	**+1.0**
Q32M	**Nakina River**	**87.97**	**30**	P	**P**	**21 04 55.0**	**+2.2**
H31M	**Peel River**	**88.95**	**23**	P	**P**	**21 04 57.7**	**+0.6**
BVAR	**Borovoye Array**	**89.64**	**323**	P	**P**	**21 04 59.1**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=98,slow=4.5,SNR=3.9						
	comp=Z,0.7nm,0.6s						
RPN	**Rapa Nui**	**95.13**	**118**	LR	LR	21 38 50.8	
	comp=Z,275nm,21.4s,baz=263,slow=29						
TORD	**Torodi Ar. Bea**	**149.70**	**286**	PKPbc	**PKPbc**	**21 11 53.8**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=83,slow=3.3,SNR=12						

---

*IDC **03** 20:56:21.8±2.3, 6°.99S×129°.71E, h116km±23km, mb3.7/6, mbtmp4.1/10, Error ellipse: s-maj=33.3km s-min=17.5km az=74.0*
*NEIC **03** 20:56:23.6±2.8, 6°.87S±0°.07×129°.8E±0°.1, h146km±10km, mb4.2/7, Error ellipse: s-maj=14.7km s-min=9.9km az=93.0*
ISC 03 20:56:23.5±0.6, 6°.96S±0°.05×129°.93E±0°.06, h150km, n41, σ2°.45/44, mb4.1/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.69**	**127**		**Pn**	**20 56 56.9**	**+1.7**
SAUI				Sn	**Sn**	**20 57 20.4**	**+1.0**
SAUI	**Saumlaki**	**1.69**	**127**	P	**Pn**	**20 56 57.6**	**+2.4**
FAKI	**Fak Fak**	**4.63**	**30**		**Pn**	**20 57 31.1**	**-1.0**
FAKI				Sn	**Sn**	**20 58 21.8**	**-3.8**
MTN	**Manton Dam**	**5.96**	**169**		**Pn**	**20 57 50.3**	**+0.5**
MTN				Sn	**Sn**	**20 58 52.6**	**-4.7**
MTN	**Manton Dam**	**5.96**	**169**	P	**Pn**	**20 57 50.7**	**+0.9**
SIJI	**Sorong**	**6.20**	**12**	P	**Pn**	**20 57 52.2**	**-0.7**
	6.3nm,0.2s,baz=250,slow=23,SNR=33						
SIJI				S	**Sn**	**20 58 58.3**	**-4.6**
	12nm,0.3s,baz=313,slow=23,SNR=11						
KDU	**Kakadu**	**6.22**	**156**	P	**Pn**	**20 57 53.6**	**+0.5**
SOEI	**Soe**	**6.25**	**243**		**Pn**	**20 57 54.8**	**+1.0**
SOEI	**Soe**	**6.25**	**243**	P	**Pn**	**20 57 56.1**	**+2.4**
SANI	**Sanana**	**6.26**	**321**	P	**Pn**	**20 57 58.2**	**+4.4**
BATI	**Baumata**	**6.99**	**242**	P	Pn	20 57 58.6	-4.8
	11nm,0.5s,baz=276,slow=7.3,SNR=4.1						
BATI				S	**Sn**	**20 59 16.8**	**-5.0**
	35nm,0.4s,baz=345,slow=18,SNR=11						
KNRA	**Kununurra**	**8.74**	**187**		**Pn**	**20 58 26.2**	**-0.6**
KNRA	**Kununurra**	**8.74**	**187**	P	**Pn**	**20 58 26.0**	**-0.8**
PLAI	**Plampang**	**12.18**	**260**	P	**Pn**	**20 59 13.9**	**+1.7**
WB0	**Warramunga Arr**	**13.45**	**162**		Pn	20 59 24.3	-4.2
WRA	**Warramunga Arr**	**13.60**	**162**	P	**Pn**	**20 59 29.7**	**-0.7**
	1.3nm,0.5s,baz=340,slow=14,SNR=13						
WRA				S	Sn	21 01 51.5	-9.5
	5.4nm,0.5s,baz=333,slow=23,SNR=12						
WB2	**Warramunga Arr**	**13.60**	**162**	Pn	Pn	20 59 26.6	-3.8
WR0	**Warramunga Arr**	**13.67**	**161**	P	**Pn**	**20 59 28.7**	**-2.7**
COEN	**Coen**	**14.76**	**119**	Pn	**Pn**	**20 59 43.7**	**-1.3**
COEN	**Coen**	**14.76**	**119**	P	**P**	**20 59 48.1**	**+1.0**
	15nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.71**	**263**	Pn	**Pn**	**20 59 54.1**	**-2.7**
JAGI				IAmb	IAmb	21 00 20.6	
	comp=Z,27nm,1.1s						
QIS	**Mount Isa**	**16.45**	**146**	P	**P**	**21 00 08.1**	**+2.3**
AS31	**Alice Springs**	**17.04**	**167**	P	**Pn**	**21 00 14.3**	**+1.3**
AS31				IAmb	IAmb	21 00 36.6	
	comp=Z,3.2nm,0.9s						
ASAR	**Alice Springs**	**17.04**	**167**	P	**Pn**	**21 00 14.2**	**+1.2**
ASAR	**Alice Springs**	**17.04**	**167**	P	**Pn**	**21 00 13.9**	**+0.9**
	comp=Z,4.4nm,0.5s,baz=344,slow=9.6,SNR=37						
ASAR				S	**S**	**21 03 15.8**	**-6.7**
	comp=Z,1.4nm,0.6s,baz=330,slow=14,SNR=6.8						
WRKA	**Warakurna**	**18.04**	**185**	P	**Pn**	**21 00 25.8**	**+0.9**
OOD	**Oodnadatta**	**21.43**	**166**	P	**P**	**21 01 01.9**	**+2.1**
MULG	**Mulgathing**	**23.52**	**171**	P	**P**	**21 01 22.9**	**+2.9**
LCRK	**Leigh Creek**	**24.62**	**163**	P	**P**	**21 01 33.4**	**+3.3**
BBOO	**Buckleboo**	**26.34**	**168**	P	**P**	**21 01 46.9**	**+1.3**
STKA	**Stephens Creek**	**27.07**	**158**	P	**P**	**21 01 53.8**	**+1.6**
STKA	**Stephens Creek**	**27.07**	**158**	P	**P**	**21 01 54.3**	**+2.2**
	comp=Z,2.2nm,0.5s,baz=322,slow=12,SNR=4.2						
	comp=Z,2.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**39.65**	**310**	P	**P**	**21 03 41.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=142,slow=7.1,SNR=6.1						
	comp=Z,0.7nm,0.6s						
SONM	**Songino Array**	**58.38**	**342**	P	**P**	**21 06 05.0**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=161,slow=6.5,SNR=3.3						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**68.16**	**327**	P	**P**	**21 07 09.3**	**+1.8**
MK31				IAmb	IAmb	21 07 09.8	
	comp=Z,3.3nm,0.6s						
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**21 07 09.0**	**+1.6**
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**21 07 09.2**	**+1.7**
	comp=Z,5.4nm,0.5s,baz=114,slow=8.5,SNR=79						
	comp=Z,5.4nm,0.5s						
ZALV	**Zalesovo Beam**	**71.52**	**334**	P	**P**	**21 07 28.5**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=131,slow=5.1,SNR=3.1						
	comp=Z,0.8nm,0.7s						
KURBB	**

*MEX **03** 22:02:28.1±0.8, 15°.27N×94°.67W, h17km±804km, MD4.4*
ISC 03 22:02:24.4±0.6, 15°.33N±0°.05×94°.70W×0°.03, h10km, n86,
σ2811/120, **mb4.0**/10, **MS3.5**/3, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.23**	**4**	*e*P	**Pn**	**22 02 46.8**	**-0.9**
NILT				*e*S	**Sb**	**22 02 59.9**	**-3.9**
HUIG	**Huatulco**	**1.43**	**288**		**Pn**	**22 02 51.0**	**+0.6**
HUIG					**Sn**	**22 03 07.5**	**-1.8**
HUIG	**Huatulco**	**1.43**	**288**	*e*P	**Pn**	**22 02 50.8**	**+0.4**
HUIG				*e*S	**Sn**	**22 03 07.4**	**-1.8**
PCIG		**1.47**	**75**		**Pn**	**22 02 50.3**	**-0.8**
PCIG					**Sn**	**22 03 07.2**	**-3.1**
PCIG		**1.47**	**75**	*i* P	**Pn**	**22 02 50.2**	**-0.8**
PCIG				*e*S	**Sn**	**22 03 07.5**	**-2.8**
UXUV	**UXUV**	**2.05**	**15**	*e*P	**Pn**	**22 03 00.2**	**+1.2**
UXUV				*e*S	**Sn**	**22 03 23.8**	**-0.9**
TGIG		**2.09**	**46**		**Pn**	**22 03 00.1**	**+0.6**
TGIG					**Sn**	**22 03 25.8**	**0.0**
TGIG		**2.09**	**46**	*e*P	**Pn**	**22 03 00.5**	**+0.9**
TGIG				*e*S	**Sn**	**22 03 24.5**	**-1.0**
THIG		**2.38**	**100**	*e*P	**Pn**	**22 03 03.4**	**-0.2**
THIG				*e*S	**Sn**	**22 03 30.5**	**-2.4**
PATR	**El Naranjo**	**2.39**	**95**	*e*P	**Pn**	**22 03 03.0**	**-0.8**
PATR				*i* S	**Sn**	**22 03 29.1**	**-4.1**
PAVE	**Pavencul**	**2.44**	**93**	*e*P	**Pn**	**22 03 04.3**	**-0.2**
PAVE				*i* S	**Sn**	**22 03 31.7**	**-2.8**
PEIG	**Puerto Escondi**	**2.45**	**286**		**Pn**	**22 03 05.3**	**+0.8**
PEIG					**Sn**	**22 03 31.9**	**-2.7**
PEIG	**Puerto Escondi**	**2.45**	**286**	*e*P	**Pn**	**22 03 05.3**	**+0.8**
PEIG				*i* S	**Sn**	**22 03 31.9**	**-2.7**
CHUJ	**Union Juarez**	**2.51**	**95**	*e*P	**Pn**	**22 03 04.8**	**-0.7**
CHUJ				*i* S	**Sn**	**22 03 33.5**	**-2.9**
NEUV	**Arroyo Zacate**	**2.60**	**336**	*e*P	**Pn**	**22 03 07.4**	**+0.9**
NEUV				*e*S	**Sn**	**22 03 38.8**	**+0.6**
VHO	**Vista Hermosa**	**2.62**	**312**	*e*P	**Pb**	**22 03 10.0**	**-1.5**
VHO				*e*S	**Sn**	**22 03 39.9**	**+1.0**
CCIG	**Comitan**	**2.64**	**69**	*e*P	**Pn**	**22 03 08.7**	**+1.5**
CCIG				*e*S	**Sn**	**22 03 40.0**	**+0.5**
TUIG	**Tuzandepetl**	**2.71**	**6**	*i* P	**Pn**	**22 03 09.3**	**+1.4**
TUIG				*e*S	**Sn**	**22 03 40.4**	**-0.4**
RTAL	**Retalhuleu**	**3.01**	**105**		**Pn**	**22 03 12.5**	**+0.3**
HUEH	**Huehuetenango**	**3.08**	**90**	Pn	**Pn**	**22 03 15.2**	**+1.9**
HUEH				Sn	**Sn**	**22 03 51.5**	**+1.1**
YOIG	**Yosondua**	**3.13**	**299**	*e*P	**Pn**	**22 03 17.4**	**+3.3**
YOIG				*e*S	**Sn**	**22 03 52.0**	**+0.3**
PMUV	**Sontecomapan**	**3.23**	**353**	*e*P	**Pn**	**22 03 14.6**	**-0.6**
PMUV				*e*S	**Sn**	**22 03 53.7**	**-0.1**
PNIG	**Pinotepa**	**3.47**	**288**	*i* P	**Pn**	**22 03 20.2**	**+1.7**
PNIG				*e*S	**Sn**	**22 03 55.9**	**-3.8**
TXIG	**Tlaxiaco**	**3.52**	**303**	*e*P	**Pn**	**22 03 22.8**	**+3.5**
TXIG				*e*S	**Sn**	**22 04 00.8**	**-0.4**
TOIG	**Toxpalan**	**3.57**	**321**	*e*P	**Pb**	**22 03 24.5**	**-3.2**
TOIG				*e*S	**Sn**	**22 04 03.0**	**+0.7**
HLIG	**Huajuapan de L**	**3.88**	**310**	*e*P	**Pn**	**22 03 28.3**	**+4.0**
HLIG				*e*S	**Sn**	**22 04 10.4**	**+0.2**
TPIG	**Tehuac#an**	**4.00**	**321**	*e*P	**Pn**	**22 03 26.1**	**+0.3**
TPIG				*e*S	**Sn**	**22 04 08.7**	**-4.2**
FTIG	**Fresnillo de T**	**4.18**	**308**	*e*P	**Pn**	**22 03 32.7**	**+4.4**
FTIG				*e*S	**Sn**	**22 04 15.7**	**-1.6**
TLIG	**Tlapa**	**4.33**	**301**	*e*P	**Pn**	**22 03 34.1**	**+3.7**
TLIG				*e*S	**Sn**	**22 04 18.1**	**-2.9**
JAUV	**Jalcomulco**	**4.49**	**334**	*e*P	**Pn**	**22 03 33.4**	**+0.7**
JAUV				*e*S	**Sn**	**22 04 22.6**	**-2.4**
LVIG	**Laguna Verde**	**4.67**	**340**	*e*P	**Pn**	**22 03 34.8**	**-0.1**
LVIG				*e*S	**Sn**	**22 04 26.7**	**-2.6**
DAIG	**Los Arroyos**	**5.05**	**290**	*e*P	**Pn**	**22 03 42.8**	**+2.6**
DAIG				*e*S	**Sn**	**22 04 35.6**	**-3.1**
ESQI	**Esquipulas**	**5.23**	**98**	Pn	**Pn**	**22 03 44.6**	**+1.8**
MTO3	**Montecristo**	**5.24**	**99**		**Pn**	**22 03 44.5**	**+1.4**
PPM	**Popocatepetl**	**5.29**	**315**	*e*		22 03 28.8	
PPM				*e*		22 04 48.5	
MEIG	**Mezcala**	**5.38**	**299**	*e*P	**Pn**	**22 03 48.9**	**+4.1**
MEIG				*e*S	**Sn**	**22 04 24.9**	**-2.0**
YAIG	**Yautepec**	**5.46**	**311**	*e*P	Pn	22 03 51.4	+5.4
YAIG				*e*S	**Sn**	**22 04 47.4**	**-1.6**
PLIG	**Platanillo**	**5.52**	**304**	*e*P	Pn	22 03 51.8	+5.0
PLIG				*e*S	**Sn**	**22 04 48.4**	**-2.0**
CXUV	**Coxquihui**	**5.55**	**331**	*e*P	**Pn**	**22 03 49.2**	**+2.0**
CXUV				*e*S	**Sn**	**22 04 50.7**	**-0.4**
CAIG	**El Cayaco**	**5.62**	**288**	*e*P	**Pn**	**22 03 50.5**	**+2.5**
CAIG				*e*S	**Sn**	**22 04 47.7**	**-5.0**
ARIG	**Puente Sto Nin**	**6.16**	**299**	*e*P	**Pn**	**22 04 00.1**	**+4.6**
ARIG				*e*S	**Sn**	**22 05 04.9**	**-1.2**
ZIIG	**Zihuatanejo**	**6.88**	**290**	*e*P	**Pn**	**22 04 08.9**	**+3.5**
ZIIG				*e*S	**Sn**	**22 05 18.5**	**-5.2**
TGUH	**Tegucigalpa,Un**	**7.29**	**99**	Pn	**Pn**	**22 04 13.1**	**+1.9**
MYIG	**Mrida**	**7.32**	**39**	*e*P	**Pn**	**22 04 11.7**	**+0.3**
MYIG				*e*S	**Sn**	**22 05 37.2**	**+2.6**
TEIG	**Tepich**	**7.82**	**51**	Pn	**Pn**	**22 04 17.7**	**-0.6**
TEIG	**Tepich**	**7.82**	**51**	Pn	**Pn**	**22 04 17.9**	**-0.3**
	137nm,0.3s,baz=28,slow=3.5,SNR=46						
TEIG				Sn	**Sn**	**22 05 44.8**	**-2.1**
	121nm,0.3s,baz=102,slow=20,SNR=2.0						
TEIG				LR	LR	22 07 51.9	
	comp=Z,2μm,18.3s,baz=17,slow=42						
GTIG	**Gomez Farias**	**8.78**	**332**	*e*P	**Pn**	**22 04 34.4**	**+2.8**
MMIG	**Aquila**	**8.79**	**291**	*e*P	**Pn**	**22 04 35.5**	**+3.9**
MATN	**Matagalpa**	**8.84**	**105**		**Pn**	**22 04 32.7**	**+0.4**
HZTE	**Horizontes, Gu**	**9.98**	**116**	Pn	**Pn**	**22 04 51.2**	**+3.2**
DUNO	**Dulce Nombre,**	**10.38**	**119**	Pn	**Pn**	**22 04 55.8**	**+2.3**
JTS	**Las Juntas de**	**10.74**	**117**	Pn	**Pn**	**22 05 01.7**	**+3.4**
RIMA	**Rio Macho**	**11.93**	**116**		**Pn**	**22 05 16.9**	**+2.0**
SRBA	**San Rafael, Bu**	**12.62**	**117**	Pn	**Pn**	**22 05 25.9**	**+1.6**
DRK0	**Durika**	**12.71**	**117**	Pn	**Pn**	**22 05 27.3**	**+1.8**
SOR	**Soroa**	**13.31**	**54**	Pn	**Pn**	**22 05 30.8**	**-2.7**
833A	**Chaparral WMA,**	**13.65**	**342**		**Pn**	**22 05 39.8**	**+1.7**
HNDO	**Hondo**	**14.75**	**344**		**Pn**	**22 05 55.1**	**+1.9**
DRIO	**Del Rio**	**15.06**	**340**	Pn	**Pn**	**22 05 59.6**	**+2.3**
435B	**Jarrell**	**15.61**	**351**	Pn	**Pn**	**22 06 04.7**	**+0.1**
435B				IAmb	IAmb	22 06 12.4	
	comp=Z,17nm,0.8s						
JCT	**Junction City**	**15.79**	**344**	Pn	**Pn**	**22 06 07.7**	**+0.7**
SAND	**Sanderson**	**16.08**	**336**		**P**	**22 06 13.1**	**-1.1**
SAND				IAmb	IAmb	22 06 18.6	
	comp=Z,4.7nm,0.9s						
TXAR	**Lajitas Array**	**16.21**	**331**		**Pn**	**22 06 14.6**	**+2.1**
TXAR	**Lajitas Array**	**16.21**	**331**	Pn	**P**	**22 06 16.1**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=15,SNR=11						
	comp=Z,2.4nm,1.0s						
TX32	**Lajitas Array**	**16.21**	**331**		**P**	**22 06 15.2**	**-0.4**
WHTX	**Lake Whitney,**	**16.78**	**352**		**Pn**	**22 06 20.4**	**+0.9**
WHTX				IAmb	IAmb	22 06 33.1	
	comp=Z,21nm,0.9s						
SGCY	**Sterling City**	**17.52**	**342**	P	**P**	**22 06 30.4**	**+0.3**
SGCY				IAmb	IAmb	22 06 42.3	
	comp=Z,14nm,0.9s						
ABTX	**Abilene, Hawle**	**17.80**	**346**	P	**P**	**22 06 33.6**	**+0.5**
ABTX				IAmb	IAmb	22 06 42.2	
	comp=Z,11nm,0.8s						
LOOK	**Love County**	**18.72**	**354**		**Pn**	**22 06 44.3**	**+0.8**
MIAR	**Mount Ida**	**19.16**	**3**	P	**P**	**22 06 48.0**	**0.0**
MIAR				IAmb	IAmb	22 07 07.6	
	comp=Z,17nm,1.5s						
X34A	**Smith Ranch, M**	**19.40**	**352**		**Pn**	**22 06 51.9**	**+0.1**
T25A	**Trinidad**	**23.38**	**340**	P	**P**	**22 07 35.2**	**+1.7**
T25A				IAmb	IAmb	22 07 38.0	
	comp=Z,8.1nm,1.1s						
CBKS	**Cedar Bluff**	**23.82**	**350**	P	**P**	**22 07 39.3**	**+1.7**
SDCO	**Great Sand Dun**	**24.29**	**339**	P	**P**	**22 07 43.5**	**+1.1**
SDCO				IAmb	IAmb	22 07 49.4	
	comp=Z,5.5nm,1.2s						
SDV	**Santo Domingo**	**24.37**	**102**	LR	LR	22 17 57.4	
	comp=Z,79nm,19.9s,baz=326,slow=39						
NVAR	**Mina Array Bea**	**31.02**	**322**	P	**P**	**22 08 44.3**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=2.4						
	comp=Z,0.3nm,0.3s						
PLID	**Pearl Lake**	**34.69**	**333**	P	**P**	**22 09 15.2**	**+0.6**
PLID				IAmb	IAmb	22 09 17.1	
	comp=Z,3.8nm,1.0s						
YBH	**Yreka Blue Hor**	**35.73**	**323**	LR	LR	22 25 51.0	
	comp=Z,68nm,18.4s,baz=156,slow=39						
SCHQ	**Schefferville**	**44.95**	**23**	LR	LR	22 32 08.9	
	comp=Z,54nm,20.2s,baz=236,slow=40						
ILAR	**Eielson Array**	**60.60**	**337**	P	**P**	**22 12 36.2**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=117,slow=4.2,SNR=5.6						
	comp=Z,0.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**78.42**	**36**	P	**P**	**22 14 24.3**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=269,slow=5.6,SNR=8.2						
	comp=Z,1.0nm,0.4s						
ESDC	**Sonseca Array**	**80.94**	**51**	P	**P**	**22 14 38.4**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=277,slow=6.2,SNR=5.7						
	comp=Z,1.1nm,0.9s						
NOA	**NORSAR Array B**	**84.22**	**28**	P	**P**	**22 14 56.0**	**0.0**
	comp=Z,1.0nm,0.9s,baz=298,slow=5.5,SNR=1.6						
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**85.69**	**18**	P	**P**	**22 15 03.7**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=335,slow=5.4,SNR=3.6						
	comp=Z,2.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**92.59**	**76**	P	**P**	**22 15 36.0**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=286,slow=4.3,SNR=4.4						
	comp=Z,0.3nm,0.6s						
PZH	**PanZhiHua**	**135.46**	**339**	PKP	**PKPdf**	**22 21 45.7**	**0.0**

*IDC **03** 22:08:46.8±9.7, 35°.69N×69°.28E, h107km±120km, mb3.3/1, mbtmp3.4/5, ML3.0/4, Error ellipse: s-maj=132.2km s-min=59.7km az=159.0*
ISC 03 22:08:52.4±3.5, 36°.2N±0°.2×69°.4E±0°.3, h112km, n7,
σ0973/8, **3C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.80**	**28**	⇑P	**Pn**	**22 10 29.1**	**-0.9**
	0.2nm,0.5s						
AML				⇑S	**Sn**	**22 11 46.0**	**-0.1**
	1.9nm,0.6s						
KK31	**Karatay Array**	**6.95**	**7**	⇑P	**Pn**	**22 10 31.0**	**-0.6**
	1.1nm,0.5s,baz=177,slow=15,SNR=14						
KK31				⇓S	**Sn**	**22 11 49.4**	**+0.4**
	2.2nm,0.5s,baz=189,slow=22,SNR=8.2						
GEYT	**Alibeck**	**9.16**	**284**	P	Pn	22 10 57.0	-4.7
	0.2nm,0.3s,baz=101,slow=15,SNR=1.8						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**14.32**	**38**	P	**Pn**	**22 12 10.6**	**+0.7**
	baz=233,slow=14,SNR=2.7						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**15.86**	**22**	P	**Pn**	**22 12 29.6**	**+0.5**
	baz=209,slow=10,SNR=2.0						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**16.84**	**2**	P	**Pn**	**22 12 41.9**	**+0.8**
	0.1nm,0.3s,baz=158,slow=10.0,SNR=4.5						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**20.75**	**26**	P	**P**	**22 13 23.8**	**-0.1**
	1.1nm,0.4s,baz=217,slow=10,SNR=7.8						
	1.1nm,0.4s						

*KNET **03** 22:20:41.6±0.3, 42°.58N×75°.16E, h16km±3km, ml1.4, Error ellipse: s-maj=2.9km s-min=2.3km az=131.0*
*NNC **03** 22:20:41.4±0.8, 42°.59N×75°.16E, h0km, mb2.6, mpv2.7, Error ellipse: s-maj=7.0km s-min=3.6km az=167.0*
*KRNET **03** 22:20:42.2±0.1, 42°.56N×75°.15E, h16km, mb2.0*
*SOME **03** 22:20:42.7, 42°.62N×75°.15E, h10km*
ISC 03 22:20:41.8±0.9, 42°.58N±0°.02×75°.16E±0°.01, h14km±7km,
n43, σ0994/80, **26C-16D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak**	**0.18**	**297**	⇓P	**Pg**	**22 20 46.2**	**0.0**
	41nm,0.1s,SNR=50						
KBK				⇑S	**Sg**	**22 20 49.0**	**-0.1**
	203nm,0.2s						
FRU1	**Bishkek**	**0.46**	**301**	⇑*i*P	**Pg**	**22 20 51.1**	**+0.2**
	baz=3.0						
FRU1				⇑*i*S	**Sb**	**22 20 57.8**	**-0.7**
	baz=3.0						
TKM2	**Tokmak 2**	**0.47**	**43**	⇓P	**Pg**	**22 20 51.2**	**-0.1**
	27nm,0.1s,SNR=58						
TKM2				⇓S	**Sg**	**22 20 57.4**	**-0.2**
	162nm,0.2s						
TKM2	**Tokmak 2**	**0.47**	**43**	⇑P	**Pg**	**22 20 51.1**	**-0.1**
	2.5nm,0.1s						
TKM2				⇑S	**Sg**	**22 20 57.3**	**-0.3**
	22nm,0.2s						
AAK	**Ala-Archa**	**0.50**	**277**	⇑P	**Pg**	**22 20 51.9**	**+0.1**
	5.0nm,0.2s,SNR=12						
AAK				⇑S	**Sg**	**22 20 58.7**	**+0.3**
	26nm,0.2s						
CHMS	**Chumysh**	**0.52**	**324**	⇓P	**Pg**	**22 20 52.1**	**-0.1**
	7.8nm,0.1s,SNR=18						
CHMS				⇑S	**Sg**	**22 20 58.9**	**-0.2**
	105nm,0.2s						
CHMS	**Chumysh**	**0.52**	**324**	⇑P	**Pg**	**22 20 52.0**	**-0.1**
	2.9nm,0.2s						
CHMS				⇓S	**Sg**	**22 20 58.9**	**-0.2**
	17nm,0.2s						
BOOM	**Boomskoye usch**	**0.58**	**98**	⇑*i*P	**Pg**	**22 20 53.5**	**+0.2**
	baz=96						
BOOM				⇑*i*S	**Sg**	**22 21 01.5**	**+0.5**
	baz=96						
UCH	**Uchtor**	**0.59**	**234**	⇓P	**Pg**	**22 20 53.8**	**+0.2**
	5.2nm,0.1s,SNR=5.6						
UCH				⇑S	**Sg**	**22 21 01.9**	**+0.4**
	7.7nm,0.1s						
KST	**Kastek**	**0.75**	**51**	P	**Pg**	**22 20 56.5**	**0.0**
	2.8nm,0.1s						
KST				S	**Sg**	**22 21 06.1**	**-0.2**
	19nm,0.2s						
KST	**Kastek**	**0.75**	**51**	*e*P	**Pg**	**22 20 56.5**	**0.0**
	2.8nm,0.1s						
KST				*e*S	**Sg**	**22 21 06.2**	**-0.2**
	27nm,0.1s						
DGS	**Degeres**	**0.80**	**34**	P	**Pg**	**22 20 57.3**	**-0.1**
	2.4nm,0.1s						
DGS				S	**Sg**	**22 21 07.9**	**-0.1**
	12nm,0.1s						
DGS	**Degeres**	**0.80**	**34**	*e*P	**Pg**	**22 20 57.4**	**-0.1**
	2.4nm,0.1s						
DGS				*e*S	**Sg**	**22 21 07.8**	**-0.2**
	15nm,0.1s						
USP	**Ospenovka**	**0.84**	**325**	⇓P	**Pb**	**22 20 57.8**	**-0.5**
	7.2nm,0.1s,SNR=5.3						
USP				⇑S	**Sg**	**22 21 09.0**	**-0.3**
	21nm,0.1s						
ULHL	**Ulahol**	**0.86**	**112**	⇑P	**Pb**	**22 20 58.8**	**0.0**
	1.7nm,0.1s,SNR=7.9						
ULHL				⇑S	**Sb**	**22 21 10.5**	**+0.2**
	6.6nm,0.1s						
ARLS	**Aral**	**0.95**	**221**	⇑*e*P	**Pb**	**22 20 59.7**	**-0.5**
	baz=21						
ARLS				⇑*i*S	**Sb**	**22 21 12.7**	**0.0**
	baz=21						
SGDS	**Sogindy**	**0.96**	**336**	P	**Pb**	**22 20 59.8**	**-0.5**
	1.4nm,0.2s						
SGDS				S	**Sb**	**22 21 12.4**	**-0.5**
	12nm,0.1s						
EKS2	**Erkin-Say**	**1.03**	**275**	⇓P	**Pb**	**22 21 01.7**	**+0.2**
	2.0nm,0.1s,SNR=17						
EKS2				⇓S	**Sn**	**22 21 16.1**	**-0.2**
	5.2nm,0.2s						
MTBS	**Maitube**	**1.08**	**59**	P	**Pb**	**22 21 02.5**	**0.0**
	2.5nm,0.1s						
MTBS				S	**Sg**	**22 21 17.0**	**+0.1**
	26nm,0.2s						
MTBS	**Maitube**	**1.08**	**59**	*e*P	**Pn**	**22 21 02.8**	**+0.1**
	2.5nm,0.1s						
MTBS				*e*S	**Sg**	**22 21 17.0**	**+0.1**
	26nm,0.2s						
IZV	**Izvestkoviy**	**1.16**	**66**	P	**Pg**	**22 21 04.3**	**+0.1**
	1.6nm,0.1s						
IZV				S	**Sg**	**22 21 20.1**	**+0.6**
	5.8nm,0.2s						
IZV	**Izvestkoviy**	**1.16**	**66**	*e*P	**Pg**	**22 21 04.4**	**+0.1**
	1.6nm,0.1s						
IZV				*e*S	**Sg**	**22 21 19.8**	**+0.4**
	18nm,0.1s						
AML	**Almayashu**	**1.18**	**248**	⇑P	**Pb**	**22 21 01.5**	**-2.7**
	0.1nm,0.6s						
AML				⇑S	**Sg**	**22 21 20.4**	**+0.5**
	0.3nm,0.4s						
KRBS	**Karabastau**	**1.18**	**18**	P	**Pb**	**22 21 04.2**	**+0.1**
	3.5nm,0.1s						
KRBS				S	**Sb**	**22 21 19.2**	**-0.1**
	5.6nm,0.1s						
KRBS	**Karabastau**	**1.18**	**18**	*e*P	**Pb**	**22 21 04.2**	**+0.1**
	3.5nm,0.1s						
KRBS				*e*S	**Sb**	**22 21 19.2**	**-0.1**
	10nm,0.0s						
NRN	**Naryn**	**1.30**	**151**	⇑*e*P	**Pb**	**22 21 06.5**	**+0.2**
	baz=51						
NRN				⇑*i*S	**Sn**	**22 21 24.1**	**+0.8**
	baz=51						
MRKS	**Merke**	**1.44**	**277**	P	**Pb**	**22 21 09.1**	**+0.6**
	3.2nm,0.2s						
MRKS				S	**Sg**	**22 21 27.8**	**-0.4**
	9.8nm,0.2s						
MRKS	**Merke**	**1.44**	**277**	*e*P	**Pb**	**22 21 09.1**	**+0.6**
	3.2nm,0.2s						
MRKS				*e*S	**Sg**	**22 21 27.8**	**-0.4**
	9.8nm,0.2s						
KNDC	**Almaty**	**1.47**	**64**	⇑P	**Pn**	**22 21 04.2**	**-3.9**
	1.8nm,0.3s						
KNDC				⇓S	**Sn**	**22 21 25.1**	**-2.0**
	17nm,0.6s						
KOTS	**Kotyrbulak**	**1.58**	**65**	P	**Pg**	**22 21 12.2**	**+0.1**
	2.3nm,0.2s						
KOTS				S	**Sg**	**22 21 33.3**	**+0.7**
	14nm,0.3s						
KOTS	**Kotyrbulak**	**1.58**	**65**	*e*P	**Pg**	**22 21 12.2**	**+0.1**
	2.3nm,0.1s						
KOTS				*e*S	**Sg**	**22 21 33.3**	**+0.7**
	14nm,0.3s						
KTBS	**Karatobe**	**1.59**	**44**	P	**Pb**	**22 21 11.6**	**+0.5**
	2.9nm,0.1s						
KTBS				S	**Sg**	**22 21 32.3**	**-0.7**
	23nm,0.2s						
KTBS	**Karatobe**	**1.59**	**44**	*e*P	**Pb**	**22 21 11.6**	**+0.5**
	3.3nm,0.1s						
KTBS				*e*S	**Sb**	**22 21 32.0**	**+1.0**
	30nm,0.2s						
ANVS	**Anan'yevo**	**1.86**	**83**	⇓*i*P	**Pb**	**22 21 16.6**	**+0.9**
	baz=82						
ANVS				⇓*i*S	**Sg**	**22 21 41.6**	**0.0**
	baz=82						
MNAS	**Manas**	**1.97**	**268**	⇓*i*P	**Pb**	**22 21 17.9**	**+0.4**
	baz=69						
MNAS				⇓*i*S	**Sg**	**22 21 44.0**	**-1.1**
	baz=69						
SATY	**Saty**	**2.44**	**77**	Pg	**Pg**	**22 21 27.8**	**-0.7**
	5.0nm,0.2s						
SATY				Lg	Lg	22 21 60.0	
	7.9nm,0.3s						
SATY	**Saty**	**2.44**	**77**	*e*Pg	**Pg**	**22 21 27.8**	**-0.7**
	5.0nm,0.2s						
SATY				*e*Lg	Lg	22 21 60.0	
	21nm,0.1s						
ARK	**Arkit**	**2.50**	**253**	⇓*i*P	**Pb**	**22 21 25.2**	**-1.4**
	baz=53						
ARK				⇓*i*S	**Sb**	**22 21 56.6**	**-0.8**
	baz=53						
BTLS	**Baital**	**2.59**	**342**	Pg	**Pb**	**22 21 28.6**	**+0.4**
	1.4nm,0.3s						
BTLS				Lg	Lg	22 22 01.3	
	11nm,0.2s						
BTLS	**Baital**	**2.59**	**342**	*e*Pg	**Pb**	**22 21 28.6**	**+0.4**
	1.4nm,0.3s						
BTLS				*e*Lg	Lg	22 22 01.3	
	11nm,0.2s						
BLB	**Baldybastay**	**2.86**	**57**	Pg	**Pb**	**22 21 33.6**	**+0.9**
BLB				Lg	Lg	22 22 10.4	
KK31	**Karatay Array**	**3.46**	**280**	⇑Pg	**Pg**	**22 21 46.8**	**-1.4**
	0.2nm,0.3s,baz=95,slow=13						
KK31				⇑Lg	Lg	22 22 29.4	
	0.8nm,0.5s,baz=96,slow=29,SNR=10						
KKAR	**Karatay Array**	**3.46**	**280**	⇑*i*P	**Pn**	**22 21 38.5**	**+3.1**
	baz=81						
KKAR				⇑*i*S	**Sn**	**22 22 19.8**	**+3.6**
	baz=81						

*IDC **03** 22:21:16.7±1.1, 55°.20S×28°.78W, h0km, mb4.0/3, mbtmp4.0/4, ML4.0/1, MS3.5/2, Error ellipse: s-maj=48.8km s-min=27.5km az=47.0*
*NEIC **03** 22:21:18.4±2.4, 55°.1S±0°.1×28°.8W±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=21.6km s-min=18.6km az=117.0*
ISC 03 22:21:18.0±0.8, 55°.2S±0°.1×28°.8W±0°.1, h10km, n21,
σ0966/19, **mb4.3/5, 2C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.57**	**278**	Pn	**Pn**	**22 22 26.6**	**-0.5**
ORCD	**Orcadas**	**10.14**	**230**	Pn	**Pn**	**22 23 43.3**	**-0.1**
SNAA	**Sanae**	**19.89**	**156**	P	**P**	**22 25 48.5**	**-0.8**
SNAA	**Sanae**	**19.89**	**156**	⇑P	**P**	**22 25 48.9**	**-0.3**
SNAA	**Sanae**	**19.89**	**156**	P	**P**	**22 25 48.9**	**-0.3**
	0.4nm,0.3s,baz=296,slow=11,SNR=18						
	1.6nm,0.5s						
TROLL	**Troll, Antarti**	**21.41**	**154**	⇑P	**P**	**22 26 05.0**	**-0.7**
	comp=Z,190nm,0.8s						
BELA	**Belgrano 2**	**22.88**	**183**	P	**P**	**22 26 21.9**	**+0.6**
CPUP	**Villa Florida**	**35.58**	**312**	P	**P**	**22 28 15.8**	**+0.5**
CPUP				IAmb	IAmb	22 28 18.4	
	comp=Z,11nm,1.5s						
CPUP	**Villa Florida**	**35.58**	**312**	P	**P**	**22 28 14.2**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=141,slow=7.7,SNR=3.8						
	comp=Z,1.7nm,0.6s						
GO02	**Mina Guanaco**	**42.30**	**298**	P	**P**	**22 29 12.8**	**+0.7**
PB01	**IPOC Station P**	**45.70**	**302**	P	**P**	**22 29 40.1**	**+0.9**
PB01				IAmb	IAmb	22 30 05.5	
	comp=Z,8.4nm,1.

SDV	Santo Domingo	34.80	69	LR	LR	22 45 09.2	
	comp=Z,175nm,20.6s,baz=258,slow=32						
BRDY	Brady	35.13	6	P	P	22 33 27.4	0.0
BRDY				IAmb	IAmb	22 33 42.2	
	comp=Z,6.2nm,1.2s						
LPAZ	La Paz	36.57	112	LR	LR	22 45 31.4	
	comp=Z,99nm,18.6s,baz=290,slow=30						
H03N2	Juan Fernandez	37.15	145	T	T	23 13 12.5	
	baz=319,slow=78,SNR=17						
H03N1	Juan Fernandez	37.16	145	T	T	23 13 13.8	
	baz=319,slow=78,SNR=20						
H03N3	Juan Fernandez	37.16	145	T	T	23 13 14.3	
	baz=319,slow=78,SNR=17						
113A	Mohawk Valley,	37.75	345	P	P	22 33 49.0	-0.7
113A				IAmb	IAmb	22 33 55.5	
	comp=Z,9.4nm,1.5s						
LVC	Limon Verde	38.06	122	LR	LR	22 45 52.7	
	comp=Z,110nm,18.3s,baz=276,slow=30						
X18A	Snowflake	38.68	351	P	P	22 33 59.1	+1.3
ANMO	Albuquerque	38.68	356	LR	LR	22 47 41.0	
	comp=Z,68nm,18.6s,baz=276,slow=33						
X16A	Lo Mia Camp, P	38.83	349	P	P	22 33 59.4	+0.4
PFO	Pinyon Flats O	39.29	342	LR	LR	22 46 13.5	
	comp=Z,131nm,20.3s,baz=349,slow=30						
PCRV	Puerto La Cruz	40.81	70	LR	LR	22 50 07.9	
	comp=Z,139nm,20.9s,slow=34						
U38A	Gravette	40.88	11	P	P	22 34 17.4	+1.5
U38A				IAmb	IAmb	22 34 30.7	
	comp=Z,8.2nm,1.2s						
SJG	San Juan	42.50	58	LR	LR	22 49 03.9	
	comp=Z,72nm,18.9s,baz=229,slow=31						
CFA	Coronel Fontan	42.90	134	LR	LR	22 48 04.2	
	comp=Z,160nm,19.1s,baz=295,slow=30						
GMN	Gold Mountain	42.96	343	P	P	22 34 33.1	-0.1
SRU	San Rafael Swe	43.25	352	P	P	22 34 36.1	+0.7
SRU				IAmb	IAmb	22 34 50.8	
	comp=Z,7.1nm,1.2s						
TKL	Tuckaleechee C	43.27	23	LR	LR	22 50 17.4	
	comp=Z,42nm,21.7s,baz=34,slow=33						
ISCO	Idaho Springs	43.46	357	P	P	22 34 38.0	+0.7
R11B	Troy Canyon, C	43.51	346	P	P	22 34 37.7	+0.3
R11B				IAmb	IAmb	22 34 53.0	
	comp=Z,9.7nm,1.4s						
NVAR	Mina Array Bea	44.31	343	P	P	22 34 45.2	+1.2
NVAR	Mina Array Bea	44.31	343	LR	LR	22 49 14.3	
	comp=Z,96nm,20.1s,baz=273,slow=31						
DUG	Dugway, Tooele	44.69	349	P	P	22 34 48.0	+1.2
DUG				IAmb	IAmb	22 35 03.3	
	comp=Z,7.5nm,1.2s						
KVN	Kaiserville	44.83	343	P	P	22 34 48.7	+0.6
KVN				IAmb	IAmb	22 35 14.2	
	comp=Z,6.7nm,1.4s						
ELK	Elko	45.71	347	LR	LR	22 50 07.4	
	comp=Z,54nm,20.0s,baz=218,slow=31						
BW06	Boulder Array	46.73	354	P	P	22 35 02.7	-0.4
PDAR	Pinedale Array	46.73	354	P	P	22 35 01.1	-1.9
	comp=Z,3.6nm,1.2s,baz=152,slow=13,SNR=8.9						
	comp=Z,3.6nm,1.2s						
PLCA	Paso Flores	47.02	146	LR	LR	22 49 41.4	
	comp=Z,157nm,21.9s,baz=338,slow=29						
PPT	Papeete	47.46	250	LR	LR	22 49 44.4	
	comp=Z,110nm,18.7s,baz=128,slow=30						
LOHW	Long Hollow	47.69	353	P	P	22 35 10.3	-0.3
YHL	Hebgen Lake	48.98	352	P	P	22 35 20.7	+0.1
CPUP	Villa Florida	49.23	122	LR	LR	22 52 32.3	
	comp=Z,53nm,21.1s,baz=276,slow=31						
SADO	Sadowa	52.93	21	LR	LR	22 56 54.6	
	comp=Z,51nm,20.5s,baz=193,slow=34						
NEW	Newport	53.29	348	LR	LR	22 56 24.9	
	comp=Z,61nm,18.4s,baz=200,slow=34						
RAR	Rarotonga	57.58	247	LR	LR	22 54 13.8	
	comp=Z,74nm,21.4s,baz=32,slow=29						
SCHQ	Schefferville	65.72	22	LR	LR	23 05 21.0	
	comp=Z,103nm,19.0s,baz=254,slow=35						
ILAR	Eielson Array	75.57	342	P	P	22 38 17.9	-0.3
	comp=Z,0.9nm,0.9s,baz=139,slow=4.0,SNR=7.7						
	comp=Z,0.9nm,0.9s						
URZ	Urewera	79.58	232	LR	LR	23 08 56.2	
	comp=Z,70nm,19.1s,baz=214,slow=32						
RPZ	Rata Peaks	84.33	227	LR	LR	23 08 04.0	
	comp=Z,79nm,18.3s,baz=146,slow=30						
QSPA	South Pole Qui	86.23	180	P	P	22 39 16.7	+1.5
SHEM	Shemya Is, Ala	88.61	323	LR	LR	23 11 34.5	
	comp=Z,52nm,19.7s,baz=298,slow=31						
BORG	Borgarnes	89.94	25	LR	LR	23 19 09.7	
	comp=Z,35nm,18.5s,baz=10,slow=35						
PETK	Petropavlovsk-	98.53	323	LR	LR	23 16 47.7	
	comp=Z,39nm,20.0s,baz=94,slow=31						
MDT	Midelt	99.25	58	LR	LR	23 20 02.5	
	comp=Z,32nm,18.3s,baz=282,slow=32						
ESDC	Sonseca Array	99.51	51	LR	LR	23 16 46.8	
	comp=Z,38nm,21.1s,baz=273,slow=30						
WRA	Warramunga Arr	118.81	245	PKPdf	PKPdf	22 45 22.3	-0.9
BVAR	Borovoye Array	130.66	5	PKP	PKiKP	22 45 45.7	0.0
	comp=Z,0.6nm,0.4s,baz=338,slow=3.1,SNR=5.1						
ABKAR	Akbulak array	132.50	15	PKPdf	PKPdf	22 45 48.7	+0.3
MKAR	Makanchi Array	136.93	355	PKP	PKiKP	22 45 59.1	+0.4
	comp=Z,0.5nm,0.8s,baz=19,slow=4.9,SNR=3.4						
GEYT	Alibeck	141.98	24	PKP	PKiKP	22 46 09.1	-0.2
	comp=Z,0.3nm,0.3s,baz=338,slow=35,SNR=1.7						
HRA	Herat	146.70	22	PKPdf	PKPdf	22 46 14.1	-0.8
LSA	Lhasa	150.91	334	PKPbc	PKPbc	22 46 27.0	-0.8
CRAI	Chiangrai	151.86	307		PKPdf	22 46 23.5	+0.3
CMAR	Chiang Mai Arr	153.94	306	PKPbc	PKPbc	22 46 32.9	-1.4
CMAR	Chiang Mai Arr	153.94	306	PKPbc	PKPbc	22 46 34.1	-0.2
	comp=Z,0.4nm,0.3s,baz=101,slow=1.4,SNR=1.1						

*IDC **03** 22:58:34.4±0.9, 3°.23N×125°.16E, h0km, mb3.9/7, mbtmp3.9/7, MS3.3/2, Error ellipse: s-maj=82.8km s-min=17.5km az=70.0*

ISC 03 22:58:39.5±1.0, 3°.2N±0°.2×125°.2E±0°.6, h35km, n8, σ0s67/7, mb3.9/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.72	159	P	P	23 03 57.7	-0.1
	2.4nm,0.7s,baz=335,slow=10,SNR=30						
	2.4nm,0.7s						
ASAR	Alice Springs	28.05	163	P	P	23 04 27.3	-0.5
	0.2nm,0.3s,baz=341,slow=11,SNR=1.7						
	0.2nm,0.3s						
KSRS	Korea Array	34.16	4	P	P	23 05 21.6	+0.3
	0.9nm,0.6s,baz=173,slow=10,SNR=5.3						
	0.9nm,0.6s						
STKA	Stephens Creek	38.24	157	P	P	23 05 56.9	+0.5
	1.6nm,0.7s,baz=324,slow=14,SNR=1.5						
STKA				LR	LR	23 21 22.7	
	comp=Z,55nm,18.2s,baz=38,slow=36						
	1.6nm,0.7s						
KLR	Kul'dur	46.18	6	LR	LR	23 25 30.7	
	comp=Z,31nm,21.2s,baz=62,slow=35						
MKAR	Makanchi Array	57.09	326	P	P	23 08 23.1	+0.7
	0.6nm,0.6s,baz=113,slow=8.3,SNR=7.3						
	0.6nm,0.6s						
KURBB	Kurchatov Arra	61.33	328	P	P	23 08 51.6	-0.1
	0.5nm,0.4s,baz=127,slow=6.1,SNR=9.1						
	0.5nm,0.4s						
NRIK	Noril'sk	70.55	347	P	P	23 09 49.8	-0.8
	2.5nm,0.5s,baz=145,slow=5.1,SNR=6.8						
	2.5nm,0.5s						

UPP 03 23:29:19.8±0.1, 67°.86N×20°.18E, h0km, ML1.9, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.11	32	P	Pg	23 29 22.1	+0.2
RATU	Laukkuluspa	0.23	261	P	Pg	23 29 24.3	+0.2
RATU				S	Sg	23 29 27.5	+0.5
KOVU	Salmi	0.37	359	P	Pg	23 29 27.0	+0.2
LANU	Lannavaara	0.71	74	P	Pg	23 29 33.3	-0.1
SALU	Saltoluokta	0.80	234	P	Pg	23 29 35.0	-0.1

*HEL **03** 23:29:21.6±0.1, 67°.84N×20°.17E, h0km, ML1.7, Suspected explosion*

UPP 03 23:29:21.5±0.0, 67°.84N×20°.22E, h0km, ML2.0, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.12	21	P	Pg	23 29 24.0	+0.2
KUA				S	Sg	23 29 25.6	+0.3
RATU	Laukkuluspa	0.24	266	P	Pg	23 29 26.2	+0.1
KOVU	Salmi	0.38	357	P	Pg	23 29 28.8	0.0
KOVU				S	Sg	23 29 33.8	+0.1
LANU	Lannavaara	0.70	72	P	Pg	23 29 34.7	-0.2
LANU				S	Sg	23 29 44.1	+0.2
LANU	Lannavaara	0.70	72	PG	Pg	23 29 34.6	-0.3
LANU				SG	Sg	23 29 43.9	-0.1
DUNU	Dundret	0.74	169	P	Pg	23 29 35.3	-0.3
SALU	Saltoluokta	0.81	235	P	Pg	23 29 36.5	-0.3
KIF	Kilpisjarvi	1.19	10	eP	Pg	23 29 44.0	-0.2
KIF	Kilpisjarvi	1.19	10	PB	Pg	23 29 44.1	-0.1
KIF				MSG		23 29 58.7	
	comp=Z,13nm,0.2s						
KIF				SB	Sg	23 29 59.7	+0.2
PAJU	Pajala	1.39	125	P	Pg	23 29 46.9	-1.1
PAJU	Pajala	1.39	125	PG	Pg	23 29 46.9	-1.2
	baz=305						
PAJU				SG	Sg	23 30 05.5	-0.5
HEF	Hetta	1.41	65	eP	Pn	23 29 47.1	-1.3
HEF	Hetta	1.41	65	PG	Pn	23 29 47.3	-1.1
	baz=250						
HEF				MSG		23 30 04.4	
	comp=Z,5.7nm,0.2s						
HEF				SG	Sg	23 30 05.8	-0.9
ERTU	Ertsjaerv	1.50	148	PG	Pn	23 29 48.8	-0.9
ERTU				SN	Sg	23 30 09.7	-0.1
KLF	Kolari	1.56	111	PG	Pn	23 29 50.0	-0.4
	baz=296						
KLF				MSG		23 30 08.8	
	comp=Z,4.9nm,0.2s						
KLF				SN	Sn	23 30 11.3	0.0
KTK1	Kautokeino	1.62	42	PG	Pn	23 29 50.9	-0.4
KTK1				SN	Sn	23 30 12.8	0.0
TRO	Tromso	1.86	346	SN	Sb	23 30 19.6	-0.4
KALU	Kalix	2.35	147	PB	Pn	23 30 01.5	+0.3
KALU				SG	Sb	23 30 32.9	-1.1
TOF	Tornio	2.40	136	PB	Pn	23 30 03.3	+1.4
TOF				MSG		23 30 32.9	
	comp=Z,2.4nm,0.2s						
TOF				SG	Sb	23 30 35.8	+0.3
SGF	Sodankyl	2.44	97	PB	Pn	23 30 03.2	+0.6
SGF				SB	Sb	23 30 35.1	-1.8
ARA0	ARCESS Array S	2.57	46	PB	Pn	23 30 04.7	+0.4
	baz=229						
ARA0				SB	Sn	23 30 37.3	+1.0
RNF	Rovaniemi	2.57	116	PB	Pn	23 30 06.2	+1.8
RNF				SB	Sb	23 30 39.7	-0.8
KEV	Kevo	3.12	49	PN	Pn	23 30 13.1	+1.2
KEV				SN	Sn	23 30 51.0	+1.1
KEV				MSG		23 30 53.8	
	comp=Z,2.2nm,0.2s						
VRF	Varrio	3.57	87	PG	Pb	23 30 25.5	+0.2
	baz=277						
VRF				SB	Sb	23 31 08.5	-0.6
OUL	Oulu	3.58	138	SG	Sb	23 31 10.4	+0.8
OLKF	Oulanka, Finla	3.90	109	PN	Pn	23 30 23.7	+1.1
KU6	Riekki	4.22	111	PG	Pb	23 30 37.3	+0.9

*IDC **03** 23:39:26.1±1.8, 0°.93N×127°.39E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=165.5km s-min=21.8km az=67.0*

*DJA **03** 23:39:27.8±0.4, 1°.N±3°.×12°.8E±°, h12km±2km, M3.8/13, mb4.2/4, mB5.2/2, MLv3.6/13, Mw(mB)4.6/2*

ISC 03 23:39:29.1±2.2, 0°.92N±0°.08×127°.55E±0°.09, h18km±9km, n14, σ1s24/16, mb3.7/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.23	231	P	Pb	23 39 33.9	-0.8
TNTI				S	Sg	23 39 38.6	+0.4
LBMI	Labuha	1.55	182	P	Pn	23 39 56.5	+0.7
SANI	Sanana	3.33	208	P	Pn	23 40 18.7	-1.7
SANI				S	Sn	23 41 00.2	+0.6
SWI	Sorong	4.11	115	P	Pn	23 40 30.1	-1.0
NLAI	Namlea	4.15	186	P	Pn	23 40 31.8	+0.1
NLAI				S	Sn	23 41 21.4	+1.6
GTOI	Gorontalo	4.55	266	P	Pn	23 40 39.4	+2.3
LUWI	Luwuk	5.16	248	P	Pn	23 40 45.5	0.0
	24nm,0.6s,0.1nm						
MRSI	Marisa	5.62	266	P	Pn	23 40 50.3	-1.6
	14nm,0.7s,0.1nm						
MPSI	Mapaga	7.67	266	P	Pn	23 41 18.8	-1.2
	6.5nm,0.9s,817nm0.0nm						
TTSI	Tana Toraja	8.67	243	P	Pn	23 41 33.1	-0.7
WRA	Warramunga Arr	21.77	163	P	P	23 44 20.5	+0.4
	1.4nm,0.6s,baz=341,slow=11,SNR=14						
	1.4nm,0.6s						
ASAR	Alice Springs	25.21	166	P	P	23 44 54.0	+0.1
	1.4nm,0.8s,baz=347,slow=12,SNR=11						
	1.4nm,0.8s						
MKAR	Makanchi Array	60.32	326	P	P	23 49 36.4	-0.6
	0.5nm,0.6s,baz=112,slow=9.3,SNR=4.5						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	64.53	328	P	P	23 50 04.2	-0.8
	0.2nm,0.3s,baz=128,slow=5.9,SNR=6.1						
	0.2nm,0.3s						

*IDC **03** 23:43:50.0±9.3, 8°.83N×81°.86W, h0km, mb3.9/4, mbtmp3.9/4, MS3.4/24, Error ellipse: s-maj=187.3km s-min=123.8km az=164.0*

*UCR **03** 23:43:55.6±1.1, 8°.42N×82°.75W, h31km±2km, MW4.6, MB4.2(NEIC)*

*UPA **03** 23:43:56.2±1.2, 8°.44N×82°.72W, h20km±3km, MW4.4*

*NEIC **03** 23:43:59.0±2.7, 8°.58N±0°.05×82°.83W±0°.07, h29km±7km, mb4.2/10, Error ellipse: s-maj=9.9km s-min=7.8km az=80.0*

ISC 03 23:43:56.7±0.8, 8°.46N±0°.03×82°.74W±0°.02, h31km±6km, n119, σ1s57/137, mb4.1/10, MS3.3/20, 1C-7D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	Canoas	0.17	310		Pn	23 44 01.7	-1.6
CDITO				Sg	Sn	23 44 06.7	-0.6
CDITO	Canoas	0.17	310	eP	Pn	23 44 01.7	-1.6
CCOL	Caracol de Cor	0.24	257	eP	Pn	23 44 02.3	-1.8
CCOL				eS	Sn	23 44 08.4	-0.4
DVD	David	0.28	95	∥eP	Pn	23 44 02.5	-2.3
DVD				eS	Sn	23 44 07.8	-2.2
PTPM	Petroterminale	0.29	209	∥iP	Pb	23 44 02.4	-1.7
PTPM				eS	Sn	23 44 08.3	-1.8
LOCO3	Loma Colorada,	0.32	99	eP	Pb	23 44 02.9	-1.6
LOCO3				eS	Sn	23 44 09.6	-1.3
PEDE3	Pedregal, Chir	0.32	104	eP	Pb	23 44 02.7	-1.8
PEDE3				eS	Sn	23 44 08.2	-2.7
BCO2	Palmira	0.33	39	∥iP	Pn	23 44 04.0	-1.5
BCO2				i S	Sn	23 44 10.7	-0.7
PTAR3	Potrerillos Ar	0.33	46	∥iP	Pn	23 44 04.0	-1.6
PTAR3				eS	Sn	23 44 10.4	-1.0
BRU2	Volcan	0.34	8	Pg	Pn	23 44 04.0	-1.6
BRU2				Sg	Sn	23 44 10.5	-1.0
BRU2	Volcan	0.34	8	∥iP	Pn	23 44 04.1	-1.6
BRU2				i S	Sb	23 44 11.1	+0.6
BRU2	Volcan	0.34	8	eP	Pn	23 44 04.1	-1.6
BRU2				eS	Sb	23 44 11.0	+0.6
MLIR3	Monte Lirio, C	0.34	345	∥iP	Pn	23 44 04.6	-1.1
MLIR3				eS	Sn	23 44 10.2	-1.4
BC3P	Paso Ancho	0.38	20	∥iP	Pb	23 44 04.6	-0.9
BC3P				eS	Sn	23 44 11.1	-1.4
VITO	San Vito	0.42	327	eP	Pb	23 44 05.4	-0.7
VITO				eS	Sb	23 44 13.8	+1.3
EDSV	San Vito	0.43	327	eP	Pb	23 44 05.5	-0.7
LNBQ3	Los Naranjos,	0.44	42	∥eP	Pb	23 44 05.1	-1.3
LNBQ3				eS	Sb	23 44 13.1	0.0
FITO	Golfito	0.44	292	eP	Pb	23 44 04.3	-2.0
EDAD	Golfito	0.47	294	eP	Pb	23 44 04.7	-2.0
EDAD				eS	Sb	23 44 12.0	-1.5
JIME	Puerto Jimenez	0.59	278	eP	Pn	23 44 07.0	-1.9
POTG	Potrero Grande	0.70	327	eP	Pn	23 44 09.3	-1.3
CHGR2	Aguacate	0.75	51	eP	Pn	23 44 09.4	-1.8
CHGR2				eS	Sn	23 44 20.0	-1.7
EDPN	Palmar Norte	0.87	305	eP	Pn	23 44 11.2	-1.6
EDBA	Buenos Aires	0.88	323	eP	Pn	23 44 12.4	-0.6
BURE	Buenos Aires	0.93	320	eP	Pn	23 44 12.3	-1.4
DRK0	Durika	0.94	328		Pn	23 44 12.8	-1.2
DRK0					Sn	23 44 26.2	-0.3
DRK0	Durika	0.94	328	eP	Pn	23 44 12.8	-1.2
CNI2	El Empalme, Bo	0.99	15	eP	Pn	23 44 13.7	-0.8
CNI2				eS	Sb	23 44 28.5	+0.4
NANC3	Nancito, Chiri	1.02	102	eP	Pn	23 44 12.8	-2.1
NANC3				eS	Sn	23 44 25.9	-2.3
PEZE	Perez Zeledon,	1.30	315		Pn	23 44 18.2	-0.7
EDDO	Dominical	1.36	305	eP	Pn	23 44 20.1	+0.4
CDM	Cerro de Muert	1.49	317	eP	Pn	23 44 20.9	-0.9
RSUS3	Rio de Jesus,	1.63	107	eP	Pn	23 44 23.1	-0.2
BATAN	Batan	1.75	339	Pn	Pn	23 44 25.2	+0.3
BATAN	Batan	1.75	339	eP	Pn	23 44 25.6	+0.7
BATAN	Batan	1.75	339	eP	Pn	23 44 25.4	+0.5
VERB	Verbena	1.75	327	eP	Pn	23 44 25.6	+0.5
VERB				eP	Pn	23 44 25.7	+0.5
RVSTA	Santa Teresita	1.75	329	eP	Pn	23 44 25.9	+0.7
STIA3	Santiago, Vera	1.78	101	eP	Pn	23 44 24.5	-0.9
STIA3				eS	Sn	23 44 48.6	+1.5
LCR2	La Lucha 2	1.79	316	Pn	Pn	23 44 25.0	-0.7
LCR2	La Lucha 2	1.79	316	eP	Pn	23 44 24.9	-0.7
LCOCO	El Coco	1.81	333	eP	Pn	23 44 26.9	+1.2
RVLA	Villa Bonita	1.84	333	eP	Pn	23 44 26.6	+0.4
CALO3	Calobre, Verag	1.88	94	eP	Pn	23 44 26.7	0.0
CALO3				eS	Sn	23 44 49.1	-0.4
MARI3	Mariato, Verag	1.91	115	eP	Pn	23 44 27.3	+0.2
MARI3				eS	Sn	23 44 52.5	+2.3
ACOS	Acosta	1.94	313	eP	Pn	23 44 27.9	+0.2
HDC	Heredia	2.05	319	Pn	Pn	23 44 29.9	+0.8
CACAO	El Cacao, Vera	2.16	121	eP	Pn	23 44 29.8	-0.8
CACAO				eS	Sn	23 44 55.1	-1.3
CACAO	El Cacao, Vera	2.16	121	eP	Pn	23 44 29.8	-0.8
CACAO				eS	Sn	23 44 56.4	0.0
CACAO				i		23 45 01.3	
	comp=Z,476nm,0.4s						
JACO	JACO, Garabito	2.24	302	Pn	Pn	23 44 31.3	-0.4
CHIT3	Chitre	2.35	102	eP	Pn	23 44 35.0	+1.8
CHIT3				eS	Sb	23 45 05.9	-1.2
PNME	Penonome	2.38	89	eP	Pn	23 44 34.9	+1.2
PNME				eS	Sn	23 45 03.0	+1.1
PNME	Penonome	2.38	89	eP	Pn	23 44 35.7	+2.0
PNME				eS	Sn	23 45 04.6	+2.7
PNME				i		23 45 17.4	
	comp=Z,232nm,0.5s						
CPMI	Catarata Coope	2.43	318	eP	Pn	23 44 36.0	+1.4
AZU	Azuero	2.53	105	eP	Pn	23 44 35.9	+0.3
AZU				eS	Sn	23 45 07.2	+1.8
AZU	Azuero	2.53	105	eP	Pn	23 44 36.0	+0.3
AZU				eS	Sn	23 45 07.2	+1.8
AZU				i		23 45 29.0	
	comp=Z,412nm,0.5s						
AZU	Azuero	2.53	105	eP	Pn	23 44 35.9	+0.3
SOCE	Pocosol	2.66	316	Pn	Pn	23 44 39.0	+1.5
COVE	Coope Vega, Sa	2.78	324	Pn	Pn	23 44 40.0	+0.8
ARE1	Arenal 1	2.79	316	Pn	Pn	23 44 40.8	+1.5
JTS	Las Juntas de	2.84	310	Pn	Pn	23 44 41.6	+1.6
JTS	Las Juntas de	2.84	310	eP	Pn	23 44 42.4	+2.3
JTS				eS	Sn	23 45 15.8	+2.5
JTS	Las Juntas de	2.84	310	eP	Pn	23 44 42.4	+2.3
JTS				eS	Sn	23 45 15.4	+2.1
BCIP	Isla Barro Col	2.95	76	eP	Pn	23 44 41.1	-0.4
BCIP				eS	Sn	23 45 15.6	-0.3
BCIP	Isla Barro Col	2.95	76	eP	Pn	23 44 41.0	-0.4
BCIP				eS	Sb	23 45 23.2	-1.1
BCIP				i		23 45 34.0	
	comp=Z,110nm,0.5s						
DUNO	Dulce Nombre,	3.16	301	Pn	Pn	23 44 44.0	-0.4
UPA	Univ. de Panam	3.21	80	eP	Pb	23 44 50.5	-2.5
UPA				eS	Sb	23 45 27.8	-3.9
UPA				i		23 45 48.1	
	comp=Z,4μm,0.5s						
ORTG	Ortega, Santa	3.28	305	Pn	Pn	23 44 47.4	+1.2
HZTE	Horizontes, Gu	3.60	309	Pn	Pn	23 44 51.9	+1.5
ESPN	Las Esperanzas	4.02	338	Pn	Pn	23 44 57.5	+1.3
ACON	Acoyapa	4.23	326	Pn	Pn	23 44 60.0	+0.9
ACON	Acoyapa	4.23	326	eP	Pn	23 45 00.7	+1.6
ACON				eS	Sb	23 45 59.6	-1.6
UPD2	Meteti	4.67	89	eP	Pn	23 45 11.2	+6.0
UPD2				eS	Sb	23 46 13.2	-0.6
UPD2				i		23 46 29.5	
	comp=Z,44nm,0.5s						
BOAB	BOACO BROADBAN	4.90	324	Pn	Pn	23 45 09.6	+1.3
PRVC	Isla de Provid	5.07	15	eP	Pn	23 45 11.7	+1.1
PRVC				eS	Sn	23 46 06.8	-1.4
MATN	Matagalpa	5.44	325	Pn	Pn	23 45 16.3	+0.5
YOTC	Yotoco, Valle	7.75	125	eP	Pn	23 45 48.0	+0.4
YOTC				eS	Sn	23 47 10.7	-3.9
YOTC				i		23 47 19.1	
	comp=Z,2.0nm,0.5s						
GUY2C	Guyana, Caldas	7.99	113	eP	Pn	23 45 52.8	+1.5
GUY2C				eS	Sn	23 47 23.7	+2.8
GUY2C				i		23 47 29.9	
	comp=Z,3.9nm,0.6s						
POPC	Popayan, Colom	8.42	134	eP	Pn	23 46 01.6	+4.7
POPC				eS	Sn	23 47 34.9	+3.7
MTO3	Montecristo	8.77	313	Pn	Pn	23 46 01.9	+0.1
PRAC	Prado	9.12	121	eP	Pn	23 46 09.0	+2.7
SLOR	San Lorenzo -	10.06	155	Pn	Pn	23 46 23.3	+3.7
TEIG	Tepich	12.87	336	LR	LR	23 52 12.9	
	comp=Z,1μm,18.1s,baz=258,slow=39						
BAUV	El Baul	14.54	87	Pn	Pn	23 47 22.6	+2.2
ATAH	Atahualpa	16.09	164	LR	LR	23 53 14.8	
	comp=Z,163nm,21.3s,baz=358,slow=35						
PCRV	Puerto La Cruz	17.94	83	LR	LR	23 55 26.1	
	comp=Z,61nm,19.6s,slow=41						
SJG	San Juan	18.76	58	LR	LR	23 54 21.7	
	comp=Z,54nm,18.9s,baz=218,slow=35						
NNA	Nana	21.14	164	LR	LR	23 56 23.4	
	comp=Z,64nm,20.9s,baz=336,slow=35						
344A	Westbrook Farm	24.06	343	P	P	23 49 10.4	+1.1
ETMB	Extrema	24.50	137	P	P	23 49 15.6	+2.1

comp=Z,24nm,19.1s,baz=265,slow=35
GERES **GERESS Array B 87.91 41** LR LR 00 31 11.1
comp=Z,23nm,19.8s,baz=291,slow=33
VRAC **Vranov 89.68 40** LR LR 00 31 20.6
comp=Z,35nm,19.7s,baz=286,slow=32
FINES **FINESS Array B 91.44 27** LR LR 00 39 51.7
comp=Z,26nm,18.1s,baz=108,slow=37
OBN **Obninsk 99.12 30** LR LR 00 39 57.5
comp=Z,22nm,20.1s,baz=172,slow=34
PZH **PanZhiHua 144.97 353** PKP **PKPdf 00 03 32.1 +0.2**

*IDC **03** 23:51:03.9±2.9,0°.33S×99°.59E,h0km,mb3.6/7,*
mbtmp3.6/7,Error ellipse: s-maj=137.3km s-min=19.8km
az=55.0
*DJA **03** 23:51:08.2±0.2,0°.S±3°.×10°.0E±°.,h10km,M3.9/13,mb4.0/1,*
MLv3.8/13
ISC 03 23:51:06.2±1.5,0°.23S±0°.05×99°.62E±0°.04,h7km±11km,
n19,σ1°57/21,mb3.6/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.08**	**129**	P	**Pn**	**23 51 28.7**	**+0.8**
PDSI				S	**Sn**	**23 51 44.2**	**+1.1**
SISI	**Saibi**	**1.21**	**206**	P	**Pn**	**23 51 31.2**	**+1.5**
SISI				S	**Sn**	**23 51 49.6**	**+3.1**
PBSI	**Pulau Batu**	**1.35**	**277**	P	**Pg**	**23 51 32.3**	**0.0**
PBSI				S	**Sn**	**23 51 51.4**	**+1.5**
BKNI	**Bangkinang**	**1.52**	**69**	P	**Pb**	**23 51 35.2**	**+0.4**
BKNI				S	**Sn**	**23 51 54.7**	**+0.7**
SDSI	**Sungai Dareh**	**1.94**	**111**	P	**Pb**	**23 51 41.2**	**-0.7**
SDSI				S	**Sg**	**23 52 09.0**	**+0.5**
PPSI	**Pulau Pagai**	**2.55**	**171**	P	**Pb**	**23 51 50.3**	**-2.0**
GSI	**Gunungsitoli**	**2.55**	**307**	P	**Pn**	**23 51 49.2**	**+1.1**
MASI	**Maura Aman, Be**	**3.90**	**138**	P	**Pn**	**23 52 09.5**	**+2.8**
KCSI	**Kotacane, Aceh**	**4.16**	**334**	P	**Pn**	**23 52 11.7**	**+1.4**
WRA	**Warramunga Arr**	**39.23**	**122**	P	**P**	**23 58 33.9**	**-1.8**
	0.6nm,0.4s,baz=303,slow=8.9,SNR=15						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**40.61**	**127**	P	**P**	**23 58 45.5**	**-1.7**
	0.5nm,0.5s,baz=298,slow=7.9,SNR=7.0						
	0.5nm,0.5s						
SONM	**Songino Array**	**48.23**	**6**	P	**P**	**23 59 48.2**	**+0.3**
	0.2nm,0.3s,baz=139,slow=3.3,SNR=1.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**49.23**	**344**	P	**P**	**23 59 54.6**	**-0.9**
	0.3nm,0.5s,baz=161,slow=8.0,SNR=6.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**53.76**	**343**	P	**P**	**00 00 28.5**	**-0.7**
	0.1nm,0.3s,baz=161,slow=7.2,SNR=2.0						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**55.37**	**349**	P	**P**	**00 00 40.2**	**-0.7**
	0.5nm,0.5s,baz=152,slow=4.6,SNR=2.7						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**58.40**	**340**	P	**P**	**00 01 01.2**	**-1.3**
	0.5nm,0.6s,baz=145,slow=5.3,SNR=2.8						
	0.5nm,0.6s						
H04N2	**CROZET ISLANDS**	**62.00**	**216**	T	T	01 07 33.1	
	baz=57,slow=75,SNR=3.7						
H04N1	**CROZET ISLANDS**	**62.01**	**216**	T	T	01 07 33.9	
	baz=57,slow=75,SNR=2.4						
H04N3	**CROZET ISLANDS**	**62.02**	**216**	T	T	01 07 32.9	
	baz=57,slow=75,SNR=2.8						

*JSN **04** 00:03:55.4±0.3,18°.16N×76°.76W,h18km±11km,MD2.1*
*SSNC **04** 00:03:55.3±1.8,18°.27N×76°.70W,h7km±13km,MD2.5,*
ML1.5,MW2.1
ISC 04 00:03:53.0±1.1,18°.30N±0°.05×76°.67W±0°.06,h10km,n6,
σ1°01/11,1C,Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.23**	**194**	*i* P	**Pg**	**00 03 58.9**	**+1.0**
HOJ	**Hope**	**0.30**	**194**	*i* P	**Pg**	**00 03 59.4**	**+0.3**
HOJ				*i* S	**Sg**	**00 04 02.4**	**-0.8**
PCJ	**Portland Cotta**	**0.72**	**220**	*i* P	**Pg**	**00 04 05.8**	**-1.2**
MTDJ	**Mount Denham**	**0.82**	**265**	*e*P	**Pg**	**00 04 09.4**	**+0.5**
MTDJ				*e*S	**Sg**	**00 04 20.6**	**+0.8**
LMGC	**Las Mercedes**	**1.78**	**350**	*e*P	**Pn**	**00 04 24.1**	**+0.2**
LMGC				*e*S	**Sn**	**00 04 45.4**	**-1.1**
RCC	**Rio Carpintero**	**1.92**	**29**	*e*P	**Pn**	**00 04 26.9**	**+1.2**
RCC				*e*S	**Sn**	**00 04 49.8**	**-0.2**
RCC				⇑*e*Sg	**Sb**	**00 04 51.0**	**-1.1**
RCC				IAML		00 04 52.6	
	comp=E,1.7nm,0.2s						
RCC				IAML		00 04 52.8	
	comp=N,2.0nm,0.2s						

MEX 04 00:19:43.9±1.5,16°.41N×95°.24W,h88km±40km,MD3.8,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.61**	**76**	*i* P	Pn	00 19 50.0	-9.4
NILT				*i* S	Sn	00 19 57.1	-14
HUIG	**Huatulco**	**1.06**	**233**	*i* P	Pn	00 20 02.3	-1.8
HUIG				*i* S	Sn	00 20 17.9	-1.4
NEUV	**Arroyo Zacate**	**1.40**	**337**	*i* P	Pn	00 20 06.1	-2.3
NEUV				*i* S	Sn	00 20 24.8	-2.0
VHO	**Vista Hermosa**	**1.58**	**295**	*e*S	Sn	00 20 30.5	-0.6
PEIG	**Puerto Escondi**	**1.88**	**258**	*i* P	Pn	00 20 10.6	-3.9
PEIG				*i* S	Sn	00 20 35.0	-2.9
PEIG	**Puerto Escondi**	**1.88**	**258**	*i* S	Pn	00 20 10.6	-4.0
TGIG		**2.06**	**80**	*e*P	Pn	00 20 15.4	-1.4
TGIG				*e*S	Sn	00 20 41.4	-0.7
PCIG		**2.06**	**110**	*e*S	Sn	00 20 38.5	-3.5
YOIG	**Yosondua**	**2.26**	**282**	*i* P	Pn	00 20 18.6	-1.1
YOIG				*e*S	Sn	00 20 53.5	+6.4
YOIG	**Yosondua**	**2.26**	**282**	*i* S	Pn	00 20 18.6	-1.1
TXIG	**Tlaxiaco**	**2.56**	**289**	*e*P	Pn	00 20 28.7	+4.9
TXIG				*e*S	Sn	00 20 60.0	+5.6
HLIG	**Huajuapan de L**	**2.83**	**300**	*e*P	Pn	00 20 32.1	+4.8
HLIG				*e*S	Sn	00 21 07.8	+7.1

MEX 04 00:19:56.4±0.4,16°.07N×97°.64W,h16km±10km,MD3.2,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.48**	**99**	*i* P	Pg	00 20 04.4	-1.5
PNIG	**Pinotepa**	**0.57**	**304**	*i* P	Pg	00 20 05.6	-2.0
YOIG	**Yosondua**	**0.78**	**6**	*i* P	Pg	00 20 09.3	-2.6
TOIG	**Toxpalan**	**2.08**	**15**	*e*P	Pn	00 20 24.8	-6.1
TOIG				*e*S	Sn	00 20 55.9	-0.6

IDC 04 00:47:04.7±58.0,16°.19S×177°.68E,h0km,mb4.1/3,
mbtmp4.1/3,Error ellipse: s-maj=1042.0km
s-min=159.9km az=75.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.27**	**238**	P	P	00 54 09.8	-0.2
	2.2nm,0.8s,baz=99,slow=10,SNR=2.4						
	2.2nm,0.8s						
WRA	**Warramunga Arr**	**41.29**	**258**	P	P	00 54 51.6	-0.7
	2.0nm,1.3s,baz=91,slow=7.8,SNR=5.3						
	2.0nm,1.3s						
ASAR	**Alice Springs**	**41.69**	**252**	P	P	00 54 55.9	+0.3
	1.9nm,0.3s,baz=85,slow=8.7,SNR=28						
	1.9nm,0.3s						

*SJA **04** 01:09:41.8±0.7,21°.62S×68°.58W,h139km±4km,ML3.7,*
MW3.7
*VAO **04** 01:09:42.8±0.3,21°.43S×68°.44W,h103km,mb4.2*
*GUC **04** 01:09:43.9±0.8,21°.61S×68°.56W,h126km±5km,ML3.7*
ISC 04 01:09:42.6±0.7,21°.65S±0°.03×68°.62W±0°.06,h140km±7km,
n64,σ1°08/97,8C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.60**	**256**	⇑*i*P	**Pn**	**01 10 03.5**	**0.0**
PB09				*i* S	**Sn**	**01 10 18.5**	**-0.9**
PB09				IAML		01 10 21.4	
	comp=N,1μm,0.2s						
PB09	**IPOC Station P**	**0.60**	**256**	*e*P	**Pn**	**01 10 03.5**	**0.0**
PB09				*e*S	**Sn**	**01 10 19.4**	**0.0**
PB09				IAML		01 10 20.7	
	comp=Z,1μm,0.5s						
LVC	**Limon Verde**	**1.00**	**196**	*e*P	**Pn**	**01 10 06.6**	**-0.3**
LVC				*e*S	**Sn**	**01 10 24.2**	**-1.1**
LVC	**Limon Verde**	**1.00**	**196**	*e*P	**Pn**	**01 10 06.5**	**-0.3**
PB01	**IPOC Station P**	**1.01**	**306**	⇑*i*P	**Pn**	**01 10 06.3**	**-0.4**
PB01				*i* S	**Sn**	**01 10 23.4**	**-1.5**
PB01				IAML		01 10 25.0	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**1.01**	**306**	*e*P	**Pn**	**01 10 06.3**	**-0.4**
PB01				*e*S	**Sn**	**01 10 24.4**	**-0.5**
PB01				IAML		01 10 25.4	
	comp=Z,874nm,0.3s						
PB07	**IPOC Station P**	**1.18**	**266**	⇑*i*P	**Pn**	**01 10 08.6**	**+0.2**
PB07				*i* S	**Sn**	**01 10 27.3**	**-0.6**
PB07				IAML		01 10 28.6	
	comp=N,1μm,0.5s						
PB07	**IPOC Station P**	**1.18**	**266**	*e*P	**Pn**	**01 10 08.6**	**+0.2**
PB07				*e*S	**Sn**	**01 10 28.5**	**+0.6**
PB07				IAML		01 10 29.2	
	comp=Z,592nm,0.4s						
PB02	**IPOC Station P**	**1.24**	**285**	⇑*i*P	**Pn**	**01 10 08.9**	**+0.1**
PB02				*i* S	**Sn**	**01 10 28.4**	**-0.3**
PB02				IAML		01 10 29.1	
	comp=N,1μm,0.2s						
PB02	**IPOC Station P**	**1.24**	**285**	*e*P	**Pn**	**01 10 08.9**	**+0.1**
PB02				*e*S	**Sn**	**01 10 29.0**	**+0.3**
PB02				IAML		01 10 30.4	
	comp=Z,1μm,0.3s						
AF01	**San Pedro de A**	**1.36**	**163**	*e*P	**Pn**	**01 10 10.5**	**+0.2**
AF01				IAML		01 10 47.9	
	comp=E,667nm,0.7s						
PB06	**IPOC Station P**	**1.38**	**220**	⇑*i*P	**Pn**	**01 10 10.7**	**+0.5**
PB06				*i* S	**Sn**	**01 10 31.0**	**-0.4**
PB06				IAML		01 10 32.6	
	comp=E,2μm,0.5s						
PB06	**IPOC Station P**	**1.38**	**220**	*e*P	**Pn**	**01 10 10.8**	**+0.5**
PB06				*e*S	**Sn**	**01 10 31.8**	**+0.5**
PB06				IAML		01 10 33.0	
	comp=Z,990nm,0.3s						
PB04	**IPOC Station P**	**1.58**	**244**	⇑*i*P	**Pn**	**01 10 12.9**	**+0.4**
PB04				*i* S	**Sn**	**01 10 34.9**	**-0.3**
PB04				IAML		01 10 39.3	
	comp=N,755nm,0.1s						
PB04	**IPOC Station P**	**1.58**	**244**	*e*P	**Pn**	**01 10 12.8**	**+0.4**
PB04				*e*S	**Sn**	**01 10 36.0**	**+0.7**
PB04				IAML		01 10 38.9	
	comp=Z,659nm,0.2s						
PB08	**IPOC Station P**	**1.58**	**341**	⇓*i*P	**Pn**	**01 10 13.1**	**+0.3**
PB08				*i* S	**Sn**	**01 10 34.9**	**-0.8**
PB08				IAML		01 10 37.4	
	comp=N,825nm,0.1s						
PB08				IAML		01 10 38.0	
	comp=E,914nm,0.2s						
PB08	**IPOC Station P**	**1.58**	**341**	*e*P	**Pn**	**01 10 13.1**	**+0.3**
PB08				*e*S	**Sn**	**01 10 35.6**	**-0.1**
PB08				IAML		01 10 37.9	
	comp=Z,362nm,0.3s						
PATCX	**Punta Patache**	**1.65**	**300**	⇑*e*P	**Pn**	**01 10 13.4**	**+0.2**
PATCX				*i* S	**Sn**	**01 10 36.0**	**-0.6**
PATCX	**Punta Patache**	**1.65**	**300**	*e*P	**Pn**	**01 10 13.5**	**+0.2**
PATCX				*e*S	**Sn**	**01 10 36.7**	**+0.1**
PB15	**IPOC Station P**	**1.74**	**207**	*e*P	**Pn**	**01 10 14.9**	**+0.6**
PB15				*i* S	**Sn**	**01 10 39.4**	**+0.8**
PB15	**IPOC Station P**	**1.74**	**207**	*e*P	**Pn**	**01 10 15.1**	**+0.7**
PB15				*e*S	**Sn**	**01 10 39.0**	**+0.3**
PB15				IAML		01 10 42.5	
	comp=Z,2μm,0.3s						
HMBC	**Humberstone**	**1.81**	**319**	*e*P	**Pn**	**01 10 14.5**	**-0.5**
HMBC				*i* S	**Sn**	**01 10 38.3**	**-1.5**
HMBC	**Humberstone**	**1.81**	**319**	*e*P	**Pn**	**01 10 14.8**	**-0.3**
HMBC				*e*S	**Sn**	**01 10 38.9**	**-0.9**
TA01	**Diego Aracena**	**1.81**	**306**	⇑*i*P	**Pn**	**01 10 14.7**	**-0.2**
TA01				*i* S	**Sn**	**01 10 38.7**	**-1.0**
TA01				IAML		01 10 40.3	
	comp=N,1μm,0.4s						
TA01	**Diego Aracena**	**1.81**	**306**	*e*P	**Pn**	**01 10 14.8**	**-0.2**
TA01				*e*S	**Sn**	**01 10 39.4**	**-0.3**
TA01				IAML		01 10 40.9	
	comp=Z,289nm,0.5s						
TA02	**Huaiquique**	**1.97**	**314**	*e*P	**Pn**	**01 10 16.3**	**-0.5**
TA02				*i* S	**Sn**	**01 10 41.7**	**-1.3**
TA02				IAML		01 10 43.9	
	comp=N,881nm,0.2s						
TA02	**Huaiquique**	**1.97**	**314**	*e*P	**Pn**	**01 10 17.1**	**+0.3**
TA02				*e*S	**Sn**	**01 10 41.8**	**-1.2**
TA02				IAML		01 10 47.4	
	comp=Z,398nm,0.5s						
GO01	**Chusmiza**	**2.04**	**345**	*e*P	**Pn**	**01 10 18.0**	**-0.1**
GO01				*i* S	**Sn**	**01 10 44.3**	**-1.0**
GO01				IAML		01 10 48.0	
	comp=E,593nm,0.3s						
GO01	**Chusmiza**	**2.04**	**345**	*e*P	**Pn**	**01 10 18.1**	**-0.1**
GO01				*e*S	**Sn**	**01 10 45.4**	**0.0**
YJA	**Yavi**	**2.93**	**101**	*e*P	**Pn**	**01 10 28.8**	**-0.4**
HJA	**Humahuaca**	**3.35**	**118**	*e*P	**Pn**	**01 10 35.8**	**+1.3**
PB16	**IPOC Station P**	**3.40**	**346**	*e*P	**Pn**	**01 10 35.5**	**+0.1**
PB16				*i* S	**Sn**	**01 11 15.7**	**-0.4**
PB16				IAML		01 11 17.0	
	comp=N,68nm,0.5s						
PB16	**IPOC Station P**	**3.40**	**346**	*e*P	**Pn**	**01 10 35.6**	**+0.2**
PB16				*e*S	**Sn**	**01 11 17.3**	**+1.2**
PB16				IAML		01 11 19.8	
	comp=Z,84nm,0.3s						
PB12	**IPOC Station P**	**3.42**	**332**	*e*P	**Pn**	**01 10 33.6**	**-1.5**
PB12				*e*S	**Sn**	**01 11 14.3**	**-1.5**
PB12				IAML		01 11 22.2	
	comp=Z,87nm,0.4s						
GO02	**Mina Guanaco**	**3.61**	**194**	*e*P	**Pn**	**01 10 37.8**	**0.0**
GO02				*i* S	**Sn**	**01 11 20.9**	**+0.3**
GO02	**Mina Guanaco**	**3.61**	**194**	*e*P	**Pn**	**01 10 37.8**	**0.0**
GO02				*e*S	**Sn**	**01 11 13.8**	**-6.8**
AC01	**Pan de Azucar**	**4.83**	**202**	*e*P	**Pn**	**01 10 52.3**	**-1.4**
AC01				*e*S	**Sn**	**01 11 46.5**	**-2.5**
AC01				IAML		01 12 07.5	
	comp=Z,45nm,0.7s						
PTLB	**Pontes e Lacer**	**10.90**	**57**	*e*P	**Pn**	**01 12 13.7**	**-1.1**
ANTJ	**Antonio Joao (**	**11.72**	**94**	*e*P	**Pn**	**01 12 24.5**	**-1.2**
ETMB	**Extrema**	**11.99**	**11**	*e*P	**Pn**	**01 12 26.6**	**-2.6**
CRSM	**Crissiumal (Br**	**14.47**	**117**	*e*P	**P**	**01 13 03.8**	**0.0**
RODS	**Rosario do Sul**	**14.84**	**128**	*e*P	**P**	**01 13 08.4**	**+0.5**
FRBT	**Francisco Belt**	**14.87**	**110**	*e*P	**P**	**01 13 08.3**	**+0.1**
PTGB	**Pitanga**	**15.52**	**105**	*e*P	**P**	**01 13 16.5**	**+1.0**
ALGR	**Alto Alegre (B**	**15.79**	**120**	*e*P	**Pn**	**01 13 18.5**	**+1.0**
ITAB	**Concordia**	**16.00**	**114**	*e*P	**P**	**01 13 21.1**	**+0.4**
CPSB	**Cacapava Do Su**	**16.18**	**126**	*e*P	**Pn**	**01 13 23.0**	**+0.9**
LDASE	**Londrina, Braz**	**16.26**	**99**	*e*P	**Pn**	**01 13 23.9**	**+0.6**
ARAG	**Araguaiana, MT**	**16.98**	**72**	*e*P	**Pn**	**01 13 32.4**	**+0.5**
TBTG	**Tabatinga, AM**	**17.40**	**356**	*e*P	**P**	**01 13 37.1**	**+0.9**
FRTB	**Fartura**	**17.69**	**99**	*e*P	**Pn**	**01 13 40.7**	**+0.3**
CNLB	**Canela**	**17.75**	**119**	*e*P	**Pn**	**01 13 42.7**	**+1.5**
BB19B	**Bebedouro**	**18.72**	**92**	*e*P	**P**	**01 13 51.2**	**+0.6**
SNDB	**Serra Nova Dou**	**19.15**	**63**	*e*P	**P**	**01 13 54.6**	**-0.8**
NPGB	**Novo Progresso**	**19.36**	**43**	*e*P	**P**	**01 13 57.2**	**-0.4**
IPMB	**Ipameri, GO**	**19.54**	**83**	*e*P	**P**	**01 13 59.3**	**-0.3**
PET01	**Itanhaem-SP**	**19.82**	**102**	*e*P	**P**	**01 14 02.9**	**+0.3**
MACA	**Manacapuru-AM**	**19.93**	**24**	*e*P	**P**	**01 14 05.3**	**+1.6**
ITTB	**Itaituba**	**21.24**	**38**	*e*P	**P**	**01 14 17.4**	**-0.4**
SGCB	**São Gabriel d**	**21.45**	**4**	*e*P	**P**	**01 14 20.0**	**0.0**
VAS01	**Vassouras-RJ**	**23.35**	**96**	*e*P	**P**	**01 14 41.0**	**+2.3**
PRPB	**Parauapebas**	**23.82**	**53**	*e*P	**P**	**01 14 43.0**	**0.0**
SMTB	**Santa Maria do**	**23.90**	**61**	*e*P	**P**	**01 14 44.4**	**+0.6**
JANB	**Januaria**	**23.96**	**78**	*e*P	**P**	**01 14 45.5**	**+1.1**

*IDC **04** 01:16:42.8±4.8,21°.01S×177°.82W,h381km±49km,mb3.3/8,*
mbtmp4.1/9,Error ellipse: s-maj=24.0km s-min=19.7km
az=122.0
ISC 04 01:16:44.4±0.7,21°.0S±0°.1×177°.8W±0°.2,h400km,n14,
σ1°46/15,mb3.5/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.76**	**193**	P	**P**	**01 20 25.0**	**-1.1**
	8.2nm,0.3s,baz=1.0,slow=3.3,SNR=17						
URZ				S	**S**	**01 23 32.3**	**+2.6**
	4.9nm,0.6s,baz=298,slow=21,SNR=3.1						
ASAR	**Alice Springs**	**44.58**	**257**	P	**P**	**01 24 18.8**	**-0.2**
	1.4nm,0.7s,baz=98,slow=7.8,SNR=12						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**44.71**	**262**	P	**P**	**01 24 19.6**	**-0.4**
	0.5nm,0.3s,baz=95,slow=7.9,SNR=32						
	0.5nm,0.3s						
PETK	**Petropavlovsk-**	**76.79**	**345**	P	**P**	**01 27 54.7**	**+1.8**
	5.2nm,0.9s,baz=147,slow=8.1,SNR=4.3						
	5.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**79.47**	**326**	P	**P**	**01 28 08.2**	**+0.6**
	1.3nm,0.6s,baz=95,slow=7.2,SNR=2.4						
	1.3nm,0.6s						
NVAR	**Mina Array Bea**	**81.26**	**43**	P	**P**	**01 28 17.9**	**+0.4**
	0.7nm,0.6s,baz=227,slow=5.9,SNR=4.2						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**87.18**	**57**	P	**P**	**01 28 45.6**	**-1.2**
	0.4nm,0.8s,baz=207,slow=3.7,SNR=1.6						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**88.76**	**13**	P	**P**	**01 28 53.8**	**+0.4**
	0.3nm,0.4s,baz=220,slow=5.5,SNR=8.5						
	0.3nm,0.4s						
PDAR	**Pinedale Array**	**89.20**	**43**	P	**P**	**01 28 58.3**	**+2.1**
	0.6nm,0.7s,baz=191,slow=3.0,SNR=4.4						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**119.57**	**320**	PKP	**PKiKP**	**01 34 46.0**	**-1.2**
	0.3nm,0.3s,baz=98,slow=2.9,SNR=2.1						
ARCES	**ARCESS Array B**	**129.44**	**350**	PKP	**PKiKP**	**01 35 05.8**	**-0.6**
	4.1nm,1.1s,baz=10,slow=1.4,SNR=4.3						
AKASG	**Malin Array Be**	**143.53**	**331**	PKP	**PKPdf**	**01 35 29.7**	**-2.3**
	3.0nm,0.6s,baz=42,slow=4.3,SNR=20						
MMAI	**Mount Meron Ar**	**148.21**	**299**	PKPbc	**PKiKP**	**01 35 45.4**	**-0.4**
	1.7nm,0.5s,baz=64,slow=5.7,SNR=6.3						
GERES	**GERESS Array B**	**150.72**	**344**	PKPbc	**PKiKP**	**01 35 49.9**	**-0.7**
	0.3nm,0.5s,baz=46,slow=2.8,SNR=3.7						

*IDC **04** 01:19:15.5±0.8,27°.98N×139°.55E,h490km±15km,mb2.9/7,*
mbtmp3.7/8,Error ellipse: s-maj=36.9km s-min=15.4km
az=80.0
ISC 04 01:19:15.9±0.9,28°.0N±0°.2×139°.7E±0°.2,h500km,n8,
σ0°75/9,mb3.3/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.37**	**111**	P	**P**	**01 20 22.9**	**-0.1**
	17nm,0.4s,baz=360,slow=16,SNR=11						
JCJ				S	**S**	**01 21 17.0**	**-0.5**
	44nm,0.4s,baz=289,slow=22,SNR=14						
WRA	**Warramunga Arr**	**47.90**	**187**	P	**P**	**01 27 08.4**	**+0.1**
	0.4nm,0.3s,baz=1.8,slow=7.7,SNR=15						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**48.22**	**309**	P	**P**	**01 27 10.2**	**-0.3**
	0.2nm,0.5s,baz=110,slow=9.1,SNR=1.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**50.86**	**314**	P	**P**	**01 27 28.3**	**-1.5**
	0.4nm,0.3s,baz=96,slow=7.5,SNR=1.7						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**51.63**	**187**	P	**P**	**01 27 36.1**	**+0.4**
	0.3nm,0.3s,baz=10,slow=8.2,SNR=5.9						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**55.91**	**317**	P	**P**	**01 28 06.0**	**+0.3**
	1.0nm,0.4s,baz=93,slow=7.9,SNR=7.4						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**58.02**	**29**	P	**P**	**01 28 20.6**	**+0.6**
	0.2nm,0.7s,baz=278,slow=6.1,SNR=1.6						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**76.19**	**333**	P	**P**	**01 30 11.5**	**-0.4**
	1.9nm,0.7s,baz=57,slow=5.1,SNR=6.8						
	1.9nm,0.7s						

*PRE **04** 01:32:23.3±0.8,26°.44S×27°.67E,h2km,ML2.4*
*EAF **04** 01:32:28.7,26°.50S×27°.47E,h10km,MC3.8*
*BUL **04** 01:32:29.0±1.6,26°.49S×27°.43E,h10km,MD4.1*
ISC 04 01:32:23.1±1.7,26°.33S±0°.03×27°.67E±0°.03,h14km±13km,
n32,σ2°03/56,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**0.44**	**3**	*e*P	**Pb**	**01 32 33.8**	**+1.1**
HRAO				*e*S	**Sn**	**01 32 41.0**	**-1.9**
HRAO				IAML		01 32 43.0	
	comp=Z,194nm,0.2s						
SLR	**Silverton**	**0.81**	**43**	*e*P	**Pn**	**01 32 40.3**	**+0.1**
SLR				*e*S	**Sn**	**01 32 52.7**	**+0.6**
SLR				IAML		01 32 54.0	
	comp=Z,77nm,0.7s						
KSR	**Koster**	**0.84**	**304**	*e*P	**Pn**	**01 32 41.5**	**+0.9**
KSR				*e*S	**Sn**	**01 32 53.0**	**+0.3**
KSR				IAML		01 33 04.3	
	comp=Z,298nm,0.1s						
SNKL	**Senekal, Frees**	**1.94**	**177**	*e*P	**Pn**	**01 32 56.3**	**+0.5**
SNKL				*e*S	**Sn**	**01 33 21.4**	**+1.3**
SNKL				IAML		01 33 24.2	
	comp=Z,186nm,0.2s						
CRLN	**Carolina, Mapu**	**2.15**	**82**	*e*P	**Pb**	**01 33 01.3**	**-0.5**
CRLN				*e*S	**Sb**	**01 33 29.1**	**+0.8**
CRLN				IAML		01 33 36.4	
	comp=Z,25nm,0.2s						
SWZ	**Schweizer**	**2.25**	**247**	*e*P	**Pb**	**01 33 02.6**	**-1.0**
SWZ				*e*S	**Sn**	**01 33 29.7**	**+2.0**
SWZ				IAML		01 33 36.3	
	comp=Z,78nm,0.2s						
LBTB	**Lobatse**	**2.28**	**305**	*i* P	**Pg**	**01 33 06.8**	**0.0**
LBTB				*i* S	**Sb**	**01 33 31.7**	**-0.4**
LBTB	**Lobatse**	**2.28**	**305**	*e*P	**Pb**	**01 33 03.0**	**-1.0**
LBTB				*e*S	**Sb**	**01 33 32.7**	**+0.6**
LBTB				IAML		01 33 39.8	
	comp=Z,58nm,0.2s						
LBTB	**Lobatse**	**2.28**	**305**	*i* P	**Pg**	**01 33 06.8**	**0.0**
	baz=311						
LBTB				*i* S	**Sb**	**01 33 31.7**	**-0.4**
	baz=311						
NWCL	**Newcastle**	**2.43**	**

GRAN	**Grantham**	**7.64**	**218**	*e*P	**Pn**	**01 34 15.2**	**+1.1**
GRAN				*e*S	**Sn**	**01 35 37.9**	**-2.6**
GRAN				IAML		01 36 27.2	
	comp=Z,3.9nm,0.4s						
FRAZ	**Fraserburg**	**7.81**	**223**	*e*P	**Pn**	**01 34 18.0**	**+1.5**
FRAZ				*e*S	**Sn**	**01 35 42.4**	**-2.4**
FRAZ				IAML		01 36 34.6	
	comp=Z,3.0nm,0.6s						
KRI	**Karoi**	**9.62**	**11**	*i* P	**Pn**	**01 34 42.0**	**+0.7**
KRI				*i* S	Sn	01 36 18.6	-11
KRI	**Karoi**	**9.62**	**11**	*i* P	**Pn**	**01 34 42.0**	**+0.7**
	baz=15						
KRI				*i* S	Sn	01 36 18.6	-11
	baz=15						

*TRN **04** 01:32:44.9, 10.′49N×63.′45W, h8km, MD3.8*
*FUNV **04** 01:32:46.4, 10.′57N×63.′39W, h4km, MW3.4*

ISC 04 01:32:44.1±1.1, 10.′43N±0.′06×63.′36W±0.′05, h13km±8km, n17, σ2°23/29, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.27**	**27⇑**	*i*P	**Pg**	**01 32 49.9**	**+0.1**
CRUV				*e*S	**Sg**	**01 32 53.5**	**-0.1**
CUMV	**Cumana_UDO**	**0.82**	**270⇑**	*e*P	**Pn**	**01 33 01.1**	**-0.3**
CUMV				*e*S	**Sn**	**01 33 13.1**	**-0.3**
PCRV	**Puerto La Cruz**	**1.28**	**259**	*e*P	**Pg**	**01 33 09.2**	**+0.3**
PCRV				*e*S	**Sg**	**01 33 26.1**	**+0.5**
TRN	**Trinidad (W)**	**1.94**	**84**	*e*P	**Pb**	**01 33 19.5**	**+0.3**
TRN				*e*S	**Sb**	**01 33 45.1**	**+1.8**
PRGV	**PARIAGUAN**	**2.09**	**217**	*e*P	**Pb**	**01 33 22.3**	**+0.4**
PRGV				*e*S	**Sb**	**01 33 50.0**	**+2.1**
GRGR	**Grenville**	**2.38**	**45**	*e*P	**Pn**	**01 33 24.3**	**+1.5**
GRGR				*e*S	**Sb**	**01 33 55.1**	**-1.0**
GCMP	**Grenada, Carri**	**2.78**	**43**	*e*P	**Pb**	**01 33 31.2**	**-2.6**
GCMP				*e*S	**Sb**	**01 34 05.3**	**-2.5**
FUNV	**FUNVISIS**	**3.40**	**271**	*e*P	**Pn**	**01 33 39.7**	**+2.8**
SVB	**Belmont**	**3.49**	**36**	*e*	**Pg**	**01 33 48.7**	**-2.5**
SVB				*e*S	**Sn**	**01 34 22.4**	**+3.0**
TACV	**Tcata**	**3.62**	**266**	*e*P	**Pn**	**01 33 42.3**	**+2.3**
MCLT	**Moule a Chique**	**4.02**	**36**	*e*P	**Pn**	**01 33 47.7**	**+2.2**
MCLT	**Moule a Chique**	**4.02**	**36**	*e*S	**Sn**	**01 34 34.6**	**+2.1**
BENV	**Beln**	**4.20**	**264**	*e*P	**Pn**	**01 33 50.3**	**+2.3**
BENV				*e*S	**Sn**	**01 34 36.3**	**-0.7**
CACV	**CAICARA DEL OR**	**4.24**	**228**	*e*P	**Pn**	**01 33 46.9**	**-1.5**
CACV				*e*S	**Sn**	**01 34 32.3**	**-5.6**
TURV	**Turiamo**	**4.41**	**271**	*e*P	**Pn**	**01 33 53.0**	**+2.3**
TURV				*e*S	**Sn**	**01 34 40.0**	**-1.9**
BAUV	**El Baul**	**4.85**	**253**	*e*P	**Pn**	**01 33 59.5**	**+2.7**
BAUV				*e*S	**Sn**	**01 34 51.2**	**-1.6**
BAUV	**El Baul**	**4.85**	**253**	*e*P	**Pn**	**01 33 58.8**	**+2.0**

*IDC **04** 02:15:06.4±2.1, 17.′37S×178.′62W, h489km±27km, mb3.1/6, mbtmp4.1/8, Error ellipse: s-maj=37.3km s-min=15.5km az=149.0*
*NEIC **04** 02:15:08.6±1.1, 17.′2S±0.′1×178.′1W±0.′2, h571km±19km, mb4.2/22, Error ellipse: s-maj=27.5km s-min=10.7km az=55.0*

ISC 04 02:15:08.9±0.7, 17.′4S±0.′1×178.′4W±0.′1, h547km, n34, σ1§47/35, mb4.2/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.25**	**62**	P	**P**	**02 16 56.1**	**-3.3**
	36nm,0.2s,baz=161,slow=4.6,SNR=6.1						
RAO	**Raoul Island**	**11.80**	**178**	P	**P**	**02 17 46.8**	**+1.5**
PINNC	**Pines Island,**	**14.29**	**246**	P	**P**	**02 18 13.4**	**+2.2**
DZM	**Mont Dzumac**	**15.02**	**250**	P	**P**	**02 18 21.0**	**+2.2**
DZM				IAmb	IAmb	02 18 21.9	
	comp=Z,5.8nm,0.6s						
DZM	**Mont Dzumac**	**15.02**	**250**	P	**P**	**02 18 15.7**	**-3.1**
	comp=Z,6.1nm,0.9s,baz=62,slow=17,SNR=1.8						
KOUNC	**Koumac, New Ca**	**16.68**	**256**	P	**P**	**02 18 35.1**	**+0.1**
TOZ	**Tahuroa Road**	**20.95**	**194**	P	**P**	**02 19 13.4**	**-0.1**
TOZ				IAmb	IAmb	02 19 29.0	
	comp=Z,10nm,0.9s						
URZ	**Urewera**	**21.15**	**190**	P	**P**	**02 19 15.7**	**+0.4**
	comp=Z,2.3nm,0.4s,baz=56,slow=3.6,SNR=2.0						
	comp=Z,2.3nm,0.4s						
GVZ	**Greta Valley S**	**26.50**	**194**	P	**P**	**02 20 03.1**	**+0.1**
LBZ	**Lake Benmore**	**28.57**	**197**	P	**P**	**02 20 21.7**	**+0.7**
EIDS	**Eidsvold**	**29.46**	**249**	P	**P**	**02 20 28.2**	**-0.8**
EIDS				IAmb	IAmb	02 20 54.7	
	comp=Z,5.4nm,0.9s						
CTAO	**Charters Tower**	**33.55**	**260**	P	**P**	**02 21 03.6**	**-0.4**
CTAO				IAmb	IAmb	02 21 06.0	
	comp=Z,6.3nm,1.0s						
PMG	**Port Moresby**	**34.40**	**279**	P	**P**	**02 21 10.2**	**-1.0**
COEN	**Coen**	**37.13**	**270**	P	**P**	**02 21 34.5**	**+0.7**
COEN				IAmb	IAmb	02 21 35.4	
	comp=Z,6.8nm,0.8s						
TOO	**Toolangi**	**37.50**	**230**	P	**P**	**02 21 36.4**	**-0.2**
TOO				IAmb	IAmb	02 21 37.3	
	comp=Z,5.9nm,0.8s						
STKA	**Stephens Creek**	**38.89**	**241**	P	**P**	**02 21 47.7**	**-0.2**
STKA	**Stephens Creek**	**38.89**	**241**	P	**P**	**02 21 48.1**	**+0.2**
	comp=Z,3.9nm,0.4s,baz=95,slow=10,SNR=13						
	comp=Z,3.9nm,0.4s						
BBOO	**Buckleboo**	**43.67**	**241**	P	**P**	**02 22 25.3**	**-0.4**
BBOO				IAmb	IAmb	02 22 28.2	
	comp=Z,6.0nm,0.8s						
WR0	**Warramunga Arr**	**44.56**	**259**	P	**P**	**02 22 33.0**	**+0.2**
WR0				IAmb	IAmb	02 22 49.6	
	comp=Z,3.9nm,1.1s						
WB0	**Warramunga Arr**	**44.71**	**259**	P	**P**	**02 22 33.4**	**-0.6**
WB2	**Warramunga Arr**	**44.74**	**259**	P	**P**	**02 22 33.4**	**-0.7**
WB2				IAmb	IAmb	02 22 34.5	
	comp=Z,3.3nm,0.6s						
WRA	**Warramunga Arr**	**44.75**	**259**	P	**P**	**02 22 33.4**	**-0.8**
WRA	**Warramunga Arr**	**44.75**	**259**	P	**P**	**02 22 33.9**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=94,slow=6.8,SNR=37						
WRA				PcP	**PcP**	**02 24 05.9**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=93,slow=3.4,SNR=1.4						
	comp=Z,1.8nm,0.5s						
AS31	**Alice Springs**	**44.95**	**254**	P	**P**	**02 22 35.8**	**0.0**
AS31				IAmb	IAmb	02 22 36.3	
	comp=Z,7.1nm,0.7s						
ASAR	**Alice Springs**	**44.95**	**254**	P	**P**	**02 22 35.8**	**0.0**
	comp=Z,24nm,0.5s,baz=89,slow=8.2,SNR=274						
ASAR				PcP	**PcP**	**02 24 06.1**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=112,slow=4.0,SNR=2.3						
FORT	**Forrest**	**50.24**	**244**	P	**P**	**02 23 14.9**	**-0.3**
KNRA	**Kununurra**	**50.56**	**264**	P	**P**	**02 23 17.4**	**-0.4**
KNRA				IAmb	IAmb	02 23 18.7	
	comp=Z,5.5nm,0.6s						
PSA00	**Pilbara Seismi**	**58.06**	**255**	P	**P**	**02 24 10.1**	**-0.3**
MBWA	**Marble Bar**	**58.22**	**256**	P	**P**	**02 24 10.6**	**-0.9**
CASY	**Casey**	**66.60**	**205**	P	**P**	**02 25 02.4**	**-2.4**
CASY				IAmb	IAmb	02 25 22.5	
	comp=Z,5.3nm,1.1s						
ILAR	**Eielson Array**	**85.40**	**13**	P	**P**	**02 26 51.5**	**+3.2**
	comp=Z,0.2nm,0.5s,baz=219,slow=4.8,SNR=4.8						
	comp=Z,0.2nm,0.5s						
TXAR	**Lajitas Array**	**85.71**	**58**	P	P	02 26 56.0	+5.3
	comp=Z,0.6nm,0.9s,baz=234,slow=4.2,SNR=3.7						
	comp=Z,0.6nm,0.9s						
PDAR	**Pinedale Array**	**86.97**	**43**	P	**P**	**02 26 59.5**	**+2.9**
	comp=Z,0.3nm,0.6s,baz=226,slow=3.9,SNR=3.7						
	comp=Z,0.3nm,0.6s						
CLL	**Collm**	**144.98**	**348**	*e*PKPbc	**PKPdf**	**02 33 42.0**	**-1.9**

IDC 04 02:31:53.6±7.9, 12.′30N×92.′21E, h0km, mb3.5/4, mbtmp3.5/4, MS2.9/1, Error ellipse: s-maj=442.3km s-min=24.7km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**27.86**	**226**	T	T	03 07 04.4	
	baz=44,slow=75,SNR=5.8						
H08S2	**Diego Garcia H**	**27.87**	**226**	T	T	03 07 11.0	
	baz=44,slow=75,SNR=6.0						
H08S1	**Diego Garcia H**	**27.88**	**226**	T	T	03 07 02.1	
	baz=44,slow=75,SNR=4.9						
MKAR	**Makanchi Array**	**35.39**	**348**	P	P	02 38 50.8	-0.3
	0.4nm,0.7s,baz=167,slow=8.3,SNR=2.1						
	0.4nm,0.7s						
SONM	**Songino Array**	**37.37**	**16**	LR	LR	02 53 57.7	
	comp=Z,18nm,19.2s,baz=266,slow=35						
KURBB	**Kurchatov Arra**	**39.83**	**346**	P	P	02 39 28.7	+0.1
	0.2nm,0.4s,baz=146,slow=6.4,SNR=3.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**52.40**	**127**	P	P	02 41 07.8	-0.4
	0.3nm,0.6s,baz=307,slow=8.3,SNR=4.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**54.22**	**131**	P	P	02 41 21.6	+0.1
	0.6nm,0.5s,baz=308,slow=6.9,SNR=9.5						
	0.6nm,0.5s						
H04N2	**CROZET ISLANDS**	**68.59**	**209**	T	T	03 58 17.9	
	baz=43,slow=75,SNR=8.1						
H04N1	**CROZET ISLANDS**	**68.59**	**209**	T	T	03 58 17.4	
	baz=43,slow=75,SNR=8.1						
H04N3	**CROZET ISLANDS**	**68.61**	**209**	T	T	03 58 14.8	
	baz=43,slow=75,SNR=7.1						

ISC 04 02:32:24.6±1.0, 44.′93N±0.′02×14.′90E±0.′04, h14km±9km, n12, σ0§37/22, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABC	**Rab**	**0.20**	**206**	*e*Pg	**Pg**	**02 32 28.9**	**-0.2**
RABC				Sg	**Sg**	**02 32 32.4**	**+0.3**
NVLJ	**Novalja**	**0.37**	**184**	*e*Pg	**Pg**	**02 32 31.8**	**-0.2**
NVLJ				Sg	**Sb**	**02 32 37.8**	**-0.7**
RIY	**Rijeka**	**0.49**	**323**	*e*Pg	**Pg**	**02 32 34.2**	**-0.2**
PLIT	**Plitvice**	**0.51**	**96**	*e*Pg	**Pg**	**02 32 34.9**	**+0.2**
PLIT				Sg	**Sg**	**02 32 41.8**	**+0.3**
GBRS	**Gornja Briga**	**0.60**	**354**	*i* Pg	**Pg**	**02 32 36.1**	**-0.3**
GBRS				*i* Sg	**Sb**	**02 32 45.6**	**+0.2**
GBRS				IAML		02 32 46.4	
	comp=Z,1.4nm,0.1s						
BOJS	**Bojanci**	**0.62**	**23**	*i* Pg	**Pg**	**02 32 36.4**	**-0.4**
BOJS				*i* Sg	**Sb**	**02 32 45.6**	**-0.4**
BOJS				IAML		02 32 47.8	
	comp=Z,2.0nm,0.1s						
VIRC	**Vir**	**0.65**	**170**	*e*Pg	**Pg**	**02 32 36.8**	**-0.4**
VIRC				Sg	**Sb**	**02 32 47.0**	**+0.5**
UDBI	**Udbina**	**0.73**	**123**	*e*Pg	**Pb**	**02 32 39.1**	**-0.2**
UDBI				Sg	**Sg**	**02 32 48.8**	**+0.3**
A254A	**Petrova Gora**	**0.74**	**59**	*e*Pg	**Pg**	**02 32 39.1**	**0.0**
A254A				Sg	**Sg**	**02 32 48.2**	**-0.6**
OZLJ	**Ozalj**	**0.79**	**30**	*e*Pg	**Pb**	**02 32 40.3**	**+0.1**
OZLJ				Sg	**Sb**	**02 32 50.5**	**-0.2**
VISS	**Visnje**	**0.87**	**357**	*i* Pg	**Pb**	**02 32 42.0**	**+0.4**
VISS				*i* Sg	**Sb**	**02 32 53.5**	**+0.3**
VISS				IAML		02 32 56.1	
	comp=Z,1.3nm,0.1s						
MORI	**Morici**	**1.21**	**151**	*e*Pn	**Pn**	**02 32 47.3**	**+0.2**

*IDC **04** 02:36:35.9±1.1, 41.′41N×48.′38E, h0km, mb3.8/9, mbtmp3.8/19, ML3.3/9, Error ellipse: s-maj=19.4km s-min=10.8km az=152.0*
*NEIC **04** 02:36:38.0±1.9, 41.′59N±0.′08×48.′61E±0.′10, h10km±2km, mb4.5/22, Error ellipse: s-maj=13.8km s-min=12.0km az=174.0*
*AZER **04** 02:36:38.2±0.0, 41.′31N×48.′43E, h10km, Error ellipse: s-maj=0.9km s-min=0.3km az=44.0*
*MOS **04** 02:36:38.3±0.0, 41.′36N×48.′45E, h13km, MPVA4.7*
*DRS **04** 02:36:39.4±0.0, 41.′28N×48.′53E, h18km*

ISC 04 02:36:38.3±0.6, 41.′40N±0.′01×48.′54E±0.′02, h14km±4km, n190, σ2§00/286, mb4.4/22, 5C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUBA	**Quba, Azerbaij**	**0.06**	**217**	P	**Pb**	**02 36 42.1**	**+1.0**
QUBA				S	**Sg**	**02 36 44.8**	**+1.9**
QSAR	**Qusar**	**0.24**	**299**	P	**Pg**	**02 36 44.7**	**+1.2**
QSAR	SNR=7427						
				S	**Sb**	**02 36 49.3**	**+0.8**
KSMR	**Kasumkent**	**0.37**	**303**	*i* Pg	**Pg**	**02 36 47.0**	**+1.2**
KSMR				*e*Sg	**Sb**	**02 36 53.4**	**+1.1**
KSMR	**Kasumkent**	**0.37**	**303**	*i* PG	**Pg**	**02 36 47.0**	**+1.2**
KSMR				*e*S	**Sb**	**02 36 53.4**	**+1.1**
XNQ	**Khinaliq**	**0.38**	**233**	P	**Pg**	**02 36 45.7**	**-0.3**
XNQ	SNR=9687						
				S	**Sg**	**02 36 50.9**	**-0.4**
SIZA	**Siyzn**	**0.42**	**140**	P	**Pg**	**02 36 47.0**	**+0.2**
SIZA	SNR=703						
				S	**Sg**	**02 36 53.9**	**+1.4**
AKT	**Akhty**	**0.61**	**278**	*i* Pg	**Pg**	**02 36 50.3**	**-0.1**
AKT				*e*Sg	**Sg**	**02 36 59.0**	**+0.5**
AKT	**Akhty**	**0.61**	**278**	*i* PG	**Pg**	**02 36 50.3**	**-0.1**
PQL	**Pirkuli**	**0.61**	**176**	P	**Pg**	**02 36 50.5**	**+0.2**
PQL	SNR=55						
				S	**Sg**	**02 36 59.4**	**+0.9**
ATGJ	**Altiaghaj**	**0.62**	**151**	P	**Pg**	**02 36 50.7**	**+0.3**
ATGJ	SNR=394						
				S	**Sb**	**02 37 00.5**	**+1.0**
DRN	**Derbent**	**0.65**	**346**	*e*Pg	**Pg**	**02 36 52.2**	**+1.3**
DRN	634nm,0.3s						
				*e*Sg	**Sn**	**02 37 02.9**	**-0.2**
	7μm,0.4s						
DRN	**Derbent**	**0.65**	**346**	*e*PG	**Pg**	**02 36 52.2**	**+1.3**
DRN				*e*S	**Sn**	**02 37 02.9**	**-0.2**
IML	**Ismayilli**	**0.67**	**204**	P	**Pb**	**02 36 50.9**	**-0.8**
IML	SNR=824						
				S	**Sb**	**02 37 00.4**	**-0.4**
QBL	**Gabala**	**0.70**	**230**	P	**Pb**	**02 36 51.0**	**-1.3**
QBL	SNR=1953						
				S	**Sb**	**02 36 60.0**	**-1.8**
GBS	**Qobustan**	**0.92**	**160**	P	**Pn**	**02 36 57.5**	**+0.7**
GBS	SNR=14						
				S	**Sn**	**02 37 12.7**	**+2.8**
URKR	**Urkarakh**	**1.02**	**319**	*e*Pg	**Pg**	**02 36 58.7**	**+0.7**
URKR	737nm,0.2s						
				*e*Sg	**Sn**	**02 37 13.1**	**+0.6**
	150nm,0.3s						
URKR	**Urkarakh**	**1.02**	**319**	*e*PG	**Pg**	**02 36 58.7**	**+0.7**
URKR				*e*S	**Sn**	**02 37 13.1**	**+0.6**
SEKA	**Sheki**	**1.03**	**260**	P	**Pb**	**02 36 56.9**	**-1.0**
SEKA	SNR=486						
				S	**Sb**	**02 37 10.5**	**-0.8**
SEKA	**Sheki**	**1.03**	**260**	PG	**Pb**	**02 36 56.9**	**-1.0**
KDMR	**Kurdemir**	**1.06**	**195**	P	**Pb**	**02 36 58.0**	**-0.3**
KDMR	SNR=12						
				S	**Sn**	**02 37 14.0**	**+0.8**
SGKR	**Sergokala**	**1.25**	**328**	*e*Pg	**Pg**	**02 37 02.4**	**+0.1**
SGKR	4.0nm,0.1s						
				*e*Sg	**Sg**	**02 37 20.4**	**+1.9**
	5μm,0.3s						
SGKR	**Sergokala**	**1.25**	**328**	*e*PG	**Pg**	**02 37 02.4**	**+0.1**
SGKR				*e*S	**Sg**	**02 37 20.4**	**+1.9**
MNGR	**Mingechevir, A**	**1.27**	**241**	P	**Pn**	**02 37 02.0**	**+0.5**
MNGR	SNR=40						
				S	**Sg**	**02 37 21.1**	**+2.0**
MNGR	**Mingechevir, A**	**1.27**	**241**	PG	**Pn**	**02 37 02.0**	**+0.5**
ZRD	**Zardab**	**1.30**	**210**	P	**Pn**	**02 37 02.3**	**+0.4**
ZRD	SNR=136						
				S	**Sb**	**02 37 21.3**	**+2.4**
KMKR	**Kumukh**	**1.30**	**305**	*i* Pg	**Pn**	**02 37 02.9**	**+0.7**
KMKR	474nm,0.2s						
				*e*Sg	**Sg**	**02 37 21.3**	**+1.0**
	689nm,0.7s						
KMKR	**Kumukh**	**1.30**	**305**	*i* PG	**Pn**	**02 37 02.9**	**+0.7**
GOBA	**Gobu**	**1.35**	**137**	Pn	**Pg**	**02 37 05.0**	**+0.7**
GOBA	SNR=6.9						
				Sn	**Sg**	**02 37 27.2**	**+5.5**
NDR	**Nardaran**	**1.37**	**126**	Pn	**Pg**	**02 37 05.3**	**+0.7**
NDR	SNR=6.0						
				Sn	**Sg**	**02 37 27.6**	**+5.2**
ZKTA	**Zakatala**	**1.46**	**280**	Pn	**Pn**	**02 37 04.8**	**+0.6**
ZKTA	SNR=54						
				Sn	**Sg**	**02 37 27.7**	**+2.4**
ALIB	**Äli-Bayra**	**1.48**	**166**	Pn	**Pb**	**02 37 07.2**	**+1.6**
ALIB				Sn	**Sg**	**02 37 30.6**	**+4.5**
GNBR	**Gunib**	**1.54**	**311**	*i* Pg	**Pb**	**02 37 07.0**	**+0.4**
GNBR	263nm,0.6s						
				*e*Sg	**Sg**	**02 37 29.3**	**+1.5**
	1μm,0.4s						
GNBR	**Gunib**	**1.54**	**311**	*i* PN	**Pb**	**02 37 06.9**	**+0.4**
BRDA	**Brd**	**1.54**	**223**	Pn	**Pn**	**02 37 06.4**	**+1.2**
BRDA	SNR=17						
				Sn	**Sg**	**02 37 29.8**	**+2.1**
SAAT	**Saatly**	**1.54**	**183**	Pn	**Pn**	**02 37 06.4**	**+1.1**
SAAT	SNR=9.4						
				Sn	**Sb**	**02 37 28.2**	**+2.2**
GALA	**Gala**	**1.57**	**128**	Pn	**Pb**	**02 37 07.0**	**-0.2**
GALA				Sn	**Sg**	**02 37 33.9**	**+4.9**
ARKR	**Arakani**	**1.66**	**317**	*i* Pg	**Pb**	**02 37 09.4**	**+0.7**
ARKR	142nm,0.4s						
				*e*Sg	**Sg**	**02 37 33.4**	**+1.6**
	1μm,0.4s						
ARKR	**Arakani**	**1.66**	**317**	*i* PN	**Pb**	**02 37 09.4**	**+0.7**
AGDM	**Agdam**	**1.69**	**221**	Pn	**Pn**	**02 37 07.9**	**+0.5**
	SNR=146						
AGDM				Sn	**Sn**	**02 37 30.8**	**+2.0**
MAK	**Makhachkala**	**1.74**	**334**	*e*Pg	**Pb**	**02 37 11.0**	**+1.0**
MAK				*e*Sg	**Sg**	**02 37 35.9**	**+1.7**
MAK	**Makhachkala**	**1.74**	**334⇓**	*i*PN	**Pg**	**02 37 11.4**	**-0.2**
MAK				*e*		02 37 36.4	
MAK				pmax	pmax		
	comp=Z,593nm,0.3s						
MAK				smax	smax		
	comp=E,1μm,0.6s						
MAK				smax	smax		
	comp=E,2μm,0.3s						
LGD	**Lagodekhi**	**1.78**	**285**	*e*Pg	**Pb**	**02 37 10.6**	**0.0**
LGD				*e*Sg	**Sg**	**02 37 35.7**	**+0.3**
LGD	**Lagodekhi**	**1.78**	**285**	*e*PN	**Pb**	**02 37 10.6**	**0.0**
LGD	**Lagodekhi**	**1.78**	**285**	P	**Pb**	**02 37 10.6**	**0.0**
LGD				S	**Sg**	**02 37 35.7**	**+0.3**
BUJR	**Buynaksk**	**1.78**	**324**	*i* Pg	**Pb**	**02 37 11.7**	**+1.1**
	comp=E,179nm,0.4s						
BUJR				*e*Sg	**Sg**	**02 37 37.8**	**+2.3**
	comp=E,769nm,0.5s						
BUJR	**Buynaksk**	**1.78**	**324**	*i* PN	**Pb**	**02 37 11.7**	**+1.1**
BUJR				*e*S	**Sg**	**02 37 37.8**	**+2.3**
DDFL	**Dedoflistskaro**	**1.82**	**272**	*e*Pg	**Pb**	**02 37 12.3**	**+0.9**
DDFL				*e*Sg	**Sg**	**02 37 37.3**	**+0.4**
DDFL	**Dedoflistskaro**	**1.82**	**272**	*e*PN	**Pb**	**02 37 12.3**	**+0.9**
DDFL	**Dedoflistskaro**	**1.82**	**272**	P	**Pb**	**02 37 12.3**	**+0.9**
DDFL				S	**Sg**	**02 37 37.3**	**+0.4**
GANJ	**Ganja**	**1.84**	**246**	Pn	**Pn**	**02 37 09.8**	**+0.3**
	SNR=171						
GANJ				Sn	**Sn**	**02 37 34.8**	**+2.2**
GANJ	**Ganja**	**1.84**	**246**	PN	**Pn**	**02 37 09.8**	**+0.3**
UNCR	**Uncukul**	**1.85**	**316**	*e*Pg	**Pb**	**02 37 13.1**	**+1.2**
	comp=E,23nm,0.1s						
UNCR				*e*Sg	**Sg**	**02 37 39.3**	**+1.6**
	comp=E,419nm,0.4s						
UNCR	**Uncukul**	**1.85**	**316**	*e*PN	**Pb**	**02 37 13.0**	**+1.2**
KRNR	**Karanay**	**1.87**	**320**	*e*Pg	**Pb**	**02 37 13.2**	**+0.9**
	comp=E,150nm,0.3s						
KRNR				*e*Sg	**Sg**	**02 37 39.8**	**+1.3**
	comp=E,365nm,0.3s						
KRNR	**Karanay**	**1.87**	**320**	*e*PN	**Pb**	**02 37 13.2**	**+0.9**
KRNR				*e*S	**Sg**	**02 37 39.8**	**+1.3**
KANR	**Karaman**	**1.96**	**337**	*e*Pg	**Pg**	**02 37 15.9**	**+0.1**
	comp=E,247nm,0.9s						
KANR				*e*Sg	**Sg**	**02 37 45.1**	**+3.9**
	comp=E,407nm,0.4s						
KANR	**Karaman**	**1.96**	**337**	*e*PN	**Pg**	**02 37 15.9**	**+0.1**
KANR				*e*S	**Sg**	**02 37 45.1**	**+3.9**
DBC	**Dubki**	**2.06**	**322**	*i* Pg	**Pb**	**02 37 15.8**	**+0.3**
	comp=E,71nm,0.3s						
DBC				*e*Sg	**Sg**	**02 37 44.9**	**+0.5**
	comp=E,552nm,0.4s						
DBC	**Dubki**	**2.06**	**322**	*i* PN	**Pb**	**02 37 15.8**	**+0.3**
DBC				*e*S	**Sg**	**02 37 44.9**	**+0.5**
BTLR	**Botlikh**	**2.14**	**307**	*e*Pg	**Pb**	**02 37 17.4**	**+0.6**
	comp=E,148nm,0.5s						
BTLR				*e*Sg	**Sg**	**02 37 46.4**	**-0.6**
	comp=E,2μm,0.4s						
BTLR	**Botlikh**	**2.14**	**307**	*e*PN	**Pb**	**02 37 17.4**	**+0.6**
BTLR				*e*S	**Sg**	**02 37 46.4**	**-0.6**
QRD	**Qoradiz**	**2.15**	**206**	Pn	**Pn**	**02 37 13.3**	**-0.4**
	SNR=22						
QRD				Sn	**Sn**	**02 37 40.8**	**+0.7**
GLBA	**Ciilabad**	**2.16**	**183**	Pn	**Pn**	**02 37 14.7**	**+0.9**
	SNR=12						
GLBA				Sn	**Sb**	**02 37 44.1**	**+0.3**
DLMR	**Dylym**	**2.19**	**320**	*e*Pn	**Pb**	**02 37 18.3**	**+0.6**
	comp=E,298nm,0.3s						
DLMR				*e*Sn	**Sg**	**02 37 48.9**	**+0.3**
	comp=E,407nm,0.4s						
DLMR	**Dylym**	**2.19**	**320**	*e*PN	**Pb**	**02 37 18.2**	**+0.6**
DLMR				*e*S	**Sg**	**02 37 48.9**	**+0.3**
GDB	**GEDABAY**	**2.21**	**253**	Pn	**Pn**	**02 37 15.0**	**+0.2**
	SNR=74						
GDB				Sn	**Sb**	**02 37 45.0**	**-0.5**
DVE	**Vedeno**	**2.37**	**312**	*e*Pn	**Pb**	**02 37 20.6**	**-0.2**
DVE				*e*Sn	**Sg**	**02 37 54.4**	**-0.2**
DVE	**Vedeno**	**2.37**	**312**	*e*PN	**Pb**	**02 37 20.6**	**-0.2**
DVE				*e*S	**Sg**	**02 37 54.4**	**-0.2**
QZX	**Qazax, Azerbai**	**2.41**	**263**	Pn	**Pn**	**02 37 18.1**	**+0.8**
	SNR=52						
QZX				Sg	**Sb**	**02 37 52.4**	**+1.2**
YRD	**Yardimli**	**2.49**	**185**	Pn	**Pn**	**02 37 18.5**	**-0.1**
	SNR=11						
YRD				Sn	**Sn**	**02 37 50.4**	**+1.4**
GROC	**Groznyy**	**2.72**	**312**	*e*Pn	**Pb**	**02 37 25.6**	**-1.0**
GROC				*e*Sn	**Sb**	**02 38 00.3**	**+0.5**
GROC	**Groznyy**	**2.72**	**312**	*e*PN	**Pb**	**02 37 25.6**	**-1.0**
GROC				*e*S	**Sb**	**02 38 00.3**	**+0.5**
LRK	**Lerik**	**2.76**	**183**	Pn	**Pn**	**02 37 22.2**	**0.0**
	SNR=5.8					

AZMN	Azmana	3.96	271	P	Pn	02 37 40.4	+1.7
TKB	Tkibuli	4.25	285	PN	Pn	02 37 42.4	-0.2
TKB				S	Sb	02 38 42.6	-1.3
TKB	Tkibuli	4.25	285	P	Pn	02 37 42.4	-0.2
TKB				S	Sb	02 38 42.5	-1.3
KBTC	Kuba-Taba	4.49	304	*e*Pn	Pn	02 37 48.2	+2.3
KBTC				*e*Sn	Sn	02 38 40.9	+2.9
KBTC	Kuba-Taba	4.49	304	*e*PN	Pn	02 37 48.2	+2.3
KBZ	Khabaz	4.77	301	*e*Pn	Pn	02 37 50.7	+1.0
KBZ				*e*Sn	Sn	02 38 46.6	+1.8
KBZ	Khabaz	4.77	301	⇓*e*PN	Pn	02 37 51.5	+1.8
KBZ	Khabaz	4.77	301	Pn	Pn	02 37 49.9	+0.2
	comp=Z,0.1nm,0.3s,baz=104,slow=8.3,SNR=1.7						
KBZ				Lg	Lg	02 38 55.5	
	comp=Z,0.8nm,0.3s,baz=70,slow=12,SNR=3.6						
	comp=Z,0.6nm,0.3s						
PYA1	Pyatigorsk	4.81	305	*e*Pn	Pn	02 37 55.2	+4.9
PYA1				*e*Sn	Sn	02 38 51.0	+5.2
PYA1	Pyatigorsk	4.81	305	*e*PN	Pn	02 37 55.2	+4.9
SHA1	Shidzhatmaz	4.93	300	*e*Pn	Pn	02 37 58.3	+6.2
SHA1				*e*Sn	Sn	02 38 51.0	+1.9
SHA1	Shidzhatmaz	4.93	300	*e*PN	Pn	02 37 58.3	+6.2
KVAR	Kislovodsk Arr	5.01	303	Pn	Pn	02 37 53.0	-0.1
	baz=121,slow=19						
KVAR				Lg	Lg	02 39 01.3	
	baz=191,slow=18						
	comp=Z,2.6nm,0.5s						
KIV	Kislovodsk	5.01	303	Pn	Pn	02 37 52.2	-1.0
KIV	Kislovodsk	5.01	303	*e*PN	Pn	02 37 57.9	+4.8
KIV				*e*S	Sn	02 38 56.6	+5.7
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV				MLR	MLR		
	comp=Z,7.0nm,8.0s						
ALER	Alexandrovskoy	5.32	311	*e*Pn	Pn	02 37 58.2	+1.0
ALER				*e*Sn	Sn	02 39 01.2	+2.9
ALER	Alexandrovskoy	5.32	311	*e*P	Pn	02 37 58.2	+1.0
GOF	Gofitskoye	5.43	314	*c*eP	Pg	02 38 22.3	+0.1
AHMR	Akhmetovskaya	6.16	299	*i* Pn	Pn	02 38 10.7	+1.7
AHMR				*e*Sn	Sn	02 39 20.4	+1.2
AHMR	Akhmetovskaya	6.16	299	*i* P	Pn	02 38 10.6	+1.7
AHMR				*e*S	Sn	02 39 20.4	+1.2
GEYT	Alibeck	8.16	112	Pn	Pn	02 38 37.2	+0.9
GEYT	Alibeck	8.16	112	P	Pn	02 38 37.2	+0.9
GEYT	Alibeck	8.16	112	Pn	Pn	02 38 36.2	-0.1
	comp=Z,0.3nm,0.3s,baz=322,slow=13,SNR=1.6						
	comp=Z,1.7nm,0.4s						
GYA0B	ALIBECK ARRAY	8.16	112	Pn	Pn	02 38 35.7	-0.6
BELG	Belogornoye	11.01	357	Pn	Pn	02 39 13.9	-1.3
	comp=Z,14nm,0.5s,baz=168,slow=19,SNR=4.1						
BELG				Sn	Sn	02 41 11.6	-6.6
	comp=Z,1.9nm,0.3s,baz=82,slow=22,SNR=1.6						
AKTO	Aktyubinsk	11.18	33	⇑Pn	Pn	02 39 16.0	-1.6
	comp=Z,0.3nm,0.3s						
AKTO				⇑Sn	Sn	02 41 15.6	-6.7
	comp=Z,8.4nm,0.8s						
AKTO	Aktyubinsk	11.18	33	Pn	Pn	02 39 16.3	-1.3
	comp=Z,0.8nm,0.3s,baz=216,slow=8.9,SNR=12						
AKTO				Sn	Sn	02 41 15.6	-6.7
	comp=Z,2.6nm,0.3s,baz=62,slow=18,SNR=13						
	comp=Z,1.5nm,0.3s						
AB31	Akbulak array	11.22	42	⇑Pn	Pn	02 39 17.2	-0.9
	comp=Z,0.3nm,0.4s,baz=219,slow=12,SNR=37						
AB31				⇑Sn	Sn	02 41 18.5	-4.7
	comp=Z,2.8nm,0.8s,baz=228,slow=26,SNR=4.9						
AB31	Akbulak array	11.22	42	P	Pn	02 39 17.2	-0.9
AB31				S	Sn	02 41 18.5	-4.7
ABKAR	Akbulak array	11.22	42	Pn	Pn	02 39 16.8	-1.3
ELL	Elmali	15.19	258	Pn	Pn	02 40 14.4	+1.9
ELL				IAmb	IAmb	02 40 20.8	
	comp=Z,19nm,1.0s						
ELL	Elmali	15.19	258	P	Pn	02 40 14.4	+1.9
ELL				pmax	pmax		
	comp=Z,19nm,1.0s						
AKASG	Malin Array Be	16.28	311	Pn	Pn	02 40 21.3	-4.9
	comp=Z,0.8nm,0.3s,baz=114,slow=11,SNR=2.9						
	comp=Z,0.2nm,0.3s						
KK31	Karatay Array	16.35	77	Pn	Pn	02 40 25.5	-1.9
KK31	Karatay Array	16.35	77	P	Pn	02 40 25.5	-1.9
KK31				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KKAR	Karatay Array	16.35	77	Pn	Pn	02 40 25.3	-2.1
KKAR	Karatay Array	16.35	77	P	Pn	02 40 25.3	-2.1
ARU	Arti	16.39	20	P	Pn	02 40 21.1	-6.6
ARU				SS	Sn	02 43 27.5	-1.7
ARU	Arti	16.39	20	Pn	Pn	02 40 24.2	-3.5
	comp=Z,0.9nm,0.3s,baz=216,slow=17,SNR=3.5						
ARU				Sn	Sn	02 43 14.1	-15
	comp=Z,0.7nm,0.3s,baz=323,slow=20,SNR=1.7						
	comp=Z,1.5nm,0.4s						
BURAR	Bucovina Array	17.72	298		Pn	02 40 44.2	-0.4
BUR08	Bucovina Ar. S	17.74	298		Pn	02 40 44.5	-0.3
BVAR	Borovoye Array	18.77	44	P	Pn	02 40 57.4	+0.1
	baz=223,slow=10,SNR=4.9						
BVAR				S	Sn	02 44 17.3	-10
	comp=Z,1.2nm,0.7s,baz=241,slow=24,SNR=4.5						
	comp=Z,0.8nm,0.5s						
IDI	Anoyia	19.50	259	P	P	02 41 02.8	-2.2
	comp=Z,0.4nm,0.3s,baz=48,slow=12,SNR=1.6						
	comp=Z,13nm,1.1s						
PABE	Paberze	21.40	320	P	P	02 41 23.4	-1.9
PABE				IAmb	IAmb	02 41 28.9	
	comp=Z,19nm,1.1s						
KEK	Kerkira	21.86	275	P	P	02 41 30.4	0.0
KURBB	Kurchatov Arra	22.64	56	P	P	02 41 39.6	+0.9
	comp=Z,0.3nm,0.5s,baz=279,slow=12,SNR=2.6						
	comp=Z,0.3nm,0.5s						
KURK	Kurchatov	22.72	56	P	P	02 41 39.6	+0.1
FINES	FINESS Array B	24.24	333	P	P	02 41 52.8	-1.7
FINES	FINESS Array B	24.24	333	P	P	02 41 53.2	-1.2
	comp=Z,4.0nm,0.3s,baz=134,slow=10,SNR=56						
	comp=Z,4.0nm,0.3s						
MK31	Makanchi Array	24.71	66	P	P	02 41 58.5	-0.4
MK31	Makanchi Array	24.71	66	P	P	02 41 58.5	-0.4
MK31				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MKAR	Makanchi Array	24.71	66	P	P	02 41 59.3	+0.4
MKAR	Makanchi Array	24.71	66	P	P	02 41 59.3	+0.4
MKAR	Makanchi Array	24.71	66	P	P	02 41 59.9	+1.0
	comp=Z,0.3nm,0.4s,baz=259,slow=11,SNR=2.9						
	comp=Z,0.3nm,0.4s						
GERES	GERESS Array B	25.51	299	P	P	02 42 06.3	+0.1
GERES	GERESS Array B	25.51	299	P	P	02 42 06.3	+0.1
HFS	Hagfors	28.43	323	P	P	02 42 31.1	-1.2
	comp=Z,2.3nm,0.3s,baz=117,slow=9.5,SNR=36						
	comp=Z,2.3nm,0.3s						
NC405	NORSAR Array S	29.73	324	P	P	02 42 41.7	-2.1
NB2	NORSAR Subarra	29.92	324	P	P	02 42 43.6	-1.9
	comp=Z,1.2nm,0.4s,baz=113,slow=8.6						
NOA	NORSAR Array B	29.92	324	P	P	02 42 43.8	-1.8
	comp=Z,1.0nm,0.9s,baz=124,slow=8.8,SNR=6.5						
	comp=Z,1.0nm,0.9s						
NBO00	NORSAR Array S	30.11	324	P	P	02 42 44.6	-2.5
ARCES	ARCESS Array B	30.66	344	P	P	02 42 51.2	-0.7
	comp=Z,1.6nm,0.6s,baz=154,slow=6.5,SNR=11						
	comp=Z,1.6nm,0.6s						
EKA	Eskdalemuir Ar	36.19	311	P	P	02 43 38.0	-2.1
	comp=Z,0.3nm,0.3s,baz=91,slow=9.2,SNR=5.4						
	comp=Z,0.3nm,0.3s						
SPITS	Spitsbergen Ar	39.11	350	P	P	02 44 04.9	+0.3
	comp=Z,1.9nm,0.5s,baz=143,slow=13,SNR=6.2						
	comp=Z,1.9nm,0.5s						
TORD	Torodi Ar. Bea	49.45	249	P	P	02 45 26.0	-2.0
	comp=Z,0.3nm,0.6s,baz=38,slow=11,SNR=2.0						
	comp=Z,0.3nm,0.6s						
IMAR	Indian Mountai	71.56	9	P	P	02 47 57.3	-1.1
G29M	Pine Creek	71.90	3	P	P	02 47 58.7	-1.8
G29M				IAmb	IAmb	02 48 11.6	
	comp=Z,7.0nm,1.4s						
H29M	Whitestone	72.58	3	P	P	02 48 03.3	-1.2
H29M				IAmb	IAmb	02 48 08.6	
	comp=Z,11nm,1.4s						
J20K	Nowinta River	73.24	10	P	P	02 48 08.3	-0.2
J20K				IAmb	IAmb	02 48 13.0	
	comp=Z,6.9nm,1.5s						
I30M	Mount Dempster	73.64	2	P	P	02 48 09.9	-1.1
I30M				IAmb	IAmb	02 48 11.0	
	comp=Z,5.7nm,1.2s						
CAST	Castle Rocks	74.24	9	P	P	02 48 14.0	-0.4
CAST				IAmb	IAmb	02 48 15.4	
	comp=Z,2.9nm,1.1s						
DAWY	Dawson	74.69	4	P	P	02 48 16.3	-0.7
DAWY				IAmb	IAmb	02 48 37.5	
	comp=Z,4.9nm,1.4s						
K29M	Barlow Dome	74.99	3	P	P	02 48 18.3	-0.5
K29M				IAmb	IAmb	02 48 36.2	
	comp=Z,7.0nm,1.4s						
BCAR	Beaver Creek A	75.55	5	P	P	02 48 21.4	-0.6
SKT	Skwentna	75.70	10	P	P	02 48 21.6	-1.2
SKT				IAmb	IAmb	02 48 29.6	
	comp=Z,7.9nm,1.4s						
M24K	Tolsona, Glenn	76.16	7	P	P	02 48 25.9	+0.4
SUA	Susitna One	76.30	9	P	P	02 48 25.0	-1.3
SUA				IAmb	IAmb	02 48 36.1	
	comp=Z,14nm,1.3s						
SCM	Sheep Creek Mo	76.31	8	P	P	02 48 26.1	-0.3
SCM	Sheep Creek Mo	76.31	8	P	P	02 48 26.1	-0.3
SCM				pmax	pmax		
	comp=Z,24nm,1.5s						
KLU	Klutina	76.79	7	P	P	02 48 28.4	-0.7
KLU				IAmb	IAmb	02 48 49.3	
	comp=Z,13nm,1.3s						

*ISK **04** 03:01:39.9, 38.°95N×26.°16E, h10km, ML3.2/25*
*THE **04** 03:01:39.8, 38.°97N×26.°17E, h17km±3km, ML3.0/5, Error ellipse: s-maj=3.9km s-min=0.9km az=59.0*
*ATH **04** 03:01:40.5, 38.°93N×26.°17E, h11km, ML2.8/13, Error ellipse: s-maj=1.2km s-min=0.6km az=92.0*
*AFAD **04** 03:01:40.1±0.0, 38.°95N×26.°25E, h7km±3km, ML3.1*
ISC 04 03:01:40.2±0.8, 38.°94N±0.°01×26.°16E±0.°02, h13km±6km, n88, σ0s92/130, 5C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG1	Polichnitos, L	0.15	19	P	Pg	03 01 43.9	-0.1
EAG1				S	Sg	03 01 46.8	+0.2
PRK	Paraskevi	0.32	16	P	Pg	03 01 45.5	-1.2
PRK				S	Sg	03 01 51.1	0.0
	3μm,0.4s						
PRK	Paraskevi	0.32	16	P	Pg	03 01 46.9	+0.2
PRK				S	Sg	03 01 51.4	+0.3
PRK				AML	AML	03 01 57.4	
	comp=N,5788μm,0.5s						
PRK				AML	AML	03 01 57.5	
	comp=E,5492μm,0.4s						
KARB	zmir-Karabur	0.34	144	P	Pg	03 01 47.1	0.0
KARB				S	Sg	03 01 51.9	+0.2
KARB				*i* AML	AML	03 01 55.0	
	comp=E,2μm,0.4s						
EAG3	Mitilini, Lesv	0.35	65	P	Pg	03 01 47.4	+0.1
EAG3				S	Sg	03 01 52.0	-0.1
LESV	Lesvos island,	0.36	62	P	Pg	03 01 46.6	-0.8
LESV				S	Sg	03 01 52.0	-0.2
	comp=E,24μm,0.3s						
SIGR	SIGRI	0.36	319	Pg	Pg	03 01 47.8	+0.3
SIGR				Sg	Sg	03 01 52.9	+0.5
SIGR	SIGRI	0.36	319	P	Pg	03 01 45.9	-1.6
SIGR				S	Sg	03 01 52.8	+0.5
	comp=E,4μm,0.4s						
SIGR	SIGRI	0.36	319	P	Pg	03 01 47.5	0.0
SIGR				S	Sg	03 01 52.8	+0.5
SIGR				AML	AML	03 01 53.8	
	comp=N,8568μm,0.3s						
SIGR				AML	AML	03 01 54.5	
	comp=E,7709μm,0.5s						
EAG2	Marmaro, Chios	0.40	186	P	Pg	03 01 48.2	+0.1
EAG2				S	Sg	03 01 53.0	-0.5
GPNR	Gulpinar-Canak	0.52	358	Pg	Pg	03 01 49.9	-0.5
RFT5	Foca	0.54	121	Pg	Pb	03 01 51.2	-0.3
RFT5				Sg	Sb	03 01 59.3	+0.1
CHOS	Chios island	0.56	188	P	Pg	03 01 51.2	+0.1
CHOS				S	Sb	03 02 00.6	+0.8
	comp=E,3μm,0.3s						
CHOS	Chios island	0.56	188	P	Pg	03 01 50.8	-0.3
CHOS				S	Sg	03 01 58.6	+0.1
CHOS				AML	AML	03 02 03.5	
	comp=E,7680μm,0.4s						
CHOS				AML	AML	03 02 03.5	
	comp=N,4723μm,0.3s						
KOCA	Canakkale, Ayv	0.56	358	P	Pg	03 01 51.0	-0.2
RFT7	Candarli	0.59	88	Pg	Pb	03 01 52.1	-0.4
RFT7				Sg	Sb	03 02 01.0	+0.2
DKL	Dikili	0.60	77	Pg	Pb	03 01 52.1	-0.4
DKL				Sg	Sb	03 02 00.7	-0.1
PSRA	Psara	0.61	230	P	Pg	03 01 52.5	+0.3
PSRA				S	Sg	03 02 00.3	+0.1
PSRA				AML	AML	03 02 04.4	
	comp=E,6271μm,0.2s						
PSRA				AML	AML	03 02 04.7	
	comp=N,5102μm,0.2s						
RFT1	Sazli	0.63	20	Pg	Pg	03 01 52.4	-0.2
RFT1				Sg	Sb	03 02 01.9	0.0
URLA	Izmir	0.67	149	Pg	Pg	03 01 53.3	0.0
URLA				Sg	Sb	03 02 03.2	+0.2
ZEDA	zmir-Bergama	0.72	88	P	Pb	03 01 55.1	+0.5
RFT2	Karaagac	0.73	49	Pg	Pb	03 01 54.3	-0.5
RFT2				Sg	Sb	03 02 04.5	-0.2
ZEYE	Izmir, Urla-Ze	0.75	159	P	Pg	03 01 54.1	-0.6
BAYC	CANAKKALE_Bayr	0.86	20	P	Pg	03 01 55.3	-1.5
BAYC				S	Sb	03 02 08.2	-0.2
BAYC				*i* AML	AML	03 02 10.0	
	comp=N,699nm,0.4s						
EZN	Ezine	0.90	8	Pg	Pg	03 01 56.8	-0.7
EZN				Sg	Sn	03 02 10.7	-0.6
BOZC	Bozcaada	0.91	355	Pg	Pg	03 01 57.3	-0.4
BOZC				Sg	Sb	03 02 10.4	+0.6
BUHA	Balikesir, Bur	0.91	52	P	Pb	03 01 57.7	-0.1
BUHA				S	Sg	03 02 08.4	-1.2
DGB	zmir	1.05	147	P	Pn	03 02 00.8	+0.2
DGB				S	Sn	03 02 15.1	-0.1
EFSA	Agios Efstrati	1.09	304	P	Pg	03 02 01.2	0.0
EFSA				S	Sb	03 02 15.2	+0.2
ECEA	Canakkale, Ece	1.10	1	P	Pb	03 01 58.6	-2.5
ECEA				S	Sg	03 02 15.6	-0.3
CNKL	anakkale-Mer	1.14	9	P	Pb	03 02 01.5	-0.3
CNKL				P	Pn	03 02 02.0	+0.1
CNKL				S	Sn	03 02 17.7	+0.3
CNKL				*i* AML	AML	03 02 19.0	
	comp=N,692nm,0.4s						
COMU	Canakkale	1.18	12	Pn	Pn	03 02 02.5	0.0
COMU				Sn	Sn	03 02 18.8	+0.3
LIA	Limnos Island	1.22	322	P	Pn	03 02 03.0	+0.1
LIA				S	Sb	03 02 19.0	+0.2
LIA				AML	AML	03 02 21.6	
	comp=E,2734μm,0.4s						
LIA				AML	AML	03 02 21.8	
	comp=N,1790μm,0.3s						
SKY	Skiros Island	1.26	268	P	Pn	03 02 03.4	-0.1
SKY				S	Sb	03 02 19.9	0.0
SKY				AML	AML	03 02 24.5	
	comp=E,645μm,0.3s						
SKY				AML	AML	03 02 24.9	
	comp=N,544μm,0.2s						
GADA	Gvkgeada	1.27	351	Pn	Pn	03 02 03.5	-0.1
GADA				Sn	Sg	03 02 21.1	+0.1
CANM	Can-anakkale	1.27	33	Pn	Pg	03 02 04.3	-0.4
CANM				Sn	Sg	03 02 22.3	+1.0
STEP	BALIKESIR_Sava	1.29	70	P	Pn	03 02 02.7	-1.3
IKRA	Agios-Kirikos-	1.33	175	P	Pn	03 02 04.6	+0.2
IKRA				S	Sb	03 02 20.7	-1.2
IKRA				AML	AML	03 02 25.8	
	comp=N,1541μm,0.5s						
IKRA				AML	AML	03 02 26.9	
	comp=E,1580μm,0.6s						
SMG	Samos	1.34	156	P	Pn	03 02 04.3	-0.3
SMG				S	Sb	03 02 22.0	-0.3
SMG				AML	AML	03 02 27.1	
	comp=N,1153μm,0.4s						
SMG				AML	AML	03 02 29.6	
	comp=E,904μm,0.5s						
GELI	Tayfur-Gelibol	1.48	9	Pn	Pn	03 02 06.8	+0.3
GELI				Sn	Sb	03 02 26.5	+0.3
GCAM	G?zelcaml?	1.50	145	Pn	Pb	03 02 07.5	-0.4
GCAM				Sn	Sb	03 02 27.6	+0.8
LPK	Lapseki	1.50	18	Pn	Pn	03 02 07.1	+0.2
LPK				Sn	Sb	03 02 26.9	-0.1
BKES	Balkesir-Mer	1.58	59	P	Pn	03 02 07.0	-1.0
SMTH	Samothraki Isl	1.60	343	P	Pn	03 02 08.3	0.0
SMTH				S	Sn	03 02 28.0	-0.9
SMTH				AML	AML	03 02 33.2	
	comp=E,253μm,0.4s						
SMTH				AML	AML	03 02 34.9	
	comp=N,284μm,0.4s						
GONE	Gonen-Balikesi	1.62	46	Pn	Pn	03 02 08.6	+0.1
KYMI	Kymi, Euboea I	1.64	260	P	Pn	03 02 08.4	-0.3
KYMI				S	Sn	03 02 29.0	-0.7
KRBG	Karabiga-Canak	1.70	31	Pn	Pn	03 02 09.9	+0.4
CAVK	Edirne/Enez-Ca	1.75	0	P	Pn	03 02 10.1	-0.2
ERIK	Erikli-Kesan	1.75	9	Pn	Pn	03 02 10.7	+0.4
ERIK				Sn	Sn	03 02 32.8	+0.4
ENEZ	Enez	1.79	360	Pn	Pn	03 02 11.8	+0.9
RKY	Sarkoy-Tekirda	1.91	24	Pn	Pn	03 02 13.3	+0.7
EDC	Edincik	1.93	43	Pn	Pn	03 02 12.6	-0.1
APE	Apeiranthos	1.93	195	P	Pn	03 02 12.1	-0.7
DION	Dionisos Attik	1.95	244	P	Pn	03 02 13.5	+0.6
ALN	Alexandroupoli	1.96	357	Pn	Pb	03 02 14.6	-1.1
ALN	Alexandroupoli	1.96	357	P	Pn	03 02 13.1	0.0
ALN				S	Sn	03 02 36.4	-1.1
ALN				AML	AML	03 02 49.1	
	comp=E,153μm,0.4s						
ALN				AML	AML	03 02 50.6	
	comp=N,142μm,0.6s						
THAS	Thassos island	2.00	327	P	Pn	03 02 13.7	0.0
THAS				AML	AML	03 02 40.2	
	comp=N,82μm,0.5s						
THAS				AML	AML	03 02 46.9	
	comp=E,101μm,0.4s						
KULA	Kula-Manisa	2.00	101	Pn	Pn	03 02 14.9	+1.1
PTL	Penteli	2.01	244	P	Pn	03 02 14.4	+0.5
BAND	Balkesir-Ban	2.06	46	P	Pn	03 02 14.1	-0.4
ATHU	Athens Univers	2.10	243	P	Pn	03 02 14.5	-0.6
VLY	Voula,Athens	2.15	240	P	Pn	03 02 15.5	-0.3
KCTX	Karacabey (Bur	2.15	51	Pn	Pn	03 02 16.2	+0.4
PAIG	Paliouri	2.16	298	P	Pn	03 02 15.6	-0.3
OUR	Ouranopolis	2.18	310	Pn	Pn	03 02 17.8	+1.6
OUR	Ouranopolis	2.18	310	P	Pn	03 02 16.6	+0.4
OUR				AML	AML	03 02 51.4	
	comp=E,144μm,0.6s						
OUR				AML	AML	03 02 53.7	
	comp=N,137μm,0.4s						
RDO	Rodhopi	2.25	348	Pn	Pn	03 02 18.8	+1.6
RDO	Rodhopi	2.25	348	P	Pn	03 02 17.7	+0.5
RDO				AML	AML	03 02 45.0	
	comp=N,94μm,0.8s						
RDO				AML	AML	03 03 00.6	
	comp=E,62μm,0.5s						
NEO	Neokhori	2.31	280	P	Pn	03 02 17.9	-0.1
XOR	Xorichti	2.35	281	P	Pn	03 02 19.2	+0.7
VIL2	Platees	2.38	253	P	Pn	03 02 18.7	-0.3
KAVA	Kavala	2.41	329	P	Pn	03 02 19.5	+0.1
ATAL	Atalanti	2.46	265	P	Pn	03 02 20.2	+0.1
KOKK	Kokkinochori,	2.51	319	P	Pn	03 02 20.3	-0.4
KDZ	Kurdzhali	2.76	347	P	Pn	03 02 24.2	0.0
HORT	Hortiatis	2.88	306	P	Pn	03 02 26.5	+0.6
SRS	Serrai	2.94	319	P	Pn	03 02 27.1	+0.6
RZN	Rozhen	2.96	339	P	Pn	03 02 27.7	+0.6
NVR	Nevrokopi	2.98	325	P	Pn	03 02 28.2	+0.9
MMB	Musomishta	3.19	325	P	Pn	03 02 30.9	+0.8
KNT	Kendrikon	3.34	313	P	Pn	03 02 33.4	+1.2
STIP	Stip	4.10	313	*i* Pn	Pn	03 02 43.4	+0.8
BOVS	Bovan	5.77	326	⇑P	Pn	03 03 06.4	+1.0
MLR	Muntele Rosu	6.55	359	⇓P	Pn	03 03 19.9	+3.6
PLOR	Plostina	6.92	3	⇑P	Pn	03 03 24.5	+3.2
GZR	Gura Zlata	6.92	340	⇑P	Pn	03 03 21.8	+0.5
VRI	Vrincioaia	6.94	3	⇑P	Pn	03 03 25.7	+4.2
TESR	Tescani	7.58	3	⇑P	Pn	03 03 34.6	+4.3

*NEIC **04** 03:02:07.9±1.5, 23.°10S±0.°05×68.°20W±0.°07, h129km±4km, mb4.9/23, Mww4.8/10, Mwr4.9(GUC), Error ellipse: s-maj=9.1km s-min=7.2km az=84.0*
*IDC **04** 03:02:07.8±0.7, 23.°03S×68.°03W, h119km±6km, mb4.6/8, mbtmp4.8/11, MS3.0/3, Error ellipse: s-maj=17.2km s-min=13.7km az=71.0*
*VAO **04** 03:02:07.5±0.2, 22.°94S×68.°16W, h127km, mb4.9*
*NEIC **04** 03:02:08.2, 23.°29S×68.°06W, h120km, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.41; $M_{\theta\theta}$-1.58; $M_{\phi\phi}$2.00; $M_{r\theta}$0.20; $M_{\theta\phi}$-0.52; $M_{\phi r}$-0.99; Fault plane solution: $M_0$2.05000×10^{16} NP1: ϕ_s218.84000°, δ73.73000°, λ11.61000°. NP2: ϕ_s125.55000°, δ78.86000°, λ163.40000°. Principal axes: T 2.4287, Plg20.0000°, Azm82.0000°; N -0.7660, Plg70.0000°, Azm273.0000°; P -1.6628, Plg4.0000°, Azm173.0000°;*
*GUC **04** 03:02:08.9±0.8, 23.°04S×68.°27W, h132km±4km, ML4.9*
*NEIC **04** 03:02:08.2, 23.°09S×68.°17W, h123km*
ISC 04 03:02:07.5±0.4, 23.°08S±0.°03×68.°13W±0.°05, h125km±3km, n268, σ1s53/294, mb4.9/37, 8C-15D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.13	341		Pn	03 02 26.4	+1.4
AF01				Sn	Sn	03 02 39.6	+1.4
AF01	San Pedro de A	0.13	341	⇓*i*P	Pn	03 02 26.4	+1.4
AF01				*i* S	Sn	03 02 39.8	+1.7
LVC	Limon Verde	0.86	303	Pn	Pn	03 02 29.9	+0.8
LVC				Sn	Sn	03 02 45.5	+0.2
LVC	Limon Verde	0.86	303	*e*P	Pn	03 02 29.9	+0.8
LVC				*e*S	Sn	03 02 45.3	0.0
LVC	Limon Verde	0.86	303	P	Pn	03 02 30.4	+1.3
	3μm,0.4s,baz=99,slow=8.2,SNR=7620						
LVC				S	Sn	03 02 45.9	+0.6
	20μm,0.5s,baz=254,slow=21,SNR=50						
LVC	Limon Verde	0.86	303	⇑*i*P	Pn	03 02 29.9	+0.8
LVC				*i* S	Sn	03 02 45.4	0.0
PB15	IPOC Station P	1.24	264		Pn	03 02 33.3	+0.7
PB15				Sn	Sn	03 02 51.9	+0.2
PB15	IPOC

GO01 Chusmiza 3.54 344 Pn 03 03 01.8 +0.3
GO01 Chusmiza 3.54 344⇑ eP Pn 03 03 01.9 +0.3
GO01 i S Sn 03 03 43.0 -0.1
GO01 IAML 03 03 46.2
comp=E,3µm,0.1s
AC01 Pan de Azucar 3.79 216 Pn Pn 03 03 03.3 -1.1
AC02 Maricunga 3.85 193 Pn Pn 03 03 06.4 +0.8
AC02 Maricunga 3.85 193 i P Pn 03 03 06.5 +0.9
AC06 Mina Casimiro 4.71 205 Pn Pn 03 03 14.7 -2.0
GO03 Copiap 4.88 203 Pn 03 03 17.3 -1.7
PB16 IPOC Station P 4.89 344 Pn Pn 03 03 19.3 -0.4
PB12 IPOC Station P 4.89 335 Pn Pn 03 03 16.8 -2.5
PB18 Visviri 5.61 347 Pn Pn 03 03 30.9 +1.7
AC04 Llanos de Chal 5.75 207 Pn 03 03 26.9 -3.7
LCO Las Campanas 6.34 201 Pn 03 03 35.9 -2.9
LPAZ La Paz 6.76 0 Pn 03 03 45.5 +0.7
LPAZ La Paz 6.76 0 P Pn 03 03 46.0 +1.2
comp=E,28nm,0.3s,baz=157,slow=8.7,SNR=101
LPAZ S Sn 03 04 53.6 -7.2
comp=E,33nm,0.9s,baz=190,slow=13,SNR=4.9
CO01 Juntas del Tor 7.09 194 Pn 03 03 47.4 -1.5
CO05 La Serena 7.36 202 Pn 03 03 47.7 -4.5
GO04 Tololo Observa 7.46 198 Pn 03 03 50.2 -3.7
TICA Tres Isletas 7.78 117 eP Pn 03 03 58.8 +0.8
CO03 El Pedregal 8.06 196 Pn 03 03 58.2 -3.6
ZON Zonda 8.45 183 Pn Pn 03 04 05.2 -1.8
CFA Coronel Fontan 8.49 181 P Pn 03 04 05.5 -2.2
comp=E,30nm,0.3s,baz=357,slow=13,SNR=169
CFA S Sn 03 05 34.1 -7.7
comp=E,18nm,0.2s,baz=128,slow=23,SNR=7.6
ESFA Espinillo Form 9.01 104 eP Pn 03 04 14.8 +0.2
BBSD Serra de San D 9.18 52 eP Pn 03 04 14.7 -2.2
MURT Porto Murtinho 9.84 84 eP Pn 03 04 24.1 -1.7
VA03 San Esteban 9.88 192 Pn 03 04 22.3 -4.1
ROC1 El Roble 10.18 194 Pn 03 04 29.7 -0.9
PEL Peldehue 10.28 192 Pn 03 04 31.3 -0.4
CPUP Villa Florida 10.34 110 P Pn 03 04 30.8 -1.7
comp=E,4.2nm,0.9s,baz=293,slow=11,SNR=9.4
CPUP LR LR 03 08 49.1
comp=E,64nm,19.7s,baz=290,slow=39
MT08 Bocatoma Ro 10.46 189 Pn 03 04 31.9 -2.4
MT03 Universidad Ad 10.59 191 Pn 03 04 31.8 -4.1
MT13 San Alfonso 10.79 190 Pn Pn 03 04 36.0 -2.7
MECA Mercedes 10.87 127 eP Pn 03 04 39.6 -0.1
LMEL Las Melosas 10.88 189 Pn 03 04 36.9 -3.0
BDQN Bodoquena, MS 10.90 78 eP Pn 03 04 38.7 -1.3
MT09 Talagante 10.95 193 Pn Pn 03 04 36.0 -4.8
VA05 Santo Domingo 10.97 195 Pn 03 04 36.4 -4.6
BO04 La Punta 11.09 191 Pn 03 04 38.3 -4.3
ANTJ Antonio Joao (11.26 87 eP Pn 03 04 44.6 -0.3
PTLB Pontes e Lacer 11.39 50 eP Pn 03 04 43.8 -2.8
BO01 Tunca 11.56 192 Pn Pn 03 04 42.5 -6.3
AQDB Aquidauana 11.84 80 Pn 03 04 52.1 -0.4
AQDB Aquidauana 11.84 80 eP Pn 03 04 53.4 +0.8
BO02 Sierra Bellavi 11.90 191 Pn Pn 03 04 51.9 -1.4
VILB Vilhena 12.58 38 Pn Pn 03 05 00.5 -1.8
VILB Vilhena 12.58 38 eP Pn 03 05 01.0 -1.3
ML02 Panimavida 12.96 192 Pn Pn 03 05 06.7 -0.3
UNIS Unistalda (Bra 13.16 120 eP P 03 05 11.8 -3.3
ETMB Extrema 13.32 8 Pn Pn 03 05 08.7 -3.1
ETMB Extrema 13.32 8 eP Pn 03 05 08.8 -2.9
PP1B Ponte de Pedra 13.57 69 eP Pn 03 05 13.9 -1.2
RODS Rosario do Sul 13.63 125 eP Pn 03 05 17.0 +1.2
RPRD Ribas do Rio P 13.65 82 eP Pn 03 05 17.1 +1.0
SALV Santo Antonio 13.72 61 eP Pn 03 05 14.8 -2.3
TRCB Terra Rica 14.28 92 eP Pn 03 05 23.9 -0.3
ALGR Alto Alegre (B 14.73 116 eP P 03 05 31.9 -0.7
SAML Samuel 14.83 19 Pn Pn 03 05 28.8 -2.3
SAML Samuel 14.83 19 eP Pn 03 05 28.4 -2.7
C2SB Chapadao do Su 14.92 76 eP P 03 05 34.1 -0.6
CPSB Cacapava Do Su 15.01 122 eP P 03 05 34.3 -1.3
ITAB Concordia 15.07 109 P 03 05 35.3 -1.0
ITAB Concordia 15.07 109 eP P 03 05 35.7 -0.6
PLTB Pedras Altas 15.52 127 eP P 03 05 40.3 -1.0
LDASE Londrina, Braz 15.64 94 eP P 03 05 42.1 -0.7
PDRB Porto dos Gac 15.75 46 eP P 03 05 42.7 -1.3
TRQA Tornquist 15.83 162 Pn Pn 03 05 42.3 -1.1
TRQA Tornquist 15.83 162 eP P 03 05 44.0 -0.7
CZSB Cruzeiro do Su 15.88 343 Pn 03 05 44.8 +0.5
CNLB Canela 16.70 115 eP P 03 05 54.8 +0.4
GO06 Curarrehue 16.70 189 Pn 03 05 53.3 -0.9
ITRB Iturama 16.89 82 eP P 03 05 56.7 +0.2
CLDB Colider 16.91 46 eP Pn 03 05 56.1 -0.7
ARAG Araguaiana, MT 17.04 67 eP P 03 05 58.3 +0.1
FRTB Fartura 17.07 95 eP P 03 05 59.1 +0.5
PLCA Paso Flores 17.72 186 eP P 03 06 05.8 +0.3
PLCA Paso Flores 17.72 186 P P 03 06 05.8 +0.3
comp=E,5.6nm,0.5s,baz=359,slow=11,SNR=25
BB19B Bebedouro 18.28 87 eP Pn 03 06 12.5 -0.8
TBTG Tabatinga, AM 18.86 355 Pn P 03 06 19.2 +1.1
RCLB Rio Claro- Sao 19.01 92 eP P 03 06 19.9 +0.1
PET01 Itanhaem-SP 19.14 98 eP P 03 06 20.6 -0.5
IPMB Ipameri, GO 19.33 78 eP P 03 06 23.2 -0.1
SNDB Serra Nova Dou 19.46 58 eP P 03 06 23.7 -1.0
TEFE Tefe 19.75 10 eP P 03 06 27.2 -0.5
NPGB Novo Progresso 20.13 40 eP P 03 06 29.6 -2.3
LL02 Futaleuf 20.29 188 P P 03 06 33.9 +0.5
BDFB Brasilia 20.36 72 P P 03 06 33.9 -0.6
BDFB Brasilia 20.36 72 P P 03 06 33.8 -0.7
comp=E,55nm,0.6s,baz=246,slow=11,SNR=86
comp=E,55nm,0.6s
GO07 Milladeo Hill, 20.50 192 P P 03 06 35.6 0.0
PARB Paraibuna 20.69 95 eP P 03 06 37.0 -1.0
PMNB Patos De Minas 20.77 81 eP P 03 06 37.9 -0.9
MACA Manacapuru-AM 21.07 21 P P 03 06 40.3 -1.7
MACA Manacapuru-AM 21.07 21 eP P 03 06 40.3 -1.7
AY01 Puyuhuapi 21.61 189 P P 03 06 47.1 -0.4
BSCB Bom Sucesso 21.75 89 eP P 03 06 47.8 -1.5
ESAR Angra dos Reis 21.80 95 eP P 03 06 49.8 +0.1
MCRA Macar, Loja 21.83 327 P P 03 06 49.6 -0.6
ITTB Itaituba 22.13 35 eP P 03 06 50.9 -2.3
BOSC San Juan Bosco 22.21 332 P P 03 06 52.6 -1.5
COYC Coyhaique 22.67 187 P P 03 06 57.5 -0.8
VAS01 Vassouras-RJ 22.79 93 eP P 03 07 00.3 +0.6
SGCB S̃to Gabriel d 22.84 3 eP P 03 06 59.2 -1.1
COHC Cochancay 23.16 331 P P 03 07 01.8 -1.3
DIAM Diamantina, MG 23.36 83 eP P 03 07 04.0 -1.3
DUB01 Friburgo-RJ 23.80 93 eP P 03 07 09.6 +0.5
SMTB Santa Maria do 24.24 58 eP P 03 07 11.8 -1.2
PRPB Paranauapebas 24.37 49 eP P 03 07 13.0 -1.3
SDBA SAO DESIDERIO 24.50 68 eP P 03 07 13.9 -1.6
MALB Monte Alegre 25.02 34 eP P 03 07 19.0 -1.1
SJMB Sao Joao De Ma 25.53 85 eP P 03 07 23.4 -1.4
ALF01 Guarapari-ES 25.54 90 eP P 03 07 24.5 -0.3
FLOC Florencia 25.59 342 eP P 03 07 25.8 +0.5
MACC Macarena, Meta 25.68 347 eP P 03 07 25.9 -0.3
RIB01 Linhares ES 26.11 87 eP P 03 07 29.9 -0.2
GARC Garzon, Huila 26.12 343 eP P 03 07 31.4 +1.1
BOAV Boa Vista 26.39 17 P P 03 07 33.0 +0.5
BOAV Boa Vista 26.39 17 eP P 03 07 32.9 +0.4
BOAV Boa Vista 26.39 17 eP P 03 07 33.0 +0.5
BBAC Balboa, Cauca 26.48 339 eP P 03 07 35.1 +1.6
POPC Popayan, Colom 26.79 341 eP P 03 07 37.5 +1.1
GUA01 Guaratinga, BA 27.39 82 eP P 03 07 41.7 +0.2
MCPB Macapa, AP 27.46 37 eP P 03 07 41.2 -0.8
ORTC Ortega, Tolima 27.71 345 eP P 03 07 45.1 +0.8
CHIC Chingaza 28.08 348 eP P 03 07 48.0 +0.1
TMAB Tom-Au,PA,Br 28.30 46 eP P 03 07 49.7 +0.1
PLMC San Jos del P 28.93 343 eP P 03 07 55.2 +0.1
GUY2C Guyana, Caldas 29.00 345 eP P 03 07 56.4 +0.1
RUSC La Rusia 29.20 350 eP P 03 07 58.1 +0.1
NORC Norcasia 29.22 346 eP P 03 07 57.1 -0.6
BAUV El Baul 31.82 0 P P 03 08 20.0 -0.6
BAUV IAmb IAmb 03 08 20.8
comp=Z,35nm,1.0s
MDP Montagnes des 31.84 30 LR LR 03 20 54.5
comp=Z,29nm,19.9s,baz=32,slow=36
MPGF Montagnes des 31.84 30 P P 03 08 20.2 -0.6
PCRV Puerto La Cruz 33.23 6 LR LR 03 21 52.6
comp=Z,39nm,21.6s,slow=36
FDF Fort de France 38.20 11 P P 03 09 14.7 -0.6
FDF Fort de France 38.20 11 P P 03 09 14.7 -0.6
FDF pP pP 03 09 44.6 0.0
SJG San Juan 40.98 3 P P 03 09 36.1 -2.2
BELA Belgrano 2 57.09 172 P P 03 11 40.0 -0.3
BELA IAmb IAmb 03 11 42.7
comp=Z,12nm,0.8s
VNA3 Neumayer Olymp 58.36 161 ⇓P P 03 11 50.4 +1.1
comp=Z,18nm,0.6s
VNA1 Neumayer--Stat 58.56 160 ⇓P P 03 11 52.3 +1.6
comp=Z,12nm,0.8s

LRAL Lakeview Retre 58.63 341 P P 03 11 51.3 -0.3
baz=160
VNA2 Neumayer--Watz 58.93 160 ⇓P P 03 11 54.5 +1.2
comp=Z,16nm,0.6s,baz=286,slow=8.0
KMSC Kings Mountain 59.24 347 P P 03 11 56.3 +0.5
baz=166
SNAA Sanae 60.56 161 P P 03 12 03.9 -0.6
SNAA IAmb IAmb 03 12 06.3
comp=Z,14nm,0.7s
SNAA Sanae 60.56 161 ⇓P P 03 12 05.5 +1.0
comp=Z,243nm,0.5s
SNAA Sanae 60.56 161 P P 03 12 05.4 +1.0
comp=Z,12nm,0.6s,baz=282,slow=8.1,SNR=144
comp=Z,12nm,0.6s
BLA Blacksburg 61.08 349 P P 03 12 09.1 +0.8
baz=167
WVT Waverly 61.77 342 P P 03 12 12.5 -0.4
WVT IAmb IAmb 03 12 13.0
comp=Z,9.0nm,0.8s
WVT Waverly 61.77 342 P P 03 12 12.7 -0.2
baz=160
WVT Waverly 61.77 342 P P 03 12 12.2 -0.7
WVT pP pP 03 12 43.9 -0.2
WVT sP sP 03 12 58.0 -0.1
TROLL Troll, Antarti 62.27 161 ⇓P P 03 12 17.5 +1.4
comp=Z,875nm,0.6s
TXAR Lajitas Array 62.33 325 P P 03 12 17.6 +0.7
comp=Z,0.5nm,0.9s,baz=149,slow=11,SNR=3.0
MCWV Mont Chateau 63.36 350 P P 03 12 23.9 +0.5
baz=168
P52A Corning 63.74 348 P P 03 12 25.6 -0.3
baz=166
O53A New Philadelph 64.17 349 P P 03 12 28.9 +0.2
baz=167
ACSO Alum Creek Sta 64.49 347 P P 03 12 30.6 -0.1
ACSO IAmb IAmb 03 12 31.4
comp=Z,18nm,0.9s
ACSO Alum Creek Sta 64.49 347 P P 03 12 30.4 -0.4
baz=165
CCM Cathedral Cave 64.57 340 P P 03 12 31.0 -0.3
CCM IAmb IAmb 03 12 32.0
comp=Z,7.2nm,1.0s
CCM Cathedral Cave 64.57 340 P P 03 12 30.8 -0.6
baz=157
CCM Cathedral Cave 64.57 340 P P 03 12 31.1 -0.3
CCM pP PcP 03 13 03.0 -1.3
CCM sP sP 03 13 16.9 +0.2
O48B Farmland 64.98 346 P P 03 12 33.5 -0.4
baz=163
L61B Northampton 65.33 356 P P 03 12 37.0 +0.8
baz=176
BINY Binghamton 65.35 354 P P 03 12 37.4 +1.0
baz=172
ERPA Erie 65.79 350 P P 03 12 39.7 +0.5
baz=168
J59A Piesco 66.47 355 P P 03 12 44.2 +0.7
J59A IAmb IAmb 03 12 45.6
comp=Z,18nm,0.8s
LBNH Lisbon 67.08 357 P P 03 12 48.4 +1.1
baz=176
QSPA South Pole Qui 67.12 180 P P 03 12 49.1 +1.5
QSPA South Pole Qui 67.12 180 P P 03 12 49.2 +1.6
comp=Z,25nm,0.5s,baz=167,slow=3.3,SNR=212
comp=Z,25nm,0.5s
QSPA South Pole Qui 67.12 180 P P 03 12 49.3 +1.7
QSPA pP pP 03 13 21.3 +2.4
LONY Lake Ozonia 67.63 355 P P 03 12 51.9 +1.2
baz=174
G62A West of Eustis 68.00 358 P P 03 12 54.0 +0.9
PKME Peaks-Kenny Pk 68.02 359 P P 03 12 54.1 +1.0
baz=179
LIC Lamto 68.15 73⇓ iP P 03 12 54.8 +0.1
comp=Z,31nm,0.7s
ANMO Albuquerque 68.21 327 P P 03 12 55.7 +0.8
baz=142
ANMO Albuquerque 68.21 327 P P 03 12 55.0 +0.1
ANMO pP pP 03 13 27.1 +0.5
ANMO sP sP 03 13 41.3 +0.8
TIC Toumodi 68.35 72⇓ iP P 03 12 56.2 +0.2
comp=Z,20nm,0.9s
KIC Kosan Boka 68.46 73⇑ eP P 03 12 56.7 0.0
comp=Z,48nm,0.8s
DBIC Dimbokro 68.51 72 P P 03 12 57.2 +0.3
F64A Sherman 68.61 360 P P 03 12 58.0 +1.1
F64A IAmb IAmb 03 12 58.7
comp=Z,18nm,0.8s
ELIB Princess Elisa 68.72 160 dP P 03 12 58.4 +0.9
comp=Z,8.5nm,0.8s
ELIB dx x 03 13 32.6
JFWS Jewell Farm 68.76 343 P P 03 12 57.9 0.0
baz=158
SDCO Great Sand Dun 69.97 329 P P 03 13 07.0 +1.2
baz=144
MVCO Mesa Verde 71.01 327 P P 03 13 13.7 +1.7
baz=141
ISCO Idaho Springs 71.67 330 P P 03 13 17.2 +1.1
baz=144
N23A Red Feather La 72.70 331 P P 03 13 23.4 +1.3
baz=144
KOWA Kowa 73.00 66 P P 03 13 24.4 +0.3
KOWA IAmb IAmb 03 13 25.1
comp=Z,12nm,0.7s
GMRC Granite Mounta 73.11 321 P P 03 13 25.7 +1.2
baz=135
O20A White River Ci 73.16 329 P P 03 13 25.9 +1.2
baz=142
WTNK Soaring Height 73.74 322 P P 03 13 27.3 -0.7
BFSC Mount Baldy Ra 73.92 319 P P 03 13 31.0 +1.7
baz=133
ISA Isabella, Lake 75.38 320 P P 03 13 39.1 +1.5
baz=133
CWC Cottonwood Cre 75.68 320 P P 03 13 40.7 +1.3
baz=134
BW06 Boulder Array 75.83 330 P P 03 13 42.7 +2.5
baz=141
PDAR Pinedale Array 75.83 330 P P 03 13 41.1 +0.9
comp=Z,0.5nm,0.5s,baz=132,slow=6.7,SNR=6.7
ULM Lac du Bonnet 77.03 342 P P 03 13 46.6 +0.1
comp=Z,4.0nm,0.6s,baz=161,slow=4.8,SNR=9.5
comp=Z,4.0nm,0.6s
TOA0 Torodi Ar. Sit 77.22 70 P P 03 13 48.5 +0.2
TORD Torodi Ar. Bea 77.22 70 P P 03 13 48.0 -0.3
TORD IAmb IAmb 03 13 49.2
comp=Z,20nm,0.6s
TORD Torodi Ar. Bea 77.22 70 P P 03 13 48.5 +0.1
comp=Z,22nm,0.5s,baz=260,slow=5.4,SNR=429
comp=Z,22nm,0.5s
RLMT Red Lodge 77.54 332 P P 03 13 51.2 +1.5
baz=142
PAHR Pah Rah Range 78.66 322 P P 03 13 54.9 -1.1
HLID Hailey 78.76 328 P P 03 13 55.4 -1.0
HLID Hailey 78.76 328 P P 03 13 58.7 +2.3
baz=137
BOSA Boshof 82.08 118 P P 03 14 15.1 +0.4
comp=Z,2.7nm,0.7s,baz=236,slow=6.1,SNR=4.6
comp=Z,2.7nm,0.7s
PTEO Sao Teotonio 82.18 44 eP P 03 14 16.4 +1.8
comp=Z,104nm,1.8s
PBDV Barranco-do-Ve 82.51 44 eP P 03 14 18.0 +1.6
comp=Z,74nm,1.9s
MAW Mawson 82.62 163 P P 03 14 16.0 -0.4
MAW Mawson 82.62 163 P P 03 14 17.9 +1.4
comp=Z,7.7nm,0.6s,baz=212,slow=6.0,SNR=22
comp=Z,7.7nm,0.6s
PNCL Nicolau / Gran 82.65 43 eP P 03 14 18.3 +1.3
comp=Z,55nm,1.7s
PCVE Castro Verde 82.67 44 eP P 03 14 18.6 +1.4
MESJ Messejana 82.68 44 eP P 03 14 18.5 +1.3
PVAQ Vaqueiros 82.74 44 eP P 03 14 19.4 +1.8
comp=Z,50nm,2.1s
PBEJ Beja 83.02 44 eP P 03 14 20.4 +1.4
comp=Z,41nm,2.2s
EVO Evora 83.22 43 eP P 03 14 21.4 +1.4
comp=Z,23nm,1.9s
PMTG Montargil 83.41 43 eP P 03 14 22.1 +1.2
comp=Z,25nm,1.7s
PBAR Barrancos 83.63 44 eP P 03 14 23.2 +1.1
comp=Z,35nm,1.9s
MTE Manteigas 84.62 42 eP P 03 14 28.2 +1.0
comp=Z,30nm,1.9s
TAM Tamanrasset 84.89 63 P P 03 14 27.4 -1.6
TAM IAmb IAmb 03 14 30.9
comp=Z,4.5nm,0.8s
PVRL Vila Real 85.04 41 eP P 03 14 30.3 +1.1
comp=Z,27nm,2.2s
PGAV Gavieira, Arco 85.11 40 eP P 03 14 30.5 +0.9
comp=Z,53nm,1.8s

MVO Moncorvo 85.39 42 eP P 03 14 32.2 +1.2
comp=Z,22nm,2.0s
ESDC Sonseca Array 86.45 44 P P 03 14 35.7 -0.5
ESDC IAmb IAmb 03 14 38.2
comp=Z,6.1nm,1.1s
ESDC Sonseca Array 86.45 44 P P 03 14 37.1 +0.8
comp=Z,3.8nm,0.9s,baz=240,slow=4.8,SNR=18
comp=Z,3.8nm,0.9s
INK Inuvik 102.67 340 P Pdif 03 15 50.9 +1.2
baz=121
ASAR Alice Springs 128.84 206 PKP PKPdf 03 21 01.7 +0.6
comp=Z,2.2nm,0.7s,baz=128,slow=1.7,SNR=20
WRA Warramunga Arr 131.94 209 PKP PKPdf 03 21 08.0 +1.0
comp=Z,1.8nm,0.6s,baz=156,slow=1.6,SNR=26
WRA SKPbc SKPbc 03 24 22.8 +1.1
comp=Z,0.6nm,0.8s,baz=142,slow=3.2,SNR=5.0
PETK Petropavlovsk- 134.25 323 SKKPbc SKKPbc 03 33 41.2 -0.8
comp=Z,1.8nm,0.5s,baz=168,slow=1.4,SNR=4.6
KURBB Kurchatov Arra 142.24 35 PKP PKPdf 03 21 25.6 +0.6
comp=Z,0.6nm,0.2s,baz=330,slow=3.2,SNR=1.6
ZALV Zalesovo Beam 143.05 27 PKP PKPbc 03 21 25.0 +1.5
comp=Z,1.2nm,0.4s,baz=266,slow=4.3,SNR=4.8
KSH Kashi 145.50 53 PKPbc PKPab 03 21 32.9 +1.0
MKAR Makanchi Array 146.46 38 PKPbc PKPdf 03 21 33.8 +1.3
comp=Z,4.1nm,0.7s,baz=317,slow=3.3,SNR=24
WMQ Urumqi 151.29 38 eP PKPdf 03 21 40.3 -0.1
SONM Songino Array 154.91 9 PKPab PKPab 03 22 11.3 +1.2
comp=Z,1.2nm,0.6s,baz=329,slow=3.5,SNR=6.3
CN2 Changchun 156.49 335 eP PKPdf 03 21 50.0 +2.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 162.28 1 eP PKPdf 03 21 56.8 +2.2
TNCH TengChong 167.65 78 PKP PKPdf 03 21 58.2 -1.5
TNCH pPKP pPKPdf 03 22 31.8 -2.7
TNCH sPKP 03 22 44.2
NJ2 Nanjing 169.13 327 eP PKPdf 03 21 59.5 -0.7
NJ2 pmax pmax
comp=Z,11nm,0.5s
CD2 Chengdu 169.37 41 PKP PKPdf 03 21 59.6 -0.9
PZH PanZhiHua 170.19 68 PKP PKPdf 03 22 00.6 -0.6
WHN Wuhan 172.24 344 P PKPdf 03 22 04.0 +2.0

*IDC **04** 03:16:19.7±4.0, 19°.01N×102°.16W, h0km, mb3.4/3, mbtmp3.4/6, ML3.3/3, MS3.2/9, Error ellipse: s-maj=98.3km s-min=43.8km az=92.0*
*NEIC **04** 03:16:25.3±2.1, 19°.11N±0°.02×102°.83W±0°.04, h21km±9km, mb4.3/46, Md4.5/69(MEX), Error ellipse: s-maj=5.2km s-min=2.0km az=66.0*
*MEX **04** 03:16:26.7±1.2, 19°.11N×102°.77W, h5km, MD4.5*
ISC 04 03:16:23.9±1.0, **19°.08N**±0°.02×**102°.78W**±0°.02, **h12**km±8km, **n168**, σ2§**10**/240, **mb4.2**/8, **MS3.2**/6, **2C**, **Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUBC	**Volcan de Coli**	**0.86**	**300**	*eP*	**Pg**	**03 16 40.6**	**0.0**
JUBC				*i* S	**Sg**	03 16 51.3	-0.5
COIG	**Colima**	**0.86**	**277**	*eP*	**Pg**	03 16 40.4	-0.2
COIG				*i* S	**Sg**	03 16 52.3	+0.4
EZ5V		**0.87**	**297**		**Pg**	03 16 40.6	-0.1
EZ5V		**0.87**	**297**	*eP*	**Pg**	03 16 40.6	-0.1
EZ5V				*eS*	**Sg**	03 16 52.9	+0.8
MNGA	**Volcan de Coli**	**0.88**	**296**	*eP*	**Pg**	03 16 41.0	+0.1
MNGA				*eS*	**Sg**	03 16 52.1	-0.4
MNGA				*i* S	**Sb**	03 16 53.5	+0.5
INCO	**Volcan de Coli**	**0.89**	**300**	*i* P	**Pg**	03 16 41.5	+0.3
INCO				*i* S	**Sg**	03 16 52.4	-0.6
SOMAC	**Volcano de Col**	**0.91**	**299**	*eP*	**Pg**	03 16 41.6	0.0
SOMAC				*i* S	**Sg**	03 16 53.9	+0.3
MMIG	**Aquila**	**0.95**	**214**		**Pb**	03 16 42.9	+0.7
MMIG					**Sn**	03 16 56.4	-0.1
MMIG	**Aquila**	**0.95**	**214**⇑	*iP*	**Pb**	03 16 42.9	+0.7
	baz=40,slow=14						
MMIG				*i* S	**Sn**	03 16 56.4	-0.1
COMA	**Comala**	**0.95**	**285**	*i* P	**Pb**	03 16 42.4	0.0
COMA				*i* S	**Sg**	03 16 55.6	+0.8
R15V		**1.14**	**275**		**Pb**	03 16 42.6	-2.8
R15V		**1.14**	**275**	*eP*	**Pb**	03 16 42.6	-2.8
R15V				*i* S	**Sb**	03 16 57.9	-2.4
CDAR	**Ciudad de Arme**	**1.17**	**263**	*eP*	**Pn**	03 16 45.8	-0.2
CDAR				*eS*	**Sb**	03 17 01.4	+0.4
UON	**La Union**	**1.44**	**140**	*eP*	**Pn**	03 16 50.2	+0.6
UON				*eS*	**Sb**	03 17 09.8	+1.1
UON				*i* S	**Sg**	03 17 10.1	0.0
GDLP	**Chapalita**	**1.71**	**339**	*eP*	**Pn**	03 16 54.3	+0.7
GDLP				*eS*	**Sn**	03 17 15.0	-0.5
CIHU	**Emiliano Zapat**	**1.85**	**276**	*eP*	**Pn**	03 16 56.7	+1.3
CIHU				*eS*	**Sb**	03 17 21.2	+0.4
ZIIG	**Zihuatanejo**	**1.93**	**139**		**Pn**	03 16 57.4	+1.0
ZIIG					**Sn**	03 17 20.6	0.0
ZIIG	**Zihuatanejo**	**1.93**	**139**	*eP*	**Pn**	03 16 57.4	+1.0
ZIIG				*eS*	**Sn**	03 17 20.6	0.0
PET2	**Petatlan**	**2.11**	**137**	*eP*	**Pn**	03 16 59.4	+0.5
PET2				*i* S	**Sn**	03 17 25.4	+0.4
IGIG	**Irapuato, Guan**	**2.16**	**39**		**Pn**	03 17 00.1	+0.4
IGIG					**Sn**	03 17 25.6	-0.9
IGIG	**Irapuato, Guan**	**2.16**	**39**	*i* P	**Pn**	03 17 00.1	+0.4
IGIG				*eS*	**Sn**	03 17 25.6	-0.9
ACAM	**Acambaro**	**2.17**	**63**	*i* P	**Pg**	03 17 06.9	+1.4
CJM	**Chamela**	**2.18**	**281**	*eP*	**Pn**	03 17 01.1	+1.3
CJM				*eS*	**Sn**	03 17 27.6	+0.9
ARIG	**Puente Sto Nin**	**2.44**	**109**		**Pn**	03 17 04.5	+1.0
ARIG					**Sn**	03 17 34.8	+1.5
ARIG	**Puente Sto Nin**	**2.44**	**109**	*eP*	**Pn**	03 17 04.5	+1.0
ARIG				*eS*	**Sn**	03 17 34.8	+1.5
TEJU	**Tejupilco**	**2.49**	**94**	*eP*	**Pn**	03 17 06.7	+2.4
TEJU				*eS*	**Sn**	03 17 36.3	+1.6
ANIG	**Ahuacatlan**	**2.56**	**321**		**Pn**	03 17 05.1	-0.1
ANIG					**Sb**	03 17 39.9	-1.2
ANIG	**Ahuacatlan**	**2.56**	**321**	*eP*	**Pn**	03 17 05.1	-0.1
ANIG				*eS*	**Sb**	03 17 39.9	-1.2
JRQG	**Juriquilla Cam**	**2.73**	**53**	*eP*	**Pb**	03 17 12.3	-0.4
JRQG				*eS*	**Sb**	03 17 44.3	-1.9
PUVA	**Puert Vallarta**	**2.76**	**304**	*eP*	**Pb**	03 17 13.6	+0.5
PUVA				*eS*	**Sb**	03 17 44.5	-2.4
ATVM	**ATLACOMULCO**	**2.86**	**76**		**Pb**	03 17 15.3	+0.4
ATVM					**Sb**	03 17 51.2	+1.1
ATVM	**ATLACOMULCO**	**2.86**	**76**	*eP*	**Pb**	03 17 14.1	-0.9
ATVM				*eS*	**Sb**	03 17 48.7	-1.4
ACIG	**Acambay**	**2.88**	**71**		**Pb**	03 17 16.7	+1.4
ACIG	**Acambay**	**2.88**	**71**	*eP*	**Pb**	03 17 15.1	-0.2
ACIG				*eS*	**Sb**	03 17 50.0	-0.6
AAIG	**Aguscalientes**	**2.90**	**7**		**Pn**	03 17 09.9	-0.1
AAIG					**Sn**	03 17 44.9	-0.1
AAIG	**Aguscalientes**	**2.90**	**7**	*i* P	**Pn**	03 17 09.9	-0.1
AAIG				*i* S	**Sn**	03 17 44.9	-0.1
ATYC	**Atoyac**	**2.91**	**129**	*eP*	**Pn**	03 17 11.5	+1.7
ATYC				*eS*	**Sb**	03 17 52.1	+1.1
TOVM	**TOLUCA**	**2.94**	**86**		**Pn**	03 17 13.5	+2.8
TOVM					**Sb**	03 17 52.6	+0.1
TOVM	**TOLUCA**	**2.94**	**86**	*eP*	**Pn**	03 17 12.0	+1.3
TOVM				*eS*	**Sn**	03 17 49.3	+3.2
CAIG	**El Cayaco**	**3.13**	**130**		**Pn**	03 17 14.5	+1.5
CAIG	**El Cayaco**	**3.13**	**130**	*eP*	**Pn**	03 17 14.5	+1.5
CAIG				*eS*	**Sb**	03 17 56.0	-1.6
PLIG	**Platanillo**	**3.18**	**102**		**Pn**	03 17 16.6	+2.8
PLIG					**Sn**	03 17 53.7	+2.0
PLIG	**Platanillo**	**3.18**	**102**	*eP*	**Pn**	03 17 16.6	+2.8
PLIG				*i* S	**Sn**	03 17 53.7	+2.0
MEIG	**Mezcala**	**3.21**	**110**	*eP*	**Pn**	03 17 17.0	+2.8
MEIG				*eS*	**Sn**	03 17 55.7	+3.3
INVM	**La Marquesa**	**3.22**	**86**	*eP*	**Pn**	03 17 17.1	+2.6
INVM				*eS*	**Sn**	03 17 46.3	-6.8
AOVM	**Tlapan**	**3.28**	**86**	*eP*	**Pn**	03 17 18.6	+3.1
AOVM				*eS*	**Sn**	03 17 57.5	+2.9
CJVM	**Cuajimalpa**	**3.32**	**85**	*eP*	**Pb**	03 17 20.0	-2.8
CJVM				*eS*	**Sb**	03 17 59.9	-3.3
AZVM	**Cuida Lopez Ma**	**3.34**	**81**		**Pb**	03 17 20.5	-2.8
AZVM	**Cuida Lopez Ma**	**3.34**	**81**	*eP*	**Pb**	03 17 20.5	-2.8
AZVM				*eS*	**Sn**	03 17 57.9	+1.9
CUP5	**Mexico City**	**3.41**	**85**	*eP*	**Pn**	03 17 20.0	+2.9
CUP5				*eS*	**Sb**	03 18 02.3	-3.7
UNM	**Universidad Na**	**3.42**	**85**	Pn	**Pn**	03 17 18.0	+0.8
UNM	**Universidad Na**	**3.42**	**85**	*eP*	**Pb**	03 17 22.6	-1.9
CNCY	**Coyoacan**	**3.42**	**85**	*eP*	**Pb**	03 17 22.1	-2.4
CNCY				*eS*	**Sn**	03 18 00.2	+2.4
BJVM	**Benito Juarez**	**3.43**	**84**	*i* P	**Pn**	03 17 18.8	+1.5
BJVM				*eS*	**Sn**	03 18 01.9	+3.9
TLVM	**San Miguel Top**	**3.43**	**87**	*eP*	**Pn**	03 17 20.2	+2.8
TLVM				*eS*	**Sn**	03 18 02.3	+4.1
COVM	**Coyoacan**	**3.44**	**85**	*eP*	**Pn**	03 17 20.5	+3.0

COVM				eS		Sb	03 18 04.5	-2.2
VRVM	**Mexico City**	3.48	84	eP		Pn	03 17 21.4	+3.3
PBVM	**Pinon**	3.51	84			Pn	03 17 18.0	-0.2
PBVM						Sn	03 17 55.8	-3.9
PBVM	**Pinon**	3.51	84	i P		Pn	03 17 18.0	-0.2
PBVM				i S		Sn	03 17 55.8	-3.9
ACP2	**Acapulco**	3.52	128	eP		Pn	03 17 22.7	+4.3
ACP2				eS		Sn	03 18 02.5	+2.5
YAIG	**Yautepec**	3.52	93	eP		Pn	03 17 22.7	+4.1
YAIG				eS		Sn	03 17 57.8	-2.5
VNTA	**La Mica**	3.55	127	eS		Sb	03 18 07.2	-2.4
MPVM	**San Francisco**	3.57	87	eP		Pb	03 17 23.7	-3.4
MPVM				eS		Sb	03 18 07.8	-2.7
ZUVM	**ZUMPANGO**	3.58	77	eP		Pn	03 17 20.5	+1.1
ZUVM				eS		Sn	03 17 58.0	-3.7
THVM	**De Xico**	3.61	86	eP		Pn	03 17 23.1	+3.3
THVM				eS		Sn	03 17 58.0	-4.5
DAIG	**Los Arroyos**	3.62	124			Pn	03 17 21.4	+1.7
DAIG	**Los Arroyos**	3.62	124	eP		Pn	03 17 21.4	+1.7
TXVM	**Universitario**	3.67	84	eS		Sn	03 18 04.8	+0.8
ZAIG	**Zacatecas**	3.68	3	Pn		Pn	03 17 20.4	-0.4
ZAIG	**Zacatecas**	3.68	3	i P		Pn	03 17 20.9	+0.1
ZAIG				i S		Sn	03 18 04.2	-0.1
DEIG	**Demacu**	3.73	70	eP		Pn	03 17 21.0	-0.6
DHIG	**Demacu**	3.73	70			Pn	03 17 21.0	-0.6
AMVM	**AMECAMECA**	3.78	89			Pb	03 17 29.8	-0.9
AMVM	**AMECAMECA**	3.78	89	eP		Pn	03 17 26.3	+4.1
RPIG	**Rio Verde**	3.83	43	eP		Pn	03 17 21.1	-1.6
RPIG				eS		Sn	03 18 12.6	+4.9
VTVM	**Tizayuca**	3.84	79	eP		Pn	03 17 27.4	+4.3
VTVM				eS		Sn	03 18 07.7	-0.7
PPM	**Popocatepetl**	3.93	90	eP		Pn	03 17 28.7	+4.2
PPM				eS		Sn	03 18 14.6	+3.8
HMTT	**Tlapaneco**	4.21	107	eS		Sb	03 18 24.1	-4.5
TLIG	**Tlapa**	4.28	110	Pn		Pn	03 17 29.1	+0.1
TLIG	**Tlapa**	4.28	110	i P		Pn	03 17 32.3	+3.4
TLIG				eS		Sn	03 18 19.2	+0.4
FTIG	**Fresnillo de T**	4.56	104			Pn	03 17 34.5	+1.7
FTIG	**Fresnillo de T**	4.56	104	eP		Pn	03 17 34.5	+1.7
FTIG				eS		Sn	03 18 30.0	+4.1
HLIG	**Huajuapan de L**	4.89	104	eP		Pn	03 17 39.5	+2.1
HLIG				eS		Sn	03 18 34.5	+0.6
TXIG	**Tlaxiaco**	5.10	110	eP		Pn	03 17 43.9	+3.5
TXIG				eS		Sn	03 18 39.0	-0.3
TPIG	**Tehuac#an**	5.18	96	eP		Pn	03 17 45.8	+4.5
TPIG				eS		Sn	03 18 43.1	+2.0
PNIG	**Pinotepa**	5.18	120	i P		Pn	03 17 44.0	+2.8
PNIG				eS		Sn	03 18 44.3	+3.4
GTIG	**Gomez Farias**	5.21	40			Pn	03 17 42.8	+1.2
GTIG	**Gomez Farias**	5.21	40	i P		Pn	03 17 42.8	+1.2
OZST	**Orizaba**	5.39	91	eP		Pn	03 17 46.7	+2.5
OZST				eS		Sn	03 18 50.5	+4.3
YOIG	**Yosondua**	5.45	113	eP		Pn	03 17 48.9	+3.7
YOIG				eS		Sn	03 18 45.0	-3.0
TOIG	**Toxpalan**	5.51	99	eP		Pn	03 17 49.7	+3.8
TOIG				eS		Sn	03 18 49.4	+0.1
LVIG	**Laguna Verde**	6.04	83	eP		Pn	03 17 57.2	+4.2
VHO	**Vista Hermosa**	6.09	108	eP		Pn	03 17 57.9	+4.0
VHO				eS		Sn	03 19 02.7	-1.0
PEIG	**Puerto Escondi**	6.19	119	eP		Pn	03 17 58.1	+3.0
PEIG				eS		Sn	03 19 08.0	+2.2
PDIG	**Papasquiaro**	6.41	338	eP		Pn	03 18 03.6	+5.4
PDIG				eS		Sn	03 19 13.5	+2.1
LNIG	**Linares**	6.56	27	eP		Pn	03 18 01.1	+1.0
LNIG				eS		Sn	03 19 19.2	+4.3
MNIG	**Monterrey**	6.90	19	eP		Pn	03 18 06.5	+1.7
MNIG				eS		Sn	03 19 22.9	-0.4
HUIG	**Huatulco**	7.17	116	eP		Pn	03 18 12.5	+3.9
HUIG				eS		Sn	03 19 29.8	-0.2
SLBS	**Sierra La Lagu**	8.09	306	Pn		Pn	03 18 20.1	-1.2
UXUV	**UXUV**	8.39	101	eP		Pn	03 18 26.6	+1.2
UXUV				eS		Sn	03 19 59.2	-0.9
MCIG	**Muzquiz**	8.84	8	eP		Pn	03 18 36.6	+5.1
MCIG				eS		Sn	03 20 17.0	+6.0
CSIG	**Choix**	9.27	327	eP		Pn	03 18 42.2	+4.8
TGIG		9.48	102	eP		Pn	03 18 40.4	+0.1
PCIG		9.73	109	eP		Pn	03 18 48.2	+4.6
PCIG				eS		Sn	03 20 31.7	-1.1
TXAR	**Lajitas Array**	10.24	356	Pn		Pn	03 18 51.6	+0.9
baz=169,slow=15,SNR=1.3								
TXAR				Pg			03 19 34.8	
0.1nm,0.3s,baz=175,slow=15,SNR=3.4								
TXAR				Lg		Lg	03 21 44.9	
0.1nm,0.3s,baz=178,slow=23,SNR=4.1								
TXAR				LR		LR	03 23 19.8	
comp=Z,159nm,18.2s,baz=161,slow=40								
0.1nm,0.6s								
POST	**Post**	13.98	4	Pn		Pn	03 19 40.5	-1.3
NATX	**Nacogdoches**	14.60	29	Pn		Pn	03 19 50.4	+0.2
FW06	**Azle**	14.61	18	Pn		Pn	03 19 50.5	+0.1
DKNS	**Dickens**	14.62	6	Pn		Pn	03 19 51.9	+1.2
MSTX	**Muleshoe**	14.83	0	Pn		Pn	03 19 54.7	+1.1
TUC	**Tucson**	15.01	333	Pn		Pn	03 19 55.2	-0.7
WTFS	**Witchita Falls**	15.13	14	Pn		Pn	03 19 55.7	-1.7
WTFS				IAmb		IAmb	03 20 05.7	
comp=Z,44nm,1.3s								
AMTX	**Amarillo**	15.77	3	Pn		Pn	03 20 06.3	+0.3
AMTX				IAmb		IAmb	03 20 12.2	
comp=Z,15nm,0.9s								
WMOK	**Wichita Mounta**	16.00	12	Pn		Pn	03 20 08.1	-0.6
ANMO	**Albuquerque**	16.14	349			P	03 20 12.9	-1.1
ANMO	**Albuquerque**	16.14	349	Pn		Pn	03 20 11.6	+0.9
comp=Z,0.1nm,0.3s,baz=241,slow=11,SNR=2.3								
ANMO				LR		LR	03 27 13.4	
comp=Z,57nm,20.3s,baz=254,slow=40								
comp=Z,1.3nm,1.0s								
Z41A	**Richland Creek**	16.71	30			Pn	03 20 18.5	+0.7
113A	**Mohawk Valley,**	16.82	326			Pn	03 20 20.2	+1.0
113A				IAmb		IAmb	03 20 34.4	
comp=Z,19nm,1.1s								
W35A	**Tecumseh**	16.84	17			P	03 20 21.4	-0.2
WLAR	**White Oak Lake**	16.92	29	Pn		Pn	03 20 20.3	-0.1
WLAR				IAmb		IAmb	03 20 26.2	
comp=Z,19nm,1.0s								
OK029	**Liberty Lake**	17.31	15			Pn	03 20 25.4	+0.1
OK029				IAmb		IAmb	03 20 28.7	
comp=Z,12nm,0.7s								
DEOK	**Depew**	17.60	17			Pn	03 20 29.1	+0.1
DEOK				IAmb		IAmb	03 20 31.9	
comp=Z,29nm,0.8s								
OK033	**Mehan**	17.67	16			P	03 20 30.8	+0.1
OK033				IAmb		IAmb	03 20 32.8	
comp=Z,28nm,0.7s								
OK038	**West end E0370**	17.70	11	Pn		Pn	03 20 28.1	-2.1
OK038				IAmb		IAmb	03 20 42.0	
comp=Z,21nm,0.9s								
QUOK	**Quay**	17.85	16			Pn	03 20 31.4	-0.6
QUOK				IAmb		IAmb	03 20 35.5	
comp=Z,20nm,1.1s								
CROK	**Carrier**	17.87	13			P	03 20 33.3	+0.4
TUL3	**Leonard**	17.87	19			Pn	03 20 31.7	-0.6
BLOK	**Blackwell**	18.28	14			Pn	03 20 37.4	0.0
BLOK				IAmb		IAmb	03 20 39.4	
comp=Z,32nm,1.1s								
RLO	**Rose Lookout**	18.34	20			Pn	03 20 36.7	-1.4
RLO				IAmb		IAmb	03 20 39.4	
comp=Z,7.9nm,0.7s								
T35A	**Sooner Cattle**	18.60	16			P	03 20 40.9	-0.1
T35A				IAmb		IAmb	03 20 42.7	
comp=Z,19nm,0.8s								
W13A	**Hualapai Mount**	18.75	331	P		P	03 20 40.5	-2.3
U38A	**Gravette**	18.81	21			P	03 20 42.8	-0.5
HHAR	**Hobbs**	18.82	23			P	03 20 43.2	-0.2
HHAR				IAmb		IAmb	03 20 45.8	
comp=Z,12nm,1.0s								
PMD	**Palm Desert**	18.91	323			P	03 20 44.3	-0.1
PMD				IAmb		IAmb	03 20 58.1	
comp=Z,30nm,1.3s								
S22A	**4UR Ranch, Cre**	18.93	350	P		P	03 20 45.4	+0.5
PFO	**Pinyon Flats O**	18.93	323	P		P	03 20 42.9	-1.9
PFO				IAmb		IAmb	03 20 58.4	
comp=Z,42nm,1.4s								
PFO	**Pinyon Flats O**	18.93	323	P		Pn	03 20 48.7	+3.3
comp=Z,0.1nm,0.3s,baz=127,slow=11,SNR=3.8								
PFO				LR		LR	03 28 06.4	
comp=Z,64nm,18.8s,baz=45,slow=36								
comp=Z,1.0nm,0.6s								
FCAR	**Ozark Folk Cen**	19.21	27	P		P	03 20 46.7	-0.9
V12A	**Nelson**	19.71	330			P	03 20 52.5	-0.8
V12A				IAmb		IAmb	03 21 08.6	
comp=Z,12nm,1.1s								
CBKS	**Cedar Bluff**	19.84	7			P	03 20 55.1	+0.5
CBKS				IAmb		IAmb	03 20 56.6	
comp=Z,26nm,0.9s								
KSCO	**Kaye Shedlock'**	19.86	0	P		P	03 20 54.4	-0.6
KSCO				IAmb		IAmb	03 20 57.8	
comp=Z,20nm,0.7s								
KNB	**Kanab**	19.92	336			P	03 20 53.6	-2.0
KNB				IAmb		IAmb	03 21 07.8	
comp=Z,9.1nm,1.0s								
MGMO	**Mountain Grove**	20.23	25			P	03 20 59.6	+0.8
S39A	**Bolivar**	20.30	22			P	03 21 00.2	+0.6
MTPU	**Mount Pierson**	20.59	338			P	03 21 03.9	+0.7
T42A	**Van Buren**	20.61	27	P		P	03 21 04.1	+1.2
T42A				IAmb		IAmb	03 21 08.3	
comp=Z,14nm,1.1s								
KSU1	**Kansas State U**	20.66	14	P		P	03 21 03.3	-0.2
KSU1				IAmb		IAmb	03 21 16.5	
comp=Z,18nm,0.8s								
ISCO	**Idaho Springs**	20.79	354	P		P	03 21 03.8	-1.5
MSU	**Marysvale**	21.02	339	P		P	03 21 07.6	+0.1
MVU	**Marysvale**	21.02	339	P		P	03 21 06.8	-0.8
Q16A	**Castle Valley**	21.07	342	P		P	03 21 08.4	+0.4
HICK	**Hickman**	21.09	32	P		P	03 21 06.5	-1.6
R40A	**Maddies Statio**	21.22	23	P		P	03 21 09.6	+0.1
R40A				IAmb		IAmb	03 21 10.7	
comp=Z,6.7nm,0.7s								
CCM	**Cathedral Cave**	21.42	26	P		P	03 21 10.6	-1.0
CCM				IAmb		IAmb	03 21 12.8	
comp=Z,8.2nm,0.7s								
TMUT	**Trail Mountain**	21.43	342	P		P	03 21 11.0	-1.1
TMUT				IAmb		IAmb	03 21 23.7	
comp=Z,15nm,1.1s								
P18A	**Preston Nutter**	21.47	344	P		P	03 21 10.4	-2.1
WVT	**Waverly**	21.50	35	P		P	03 21 12.3	-0.2
WVT				IAmb		IAmb	03 21 18.0	
comp=Z,16nm,1.1s								
N38A	**Joes South For**	23.14	19	P		P	03 21 28.5	-1.4
NVAR	**Mina Array Bea**	23.53	328	P		P	03 21 35.2	+1.1
comp=Z,0.8nm,0.6s,baz=139,slow=11,SNR=4.1								
comp=Z,0.8nm,0.6s								
N41A	**Harden Midland**	23.86	23	P		P	03 21 34.5	-2.5
ELK	**Elko**	24.09	336	LR		LR	03 32 11.1	
comp=Z,66nm,19.7s,baz=98,slow=39								
PDAR	**Pinedale Array**	24.30	348	P		P	03 21 42.3	+0.9
comp=Z,0.5nm,0.6s,baz=153,slow=10.0,SNR=5.0								
PDAR				LR		LR	03 32 08.2	
comp=Z,52nm,21.9s,baz=169,slow=39								
comp=Z,0.5nm,0.6s								
J08A	**Circle Bar Ran**	27.58	335	P		P	03 22 11.2	+0.2
J08A				IAmb		IAmb	03 22 21.5	
comp=Z,6.6nm,1.2s								
NEW	**Newport**	31.35	341	LR		LR	03 35 48.3	
comp=Z,56nm,18.9s,baz=140,slow=37								
ULM	**Lac du Bonnet**	31.59	8	LR		LR	03 34 49.3	
comp=Z,58nm,18.3s,baz=188,slow=35								
SDV	**Santo Domingo**	32.74	104	LR		LR	03 36 57.2	
comp=Z,24nm,18.5s,baz=242,slow=38								
ILAR	**Eielson Array**	54.22	338	P		P	03 25 47.6	-1.5
comp=Z,0.7nm,0.9s,baz=146,slow=7.2,SNR=6.6								
comp=Z,0.7nm,0.9s								
RCBR	**Riachuelo**	70.33	104	LR		LR	04 03 46.8	
comp=Z,18nm,18.7s,baz=202,slow=41								

NOU ***04*** *03:22:11.6, 31.°42S×175.°05W, h55km, mb5.2/35, Kermadec Islands Region*
IDC ***04*** *03:22:23.3±0.5, 31.°24S×177.°95W, h0km, mb4.6/11, mbtmp4.6/13, ML3.4/2, MS4.4/46, Error ellipse: s-maj=19.4km s-min=15.4km az=98.0*
NEIC ***04*** *03:22:26.6±2.0, 31.°31S±0.°09×178.°14W±0.°05, h10km±1km, mb5.2/37, Error ellipse: s-maj=15.7km s-min=6.3km az=162.0*
MOS ***04*** *03:22:27.9±1.0, 31.°30S×178.°21W, h33km, mb5.1/11, Error ellipse: s-maj=14.6km s-min=12.4km az=140.2*
GCMT ***04*** *03:22:29.6±0.2, 31.°34S±0.°02×177.°86W±0.°02, h27km±1km, MW5.1/91, Moment Tensor Solution. s59,c79; s91,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.19±.19; $M_{\theta\theta}$0.18±.13; $M_{\phi\phi}$-3.37±.12; $M_{r\theta}$0.46±.25; $M_{\theta\phi}$-0.88±.10; $M_{\phi r}$4.65±.31; Best double couple: $M_0$5.77100×10^{16} NP1:ϕ_s201.00000°, δ18.00000°, λ103.00000°. Principal axes: T 5.6000, Plg63.0000°, Azm270.0000°; N 0.3400, Plg4.0000°, Azm8.0000°; P -5.9420, Plg27.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 03:22:28.2±0.6, 31.°40S±0.°04×177.°98W±0.°06, h31km±3km, h31km:pP-P, n324, σ1°92/305, mb5.2/43, MS4.5/52, 17C-8D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.13**	**2**	P	**Pn**	**03 22 59.5**	**-2.2**
GLKZ				S	**Sn**	**03 23 23.1**	**-4.0**
RAO	**Raoul Island**	**2.14**	**2**	P	**Pn**	**03 23 01.4**	**-0.5**
RAO	**Raoul Island**	**2.14**	**2**	Pn	**Pn**	**03 22 59.5**	**-2.4**
476nm,0.3s,baz=175,slow=8.0,SNR=17							
RAO				Sn	**Sn**	**03 23 23.2**	**-4.2**
839nm,0.3s,baz=259,slow=22,SNR=7.6							
RIZ	**Raoul Island**	**2.15**	**1**	P	**Pn**	**03 23 00.2**	**-1.7**
MXZ	**Matakaoa Point**	**6.87**	**205**	P	**Pn**	**03 24 03.3**	**-3.5**
HAZ	**Te Kaha**	**7.24**	**208**	P	**Pn**	**03 24 09.9**	**-1.9**
HAZ				S	**Sn**	**03 25 35.3**	**+2.4**
GRZ	**Great Barrier**	**7.29**	**227**	P	Pn	03 24 18.5	+5.9
PUZ	**Puketiti**	**7.34**	**204**	P	**Pn**	**03 24 09.4**	**-3.9**
PUZ				S	**Sn**	**03 25 33.6**	**-1.8**
KUZ	**Kuaotunu**	**7.46**	**223**	P	**Pn**	**03 24 19.0**	**+4.1**
TKGZ	**Te Karaka**	**7.81**	**205**	P	**Pn**	**03 24 15.3**	**-4.3**
TKGZ				P	**Sn**	**03 25 46.9**	**-0.1**
WCZ	**Waipu Caves**	**7.83**	**233**	P	Pn	03 24 27.0	+7.0
URZ	**Urewera**	**7.94**	**209**	P	**Pn**	**03 24 17.9**	**-3.5**
URZ	**Urewera**	**7.94**	**209**	Pn	**Pn**	**03 24 18.5**	**-3.0**
4.8nm,0.3s,baz=350,slow=3.5,SNR=53							
URZ				Sn	**Sn**	**03 25 48.6**	**-1.6**
25nm,0.3s,baz=127,slow=19,SNR=12							
OUZ	**Omahuta**	**8.01**	**239**	P	Pn	03 24 28.1	+5.7
RAGZ	**Rawiri**	**8.02**	**207**	P	**Pn**	**03 24 19.6**	**-3.1**
RAGZ				P	**Sn**	**03 25 52.5**	**+0.2**
RIGZ	**Rimuhau**	**8.08**	**204**	P	**Pn**	**03 24 19.6**	**-3.8**
RIGZ				P	**Sn**	**03 25 51.3**	**-2.3**
PRGZ	**Paritu Road**	**8.23**	**203**	P	Pn	03 24 20.2	-5.3
PRGZ				P	**Sn**	**03 25 50.2**	**-7.2**
TOZ	**Tahuroa Road**	**8.29**	**219**	Pn	**Pn**	**03 24 26.0**	**-0.2**
RTZ	**Ruatahuna**	**8.29**	**208**	Pn	**Pn**	**03 24 22.4**	**-4.0**
SNGZ	**Shannon Statio**	**8.30**	**206**	P	**Pn**	**03 24 24.0**	**-2.4**
SNGZ				P	**Sn**	**03 25 58.0**	**-1.1**
KNZ	**Kokohu**	**8.39**	**204**	P	Pn	03 24 23.0	-4.6
KNZ				P	Sn	03 25 53.1	-8.1
RAHZ	**Arahi**	**8.51**	**207**	P	**Pn**	**03 24 26.6**	**-2.8**
RAHZ				P	**Sn**	**03 26 02.1**	**-2.3**
MTHZ	**Maungataniwha**	**8.55**	**208**	P	**Pn**	**03 24 26.3**	**-3.6**
MTHZ				P	**Sn**	**03 26 02.9**	**-2.5**
WHHZ	**Waihua**	**8.60**	**206**	P	**Pn**	**03 24 26.2**	**-4.3**
WHHZ				P	**Sn**	**03 26 04.6**	**-1.7**
BKZ	**Black Stump Fm**	**8.96**	**209**	Pn	**Pn**	**03 24 31.8**	**-3.7**
BKZ	**Black Stump Fm**	**8.96**	**209**	P	**Pn**	**03 24 37.4**	**+1.8**
BKZ	**Black Stump Fm**	**8.96**	**209**	P	**Pn**	**03 24 31.4**	**-4.2**
BKZ				P	**Sn**	**03 26 09.6**	**-5.8**
BFZ	**Birch Farm**	**10.37**	**205**	Pn	**Pn**	**03 24 52.6**	**-2.2**
BHW	**Baring Head**	**11.52**	**208**	Pn	**Pn**	**03 25 08.1**	**-2.4**
NNZ	**Nelson**	**12.01**	**213**	Pn	**Pn**	**03 25 15.3**	**-1.9**
QRZ	**Quartz Range**	**12.13**	**217**	Pn	**Pn**	**03 25 18.7**	**-0.1**
CTZ	**Chatham Island**	**12.36**	**175**	Pn	**Pn**	**03 25 18.3**	**-3.6**
KHZ	**Kahutara**	**12.91**	**209**	Pn	Pn	03 25 22.1	-7.3
LTZ	**Lake Taylor**	**13.75**	**212**	Pn	**Pn**	**03 25 38.5**	**-2.5**
INZ	**Inchbonnie**	**14.09**	**214**	Pn	**Pn**	**03 25 43.0**	**-2.6**
RPZ	**Rata Peaks**	**15.04**	**212**	Pn	**Pn**	**03 25 52.2**	**-6.2**
2.5nm,0.3s,baz=26,slow=4.0,SNR=8.4							
RPZ				Sn	Sn	03 28 30.4	-14
3.2nm,0.3s,baz=286,slow=22,SNR=11							
RPZ				LR	LR	03 32 00.4	
comp=Z,1μm,20.9s,baz=44,slow=38							
LBZ	**Lake Benmore**	**15.95**	**212**	Pn	**Pn**	**03 26 07.3**	**-3.0**
LBZ				IAmb	IAmb	03 26 18.6	
comp=Z,192nm,2.0s							
ODZ	**Otahua Downs**	**16.26**	**210**	P	**Pn**	**03 26 11.4**	**-2.9**
DZM	**Mont Dzumac**	**16.71**	**300**	*e*Pn	**Pn**	**03 26 17.8**	**-2.5**
comp=Z,118nm,1.4s							
DZM				*e*LR	LR	03 30 18.9	
comp=Z,6μm,24.2s							
DZM	**Mont Dzumac**	**16.71**	**300**	Pn	**Pn**	**03 26 17.7**	**-2.5**
DZM	**Mont Dzumac**	**16.71**	**300**	P	P	03 26 29.8	+7.5
DZM	**Mont Dzumac**	**16.71**	**300**	Pn	**Pn**	**03 26 18.3**	**-1.9**
comp=Z,0.1nm,0.3s,baz=66,slow=10.0,SNR=2.0							
DZM				LR	LR	03 31 46.7	
comp=Z,4μm,18.5s,baz=131,slow=34							
comp=Z,6.0nm,1.0s							
MLZ	**Mavora Lakes**	**17.66**	**214**	Pn	**Pn**	**03 26 29.3**	**-2.5**
MLZ				IAmb	IAmb	03 26 33.5	
comp=Z,174nm,1.7s							
RAR	**Rarotonga**	**19.20**	**62**	P	**P**	**03 26 48.1**	**-1.4**
comp=Z,1.4nm,0.3s,baz=232,slow=12,SNR=2.9							
RAR				LR	LR	03 34 50.0	
comp=Z,727nm,18.0s,baz=234,slow=39							
comp=Z,28nm,0.9s							
KOUNC	**Koumac, New Ca**	**19.23**	**300**	P	**P**	**03 26 48.3**	**-1.7**
KOUNC	**Koumac, New Ca**	**19.23**	**300**	P	**Pn**	**03 26 53.4**	**+2.4**
ARMA	**Armidale**	**26.05**	**264**	P	**P**	**03 28 01.7**	**+2.6**
baz=28,SNR=6.8							
ARMA	**Armidale**	**26.05**	**264**	P	**P**	**03 27 58.0**	**-1.0**
ARMA	**Armidale**	**26.05**	**264**	P	**P**	**03 28 02.2**	**+3.2**
MGCD	**Mangrove Creek**	**26.14**	**258**	P	**P**	**03 28 02.9**	**+3.2**
baz=28,SNR=7.2							
MGCD	**Mangrove Creek**	**26.14**	**258**	P	**P**	**03 28 02.9**	**+3.2**
TBI	**Tubuai**	**26.51**	**79**	*e*S	**S**	**03 32 29.5**	**-5.9**
comp=Z,684nm,26.8s							
TBI				*e*LR	LR	03 34 37.1	
comp=Z,10μm,27.2s							
TBI	**Tubuai**	**26.51**	**79**	*e*T	T	03 55 47.3	
comp=Z,16nm,0.3s							
AUPHS	**Peel High Scho**	**26.57**	**262**	P	**P**	**03 28 06.9**	**+3.3**
CNB	**Canberra Magne**	**27.48**	**253**	P	**P**	**03 28 13.5**	**+1.7**
baz=29							
CNB	**Canberra Magne**	**27.48**	**253**	P	**P**	**03 28 14.4**	**+2.6**
MILA	**Mila**	**27.66**	**249**	P	**P**	**03 28 15.5**	**+2.1**
baz=29,SNR=6.9							
MILA	**Mila**	**27.66**	**249**	P	**P**	**03 28 15.9**	**+2.5**
CAN	**Canberra**	**27.78**	**253**	P	**P**	**03 28 14.3**	**-0.1**
CAN	**Canberra**	**27.78**	**253**	P	**P**	**03 28 14.3**	**-0.1**
CAN				pmax	pmax		
comp=Z,21nm,1.1s							
EIDS	**Eidsvold**	**27.81**	**275**	P	**P**	**03 28 16.5**	**+1.7**
baz=30,SNR=6.5							
EIDS	**Eidsvold**	**27.81**	**275**	P	**P**	**03 28 14.3**	**-0.5**
EIDS				IAmb	IAmb	03 28 17.3	
comp=Z,32nm,1.1s							
EIDS	**Eidsvold**	**27.81**	**275**	P	**P**	**03 28 16.0**	**+1.2**
YNG	**Young**	**28.32**	**255**	P	**P**	**03 28 21.7**	**+2.5**
AUDCS	**Dubbo College**	**28.32**	**259**	P	**P**	**03 28 21.7**	**+2.5**
GLAD	**Gladstone**	**28.91**	**241**	P	**P**	**03 28 25.7**	**+1.4**
RK1H	**Rockhampton Ha**	**29.03**	**278**	P	**P**	**03 28 27.6**	**+2.0**
PAE	**Paea**	**29.13**	**69**	*e*T	T	03 59 07.0	
comp=Z,7.2nm,0.3s							
PPT2	**Papeete2**	**29.18**	**69**	*e*P	P	03 28 32.9	+5.9
comp=Z,74nm,24.2s							
PPT2				*e*S	S	03 33 04.4	-13
comp=Z,132nm,25.0s							
PPT2				*e*LR	LR	03 35 46.1	
comp=Z,2μm,26.2s							
PPT2				*e*LR	LR	03 35 54.2	
comp=Z,1μm,25.5s							
PPT2	**Papeete2**	**29.18**	**69**	*e*T	T	03 59 11.8	
comp=Z,3.8nm,0.3s							
AULRC	**Lightning Ridg**	**29.35**	**265**	P	**P**	**03 28 31.2**	**+2.8**
RMQ	**Roma**	**29.45**	**271**	P	**P**	**03 28 32.1**	**+2.8**
baz=31,SNR=11							
RMQ	**Roma**	**29.45**	**271**	P	**P**	**03 28 32.5**	**+3.2**
comp=Z,51nm,1.0s							
TAU	**Tasmania Unive**	**29.74**	**237**	P	**P**	**03 28 32.2**	**+0.5**
TAU				IAmb	IAmb	03 29 04.8	
comp=Z,117nm,1.9s							
TAU	**Tasmania Unive**	**29.74**	**237**	P	**P**	**03 28 32.2**	**+0.5**
TAU				pmax	pmax		
comp=Z,117nm,1.9s		

WRA	**Warramunga Arr**	**44.16 273**	P	**P**	**03 30 34.3**	**0.0**	
	comp=Z,22nm,0.5s,baz=112,slow=8.0,SNR=309						
WRA			ScP	**ScP**	**03 36 09.2**	**+0.6**	
	comp=Z,3.6nm,1.1s,baz=103,slow=3.9,SNR=5.8						
WRA			S	**S**	**03 37 00.6**	**-5.0**	
	comp=Z,0.8nm,0.8s,baz=114,slow=13,SNR=3.0						
WRA			LR	LR	03 48 23.9		
	comp=Z,1μm,18.3s,baz=79,slow=35						
	comp=Z,22nm,0.5s						
WB0	**Warramunga Arr**	**44.18 273**	P	**P**	**03 30 34.6**	**+0.1**	
WB0			IAmb	IAmb	03 30 41.5		
	comp=Z,47nm,0.6s						
FORT	**Forrest**	**45.81 256**	P	**P**	**03 30 47.1**	**-0.2**	
FORT			IAmb	IAmb	03 30 58.9		
	comp=Z,37nm,0.9s						
WRKA	**Warakurna**	**47.37 264**	P	**P**	**03 30 59.2**	**-0.5**	
	baz=49,SNR=10.0						
WRKA	**Warakurna**	**47.37 264**	P	**P**	**03 30 59.2**	**-0.5**	
JAY	**Jayapura**	**48.37 298**	LR	LR	03 51 51.4		
	comp=Z,70nm,18.1s,baz=174,slow=37						
KDU	**Kakadu**	**49.11 281**	P	**P**	**03 31 13.7**	**+0.6**	
	baz=51,SNR=6.6						
MTN	**Manton Dam**	**50.16 280**	P	**P**	**03 31 20.9**	**-0.2**	
MTN			IAmb	IAmb	03 31 46.1		
	comp=Z,28nm,1.4s						
KLBR	**Kellerberrin**	**54.04 252**	P	**P**	**03 31 45.5**	**-4.4**	
	baz=56,SNR=3.9						
NWAO	**Narrogin (SRO)**	**54.06 250**	P	**P**	**03 31 49.0**	**-1.0**	
NWAO	**Narrogin (SRO)**	**54.06 250**	P	**P**	**03 31 46.8**	**-3.2**	
NWAO	**Narrogin (SRO)**	**54.06 250**	P	**P**	**03 31 49.0**	**-1.0**	
NWAO			pmax	pmax			
	comp=Z,333nm,1.8s						
NWAO	**Narrogin (SRO)**	**54.06 250**	LR	LR	03 51 29.6		
	comp=Z,395nm,21.6s,baz=77,slow=32						
CASY	**Casey**	**54.26 208**	P	**P**	**03 31 51.0**	**+0.1**	
MEEK	**Meekatharra**	**54.98 258**	P	**P**	**03 31 54.4**	**-2.4**	
	baz=57,SNR=3.6						
MBWA	**Marble Bar**	**56.13 264**	P	**P**	**03 32 04.6**	**-0.5**	
MBWA			IAmb	IAmb	03 32 06.3		
	comp=Z,22nm,1.1s						
MBWA	**Marble Bar**	**56.13 264**	P	**P**	**03 32 04.6**	**-0.5**	
SIJI	**Sorong**	**56.72 292**	LR	LR	03 56 21.3		
	comp=Z,405nm,19.6s,baz=140,slow=36						
GUMO	**Guam**	**57.20 316**	LR	LR	03 52 57.8		
	comp=Z,272nm,21.4s,baz=118,slow=32						
BATI	**Baumata**	**57.80 278**	LR	LR	03 57 42.6		
	comp=Z,1μm,18.6s,baz=122,slow=37						
QSPA	**South Pole Qui**	**58.71 180**	P	**P**	**03 32 24.8**	**+2.1**	
QSPA	**South Pole Qui**	**58.71 180**	P	**P**	**03 32 25.1**	**+2.3**	
	comp=Z,35nm,1.1s,baz=9.9,slow=1.1,SNR=32						
QSPA			LR	LR	03 55 59.7		
	comp=Z,371nm,18.9s,baz=40,slow=34						
	comp=Z,35nm,1.1s						
RPN	**Rapa Nui**	**59.16 105**	LR	LR	03 51 27.2		
	comp=Z,419nm,22.0s,baz=248,slow=30						
KAPI	**Kappang**	**63.80 281**	LR	LR	04 00 21.5		
	comp=Z,416nm,19.7s,baz=119,slow=36						
DAV	**Davao City (W)**	**66.06 295**	LR	LR	04 01 24.7		
	comp=Z,98nm,20.9s,baz=161,slow=36						
BELA	**Belgrano 2**	**68.79 172**	P	**P**	**03 33 30.7**	**+1.9**	
BELA			IAmb	IAmb	03 33 40.1		
	comp=Z,11nm,0.7s						
JCJ	**Chichijima**	**69.48 322**	LR	LR	04 02 09.0		
	comp=Z,95nm,19.1s,baz=119,slow=34						
PMSA	**Palmer Station**	**71.35 156**	LR	LR	04 03 04.9		
	comp=Z,122nm,18.5s,baz=238,slow=34						
MAW	**Mawson**	**71.38 201**	P	**P**	**03 33 45.5**	**+0.8**	
MAW	**Mawson**	**71.38 201**	P	**P**	**03 33 44.9**	**+0.2**	
	comp=Z,3.0nm,0.6s,baz=147,slow=7.3,SNR=9.3						
MAW			LR	LR	04 04 28.6		
	comp=Z,361nm,19.3s,baz=112,slow=35						
	comp=Z,3.0nm,0.6s						
LEM	**Lembang**	**73.17 272**	LR	LR	04 06 20.8		
	comp=Z,470nm,19.9s,baz=162,slow=36						
TGY	**Tagaytay City**	**74.00 298**	LR	LR	04 05 41.3		
	comp=Z,72nm,19.0s,baz=246,slow=35						
MG05	**Puerto Natales**	**74.72 142**	P	**P**	**03 34 06.1**	**+1.3**	
GO09	**Cerro Castillo**	**75.02 141**	P	**P**	**03 34 08.4**	**+1.8**	
ELIB	**Princess Elisa**	**75.86 187**	*d*P	**P**	**03 34 11.5**	**+0.3**	
	comp=Z,19nm,0.8s						
TROLL	**Troll, Antarti**	**76.87 180**	⇑P	**P**	**03 34 17.7**	**+0.8**	
	comp=Z,818nm,1.0s						
TROLL			⇑PcP	**sP**	**03 34 25.4**	**-2.7**	
	comp=Z,834nm,0.8s						
SNAA	**Sanae**	**77.16 178**	P	**P**	**03 34 19.0**	**+0.5**	
SNAA			IAmb	IAmb	03 34 27.9		
	comp=Z,21nm,1.1s						
SNAA	**Sanae**	**77.16 178***c*	*i*P	**P**	**03 34 18.8**	**+0.3**	
SNAA			pmax	pmax			
	comp=Z,8.0nm,1.1s						
SNAA	**Sanae**	**77.16 178**	⇑P	**P**	**03 34 19.0**	**+0.5**	
	comp=Z,132nm,1.0s						
SNAA			⇑PcP	**sP**	**03 34 27.1**	**-2.4**	
	comp=Z,159nm,0.6s						
SNAA	**Sanae**	**77.16 178**	P	**P**	**03 34 19.3**	**+0.8**	
	comp=Z,6.9nm,1.0s,baz=178,slow=13,SNR=22						
SNAA			LR	LR	04 06 46.2		
	comp=Z,147nm,19.0s,baz=193,slow=34						
	comp=Z,6.9nm,1.0s						
VNA3	**Neumayer Olymp**	**77.31 176**	⇑P	**P**	**03 34 19.6**	**+0.3**	
	comp=Z,14nm,1.0s						
VNA3			⇑PcP	**sP**	**03 34 29.1**	**-1.2**	
	comp=Z,41nm,0.7s						
JOW	**Kunigami**	**77.34 312**	LR	LR	04 03 46.7		
	comp=Z,190nm,20.9s,baz=115,slow=32						
VNA2	**Neumayer--Watz**	**77.74 177**	⇑P	**P**	**03 34 22.8**	**+1.2**	
	comp=Z,11nm,0.8s,baz=183,slow=5.0						
VNA2			⇑PcP	**sP**	**03 34 31.0**	**-1.7**	
	comp=Z,26nm,0.6s,baz=177,slow=5.0						
NVL	**N'lazarevskaya**	**77.88 183**	*e*P	**P**	**03 34 24.6**	**+2.2**	
NVL			pmax	pmax			
	comp=Z,12nm,1.2s						
VNA1	**Neumayer--Stat**	**77.97 177**	⇑P	**P**	**03 34 24.2**	**+1.3**	
	comp=Z,18nm,1.1s						
VNA1			⇑PcP	**sP**	**03 34 32.3**	**-1.6**	
	comp=Z,24nm,0.7s						
COYC	**Coyhaique**	**78.20 136**	P	**P**	**03 34 26.8**	**+2.1**	
COYC			IAmb	IAmb	03 34 27.3		
	comp=Z,18nm,0.9s						
MJAR	**Matsushiro Arr**	**79.07 325**	LR	LR	04 07 26.7		
	comp=Z,52nm,18.3s,baz=146,slow=34						
LL01	**San Ignacio de**	**79.74 134**	P	**P**	**03 34 35.4**	**+2.3**	
H03S2	**Juan Fernandez**	**79.90 123**	T	T	05 03 28.2		
	baz=236,slow=74,SNR=17						
H03S1	**Juan Fernandez**	**79.91 123**	T	T	05 03 29.6		
	baz=236,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**79.92 123**	T	T	05 03 34.1		
	baz=236,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**80.10 123**	T	T	05 03 41.0		
	baz=240,slow=72,SNR=26						
H03N2	**Juan Fernandez**	**80.10 123**	T	T	05 03 40.1		
	baz=240,slow=72,SNR=16						
H03N1	**Juan Fernandez**	**80.12 123**	T	T	05 03 43.7		
	baz=240,slow=72,SNR=37						
JNU	**Nakatsue**	**80.31 318**	LR	LR	04 04 20.0		
	comp=Z,136nm,21.9s,baz=147,slow=31						
ORCD	**Orcadas**	**80.58 159**	P	**P**	**03 34 37.8**	**+0.6**	
ORCD			IAmb	IAmb	03 36 36.4		
	comp=Z,29nm,0.8s						
PLCA	**Paso Flores**	**81.82 133**	P	**P**	**03 34 46.2**	**+1.8**	
PLCA			IAmb	IAmb	03 36 55.6		
	comp=Z,69nm,1.9s						
PLCA	**Paso Flores**	**81.82 133**	P	**P**	**03 34 44.7**	**+0.2**	
	comp=Z,3.8nm,1.0s,baz=230,slow=6.2,SNR=3.5						
	comp=Z,3.8nm,1.0s						
ASAJ	**Asahikawa**	**83.33 333**	LR	LR	04 07 18.0		
	comp=Z,179nm,20.9s,baz=176,slow=32						
SHEM	**Shemya Is, Ala**	**84.06 355**	LR	LR	04 07 00.3		
	comp=Z,340nm,19.2s,baz=148,slow=32						
SLBS	**Sierra La Lagu**	**85.06 59**	P	**P**	**03 35 02.5**	**+1.3**	
KSRS	**Korea Array**	**85.12 320**	LR	LR	04 08 06.3		
	comp=Z,100nm,21.7s,baz=140,slow=32						
PETK	**Petropavlovsk-**	**86.78 346**	P	**P**	**03 35 08.4**	**-0.5**	
	comp=Z,2.6nm,0.5s,baz=112,slow=6.9,SNR=5.8						
PETK			LR	LR	04 07 17.6		
	comp=Z,225nm,21.3s,baz=164,slow=31						
	comp=Z,2.6nm,0.5s						
NJ2	**Nanjing**	**86.91 311**	*e*P	**P**	**03 35 13.7**	**+3.7**	
NJ2			pP	**pwP**	**03 35 23.8**	**-1.0**	
NJ2			sP	**sP**	**03 35 26.7**	**+5.3**	
NJ2			pmax	pmax			
	comp=Z,5.0nm,0.5s						
NJ2			pmax	pmax			
	comp=Z,360nm,3.6s						
GSC	**Goldstone, Bar**	**87.77 46**	P	**P**	**03 35 16.2**	**+1.9**	
GSC			IAmb	IAmb	03 35 23.8		
	comp=Z,7.2nm,1.1s						
GSC	**Goldstone, Bar**	**87.77 46**	P	**P**	**03 35 16.2**	**+1.9**	
GSC			pmax	pmax			
	comp=Z,7.0nm,1.2s						
USRK	**Ussuriysk Ar.**	**88.00 327**	LR	LR	04 11 04.0		
	comp=Z,92nm,20.3s,baz=150,slow=33						
YBH	**Yreka Blue Hor**	**88.81 38**	LR	LR	04 07 27.4		
	comp=Z,171nm,21.2s,baz=224,slow=30						
NVAR	**Mina Array Bea**	**88.96 43**	P	**P**	**03 35 20.0**	**0.0**	
	comp=Z,0.8nm,0.7s,baz=215,slow=6.7,SNR=3.8						
NVAR			LR	LR	04 10 22.2		
	comp=Z,323nm,18.4s,baz=270,slow=32						
	comp=Z,0.8nm,0.7s						
CN2	**Changchun**	**90.95 323**	*e*P	**P**	**03 35 31.7**	**+2.9**	
CN2			*e*pP	pwP	03 35 41.0	-2.6	
CN2			*e*S	**S**	**03 46 25.4**	**+1.7**	
CN2			pmax	pmax			
	comp=Z,10.0nm,0.6s						
CN2			pmax	pmax			
	comp=Z,100nm,4.0s						
CN2			LR	LR			
	comp=Z,200nm,16.0s						
CN2			LR	LR			
	comp=Z,100nm,16.0s						
CN2			LR	LR			
	comp=Z,100nm,15.0s						
KDAK	**Kodiak Island**	**91.38 13**	LR	LR	04 11 40.0		
	comp=Z,109nm,18.6s,baz=234,slow=32						
KLR	**Kul'dur**	**91.91 330**‖	*e*P	**P**	**03 35 33.4**	**+0.3**	
KLR	**Kul'dur**	**91.91 330**	LR	LR	04 13 04.0		
	comp=Z,177nm,20.6s,baz=190,slow=33						
ELK	**Elko**	**92.27 43**	LR	LR	04 11 58.1		
	comp=Z,322nm,18.8s,baz=233,slow=32						
HNS	**HongShan**	**92.92 313**	*e*P	**P**	**03 35 41.8**	**+3.7**	
HNS			S	**S**	**03 46 43.9**	**+2.2**	
HNS			LR	LR			
	comp=Z,160nm,21.0s						
HNS			LR	LR			
	comp=Z,190nm,24.4s						
HNS			LR	LR			
	comp=Z,190nm,24.5s						
TXAR	**Lajitas Array**	**92.92 57**	P	**P**	**03 35 38.0**	**-0.4**	
	comp=Z,0.2nm,0.7s,baz=249,slow=4.7,SNR=2.5						
TXAR			LR	LR	04 12 14.0		
	comp=Z,289nm,18.1s,baz=231,slow=32						
	comp=Z,0.2nm,0.7s						
NNA	**Nana**	**93.14 106**	LR	LR	04 07 44.7		
	comp=Z,212nm,21.6s,baz=217,slow=29						
BBB	**Bella Bella**	**93.97 28**	LR	LR	04 09 06.6		
	comp=Z,109nm,21.9s,baz=212,slow=30						
MA2	**Magadan**	**94.26 345**	LR	LR	04 10 04.3		
	comp=Z,114nm,21.8s,baz=132,slow=30						
ATAH	**Atahualpa**	**94.44 101**	LR	LR	04 08 21.9		
	comp=Z,96nm,22.0s,baz=231,slow=29						
PZH	**PanZhiHua**	**95.78 297**	P	**P**	**03 35 55.3**	**+3.6**	
PZH			pmax	pmax			
	comp=Z,8.0nm,1.0s						
PZH			pmax	pmax			
	comp=Z,100nm,4.7s						
XLT	**XiLinHaoTe**	**96.10 318**	*e*P	P	03 35 58.0	+5.3	
XLT			pmax	pmax			
	comp=Z,8.0nm,0.9s						
XLT			pmax	pmax			
	comp=Z,42nm,4.4s						
NEW	**Newport**	**96.17 36**	LR	LR	04 12 54.8		
	comp=Z,191nm,19.9s,baz=180,slow=32						
CD2	**Chengdu**	**96.63 302**	P	**P**	**03 35 57.8**	**+2.4**	
PDAR	**Pinedale Array**	**96.85 44**	LR	LR	04 15 35.0		
	comp=Z,253nm,18.4s,baz=236,slow=33						
HHC	**Hu-ho-hao-te**	**96.94 314**	*e*P	**P**	**03 36 01.2**	**+4.6**	
HHC			pmax	pmax			
	comp=Z,13nm,0.6s						
HHC			pmax	pmax			
	comp=Z,94nm,4.4s						
HHC			LR	LR			
	comp=Z,160nm,17.0s						
HHC			LR	LR			
	comp=Z,240nm,16.2s						
HHC			LR	LR			
	comp=Z,260nm,17.9s						
SEY	**Seymchan**	**96.95 347**	LR	LR	04 15 06.9		
	comp=Z,252nm,21.3s,baz=156,slow=33						
TNCH	**TengChong**	**97.49 295**	*e*P	**P**	**03 35 55.4**	**-4.2**	
TNCH			pmax	pmax			
	comp=Z,19nm,1.1s						
BTO	**Baotou**	**97.75 313**	*e*P	Pdif	03 36 04.2	+3.9	
BTO			pP	pwP	03 36 15.1	+0.1	
BTO			sP	sP	03 36 18.7	+6.9	
BTO			S	**S**	**03 47 24.3**	**+0.4**	
BTO			sS	sS	03 47 43.8	+5.3	
BTO			pmax	pmax			
	comp=Z,14nm,0.7s						
BTO			pmax	pmax			
	comp=Z,130nm,4.1s						
BTO			LR	LR			
	comp=Z,320nm,23.6s						
BTO			LR	LR			
	comp=Z,290nm,22.0s						
DLBC	**Dease Lake**	**98.03 23**	LR	LR	04 15 29.1		
	comp=Z,72nm,19.9s,baz=248,slow=32						
ILAR	**Eielson Array**	**98.90 13**	P	**P**	**03 36 04.2**	**-0.4**	
	comp=Z,0.2nm,0.5s,baz=241,slow=5.0,SNR=4.5						
ILAR			LR	LR	04 14 20.3		
	comp=Z,71nm,21.4s,baz=210,slow=32						
	comp=Z,0.2nm,0.5s						
LZH	**Lanzhou**	**99.33 307**	*e*P	**Pdif**	**03 36 05.9**	**-1.6**	
LZH			pP	sP	03 36 16.5	-2.5	
LZH			sP	pwP	03 36 19.8	-2.5	
LZH			pmax	pmax			
	comp=Z,20nm,1.1s						
TEIG	**Tepich**	**100.03 72**	LR	LR	04 15 36.0		
	comp=Z,589nm,18.3s,baz=352,slow=32						
WMQ	**Urumqi**	**113.85 308**	*e*PKP	**PKiKP**	**03 41 06.0**	**+2.2**	
DGZ	**Jazzator, Alta**	**116.02 314**‖	*i*PKIKP	**PKPdf**	**03 41 06.8**	**-1.0**	
MK31	**Makanchi Array**	**118.42 310**‖	*i*PKIKP	**PKPdf**	**03 41 11.9**	**-0.5**	
MKAR	**Makanchi Array**	**118.42 310**	PKP	**PKPdf**	**03 41 11.2**	**-1.2**	
	comp=Z,1.1nm,0.5s,baz=90,slow=0.4,SNR=9.4						
ZALV	**Zalesovo Beam**	**118.79 318**	PKP	**PKPdf**	**03 41 11.1**	**-1.7**	
	comp=Z,0.5nm,0.4s,baz=333,slow=1.6,SNR=2.0						
KURK	**Kurchatov**	**121.75 313**		**PKPdf**	**03 41 18.2**	**-0.4**	
KURK	**Kurchatov**	**121.75 313***c*	*i*PKIKP	**PKPdf**	**03 41 18.5**	**-0.1**	
KURK			pmax	pmax			
	comp=Z,6.0nm,1.0s						
KURBB	**Kurchatov Arra**	**121.78 313**	PKP	**PKPdf**	**03 41 17.6**	**-1.1**	
	comp=Z,3.6nm,0.6s,baz=112,slow=1.9,SNR=18						
AAK	**Ala-Archa**	**122.68 303**		**PKPdf**	**03 41 20.9**	**0.0**	
AAK	**Ala-Archa**	**122.68 303**	PKIKP	**PKPdf**	**03 41 20.9**	**0.0**	
KBL	**Kabul**	**124.62 293**		**PKPdf**	**03 41 25.1**	**+0.1**	
KBL	**Kabul**	**124.62 293**	PKIKP	**PKPdf**	**03 41 25.1**	**+0.1**	
KK31	**Karatay Array**	**125.63 303**		**PKiKP**	**03 41 26.7**	**0.0**	
KK31	**Karatay Array**	**125.63 303**	PKIKP	**PKiKP**	**03 41 26.7**	**0.0**	
KKAR	**Karatay Array**	**125.63 303**		**PKPdf**	**03 41 25.4**	**-0.9**	
KKAR	**Karatay Array**	**125.63 303**		**PKPdf**	**03 41 25.8**	**-0.6**	
KKAR	**Karatay Array**	**125.63 303**	PKIKP	**PKPdf**	**03 41 25.4**	**-0.9**	
BVAR	**Borovoye Array**	**127.13 315**	PKP	**PKPdf**	**03 41 28.7**	**-0.2**	
	comp=Z,3.5nm,0.5s,baz=103,slow=3.2,SNR=19						
BRVK	**Borovoye**	**127.19 315**		**PKPdf**	**03 41 28.3**	**-0.7**	
BRVK	**Borovoye**	**127.19 315**‖	*i*PKIKP	**PKPdf**	**03 41 28.1**	**-0.9**	
SPITS	**Spitsbergen Ar**	**132.70 356**	PKP	**PKPdf**	**03 41 39.2**	**+0.4**	
	comp=Z,7.1nm,0.9s,baz=312,slow=3.1,SNR=1.9						
KMBO	**Kilima Mbogo**	**133.48 233**	PKP	**PKPdf**	**03 41 42.3**	**-0.2**	
	comp=Z,0.6nm,0.4s,baz=62,slow=18,SNR=1.5						
ABKAR	**Akbulak array**	**133.57 310**		**PKPdf**	**03 41 41.5**	**+0.3**	
ARU	**Arti**	**133.87 320**		**PKiKP**	**03 41 43.0**	**+0.2**	
ARU	**Arti**	**133.87 320**‖	*e*PKIKP	**PKPdf**	**03 41 41.7**	**+0.2**	
ARU	**Arti**	**133.87 320**	PKP	**PKPdf**	**03 41 41.6**	**+0.1**	
	comp=Z,3.0nm,0.4s,baz=125,slow=3.9,SNR=5.3						
GEYT	**Alibeck**	**133.99 294**	PKP	**PKPdf**	**03 41 42.8**	**+0.3**	
	comp=Z,1.9nm,0.4s,baz=261,slow=2.9,SNR=4.8						
AKTO	**Aktyubinsk**	**134.78 312**	PKP	**PKPdf**	**03 41 43.4**	**0.0**	
	comp=Z,3.6nm,0.7s,baz=130,slow=2.7,SNR=9.2						
KIRV	**Kirov**	**138.15 325**‖	*e*PKIKP	**PKPdf**	**03 41 48.3**	**-1.1**	
ARCES	**ARCESS Array B**	**139.57 348**	PKhKP	PKPpre	03 41 44.6		
	comp=Z,3.5nm,0.8s,baz=77,slow=1.6,SNR=10						
ARCES			PKP	**PKPdf**	**03 41 51.9**	**+0.1**	
	comp=Z,1.5nm,0.5s,baz=40,slow=1.5,SNR=9.7						
BELG	**Belogornoye**	**140.92 316**‖	*e*PKIKP	**PKPdf**	**03 41 54.6**	**0.0**	
BELG	**Belogornoye**	**140.92 316**	PKP	**PKPdf**	**03 41 55.6**	**+1.0**	
	comp=Z,20nm,1.0s,baz=154,slow=3.5,SNR=5.8						
KLMR	**Klimovskoe**	**141.65 331**	*e*P	**PKPdf**	**03 41 53.3**	**-2.4**	
KLMR			AMP		03 41 56.5		
	comp=Z,20nm,1.3s						
KLMR	**Klimovskoe**	**141.65 331**	*e*PKIKP	**PKPdf**	**03 41 53.3**	**-2.4**	
KLMR			pmax	pmax			
	comp=Z,20nm,1.3s						
FAUS	**Fauske**	**143.13 351**	*e*P	PKPbc	03 41 56.5	+1.4	
MOR8	**Moi Rana**	**144.39 351**	*e*P	**PKPab**	**03 41 57.6**	**-1.1**	
ZEI	**Tsey**	**145.04 301**	*e*PKIKP	**PKPbc**	**03 42 00.5**	**-1.5**	
ZEI			pmax	pmax			
	comp=Z,13nm,1.1s						
MOS	**Moscow**	**145.16 325**	*e*PKIKP	**PKPbc**	**03 41 59.7**	**-1.9**	
MOS			*e*		03 42 14.5		
AKH	**Akhalkalaki**	**145.44 299**		**PKPab**	**03 42 03.4**	**-0.1**	
AKH	**Akhalkalaki**	**145.44 299**	PKIKP	**PKPab**	**03 42 03.4**	**-0.1**	
KBZ	**Khabaz**	**145.67 303***d*	*i*PKIKP	**PKPdf**	**03 42 03.1**	**-0.2**	
KBZ	**Khabaz**	**145.67 303**	PKPbc	**PKPdf**	**03 42 03.4**	**+0.1**	
	comp=Z,11nm,1.1s,baz=268,slow=1.0,SNR=7.4						
KIV	**Kislovodsk**	**145.79 303**	*i* PKP2	**PKPbc**	**03 42 03.9**	**-0.3**	
KIV			pmax	pmax			
	comp=Z,10.0nm,1.1s						
LPSR	**Galich'ya Gora**	**145.88 319**	*e*PKIKP	**PKPdf**	**03 42 02.4**	**-0.9**	
LPSR			pmax	pmax			
	comp=Z,40nm,1.0s						
OBN	**Obninsk**	**146.00 324***c*	*i*PKP2	**PKPdf**	**03 42 03.2**	**-0.2**	
OBN			*e*		03 45 30.4		
OBN			*e*PPP	PPP	03 48 45.7		
OBN			pmax	pmax			
	comp=Z,80nm,1.7s						
OBN	**Obninsk**	**146.00 324**	PKPbc	**PKPdf**	**03 42 03.5**	**+0.1**	
	comp=Z,24nm,0.5s,baz=12,slow=6.0,SNR=9.9						
VORR	**Voronezh**	**146.09 318**	*e*PKIKP	**PKPdf**	**03 42 02.1**	**-1.6**	
VORR			pmax	pmax			
	comp=Z,60nm,0.4s						
FINES	**FINESS Array B**	**146.09 339**		**PKPdf**	**03 42 03.2**	**-0.3**	
FINES	**FINESS Array B**	**146.09 339**	PKPbc	**PKPdf**	**03 42 03.3**	**-0.2**	
	comp=Z,18nm,0.5s,baz=49,slow=3.8,SNR=124						
NSS	**Namsos**	**146.27 352**	*e*PKPdf	**PKPdf**	**03 42 04.0**	**+0.3**	
VSR	**Storozhevoye**	**146.28 317**	*e*PKIKP	**PKPdf**	**03 42 02.8**	**-1.3**	
VSR			pmax	pmax			
	comp=Z,40nm,1.2s						
VORD	**Divnogorie**	**146.30 316**	*e*PKIKP	**PKPdf**	**03 42 02.3**	**-1.8**	
VORD			pmax	pmax			
	comp=Z,10.0nm,0.5s						
SIRT	**Sirnak**	**146.31 292**		**PKPbc**	**03 42 05.7**	**-0.2**	
GURO	**Guroymak-BITLI**	**146.65 294**		**PKPdf**	**03 42 05.4**	**+0.1**	
RAF	**Rauma**	**147.65 342**	*e*P	**PKPbc**	**03 42 07.8**	**-1.0**	
VSU	**Vasula**	**148.14 335**‖	*e*PKHKP	PKPpre	03 42 04.1		
VSU	**Vasula**	**148.14 335**	*e*P	**PKPbc**	**03 42 09.7**	**-0.5**	
MOL	**Molde**	**148.62 355**	*e*P	**PKPbc**	**03 42 11.7**	**+0.3**	
MTSE	**Matsula**	**148.94 338**	*e*P	**PKPbc**	**03 42 11.8**	**-0.4**	
DOMB	**Dombas**	**149.01 354**	*e*PKPdf	**PKPdf**	**03 42 10.1**	**+1.7**	
AKN	**Aaknes**	**149.04 355**	*e*P	**PKPbc**	**03 42 13.0**	**+0.5**	
ANN	**Anapa**	**149.34 306**	*i* PKHKP	PKPpre	03 42 12.3		
ANN			*e*		03 49 12.6		
ANN			pmax	pmax			
	comp=Z,67nm,1.3s						
NC303	**NORSAR Array S**	**149.54 351**	PKPdf	**PKPdf**	**03 42 11.0**	**+1.9**	
FOO	**Floro**	**149.73 357**	*e*P	**PKPbc**	**03 42 14.4**	**+0.3**	
NB2	**NORSAR Subarra**	**149.74 351**	PKP	**PKPbc**	**03 42 13.4**	**-0.9**	
	comp=Z,2.8nm,0.5s,baz=12,slow=2.5						
NB2	**NORSAR Subarra**	**149.74 351**	PKP	**PKPbc**	**03 42 13.4**	**-0.9**	
	baz=12,slow=2.5						
NOA	**NORSAR Array B**	**149.74 351**	PKPbc	**PKPbc**	**03 42 13.4**	**-0.9**	
	comp=Z,3.0nm,0.4s,baz=14,slow=4.1,SNR=20						
NC602	**NORSAR Array S**	**149.99 351**	*e*P	**PKPbc**	**03 42 14.4**	**-0.4**	
HFS	**Hagfors**	**150.23 348**	PKPbc	**PKPbc**	**03 42 14.4**	**-1.0**	
	comp=Z,3.7nm,0.4s,baz=103,slow=3.2,SNR=34						
IZAR	**Zarasai**	**150.29 332**	*e*P	**PKiKP**	**03 42 16.6**	**+0.1**	
ASF	**Jabal al Asfar**	**150.41 281**	PKIKP	**PKPbc**	**03 42 17.0**	**+0.1**	
ASF	**Jabal al Asfar**	**150.41 281**	PKPbc	**PKPbc**	**03 42 17.0**	**+0.1**	
	comp=Z,13nm,0.9s,baz=134,slow=3.7,SNR=12						
SKAR	**Skarslia**	**150.42 354**	*e*P	**PKiKP**	**03 42 16.6**	**-0.1**	
MNK	**Minsk**	**150.45 329**	*i* PKiKP	**PKPbc**	**03 42 16.1**	**0.0**	
	comp=E,8.0nm,0.9s						
MNK			*i* PKiKP	**PKPbc**	**03 42 16.1**	**0.0**	
	comp=N,14nm,0.9s						
MNK			*i* PKiKP	**PKPbc**	**03 42 16.1**	**0.0**	
	comp=Z,37nm,1.1s,baz=229						
MNK			*i* PP	**PP**	**03 45 51.2**	**-0.9**	
MNK			*i* PPP	PPP	03 49 13.6		
MNK			*i* SKS	**SKSdf**	**03 49 14.6**	**-1.4**	
MNK			*i* SKKS	**SKKSdf**	**03 58 06.1**	**-2.8**	
MNK			*i* SS	**SS**	**04 05 06.1**	**-2.6**	
MNK			*i* SSS	SSS	04 11 01.2		
MNK			*i* LQ	LQ	04 42 32.9		

*ISN **04** 03:45:10.1±1.2,33.°03N×46.°08E,h8km×706km,ML2.5*
ISC 04 03:45:10.8±1.0,**33.°06N**±0.°04×**46.°05E**±0.°05,**h10**km,**n7**,
σ1**9**62/10,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.58**	**13**	Pg	**Pg**	**03 45 18.9**	**-3.1**
IGHG	**Ghaleghazi**	**1.34**	**19**	Pg	**Pg**	**03 45 37.1**	**+0.7**
RAFI	**Al-Rafai**	**1.34**	**178**	*e*Pg	**Pg**	**03 45 35.5**	**-0.9**
	baz=359						
RAFI				*e*Sg	**Sg**	**03 45 54.0**	**+0.2**
BHD	**Baghdad**	**1.42**	**279**	*e*Pg	**Pb**	**03 45 38.0**	**+0.7**
BHD				*e*Sg	**Sg**	**03 45 57.0**	**+0.6**
IKFM	**Kafar-mosalman**	**1.57**	**72**	Pg	**Pb**	**03 45 39.7**	**-0.3**
IKOM	**Komasi**	**1.65**	**47**	Pg	**Pn**	**03 45 40.4**	**+0.5**
IKOM				Sg	**Sg**	**03 46 06.2**	**+2.4**
IDHR	**Dehrash**	**1.66**	**10**	Pg	**Pb**	**03 45 41.1**	**-0.5**

*NNC **04** 03:49:30.1±2.0,54.°51N×87.°27E,h0km,mb3.1,mpv2.8,*
Error ellipse: s-maj=18.9km s-min=10.5km az=1.0,
Suspected Mining explosion.
*IDC **04** 03:49:32.4±2.6,54.°52N×87.°20E,h0km,mbtmp3.3/3,*
ML2.7/3,Error ellipse: s-maj=22.1km s-min=15.9km
az=63.0
ISC 04 03:49:32.4±4.1,**54.°5N**±0.°2×**86.°9E**±0.°2,**h0**km,**n10**,
σ2**9**20/16,**5C-8D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**246**	I	I	03 58 21.8	
	baz=64,slow=330,SNR=7.4						
ZAA0	**Zalesovo Array**	**1.38**	**246**	⇓P	**Pg**	**03 49 57.7**	**-1.0**
	0.4nm,0.4s						
ZAA0				⇑S	**Sn**	**03 50 19.7**	**+2.0**
	5.2nm,1.1s						
ZALV	**Zalesovo Beam**	**1.38**	**246**	Pg	**Pb**	**03 49 58.3**	**-0.6**
	1.5nm,0.3s,baz=64,slow=16,SNR=19						
ZALV				Lg	Lg	03 50 20.5	
	1.5nm,0.3s,baz=69,slow=25,SNR=8.8						
KURK	**Kurchatov**	**6.34**	**236**	⇓Pn	**Pn**	**03 51 09.4**	**+2.4**
	0.7nm,0.5s						
KURK				⇓Lg	Lg	03 52 56.5	
	10nm,0.9s						
KURBB	**Kurchatov Arra**	**6.45**	**236**	⇑Pn	**Pn**	**03 51 09.4**	**+0.9**
	0.9nm,0.5s						
KURBB				⇓Sn	**Sn**	**03 52 23.4**	**+0.7**
	4.0nm,0.7s						
KURBB				⇓Lg	Lg	03 52 56.7	
	22nm,1.0s						
KURBB	**Kurchatov Arra**	**6.45**	**236**	Pn	**Pn**	**03 51 09.5**	**+1.1**
	0.1nm,0.3s,baz=53,slow=14,SNR=17						
KURBB				Sn	**Sn**	**03 52 25.7**	**+3.0**
	baz=47,slow=20,SNR=3.0						
KURBB				Lg	Lg	03 53 01.4	
	baz=48,slow=31,SNR=5.4						
	3.0nm,0.7s						
MK31	**Makanchi Array**	**8.29**	**203**	⇓Pn	**Pn**	**03 51 34.1**	**+0.3**
	0.2nm,0.4s,baz=19,slow=14,SNR=10						
MK31				⇑Sn	**Sn**	**03 53 07.3**	**-0.7**
	1.0nm,0.7s,baz=31,slow=16,SNR=8.3						
MK31				⇓Lg	Lg	03 53 56.4	
	9.7nm,0.9s,baz=20,slow=28						
MKAR	**Makanchi Array**	**8.29**	**203**	Pn	**Pn**	**03 51 36.0**	**+2.3**
	0.3nm,0.3s,baz=26,slow=14,SNR=9.1						
MKAR				Sn	**Sn**	**03 53 08.1**	**+0.1**
	0.1nm,0.3s,baz=27,slow=26,SNR=9.0						
MKAR				Lg	Lg	03 53 58.2	
	0.1nm,0.3s,baz=21,slow=32,SNR=5.2						
	0.4nm,0.3s						
MAKZ	**Makanchi**	**8.35**	**204**	⇑Pn	**Pn**	**03 51 32.6**	**-2.0**
	0.5nm,0.5s						
MAKZ				⇑Sn	**Sn**	**03 53 10.5**	**+1.1**
	0.5nm,0.5s						
MAKZ				⇓Lg	Lg	03 53 58.1	
	6.0nm,1.1s						
BVAR	**Borovoye Array**	**9.92**	**268**	Pn	**Pn**	**03 51 58.7**	**+2.7**
	0.1nm,0.3s,baz=65,slow=14,SNR=1.9						
BVAR				Sn	**Sn**	**03 53 43.2**	**-4.7**
	baz=66,slow=23,SNR=6.7						
	0.7nm,0.5s						

*MED_RC **04** 04:04:01.0±0.4,37.°07N×20.°86E,h0km,MW4.3/12,*
Moment Tensor Solution.Mantle waves: s12,c14;
Duration: 1±0 Moment tensor: Scale 10^{15}Nm;
M_{rr}-0.77±.25; $M_{\theta\theta}$-1.42±.19; $M_{\phi\phi}$2.18±.18; $M_{r\theta}$1.93±.52;
$M_{\theta\phi}$-1.53±.22; $M_{\phi r}$-1.83±.56; Best double couple:
$M_0$3.52000×10^{15} NP1:ϕ_s305.00000°,δ83.00000°,
λ-128.00000°. NP2:ϕ_s205.00000°,δ38.00000°,
λ-12.00000°. Principal axes: T 4.0000, Plg28.0000°,
Azm64.0000°; N -0.9500, Plg37.0000°, Azm310.0000°; P
-3.0500, Plg40.0000°, Azm180.0000°; nsta1 refers to
body waves. nsta2 refers to surface waves, cutoff=30s.
*ATH **04** 04:04:03.1,37.°03N×20.°78E,h19km±3km,ML3.9/19 Error*
ellipse: s-maj=3.5km s-min=1.4km az=214.0
*THE **04** 04:04:03.8,37.°08N×20.°86E,h19km±1km,ML4.1/9,Error*
ellipse: s-maj=2.0km s-min=0.9km az=215.0
*IDC **04** 04:04:04.7±1.3,37.°17N×20.°98E,h42km±13km,mb3.9/15,*
mbtmp4.1/30,ML4.0/15,MS3.1/5,Error ellipse:
s-maj=12.3km s-min=9.4km az=28.0
*PDG **04** 04:04:04.2±0.9,37.°16N×20.°89E,h40km±11km,ML4.3/10,*
Error ellipse: s-maj=1.5km s-min=1.7km az=0.0
*GII **04** 04:04:10.9±0.0,35.°91N×21.°72E,h10km,mb4.3/1,*
MD4.2/1,Mm4.1/11
*TIR **04** 04:04:21.0,38.°53N×20.°23E,h98km±15km,Ml3.5*
*NAO **04** 04:04:28.1,39.°46N×19.°91E,h33km,mb3.4*
ISC 04 04:04:00.4±0.5,**37.°07N**±0.°03×**20.°81E**±0.°03,**h13**km,**n252**,
σ1**9**76/279,**mb4.2**/15,**12C-7D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.59**	**1**	P	**Pn**	**04 04 15.2**	**+0.7**
KRI1				S	**Sb**	**04 04 23.1**	**+2.2**
	19μm,0.8s						
LTHK	**Lithakia**	**0.64**	**2**	P	**Pn**	**04 04 15.8**	**+0.7**
LTHK				S	**Sn**	**04 04 24.8**	**-0.4**
	14μm,0.4s						
LTHK	**Lithakia**	**0.64**	**2**	P	**Pn**	**04 04 15.9**	**+0.7**
LTHK				S	**Sn**	**04 04 24.9**	**-0.2**
LTHK				AML	AML	04 04 27.9	
	comp=N,33060μm,0.5s						
LTHK				AML	AML	04 04 29.2	
	comp=E,19897μm,0.4s						
PYL	**PYLOS**	**0.77**	**103**	P	**Pn**	**04 04 17.3**	**+0.5**
PYL				S	**Sb**	**04 04 27.7**	**+1.8**
	comp=E,31μm,0.6s						
PYL	**PYLOS**	**0.77**	**103**	P	**Pn**	**04 04 17.4**	**+0.5**
PYL				S	**Sn**	**04 04 28.4**	**+0.1**
PYL				AML	AML	04 04 29.1	
	comp=N,89845μm,0.7s						
PYL				AML	AML	04 04 29.6	
	comp=E,35153μm,0.5s						
KLMT	**Kalamata**	**1.00**	**90**	P	**Pn**	**04 04 21.2**	**+1.1**
KLMT				S	**Sg**	**04 04 34.0**	**+1.3**
	comp=E,7μm,0.5s						
PSDA	**Pessada-Kefalo**	**1.06**	**350**	P	**Pn**	**04 04 21.9**	**+1.0**
PSDA	**Pessada-Kefalo**	**1.06**	**350**	P	**Pn**	**04 04 21.8**	**+0.9**
RLS	**Riolos of Patr**	**1.12**	**28**	P	**Pg**	**04 04 23.1**	**+1.3**
RLS	**Riolos of Patr**	**1.12**	**28**	P	**Pg**	**04 04 23.2**	**+1.3**
RLS				S	**Sn**	**04 04 38.6**	**+1.6**
RLS				AML	AML	04 04 43.4	
	comp=E,7407μm,0.6s						
RLS				AML	AML	04 04 47.7	
	comp=N,5924μm,0.5s						
VLS	**Valsamata**	**1.12**	**351**	P	**Pg**	**04 04 22.9**	**+1.0**
VLS	**Valsamata**	**1.12**	**351**	P	**Pg**	**04 04 22.9**	**+1.0**
VLS				S	**Sg**	**04 04 37.1**	**+0.5**
VLS				AML	AML	04 04 55.6	
	comp=N,6363μm,0.4s						
VLS				AML	AML	04 05 00.3	
	comp=E,4910μm,0.4s						
DRO	**Drossia**	**1.14**	**39**	P	**Pg**	**04 04 23.1**	**+0.8**
DRO				S	**Sn**	**04 04 38.9**	**+1.4**
	comp=E,11μm,0.5s						
DRO	**Drossia**	**1.14**	**39**	P	**Pg**	**04 04 23.2**	**+1.0**
DRO				S	**Sn**	**04 04 39.1**	**+1.6**
DRO				AML	AML	04 04 40.7	
	comp=E,20818μm,0.4s						
DRO				AML	AML	04 04 50.0	
	comp=N,24350μm,0.6s						
KEF3	**Kipouria, Keph**	**1.19**	**342**	P	**Pg**	**04 04 24.2**	**+0.9**
KEF3	**Kipouria, Keph**	**1.19**	**342**	P	**Pg**	**04 04 24.2**	**+0.8**
DMLN	**Damoulianata-K**	**1.22**	**344**	P	**Pg**	**04 04 24.5**	**+0.7**
DMLN	**Damoulianata-K**	**1.22**	**344**	P	**Pg**	**04 04 24.5**	**+0.7**
KEF4	**Livadi, Kephal**	**1.23**	**346**	P	**Pg**	**04 04 24.6**	**+0.7**
KEF4	**Livadi, Kephal**	**1.23**	**346**	P	**Pg**	**04 04 24.7**	**+0.7**
FSK	**Fiskardo**	**1.40**	**352**	P	**Pb**	**04 04 27.1**	**+0.7**
UPR	**University Cam**	**1.44**	**32**	P	**Pg**	**04 04 29.4**	**+1.4**
KLV	**Kalavryta, Ach**	**1.44**	**47**	P	**Pb**	**04 04 27.9**	**+0.8**
KLV	**Kalavryta, Ach**	**1.44**	**47**	P	**Pb**	**04 04 27.9**	**+0.8**
KLV				S	**Sn**	**04 04 45.8**	**+0.7**
KLV				AML	AML	04 04 51.1	
	comp=E,4119μm,0.7s						
KLV				AML	AML	04 04 52.6	
	comp=N,3473μm,0.8s						
LAKA	**Lakka**	**1.49**	**38**	P	**Pb**	**04 04 29.0**	**+1.0**
LAKA				S	**Sn**	**04 04 46.8**	**+0.5**
	comp=N,11μm,0.7s						
LAKA	**Lakka**	**1.49**	**38**	P	**Pg**	**04 04 29.5**	**+0.4**
LAKA				AML	AML	04 04 50.5	
	comp=E,21159μm,0.6s						
LAKA				AML	AML	04 04 56.0	
	comp=N,24307μm,0.8s						
GUR	**Goura**	**1.50**	**54**	P	**Pb**	**04 04 28.4**	**+0.4**
GUR	**Goura**	**1.50**	**54**	P	**Pb**	**04 04 28.5**	**+0.4**
GUR				AML	AML	04 04 57.8	
	comp=E,6929μm,0.4s						
GUR				AML	AML	04 05 09.5	
	comp=N,9752μm,0.5s						
EVGI	**Lefkada island**	**1.56**	**356**	P	**Pb**	**04 04 29.6**	**+0.6**
EVGI	**Lefkada island**	**1.56**	**356**	P	**Pb**	**04 04 29.8**	**+0.8**
ALIK	**Aliki, Aigiali**	**1.58**	**41**	P	**Pb**	**04 04 30.4**	**+1.1**
EFP	**Efpalio**	**1.61**	**32**	P	**Pb**	**04 04 31.1**	**+1.2**
EFP				S	**Sn**	**04 04 50.5**	**+1.4**
	comp=N,3μm,0.4s						
EFP	**Efpalio**	**1.61**	**32**	P	**Pb**	**04 04 31.4**	**+1.4**
EFP				S	**Sn**	**04 04 50.3**	**+1.1**
EFP				AML	AML	04 04 51.2	
	comp=N,5343μm,0.4s						
EFP				AML	AML	04 04 54.0	
	comp=E,6238μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.62**	**354**	P	**Pb**	**04 04 30.4**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.62**	**354**	P	**Pb**	**04 04 30.7**	**+0.5**
TRIZ	**Trizonia**	**1.64**	**37**	P	**Pb**	**04 04 31.5**	**+1.1**
TRIZ	**Trizonia**	**1.64**	**37**	P	**Pb**	**04 04 31.6**	**+1.1**
NYDR	**Nydri-Lefkada**	**1.65**	**357**	P	**Pb**	**04 04 30.5**	**0.0**
NYDR	**Nydri-Lefkada**	**1.65**	**357**	P	**Pb**	**04 04 31.1**	**+0.6**
PVO	**Paravola**	**1.65**	**20**	P	**Pb**	**04 04 31.1**	**+0.5**
PVO				S	**Sn**	**04 04 51.5**	**+1.5**
	comp=E,11μm,0.6s						
PVO	**Paravola**	**1.65**	**20**	P	**Pb**	**04 04 31.3**	**+0.7**
KALE	**Kalithea**	**1.69**	**38**	P	**Pb**	**04 04 32.2**	**+0.9**
KALE				S	**Sb**	**04 04 53.0**	**+0.4**
	comp=E,3μm,0.6s						
KALE	**Kalithea**	**1.69**	**38**	P	**Pb**	**04 04 32.3**	**+1.0**
KALE				AML	AML	04 05 04.5	
	comp=N,4874μm,0.5s						
KALE				AML	AML	04 05 12.6	
	comp=E,6176μm,0.8s						
VLI	**Veliai**	**1.74**	**101**	P	**Pb**	**04 04 32.2**	**0.0**
VLI	**Veliai**	**1.74**	**101**	P	**Pb**	**04 04 32.4**	**+0.2**
VLI				AML	AML	04 04 55.3	
	comp=N,7578μm,0.6s						
VLI				AML	AML	04 04 57.0	
	comp=E,3724μm,0.9s						
ANX	**Ano Chora**	**1.76**	**30**	P	**Pb**	**04 04 33.7**	**+1.2**
ANX	**Ano Chora**	**1.76**	**30**	P	**Pb**	**04 04 33.8**	**+1.2**
TSLK	**Tsoukalades, L**	**1.76**	**356**	P	**Pb**	**04 04 33.2**	**+0.8**
TSLK	**Tsoukalades, L**	**1.76**	**356**	P	**Pb**	**04 04 33.2**	**+0.8**
THAL	**Thalero**	**1.76**	**56**	P	**Pb**	**04 04 32.4**	**-0.1**
THAL	**Thalero**	**1.76**	**56**	P	**Pb**	**04 04 32.5**	**0.0**
KRND	**KRANIDI**	**1.90**	**80**	P	**Pn**	**04 04 33.4**	**+1.1**
KRND	**KRANIDI**	**1.90**	**80**	P	**Pn**	**04 04 33.5**	**+1.1**
DLFA	**Delphi**	**1.94**	**43**	P	**Pb**	**04 04 35.3**	**-0.3**
KTHA	**Kythira Island**	**1.98**	**113**	P	**Pb**	**04 04 36.1**	**-0.2**
KTHA	**Kythira Island**	**1.98**	**113**	P	**Pb**	**04 04 36.2**	**-0.2**
KTHA				AML	AML	04 05 00.8	
	comp=E,6421μm,0.5s						
KTHA				AML	AML	04 05 02.2	
	comp=N,5066μm,0.4s						
EVR	**Evrytania**	**2.01**	**23**	P	**Pb**	**04 04 38.5**	**+1.7**
EVR	**Evrytania**	**2.01**	**23**	P	**Pb**	**04 04 38.0**	**+1.3**
EVR				AML	AML	04 05 13.0	
	comp=E,3214μm,0.6s						
EVR				AML	AML	04 05 15.2	
	comp=N,5043μm,0.9s						
MAKR	**Makrakomi, Fth**	**2.21**	**28**	P	**Pb**	**04 04 39.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**2.21**	**28**	P	**Pb**	**04 04 40.0**	**-0.1**
MAKR				AML	AML	04 05 13.1	
	comp=N,5099μm,0.4s						
MAKR				AML	AML	04 05 16.7	
	comp=E,5565μm,0.6s						
AXAR	**Agios Charalam**	**2.24**	**40**	P	**Pn**	**04 04 39.4**	**+2.2**
AXAR	**Agios Charalam**	**2.24**	**40**	P	**Pn**	**04 04 39.5**	**+2.4**
VIL2	**Platees**	**2.26**	**59**	P	**Pn**	**04 04 38.3**	**+0.9**
VILL	**Villia**	**2.27**	**60**	P	**Pn**	**04 04 38.4**	**+0.8**
ANKY	**Antikythira Is**	**2.34**	**120**	P	**Pn**	**04 04 40.5**	**+2.0**
ANKY	**Antikythira Is**	**2.34**	**120**	P	**Pn**	**04 04 39.8**	**+1.3**
ANKY				AML	AML	04 05 08.6	
	comp=E,4575μm,0.5s						
ANKY				AML	AML	04 05 09.6	
	comp=N,4162μm,0.4s						
LKR	**Lokris**	**2.34**	**47**	P	**Pn**	**04 04 40.1**	**+1.5**
LKR				AML	AML	04 05 08.0	
	comp=E,1884μm,0.5s						
LKR				AML	AML	04 05 08.7	
	comp=N,1378μm,0.5s						
ATAL	**Atalanti**	**2.39**	**47**	P	**Pn**	**04 04 40.7**	**+1.6**
ATAL	**Atalanti**	**2.39**	**47**	P	**Pn**	**04 04 40.8**	**+1.6**
ATAL				AML	AML	04 05 33.0	
	comp=E,1708μm,1.1s						
ATAL				AML	AML	04 05 35.4	
	comp=N,1795μm,0.9s						
IGT	**Igoumenitsa**	**2.49**	**351**	P	**Pn**	**04 04 42.3**	**+1.7**
IGT	**Igoumenitsa**	**2.49**	**351**	P	**Pn**	**04 04 42.7**	**+2.1**
	baz=4.0						
IGT	**Igoumenitsa**	**2.49**	**351**	P	**Pn**	**04 04 42.4**	**+1.9**
VLY	**Voula,Athens**	**2.50**	**71**	P	**Pn**	**04 04 41.0**	**+0.3**
VLY	**Voula,Athens**	**2.50**	**71**	P	**Pn**	**04 04 41.1**	**+0.4**
ATHU	**Athens Univers**	**2.53**	**68**	P	**Pn**	**04 04 41.5**	**+0.3**
ATHU	**Athens Univers**	**2.53**	**68**	P	**Pn**	**04 04 41.5**	**+0.3**
JAN	**Janina**	**2.58**	**1**	P	**Pn**	**04 04 44.4**	**+2.5**
PTL	**Penteli**	**2.62**	**67**	P	**Pn**	**04 04 43.8**	**+1.4**
THL	**Klokotos Trika**	**2.67**	**20**	P	**Pn**	**04 04 45.5**	**+2.5**
THL	**Klokotos Trika**	**2.67**	**20**	P	**Pn**	**04 04 45.5**	**+2.5**
THL				S	**Sn**	**04 05 14.4**	**-0.8**
THL				AML	AML	04 05 15.1	
	comp=E,2271μm,0.5s						
THL				AML	AML	04 05 15.4	
	comp=N,1362μm,0.5s						
KEK	**Kerkira**	**2.76**	**344**	P	**Pn**	**04 04 45.8**	**+1.5**
KEK	**Kerkira**	**2.76**	**344**	P	**Pn**	**04 04 46.0**	**+1.7**
TYRN	**Tyrnavos**	**2.87**	**23**	P	**Pn**	**04 04 47.7**	**+2.0**
MHLO	**Agia Marina, M**	**2.91**	**96**	P	**Pn**	**04 04 46.7**	**+0.4**
KPRO	**Kipourio**	**2.92**	**8**	P	**Pn**	**04 04 49.8**	**+3.3**
NEO	**Neokhori**	**2.94**	**40**	P	**Pn**	**04 04 48.3**	**+1.6**
NEO	**Neokhori**	**2.94**	**40**	P	**Pn**	**04 04 48.4**	**+1.6**
NEO				AML	AML	04 05 26.0	
	comp=E,1502μm,0.4s						
NEO				AML	AML	04 05 26.8	
	comp=N,1590μm,0.5s						
XOR	**Xorichti**	**2.96**	**39**	P	**Pn**	**04 04 48.5**	**+1.3**
XOR	**Xorichti**	**2.96**	**39**	P	**Pn**	**04 04 48.5**	**+1.3**
IMMV	**Iera Moni Meta**	**3.02**	**121**	P	**Pn**	**04 04 50.0**	**+2.0**
KYMI	**Kymi, Euboea I**	**3.04**	**58**	P	**Pn**	**04 04 48.8**	**+0.7**
KYMI	**Kymi, Euboea I**	**3.04**	**58**	P	**Pn**	**04 04 48.9**	**+0.8**
PENT	**Pentalofos**	**3.13**	**5**	P	**Pn**	**04 04 52.8**	**+3.3**
NEST	**Nestorio**	**3.35**	**3**	P	**Pn**	**04 04 55.8**	**+3.3**
KTI	**Kastanea**	**3.47**	**17**	P	**Pn**	**04 04 56.5**	**+2.3**
SCTE	**Santa Cesarea**	**3.52**	**329**	P	**Pn**	**04 04 56.7**	**+2.0**
	baz=319						
SCTE				AMP			
	comp=N,0.4nm,0.2s,baz=319						
VLO	**Vlora**	**3.55**	**344**	P	**Pn**	**04 04 58.1**	**+3.0**
	baz=344						
KBN	**Korca**	**3.55**	**360**	P	**Pn**	**04 04 58.3**	**+3.1**
KBN	**Korca**	**3.55**	**360**	P	**Pn**	**04 04 58.3**	**+3.1**
	baz=11						
KBN				AMP			
	comp=N,1.5nm,0.7s,baz=11						
PAIG	**Paliouri**	**3.64**	**37**	P	**Pn**	**04 04 57.0**	**+0.7**
FNA	**Florina**	**3.74**	**7**	P	**Pn**	**04 04 59.8**	**+2.0**
FNA	**Florina**	**3.74**	**7**	P	**Pn**	**04 05 00.0**	**+2.3**
	baz=21						
IDI	**Anoyia**	**3.75**	**117**	⇓P	**Pn**	**04 04 58.7**	**+0.8**
IDI	**Anoyia**	**3.75**	**117**	P	**Pn**	**04 04 59.1**	**+1.2**
	comp=N,3.6nm,0.3s,baz=294,slow=7.6,SNR=19						
IDI				S	**Sn**	**04 05 41.3**	**-0.7**
	comp=N,80nm,0.3s,baz=332,slow=21,SNR=18						
IDI				LR	LR	04 06 52.3	
	comp=N,175nm,20.3s,baz=282,slow=46						
	comp=N,2.9nm,0.3s						
THR6	**Thira Island,**	**3.75**	**100**	P	**Pn**	**04 04 58.8**	**+0.8**
APE	**Apeiranthos**	**3.78**	**89**	⇑P	**Pn**	**04 04 58.5**	**+0.2**
APE	**Apeiranthos**	**3.78**	**89**	P	**Pn**	**04 04 58.3**	**0.0**
APE	**Apeiranthos**	**3.78**	**89**	Pn	**Pn**	**04 04 58.3**	**0.0**
SANT	**Santorini**	**3.80**	**99**	⇑P	**Pn**	**04 04 59.6**	**+1.0**
THR8	**Santorini-Mono**	**3.81**	**99**	P	**Pn**	**04 04 59.2**	**+0.5**
THE	**Thessaloniki**	**3.94**	**25**	P	**Pb**	**04 05 10.2**	**+0.6**
	baz=44						
HORT	**Hortiatis**	**3.95**	**26**	P	**Pn**	**04 05 01.3**	**+0.5**
OHR	**Ohrid**	**4.04**	**360**	*i* Pn	**Pn**	**04 05 04.7**	**+2.8**
OHR				*i* Sn	**Sn**	**04 05 48.1**	**-0.9**
GRG	**Griva**	**4.08**	**17**	P	**Pn**	**04 05 03.7**	**+1.3**
OUR	**Ouranopolis**	**4.10**	**36**	P	**Pn**	**04 05 03.5**	**+0.8**
SOH	**Sokhos**	**4.24**	**27**	P	**Pn**	**04 05 06.2**	**+1.5**
TIR	**Tirane**	**4.34**	**351**	⇑P	**Pn**	**04 05 08.1**	**+2.1**
TIR	**Tirane**	**4.34**	**351**	P	**Pn**	**04 05 08.0**	**+2.1**
TIR	**Tirane**	**4.34**	**351**	P	**Pn**	**04 05 08.3**	**+2.3**
	baz=355						
CHOS	**Chios island**	**4.36**	**71**	P	**Pn**	**04 05 06.6**	**+0.2**
KNT	**Kendrikon**	**4.40**	**21**	P	**Pn**	**04 05 08.6**	**+1.8**
VAY	**Valandovo**	**4.46**	**17**	*i* Pn	**Pn**	**04 05 09.7**	**+2.1**
VAY				*i* Sn	**Sn**	**04 05 56.0**	**-3.4**
KOKK	**Kokkinochori,**	**4.49**	**33**	P	**Pn**	**04 05 08.9**	**+0.8**
SRS	**Serrai**	**4.59**	**27**	P	**Pn**	**04 05 10.5**	**+1.1**
STIP	**Stip**	**4.74**	**13**	*i* Pn	**Pn**	**04 05 14.3**	**+2.8**
MATE	**Matera**	**4.80**	**319**	⇓P	**Pn**	**04 05 13.9**	**+1.6**
SKO	**Skopje**	**4.92**	**5**	*i* Pn	**Pn**	**04 05 15.5**	**+1.5**
SKO				*i* Sn	**Sn**	**04 06 06.8**	**-4.0**
ULC	**Ulcinj**	**5.04**	**347**	⇑*i* Pn	**Pn**	**04 05 16.3**	**+0.7**
ULC				*i* Sn	**Sn**	**04 06 11.0**	**-2.7**
VAE	**Valguarnera**	**5.12**	**277**	P	**Pn**	**04 05 20.6**	**+3.9**
	comp=N,16nm,0.3s,baz=334,slow=6.9,SNR=13						
VAE				S	**Sn**	**04 06 14.0**	**-1.8**
	comp=N,83nm,0.4s,baz=68,slow=3.5,SNR=6.2						
	comp=N,34nm,0.3s						
DRME	**Dracevica, Mon**	**5.26**	**347**	*e*Pn	**Pn**	**04 05 19.5**	**+0.8**
DRME	**Dracevica, Mon**	**5.26**	**347**	*e*Pn	**Pn**	**04 05 19.5**	**+0.8**
DRME				*i* Sn	**Sn**	**04 06 16.3**	**-2.9**
BUM	**Brajici-Budva**	**5.43**	**345**	*e*Pn	**Pn**	**04 05 21.5**	**+0.4**
BUM				*i* Sn	**Sn**	**04 06 20.4**	**-3.0**
PDG	**Podgorica**	**5.49**	**348**	⇑P	**Pn**	**04 05 22.7**	**+1.0**
PDG	**Podgorica**	**5.49**	**348**	*e*Pn	**Pn**	**04 05 22.1**	**+0.4**
PDG	**Podgorica**	**5.49**	**348**	*e*Pn	**Pn**	**04 05 22.6**	**+0.9**
PDG				*i* Sn	**Sn**	**04 06 21.7**	**-3.0**
PVY	**Plav**	**5.56**	**354**	*e*Pn	**Pn**	**04 05 24.3**	**+1.4**
PVY				*i* Sn	**Sn**	**04 06 23.3**	**-3.4**
HCY	**Herceg Novi**	**5.66**	**342**	*e*Pn	**Pn**	**04 05 24.0**	**-0.1**
HCY	**Herceg Novi**	**5.66**	**342**	*e*Pn	**Pn**	**04 05 24.1**	**-0.1**
HCY				*i* Sn	**Sn**	**04 06 25.8**	**-3.2**
CEME	**Cevo**	**5.66**	**346**	⇓*i* Pn	**Pn**	**04 05 24.5**	**+0.3**
CEME				*i* Sn	**Sn**	**04 06 25.9**	**-3.2**
IVA	**Berane**	**5.84**	**353**	⇓*i* Pn	**Pn**	**04 05 28.1**	**+1.4**
IVA				*i* Sn	**Sn**	**04 06 30.0**	**-3.5**
VTS	**Vitosha**	**5.85**	**18**	⇓P	**Pn**	**04 05 29.5**	**+2.7**
NKME	**Niksic**	**5.87**	**347**	*e*Pn	**Pn**	**04 05 28.5**	**+1.5**
NKME				*i* Sn	**Sn**	**04 06 30.8**	**-3.4**
TREB	**Trebinje**	**5.95**	**342**	*e*Pn	**Pn**	**04 05 27.7**	**-0.4**
DBRK	**Dubrovnik**	**5.96**	**341**	*i* Pn	**Pn**	**04 05 28.1**	**-0.1**
SJES	**Sjenica**	**6.22**	**354**	*e*Pn	**Pn**	**04 05 32.9**	**+1.0**
STON	**Ston**	**6.27**	**339**	*e*Pn	**Pn**	**04 05 32.0**	**-0.4**
STON	**Ston**	**6.27**	**339**	*e*Pn	**Pn**	**04 05 32.4**	**-0.1**
PLE	**Pljevlja**	**6.35**	**351**	*e*Pn	**Pn**	**04 05 35.1**	**+1.4**
PLE				*i* Sn	**Sn**	**04 06 42.1**	**-4.0**
NEVS	**Nevesinje**	**6.56**	**342**	*e*Pn	**Pn**	**04 05 37.1**	**+0.5**
BOVS	**Bovan**	**6.59**	**6**	⇑P	**Pn**	**04 05 36.9**	**0.0**
RUDO	**Rudo**	**6.63**	**351**	*e*Pn	**Pn**	**04 05 37.2**	**-0.3**
MAKA	**Makarska**	**6.86**	**336**	*e*Pn	**Pn**	**04 05 40.9**	**+0.4**
MAKA				Sn	**Sn**	**04 06 52.5**	**-5.9**
BBLS	**Lazići**	**6.87**	**351**	*e*Pn	**Pn**	**04 05 40.3**	**-0.6**
HVAR	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NATI				Sn	Sn	04 09 12.9	-11
KZIT	**Kziot**	**12.84**	**115**	Pn	**Pn**	**04 06 58.7**	**-3.8**
KZIT				Sn	Sn	04 09 08.6	-17
SALP	**Salfit**	**12.86**	**109**	Sn	Sn	04 09 12.3	-14
GERES	**GERESS Array B**	**12.86**	**338**	P	**Pn**	**04 07 04.4**	**+1.5**
	comp=N,0.4nm,0.3s,baz=156,slow=10,SNR=6.8						
GERES				S	**Sn**	**04 09 19.7**	**-6.1**
	comp=N,0.8nm,0.4s,baz=157,slow=24,SNR=3.0						
	comp=N,1.5nm,0.5s						
MMLI	**Mount Malkishu**	**12.87**	**107**	Pn	**Pn**	**04 06 59.9**	**-3.1**
MMLI				Sn	Sn	04 09 11.8	-14
AMAZ	**Amatzia**	**12.90**	**111**	Sn	Sn	04 09 12.3	-15
HMDT	**Nahal Hemdat**	**13.03**	**107**	Sn	Sn	04 09 16.7	-13
KHC	**Kasperske Hory**	**13.15**	**339**	*e*PN	**Pn**	**04 07 07.8**	**+1.0**
MSBI	**Mazada**	**13.34**	**111**	Pn	Pn	04 07 04.7	-4.6
MSBI				Sn	Sn	04 09 22.6	-15
KRMI	**Paran Flat**	**13.51**	**117**	Sn	Sn	04 09 24.3	-17
PRNI	**Paran**	**13.58**	**115**	Pn	Pn	04 07 08.5	-4.1
PRNI				Sn	Sn	04 09 26.9	-16
ZFRI	**Zfri**	**13.59**	**114**	Sn	Sn	04 09 26.9	-17
HRFI	**Mount Harif**	**13.77**	**116**	Pn	Pn	04 07 11.1	-4.3
HRFI				Sn	Sn	04 09 31.9	-16
MBRI	**Mt Berech**	**13.82**	**118**	Pn	Pn	04 07 11.6	-4.5
MBRI				Sn	Sn	04 09 32.2	-17
EIL	**Elat**	**13.92**	**118**	Sn	Sn	04 09 34.0	-18
EIL	**Elat**	**13.92**	**118**	P	**Pn**	**04 07 18.7**	**+1.4**
	comp=N,0.6nm,0.3s,baz=340,slow=16,SNR=3.2						
EIL				S	Sn	04 09 35.2	-17
	comp=N,8.4nm,0.5s,baz=84,slow=9.8,SNR=3.2						
	comp=N,5.3nm,0.7s						
ASF	**Jabal al Asfar**	**14.12**	**106**	P	**Pn**	**04 07 21.4**	**+1.3**
	comp=N,0.3nm,0.3s,baz=328,slow=10,SNR=1.6						
ASF				S	**Sn**	**04 09 49.2**	**-7.4**
	comp=N,1.5nm,0.4s,baz=356,slow=20,SNR=2.0						
	comp=N,1.1nm,0.4s						
AKASG	**Malin Array Be**	**14.90**	**21**	P	**Pn**	**04 07 29.5**	**-1.1**
	comp=N,0.5nm,0.3s,baz=206,slow=12,SNR=3.8						
AKASG				LR	LR	04 13 46.2	
	comp=N,89nm,18.3s,baz=200,slow=39						
	comp=N,0.8nm,0.5s						
CLL	**Collm**	**15.28**	**341**	*i* (sP)	**P**	**04 07 42.6**	**+2.1**
	comp=Z,53nm,2.0s						
KVAR	**Kislovodsk Arr**	**17.98**	**61**	P	**P**	**04 08 11.4**	**+0.8**
	baz=90,slow=20						
	comp=Z,1.8nm,0.4s						
KBZ	**Khabaz**	**18.06**	**62**	P	**Pn**	**04 08 11.1**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=244,slow=7.6,SNR=12						
	comp=Z,7.5nm,0.7s						
GNI	**Garni**	**18.94**	**73**	P	**P**	**04 08 21.9**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=342,slow=6.4,SNR=3.9						
GNI				LR	LR	04 16 42.3	
	comp=Z,103nm,21.6s,baz=286,slow=40						
	comp=Z,12nm,0.7s						
ESDC	**Sonseca Array**	**19.58**	**285**	P	**Pn**	**04 08 30.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=81,slow=11,SNR=7.2						
	comp=Z,1.3nm,0.8s						
MDT	**Midelt**	**21.24**	**266**	P	**P**	**04 08 48.7**	**+2.5**
	comp=Z,1.0nm,0.8s,baz=96,slow=10,SNR=2.1						
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**23.53**	**351**	P	**P**	**04 09 09.4**	**-0.6**
	comp=Z,6.3nm,0.7s,baz=157,slow=9.6,SNR=17						
	comp=Z,6.3nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.47**	**326**	P	**P**	**04 09 19.6**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=123,slow=7.9,SNR=5.9						
	comp=Z,3.9nm,0.8s						
FINES	**FINESS Array B**	**24.62**	**6**	P	**P**	**04 09 19.8**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=178,slow=10,SNR=17						
FINES				LR	LR	04 20 02.3	
	comp=Z,64nm,18.1s,baz=241,slow=39						
	comp=Z,1.6nm,0.4s						
NB2	**NORSAR Subarra**	**24.75**	**349**	P	**P**	**04 09 21.7**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=162,slow=11						
NOA	**NORSAR Array B**	**24.75**	**349**	P	**P**	**04 09 21.3**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=158,slow=10,SNR=6.6						
NOA				LR	LR	04 20 14.6	
	comp=Z,22nm,19.8s,baz=310,slow=39						
	comp=Z,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.32**	**221**	P	**P**	**04 10 04.6**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=33,slow=9.7,SNR=23						
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**32.63**	**3**	P	**P**	**04 10 30.8**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=191,slow=9.9,SNR=13						
	comp=Z,1.2nm,0.4s						
BVAR	**Borovoye Array**	**37.66**	**49**	P	**P**	**04 11 14.0**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=269,slow=7.1,SNR=6.3						
	comp=Z,1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**42.71**	**53**	P	**P**	**04 11 55.7**	**-1.2**
	comp=Z,4.6nm,0.6s,baz=280,slow=8.6,SNR=19						
	comp=Z,4.6nm,0.6s						
MKAR	**Makanchi Array**	**45.70**	**58**	P	**P**	**04 12 19.3**	**-1.6**
	comp=Z,1.3nm,0.4s,baz=273,slow=7.7,SNR=20						
	comp=Z,1.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.27**	**47**	P	**P**	**04 12 23.7**	**-1.5**
	comp=Z,1.9nm,0.4s,baz=286,slow=12,SNR=8.6						
	comp=Z,1.9nm,0.4s						
PYUN	**Piuthan**	**52.34**	**81**	*e*P	**P**	**04 13 11.2**	**-1.1**
	comp=Z,17nm,0.6s						
DANN	**Dangsing**	**52.83**	**80**	*e*P	**P**	**04 13 14.7**	**-1.4**
	comp=Z,34nm,0.8s						
DMN	**Daman**	**54.23**	**80**	*e*P	**P**	**04 13 24.5**	**-1.8**
	comp=Z,14nm,0.4s						
PKI	**Pulchoki**	**54.49**	**80**	*e*P	**P**	**04 13 26.1**	**-2.1**
	comp=Z,29nm,1.4s						
GUN	**Gumba**	**54.70**	**80**	*e*P	**P**	**04 13 26.6**	**-3.2**
	comp=Z,19nm,0.8s						
JIRN	**Jiri**	**55.06**	**80**	*e*P	**P**	**04 13 29.6**	**-2.8**
	comp=Z,8.5nm,0.6s						
RAMN	**Ramite**	**55.71**	**80**	*e*P	**P**	**04 13 35.2**	**-1.8**
	comp=Z,20nm,0.7s						
BOSA	**Boshof**	**65.47**	**176**	P	**P**	**04 14 44.5**	**+1.4**
	comp=Z,4.1nm,1.0s,baz=22,slow=6.0,SNR=3.5						
	comp=Z,4.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**69.82**	**82**	P	**P**	**04 15 10.5**	**-0.4**
	comp=Z,2.0nm,0.3s,baz=265,slow=9.9,SNR=5.3						
	comp=Z,2.0nm,0.3s						
ULM	**Lac du Bonnet**	**76.73**	**324**	P	**P**	**04 15 51.5**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=36,slow=8.7,SNR=1.5						
	comp=Z,1.3nm,0.6s						
KSRS	**Korea Array**	**79.86**	**51**	P	**P**	**04 16 08.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=309,slow=4.8,SNR=5.8						
	comp=Z,1.2nm,0.6s						
ASAR	**Alice Springs**	**121.82**	**97**	PKP	**PKPdf**	**04 22 53.8**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=270,slow=1.7,SNR=2.0						
QSPA	**South Pole Qui**	**126.92**	**180**	PKP	**PKPdf**	**04 23 03.2**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=244,slow=2.1,SNR=2.3						

*ATH **04** 04:19:12.8, 38°.96N×26°.28E, h13km±1km, ML2.1/3, Error ellipse: s-maj=1.8km s-min=1.0km az=33.0*
*AFAD **04** 04:19:12.2±0.0, 38°.93N×26°.29E, h7km±3km, ML2.3*
*THE **04** 04:19:12.6, 38°.95N×26°.27E, h1km±1km, ML2.0/3, Error ellipse: s-maj=1.8km s-min=0.6km az=139.0*
*ISK **04** 04:19:12.1, 38°.94N×26°.25E, h8km, ML2.6/12*
ISC 04 04:19:11.6±1.0, 38°.92N±0°.02×26°.21E±0°.03, h15km±8km, n42, σ0°49/68, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG1	**Polichnitos, L**	**0.17**	**3**	P	**Pb**	**04 19 15.8**	**-0.7**
EAG1				S	**Sb**	**04 19 18.7**	**-1.0**
KARB	**zmir-Karabur**	**0.30**	**149**	P	**Pb**	**04 19 18.8**	**+0.1**
KARB				S	**Sb**	**04 19 23.3**	**-0.1**
EAG3	**Mitilini, Lesv**	**0.32**	**59**	P	**Pg**	**04 19 18.3**	**0.0**
EAG3				S	**Sg**	**04 19 22.2**	**-0.7**
PRK	**Paraskevi**	**0.33**	**8**	P	**Pg**	**04 19 18.4**	**0.0**
PRK				S	**Sg**	**04 19 23.7**	**+0.6**
	655nm,0.4s						
PRK	**Paraskevi**	**0.33**	**8**	P	**Pg**	**04 19 18.2**	**-0.3**
PRK				S	**Sg**	**04 19 22.6**	**-0.5**
EAG2	**Marmaro, Chios**	**0.38**	**192**	P	**Pn**	**04 19 21.3**	**-1.2**
SIGR	**SIGRI**	**0.40**	**317**	Pg	**Pb**	**04 19 20.9**	**+0.5**
SIGR				Sg	**Sb**	**04 19 26.7**	**+0.3**
SIGR	**SIGRI**	**0.40**	**317**	P	**Pb**	**04 19 20.8**	**+0.3**
SIGR				S	**Sb**	**04 19 26.7**	**+0.3**
	340nm,0.4s						
SIGR	**SIGRI**	**0.40**	**317**	P	**Pb**	**04 19 20.9**	**+0.5**
SIGR				S	**Sb**	**04 19 27.0**	**+0.5**
SIGR				AML	AML	04 19 27.3	
	comp=E,759μm,0.4s						
SIGR				AML	AML	04 19 31.7	
	comp=N,592μm,0.4s						
RFT5	**Foca**	**0.49**	**122**	Pg	**Pb**	**04 19 22.1**	**+0.2**
RFT5				Sg	**Sb**	**04 19 29.1**	**+0.2**
AYVA	**Ayvalik**	**0.54**	**43**	P	**Pg**	**04 19 21.9**	**-0.3**
GPNR	**Gulpinar-Canak**	**0.54**	**353**	Pg	**Pb**	**04 19 23.0**	**+0.2**
GPNR				Sg	**Sb**	**04 19 30.7**	**+0.3**
CHOS	**Chios island**	**0.55**	**193**	P	**Pn**	**04 19 24.2**	**-0.7**
CHOS				S	**Sn**	**04 19 33.1**	**-0.7**
	comp=N,165nm,0.2s						
CHOS	**Chios island**	**0.55**	**193**	P	**Pn**	**04 19 24.1**	**-0.7**
CHOS				AML	AML	04 19 36.7	
	comp=E,388μm,0.3s						
CHOS				AML	AML	04 19 39.0	
	comp=N,272μm,0.3s						
RFT7	**Candarli**	**0.55**	**86**	Pg	**Pg**	**04 19 22.6**	**+0.1**
DKL	**Dikili**	**0.56**	**74**	Pg	**Pg**	**04 19 23.1**	**+0.5**
DKL				Sg	**Sg**	**04 19 30.7**	**+0.6**
KOCA	**Canakkale, Ayv**	**0.59**	**354**	P	**Pg**	**04 19 23.2**	**0.0**
PSRA	**Psara**	**0.63**	**234**	P	**Pn**	**04 19 26.2**	**+0.2**
URLA	**Izmir**	**0.63**	**152**	Pg	**Pb**	**04 19 24.6**	**+0.2**
URLA	**Izmir**	**0.63**	**152**	P	**Pn**	**04 19 25.4**	**-0.7**
URLA				S	**Sb**	**04 19 33.4**	**+0.4**
URLA				*i* AML	AML	04 19 38.0	
	comp=N,221nm,0.4s						
URLA				*i* AML	AML	04 19 38.0	
	comp=N,156nm,0.3s						
RFT1	**Sazli**	**0.64**	**16**	Pg	**Pg**	**04 19 24.5**	**+0.4**
RFT1				Sg	**Sb**	**04 19 33.5**	**+0.3**
ZEDA	**zmir-Bergama**	**0.68**	**86**	P	**Pb**	**04 19 24.2**	**-0.9**
RFT2	**Karaagac**	**0.71**	**45**	Pg	**Pb**	**04 19 25.3**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**0.71**	**161**	P	**Pn**	**04 19 26.5**	**-0.7**
ZEYE				S	**Sn**	**04 19 38.2**	**+0.4**
ZEYE				*i* AML	AML	04 19 39.0	
	comp=N,300nm,0.4s						
ZEYE				*i* AML	AML	04 19 40.0	
	comp=N,155nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.86**	**17**	P	**Pg**	**04 19 28.5**	**+0.1**
BAYC				S	**Sg**	**04 19 40.5**	**+0.8**
BAYC				*i* AML	AML	04 19 43.0	
	comp=N,119nm,0.2s						
BUHA	**Balikesir, Bur**	**0.89**	**49**	P	**Pb**	**04 19 28.4**	**-0.3**
BUHA				S	**Sb**	**04 19 40.5**	**+0.1**
BUHA				*i* AML	AML	04 19 46.0	
	comp=N,102nm,0.6s						
EZN	**Ezine**	**0.91**	**5**	Pg	**Pn**	**04 19 29.9**	**0.0**
BOZC	**Bozcaada**	**0.93**	**352**	Pg	**Pn**	**04 19 30.1**	**-0.1**
BOZC				Sg	**Sn**	**04 19 43.2**	**0.0**
BOZC	**Bozcaada**	**0.93**	**352**	P	**Pb**	**04 19 29.1**	**-0.3**
BOZC				S	**Sg**	**04 19 42.1**	**+0.3**
BOZC				*i* AML	AML	04 19 44.0	
	comp=N,80nm,0.2s						
BOZC				*i* AML	AML	04 19 44.0	
	comp=N,102nm,0.3s						
DGB	**zmir**	**1.01**	**149**	P	**Pg**	**04 19 31.3**	**+0.2**
DGB				S	**Sg**	**04 19 44.9**	**+0.5**
CNKL	**anakkale-Mer**	**1.15**	**7**	P	**Pb**	**04 19 33.4**	**+0.2**
CNKL				P	**Pg**	**04 19 33.8**	**0.0**
CNKL				S	**Sg**	**04 19 49.2**	**+0.2**
CNKL				*i* AML	AML	04 19 50.0	
	comp=N,66nm,0.3s						
CNKL				*i* AML	AML	04 19 53.0	
	comp=N,78nm,0.4s						
COMU	**Canakkale**	**1.20**	**10**	Pn	**Pg**	**04 19 34.9**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.26**	**68**	P	**Pb**	**04 19 35.4**	**+0.4**
STEP				S	**Sb**	**04 19 51.3**	**+0.2**
STEP				*i* AML	AML	04 19 52.0	
	comp=N,69nm,0.4s						
LIA	**Limnos Island**	**1.26**	**321**	P	**Pg**	**04 19 35.7**	**-0.2**
LIA				S	**Sn**	**04 19 50.9**	**-0.5**
CANM	**Can-anakkale**	**1.27**	**31**	Pn	**Pg**	**04 19 36.2**	**+0.1**
GOKA	**anakkale-Gk**	**1.29**	**350**	P	**Pn**	**04 19 34.6**	**-0.5**
GOKA				S	**Sg**	**04 19 52.8**	**-0.5**
GOKA				*i* AML	AML	04 19 55.0	
	comp=N,107nm,0.3s						
SMG	**Samos**	**1.30**	**158**	P	**Pn**	**04 19 35.3**	**0.0**
SMG				S	**Sb**	**04 19 53.1**	**+0.8**
SMG				AML	AML	04 19 59.3	
	comp=E,192μm,0.3s						
SMG				AML	AML	04 19 59.3	
	comp=N,257μm,0.3s						
BALY	**Balya**	**1.36**	**53**	P	**Pb**	**04 19 37.6**	**+0.7**
BKES	**Balkesir-Mer**	**1.56**	**58**	P	**Pb**	**04 19 40.0**	**-0.2**
GONE	**Gonen-Balikesi**	**1.60**	**45**	Pn	**Pb**	**04 19 41.4**	**+0.5**
SMTH	**Samothraki Isl**	**1.64**	**341**	P	**Pb**	**04 19 41.0**	**-0.5**
ALN	**Alexandroupoli**	**1.98**	**356**	P	**Pn**	**04 19 45.5**	**+0.9**

*SOF **04** 04:23:26.7, 41°.82N×22°.78E, h8km, MD2.6*
*SKO **04** 04:23:27.9, 41°.80N×22°.82E, h13km, ML2.4*
*THE **04** 04:23:29.7, 41°.74N×22°.87E, h7km±2km, ML2.5/6, Error ellipse: s-maj=2.2km s-min=1.0km az=169.0*
*BEO **04** 04:23:29.2±0.3, 41°.80N×22°.81E, h9km±7km, ML2.4/9*
*ATH **04** 04:23:29.5, 41°.74N×22°.87E, h8km±1km, ML2.4/11, Error ellipse: s-maj=3.1km s-min=1.4km az=169.0*
*ISK **04** 04:23:30.2, 41°.67N×22°.78E, h8km, ML2.7/10*
ISC 04 04:23:27.0±1.1, 41°.78N±0°.02×22°.75E±0°.02, h5km±9km, n73, σ0°82/116, 14C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.29**	**77**	⇓*i*Pg	**Pg**	**04 23 32.8**	**+0.2**
KKB				*i* Sg	**Sg**	**04 23 35.9**	**-0.5**
KKB	**Krupnik**	**0.29**	**77**	P	**Pg**	**04 23 32.7**	**+0.1**
STIP	**Stip**	**0.43**	**259**	⇑*i*Pg	**Pg**	**04 23 34.3**	**-1.1**
STIP				*i* Sg	**Sg**	**04 23 39.3**	**-1.8**
VAY	**Valandovo**	**0.48**	**197**	*e*Pg	**Pn**	**04 23 39.5**	**-1.0**
VAY				*e*Sg	**Sb**	**04 23 46.7**	**+1.5**
VAY	**Valandovo**	**0.48**	**197**	*e*Pg	**Pn**	**04 23 38.4**	**-2.0**
VAY				*i* Sg	**Sb**	**04 23 46.2**	**+1.0**
VAY				*e*Lg	Lg	04 23 47.2	
	comp=N,304nm,0.3s						
VAY				*e*Lg	Lg	04 23 47.5	
	comp=E,709nm,1.1s						
KNT	**Kendrikon**	**0.62**	**170**	Pg	**Pb**	**04 23 40.7**	**+0.3**
KNT				Sg	**Sb**	**04 23 48.2**	**-1.3**
KNT	**Kendrikon**	**0.62**	**170**	P	**Pb**	**04 23 40.6**	**+0.2**
KNT				S	**Sb**	**04 23 49.4**	**0.0**
	comp=E,348nm,0.2s						
KNT	**Kendrikon**	**0.62**	**170**	⇑*i*Pg	**Pb**	**04 23 40.6**	**+0.2**
KNT				*i* Sg	**Sb**	**04 23 49.5**	**0.0**
KNT	**Kendrikon**	**0.62**	**170**	P	**Pb**	**04 23 40.6**	**+0.2**
KNT				S	**Sb**	**04 23 48.7**	**-0.7**
KNT				AML	AML	04 23 49.8	
	comp=N,1105μm,0.2s						
KNT				AML	AML	04 23 51.7	
	comp=E,1033μm,0.3s						
BOSS	**Bosilegrad**	**0.75**	**344**	*e*Pg	**Pb**	**04 23 42.6**	**+0.1**
BOSS				*e*Sg	**Sb**	**04 23 53.2**	**+0.2**
MMB	**Musomishta**	**0.78**	**107**	⇑*i*Pg	**Pg**	**04 23 42.1**	**+0.1**
MMB				*i* Sg	**Sg**	**04 23 51.6**	**-0.5**
MMB	**Musomishta**	**0.78**	**107**	P	**Pg**	**04 23 42.0**	**0.0**
PLNA	**Plana**	**0.86**	**35**	P	**Pg**	**04 23 43.0**	**-0.5**
GRG	**Griva**	**0.86**	**198**	Pg	**Pn**	**04 23 45.2**	**-0.6**
GRG				Sg	**Sn**	**04 23 56.7**	**-2.1**
GRG	**Griva**	**0.86**	**198**	⇑*i*Pg	**Pn**	**04 23 45.4**	**-0.4**
GRG				*i* Sg	**Sn**	**04 23 57.5**	**-1.3**
GRG	**Griva**	**0.86**	**198**	P	**Pn**	**04 23 44.7**	**-1.1**
GRG				S	**Sn**	**04 23 58.1**	**-0.7**
GRG				AML	AML	04 24 00.0	
	comp=N,306μm,0.4s						
GRG				AML	AML	04 24 02.3	
	comp=E,352μm,0.5s						
PRVS	**Prvonek**	**0.89**	**326**	*e*Pg	**Pn**	**04 23 45.5**	**-0.7**
PRVS				*e*Sg	**Sn**	**04 23 58.8**	**-0.7**
SRS	**Serrai**	**0.91**	**136**	P	**Pg**	**04 23 44.7**	**+0.2**
SRS				S	**Sg**	**04 23 57.4**	**+1.1**
	comp=E,255nm,0.2s						
SRS	**Serrai**	**0.91**	**136**	*e*Pg	**Pg**	**04 23 44.9**	**+0.3**
SRS				*e*Sg	**Sn**	**04 23 59.4**	**-0.6**
SRS	**Serrai**	**0.91**	**136**	⇑*i*Pg	**Pg**	**04 23 44.8**	**+0.3**
SRS				*i* Sg	**Sb**	**04 23 58.2**	**+0.5**
SRS	**Serrai**	**0.91**	**136**	P	**Pg**	**04 23 44.8**	**+0.3**
SRS				S	**Sg**	**04 23 56.1**	**-0.3**
SRS				AML	AML	04 24 01.7	
	comp=E,497μm,0.3s						
SRS				AML	AML	04 24 01.8	
	comp=N,556μm,0.4s						
VTS	**Vitosha**	**0.91**	**23**	⇓P	**Pg**	**04 23 45.1**	**+0.6**
VTS				⇑S	**Sg**	**04 23 56.5**	**+0.1**
VTS	**Vitosha**	**0.91**	**23**	*e*Pg	**Pg**	**04 23 43.9**	**-0.7**
VTS				*e*Sg	**Sg**	**04 23 55.6**	**-0.8**
VTS	**Vitosha**	**0.91**	**23**	P	**Pg**	**04 23 43.8**	**-0.8**
NVR	**Nevrokopi**	**0.94**	**117**	P	**Pb**	**04 23 45.9**	**+0.2**
NVR				S	**Sg**	**04 23 57.9**	**+0.8**
	comp=N,280nm,0.1s						
NVR	**Nevrokopi**	**0.94**	**117**	P	**Pb**	**04 23 46.1**	**+0.4**
NVR				S	**Sg**	**04 23 56.9**	**-0.2**
NVR				AML	AML	04 23 59.5	
	comp=E,586μm,0.2s						
NVR				AML	AML	04 24 02.5	
	comp=N,523μm,0.1s						
SKO	**Skopje**	**1.00**	**282**	*e*Pg	**Pn**	**04 23 47.1**	**-0.6**
SKO				*i* Sg	**Sn**	**04 24 02.1**	**-0.1**
SOH	**Sokhos**	**1.06**	**154**	P	**Pn**	**04 23 48.1**	**-0.4**
SOH				S	**Sb**	**04 24 02.3**	**+0.4**
	comp=N,440nm,0.5s						
SOH	**Sokhos**	**1.06**	**154**	⇑*i*Pg	**Pn**	**04 23 48.1**	**-0.4**
SOH				*i* Sg	**Sn**	**04 24 02.7**	**-0.9**
SOH	**Sokhos**	**1.06**	**154**	P	**Pn**	**04 23 48.1**	**-0.4**
SOH				S	**Sb**	**04 24 01.4**	**-0.5**
SOH				AML	AML	04 24 05.9	
	comp=N,1266μm,0.6s						
SOH				AML	AML	04 24 06.2	
	comp=E,935μm,0.4s						
THE	**Thessaloniki**	**1.16**	**172**	⇓*i*Pg	**Pn**	**04 23 50.5**	**+0.7**
THE				*i* Sg	**Sn**	**04 24 05.5**	**-0.4**
THE	**Thessaloniki**	**1.16**	**172**	P	**Pn**	**04 23 50.3**	**+0.5**
THE				AML	AML	04 24 06.4	
	comp=E,421μm,0.3s						
THE				AML	AML	04 24 07.2	
	comp=N,292μm,0.4s						
HORT	**Hortiatis**	**1.21**	**167**	Pn	**Pn**	**04 23 51.4**	**+0.8**
HORT				Sn	**Sn**	**04 24 07.0**	**-0.4**
HORT	**Hortiatis**	**1.21**	**167**	P	**Pn**	**04 23 51.0**	**+0.3**
HORT				AML	AML	04 24 10.7	
	comp=E,200μm,0.4s						
HORT				AML	AML	04 24 11.9	
	comp=N,226μm,0.5s						
BARS	**Barje**	**1.25**	**326**	*e*Pg	**Pn**	**04 23 52.1**	**+0.9**
BARS				*e*Sg	**Sn**	**04 24 08.8**	**+0.4**
BARS	**Barje**	**1.25**	**326**	⇑*i*Pg	**Pn**	**04 23 52.0**	**+0.9**
BARS				*i* Sg	**Sn**	**04 24 08.9**	**+0.6**
PGB	**Panagyurishte**	**1.29**	**55**	P	**Pn**	**04 23 51.5**	**-0.2**
KOKK	**Kokkinochori,**	**1.34**	**135**	P	**Pn**	**04 23 52.4**	**0.0**
KOKK				S	**Sg**	**04 24 10.8**	**+0.7**
	comp=N,82nm,0.5s						
KOKK	**Kokkinochori,**	**1.34**	**135**	P	**Pn**	**04 23 52.3**	**0.0**
KOKK				S	**Sb**	**04 24 09.3**	**-0.8**
FNA	**Florina**	**1.44**	**227**	Pn	**Pg**	**04 23 55.9**	**+1.3**
FNA	**Florina**	**1.44**	**227**	*e*Pg	**Pg**	**04 23 55.9**	**+1.3**
FNA				*e*Sg	**Sn**	**04 24 14.9**	**+1.9**
FNA	**Florina**	**1.44**	**227**	*i* Pn	**Pg**	**04 23 56.1**	**+1.5**
FNA	**Florina**	**1.44**	**227**	P	**Pg**	**04 23 55.8**	**+1.3**
FNA				AML	AML	04 24 23.5	
	comp=N,72μm,0.6s						
FNA				AML	AML	04 24 32.4	
	comp=E,50μm,0.9s						
KVLA	**Kavala**	**1.49**	**124**	P	**Pn**	**04 23 54.8**	**+0.4**
RZN	**Rozhen**	**1.49**	**93**	P	**Pn**	**04 23 54.5**	**-0.1**
ZAPS	**Zavoj**	**1.50**	**357**	*e*Pg	**Pg**	**04 23 56.2**	**+0.5**
ZAPS				*e*Sg	**Sg**	**04 24 16.3**	**+1.1**
PLD	**Plovdiv**	**1.53**	**75**	Pn	**Pg**	**04 23 58.3**	**+1.9**
PLD	**Plovdiv**	**1.53**	**75**	*e*Pg	**Pn**	**04 23 55.6**	**+0.6**
PLD				*e*Sg	**Sn**	**04 24 14.2**	**-1.1**
PLD	**Plovdiv**	**1.53**	**75**	*i* Pg	**Pn**	**04 23 55.3**	**+0.3**
PLD				*i* Sg	**Sn**	**04 24 14.5**	**-0.8**
KAVA	**Kavala**	**1.54**	**120**	P	**Pn**	**04 23 55.3**	**+0.2**
KAVA				S	**Sn**	**04 24 15.6**	**+0.2**
	comp=E,360nm,0.3s						
KAVA	**Kavala**	**1.54**	**120**	P	**Pn**	**04 23 55.3**	**+0.2**
KAVA				S	**Sn**	**04 24 14.8**	**-0.6**
OHR	**Ohrid**	**1.61**	**246**	*i* Pn	**Pg**	**04 23 59.7**	**+1.8**
OHR				*i* Sn	**Sg**	**04 24 20.3**	**+1.4**
OHR				*e*Lg	Lg	04 24 25.9	
	comp=N,14nm,0.5s						
OHR				*e*Lg	Lg	04 24 27.3	
	comp=E,18nm,0.5s						
OUR	**Ouranopolis**	**1.71**	**147**	Pn	**Pb**	**04 23 59.1**	**+0.1**
OUR	**Ouranopolis**	**1.71**	**147**	P	**Pb**	**04 23 58.1**	**-0.9**
BLKB	**Belogradchik**	**1.84**	**358**	⇑S	**Sn**	**04 24 24.4**	**+1.2**
NEST	**Nestorio**	**1.87**	**224**	P	**Pg**	**04 24 01.5**	**-1.4**
THAS	**Thassos island**	**1.89**	**128**	P	**Pn**	**04 23 59.6**	**-0.3**
THAS				AML	AML	04 24 28.3	
	comp=E,203μm,0.4s						
THAS				AML	AML	04 24 28.9	
	comp=N,178μm,0.3s						
KDZ	**Kurdzhali**	**1.94**	**93**	Pn

MJAR S **S** **05 16 33.6 -3.3**
comp=Z,4.0nm,1.0s,baz=170,slow=17,SNR=4.0
MANU Manus Island 20.33 175 P **P** **05 13 19.6 -1.4**
JAY Jayapura 21.29 194 P **P** **05 13 31.4 +0.2**
comp=Z,45nm,0.9s,comp=Z,587nm
JAY Jayapura 21.29 194 P **P** **05 13 31.0 -0.1**
comp=Z,46nm,0.9s,baz=31,slow=4.4,SNR=7.1
comp=Z,46nm,0.9s
YULB Yu-li 23.29 287 P **P** **05 13 50.3 +0.3**
YULB IAmb IAmb 05 14 18.8
comp=Z,59nm,1.5s
YULB Yu-li 23.29 287 P **P** **05 13 52.8 +2.8**
comp=Z,17nm,1.3s
TWGBT Beinan 23.42 285 P **P** **05 13 53.3 +2.2**
comp=Z,36nm,1.6s
YHNB Yeheng 23.43 290 P **P** **05 13 52.3 +1.1**
YHNB Yeheng 23.43 290 P **P** **05 13 54.0 +2.7**
comp=Z,49nm,2.6s
SSLB Suanglung 23.66 287 P **P** **05 13 53.2 -0.1**
SSLB IAmb IAmb 05 14 07.6
comp=Z,18nm,0.7s
KSRS Korea Array 24.57 324 P **P** **05 14 01.4 0.0**
comp=Z,0.8nm,0.5s,baz=146,slow=9.2,SNR=6.8
KSRS pP **pP** **05 14 38.3 -1.0**
comp=Z,4.5nm,0.8s,baz=147,slow=9.4,SNR=5.9
comp=Z,0.8nm,0.5s
FAKI Fak Fak 24.92 213 P **P** **05 14 05.3 +0.5**
FAKI Fak Fak 24.92 213 P **P** **05 14 05.4 +0.6**
comp=Z,62nm,0.7s,comp=Z,658nm
ASAJ Asahikawa 25.82 355 P **P** **05 14 14.8 +2.2**
comp=Z,10nm,0.7s,baz=214,slow=7.3,SNR=3.3
PMG Port Moresby 27.62 177 P **P** **05 14 26.9 -2.1**
NJ2 Nanjing 27.73 305 *e*P **P** **05 14 31.0 +1.2**
NJ2 pP **pP** **05 15 05.5 -3.7**
NJ2 sP **sP** **05 15 25.0 -7.0**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,150nm,4.7s
MRSI Marisa 29.29 235 P **P** **05 14 44.0 +0.2**
comp=Z,31nm,1.1s
MDJ Mudanjiang 29.44 336 P **P** **05 14 42.5 -2.3**
MDJ pP pP 05 15 18.9 -5.7
MDJ sP sP 05 15 38.9 -8.4
MDJ PP **PnPn** **05 15 48.6 -0.8**
MDJ PcP **PcP** **05 17 43.1 -2.3**
MDJ S **S** **05 19 27.1 +3.1**
MDJ sS sS 05 20 31.1 -4.0
MDJ SS **SS** **05 21 43.3 +5.2**
MDJ pmax pmax
comp=Z,9.0nm,2.1s
MDJ pmax pmax
comp=Z,150nm,4.1s
MYLDM Lahad Datu 29.56 247 P **P** **05 14 46.7 +0.5**
MYLDM IAmb IAmb 05 14 49.6
comp=Z,11nm,0.6s
KKM Kota Kinabalu 31.20 251 P **P** **05 15 00.8 +0.1**
COEN Coen 32.19 185 P **P** **05 15 09.7 +0.5**
comp=Z,22nm,0.9s
KLR Kul'dur 32.79 343 P **P** **05 15 13.3 -0.7**
comp=Z,2.8nm,0.6s,baz=141,slow=9.3,SNR=8.5
comp=Z,2.8nm,0.6s
HNS HongShan 33.07 311 ⇓P **P** **05 15 19.9 +3.2**
TTSI Tana Toraja 33.15 233 P **P** **05 15 18.7 +1.1**
comp=Z,63nm,0.9s
LYN LuoYang 33.62 305 *e*P **P** **05 15 22.8 +1.3**
LYN pmax pmax
comp=Z,9.0nm,1.4s
MTN Manton Dam 34.14 206 P **P** **05 15 25.5 -0.6**
SOEI Soe 35.00 219 P **P** **05 15 31.8 -1.8**
SOEI Soe 35.00 219 P **P** **05 15 35.2 +1.5**
comp=Z,30nm,0.7s
SOEI Soe 35.00 219 P **P** **05 15 32.1 -1.6**
comp=Z,24nm,1.2s
XLT XiLinHaoTe 35.58 322 *e*P **P** **05 15 40.5 +2.3**
XLT pmax pmax
comp=Z,5.0nm,1.1s
XLT pmax pmax
comp=Z,100nm,4.2s
PETK Petropavlovsk- 35.94 12 P **P** **05 15 41.9 +0.8**
comp=Z,3.7nm,0.7s,baz=216,slow=10.0,SNR=6.3
PETK LR LR 05 28 16.0
comp=Z,14nm,21.8s,baz=282,slow=32
comp=Z,3.7nm,0.7s
SBUM Sibu 36.37 248 P **P** **05 15 45.6 +0.4**
SBUM IAmb IAmb 05 15 47.7
comp=Z,20nm,1.2s
HHC Hu-ho-hao-te 36.81 315 *e*P **P** **05 15 49.1 +0.3**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,190nm,5.7s
KNRA Kununurra 37.68 207 P **P** **05 15 56.7 +0.6**
KNRA Kununurra 37.68 207 P **P** **05 15 56.9 +0.8**
comp=Z,80nm,0.8s
BTO Baotou 37.76 314 *e*P **P** **05 15 59.4 +2.7**
BTO pP **pP** **05 16 37.2 -0.3**
BTO sP **sP** **05 16 57.1 -2.7**
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,190nm,4.8s
CTAO Charters Tower 38.20 179 P **P** **05 15 60.0 -0.5**
CTAO IAmb IAmb 05 16 01.3
comp=Z,18nm,1.4s
CTAO **S** **05 21 40.1 +1.0**
PLAI Plampang 38.55 228 P **P** **05 16 04.3 +0.9**
comp=Z,19nm,0.9s
TWSI Taliwang, Sumb 39.12 229 P **P** **05 16 07.3 -0.9**
comp=Z,57nm,0.8s,comp=Z,801nm
WB0 Warramunga Arr 39.45 197 P **P** **05 16 10.9 0.0**
WR0 Warramunga Arr 39.60 197 P **P** **05 16 12.3 +0.3**
WRAB Tennant Creek 39.62 197 P **P** **05 16 12.6 +0.3**
comp=Z,77nm,1.1s
WB2 Warramunga Arr 39.63 197 P **P** **05 16 12.4 0.0**
WRA Warramunga Arr 39.64 197 P **P** **05 16 12.6 +0.2**
comp=Z,46nm,0.9s,baz=18,slow=9.0,SNR=96
WRA PcP **PcP** **05 18 15.0 -0.3**
comp=Z,1.3nm,0.6s,baz=14,slow=3.4,SNR=2.4
WRA ScP **ScP** **05 21 44.8 -0.3**
comp=Z,2.1nm,0.8s,baz=19,slow=4.2,SNR=10.0
LZH Lanzhou 40.80 304 *e*P **P** **05 16 21.8 -0.3**
LZH pP pP 05 16 58.9 -4.6
LZH sP sP 05 17 20.9 -4.9
LZH pmax pmax
comp=Z,12nm,1.1s
PZH PanZhiHua 41.23 289 P **P** **05 16 26.7 +1.1**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.6s
PWJI Pagerwojo 42.45 235 P **P** **05 16 36.1 +0.7**
comp=Z,37nm,1.0s,comp=Z,4μm
AS31 Alice Springs 43.30 196 P **P** **05 16 41.9 -0.2**
AS31 IAmb IAmb 05 16 45.6
comp=Z,8.2nm,0.4s
ASAR Alice Springs 43.30 196 P **P** **05 16 41.6 -0.5**
ASAR Alice Springs 43.30 196 P **P** **05 16 42.5 +0.4**
comp=Z,10nm,0.7s,baz=22,slow=8.6,SNR=75
ASAR ScP **ScP** **05 21 58.9 -0.8**
comp=Z,1.2nm,0.8s,baz=16,slow=4.7,SNR=7.1
comp=Z,10nm,0.7s
UGM Wanagama 43.39 236 P **P** **05 16 43.4 +0.4**
UGM Wanagama 43.39 236 P **P** **05 16 43.7 +0.7**
comp=Z,89nm,1.5s
SONM Songino Array 43.39 322 P **P** **05 16 42.8 0.0**
SONM Songino Array 43.39 322 P **P** **05 16 41.3 -1.4**
comp=Z,1.1nm,0.7s,baz=138,slow=9.3,SNR=4.6
comp=Z,1.1nm,0.7s
EIDS Eidsvold 43.77 173 P **P** **05 16 46.9 +1.1**
EIDS IAmb IAmb 05 17 25.1
comp=Z,16nm,1.4s
TNCH TengChong 44.12 287 P **P** **05 16 49.6 +0.6**
TNCH pmax pmax
comp=Z,24nm,0.5s
CMAR Chiang Mai Arr 44.22 278 P **P** **05 16 50.6 +1.0**
comp=Z,2.0nm,0.3s,baz=69,slow=7.1,SNR=4.4
comp=Z,2.0nm,0.3s
KPJI Karang Pucung 44.31 238 P **P** **05 16 49.9 -0.4**
comp=Z,42nm,1.3s
SRDT SRDT 44.73 272 P **P** **05 16 56.1 +2.4**
comp=Z,16nm,0.8s
SEY Seymchan 44.79 4 P **P** **05 16 54.2 +0.8**
comp=Z,3.8nm,0.4s,baz=172,slow=7.1,SNR=3.0
comp=Z,3.8nm,0.4s
DZM Mont Dzumac 45.03 152 P **P** **05 16 56.2 +0.3**

DZM IAmb IAmb 05 16 58.3
comp=Z,36nm,1.2s
BBJI Bungbulang 45.42 239 P **P** **05 17 01.1 +1.9**
comp=Z,43nm,1.5s
OUENC Ouen Island, N 45.51 152 P **P** **05 17 00.2 +0.7**
OUENC IAmb IAmb 05 17 03.7
comp=Z,24nm,0.8s
KULM Kulim 45.78 259 P **P** **05 17 03.5 +1.6**
KULM IAmb IAmb 05 17 05.0
comp=Z,26nm,0.7s
PINNC Pines Island, 45.95 151 P **P** **05 17 03.3 +0.3**
WRKA Warakurna 46.31 202 P **P** **05 17 06.6 +0.7**
comp=Z,97nm,0.8s
MBWA Marble Bar 46.76 214 P **P** **05 17 10.2 +0.9**
MBWA IAmb IAmb 05 17 10.7
comp=Z,21nm,0.6s
MBWA Marble Bar 46.76 214 P **P** **05 17 10.2 +0.9**
comp=Z,23nm,0.7s
PSA00 Pilbara Seismi 47.03 214 P **P** **05 17 12.0 +0.5**
PSA00 IAmb IAmb 05 17 13.0
comp=Z,20nm,0.9s
PSA00 Pilbara Seismi 47.03 214 IAmb IAmb 05 17 12.5
comp=Z,7.8nm,0.8s
SDSI Sungai Dareh 47.50 251 P **P** **05 17 15.5 +0.2**
comp=Z,10nm,0.9s
RPSI Rantau Prapat 48.32 257 P **P** **05 17 22.6 +1.1**
RPSI IAmb IAmb 05 17 24.0
comp=Z,23nm,0.9s
LCRK Leigh Creek 49.04 189 P **P** **05 17 27.0 +0.4**
comp=Z,26nm,1.0s
NIKH Nikolski High 49.32 35 P **P** **05 17 29.0 +0.4**
baz=243
CMSA Cobar Meteorol 49.60 180 P **P** **05 17 31.3 +0.4**
MULG Mulgathing 49.62 193 P **P** **05 17 31.7 +0.6**
comp=Z,24nm,0.7s
SISI Saibi 49.78 252 P **P** **05 17 32.9 +0.3**
comp=Z,57nm,0.6s
STKA Stephens Creek 50.09 184 P **P** **05 17 34.3 -0.2**
STKA Stephens Creek 50.09 184 P **P** **05 17 34.8 +0.2**
comp=Z,2.1nm,1.3s
STKA Stephens Creek 50.09 184 P **P** **05 17 34.4 -0.2**
comp=Z,4.3nm,0.4s,baz=1.3,slow=7.7,SNR=15
comp=Z,4.3nm,0.4s
GSI Gunungsitoli 50.09 256 P **P** **05 17 36.2 +1.2**
GSI Gunungsitoli 50.09 256 P **P** **05 17 38.1 +3.1**
comp=Z,97nm,0.9s
GSI Gunungsitoli 50.09 256 P **P** **05 17 35.6 +0.6**
UNV Unalaska Valle 50.97 34 P **P** **05 17 41.4 +0.5**
baz=245
BBOO Buckdeboo 51.69 190 P **P** **05 17 47.4 +0.9**
comp=Z,15nm,1.5s
FORT Forrest 51.69 199 P **P** **05 17 47.3 +0.8**
comp=Z,56nm,1.0s
MEEK Meekatharra 51.85 211 P **P** **05 17 48.3 +0.4**
comp=Z,14nm,0.6s
HTT Hallett 51.88 187 P **P** **05 17 48.6 +0.6**
comp=Z,15nm,1.5s
FALS False Pass 53.03 34 P **P** **05 17 57.2 +1.1**
baz=247
M11K Mekoryuk 54.11 27 P **P** **05 18 04.8 +1.0**
baz=241
WMQ Urumqi 54.50 311 *e*P **P** **05 18 09.9 +2.8**
SDPT Sand Point 54.79 34 P **P** **05 18 09.4 +0.6**
baz=250
MORW Morawa 55.13 212 P **P** **05 18 12.2 +0.6**
M13K Dall Lake 55.37 28 P **P** **05 18 14.6 +1.7**
baz=244
K13K Kusilvak Mount 55.51 26 P **P** **05 18 15.1 +1.3**
baz=241
S14K Fog Glacier 55.60 34 P **P** **05 18 15.4 +0.7**
baz=250
O14K Tigyukauivet M 55.84 30 P **P** **05 18 17.3 +1.1**
baz=246
N14K Kuskokwak Cree 55.92 29 P **P** **05 18 18.1 +1.4**
baz=246,SNR=5.0
L14K Kuka Creek 56.08 27 P **P** **05 18 19.5 +1.6**
baz=244
M14K Bethel 56.14 28 P **P** **05 18 20.1 +1.8**
baz=245,SNR=5.9
CHGN Chignik 56.20 34 P **P** **05 18 19.5 +0.6**
baz=251
J14K Nanvaranak Lak 56.35 25 P **P** **05 18 21.3 +1.5**
baz=242
O15K Ungalikthiuk R 56.49 30 P **P** **05 18 22.1 +1.2**
baz=248,SNR=8.6
F14K Arctic Creek 56.67 22 P **P** **05 18 23.6 +1.5**
baz=238
M15K Kasigluk River 56.68 28 P **P** **05 18 23.3 +1.1**
baz=246
N15K Kwethluk River 56.75 29 P **P** **05 18 23.9 +1.2**
baz=247,SNR=8.5
K15K Wolf Creek Mou 56.98 26 P **P** **05 18 25.5 +1.1**
baz=244
P16K Nushagak River 57.33 31 P **P** **05 18 27.8 +1.1**
baz=250
F15K North Star Dit 57.39 22 P **P** **05 18 28.4 +1.3**
baz=239
O16K Kokwok River B 57.47 30 P **P** **05 18 29.3 +1.5**
baz=249
N16K Nishlik Lake 57.47 29 P **P** **05 18 29.2 +1.5**
baz=248,SNR=6.8
CHIR Chirikof Islan 57.55 35 P **P** **05 18 29.4 +1.1**
baz=254
M16K Timber Creek 57.59 28 P **P** **05 18 29.8 +1.2**
baz=248
L16K Owhat River 57.63 27 P **P** **05 18 29.6 +0.9**
baz=247
R17K Ugashik Creek 57.67 33 P **P** **05 18 29.9 +0.8**
baz=252
H16K Elim 57.75 24 P **P** **05 18 30.4 +0.8**
baz=242
NWAO Narrogin (SRO) 57.77 208 P **P** **05 18 31.0 +0.8**
NWAO Narrogin (SRO) 57.77 208 IAmb IAmb 05 18 31.4
comp=Z,151nm,0.8s
J16K Anvik River 57.80 26 P **P** **05 18 31.0 +1.1**
baz=245
O17K Koliganek Bris 58.01 30 P **P** **05 18 32.6 +1.1**
baz=250,SNR=8.9
I17K Unalakleet 58.02 25 P **P** **05 18 32.8 +1.3**
baz=244
G16K Koyuk River 58.06 23 P **P** **05 18 32.7 +0.9**
baz=242
Q17K Contact Creek 58.12 32 P **P** **05 18 32.9 +0.5**
baz=252
N17K Nushagak Hills 58.22 29 P **P** **05 18 34.2 +1.2**
baz=250,SNR=5.7
ZALV Zalesovo Beam 58.27 323 P **P** **05 18 32.9 -0.5**
comp=Z,0.9nm,0.4s,baz=106,slow=9.4,SNR=3.9
comp=Z,0.9nm,0.4s
L17K Donlin 58.31 27 P **P** **05 18 34.9 +1.3**
baz=248
M17K Holitna River 58.42 28 P **P** **05 18 35.6 +1.3**
baz=249
J17K VABM Dome 58.47 26 P **P** **05 18 36.2 +1.6**
baz=246
C16K Lisburne Hills 58.51 19 P **P** **05 18 36.2 +1.4**
baz=237
SII Sitkinak Islan 58.52 34 P **P** **05 18 36.3 +1.2**
baz=255
K17K Iditarod 58.53 27 P **P** **05 18 36.5 +1.5**
baz=247,SNR=6.5
R18K Karluk 58.65 33 P **P** **05 18 36.8 +0.9**
baz=254
MK31 Makanchi Array 58.67 314 P **P** **05 18 37.7 +1.3**
MKAR Makanchi Array 58.67 314 P **P** **05 18 35.9 -0.5**
comp=Z,1.0nm,0.5s,baz=97,slow=7.4,SNR=11
MKAR pP **pP** **05 19 21.4 +0.7**
comp=Z,2.2nm,0.7s,baz=84,slow=8.9,SNR=5.9
comp=Z,1.0nm,0.5s
Q18K Katmai Hardscr 58.67 32 P **P** **05 18 36.9 +0.6**
baz=253
G17K Kiwalik Mounta 58.75 23 P **P** **05 18 37.7 +1.2**
baz=243
H17K Granite Mounta 58.78 24 P **P** **05 18 38.0 +1.3**
baz=244
N18K Kilae Creek 58.88 29 P **P** **05 18 39.0 +1.5**
baz=251
MAKZ Makanchi 58.89 314 P **P** **05 18 37.5 -0.3**
D17K Noatak River 58.94 20 P **P** **05 18 38.8 +1.1**
baz=240
O18K Koktuh Hills 58.94 30 P **P** **05 18 38.0 +0.1**
O18K IAmb IAmb 05 18 40.4
comp=Z,11nm,0.8s
O18K Koktuh Hills 58.94 30 P **P** **05 18 39.4 +1.5**
baz=252
F17K Baldwin Pennin 58.96 22 P **P** **05 18 38.9 +1.0**
baz=242
L18K Granite Mounta 59.04 27 P **P** **05 18 40.0 +1.5**

baz=249
E17K Hotham Inlet 59.06 21 P **P** **05 18 40.0 +1.4**
baz=241
SVW2 Sparrevohn 59.16 29 IAmb IAmb 05 18 41.2
comp=Z,8.4nm,1.1s
C17K DeLong Mountai 59.30 20 P **P** **05 18 41.8 +1.5**
baz=239
H18K Honhosa River 59.47 24 P **P** **05 18 42.5 +1.1**
baz=246
O19K Port Alsworth 59.47 30 IAmb IAmb 05 18 43.3
comp=Z,9.1nm,0.7s
O19K Port Alsworth 59.47 30 P **P** **05 18 42.9 +1.4**
baz=253
J18K Innoko River 59.48 26 P **P** **05 18 42.6 +1.0**
baz=248
N19K Bonanza Creek 59.58 29 P **P** **05 18 42.5 +0.1**
N19K IAmb IAmb 05 18 44.6
comp=Z,12nm,0.9s
N19K Bonanza Creek 59.58 29 P **P** **05 18 43.7 +1.3**
baz=252,SNR=8.4
TTA Tatalina 59.58 27 P **P** **05 18 43.2 +0.8**
baz=250
E18K Tukpahlearik C 59.64 21 P **P** **05 18 43.7 +1.2**
baz=242
G18K Tagagawik 59.66 23 P **P** **05 18 43.8 +1.0**
baz=245,SNR=5.8
KDAK Kodiak Island 59.68 33 P **P** **05 18 43.4 +0.4**
KDAK Kodiak Island 59.68 33 P **P** **05 18 43.6 +0.6**
baz=256
L19K White Mountain 59.84 28 P **P** **05 18 45.0 +0.9**
baz=251
M19K Big River Lodg 59.95 28 P **P** **05 18 45.9 +1.1**
baz=252
Q20K Shuyak Island 59.98 32 P **P** **05 18 45.8 +0.8**
baz=255
C18K Utukok River 60.02 20 P **P** **05 18 45.9 +0.7**
baz=241
J19K Poorman 60.12 26 P **P** **05 18 46.7 +0.8**
baz=249
B18K Kokolik River 60.18 19 P **P** **05 18 47.6 +1.3**
baz=240
G19K Purcell Mounta 60.35 23 P **P** **05 18 48.5 +1.1**
baz=247
H19K Roundabout Mou 60.35 24 P **P** **05 18 48.8 +1.4**
baz=248
M20K Styx River 60.52 28 P **P** **05 18 49.8 +1.1**
baz=253
K20K Telida 60.56 27 IAmb IAmb 05 18 57.9
comp=Z,10nm,1.2s
K20K Telida 60.56 27 P **P** **05 18 50.0 +1.1**
baz=251
C19K Lookout Ridge 60.75 20 P **P** **05 18 51.5 +1.3**
baz=243
J20K Nowinta River 60.79 26 IAmb IAmb 05 18 53.4
comp=Z,13nm,1.1s
J20K Nowinta River 60.79 26 P **P** **05 18 51.8 +1.3**
baz=251,SNR=6.3
I20K Naaghedeneel 60.87 25 P **P** **05 18 51.9 +1.0**
baz=250
H20K Anotleneega Mo 60.95 24 P **P** **05 18 52.6 +1.1**
baz=249
D19K Kuna River 60.96 21 P **P** **05 18 52.5 +0.9**
baz=244
BRSE Bradley Lake S 61.08 31 P **P** **05 18 53.1 +0.6**
baz=256
CAPN Captain Cook N 61.13 30 P **P** **05 18 53.5 +0.8**
baz=255
F20K Avaraart Lake 61.20 22 P **P** **05 18 54.1 +1.0**
baz=248
SKT Skwentna 61.27 29 P **P** **05 18 54.6 +0.8**
baz=254
CAST Castle Rocks 61.43 27 P **P** **05 18 55.4 +0.7**
CAST IAmb IAmb 05 18 56.5
comp=Z,7.3nm,0.7s
CAST Castle Rocks 61.43 27 P **P** **05 18 55.6 +0.8**
baz=253,SNR=6.7
CHUM Lake Minchumin 61.47 26 P **P** **05 18 55.8 +0.9**
baz=253
SUA Susitna One 61.50 29 P **P** **05 18 56.5 +1.1**
SUA IAmb IAmb 05 18 56.5
comp=Z,20nm,1.1s
SUA Susitna One 61.50 29 P **P** **05 18 56.1 +0.7**
baz=255
KURK Kurchatov 61.50 318 P **P** **05 18 54.7 -0.8**
KURK IAmb IAmb 05 19 42.1
comp=Z,16nm,1.5s
E20K Nigu River 61.51 21 P **P** **05 18 56.4 +1.1**
baz=246
KURBB Kurchatov Arra 61.55 318 P **P** **05 18 54.3 -1.5**
comp=Z,2.8nm,0.7s,baz=97,slow=7.2,SNR=17
comp=Z,2.8nm,0.7s
D20K Etivluk River 61.55 21 P **P** **05 18 56.4 +0.9**
baz=246
IMAR Indian Mountai 61.56 24 P **P** **05 18 54.4 -1.2**
O22K Cooper Landing 61.75 31 P **P** **05 18 57.4 +0.5**
baz=257
SEW Seward 61.80 31 P **P** **05 18 57.8 +0.6**
baz=257
H21K Melozitna Rive 61.82 24 IAmb IAmb 05 18 59.2
comp=Z,3.5nm,0.7s
H21K Melozitna Rive 61.82 24 P **P** **05 18 58.3 +0.9**
baz=251
G21K Allakaket 61.83 23 P **P** **05 18 58.4 +1.0**
baz=250
M22K Willow 61.86 29 P **P** **05 18 58.3 +0.7**
baz=256
RC01 Rabbit Creek A 61.88 30 P **P** **05 18 58.6 +0.8**
baz=256
B20K Meade River 61.91 19 P **P** **05 18 59.1 +1.2**
baz=245
NRIK Norilt'sk 61.92 340 P **P** **05 18 57.0 -0.9**
comp=Z,2.2nm,0.4s,baz=109,slow=10,SNR=4.5
comp=Z,2.2nm,0.4s
I21K Tanana 61.99 25 P **P** **05 18 59.3 +0.8**
baz=252
F21K Alatna River 62.08 23 P **P** **05 18 59.9 +0.8**
baz=250
BPAW Bear Paw Mtn. 62.09 26 P **P** **05 18 59.8 +0.6**
BPAW IAmb IAmb 05 19 00.8
comp=Z,7.6nm,0.7s
BPAW Bear Paw Mtn. 62.09 26 P **P** **05 18 60.0 +0.8**
baz=254,SNR=6.8
TRF Thorofare Moun 62.21 27 P **P** **05 19 00.1 0.0**
TRF IAmb IAmb 05 19 05.9
comp=Z,10nm,1.0s
TRF Thorofare Moun 62.21 27 P **P** **05 19 00.5 +0.3**
baz=255
PMR Palmer 62.28 29 P **P** **05 19 00.7 +0.3**
baz=257
H22K Ishtalitna Cre 62.45 24 P **P** **05 19 02.2 +0.7**
baz=252
MLY Manley 62.45 25 P **P** **05 19 02.2 +0.6**
MLY IAmb IAmb 05 19 03.6
comp=Z,15nm,1.4s
MLY Manley 62.45 25 P **P** **05 19 02.2 +0.6**
baz=254,SNR=7.1
PWL Port Wells 62.50 30 P **P** **05 19 02.4 +0.5**
baz=258
KNK Knik Glacier 62.55 30 P **P** **05 19 03.1 +0.8**
baz=258
F22K John River 62.65 23 P **P** **05 19 03.7 +0.9**
baz=251
SML Sawmill 62.70 29 P **P** **05 19 03.6 +0.4**
SML Sawmill 62.70 29 P **P** **05 19 04.0 +0.8**
baz=258
WAT1 Susitna Watana 62.83 28 P **P** **05 19 04.8 +0.7**
baz=257
RND Reindeer 62.83 27 P **P** **05 19 04.1 0.0**
RND IAmb IAmb 05 19 21.1
comp=Z,6.9nm,1.3s
MCK McKinley 62.87 27 P **P** **05 19 05.3 +0.9**
baz=256
D22K Ayikyak River 62.94 21 P **P** **05 19 05.7 +1.0**
baz=250
M23K Glacier View 62.98 29 P **P** **05 19 06.0 +0.9**
baz=258
E22K Anaktuvuk Pass 62.99 22 P **P** **05 19 06.1 +1.0**
baz=251
NEA2 Nenana 63.03 26 IAmb IAmb 05 19 06.8
comp=Z,5.8nm,1.1s
NEA2 Nenana 63.03 26 P **P** **05 19 06.2 +0.8**
baz=255
I23K Minto, Yukon-K 63.05 25 IAmb IAmb 05 19 07.7
comp=Z,17nm,1.4s
I23K Minto, Yukon-K 63.05 25 P **P** **05 19 06.3 +0.9**
baz=255
GLI Glacier Island 63.10 30 P **P** **05 19 06.3 +0.5**
baz=259

WAT6	Susitna Watana	63.14	28	P	P	05 19 06.8	+0.5
	baz=258						
H23K	Yukon River	63.15	25	P	P	05 19 06.9	+0.7
	baz=254						
SCM	Sheep Creek Mo	63.17	29	P	P	05 19 07.2	+0.8
	baz=258						
G23K	Bananza Creek	63.21	24	P	P	05 19 07.8	+1.2
	baz=253						
COLD	Coldfoot	63.30	23	P	P	05 19 08.1	+1.1
	baz=253						
MDM	Murphy Dome	63.47	26	IAmb	IAmb	05 19 09.9	
	comp=Z,5.9nm,0.8s						
E23K	Chandalar	63.75	22	P	P	05 19 11.2	+1.1
	baz=253						
KLU	Klutina	63.77	30	P	P	05 19 11.2	+0.8
	baz=260						
H24K	Noodor Dome	63.82	25	P	P	05 19 11.4	+0.8
H24K	Noodor Dome	63.82	25	P	P	05 19 11.2	+0.6
	baz=256						
RTZ	Ruatahuna	63.83	153	P	P	05 19 10.3	-0.6
RTZ				IAmb	IAmb	05 19 14.2	
	comp=Z,12nm,0.8s						
POKR	Poker Plat Res	63.83	26	P	P	05 19 10.6	0.0
	baz=257						
HDA	Harding Lake	63.88	27	P	P	05 19 10.4	-0.5
HDA	Harding Lake	63.88	27	P	P	05 19 11.0	+0.1
	baz=258						
TOLK	Toolik Lake Re	63.94	22	P	P	05 19 11.8	+0.5
	baz=253						
C23K	Itkillik River	63.95	20	P	P	05 19 11.5	+0.3
	baz=251						
IL31		63.98	26	P	P	05 19 10.5	-1.0
IL31				IAmb	IAmb	05 19 11.5	
	comp=Z,4.2nm,0.8s						
ILAR	Eielson Array	63.98	26	P	P	05 19 11.0	-0.5
ILAR	Eielson Array	63.98	26	P	P	05 19 10.5	-1.1
	comp=Z,3.1nm,0.9s,baz=254,slow=4.8,SNR=29						
	comp=Z,3.1nm,0.9s						
E24K	Your Creek	64.16	22	P	P	05 19 13.2	+0.5
	baz=254						
G24K	Hadweenzic Riv	64.19	24	P	P	05 19 13.8	+0.9
	baz=256						
F24K	Squaw Lake	64.24	23	P	P	05 19 14.9	+1.6
	baz=255						
PAX	Paxson	64.24	28	P	P	05 19 14.5	+1.1
	baz=260						
HARP	HAARP	64.28	29	P	P	05 19 14.1	+0.5
	baz=260						
D24K	Happy Valley	64.34	21	P	P	05 19 14.6	+0.7
	baz=253						
J25K	Salcha River,	64.59	26	P	P	05 19 15.4	-0.2
	baz=259						
RIDG	Independent Ri	64.65	27	P	P	05 19 16.1	+0.1
	baz=260						
H25L	Birch Creek	64.74	25	P	P	05 19 17.7	+1.3
	baz=258						
BGLC	Bering Glacier	64.84	32	P	P	05 19 18.4	+1.3
	baz=263						
SCRK	Sand Creek	65.07	27	P	P	05 19 19.1	+0.3
SCRK				IAmb	IAmb	05 19 20.4	
	comp=Z,4.1nm,0.8s						
SCRK	Sand Creek	65.07	27	P	P	05 19 19.4	+0.6
	baz=260						
F25K	Christian Rive	65.09	23	P	P	05 19 20.1	+1.3
	baz=257						
L26K	Log Cabin Wild	65.20	28	P	P	05 19 20.3	+0.8
	baz=262						
D25K	Kavik River	65.23	21	P	P	05 19 20.5	+0.8
	baz=256						
E25K	Arctic Village	65.23	23	P	P	05 19 20.8	+1.2
	baz=257						
J26L	Joseph Creek	65.33	27	IAmb	IAmb	05 19 22.4	
	comp=Z,4.0nm,0.8s						
J26L	Joseph Creek	65.33	27	P	P	05 19 21.2	+0.8
	baz=261						
G26K	Porcupine Rive	65.67	24	P	P	05 19 23.4	+1.0
	baz=259						
F26K	Sheenjek River	65.67	23	P	P	05 19 23.6	+1.1
	baz=259						
L27K	Beaver Creek,	65.89	28	P	P	05 19 25.1	+1.1
	baz=263						
YUK3	Moose Creek	66.39	30	P	P	05 19 28.5	+1.1
	baz=265						
O28M	Mount Upton	66.43	31	P	P	05 19 28.5	+0.8
	baz=265						
H27K	Steamboat Moun	66.44	25	P	P	05 19 28.2	+0.8
	baz=262						
G27K	Doyon Strip	66.47	24	P	P	05 19 28.6	+1.0
	baz=261						
BVAR	Borovoye Array	66.72	321	P	P	05 19 28.4	-0.9
	comp=Z,3.5nm,0.6s,baz=101,slow=7.5,SNR=14						
	comp=Z,3.5nm,0.6s						
I28M	Miner Creek	66.99	26	P	P	05 19 31.6	+0.6
	baz=264						
DAWY	Dawson	67.08	27	P	P	05 19 32.6	+1.1
	baz=265						
D27M	Malcolm River	67.10	22	P	P	05 19 32.7	+1.1
	baz=261						
O29M	Mount Kennedy	67.20	32	P	P	05 19 33.7	+1.3
	baz=267						
M29M	Somme Creek	67.38	29	P	P	05 19 34.9	+1.5
	baz=266						
E28M	Babbage River	67.52	23	P	P	05 19 36.0	+1.9
	baz=263						
L29M	L29M	67.57	29	P	P	05 19 36.2	+1.5
	baz=266						
I29M	Ogilvie Camp,	67.66	26	P	P	05 19 36.0	+1.0
	baz=265						
H29M	Whitestone	67.71	25	P	P	05 19 36.4	+1.0
	baz=265						
HYT	Haines Junctio	67.75	31	P	P	05 19 36.7	+0.9
	baz=268						
K29M	Barlow Dome	67.89	28	P	P	05 19 37.9	+1.2
	baz=266						
G29M	Pine Creek	67.91	24	P	P	05 19 38.3	+1.7
	baz=265						
N30M	Aishikik Lake	67.98	30	P	P	05 19 38.3	+1.1
	baz=268						
P30M	Million Dollar	68.00	32	P	P	05 19 39.2	+1.9
	baz=268						
M30M	Minto, Yukon	68.16	29	P	P	05 19 39.9	+1.6
	baz=268						
PLBC	Pleasant Camp	68.29	33	P	P	05 19 40.2	+1.2
	baz=269						
EPYK	Eagle Plains	68.39	25	P	P	05 19 40.1	+0.5
	baz=266						
J30M	Hart River	68.45	27	P	P	05 19 40.6	+0.5
	baz=267						
I30M	Mount Dempster	68.46	26	P	P	05 19 41.2	+1.0
	baz=267						
G30M	tAoh Zraii Nji	68.62	24	P	P	05 19 42.0	+1.0
	baz=266						
F30M	Barrier River	68.83	24	P	P	05 19 43.2	+0.9
	baz=267						
WHY	Whitehorse	69.04	31	P	P	05 19 44.8	+0.9
	baz=270						
S32K	Killisnoo	69.25	35	P	P	05 19 45.7	+0.7
	baz=272						
M31M	Drury Creek, Y	69.27	30	P	P	05 19 46.2	+1.1
	baz=270						
H31M	Peel River	69.33	26	P	P	05 19 45.8	+0.4
	baz=269						
G31M	Satah River	69.39	25	P	P	05 19 46.2	+0.5
	baz=268						
INK	Inuvik	69.71	23	IAmb	IAmb	05 19 52.1	
	comp=Z,15nm,1.4s						
INK	Inuvik	69.71	23	P	P	05 19 47.6	0.0
	baz=268						
DLBC	Dease Lake	71.61	33	P	P	05 19 59.6	+0.2
	baz=275						
T35M	Bob Quinn	71.62	35	P	P	05 19 59.3	-0.1
	baz=275						
WTLY	Watson Lake, Y	72.08	32	P	P	05 20 02.3	+0.2
	baz=276						
TGTN	Hyland Airport	72.20	30	P	P	05 20 03.8	+1.0
	baz=276						
C36M	Paulatuk	73.09	22	P	P	05 20 07.6	-0.2
	baz=277						
LIRD	Liard River Hi	73.52	32	P	P	05 20 11.0	+0.5
	baz=278						
ABKAR	Akbulak array	73.56	317	P	P	05 20 10.0	-1.0
WRGLY	Wrigley	74.20	28	P	P	05 20 15.4	+1.1
	baz=279						
GNW	Green Mountain	77.70	44	P	P	05 20 33.8	-0.6
YKA	Yellowknife Ar	78.32	28	P	P	05 20 37.6	0.0
	comp=Z,2.9nm,0.9s,baz=263,slow=4.9,SNR=5.0						
	comp=Z,2.9nm,0.9s						
PINE	Pine Mountain	79.93	47	P	P	05 20 47.4	+0.4
PINE				IAmb	IAmb	05 20 50.1	
	comp=Z,7.2nm,0.9s						
ARCES	ARCESS Array B	82.81	342	P	P	05 21 01.2	-0.1
	comp=Z,2.1nm,0.9s,baz=14,slow=6.2,SNR=3.8						
	comp=Z,2.1nm,0.9s						
NVAR	Mina Array Bea	83.39	52	P	P	05 21 05.4	+0.1
	comp=Z,2.6nm,0.7s,baz=271,slow=5.6,SNR=25						
	comp=Z,2.6nm,0.7s						
NV11	Mina Array Sit	83.50	52	P	P	05 21 04.6	-1.1
TPH	Tonopah	84.31	52	IAmb	IAmb	05 21 12.7	
	comp=Z,12nm,0.9s						
HLID	Hailey	84.51	46	P	P	05 21 11.0	+0.3
	baz=290						
ELMT	Elliston	84.75	43	P	P	05 21 11.1	-0.8
MPMC	Manual Prospec	84.76	54	P	P	05 21 13.1	+0.9
	baz=289						
ELK	Elko	84.89	49	P	P	05 21 12.8	0.0
TPNV	Topopah Spring	85.41	53	P	P	05 21 16.1	+0.8
	baz=289						
R11B	Troy Canyon, C	85.44	51	P	P	05 21 16.3	+0.9
	baz=290						
BOZ	Bozeman (W)	85.64	43	P	P	05 21 17.2	+0.9
	baz=292						
ID07	Smith Canyon R	86.47	46	IAmb	IAmb	05 21 28.8	
	comp=Z,5.6nm,0.6s						
PSUT	Pine Spring	86.65	51	P	P	05 21 20.5	-1.0
H17A	Grant Village	86.79	44	IAmb	IAmb	05 21 25.3	
	comp=Z,13nm,0.9s						
DUG	Dugway, Tooele	86.81	49	P	P	05 21 23.4	+1.3
	baz=291						
FINES	FINESS Array B	87.18	335	P	P	05 21 20.2	-3.0
	comp=Z,2.7nm,0.8s,baz=337,slow=2.9,SNR=7.4						
PDAR	Pinedale Array	88.10	45	P	P	05 21 28.7	+0.4
	comp=Z,0.2nm,0.4s,baz=193,slow=1.6,SNR=6.1						
PDAR				pP	pP	05 22 15.6	-0.9
	comp=Z,1.0nm,0.7s,baz=228,slow=1.9,SNR=5.8						
	comp=Z,0.2nm,0.4s						
CCM	Cathedral Cave	102.56	43	P	Pdif	05 22 34.0	+0.2
	baz=306						
LPAZ	La Paz	147.71	92	PKPbc	PKPbc	05 28 22.5	-0.1
	comp=Z,4.0nm,0.7s,baz=288,slow=1.6,SNR=16						
CPUP	Villa Florida	157.33	115	PKPab	PKPab	05 29 05.5	+0.6
	comp=Z,2.1nm,0.8s,baz=236,slow=2.8,SNR=4.7						

NEIC ***04*** *05:20:10.0±2.5, 15°.42N±0°.09×95°.30W±0°.04, h9km±8km, mb4.0/18, Md4.4/12(MEX), Error ellipse: s-maj=13.2km s-min=3.6km az=202.0*
MEX ***04*** *05:20:13.4±0.7, 15°.71N×95°.28W, h9km±8km, MD4.4*
IDC ***04*** *05:20:16.2±6.3, 16°.30N×95°.09W, h0km, mb3.7/3, mbtmp3.7/4, ML3.1/1, MS3.3/13, Error ellipse: s-maj=114.3km s-min=32.6km az=177.0*

ISC 04 05:20:10.6±1.3, 15°.61N±0°.05×95°.27W±0°.03, h9km±10km, n86, σ2ˢ39/119, mb3.8/3, MS3.3/11, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.83	281		Pg	05 20 26.4	-0.2
HUIG					Sg	05 20 37.4	+0.1
HUIG	Huatulco	0.83	281	*i* P	Pg	05 20 26.4	-0.2
HUIG				*e*S	Sg	05 20 37.3	-0.1
NILT	Santiago Nilte	1.14	33	*e*P	Pb	05 20 29.4	-3.1
NILT				*e*S	Sb	05 20 42.2	-5.3
PEIG	Puerto Escondi	1.85	282		Pn	05 20 41.5	-1.1
PEIG					Sn	05 21 04.9	-1.3
PEIG	Puerto Escondi	1.85	282	*e*P	Pn	05 20 41.5	-1.1
PEIG				*e*S	Sn	05 21 05.8	-0.4
PCIG		1.98	87		Pn	05 20 43.5	-0.7
PCIG					Sn	05 21 06.7	-2.5
PCIG		1.98	87	*e*P	Pn	05 20 43.3	-1.0
PCIG				*e*S	Sn	05 21 05.6	-3.6
OXLC	Oaxaca	2.00	317	*e*P	Pn	05 20 44.1	-0.7
OXLC				*e*S	Sn	05 21 07.9	-2.3
UXUV	UXUV	2.01	32	*e*P	Pn	05 20 43.9	-0.9
UXUV				*e*S	Sn	05 21 06.7	-3.5
OXBJ	Oaxaca	2.02	316	*e*P	Pn	05 20 44.5	-0.5
OXBJ				*e*S	Sn	05 21 08.3	-2.2
VHO	Vista Hermosa	2.03	316	*e*P	Pn	05 20 44.2	-1.0
VHO				*e*S	Sn	05 21 08.4	-2.4
NEUV	Arroyo Zacate	2.16	346	*e*P	Pn	05 20 44.1	-2.7
NEUV				*i* S	Sn	05 21 09.8	-3.9
TGIG		2.37	60	*e*P	Pn	05 20 49.4	-0.3
TGIG				*e*S	Sn	05 21 18.1	-0.9
TGBT	Tuxtla Gutierr	2.39	61	*e*P	Pb	05 20 53.1	-0.8
TGBT				*e*S	Sn	05 21 23.1	+1.7
YOIG	Yosondua	2.52	300		Pn	05 20 52.7	+0.6
YOIG					Sn	05 21 23.5	+0.5
YOIG	Yosondua	2.52	300	*e*P	Pn	05 20 52.7	+0.6
YOIG				*e*S	Sn	05 21 23.5	+0.5
TUIG	Tuzandepetl	2.55	18	*e*P	Pn	05 20 53.1	+0.9
TUIG				*e*S	Sn	05 21 20.4	-3.0
PNIG	Pinotepa	2.86	286	*e*P	Pn	05 20 55.8	-0.7
PNIG				*e*S	Sn	05 21 26.2	-4.9
TXIG	Tlaxiaco	2.91	305	*e*P	Pn	05 20 58.2	+0.9
TXIG				*e*S	Sn	05 21 31.4	-1.2
PMUV	Sontecomapan	2.93	3	*e*P	Pn	05 20 55.1	-2.4
PMUV				*e*S	Sn	05 21 26.8	-6.0
PATR	El Naranjo	2.96	99	*e*P	Pn	05 20 58.5	+0.4
PATR				*e*S	Sn	05 21 33.1	-0.9
THIG		2.98	103	*e*P	Pn	05 20 57.3	-0.8
THIG				*e*S	Sn	05 21 36.4	+2.4
PAVE	Pavencul	3.01	97	*e*P	Pn	05 20 59.5	+0.8
PAVE				*e*S	Sn	05 21 35.6	+0.5
TOIG	Toxpalan	3.02	325	*e*P	Pn	05 20 59.2	+0.5
TOIG				*e*S	Sn	05 21 36.0	+0.9
CCIG	Comitan	3.08	77	Pn	Pn	05 21 02.1	+2.4
CCIG	Comitan	3.08	77	*e*P	Pn	05 21 02.7	+3.0
CCIG				*e*S	Sn	05 21 38.7	+1.8
CHUJ	Union Juarez	3.09	99	*e*P	Pn	05 21 00.4	+0.6
CHUJ				*e*S	Sn	05 21 36.7	-0.4
TPIG	Tehuac#an	3.44	325	*e*P	Pn	05 21 05.3	+0.7
TPIG				*e*S	Sn	05 21 47.5	+1.8
FTIG	Fresnillo de T	3.58	310	*e*P	Pn	05 21 07.1	+0.7
FTIG				*e*S	Sn	05 21 49.9	+1.0
RTAL	Retalhuleu	3.61	107	Pn	Pn	05 21 04.8	-2.0
MGIG	Malinaltepec	3.62	297	*e*P	Pn	05 21 08.1	+1.0
MGIG				*e*S	Sn	05 21 47.8	-2.2
HUEH	Huehuetenango	3.64	94		Pn	05 21 09.4	+2.0
OZST	Orizaba	3.68	332	*e*P	Pn	05 21 10.9	+3.0
OZST				*e*S	Sn	05 21 54.0	+2.5
TLIG	Tlapa	3.71	302	*e*P	Pn	05 21 11.4	+3.0
TLIG				*e*S	Sn	05 21 49.9	-2.4
JAUV	Jalcomulco	4.02	339	*e*P	Pn	05 21 13.1	+0.6
JAUV				*e*S	Sn	05 22 02.1	+2.4
LVIG	Laguna Verde	4.24	345	*e*P	Pn	05 21 16.2	+0.7
LVIG				*e*S	Sn	05 22 05.7	+0.6
DAIG	Los Arroyos	4.44	289	*e*P	Pn	05 21 18.4	+0.2
DAIG				*i* S	Sn	05 22 03.4	-6.6
PPM	Popocatepetl	4.71	317	*e*P	Pn	05 21 27.2	+4.8
PPM				*e*S	Sn	05 22 18.5	+1.1
MEIG	Mezcala	4.77	300	*e*P	Pn	05 21 24.2	+1.4
MEIG				*e*S	Sn	05 22 14.4	-3.8
YAIG	Yautepec	4.87	312	*e*P	Pn	05 21 28.8	+4.6
YAIG				*e*S	Sn	05 22 16.2	-4.6
PLIG	Platanillo	4.91	305	*e*P	Pn	05 21 29.4	+4.6
PLIG				*e*S	Sn	05 22 17.6	-4.1
CAIG	El Cayaco	5.01	287	*e*P	Pn	05 21 26.2	+0.1
CAIG				*e*S	Sn	05 22 17.7	-6.5
CXUV	Coxquihui	5.05	334	*e*P	Pn	05 21 26.6	0.0
CXUV				*e*S	Sn	05 22 22.0	-3.3
SCIG	Sabancuy	5.14	49	*e*P	Pn	05 21 26.9	-0.9
SCIG				*e*S	Sn	05 21 22.8	-5.4
UNM	Universidad Na	5.26	315	Pn	Pn	05 21 31.4	+1.7
PETF	Flores	5.35	75	Pn	Pn	05 21 29.7	-1.0
ARIG	Puente Sto Nin	5.54	299	*e*P	Pn	05 21 35.4	+2.0
ARIG				*e*S	Sn	05 22 32.8	-4.5
ESQI	Esquipulas	5.82	100	Pn	Pn	05 21 36.7	-0.6
MTO3	Montecristo	5.83	101	Pn	Pn	05 21 36.0	-1.5
DEIG	Demacu	5.89	323	*e*P	Pn	05 21 42.2	+3.9
DEIG				*e*S	Sn	05 22 49.4	+3.3
ZIIG	Zihuatanejo	6.27	289	*e*P	Pn	05 21 43.2	-0.1
ZIIG				*e*S	Sn	05 22 49.7	-5.4
CTUV	Llano Grande	6.53	334	*e*	Pb	05 22 06.8	+2.3
CTUV				*e*		05 23 24.3	
TGUH	Tegucigalpa,Un	7.88	100	Pn	Pn	05 22 05.5	-0.1
TEIG	Tepich	8.09	54	Pn	Pn	05 22 09.8	+1.5
TEIG	Tepich	8.09	54	Pn	Pn	05 22 07.5	-0.8
	35nm,0.3s,baz=87,slow=18,SNR=16						
TEIG				Sn	Sn	05 23 35.6	-4.4
	17nm,0.3s,baz=102,slow=20,SNR=6.3						
TEIG				LR	LR	05 25 29.6	
	comp=Z,952nm,18.5s,baz=2.5,slow=42						
TXAR	Lajitas Array	15.71	332	Pn	Pn	05 23 53.7	+1.4
	baz=153,slow=14,SNR=7.1						
TXAR				LR	LR	05 30 32.2	
	comp=Z,25nm,19.2s,baz=195,slow=41						
	1.2nm,1.0s						
BRDY	Brady	15.98	348		P	05 23 58.5	-0.9
BRDY				IAmb	IAmb	05 24 03.4	
	comp=Z,11nm,1.3s						
OZNA	Ozona	16.16	342		P	05 24 01.6	+0.2
OZNA				IAmb	IAmb	05 24 27.7	
	comp=Z,12nm,1.2s						
WHTX	Lake Whitney,	16.43	353		Pn	05 24 02.1	+0.6
WHTX				IAmb	IAmb	05 24 08.4	
	comp=Z,23nm,1.1s						
ALPN	Alpine	16.59	334	Pn	Pn	05 24 04.3	+0.6
ALPN				IAmb	IAmb	05 24 16.3	
	comp=Z,5.8nm,0.8s						
ABTX	Abilene, Hawle	17.40	348		P	05 24 15.0	-0.2
ABTX				IAmb	IAmb	05 24 19.7	
	comp=Z,27nm,1.3s						
FW06	Azle	17.42	354	P	P	05 24 15.3	+0.1
FW06				IAmb	IAmb	05 24 18.5	
	comp=Z,9.0nm,0.7s						
425A	Indio Mountain	17.54	331		Pn	05 24 16.2	+0.6
Z41A	Richland Creek	17.72	7	P	P	05 24 20.2	+1.7
APMT	Aspermont	18.18	347	Pn	Pn	05 24 22.5	-0.9
APMT				IAmb	IAmb	05 24 23.5	
	comp=Z,8.4nm,1.0s						
WTFS	Witchita Falls	18.31	351	P	Pn	05 24 25.0	0.0
WTFS				IAmb	IAmb	05 24 33.6	
	comp=Z,9.1nm,0.8s						
X37A	Clayton	18.90	360	P	Pn	05 24 33.4	+1.2
MIAR	Mount Ida	18.92	4	P	Pn	05 24 34.0	+1.6
MSTX	Muleshoe	19.50	341	P	Pn	05 24 39.9	+0.4
MSTX				IAmb	IAmb	05 24 48.3	
	comp=Z,13nm,1.2s						
121A	Cookes Peak, D	20.33	328	P	P	05 24 47.6	+0.2
121A				IAmb	IAmb	05 24 54.0	
	comp=Z,11nm,1.0s						
FCAR	Ozark Folk Cen	20.40	7	P	Pn	05 24 50.1	+0.2
FCAR				IAmb	IAmb	05 24 51.7	
	comp=Z,9.4nm,1.1s						
T35A	Sooner Cattle	21.25	357	P	P	05 24 56.5	-0.7
ANMO	Albuquerque	21.72	334	P	P	05 25 04.3	+1.9
	comp=Z,1.3nm,0.8s,baz=146,slow=3.6,SNR=5.6						
	comp=Z,1.3nm,0.8s						
TUC	Tucson	21.81	322	P	P	05 25 04.4	+1.1
ROSC	El Rosal	23.20	115	LR	LR	05 35 44.0	
	comp=Z,30nm,18.7s,baz=18,slow=40						
SDV	Santo Domingo	24.97	103	LR	LR	05 36 21.4	
	comp=Z,91nm,18.9s,baz=296,slow=39						
PFO	Pinyon Flats O	26.23	317	LR	LR	05 35 51.3	
	comp=Z,69nm,21.4s,baz=210,slow=36						
ATAH	Atahualpa	28.10	142	LR	LR	05 35 22.0	
	comp=Z,71nm,19.8s,baz=16,slow=32						
NVAR	Mina Array Bea	30.46	323	P	P	05 26 27.0	+2.9
	comp=Z,2.9nm,1.0s,baz=134,slow=8.3,SNR=14						
NVAR				LR	LR	05 37 55.5	
	comp=Z,63nm,19.8s,baz=93,slow=35						
	comp=Z,2.9nm,1.0s						
ELK	Elko	30.47	329	LR	LR	05 40 49.4	
	comp=Z,42nm,20.7s,baz=157,slow=41						
NNA	Nana	32.93	145	LR	LR	05 37 41.4	
	comp=Z,44nm,20.3s,baz=112,slow=31						
YBH	Yreka Blue Hor	35.18	323	LR	LR	05 42 17.5	
	comp=Z,76nm,19.2s,baz=158,slow=38						
NEW	Newport	37.20	336	LR	LR	05 44 20.7	
	comp=Z,73nm,18.3s,baz=59,slow=39						
LPAZ	La Paz	41.49	139	LR	LR	05 43 24.8	
	comp=Z,76nm,21.0s,baz=306,slow=33						
BBB	Bella Bella	44.84	332	LR	LR	05 48 09.0	
	comp=Z,33nm,19.2s,baz=250,slow=38						
ILAR	Eielson Array	60.14	337	P	P	05 30 21.4	+3.1
	comp=Z,0.7nm,1.0s,baz=126,slow=4.6,SNR=4.4						
	comp=Z,0.7nm,1.0s						

IDC ***04*** *05:24:25.2±2.9, 23°.98S×179°.91W, h516km±29km, mb3.7/7, mbtmp4.5/8, Error ellipse: s-maj=33.4km s-min=22.7km az=158.0*

ISC 04 05:24:24.8±0.8, 23°.9S±0°.1×179°.9E±0°.1, h500km, n15, σ1ˢ72/18, mb4.2/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.51	189	P	P	05 27 29.7	+0.1
	4.5nm,0.5s,baz=162,slow=5.1,SNR=3.0						
URZ				S	S	05 30 02.0	-0.1
	12nm,0.9s,baz=279,slow=23,SNR=7.1						
CTA	Charters Tower	31.34	270	P	P	05 30 05.9	+2.0
	14nm,0.6s,baz=93,slow=12,SNR=9.9						
	14nm,0.6s						
ASAR	Alice Springs	41.91	261	P	P	05 31 31.9	+0.7
	5.4nm,0.8s,baz=96,slow=7.8,SNR=34						
ASAR				ScP	ScP	05 36 17.0	-0.9
	1.3nm,0.8s,baz=130,slow=3.4,SNR=8.0						
	5.4nm,0.8s						
WRA	Warramunga Arr	42.27	266	P	P	05 31 34.4	+0.3
	9.3nm,0.7s,baz=103,slow=8.2,SNR=64						
WRA				S	S	05 37 14.2	-4.1
	0.5nm,0.7s,baz=101,slow=13,SNR=4.1						
	9.3nm,0.7s						
KSRS	Korea Array	78.16	320	P	P	05 35 32.5	+0.7
	1.7nm,0.7s,baz=144,slow=7.8,SNR=3.4						
	1.7nm,0.7s						
PETK	Petropavlovsk-	79.06	347	P	P	05 35 36.0	-0.4
	2.1nm,0.6s,baz=86,slow=11,SNR=5.9						
	2.1nm,0.6s						
CMAR	Chiang Mai Arr	89.40	290	P	P	05 36 29.5	+1.3
	2.8nm,0.3s,baz=141,slow=4.4,SNR=6.2						
	2.8nm,0.3s						
TXAR	Lajitas Array	90.54	58	P	P	05 36 32.7	-0.7
	0.5nm,0.7s,baz=218,slow=5.9,SNR=6.9						
	0.5nm,0.7s						
MKAR	Makanchi Array	112.05	313	PKiKP	PKiKP	05 42 00.9	-1.9
	0.3nm,0.6s,baz=115,slow=2.1,SNR=2.4						
KURBB	Kurchatov Arra	115.15	316	PKP	PKPdf	05 42 06.7	-1.8
	0.2nm,0.4s,baz=125,slow=1.5,SNR=2.3						
BVAR	Borovoye Array	120.35	319	PKP	PKPdf	05 42 16.9	-1.7
	0.4nm,0.5s,baz=68,slow=5.3,SNR=3.5						
HFS	Hagfors	142.51	349	PKhKP	PKPpre	05 42 54.7	
	2.0nm,0.5s,baz=84,slow=4.6,SNR=9.4						
AKASG	Malin Array Be	144.89	327	PKPbc	PKPdf	05 43 02.9	-1.3

MAJO **Matsushiro** 2.88 105 Pn 05 33 43.2 +0.3
MAJO **Matsushiro** 2.88 105 P Pn 05 33 43.8 +0.9
MAT **Matsushiro** 2.88 105 P Pn 05 33 43.6 +0.8
MJAR **Matsushiro Arr** 2.88 105 P Pn 05 33 44.3 +1.4
63nm,0.8s,baz=285,slow=9.7,SNR=93
JGT2 **ShimaneMisato** 2.90 219 P Pn 05 33 43.9 +0.8
JIE **Ise** 3.33 151 P Pn 05 33 48.1 +1.3
JTNC **Tanabenakahech** 3.57 168 *eP* Pn 05 33 49.5 +0.4
JRY **Ryogami san** 3.58 110 P Pn 05 33 50.0 +0.9
JMN **Monobe** 3.66 191 Pn Pn 05 33 50.4 +0.4
JMN **Monobe** 3.66 191 P Pn 05 33 51.1 +1.1
JOD2 **Odawara 2** 4.07 119 P Pn 05 33 54.3 +0.5
JOD2 *eS* S 05 34 50.2 -1.3
JTO **Tosashimizu** 4.74 200 *eP* Pn 05 34 01.6 +0.9
JMM **Marumori** 4.83 82 Pn Pn 05 34 02.0 +0.5
JMM **Marumori** 4.83 82 P Pn 05 34 02.0 +0.5
JTU **Tsushima** 5.16 239 Pn Pn 05 34 04.7 -0.5
JTU **Tsushima** 5.16 239 P Pn 05 34 05.0 -0.1
JNU **Nakatsue** 5.26 218 P Pn 05 34 07.1 +0.9
JNU **Nakatsue** 5.26 218 P Pn 05 34 07.1 +0.9
15nm,0.3s,baz=27,slow=2.9,SNR=18
JMK **Ichinoseki** 5.35 70 P Pn 05 34 07.5 +0.4
KSRS **Korea Array** 5.44 273 P Pn 05 34 09.6 +1.6
4.4nm,0.4s,baz=91,slow=11,SNR=29
KSRS S S 05 35 19.0 +1.6
2.9nm,1.0s,baz=104,slow=16,SNR=4.3
KSAR **Wonju Array Be** 5.47 273 Pn Pn 05 34 07.8 -0.6
KS19 **Wonju Array Si** 5.48 274 Pn Pn 05 34 08.8 +0.3
BSO1 **Boso 1** 5.71 116 P Pn 05 34 10.1 -0.4
TJN **Taejon** 6.00 263 Pn Pn 05 34 13.8 -0.4
JTM **Tenmabayashi** 6.01 53 Pn Pn 05 34 14.7 +0.5
JTM **Tenmabayashi** 6.01 53 P Pn 05 34 14.8 +0.6
JOT **Ohata** 6.34 48 P Pn 05 34 18.6 +0.7
USRK **Ussuriysk Ar.** 7.18 344 P P 05 34 28.9 +0.5
3.6nm,0.6s,baz=149,slow=11,SNR=4.7
ERM **Erimo** 8.00 52 Pn Pn 05 34 36.5 -0.3
ERM **Erimo** 8.00 52 P Pn 05 34 36.7 -0.1
JEM **Erimo** 8.00 52 P Pn 05 34 36.7 -0.1
ASAJ **Asahikawa** 9.02 39 P Pn 05 34 48.5 -0.3
27nm,0.3s,baz=224,slow=9.5,SNR=23
ASAJ S S 05 36 25.8 -6.7
35nm,0.7s,baz=312,slow=30,SNR=9.5
JKA **Kamikawa-asahi** 9.02 39 Pn 05 34 48.5 -0.3
JCJ **Chichijima** 11.98 146 S S 05 37 21.1 -15
14nm,0.4s,baz=284,slow=19,SNR=2.0
KLR **Kul'dur** 12.09 351 P P 05 35 23.9 +0.1
1.7nm,0.8s,baz=164,slow=15,SNR=3.9
BJT **Baijiatuau** 14.76 286 P P 05 35 53.4 +0.2
YHNB **Yeheng** 17.02 226 P P 05 36 17.9 0.0
NACB **Ninganchiao** 17.29 224 P P 05 36 16.9 -3.6
NACB IAmb IAmb 05 36 44.4
comp=Z,32nm,1.3s
YULB **Yu-li** 18.07 224 P P 05 36 25.7 -3.3
YULB IAmb IAmb 05 36 52.0
comp=Z,35nm,1.2s
TPUB **Ta-pu** 18.52 225 P P 05 36 30.6 -3.1
ENH **Enshi** 22.10 259 P P 05 37 06.9 -0.8
SONM **Songino Array** 23.25 306 P P 05 37 18.5 +0.5
SONM **Songino Array** 23.25 306 P P 05 37 18.3 +0.3
comp=Z,2.1nm,0.7s,baz=114,slow=9.4,SNR=9.8
comp=Z,2.1nm,0.7s
KIWB **Kanaga Island** 36.50 51 P P 05 39 13.9 +0.6
CMAR **Chiang Mai Arr** 36.52 249 P P 05 39 14.1 +0.2
comp=Z,1.5nm,0.5s,baz=44,slow=7.9,SNR=8.3
comp=Z,1.5nm,0.5s
ZALV **Zalesovo Beam** 37.78 312 P P 05 39 22.7 -1.1
ZALV **Zalesovo Beam** 37.78 312 P P 05 39 23.1 -0.7
comp=Z,1.0nm,0.3s,baz=113,slow=6.8,SNR=6.3
comp=Z,1.0nm,0.3s
SHL **Shillong** 38.11 265 P P 05 39 26.3 -0.8
SHL IAmb IAmb 05 39 27.6
comp=Z,7.6nm,0.8s
MK31 **Makanchi Array** 39.43 301 P P 05 39 37.3 -0.2
MKAR **Makanchi Array** 39.43 301 P P 05 39 36.8 -0.7
MKAR **Makanchi Array** 39.43 301 P P 05 39 37.3 -0.2
comp=Z,0.9nm,0.6s,baz=89,slow=11,SNR=12
MKAR ScP ScP 05 44 48.1 -0.7
comp=Z,0.4nm,0.6s,baz=72,slow=4.0,SNR=4.1
comp=Z,0.9nm,0.6s
TAPN **Taplejung** 40.61 270 *eP* P 05 39 47.2 -0.5
comp=Z,8.6nm,0.4s
KURK **Kurchatov** 41.54 307 P P 05 39 54.1 -0.4
KURBB **Kurchatov Arra** 41.60 307 P P 05 39 54.7 -0.3
comp=Z,2.3nm,0.6s,baz=86,slow=8.1,SNR=19
comp=Z,2.3nm,0.6s
RAMN **Ramite** 41.67 270 *eP* P 05 39 56.2 0.0
JIRN **Jiri** 41.69 271 *eP* P 05 39 56.6 +0.1
PKIN **Phulchoki** 42.36 272 *eP* P 05 40 01.9 +0.2
comp=Z,4.2nm,0.3s
GKN **Gorkha** 42.77 273 *eP* P 05 40 04.5 -0.4
comp=Z,20nm,0.5s
DANN **Dangsing** 43.32 273 *eP* P 05 40 09.3 -0.1
comp=Z,36nm,0.6s
PYUN **Piuthan** 44.04 274 *eP* P 05 40 14.9 0.0
comp=Z,21nm,0.5s
BVAR **Borovoye Array** 46.41 311 P P 05 40 32.9 +0.2
comp=Z,1.0nm,0.4s,baz=98,slow=8.4,SNR=5.6
comp=Z,1.0nm,0.4s
KKAR **Karatay Array** 48.33 298 P P 05 40 47.6 +0.2
Q19K **Cape Douglas,** 49.71 40 P P 05 40 58.2 +0.7
H23K **Yukon River** 50.86 31 P P 05 41 07.9 +2.0
H23K IAmb IAmb 05 41 09.3
comp=Z,8.3nm,0.9s
MDM **Murphy Dome** 51.49 32 P P 05 41 10.9 +0.3
MDM IAmb IAmb 05 41 14.0
comp=Z,7.8nm,1.1s
IL31 52.09 32 P P 05 41 14.3 -0.6
IL31 IAmb IAmb 05 41 30.1
comp=Z,11nm,1.5s
ILAR **Eielson Array** 52.09 32 P P 05 41 15.8 +0.9
comp=Z,1.4nm,0.6s,baz=266,slow=5.9,SNR=27
comp=Z,1.4nm,0.6s
HDA **Harding Lake** 52.12 33 P P 05 41 15.6 +0.5
ABKAR **Abkulak array** 53.63 308 P P 05 41 25.7 -0.6
ABKAR **Abkulak array** 53.63 308 P P 05 41 26.0 -0.3
ABKAR IAmb IAmb 05 41 26.2
comp=Z,2.2nm,0.4s
M26K **Nabesna, AK** 54.24 35 IAmb IAmb 05 41 33.3
comp=Z,8.0nm,0.6s
I28M **Miner Creek** 54.85 31 P P 05 41 36.9 +2.1
I28M IAmb IAmb 05 41 37.8
comp=Z,5.2nm,0.8s
I30M **Mount Dempster** 56.35 30 P P 05 41 46.9 +1.4
I30M IAmb IAmb 05 41 48.2
comp=Z,6.7nm,0.9s
INK **Inuvik** 56.52 26 P P 05 41 47.3 +0.9
INK IAmb IAmb 05 41 57.1
comp=Z,14nm,1.4s
WRA **Warramunga Arr** 56.96 180 P P 05 41 49.9 -0.2
comp=Z,0.5nm,0.4s,baz=355,slow=7.6,SNR=17
WRA PcP PcP 05 42 40.9 +0.5
comp=Z,0.4nm,1.0s,baz=352,slow=4.4,SNR=4.7
comp=Z,0.5nm,0.4s
ASAR **Alice Springs** 60.67 181 P P 05 42 15.2 -0.1
comp=Z,0.2nm,0.3s,baz=8.9,slow=6.6,SNR=2.4
comp=Z,0.2nm,0.3s
FINES **FINESS Array B** 65.99 330 P P 05 42 49.5 +0.2
comp=Z,4.9nm,1.0s,baz=74,slow=10,SNR=1.8
comp=Z,4.9nm,1.0s
YKA **Yellowknife Ar** 66.15 28 P P 05 42 50.5 +0.2
comp=Z,1.2nm,0.8s,baz=357,slow=7.4,SNR=4.1
comp=Z,1.2nm,0.8s
PINE **Pine Mountain** 74.11 47 P P 05 43 39.5 +0.7
PINE IAmb IAmb 05 43 41.7
comp=Z,6.1nm,0.8s
KVN **Kaiserville** 78.71 49 P P 05 44 04.9 +0.6
KVN IAmb IAmb 05 44 06.8
comp=Z,3.9nm,1.1s
NVAR **Mina Array Bea** 78.97 50 P P 05 44 07.4 +1.6
comp=Z,0.6nm,0.5s,baz=286,slow=5.5,SNR=7.6
comp=Z,0.6nm,0.5s
PDAR **Pinedale Array** 81.14 42 P P 05 44 18.2 +1.0
comp=Z,0.6nm,0.7s,baz=329,slow=1.7,SNR=5.6
comp=Z,0.6nm,0.7s
TEOL **Teolo** 83.02 323 P P 05 44 26.8 +0.3
TXAR **Lajitas Array** 94.03 48 P P 05 45 20.3 +1.2
comp=Z,0.6nm,0.7s,baz=257,slow=2.5,SNR=7.5
comp=Z,0.6nm,0.7s
LPAZ **La Paz** 150.88 50 PKPbc PKiKP 05 51 53.1 +0.3
comp=Z,0.4nm,0.3s,baz=293,slow=4.2,SNR=4.0

*IDC **04** 05:40:23.4±11.0, 20°.10S×177°.01W, h371km±100km, mb3.3/6, mbtmp4.1/7, Error ellipse: s-maj=115.3km s-min=36.6km az=30.0*

ISC 04 05:40:29.0±1.8, 20°.7S±0°.2×177°.2W±0°.2, h400km, n8, σ1°77/9, mb3.6/6, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DZM Mont Dzumac 15.31 262 P P 05 43 43.8 -1.2
6.3nm,0.7s,baz=95,slow=18,SNR=8.5
DZM S S 05 46 30.5 +3.2
9.0nm,1.0s,baz=319,slow=22,SNR=2.0
URZ Urewera 18.15 195 P P 05 44 08.5 -6.5
2.8nm,0.3s,baz=21,slow=4.7,SNR=10
URZ S S 05 47 20.3 -1.4
6.2nm,0.5s,baz=296,slow=23,SNR=9.7
STKA Stephens Creek 38.38 245 P P 05 47 13.4 -0.5
2.3nm,0.8s,baz=90,slow=10,SNR=2.9
2.3nm,0.8s
ASAR Alice Springs 45.22 257 P P 05 48 07.8 -0.9
1.2nm,0.6s,baz=96,slow=8.0,SNR=14
1.2nm,0.6s
WRA Warramunga Arr 45.33 262 P P 05 48 08.0 -1.5
1.0nm,0.3s,baz=96,slow=7.6,SNR=34
1.0nm,0.3s
QSPA South Pole Qui 69.34 180 P P 05 50 55.4 +1.0
2.4nm,0.9s,baz=29,slow=5.7,SNR=7.6
2.4nm,0.9s
MAW Mawson 81.61 200 P P 05 52 04.0 +0.9
0.9nm,0.5s,baz=230,slow=7.9,SNR=2.0
0.9nm,0.5s
SNAA Sanae 87.76 178 P P 05 52 33.7 +0.3
0.8nm,1.0s,baz=180,slow=14,SNR=6.7
0.8nm,1.0s

IDC 04 05:43:21.4±2.5, 18°.38S×177°.43W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=221.8km s-min=25.9km az=156.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
WRA Warramunga Arr 45.46 260 P P 05 51 42.1 -0.5
1.2nm,0.5s,baz=97,slow=7.3,SNR=29
1.2nm,0.5s
ASAR Alice Springs 45.56 255 P P 05 51 43.8 +0.3
6.4nm,0.6s,baz=87,slow=8.6,SNR=68
6.4nm,0.6s
NVAR Mina Array Bea 79.12 43 P P 05 55 28.4 +0.1
0.2nm,0.5s,baz=213,slow=8.9,SNR=3.5
0.2nm,0.5s
TXAR Lajitas Array 85.47 57 P P 05 56 01.6 0.0
0.4nm,0.7s,baz=213,slow=4.3,SNR=5.5
0.4nm,0.7s

*IDC **04** 05:54:20.9±2.5, 54°.10N×86°.47E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=20.2km s-min=12.2km az=57.0*

ISC 04 05:54:23.8±6.3, 54°.3N±0°.3×86°.2E±0°.4, h35km, n4, σ2°53/4, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
I46RU ZALESOVO INFRA 0.89 247 I I 06 01 36.1
baz=81,slow=328,SNR=3.4
ZALV Zalesovo Beam 0.89 247 Pg Pn 05 54 38.4 -1.3
1.3nm,0.3s,baz=83,slow=18,SNR=14
ZALV Lg Lg 05 54 53.7
2.8nm,0.3s,baz=79,slow=31,SNR=15
KURBB Kurchatov Arra 5.96 235 Pn Pn 05 55 51.5 +2.1
0.2nm,0.3s,baz=56,slow=14,SNR=13
KURBB Lg Lg 05 57 31.6
baz=57,slow=36,SNR=1.1
1.8nm,0.6s
MKAR Makanchi Array 7.92 200 Pn Pn 05 56 16.3 0.0
0.3nm,0.3s,baz=24,slow=14,SNR=11
MKAR Sn Sn 05 57 44.1 -0.6
0.1nm,0.3s,baz=25,slow=27,SNR=5.3
MKAR Lg Lg 05 58 25.6
0.1nm,0.3s,baz=13,slow=38,SNR=1.9
0.3nm,0.3s

*NAO **04** 05:57:25.0±4.5, 77°.82N×7°.34E, h5km±37km, ML3.8*
*IDC **04** 05:57:26.9±0.8, 77°.76N×7°.90E, h0km, mb3.8/8, mbtmp3.8/10, ML3.1/2, MS3.3/33, Error ellipse: s-maj=16.4km s-min=12.8km az=7.0*
*DNK **04** 05:57:26.0±3.4, 77°.93N×7°.52E, h10km, ML1.9*
*BER **04** 05:57:27.2±4.2, 77°.84N×7°.66E, h10km, mb(Pn)4.3, ML3.8(NAO), Confirmed Earthquake*
*KOLA **04** 05:57:34.7, 78°.69N×18°.09E, h0km, ML1.9, Spitsbergen*

ISC 04 05:57:24.3±2.2, 77°.70N±0°.05×7°.60E±0°.04, h3km±14km, n78, σ3°44/77, mb3.8/8, MS3.3/28, 1C, Svalbard region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BRBA Barentsburg A 1.44 72 Pn Pn 05 57 50.6 -0.6
BRBA Barentsburg A 1.44 72 *eP* Pn 05 57 50.6 -0.6
BRBA *eS* Sg 05 58 07.4 -3.2
BRBB Barentsburg B 1.45 71 Pn Pn 05 57 50.8 -0.6
BRBB Barentsburg B 1.45 71 *eP* Pn 05 57 50.7 -0.6
BRBB *eS* Sg 05 58 07.1 -3.7
KBS Kingsbay 1.52 34 Pn Pn 05 57 51.0 -1.3
KBS Pg Pb 05 57 51.8 -1.3
KBS Sn Sn 05 58 06.9 -5.6
KBS Kingsbay 1.52 34 *eP* Pn 05 57 50.9 -1.3
KBS *eS* Sn 05 58 06.2 -6.3
KBS IAML 05 58 09.4
comp=Z,462nm,0.4s
KBS Kingsbay 1.52 34 *i* P Pn 05 57 50.9 -1.3
KBS *i* S Sn 05 58 06.2 -6.3
HSPB Hornsund (broa 1.88 108 Pn Pn 05 57 57.1 -0.1
HSPB Hornsund (broa 1.88 108 ⇑*iP* Pn 05 57 57.1 -0.1
HSPB IAML 05 58 15.9
comp=Z,131nm,0.5s
HSPB *eS* Sn 05 58 16.2 -5.2
SPA0 Spitsbergen Ar 1.91 71 Pn Pn 05 57 58.4 +0.8
baz=238,slow=12
SPA0 Sn Sn 05 58 20.1 -2.0
baz=261,slow=28
SPA0 Spitsbergen Ar 1.91 71 Pn Pn 05 57 58.4 +0.8
baz=238,slow=12
SPA0 Sn Sn 05 58 20.1 -2.0
baz=261,slow=28
SPITS Spitsbergen Ar 1.91 71 Pn Pn 05 57 58.4 +0.8
baz=243,slow=13
SPITS Sn Sn 05 58 19.9 -2.1
baz=249,slow=23
HOPEN Hopen 4.07 98 Pn Pn 05 58 27.5 +0.2
HOPEN Sn Sn 05 59 11.2 -4.2
HOPEN Hopen 4.07 98 *eP* Pn 05 58 27.5 +0.2
HOPEN *eS* Sn 05 59 11.7 -3.6
HOPEN IAML 05 59 31.3
comp=Z,106nm,0.5s
NOR Nord 5.81 323 Pn Pn 05 58 49.2 -1.9
NOR Sn Sn 05 59 52.0 -6.1
NOR Nord 5.81 323 *eP* Pn 05 58 49.8 -1.4
NOR *eS* Sn 05 59 52.0 -6.1
NOR Nord 5.81 323 *e* Pn 05 58 48.8 -2.4
baz=107,slow=18
NOR *i* P Pn 05 58 49.7 -1.4
NOR *i* S Sn 05 59 48.9 -9.2
NOR IAML 05 59 57.4
comp=Z,3.1nm,0.4s
DBG Daneborg 7.48 257 Pn Pn 05 59 15.0 +0.9
DBG Sn Sn 06 00 32.2 -7.1
DBG Daneborg 7.48 257 Pn Pn 05 59 15.0 +0.9
DBG Sn Sn 06 00 32.2 -7.1
DBG Daneborg 7.48 257 *i* P Pn 05 59 13.9 -0.1
DBG *i* S Sn 06 00 31.3 -8.0
DBG IAML 06 00 41.0
comp=Z,2.7nm,0.4s
HAMF Hammerfest 8.29 140 Pn Pn 05 59 26.5 +1.3
HAMF Hammerfest 8.29 140 Pn Pn 05 59 26.5 +1.3
KIF Kilpisjarvi 9.48 150 Pn Pn 05 59 42.4 +0.9
KIF Sn Sn 06 01 21.6 -6.7
KIF Kilpisjarvi 9.48 150 *eP* Pn 05 59 43.3 +1.9
ARA0 ARCESS Array S 9.56 139 Pn Pn 05 59 44.2 +1.6
baz=332,slow=14
ARA0 Sn Sn 06 01 24.5 -5.9
baz=333,slow=22
ARA0 ARCESS Array S 9.56 139 Pn Pn 05 59 44.2 +1.6
baz=332,slow=14
ARA0 Sn Sn 06 01 24.5 -5.9
baz=333,slow=22
ARCES ARCESS Array B 9.56 139 S Sn 06 01 25.4 -5.0
ARCES ARCESS Array B 9.56 139 Pn Pn 05 59 43.8 +1.2
comp=Z,0.4nm,0.3s,baz=324,slow=12,SNR=37
ARCES Sn Sn 06 01 24.8 -5.6
comp=Z,0.2nm,0.3s,baz=356,slow=23,SNR=2.1
ARCES LR LR 06 03 12.2
comp=Z,121nm,22.0s,baz=306,slow=36
comp=Z,3.4nm,0.7s
KEV Kevo 9.58 136 Pn Pn 05 59 43.7 +0.9
KEV Sn Sn 06 01 24.1 -6.6
KEV Kevo 9.58 136 *eP* Pn 05 59 43.9 +1.1
VADS Vadso 9.62 131 P Pn 05 59 46.0 +2.7
VADS S Sn 06 01 24.9 -6.8
VADS Vadso 9.62 131 *eP* Pn 05 59 45.4 +2.0
KTK1 Kautokeino 9.76 145 Pn Pn 05 59 47.2 +1.9
KTK1 Kautokeino 9.76 145 *eP* Pn 05 59 47.4 +2.1
HEF Hetta 10.38 145 Pn Pn 05 59 55.1 +1.4
HEF Hetta 10.38 145 *eP* Pn 05 59 55.8 +2.1
SALU Saltoluokta 10.84 157 *eP* Pn 06 00 03.9 +3.8
NEEM North Greenlan 12.18 298 *i* P Pn 06 00 15.8 -2.8
NEEM *i* S Sn 06 02 20.2 -15
NEEM IAML 06 02 26.7
comp=Z,3.4nm,0.3s
APA0 Apatity Array 12.47 130 Pn Pn 06 00 22.6 +0.3
APA0 Apatity Array 12.47 130 Pn Pn 06 00 22.6 +0.3
BORG Borgarnes 15.67 230 LR LR 06 05 23.8
comp=Z,106nm,19.5s,baz=332,slow=30
NOA NORSAR Array B 16.78 174 LR LR 06 06 40.8
comp=Z,52nm,18.2s,baz=355,slow=33
FIA0 FINESS Array S 17.39 149 P P 06 01 29.0 +0.2
slow=14
FIA0 FINESS Array S 17.39 149 P P 06 01 29.0 +0.2
slow=14
FINES FINESS Array B 17.39 149 P P 06 01 28.9 +0.1
comp=Z,0.2nm,0.3s,baz=356,slow=12,SNR=5.8
FINES LR LR 06 07 56.3
comp=Z,46nm,21.5s,baz=40,slow=36
comp=Z,3.8nm,0.8s
SFJD Kangerlussuaq 19.52 269 LR LR 06 08 28.8
comp=Z,103nm,18.3s,baz=26,slow=34
RES Resolute Bay 21.68 315 LR LR 06 10 51.0
comp=Z,51nm,18.6s,baz=86,slow=37
NRIK Noril'sk 22.12 68 P P 06 02 22.6 +2.3
comp=Z,5.0nm,0.8s,baz=323,slow=8.1,SNR=5.9
NRIK LR LR 06 12 48.2
comp=Z,80nm,18.7s,baz=296,slow=42
comp=Z,5.0nm,0.8s
KIRV Kirov 23.69 120 LR LR 06 13 56.4
comp=Z,18nm,19.9s,baz=338,slow=42
FRB Frobisher Bay 26.15 282 LR LR 06 13 09.4
comp=Z,84nm,19.9s,baz=6.0,slow=36
AKASG Malin Array Be 28.29 150 P P 06 03 20.8 +2.4
comp=Z,1.4nm,0.8s,baz=350,slow=9.4,SNR=2.4
AKASG LR LR 06 14 59.1
comp=Z,43nm,19.4s,baz=25,slow=37
comp=Z,1.4nm,0.8s
GERES GERESS Array B 29.06 172 LR LR 06 15 01.4
comp=Z,39nm,18.3s,baz=359,slow=36
BELG Belogornoye 29.25 126 LR LR 06 14 50.3
comp=Z,79nm,21.7s,baz=354,slow=36
INK Inuvik 32.37 334 LR LR 06 20 09.8
comp=Z,31nm,19.0s,baz=1.0,slow=42
AKTO Aktyubinsk 33.04 115 P P 06 04 03.5 +3.1
comp=Z,1.4nm,0.6s,baz=320,slow=7.5,SNR=4.4
AKTO LR LR 06 19 50.5
comp=Z,43nm,21.5s,baz=257,slow=41
comp=Z,1.4nm,0.6s
BVAR Borovoye Array 33.11 100 LR LR 06 19 27.7
comp=Z,90nm,21.0s,baz=338,slow=40
SCHQ Schefferville 33.91 272 LR LR 06 17 45.2
comp=Z,84nm,18.9s,baz=282,slow=36
ZALV Zalesovo Beam 35.33 86 LR LR 06 20 22.1
comp=Z,34nm,21.0s,baz=9.5,slow=39
YKA Yellowknife Ar 35.71 318 LR LR 06 18 27.5
comp=Z,33nm,20.8s,baz=2.5,slow=35
KBZ Khabaz 36.90 136 LR LR 06 20 25.6
comp=Z,36nm,18.7s,baz=30,slow=37
ILAR Eielson Array 36.91 342 P P 06 04 36.9 +3.3
comp=Z,0.6nm,0.8s,baz=0.5,slow=5.4,SNR=5.5
ILAR LR LR 06 20 57.0
comp=Z,9.8nm,19.7s,baz=154,slow=38
comp=Z,0.6nm,0.8s
KURBB Kurchatov Arra 37.10 94 P P 06 04 38.4 +3.1
comp=Z,1.6nm,0.8s,baz=339,slow=7.3,SNR=4.4
KURBB LR LR 06 23 14.3
comp=Z,45nm,18.4s,baz=179,slow=42
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 39.62 148 LR LR 06 23 25.6
comp=Z,24nm,19.4s,baz=324,slow=39
GNI Garni 40.68 135 LR LR 06 22 27.1
comp=Z,32nm,21.0s,baz=356,slow=37
MKAR Makanchi Array 41.53 92 P P 06 05 15.2 +2.9
comp=Z,0.9nm,0.8s,baz=350,slow=7.7,SNR=2.8
MKAR LR LR 06 27 17.1
comp=Z,53nm,18.5s,baz=330,slow=43
comp=Z,0.9nm,0.8s
KEST Kesra 42.08 178 LR LR 06 23 48.7
comp=Z,80nm,18.3s,baz=172,slow=38
AAK Ala-Archa 43.84 102 LR LR 06 27 22.6
comp=Z,57nm,18.0s,baz=336,slow=41
ULM Lac du Bonnet 44.21 296 LR LR 06 23 19.6
comp=Z,41nm,19.9s,baz=34,slow=35
GEYT Alibeck 45.11 121 LR LR 06 27 23.4
comp=Z,40nm,18.0s,baz=300,slow=40
SADO Sadowa 46.03 279 LR LR 06 25 34.6
comp=Z,64nm,18.4s,baz=132,slow=37
PDAR Pinedale Array 53.93 306 LR LR 06 29 47.5
comp=Z,51nm,18.6s,baz=28,slow=36
TKL Tuckaleechee C 55.76 280 LR LR 06 32 55.1
comp=Z,49nm,18.2s,baz=20,slow=38
NVAR Mina Array Bea 59.61 312 P P 06 07 32.4 +3.2
comp=Z,0.1nm,0.3s,baz=28,slow=8.3,SNR=1.2
comp=Z,0.1nm,0.3s
ANMO Albuquerque 60.98 301 LR LR 06 33 12.3
comp=Z,30nm,21.1s,baz=88,slow=35
MJAR Matsushiro Arr 62.18 44 LR LR 06 34 56.0
comp=Z,26nm,19.5s,baz=56,slow=36
TXAR Lajitas Array 65.91 297 P P 06 08 13.6 +2.5
comp=Z,0.7nm,0.9s,baz=48,slow=5.3,SNR=5.9
comp=Z,0.7nm,0.9s
ASAR Alice Springs 120.42 59 PKP PKiKP 06 16 18.3 +1.9
comp=Z,0.3nm,0.7s,baz=355,slow=2.1,SNR=5.5
SNAA Sanae 149.30 186 PKPbc PKPab 06 17 15.5 -1.5
comp=Z,1.0nm,0.9s,baz=258,slow=3.4,SNR=2.5

*NNC **04** 06:00:39.4±1.6, 54°.09N×86°.63E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=14.3km s-min=6.4km az=17.0, Suspected Mining explosion.*
*IDC **04** 06:00:41.4±2.5, 54°.05N×86°.52E, h0km, mbtmp3.4/2, ML2.9/2, Error ellipse: s-maj=20.8km s-min=12.5km az=59.0*

ISC 04 06:00:41.8±4.4, 54°.0N±0°.2×86°.5E±0°.2, h0km, n9, σ0°96/12, 9C-3D, Southwestern Siberia

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
I46RU ZALESOVO INFRA 0.96 266 I I 06 08 05.0
baz=81,slow=324,SNR=9.8
ZAA0 Zalesovo Array 0.96 266 ⇑P Pg 06 00 59.5 -0.8
0.3nm,0.3s
ZAA0 ⇓S Sb 06 01 14.9 +0.2
2.4nm,0.8s
ZALV Zalesovo Beam 0.96 266 Pg Pg 06 00 59.4 -0.9
2.0nm,0.3s,baz=86,slow=16,SNR=20
ZALV Lg Lg 06 01 15.4
5.0nm,0.3s,baz=86,slow=28,SNR=21
KURK Kurchatov 5.83 238 ⇑Pn Pn 06 02 10.5 +1.0
0.4nm,0.4s
KURK ⇑Lg Lg 06 03 47.3
7.3nm,1.0s
KURBB Kurchatov Arra 5.93 238 ⇑Pn Pn 06 02 11.5 +0.7
1.0nm,0.3s
KURBB ⇑Lg Lg 06 03 54.0
7.3nm,0.8s
KURBB Kurchatov Arra 5.93 238 Pn Pn 06 02 12.1 +1.3
0.2nm,0.3s,baz=56,slow=14,SNR=35
KURBB Lg Lg 06 03 50.6
baz=59,slow=30,SNR=5.6
6.2nm,0.8s
MK31 Makanchi Array 7.71 202 ⇑Pn Pn 06 02 36.0 +0.7
0.4nm,0.6s,baz=27,slow=13,SNR=10
MK31 ⇓Sn Sn 06 04 03.3 -0.1
0.8nm,0.8s
MK31 ⇓Lg Lg 06 04 47.6
5.4nm,0.9s,baz=25,slow=31,SNR=3.8
MKAR Makanchi Array 7.71 202 Pn Pn 06 02 36.7 +1.3
0.2nm,0.3s,baz=26,slow=14,SNR=7.7
MKAR Sn Sn 06 04 03.5 0.0
0.1nm,0.3s,baz=28,slow=25,SNR=3.2

MKAR Lg Lg 06 04 45.8
0.1nm,0.3s,baz=25,slow=32,SNR=5.3
0.4nm,0.3s
MAKZ Makanchi 7.77 203 ⇑Pn **Pn 06 02 34.8 -1.3**
0.7nm,0.6s
MAKZ ⇑Sn **Sn 06 04 04.9 +0.1**
1.2nm,0.7s
MAKZ ⇑Lg Lg 06 04 50.3
3.9nm,0.9s

---

*IDC **04** 06:01:38.1±2.3, 18°.61N×20°.09W, h0km, mb3.7/5, mbtmp3.8/5, MS3.3/12, Error ellipse: s-maj=82.2km s-min=20.0km az=20.0*

ISC 04 06:01:39.2±1.2, 18°.5N±0°.1×20°.1W±0°.1, h10km, n25, σ2°69/15, mb3.8/5, MS3.3/11, 3C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUK	**Oukaimeden**	**16.84**	**39**	P	**P**	**06 05 38.3**	**+0.5**
OUK				S	**Sn**	**06 08 43.7**	**+0.7**
OUZM	**OUZ**	**17.32**	**42**	P	**P**	**06 05 43.2**	**+0.5**
OUZM				S	**S**	**06 08 56.6**	**-6.5**
ZGR	**Zagora**	**17.56**	**46**	P	**P**	**06 05 50.5**	**+5.1**
ZGR				S	**S**	**06 09 08.4**	**+0.5**
TIC	**Toumodi**	**18.83**	**127**	⇑*e*P	**P**	**06 05 57.1**	**-2.3**
5.2nm,0.4s							
LIC	**Lamto**	**19.09**	**128**	⇑*e*P	**P**	**06 06 01.6**	**-0.6**
17nm,0.8s							
KIC	**Kosan Boka**	**19.22**	**127**	⇑*e*P	**P**	**06 06 01.8**	**-1.9**
7.1nm,0.6s							
MDT	**Midelt**	**19.95**	**41**	LR	LR	06 14 21.6	
comp=Z,137nm,19.7s,baz=244,slow=38							
TORD	**Torodi Ar. Bea**	**21.63**	**101**	P	**P**	**06 06 29.8**	**-0.1**
4.1nm,0.7s,baz=297,slow=10,SNR=18							
TORD				S	**S**	**06 10 32.1**	**+2.5**
0.7nm,0.5s,baz=297,slow=23,SNR=2.6							
TORD				LR	LR	06 15 53.4	
comp=Z,102nm,18.1s,baz=301,slow=40							
4.1nm,0.7s							
H10N2	**ASCENSION HYDR**	**26.71**	**168**	T	T	06 34 20.7	
baz=344,slow=75,SNR=10							
H10N3	**ASCENSION HYDR**	**26.73**	**168**	T	T	06 34 15.8	
baz=344,slow=75,SNR=11							
H10N1	**ASCENSION HYDR**	**26.73**	**168**	T	T	06 34 22.2	
baz=344,slow=75,SNR=9.3							
DAVOX	**Davos/Dischmat**	**37.47**	**34**	LR	LR	06 24 11.2	
comp=Z,42nm,18.3s,baz=268,slow=36							
GERES	**GERESS Array B**	**40.77**	**34**	LR	LR	06 26 25.3	
comp=Z,22nm,18.7s,baz=344,slow=37							
BDFB	**Brasilia**	**43.64**	**221**	LR	LR	06 25 27.1	
comp=Z,29nm,18.1s,baz=311,slow=33							
BORG	**Borgarnes**	**46.25**	**359**	LR	LR	06 25 01.8	
comp=Z,38nm,18.3s,baz=181,slow=30							
NOA	**NORSAR Array B**	**47.96**	**20**	LR	LR	06 29 41.4	
comp=Z,14nm,18.8s,baz=245,slow=35							
HFS	**Hagfors**	**48.14**	**22**	LR	LR	06 29 25.7	
comp=Z,28nm,18.7s,baz=282,slow=35							
EIL	**Elat**	**51.09**	**66**	LR	LR	06 33 26.8	
comp=Z,19nm,19.5s,baz=244,slow=37							
FINES	**FINESS Array B**	**53.71**	**25**	LR	LR	06 33 01.7	
comp=Z,27nm,20.6s,baz=228,slow=35							
KMBO	**Kilima Mbogo**	**59.63**	**103**	LR	LR	06 37 14.2	
comp=Z,23nm,19.9s,baz=89,slow=36							
LVC	**Limon Verde**	**62.78**	**231**	LR	LR	06 39 59.8	
comp=Z,46nm,19.4s,baz=254,slow=37							
AKTO	**Aktyubinsk**	**68.47**	**42**	P	**P**	**06 12 41.1**	**-0.5**
0.8nm,0.4s,baz=272,slow=5.0,SNR=2.4							
0.8nm,0.4s							
TXAR	**Lajitas Array**	**75.73**	**296**	P	**P**	**06 13 25.9**	**+0.2**
0.2nm,0.8s,baz=97,slow=7.6,SNR=2.1							
0.2nm,0.8s							
KURBB	**Kurchatov Arra**	**81.26**	**40**	P	**P**	**06 13 55.0**	**-0.6**
0.5nm,0.9s,baz=282,slow=5.2,SNR=2.6							
0.5nm,0.9s							
MKAR	**Makanchi Array**	**84.91**	**42**	P	**P**	**06 14 15.8**	**+1.1**
0.4nm,0.6s,baz=284,slow=5.8,SNR=1.7							
0.4nm,0.6s							

---

*NEIC **04** 06:06:57.8±1.8, 6°.66N±0°.09×126°.5E±0°.2, h206km±7km, mb4.3/17, Error ellipse: s-maj=25.8km s-min=13.0km az=80.0*
*IDC **04** 06:07:04.8±1.3, 6°.61N×126°.79E, h288km±13km, mb3.6/16, mbtmp4.2/16, Error ellipse: s-maj=24.8km s-min=13.7km az=73.0*

ISC 04 06:06:56.4±0.6, 6°.64N±0°.06×126°.6E±0°.1, h200km, n40, σ0°71/39, mb4.1/24, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.12**	**292**	Pn	**Pn**	**06 07 28.1**	**+1.1**
DAV	**Davao City (W)**	**1.12**	**292**	P	Pn	06 07 45.8	+19
359nm,0.3s,baz=83,slow=19,SNR=12							
TOLI2	**Tolitoli**	**8.01**	**227**	Pn	**Pn**	**06 08 49.5**	**-0.3**
LUWI	**Luwuk**	**8.54**	**207**	Pn	**Pn**	**06 08 58.1**	**+1.3**
SBUM	**Sibu**	**14.94**	**254**	P	**Pn**	**06 10 16.8**	**-1.3**
SOEI	**Soe**	**16.46**	**188**	P	**P**	**06 10 35.5**	**-0.2**
SOEI				IAmb	IAmb	06 10 38.8	
comp=Z,21nm,0.8s							
YULB	**Yu-li**	**17.42**	**343**	P	**P**	**06 10 44.5**	**-1.5**
TPUB	**Ta-pu**	**17.54**	**341**	P	**P**	**06 10 46.0**	**-1.3**
KNRA	**Kununurra**	**22.28**	**175**	P	**P**	**06 11 36.7**	**-0.6**
KNRA				IAmb	IAmb	06 12 17.9	
comp=Z,13nm,1.3s							
WB0	**Warramunga Arr**	**27.34**	**164**	P	**P**	**06 12 23.0**	**0.0**
WB0				IAmb	IAmb	06 12 54.6	
comp=Z,9.5nm,1.4s							
WRA	**Warramunga Arr**	**27.49**	**164**	P	**P**	**06 12 24.3**	**0.0**
WRA	**Warramunga Arr**	**27.49**	**164**	P	**P**	**06 12 24.7**	**+0.3**
comp=Z,0.2nm,0.4s,baz=344,slow=11,SNR=2.3							
comp=Z,0.2nm,0.4s							
WB2	**Warramunga Arr**	**27.49**	**164**	P	**P**	**06 12 25.0**	**+0.6**
WB2				IAmb	IAmb	06 13 03.8	
comp=Z,7.6nm,1.4s							
PSA00	**Pilbara Seismi**	**28.82**	**193**	P	**P**	**06 12 36.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**29.40**	**296**	P	**P**	**06 12 42.9**	**+1.6**
comp=Z,1.1nm,0.3s,baz=91,slow=7.4,SNR=4.1							
comp=Z,1.1nm,0.3s							
KSRS	**Korea Array**	**30.69**	**2**	P	**P**	**06 12 52.4**	**0.0**
comp=Z,0.8nm,0.5s,baz=186,slow=9.8,SNR=6.1							
comp=Z,0.8nm,0.5s							
ASAR	**Alice Springs**	**30.95**	**167**	P	**P**	**06 12 54.6**	**-0.3**
comp=Z,0.4nm,0.3s,baz=345,slow=7.1,SNR=8.6							
comp=Z,0.4nm,0.3s							
MJAR	**Matsushiro Arr**	**31.59**	**18**	P	**P**	**06 13 00.5**	**+0.1**
comp=Z,1.3nm,0.4s,baz=199,slow=9.0,SNR=2.2							
comp=Z,1.3nm,0.4s							
USA0B	**Ussuriysk Arra**	**37.70**	**6**	P	**P**	**06 13 52.3**	**-0.3**
USA0B				IAmb	IAmb	06 14 04.9	
comp=Z,5.1nm,0.7s							
USRK	**Ussuriysk Ar.**	**37.70**	**6**	P	**P**	**06 13 52.9**	**+0.3**
comp=Z,3.5nm,0.4s,baz=181,slow=8.2,SNR=9.4							
comp=Z,3.5nm,0.4s							
BBOO	**Buckleboo**	**40.25**	**168**	P	**P**	**06 14 13.1**	**-0.8**
ULN	**Ulaanbaatar**	**44.34**	**341**	P	**P**	**06 14 47.0**	**+0.2**
ULN				IAmb	IAmb	06 14 48.4	
comp=Z,5.7nm,0.8s							
SONM	**Songino Array**	**44.53**	**341**	P	**P**	**06 14 48.6**	**+0.3**
SONM	**Songino Array**	**44.53**	**341**	P	**P**	**06 14 48.9**	**+0.6**
comp=Z,1.9nm,0.7s,baz=156,slow=7.2,SNR=8.7							
comp=Z,1.9nm,0.7s							
MK31	**Makanchi Array**	**55.13**	**324**	P	**P**	**06 16 08.4**	**+0.4**
MKAR	**Makanchi Array**	**55.13**	**324**	P	**P**	**06 16 07.8**	**-0.2**
MKAR	**Makanchi Array**	**55.13**	**324**	P	**P**	**06 16 08.8**	**+0.7**
comp=Z,2.1nm,0.5s,baz=124,slow=8.1,SNR=20							
comp=Z,2.1nm,0.5s							
MAKZ	**Makanchi**	**55.32**	**324**	P	**P**	**06 16 09.7**	**+0.3**
MAKZ				IAmb	IAmb	06 16 10.8	
comp=Z,2.9nm,0.7s							
ZALV	**Zalesovo Beam**	**57.97**	**332**	P	**P**	**06 16 27.7**	**-0.1**
comp=Z,1.5nm,0.5s,baz=102,slow=6.2,SNR=7.2							
comp=Z,1.5nm,0.5s							
KURK	**Kurchatov**	**59.25**	**327**	P	**P**	**06 16 37.1**	**+0.4**
KURK				IAmb	IAmb	06 16 38.1	
comp=Z,15nm,1.4s							
KURBB	**Kurchatov Arra**	**59.25**	**327**	P	**P**	**06 16 37.1**	**+0.4**
comp=Z,2.8nm,0.7s,baz=125,slow=6.3,SNR=31							
comp=Z,2.8nm,0.7s							
KKAR	**Karatay Array**	**61.06**	**316**	P	**P**	**06 16 49.3**	**+0.1**
BVAR	**Borovoye Array**	**64.84**	**326**	P	**P**	**06 17 14.9**	**+1.0**
comp=Z,1.0nm,0.3s,baz=120,slow=8.9,SNR=8.0							
comp=Z,1.0nm,0.3s							
NRIK	**Noril'sk**	**67.59**	**346**	P	**P**	**06 17 31.2**	**+0.1**
comp=Z,2.7nm,0.5s,baz=124,slow=8.5,SNR=3.7							
comp=Z,2.7nm,0.5s							
ABKAR	**Akbulak array**	**69.85**	**320**	P	**P**	**06 17 45.2**	**-0.2**
ARU	**Arti**	**72.44**	**327**	P	**P**	**06 18 00.7**	**-0.1**
comp=Z,4.1nm,0.2s,baz=36,slow=7.3,SNR=4.3							
comp=Z,4.1nm,0.2s							
CASY	**Casey**	**73.68**	**187**	P	**P**	**06 18 08.9**	**+1.1**
CASY				IAmb	IAmb	06 18 35.0	
comp=Z,6.2nm,1.4s							
ILAR	**Eielson Array**	**82.54**	**26**	P	**P**	**06 18 56.0**	**-0.5**
comp=Z,0.6nm,0.5s,baz=252,slow=5.2,SNR=11							
comp=Z,0.6nm,0.5s							
ARCES	**ARCESS Array B**	**87.69**	**340**	P	**P**	**06 19 21.2**	**-0.9**
comp=Z,0.9nm,0.5s,baz=90,slow=5.7,SNR=5.6							
comp=Z,0.9nm,0.5s							
FINES	**FINESS Array B**	**89.23**	**332**	P	**P**	**06 19 28.9**	**-0.5**
comp=Z,2.6nm,1.0s,baz=125,slow=4.1,SNR=1.5							
comp=Z,2.6nm,1.0s							

WEL 04 06:12:45.4±1.4, 35°S±11°×17°9E±1°0, h94km±113km, M3.6/6, ML3.8/7, MLv3.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=141.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.93**	**193**	P	Pn	06 13 31.6	+1.5
WMGZ	**Waiomatatini S**	**3.17**	**190**	P	Pn	06 13 35.1	+1.9
WMGZ				S	Sn	06 14 10.2	+0.2
HAZ	**Te Kaha**	**3.24**	**199**	P	Pn	06 13 35.2	+1.0
HAZ				S	Sn	06 14 12.2	+0.4
PKGZ	**Pakihiroa**	**3.29**	**195**	P	Pn	06 13 36.3	+1.3
PUZ	**Puketiti**	**3.44**	**192**	P	Pn	06 13 37.2	+0.3
PUZ				S	Sn	06 14 15.0	-1.6
KUZ	**Kuaotunu**	**3.45**	**233**	P	Pn	06 13 37.4	+0.5
RUGZ	**Raukumara Rang**	**3.46**	**200**	P	Pn	06 13 37.9	+0.6
MWZ	**Matawai**	**3.85**	**199**	P	Pn	06 13 42.8	+0.3
URZ	**Urewera**	**3.91**	**204**	P	Pn	06 13 42.5	-0.7
URZ				S	Sn	06 14 25.6	-2.3
WCZ	**Waipu Caves**	**4.11**	**251**	P	Pn	06 13 46.0	0.0
MUGZ	**Murupara**	**4.22**	**206**	P	Pn	06 13 46.3	-1.2
MUGZ				S	Sn	06 14 31.6	-4.0
MTHZ	**Maungataniwha**	**4.53**	**203**	P	Pn	06 13 50.4	-1.3
OUZ	**Omahuta**	**4.58**	**262**	P	Pn	06 13 52.5	+0.2
NMHZ	**Naumai**	**4.77**	**202**	P	Pn	06 13 53.1	-1.8
ARHZ	**Aropaoanui**	**4.86**	**200**	P	Pn	06 13 53.8	-2.4
KAHZ	**Kahuranaki**	**5.39**	**199**	P	Pn	06 14 00.0	-3.4
GLKZ	**Green Lake**	**5.97**	**26**	P	Pn	06 14 09.1	-2.1

---

*NEIC **04** 06:13:51.9±1.8, 25°.1S±0°.1×179°.8W±0°.1, h465km±8km, mb4.7/42, Error ellipse: s-maj=17.3km s-min=14.1km az=110.0*
*NOU **04** 06:13:53.9, 25°.08S×179°.71W, h505km, mb4.8/13, South of Fiji Islands*
*IDC **04** 06:13:55.1±1.2, 25°.07S×179°.86E, h492km±12km, mb3.7/14, mbtmp4.5/17, Error ellipse: s-maj=12.3km s-min=11.2km az=33.0*

ISC 04 06:13:54.2±0.4, 25°.08S±0°.05×179°.85W±0°.07, h500km, n114, σ1°85/121, mb4.3/32, 5C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.49**	**158**	P	**P**	**06 15 15.7**	**-1.0**
RAO	**Raoul Island**	**4.49**	**158**	P	**P**	**06 15 17.2**	**+0.5**
475nm,0.4s,baz=244,slow=4.0,SNR=4.3							
RAO				S	**S**	**06 16 20.9**	**-3.0**
268nm,0.3s,baz=94,slow=21,SNR=2.0							
GLKZ	**Green Lake**	**4.50**	**158**	P	**P**	**06 15 17.2**	**+0.5**
GLKZ				S	**S**	**06 16 21.2**	**-2.8**
MSVF	**Nonsavu**	**7.57**	**345**	P	**P**	**06 15 44.2**	**-2.2**
MSVF	**Nonsavu**	**7.57**	**345**	P	**P**	**06 15 45.4**	**-1.1**
15nm,0.6s,baz=134,slow=1.5,SNR=12							
TAVE	**Taveuni**	**8.33**	**360**	P	**P**	**06 15 54.4**	**+0.2**
YSA	**Yasawairara**	**8.68**	**343**	P	**P**	**06 15 57.2**	**-0.7**
DGTI	**Dogotuki**	**8.75**	**357**	P	**P**	**06 15 58.3**	**-0.2**
OUZ	**Omahuta**	**11.58**	**208**	P	**P**	**06 16 29.6**	**+1.4**
GRZ	**Great Barrier**	**11.84**	**199**	P	**P**	**06 16 31.7**	**+0.8**
PINNC	**Pines Island,**	**11.89**	**279**	P	**P**	**06 16 30.0**	**-1.6**
WCZ	**Waipu Caves**	**11.92**	**203**	P	**P**	**06 16 33.7**	**+1.9**
KUZ	**Kuaotunu**	**12.23**	**197**	P	**P**	**06 16 35.8**	**+0.8**
KUZ	**Kuaotunu**	**12.23**	**197**	P	**P**	**06 16 36.0**	**+1.0**
OUENC	**Ouen Island, N**	**12.48**	**280**	P	**P**	**06 16 37.1**	**-0.8**
MXZ	**Matakaoa Point**	**12.54**	**187**	P	**P**	**06 16 36.0**	**-2.4**
MXZ	**Matakaoa Point**	**12.54**	**187**	P	**P**	**06 16 36.6**	**-1.7**
WMGZ	**Waiomatatini S**	**12.78**	**186**	P	**P**	**06 16 41.5**	**+0.6**
HAZ	**Te Kaha**	**12.80**	**189**	P	**P**	**06 16 39.5**	**-1.5**
DZM	**Mont Dzumac**	**12.93**	**281**	P	**P**	**06 16 42.2**	**-0.5**
12nm,0.9s,baz=98,slow=21,SNR=3.9							
RUGZ	**Raukumara Rang**	**13.02**	**189**	P	**P**	**06 16 41.6**	**-1.9**
TGRZ	**Tauranga**	**13.04**	**194**	P	**P**	**06 16 45.1**	**+1.6**
PUZ	**Puketiti**	**13.05**	**187**	P	**P**	**06 16 42.4**	**-1.4**
PUZ				S	**S**	**06 19 00.4**	**-3.1**
URZ	**Urewera**	**13.39**	**190**	P	**P**	**06 16 46.6**	**-0.7**
URZ	**Urewera**	**13.39**	**190**	P	**P**	**06 16 44.4**	**-2.9**
URZ				S	**S**	**06 19 06.5**	**-3.5**
URZ	**Urewera**	**13.39**	**190**	P	**P**	**06 16 43.0**	**-4.3**
56nm,0.4s,baz=92,slow=3.4,SNR=25							
URZ				S	**S**	**06 19 06.1**	**-3.9**
14nm,0.5s,baz=0.9,slow=23,SNR=3.1							
MWZ	**Matawai**	**13.40**	**189**	P	**P**	**06 16 46.8**	**-0.6**
TKGZ	**Te Karaka**	**13.46**	**188**	P	**P**	**06 16 47.2**	**-0.8**
AFI	**Afiamalu**	**13.46**	**36**	P	**P**	**06 16 44.5**	**-3.9**
AFI	**Afiamalu**	**13.46**	**36**	P	**P**	**06 16 47.3**	**-1.2**
AFI	**Afiamalu**	**13.46**	**36**	P	**P**	**06 16 45.6**	**-2.8**
77nm,0.6s,baz=21,slow=2.2,SNR=11							
AFI				S	**S**	**06 19 04.5**	**-7.6**
22nm,0.7s,baz=211,slow=22,SNR=1.8							
MUGZ	**Murupara**	**13.66**	**191**	P	**P**	**06 16 48.2**	**-2.0**
PRRZ	**Plateau Road**	**13.75**	**193**	P	**P**	**06 16 51.3**	**+0.2**
RTZ	**Ruatahuna**	**13.76**	**191**	P	**P**	**06 16 48.4**	**-2.9**
HIZ	**Hauiti**	**14.12**	**197**	P	**P**	**06 16 52.4**	**-2.6**
BKZ	**Black Stump Fm**	**14.38**	**192**	P	**P**	**06 16 54.9**	**-2.8**
BFZ	**Birch Farm**	**15.90**	**191**	P	**P**	**06 17 10.8**	**-2.8**
MRZ	**Mangatainoka R**	**16.00**	**193**		**P**	**06 17 10.7**	**-4.0**
MRZ				IAmb	IAmb	06 17 16.4	
comp=Z,42nm,1.0s							
SNZO	**South Karori**	**16.81**	**194**	P	**P**	**06 17 19.2**	**-3.9**
TCW	**Tory Channel**	**16.81**	**195**	P	**P**	**06 17 20.8**	**-2.3**
BHW	**Baring Head**	**16.86**	**194**	P	**P**	**06 17 20.6**	**-3.0**
QRZ	**Quartz Range**	**16.94**	**200**		**P**	**06 17 23.4**	**-1.0**
QRZ	**Quartz Range**	**16.94**	**200**	P	**P**	**06 17 23.9**	**-0.5**
TKNZ	**Takaka Hill**	**17.00**	**199**	P	**P**	**06 17 23.1**	**-1.9**
THZ	**Tophouse**	**17.69**	**198**	P	**P**	**06 17 30.4**	**-1.2**
THZ				IAmb	IAmb	06 17 33.4	
comp=Z,24nm,0.6s							
DSZ	**Denniston Nort**	**18.00**	**201**	P	**P**	**06 17 33.5**	**-1.0**
KHZ	**Kahutara**	**18.13**	**196**		**P**	**06 17 34.5**	**-1.1**
LTZ	**Lake Taylor**	**18.81**	**198**		**P**	**06 17 41.5**	**-0.3**
LTZ				IAmb	IAmb	06 17 44.4	
comp=Z,27nm,0.5s							
INZ	**Inchbonnie**	**19.00**	**200**	P	**P**	**06 17 43.7**	**+0.1**
INZ				IAmb	IAmb	06 17 45.3	
comp=Z,30nm,0.6s							
OXZ	**Oxford**	**19.38**	**198**	IAmb	IAmb	06 17 50.2	
comp=Z,67nm,1.2s							
RPZ	**Rata Peaks**	**20.02**	**200**	P	**P**	**06 17 52.9**	**0.0**
comp=Z,16nm,0.6s,baz=138,slow=1.1,SNR=7.6							
ARMA	**Armidale**	**25.76**	**252**	P	**P**	**06 18 44.0**	**-0.6**
ARMA				IAmb	IAmb	06 18 46.2	
comp=Z,12nm,0.8s							
ARMA	**Armidale**	**25.76**	**252**	P	**P**	**06 18 45.3**	**+0.7**
EIDS	**Eidsvold**	**26.28**	**263**	P	**P**	**06 18 48.9**	**-0.2**
CAN	**Canberra**	**28.69**	**242**	P	**P**	**06 19 10.5**	**+0.3**
AULRC	**Lightning Ridg**	**28.88**	**254**	P	**P**	**06 19 12.8**	**+0.9**
comp=Z,30nm,1.2s							
CMSA	**Cobar Meteorol**	**30.93**	**250**	P	**P**	**06 19 29.6**	**0.0**
CTA	**Charters Tower**	**31.64**	**272**	P	**P**	**06 19 35.9**	**+0.1**
CTA	**Charters Tower**	**31.64**	**272**	P	**P**	**06 19 35.6**	**-0.2**
comp=Z,14nm,0.6s,baz=98,slow=9.5,SNR=24							
comp=Z,14nm,0.6s							
CTAO	**Charters Tower**	**31.64**	**272**	P	**P**	**06 19 35.7**	**-0.2**
CTAO				IAmb	IAmb	06 19 36.5	
comp=Z,16nm,0.7s							
CTAO	**Charters Tower**	**31.64**	**272**	P	**P**	**06 19 36.0**	**+0.1**
TOO	**Toolangi**	**31.94**	**239**	P	**P**	**06 19 39.0**	**+0.7**
TOO				IAmb	IAmb	06 19 39.5	
comp=Z,8.0nm,0.8s							
MTSU	**Mount Surprise**	**33.95**	**275**	P	**P**	**06 19 55.7**	**+0.1**
STKA	**Stephens Creek**	**34.43**	**250**	P	**P**	**06 19 59.2**	**-0.2**
STKA	**Stephens Creek**	**34.43**	**250**	P	**P**	**06 19 59.0**	**-0.3**
comp=Z,4.3nm,0.6s,baz=96,slow=11,SNR=12							
comp=Z,4.3nm,0.6s							
COEN	**Coen**	**36.46**	**281**	P	**P**	**06 20 16.4**	**-0.1**
BBOO	**Buckleboo**	**39.12**	**248**	P	**P**	**06 20 37.0**	**-1.1**
BBOO				IAmb	IAmb	06 20 45.0	
comp=Z,47nm,1.5s							
AS31	**Alice Springs**	**41.99**	**262**	P	**P**	**06 21 00.7**	**-0.5**
ASAR	**Alice Springs**	**41.99**	**262**	P	**P**	**06 21 00.7**	**-0.6**
comp=Z,4.9nm,0.7s,baz=100,slow=8.4,SNR=50							
ASAR				ScP	**ScP**	**06 25 49.6**	**+2.0**
comp=Z,0.4nm,0.7s,baz=126,slow=4.7,SNR=2.7							
ASAR				S	**S**	**06 26 41.5**	**-2.1**
comp=Z,0.6nm,0.7s,baz=99,slow=14,SNR=6.5							
comp=Z,4.9nm,0.7s							
WR0	**Warramunga Arr**	**42.29**	**267**	P	**P**	**06 21 02.2**	**-1.4**
WB2	**Warramunga Arr**	**42.47**	**267**	P	**P**	**06 21 04.1**	**-0.9**
WB2				IAmb	IAmb	06 21 05.2	
comp=Z,11nm,1.1s							
WB0	**Warramunga Arr**	**42.48**	**268**	P	**P**	**06 21 03.9**	**-1.2**
WRA	**Warramunga Arr**	**42.48**	**267**	P	**P**	**06 21 03.6**	**-1.4**
WRA	**Warramunga Arr**	**42.48**	**267**	P	**P**	**06 21 04.1**	**-1.0**
comp=Z,2.9nm,0.5s,baz=101,slow=7.7,SNR=33							
WRA				ScP	**ScP**	**06 25 52.4**	**+2.8**
comp=Z,0.8nm,0.9s,baz=110,slow=4.1,SNR=6.4							
WRA				S	**S**	**06 26 47.2**	**-3.4**
comp=Z,0.4nm,0.8s,baz=102,slow=14,SNR=5.1							
comp=Z,2.9nm,0.5s							
FORT	**Forrest**	**46.04**	**251**	P	**P**	**06 21 30.7**	**-1.9**
FORT				IAmb	IAmb	06 22 08.6	
comp=Z,38nm,1.1s							
KNRA	**Kununurra**	**48.83**	**271**	P	**P**	**06 21 52.7**	**-1.0**
KNRA				IAmb	IAmb	06 21 53.8	
comp=Z,7.1nm,0.6s							
MLOA	**Mauna Loa Obse**	**50.24**	**30**	P	**P**	**06 22 05.2**	**+0.7**
HMH	**Humu'ula Sheep**	**50.35**	**30**	P	**P**	**06 22 05.6**	**+0.5**
HMH				IAmb	IAmb	06 22 08.3	
comp=Z,104nm,1.2s							
HPAH	**Hawaii Prepara**	**50.62**	**30**	P	**P**	**06 22 06.7**	**-0.1**
HPAH				IAmb	IAmb	06 22 09.0	
comp=Z,51nm,0.7s							
VNDA	**Vanda**	**53.22**	**185**	P	**P**	**06 22 26.8**	**+2.1**
baz=9.6,slow=7.1							
CASY	**Casey**	**59.12**	**206**	P	**P**	**06 23 05.7**	**0.0**
QSPA	**South Pole Qui**	**65.01**	**180**	P	**P**	**06 23 46.2**	**+2.0**
QSPA				IAmb	IAmb	06 23 47.1	
comp=Z,24nm,0.8s							
QSPA	**South Pole Qui**	**65.01**	**180**	P	**P**	**06 23 46.1**	**+2.0**
comp=Z,22nm,0.8s,baz=26,slow=3.3,SNR=100							
comp=Z,22nm,0.8s							
MJAR	**Matsushiro Arr**	**72.95**	**326**	P	**P**	**06 24 32.9**	**+0.5**
comp=Z,1.4nm,0.4s,baz=160,slow=5.6,SNR=5.8							
comp=Z,1.4nm,0.4s							
SMAI	**San Martin Ant**	**74.96**	**159**	P	**P**	**06 24 44.5**	**+1.3**
SMAI				IAmb	IAmb	06 24 46.8	
comp=Z,28nm,0.8s							
BELA	**Belgrano 2**	**75.25**	**173**	P	**P**	**06 24 45.9**	**+1.1**
BELA				IAmb	IAmb	06 24 46.6	
comp=Z,18nm,0.8s							
MAW	**Mawson**	**76.70**	**200**	P	**P**	**06 24 54.2**	**+1.3**
MAW	**Mawson**	**76.70**	**200**	P	**P**	**06 24 54.1**	**+1.2**
comp=Z,7.2nm,0.6s,baz=125,slow=5.9,SNR=29							
comp=Z,7.2nm,0.6s							
KSRS	**Korea Array**	**79.24**	**320**	P	**P**	**06 25 07.9**	**+0.8**
comp=Z,1.5nm,0.8s,baz=119,slow=7.3,SNR=4.2							
comp=Z,1.5nm,0.8s							
MG05	**Puerto Natales**	**80.70**	**143**	P	**P**	**06 25 16.0**	**+1.4**
MG05				IAmb	IAmb	06 25 54.6	
comp=Z,41nm,1.4s							
USRK	**Ussuriysk Ar.**	**81.83**	**327**	P	**P**	**06 25 21.9**	**+1.5**
comp=Z,1.6nm,0.5s,baz=108,slow=4.7,SNR=2.7							
comp=Z,1.6nm,0.5s							
TROLL	**Troll, Antarti**	**83.16**	**181**	⇑P	**P**	**06 25 28.2**	**+1.2**
comp=Z,330nm,0.3s							
SNAA	**Sanae**	**83.49**	**179**	P	**P**	**06 25 29.0**	**+0.4**
SNAA				IAmb	IAmb	06 25 30.3	
comp=Z,14nm,1.3s							
SNAA	**Sanae**	**83.49**	**179**	⇑P	**P**	**06 25 29.0**	**+0.4**
comp=Z,8.1nm,0.2s							
SNAA	**Sanae**	**83.49**	**179**	P	**P**	**06 25 29.2**	**+0.7**
comp=Z,3.0nm,0.5s,baz=206,slow=9.3,SNR=76							
comp=Z,3.0nm,0.5s							
VNA3	**Neumayer Olymp**	**83.69**	**177**	⇑P	**P**	**06 25 30.4**	**+

7.9nm,0.9s,baz=42,slow=24,SNR=4.3
MKAR Makanchi Array 8.70 220 Pn **Pn 06 18 24.5 -0.2**
0.1nm,0.3s,baz=32,slow=12,SNR=6.1
MKAR Sn **Sn 06 20 03.1 -0.4**
0.1nm,0.3s,baz=36,slow=22,SNR=3.4
MKAR Lg Lg 06 20 51.3
baz=47,slow=28,SNR=5.2
0.2nm,0.3s
MAKZ Makanchi 8.81 221 ⇓Pn **Pn 06 18 27.3 +1.2**
0.3nm,0.4s
MAKZ ⇑Sn **Sn 06 20 05.7 -0.4**
0.9nm,0.7s
MAKZ ⇑Lg Lg 06 21 02.0
3.3nm,0.9s
SONM Songino Array 11.70 114 Lg Lg 06 22 08.4
0.3nm,0.3s,baz=302,slow=28,SNR=3.1

*IDC **04** 06:21:01.0±0.6,54°.30N×169°.16E,h0km,mb4.1/20,*
mbtmp4.2/22,ML4.4/2,MS3.3/23,Error ellipse:
s-maj=18.9km s-min=12.6km az=178.0
*KRSC **04** 06:21:01.6±1.8,53°.88N×169°.00E,h42km±52km,Ml4.8*
*MOS **04** 06:21:03.9±0.8,54°.02N×169°.16E,h45km,mb4.6/16,Error*
ellipse: s-maj=7.4km s-min=4.8km az=29.2
*NEIC **04** 06:21:04.9±1.9,54°.2N±0°.2×169°.2E±0°.1,h23km±6km,*
mb4.5/74,Error ellipse: s-maj=26.0km s-min=9.6km
az=185.0
ISC 04 06:21:04.2±0.4,54°.03N±0°.06×169°.14E±0°.04,h25km,n225,
σ1ŝ49/220,mb4.4/60,MS3.3/20,5C-11D,Komandorsky
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.19**	**304**	PN	**Pn**	**06 21 38.2**	**-0.7**
BKI				S	**Sn**	**06 22 04.3**	**-0.8**
BKI	**Bering**	**2.19**	**304**	*e*P	**Pn**	**06 21 38.4**	**-0.5**
BKI				*e*S	**Sn**	**06 22 02.6**	**-2.5**
SHEM	**Shemya Is, Ala**	**3.24**	**112**	Pn	**Pn**	**06 21 53.3**	**-0.1**
SHEM	79nm,0.3s,baz=341,slow=1.9,SNR=67			Sn	**Sn**	**06 22 31.6**	**+0.4**
	64nm,0.3s,baz=26,slow=18,SNR=3.9						
	295nm,0.5s						
SMY	**Shemya**	**3.24**	**112**		**Pn**	**06 21 53.2**	**-0.2**
SMY	**Shemya**	**3.24**	**112**	PN	**Pn**	**06 21 53.1**	**-0.3**
SMY				S	**Sn**	**06 22 32.2**	**+1.0**
KBTR	**Krutoberegovo**	**4.24**	**304**	PN	**Pn**	**06 22 09.3**	**+2.2**
MKZ	**Mys Kozlova**	**4.37**	**280**	PN	**Pn**	**06 22 08.9**	**0.0**
MKZ	**Mys Kozlova**	**4.37**	**280**	*e*P	**Pn**	**06 22 08.9**	**0.0**
MKZ				*e*S	**Sn**	**06 22 55.4**	**-3.6**
SMKR	**Semkarok**	**5.08**	**303**	PN	**Pn**	**06 22 20.4**	**+1.8**
SMKR	**Semkarok**	**5.08**	**303**	*e*P	**Pn**	**06 22 20.5**	**+1.8**
ZLN	**Zelenaya**	**5.19**	**296**	PN	**Pn**	**06 22 21.9**	**+1.6**
ZLN	**Zelenaya**	**5.19**	**296**	*e*P	**Pn**	**06 22 22.0**	**+1.6**
ZLN				*e*S	**Sn**	**06 23 20.4**	**+1.1**
BDR	**Baidarnaya**	**5.20**	**303**	PN	**Pn**	**06 22 22.0**	**+1.7**
BDR	**Baidarnaya**	**5.20**	**303**	*e*P	**Pn**	**06 22 21.7**	**+1.3**
TUMD	**Tumrok D**	**5.21**	**287**	*e*P	**Pn**	**06 22 21.5**	**+1.0**
TUMD				*e*S	**Sn**	**06 23 17.5**	**-2.3**
BZGR	**Bezymyannyi-Gr**	**5.23**	**295**	PN	**Pn**	**06 22 22.7**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**5.23**	**295**	*e*P	**Pn**	**06 22 22.0**	**+1.3**
BZGR				*e*S	**Sn**	**06 23 20.4**	**+0.2**
CIRR	**Tsirk**	**5.25**	**297**	PN	**Pn**	**06 22 22.4**	**+1.2**
CIRR	**Tsirk**	**5.25**	**297**	*e*P	**Pn**	**06 22 22.3**	**+1.2**
SRKR	**Sorokina**	**5.25**	**303**	PN	Pn	06 22 24.8	+3.7
KZV	**Kizimen**	**5.26**	**286**	PN	**Pn**	**06 22 21.4**	**+0.1**
KZV	**Kizimen**	**5.26**	**286**	*e*P	**Pn**	**06 22 21.6**	**+0.3**
BZP	**Bezymyannyi-Pe**	**5.30**	**294**	*e*P	**Pn**	**06 22 22.4**	**+0.5**
BZMR	**Bezymyannaya**	**5.33**	**295**	PN	**Pn**	**06 22 23.1**	**+0.8**
BZMR	**Bezymyannaya**	**5.33**	**295**	*e*P	**Pn**	**06 22 22.9**	**+0.7**
BZMR				*e*S	**Sn**	**06 23 21.6**	**-1.4**
BZWR	**Bezymyannyi-We**	**5.34**	**295**	PN	**Pn**	**06 22 23.5**	**+1.1**
BZWR	**Bezymyannyi-We**	**5.34**	**295**	*e*P	**Pn**	**06 22 23.6**	**+1.1**
BZWR				*e*S	**Sn**	**06 22 22.5**	**-0.6**
TUMR	**Tumrok**	**5.37**	**287**	PN	**Pn**	**06 22 23.5**	**+0.7**
TUMR	**Tumrok**	**5.37**	**287**	*e*P	**Pn**	**06 22 24.4**	**+1.6**
KLY	**Klyuchi**	**5.38**	**299**	PN	**Pn**	**06 22 23.8**	**+1.1**
KRSR	**Krestovskiy**	**5.39**	**298**	PN	**Pn**	**06 22 24.7**	**+1.7**
KRSR	**Krestovskiy**	**5.39**	**298**	*e*P	**Pn**	**06 22 24.6**	**+1.7**
KIRR	**Kirishev**	**5.42**	**294**	PN	**Pn**	**06 22 25.1**	**+1.6**
KIRR				S	**Sn**	**06 23 25.6**	**+0.6**
KIRR	**Kirishev**	**5.42**	**294**	*e*P	**Pn**	**06 22 25.2**	**+1.7**
KIRR				*e*S	**Sn**	**06 23 25.5**	**+0.5**
KMNR	**Kamenistaya**	**5.42**	**292**	PN	**Pn**	**06 22 24.6**	**+1.2**
KMNR	**Kamenistaya**	**5.42**	**292**	*e*P	**Pn**	**06 22 24.7**	**+1.2**
KMNR				*e*S	**Sn**	**06 23 22.5**	**-2.5**
KPT	**Kopyto**	**5.49**	**294**	PN	**Pn**	**06 22 25.4**	**+1.1**
KPT	**Kopyto**	**5.49**	**294**	*e*P	**Pn**	**06 22 25.9**	**+1.5**
KPT				*e*S	**Sn**	**06 23 27.6**	**+1.0**
SPN	**Mys Shipunski**	**5.51**	**264**	PN	**Pn**	**06 22 25.2**	**+0.6**
SPN	**Mys Shipunski**	**5.51**	**264**	*e*P	**Pn**	**06 22 24.8**	**+0.2**
SPN				*e*S	**Sn**	**06 23 23.1**	**-4.0**
KOZ	**Kozyrevsk**	**5.70**	**295**	PN	**Pn**	**06 22 28.6**	**+1.4**
KOZ	**Kozyrevsk**	**5.70**	**295**	*e*P	**Pn**	**06 22 28.7**	**+1.4**
KII	**Karymskiy**	**5.71**	**274**	PN	**Pn**	**06 22 27.7**	**+0.4**
KII	**Karymskiy**	**5.71**	**274**	*e*P	**Pn**	**06 22 27.8**	**+0.4**
SRDR	**Sredinnyy**	**5.87**	**297**	PN	**Pn**	**06 22 31.8**	**+2.3**
SRDR	**Sredinnyy**	**5.87**	**297**	*e*P	**Pn**	**06 22 31.8**	**+2.3**
SRDR				*e*S	**Sn**	**06 23 36.1**	**+0.2**
NLC	**Nalytchevo**	**5.89**	**266**	PN	**Pn**	**06 22 31.3**	**+1.5**
NLC	**Nalytchevo**	**5.89**	**266**	*e*P	**Pn**	**06 22 31.3**	**+1.5**
NLC				*e*S	**Sn**	**06 23 33.1**	**-3.3**
SDLR	**Sedlovina**	**6.14**	**267**	PN	**Pn**	**06 22 34.0**	**+0.6**
SDLR	**Sedlovina**	**6.14**	**267**	*e*P	**Pn**	**06 22 34.2**	**+0.8**
SDLR				*e*S	**Sn**	**06 23 41.1**	**-1.7**
UGLR	**Uglovaya**	**6.19**	**267**	PN	**Pn**	**06 22 34.9**	**+0.9**
SMAR	**Somma**	**6.20**	**267**	PN	**Pn**	**06 22 34.6**	**+0.5**
SMAR	**Somma**	**6.20**	**267**	*e*P	**Pn**	**06 22 34.7**	**+0.5**
SMAR				*e*S	**Sn**	**06 23 42.0**	**-2.2**
OSSR	**Ossora**	**6.22**	**330**	PN	**Pn**	**06 22 33.2**	**-1.0**
KRER	**Koryakskii**	**6.22**	**268**	PN	**Pn**	**06 22 35.5**	**+1.0**
KRER	**Koryakskii**	**6.22**	**268**	*e*P	**Pn**	**06 22 35.4**	**+0.9**
KRER				*e*S	**Sn**	**06 23 42.5**	**-2.3**
AVH	**Avacha**	**6.23**	**267**	PN	**Pn**	**06 22 35.4**	**+0.9**
AVH	**Avacha**	**6.23**	**267**	*e*P	**Pn**	**06 22 35.4**	**+0.9**
AVH				*e*S	**Sn**	**06 23 42.5**	**-2.5**
KRX	**Arik**	**6.27**	**268**	PN	**Pn**	**06 22 35.9**	**+0.8**
KRX	**Arik**	**6.27**	**268**	*e*P	**Pn**	**06 22 35.9**	**+0.8**
KRX				*e*S	**Sn**	**06 23 43.0**	**-2.9**
DALK	**Dalny**	**6.27**	**265**	PN	**Pn**	**06 22 35.8**	**+0.8**
DALK	**Dalny**	**6.27**	**265**	*e*P	**Pn**	**06 22 35.6**	**+0.6**
DALK				*e*S	**Sn**	**06 23 42.6**	**-3.2**
KOK	**Koryaka**	**6.29**	**268**	PN	**Pn**	**06 22 36.1**	**+0.8**
KOK	**Koryaka**	**6.29**	**268**	*e*P	**Pn**	**06 22 36.0**	**+0.7**
ESO	**Esso**	**6.30**	**292**	PN	**Pn**	**06 22 36.3**	**+0.8**
PET	**Petropavlovsk**	**6.33**	**265**		**Pn**	**06 22 36.9**	**+1.1**
PET	**Petropavlovsk**	**6.33**	**265**	*d i*PN	**Pn**	**06 22 37.1**	**+1.2**
PET	**Petropavlovsk**	**6.33**	**265**	*e*P	**Pn**	**06 22 37.0**	**+1.2**
PET				*e*S	**Sn**	**06 23 45.0**	**-2.2**
GNL	**Ganaly**	**6.63**	**272**	PN	**Pn**	**06 22 41.4**	**+1.3**
GNL	**Ganaly**	**6.63**	**272**	*e*P	**Pn**	**06 22 41.4**	**+1.3**
TILK	**Tilichiki**	**6.64**	**347**	PN	**Pn**	**06 22 39.2**	**-0.8**
KRMR	**Karymshinskiy**	**6.69**	**264**	PN	**Pn**	**06 22 41.6**	**+0.9**
KRMR	**Karymshinskiy**	**6.69**	**264**	*e*P	**Pn**	**06 22 41.8**	**+1.1**
KRMR				*e*S	**Sn**	**06 23 52.2**	**-3.8**
MTVR	**Mutnovka**	**6.75**	**261**	PN	**Pn**	**06 22 42.7**	**+1.0**
MTVR	**Mutnovka**	**6.75**	**261**	*e*P	**Pn**	**06 22 42.8**	**+1.0**
MTVR				*e*S	**Sn**	**06 23 54.3**	**-3.5**
GRL	**Gorelyy**	**6.80**	**262**	PN	**Pn**	**06 22 44.0**	**+1.7**
GRL	**Gorelyy**	**6.80**	**262**	*e*P	**Pn**	**06 22 43.8**	**+1.5**
GRL				*e*S	**Sn**	**06 23 56.9**	**-2.0**
PEA0B	**Petropavlovsk-**	**6.88**	**267**	Pn	**Pn**	**06 22 45.0**	**+1.6**
PEA0B	**Petropavlovsk-**	**6.88**	**267**	*d i*PN	**Pn**	**06 22 45.6**	**+2.3**
PETK	**Petropavlovsk-**	**6.88**	**267**	Pn	**Pn**	**06 22 44.3**	**+1.0**
PETK	14nm,0.3s,baz=91,slow=18,SNR=105			Sn	**Sn**	**06 23 59.2**	**-1.4**
	8.0nm,0.3s,baz=288,slow=28,SNR=7.0						
PETK				LR	LR	06 25 24.6	
	comp=Z,192nm,19.4s,baz=75,slow=38						
	19nm,0.4s						
ASAK	**Asacha**	**6.95**	**261**	PN	**Pn**	**06 22 45.9**	**+1.5**
ASAK	**Asacha**	**6.95**	**261**	*e*P	**Pn**	**06 22 45.7**	**+1.3**
ASAK				*e*S	**Sn**	**06 23 59.9**	**-2.7**
KDTR	**Khodutka, Kamc**	**7.05**	**256**	PN	**Pn**	**06 22 46.2**	**+0.5**
KDTR	**Khodutka, Kamc**	**7.05**	**256**	*e*P	**Pn**	**06 22 46.1**	**+0.5**
KDTR				*e*S	**Sn**	**06 24 00.4**	**-4.4**
APC	**Apacha**	**7.24**	**266**	PN	**Pn**	**06 22 49.8**	**+1.6**
APC	**Apacha**	**7.24**	**266**	*e*P	**Pn**	**06 22 50.1**	**+1.9**
APC				*e*S	**Sn**	**06 24 09.1**	**-0.3**
PAU	**Pauzhetka**	**7.91**	**256**	PN	**Pn**	**06 23 00.4**	**+3.0**
KIWB	**Kanaga Island**	**8.56**	**99**	Pn	**Pn**	**06 23 07.5**	**+1.1**
SKR	**Severo-Kuril's**	**8.64**	**252**	*e*PN	**Pn**	**06 23 09.0**	**+1.5**
SKR				pmax	pmax		
	comp=Z,104nm,0.8s						
SKR				MLR	MLR		
	comp=Z,1μm,17.0s						
ADK	**Adak**	**8.83**	**98**	Pn	**Pn**	**06 23 09.7**	**-0.3**
ADK	**Adak**	**8.83**	**98**	PN	**Pn**	**06 23 09.7**	**-0.3**
GSTR	**Great Sitkin T**	**9.12**	**96**	Pn	**Pn**	**06 23 15.5**	**+1.3**
ATKA	**Atka Island**	**10.19**	**94**	Pn	**Pn**	**06 23 28.3**	**-0.3**
MA2	**Magadan**	**11.48**	**306**	LR	LR	06 28 14.0	
	comp=Z,80nm,18.7s,baz=59,slow=38						
SEY	**Seymchan**	**12.47**	**322**	LR	LR	06 28 30.6	
	comp=Z,101nm,20.0s,baz=264,slow=37						
KUR	**Kuril'sk**	**16.30**	**246**	⇓*e*P	**P**	**06 24 54.4**	**+0.5**
TYV	**Tymovskoe**	**16.41**	**270**	*e*P	**P**	**06 24 59.3**	**+4.1**
TYV				pmax	pmax		
	comp=Z,13nm,1.0s						
TYV				pmax	pmax		
	comp=Z,300nm,3.6s						
SDPT	**Sand Point**	**17.55**	**73**		**P**	**06 25 07.9**	**+0.2**
SDPT				IAmb	IAmb	06 25 12.8	
	comp=Z,28nm,0.8s						
YSS	**Yuzh-Sakhalins**	**18.14**	**258**	⇓*e*P	**P**	**06 25 14.9**	**+0.6**
YSS				pmax	pmax		
	comp=Z,30nm,1.3s						
CHGN	**Chignik**	**18.58**	**70**	P	**Pn**	**06 25 20.8**	**+1.3**
CHGN				IAmb	IAmb	06 25 30.9	
	comp=Z,35nm,1.2s						
N18K	**Kilae Creek**	**19.82**	**56**	P	**Pn**	**06 25 33.5**	**-0.8**
SVW2	**Sparrevohn**	**20.00**	**55**	P	**Pn**	**06 25 35.3**	**-1.1**
TTA	**Tatalina**	**20.04**	**50**	P	**Pn**	**06 25 36.0**	**-1.0**
TTA				IAmb	IAmb	06 25 37.0	
	comp=Z,21nm,0.9s						
TTA	**Tatalina**	**20.04**	**50**	P	**Pn**	**06 25 36.0**	**-1.0**
TTA				pmax	pmax		
	comp=Z,21nm,0.9s						
P18K	**Big Mountain,**	**20.11**	**60**		Pn	06 25 36.4	-1.3
P18K				IAmb	IAmb	06 25 37.4	
	comp=Z,21nm,0.9s						
O18K	**Koktuh Hills**	**20.12**	**59**	P	Pn	06 25 36.9	-1.0
O18K				IAmb	IAmb	06 25 37.6	
	comp=Z,44nm,1.5s						
L19K	**White Mountain**	**20.46**	**52**		Pn	06 25 40.6	-1.2
N19K	**Bonanza Creek**	**20.51**	**56**		Pn	06 25 41.3	-1.2
N19K				IAmb	IAmb	06 25 41.9	
	comp=Z,19nm,0.8s						
M19K	**Big River Lodg**	**20.64**	**53**	P	Pn	06 25 42.2	-1.7
M19K				IAmb	IAmb	06 25 43.3	
	comp=Z,23nm,1.1s						
K20K	**Telida**	**20.98**	**49**	P	**P**	**06 25 45.6**	**+0.4**
J20K	**Nowinta River**	**21.10**	**47**		**P**	**06 25 46.6**	**+0.2**
ILSW	**Iliamna Southw**	**21.16**	**58**	P	**P**	**06 25 48.1**	**+0.8**
ILSW				IAmb	IAmb	06 25 49.9	
	comp=Z,11nm,0.8s						
M20K	**Styx River**	**21.23**	**53**	P	**P**	**06 25 48.9**	**+0.9**
KDAK	**Kodiak Island**	**21.58**	**64**	P	**P**	**06 25 50.0**	**-1.7**
KDAK	**Kodiak Island**	**21.58**	**64**	P	**P**	**06 25 50.0**	**-1.7**
	comp=Z,5.6nm,0.4s,baz=283,slow=6.7,SNR=34						
	comp=Z,5.6nm,0.4s						
IMAR	**Indian Mountai**	**21.68**	**42**	P	**P**	**06 25 53.0**	**+0.3**
CAST	**Castle Rocks**	**21.88**	**49**	P	**P**	**06 25 54.7**	**-0.1**
H21K	**Melozitna Rive**	**21.98**	**43**	P	**P**	**06 25 56.4**	**+0.5**
SKT	**Skwentna**	**22.00**	**53**	P	**P**	**06 25 56.8**	**+0.6**
SKT				IAmb	IAmb	06 26 21.0	
	comp=Z,16nm,1.2s						
YAK	**Yakutsk**	**22.06**	**307**	*e*P	**P**	**06 25 57.4**	**+0.7**
YAK				*e**PP	**sP**	**06 26 04.0**	**-2.3**
YAK				*e*S	**S**	**06 30 00.1**	**+1.7**
YAK				pmax	pmax		
	comp=Z,37nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.3s						
YAK				smax	smax		
	comp=E,118nm,3.3s						
YAK				smax	smax		
	comp=N,116nm,3.1s						
CNPM	**China Poot**	**22.14**	**60**	P	**P**	**06 25 56.7**	**-1.0**
SUA	**Susitna One**	**22.35**	**54**	P	**P**	**06 25 57.9**	**-2.1**
SUA				IAmb	IAmb	06 26 11.6	
	comp=Z,35nm,1.4s						
KTH	**Kantishna Hill**	**22.41**	**49**	P	**P**	**06 26 00.9**	**+0.3**
KTH				IAmb	IAmb	06 26 03.1	
	comp=Z,13nm,1.0s						
BPAW	**Bear Paw Mtn.**	**22.45**	**48**	P	**P**	**06 26 00.8**	**-0.2**
TRF	**Thorofare Moun**	**22.68**	**49**	P	**P**	**06 26 03.3**	**-0.3**
TRF				IAmb	IAmb	06 26 04.8	
	comp=Z,9.2nm,0.7s						
MLY	**Manley**	**22.70**	**45**	P	**P**	**06 26 03.2**	**-0.5**
BWN	**Browne**	**23.12**	**48**	P	**P**	**06 26 08.5**	**+0.5**
I23K	**Minto, Yukon-K**	**23.29**	**45**	P	**P**	**06 26 08.4**	**-1.2**
KLR	**Kul'dur**	**23.50**	**274**	⇓*e*P	**P**	**06 26 13.2**	**+1.3**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KLR	**Kul'dur**	**23.50**	**274**	LR	LR	06 37 10.1	
	comp=Z,38nm,18.3s,baz=357,slow=41						
SML	**Sawmill**	**23.51**	**54**	P	**P**	**06 26 10.3**	**-1.5**
PWL	**Port Wells**	**23.52**	**56**	P	**P**	**06 26 10.0**	**-2.0**
MDM	**Murphy Dome**	**23.74**	**46**	P	**P**	**06 26 13.6**	**-0.5**
COLA	**College**	**23.89**	**46**	P	**P**	**06 26 14.8**	**-0.6**
COLA				IAmb	IAmb	06 26 15.6	
	comp=Z,12nm,0.7s						
COLA	**College**	**23.89**	**46**	P	**P**	**06 26 14.8**	**-0.6**
COLA				pmax	pmax		
	comp=Z,13nm,0.7s						
SCM	**Sheep Creek Mo**	**23.98**	**54**	P	**P**	**06 26 15.6**	**-0.8**
SCM	**Sheep Creek Mo**	**23.98**	**54**	P	**P**	**06 26 15.6**	**-0.8**
SCM				pmax	pmax		
	comp=Z,41nm,1.3s						
TOLK	**Toolik Lake Re**	**23.98**	**36**	P	**P**	**06 26 16.0**	**-0.4**
POKR	**Poker Plat Res**	**24.10**	**45**	P	**P**	**06 26 17.0**	**-0.4**
POKR				IAmb	IAmb	06 26 17.8	
	comp=Z,8.0nm,0.7s						
ILAR	**Eielson Array**	**24.29**	**46**	P	**P**	**06 26 18.1**	**-1.0**
ILAR	**Eielson Array**	**24.29**	**46**	*e*P	**P**	**06 26 17.4**	**-1.8**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**24.29**	**46**	P	**P**	**06 26 17.7**	**-1.5**
	comp=Z,4.4nm,1.0s,baz=254,slow=7.1,SNR=33						
ILAR				LR	LR	06 36 05.2	
	comp=Z,41nm,18.7s,baz=258,slow=38						
	comp=Z,4.4nm,1.0s						
TIXI	**Tiksi**	**24.71**	**331**	⇓*e*P	**P**	**06 26 22.0**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,16nm,1.7s						
J25K	**Salcha River,**	**24.93**	**47**	IAmb	IAmb	06 26 25.1	
	comp=Z,6.1nm,0.7s						
PRP	**Porcupine Dome**	**24.94**	**45**	IAmb	IAmb	06 26 26.6	
	comp=Z,13nm,1.0s						
N25K	**Chitina, Valde**	**25.29**	**54**	P	**P**	**06 26 28.1**	**-0.2**
N25K				IAmb	IAmb	06 26 39.1	
	comp=Z,24nm,1.4s						
BMAR	**Burnt Mountain**	**25.55**	**40**	P	**P**	**06 26 30.1**	**-0.5**
HEH	**HeiHe**	**25.61**	**279**	*e*P	**P**	**06 26 34.0**	**+2.8**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,180nm,4.8s						
M27K	**Edge Creek, AK**	**26.52**	**52**	IAmb	IAmb	06 26 53.5	
	comp=Z,11nm,0.9s						
MJAR	**Matsushiro Arr**	**27.59**	**243**	P	**P**	**06 26 55.9**	**+6.6**
	comp=Z,0.5nm,0.3s,baz=80,slow=14,SNR=1.3						
K29M	**Barlow Dome**	**28.37**	**48**	P	**P**	**06 26 56.1**	**0.0**
K29M				IAmb	IAmb	06 26 56.6	
	comp=Z,6.7nm,0.7s						
EPYK	**Eagle Plains**	**28.57**	**43**	P	**P**	**06 26 57.8**	**+0.1**
EPYK				IAmb	IAmb	06 26 57.9	
	comp=Z,7.2nm,0.8s						
INK	**Inuvik**	**29.78**	**39**	LR	LR	06 39 15.8	
	comp=Z,45nm,19.6s,baz=192,slow=37						
HIA	**Hailar**	**30.50**	**282**	⇑*e*P	**P**	**06 27 12.8**	**-2.2**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KSRS	**Korea Array**	**32.63**	**256**	P	**P**	**06 27 36.5**	**+2.7**
	comp=Z,0.8nm,0.7s,baz=48,slow=9.6,SNR=1.9						
KSRS				LR	LR	06 40 16.2	
	comp=Z,26nm,19.2s,baz=60,slow=35						
	comp=Z,0.8nm,0.7s						
BBB	**Bella Bella**	**36.63**	**67**	LR	LR	06 43 00.5	
	comp=Z,37nm,19.5s,baz=286,slow=36						
NRIK	**Noril'sk**	**38.23**	**325**	⇓*e*P	**P**	**06 28 21.7**	**+0.2**
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
YKA	**Yellowknife Ar**	**38.72**	**46**	*i* P	**P**	**06 28 24.1**	**-1.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**38.72**	**46**	P	**P**	**06 28 24.7**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=353,slow=6.7,SNR=4.5						
	comp=Z,1.3nm,0.6s						
SONM	**Songino Array**	**38.86**	**287**	P	**P**	**06 28 28.0**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=60,slow=7.9,SNR=6.4						
SONM				LR	LR	06 46 05.4	
	comp=Z,95nm,18.4s,baz=86,slow=39						
	comp=Z,1.5nm,0.5s						
YBH	**Yreka Blue Hor**	**45.59**	**77**	LR	LR	06 47 56.4	
	comp=Z,23nm,18.5s,baz=308,slow=36						
ZALV	**Zalesovo Beam**	**46.70**	**306**	P	**P**	**06 29 29.6**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=23,slow=5.2,SNR=2.1						
	comp=Z,0.4nm,0.4s						
SPITS	**Spitsbergen Ar**	**47.01**	**353**	P	**P**	**06 29 31.4**	**-1.3**
	comp=Z,6.5nm,0.9s,baz=32,slow=6.9,SNR=4.6						
	comp=Z,6.5nm,0.9s						
PLID	**Pearl Lake**	**47.23**	**69**	P	**P**	**06 29 34.4**	**-0.7**
DGZ	**Jazzator, Alta**	**47.99**	**300**	⇓*e*P	**P**	**06 29 40.5**	**-0.3**
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PNTR	**Pine Nut**	**49.12**	**77**	P	**P**	**06 29 50.7**	**+1.0**
YERR	**Yerington**	**49.39**	**77**	IAmb	IAmb	06 29 53.4	
	comp=Z,6.7nm,1.1s						
WAKR	**Walker**	**49.61**	**78**	P	**P**	**06 29 54.1**	**+0.8**
KVN	**Kaiserville**	**50.00**	**76**	IAmb	IAmb	06 29 58.0	
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**50.31**	**77**	P	**P**	**06 29 59.5**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=297,slow=7.2,SNR=18						
NVAR				LR	LR	06 49 02.9	
	comp=Z,32nm,20.5s,baz=322,slow=33						
	comp=Z,2.4nm,0.8s						
MDPB	**Devils Postpil**	**50.41**	**78**	IAmb	IAmb	06 30 01.5	
	comp=Z,3.4nm,0.9s						
ELK	**Elko**	**50.49**	**73**	LR	LR	06 50 17.6	
	comp=Z,64nm,19.1s,baz=333,slow=35						
KURK	**Kurchatov**	**51.69**	**306**	P	**P**	**06 30 07.7**	**-1.0**
KURK				IAmb	IAmb	06 30 08.7	
	comp=Z,4.8nm,0.9s						
KURK	**Kurchatov**	**51.69**	**306**	*ce*P	**P**	**06 30 08.0**	**-0.7**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.7s						
KURBB	**Kurchatov Arra**	**51.80**	**306**	P	**P**	**06 30 08.6**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=52,slow=7.6,SNR=20						
	comp=Z,2.5nm,0.8s						
SPR3	**Spring Creek 3**	**52.19**	**74**	P	**P**	**06 30 11.8**	**-1.1**
SPR3				IAmb	IAmb	06 30 28.9	
	comp=Z,6.1nm,1.2s						
PD31	**Pinedale Array**	**52.27**	**67**	P	**P**	**06 30 13.7**	**+0.3**
PDAR	**Pinedale Array**	**52.27**	**67**	P	**P**	**06 30 13.3**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=312,slow=3.5,SNR=13						
	comp=Z,0.8nm,0.4s						
MK31	**Makanchi Array**	**52.49**	**300**	*c i*P	**P**	**06 30 13.6**	**-1.1**
MKAR	**Makanchi Array**	**52.49**	**300**	P	**P**	**06 30 13.4**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=51,slow=7.1,SNR=12						
	comp=Z,1.2nm,0.7s						
TPNV	**Topopah Spring**	**52.51**	**77**	P	**P**	**06 30 15.8**	**+0.6**
TPNV				IAmb	IAmb	06 30 17.1	
	comp=Z,3.9nm,0.9s						
TPNV	**Topopah Spring**	**52.51**	**77**	P	**P**	**06 30 15.8**	**+0.6**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GWY	**Greenwater Val**	**52.80**	**78**	IAmb	IAmb	06 30 22.4	
	comp=Z,7.4nm,1.3s						
PRN	**Pahroc Range**	**52.88**	**76**	IAmb	IAmb	06 30 19.9	
	comp=Z,9.9nm,1.5s						
GSC	**Goldstone, Bar**	**53.34**	**79**	IAmb	IAmb	06 30 22.9	
	comp=Z,9.0nm,1.2s						
TMUT	**Trail Mountain**	**53.74**	**71**	IAmb	IAmb	06 30 25.7	
	comp=Z,3.6nm,0.8s						
BVAR	**Borovoye Array**	**53.90**	**312**	P	**P**	**06 30 24.3**	**-0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.68**	**37**	Pn	Pn	06 38 21.9	+0.7
	3.1nm,0.3s,baz=101,slow=16,SNR=1.6						
AFI				LR	LR	06 39 47.4	
	comp=Z,221nm,19.0s,baz=142,slow=34						
	19nm,0.6s						
MSVF	**Nonsavu**	**6.94**	**269**	LR	LR	06 41 18.4	
	comp=Z,749nm,20.2s,baz=83,slow=36						
RAR	**Rarotonga**	**14.48**	**106**	LR	LR	06 44 50.9	
	comp=Z,55nm,21.2s,baz=328,slow=32						
DZM	**Mont Dzumac**	**18.28**	**253**	*e*LR	LR	06 46 00.2	
	comp=Z,396nm,25.6s						
DZM	**Mont Dzumac**	**18.28**	**253**	LR	LR	06 47 07.4	
	comp=Z,330nm,19.6s,baz=74,slow=33						
PAE	**Paea**	**23.90**	**94**	*e*T	T	07 06 45.0	
	2.0nm,0.2s						
PPT2	**Papeete2**	**23.91**	**94**	*e*LR	LR	06 47 47.8	
	comp=Z,256nm,26.8s						
PPT2				*e*LR	LR	06 47 53.9	
	comp=Z,166nm,29.8s						
PPT2	**Papeete2**	**23.91**	**94**	*e*T	T	07 06 57.5	
	1.6nm,0.2s						
PPT	**Papeete**	**23.91**	**94**	LR	LR	06 49 09.0	
	comp=Z,32nm,19.2s,baz=296,slow=30						
TVO	**Taravao**	**24.21**	**94**	*e*T	T	07 07 06.6	
	0.2nm,0.2s						
TBI	**Tubuai**	**24.25**	**108**	*e*LR	LR	06 48 01.2	
	comp=Z,892nm,27.8s						
TBI				*e*LR	LR	06 48 19.2	
	comp=Z,3μm,25.0s						
HNR	**Honiara**	**25.98**	**285**	LR	LR	06 51 52.3	
	comp=Z,1μm,18.5s,baz=120,slow=34						
CTA	**Charters Tower**	**36.99**	**260**	LR	LR	06 57 48.6	
	comp=Z,78nm,18.6s,baz=82,slow=34						
WRA	**Warramunga Arr**	**48.17**	**259**	P	P	06 45 52.2	+0.6
	0.9nm,0.7s,baz=96,slow=7.0,SNR=12						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**48.27**	**254**	P	P	06 45 51.7	-0.7
	3.1nm,0.7s,baz=88,slow=8.3,SNR=25						
	3.1nm,0.7s						
SIJI	**Sorong**	**55.67**	**281**	LR	LR	07 09 07.4	
	comp=Z,42nm,21.5s,baz=132,slow=34						
RPN	**Rapa Nui**	**60.56**	**112**	LR	LR	07 04 54.5	
	comp=Z,17nm,22.0s,baz=194,slow=28						
DAV	**Davao City (W)**	**63.91**	**287**	LR	LR	07 12 45.4	
	comp=Z,22nm,20.7s,baz=164,slow=33						
PFO	**Pinyon Flats O**	**75.37**	**47**	LR	LR	07 13 10.3	
	comp=Z,32nm,19.9s,baz=190,slow=29						
YBH	**Yreka Blue Hor**	**76.15**	**37**	LR	LR	07 14 39.2	
	comp=Z,31nm,20.8s,baz=224,slow=30						
NVAR	**Mina Array Bea**	**76.84**	**42**	LR	LR	07 14 41.6	
	comp=Z,34nm,19.7s,baz=270,slow=29						
KSRS	**Korea Array**	**76.95**	**317**	LR	LR	07 19 04.1	
	comp=Z,7.5nm,19.3s,baz=0.0,slow=33						
TXAR	**Lajitas Array**	**82.89**	**56**	P	P	06 49 36.7	+0.5
	0.1nm,0.5s,baz=222,slow=6.1,SNR=1.3						
	0.1nm,0.5s						
PDAR	**Pinedale Array**	**84.78**	**42**	P	P	06 49 45.3	-0.5
	0.2nm,0.6s,baz=218,slow=5.3,SNR=2.2						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**84.92**	**12**	P	P	06 49 45.3	-0.3
	0.2nm,0.5s,baz=242,slow=5.7,SNR=5.1						
	0.2nm,0.5s						
H03S2	**Juan Fernandez**	**84.95**	**124**	T	T	08 23 25.4	
	baz=250,slow=75,SNR=22						
H03S1	**Juan Fernandez**	**84.97**	**124**	T	T	08 23 28.5	
	baz=250,slow=75,SNR=20						
H03S3	**Juan Fernandez**	**84.97**	**124**	T	T	08 23 27.2	
	baz=250,slow=75,SNR=22						
H03N2	**Juan Fernandez**	**85.07**	**123**	T	T	08 23 25.7	
	baz=248,slow=72,SNR=13						
H03N3	**Juan Fernandez**	**85.07**	**123**	T	T	08 23 26.4	
	baz=248,slow=72,SNR=12						
H03N1	**Juan Fernandez**	**85.08**	**123**	T	T	08 23 26.4	
	baz=248,slow=72,SNR=13						

IDC 04 07:22:38.6±2.3, 6°.55S×128°.97E, $h0^{km}$, $mb3.5_1$, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=129.9km s-min=32.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.30**	**159**	Pn	Pn	07 26 02.0	-0.6
	0.4nm,0.3s,baz=338,slow=13,SNR=9.8						
WRA				Sn	Sn	07 28 29.1	-13
	0.3nm,0.3s,baz=336,slow=22,SNR=5.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**17.67**	**165**	P	Pn	07 26 46.7	+0.3
	0.2nm,0.3s,baz=346,slow=10,SNR=15						
ASAR				S	Sn	07 29 55.4	-8.7
	0.1nm,0.4s,baz=347,slow=25,SNR=1.4						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**67.29**	**327**	P	P	07 33 35.3	+0.1
	0.4nm,0.6s,baz=125,slow=7.9,SNR=3.3						
	0.4nm,0.6s						

*IDC **04** 07:25:04.0±1.4, 11°.04N×143°.84E, $h0^{km}$, $mb3.5/6$, mbtmp3.5/6, MS3.5/2, Error ellipse: s-maj=53.4km s-min=23.5km az=90.0*

ISC 04 07:25:09.2±1.4, 11°.0N±0°.2×143°.9E±0°.4, $h35^{km}$, n9, σ0°81/7, mb3.6/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**22.57**	**280**	LR	LR	07 40 58.2	
	comp=Z,34nm,18.6s,baz=344,slow=42						
WRA	**Warramunga Arr**	**32.15**	**197**	P	**P**	**07 31 33.7**	**0.0**
	0.7nm,0.7s,baz=19,slow=9.7,SNR=5.0						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**35.81**	**196**	P	**P**	**07 32 05.6**	**+0.1**
	0.3nm,0.6s,baz=15,slow=7.7,SNR=2.5						
	0.3nm,0.6s						
SONM	**Songino Array**	**48.29**	**327**	P	**P**	**07 33 47.8**	**+0.6**
	0.4nm,0.5s,baz=125,slow=7.6,SNR=2.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**62.67**	**317**	P	**P**	**07 35 31.0**	**+0.6**
	0.3nm,0.6s,baz=96,slow=8.3,SNR=2.9						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**65.96**	**321**	P	**P**	**07 35 51.7**	**-0.2**
	2.0nm,0.2s,baz=106,slow=6.0,SNR=4.9						
ILAR	**Eielson Array**	**71.31**	**25**	P	**P**	**07 36 25.1**	**+0.1**
	0.3nm,0.6s,baz=254,slow=5.4,SNR=5.2						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**71.33**	**322**	P	**P**	**07 36 24.0**	**-1.4**
	0.4nm,0.4s,baz=107,slow=9.2,SNR=2.9						
	0.4nm,0.4s						
RES	**Resolute Bay**	**87.27**	**13**	LR	LR	08 15 43.2	
	comp=Z,83nm,21.8s,baz=29,slow=35						

*DJA **04** 07:26:55.9±1.1, 6°.S±4°.×15°.5E±°, $h120^{km}$±10^{km}, M5.0/11, mB5.3/7, mb4.8/11, MLv5.4/1, Mw(mB)4.7/7*
*IDC **04** 07:26:56.4±0.7, 6°.18S×155°.05E, $h112^{km}$±5^{km}, $mb4.1/16$, mbtmp4.5/20, MS2.9/6, Error ellipse: s-maj=15.8km s-min=11.2km az=103.0*
*NEIC **04** 07:26:59.5±1.4, 6°.1S±0°.1×154°.91E±0°.09, $h131^{km}$±8^{km}, mb4.5/29, Error ellipse: s-maj=16.0km s-min=11.7km az=207.0*

ISC 04 07:26:55.4±0.4, 6°.14S±0°.06×155°.15E±0°.07, $h100^{km}$, n106, σ1°58/112, mb4.5/29, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.54**	**303**		**Pn**	**07 27 50.6**	**+2.2**
KRVT	**Keravat (AS076**	**3.60**	**300**	P	**Pn**	**07 27 50.9**	**+1.7**
	30nm,0.4s,baz=143,slow=20,SNR=3.1						
PMG	**Port Moresby**	**8.55**	**247**	Pn	**Pn**	**07 28 58.3**	**+1.9**
PMG	**Port Moresby**	**8.55**	**247**	P	Pn	07 29 02.6	+6.2
PMG	**Port Moresby**	**8.55**	**247**	P	**Pn**	**07 28 57.9**	**+1.5**
	28nm,0.5s,baz=36,slow=14,SNR=5.3						
PMG				S	**Sn**	**07 30 32.8**	**+1.6**
	106nm,0.6s,baz=24,slow=20,SNR=14						
MANU	**Manus Island**	**8.76**	**297**		**Pn**	**07 28 59.6**	**+0.4**
PATS	**Pohnpei**	**13.27**	**14**	Pn	**P**	**07 30 03.3**	**-2.7**
COEN	**Coen**	**14.11**	**236**	Pn	**Pn**	**07 30 11.8**	**+1.0**
COEN	**Coen**	**14.11**	**236**	P	**P**	**07 30 16.5**	**+1.2**
TV1H	**Townsville Har**	**15.37**	**211**	P	**Pn**	**07 30 27.8**	**+1.0**
MTSU	**Mount Surprise**	**15.93**	**221**	P	**P**	**07 30 35.7**	**+0.2**
CTA	**Charters Tower**	**16.33**	**211**	P	**P**	**07 30 40.4**	**+0.4**
CTA	**Charters Tower**	**16.33**	**211**	P	**P**	**07 30 39.5**	**-0.6**
	8.1nm,0.7s,baz=39,slow=12,SNR=12						
CTA				LR	LR	07 36 35.5	
	comp=Z,51nm,18.0s,baz=80,slow=36						
CTAO	**Charters Tower**	**16.33**	**211**		**P**	**07 30 39.4**	**-0.6**
CTAO	**Charters Tower**	**16.33**	**211**	P	**P**	**07 30 40.3**	**+0.3**
RK1H	**Rockhampton Ha**	**17.72**	**194**	P	**Pn**	**07 30 55.8**	**0.0**
DZM	**Mont Dzumac**	**19.24**	**147**	P	**Pn**	**07 31 14.8**	**+0.9**
DZM				IAmb	IAmb	07 31 26.2	
	comp=Z,26nm,1.2s						
DZM	**Mont Dzumac**	**19.24**	**147**	P	**Pn**	**07 31 14.2**	**+0.3**
	comp=Z,10.0nm,0.4s,baz=275,slow=8.1,SNR=32						
EIDS	**Eidsvold**	**19.51**	**191**	P	**Pn**	**07 31 16.1**	**-0.9**
EIDS				IAmb	IAmb	07 31 16.9	
	comp=Z,19nm,0.8s						
EIDS	**Eidsvold**	**19.51**	**191**	P	**Pn**	**07 31 16.0**	**-1.0**
RMQ	**Roma**	**21.13**	**196**	P	**P**	**07 31 34.4**	**+2.1**
GUMO	**Guam**	**22.10**	**333**	LR	LR	07 41 27.5	
	comp=Z,13nm,18.1s,baz=186,slow=39						
QLP	**Quilpie**	**22.84**	**206**	P	**P**	**07 31 51.5**	**+1.4**
FAKI	**Fak Fak**	**23.05**	**277**	P	**P**	**07 31 51.5**	**-0.8**
WR0	**Warramunga Arr**	**24.28**	**234**	P	**P**	**07 32 03.3**	**-0.2**
WB0	**Warramunga Arr**	**24.30**	**234**	P	**P**	**07 32 03.5**	**-0.2**
ARMA	**Armidale**	**24.38**	**187**	P	**P**	**07 32 05.1**	**+0.8**
ARMA				IAmb	IAmb	07 32 05.8	
	comp=Z,11nm,0.7s						
ARMA	**Armidale**	**24.38**	**187**	P	**P**	**07 32 07.3**	**+2.9**
WRAB	**Tennant Creek**	**24.42**	**234**	P	**P**	**07 32 04.5**	**-0.3**
WB2	**Warramunga Arr**	**24.42**	**234**	P	**P**	**07 32 04.8**	**-0.1**
WRA	**Warramunga Arr**	**24.43**	**234**	P	**P**	**07 32 03.6**	**-1.3**
WRA	**Warramunga Arr**	**24.43**	**234**	P	**P**	**07 32 04.5**	**-0.4**
	comp=Z,93nm,0.7s,baz=56,slow=10.0,SNR=225						
WRA				PcP	**PcP**	**07 35 40.8**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=63,slow=3.4,SNR=0.8						
WRA				ScP	**ScP**	**07 39 08.8**	**-2.6**
	comp=Z,0.8nm,0.8s,baz=62,slow=3.5,SNR=1.6						
MTN	**Manton Dam**	**24.59**	**253**	P	**P**	**07 32 05.9**	**-0.5**
MTN				IAmb	IAmb	07 32 09.2	
	comp=Z,10.0nm,0.9s						
AUPHS	**Peel High Scho**	**25.15**	**189**	P	**P**	**07 32 13.9**	**+2.6**
	comp=Z,17nm,1.4s						
CMSA	**Cobar Meteorol**	**26.77**	**198**	P	**P**	**07 32 28.8**	**+2.9**
AS31	**Alice Springs**	**26.85**	**227**	P	**P**	**07 32 25.8**	**-1.0**
ASAR	**Alice Springs**	**26.85**	**227**	P	**P**	**07 32 25.3**	**-1.5**
	comp=Z,2.8nm,0.3s,baz=57,slow=9.1,SNR=65						
ASAR				pP	**pwP**	**07 32 50.1**	**-3.7**
	comp=Z,3.6nm,0.7s,baz=62,slow=10,SNR=5.6						
ASAR				PcP	**PcP**	**07 35 46.7**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=60,slow=2.7,SNR=4.5						
ASAR				ScP	**ScP**	**07 39 16.4**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=36,slow=2.3,SNR=3.3						
	comp=Z,2.8nm,0.3s						
KNRA	**Kununurra**	**27.55**	**248**	P	**P**	**07 32 31.1**	**-2.0**
KNRA				IAmb	IAmb	07 32 45.9	
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**28.57**	**205**	P	**P**	**07 32 40.9**	**-1.1**
STKA	**Stephens Creek**	**28.57**	**205**	P	**P**	**07 32 40.9**	**-1.1**
	comp=Z,3.3nm,0.5s,baz=29,slow=13,SNR=15						
	comp=Z,3.3nm,0.5s						
BBOO	**Buckleboo**	**31.94**	**211**	P	**P**	**07 33 10.3**	**-1.4**
GTOI	**Gorontalo**	**32.78**	**281**	P	**P**	**07 33 21.7**	**+2.4**
	comp=Z,6.9nm,0.9s						
OUZ	**Omahuta**	**33.56**	**152**	P	**P**	**07 33 27.5**	**+1.7**
JCJ	**Chichijima**	**35.34**	**340**	LR	LR	07 45 36.1	
	comp=Z,23nm,19.7s,baz=105,slow=32						
KUZ	**Kuaotunu**	**35.80**	**151**	P	**P**	**07 33 46.2**	**+1.1**
TOZ	**Tahuroa Road**	**36.49**	**152**	P	**P**	**07 33 52.7**	**+1.7**
TOZ				IAmb	IAmb	07 33 53.5	
	comp=Z,14nm,0.7s						
TOZ	**Tahuroa Road**	**36.49**	**152**	P	**P**	**07 33 53.1**	**+2.1**
HIZ	**Hauiti**	**36.85**	**154**	P	**P**	**07 33 54.9**	**+0.9**
HIZ	**Hauiti**	**36.85**	**154**	P	**P**	**07 33 56.3**	**+2.3**
OMRZ	**Omania**	**37.20**	**152**	P	**P**	**07 34 01.0**	**+4.0**
TAU	**Tasmania Unive**	**37.27**	**190**	P	**P**	**07 33 56.9**	**-0.5**
MBWA	**Marble Bar**	**37.39**	**243**	P	**P**	**07 33 55.9**	**-2.9**
MBWA				IAmb	IAmb	07 34 08.2	
	comp=Z,12nm,1.1s						
PSA00	**Pilbara Seismi**	**37.42**	**242**	P	**P**	**07 33 57.4**	**-1.7**
HAZ	**Te Kaha**	**37.61**	**150**	P	**P**	**07 34 02.0**	**+1.6**
URZ	**Urewera**	**37.67**	**151**	P	**P**	**07 34 01.8**	**+0.8**
MUGZ	**Murupara**	**37.69**	**152**	P	**P**	**07 34 02.6**	**+1.5**
RUGZ	**Raukumara Rang**	**37.72**	**150**	P	**P**	**07 34 02.1**	**+0.6**
NGZ	**Ngauruhoe**	**37.72**	**154**	P	**P**	**07 34 03.8**	**+2.2**
MXZ	**Matakaoa Point**	**37.72**	**149**	P	**P**	**07 34 02.4**	**+1.0**
RTZ	**Ruatahuna**	**37.90**	**152**	P	**P**	**07 34 03.9**	**+1.0**
MWZ	**Matawai**	**37.94**	**151**	P	**P**	**07 34 04.3**	**+1.1**
PUZ	**Puketiti**	**38.09**	**150**	P	**P**	**07 34 05.1**	**+0.6**
BKZ	**Black Stump Fm**	**38.11**	**153**	P	**P**	**07 34 05.8**	**+1.1**
BKZ	**Black Stump Fm**	**38.11**	**153**	P	**P**	**07 34 05.5**	**+0.8**
TKGZ	**Te Karaka**	**38.17**	**151**	P	**P**	**07 34 06.2**	**+1.1**
RAHZ	**Arahi**	**38.19**	**152**	P	**P**	**07 34 07.0**	**+1.7**
SNGZ	**Shannon Statio**	**38.20**	**151**	P	**P**	**07 34 06.7**	**+1.3**
NMHZ	**Naumai**	**38.20**	**152**	P	**P**	**07 34 07.5**	**+2.0**
RIGZ	**Rimuhau**	**38.34**	**151**	P	**P**	**07 34 07.9**	**+1.3**
NNZ	**Nelson**	**38.53**	**158**	P	**P**	**07 34 12.0**	**+3.8**
KNZ	**Kokohu**	**38.55**	**151**	P	**P**	**07 34 08.8**	**+0.5**
TSZ	**Takapari Road**	**38.60**	**154**	P	**P**	**07 34 09.8**	**+1.0**
THZ	**Tophouse**	**38.84**	**159**	P	**P**	**07 34 12.2**	**+1.5**
TCW	**Tory Channel**	**38.87**	**157**	P	**P**	**07 34 12.4**	**+1.4**
PXZ	**Pawanui**	**38.98**	**153**	P	**P**	**07 34 12.6**	**+0.7**
KHZ	**Kahutara**	**39.63**	**159**	P	**P**	**07 34 17.9**	**+0.6**
OXZ	**Oxford**	**39.92**	**161**	P	**P**	**07 34 21.2**	**+1.5**
GVZ	**Greta Valley S**	**39.94**	**159**	P	**P**	**07 34 21.4**	**+1.6**
MQZ	**McQueen's Vall**	**40.46**	**160**	P	**P**	**07 34 27.2**	**+3.2**
NWAO	**Narrogin (SRO)**	**44.17**	**228**	LR	LR	07 51 40.2	
	comp=Z,32nm,19.6s,baz=198,slow=34						
MJAR	**Matsushiro Arr**	**45.33**	**341**	LR	LR	07 54 13.5	
	comp=Z,18nm,18.4s,baz=96,slow=36						
KSRS	**Korea Array**	**50.26**	**332**	P	**P**	**07 35 40.7**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=147,slow=5.9,SNR=2.9						
KSRS				LR	LR	07 56 26.0	
	comp=Z,5.2nm,18.4s,baz=240,slow=35						
	comp=Z,1.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**54.29**	**340**	P	**P**	**07 36 11.6**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=159,slow=12,SNR=2.6						
	comp=Z,1.6nm,0.6s						
PETK	**Petropavlovsk-**	**59.06**	**2**	P	**P**	**07 36 46.5**	**+1.6**
	comp=Z,6.1nm,0.8s,baz=165,slow=6.8,SNR=6.6						
	comp=Z,6.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.56**	**295**	P	**P**	**07 36 55.7**	**-0.1**
	comp=Z,3.0nm,0.5s,baz=118,slow=5.0,SNR=13						
CMAR				pP	**pP**	**07 37 22.5**	**+2.1**
	comp=Z,2.2nm,0.6s,baz=122,slow=5.4,SNR=2.7						
	comp=Z,3.0nm,0.5s						
SONM	**Songino Array**	**68.70**	**327**	P	**P**	**07 37 48.4**	**+0.1**
	comp=Z,3.4nm,0.5s,baz=134,slow=5.4,SNR=19						
	comp=Z,3.4nm,0.5s						
ILAR	**Eielson Array**	**82.53**	**21**	P	**P**	**07 39 05.9**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=238,slow=5.8,SNR=15						
ILAR				pP	**pP**	**07 39 35.3**	**+2.8**
	comp=Z,0.3nm,0.4s,baz=238,slow=5.3,SNR=2.4						
	comp=Z,0.7nm,0.6s						
MK31	**Makanchi Array**	**82.87**	**319**	P	**P**	**07 39 07.9**	**-1.1**
MK31				IAmb	IAmb	07 39 09.5	
	comp=Z,5.6nm,0.8s						
MKAR	**Makanchi Array**	**82.87**	**319**	P	**P**	**07 39 08.6**	**-0.4**
MKAR	**Makanchi Array**	**82.87**	**319**	P	**P**	**07 39 08.1**	**-0.8**
	comp=Z,7.3nm,0.7s,baz=98,slow=6.8,SNR=49						
MKAR				pP	**pP**	**07 39 38.2**	**+2.7**
	comp=Z,1.7nm,0.7s,baz=99,slow=6.1,SNR=3.1						
	comp=Z,7.3nm,0.7s						
MAKZ	**Makanchi**	**83.08**	**319**	P	**P**	**07 39 09.3**	**-0.7**
MAKZ				IAmb	IAmb	07 39 10.5	
	comp=Z,10nm,0.8s						
ZALV	**Zalesovo Beam**	**83.56**	**326**	P	**P**	**07 39 10.6**	**-1.7**
	comp=Z,3.9nm,0.6s,baz=114,slow=6.6,SNR=6.7						
	comp=Z,3.9nm,0.6s						
QSPA	**South Pole Qui**	**83.83**	**180**	P	**P**	**07 39 13.1**	**-0.6**
QSPA				IAmb	IAmb	07 39 14.2	
	comp=Z,9.3nm,1.1s						
QSPA	**South Pole Qui**	**83.83**	**180**	P	**P**	**07 39 13.2**	**-0.5**
	comp=Z,5.2nm,0.5s,baz=308,slow=0.6,SNR=36						
QSPA				pP	**pP**	**07 39 40.6**	**+0.9**
	comp=Z,2.8nm,0.5s,baz=20,slow=1.9,SNR=4.8						
	comp=Z,5.2nm,0.5s						
MAW	**Mawson**	**85.24**	**203**	P	**P**	**07 39 19.9**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=88,slow=5.5,SNR=13						
MAW				pP	**pP**	**07 39 47.9**	**+1.3**
	comp=Z,2.7nm,0.6s,baz=111,slow=6.2,SNR=4.3						
	comp=Z,4.4nm,0.9s						
KSH	**Kashi**	**85.58**	**310**	P	**P**	**07 39 25.0**	**+2.0**
KURBB	**Kurchatov Arra**	**86.29**	**322**	P	**P**	**07 39 24.4**	**-1.6**
	comp=Z,0.8nm,0.2s,baz=105,slow=4.3,SNR=8.5						
	comp=Z,0.8nm,0.2s						
NVAR	**Mina Array Bea**	**91.08**	**52**	P	**P**	**07 39 50.9**	**+1.6**
	comp=Z,2.6nm,0.9s,baz=253,slow=6.0,SNR=15						
	comp=Z,2.6nm,0.9s						
NV11	**Mina Array Sit**	**91.19**	**52**	P	**P**	**07 39 51.5**	**+1.8**
NV11				IAmb	IAmb	07 39 52.4	
	comp=Z,2.2nm,0.8s						
KVN	**Kaiserville**	**91.31**	**51**	P	**P**	**07 39 50.4**	**+0.1**
KVN				IAmb	IAmb	07 39 52.8	
	comp=Z,2.4nm,0.7s						
BVAR	**Borovoye Array**	**91.71**	**323**	P	**P**	**07 39 49.1**	**-2.4**
	comp=Z,1.9nm,0.7s,baz=92,slow=4.5,SNR=8.9						
	comp=Z,1.9nm,0.7s						
SHPR	**Sheep Range**	**93.36**	**54**	P	**P**	**07 40 00.3**	**+0.5**
SHPR				IAmb	IAmb	07 40 18.2	
	comp=Z,6.3nm,1.2s						
YKA	**Yellowknife Ar**	**95.52**	**28**	P	**P**	**07 40 09.6**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=269,slow=4.4,SNR=3.9						
	comp=Z,1.7nm,0.9s						
GERES	**GERESS Array B**	**126.40**	**329**	PKP	**PKiKP**	**07 45 46.0**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=64,slow=2.3,SNR=3.1						
LPAZ	**La Paz**	**131.73**	**118**	PKP	**PKiKP**	**07 45 58.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=258,slow=5.9,SNR=1.8						
TORD	**Torodi Ar. Bea**	**152.93**	**287**	PKPbc	**PKPbc**	**07 46 40.1**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=71,slow=2.4,SNR=37						

*IDC **04** 07:28:27.6±1.2, 37°.11N×144°.56E, $h0^{km}$, mb3.7/6, mbtmp3.7/7, ML2.8/1, MS3.8/2, Error ellipse: s-maj=29.5km s-min=25.6km az=52.0*
*JMA **04** 07:28:32.7±0.3, 37°N±1°×14°4E±°, $h41^{km}$, MV3.8/26, FAR E OFF NORTH HONSHU*

ISC 04 07:28:32.2±1.1, 37°.30N±0°.06×144°.53E±0°.08, $h35^{km}$, n22, σ1°91/31, $mb3.7_6$, $MS3.3_3$, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.63**	**293**	*i* P	**Pn**	**07 29 11.8**	**-0.2**
JIKH				S	**Sn**	**07 29 40.9**	**-1.8**
JIO	**Ouri**	**2.77**	**295**	P	**Pn**	**07 29 14.2**	**+0.2**
JIO				*e*S	**Sn**	**07 29 44.5**	**-1.7**
JKMT	**Kesennumamotoy**	**2.84**	**303**	P	**Pn**	**07 29 14.6**	**-0.4**
JKMT				S	**Sn**	**07 29 46.1**	**-2.0**
OFUJ	**Ofunato**	**2.87**	**309**	P	**Pn**	**07 29 15.0**	**-0.4**
JMK	**Ichinoseki**	**3.09**	**303**	P	**Pn**	**07 29 18.8**	**+0.4**
JMK				S	**Sn**	**07 29 52.8**	**-1.2**
JOM	**Ohasama**	**3.34**	**311**	P	**Pn**	**07 29 22.9**	**+1.0**
JOM				S	**Sn**	**07 29 59.1**	**-1.2**
JOTO	**OTAMA OYAMA**	**3.35**	**276**	P	**Pn**	**07 29 23.0**	**+1.0**
JOTO				S	**Sn**	**07 29 59.8**	**-0.9**
JYK	**Kaneyama**	**3.66**	**297**	*e*P	**Pn**	**07 29 27.4**	**+1.1**
JYK				*e*S	**Sn**	**07 30 08.0**	**-0.3**
JANG	**Nango**	**3.87**	**323**	P	**Pn**	**07 29 29.2**	**+0.1**
JANG				*e*S	**Sn**	**07 30 11.0**	**-2.3**
JRY	**Ryogami san**	**4.71**	**256**	P	**Pn**	**07 29 40.0**	**-0.7**
JRY				*e*S	**Sn**	**07 30 30.1**	**-3.9**
JOD2	**Odawara 2**	**4.85**	**247**	P	**Pn**	**07 29 41.6**	**-1.0**
JOD2				S	**Sn**	**07 30 33.1**	**-4.4**
MJAR	**Matsushiro Arr**	**5.12**	**263**	Pn	**Pn**	**07 29 46.7**	**+0.3**
	0.4nm,0.3s,baz=88,slow=16,SNR=8.7						
MJAR				Sn	**Sn**	**07 30 43.5**	**-0.9**
	0.3nm,0.3s,baz=80,slow=13,SNR=7.5						
MJAR				LR	LR	07 32 30.6	
	comp=Z,36nm,19.8s,baz=118,slow=47						
	1.6nm,0.3s						
JCH	**Churui**	**5.38**	**351**	P	**Pn**	**07 29 48.6**	**-1.3**
JCH				*e*S	**Sn**	**07 30 45.0**	**-5.6**
JNU	**Nakatsue**	**11.92**	**254**	LR	LR	07 35 49.8	
	comp=Z,39nm,18.3s,baz=68,slow=37						
SEY	**Seymchan**	**26.11**	**8**	LR	LR	07 46 10.2	
	comp=Z,13nm,18.7s,baz=157,slow=40						
MKAR	**Makanchi Array**	**46.08**	**302**	P	**P**	**07 36 54.4**	**+1.8**
	0.7nm,0.7s,baz=79,slow=9.4,SNR=4.4						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**47.80**	**308**	P	**P**	**07 37 07.3**	**+1.4**
	1.8nm,0.4s,baz=82,slow=7.7,SNR=8.3						
	1.8nm,0.4s						
BVAR	**Borovoye

TPIG	Tehuac#an	4.66	322	eP	Pn	07 35 19.4	+1.9
TPIG				eS	Sn	07 36 08.5	-2.1
FTIG	Fresnillo de T	4.81	311	eP	Pn	07 35 20.7	+1.1
FTIG				eS	Sn	07 36 10.8	-3.5
MGIG	Malinaltepec	4.81	301	i P	Pn	07 35 19.5	-0.1
MGIG				eS	Sn	07 36 11.8	-2.6
PETF	Flores	4.82	63	Pn	Pn	07 35 19.1	-0.5
MTO3	Montecristo	4.84	94		Pn	07 35 19.4	-0.7
ESQI	Esquipulas	4.85	92		Pn	07 35 20.3	+0.2
TLIG	Tlapa	4.93	305	i P	Pn	07 35 21.7	+0.4
TLIG				eS	Sn	07 36 12.1	-5.1
SNET	Serv Nac Est T	5.07	101		Pn	07 35 22.7	-0.4
JAUV	Jalcomulco	5.16	333	eP	Pn	07 35 24.4	+0.1
JAUV				eS	Sn	07 36 18.1	-4.8
SCIG	Sabancuy	5.17	35	eP	Pn	07 35 23.1	-1.3
SCIG				eS	Sn	07 36 21.5	-1.6
LVIG	Laguna Verde	5.33	338	eP	Pn	07 35 26.5	-0.1
LVIG				eS	Sn	07 36 21.7	-5.2
DAIG	Los Arroyos	5.58	295	eP	Pn	07 35 29.4	-0.8
DAIG				eS	Sn	07 36 26.8	-6.5
PPM	Popocatepetl	5.94	317	eP	Pn	07 35 37.3	+1.8
MEIG	Mezcala	5.97	303	eP	Pn	07 35 36.5	+1.0
MEIG				eS	Sn	07 36 38.4	-4.5
AMVM	AMECAMECA	6.09	316	eP	Pn	07 35 32.1	-5.3
AMVM				eS	Sn	07 36 45.2	-0.9
YAIG	Yautepec	6.10	313	eP	Pn	07 35 38.9	+1.6
PLIG	Platanillo	6.13	307	eP	Pn	07 35 39.2	+1.4
PLIG				eS	Sn	07 36 41.6	-5.3
CAIG	El Cayaco	6.14	293	eP	Pn	07 35 37.2	-0.5
CAIG				eS	Sn	07 36 43.1	-3.9
CXUV	Coxquihui	6.22	331	eP	Pn	07 35 41.2	+2.3
CXUV				eS	Sn	07 36 49.8	+0.9
UNM	Universidad Na	6.49	315	Pn	Pn	07 35 46.0	+3.1
PBVM	Pinon	6.50	316	eP	Pn	07 35 36.2	-6.6
PBVM				eS	Sn	07 37 01.0	+5.1
VTVM	Tizayuca	6.54	320	eP	Pn	07 35 40.9	-2.7
VTVM				eS	Sn	07 37 02.0	+4.6
INVM	La Marquesa	6.61	314	eP	Pn	07 35 42.7	-1.8
INVM				eS	Sn	07 37 02.8	+3.9
AZVM	Cuida Lopez Ma	6.74	316	eP	Pn	07 35 47.9	+1.7
AZVM				eS	Sn	07 37 00.3	-1.8
ARIG	Puente Sto Nin	6.74	302	eP	Pn	07 35 47.5	+1.4
ARIG				eS	Sn	07 36 55.7	-6.2
ZUVM	ZUMPANGO	6.78	319	eP	Pn	07 35 47.0	+0.2
ZUVM				eS	Sn	07 36 59.5	-3.5
TOVM	TOLUCA	6.81	312	eP	Pn	07 35 49.5	+2.2
TOVM				eS	Sn	07 37 04.2	+0.3
TGUH	Tegucigalpa,Un	6.89	95		Pn	07 35 47.8	-0.3
DEIG	Demacu	7.11	322	eP	Pn	07 35 52.1	+0.8
DEIG				eS	Sn	07 37 11.6	+0.5
ATVM	ATLACOMULCO	7.24	314	eP	Pn	07 35 53.5	+0.3
ATVM				eS	Sn	07 37 15.1	+0.6
ZIIG	Zihuatanejo	7.41	294	i P	Pn	07 35 55.2	0.0
ZIIG				eS	Sn	07 37 14.6	-3.6
ACIG	Acambay	7.42	315	eP	Pn	07 35 54.0	-1.5
ACIG				eS	Sn	07 37 17.1	-1.6
MYIG	Mrida	7.57	35	eP	Pn	07 35 57.7	+0.3
MYIG				eS	Sn	07 37 20.0	-2.2
CNGN	Cerro Negro	7.76	106	Pn	Pn	07 36 01.1	+1.0
TEIG	Tepich	7.95	46	Pn	Pn	07 35 59.9	-2.7
TEIG	Tepich	7.95	46	Pn	Pn	07 36 01.0	-1.6
	157nm,0.3s,baz=325,slow=19,SNR=90						
TEIG				Sn	Sn	07 37 30.8	-0.6
	177nm,0.3s,baz=163,slow=20,SNR=4.1						
TEIG				LR	LR	07 39 24.9	
	comp=Z,23µm,20.6s,baz=9.0,slow=41						
BOAB	BOACO BROADBAN	8.74	104	Pn	Pn	07 36 15.4	+1.8
RPIG	Rio Verde	8.89	324	eP	Pn	07 36 18.1	+2.4
RPIG				eS	Sn	07 37 54.6	-0.2
MMIG	Aquila	9.32	293	eP	Pn	07 36 22.0	+0.5
MMIG				eS	Sn	07 38 07.1	+1.8
GTIG	Gomez Farias	9.45	332	eP	Pn	07 36 23.2	0.0
GTIG				eS	Sn	07 38 11.7	+3.3
ORTG	Ortega, Santa	9.71	116	Pn	Pn	07 36 29.1	+2.2
DUNO	Dulce Nombre,	9.81	117		Pn	07 36 30.2	+2.0
ESPN	Las Esperanzas	10.09	103	Pn	Pn	07 36 34.0	+2.0
JTS	Las Juntas de	10.18	115	Pn	Pn	07 36 35.9	+2.5
ARE1	Arenal 1	10.31	113		Pn	07 36 36.5	+1.4
AAIG	Aguscalientes	10.47	314	eP	Pn	07 36 39.7	+2.2
COVE	Coope Vega, Sa	10.49	111		Pn	07 36 36.7	-0.8
JACO	JACO, Garabito	10.73	117		Pn	07 36 41.9	+1.1
HDC	Heredia	11.05	114	Pn	Pn	07 36 45.6	+0.3
ZAIG	Zacatecas	11.14	317	eP	Pn	07 36 49.7	+3.0
LNIG	Linares	11.19	335	eP	Pn	07 36 48.8	+1.8
CJM	Chamela	11.27	296	eP	Pn	07 36 47.9	-0.2
RIMA	Rio Macho	11.38	115	Pn	Pn	07 36 51.4	+1.6
ANIG	Ahuacatlan	11.54	304	i P	Pn	07 36 55.7	+3.8
BATAN	Batan	11.67	112		Pn	07 36 55.3	+1.7
PEZE	Perez Zeledon,	11.71	116		Pn	07 36 56.0	+1.6
DRK0	Durika	12.15	115	Pn	Pn	07 37 02.8	+2.5
BRU2	Volcan	12.85	116		Pn	07 37 10.2	+0.2
SOR	Soroa	13.38	52	Pn	Pn	07 37 13.8	-3.2
833A	Chaparral WMA,	14.30	342	P	Pn	07 37 30.0	+0.5
	baz=158,SNR=9.3						
CACAO	El Cacao, Vera	15.13	118	eP	P	07 37 47.2	+1.5
HKT	Hockley	15.19	355	Pn	Pn	07 37 41.1	-0.4
BCIP	Isla Barro Col	15.23	110	eP	P	07 37 47.0	+0.2
HNDO	Hondo	15.40	344		Pn	07 37 44.4	+0.1
HNDO				IAmb	IAmb	07 37 52.3	
	comp=Z,36nm,1.4s						
AZU	Azuero	15.43	115	eP	P	07 37 50.0	+1.1
DRIO	Del Rio	15.71	339	Pn	Pn	07 37 48.5	+0.2
DRIO				IAmb	IAmb	07 37 56.6	
	comp=Z,8.7nm,0.9s						
435B	Jarrell	16.23	350		P	07 37 56.2	-1.6
435B	Jarrell	16.23	350	P	Pn	07 37 55.1	+0.1
	baz=168						
JCT	Junction City	16.44	343		P	07 37 58.7	-1.5
JCT	Junction City	16.44	343	P	Pn	07 37 57.6	-0.1
	baz=160						
SAND	Sanderson	16.75	336		P	07 38 03.9	+0.4
SAND				IAmb	IAmb	07 38 06.8	
	comp=Z,53nm,1.9s						
TXAR	Lajitas Array	16.88	331	Pn	P	07 38 05.0	-0.1
	comp=Z,0.1nm,0.3s,baz=152,slow=9.9,SNR=23						
	comp=Z,6.3nm,1.0s						
TX31	Lajitas Ar. Si	16.88	331	IAmb	IAmb	07 38 13.5	
	comp=Z,71nm,1.1s						
NATX	Nacogdoches	16.93	359	Pn	Pn	07 38 02.4	-1.5
NATX				IAmb	IAmb	07 38 05.5	
	comp=Z,83nm,1.6s						
NATX				pP	pP	07 38 12.6	-0.8
NATX	Nacogdoches	16.93	359	P	Pn	07 38 03.1	-0.7
	baz=178						
344A	Westbrook Farm	16.95	11	Pn	Pn	07 38 02.4	-1.6
344A				IAmb	IAmb	07 38 09.8	
	comp=Z,116nm,1.8s						
BRDY	Brady	17.00	346		Pn	07 38 04.4	-0.4
BRDY				IAmb	IAmb	07 38 10.1	
	comp=Z,30nm,1.6s						
SLBS	Sierra La Lagu	17.19	303	P	P	07 38 13.6	+5.0
237A	Washetta, Mont	17.23	356	P	Pn	07 38 04.6	-2.8
OZNA	Ozona	17.26	340	IAmb	IAmb	07 38 16.6	
	comp=Z,205nm,1.8s						
WHTX	Lake Whitney,	17.40	351	P	Pn	07 38 08.0	-1.6
	baz=169						
BRAL	Brewton	17.66	21	P	Pn	07 38 09.8	-3.0
	baz=203						
VBMS	Vicksburg	17.74	11	P	Pn	07 38 10.6	-3.2
VBMS	Vicksburg	17.74	11	P	Pn	07 38 11.3	-2.5
	baz=191						
ALPN	Alpine	17.75	333	IAmb	IAmb	07 38 19.4	
	comp=Z,146nm,1.8s						
FW13	Cleburne	17.75	351	P	P	07 38 14.1	-0.4
FW13				IAmb	IAmb	07 38 24.4	
	comp=Z,41nm,1.0s						
FW16	Waxahatchie	17.81	353	IAmb	IAmb	07 38 23.6	
	comp=Z,22nm,0.7s						
DWPF	Disney Wildern	17.90	40	P	Pn	07 38 11.7	-4.1
	baz=224						
143A	Socs Landing,	18.07	8	IAmb	IAmb	07 38 25.1	
	comp=Z,65nm,1.2s						
FW07	Weatherford	18.15	351	P	P	07 38 19.1	+0.2
FW07				IAmb	IAmb	07 38 29.1	
	comp=Z,26nm,0.9s						
SGCY	Sterling City	18.18	341	IAmb	IAmb	07 38 29.1	
	comp=Z,40nm,0.9s						
FW06	Azle	18.38	351	P	P	07 38 20.4	-1.1
FW06				IAmb	IAmb	07 38 31.3	
	comp=Z,43nm,1.2s						
ABTX	Abilene, Hawle	18.44	346	P	P	07 38 20.9	-1.3
	baz=162,SNR=18						
Z38A	Mt. Pleasant	18.44	358	P	P	07 38 20.4	-1.7
Z41A	Richland Creek	18.48	4	P	P	07 38 21.6	-1.0
FW03	Perrin-Whitt E	18.52	350	P	Pn	07 38 23.3	-0.1
FW03				IAmb	IAmb	07 38 33.1	
	comp=Z,61nm,1.1s						
250A	Grady	18.67	22	P	P	07 38 21.9	-2.7
250A				IAmb	IAmb	07 38 34.6	
	comp=Z,127nm,1.5s						
Z35A	Perchaven, San	18.69	352	P	Pn	07 38 25.6	+0.2
APAC	Apartado, Choc	18.69	109	eP	Pn	07 38 27.6	+2.0
PECS	Pecos	18.70	334	IAmb	IAmb	07 38 33.9	
	comp=Z,42nm,1.5s						
352A	Blakely	18.75	26	IAmb	IAmb	07 38 35.1	
	comp=Z,172nm,1.3s						
ODSA	Odessa	18.84	338	IAmb	IAmb	07 38 39.3	
	comp=Z,58nm,0.9s						
WLAR	White Oak Lake	18.89	3	P	P	07 38 26.1	-0.9
WLAR				IAmb	IAmb	07 38 37.5	
	comp=Z,85nm,1.1s						
SN01	Snyder 1	18.99	343	IAmb	IAmb	07 38 39.2	
	comp=Z,56nm,1.0s						
APMT	Aspermont	19.22	345	IAmb	IAmb	07 38 42.5	
	comp=Z,25nm,0.8s						
WTFS	Witchita Falls	19.30	350	IAmb	IAmb	07 38 40.8	
	comp=Z,106nm,1.7s						
TIGA	Tifton	19.31	29	P	P	07 38 29.0	-2.7
	baz=213						
LOOK	Love County	19.33	353		Pn	07 38 32.8	-0.4
LOOK				IAmb	IAmb	07 38 44.1	
	comp=Z,77nm,1.5s						
POST	Post	19.36	342	IAmb	IAmb	07 38 46.4	
	comp=Z,46nm,1.1s						
LRAL	Lakeview Retre	19.39	19	P	P	07 38 29.1	-3.5
LRAL	Lakeview Retre	19.39	19	P	P	07 38 30.0	-2.6
	baz=201						
Y45A	Yeager Farm, C	19.52	12	P	P	07 38 32.4	-1.6
MNTX	Cornudas Mount	19.66	331	P	P	07 38 35.5	-0.1
	baz=145						
UREC	San Jos de Ur	19.71	109	eP	P	07 38 36.2	0.0
MIAR	Mount Ida	19.72	2	P	P	07 38 34.9	-1.4
MIAR	Mount Ida	19.72	2	P	P	07 38 34.8	-1.4
	baz=181,SNR=10						
DKNS	Dickens	19.76	344	IAmb	IAmb	07 38 50.0	
	comp=Z,63nm,1.0s						
X37A	Clayton	19.78	357		P	07 38 36.9	+0.1
X37A				IAmb	IAmb	07 38 50.7	
	comp=Z,59nm,1.6s						
X34A	Smith Ranch, M	20.02	352	IAmb	IAmb	07 38 51.0	
	comp=Z,75nm,1.3s						
UALR	University of	20.02	5	P	P	07 38 38.7	-0.8
UALR				IAmb	IAmb	07 38 53.5	
	comp=Z,83nm,1.6s						
OXF	Oxford	20.18	12	P	P	07 38 38.8	-2.3
	baz=193						
PLMC	San Jos del P	20.29	117	eP	P	07 38 43.8	+1.2
WMOK	Wichita Mounta	20.30	349	P	P	07 38 41.8	-0.7
	baz=167,SNR=10						
ZARC	Zaragoza, Cauc	20.42	109	eP	P	07 38 43.5	-0.5
MSTX	Muleshoe	20.60	340	IAmb	IAmb	07 39 01.3	
	comp=Z,112nm,1.2s						
MSTX	Muleshoe	20.60	340	P	P	07 38 45.5	-0.4
	baz=155,SNR=17						
X48A	Hartselle	20.70	17	P	P	07 38 45.7	-1.1
YOTC	Yotoco, Valle	20.71	119	eP	Pn	07 38 48.9	-0.9
JAMC	Jamundi, Valle	20.86	122	eP	P	07 38 50.0	+1.1
GUY2C	Guyana, Caldas	20.93	115	eP	Pn	07 38 51.9	-0.8
GOGA	Godfrey	21.04	26	P	P	07 38 47.4	-3.1
GOGA				pP	pP	07 38 57.1	-1.5
GOGA				IAmb	IAmb	07 39 02.1	
	comp=Z,32nm,1.1s						
GOGA	Godfrey	21.04	26	P	P	07 38 47.4	-3.1
	baz=210						
BBAC	Balboa, Cauca	21.09	125	eP	P	07 38 53.5	+2.1
DEOK	Depew	21.09	355	IAmb	IAmb	07 39 08.0	
	comp=Z,40nm,1.0s						
AMTX	Amarillo	21.11	343	P	P	07 38 50.4	-1.0
	baz=159						
TUL3	Leonard	21.11	357	P	P	07 38 50.0	-1.2
	baz=175						
FCAR	Ozark Folk Cen	21.15	5	IAmb	IAmb	07 39 04.0	
	comp=Z,24nm,0.8s						
Y52A	Lilburn	21.19	24	P	P	07 38 50.3	-1.8
Y52A				IAmb	IAmb	07 39 01.9	
	comp=Z,34nm,1.0s						
NORC	Norcasia	21.21	113	eP	P	07 38 54.0	+1.4
FPAL	Fort Paine	21.22	20	P	P	07 38 49.5	-3.0
FPAL				IAmb	IAmb	07 39 02.3	
	comp=Z,77nm,1.4s						
OK031	S. Brethren Rd	21.23	354	IAmb	IAmb	07 39 04.1	
	comp=Z,67nm,0.9s						
POPC	Popayan, Colom	21.24	123	eP	P	07 38 54.3	+1.3
OK052	Battle Ridge R	21.27	354	P	P	07 38 50.8	-2.1
OK052				IAmb	IAmb	07 39 04.4	
	comp=Z,76nm,0.9s						
CMBC	Cumbal	21.32	129	eP	P	07 38 58.4	+4.2
OTAV	Otavalo	21.33	131	P	P	07 38 56.0	+1.7
OTAV	Otavalo	21.33	131	eP	P	07 38 56.6	+2.4
OK033	Mehan	21.33	354		P	07 38 53.0	-0.6
RLO	Rose Lookout	21.34	358	IAmb	IAmb	07 39 04.9	
	comp=Z,22nm,0.8s						
PULU	Pululahua	21.44	132	P	P	07 38 58.3	+2.9
QUOK	Quay	21.44	355		P	07 38 54.5	-0.3
QUOK				IAmb	IAmb	07 39 06.7	
	comp=Z,67nm,1.1s						
HHAR	Hobbs	21.45	1	IAmb	IAmb	07 39 07.2	
	comp=Z,24nm,0.9s						
319A	Douglas	21.47	323	IAmb	IAmb	07 39 16.9	
	comp=Z,66nm,1.4s						
TULM	Tulcn-Chalpat	21.50	129	IAmb	IAmb	07 39 18.7	
	comp=Z,42nm,0.9s						
GCUF	Volcan Galeras	21.51	127	eP	P	07 38 58.2	+2.0
121A	Cookes Peak, D	21.52	328	P	P	07 38 55.8	-0.1
	baz=141,SNR=28						
U38A	Gravette	21.60	360	IAmb	IAmb	07 39 08.7	
	comp=Z,42nm,1.1s						
CRUC	La Cruz	21.60	126	eP	P	07 38 58.0	+1.0
ORTC	Ortega, Tolima	21.68	118	eP	P	07 38 58.5	+0.8
OK048	Pawnee Station	21.70	354	IAmb	IAmb	07 39 08.7	
	comp=Z,36nm,0.8s						
SWET	Sewanee	21.74	19	P	P	07 38 56.7	-1.4
SWET					pP	07 39 05.1	-1.1
SPBC	San Pablo de B	21.88	112	eP	P	07 39 00.2	+0.4
SLOR	San Lorenzo -	21.96	133	IAmb	IAmb	07 39 18.3	
	comp=Z,29nm,1.1s						
V48A	Smith Brothers	21.96	17	IAmb	IAmb	07 39 14.7	
	comp=Z,43nm,1.4s						
URIC	Uribia, Colomb	21.97	95	eP	P	07 38 59.0	-1.6
OK038	West end E0370	21.99	350	IAmb	IAmb	07 39 11.6	
	comp=Z,71nm,1.2s						
ROSC	El Rosal	22.03	115	P	P	07 39 04.5	+2.8
ROSC	El Rosal	22.03	115	eP	P	07 39 04.0	+2.2
ROSC	El Rosal	22.03	115	P	P	07 39 02.8	+1.1
	comp=Z,30nm,0.8s,baz=332,slow=4.0,SNR=32						
BLOK	Blackwell	22.07	354		P	07 39 01.6	0.0
BLOK				IAmb	IAmb	07 39 12.2	
	comp=Z,44nm,0.8s						
WVT	Waverly	22.08	14	P	P	07 38 60.0	-1.6
WVT	Waverly	22.08	14	P	P	07 38 59.3	-2.3
	baz=196						
PRAC	Prado	22.09	118	eP	P	07 39 03.5	+1.5
T35A	Sooner Cattle	22.16	355	P	P	07 39 01.1	-1.4
T35A				IAmb	IAmb	07 39 09.8	
	comp=Z,31nm,1.0s						
PBMO	Poplar Bluff	22.22	8	IAmb	IAmb	07 39 12.8	
	comp=Z,50nm,1.5s						
OK032	Salt Plains WL	22.23	352	IAmb	IAmb	07 39 13.9	
	comp=Z,48nm,0.9s						
DUN6	Lazy B Ranch	22.24	325	IAmb	IAmb	07 39 25.0	
	comp=Z,81nm,1.1s						
CHSH	Refugio Sur-Vo	22.25	135	IAmb	IAmb	07 39 23.0	
	comp=Z,38nm,0.9s						
KAN14	Manchester OK	22.35	352	IAmb	IAmb	07 39 14.2	
	comp=Z,28nm,0.8s						
Y22D	IRIS PASSCAL I	22.35	332	P	P	07 39 04.8	0.0
	baz=145						
Y22F	Passcal Instru	22.35	332	P	P	07 39 04.4	-0.4
	baz=145						
T42A	Van Buren	22.38	7	IAmb	IAmb	07 39 14.4	
	comp=Z,30nm,1.1s						
MGMO	Mountain Grove	22.39	4	IAmb	IAmb	07 39 15.0	
	comp=Z,57nm,1.4s						
KAN17	Caldwell West	22.41	353	IAmb	IAmb	07 39 15.4	
	comp=Z,88nm,1.2s						
CLTN	Cedars of Leba	22.43	17	IAmb	IAmb	07 39 20.3	
	comp=Z,64nm,1.6s						
SDDR	Presa de Saban	22.46	76	P	P	07 39 03.5	-2.4
SDDR				IAmb	IAmb	07 39 14.6	
	comp=Z,25nm,0.9s						
PAMC	Pamplona, Colo	22.47	107	eP	P	07 39 07.2	+0.7
KAN09	Caldwell North	22.49	353	IAmb	IAmb	07 39 16.1	
	comp=Z,83nm,1.2s						
KAN01	Argonia South	22.52	353	IAmb	IAmb	07 39 16.5	
	comp=Z,69nm,1.1s						
KS20	Mayfield South	22.57	353	IAmb	IAmb	07 39 16.8	
	comp=Z,67nm,1.1s						
FLOC	Florencia	22.63	124	eP	P	07 39 08.5	+0.7
CHIC	Chingaza	22.65	114	eP	P	07 39 10.8	+2.4
RUSC	La Rusia	22.67	111	eP	P	07 39 08.9	+0.1
V51A	Loudon	22.80	21	IAmb	IAmb	07 39 28.8	
	comp=Z,37nm,1.2s						
S39A	Bolivar	22.87	2	IAmb	IAmb	07 39 18.6	
	comp=Z,37nm,0.9s						
ANMO	Albuquerque	22.88	334	P	P	07 39 11.6	+1.2
ANMO	Albuquerque	22.88	334	P	P	07 39 10.1	-0.3
	baz=148						
ANMO	Albuquerque	22.88	334	LR	LR	07 49 30.8	
	comp=Z,295nm,18.2s,baz=254,slow=40						
TKL	Tuckaleechee C	22.88	23	IAmb	IAmb	07 39 22.1	
	comp=Z,58nm,1.4s						
VILC	Villavicencio,	22.92	115	eP	P	07 39 16.1	+5.1
U49A	Red Boiling Sp	22.98	18	IAmb	IAmb	07 39 26.6	
	comp=Z,56nm,1.3s						
TUC	Tucson	23.03	322	P	P	07 39 14.5	+2.7
TUC				IAmb	IAmb	07 39 17.0	
	comp=Z,56nm,1.6s						
TUC	Tucson	23.03	322	P	P	07 39 12.3	+0.4
	baz=135						
V52A	Sevierville	23.11	23	P	P	07 39 11.1	-1.5
V52A				pP	pP	07 39 19.3	-1.6
V52A				IAmb	IAmb	07 39 24.9	
	comp=Z,44nm,1.4s						
V53A	Saluda	23.26	24	P	P	07 39 13.1	-1.0
V53A				IAmb	IAmb	07 39 34.6	
	comp=Z,45nm,1.1s						
S44A	Carbondale	23.30	10	IAmb	IAmb	07 39 31.0	
	comp=Z,42nm,1.1s						
SIUC	Southern Illin	23.32	10	IAmb	IAmb	07 39 31.2	
	comp=Z,54nm,1.2s						
CCM	Cathedral Cave	23.38	6	P	P	07 39 12.8	-2.4
CCM				IAmb	IAmb	07 39 22.8	
	comp=Z,19nm,0.8s						
CCM	Cathedral Cave	23.38	6	P	P	07 39 13.9	-1.2
	baz=187						
KMSC	Kings Mountain	23.44	28	P	P	07 39 13.4	-2.4
	baz=213						
R40A	Maddies Statio	23.52	4	IAmb	IAmb	07 39 23.9	
	comp=Z,36nm,1.1s						
T50A	Nancy	23.74	19	P	P	07 39 16.3	-2.4
T50A				pP	pP	07 39 25.4	-1.5
T50A				IAmb	IAmb	07 39 26.0	
	comp=Z,38nm,1.4s						
TZTN	Tazewell	23.75	22	P	P	07 39 16.8	-2.0
TZTN					pP	07 39 26.7	-0.3
TZTN				IAmb	IAmb	07 39 26.8	
	comp=Z,68nm,1.4s						
TZTN	Tazewell	23.75	22	P	P	07 39 17.0	-1.8
	baz=206						
MACC	Macarena, Meta	23.79	120	eP	P	07 39 19.8	+0.3
SDV	Santo Domingo	23.92	101	P	P	07 39 19.6	-1.2
SDV				IAmb	IAmb	07 39 24.9	
	comp=Z,17nm,0.6s						
SDV	Santo Domingo	23.92	101	LR	LR	07 50 27.2	
	comp=Z,390nm,19.3s,baz=294,slow=41						
T25A	Trinidad	24.03	340	P	P	07 39 21.6	-0.1
	baz=155,SNR=20						
214A	Organ Pipe Nat	24.04	319	P	P	07 39 24.1	+2.6
214A	Organ Pipe Nat	24.04	319	P	P	07 39 22.8	+1.3
	baz=130						
PTLC	Puerto Leguiza	24.15	125	eP	P	07 39 27.0	+4.2
X18A	Snowflake	24.21	327	IAmb	IAmb	07 39 35.5	
	comp=Z,20nm,0.9s						
PTGC	Puerto Gaitan,	24.26	113	eP	P	07 39 25.6	+1.9
KSU1	Kansas State U	24.34	356	IAmb	IAmb	07 39 33.0	
	comp=Z,66nm,1.5s						
KSU1	Kansas State U	24.34	356	P	P	07 39 22.4	-1.8
	baz=174						
CBKS	Cedar Bluff	24.44	350	P	P	07 39 24.9	-0.3
	baz=166,SNR=7.6						
WCI	Wyandotte Cave	24.45	15	P	P	07 39 24.2	-1.1
WCI				IAmb	IAmb	07 39 50.1	
	comp=Z,24nm,0.9s						
WCI	Wyandotte Cave	24.45	15	P	P	07 39 22.7	-2.5
	baz=198						
Q44A	Meyer Farm, Va	24.52	10	IAmb	IAmb	07 39 33.8	
	comp=Z,30nm,1.0s						
OLIL	Olney	24.52	12	IAmb	IAmb	07 39 34.2	
	comp=Z,39nm,1.2s						
W18A	Petrified Fore	24.56	328	P	P	07 39 25.9	-0.6
	baz=141						
P40A	Paris	24.77	4	IAmb	IAmb	07 39 36.0	
	comp=Z,31nm,1.1s						
P38A	Dawn	24.79	1	IAmb	IAmb	07 39 28.1	
	comp=Z,82nm,1.8s						
X16A	Lo Mia Camp, P	24.93	325	IAmb	IAmb	07 39 50.3	
	comp=Z,36nm,1.2s						
SDCO	Great Sand Dun	24.95	339	P	P	07 39 30.2	+0.1
	baz=153,SNR=10						
113A	Mohawk Valley,	25.18	319	IAmb	IAmb	07 39 50.5	
	comp=Z,24nm,1.3s						
CNNC	Cliffs of the	25.20	33	P	P	07 39 29.9	-2.1
	baz=220						
KSCO	Kaye Shedlock'	25.25	345	P	P	07 39 33.9	+1.2
KSCO					pP	07 39 41.6	+0.7
KSCO				IAmb	IAmb	07 39 46.7	
	comp=Z,33nm,1.1s						
KSCO	Kaye Shedlock'

ISCO	Idaho Springs	26.84	341	P	P	07 39 46.0 -1.2
	baz=154					
ATAH	Atahualpa	26.89	143	LR	LR	07 47 15.3
	comp=Z,159nm,18.5s,baz=314,slow=30					
OGNE	Ogallala	26.95	347	P	P	07 39 47.3 -0.6
	baz=163					
IRM	Iron Mountain	26.95	319	P	P	07 39 48.8 +0.8
	baz=130,SNR=8.8					
MONP2	Monument Peak	27.00	316	P	P	07 39 49.1 +0.5
	baz=126					
P52A	Corning	27.01	21	P	P	07 39 46.1 -2.3
	baz=206					
SCIA	State Center	27.08	2	P	P	07 39 47.7 -1.3
	baz=182,SNR=6.1					
L34A	Svendsen Farm,	27.18	357	IAmb	IAmb	07 40 00.5
	comp=Z,46nm,1.1s					
SJG	San Juan	27.24	79	LR	LR	07 51 34.0
	comp=Z,180nm,18.5s,baz=252,slow=39					
ACSO	Alum Creek Sta	27.26	19	P	P	07 39 48.4 -2.2
	baz=204					
L40A	Anamosa	27.35	5	IAmb	IAmb	07 39 59.5
	comp=Z,47nm,1.1s					
BELC	Belle Mtn. Jos	27.40	318	P	P	07 39 52.9 +0.8
	baz=128,SNR=6.7					
PMD	Palm Desert	27.43	317	P	P	07 39 53.2 +1.0
PMD				IAmb	IAmb	07 39 56.7
	comp=Z,32nm,1.6s					
TPFO	Pinon Flats	27.45	317	P	P	07 39 53.2 +0.7
	baz=127					
PFO	Pinyon Flats O	27.46	317	P	P	07 39 53.3 +0.7
	baz=127					
PFO	Pinyon Flats O	27.46	317	LR	LR	07 51 16.6
	comp=Z,656nm,19.1s,baz=144,slow=37					
109C	Camp Elliot, M	27.46	315	P	P	07 39 53.4 +0.9
	baz=125					
L42A	Oliver, Polo	27.46	8	IAmb	IAmb	07 40 00.2
	comp=Z,47nm,1.2s					
O52A	Adamsville	27.54	21	IAmb	IAmb	07 40 19.9
	comp=Z,40nm,1.4s					
KNB	Kanab	27.61	327	IAmb	IAmb	07 40 17.9
	comp=Z,18nm,1.2s					
GMRC	Granite Mounta	27.68	320	P	P	07 39 55.1 +0.4
	baz=130,SNR=8.4					
K38A	Parkersburg	27.83	2	IAmb	IAmb	07 40 03.0
	comp=Z,32nm,1.1s					
O53A	New Philadelph	27.88	22	P	P	07 39 54.2 -2.0
	baz=208					
MURC	Murrieta	27.94	316	P	P	07 39 57.2 +0.3
	baz=126					
N23A	Red Feather La	27.94	341	P	P	07 39 56.3 -0.7
	baz=155					
O20A	White River Ci	28.06	337	P	P	07 39 59.3 +1.2
O20A					pP	07 40 07.5 +1.1
O20A				IAmb	IAmb	07 40 09.0
	comp=Z,26nm,1.4s					
O20A	White River Ci	28.06	337	P	P	07 39 57.7 -0.4
	baz=150					
MTPU	Mount Pierson	28.07	329	P	P	07 39 55.6 -2.8
MTPU				IAmb	IAmb	07 40 14.1
	comp=Z,42nm,1.8s					
HEC	Hector,Ludlow	28.14	319	P	P	07 39 59.0 +0.4
	baz=129					
BBRC	Big Bear Solar	28.16	318	P	P	07 39 59.5 +0.5
	baz=127					
TUQ	Turquoise Moun	28.27	321	P	P	07 40 00.9 +0.9
	baz=130					
JFWS	Jewell Farm	28.29	6	IAmb	IAmb	07 40 07.9
	comp=Z,28nm,0.8s					
JFWS	Jewell Farm	28.29	6	P	P	07 39 58.5 -1.3
	baz=188					
MVU	Marysvale	28.44	330	P	P	07 40 02.7 +1.1
MVU				IAmb	IAmb	07 40 27.8
	comp=Z,37nm,1.2s					
BFSC	Mount Baldy Ra	28.63	317	P	P	07 40 04.0 +0.9
	baz=126					
GSC	Goldstone, Bar	28.74	319	P	P	07 40 04.0 0.0
	baz=129					
ECSD	EROS Data Cent	28.95	357	IAmb	IAmb	07 40 14.5
	comp=Z,41nm,1.4s					
ECSD	EROS Data Cent	28.95	357	P	P	07 40 04.0 -1.7
	baz=175,SNR=6.6					
RWWY	Rawlins	29.07	340	IAmb	IAmb	07 40 18.9
	comp=Z,29nm,1.1s					
EDW2	Edwards Air Fo	29.24	318	P	P	07 40 09.0 +0.6
	baz=127					
SNCC	San Nicolas Is	29.34	313	P	P	07 40 10.2 +1.0
	baz=122					
PCRV	Puerto La Cruz	29.35	95	LR	LR	07 53 31.8
	comp=Z,391nm,18.9s,slow=40					
LRMC	Laurel Mtn Rad	29.40	319	P	P	07 40 11.2 +1.2
	baz=128					
BSUT	Blindstream Ca	29.42	334	IAmb	IAmb	07 40 23.7
	comp=Z,20nm,1.4s					
TPNV	Topopah Spring	29.48	323	P	P	07 40 11.5 +0.8
	baz=132					
FURC	Furnace Creek,	29.53	321	P	P	07 40 12.1 +1.2
	baz=130					
WCT	Wildcat Mounta	29.60	322	P	P	07 40 13.8 +2.2
WCT					sP	07 40 22.3 -1.3
MPMC	Manual Prospec	29.65	320	P	P	07 40 13.9 +1.7
	baz=129,SNR=6.7					
S11A	Rachel	29.67	324	IAmb	IAmb	07 40 31.0
	comp=Z,28nm,1.4s					
K22A	Casper	29.72	342	IAmb	IAmb	07 40 22.1
	comp=Z,24nm,1.4s					
K22A	Casper	29.72	342	P	P	07 40 12.8 0.0
	baz=155					
ARVC	Arvin	29.93	317	P	P	07 40 17.3 +2.8
	baz=126					
CTU	Camp Tracy	29.97	333	P	P	07 40 16.3 +1.3
CTU					pP	07 40 23.9 +0.5
ISA	Isabella, Lake	30.02	318	P	P	07 40 17.7 +2.3
ISA				pP	sP	07 40 25.2 -2.2
ISA	Isabella, Lake	30.02	318	P	P	07 40 17.2 +1.8
	baz=127					
DUG	Dugway, Tooele	30.06	331	P	P	07 40 17.1 +1.4
	baz=142					
R11B	Troy Canyon, C	30.08	325	P	P	07 40 17.1 +1.1
	baz=135					
TCUT	Toone Canyon	30.17	334	IAmb	IAmb	07 40 28.3
	comp=Z,24nm,1.0s					
GRAC	Grapevine Rang	30.18	321	P	P	07 40 18.1 +1.3
	baz=130					
CWC	Cottonwood Cre	30.26	320	P	P	07 40 18.1 +0.6
	baz=129					
SPMN	Marine on St.	30.41	2	P	P	07 40 17.3 -1.2
	baz=182,SNR=13					
PKM	Mcpherson Peak	30.45	316	P	P	07 40 20.7 +1.4
	baz=124					
VES	Vestal, Richgr	30.52	318	P	P	07 40 20.9 +1.2
	baz=126,SNR=11					
HWUT	Hardware Ranch	30.64	334	P	P	07 40 20.8 -0.1
HWUT				pP	pP	07 40 29.1 -0.2
HWUT				IAmb	IAmb	07 40 32.9
	comp=Z,14nm,1.1s					
DSP	Deep Springs	30.79	321	P	P	07 40 22.1 +0.1
DSP				IAmb	IAmb	07 40 27.0
	comp=Z,16nm,1.4s					
TPH	Tonopah	30.81	323	IAmb	IAmb	07 40 43.2
	comp=Z,39nm,1.3s					
SMMC	Simmler	30.82	316	P	P	07 40 23.1 +0.8
	baz=124					
BW06	Boulder Array	30.84	338	P	P	07 40 23.1 +0.4
	baz=150					
PD31	Pinedale Array	30.84	338	P	P	07 40 21.6 -1.1
PD31					pP	07 40 30.3 -0.8
PDAR	Pinedale Array	30.84	338	P	P	07 40 23.5 +0.8
	comp=Z,1.1nm,0.9s,baz=150,slow=6.3,SNR=5.8					
PDAR				LR	LR	07 52 34.9
	comp=Z,84nm,21.2s,baz=156,slow=36					
	comp=Z,1.1nm,0.9s					
CZSB	Cruzeiro do Su	30.97	135	P	P	07 40 26.0 +2.2
CZSB				IAmb	IAmb	07 40 40.6
	comp=Z,46nm,1.4s					
F36A	Milaca	31.02	1	IAmb	IAmb	07 40 33.9
	comp=Z,9.9nm,0.8s					
ID10	Lander Cutoff	31.13	336	IAmb	IAmb	07 41 34.7
	comp=Z,12nm,0.6s					
HVU	Hansel Valley	31.30	333	IAmb	IAmb	07 40 38.0
	comp=Z,15nm,1.0s					
AHID	Auburn Hatcher	31.42	336	IAmb	IAmb	07 40 44.2
	comp=Z,12nm,1.1s					
NV11	Mina Array Sit	31.60	323	P	P	07 40 31.1 +1.8
NV11				IAmb	IAmb	07 40 33.9
	comp=Z,25nm,1.2s					
ID07	Smith Canyon R	31.62	335	IAmb	IAmb	07 40 40.4
	comp=Z,15nm,1.1s					
MDPB	Devils Postpil	31.63	321	IAmb	IAmb	07 40 38.6
	comp=Z,15nm,1.1s					
ELK	Elko	31.66	329	P	P	07 40 31.6 +1.6
ELK	Elko	31.66	329	LR	LR	07 55 58.8
	comp=Z,375nm,19.1s,baz=142,slow=41					
NVAR	Mina Array Bea	31.68	323	P	P	07 40 32.6 +2.4
	comp=Z,8.5nm,1.0s,baz=140,slow=8.0,SNR=42					
NVAR				LR	LR	07 55 24.6
	comp=Z,573nm,18.2s,baz=135,slow=40					
	comp=Z,8.5nm,1.0s					
LHV	Little Huntoon	31.68	322	P	P	07 40 31.8 +1.9
LHV				IAmb	IAmb	07 40 54.9
	comp=Z,21nm,1.2s					
NNA	Nana	31.72	146	LR	LR	07 51 04.1
	comp=Z,146nm,18.5s,baz=335,slow=32					
PMPB	Monarch Peak	31.87	317	P	P	07 40 32.9 +1.2
LOHW	Long Hollow	31.95	337	IAmb	IAmb	07 40 43.2
	comp=Z,13nm,1.1s					
TPAW	Teton Pass	31.98	337	P	P	07 40 33.7 +0.9
TPAW				IAmb	IAmb	07 40 47.0
	comp=Z,21nm,1.1s					
KVN	Kaiserville	31.98	324	IAmb	IAmb	07 40 48.2
	comp=Z,45nm,2.0s					
FXWY	Fox Creek	32.13	337	IAmb	IAmb	07 40 37.2
	comp=Z,37nm,2.0s					
WAKR	Walker	32.40	322	IAmb	IAmb	07 40 41.8
	comp=Z,25nm,1.5s					
SADO	Sadowa	32.59	20	LR	LR	07 55 43.6
	comp=Z,352nm,18.7s,baz=234,slow=40					
YERR	Yerington	32.60	322	IAmb	IAmb	07 40 42.4
	comp=Z,17nm,1.3s					
CMB	Columbia Colle	32.69	320	IAmb	IAmb	07 40 57.5
	comp=Z,25nm,1.7s					
RLMT	Red Lodge	32.80	340	IAmb	IAmb	07 40 42.7
	comp=Z,42nm,1.6s					
RLMT	Red Lodge	32.80	340	P	P	07 40 40.0 0.0
	baz=152,SNR=5.7					
PNTR	Pine Nut	32.88	322	IAmb	IAmb	07 40 52.9
	comp=Z,27nm,1.3s					
PAHR	Pah Rah Range	33.16	323	IAmb	IAmb	07 40 52.5
	comp=Z,16nm,1.5s					
EYMN	Ely	33.18	4	P	P	07 40 41.7 -1.2
	baz=184					
YHL	Hebgen Lake	33.23	338	IAmb	IAmb	07 40 56.1
	comp=Z,20nm,1.4s					
MPK	Martis Peak	33.27	322	IAmb	IAmb	07 40 59.8
	comp=Z,30nm,1.2s					
MDND	Maddock	33.29	354	P	P	07 40 42.5 -1.4
	baz=170					
L61B	Northampton	33.32	30	P	P	07 40 42.1 -2.2
	baz=220					
LAO	LASA Array	33.36	345	P	P	07 40 44.1 -0.5
	baz=158					
HLID	Hailey	33.46	333	P	P	07 40 46.9 +1.3
HLID				IAmb	IAmb	07 40 53.0
	comp=Z,13nm,1.3s					
HLID	Hailey	33.46	333	P	P	07 40 45.5 -0.1
	baz=142,SNR=13					
B35A	Bob, Littlefor	33.52	1	IAmb	IAmb	07 40 56.1
	comp=Z,24nm,1.1s					
MFID	Camas Ranch	33.98	331	IAmb	IAmb	07 40 56.6
	comp=Z,27nm,1.8s					
BOZ	Bozeman (W)	34.03	338	IAmb	IAmb	07 40 56.2
	comp=Z,30nm,1.9s					
BOZ	Bozeman (W)	34.03	338	P	P	07 40 51.0 +0.4
	baz=149					
LONY	Lake Ozonia	34.18	25	P	P	07 40 49.2 -2.5
	baz=215					
PLID	Pearl Lake	35.36	333	IAmb	IAmb	07 41 12.7
	comp=Z,14nm,1.1s					
ULM	Lac du Bonnet	35.43	358	IAmb	IAmb	07 42 00.5
	comp=Z,32nm,1.5s					
ULM	Lac du Bonnet	35.43	358	P	P	07 41 00.6 -1.7
	comp=Z,2.5nm,0.4s,baz=180,slow=12,SNR=7.6					
	comp=Z,2.5nm,0.4s					
EGMT	Eagleton	35.55	342	P	P	07 41 02.6 -1.0
EGMT	Eagleton	35.55	342	P	P	07 41 03.0 -0.5
	baz=153					
BOAV	Boa Vista	35.55	107	P	P	07 41 03.1 -0.8
BOAV				IAmb	IAmb	07 41 15.4
	comp=Z,9.8nm,1.0s					
BMO	Blue Mountains	35.76	332	IAmb	IAmb	07 41 19.8
	comp=Z,12nm,1.4s					
MSO	Missoula	35.93	337	IAmb	IAmb	07 41 21.1
	comp=Z,20nm,1.3s					
MSO	Missoula	35.93	337	P	P	07 41 06.5 -0.3
	baz=146					
K05A	Summer Lake	36.02	326	P	P	07 41 09.4 +1.6
K05A				IAmb	IAmb	07 41 16.7
	comp=Z,14nm,1.3s					
YBH	Yreka Blue Hor	36.39	323	LR	LR	07 55 23.6
	comp=Z,671nm,18.4s,baz=149,slow=35					
F10A	Beach Ranch, E	36.59	333	IAmb	IAmb	07 41 22.8
	comp=Z,13nm,0.9s					
G08A	Pilot Rock	36.86	331	P	P	07 41 15.8 +0.9
G08A				pP	pP	07 41 24.4 +1.1
H04A	Detroit Lake	38.04	327	IAmb	IAmb	07 41 39.5
	comp=Z,36nm,1.3s					
NEW	Newport	38.35	335	P	P	07 41 27.2 -0.1
	baz=142					
NEW	Newport	38.35	335	LR	LR	07 59 24.4
	comp=Z,291nm,18.9s,baz=148,slow=40					
C09A	Chrisman Ranch	38.46	334	IAmb	IAmb	07 41 39.3
	comp=Z,21nm,1.4s					
SAML	Samuel	38.85	125	P	P	07 41 30.1 -1.7
SAML	Samuel	38.85	125	P	P	07 41 30.4 -1.3
SAML				pP	pP	07 41 41.5 +1.6
D05A	Enumclaw	39.69	330	IAmb	IAmb	07 42 04.1
	comp=Z,30nm,1.3s					
E03A	Lebam	40.02	328	IAmb	IAmb	07 41 52.6
	comp=Z,28nm,1.1s					
LPAZ	La Paz	40.27	139	P	P	07 41 44.2 -0.1
LPAZ				pP	sP	07 41 54.6 -1.5
LPAZ	La Paz	40.27	139	P	P	07 41 42.4 -1.9
	comp=Z,1.1nm,0.6s,baz=349,slow=7.6,SNR=6.5					
	comp=Z,1.1nm,0.6s					
LPAZ	La Paz	40.27	139	P	P	07 41 44.3 0.0
LPAZ				pP	sP	07 41 55.4 -0.7
FFC	Flin Flon	40.33	353	P	P	07 41 45.9 +2.2
GNW	Green Mountain	40.35	330	P	P	07 41 44.5 +0.6
NLWA	Neilton Lookou	40.75	329	IAmb	IAmb	07 42 00.9
	comp=Z,15nm,1.1s					
PB16	IPOC Station P	40.99	143	P	P	07 41 51.4 +1.2
MDP	Montagnes des	42.11	99	LR	LR	08 01 05.8
	comp=Z,159nm,19.1s,baz=300,slow=39					
VILB	Vilhena	43.59	127	P	P	07 42 10.7 -0.2
VILB				IAmb	IAmb	07 42 17.0
	comp=Z,23nm,1.1s					
RPN	Rapa Nui	44.10	199	LR	LR	07 56 11.2
	comp=Z,154nm,19.5s,baz=330,slow=30					
LVC	Limon Verde	44.71	146	LR	LR	07 58 30.6
	comp=Z,81nm,20.6s,baz=307,slow=33					
SIV	San Ignacio	44.87	132	LR	LR	08 00 48.7
	comp=Z,211nm,19.0s,baz=286,slow=36					
SCHQ	Schefferville	45.35	22	P	P	07 42 24.6 +0.3
	comp=Z,6.1nm,1.0s,baz=232,slow=19,SNR=1.9					
SCHQ				LR	LR	08 03 13.3
	comp=Z,523nm,18.6s,baz=266,slow=39					
	comp=Z,6.1nm,1.0s					
PTLB	Pontes e Lacer	45.95	129	P	P	07 42 29.4 -0.1
PTLB				IAmb	IAmb	07 42 38.2
	comp=Z,12nm,1.1s					
BBB	Bella Bella	46.01	332	LR	LR	08 02 57.8
	comp=Z,306nm,18.4s,baz=156,slow=38					
V35K	Ketchikan	49.64	333	P	P	07 42 57.5 -0.1
	baz=129					
YKA	Yellowknife Ar	49.80	348	P	P	07 42 58.9 +0.1
	comp=Z,1.6nm,0.6s,baz=133,slow=9.5,SNR=7.4					
	comp=Z,1.6nm,0.6s					
T35M	Bob Quinn	50.15	335	P	P	07 43 02.7 +1.1
	baz=132					
KOTAN	Kotaneelee Air	50.24	341	P	P	07 43 03.5 +1.4
	baz=141					
DLBC	Dease Lake	51.06	337	P	P	07 43 09.8 +1.3
	baz=133					
WTLY	Watson Lake, Y	51.79	339	IAmb	IAmb	07 43 24.7
	comp=Z,16nm,1.1s					
WTLY	Watson Lake, Y	51.79	339	P	P	07 43 14.4 +0.5
	baz=135					
R33M	Jennings River	52.07	337	P	P	07 43 16.8 +0.7
R33M				pP	pwP	07 43 26.6 -1.4
R33M				IAmb	IAmb	07 43 28.5
	comp=Z,26nm,1.4s					
R33M	Jennings River	52.07	337	P	P	07 43 17.1 +1.0
	baz=132					
FRB	Frobisher Bay	52.12	14	LR	LR	08 07 28.2
	comp=Z,318nm,19.7s,baz=192,slow=38					
ZON	Zonda	52.21	152	P	P	07 43 19.8 +2.4
ZON				IAmb	IAmb	07 43 33.3
	comp=Z,21nm,1.3s					
S32K	Killisnoo	52.27	334	P	P	07 43 17.8 +0.4
	baz=127					
Q32M	Nakina River	52.28	336	P	P	07 43 18.5 +0.8
	baz=131					
VA03	San Esteban	52.44	155	IAmb	IAmb	07 43 37.0
	comp=Z,19nm,0.9s					
CFA	Coronel Fontan	52.46	152	LR	LR	08 00 55.1
	comp=Z,124nm,20.1s,baz=84,slow=31					
WRGLY	Wrigley	52.53	344	P	P	07 43 19.8 +0.5
	baz=143					
TGTN	Hyland Airport	52.65	340	P	P	07 43 21.0 +0.8
	baz=137					
P32M	Atlin	53.25	336	P	P	07 43 25.7 +1.0
	baz=130					
MMPY	Sheldon Lake,	54.41	340	P	P	07 43 34.4 +1.2
	baz=134					
CPUP	Villa Florida	54.43	138	P	P	07 43 32.5 -1.3
	comp=Z,3.1nm,0.8s,baz=304,slow=7.2,SNR=5.5					
CPUP				LR	LR	08 07 41.1
	comp=Z,97nm,18.1s,baz=330,slow=37					
	comp=Z,3.1nm,0.8s					
CPUP	Villa Florida	54.43	138	P	P	07 43 32.8 -0.9
BDFB	Brasilia	54.84	122	P	P	07 43 37.4 +0.4
BDFB	Brasilia	54.84	122	P	P	07 43 36.4 -0.6
	comp=Z,11nm,0.9s,baz=285,slow=8.4,SNR=17					
	comp=Z,11nm,0.9s					
FARO	Faro, Yukon	54.85	339	P	P	07 43 37.4 +1.1
	baz=131					
O30N	Mendenhall	54.92	336	P	P	07 43 36.8 0.0
	baz=128					
M31M	Drury Creek, Y	55.20	338	P	P	07 43 39.3 +0.5
	baz=130					
N31M	Braeburn, Yuko	55.25	337	P	P	07 43 40.2 +1.0
	baz=128					
HYT	Haines Junctio	55.51	336	P	P	07 43 42.0 +0.8
	baz=126					
M30M	Minto, Yukon	56.30	338	P	P	07 43 47.5 +0.7
	baz=128					
M29M	Somme Creek	56.84	337	P	P	07 43 52.0 +1.3
M29M	Somme Creek	56.84	337	P	P	07 43 51.5 +0.9
	baz=126					
L29M	L29M	57.12	338	P	P	07 43 53.3 +0.8
	baz=127					
YUK3	Moose Creek	57.22	336	P	P	07 43 53.4 -0.1
	baz=124					
K29M	Barlow Dome	57.35	339	P	P	07 43 55.0 +0.7
	baz=128					
C36M	Paulatuk	57.68	348	P	P	07 43 57.7 +1.4
	baz=145					
I30M	Mount Dempster	57.84	341	P	P	07 43 58.6 +0.9
	baz=130					
KAIM	Kayak Island	57.91	333	P	P	07 43 58.8 +0.7
	baz=118					
DAWY	Dawson	58.14	339	P	P	07 44 00.1 +0.3
	baz=126					
G31M	Satah River	58.33	343	P	P	07 44 01.0 +0.1
	baz=133					
L27K	Beaver Creek,	58.47	337	P	P	07 44 04.5 +2.5
L27K	Beaver Creek,	58.47	337	P	P	07 44 02.6 +0.6
	baz=123					
F31M	Tsiigehtchic	58.54	343	P	P	07 44 01.3 -1.1
	baz=134					
I29M	Ogilvie Camp,	58.56	340	P	P	07 44 02.0 -0.6
	baz=128					
M26K	Nabesna, AK	58.56	336	P	P	07 44 02.7 -0.1
	baz=121					
EPYK	Eagle Plains	58.69	341	P	P	07 44 02.9 -0.6
	baz=130					
N25K	Chitina, Valde	58.81	335	P	P	07 44 05.3 +0.9
	baz=119					
G30M	tAoh Zraii Nji	58.94	342	P	P	07 44 04.7 -0.6
	baz=131					
L26K	Log Cabin Wild	59.03	336	P	P	07 44 06.8 +0.9
	baz=121					
INK	Inuvik	59.09	344	IAmb	IAmb	07 44 13.2
	comp=Z,17nm,1.2s					
INK	Inuvik	59.09	344	P	P	07 44 06.5 +0.4
	baz=134					
INK	Inuvik	59.09	344	LR	LR	08 12 55.0
	comp=Z,314nm,19.1s,baz=176,slow=39					
K27K	Chicken	59.09	338	IAmb	IAmb	07 44 15.0
	comp=Z,11nm,1.2s					
K27K	Chicken	59.09	338	P	P	07 44 07.4 +1.1
	baz=123					
H29M	Whitestone	59.11	341	P	P	07 44 06.9 +0.5
	baz=128					
I28M	Miner Creek	59.16	340	P	P	07 44 07.2 +0.4
	baz=126					
F30M	Barrier River	59.23	343	P	P	07 44 07.7 +0.4
	baz=131					
P23K	Montague Islan	59.27	332	P	P	07 44 08.6 +1.1
	baz=116					
KLU	Klutina	59.31	334	P	P	07 44 08.7 +0.8
	baz=118					
HARP	HAARP	59.43	335	P	P	07 44 08.7 0.0
	baz=119					
G29M	Pine Creek	59.44	342	P	P	07 44 09.4 +0.7
	baz=129					
PLCA	Paso Flores	59.45	159	P	P	07 44 08.9 -0.2
	comp=Z,4.7nm,1.0s,baz=330,slow=14,SNR=3.0					
PLCA				LR	LR	08 03 29.2
	comp=Z,99nm,21.2s,baz=342,slow=30					
	comp=Z,4.7nm,1.0s					
PLCA	Paso Flores	59.45	159	P	P	07 44 09.3 +0.2
M24K	Tolsona, Glenn	59.70	335	P	P	07 44 11.6 +1.0
	baz=118					
I27K	Kandik River	59.81	339	P	P	07 44 12.3 +1.0
	baz=124					
PAX	Paxson	59.84	336	P	P	07 44 12.7 +1.1
	baz=119					
J26L	Joseph Creek	59.90	338	P	P	07 44 12.6 +0.7
	baz=122,SNR=5.3					
H27K	Steamboat Moun	60.15	340	P	P	07 44 14.6 +1.0
	baz=125,SNR=6.5					
I26K	Coal Creek Min	60.18	339	P	P	07 44 13.7 -0.1
	baz=122					
E29M	Blow River	60.35	343	P	P	07 44 15.8 +1.0
	baz=130					
K24K	Donnelly Dome	60.37	336	P	P	07 44 16.2 +1.1
	baz=119					
F28M	Old Crow	60.44	342	P	P	07 44 17.2 +1.7
	baz=127,SNR=8.3					
SML	Sawmill	60.48	334	P	P	07 44 16.8 +0.9
	baz=116					
G27K	Doyon Strip	60.52	340	P	P	07 44 17.5 +1.4
	baz=125					
WAT6	Susitna Watana	60.57	335	P	P	07 44 18.6 +1.9
	baz=116					
DY2G	Dye2	60.58	20	*i* P	P	07 44 16.1 -0.7
J25K	Salcha River,	60.62	337	IAmb	IAmb	07 44 24.9
	comp=Z,14nm,1.4s					
J25K	Salcha River,	60.62	337	P	P	07 44 18.6 +1.8
	baz=120					
PMOR	Pomariorio Ree	60.63	243	*e*T	T	08 50 25.9
	comp=Z,1.6nm,0.2s					
BRSE	Bradley Lake S	60.70	331	P	P	07 44 18.2 +0.8
	baz=112					
RC01	Rabbit Creek A	60.78	333	P	P	07 44 19.9 +2.0
	baz=114					
KDAK	Kodiak Island	60.89	329	P	P	07 44 20.4 +1.6
	baz=109					
E28M	Babbage River	60.95	343	P	P	07 44 20.2 +1.2
	baz=128					
WAT1	Susitna Watana	61.02	335	P	P	07 44 20.6 +1.0
	baz=116					
Q20K	Shuyak Island	61.08	330	P	P	07 44 21.4 +1.4
	baz=110					
HDA	Harding Lake	61.11	337	P	P	07 44 21.5 +1.3
	baz=118					
PRP	Porcupine Dome	61.14	338	IAmb	IAmb	07 44 22.7
	comp=Z,12nm,1.1s					
PRP	Porcupine Dome	61.14	338	P	P	07 44 21.4 +0.9
	baz=120					
IL31		61.27	337	P	P	07 44 21.1 0.0
IL31				IAmb	IAmb	07 44 23.3
	comp=Z,18nm,1.2s					
ILAR	Eielson Array	61.27	337	P	P	07 44 21.6 +0.5
	comp=Z,2.9nm,0.8s,baz=128,slow=5.4,SNR=27					
	comp=Z,2.9nm,0.8s					
G26K	Porcupine Rive	61.30	340	P	P	07 44 22.2 +0.9
	baz=123					
E27K	Coleen River	61.31	342	P	P	07 44 22.4 +1.0
	baz=126					
SUA	Susitna One	61.38	333	P	P	07

RCBR **Riachuelo** **61.43 105** LR LR 08 14 46.0
comp=Z,198nm,18.2s,baz=262,slow=40
MCK **McKinley** **61.58 336** P **P** **07 44 23.9 +0.6**
baz=116
H25L **Birch Creek** **61.62 339** P **P** **07 44 24.1 +0.6**
baz=120
POKR **Poker Plat Res** **61.64 337** P **P** **07 44 25.2 +1.5**
baz=118
COLA **College** **61.68 337** P **P** **07 44 25.0 +1.1**
baz=118
COLA **College** **61.68 337** P **P** **07 44 22.6 -1.3**
COLA pP **pP** **07 44 32.9 0.0**
COLA sP **sP** **07 44 37.1 +1.2**
R18K **Karluk** **61.77 328** P **P** **07 44 26.7 +2.0**
baz=107
Q19K **Cape Douglas,** **61.80 330** P **P** **07 44 25.7 +0.8**
baz=109
BMAR **Burnt Mountain** **61.82 340** P **P** **07 44 25.9 +1.0**
F26K **Sheenjek River** **61.82 341** P **P** **07 44 26.6 +1.7**
baz=123
SKT **Skwentna** **61.93 333** P **P** **07 44 26.6 +0.9**
baz=112
N20K **Mount Spurr** **61.93 332** P **P** **07 44 26.8 +1.0**
baz=111
SPCR **Spurr Chakacha** **61.93 332** P **P** **07 44 26.5 +0.7**
baz=111
G25K **Bearman Lake** **61.98 339** P **P** **07 44 26.7 +0.8**
baz=120
TRF **Thorofare Moun** **62.00 335** P **P** **07 44 26.8 +0.5**
baz=114
NEA2 **Nenana** **62.01 336** P **P** **07 44 26.8 +0.6**
baz=116
H24K **Noodor Dome** **62.14 338** P **P** **07 44 28.4 +1.3**
baz=118,SNR=7.0
F25K **Christian Rive** **62.25 340** P **P** **07 44 27.7 -0.1**
baz=121
I23K **Minto, Yukon-K** **62.37 337** P **P** **07 44 30.0 +1.4**
baz=116,SNR=7.8
Q18K **Katmai Hardscr** **62.39 329** P **P** **07 44 30.7 +1.8**
baz=107
G24K **Hadweenzic Riv** **62.42 339** P **P** **07 44 30.5 +1.6**
baz=119
E25K **Arctic Village** **62.51 341** P **P** **07 44 30.5 +1.0**
baz=121
BPAW **Bear Paw Mtn.** **62.55 336** P **P** **07 44 30.1 +0.3**
BPAW **Bear Paw Mtn.** **62.55 336** P **P** **07 44 31.5 +1.7**
baz=114
PPLA **Purkeypile** **62.57 334** P **P** **07 44 31.7 +1.6**
baz=112
M20K **Styx River** **62.59 333** IAmb IAmb 07 44 46.2
comp=Z,12nm,1.1s
M20K **Styx River** **62.59 333** P **P** **07 44 32.3 +2.0**
baz=111
Q17K **Contact Creek** **62.71 328** P **P** **07 44 31.8 +0.7**
baz=106
CAST **Castle Rocks** **62.73 335** IAmb IAmb 07 44 37.6
comp=Z,14nm,1.0s
CAST **Castle Rocks** **62.73 335** P **P** **07 44 31.5 +0.5**
baz=113,SNR=9.1
H23K **Yukon River** **62.75 338** P **P** **07 44 31.9 +0.8**
baz=116
R17K **Ugashik Creek** **62.79 328** P **P** **07 44 33.5 +2.0**
baz=106
N19K **Bonanza Creek** **62.83 331** P **P** **07 44 31.9 +0.1**
N19K **Bonanza Creek** **62.83 331** P **P** **07 44 32.5 +0.7**
baz=109
MLY **Manley** **62.85 337** IAmb IAmb 07 44 38.9
comp=Z,12nm,0.9s
MLY **Manley** **62.85 337** P **P** **07 44 33.0 +1.2**
baz=115,SNR=9.8
O18K **Koktuh Hills** **62.86 330** P **P** **07 44 33.8 +1.8**
baz=108
F24K **Squaw Lake** **62.96 340** P **P** **07 44 34.2 +1.7**
baz=119
CHUM **Lake Minchumin** **63.00 335** P **P** **07 44 34.0 +1.2**
baz=113
M19K **Big River Lodg** **63.16 333** P **P** **07 44 34.3 +0.4**
baz=110
Q16K **King Salmon** **63.22 329** P **P** **07 44 34.4 +0.1**
baz=106
PPT **Papeete** **63.23 241** LR LR 08 06 19.7
comp=Z,75nm,18.2s,baz=58,slow=30
PPT2 **Papeete2** **63.24 241** *e*LR LR 08 03 07.6
comp=Z,183nm,25.8s
PPT2 *e*LR LR 08 03 14.5
comp=Z,132nm,26.0s
P17K **Kvichak River** **63.26 329** P **P** **07 44 35.3 +0.7**
baz=106
G23K **Bananza Creek** **63.32 338** P **P** **07 44 35.4 +0.5**
baz=116
COYC **Coyhaique** **63.33 163** P **P** **07 44 35.2 +0.1**
COYC sP **pwP** **07 44 52.1 +3.1**
I21K **Tanana** **63.39 336** P **P** **07 44 36.0 +0.7**
baz=114
D25K **Kavik River** **63.39 342** P **P** **07 44 35.5 +0.1**
baz=121
E24K **Your Creek** **63.43 340** P **P** **07 44 35.0 -0.6**
baz=118
N18K **Kilae Creek** **63.44 331** P **P** **07 44 36.3 +0.4**
baz=108
H22K **Ishtalitna Cre** **63.45 337** P **P** **07 44 36.2 +0.4**
baz=114
L19K **White Mountain** **63.46 333** P **P** **07 44 36.6 +0.7**
baz=109
K20K **Telida** **63.53 334** P **P** **07 44 36.5 +0.1**
K20K **Telida** **63.53 334** P **P** **07 44 36.5 +0.1**
baz=111,SNR=7.5
COLD **Coldfoot** **63.61 339** P **P** **07 44 37.2 +0.4**
baz=116
O17K **Koliganek Bris** **63.75 330** P **P** **07 44 39.0 +1.2**
baz=106
E23K **Chandalar** **63.80 340** P **P** **07 44 39.1 +1.0**
baz=117
J20K **Nowinta River** **63.86 335** IAmb IAmb 07 44 45.1
comp=Z,10nm,1.0s
J20K **Nowinta River** **63.86 335** P **P** **07 44 38.8 +0.4**
baz=111
H21K **Melozitna Rive** **63.90 337** P **P** **07 44 38.9 +0.2**
H21K IAmb IAmb 07 44 48.7
comp=Z,8.6nm,1.2s
H21K **Melozitna Rive** **63.90 337** P **P** **07 44 38.8 0.0**
baz=113
G22K **Bettles** **63.94 338** P **P** **07 44 39.5 +0.6**
baz=115
N17K **Nushagak Hills** **64.01 331** P **P** **07 44 40.7 +1.2**
baz=106
ICESG **Greenland Ices** **64.10 19** *i* P **P** **07 44 38.5 -1.9**
ICESG IAmb IAmb 07 44 49.4
comp=Z,49nm,1.2s
O16K **Kokwok River B** **64.18 330** P **P** **07 44 40.9 +0.2**
baz=105
I20K **Naaghedeneel** **64.22 336** P **P** **07 44 41.2 +0.4**
baz=111
L18K **Granite Mounta** **64.28 333** P **P** **07 44 41.5 +0.2**
baz=108
C24K **Franklin Bluff** **64.30 342** P **P** **07 44 41.4 +0.2**
baz=119
M17K **Holitna River** **64.38 332** P **P** **07 44 43.1 +1.1**
baz=106
J19K **Poorman** **64.40 335** P **P** **07 44 42.7 +0.7**
baz=109
F22K **John River** **64.42 339** P **P** **07 44 41.9 -0.3**
baz=114
G21K **Allakaket** **64.50 338** P **P** **07 44 43.4 +0.8**
baz=113
D23K **Nanushuk River** **64.56 341** P **P** **07 44 43.5 +0.5**
baz=116
E22K **Anaktuvuk Pass** **64.57 340** P **P** **07 44 43.6 +0.5**
baz=115
H20K **Anotleneega Mo** **64.63 336** P **P** **07 44 43.7 +0.1**
baz=111
J18K **Innoko River** **64.69 334** P **P** **07 44 45.2 +1.2**
baz=108
N16K **Nishlik Lake** **64.75 330** P **P** **07 44 45.7 +1.3**
baz=105
F21K **Alatna River** **64.77 338** P **P** **07 44 45.2 +0.7**
baz=113,SNR=16
O15K **Ungalikthiuk R** **64.94 329** P **P** **07 44 46.5 +0.9**
baz=103
C23K **Itkillik River** **64.94 341** P **P** **07 44 46.1 +0.7**
baz=117
L17K **Donlin** **64.98 332** P **P** **07 44 46.0 +0.2**
baz=106
K17K **Iditarod** **65.15 333** P **P** **07 44 48.0 +1.1**
baz=106
D22K **Ayikyak River** **65.17 340** P **P** **07 44 46.4 -0.6**
baz=114
H19K **Roundabout Mou** **65.26 336** P **P** **07 44 47.7 +0.1**
baz=109
N15K **Kwethluk River** **65.31 330** P **P** **07 44 50.4 +2.4**
baz=103
L16K **Owhat River** **65.40 332** P **P** **07 44 49.8 +1.3**
baz=105
E21K **Killik River** **65.43 339** P **P** **07 44 49.1 +0.5**
baz=113
EUNU **Eureka** **65.43 2** P **P** **07 44 47.8 -0.8**
F20K **Avaraart Lake** **65.52 338** P **P** **07 44 49.8 +0.6**
baz=111,SNR=5.9
J17K **VABM Dome** **65.68 333** P **P** **07 44 51.8 +1.4**
baz=106
G19K **Purcell Mounta** **65.71 337** P **P** **07 44 51.3 +0.8**
baz=109
TBI **Tubuai** **65.87 236** *e*LR LR 08 04 25.8
comp=Z,2μm,26.0s
TBI *e*LR LR 08 04 34.4
comp=Z,741nm,28.0s
H18K **Honhosa River** **65.90 335** P **P** **07 44 52.9 +1.2**
baz=107
E20K **Nigu River** **66.12 339** P **P** **07 44 54.7 +1.5**
baz=111
SUMG **Summit** **66.13 16** P **P** **07 44 52.2 -1.4**
SUMG **Summit** **66.13 16** *i* P **P** **07 44 53.0 -0.6**
SUMG IAmb IAmb 07 45 02.9
comp=Z,23nm,1.2s
F19K **Shaleruckik Mo** **66.20 337** P **P** **07 44 54.9 +1.3**
baz=108
E19K **Redstone River** **66.21 338** P **P** **07 44 55.3 +1.6**
baz=109
G18K **Tagagawik** **66.24 336** P **P** **07 44 55.4 +1.5**
baz=107
J16K **Anvik River** **66.31 333** P **P** **07 44 56.2 +1.8**
baz=104
M14K **Bethel** **66.34 330** P **P** **07 44 55.9 +1.4**
baz=102
NEEM **North Greenlan** **66.36 9** *i* P **P** **07 44 56.4 +1.5**
D20K **Etivluk River** **66.43 339** P **P** **07 44 54.9 -0.2**
baz=110
H17K **Granite Mounta** **66.46 335** P **P** **07 44 55.2 -0.2**
baz=106
K15K **Wolf Creek Mou** **66.48 332** P **P** **07 44 56.1 +0.6**
baz=103
I17K **Unalakleet** **66.51 334** P **P** **07 44 55.9 +0.2**
baz=104
L14K **Kuka Creek** **66.81 331** P **P** **07 44 58.4 +0.8**
baz=102
D19K **Kuna River** **66.87 339** P **P** **07 44 57.9 -0.1**
baz=109
G17K **Kiwalik Mounta** **66.92 335** P **P** **07 44 58.9 +0.6**
baz=105
M13K **Dall Lake** **66.94 330** P **P** **07 44 59.3 +0.8**
baz=100
B20K **Meade River** **67.07 341** P **P** **07 45 00.2 +1.0**
baz=110
E18K **Tukpahlearik C** **67.43 337** P **P** **07 45 02.1 +0.6**
baz=106
J14K **Nanvaranak Lak** **67.50 332** P **P** **07 45 01.7 -0.2**
baz=101,SNR=10
G16K **Koyuk River** **67.58 335** P **P** **07 45 01.5 -0.9**
baz=104
UNV **Unalaska Valle** **67.70 322** P **P** **07 45 03.8 +0.4**
baz=95
E17K **Hotham Inlet** **67.80 337** P **P** **07 45 03.4 -0.4**
baz=105,SNR=6.1
K13K **Kusilvak Mount** **67.85 331** P **P** **07 45 05.4 +1.3**
baz=100
C18K **Utukok River** **67.99 339** P **P** **07 45 05.5 +0.4**
baz=106
D17K **Noatak River** **68.42 338** P **P** **07 45 08.8 +1.1**
baz=104
F15K **North Star Dit** **68.58 335** P **P** **07 45 10.0 +1.3**
baz=102
F14K **Arctic Creek** **69.22 335** P **P** **07 45 12.3 -0.4**
baz=100
EKA **Eskdalemuir Ar** **78.69 36** P **P** **07 46 08.0 -0.3**
comp=Z,2.6nm,0.5s,baz=287,slow=4.8,SNR=10
comp=Z,2.6nm,0.5s
SHEM **Shemya Is, Ala** **79.35 322** LR LR 08 17 58.2
comp=Z,45nm,20.2s,baz=287,slow=33
SPITS **Spitsbergen Ar** **79.81 11** LR LR 08 25 59.4
comp=Z,244nm,18.2s,baz=264,slow=39
PAB **San Pablo** **80.77 52** P **P** **07 46 19.2 -0.8**
PAB IAmb IAmb 07 46 21.6
comp=Z,26nm,1.5s
ESDC **Sonseca Array** **81.03 51** IAmb IAmb 07 46 22.9
comp=Z,23nm,1.5s
ESDC **Sonseca Array** **81.03 51** P **P** **07 46 20.1 -1.3**
comp=Z,3.7nm,1.0s,baz=291,slow=5.0,SNR=16
ESDC LR LR 08 21 16.8
comp=Z,172nm,18.2s,baz=312,slow=35
comp=Z,3.7nm,1.0s
ESBB **Sonseca Array** **81.03 51** P **P** **07 46 21.2 -0.2**
AFI **Afiamalu** **81.72 253** LR LR 08 13 34.9
comp=Z,80nm,21.2s,baz=98,slow=29
MDT **Midelt** **81.94 58** LR LR 08 18 28.6
comp=Z,143nm,19.5s,baz=300,slow=33
DOU **Dourbes** **84.45 40** *d*P **P** **07 46 39.6 +0.7**
BMRD **Maredsous** **84.50 40** *d*P **P** **07 46 39.8 +0.7**
NB2 **NORSAR Subarra** **84.56 28** P **P** **07 46 40.2 +0.9**
comp=Z,38nm,1.7s,baz=291,slow=5.1
NB2 **NORSAR Subarra** **84.56 28** P **P** **07 46 40.2 +0.9**
baz=291,slow=5.1
NOA **NORSAR Array B** **84.56 28** P **P** **07 46 39.5 +0.3**
comp=Z,1.6nm,0.6s,baz=291,slow=5.1,SNR=5.6
comp=Z,1.6nm,0.6s
BGES **Gesves** **84.67 39** *d*P **P** **07 46 40.7 +0.7**
BCLA **Clavier** **84.79 39** *d*P **P** **07 46 41.9 +1.3**
RCHB **Rochefort** **84.82 40** *d*P **P** **07 46 41.5 +0.8**
MEM **Membach** **85.17 39** *d*P **P** **07 46 43.2 +0.8**
BHOU **Houvegnez** **85.24 39** *d*P **P** **07 46 43.8 +1.0**
BTNL **Ternell** **85.25 39** *d*P **P** **07 46 44.1 +1.2**
WLF **Walferdange** **85.54 40** *d*P **P** **07 46 45.9 +1.6**
HFS **Hagfors** **86.04 28** P **P** **07 46 47.1 +0.5**
comp=Z,2.6nm,0.7s,baz=349,slow=4.7,SNR=2.0
comp=Z,2.6nm,0.7s
ARCES **ARCESS Array B** **86.13 18** P **P** **07 46 47.2 +0.3**
comp=Z,1.2nm,0.5s,baz=283,slow=5.2,SNR=11
ARCES LR LR 08 26 05.4
comp=Z,122nm,19.6s,baz=262,slow=36
comp=Z,1.2nm,0.5s
KOWA **Kowa** **86.70 76** P **P** **07 46 51.2 +0.5**
KOWA **Kowa** **86.70 76** LR LR 08 28 01.2
comp=Z,67nm,18.1s,baz=318,slow=37
BNI **Bardonecchia** **87.29 44** P **P** **07 46 54.3 +1.1**
TUE **Stuetta** **88.59 42** P **P** **07 46 59.1 -0.4**
GRF **Grafenberg Arr** **88.64 39** *e*P **P** **07 47 00.8 +1.5**
comp=Z,67nm,2.0s,baz=282,slow=5.2
PETK **Petropavlovsk-** **88.74 325** LR LR 08 26 24.4
comp=Z,30nm,19.1s,baz=67,slow=35
CLL **Collm** **89.09 37** *e*P **P** **07 47 04.0 +2.6**
CLL *i* sP **sP** **07 47 18.1 +4.2**
CLL AMS AMS 08 26 00.0
comp=Z,300nm,18.2s
MA2 **Magadan** **89.39 333** LR LR 08 31 07.7
comp=Z,39nm,18.4s,baz=74,slow=38
GERES **GERESS Array B** **90.46 39** P **P** **07 47 09.5 +1.5**
comp=Z,0.5nm,0.3s,baz=304,slow=2.3,SNR=0.9
GERES LR LR 08 24 49.2
comp=Z,175nm,20.4s,baz=260,slow=34
comp=Z,0.5nm,0.3s
FINES **FINESS Array B** **90.77 24** P **P** **07 47 08.4 -0.7**
comp=Z,3.6nm,0.9s,baz=265,slow=8.0,SNR=6.0
FINES LR LR 08 28 49.4
comp=Z,61nm,19.6s,baz=270,slow=36
comp=Z,3.6nm,0.9s
MSVF **Nonsavu** **92.18 252** LR LR 08 19 06.8
comp=Z,132nm,20.7s,baz=75,slow=29
KEST **Kesra** **92.25 52** LR LR 08 27 22.5
comp=Z,84nm,18.5s,baz=293,slow=35
TORD **Torodi Ar. Bea** **92.41 76** P **P** **07 47 16.6 -1.0**
comp=Z,1.0nm,0.7s,baz=305,slow=2.6,SNR=4.3
comp=Z,1.0nm,0.7s
NACGM **Naroch** **94.72 30** *e*P **P** **07 47 28.8 +1.4**
comp=Z,26nm,0.9s,baz=304
AKASG **Malin Array Be** **98.33 32** LR LR 08 34 33.1
comp=Z,104nm,18.5s,baz=280,slow=37
DZM **Mont Dzumac** **103.78 251** *e*LR LR 08 22 14.1
comp=Z,144nm,23.8s
MDJ **Mudanjiang** **108.69 328** Pdif **Pdif** **07 48 31.8 +1.7**
MDJ PP **PP** **07 53 02.1 +1.4**
MDJ AMB AMB
comp=Z,140nm,4.7s
MDJ LR LR
comp=N,79nm,15.2s
MDJ LR LR
comp=E,140nm,13.9s
MDJ LR LR
comp=Z,120nm,14.9s
SONM **Songino Array** **115.00 345** PKP PKPdf 07 52 49.4 +2.0
comp=Z,0.2nm,0.3s,baz=46,slow=4.2,SNR=1.8
XLT **XiLinHaoTe** **115.36 336** *e*P **PKPdf** **07 52 52.5 +4.4**
XLT pmax pmax
comp=Z,8.0nm,1.1s
XLT pmax pmax
comp=Z,64nm,3.8s
MKAR **Makanchi Array** **118.67 3** PKP **PKPdf** **07 52 53.4 -0.9**
comp=Z,0.3nm,0.5s,baz=336,slow=3.2,SNR=2.8
HHC **Hu-ho-hao-te** **119.69 338** *e*P **PKiKP** **07 52 58.4 +1.7**
WMQ **Urumqi** **121.69 358** *e*P **PKiKP** **07 53 02.3 +1.9**
NJ2 **Nanjing** **123.63 326** *e*P **PKiKP** **07 53 06.9 +2.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
STKA **Stephens Creek** **126.44 241** PKP **PKPdf** **07 53 09.7 +0.1**
comp=Z,2.2nm,0.8s,baz=53,slow=5.1,SNR=2.9
WRA **Warramunga Arr** **133.37 256** PKP **PKPdf** **07 53 23.4 +0.4**
comp=Z,1.2nm,0.8s,baz=89,slow=1.7,SNR=7.0
ASAR **Alice Springs** **133.76 251** PKP **PKPdf** **07 53 22.2 -1.5**
comp=Z,0.8nm,0.8s,baz=103,slow=2.2,SNR=4.7
PZH **PanZhiHua** **136.11 339** PKP **PKiKP** **07 53 29.6 -0.3**
CMAR **Chiang Mai Arr** **144.50 338** PKP PKPbc 07 53 42.5 +0.6
comp=Z,2.0nm,0.7s,baz=343,slow=3.8,SNR=13

IDC 04 07:37:52.3±3.2, 54°.54N×86°.99E, h0km, mbtmp3.1/2, ML2.6/1, Error ellipse: s-maj=26.3km s-min=21.0km az=40.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**246**		I		I	07 46 50.0	
baz=67,slow=331,SNR=2.9									
ZALV	**Zalesovo Beam**	**1.40**	**246**	Pg			Pn	07 38 17.8	-1.3
1.0nm,0.3s,baz=65,slow=13,SNR=5.0									
ZALV				Lg			Lg	07 38 36.7	
1.3nm,0.3s,baz=60,slow=24,SNR=4.2									
KURBB	**Kurchatov Arra**	**6.47**	**236**	Pn			Pn	07 39 29.0	+0.3
0.1nm,0.3s,baz=55,slow=14,SNR=5.7									
KURBB				Sn			Sn	07 40 43.0	-0.3
baz=62,slow=37									
KURBB				Lg			Lg	07 41 18.4	
baz=55,slow=26									
0.9nm,0.2s									
MKAR	**Makanchi Array**	**8.30**	**203**	Pn			Pn	07 39 55.3	+1.4
0.2nm,0.3s,baz=25,slow=15,SNR=1.0									

---

*IDC **04** 08:20:34.3±1.2, 3°.92S×128°.44E, h0km, mb3.9/6, mbtmp4.0/8, ML4.0/2, MS2.6/1, Error ellipse: s-maj=42.5km s-min=23.3km az=74.0*

ISC 04 08:20:39.0±1.1, 4°.1S±0°.1×128°.4E±0°.2, h35km, n10, σ1§46/10, mb4.1/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.29**	**42**		LR		LR	08 23 57.2	
comp=Z,67nm,18.1s,baz=52,slow=49									
BATI	**Baumata**	**7.68**	**217**	Pn			**Pn**	**08 22 28.7**	**+0.2**
3.3nm,0.3s,baz=45,slow=2.9,SNR=2.2									
26nm,0.6s									
KAPI	**Kappang**	**8.67**	**264**	Pn			**Pn**	**08 22 41.5**	**-0.5**
1.0nm,0.3s,baz=94,slow=13,SNR=2.1									
6.2nm,0.5s									
WRA	**Warramunga Arr**	**16.78**	**160**	Pn			**Pn**	**08 24 28.7**	**-2.8**
0.2nm,0.3s,baz=332,slow=14,SNR=7.7									
ASAR	**Alice Springs**	**20.17**	**165**	P			**P**	**08 25 13.1**	**+2.5**
2.3nm,0.7s,baz=346,slow=11,SNR=22									
ASAR				PcP			**PcP**	**08 29 25.0**	**+0.3**
0.6nm,0.7s,baz=350,slow=2.3,SNR=8.7									
2.3nm,0.7s									
CMAR	**Chiang Mai Arr**	**36.67**	**309**	P			**P**	**08 27 43.1**	**+0.4**
1.1nm,0.3s,baz=134,slow=7.3,SNR=6.1									
1.1nm,0.3s									
MKAR	**Makanchi Array**	**64.94**	**327**	P			**P**	**08 31 14.9**	**-0.3**
1.2nm,0.8s,baz=119,slow=7.5,SNR=10									
1.2nm,0.8s									
ZALV	**Zalesovo Beam**	**68.29**	**334**	P			**P**	**08 31 35.7**	**-0.7**
0.4nm,0.3s,baz=122,slow=5.2,SNR=1.7									
0.4nm,0.3s									
KURBB	**Kurchatov Arra**	**69.22**	**329**	P			**P**	**08 31 42.2**	**0.0**
1.2nm,0.6s,baz=126,slow=5.2,SNR=13									
1.2nm,0.6s									
BVAR	**Borovoye Array**	**74.77**	**328**	P			**P**	**08 32 15.7**	**+0.2**
0.5nm,0.4s,baz=118,slow=5.7,SNR=1.9									
0.5nm,0.4s									

---

*RSNC **04** 08:21:10.1±0.9, 9°.03N×75°.19W, h68km±10km, ML3.2, Mw3.6*

*UPA **04** 08:21:12.6±0.7, 8°.87N×75°.51W, h10km±27km, MD4.3, ML4.5, MW4.3*

ISC 04 08:21:10.3±1.2, 9°.02N±0°.03×75°.19W±0°.03, h35km, n31, σ1§75/50, 1C-2D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SJCC	**San Jacinto, C**	**0.87**	**1**	‖ *i* P			**Pn**	**08 21 26.1**	**-0.1**
SJCC				*e*S			**Sn**	**08 21 39.1**	**+1.4**
SJCC				*i*				08 21 42.2	
comp=Z,287nm,0.6s									
LCBC	**Los crdobas,**	**1.17**	**262**	*e*P			**Pn**	**08 21 29.5**	**-0.7**
LCBC	**Los crdobas,**	**1.17**	**262**	*e*P			**Pn**	**08 21 31.6**	**+1.4**
LCBC				*e*S			**Sn**	**08 21 49.6**	**+4.5**
LCBC				*i*				08 21 53.1	
comp=Z,270nm,0.4s									
ARGC	**Ariguani, Magd**	**1.25**	**48**	*e*P			**Pn**	**08 21 30.9**	**-0.4**
ARGC				*e*S			**Sn**	**08 21 47.1**	**+0.2**
ARGC				*i*				08 21 53.8	
comp=Z,209nm,0.3s									
UREC	**San Jos de Ur**	**1.30**	**195**	*e*P			**Pn**	**08 21 32.8**	**+0.8**
UREC				*e*S			**Sn**	**08 21 48.3**	**0.0**
UREC	**San Jos de Ur**	**1.30**	**195**	*e*P			**Pn**	**08 21 31.6**	**-0.5**
UREC				*e*S			**Sn**	**08 21 49.2**	**+0.9**
UREC				*i*				08 21 51.3	
comp=Z,686nm,0.2s									
ZARC	**Zaragoza, Cauc**	**1.55**	**168**	↑ *i* P			**Pn**	**08 21 34.3**	**-1.2**
ZARC				*e*S			**Sn**	**08 21 53.4**	**-1.0**
ZARC				*i*				08 21 57.8	
comp=Z,529nm,0.4s									
LL5C	**La Loma 5 El P**	**1.62**	**63**	*e*P			**Pn**	**08 21 36.5**	**0.0**
LL5C				*e*S			**Sn**	**08 21 56.9**	**+0.8**
LL5C				*i*				08 21 58.6	
comp=Z,248nm,0.3s									
APAC	**Apartado, Choc**	**1.77**	**231**	*e*P			**Pn**	**08 21 40.2**	**+1.8**
APAC				*i*				08 22 18.4	
comp=Z,129nm,0.5s									
LL6C	**La Loma 6 Bece**	**2.02**	**69**	*e*P			**Pn**	**08 21 41.5**	**-0.4**
LL6C				*e*S			**Sn**	**08 22 05.5**	**-0.6**
LL6C				*i*				08 22 10.3	
comp=Z,166nm,0.3s									
DBBC	**Dabeiba**	**2.23**	**207**	*e*P			**Pn**	**08 21 46.0**	**+1.1**
DBBC				*e*S			**Sn**	**08 22 15.1**	**+3.8**
DBBC				*i*				08 22 15.7	
comp=Z,72nm,0.2s									
SMRC	**Santa Marta, M**	**2.33**	**24**	*e*P			**Pn**	**08 21 48.3**	**+2.1**
SMRC				*e*S			**Sn**	**08 22 19.0**	**+5.3**
UPD2	**Meteti**	**2.83**	**261**	‖ *i* P			**Pn**	**08 21 52.7**	**-0.3**
UPD2				AMP				08 21 53.8	
comp=Z,2μm,0.2s									
UPD2				*i* S			**Sn**	**08 22 23.1**	**-2.8**
UPD2	**Meteti**	**2.83**	**261**	*e*P			**Pn**	**08 21 52.7**	**-0.3**
UPD2				*e*S			**Sn**	**08 22 25.6**	**-0.4**
UPD2				*i*				08 22 27.9	
comp=Z,138nm,0.2s									
PAMC	**Pamplona, Colo**	**2.98**	**124**	*e*P			**Pn**	**08 21 55.5**	**-0.1**
PAMC				*e*S			**Sn**	**08 22 31.3**	**+1.0**
PAMC				*i*				08 22 45.5	
comp=Z,157nm,0.4s									
CRJC	**Cerrejon, Guaj**	**3.02**	**49**	*e*P			**Pn**	**08 21 54.4**	**-1.4**
CRJC				*e*S			**Sn**	**08 22 28.1**	**-2.7**
CRJC				*i*				08 22 30.5	
comp=Z,176nm,0.1s									
TOTI	**Torti**	**3.08**	**269**	*e*P			**Pn**	**08 21 55.2**	**-1.4**
TOTI				*e*S			**Sn**	**08 22 28.2**	**-4.0**
BARC	**Barichara**	**3.13**	**140**	*e*P			**Pn**	**08 21 57.1**	**-0.3**
BARC				*e*S			**Sn**	**08 22 32.8**	**-0.9**
BARC				*i*				08 22 50.5	
comp=Z,181nm,0.7s									
PTAC	**Punta Ardita,**	**3.19**	**235**	*e*P			**Pn**	**08 21 58.2**	**+0.2**
NORC	**Norcasia**	**3.45**	**175**	*e*P			**Pn**	**08 22 00.2**	**-1.4**
NORC				*i*				08 23 02.0	
comp=Z,47nm,0.6s									
SPBC	**San Pablo de B**	**3.53**	**162**	*e*P			**Pn**	**08 22 01.8**	**-0.9**
SPBC				*i*				08 22 47.6	

comp=Z,33nm,0.2s
RUSC La Rusia 3.75 146 *eP* **Pn 08 22 06.0 -0.1**
RUSC *eS* **Sn 08 22 49.7 +0.4**
RUSC *i* 08 23 06.4
comp=Z,72nm,0.6s
GUY2C Guyana, Caldas 3.77 183 *eP* **Pn 08 22 07.3 +0.9**
GUY2C *i* 08 23 16.3
comp=Z,37nm,0.5s
CHPO Chepo, Panama 3.88 273 *eP* **Pn 08 22 07.3 -0.1**
CHPO *eS* **Sn 08 22 49.3 -2.5**
URIC Uribia, Colomb 4.12 49 *eP* **Pn 08 22 09.3 -1.6**
URIC *i* 08 23 10.4
comp=Z,25nm,0.5s
ARRA3 Arraijan, Pana 4.41 270 *eP* **Pn 08 22 16.3 +1.5**
ANIL Santa Ana 4.50 183 *i* 08 23 40.0
comp=Z,47nm,0.4s
BCIP Isla Barro Col 4.59 272 *eP* **Pn 08 22 17.2 0.0**
BCIP *i* S **Sn 08 23 06.8 -2.6**
BCIP Isla Barro Col 4.59 272 *eP* **Pn 08 22 17.3 0.0**
BCIP *i* 08 23 13.1
comp=Z,10nm,0.2s
CHIC Chingaza 4.60 162 *eP* **Pn 08 22 18.0 +0.3**
CHIC *eS* **Sn 08 23 11.8 +1.7**
CHIC *i* 08 23 33.1
comp=Z,16nm,0.5s
AZU Azuero 5.17 257 *eP* **Pn 08 22 25.0 -0.3**

IDC 04 08:22:03.3±2.8, 54°.15N×87°.20E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=24.4km s-min=18.3km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**263**	I	I	08 31 40.0	
	baz=79,slow=331,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.42**	**263**	Pg	Pn	08 22 28.7	-1.7
	2.7nm,0.3s,baz=84,slow=18,SNR=17						
ZALV				Lg	Lg	08 22 48.1	
	0.9nm,0.3s,baz=82,slow=29,SNR=2.1						
KURBB	**Kurchatov Arra**	**6.37**	**240**	Pn	Pn	08 23 38.7	+0.3
	0.1nm,0.3s,baz=54,slow=13,SNR=4.2						
KURBB				Sn	Sn	08 24 51.1	-0.7
	baz=47,slow=15,SNR=1.3						
KURBB				Lg	Lg	08 25 26.9	
	baz=53,slow=29						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.00**	**205**	Pn	Pn	08 24 01.9	+1.1
	0.1nm,0.3s,baz=24,slow=12,SNR=2.1						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**10.06**	**270**	Pn	Pn	08 24 28.8	-0.2
	baz=84,slow=16,SNR=2.7						
	0.4nm,0.3s						

---

*SJA **04** 08:25:32.3±0.7, 30°.68S×71°.46W, h26km±2km, ML4.3, MW4.3*
*GUC **04** 08:25:33.6±0.6, 30°.70S×71°.39W, h47km±1km, ML4.3*
*NEIC **04** 08:25:34.8±2.3, 30°.70S±0°.05×71°.40W±0°.05, h43km±8km, mb4.2/8, Mwr4.2/36, ML4.3(GUC), Error ellipse: s-maj=8.6km s-min=3.9km az=218.0*
*IDC **04** 08:25:35.8±2.7, 30°.75S×71°.30W, h66km±23km, mb3.9/9, mbtmp4.1/13, MS3.3/9, Error ellipse: s-maj=23.6km s-min=15.4km az=92.0*
ISC 04 08:25:33.2±0.6, 30°.68S±0°.03×71°.52W±0°.04, h43km±6km, n122, σ2°.20/139, mb4.3/11, MS3.3/7, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.10**	**274**		**Pn**	**08 25 41.2**	**+1.0**
CO06	**Fray Jorge**	**0.10**	**274**	↑*iP*	**Pn**	**08 25 41.2**	**+1.0**
CO06				*eS*	**Sn**	**08 25 46.9**	**+1.8**
CO02	**Combarbal**	**0.69**	**140**		**Pn**	**08 25 45.9**	**-0.8**
CO02	**Combarbal**	**0.69**	**140**	⇓*iP*	**Pn**	**08 25 45.9**	**-0.8**
CO02				*eS*	**Sn**	**08 25 54.9**	**-1.4**
CO02	**Combarbal**	**0.69**	**140**	*eP*	**Pn**	**08 25 45.6**	**-1.0**
CO02				*eS*	**Sn**	**08 25 55.4**	**-0.9**
CO02				IAML		08 25 56.3	
	comp=Z,38μm,0.1s						
CO03	**El Pedregal**	**0.73**	**103**		**Pn**	**08 25 46.3**	**-0.9**
CO03	**El Pedregal**	**0.73**	**103**	⇓*iP*	**Pn**	**08 25 46.3**	**-0.9**
CO03				*eS*	**Sn**	**08 25 55.6**	**-1.8**
CO03				IAML		08 25 56.2	
	comp=E,29μm,0.3s						
CO03	**El Pedregal**	**0.73**	**103**	*eP*	**Pn**	**08 25 46.1**	**-1.1**
CO03				*eS*	**Sn**	**08 25 55.9**	**-1.4**
CO03				IAML		08 25 56.6	
	comp=Z,9μm,0.5s						
CO05	**La Serena**	**0.80**	**18**		**Pn**	**08 25 48.6**	**+0.6**
CO05	**La Serena**	**0.80**	**18**	⇓*iP*	**Pn**	**08 25 48.6**	**+0.6**
CO05				*eS*	**Sn**	**08 25 59.4**	**+0.6**
GO04	**Tololo Observa**	**0.80**	**51**		**Pn**	**08 25 48.2**	**-0.2**
GO04	**Tololo Observa**	**0.80**	**51**	*eP*	**Pn**	**08 25 47.9**	**-0.4**
GO04				*eS*	**Sn**	**08 25 58.9**	**-0.4**
GO04				IAML		08 26 01.9	
	comp=E,50μm,0.4s						
GO04	**Tololo Observa**	**0.80**	**51**	*eP*	**Pn**	**08 25 48.1**	**-0.2**
GO04				*eS*	**Sn**	**08 25 59.1**	**-0.1**
CO01	**Juntas del Tor**	**1.42**	**61**		**Pn**	**08 25 57.4**	**+0.6**
CO01	**Juntas del Tor**	**1.42**	**61**	⇓*iP*	**Pn**	**08 25 57.2**	**+0.5**
CO01				*eS*	**Sn**	**08 26 15.0**	**+0.6**
CO01				IAML		08 26 16.6	
	comp=N,6μm,0.4s						
CO01	**Juntas del Tor**	**1.42**	**61**	*eP*	**Pn**	**08 25 57.2**	**+0.5**
CO01				*eS*	**Sn**	**08 26 15.4**	**+1.0**
CO01				IAML		08 26 19.2	
	comp=Z,2μm,0.1s						
LCO	**Las Campanas**	**1.81**	**23**		**Pn**	**08 26 03.0**	**+0.8**
LCO	**Las Campanas**	**1.81**	**23**	⇓*iP*	**Pn**	**08 26 02.9**	**+0.8**
LCO				*eS*	**Sn**	**08 26 25.5**	**+1.5**
LCO	**Las Campanas**	**1.81**	**23**	*eP*	**Pn**	**08 26 03.0**	**+0.8**
LCO				*eS*	**Sn**	**08 26 26.7**	**+2.7**
LCO				IAML		08 26 33.3	
	comp=Z,9μm,0.4s						
DOCA	**Reserva Natura**	**2.11**	**98**	*eP*	**Pn**	**08 26 07.5**	**+1.1**
ACCO	**Cerro Coronel**	**2.12**	**88**	*eP*	**Pn**	**08 26 08.7**	**+2.2**
AC05	**El Transito**	**2.13**	**31**		**Pn**	**08 26 08.3**	**+1.7**
AC05	**El Transito**	**2.13**	**31**	IAML		08 26 43.1	
	comp=E,2μm,0.2s						
AC05	**El Transito**	**2.13**	**31**	*eP*	**Pn**	**08 26 08.2**	**+1.7**
AC05				*eS*	**Sn**	**08 26 36.1**	**+4.3**
AC05				IAML		08 26 38.3	
	comp=Z,2μm,0.5s						
ACDV	**Cuesta del Vie**	**2.13**	**77**	*eP*	**Pn**	**08 26 09.1**	**+2.6**
RTLS	**Leoncito**	**2.20**	**121**	*eP*	**Pn**	**08 26 09.6**	**+2.0**
RTLS				*eS*	**Sn**	**08 26 40.1**	**+6.3**
RTLS				IAML		08 26 45.7	
	comp=Z,4μm,0.3s						
VA03	**San Esteban**	**2.23**	**159**		**Pn**	**08 26 08.6**	**+0.8**
VA03	**San Esteban**	**2.23**	**159**	*eP*	**Pn**	**08 26 08.6**	**+0.8**
VA03				*eS*	**Sn**	**08 26 35.1**	**+0.8**
VA03				IAML		08 26 38.6	
	comp=E,4μm,0.2s						
VA03	**San Esteban**	**2.23**	**159**	*eP*	**Pn**	**08 26 07.8**	**0.0**
VA03				*eS*	**Sn**	**08 26 37.4**	**+3.1**
VA03				IAML		08 26 42.4	
	comp=Z,2μm,0.3s						
ROCH	**El Roble**	**2.32**	**169**	*eP*	**Pn**	**08 26 10.4**	**+1.2**
ROCH				IAML		08 26 46.1	
	comp=N,2μm,0.5s						
ROC1	**El Roble**	**2.33**	**170**		**Pn**	**08 26 10.3**	**+1.0**
ROC1	**El Roble**	**2.33**	**170**	*eP*	**Pn**	**08 26 11.9**	**+2.6**
ROC1				*eS*	**Sn**	**08 26 40.7**	**+3.9**
VA01	**Torpederas**	**2.34**	**183**		**Pn**	**08 26 08.8**	**-0.3**
VA01	**Torpederas**	**2.34**	**183**	*eP*	**Pn**	**08 26 08.9**	**-0.3**
VA01				*eS*	Sn	08 26 45.8	+9.1
AC04	**Llanos de Chal**	**2.50**	**9**		**Pn**	**08 26 12.8**	**+1.4**
AC04	**Llanos de Chal**	**2.50**	**9**	*eP*	**Pn**	**08 26 12.7**	**+1.3**
AC04				IAML		08 27 07.3	
	comp=E,1μm,0.3s						
AC04	**Llanos de Chal**	**2.50**	**9**	*eP*	**Pn**	**08 26 12.6**	**+1.2**
AC04				*eS*	Sn	08 26 51.8	+11
AC04				IAML		08 26 53.2	
	comp=Z,932nm,0.5s						
PEL	**Peldehue**	**2.56**	**164**		**Pn**	**08 26 13.4**	**+1.2**
PEL	**Peldehue**	**2.56**	**164**	*eP*	**Pn**	**08 26 13.3**	**+1.0**
PEL				*eS*	**Sn**	**08 26 43.6**	**+1.4**
PEL				IAML		08 26 52.3	
	comp=N,1μm,0.2s						
PEL	**Peldehue**	**2.56**	**164**	*eP*	**Pn**	**08 26 13.4**	**+1.2**
PEL				*eS*	**Sn**	**08 26 47.9**	**+5.7**
ZON	**Zonda**	**2.58**	**110**		**Pn**	**08 26 14.6**	**+1.9**
ZON	**Zonda**	**2.58**	**110**	*eP*	**Pn**	**08 26 14.5**	**+1.9**
ZON				*eS*	**Sn**	**08 26 50.3**	**+7.5**
ZON				IAML		08 27 02.4	
	comp=Z,1μm,0.6s						
MT02	**Curacav**	**2.59**	**173**		**Pn**	**08 26 13.6**	**+0.9**
MT02	**Curacav**	**2.59**	**173**	*eS*	**Sn**	**08 26 44.4**	**+1.5**
MT02				IAML		08 26 54.9	
	comp=E,790nm,0.5s						
MT02	**Curacav**	**2.59**	**173**	*eP*	**Pn**	**08 26 12.9**	**+0.3**
MT02				*eS*	**Sn**	**08 26 50.5**	**+7.6**
MT02				IAML		08 26 54.0	
	comp=Z,683nm,1.1s						
MT05	**Renca**	**2.78**	**166**		**Pn**	**08 26 16.4**	**+1.0**
MT05	**Renca**	**2.78**	**166**	*eP*	**Pn**	**08 26 16.5**	**+1.1**
MT05				*eS*	**Sn**	**08 26 49.0**	**+1.3**
MT05				IAML		08 26 59.7	
	comp=N,2μm,0.2s						
MT05	**Renca**	**2.78**	**166**	*eP*	**Pn**	**08 26 16.5**	**+1.1**
MT05				*eS*	**Sn**	**08 26 55.1**	**+7.4**
MT05				IAML		08 27 04.0	
	comp=Z,1μm,1.2s						
MT14	**Cerro Calı̧n**	**2.83**	**163**	*eP*	**Pn**	**08 26 17.2**	**+1.2**
FCH	**Farellones**	**2.84**	**159**	*eS*	**Sn**	**08 26 51.4**	**+1.9**
FCH				IAML		08 26 58.4	
	comp=E,1μm,0.2s						
MT03	**Universidad Ad**	**2.93**	**163**		**Pn**	**08 26 18.6**	**+1.2**
MT03	**Universidad Ad**	**2.93**	**163**	*eP*	**Pn**	**08 26 18.6**	**+1.2**
MT03				*eS*	**Sn**	**08 26 52.8**	**+1.3**
MT03				IAML		08 27 11.7	
	comp=E,2μm,0.4s						
MT03	**Universidad Ad**	**2.93**	**163**	*eP*	**Pn**	**08 26 18.7**	**+1.2**
MT03				*eS*	**Sn**	**08 26 59.6**	**+8.2**
MT03				IAML		08 27 04.4	
	comp=Z,2μm,0.3s						
CFA	**Coronel Fontan**	**2.96**	**109**	P	**Pn**	**08 26 19.4**	**+1.7**
	comp=Z,406nm,0.3s,baz=290,slow=11,SNR=1247						
CFA				S	**Sn**	**08 26 54.1**	**+2.1**
	comp=Z,415nm,0.2s,baz=208,slow=6.3,SNR=12						
CFA	**Coronel Fontan**	**2.96**	**109**	*eP*	**Pn**	**08 26 19.4**	**+1.7**
CFA				*eS*	Sn	08 27 02.1	+10
CFA				IAML		08 27 02.7	
	comp=Z,861nm,0.3s						
ASAL	**Salagasta**	**2.98**	**130**	*eP*	**Pn**	**08 26 20.7**	**+2.7**
ASAL				*eS*	**Sn**	**08 27 00.3**	**+7.7**
ASAL				IAML		08 27 17.3	
	comp=Z,581nm,0.6s						
MT08	**Bocatoma Ro**	**3.04**	**156**		**Pn**	**08 26 21.4**	**+2.4**
ARCO	**CERRO ARCO**	**3.08**	**135**	*eP*	**Pn**	**08 26 22.7**	**+3.1**
ARCO				*eS*	Sn	08 27 07.8	+13
ARCO				IAML		08 27 09.9	
	comp=Z,2μm,0.6s						
MT09	**Talagante**	**3.12**	**172**		**Pn**	**08 26 20.9**	**+0.8**
MT01	**Popeta**	**3.18**	**176**	*eP*	**Pn**	**08 26 20.9**	**+0.1**
MT01				*eS*	Sn	08 27 06.8	+9.4
MT01				IAML		08 27 13.8	
	comp=Z,495nm,0.9s						
MT13	**San Alfonso**	**3.23**	**161**		**Pn**	**08 26 23.0**	**+1.5**
GO03	**Copiap**	**3.27**	**20**		**Pn**	**08 26 23.5**	**+1.4**
GO03	**Copiap**	**3.27**	**20**	*eP*	**Pn**	**08 26 23.5**	**+1.4**
GO03				*eS*	Sn	08 27 12.7	+13
AAGR	**Agrelo**	**3.31**	**137**	*eP*	**Pn**	**08 26 25.5**	**+2.8**
AAGR				*eS*	Sn	08 27 11.2	+10
AAGR				IAML		08 27 14.5	
	comp=Z,537nm,0.3s						
LMEL	**Las Melosas**	**3.35**	**161**		**Pn**	**08 26 24.9**	**+1.7**
BO04	**La Punta**	**3.39**	**167**		**Pn**	**08 26 24.4**	**+0.8**
AC06	**Mina Casimiro**	**3.46**	**17**	Pn	**Pn**	**08 26 25.9**	**+1.3**
VCA	**Vinchina**	**3.47**	**57**	*eP*	**Pn**	**08 26 28.5**	**+3.6**
VCA				*eS*	Sn	08 27 13.7	+8.9
VCA				IAML		08 27 21.8	
	comp=Z,3μm,0.5s						
BO01	**Tunca**	**3.72**	**174**		**Pn**	**08 26 29.1**	**+1.0**
BO01	**Tunca**	**3.72**	**174**	*eP*	**Pn**	**08 26 27.9**	**-0.3**
AVIZ	**Vizcacheras**	**3.77**	**138**	*eS*	Sn	08 27 22.2	+10
BO02	**Sierra Bellavi**	**4.15**	**172**	Pn	**Pn**	**08 26 35.1**	**+1.0**
TINO	**Tinogasta**	**4.32**	**54**	*eP*	**Pn**	**08 26 39.1**	**+2.6**
AC02	**Maricunga**	**4.37**	**29**	Pn	**Pn**	**08 26 39.7**	**+2.2**
RFA	**San Rafael**	**4.82**	**149**	*eP*	**Pn**	**08 26 43.9**	**+0.5**
RFA				IAML		08 28 12.1	
	comp=Z,150nm,0.6s						
ML02	**Panimavida**	**5.07**	**179**		**Pn**	**08 26 46.5**	**-0.2**
GO02	**Mina Guanaco**	**5.75**	**18**	Pn	**Pn**	**08 26 57.7**	**+1.2**
H03N1	**Juan Fernandez**	**6.85**	**244**	T	T	08 34 02.1	
	baz=73,slow=72,SNR=2296						
H03N3	**Juan Fernandez**	**6.87**	**244**	T	T	08 34 01.2	
	baz=73,slow=72,SNR=1551						
H03N2	**Juan Fernandez**	**6.87**	**244**	T	T	08 34 02.5	
	baz=73,slow=72,SNR=1562						
H03S3	**Juan Fernandez**	**7.00**	**241**	T	T	08 34 36.7	
	baz=101,slow=76,SNR=7.2						
H03S1	**Juan Fernandez**	**7.01**	**241**	T	T	08 34 45.5	
	baz=101,slow=76,SNR=12						
H03S2	**Juan Fernandez**	**7.02**	**241**	T	T	08 34 35.3	
	baz=101,slow=76,SNR=11						
PB15	**IPOC Station P**	**7.66**	**14**		**Pn**	**08 27 21.9**	**-0.6**
LVC	**Limon Verde**	**8.37**	**17**	P	**Pn**	**08 27 30.9**	**-1.5**
	comp=Z,2.2nm,0.5s,baz=158,slow=8.7,SNR=6.6						
LVC				S	**Sn**	**08 29 05.0**	**-0.7**
	comp=Z,22nm,0.6s,baz=170,slow=18,SNR=4.3						
PB01	**IPOC Station P**	**9.77**	**11**	Pn	**Pn**	**08 27 49.4**	**-1.9**
PLCA	**Paso Flores**	**10.06**	**176**	P	**Pn**	**08 27 55.1**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=349,slow=18,SNR=1.1						
PLCA				LR	LR	08 32 09.1	
	comp=Z,134nm,18.9s,baz=331,slow=39						
TRQA	**Tornquist**	**10.78**	**136**	Pn	**Pn**	**08 28 03.1**	**-1.9**
ITQB	**Itaqui**	**12.93**	**89**	Pn	**Pn**	**08 28 31.6**	**-2.8**
CPUP	**Villa Florida**	**13.21**	**74**	Pn	**Pn**	**08 28 39.0**	**+0.8**
CPUP	**Villa Florida**	**13.21**	**74**	P	**Pn**	**08 28 36.7**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=250,slow=11,SNR=5.2						
CPUP				S	**Sn**	**08 31 03.1**	**-0.5**
	comp=Z,14nm,1.0s,baz=195,slow=20,SNR=3.4						
CPUP				LR	LR	08 34 10.6	
	comp=Z,108nm,18.2s,baz=260,slow=40						
LPAZ	**La Paz**	**14.66**	**13**	Pn	**Pn**	**08 29 00.1**	**+1.6**
LPAZ	**La Paz**	**14.66**	**13**	P	**Pn**	**08 28 59.8**	**+1.4**
	comp=Z,3.9nm,0.8s,baz=179,slow=8.2,SNR=13						
ITAB	**Concordia**	**17.31**	**83**		**P**	**08 29 32.8**	**+0.1**
ITAB				IAmb	IAmb	08 29 41.9	
	comp=Z,37nm,1.3s						
SIV	**San Ignacio**	**17.47**	**36**	P	**Pn**	**08 29 33.8**	**0.0**
	comp=Z,5.8nm,0.7s,baz=208,slow=9.6,SNR=29						
AQDB	**Aquidauana**	**17.50**	**58**	Pn	**Pn**	**08 29 32.9**	**-1.2**
PTLB	**Pontes e Lacer**	**18.94**	**40**	P	**P**	**08 29 50.7**	**0.0**
VILB	**Vilhena**	**20.51**	**33**	P	**P**	**08 30 08.1**	**+0.3**
VILB				IAmb	IAmb	08 30 11.0	
	comp=Z,12nm,1.0s						
ETMB	**Extrema**	**21.34**	**14**	P	**P**	**08 30 17.7**	**+0.9**
ETMB				IAmb	IAmb	08 30 21.1	
	comp=Z,5.7nm,0.8s						
CZSB	**Cruzeiro do Su**	**22.86**	**357**	P	**P**	**08 30 33.7**	**+0.7**
CZSB				IAmb	IAmb	08 30 56.5	
	comp=Z,15nm,1.0s						
BDFB	**Brasilia**	**26.21**	**60**	P	**P**	**08 31 02.9**	**-1.3**
BDFB	**Brasilia**	**26.21**	**60**	P	**P**	**08 31 02.9**	**-1.3**
	comp=Z,9.4nm,0.7s,baz=234,slow=9.1,SNR=15						
BDFB				LR	LR	08 42 29.0	
	comp=Z,86nm,19.7s,baz=144,slow=39						
	comp=Z,9.4nm,0.7s						
PMSA	**Palmer Station**	**34.43**	**174**	LR	LR	08 46 08.3	
	comp=Z,87nm,18.5s,baz=354,slow=36						
ROSC	**El Rosal**	**35.42**	**355**	LR	LR	08 47 44.2	
	comp=Z,26nm,19.6s,baz=282,slow=37						
MDP	**Montagnes des**	**39.90**	**30**	LR	LR	08 49 47.1	
	comp=Z,47nm,19.4s,baz=54,slow=36						
SNAA	**Sanae**	**54.50**	**159**	P	**P**	**08 34 55.6**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=288,slow=6.6,SNR=10						
SNAA				LR	LR	08 58 37.7	
	comp=Z,16nm,18.1s,baz=316,slow=36						
	comp=Z,2.6nm,0.6s						
QSPA	**South Pole Qui**	**59.55**	**180**	P	**P**	**08 35 31.8**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=164,slow=3.4,SNR=7.4						
	comp=Z,2.1nm,0.8s						
HNDO	**Hondo**	**65.45**	**333**	P	**P**	**08 36 14.0**	**+2.2**
HNDO				IAmb	IAmb	08 36 15.2	
	comp=Z,5.8nm,0.8s						
TXAR	**Lajitas Array**	**67.08**	**330**	P	**P**	**08 36 23.6**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=155,slow=8.7,SNR=9.3						
	comp=Z,0.7nm,0.7s						
MAW	**Mawson**	**76.23**	**164**	P	**P**	**08 37 16.2**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=219,slow=8.0,SNR=12						
	comp=Z,1.7nm,0.5s						
TSUM	**Tsumeb**	**79.70**	**106**	LR	LR	09 09 04.3	
	comp=Z,18nm,21.2s,baz=328,slow=33						
PDAR	**Pinedale Array**	**81.02**	**333**	P	**P**	**08 37 44.6**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=139,slow=5.9,SNR=2.2						
	comp=Z,0.2nm,0.5s						
BOSA	**Boshof**	**81.22**	**118**	P	**P**	**08 37 44.6**	**-0.5**
	comp=Z,7.3nm,1.0s,baz=283,slow=4.0,SNR=3.5						
	comp=Z,7.3nm,1.0s						
NVAR	**Mina Array Bea**	**81.43**	**325**	P	**P**	**08 37 47.5**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=161,slow=3.6,SNR=4.2						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**82.67**	**70**	P	**P**	**08 37 52.0**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=282,slow=5.9,SNR=45						
	comp=Z,2.1nm,0.6s						
MDT	**Midelt**	**89.39**	**51**	LR	LR	09 17 59.8	
	comp=Z,12nm,18.8s,baz=214,slow=35						
WRA	**Warramunga Arr**	**123.86**	**210**	PKP	**PKPdf**	**08 44 25.5**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=157,slow=1.7,SNR=6.4						
BVAR	**Borovoye Array**	**144.51**	**40**	PKP	**PKPab**	**08 45 03.5**	**+0.5**
	comp=Z,2.9nm,0.5s,baz=270,slow=3.0,SNR=12						
KURBB	**Kurchatov Arra**	**150.10**	**40**	PKPbc	**PKPbc**	**08 45 18.4**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=300,slow=3.0,SNR=18						
ZALV	**Zalesovo Beam**	**151.16**	**29**	PKPbc	**PKPbc**	**08 45 20.8**	**-0.5**
	comp=Z,7.7nm,0.6s,baz=295,slow=3.5,SNR=20						
MKAR	**Makanchi Array**	**154.16**	**44**	PKPbc	**PKPbc**	**08 45 27.2**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=328,slow=1.9,SNR=3.4						
MKAR				PKPab	**pPKPbc**	**08 45 40.7**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=285,slow=4.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**165.06**	**142**	PKPab	**PKPab**	**08 46 28.3**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=224,slow=3.8,SNR=1.4						

IDC 04 08:28:15.7±2.9, 55°.43N×86°.07E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=26.9km s-min=19.8km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.65**	**207**	I	I	08 40 20.0	
	baz=26,slow=338,SNR=3.0						
ZALV	**Zalesovo Beam**	**1.65**	**207**	Pn	Pn	08 28 44.0	-2.0
	1.8nm,0.3s,baz=25,slow=14,SNR=15						
ZALV				Lg	Lg	08 29 07.7	
	2.3nm,0.3s,baz=25,slow=27,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.62**	**226**	Pn	Pn	08 29 53.9	-0.3
	0.1nm,0.3s,baz=45,slow=13,SNR=4.7						
KURBB				Lg	Lg	08 31 47.1	
	baz=24,slow=28,SNR=2.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.96**	**197**	Pn	Pn	08 30 27.6	+1.2
	baz=16,slow=13,SNR=2.2						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**9.49**	**262**	Pn	Pn	08 30 32.8	-0.8
	baz=63,slow=10,SNR=1.2						
	0.4nm,0.4s						

IDC 04 08:36:37.4±2.8, 53°.72N×87°.00E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=26.3km s-min=15.7km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.31**	**281**	I	I	08 45 29.5	
	baz=97,slow=329,SNR=19						
ZALV	**Zalesovo Beam**	**1.31**	**281**	Pg	Pg	08 37 01.6	-0.8
	1.1nm,0.3s,baz=100,slow=16,SNR=17						
ZALV				Lg	Lg	08 37 19.6	
	2.1nm,0.3s,baz=104,slow=28,SNR=14						
KURBB	**Kurchatov Arra**	**6.06**	**243**	Pn	Pn	08 38 08.6	+0.5
	0.1nm,0.3s,baz=58,slow=13,SNR=3.6						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.56**	**205**	Pn	Pn	08 38 30.3	+1.6
	0.1nm,0.3s,baz=28,slow=14,SNR=3.5						
	0.3nm,0.4s						

---

*SNET **04** 08:50:06.0±1.9, 13°.55N×91°.08W, h3km±11km, ML3.5*
*GCG **04** 08:50:13.2±0.7, 13°.98N×91°.13W, h60km±25km, MD4.1*
ISC 04 08:50:05.8±2.7, 13°.5N±0°.1×91°.09W±0°.07, h8km±15km, n23, σ0°.87/26, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.90**	**329**	*eP*	**Pn**	**08 50 25.5**	**+0.7**
FUG	**Fuego 3**	**0.95**	**15**	*eP*	**Pn**	**08 50 26.4**	**+0.7**
PCG	**Pacaya**	**0.98**	**29**	*eP*	**Pn**	**08 50 27.2**	**+1.0**
RTAL	**Retalhuleu**	**1.15**	**330**	*eP*	**Pb**	**08 50 26.9**	**-1.1**
STG3	**Santiaguito 3,**	**1.27**	**339**	*eP*	**Pn**	**08 50 29.8**	**-0.3**
NBG	**Las Nubes**	**1.28**	**34**	*eP*	**Pg**	**08 50 32.0**	**+1.5**
RTR	**El Retiro**	**1.45**	**75**	IAML		08 50 57.6	
	comp=Z,394nm,0.3s						
CEVE	**Cerro Verde**	**1.46**	**78**	*eP*	**Pn**	**08 50 32.4**	**-0.3**
CEVE				IAML		08 51 06.8	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**1.46**	**77**	*eP*	**Pb**	**08 50 33.1**	**-0.4**
SNJE	**San Jose**	**1.48**	**77**	*eP*	**Pn**	**08 50 32.7**	**-0.3**
SNJE				IAML		08 51 03.4	
	comp=Z,161nm,0.4s						
JAYA	**Jayaque - finc**	**1.60**	**85**	*eP*	**Pn**	**08 50 34.2**	**-0.4**
JAYA				IAML		08 51 00.7	

MK31 ⇓Lg Lg 08 56 49.0
4.6nm,0.9s,baz=43,slow=28,SNR=3.4
MKAR Makanchi Array 8.94 220 Pn **Pn 08 54 21.4 +0.8**
0.2nm,0.3s,baz=41,slow=13,SNR=7.6
0.6nm,0.5s
MAKZ Makanchi 9.04 221 ⇓Pn **Pn 08 54 21.7 -0.4**
0.3nm,0.5s
MAKZ ⇓Sn **Sn 08 56 03.4 -1.2**
0.6nm,0.6s
MAKZ ⇑Lg Lg 08 56 55.5
1.9nm,0.9s
I34MN SONGINO INFRAS 11.72 115 I I 10 00 00.0
baz=308,slow=320,SNR=1.4

IDC 04 08:54:50.3±3.0, 54°.31N×86°.26E, h0km, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=23.0km s-min=14.3km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**247**	I	I	09 01 10.0	
baz=66,slow=325,SNR=2.4							
ZALV	**Zalesovo Beam**	**0.92**	**247**	Pg	Pg	08 55 06.2	-1.7
0.2nm,0.3s,baz=69,slow=26,SNR=1.1							
ZALV				Lg	Lg	08 55 20.9	
4.3nm,0.3s,baz=63,slow=25,SNR=8.2							
KURBB	**Kurchatov Arra**	**5.99**	**235**	Pn	Pn	08 56 22.3	+2.1
0.1nm,0.3s,baz=51,slow=13,SNR=4.3							
1.1nm,0.5s							
MKAR	**Makanchi Array**	**7.94**	**200**	Pn	Pn	08 56 47.1	+0.2
0.2nm,0.3s,baz=24,slow=14,SNR=4.2							
0.7nm,0.4s							

ISC 04 08:59:13.5±1.5, 49°.7N±0°.1×17°.57E±0°.07, h31km±13km, n6, σ0§86/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.10**	**352**	*e*PG	**Pb**	**08 59 18.8**	**-0.3**
MORC				*e*SG	**Sb**	**08 59 23.3**	**+0.4**
VRAC	**Vranov**	**0.73**	**240**	*e*PG	**Pb**	**08 59 27.3**	**-0.5**
JAVC	**Velka Javorina**	**0.82**	**175**	*e*PG	**Pb**	**08 59 28.6**	**-0.8**
KRUC	**Moravsky**	**0.98**	**231**	*e*PG	**Pb**	**08 59 31.4**	**-0.6**
LANS	**Liptovska Anna**	**1.35**	**112**	*e*PG	**Pn**	**08 59 35.5**	**-0.7**
LANS				*e*SG	**Sb**	**08 59 55.0**	**-0.1**
VYHS	**Vyhne**	**1.45**	**144**	*e*PG	**Pn**	**08 59 38.6**	**+1.0**
VYHS				*e*SG	**Sn**	**08 59 56.4**	**+0.9**

---

*BUT **04** 09:15:46.6±0.5, 46°.87N±0°.02×112°.53W±0°.02, h13km±3km, Error ellipse: s-maj=2.9km s-min=1.8km az=204.0*
NEIC 04 09:15:46.4±0.6, 46°.85N±0°.02×112°.54W±0°.02, h13km±3km, ML2.4/24, ML2.5/15(BUT), Error ellipse: s-maj=3.2km s-min=1.7km az=210.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEMT	**Mount Belmont**	**0.18**	**127**		Pg	09 15 50.9	+0.3
LYMT	**Lyon Mountain**	**0.20**	**55**		Pg	09 15 51.2	+0.1
ELMT	**Elliston**	**0.33**	**175**		Pg	09 15 53.7	+0.5
OVMT	**Ovando**	**0.38**	**304**		Pg	09 15 54.1	+0.1
CHMT	**Chamberlain Mo**	**0.49**	**277**		Pg	09 15 56.5	+0.3
HRY	**Holter Researc**	**0.51**	**106**	Pg	Pg	09 15 56.5	+0.1
BPMT	**Black Pine Rid**	**0.75**	**237**		Pg	09 16 01.1	+0.1
MSO	**Missoula**	**0.96**	**269**		Pb	09 16 05.0	0.0
MSO				IAML		09 16 18.1	
86nm,0.3s							
MSO				IAML		09 16 22.0	
122nm,0.6s							
LRM	**Limekiln Ridge**	**1.03**	**177**	Pg	Pg	09 16 06.5	+0.2
BOZ	**Bozeman (W)**	**1.41**	**153**		Pn	09 16 12.2	+0.3
JTMT	**Jette**	**1.49**	**308**	Pn	Pn	09 16 13.3	+0.3
DLMT	**Dillon**	**1.49**	**182**		Pn	09 16 13.5	+0.4
DLMT				IAML		09 16 35.5	
37nm,0.7s							
DLMT				IAML		09 16 37.4	
35nm,0.5s							
MCMT	**McKenzie Canyo**	**2.04**	**186**	Pn	Pn	09 16 21.2	+0.5
BCYI	**Bear Canyon**	**2.62**	**194**	Pn	Pn	09 16 28.8	+0.2
YMP	**Mirror Lake PI**	**2.69**	**141**	Pn	Pn	09 16 30.0	+0.3
YMP				IAML		09 17 11.9	
comp=N,12nm,0.6s							
YMP				IAML		09 17 14.2	
comp=E,13nm,0.5s							
RLMT	**Red Lodge**	**2.86**	**126**	Pn	Pn	09 16 32.5	+0.6
RLMT				IAML		09 17 20.0	
comp=E,8.5nm,0.3s							
RLMT				IAML		09 18 20.4	
comp=E,13nm,4.7s							
PLID	**Pearl Lake**	**2.99**	**235**	Pn	Pn	09 16 34.2	+0.5
NEW	**Newport**	**3.41**	**296**	Pn	Pn	09 16 39.6	+0.3
NEW				IAML		09 17 02.9	
comp=E,9.3nm,4.2s							
BMO	**Blue Mountains**	**3.89**	**241**	Pn	Pn	09 16 46.0	+0.1
BMO				IAML		09 17 49.9	
comp=E,6.3nm,4.7s							

---

*BUL **04** 09:19:15.2±2.2, 25°.13S×33°.09E, h10km, MD4.0*
*EAF **04** 09:19:15.7, 24°.91S×33°.04E, h10km, MC3.7*
*PRE **04** 09:19:20.9±1.3, 24°.61S×32°.49E, h10km, ML2.3*
ISC 04 09:19:23.1±3.2, 24°.66S±0°.05×32°.4E±0°.1, h3km±17km, n15, σ1§86/30, 1D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**1.33**	**280**	⇓*i*P	**Pn**	**09 19 47.8**	**-0.7**
HOED				*e*S	**Sg**	**09 20 06.7**	**+0.9**
HOED				IAML		09 20 09.3	
comp=Z,44nm,0.1s							
MOPA	**Mopani**	**1.44**	**322**	*i* P	**Pn**	**09 19 47.7**	**-2.3**
MOPA				*i* S	**Sn**	**09 20 08.8**	**-0.6**
MOPA	**Mopani**	**1.44**	**322**	*e*P	**Pn**	**09 19 47.7**	**-2.3**
MOPA				*e*S	**Sn**	**09 20 07.4**	**-2.0**
MOPA	**Mopani**	**1.44**	**322**	*i* P	**Pn**	**09 19 47.7**	**-2.3**
baz=312							
MOPA				*i* S	**Sn**	**09 20 08.8**	**-0.6**
baz=312							
MMAL	**MMAL**	**1.74**	**217**	*e*P	**Pn**	**09 19 54.2**	**+0.1**
MMAL				*e*S	**Sg**	**09 20 18.6**	**-0.3**
MMAL				IAML		09 20 19.6	
comp=Z,48nm,0.2s							
DULL	**Dullstroom, Mp**	**2.11**	**250**	*e*P	**Pn**	**09 19 59.1**	**-0.3**
DULL				*e*S	**Sn**	**09 20 26.6**	**+0.4**
DULL				IAML		09 20 31.8	
comp=Z,13nm,0.3s							
MPHEP	**Siloam, Limpop**	**2.66**	**311**	*e*P	**Pn**	**09 20 06.4**	**-0.5**
MPHEP				*e*S	**Sn**	**09 20 38.4**	**-1.2**
MPHEP				IAML		09 20 51.3	
comp=Z,37nm,0.5s							
MUSN	**Musina, Limpop**	**3.30**	**315**	*i* P	**Pn**	**09 20 14.7**	**-0.9**
MUSN				*i* S	**Sb**	**09 21 02.9**	**+0.1**
MUSN	**Musina, Limpop**	**3.30**	**315**	*e*P	**Pn**	**09 20 14.7**	**-0.9**
MUSN				*e*S	**Sn**	**09 20 53.0**	**-2.4**
MUSN				IAML		09 21 11.4	
comp=Z,18nm,0.4s							
MUSN	**Musina, Limpop**	**3.30**	**315**	*i* P	**Pn**	**09 20 14.7**	**-0.9**
baz=311							
MUSN				*i* S	**Sb**	**09 21 02.9**	**+0.1**
baz=311							
LEPH	**Lephalale, Lim**	**4.24**	**280**	*e*P	**Pn**	**09 20 27.0**	**-1.7**
LEPH				*e*S	**Sn**	**09 21 17.9**	**-0.9**
LEPH				IAML		09 21 44.2	
comp=Z,5.5nm,0.6s							
MATP	**Matopo**	**5.53**	**319**	*i* P	**Pn**	**09 20 48.6**	**+2.3**
MATP				*i* S	**Sn**	**09 21 55.0**	**+4.6**
MATP	**Matopo**	**5.53**	**319**	*i* P	**Pn**	**09 20 48.6**	**+2.3**
baz=316							
MATP				*i* S	**Sn**	**09 21 55.0**	**+4.6**
baz=316							
LBTB	**Lobatse**	**6.16**	**265**	*i* P	**Pn**	**09 20 54.2**	**-0.8**
LBTB				*i* S	**Sn**	**09 22 06.4**	**+0.3**
LBTB	**Lobatse**	**6.16**	**265**	*i* P	**Pn**	**09 20 54.2**	**-0.8**
baz=268							
LBTB				*i* S	**Sn**	**09 22 06.4**	**+0.3**
baz=268							

---

*NIED **04** 09:29:01.1, 41°.82N×140°.76E, h14km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.62; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-1.57; $M_{r\theta}$-0.02; $M_{\theta\phi}$-0.37; $M_{\phi r}$-0.90; Fault plane solution: $M_0$1.87000×10^{14} NP1: ϕ_s187.00000°, δ59.00000°, λ84.00000°. NP2:ϕ_s19.00000°, δ31.00000°, λ100.00000°.*
JMA 04 09:29:01.1±0.1, 41°.8N±0°.2×140°.8E±0°.3, h14km±1km, MV3.5/20, 12D, OSHIMA PEN REG HOKKAIDO, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.21**	**72**	*e*P	Pg	09 29 05.5	-0.3
JKB				*e*S	Sg	09 29 09.0	0.0
JSR	**Shiriuchi**	**0.39**	**222**	⇓*e*P	Pg	09 29 09.1	+0.1
JSR				⇓*e*S	Sg	09 29 14.3	0.0
JYM2	**Yakumo 2**	**0.42**	**315**	⇓P	Pg	09 29 09.2	-0.2
JYM2				⇓*e*S	Sg	09 29 15.4	+0.3
JOT	**Ohata**	**0.49**	**154**	⇓*e*P	Pg	09 29 10.5	-0.3
JOT				⇓*e*S	Sg	09 29 16.9	-0.4
JOMM	**Oshimamatsumae**	**0.64**	**243**	*e*P	Pg	09 29 13.1	-0.5
JOMM				*e*S	Sg	09 29 21.6	-0.4
JNB	**Noboribetsu**	**0.68**	**17**	*i* P	Pg	09 29 14.0	-0.3
JAHD	**Aomorihigashid**	**0.70**	**142**	⇓*i*P	Pg	09 29 14.4	-0.4
JSI2	**Shiura 2**	**0.81**	**199**	P	Pg	09 29 16.4	-0.4
JSI2				S	Sg	09 29 26.9	-0.5
JHST	**Hiyamasetana**	**0.89**	**313**	⇓*i*P	Pb	09 29 18.0	-0.3
JARK	**Aomorirokkasho**	**0.93**	**151**	*i* P	Pb	09 29 18.5	-0.5
JARK				S	Sb	09 29 30.9	-0.2
JSH	**Shimam**	**0.98**	**327**	⇓*i*P	Pb	09 29 19.5	-0.3
JSH				⇓S	Sg	09 29 32.7	-0.1
JOSM	**Okushiri--Mats**	**1.00**	**286**	⇓*i*P	Pb	09 29 19.3	-0.8
JOSM				⇓S	Sb	09 29 32.8	-0.2
JTM	**Tenmabayashi**	**1.06**	**167**	P	Pb	09 29 20.7	-0.5
JTM				S	Sb	09 29 33.7	-1.1

IDC 04 09:42:25.1±3.6, 54°.44N×86°.87E, h0km, mbtmp2.9/2, ML2.7/1, Error ellipse: s-maj=33.0km s-min=19.5km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**249**	I	I	09 51 10.0	
baz=68,slow=329,SNR=2.6							
ZALV	**Zalesovo Beam**	**1.30**	**249**	Pg	Pg	09 42 48.7	-1.4
0.7nm,0.3s,baz=67,slow=16,SNR=9.3							
ZALV				Lg	Lg	09 43 07.3	
0.8nm,0.3s,baz=69,slow=29,SNR=2.8							
KURBB	**Kurchatov Arra**	**6.36**	**236**	Pn	Pn	09 44 00.3	+0.3
0.9nm,0.5s,baz=53,slow=14,SNR=4.8							
MKAR	**Makanchi Array**	**8.19**	**203**	Pn	Pn	09 44 27.1	+1.9
0.1nm,0.3s,baz=25,slow=16,SNR=2.1							
0.2nm,0.3s							

---

*NNC **04** 09:55:47.8±5.6, 49°.79N×84°.47E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=45.7km s-min=19.2km az=58.0, Suspected Mining explosion.*
*SOME **04** 09:55:51.4, 49°.80N×84°.03E, h0km*
ISC 04 09:55:53.7±2.5, 49°.6N±0°.1×83°.9E±0°.2, h0km, n5, σ1§44/5, 3C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**2.26**	**163**	*e*Pg	**Pg**	**09 56 36.5**	**-0.7**
2.0nm,0.1s							
ZSN				*e*Lg	Lg	09 57 09.1	
8.1nm,0.4s							
MK31	**Makanchi Array**	**3.02**	**201**	⇓Pg	**Pb**	**09 56 49.5**	**+1.1**
0.5nm,0.5s,baz=21,slow=13,SNR=12							
MK31				⇑Lg	Lg	09 57 32.1	
5.1nm,0.8s,baz=29,slow=32,SNR=6.2							
MAKZ	**Makanchi**	**3.09**	**205**	⇑Pg	**Pg**	**09 56 52.0**	**-0.9**
1.1nm,0.4s							
MAKZ				⇓Lg	Lg	09 57 33.4	
7.5nm,0.9s							
KURK	**Kurchatov**	**3.56**	**290**	⇓Pg	**Pb**	**09 56 58.8**	**+1.2**
0.7nm,0.4s							
KURK				⇓Lg	Lg	09 57 49.3	
4.0nm,0.7s							
KURBB	**Kurchatov Arra**	**3.59**	**288**	⇓Pg	**Pb**	**09 56 57.8**	**-0.3**
1.2nm,0.5s							
KURBB				⇑Lg	Lg	09 57 49.6	
8.6nm,0.8s							

IDC 04 10:05:22.1±3.1, 16°.22S×174°.85W, h314km±44km, mb3.2/3, mbtmp3.9/4, Error ellipse: s-maj=273.6km s-min=27.9km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.75**	**53**	P	Pn	10 06 28.5	+1.9
38nm,0.9s,baz=259,slow=19,SNR=5.5							
AFI				S	S	10 07 17.6	-0.7
62nm,1.1s,baz=258,slow=19,SNR=2.0							
WRA	**Warramunga Arr**	**48.30**	**258**	P	P	10 13 32.5	-0.5
0.7nm,0.8s,baz=95,slow=8.1,SNR=16							
0.7nm,0.8s							
ASAR	**Alice Springs**	**48.53**	**253**	P	P	10 13 34.7	+0.1
4.7nm,0.6s,baz=87,slow=7.9,SNR=54							
4.7nm,0.6s							
ILAR	**Eielson Array**	**83.52**	**12**	P	P	10 17 14.8	+0.1
0.2nm,0.5s,baz=217,slow=5.2,SNR=4.4							
0.2nm,0.5s							

---

*NNC **04** 10:16:39.1±0.9, 51°.72N×75°.34E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=16.7km s-min=6.0km az=21.0, Suspected Mining explosion.*
*IDC **04** 10:16:40.0±1.1, 51°.53N×75°.38E, h0km, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=24.4km s-min=8.3km az=30.0*
ISC 04 10:16:38.6±0.9, 51°.56N±0°.08×75°.40E±0°.04, h0km, n11, σ0§88/13, 4C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.19**	**114**	⇑Pn	**Pb**	**10 17 19.4**	**+0.4**
1.3nm,0.3s							
KURBB				⇓Sn	**Sg**	**10 17 48.5**	**-0.3**
20nm,0.8s							
KURBB	**Kurchatov Arra**	**2.19**	**114**	Pg	**Pg**	**10 17 20.2**	**-0.3**
0.5nm,0.3s,baz=298,slow=19,SNR=43							
KURBB				Lg	Lg	10 17 49.5	
0.7nm,0.3s,baz=296,slow=33,SNR=8.2							
KURK	**Kurchatov**	**2.20**	**111**	⇓Pn	**Pb**	**10 17 18.5**	**-0.7**
1.4nm,0.4s							
KURK				⇓Sn	**Sb**	**10 17 47.0**	**0.0**
8.9nm,0.7s							
BVA0	**Borovoye Array**	**3.41**	**297**	⇓Pg	**Pb**	**10 17 38.4**	**-1.5**
0.6nm,0.4s,baz=107,slow=12,SNR=8.4							
BVA0				⇑Lg	Lg	10 18 24.6	
5.0nm,0.6s,baz=113,slow=30,SNR=8.3							
BVAR	**Borovoye Array**	**3.41**	**297**	Pn	**Pn**	**10 17 34.5**	**+1.5**
0.1nm,0.3s,baz=110,slow=13,SNR=4.9							
BVAR				Sn	**Sn**	**10 18 14.7**	**+0.5**
0.1nm,0.3s,baz=111,slow=39,SNR=4.2							
BVAR				Lg	Lg	10 18 24.5	
0.2nm,0.3s,baz=111,slow=26,SNR=5.0							
0.8nm,0.4s							
BRVK	**Borovoye**	**3.48**	**298**	⇓Pg	**Pb**	**10 17 40.2**	**-0.9**
0.5nm,0.4s							
BRVK				⇑Lg	Lg	10 18 25.3	
3.8nm,0.7s							
OTUK	**Ortayu**	**3.87**	**212**	⇓Pg	**Pg**	**10 17 53.1**	**+0.4**
0.3nm,0.3s							
OTUK				⇓Lg	Lg	10 18 46.0	
4.0nm,0.8s							
I46RU	**ZALESOVO INFRA**	**6.20**	**64**	I	I	10 52 50.0	
baz=251,slow=318,SNR=1.7							
ZALV	**Zalesovo Beam**	**6.20**	**64**	Pn	**Pn**	**10 18 12.2**	**+1.0**
0.5nm,0.3s,baz=254,slow=16,SNR=4.5							
1.2nm,0.4s							
MK31	**Makanchi Array**	**6.57**	**134**	⇑Lg	Lg	10 20 09.6	
4.1nm,0.8s,baz=322,slow=29,SNR=4.7							
MKAR	**Makanchi Array**	**6.57**	**134**	Pn	**Pn**	**10 18 16.1**	**-0.3**
0.1nm,0.3s,baz=317,slow=12,SNR=1.5							
MKAR				Sn	**Sn**	**10 19 31.4**	**-0.7**
0.1nm,0.3s,baz=318,slow=52,SNR=1.4							
MKAR				Lg	Lg	10 20 04.3	
0.4nm,0.3s,baz=320,slow=28,SNR=6.5							
0.2nm,0.5s							

---

*IDC **04** 10:22:05.0±7.7, 30°.99N×143°.19E, h0km, mb3.5/3, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=281.3km s-min=26.8km az=69.0*

*JMA **04** 10:22:07.2±0.2, 31°.1N±0°.7×14°.3E±°, h43km, MV3.9/24, FAR E OFF IZU ISLANDS*
ISC 04 10:22:06.1±1.6, 31°.22N±0°.07×143°.3E±0°.2, h35km, n12, σ2§56/15, mb3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.94**	**331**	*e*P	**Pn**	**10 23 05.2**	**+1.7**
BSO1				S	**Sn**	**10 23 48.6**	**+0.5**
CBIJ	**Chichi jima**	**4.23**	**194**	P	**Pn**	**10 23 07.7**	**-0.3**
CBIJ				S	**Sn**	**10 23 52.9**	**-3.2**
BSO3	**Boso 3**	**4.27**	**327**	*e*P	**Pn**	**10 23 09.6**	**+1.3**
JHO	**Hitachi**	**5.83**	**338**	*e*S	**Sn**	**10 24 33.3**	**-2.3**
JRY	**Ryogami san**	**6.02**	**324**	P	**Pn**	**10 23 33.9**	**+1.2**
JRY				*e*S	**Sn**	**10 24 39.1**	**-1.3**
JAG	**Ashikaga**	**6.09**	**329**	P	**Pn**	**10 23 35.4**	**+1.7**
JFK	**Kawauchi**	**6.45**	**343**	S	**Sn**	**10 24 46.9**	**-3.9**
MJAR	**Matsushiro Arr**	**6.78**	**323**	Pn	**Pn**	**10 23 45.1**	**+2.0**
0.1nm,0.3s,baz=145,slow=11,SNR=1.8							
MJAR				Sn	**Sn**	**10 24 57.2**	**-1.9**
0.2nm,0.3s,baz=164,slow=12,SNR=2.3							
0.4nm,0.3s							
JMK	**Ichinoseki**	**7.90**	**348**	*e*S	**Sn**	**10 25 21.9**	**-4.5**
MKAR	**Makanchi Array**	**48.69**	**307**	P	P	10 30 52.3	+5.4
0.6nm,0.5s,baz=88,slow=9.6,SNR=8.6							
0.6nm,0.5s							
WRA	**Warramunga Arr**	**51.59**	**191**	P	**P**	**10 31 11.5**	**+2.4**
0.2nm,0.3s,baz=8.5,slow=7.6,SNR=8.2							
0.2nm,0.3s							
ASAR	**Alice Springs**	**55.31**	**190**	P	**P**	**10 31 38.1**	**+1.7**
0.1nm,0.3s,baz=10,slow=7.4,SNR=1.5							
0.1nm,0.3s							

IDC 04 10:24:56.6±2.6, 14°.07N×121°.28E, h206km±6km, mb2.9/3, mbtmp3.4/3, Error ellipse: s-maj=102.6km s-min=20.1km az=39.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.34**	**275**	P	Pn	10 25 24.4	+0.4
588nm,0.5s,baz=203,slow=4.1,SNR=17							
TGY				S	S	10 25 46.2	+0.9
277nm,0.3s,baz=358,slow=23,SNR=9.5							
CMAR	**Chiang Mai Arr**	**21.88**	**284**	P	P	10 29 33.4	0.0
0.7nm,0.3s,baz=95,slow=7.9,SNR=11							
0.7nm,0.3s							
WRA	**Warramunga Arr**	**36.16**	**159**	P	P	10 31 40.1	+0.6
0.4nm,0.9s,baz=339,slow=9.1,SNR=2.1							
0.4nm,0.9s							
ASAR	**Alice Springs**	**39.48**	**162**	P	P	10 32 06.8	-0.6
0.2nm,0.4s,baz=339,slow=6.3,SNR=5.9							
0.2nm,0.4s							

---

*KRSC **04** 10:33:43.0±1.4, 55°.53N×159°.24E, h312km±12km, Ml4.4*
*MOS **04** 10:33:43.5±0.7, 55°.60N×158°.96E, h311km, mb4.1/5, Error ellipse: s-maj=13.5km s-min=5.7km az=81.4*
*IDC **04** 10:33:44.2±0.8, 55°.61N×158°.78E, h296km±9km, mb3.3/17, mbtmp4.0/19, Error ellipse: s-maj=13.0km s-min=9.6km az=149.0*
*NEIC **04** 10:33:44.3±1.1, 55°.7N±0°.1×158°.89E±0°.07, h290km±13km, mb4.1/31, Error ellipse: s-maj=21.5km s-min=5.3km az=173.0*
ISC 04 10:33:44.8±0.5, 55°.51N±0°.04×159°.14E±0°.04, h305km±5km, n362, σ1§02/416, mb3.9/33, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESO	**Esso**	**0.48**	**330**	PN	**Pn**	**10 34 23.6**	**-0.2**
ESO				S	**S**	**10 34 54.6**	**-0.3**
ESO	**Esso**	**0.48**	**330**	*e*P	**Pn**	**10 34 23.6**	**-0.2**
ESO				*e*S	**S**	**10 34 54.6**	**-0.3**
TUMR	**Tumrok**	**0.62**	**111**	PN	**Pn**	**10 34 24.9**	**+0.5**
TUMR				S	**S**	**10 34 56.6**	**+0.7**
TUMR	**Tumrok**	**0.62**	**111**	*e*P	**Pn**	**10 34 25.0**	**+0.6**
KMNR	**Kamenistaya**	**0.67**	**68**	PN	**Pn**	**10 34 24.8**	**+0.3**
KMNR	**Kamenistaya**	**0.67**	**68**	*e*P	**Pn**	**10 34 24.8**	**+0.3**
KOZ	**Kozyrevsk**	**0.69**	**37**	PN	**Pn**	**10 34 24.5**	**+0.1**
KOZ	**Kozyrevsk**	**0.69**	**37**	*e*P	**Pn**	**10 34 24.5**	**+0.1**
KPT	**Kopyto**	**0.77**	**53**	PN	**Pn**	**10 34 24.6**	**-0.2**
KPT	**Kopyto**	**0.77**	**53**	*e*P	**Pn**	**10 34 24.6**	**-0.2**
KZV	**Kizimen**	**0.77**	**120**	PN	**Pn**	**10 34 25.3**	**+0.3**
KZV	**Kizimen**	**0.77**	**120**	*e*P	**Pn**	**10 34 25.3**	**+0.3**
TUMD	**Tumrok D**	**0.78**	**113**	*e*P	**Pn**	**10 34 24.9**	**+0.1**
TUMD				*e*S	**S**	**10 34 56.6**	**0.0**
KIRR	**Kirishev**	**0.81**	**56**	PN	**Pn**	**10 34 25.1**	**+0.1**
KIRR	**Kirishev**	**0.81**	**56**	*e*P	**Pn**	**10 34 25.1**	**+0.1**
SRDR	**Sredinnyy**	**0.87**	**22**	PN	**Pn**	**10 34 25.1**	**0.0**
SRDR	**Sredinnyy**	**0.87**	**22**	*e*P	**Pn**	**10 34 25.1**	**0.0**
BZMR	**Bezymyannaya**	**0.88**	**60**	PN	**Pn**	**10 34 25.6**	**+0.3**
BZMR	**Bezymyannaya**	**0.88**	**60**	*e*P	**Pn**	**10 34 25.6**	**+0.3**
BZP	**Bezymyannyi-Pe**	**0.89**	**62**	*e*P	**Pn**	**10 34 25.3**	**0.0**
BZWR	**Bezymyannyi-We**	**0.89**	**59**	PN	**Pn**	**10 34 25.6**	**+0.2**
BZWR	**Bezymyannyi-We**	**0.89**	**59**	*e*P	**Pn**	**10 34 25.6**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**0.98**	**63**	PN	**Pn**	**10 34 26.0**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**0.98**	**63**	*e*P	**Pn**	**10 34 26.0**	**+0.3**
LGNR	**Loginova**	**1.05**	**56**	PN	**Pn**	**10 34 27.0**	**+0.8**
LGNR	**Loginova**	**1.05**	**56**	*e*P	**Pn**	**10 34 27.0**	**+0.8**
ZLN	**Zelenaya**	**1.07**	**61**	PN	**Pn**	**10 34 26.7**	**+0.7**
ZLN	**Zelenaya**	**1.07**	**61**	*e*P	**Pn**	**10 34 26.7**	**+0.7**
KRSR	**Krestovskiy**	**1.07**	**48**	PN	**Pn**	**10 34 25.7**	**-0.4**
KRSR	**Krestovskiy**	**1.07**	**48**	*e*P	**Pn**	**10 34 25.7**	**-0.4**
CIRR	**Tsirk**	**1.09**	**56**	PN	**Pn**	**10 34 26.3**	**+0.1**
CIRR	**Tsirk**	**1.09**	**56**	*e*P	**Pn**	**10 34 26.3**	**+0.1**
KLY	**Klyuchi**	**1.17**	**46**	PN	**Pn**	**10 34 26.9**	**+0.5**
KLY				S	**S**	**10 35 01.3**	**+1.7**
KLY	**Klyuchi**	**1.17**	**46**	*e*P	**Pn**	**10 34 26.9**	**+0.5**
KLY				*e*S	**S**	**10 35 01.3**	**+1.7**
BDR	**Baidarnaya**	**1.57**	**47**	PN	**Pn**	**10 34 29.0**	**+0.1**
BDR	**Baidarnaya**	**1.57**	**47**	*e*P	**Pn**	**10 34 29.0**	**+0.1**
SRKR	**Sorokina**	**1.62**	**44**	PN	**Pn**	**10 34 28.8**	**-0.4**
SRKR	**Sorokina**	**1.62**	**44**	*e*P	**Pn**	**10 34 28.8**	**-0.4**
SMKR	**Semkarok**	**1.69**	**50**	PN	**Pn**	**10 34 29.6**	**-0.1**
SMKR				S	**S**	**10 35 05.3**	**-0.2**
SMKR	**Semkarok**	**1.

NLC				S	S	10 35 13.4	-1.3
NLC	**Nalytchevo**	**2.35**	**177**	*e*P	**Pn**	**10 34 35.8**	**+1.0**
NLC				*e*S	**S**	**10 35 13.4**	**-1.3**
INSR	**Institute**	**2.47**	**187**	*e*S	**S**	**10 35 15.5**	**-1.2**
SPN	**Mys Shipunski**	**2.47**	**167**	PN	**Pn**	**10 34 34.6**	**-1.3**
SPN	**Mys Shipunski**	**2.47**	**167**	*e*P	**Pn**	**10 34 34.6**	**-1.3**
SPN				*e*S	**S**	**10 35 12.3**	**-4.5**
DALK	**Dalny**	**2.49**	**185**	PN	**Pn**	**10 34 36.4**	**+0.3**
DALK				S	**S**	**10 35 15.4**	**-1.7**
DALK	**Dalny**	**2.49**	**185**	*e*P	**Pn**	**10 34 36.4**	**+0.3**
DALK				*e*S	**S**	**10 35 15.4**	**-1.7**
PET	**Petropavlovsk**	**2.51**	**187**		**Pn**	**10 34 36.7**	**+0.6**
PET				Sn	**S**	**10 35 16.5**	**-0.8**
PET	**Petropavlovsk**	**2.51**	**187**	PN	**Pn**	**10 34 36.8**	**+0.6**
PET				S	**S**	**10 35 16.3**	**-1.0**
PET	**Petropavlovsk**	**2.51**	**187**	*e*P	**Pn**	**10 34 36.8**	**+0.6**
PET				*e*S	**S**	**10 35 16.3**	**-1.0**
PEA0B	**Petropavlovsk-**	**2.55**	**200**	Pn	**Pn**	**10 34 37.6**	**+0.9**
PEA0B	**Petropavlovsk-**	**2.55**	**200**	PN	**Pn**	**10 34 37.6**	**+0.9**
PETK	**Petropavlovsk-**	**2.55**	**200**	Pn	**Pn**	**10 34 37.0**	**+0.4**
PETK	**Petropavlovsk-**	**2.55**	**200**	PN	**Pn**	**10 34 37.1**	**+0.4**
PETK	**Petropavlovsk-**	**2.55**	**200**	P	**Pn**	**10 34 36.4**	**-0.3**
	37nm,0.6s,baz=45,slow=9.1,SNR=107						
PETK				S	**S**	**10 35 16.8**	**-1.3**
	2.5nm,0.3s,baz=85,slow=16,SNR=1.3						
KRMR	**Karymshinskiy**	**2.75**	**193**	PN	**Pn**	**10 34 38.8**	**+0.4**
KRMR				S	**S**	**10 35 20.7**	**-0.7**
KRMR	**Karymshinskiy**	**2.75**	**193**	*e*P	**Pn**	**10 34 38.8**	**+0.4**
KRMR				*e*S	**S**	**10 35 20.7**	**-0.7**
APC	**Apacha**	**2.84**	**205**	PN	**Pn**	**10 34 40.2**	**+0.9**
APC				S	**S**	**10 35 23.5**	**+0.6**
APC	**Apacha**	**2.84**	**205**	*e*P	**Pn**	**10 34 40.2**	**+0.9**
APC				*e*S	**S**	**10 35 23.5**	**+0.6**
GRL	**Gorelyy**	**3.03**	**192**	PN	**Pn**	**10 34 41.9**	**+0.6**
GRL	**Gorelyy**	**3.03**	**192**	*e*P	**Pn**	**10 34 41.9**	**+0.6**
MTVR	**Mutnovka**	**3.08**	**191**	PN	**Pn**	**10 34 43.2**	**+1.3**
MTVR				S	**S**	**10 35 27.4**	**-0.1**
MTVR	**Mutnovka**	**3.08**	**191**	*e*P	**Pn**	**10 34 43.2**	**+1.3**
MTVR				*e*S	**S**	**10 35 27.4**	**-0.1**
PALN	**Palana**	**3.62**	**7**	PN	**Pn**	**10 34 46.8**	**-0.1**
PALN	**Palana**	**3.62**	**7**	*e*P	**Pn**	**10 34 46.8**	**-0.1**
KDTR	**Khodutka, Kamc**	**3.76**	**190**	PN	**Pn**	**10 34 47.5**	**-1.2**
KDTR				S	**S**	**10 35 36.1**	**-3.7**
KDTR	**Khodutka, Kamc**	**3.76**	**190**	*e*P	**Pn**	**10 34 47.5**	**-1.2**
KDTR				*e*S	**S**	**10 35 36.1**	**-3.7**
BKI	**Bering**	**3.91**	**92**	PN	**Pn**	**10 34 51.6**	**+1.4**
BKI				S	**S**	**10 35 41.0**	**-1.6**
BKI	**Bering**	**3.91**	**92**	*e*P	**Pn**	**10 34 51.6**	**+1.4**
BKI				*e*S	**S**	**10 35 41.0**	**-1.6**
OSSR	**Ossora**	**4.31**	**28**	PN	**Pn**	**10 34 54.3**	**-0.1**
OSSR	**Ossora**	**4.31**	**28**	*e*P	**Pn**	**10 34 54.3**	**-0.1**
SKR	**Severo-Kuril's**	**5.17**	**202**	*e*PN	**Pn**	**10 35 03.0**	**-1.4**
SKR				*e*S	**S**	**10 36 08.2**	**-0.2**
SKR				pmax	pmax		
	comp=Z,174nm,0.9s						
SKR				smax	smax		
	comp=N,105nm,0.9s						
SKR				smax	smax		
	comp=E,133nm,0.8s						
SKR				MLR	MLR		
	comp=Z,800nm,13.0s						
SKR	**Severo-Kuril's**	**5.17**	**202**	*e*P	**Pn**	**10 35 04.2**	**-0.1**
SKR				*e*S	**S**	**10 36 06.1**	**-2.3**
MA2	**Magadan**	**6.07**	**316**	P	**Pn**	**10 35 12.4**	**-2.5**
	comp=Z,13nm,0.8s,baz=139,slow=9.8,SNR=3.8						
SHO	**Shikotan**	**14.08**	**219**	*e*P	**P**	**10 36 49.9**	**-1.5**
ATKA	**Atka Island**	**16.04**	**91**	P	**Pn**	**10 37 14.6**	**-0.3**
YAK	**Yakutsk**	**16.50**	**305**	P	**P**	**10 37 15.6**	**-1.9**
YAK	**Yakutsk**	**16.50**	**305**	*e*P	**P**	**10 37 15.3**	**-2.3**
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.8s						
ERM	**Erimo**	**17.07**	**224**	P	**P**	**10 37 25.2**	**+1.3**
ERM	**Erimo**	**17.07**	**224**	P	**P**	**10 37 25.2**	**+1.3**
ERM				pmax	pmax		
	comp=Z,32nm,1.1s						
TNA	**Tin City**	**18.83**	**45**	P	**P**	**10 37 43.2**	**+0.7**
	baz=254						
F14K	**Arctic Creek**	**19.44**	**45**	P	**P**	**10 37 49.4**	**+0.3**
	baz=256						
ANM	**Nome**	**19.64**	**48**	P	**P**	**10 37 53.1**	**+1.9**
ANM				IAmb	IAmb	10 37 53.4	
	comp=Z,8.3nm,1.2s						
ANM	**Nome**	**19.64**	**48**	P	**P**	**10 37 53.1**	**+1.9**
ANM				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ANM	**Nome**	**19.64**	**48**	P	**P**	**10 37 51.0**	**-0.3**
	baz=260						
K13K	**Kusilvak Mount**	**19.66**	**56**	P	**P**	**10 37 51.1**	**-0.3**
	baz=268						
AKUT	**Akutan**	**20.14**	**79**	P	**P**	**10 37 57.5**	**+1.1**
F15K	**North Star Dit**	**20.18**	**45**	P	**P**	**10 37 57.4**	**+0.7**
	baz=258,SNR=12						
J14K	**Nanvaranak Lak**	**20.22**	**54**	P	**P**	**10 37 57.1**	**-0.1**
	baz=267,SNR=7.4						
M13K	**Dall Lake**	**20.29**	**61**	P	**P**	**10 37 58.3**	**+0.4**
	baz=273						
L14K	**Kuka Creek**	**20.59**	**58**	P	**P**	**10 38 01.0**	**+0.1**
	baz=271						
TIXI	**Tiksi**	**20.66**	**333**	P	**P**	**10 38 00.6**	**-0.8**
TIXI				IAmb	IAmb	10 38 01.6	
	comp=Z,5.0nm,0.8s						
TIXI	**Tiksi**	**20.66**	**333**	P	**P**	**10 38 00.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
C16K	**Lisburne Hills**	**20.66**	**38**	P	**P**	**10 38 02.2**	**+0.7**
	baz=250						
USRK	**Ussuriysk Ar.**	**20.70**	**248**	P	**P**	**10 38 01.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**20.70**	**248**	P	**P**	**10 38 00.6**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=50,slow=8.9,SNR=4.5						
	comp=Z,0.9nm,0.5s						
M14K	**Bethel**	**20.96**	**60**	P	**P**	**10 38 04.9**	**+0.5**
	baz=274						
H16K	**Elim**	**20.99**	**49**	P	**P**	**10 38 05.1**	**+0.4**
	baz=263						
G16K	**Koyuk River**	**21.05**	**47**	P	**P**	**10 38 05.8**	**+0.5**
	baz=261						
K15K	**Wolf Creek Mou**	**21.14**	**55**	P	**P**	**10 38 06.5**	**+0.4**
	baz=270						
FALS	**False Pass**	**21.23**	**76**	P	**P**	**10 38 07.5**	**+0.5**
	baz=288						
D17K	**Noatak River**	**21.29**	**40**	P	**P**	**10 38 07.7**	**+0.3**
	baz=254						
O14K	**Tigyukauivet M**	**21.44**	**64**	P	**P**	**10 38 09.4**	**+0.4**
	baz=278						
JMM	**Marumori**	**21.56**	**223**	P	**P**	**10 38 11.0**	**+0.8**
JMM				IAmb	IAmb	10 38 13.8	
	comp=Z,26nm,1.2s						
I17K	**Unalakleet**	**21.58**	**51**	P	**P**	**10 38 11.0**	**+0.9**
	baz=267						
M15K	**Kasigluk River**	**21.59**	**60**	P	**P**	**10 38 10.8**	**+0.5**
	baz=275						
J16K	**Anvik River**	**21.59**	**53**	P	**P**	**10 38 11.0**	**+0.7**
	baz=268						
E17K	**Hotham Inlet**	**21.60**	**42**	P	**P**	**10 38 11.2**	**+0.9**
	baz=257,SNR=9.2						
F17K	**Baldwin Pennin**	**21.69**	**44**	P	**P**	**10 38 11.6**	**+0.5**
	baz=260						
G17K	**Kiwalik Mounta**	**21.77**	**47**	P	**P**	**10 38 12.7**	**+0.8**
	baz=263,SNR=5.7						
N15K	**Kwethluk River**	**21.93**	**61**	P	**P**	**10 38 13.6**	**+0.3**
	baz=276						
H17K	**Granite Mounta**	**22.01**	**48**	P	**P**	**10 38 15.1**	**+1.0**
	baz=265,SNR=7.7						
L16K	**Owhat River**	**22.12**	**57**	P	**P**	**10 38 16.2**	**+1.2**
	baz=273,SNR=6.0						
E18K	**Tukpahlearik C**	**22.14**	**41**	P	**P**	**10 38 16.2**	**+1.0**
	baz=258,SNR=7.5						
C18K	**Utukok River**	**22.23**	**38**	P	**P**	**10 38 16.7**	**+0.6**
	baz=254						
B18K	**Kokolik River**	**22.24**	**36**	P	**P**	**10 38 17.4**	**+1.3**
	baz=252						
J17K	**VABM Dome**	**22.28**	**52**	P	**P**	**10 38 17.5**	**+1.0**
	baz=269						
M16K	**Timber Creek**	**22.41**	**59**	P	**P**	**10 38 18.6**	**+1.0**
	baz=275						
N16K	**Nishlik Lake**	**22.55**	**60**	P	**P**	**10 38 19.9**	**+0.8**
	baz=277						
K17K	**Iditarod**	**22.63**	**54**	P	**P**	**10 38 20.7**	**+1.0**
	baz=272						
G18K	**Tagagawik**	**22.64**	**46**	P	**P**	**10 38 20.4**	**+0.6**
	baz=264,SNR=5.4						
L17K	**Donlin**	**22.65**	**56**	P	**P**	**10 38 20.5**	**+0.6**
	baz=273						
H18K	**Honhosa River**	**22.69**	**48**	P	**P**	**10 38 21.3**	**+1.1**
	baz=266						
C19K	**Lookout Ridge**	**22.92**	**37**	P	**P**	**10 38 23.5**	**+1.2**
	baz=255						
S14K	**Fog Glacier**	**22.93**	**71**	P	**P**	**10 38 22.5**	**-0.1**
	baz=286						
O16K	**Kokwok River B**	**23.00**	**62**	P	**P**	**10 38 23.6**	**+0.5**
	baz=279						
M17K	**Holitna River**	**23.11**	**57**	P	**P**	**10 38 24.7**	**+0.6**
	baz=276						
P16K	**Nushagak River**	**23.14**	**64**	P	**P**	**10 38 24.6**	**+0.2**
	baz=281						
D19K	**Kuna River**	**23.29**	**39**	P	**P**	**10 38 25.6**	**0.0**
	baz=258						
GCSA	**Galena City Sc**	**23.29**	**49**	P	**P**	**10 38 25.5**	**-0.1**
	baz=268						
G19K	**Purcell Mounta**	**23.31**	**45**	P	**P**	**10 38 26.0**	**+0.2**
	baz=265						
CHNA	**Chernabura Isl**	**23.34**	**74**	P	**P**	**10 38 26.7**	**+0.5**
	baz=289						
J18K	**Innoko River**	**23.34**	**52**	P	**P**	**10 38 26.1**	**-0.1**
	baz=271						
L18K	**Granite Mounta**	**23.40**	**55**	P	**P**	**10 38 27.2**	**+0.5**
	baz=274						
E19K	**Redstone River**	**23.42**	**42**	P	**P**	**10 38 27.9**	**+1.1**
	baz=262						
O17K	**Koliganek Bris**	**23.47**	**61**	P	**P**	**10 38 27.9**	**+0.6**
	baz=280						
H19K	**Roundabout Mou**	**23.52**	**47**	P	**P**	**10 38 28.4**	**+0.7**
	baz=267,SNR=13						
R16K	**Pilot Point**	**23.66**	**67**	P	**P**	**10 38 29.8**	**+0.7**
	baz=284						
TTA	**Tatalina**	**23.68**	**53**	P	**P**	**10 38 29.5**	**+0.2**
	baz=273						
MJAR	**Matsushiro Arr**	**23.73**	**226**	P	**P**	**10 38 30.5**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=52,slow=8.8,SNR=3.2						
	comp=Z,1.8nm,0.8s						
J19K	**Poorman**	**23.83**	**51**	P	**P**	**10 38 31.0**	**+0.5**
	baz=271						
D20K	**Etivluk River**	**23.88**	**39**	P	**P**	**10 38 31.9**	**+1.0**
	baz=259						
Q16K	**King Salmon**	**23.89**	**64**	P	**P**	**10 38 31.7**	**+0.6**
	baz=282						
P17K	**Kvichak River**	**23.90**	**63**	P	**P**	**10 38 32.1**	**+0.9**
	baz=281						
N18K	**Kilae Creek**	**23.94**	**59**	P	**P**	**10 38 32.2**	**+0.7**
N18K				IAmb	IAmb	10 38 35.6	
	comp=Z,3.8nm,0.7s						
N18K	**Kilae Creek**	**23.94**	**59**	P	**P**	**10 38 32.3**	**+0.7**
	baz=278						
E20K	**Nigu River**	**23.95**	**40**	P	**P**	**10 38 32.7**	**+1.1**
	baz=261						
F20K	**Avaraart Lake**	**23.95**	**43**	P	**P**	**10 38 32.4**	**+0.9**
	baz=264						
B20K	**Meade River**	**23.98**	**36**	P	**P**	**10 38 32.6**	**+0.8**
	baz=256						
H20K	**Anotleneega Mo**	**24.17**	**47**	P	**P**	**10 38 34.4**	**+0.8**
	baz=268						
L19K	**White Mountain**	**24.26**	**55**	P	**P**	**10 38 35.1**	**+0.6**
L19K	**White Mountain**	**24.26**	**55**	P	**P**	**10 38 34.9**	**+0.4**
	baz=276						
R17K	**Ugashik Creek**	**24.26**	**66**	P	**P**	**10 38 34.7**	**+0.1**
	baz=285						
I20K	**Naaghedeneel**	**24.32**	**49**	P	**P**	**10 38 35.3**	**+0.3**
	baz=270						
Q17K	**Contact Creek**	**24.38**	**65**	P	**P**	**10 38 35.5**	**-0.2**
	baz=284						
O18K	**Koktuh Hills**	**24.40**	**61**	P	**P**	**10 38 35.9**	**+0.1**
	baz=281						
J20K	**Nowinta River**	**24.47**	**50**	P	**P**	**10 38 37.1**	**+0.8**
J20K	**Nowinta River**	**24.47**	**50**	P	**P**	**10 38 36.4**	**0.0**
	baz=272						
M19K	**Big River Lodg**	**24.51**	**56**	P	**P**	**10 38 37.1**	**+0.4**
	baz=277						
K20K	**Telida**	**24.54**	**52**	P	**P**	**10 38 37.4**	**+0.5**
K20K				IAmb	IAmb	10 38 59.2	
	comp=Z,5.8nm,1.3s						
K20K	**Telida**	**24.54**	**52**	P	**P**	**10 38 37.3**	**+0.3**
	baz=274						
N19K	**Bonanza Creek**	**24.60**	**58**		**P**	**10 38 38.3**	**+0.6**
N19K				IAmb	IAmb	10 38 40.1	
	comp=Z,5.0nm,0.9s						
N19K	**Bonanza Creek**	**24.60**	**58**	P	**P**	**10 38 37.8**	**+0.1**
	baz=279						
IMAR	**Indian Mountai**	**24.66**	**46**	P	**P**	**10 38 37.7**	**-0.2**
Q18K	**Katmai Hardscr**	**24.74**	**64**	P	**P**	**10 38 39.3**	**+0.4**
	baz=283						
B21K	**Ikpikpuk River**	**24.75**	**37**	P	**P**	**10 38 39.2**	**+0.4**
	baz=260						
G21K	**Allakaket**	**24.78**	**45**	P	**P**	**10 38 39.5**	**+0.4**
	baz=267						
F21K	**Alatna River**	**24.84**	**43**	P	**P**	**10 38 40.1**	**+0.4**
	baz=266						
H21K	**Melozitna Rive**	**25.04**	**47**	P	**P**	**10 38 41.6**	**+0.2**
H21K	**Melozitna Rive**	**25.04**	**47**	P	**P**	**10 38 42.3**	**+1.0**
	baz=270						
M20K	**Styx River**	**25.10**	**56**	P	**P**	**10 38 42.0**	**-0.2**
	baz=278						
CHUM	**Lake Minchumin**	**25.29**	**51**	P	**P**	**10 38 44.1**	**+0.5**
	baz=274						
D22K	**Ayikyak River**	**25.31**	**39**	P	**P**	**10 38 44.0**	**+0.2**
	baz=263						
P19K	**Oil Pt**	**25.42**	**61**	P	**P**	**10 38 47.3**	**+2.4**
P19K				IAmb	IAmb	10 38 51.1	
	comp=Z,23nm,1.0s						
CAST	**Castle Rocks**	**25.43**	**52**	P	**P**	**10 38 45.3**	**+0.4**
CAST	**Castle Rocks**	**25.43**	**52**	P	**P**	**10 38 45.4**	**+0.4**
	baz=275						
E22K	**Anaktuvuk Pass**	**25.55**	**41**	P	**P**	**10 38 46.5**	**+0.5**
	baz=266						
G22K	**Bettles**	**25.59**	**44**	P	**P**	**10 38 46.2**	**-0.1**
	baz=268						
H22K	**Ishtalitna Cre**	**25.62**	**46**	P	**P**	**10 38 47.5**	**+0.8**
	baz=271						
BPAW	**Bear Paw Mtn.**	**25.86**	**50**	P	**P**	**10 38 49.0**	**+0.2**
	baz=275						
MLY	**Manley**	**25.91**	**48**	P	**P**	**10 38 49.4**	**+0.2**
	baz=273						
KTH	**Kantishna Hill**	**25.93**	**52**	P	**P**	**10 38 49.4**	**-0.1**
KTH				IAmb	IAmb	10 38 58.8	
	comp=Z,18nm,1.5s						
Q20K	**Shuyak Island**	**26.08**	**63**	P	**P**	**10 38 50.7**	**0.0**
	baz=285						
COLD	**Coldfoot**	**26.11**	**43**	P	**P**	**10 38 50.6**	**-0.3**
	baz=269						
KDAK	**Kodiak Island**	**26.20**	**65**	P	**P**	**10 38 51.2**	**-0.6**
KDAK				IAmb	IAmb	10 39 19.5	
	comp=Z,25nm,1.4s						
KDAK	**Kodiak Island**	**26.20**	**65**	P	**P**	**10 38 51.2**	**-0.6**
KDAK				pmax	pmax		
	comp=Z,25nm,1.4s						
CAPN	**Captain Cook N**	**26.22**	**58**	P	**P**	**10 38 52.0**	**0.0**
	baz=281						
TRF	**Thorofare Moun**	**26.23**	**52**	P	**P**	**10 38 52.4**	**+0.2**
TRF				IAmb	IAmb	10 38 54.0	
	comp=Z,8.7nm,1.2s						
TRF	**Thorofare Moun**	**26.23**	**52**	P	**P**	**10 38 51.6**	**-0.7**
	baz=277						
CUT	**Chulitna**	**26.37**	**54**	P	**P**	**10 38 52.9**	**-0.3**
	baz=279						
E23K	**Chandalar**	**26.37**	**41**	P	**P**	**10 38 53.1**	**-0.2**
	baz=268						
H23K	**Yukon River**	**26.38**	**46**	P	**P**	**10 38 53.4**	**0.0**
	baz=272						
CNPM	**China Poot**	**26.44**	**61**	P	**P**	**10 38 53.4**	**-0.5**
I23K	**Minto, Yukon-K**	**26.49**	**48**	P	**P**	**10 38 54.5**	**+0.2**
	baz=274						
BRSE	**Bradley Lake S**	**26.64**	**60**	P	**P**	**10 38 55.8**	**+0.1**
	baz=284						
D24K	**Happy Valley**	**26.72**	**39**	P	**P**	**10 38 56.8**	**+0.4**
	baz=266						
E24K	**Your Creek**	**26.79**	**41**	P	**P**	**10 38 57.2**	**+0.2**
	baz=269						
MCK	**McKinley**	**26.80**	**51**	P	**P**	**10 38 57.0**	**-0.1**
	baz=277						
C24K	**Franklin Bluff**	**26.81**	**38**	P	**P**	**10 38 56.9**	**-0.2**
	baz=265						
RND	**Reindeer**	**26.87**	**52**	P	**P**	**10 38 57.6**	**-0.3**
RND				IAmb	IAmb	10 39 12.3	
	comp=Z,12nm,1.4s						
RND	**Reindeer**	**26.87**	**52**	P	**P**	**10 38 57.6**	**-0.3**
RND				pmax	pmax		
	comp=Z,12nm,1.4s						
O22K	**Cooper Landing**	**26.97**	**58**	P	**P**	**10 38 58.6**	**0.0**
	baz=283						
MDM	**Murphy Dome**	**26.98**	**48**	P	**P**	**10 38 59.4**	**+0.7**
MDM				IAmb	IAmb	10 39 18.9	
	comp=Z,6.9nm,1.4s						
F24K	**Squaw Lake**	**27.01**	**43**	P	**P**	**10 38 58.5**	**-0.5**
	baz=270						
WAT1	**Susitna Watana**	**27.09**	**53**	P	**P**	**10 38 59.3**	**-0.4**
	baz=279						
G24K	**Hadweenzic Riv**	**27.19**	**44**	P	**P**	**10 39 01.1**	**+0.6**
	baz=272						
CCB	**Clear Creek Bu**	**27.19**	**49**	P	**P**	**10 39 00.8**	**+0.3**
CCB				IAmb	IAmb	10 39 01.1	
	comp=Z,2.7nm,0.6s						
SML	**Sawmill**	**27.36**	**55**	P	**P**	**10 39 01.7**	**-0.4**
	baz=281						
KNK	**Knik Glacier**	**27.38**	**56**	P	**P**	**10 39 02.6**	**+0.3**
	baz=282						
IL31		**27.57**	**48**	P	**P**	**10 39 04.2**	**+0.4**
IL31				IAmb	IAmb	10 39 04.5	
	comp=Z,4.2nm,0.5s						
ILAR	**Eielson Array**	**27.57**	**48**	P	**P**	**10 39 04.0**	**+0.1**
ILAR	**Eielson Array**	**27.57**	**48**	P	**P**	**10 39 04.0**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=260,slow=7.3,SNR=76						
	comp=Z,2.4nm,0.4s						
DHY	**Denali Highway**	**27.58**	**52**	P	**P**	**10 39 03.5**	**-0.7**
	baz=280						
HDA	**Harding Lake**	**27.58**	**49**	P	**P**	**10 39 03.7**	**-0.4**
	baz=277						
D25K	**Kavik River**	**27.60**	**39**	P	**P**	**10 39 04.0**	**-0.2**
	baz=268						
M23K	**Glacier View**	**27.65**	**55**	P	**P**	**10 39 04.5**	**-0.1**
	baz=282						
KSRS	**Korea Array**	**27.72**	**242**	P	**P**	**10 39 04.1**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=27,slow=9.2,SNR=6.8						
	comp=Z,1.1nm,0.6s						
SCM	**Sheep Creek Mo**	**27.83**	**55**	P	**P**	**10 39 06.8**	**+0.5**
SCM	**Sheep Creek Mo**	**27.83**	**55**	P	**P**	**10 39 06.8**	**+0.5**
SCM				pmax	pmax		
	comp=Z,50nm,1.5s						
F25K	**Christian Rive**	**27.87**	**42**	P	**P**	**10 39 06.4**	**-0.2**
	baz=272						
H25L	**Birch Creek**	**27.88**	**45**	P	**P**	**10 39 06.7**	**+0.2**
	baz=275						
PRP	**Porcupine Dome**	**28.06**	**47**	P	**P**	**10 39 09.6**	**+1.2**
PRP				IAmb	IAmb	10 39 09.9	
	comp=Z,5.5nm,0.7s						
PRP	**Porcupine Dome**	**28.06**	**47**	P	**P**	**10 39 08.9**	**+0.4**
	baz=276						
FYU	**Fort Yukon**	**28.09**	**45**	P	**P**	**10 39 09.4**	**+1.0**
FYU				IAmb	IAmb	10 39 16.0	
	comp=Z,7.1nm,1.0s						
K24K	**Donnelly Dome**	**28.18**	**50**	P	**P**	**10 39 09.1**	**-0.2**
	baz=279						
J25K	**Salcha River,**	**28.24**	**49**	P	**P**	**10 39 08.9**	**-1.0**
J25K	**Salcha River,**	**28.24**	**49**	P	**P**	**10 39 09.3**	**-0.6**
	baz=278						
M24K	**Tolsona, Glenn**	**28.30**	**54**	P	**P**	**10 39 10.7**	**+0.2**
	baz=282						
F26K	**Sheenjek River**	**28.44**	**42**	P	**P**	**10 39 11.9**	**+0.3**
	baz=274						
PAX	**Paxson**	**28.46**	**52**	P	**P**	**10 39 11.9**	**+0.1**
	baz=281						
KLU	**Klutina**	**28.55**	**55**	P	**P**	**10 39 12.7**	**-0.1**
	baz=284						
G26K	**Porcupine Rive**	**28.63**	**44**	P	**P**	**10 39 13.5**	**+0.3**
	baz=275						
HARP	**HAARP**	**28.71**	**53**	P	**P**	**10 39 14.5**	**+0.4**
	baz=282						
EYAK	**Cordova Ski Ar**	**28.86**	**57**	P	**P**	**10 39 15.3**	**0.0**
	baz=285						
Q23K	**Middleton Isla**	**28.88**	**60**	P	**P**	**10 39 15.1**	**-0.3**
	baz=287						
SCRK	**Sand Creek**	**28.93**	**50**	P	**P**	**10 39 15.5**	**-0.5**
	baz=280,SNR=5.5						
J26L	**Joseph Creek**	**29.02**	**49**	P	**P**	**10 39 15.9**	**-1.0**
	baz=280						
I26K	**Coal Creek Min**	**29.07**	**47**	P	**P**	**10 39 17.1**	**0.0**
	baz=279						
N25K	**Chitina, Valde**	**29.14**	**55**	P	**P**	**10 39 17.9**	**-0.1**
	baz=284						
BMRM	**Bremner River**	**29.30**	**56**	P	**P**	**10 39 19.4**	**+0.2**
	baz=285						
E27K	**Coleen River**	**29.37**	**41**	P	**P**	**10 39 20.1**	**+0.4**
	baz=275						
L26K	**Log Cabin Wild**	**29.39**	**52**	P	**P**	**10 39 20.4**	**+0.4**
	baz=283						
G27K	**Doyon Strip**	**29.48**	**44**	P	**P**	**10 39 21.2**	**+0.4**
	baz=277						
H27K	**Steamboat Moun**	**29.61**	**45**	P	**P**	**10 39 22.7**	**+0.8**
	baz=278						
I27K	**Kandik River**	**29.66**	**46**	P	**P**	**10 39 23.1**	**+0.7**
	baz=279						
M26K	**Nabesna, AK**	**29.69**	**53**	P	**P**	**10 39 23.6**	**+0.9**
	baz=284						
K27K	**Chicken**	**29.75**	**49**	P	**P**	**10 39 23.3**	**+0.2**
	baz=282						
L27K	**Beaver Creek,**	**30.06**	**51**	P	**P**	**10 39 26.8**	**+0.9**
	baz=284						
M27K	**Edge Creek, AK**	**30.21**	**53**	P	**P**	**10 39 28.6**	**+1.3**
	baz=285						
I28M	**Miner Creek**	**30.38**	**46**	P	**P**	**10 39 29.7**	**+0.9**
	baz=281						
E29M	**Blow River**	**30.72**	**40**	P	**P**	**10 39 32.5**	**+1.0**
	baz=278						
H29M	**Whitestone**	**30.87**	**45**	P	**P**	**10 39 33.5**	**+0.6**
	baz=281						
G29M	**Pine Creek**	**30.89**	**43**	P	**P**	**10 39 34.3**	**+1.2**
	baz=280						
DAWY	**Dawson**	**30.89**	**49**	P	**P**	**10 39 33.8**	**+0.6**
	baz=284						
I29M	**Ogilvie Camp,**	**31.07**	**46**	P	**P**	**10 39 35.0**	**+0.4**
	baz=282						
EPYK	**Eagle Plains**	**31.50**	**44**	P	**P**	**10 39 38.7**	**+0.3**
	baz=282						
G30M	**tAoh Zraii Nji**	**31.57**	**43**	P	**P**	**10 39 39.4**	**+0.4**
	baz=281						
F30M	**Barrier River**	**31.62**	**41**	P	**P**	**10 39 40.2**	**+0.8**
	baz=281						
L29M	**L29M**	**31.68**	**50**	P	**P**	**10 39 41.

baz=299
YKA Yellowknife Ar 41.78 44 P P 10 41 05.1 +0.6
comp=Z,1.0nm,0.7s,baz=216,slow=2.5,SNR=5.3
comp=Z,1.0nm,0.7s
SPITS Spitsbergen Ar 44.65 350 P P 10 41 26.4 -0.6
comp=Z,0.6nm,0.3s,baz=47,slow=7.3,SNR=7.3
comp=Z,0.6nm,0.3s
KURK Kurchatov 46.02 299 P P 10 41 37.2 -0.8
KURK 10 43 08.0
KURBB Kurchatov Arra 46.12 299 P 10 41 37.2 -1.7
comp=Z,1.6nm,0.3s,baz=57,slow=7.9,SNR=5.0
KURBB PcP **PcP 10 43 08.0 -1.2**
comp=Z,0.7nm,0.6s,baz=38,slow=3.2,SNR=3.3
comp=Z,1.6nm,0.3s
MKAR Makanchi Array 46.64 293 P P 10 41 40.9 -2.1
comp=Z,0.4nm,0.3s,baz=55,slow=6.8,SNR=6.2
comp=Z,0.4nm,0.3s
BVAR Borovoye Array 48.47 306 P P 10 41 55.4 -1.5
comp=Z,1.2nm,0.5s,baz=69,slow=7.1,SNR=6.3
BVAR PcP **PcP 10 43 16.1 -1.5**
comp=Z,0.9nm,0.4s,baz=126,slow=5.2,SNR=4.4
comp=Z,1.2nm,0.5s
BRVK Borovoye 48.50 306 P P 10 41 55.7 -1.3
BRVK Borovoye 48.50 306 P P 10 41 55.7 -1.3
BRVK pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 49.21 61 P P 10 42 03.1 +0.6
baz=312
MSO Missoula 51.77 61 P P 10 42 22.5 +1.0
baz=314
EGMT Eagleton 52.97 57 P P 10 42 31.2 +0.9
baz=315
BOZ Bozeman (W) 53.77 60 P P 10 42 36.9 +0.6
baz=316
HLID Hailey 53.82 64 P P 10 42 37.6 +1.0
baz=316
RLMT Red Lodge 55.28 59 P P 10 42 48.6 +1.6
baz=317
NVAR Mina Array Bea 55.46 71 P P 10 42 49.7 +1.2
comp=Z,0.6nm,0.6s,baz=302,slow=7.3,SNR=8.1
comp=Z,0.6nm,0.6s
LAO LASA Array 55.61 56 P P 10 42 50.8 +1.6
baz=317
SMMC Simmler 56.83 75 P P 10 42 59.8 +1.9
baz=318
BW06 Boulder Array 56.85 62 P P 10 42 60.0 +1.8
BW06 IAmb IAmb 10 43 00.1
comp=Z,2.9nm,0.6s
BW06 Boulder Array 56.85 62 P P 10 42 59.4 +1.3
baz=318
PDAR Pinedale Array 56.85 62 P P 10 42 59.8 +1.7
PDAR Pinedale Array 56.85 62 P P 10 42 59.6 +1.5
comp=Z,1.6nm,0.4s,baz=342,slow=2.1,SNR=30
comp=Z,1.6nm,0.4s
VES Vestal, Richgr 56.94 74 P P 10 42 59.9 +1.3
baz=318
R11B Troy Canyon, C 56.98 69 P P 10 43 00.8 +1.7
baz=318
CWC Cottonwood Cre 57.04 72 P P 10 43 01.2 +1.7
baz=318
DUG Dugway, Tooele 57.08 66 P P 10 43 01.0 +1.3
baz=318
SPR3 Spring Creek 3 57.16 68 P P 10 43 03.3 +2.8
TPNV Topopah Spring 57.66 71 P P 10 43 05.2 +1.4
baz=318
FINES FINESS Array B 57.68 335 P P 10 43 01.6 -1.7
comp=Z,3.3nm,0.8s,baz=33,slow=7.3,SNR=5.4
comp=Z,3.3nm,0.8s
FURC Furnace Creek, 57.68 72 P P 10 43 05.7 +2.0
baz=318
EDW2 Edwards Air Fo 58.25 74 P P 10 43 09.5 +1.7
baz=319
K22A Casper 58.44 60 P P 10 43 10.6 +1.6
baz=319
RSSD Black Hills 58.54 57 P P 10 43 11.4 +1.6
baz=319
BFSC Mount Baldy Ra 58.91 74 P P 10 43 13.9 +1.5
baz=319
FMP Fort Macarthur 58.96 75 P P 10 43 14.6 +2.0
baz=319
O20A White River Ci 59.46 63 P P 10 43 17.3 +1.2
baz=319
GMRC Granite Mounta 59.59 72 P P 10 43 17.9 +0.9
baz=319
BELC Belle Mtn. Jos 59.99 73 P P 10 43 20.6 +0.8
baz=320
N23A Red Feather La 60.04 61 P P 10 43 20.6 +0.5
baz=320
TPFO Pinon Flats 60.05 73 P P 10 43 20.9 +0.8
baz=320
ISCO Idaho Springs 61.04 61 P P 10 43 27.2 +0.4
baz=320
EYMN Ely 61.19 46 P P 10 43 27.2 -0.2
baz=323
S22A 4UR Ranch, Cre 61.99 64 P P 10 43 33.6 +0.4
baz=320
ECSD EROS Data Cent 62.29 53 P P 10 43 34.7 0.0
baz=322
SDCO Great Sand Dun 62.66 63 P P 10 43 38.0 +0.4
baz=321
ANMO Albuquerque 64.34 65 P P 10 43 48.8 +0.3
baz=321
121A Cookes Peak, D 65.52 68 P P 10 43 56.7 +0.7
baz=322
MSTX Muleshoe 66.99 63 P P 10 44 06.1 +0.9
baz=323
L44A Lake County Fo 67.34 48 P P 10 44 08.1 +1.0
baz=326
MNTX Cornudas Mount 67.44 67 P P 10 44 09.1 +1.2
baz=323
WMOK Wichita Mounta 68.38 60 P P 10 44 14.2 +0.5
baz=324
TXAR Lajitas Array 70.21 67 P P 10 44 26.2 +1.2
comp=Z,0.8nm,0.5s,baz=292,slow=5.4,SNR=16
comp=Z,0.8nm,0.5s
SSPA Standing Stone 72.67 42 P P 10 44 40.6 +1.3
baz=330
VBMS Vicksburg 74.41 56 P P 10 44 50.4 +0.9
baz=327
WRA Warramunga Arr 78.06 204 P P 10 45 10.2 +0.3
comp=Z,1.0nm,0.6s,baz=18,slow=6.0,SNR=12
comp=Z,1.0nm,0.6s
ASAR Alice Springs 81.75 203 P P 10 45 30.1 +0.6
comp=Z,0.6nm,0.4s,baz=16,slow=4.9,SNR=9.3
comp=Z,0.6nm,0.4s
ESDC Sonseca Array 84.09 347 P P 10 45 41.6 +0.2
comp=Z,0.7nm,0.7s,baz=356,slow=5.5,SNR=6.1
comp=Z,0.7nm,0.7s
QSPA South Pole Qui 145.26 180 PKPbc PKPdf 10 52 45.1 +0.5
comp=Z,2.7nm,0.6s,baz=332,slow=0.6,SNR=20

*IDC **04** 10:33:43.9±0.8, 9.°08N×126.°94E, h0km, mb3.9/10, mbtmp4.0/11, ML4.3/1, MS2.9/14, Error ellipse: s-maj=41.8km s-min=15.8km az=78.0*
*NEIC **04** 10:33:44.8±1.2, 9.°36N±0.°04×126.°8E±0.°1, h10km±1km, mb4.3/19, Error ellipse: s-maj=21.1km s-min=6.4km az=76.0*
ISC 04 10:33:46.1±0.6, **9.°15N**±0.°07×**126.°8E**±0.°1, **h10**km, **n50,**
σ**1**^{s}**46/29, mb4.1**/19, **MS2.8**/9, **1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.38**	**210**	P		Pn 10 34 20.0	-5.3
DAV				⇑*i*S		**Sn 10 34 59.0**	**+4.4**
DAV	**Davao City (W)**	**2.38**	**210**	Pn		**Pn 10 34 26.6**	**+1.3**
	76nm,0.3s,baz=130,slow=7.9,SNR=2.5						
DAV				Sn		**Sn 10 34 52.5**	**-2.1**
	145nm,0.3s,baz=121,slow=23,SNR=11						
DAV				LR		LR 10 35 35.1	
	comp=Z,901nm,18.7s,baz=1.5,slow=46						
	156nm,0.3s						
TOLI2	**Tolitoli**	**9.97**	**217**	Pn		**Pn 10 36 09.4**	**-0.1**
SIJI	**Sorong**	**10.92**	**156**	Pn		**Pn 10 36 25.4**	**+2.9**
	2.1nm,0.3s,baz=333,slow=24,SNR=6.2						
FAKI	**Fak Fak**	**13.18**	**155**	Pn		**Pn 10 36 53.8**	**+0.3**
TPUB	**Ta-pu**	**15.25**	**338**	Pn		Pn 10 37 15.9	-5.7
TPUB				IAmb		IAmb 10 37 35.0	
	comp=Z,26nm,1.1s						
KAPI	**Kappang**	**15.72**	**207**	LR		LR 10 44 18.8	
	comp=Z,32nm,19.4s,baz=28,slow=40						
SBUM	**Sibu**	**15.93**	**246**	Pn		**Pn 10 37 29.2**	**-1.3**
JOW	**Kunigami**	**17.64**	**4**	LR		LR 10 44 23.3	
	comp=Z,47nm,18.7s,baz=120,slow=36						
GUMO	**Guam**	**18.28**	**74**	LR		LR 10 43 46.9	
	comp=Z,42nm,19.9s,baz=226,slow=33						
SOEI	**Soe**	**18.95**	**188**	P		**P 10 38 04.6**	**-3.1**
SOEI				IAmb		IAmb 10 38 17.5	
	comp=Z,14nm,0.8s						
BATI	**Baumata**	**19.48**	**189**	LR		LR 10 46 08.2	
	comp=Z,66nm,18.8s,baz=226,slow=38						
MTN	**Manton Dam**	**22.28**	**169**	P		**P 10 38 43.7**	**0.0**
MTN				IAmb		IAmb 10 39 06.5	
	comp=Z,15nm,1.1s						
JCJ	**Chichijima**	**23.04**	**37**	LR		LR 10 46 31.4	
	comp=Z,18nm,21.4s,baz=276,slow=33						
JNU	**Nakatsue**	**24.15**	**8**	LR		LR 10 47 30.0	
	comp=Z,20nm,21.4s,baz=189,slow=34						
KNRA	**Kununurra**	**24.75**	**175**	P		**P 10 39 07.6**	**-0.4**
PMG	**Port Moresby**	**27.42**	**132**	P		**P 10 39 31.4**	**-0.8**
COEN	**Coen**	**28.14**	**144**	P		**P 10 39 37.7**	**-1.0**
COEN				IAmb		IAmb 10 39 41.0	
	comp=Z,7.2nm,1.0s						
KSRS	**Korea Array**	**28.19**	**2**	LR		LR 10 52 46.6	
	comp=Z,23nm,18.8s,baz=305,slow=40						
CMAR	**Chiang Mai Arr**	**28.53**	**292**	LR		LR 10 49 47.7	
	comp=Z,12nm,21.5s,baz=175,slow=34						
MJAR	**Matsushiro Arr**	**29.18**	**19**	LR		LR 10 52 44.1	
	comp=Z,24nm,18.0s,baz=184,slow=39						
WB0	**Warramunga Arr**	**29.70**	**165**	P		P 10 39 50.8	-1.7
WB0				IAmb		IAmb 10 39 56.0	
	comp=Z,3.7nm,1.1s						
WRAB	**Tennant Creek**	**29.85**	**166**	P		**P 10 39 52.5**	**-1.3**
WRAB				IAmb		IAmb 10 40 19.8	
	comp=Z,2.3nm,0.8s						
WRA	**Warramunga Arr**	**29.86**	**166**	P		**P 10 39 54.0**	**+0.2**
WRA	**Warramunga Arr**	**29.86**	**166**	P		P 10 39 51.8	-2.1
	comp=Z,0.6nm,0.8s,baz=342,slow=8.0,SNR=12						
	comp=Z,0.6nm,0.8s						
WB2	**Warramunga Arr**	**29.86**	**166**	P		**P 10 39 53.7**	**-0.2**
WB2				IAmb		IAmb 10 40 21.5	
	comp=Z,3.2nm,0.9s						
WR0	**Warramunga Arr**	**29.92**	**165**	P		**P 10 39 54.5**	**+0.1**
WR0				IAmb		IAmb 10 40 02.9	
	comp=Z,2.7nm,0.9s						
PSA00	**Pilbara Seismi**	**31.28**	**192**	P		**P 10 40 06.5**	**+0.1**
AS31	**Alice Springs**	**33.35**	**168**	P		**P 10 40 23.9**	**-0.7**
ASAR	**Alice Springs**	**33.35**	**168**	P		**P 10 40 25.2**	**+0.5**
ASAR	**Alice Springs**	**33.35**	**168**	P		P 10 40 22.7	-2.0
	comp=Z,0.6nm,0.3s,baz=353,slow=6.9,SNR=20						
	comp=Z,0.6nm,0.3s						
USRK	**Ussuriysk Ar.**	**35.21**	**7**	P		**P 10 40 40.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=204,slow=7.3,SNR=1.5						
	comp=Z,0.7nm,0.6s						
ASAJ	**Asahikawa**	**37.45**	**19**	LR		LR 10 57 36.2	
	comp=Z,24nm,19.0s,baz=194,slow=38						
MORW	**Morawa**	**39.38**	**195**	P		**P 10 41 14.7**	**-1.4**
MORW				IAmb		IAmb 10 41 22.3	
	comp=Z,6.6nm,0.9s						
FORT	**Forrest**	**39.72**	**178**	P		**P 10 41 18.9**	**+0.1**
KLR	**Kul'dur**	**40.16**	**5**	LR		LR 10 59 13.9	
	comp=Z,10nm,18.1s,baz=196,slow=38						
HIA	**Hailar**	**40.41**	**353**	P		P 10 41 21.2	-3.2
HIA				IAmb		IAmb 10 41 46.4	
	comp=Z,5.5nm,0.8s						
BBOO	**Buckleboo**	**42.66**	**168**	P		**P 10 41 42.3**	**-0.7**
BBOO				IAmb		IAmb 10 41 58.2	
	comp=Z,13nm,1.1s						
STKA	**Stephens Creek**	**43.19**	**161**	P		P 10 41 45.7	-1.6
STKA	**Stephens Creek**	**43.19**	**161**	P		P 10 41 45.8	-1.6
	comp=Z,1.3nm,0.6s,baz=338,slow=11,SNR=4.5						
	comp=Z,1.3nm,0.6s						
MKAR	**Makanchi Array**	**53.21**	**323**	P		P 10 43 01.8	-2.9
MKAR	**Makanchi Array**	**53.21**	**323**	P		P 10 43 03.2	-1.5
	comp=Z,1.4nm,0.7s,baz=121,slow=8.0,SNR=3.3						
	comp=Z,1.4nm,0.7s						
MA2	**Magadan**	**53.48**	**15**	LR		LR 11 06 59.4	
	comp=Z,8.5nm,18.9s,baz=87,slow=37						
AAK	**Ala-Archa**	**56.47**	**316**	LR		LR 11 10 16.3	
	comp=Z,22nm,19.0s,baz=246,slow=39						
KURBB	**Kurchatov Arra**	**57.27**	**326**	P		**P 10 43 34.3**	**+0.4**
	comp=Z,1.1nm,0.2s,baz=128,slow=6.5,SNR=5.9						
	comp=Z,1.1nm,0.2s						
BVAR	**Borovoye Array**	**62.86**	**326**	P		**P 10 44 12.7**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=131,slow=5.9,SNR=1.4						
	comp=Z,0.3nm,0.4s						
NRIK	**Noril'sk**	**65.21**	**346**	P		**P 10 44 28.2**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=133,slow=3.7,SNR=1.9						
	comp=Z,0.8nm,0.3s						
ILAR	**Eielson Array**	**80.22**	**26**	P		**P 10 45 56.9**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=256,slow=5.2,SNR=3.1						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**87.10**	**332**	P		**P 10 46 32.6**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=64,slow=3.2,SNR=7.4						
	comp=Z,1.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**121.14**	**291**	PKP		**PKPdf 10 52 39.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=0.0,slow=2.0,SNR=1.6						

*SJA **04** 10:46:02.2±0.6, 21.°25S×68.°90W, h115km±3km, ML3.7, MW3.7*
*GUC **04** 10:46:03.7±0.7, 21.°27S×68.°83W, h105km±3km, ML3.7*
ISC 04 10:46:04.1±1.4, **21.°26S**±0.°03×**68.°95W**±0.°05,
h108km±10km, **n35,** σ0^{s}**84/64, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.55**	**293**	*e*P		**Pn 10 46 20.5**	**-0.8**
PB01				*i* S		**Sn 10 46 33.8**	**-0.3**
PB01				IAML		10 46 35.3	
	comp=E,3μm,0.2s						
PB01	**IPOC Station P**	**0.55**	**293**	*e*P		**Pn 10 46 20.4**	**-0.8**
PB01				*e*S		**Sn 10 46 34.6**	**+0.6**
PB01				IAML		10 46 35.1	
	comp=Z,2μm,0.2s						
PB09	**IPOC Station P**	**0.60**	**207**	*e*P		**Pn 10 46 21.0**	**-0.7**
PB09				*i* S		**Sn 10 46 35.0**	**0.0**
PB09				IAML		10 46 36.0	
	comp=N,2μm,0.4s						
PB09	**IPOC Station P**	**0.60**	**207**	*e*P		**Pn 10 46 21.1**	**-0.7**
PB09				*e*S		**Sn 10 46 35.6**	**+0.6**
PB09				IAML		10 46 35.8	
	comp=Z,1μm,0.5s						
PB02	**IPOC Station P**	**0.89**	**266**	*e*P		**Pn 10 46 24.0**	**-0.1**
PB02				*i* S		**Sn 10 46 39.7**	**+0.5**
PB02				IAML		10 46 43.7	
	comp=E,3μm,0.4s						
PB02	**IPOC Station P**	**0.89**	**266**	*e*P		**Pn 10 46 24.0**	**-0.1**
PB02				*e*S		**Sn 10 46 41.0**	**+1.8**
PB02				IAML		10 46 42.3	
	comp=Z,2μm,0.2s						
PB07	**IPOC Station P**	**0.99**	**242**	*e*P		**Pn 10 46 25.0**	**-0.2**
PB07				*i* S		**Sn 10 46 41.4**	**+0.2**
PB07				IAML		10 46 43.4	
	comp=N,1μm,0.4s						
PB07	**IPOC Station P**	**0.99**	**242**	*e*P		**Pn 10 46 24.9**	**-0.4**
PB07				*e*S		**Sn 10 46 43.2**	**+2.0**
PB07				IAML		10 46 45.1	
	comp=Z,685nm,0.3s						
PB08	**IPOC Station P**	**1.13**	**350**	*e*P		**Pn 10 46 26.6**	**-0.4**
PB08				*i* S		**Sn 10 46 44.0**	**-0.2**
PB08				IAML		10 46 45.8	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	**1.13**	**350**	*e*P		**Pn 10 46 26.6**	**-0.4**
PB08				IAML		10 46 45.7	
	comp=Z,857nm,0.4s						
PATCX	**Punta Patache**	**1.21**	**291**	*e*P		**Pn 10 46 27.7**	**+0.2**
PATCX				*i* S		**Sn 10 46 46.1**	**+0.9**
PATCX				IAML		10 46 48.1	
	comp=N,2μm,0.2s						
PATCX	**Punta Patache**	**1.21**	**291**	*e*P		**Pn 10 46 27.2**	**-0.3**
PATCX				*e*S		**Pn 10 46 27.7**	**+0.2**
HMBC	**Humberstone**	**1.31**	**318**	*e*P		**Pn 10 46 28.3**	**-0.5**
HMBC				*i* S		**Sn 10 46 47.6**	**+0.3**
HMBC	**Humberstone**	**1.31**	**318**	*e*P		**Pn 10 46 28.3**	**-0.5**
HMBC				*e*S		**Sn 10 46 47.7**	**+0.3**
TA01	**Diego Aracena**	**1.34**	**301**	*e*P		**Pn 10 46 28.5**	**-0.5**
TA01				*i* S		**Sn 10 46 48.2**	**+0.5**
TA01				IAML		10 46 49.4	
	comp=E,2μm,0.2s						
TA01	**Diego Aracena**	**1.34**	**301**	*e*P		**Pn 10 46 28.8**	**-0.2**
TA01				*e*S		**Sn 10 46 48.7**	**+1.0**
TA01				IAML		10 46 52.6	
	comp=Z,402nm,0.5s						
LVC	**Limon Verde**	**1.35**	**178**	*e*P		**Pn 10 46 28.8**	**-0.6**
LVC				*i* S		**Sn 10 46 48.0**	**-0.6**
LVC	**Limon Verde**	**1.35**	**178**	*e*P		**Pn 10 46 28.9**	**-0.5**
LVC				*e*S		**Sn 10 46 48.9**	**+0.4**
TA02	**Huaiquique**	**1.48**	**311**	*e*P		**Pn 10 46 30.2**	**-0.3**
TA02				*i* S		**Sn 10 46 50.8**	**+0.1**
TA02	**Huaiquique**	**1.48**	**311**	*e*P		**Pn 10 46 30.4**	**-0.1**
TA02				IAML		10 46 54.3	
	comp=Z,836nm,0.1s						
PB04	**IPOC Station P**	**1.55**	**226**	*e*P		**Pn 10 46 31.1**	**-0.5**
PB04				*i* S		**Sn 10 46 52.1**	**-0.3**
PB04				IAML		10 46 56.8	
	comp=E,569nm,0.5s						
PB04	**IPOC Station P**	**1.55**	**226**	*e*P		**Pn 10 46 31.0**	**-0.5**
PB04				*e*S		**Sn 10 46 52.8**	**+0.4**
PB04				IAML		10 47 02.6	
	comp=Z,397nm,0.5s						
PB06	**IPOC Station P**	**1.55**	**202**	*e*P		**Pn 10 46 31.3**	**-0.3**
PB06				*i* S		**Sn 10 46 52.7**	**+0.2**
PB06				IAML		10 46 53.9	
	comp=E,1μm,0.3s						
PB06	**IPOC Station P**	**1.55**	**202**	*e*P		**Pn 10 46 31.3**	**-0.3**
PB06				*e*S		**Sn 10 46 53.0**	**+0.5**
PB06				IAML		10 46 54.1	
	comp=Z,525nm,0.3s						
GO01	**Chusmiza**	**1.60**	**352**	*e*P		**Pn 10 46 31.9**	**-0.6**
GO01				*i* S		**Sn 10 46 53.9**	**-0.1**
GO01	**Chusmiza**	**1.60**	**352**	*e*P		**Pn 10 46 32.1**	**-0.4**
PB15	**IPOC Station P**	**2.00**	**194**	*e*P		**Pn 10 46 36.9**	**-0.4**
PB15				*i* S		**Sn 10 47 02.8**	**+0.2**
PB15	**IPOC Station P**	**2.00**	**194**	*e*P		**Pn 10 46 36.8**	**-0.4**
PB15				*e*S		**Sn 10 47 03.0**	**+0.5**
PB15				IAML		10 47 05.8	
	comp=Z,714nm,0.2s						
PB12	**IPOC Station P**	**2.93**	**333**	*e*P		**Pn 10 46 47.6**	**-1.7**
PB12				*i* S		**Sn 10 47 21.6**	**-2.4**
PB12	**IPOC Station P**	**2.93**	**333**	*e*P		**Pn 10 46 47.6**	**-1.7**
PB12				*e*S		**Sn 10 47 23.3**	**-0.8**
PB12				IAML		10 47 28.3	
	comp=Z,156nm,0.5s						
PB16	**IPOC Station P**	**2.95**	**350**	*e*P		**Pn 10 46 50.0**	**-0.1**
PB16				*i* S		**Sn 10 47 25.8**	**+0.5**
PB16	**IPOC Station P**	**2.95**	**350**	*e*P		**Pn 10 46 50.0**	**-0.1**
PB16				*e*S		**Sn 10 47 28.6**	**+3.3**
YJA	**Yavi**	**3.32**	**107**	*e*P		**Pn 10 46 54.2**	**-0.6**
HJA	**Humahuaca**	**3.81**	**121**	*e*P		**Pn 10 47 01.7**	**+0.4**
LPAZ	**La Paz**	**5.00**	**9**	*e*P		**Pn 10 47 18.5**	**+0.9**

*SOME **04** 10:50:16.3, 43.°65N×69.°82E*
*NNC **04** 10:50:17.5±1.9, 43.°73N×69.°92E, h4km±11km, mb3.6, mpv3.1, Error ellipse: s-maj=12.0km s-min=5.7km az=135.0, Suspected Mining explosion.*
*KRNET **04** 10:50:17.3±0.1, 43.°77N×70.°12E, mb2.9*
ISC 04 10:50:16.4±2.2, **43.°80N**±0.°08×**69.°98E**±0.°09, **h0**km, **n20,**
σ**1**^{s}**42/28, 16C-4D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.79**	**151**	⇑P		**Pg 10 50 31.6**	**+0.1**
	3.2nm,0.4s,baz=322,slow=17,SNR=85						
KK31				⇑S		**Sg 10 50 43.2**	**+1.4**
	119nm,1.0s,baz=330,slow=34,SNR=92						
KKAR	**Karatay Array**	**0.79**	**151**	⇑*i*P		**Pg 10 50 31.4**	**-0.1**
	baz=57						
KKAR				⇑*i*S		**Sg 10 50 41.6**	**-0.2**
	baz=57						
IUG	**Iuzhnay**	**1.65**	**179**	P		**Pn 10 50 45.7**	**-1.0**
	28nm,0.2s						
IUG				S		**Sn 10 51 06.8**	**-1.8**
	43nm,0.6s						
MNAS	**Manas**	**2.26**	**124**	⇑*i*P		**Pb 10 50 56.3**	**-1.9**
	baz=25						
MNAS				⇑*i*S		**Sb 10 51 25.8**	**-1.0**
	baz=25						
TRKS	**Terek-Say**	**2.42**	**159**	⇑*i*P		**Pb 10 51 00.6**	**-0.3**
	baz=61						
TRKS				⇑*i*S		**Sb 10 51 31.8**	**+0.5**
	baz=61						
ARK	**Arkit**	**2.47**	**143**	⇑*i*P		**Pb 10 51 00.5**	**-1.2**
	baz=45						
ARK				⇑*i*S		**Sb 10 51 31.1**	**-1.7**
	baz=45						
MRKS	**Merke**	**2.59**	**113**	Pg		**Pg 10 51 06.6**	**+0.6**
	6.9nm,0.8s						
MRKS				Lg		Lg 10 51 43.6	
	10nm,0.4s						
BTLS	**Baital**	**3.17**	**65**	Pg		Pg 10 51 21.4	+4.3
	17nm,0.4s						
BTLS				Lg		Lg 10 52 08.9	
	2.1nm,0.4s						
AML	**Almayashu**	**3.19**	**120**	⇓Pg		**Pg 10 51 16.2**	**-1.3**
	0.3nm,0.5s						
AML				⇓Lg		Lg 10 52 01.5	
	1.5nm,0.8s						
ARLS	**Aral**	**3.73**	**120**	⇑*i*P		**Pn 10 51 17.3**	**+1.9**
	baz=20						
ARLS				⇑*i*S		**Sn 10 52 00.4**	**+0.3**
	baz=20						
BTK	**Batken**	**3.79**	**170**	⇑*e*P		**Pn 10 51 18.9**	**+2.8**
	baz=72						
BTK				⇑*i*S		**Sn 10 52 03.1**	**+1.7**
	baz=72						
KRBS	**Karabastau**	**4.13**	**89**	Pg		**Pg 10 51 35.3**	**-0.1**
	4.2nm,1.0s						
KRBS				Lg		Lg 10 52 33.3	
	6.0nm,0.7s						
TKM2	**Tokmak 2**	**4.19**	**100**	⇓Pg		**Pg 10 51 34.1**	**-2.4**
	1.8nm,0.5s						
TKM2				⇓Lg		Lg 10 52 34.1	
	4.4nm,0.8s						
DGS	**Degeres**	**4.25**	**96**	Pg		**Pg 10 51 36.8**	**-0.9**
	4.5nm,0.7s						
DGS				Lg		Lg 10 52 35.4	
	9.7nm,0.6s						
BOOM	**Boomskoye usch**	**4.55**	**105**	⇑*i*P		**Pn 10 51 29.4**	**+2.8**
	baz=5.0						
BOOM				⇑*i*S		**Sn 10 52 21.0**	**+0.7**
	baz=5.0						
KUU	**Kurty**	**4.60**	**87**	Pg		**Pg 10 51 44.5**	**0.0**
	1.5nm,0.3s						
KUU				Lg		Lg 10 52 48.6	
	9.8nm,0.7s						
KTBS	**Karatobe**	**4.86**	**89**	Pg		**Pg 10 51 48.7**	**-0.6**
	5.6nm,0.6s						
KTBS				Lg		Lg 10 52 55.8	
	6.0nm,0.9s						
IZV	**Izvestkoviy**	**4.89**	**97**	Pg		**Pg 10 51 49.8**	**-0.2**
	2.0nm,0.7s						
IZV				Lg		Lg 10 52 57.7	
	7.8nm,0.6s						
TNSS	**Tian-Shan**	**5.13**	**96**	Pg		**Pg 10 51 54.1**	**-0.6**
	2.2nm,0.6s						
TNSS				Lg		Lg 10 53 05.0	
	1.7nm,0.6s						
ARXS	**Arharly**	**5.67**	**83**	Pg		**Pg 10 52 03.6**	**-1.4**
	1.2nm,0.9s						
ARXS				Lg		Lg 10 53 21.4	
	4.2nm,0.8s						

*CRAAG **04** 10:53:31.2, 34.°98N×1.°55W, Ml2.9, Algerie 08km SE Fellaoucene*
*CNRM **04** 10:53:32.5, 34.°89N×1.°89W, h10km, ml2.4*
*MDD **04** 10:53:34.4±1.0, 35.°02N×1.°86W, h0km, mb_Lg2.1/6, Error ellipse: s-maj=9.5km s-min=4.3km az=6.0*
ISC 04 10:53:31.7±1.1, **34.°98N**±0.°02×**1.°84W**±0.°03, **h11**km±9km,
n29, σ**1**^{s}**42/47, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OBBL	**Beni Bahdel**	**0.39**	**134**	P		**Pg 10 53 39.5**	**+0.1**
OLHC	**Oulhaca**	**0.44**	**52**	P		**Pg 10 53 39.7**	**-0.6**
TAF	**Taforalt**	**0.50**	**251**	P		**Pg 10 53 41.3**	**-0.1**
TAF				S		**Sg 10 53 47.4**	**-0.7**
CHAS	**Isla Isabel II**	**0.52**	**293**	S		**Sb 10 53 50.5**	**0.0**
CHAS				P		**Pb 10 53 42.6**	**-0.2**
JBK	**JBK**	**0.88**	**223**	P		**Pg 10 53 48.9**	**+0.2**
JBK				S		**Sn 10 54 03.0**	**+0.1**
OTSS	**Djebel Tessala**	**0.91**	**70**	P		**Pn 10 53 51.0**	**+0.5**
WMELI	**Melilla**	**0.97**	**291**	S		**Sb 10 54 03.8**	**+0.5**

EBER				S	Sn	10 54 31.1	-1.9
EBER				*i* Vmb_Lg		10 54 35.2	
EBER	**Berja**	**2.09**	**336**	S	**Sn**	**10 54 29.0**	**-4.0**
EBER				P	**Pn**	**10 54 07.1**	**+0.2**
ELGU	**Los Guajares,**	**2.38**	**323**	P	**Pn**	**10 54 12.1**	**+1.5**
ELGU				S	**Sn**	**10 54 40.8**	**+1.1**
ELGU				*i* Vmb_Lg		10 54 46.2	
ELGU	**Los Guajares,**	**2.38**	**323**	S	**Sn**	**10 54 37.0**	**-2.8**
ELGU				P	**Pn**	**10 54 09.9**	**-0.7**
EQUE	**Quentar**	**2.57**	**330**	P	**Pn**	**10 54 15.3**	**+2.0**
EQUE				S	**Sn**	**10 54 47.0**	**+2.4**
EQUE				*i* Vmb_Lg		10 54 59.4	
EQTA	**Presa de Quent**	**2.57**	**330**	P	**Pn**	**10 54 13.5**	**+0.2**
EMIJ	**Mijas**	**2.86**	**304**	P	**Pn**	**10 54 16.5**	**-0.7**
FIGM	**Figuig**	**2.88**	**170**	P	**Pn**	**10 54 17.6**	**0.0**
FIGM				S	**Sn**	**10 54 51.8**	**-0.4**
EQES	**Quesada**	**2.99**	**341**	P	**Pn**	**10 54 21.5**	**+2.4**
EQES				S	**Sn**	**10 54 56.4**	**+1.5**
EQES				*i* Vmb_Lg		10 54 59.5	
MDT	**Midelt**	**3.16**	**228**	P	**Pn**	**10 54 21.8**	**+0.4**
MDT				S	**Sn**	**10 54 58.0**	**-1.0**
MD31	**MD31**	**3.21**	**230**	P	**Pn**	**10 54 22.1**	**0.0**
MD31				S	**Sn**	**10 54 59.9**	**-0.5**
EJIM	**Jimena Fronter**	**3.30**	**297**	P	**Pn**	**10 54 25.8**	**+2.5**
ETOB	**Tobarra**	**3.67**	**4**	P	**Pn**	**10 54 30.4**	**+2.1**
ETOB				S	**Sn**	**10 55 12.2**	**+0.6**
ETOB				*i* Vmb_Lg		10 55 17.2	
ETOB	**Tobarra**	**3.67**	**4**	S	**Sn**	**10 55 09.9**	**-1.6**
ETOB				P	**Pn**	**10 54 29.7**	**+1.4**
EADA	**Adamuz**	**3.87**	**326**	P	**Pn**	**10 54 29.9**	**-1.2**

ISC 04 10:58:57.7±1.3, 48°.44N±0°.05×17°.41E±0°.06, h11km±11km, n6, σ0°84/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MODS	**Modra-Piesok**	**0.11**	**232**	*e*PG	**Pg**	**10 59 00.1**	**-0.4**
MODS				*e*SG	**Sg**	**10 59 03.1**	**+0.5**
ZST	**Bratislava**	**0.32**	**220**	*e*PG	**Pb**	**10 59 05.2**	**-0.1**
JAVC	**Velka Javorina**	**0.46**	**23**	*e*PG	**Pg**	**10 59 05.5**	**-1.1**
JAVC				*e*SG	**Sg**	**10 59 13.6**	**+0.9**
KRUC	**Moravsky**	**0.91**	**313**	*e*PG	**Pg**	**10 59 15.3**	**0.0**
VYHS	**Vyhne**	**0.95**	**86**	*e*PG	**Pb**	**10 59 16.7**	**+0.5**
VRAC	**Vranov**	**1.02**	**329**	*e*PG	**Pb**	**10 59 17.4**	**0.0**

*IDC **04** 11:06:31.8±1.4, 4°.95S×130°.37E, h0km, mb4.1/5, mbtmp4.0/8, ML3.6/3, MS3.0/4, Error ellipse: s-maj=78.2km s-min=23.9km az=79.0*
*DJA **04** 11:06:35.9±0.6, 5°.S±3°.×13°.0E±°., h11km±4km, M4.2/12, mb4.5/3, mB5.6/1, MLv4.0/12, Mw(mB)5.1/1*
ISC 04 11:06:31.9±0.7, 4°.95S±0°.05×130°.44E±0°.06, h10km, n20, σ2°78/21, mb4.1/5, MS3.3/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.68**	**309**	P	**Pn**	**11 06 46.2**	**-1.4**
BNDI				S	**Sb**	**11 06 54.0**	**-1.4**
FAKI	**Fak Fak**	**2.71**	**42**	P	**Pb**	**11 07 18.8**	**-1.7**
SAUI	**Saumlaki**	**3.13**	**164**	P	**Pb**	**11 07 29.5**	**+1.8**
NLAI	**Namlea**	**3.74**	**297**	P	**Pn**	**11 07 31.3**	**+1.6**
SIJI	**Sorong**	**4.14**	**12**	Pn	**Pn**	**11 07 36.3**	**+1.1**
	4.7nm,0.3s,baz=178,slow=23,SNR=17						
SIJI				Sn	**Sn**	**11 08 21.2**	**-2.5**
	9.8nm,0.3s,baz=297,slow=22,SNR=11						
SIJI				LR	LR	11 09 55.1	
	comp=Z,43nm,18.2s,baz=128,slow=49						
	9.3nm,0.3s						
SWI	**Sorong**	**4.14**	**11**	P	**Pn**	**11 07 36.7**	**+1.4**
RKPI	**Ransiki, Papua**	**5.06**	**48**	P	**Pn**	**11 07 50.1**	**+2.2**
	67nm,0.5s,6μm0.7nm						
LBMI	**Labuha**	**5.19**	**326**	P	**Pn**	**11 07 51.1**	**+1.4**
SANI	**Sanana**	**5.30**	**303**	P	**Pn**	**11 07 52.5**	**+1.4**
	27nm,0.6s,0.1nm						
WRA	**Warramunga Arr**	**15.38**	**166**	Pn	**Pn**	**11 10 09.2**	**+0.1**
	0.2nm,0.3s,baz=348,slow=13,SNR=8.7						
WRA				Sn	**Sn**	**11 12 54.1**	**-5.5**
	0.2nm,0.3s,baz=332,slow=22,SNR=6.7						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**18.90**	**170**	P	**Pn**	**11 10 55.0**	**+1.6**
	0.3nm,0.3s,baz=344,slow=9.2,SNR=29						
ASAR				S	**Sn**	**11 14 17.1**	**-8.1**
	0.3nm,0.6s,baz=317,slow=16,SNR=2.5						
	1.2nm,0.6s						
JCJ	**Chichijima**	**33.82**	**19**	LR	LR	11 26 10.9	
	comp=Z,15nm,20.8s,baz=300,slow=35						
RPZ	**Rata Peaks**	**52.59**	**144**	LR	LR	11 37 47.5	
	comp=Z,42nm,18.0s,baz=274,slow=36						
SONM	**Songino Array**	**56.66**	**341**	P	**P**	**11 16 17.2**	**+1.8**
	0.4nm,0.6s,baz=177,slow=5.5,SNR=2.5						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**66.77**	**326**	P	**P**	**11 17 24.7**	**+1.1**
	1.2nm,0.5s,baz=122,slow=8.3,SNR=12						
	1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**69.96**	**333**	P	**P**	**11 17 44.6**	**+1.3**
	0.7nm,0.4s,baz=228,slow=43,SNR=3.2						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**71.01**	**328**	P	**P**	**11 17 51.6**	**+1.8**
	1.9nm,0.2s,baz=132,slow=5.2,SNR=9.9						
	1.9nm,0.2s						
BVAR	**Borovoye Array**	**76.58**	**327**	P	**P**	**11 18 22.9**	**+0.5**
	1.3nm,0.9s,baz=162,slow=5.6,SNR=3.7						
	1.3nm,0.9s						
KBZ	**Khabaz**	**91.61**	**314**	LR	LR	12 07 23.3	
	comp=Z,11nm,18.4s,baz=300,slow=40						
TORD	**Torodi Ar. Bea**	**128.81**	**283**	PKP	**PKiKP**	**11 25 42.0**	**+0.6**
	0.7nm,1.1s,baz=132,slow=2.1,SNR=1.8						

*EAF **04** 11:13:05.1, 25°.75S×29°.45E, h10km, MC3.3*
*BUL **04** 11:13:05.8±0.7, 25°.73S×29°.39E, h10km, MD3.3*
ISC 04 11:13:03.7±1.4, 25°.76S±0°.07×29°.43E±0°.07, h10km, n8, σ1°10/16, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.86**	**39**	*i* P	**Pn**	**11 13 49.8**	**+0.4**
MOPA				*i* S	**Sn**	**11 14 22.9**	**-1.0**
MOPA	**Mopani**	**2.86**	**39**	*i* P	**Pn**	**11 13 49.8**	**+0.4**
	baz=39						
MOPA				*i* S	**Sn**	**11 14 22.9**	**-1.0**
	baz=39						
MUSN	**Musina, Limpop**	**3.48**	**7**	*i* P	**Pn**	**11 13 59.0**	**+1.0**
MUSN				*i* S	**Sn**	**11 14 38.7**	**-0.5**
MUSN	**Musina, Limpop**	**3.48**	**7**	*i* P	**Pn**	**11 13 59.0**	**+1.0**
	baz=6.0						
MUSN				*i* S	**Sn**	**11 14 38.7**	**-0.5**
	baz=6.0						
LBTB	**Lobatse**	**3.55**	**281**	*i* P	**Pn**	**11 13 59.6**	**+0.7**
LBTB				*i* S	**Sn**	**11 14 39.9**	**-1.1**
LBTB	**Lobatse**	**3.55**	**281**	*i* P	**Pn**	**11 13 59.6**	**+0.7**
	baz=281						
LBTB				*i* S	**Sn**	**11 14 39.9**	**-1.1**
	baz=281						
BOSA	**Boshof**	**4.68**	**232**	*i* P	**Pn**	**11 14 15.8**	**+1.3**
BOSA				*i* S	**Sn**	**11 15 07.6**	**-1.4**
BOSA	**Boshof**	**4.68**	**232**	*i* P	**Pn**	**11 14 15.8**	**+1.3**
	baz=232						
BOSA				*i* S	**Sn**	**11 15 07.6**	**-1.4**
	baz=232						

LJU 04 11:20:10.6, 46°.32N×14°.15E, h0km, ML0.4, Suspected explosion, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GORS	**Gorjuse**	**0.10**	**269**	*i* Pg	Pg	11 20 12.5	-0.1
GORS				IAML		11 20 16.4	
	comp=Z,10nm,0.2s						
MOZS	**Mozjanca**	**0.21**	**97**	*i* Pg	Pg	11 20 14.3	-0.3
MOZS				*i* Sg	Sg	11 20 18.3	+1.0
CRNS	**Crni Vrh**	**0.25**	**161**	*i* Pg	Pg	11 20 14.7	-0.7
CRNS				*i* Sg	Sg	11 20 19.6	+0.9
CRNS				IAML		11 20 20.3	
	comp=Z,2.5nm,0.1s						
CADS	**Cadrg**	**0.30**	**252**	*i* Pg	Pg	11 20 16.6	+0.3
CADS				*i* Sg	Sg	11 20 21.8	+1.6
CADS				IAML		11 20 22.3	
	comp=Z,7.6nm,0.2s						
VOJS	**Vojsko**	**0.34**	**213**	*i* Pg	Pg	11 20 16.8	-0.3

VIE 04 11:20:53.1±0.2, 46°.66N×13°.71E, h0km, mb-0.6/1, ml0.6/2, Error ellipse: s-maj=1.9km s-min=1.6km az=157.0 4 km NNE of Bad Bleiberg Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYKA	**Terra Mystica**	**0.06**	**237**	*e*Pg	Pg	11 20 54.1	-0.1
	4.9nm,0.1s						
MYKA				*e*Sg	Sg	11 20 54.9	0.0
	5.7nm,0.1s						
KBA	**Koelnbreinsper**	**0.49**	**329**	*e*Pg	Pg	11 21 02.3	-0.2
	0.1nm,0.1s						
KBA				*e*Sg	Sg	11 21 09.8	+1.0
	0.2nm,0.1s						
OBKA	**Obir**	**0.60**	**104**	*i* Pg	Pg	11 21 04.6	0.0
	0.2nm,0.1s						
OBKA				Sg	Sg	11 21 13.8	+1.5
	1.0nm,0.2s						

*SJA **04** 11:27:33.6±0.7, 21°.16S×68°.61W, h142km±4km, ML3.5, MW3.6*
*GUC **04** 11:27:35.1±0.7, 21°.16S×68°.52W, h130km±4km, ML3.5*
ISC 04 11:27:34.0±1.4, 21°.18S±0°.03×68°.67W±0°.06, h147km±10km, n35, σ0°84/64, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.77**	**280**	*e*P	**Pn**	**11 27 56.5**	**-0.4**
PB01				*i* S	**Sn**	**11 28 13.2**	**-1.0**
PB01				IAML		11 28 15.0	
	comp=E,2μm,0.1s						
PB01	**IPOC Station P**	**0.77**	**280**	*e*P	**Pn**	**11 27 56.4**	**-0.4**
PB01				*e*S	**Sn**	**11 28 13.9**	**-0.2**
PB01				IAML		11 28 14.6	
	comp=Z,1μm,0.2s						
PB09	**IPOC Station P**	**0.81**	**221**	*e*P	**Pn**	**11 27 57.4**	**+0.2**
PB09				*i* S	**Sn**	**11 28 14.6**	**-0.4**
PB09	**IPOC Station P**	**0.81**	**221**	*e*P	**Pn**	**11 27 57.4**	**+0.2**
PB09				*e*S	**Sn**	**11 28 15.1**	**+0.1**
PB09				IAML		11 28 15.5	
	comp=Z,295nm,0.4s						
PB08	**IPOC Station P**	**1.13**	**336**	*e*P	**Pn**	**11 27 59.9**	**-0.3**
PB08				*i* S	**Sn**	**11 28 19.1**	**-1.0**
PB08				IAML		11 28 22.1	
	comp=E,999nm,0.3s						
PB08	**IPOC Station P**	**1.13**	**336**	*e*P	**Pn**	**11 28 00.0**	**-0.2**
PB08				*e*S	**Sn**	**11 28 19.4**	**-0.6**
PB08				IAML		11 28 21.3	
	comp=Z,508nm,0.3s						
PB02	**IPOC Station P**	**1.15**	**263**	*e*P	**Pn**	**11 28 00.5**	**+0.5**
PB02				*i* S	**Sn**	**11 28 19.7**	**-0.1**
PB02	**IPOC Station P**	**1.15**	**263**	*e*P	**Pn**	**11 27 59.8**	**-0.2**
PB02				*e*S	**Sn**	**11 28 19.9**	**+0.1**
PB02				IAML		11 28 22.3	
	comp=Z,2μm,0.1s						
PB07	**IPOC Station P**	**1.25**	**244**	*e*P	**Pn**	**11 28 01.6**	**+0.5**
PB07				*i* S	**Sn**	**11 28 21.6**	**-0.2**
PB07				IAML		11 28 23.0	
	comp=E,655nm,0.3s						
PB07	**IPOC Station P**	**1.25**	**244**	*e*P	**Pn**	**11 28 01.3**	**+0.2**
PB07				*e*S	**Sn**	**11 28 22.2**	**+0.5**
PB07				IAML		11 28 23.8	
	comp=Z,486nm,0.3s						
PATCX	**Punta Patache**	**1.43**	**284**	*e*P	**Pn**	**11 28 03.4**	**+0.6**
PATCX				*i* S	**Sn**	**11 28 24.9**	**+0.2**
PATCX	**Punta Patache**	**1.43**	**284**	*e*P	**Pn**	**11 28 03.4**	**+0.6**
PATCX				*e*S	**Sn**	**11 28 25.3**	**+0.7**
LVC	**Limon Verde**	**1.44**	**189**	*e*P	**Pn**	**11 28 03.2**	**+0.1**
LVC				*i* S	**Sn**	**11 28 24.4**	**-1.1**
LVC				IAML		11 28 25.6	
	comp=Z,1μm,0.4s						
LVC	**Limon Verde**	**1.44**	**189**	*e*P	**Pn**	**11 28 02.7**	**-0.5**
LVC				*e*S	**Sn**	**11 28 25.1**	**-0.3**
TA01	**Diego Aracena**	**1.54**	**293**	*e*P	**Pn**	**11 28 04.1**	**+0.3**
TA01				*i* S	**Sn**	**11 28 26.3**	**-0.2**
TA01				IAML		11 28 27.8	
	comp=E,1μm,0.2s						
TA01	**Diego Aracena**	**1.54**	**293**	*e*P	**Pn**	**11 28 04.2**	**+0.3**
TA01				IAML		11 28 29.4	
	comp=Z,363nm,0.3s						
GO01	**Chusmiza**	**1.58**	**342**	*e*P	**Pn**	**11 28 04.7**	**-0.2**
GO01				*i* S	**Sn**	**11 28 27.6**	**-0.8**
GO01	**Chusmiza**	**1.58**	**342**	*e*P	**Pn**	**11 28 04.8**	**0.0**
GO01				*e*S	**Sn**	**11 28 29.4**	**+1.1**
TA02	**Huaiquique**	**1.64**	**303**	*e*P	**Pn**	**11 28 04.8**	**-0.1**
TA02				*i* S	**Sn**	**11 28 27.9**	**-0.6**
TA02	**Huaiquique**	**1.64**	**303**	*e*S	**Sn**	**11 28 28.7**	**+0.2**
TA02				IAML		11 28 31.1	
	comp=Z,815nm,0.1s						
PB06	**IPOC Station P**	**1.73**	**209**	*e*P	**Pn**	**11 28 06.6**	**+0.6**
PB06				*i* S	**Sn**	**11 28 30.9**	**+0.2**
PB06				IAML		11 28 33.0	
	comp=N,297nm,0.1s						
PB06	**IPOC Station P**	**1.73**	**209**	*e*P	**Pn**	**11 28 06.0**	**-0.1**
PB06				*e*S	**Sn**	**11 28 31.2**	**+0.6**
PB06				IAML		11 28 32.0	
	comp=Z,139nm,0.4s						
PB04	**IPOC Station P**	**1.79**	**230**	*e*P	**Pn**	**11 28 07.3**	**+0.5**
PB04				*i* S	**Sn**	**11 28 32.6**	**+0.8**
PB04				IAML		11 28 38.5	
	comp=E,183nm,0.6s						
PB04	**IPOC Station P**	**1.79**	**230**	*e*P	**Pn**	**11 28 07.6**	**+0.9**
PB04				*e*S	**Sn**	**11 28 34.3**	**+2.5**
PB04				IAML		11 28 40.6	
	comp=Z,186nm,0.2s						
PB15	**IPOC Station P**	**2.15**	**200**	*e*P	**Pn**	**11 28 11.5**	**+0.5**
PB15				*i* S	**Sn**	**11 28 40.0**	**+0.6**
PB15	**IPOC Station P**	**2.15**	**200**	*e*P	**Pn**	**11 28 11.7**	**+0.8**
PB15				*e*S	**Sn**	**11 28 40.1**	**+0.7**
PB15				IAML		11 28 43.1	
	comp=Z,796nm,0.2s						
PB16	**IPOC Station P**	**2.94**	**344**	*e*P	**Pn**	**11 28 21.7**	**+0.6**
PB16				*i* S	**Sn**	**11 28 57.2**	**-0.2**
PB16	**IPOC Station P**	**2.94**	**344**	*e*P	**Pn**	**11 28 21.9**	**+0.7**
PB16				*e*S	**Sn**	**11 28 58.2**	**+0.8**
PB16				IAML		11 29 00.9	
	comp=Z,62nm,0.5s						
PB12	**IPOC Station P**	**2.99**	**328**	*e*P	**Pn**	**11 28 20.5**	**-0.9**
PB12	**IPOC Station P**	**2.99**	**328**	*e*P	**Pn**	**11 28 20.1**	**-1.3**
PB12				*e*S	**Sn**	**11 28 56.7**	**-1.1**
PB12				IAML		11 29 05.9	
	comp=Z,68nm,0.3s						
YJA	**Yavi**	**3.10**	**109**	*e*P	**Pn**	**11 28 23.3**	**+0.3**
HJA	**Humahuaca**	**3.63**	**124**	*e*P	**Pn**	**11 28 30.6**	**+0.7**
GO02	**Mina Guanaco**	**4.05**	**192**	*e*P	**Pn**	**11 28 35.2**	**+0.1**
GO02				*e*S	**Sn**	**11 29 21.9**	**-0.8**
LPAZ	**La Paz**	**4.89**	**6**	*e*P	**Pn**	**11 28 48.7**	**+2.1**
AC01	**Pan de Azucar**	**5.25**	**199**	*e*P	**Pn**	**11 28 48.9**	**-1.8**
AC01				*e*S	**Sn**	**11 29 47.6**	**-3.0**
AC01				IAML		11 30 03.0	
	comp=Z,21nm,1.5s						

*SOME **04** 11:27:56.6, 45°.12N×77°.98E, h15km*
*NNC **04** 11:27:56.1±0.6, 45°.10N×77°.97E, h2km±3km, mb3.6, mpv3.4, Error ellipse: s-maj=4.1km s-min=2.7km az=161.0*
ISC 04 11:27:57.0±1.2, 45°.08N±0°.04×77°.98E±0°.03, h12km±9km, n53, σ0°59/68, 14C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**0.31**	**105**	P	**Pg**	**11 28 03.5**	**+0.1**
	246nm,0.1s						
TDK				S	**Sb**	**11 28 08.5**	**-1.2**
	2μm,0.2s						
TDK	**Taldyqorghan**	**0.31**	**105**	*e*P	**Pg**	**11 28 03.5**	**+0.1**
	246nm,0.1s						
TDK				*e*S	**Sg**	**11 28 08.2**	**+0.7**
	2μm,0.2s						
ARXS	**Arharly**	**0.88**	**187**	P	**Pg**	**11 28 13.7**	**-0.3**
	86nm,0.2s						
ARXS				S	**Sg**	**11 28 25.8**	**+0.4**
	172nm,0.2s						
ARXS	**Arharly**	**0.88**	**187**	*e*P	**Pg**	**11 28 13.7**	**-0.3**
	86nm,0.2s						
ARXS				*e*S	**Sg**	**11 28 25.8**	**+0.4**
	172nm,0.2s						
BLB	**Baldybastay**	**1.05**	**160**	P	**Pg**	**11 28 16.8**	**-0.4**
	53nm,0.3s						
BLB				S	**Sb**	**11 28 31.2**	**+0.2**
	112nm,0.2s						
KNOS	**Konyrlen**	**1.12**	**130**	P	**Pg**	**11 28 17.5**	**-1.0**
	23nm,0.3s						
KNOS				S	**Sg**	**11 28 32.3**	**-0.8**
	143nm,0.3s						
DJR	**Jarkent**	**1.49**	**120**	P	**Pn**	**11 28 23.8**	**0.0**
	8.4nm,0.2s						
DJR				S	**Sn**	**11 28 43.2**	**0.0**
	90nm,0.2s						
DJR	**Jarkent**	**1.49**	**120**	*e*P	**Pn**	**11 28 23.8**	**0.0**
	8.4nm,0.2s						
DJR				*e*S	**Sn**	**11 28 43.2**	**0.0**
	90nm,0.2s						
KURS	**Kuram**	**1.60**	**175**	P	**Pb**	**11 28 26.5**	**-0.1**
	12nm,0.2s						
KURS				S	**Sg**	**11 28 48.0**	**-0.5**
	80nm,0.3s						
KURS	**Kuram**	**1.60**	**175**	*e*P	**Pb**	**11 28 26.5**	**-0.1**
	12nm,0.2s						
KURS				*e*S	**Sg**	**11 28 48.0**	**-0.5**
	80nm,0.3s						
KTBS	**Karatobe**	**1.66**	**215**	P	**Pb**	**11 28 27.3**	**-0.2**
	9.7nm,0.2s						
KTBS				S	**Sb**	**11 28 49.3**	**+0.9**
	153nm,0.3s						
KTBS	**Karatobe**	**1.66**	**215**	*e*P	**Pb**	**11 28 27.3**	**-0.2**
	9.7nm,0.2s						
KTBS				*e*S	**Sb**	**11 28 49.3**	**+0.9**
	153nm,0.3s						
KUU	**Kurty**	**1.67**	**225**	P	**Pb**	**11 28 27.2**	**-0.6**
	6.0nm,0.2s						
KUU				S	**Sb**	**11 28 49.0**	**+0.1**
	230nm,0.2s						
KUU	**Kurty**	**1.67**	**225**	*e*P	**Pb**	**11 28 27.2**	**-0.6**
	6.0nm,0.2s						
KUU				*e*S	**Sb**	**11 28 49.0**	**+0.1**
	230nm,0.2s						
KPKS	**Kokpek**	**1.69**	**162**	P	**Pb**	**11 28 28.1**	**-0.1**
	19nm,0.1s						
KPKS				S	**Sb**	**11 28 50.4**	**+0.9**
	149nm,0.5s						
KPKS	**Kokpek**	**1.69**	**162**	*e*P	**Pb**	**11 28 28.1**	**-0.1**
	19nm,0.1s						
KPKS				*e*S	**Sb**	**11 28 50.4**	**+0.9**
	149nm,0.5s						
ZHN	**Zhinishke**	**1.94**	**170**	P	**Pb**	**11 28 32.3**	**-0.1**
	9.3nm,0.2s						
ZHN				S	**Sb**	**11 28 57.6**	**+0.9**
	274nm,0.2s						
ZHN	**Zhinishke**	**1.94**	**170**	*e*P	**Pb**	**11 28 32.3**	**-0.1**
	9.3nm,0.2s						
ZHN				*e*S	**Sb**	**11 28 57.6**	**+0.9**
	274nm,0.2s						
KOTS	**Kotyrbulak**	**1.95**	**199**	Pg	**Pb**	**11 28 32.8**	**+0.2**
	4.9nm,0.2s						
KOTS				Lg	Lg	11 28 58.7	
	46nm,0.3s						
KOTS	**Kotyrbulak**	**1.95**	**199**	*e*Pg	**Pb**	**11 28 32.8**	**+0.2**
	4.9nm,0.2s						
KOTS				*e*Lg	Lg	11 28 58.7	
	46nm,0.3s						
KNDC	**Almaty**	**2.00**	**202**	⇑Pg	**Pn**	**11 28 31.9**	**+1.1**
	15nm,0.3s						
KNDC				⇑Lg	Lg	11 28 59.3	
	45nm,0.4s						
AAA	**Alma-Ata**	**2.03**	**203**	Pg	**Pb**	**11 28 34.3**	**+0.5**
	32nm,0.2s						
AAA				Lg	Lg	11 29 01.0	
	29nm,0.4s						
AAA	**Alma-Ata**	**2.03**	**203**	*e*Pg	**Pb**	**11 28 34.3**	**+0.5**
	32nm,0.2s						
AAA				*e*Lg	Lg	11 29 00.9	
	29nm,0.4s						
PDGK	**Podgornoye**	**2.06**	**148**	Pg	**Pb**	**11 28 34.3**	**-0.2**
	5.2nm,0.2s						
PDGK				Lg	Lg	11 29 01.1	
	19nm,0.3s						
PDGK	**Podgornoye**	**2.06**	**148**	⇑Pg	**Pb**	**11 28 34.2**	**-0.3**
	2.7nm,0.2s						
PDGK				⇑Lg	Lg	11 29 00.6	
	22nm,0.6s						
UZB	**Uzynbulak**	**2.08**	**158**	Pg	**Pb**	**11 28 34.7**	**0.0**
	7.7nm,0.2s						
UZB				Lg	Lg	11 29 01.7	
	90nm,0.3s						
UZB	**Uzynbulak**	**2.08**	**158**	*e*Pg	**Pb**	**11 28 34.7**	**0.0**
	7.7nm,0.2s						
UZB				*e*Lg	Lg	11 29 01.7	
	90nm,0.3s						
KRBS	**Karabastau**	**2.16**	**231**	Pg	**Pb**	**11 28 35.5**	**-0.6**
	2.4nm,0.2s						
KRBS				Lg	Lg	11 29 03.0	
	24nm,0.5s						
KRBS	**Karabastau**	**2.16**	**231**	*e*Pg	**Pb**	**11 28 35.5**	**-0.6**
	2.4nm,0.2s						
KRBS				*e*Lg	Lg	11 29 03.0	
	24nm,0.5s						
TNSS	**Tian-Shan**	**2.18**	**200**	Pg	**Pb**	**11 28 36.4**	**-0.2**
	4.6nm,0.2s						
TNSS				Lg	Lg	11 29 04.5	
	12nm,0.3s						
TNSS	**Tian-Shan**	**2.18**	**200**	*e*Pg	**Pb**	**11 28 36.4**	**-0.2**
	4.6nm,0.2s						
TNSS				*e*Lg	Lg	11 29 04.5	
	12nm,0.3s						
SHLS	**Shalkode**	**2.20**	**151**	Pg	**Pg**	**11 28 39.6**	**+0.4**
	5.9nm,0.2s						
SHLS				Lg	Lg	11 29 10.2	
	25nm,0.4s						
SHLS	**Shalkode**	**2.20**	**151**	*e*Pg	**Pg**	**11 28 39.6**	**+0.4**
	5.9nm,0.2s						
SHLS				*e*Lg	Lg	11 29 10.2	
	25nm,0.4s						
MTBS	**Maitube**	**2.25**	**210**	Pg	**Pb**	**11 28 37.5**	**-0.2**
	3.3nm,0.2s						
MTBS				Lg	Lg	11 29 06.5	
	30nm,0.3s						
MTBS	**Maitube**	**2.25**	**210**	*e*Pg	**Pb**	**11 28 37.5**	**-0.2**
	3.3nm,0.2s						
MTBS				*e*Lg	Lg	11 29 06.5	
	30nm,0.3s						
IZV	**Izvestkoviy**	**2.27**	**206**	Pg	**Pb**	**11 28 38.1**	**0.0**
	1.1nm,0.1s						
IZV				Lg	Lg	11 29 07.6	
	28nm,0.5s						
IZV	**Izvestkoviy**	**2.27**	**206**	*e*Pg	**Pb**	**11 28 38.1**	**0.0**
	1.1nm,0.1s						
IZV				*e*Lg	Lg	11 29 07.6	
	28nm,0.5s						
KTMS	**Ketmen**	**2.36**	**133**	Pg	**Pb**	**11 28 39.2**	**-0.4**
	2.2nm,0.2s						
KTMS				Lg	Lg	11 29 09.4	
	13nm,0.2s						
KTMS	**Ketmen**	**2.36**	**133**	*e*Pg	**Pb**	**11 28 39.2**	**-0

MK31			⇑Lg		Lg	11 29 43.0	
	2.0nm,0.5s,baz=239,slow=28,SNR=3.6						
AML	**Almayashu**	**4.29 228**	⇑Pg		**Pb**	**11 29 11.3**	**-1.3**
AML			⇓Lg		Lg	11 30 08.8	
	1.0nm,0.7s						
OTUK	**Ortayu**	**5.01 311**	⇑Lg		Lg	11 30 30.2	
	3.7nm,0.6s						
KURBB	**Kurchatov Arra**	**5.55 4**	⇓Lg		Lg	11 30 49.4	
	15nm,0.8s						
KURK	**Kurchatov**	**5.65 4**	⇓Lg		Lg	11 30 49.7	
	8.7nm,0.7s						
KK31	**Karatay Array**	**5.73 252**	⇑Lg		Lg	11 30 55.7	
	2.0nm,0.5s,baz=60,slow=28,SNR=4.9						

*IDC **04** 11:49:10.2±5.2, 36°.57S×176°.73E, h246km±71km, mb2.8/2, mbtmp3.4/2, MS3.4/1, Error ellipse: s-maj=159.4km s-min=45.1km az=1.0*
*WEL **04** 11:49:13.0±1.1, 37°.3S±12°×17°.7E±1°.0, h256km±11km, M2.9/12, ML2.7/8, MLv2.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=16.9, confirmed*
ISC 04 11:49:10.6±1.2, 36°.87S±0°.10×177°.14E±0°.10, h278km±8km, n40, σ0°.95/48, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.02**	**150**	P	**Pn**	**11 49 48.6**	**0.0**
HAZ				S	**S**	**11 50 17.4**	**-1.4**
KUZ	**Kuaotunu**	**1.15**	**276**	P	**Pn**	**11 49 49.0**	**-0.3**
MXZ	**Matakaoa Point**	**1.16**	**127**	P	**Pn**	**11 49 49.5**	**+0.2**
RUGZ	**Raukumara Rang**	**1.17**	**159**	P	**Pn**	**11 49 49.5**	**-0.1**
PKGZ	**Pakihiroa**	**1.26**	**144**	P	**Pn**	**11 49 50.8**	**+0.8**
URZ	**Urewera**	**1.38**	**181**	P	**Pn**	**11 49 51.0**	**+0.2**
URZ				S	**S**	**11 50 21.6**	**-1.0**
URZ	**Urewera**	**1.38**	**181**	P	**Pn**	**11 49 50.9**	**+0.2**
	13nm,0.3s,baz=342,slow=4.0,SNR=69						
URZ				S	**S**	**11 50 21.1**	**-1.5**
	6.0nm,0.3s,baz=58,slow=19,SNR=9.3						
WMGZ	**Waiomatatini S**	**1.39**	**133**	P	**Pn**	**11 49 51.4**	**+0.7**
WMGZ				S	**S**	**11 50 22.5**	**-0.1**
MWZ	**Matawai**	**1.49**	**168**	P	**Pn**	**11 49 52.2**	**+0.7**
MWZ				S	**S**	**11 50 23.5**	**-0.4**
PUZ	**Puketiti**	**1.49**	**144**	P	**Pn**	**11 49 52.1**	**+0.6**
PUZ				S	**S**	**11 50 23.0**	**-0.9**
TOZ	**Tahuroa Road**	**1.56**	**236**	P	**Pn**	**11 49 53.5**	**+1.6**
MKAZ	**Moumakai**	**1.60**	**261**	P	**Pn**	**11 49 53.7**	**+1.4**
MUGZ	**Murupara**	**1.63**	**190**	P	**Pn**	**11 49 52.9**	**+0.5**
RAGZ	**Rawiri**	**1.63**	**172**	P	**Pn**	**11 49 52.4**	**-0.2**
TKGZ	**Te Karaka**	**1.66**	**160**	P	**Pn**	**11 49 53.6**	**+0.9**
TKGZ				S	**S**	**11 50 25.5**	**-0.5**
RTZ	**Ruatahuna**	**1.74**	**184**	P	**Pn**	**11 49 53.9**	**+0.5**
CNGZ	**Carnagh Statio**	**1.82**	**152**	P	**Pn**	**11 49 55.2**	**+1.4**
RIGZ	**Rimuhau**	**1.89**	**165**	P	**Pn**	**11 49 55.7**	**+1.2**
RIGZ				S	**S**	**11 50 30.1**	**+0.7**
SNGZ	**Shannon Statio**	**1.91**	**175**	P	**Pn**	**11 49 55.8**	**+1.2**
SNGZ				S	**S**	**11 50 29.5**	**-0.1**
TLZ	**Tolley Road**	**1.93**	**221**	P	**Pn**	**11 49 57.2**	**+2.4**
MTHZ	**Maungataniwha**	**1.99**	**187**	P	**Pn**	**11 49 55.8**	**+0.5**
MRHZ	**Matea Rd**	**2.04**	**196**	P	**Pn**	**11 49 56.5**	**+0.8**
RAHZ	**Arahi**	**2.04**	**181**	P	**Pn**	**11 49 56.9**	**+1.2**
KNZ	**Kokohu**	**2.19**	**169**	P	**Pn**	**11 49 57.8**	**+0.9**
NMHZ	**Naumai**	**2.23**	**187**	P	**Pn**	**11 49 58.9**	**+1.4**
BKZ	**Black Stump Fm**	**2.34**	**192**	P	**Pn**	**11 49 58.8**	**+0.4**
ARHZ	**Aropaoanui**	**2.39**	**183**	P	**Pn**	**11 49 59.9**	**+1.2**
TMVZ	**Te Maari**	**2.51**	**206**	P	**Pn**	**11 50 01.1**	**+1.1**
ETVZ	**East Tongariro**	**2.52**	**206**	P	**Pn**	**11 50 01.0**	**+0.8**
MCHZ	**McNeill Hill**	**2.59**	**188**	P	**Pn**	**11 50 01.8**	**+1.2**
BHHZ	**Black Hill Sta**	**2.75**	**198**	P	**Pn**	**11 50 02.7**	**+0.4**
KAHZ	**Kahuranaki**	**2.92**	**184**	P	**Pn**	**11 50 04.9**	**+0.8**
TSZ	**Takapari Road**	**3.31**	**196**	P	**Pn**	**11 50 08.3**	**+0.2**
OGWZ	**Otaki Gorge**	**4.23**	**201**	P	**Pn**	**11 50 18.0**	**-0.1**
CAW	**Cannon Point**	**4.53**	**200**	P	**Pn**	**11 50 21.5**	**-0.1**
TUWZ	**Tuamarina**	**5.18**	**208**	P	**Pn**	**11 50 28.8**	**-0.6**
MSVF	**Nonsavu**	**19.08**	**3**	LR	LR	11 59 19.8	
	comp=Z,111nm,18.2s,baz=195,slow=32						
ASAR	**Alice Springs**	**39.27**	**277**	P	**P**	**11 56 12.4**	**-0.6**
	0.4nm,0.5s,baz=119,slow=7.6,SNR=11						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**40.88**	**282**	P	**P**	**11 56 25.1**	**-1.1**
	0.3nm,0.5s,baz=121,slow=7.8,SNR=5.0						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**149.45**	**333**	PKPbc	**PKPbc**	**12 08 27.4**	**+1.5**
	5.6nm,1.1s,baz=51,slow=2.4,SNR=1.7						

IDC 04 11:53:08.4±4.6, 16°.26S×176°.69W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=194.5km s-min=51.8km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.87**	**240**	P	P	12 00 52.7	+0.4
	2.2nm,1.0s,baz=82,slow=14,SNR=1.5						
	2.2nm,1.0s						
WRA	**Warramunga Arr**	**46.57**	**258**	P	P	12 01 38.1	-0.2
	0.1nm,0.3s,baz=94,slow=7.5,SNR=11						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**46.84**	**253**	P	P	12 01 40.1	-0.4
	1.8nm,0.5s,baz=89,slow=8.3,SNR=31						
	1.8nm,0.5s						
GERES	**GERESS Array B**	**146.41**	**348**	PKPbc	PKPdf	12 12 50.6	+0.4
	0.8nm,0.5s,baz=20,slow=2.9,SNR=0.3						

*OSPL **04** 12:19:44.3±0.8, 20°.53N×71°.60W, h0km±6km, ML2.7*
*SDD **04** 12:19:45.4±2.6, 20°.54N×71°.24W, h31km±31km, MD3.5, ML2.4, MW2.6*
ISC 04 12:19:41.7±2.2, 20°.60N±0°.10×71°.47W±0°.06, h10km±12km, n11, σ1°.48/21, 2C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUDR	**Luperon**	**0.86**	**145**	*e*Pg	**Pg**	**12 19 58.0**	**-0.3**
LUDR				*e*Sg	**Sg**	**12 20 09.4**	**-0.1**
LUDR				IAML		12 20 16.6	
	comp=Z,120nm,0.6s						
LODA1	**ITESIL, Dajabo**	**1.07**	**192**	*i* P	**Pb**	**12 20 02.1**	**-0.3**
LODA1				*e*S	**Sb**	**12 20 14.7**	**-1.7**
LODA1				IAML		12 20 18.1	
	comp=Z,557nm,3.3s						
REDR	**Restauracion**	**1.43**	**177⇑**	*e*Pg	**Pn**	**12 20 06.4**	**-1.3**
REDR				*e*Sg	**Sn**	**12 20 23.8**	**-2.8**
REDR				IAML		12 20 24.9	
	comp=Z,72nm,0.2s						
SDDR	**Presa de Saban**	**1.62**	**174**	*e*Pg	**Pn**	**12 20 10.4**	**+0.1**
SDDR				*e*Sg	**Sn**	**12 20 31.1**	**-0.2**
SDDR				IAML		12 20 37.1	
	comp=Z,36nm,0.5s						
SDDR	**Presa de Saban**	**1.62**	**174**	*i* P	**Pn**	**12 20 11.0**	**+0.6**
SDDR				*e*S	**Sn**	**12 20 31.9**	**+0.5**
SDDR				IAML		12 20 37.0	
	comp=Z,36nm,0.5s						
JIDR	**Jimani**	**2.13**	**190**	*e*Pg	**Pb**	**12 20 21.2**	**+0.8**
JIDR				*e*Sg	**Sn**	**12 20 45.3**	**+1.5**
JIDR				IAML		12 21 09.1	
	comp=Z,40nm,1.9s						
PODR	**Polo**	**2.43**	**176**	*e*Pg	**Pn**	**12 20 24.3**	**+2.6**
PODR				*e*Sg	**Sn**	**12 20 52.3**	**+0.8**
PODR				IAML		12 20 54.8	
	comp=Z,12nm,1.2s						
BANI	**BANI**	**2.44**	**154**	*e*Pg	**Pn**	**12 20 24.2**	**+2.5**
BANI				*e*Sg	**Sn**	**12 20 52.0**	**+0.4**
BANI				IAML		12 21 01.6	
	comp=Z,25nm,0.8s						
MASC	**Masc**	**2.62**	**261**	*i* P	**Pn**	**12 20 24.3**	**+0.2**
MASC				IAML		12 21 01.7	
	comp=Z,32nm,1.4s						
HATOM	**Hato Mayor del**	**2.67**	**132⇑**	*e*Pg	**Pn**	**12 20 25.8**	**+0.9**
HATOM				*e*Sg	**Sn**	**12 20 54.9**	**-2.4**
HATOM				IAML		12 21 21.9	
	comp=Z,19nm,2.1s						
MIDR	**Miches**	**2.79**	**125**	*e*Pg	**Pn**	**12 20 27.0**	**+0.5**
MIDR				*e*Sg	**Sn**	**12 20 59.8**	**-0.3**
MIDR				IAML		12 21 07.6	
	comp=Z,21nm,2.2s						

*EAF **04** 12:25:14.7, 26°.30S×29°.67E, h10km, MC3.2*
BUL 04 12:25:16.4±1.4, 26°.23S×29°.53E, h10km, MD3.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.19**	**33**	*i* P	Pn	12 26 03.4	-3.3
MOPA				*i* S	Sn	12 26 40.4	-4.5
MOPA	**Mopani**	**3.19**	**33**	*i* P	Pn	12 26 03.4	-3.3
	baz=31						
MOPA				*i* S	Sn	12 26 40.4	-4.5
	baz=31						
LBTB	**Lobatse**	**3.75**	**288**	*i* P	Pn	12 26 12.8	-1.7
LBTB				*i* S	Sn	12 26 56.6	-2.1
LBTB	**Lobatse**	**3.75**	**288**	*i* P	Pn	12 26 12.8	-1.7
	baz=288						
LBTB				*i* S	Sn	12 26 56.6	-2.1
	baz=288						
MUSN	**Musina, Limpop**	**3.94**	**4**	*i* P	Pn	12 26 16.5	-0.5
MUSN				*i* S	Sn	12 27 00.5	-2.8
MUSN	**Musina, Limpop**	**3.94**	**4**	*i* P	Pn	12 26 16.5	-0.5
	baz=3.0						
MUSN				*i* S	Sn	12 27 00.5	-2.8
	baz=3.0						
BOSA	**Boshof**	**4.48**	**237**	*i* P	Pn	12 26 24.3	-0.1
BOSA				*i* S	Sn	12 27 13.5	-3.2
BOSA	**Boshof**	**4.48**	**237**	*i* P	Pn	12 26 24.3	-0.1
	baz=238						
BOSA				*i* S	Sn	12 27 13.5	-3.2
	baz=238						

*MEX **04** 12:27:25.6±0.9, 14°.68N×94°.32W, h14km±40km, MD4.5*
*NEIC **04** 12:27:27.5±2.0, 14°.78N±0°.08×94°.29W±0°.04, h38km±11km, mb4.3/85, Md4.5/16(MEX), Error ellipse: s-maj=12.6km s-min=3.9km az=200.0*
*GCG **04** 12:27:27.9±1.2, 15°.62N×93°.73W, h0km±999km, MD4.3*
*IDC **04** 12:27:32.2±4.9, 15°.15N×94°.01W, h75km±40km, mb3.6/8, mbtmp3.9/9, ML4.4/2, MS3.3/15, Error ellipse: s-maj=36.7km s-min=21.6km az=32.0*
ISC 04 12:27:22.1±2.6, 14°.75N±0°.05×94°.35W±0°.03, h7km±17km, n171, σ2°.24/186, mb4.3/30, MS3.4/14, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.45**	**49**		**Pn**	**12 27 47.9**	**-0.9**
PCIG					**Sn**	**12 28 06.3**	**-1.7**
PCIG		**1.45**	**49**	*i* P	**Pn**	**12 27 47.9**	**-0.9**
PCIG				*e*S	**Sb**	**12 28 05.5**	**-2.6**
NILT	**Santiago Nilte**	**1.83**	**352**	*e*P	**Pn**	**12 27 53.0**	**-1.0**
NILT				*e*S	**Sn**	**12 28 13.8**	**-3.6**
HUIG	**Huatulco**	**1.98**	**301**	*e*P	**Pn**	**12 27 53.9**	**-2.1**
HUIG				*e*S	**Sn**	**12 28 15.0**	**-6.1**
THIG		**2.02**	**85**	*e*P	**Pn**	**12 27 55.9**	**-0.7**
THIG				*e*S	**Sn**	**12 28 21.0**	**-1.2**
PATR	**El Naranjo**	**2.08**	**80**	*e*P	**Pn**	**12 27 56.4**	**-1.3**
PATR				*e*S	**Sn**	**12 28 21.1**	**-2.7**
PAVE	**Pavencul**	**2.15**	**78**	*e*P	**Pn**	**12 27 57.8**	**-0.8**
PAVE				*e*S	**Sn**	**12 28 23.5**	**-2.1**
CHUJ	**Union Juarez**	**2.19**	**81**	*e*P	**Pn**	**12 27 58.5**	**-0.7**
CHUJ				*e*S	**Sn**	**12 28 23.7**	**-3.0**
TGIG		**2.34**	**30**		**Pb**	**12 28 03.1**	**-1.6**
TGIG					**Sb**	**12 28 31.2**	**-2.6**
TGIG		**2.34**	**30**	*e*P	**Pn**	**12 28 01.8**	**+0.7**
TGIG				*e*P	**Pn**	**12 28 02.1**	**+1.1**
TGIG				*e*P	**Pn**	**12 28 02.5**	**+1.4**
TGIG				*e*S	**Sb**	**12 28 30.3**	**-3.5**
TGIG				*e*S	**Sn**	**12 28 30.6**	**+0.5**
TGIG				*e*S	**Sn**	**12 28 31.5**	**+1.4**
TGIG				*e*S	**Sn**	**12 28 32.0**	**+1.8**
TGBT	**Tuxtla Gutierr**	**2.36**	**31**		**Pb**	**12 28 03.0**	**-1.9**
TGBT					**Sb**	**12 28 31.7**	**-2.5**
TGBT	**Tuxtla Gutierr**	**2.36**	**31**	*e*P	**Pn**	**12 28 02.8**	**+1.6**
TGBT				*e*S	**Sb**	**12 28 31.5**	**-2.7**
UXUV	**UXUV**	**2.56**	**4**	*e*P	**Pn**	**12 28 05.5**	**+1.3**
UXUV				*e*S	**Sb**	**12 28 37.4**	**-2.9**
RTAL	**Retalhuleu**	**2.58**	**95**		**Pn**	**12 28 05.3**	**+1.0**
CCIG	**Comitan**	**2.62**	**54**	Pn	**Pn**	**12 28 05.4**	**+0.3**
CCIG	**Comitan**	**2.62**	**54**	*e*P	**Pn**	**12 28 07.0**	**+1.9**
CCIG				*e*S	**Sb**	**12 28 38.6**	**-3.5**
STG3	**Santiaguito 3,**	**2.69**	**90**	*e*P	**Pn**	**12 28 06.4**	**+0.4**
STG3				*e*S	**Sn**	**12 28 37.8**	**-1.1**
SULM	**Suchitepequez,**	**2.73**	**99**	*e*P	**Pn**	**12 28 09.2**	**+2.8**
HUEH	**Huehuetenango**	**2.81**	**78**		**Pn**	**12 28 08.5**	**+0.8**
PEIG	**Puerto Escondi**	**2.97**	**295**	*e*P	**Pn**	**12 28 07.9**	**-1.8**
PEIG				*e*S	**Sn**	**12 28 39.1**	**-6.5**
OXLC	**Oaxaca**	**3.23**	**316**	*e*P	**Pn**	**12 28 13.9**	**+0.4**
OXLC				*e*S	**Sn**	**12 28 48.8**	**-3.5**
OXBJ	**Oaxaca**	**3.25**	**316**	*e*P	Pn	12 28 09.4	-4.3
OXBJ				*e*S	**Sn**	**12 28 49.8**	**-2.9**
VHO	**Vista Hermosa**	**3.26**	**316**	*e*P	**Pn**	**12 28 14.0**	**+0.2**
NEUV	**Arroyo Zacate**	**3.26**	**335**	*e*P	**Pn**	**12 28 13.6**	**-0.1**
NEUV				*e*S	**Sb**	**12 28 58.0**	**-2.3**
TUIG	**Tuzandepetl**	**3.27**	**359**	*e*P	**Pn**	**12 28 14.7**	**+0.9**
TUIG				*e*S	**Sn**	**12 28 50.8**	**-2.2**
FUG	**Fuego 3**	**3.41**	**95**	*e*P	**Pn**	**12 28 18.2**	**+2.3**
YOIG	**Yosondua**	**3.72**	**305**		**Pn**	**12 28 21.4**	**+1.1**
YOIG	**Yosondua**	**3.72**	**305**	*e*P	**Pn**	**12 28 21.4**	**+1.1**
YOIG				*e*S	**Sn**	**12 28 59.9**	**-4.7**
PMUV	**Sontecomapan**	**3.85**	**349**	*e*P	**Pn**	**12 28 22.2**	**+0.3**
PMUV				*e*S	**Sn**	**12 29 04.1**	**-3.3**
PNIG	**Pinotepa**	**3.99**	**295**	*i* P	**Pn**	**12 29 23.1**	**-0.7**
PNIG				*e*S	**Sn**	**12 29 06.7**	**-4.2**
TXIG	**Tlaxiaco**	**4.12**	**308**	*e*P	**Pn**	**12 28 27.2**	**+1.4**
TXIG				*e*S	**Sn**	**12 29 15.1**	**+0.6**
TOIG	**Toxpalan**	**4.23**	**322**	*e*P	**Pn**	**12 28 30.4**	**+3.3**
TOIG				*e*S	**Sn**	**12 29 16.2**	**-0.6**
HLIG	**Huajuapan de L**	**4.52**	**313**	*e*P	**Pn**	**12 28 31.6**	**+0.4**
HLIG				*e*S	**Sn**	**12 29 21.9**	**-2.1**
TPIG	**Tehuac#an**	**4.66**	**322**	*e*P	Pn	12 28 38.9	+5.8
TPIG				*e*S	**Sn**	**12 29 32.0**	**+4.6**
FTIG	**Fresnillo de T**	**4.80**	**311**	*e*P	**Pn**	**12 28 37.3**	**+2.3**
FTIG				*e*S	**Sn**	**12 29 29.0**	**-2.0**
PETF	**Flores**	**4.82**	**63**	Pn	**Pn**	**12 28 36.2**	**+1.0**
MTO3	**Montecristo**	**4.84**	**93**		**Pn**	**12 28 37.0**	**+1.3**
ESQI	**Esquipulas**	**4.85**	**92**		**Pn**	**12 28 37.0**	**+1.3**
TLIG	**Tlapa**	**4.92**	**305**	Pn	**Pn**	**12 28 38.8**	**+2.1**
TLIG	**Tlapa**	**4.92**	**305**	*e*P	**Pn**	**12 28 38.6**	**+1.9**
TLIG				*e*S	**Sn**	**12 29 35.1**	**+1.1**
SNET	**Serv Nac Est T**	**5.07**	**101**	Pn	**Pn**	**12 28 39.9**	**+1.1**
JAUV	**Jalcomulco**	**5.16**	**333**	*e*P	**Pn**	**12 28 38.8**	**-1.1**
JAUV				*e*S	**Sn**	**12 29 37.3**	**-2.4**
SCIG	**Sabancuy**	**5.18**	**35**	*e*P	**Pn**	**12 28 39.6**	**-0.4**
SCIG				*e*S	**Sn**	**12 29 39.4**	**-0.6**
LVIG	**Laguna Verde**	**5.33**	**339**	*e*P	**Pn**	**12 28 39.1**	**-3.1**
LVIG				*e*S	**Sn**	**12 29 40.8**	**-3.0**
DAIG	**Los Arroyos**	**5.58**	**295**	*e*P	**Pn**	**12 28 46.2**	**+0.6**
DAIG				*e*S	**Sn**	**12 29 44.7**	**-5.3**
PPM	**Popocatepetl**	**5.93**	**317**	*e*P	**Pn**	**12 28 53.8**	**+2.9**
PPM				*e*S	**Sn**	**12 30 02.0**	**+2.6**
MEIG	**Mezcala**	**5.97**	**303**	*e*P	**Pn**	**12 28 53.2**	**+2.2**
MEIG				*e*S	**Sn**	**12 29 59.1**	**-0.5**
YAIG	**Yautepec**	**6.10**	**313**	*e*P	**Pn**	**12 28 55.8**	**+3.0**
YAIG				*e*S	**Sn**	**12 30 00.9**	**-2.0**
PLIG	**Platanillo**	**6.13**	**307**	*e*P	**Pn**	**12 28 51.6**	**-1.6**
PLIG				*e*S	**Sn**	**12 30 03.1**	**-0.6**
CAIG	**El Cayaco**	**6.14**	**293**	*e*P	**Pn**	**12 28 53.6**	**+0.4**
CAIG				*e*S	**Sn**	**12 29 58.9**	**-4.8**
CXUV	**Coxquihui**	**6.22**	**331**	*e*P	**Pn**	**12 28 55.6**	**+1.1**
CXUV				*e*S	**Sn**	**12 30 05.5**	**-0.3**
MPVM	**San Francisco**	**6.29**	**315**	*e*		12 30 17.1	
UNM	**Universidad Na**	**6.49**	**315**	Pn	**Pn**	**12 29 00.7**	**+2.4**
AOVM	**Tlapan**	**6.54**	**314**	*e*P	**Pn**	**12 28 56.4**	**-2.9**
AOVM				*e*S	**Sn**	**12 30 14.1**	**-0.4**
ARIG	**Puente Sto Nin**	**6.74**	**302**	*e*P	**Pn**	**12 29 04.5**	**+2.9**
ARIG				*e*S	**Sn**	**12 30 13.4**	**-5.3**
TGUH	**Tegucigalpa,Un**	**6.89**	**95**	Pn	**Pn**	**12 29 04.0**	**+0.3**
ZIIG	**Zihuatanejo**	**7.40**	**294**	*e*P	**Pn**	**12 29 12.1**	**+1.5**
ZIIG				*e*S	**Sn**	**12 30 34.1**	**-0.9**
MYIG	**Mrida**	**7.58**	**35**	*e*P	Pn	12 29 20.9	+7.9
MYIG				*e*S	**Sn**	**12 30 41.5**	**+2.3**
TEIG	**Tepich**	**7.95**	**46**	Pn	**Pn**	**12 29 17.7**	**-0.5**
TEIG	**Tepich**	**7.95**	**46**	P	**Pn**	**12 29 16.2**	**-2.0**
	27nm,0.3s,baz=30,slow=5.6,SNR=3.4						
TEIG				S	**Sn**	**12 30 42.7**	**-5.7**
	196nm,0.5s,baz=171,slow=17,SNR=1.0						
TEIG				LR	LR	12 32 41.2	
	comp=Z,3μm,21.4s,baz=2.5,slow=42						
TEIG	**Tepich**	**7.95**	**46**	*e*P	**Pn**	**12 29 17.1**	**-1.1**
TEIG				*e*S	**Sn**	**12 30 44.7**	**-3.8**
MGAN	**Managua**	**8.29**	**107**	Pn	**Pn**	**12 29 21.9**	**-1.0**
BOAB	**BOACO BROADBAN**	**8.74**	**104**	Pn	**Pn**	**12 29 29.9**	**+0.8**
MMIG	**Aquila**	**9.32**	**293**	*e*P	**Pn**	**12 29 39.0**	**+2.0**
ORTG	**Ortega, Santa**	**9.71**	**116**	Pn	**Pn**	**12 29 44.7**	**+2.3**
DUNO	**Dulce Nombre,**	**9.81**	**117**	Pn	**Pn**	**12 29 46.2**	**+2.5**
COIG	**Colima**	**9.96**	**298**	*e*P	**Pn**	**12 29 48.9**	**+3.0**
JUBC	**Volcan de Coli**	**10.01**	**300**	*e*P	**Pn**	**12 29 51.3**	**+4.7**
EZ5V		**10.02**	**299**	*e*P	Pn	12 29 51.7	+4.9
MNGA	**Volcan de Coli**	**10.03**	**299**	*e*P	**Pn**	**12 29 50.9**	**+3.9**
SOMAC	**Volcano de Col**	**10.06**	**299**	*e*P	**Pn**	**12 29 51.5**	**+4.1**
CDAR	**Ciudad de Arme**	**10.14**	**296**	*e*P	**Pn**	**12 29 50.7**	**+2.4**
R15V		**10.21**	**297**	*e*P	**Pn**	**12 29 48.8**	**-0.4**
ARE1	**Arenal 1**	**10.32**	**113**		**Pn**	**12 29 53.1**	**+2.4**
CIHU	**Emiliano Zapat**	**10.90**	**296**	*e*P	**Pn**	**12 29 59.8**	**+1.1**
CJM	**Chamela**	**11.26**	**296**	*e*P	**Pn**	**12 30 06.6**	**+3.0**
RIMA	**Rio Macho**	**11.38**	**115**	Pn	**Pn**	**12 30 07.6**	**+2.3**
SOR	**Soroa**	**13.39**	**52**	Pn	**Pn**	**12 30 30.4**	**-2.3**
833A	**Chaparral WMA,**	**14.30**	**342**	Pn	**Pn**	**12 30 46.3**	**+1.2**
BCIP	**Isla Barro Col**	**15.24**	**110**	Pn	**Pn**	**12 31 00.1**	**+2.2**
HNDO	**Hondo**	**15.40**	**344**		**Pn**	**12 31 00.8**	**+0.8**
HNDO				IAmb	IAmb	12 31 22.7	
	comp=Z,14nm,0.9s						
DRIO	**Del Rio**	**15.71**	**339**	Pn	**Pn**	**12 31 04.2**	**+0.2**
DRIO				IAmb	IAmb	12 31 19.1	
	comp=Z,14nm,1.4s						
435B	**Jarrell**	**16.24**	**350**	P	**P**	**12 31 13.7**	**-0.2**
435B				IAmb	IAmb	12 31 21.1	
	comp=Z,24nm,0.9s						
JCT	**Junction City**	**16.44**	**343**	P	**P**	**12 31 17.1**	**+0.9**
SAND	**Sanderson**	**16.75**	**336**	P	**P**	**12 31 20.8**	**+1.2**
SAND				IAmb	IAmb	12 31 33.1	
	comp=Z,5.0nm,1.0s						
TXAR	**Lajitas Array**	**16.88**	**331**	P	**P**	**12 31 22.5**	**+1.4**
TXAR	**Lajitas Array**	**16.88**	**331**	P	**P**	**12 31 21.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=152,slow=13,SNR=11						
TXAR				LR	LR	12 37 32.2	
	comp=Z,23nm,21.4s,baz=167,slow=36						
	comp=Z,1.5nm,0.9s						
TX31	**Lajitas Ar. Si**	**16.88**	**331**		**P**	**12 31 22.8**	**+1.7**
TX31				IAmb	IAmb	12 31 41.4	
	comp=Z,20nm,1.0s						
TX32	**Lajitas Array**	**16.88**	**331**	P	**P**	**12 31 22.8**	**+1.7**
NATX	**Nacogdoches**	**16.94**	**359**	Pn	**Pn**	**12 31 19.7**	**+0.1**
NATX				IAmb	IAmb	12 31 47.3	
	comp=Z,17nm,0.8s						
BRDY	**Brady**	**17.01**	**346**	P	**P**	**12 31 23.2**	**+0.8**
BRDY				IAmb	IAmb	12 31 40.4	
	comp=Z,9.7nm,0.7s						
OZNA	**Ozona**	**17.26**	**340**		**P**	**12 31 27.5**	**+2.2**
OZNA				IAmb	IAmb	12 31 42.9	
	comp=Z,14nm,0.7s						
ALPN	**Alpine**	**17.75**	**333**	P	**P**	**12 31 33.5**	**+2.7**
ALPN				IAmb	IAmb	12 31 43.6	
	comp=Z,14nm,1.1s						
SGCY	**Sterling City**	**18.18**	**341**	P	**P**	**12 31 36.8**	**+1.4**
SGCY				IAmb	IAmb	12 31 47.4	
	comp=Z,25nm,1.2s						
ABTX	**Abilene, Hawle**	**18.44**	**346**	P	**P**	**12 31 39.8**	**+1.5**
ABTX				IAmb	IAmb	12 31 45.5	
	comp=Z,14nm,0.8s						
FW03	**Perrin-Whitt E**	**18.52**	**350**	P	**P**	**12 31 40.6**	**+1.4**
FW03				IAmb	IAmb	12 31 49.4	
	comp=Z,15nm,0.7s						
425A	**Indio Mountain**	**18.72**	**330**	P	**Pn**	**12 31 44.9**	**+3.1**
ODSA	**Odessa**	**18.85**	**338**	P	**P**	**12 31 43.5**	**+0.7**
ODSA				IAmb	IAmb	12 32 00.8	
	comp=Z,35nm,1.2s						
SN01	**Snyder 1**	**18.99**	**343**	P	**Pn**	**12 31 46.9**	**+1.8**
SN01				IAmb	IAmb	12 31 56.1	
	comp=Z,14nm,0.8s						
APMT	**Aspermont**	**19.23**	**345**	P	**Pn**	**12 31 49.5**	**+1.7**
APMT				IAmb	IAmb	12 32 05.7	
	comp=Z,12nm,0.9s						
POST	**Post**	**19.36**	**342**	IAmb	IAmb	12 32 14.9	
	comp=Z,7.9nm,0.7s						
MNTX	**Cornudas Mount**	**19.66**	**331**	P	**P**	**12 31 52.6**	**+0.9**
MIAR	**Mount Ida**	**19.73**	**2**	P	**P**	**12 31 52.1**	**-0.2**
DKNS	**Dickens**	**19.

comp=Z,0.8nm,0.6s,baz=139,slow=8.6,SNR=11
comp=Z,0.8nm,0.6s
LOHW Long Hollow 31.95 337 IAmb IAmb 12 33 58.9
comp=Z,3.3nm,0.9s
SADO Sadowa 32.59 20 LR LR 12 49 07.9
comp=Z,61nm,18.2s,baz=156,slow=40
HLID Hailey 33.46 333 IAmb IAmb 12 34 12.6
comp=Z,4.0nm,1.1s
J08A Circle Bar Ran 35.21 329 IAmb IAmb 12 34 27.6
comp=Z,5.5nm,0.9s
PLID Pearl Lake 35.36 333 IAmb IAmb 12 34 28.3
comp=Z,4.5nm,0.9s
YBH Yreka Blue Hor 36.39 323 LR LR 12 50 57.2
comp=Z,77nm,19.1s,baz=178,slow=39
LON Longmire 39.29 330 IAmb IAmb 12 35 01.0
comp=Z,5.0nm,0.9s
SCHQ Schefferville 45.35 22 LR LR 12 56 31.0
comp=Z,83nm,18.3s,baz=240,slow=39
YKA Yellowknife Ar 49.80 348 P **P 12 36 12.6 -2.7**
comp=Z,0.7nm,0.6s,baz=156,slow=7.3,SNR=6.0
comp=Z,0.7nm,0.6s
SFJD Kangerlussuaq 59.51 18 LR LR 13 05 51.1
comp=Z,42nm,19.1s,baz=266,slow=39
ILAR Eielson Array 61.27 337 P **P 12 37 37.8 +0.1**
comp=Z,1.2nm,1.0s,baz=138,slow=5.8,SNR=9.9
comp=Z,1.2nm,1.0s
EKA Eskdalemuir Ar 78.69 36 P **P 12 39 24.4 -0.6**
comp=Z,1.8nm,0.8s,baz=277,slow=6.6,SNR=5.3
comp=Z,1.8nm,0.8s
ESDC Sonseca Array 81.04 51 LR LR 13 15 19.2
comp=Z,18nm,18.5s,baz=329,slow=36
NOA NORSAR Array B 84.57 28 P **P 12 39 54.5 -1.6**
comp=Z,0.5nm,0.5s,baz=291,slow=5.1,SNR=3.3
NOA LR LR 13 16 23.8
comp=Z,13nm,20.3s,baz=285,slow=35
comp=Z,0.5nm,0.5s
HFS Hagfors 86.04 28 LR LR 13 17 16.9
comp=Z,35nm,19.0s,baz=317,slow=35
GERES GERESS Array B 90.47 39 LR LR 13 19 27.3
comp=Z,20nm,19.8s,baz=292,slow=35
WRA Warramunga Arr 133.36 256 PKP **PKPdf 12 46 39.1 -0.8**
comp=Z,0.4nm,0.6s,baz=78,slow=1.7,SNR=2.4
PZH PanZhihua 136.11 339 PKP **PKPdf 12 46 45.3 +0.2**
CMAR Chiang Mai Arr 144.50 338 PKP **PKPab 12 46 58.3 -0.2**
comp=Z,0.3nm,0.3s,baz=354,slow=7.2,SNR=2.1

ISC 04 12:28:20.7±1.1, 26°.99N±0°.05×111°.27W±0°.07, h10km, n5, σ1°34/8, 3C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNIRB	**San Nicol¡s**	**0.51**	**210**	*eP*	**Pg**	**12 28 31.8**	**+1.2**
SNIRB				*eS*	**Sg**	**12 28 38.0**	**+0.7**
SNIRB				IAML		12 28 39.9	
	comp=E,404nm,0.5s						
SNIRB				*e*		12 28 39.9	
SNIRB				IAML		12 28 45.6	
	comp=N,333nm,0.4s						
SNIRB				⇑*e*		12 28 45.6	
SRIG	**Santa Rosalia**	**0.93**	**291**	⇑*eP*	**Pg**	**12 28 39.0**	**+0.4**
SRIG				*eS*	**Sg**	**12 28 50.8**	**0.0**
SRIG				IAML		12 28 52.3	
	comp=N,130nm,0.9s						
SRIG				⇑*e*		12 28 52.3	
SRIG				IAML		12 28 52.3	
	comp=E,87nm,0.4s						
GUYB	**Guaymas**	**0.97**	**21**	*eS*	**Sg**	**12 28 51.2**	**-1.0**
CDOB	**Cd. Obregon**	**1.10**	**67**	*eP*	**Pn**	**12 28 43.2**	**+1.0**
UAGRB	**Rancho Última**	**1.42**	**180**	*eP*	**Pn**	**12 28 45.8**	**-0.7**
UAGRB				*eS*	**Sn**	**12 29 03.2**	**-2.1**

*PRE **04** 12:34:40.9±1.4, 21°.27S×33°.42E, h10km, ML2.6*
*BUL **04** 12:34:49.4±0.6, 21°.57S×32°.94E, h10km, MD4.0*
*EAF **04** 12:34:50.8, 21°.50S×32°.87E, h10km, MC3.7*

ISC 04 12:34:41.7±2.0, 21°.14S±0°.05×33°.1E±0°.1, h15km, n23, σ2°39/42, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.83**	**213**	*iP*	**Pn**	**12 35 27.7**	**+1.3**
MOPA				*iS*	**Sn**	**12 35 58.0**	**-2.2**
MOPA	**Mopani**	**2.83**	**213**	*iP*	**Pb**	**12 35 30.5**	**-1.5**
MOPA				*iS*	**Sn**	**12 36 01.3**	**+1.1**
MOPA	**Mopani**	**2.83**	**213**	*eP*	**Pn**	**12 35 28.2**	**+1.8**
MOPA				*eS*	**Sn**	**12 36 01.6**	**+1.3**
MOPA	**Mopani**	**2.83**	**213**	*iP*	**Pb**	**12 35 30.5**	**-1.5**
	baz=214						
MOPA				*iS*	**Sn**	**12 36 01.3**	**+1.1**
	baz=214						
MUSN	**Musina, Limpop**	**3.19**	**248**	*iP*	**Pb**	**12 35 37.3**	**-0.9**
MUSN				*iS*	**Sb**	**12 36 14.6**	**-2.4**
MUSN	**Musina, Limpop**	**3.19**	**248**	*iP*	**Pb**	**12 35 35.6**	**-2.6**
MUSN				*iS*	**Sn**	**12 36 09.8**	**+0.5**
MUSN	**Musina, Limpop**	**3.19**	**248**	*eP*	**Pb**	**12 35 36.4**	**-1.8**
MUSN				*eS*	**Sb**	**12 36 16.1**	**-0.9**
MUSN				IAML		12 36 24.2	
	comp=Z,33nm,0.2s						
MUSN	**Musina, Limpop**	**3.19**	**248**	*iP*	**Pb**	**12 35 35.6**	**-2.6**
	baz=254						
MUSN				*iS*	**Sn**	**12 36 09.8**	**+0.5**
	baz=254						
MPHEP	**Siloam, Limpop**	**3.21**	**236**	*eP*	**Pn**	**12 35 34.5**	**+2.9**
MPHEP				*eS*	**Sb**	**12 36 16.0**	**-1.4**
MPHEP				IAML		12 36 28.3	
	comp=Z,42nm,0.5s						
HOED	**Hoedspruit, Li**	**3.81**	**211**	*eP*	**Pn**	**12 35 41.9**	**+2.0**
HOED				*eS*	**Sn**	**12 36 25.6**	**+1.1**
HOED				IAML		12 36 42.7	
	comp=Z,22nm,0.5s						
MATP	**Matopo**	**4.33**	**279**	*iP*	**Pb**	**12 35 57.5**	**-0.1**
MATP				*iS*	**Sb**	**12 36 50.0**	**+0.2**
MATP	**Matopo**	**4.33**	**279**	*iP*	**Pb**	**12 35 54.1**	**-3.5**
MATP				*iS*	**Sn**	**12 36 42.0**	**+4.5**
MATP	**Matopo**	**4.33**	**279**	*iP*	**Pb**	**12 35 54.1**	**-3.5**
	baz=284						
MATP				*iS*	**Sn**	**12 36 42.0**	**+4.5**
	baz=284						
PILG	**Pilgrimsrest,**	**4.36**	**209**	*eP*	**Pn**	**12 35 48.9**	**+1.3**
PILG				*eS*	**Sn**	**12 36 39.3**	**+1.1**
PILG				IAML		12 36 57.5	
	comp=Z,15nm,0.5s						
DULL	**Dullstroom, Mp**	**4.98**	**212**	*eP*	**Pn**	**12 35 57.7**	**+1.5**
DULL				*eS*	**Sn**	**12 36 53.9**	**+0.3**
DULL				IAML		12 37 29.1	
	comp=Z,8.1nm,0.4s						
MMAL	**MMAL**	**5.18**	**199**	*eP*	**Pn**	**12 36 00.9**	**+2.1**
MMAL				*eS*	**Sn**	**12 36 59.4**	**+1.0**
MMAL				IAML		12 37 29.9	
	comp=Z,12nm,0.5s						
KRI	**Karoi**	**5.38**	**322**	*iP*	Pn	12 36 07.2	+5.5
KRI				*iS*	**Sn**	**12 37 06.6**	**+3.0**
KRI	**Karoi**	**5.38**	**322**	*iP*	**Pn**	**12 36 03.9**	**+2.2**
KRI				*iS*	**Sn**	**12 36 58.6**	**-4.9**
KRI	**Karoi**	**5.38**	**322**	*iP*	**Pn**	**12 36 03.9**	**+2.2**
	baz=326						
KRI				*iS*	**Sn**	**12 36 58.6**	**-4.9**
	baz=326						
LEPH	**Lephalale, Lim**	**5.58**	**240**	*eP*	**Pn**	**12 36 07.3**	**+3.1**
LEPH				*eS*	**Sn**	**12 37 11.0**	**+2.9**
LEPH				IAML		12 37 42.3	
	comp=Z,14nm,0.8s						
BOSA	**Boshof**	**10.28**	**222**	*iP*	**Pn**	**12 37 07.5**	**-1.3**
BOSA				*iS*	Sn	12 38 50.6	-13
BOSA	**Boshof**	**10.28**	**222**	*iP*	**Pn**	**12 37 09.1**	**+0.3**
BOSA				*iS*	Sn	12 38 51.5	-12
BOSA	**Boshof**	**10.28**	**222**	*iP*	**Pn**	**12 37 09.1**	**+0.3**
	baz=223						
BOSA				*iS*	Sn	12 38 51.5	-12
	baz=223						

IDC 04 12:36:05.6±3.1, 5°.86S×130°.88E, h0km, mb3.7/1, mbtmp3.8/3, ML4.0/2, Error ellipse: s-maj=212.8km s-min=31.9km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.40**	**167**	Pn	Pn	12 39 30.5	-0.3
	0.7nm,0.3s,baz=346,slow=21,SNR=45						
WRA				Sn	Sn	12 41 57.4	-14
	1.7nm,0.3s,baz=339,slow=22,SNR=13						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**17.94**	**171**	P	Pn	12 40 16.7	0.0
	0.4nm,0.3s,baz=345,slow=10,SNR=38						
ASAR				S	Sn	12 43 21.8	-16
	1.3nm,0.7s,baz=347,slow=27,SNR=7.3						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**67.76**	**326**	P	P	12 47 05.3	+0.1
	0.3nm,0.4s,baz=119,slow=8.0,SNR=4.2						
	0.3nm,0.4s						

WEL 04 12:46:47.3±1.3, 32°S±12°×17°9E±2°5, h33km, M4.4/5, mB4.9/2, ML4.6/7, MLv4.4/5, Mw(mB)4.2/2, Error ellipse: s-maj=0.0km s-min=0.0km az=111.8, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.86**	**48**	P	Pn	12 47 44.9	+0.5
HAZ	**Te Kaha**	**5.90**	**188**	P	Pn	12 48 12.9	+0.6
HAZ				P	Sn	12 49 21.9	+3.2
RUGZ	**Raukumara Rang**	**6.12**	**188**	P	Pn	12 48 15.2	-0.3
PUZ	**Puketiti**	**6.17**	**184**	P	Pn	12 48 16.4	+0.3
PUZ				S	Sn	12 49 25.0	-0.5
URZ	**Urewera**	**6.49**	**192**	P	Pn	12 48 18.9	-1.6
MWZ	**Matawai**	**6.50**	**189**	P	Pn	12 48 20.0	-0.7
CNGZ	**Carnagh Statio**	**6.58**	**184**	P	Pn	12 48 21.7	-0.1
MUGZ	**Murupara**	**6.76**	**194**	P	Pn	12 48 23.1	-1.2
RIGZ	**Rimuhau**	**6.84**	**187**	P	Pn	12 48 23.5	-1.8
RTZ	**Ruatahuna**	**6.86**	**192**	P	Pn	12 48 23.7	-1.9
TLZ	**Tolley Road**	**6.95**	**202**	P	Pn	12 48 28.5	+1.7
MTHZ	**Maungataniwha**	**7.11**	**193**	P	Pn	12 48 27.0	-2.1
RAHZ	**Arahi**	**7.13**	**191**	P	Pn	12 48 26.6	-2.8
MRHZ	**Matea Rd**	**7.18**	**195**	P	Pn	12 48 27.5	-2.6
NMHZ	**Naumai**	**7.36**	**192**	P	Pn	12 48 29.7	-2.8
BKZ	**Black Stump Fm**	**7.49**	**194**	P	Pn	12 48 30.7	-3.5
ARHZ	**Aropaoanui**	**7.49**	**191**	P	Pn	12 48 30.7	-3.5
MCHZ	**McNeill Hill**	**7.71**	**192**	P	Pn	12 48 32.8	-4.5

*IDC **04** 12:53:23.0±1.6, 41°.76N×23°.12E, h0km, mb3.4/4, mbtmp3.5/6, ML3.4/2, MS2.5/4, Error ellipse: s-maj=28.5km s-min=25.1km az=104.0*
*SOF **04** 12:53:24.4, 41°.83N×22°.83E, h10km, MD3.4*
*PDG **04** 12:53:25.3±0.4, 41°.82N×22°.85E, h13km, ML3.8/8, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*SKO **04** 12:53:25.3, 41°.79N×22°.83E, h13km, ML3.6*
*BEO **04** 12:53:26.4±0.2, 41°.80N×22°.81E, h18km±3km, ML3.5/11*
*THE **04** 12:53:27.6, 41°.69N×22°.89E, h12km, ML3.5/12, Error ellipse: s-maj=0.6km s-min=0.3km az=170.0*
*ATH **04** 12:53:27.0, 41°.73N×22°.87E, h9km±1km, ML3.4/22, Error ellipse: s-maj=1.8km s-min=0.9km az=168.0*

ISC 04 12:53:24.8±0.9, 41°.79N±0°.01×22°.84E±0°.01, h4km±7km, n208, σ1°13/271, 21C-21D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.22**	**77**	⇓*iPg*	**Pg**	**12 53 30.0**	**+0.8**
KKB				*iSg*	**Sg**	**12 53 33.2**	**+1.2**
KKB	**Krupnik**	**0.22**	**77**	P	**Pg**	**12 53 29.9**	**+0.8**
STIP	**Stip**	**0.50**	**259**	⇑*iPg*	**Pg**	**12 53 31.4**	**-3.1**
STIP				*iSg*	**Sg**	**12 53 35.8**	**-5.2**
VAY	**Valandovo**	**0.52**	**203**	*ePg*	**Pg**	**12 53 36.1**	**+1.4**
VAY				*eSg*	**Sb**	**12 53 43.7**	**-0.4**
VAY	**Valandovo**	**0.52**	**203**	⇓*iPg*	**Pg**	**12 53 36.0**	**+1.4**
VAY				*iSg*	**Sg**	**12 53 43.4**	**+2.0**
VAY				*eLg*	Lg	12 53 43.7	
	comp=E,7μm,0.3s						
VAY				*eLg*	Lg	12 53 44.3	
	comp=N,5μm,0.4s						
KNT	**Kendrikon**	**0.63**	**176**	P	**Pg**	**12 53 37.7**	**+0.8**
KNT				S	**Sg**	**12 53 45.8**	**+0.7**
	comp=N,9μm,0.2s						
KNT	**Kendrikon**	**0.63**	**176**	⇑*iPg*	**Pg**	**12 53 37.7**	**+0.8**
KNT				*iSg*	**Sg**	**12 53 46.1**	**+0.9**
KNT	**Kendrikon**	**0.63**	**176**	P	**Pg**	**12 53 37.6**	**+0.8**
KNT				S	**Sg**	**12 53 46.0**	**+0.9**
MMB	**Musomishta**	**0.72**	**110**	⇑*iPg*	**Pg**	**12 53 39.3**	**+0.6**
MMB				*iSg*	**Sg**	**12 53 49.2**	**+1.1**
MMB	**Musomishta**	**0.72**	**110**	P	**Pg**	**12 53 39.1**	**+0.4**
BOSS	**Bosilegrad**	**0.75**	**339**	*ePg*	**Pg**	**12 53 39.4**	**+0.2**
BOSS				*eSg*	**Sb**	**12 53 50.8**	**-0.2**
PLNA	**Plana**	**0.81**	**32**	P	**Pg**	**12 53 40.2**	**-0.1**
VTS	**Vitosha**	**0.87**	**19**	⇑P	**Pg**	**12 53 42.7**	**+1.1**
VTS				⇓S	**Sg**	**12 53 54.0**	**+1.1**
VTS	**Vitosha**	**0.87**	**19**	*ePg*	**Pb**	**12 53 42.9**	**+0.3**
VTS				*eSg*	**Sb**	**12 53 55.5**	**+0.8**
VTS	**Vitosha**	**0.87**	**19**	P	**Pg**	**12 53 40.8**	**-0.8**
SRS	**Serrai**	**0.88**	**140**	P	**Pg**	**12 53 42.0**	**+0.4**
SRS				S	**Sg**	**12 53 53.9**	**+0.8**
	comp=N,5μm,0.6s						
SRS	**Serrai**	**0.88**	**140**	*ePg*	**Pg**	**12 53 42.1**	**+0.4**
SRS				*eSg*	**Sb**	**12 53 54.8**	**+0.1**
SRS	**Serrai**	**0.88**	**140**	⇑*iPg*	**Pg**	**12 53 42.0**	**+0.4**
SRS				*iSg*	**Sb**	**12 53 54.6**	**-0.1**
SRS	**Serrai**	**0.88**	**140**	P	**Pg**	**12 53 42.0**	**+0.4**
SRS				S	**Sg**	**12 53 54.1**	**+1.0**
SRS				AML	AML	12 53 58.3	
	comp=N,8041μm,0.5s						
SRS				AML	AML	12 53 59.1	
	comp=E,7080μm,0.4s						
NVR	**Nevrokopi**	**0.88**	**120**	P	**Pb**	**12 53 43.1**	**+0.4**
NVR				S	**Sb**	**12 53 54.7**	**-0.1**
	comp=E,3μm,0.4s						
NVR	**Nevrokopi**	**0.88**	**120**	P	**Pb**	**12 53 43.1**	**+0.4**
NVR				S	**Sg**	**12 53 54.2**	**+1.0**
NVR				AML	AML	12 53 58.9	
	comp=E,7493μm,0.4s						
NVR				AML	AML	12 53 59.1	
	comp=N,5788μm,0.3s						
GRG	**Griva**	**0.90**	**202**	P	**Pg**	**12 53 42.4**	**+0.4**
GRG				S	**Sg**	**12 53 54.6**	**+0.9**
	comp=N,4μm,0.3s						
GRG	**Griva**	**0.90**	**202**	⇑*iPg*	**Pg**	**12 53 42.4**	**+0.4**
GRG				*iSg*	**Sg**	**12 53 54.9**	**+1.1**
GRG	**Griva**	**0.90**	**202**	P	**Pg**	**12 53 42.6**	**+0.5**
GRG				S	**Sg**	**12 53 54.4**	**+0.7**
GRG				AML	AML	12 53 55.4	
	comp=E,7110μm,0.3s						
GRG				AML	AML	12 53 58.9	
	comp=N,7246μm,0.4s						
PRVS	**Prvonek**	**0.91**	**322**	*ePg*	**Pg**	**12 53 42.7**	**+0.4**
PRVS				*eSg*	**Sg**	**12 53 55.2**	**+1.0**
SOF	**Sofia**	**0.96**	**24**	P	**Pg**	**12 53 43.0**	**-0.3**
SOH	**Sokhos**	**1.04**	**158**	P	**Pg**	**12 53 45.0**	**+0.2**
SOH				S	**Sg**	**12 53 59.1**	**+0.7**
SOH	**Sokhos**	**1.04**	**158**	⇑*iPg*	**Pg**	**12 53 45.2**	**+0.4**
SOH				*iSg*	**Sb**	**12 53 59.8**	**+0.3**
SOH	**Sokhos**	**1.04**	**158**	P	**Pg**	**12 53 45.3**	**+0.4**
SOH				S	**Sg**	**12 53 59.4**	**+1.0**
SOH				AML	AML	12 54 03.2	
	comp=N,21505μm,0.7s						
SOH				AML	AML	12 54 03.5	
	comp=E,17940μm,0.5s						
SKO	**Skopje**	**1.06**	**280**	*ePg*	**Pg**	**12 53 45.9**	**+0.7**
SKO				*eSg*	**Sg**	**12 53 59.2**	**+0.3**
SKO	**Skopje**	**1.06**	**280**	*iPg*	**Pg**	**12 53 46.1**	**+1.0**
SKO				*iSg*	**Sg**	**12 54 00.3**	**+1.4**
THE	**Thessaloniki**	**1.16**	**175**	P	**Pg**	**12 53 47.3**	**+0.2**
THE				S	**Sg**	**12 54 02.5**	**+0.3**
	comp=E,3μm,0.5s						
THE	**Thessaloniki**	**1.16**	**175**	⇑*iPg*	**Pg**	**12 53 47.3**	**+0.2**
THE				*iSg*	**Sg**	**12 54 02.6**	**+0.3**
THE	**Thessaloniki**	**1.16**	**175**	P	**Pg**	**12 53 47.4**	**+0.3**
THE				S	**Sg**	**12 54 02.5**	**+0.3**
THE				AML	AML	12 54 03.5	
	comp=E,6937μm,0.6s						
THE				AML	AML	12 54 03.7	
	comp=N,5901μm,0.4s						
HORT	**Hortiatis**	**1.21**	**171**	P	**Pg**	**12 53 48.1**	**+0.1**
HORT				S	**Sg**	**12 54 03.6**	**-0.1**
	comp=N,2μm,0.6s						
HORT	**Hortiatis**	**1.21**	**171**	P	**Pg**	**12 53 48.1**	**+0.1**
HORT				S	**Sg**	**12 54 03.3**	**-0.4**
HORT				AML	AML	12 54 08.4	
	comp=E,3518μm,0.6s						
HORT				AML	AML	12 54 09.1	
	comp=N,4002μm,0.5s						
PGB	**Panagyurishte**	**1.22**	**54**	P	**Pg**	**12 53 48.3**	**0.0**
BARS	**Barje**	**1.27**	**324**	*ePg*	**Pn**	**12 53 49.2**	**-0.2**
BARS				*eSg*	**Sb**	**12 54 05.7**	**-0.4**
BARS	**Barje**	**1.27**	**324**	*iPg*	**Pn**	**12 53 49.2**	**-0.2**
BARS				*iSg*	**Sb**	**12 54 05.9**	**-0.2**
KOKK	**Kokkinochori,**	**1.31**	**138**	P	**Pn**	**12 53 49.7**	**-0.1**
KOKK				S	**Sb**	**12 54 06.8**	**-0.2**
	comp=N,2μm,0.6s						
KOKK	**Kokkinochori,**	**1.31**	**138**	P	**Pn**	**12 53 49.9**	**+0.1**
KOKK				S	**Sb**	**12 54 06.7**	**-0.3**
RZN	**Rozhen**	**1.42**	**93**	P	**Pn**	**12 53 51.5**	**0.0**
KVLA	**Kavala**	**1.44**	**126**	P	**Pn**	**12 53 51.9**	**+0.3**
PLD	**Plovdiv**	**1.46**	**75**	*ePg*	**Pn**	**12 53 52.4**	**+0.4**
PLD				*eSg*	**Sg**	**12 54 13.9**	**+2.1**
PLD	**Plovdiv**	**1.46**	**75**	*iPg*	**Pn**	**12 53 52.3**	**+0.4**
PLD				*iSg*	**Sb**	**12 54 11.9**	**+0.4**
PLD	**Plovdiv**	**1.46**	**75**	P	**Pn**	**12 53 52.0**	**+0.1**
ZAPS	**Zavoj**	**1.49**	**354**	*ePg*	**Pn**	**12 53 52.9**	**+0.6**
ZAPS				*eSg*	**Sg**	**12 54 13.7**	**+1.1**
KAVA	**Kavala**	**1.49**	**122**	P	**Pn**	**12 53 52.4**	**+0.2**
KAVA				S	**Sn**	**12 54 11.6**	**-0.5**
KAVA	**Kavala**	**1.49**	**122**	P	**Pn**	**12 53 52.5**	**+0.2**
KAVA				S	**Sn**	**12 54 11.1**	**-1.0**
FNA	**Florina**	**1.50**	**228**	P	**Pn**	**12 53 52.9**	**+0.5**
FNA				S	**Sn**	**12 54 12.9**	**+0.5**
FNA	**Florina**	**1.50**	**228**	*ePg*	**Pb**	**12 53 53.8**	**+0.7**
FNA				*eSg*	**Sg**	**12 54 14.0**	**+1.1**
FNA	**Florina**	**1.50**	**228**	*iPn*	**Pn**	**12 53 53.2**	**+0.8**
FNA				*iSn*	**Sg**	**12 54 13.8**	**+1.0**
FNA	**Florina**	**1.50**	**228**	P	**Pn**	**12 53 53.2**	**+0.8**
FNA				AML	AML	12 54 15.7	
	comp=E,1077μm,0.4s						
FNA				AML	AML	12 54 19.1	
	comp=N,1355μm,0.6s						
KTI	**Kastanea**	**1.50**	**202**	P	**Pn**	**12 53 52.1**	**-0.5**
OHR	**Ohrid**	**1.68**	**247**	*ePg*	**Pb**	**12 53 57.4**	**+1.1**
OHR				*eSg*	**Sg**	**12 54 20.0**	**+1.2**
OHR	**Ohrid**	**1.68**	**247**	*iPn*	**Pn**	**12 53 56.2**	**+1.2**
OHR				*iSn*	**Sb**	**12 54 19.2**	**+1.5**
OHR				*eLg*	Lg	12 54 23.8	
	comp=E,244nm,0.6s						
OUR	**Ouranopolis**	**1.69**	**149**	P	**Pn**	**12 53 55.2**	**+0.1**
OUR				S	**Sn**	**12 54 15.9**	**-1.2**
OUR	**Ouranopolis**	**1.69**	**149**	P	**Pn**	**12 53 55.1**	**+0.1**
OUR				AML	AML	12 54 21.4	
	comp=E,4806μm,0.4s						
OUR				AML	AML	12 54 22.1	
	comp=N,6271μm,0.4s						
THAS	**Thassos island**	**1.85**	**129**	P	**Pn**	**12 53 56.9**	**-0.3**
THAS				S	**Sn**	**12 54 19.7**	**-1.2**
	comp=N,978nm,0.3s						
THAS	**Thassos island**	**1.85**	**129**	P	**Pn**	**12 53 56.9**	**-0.3**
THAS				AML	AML	12 54 26.3	
	comp=E,1984μm,0.3s						
THAS				AML	AML	12 54 27.8	
	comp=N,1913μm,0.4s						
SELS	**Selova**	**1.91**	**319**	*ePn*	**Pn**	**12 53 57.7**	**-0.4**
NEST	**Nestorio**	**1.93**	**225**	P	**Pn**	**12 53 59.5**	**+1.0**
NEST	**Nestorio**	**1.93**	**225**	P	**Pn**	**12 53 59.5**	**+1.0**
NEST				AML	AML	12 54 36.0	
	comp=N,570μm,0.6s						
NEST				AML	AML	12 54 36.6	
	comp=E,608μm,0.8s						
PAIG	**Paliouri**	**1.97**	**161**	P	**Pn**	**12 53 58.9**	**0.0**
PAIG	**Paliouri**	**1.97**	**161**	P	**Pn**	**12 53 58.9**	**0.0**
PAIG				AML	AML	12 54 32.9	
	comp=N,1341μm,0.6s						
PAIG				AML	AML	12 54 38.0	
	comp=E,1168μm,0.5s						
BOVS	**Bovan**	**2.02**	**336**	⇓P	**Pn**	**12 53 58.7**	**-0.9**
BOVS	**Bovan**	**2.02**	**336**	*ePn*	**Pn**	**12 53 59.5**	**-0.1**
PENT	**Pentalofos**	**2.05**	**219**	P	**Pn**	**12 54 01.1**	**+1.0**
PENT	**Pentalofos**	**2.05**	**219**	P	**Pn**	**12 54 00.2**	**+0.1**
DIM	**Dimitrovgrad**	**2.06**	**82**	P	**Pb**	**12 54 03.5**	**+0.8**
ZAGS	**Zajecar**	**2.07**	**348**	*ePn*	**Pn**	**12 54 00.1**	**-0.1**
RDO	**Rodhopi**	**2.13**	**107**	P	**Pn**	**12 54 01.4**	**+0.4**
RDO	**Rodhopi**	**2.13**	**107**	P	**Pn**	**12 54 01.8**	**+0.8**
RDO				AML	AML	12 54 35.2	
	comp=E,2336μm,0.5s						
RDO				AML	AML	12 54 35.4	
	comp=N,2845μm,0.4s						
KPRO	**Kipourio**	**2.15**	**212**	P	**Pn**	**12 54 01.8**	**+0.3**
KPRO	**Kipourio**	**2.15**	**212**	P	**Pn**	**12 54 02.5**	**+1.0**
PVL	**Pavlikeni**	**2.18**	**52**	P	**Pb**	**12 54 05.6**	**+0.9**
PVY	**Plav**	**2.29**	**291**	⇓*iPn*	**Pn**	**12 54 04.0**	**+0.6**
PVY				*iSn*	**Sn**	**12 54 33.8**	**+1.8**
THL	**Klokotos Trika**	**2.31**	**196**	P	**Pn**	**12 54 03.9**	**+0.3**
THL				S	**Sn**	**12 54 31.9**	**-0.6**
THL	**Klokotos Trika**	**2.31**	**196**	P	**Pn**	**12 54 03.8**	**+0.2**
THL				AML	AML	12 54 43.2	
	comp=E,500μm,0.8s						
THL				AML	AML	12 54 43.5	
	comp=N,304μm,0.6s						
SMTH	**Samothraki Isl**	**2.42**	**122**	P	**Pn**	**12 54 04.8**	**-0.3**
SMTH				S	**Sn**	**12 54 34.3**	**-0.9**
SMTH	**Samothraki Isl**	**2.42**	**122**	P	**Pn**	**12 54 04.9**	**-0.2**
SMTH				AML	AML	12 54 44.7	
	comp=E,399μm,0.7s						
SMTH				AML	AML	12 54 49.8	
	comp=N,452μm,0.6s						
BEY	**Berane**	**2.44**	**297**	⇑*iPn*	**Pn**	**12 54 06.5**	**+1.1**
IVA	**Berane**	**2.44**	**297**	⇓*iPn*	**Pn**	**12 54 05.9**	**+0.5**
IVA				*iSn*	**Sn**	**12 54 37.5**	**+1.8**
XOR	**Xorichti**	**2.44**	**174**	P	**Pn**	**12 54 05.5**	**+0.1**
XOR	**Xorichti**	**2.44**	**174**	P	**Pn**	**12 54 05.4**	**0.0**
XOR				AML	AML	12 54 35.2	
	comp=N,1203μm,0.5s						
XOR				AML	AML	12 54 36.2	
	comp=E,669μm,0.4s						
PUNG	**Punghina**	**2.48**	**1**	⇑P	**Pn**	**12 54 07.7**	**+1.8**
NEO	**Neokhori**	**2.50**	**173**	P	**Pn**	**12 54 06.2**	**-0.1**
NEO				S	**Sn**	**12 54 35.7**	**-1.5**
	comp=E,310nm,0.4s						
NEO	**Neokhori**	**2.50**	**173**	P	**Pn**	**12 54 06.1**	**-0.1**
NEO				AML	AML	12 54 37.6	
	comp=N,665μm,0.5s						
NEO				AML	AML	12 54 39.1	
	comp=E,565μm,0.4s						

AXAR	**Agios Charalam**	**3.03 183**	P	**Pn**	**12 54 13.7**	**+0.3**
AXAR	**Agios Charalam**	**3.03 183**	P	**Pn**	**12 54 14.0**	**+0.6**
MDVR	**Moldovita**	**3.10 345**	⇓P	**Pn**	**12 54 14.1**	**-0.3**
ATAL	**Atalanti**	**3.10 177**	P	**Pn**	**12 54 14.6**	**+0.2**
HERR	**Herculane**	**3.10 354**	⇓P	**Pn**	**12 54 13.9**	**-0.5**
KEK	**Kerkira**	**3.11 229**	P	**Pn**	**12 54 15.7**	**+1.1**
KEK			AML	AML	12 55 14.0	
	comp=E,116μm,0.8s					
KEK			AML	AML	12 55 21.7	
	comp=N,177μm,0.8s					
DIVS	**Divibare**	**3.11 319**	*e*Pn	**Pn**	**12 54 14.6**	**-0.1**
DIVS	**Divibare**	**3.11 319**	*e*Pn	**Pn**	**12 54 14.4**	**-0.3**
RUDO	**Rudo**	**3.14 307**	*e*Pn	**Pn**	**12 54 16.3**	**+1.3**
HUMR	**Humele**	**3.15 29**	⇓P	**Pn**	**12 54 17.8**	**+2.7**
RAZG	**Razgrad**	**3.23 56**	⇓P	**Pb**	**12 54 21.9**	**-0.8**
UPM	**Unac-Piva**	**3.23 297**	⇑*i*Pn	**Pn**	**12 54 16.9**	**+0.5**
ANX	**Ano Chora**	**3.27 193**	P	**Pn**	**12 54 17.9**	**+1.0**
ANX			S	**Sn**	**12 54 56.0**	**-0.3**
ANX	**Ano Chora**	**3.27 193**	P	**Pn**	**12 54 17.8**	**+0.9**
HCY	**Herceg Novi**	**3.30 283**	*e*Pn	**Pn**	**12 54 18.2**	**+1.0**
HCY	**Herceg Novi**	**3.30 283**	⇑*i*Pn	**Pn**	**12 54 17.9**	**+0.7**
HCY			*e*Sn	**Sn**	**12 54 58.1**	**+1.3**
KYMI	**Kymi, Euboea I**	**3.30 163**	P	**Pn**	**12 54 17.3**	**+0.1**
KYMI	**Kymi, Euboea I**	**3.30 163**	P	**Pn**	**12 54 17.1**	**-0.1**
PVO	**Paravola**	**3.33 198**	P	**Pn**	**12 54 18.4**	**+0.8**
PVO	**Paravola**	**3.33 198**	P	**Pn**	**12 54 18.3**	**+0.8**
EFP	**Efpalio**	**3.44 192**	P	**Pn**	**12 54 19.9**	**+0.8**
KALE	**Kalithea**	**3.44 189**	P	**Pn**	**12 54 19.9**	**+0.7**
SIGR	**SIGRI**	**3.45 137**	P	**Pn**	**12 54 19.9**	**+0.6**
SIGR	**SIGRI**	**3.45 137**	P	**Pn**	**12 54 19.8**	**+0.5**
TREB	**Trebinje**	**3.46 287**	*e*Pn	**Pn**	**12 54 20.2**	**+0.8**
TRIZ	**Trizonia**	**3.48 190**	P	**Pn**	**12 54 20.2**	**+0.6**
TRIZ			S	**Sn**	**12 55 01.3**	**+0.2**
TRIZ	**Trizonia**	**3.48 190**	P	**Pn**	**12 54 20.3**	**+0.8**
VIL2	**Platees**	**3.59 175**	P	**Pn**	**12 54 22.3**	**+1.1**
VIL2			AML	AML	12 54 48.8	
	comp=N,133μm,0.8s					
VIL2			AML	AML	12 55 15.4	
	comp=E,209μm,0.8s					
GZR	**Gura Zlata**	**3.60 359**	⇓P	**Pn**	**12 54 20.6**	**-0.8**
LAKA	**Lakka**	**3.61 191**	P	**Pn**	**12 54 22.3**	**+0.8**
LAKA			S	**Sn**	**12 55 04.3**	**-0.2**
	comp=E,135nm,0.8s					
LAKA	**Lakka**	**3.61 191**	P	**Pn**	**12 54 22.4**	**+1.0**
VILL	**Villia**	**3.64 174**	P	**Pn**	**12 54 22.1**	**+0.2**
PRK	**Paraskevi**	**3.65 133**	P	**Pn**	**12 54 22.6**	**+0.7**
PRK	**Paraskevi**	**3.65 133**	P	**Pn**	**12 54 22.3**	**+0.4**
TEKS	**Tekeris**	**3.67 320**	*e*Pn	**Pn**	**12 54 21.8**	**-0.5**
TEKS	**Tekeris**	**3.67 320**	*e*Pn	**Pn**	**12 54 21.7**	**-0.5**
LOT	**Lotru**	**3.71 10**	⇑P	**Pn**	**12 54 23.0**	**+0.1**
EAG1	**Polichnitos, L**	**3.74 135**	P	**Pn**	**12 54 24.2**	**+1.0**
FSK	**Fiskardo**	**3.76 208**	P	**Pn**	**12 54 24.0**	**+0.5**
FSK	**Fiskardo**	**3.76 208**	P	**Pn**	**12 54 24.6**	**+1.1**
KLV	**Kalavryta, Ach**	**3.78 188**	P	**Pn**	**12 54 24.3**	**+0.4**
KLV	**Kalavryta, Ach**	**3.78 188**	P	**Pn**	**12 54 24.5**	**+0.6**
ARR	**Arges**	**3.80 19**	⇑P	**Pn**	**12 54 25.4**	**+1.3**
NEVS	**Nevesinje**	**3.81 295**	*e*Pn	Pb	12 54 27.1	-5.5
NEVS			*e*Pn	**Pn**	**12 54 27.0**	**+2.7**
GUR	**Goura**	**3.87 186**	P	**Pn**	**12 54 25.6**	**+0.5**
GUR			S	**Sn**	**12 55 10.3**	**-0.8**
GUR	**Goura**	**3.87 186**	P	**Pn**	**12 54 25.9**	**+0.8**
BZS	**Buzias**	**3.92 347**	⇓P	**Pn**	**12 54 25.1**	**-0.6**
STON	**Ston**	**3.96 287**	*e*Pn	**Pn**	**12 54 27.8**	**+1.6**
STON			Sn	**Sn**	**12 55 13.4**	**+0.3**
STON	**Ston**	**3.96 287**	*e*Pn	**Pn**	**12 54 27.5**	**+1.3**
VOIR		**3.98 23**	⇓P	**Pn**	**12 54 28.0**	**+1.4**
VLY	**Voula,Athens**	**4.00 169**	P	**Pn**	**12 54 27.5**	**+0.6**
CHOS	**Chios island**	**4.20 143**	P	**Pn**	**12 54 30.6**	**+0.9**
CHOS	**Chios island**	**4.20 143**	P	**Pn**	**12 54 30.5**	**+0.9**
MLR	**Muntele Rosu**	**4.33 30**	⇓P	**Pn**	**12 54 35.2**	**+3.7**
KRND	**KRANIDI**	**4.41 177**	P	**Pn**	**12 54 33.1**	**+0.7**
NEHR	**Nehoiu**	**4.41 33**	⇓P	**Pn**	**12 54 34.5**	**+2.0**
LSTV	**Lastovo**	**4.52 284**	*e*Pn	**Pn**	**12 54 34.5**	**+0.6**
RICI	**Ricice**	**4.54 294**	*e*Pn	**Pn**	**12 54 36.5**	**+2.2**
SIRR	**Siria**	**4.55 350**	⇑P	**Pn**	**12 54 34.0**	**-0.4**
MAKA	**Makarska**	**4.55 291**	*e*Pn	**Pn**	**12 54 35.7**	**+1.4**
COVR	**Voineasa-Covas**	**4.72 30**	⇓P	**Pn**	**12 54 38.2**	**+1.4**
TIRR	**Tirgusor**	**4.87 55**	⇓P	Pn	12 54 43.6	+4.9
MARR	**Marisel-Cluj**	**4.88 2**	⇓P	**Pn**	**12 54 38.6**	**-0.4**
PLOR	**Plostina**	**4.90 33**	⇓P	**Pn**	**12 54 40.8**	**+1.6**
HVAR	**Hvar**	**4.93 288**	*e*Pn	**Pn**	**12 54 40.2**	**+0.7**
VRI	**Vrincioaia**	**4.95 33**	⇑P	**Pn**	**12 54 41.6**	**+1.8**
VLI	**Veliai**	**5.07 179**	P	**Pn**	**12 54 42.5**	**+1.0**
BLY	**Banja Luka**	**5.08 307**	*e*Pn	**Pn**	**12 54 40.6**	**-1.0**
SMG	**Samos**	**5.11 142**	P	**Pn**	**12 54 42.7**	**+0.6**
CFR	**Carcaliu**	**5.12 47**	⇑P	**Pn**	**12 54 45.8**	**+3.6**
KIJV	**Kijevo**	**5.22 297**	*e*Pn	**Pn**	**12 54 45.9**	**+2.3**
MORH	**Mrgy, Hungar**	**5.36 327**	⇑P	**Pn**	**12 54 44.9**	**-0.5**
ZIRJ	**Zirje**	**5.62 292**	*e*Pn	**Pn**	**12 54 50.2**	**+1.2**
ZIRJ			Sn	**Sn**	**12 55 53.1**	**-0.8**
MOSL	**Moslavina**	**5.83 313**	*e*Pn	**Pn**	**12 54 52.0**	**0.0**
BURAR	**Bucovina Array**	**6.06 15**	⇑P	**Pn**	**12 54 56.8**	**+1.6**
DUGI	**Dugi Otok**	**6.12 294**	*e*Pn	**Pn**	**12 54 56.8**	**+0.8**
IDI	**Anoyia**	**6.69 165**	LR	LR	12 57 15.7	
	comp=E,9.7nm,18.2s,baz=248,slow=35					
KOLS	**Kolonicke sedl**	**7.15 357**	*e*PN	Pn	12 55 17.3	+7.2
VYHS	**Vyhne**	**7.27 338**	*e*PN	Pn	12 55 16.9	+5.2
VYHS			*e*SN	**Sn**	**12 56 33.1**	**-1.6**
RONA	**Rosalia, Austr**	**7.52 324**	*e*Pn	**Pn**	**12 55 16.0**	**+0.8**
	comp=E,3.8nm,0.4s					
RONA			Sg	**Sn**	**12 56 40.4**	**-0.4**
	comp=E,5.0nm,0.3s					
ARSA	**Arzberg**	**7.55 319**	*e*Pn	**Pn**	**12 55 16.8**	**+1.2**
	comp=E,9.2nm,0.4s					
ARSA			*e*Sn	**Sn**	**12 56 43.2**	**+1.5**
	comp=E,3.7nm,0.4s					
ZST	**Bratislava**	**7.58 330**	*e*PN	**Pn**	**12 55 19.3**	**+3.3**
MODS	**Modra-Piesok**	**7.67 331**	*e*PN	Pn	12 55 22.5	+5.4
MODS			*e*SN	**Sn**	**12 56 41.3**	**-3.1**
CONA	**Conrad Observa**	**7.88 323**	*e*Pn	**Pn**	**12 55 20.7**	**+0.5**
	comp=E,3.7nm,0.5s					
CONA			*e*Sn	**Sn**	**12 56 50.0**	**+0.2**
	comp=E,16nm,0.6s					
MYKA	**Terra Mystica**	**8.19 309**	*e*Pn	Pn	12 55 31.0	+6.7
	comp=E,5.0nm,0.4s					
VRAC	**Vranov**	**8.70 332**	LR	LR	12 58 48.4	
	comp=E,28nm,20.6s,baz=186,slow=37					
LESA	**Schwarzleotal**	**9.18 311**	*e*Pn	**Pn**	**12 55 42.3**	**+4.4**
	comp=E,2.5nm,0.3s					
GERES	**GERESS Array B**	**9.54 321**	Pn	**Pn**	**12 55 45.9**	**+2.9**
	comp=E,0.2nm,0.3s,baz=141,slow=17,SNR=2.0					
	comp=E,0.7nm,0.4s					
WTTA	**Wattenberg**	**9.69 308**	*e*Pn	**Pn**	**12 55 45.9**	**+0.9**
	comp=E,6.2nm,0.4s					
FINES	**FINESS Array B**	**19.78 5**	P	**P**	**12 57 53.7**	**-1.9**
	comp=E,0.2nm,0.3s,baz=190,slow=11,SNR=1.6					
	comp=E,3.1nm,1.0s					
ESDC	**Sonseca Array**	**20.40 273**	P	**P**	**12 58 02.1**	**-0.5**
	comp=E,0.6nm,0.7s,baz=70,slow=12,SNR=4.9					
	comp=E,0.6nm,0.7s					
NOA	**NORSAR Array B**	**20.53 344**	P	**P**	**12 58 02.9**	**-1.0**
	comp=E,0.9nm,0.8s,baz=153,slow=11,SNR=1.7					
NOA			LR	LR	13 07 41.5	
	comp=E,17nm,18.4s,baz=275,slow=42					
	comp=E,0.9nm,0.8s					
TORD	**Torodi Ar. Bea**	**33.96 219**	P	**P**	**13 00 09.4**	**+0.2**
	comp=E,1.2nm,0.8s,baz=28,slow=10,SNR=6.5					
	comp=E,1.2nm,0.8s					
MKAR	**Makanchi Array**	**41.96 62**	P	**P**	**13 01 14.2**	**-2.4**
	comp=E,0.5nm,0.8s,baz=284,slow=5.8,SNR=2.4					
	comp=E,0.5nm,0.8s					
KMBO	**Kilima Mbogo**	**44.67 159**	LR	LR	13 20 17.6	
	comp=E,19nm,19.3s,baz=92,slow=36					

*NEIC **04** 13:00:13.1±0.8,56°.1S±0°.1×27°.9W±0°.2, h105km±7km, mb4.5/19, Error ellipse: s-maj=22.9km s-min=11.3km az=216.0*
*IDC **04** 13:00:15.7±10.0,56°.16S×27°.92W, h132km±98km, mb3.7/3, mbtmp4.2/4, ML4.8/1, MS3.5/2, Error ellipse: s-maj=45.5km s-min=31.3km az=45.0*
ISC 04 13:00:14.4±0.7, 56°.1S±0°.1×28°.0W±0°.1, h121km, n38, σ0°54/36, mb4.5/12, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.20**	**287**	Pn	**Pn**	**13 01 29.2**	**-0.7**
VNA1	**Neumayer--Stat**	**16.92**	**157**	⇑P	**P**	**13 04 03.4**	**0.0**
	comp=Z,0.5nm,0.2s						
VNA3	**Neumayer Olymp**	**17.10**	**160**	⇑P	**P**	**13 04 04.9**	**-0.5**
	comp=Z,2.5nm,0.5s						
VNA2	**Neumayer--Watz**	**17.32**	**157**	⇑P	**P**	**13 04 07.5**	**-0.3**
	comp=Z,3.8nm,0.4s,baz=318,slow=13						
SNAA	**Sanae**	**18.88**	**155**	P	**P**	**13 04 23.9**	**-1.1**
SNAA				IAmb	IAmb	13 04 25.6	
	comp=Z,11nm,0.5s						
SNAA	**Sanae**	**18.88**	**155**	⇑P	**P**	**13 04 24.4**	**-0.6**
	comp=Z,291nm,0.5s						
SNAA	**Sanae**	**18.88**	**155**	P	**P**	**13 04 24.4**	**-0.6**
	comp=Z,3.0nm,0.3s,baz=308,slow=11,SNR=257						
	comp=Z,9.9nm,0.5s						
PMSA	**Palmer Station**	**19.53**	**229**	P	**P**	**13 04 32.0**	**+0.1**
TROLL	**Troll, Antarti**	**20.40**	**153**	⇑P	**P**	**13 04 40.7**	**-0.8**
	comp=Z,423nm,0.3s						
BELA	**Belgrano 2**	**22.00**	**184**	P	**P**	**13 04 58.9**	**+0.6**
BELA				IAmb	IAmb	13 05 11.5	
	comp=Z,8.0nm,0.3s						
MG01	**Puerto William**	**22.27**	**256**	P	**P**	**13 05 00.1**	**-1.1**
TRQA	**Tornquist**	**28.93**	**294**	P	**P**	**13 06 02.0**	**0.0**
TRQA				IAmb	IAmb	13 06 11.7	
	comp=Z,22nm,1.5s						
COYC	**Coyhaique**	**29.28**	**272**	P	**P**	**13 06 05.9**	**+0.9**
COYC				IAmb	IAmb	13 06 06.5	
	comp=Z,17nm,1.2s						
QSPA	**South Pole Qui**	**34.15**	**180**	P	**P**	**13 06 48.0**	**+0.5**
MT09	**Talagante**	**36.90**	**289**	P	**P**	**13 07 10.7**	**-0.6**
MT09				IAmb	IAmb	13 07 45.6	
	comp=Z,14nm,1.2s						
CO01	**Juntas del Tor**	**39.42**	**294**	P	**P**	**13 07 32.8**	**+0.2**
CO01				IAmb	IAmb	13 07 39.7	
	comp=Z,8.5nm,1.3s						
MAW	**Mawson**	**40.37**	**144**	P	**P**	**13 07 39.6**	**-0.1**
MAW	**Mawson**	**40.37**	**144**	P	**P**	**13 07 39.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=243,slow=6.8,SNR=2.2						
	comp=Z,0.9nm,0.6s						
LCO	**Las Campanas**	**40.52**	**294**	P	**P**	**13 07 42.0**	**+0.3**
LCO				IAmb	IAmb	13 07 51.8	
	comp=Z,27nm,1.4s						
AC04	**Llanos de Chal**	**41.36**	**294**	P	**P**	**13 07 49.0**	**+0.7**
AC02	**Maricunga**	**41.50**	**297**	P	**P**	**13 07 50.5**	**+0.4**
AC02				IAmb	IAmb	13 07 52.7	
	comp=Z,4.2nm,0.8s						
GO02	**Mina Guanaco**	**43.12**	**298**	P	**P**	**13 08 03.0**	**+0.1**
GO02				IAmb	IAmb	13 08 40.3	
	comp=Z,17nm,1.4s						
PB07	**IPOC Station P**	**46.16**	**301**	P	**P**	**13 08 27.1**	**+0.2**
LPAZ	**La Paz**	**50.04**	**306**	P	**P**	**13 08 57.5**	**+0.2**
LPAZ				IAmb	IAmb	13 08 59.8	
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**50.04**	**306**	P	**P**	**13 08 58.0**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=144,slow=5.7,SNR=3.9						
	comp=Z,1.1nm,0.3s						
LSZ	**Lusaka**	**58.81**	**70**	LR	LR	13 32 07.5	
	comp=Z,15nm,19.9s,baz=202,slow=32						
TOA0	**Torodi Ar. Sit**	**73.32**	**30**	P	**P**	**13 11 32.5**	**-0.1**
TOA0				IAmb	IAmb	13 11 34.3	
	comp=Z,7.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**73.32**	**30**	P	**P**	**13 11 32.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**73.32**	**30**	P	**P**	**13 11 32.9**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=202,slow=5.9,SNR=11						
	comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**99.07**	**163**	LR	LR	13 57 11.5	
	comp=Z,42nm,18.6s,baz=81,slow=34						
H31M	**Peel River**	**145.05**	**316**	PKPbc	**PKPbc**	**13 19 35.4**	**-0.1**
F31M	**Tsiigehtchic**	**145.37**	**319**	PKPdf	**PKPdf**	**13 19 36.3**	**+0.1**
INK	**Inuvik**	**145.56**	**321**	PKPdf	**PKPdf**	**13 19 36.6**	**+0.1**
I30M	**Mount Dempster**	**145.65**	**315**	PKPdf	**PKPdf**	**13 19 37.3**	**+0.3**
DAWY	**Dawson**	**146.49**	**312**	PKPdf	**PKPdf**	**13 19 39.3**	**+1.0**
G29M	**Pine Creek**	**146.81**	**317**	PKPdf	**PKPbc**	**13 19 40.5**	**-0.3**
F28M	**Old Crow**	**147.68**	**318**	PKPdf	**PKPbc**	**13 19 42.8**	**-0.4**
ILAR	**Eielson Array**	**149.81**	**312**	PKPbc	**PKPbc**	**13 19 48.1**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=117,slow=3.0,SNR=10						

*JMA **04** 13:05:15.9±0.2, 43°.9N±0°.6×14°.6E±°, h101km±1km, MV3.1/38, NEAR KUNASHIRI ISLAND*
*SKHL **04** 13:05:16.3±0.5, 43°.90N×146°.10E, h101km±6km, mb5.2/4, msha5.2/4*
ISC 04 13:05:17.2±1.7, 43°.86N±0°.07×146°.07E±0°.05, h94km±10km, n15, σ0°61/29, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.24**	**320**	*i* P	**Pn**	**13 05 30.4**	**-0.4**
YUK				AMB	AMB	13 05 31.0	
	800nm,0.2s						
YUK				*i* S	**Sn**	**13 05 40.6**	**-0.3**
YUK				A	A	13 05 42.4	
	2μm,0.4s						
YUK				A	A	13 05 42.4	
	2μm,0.4s						
NEM2	**Nemuro 2**	**0.55**	**206**	P	**Pn**	**13 05 32.6**	**-0.1**
NEM2				*e*S	**Sn**	**13 05 44.7**	**+0.5**
NMR	**Nemuro--Hokkai**	**0.55**	**207**	*i* P	**Pn**	**13 05 32.6**	**-0.1**
NMR				AMB	AMB	13 05 32.7	
	410nm,0.2s						
NMR				*i* S	**Sn**	**13 05 44.7**	**+0.4**
SHO	**Shikotan**	**0.55**	**88**	*i* P	**Pn**	**13 05 32.3**	**-0.4**
SHO				AMB	AMB	13 05 32.6	
	600nm,0.3s						
SHO				*i* S	**Sn**	**13 05 44.0**	**-0.3**
SHO				A	A	13 05 44.6	
	1μm,0.4s						
SHO				A	A	13 05 44.6	
	1μm,0.4s						
JRA	**Rausu**	**0.69**	**277**	*e*P	**Pn**	**13 05 33.6**	**-0.3**
JRA				*e*S	**Sn**	**13 05 46.6**	**+0.1**
JNSB	**Nemuroshibetsu**	**0.78**	**265**	*e*P	**Pn**	**13 05 34.8**	**+0.1**
JNSB				*e*S	**Sn**	**13 05 49.0**	**+1.0**
JKHN	**Kushirohamanak**	**1.02**	**221**	P	**Pn**	**13 05 37.3**	**-0.1**
JKHN				*e*S	**Sn**	**13 05 53.1**	**+0.6**
JNK	**Nakash**	**1.02**	**255**	*e*P	**Pn**	**13 05 37.1**	**-0.2**
JNK				*e*S	**Sn**	**13 05 52.8**	**+0.2**
JAK	**Akkeshi**	**1.32**	**230**	*e*P	**Pn**	**13 05 40.6**	**-0.3**
JAK				*e*S	**Sn**	**13 05 58.9**	**+0.1**
JTKR	**Abashiri--Toko**	**1.57**	**275**	*e*P	**Pn**	**13 05 43.3**	**-0.6**
JTKR				*e*S	**Sn**	**13 06 04.6**	**+0.4**
JAR	**Ashorobuto**	**1.76**	**252**	*e*P	**Pn**	**13 05 46.5**	**+0.1**
JAR				*e*S	**Sn**	**13 06 09.8**	**+1.1**
KUR	**Kuril'sk**	**1.88**	**42**	*e*P	**Pn**	**13 05 47.5**	**-0.5**
KUR				*e*S	**Sn**	**13 06 13.0**	**+1.6**
JOB	**Onbets**	**1.89**	**241**	*e*P	**Pn**	**13 05 48.1**	**+0.1**
JOB				*e*S	**Sn**	**13 06 11.9**	**+0.3**
JMP	**Maruseppu**	**1.96**	**275**	*e*P	**Pn**	**13 05 48.5**	**-0.5**
JCH	**Churui**	**2.34**	**239**	*e*P	**Pn**	**13 05 53.5**	**-0.4**
JCH				*e*S	**Sn**	**13 06 20.8**	**-1.2**

*DNK **04** 13:13:10.0±1.6, 56°.55N×8°.61E, h0km±22km*
BER 04 13:13:10.4±1.9, 60°.00N×9°.41E, h0km, ML1.6, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONO	**Kongsberg**	**0.37**	**164**	*e*P	Pg	13 13 16.2	-1.1
KONO				*e*S	Sg	13 13 21.6	-0.5
KONO				IAML		13 13 26.4	
	comp=Z,68nm,0.7s						
OSL	**Oslo**	**0.67**	**95**	*e*P	Pg	13 13 23.4	+0.2
OSL				*e*S	Sg	13 13 32.6	+0.8
SKAR	**Skarslia**	**0.88**	**322**	*e*P	Pg	13 13 23.5	-3.7
SKAR				*e*		13 13 32.5	
SKAR				*e*S	Sg	13 13 34.6	-3.8
SKAR				IAML		13 13 35.4	
	comp=Z,12nm,0.4s						
NAO01	**NORSAR Array S**	**1.12**	**40**	*e*P	Pg	13 13 29.8	-2.0
NAO01				*e*S	Sg	13 13 44.8	-1.6
NAO01				IAML		13 13 45.7	
	comp=Z,17nm,0.2s						
NBO00	**NORSAR Array S**	**1.24**	**33**	*e*P	Pg	13 13 31.7	-2.4
NBO00				*e*Sg	Sg	13 13 48.8	-1.3
NC602	**NORSAR Array S**	**1.29**	**54**	*e*P	Pg	13 13 33.1	-2.0
NC602				*e*S	Sg	13 13 50.4	-1.4
NC602				IAML		13 13 55.2	
	comp=Z,10nm,0.2s						
NB201	**NORSAR Array S**	**1.41**	**41**	*e*P	Pn	13 13 34.8	-2.5
NB201				*e*S	Sg	13 13 53.8	-1.7
NB201				IAML		13 13 55.9	
	comp=Z,18nm,0.3s						
NC204	**NORSAR Array S**	**1.44**	**27**	*e*P	Pn	13 13 35.0	-2.9
NC204				*e*S	Sg	13 13 54.0	-2.8
NC204				IAML		13 13 57.2	
	comp=Z,24nm,0.2s						
NC303	**NORSAR Array S**	**1.56**	**37**	*e*P	Pn	13 13 37.2	-2.2
NC303				*e*S	Sn	13 13 58.3	-2.1
NC303				IAML		13 14 00.3	
	comp=Z,8.5nm,0.4s						
HOMB	**Homborsund**	**1.80**	**195**	*e*P	Pn	13 13 40.2	-2.4
HOMB				*e*S	Sn	13 14 03.4	-2.7
HOMB				IAML		13 14 09.2	
	comp=Z,10nm,0.4s						
HOMB	**Homborsund**	**1.80**	**195**	*e*P	Pn	13 13 39.9	-2.7
HOMB				*e*S	Sn	13 14 03.2	-2.8
HYA	**Hoyanger**	**1.97**	**308**	*e*P	Pn	13 13 41.8	-3.2
HYA				*e*S	Sn	13 14 07.9	-2.5
HYA				IAML		13 14 17.7	
	comp=Z,5.3nm,0.4s						
SNART	**Snartemo**	**2.02**	**215**	*e*P	Pn	13 13 44.7	-0.9
SNART				*e*S	Sn	13 14 07.2	-4.2
SNART	**Snartemo**	**2.02**	**215**	*i* P	Pn	13 13 44.3	-1.3
SNART				*e*S	Sn	13 14 10.8	-0.6
DOMB	**Dombas**	**2.06**	**356**	*e*S	Sn	13 14 11.9	-0.7
DOMB				IAML		13 14 13.7	
	comp=Z,10.0nm,0.2s						
ASK	**Askoy**	**2.15**	**285**	*e*P	Pn	13 13 45.5	-2.0
ASK				*e*S	Sn	13 14 12.8	-2.0
ASK				IAML		13 14 14.0	
	comp=Z,23nm,0.2s						
TJOU	**Tjoern**	**2.29**	**149**	*e*P	Pn	13 13 48.6	-0.6
AKN	**Aaknes**	**2.48**	**333**	*e*P	Pn	13 13 49.6	-2.4
AKN				*e*S	Sn	13 14 20.8	-2.2
AKN				IAML		13 14 24.6	
	comp=Z,5.4nm,0.5s						

*IDC **04** 13:21:04.4±1.1, 13°.73N×120°.40E, h81km±10km, mb3.7/14, mbtmp4.0/14, MS3.0/9, Error ellipse: s-maj=26.0km s-min=13.9km az=68.0*
*NEIC **04** 13:21:04.5±1.6, 13°.73N±0°.08×120°.31E±0°.09, h77km±8km, mb4.4/22, Error ellipse: s-maj=13.9km s-min=10.8km az=125.0*
ISC 04 13:21:03.2±0.5, 13°.72N±0°.07×120°.28E±0°.08, h70km, n55, σ0°95/53, mb4.3/25, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.74**	**59**	P	**Pn**	**13 21 18.9**	**+0.2**
	7μm,0.3s,baz=85,slow=1.3,SNR=74						
TGY				S	**Sn**	**13 21 33.1**	**+2.9**
	7μm,0.3s,baz=154,slow=22,SNR=8.0						
DAV	**Davao City (W)**	**8.42**	**141**	LR	LR	13 26 52.2	
	comp=Z,107nm,18.8s,baz=305,slow=42						
MYLDM	**Lahad Datu**	**8.66**	**192**		**Pn**	**13 23 05.4**	**-0.6**
HKPS	**Hong Kong Po S**	**10.32**	**326**	Pn	**Pn**	**13 23 29.8**	**+1.3**
JOW	**Kunigami**	**15.04**	**29**	P	**Pn**	**13 24 29.2**	**-2.6**
	7.2nm,0.3s,baz=158,slow=19,SNR=2.0						
SIJI	**Sorong**	**18.13**	**142**	LR	LR	13 32 02.9	
	comp=Z,50nm,18.9s,baz=270,slow=36						
KAPI	**Kappang**	**18.62**	**182**	LR	LR	13 32 12.4	
	comp=Z,47nm,20.6s,baz=7.5,slow=36						
FAKI	**Fak Fak**	**20.36**	**143**	P	**P**	**13 25 34.9**	**+0.7**
FAKI				IAmb	IAmb	13 26 02.9	
	comp=Z,28nm,1.4s						
CMAR	**Chiang Mai Arr**	**21.03**	**286**	P	**P**	**13 25 40.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**21.03**	**286**	P	**P**	**13 25 42.4**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=94,slow=9.6,SNR=12						
CMAR				PcP	**PcP**	**13 29 47.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=90,slow=0.9,SNR=4.5						
	comp=Z,1.6nm,0.7s						
GUMO	**Guam**	**23.89**	**87**	LR	LR	13 34 56.5	
	comp=Z,16nm,20.8s,baz=182,slow=35						
JCJ	**Chichijima**	**24.41**	**54**	LR	LR	13 35 21.7	
	comp=Z,27nm,20.1s,baz=236,slow=35						
KSRS	**Korea Array**	**24.60**	**15**	P	**P**	**13 26 15.9**	**-1.0**
	comp=Z,1.2nm,0.9s,baz=199,slow=10,SNR=4.9						
KSRS				LR	LR	13 38 09.2	
	comp=Z,28nm,18.1s,baz=190,slow=42						
	comp=Z,1.2nm,0.9s						
MTN	**Manton Dam**	**28.50**	**157**	P	**P**	**13 26 50.0**	**-2.1**
MANU	**Manus Island**	**31.09**	**118**	P	**P**	**13 27 16.2**	**+1.0**
USA0B	**Ussuriysk Arra**	**31.99**	**16**	P	**P**	**13 27 21.7**	**-1.0

comp=Z,2.9nm,0.8s,baz=68,slow=4.8
NOA NORSAR Array B 87.05 333 P **P 13 33 40.5 -0.6**
comp=Z,1.6nm,0.8s,baz=68,slow=4.6,SNR=4.3
comp=Z,1.6nm,0.8s

*IDC **04** 13:27:33.0±2.6, 20°.65S×178°.54W, h614km±21km, mb3.2/8, mbtmp4.1/9, Error ellipse: s-maj=58.8km s-min=15.7km az=152.0*
ISC 04 13:27:31.2±1.4, 20°.9S±0°.3×178°.4W±0°.2, h600km, n12, σ1§03/14, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.57**	**312**	P	**P**	**13 29 01.5**	**+0.5**
	30nm,0.8s,baz=165,slow=4.1,SNR=19						
ASAR	**Alice Springs**	**44.06**	**257**	P	**P**	**13 34 48.4**	**+0.8**
	3.0nm,0.6s,baz=92,slow=7.6,SNR=74						
ASAR				PcP	**PcP**	**13 36 18.6**	**-0.8**
	0.5nm,0.5s,baz=103,slow=3.6,SNR=6.4						
ASAR				S	**S**	**13 40 37.3**	**-0.6**
	0.5nm,0.9s,baz=93,slow=19,SNR=3.5						
	3.0nm,0.6s						
WRA	**Warramunga Arr**	**44.17**	**262**	P	**P**	**13 34 48.6**	**+0.1**
	1.2nm,0.5s,baz=98,slow=7.9,SNR=42						
	1.2nm,0.5s						
SIJI	**Sorong**	**52.96**	**285**	P	**P**	**13 35 53.3**	**-0.2**
	6.0nm,0.6s,baz=95,slow=5.6,SNR=5.0						
	6.0nm,0.6s						
PETK	**Petropavlovsk-**	**76.53**	**345**	P	**P**	**13 38 19.7**	**-0.7**
	2.6nm,0.7s,baz=108,slow=4.7,SNR=2.4						
	2.6nm,0.7s						
NVAR	**Mina Array Bea**	**81.55**	**44**	P	**P**	**13 38 48.9**	**+1.3**
	0.3nm,0.6s,baz=218,slow=6.8,SNR=2.5						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**88.76**	**13**	P	**P**	**13 39 20.6**	**-0.8**
	0.4nm,0.5s,baz=217,slow=5.1,SNR=9.0						
	0.4nm,0.5s						
PDAR	**Pinedale Array**	**89.49**	**43**	P	**P**	**13 39 26.3**	**+0.6**
	0.3nm,0.6s,baz=249,slow=7.6,SNR=1.4						
	0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.88**	**290**	P	**P**	**13 39 29.1**	**+1.3**
	0.7nm,0.6s,baz=128,slow=3.2,SNR=4.3						
	0.7nm,0.6s						
BVAR	**Borovoye Array**	**119.11**	**320**	PKP	**PKPdf**	**13 45 12.5**	**-0.1**
	0.7nm,0.4s,baz=110,slow=3.2,SNR=4.5						
ARCES	**ARCESS Array B**	**129.21**	**349**	PKP	**PKPdf**	**13 45 31.9**	**+0.4**
	3.1nm,1.0s,baz=296,slow=2.7,SNR=4.2						
AKASG	**Malin Array Be**	**143.15**	**331**	PKP	**PKPdf**	**13 45 55.5**	**-2.2**
	2.1nm,0.4s,baz=44,slow=4.4,SNR=12						

*IDC **04** 13:41:10.2±1.2, 5°.85S×153°.68E, h0km, mb3.6/6, mbtmp3.8/8, ML3.0/2, MS2.9/5, Error ellipse: s-maj=28.0km s-min=21.2km az=82.0*
ISC 04 13:41:15.0±1.1, 5°.84S±0°.09×153°.7E±0°.1, h32km, n15, σ0§92/12, mb3.6/5, MS2.8/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.27**	**312**	Pn	**Pn**	**13 41 49.6**	**-0.7**
	17nm,0.3s,baz=36,slow=24,SNR=28						
KRVT				Sn	**Sn**	**13 42 17.6**	**+0.5**
	38nm,0.3s,baz=197,slow=3.2,SNR=6.0						
	44nm,0.4s						
HNR	**Honiara**	**7.13**	**120**	LR	LR	13 46 05.0	
	comp=Z,2μm,19.5s,baz=298,slow=41						
PMG	**Port Moresby**	**7.40**	**241**	Pn	**Pn**	**13 43 00.7**	**-0.2**
	6.3nm,0.3s,baz=47,slow=7.5,SNR=23						
PMG				Sn	**Sn**	**13 44 24.5**	**+0.6**
	1.2nm,0.3s,baz=220,slow=18,SNR=1.9						
	18nm,0.4s						
JAY	**Jayapura**	**13.39**	**284**	LR	LR	13 48 52.9	
	comp=Z,76nm,19.4s,baz=9.5,slow=35						
CTA	**Charters Tower**	**15.92**	**206**	LR	LR	13 49 59.0	
	comp=Z,59nm,21.2s,baz=78,slow=33						
DZM	**Mont Dzumac**	**20.30**	**144**	P	**P**	**13 45 48.7**	**+0.3**
	3.1nm,0.9s,baz=318,slow=16,SNR=1.4						
	3.1nm,0.9s						
GUMO	**Guam**	**21.20**	**336**	LR	LR	13 54 48.7	
	comp=Z,23nm,18.0s,baz=155,slow=39						
WRA	**Warramunga Arr**	**23.48**	**232**	P	**P**	**13 46 21.3**	**-0.8**
	0.9nm,0.5s,baz=57,slow=10,SNR=17						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**26.04**	**225**	P	**P**	**13 46 45.4**	**-0.2**
	0.9nm,0.4s,baz=59,slow=9.3,SNR=23						
ASAR				PcP	**PcP**	**13 50 13.9**	**+0.6**
	0.2nm,0.8s,baz=69,slow=3.1,SNR=1.4						
	0.9nm,0.4s						
DAV	**Davao City (W)**	**30.86**	**294**	LR	LR	13 59 23.1	
	comp=Z,21nm,18.3s,baz=133,slow=35						
CMAR	**Chiang Mai Arr**	**59.14**	**295**	LR	LR	14 17 55.8	
	comp=Z,7.9nm,18.2s,baz=200,slow=37						
SONM	**Songino Array**	**67.68**	**328**	P	**P**	**13 52 10.4**	**+1.2**
	0.3nm,0.4s,baz=145,slow=4.2,SNR=2.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**81.70**	**319**	P	**P**	**13 53 30.8**	**+0.3**
	0.2nm,0.5s,baz=96,slow=7.1,SNR=4.1						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**85.17**	**322**	P	**P**	**13 53 48.0**	**-0.1**
	0.2nm,0.5s,baz=108,slow=3.9,SNR=4.5						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**151.49**	**287**	PKPbc	**PKPbc**	**14 01 05.0**	**-1.9**
	0.2nm,0.3s,baz=58,slow=3.2,SNR=4.9						

DJA 04 13:41:16.0±0.3, 9°S±3°×11°8E±°, h10km, M3.9/10, mb4.0/3, MLv3.9/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.71**	**261**	P	Pg	13 41 29.3	-0.5
PLAI				S	Sg	13 41 38.9	-0.3
TWSI	**Taliwang, Sumb**	**1.59**	**269**	P	Pn	13 41 43.6	-0.6
TWSI				S	Sn	13 42 05.2	+0.4
BASI	**Baing, Sumba**	**2.54**	**126**	P	Pn	13 41 56.9	-0.4
IGBI	**Denpasar**	**3.31**	**268**	P	Pn	13 42 10.2	+2.3
BKSI	**Bulukumba**	**3.75**	**26**	P	Pn	13 42 13.5	-0.4
JAGI	**Jajag, Banyuwa**	**4.30**	**273**	P	Pn	13 42 22.1	+0.6
GMJI	**Gumukmas**	**5.01**	**275**	P	Pn	13 42 31.4	+0.1
	19nm,1.8s,0.1nm						
TTSI	**Tana Toraja**	**5.79**	**13**	P	Pn	13 42 41.9	-0.1
	9.1nm,0.5s,0.1nm						
SOEI	**Soe**	**5.79**	**101**	P	Pn	13 42 42.6	+0.4

*IDC **04** 13:42:05.0±1.9, 35°.93N×141°.78E, h0km, mb3.5/4, mbtmp3.4/6, ML3.4/1, Error ellipse: s-maj=42.0km s-min=27.1km az=62.0*
*JMA **04** 13:42:09.9±0.2, 36°.0N±0°.6×14°.2E±°, h41km±3km, MV2.9/32, FAR E OFF IBARAKI PREF*
ISC 04 13:42:07.1±1.0, 35°.95N±0°.05×141°.76E±0°.07, h23km, n23, σ1§68/21, mb3.3/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**1.00**	**271**	P	**Pb**	**13 42 26.4**	**+0.5**
JIHU				*e*S	**Sb**	**13 42 37.8**	**-0.9**
JHYU	**Hitachinakayam**	**1.03**	**293**	P	**Pb**	**13 42 26.1**	**-0.2**
JHYU				S	**Sb**	**13 42 38.0**	**-1.4**
JSMT	**Sammumatsuo**	**1.11**	**254**	P	**Pb**	**13 42 28.4**	**+0.7**
JHO	**Hitachi**	**1.17**	**305**	P	**Pb**	**13 42 28.1**	**-0.6**
JYT	**Yasato**	**1.30**	**283**	P	**Pb**	**13 42 29.6**	**-1.4**
JYT				S	**Sn**	**13 42 43.5**	**-3.1**
BSO1	**Boso 1**	**1.44**	**207**	P	**Pb**	**13 42 33.5**	**+0.5**
BSO3	**Boso 3**	**1.54**	**222**	P	**Pb**	**13 42 34.8**	**+0.1**
JFK	**Kawauchi**	**1.58**	**333**	P	**Pb**	**13 42 34.6**	**-1.2**
JAG	**Ashikaga**	**1.93**	**285**	P	**Pn**	**13 42 38.6**	**+0.1**
MJAR	**Matsushiro Arr**	**2.93**	**283**	Pn	**Pn**	**13 42 52.6**	**+0.2**
	1.0nm,0.4s,baz=356,slow=15,SNR=11						
MJAR				Sn	**Sn**	**13 43 29.1**	**+2.2**
	0.2nm,0.3s,baz=338,slow=30,SNR=5.2						
JHJ	**Hachijo jima 2**	**3.26**	**211**	Pn	Pn	13 42 51.4	-5.5
	22nm,0.3s,baz=66,slow=20,SNR=1.2						
JHJ				Sn	**Sn**	**13 43 33.6**	**-1.4**
	11nm,0.3s,baz=90,slow=20,SNR=2.7						
ASAJ	**Asahikawa**	**8.18**	**4**	Pn	**Pn**	**13 44 04.8**	**+0.3**
	0.5nm,0.3s,baz=204,slow=20,SNR=1.1						
	3.9nm,0.7s						
JCJ	**Chichijima**	**8.83**	**178**	Pn	**Pn**	**13 44 09.6**	**-3.9**
	2.3nm,0.3s,baz=97,slow=23,SNR=6.3						
JCJ				Sn	Sn	13 45 42.8	-9.5
	1.4nm,0.3s,baz=287,slow=19,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	**27.36**	**119**	T	T	14 16 57.7	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**27.37**	**120**	T	T	14 16 52.0	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**27.38**	**119**	T	T	14 16 52.0	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**28.04**	**122**	T	T	14 17 32.2	
	baz=313						
H11S3	**WAKE ISLAND Hy**	**28.04**	**122**	T	T	14 17 45.6	
	baz=313						
H11S2	**WAKE ISLAND Hy**	**28.06**	**122**	T	T	14 17 45.5	
	baz=313						
SONM	**Songino Array**	**28.63**	**306**	P	**P**	**13 48 04.4**	**+2.5**
	0.3nm,0.5s,baz=97,slow=10,SNR=1.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**44.94**	**303**	P	**P**	**13 50 21.9**	**+1.7**
	0.2nm,0.6s,baz=90,slow=5.8,SNR=1.5						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**46.90**	**309**	P	**P**	**13 50 36.5**	**+1.0**
	0.8nm,0.7s,baz=83,slow=7.7,SNR=8.8						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**56.03**	**188**	P	**P**	**13 51 45.4**	**+1.2**
	0.2nm,0.5s,baz=4.7,slow=7.4,SNR=5.5						
	0.2nm,0.5s						

ISC 04 13:59:47.4±1.1, 26°.98N±0°.04×111°.36W±0°.07, h10km, n6, σ1§29/10, 4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNIRB	**San Nicol¡s**	**0.47**	**201**	⇓*e*P	**Pg**	**13 59 57.9**	**+1.3**
SNIRB				*e*S	**Sg**	**14 00 04.0**	**+1.2**
SNIRB				IAML		14 00 07.4	
	comp=N,545nm,0.2s						
SNIRB				⇓*e*		14 00 07.4	
SNIRB				IAML		14 00 15.0	
	comp=E,862nm,0.5s						
SRIG	**Santa Rosalia**	**0.85**	**293**	*e*P	**Pg**	**14 00 04.1**	**+0.2**
NE77	**Loreto B.C.S**	**0.96**	**180**	⇓*e*P	**Pg**	**14 00 06.2**	**+0.2**
NE77				*e*S	**Sg**	**14 00 19.0**	**+0.5**
GUYB	**Guaymas**	**1.01**	**25**	*e*P	**Pg**	**14 00 07.3**	**+0.5**
GUYB				*e*S	**Sg**	**14 00 20.1**	**+0.1**
UAGRB	**Rancho Ultima**	**1.42**	**176**	⇓*e*P	**Pn**	**14 00 12.7**	**-0.6**
UAGRB				*e*S	**Sn**	**14 00 29.3**	**-2.7**
NE80	**Navojoa**	**1.91**	**92**	*e*P	**Pn**	**14 00 20.6**	**+0.7**

SDD 04 14:05:53.8±2.9, 19°.21N×66°.41W, h15km±999km, MD4.2, ML3.0, 3C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**1.99**	**250**	*e*Pg	Pb	14 06 29.5	-0.2
PCDR				IAML		14 07 00.1	
	comp=N,212nm,1.1s						
PCDR	**Punta Cana, DR**	**1.99**	**250**	*e*Pg	Pb	14 06 29.2	-0.5
PCDR				*e*Sg	Sn	14 06 52.4	+0.8
PCDR				IAML		14 06 52.6	
	comp=E,66nm,1.4s						
PCDR				IAML		14 07 00.1	
	comp=N,212nm,1.1s						
SADR	**Isla Saona**	**2.46**	**246**	*e*Pg	Pb	14 06 37.5	-0.2
SADR				IAML		14 07 14.3	
	comp=E,73nm,0.5s						
SADR				IAML		14 07 16.9	
	comp=N,148nm,0.5s						
SADR	**Isla Saona**	**2.46**	**246**	*e*Pg	Pb	14 06 37.6	-0.2
SADR				*e*Sg	Sb	14 07 06.6	-1.3
SADR				IAML		14 07 14.3	
	comp=E,73nm,0.5s						
SADR				IAML		14 07 16.9	
	comp=N,148nm,0.5s						
MIDR	**Miches**	**2.50**	**265**	*e*Pg	Pn	14 06 32.6	-1.4
MIDR				*e*Sg	Sb	14 07 10.3	+1.1
MIDR				IAML		14 07 13.1	
	comp=E,32nm,0.6s						
MIDR				IAML		14 07 13.3	
	comp=N,45nm,0.5s						
MIDR	**Miches**	**2.50**	**265**	*e*Pg	Pn	14 06 35.7	+1.7
MIDR				*e*Sg	Sb	14 07 09.2	0.0
MIDR				IAML		14 07 13.1	
	comp=E,32nm,0.6s						
MIDR				IAML		14 07 13.3	
	comp=N,45nm,0.5s						
HATOM	**Hato Mayor del**	**2.84**	**262**	⇑*e*Pg	Pn	14 06 40.7	+2.0
HATOM				⇑*e*Sg	Sb	14 07 19.5	+0.6
HATOM				IAML		14 07 22.0	
	comp=N,50nm,0.4s						
HATOM				IAML		14 07 25.6	
	comp=E,42nm,0.5s						
HATOM	**Hato Mayor del**	**2.84**	**262**	⇑*e*Pg	Pn	14 06 40.8	+2.1
HATOM				*e*Sg	Sb	14 07 19.4	+0.5
HATOM				IAML		14 07 22.0	
	comp=N,50nm,0.4s						
HATOM				IAML		14 07 25.6	
	comp=E,42nm,0.5s						
REDR	**Restauracion**	**4.71**	**270**	*e*Pg	Pb	14 07 10.3	-5.8

IDC 04 14:12:44.8±2.8, 5°.53S×152°.59E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=96.9km s-min=25.6km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.82**	**229**	P	P	14 17 50.5	+1.0
	0.9nm,0.8s,baz=55,slow=10,SNR=8.9						
	0.9nm,0.8s						
WRA				S	S	14 22 00.3	+0.3
	0.5nm,0.9s,baz=296,slow=36,SNR=1.8						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**25.48**	**223**	P	P	14 18 15.3	+0.5
	1.1nm,0.9s,baz=57,slow=9.2,SNR=8.6						
	1.1nm,0.9s						
MKAR	**Makanchi Array**	**80.73**	**319**	P	P	14 25 00.6	+0.5
	0.4nm,0.7s,baz=107,slow=7.6,SNR=2.5						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.32**	**287**	PKPbc	PKPbc	14 32 37.6	-1.5
	0.4nm,0.7s,baz=42,slow=4.9,SNR=2.2						

SDD 04 14:36:25.4±2.0, 19°.60N×66°.04W, h31km±999km, MD3.9, ML3.2, 2C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**2.46**	**244**	*e*Pg	Pn	14 37 01.7	-1.7
PCDR				IAML		14 37 28.5	
	comp=N,173nm,0.5s						
PCDR				IAML		14 37 35.1	
	comp=E,101nm,0.5s						
HIDR	**Higuey Centro**	**2.72**	**249**	*e*Pg	Pn	14 37 07.0	+0.1
HIDR				*e*Sg	Sn	14 37 34.6	-4.2
HIDR				IAML		14 37 38.8	
	comp=E,135nm,0.2s						
HIDR				IAML		14 37 41.5	
	comp=N,69nm,0.5s						
MIDR	**Miches**	**2.91**	**258**	*e*Pg	Pn	14 37 07.5	-2.0
MIDR				*e*Sg	Sn	14 37 40.9	-2.5
MIDR				IAML		14 37 45.1	
	comp=N,62nm,0.5s						
MIDR				IAML		14 37 46.6	
	comp=E,47nm,0.9s						
SADR	**Isla Saona**	**2.94**	**242**	⇑*e*Pg	Pn	14 37 09.4	-0.6
SADR				IAML		14 37 44.1	
	comp=N,208nm,0.6s						
SADR				IAML		14 37 46.3	
	comp=E,106nm,0.7s						
HATOM	**Hato Mayor del**	**3.26**	**256**	⇑*e*Pg	Pn	14 37 12.5	-1.9
HATOM				IAML		14 37 53.8	
	comp=N,63nm,0.3s						
HATOM				IAML		14 37 57.4	
	comp=E,59nm,0.6s						
REDR	**Restauracion**	**5.07**	**266**	*e*Pg	Pn	14 37 42.1	+2.8

*IDC **04** 14:36:26.1±0.9, 11°.92N×144°.60E, h0km, mb4.4/18, mbtmp4.4/19, ML4.4/1, MS3.3/33, Error ellipse: s-maj=26.7km s-min=16.1km az=92.0*
*NEIC **04** 14:36:31.4±2.4, 11°.88N±0°.09×144°.75E±0°.06, h29km±6km, mb4.7/36, Error ellipse: s-maj=12.7km s-min=7.4km az=195.0*
ISC 04 14:36:30.5±0.6, 11°.91N±0°.06×144°.65E±0°.10, h29km, n94, σ1§45/71, mb4.6/36, MS3.4/32, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.68**	**7**	Pn	**Pb**	**14 36 59.4**	**-1.4**
GUMO	**Guam**	**1.68**	**7**	Pn	**Pb**	**14 36 60.0**	**-0.8**
	70nm,0.3s,baz=172,slow=8.0,SNR=63						
GUMO				Sn	**Sn**	**14 37 20.0**	**+1.5**
	599nm,0.3s,baz=290,slow=20,SNR=100						
PATS	**Pohnpei**	**14.39**	**109**	Pn	**Pn**	**14 39 51.2**	**-1.1**
JAY	**Jayapura**	**14.86**	**196**	LR	LR	14 44 05.6	
	comp=Z,193nm,19.7s,baz=14,slow=31						
JCJ	**Chichijima**	**15.28**	**352**	Pn	**Pn**	**14 40 04.5**	**+0.2**
	1.5nm,0.3s,baz=180,slow=20,SNR=2.4						
	16nm,0.6s						
SIJI	**Sorong**	**18.39**	**227**	LR	LR	14 46 45.0	
	comp=Z,118nm,18.2s,baz=52,slow=34						
FAKI	**Fak Fak**	**19.21**	**221**	P	**P**	**14 40 51.9**	**-0.5**
DAV	**Davao City (W)**	**19.41**	**257**	LR	LR	14 48 21.5	
	comp=Z,52nm,21.4s,baz=37,slow=37						
JHJ	**Hachijo jima 2**	**21.58**	**349**	LR	LR	14 48 44.8	
	comp=Z,127nm,21.7s,baz=300,slow=34						
H11S3	**WAKE ISLAND Hy**	**22.23**	**70**	T	T	15 04 54.6	
	baz=253,slow=75						
H11S1	**WAKE ISLAND Hy**	**22.25**	**70**	T	T	15 04 51.2	
	baz=253,slow=75						
H11S2	**WAKE ISLAND Hy**	**22.25**	**70**	T	T	15 04 54.9	
	baz=253,slow=75						
H11N1	**WAKE ISLAND Hy**	**22.74**	**67**	T	T	15 06 26.6	
	baz=250,slow=75						
H11N2	**WAKE ISLAND Hy**	**22.75**	**67**	T	T	15 06 11.5	
	baz=250,slow=75						
H11N3	**WAKE ISLAND Hy**	**22.76**	**67**	T	T	15 06 24.1	
	baz=250,slow=75						
JNU	**Nakatsue**	**24.60**	**331**	P	**P**	**14 41 47.2**	**-1.1**
JNU	**Nakatsue**	**24.60**	**331**	P	**P**	**14 41 47.5**	**-0.7**
	28nm,0.7s,baz=130,slow=1.9,SNR=20						
JNU				LR	LR	14 50 14.7	
	comp=Z,16nm,19.8s,baz=130,slow=34						
	28nm,0.7s						
MJAR	**Matsushiro Arr**	**25.20**	**348**	P	**P**	**14 41 52.2**	**-1.5**
	4.6nm,0.8s,baz=169,slow=9.4,SNR=8.4						
MJAR				LR	LR	14 51 35.0	
	comp=Z,90nm,18.1s,baz=166,slow=36						
	4.6nm,0.8s						
MAJO	**Matsushiro**	**25.20**	**348**	P	**P**	**14 41 51.1**	**-2.6**
MAJO				IAmb	IAmb	14 41 55.4	
	comp=Z,13nm,0.8s						
MJB9	**Matsu-Tunnel**	**25.21**	**348**	P	**P**	**14 41 53.3**	**-0.4**
JMM	**Marumori**	**26.07**	**353**	P	**P**	**14 42 00.9**	**-0.7**
JMM				IAmb	IAmb	14 42 01.6	
	comp=Z,32nm,1.2s						
HNR	**Honiara**	**26.09**	**144**	LR	LR	14 51 23.1	
	comp=Z,874nm,18.1s,baz=354,slow=34						
MYLDM	**Lahad Datu**	**26.70**	**258**	P	**P**	**14 42 09.7**	**+2.2**
MYLDM				IAmb	IAmb	14 42 16.8	
	comp=Z,20nm,1.1s						
KSRS	**Korea Array**	**29.53**	**332**	P	**P**	**14 42 31.9**	**-0.5**
	comp=Z,7.4nm,0.7s,baz=138,slow=9.8,SNR=34						
	comp=Z,7.4nm,0.7s						
KSAR	**Wonju Array Be**	**29.54**	**332**	P	**P**	**14 42 32.8**	**+0.3**
KAPI	**Kappang**	**29.94**	**237**	LR	LR	14 53 41.9	
	comp=Z,30nm,21.3s,baz=40,slow=35						
CTA	**Charters Tower**	**31.84**	**177**	LR	LR	14 56 41.3	
	comp=Z,31nm,18.6s,baz=52,slow=38						
JKA	**Kamikawa-asahi**	**32.14**	**357**	P	**P**	**14 42 56.1**	**+0.7**
ASAJ	**Asahikawa**	**32.14**	**357**	P	**P**	**14 42 56.0**	**+0.6**
	comp=Z,8.6nm,0.7s,baz=201,slow=11,SNR=6.7						
ASAJ				LR	LR	14 56 00.6	
	comp=Z,27nm,21.2s,baz=178,slow=36						
	comp=Z,8.6nm,0.7s						
WB2	**Warramunga Arr**	**33.24**	**198**	P	**P**	**14 43 05.0**	**-0.4**
WRA	**Warramunga Arr**	**33.24**	**198**	P	**P**	**14 43 06.1**	**+0.7**
WRA	**Warramunga Arr**	**33.24**	**198**	P	**P**	**14 43 04.9**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=22,slow=9.6,SNR=8.3						
	comp=Z,0.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**33.97**	**344**	P	**P**	**14 43 10.1**	**-1.3**
	comp=Z,3.6nm,0.8s,baz=166,slow=6.5,SNR=4.9						
	comp=Z,3.6nm,0.8s						
AS31	**Alice Springs**	**36.89**	**197**	P	**P**	**14 43 37.9**	**+1.1**
ASAR	**Alice Springs**	**36.89**	**197**	P	**P**	**14 43 35.8**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=18,slow=10,SNR=13						
ASAR				LR	LR	14 58 57.9	
	comp=Z,78nm,18.3s,baz=18,slow=37						
	comp=Z,0.5nm,0.6s						
KLR	**Kul'dur**	**38.71**	**346**	P	**P**	**14 43 50.5**	**-1.4**
	comp=Z,4.7nm,0.7s,baz=172,slow=5.8,SNR=12						
KLR				LR	LR	14 58 47.5	
	comp=Z,49nm,19.3s,baz=154,slow=35						
	comp=Z,4.7nm,0.7s						
DZM	**Mont Dzumac**	**39.97**	**148**	LR	LR	14 59 24.3	
	comp=Z,51nm,20.0s,baz=354,slow=34						
PSA00	**Pilbara Seismi**	**41.24**	**216**	P	**P**	**14 44 13.1**	**0.0**
PSA00				IAmb	IAmb	14 44 14.2	
	comp=Z,35nm,1.5s						
PETK	**Petropavlovsk-**	**42.40**	**12**	LR	LR	15 01 06.1	
	comp=Z,36nm,19.1s,baz=193,slow=35						
CRAI	**Chiangrai**	**43.24**	**287**	P	**P**	**14 44 29.9**	**+0.3**
CM31	**Chiang Mai Arr**	**44.50**	**284**	P	**P**	**14 44 40.1**	**+0.3**
CM31				IAmb	IAmb	14 44 42.2	
	comp=Z,10nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.50**	**284**	P	**P**	**14 44 39.8**	**0.0**
CMAR	**Chiang Mai Arr**	**44.50**	**284**	P	**P**	**14 44 40.2**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=84,slow=6.4,SNR=32						
CMAR				LR	LR	15 02 40.9	
	comp=Z,21nm,20.1s,baz=80,slow=35						
	comp=Z,5.5nm,0.8s						
BBOO	**Buckleboo**	**45.22**	**190**	P	**P**	**14 44 45.1**	**-0.1**
MA2	**Magadan**	**47.79**	**4**	LR	LR	15 03 08.6	
	comp=Z,16nm,21.4s,baz=116,slow=34						
SONM	**Songino Array**	**47.98**	**326**	P	**P**	**14 45 07.6**	**+0.7**
SONM	**Songino Array**	**47.98**	**326**	P	**P**	**14 45 07.5**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=140,slow=7.6,SNR=10						
SONM				LR	LR	15 05 52.9	
	comp=Z,43nm,19.5s,baz=136,slow=37						
	comp=Z,1.9nm,0.5s						
AKUT	**Akutan**	**57.36**	**32**	P	**P**	**14 46 16.6**	**+0.7**
MK31	**Makanchi Array**	**62.55**	**317**	P	**P**	**14 46 53.1**	**+1.3**
MK31				IAmb	IAmb	14 47 11.3	
	comp=Z,9.9nm,1.4s						
MKAR	**Makanchi Array**	**62.55**	**317**	P	**P**	**14 46 52.6**	**+0.8**
MKAR	**Makanchi Array**	**62.55**	**317**	P	**P**	**14 46 52.2**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=92,slow=7.5,SNR=25						
	comp=Z,2.3nm,0.6s			

comp=Z,19nm,21.4s,baz=68,slow=33
comp=Z,2.9nm,0.7s
BVAR Borovoye Array 71.11 322 P **P 14 47 46.6 +0.5**
comp=Z,8.4nm,0.6s,baz=103,slow=7.9,SNR=61
BVAR LR LR 15 20 17.1
comp=Z,40nm,19.7s,baz=91,slow=37
comp=Z,8.4nm,0.6s
BRVK Borovoye 71.18 322 P **P 14 47 47.6 +1.0**
BRVK IAmb IAmb 14 47 48.2
comp=Z,6.2nm,0.7s
PPT Papeete 71.24 113 LR LR 15 13 39.9
comp=Z,32nm,18.1s,baz=202,slow=31
J26L Joseph Creek 71.50 26 P **P 14 47 49.9 +1.4**
J26L IAmb IAmb 14 47 53.3
comp=Z,4.8nm,0.8s
INK Inuvik 75.99 22 LR LR 15 20 01.4
comp=Z,24nm,21.2s,baz=190,slow=34
DLBC Dease Lake 77.50 32 LR LR 15 19 12.1
comp=Z,28nm,20.5s,baz=28,slow=33
ABKAR Akbulak array 77.64 318 P **P 14 48 25.0 +0.8**
ARU Arti 78.02 325 LR LR 15 24 21.9
comp=Z,13nm,18.9s,baz=46,slow=37
BBB Bella Bella 79.01 39 LR LR 15 18 21.5
comp=Z,38nm,20.5s,baz=228,slow=32
KIRV Kirov 82.65 328 LR LR 15 28 37.6
comp=Z,25nm,18.1s,baz=251,slow=38
YBH Yreka Blue Hor 84.13 49 LR LR 15 19 22.6
comp=Z,17nm,19.7s,baz=275,slow=31
YKA Yellowknife Ar 84.44 27 P **P 14 49 00.9 +0.8**
YKA LR LR 15 25 25.6
comp=Z,30nm,20.6s,baz=265,slow=35
comp=Z,1.0nm,0.7s
BELG Belogornoye 84.91 322 LR LR 15 28 31.9
comp=Z,33nm,19.1s,baz=158,slow=37
NEW Newport 86.61 41 LR LR 15 25 03.7
comp=Z,20nm,19.0s,baz=77,slow=34
NVAR Mina Array Bea 88.13 51 P **P 14 49 21.6 +2.5**
comp=Z,0.6nm,0.7s,baz=260,slow=5.6,SNR=6.0
comp=Z,0.6nm,0.7s
ELK Elko 89.84 48 LR LR 15 25 12.6
comp=Z,16nm,19.3s,baz=230,slow=33
FINES FINESS Array B 92.58 335 P **P 14 49 37.6 -1.5**
comp=Z,1.9nm,0.7s,baz=129,slow=2.7,SNR=7.5
FINES LR LR 15 31 50.0
comp=Z,23nm,20.9s,baz=48,slow=36
comp=Z,1.9nm,0.7s
MNK Minsk 95.19 328 *i* P **P 14 49 47.8 -3.5**
comp=E,4.0nm,0.7s
MNK *i* P **P 14 49 47.8 -3.5**
comp=N,20nm,0.8s
MNK *i* P **P 14 49 47.8 -3.5**
comp=Z,7.0nm,0.7s,baz=241
MNK *i* PP **PP 14 53 37.7 -3.1**
MNK *i* PPP PPP 14 55 39.8
MNK *i* S **SKSac 15 00 23.4 -1.6**
MNK *i* SS **SS 15 07 31.8 +1.4**
MNK *i* SSS SSS 15 11 29.3
MNK *i* LQ LQ 15 26 51.0
MNK *i* LR LR 15 30 51.1
MNK *i* LRM MLR 15 32 17.6
comp=Z,39nm,14.4s
MNK *i* LRM MLR 15 32 55.8
comp=N,364nm,21.2s
MNK *i* LRM MLR 15 33 14.5
comp=E,123nm,25.4s
NOA NORSAR Array B 98.53 339 LR LR 15 38 42.5
comp=E,9.8nm,18.3s,baz=20,slow=38

*IDC **04** 14:42:18.6±3.5, 10.°18S×117.°99E, h0km, mb3.7/3, mbtmp3.5/4, ML3.3/1, MS3.0/1, Error ellipse: s-maj=271.5km s-min=25.1km az=48.0*
*DJA **04** 14:42:19.1±1.0, 11.°S±11.°×11.°7E±.°, h10km, M4.2/10, mb4.3/4, mB5.1/1, MLv4.2/10, Mw(mB)4.5/1*
ISC 04 14:42:15.6±0.9,**11.°60S**±0.°09×**116.°81E**±0.°07,**h10**km,**n23,** σ1°**88**/22,**South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**2.84**	**1**	P	**Pn**	**14 43 00.6**	**-0.6**
PLAI	**Plampang**	**2.91**	**19**	P	**Pn**	**14 43 01.4**	**-0.7**
PLAI	**Plampang**	**2.91**	**19**	P	**Pn**	**14 43 01.8**	**-0.3**
IGBI	**Denpasar**	**3.21**	**329**	P	**Pn**	**14 43 06.3**	**+0.1**
DNP	**Denpasar**	**3.31**	**331**	P	**Pn**	**14 43 08.2**	**+0.7**
SRBI	**Singaraja**	**3.83**	**336**	P	**Pn**	**14 43 16.0**	**+1.3**
BASI	**Baing, Sumba**	**3.94**	**70**	P	**Pn**	**14 43 20.1**	**+3.8**
JAGI	**Jajag, Banyuwa**	**4.07**	**320**	P	**Pn**	**14 43 17.4**	**-0.6**
JAGI	**Jajag, Banyuwa**	**4.07**	**320**	P	**Pn**	**14 43 17.2**	**-0.8**
GMJI	**Gumukmas**	**4.68**	**315**	P	**Pn**	**14 43 25.8**	**-0.7**
MMRI	**Maumere**	**6.10**	**62**	P	**Pn**	**14 43 46.6**	**+0.7**
23nm,1.3s,0.1nm							
BKSI	**Bulukumba**	**7.04**	**28**	P	**Pn**	**14 43 59.4**	**+0.5**
12nm,0.7s,0.1nm							
UGM	**Wanagama**	**7.20**	**300**	P	**Pn**	**14 44 02.5**	**+1.4**
MBWA	**Marble Bar**	**9.91**	**164**	P	**Pn**	**14 44 38.0**	**-0.2**
GIRL	**Giralia**	**11.25**	**192**	P	**Pn**	**14 44 57.7**	**+1.0**
KNRA	**Kununurra**	**12.30**	**111**	P	**Pn**	**14 45 11.8**	**+0.8**
MEEK	**Meekatharra**	**15.05**	**174**	P	**Pn**	**14 45 48.9**	**+0.3**
WRA	**Warramunga Arr**	**18.78**	**118**	P	**P**	**14 46 35.8**	**+0.5**
0.1nm,0.3s,baz=293,slow=13,SNR=7.6							
WRA				S	Sn	14 49 49.6	-16
0.3nm,0.7s,baz=214,slow=9.7,SNR=2.2							
0.3nm,0.6s							
WRAB	**Tennant Creek**	**18.79**	**118**	P	**P**	**14 46 37.4**	**+2.0**
ASAR	**Alice Springs**	**20.20**	**129**	P	Pn	14 46 56.5	+3.7
0.5nm,0.7s,baz=310,slow=12,SNR=8.1							
ASAR				S	**S**	**14 50 31.5**	**-6.3**
0.3nm,0.7s,baz=300,slow=22,SNR=3.4							
0.5nm,0.7s							
STKA	**Stephens Creek**	**30.48**	**135**	LR	LR	15 00 55.0	
comp=Z,29nm,20.1s,baz=20,slow=36							
MKAR	**Makanchi Array**	**65.83**	**335**	P	**P**	**14 53 00.7**	**-0.5**
0.3nm,0.4s,baz=145,slow=7.5,SNR=9.6							
0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**70.37**	**335**	P	**P**	**14 53 29.5**	**-0.1**
0.8nm,0.2s,baz=134,slow=8.1,SNR=1.3							
0.8nm,0.2s							

*UPA **04** 15:13:17.8±0.6, 8.°56N×84.°25W, h10km±283km, MW4.2*
*UCR **04** 15:13:18.1±0.9, 8.°83N×84.°27W, h14km±10km, MW3.9*
ISC 04 15:13:17.4±1.8,**8.°83N**±0.°06×**84.°26W**±0.°06,**h9**km±11km, **n52,** σ0°**79**/60,**16C-1D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.58**	**43**	*eP*	**Pg**	**15 13 28.1**	**-0.5**
SVQ2	**Quepos**	**0.61**	**9**	*eP*	**Pg**	**15 13 29.1**	**-0.1**
LLNJ	**Naranjito**	**0.66**	**14**	*eP*	**Pg**	**15 13 30.1**	**-0.1**
LLNJ				*eS*	**Sb**	**15 13 40.3**	**-0.2**
ZELE	**Perez Zeledon**	**0.77**	**45**	*eS*	**Sg**	**15 13 43.0**	**+0.7**
PEZE	**Perez Zeledon,**	**0.80**	**46**	*eP*	**Pg**	**15 13 32.3**	**-0.5**
EDPN	**Palmar Norte**	**0.81**	**80**	*eP*	**Pg**	**15 13 32.8**	**-0.1**
EDPN				*eS*	**Sg**	**15 13 44.2**	**+0.8**
RAZU	**San Marcos de**	**0.86**	**16**	*iP*	**Pg**	**15 13 34.2**	**+0.3**
CDM	**Cerro de Muert**	**0.87**	**34**	*eP*	**Pg**	**15 13 33.3**	**-0.9**
ABE2	**San Pablo**	**0.90**	**13**	*eP*	**Pg**	**15 13 34.6**	**-0.1**
JACO	**JACO, Garabito**	**0.92**	**335**	*iP*	**Pg**	**15 13 34.8**	**-0.3**
JIME	**Puerto Jimenez**	**0.97**	**107**	*eP*	**Pg**	**15 13 34.5**	**-1.6**
SRBA	**San Rafael, Bu**	**0.98**	**66**	*eP*	**Pg**	**15 13 35.3**	**-0.9**
EDBA	**Buenos Aires**	**1.03**	**71**	*eP*	**Pg**	**15 13 35.9**	**-1.3**
REPA	**Paraso**	**1.07**	**21**	*iP*	**Pg**	**15 13 38.0**	**+0.1**
AMPA	**Desamparados**	**1.08**	**10**	*eP*	**Pg**	**15 13 37.1**	**-1.1**
DRK0	**Durika**	**1.09**	**67**	*eP*	**Pg**	**15 13 37.3**	**-1.1**
EDAD	**Golfito**	**1.10**	**99**	*eP*	**Pg**	**15 13 37.8**	**-0.7**
EDAD				*eP*	**Pg**	**15 13 37.9**	**-0.7**
OCM	**Ochomogo**	**1.10**	**16**	*iP*	**Pg**	**15 13 37.5**	**-1.1**
SANTA	**Santa Ana**	**1.10**	**4**	*eP*	**Pg**	**15 13 37.7**	**-0.9**
LUJA	**Lujan**	**1.11**	**10**	*eP*	**Pg**	**15 13 38.8**	**+0.1**
BELE	**Belen**	**1.14**	**4**	*eP*	**Pg**	**15 13 38.2**	**-1.2**
POTG	**Potrero Grande**	**1.15**	**79**	*eP*	**Pg**	**15 13 38.7**	**-0.9**
CORON	**Coronado**	**1.17**	**13**	*i P*	**Pg**	**15 13 39.1**	**-0.8**
PCAYA	**Pacayas**	**1.17**	**22**	*eP*	**Pg**	**15 13 39.1**	**-0.8**
EDIA	**Heredia**	**1.17**	**7**	*eP*	**Pg**	**15 13 39.2**	**-0.7**
HDC	**Heredia**	**1.18**	**7**	*iP*	**Pg**	**15 13 39.1**	**-0.9**
HDC3	**Heredia 3**	**1.18**	**7**	*iP*	**Pg**	**15 13 39.1**	**-0.9**
VINA	**Juan Vinas**	**1.18**	**26**	*iP*	**Pg**	**15 13 38.9**	**-1.1**
TCS1	**Tacares**	**1.21**	**358**	*iP*	**Pg**	**15 13 39.6**	**-1.0**
RAFA	**San Farael, Vo**	**1.21**	**22**	*iP*	**Pg**	**15 13 39.6**	**-1.1**
TURIB	**Turrialba**	**1.21**	**28**	*iP*	**Pg**	**15 13 40.4**	**-0.3**
CVIMO	**Finca Echandi**	**1.23**	**15**	*iP*	**Pg**	**15 13 40.1**	**-1.0**
VERB	**Verbena**	**1.24**	**27**	*eP*	**Pg**	**15 13 40.2**	**-1.1**
CVTQ	**Turrialba Volc**	**1.27**	**23**	*eP*	**Pg**	**15 13 40.6**	**-1.2**
CVTV	**Tajo**	**1.27**	**23**	*iP*	**Pg**	**15 13 40.7**	**-1.2**
CVTR	**Volcan Turrial**	**1.28**	**23**	*eP*	**Pg**	**15 13 41.5**	**-0.6**
RVSTA	**Santa Teresita**	**1.29**	**28**	*eP*	**Pg**	**15 13 41.1**	**-1.1**
VPTE	**Poasito**	**1.34**	**3**	*iP*	**Pn**	**15 13 41.8**	**-0.7**
CCOL	**Caracol de Cor**	**1.34**	**108**	*eP*	**Pb**	**15 13 43.8**	**+1.1**
VPS6	**Volcano Poas**	**1.35**	**1**	*eP*	**Pn**	**15 13 41.9**	**-1.0**
LCOCO	**El Coco**	**1.43**	**29**	*eP*	**Pn**	**15 13 43.1**	**-0.4**
LCOCO				*eP*	**Pn**	**15 13 43.2**	**-0.4**
RVLA	**Villa Bonita**	**1.44**	**27**	*iP*	**Pn**	**15 13 43.4**	**-0.2**
CPMI	**Catarata Coope**	**1.45**	**355**	*eP*	**Pn**	**15 13 42.9**	**-1.2**
RIFO	**Rio Frio, Sara**	**1.52**	**13**	*iP*	**Pn**	**15 13 44.6**	**-0.2**
BATAN	**Batan**	**1.54**	**35**	*eP*	**Pn**	**15 13 45.0**	**-0.1**
BRU2	**Volcan**	**1.55**	**91**	*eP*	**Pn**	**15 13 45.2**	**-0.2**
BRU2				*eS*	**Sn**	**15 14 05.7**	**0.0**
BRU2	**Volcan**	**1.55**	**91**	*eP*	**Pn**	**15 13 45.1**	**-0.3**
SOCE	**Pocosol**	**1.59**	**347**	*eP*	**Pn**	**15 13 46.5**	**+0.7**
BC3P	**Paso Ancho**	**1.63**	**90**	*eP*	**Pn**	**15 13 46.5**	**0.0**
BCO2	**Palmira**	**1.72**	**93**	*eP*	**Pn**	**15 13 48.0**	**+0.3**
BCO2				*eS*	**Sn**	**15 14 09.8**	**0.0**
CNI2	**El Empalme, Bo**	**1.86**	**71**	*eP*	**Pn**	**15 13 49.2**	**-0.3**
CNI2				*eS*	**Sn**	**15 14 13.9**	**+0.6**
CHGR2	**Aguacate**	**2.10**	**87**	*eP*	**Pn**	**15 13 52.5**	**-0.2**
CHGR2				*eS*	**Sn**	**15 14 19.2**	**+0.2**

*IDC **04** 15:17:46.4±2.0, 15.°60N×94.°70W, h0km, mb3.6/4, mbtmp3.6/5, ML3.8/1, MS3.1/7, Error ellipse: s-maj=47.8km s-min=35.3km az=15.0*
*NEIC **04** 15:17:49.7±1.5, 15.°77N±0.°06×94.°95W±0.°03, h11km±4km, mb4.4/59, Md4.7/95(MEX), Error ellipse: s-maj=9.3km s-min=4.4km az=177.0*
*MEX **04** 15:17:54.1±1.0, 15.°73N×94.°95W, h24km±21km, MD4.5*
ISC 04 15:17:51.8±0.9,**15.°73N**±0.°04×**94.°94W**±0.°03,**h30**km±12km, **n181,** σ2°**18**/241,**mb4.2**/8,**MS3.0**/6,**Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.89**	**20**	*eP*	**Pn**	**15 18 07.2**	**-1.1**
NILT				*eS*	**Sn**	**15 18 17.2**	**-3.1**
HUIG	**Huatulco**	**1.13**	**272**		**Pn**	**15 18 11.5**	**-0.1**
HUIG					**Sn**	**15 18 24.6**	**-1.6**
HUIG	**Huatulco**	**1.13**	**272**	*i P*	**Pn**	**15 18 11.5**	**-0.1**
HUIG				*eS*	**Sn**	**15 18 24.5**	**-1.6**
PANG	**Puerto Angel**	**1.48**	**268**		**Pn**	**15 18 16.1**	**-0.3**
PANG					**Sn**	**15 18 32.9**	**-2.0**
PANG	**Puerto Angel**	**1.48**	**268**	*eP*	**Pn**	**15 18 16.1**	**-0.3**
PANG				*eS*	**Sn**	**15 18 32.8**	**-2.0**
PCIG		**1.66**	**90**		**Pn**	**15 18 19.3**	**+0.4**
PCIG					**Sn**	**15 18 38.7**	**-0.4**
PCIG		**1.66**	**90**	*i P*	**Pn**	**15 18 19.2**	**+0.3**
PCIG				*eS*	**Sn**	**15 18 38.6**	**-0.6**
UXUV	**UXUV**	**1.76**	**26**	*eP*	**Pn**	**15 18 20.5**	**+0.2**
UXUV				*eS*	**Sn**	**15 18 40.8**	**-0.9**
TGIG		**2.03**	**59**		**Pn**	**15 18 24.4**	**+0.2**
TGIG					**Sn**	**15 18 49.3**	**+0.6**
TGIG		**2.03**	**59**	*i P*	**Pn**	**15 18 24.4**	**+0.2**
TGIG				*eP*	**Pn**	**15 18 25.2**	**+1.0**
TGIG				*i S*	**Sn**	**15 18 49.3**	**+0.6**
TGIG				*eS*	**Sn**	**15 18 49.5**	**+0.9**
TGBT	**Tuxtla Gutierr**	**2.06**	**59**		**Pn**	**15 18 25.8**	**+1.3**
TGBT					**Sn**	**15 18 49.5**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.06**	**59**	*eP*	**Pn**	**15 18 25.8**	**+1.3**
TGBT				*eS*	**Sn**	**15 18 49.5**	**+0.3**
NEUV	**Arroyo Zacate**	**2.14**	**337**	*eP*	**Pn**	**15 18 25.5**	**-0.1**
NEUV				*eS*	**Sn**	**15 18 50.2**	**-1.0**
PEIG	**Puerto Escondi**	**2.14**	**278**		**Pn**	**15 18 25.5**	**-0.2**
PEIG					**Sn**	**15 18 48.4**	**-2.9**
PEIG	**Puerto Escondi**	**2.14**	**278**	*i P*	**Pn**	**15 18 25.5**	**-0.2**
PEIG				*eS*	**Sn**	**15 18 48.3**	**-2.9**
OXLC	**Oaxaca**	**2.15**	**308**	*eP*	**Pn**	**15 18 27.7**	**+1.8**
OXLC				*eS*	**Sn**	**15 18 52.3**	**+0.5**
OXBJ	**Oaxaca**	**2.17**	**308**		**Pb**	**15 18 28.7**	**-1.9**
OXBJ					**Sn**	**15 18 51.9**	**-0.4**
OXBJ	**Oaxaca**	**2.17**	**308**	*eP*	**Pb**	**15 18 28.7**	**-1.9**
OXBJ				*eS*	**Sn**	**15 18 51.9**	**-0.4**
OXIG	**Oaxaca**	**2.18**	**308**		**Pn**	**15 18 28.1**	**+1.8**
OXIG					**Sn**	**15 18 52.9**	**+0.4**
VHO	**Vista Hermosa**	**2.18**	**308**	*eP*	**Pn**	**15 18 28.0**	**+1.7**
VHO				*eS*	**Sn**	**15 18 52.5**	**+0.1**
TUIG	**Tuzandepetl**	**2.35**	**12**	*eP*	**Pn**	**15 18 28.4**	**0.0**
TUIG				*eS*	**Sn**	**15 18 56.5**	**+0.2**
PATR	**El Naranjo**	**2.68**	**103**	*eP*	**Pn**	**15 18 34.0**	**+0.8**
PATR				*eS*	**Sn**	**15 19 04.2**	**-0.6**
THIG		**2.71**	**107**		**Pn**	**15 18 33.9**	**+0.6**
THIG					**Sn**	**15 19 03.6**	**-1.5**
THIG		**2.71**	**107**	*eP*	**Pn**	**15 18 33.9**	**+0.6**
THIG				*eS*	**Sn**	**15 19 03.6**	**-1.5**
PAVE	**Pavencul**	**2.71**	**101**	*eP*	**Pn**	**15 18 35.1**	**+1.4**
PAVE				*eS*	**Sn**	**15 19 06.4**	**+0.8**
YOIG	**Yosondua**	**2.74**	**295**		**Pn**	**15 18 35.8**	**+1.7**
YOIG					**Sn**	**15 19 04.1**	**-2.4**
YOIG	**Yosondua**	**2.74**	**295**	*eP*	**Pn**	**15 18 35.8**	**+1.7**
YOIG				*eS*	**Sn**	**15 19 05.2**	**-1.3**
CCIG	**Comitan**	**2.75**	**78**	*eP*	**Pn**	**15 18 35.2**	**+1.1**
CCIG				*eS*	**Sn**	**15 19 06.7**	**+0.2**
CHUJ	**Union Juarez**	**2.80**	**103**	*eP*	**Pn**	**15 18 35.9**	**+1.1**
CHUJ				*eS*	**Sn**	**15 19 07.4**	**-0.4**
PMUV	**Sontecomapan**	**2.81**	**356**	*eP*	**Pn**	**15 18 33.5**	**-1.3**
PMUV				*eS*	**Sn**	**15 19 03.5**	**-4.3**
TXIG	**Tlaxiaco**	**3.11**	**300**		**Pn**	**15 18 41.2**	**+2.0**
TXIG					**Sn**	**15 19 14.5**	**-1.1**
TXIG	**Tlaxiaco**	**3.11**	**300**	*i P*	**Pn**	**15 18 41.1**	**+2.0**
TXIG				*eS*	**Sn**	**15 19 14.5**	**-1.1**
TOIG	**Toxpalan**	**3.11**	**319**		**Pn**	**15 18 42.5**	**+3.4**
TOIG					**Sn**	**15 19 16.1**	**+0.8**
TOIG	**Toxpalan**	**3.11**	**319**	*i P*	**Pn**	**15 18 42.5**	**+3.4**
TOIG				*eS*	**Sn**	**15 19 16.1**	**+0.8**
PNIG	**Pinotepa**	**3.14**	**283**		**Pn**	**15 18 39.6**	**+0.4**
PNIG					**Sn**	**15 19 10.8**	**-5.0**
PNIG	**Pinotepa**	**3.14**	**283**	*i P*	**Pn**	**15 18 39.6**	**+0.4**
PNIG				*eS*	**Sn**	**15 19 10.8**	**-5.0**
HUEH	**Huehuetenango**	**3.34**	**97**	Pn	**Pn**	**15 18 40.4**	**-1.9**
RTAL	**Retalhuleu**	**3.35**	**110**	Pn	**Pn**	**15 18 42.2**	**0.0**
HLIG	**Huajuapan de L**	**3.45**	**308**		**Pn**	**15 18 45.8**	**+2.0**
HLIG					**Sn**	**15 19 23.1**	**-0.7**
HLIG	**Huajuapan de L**	**3.45**	**308**	*eP*	**Pn**	**15 18 45.8**	**+2.0**
HLIG				*eS*	**Sn**	**15 19 23.1**	**-0.7**
TPIG	**Tehuac#an**	**3.54**	**319**		**Pn**	**15 18 48.6**	**+3.6**
TPIG					**Sn**	**15 19 27.4**	**+1.3**
TPIG	**Tehuac#an**	**3.54**	**319**	*i P*	**Pn**	**15 18 48.6**	**+3.6**
TPIG				*eS*	**Sn**	**15 19 27.4**	**+1.3**
OZST	**Orizaba**	**3.74**	**327**	*eP*	**Pn**	**15 18 48.9**	**+1.2**
OZST				*eS*	**Sn**	**15 19 28.1**	**-2.6**
FTIG	**Fresnillo de T**	**3.75**	**306**		**Pn**	**15 18 50.3**	**+2.5**
FTIG					**Sn**	**15 19 29.8**	**-1.3**
FTIG	**Fresnillo de T**	**3.75**	**306**	*i P*	**Pn**	**15 18 50.3**	**+2.5**
FTIG				*eS*	**Sn**	**15 19 29.8**	**-1.3**
MGIG	**Malinaltepec**	**3.85**	**293**		**Pn**	**15 18 51.2**	**+2.0**
MGIG					**Sn**	**15 19 30.9**	**-2.7**
MGIG	**Malinaltepec**	**3.85**	**293**	*eP*	**Pn**	**15 18 51.2**	**+2.0**
MGIG				*eS*	**Sn**	**15 19 30.9**	**-2.7**
TLIG	**Tlapa**	**3.93**	**298**	Pn	**Pn**	**15 18 52.1**	**+1.8**
TLIG	**Tlapa**	**3.93**	**298**	*eP*	**Pn**	**15 18 52.1**	**+1.8**
TLIG				*eS*	**Sn**	**15 19 33.9**	**-1.6**
JAUV	**Jalcomulco**	**4.03**	**334**	*eP*	**Pn**	**15 18 50.9**	**-0.7**
JAUV				*eS*	**Sn**	**15 19 33.5**	**-4.5**
LVIG	**Laguna Verde**	**4.22**	**341**	*eP*	**Pn**	**15 18 52.7**	**-1.4**
LVIG				*eS*	**Sn**	**15 19 37.6**	**-4.8**
DAIG	**Los Arroyos**	**4.70**	**287**		**Pn**	**15 18 57.7**	**-3.1**
DAIG					**Sn**	**15 19 48.9**	**-5.6**
DAIG	**Los Arroyos**	**4.70**	**287**	*eP*	**Pn**	**15 18 57.7**	**-3.1**
DAIG				*eS*	**Sn**	**15 19 48.9**	**-5.6**
SCIG	**Sabancuy**	**4.82**	**47**	*i P*	**Pn**	**15 19 02.3**	**-0.2**
SCIG				*eS*	**Sn**	**15 19 53.1**	**-4.2**
PPM	**Popocatepetl**	**4.84**	**314**	*eP*	Pn	15 19 08.9	+5.7
PPM				*eS*	**Sn**	**15 19 57.8**	**-0.7**
PPIG	**Popocatepetl**	**4.84**	**314**		Pn	15 19 08.9	+5.7
PPIG					**Sn**	**15 19 57.8**	**-0.8**
MEIG	**Mezcala**	**4.99**	**297**		**Pn**	**15 19 07.6**	**+2.8**
MEIG					**Sn**	**15 19 56.9**	**-4.7**
MEIG	**Mezcala**	**4.99**	**297**	*eP*	**Pn**	**15 19 07.6**	**+2.8**
MEIG				*eS*	**Sn**	**15 19 56.9**	**-4.7**
PETF	**Flores**	**5.01**	**76**	Pn	**Pn**	**15 19 05.9**	**+0.9**
YAIG	**Yautepec**	**5.03**	**309**		**Pn**	**15 19 08.1**	**+2.6**
YAIG					**Sn**	**15 20 00.4**	**-2.2**
YAIG	**Yautepec**	**5.03**	**309**	*eP*	**Pn**	**15 19 08.1**	**+2.6**
YAIG				*eS*	**Sn**	**15 20 00.1**	**-2.5**
CXUV	**Coxquihui**	**5.09**	**331**	*eP*	**Pn**	**15 19 06.6**	**+0.4**
CXUV				*eS*	**Sn**	**15 20 02.2**	**-1.9**
PLIG	**Platanillo**	**5.11**	**302**		**Pn**	**15 19 09.6**	**+3.1**
PLIG					**Sn**	**15 20 02.3**	**-2.2**
PLIG	**Platanillo**	**5.11**	**302**	*i P*	**Pn**	**15 19 09.6**	**+3.1**
PLIG				*eS*	**Sn**	**15 20 02.3**	**-2.2**
MPVM	**San Francisco**	**5.20**	**312**	*eP*	Pn	15 19 02.8	-5.1
MPVM				*eS*	**Sn**	**15 20 12.4**	**+5.4**
THVM	**De Xico**	**5.25**	**313**	*eP*	**Pn**	**15 19 06.5**	**-2.1**
THVM				*eS*	**Sn**	**15 20 07.3**	**-0.9**
CAIG	**El Cayaco**	**5.28**	**285**		**Pn**	**15 19 09.9**	**+1.1**
CAIG					**Sn**	**15 20 01.6**	**-7.1**
CAIG	**El Cayaco**	**5.28**	**285**	*eP*	**Pn**	**15 19 09.9**	**+1.1**
CAIG				*eS*	**Sn**	**15 20 03.0**	**-5.6**
TLVM	**San Miguel Top**	**5.31**	**311**	*eP*	**Pn**	**15 19 11.8**	**+2.3**
TLVM				*eS*	**Sn**	**15 20 06.5**	**-3.4**
AOVM	**Tlapan**	**5.47**	**311**	*eP*	**Pn**	**15 19 14.9**	**+3.1**
AOVM				*eS*	**Sn**	**15 20 09.3**	**-4.6**
INVM	**La Marquesa**	**5.53**	**311**	*eS*	**Sn**	**15 20 16.3**	**+1.0**
ESQI	**Esquipulas**	**5.53**	**101**	Pn	**Pn**	**15 19 11.9**	**-0.4**
MTO3	**Montecristo**	**5.55**	**103**	Pn	**Pn**	**15 19 11.3**	**-1.3**
AZVM	**Cuida Lopez Ma**	**5.65**	**313**	*eS*	**Sn**	**15 20 19.2**	**+1.1**
ZUVM	**ZUMPANGO**	**5.67**	**317**	*eP*	**Pn**	**15 19 15.6**	**+1.2**
ZUVM				*eS*	**Sn**	**15 20 16.3**	**-2.4**
TOVM	**TOLUCA**	**5.74**	**309**	*eP*	**Pn**	**15 19 18.6**	**+3.2**
TOVM				*eS*	**Sn**	**15 20 21.6**	**+1.1**
ARIG	**Puente Sto Nin**	**5.76**	**297**		**Pn**	**15 19 18.6**	**+3.2**
ARIG					**Sn**	**15 20 17.4**	**-3.3**
ARIG	**Puente Sto Nin**	**5.76**	**297**	*i P*	**Pn**	**15 19 18.6**	**+3.2**
ARIG				*eS*	**Sn**	**15 20 17.4**	**-3.3**
SNET	**Serv Nac Est T**	**5.88**	**109**	Pn	**Pn**	**15 19 15.7**	**-1.4**
DEIG	**Demacu**	**5.99**	**320**	*eP*	Pn	15 19 23.2	+4.4
DEIG				*eS*	**Sn**	**15 20 27.7**	**+1.2**
DHIG	**Demacu**	**5.99**	**320**		Pn	15 19 23.2	+4.4
ZIIG	**Zihuatanejo**	**6.53**	**288**		**Pn**	**15 19 28.2**	**+2.3**
ZIIG					**Sn**	**15 20 33.4**	**-6.0**
ZIIG	**Zihuatanejo**	**6.53**	**288**	*eP*	**Pn**	**15 19 28.2**	**+2.3**
ZIIG				*eS*	**Sn**	**15 20 36.4**	**-3.0**
CTUV	**Llano Grande**	**6.57**	**331**	*eP*	**Pn**	**15 19 26.0**	**-0.5**
CTUV				*e*		15 20 40.4	
MYIG	**Mrida**	**7.17**	**43**	*eP*	**Pn**	**15 19 35.0**	**+0.2**
MYIG				*eS*	**Sn**	**15 20 51.5**	**-3.8**
TEIG	**Tepich**	**7.76**	**54**	Pn	**Pn**	**15 19 40.7**	**-2.1**
TEIG	**Tepich**	**7.76**	**54**	Pn	Pn	15 19 39.2	-3.6
159nm,0.3s,baz=124,slow=1.2,SNR=46							
TEIG				Sn	**Sn**	**15 21 01.9**	**-7.9**
104nm,0.3s,baz=152,slow=22,SNR=12							
TEIG				LR	LR	15 22 58.6	
comp=Z,754nm,20.3s,baz=341,slow=41							
TEIG	**Tepich**	**7.76**	**54**	*eP*	**Pn**	**15 19 41.7**	**-1.1**
TEIG				*eS*	**Sn**	**15 21 03.0**	**-6.7**
GTIG	**Gomez Farias**	**8.32**	**332**	*eP*	**Pn**	**15 19 53.0**	**+2.5**
MMIG	**Aquila**	**8.44**	**289**		**Pn**	**15 19 54.3**	**+2.2**
MMIG	**Aquila**	**8.44**	**289**	*eP*	**Pn**	**15 19 54.3**	**+2.2**
MMIG				*eS*	**Sn**	**15 21 23.3**	**-3.1**
COIG	**Colima**	**9.03**	**294**	*eP*	Pn	15 20 05.0	+4.6
JUBC	**Volcan de Coli**	**9.05**	**296**	*eP*	Pn	15 20 06.3	+5.5
EZ5V		**9.06**	**296**		Pn	15 20 06.5	+5.6
EZ5V		**9.06**	**296**	*eP*	Pn	15 20 06.5	+5.6
MNGA	**Volcan de Coli**	**9.07**	**295**	*eP*	Pn	15 20 06.3	+5.2
INCO	**Volcan de Coli**	**9.08**	**296**	*eP*	Pn	15 20 06.4	+5.0
SOMAC	**Volcano de Col**	**9.11**	**296**	*eP*	Pn	15 20 06.0	+4.4
CDAR	**Ciudad de Arme**	**9.23**	**292**	*eP*

comp=Z,8.7nm,0.7s
DEOK Depew 20.08 356 P P 15 22 21.1 -1.9
DEOK IAmb IAmb 15 22 39.5
comp=Z,30nm,1.1s
OK029 Liberty Lake 20.11 354 P P 15 22 22.7 -0.6
OK029 IAmb IAmb 15 22 24.9
comp=Z,23nm,0.9s
TUL3 Leonard 20.12 358 P P 15 22 21.6 -1.8
OK031 S. Brethren Rd 20.22 356 P P 15 22 24.1 -0.4
OK031 IAmb IAmb 15 22 25.7
comp=Z,46nm,1.1s
OK052 Battle Ridge R 20.25 356 P P 15 22 23.4 -1.4
OK033 Mehan 20.31 355 P P 15 22 24.6 -0.9
121A Cookes Peak, D 20.40 327 P P 15 22 27.2 +0.6
QUOK Quay 20.42 356 P P 15 22 25.5 -1.2
ELIS Ellis County 20.65 350 P P 15 22 28.7 -0.5
ELIS IAmb IAmb 15 22 46.7
comp=Z,21nm,0.8s
OK048 Pawnee Station 20.68 355 P P 15 22 28.6 -0.9
OK051 E0350 and S346 20.77 356 P P 15 22 30.0 -0.3
OK051 IAmb IAmb 15 22 46.6
comp=Z,20nm,0.7s
CROK Carrier 20.87 353 P P 15 22 29.7 -1.8
U32A Winter Ranch, 20.89 351 P P 15 22 31.4 -0.3
BLOK Blackwell 21.05 355 P P 15 22 31.1 -2.4
BLOK IAmb IAmb 15 22 34.9
comp=Z,26nm,1.1s
NOKA Waynoka 21.13 351 P P 15 22 33.2 -1.1
NOKA IAmb IAmb 15 22 50.8
comp=Z,17nm,0.8s
T35A Sooner Cattle 21.15 357 P P 15 22 33.1 -1.4
KAN17 Caldwell West 21.38 354 P P 15 22 35.9 -1.1
KAN17 IAmb IAmb 15 22 52.8
comp=Z,16nm,0.5s
ANMO Albuquerque 21.75 334 P P 15 22 40.9 -0.3
comp=Z,0.6nm,0.5s,baz=241,slow=12,SNR=1.4
comp=Z,0.6nm,0.5s
TUC Tucson 21.91 322 P P 15 22 42.6 -0.2
TKL Tuckaleechee C 22.22 25 LR LR 15 33 22.8
comp=Z,20nm,19.0s,baz=202,slow=42
T25A Trinidad 22.92 340 P P 15 22 53.9 +0.2
T25A IAmb IAmb 15 23 15.2
comp=Z,13nm,1.2s
X16A Lo Mia Camp, P 23.81 324 P P 15 23 03.0 +0.6
SDV Santo Domingo 24.68 103 LR LR 15 33 06.3
comp=Z,37nm,21.4s,baz=268,slow=38
PFO Pinyon Flats O 26.36 316 LR LR 15 33 52.0
comp=Z,42nm,19.6s,baz=182,slow=36
MVU Marysvale 27.31 329 P P 15 23 33.7 -0.6
NVAR Mina Array Bea 30.56 322 P P 15 24 04.3 +1.1
NVAR Mina Array Bea 30.56 322 P P 15 24 04.8 +1.7
comp=Z,0.9nm,0.7s,baz=139,slow=9.0,SNR=8.8
comp=Z,0.9nm,0.7s
SADO Sadowa 31.88 22 LR LR 15 39 10.4
comp=Z,40nm,19.1s,baz=310,slow=40
YBH Yreka Blue Hor 35.27 323 LR LR 15 42 07.0
comp=Z,24nm,18.1s,baz=275,slow=41
NEW Newport 37.23 335 LR LR 15 43 37.8
comp=Z,23nm,18.3s,baz=138,slow=41
ILAR Eielson Array 60.15 337 P P 15 27 57.7 +1.2
comp=Z,0.2nm,0.5s,baz=121,slow=5.4,SNR=4.7
comp=Z,0.2nm,0.5s
EKA Eskdalemuir Ar 78.23 36 P P 15 29 47.8 -0.8
comp=Z,0.9nm,0.5s,baz=262,slow=9.9,SNR=3.9
comp=Z,0.9nm,0.5s
WRA Warramunga Arr 133.03 257 PKP PKPdf 15 37 04.0 -1.3
comp=Z,0.5nm,1.1s,baz=79,slow=2.6,SNR=1.9
ASAR Alice Springs 133.52 252 PKP PKPdf 15 37 05.2 -0.9
comp=Z,0.6nm,1.1s,baz=94,slow=1.7,SNR=4.5
PZH PanZhiHua 135.00 339 PKP PKPdf 15 37 09.4 +0.3

---

*IDC **04** 15:22:24.6±1.1, 4°.71S×147°.80E, h0km, mb3.9/8, mbtmp4.0/12, ML3.6/3, MS3.3/22, Error ellipse: s-maj=26.3km s-min=15.4km az=110.0*
*NEIC **04** 15:22:30.3±2.0, 4°.73S±0°.07×147°.71E±0°.09, h40km±10km, mb4.4/12, Error ellipse: s-maj=12.5km s-min=10.7km az=77.0*
ISC 04 15:22:29.5±0.7, 4°.71S±0°.07×147°.75E±0°.08, h35km, n55, σ1ˢ25/43, mb3.8/10, MS3.4/16, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.68**	**352**	Pn	**Pn**	**15 23 10.5**	**+0.3**
KRVT	**Keravat (AS076**	**4.28**	**85**	Pn	**Pn**	**15 23 30.9**	**-1.4**
	5.8nm,0.3s,baz=228,slow=24,SNR=5.6						
KRVT				LR	LR	15 24 46.7	
	comp=Z,419nm,18.3s,baz=20,slow=34						
	17nm,0.4s						
RABL	**Rabaul**	**4.43**	**83**		**Pn**	**15 23 34.7**	**+0.4**
PMG	**Port Moresby**	**4.70**	**187**	P	**Pn**	**15 23 37.0**	**-1.0**
PMG	**Port Moresby**	**4.70**	**187**	Pn	**Pn**	**15 23 36.9**	**-1.1**
	40nm,0.7s,baz=334,slow=5.9,SNR=22						
PMG				Sn	**Sn**	**15 24 31.2**	**-0.1**
	3.0nm,0.3s,baz=195,slow=22,SNR=6.3						
JAY	**Jayapura**	**7.36**	**287**	Pn	**Pn**	**15 24 14.4**	**-0.2**
	0.4nm,0.3s,baz=142,slow=19,SNR=2.3						
JAY				LR	LR	15 26 43.5	
	comp=Z,263nm,20.2s,baz=89,slow=35						
	28nm,1.2s						
COEN	**Coen**	**10.23**	**206**	Pn	**Pn**	**15 24 52.5**	**-1.5**
COEN	**Coen**	**10.23**	**206**	P	**Pn**	**15 24 52.2**	**-1.8**
HNR	**Honiara**	**12.98**	**112**	LR	LR	15 29 45.8	
	comp=Z,996nm,19.4s,baz=117,slow=34						
CTA	**Charters Tower**	**15.35**	**185**	LR	LR	15 31 30.0	
	comp=Z,182nm,19.3s,baz=308,slow=36						
SIJI	**Sorong**	**16.90**	**283**	Pn	**P**	**15 26 23.9**	**-1.4**
	0.4nm,0.3s,baz=78,slow=9.9,SNR=9.0						
SIJI				LR	LR	15 33 10.3	
	comp=Z,43nm,20.9s,baz=74,slow=38						
	21nm,0.9s						
KDU	**Kakadu**	**17.04**	**241**	P	**P**	**15 26 25.7**	**-1.1**
GUMO	**Guam**	**18.41**	**351**	LR	LR	15 33 52.2	
	comp=Z,80nm,18.6s,baz=173,slow=37						
WB0	**Warramunga Arr**	**19.83**	**220**	P	**P**	**15 26 56.9**	**-0.5**
WR0	**Warramunga Arr**	**19.88**	**219**	P	**P**	**15 26 57.9**	**-0.1**
WR0				IAmb	IAmb	15 27 01.9	
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**19.98**	**220**	P	**P**	**15 26 59.1**	**-0.1**
WRAB				IAmb	IAmb	15 27 03.2	
	comp=Z,8.8nm,0.7s						
WRAB	**Tennant Creek**	**19.98**	**220**	P	**P**	**15 26 59.0**	**-0.1**
WB2	**Warramunga Arr**	**19.99**	**220**	P	**P**	**15 26 59.0**	**-0.2**
WB2				IAmb	IAmb	15 27 03.4	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**19.99**	**220**	P	**P**	**15 26 58.4**	**-0.8**
WRA	**Warramunga Arr**	**19.99**	**220**	P	**P**	**15 26 58.5**	**-0.8**
	comp=Z,7.8nm,0.6s,baz=42,slow=12,SNR=70						
WRA				S	**Sn**	**15 30 46.9**	**+1.7**
	comp=Z,0.6nm,1.0s,baz=44,slow=19,SNR=2.7						
	comp=Z,7.8nm,0.6s						
EIDS	**Eidsvold**	**20.79**	**171**	P	**P**	**15 27 08.2**	**+0.5**
EIDS				IAmb	IAmb	15 27 31.0	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**21.61**	**238**	P	**P**	**15 27 15.0**	**-1.7**
KNRA				IAmb	IAmb	15 27 21.9	
	comp=Z,21nm,1.1s						
KNRA	**Kununurra**	**21.61**	**238**	P	**P**	**15 27 16.1**	**-0.6**
AS31	**Alice Springs**	**23.09**	**214**	P	**P**	**15 27 31.7**	**-0.8**
ASAR	**Alice Springs**	**23.10**	**214**	P	**P**	**15 27 31.8**	**-0.7**
ASAR	**Alice Springs**	**23.10**	**214**	P	**P**	**15 27 31.4**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=53,slow=7.9,SNR=37						
ASAR				S	**S**	**15 31 41.8**	**+0.4**
	comp=Z,1.8nm,1.1s,baz=30,slow=22,SNR=6.2						
ASAR				LR	LR	15 37 09.4	
	comp=Z,160nm,18.8s,baz=44,slow=38						
	comp=Z,2.2nm,0.7s						
INKA	**Innaminka**	**23.85**	**196**	P	**P**	**15 27 40.0**	**+0.3**
BATI	**Baumata**	**24.49**	**256**	LR	LR	15 38 24.1	
	comp=Z,160nm,19.1s,baz=52,slow=39						
DZM	**Mont Dzumac**	**25.01**	**135**	P	**P**	**15 27 51.3**	**+0.8**
DZM	**Mont Dzumac**	**25.01**	**135**	LR	LR	15 34 46.4	
	comp=Z,71nm,18.4s,baz=300,slow=30						
DAV	**Davao City (W)**	**25.03**	**298**	LR	LR	15 37 26.1	
	comp=Z,33nm,19.6s,baz=174,slow=36						
OOD	**Oodnadatta**	**25.67**	**205**	P	**P**	**15 27 57.5**	**+1.2**
LCRK	**Leigh Creek**	**27.13**	**198**	P	**P**	**15 28 11.1**	**+1.6**
WRKA	**Warakurna**	**27.52**	**221**	P	**P**	**15 28 13.4**	**+0.3**
STKA	**Stephens Creek**	**27.63**	**191**	P	**P**	**15 28 15.8**	**+1.9**
	comp=Z,2.1nm,0.8s,baz=14,slow=11,SNR=3.2						
STKA				LR	LR	15 39 54.9	
	comp=Z,107nm,18.9s,baz=29,slow=38						
	comp=Z,2.1nm,0.8s						
MULG	**Mulgathing**	**28.53**	**205**	P	**P**	**15 28 23.9**	**+1.9**
	comp=Z,18nm,2.2s						
CAN	**Canberra**	**30.48**	**178**	P	**P**	**15 28 39.2**	**-0.1**
CAN	**Canberra**	**30.48**	**178**	P	**P**	**15 28 42.6**	**+3.3**
PSA00	**Pilbara Seismi**	**31.83**	**236**	P	**P**	**15 28 51.7**	**+0.4**
PSA00				IAmb	IAmb	15 29 15.6	
	comp=Z,8.8nm,1.4s						
JCJ	**Chichijima**	**32.08**	**351**	LR	LR	15 40 12.4	
	comp=Z,22nm,19.1s,baz=130,slow=33						
MJAR	**Matsushiro Arr**	**42.00**	**348**	LR	LR	15 45 45.7	
	comp=Z,25nm,20.2s,baz=168,slow=33						
URZ	**Urewera**	**42.77**	**145**	LR	LR	15 47 24.3	
	comp=Z,62nm,18.7s,baz=32,slow=35						
CMAR	**Chiang Mai Arr**	**53.32**	**297**	P	**P**	**15 31 46.8**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=128,slow=5.1,SNR=5.4						
CMAR				LR	LR	15 51 20.7	
	comp=Z,7.3nm,21.1s,baz=225,slow=32						
	comp=Z,0.8nm,0.8s						
PETK	**Petropavlovsk-**	**58.22**	**7**	LR	LR	15 53 35.3	
	comp=Z,32nm,21.5s,baz=192,slow=32						
MA2	**Magadan**	**64.13**	**2**	LR	LR	15 56 40.8	
	comp=Z,18nm,21.6s,baz=121,slow=32						
MKAR	**Makanchi Array**	**76.99**	**320**	P	**P**	**15 34 19.7**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=90,slow=5.8,SNR=2.8						
	comp=Z,0.5nm,0.7s						
MAKZ	**Makanchi**	**77.19**	**320**	P	**P**	**15 34 17.2**	**-2.8**
ZALV	**Zalesovo Beam**	**78.33**	**327**	P	**P**	**15 34 26.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=113,slow=11,SNR=2.0						
ZALV				LR	LR	16 11 01.7	
	comp=Z,12nm,18.6s,baz=68,slow=37						
	comp=Z,0.2nm,0.3s						
KDAK	**Kodiak Island**	**78.42**	**28**	LR	LR	16 02 10.1	
	comp=Z,26nm,21.2s,baz=320,slow=30						
KURBB	**Kurchatov Arra**	**80.66**	**323**	P	**P**	**15 34 40.1**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=145,slow=37,SNR=2.9						
	comp=Z,0.5nm,0.9s						
BVAR	**Borovoye Array**	**86.18**	**324**	P	**P**	**15 35 07.8**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=108,slow=3.6,SNR=3.8						
	comp=Z,1.5nm,0.8s						
YBH	**Yreka Blue Hor**	**92.76**	**49**	LR	LR	16 11 19.4	
	comp=Z,11nm,19.0s,baz=288,slow=32						
AKTO	**Aktyubinsk**	**93.43**	**320**	LR	LR	16 17 52.5	
	comp=Z,19nm,20.7s,baz=179,slow=36						
BELG	**Belogornoye**	**99.90**	**322**	LR	LR	16 21 01.5	
	comp=Z,15nm,21.6s,baz=155,slow=35						
TORD	**Torodi Ar. Bea**	**145.47**	**286**	PKPbc	**PKPdf**	**15 42 03.2**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=65,slow=5.3,SNR=4.8						

IDC 04 15:31:12.8±955.0, 48°.13N×4°.43W, h0km, Error ellipse: s-maj=466.4km s-min=206.1km az=102.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**15.97**	**135**	I	I	17 08 30.0	
	baz=323,slow=318,SNR=2.6						
I43RU	**DUBNA INFRASON**	**26.44**	**55**	I	I	18 14 20.0	
	baz=269,slow=312,SNR=5.4						
I31KZ	**AKTYUBINSK INF**	**39.76**	**63**	I	I	19 31 10.0	
	baz=290,slow=325,SNR=1.5						

---

*IDC **04** 17:12:53.1±5.7, 3°.98S×132°.44E, h0km, mb3.3/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=366.8km s-min=32.0km az=74.0*
*DJA **04** 17:12:57.1±1.9, 4°.5±6°.×13°.2E±°, h14km±15km, M3.7/10, mb4.2/2, MLv3.5/10*
ISC 04 17:12:57.9±0.9, 4°.16S±0°.06×131°.84E±0°.08, h35km, n16, σ2ˢ17/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.30**	**18**	P	**Pn**	**17 13 19.1**	**-0.5**
FAKI	**Fak Fak**	**1.30**	**18**	P	**Pn**	**17 13 18.6**	**-1.0**
FAKI				S	**Sn**	**17 13 35.1**	**-0.7**
KMPI	**Kaimana, Papua**	**1.93**	**75**	P	**Pn**	**17 13 29.9**	**+1.8**
BNDI	**Bandanaira**	**1.96**	**259**	P	**Pn**	**17 13 30.0**	**+1.3**
SWI	**Sorong**	**3.33**	**350**	P	**Pn**	**17 13 45.8**	**-1.7**
RKPI	**Ransiki, Papua**	**3.52**	**42**	P	**Pn**	**17 13 50.1**	**0.0**
LBMI	**Labuha**	**5.57**	**309**	P	**Pn**	**17 14 17.9**	**-0.5**
	18nm,0.7s,0.1nm						
SANI	**Sanana**	**6.21**	**290**	P	**Pn**	**17 14 26.4**	**-0.7**
	11nm,0.5s						
SANI	**Sanana**	**6.21**	**290**	P	**Pn**	**17 14 26.4**	**-0.7**
GENI	**Genyem**	**8.46**	**80**	P	**Pn**	**17 14 58.3**	**+0.3**
KDU	**Kakadu**	**8.49**	**176**	P	**Pn**	**17 15 00.5**	**+2.1**
MTN	**Manton Dam**	**8.65**	**185**	P	**Pn**	**17 15 03.2**	**+2.5**
KNRA	**Kununurra**	**11.84**	**195**	P	**Pn**	**17 15 45.3**	**+1.0**
WRA	**Warramunga Arr**	**15.87**	**171**	Pn	**Pn**	**17 16 38.0**	**-0.7**
	0.1nm,0.3s,baz=355,slow=13,SNR=11						
WRA				Sn	**Sn**	**17 19 29.9**	**-3.8**
	0.1nm,0.3s,baz=346,slow=24,SNR=4.9						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**19.49**	**174**	P	**Pn**	**17 17 23.9**	**+0.4**
	0.2nm,0.3s,baz=349,slow=10.0,SNR=40						
ASAR				S	**S**	**17 20 54.7**	**-5.8**
	0.4nm,0.9s,baz=356,slow=26,SNR=2.2						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**66.91**	**325**	P	**P**	**17 23 48.6**	**+1.9**
	0.1nm,0.3s,baz=120,slow=8.0,SNR=1.0						
	0.1nm,0.3s						

---

*NEIC **04** 17:19:54.1±1.1, 47°.55N±0°.03×92°.65W±0°.05, h0km±2km, mb_Lg2.8/4, mb_Lg2.8(OTT), Error ellipse: s-maj=7.3km s-min=3.0km az=131.0*
*OTT **04** 17:19:55.8±0.2, 47°.58N×92°.72W, h0km, MN2.8/8, Blast, Minnesota, U.S. 124km southeast from Fort Frances, On Mining explosion.*
ISC 04 17:19:53.7±0.9, 47°.55N±0°.03×92°.65W±0°.03, h0km, n25, σ0ˢ74/42, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.87**	**63**	Pg	**Pg**	**17 20 10.7**	**+0.3**
EYMN				Sg	**Sb**	**17 20 22.9**	**-1.1**
EYMN	**Ely**	**0.87**	**63**	PG	**Pg**	**17 20 10.9**	**+0.5**
EYMN				SG	**Sb**	**17 20 23.2**	**-0.7**
B35A	**Bob, Littlefor**	**1.09**	**319**		**Pg**	**17 20 14.9**	**+0.3**
E38A	**The Farm, Brul**	**1.20**	**141**		**Pg**	**17 20 17.0**	**+0.2**
ATKO	**Atikokan Iron**	**1.45**	**28**		**Pb**	**17 20 21.9**	**+0.3**
ATKO				Sg	**Sg**	**17 20 40.1**	**-0.3**
ATKO	**Atikokan Iron**	**1.45**	**28**	PG	**Pb**	**17 20 21.9**	**+0.3**
ATKO				SG	**Sg**	**17 20 40.1**	**-0.3**
ATKO				Trac		17 20 46.5	
	comp=Z,18nm,0.1s						
F36A	**Milaca**	**1.79**	**200**	Pn	**Pn**	**17 20 26.2**	**+0.3**
F36A				Sn	**Sn**	**17 20 49.5**	**0.0**
EPLO	**Experimental L**	**2.24**	**342**	Pn	**Pn**	**17 20 33.4**	**+1.3**
EPLO				Sn	**Sn**	**17 21 00.5**	**0.0**
EPLO	**Experimental L**	**2.24**	**342**	PN	**Pn**	**17 20 33.4**	**+1.3**
EPLO				SN	**Sn**	**17 21 00.5**	**0.0**
EPLO				Trac		17 21 17.5	
	comp=Z,5.8nm,0.1s						
SPMN	**Marine on St.**	**2.33**	**183**	Pn	**Pn**	**17 20 33.3**	**0.0**
SPMN				Sn	**Sn**	**17 21 03.2**	**+0.6**
SOLO	**Sioux Lookout**	**2.50**	**8**	Pn	**Pn**	**17 20 36.2**	**+0.6**
SOLO				Sn	**Sn**	**17 21 06.6**	**-0.3**
SOLO	**Sioux Lookout**	**2.50**	**8**	PN	**Pn**	**17 20 36.2**	**+0.6**
SOLO				SN	**Sn**	**17 21 06.6**	**-0.3**
SOLO				Trac		17 21 23.8	
	comp=Z,5.2nm,0.1s						
COWI	**Conover**	**2.81**	**120**	Pn	**Pn**	**17 20 41.1**	**+1.1**
COWI				IAmb_Lg		17 21 26.1	
	comp=Z,26nm,1.2s						
D41A	**Chassel**	**2.82**	**99**	Pn	**Pn**	**17 20 39.9**	**-0.1**
G40A	**Rib Lake**	**2.84**	**143**		**Pn**	**17 20 40.9**	**+0.6**
F33A	**5 Mile Ranch,**	**3.04**	**237**	Pn	**Pn**	**17 20 43.2**	**+0.2**
F33A				IAmb_Lg		17 21 33.8	
	comp=Z,32nm,1.1s						
ULM	**Lac du Bonnet**	**3.44**	**323**	Pn	**Pn**	**17 20 48.7**	**+0.1**
ULM	**Lac du Bonnet**	**3.44**	**323**	PN	**Pn**	**17 20 48.7**	**+0.1**
ULM				SN	**Sn**	**17 21 27.9**	**-2.0**
ULM				Trac		17 21 44.8	
	comp=Z,17nm,0.4s						
GTO	**Geraldton**	**4.36**	**58**	Pn	**Pn**	**17 21 01.7**	**+0.5**
GTO				Sn	**Sn**	**17 21 51.6**	**-1.1**
GTO	**Geraldton**	**4.36**	**58**	PN	**Pn**	**17 21 01.7**	**+0.5**
GTO				SN	**Sn**	**17 21 51.6**	**-1.1**
GTO				Trac		17 22 15.1	
	comp=Z,3.2nm,0.1s						
GTOO	**Geraldton**	**4.36**	**58**	Pn	**Pn**	**17 21 01.6**	**+0.3**
GTOO				Sn	**Sn**	**17 21 52.4**	**-0.3**
GTOO	**Geraldton**	**4.36**	**58**	PN	**Pn**	**17 21 01.6**	**+0.3**
GTOO				SN	**Sn**	**17 21 52.4**	**-0.3**
GTOO				Trac		17 22 26.0	
	comp=Z,4.5nm,0.1s						
PNPO	**Pukaskwa Natio**	**4.39**	**74**	Pn	**Pn**	**17 21 03.0**	**+1.4**
PNPO				Sn	**Sn**	**17 21 52.8**	**-0.7**
PNPO	**Pukaskwa Natio**	**4.39**	**74**	PN	**Pn**	**17 21 03.0**	**+1.4**
PNPO				SN	**Sn**	**17 21 52.8**	**-0.7**
PNPO				LG	Lg	17 22 12.2	
PNPO				Trac		17 22 14.9	
	comp=Z,4.1nm,0.1s						
JFWS	**Jewell Farm**	**4.94**	**159**	Pn	**Pn**	**17 21 08.9**	**-0.2**

---

*IDC **04** 17:32:33.8±1.1, 52°.19S×20°.34E, h0km, mb3.8/4, mbtmp3.8/4, MS3.4/11, Error ellipse: s-maj=85.0km s-min=30.2km az=49.0*
ISC 04 17:32:34.8±1.1, 52°.5S±0°.2×19°.6E±0°.3, h10km, n28, σ0ˢ87/10, mb4.0/6, MS3.5/11, 4C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.12**	**3**	LR	LR	17 43 24.8	
	comp=Z,108nm,19.8s,baz=162,slow=33						
TROLL	**Troll, Antarti**	**20.97**	**195**	⇑P	**P**	**17 37 18.8**	**+1.0**
	comp=Z,536nm,0.8s						
H04S2	**CROZET ISLANDS**	**21.51**	**88**	T	T	17 59 51.8	
	baz=242,slow=75,SNR=74						
H04S3	**CROZET ISLANDS**	**21.52**	**88**	T	T	17 59 53.3	
	baz=242,slow=75,SNR=77						
H04S1	**CROZET ISLANDS**	**21.53**	**88**	T	T	17 59 46.8	
	baz=242,slow=75,SNR=87						
SNAA	**Sanae**	**21.65**	**199**	⇑P	**P**	**17 37 24.5**	**-0.6**
	comp=Z,166nm,0.7s						
SNAA	**Sanae**	**21.65**	**199**	LR	LR	17 43 59.7	
	comp=Z,64nm,18.0s,baz=13,slow=31						
VNA2	**Neumayer--Watz**	**22.12**	**203**	⇑P	**P**	**17 37 29.0**	**-1.0**
	comp=Z,11nm,0.8s,baz=29,slow=10.0						
VNA3	**Neumayer Olymp**	**22.89**	**204**	⇑P	**P**	**17 37 37.7**	**-0.4**
	comp=Z,4.4nm,0.8s						
BOSA	**Boshof**	**24.22**	**12**	LR	LR	17 45 53.3	
	comp=Z,82nm,19.8s,baz=199,slow=34						
MAW	**Mawson**	**25.63**	**143**	P	**P**	**17 38 04.2**	**+0.2**
	comp=Z,3.9nm,1.1s,baz=279,slow=14,SNR=4.6						
MAW				LR	LR	17 46 39.4	
	comp=Z,28nm,18.7s,baz=290,slow=33						
	comp=Z,3.9nm,1.1s						
TSUM	**Tsumeb**	**33.27**	**356**	LR	LR	17 50 57.8	
	comp=Z,83nm,18.7s,baz=40,slow=34						
QSPA	**South Pole Qui**	**37.73**	**180**	LR	LR	17 54 31.4	
	comp=Z,74nm,20.3s,baz=229,slow=35						
PMSA	**Palmer Station**	**41.94**	**220**	LR	LR	17 54 33.8	
	comp=Z,66nm,18.7s,baz=152,slow=31						
H10S2	**ASCENSION HYDR**	**51.57**	**315**	T	T	18 37 49.1	
	baz=153,slow=74,SNR=9.5						
H10S3	**ASCENSION HYDR**	**51.58**	**315**	T	T	18 37 50.2	
	baz=67,slow=74,SNR=31						
MBAR	**Mbarara**	**52.55**	**14**	LR	LR	18 02 44.1	
	comp=Z,104nm,20.5s,baz=157,slow=35						
RCBR	**Riachuelo**	**64.91**	**295**	LR	LR	18 05 29.1	
	comp=Z,29nm,21.4s,baz=270,slow=30						
H01W2	**Cape Leeuwin H**	**65.72**	**116**	T	T	18 55 28.7	
	baz=221,slow=75,SNR=26						
H01W3	**Cape Leeuwin H**	**65.73**	**116**	T	T	18 55 29.6	
	baz=221,slow=75,SNR=25						
H01W1	**Cape Leeuwin H**	**65.73**	**116**	T	T	18 55 29.8	
	baz=221,slow=75,SNR=26						
TORD	**Torodi Ar. Bea**	**67.18**	**341**	P	**P**	**17 43 28.4**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=156,slow=4.8,SNR=1.9						
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**85.10**	**123**	P	**P**	**17 45 10.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=208,slow=3.9,SNR=8.0						
	comp=Z,0.3nm,0.6s						
IDI	**Anoyia**	**87.54**	**4**	LR	LR	18 27 03.5	
	comp=Z,18nm,19.2s,baz=102,slow=38						
WRA	**Warramunga Arr**	**88.41**	**121**	P	**P**	**17 45 26.5**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=212,slow=4.2,SNR=1.4						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**98.13**	**70**	LR	LR	18 23 33.3	
	comp=Z,18nm,18.1s,baz=105,slow=31						
PDAR	**Pinedale Array**	**145.07**	**275**	PKPbc	**PKPdf**	**17 52 13.2**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=127,slow=5.8,SNR=3.3						
NVAR	**Mina Array Bea**	**147.81**	**261**	PKPbc	**PKPbc**	**17 52 20.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=128,slow=3.8,SNR=2.6						

---

*CRAAG **04** 18:20:24.7, 35°.20N×1°.72W, Ml2.5, Algerie 07km NW Honaine*
*CNRM **04** 18:20:26.2, 34°.85N×1°.94W, h12km, ml2.3*
ISC 04 18:20:25.6±1.1, 35°.03N±0°.06×1°.88W±0°.04, h28km, n10, σ1ˢ20/16, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLHC	**Oulhaca**	**0.44**	**60**	P	**Pb**	**18 20 32.6**	**-2.4**
TAF	**Taforalt**	**0.48**	**244**	P	**Pb**	**18 20 34.7**	**-1.0**
TAF				S	**Sb**	**18 20 40.6**	**-2.0**
OSBL	**Sidi Abdelli**	**0.61**	**85**	P	**Pb**	**18 20 37.2**	**-0.5**
JBK	**JBK**	**0.89**	**219**	P	**Pn**	**18 20 41.8**	**-0.7**
JBK				S	**Sb**	**18 20 54.1**	**0.0**
OTSS	**Djebel Tessala**	**0.93**	**74**	P	**Pb**	**18 20 43.9**	**+0.8**
GOG	**Mont Gurugu**	**0.93**	**282**	P	**Pn**	**18 20 44.1**	**+1.2**
GOG				S	**Sn**	**18 20 56.6**	**+1.3**
OBHAM	**Bir El Hammam**	**1.31**	**117**	P	**Pn**	**18 20 49.9**	**+0.3**
FIGM	**Figuig**	**2.93**	**170**	P	**Pn**	**18 21 10.7**	**+0.2**
FIGM				S	**Sn**	**18 21 44.8**	**0.0**
MDT	**Midelt**	**3.16**	**226**	P	**Pn**	**18 21 14.8**	**+1.2**
MDT				S	**Sn**	**18 21 50.7**	**+0.3**
MD31	**MD31**	**3.22**	**229**	P	**Pn**	**18 21 15.6**	**+1.3**
MD31				S	**Sn**	**18 21 52.3**	**+0.6**

---

*DJA **04** 18:33:08.5±1.1, 3°.N±12°.×12°.7E±°, h10km, M3.8/12, mb4.0/4, mB4.5/1, MLv3.6/12, Mw(mB)3.6

comp=Z,1.2nm,0.6s
HNR Honiara 34.94 110 P **P 18 39 54.1 -1.6**
BBOO Buckleboo 36.27 167 P **P 18 40 06.7 -0.2**
STKA Stephens Creek 37.01 159 P **P 18 40 12.2 -1.0**
STKA IAmb IAmb 18 40 23.0
comp=Z,2.5nm,1.4s
STKA Stephens Creek 37.01 159 P **P 18 40 13.6 +0.3**
comp=Z,1.0nm,0.4s,baz=335,slow=8.1,SNR=8.4
comp=Z,1.0nm,0.4s
SONM Songino Array 48.43 342 P **P 18 41 45.4 -0.3**
comp=Z,0.5nm,0.6s,baz=144,slow=6.2,SNR=2.3
comp=Z,0.5nm,0.6s
MK31 Makanchi Array 58.62 326 P **P 18 42 59.8 -0.5**
MK31 IAmb IAmb 18 43 37.3
comp=Z,4.9nm,1.4s
MKAR Makanchi Array 58.62 326 P **P 18 42 59.8 -0.5**
MKAR Makanchi Array 58.62 326 P **P 18 43 00.5 +0.2**
comp=Z,1.4nm,0.5s,baz=118,slow=7.9,SNR=24
comp=Z,1.4nm,0.5s
MAKZ Makanchi 58.80 325 P **P 18 43 00.7 -0.8**
MAKZ IAmb IAmb 18 43 31.3
comp=Z,6.0nm,1.3s
ZALV Zalesovo Beam 61.69 333 P **P 18 43 21.1 -0.1**
comp=Z,0.3nm,0.3s,baz=136,slow=6.7,SNR=2.8
comp=Z,0.3nm,0.3s
KURBB Kurchatov Arra 62.81 328 P **P 18 43 28.9 +0.2**
comp=Z,2.3nm,0.5s,baz=132,slow=6.4,SNR=22
comp=Z,2.3nm,0.5s
KURK Kurchatov 62.81 328 P **P 18 43 28.4 -0.3**
KKAR Karatay Array 64.22 317 P **P 18 43 37.8 -0.4**
BVAR Borovoye Array 68.39 327 P **P 18 44 04.7 +0.1**
comp=Z,0.7nm,0.4s,baz=123,slow=7.3,SNR=4.0
comp=Z,0.7nm,0.4s
NRIK Noril'sk 71.56 346 P **P 18 44 23.2 -0.5**
comp=Z,2.1nm,0.5s,baz=146,slow=7.3,SNR=4.2
comp=Z,2.1nm,0.5s
ABKAR Akbulak array 73.17 321 P **P 18 44 33.7 -0.1**
CAST Castle Rocks 83.59 27 P **P 18 45 32.2 +1.2**
ASF Jabal al Asfar 88.71 302 P **P 18 45 57.1 +0.1**
comp=Z,2.9nm,0.8s,baz=44,slow=6.3,SNR=5.1
comp=Z,2.9nm,0.8s
ARCES ARCESS Array B 91.57 340 P **P 18 46 09.8 +0.4**
comp=Z,2.7nm,0.8s,baz=79,slow=4.7,SNR=3.6
comp=Z,2.7nm,0.8s

---

*IDC **04** 18:33:47.2±1.2,28'.29N×55'.08E, h0km, mb3.9/7, mbtmp3.8/12, ML3.5/5, MS3.3/5, Error ellipse: s-maj=36.2km s-min=21.6km az=48.0*
*TEH **04** 18:33:49.4,28'.23N×55'.14E, h18km±21km, ML3.5*
*DSN **04** 18:33:50.3±1.3,28'.23N×55'.08E, h10km, ML3.2/8, Error ellipse: s-maj=17.7km s-min=12.3km az=60.0*
ISC 04 18:33:49.4±0.7,**28'.23N**±0'.04×**55'.11E**±0'.05,**h10**km,**n57**, σ1º**61**/55,**mb3.9**/7,**MS3.4**/4,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.86**	**230**	Pg	**Pg**	**18 34 07.2**	**+1.2**
GENO	**Geno**	**1.25**	**131**	Pg	**Pn**	**18 34 14.1**	**+1.0**
JHRM	**Jahrom**	**1.38**	**282**	Pg	**Pg**	**18 34 17.3**	**+1.3**
IBND	**Bandar-abas**	**1.48**	**121**	Pg	**Pn**	**18 34 17.7**	**+1.6**
QIR1	**Qir**	**1.84**	**278**	Pn	**Pb**	**18 34 24.3**	**+1.0**
TVBK	**TV Kerman**	**2.27**	**39**	Pn	**Pn**	**18 34 28.7**	**+1.4**
KHNJ	**Kahnooj**	**2.31**	**96**	Pn	**Pn**	**18 34 29.3**	**+1.8**
SHME	**Shamm**	**2.35**	**157**	P	**Pn**	**18 34 28.6**	**+0.4**
SHME	**Shamm**	**2.35**	**157**	Pn	**Pn**	**18 34 29.5**	**+1.4**
KHGB	**Koh Gabri**	**2.45**	**29**	Pn	**Pn**	**18 34 31.5**	**+1.8**
CHMN	**Cheshme madani**	**2.68**	**52**	Pn	**Pn**	**18 34 34.8**	**+1.9**
MSFE	**Esma-Masafi**	**3.00**	**162**	P	**Pn**	**18 34 38.8**	**+1.6**
MSFE	**Esma-Masafi**	**3.00**	**162**	Pn	**Pn**	**18 34 39.3**	**+2.2**
KBAM	**BAM**	**3.07**	**72**	Pn	**Pn**	**18 34 40.6**	**+2.4**
ESRB	**Sir Abu**	**3.10**	**195**	Pn	**Pn**	**18 34 39.6**	**+1.2**
MDH	**Madha**	**3.10**	**160**	P	**Pn**	**18 34 38.8**	**+0.3**
MDH	**Madha**	**3.10**	**160**	Pn	**Pn**	**18 34 40.2**	**+1.8**
IMEH	**Mehriz**	**3.18**	**352**	Pn	**Pn**	**18 34 41.6**	**+1.8**
IBAF	**Bafgh**	**3.38**	**7**	Pn	**Pn**	**18 34 43.6**	**+1.3**
UOSS	**Minazif**	**3.41**	**163**	P	**Pn**	**18 34 44.3**	**+1.5**
UOSS	**Minazif**	**3.41**	**163**	Pn	**Pn**	**18 34 43.9**	**+1.2**
FAQ	**Al Faqa, Dubai**	**3.49**	**173**	P	**Pn**	**18 34 45.6**	**+1.8**
FAQ	**Al Faqa, Dubai**	**3.49**	**173**	Pn	**Pn**	**18 34 46.5**	**+2.6**
HATD	**Hatta, Dubai**	**3.51**	**165**	P	**Pn**	**18 34 45.3**	**+1.2**
HATD	**Hatta, Dubai**	**3.51**	**165**	Pn	**Pn**	**18 34 45.9**	**+1.8**
ASUD	**Al Ashush, Dub**	**3.59**	**177**	P	**Pn**	**18 34 47.2**	**+2.0**
ASUD	**Al Ashush, Dub**	**3.59**	**177**	Pn	**Pn**	**18 34 46.1**	**+0.9**
ASHO	**Ashiyiah**	**3.63**	**166**	P	**Pn**	**18 34 46.7**	**+1.0**
ASHO				S	**Sn**	**18 35 30.9**	**+2.2**
ASHO	**Ashiyiah**	**3.63**	**166**	Pn	**Pn**	**18 34 47.7**	**+1.9**
ISAD	**Sadrabad**	**3.88**	**342**	Pn	**Pn**	**18 34 51.8**	**+2.4**
KLNJ	**Kolanjah**	**4.13**	**313**	Pn	**Pn**	**18 34 54.7**	**+1.7**
ALNE	**Al Ain**	**4.19**	**172**	Pn	**Pn**	**18 34 55.2**	**+1.7**
SOHO	**SOHO**	**4.27**	**162**	Pn	**Pn**	**18 34 56.2**	**+1.6**
IRAM	**Ramesheh**	**4.28**	**327**	Pn	**Pn**	**18 34 56.5**	**+1.6**
SAKB	**Bahrain**	**4.65**	**242**	Pn	**Pn**	**18 35 00.6**	**+0.8**
IBRJ	**Brojen**	**4.96**	**319**	Pn	**Pn**	**18 35 06.9**	**+2.7**
TPRV	**Parvadeh(Tabas**	**4.97**	**15**	Pn	**Pn**	**18 35 06.0**	**+1.7**
IKOO	**Kooshah**	**5.37**	**38**	Pn	**Pn**	**18 35 10.8**	**+1.0**
MZR	**Muzera**	**5.41**	**196**	P	**Pn**	**18 35 10.3**	**+0.1**
MZR	**Muzera**	**5.41**	**196**	Pn	**Pn**	**18 35 12.2**	**+2.0**
WSAR	**Wadi Sarin**	**5.89**	**147**	Pn	**Pn**	**18 35 17.6**	**+0.7**
0.7nm,0.3s,baz=6.1,slow=10,SNR=10
WSAR Sn **Sn 18 36 23.2 -1.3**
0.4nm,0.3s,baz=326,slow=0.5,SNR=2.0
2.9nm,0.4s
AFRZ Afriz 6.17 32 Pn **Pn 18 35 23.0 +2.2**
GEYT Alibeck 10.00 14 LR LR 18 40 46.8
comp=Z,84nm,19.7s,baz=37,slow=42
ASF Jabal al Asfar 16.23 288 Pn **Pn 18 37 36.5 -1.2**
0.1nm,0.3s,baz=74,slow=7.4,SNR=2.2
1.8nm,0.8s
MMAI Mount Meron Ar 17.62 291 P **Pn 18 37 54.1 -1.0**
0.9nm,0.3s,baz=82,slow=15,SNR=1.6
0.3nm,0.2s
EIL Elat 17.71 279 P **Pn 18 37 56.4 +0.2**
0.1nm,0.3s,baz=112,slow=19,SNR=2.4
2.4nm,0.8s
KBZ Khabaz 18.32 331 P **Pn 18 38 03.7 0.0**
baz=106,slow=13,SNR=2.4
1.3nm,0.9s
BRTR Keskin Array B 21.13 308 P **P 18 38 34.7 +0.1**
0.6nm,0.4s,baz=129,slow=11,SNR=2.1
0.6nm,0.4s
AKTO Aktyubinsk 22.29 5 LR LR 18 48 37.9
comp=Z,32nm,19.8s,baz=240,slow=40
AKASG Malin Array Be 29.78 326 P **P 18 39 55.5 -0.7**
0.4nm,0.4s,baz=135,slow=8.6,SNR=4.1
0.4nm,0.4s
FINES FINESS Array B 38.43 338 P **P 18 41 09.0 -2.0**
3.8nm,1.0s,baz=134,slow=11,SNR=4.4
FINES LR LR 18 57 28.6
comp=Z,34nm,18.2s,baz=213,slow=37
3.8nm,1.0s
HFS Hagfors 42.40 331 P **P 18 41 42.1 -1.7**
1.8nm,0.4s,baz=129,slow=8.6,SNR=13
1.8nm,0.4s
NOA NORSAR Array B 43.91 331 P **P 18 41 53.9 -2.2**
1.6nm,0.8s,baz=115,slow=7.8,SNR=3.7
1.6nm,0.8s
TORD Torodi Ar. Bea 51.78 265 P **P 18 42 55.8 -1.9**
1.1nm,0.6s,baz=57,slow=9.4,SNR=8.3
1.1nm,0.6s
KAPI Kappang 70.39 107 LR LR 19 18 25.5
comp=Z,57nm,18.7s,baz=261,slow=38
RES Resolute Bay 75.49 352 LR LR 19 23 35.4
comp=Z,24nm,20.4s,baz=54,slow=40
ASAR Alice Springs 91.75 116 P **P 18 46 57.8 0.0**
0.2nm,0.5s,baz=297,slow=5.6,SNR=5.4
0.2nm,0.5s

---

*IDC **04** 18:40:16.9±1.0,24'.51N×92'.21E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=32.2km s-min=13.7km az=97.0*
ISC 04 18:40:22.0±1.0,**24'.5N**±0'.1×**92'.2E**±0'.3,**h34**km,**n6**,σ0º**37**/6, **mb3.5**/5,**India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**1.91**	**196**	Pg	**Pn**	**18 40 52.3**	**+0.1**
62nm,0.3s,baz=91,slow=4.4,SNR=4.9
BRDH Lg Lg 18 41 16.9
57nm,0.3s,baz=90,slow=23,SNR=3.8
MKAR Makanchi Array 23.59 343 P **P 18 45 29.8 +0.2**
0.6nm,0.5s,baz=161,slow=9.1,SNR=6.6
0.6nm,0.5s
SONM Songino Array 25.85 22 P **P 18 45 50.7 +0.3**
0.6nm,0.6s,baz=201,slow=7.7,SNR=2.4
0.6nm,0.6s
WRA Warramunga Arr 60.31 133 P **P 18 50 27.2 -0.4**
0.2nm,0.5s,baz=322,slow=7.3,SNR=10
0.2nm,0.5s
ASAR Alice Springs 62.70 137 P **P 18 50 44.0 +0.2**
0.2nm,0.6s,baz=312,slow=6.8,SNR=8.2
0.2nm,0.6s
HFS Hagfors 63.37 327 P **P 18 50 47.4 -0.3**
2.2nm,0.7s,baz=91,slow=8.6,SNR=1.8
2.2nm,0.7s

---

*NEIC **04** 18:45:20.8±2.5,16'.50N±0'.07×95'.13W±0'.02, h10km±1km, mb4.3/81, Md4.9/22(MEX), Error ellipse: s-maj=11.3km s-min=3.5km az=7.0*
*MEX **04** 18:45:21.8±0.5,16'.43N×95'.07W, h83km±9km, MD4.6*
*GCG **04** 18:45:25.5±1.4,16'.11N×95'.04W, h1km±999km, MD4.7*
*IDC **04** 18:45:27.5±3.1,17'.65N×94'.86W, h0km, mb3.9/10, mbtmp3.9/11, ML3.5/1, MS3.3/15, Error ellipse: s-maj=71.6km s-min=23.5km az=16.0*
ISC 04 18:45:20.9±1.4,**16'.56N**±0'.03×**95'.14W**±0'.02,**h7**km±10km, **n178**,σ1º**94**/216,**mb4.2**/19,**MS3.2**/15,**Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.50**	**90**	*i* P	**Pg**	**18 45 30.5**	**-0.1**
NILT eS **Sg 18 45 38.0 +0.9**
UXUV UXUV 1.21 52 *e*P **Pn 18 45 42.9 -1.4**
UXUV eS **Sb 18 45 59.0 -1.0**
HUIG Huatulco 1.22 230 **Pn 18 45 42.2 -2.2**
HUIG **Sb 18 45 58.2 -2.2**
HUIG Huatulco 1.22 230 *i* P **Pn 18 45 42.1 -2.3**
HUIG eS **Sb 18 45 57.8 -2.5**
PANG Puerto Angel 1.56 235 **Pn 18 45 47.1 -2.0**
PANG **Sn 18 46 08.0 -1.6**
PANG Puerto Angel 1.56 235 *e*P **Pn 18 45 48.2 -0.9**
PANG eS **Sb 18 46 08.5 -1.6**
OXLC Oaxaca 1.58 289 *i* P **Pn 18 45 49.1 -0.5**
OXLC eS **Sn 18 46 09.6 -0.8**
OXBJ Oaxaca 1.60 289 **Pn 18 45 49.5 -0.4**
OXBJ **Sn 18 46 10.2 -0.7**
OXBJ Oaxaca 1.60 289 *e*P **Pn 18 45 49.3 -0.5**
OXBJ eS **Sn 18 46 10.0 -0.8**
VHO Vista Hermosa 1.61 289 *e*P **Pn 18 45 49.2 -0.8**
VHO *i* S **Sn 18 46 10.2 -0.9**
TUIG Tuzandepetl 1.62 25 *e*P Pn 18 45 44.4 -5.5
TUIG eS **Sn 18 46 09.7 -1.3**
TGIG 1.94 83 *e*P **Pn 18 45 55.8 +1.4**
TGIG eS **Sn 18 46 20.2 +1.0**
PMUV Sontecomapan 1.97 0 *e*P **Pn 18 45 52.6 -2.3**
PMUV eS **Sn 18 46 20.7 +0.8**
TGBT Tuxtla Gutierr 1.98 84 *e*P **Pn 18 45 55.6 +0.8**
TGBT eS **Sn 18 46 19.9 0.0**
PEIG Puerto Escondi 2.01 254 *e*P **Pn 18 45 53.0 -2.3**
PEIG eS **Sb 18 46 21.0 -2.1**
PCIG 2.03 115 **Pn 18 45 54.9 -0.7**
PCIG **Sn 18 46 21.2 0.0**
PCIG 2.03 115 *e*P **Pn 18 45 54.9 -0.7**
PCIG eS **Sn 18 46 20.1 -1.2**
YOIG Yosondua 2.33 278 **Pn 18 45 59.5 -0.4**
YOIG Yosondua 2.33 278 *e*P **Pn 18 45 59.5 -0.4**
YOIG eS **Sb 18 46 29.9 -2.5**
TOIG Toxpalan 2.39 310 *e*P **Pn 18 46 00.9 +0.3**
TOIG eS **Sn 18 46 28.8 -1.4**
TXIG Tlaxiaco 2.61 286 *e*P **Pn 18 46 04.6 +0.8**
TXIG eS **Sb 18 46 40.5 -0.1**
TPIG Tehuac#an 2.81 311 *e*P **Pn 18 46 07.1 +0.6**
TPIG eS **Sb 18 46 44.5 -1.8**
HLIG Huajuapan de L 2.84 297 *e*P **Pn 18 46 08.1 +1.2**
HLIG eS **Sn 18 46 41.0 -0.6**
PNIG Pinotepa 2.87 267 *e*P **Pn 18 46 05.5 -1.7**
PNIG eS **Sb 18 46 44.9 -3.1**
CCIG Comitan 2.89 95 Pn **Pn 18 46 05.2 -2.4**
CCIG Comitan 2.89 95 *e*P **Pn 18 46 09.0 +1.4**
CCIG eS **Sn 18 46 44.0 +1.2**
PATR El Naranjo 3.14 117 *e*P **Pn 18 46 11.0 -0.1**
PATR eS **Sn 18 46 47.1 -1.9**
FTIG Fresnillo de T 3.16 296 *e*P **Pn 18 46 12.2 +0.9**
FTIG eS **Sn 18 46 50.9 +1.6**
PAVE Pavencul 3.16 115 *e*P **Pn 18 46 11.7 +0.4**
PAVE eS **Sn 18 46 47.6 -1.8**
THIG 3.22 120 *e*P **Pn 18 46 10.7 -1.2**
THIG eS **Sn 18 46 48.8 -1.7**
CHUJ Union Juarez 3.26 116 *e*P **Pn 18 46 13.0 +0.2**
CHUJ eS **Sn 18 46 50.1 -1.9**
LVIG Laguna Verde 3.37 339 *e*P **Pn 18 46 11.1 -2.9**
LVIG eS **Sn 18 46 48.8 -5.5**
TLIG Tlapa 3.43 287 Pn **Pn 18 46 15.5 +0.6**
TLIG Tlapa 3.43 287 *e*P **Pn 18 46 15.3 +0.4**
TLIG eS **Sn 18 46 57.6 +1.7**
HUEH Huehuetenango 3.71 109 Pn **Pn 18 46 18.3 -0.6**
RTAL Retalhuleu 3.89 121 Pn **Pn 18 46 21.1 0.0**
STG3 Santiaguito 3, 3.90 118 *i* P **Pn 18 46 22.8 +1.3**
STG3 *i* S **Sn 18 47 07.7 0.0**
SULM Suchitepequez, 4.11 123 *i* P **Pn 18 46 25.4 +1.2**
SULM *i* S **Sn 18 47 11.7 -0.9**
PPM Popocatepetl 4.15 307 *e*P **Pn 18 46 28.0 +2.8**
PPM eS **Sn 18 47 14.9 +0.6**
DAIG Los Arroyos 4.35 277 *e*P **Pn 18 46 25.2 -2.2**
DAIG eS **Sn 18 47 13.7 -4.7**
YAIG Yautepec 4.39 302 *e*P **Pn 18 46 29.5 +1.3**
YAIG eS **Sn 18 47 17.2 -2.4**
SCIG Sabancuy 4.46 57 *e*P **Pn 18 46 28.6 -0.5**
SCIG eS **Sn 18 47 16.0 -5.2**
MEIG Mezcala 4.49 288 *e*P **Pn 18 46 30.3 +0.8**
MEIG eS **Sn 18 47 19.8 -2.3**
PLIG Platanillo 4.54 294 *e*P **Pn 18 46 31.4 +1.1**
PLIG eS **Sn 18 47 20.7 -2.7**
FUG Fuego 3 4.64 116 *i* P **Pn 18 46 33.6 +1.9**
FUG *i* S **Sn 18 47 27.9 +1.8**
UNM Universidad Na 4.73 306 Pn **Pn 18 46 34.1 +1.1**
PCG Pacaya 4.87 116 *i* P **Pn 18 46 37.9 +3.0**
PCG *i* S **Sb 18 47 39.6 -6.2**
CAIG El Cayaco 4.94 276 *e*P **Pn 18 46 34.4 -1.1**
CAIG eS **Sn 18 47 26.6 -6.3**
PETF Flores 5.06 85 Pn **Pn 18 46 36.1 -1.2**
DEIG Demacu 5.25 316 *e*P Pn 18 46 45.8 +5.7
DEIG eS **Sn 18 47 46.6 +5.7**
ARIG Puente Sto Nin 5.26 290 *e*P **Pn 18 46 40.7 +0.7**
ARIG eS **Sn 18 47 38.8 -2.2**
ESQI Esquipulas 5.93 109 Pn **Pn 18 46 47.7 -1.6**
MTO3 Montecristo 5.97 110 **Pn 18 46 49.3 -0.7**
ZIIG Zihuatanejo 6.14 281 *e*P **Pn 18 46 51.7 -0.4**
ZIIG eS **Sn 18 48 01.1 -1.5**
MYIG Mrida 6.73 49 *e*P **Pn 18 46 59.6 -0.6**
MYIG eS **Sn 18 48 12.9 -4.2**
RPIG Rio Verde 7.00 320 *e*P **Pn 18 47 05.8 +1.8**
RPIG eS **Sn 18 48 27.9 +4.0**
TEIG Tepich 7.46 60 Pn **Pn 18 47 09.1 -1.2**
113nm,0.3s,baz=95,slow=0.8,SNR=22
TEIG Sn **Sn 18 48 26.8 -8.4**
49nm,0.3s,baz=302,slow=23,SNR=1.9
GTIG Gomez Farias 7.50 330 *e*P **Pn 18 47 10.8 0.0**
TGUH Tegucigalpa,Un 7.99 107 Pn **Pn 18 47 16.9 -0.7**
MMIG Aquila 8.02 284 *e*P **Pn 18 47 17.7 -0.2**
MMIG eS **Sn 18 48 49.1 +0.1**
CNGN Cerro Negro 9.12 115 Pn **Pn 18 47 33.5 +0.4**
LNIG Linares 9.23 335 *e*P **Pn 18 47 31.9 -2.7**
LNIG eS **Sn 18 49 13.7 -5.0**
ZAIG Zacatecas 9.33 313 Pn **Pn 18 47 37.9 +1.7**
ZAIG Zacatecas 9.33 313 *e*P **Pn 18 47 40.5 +4.3**
CJM Chamela 9.87 289 *e*P **Pn 18 47 45.9 +2.7**
833A Chaparral WMA, 12.35 342 Pn **Pn 18 48 18.3 +1.1**
HNDO Hondo 13.46 344 Pn **Pn 18 48 29.3 -3.1**
DRIO Del Rio 13.76 339 Pn **Pn 18 48 36.3 -0.2**
HPIG 14.21 318 Pn **Pn 18 48 44.6 +1.7**
435B Jarrell 14.33 351 **Pn 18 48 42.2 -2.1**
JCT Junction City 14.50 344 **Pn 18 48 46.1 -0.5**
SAND Sanderson 14.79 336 Pn **Pn 18 48 49.2 -1.4**
TXAR Lajitas Array 14.93 330 Pn **Pn 18 48 50.6 -2.1**
TXAR Lajitas Array 14.93 330 Pn **Pn 18 48 52.0 -0.7**
0.1nm,0.3s,baz=155,slow=18,SNR=4.9
0.8nm,1.0s
TX31 Lajitas Ar. Si 14.93 330 **Pn 18 48 53.0 +0.3**
TX32 Lajitas Array 14.93 330 **Pn 18 48 50.3 -2.3**
BRDY Brady 15.07 347 **Pn 18 48 54.1 -0.4**
BRDY IAmb IAmb 18 49 17.1
comp=Z,12nm,0.8s
OZNA Ozona 15.30 340 P **P 18 49 01.5 -1.0**
OZNA IAmb IAmb 18 49 03.6
comp=Z,16nm,0.7s
237A Washetta, Mont 15.38 358 Pn **Pn 18 48 58.0 -0.5**
237A IAmb IAmb 18 49 03.5
comp=Z,25nm,0.9s
WHTX Lake Whitney, 15.51 353 Pn **Pn 18 49 00.3 +0.2**
ALPN Alpine 15.79 332 P **Pn 18 49 05.5 +1.5**
ALPN IAmb IAmb 18 49 14.0
comp=Z,13nm,0.8s
FW13 Cleburne 15.86 353 **Pn 18 49 04.4 -0.3**
FW13 IAmb IAmb 18 49 06.4
comp=Z,47nm,0.7s
SGCY Sterling City 16.22 341 **Pn 18 49 08.5 -1.0**
SGCY IAmb IAmb 18 49 17.9
comp=Z,9.9nm,0.8s
FW07 Weatherford 16.25 352 **Pn 18 49 10.0 +0.3**
FW07 IAmb IAmb 18 49 20.4
comp=Z,44nm,0.5s
FW06 Azle 16.48 353 **Pn 18 49 11.8 -0.9**
FW06 IAmb IAmb 18 49 24.6
comp=Z,24nm,0.6s
ABTX Abilene, Hawle 16.50 347 Pn **Pn 18 49 11.6 -1.4**
ABTX IAmb IAmb 18 49 16.1
comp=Z,15nm,0.7s
FW03 Perrin-Whitt E 16.62 351 **Pn 18 49 13.4 -1.1**
FW03 IAmb IAmb 18 49 25.2
comp=Z,22nm,0.6s
PECS Pecos 16.75 333 **Pn 18 49 15.6 -0.6**
PECS IAmb IAmb 18 49 20.9
comp=Z,12nm,0.8s
425A Indio Mountain 16.77 329 **P 18 49 18.6 -0.2**
Z35A Perchaven, San 16.81 354 P **Pn 18 49 16.3 -0.5**
Z35A IAmb IAmb 18 49 19.1
comp=Z,22nm,0.6s
ODSA Odessa 16.89 338 Pn **Pn 18 49 16.2 -1.7**
ODSA IAmb IAmb 18 49 29.2
comp=Z,16nm,1.0s
SN01 Snyder 1 17.04 343 Pn **Pn 18 49 18.6 -1.2**
SN01 IAmb IAmb 18 49 23.0
comp=Z,14nm,0.7s
APMT Aspermont 17.29 346 **Pn 18 49 22.4 -0.5**
APMT IAmb IAmb 18 49 52.5
comp=Z,9.8nm,0.7s
WTFS Witchita Falls 17.39 351 **P 18 49 26.5 +1.0**
WTFS IAmb IAmb 18 49 28.1
comp=Z,41nm,1.0s
POST Post 17.41 342 **Pn 18 49 24.7 +0.2**
POST IAmb IAmb 18 49 35.5
comp=Z,19nm,1.3s
LOOK Love County 17.45 354 **P 18 49 27.3 +1.1**
CLNB Carlsbad 17.53 335 **P 18 49 26.7 -0.4**
HTMS Hat Mesa 17.61 336 **Pn 18 49 27.0 -0.1**
CLN7 Carlsbad 7 17.63 335 **Pn 18 49 26.9 -0.3**
GDL2 Guadalupe Moun 17.68 333 Pn **Pn 18 49 25.8 -2.0**
MNTX Cornudas Mount 17.71 330 **P 18 49 29.4 +0.3**
DKNS Dickens 17.81 344 P **Pn 18 49 28.2 -1.3**
DKNS IAmb IAmb 18 49 46.1
comp=Z,13nm,0.9s
X37A Clayton 17.95 359 **P 18 49 33.4 +1.7**
X37A IAmb IAmb 18 49 34.6
comp=Z,23nm,0.6s
MIAR Mount Ida 17.96 4 P **P 18 49 31.9 +0.1**
X34A Smith Ranch, M 18.13 353 **Pn 18 49 33.4 +0.1**
WMOK Wichita Mounta 18.39 350 **P 18 49 35.7 -0.9**
OXF Oxford 18.60 15 P **P 18 49 37.4 -1.4**
OXF IAmb IAmb 18 50 18.7
comp=Z,24nm,1.1s
MSTX Muleshoe 18.64 340 P **P 18 49 37.6 -1.8**
AMTX Amarillo 19.16 343 P **P 18 49 44.7 -0.4**
AMTX IAmb IAmb 18 50 20.9
comp=Z,9.3nm,0.8s
DEOK Depew 19.24 357 **P 18 49 44.7 -1.1**
DEOK IAmb IAmb 18 49 53.4
comp=Z,18nm,0.6s
TUL3 Leonard 19.28 358 P **P 18 49 45.9 -0.4**
OK031 S. Brethren Rd 19.37 356 **P 18 49 46.4 -0.9**
OK031 IAmb IAmb 18 49 54.7
comp=Z,17nm,0.7s
OK052 Battle Ridge R 19.41 356 P **P 18 49 45.3 -2.4**
OK052 IAmb IAmb 18 49 53.9
comp=Z,22nm,0.8s
OK033 Mehan 19.47 356 **P 18 49 46.2 -2.2**
OK033 IAmb IAmb 18 49 55.7
comp=Z,25nm,1.0s
QUOK Quay 19.58 356 **P 18 49 47.5 -2.1**
121A Cookes Peak, D 19.60 327 P **P 18 49 50.0 0.0**
121A IAmb IAmb 18 49 59.1
comp=Z,11nm,0.9s
HHAR Hobbs 19.67 3 P **Pn 18 49 53.4 +1.5**
LCAR Lake Charles 19.75 10 P **P 18 49 49.7 -1.7**
U38A Gravette 19.81 2 P **P 18 49 51.6 -0.5**
U38A IAmb IAmb 18 50 05.3
comp=Z,11nm,1.1s
OK048 Pawnee Station 19.84 356 P **P 18 49 50.9 -1.5**
OK048 IAmb IAmb 18 50 15.8
comp=Z,18nm,0.7s
LNXT Lenox 20.10 13 P **P 18 49 51.0 -4.3**
T35A Sooner Cattle 20.31 357 P **P 18 49 55.5 -2.0**
T35A IAmb IAmb 18 50 04.6
comp=Z,17nm,0.7s
DUN6 Lazy B Ranch 20.32 324 P Pn 18 49 59.8 0.0
DUN6 IAmb IAmb 18 50 17.9
comp=Z,15nm,0.8s
OK032 Salt Plains WL 20.34 353 P **P 18 49 55.8 -2.1**
KAN13 South Haven SW 20.48 355 P **P 18 49 59.1 -0.2**
KAN13 IAmb IAmb 18 50 16.6
comp=Z,16nm,0.9s
KAN17 Caldwell West 20.53 354 P **P 18 50 00.6 +0.7**
WVT Waverly 20.55 17 P **P 18 49 55.9 -4.1**
WVT IAmb IAmb 18 50 29.8
comp=Z,14nm,1.1s
PBMO Poplar Bluff 20.57 11 P **P 18 50 00.3 +0.1**
PBMO IAmb IAmb 18 50 10.0
comp=Z,16nm,1.2s
KAN09 Caldwell North 20.61 354 P **P 18 49 59.9 -0.9**
KAN09 IAmb IAmb 18 50 20.7
comp=Z,26nm,1.3s
MGMO Mountain Grove 20.67 7 P **P 18 50 00.3 -1.1**
ANMO Albuquerque 20.92 333 P **P 18 50 04.7 +0.3**
ANMO Albuquerque 20.92 333 P **P 18 50 04.9 +0.5**
comp=Z,1.7nm,0.6s,baz=208,slow=8.7,SNR=4.3
ANMO LR LR 18 59 17.9
comp=Z,48nm,19.1s,baz=238,slow=41
comp=Z,1.7nm,0.6s
S39A Bolivar 21.11 4 P **P 18 50 05.5 -0.7**
TUC Tucson 21.14 321 P **P 18 50 05.9 -0.8**
U49A Red Boiling Sp 21.54 21 P **P 18 50 09.4 -1.4**
U49A IAmb IAmb 18 50 18.2
comp=Z,8.8nm,0.5s
TKL Tuckaleechee C 21.55 26 LR LR 18 59 49.9
comp=Z,37nm,19.9s,baz=174,slow=42
T47A Sharon Grove 21.55 18 P **P 18 50 11.5 +0.6**
R40A Maddies Statio 21.79 6 P **P 18 50 13.4 -0.1**
R40A IAmb IAmb 18 50 20.3
comp=Z,7.0nm,0.7s
T25A Trinidad 22.08 340 P **P 18 50 16.4 -0.4**
T25A IAmb IAmb 18 50 26.6
comp=Z,13nm,1.1s
SDCO Great Sand Dun 23.00 339 P **P 18 50 30.4 +3.8**
SDCO IAmb IAmb 18 50 33.7
comp=Z,5.9nm,0.9s
KSCO Kaye Shedlock' 23.31 345 P **P 18 50 28.0 -1.7**
KSCO IAmb IAmb 18 50 39.8
comp=Z,8.1nm,0.7s
S22A 4UR Ranch, Cre 23.48 336 P **P 18 50 32.0 +0.3**
MVCO Mesa Verde 23.72 333 P **P 18 50 35.8 +1.9**
MVCO IAmb IAmb 18 50 41.3
comp=Z,4.4nm,0.6s
P46A Rosedale 23.99 15 P **P 18 50 34.6 -1.5**
N38A Joes South For 24.20 4 P **P 18 50 35.6 -2.6**
ISCO Idaho Springs 24.89 341 P **P 18 50 46.9 +2.2**
ISCO IAmb IAmb 18 50 50.7
comp=Z,3.4nm,0.7s
OGNE Ogallala 25.02 348 P **P 18 50 45.7 0.0**
SDV Santo Domingo 25.07 105 LR LR 19 00 43.6
comp=Z,78nm,20.8s,baz=259,slow=36
PFO Pinyon Flats O 25.62 315 LR LR 19 02 03.1
comp=Z,64nm,18.8s,baz=190,slow=40
SJG San Juan 27.70 83 LR LR 19 03 20.7
comp=Z,40nm,18.8s,baz=137,slow=39
PDAR Pinedale Array 28.88 338 P **P 18 51 19.9 -0.6**
comp=Z,0.5nm,0.8s,baz=178,slow=7.4,SNR=4.4
PDAR LR LR 19 05 22.1
comp=Z,20nm,19.6s,baz=114,slow=43
comp=Z,0.5nm,0.8s
ELK Elko 29.72 328 LR LR 19 05 37.6

comp=Z,86nm,18.1s,baz=197,slow=42
MDPB Devils Postpil 29.76 320 P **P 18 51 28.4 0.0**
MDPB IAmb IAmb 18 51 35.0
comp=Z,3.8nm,0.8s
NVAR Mina Array Bea 29.79 322 P **P 18 51 29.2 +0.5**
NVAR Mina Array Bea 29.79 322 P **P 18 51 30.2 +1.5**
comp=Z,2.4nm,0.8s,baz=134,slow=9.2,SNR=14
comp=Z,2.4nm,0.8s
LHV Little Huntoon 29.80 321 P **P 18 51 29.0 +0.6**
REDW Red Top Meadow 29.87 337 P **P 18 51 29.6 +0.2**
SNOW Snow King Moun 29.92 337 P **P 18 51 28.3 -1.6**
TPAW Teton Pass 30.02 337 P **P 18 51 31.3 +0.6**
TPAW IAmb IAmb 18 51 47.0
comp=Z,4.7nm,1.0s
HLID Hailey 31.50 333 P **P 18 51 43.2 -0.5**
HLID IAmb IAmb 18 51 48.6
comp=Z,3.7nm,0.9s
DLMT Dillon 32.23 337 P **P 18 51 52.7 +2.6**
LRM Limekiln Ridge 32.57 337 P **P 18 51 53.5 +0.4**
J08A Circle Bar Ran 33.27 328 P **P 18 51 59.4 +0.3**
ULM Lac du Bonnet 33.61 359 P **P 18 51 59.2 -2.7**
comp=Z,4.5nm,0.8s,baz=171,slow=10,SNR=2.4
ULM LR LR 19 06 23.9
comp=Z,18nm,21.0s,baz=318,slow=39
comp=Z,4.5nm,0.8s
YBH Yreka Blue Hor 34.50 322 LR LR 19 05 38.4
comp=Z,36nm,18.8s,baz=206,slow=36
F10A Beach Ranch, E 34.64 333 P **P 18 52 13.2 +2.2**
SAML Samuel 40.52 126 P **P 18 52 59.8 -1.3**
YKA Yellowknife Ar 47.88 348 P **P 18 53 57.8 -1.5**
comp=Z,1.5nm,0.7s,baz=157,slow=7.1,SNR=6.2
YKA LR LR 19 16 08.6
comp=Z,24nm,18.9s,baz=334,slow=39
comp=Z,1.5nm,0.7s
FRB Frobisher Bay 50.57 15 LR LR 19 18 36.4
comp=Z,28nm,18.8s,baz=51,slow=40
ILAR Eielson Array 59.31 337 P **P 18 55 25.7 +2.6**
comp=Z,0.4nm,0.8s,baz=124,slow=8.0,SNR=4.0
ILAR LR LR 19 25 31.7
comp=Z,16nm,18.6s,baz=7.0,slow=41
comp=Z,0.4nm,0.8s
EKA Eskdalemuir Ar 77.67 36 P **P 18 57 19.5 +1.4**
comp=Z,0.8nm,0.5s,baz=277,slow=5.5,SNR=3.6
comp=Z,0.8nm,0.5s
ESDC Sonseca Array 80.50 51 P **P 18 57 36.6 +2.5**
comp=Z,1.1nm,0.9s,baz=298,slow=5.1,SNR=6.1
comp=Z,1.1nm,0.9s
NB2 NORSAR Subarra 83.33 28 P **P 18 57 51.6 +3.1**
comp=Z,7.6nm,1.2s,baz=296,slow=5.6
NOA NORSAR Array B 83.33 28 P **P 18 57 51.0 +2.5**
comp=Z,1.3nm,0.8s,baz=296,slow=5.1,SNR=4.5
NOA LR LR 19 34 34.7
comp=Z,9.9nm,19.6s,baz=130,slow=36
comp=Z,1.3nm,0.8s
ARCES ARCESS Array B 84.65 18 P **P 18 57 57.8 +2.8**
comp=Z,1.5nm,0.8s,baz=350,slow=4.9,SNR=3.8
comp=Z,1.5nm,0.8s
KOWA Kowa 87.00 76 LR LR 19 35 46.1
comp=Z,103nm,18.2s,baz=110,slow=35
OBN Obninsk 97.74 26 LR LR 19 43 14.8
comp=Z,47nm,20.1s,baz=173,slow=36
PZH PanZhiHua 134.16 339 PKP **PKPdf 19 04 38.6 -1.7**

---

*NSSP **04** 18:46:45.6, 38°.73N×43°.57E, h10km, Ms3.7*
*AFAD **04** 18:46:48.6±0.0, 38°.81N×43°.46E, h22km, MW4.0*
*ISK **04** 18:46:48.8, 38°.80N×43°.50E, h6km, ML3.9/20*
*AZER **04** 18:46:50.6±0.3, 38°.86N×43°.91E, h5km, Error ellipse: s-maj=5.3km s-min=4.5km az=316.0*
ISC 04 18:46:49.4±0.9, 38°.81N±0°.02×43°.55E±0°.01, h14km±6km, n74, σ1§88/134, 5C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.18**	**6**	P	**Pg**	**18 46 53.9**	**+0.1**
VMUR				*i* AML	AML	18 46 58.0	
	comp=N,15μm,0.3s						
VMUR				*i* AML	AML	18 46 58.0	
	comp=E,10μm,0.3s						
VMUR				S	**Sg**	**18 46 58.1**	**+1.2**
VANB	**Van**	**0.24**	**210**	Pg	**Pb**	**18 46 55.6**	**0.0**
VANB				Sg	**Sb**	**18 46 59.9**	**+0.1**
ERCV	**ERCIS-VAN**	**0.27**	**323**	Pg	**Pg**	**18 46 54.6**	**-0.6**
ERCV				Sg	**Sg**	**18 46 58.3**	**-0.8**
TVAN	**Van**	**0.30**	**202**	P	**Pg**	**18 46 55.6**	**0.0**
TVAN				S	**Sb**	**18 47 00.7**	**-0.7**
OZAP	**Van, Ozalp-Mer**	**0.38**	**112**	P	**Pb**	**18 46 58.1**	**+0.1**
OZAP				S	**Sb**	**18 47 07.3**	**+3.5**
OZAP				*i* AML	AML	18 47 09.0	
	comp=N,9μm,0.6s						
OZAP				*i* AML	AML	18 47 09.0	
	comp=E,7μm,0.5s						
CLDR	**Caldiran**	**0.45**	**40**	Pg	**Pb**	**18 46 58.4**	**-0.8**
CLDR				Sg	**Sb**	**18 47 05.6**	**-0.2**
CLDR	**Caldiran**	**0.45**	**40**	P	**Pb**	**18 46 58.3**	**-0.8**
CLDR				*i* AML	AML	18 47 06.0	
	comp=N,1μm,0.3s						
CLDR				*i* AML	AML	18 47 06.0	
	comp=E,2μm,0.4s						
CLDR				S	**Sb**	**18 47 06.1**	**+0.3**
GEVA	**Gevas**	**0.62**	**218**	P	**Pg**	**18 47 00.5**	**-1.1**
GEVA				S	**Sg**	**18 47 09.9**	**+0.1**
AKDM	**Akdamar-Van**	**0.65**	**223**	Pg	**Pg**	**18 47 01.3**	**-0.8**
AKDM				Sg	**Sg**	**18 47 10.5**	**-0.2**
DYDN	**Diyadin**	**0.75**	**9**	P	**Pg**	**18 47 03.0**	**-0.9**
DYDN				S	**Sb**	**18 47 15.1**	**+0.7**
MLAZ	**Malazgirt-MUS**	**0.85**	**294**	Pg	**Pg**	**18 47 04.7**	**-1.1**
MLAZ				Sg	**Sg**	**18 47 16.7**	**-0.2**
AGRB	**Hanur-Agry**	**0.88**	**331**	Pg	**Pg**	**18 47 05.2**	**-1.3**
AGRB				Sg	**Sb**	**18 47 18.3**	**0.0**
KOTA	**Agri, Merkez-K**	**1.03**	**345**	P	**Pg**	**18 47 08.0**	**-1.3**
KOTA				S	**Sb**	**18 47 22.9**	**+0.3**
IGDI	**IGDIR**	**1.14**	**21**	P	**Pg**	**18 47 10.6**	**-0.7**
IGDI				S	**Sn**	**18 47 26.6**	**+0.1**
IGDI				*i* AML	AML	18 47 31.0	
	comp=E,1μm,0.5s						
IGDI				*i* AML	AML	18 47 31.0	
	comp=N,704nm,0.8s						
PERV	**Siirt/Pervari-**	**1.17**	**223**	P	**Pb**	**18 47 11.0**	**-0.4**
PERV				S	**Sn**	**18 47 28.6**	**+1.5**
BLIS	**Bitlis-Merkez**	**1.19**	**251**	P	**Pb**	**18 47 10.1**	**-1.6**
BLIS				S	**Sb**	**18 47 26.1**	**-0.9**
GURO	**Guroymak-BITLI**	**1.21**	**258**	Pn	**Pn**	**18 47 10.8**	**-1.2**
EKAR	**Karacoban**	**1.24**	**292**	P	**Pn**	**18 47 12.3**	**-0.2**
EKAR				S	**Sn**	**18 47 32.3**	**+3.2**
TASB	**TASBURUN-IGDIR**	**1.29**	**24**	Pn	**Pg**	**18 47 13.5**	**-0.8**
TASB				Sn	**Sn**	**18 47 32.7**	**+2.4**
VNNZ	**Vanand**	**1.31**	**9**	⇓*i*P	**Pg**	**18 47 14.1**	**-0.6**
VNNZ				⇓*i*S	**Sg**	**18 47 34.0**	**+2.2**
EATA	**Eleskirt**	**1.33**	**323**	P	**Pn**	**18 47 13.5**	**-0.4**
EATA				S	**Sg**	**18 47 33.0**	**+0.5**
HYR	**Heyderabad**	**1.36**	**48**	P	**Pg**	**18 47 15.1**	**-0.5**
	SNR=22						
HYR				S	**Sg**	**18 47 35.5**	**+2.1**
METS	**Metsamor**	**1.41**	**17**	⇑*i*P	**Pg**	**18 47 15.8**	**-0.6**
METS				⇓*i*S	**Sg**	**18 47 37.0**	**+2.4**
NRKZ	**NAREK**	**1.47**	**36**	⇑*i*P	**Pg**	**18 47 17.0**	**-0.6**
NRKZ				⇑*i*S	**Sg**	**18 47 39.1**	**+2.3**
ARUZ	**Aruch**	**1.54**	**16**	⇓*i*P	**Pg**	**18 47 18.0**	**-0.9**
ARUZ				⇓*i*S	**Sg**	**18 47 40.8**	**+2.0**
CUKT	**Cukurca**	**1.56**	**178**	Pn	**Pb**	**18 47 17.7**	**-0.3**
CUKT	**Cukurca**	**1.56**	**178**	P	**Pn**	**18 47 17.3**	**+0.5**
CUKT				S	**Sg**	**18 47 41.1**	**+1.6**
NAX	**Nakhchivan**	**1.56**	**76**	P	**Pg**	**18 47 18.7**	**-0.7**
	SNR=31						
NAX				S	**Sg**	**18 47 42.9**	**+3.2**
SIRT	**Sirnak**	**1.57**	**214**	Pn	**Pb**	**18 47 17.6**	**-0.6**
MUSM	**Mu-Merkez**	**1.59**	**268**	P	**Pn**	**18 47 16.4**	**-0.9**
MUSM				S	**Sn**	**18 47 37.0**	**-0.8**
GNI	**Garni**	**1.63**	**34**	⇓*i*P	**Pg**	**18 47 19.6**	**-1.1**
GNI				⇑*i*S	**Sg**	**18 47 42.9**	**+1.0**
VRTB	**Varto-Mus**	**1.67**	**283**	Pn	**Pn**	**18 47 19.0**	**+0.7**
VRTB				Sn	**Sb**	**18 47 40.7**	**-0.2**
VRTB	**Varto-Mus**	**1.67**	**283**	P	**Pb**	**18 47 19.7**	**-0.3**
VRTB				S	**Sg**	**18 47 44.1**	**+1.0**
VRTB				*i* AML	AML	18 47 47.0	
	comp=N,695nm,0.9s						
VRTB				*i* AML	AML	18 47 47.0	
	comp=E,901nm,0.5s						
SBZ	**Shahbuz**	**1.67**	**69**	P	**Pg**	**18 47 20.4**	**-1.1**
	SNR=33						
SBZ				S	**Sg**	**18 47 43.0**	**-0.1**
AMBZ	**Amberd**	**1.67**	**19**	⇓*i*P	**Pb**	**18 47 20.0**	**-0.1**
AMBZ				⇑*i*S	**Sg**	**18 47 44.3**	**+1.0**
KOPR	**Koprukoy-ERZUR**	**1.77**	**313**	Pn	**Pn**	**18 47 20.6**	**+0.9**
KOPR				Sn	**Sb**	**18 47 43.4**	**-0.4**
BOZK	**Kars-Merkez-Bo**	**1.84**	**346**	P	**Pb**	**18 47 22.5**	**-0.4**
BOZK				S	**Sg**	**18 47 49.3**	**+0.8**
BOZK				*i* AML	AML	18 47 56.0	
	comp=E,246nm,1.1s						
KARS	**Kars**	**1.86**	**349**	Pn	**Pb**	**18 47 21.9**	**-1.3**
KARS				Sn	**Sb**	**18 47 45.7**	**-0.6**
EAK	**Akyaka**	**1.88**	**1**	P	**Pb**	**18 47 23.5**	**-0.1**
EAK				S	**Sg**	**18 47 55.4**	**+5.6**
ORD	**Ordubad**	**1.92**	**86**	P	**Pb**	**18 47 23.6**	**-0.5**
	SNR=8.1						
ORD				S	**Sg**	**18 47 49.5**	**-1.4**
SVAN	**Silvan-Diyarba**	**1.96**	**251**	Pn	**Pn**	**18 47 22.8**	**+0.6**
SLHN	**Bingol, Solhan**	**1.97**	**275**	P	**Pn**	**18 47 23.5**	**+1.0**
SLHN				S	**Sb**	**18 47 50.5**	**+0.8**
SENK	**Senkaya-Erzuru**	**1.98**	**333**	Pn	**Pn**	**18 47 23.8**	**+1.1**
KARO	**Karliova-Bingo**	**2.01**	**285**	Pn	**Pn**	**18 47 23.4**	**+0.4**
ERZM	**Erzurum**	**2.02**	**304**	P	**Pb**	**18 47 25.7**	**-0.2**
ERZM				S	**Sb**	**18 47 51.5**	**+0.5**
EJDE	**Erzurum, Palan**	**2.02**	**301**	P	**Pb**	**18 47 25.8**	**-0.2**
EJDE				S	**Sg**	**18 47 52.8**	**-1.5**
BNGB	**Bingl**	**2.25**	**276**	Pn	**Pn**	**18 47 26.9**	**+0.7**
YEDI	**Yedisu-Bingol**	**2.42**	**286**	Pn	**Pn**	**18 47 29.4**	**+0.7**
GDB	**GEDABAY**	**2.56**	**41**	P	**Pn**	**18 47 32.4**	**+1.8**
	SNR=5.0						
GDB				S	**Sg**	**18 48 08.7**	**-2.9**
AKH	**Akhalkalaki**	**2.60**	**359**	Pn	**Pn**	**18 47 32.6**	**+1.4**
QZX	**Qazax, Azerbai**	**2.65**	**31**	P	**Pb**	**18 47 33.9**	**-2.8**
	SNR=5.3						
QZX				S	**Sg**	**18 48 14.2**	**-0.4**
MAZI	**Mazidag**	**2.79**	**242**	Pn	**Pn**	**18 47 33.9**	**+0.2**
DYBB	**Diyarbakir**	**2.81**	**253**	Pn	**Pn**	**18 47 35.1**	**+1.2**
GANJ	**Ganja**	**2.82**	**48**	P	**Pn**	**18 47 36.2**	**+2.1**
	SNR=11						
GANJ				S	**Sg**	**18 48 16.4**	**-3.6**
QRD	**Qoradiz**	**3.01**	**76**	P	**Pb**	**18 47 39.5**	**-3.2**
	SNR=4.3						
QRD				S	**Sb**	**18 48 19.1**	**-0.2**
AGDM	**Agdam**	**3.05**	**64**	P	**Pn**	**18 47 38.5**	**+1.3**
	SNR=11						
AGDM				S	**Sb**	**18 48 20.5**	**-0.1**
BAYT	**Aydıntepe-Bayb**	**3.07**	**302**	Pn	**Pn**	**18 47 39.2**	**+1.6**
ERZN	**Erzincan**	**3.07**	**286**	Pn	**Pn**	**18 47 39.0**	**+1.4**
MNGR	**Mingechevir, A**	**3.36**	**53**	P	**Pn**	**18 47 42.4**	**+1.0**
MNGR				S	**Sb**	**18 48 29.1**	**-0.3**
YRD	**Yardimli**	**3.67**	**87**	P	**Pn**	**18 47 47.8**	**+1.9**
	SNR=8.3						
YRD				S	**Sb**	**18 48 38.2**	**-0.3**
ZKTA	**Zakatala**	**3.68**	**39**	P	**Pb**	**18 47 49.7**	**-4.5**
	SNR=7.3						
ZKTA				S	**Sb**	**18 48 38.1**	**-0.6**
SEKA	**Sheki**	**3.69**	**48**	P	**Pn**	**18 47 49.0**	**+2.9**
	SNR=7.6						
SEKA				S	**Sb**	**18 48 39.7**	**+0.6**
LRK	**Lerik**	**3.75**	**91**	P	**Pn**	**18 47 49.9**	**+2.9**
LRK				S	**Sb**	**18 48 39.8**	**-1.1**
GLBA	**Clilabad**	**3.80**	**82**	P	**Pn**	**18 47 49.1**	**+1.6**
GLBA				S	**Sb**	**18 48 38.9**	**-3.2**
SAAT	**Saatly**	**3.93**	**73**	S	**Sb**	**18 48 41.5**	**-4.1**
QBL	**Gabala**	**3.93**	**56**	P	**Pn**	**18 47 52.9**	**+3.6**
	SNR=11						
QBL				S	**Sb**	**18 48 44.8**	**-1.2**
IML	**Ismayilli**	**4.09**	**59**	P	**Pn**	**18 47 55.1**	**+3.7**
IML				S	**Sb**	**18 48 42.2**	**-2.2**
XNQ	**Khinaliq**	**4.25**	**55**	P	**Pn**	**18 47 57.2**	**+3.3**
XNQ				S	**Sb**	**18 48 54.4**	**-0.8**
PQL	**Pirkuli**	**4.36**	**61**	P	**Pn**	**18 47 58.3**	**+3.0**
PQL				S	**Sb**	**18 48 57.1**	**-1.3**
GBS	**Qobustan**	**4.51**	**66**	P	**Pn**	**18 47 59.2**	**+1.9**
GBS				S	**Sb**	**18 49 01.4**	**-1.1**
QSAR	**Qusar**	**4.51**	**52**	P	**Pn**	**18 47 58.4**	**+1.0**
QSAR				S	**Sb**	**18 47 58.2**	**-5.5**
QUBA	**Quba, Azerbaij**	**4.57**	**55**	P	**Pn**	**18 48 02.1**	**+4.0**
QUBA				S	**Sb**	**18 47 57.9**	**-6.4**
ATGJ	**Altiaghaj**	**4.63**	**62**	P	**Pn**	**18 48 02.1**	**+3.1**
ATGJ				S	**Sb**	**18 49 02.9**	**-3.2**
SIZA	**Siyzn**	**4.70**	**59**	P	**Pn**	**18 48 02.6**	**+2.7**
SIZA				S	**Sb**	**18 49 04.4**	**-3.6**

---

*IDC **04** 18:47:58.1±0.5, 22°.81S×69°.38E, h0km, mb4.2/20, mbtmp4.2/20, MS3.9/44, Error ellipse: s-maj=16.6km s-min=15.3km az=48.0*
*BJI **04** 18:47:59.4±0.0, 22°.84S×69°.49E, h6km, mb4.5/34, mB5.0/11, Ms4.7/5, Ms7 4.4/8*
*NEIC **04** 18:48:00.1±2.0, 22°.70S±0°.10×69°.19E±0°.08, h10km±1km, mb4.8/49, Error ellipse: s-maj=17.2km s-min=11.8km az=157.0*
*GCMT **04** 18:48:04.1±0.3, 22°.72S±0°.02×69°.31E±0°.01, h15km±1km, MW4.9/100, Moment Tensor Solution. s32,c36; s100,c142; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.60±.11; Mθθ=2.14±.08; Mφφ=2.73±.10; Mrθ=0.11±.27; Mrφ=1.16±.08; Mθφ=0.04±.25; Best double couple: M0=2.70100×1016 NP1:φs=238.00000°, δ=88.00000°, λ=-3.00000°. NP2:φs=328.00000°, δ=87.00000°, λ=-178.00000°. Principal axes: T 2.9930, Plg1.0000°, Azm283.0000°; N -0.5910, Plg87.0000°, Azm29.0000°; P -2.4080, Plg3.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 18:47:59.9±0.4, 22°.76S±0°.08×69°.26E±0°.07, h10km, n144, σ1§52/101, mb4.7/53, MS3.9/49, 5C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**6.25**	**297**	Pn	Pn	18 49 28.8	-3.5
RER	**Riviere de l'E**	**12.64**	**275**	Pn	Pn	18 50 56.2	-3.8
H08S1	**Diego Garcia H**	**15.34**	**12**	T	T	19 07 09.7	
	baz=192,slow=76,SNR=839						
H08S2	**Diego Garcia H**	**15.34**	**12**	T	T	19 07 15.4	
	baz=192,slow=76,SNR=1821						
H08S3	**Diego Garcia H**	**15.36**	**12**	T	T	19 07 16.6	
	baz=192,slow=76,SNR=4044						
ABPO	**Ambohimpanom**	**20.92**	**276**	P	**P**	**18 52 41.2**	**-1.8**
ABPO				IAmb	IAmb	18 52 50.1	
	comp=Z,60nm,1.4s						
OPO	**Ambohidratompo**	**21.06**	**277**	P	**P**	**18 52 46.3**	**+1.7**
	comp=Z,1.5nm,0.5s,baz=101,slow=20,SNR=2.1						
	comp=Z,1.5nm,0.5s						
H04N2	**CROZET ISLANDS**	**27.31**	**207**	T	T	19 22 19.3	
	baz=38,slow=75						
H04N1	**CROZET ISLANDS**	**27.32**	**207**	T	T	19 22 20.1	
	baz=38,slow=75						
H04N3	**CROZET ISLANDS**	**27.33**	**207**	T	T	19 22 18.8	
	baz=38,slow=75						
POGA	**Pongola**	**34.24**	**254**	P	**P**	**18 54 44.8**	**-1.4**
KIBK	**Kibwezi**	**36.45**	**299**	P	**P**	**18 55 04.0**	**-1.4**
KIBK				IAmb	IAmb	18 55 09.7	
	comp=Z,15nm,1.2s						
KMBO	**Kilima Mbogo**	**37.80**	**300**	P	**P**	**18 55 17.0**	**-0.1**
KMBO	**Kilima Mbogo**	**37.80**	**300**	P	**P**	**18 55 18.5**	**+1.4**
	comp=Z,3.4nm,1.0s,baz=111,slow=9.2,SNR=5.8						
	comp=Z,3.4nm,1.0s						
MATP	**Matopo**	**37.89**	**266**	LR	LR	19 08 10.2	
	comp=Z,163nm,19.0s,baz=64,slow=32						
BKNI	**Bangkinang**	**38.51**	**58**	P	**P**	**18 55 22.8**	**0.0**
LSZ	**Lusaka**	**39.44**	**273**	P	**P**	**18 55 30.5**	**-0.1**
LSZ				IAmb	IAmb	18 55 34.8	
	comp=Z,20nm,1.3s						
LSZ	**Lusaka**	**39.44**	**273**	LR	LR	19 09 20.3	
	comp=Z,330nm,21.9s,baz=124,slow=32						
BOSA	**Boshof**	**39.92**	**252**	P	**P**	**18 55 34.4**	**-0.2**
	comp=Z,7.2nm,0.9s,baz=96,slow=7.7,SNR=7.8						
	comp=Z,7.2nm,0.9s						
LEM	**Lembang**	**40.16**	**73**	LR	LR	19 08 21.7	
	comp=Z,124nm,20.3s,baz=184,slow=30						
H01W2	**Cape Leeuwin H**	**40.82**	**117**	T	T	19 38 57.6	
	baz=274,slow=75,SNR=123						
H01W3	**Cape Leeuwin H**	**40.82**	**117**	T	T	19 38 54.7	
	baz=274,slow=75,SNR=103						
H01W1	**Cape Leeuwin H**	**40.84**	**117**	T	T	19 39 01.1	
	baz=274,slow=75,SNR=117						
LODK	**Lodwar**	**42.10**	**304**	P	**P**	**18 55 51.4**	**-1.2**
MORW	**Morawa**	**42.33**	**109**	P	**P**	**18 55 54.3**	**0.0**
MORW				IAmb	IAmb	18 56 42.1	
	comp=Z,26nm,1.2s						
ATD	**Arta Tunnel**	**42.79**	**320**	LR	LR	19 10 29.7	
	comp=Z,8.7nm,20.7s,baz=152,slow=32						
NWAO	**Narrogin (SRO)**	**43.30**	**114**	LR	LR	19 09 58.4	
	comp=Z,476nm,21.2s,baz=226,slow=31						
MBAR	**Mbarara**	**43.44**	**295**	P	**P**	**18 56 01.3**	**-2.3**
SUR	**Sutherland**	**43.69**	**246**	LR	LR	19 11 26.1	
	comp=Z,147nm,18.9s,baz=103,slow=32						
MAW	**Mawson**	**45.03**	**183**	P	**P**	**18 56 16.2**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=19,slow=13,SNR=2.3						
MAW				LR	LR	19 10 25.8	
	comp=Z,120nm,20.7s,baz=356,slow=30						
	comp=Z,1.4nm,0.8s						
WSAR	**Wadi Sarin**	**46.87**	**347**	LR	LR	19 13 11.9	
	comp=Z,99nm,18.5s,baz=206,slow=32						
TSUM	**Tsumeb**	**48.19**	**264**	LR	LR	19 14 20.7	
	comp=Z,456nm,20.9s,baz=144,slow=33						
SBUM	**Sibu**	**48.81**	**65**	P	**P**	**18 56 44.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**50.19**	**38**	P	**P**	**18 56 54.4**	**-1.8**
CMAR	**Chiang Mai Arr**	**50.19**	**38**	P	**P**	**18 56 55.4**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=233,slow=7.3,SNR=6.1						
CMAR				LR	LR	19 16 20.2	
	comp=Z,49nm,18.5s,baz=225,slow=34						
	comp=Z,1.9nm,0.9s						
RAMN	**Ramite**	**52.18**	**20**	*e*P	**P**	**18 57 12.5**	**+1.3**
	comp=Z,13nm,0.7s						
PYUN	**Piuthan**	**52.27**	**15**	*e*P	**P**	**18 57 12.5**	**+0.7**
	comp=Z,46nm,1.2s						
DMN	**Daman**	**52.36**	**18**	*e*P	**P**	**18 57 13.1**	**+0.6**
	comp=Z,31nm,1.1s						
PKI	**Pulchoki**	**52.41**	**18**	*e*P	**P**	**18 57 13.8**	**+0.8**
	comp=Z,30nm,1.5s						
PKIN	**Phulchoki**	**52.41**	**18**	*e*P	**P**	**18 57 14.3**	**+1.4**
	comp=Z,26nm,1.3s						
GKN	**Gorkha**	**52.60**	**17**	*e*P	**P**	**18 57 15.3**	**+1.1**
MMRI	**Maumere**	**52.63**	**83**	P	**P**	**18 57 14.9**	**+0.3**
DANN	**Dangsing**	**52.70**	**16**	*e*P	**P**	**18 57 15.6**	**+0.5**
	comp=Z,23nm,0.6s						
JIRN	**Jiri**	**52.72**	**19**	*e*P	**P**	**18 57 15.9**	**+0.5**
	comp=Z,23nm,1.1s						
SHL	**Shillong**	**52.81**	**26**	P	**P**	**18 57 16.4**	**+0.6**
GUN	**Gumba**	**52.87**	**19**	*e*P	**P**	**18 57 17.0**	**+0.6**
	comp=Z,27nm,0.9s						
TAPN	**Taplejung**	**52.91**	**21**	*e*P	**P**	**18 57 17.5**	**+0.8**
	comp=Z,34nm,1.0s						
SOEI	**Soe**	**54.09**	**86**	P	**P**	**18 57 24.9**	**-0.6**
TNCH	**TengChong**	**55.34**	**33**	P	**P**	**18 57 38.4**	**+4.1**
TNCH				pmax	pmax		
	comp=Z,4.0nm,1.9s						
TOLI2	**Tolitoli**	**55.47**	**72**	P	**P**	**18 57 33.9**	**-1.4**
TOLI2				IAmb	IAmb	18 57 41.7	
	comp=Z,10nm,1.1s						
MYLDM	**Lahad Datu**	**55.54**	**66**	P	P	18 57 29.8	-6.0
MYLDM				IAmb	IAmb	18 58 18.2	
	comp=Z,10nm,1.0s						
LSA	**Lhasa**	**56.24**	**23**	P	**P**	**18 57 39.9**	**-1.2**
KNRA	**Kununurra**	**56.32**	**94**	P	**P**	**18 57 41.1**	**-0.3**
KNRA				IAmb	IAmb	18 57 43.3	
	comp=Z,17nm,1.1s						
KBL	**Kabul**	**56.98**	**360**	P	**P**	**18 57 44.5**	**-1.4**
KBL				IAmb	IAmb	18 57 55.8	
	comp=Z,12nm,1.1s						
ASAR	**Alice Springs**	**58.94**	**105**	P	**P**	**18 57 59.1**	**-0.8**
ASAR	**Alice Springs**	**58.94**	**105**	P	**P**	**18 57 59.5**	**-0.4**
	comp=Z,8.6nm,0.9s,baz=258,slow=6.1,SNR=54						
ASAR				LR	LR	19 19 55.6	
	comp=Z,502nm,20.8s,baz=277,slow=33						
	comp=Z,8.6nm,0.9s						
AS31	**Alice Springs**	**58.94**	**105**	P	**P**	**18 57 59.1**	**-0.8**
WRA	**Warramunga Arr**	**60.24**	**101**	P	**P**	**18 58 07.6**	**-1.2**
WRA	**Warramunga Arr**	**60.24**	**101**	P	**P**	**18 58 08.4**	**-0.4**
	comp=Z,15nm,0.9s,baz=256,slow=6.5,SNR=71						
WRA				LR	LR	19 22 21.3	
	comp=Z,364nm,18.8s,baz=162,slow=34						
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	**60.25**	**101**	P	**P**	**18 58 08.7**	**-0.3**
WB0	**Warramunga Arr**	**60.34**	**100**	P	**P**	**18 58 08.5**	**-1.0**
WB0				IAmb	IAmb	18 58 10.1	
	comp=Z,13nm,1.0s						
WR0	**Warramunga Arr**	**60.42**	**101**	P	**P**	**18 58 09.6**	**-0.5**
GEYT	**Alibeck**	**61.27**	**350**	LR	LR	19 21 29.9	
	comp=Z,94nm,21.0s,baz=170,slow=33						
EIL	**Elat**	**61.70**	**326**	LR	LR	19 20 53.4	
	comp=Z,86nm,21.1s,baz=70,slow=32						
KSH	**Kashi**	**62.26**	**6**	P	**P**	**18 58 26.7**	**+4.5**
KSH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BTK	**Batken**	**62.50**	**1**	P	**P**	**18 58 24.4**	**+0.7**
DAV	**Davao City (W)**	**62.54**	**69**	LR	LR	19 23 13.2	
	comp=Z,44nm,20.7s,baz=224,slow=34						
SNAA	**Sanae**	**62.96**	**200**	⇑P	**P**	**18 58 26.3**	**-0.1**
	comp=Z,26nm,0.9s						
SNAA	**Sanae**	**62.96**	**200**	P	**P**	**18 58 24.7**	**-1.7**
	comp=Z,1.6nm,1.1s,baz=70,slow=12,SNR=2.7						
SNAA				LR	LR	19 22 11.8	
	comp=Z,56nm,18.3s,baz=56,slow=33						
	comp=Z,1.6nm,1.1s						
GOMU	**GeErMu**	**63.42**	**23**	P	**P**	**18 58 32.9**	**+2.7**
GOMU				pP	pwP	18 58 37.8	+1.3
GOMU				sP	sP	18 58 39.2	+5.9
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
GOMU				LR	LR		
	comp=Z,160nm,12.8s						
GOMU				LR	LR		
	comp=Z,180nm,12.0s						
GOMU				LR	LR		
	comp=Z,170nm,13.8s						
STKA	**Stephens Creek**	**63.87

comp=Z,1.7nm,0.8s
KIV Kislovodsk 70.72 340 P **P 18 59 16.2 +0.1**
KIV IAmb IAmb 18 59 28.0
comp=Z,15nm,1.3s
CTA Charters Tower 70.94 104 LR LR 19 26 45.7
comp=Z,320nm,21.6s,baz=261,slow=33
CTAO Charters Tower 70.94 104 P **P 18 59 17.3 -0.7**
CTAO IAmb IAmb 18 59 22.6
comp=Z,17nm,1.2s
IDI Anoyia 71.42 323 LR LR 19 28 33.6
comp=Z,33nm,21.1s,baz=109,slow=34
JAY Jayapura 71.93 85 LR LR 19 28 38.7
comp=Z,89nm,21.9s,baz=236,slow=34
ABKAR Akbulak array 72.17 354 P **P 18 59 24.9 +0.3**
ABKAR Akbulak array 72.17 354 P **P 18 59 25.6 +1.0**
ABKAR IAmb IAmb 18 59 33.7
comp=Z,31nm,1.9s
ARMA Armidale 72.56 116 P **P 18 59 27.5 -0.2**
ARMA IAmb IAmb 18 59 29.4
comp=Z,9.7nm,0.9s
KURBB Kurchatov Arra 73.51 6 P **P 18 59 32.2 -0.4**
comp=Z,4.5nm,0.2s,baz=198,slow=6.7,SNR=3.0
KURBB LR LR 19 30 19.8
comp=Z,82nm,18.2s,baz=168,slow=35
comp=Z,4.5nm,0.2s
HNS HongShan 73.55 36 *eP* **P 18 59 34.1 +1.0**
BTO Baotou 73.56 31 *eP* **P 18 59 34.5 +1.2**
BTO pP **pwP 18 59 39.1 -0.5**
BTO sP **sP 18 59 41.5 +5.1**
BTO pmax pmax
comp=Z,20nm,0.4s
BTO pmax pmax
comp=Z,140nm,3.5s
KURK Kurchatov 73.61 6 P **P 18 59 34.0 +0.9**
KURK IAmb IAmb 18 59 40.5
comp=Z,8.7nm,1.1s
ALN Alexandroupoli 74.98 327 P **P 18 59 39.7 -1.7**
TOA0 Torodi Ar. Sit 75.15 291 P **P 18 59 39.1 -3.9**
TOA0 IAmb IAmb 18 59 46.8
comp=Z,9.3nm,1.3s
TORD Torodi Ar. Bea 75.15 291 P **P 18 59 40.0 -2.9**
TORD Torodi Ar. Bea 75.15 291 P **P 18 59 42.5 -0.4**
comp=Z,3.3nm,1.1s,baz=199,slow=1.7,SNR=9.4
TORD LR LR 19 32 10.4
comp=Z,188nm,18.2s,baz=140,slow=35
comp=Z,3.3nm,1.1s
BVAR Borovoye Array 75.47 1 P **P 18 59 43.9 0.0**
comp=Z,0.8nm,0.7s,baz=143,slow=10,SNR=4.4
BVAR LR LR 19 31 15.4
comp=Z,57nm,21.6s,baz=191,slow=34
comp=Z,0.8nm,0.7s
TAM Tamanrasset 76.77 302 P **P 18 59 53.1 +0.8**
TAM IAmb IAmb 19 00 22.1
comp=Z,14nm,2.0s
BELG Belogornoye 77.18 347 LR LR 19 32 49.4
comp=Z,44nm,20.8s,baz=150,slow=35
ZAA0 Zalesovo Array 77.56 9 P **P 18 59 55.5 -0.3**
ZAA0 IAmb IAmb 19 00 02.7
comp=Z,7.7nm,0.8s
ZALV Zalesovo Beam 77.56 9 P **P 18 59 55.2 -0.5**
ZALV Zalesovo Beam 77.56 9 P **P 18 59 55.9 +0.2**
comp=Z,2.6nm,0.8s,baz=204,slow=3.3,SNR=12
ZALV LR LR 19 33 42.6
comp=Z,47nm,18.4s,baz=220,slow=35
comp=Z,2.6nm,0.8s
SONM Songino Array 77.78 25 P **P 18 59 56.0 -1.3**
SONM Songino Array 77.78 25 P **P 18 59 56.7 -0.6**
comp=Z,2.2nm,0.9s,baz=193,slow=6.1,SNR=6.7
SONM LR LR 19 32 49.8
comp=Z,63nm,21.8s,baz=232,slow=35
comp=Z,2.2nm,0.9s
ULN Ulaanbaatar 78.06 25 P **P 18 59 59.0 +0.1**
ULN IAmb IAmb 19 00 07.9
comp=Z,7.4nm,1.2s
MLR Muntele Rosu 78.52 331 P **P 19 00 01.6 +0.2**
XLT XiLinHaoTe 79.00 32 *eP* P 19 00 08.8 +4.7
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,62nm,3.8s
ARU Arti 79.39 354 LR LR 19 34 20.5
comp=Z,58nm,18.6s,baz=140,slow=35
DIVS Divibare 80.37 326 P **P 19 00 11.3 -0.2**
BURAR Bucovina Array 80.46 332 P **P 19 00 12.9 +1.0**
KOWA Kowa 80.70 290 P **P 19 00 13.8 0.0**
KOWA IAmb IAmb 19 00 24.2
comp=Z,8.3nm,0.8s
JNU Nakatsue 80.85 48 LR LR 19 35 30.4
comp=Z,28nm,18.8s,baz=214,slow=35
AKASG Malin Array Be 81.22 336 P **P 19 00 15.4 -0.4**
comp=Z,1.1nm,0.7s,baz=139,slow=4.2,SNR=4.8
comp=Z,1.1nm,0.7s
KSRS Korea Array 81.42 43 P **P 19 00 16.4 -0.7**
comp=Z,1.0nm,0.8s,baz=246,slow=5.6,SNR=2.7
comp=Z,1.0nm,0.8s
KRVT Keravat (AS076 81.68 91 LR LR 19 34 09.1
comp=Z,111nm,21.6s,baz=140,slow=34
GUMO Guam 82.34 72 LR LR 19 31 03.8
comp=Z,19nm,21.3s,baz=212,slow=31
RPZ Rata Peaks 82.64 134 LR LR 19 29 48.6
comp=Z,129nm,19.0s,baz=260,slow=30
KIRV Kirov 82.69 350 LR LR 19 35 57.6
comp=Z,52nm,20.1s,baz=174,slow=35
VYHS Vyhne 84.03 329 *eP* P 19 00 38.8 +8.3
PMSA Palmer Station 85.63 198 LR LR 19 35 56.2
comp=Z,68nm,20.0s,baz=172,slow=34
VRAC Vranov 85.66 329 LR LR 19 39 51.7
comp=Z,20nm,18.3s,baz=149,slow=36
MDJ Mudanjiang 86.73 38 P **P 19 00 46.9 +2.9**
MDJ pP pwP 19 00 50.0 -0.5
MDJ S **S 19 11 22.7 +1.2**
MDJ sS ScS 19 11 27.8 -1.7
MDJ SS **SS 19 17 01.1 -2.5**
MDJ pmax pmax
comp=Z,6.0nm,2.4s
MDJ pmax pmax
comp=Z,130nm,5.2s
MDJ LR LR
comp=Z,98nm,15.4s
MDJ LR LR
comp=Z,85nm,16.4s
MDJ LR LR
comp=Z,130nm,15.1s
KLMR Klimovskoe 86.73 346 *eP* **P 19 00 44.5 +0.8**
KLMR AMP 19 00 53.8
comp=Z,26nm,1.7s
GERES GERESS Array B 86.78 327 LR LR 19 38 35.3
comp=Z,16nm,20.4s,baz=58,slow=35
HNR Honiara 87.04 99 LR LR 19 36 40.0
comp=Z,1μm,20.4s,baz=130,slow=34
DZM Mont Dzumac 87.90 113 LR LR 19 36 22.7
comp=Z,213nm,21.4s,baz=242,slow=33
CLL Collm 88.71 329 *eP* **P 19 00 52.0 -1.4**
MDT Midelt 89.51 306 LR LR 19 40 34.6
comp=Z,148nm,20.3s,baz=136,slow=35
ESDC Sonseca Array 92.23 312 LR LR 19 44 29.6
comp=Z,78nm,18.0s,baz=120,slow=37
ARCES ARCESS Array B 97.21 346 LR LR 19 45 02.6
comp=Z,42nm,20.6s,baz=130,slow=35
MSVF Nonsavu 99.61 114 LR LR 19 44 13.6
comp=Z,180nm,19.3s,baz=173,slow=34
NVAR Mina Array Bea 163.09 21 PKPab **PKPab 19 08 54.4 +1.5**
comp=Z,0.2nm,0.4s,baz=302,slow=5.2,SNR=1.8
TXAR Lajitas Array 170.87 317 PKPab **PKPab 19 09 27.7 +0.2**
comp=Z,0.1nm,0.2s,baz=15,slow=3.7,SNR=8.6

*MEX **04** 19:02:04.2±0.8, 15°.17N×94°.71W, h16km±14km, MD4.3*
*IDC **04** 19:02:08.8±8.8, 15°.41N×94°.20W, h68km±59km, mb3.7/4, mbtmp3.9/5, ML5.5/1, MS3.3/8, Error ellipse: s-maj=84.6km s-min=41.7km az=1.0*
ISC 04 19:02:00.8±2.0, 15°.00N±0°.06×94°.70W±0°.03, h27km±16km, n45, σ2§47/58, mb4.0/4, MS3.1/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.56**	**300**	*i P*	**Pn**	**19 02 27.3**	**+0.6**
HUIG				*i* S	**Sn**	**19 02 43.4**	**-2.6**
NILT	**Santiago Nilte**	**1.56**	**3**	*i P*	Pn	19 02 24.2	-2.6
NILT				*i* S	Sn	19 02 39.3	-6.8
PCIG		**1.59**	**64**	*i P*	Pn	19 02 27.0	-0.3
PCIG				*i* S	**Sn**	**19 02 44.0**	**-3.0**
PANG	**Puerto Angel**	**1.83**	**291**	*eP*	**Pn**	**19 02 31.3**	**+0.8**
PANG				*eS*	**Sn**	**19 02 50.4**	**-2.4**
TGIG		**2.33**	**41**	*i P*	**Pn**	**19 02 37.4**	**-0.1**
TGIG				*i* S	**Sn**	**19 03 03.2**	**-2.1**
TGBT	**Tuxtla Gutierr**	**2.35**	**41**	*eP*	**Pn**	**19 02 38.4**	**+0.8**
TGBT				*eS*	**Sn**	**19 03 03.6**	**-2.1**
THIG		**2.36**	**92**	*eP*	**Pb**	**19 02 41.4**	**-1.2**
THIG				*eS*	**Sn**	**19 03 05.7**	**-0.1**
UXUV	**UXUV**	**2.37**	**13**	*i P*	**Pn**	**19 02 37.4**	**-0.5**
UXUV				*i* S	**Sn**	**19 03 02.1**	**-4.0**
PATR	**El Naranjo**	**2.39**	**87**	*i P*	**Pn**	**19 02 39.3**	**+0.9**
PATR				*eS*	**Sn**	**19 03 05.4**	**-1.5**
PAVE	**Pavencul**	**2.45**	**85**	*i P*	**Pn**	**19 02 40.7**	**+1.5**
PAVE				*eS*	**Sn**	**19 03 06.4**	**-2.0**
CHUJ	**Union Juarez**	**2.51**	**88**	*i P*	**Pn**	**19 02 41.4**	**+1.3**
CHUJ				*eS*	**Sn**	**19 03 08.7**	**-1.3**
PEIG	**Puerto Escondi**	**2.56**	**293**	*i P*	**Pn**	**19 02 41.8**	**+1.3**
PEIG				*eS*	**Sn**	**19 03 06.7**	**-4.1**
CCIG	**Comitan**	**2.78**	**62**	*eP*	**Pn**	**19 02 45.5**	**+1.7**
CCIG				*eS*	**Sn**	**19 03 15.9**	**-0.7**
OXLC	**Oaxaca**	**2.81**	**317**	*eS*	**Sn**	**19 03 14.6**	**-2.8**
OXBJ	**Oaxaca**	**2.83**	**317**	*eS*	**Sn**	**19 03 15.3**	**-2.4**
VHO	**Vista Hermosa**	**2.84**	**317**	*eP*	**Pn**	**19 02 46.0**	**+1.4**
VHO				*eS*	**Sn**	**19 03 16.5**	**-1.5**
NEUV	**Arroyo Zacate**	**2.90**	**339**	*eP*	**Pn**	**19 02 44.9**	**-0.3**
NEUV				*eS*	**Sn**	**19 03 20.9**	**+1.8**
TUIG	**Tuzandepetl**	**3.03**	**5**	*eP*	Pn	19 02 45.8	-1.2
TUIG				*eS*	**Sn**	**19 03 26.2**	**+3.8**
YOIG	**Yosondua**	**3.30**	**304**	*eP*	**Pn**	**19 02 53.7**	**+2.7**
YOIG				*eS*	**Sn**	**19 03 28.0**	**-1.5**
PMUV	**Sontecomapan**	**3.55**	**354**	*eP*	**Pn**	**19 02 55.2**	**+1.0**
PMUV				*eS*	Sn	19 03 26.5	-8.8
PNIG	**Pinotepa**	**3.58**	**293**	*i P*	**Pn**	**19 02 56.6**	**+2.1**
PNIG				*eS*	**Sn**	**19 03 31.7**	**-4.2**
TXIG	**Tlaxiaco**	**3.70**	**308**	*eP*	**Pn**	**19 02 59.1**	**+2.6**
TXIG				*eS*	**Sn**	**19 03 36.9**	**-2.5**
TOIG	**Toxpalan**	**3.82**	**324**	*eP*	**Pn**	**19 03 00.4**	**+2.4**
TOIG				*eS*	**Sn**	**19 03 41.4**	**-0.7**
HLIG	**Huajuapan de L**	**4.09**	**314**	*eP*	**Pn**	**19 03 04.5**	**+2.6**
HLIG				*eS*	**Sn**	**19 03 46.8**	**-2.3**
TPIG	**Tehuac#an**	**4.25**	**324**	*eS*	**Sn**	**19 03 49.6**	**-3.1**
FTIG	**Fresnillo de T**	**4.38**	**312**	*eP*	**Pn**	**19 03 08.7**	**+3.0**
FTIG				*eS*	**Sn**	**19 03 52.8**	**-3.2**
TLIG	**Tlapa**	**4.50**	**305**	*eP*	**Pn**	**19 03 10.8**	**+3.5**
TLIG				*eS*	**Sn**	**19 03 54.4**	**-4.5**
JAUV	**Jalcomulco**	**4.78**	**335**	*eP*	**Pn**	**19 03 14.4**	**+3.3**
JAUV				*eS*	**Sn**	**19 04 02.8**	**-3.0**
DAIG	**Los Arroyos**	**5.16**	**294**	*eP*	**Pn**	**19 03 19.0**	**+2.6**
DAIG				*eS*	Sn	19 04 10.0	-5.1
SCIG	**Sabancuy**	**5.19**	**40**	*eP*	Pn	19 03 15.5	-1.1
SCIG				*eS*	**Sn**	**19 04 10.9**	**-4.8**
MEIG	**Mezcala**	**5.54**	**302**	*eP*	**Pn**	**19 03 23.7**	**+2.1**
MEIG				*eS*	**Sn**	**19 04 20.1**	**-4.4**
CXUV	**Coxquihui**	**5.83**	**332**	*eP*	Pn	19 03 31.2	+5.6
CXUV				*eS*	**Sn**	**19 04 32.1**	**+0.4**
TEIG	**Tepich**	**8.03**	**49**	P	Pn	19 03 53.5	-2.3
	74nm,0.3s,baz=170,slow=4.7,SNR=14						
TEIG				S	Sn	19 05 17.9	-7.9
	135nm,0.4s,baz=185,slow=23,SNR=1.3						
TEIG				LR	LR	19 07 21.0	
	comp=Z,1μm,18.6s,baz=345,slow=42						
TXAR	**Lajitas Array**	**16.49**	**331**	P	**P**	**19 05 55.9**	**+3.0**
	0.6nm,1.0s,baz=158,slow=13,SNR=2.5						
TKL	**Tuckaleechee C**	**22.79**	**23**	LR	LR	19 16 28.5	
	comp=Z,15nm,18.6s,baz=250,slow=39						
SDV	**Santo Domingo**	**24.31**	**102**	LR	LR	19 17 01.7	
	comp=Z,60nm,19.3s,baz=240,slow=37						
PFO	**Pinyon Flats O**	**27.04**	**317**	LR	LR	19 18 28.6	
	comp=Z,36nm,20.1s,baz=186,slow=36						
NVAR	**Mina Array Bea**	**31.27**	**323**	LR	LR	19 21 00.6	
	comp=Z,45nm,21.9s,baz=96,slow=36						
NEW	**Newport**	**37.98**	**336**	LR	LR	19 27 39.1	
	comp=Z,33nm,20.0s,baz=142,slow=40						
SCHQ	**Schefferville**	**45.25**	**22**	LR	LR	19 30 02.2	
	comp=Z,29nm,20.6s,baz=0.5,slow=37						
EKA	**Eskdalemuir Ar**	**78.69**	**36**	P	**P**	**19 14 00.4**	**-0.1**
	1.5nm,0.6s,baz=270,slow=5.7,SNR=5.9						
	1.5nm,0.6s						
SPITS	**Spitsbergen Ar**	**79.63**	**11**	LR	LR	19 52 20.4	
	comp=Z,48nm,19.0s,baz=95,slow=38						
ESDC	**Sonseca Array**	**81.15**	**51**	P	**P**	**19 14 14.3**	**+0.1**
	0.9nm,0.9s,baz=288,slow=3.8,SNR=4.5						
	0.9nm,0.9s						
ARCES	**ARCESS Array B**	**86.00**	**18**	P	**P**	**19 14 37.5**	**-1.0**
	1.3nm,0.8s,baz=309,slow=5.7,SNR=1.5						
	1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**92.68**	**76**	P	**P**	**19 15 12.0**	**+0.9**
	0.3nm,0.6s,baz=289,slow=3.5,SNR=1.8						
	0.3nm,0.6s						

*IDC **04** 19:08:28.7±5.4, 3°.94S×132°.52E, h0km, mb3.6/1, mbtmp3.5/4, ML3.4/3, MS3.2/4, Error ellipse: s-maj=356.2km s-min=24.9km az=75.0*
*DJA **04** 19:08:36.0±1.1, 4°.5±4°.×13°.2E±°., h29km±13km, M4.0/12, mb4.3/2, mB4.5/1, MLv3.8/12, Mw(mB)3.6/1*
ISC 04 19:08:34.7±1.0, 4°.02S±0°.06×131°.86E±0°.06, h35km, n16, σ1§69/16, MS3.3/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.16**	**20**	P	**Pn**	**19 08 54.8**	**+0.3**
FAKI				S	**Sn**	**19 09 10.0**	**+0.9**
KMPI	**Kaimana, Papua**	**1.88**	**79**	P	**Pn**	**19 09 05.9**	**+1.6**
BNDI	**Bandanaira**	**2.01**	**256**	P	**Pn**	**19 09 07.4**	**+1.2**
SIJI	**Sorong**	**3.18**	**349**	Pn	**Pn**	**19 09 21.1**	**-1.3**
	1.1nm,0.3s,baz=177,slow=23,SNR=19						
SIJI				Sn	**Sn**	**19 09 59.4**	**+0.2**
	6.0nm,0.3s,baz=47,slow=23,SNR=5.9						
	3.4nm,0.2s						
SWI	**Sorong**	**3.19**	**349**	P	**Pn**	**19 09 22.1**	**-0.3**
SWI				S	**Sn**	**19 09 58.9**	**-0.4**
RKPI	**Ransiki, Papua**	**3.40**	**43**	P	**Pn**	**19 09 26.1**	**+0.7**
RKPI				S	**Sn**	**19 10 05.4**	**+0.9**
NLAI	**Namlea**	**4.81**	**279**	P	**Pn**	**19 09 47.6**	**+2.9**
LBMI	**Labuha**	**5.50**	**308**	P	**Pn**	**19 09 54.7**	**+0.5**
	25nm,0.5s,0.1nm						
SANI	**Sanana**	**6.18**	**288**	P	**Pn**	**19 10 02.7**	**-0.8**
WRA	**Warramunga Arr**	**16.01**	**172**	Pn	**Pn**	**19 12 13.3**	**-4.1**
	0.2nm,0.3s,baz=353,slow=14,SNR=17						
WRA				Sn	Sn	19 15 02.9	-11
	0.1nm,0.3s,baz=349,slow=23,SNR=2.5						
	0.3nm,0.3s						
PMG	**Port Moresby**	**16.11**	**110**	LR	LR	19 20 24.3	
	comp=Z,78nm,20.1s,baz=272,slow=46						
ASAR	**Alice Springs**	**19.63**	**174**	P	**P**	**19 13 00.1**	**-0.4**
	0.2nm,0.3s,baz=351,slow=9.3,SNR=34						
ASAR				S	S	19 16 29.3	-11
	0.3nm,0.8s,baz=338,slow=19,SNR=2.0						
	1.7nm,0.8s						
MA2	**Magadan**	**65.14**	**10**	LR	LR	19 46 57.7	
	comp=Z,16nm,20.0s,baz=291,slow=36						
MKAR	**Makanchi Array**	**66.80**	**325**	P	**P**	**19 19 24.5**	**+1.6**
	0.2nm,0.3s,baz=109,slow=8.4,SNR=8.3						
	0.2nm,0.3s						
PPT	**Papeete**	**77.91**	**107**	LR	LR	19 50 08.0	
	comp=Z,25nm,21.3s,baz=198,slow=32						
MAW	**Mawson**	**78.38**	**201**	LR	LR	19 53 02.3	
	comp=Z,16nm,20.9s,baz=190,slow=34						

*IDC **04** 19:18:12.5±1.2, 33°.23N×103°.80E, h0km, mb3.6/5, mbtmp3.6/7, ML3.6/1, MS3.2/2, Error ellipse: s-maj=62.6km s-min=20.0km az=61.0*
ISC 04 19:18:14.4±1.1, 33°.2N±0°.1×103°.8E±0°.1, h9km, n9, σ0§93/8, mb3.8/5, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**7.95**	**295**	P	Pg	19 20 41.1	-5.5
GOMU				S	**Sb**	**19 22 07.5**	**0.0**
GOMU				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GOMU				LR	LR		
	comp=N,160nm,9.2s						
GOMU				LR	LR		
	comp=E,180nm,10.6s						
GOMU				LR	LR		
	comp=Z,170nm,13.2s						
SONM	**Songino Array**	**14.74**	**7**	Pn	**Pn**	**19 21 44.0**	**+0.8**
	comp=Z,1.3nm,1.0s,baz=186,slow=12,SNR=3.8						
CMAR	**Chiang Mai Arr**	**15.31**	**198**	Pn	**Pn**	**19 21 51.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=4.5,slow=13,SNR=1.7						
CMAR				LR	LR	19 28 15.0	
	comp=Z,28nm,21.1s,baz=200,slow=39						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**21.23**	**316**	P	**P**	**19 23 00.1**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=117,slow=11,SNR=7.9						
	comp=Z,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**24.71**	**333**	P	**P**	**19 23 34.7**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=156,slow=7.3,SNR=2.3						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**25.41**	**321**	P	**P**	**19 23 41.4**	**-0.6**
	comp=Z,1.5nm,0.2s,baz=126,slow=11,SNR=5.7						
	comp=Z,1.5nm,0.2s						
WRA	**Warramunga Arr**	**60.38**	**147**	P	**P**	**19 28 23.1**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=342,slow=7.1,SNR=6.0						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**63.44**	**149**	P	**P**	**19 28 44.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=343,slow=6.1,SNR=1.9						
	comp=Z,0.3nm,0.5s						
ULM	**Lac du Bonnet**	**95.10**	**13**	LR	LR	20 16 24.1	
	comp=Z,44nm,21.9s,baz=106,slow=37						

*SSNC **04** 19:25:02.7±2.3, 19°.53N×77°.96W, h14km±17km, MD3.0, ML2.7, MW2.5*
*JSN **04** 19:25:05.5±0.4, 19°.34N×77°.54W, h0km±825km, MD3.3*
ISC 04 19:25:01.2±2.9, 19°.45N±0°.09×77°.8W±0°.2, h5km±16km, n9, σ1§18/15, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.96**	**50**	*eP*	**Pb**	**19 25 19.9**	**-0.5**
LMGC				*eS*	**Sb**	**19 25 32.8**	**-0.7**
LMGC				IAML		19 25 33.3	
	comp=E,261nm,0.1s						
LMGC				IAML		19 25 33.9	
	comp=N,545nm,0.1s						
MTDJ	**Mount Denham**	**1.24**	**169**	*eP*	**Pg**	**19 25 25.3**	**+0.3**
MTDJ				*eS*	**Sg**	**19 25 40.9**	**-0.2**
MTDJ				IAML		19 25 42.9	
	comp=N,130nm,0.3s						
MTDJ				IAML		19 25 43.8	
	comp=N,114nm,0.4s						
GWJ	**Greenwich**	**1.70**	**143**	*i P*	**Pn**	**19 25 31.9**	**+0.2**
HOJ	**Hope**	**1.74**	**145**	*i P*	**Pn**	**19 25 32.3**	**+0.1**
PCJ	**Portland Cotta**	**1.80**	**160**	*i P*	**Pn**	**19 25 34.0**	**+1.0**
PCJ				*i* S	**Sn**	**19 25 55.3**	**-1.0**
RCC	**Rio Carpintero**	**2.05**	**74**	*eP*	**Pn**	**19 25 35.8**	**-0.6**
RCC				*eS*	**Sn**	**19 26 00.7**	**-1.7**
RCC				IAML		19 26 03.2	
	comp=N,6.2nm,0.1s						
RCC				IAML		19 26 03.3	
	comp=E,8.4nm,0.1s						
GTBY	**Guantanamo Bay**	**2.57**	**79**	*eP*	**Pn**	**19 25 43.9**	**+0.3**
GTBY				*eS*	**Sn**	**19 26 15.1**	**-0.1**
GTBY				IAML		19 26 16.7	
	comp=E,17nm,0.1s						
GTBY				IAML		19 26 16.7	
	comp=E,14nm,0.1s						
GTMO	**Guantanamo**	**2.57**	**75**	*eS*	**Sn**	**19 26 17.9**	**+2.5**
MASC	**Masc**	**3.43**	**77**	*eP*	**Pn**	**19 25 57.0**	**+1.6**
MASC				*eS*	**Sn**	**19 26 36.9**	**+0.4**
MASC				IAML		19 26 39.1	
	comp=N,29nm,1.4s						
MASC				IAML		19 26 45.0	
	comp=E,15nm,0.6s						

*NEIC **04** 19:37:15.1±1.9, 23°.8N±0°.1×108°.59W±0°.09, h10km±2km, mb4.1/51, Md4.2/7(MEX), Error ellipse: s-maj=18.3km s-min=13.3km az=161.0*
*IDC **04** 19:37:16.2±4.4, 23°.71N×108°.19W, h0km, mb3.5/1, mbtmp3.4/6, ML3.5/4, MS3.5/17, Error ellipse: s-maj=58.3km s-min=28.0km az=146.0*
*MEX **04** 19:37:19.1±0.7, 23°.76N×108°.51W, h10km, MD4.2*
ISC 04 19:37:13.5±0.9, 23°.74N±0°.06×108°.63W±0°.05, h10km, n147, σ2§29/126, mb4.1/6, MS3.5/10, 3C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**1.20**	**268**	Pn	**Pn**	**19 37 36.5**	**0.0**
SLBS	**Sierra La Lagu**	**1.20**	**268⇑**	*eP*	**Pn**	**19 37 36.8**	**+0.3**
SLBS			⇓	*e*		19 38 01.3	
SLBS				IAML		19 38 01.3	
	comp=Z,1μm,0.8s						
SLBS				IAML		19 38 03.1	
	comp=N,1μm,0.3s						
SLBS			⇑	*e*		19 38 03.1	
SSIG	**Sanalona**	**1.74**	**51**		**Pg**	**19 37 49.5**	**+2.6**
SSIG					**Sg**	**19 38 11.0**	**+1.5**
SSIG	**Sanalona**	**1.74**	**51**	*eP*	**Pn**	**19 37 44.3**	**+0.5**
SSIG				*eS*	**Sn**	**19 38 04.7**	**-1.3**
TSIG	**Topolobambo**	**1.89**	**349**		**Pb**	**19 37 49.1**	**+1.0**
TSIG	**Topolobambo**	**1.89**	**349**	*eP*	**Pn**	**19 37 45.0**	**-0.8**
TSIG				*eS*	**Sn**	**19 38 05.4**	**-4.5**
TSIG				IAML		19 38 34.6	
	comp=E,386nm,0.8s						
TSIG	**Topolobambo**	**1.89**	**349**	*eP*	**Pb**	**19 37 48.6**	**+0.5**
TSIG				*eS*	**Sn**	**19 38 05.2**	**-4.7**
MAIG	**Mazatlaan**	**2.10**	**105**	*eP*	**Pn**	**19 37 48.8**	**0.0**
MAIG				IAML		19 38 08.0	
	comp=E,448nm,0.5s						
MAIG			⇑	*e*		19 38 08.0	
MAIG			⇓	*e*		19 38 21.4	
MAIG				IAML		19 38 21.4	
	comp=N,559nm,1.2s						
MAIG	**Mazatlaan**	**2.10**	**105**	*eP*	**Pn**	**19 37 49.6**	**+0.9**
EVAR0	**San Evaristo**	**2.23**	**302**	*eP*	**Pn**	**19 37 51.9**	**+1.3**
EVAR0				*eS*	**Sn**	**19 38 18.0**	**-0.1**
UAGRB	**Rancho Ultima**	**3.00**	**308**	*eP*	**Pn**	**19 38 02.8**	**+1.7**
CSIG	**Choix**	**3.09**	**4**		**Pb**	**19 38 08.2**	**-0.4**
CSIG	**Choix**	**3.09**	**4**	*eP*	**Pn**	**19 38 03.9**	**+1.5**
PDIG	**Papasquiaro**	**3.23**	**66**	*eP*	**Pn**	**19 38 06.6**	**+2.2**
PDIG				*eS*	**Sn**	**19 38 43.3**	**+0.2**
HPIG		**4.17**	**40**	Pn	**Pn**	**19 38 18.7**	**+1.3**
HPIG		**4.17**	**40**	*eP*	**Pn**	**19 38 20.0**	**+2.6**
HPIG				*eS*	**Sn**	**19 39 01.6**	**-4.7**
ANIG	**Ahuacatlan**	**4.65**	**124**	*eP*	**Pn**	**19 38 26.9**	**+3.0**
ANIG				*eS*	**Sn**	**19 39 12.1**	**-5.9**
H06E1	**SOCORRO T-PHAS**	**5.37**	**204**	T	T	19 44 02.2	
	SNR=30						
CJM	**Chamela**	**5.38**	**141**	*eP*	**Pn**	**19 38 33.2**	**-0.7**
H06S1	**SOCORRO T**	**5.43**	**204**	T	T	19 44 17.6	
	SNR=12						
ZAIG	**Zacatecas**	**5.66**	**99**	*eP*	**Pn**	**19 38 40.0**	**+2.0**
CGIG		**6.63**	**5**	*eP*	Pb	19 39 01.1	-7.9
TX31	**Lajitas Ar. Si**	**7.13**	**38**	Pn	**Pn**	**19 38 58.0**	**0.0**
TX32	**Lajitas Array**	**7.13**	**38**	Pn	**Pn**	**19 38 58.7**	**+0.7**
TXAR	**Lajitas Array**	**7.13**	**38**		**Pn**	**19 39 00.9**	**+2.9**
TXAR	**Lajitas Array**	**7.13**	**38**	Pn	**Pn**	**19 38 59.4**	**+1.3**
	comp=N,0.4nm,0.3s,baz=208,slow=13,SNR=12						
TXAR				Lg	Lg	19 40 54.0	
	comp=N,0.4nm,0.3s,baz=36,slow=28,SNR=1.7						
TXAR				LR	LR	19 42 03.8	
	comp=N,127nm,18.2s,baz=214,slow=42						
	comp=N,0.5nm,0.5s						
425A	**Indio Mountain**	**7.74**	**24**	Pn	**Pn**	**19 39 06.3**	**-0.1**
MNIG	**Monterrey**	**7.81**	**74**	*eP*	**Pn**	**19 39 05.5**	**-1.9**
ALPN	**Alpine**	**7.97**	**33**	Pn	**Pn**	**19 39 10.5**	**+0.9**
RPIG	**Rio Verde**

DKNS	Dickens	11.98	33	Pn	Pn	19 40 03.7	-0.8
PFO	Pinyon Flats O	12.00	327	Pn	Pn	19 40 04.7	0.0
PFO	Pinyon Flats O	12.00	327	Pn	Pn	19 40 13.1	+8.3
	comp=N,0.2nm,0.3s,baz=219,slow=13,SNR=1.5						
PFO				LR	LR	19 44 07.7	
	comp=N,131nm,20.1s,baz=114,slow=34						
	comp=N,0.9nm,0.4s						
435B	Jarrell	12.07	52	Pn	Pn	19 40 04.7	-1.0
W13A	Hualapai Mount	12.21	339	Pn	Pn	19 40 09.6	+1.9
U15A	North Rim	13.04	347	Pn	Pn	19 40 24.0	+4.9
V12A	Nelson	13.11	337	Pn	Pn	19 40 22.3	+2.4
MVCO	Mesa Verde	13.43	0		P	19 40 33.2	-0.8
GSC	Goldstone, Bar	13.54	330	Pn	Pn	19 40 28.0	+2.3
KNB	Kanab	13.72	346	Pn	Pn	19 40 30.1	+1.8
LCMT	Little Creek M	13.81	344		P	19 40 35.9	-2.2
SHPR	Sheep Range	13.92	338		P	19 40 38.8	-0.4
PKCU	Pink Cliffs	14.02	348	Pn	P	19 40 41.3	+0.7
S22A	4UR Ranch, Cre	14.05	6	Pn	Pn	19 40 35.4	+2.5
QSM	Queen of Sheba	14.12	332		P	19 40 39.7	-1.6
GWY	Greenwater Val	14.22	333		Pn	19 40 34.2	-1.0
SDCO	Great Sand Dun	14.22	10	Pn	Pn	19 40 39.6	+4.3
SZCU	Shurtz Canyon	14.33	346		P	19 40 45.0	+1.1
CCUT	Cedar City	14.36	345		Pn	19 40 38.1	+1.1
MTPU	Mount Pierson	14.58	349		Pn	19 40 41.2	+0.9
ISA	Isabella, Lake	14.63	327	Pn	Pn	19 40 39.5	-1.1
PRN	Pahroc Range	14.70	339	Pn	Pn	19 40 41.9	+0.2
WCT	Wildcat Mounta	14.72	334		Pn	19 40 42.3	+0.3
MVU	Marysvale	15.04	349		Pn	19 40 47.4	+1.1
MSU	Marysvale	15.04	349	P	P	19 40 52.3	+0.5
S11A	Rachel	15.15	338		P	19 40 53.8	+0.9
S11A				IAmb	IAmb	19 41 03.1	
	comp=Z,30nm,1.5s						
W35A	Tecumseh	15.29	39	Pn	Pn	19 40 48.6	-1.0
W35A				IAmb	IAmb	19 41 08.6	
	comp=Z,12nm,1.1s						
PSUT	Pine Spring	15.41	344	Pn	Pn	19 40 52.6	+1.4
PSUT				IAmb	IAmb	19 41 09.9	
	comp=Z,14nm,1.1s						
GMN	Gold Mountain	15.42	333	P	P	19 40 57.6	+1.6
GMN				IAmb	IAmb	19 41 07.2	
	comp=Z,8.3nm,1.3s						
R11B	Troy Canyon, C	15.73	339		Pn	19 40 52.9	-2.4
DSP	Deep Springs	15.78	332	P	P	19 41 04.0	+4.3
MZP	Montezuma Peak	15.81	334	P	P	19 41 03.0	+2.6
OK031	S. Brethren Rd	15.89	37	P	Pn	19 40 59.6	+2.3
OK031				IAmb	IAmb	19 41 15.5	
	comp=Z,33nm,1.0s						
OK033	Mehan	15.90	37		Pn	19 40 56.2	-1.1
OK033				IAmb	IAmb	19 41 15.6	
	comp=Z,34nm,1.0s						
P18A	Preston Nutter	15.90	355	Pn	Pn	19 40 57.6	-0.2
P18A				IAmb	IAmb	19 41 16.3	
	comp=Z,10nm,1.0s						
OK052	Battle Ridge R	15.94	37		Pn	19 40 57.4	-0.5
OK052				IAmb	IAmb	19 41 16.0	
	comp=Z,43nm,1.3s						
SPR3	Spring Creek 3	15.97	344	P	P	19 41 05.0	+2.8
SPR3				IAmb	IAmb	19 41 15.8	
	comp=Z,11nm,1.2s						
DEOK	Depew	16.00	38		Pn	19 40 58.7	+0.1
DEOK				IAmb	IAmb	19 41 16.0	
	comp=Z,20nm,0.9s						
TPH	Tonopah	16.07	335		Pn	19 40 58.7	-1.1
ISCO	Idaho Springs	16.22	8	Pn	Pn	19 40 59.7	-2.1
OK051	E0350 and S346	16.30	36		Pn	19 41 04.3	+1.8
OK051				IAmb	IAmb	19 41 19.4	
	comp=Z,15nm,1.2s						
O20A	White River Ci	16.36	1	Pn	Pn	19 41 02.4	-1.1
O20A				IAmb	IAmb	19 41 36.9	
	comp=Z,9.4nm,1.0s						
MDPB	Devils Postpil	16.49	330	P	Pn	19 41 03.7	-1.5
LHV	Little Huntoon	16.75	332		Pn	19 41 06.8	-1.3
LHV				IAmb	IAmb	19 41 25.4	
	comp=Z,15nm,1.4s						
NV11	Mina Array Sit	16.75	333		Pn	19 41 07.1	-1.3
NVAR	Mina Array Bea	16.81	333	Pn	Pn	19 41 06.4	-2.9
NVAR	Mina Array Bea	16.81	333	P	P	19 41 16.3	+4.8
	baz=158,slow=12,SNR=4.8						
NVAR				LR	LR	19 47 17.7	
	comp=Z,91nm,18.3s,baz=140,slow=36						
	comp=Z,0.9nm,0.9s						
BSUT	Blindstream Ca	16.85	354		Pn	19 41 08.0	-1.9
CTU	Camp Tracy	17.11	352	Pn	Pn	19 41 11.8	-1.1
KVN	Kaiserville	17.26	334		Pn	19 41 12.3	-2.6
WAKR	Walker	17.37	330		Pn	19 41 13.9	-2.3
ELK	Elko	17.85	343	P	P	19 41 26.9	+4.0
	baz=176,slow=13,SNR=2.4						
ELK				LR	LR	19 49 00.1	
	comp=Z,93nm,20.6s,baz=182,slow=39						
	comp=Z,0.3nm,0.3s						
PNTR	Pine Nut	17.92	331		Pn	19 41 21.8	-1.2
PNTR				IAmb	IAmb	19 41 37.9	
	comp=Z,8.7nm,0.9s						
HWUT	Hardware Ranch	17.99	353	Pn	Pn	19 41 23.0	-0.9
HWUT				IAmb	IAmb	19 41 37.6	
	comp=Z,18nm,1.1s						
PDAR	Pinedale Array	19.00	358	LR	LR	19 49 16.8	
	comp=Z,100nm,21.4s,baz=184,slow=38						
AHID	Auburn Hatcher	19.09	354	P	P	19 41 33.9	-2.6
TEIG	Tepich	19.20	97	LR	LR	19 49 16.9	
	comp=Z,534nm,21.5s,baz=5.0,slow=38						
LCAR	Lake Charles	19.47	47		P	19 41 38.4	-2.1
LCAR				IAmb	IAmb	19 41 54.4	
	comp=Z,24nm,1.3s						
MOOW	Moose Ponds	20.04	356	P	P	19 41 42.8	-4.1
MOOW				IAmb	IAmb	19 41 59.1	
	comp=Z,6.9nm,1.1s						
HLID	Hailey	20.34	348		Pn	19 41 58.1	+6.0
HLID				IAmb	IAmb	19 42 12.2	
	comp=Z,9.4nm,1.4s						
FLWY	Flagg Ranch	20.37	356	P	P	19 41 50.8	+0.4
FLWY				IAmb	IAmb	19 42 05.3	
	comp=Z,15nm,1.1s						
BCYI	Bear Canyon	20.89	350	P	Pn	19 42 03.9	+5.2
FVM	French Village	21.07	43	P	P	19 42 03.0	+5.2
FVM				IAmb	IAmb	19 42 11.0	
	comp=Z,11nm,0.7s						
YBH	Yreka Blue Hor	21.45	330	LR	LR	19 49 29.7	
	comp=Z,46nm,20.7s,baz=160,slow=34						
K05A	Summer Lake	21.49	335		P	19 41 58.9	-3.7
S44A	Carbondale	21.65	46	P	P	19 42 02.5	-1.6
SIUC	Southern Illin	21.68	46	P	P	19 42 01.5	-3.0
DLMT	Dillon	21.82	352	P	P	19 42 03.9	-2.1
DLMT				IAmb	IAmb	19 42 30.5	
	comp=Z,5.8nm,1.0s						
J05D	Fort Rock, OR	22.10	335	P	P	19 42 07.2	-1.8
BMO	Blue Mountains	22.22	344	P	P	19 42 06.8	-3.5
BMO				IAmb	IAmb	19 42 27.0	
	comp=Z,7.7nm,1.4s						
ECSD	EROS Data Cent	22.27	23	P	P	19 42 08.5	-2.2
ECSD				IAmb	IAmb	19 42 44.7	
	comp=Z,14nm,1.4s						
T47A	Sharon Grove	22.73	50	P	P	19 42 15.5	-0.2
T47A				IAmb	IAmb	19 42 30.8	
	comp=Z,14nm,1.1s						
USIN	University of	22.85	47	P	P	19 42 21.4	+4.5
OLIL	Olney	22.99	45	P	P	19 42 17.4	-1.0
W50A	Signal Mountai	23.24	55	P	P	19 42 22.0	+0.9
WCI	Wyandotte Cave	23.91	48	P	P	19 42 33.9	+6.4
CPCT	Cooper Cave	23.93	55	P	P	19 42 28.1	+0.3
T50A	Nancy	24.35	52		P	19 42 31.0	-0.6
SFIN	Lafayette	24.57	42	P	P	19 42 40.0	+6.4
TKL	Tuckaleechee C	24.57	55	LR	LR	19 52 53.0	
	comp=Z,87nm,21.9s,baz=264,slow=39						
NEW	Newport	25.39	347	LR	LR	19 53 56.5	
	comp=Z,52nm,18.2s,baz=164,slow=39						
Q51A	Peebles	26.31	49	P	P	19 42 48.9	-0.6
ULM	Lac du Bonnet	28.28	17	LR	LR	19 55 02.5	
	comp=Z,108nm,18.9s,baz=106,slow=38						
SADO	Sadowa	31.89	42	LR	LR	19 57 08.2	
	comp=Z,207nm,18.3s,baz=324,slow=38						
YKA	Yellowknife Ar	38.95	356	LR	LR	20 03 11.0	
	comp=Z,97nm,18.2s,baz=96,slow=40						
SDV	Santo Domingo	39.19	106	LR	LR	20 01 54.3	
	comp=Z,91nm,20.5s,baz=87,slow=38						
SJG	San Juan	39.97	90	LR	LR	20 02 36.9	
	comp=Z,50nm,20.4s,baz=98,slow=38						
ILAR	Eielson Array	47.93	339	P	P	19 45 58.0	+6.1
	comp=Z,0.5nm,0.8s,baz=126,slow=9.2,SNR=3.1						
	comp=Z,0.5nm,0.8s						
RES	Resolute Bay	51.51	5	LR	LR	20 08 49.9	
	comp=Z,73nm,21.1s,baz=332,slow=37						
H03N2	Juan Fernandez	63.51	152	T	T	20 56 47.3	
	baz=331,slow=77,SNR=14						
H03N1	Juan Fernandez	63.52	152	T	T	20 56 47.6	
	baz=331,slow=77,SNR=16						
H03N3	Juan Fernandez	63.52	152	T	T	20 56 46.6	
	baz=331,slow=77,SNR=16						
SPITS	Spitsbergen Ar	73.55	10	LR	LR	20 21 21.2	
	comp=Z,49nm,19.7s,baz=262,slow=36						
PZH	PanZhiHua	122.06	328	PKP	PKPdf	19 56 09.1	-0.1

*IDC **04** 19:52:25.0±6.2, 23°.90N×108°.53W, h0km, mb3.5/1, mbtmp3.3/4, ML3.2/2, MS3.1/5, Error ellipse: s-maj=93.9km s-min=30.6km az=150.0*

ISC 04 19:52:25.7±2.6, 23°.9N±0°.2×108°.9W±0°.2, h10km, n15, σ1°90/7, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SLBS	Sierra La Lagu	1.00	260	⇓eP		Pn	19 52 44.7	-1.2
SLBS				eS		Sb	19 52 50.7	-7.8
TSIG	Topolobambo	1.73	355	eP		Pb	19 52 57.9	+0.4
TSIG				IAML			19 53 21.4	
	comp=E,158nm,1.2s							
TSIG				⇓e			19 53 25.5	
TSIG				IAML			19 53 25.5	
	comp=N,171nm,0.7s							
EVAR0	San Evaristo	1.98	302	eP		Pn	19 52 56.0	-3.2
MAIG	Mazatlaan	2.34	106	eP		Pg	19 53 11.0	+0.4
MAIG				IAML			19 53 51.8	
	comp=E,120nm,1.3s							
MAIG				e			19 53 51.8	
MAIG				⇑e			19 54 01.0	
MAIG				IAML			19 54 01.0	
	comp=N,94nm,1.8s							
NE80	Navojoa	3.05	354	eP		Pb	19 53 17.6	-2.5
TXAR	Lajitas Array	7.16	39	Pn		Pn	19 54 09.5	-1.1
	comp=N,0.1nm,0.3s,baz=208,slow=15,SNR=3.7							
TXAR				Lg		Lg	19 56 03.2	
	comp=N,0.1nm,0.3s,baz=226,slow=21,SNR=1.7							
TXAR				LR		LR	19 56 52.4	
	comp=N,66nm,19.0s,baz=197,slow=38							
	comp=N,0.5nm,0.6s							
NVAR	Mina Array Bea	16.60	333	Pn		P	19 56 23.1	+1.9
	comp=N,0.1nm,0.3s,baz=161,slow=12,SNR=7.5							
NVAR				LR		LR	20 03 15.6	
	comp=N,63nm,18.6s,baz=193,slow=39							
	comp=N,0.9nm,0.8s							
ELK	Elko	17.66	344	LR		LR	20 03 26.3	
	comp=N,77nm,18.1s,baz=185,slow=37							
PDAR	Pinedale Array	18.86	358	P		Pn	19 56 47.6	+1.0
	comp=N,0.7nm,0.7s,baz=161,slow=8.6,SNR=5.6							
YBH	Yreka Blue Hor	21.23	330	LR		LR	20 06 08.2	
	comp=N,58nm,18.4s,baz=96,slow=38							
SJG	San Juan	40.18	90	LR		LR	20 16 40.4	
	comp=N,26nm,20.2s,baz=150,slow=36							
ILAR	Eielson Array	47.73	339	P		P	20 01 03.5	+1.0
	comp=N,0.7nm,0.9s,baz=155,slow=8.8,SNR=1.1							
	comp=N,0.7nm,0.9s							
H03N2	Juan Fernandez	63.73	152	T		T	21 12 13.3	
	baz=326							
H03N1	Juan Fernandez	63.73	152	T		T	21 12 15.0	
	baz=326							
H03N3	Juan Fernandez	63.74	152	T		T	21 12 14.9	
	baz=326							

*NNC **04** 19:53:19.1±4.0, 37°.15N×70°.73E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=36.4km s-min=30.5km az=106.0*

ISC 04 19:53:19.9±1.7, 37°.5N±0°.1×73°.5E±0°.2, h10km, n11, σ0°89/13, 2C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	4.61	2	⇓P		Pb	19 54 42.1	+1.0
AML				⇑S		Sg	19 55 47.4	-0.6
	0.8nm,0.4s							
	7.4nm,0.7s							
KK31	Karatay Array	6.04	339	⇑P		Pn	19 54 48.7	-0.6
	1.6nm,0.3s,baz=192,slow=14,SNR=36							
KK31				⇓S		Sn	19 55 58.5	+0.1
	7.9nm,0.7s,baz=190,slow=24,SNR=12							
PYUN	Piuthan	12.30	137	eP		Pn	19 56 15.3	0.0
	4.6nm,0.3s							
DANN	Dangsing	12.54	134	eP		Pn	19 56 19.8	+1.2
	8.1nm,0.5s							
GKN	Gorkha	13.31	132	eP		Pn	19 56 29.3	+0.3
	4.7nm,0.3s							
DMN	Daman	13.88	132	eP		Pn	19 56 36.6	-0.3
	3.6nm,0.3s							
PKIN	Phulchoki	14.08	131	eP		Pn	19 56 39.4	-0.2
	13nm,0.8s							
PKI	Pulchoki	14.09	131	eP		Pn	19 56 39.3	-0.5
	4.7nm,0.5s							
GUN	Gumba	14.13	129	eP		Pn	19 56 40.5	+0.1
	6.5nm,0.4s							
JIRN	Jiri	14.50	129	eP		Pn	19 56 45.2	-0.3
	10nm,0.5s							
RAMN	Ramite	15.26	130	eP		Pn	19 56 53.6	-2.1
	6.1nm,0.6s							

*NOU **04** 20:06:25.8, 40°.02S×176°.69E, h60km, MLv3.7/7, North Island, New Zealand*
*WEL **04** 20:06:27.1±0.4, 40°.S±2°×17°.7E±°, h21km±4km, M3.6/72, ML4.1/15, MLv3.6/72, Error ellipse: s-maj=0.0km s-min=0.0km az=113.5, confirmed*

ISC 04 20:06:27.4±0.9, 39°.99S±0°.02×176°.65E±0°.03, h31km±8km, n119, σ1°08/132, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PXZ	Pawanui	0.17	104	P		Pn	20 06 33.7	-0.1
WPHZ	Waipukurau	0.18	245	P		Pn	20 06 33.0	-1.0
WPHZ				S		Sn	20 06 38.0	-0.1
KAHZ	Kahuranaki	0.26	42	P		Pn	20 06 34.6	-0.5
KAHZ				S		Sn	20 06 41.1	+1.0
PRHZ	Porangahau	0.28	182	P		Pn	20 06 35.2	-0.2
PNHZ	Pukenui	0.35	282	P		Pb	20 06 34.7	-1.0
PNHZ				S		Sb	20 06 40.6	-0.8
KRHZ	Kereru	0.41	328	P		Pb	20 06 35.4	-1.0
KRHZ				S		Sb	20 06 42.0	-0.6
CKHZ	Cape Kidnapper	0.47	45	P		Pb	20 06 37.8	+0.5
CKHZ				S		Sb	20 06 46.6	+2.5
DVHZ	Dannevirke	0.48	230	P		Pb	20 06 37.4	-0.2
DVHZ				S		Sb	20 06 45.5	+0.8
ANWZ	Angora Road	0.49	196	P		Pb	20 06 38.2	+0.6
ANWZ				S		Sb	20 06 47.4	+2.6
TSZ	Takapari Road	0.53	262	P		Pn	20 06 37.6	-1.3
TSZ				S		Sb	20 06 45.0	-1.0
MCHZ	McNeill Hill	0.55	4	P		Pn	20 06 38.6	-0.4
MCHZ				S		Sb	20 06 47.8	+1.6
KWHZ	Kaweka Forest	0.59	343	P		Pn	20 06 38.6	-1.1
KWHZ				S		Sb	20 06 47.8	+0.2
BHHZ	Black Hill Sta	0.67	318	P		Pn	20 06 39.6	-1.3
BHHZ				S		Sn	20 06 48.9	-1.5
BFZ	Birch Farm	0.76	204	P		Pn	20 06 41.6	-0.4
BFZ	Birch Farm	0.76	204	P		Pn	20 06 41.5	-0.5
BFZ				S		Sn	20 06 53.5	+1.1
PRWZ	Pori Road	0.77	222	P		Pn	20 06 42.0	-0.1
ARHZ	Aropaoanui	0.77	20	P		Pn	20 06 42.1	0.0
POWZ	Post Office Ro	0.79	239	P		Pn	20 06 41.9	-0.5
BKZ	Black Stump Fm	0.83	351	P		Pn	20 06 42.4	-0.7
BKZ	Black Stump Fm	0.83	351	P		Pn	20 06 42.3	-0.7
BKZ				S		Sn	20 06 54.0	-0.2
NMHZ	Naumai	0.90	8	P		Pn	20 06 43.9	0.0
MOVZ	Moawhango	0.90	310	P		Pn	20 06 43.4	-0.6
MOVZ				S		Sn	20 06 55.1	-1.0
TIWZ	Tintock	0.98	216	P		Pn	20 06 44.5	-0.5
TIWZ				S		Sn	20 06 59.8	+1.9
CPWZ	Castlepoint	0.98	200	P		Pn	20 06 45.0	0.0
WHHZ	Waihua	1.02	27	P		Pn	20 06 45.3	-0.2
OHWZ	Ohakea	1.05	258	P		Pn	20 06 46.4	+0.5
WNVZ	Wahianoa	1.05	309	P		Pn	20 06 46.3	+0.2
WNVZ				S		Sn	20 07 00.9	+1.1
TUVZ	Tukino	1.05	313	P		Pn	20 06 46.5	+0.4
TUVZ				S		Sn	20 07 00.6	+0.7
MRZ	Mangatainoka R	1.06	230	P		Pn	20 06 45.4	-0.7
MRZ				S		Sn	20 07 01.1	+1.2
WHVZ	Whangaehu Hut	1.08	310	P		Pn	20 06 46.9	+0.2
WHVZ				S		Sn	20 07 01.0	+0.3
TRVZ	Turoa	1.10	309	P		Pn	20 06 47.4	+0.6
TRVZ				S		Sn	20 07 01.3	+0.3
SNVZ	South Ngauruho	1.12	315	P		Pn	20 06 47.4	+0.3
SNVZ				S		Sn	20 07 02.6	+1.1
ETVZ	East Tongariro	1.12	319	P		Pn	20 06 47.1	0.0
FWVZ	Far West T-bar	1.12	310	P		Pn	20 06 47.4	+0.2
FWVZ				S		Sn	20 07 01.8	+0.1
OTVZ	Oturere	1.12	317	P		Pn	20 06 47.6	+0.4
OTVZ				S		Sn	20 07 02.5	+0.9
RAHZ	Arahi	1.12	18	P		Pn	20 06 46.7	-0.3
TMVZ	Te Maari	1.14	320	P		Pn	20 06 47.3	0.0
MTHZ	Maungataniwha	1.15	7	P		Pn	20 06 46.8	-0.5
NGZ	Ngauruhoe	1.15	315	P		Pn	20 06 47.8	+0.3
MRHZ	Matea Rd	1.17	351	P		Pn	20 06 47.5	-0.2
NNVZ	North Ngauruho	1.17	317	P		Pn	20 06 48.3	+0.5
HATZ	Hinemaiaia	1.18	338	P		Pn	20 06 47.9	+0.1
HATZ				S		Sn	20 07 02.3	-0.5
RITZ	Rihia Road	1.18	328	P		Pn	20 06 48.5	+0.7
KRVZ	Karewarewa	1.19	319	P		Pn	20 06 48.5	+0.5
WTVZ	West Tongariro	1.20	316	P		Pn	20 06 48.7	+0.5
PKVZ	Pokaka	1.23	304	P		Pn	20 06 48.8	+0.3
KNZ	Kokohu	1.25	40	P		Pn	20 06 47.8	-0.9
KATZ	Kakaramea	1.25	324	P		Pn	20 06 49.9	+1.0
HOWZ	Holdsworth Sta	1.25	223	P		Pn	20 06 47.8	-1.0
TMWZ	Te Maipa	1.26	207	P		Pn	20 06 47.7	-1.2
MHGZ	Mahia Peninsul	1.28	50	P		Pn	20 06 48.4	-0.8
WAZ	Wanganui	1.30	280	P		Pn	20 06 50.1	+0.7
RATZ	Rangitukua	1.31	328	P		Pn	20 06 50.7	+1.1
TWVZ	Taurewa	1.31	314	P		Pn	20 06 49.9	+0.3
SNGZ	Shannon Statio	1.32	24	P		Pn	20 06 49.2	-0.5
RTZ	Ruatahuna	1.40	11	P		Pn	20 06 50.3	-0.5
OGWZ	Otaki Gorge	1.40	233	P		Pn	20 06 49.8	-1.0
PRGZ	Paritu Road	1.43	42	P		Pn	20 06 50.3	-0.9
ALRZ	Allen Road	1.45	350	P		Pn	20 06 51.3	-0.1
MTW	Mount Morrison	1.46	216	P		Pn	20 06 50.0	-1.6
WATZ	Wairara	1.46	331	P		Pn	20 06 53.7	+2.0
PRRZ	Plateau Road	1.50	352	P		Pn	20 06 51.9	-0.3
MUGZ	Murupara	1.51	4	P		Pn	20 06 51.7	-0.7
WPRZ	Whakapapatarin	1.52	345	P		Pn	20 06 51.8	-0.6
RIGZ	Rimuhau	1.54	34	P		Pn	20 06 51.9	-0.9
TRWZ	Traveller	1.59	207	P		Pn	20 06 51.8	-1.6
KIW	Kapiti Island	1.59	236	P		Pn	20 06 52.4	-1.0
RAGZ	Rawiri	1.60	22	P		Pn	20 06 52.9	-0.8
HRRZ	Handcock Road	1.62	350	P		Pn	20 06 53.8	-0.1
CAW	Cannon Point	1.65	227	P		Pn	20 06 52.8	-1.4
RRRZ	Republican Roa	1.65	356	P		Pn	20 06 53.6	-0.6
PAWZ	Paruwai Farm	1.67	213	P		Pn	20 06 52.8	-1.8
HSRZ	Hossack Road	1.71	349	P		Pn	20 06 54.6	-0.4
TARZ	Mount Tarawera	1.75	356	P		Pn	20 06 55.3	-0.5
URZ	Urewera	1.76	12	P		Pn	20 06 54.5	-1.3
URZ	Urewera	1.76	12	P		Pn	20 06 54.6	-1.1
MWZ	Matawai	1.79	23	P		Pn	20 06 54.9	-1.3
LREZ	Lake Rotokare	1.81	286	P		Pn	20 06 58.2	+1.8
TLZ	Tolley Road	1.87	332	P		Pn	20 06 57.1	-0.2
EDRZ	Edgecumbe	1.88	2	P		Pn	20 06 56.8	-0.6
OMRZ	Omaria	1.89	353	P		Pn	20 06 56.9	-0.7
PLWZ	Palliser	1.90	213	P		Pn	20 06 55.4	-2.3
CNGZ	Carnagh Statio	1.93	39	P		Pn	20 06 57.0	-1.1
WEL	Wellington	1.93	227	P		Pn	20 06 56.4	-1.7
SNZO	South Karori	1.98	228	P		Pn	20 06 57.1	-1.7
PREZ	Palmer Road	2.03	288	P		Pn	20 07 01.4	+1.9
NEZ	North Egmont	2.10	289	P		Pn	20 07 02.3	+1.8
OPRZ	Ohinepanea	2.14	358	P		Pn	20 07 01.0	0.0
WHRZ	Whale Island	2.15	7	P		Pn	20 07 00.1	-0.9
KHEZ	Kahui Hut	2.15	288	P		Pn	20 07 04.1	+2.9
RUGZ	Raukumara Rang	2.17	22	P		Pn	20 07 00.3	-1.3
TCW	Tory Channel	2.18	235	P		Pn	20 06 59.7	-1.8
PKE	Pukeiti	2.21	290	P		Pn	20 07 04.6	+2.7
DUWZ	D'Urville Isla	2.24	248	P		Pn	20 07 01.1	-1.2
NBEZ	Newall Road No	2.27	288	P		Pn	20 07 04.8	+2.1
PUZ	Puketiti	2.29	34	P		Pn	20 07 01.1	-1.9
PKGZ	Pakihiroa	2.37	28	P		Pn	20 07 02.8	-1.5
HAZ	Te Kaha	2.40	22	P		Pn	20 07 03.7	-0.8
TOZ	Tahuroa Road	2.43	338	P		Pn	20 07 04.5	-0.4
TUWZ	Tuamarina	2.51	234	P		Pn	20 07 03.5	-2.5
WMGZ	Waiomatatini S	2.57	33	P		Pn	20 07 05.2	-1.6
BSWZ	Blackbirch Sta	2.72	230	P		Pn	20 07 06.5	-2.4
MXZ	Matakaoa Point	2.75	29	P		Pn	20 07 07.6	-1.7
MXZ	Matakaoa Point	2.75	29	P		Pn	20 07 08.0	-1.3
NNZ	Nelson	2.78	243	P		Pn	20 07 08.3	-1.4
TKNZ	Takaka Hill	3.00	248	P		Pn	20 07 13.1	+0.3
MKAZ	Moumakai	3.11	337	P		Pn	20 07 14.3	0.0
QRZ	Quartz Range	3.26	254	P		Pn	20 07 14.8	-1.5
QRZ	Quartz Range	3.26	254	P		Pn	20 07 14.7	-1.6
MRNZ	Matariki Terra	3.28	243	P		Pn	20 07 14.9	-1.7
THZ	Tophouse	3.35	237	P		Pn	20 07 15.1	-2.5
KHZ	Kahutara	3.38	223	P		Pn	20 07 15.8	-2.1
WIAZ	Waiheke Island	3.41	339	P		Pn	20 07 18

TNTI	**Ternate**	**3.91 157**	P	**Pn**	**20 41 55.0 +0.7**
LBMI	**Labuha**	**5.27 162**	P	**Pn**	**20 42 12.8 +0.5**
LBMI			S	**Sn**	**20 43 08.5 -4.0**
MRSI	**Marisa**	**5.54 225**	P	**Pn**	**20 42 17.3 +1.5**
	17nm,0.5s,0.1nm				
TOLI2	**Tolitoli**	**6.04 237**	Pn	**Pn**	**20 42 23.0 +0.4**
LUWI	**Luwuk**	**6.24 210**	Pn	**Pn**	**20 42 27.1 +2.0**
LUWI	**Luwuk**	**6.24 210**	P	**Pn**	**20 42 25.8 +0.7**
	19nm,0.9s,10μm0.4nm				
SANI	**Sanana**	**6.42 179**	P	**Pn**	**20 42 25.7 -1.8**
	45nm,0.6s,2μm0.3nm				
FAKI	**Fak Fak**	**9.68 139**	Pn	**Pn**	**20 43 09.3 -1.7**
KKM	**Kota Kinabalu**	**9.75 280**	Pn	**Pn**	**20 43 11.2 -0.9**
JAY	**Jayapura**	**16.34 115**	P	**P**	**20 44 39.2 +2.7**
	8.3nm,0.6s,baz=318,slow=14,SNR=4.5				
MTN	**Manton Dam**	**17.92 163**	P	**P**	**20 44 54.6 +0.8**
MTN			IAmb	IAmb	20 45 02.9
	comp=Z,21nm,1.4s				
TPUB	**Ta-pu**	**19.45 345**	P	**P**	**20 45 06.1 -4.2**
KNRA	**Kununurra**	**20.16 172**	P	**P**	**20 45 18.4 +0.3**
KNRA			IAmb	IAmb	20 45 28.4
	comp=Z,26nm,1.4s				
WRAB	**Tennant Creek**	**25.59 161**	P	**P**	**20 46 10.8 +0.2**
WRAB			IAmb	IAmb	20 46 18.6
	comp=Z,12nm,1.5s				
WRA	**Warramunga Arr**	**25.59 161**	P	**P**	**20 46 10.1 -0.5**
WRA	**Warramunga Arr**	**25.59 161**	P	**P**	**20 46 10.7 0.0**
	comp=Z,0.9nm,0.6s,baz=340,slow=10.0,SNR=22				
	comp=Z,0.9nm,0.6s				
WB2	**Warramunga Arr**	**25.59 161**	P	**P**	**20 46 10.6 -0.1**
WB2			IAmb	IAmb	20 46 19.5
	comp=Z,7.9nm,1.3s				
ASAR	**Alice Springs**	**28.98 165**	P	**P**	**20 46 41.3 +0.4**
	comp=Z,0.8nm,0.5s,baz=345,slow=7.6,SNR=20				
	comp=Z,0.8nm,0.5s				
CMAR	**Chiang Mai Arr**	**29.79 300**	P	**P**	**20 46 49.6 +1.5**
	comp=Z,0.7nm,0.8s,baz=100,slow=6.9,SNR=5.2				
	comp=Z,0.7nm,0.8s				
KSRS	**Korea Array**	**32.94 3**	P	**P**	**20 47 17.9 +2.4**
	comp=Z,0.6nm,0.4s,baz=184,slow=9.6,SNR=6.7				
	comp=Z,0.6nm,0.4s				
KS19	**Wonju Array Si**	**32.99 3**	P	**P**	**20 47 14.2 -1.7**
BBOO	**Buckleboo**	**38.26 166**	P	**P**	**20 48 01.8 +0.9**
STKA	**Stephens Creek**	**39.07 159**	P	**P**	**20 48 08.8 +1.2**
STKA	**Stephens Creek**	**39.07 159**	P	**P**	**20 48 08.9 +1.2**
	comp=Z,1.4nm,0.5s,baz=327,slow=10,SNR=3.4				
	comp=Z,1.4nm,0.5s				
SONM	**Songino Array**	**46.39 342**	P	**P**	**20 49 08.3 +1.7**
	comp=Z,0.2nm,0.5s,baz=151,slow=11,SNR=1.9				
	comp=Z,0.2nm,0.5s				
MK31	**Makanchi Array**	**56.51 325**	P	**P**	**20 50 21.7 -0.1**
MKAR	**Makanchi Array**	**56.51 325**	P	**P**	**20 50 21.4 -0.5**
MKAR	**Makanchi Array**	**56.51 325**	P	**P**	**20 50 21.5 -0.3**
	comp=Z,0.8nm,0.4s,baz=119,slow=7.8,SNR=29				
MKAR			PcP	**PcP**	**20 51 15.8 -1.0**
	comp=Z,0.6nm,0.6s,baz=126,slow=4.2,SNR=4.1				
	comp=Z,0.8nm,0.4s				
MAKZ	**Makanchi**	**56.70 325**	P	**P**	**20 50 23.0 -0.1**
MAKZ			IAmb	IAmb	20 50 46.1
	comp=Z,4.6nm,1.1s				
KURBB	**Kurchatov Arra**	**60.71 328**	P	**P**	**20 50 50.1 -0.6**
	comp=Z,1.2nm,0.5s,baz=131,slow=6.4,SNR=14				
	comp=Z,1.2nm,0.5s				
KURK	**Kurchatov**	**60.71 328**	P	**P**	**20 50 50.8 +0.1**
KURK			IAmb	IAmb	20 50 52.7
	comp=Z,4.9nm,1.3s				
BTK	**Batken**	**60.83 314**	P	**P**	**20 50 52.1 +0.2**
BTK			IAmb	IAmb	20 51 06.5
	comp=Z,4.6nm,1.2s				
KKAR	**Karatay Array**	**62.15 317**	P	**P**	**20 51 00.7 +0.1**
AMKA	**Amchitka**	**64.42 34**	P	**P**	**20 51 14.7 -0.6**
BVAR	**Borovoye Array**	**66.29 327**	P	**P**	**20 51 28.0 +0.7**
	comp=Z,2.2nm,1.0s,baz=123,slow=5.3,SNR=5.4				
	comp=Z,2.2nm,1.0s				
ABKAR	**Akbulak array**	**71.08 321**	P	**P**	**20 51 55.2 -1.9**
ARCES	**ARCESS Array B**	**89.52 340**	P	**P**	**20 53 34.7 -0.5**
	comp=Z,0.9nm,0.6s,baz=88,slow=5.7,SNR=4.2				
	comp=Z,0.9nm,0.6s				
FINES	**FINESS Array B**	**90.83 332**	P	**P**	**20 53 42.6 +1.2**
	comp=Z,3.1nm,1.0s,baz=122,slow=1.8,SNR=3.7				
	comp=Z,3.1nm,1.0s				

*CNRM **04** 20:56:38.9, 35.˚54N×3.˚80W, h8km, ml3.3*
*MDD **04** 20:56:38.9±0.3, 35.˚49N×3.˚79W, h0km, mb_Lg3.1/33, Error ellipse: s-maj=2.6km s-min=1.9km az=165.0*
*SFS **04** 20:56:39.8, 35.˚47N×3.˚77W, h14km, ML3.6/24, ML3.5/21, MLv3.5/24*
*IGIL **04** 20:56:39.1, 35.˚42N×3.˚77W, h3km, ML2.7*
*INMG **04** 20:56:40.3±1.5, 35.˚46N×3.˚76W, h17km±4km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.3km az=114.0*

ISC 04 20:56:38.9±1.0, 35.˚47N±0.˚02×3.˚78W±0.˚02, h18km±7km, n116, σ1$64/196, 4C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28 208**		P	**Pg**	**20 56 45.6**	**+0.5**
PALE				S	**Sb**	**20 56 51.2**	**+1.3**
PALE	**Palemas**	**0.28 208**		P	**Pg**	**20 56 45.4**	**+0.3**
PVLZ	**Peæn de**	**0.52 235**		Sg	**Sg**	**20 56 56.2**	**-0.1**
PVLZ				Pg	**Pg**	**20 56 49.2**	**-0.1**
GOG	**Mont Gurugu**	**0.69 111**		P	**Pg**	**20 56 52.1**	**-0.3**
GOG				S	**Sb**	**20 57 02.6**	**+1.1**
GOG	**Mont Gurugu**	**0.69 111**		S	**Sb**	**20 57 03.0**	**+1.4**
WMELI	**Melilla**	**0.69 102**		Sg	**Sg**	**20 57 00.7**	**-0.9**
WMELI				Pg	**Pb**	**20 56 52.1**	**-0.3**
EALB	**Alboran**	**0.77 52**		Pg	**Pb**	**20 56 53.8**	**+0.1**
EALB				Sg	**Sb**	**20 57 03.9**	**+0.1**
EALB				*i* Vmb_Lg		20 57 06.8	
EALB	**Alboran**	**0.77 52**		Sg	**Sg**	**20 57 04.3**	**+0.3**
EALB				Pg	**Pb**	**20 56 53.8**	**+0.1**
CHAS	**Isla Isabel II**	**1.14 104**		Pg	**Pn**	**20 57 00.4**	**+0.5**
CHAS				Sg	**Sb**	**20 57 14.9**	**+0.4**
TAF	**Taforalt**	**1.29 120**		P	**Pn**	**20 57 01.2**	**-1.1**
TAF				S	**Sn**	**20 57 20.1**	**+1.0**
TAF	**Taforalt**	**1.29 120**		P	**Pg**	**20 57 04.0**	**+0.1**
TAF	**Taforalt**	**1.29 120**		P	**Pn**	**20 57 01.1**	**-1.1**
SMIR	**Smir Dam**	**1.32 280**		P	**Pn**	**20 56 59.7**	**-2.8**
SMIR				S	**Sn**	**20 57 16.3**	**-3.5**
CHEFC	**Chefchaouen**	**1.33 255**		P	**Pn**	**20 57 00.1**	**-2.5**
CHEFC				S	**Sn**	**20 57 16.9**	**-3.1**
CHEFC	**Chefchaouen**	**1.33 255**		P	**Pb**	**20 57 04.0**	**+0.6**
EMIJ	**Mijas**	**1.36 324**		Pn	**Pn**	**20 57 02.4**	**-0.6**
EMIJ				Sn	**Sn**	**20 57 19.5**	**-1.1**
EMIJ				*i* Vmb_Lg		20 57 30.2	
EMIJ	**Mijas**	**1.36 324**		Pn	**Pn**	**20 57 02.1**	**-0.9**
CEU	**Ceuta**	**1.37 289**		Pn	**Pn**	**20 57 01.5**	**-1.6**
ECEU	**Ceuta**	**1.37 289**		Pg	**Pn**	**20 57 01.9**	**-1.2**
ECEU				Sg	**Sn**	**20 57 18.9**	**-2.0**
ECEU				*i* Vmb_Lg		20 57 21.1	
EMAL	**Malaga-Limoner**	**1.39 338**		Sn	**Sn**	**20 57 20.5**	**-0.9**
EMAL				Pn	**Pn**	**20 57 03.0**	**-0.5**
ELGU	**Los Guajares,**	**1.40 5**		Pg	**Pn**	**20 57 03.0**	**-0.6**
ELGU				Sg	**Sn**	**20 57 19.2**	**-2.6**
ELGU				*i* Vmb_Lg		20 57 24.2	
ELGU	**Los Guajares,**	**1.40 5**		Sn	**Sn**	**20 57 19.9**	**-1.8**
ELGU				Pn	**Pn**	**20 57 03.0**	**-0.6**
JBK	**JBK**	**1.51 138**		P	**Pn**	**20 57 04.2**	**-1.1**
JBK				S	**Sb**	**20 57 26.3**	**+0.9**
JBK	**JBK**	**1.51 138**		P	**Pg**	**20 57 09.0**	**+1.0**
EBER	**Berja**	**1.60 26**		Pn	**Pn**	**20 57 06.0**	**-0.4**
EBER				Sn	**Sn**	**20 57 25.3**	**-1.4**
EBER				*i* Vmb_Lg		20 57 31.8	
EBER	**Berja**	**1.60 26**		Sn	**Sn**	**20 57 26.9**	**+0.2**
EBER				Pn	**Pn**	**20 57 05.9**	**-0.5**
EGOR	**Sierra Gorda,**	**1.66 351**		Pn	**Pn**	**20 57 07.5**	**+0.2**
EGOR				Sn	**Sb**	**20 57 29.5**	**-0.2**
EGOR				*i* Vmb_Lg		20 57 36.1	
EGOR	**Sierra Gorda,**	**1.66 351**		Pn	**Pn**	**20 57 07.4**	**+0.2**
EJIM	**Jimena Fronter**	**1.69 306**		Pn	**Pn**	**20 57 07.4**	**-0.1**
EJIM				Sn	**Sn**	**20 57 28.6**	**-0.1**
EQUE	**Quentar**	**1.75 9**		Pn	**Pn**	**20 57 09.3**	**+0.8**
EQUE				Sn	**Sn**	**20 57 30.2**	**-0.3**
EQUE				*i* Vmb_Lg		20 57 33.4	
EQTA	**Presa de Quent**	**1.75 9**		Sn	**Sn**	**20 57 31.5**	**+1.0**
EQTA				Pn	**Pn**	**20 57 09.3**	**+0.7**
SICH	**Sidi Chahed**	**1.86 223**		S	Pg	20 57 20.0	+5.3
ENIJ	**Nijar**	**1.96 40**		Pn	**Pn**	**20 57 10.3**	**-1.1**
ENIJ				Sn	**Sn**	**20 57 32.2**	**-3.4**
ENIJ				*i* Vmb_Lg		20 57 45.1	
ENIJ	**Nijar**	**1.96 40**		Pn	**Pn**	**20 57 10.5**	**-0.8**
LCRM	**LCR**	**1.99 207**		P	**Pn**	**20 57 12.7**	**+0.8**
LCRM				S	**Sg**	**20 57 41.5**	**-1.4**
LCRM	**LCR**	**1.99 207**		P	**Pb**	**20 57 16.0**	**+1.3**
IFR	**Ifrane**	**2.24 210**		Sn	**Sn**	**20 57 41.8**	**-0.9**
IFR				Pn	**Pn**	**20 57 15.6**	**+0.3**
EQES	**Quesada**	**2.40 14**		Pn	**Pb**	**20 57 20.0**	**-1.6**
EQES				Sn	**Sb**	**20 57 49.1**	**-1.7**
EQES				*i* Vmb_Lg		20 57 51.3	
CZD	**Col de Zad**	**2.65 204**		P	**Pn**	**20 57 20.5**	**-0.5**
CZD				S	**Sn**	**20 57 53.8**	**+1.0**
CZD	**Col de Zad**	**2.65 204**		P	Pg	20 57 35.0	+5.3
MD31	**MD31**	**2.72 198**		P	**Pn**	**20 57 22.7**	**+0.9**
MD31				S	**Sn**	**20 57 57.0**	**+2.7**
MDT	**Midelt**	**2.74 195**		P	**Pn**	**20 57 23.6**	**+1.5**
MDT				S	**Sb**	**20 57 58.6**	**-2.1**
MDT	**Midelt**	**2.74 195**		P	**Pn**	**20 57 23.6**	**+1.5**
EADA	**Adamuz**	**2.77 347**		Pn	**Pn**	**20 57 23.9**	**+1.5**
EADA				Sn	**Sn**	**20 57 55.6**	**+0.1**
EADA				*i* Vmb_Lg		20 58 09.5	
EADA	**Adamuz**	**2.77 347**		Pn	**Pn**	**20 57 24.0**	**+1.5**
ECAB	**El Cabril**	**2.92 334**		Pn	**Pn**	**20 57 25.3**	**+0.9**
ECAB				Sn	**Sn**	**20 57 59.9**	**+0.9**
ECAB				*i* Vmb_Lg		20 58 12.1	
ECAB	**El Cabril**	**2.92 334**		Pn	**Pn**	**20 57 25.8**	**+1.4**
EZAR	**Zarzadilla de**	**2.93 34**		Pn	**Pn**	**20 57 24.8**	**+0.2**
EZAR				Sn	**Sn**	**20 57 59.2**	**-0.2**
EZAR				*i* Vmb_Lg		20 58 02.3	
CART	**Cartagena**	**3.08 46**		P	**Pn**	20 57 22.1	-4.5
CART				S	**Sn**	**20 57 56.3**	**-6.6**
CART	**Cartagena**	**3.08 46**		Pn	**Pn**	**20 57 25.6**	**-0.9**
CART				Sn	**Sn**	**20 57 59.6**	**-3.3**
ZHG	**ZHG**	**3.11 230**		P	**Pn**	**20 57 27.8**	**+0.7**
ZHG				S	**Sn**	**20 58 06.2**	**+2.2**
EMUR	**La Murta**	**3.12 40**		Pn	**Pn**	**20 57 28.3**	**+1.0**
EMUR				Sn	**Sn**	**20 58 02.3**	**-2.0**
EMUR				*i* Vmb_Lg		20 58 09.0	
EMUR	**La Murta**	**3.12 40**		Sn	**Sn**	**20 58 02.0**	**-2.3**
EMUR				Pn	**Pn**	**20 57 28.6**	**+1.3**
EMIN	**Mina Concepcio**	**3.27 315**		Pn	**Pn**	**20 57 30.1**	**+0.8**
EMIN				Sn	**Sn**	**20 58 06.7**	**-1.0**
EMIN				*i* Vmb_Lg		20 58 21.2	
EMIN	**Mina Concepcio**	**3.27 315**		Sn	**Sn**	**20 58 06.5**	**-1.2**
EMIN				Pn	**Pn**	**20 57 29.8**	**+0.5**
EGRO	**El Granado**	**3.63 306**		Pn	**Pn**	**20 57 34.9**	**+0.7**
EGRO				Sn	**Sn**	**20 58 15.2**	**-1.4**
EGRO				*i* Vmb_Lg		20 58 23.0	
EGRO	**El Granado**	**3.63 306**		Sn	**Sn**	**20 58 14.9**	**-1.6**
EGRO				Pn	**Pn**	**20 57 34.8**	**+0.7**
ETOB	**Tobarra**	**3.64 29**		Pn	**Pn**	**20 57 36.7**	**+2.3**
ETOB				Sn	**Sn**	**20 58 19.0**	**+2.1**
ETOB				*i* Vmb_Lg		20 58 30.0	
ETOB	**Tobarra**	**3.64 29**		Pn	**Pn**	**20 57 35.7**	**+1.4**
PVAQ	**Vaqueiros**	**3.72 302**		*eP*	**Pn**	**20 57 35.9**	**+0.5**
PVAQ				*eS*	**Sn**	**20 58 17.6**	**-1.2**
PVAQ				A	A	20 58 19.3	
	25nm,0.5s						
PVAQ	**Vaqueiros**	**3.72 302**		P	**Pn**	**20 57 35.9**	**+0.5**
PVAQ	**Vaqueiros**	**3.72 302**		P	**Pn**	**20 57 35.9**	**+0.5**
PVAQ	**Vaqueiros**	**3.72 302**		Pn	**Pn**	**20 57 35.8**	**+0.4**
PBAR	**Barrancos**	**3.76 317**		*eP*	**Pn**	**20 57 36.7**	**+0.7**
PBAR				*eS*	**Sn**	**20 58 19.6**	**-0.2**
PBAR				A	A	20 58 26.7	
	8.1nm,0.5s						
PBAR	**Barrancos**	**3.76 317**		Pn	**Pn**	**20 57 36.7**	**+0.7**
PBDV	**Barranco-do-Ve**	**3.79 299**		*eP*	**Pn**	**20 57 37.0**	**+0.5**
PBDV				*eS*	**Sn**	**20 58 20.0**	**-0.6**
PBDV				A	A	20 58 24.8	
	15nm,0.9s						
PCVE	**Castro Verde**	**4.05 303**		*eP*	**Pn**	**20 57 40.6**	**+0.6**
PCVE				*eS*	**Sn**	**20 58 26.8**	**-0.3**
PCVE				A	A	20 58 33.1	
	12nm,0.3s						
PCVE	**Castro Verde**	**4.05 303**		Pn	**Pn**	**20 57 40.4**	**+0.4**
PAB	**San Pablo**	**4.09 354**		P	**Pn**	**20 57 43.7**	**+3.0**
PAB	**San Pablo**	**4.09 354**		Pn	**Pn**	**20 57 42.4**	**+1.7**
PAB				Sn	**Sn**	**20 58 27.7**	**-0.5**
PAB				*i* Vmb_Lg		20 59 00.8	
AFON	**Font Roja**	**4.11 38**		Pn	**Pn**	**20 57 42.6**	**+1.7**
AFON				Sn	**Sn**	**20 58 29.7**	**+1.2**
PBEJ	**Beja**	**4.16 309**		*eP*	**Pn**	**20 57 42.5**	**+1.0**
PBEJ				*eS*	**Sn**	**20 58 28.8**	**-0.9**
PBEJ				A	A	20 58 32.8	
	8.8nm,0.5s						
EBAD	**Badajoz**	**4.18 323**		Pn	**Pn**	**20 57 42.5**	**+0.8**
EBAD				Sn	**Sn**	**20 58 28.0**	**-2.1**
EBAD				*i* Vmb_Lg		20 58 44.0	
ESDC	**Sonseca Array**	**4.20 358**		Pn	**Pn**	**20 57 43.9**	**+1.7**
ESDC				Sn	**Sn**	**20 58 27.8**	**-3.0**
ESDC				Sg	**Sb**	**20 58 46.1**	**+3.4**
ESDC				*i* Vmb_Lg		20 58 55.8	
MESJ	**Messejana**	**4.28 305**		*eP*	**Pn**	**20 57 43.8**	**+0.6**
MESJ				*eS*	**Sn**	**20 58 31.6**	**-1.1**
MESJ				A	A	20 58 37.6	
	13nm,0.3s						
MESJ	**Messejana**	**4.28 305**		*eP*	**Pn**	**20 57 43.8**	**+0.6**
MESJ				*eS*	**Sn**	**20 58 31.1**	**-1.6**
MESJ				IAML		20 58 33.5	
	comp=N,12nm,0.4s						
MORF	**Marmelete**	**4.34 296**		*eP*	**Pn**	**20 57 44.4**	**+0.4**
MORF				*eS*	**Sn**	**20 58 33.3**	**-0.9**
MORF				A	A	20 58 39.5	
	comp=N,7.5nm,0.4s						
MORF	**Marmelete**	**4.34 296**		*eP*	**Pn**	**20 57 44.3**	**+0.3**
MORF				*eS*	**Sn**	**20 58 32.1**	**-2.1**
MORF				IAML		20 58 36.2	
	comp=E,21nm,0.3s						
EVIV	**Cofrentes, Val**	**4.34 28**		Pn	**Pn**	**20 57 46.3**	**+2.2**
EVIV				Sg	**Sb**	**20 58 49.5**	**+2.8**
EVIV				*i* Vmb_Lg		20 59 02.8	
PFVI	**Vila Bisbo**	**4.40 294**		*eP*	**Pn**	**20 57 45.8**	**+1.0**
PFVI				*eS*	**Sn**	**20 58 35.1**	**-0.6**
PFVI				A	A	20 58 41.7	
	comp=E,12nm,0.4s						
PFVI	**Vila Bisbo**	**4.40 294**		P	**Pn**	**20 57 45.1**	**+0.2**
PFVI				S	**Sn**	**20 58 28.2**	**-7.5**
PFVI	**Vila Bisbo**	**4.40 294**		P	**Pn**	**20 57 45.1**	**+0.2**
PFVI	**Vila Bisbo**	**4.40 294**		Pn	**Pn**	**20 57 44.9**	**+0.1**
PTEO	**Sao Teotonio**	**4.49 299**		*eP*	**Pn**	**20 57 46.9**	**+0.9**
PTEO				*eS*	**Sn**	**20 58 37.6**	**-0.2**
PTEO				A	A	20 58 40.2	
	comp=E,9.4nm,0.4s						
PESTR	**Estremoz**	**4.56 319**		*eP*	**Pn**	**20 57 48.4**	**+1.4**
PESTR				*eS*	**Sn**	**20 58 40.3**	**+0.8**
PESTR				A	A	20 58 45.5	
	comp=E,9.1nm,0.5s						
PESTR	**Estremoz**	**4.56 319**		P	Pn	20 57 39.6	-7.4
PESTR				S	Sn	20 58 29.8	-10
PESTR	**Estremoz**	**4.56 319**		Pn	**Pn**	**20 57 48.1**	**+1.1**
EVO	**Evora**	**4.56 313**		*eP*	**Pn**	**20 57 48.1**	**+1.0**
EVO				*eS*	**Sn**	**20 58 38.7**	**-1.0**
EVO				A	A	20 58 43.4	
	comp=E,8.0nm,0.2s						
EVO	**Evora**	**4.56 313**		Pn	**Pn**	**20 57 48.1**	**+1.0**
EVO				Sn	**Sn**	**20 58 37.6**	**-2.0**
PNCL	**Nicolau / Gran**	**4.64 306**		*eP*	**Pn**	**20 57 48.8**	**+0.8**
PNCL				*eS*	**Sn**	**20 58 41.3**	**-0.1**
PNCL				A	A	20 58 43.0	
	comp=E,7.1nm,0.5s						
PNCL	**Nicolau / Gran**	**4.64 306**		Pn	**Pn**	**20 57 48.4**	**+0.3**
ECHE	**Chera**	**4.68 28**		Pn	**Pn**	**20 57 50.5**	**+1.8**
ECHE				*i* Vmb_Lg		20 59 32.2	
ECHE	**Chera**	**4.68 28**		Pn	**Pn**	**20 57 50.4**	**+1.7**
PMRV	**Marv??o**	**4.89 325**		*eP*	**Pn**	**20 57 52.9**	**+1.4**
PMRV				*eS*	**Sn**	**20 58 46.7**	**-0.9**
PMRV				A	A	20 59 06.9	
	comp=E,8.1nm,0.5s						
EPLA	**Plasencia**	**4.94 339**		Pn	**Pn**	**20 57 54.1**	**+1.9**
EPLA				Sn	**Sn**	**20 58 49.2**	**+0.3**
EPLA				*i* Vmb_Lg		20 59 27.8	
PMTG	**Montargil**	**5.05 317**		*eP*	**Pn**	**20 57 54.6**	**+0.9**
PMTG				*eS*	**Sn**	**20 58 50.7**	**-0.9**
PMTG				A	A	20 58 51.8	
	comp=E,12nm,0.5s						
GUD	**Guadarrama**	**5.17 357**		Pn	**Pn**	**20 57 57.4**	**+1.8**
GUD				Sn	**Sn**	**20 58 54.2**	**-0.7**
GUD				Sg	**Sb**	**20 59 13.3**	**+2.5**
GUD				*i* Vmb_Lg		20 59 26.6	
OUZM	**OUZ**	**5.19 210**		P	**Pn**	**20 57 56.6**	**+0.8**
OUZM				S	**Sn**	**20 58 59.5**	**+4.1**
PACT	**Alcochete**	**5.21 311**		*eP*	**Pn**	**20 57 57.6**	**+1.7**
PCBR	**Castelo Branco**	**5.26 327**		*eP*	**Pn**	**20 57 58.0**	**+1.4**
PCBR				*eS*	**Sn**	**20 58 55.9**	**-0.8**
PCBR				A	A	20 59 07.2	
	comp=E,5.4nm,0.5s						
TIO	**Tiouine**	**5.39 214**		Pn	**Pn**	**20 57 59.9**	**+1.3**
TIO				Sn	**Sn**	**20 58 58.2**	**-2.1**
EIBI	**Ibiza**	**5.41 47**		Pn	**Pn**	**20 57 58.9**	**+0.2**
EIBI				Sn	**Sn**	**20 58 57.9**	**-2.7**
EIBI				*i* Vmb_Lg		20 59 04.6	
EIBI	**Ibiza**	**5.41 47**		Pn	**Pn**	**20 57 59.1**	**+0.4**
EIBI				Sn	**Sn**	**20 58 57.2**	**-3.3**
OUK	**Oukaimeden**	**5.46 220**		P	**Pn**	**20 57 57.7**	**-1.9**
OUK				S	**Sn**	**20 59 02.5**	**+0.3**
ETOR	**Torete**	**5.51 14**		Pn	**Pn**	**20 58 02.1**	**+1.9**
ETOR				Sg	**Sb**	**20 59 25.1**	**+4.7**
ETOR				*i* Vmb_Lg		20 59 35.8	
EMOS	**Mosqueruela**	**5.54 27**		Pn	**Pn**	**20 58 02.4**	**+1.8**
EMOS				Sn	**Sn**	**20 59 02.1**	**-1.8**
PMAFR	**Mafra**	**5.60 310**		*eP*	**Pn**	**20 58 02.4**	**+1.1**
ECOL	**Islas Columbre**	**5.66 37**		Pn	**Pn**	**20 58 03.4**	**+1.3**
MTE	**Manteigas**	**5.75 330**		*eP*	**Pn**	**20 58 05.4**	**+2.0**
MTE				*eS*	**Sn**	**20 59 08.3**	**-0.7**
MTE				A	A	20 59 50.8	
	comp=E,11nm,0.5s						
PCAS	**Casmilo, Conde**	**5.91 322**		*eP*	**Pn**	**20 58 07.3**	**+1.8**
PCAS				*eS*	**Sn**	**20 59 11.4**	**-1.4**
PVIS	**Viseu**	**6.16 329**		*eP*	**Pn**	**20 58 11.0**	**+2.0**
PVIS				*eS*	**Sn**	**20 59 17.9**	**-1.2**
PVIS				A	A	20 59 30.4	
	comp=E,5.0nm,0.5s						
MVO	**Moncorvo**	**6.23 337**		*eP*	**Pn**	**20 58 11.9**	**+1.9**
MVO				*eS*	**Sn**	**20 59 19.1**	**-1.8**
MVO				A	A	20 59 57.6	
	comp=E,6.7nm,0.7s						
PVRL	**Vila Real**	**6.57 333**		*eP*	**Pn**	**20 58 16.3**	**+1.7**
PVRL				*eS*	**Sn**	**20 59 27.8**	**-1.3**
PVRL				A	A	20 59 30.9	
	comp=E,5.1nm,0.3s						
POLO	**Lamas de Olo**	**6.68 333**		*eP*	**Pn**	**20 58 17.9**	**+1.6**
POLO				*eS*	**Sn**	**20 59 29.5**	**-2.5**
POLO				A	A	20 59 38.8	
	comp=E,2.2nm,0.4s						
PBRG	**Braganca**	**6.74 341**		*eP*	**Pn**	**20 58 19.2**	**+2.3**
PBRG				*eS*	**Sn**	**20 59 32.4**	**-0.9**
PBRG				A	A	20 59 41.2	
	comp=E,4.4nm,0.5s						
ETOS	**Mallorca**	**6.76 49**		Pn	**Pn**	**20 58 18.1**	**+0.8**

*PRE **04** 21:04:00.1±1.9, 22.˚53S×25.˚25E, h10km, ML2.0*
*EAF **04** 21:04:09.0, 22.˚48S×25.˚25E, h36km, MC3.4*
*BUL **04** 21:04:13.1±0.8, 22.˚70S×25.˚72E, h10km±10km, MD3.5*

ISC 04 21:04:06.2±1.8, 22.˚59S±0.˚07×25.˚43E±0.˚10, h10km, n21, σ2$85/21, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.42 176**		*i* P	**Pn**	**21 04 48.6**	**+2.6**
LBTB				*i* S	**Sn**	**21 05 14.0**	**-1.8**
LBTB	**Lobatse**	**2.42 176**		*eP*	Pn	21 04 42.0	-4.0
LBTB				*eS*	**Sn**	**21 05 12.2**	**-3.5**
LBTB				IAML		21 05 14.2	
	comp=Z,5.7nm,0.5s						
LBTB	**Lobatse**	**2.42 176**		*i* P	**Pn**	**21 04 48.6**	**+2.6**
	baz=173						
LBTB				*i* S	**Sn**	**21 05 14.0**	**-1.8**
	baz=173						
LEPH	**Lephalale, Lim**	**2.52 121**		*eP*	Pn	21 04 43.5	-3.9
LEPH				*eS*	**Sn**	**21 05 16.4**	**-1.7**
LEPH				IAML		21 05 31.2	
	comp=Z,19nm,0.6s						
NHAM	**Northam, North**	**2.89 144**		*eP*	Pn	21 04 50.8	-1.7
NHAM				*eS*	**Sn**	**21 05 26.1**	**-1.3**
NHAM				IAML		21 05 39.0	
	comp=Z,7.8nm,0.4s						
MRCO	**Marico , North**	**3.01 163**		*eP*	Pn	21 04 52.0	-2.1
MRCO				*eS*	Sn	21 05 25.4	-4.8
MRCO				IAML		21 05 39.2	
	comp=Z,6.2nm,0.1s						
KSR	**Koster**	**3.52 158**		*eP*	Pn	21 04 56.5	-4.6
KSR				*eS*	Sn	21 05 39.2	-3.6
KSR				IAML	

PATR	**El Naranjo**	**2.52**	**99**	*eP*		**Pn**	**21 06 17.9**	**-1.1**
PATR				*eS*		**Sn**	**21 06 45.2**	**-4.0**
THIG		**2.54**	**103**	*eP*		**Pn**	**21 06 19.1**	**+0.2**
THIG				*eS*		**Sn**	**21 06 47.0**	**-2.1**
TUIG	**Tuzandepetl**	**2.54**	**9**	*eP*		**Pn**	**21 06 19.3**	**+0.3**
TUIG				*eS*		**Sn**	**21 06 47.1**	**-2.1**
PAVE	**Pavencul**	**2.57**	**97**	*eP*		**Pn**	**21 06 18.9**	**-0.7**
PAVE				*eS*		**Sn**	**21 06 46.5**	**-3.8**
CHUJ	**Union Juarez**	**2.65**	**99**	*eP*		**Pn**	**21 06 19.9**	**-0.8**
CHUJ				*eS*		**Sn**	**21 06 49.5**	**-2.7**
CCIG	**Comitan**	**2.69**	**73**	Pn		**Pn**	**21 06 21.7**	**+0.5**
CCIG				Sn		**Sn**	**21 06 51.8**	**-1.5**
CCIG	**Comitan**	**2.69**	**73**	*eP*		**Pn**	**21 06 21.9**	**+0.7**
CCIG				*eS*		**Sn**	**21 06 51.9**	**-1.4**
YOIG	**Yosondua**	**2.94**	**297**	*eP*		**Pn**	**21 06 27.2**	**+2.4**
YOIG				*eS*		**Sn**	**21 06 58.0**	**-1.6**
PMUV	**Sontecomapan**	**3.03**	**355**	*eP*		**Pn**	**21 06 24.7**	**-1.1**
PMUV				*eS*		**Sn**	**21 07 01.3**	**-0.3**
RTAL	**Retalhuleu**	**3.17**	**108**			**Pn**	**21 06 27.6**	**-0.2**
HUEH	**Huehuetenango**	**3.20**	**93**			**Pn**	**21 06 29.1**	**+0.8**
HUEH				Sn		**Sn**	**21 07 05.4**	**-0.6**
PNIG	**Pinotepa**	**3.30**	**286**	*eP*		**Pn**	**21 06 29.9**	**+0.4**
PNIG				*eS*		**Sn**	**21 07 03.1**	**-5.0**
TXIG	**Tlaxiaco**	**3.32**	**302**	*eP*		**Pn**	**21 06 31.7**	**+1.7**
TXIG				*eS*		**Sn**	**21 07 05.7**	**-3.2**
TOIG	**Toxpalan**	**3.35**	**320**	*eP*		**Pn**	**21 06 34.1**	**+3.8**
TOIG				*eS*		**Sn**	**21 07 03.1**	**-6.4**
TPIG	**Tehuac#an**	**3.78**	**320**	*eP*		**Pn**	**21 06 37.6**	**+1.4**
TPIG				*eS*		**Sn**	**21 07 21.8**	**+1.7**
FTIG	**Fresnillo de T**	**3.97**	**307**	*eP*		**Pn**	**21 06 41.8**	**+3.0**
FTIG				*eS*		**Sn**	**21 07 23.8**	**-1.0**
TLIG	**Tlapa**	**4.13**	**300**	*eP*		**Pn**	**21 06 42.7**	**+1.7**
TLIG				*eS*		**Sn**	**21 07 25.2**	**-3.6**
JAUV	**Jalcomulco**	**4.28**	**334**	*eP*		**Pn**	**21 06 42.1**	**-0.9**
JAUV				*eS*		**Sn**	**21 07 27.6**	**-4.7**
LVIG	**Laguna Verde**	**4.46**	**340**	*eP*		**Pn**	**21 06 44.6**	**-0.8**
LVIG				*eS*		**Sn**	**21 07 33.8**	**-2.8**
DAIG	**Los Arroyos**	**4.88**	**289**	*eP*		**Pn**	**21 06 51.6**	**+0.4**
DAIG				*eS*		**Sn**	**21 07 40.7**	**-6.3**
SCIG	**Sabancuy**	**4.89**	**45**	*eP*		**Pn**	**21 06 51.1**	**-0.2**
SCIG				*eS*		**Sn**	**21 07 41.1**	**-6.1**
PETF	**Flores**	**4.96**	**73**	Pn		**Pn**	**21 06 50.5**	**-1.8**
PPM	**Popocatepetl**	**5.07**	**315**	*eP*		Pn	21 06 48.9	-5.4
PPM				*eS*		**Sn**	**21 07 51.0**	**-1.5**
MEIG	**Mezcala**	**5.19**	**298**	*eP*		**Pn**	**21 06 57.8**	**+2.3**
MEIG				*eS*		**Sn**	**21 07 54.3**	**-0.4**
YAIG	**Yautepec**	**5.25**	**310**	*eP*		**Pn**	**21 06 59.7**	**+3.2**
YAIG				*eS*		**Sn**	**21 07 54.4**	**-2.1**
PLIG	**Platanillo**	**5.32**	**303**	*eP*		**Pn**	**21 06 59.6**	**+2.2**
PLIG				*eS*		**Sn**	**21 07 52.8**	**-5.2**
CXUV	**Coxquihui**	**5.34**	**331**	*eP*		**Pn**	**21 06 58.1**	**+0.6**
CXUV				*eS*		**Sn**	**21 07 59.9**	**+1.6**
ESQI	**Esquipulas**	**5.38**	**99**	Pn		**Pn**	**21 06 58.5**	**+0.4**
MTO3	**Montecristo**	**5.39**	**101**	Pn		**Pn**	**21 06 58.9**	**+0.4**
CAIG	**El Cayaco**	**5.45**	**287**	*eP*		**Pn**	**21 07 00.4**	**+1.3**
CAIG				*eS*		**Sn**	**21 07 54.1**	**-7.0**
ARIG	**Puente Sto Nin**	**5.97**	**298**	*eP*		**Pn**	**21 07 09.8**	**+3.6**
ARIG				*eS*		**Sn**	**21 08 09.7**	**-4.1**
DEIG	**Demacu**	**6.23**	**321**	*eP*		**Pn**	**21 07 09.1**	**-0.9**
DEIG				*eS*		**Sn**	**21 08 15.7**	**-5.0**
ZIIG	**Zihuatanejo**	**6.71**	**289**	*eP*		**Pn**	**21 07 19.0**	**+2.7**
ZIIG				*eS*		**Sn**	**21 08 24.8**	**-7.2**
CTUV	**Llano Grande**	**6.81**	**331**	*eP*		Pn	21 07 12.3	-5.4
MYIG	**Mrida**	**7.26**	**41**	*eP*		**Pn**	**21 07 20.4**	**-3.4**
MYIG				*eS*		**Sn**	**21 08 40.8**	**-4.8**
TEIG	**Tepich**	**7.80**	**52**	Pn		**Pn**	**21 07 30.6**	**-0.7**
TEIG	**Tepich**	**7.80**	**52**	Pn		**Pn**	**21 07 29.9**	**-1.3**
	126nm,0.3s,baz=231,slow=16,SNR=18							
TEIG				Sn		**Sn**	**21 08 53.3**	**-5.5**
	87nm,0.3s,baz=268,slow=18,SNR=6.4							
TEIG				LR		LR	21 11 01.2	
	comp=Z,902nm,20.4s,baz=2.5,slow=42							
MMIG	**Aquila**	**8.62**	**290**	*eP*		**Pn**	**21 07 44.7**	**+2.2**
ORTG	**Ortega, Santa**	**10.46**	**118**	Pn		**Pn**	**21 08 09.3**	**+1.4**
DUNO	**Dulce Nombre,**	**10.57**	**120**	Pn		**Pn**	**21 08 11.7**	**+2.3**
LCR2	**La Lucha 2**	**12.01**	**117**	Pn		**Pn**	**21 08 30.7**	**+1.5**
RIMA	**Rio Macho**	**12.12**	**117**	Pn		**Pn**	**21 08 31.4**	**+0.7**
SOR	**Soroa**	**13.30**	**55**	Pn		**Pn**	**21 08 45.2**	**-1.4**
833A	**Chaparral WMA,**	**13.44**	**342**	Pn		**Pn**	**21 08 51.1**	**+2.6**
HNDO	**Hondo**	**14.55**	**344**	Pn		**Pn**	**21 09 05.1**	**+1.4**
JCT	**Junction City**	**15.59**	**344**			**Pn**	**21 09 18.7**	**+1.2**
JCT				IAmb		IAmb	21 09 35.4	
	comp=Z,12nm,1.0s							
TXAR	**Lajitas Array**	**15.99**	**331**	Pn		**Pn**	**21 09 24.6**	**+1.7**
TXAR	**Lajitas Array**	**15.99**	**331**	Pn		**P**	**21 09 25.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=12							
	comp=Z,1.8nm,0.9s							
TX32	**Lajitas Array**	**16.00**	**331**			**Pn**	**21 09 24.6**	**+1.8**
BRDY	**Brady**	**16.16**	**347**			**Pn**	**21 09 26.2**	**+1.2**
BRDY				IAmb		IAmb	21 09 39.2	
	comp=Z,11nm,0.6s							
OZNA	**Ozona**	**16.39**	**340**			**P**	**21 09 29.7**	**-0.9**
OZNA				IAmb		IAmb	21 09 37.7	
	comp=Z,14nm,0.8s							
WHTX	**Lake Whitney,**	**16.58**	**352**	Pn		**Pn**	**21 09 31.2**	**+0.9**
WHTX				IAmb		IAmb	21 09 43.8	
	comp=Z,16nm,0.8s							
SGCY	**Sterling City**	**17.31**	**342**			**P**	**21 09 40.7**	**-0.1**
SGCY				IAmb		IAmb	21 09 46.0	
	comp=Z,30nm,1.2s							
ABTX	**Abilene, Hawle**	**17.59**	**346**			**Pn**	**21 09 43.7**	**+0.8**
ABTX				IAmb		IAmb	21 09 56.6	
	comp=Z,14nm,0.8s							
FW03	**Perrin-Whitt E**	**17.70**	**351**	P		**P**	**21 09 45.3**	**+0.3**
FW03				IAmb		IAmb	21 10 00.6	
	comp=Z,13nm,0.8s							
APMT	**Aspermont**	**18.38**	**346**			**Pn**	**21 09 53.5**	**+0.9**
APMT				IAmb		IAmb	21 10 20.6	
	comp=Z,7.6nm,0.7s							
WTFS	**Witchita Falls**	**18.48**	**350**			**Pn**	**21 09 54.9**	**+1.2**
WTFS				IAmb		IAmb	21 10 03.1	
	comp=Z,25nm,0.6s							
DKNS	**Dickens**	**18.90**	**344**	P		**P**	**21 09 59.0**	**+0.6**
DKNS				IAmb		IAmb	21 10 00.5	
	comp=Z,12nm,1.0s							
WMOK	**Wichita Mounta**	**19.48**	**350**			**P**	**21 10 05.2**	**+0.7**
W35A	**Tecumseh**	**19.65**	**355**	P		**P**	**21 10 07.4**	**+1.0**
W35A				IAmb		IAmb	21 10 08.5	
	comp=Z,11nm,0.7s							
MSTX	**Muleshoe**	**19.73**	**340**	P		**P**	**21 10 08.5**	**+1.0**
WHAR	**Wooly Hollow**	**19.83**	**6**	P		**Pn**	**21 10 09.5**	**-0.5**
WHAR				IAmb		IAmb	21 10 13.1	
	comp=Z,16nm,1.4s							
AMTX	**Amarillo**	**20.25**	**344**			Pn	21 10 14.9	-0.2
OK052	**Battle Ridge R**	**20.48**	**355**	P		**P**	**21 10 15.2**	**-0.2**
OK033	**Mehan**	**20.54**	**355**			**P**	**21 10 16.3**	**+0.2**
ELIS	**Ellis County**	**20.88**	**349**	P		**P**	**21 10 20.5**	**+0.7**
ELIS				IAmb		IAmb	21 10 24.6	
	comp=Z,12nm,0.8s							
KAN01	**Argonia South**	**21.72**	**354**	P		**P**	**21 10 29.7**	**+1.0**
KAN01				IAmb		IAmb	21 10 32.2	
	comp=Z,9.0nm,0.7s							
ANMO	**Albuquerque**	**22.00**	**334**	P		**P**	**21 10 35.0**	**+3.0**
BOSC	**San Juan Bosco**	**24.59**	**138**	P		**P**	**21 11 00.1**	**+2.1**
WUAZ	**Wupatki**	**24.83**	**326**	P		**P**	**21 11 03.2**	**+3.2**
PFO	**Pinyon Flats O**	**26.59**	**317**	LR		LR	21 21 36.5	
	comp=Z,44nm,19.7s,baz=100,slow=36							
ELK	**Elko**	**30.77**	**329**	LR		LR	21 26 13.6	
	comp=Z,62nm,18.2s,baz=151,slow=40							
NVAR	**Mina Array Bea**	**30.80**	**322**	P		**P**	**21 11 55.0**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=135,slow=10,SNR=4.6							
NVAR				LR		LR	21 25 56.5	
	comp=Z,67nm,19.1s,baz=105,slow=40							
	comp=Z,0.4nm,0.7s							
YBH	**Yreka Blue Hor**	**35.51**	**323**	LR		LR	21 27 48.2	
	comp=Z,52nm,18.7s,baz=162,slow=37							
NEW	**Newport**	**37.47**	**335**	LR		LR	21 30 01.3	
	comp=Z,30nm,18.4s,baz=156,slow=39							
ETMB	**Extrema**	**37.90**	**130**	P		**P**	**21 12 54.2**	**-0.7**
ETMB				IAmb		IAmb	21 12 56.0	
	comp=Z,3.5nm,1.2s							
ILAR	**Eielson Array**	**60.39**	**337**	P		**P**	**21 15 46.5**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=128,slow=5.8,SNR=5.3							
	comp=Z,0.8nm,0.9s							
ESDC	**Sonseca Array**	**80.92**	**51**	P		**P**	**21 17 50.6**	**-1.4**
	comp=Z,1.3nm,1.0s,baz=290,slow=5.7,SNR=6.2							
	comp=Z,1.3nm,1.0s							
WRA	**Warramunga Arr**	**133.10**	**257**	PKP		**PKPdf**	**21 24 53.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=90,slow=2.1,SNR=8.0							
PZH	**PanZhiHua**	**135.24**	**339**	PKP		**PKPdf**	**21 24 58.7**	**+0.8**

*SOME **04** 21:14:41.6, 42°.13N×78°.77E, h10km*
*KRNET **04** 21:14:41.0±0.1, 42°.09N×78°.81E, h6km, mb2.2*
*NNC **04** 21:14:42.6±0.7, 42°.19N×78°.81E, h0km, mb3.4, mpv3.2,*
Error ellipse: s-maj=4.8km s-min=2.4km az=163.0
ISC 04 21:14:41.2±1.4, 42°.12N±0°.04×78°.79E±0°.03, h1km±11km, n43, σ0s83/65, 8C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.46**	**321**	⇓*eP*	**Pg**	**21 14 50.9**	**+0.9**
	baz=24						
PRZ				⇓*eS*	**Sb**	**21 14 57.9**	**-1.8**
	baz=24						
TARG	**Taragay, Kyrgy**	**0.83**	**242**	⇓*eP*	**Pg**	**21 14 56.8**	**-0.4**
	baz=45						
TARG				⇓*eS*	**Sg**	**21 15 08.5**	**+0.6**
	baz=45						
UZB	**Uzynbulak**	**1.04**	**10**	P	**Pg**	**21 15 00.7**	**-0.4**
	2.4nm,0.1s						
UZB				S	**Sg**	**21 15 14.4**	**-0.2**
	27nm,0.3s						
UZB	**Uzynbulak**	**1.04**	**10**	*eP*	**Pg**	**21 15 00.7**	**-0.4**
	2.4nm,0.1s						
UZB				*eS*	**Sg**	**21 15 14.4**	**-0.2**
	27nm,0.3s						
ANVS	**Anan'yevo**	**1.06**	**309**	⇑*eP*	**Pb**	**21 15 02.1**	**-0.4**
	baz=10.0						
ANVS				⇑*eS*	**Sn**	**21 15 17.1**	**-1.9**
	baz=10.0						
ZHN	**Zhinishke**	**1.08**	**346**	P	**Pg**	**21 15 02.0**	**+0.2**
	5.4nm,0.2s						
ZHN				S	**Sb**	**21 15 16.5**	**-0.9**
	27nm,0.3s						
ZHN	**Zhinishke**	**1.08**	**346**	*eP*	**Pg**	**21 15 02.0**	**+0.2**
	5.4nm,0.2s						
ZHN				*eS*	**Sb**	**21 15 16.5**	**-0.9**
	27nm,0.3s						
SHLS	**Shalkode**	**1.15**	**25**	P	**Pn**	**21 15 05.8**	**+1.2**
	7.4nm,0.1s						
SHLS				S	**Sn**	**21 15 23.1**	**+2.1**
	26nm,0.3s						
SHLS	**Shalkode**	**1.15**	**25**	*eP*	**Pn**	**21 15 05.8**	**+1.2**
	7.4nm,0.1s						
SHLS				*eS*	**Sn**	**21 15 23.1**	**+2.1**
	26nm,0.3s						
KPKS	**Kokpek**	**1.34**	**357**	P	**Pn**	**21 15 06.4**	**-0.9**
	6.6nm,0.1s						
KPKS				S	**Sg**	**21 15 24.5**	**+0.1**
	23nm,0.4s						
KPKS	**Kokpek**	**1.34**	**357**	*eP*	**Pn**	**21 15 06.4**	**-0.9**
	6.6nm,0.1s						
KPKS				*eS*	**Sn**	**21 15 24.2**	**-1.7**
	23nm,0.4s						
KURS	**Kuram**	**1.44**	**342**	P	**Pg**	**21 15 09.2**	**+0.5**
	4.0nm,0.4s						
KURS	**Kuram**	**1.44**	**342**	*eP*	**Pg**	**21 15 09.2**	**+0.5**
	4.0nm,0.4s						
TNSS	**Tian-Shan**	**1.64**	**304**	P	**Pg**	**21 15 12.5**	**-0.1**
	3.5nm,0.3s						
TNSS				S	**Sg**	**21 15 34.6**	**+0.8**
	9.3nm,0.3s						
TNSS	**Tian-Shan**	**1.64**	**304**	*eP*	**Pg**	**21 15 12.5**	**-0.1**
	3.5nm,0.3s						
TNSS				*eS*	**Sg**	**21 15 34.6**	**+0.8**
	9.3nm,0.3s						
KOTS	**Kotyrbulak**	**1.66**	**312**	P	**Pg**	**21 15 12.7**	**-0.3**
	3.5nm,0.2s						
KOTS				S	**Sg**	**21 15 35.0**	**+0.4**
	30nm,0.3s						
KOTS	**Kotyrbulak**	**1.66**	**312**	*eP*	**Pg**	**21 15 12.7**	**-0.3**
	3.5nm,0.2s						
KOTS				*eS*	**Sg**	**21 15 35.0**	**+0.4**
	30nm,0.3s						
KTMS	**Ketmen**	**1.75**	**41**	P	**Pb**	**21 15 14.1**	**-0.2**
	3.9nm,0.3s						
KTMS				S	**Sg**	**21 15 37.3**	**-0.2**
	14nm,0.2s						
KTMS	**Ketmen**	**1.75**	**41**	*eP*	**Pb**	**21 15 14.1**	**-0.2**
	3.9nm,0.3s						
KTMS				*eS*	**Sg**	**21 15 37.3**	**-0.2**
	14nm,0.2s						
IZV	**Izvestkoviy**	**1.85**	**300**	P	**Pg**	**21 15 16.4**	**-0.2**
	6.0nm,0.3s						
IZV				S	**Sg**	**21 15 41.4**	**+0.8**
	40nm,0.2s						
IZV	**Izvestkoviy**	**1.85**	**300**	*eP*	**Pg**	**21 15 16.4**	**-0.2**
	6.0nm,0.3s						
IZV				*eS*	**Sg**	**21 15 41.4**	**+0.8**
	40nm,0.2s						
BLB	**Baldybastay**	**1.98**	**354**	Pg	**Pb**	**21 15 18.3**	**+0.1**
	11nm,0.2s						
BLB				Lg	Lg	21 15 44.9	
	21nm,0.3s						
MTBS	**Maitube**	**2.01**	**301**	Pg	**Pb**	**21 15 18.8**	**+0.1**
	2.2nm,0.2s						
MTBS				Lg	Lg	21 15 45.3	
	19nm,0.4s						
MTBS	**Maitube**	**2.01**	**301**	*eP*g	**Pb**	**21 15 18.8**	**+0.1**
	2.2nm,0.2s						
MTBS				*eL*g	Lg	21 15 45.4	
	19nm,0.4s						
BOOM	**Boomskoye usch**	**2.14**	**281**	⇑*eP*	**Pb**	**21 15 19.9**	**-1.1**
	baz=82						
BOOM				⇑*eS*	**Sb**	**21 15 48.1**	**-0.1**
	baz=82						
NRN	**Naryn**	**2.20**	**253**	⇑*eP*	**Pb**	**21 15 20.6**	**-1.3**
	baz=54						
NRN				⇑*eS*	**Sb**	**21 15 49.7**	**-0.1**
	baz=54						
ARXS	**Arharly**	**2.20**	**342**	Pg	**Pb**	**21 15 22.1**	**+0.1**
	13nm,0.5s						
ARXS				Lg	Lg	21 15 51.2	
	16nm,0.4s						
ARXS	**Arharly**	**2.20**	**342**	*eP*g	**Pb**	**21 15 22.1**	**+0.1**
	13nm,0.5s						
ARXS				*eL*g	Lg	21 15 51.2	
	16nm,0.4s						
KTBS	**Karatobe**	**2.22**	**316**	Pg	**Pg**	**21 15 22.7**	**-1.0**
	19nm,0.3s						
KTBS				Lg	Lg	21 15 52.7	
	60nm,0.4s						
KTBS	**Karatobe**	**2.22**	**316**	*eP*g	**Pg**	**21 15 22.7**	**-1.0**
	19nm,0.3s						
KTBS				*eL*g	Lg	21 15 52.0	
	60nm,0.4s						
KNOS	**Konyrlen**	**2.25**	**7**	Pg	**Pb**	**21 15 23.0**	**+0.1**
	7.5nm,0.2s						
KNOS				Lg	Lg	21 15 52.6	
	20nm,0.3s						
KST	**Kastek**	**2.28**	**295**	Pg	**Pg**	**21 15 23.9**	**-1.0**
	4.5nm,0.3s						
KST				Lg	Lg	21 15 54.2	
	38nm,0.9s						
KST	**Kastek**	**2.28**	**295**	*eP*g	**Pg**	**21 15 23.9**	**-1.0**
	4.5nm,0.3s						
KST				*eL*g	Lg	21 15 54.2	
	38nm,0.9s						
DJR	**Jarkent**	**2.33**	**18**	Pg	**Pb**	**21 15 23.3**	**-0.7**
	3.8nm,0.3s						
DJR				Lg	Lg	21 15 54.5	
	28nm,0.4s						
DJR	**Jarkent**	**2.33**	**18**	*eP*g	**Pb**	**21 15 23.3**	**-0.7**
	3.8nm,0.3s						
DJR				*eL*g	Lg	21 15 53.5	
	28nm,0.4s						
DGS	**Degeres**	**2.49**	**298**	Pg	**Pb**	**21 15 27.3**	**+0.5**
	4.7nm,0.5s						
DGS				Lg	Lg	21 16 00.1	
	12nm,0.4s						
DGS	**Degeres**	**2.49**	**298**	*eP*g	**Pb**	**21 15 27.3**	**+0.5**
	4.7nm,0.5s						
DGS				*eL*g	Lg	21 16 00.1	
	12nm,0.4s						
KUU	**Kurty**	**2.52**	**315**	Pg	**Pb**	**21 15 27.5**	**+0.2**
	3.7nm,0.6s						
KUU				Lg	Lg	21 16 00.4	
	14nm,0.4s						
KUU	**Kurty**	**2.52**	**315**	*eP*g	**Pb**	**21 15 27.5**	**+0.2**
	3.7nm,0.6s						
KUU				*eL*g	Lg	21 16 00.4	
	14nm,0.4s						
KRBS	**Karabastau**	**2.77**	**306**	Pg	**Pb**	**21 15 31.8**	**+0.2**
	5.2nm,0.3s						
KRBS				Lg	Lg	21 16 08.5	
	20nm,0.4s						
KRBS	**Karabastau**	**2.77**	**306**	*eP*g	**Pb**	**21 15 31.8**	**+0.2**
	5.2nm,0.3s						
KRBS				*eL*g	Lg	21 16 07.6	
	20nm,0.4s						
SGDS	**Sogindy**	**3.34**	**295**	Pg	**Pb**	**21 15 42.0**	**+0.8**
SGDS				Lg	Lg	21 16 25.3	
MNAS	**Manas**	**4.67**	**277**	⇑*eP*	**Pn**	**21 15 54.7**	**+1.6**
	baz=77						
MNAS				⇑*eS*	**Sn**	**21 16 48.6**	**+0.5**
	baz=77						

*NNC **04** 21:26:57.5±1.8, 44°.29N×82°.85E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=16.7km s-min=6.7km az=132.0
*SOME **04** 21:26:58.5, 44°.22N×82°.78E, h10km*
ISC 04 21:26:57.7±1.7, 44°.25N±0°.09×82°.86E±0°.10, h10km, n44, σ2s35/45, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.98**	**247**	Pg	**Pb**	**21 27 34.7**	**+0.7**
	16nm,0.2s						
KTMS				Lg	Lg	21 28 02.2	
	116nm,0.3s						
KTMS	**Ketmen**	**1.98**	**247**	*eP*	**Pb**	**21 27 34.3**	**+0.3**
	6.4nm,0.2s						
KTMS				*eS*	**Sb**	**21 28 00.1**	**+1.2**
	129nm,0.3s						
DJR	**Jarkent**	**2.20**	**273**	Pg	**Pg**	**21 27 38.6**	**-1.4**
	17nm,0.2s						
DJR				Lg	Lg	21 28 08.2	
	71nm,0.4s						
DJR	**Jarkent**	**2.20**	**273**	*eP*g	**Pg**	**21 27 38.6**	**-1.4**
	17nm,0.2s						
DJR				*eL*g	Lg	21 28 08.2	
	71nm,0.4s						
MK31	**Makanchi Array**	**2.57**	**351**	⇑Pg	**Pg**	**21 27 46.0**	**-1.0**
	2.2nm,0.3s,baz=155,slow=16,SNR=15						
MK31				⇑Lg	Lg	21 28 15.3	
	22nm,0.7s,baz=165,slow=28,SNR=17						
MAKZ	**Makanchi**	**2.63**	**347**	⇓Pg	**Pb**	**21 27 44.3**	**-0.6**
	2.4nm,0.3s						
MAKZ				⇓Lg	Lg	21 28 14.4	
	13nm,0.8s						
KNOS	**Konyrlen**	**2.64**	**274**	Pg	**Pg**	**21 27 46.5**	**-1.9**
	15nm,0.2s						
KNOS				Lg	Lg	21 28 21.5	
	66nm,0.4s						
SHLS	**Shalkode**	**2.69**	**247**	Pg	**Pn**	**21 27 43.1**	**+1.8**
	23nm,0.3s						
SHLS				Lg	Lg	21 28 15.4	
	177nm,0.4s						
SHLS	**Shalkode**	**2.69**	**247**	*eP*g	**Pn**	**21 27 42.0**	**+0.7**
	33nm,0.2s						
SHLS				*eL*g	Lg	21 28 13.3	
	243nm,0.3s						
UZB	**Uzynbulak**	**2.99**	**250**	Pg	**Pb**	**21 27 51.8**	**+0.6**
	5.2nm,0.3s						
UZB				Lg	Lg	21 28 30.3	
	37nm,0.7s						
UZB	**Uzynbulak**	**2.99**	**250**	*eP*g	**Pb**	**21 27 51.8**	**+0.6**
	5.2nm,0.3s						
UZB				*eL*g	Lg	21 28 30.4	
	37nm,0.7s						
KPKS	**Kokpek**	**3.12**	**257**	Pg	**Pb**	**21 27 53.9**	**+0.5**
	9.3nm,0.2s						
KPKS				Lg	Lg	21 28 34.3	
	160nm,0.5s						
KPKS	**Kokpek**	**3.12**	**257**	*eP*g	**Pb**	**21 27 54.5**	**+1.2**
	9.0nm,0.1s						
KPKS				*eL*g	Lg	21 28 34.9	
	267nm,0.4s						
BLB	**Baldybastay**	**3.15**	**269**	Pg	**Pb**	**21 27 54.4**	**+0.5**
	2.6nm,0.1s						
BLB				Lg	Lg	21 28 35.6	
	36nm,0.4s						
TDK	**Taldyqorghan**	**3.27**	**285**	Pg	**Pg**	**21 27 57.9**	**-2.3**
	12nm,0.3s						
TDK				Lg	Lg	21 28 40.8	
	49nm,0.5s						
TDK	**Taldyqorghan**	**3.27**	**285**	*eP*g	**Pg**	**21 27 57.9**	**-2.3**
	12nm,0.3s						
TDK				*eL*g	Lg	21 28 40.8	
	49nm,0.5s						
ZHN	**Zhinishke**	**3.38**	**253**	Pg	**Pb**	**21 27 58.9**	**+1.0**
	4.0nm,0.1s						
ZHN				Lg	Lg	21 28 42.5	
	80nm,0.2s						
ZHN	**Zhinishke**	**3.38**	**253**	*eP*g	**Pb**	**21 27 58.9**	**+1.0**
	4.0nm,0.1s						
ZHN				*eL*g	Lg	21 28 42.5	
	80nm,0.2s						
SATY	**Saty**	**3.44**	**251**	Pg	**Pb**	**21 27 59.7**	**+0.8**
	8.9nm,0.6s						
SATY				Lg	Lg	21 28 43.8	
	68nm,0.3s						
SATY	**Saty**	**3.44**	**251**	*eP*g	**Pb**	**21 27 59.7**	**+0.8**
	8.9nm,0.6s						
SATY				*eL*g	Lg	21 28 43.8	
	68nm,0.3s						
KURS	**Kuram**	**3.48**	**259**	Pg	**Pb**	**21 28 00.5**	**+1.1**
	8.5nm,0.6s						
KURS				Lg	Lg	21 28 45.3	
	23nm,0.6s						
KURS	**Kuram**	**3.48**	**259**	*eP*g	**Pb**	**21 28 00.5**	**+1.1**
	8.5nm,0.6s						
KURS				*eL*g	Lg	21 28 45.3	
	23nm,0.6s						
ZSN	**Zaisan**	**3.49**	**23**	Pg	**Pb**	**21 28 00.9**	**+1.3**
	12nm,0.3s						
ZSN				Lg	Lg	21 28 45.8	
	19nm,0.4s						
ZSN	**Zaisan**	**3.49**	**23**	*eP*g	**Pb**	**21

	16nm,0.3s						
KST	**Kastek**	**5.15**	**259**	Pg	**Pb**	**21 28 31.1**	**+3.2**
	8.8nm,1.2s						
KST				Lg	Lg	21 29 38.0	
	25nm,1.0s						
KST	**Kastek**	**5.15**	**259**	*e*Pg	**Pb**	**21 28 31.1**	**+3.2**
	8.8nm,1.2s						
KST				*e*Lg	Lg	21 29 38.0	
	25nm,1.0s						
KRBS	**Karabastau**	**5.21**	**266**	Pg	**Pg**	**21 28 33.3**	**-4.2**
	1.3nm,0.5s						
KRBS				Lg	Lg	21 29 41.7	
	4.2nm,0.7s						
KRBS	**Karabastau**	**5.21**	**266**	*e*Pg	**Pg**	**21 28 33.3**	**-4.2**
	1.3nm,0.5s						
KRBS				*e*Lg	Lg	21 29 41.7	
	4.2nm,0.7s						
DGS	**Degeres**	**5.23**	**261**	Pg	**Pb**	**21 28 32.3**	**+3.0**
	3.3nm,0.5s						
DGS				Lg	Lg	21 29 40.4	
	19nm,0.5s						
DGS	**Degeres**	**5.23**	**261**	*e*Pg	**Pb**	**21 28 33.0**	**+3.7**
	1.2nm,0.3s						
DGS				*e*Lg	Lg	21 29 40.7	
	12nm,0.4s						

NDI 04 21:29:08.4±2.4, 26°.78N×89°.32E, h10km, ML3.6, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Tadong**	**0.84**	**310**	*e*P	Pg	21 29 24.7	+0.1
GTK				*e*S	Sg	21 29 35.4	-0.2
DHUB	**DHUBRI**	**0.97**	**141**	*e*P	Pg	21 29 26.9	-0.1
DHUB				*e*S	Sg	21 29 39.0	-0.7
DHUB				IAML		21 29 42.8	
	comp=E,4μm,0.2s						
GUWA	**GUWAHATI**	**2.20**	**105**	*e*P	Pn	21 29 45.1	0.0
GUWA				*e*S	Sn	21 30 11.9	-0.4
GUWA				IAML		21 30 13.7	
	comp=E,437nm,0.3s						
GUWA				IAML		21 30 16.3	
	comp=N,548nm,0.2s						
SHL	**Shillong**	**2.60**	**117**	*e*P	Pn	21 29 50.5	-0.2
TEZP	**TEZPUR**	**3.11**	**92**	*e*P	Pn	21 29 57.2	-0.3
ITAN	**ITANAGAR**	**3.94**	**84**	*e*P	Pn	21 30 08.8	-0.2
ITAN				IAML		21 31 21.1	
	comp=E,434nm,0.4s						
AZL	**Aizawl**	**4.30**	**134**	*e*P	Pn	21 30 13.3	-0.7
AZL				*e*S	Sn	21 31 00.4	-3.8
AZL				IAML		21 31 05.1	
	comp=N,84nm,0.4s						
BOK	**Bokaro**	**4.30**	**227**	*e*P	Pn	21 30 16.2	+2.2
KOHI	**KOHIMA**	**4.42**	**103**	*e*P	Pn	21 30 15.9	+0.1
KOHI				IAML		21 31 32.6	
	comp=E,290nm,0.8s						
KOHI				IAML		21 31 32.9	
	comp=N,296nm,0.9s						
IMP	**Imphal**	**4.60**	**114**	*e*P	Pn	21 30 18.9	+0.9
IMP				*e*S	Sn	21 31 10.2	-1.4
IMP				IAML		21 31 13.8	
	comp=E,48nm,0.7s						
MOKO	**MOKOCHONG**	**4.67**	**94**	*e*P	Pn	21 30 18.1	-1.0
MOKO				*e*S	Sn	21 31 12.4	-1.1
SAIH	**SAIHA**	**5.42**	**141**	*e*P	Pn	21 30 29.1	-0.4
SAIH				*e*S	Sn	21 31 28.9	-3.0
SAIH				IAML		21 31 31.1	
	comp=N,86nm,0.8s						

*KRNET **04** 21:44:23.4±0.1, 42°.51N×70°.61E, h10km, mb2.5*
*NNC **04** 21:44:24.2±0.5, 42°.52N×70°.54E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=3.1km s-min=2.8km az=124.0*
*SOME **04** 21:44:25.1, 42°.42N×70°.60E, h15km*
ISC 04 21:44:22.7±1.4, 42°.51N±0°.03×70°.58E±0°.04, h11km±12km, n26, σ1°.15/38, 7C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**0.55**	**229**	P	**Pb**	**21 44 34.6**	**+0.2**
	10nm,0.3s						
IUG				S	**Sb**	**21 44 41.6**	**-0.7**
	38nm,0.4s						
IUG	**Iuzhnay**	**0.55**	**229**	*e*P	**Pn**	**21 44 35.2**	**-1.3**
	10nm,0.2s						
IUG				*e*S	**Sb**	**21 44 42.1**	**-0.2**
	49nm,0.4s						
KK31	**Karatay Array**	**0.59**	**355**	⇑P	**Pb**	**21 44 35.6**	**+0.5**
	0.7nm,0.4s,baz=182,slow=18,SNR=60						
KK31				⇓S	**Sb**	**21 44 44.0**	**+0.4**
	6.8nm,0.6s,baz=177,slow=31,SNR=23						
KKAR	**Karatay Array**	**0.59**	**355**	⇓*e*P	**Pb**	**21 44 35.0**	**-0.2**
	baz=53						
KKAR				⇓*e*S	**Sb**	**21 44 43.4**	**-0.2**
	baz=53						
DZA	**Taraz**	**0.67**	**55**	P	**Pn**	**21 44 37.9**	**-0.2**
	26nm,0.1s						
DZA				S	**Sn**	**21 44 47.4**	**-1.3**
	66nm,0.4s						
DZA	**Taraz**	**0.67**	**55**	*e*P	**Pn**	**21 44 38.8**	**+0.6**
	28nm,0.1s						
DZA				*e*S	**Sn**	**21 44 48.3**	**-0.4**
	76nm,0.2s						
TRKS	**Terek-Say**	**1.06**	**157**	⇑*e*P	**Pn**	**21 44 44.9**	**+1.2**
	baz=58						
TRKS				⇑*e*S	**Sn**	**21 45 00.4**	**+1.8**
	baz=58						
ARK	**Arkit**	**1.25**	**124**	⇑*e*P	**Pg**	**21 44 46.8**	**+0.1**
	baz=25						
ARK				⇑*e*S	**Sn**	**21 45 03.9**	**+0.8**
	baz=25						
MNAS	**Manas**	**1.42**	**90**	⇓*e*P	**Pg**	**21 44 49.9**	**-0.1**
	baz=90						
MNAS				⇓*e*S	**Sg**	**21 45 09.0**	**+0.6**
	baz=90						
MRKS	**Merke**	**1.96**	**82**	Pg	**Pg**	**21 45 01.0**	**+0.6**
	2.0nm,0.6s						
MRKS				Lg	Lg	21 45 27.1	
	21nm,0.4s						
MRKS	**Merke**	**1.96**	**82**	*e*P	**Pg**	**21 45 01.0**	**+0.6**
	2.0nm,0.6s						
MRKS				*e*S	**Sg**	**21 45 26.3**	**+0.5**
	21nm,0.4s						
AML	**Almayashu**	**2.34**	**98**	⇑Pg	**Pg**	**21 45 07.8**	**+0.2**
	0.1nm,0.4s						
AML				⇑Lg	Lg	21 45 41.2	
	0.4nm,0.6s						
BTK	**Batken**	**2.46**	**176**	⇓*e*P	**Pb**	**21 45 06.6**	**-0.3**
	baz=76						
BTK				⇓*e*S	**Sb**	**21 45 38.2**	**+1.0**
	baz=76						
OHH	**Osh**	**2.58**	**139**	⇓*e*P	**Pb**	**21 45 08.1**	**-1.0**
	baz=40						
OHH				⇓*e*S	**Sb**	**21 45 40.8**	**0.0**
	baz=40						
BTLS	**Baital**	**3.56**	**44**	Pg	**Pg**	**21 45 33.4**	**+2.5**
	1.2nm,0.3s						
BTLS				Lg	Lg	21 46 22.2	
	3.4nm,0.5s						
BTLS	**Baital**	**3.56**	**44**	*e*Pg	**Pg**	**21 45 31.8**	**+0.9**
	1.0nm,0.2s						
BTLS				*e*Lg	Lg	21 46 19.0	
	1.9nm,0.4s						
DGS	**Degeres**	**3.88**	**77**	Pg	**Pg**	**21 45 35.8**	**-1.3**
	2.1nm,0.4s						
DGS				Lg	Lg	21 46 26.0	
	6.4nm,0.7s						
DGS	**Degeres**	**3.88**	**77**	*e*Pg	**Pg**	**21 45 35.8**	**-1.3**
	2.1nm,0.4s						
DGS				*e*Lg	Lg	21 46 26.0	
	6.4nm,0.7s						
KRBS	**Karabastau**	**3.91**	**71**	Pg	**Pg**	**21 45 36.0**	**-1.6**
	1.2nm,0.8s						
KRBS				Lg	Lg	21 46 26.6	
	1.8nm,0.4s						
KRBS	**Karabastau**	**3.91**	**71**	*e*Pg	**Pg**	**21 45 36.0**	**-1.6**
	1.2nm,0.8s						
KRBS				*e*Lg	Lg	21 46 26.6	
	1.8nm,0.4s						
KST	**Kastek**	**4.00**	**81**	Pg	**Pg**	**21 45 38.2**	**-1.0**
	6.6nm,0.4s						
KST				Lg	Lg	21 46 30.2	
	9.0nm,1.9s						
KST	**Kastek**	**4.00**	**81**	*e*Pg	**Pg**	**21 45 38.2**	**-1.0**
	6.6nm,0.4s						
KST				*e*Lg	Lg	21 46 30.2	
	9.0nm,1.9s						
KUU	**Kurty**	**4.43**	**70**	Pg	**Pg**	**21 45 45.4**	**-2.1**
KUU				Lg	Lg	21 46 42.6	
KUU	**Kurty**	**4.43**	**70**	*e*Pg	**Pg**	**21 45 46.3**	**-1.2**
	0.9nm,0.4s						
KUU				*e*Lg	Lg	21 46 43.8	
	3.3nm,0.4s						
KTBS	**Karatobe**	**4.62**	**73**	Pg	**Pg**	**21 45 49.3**	**-2.0**
	1.3nm,1.0s						
KTBS				Lg	Lg	21 46 49.2	
	1.9nm,0.4s						
KTBS	**Karatobe**	**4.62**	**73**	*e*Pg	**Pg**	**21 45 49.3**	**-2.0**
	1.3nm,1.0s						
KTBS				*e*Lg	Lg	21 46 49.2	
	1.9nm,0.4s						

*JMA **04** 21:48:26.8±0.6, 21°.N±2°.×12°.1E±°., h0km, MV4.1/12, TAIWAN REGION*
*TAP **04** 21:48:34.5, 21°.63N×121°.03E, h30km, ML3.6, D*
ISC 04 21:48:33.5±1.8, 21°.58N±0°.07×120°.98E±0°.03, h23km±14km, n98, σ1°.35/124, 3C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWKBT	**Hengchun**	**0.39**	**337**	⇑*i*P	**Pn**	**21 48 43.2**	**-0.6**
	baz=320						
TWKBT				*i* S	**Sn**	**21 48 49.0**	**-1.4**
	baz=320						
HEN	**Hengchun**	**0.48**	**332**	*i* P	**Pn**	**21 48 44.9**	**0.0**
	baz=328						
HEN				*i* S	**Sn**	**21 48 52.2**	**-0.4**
	baz=328						
SLIU	**Shizi**	**0.65**	**345**	P	**Pn**	**21 48 47.0**	**-0.4**
	baz=340						
LAY	**Lan-yu**	**0.70**	**49**	P	**Pb**	**21 48 47.4**	**+0.2**
	baz=50						
LAY				S	**Sb**	**21 48 56.8**	**+0.4**
	baz=50						
LYUB	**Lan-yu**	**0.70**	**53**	⇑*i*P	**Pb**	**21 48 47.0**	**-0.1**
	baz=54						
LYUB				*i* S	**Sb**	**21 48 56.0**	**-0.3**
	baz=54						
TAWH	**Dawu Township**	**0.76**	**354**	P	**Pb**	**21 48 48.1**	**0.0**
	baz=359						
TAWH				*e*S	**Sb**	**21 48 58.8**	**+0.8**
	baz=359						
TAW	**Tawu**	**0.78**	**354**	⇑*e*P	**Pb**	**21 48 48.2**	**-0.2**
	baz=2.0						
TAW				S	**Sn**	**21 49 00.4**	**+0.4**
	baz=2.0						
EAST	**Anshuo**	**0.81**	**352**	*e*P	**Pb**	**21 48 48.8**	**-0.2**
	baz=357						
EAST				*i* S	**Sn**	**21 49 01.5**	**+0.6**
	baz=357						
SCZT	**Fangliau**	**0.85**	**337**	P	**Pn**	**21 48 51.2**	**+1.0**
	baz=320						
SCZT				*i* S	**Sn**	**21 49 02.6**	**+0.6**
	baz=320						
ECL	**Taimali**	**1.01**	**359**	*i* P	**Pb**	**21 48 50.7**	**-1.6**
	baz=7.0						
ECL				*e*S	**Sb**	**21 49 03.2**	**-2.0**
	baz=7.0						
MASBT	**Mashibuluo**	**1.07**	**343**	*i* P	**Pb**	**21 48 54.1**	**+0.6**
	baz=340						
MASBT				*i* S	**Sn**	**21 49 08.7**	**+1.3**
	baz=340						
TSMG	**Majia**	**1.16**	**345**	*e*P	**Pb**	**21 48 55.3**	**+0.3**
	baz=342						
TSMG				*e*S	**Sn**	**21 49 10.7**	**+1.2**
	baz=342						
TTN	**Taitung**	**1.18**	**8**	*e*P	**Pb**	**21 48 55.0**	**-0.2**
	baz=6.0						
LDUT	**Ludao**	**1.18**	**23**	*e*P	**Pn**	**21 48 53.4**	**-1.3**
	baz=21						
LDUT				*e*S	**Sb**	**21 49 08.2**	**-1.9**
	baz=21						
SSD	**Sandimen**	**1.20**	**345**	P	**Pb**	**21 48 56.2**	**+0.5**
	baz=343						
SSD				*e*S	**Sb**	**21 49 10.8**	**0.0**
	baz=343						
TWGBT	**Beinan**	**1.23**	**4**	*e*P	**Pn**	**21 48 55.0**	**-0.4**
	baz=2.0						
TWGBT				*e*S	**Sb**	**21 49 11.7**	**0.0**
	baz=2.0						
TWG	**Pinlang**	**1.24**	**4**	*e*P	**Pn**	**21 48 55.4**	**0.0**
	baz=2.0						
LONT	**Longtian**	**1.33**	**6**	*e*P	**Pn**	**21 48 56.0**	**-0.7**
	baz=4.0						
TWM1	**Shoushan**	**1.34**	**338**	*e*P	**Pn**	**21 49 00.3**	**+2.3**
	baz=336						
EDH	**Donghe**	**1.42**	**12**	*e*P	**Pn**	**21 48 57.6**	**-0.3**
	baz=11						
EDH				*e*S	**Sn**	**21 49 14.3**	**-1.5**
	baz=11						
SLGT	**Liugui**	**1.44**	**348**	*e*P	**Pb**	**21 49 00.7**	**+1.0**
	baz=346						
ECS	**Chishang**	**1.52**	**8**	*e*P	**Pn**	**21 48 58.9**	**-0.5**
	baz=7.0						
SGST	**Jiashian**	**1.54**	**346**	*e*P	**Pn**	**21 48 60.0**	**+0.4**
	baz=330						
EHD	**Haiduan**	**1.57**	**8**	*e*P	**Pn**	**21 49 00.2**	**+0.1**
	baz=6.0						
STYH	**Taoyuan**	**1.59**	**353**	*e*P	**Pb**	**21 49 02.2**	**0.0**
	baz=352						
ELDTW	**Lidau**	**1.60**	**1**	*e*P	**Pn**	**21 49 01.3**	**+0.8**
	baz=7.0						
FULB	**Fuli**	**1.64**	**10**	*e*P	**Pn**	**21 49 00.8**	**-0.2**
	baz=9.0						
CHN1	**Nanshi**	**1.65**	**346**	*e*P	**Pb**	**21 49 03.3**	**0.0**
	baz=328						
SNST	**Tainan City**	**1.69**	**345**	*e*P	**Pb**	**21 49 04.1**	**+0.2**
	baz=328						
WTP	**Ta-pu**	**1.69**	**349**	*e*P	**Pb**	**21 49 04.8**	**+0.8**
	baz=348						
TPUB	**Ta-pu**	**1.74**	**349**	*e*P	**Pb**	**21 49 04.9**	**+0.1**
	baz=348						
SCLT	**Jiali**	**1.74**	**336**	*e*P	**Pn**	**21 49 03.4**	**+1.0**
	baz=320						
SCLT				*e*S	**Sn**	**21 49 24.6**	**+0.6**
	baz=320						
TSCK	**Chigu Township**	**1.76**	**332**	*e*P	**Pn**	**21 49 02.8**	**+0.2**
	baz=331						
ECBN	**Changbin**	**1.78**	**14**	*e*P	**Pn**	**21 49 03.6**	**+0.7**
	baz=13						
EYUL	**Yuli**	**1.79**	**10**	*e*P	**Pn**	**21 49 03.3**	**+0.3**
	baz=9.0						
TWF1	**Yuli**	**1.79**	**9**	*e*P	**Pn**	**21 49 03.4**	**+0.4**
	baz=9.0						
YULB	**Yu-li**	**1.83**	**9**	*e*P	**Pn**	**21 49 03.5**	**-0.1**
	baz=8.0						
ALS	**Alishan**	**1.93**	**355**	*e*P	**Pb**	**21 49 06.7**	**-1.4**
	baz=354						
EHY	**Hungye**	**1.94**	**9**	*e*P	**Pn**	**21 49 05.5**	**+0.3**
	baz=8.0						
HGSD	**Ruisui**	**1.95**	**12**	*e*P	**Pn**	**21 49 06.7**	**+1.5**
	baz=11						
CHN5	**Tsauling**	**2.02**	**352**	*e*P	**Pn**	**21 49 07.3**	**+0.9**
	baz=351						
WDGT	**Dungji**	**2.07**	**324**	*e*P	**Pn**	**21 49 06.4**	**-0.4**
	baz=323						
WDGT				*e*S	**Sn**	**21 49 30.1**	**-1.8**
	baz=323						
WHYT	**Xinyi Township**	**2.11**	**357**	*e*P	**Pb**	**21 49 10.3**	**-0.8**
	baz=356						
WARBT	**Fenglin Townsh**	**2.16**	**10**	*e*P	**Pn**	**21 49 08.7**	**+0.5**
	baz=9.0						
VCHM	**Qimei**	**2.16**	**319**	*e*P	**Pn**	**21 49 07.7**	**-0.5**
	baz=318						
WSF	**Szhu**	**2.16**	**341**	*e*P	**Pn**	**21 49 08.8**	**+0.6**
	baz=327						
VWDT	**VWDT**	**2.17**	**4**	*e*P	**Pn**	**21 49 09.9**	**+1.7**
	baz=10.0						
SSLB	**Suanglung**	**2.20**	**359**	*e*P	**Pb**	**21 49 10.8**	**-1.9**
	baz=11						
SMLT	**Sun Moon Lake**	**2.29**	**358**	*e*P	**Pn**	**21 49 11.3**	**+1.2**
	baz=345						
WNT	**Mingjian**	**2.30**	**353**	*e*P	**Pb**	**21 49 13.2**	**-1.2**
	baz=339						
TYC	**Yuchr**	**2.31**	**357**	*e*P	**Pn**	**21 49 12.3**	**+2.1**
	baz=344						
PHUB	**P'eng-hu**	**2.32**	**326**	*e*P	**Pn**	**21 49 09.4**	**-0.9**
	baz=325						
PHUB				*e*S	**Sn**	**21 49 35.0**	**-3.2**
	baz=325						
OWD	**Renai**	**2.37**	**4**	*e*P	**Pn**	**21 49 13.1**	**+2.0**
	baz=11						
RLNB	**Erlin**	**2.37**	**346**	*e*P	**Pn**	**21 49 11.1**	**+0.1**
	baz=333						
PNG	**Penghu**	**2.37**	**327**	P	**Pn**	**21 49 10.4**	**-0.7**
	baz=326						
PNG				*e*S	**Sn**	**21 49 37.8**	**-1.6**
	baz=326						
WRL	**Guolierlin Hig**	**2.37**	**347**	*e*P	**Pn**	**21 49 12.9**	**+1.8**
	baz=333						
WUSB	**Renai**	**2.40**	**3**	*e*P	**Pn**	**21 49 13.3**	**+1.7**
	baz=10.0						
ETM	**Tongmen**	**2.42**	**11**	*e*P	**Pn**	**21 49 12.5**	**+0.7**
	baz=10.0						
DPDB	**Guoxing**	**2.44**	**359**	*e*P	**Pn**	**21 49 13.5**	**+1.4**
	baz=345						
LXIB	**Xiulin Townshi**	**2.46**	**9**	*e*P	**Pn**	**21 49 13.1**	**+0.6**
	baz=16						
WCS	**Beigang Elemen**	**2.46**	**359**	*e*P	**Pn**	**21 49 13.8**	**+1.5**
	baz=345						
CHGB	**Renai**	**2.47**	**4**	*e*P	**Pn**	**21 49 13.7**	**+1.0**
	baz=4.0						
CHGB				*e*S	**Sn**	**21 49 44.4**	**+2.1**
	baz=4.0						
WHF	**Hehuan Shan**	**2.57**	**6**	*e*P	**Pn**	**21 49 16.0**	**+1.9**
	baz=13						
NACB	**Ninganchiao**	**2.64**	**12**	*e*P	**Pn**	**21 49 15.8**	**+1.0**
	baz=12						
ETLH	**Xiulin Townshi**	**2.66**	**10**	*e*P	**Pn**	**21 49 16.8**	**+1.8**
	baz=18						
FUSS	**Fushou**	**2.67**	**5**	*e*P	**Pn**	**21 49 17.4**	**+2.1**
	baz=14						
WHP	**Taichung City**	**2.68**	**359**	*e*P	**Pn**	**21 49 17.3**	**+1.9**
	baz=10.0						
EOS4	**EOS4**	**2.81**	**26**	*e*P	**Pn**	**21 49 19.0**	**+2.2**
	baz=35						
NNSB	**Datong**	**2.86**	**7**	*e*P	**Pn**	**21 49 19.7**	**+1.8**
	baz=12						
NNS	**Nan Shan**	**2.87**	**7**	*e*P	**Pn**	**21 49 20.7**	**+2.7**
	baz=15						
ENA	**Nanau**	**2.92**	**14**	*e*P	**Pn**	**21 49 20.7**	**+2.1**
	baz=8.0						
EOS3	**EOS3**	**2.96**	**24**	*e*P	**Pn**	**21 49 20.4**	**+1.4**
	baz=13						
LATG	**Datong**	**2.98**	**10**	*e*P	**Pn**	**21 49 20.7**	**+1.1**
	baz=16						
NFF	**Wufeng Townshi**	**3.04**	**2**	*e*P	**Pn**	**21 49 22.9**	**+2.6**
	baz=3.0						
NDT	**Datong Townshi**	**3.05**	**9**	*e*P	**Pn**	**21 49 22.1**	**+1.7**
	baz=15						
LIOB	**Emei**	**3.05**	**1**	*e*P	**Pn**	**21 49 22.9**	**+2.5**
	baz=1.0						
ENTT	**Nioudou**	**3.09**	**10**	*e*P	**Pn**	**21 49 23.1**	**+2.1**
	baz=19						
YHNB	**Yeheng**	**3.10**	**7**	*e*P	**Pn**	**21 49 22.7**	**+1.6**
	baz=353						
YHNB				*e*S	**Sn**	**21 49 59.1**	**+1.6**
	baz=353						
FUSB	**Fushanzhiwuyua**	**3.21**	**10**	*e*P	**Pn**	**21 49 24.6**	**+1.9**
	baz=16						
NWLT	**Wulai**	**3.22**	**9**	*e*P	**Pn**	**21 49 25.2**	**+2.4**
	baz=16						
YOJ	**Yonaguni jima**	**3.42**	**33**	*e*P	**Pn**	**21 49 27.3**	**+1.8**
HATJ	**Hateruma jima**	**3.59**	**46**	P	**Pn**	**21 49 28.7**	**+0.9**
HATJ				*e*S	**Sn**	**21 50 06.4**	**-3.1**
SXI1	**Grass Mountain**	**3.59**	**13**	*e*P	**Pn**	**21 49 31.7**	**+3.8**
	baz=13						
KNM	**Kinmen**	**3.67**	**321**	*e*P	**Pn**	**21 49 30.3**	**+1.4**
	baz=318						
KNMB	**Chin-men Tao**	**3.73**	**321**	*e*P	**Pn**	**21 49 29.6**	**-0.1**
	baz=320						
IRIF	**Iriomote-Funau**	**3.73**	**42**	P	**Pn**	**21 49 30.8**	**+1.0**
IRIF				S	**Sn**	**21 50 13.4**	**+0.3**
PTMZ	**Houxiangcun**	**3.84**	**334**	*e*P	**Pn**	**21 49 31.1**	**-0.2**
	baz=332						
JKRS	**Kuro-shima**	**3.85**	**46**	P	**Pn**	**21 49 32.5**	**+1.1**
JKRS				S	**Sn**	**21 50 14.0**	**-1.9**
DSXP	**Dongshan**	**3.90**	**304**	*e*P	**Pn**	**21 49 31.9**	**-0.2**
	baz=303						
JIJ	**Ishigaki jima**	**4.02**	**46**	P	**Pn**	**21 49 34.4**	**+0.7**
JIJ				*e*S	**Sn**	**21 50 17.4**	**-2.7**
VDOS	**Pratas Island**	**4.06**	**258**	*e*P	**Pn**	**21 49 35.7**	**+1.5**
	baz=256						
JISG	**Ishigakijimahi**	**4.29**	**45**	P	**Pn**	**21 49 38.0**	**+0.6**
AXDP	**Jialang**	**4.31**	**321**	*e*P	**Pn**	**21 49 37.4**	**-0.2**
	baz=320						
JTJ	**Tarama**	**4.59**	**48**	P	**Pn**	**21 49 42.6**	**+1.2**
JTJ				S	**Sn**	**21 50 32.8**	**-1.3**
MATB	**Ma-tsu**	**4.65**	**348**	*e*P	**Pn**	**21 49 42.0**	**-0.4**
	baz=347						
MHZQ	**Yeshan**	**4.84**	**339**	*e*P	**Pn**	**21 49 45.1**	**+0.1**
	baz=327						
LYJJ	**Jianjiangzhen**	**5.07**	**348**	*e*P	**Pn**	**21 49 48.2**	**+0.1**
	baz=345						
SXFK	**Yanhouchang**	**5.68**	**328**	*e*P	**Pn**	**21 49 55.8**	**-0.8**
	baz=326						

*NEIC **04** 21:49:58.5±1.1, 56°.11S±0°.07×27°.8W±0°.2, h118km±8km, mb4.9/25, Error ellipse: s-maj=15.7km s-min=3.3km az=52.0*
*IDC **04** 21:50:00.2±2.0, 56°.07S×27°.64W, h136km±16km, mb4.3/7, mbtmp4.8/9, MS3.4/5, Error ellipse: s-maj=20.1km s-min=15.7km az=82.0*
ISC 04 21:49:59.7±0.4, 56°.09S±0°.07×27°.89W±0°.07, h135km, n121, σ1°.04/119, mb4.8/20, 5C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.25**	**287**		**Pn**	**21 51 15.7**	**-0.4**
HOPE				Sn	**Sn**	**21 52 10.9**	**-4.7**
VNA1	**Neumayer--Stat**	**16.91**	**157**	⇑P	**P**	**21 53 47.0**	**-0.6**
	comp=Z,11nm,0.3s						
VNA3	**Neumayer Olymp**	**17.09**	**160**	⇑P	**P**	**21 53 48.6**	**-1.0**
	comp=Z,40nm,0.7s						
VNA2	**Neumayer--Watz**	**17.31**	**157**	⇑P	**P**	**21 53 51.1**	**-0.9**
	comp=Z,51nm,0.5s,baz=315,slow=14						
EFI	**East Falkland**	**18.25**	**271**	P	**P**	**21 54 03.2**	**+0.9**
SNAA	**Sanae**	**18.87**	**156**	P	**P**	**21 54 08.6**	**-0.6**
SNAA	**Sanae**	**18.87**	**156**	⇑P	**P**	**21 54 08.5**	**-0.6**
	comp=Z,2μm,0.4s						
SNAA	**Sanae**	**18.87**	**156**	P	**P**	**21 54 08.4**	**-0.7**
	comp=Z,67nm,0.4s,baz=305,slow=11,SNR=1042						
SNAA				LR	LR	22 01 06.7	
	comp=Z,39nm,18.8s,baz=10.0,slow=35						
SNAA				ScP	**ScP**	**22 01 52.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=326,slow=3.1,SNR=7.3						
PMSA	**Palmer Station**	**19.58**	**229**	P	**P**	**21 54 19.3**	**+2.6**
PMSA	**Palmer Station**	**19.58**	**229**	P	**P**	**21 54 18.9**	**+2.2**
	comp=Z,25nm,0.5s,baz=72,slow=8.0,SNR=20						
TROLL	**Troll, Antarti**	**20.39**	**153**	⇑P	**P**	**21 54 24.7**	**-0.8**
	comp=Z,4μm,0.5s						
BELA	**Belgrano 2**	**22.01**	**184**	P	**P**	**21 54 41.9**	**-0.7**
GO09	**Cerro Castillo**	**26.40**	**262**	P	**P**	**21 55 23.4**	**+0.2**
GO09				IAmb	IAmb	21 55 38.8	
	comp=Z,41nm,1.4s						
TRQA	**Tornquist**	**28.98**	**294**	P	**P**	**21 55 46.4**	**+0.1**
TRQA				IAmb	IAmb	21 56 53.1	
	comp=Z,85nm,1.9s						
PLTB	**Pedras Altas**	**30.23**	**313**	P	**P**	**21 55 57.9**	**+0.5**
PLTB				IAmb	IAmb	21 56 27.4	
	comp=Z,57nm,1.8s						
QSPA	**South Pole Qui**	**34.16**	**180**	P	**P**	**21 56 32.4**	**+0.8**
QSPA				IAmb	IAmb	21 56 35.0	
	comp=Z,18nm,0.6s						
QSPA	**South Pole Qui**	**34.16**	**180**	P

comp=Z,2.3nm,0.6s,baz=227,slow=6.1,SNR=10
comp=Z,2.3nm,0.6s
PB01 IPOC Station P 46.59 301 P P 21 58 15.1 +1.0
PB01 IAmb IAmb 21 58 16.0
comp=Z,14nm,0.6s
PTLB Pontes e Lacer 47.05 317 P P 21 58 17.7 +0.1
PB08 IPOC Station P 47.21 302 P P 21 58 20.5 +1.3
PB08 IAmb IAmb 21 58 21.5
comp=Z,12nm,0.6s
GO01 Chusmiza 47.63 303 P P 21 58 23.7 +1.1
GO01 IAmb IAmb 21 58 24.7
comp=Z,14nm,0.8s
CCD Concordia, Ant 47.70 170 P P 21 58 22.6 +0.2
H04S2 CROZET ISLANDS 47.89 114 T T 22 51 02.4
baz=231
H04S3 CROZET ISLANDS 47.90 114 T T 22 50 49.8
baz=231
H04S1 CROZET ISLANDS 47.91 114 T T 22 50 59.5
baz=231
H10S2 ASCENSION HYDR 48.15 18 T T 22 51 18.0
baz=189,slow=74,SNR=17
H10S3 ASCENSION HYDR 48.16 18 T T 22 51 18.2
baz=31,slow=74,SNR=33
H10N1 ASCENSION HYDR 49.27 18 T T 22 52 30.8
baz=189,SNR=21
H10N3 ASCENSION HYDR 49.27 18 T T 22 52 16.8
baz=189,SNR=25
H10N2 ASCENSION HYDR 49.29 18 T T 22 52 13.7
baz=189,SNR=25
LBTB Lobatse 49.40 74 P P 21 58 34.7 -0.9
LBTB Lobatse 49.40 74 P P 21 58 34.9 -0.8
LBTB PcP **PcP 21 59 54.0 -1.9**
TSUM Tsumeb 50.04 62 P P 21 58 40.3 -0.3
TSUM IAmb IAmb 21 58 48.3
comp=Z,23nm,1.6s
TSUM Tsumeb 50.04 62 LR LR 22 16 40.8
comp=Z,33nm,19.3s,baz=158,slow=32
LPAZ La Paz 50.08 306 P P 21 58 42.2 +0.8
LPAZ IAmb IAmb 21 58 43.5
comp=Z,5.3nm,0.6s
LPAZ La Paz 50.08 306 P P 21 58 42.4 +0.9
LPAZ pP **pP 21 59 09.8 -1.8**
CASY Casey 54.00 161 P P 21 59 09.7 +0.7
CASY IAmb IAmb 21 59 10.7
comp=Z,14nm,0.8s
CASY Casey 54.00 161 P P 21 59 09.8 +0.7
SAML Samuel 54.55 316 P P 21 59 13.9 +0.2
SAML Samuel 54.55 316 P P 21 59 13.8 +0.1
DRV Dumont d'Urvil 57.23 174 P P 21 59 32.0 -0.1
BOAV Boa Vista 64.07 323 P P 22 00 18.8 -0.3
LIC Lamto 64.89 25⇓ *e*P P 22 00 24.7 +0.3
comp=Z,37nm,0.6s
KIC Kosan Boka 65.09 26⇓ *e*P P 22 00 25.9 +0.2
comp=Z,22nm,0.7s
TIC Toumodi 65.30 25⇓ *e*P P 22 00 27.3 +0.3
comp=Z,29nm,0.8s
MCRA Macar, Loja 66.03 301 P P 22 00 32.0 +0.1
MBAR Mbarara 72.52 64 LR LR 22 29 45.3
comp=Z,34nm,20.5s,baz=206,slow=33
KOWA Kowa 73.12 24 P P 22 01 15.9 +0.8
TOA0 Torodi Ar. Sit 73.28 30 P P 22 01 16.7 +0.6
TOA0 IAmb IAmb 22 01 17.5
comp=Z,22nm,0.7s
TORD Torodi Ar. Bea 73.28 30 P P 22 01 16.5 +0.4
TORD IAmb IAmb 22 01 17.4
comp=Z,16nm,0.7s
TORD Torodi Ar. Bea 73.28 30 P P 22 01 16.4 +0.4
comp=Z,25nm,0.6s,baz=200,slow=6.2,SNR=192
TORD LR LR 22 26 17.1
comp=Z,38nm,19.8s,baz=130,slow=30
comp=Z,25nm,0.6s
TAU Tasmania Unive 81.29 176 P P 22 02 00.9 +0.4
NWAO Narrogin (SRO) 86.48 151 P P 22 02 26.6 -0.5
MDT Midelt 90.75 19 LR LR 22 36 29.0
comp=Z,33nm,20.4s,baz=260,slow=31
STKA Stephens Creek 91.93 171 P P 22 02 54.0 +1.3
comp=Z,1.1nm,0.4s,baz=191,slow=18,SNR=1.7
comp=Z,1.1nm,0.4s
ASAR Alice Springs 99.07 163 P Pdif 22 03 24.9 -0.4
comp=Z,1.1nm,0.7s,baz=181,slow=4.1,SNR=11
ASAR PP **PP 22 07 23.1 -5.0**
comp=Z,0.8nm,0.7s,baz=190,slow=6.6,SNR=7.2
comp=Z,1.1nm,0.7s
WRA Warramunga Arr 102.79 163 P Pdif 22 03 41.1 -0.7
comp=Z,0.4nm,0.6s,baz=195,slow=4.5,SNR=6.1
WRA PP PP 22 07 44.4 -12
comp=Z,0.4nm,0.9s,baz=193,slow=6.2,SNR=2.6
WRA PKKPbc **PKKPbc 22 19 39.1 +2.2**
comp=Z,0.2nm,0.3s,baz=358,slow=2.9,SNR=14
FINES FINESS Array B 124.60 28 PKP PKPdf 22 08 41.1 -0.4
comp=Z,2.5nm,0.8s,baz=207,slow=0.9,SNR=9.1
ARCES ARCESS Array B 131.12 22 PKP PKPdf 22 08 53.7 0.0
comp=Z,2.1nm,0.8s,baz=198,slow=2.6,SNR=7.0
BVAR Borovoye Array 135.13 58 PKP PKPdf 22 09 01.3 -0.4
comp=Z,0.2nm,0.4s,baz=211,slow=1.7,SNR=3.3
YKA Yellowknife Ar 135.94 318 PKP PKPdf 22 09 02.9 -0.1
comp=Z,0.3nm,0.7s,baz=122,slow=2.5,SNR=5.5
MKAR Makanchi Array 137.27 72 SKPbc SKPbc 22 12 25.3 -1.2
comp=Z,0.5nm,0.6s,baz=222,slow=5.2,SNR=4.8
KURBB Kurchatov Arra 137.67 65 PKP PKPdf 22 09 05.7 -0.8
comp=Z,0.1nm,0.4s,baz=252,slow=3.7,SNR=1.4
KURBB SKPbc **SKPbc 22 12 26.4 -1.0**
comp=Z,0.4nm,0.6s,baz=237,slow=3.7,SNR=5.3
ZALV Zalesovo Beam 142.74 64 PKhKP PKPpre 22 09 11.5
comp=Z,0.7nm,0.3s,baz=271,slow=3.5,SNR=3.8
H31M Peel River 145.08 316 P PKPbc 22 09 19.4 +0.2
baz=110
J30M Hart River 145.44 314 P PKPbc 22 09 21.2 +0.7
baz=110
M29M Somme Creek 145.56 310 P PKPbc 22 09 21.6 +0.6
baz=112
L29M L29M 145.67 311 P PKPbc 22 09 22.0 +0.9
baz=111
K29M Barlow Dome 145.67 312 P PKPdf 22 09 21.5 +0.9
baz=110
I30M Mount Dempster 145.68 315 P PKPbc 22 09 21.7 +0.5
baz=109,SNR=15
G30M tAoh Zrail Nji 146.18 318 P PKPbc 22 09 23.6 +1.0
baz=107
EPYK Eagle Plains 146.18 317 P PKPbc 22 09 23.0 +0.4
baz=108
I29M Ogilvie Camp, 146.50 315 P PKPbc 22 09 23.7 +0.2
baz=108
DAWY Dawson 146.53 312 P PKPdf 22 09 23.5 +1.5
baz=109
H29M Whitestone 146.78 316 P PKPbc 22 09 24.6 +0.3
baz=106
G29M Pine Creek 146.84 317 P PKPbc 22 09 25.0 +0.5
baz=106
E29M Blow River 147.17 320 P PKPbc 22 09 25.7 +0.5
baz=104
I28M Miner Creek 147.17 314 P PKPbc 22 09 25.5 0.0
baz=106,SNR=14
L27K Beaver Creek, 147.23 310 P PKPbc 22 09 26.4 +0.7
baz=109
F28M Old Crow 147.71 318 P PKPbc 22 09 27.1 +0.3
baz=103,SNR=9.3
L26K Log Cabin Wild 147.88 309 P PKPbc 22 09 27.9 +0.5
baz=108
I27K Kandik River 147.89 314 P PKPbc 22 09 28.2 +0.8
baz=105
H27K Steamboat Moun 148.01 315 P PKPbc 22 09 28.6 +0.9
baz=104,SNR=6.3
J26L Joseph Creek 148.39 312 P PKPbc 22 09 29.8 +1.0
baz=105
SCRK Sand Creek 148.43 311 P PKPbc 22 09 29.9 +1.0
baz=106
G26K Porcupine Rive 149.05 316 P PKPbc 22 09 30.9 +0.7
baz=101
F26K Sheenjek River 149.33 318 P PKiKP 22 09 32.3 +0.2
baz=100
PRP Porcupine Dome 149.45 313 P PKPbc 22 09 32.1 +0.7
baz=102
DHY Denali Highway 149.65 308 P PKiKP 22 09 34.3 +1.3
baz=105
WAT6 Susitna Watana 149.68 307 P PKPbc 22 09 32.6 +0.5
baz=106
ILAR Eielson Array 149.85 312 PKPbc **PKPbc 22 09 32.4 +0.1**
comp=Z,3.9nm,0.8s,baz=139,slow=2.3,SNR=31
F25K Christian Rive 149.88 317 P PKPbc 22 09 33.4 +1.0
baz=99
G25K Bearman Lake 149.92 316 P PKiKP 22 09 33.9 +0.8
baz=100
E25K Arctic Village 149.93 319 P PKiKP 22 09 33.5 +0.2
baz=98
WAT1 Susitna Watana 150.11 308 P PKPbc 22 09 33.2 +0.2
baz=105
H24K Noodor Dome 150.47 314 P PKPbc 22 09 34.4 +0.7
baz=100
MCK McKinley 150.49 309 P PKiKP 22 09 34.9 +0.4
baz=103
NEA2 Nenana 150.73 311 P PKPbc 22 09 34.0 -0.3
baz=101
I23K Minto, Yukon-K 150.95 312 P PKPbc 22 09 34.4 -0.4
baz=100
TRF Thorofare Moun 151.02 308 P PKPbc 22 09 36.1 +0.8
baz=102
SONM Songino Array 151.12 87 PKPbc **PKPbc 22 09 36.1 +0.1**
comp=Z,1.6nm,0.4s,baz=232,slow=3.5,SNR=9.2
SKT Skwentna 151.24 305 P PKPbc 22 09 36.5 +0.8
baz=104
G23K Bananza Creek 151.45 315 P PKiKP 22 09 37.1 +0.6
baz=97
BPAW Bear Paw Mtn. 151.45 310 P PKPbc 22 09 36.7 +0.7
baz=101
TOLK Toolik Lake Re 151.45 319 P PKPbc 22 09 36.7 +0.7
baz=94
PPLA Purkeypile 151.75 307 P PKPbc 22 09 37.2 +0.3
baz=102
CAST Castle Rocks 151.80 308 P PKPbc 22 09 37.2 +0.3
baz=101
CHUM Lake Minchumin 151.99 309 P PKPbc 22 09 37.4 +0.2
baz=100
H21K Melozitna Rive 152.45 313 P PKPbc 22 09 39.0 +0.7
baz=96
J20K Nowinta River 152.83 309 P PKiKP 22 09 41.3 +2.0
baz=98
H20K Anotleneega Mo 153.30 312 P PKiKP 22 09 41.6 +1.3
baz=95

*SJA **04** 21:54:44.4±0.7,21°.53S×66°.77W,h244km±6km,ML3.8, MW3.6*
*SCB **04** 21:54:45.9±1.1,21°.59S×66°.77W,h221km±7km,ML3.6/4, MW3.8,Error ellipse: s-maj=4.9km s-min=3.4km az=0.0*
ISC 04 21:54:45.0±1.8,21°.56S±0°.05×66°.82W±0°.05, h234km±14km,n32,σ1§38/48,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.14**	**75**	Pg	**Pn**	**21 55 20.0**	**+0.2**
MOCB				Sg	**S**	**21 55 44.1**	**-2.7**
MOCB				IAML		21 55 45.2	
	395nm,0.5s						
HJA	**Humahuaca**	**2.10**	**142**	*e*P	**Pn**	**21 55 28.6**	**+1.1**
HJA				*e*S	**S**	**21 56 00.8**	**0.0**
LVC	**Limon Verde**	**2.21**	**241**	Pg	**Pn**	**21 55 29.7**	**+1.1**
LVC	**Limon Verde**	**2.21**	**241**	*e*P	**Pn**	**21 55 29.6**	**+1.1**
LVC				*e*S	**S**	**21 56 03.3**	**+0.6**
PB09	**IPOC Station P**	**2.27**	**263**	Pg	**Pn**	**21 55 30.4**	**+1.4**
PB09				Sg	**S**	**21 56 03.4**	**0.0**
PB09				IAML		21 56 06.5	
	98nm,0.2s						
PB09	**IPOC Station P**	**2.27**	**263**	*e*P	**Pn**	**21 55 30.1**	**+1.2**
PB09				*e*S	**S**	**21 56 05.1**	**+1.7**
PB09				IAML		21 56 06.0	
	comp=Z,159nm,0.4s						
PB01	**IPOC Station P**	**2.54**	**281**	Pg	**Pn**	**21 55 33.1**	**+1.4**
PB01				Sg	**S**	**21 56 07.4**	**-0.9**
PB01				IAML		21 56 08.3	
	comp=Z,431nm,0.3s						
PB01	**IPOC Station P**	**2.54**	**281**	*e*S	**S**	**21 56 08.0**	**-0.3**
PB01				IAML		21 56 08.2	
	comp=Z,125nm,0.4s						
PB08	**IPOC Station P**	**2.60**	**302**	Pg	**Pn**	**21 55 34.2**	**+1.6**
PB08				Sg	**S**	**21 56 10.1**	**+0.2**
PB08				IAML		21 56 13.1	
	comp=Z,70nm,0.2s						
PB08	**IPOC Station P**	**2.60**	**302**	*e*P	**Pn**	**21 55 33.7**	**+1.1**
PB06	**IPOC Station P**	**2.80**	**245**	Pg	**Pn**	**21 55 35.1**	**+0.6**
PB06	**IPOC Station P**	**2.80**	**245**	*e*P	**Pn**	**21 55 35.2**	**+0.6**
PB06				*e*S	**S**	**21 56 13.2**	**-0.2**
PB06				IAML		21 56 15.1	
	comp=Z,91nm,0.2s						
PB07	**IPOC Station P**	**2.86**	**266**	Pg	**Pn**	**21 55 36.2**	**+1.0**
PB07	**IPOC Station P**	**2.86**	**266**	*e*P	**Pn**	**21 55 35.2**	**0.0**
PB07				*e*S	**S**	**21 56 12.8**	**-1.7**
PB07				IAML		21 56 14.0	
	comp=Z,394nm,0.4s						
PB02	**IPOC Station P**	**2.88**	**274**	Pg	**Pn**	**21 55 36.2**	**+0.9**
PB02	**IPOC Station P**	**2.88**	**274**	*e*P	**Pn**	**21 55 36.0**	**+0.6**
PB02				*e*S	**S**	**21 56 13.0**	**-1.8**
PB02				IAML		21 56 14.4	
	comp=Z,701nm,0.3s						
GO01	**Chusmiza**	**2.91**	**310**	Pg	**Pn**	**21 55 37.5**	**+1.4**
HMBC	**Humberstone**	**3.14**	**293**	Pg	**Pn**	**21 55 38.8**	**+0.5**
SOEO	**Opoqueri**	**3.14**	**341**	Pg	**Pn**	**21 55 40.3**	**+1.6**
PB04	**IPOC Station P**	**3.19**	**255**	Pg	**Pn**	**21 55 39.8**	**+1.0**
PB04	**IPOC Station P**	**3.19**	**255**	*e*P	**Pn**	**21 55 39.6**	**+0.7**
PB04				*e*S	**S**	**21 56 19.2**	**-2.0**
PB04				IAML		21 56 21.1	
	comp=Z,181nm,0.2s						
PATCX	**Punta Patache**	**3.20**	**283**	*e*P	**Pn**	**21 55 39.6**	**+0.7**
PATCX				*e*S	**S**	**21 56 19.7**	**-1.5**
TA01	**Diego Aracena**	**3.29**	**287**	*e*P	**Pn**	**21 55 40.2**	**+0.3**
TA01				*e*S	**S**	**21 56 20.4**	**-2.6**
TA01				IAML		21 56 24.6	
	comp=Z,71nm,0.3s						
SOTI	**Planta Incahua**	**3.42**	**60**	Pg	**Pn**	**21 55 42.1**	**+0.6**
SOET	**ToroToro**	**3.55**	**16**	Pg	**Pn**	**21 55 44.2**	**+0.9**
PB16	**IPOC Station P**	**4.08**	**321**	Pg	**Pn**	**21 55 51.7**	**+1.9**
PB16	**IPOC Station P**	**4.08**	**321**	*e*P	**Pn**	**21 55 51.4**	**+1.6**
GO02	**Mina Guanaco**	**4.40**	**215**	Pg	**Pn**	**21 55 54.3**	**+1.0**
GO02	**Mina Guanaco**	**4.40**	**215**	*e*P	**Pn**	**21 55 54.3**	**+1.0**
GO02				*e*S	**S**	**21 56 46.2**	**-1.1**
PB12	**IPOC Station P**	**4.41**	**311**	*e*P	**Pn**	**21 55 54.0**	**+0.8**
PB12				*e*S	**S**	**21 56 43.9**	**-3.2**
PB12				IAML		21 56 47.9	
	comp=Z,38nm,0.4s						
PB14	**IPOC Station P**	**4.50**	**227**	*e*P	**Pn**	**21 55 55.0**	**+0.5**
PB14				*e*S	**S**	**21 56 47.1**	**-2.3**
PB14				IAML		21 56 49.9	
	comp=Z,78nm,0.2s						
LPAZ	**La Paz**	**5.39**	**346**	Pg	**Pn**	**21 56 07.4**	**+1.6**

*ANF **04** 22:06:43.0±0.3,36°.44N×98°.75W,h5km,ML4.4/11,Error ellipse: s-maj=3.4km s-min=2.0km az=71.0*
*IDC **04** 22:06:43.0±1.9,36°.43N×98°.67W,h0km,mbtmp3.4/3, ML3.3/3,Error ellipse: s-maj=31.0km s-min=13.2km az=96.0*
*TUL **04** 22:06:43.6±0.5,36°.46N±0°.01×98°.76W±0°.03,h8km±6km, ML3.6,mb_Lg3.4/98(NEIC),ML3.8/30(NEIC), Mwr3.2/7(SLM),Error ellipse: s-maj=3.3km s-min=1.9km az=109.0*
*NEIC **04** 22:06:44.4±0.5,36°.45N±0°.01×98°.75W±0°.02,h8km±1km, Error ellipse: s-maj=2.7km s-min=1.9km az=115.0*
*NEIC **04** 22:06:44,36°.45N×98°.74W,h7km,Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}-0.51; $M_{\theta\theta}$7.28; $M_{\phi\phi}$-6.77; $M_{r\theta}$-0.57; $M_{\theta\phi}$-4.35; $M_{\phi r}$-1.93; Fault plane solution: $M_0$8.51000×10^{13} NP1:ϕ_s62.00000°, δ80.00000°,λ-170.00000°. NP2:ϕ_s330.00000°, δ80.00000°,λ-10.00000°. Principal axes: T 8.5165, Plg0.0000°, Azm196.0000°; N -0.0022, Plg76.0000°, Azm105.0000°; P -8.5143, Plg14.0000°, Azm286.0000°;*
ISC 04 22:06:44.1±0.8,36°.46N±0°.02×98°.72W±0°.02,h8km±5km, n146,σ1§07/136,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.03**	**324**	Pg	**Pg**	**22 06 45.5**	**-0.2**
OK038				Sg	**Sg**	**22 06 46.9**	**+0.1**
U32A	**Winter Ranch,**	**0.24**	**251**	Pg	**Pg**	**22 06 48.2**	**-0.7**
U32A					**Sg**	**22 06 51.6**	**-0.5**
U32A				IAML		22 06 51.9	
	comp=E,12μm,0.5s						
U32A				IAML		22 06 52.1	
	comp=N,17μm,0.2s						
U32A	**Winter Ranch,**	**0.24**	**251**	P	**Pg**	**22 06 47.9**	**-1.0**
	baz=68,SNR=617						
U32A				S	**Sg**	**22 06 51.6**	**-0.5**
	baz=68						
NOKA	**Waynoka**	**0.24**	**317**	Pg	**Pg**	**22 06 48.5**	**-0.5**
NOKA				Sg	**Sg**	**22 06 52.1**	**-0.3**
NOKA				IAML		22 06 52.3	
	comp=N,31μm,0.3s						
OK035	**E0210 Rd and N**	**0.25**	**2**	Pg	**Pg**	**22 06 49.2**	**0.0**
OK035				Sg	**Sg**	**22 06 53.1**	**+0.6**
OK032	**Salt Plains WL**	**0.54**	**50**		**Pg**	**22 06 54.5**	**0.0**
OK032				Sg	**Sg**	**22 07 02.2**	**+0.6**
OK032				IAML		22 07 02.5	
	comp=N,5μm,0.2s						
OK032				IAML		22 07 05.4	
	comp=N,5μm,0.2s						
CROK	**Carrier**	**0.60**	**85**	Pg	**Pg**	**22 06 55.8**	**+0.1**
CROK				Sg	**Sg**	**22 07 04.4**	**+0.9**
CROK				IAML		22 07 05.0	
	comp=N,5μm,0.4s						
CROK				IAML		22 07 09.0	
	comp=E,4μm,0.3s						
ELIS	**Ellis County**	**0.68**	**235**		**Pg**	**22 06 56.3**	**-1.0**
ELIS				Sg	**Sg**	**22 07 05.5**	**-0.7**
ELIS				IAML		22 07 06.4	
	comp=E,4μm,0.3s						
ELIS				IAML		22 07 14.2	
	comp=N,4μm,0.5s						
KAN14	**Manchester OK**	**0.79**	**50**	Pg	**Pg**	**22 06 59.0**	**-0.3**
GC02	**Grant County #**	**0.80**	**60**	Pg	**Pg**	**22 06 59.3**	**-0.2**
CSTR	**Hydro, Custer**	**0.81**	**178**	Pg	**Pg**	**22 06 59.2**	**-0.5**
KAN10	**Anthony SW Sta**	**0.83**	**37**	Pg	**Pg**	**22 06 59.7**	**-0.5**
KAN05	**Bluff City Nor**	**0.94**	**46**		**Pg**	**22 07 01.9**	**-0.4**
KAN05				IAML		22 07 17.2	
	comp=N,4μm,0.2s						
KAN05				IAML		22 07 20.8	
	comp=E,2μm,0.2s						
KAN17	**Caldwell West**	**0.97**	**52**	Pg	**Pg**	**22 07 02.1**	**-0.5**
KAN08	**Anthony NE Sta**	**0.98**	**38**	Pg	**Pg**	**22 07 02.3**	**-0.5**
KAN12	**Harper NE Stat**	**1.02**	**34**	Pg	**Pg**	**22 07 03.1**	**-0.7**
KAN01	**Argonia South**	**1.04**	**48**		**Pg**	**22 07 03.5**	**-0.5**
KAN06	**Argonia West S**	**1.05**	**41**		**Pg**	**22 07 03.8**	**-0.5**
KAN06				IAML		22 07 23.3	
	comp=E,2μm,0.2s						
KAN09	**Caldwell North**	**1.12**	**52**		**Pg**	**22 07 04.9**	**-0.7**
KAN13	**South Haven SW**	**1.14**	**61**	Pg	**Pg**	**22 07 05.4**	**-0.7**
KAN13				IAML		22 07 23.7	
	comp=E,3μm,0.3s						
KS21	**Milan North St**	**1.19**	**45**		**Pb**	**22 07 06.2**	**-0.7**
KS20	**Mayfield South**	**1.21**	**50**		**Pb**	**22 07 06.5**	**-0.8**
KS20				IAML		22 07 27.1	
	comp=E,2μm,0.2s						
OK029	**Liberty Lake**	**1.22**	**122**	Pg	**Pb**	**22 07 06.4**	**-1.0**
BLOK	**Blackwell**	**1.25**	**76**	Pg	**Pn**	**22 07 07.2**	**-0.7**
OK048	**Pawnee Station**	**1.44**	**91**		**Pn**	**22 07 10.4**	**0.0**
OKCSW	**OKLAHOMA CITY**	**1.48**	**135**		**Pn**	**22 07 10.9**	**-0.1**
OK033	**Mehan**	**1.50**	**105**		**Pn**	**22 07 11.2**	**-0.1**
OK051	**E0350 and S346**	**1.52**	**88**		**Pn**	**22 07 11.8**	**+0.2**
OK031	**S. Brethren Rd**	**1.60**	**108**		**Pn**	**22 07 12.7**	**-0.1**
OK052	**Battle Ridge R**	**1.62**	**106**		**Pn**	**22 07 13.0**	**+0.1**
QUOK	**Quay**	**1.65**	**99**		**Pn**	**22 07 13.6**	**+0.2**
WMOK	**Wichita Mounta**	**1.72**	**182**	Pn	**Pn**	**22 07 13.5**	**-0.8**
WMOK	**Wichita Mounta**	**1.72**	**182**	P	**Pn**	**22 07 13.6**	**-0.6**
	baz=0.5						
WMOK				S	**Sb**	**22 07 36.9**	**-0.7**
	baz=0.5						
WMOK	**Wichita Mounta**	**1.72**	**182**	P	**Pn**	**22 07 13.5**	**-0.8**
	baz=0.5,SNR=192						
WMOK				S	**Sb**	**22 07 37.3**	**-0.3**
	baz=0.5						
T35A	**Sooner Cattle**	**1.83**	**75**		**Pn**	**22 07 16.2**	**+0.3**
T35B	**Sooner Cattle**	**1.83**	**75**	P	**Pn**	**22 07 16.3**	**+0.4**
	baz=256,SNR=189						
T35B				S	**Sb**	**22 07 41.8**	**+0.8**
	baz=256						
DEOK	**Depew**	**1.90**	**108**		**Pn**	**22 07 17.1**	**+0.3**
R32A	**Long Quarter,**	**1.96**	**0**		**Pn**	**22 07 17.9**	**+0.2**
R32A	**Long Quarter,**	**1.96**	**0**	P	**Pn**	**22 07 18.5**	**+0.8**
	baz=181,SNR=172						
R32A				S	**Sb**	**22 07 45.2**	**+0.5**
	baz=181						
X34A	**Smith Ranch, M**	**1.99**	**158**		**Pb**	**22 07 19.1**	**-1.4**
TUL3	**Leonard**	**2.43**	**102**		**Pn**	**22 07 24.0**	**-0.1**
TUL3	**Leonard**	**2.43**	**102**	P	**Pn**	**22 07 23.8**	**-0.3**
	baz=284						
TUL3				S	**Sn**	**22 07 55.2**	**+1.1**
	baz=284						
TUL3	**Leonard**	**2.43**	**102**	P	**Pn**	**22 07 24.4**	**+0.3**
	baz=284,SNR=39						
TUL3				S	**Sn**	**22 07 55.6**	**+1.5**
	baz=284						
CBKS	**Cedar Bluff**	**2.49**	**341**	Pn	**Pn**	**22 07 26.0**	**+1.1**
CBKS				IAmb_Lg		22 08 04.0	
	comp=Z,125nm,0.7s						
CBKS	**Cedar Bluff**	**2.49**	**341**	P	**Pn**	**22 07 24.6**	**-0.3**
	baz=162						
CBKS				S	**Sn**	**22 07 55.4**	**-0.1**
	baz=162						
CBKS	**Cedar Bluff**	**2.49**	**341**	P	**Pn**	**22 07 25.1**	**+0.2**
	baz=162,SNR=31						
WTFS	**Witchita Falls**	**2.69**	**175**		**Pn**	**22 07 28.1**	**+0.4**
WTFS				IAmb_Lg		22 08 13.1	
	comp=Z,62nm,0.8s						
LOOK	**Love County**	**2.76**	**152**		**Pn**	**22 07 29.0**	**+0.3**
LOOK				IAmb_Lg		22 08 15.0	
	comp=Z,146nm,0.8s						
AMTX	**Amarillo**	**2.88**	**238**	P	**Pn**	**22 07 29.4**	**-0.9**
	baz=56						
AMTX				S	**Sn**	**22 08 04.7**	**-0.5**
	baz=56						
AMTX	**Amarillo**	**2.88**	**238**	Sb	**Sb**	**22 08 12.4**	**+1.4**
	baz=56						
RLO	**Rose Lookout**	**3.00**	**94**		**Pn**	**22 07 31.6**	**-0.3**
RLO				IAmb_Lg		22 08 20.3	
	comp=Z,78nm,0.9s						
KSU1	**Kansas State U**	**3.13**	**32**	IAmb_Lg		22 08 29.2	
	comp=Z,78nm,0.8s						
KSU1	**Kansas State U**	**3.13**	**32**	P	**Pn**	**22 07 33.2**	**-0.4**
	baz=213						
KSU1				S	**Sn**	**22 08 12.3**	**+1.1**
	baz=213						
KSU1	**Kansas State U**	**3.13**	**32**	P	**Pn**	**22 07 34.2**	**+0.5**
	baz=213,SNR=14						
KSU1				Sb	**Sg**	**22 08 21.8**	**-2.7**
	baz=213						
KS25	**Jewell**	**3.24**	**8**		**Pn**	**22 07 34.1**	**-1.1**
X37A	**Clayton**	**3.31**	**123**		**Pn**	**22 07 36.2**	**0.0**
X37A	**Clayton**	**3.31**	**123**	P	**Pn**	**22 07 36.5**	**+0.3**
	baz=305						
DKNS	**Dickens**	**3.32**	**214**	IAmb_Lg		22 08 30.4	
	comp=Z,55nm,0.7s						
APMT	**Aspermont**	**3.33**	**201**	IAmb_Lg		22 08 27.6	
	comp=Z,78nm,1.0s						
Z35A	**Perchaven, San**	**3.34**	**158**		**Pn**	**22 07 36.9**	**+0.2**
Z35A	**Perchaven, San**	**3.34**	**158**	P	**Pn**	**22 07 37.2**	**+0.6**
	baz=339,SNR=15						
Z35A				S	**Sn**	**22 08 18.0**	**+1.5**
	baz=339						
KS24	**Mankato**	**3.35**	**7**		**Pn**	**22 07 35.9**	**-0.9**
KS22	**Mankato Kansas**	**3.35**	**7**		**Pn**	**22 07 36.6**	**-0.2**
KS23	**Northwest Mank**	**3.40**	**6**		**Pn**	**22 07 37.1**	**-0.4**
FW03	**Perrin-Whitt E**	**3.45**	**171**		**Pn**	**22 07 37.2**	**-1.0**
U38A	**Gravette**	**3.50**	**89**		**Pn**	**22 07 38.6**	**-0.2**
U38A				IAmb_Lg		22 08 38.1	
	comp=Z,102nm,0.8s						
FW06	**Azle**	**3.61**	**164**		**Pn**	**22 07 40.8**	**+0.6**
FW06				IAmb_Lg		22 08 42.6	
	comp=Z,53nm,0.8s						
FW07	**Weatherford**	**3.82**	**168**	IAmb_Lg		22 08 48.7	
	comp=Z,40nm,0.8s						
HHAR	**Hobbs**	**3.86**	**91**		**Pn**	**22 07 43.6**	**-0.2**
HHAR				IAmb_Lg		22 08 49.5	
	comp=Z,99nm,0.8s						
ABTX	**Abilene, Hawle**	**3.90**	**192**		**Pn**	**22 07 43.9**	**-0.4**
ABTX	**Abilene, Hawle**	**3.90**	**192**	P	**Pn**	**22 07 44.0**	**-0.4**
	baz=10						
ABTX				S	**Sn**	**22 08 30.9**	**+0.7**
	baz=10						
ABTX	**Abilene, Hawle**	**3.90**	**192**	P	**Pn**	**22 07 44.0**	**-0.4**
	baz=10,SNR=30						
SN01	**Snyder 1**	**4.01**	**207**	IAmb_Lg		22 08 53.0	
	comp=Z,116nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.01**	**311**	IAmb_Lg		22 09 00.7	
	comp=Z,163nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.01**	**311**	P	**Pn**	**22 07 45.2**	**-0.7**
	baz=129						
KSCO				S	**Sn**	**22 08 32.7**	**-0.5**
	baz=129						
KSCO	**Kaye Shedlock'**	**4.01**	**311**	Sb	**Sb**	**22 08 46.6**	**+2.9**
	baz=129						
POST	**Post**	**4.08**	**215**		**Pn**	**22 07 46.8**	**-0.1**
POST				IAmb_Lg		22 08 53.8	
	comp=Z,71nm,0.8s						
MSTX	**Muleshoe**	**4.14**

MSTX	Muleshoe	4.14	234	P	Pn	22 07 47.2	-0.6
	baz=52						
MSTX				S	Sn	22 08 36.5	+0.1
	baz=52						
MSTX	Muleshoe	4.14	234	Sb	Sb	22 08 50.9	+3.4
	baz=52						
FW13	Cleburne	4.23	165	IAmb_Lg		22 09 02.1	
	comp=Z,53nm,1.1s						
N33B	J Bar K, Exete	4.39	13	P	Pn	22 07 50.4	-0.6
	baz=194						
N33B				S	Sn	22 08 41.4	-0.9
	baz=194						
N33A	J Bar K, Exete	4.39	13	IAmb_Lg		22 09 08.8	
	comp=Z,75nm,0.8s						
Z38A	Mt. Pleasant	4.43	135	IAmb_Lg		22 09 06.2	
	comp=Z,105nm,0.8s						
Z38A	Mt. Pleasant	4.43	135	Sb	Sg	22 09 03.2	-3.1
	baz=317						
S39A	Bolivar	4.49	72	Pn	Pn	22 07 52.4	0.0
S39A				IAmb_Lg		22 09 15.9	
	comp=Z,74nm,0.7s						
S39A	Bolivar	4.49	72	P	Pn	22 07 52.2	-0.2
	baz=256,SNR=11						
S39A				Sb	Sg	22 09 03.9	-4.4
	baz=256						
WHTX	Lake Whitney,	4.58	166	Pn	Pn	22 07 53.3	-0.4
WHTX	Lake Whitney,	4.58	166	P	Pn	22 07 53.2	-0.4
	baz=347						
WHTX				S	Sn	22 08 47.3	+0.3
	baz=347						
WHTX	Lake Whitney,	4.58	166	P	Pn	22 07 53.5	-0.1
	baz=347,SNR=10						
WHTX				Sb	Sb	22 09 04.5	+4.6
	baz=347						
MIAR	Mount Ida	4.61	113	Pn	Pn	22 07 54.4	+0.3
MIAR	Mount Ida	4.61	113	P	Pn	22 07 53.9	-0.2
	baz=296						
MIAR				S	Sn	22 08 47.3	-0.5
	baz=296						
MIAR	Mount Ida	4.61	113	P	Pn	22 07 54.4	+0.3
	baz=296,SNR=8.9						
T25A	Trinidad	4.62	280	Pn	Pn	22 07 54.0	-0.3
T25A				IAmb_Lg		22 09 16.5	
	comp=Z,89nm,0.9s						
T25A	Trinidad	4.62	280	P	Pn	22 07 53.5	-0.8
	baz=97						
T25A				S	Sn	22 08 46.7	-1.5
	baz=97						
U40A	Yellville	4.74	89	P	Pn	22 07 56.2	+0.4
	baz=273,SNR=21						
U40A				P	Pn	22 07 56.2	+0.4
	baz=273,SNR=21						
BGNE	Belgrade	4.96	5	IAmb_Lg		22 09 33.2	
	comp=Z,73nm,0.7s						
N35A	Tabor	5.01	28		Pn	22 07 59.1	-0.5
N35A	Tabor	5.01	28	P	Pn	22 08 00.6	+1.0
	baz=210						
N35A				S	Sn	22 09 00.0	+2.3
	baz=210						
237A	Washetta, Mont	5.06	151	IAmb_Lg		22 09 33.5	
	comp=Z,55nm,0.9s						
BRDY	Brady	5.16	183	Pn	Pn	22 08 00.6	-1.1
OGNE	Ogallala	5.17	331	IAmb_Lg		22 09 39.2	
	comp=Z,123nm,0.7s						
P38A	Dawn	5.17	51	IAmb_Lg		22 09 31.7	
	comp=Z,54nm,0.7s						
P38A	Dawn	5.17	51	P	Pn	22 08 02.3	+0.5
	baz=234,SNR=7.8						
MGMO	Mountain Grove	5.22	80	IAmb_Lg		22 09 30.7	
	comp=Z,78nm,0.8s						
WHAR	Wooly Hollow	5.35	101	IAmb_Lg		22 09 37.5	
	comp=Z,89nm,0.8s						
WLAR	White Oak Lake	5.37	119	IAmb_Lg		22 09 40.4	
	comp=Z,62nm,0.8s						
R40A	Maddies Statio	5.46	68	Pn	Pn	22 08 05.7	0.0
R40A				IAmb_Lg		22 09 38.9	
	comp=Z,79nm,0.8s						
UALR	University of	5.46	106	IAmb_Lg		22 09 50.3	
	comp=Z,56nm,1.0s						
SDCO	Great Sand Dun	5.57	285	P	Pn	22 08 08.5	+1.0
	baz=101						
435B	Jarrell	5.74	170	IAmb_Lg		22 09 59.6	
	comp=Z,63nm,0.8s						
NATX	Nacogdoches	5.77	143	IAmb_Lg		22 10 00.5	
	comp=Z,68nm,0.9s						
L34A	Svendsen Farm,	5.80	18	P	Pn	22 08 09.5	-0.9
	baz=199						
BRIGG	Briggsdale	6.02	315	IAmb_Lg		22 10 02.0	
	comp=Z,75nm,0.8s						
JCT	Junction City	6.03	189	IAmb_Lg		22 10 01.1	
	comp=Z,89nm,1.0s						
LCAR	Lake Charles	6.13	91	IAmb_Lg		22 09 56.9	
	comp=Z,44nm,0.9s						
T42A	Van Buren	6.15	82	IAmb_Lg		22 10 03.2	
	comp=Z,44nm,0.8s						
T42A	Van Buren	6.15	82	P	Pn	22 08 15.6	+0.3
	baz=267						
CCM	Cathedral Cave	6.17	73	IAmb_Lg		22 10 04.2	
	comp=Z,88nm,0.8s						
CCM	Cathedral Cave	6.17	73	P	Pn	22 08 16.1	+0.6
	baz=257						
CCAR	Cane Creek	6.23	112	IAmb_Lg		22 10 08.0	
	comp=Z,52nm,0.8s						
ISCO	Idaho Springs	6.38	304	Pn	Pn	22 08 17.7	-0.9
ISCO				IAmb_Lg		22 10 09.9	
	comp=Z,36nm,0.8s						
FVM	French Village	6.79	75	IAmb_Lg		22 10 22.9	
	comp=Z,69nm,0.8s						
HNDO	Hondo	6.92	184	Pn	Pn	22 08 24.6	-1.3
SAND	Sanderson	7.08	205	Pn	Pn	22 08 27.0	-1.1
SLM	Saint Louis	7.08	70	IAmb_Lg		22 10 30.7	
	comp=Z,86nm,0.8s						
PHWY	Pilot Hill	7.14	315	IAmb_Lg		22 10 37.0	
	comp=Z,41nm,0.8s						
N23A	Red Feather La	7.18	310	Pn	Pn	22 08 29.5	-0.1
N23A				IAmb_Lg		22 10 35.3	
	comp=Z,74nm,0.9s						
MNTX	Cornudas Mount	7.28	231	IAmb_Lg		22 10 43.4	
	comp=Z,47nm,1.0s						
CGM3	Cape Girardeau	7.31	81	IAmb_Lg		22 10 42.5	
	comp=Z,32nm,0.8s						
ECSD	EROS Data Cent	7.45	12	Pn	Pn	22 08 30.9	-2.2
OXF	Oxford	7.84	102	IAmb_Lg		22 11 00.1	
	comp=Z,28nm,0.9s						
Y45A	Yeager Farm, C	7.95	106	IAmb_Lg		22 11 17.0	
	comp=Z,35nm,0.7s						
SUSD	Miller	7.98	359	IAmb_Lg		22 11 05.9	
	comp=Z,38nm,0.7s						
TX31	Lajitas Ar. Si	8.23	212	Pn	Pn	22 08 42.9	-0.9
TX31	Lajitas Ar. Si	8.23	212	P	Pn	22 08 43.0	-0.8
	baz=29,SNR=13						
TXAR	Lajitas Array	8.23	212	Pn	Pn	22 08 42.7	-1.2
	comp=Z,0.8nm,0.3s,baz=38,slow=11,SNR=39						
TXAR				Pg	Pb	22 09 10.0	+3.1
	comp=Z,1.7nm,0.3s,baz=42,slow=15,SNR=15						
TXAR				Lg	Lg	22 10 56.4	
	comp=Z,1.4nm,0.3s,baz=40,slow=28,SNR=2.3						
	comp=Z,1.1nm,0.3s						
HDIL	Hopedale	8.45	58	Pn	Pn	22 08 46.2	-0.5
I37A	Lemond, Waseca	8.57	27	IAmb_Lg		22 11 26.0	
	comp=Z,29nm,0.8s						
K22A	Casper	8.63	318	IAmb_Lg		22 11 26.7	
	comp=Z,43nm,0.8s						
RSSD	Black Hills	8.66	334	IAmb_Lg		22 11 24.2	
	comp=Z,42nm,0.9s						
L42A	Oliver, Polo	8.94	49	IAmb_Lg		22 11 29.0	
	comp=Z,62nm,0.8s						
JFWS	Jewell Farm	9.18	43	IAmb_Lg		22 12 00.0	
	comp=Z,47nm,0.8s						
I40A	Norwalk	9.67	37	IAmb_Lg		22 12 00.0	
	comp=Z,32nm,0.9s						
PDAR	Pinedale Array	10.46	310	Pn	Pn	22 09 15.9	+1.3
	comp=Z,0.1nm,0.3s,baz=125,slow=17,SNR=1.9						
PDAR				Lg	Lg	22 12 12.1	
	comp=Z,1.0nm,0.3s,baz=121,slow=31,SNR=9.2						
	comp=Z,0.2nm,0.4s						
ULM	Lac du Bonnet	13.94	8	Pn	Pn	22 09 56.3	-5.5
	comp=Z,0.3nm,0.3s,baz=189,slow=12,SNR=1.5						
ULM				Lg	Lg	22 13 58.3	
	comp=Z,0.3nm,0.3s,baz=320,slow=22,SNR=1.7						
	comp=Z,1.3nm,0.4s						

DJA ***04*** *22:16:23.2±0.7, 1°S±6°×13°9E±°, h10km, M4.5/6, mb5.3/1, MLv4.1/6*
IDC ***04*** *22:16:24.2±1.3, 1°.90S×139°.14E, h0km, mb3.6/3, mbtmp3.7/4, ML4.0/1, MS3.0/2, Error ellipse: s-maj=30.3km s-min=21.8km az=41.0*

ISC 04 22:16:25.8±1.1, 1°.7S±0°.1×139°.15E±0°.05, h10km, n12, σ1°56/13, mb3.6/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.52	238	P	Pg	22 16 36.5	+0.5
SMPI				S	Sb	22 16 47.1	+2.4
GENI	Genyem	1.34	131	P	Pn	22 16 50.6	-0.1
GENI				S	Sb	22 17 09.6	+1.2
JAY	Jayapura	1.75	117	P	Pn	22 16 55.6	-0.7
JAY				S	Sn	22 17 20.1	+1.5
JAY	Jayapura	1.75	117	Pn	Pn	22 16 55.0	-1.2
	9.2nm,0.3s,baz=218,slow=9.3,SNR=19						
JAY				Sn	Sn	22 17 17.8	-0.8
	22nm,0.3s,baz=139,slow=15,SNR=5.7						
SRPI	Serui, Papua	2.92	267	P	Pn	22 17 08.6	-3.7
KMPI	Kaimana, Papua	5.78	250	P	Pn	22 17 50.1	-1.6
DAV	Davao City (W)	16.11	303	LR	LR	22 26 23.4	
	comp=Z,20nm,19.2s,baz=120,slow=37						
WRA	Warramunga Arr	18.72	194	P	P	22 20 42.5	-2.3
	0.5nm,0.3s,baz=19,slow=13,SNR=30						
	1.8nm,0.5s						
ASAR	Alice Springs	22.41	193	P	P	22 21 23.0	-1.8
	2.1nm,0.8s,baz=24,slow=10,SNR=15						
	2.1nm,0.8s						
SHEM	Shemya Is, Ala	61.66	23	LR	LR	22 52 09.8	
	comp=Z,28nm,20.5s,baz=336,slow=35						
MKAR	Makanchi Array	69.27	322	P	P	22 27 34.2	+0.9
	0.2nm,0.6s,baz=111,slow=7.6,SNR=2.0						
	0.2nm,0.6s						
BVAR	Borovoye Array	78.75	325	P	P	22 28 29.1	+0.5
	0.4nm,0.6s,baz=100,slow=7.5,SNR=2.0						
	0.4nm,0.6s						

IDC ***04*** *22:19:39.4±1.3, 55°.08S×28°.11W, h0km, mb3.8/3, mbtmp3.9/4, ML4.1/1, Error ellipse: s-maj=64.2km s-min=26.3km az=84.0*
NEIC ***04*** *22:19:39.0±0.7, 55°.07S±0°.09×28°.9W±0°.4, h10km±2km, mb4.0/5, Error ellipse: s-maj=37.3km s-min=14.8km az=82.0*

ISC 04 22:19:39.2±1.0, 55°.1S±0°.2×28°.9W±0°.2, h10km, n13, σ0°90/13, mb4.0/3, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.48	277	Pn	Pn	22 20 46.5	-0.4
SNAA	Sanae	20.03	156	P	P	22 24 10.6	-1.3
SNAA				IAmb	IAmb	22 24 27.8	
	comp=Z,8.2nm,1.4s						
SNAA	Sanae	20.03	156	⇑P	P	22 24 11.1	-0.8
SNAA	Sanae	20.03	156	P	P	22 24 10.7	-1.2
	comp=Z,0.6nm,0.3s,baz=305,slow=8.7,SNR=25						
	comp=Z,2.0nm,0.5s						
TROLL	Troll, Antarti	21.55	154	⇑P	P	22 24 28.3	-0.1
	comp=Z,147nm,0.7s						
QSPA	South Pole Qui	35.18	180	P	P	22 26 33.0	+0.1
QSPA				IAmb	IAmb	22 26 46.8	
	comp=Z,3.3nm,1.3s						
QSPA	South Pole Qui	35.18	180	P	P	22 26 34.7	+1.7
	comp=Z,1.0nm,0.5s,baz=201,slow=2.7,SNR=8.4						
	comp=Z,1.0nm,0.5s						
MAW	Mawson	41.51	145	P	P	22 27 26.1	+0.2
MAW	Mawson	41.51	145	P	P	22 27 25.8	-0.1
	comp=Z,0.9nm,0.7s,baz=257,slow=14,SNR=2.0						
	comp=Z,0.9nm,0.7s						
TOA0	Torodi Ar. Sit	72.70	31	P	P	22 31 06.5	-0.5
TORD	Torodi Ar. Bea	72.70	31	P	P	22 31 06.8	-0.3
TORD				IAmb	IAmb	22 31 23.1	
	comp=Z,1.6nm,1.0s						
TORD	Torodi Ar. Bea	72.70	31	P	P	22 31 07.5	+0.4
	comp=Z,0.9nm,0.8s,baz=205,slow=5.5,SNR=5.8						
	comp=Z,0.9nm,0.8s						
ILAR	Eielson Array	148.74	313	PKPbc	PKiKP	22 39 27.4	+0.8
	comp=Z,0.9nm,0.7s,baz=125,slow=2.8,SNR=8.9						

IDC ***04*** *22:27:42.9±1.8, 0°.53N×126°.62E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=173.1km s-min=23.9km az=66.0*
DJA ***04*** *22:27:42.6±0.3, 1°N±2°×12°7E±°, h10km, M3.4/9, MLv3.4/9*

ISC 04 22:27:46.6±1.3, 0°.74N±0°.09×127°.24E±0°.09, h10km, n9, σ2°22/8, mb3.5/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.13	74	P	Pg	22 27 49.1	-0.6
TNTI				S	Sg	22 27 54.1	+2.3
LBMI	Labuha	1.39	169	P	Pn	22 28 10.3	-1.8
LBMI				S	Sb	22 28 32.6	+2.1
SANI	Sanana	3.04	204	P	Pn	22 28 36.2	+1.4
NLAI	Namlea	3.95	182	P	Pn	22 28 46.5	-0.9
GTOI	Gorontalo	4.23	269	P	Pn	22 28 51.9	+0.7
WRA	Warramunga Arr	21.70	162	P	P	22 32 36.2	-1.7
	1.1nm,0.8s,baz=339,slow=11,SNR=6.8						
	1.1nm,0.8s						
ASAR	Alice Springs	25.11	165	P	P	22 33 08.9	-3.0
	0.5nm,0.8s,baz=339,slow=7.5,SNR=3.2						
	0.5nm,0.8s						
MKAR	Makanchi Array	60.30	326	P	P	22 37 51.5	-4.1
	0.4nm,0.6s,baz=124,slow=8.7,SNR=4.7						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	64.53	328	P	P	22 38 21.6	-2.1
	0.6nm,0.8s,baz=132,slow=6.1,SNR=3.3						
	0.6nm,0.8s						

IDC ***04*** *22:30:48.7±2.1, 37°.32N×141°.58E, h0km, mb3.4/3, mbtmp3.3/5, ML2.6/2, MS2.5/2, Error ellipse: s-maj=42.4km s-min=29.4km az=65.0*
JMA ***04*** *22:30:52.3±0.1, 37°.2N±0°.3×141°.3E±0°.8, h23km±1km, MV3.3/40, E OFF FUKUSHIMA PREF*

ISC 04 22:30:50.6±2.1, 37°.21N±0°.05×141°.43E±0°.09, h11km±12km, n22, σ0°64/24, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.47	290	P	Pb	22 31 00.4	-0.4
JFK				eS	Sg	22 31 06.4	+0.5
ONAJ	Iwakimizuishiy	0.51	258	i P	Pg	22 31 01.1	+0.5
ONAJ				eS	Sg	22 31 07.3	-0.1
JMST	Minamisoumatoc	0.67	320	i P	Pb	22 31 04.3	+0.1
JMST				S	Sb	22 31 13.4	-0.1
JFFD	Fukushimafurud	0.70	260	i P	Pg	22 31 04.5	+0.3
JFFD				S	Sg	22 31 14.0	+0.7
JMM	Marumori	0.82	323	i P	Pn	22 31 07.0	-1.1
JMM				S	Sb	22 31 18.2	+0.2
JHO	Hitachi	0.91	229	P	Pg	22 31 07.4	-0.7
JHO				S	Sg	22 31 19.2	-0.8
JOTO	OTAMA OYAMA	0.94	292	P	Pb	22 31 08.9	+0.1
JOTO				S	Sb	22 31 21.0	-0.3
JSB	Shiboa	1.23	259	P	Pb	22 31 14.2	+0.4
JSB				S	Sg	22 31 30.0	-0.1
JIO	Ouri	1.24	357	P	Pn	22 31 14.6	+0.7
JIO				S	Sn	22 31 30.9	+0.3
MJAR	Matsushiro Arr	2.66	256	Pn	Pn	22 31 34.6	+1.1
	0.4nm,0.3s,baz=68,slow=13,SNR=12						
MJAR				Sn	Sb	22 32 10.6	-0.3
	0.9nm,0.3s,baz=101,slow=16,SNR=4.8						
	1.9nm,0.3s						
USRK	Ussuriysk Ar.	10.00	317	Pn	Pn	22 33 12.8	-1.3
	0.1nm,0°.3s,baz=127,slow=24,SNR=2.0						
	0.3nm,0.3s						
KSRS	Korea Array	10.76	275	LR	LR	22 37 39.1	
	comp=Z,20nm,18.2s,baz=225,slow=38						
KLR	Kul'dur	13.91	333	LR	LR	22 39 48.7	
	comp=Z,18nm,18.6s,baz=20,slow=39						
H11N2	WAKE ISLAND Hy	28.23	121	T	T	23 06 20.3	
	baz=314,slow=75,SNR=12						
H11N1	WAKE ISLAND Hy	28.24	121	T	T	23 06 21.1	
	baz=314,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy	28.25	121	T	T	23 06 21.9	
	baz=314,slow=75,SNR=16						
H11S1	WAKE ISLAND Hy	28.95	123	T	T	23 07 13.3	
	baz=316,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy	28.95	123	T	T	23 07 13.3	
	baz=316,slow=76,SNR=8.0						
H11S2	WAKE ISLAND Hy	28.96	123	T	T	23 07 13.4	
	baz=316,slow=76,SNR=6.0						
MKAR	Makanchi Array	44.03	302	P	P	22 38 57.9	-0.2
	0.3nm,0.7s,baz=93,slow=8.1,SNR=2.0						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	45.90	308	P	P	22 39 13.5	+0.6
	0.3nm,0.3s,baz=89,slow=7.3,SNR=6.8						
	0.3nm,0.3s						
WRA	Warramunga Arr	57.24	188	P	P	22 40 38.5	+0.5
	0.3nm,0.5s,baz=2.7,slow=7.3,SNR=5.2						
	0.3nm,0.5s						

SJA ***04*** *22:33:12.6±1.0, 23°.97S×66°.79W, h232km±8km, ML4.5, MW4.1*
NEIC ***04*** *22:33:14.0±2.1, 23°.97S±0°.05×66°.70W±0°.08, h197km±6km, mb4.6/48, Mwr4.5(GUC), Error ellipse: s-maj=11.3km s-min=7.7km az=86.0*
IDC ***04*** *22:33:14.1±0.8, 23°.89S×66°.66W, h193km±7km, mb3.8/14, mbtmp4.4/20, Error ellipse: s-maj=13.4km s-min=9.4km az=60.0*
VAO ***04*** *22:33:14.7±0.3, 23°.88S×66°.70W, h201km, mb4.5*
GUC ***04*** *22:33:15.5±0.6, 23°.93S×67°.14W, h241km±6km, ML4.6*

ISC 04 22:33:14.4±0.6, 23°.96S±0°.03×66°.83W±0°.04, h204km±5km, n229, σ1°32/256, mb4.4/32, 20C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.43	122	i P	Pn	22 33 49.3	+1.3
SLA				eS	S	22 34 15.9	+2.1
HJA	Humahuaca	1.50	61	i P	Pn	22 33 49.7	+0.8
HJA				eS	S	22 34 18.8	+3.4
AF01	San Pedro de A	1.59	309		Pn	22 33 51.6	+2.0
AF01				Sn	S	22 34 19.8	+3.3
AF01	San Pedro de A	1.59	309	⇑i P	Pn	22 33 51.6	+2.0
AF01				i S	S	22 34 19.4	+2.9
AF01				IAML		22 34 23.8	
	comp=E,1μm,0.7s						
AZAP	Zapla	1.64	100	i P	Pn	22 33 50.5	+0.6
AZAP				eS	S	22 34 18.7	+1.6
YJA	Yavi	2.15	35	i P	Pn	22 33 56.0	+0.8
YJA				eS	S	22 34 29.1	+2.6
FSA	Cafayete	2.28	160	i P	Pn	22 33 57.1	+0.7
FSA				eS	S	22 34 29.1	+0.4
LVC	Limon Verde	2.33	305		Pn	22 33 58.3	+1.2
LVC				Sn	S	22 34 30.6	+0.9
LVC	Limon Verde	2.33	305	eP	Pn	22 33 58.5	+1.3
LVC				eS	S	22 34 31.7	+2.0
LVC	Limon Verde	2.33	305	P	Pn	22 33 58.0	+0.8
	comp=E,272nm,0.5s,baz=135,slow=6.5,SNR=855						
LVC				S	S	22 34 31.0	+1.2
	comp=E,650nm,0.7s,baz=262,slow=19,SNR=25						
LVC	Limon Verde	2.33	305	⇑P	Pn	22 33 58.3	+1.2
LVC				i S	S	22 34 30.8	+1.0
LVC				IAML		22 34 34.4	
	comp=E,2μm,0.6s						
LVC	Limon Verde	2.33	305	i P	Pn	22 33 58.1	+1.0
PB15	IPOC Station P	2.53	287		Pn	22 34 00.3	+1.1
PB15	IPOC Station P	2.53	287	⇑iP	Pn	22 34 00.2	+1.1
PB15				eS	S	22 34 34.0	+0.7
ALOL	LOMAS DE OLMED	2.61	88	i P	Pn	22 34 00.0	+0.2
GO02	Mina Guanaco	2.78	244		Pn	22 34 03.2	+1.1
GO02				Sn	S	22 34 39.6	+1.0
GO02	Mina Guanaco	2.78	244	⇑iP	Pn	22 34 03.2	+1.1
GO02				i S	S	22 34 39.6	+1.0
GO02	Mina Guanaco	2.78	244	i P	Pn	22 34 03.2	+1.1
PB06	IPOC Station P	2.81	296		Pn	22 34 03.2	+1.0
PB06	IPOC Station P	2.81	296	⇑iP	Pn	22 34 03.2	+1.0
PB06				i S	S	22 34 38.9	0.0
PB06				IAML		22 34 41.0	
	comp=E,1μm,0.1s						
PB06	IPOC Station P	2.81	296	i P	Pn	22 34 02.5	+0.3
PB06				IAML		22 34 41.7	
	comp=Z,695nm,0.3s						
PB09	IPOC Station P	3.09	314		Pn	22 34 06.5	+0.9
PB09	IPOC Station P	3.09	314	⇑iP	Pn	22 34 06.7	+1.1
PB09				i S	S	22 34 44.9	0.0
PB09				IAML		22 34 49.2	
	comp=E,582nm,0.5s						
PB09	IPOC Station P	3.09	314	i P	Pn	22 34 06.6	+1.0
PB09				eS	S	22 34 45.6	+0.7
PB09				IAML		22 34 46.6	
	comp=Z,863nm,0.8s						
AHML	Horco Molle	3.13	155	i P	Pn	22 34 06.1	+0.3
AHML				eS	S	22 34 44.8	-0.8
PB14	IPOC Station P	3.33	258		Pn	22 34 08.8	+0.4
PB14	IPOC Station P	3.33	258	⇑iP	Pn	22 34 09.0	+0.6
PB14				eS	S	22 34 49.0	-1.0
PB14	IPOC Station P	3.33	258	i P	Pn	22 34 08.9	+0.5
PB14				IAML		22 34 54.6	
	comp=Z,458nm,0.7s						
PB04	IPOC Station P	3.45	297		Pn	22 34 10.0	+0.1
PB04	IPOC Station P	3.45	297	⇑iP	Pn	22 34 10.2	+0.4
PB04				i S	S	22 34 51.1	-1.5
PB04	IPOC Station P	3.45	297	i P	Pn	22 34 10.2	+0.4
PB04				IAML		22 35 01.1	
	comp=Z,577nm,0.7s						
AC02	Maricunga	3.54	215		Pn	22 34 11.9	+0.7
AC02	Maricunga	3.54	215	⇑iP	Pn	22 34 12.5	+1.3
AC02				i S	S	22 34 56.6	+1.5
AC02	Maricunga	3.54	215	i P	Pn	22 34 12.2	+1.0
PB07	IPOC Station P	3.58	308		Pn	22 34 11.2	-0.3
PB07	IPOC Station P	3.58	308	⇑iP	Pn	22 34 11.7	+0.3
PB07				i S	S	22 34 53.6	-1.9
PB07	IPOC Station P	3.58	308	i P	Pn	22 34 11.6	+0.1
PB07				IAML		22 35 01.2	
	comp=Z,534nm,0.5s						
PB01	IPOC Station P	3.80	319		Pn	22 34 13.6	-0.4
PB01	IPOC Station P	3.80	319	⇑iP	Pn	22 34 13.9	-0.1
PB01				i S	S	22 34 58.5	-1.7
PB01	IPOC Station P	3.80	319	i P	Pn	22 34 13.9	-0.1
PB01				IAML		22 35 03.4	
	comp=Z,419nm,0.6s						
PB02	IPOC Station P	3.86	312		Pn	22 34 14.4	-0.4
PB02	IPOC Station P	3.86	312	⇑iP	Pn	22 34 14.6	-0.2
PB02				i S	S	22 34 59.3	-2.2
PB02	IPOC Station P	3.86	312	i P	Pn	22 34 14.5	-0.2
PB02				IAML		22 35 06.3	
	comp=Z,613nm,0.3s						
AC01	Pan de Azucar	4.05	237		Pn	22 34 16.4	-0.6
AC01	Pan de Azucar	4.05	237	⇑iP	Pn	22 34 16.6	-0.4
PB08	IPOC Station P	4.36	330		Pn	22 34 21.4	+0.1
PB08	IPOC Station P	4.36	330	⇑iP	Pn	22 34 21.9	+0.6
PB08				i S	S	22 35 12.8	-0.6
PB08	IPOC Station P	4.36	330	i P	Pn	22 34 21.4	+0.1
PB08				IAML		22 35 19.4	
	comp=Z,348nm,0.6s						
PATCX	Punta Patache	4.38	315	Pn	Pn	22 34 19.8	-1.4
PATCX	Punta Patache	4.38	315	i P	Pn	22 34 20.3	-0.9
TA01	Diego Aracena	4.58	317		Pn	22 34 23.2	-0.5
HMBC	Humberstone	4.63	322	i P

BDQN Bodoquena, MS 9.97 71 *eP* **Pn 22 35 31.3 -2.0**
MT02 Curacav 10.01 201 Pn **Pn 22 35 30.8 -2.8**
ANTJ Antonio Joao (10.16 81 *eP* **Pn 22 35 33.6 -2.2**
MT13 San Alfonso 10.21 196 Pn 22 35 35.5 -0.9
BO04 La Punta 10.53 197 Pn 22 35 39.0 -1.4
ITQB Itaqui 10.75 124 Pn 22 35 41.1 -2.1
ITQB Itaqui 10.75 124 *eP* **Pn 22 35 42.3 -0.8**
AQDB Aquidauana 10.88 74 Pn 22 35 43.2 -1.8
AQDB Aquidauana 10.88 74 *eP* **Pn 22 35 43.2 -1.8**
PTLB Pontes e Lacer 11.14 42 Pn 22 35 46.1 -2.2
PTLB Pontes e Lacer 11.14 42 *eP* **Pn 22 35 46.6 -1.7**
BO02 Sierra Bellavi 11.33 197 Pn 22 35 49.2 -1.5
MCR1 Marechal Candi 11.69 95 *eP* **Pn 22 35 54.2 -1.1**
UNIS Unistalda (Bra 11.70 118 *eP* **Pn 22 35 56.0 +0.7**
CRSM Crissiumal (Br 12.06 110 *eP* **Pn 22 35 59.3 -0.6**
RODS Rosario do Sul 12.16 124 *eP* **Pn 22 36 01.1 0.0**
ML02 Panimavida 12.42 198 Pn 22 36 03.3 -1.1
VILB Vilhena 12.62 31 Pn 22 36 05.2 -2.0
VILB Vilhena 12.62 31 *eP* **Pn 22 36 05.6 -1.5**
RPRD Ribas do Rio P 12.64 77 *eP* **Pn 22 36 06.5 -0.9**
FRBT Francisco Belt 12.65 102 *eP* **Pn 22 36 06.9 -0.7**
PP1B Ponte de Pedra 12.84 63 *eP* **Pn 22 36 07.3 -2.6**
TRCB Terra Rica 13.09 88 Pn 22 36 10.7 -2.3
TRCB Terra Rica 13.09 88 *eP* **Pn 22 36 12.3 -0.8**
SALV Santo Antonio 13.18 55 *eP* **Pn 22 36 12.9 -1.2**
ALGR Alto Alegre (B 13.28 114 *eP* **Pn 22 36 14.2 -1.2**
PTGB Pitanga 13.49 96 *eP* **Pn 22 36 17.2 -0.8**
CPSB Cacapava Do Su 13.54 121 *eP* **Pn 22 36 17.4 -1.0**
ITAB Concordia 13.66 107 Pn 22 36 18.3 -1.8
ITAB Concordia 13.66 107 *eP* **Pn 22 36 19.1 -0.9**
C2SB Chapadao do Su 14.02 71 *eP* **P 22 36 24.4 -1.9**
PLTB Pedras Altas 14.04 127 Pn 22 36 23.6 -1.1
PLTB Pedras Altas 14.04 127 *eP* **Pn 22 36 23.6 -1.1**
ETMB Extrema 14.07 3 Pn **Pn 22 36 24.3 -0.9**
ETMB Extrema 14.07 3 *eP* **P 22 36 25.9 -1.0**
LDASE Londrina, Braz 14.41 91 *eP* **P 22 36 28.6 -2.1**
TRQA Tornquist 14.65 165 Pn 22 36 30.3 -1.9
CNLB Canela 15.25 114 *eP* **Pn 22 36 38.4 -1.2**
SAML Samuel 15.33 14 P **Pn 22 36 38.8 -1.8**
SAML IAmb IAmb 22 36 40.9
comp=Z,11nm,0.7s
SAML Samuel 15.33 14 *eP* **Pn 22 36 39.8 -0.8**
PDRB Porto dos Gac 15.59 40 *eP* **Pn 22 36 42.2 -1.5**
FRTB Fartura 15.84 91 *eP* **Pn 22 36 45.8 -0.9**
ITRB Iturama 15.87 78 *eP* **P 22 36 45.3 -1.5**
GO06 Curarrehue 16.07 193 P **P 22 36 47.0 -1.8**
GO06 IAmb IAmb 22 36 52.4
comp=Z,42nm,0.9s
ARAG Araguaiana, MT 16.33 63 *eP* **Pn 22 36 52.3 -0.3**
CLDB Colider 16.72 41 *eP* **P 22 36 55.0 -1.2**
PLCA Paso Flores 17.02 190 P **P 22 36 58.4 -0.9**
PLCA IAmb IAmb 22 37 07.7
comp=Z,23nm,0.7s
PLCA Paso Flores 17.02 190 *eP* **P 22 36 59.4 +0.1**
PLCA Paso Flores 17.02 190 P **P 22 36 59.1 -0.2**
comp=Z,6.2nm,0.7s,baz=14,slow=12,SNR=15
CZSB Cruzeiro do Su 17.09 340 *eP* **P 22 37 00.6 +0.4**
BB19B Bebedouro 17.16 84 *eP* **Pn 22 37 00.2 -2.3**
RCLB Rio Claro- Sao 17.81 89 *eP* **P 22 37 07.5 -0.6**
PET01 Itanhaem-SP 17.86 95 *eP* **P 22 37 07.8 -0.7**
VAO Valinhos 18.25 91 *eP* **P 22 37 12.1 -0.8**
LL05 Los Muermos 18.27 196 P **P 22 37 11.8 -1.0**
IPMB Ipameri, GO 18.37 75 *eP* **Pn 22 37 13.9 -2.9**
LL01 San Ignacio de 18.95 193 P **P 22 37 19.9 -0.2**
SNDB Serra Nova Dou 18.96 54 *eP* **P 22 37 19.1 -1.4**
LL06 Loncomilla 19.07 196 P **P 22 37 21.0 -0.4**
PARB Paraibuna 19.44 92 *eP* **P 22 37 25.2 -0.5**
BDFB Brasilia 19.53 68 P **P 22 37 25.8 -0.9**
BDFB Brasilia 19.53 68 P **P 22 37 26.1 -0.7**
comp=Z,83nm,0.6s,baz=240,slow=12,SNR=125
LL02 Futaleuf 19.63 191 P **P 22 37 28.3 +0.9**
PMNB Patos De Minas 19.75 78 *eP* **P 22 37 28.0 -1.1**
GO07 Milladeo Hill, 19.93 195 P **P 22 37 29.6 -1.0**
TEFE Tefe 20.44 6 *eP* **P 22 37 35.6 -0.7**
ESAR Angra dos Reis 20.56 92 *eP* **P 22 37 36.3 -1.3**
BSCB Bom Sucesso 20.59 86 *eP* **P 22 37 36.1 -1.9**
AY01 Puyuhuapi 20.96 192 P **P 22 37 40.8 -0.7**
AY01 IAmb IAmb 22 38 09.7
comp=Z,40nm,1.3s
MACA Manacapuru-AM 21.51 17 P **P 22 37 46.7 -0.8**
MACA Manacapuru-AM 21.51 17 *eP* **P 22 37 46.8 -0.8**
VAS01 Vassouras-RJ 21.57 90 *eP* **P 22 37 48.2 -0.1**
ITTB Itaituba 22.22 30 *eP* **P 22 37 52.8 -1.8**
DIAM Diamantina, MG 22.31 80 *eP* **P 22 37 54.5 -1.0**
DUB01 Friburgo-RJ 22.58 90 *eP* **P 22 37 57.3 -0.6**
JANB Januaria 22.97 71 *eP* **P 22 37 59.9 -1.5**
MCRA Macar, Loja 23.22 325 P **P 22 38 04.2 +0.5**
SGCB S.to Gabriel d 23.69 360 *eP* **P 22 38 07.7 -0.2**
SMTB Santa Maria do 23.74 54 *eP* **P 22 38 07.1 -1.3**
SDBA SAO DESIDERIO 23.75 65 *eP* **P 22 38 06.5 -1.9**
PRPB Parauapebas 24.09 45 *eP* **P 22 38 09.5 -2.0**
ALF01 Guarapari-ES 24.37 87 *eP* **P 22 38 13.2 -0.8**
SJMB Sao Joao De Ma 24.44 83 *eP* **P 22 38 13.2 -1.5**
RIB01 Linhares ES 24.99 84 *eP* **P 22 38 18.3 -1.3**
MALB Monte Alegre 25.12 31 *eP* **P 22 38 20.3 -0.5**
GUA01 Guaratinga, BA 26.36 79 *eP* **P 22 38 30.5 -1.5**
BOAV Boa Vista 26.90 14 P **P 22 38 35.9 -0.8**
BOAV IAmb IAmb 22 38 37.9
comp=Z,3.3nm,0.6s
BOAV Boa Vista 26.90 14 *eP* **P 22 38 36.3 -0.5**
EFI East Falkland 28.48 169 P **P 22 38 49.8 -0.6**
MG02 Cerro Sombrero 28.84 183 P **P 22 38 54.1 +0.6**
TEIG Tepich 48.63 333 P **P 22 41 37.6 -0.2**
TEIG IAmb IAmb 22 42 07.9
comp=Z,52nm,1.4s
BELA Belgrano 2 56.06 172 P **P 22 42 32.5 +0.8**
BELA IAmb IAmb 22 42 34.1
comp=Z,6.7nm,0.9s
VNA3 Neumayer Olymp 57.15 161 ⇑P **P 22 42 40.5 +1.0**
comp=Z,8.7nm,0.7s
VNA1 Neumayer--Stat 57.34 160 ⇑P **P 22 42 42.4 +1.7**
comp=Z,6.6nm,0.9s
VNA2 Neumayer--Watz 57.71 160 ⇑P **P 22 42 44.3 +0.9**
comp=Z,7.4nm,0.6s,baz=285,slow=8.0
SNAA Sanae 59.34 161 P **P 22 42 55.4 +0.7**
SNAA IAmb IAmb 22 42 56.7
comp=Z,5.3nm,0.7s
SNAA Sanae 59.34 161 ⇑P **P 22 42 55.5 +0.8**
comp=Z,115nm,0.6s
SNAA Sanae 59.34 161 P **P 22 42 55.7 +1.0**
comp=Z,4.9nm,0.6s,baz=286,slow=9.0,SNR=31
comp=Z,4.9nm,0.6s
833A Chaparral WMA, 60.71 327 P **P 22 43 05.2 +0.8**
833A IAmb IAmb 22 43 06.4
comp=Z,13nm,0.7s
TROLL Troll, Antarti 61.05 161 ⇑P **P 22 43 07.5 +1.1**
comp=Z,438nm,0.6s
BRDY Brady 62.98 329 P **P 22 43 19.9 +0.3**
BRDY IAmb IAmb 22 43 20.8
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 63.73 324 P **P 22 43 25.4 +0.8**
TXAR Lajitas Array 63.73 324 P **P 22 43 25.3 +0.6**
comp=Z,0.4nm,0.4s,baz=146,slow=9.1,SNR=6.7
comp=Z,0.4nm,0.4s
ALPN Alpine 64.54 325 P **P 22 43 30.9 +1.0**
ALPN IAmb IAmb 22 43 31.3
comp=Z,2.4nm,0.8s
425A Indio Mountain 65.58 324 P **P 22 43 37.6 +1.0**
425A IAmb IAmb 22 43 38.5
comp=Z,4.2nm,0.8s
CCM Cathedral Cave 65.81 339 P **P 22 43 37.7 0.0**
CCM IAmb IAmb 22 43 38.3
comp=Z,8.7nm,0.7s
S39A Bolivar 66.19 337 P **P 22 43 40.8 +0.6**
S39A IAmb IAmb 22 43 41.3
comp=Z,8.8nm,0.6s
QSPA South Pole Qui 66.25 180 P **P 22 43 42.0 +1.6**
QSPA IAmb IAmb 22 43 42.9
comp=Z,13nm,0.7s
QSPA South Pole Qui 66.25 180 P **P 22 43 41.7 +1.3**
comp=Z,12nm,0.5s,baz=170,slow=7.5,SNR=77
comp=Z,12nm,0.5s
MNTX Cornudas Mount 66.50 325 P **P 22 43 42.6 +0.3**
P38A Dawn 67.99 338 P **P 22 43 51.6 +0.1**
P38A IAmb IAmb 22 43 52.0
comp=Z,14nm,0.5s
121A Cookes Peak, D 68.43 323 P **P 22 43 56.0 +1.4**
121A IAmb IAmb 22 43 57.8
comp=Z,7.2nm,1.0s
F64A Sherman 69.50 359 P **P 22 44 00.2 -0.4**
F64A IAmb IAmb 22 44 01.8
comp=Z,38nm,1.5s
ANMO Albuquerque 69.59 326 P **P 22 44 03.1 +1.6**

ANMO Albuquerque 69.59 326 P **P 22 44 03.1 +1.4**
comp=Z,2.5nm,0.8s,baz=153,slow=4.5,SNR=6.5
comp=Z,2.5nm,0.8s
BGNE Belgrade 71.22 336 P **P 22 44 11.8 +0.5**
SDCO Great Sand Dun 71.33 328 P **P 22 44 13.7 +1.4**
KOWA Kowa 72.28 65 P **P 22 44 17.3 -0.7**
KOWA IAmb IAmb 22 44 19.7
comp=Z,5.1nm,0.8s
ECSD EROS Data Cent 72.70 338 P **P 22 44 19.8 -0.1**
ECSD IAmb IAmb 22 44 21.1
comp=Z,12nm,1.2s
VNDA Vanda 74.77 190 P **P 22 44 33.8 +2.2**
baz=106,slow=4.0
TOA0 Torodi Ar. Sit 76.41 69 P **P 22 44 40.9 -0.9**
TOA0 IAmb IAmb 22 44 43.7
comp=Z,7.5nm,0.6s
TORD Torodi Ar. Bea 76.41 69 P **P 22 44 41.0 -0.9**
TORD IAmb IAmb 22 44 43.4
comp=Z,4.8nm,0.7s
TORD Torodi Ar. Bea 76.41 69 P **P 22 44 41.0 -0.9**
comp=Z,6.1nm,0.6s,baz=262,slow=5.3,SNR=46
comp=Z,6.1nm,0.6s
PDAR Pinedale Array 77.19 329 P **P 22 44 47.0 +1.0**
comp=Z,0.5nm,0.5s,baz=138,slow=7.4,SNR=6.7
comp=Z,0.5nm,0.5s
GMN Gold Mountain 77.22 321 P **P 22 44 47.8 +1.6**
ULM Lac du Bonnet 78.23 341 P **P 22 44 51.6 +0.4**
comp=Z,2.7nm,0.6s,baz=147,slow=8.6,SNR=5.2
comp=Z,2.7nm,0.6s
ELK Elko 78.53 325 P **P 22 44 54.8 +1.5**
comp=Z,1.1nm,0.7s,baz=117,slow=4.5,SNR=5.8
comp=Z,1.1nm,0.7s
NVAR Mina Array Bea 78.60 321 P **P 22 44 55.4 +1.6**
comp=Z,0.5nm,0.6s,baz=153,slow=6.4,SNR=5.9
comp=Z,0.5nm,0.6s
IMW Indian Meadow 78.70 329 P **P 22 44 56.0 +1.7**
BOSA Boshof 80.62 117 P **P 22 45 04.3 -0.6**
BOSA IAmb IAmb 22 45 17.9
comp=Z,16nm,1.3s
BOSA Boshof 80.62 117 P **P 22 45 05.3 +0.4**
comp=Z,2.2nm,0.6s,baz=261,slow=4.6,SNR=7.9
comp=Z,2.2nm,0.6s
MAW Mawson 81.43 163 P **P 22 45 09.6 +1.3**
MAW Mawson 81.43 163 P **P 22 45 09.5 +1.3**
comp=Z,8.2nm,0.8s,baz=216,slow=6.2,SNR=27
comp=Z,8.2nm,0.8s
LYMT Lyon Mountain 81.65 330 P **P 22 45 11.4 +1.5**
LBTB Lobatse 82.27 114 P **P 22 45 13.2 -0.3**
LBTB IAmb IAmb 22 45 53.5
comp=Z,11nm,1.2s
YBH Yreka Blue Hor 83.32 321 P **P 22 45 18.9 +0.4**
comp=Z,1.0nm,0.6s,baz=148,slow=13,SNR=3.6
comp=Z,1.0nm,0.6s
PINE Pine Mountain 83.69 324 P 22 45 21.6 +1.2
DBO Dodson Butte 84.51 322 P **P 22 45 25.6 +1.1**
ESDC Sonseca Array 86.26 43 P **P 22 45 34.0 +0.9**
comp=Z,0.7nm,0.8s,baz=238,slow=5.0,SNR=6.4
comp=Z,0.7nm,0.8s
CASY Casey 90.03 179 P **P 22 45 51.9 +1.4**
CASY IAmb IAmb 22 45 53.4
comp=Z,6.8nm,0.8s
YKA Yellowknife Ar 94.14 340 P **P 22 46 09.8 +0.6**
comp=Z,1.2nm,0.6s,baz=134,slow=4.1,SNR=8.2
comp=Z,1.2nm,0.6s
ASAR Alice Springs 128.56 205 PKP **PKPdf 22 51 58.2 +0.4**
comp=Z,2.9nm,0.7s,baz=142,slow=1.9,SNR=23
WRA Warramunga Arr 131.74 207 PKP **PKPdf 22 52 04.6 +0.7**
comp=Z,1.5nm,0.5s,baz=168,slow=1.6,SNR=34
KURBB Kurchatov Arra 142.25 36 PKP **PKPdf 22 52 21.5 -0.8**
comp=Z,0.4nm,0.4s,baz=285,slow=2.8,SNR=5.2
ZALV Zalesovo Beam 143.28 28 PKP PKPbc 22 52 22.0 +0.3
comp=Z,3.4nm,0.7s,baz=299,slow=4.3,SNR=15
KSH Kashi 145.05 55 PKP **PKPdf 22 52 27.7 0.0**
MKAR Makanchi Array 146.39 40 PKPbc **PKPbc 22 52 30.6 -0.6**
comp=Z,5.1nm,0.6s,baz=324,slow=2.3,SNR=47
SONM Songino Array 155.57 11 PKP **PKPdf 22 52 44.8 +1.1**
comp=Z,0.3nm,0.6s,baz=343,slow=1.5,SNR=1.9
SONM PKPab **PKPab 22 53 11.2 +0.5**
comp=Z,0.9nm,0.7s,baz=335,slow=5.4,SNR=4.6
PZH PanZhiHua 169.35 74 PKP **PKPdf 22 52 57.3 -0.6**

MDD 04 22:36:08.7±1.0, 28°.31N×16°.71W, h10km±6km, mb_Lg1.2/8, Error ellipse: s-maj=5.4km s-min=3.8km az=169.0, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDOS	**Garachico, Isl**	**0.03**	**240**	P	Pg	22 36 10.6	-0.2
CDOS				S	Sg	22 36 12.4	+0.2
CNOR	**Icod de los Vi**	**0.05**	**83**	P	Pg	22 36 10.6	-0.3
CNOR				S	Sg	22 36 12.2	-0.3
GUIA	**Guia de Isora,**	**0.06**	**188**	P	Pg	22 36 11.1	0.0
GUIA				S	Sg	22 36 13.0	+0.2
CBOL	**Buenavista del**	**0.10**	**273**	P	Pg	22 36 11.7	+0.2
CBOL				S	Sg	22 36 13.5	0.0
CFOR	**Fortaleza, Los**	**0.10**	**87**	P	Pg	22 36 11.6	0.0
CFOR				S	Sg	22 36 13.6	-0.1
CRAJ	**Montana Rajada**	**0.11**	**113**	P	Pg	22 36 12.0	+0.3
CRAJ				S	Sg	22 36 14.5	+0.6
CREA	**Los Realejos,**	**0.12**	**69**	P	Pg	22 36 12.4	+0.6
CREA				S	Sg	22 36 14.3	+0.3
CCAN	**Las Canadas**	**0.12**	**132**	P	Pg	22 36 11.9	0.0
CCAN				S	Sg	22 36 13.8	-0.4
CADE	**Adeje, Tenerif**	**0.15**	**191**	S	Sg	22 36 14.8	+0.3
CVIL	**Vilaflor**	**0.16**	**158**	S	Sg	22 36 15.4	+0.5
MACI	**Morro de la Ar**	**0.19**	**108**	P	Pg	22 36 12.9	+0.1
MACI				S	Sg	22 36 15.8	+0.1
CGUI	**Guimar, Teneri**	**0.24**	**87**	S	Sg	22 36 17.4	+0.4

IDC 04 22:38:39.9±2.1, 23°.52N×94°.54E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=97.9km s-min=24.3km az=67.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.23**	**340**	P	P	22 44 07.5	0.0
	0.9nm,0.7s,baz=155,slow=11,SNR=9.3						
	0.9nm,0.7s						
SONM	**Songino Array**	**26.04**	**18**	P	P	22 44 15.0	0.0
	0.1nm,0.3s,baz=197,slow=9.0,SNR=1.7						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**58.07**	**135**	P	P	22 48 35.0	-0.3
	0.4nm,0.6s,baz=320,slow=7.5,SNR=8.4						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**60.51**	**138**	P	P	22 48 52.3	+0.2
	0.3nm,0.4s,baz=317,slow=6.5,SNR=3.6						
	0.3nm,0.4s						

---

*SJA **04** 22:38:59.0±0.7, 25°.08S×70°.62W, h46km±9km, ML3.6, MW3.6*
*NEIC **04** 22:38:59.2±1.7, 25°.09S±0°.04×70°.82W±0°.09, h48km±4km, mb4.3/4, ML3.6(GUC), Error ellipse: s-maj=12.8km s-min=5.3km az=106.0*
*GUC **04** 22:39:00.0±0.8, 25°.12S×70°.62W, h52km±2km, ML3.6*
ISC 04 22:38:59.2±1.1, 25°.07S±0°.03×70°.76W±0°.08, h48km±10km, n53, σ1°.913/66, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.55**	**36**	Pn	**Pn**	**22 39 11.9**	**+0.7**
PB14				Sn	**Sn**	**22 39 20.4**	**+0.5**
PB14	**IPOC Station P**	**0.55**	**36**	⇑*iP*	**Pn**	**22 39 12.0**	**+0.7**
PB14				*eS*	**Sn**	**22 39 20.5**	**+0.7**
PB14				IAML		22 39 21.2	
comp=N,6μm,0.3s							
PB14	**IPOC Station P**	**0.55**	**36**	*eP*	**Pn**	**22 39 11.3**	**+0.1**
PB14				*eS*	**Sn**	**22 39 20.2**	**+0.3**
PB14				IAML		22 39 21.0	
comp=Z,5μm,0.4s							
GO02	**Mina Guanaco**	**1.06**	**95**	Pn	**Pn**	**22 39 17.5**	**-0.5**
GO02				Sn	**Sn**	**22 39 30.1**	**-1.7**
GO02	**Mina Guanaco**	**1.06**	**95**	⇓*iP*	**Pn**	**22 39 17.6**	**-0.5**
GO02				*eS*	**Sn**	**22 39 30.9**	**-0.9**
GO02				IAML		22 39 31.7	
comp=N,3μm,0.2s							
GO02	**Mina Guanaco**	**1.06**	**95**	*eP*	**Pn**	**22 39 17.5**	**-0.5**
GO02				*eS*	**Sn**	**22 39 30.8**	**-1.1**
AC01	**Pan de Azucar**	**1.08**	**172**	Pn	**Pn**	**22 39 18.5**	**+0.5**
AC01				Sn	**Sn**	**22 39 32.1**	**+0.2**
AC01	**Pan de Azucar**	**1.08**	**172**	⇑*iP*	**Pn**	**22 39 18.7**	**+0.7**
AC01				*eS*	**Sn**	**22 39 32.5**	**+0.6**
AC01				IAML		22 39 35.7	
comp=E,1μm,0.2s							
AC01	**Pan de Azucar**	**1.08**	**172**	*eP*	**Pn**	**22 39 18.8**	**+0.7**
AC01				*eS*	**Sn**	**22 39 33.0**	**+1.2**
AC01				IAML		22 39 35.4	
comp=Z,718nm,0.3s							
PB15	**IPOC Station P**	**2.20**	**33**		**Pn**	**22 39 34.8**	**+1.4**
PB15	**IPOC Station P**	**2.20**	**33**	*eP*	**Pn**	**22 39 35.1**	**+1.7**
PB15				*eS*	**Sn**	**22 40 01.4**	**+2.0**
AC02	**Maricunga**	**2.29**	**140**	Pn	**Pn**	**22 39 36.8**	**+1.9**
AC02	**Maricunga**	**2.29**	**140**	*eP*	**Pn**	**22 39 37.0**	**+2.1**
AC02				*eS*	**Sn**	**22 40 03.5**	**+1.4**
AC02				IAML		22 40 08.2	
comp=Z,395nm,0.2s							
AC06	**Mina Casimiro**	**2.31**	**171**	Pn	**Pn**	**22 39 35.5**	**+0.8**
AC06	**Mina Casimiro**	**2.31**	**171**	⇑*iP*	**Pn**	**22 39 35.8**	**+1.0**
AC06				*eS*	**Sn**	**22 40 02.5**	**+0.6**
AC06				IAML		22 40 10.2	
comp=E,390nm,0.3s							
GO03	**Copiap**	**2.56**	**170**	Pn	**Pn**	**22 39 38.9**	**+0.7**
GO03	**Copiap**	**2.56**	**170**	*eP*	**Pn**	**22 39 38.9**	**+0.7**
GO03				*eS*	**Sn**	**22 40 08.7**	**+0.6**
GO03				IAML		22 40 26.3	
comp=N,249nm,0.6s							
GO03	**Copiap**	**2.56**	**170**	*eP*	Pn	22 39 27.9	-10
GO03				*eS*	Sn	22 40 17.8	+10
PB06	**IPOC Station P**	**2.59**	**25**		**Pn**	**22 39 39.6**	**+0.8**
PB06	**IPOC Station P**	**2.59**	**25**	*eP*	**Pn**	**22 39 39.8**	**+1.0**
PB06				IAML		22 40 29.2	
comp=Z,223nm,0.5s							
PB04	**IPOC Station P**	**2.78**	**12**	Pn	**Pn**	**22 39 41.6**	**+0.2**
PB04	**IPOC Station P**	**2.78**	**12**	*eP*	**Pn**	**22 39 41.7**	**+0.3**
PB04				IAML		22 40 30.0	
comp=Z,169nm,0.5s							
LVC	**Limon Verde**	**2.98**	**35**	Pn	**Pn**	**22 39 46.0**	**+1.7**
LVC	**Limon Verde**	**2.98**	**35**	*eP*	**Pn**	**22 39 45.8**	**+1.5**
LVC				*eS*	**Sn**	**22 40 20.2**	**+1.3**
LVC	**Limon Verde**	**2.98**	**35**	*eP*	**Pn**	**22 39 46.0**	**+1.7**
LVC				*eS*	Sn	22 40 35.8	+17
LVC				IAML		22 40 36.9	
comp=Z,228nm,0.4s							
AC04	**Llanos de Chal**	**3.13**	**185**	Pn	**Pn**	**22 39 45.1**	**-0.9**
AC04	**Llanos de Chal**	**3.13**	**185**	*eP*	Pn	22 39 40.8	-5.3
PB07	**IPOC Station P**	**3.42**	**14**		**Pn**	**22 39 50.4**	**+0.1**
PB07	**IPOC Station P**	**3.42**	**14**	*eP*	**Pn**	**22 39 50.5**	**+0.3**
PB07				IAML		22 40 55.0	
comp=Z,127nm,0.3s							
PB09	**IPOC Station P**	**3.54**	**23**		**Pn**	**22 39 53.3**	**+1.4**
PB09	**IPOC Station P**	**3.54**	**23**	*eP*	**Pn**	**22 39 53.5**	**+1.6**
PB09				*eS*	Sn	22 40 53.5	+21
PB09				IAML		22 40 59.8	
comp=Z,133nm,0.5s							
AC05	**El Transito**	**3.77**	**174**	*eP*	**Pn**	**22 39 58.0**	**+3.1**
AC05				IAML		22 40 46.0	
comp=Z,204nm,2.1s							
PB02	**IPOC Station P**	**3.82**	**12**		**Pn**	**22 39 55.7**	**+0.2**
PB02	**IPOC Station P**	**3.82**	**12**	*eP*	**Pn**	**22 39 55.8**	**+0.2**
PB02				IAML		22 41 05.6	
comp=Z,156nm,0.2s							
LCO	**Las Campanas**	**3.92**	**179**	Pn	**Pn**	**22 39 56.7**	**-0.4**
LCO	**Las Campanas**	**3.92**	**179**	*eP*	**Pn**	**22 39 56.9**	**-0.2**
LCO				*eS*	**Sn**	**22 40 45.1**	**+3.0**
LCO				IAML		22 41 10.6	
comp=Z,59nm,0.5s							
PB01	**IPOC Station P**	**4.18**	**17**		**Pn**	**22 40 01.0**	**+0.5**
PB01	**IPOC Station P**	**4.18**	**17**	*eP*	**Pn**	**22 40 00.5**	**+0.1**
PB01				IAML		22 41 20.4	
comp=Z,45nm,0.3s							
PATCX	**Punta Patache**	**4.27**	**8**	Pn	**Pn**	**22 40 00.8**	**-0.9**
PATCX	**Punta Patache**	**4.27**	**8**	*eP*	**Pn**	**22 40 00.8**	**-0.9**
TA01	**Diego Aracena**	**4.52**	**7**	*eP*	**Pn**	**22 40 03.9**	**-1.1**
TA01				IAML		22 41 44.5	
comp=Z,30nm,0.6s							
CO01	**Juntas del Tor**	**4.92**	**173**	Pn	**Pn**	**22 40 11.3**	**+0.4**
GO04	**Tololo Observa**	**5.08**	**180**		**Pn**	**22 40 12.7**	**-0.3**
PB08	**IPOC Station P**	**5.13**	**17**		**Pn**	**22 40 13.8**	**+0.1**
GO01	**Chusmiza**	**5.57**	**15**		**Pn**	**22 40 19.7**	**-0.2**
PB12	**IPOC Station P**	**6.44**	**4**		**Pn**	**22 40 30.8**	**-0.8**
PB16	**IPOC Station P**	**6.80**	**10**	Pn	**Pn**	**22 40 37.2**	**+0.2**
MT01	**Popeta**	**8.77**	**183**	Pn	**Pn**	**22 41 01.2**	**-2.2**
LPAZ	**La Paz**	**9.08**	**16**	Pn	**Pn**	**22 41 09.2**	**+1.0**
BDFB	**Brasilia**	**23.27**	**71**	P	**P**	**22 44 02.6**	**-0.2**
BDFB				IAmb	IAmb	22 44 14.3	
comp=Z,16nm,1.5s							
SNAA	**Sanae**	**59.49**	**160**	P	**P**	**22 48 56.1**	**-0.9**
SNAA				IAmb	IAmb	22 49 12.7	
comp=Z,4.0nm,1.5s							
QSPA	**South Pole Qui**	**65.14**	**180**	P	**P**	**22 49 35.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**80.15**	**71**	P	**P**	**22 51 04.1**	**-0.5**

ROM 04 22:48:18.4±0.1, 39°.948N±0°.004×16°.432E±0°.006, h25km, ML2.3/58, 4C, Error ellipse: s-maj=0.5km s-min=0.0km az=105.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALB	**San Lorenzo Be**	**0.10**	**223**	⇑P	Pb	22 48 22.8	-0.4
SALB				S	Sb	22 48 26.4	0.0
SALB				AML	AML		
comp=E,10253μm,0.3s							
SALB				AML	AML		
comp=N,3118μm,0.2s							
SALB				AML	AML		
comp=E,10270μm,0.3s							
SALB				AML	AML		
comp=N,3120μm,0.2s							
ORI	**Oriolo Calabro**	**0.12**	**6**	⇑P	Pb	22 48 23.3	0.0
ORI				S	Sb	22 48 27.3	+0.7
ORI				AML	AML		
comp=E,12300μm,0.3s							
ORI				AML	AML		
comp=N,5790μm,1.0s							
ORI				AML	AML		
comp=E,12313μm,0.3s							
ORI				AML	AML		
comp=N,5773μm,0.3s							
ORI				AML	AML		
comp=N,5790μm,1.0s							
TDS	**Terranova Siba**	**0.30**	**194**	⇑P	Pb	22 48 25.2	-0.2
TDS				S	Sb	22 48 30.5	+0.4
TDS				AML	AML		
comp=N,218μm,0.6s							
TDS				AML	AML		
comp=N,219μm,0.6s							
TDS				AML	AML		
comp=E,244μm,0.4s							
TDS				AML	AML		
comp=E,244μm,0.4s							
MMN	**Mormanno**	**0.34**	**260**	P	Pb	22 48 26.5	+0.4
MMN				AML	AML		
comp=N,325μm,0.8s							
MMN				AML	AML		
comp=E,252μm,0.2s							
MMN				AML	AML		
comp=N,325μm,1.2s							
CRAC	**Craco**	**0.42**	**0**	P	Pb	22 48 27.9	+0.6
CRAC				S	Sn	22 48 34.8	-0.9
CRAC				AML	AML		
comp=E,1185μm,0.2s							
CRAC				AML	AML		
comp=E,1186μm,0.2s							
CRAC				AML	AML		
comp=N,952μm,0.4s							
CRAC				AML	AML		
comp=N,954μm,0.4s							
CUC	**Castrocucco**	**0.48**	**276**	P	Pb	22 48 28.4	+0.1
CUC				S	Sb	22 48 36.0	+1.0
CUC				AML	AML		
comp=N,280μm,0.6s							
CUC				AML	AML		
comp=E,295μm,1.6s							
CUC				AML	AML		
comp=E,

CUC			AML	AML		
	comp=E,295μm,0.4s					
SIRI	**Monte Sirino -**	**0.49 299**	P	Pb	22 48 28.6	+0.1
SIRI			S	Sb	22 48 36.4	+0.9
CELI	**Celico**	**0.55 174**	P	Pb	22 48 29.5	0.0
CELI			AML	AML		
	comp=E,260μm,0.5s					
CELI			AML	AML		
	comp=N,78μm,0.4s					
CELI			AML	AML		
	comp=E,109μm,0.5s					
CELI			AML	AML		
	comp=N,183μm,0.4s					
CELI			AML	AML		
	comp=N,183μm,0.4s					
CELI			AML	AML		
	comp=E,260μm,0.5s					
PIPA	**Pietrapaola**	**0.55 147**	P	Pb	22 48 29.9	+0.4
PIPA			AML	AML		
	comp=E,258μm,1.1s					
PIPA			AML	AML		
	comp=N,280μm,1.6s					
PIPA			AML	AML		
	comp=N,190μm,0.4s					
PIPA			AML	AML		
	comp=E,258μm,1.1s					
PIPA			AML	AML		
	comp=N,280μm,1.6s					
PIPA			AML	AML		
	comp=E,239μm,0.3s					
PIPA			AML	AML		
	comp=E,240μm,0.4s					
PIPA			AML	AML		
	comp=N,190μm,0.4s					
PIPA			AML	AML		
	comp=N,268μm,0.3s					
PIPA			AML	AML		
	comp=N,280μm,0.4s					
PIPA			AML	AML		
	comp=E,240μm,0.4s					
CET2	**Cetraro**	**0.56 221**	P	Pb	22 48 30.1	+0.5
CET2			AML	AML		
	comp=E,763μm,0.5s					
CET2			AML	AML		
	comp=N,1375μm,0.4s					
CET2			AML	AML		
	comp=N,1372μm,0.4s					
CET2			AML	AML		
	comp=E,763μm,0.5s					
CET2			AML	AML		
	comp=E,763μm,1.5s					
MTSN	**Montesano sull**	**0.61 302**	P	Pb	22 48 30.5	0.0
MTSN			S	Sb	22 48 39.5	+0.6
MTSN			AML	AML		
	comp=E,388μm,0.7s					
MTSN			AML	AML		
	comp=N,334μm,1.6s					
MTSN			AML	AML		
	comp=E,348μm,0.4s					
MTSN			AML	AML		
	comp=N,322μm,0.3s					
MTSN			AML	AML		
	comp=N,334μm,0.4s					
MCEL	**Monticello**	**0.61 308**	P	Pb	22 48 30.6	+0.1
MCEL			S	Sb	22 48 39.1	+0.2
MCEL			AML	AML		
	comp=N,648μm,0.3s					
MCEL			AML	AML		
	comp=E,476μm,0.8s					
MCEL			AML	AML		
	comp=E,444μm,1.6s					
MCEL			AML	AML		
	comp=N,648μm,0.3s					
MCEL			AML	AML		
	comp=N,677μm,0.3s					
MCEL			AML	AML		
	comp=E,464μm,0.3s					
MCEL			AML	AML		
	comp=N,648μm,0.3s					
MCEL			AML	AML		
	comp=E,435μm,0.3s					
MCEL			AML	AML		
	comp=N,677μm,0.3s					
MCEL			AML	AML		
	comp=E,476μm,1.2s					
PTRP	**Pietrapertosa**	**0.64 334**	P	Pb	22 48 31.3	+0.3
PTRP			AML	AML		
	comp=E,172μm,0.4s					
PTRP			AML	AML		
	comp=N,332μm,0.5s					
PTRP			AML	AML		
	comp=E,173μm,0.4s					
PTRP			AML	AML		
	comp=E,172μm,1.6s					
PTRP			AML	AML		
	comp=N,332μm,0.5s					
MIGL	**Miglionico**	**0.66 1**	P	Pb	22 48 30.9	-0.3
MIGL			S	Sn	22 48 41.1	-0.5
MIGL			AML	AML		
	comp=E,1033μm,0.5s					
MIGL			AML	AML		
	comp=N,762μm,0.6s					
MIGL			AML	AML		
	comp=E,1031μm,0.5s					
MIGL			AML	AML		
	comp=N,762μm,0.6s					
MGR	**Morigerati**	**0.70 286**	P	Pb	22 48 31.4	-0.6
MGR			AML	AML		
	comp=N,283μm,0.6s					
MGR			AML	AML		
	comp=E,227μm,0.6s					
MGR			AML	AML		
	comp=N,186μm,0.3s					
MGR			AML	AML		
	comp=E,189μm,0.4s					
MGR			AML	AML		
	comp=N,194μm,0.7s					
MGR			AML	AML		
	comp=E,192μm,0.6s					
CAR1	**CAROLEI**	**0.71 194**	P	Pb	22 48 32.5	+0.3
CAR1			AML	AML		
	comp=E,309μm,0.8s					
CAR1			AML	AML		
	comp=N,265μm,0.6s					
CAR1			AML	AML		
	comp=N,302μm,0.7s					
CAR1			AML	AML		
	comp=E,319μm,0.7s					
CAR1			AML	AML		
	comp=N,265μm,0.6s					
CAR1			AML	AML		
	comp=E,276μm,0.5s					
CAR1			AML	AML		
	comp=N,265μm,1.4s					
LTRZ	**Laterza**	**0.72 24**	P	Pb	22 48 31.9	-0.4
LTRZ			S	Sb	22 48 42.1	+0.3
LTRZ			AML	AML		
	comp=E,456μm,1.3s					
LTRZ			AML	AML		
	comp=E,398μm,0.4s					
LTRZ			AML	AML		
	comp=N,817μm,1.6s					
LTRZ			AML	AML		
	comp=N,398μm,0.2s					
LTRZ			AML	AML		
	comp=N,818μm,1.6s					
LTRZ			AML	AML		
	comp=N,869μm,1.9s					
LTRZ			AML	AML		
	comp=E,398μm,0.4s					
LTRZ			AML	AML		
	comp=N,399μm,0.2s					
LTRZ			AML	AML		
	comp=E,439μm,0.4s					
LTRZ			AML	AML		
	comp=E,398μm,1.6s					
LTRZ			AML	AML		
	comp=N,817μm,0.4s					
MATE	**Matera**	**0.73 16**	P	Pb	22 48 32.1	-0.3
MATE			S	Sb	22 48 42.7	+0.6
MATE			AML	AML		
	comp=E,521μm,0.4s					
MATE			AML	AML		
	comp=N,438μm,0.1s					
MATE			AML	AML		
	comp=N,438μm,0.1s					
MATE			AML	AML		
	comp=E,522μm,0.4s					
SLCN	**Sala Consilina**	**0.76 306**	P	Pb	22 48 32.5	-0.4
SLCN			AML	AML		
	comp=N,312μm,0.4s					
SLCN			AML	AML		
	comp=E,362μm,0.5s					
SLCN			AML	AML		
	comp=N,303μm,0.7s					
SLCN			AML	AML		
	comp=N,311μm,0.4s					
SLCN			AML	AML		
	comp=E,362μm,0.5s					
SLCN			AML	AML		
	comp=E,337μm,0.6s					
TIP	**Timpagrande**	**0.81 162**	P	Pb	22 48 33.8	0.0
TIP			AML	AML		
	comp=E,42μm,0.7s					
TIP			AML	AML		
	comp=N,48μm,0.9s					
TIP			AML	AML		
	comp=E,42μm,0.7s					
TIP			AML	AML		
	comp=E,62μm,0.9s					
TIP			AML	AML		
	comp=N,45μm,1.2s					
TIP			AML	AML		
	comp=N,45μm,1.2s					
BULG	**Bulgheria - Ca**	**0.82 279**	P	Pb	22 48 33.6	-0.4
BULG			AML	AML		
	comp=E,126μm,0.3s					
BULG			AML	AML		
	comp=N,186μm,0.6s					
BULG			AML	AML		
	comp=N,181μm,0.3s					
BULG			AML	AML		
	comp=E,126μm,0.3s					
BULG			AML	AML		
	comp=E,124μm,0.3s					
BULG			AML	AML		
	comp=N,184μm,0.4s					
BULG			AML	AML		
	comp=E,124μm,0.3s					
BULG			AML	AML		
	comp=N,184μm,0.7s					
TAR1	**Taranto**	**0.87 48**	P	Pb	22 48 34.7	-0.2
TAR1			AML	AML		
	comp=E,441μm,1.1s					
TAR1			AML	AML		
	comp=N,358μm,0.7s					
TAR1			AML	AML		
	comp=E,420μm,0.3s					
TAR1			AML	AML		
	comp=N,311μm,0.2s					
TAR1			AML	AML		
	comp=E,441μm,0.9s					
ACER	**Acerenza**	**0.92 336**	P	Pb	22 48 35.6	-0.1
ACER			AML	AML		
	comp=E,312μm,0.6s					
ACER			AML	AML		
	comp=N,184μm,0.9s					
ACER			AML	AML		
	comp=N,225μm,0.7s					
ACER			AML	AML		
	comp=E,312μm,0.6s					
ACER			AML	AML		
	comp=E,305μm,0.5s					
ACER			AML	AML		
	comp=N,179μm,0.5s					
SERS	**Sersale**	**0.93 168**	P	Pb	22 48 35.9	-0.1
SERS			AML	AML		
	comp=E,95μm,0.9s					
SERS			AML	AML		
	comp=E,95μm,0.9s					
SERS			AML	AML		
	comp=N,93μm,0.5s					
SERS			AML	AML		
	comp=N,110μm,0.6s					
SERS			AML	AML		
	comp=N,111μm,0.6s					
SERS			AML	AML		
	comp=E,95μm,0.9s					
SERS			AML	AML		
	comp=N,92μm,0.5s					
SERS			AML	AML		
	comp=E,82μm,0.5s					
SERS			AML	AML		
	comp=E,82μm,0.5s					
SERS			AML	AML		
	comp=N,92μm,0.5s					
SERS			AML	AML		
	comp=N,110μm,1.4s					
AMUR	**Altamura**	**0.97 8**	AML	AML		
	comp=E,280μm,0.5s					
AMUR			AML	AML		
	comp=N,172μm,0.9s					
NOCI	**Noci**	**0.97 30**	P	Pb	22 48 36.6	+0.1
NOCI			AML	AML		
	comp=E,674μm,0.5s					
NOCI			AML	AML		
	comp=N,393μm,0.2s					
NOCI			AML	AML		
	comp=E,665μm,0.4s					
NOCI			AML	AML		
	comp=N,460μm,0.5s					
PALZ	**Palazzo San Ge**	**1.06 340**	P	Pb	22 48 38.2	+0.2
PALZ			AML	AML		
	comp=E,192μm,0.8s					
PALZ			AML	AML		
	comp=N,146μm,0.7s					
PALZ			AML	AML		
	comp=E,193μm,0.8s					
PALZ			AML	AML		
	comp=N,145μm,0.7s					
PALZ			AML	AML		
	comp=N,146μm,1.3s					
GRI	**Girifalco**	**1.12 180**	⇑P	Pb	22 48 40.9	+1.8
MRVN	**Minervino Murg**	**1.13 351**	P	Pb	22 48 39.1	-0.1
MRVN			AML	AML		
	comp=N,76μm,0.5s					
MRVN			AML	AML		
	comp=N,64μm,0.3s					
MRVN			AML	AML		
	comp=E,95μm,0.5s					
MRVN			AML	AML		
	comp=N,76μm,1.5s					
MRVN			AML	AML		
	comp=E,95μm,0.5s					
MESG	**Mesagne**	**1.26 59**	P	Pb	22 48 41.6	+0.2
CAPA	**Cerignola FG**	**1.30 339**	AML	AML		
	comp=N,110μm,0.5s					
CAPA			AML	AML		
	comp=E,129μm,0.9s					
CAPA			AML	AML		
	comp=N,110μm,1.0s					
CAPA			AML	AML		
	comp=E,129μm,0.9s					
MELA	**Melanico ??? S**	**2.02 331**	AML	AML		
	comp=N,216μm,0.9s					
MELA			AML	AML		
	comp=N,73μm,0.6s					
MELA			AML	AML		
	comp=E,64μm,0.5s					
MELA			AML	AML		
	comp=E,148μm,0.7s					
LSTV	**Lastovo**	**2.84 7**	*e*Pn	Pn	22 49 03.6	+1.5
LSTV			Sn	Sn	22 49 34.4	-1.0
DBRK	**Dubrovnik**	**3.01 25**	*e*Pn	Pn	22 49 06.3	+1.9
HVAR	**Hvar**	**3.23 0**	*e*Pn	Pn	22 49 08.9	+1.5
RICI	**Ricice**	**3.58 8**	*e*Pn	Pn	22 49 13.1	+0.8
ZIRJ	**Zirje**	**3.75 351**	*e*Pn	Pn	22 49 16.2	+1.7
MORI	**Morici**	**3.95 352**	*e*Pn	Pn	22 49 19.0	+1.6
KIJV	**Kijevo**	**4.05 360**	*e*Pn	Pn	22 49 21.2	+2.5
DUGI	**Dugi Otok**	**4.17 346**	*e*Pn	Pn	22 49 21.9	+1.5
VIRC	**Vir**	**4.46 347**	*e*Pn	Pn	22 49 26.7	+2.4
NVLJ	**Novalja**	**4.75 346**	*e*Pn	Pn	22 49 30.3	+2.0

ROM 04 22:48:49.5±0.1, 39°.948N±0°.006×16°.42E±0°.01, h22km±1km, ML2.4/24, 1C, Error ellipse: s-maj=1.1km s-min=0.4km az=98.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALB	**San Lorenzo Be**	**0.09**	**218**	⇑P	Pb	22 48 53.6	-0.2
SALB				S	Sb	22 48 56.5	-0.3
SALB				AML	AML		
	comp=E,5505μm,0.3s						
SALB				AML	AML		
	comp=N,2855μm,0.2s						
SALB				AML	AML		
	comp=E,5508μm,0.3s						
SALB				AML	AML		
	comp=N,2855μm,0.2s						
SALB				AML	AML		
	comp=E,5508μm,0.3s						
ORI	**Oriolo Calabro**	**0.12**	**12**	P	Pb	22 48 54.1	-0.2
ORI				S	Sb	22 48 57.5	-0.1
ORI				AML	AML		
	comp=E,8420μm,0.2s						
ORI				AML	AML		
	comp=N,4835μm,0.3s						
ORI				AML	AML		
	comp=E,8395μm,0.2s						
ORI				AML	AML		
	comp=N,4836μm,0.3s						
TDS	**Terranova Siba**	**0.30**	**192**	P	Pb	22 48 56.0	-0.2
TDS				S	Sb	22 49 01.2	+0.4
TDS				AML	AML		
	comp=E,113μm,0.3s						
TDS				AML	AML		
	comp=N,113μm,0.3s						
TDS				AML	AML		
	comp=N,144μm,0.6s						
TDS				AML	AML		
	comp=E,113μm,0.3s						
MMN	**Mormanno**	**0.33**	**260**	P	Pb	22 48 57.2	+0.4
MMN				AML	AML		
	comp=N,209μm,0.2s						
MMN				AML	AML		
	comp=E,137μm,0.2s						
CRAC	**Craco**	**0.42**	**2**	P	Pb	22 48 58.7	+0.5
CRAC				AML	AML		
	comp=E,664μm,0.2s						
CRAC				AML	AML		
	comp=N,503μm,0.8s						
CUC	**Castrocucco**	**0.47**	**276**	P	Pb	22 48 59.3	+0.3
CUC				AML	AML		
	comp=E,150μm,0.3s						
CUC				AML	AML		
	comp=N,149μm,0.9s						
CUC				AML	AML		
	comp=E,174μm,0.3s						
CUC				AML	AML		
	comp=N,159μm,0.5s						
SIRI	**Monte Sirino -**	**0.48**	**299**	P	Pb	22 48 59.3	-0.1
SIRI				S	Sb	22 49 07.0	+0.9
SIRI				AML	AML		
	comp=E,424μm,0.4s						
SIRI				AML	AML		
	comp=N,634μm,0.2s						
SIRI				AML	AML		
	comp=E,436μm,0.4s						
SIRI				AML	AML		
	comp=E,408μm,0.2s						
SIRI				AML	AML		
	comp=E,430μm,0.8s						
SIRI				AML	AML		
	comp=N,609μm,0.2s						
SIRI				AML	AML		
	comp=N,635μm,0.8s						
CELI	**Celico**	**0.55**	**173**	P	Pb	22 49 00.3	-0.2
CELI				AML	AML		
	comp=E,84μm,0.5s						
CELI				AML	AML		
	comp=N,70μm,0.9s						
CELI				AML	AML		
	comp=N,156μm,0.9s						
CELI				AML	AML		
	comp=E,194μm,0.5s						
CET2	**Cetraro**	**0.55**	**221**	P	Pb	22 49 01.1	+0.5
CET2				AML	AML		
	comp=N,890μm,0.5s						
CET2				AML	AML		
	comp=E,545μm,0.5s						
PIPA	**Pietrapaola**	**0.56**	**146**	P	Pb	22 49 01.2	+0.6
MTSN	**Montesano sull**	**0.60**	**302**	P	Pb	22 49 01.7	+0.3
MCEL	**Monticello**	**0.60**	**309**	P	Pb	22 49 01.0	-0.4
MCEL				AML	AML		
	comp=E,286μm,0.1s						
MCEL				AML	AML		
	comp=E,270μm,0.1s						
MCEL				AML	AML		
	comp=N,435μm,0.3s						
MCEL				AML	AML		
	comp=N,472μm,0.3s						
MCEL				AML	AML		
	comp=N,472μm,0.3s						
MIGL	**Miglionico**	**0.66**	**2**	P	Pb	22 49 01.8	-0.5
MIGL				AML	AML		
	comp=E,632μm,0.4s						
MIGL				AML	AML		
	comp=N,413μm,0.5s						
MIGL				AML	AML		
	comp=N,314μm,0.5s						
MIGL				AML	AML		
	comp=E,635μm,0.6s						
LTRZ	**Laterza**	**0.72**	**25**	P	Pb	22 49 02.9	-0.5
LTRZ				AML	AML		
	comp=E,192μm,0.5s						
LTRZ				AML	AML		
	comp=N,277μm,0.9s						
LTRZ				AML	AML		
	comp=E,251μm,0.4s						
MATE	**Matera**	**0.73**	**17**	P	Pb	22 49 03.0	-0.6
MATE				AML	AML		
	comp=N,281μm,0.1s						
MATE				AML	AML		
	comp=E,316μm,0.3s						
TAR1	**Taranto**	**0.88**	**49**	P	Pb	22 49 05.8	-0.3
TAR1				AML	AML		
	comp=N,230μm,0.8s						
TAR1				AML	AML		
	comp=E,336μm,0.3s						
NOCI	**Noci**	**0.97**	**30**	P	Pb	22 49 07.8	+0.1
NOCI				AML	AML		
	comp=E,434μm,0.5s						
NOCI				AML	AML		
	comp=N,271μm,0.2s						

*SOME **04** 22:57:12.8, 41°.25N×71°.80E, h10km*
*ISU **04** 22:57:12.9, 41°.32N×71°.80E, h15km*
*KRNET **04** 22:57:12.9±0.1, 41°.29N×71°.78E, h12km, mb3.3*
*KNET **04** 22:57:12.5±0.8, 41°.11N×71°.94E, h4km±5km, ml3.1, Error ellipse: s-maj=19.8km s-min=6.8km az=131.0*
*NNC **04** 22:57:13.8±1.4, 41°.21N×71°.77E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=12.2km s-min=3.9km az=6.0*

ISC 04 22:57:13.3±1.1, 41°.26N±0°.02×71°.83E±0°.02, h3km±9km, n63, σ1°53/96, 19C-16D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSNS	**Kasansay**	**0.25**	**247**	P	**Pg**	**22 57 18.2**	**0.0**
KSNS				S	**Sg**	**22 57 22.6**	**+1.1**
NAM	**Namangan**	**0.29**	**206**	P	**Pg**	**22 57 19.4**	**+0.4**
NAM				S	**Sb**	**22 57 24.9**	**-1.6**
ARK	**Arkit**	**0.55**	**11**	⇑*i*P	**Pg**	**22 57 23.2**	**-0.7**
	baz=16						
ARK				⇑*i*S	**Sg**	**22 57 30.7**	**-0.4**
	baz=16						
ARK	**Arkit**	**0.55**	**11**	P	**Pg**	**22 57 23.2**	**-0.7**
ARK				S	**Sg**	**22 57 30.7**	**-0.4**
TRKS	**Terek-Say**	**0.58**	**298**	⇓*i*P	**Pg**	**22 57 22.3**	**-2.3**
	baz=91						
TRKS				⇓*i*S	**Sg**	**22 57 29.5**	**-2.7**
	baz=91						
ANR	**Andizhan**	**0.64**	**141**	S	**Sn**	**22 57 38.5**	**-1.5**
TSTA	**Tashata**	**0.84**	**144**	S	**Sn**	**22 57 47.0**	**+2.2**
FRG	**Fergana**	**0.88**	**182**	P	**Pn**	**22 57 31.9**	**-0.7**
FRG				S	**Sn**	**22 57 45.0**	**-0.9**
CHMI	**Chimion**	**1.01**	**193**	P	**Sn**	**22 57 52.2**	**+3.0**
CHMI				P	**Sn**	**22 57 52.2**	**+3.0**
MINT	**Mingtut**	**1.02**	**220**	P	**Pn**	**22 57 35.4**	**+0.9**
MINT				S	**Sn**	**22 57 49.9**	**+0.6**
OHH	**Osh**	**1.03**	**135**	⇑*i*P	**Pb**	**22 57 33.6**	**-0.2**
	baz=35						
OHH				⇑*i*S	**Sn**	**22 57 48.6**	**-1.1**
	baz=35						
OHH	**Osh**	**1.03**	**135**	P	**Pb**	**22 57 33.6**	**-0.2**
OHH				S	**Sn**	**22 57 48.6**	**-1.1**
MNAS	**Manas**	**1.33**	**22**	⇓*i*P	**Pn**	**22 57 37.9**	**-1.0**
	baz=24						

MNAS					⇓*i*S		**Sg**	**22 57 56.1 0.0**
	baz=24							
CHMG	**Chimgan**		**1.40 283**		P		**Pn**	**22 57 37.8 -2.0**
CHMG					S		**Sb**	**22 57 56.4 -2.0**
BTK	**Batken**		**1.42 213**		⇓*e*P		**Pn**	**22 57 39.9 -0.2**
BTK					⇓*i*S		**Sn**	**22 57 59.8 +0.5**
	baz=11							
BTK	**Batken**		**1.42 213**		P		**Pn**	**22 57 39.9 -0.2**
BTK					S		**Sn**	**22 57 59.8 +0.5**
IUG	**Iuzhnay**		**1.61 304**		P		**Pn**	**22 57 43.1 +0.4**
	114nm,0.2s							
IUG					S		**Sn**	**22 58 04.1 0.0**
	2μm,0.4s							
IUG	**Iuzhnay**		**1.61 304**		*e*P		**Pb**	**22 57 43.6 -0.2**
	15nm,0.2s							
IUG					*e*S		**Sg**	**22 58 06.3 +1.1**
	2μm,0.4s							
AML	**Almayashu**		**1.65 57**		⇓P		**Pb**	**22 57 44.0 -0.6**
	30nm,0.2s,SNR=26							
AML					⇑S		**Sg**	**22 58 09.6 +3.2**
	108nm,0.2s							
AML	**Almayashu**		**1.65 57**		⇓Pn		**Pg**	**22 57 45.5 +0.5**
	0.3nm,0.3s							
AML					⇑Sn		**Sg**	**22 58 09.9 +3.6**
	11nm,0.6s							
DZA	**Taraz**		**1.68 347**		P		**Pg**	**22 57 46.8 +1.3**
	72nm,0.1s							
DZA					S		**Sg**	**22 58 09.8 +2.6**
	1μm,0.2s							
DZA	**Taraz**		**1.68 347**		*e*P		**Pg**	**22 57 45.4 0.0**
	72nm,0.1s							
DZA					*e*S		**Sg**	**22 58 09.2 +2.0**
	1μm,0.2s							
YBZ	**Yangibazar**		**1.69 272**		P		**Pn**	**22 57 43.9 +0.1**
YBZ					S		**Sn**	**22 58 06.3 +0.4**
SFK	**Sufi-Kurgan**		**1.78 134**		⇑*i*P		**Pg**	**22 57 46.9 -0.5**
	baz=34							
SFK					⇑*i*S		**Sg**	**22 58 12.0 +1.5**
	baz=34							
MRKS	**Merke**		**1.82 35**		Pg		**Pg**	**22 57 48.9 +0.7**
	78nm,0.5s							
MRKS					Lg		Lg	22 58 14.5
	110nm,0.4s							
MRKS	**Merke**		**1.82 35**		*e*P		**Pg**	**22 57 49.0 +0.8**
	18nm,0.2s							
MRKS					*e*S		**Sg**	**22 58 14.9 +3.2**
	123nm,0.3s							
TAS	**Tashkent**		**1.91 273**		S		**Sb**	**22 58 13.4 +0.4**
KUMR	**Kumaryk**		**1.94 270**		P		**Pb**	**22 57 48.3 -0.9**
KUMR					S		**Sb**	**22 58 13.9 +0.1**
ARLS	**Aral**		**1.97 71**		⇑*i*P		**Pb**	**22 57 49.9 0.0**
	baz=73							
ARLS					⇑*i*S		**Sg**	**22 58 16.6 0.0**
	baz=73							
CHM	**Chimkent**		**1.97 303**		*e*P		**Pb**	**22 57 49.9 0.0**
	49nm,0.2s							
CHM					*e*S		**Sb**	**22 58 15.8 +0.9**
	929nm,0.4s							
EKS2	**Erkin-Say**		**2.02 45**		⇑P		**Pg**	**22 57 51.4 -0.7**
	8.9nm,0.2s,SNR=14							
EKS2					⇓S		**Sg**	**22 58 20.2 +1.9**
	32nm,0.2s							
KK31	**Karatay Array**		**2.09 333**		Pn		**Pb**	**22 57 50.7 -1.1**
	16nm,0.3s,baz=148,slow=14,SNR=328							
KK31					⇑Sn		**Sb**	**22 58 18.9 +0.7**
	84nm,0.7s,baz=154,slow=28,SNR=14							
KKAR	**Karatay Array**		**2.09 333**		⇓*i*P		**Pn**	**22 57 50.3 +1.1**
	baz=33							
KKAR					⇓*i*S		**Sb**	**22 58 17.8 -0.4**
	baz=33							
UCH	**Uchtor**		**2.23 63**		⇑P		**Pb**	**22 57 54.0 -0.6**
	8.0nm,0.2s,SNR=13							
UCH					⇓S		**Sg**	**22 58 25.3 +0.2**
	44nm,0.2s							
AAK	**Ala-Archa**		**2.42 54**		⇓P		**Pb**	**22 57 56.8 -0.8**
	14nm,0.3s,SNR=17							
AAK					⇓S		**Sg**	**22 58 30.3 -0.8**
	24nm,0.3s							
FRU1	**Bishkek**		**2.60 52**		⇑*i*P		**Pb**	**22 57 58.4 -2.2**
	baz=54							
FRU1					⇑*i*S		**Sb**	**22 58 31.5 -1.5**
	baz=54							
CHMS	**Chumysh**		**2.79 50**		Pg		Pn	22 57 49.6 -9.2
	49nm,0.2s							
CHMS					⇑Pg		**Pb**	**22 58 03.0 -0.7**
	6.8nm,0.3s							
CHMS					Lg		Lg	22 58 15.0
	526nm,0.3s							
CHMS					⇓Lg		Lg	22 58 45.1
	42nm,0.9s							
SGDS	**Sogindy**		**3.02 42**		Pg		**Pb**	**22 58 09.2 +1.4**
	8.3nm,0.3s							
SGDS					Lg		Lg	22 58 48.0
	47nm,0.5s							
NRN	**Naryn**		**3.15 85**		⇑*e*P		**Pn**	**22 58 06.3 +2.3**
	baz=86							
NRN					⇑*i*S		**Sb**	**22 58 45.1 -3.8**
	baz=86							
TKM2	**Tokmak 2**		**3.26 58**		⇑Pg		**Pb**	**22 58 11.9 0.0**
	5.1nm,0.4s							
TKM2					⇓Lg		Lg	22 58 56.8
	14nm,0.8s							
BXML	**Bakhmal**		**3.29 243**		S		**Sb**	**22 58 52.2 -0.8**
DGS	**Degeres**		**3.54 55**		Pg		**Pg**	**22 58 19.8 -1.3**
	11nm,0.4s							
DGS					Lg		Lg	22 59 05.6
	25nm,0.6s							
DGS	**Degeres**		**3.54 55**		*e*Pg		**Pb**	**22 58 18.2 +1.6**
	3.5nm,0.3s							
DGS					*e*Lg		Lg	22 59 05.2
	21nm,0.5s							
KST	**Kastek**		**3.56 58**		Pg		**Pg**	**22 58 19.2 -2.3**
	20nm,1.2s							
KST					Lg		Lg	22 59 05.9
	38nm,0.8s							
KST	**Kastek**		**3.56 58**		*e*Pg		**Pb**	**22 58 18.1 +1.2**
	8.9nm,0.6s							
KST					*e*Lg		Lg	22 59 05.5
	26nm,0.5s							
KRBS	**Karabastau**		**3.75 48**		Pg		**Pg**	**22 58 23.0 -2.1**
	5.3nm,0.7s							
KRBS					Lg		Lg	22 59 12.0
	0.4nm,0.5s							
KRBS	**Karabastau**		**3.75 48**		*e*Pg		**Pg**	**22 58 24.0 -1.1**
	3.3nm,0.3s							
KRBS					*e*Lg		Lg	22 59 14.7
	11nm,0.3s							
MTBS	**Maitube**		**3.90 60**		Pg		**Pg**	**22 58 25.9 -2.1**
	3.8nm,0.3s							
MTBS					Lg		Lg	22 59 16.6
	20nm,0.5s							
MTBS	**Maitube**		**3.90 60**		*e*Pg		**Pg**	**22 58 25.1 -2.9**
	3.5nm,0.1s							
MTBS					*e*Lg		Lg	22 59 16.2
	20nm,0.5s							
IZV	**Izvestkoviy**		**3.98 62**		Pg		**Pg**	**22 58 27.6 -2.0**
	4.4nm,0.5s							
IZV					Lg		Lg	22 59 19.8
	15nm,0.6s							
IZV	**Izvestkoviy**		**3.98 62**		*e*Pg		**Pg**	**22 58 26.8 -2.8**
	4.4nm,0.5s							
IZV					*e*Lg		Lg	22 59 19.9
	15nm,0.6s							
BTLS	**Baital**		**4.12 22**		Pg		**Pg**	**22 58 31.7 -0.5**
	9.0nm,0.5s							
BTLS					Lg		Lg	22 59 27.1
	27nm,0.8s							
BTLS	**Baital**		**4.12 22**		*e*Pg		**Pg**	**22 58 30.6 -1.6**
	9.0nm,0.5s							
BTLS					*e*Lg		Lg	22 59 26.5
	15nm,0.5s							
AGL	**Agalyk**		**4.16 247**		P		**Sn**	**22 59 07.6 +0.8**
TNSS	**Tian-Shan**		**4.20 63**		Pg		**Pg**	**22 58 33.0 -0.9**
	4.5nm,0.7s							
TNSS					Lg		Lg	22 59 28.7
	6.8nm,1.4s							
TNSS	**Tian-Shan**		**4.20 63**		*e*Pg		**Pb**	**22 58 30.2 +2.1**
	4.5nm,0.7s							
TNSS					*e*Lg		Lg	22 59 26.4
	6.8nm,1.4s							
KUU	**Kurty**		**4.25 50**		Pg		**Pg**	**22 58 33.4 -1.3**
	2.6nm,0.5s							
KUU					Lg		Lg	22 59 29.5
	21nm,0.5s							
KUU	**Kurty**		**4.25 50**		*e*Pg		**Pb**	**22 58 30.2 +1.5**
	2.2nm,0.4s							
KUU					*e*Lg		Lg	22 59 25.4
	21nm,0.5s							
KTBS	**Karatobe**		**4.35 54**		Pg		**Pg**	**22 58 36.0 -0.6**
	8.5nm,0.6s							
KTBS					Lg		Lg	22 59 34.0
	17nm,0.6s							
KTBS	**Karatobe**		**4.35 54**		*e*Pg		**Pg**	**22 58 34.7 -2.0**
	8.5nm,0.6s							
KTBS					*e*Lg		Lg	22 59 34.0
	17nm,0.6s							
KOTS	**Kotyrbulak**		**4.39 62**		Pg		**Pg**	**22 58 36.8 -0.7**
	7.4nm,0.8s							
KOTS					Lg		Lg	22 59 35.5
	24nm,0.7s							
KOTS	**Kotyrbulak**		**4.39 62**		*e*Pg		**Pg**	**22 58 35.3 -2.2**
	7.4nm,0.8s							
KOTS					*e*Lg		Lg	22 59 35.5
	24nm,0.7s							
NUT	**Nurota**		**4.71 263**		P		**Sn**	**22 59 21.9 +1.5**

*DJA **04** 23:02:22.3±0.6,4°S±5°×12°8E±°, h13km±4km, M4.0/10, MLv4.0/10*
*IDC **04** 23:02:23.4±1.8,4°.07S×128°.39E, h47km±19km, mb3.5/6, mbtmp3.9/9, ML3.9/3, MS2.8/1, Error ellipse: s-maj=23.7km s-min=14.9km az=126.0*
ISC 04 23:02:22.0±0.8,**4°.10S**±0°.07×**128°.30E**±0°.07,**h35**km,**n18,**
σ1§35/21,mb3.8/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.47**	**306**	P	**Pn**	**23 02 44.4**	**-1.6**
NLAI				S	**Sn**	**23 03 03.6**	**-0.4**
BNDI	**Bandanaira**	**1.66**	**105**	P	Pn	23 02 53.8	+5.3
SANI	**Sanana**	**3.08**	**311**	P	**Pn**	**23 03 08.9**	**+0.8**
LBMI	**Labuha**	**3.53**	**347**	P	**Pn**	**23 03 14.1**	**-0.3**
LBMI				S	**Sn**	**23 03 54.4**	**-0.5**
FAKI	**Fak Fak**	**4.11**	**74**	P	**Pn**	**23 03 24.3**	**+1.9**
SIJI	**Sorong**	**4.37**	**43**	P	**Pn**	**23 03 26.6**	**+0.7**
	5.6nm,0.3s,baz=64,slow=24,SNR=24						
SIJI				S	**Sn**	**23 04 15.4**	**-0.2**
	20nm,0.3s,baz=98,slow=23,SNR=13						
SIJI				LR	LR	23 05 51.9	
	comp=Z,107nm,18.6s,baz=171,slow=49						
	15nm,0.2s						
SWI	**Sorong**	**4.37**	**43**	P	**Pn**	**23 03 25.8**	**-0.1**
TNTI	**Ternate**	**4.93**	**349**	P	**Pn**	**23 03 33.5**	**-0.1**
BATI	**Baumata**	**7.61**	**217**	P	**Pn**	**23 04 11.9**	**+1.4**
	3.0nm,0.3s,baz=148,slow=3.5,SNR=4.2						
	16nm,0.5s						
KAPI	**Kappang**	**8.57**	**264**	P	**Pn**	**23 04 26.0**	**+2.4**
	1.3nm,0.3s,baz=127,slow=15,SNR=3.8						
	6.2nm,0.4s						
WRA	**Warramunga Arr**	**16.81**	**160**	P	**Pn**	**23 06 11.3**	**-3.5**
	0.6nm,0.5s,baz=343,slow=13,SNR=8.5						
ASAR	**Alice Springs**	**20.19**	**165**	P	**P**	**23 06 54.8**	**+0.9**
	2.7nm,0.7s,baz=342,slow=9.0,SNR=20						
ASAR				PcP	**PcP**	**23 11 07.7**	**0.0**
	0.3nm,0.5s,baz=348,slow=1.3,SNR=5.4						
	2.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**36.59**	**309**	P	**P**	**23 09 26.4**	**+1.3**
	0.6nm,0.4s,baz=132,slow=6.6,SNR=6.3						
	0.6nm,0.4s						
SONM	**Songino Array**	**55.18**	**342**	P	**P**	**23 11 51.9**	**+0.7**
	0.5nm,0.8s,baz=146,slow=6.1,SNR=2.9						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**64.89**	**327**	P	**P**	**23 12 58.0**	**+0.2**
	0.8nm,0.6s,baz=117,slow=8.3,SNR=13						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**68.25**	**334**	P	**P**	**23 13 18.5**	**-0.6**
	0.3nm,0.3s,baz=151,slow=6.3,SNR=2.1						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**69.17**	**329**	P	**P**	**23 13 24.6**	**-0.3**
	1.1nm,0.6s,baz=129,slow=5.7,SNR=9.9						
	1.1nm,0.6s						
TXAR	**Lajitas Array**	**124.84**	**57**	PKP	**PKPdf**	**23 21 17.8**	**-1.3**
	0.3nm,0.9s,baz=251,slow=2.8,SNR=2.1						

*SCB **04** 23:11:33.8±1.5,22°.58S×67°.78W, h152km±15km, ML3.2/3, MW2.5, Error ellipse: s-maj=6.4km s-min=4.4km az=0.0*
*GUC **04** 23:11:35.8±0.7,22°.60S×67°.78W, h159km±6km, ML3.7*
ISC 04 23:11:33.7±1.8,**22°.58S**±0°.06×**67°.76W**±0°.05,
h167km±15km,**n30,σ0§81/43,2C-3D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.06**	**268**	Pg	**Pn**	**23 12 00.8**	**-0.2**
LVC	**Limon Verde**	**1.06**	**268**	⇑*i*P	**Pn**	**23 12 01.6**	**+0.6**
LVC				*e*S	**Sn**	**23 12 21.7**	**-0.2**
LVC				IAML		23 12 23.0	
	666nm,0.5s						
PB09	**IPOC Station P**	**1.58**	**299**	Pg	**Pn**	**23 12 04.6**	**-1.0**
PB09	**IPOC Station P**	**1.58**	**299**	*e*P	**Pn**	**23 12 06.7**	**+1.1**
PB09				*e*S	**Sn**	**23 12 30.8**	**+0.7**
PB06	**IPOC Station P**	**1.68**	**265**	Pg	**Pn**	**23 12 06.5**	**0.0**
PB06	**IPOC Station P**	**1.68**	**265**	⇓*i*P	**Pn**	**23 12 07.6**	**+1.0**
PB06				*e*S	**Sn**	**23 12 31.8**	**-0.1**
PB06				IAML		23 12 34.8	
	comp=N,340nm,0.1s						
PB15	**IPOC Station P**	**1.70**	**248**	*e*P	**Pn**	**23 12 07.7**	**+0.9**
PB15				*e*S	**Sn**	**23 12 32.3**	**0.0**
YJA	**Yavi**	**2.12**	**79**	Pg	**Pn**	**23 12 12.1**	**+0.4**
PB07	**IPOC Station P**	**2.15**	**293**	Pg	**Pn**	**23 12 12.3**	**+0.6**
PB07	**IPOC Station P**	**2.15**	**293**	*e*P	**Pn**	**23 12 12.3**	**+0.6**
PB07				*e*S	**Sn**	**23 12 40.5**	**-0.6**
PB07				IAML		23 12 41.5	
	comp=E,565nm,0.1s						
PB01	**IPOC Station P**	**2.22**	**313**	Pg	**Pn**	**23 12 12.9**	**+0.4**
PB01				Sg	**Sn**	**23 12 41.8**	**-0.6**
PB01				IAML		23 12 44.1	
	comp=E,232nm,0.2s						
PB01	**IPOC Station P**	**2.22**	**313**	*e*P	**Pn**	**23 12 13.4**	**+0.9**
PB01				*e*S	**Sn**	**23 12 42.4**	**0.0**
PB01				IAML		23 12 44.4	
	comp=E,296nm,0.3s						
PB04	**IPOC Station P**	**2.22**	**276**	Pg	**Pn**	**23 12 11.6**	**-1.0**
PB04	**IPOC Station P**	**2.22**	**276**	⇑*i*P	**Pn**	**23 12 13.1**	**+0.5**
PB04				*e*S	**Sn**	**23 12 41.6**	**-1.0**
PB04				IAML		23 12 43.1	
	comp=N,272nm,0.2s						
PB02	**IPOC Station P**	**2.35**	**302**	Pg	**Pn**	**23 12 13.1**	**-0.9**
PB02				Sg	**Sn**	**23 12 43.1**	**-2.0**
PB02				IAML		23 12 45.5	
	comp=N,169nm,0.1s						
PB02	**IPOC Station P**	**2.35**	**302**	*e*P	**Pn**	**23 12 14.6**	**+0.7**
PB02				*e*S	**Sn**	**23 12 44.3**	**-0.8**
PB02				IAML		23 12 47.8	
	comp=E,327nm,0.1s						
MOCB	**Mochara**	**2.37**	**57**	Pg	**Pn**	**23 12 14.2**	**-0.4**
MOCB				Sg	**Sn**	**23 12 45.6**	**-0.7**
MOCB				IAML		23 12 46.8	
	comp=E,28nm,0.4s						
PB08	**IPOC Station P**	**2.75**	**332**	⇓*i*P	**Pn**	**23 12 20.7**	**+1.6**
PB08				*e*S	**Sn**	**23 12 55.0**	**+0.6**
PB08				IAML		23 12 56.9	
	comp=N,126nm,0.5s						
PATCX	**Punta Patache**	**2.83**	**308**	*e*P	**Pn**	**23 12 20.9**	**+1.1**
PATCX				*e*S	**Sn**	**23 12 54.9**	**-0.6**
PATCX				IAML		23 12 55.9	
	comp=N,161nm,0.5s						
TA01	**Diego Aracena**	**3.02**	**311**	Pg	**Pn**	**23 12 21.6**	**-0.3**
HMBC	**Humberstone**	**3.03**	**319**	Pg	**Pn**	**23 12 22.0**	**-0.3**
HMBC	**Humberstone**	**3.03**	**319**	*e*P	**Pn**	**23 12 23.0**	**+0.7**
HMBC				IAML		23 13 00.6	
	comp=E,228nm,0.2s						
GO02	**Mina Guanaco**	**3.07**	**213**	Pg	**Pn**	**23 12 23.2**	**+0.3**
GO02	**Mina Guanaco**	**3.07**	**213**	⇓*i*P	**Pn**	**23 12 23.4**	**+0.5**
GO02				IAML		23 13 02.4	
	comp=N,150nm,0.1s						
GO01	**Chusmiza**	**3.19**	**335**	Pg	**Pn**	**23 12 25.7**	**+1.1**
GO01	**Chusmiza**	**3.19**	**335**	*e*P	**Pn**	**23 12 25.8**	**+1.2**
GO01				IAML		23 13 07.1	
	comp=N,258nm,0.1s						
PB16	**IPOC Station P**	**4.53**	**338**	Pg	**Pn**	**23 12 42.5**	**+0.6**
PB12	**IPOC Station P**	**4.62**	**328**	Pg	**Pn**	**23 12 42.6**	**0.0**
SOTI	**Planta Incahua**	**4.71**	**55**	Pg	**Pn**	**23 12 44.2**	**+0.5**
LPAZ	**La Paz**	**6.27**	**357**	Pg	**Pn**	**23 13 04.6**	**-0.2**

*IDC **04** 23:11:50.0±1.5,28°.29N×52°.26E, h0km, mb3.8/7, mbtmp3.8/9, ML3.3/2, MS3.0/1, Error ellipse: s-maj=31.1km s-min=26.1km az=161.0*
*TEH **04** 23:11:53.0,28°.39N×52°.39E, h20km±21km, ML3.4*
*DSN **04** 23:11:55.4±1.6,28°.16N×52°.63E, h10km, ML3.1/8, Error ellipse: s-maj=20.2km s-min=15.4km az=25.0*
*OMAN **04** 23:11:57.1±0.1,27°.87N×52°.33E, h10km, mb4.2/6, ml3.4/9, Error ellipse: s-maj=1.7km s-min=1.1km az=8.0*
ISC 04 23:11:52.9±0.6,**28°.31N**±0°.04×**52°.37E**±0°.04,**h16**km,**n66,**
σ1§74/91,mb3.7/7,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.62**	**74**	Pg	**Pg**	**23 12 05.0**	**-0.2**
QIR1				Sg	**Sg**	**23 12 14.1**	**+0.6**
DSBU	**Dashti - Bushe**	**0.98**	**274**	Pg	**Pn**	**23 12 12.6**	**+0.5**
JHRM	**Jahrom**	**1.08**	**79**	Pg	**Pg**	**23 12 14.3**	**+0.3**
AHBU	**AHRAM**	**1.09**	**301**	Pg	**Pg**	**23 12 14.4**	**+0.3**
AHBU				Sg	**Sn**	**23 12 29.7**	**+1.4**
LMD1	**Lamerd**	**1.19**	**143**	Pg	**Pg**	**23 12 17.8**	**+1.8**
LMD1				Sg	**Sg**	**23 12 37.3**	**+5.7**
SHI	**Shiraz**	**1.34**	**5**	Pg	**Pb**	**23 12 17.7**	**-0.1**
SHI				Sg	**Sg**	**23 12 37.3**	**+1.1**
LAR1	**LAR**	**1.89**	**109**	Pn	**Pb**	**23 12 26.7**	**-0.3**
GENO	**Geno**	**3.49**	**104**	Pn	**Pn**	**23 12 48.4**	**+1.7**
IRAM	**Ramesheh**	**3.49**	**0**	Pn	**Pn**	**23 12 47.3**	**+0.5**
IMEH	**Mehriz**	**3.64**	**32**	Pn	**Pn**	**23 12 51.1**	**+2.3**
ISAD	**Sadrabad**	**3.77**	**17**	Pn	**Pn**	**23 12 52.2**	**+1.5**
SHME	**Shamm**	**4.04**	**123**	P	**Pn**	**23 12 54.0**	**-0.2**
NGRK	**Negar Kerman**	**4.05**	**70**	Pn	**Pn**	**23 12 56.1**	**+1.5**
KHGB	**Koh Gabri**	**4.14**	**59**	Pn	**Pn**	**23 12 57.6**	**+1.9**
AMIS	**Naft Sefid**	**4.28**	**322**	Pn	**Pn**	**23 12 58.9**	**+1.4**
IBAF	**Bafgh**	**4.29**	**40**	Pn	**Pn**	**23 12 59.7**	**+2.0**
ICHK	**Chekchek**	**4.30**	**24**	Pn	**Pn**	**23 12 59.8**	**+1.8**
MASF	**Masafi**	**4.47**	**130**	P	**Pn**	**23 13 02.0**	**+1.8**
MASF				S	**Sn**	**23 13 51.5**	**-0.5**
MSFE	**Esma-Masafi**	**4.48**	**130**	P	**Pn**	**23 13 00.6**	**+0.3**
ASUD	**Al Ashush, Dub**	**4.53**	**143**	P	**Pn**	**23 13 00.4**	**-0.4**
ASUD	**Al Ashush, Dub**	**4.53**	**143**	P	**Pn**	**23 13 03.2**	**+2.4**
	SNR=18						
ASUD				S	**Sn**	**23 13 53.5**	**+0.4**
FAQ	**Al Faqa, Dubai**	**4.57**	**140**	P	**Pn**	**23 13 03.3**	**+1.8**
FAQ				S	**Sn**	**23 13 54.7**	**+0.3**
IZEF	**Zefreh**	**4.58**	**360**	Pn	**Pn**	**23 13 02.5**	**+0.8**
MDH	**Madha**	**4.62**	**130**	P	**Pn**	**23 13 01.4**	**-0.7**
MDH	**Madha**	**4.62**	**130**	P	**Pn**	**23 13 03.7**	**+1.7**
MDH				S	**Sn**	**23 13 55.2**	**-0.1**
CHMN	**Cheshme madani**	**4.79**	**70**	Pn	**Pn**	**23 13 06.9**	**+2.2**
UOSS	**Minazif**	**4.80**	**133**	P	**Pn**	**23 13 01.8**	**-2.7**
UOSS	**Minazif**	**4.80**	**133**	P	**Pn**	**23 13 05.1**	**+0.5**
UOSS				S	**Sn**	**23 13 58.6**	**-1.2**
HATD	**Hatta, Dubai**	**4.83**	**135**	P	**Pn**	**23 13 06.2**	**+1.1**
HATD				S	**Sn**	**23 14 00.1**	**-0.7**
ASHO	**Ashiyiah**	**4.89**	**137**	P	**Pn**	**23 13 05.5**	**-0.4**
ASHO				S	**Sn**	**23 14 00.4**	**-1.9**
ASHO	**Ashiyiah**	**4.89**	**137**	P	**Pn**	**23 13 07.3**	**+1.4**
	SNR=9.9						
ASHO				S	**Sn**	**23 14 01.4**	**-0.9**
ANAR	**Anarak**	**5.01**	**13**	Pn	**Pn**	**23 13 08.5**	**+0.9**
ALNE	**Al Ain**	**5.21**	**144**	P	**Pn**	**23 13 10.4**	**+0.2**
ALNE	**Al Ain**	**5.21**	**144**	P	**Pn**	**23 13 12.1**	**+1.8**
ALNE				S	**Sn**	**23 14 10.1**	**+0.1**
MZR	**Muzera**	**5.38**	**169**	P	**Pn**	**23 13 13.4**	**+0.9**
MZR	**Muzera**	**5.38**	**169**	P	**Pn**	**23 13 14.2**	**+1.7**
	SNR=12						
MZR				S	**Sn**	**23 14 14.9**	**+0.8**
JASK	**Jask - Hormozg**	**5.47**	**115**	P	**Pn**	**23 13 14.3**	**+0.5**
JASK				S	**Sn**	**23 14 16.6**	**+0.2**
SOHO	**SOHO**	**5.59**	**137**	P	**Pn**	**23 13 15.5**	**0.0**
SOHO	**SOHO**	**5.59**	**137**	P	**Pn**	**23 13 16.5**	**+1.1**
SOHO				S	**Sn**	**23 14 16.9**	**-2.4**
KRSH	**Karshahi**	**5.65**	**358**	Pn	**Pn**	**23 13 16.6**	**+0.2**
TPRV	**Parvadeh(Tabas**	**6.00**	**37**	Pn	**Pn**	**23 13 22.3**	**+1.2**
ARQ	**Araqi**	**6.21**	**142**	P	**Pn**	**23 13 25.0**	**+1.1**
	SNR=7.6						
ARQ				S	**Sn**	**23 14 33.6**	**-0.9**
HOQ	**Hoqain**	**6.47**	**135**	P	**Pn**	**23 13 29.0**	**+1.3**
TKDS	**Koohdasht(Taba**	**6.68**	**36**	Pn	**Pn**	**23 13 31.1**	**+0.5**
TNSJ	**Nastanj**	**6.71**	**32**	Pn	**Pn**	**23 13 32.4**	**+1.5**
BSY	**Bisya**	**7.05**	**141**	P	**Pn**	**23 13 36.7**	**+1.1**
BSY				P	**Pn**	**23 13 36.8**	**+1.3**
BSY				S	**Sn**	**23 14 53.3**	**-2.0**
BSY				S	**Sn**	**23 14 53.4**	**-2.0**
SMDO	**Samad**	**7.32**	**134**	P	**Pn**	**23 13 40.3**	**+1.0**
SMDO				P	**Pn**	**23 13 40.4**	**+1.0**
SMDO				S	**Sn**	**23 15 01.5**	**-0.6**
WSAR	**Wadi Sarin**	**7.57**	**130**	P	**Pn**	**23 13 43.4**	**+0.7**
WSAR				S	**Sn**	**23 15 04.5**	**-3.7**
WSAR	**Wadi Sarin**	**7.57**	**130**	Pn	**Pn**	**23 13 43.0**	**+0.3**
	0.4nm,0.3s,baz=350,slow=7.6,SNR=5.4						
WSAR				Sn	**Sn**	**23 15 04.8**	**-3.4**
	0.5nm,0.3s,baz=1.7,slow=9.0,SNR=1.9						
	4.2nm,0.8s						
WBK	**Wadi Bani Khal**	**8.23**	**132**	P	**Pn**	**23 13 51.9**	**+0.1**
MHTO	**MHTO**	**8.89**	**144**	P	**Pn**	**23 14 01.9**	**+1.1**
	SNR=16						
MHTO				S	**Sn**	**23 15 35.6**	**-5.0**
DOK	**Doka**	**9.78**	**170**	P	**Pn**	**23 14 12.6**	**-0.3**
DOK				S	**Sn**	**23 15 54.6**	**-7.9**
WHFO	**Wadi Hawf**	**10.42**	**173**	P	**Pn**	**23 14 20.8**	**-1.0**
	SNR=9.6						
SHAO	**Shalim**	**10.66**	**163**	P	**Pn**	**23 14 24.3**	**-0.8**
GEYT	**Alibeck**

	SNR=9.3						
TKM2	**Tokmak 2**	**6.94**	**33**	P	Pn	23 14 58.3	+0.5
	SNR=7.5						
TKM2	**Tokmak 2**	**6.94**	**33**	⇓P	Pn	23 14 57.8	-0.1
	7.7nm,0.5s						
TKM2				⇑S	S	23 16 17.4	-1.7
	3.4nm,1.0s						

*SJA **04** 23:21:54.4±0.8, 24.°40S×67.°22W, h182km±8km, ML3.3, MW3.5*
*GUC **04** 23:21:56.0±0.6, 24.°34S×67.°49W, h208km±5km, ML3.6*
ISC 04 23:21:53.5±2.2, 24.°39S±0.°05×67.°23W±0.°05, h197km±19km, n25, σ1°22/37, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.61**	**102**	*i* P	**Pn**	**23 22 28.9**	**+0.8**
SLA				*e*S	**Sn**	**23 22 53.3**	**-1.6**
SLA				IAML		23 22 54.9	
	comp=Z,95nm,0.8s						
AF01	**San Pedro de A**	**1.68**	**329**	*e*P	**Pn**	**23 22 30.5**	**+1.5**
AF01				*e*S	**Sn**	**23 22 56.6**	**+0.2**
AF01				IAML		23 22 58.9	
	comp=N,213nm,0.5s						
HJA	**Humahuaca**	**2.04**	**55**	*i* P	**Pn**	**23 22 33.5**	**+0.9**
FSA	**Cafayete**	**2.05**	**147**	*i* P	**Pn**	**23 22 33.6**	**+1.0**
FSA				*e*S	**Sn**	**23 23 01.4**	**-1.7**
GO02	**Mina Guanaco**	**2.28**	**250**	⇑*i*P	**Pn**	**23 22 36.1**	**+1.1**
GO02				*e*S	**Sn**	**23 23 07.1**	**-0.3**
GO02				IAML		23 23 08.0	
	comp=N,313nm,0.2s						
GO02	**Mina Guanaco**	**2.28**	**250**	*i* P	**Pn**	**23 22 36.1**	**+1.1**
GO02				*e*S	**Sn**	**23 23 06.4**	**-0.9**
LVC	**Limon Verde**	**2.35**	**319**	⇑*i*P	**Pn**	**23 22 37.2**	**+1.2**
LVC				*e*S	**Sn**	**23 23 07.8**	**-1.2**
LVC				IAML		23 23 09.8	
	comp=N,498nm,0.7s						
LVC	**Limon Verde**	**2.35**	**319**	*i* P	**Pn**	**23 22 36.7**	**+0.8**
LVC				*e*S	**Sn**	**23 23 08.1**	**-0.9**
LVC				IAML		23 23 11.2	
	comp=Z,71nm,0.4s						
PB15	**IPOC Station P**	**2.37**	**299**	⇑*i*P	**Pn**	**23 22 37.0**	**+1.1**
PB15				*e*S	**Sn**	**23 23 07.9**	**-1.0**
YJA	**Yavi**	**2.71**	**36**	*i* P	**Pn**	**23 22 41.5**	**+1.4**
PB06	**IPOC Station P**	**2.73**	**308**	⇑*i*P	**Pn**	**23 22 40.9**	**+1.0**
PB06				*e*S	**Sn**	**23 23 14.5**	**-1.7**
PB06				IAML		23 23 17.9	
	comp=E,202nm,0.1s						
PB06	**IPOC Station P**	**2.73**	**308**	*i* P	**Pn**	**23 22 41.0**	**+1.0**
PB06				IAML		23 23 18.7	
	comp=Z,115nm,0.1s						
PB14	**IPOC Station P**	**2.90**	**265**	*e*P	**Pn**	**23 22 43.0**	**+0.9**
PB14				IAML		23 23 21.5	
	comp=E,32nm,0.5s						
PB14	**IPOC Station P**	**2.90**	**265**	*i* P	**Pn**	**23 22 43.0**	**+0.9**
PB14				*e*S	**Sn**	**23 23 18.9**	**-1.1**
PB14				IAML		23 23 22.5	
	comp=Z,51nm,0.6s						
AC02	**Maricunga**	**2.98**	**215**	*e*P	**Pn**	**23 22 44.9**	**+1.7**
ALOL	**LOMAS DE OLMED**	**3.02**	**80**	*e*P	**Pn**	**23 22 43.8**	**+0.5**
PB09	**IPOC Station P**	**3.18**	**324**	*e*P	**Pn**	**23 22 47.0**	**+1.6**
PB09				*e*S	**Sn**	**23 23 25.1**	**-0.8**
PB09				IAML		23 23 25.9	
	comp=N,80nm,0.5s						
PB09	**IPOC Station P**	**3.18**	**324**	*i* P	**Pn**	**23 22 46.6**	**+1.2**
PB09				IAML		23 23 29.9	
	comp=Z,56nm,0.5s						
PB04	**IPOC Station P**	**3.38**	**307**	⇓*i*P	**Pn**	**23 22 48.5**	**+0.8**
PB04				*e*S	**Sn**	**23 23 27.2**	**-2.8**
PB04	**IPOC Station P**	**3.38**	**307**	*i* P	**Pn**	**23 22 48.5**	**+0.8**
PB04				IAML		23 23 32.4	
	comp=Z,87nm,0.2s						
AC01	**Pan de Azucar**	**3.52**	**239**	*e*P	**Pn**	**23 22 49.5**	**+0.3**
PB07	**IPOC Station P**	**3.61**	**317**	*e*P	**Pn**	**23 22 51.3**	**+0.7**
PB07	**IPOC Station P**	**3.61**	**317**	*i* P	**Pn**	**23 22 51.2**	**+0.7**
PB07				IAML		23 23 37.0	
	comp=Z,73nm,0.6s						
PB02	**IPOC Station P**	**3.92**	**321**	*e*P	**Pn**	**23 22 55.0**	**+0.7**
PB01	**IPOC Station P**	**3.93**	**328**	*e*P	**Pn**	**23 22 55.3**	**+0.8**

*KRNET **04** 23:34:47.7±0.1, 40.°81N×74.°11E, h12km, mb3.4*
*SOME **04** 23:34:48.5, 40.°82N×74.°05E, h15km*
*KNET **04** 23:34:50.5±0.4, 40.°97N×74.°13E, h0km±2km, ml3.1, Error ellipse: s-maj=4.4km s-min=2.7km az=56.0*
*NNC **04** 23:34:50.2±1.4, 40.°90N×74.°04E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=9.0km s-min=6.3km az=17.0*
ISC 04 23:34:47.4±1.3, 40.°81N±0.°03×74.°12E±0.°03, h2km±14km, n51, σ1°42/71, 29C-20D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.92**	**211**	⇑*i*P	**Pg**	**23 35 05.4**	**+0.3**
SFK	baz=11			⇑*i*S	**Sb**	**23 35 17.9**	**-1.2**
OHH	**Osh**	**1.05**	**255**	⇓*i*P	**Pg**	**23 35 08.1**	**+0.5**
OHH	baz=55			⇓*i*S	**Sg**	**23 35 22.2**	**+1.0**
ARLS	**Aral**	**1.06**	**8**	⇓*i*P	**Pb**	**23 35 07.9**	**-0.7**
ARLS	baz=9.0			⇓*i*S	**Sb**	**23 35 22.1**	**-0.9**
AML	**Almayashu**	**1.36**	**347**	⇑P	**Pg**	**23 35 13.6**	**+0.2**
AML	64nm,0.1s,SNR=79			⇓S	**Sg**	**23 35 31.8**	**+0.7**
AML	**Almayashu**	**1.36**	**347**	⇑P	**Pb**	**23 35 13.5**	**-0.3**
AML	247nm,0.4s			⇑S	**Sg**	**23 35 31.3**	**+0.3**
UCH	**Uchtor**	**1.45**	**12**	⇓P	**Pg**	**23 35 15.6**	**+0.4**
UCH	32nm,0.7s			⇑S	**Sg**	**23 35 35.2**	**+1.2**
NRN	**Naryn**	**1.55**	**66**	⇓*i*P	**Pb**	**23 35 16.7**	**-0.4**
NRN	150nm,0.3s			⇓*i*S	**Sg**	**23 35 37.5**	**+0.1**
AAK	**Ala-Archa**	**1.85**	**9**	⇓P	**Pg**	**23 35 22.8**	**-0.1**
AAK	19nm,0.1s,SNR=27			⇓S	**Sg**	**23 35 47.1**	**+0.3**
EKS2	**Erkin-Say**	**1.87**	**352**	⇓P	**Pg**	**23 35 22.9**	**-0.3**
EKS2	27nm,0.2s,SNR=54			⇓S	**Sg**	**23 35 48.3**	**+0.9**
ARK	**Arkit**	**1.90**	**302**	⇑*i*P	**Pb**	**23 35 22.8**	**0.0**
ARK	baz=2.0			⇑*i*S	**Sg**	**23 35 48.9**	**+0.5**
KBK	**Karagaybulak**	**1.95**	**18**	⇓P	**Pg**	**23 35 25.1**	**+0.3**
FRU1	49nm,0.2s,SNR=96 **Bishkek**	**2.04**	**11**	⇑*i*P	**Pb**	**23 35 25.7**	**+0.5**
FRU1	baz=11			⇑*i*S	**Sg**	**23 35 53.0**	**+0.2**
MRKS	**Merke**	**2.04**	**341**	Pg	**Pg**	**23 35 26.7**	**+0.1**
MRKS	60nm,0.3s			Lg	Lg	23 35 54.0	
MRKS	**Merke**	**2.04**	**341**	*e*Pg	**Pb**	**23 35 25.1**	**-0.2**
MRKS	0.8nm,0.2s			*e*Lg	Lg	23 35 51.2	
MNAS	**Manas**	**2.06**	**325**	⇑*i*P	**Pb**	**23 35 25.5**	**-0.2**
MNAS	baz=25			⇑*i*S	**Sg**	**23 35 53.3**	**-0.5**
ULHL	**Ulahol**	**2.15**	**47**	⇓P	**Pb**	**23 35 27.6**	**+0.5**
BOOM	32nm,0.2s,SNR=44 **Boomskoye usch**	**2.17**	**39**	⇑*e*P	**Pb**	**23 35 27.8**	**+0.4**
BOOM	baz=39			⇑*e*S	**Sb**	**23 35 55.5**	**+0.7**
CHMS	**Chumysh**	**2.24**	**12**	⇓P	**Pg**	**23 35 29.6**	**-0.8**
CHMS	25nm,0.3s,SNR=32			⇓S	**Sg**	**23 35 59.3**	**0.0**
CHMS	**Chumysh**	**2.24**	**12**	⇑Pn	**Pg**	**23 35 29.5**	**-0.8**
CHMS	40nm,0.6s			⇓Sn	**Sg**	**23 35 59.1**	**-0.3**
TRKS	124nm,0.9s **Terek-Say**	**2.36**	**289**	⇑*i*P	**Pb**	**23 35 29.0**	**-1.7**
TRKS	baz=87			⇑*i*S	**Sb**	**23 35 59.5**	**-0.8**
TKM2	**Tokmak 2**	**2.38**	**27**	⇑P	**Pb**	**23 35 31.8**	**+0.6**
TKM2	13nm,0.1s,SNR=21 **Tokmak 2**	**2.38**	**27**	⇓Pg	**Pb**	**23 35 32.0**	**+0.9**
TKM2	6.5nm,0.4s			⇑Lg	Lg	23 36 03.9	
USP	78nm,0.7s **Ospenovka**	**2.47**	**7**	⇑P	**Pb**	**23 35 32.8**	**+0.2**
USP	34nm,0.2s,SNR=57			⇑S	**Sg**	**23 36 05.6**	**-1.2**
KST	70nm,0.3s **Kastek**	**2.62**	**31**	Pg	**Pg**	**23 35 36.8**	**-0.9**
KST	27nm,0.5s			Lg	Lg	23 36 11.6	
KST	63nm,0.4s **Kastek**	**2.62**	**31**	*e*Pg	**Pg**	**23 35 36.8**	**-0.9**
KST	27nm,0.5s			*e*Lg	Lg	23 36 11.6	
BTK	63nm,0.4s **Batken**	**2.63**	**254**	⇓*i*P	**Pb**	**23 35 33.5**	**-1.7**
BTK	baz=54			⇓*i*S	**Sb**	**23 36 06.7**	**-1.3**
SGDS	baz=54 **Sogindy**	**2.67**	**8**	Pg	**Pg**	**23 35 37.2**	**-1.3**
SGDS	13nm,0.4s			Lg	Lg	23 36 12.0	
DGS	66nm,0.6s **Degeres**	**2.73**	**26**	Pg	**Pg**	**23 35 39.6**	**0.0**
DGS	53nm,0.5s			Lg	Lg	23 36 16.3	
DGS	180nm,0.7s **Degeres**	**2.73**	**26**	*e*Pg	**Pg**	**23 35 39.6**	**0.0**
DGS	53nm,0.5s			*e*Lg	Lg	23 36 16.3	
MTBS	180nm,0.7s **Maitube**	**2.89**	**36**	Pg	**Pg**	**23 35 42.3**	**-0.5**
MTBS	18nm,0.2s			Lg	Lg	23 36 20.6	
MTBS	84nm,0.4s **Maitube**	**2.89**	**36**	*e*Pg	**Pg**	**23 35 42.3**	**-0.5**
MTBS	18nm,0.2s			*e*Lg	Lg	23 36 20.6	
IZV	84nm,0.4s **Izvestkoviy**	**2.90**	**39**	Pg	**Pg**	**23 35 42.1**	**-0.9**
IZV	16nm,0.6s			Lg	Lg	23 36 20.8	
IZV	92nm,0.5s **Izvestkoviy**	**2.90**	**39**	*e*Pg	**Pg**	**23 35 42.1**	**-0.9**
IZV	16nm,0.6s			*e*Lg	Lg	23 36 20.2	
TNSS	92nm,0.5s **Tian-Shan**	**3.07**	**43**	Pg	**Pg**	**23 35 44.9**	**-1.3**
TNSS	19nm,0.7s **Tian-Shan**	**3.07**	**43**	*e*Pg	**Pg**	**23 35 44.9**	**-1.3**
KRBS	19nm,0.7s **Karabastau**	**3.11**	**21**	Pg	**Pg**	**23 35 45.2**	**-1.8**
KRBS	18nm,0.5s **Karabastau**	**3.11**	**21**	*e*Pg	**Pg**	**23 35 45.2**	**-1.8**
KNDC	18nm,0.5s **Almaty**	**3.21**	**41**	⇑Pg	**Pg**	**23 35 48.1**	**-0.8**
KNDC	26nm,0.4s			⇑Lg	Lg	23 36 30.9	
KOTS	119nm,0.7s **Kotyrbulak**	**3.29**	**42**	Pg	**Pg**	**23 35 48.6**	**-1.9**
KOTS	17nm,0.6s			Lg	Lg	23 36 31.7	
KOTS	87nm,0.5s **Kotyrbulak**	**3.29**	**42**	*e*Pg	**Pg**	**23 35 49.7**	**-0.8**
KOTS	17nm,0.6s			*e*Lg	Lg	23 36 33.3	
ANVS	92nm,0.6s **Anan'yevo**	**3.31**	**52**	⇑*e*P	**Pn**	**23 35 42.8**	**+2.4**
ANVS	baz=52			⇑*e*S	**Sb**	**23 36 23.2**	**-4.5**
IUG	**Iuzhnay**	**3.35**	**295**	Pg	**Pg**	**23 35 50.5**	**-1.0**
IUG	28nm,0.6s			Lg	Lg	23 36 35.0	
IUG	157nm,0.4s **Iuzhnay**	**3.35**	**295**	*e*Pg	**Pb**	**23 35 47.2**	**-0.3**
IUG	6.8nm,0.2s			*e*Lg	Lg	23 36 29.0	
KTBS	41nm,0.5s **Karatobe**	**3.47**	**32**	Pg	**Pg**	**23 35 52.1**	**-1.8**
KTBS	12nm,0.6s			Lg	Lg	23 36 37.6	
KTBS	39nm,0.5s **Karatobe**	**3.47**	**32**	*e*Pg	**Pg**	**23 35 52.1**	**-1.8**
KTBS	12nm,0.6s			*e*Lg	Lg	23 36 37.6	
KUU	39nm,0.5s **Kurty**	**3.49**	**27**	Pg	**Pg**	**23 35 52.2**	**-2.1**
KUU	5.2nm,0.5s			Lg	Lg	23 36 37.9	
KUU	41nm,0.7s **Kurty**	**3.49**	**27**	*e*Pg	**Pg**	**23 35 52.2**	**-2.1**
KUU	5.2nm,0.5s			*e*Lg	Lg	23 36 37.9	
KK31	41nm,0.7s **Karatay Array**	**3.53**	**312**	⇑Pg	**Pb**	**23 35 52.0**	**+1.4**
KK31	1.5nm,0.3s,baz=128,slow=16,SNR=30			⇑Lg	Lg	23 36 37.7	
KKAR	32nm,0.7s,baz=125,slow=26,SNR=6.7 **Karatay Array**	**3.53**	**312**	⇑*e*P	**Pn**	**23 35 45.7**	**+2.4**
KKAR	baz=12			⇑*i*S	**Sb**	**23 36 28.5**	**-5.5**
BTLS	**Baital**	**4.23**	**359**	Pg	**Pb**	**23 36 05.1**	**+2.6**
BTLS	2.2nm,0.5s			Lg	Lg	23 36 59.7	
BTLS	7.9nm,0.6s **Baital**	**4.23**	**359**	*e*Pg	**Pb**	**23 36 05.1**	**+2.6**
BTLS	2.2nm,0.5s			*e*Lg	Lg	23 36 59.7	
	7.9nm,0.6s						

*KRNET **04** 23:35:29.9±0.1, 40.°84N×74.°04E, h12km, mb3.6*
*SOME **04** 23:35:30.3, 40.°80N×74.°03E, h15km*
*NNC **04** 23:35:35.3±1.2, 41.°01N×74.°06E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=8.0km s-min=5.4km az=14.0*
ISC 04 23:35:29.4±1.5, 40.°79N±0.°04×74.°00E±0.°03, h1km±12km, n40, σ1°07/52, 26C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.87**	**206**	⇓*i*P	**Pb**	**23 35 47.2**	**-0.2**
SFK	baz=7.0			⇓*i*S	**Sb**	**23 35 59.7**	**+0.1**
OHH	**Osh**	**0.96**	**254**	⇑*i*P	**Pb**	**23 35 49.3**	**+0.3**
OHH	baz=52			⇑*i*S	**Sn**	**23 36 03.0**	**-1.5**
ARLS	**Aral**	**1.09**	**13**	⇑*e*P	**Pb**	**23 35 49.5**	**-1.7**
ARLS	baz=12			⇑*i*S	**Sb**	**23 36 03.6**	**-2.4**
AML	**Almayashu**	**1.36**	**350**	⇑P	**Pg**	**23 35 56.7**	**+1.3**
AML	4.0nm,0.4s			⇑S	**Sn**	**23 36 13.3**	**-1.4**
NRN	**Naryn**	**1.64**	**66**	⇑*i*P	**Pn**	**23 35 59.2**	**-0.5**
NRN	baz=68			⇑*e*S	**Sb**	**23 36 20.8**	**-1.1**
ARK	**Arkit**	**1.83**	**304**	⇑*i*P	**Pb**	**23 36 04.2**	**+0.4**
ARK	baz=2.0			⇑*i*S	**Sg**	**23 36 28.9**	**+0.5**
MNAS	**Manas**	**2.03**	**327**	⇓*i*P	**Pb**	**23 36 06.5**	**-0.7**
MNAS	baz=26			⇓*i*S	**Sb**	**23 36 33.5**	**+0.5**
MRKS	baz=26 **Merke**	**2.03**	**344**	Pg	**Pg**	**23 36 09.2**	**+0.8**
MRKS	101nm,0.2s			Lg	Lg	23 36 35.3	
MRKS	214nm,0.4s **Merke**	**2.03**	**344**	*e*Pg	**Pb**	**23 36 07.5**	**+0.3**
MRKS	101nm,0.2s			*e*Lg	Lg	23 36 35.3	
	214nm,0.4s						
FRU1	**Bishkek**	**2.07**	**13**	⇑*i*P	**Pb**	**23 36 06.9**	**-0.9**
FRU1	baz=12			⇑*i*S	**Sb**	**23 36 34.2**	**+0.2**
BOOM	**Boomskoye usch**	**2.23**	**40**	⇑*e*P	**Pb**	**23 36 09.3**	**-1.3**
BOOM	baz=40			⇑*e*S	**Sb**	**23 36 37.9**	**-0.9**
CHMS	**Chumysh**	**2.27**	**14**	⇑Pn	**Pb**	**23 36 11.2**	**-0.1**
CHMS	22nm,0.3s			⇑Sn	**Sb**	**23 36 39.7**	**-0.2**
TRKS	158nm,0.8s **Terek-Say**	**2.28**	**290**	⇑*i*P	**Pb**	**23 36 10.2**	**-1.3**
TRKS	baz=87			⇑*i*S	**Sb**	**23 36 39.1**	**-1.1**
TKM2	**Tokmak 2**	**2.44**	**29**	⇑Pg	**Pg**	**23 36 16.0**	**-0.1**
TKM2	25nm,0.4s			⇓Lg	Lg	23 36 44.8	
BTK	130nm,1.1s **Batken**	**2.54**	**254**	⇑*i*P	**Pb**	**23 36 15.0**	**-0.8**
BTK	baz=53			⇑*i*S	**Sb**	**23 36 47.4**	**-0.2**
KST	**Kastek**	**2.68**	**32**	Pg	**Pg**	**23 36 21.2**	**+0.3**
KST	74nm,0.5s			Lg	Lg	23 36 55.7	
KST	96nm,0.6s **Kastek**	**2.68**	**32**	*e*Pg	**Pb**	**23 36 17.9**	**-0.4**
KST	48nm,0.4s			*e*Lg	Lg	23 36 52.7	
SGDS	57nm,0.3s **Sogindy**	**2.70**	**10**	Pg	**Pg**	**23 36 21.4**	**+0.3**
SGDS	27nm,0.4s			Lg	Lg	23 36 55.6	
DGS	89nm,0.6s **Degeres**	**2.78**	**28**	Pg	**Pg**	**23 36 22.5**	**-0.2**
DGS	130nm,0.5s			Lg	Lg	23 36 58.0	
DGS	142nm,0.6s **Degeres**	**2.78**	**28**	*e*Pg	**Pb**	**23 36 21.1**	**+1.2**
DGS	130nm,0.5s			*e*Lg	Lg	23 36 58.0	
MTBS	142nm,0.6s **Maitube**	**2.95**	**37**	Pg	**Pg**	**23 36 25.3**	**-0.8**
MTBS	61nm,0.4s			Lg	Lg	23 37 02.2	
MTBS	81nm,0.5s **Maitube**	**2.95**	**37**	*e*Pg	**Pb**	**23 36 23.4**	**+0.6**
MTBS	61nm,0.4s			*e*Lg	Lg	23 37 02.2	
IZV	81nm,0.5s **Izvestkoviy**	**2.97**	**40**	Pg	**Pg**	**23 36 25.8**	**-0.6**
IZV	30nm,0.4s			Lg	Lg	23 37 03.3	
IZV	57nm,0.5s **Izvestkoviy**	**2.97**	**40**	*e*Pg	**Pb**	**23 36 23.9**	**+0.7**
IZV	30nm,0.4s			*e*Lg	Lg	23 37 03.3	
TNSS	57nm,0.5s **Tian-Shan**	**3.14**	**43**	Pg	**Pg**	**23 36 28.7**	**-0.8**
TNSS	21nm,0.4s			Lg	Lg	23 37 08.1	
TNSS	42nm,0.6s **Tian-Shan**	**3.14**	**43**	*e*Pg	**Pb**	**23 36 26.4**	**+0.1**
TNSS	21nm,0.4s			*e*Lg	Lg	23 37 07.3	
KRBS	42nm,0.6s **Karabastau**	**3.15**	**23**	Pg	**Pg**	**23 36 28.8**	**-1.1**
KRBS	32nm,0.3s			Lg	Lg	23 37 08.3	
KRBS	68nm,0.5s **Karabastau**	**3.15**	**23**	*e*Pg	**Pb**	**23 36 26.8**	**+0.5**
KRBS	32nm,0.3s			*e*Lg	Lg	23 37 08.0	
IUG	68nm,0.5s **Iuzhnay**	**3.27**	**296**	Pg	**Pg**	**23 36 33.1**	**+0.9**
IUG	32nm,0.3s			Lg	Lg	23 37 16.1	
IUG	168nm,0.4s **Iuzhnay**	**3.27**	**296**	*e*Pg	**Pg**	**23 36 31.1**	**-1.1**
IUG	48nm,0.4s			*e*Lg	Lg	23 37 15.1	
KNDC	256nm,0.5s **Almaty**	**3.28**	**41**	⇑Lg	Lg	23 37 13.8	
KOTS	175nm,0.8s **Kotyrbulak**	**3.36**	**43**	Pg	**Pg**	**23 36 32.7**	**-1.2**
KOTS				Lg	Lg	23 37 15.1	
KOTS	**Kotyrbulak**	**3.36**	**43**	*e*Pg	**Pb**	**23 36 31.0**	**+1.0**
KOTS	17nm,0.5s			*e*Lg	Lg	23 37 14.0	
ANVS	106nm,0.5s **Anan'yevo**	**3.38**	**53**	⇓*e*P	**Pn**	**23 36 25.3**	**+1.8**
ANVS	baz=53			⇓*e*S	**Sn**	**23 37 06.1**	**+1.7**
KK31	**Karatay Array**	**3.48**	**313**	⇑Pg	Pg	23 36 41.6	+5.5
KK31	3.1nm,0.3s,baz=148,slow=9.4,SNR=4.3			⇑Lg	Lg	23 37 21.7	
KTBS	12nm,0.6s,baz=126,slow=29,SNR=4.6 **Karatobe**	**3.53**	**33**	Pg	**Pg**	**23 36 35.3**	**-1.8**
KTBS	11nm,0.3s			Lg	Lg	23 37 19.6	
KTBS	68nm,0.4s **Karatobe**	**3.53**	**33**	*e*Pg	**Pb**	**23 36 33.8**	**+1.1**
KTBS	11nm,0.3s			*e*Lg	Lg	23 37 18.8	
KUU	68nm,0.4s **Kurty**	**3.55**	**28**	Pg	**Pg**	**23 36 35.4**	**-2.1**
KUU	10nm,0.4s			Lg	Lg	23 37 19.6	
KUU	67nm,0.5s **Kurty**	**3.55**	**28**	*e*Pg	**Pb**	**23 36 33.9**	**+0.9**
KUU	10nm,0.4s			*e*Lg	Lg	23 37 19.6	
PRZ	67nm,0.5s **Przheval'sk**	**3.70**	**61**	⇑*e*P	**Pn**	**23 36 29.7**	**+1.8**
PRZ	baz=62			⇑*e*S	**Sn**	**23 37 13.1**	**+0.8**
	baz=62						

*ANF **05** 00:12:00.8±1.1, 36.°44N×98.°78W, h7km±7km, ML4.4/13, Error ellipse: s-maj=3.6km s-min=2.9km az=69.0*
*TUL **05** 00:12:01±0.7, 36.°46N±0.°03×98.°77W±0.°05, h8km±7km, ML3.7, mb_Lg3.4/103(NEIC), ML3.6/42(NEIC), Mwr3.3/16(NEIC), Error ellipse: s-maj=6.3km s-min=3.3km az=113.0*
*NEIC **05** 00:12:01.8±0.7, 36.°44N±0.°02×98.°74W±0.°04, h4km±8km, Error ellipse: s-maj=4.7km s-min=2.8km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.17; $M_{\theta\theta}$1.11; $M_{\phi\phi}$-0.94; $M_{r\theta}$0.03; $M_{\theta\phi}$-0.33; $M_{\phi r}$-0.08; Fault plane solution: $M_0$1.09000×10^{14} NP1:ϕ_s53.92000°, δ85.19000°, λ-177.95000°. NP2:ϕ_s323.75000°, δ87.95000°, λ-4.81000°. Principal axes: T 1.1622, Plg2.0000°, Azm9.0000°; N -0.1667, Plg85.0000°, Azm121.0000°; P -0.9955, Plg5.0000°, Azm279.0000°;*
*NEIC **05** 00:12:01.9, 36.°45N×98.°75W, h8km*
ISC 05 00:12:01.2±0.8, 36.°44N±0.°02×98.°76W±0.°02, h9km±5km, n129, σ0°69/111, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.04**	**19**		**Pg**	**00 12 02.9**	**-0.1**
OK038				Sg	**Sg**	**00 12 04.4**	**+0.1**
U32A	**Winter Ranch,**	**0.21**	**252**	Pg	**Pg**	**00 12 05.4**	**-0.1**
U32A				Sg	**Sg**	**00 12 08.6**	**+0.3**
U32A				IAML		00 12 09.0	
	comp=E,11μm,0.4s						
U32A	**Winter Ranch,**	**0.21**	**252**	P	**Pg**	**00 12 05.1**	**-0.4**
U32A	baz=68,SNR=383			S	**Sg**	**00 12 08.7**	**+0.3**
	baz=68						
NOKA	**Waynoka**	**0.24**	**324**	Pg	**Pg**	**00 12 05.9**	**-0.1**
NOKA				Sg	**Sg**	**00 12 09.5**	**+0.2**
OK035	**E0210 Rd and N**	**0.27**	**8**	Pg	**Pg**	**00 12 06.5**	**0.0**
OK035				Sg	**Sg**	**00 12 10.6**	**+0.4**
OK032	**Salt Plains WL**	**0.57**	**51**	Pg	**Pg**	**00 12 11.9**	**-0.3**
OK032				IAML		00 12 20.1	
	comp=E,4μm,0.2s						
OK032				IAML		00 12 21.8	
	comp=E,4μm,0.2s						
CROK	**Carrier**	**0.63**	**84**	Pg	**Pg**	**00 12 13.2**	**-0.1**
CROK				IAML		00 12 22.5	
	comp=N,5μm,0.4s						

CROK IAML 00 12 26.5
comp=E,3μm,0.3s
ELIS Ellis County 0.66 235 Pg 00 12 13.6 -0.2
ELIS IAML 00 12 23.4
comp=E,3μm,0.3s
ELIS IAML 00 12 29.6
comp=N,3μm,0.5s
CSTR Hydro, Custer 0.80 176 Pg **Pg 00 12 16.4 -0.1**
KAN14 Manchester OK 0.82 51 Pg **Pg 00 12 16.6 -0.4**
KAN14 IAML 00 12 27.8
comp=N,2μm,0.6s
KAN14 IAML 00 12 27.8
comp=E,2μm,0.2s
GC02 Grant County # 0.83 60 Pg 00 12 16.7 -0.4
KAN10 Anthony SW Sta 0.86 38 Pg **Pg 00 12 17.3 -0.5**
KAN05 Bluff City Nor 0.97 47 Pg 00 12 19.4 -0.5
KAN05 IAML 00 12 36.1
comp=N,2μm,0.2s
KAN05 IAML 00 12 38.3
comp=E,2μm,0.2s
KAN17 Caldwell West 1.00 53 Pg 00 12 19.8 -0.6
KAN17 IAML 00 12 33.3
comp=E,3μm,0.3s
KAN17 IAML 00 12 35.1
comp=N,2μm,0.3s
KAN08 Anthony NE Sta 1.00 39 Pg 00 12 19.8 -0.7
KAN12 Harper NE Stat 1.05 35 Pg 00 12 20.7 -0.6
KAN12 IAML 00 12 45.2
comp=E,3μm,0.3s
KAN12 IAML 00 12 47.5
comp=N,2μm,0.3s
KAN01 Argonia South 1.07 48 Pg 00 12 21.1 -0.7
KAN01 IAML 00 12 35.5
comp=E,1μm,0.4s
KAN01 IAML 00 12 38.0
comp=N,994nm,0.3s
KAN09 Caldwell North 1.15 53 Pg 00 12 22.4 -0.8
KAN09 IAML 00 12 49.8
comp=E,3μm,0.2s
KAN13 South Haven SW 1.17 61 Pg 00 12 22.9 -0.9
KS21 Milan North St 1.22 46 IAML 00 12 42.8
comp=E,1μm,0.2s
KS21 IAML 00 12 43.5
comp=E,2μm,0.4s
KS21 Milan North St 1.22 46 Pb 00 12 23.7 -0.7
OK029 Liberty Lake 1.24 121 Pn 00 12 23.9 -0.8
KS20 Mayfield South 1.24 51 Pn 00 12 24.1 -0.7
BLOK Blackwell 1.28 75 Pn 00 12 24.7 -0.5
OK048 Pawnee Station 1.46 91 Pn 00 12 27.8 0.0
OKCSW OKLAHOMA CITY 1.49 134 Pn 00 12 28.2 0.0
OK033 Mehan 1.52 105 Pn 00 12 28.6 0.0
OK051 E0350 and S346 1.55 87 Pn 00 12 29.3 +0.4
OK031 S. Brethren Rd 1.63 107 Pn 00 12 30.2 +0.2
OK052 Battle Ridge R 1.64 105 Pn 00 12 30.4 +0.2
QUOK Quay 1.68 99 Pn 00 12 31.1 +0.4
WMOK Wichita Mounta 1.70 181 Pn 00 12 31.0 -0.1
WMOK Wichita Mounta 1.70 181 P **Pn 00 12 30.7 -0.4**
baz=0.3
WMOK S **Sb 00 12 53.7 -0.5**
baz=0.3
WMOK Wichita Mounta 1.70 181 P **Pn 00 12 31.1 -0.1**
baz=0.3,SNR=28
WMOK S **Sb 00 12 54.6 +0.4**
baz=0.3
T35A Sooner Cattle 1.86 75 Pn 00 12 33.9 +0.6
T35B Sooner Cattle 1.86 75 P **Pn 00 12 33.7 +0.4**
baz=256,SNR=80
T35B S **Sb 00 12 59.0 +0.1**
baz=256
R32A Long Quarter, 1.98 1 Pn 00 12 35.6 +0.7
R32A IAmb_Lg 00 13 04.1
comp=Z,135nm,0.8s
R32A Long Quarter, 1.98 1 P **Pn 00 12 35.5 +0.7**
baz=181,SNR=99
R32A S **Sb 00 13 02.5 +0.4**
baz=181
X34A Smith Ranch, M 1.99 157 Pb 00 12 36.5 -1.0
TUL3 Leonard 2.46 102 Pn 00 12 41.6 +0.1
TUL3 Leonard 2.46 102 P **Pn 00 12 41.4 -0.1**
baz=284
TUL3 S **Sn 00 13 12.6 +1.0**
baz=284
TUL3 Leonard 2.46 102 P **Pn 00 12 41.7 +0.3**
baz=284,SNR=13
TUL3 S **Sn 00 13 12.7 +1.0**
baz=284
CBKS Cedar Bluff 2.49 342 Pn 00 12 42.5 +0.5
CBKS IAmb_Lg 00 13 23.4
comp=Z,184nm,0.7s
CBKS Cedar Bluff 2.49 342 P **Pn 00 12 41.9 -0.1**
baz=162
CBKS S **Sn 00 13 13.1 +0.6**
baz=162
CBKS Cedar Bluff 2.49 342 P **Pn 00 12 42.1 +0.1**
baz=162,SNR=24
CBKS S **Sb 00 13 17.4 +0.5**
baz=162
WTFS Witchita Falls 2.68 175 Pn **Pn 00 12 45.5 +0.9**
WTFS IAmb_Lg 00 13 30.9
comp=Z,39nm,0.9s
LOOK Love County 2.77 152 Pn 00 12 46.8 +1.1
LOOK IAmb_Lg 00 13 32.7
comp=Z,129nm,0.8s
AMTX Amarillo 2.84 238 Pn 00 12 48.2 +1.4
AMTX Amarillo 2.84 238 P **Pn 00 12 46.6 -0.3**
baz=56
AMTX S **Sn 00 13 21.9 +0.6**
baz=56
AMTX Amarillo 2.84 238 P **Pn 00 12 48.3 +1.4**
baz=56
AMTX Sb **Sg 00 13 29.7 -2.8**
baz=56
RLO Rose Lookout 3.03 94 Pn 00 12 49.9 +0.6
KSU1 Kansas State U 3.15 32 Pn **Pn 00 12 51.8 +0.8**
KSU1 Kansas State U 3.15 32 P **Pn 00 12 51.2 +0.2**
baz=214
KSU1 S **Sn 00 13 30.1 +1.4**
baz=214
KSU1 Kansas State U 3.15 32 P **Pn 00 12 51.8 +0.8**
baz=214,SNR=22
KS25 Jewell 3.26 8 Pn 00 12 52.5 0.0
DKNS Dickens 3.29 213 Pn 00 12 54.2 +1.2
DKNS IAmb_Lg 00 13 54.8
comp=Z,57nm,0.8s
APMT Aspermont 3.31 200 Pn **Pn 00 12 54.2 +1.0**
APMT IAmb_Lg 00 13 51.0
comp=Z,58nm,1.1s
X37A Clayton 3.32 123 Pn 00 12 54.0 +0.6
X37A IAmb_Lg 00 13 55.8
comp=Z,184nm,0.9s
Z35A Perchaven, San 3.34 158 Pn 00 12 53.7 +0.1
KS23 Northwest Mank 3.42 7 Pn 00 12 54.5 -0.1
FW03 Perrin-Whitt E 3.44 170 IAmb_Lg 00 13 59.2
comp=Z,29nm,0.8s
U38A Gravette 3.52 89 Pn 00 12 56.8 +0.7
U38A IAmb_Lg 00 13 58.8
comp=Z,100nm,0.8s
FW06 Azle 3.60 164 Pn 00 12 58.0 +0.8
FW06 IAmb_Lg 00 14 01.0
comp=Z,60nm,0.9s
FW07 Weatherford 3.82 168 Pn 00 13 00.6 +0.4
FW07 IAmb_Lg 00 14 05.4
comp=Z,57nm,0.9s
ABTX Abilene, Hawle 3.88 191 Pn 00 13 01.1 +0.1
ABTX Abilene, Hawle 3.88 191 P **Pn 00 13 01.1 +0.1**
baz=10
ABTX S **Sn 00 13 48.6 +1.9**
baz=10
ABTX Abilene, Hawle 3.88 191 P **Pn 00 13 01.2 +0.2**
baz=10
HHAR Hobbs 3.89 91 Pn 00 13 01.8 +0.6
HHAR IAmb_Lg 00 14 07.7
comp=Z,86nm,0.8s
SN01 Snyder 1 3.98 207 Pn 00 13 02.9 +0.4
SN01 IAmb_Lg 00 14 08.8
comp=Z,95nm,0.8s
KSCO Kaye Shedlock' 4.00 311 IAmb_Lg 00 14 14.8
comp=Z,114nm,0.8s
KSCO Kaye Shedlock' 4.00 311 P **Pn 00 13 02.4 -0.4**
baz=129
KSCO S **Sn 00 13 50.2 +0.4**
baz=129
POST Post 4.06 215 IAmb_Lg 00 14 10.8
comp=Z,62nm,0.8s
MSTX Muleshoe 4.11 234 P **Pn 00 13 04.0 -0.4**
baz=52
MSTX S **Sn 00 13 53.3 +0.7**
baz=52
FW13 Cleburne 4.23 165 IAmb_Lg 00 14 23.2
comp=Z,33nm,0.8s
N33B J Bar K, Exete 4.41 13 P **Pn 00 13 07.5 -0.7**
baz=194
N33A J Bar K, Exete 4.41 13 IAmb_Lg 00 14 30.2
comp=Z,86nm,0.9s
Z38A Mt. Pleasant 4.44 135 IAmb_Lg 00 14 25.5
comp=Z,64nm,0.7s
S39A Bolivar 4.52 72 IAmb_Lg 00 14 26.9
comp=Z,117nm,0.7s
WHTX Lake Whitney, 4.57 166 IAmb_Lg 00 14 33.5
comp=Z,49nm,1.2s
WHTX Lake Whitney, 4.57 166 P **Pn 00 13 10.7 +0.2**
baz=347
WHTX S **Sn 00 14 06.0 +2.3**
baz=347
T25A Trinidad 4.59 280 Pn **Pn 00 13 11.1 +0.1**
T25A IAmb_Lg 00 14 33.7
comp=Z,104nm,0.9s
T25A Trinidad 4.59 280 P **Pn 00 13 10.6 -0.4**
baz=97
T25A S **Sn 00 14 03.9 -0.6**
baz=97
MIAR Mount Ida 4.63 113 Pn **Pn 00 13 12.1 +0.7**
MIAR IAmb_Lg 00 14 40.6
comp=Z,80nm,1.2s
MIAR Mount Ida 4.63 113 P **Pn 00 13 11.3 -0.1**
baz=296
MIAR S **Sn 00 14 05.5 +0.3**
baz=296
MIAR Mount Ida 4.63 113 P **Pn 00 13 12.1 +0.7**
baz=296,SNR=7.0
U40A Yellville 4.76 89 P **Pn 00 13 13.3 +0.1**
baz=273,SNR=15
U40A P **Pn 00 13 13.3 +0.1**
baz=273,SNR=15
BGNE Belgrade 4.98 5 IAmb_Lg 00 14 46.6
comp=Z,59nm,0.9s
BGNE Belgrade 4.98 5 P **Pn 00 13 15.9 -0.2**
baz=186
N35A Tabor 5.04 28 Pn **Pn 00 13 16.8 -0.2**
237A Washetta, Mont 5.06 150 IAmb_Lg 00 14 52.7
comp=Z,83nm,1.1s
OGNE Ogallala 5.17 331 P **Pn 00 13 18.5 -0.4**
baz=149
P38A Dawn 5.21 51 IAmb_Lg 00 14 49.6
comp=Z,48nm,0.7s
P38A Dawn 5.21 51 P **Pn 00 13 19.7 +0.4**
baz=234
MGMO Mountain Grove 5.25 80 IAmb_Lg 00 14 54.9
comp=Z,62nm,0.8s
WHAR Wooly Hollow 5.38 100 Pn **Pn 00 13 20.6 -0.9**
WLAR White Oak Lake 5.38 119 IAmb_Lg 00 15 06.9
comp=Z,60nm,1.0s
UALR University of 5.48 106 IAmb_Lg 00 15 06.8
comp=Z,71nm,1.1s
R40A Maddies Statio 5.49 68 IAmb_Lg 00 15 00.7
comp=Z,67nm,0.8s
SDCO Great Sand Dun 5.55 286 Pn **Pn 00 13 24.5 +0.3**
SDCO Great Sand Dun 5.55 286 P **Pn 00 13 23.6 -0.6**
baz=102
435B Jarrell 5.73 170 IAmb_Lg 00 15 14.3
comp=Z,56nm,0.7s
NATX Nacogdoches 5.78 143 IAmb_Lg 00 15 17.8
comp=Z,45nm,0.8s
BRIGG Briggsdale 6.01 315 IAmb_Lg 00 15 23.1
comp=Z,70nm,0.7s
JCT Junction City 6.01 189 Pn **Pn 00 13 30.7 +0.3**
JCT IAmb_Lg 00 15 21.2
comp=Z,59nm,0.8s
P40A Paris 6.13 58 IAmb_Lg 00 15 21.1
comp=Z,93nm,0.7s
LCAR Lake Charles 6.15 91 IAmb_Lg 00 15 13.9
comp=Z,33nm,0.8s
CCM Cathedral Cave 6.20 73 IAmb_Lg 00 15 24.3
comp=Z,93nm,0.9s
CCAR Cane Creek 6.25 112 IAmb_Lg 00 15 26.6
comp=Z,43nm,0.9s
FVM French Village 6.82 74 IAmb_Lg 00 15 41.3
comp=Z,66nm,0.9s
GNAR Gosnell 7.08 91 IAmb_Lg 00 15 46.1
comp=Z,64nm,0.9s
PHWY Pilot Hill 7.13 315 IAmb_Lg 00 15 46.9
comp=Z,39nm,0.9s
N23A Red Feather La 7.17 311 IAmb_Lg 00 15 54.3
comp=Z,47nm,0.8s
MNTX Cornudas Mount 7.25 231 IAmb_Lg 00 15 49.5
comp=Z,38nm,0.8s
CGM3 Cape Girardeau 7.34 81 IAmb_Lg 00 16 00.5
comp=Z,37nm,0.9s
LNXT Lenox 7.49 90 IAmb_Lg 00 16 07.0
comp=Z,72nm,0.7s
HALT Halls 7.63 91 IAmb_Lg 00 16 25.0
comp=Z,54nm,0.9s
K38A Parkersburg 7.73 35 IAmb_Lg 00 16 12.5
comp=Z,70nm,0.8s
OXF Oxford 7.87 101 P **Pn 00 13 55.3 -0.5**
baz=287
SUSD Miller 7.99 359 IAmb_Lg 00 16 26.8
comp=Z,40nm,0.8s
TX31 Lajitas Ar. Si 8.20 212 Pn **Pn 00 13 59.9 -0.6**
TX31 Lajitas Ar. Si 8.20 212 P **Pn 00 14 00.2 -0.3**
baz=29
RWWY Rawlins 8.40 311 IAmb_Lg 00 16 39.8
comp=Z,35nm,1.0s
121A Cookes Peak, D 8.41 245 IAmb_Lg 00 16 48.2
comp=Z,25nm,1.1s
I37A Lemond, Waseca 8.60 27 IAmb_Lg 00 16 40.6
comp=Z,25nm,0.8s
K22A Casper 8.62 318 IAmb_Lg 00 16 38.4
comp=Z,36nm,0.8s
RSSD Black Hills 8.66 334 IAmb_Lg 00 16 41.5
comp=Z,45nm,1.0s
L42A Oliver, Polo 8.97 49 IAmb_Lg 00 16 46.6
comp=Z,51nm,0.8s
JFWS Jewell Farm 9.20 43 IAmb_Lg 00 17 08.5
comp=Z,36nm,0.7s
I40A Norwalk 9.70 37 IAmb_Lg 00 17 10.5
comp=Z,41nm,1.1s

NEIC ***05*** *00:24:55.5±1.9, 31°.30S±0°.08×178°.0W±0°.2, h35km±7km, mb4.7/22, Error ellipse: s-maj=19.4km s-min=11.9km az=90.0*
IDC ***05*** *00:24:56.4±1.6, 31°.11S×178°.19W, h46km±14km, mb4.3/13, mbtmp4.5/13, MS3.8/29, Error ellipse: s-maj=16.5km s-min=12.4km az=102.0*
ISC 05 00:24:54.7±0.4, 31°.31S±0°.05×178°.20W±0°.09, h35km, n121, σ1$34/98, mb4.7/26, MS4.0/29, 5C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RAO	**Raoul Island**	**2.07**	**7**			**Pn**	**00 25 25.7**	**-1.3**
RAO				Sn		**Sn**	**00 25 51.4**	**0.0**
RAO	**Raoul Island**	**2.07**	**7**	**P**		**Pn**	**00 25 26.2**	**-0.8**
1μm,0.2s,baz=118,slow=9.5,SNR=15								
RAO				S		**Sn**	**00 25 48.1**	**-3.4**
3μm,0.3s,baz=236,slow=22,SNR=7.3								
MXZ	**Matakaoa Point**	**6.87**	**204**	Pn		**Pn**	**00 26 30.1**	**-2.9**
URZ	**Urewera**	**7.93**	**208**	P		**Pn**	**00 26 44.8**	**-2.7**
11nm,0.3s,baz=12,slow=4.4,SNR=12								
URZ				S		**Sn**	**00 28 14.6**	**-1.3**
58nm,0.4s,baz=322,slow=2.5,SNR=11								
RTZ	**Ruatahuna**	**8.29**	**207**			**Pn**	**00 26 49.4**	**-3.1**
MSVF	**Nonsavu**	**13.94**	**345**			**Pn**	**00 28 10.7**	**+0.8**
MSVF	**Nonsavu**	**13.94**	**345**	P		Pn	00 28 04.1	-5.8
5.8nm,1.0s,baz=163,slow=17,SNR=1.4								
RPZ	**Rata Peaks**	**15.02**	**211**	P		**Pn**	**00 28 20.5**	**-3.7**
5.0nm,0.6s,baz=290,slow=21,SNR=1.7								
RPZ				S		Sn	00 30 53.8	-15
15nm,0.9s,baz=42,slow=23,SNR=2.7								
RPZ				LR		LR	00 34 26.8	
comp=Z,397nm,18.6s,baz=40,slow=38								
OUENC	**Ouen Island, N**	**16.00**	**300**			**P**	**00 28 42.3**	**+2.0**
ONTNC	**Ouen Toro**	**16.36**	**300**			**P**	**00 28 45.7**	**+1.4**
DZM	**Mont Dzumac**	**16.51**	**300**	*e*Pn		**P**	**00 28 49.2**	**+3.2**
62nm,1.3s								
DZM				*e*LR		LR	00 32 44.8	
comp=Z,1μm,24.1s								
DZM	**Mont Dzumac**	**16.51**	**300**			**P**	**00 28 46.4**	**+0.4**
DZM	**Mont Dzumac**	**16.51**	**300**	P		**Pn**	**00 28 40.2**	**-3.5**
5.5nm,1.0s,baz=86,slow=16,SNR=1.7								
DZM				LR		LR	00 34 12.0	
comp=Z,752nm,18.2s,baz=220,slow=34								
RAR	**Rarotonga**	**19.32**	**63**	LR		LR	00 37 24.2	
comp=Z,156nm,18.3s,baz=240,slow=39								
ARMA	**Armidale**	**25.88**	**264**	P		**P**	**00 30 25.3**	**+1.9**
ARMA				IAmb		IAmb	00 30 44.3	
comp=Z,23nm,1.1s								
TBI	**Tubuai**	**26.68**	**80**	*e*LR		LR	00 36 53.0	
comp=Z,8μm,23.8s								
TBI				*e*LR		LR	00 37 02.4	
comp=Z,2μm,27.0s								
EIDS	**Eidsvold**	**27.62**	**275**	P		**P**	**00 30 40.6**	**+1.5**
EIDS				IAmb		IAmb	00 30 43.6	
comp=Z,17nm,0.9s								
PPT2	**Papeete2**	**29.32**	**69**	*e*P		P	00 31 00.4	+6.2
comp=Z,30nm,22.2s								
PPT2				*e*LR		LR	00 38 11.5	
comp=Z,474nm,26.8s								
PPT2				*e*LR		LR	00 38 19.5	
comp=Z,320nm,25.2s								
PPT	**Papeete**	**29.33**	**69**	LR		LR	00 42 11.7	
comp=Z,136nm,18.1s,baz=192,slow=35								
CTA	**Charters Tower**	**33.78**	**281**	LR		LR	00 44 18.2	
comp=Z,319nm,18.2s,baz=86,slow=34								
CTAO	**Charters Tower**	**33.78**	**281**	P		**P**	**00 31 35.7**	**+2.2**
STKA	**Stephens Creek**	**34.11**	**258**	P		**P**	**00 31 38.2**	**+1.9**
STKA				IAmb		IAmb	00 31 40.0	
comp=Z,6.2nm,1.2s								
STKA	**Stephens Creek**	**34.11**	**258**	P		**P**	**00 31 38.7**	**+2.5**
comp=Z,9.1nm,0.6s,baz=101,slow=9.1,SNR=11								
STKA				LR		LR	00 43 41.0	
comp=Z,228nm,21.5s,baz=42,slow=33								
comp=Z,9.1nm,0.6s								
BBOO	**Buckleboo**	**38.56**	**255**	P		**P**	**00 32 14.9**	**+0.7**
COEN	**Coen**	**39.36**	**287**	P		**P**	**00 32 22.8**	**+1.7**
COEN				IAmb		IAmb	00 32 26.3	
comp=Z,12nm,0.8s								
TAOE	**Nuku Hiva Isla**	**41.83**	**66**	*e*LR		LR	00 43 58.2	
comp=Z,264nm,26.4s								
AS31	**Alice Springs**	**42.89**	**268**	P		**P**	**00 32 51.7**	**+1.6**
AS31				IAmb		IAmb	00 32 53.4	
comp=Z,7.7nm,1.0s								
ASAR	**Alice Springs**	**42.90**	**268**	P		**P**	**00 32 51.3**	**+1.2**
ASAR	**Alice Springs**	**42.90**	**268**	P		**P**	**00 32 51.8**	**+1.6**
comp=Z,27nm,0.9s,baz=111,slow=7.9,SNR=113								
ASAR				ScP		**ScP**	**00 38 29.2**	**+0.3**
comp=Z,0.9nm,0.7s,baz=111,slow=3.9,SNR=6.5								
ASAR				LR		LR	00 50 17.5	
comp=Z,209nm,18.5s,baz=110,slow=35								
comp=Z,27nm,0.9s								
WR0	**Warramunga Arr**	**43.79**	**273**	P		**P**	**00 32 58.5**	**+1.2**
WR0				IAmb		IAmb	00 33 00.2	
comp=Z,28nm,1.1s								
WRA	**Warramunga Arr**	**43.97**	**273**	P		**P**	**00 32 59.0**	**+0.3**
WRA	**Warramunga Arr**	**43.97**	**273**	P		**P**	**00 33 00.1**	**+1.3**
comp=Z,12nm,0.3s,baz=112,slow=8.0,SNR=402								
WRA				ScP		**ScP**	**00 38 33.1**	**-0.2**
comp=Z,1.7nm,0.8s,baz=111,slow=4.1,SNR=6.4								
WRA				S		**S**	**00 39 23.8**	**-4.6**
comp=Z,0.4nm,0.7s,baz=112,slow=14,SNR=3.1								
WRA				LR		LR	00 50 49.9	
comp=Z,300nm,19.3s,baz=84,slow=35								
comp=Z,12nm,0.3s								
FORT	**Forrest**	**45.65**	**256**	P		**P**	**00 33 12.5**	**+0.5**
SBA	**Scott Base**	**47.12**	**184**	P		**P**	**00 33 24.1**	**+1.3**
SBA				IAmb		IAmb	00 33 27.2	
comp=Z,24nm,1.3s								
JAY	**Jayapura**	**48.17**	**298**	LR		LR	00 51 51.8	
comp=Z,71nm,22.0s,baz=320,slow=34								
KNRA	**Kununurra**	**50.61**	**275**	P		**P**	**00 33 52.2**	**+1.7**
KNRA				IAmb		IAmb	00 34 00.6	
comp=Z,12nm,0.8s								
NWAO	**Narrogin (SRO)**	**53.92**	**250**	LR		LR	00 53 55.8	
comp=Z,85nm,21.6s,baz=168,slow=32								
CASY	**Casey**	**54.26**	**208**	P		**P**	**00 34 16.5**	**-0.2**
SIJI	**Sorong**	**56.51**	**292**	LR		LR	00 58 36.7	
comp=Z,99nm,19.8s,baz=196,slow=36								
GUMO	**Guam**	**57.01**	**316**	LR		LR	00 55 23.4	
comp=Z,40nm,20.8s,baz=120,slow=32								
BATI	**Baumata**	**57.60**	**278**	LR		LR	00 59 58.7	
comp=Z,257nm,18.9s,baz=128,slow=36								
QSPA	**South Pole Qui**	**58.80**	**180**	P		**P**	**00 34 50.1**	**+0.8**
QSPA	**South Pole Qui**	**58.80**	**180**	P		**P**	**00 34 51.0**	**+1.7**
comp=Z,9.4nm,1.0s,baz=338,slow=1.2,SNR=18								
comp=Z,9.4nm,1.0s								
KAPI	**Kappang**	**63.60**	**281**	LR		LR	01 02 47.3	
comp=Z,77nm,19.9s,baz=110,slow=36								
DAV	**Davao City (W)**	**65.85**	**295**	LR		LR	01 05 00.9	
comp=Z,18nm,18.5s,baz=160,slow=37								
MAW	**Mawson**	**71.40**	**201**	P		**P**	**00 36 10.9**	**+0.1**
MAW	**Mawson**	**71.40**	**201**	P		**P**	**00 36 11.1**	**+0.3**
comp=Z,1.7nm,0.7s,baz=93,slow=7.9,SNR=3.9								
MAW				LR		LR	01 06 45.0	
comp=Z,117nm,19.6s,baz=108,slow=35								
comp=Z,1.7nm,0.7s								
LEM	**Lembang**	**72.98**	**272**	LR		LR	01 08 46.8	
comp=Z,110nm,19.9s,baz=150,slow=36								
TROLL	**Troll, Antarti**	**76.96**	**180**	⇑P		**P**	**00 36 43.9**	**+0.5**
comp=Z,369nm,0.9s								
SNAA	**Sanae**	**77.25**	**178**	P		**P**	**00 36 44.8**	**-0.1**
SNAA				IAmb		IAmb	00 36 54.3	
comp=Z,15nm,1.2s								
SNAA	**Sanae**	**77.25**	**178**	⇑P		**P**	**00 36 45.0**	**0.0**
comp=Z,65nm,0.9s								
SNAA	**Sanae**	**77.25**	**178**	P		**P**	**00 36 45.4**	**+0.4**
comp=Z,4.8nm,1.0s,baz=206,slow=6.8,SNR=21								
comp=Z,4.8nm,1.0s								
VNA3	**Neumayer Olymp**	**77.41**	**176**	⇑P		**P**	**00 36 45.9**	**+0.1**
comp=Z,4.9nm,0.6s								
VNA2	**Neumayer--Watz**	**77.84**	**177**	⇑P		**P**	**00 36 48.7**	**+0.6**
comp=Z,4.4nm,0.8s,baz=190,slow=6.0								
VNA1	**Neumayer--Stat**	**78.07**	**177**	⇑P		**P**	**00 36 50.5**	**+1.0**
comp=Z,7.6nm,1.1s								
H03S2	**Juan Fernandez**	**80.11**	**124**	T		T	02 06 15.6	
baz=237,slow=74,SNR=12								
H03S1	**Juan Fernandez**	**80.12**	**124**	T		T	02 06 17.6	
baz=237,slow=74,SNR=11								
JNU	**Nakatsue**	**80.12**	**319**	LR		LR	01 06 43.5	
comp=Z,16nm,20.8s,baz=130,slow=31								
H03S3	**Juan Fernandez**	**80.13**	**124**	T		T	02 06 18.3	
baz=237,slow=74,SNR=11								
H03N3	**Juan Fernandez**	**80.31**	**123**	T		T	02 06 07.2	
baz=240,slow=72,SNR=12								
H03N2	**Juan Fernandez**	**80.31**	**123**	T		T	02 06 09.8	
baz=240,slow=72,SNR=8.0								
H03N1	**Juan Fernandez**	**80.32**	**123**	T		T	02 06 06.2	
baz=240,slow=72,SNR=16								
PLCA	**Paso Flores**	**82.01**	**133**	P		**P**	**00 37 11.3**	**-0.1**
comp=Z,5.8nm,1.2s,baz=244,slow=8.1,SNR=3.0								
comp=Z,5.8nm,1.2s								
KSRS	**Korea Array**	**84.93**	**320**	LR		LR	01 11 48.8	
comp=Z,19nm,20.4s,baz=135,slow=33								
PETK	**Petropavlovsk-**	**86.65**	**346**	P		**P**	**00 37 34.2**	**0.0**
PETK	**Petropavlovsk-**	**86.65**	**346**	P		**P**	**00 37 34.0**	**-0.2**
comp=Z,6.6nm,0.8s,baz=112,slow=7.9,SNR=4.5								
PETK				LR		LR	01 09 54.5	
comp=Z,39nm,20.7s,baz=117,slow=31								
comp=Z,6.6nm,0.8s								
PFO	**Pinyon Flats O**	**86.95**	**47**	LR		LR	01 11 20.7	
comp=Z,82nm,18.1s,baz=196,slow=32								
USRK	**Ussuriysk Ar.**	**87.82**	**327**	LR		LR	01 14 09.2	
comp=Z,19nm,19.0s,baz=236,slow=34								
PNTR	**Pine Nut**	**88.72**	**42**			**P**	**00 37 44.7**	**-0.1**
PNTR				IAmb		IAmb	00 37 46.1	
comp=Z,5.3nm,0.8s								
YBH	**Yreka Blue Hor**	**88.86**	**38**	P		**P**	**00 37 44.1**	**-1.0**
comp=Z,0.6nm,0.3s,baz=269,slow=6.2,SNR=3.5								
YBH				LR		LR	01 09 52.4	
comp=Z,56nm,21.6s,baz=220,slow=30								
comp=Z,0.6nm,0.3s								
NVAR	**Mina Array Bea**	**89.02**	**43**	P		**P**	**00 37 46.1**	**-0.2**
NVAR	**Mina Array Bea**	**89.02**	**43**	P		**P**	**00 37 46.4**	**+0.2**
comp=Z,2.0nm,0.7s,baz=222,slow=8.4,SNR=18								
comp=Z,2.0nm,0.7s								
KVN	**Kaiserville**	**89.56**	**42**	P		**P**	**00 37 48.6**	**0.0**
KVN				IAmb		IAmb	00 37 49.3	
comp=Z,2.4nm,1.0s								
X16A	**Lo Mia Camp, P**	**90.67**	**49**			**P**	**00 37 54.1**	**+0.1**
X16A				IAmb		IAmb	00 37 57.2	
comp=Z,3.8nm,1.0s								
ELK	**Elko**	**92.33**	**43**	P		**P**	**00 38 01.2**	**-0.4**
comp=Z,0.7nm,0.6s,baz=311,slow=4.6,SNR=3.7								
ELK				LR		LR	01 14 04.2	
comp=Z,78nm,19.0s,baz=200,slow=32								
comp=Z,0.7nm,0.6s								
TXAR	**Lajitas Array**	**93.03**	**57**	LR		LR	01 14 29.9	
comp=Z,62nm,18.4s,baz=185,slow=32								
BBB	**Bella Bella**	**93.98**	**28**	LR		LR	01 16 50.9	
comp=Z,37nm,18.2s,baz=212,slow=33								
MA2	**Magadan**	**94.12**	**345**	LR		LR	01 13 26.1	

comp=Z,27nm,21.8s,baz=90,slow=31
ANMO Albuquerque 94.28 51 LR LR 01 14 41.8
comp=Z,74nm,18.6s,baz=276,slow=32
NEW Newport 96.21 36 LR LR 01 17 05.2
comp=Z,61nm,18.6s,baz=200,slow=33
PDAR Pinedale Array 96.91 44 P **P 00 38 22.5 -0.1**
comp=Z,0.2nm,0.6s,baz=234,slow=5.5,SNR=2.3
comp=Z,0.2nm,0.6s
ILAR Eielson Array 98.85 13 P **P 00 38 29.6 -0.7**
comp=Z,0.5nm,0.8s,baz=213,slow=7.1,SNR=4.3
comp=Z,0.5nm,0.8s
MK31 Makanchi Array 118.22 310 PKPdf **PKPdf 00 43 37.0 -0.9**
MKAR Makanchi Array 118.22 310 **PKPdf 00 43 36.9 -0.9**
MKAR Makanchi Array 118.22 310 PKP **PKPdf 00 43 37.0 -0.9**
comp=Z,1.1nm,0.6s,baz=177,slow=0.8,SNR=9.2
ZALV Zalesovo Beam 118.59 318 PKP **PKPdf 00 43 37.2 -1.1**
comp=Z,0.5nm,0.5s,baz=18,slow=0.5,SNR=4.1
NRIK Noril'sk 120.39 336 PKP **PKiKP 00 43 41.6 +0.1**
comp=Z,2.5nm,0.9s,baz=121,slow=5.2,SNR=4.8
KURK Kurchatov 121.55 313 **PKPdf 00 43 43.6 -0.5**
KURBB Kurchatov Arra 121.59 313 PKP **PKPdf 00 43 43.6 -0.6**
comp=Z,3.4nm,0.5s,baz=105,slow=1.9,SNR=15
KKAR Karatay Array 125.43 303 **PKPdf 00 43 51.6 -0.3**
BVAR Borovoye Array 126.93 315 PKP **PKPdf 00 43 54.5 +0.1**
comp=Z,3.1nm,0.5s,baz=103,slow=3.2,SNR=20
SPITS Spitsbergen Ar 132.60 356 PKP **PKPdf 00 44 04.6 0.0**
comp=Z,7.3nm,0.9s,baz=29,slow=3.8,SNR=4.1
ABKAR Akbulak array 133.37 310 PKPdf **PKPdf 00 44 07.2 +0.5**
SUMG Summit 133.62 16 PKPdf **PKiKP 00 44 08.5 +0.2**
ARU Arti 133.68 320 PKPdf **PKiKP 00 44 08.3 -0.1**
GEYT Alibeck 133.78 294 PKP **PKPdf 00 44 08.2 +0.2**
comp=Z,4.0nm,0.8s,baz=235,slow=5.1,SNR=5.7
ANGG Ammassalik, Gr 138.15 23 *i* P **PKPdf 00 44 14.0 -1.1**
ARCES ARCESS Array B 139.44 347 PKhKP PKPpre 00 44 10.0
comp=Z,0.6nm,0.3s,baz=48,slow=1.8,SNR=15
ARCES PKP **PKPdf 00 44 18.0 +0.6**
comp=Z,2.7nm,0.6s,baz=84,slow=1.1,SNR=11
KBZ Khabaz 145.47 303 PKPbc **PKPdf 00 44 28.9 +0.1**
comp=Z,7.2nm,1.0s,baz=45,slow=1.4,SNR=9.4
FINES FINESS Array B 145.94 339 PKPbc **PKPdf 00 44 29.1 0.0**
comp=Z,41nm,0.8s,baz=52,slow=3.7,SNR=180
MEF Metsahovi 147.41 339 *e*P **PKPbc 00 44 33.8 -0.4**
RAF Rauma 147.50 342 *e*P **PKPbc 00 44 33.8 -0.6**
VSU Vasula 147.98 335 *e*P **PKiKP 00 44 36.9 -0.6**
AAL Aland 148.68 343 *e*P **PKPbc 00 44 36.1 -1.4**
MTSE Matsula 148.78 338 *e*P **PKPbc 00 44 37.5 -0.2**
NB2 NORSAR Subarra 149.62 351 PKP **PKPbc 00 44 38.9 -1.0**
comp=Z,3.0nm,0.5s,baz=15,slow=2.6
NOA NORSAR Array B 149.61 351 PKPbc **PKPbc 00 44 39.5 -0.4**
comp=Z,4.4nm,0.6s,baz=14,slow=4.1,SNR=20
HFS Hagfors 150.10 348 PKPbc **PKPbc 00 44 40.3 -0.7**
comp=Z,15nm,0.8s,baz=33,slow=3.4,SNR=16
IZAR Zarasai 150.12 332 *e*P **PKiKP 00 44 43.5 +1.5**
ISAL Salakas 150.29 332 *e*P **PKiKP 00 44 43.2 +0.8**
IIGN Ignalina 150.41 331 *e*P **PKiKP 00 44 43.0 +0.4**
VSVD Vaisvydziai 150.85 334 *e*P **PKiKP 00 44 44.0 +0.5**
VIKU Vikbolandet 150.97 344 *e*P **PKPbc 00 44 43.4 +0.3**
PABE Paberze 151.19 334 *e*P **PKiKP 00 44 45.2 +1.0**
MMAI Mount Meron Ar 151.57 282 PKPbc **PKiKP 00 44 46.5 +0.6**
comp=Z,9.4nm,0.5s,baz=84,slow=7.6,SNR=48
AKASG Malin Array Be 151.91 322 PKPbc **PKPbc 00 44 45.2 -0.3**
comp=Z,5.2nm,0.6s,baz=47,slow=2.7,SNR=27
SUW Suwalki 152.60 332 *e*P **PKiKP 00 44 48.0 +0.8**
BRTR Keskin Array B 152.87 297 PKPbc **PKPbc 00 44 47.7 -0.6**
comp=Z,3.0nm,0.5s,baz=159,slow=4.5,SNR=18
CLL Collm 158.37 341 *e*PKPab **PKPab 00 45 22.0 -0.3**
TORD Torodi Ar. Bea 161.92 180 PKPab **PKPab 00 45 38.7 0.0**
comp=Z,6.4nm,1.1s,baz=153,slow=1.5,SNR=11
ESDC Sonseca Array 170.43 28 PKP **PKPdf 00 45 00.3 +1.4**
comp=Z,0.4nm,0.9s,baz=38,slow=7.5,SNR=4.1
ESDC PKPab **PKPab 00 46 14.7 -1.1**
comp=Z,0.8nm,1.0s,baz=317,slow=4.0,SNR=4.2

---

*IDC **05** 00:28:38.8±4.4, 23°.89N×108°.30W, h0km, mb3.7/2, mbtmp3.4/5, ML3.9/3, MS2.9/6, Error ellipse: s-maj=76.6km s-min=27.2km az=143.0*
*MEX **05** 00:28:47.4±0.3, 24°.19N×108°.45W, h10km, MD4.1*
ISC 05 00:28:38.9±1.4, 24°.01N±0°.05×108°.88W±0°.04, h12km±11km, n25, σ2°78/24, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLBS	**Sierra La Lagu**	**1.02**	**252**	⇑*i*P	**Pg**	**00 28 58.6**	**-0.1**
SLBS				*e*S	**Sg**	**00 29 11.2**	**-0.9**
SLBS				*e*		00 29 17.8	
SLBS				IAML		00 29 17.8	
	comp=N,481nm,0.6s						
SLBS				IAML		00 29 18.4	
	comp=N,545nm,1.1s						
TSIG	**Topolobambo**	**1.59**	**355**	*e*P	**Pn**	**00 29 05.0**	**-1.7**
TSIG				*e*S	**Sn**	**00 29 23.4**	**-3.9**
TSIG	**Topolobambo**	**1.59**	**355**	*e*P	**Pg**	**00 29 11.0**	**+1.6**
TSIG				*i* S	**Sn**	**00 29 28.2**	**+0.9**
SSIG	**Sanalona**	**1.78**	**63**	*i* P	**Pn**	**00 29 08.4**	**-1.1**
SSIG				*e*S	**Sn**	**00 29 25.1**	**-7.0**
EVAR0	**San Evaristo**	**1.89**	**299**	*e*P	**Pn**	**00 29 09.2**	**-1.8**
EVAR0				*e*S	**Sn**	**00 29 32.5**	**-2.3**
MAIG	**Mazatlaan**	**2.40**	**109**	*e*P	**Pn**	**00 29 20.2**	**+2.2**
MAIG	**Mazatlaan**	**2.40**	**109**	*e*P	**Pn**	**00 29 20.0**	**+2.0**
MAIG				*e*S	**Sn**	**00 29 43.8**	**-3.5**
UAGRB	**Rancho Ultima**	**2.65**	**306**	*e*P	**Pn**	**00 29 21.5**	**0.0**
CSIG	**Choix**	**2.84**	**9**	*e*P	**Pn**	**00 29 26.7**	**+2.6**
CSIG				*i* S	**Sn**	**00 29 57.4**	**-0.9**
NE80	**Navojoa**	**2.91**	**354**	*e*P	**Pn**	**00 29 24.1**	**-0.8**
NE80				IAML		00 30 26.4	
	comp=N,38nm,1.1s						
NE80				⇓*e*		00 30 26.4	
NE80				⇓*e*		00 30 34.9	
NE80				IAML		00 30 34.9	
	comp=E,32nm,0.9s						
PDIG	**Papasquiaro**	**3.34**	**71**	*e*P	**Pn**	**00 29 31.5**	**+0.5**
PDIG				*e*S	**Sn**	**00 30 09.6**	**-1.1**
HPIG		**4.11**	**44**	*e*P	**Pb**	**00 29 48.1**	**-3.3**
HPIG				*e*S	**Sn**	**00 30 27.7**	**-2.2**
TXAR	**Lajitas Array**	**7.06**	**40**	Pn	**Pn**	**00 30 22.5**	**+0.3**
	comp=E,0.1nm,0.3s,baz=211,slow=14,SNR=5.7						
TXAR				Lg	Lg	00 32 13.1	
	comp=E,0.2nm,0.3s,baz=228,slow=32,SNR=2.4						
	comp=E,0.2nm,0.3s						
ANMO	**Albuquerque**	**11.10**	**10**	LR	LR	00 35 54.2	
	comp=E,32nm,18.1s,baz=247,slow=39						
PFO	**Pinyon Flats O**	**11.64**	**327**	LR	LR	00 35 19.4	
	comp=E,57nm,20.0s,baz=125,slow=33						
NVAR	**Mina Array Bea**	**16.46**	**333**	Pn	P	00 32 40.0	+7.4
	comp=E,0.1nm,0.3s,baz=172,slow=6.9,SNR=6.0						
NVAR				LR	LR	00 39 29.4	
	comp=E,29nm,19.9s,baz=152,slow=39						
	comp=E,0.7nm,0.7s						
ELK	**Elko**	**17.52**	**344**	LR	LR	00 39 49.3	
	comp=E,38nm,20.2s,baz=154,slow=38						
PDAR	**Pinedale Array**	**18.71**	**358**	Pn	**Pn**	**00 33 02.1**	**+4.3**
	comp=E,0.2nm,0.3s,baz=181,slow=9.9,SNR=4.9						
	comp=E,0.6nm,0.6s						
NEW	**Newport**	**25.07**	**347**	LR	LR	00 43 06.3	
	comp=E,36nm,20.3s,baz=142,slow=34						
BBB	**Bella Bella**	**31.74**	**337**	LR	LR	00 48 25.6	
	comp=E,44nm,20.1s,baz=212,slow=37						
ILAR	**Eielson Array**	**47.59**	**339**	P	**P**	**00 37 17.2**	**+3.0**
	comp=E,0.3nm,0.9s,baz=140,slow=7.1,SNR=2.4						
	comp=E,0.3nm,0.9s						
H03N2	**Juan Fernandez**	**63.86**	**152**	T	T	01 48 32.9	
	baz=331,slow=77,SNR=3.7						
H03N1	**Juan Fernandez**	**63.87**	**152**	T	T	01 48 26.8	
	baz=331,slow=77,SNR=3.9						
H03N3	**Juan Fernandez**	**63.88**	**152**	T	T	01 48 27.8	
	baz=331,slow=77,SNR=5.2						
PETK	**Petropavlovsk-**	**73.14**	**321**	P	P	00 40 14.0	+4.7
	comp=E,2.2nm,0.8s,baz=72,slow=4.7,SNR=1.5						
	comp=E,2.2nm,0.8s						

---

*SFS **05** 00:33:09.6, 36°.98N×3°.66W, h2km, ML2.1/7, ML2.1/7, MLv2.0/7*
*CNRM **05** 00:33:30.4, 34°.86N×2°.81W, h68km*
MDD 05 00:33:09.9±0.3, 37°.00N×3°.67W, h12km, mb_Lg2.1/19, 4C, Error ellipse: s-maj=3.3km s-min=2.2km az=170.0, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELGU	**Los Guajares,**	**0.14**	**164**	⇑Pg	Pg	00 33 13.3	-0.1
ELGU				Sg	Sg	00 33 15.9	+0.1
ELGU	**Los Guajares,**	**0.14**	**164**	P	Pg	00 33 13.2	-0.2
EQTA	**Presa de Quent**	**0.28**	**42**	S	Sg	00 33 19.1	-0.4
EQTA				P	Pg	00 33 14.6	-1.0
EQUE	**Quentar**	**0.28**	**43**	⇑Pg	Pg	00 33 14.7	-0.9
EQUE				Sg	Sg	00 33 19.1	-0.4
EGOR	**Sierra Gorda,**	**0.36**	**287**	⇑Pg	Pg	00 33 16.5	-0.7
EGOR				Sg	Sg	00 33 21.7	-0.5
EGOR				*i* Vmb_Lg		00 33 23.2	
EGOR	**Sierra Gorda,**	**0.36**	**287**	P	Pg	00 33 16.4	-0.9
EGOR				S	Sg	00 33 22.8	+0.7
EBER	**Berja**	**0.64**	**99**	⇑Pg	Pg	00 33 22.1	-0.3
EBER				Sg	Sg	00 33 29.9	-0.9
EBER				*i* Vmb_Lg		00 33 32.4	
EBER	**Berja**	**0.64**	**99**	P	Pg	00 33 22.1	-0.3
EMAL	**Malaga-Limoner**	**0.65**	**249**	P	Pg	00 33 21.6	-1.0
EMAL				S	Sg	00 33 31.1	-0.1
EQES	**Quesada**	**0.93**	**31**	Pg	Pg	00 33 27.5	-0.4
EQES				Sg	Sg	00 33 39.4	-0.7
EQES				*i* Vmb_Lg		00 33 46.4	
EMIJ	**Mijas**	**0.98**	**244**	Pg	Pg	00 33 27.2	-1.7
EMIJ				Sg	Sg	00 33 40.1	-1.6
EMIJ				*i* Vmb_Lg		00 33 45.3	
EMIJ	**Mijas**	**0.98**	**244**	P	Pg	00 33 26.9	-2.0
ENIJ	**Nijar**	**1.18**	**91**	Pg	Pb	00 33 31.3	-0.9
ENIJ				Sg	Sb	00 33 45.5	-2.0
ENIJ				*i* Vmb_Lg		00 33 50.4	
ENIJ	**Nijar**	**1.18**	**91**	P	Pb	00 33 31.2	-1.0
EADA	**Adamuz**	**1.36**	**329**	Pg	Pb	00 33 35.7	+0.3
EADA				Sg	Sb	00 33 52.1	-0.8
EADA				*i* Vmb_Lg		00 33 57.6	
EADA	**Adamuz**	**1.36**	**329**	P	Pb	00 33 35.4	0.0
EADA				S	Sg	00 33 53.9	0.0
ECAB	**El Cabril**	**1.75**	**308**	Pg	Pb	00 33 41.6	-0.4
ECAB				Sg	Sb	00 34 03.3	-0.7
ECAB				*i* Vmb_Lg		00 34 09.2	
ECAB	**El Cabril**	**1.75**	**308**	P	Pb	00 33 42.6	+0.6
PALE	**Palemas**	**1.80**	**187**	P	Pg	00 33 49.0	+4.6
PALE				S	Sn	00 34 01.6	-2.0
EZAR	**Zarzadilla de**	**1.80**	**61**	Pg	Pb	00 33 42.9	0.0
EZAR				Sg	Sb	00 34 05.4	-0.1
GOG	**Mont Gurugu**	**1.86**	**163**	P	Pn	00 33 42.3	+0.5
GOG				S	Sn	00 33 52.5	-13
EMUR	**La Murta**	**2.11**	**66**	Pg	Pb	00 33 48.2	0.0
EMUR				*i* Vmb_Lg		00 34 28.4	
ETOB	**Tobarra**	**2.35**	**45**	Pn	Pn	00 33 47.7	-0.8
ETOB				Pg	Pb	00 33 51.4	-0.8
ETOB				Sg	Sb	00 34 21.5	+0.2
ETOB				*i* Vmb_Lg		00 34 34.8	
TAF	**Taforalt**	**2.41**	**155**	P	Pn	00 33 41.6	-7.7
TAF				S	Sn	00 33 49.0	-30
PAB	**San Pablo**	**2.59**	**348**	Pg	Pb	00 33 56.2	-0.2
PAB				Sg	Sb	00 34 30.3	+1.9
PAB				*i* Vmb_Lg		00 34 37.0	
JBK	**JBK**	**2.81**	**161**	P	Pn	00 33 44.8	-10
JBK				S	Sn	00 33 54.9	-34
EVIV	**Cofrentes, Val**	**3.03**	**41**	Pg	Pb	00 34 04.9	+1.1
EVIV				Sg	Sg	00 34 45.1	-2.1
EVIV				*i* Vmb_Lg		00 34 56.0	
ETOR	**Torete**	**4.01**	**18**	Pg	Pb	00 34 20.1	-0.5
ETOR				Sg	Sg	00 35 14.7	-4.1
ETOR				*i* Vmb_Lg		00 35 21.6	

---

*SKHL **05** 00:33:30.2±0.7, 46°.70N×153°.30E, h67km±5km, mb4.5/3*
*MOS **05** 00:33:32.4±2.5, 46°.85N×152°.90E, h67km, mb4.0/1, Error ellipse: s-maj=24.3km s-min=13.0km az=59.4*
*IDC **05** 00:33:37.2±2.6, 46°.83N×152°.80E, h92km±22km, mb3.4/7, mbtmp3.8/11, MS2.4/1, Error ellipse: s-maj=27.3km s-min=16.8km az=136.0*
ISC 05 00:33:32.8±0.9, 46°.8N±0°.1×153°.0E±0°.1, h56km, n28, σ1°96/21, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.94**	**248**	*e*S	**Sn**	**00 35 15.2**	**-0.4**
SKR	**Severo-Kuril's**	**4.37**	**27**	*e*PN	**Pn**	**00 34 34.2**	**-2.3**
SKR				MLR	MLR		
	comp=Z,5μm,15.0s						
SKR	**Severo-Kuril's**	**4.37**	**27**	*e*P	**Pn**	**00 34 34.2**	**-2.3**
SKR				*e*S	**Sn**	**00 35 22.8**	**-3.3**
SKR				A	A	00 35 26.4	
	comp=Z,260nm,0.7s						
SKR				A	A	00 35 26.4	
	comp=Z,270nm,0.7s						
SHO	**Shikotan**	**5.28**	**238**	*e*PN	**Pn**	**00 34 47.5**	**-1.5**
SHO				S	**Sn**	**00 35 47.4**	**-1.1**
SHO				smax	smax		
	comp=E,37nm,0.3s						
SHO				smax	smax		
	comp=N,57nm,0.4s						
SHO	**Shikotan**	**5.28**	**238**	*e*P	**Pn**	**00 34 47.5**	**-1.5**
SHO				AMB	AMB	00 34 48.7	
	comp=N,20nm,0.4s						
SHO				*e*S	**Sn**	**00 35 46.5**	**-2.0**
SHO				A	A	00 35 50.6	
	comp=N,60nm,0.4s						
SHO				A	A	00 35 50.6	
	comp=N,40nm,0.4s						
PETK	**Petropavlovsk-**	**6.97**	**24**	P	Pn	00 35 18.9	+6.7
	comp=N,4.0nm,0.7s,baz=174,slow=12,SNR=6.9						
PETK				S	**Sn**	**00 36 35.5**	**+5.4**
	comp=N,4.4nm,0.9s,baz=202,slow=19,SNR=1.7						
JKA	**Kamikawa-asahi**	**7.82**	**254**	*e*P	**Pn**	**00 35 24.7**	**+0.8**
ASAJ	**Asahikawa**	**7.83**	**254**	P	**Pn**	**00 35 24.7**	**+0.8**
	comp=N,16nm,1.0s,baz=40,slow=16,SNR=2.6						
USRK	**Usuriysk Ar.**	**14.99**	**268**	P	**Pn**	**00 37 02.4**	**+1.3**
	comp=N,2.5nm,0.6s,baz=74,slow=12,SNR=2.2						
MJAR	**Matsushiro Arr**	**15.08**	**232**	P	**Pn**	**00 37 03.8**	**+1.5**
	comp=N,0.8nm,0.3s,baz=56,slow=12,SNR=1.7						
KSRS	**Korea Array**	**20.77**	**252**	LR	LR	00 45 20.1	
	comp=N,11nm,20.7s,baz=25,slow=34						
H11N2	**WAKE ISLAND Hy**	**29.30**	**153**	T	T	01 10 53.2	
	baz=341						
H11N1	**WAKE ISLAND Hy**	**29.32**	**153**	T	T	01 10 55.5	
	baz=341,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.32**	**153**	T	T	01 10 57.2	
	baz=341,slow=74						
H11S1	**WAKE ISLAND Hy**	**30.39**	**154**	T	T	01 12 26.5	
	baz=341,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.40**	**154**	T	T	01 12 18.6	
	baz=341,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.41**	**154**	T	T	01 12 15.4	
	baz=341,slow=76						
MKAR	**Makanchi Array**	**46.87**	**297**	P	**P**	**00 41 56.7**	**-0.4**
	comp=N,0.3nm,0.5s,baz=60,slow=9.9,SNR=2.8						
	comp=N,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**62.44**	**62**	P	**P**	**00 43 51.1**	**+0.8**
	comp=N,0.1nm,0.4s,baz=318,slow=9.1,SNR=1.8						
	comp=N,0.1nm,0.4s						
FINES	**FINESS Array B**	**63.96**	**335**	P	**P**	**00 43 59.4**	**-0.1**
	comp=N,1.1nm,0.4s,baz=33,slow=7.7,SNR=14						
	comp=N,1.1nm,0.4s						
NB2	**NORSAR Subarra**	**68.15**	**341**	P	**P**	**00 44 26.3**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.15**	**341**	P	**P**	**00 44 26.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=28,slow=6.4,SNR=4.1						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**68.38**	**339**	P	**P**	**00 44 28.1**	**+0.2**
	comp=Z,3.2nm,0.5s,baz=46,slow=6.2,SNR=13						
	comp=Z,3.2nm,0.5s						
WRA	**Warramunga Arr**	**68.56**	**199**	P	**P**	**00 44 29.8**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=15,slow=7.1,SNR=1.4						
	comp=Z,0.2nm,0.7s						
TXAR	**Lajitas Array**	**77.50**	**61**	P	**P**	**00 45 23.8**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=308,slow=5.0,SNR=7.0						
	comp=Z,0.3nm,0.5s						
H03N2	**Juan Fernandez**	**138.80**	**90**	T	T	03 28 25.0	
	baz=308,slow=77,SNR=12						
H03N1	**Juan Fernandez**	**138.81**	**90**	T	T	03 28 25.8	
	baz=308,slow=77,SNR=13						
H03N3	**Juan Fernandez**	**138.81**	**90**	T	T	03 27 58.6	
	baz=308,slow=77,SNR=12						

---

*TEH **05** 00:34:10.4, 40°.03N×52°.88E, h10km, ML3.4*
*AZER **05** 00:34:14.8±1.4, 40°.04N×52°.93E, h60km, Error ellipse: s-maj=11.0km s-min=9.0km az=174.0*
*DRS **05** 00:34:23.7±0.0, 39°.99N×52°.72E, h28km*
ISC 05 00:34:15.1±1.2, 39°.98N±0°.05×52°.87E±0°.06, h49km, n49, σ1°29/80, 3C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALIB	**Äli-Bayra**	**2.97**	**271**	S	**Sn**	**00 35 34.8**	**+0.8**
GBS	**Qobustan**	**3.05**	**282**	P	**Pn**	**00 35 01.8**	**+0.9**
GBS				S	**Sn**	**00 35 37.1**	**+0.9**
ATGJ	**Altiaghaj**	**3.12**	**288**	P	**Pn**	**00 35 02.6**	**+0.7**
ATGJ				S	**Sn**	**00 35 37.7**	**-0.4**
SIZA	**Siyzn**	**3.22**	**291**	P	**Pn**	**00 35 04.2**	**+1.0**
SIZA				S	**Sn**	**00 35 43.0**	**+2.8**
PQL	**Pirkuli**	**3.36**	**285**	P	**Pn**	**00 35 05.6**	**+0.4**
PQL				S	**Sn**	**00 35 45.3**	**+1.4**
MRVT	**Maraveh tapeh**	**3.42**	**132**	Pn	**Pn**	**00 35 06.4**	**+0.5**
ASTR	**Astara**	**3.47**	**247**	P	**Pn**	**00 35 07.0**	**+0.6**
	SNR=9.2						
ASTR				S	**Sn**	**00 35 47.2**	**+0.9**
GLBA	**Clilabad**	**3.53**	**259**	P	**Pn**	**00 35 08.2**	**+0.8**
	SNR=7.7						
GLBA				S	**Sn**	**00 35 49.3**	**+1.4**
IGLO	**Ghaloghah**	**3.56**	**167**	Pn	**Pn**	**00 35 08.6**	**+0.7**
LHJ2	**Lahijan - Gila**	**3.57**	**219**	Pn	**Pn**	**00 35 07.7**	**-0.2**
QUBA	**Quba, Azerbaij**	**3.60**	**294**	P	**Pn**	**00 35 08.7**	**+0.3**
QUBA				S	**Sn**	**00 35 50.1**	**+0.5**
KDMR	**Kurdemir**	**3.61**	**278**	P	**Pn**	**00 35 09.1**	**+0.7**
KDMR				S	**Sn**	**00 35 52.5**	**+2.7**
IML	**Ismayilli**	**3.67**	**284**	P	**Pn**	**00 35 09.2**	**-0.1**
IML				S	**Sn**	**00 35 52.6**	**+1.2**
MZPU	**Pul - Mazandar**	**3.68**	**197**	Pn	**Pn**	**00 35 10.4**	**+0.8**
YRD	**Yardimli**	**3.74**	**255**	P	**Pn**	**00 35 09.8**	**-0.6**
YRD				S	**Sn**	**00 35 53.3**	**+0.1**
KLST	**Kelardasht - M**	**3.74**	**203**	Pn	**Pn**	**00 35 10.9**	**+0.4**
IPRN	**Peran**	**3.76**	**187**	Pn	**Pn**	**00 35 11.4**	**+0.8**
LRK	**Lerik**	**3.76**	**251**	P	**Pn**	**00 35 11.3**	**+0.7**
	SNR=18						
LRK				S	**Sn**	**00 35 53.7**	**0.0**
XNQ	**Khinaliq**	**3.79**	**290**	P	**Pn**	**00 35 11.2**	**+0.1**
	SNR=4.7						
XNQ				S	**Sn**	**00 35 54.1**	**-0.5**
QSAR	**Qusar**	**3.82**	**295**	P	**Pn**	**00 35 12.3**	**+0.9**
QSAR				S	**Sn**	**00 35 54.4**	**-0.6**
KSMR	**Kasumkent**	**3.94**	**296**	*e*Pn	**Pn**	**00 35 15.1**	**+2.0**
	4.0nm,0.7s						
KSMR				*e*Sn	**Sn**	**00 35 57.5**	**-0.6**
	736nm,0.1s						
QBL	**Gabala**	**3.96**	**286**	P	**Pn**	**00 35 12.3**	**-0.9**
	SNR=5.3						
QBL				S	**Sn**	**00 35 57.5**	**-0.9**
ZRD	**Zardab**	**3.98**	**276**	P	**Pn**	**00 35 13.7**	**+0.2**
	SNR=4.4						
ZRD				S	**Sn**	**00 36 01.0**	**+2.0**
DRN	**Derbent**	**4.00**	**302**	*e*Pn	**Pn**	**00 35 15.6**	**+1.8**
	61nm,0.2s						
DRN				*e*Sn	**Sn**	**00 35 58.0**	**-1.3**
	17nm,0.4s						
GRMI	**Germi**	**4.03**	**255**	Pn	**Pn**	**00 35 14.5**	**+0.2**
AKT	**Akhty**	**4.18**	**293**	*e*Pn	**Pn**	**00 35 18.2**	**+1.8**
	3.0nm,0.2s						
AKT				*e*Sn	**Sn**	**00 36 02.3**	**-1.7**
	7.0nm,0.1s						
QRD	**Qoradiz**	**4.31**	**265**	P	**Pn**	**00 35 17.8**	**-0.2**
QRD				S	**Sn**	**00 36 06.9**	**-0.1**
AGDM	**Agdam**	**4.42**	**273**	P	**Pn**	**00 35 19.2**	**-0.4**
AGDM				S	**Sn**	**00 36 09.5**	**-0.3**
SEKA	**Sheki**	**4.49**	**288**	P	**Pn**	**00 35 20.2**	**-0.4**
	SNR=6.7						
SEKA				S	**Sn**	**00 36 11.3**	**-0.1**
QSDN	**Sirdan**	**4.53**	**221**	Pn	**Pn**	**00 35 21.8**	**+0.5**
ISRB	**Sarab**	**4.59**	**244**	Pn	**Pn**	**00 35 23.0**	**+0.9**
SGKR	**Sergokala**	**4.64**	**304**	*e*Pn	**Pn**	**00 35 25.4**	**+2.8**
	1.0nm,0.6s						
SGKR				*e*Sn	**Sn**	**00 36 16.2**	**+1.0**
	16nm,0.3s						
KMKR	**Kumukh**	**4.86**	**298**	*e*Pn	**Pn**	**00 35 27.0**	**+1.2**
	4.0nm,0.4s						
KMKR				*e*Sn	**Sn**	**00 36 20.0**	**-0.9**
	13nm,0.4s						
ISFR	**Sfrayin**	**4.97**	**124**	Pn	**Pn**	**00 35 27.9**	**+0.5**
ZKTA	**Zakatala**	**5.02**	**291**	S	**Sn**	**00 36 24.0**	**-0.5**
GANJ	**Ganja**	**5.05**	**280**	P	**Pn**	**00 35 28.2**	**0.0**
GANJ				S	**Sn**	**00 36 22.9**	**-2.3**
GNBR	**Gunib**	**5.06**	**300**	*e*Pn	**Pn**	**00 35 30.7**	**+2.2**
	3.0nm,0.5s						
GNBR				*e*Sn	**Sn**	**00 36 25.9**	**+0.3**
	6.0nm,0.4s						
ARKR	**Arakani**	**5.14**	**303**	*e*Pn	**Pn**	**00 35 31.6**	**+2.1**
	2.0nm,0.8s						
ARKR				*e*Sn	**Sn**	**00 36 27.6**	**+0.1**
	4.0nm,0.3s						
IEMG	**Emamgholi**	**5.20**	**118**	Pn	**Pn**	**00 35 30.5**	**0.0**
KRNR	**Karanay**	**5.31**	**304**	*e*Pn	**Pn**	**00 35 34.4**	**+2.5**
	2.0nm,0.4s						
KRNR				*e*Sn	**Sn**	**00 36 31.8**	**+0.1**
	6.0nm,0.6s						
UNCR	**Uncukul**	**5.32**	**303**	*e*Pn	**Pn**	**00 35 34.4**	**+2.4**
	2.0nm,0.1s						
UNCR				*e*Sn	**Sn**	**00 36 32.7**	**+0.7**
	12nm,0.5s						
ORD	**Ordubad**	**5.42**	**261**	S	**Sn**	**00 36 35.3**	**+0.8**
DBC	**Dubki**	**5.46**	**306**	*e*Pn	**Pn**	**00 35 35.6**	**+1.8**
	4.0

KAN13	South Haven SW	1.18	61		Pg	00 52 00.2	-0.7
KS21	Milan North St	1.22	47	Pg	Pb	00 52 00.9	-0.6
KS20	Mayfield South	1.25	51		Pn	00 52 01.2	-0.8
OK029	Liberty Lake	1.25	121		Pn	00 52 01.1	-1.0
BLOK	Blackwell	1.29	76		Pn	00 52 02.0	-0.5
BLOK				IAmb_Lg		00 52 21.7	
	comp=Z,59nm,0.8s						
OK048	Pawnee Station	1.48	91		Pn	00 52 05.2	+0.1
OK033	Mehan	1.54	105		Pn	00 52 06.4	+0.4
OK051	E0350 and S346	1.56	88		Pn	00 52 06.7	+0.4
OK031	S. Brethren Rd	1.64	107		Pn	00 52 07.4	0.0
OK052	Battle Ridge R	1.66	106		Pn	00 52 07.8	+0.2
QUOK	Quay	1.69	99	Pn	Pn	00 52 08.4	+0.3
WMOK	Wichita Mounta	1.71	180		Pn	00 52 08.1	-0.2
T35A	Sooner Cattle	1.87	75		Pn	00 52 10.8	+0.2
DEOK	Depew	1.94	108	Pn	Pn	00 52 11.8	+0.3
X34A	Smith Ranch, M	2.00	157		Pn	00 52 12.3	0.0
X34A				IAmb_Lg		00 52 42.0	
	comp=Z,36nm,1.0s						
TUL3	Leonard	2.47	102	Pn	Pn	00 52 19.0	+0.2
CBKS	Cedar Bluff	2.48	342	Pn	Pn	00 52 19.4	+0.5
WTFS	Witchita Falls	2.69	175	Pn	Pn	00 52 22.2	+0.4
WTFS				IAmb_Lg		00 53 09.1	
	comp=Z,5.6nm,0.8s						
LOOK	Love County	2.78	152	Pn	Pn	00 52 23.3	+0.2
AMTX	Amarillo	2.84	237		Pn	00 52 24.2	+0.2
AMTX				IAmb_Lg		00 53 08.5	
	comp=Z,24nm,0.9s						
KSU1	Kansas State U	3.15	32	Pn	Pn	00 52 28.8	+0.7
KSU1	Kansas State U	3.15	32	IAmb_Lg		00 53 23.6	
	comp=Z,12nm,1.0s						
DKNS	Dickens	3.29	213		Pn	00 52 30.8	+0.6
DKNS				IAmb_Lg		00 53 26.5	
	comp=Z,9.6nm,0.7s						
APMT	Aspermont	3.31	200		Pn	00 52 30.4	0.0
Z35A	Perchaven, San	3.36	158	Pn	Pn	00 52 30.4	-0.6
FW03	Perrin-Whitt E	3.46	170	IAmb_Lg		00 53 37.3	
	comp=Z,6.3nm,0.9s						
SN01	Snyder 1	3.99	207	IAmb_Lg		00 53 46.4	
	comp=Z,7.9nm,0.8s						
POST	Post	4.06	214		Pn	00 52 41.1	+0.4
MSTX	Muleshoe	4.11	234	IAmb_Lg		00 53 55.0	
	comp=Z,11nm,0.9s						
S39A	Bolivar	4.53	73	IAmb_Lg		00 54 04.1	
	comp=Z,9.7nm,0.7s						
T25A	Trinidad	4.58	280	IAmb_Lg		00 54 05.7	
	comp=Z,13nm,1.1s						
P38A	Dawn	5.21	51	IAmb_Lg		00 54 24.1	
	comp=Z,6.4nm,0.7s						
MGMO	Mountain Grove	5.26	80	IAmb_Lg		00 54 32.0	
	comp=Z,5.6nm,0.7s						
WHAR	Wooly Hollow	5.39	101	IAmb_Lg		00 54 32.0	
	comp=Z,5.3nm,0.8s						
R40A	Maddies Statio	5.50	69	IAmb_Lg		00 54 33.4	
	comp=Z,8.9nm,1.0s						

IDC 05 01:05:31.2±4.2, 0°.47N×90°.34W, h0km, mb3.2/4, mbtmp3.2/4, MS3.5/11, Error ellipse: s-maj=321.3km s-min=68.0km az=56.0, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	Puerto La Cruz	27.32	68	LR	LR	01 22 47.9	
	comp=Z,82nm,21.3s,slow=38						
SJG	San Juan	29.53	52	LR	LR	01 22 12.3	
	comp=Z,113nm,20.6s,baz=247,slow=34						
TXAR	Lajitas Array	31.39	337	P	P	01 11 53.6	-0.5
	0.1nm,0.6s,baz=170,slow=11,SNR=1.5						
	0.1nm,0.6s						
RPN	Rapa Nui	32.97	212	LR	LR	01 22 22.6	
	comp=Z,156nm,18.6s,baz=78,slow=31						
SIV	San Ignacio	33.20	121	LR	LR	01 25 43.5	
	comp=Z,70nm,20.5s,baz=294,slow=36						
TKL	Tuckaleechee C	35.54	9	LR	LR	01 25 28.9	
	comp=Z,87nm,18.3s,baz=236,slow=34						
ANMO	Albuquerque	37.45	338	LR	LR	01 27 29.4	
	comp=Z,64nm,19.3s,baz=257,slow=35						
PFO	Pinyon Flats O	41.08	326	LR	LR	01 27 02.3	
	comp=Z,42nm,19.6s,baz=148,slow=31						
PLCA	Paso Flores	44.79	159	LR	LR	01 29 08.2	
	comp=Z,80nm,18.1s,baz=313,slow=32						
PDAR	Pinedale Array	45.50	340	P	P	01 13 53.0	+0.3
	0.1nm,0.4s,baz=144,slow=8.5,SNR=1.9						
PDAR				LR	LR	01 31 48.2	
	comp=Z,50nm,18.1s,baz=155,slow=35						
	0.1nm,0.4s						
NVAR	Mina Array Bea	45.67	329	P	P	01 13 54.5	+0.4
	0.6nm,0.8s,baz=143,slow=9.5,SNR=4.6						
	0.6nm,0.8s						
ELK	Elko	46.02	334	LR	LR	01 31 04.2	
	comp=Z,45nm,21.3s,baz=164,slow=33						
NEW	Newport	52.95	338	LR	LR	01 34 32.9	
	comp=Z,33nm,18.4s,baz=143,slow=33						
ILAR	Eielson Array	75.90	338	P	P	01 17 18.9	-0.5
	0.2nm,0.6s,baz=131,slow=3.9,SNR=5.1						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	128.22	9	PKP	PKPdf	01 24 39.6	-0.1
	0.2nm,0.6s,baz=336,slow=2.0,SNR=2.0						

FUNV 05 01:10:16.6, 8°.99N×62°.24W, h63km, MW3.7, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRGV	PARIAGUAN	2.39	265	eP	Pn	01 10 53.0	-0.4
PRGV				eS	Sn	01 11 19.2	-2.4
PCRV	Puerto La Cruz	2.64	297	eS	Sn	01 11 24.2	-3.7
MERV	Las Mercedes	4.02	274	eP	Pn	01 11 14.8	-0.9
MERV				eS	Sn	01 11 57.6	-3.9
CACV	CAICARA DEL OR	4.49	252	eS	Sn	01 11 56.5	-16
BENV	Beln	5.38	281	eP	Pn	01 11 32.7	-1.7
BENV				eS	Sn	01 12 29.0	-6.0
TURV	Turiamo	5.71	285	eP	Pn	01 11 36.8	-2.1
TURV				eS	Sn	01 12 36.5	-6.6
BAUV	El Baul	5.73	270	eP	Pn	01 11 37.1	-2.1
BAUV				eS	Sn	01 12 37.5	-6.2

*IDC **05** 01:41:39.2±8.2, 21°.19S×178°.26W, h484km±58km, mb3.1/4, mbtmp3.9/5, Error ellipse: s-maj=157.0km s-min=28.5km az=142.0*

ISC 05 01:41:40.1±1.7, 21°.1S±0°.3×178°.3W±0°.3, h500km, n9, σ1°23/10, mb3.4/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.83	314	P	P	01 43 05.4	-0.4
	21nm,0.4s,baz=125,slow=12,SNR=58						
ASAR	Alice Springs	44.10	257	P	P	01 49 02.9	-0.7
	1.0nm,0.8s,baz=86,slow=8.4,SNR=6.6						
ASAR				PcP	pwP	01 50 40.2	0.0
	0.7nm,0.6s,baz=97,slow=3.9,SNR=5.7						
	1.0nm,0.8s						
WRA	Warramunga Arr	44.24	263	P	P	01 49 04.2	-0.6
	0.3nm,0.3s,baz=100,slow=9.2,SNR=6.2						
WRA				PcP	pwP	01 50 40.8	-0.5
	0.7nm,0.9s,baz=98,slow=4.0,SNR=3.9						
	0.3nm,0.3s						
ILAR	Eielson Array	89.00	13	P	P	01 53 40.2	-0.5
	0.3nm,0.4s,baz=219,slow=5.5,SNR=6.5						
	0.3nm,0.4s						
CMAR	Chiang Mai Arr	90.06	290	P	P	01 53 49.3	+2.6
	0.6nm,0.3s,baz=105,slow=3.1,SNR=4.9						
	0.6nm,0.3s						
BVAR	Borovoye Array	119.38	320	PKP	PKiKP	01 59 32.7	+0.5
	0.9nm,0.4s,baz=88,slow=2.7,SNR=6.2						
ARCES	ARCESS Array B	129.50	349	PKP	PKiKP	01 59 51.8	0.0
	2.0nm,1.0s,baz=330,slow=1.7,SNR=6.8						
HFS	Hagfors	140.12	351	PKhKP	PKPpre	02 00 05.4	
	3.1nm,0.9s,baz=75,slow=1.6,SNR=6.5						
AKASG	Malin Array Be	143.43	330	PKP	PKPdf	02 00 15.7	-1.4
	5.1nm,0.5s,baz=42,slow=4.3,SNR=22						

*IDC **05** 01:47:15.2±1.2, 1°.10S×120°.89E, h0km, mb3.4/4, mbtmp3.5/5, ML3.8/1, MS2.6/1, Error ellipse: s-maj=67.3km s-min=21.8km az=66.0*

*DJA **05** 01:47:19.5±0.2, 1°S±2°×12°0E±°, h10km, M3.9/9, MLv3.9/9*

ISC 05 01:47:21.2±0.9, 1°24S±0°.04×120°36E±0°.06, h35km, n12, σ1°89/18, mb3.4/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	1.63	344	P	Pn	01 47 46.9	-0.6
MPSI				S	Sn	01 48 08.9	+1.6
TTSI	Tana Toraja	1.87	197	P	Pn	01 47 50.9	+0.1
TTSI				S	Sn	01 48 16.1	+2.9
MRSI	Marisa	2.32	43	P	Pn	01 47 57.4	+0.4
MRSI				S	Sn	01 48 26.1	+1.7
LUWI	Luwuk	2.42	85	P	Pn	01 47 56.9	-1.4
LUWI				S	Sn	01 48 30.2	+3.5
GTOI	Gorontalo	3.24	55	P	Pn	01 48 09.8	+0.2
GTOI				S	Sn	01 48 48.1	+1.1
KAPI	Kappang	3.80	189	Pn	Pn	01 48 18.4	+1.1
	5.9nm,0.3s,baz=6.8,slow=19,SNR=9.8						
KAPI				Sn	Sn	01 48 59.7	-1.1
	5.1nm,0.3s,baz=94,slow=21,SNR=2.3						
KAPI				LR	LR	01 50 05.3	
	comp=Z,67nm,18.9s,baz=300,slow=42						
	14nm,0.4s						
BKSI	Bulukumba	4.06	183	P	Pn	01 48 22.1	+1.2
WRA	Warramunga Arr	23.08	145	P	P	01 52 21.2	-2.7
	0.6nm,0.7s,baz=321,slow=11,SNR=5.4						
	0.6nm,0.7s						
ASAR	Alice Springs	25.87	151	P	P	01 52 46.7	-3.2
	0.4nm,0.8s,baz=328,slow=8.2,SNR=2.1						
	0.4nm,0.8s						
MKAR	Makanchi Array	58.32	330	P	P	01 57 13.6	+0.8
	0.4nm,0.6s,baz=141,slow=7.8,SNR=4.5						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	62.74	331	P	P	01 57 42.2	-0.6
	0.4nm,0.5s,baz=137,slow=6.5,SNR=4.4						
	0.4nm,0.5s						
CPUP	Villa Florida	152.50	184	PKPbc	PKiKP	02 07 15.7	+0.8
	0.8nm,0.6s,baz=174,slow=9.2,SNR=1.5						

*UCR **05** 02:00:32.8±0.7, 8°.88N×84°.21W, h0km±3km, MW4.1*

*UPA **05** 02:00:39.2±0.6, 8°.70N×83°.95W, h0km±5km, MW4.0*

ISC 05 02:00:34.5±1.5, 9°00N±0°.06×84°13W±0°.04, h4km±12km, n43, σ0°90/47, 2C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDDO	Dominical	0.37	47	eP	Pb	02 00 43.3	-0.3
EDDO				eS	Sb	02 00 51.4	+1.7
LLNJ	Naranjito	0.47	4	eP	Pb	02 00 45.5	+0.1
LLNJ				eS	Sb	02 00 55.4	+2.6
RITA	Parrita	0.55	339	eP	Pb	02 00 46.9	+0.1
PEZE	Perez Zeledon,	0.59	50	eP	Pb	02 00 47.1	-0.4
EDPN	Palmar Norte	0.67	93	eP	Pb	02 00 47.7	-1.1
EDPN				eS	Sn	02 00 59.5	-2.3
ABE2	San Pablo	0.70	6	eP	Pb	02 00 49.6	+0.1
LCR2	La Lucha 2	0.75	10	eP	Pb	02 00 50.1	-0.1
RIMA	Rio Macho	0.81	19	eP	Pb	02 00 50.7	-0.6
JACO	JACO, Garabito	0.84	322	eP	Pg	02 00 50.0	-0.6
EDBA	Buenos Aires	0.86	79	eP	Pb	02 00 51.1	-1.1
AMPA	Desamparados	0.89	4	eP	Pb	02 00 52.4	-0.3
SANTA	Santa Ana	0.93	357	eP	Pb	02 00 52.9	-0.4
SJS3	Mercedes San J	0.94	5	eP	Pb	02 00 53.4	0.0
CORON	Coronado	0.97	8	eP	Pn	02 00 54.4	-0.8
HDC	Heredia	0.99	1	eP	Pb	02 00 54.3	-0.2
RAFA	San Farael, Vo	1.00	18	eP	Pn	02 00 54.8	-0.9
EDAD	Golfito	1.02	110	eP	Pn	02 01 00.3	+4.6
VICA	Volcano Irazu	1.02	16	eP	Pn	02 00 55.0	-1.0
VERB	Verbena	1.03	25	eP	Pn	02 00 55.2	-0.7
RVSTA	Santa Teresita	1.08	26	eP	Pn	02 00 56.0	-0.6
EDSV	San Vito	1.16	99	eP	Pg	02 00 56.4	-0.4
POA5	Crater Von Fra	1.20	355	eP	Pg	02 00 57.2	-0.4
LCOCO	El Coco	1.22	28	eP	Pn	02 00 58.5	+0.1
RVLA	Villa Bonita	1.23	26	eP	Pn	02 00 58.5	0.0
MLIR3	Monte Lirio, C	1.31	99	eP	Pn	02 01 01.0	+1.3
CDITO	Canoas	1.32	109	eP	Pg	02 01 00.4	+0.7
BATAN	Batan	1.32	34	eP	Pn	02 01 06.4	+6.6
BRU2	Volcan	1.44	98	eP	Pg	02 01 03.3	+1.1
BRU2				eS	Sn	02 01 21.4	+0.4
SOCE	Pocosol	1.46	341	eP	Pb	02 01 02.3	+0.1
JTS	Las Juntas de	1.52	328	eP	Pg	02 01 12.0	+8.4
JTS	Las Juntas de	1.52	328	eP	Pn	02 01 00.3	-2.2
CASO	Castillo	1.54	337	i P	Pb	02 01 03.8	0.0
FORC	Fortuna	1.55	340	i P	Pb	02 01 03.8	-0.1
CEDE	Laguna Cedeo	1.58	339	i P	Pb	02 01 04.4	0.0
BCO2	Palmira	1.61	100	eP	Pg	02 01 05.6	+0.2
BCO2				eS	Sg	02 01 25.9	-0.5
RGM0	Gandoca	1.62	69	eP	Pg	02 01 04.4	-1.2
CNI2	El Empalme, Bo	1.69	75	eP	Pg	02 01 07.5	+0.5
CNI2				eS	Sg	02 01 29.6	+0.6
COTE	Lago Cote	1.75	334	i P	Pb	02 01 06.9	-0.3
DVD	David	1.75	109	eP	Pb	02 01 06.6	-0.8
DVD				eS	Sn	02 01 28.0	-0.6
ACAL	Aguas Claras	1.85	331	i P	Pn	02 01 07.2	0.0
PTEN	Parque Tenorio	1.90	334	i P	Pb	02 01 09.9	0.0
MOTZ	Rio Naranjo	1.91	331	i P	Pn	02 01 08.2	+0.2
CUI	Cuipilapa	1.94	328	i P	Pn	02 01 09.4	+1.1

IDC 05 02:01:25.1±38.0, 18°.27S×177°.30W, h550km±346km, mb3.2/4, mbtmp4.1/4, Error ellipse: s-maj=300.2km s-min=41.2km az=45.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.38	242	P	P	02 08 07.0	-0.8
	2.2nm,0.7s,baz=100,slow=6.1,SNR=3.2						
	2.2nm,0.7s						
WRA	Warramunga Arr	45.60	260	P	P	02 08 56.6	-0.1
	1.5nm,0.4s,baz=98,slow=7.3,SNR=36						
WRA				PcP	PcP	02 10 22.8	-0.8
	0.1nm,0.4s,baz=90,slow=3.6,SNR=1.7						
	1.5nm,0.4s						
ASAR	Alice Springs	45.71	255	P	P	02 08 57.5	+0.1
	2.0nm,0.6s,baz=89,slow=8.0,SNR=22						
	2.0nm,0.6s						
QSPA	South Pole Qui	71.78	180	P	P	02 11 52.1	+0.1
	1.0nm,0.6s,baz=342,slow=6.4,SNR=6.4						
	1.0nm,0.6s						

*IDC **05** 02:03:56.6±1.3, 58°.48N×153°.11W, h44km±13km, mb3.8/20, mbtmp4.1/25, ML4.4/4, MS3.2/39, Error ellipse: s-maj=15.3km s-min=12.4km az=46.0*

*NEIC **05** 02:03:58.0±1.6, 58°.36N±0°.03×152°.90W±0°.06, h52km±6km, Error ellipse: s-maj=4.9km s-min=4.2km az=55.0*

*AEIC **05** 02:03:58.6±1.3, 58°.36N±0°.03×152°.87W±0°.06, h51km±5km, ML4.3, mb4.4/81(NEIC), ML4.6/108(NEIC), Error ellipse: s-maj=4.9km s-min=4.1km az=66.0*

ISC 05 02:03:58.1±0.7, 58°39N±0°.04×152°82W±0°.03, h57km±6km, n725, σ1°15/696, mb4.4/58, MS3.2/34, 4C, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q20K	Shuyak Island	0.31	45	P	Pn	02 04 07.8	-0.3
	baz=225,SNR=1000						
SYI	Shuyak Island	0.31	45		Pn	02 04 07.7	-0.3
SYI					Sn	02 04 15.2	0.0
SYI	Shuyak Island	0.31	45	IAML		02 04 15.8	
	comp=N,132μm,0.4s						
SYI				IAML		02 04 15.9	
	comp=E,117μm,0.5s						
KDAK	Kodiak Island	0.62	168	IAML		02 04 22.9	
	comp=E,19μm,0.9s						
KDAK				IAML		02 04 24.2	
	comp=E,19μm,0.8s						
KDAK	Kodiak Island	0.62	168	P	Pn	02 04 10.6	-0.6
	baz=346						
KDAK	Kodiak Island	0.62	168	P	Pn	02 04 10.6	-0.6
	comp=E,1μm,0.2s,baz=50,slow=6.8						
KDAK				S	Sn	02 04 20.2	-0.5
	baz=331,slow=19						
Q19K	Cape Douglas,	0.69	322		Pn	02 04 11.4	-0.8
Q19K					Sn	02 04 22.8	+0.4
Q19K	Cape Douglas,	0.69	322	IAML		02 04 24.4	
	comp=N,28μm,0.7s						
Q19K	Cape Douglas,	0.69	322	P	Pn	02 04 11.4	-0.8
	baz=144,SNR=1000						
KAPH	Katmai Pasha	0.83	285		Pn	02 04 13.0	-0.9
KAHG	Katmai Hook Gl	0.92	277		Pn	02 04 14.0	-1.0
KAHG					Sn	02 04 26.3	-1.1
KARR	Katmai Rainbow	1.00	277		Pn	02 04 15.4	-0.7
AUQ	Augustine Qik'	1.02	342		Pn	02 04 16.2	-0.1
AU22	Augustine Moun	1.02	344		Pn	02 04 16.1	-0.2
AU22					Sn	02 04 31.1	+1.4
AUCH	Augustine Cone	1.03	342		Pn	02 04 16.4	-0.1
KAWH	Katmai	1.04	270		Pn	02 04 15.7	-0.9
AUL	Augustine Lava	1.05	342		Pn	02 04 16.6	0.0
KABR	Katmai Barrier	1.17	258		Pn	02 04 17.3	-1.0
KAHC	Katmai Hardscr	1.18	284		Pn	02 04 17.4	-1.1
KAHC					Sn	02 04 33.5	-0.1
Q18K	Katmai Hardscr	1.18	284	P	Pn	02 04 17.5	-1.0
	baz=104,SNR=546						
KAKN	Katmai Knife C	1.19	266		Pn	02 04 17.6	-1.0
KAKN					Sn	02 04 33.0	-0.8
R18K	Karluk	1.20	227		Pn	02 04 17.6	-1.1
R18K	Karluk	1.20	227	P	Pn	02 04 17.6	-1.1
	baz=46						
KCE	Katmai Mt Cerb	1.26	264		Pn	02 04 19.1	-0.4
KBM	Katmai Bkd Mtn	1.26	266		Pn	02 04 18.9	-0.7
P19K	Oil Pt	1.28	351		Pn	02 04 20.1	+0.3
P19K					Sn	02 04 37.8	+1.7
P19K	Oil Pt	1.28	351	P	Pn	02 04 20.2	+0.3
	baz=172,SNR=313						
KVTA	Katmai Vly 10	1.30	271		Pn	02 04 19.4	-0.7
KABU	Katmai Buttres	1.31	266		Pn	02 04 19.6	-0.5
ACHA	Angle Creek He	1.34	263		Pn	02 04 19.9	-0.7
CNPM	China Poot	1.40	35		Pn	02 04 22.0	+0.6
CNPM	China Poot	1.40	35	IAML		02 04 44.6	
	comp=E,8μm,0.6s						
CNPM				IAML		02 04 47.6	
	comp=N,7μm,0.6s						
HOM	Homer	1.41	25		Pn	02 04 22.4	+0.9
HOM	Homer	1.41	25	P	Pn	02 04 22.3	+0.8
	baz=206,SNR=18						
ANCK	Angle Creek	1.43	263		Pn	02 04 21.2	-0.6
KELA	Mount Kelaz	1.54	273		Pn	02 04 22.4	-0.9
P18K	Big Mountain,	1.61	310	P	Pn	02 04 23.0	-1.1
	baz=129,SNR=109						
ILSW	Iliamna Southw	1.61	354		Pn	02 04 24.2	-0.1
ILSW	Iliamna Southw	1.61	354	IAML		02 04 45.8	
	comp=E,6μm,0.7s						
CNTC	Contact Creek	1.62	267		Pn	02 04 23.8	-0.7
CNTC					Sn	02 04 44.0	-0.4
Q17K	Contact Creek	1.62	267	P	Pn	02 04 23.9	-0.6
	baz=85,SNR=790						
IVE	Iliamna Volcan	1.64	356		Pn	02 04 24.5	-0.1
IVE					Sn	02 04 46.0	+1.3
O20K	Slope Mountain	1.70	3		Pn	02 04 26.3	+0.8
O20K	Slope Mountain	1.70	3	P	Pn	02 04 26.2	+0.8
	baz=184,SNR=147						
BRLK	Bradley Lake	1.70	35		Pn	02 04 25.6	+0.1
BRLK	Bradley Lake	1.70	35	IAML		02 04 52.7	
	comp=N,4μm,0.5s						
BRLK				IAML		02 04 56.1	
	comp=E,5μm,0.7s						
BRSE	Bradley Lake S	1.73	37		Pn	02 04 26.0	+0.2
BRSE	Bradley Lake S	1.73	37	P	Pn	02 04 26.0	+0.2
	baz=219,SNR=87						
O18K	Koktuh Hills	1.92	321		Pn	02 04 27.8	-0.6
O18K				IAML		02 04 51.4	
	comp=N,4μm,0.5s						
O18K				IAML		02 05 04.9	
	comp=E,4μm,0.7s						
O18K	Koktuh Hills	1.92	321	P	Pn	02 04 27.8	-0.6
	baz=140,SNR=138						
PLK3	Peulik 3	1.96	250		Pn	02 04 28.8	-0.2
O19K	Port Alsworth	1.97	338		Pn	02 04 28.8	-0.2
O19K	Port Alsworth	1.97	338	P	Pn	02 04 28.9	-0.1
	baz=157						
SII	Sitkinak Islan	1.98	202	Pn	Pn	02 04 28.3	-0.9
SII	Sitkinak Islan	1.98	202	P	Pn	02 04 28.3	-0.9
SII	Sitkinak Islan	1.98	202	P	Pn	02 04 28.1	-1.2
	baz=21,SNR=30						
Q16K	King Salmon	2.03	280		Pn	02 04 29.3	-0.6
Q16K	King Salmon	2.03	280	P	Pn	02 04 29.3	-0.6
	baz=98,SNR=347						
RED	Redoubt Volcan	2.04	1		Pn	02 04 30.3	+0.3
R17K	Ugashik Creek	2.04	250		Pn	02 04 29.9	-0.2
R17K	Ugashik Creek	2.04	250	P	Pn	02 04 29.5	-0.6
	baz=67,SNR=171						
P17K	Kvichak River	2.05	295		Pn	02 04 29.6	-0.6
P17K	Kvichak River	2.05	295	P	Pn	02 04 29.6	-0.5
	baz=113,SNR=258						
RDSO	Redoubt South	2.07	1		Pn	02 04 30.8	+0.2
RSO	Redoubt South	2.08	1		Pn	02 04 31.4	+0.7
PLK1	Peulik 1	2.10	255		Pn	02 04 30.5	-0.3
RDWB	Redoubt West	2.10	360		Pn	02 04 31.4	+0.3
RDT	Redoubt	2.20	5		Pn	02 04 33.0	+0.7
RDJH	Redoubt Jeurge	2.21	0		Pn	02 04 33.1	+0.6
PLBL	Peulik Blue Cr	2.24	254		Pn	02 04 32.9	+0.2
SEW	Seward	2.44	44		Pn	02 04 34.9	-0.5
SEW	Seward	2.44	44	P	Pn	02 04 34.9	-0.5
	baz=226,SNR=11						
SLKM	Skilak Lake	2.50	31		Pn	02 04 36.3	-0.1
CAPN	Captain Cook N	2.53	19		Pn	02 04 38.5	+1.8
CAPN	Captain Cook N	2.53	19	P	Pn	02 04 38.2	+1.6
	baz=200						
N19K	Bonanza Creek	2.57	341	Pn	Pn	02 04 37.5	+0.1
N19K	Bonanza Creek	2.57	341	P	Pn	02 04 37.3	-0.1
	baz=161,SNR=67						
O17K	Koliganek Bris	2.61	304		Pn	02 04 37.0	-0.7
O17K	Koliganek Bris	2.61	304	P	Pn	02 04 37.1	-0.6
	baz=121,SNR=108						
O22K	Cooper Landing	2.63	36		Pn	02 04 38.0	0.0
O22K	Cooper Landing	2.63	36	P	Pn	02 04 37.6	-0.4
	baz=218,SNR=37						
R16K	Pilot Point	2.67	254		Pn	02 04 37.2	-1.4
R16K	Pilot Point	2.67	254	IAML		02 05 28.0	
	comp=E,2μm,0.9s						
R16K				IAML		02 05 28.9	
	comp=N,2μm,0.9s						
R16K	Pilot Point	2.67	254	P	Pn	02 04 37.4	-1.1
	baz=70,SNR=6.0						
P16K	Nushagak River	2.77	286		Pn	02 04 39.8	-0.3
P16K	Nushagak River	2.77	286	P	Pn	02 04 39.5	-0.5
	baz=102,SNR=69						
N18K	Kilae Creek	2.78	327	Pn	Pn	02 04 40.0	-0.1
N18K	Kilae Creek	2.78	327	P	Pn	02 04 39.7	-0.5

MID	Middleton Isla	3.52	70		Pn	02 04 50.0	-0.2
MID	Middleton Isla	3.52	70	P	Pn	02 04 51.2	+1.0
M19K	Big River Lodg	3.61	348		Pn	02 04 51.9	+0.4
M19K	Big River Lodg	3.61	348	P	Pn	02 04 51.9	+0.4
	baz=167						
M22K	Willow	3.63	21		Pn	02 04 52.2	+0.4
M22K	Willow	3.63	21	P	Pn	02 04 52.0	+0.2
	baz=203,SNR=62						
SKT	Skwentna	3.66	10	Pn	Pn	02 04 53.2	+1.0
SKT				IAML		02 05 50.3	
	comp=E,741nm,0.9s						
SKT				IAML		02 05 55.4	
	comp=N,781nm,0.6s						
SKT	Skwentna	3.66	10	P	Pn	02 04 52.8	+0.6
	baz=191,SNR=62						
CHGN	Chignik	3.69	238	Pn	Pn	02 04 51.5	-0.9
CHGN				IAML		02 05 42.4	
	comp=E,740nm,0.6s						
CHGN				IAML		02 05 42.8	
	comp=N,789nm,0.5s						
CHGN	Chignik	3.69	238	P	Pn	02 04 52.7	+0.2
	baz=53,SNR=13						
N16K	Nishlik Lake	3.69	307		Pn	02 04 52.5	-0.1
N16K	Nishlik Lake	3.69	307	P	Pn	02 04 52.5	-0.1
	baz=122,SNR=65						
PMR	Palmer	3.71	28		Pn	02 04 52.1	-0.6
PMR	Palmer	3.71	28	IAML		02 05 48.5	
	comp=N,621nm,0.7s						
PMR	Palmer	3.71	28	P	Pn	02 04 52.7	-0.1
PMR	Palmer	3.71	28	P	Pn	02 04 52.3	-0.5
	baz=212,SNR=22						
O15K	Ungalikthiuk R	3.73	285		Pn	02 04 53.0	-0.2
O15K	Ungalikthiuk R	3.73	285	P	Pn	02 04 52.9	-0.2
	baz=100,SNR=79						
KNK	Knik Glacier	3.74	34		Pn	02 04 52.9	-0.4
KNK				IAML		02 05 54.2	
	comp=E,876nm,0.7s						
KNK				IAML		02 05 54.3	
	comp=N,939nm,0.5s						
KNK	Knik Glacier	3.74	34	P	Pn	02 04 52.7	-0.6
	baz=218,SNR=11						
HIN	Hinchinbrook I	3.81	55		Pn	02 04 54.0	-0.2
HIN	Hinchinbrook I	3.81	55	IAML		02 06 05.1	
	comp=E,987nm,1.0s						
HIN				IAML		02 06 09.6	
	comp=N,1µm,1.1s						
M17K	Holitna River	3.81	324		Pn	02 04 54.0	-0.2
M17K	Holitna River	3.81	324	P	Pn	02 04 54.4	+0.2
	baz=141,SNR=152						
GLI	Glacier Island	3.83	47		Pn	02 04 53.6	-0.9
GLI				IAML		02 06 00.9	
	comp=E,782nm,0.6s						
GLI				IAML		02 06 01.2	
	comp=N,649nm,0.6s						
GLI	Glacier Island	3.83	47	P	Pn	02 04 53.4	-1.0
	baz=232						
GHO	Glory Hole Cre	3.91	28		Pn	02 04 55.3	-0.4
GHO	Glory Hole Cre	3.91	28	IAML		02 05 55.6	
	comp=N,908nm,0.7s						
L19K	White Mountain	3.94	346	Pn	Pn	02 04 56.6	+0.6
L19K	White Mountain	3.94	346	P	Pn	02 04 56.2	+0.3
	baz=165,SNR=142						
FID	Port Fidalgo	4.00	51		Pn	02 04 55.8	-1.0
FID				IAML		02 05 40.5	
	comp=E,479nm,0.4s						
FID				IAML		02 06 05.5	
	comp=N,550nm,0.7s						
M16K	Timber Creek	4.08	313		Pn	02 04 57.9	-0.1
M16K	Timber Creek	4.08	313	P	Pn	02 04 57.8	-0.1
	baz=128,SNR=83						
SML	Sawmill	4.10	31	Pn	Pn	02 04 58.0	-0.2
SML				IAML		02 06 06.9	
	comp=N,691nm,0.6s						
SML				IAML		02 06 13.8	
	comp=E,557nm,0.7s						
SML	Sawmill	4.10	31	P	Pn	02 04 58.2	0.0
	baz=215,SNR=12						
N15K	Kwethluk River	4.14	299		Pn	02 04 59.2	+0.5
N15K	Kwethluk River	4.14	299	P	Pn	02 04 59.2	+0.5
	baz=113,SNR=190						
EYAK	Cordova Ski Ar	4.21	56		Pn	02 04 59.1	-0.5
EYAK	Cordova Ski Ar	4.21	56	P	Pn	02 04 59.5	-0.1
EYAK	Cordova Ski Ar	4.21	56	P	Pn	02 04 59.0	-0.5
	baz=242,SNR=8.2						
S14K	Fog Glacier	4.22	243	P	Pn	02 05 01.3	+1.4
	baz=57						
CUT	Chulitna	4.22	16		Pn	02 04 59.9	+0.1
CUT	Chulitna	4.22	16	P	Pn	02 05 00.6	+0.8
	baz=199,SNR=39						
M23K	Glacier View	4.26	35		Pn	02 05 00.3	-0.1
M23K	Glacier View	4.26	35	P	Pn	02 05 00.7	+0.3
	baz=219,SNR=24						
VNKR	Veniaminof 5	4.28	239		Pn	02 05 00.3	-0.3
L18K	Granite Mounta	4.30	335		Pn	02 05 00.9	0.0
L18K	Granite Mounta	4.30	335	P	Pn	02 05 01.2	+0.4
	baz=152,SNR=30						
SCM	Sheep Creek Mo	4.41	36		Pn	02 05 02.7	+0.2
SCM				IAML		02 06 24.9	
	comp=E,638nm,0.9s						
SCM				IAML		02 06 38.8	
	comp=N,559nm,1.2s						
SCM	Sheep Creek Mo	4.41	36	P	Pn	02 05 02.7	+0.2
	baz=221,SNR=13						
O14K	Tigyukauivet M	4.48	285		Pn	02 05 03.2	-0.1
O14K	Tigyukauivet M	4.48	285	P	Pn	02 05 03.2	-0.1
	baz=98,SNR=15						
DIV	Divide	4.50	49		Pn	02 05 03.2	-0.5
PPLA	Purkeypile	4.53	4		Pn	02 05 05.2	+1.0
PPLA	Purkeypile	4.53	4	P	Pn	02 05 05.3	+1.1
	baz=184,SNR=24						
KAIM	Kayak Island	4.59	67		Pn	02 05 04.9	0.0
KAIM	Kayak Island	4.59	67	IAML		02 06 01.8	
	comp=E,424nm,0.6s						
KAIM				IAML		02 06 08.5	
	comp=N,499nm,0.6s						
KAIM	Kayak Island	4.59	67	P	Pn	02 05 05.4	+0.5
	baz=254						
RAGM	Ragged Mountai	4.62	61		Pn	02 05 05.0	-0.3
RAGM	Ragged Mountai	4.62	61	IAML		02 06 06.2	
	comp=E,402nm,0.5s						
RAGM				IAML		02 06 07.5	
	comp=N,603nm,0.5s						
M15K	Kasigluk River	4.62	303		Pn	02 05 04.9	-0.4
M15K	Kasigluk River	4.62	303	P	Pn	02 05 05.2	-0.1
	baz=117,SNR=48						
L17K	Donlin	4.64	326		Pn	02 05 05.4	-0.2
L17K	Donlin	4.64	326	P	Pn	02 05 05.6	0.0
	baz=142,SNR=26						
KLU	Klutina	4.66	45	Pn	Pn	02 05 06.0	+0.2
KLU				IAML		02 06 30.7	
	comp=N,305nm,0.8s						
KLU	Klutina	4.66	45	P	Pn	02 05 05.9	+0.1
	baz=231,SNR=25						
GOAT	Goat Mountain	4.67	59		Pn	02 05 05.6	-0.5
L16K	Owhat River	4.71	318		Pn	02 05 06.1	-0.4
L16K	Owhat River	4.71	318	P	Pn	02 05 06.2	-0.3
	baz=132,SNR=46						
HMT	Hamilton	4.79	62		Pn	02 05 07.7	0.0
HMT	Hamilton	4.79	62	IAML		02 06 05.9	
	comp=N,412nm,0.4s						
HMT				IAML		02 06 05.9	
	comp=E,615nm,0.8s						
TTA	Tatalina	4.82	342	P	Pn	02 05 07.7	-0.4
	baz=160						
WAT7	Susitna Watana	4.87	22		Pn	02 05 08.9	+0.1
WAT6	Susitna Watana	4.90	29		Pn	02 05 08.8	-0.4
WAT6	Susitna Watana	4.90	29	P	Pn	02 05 08.7	-0.4
	baz=213,SNR=41						
NICHA	Nichawak Mount	4.90	64		Pn	02 05 08.5	-0.6
BMRM	Bremner River	4.90	55		Pn	02 05 08.6	-0.6
BMRM	Bremner River	4.90	55	P	Pn	02 05 08.4	-0.7
	baz=242,SNR=12						
WAT1	Susitna Watana	4.92	23		Pn	02 05 09.4	-0.1
WAT1	Susitna Watana	4.92	23	P	Pn	02 05 09.6	+0.1
	baz=207						
SUCK	Suckling Hills	4.94	66		Pn	02 05 09.2	-0.4
M24K	Tolsona, Glenn	4.98	39		Pn	02 05 10.8	+0.5
M24K	Tolsona, Glenn	4.98	39	IAML		02 06 52.4	
	comp=N,450nm,1.6s						
M24K	Tolsona, Glenn	4.98	39	P	Pn	02 05 10.9	+0.6
	baz=224,SNR=24						
K20K	Telida	5.02	354		Pn	02 05 10.9	+0.1
K20K	Telida	5.02	354	P	Pn	02 05 11.2	+0.4
	baz=173,SNR=59						
CAST	Castle Rocks	5.06	4		Pn	02 05 10.9	-0.4
CAST	Castle Rocks	5.06	4	P	Pn	02 05 12.1	+0.8
	baz=185,SNR=87						
BERG	Berg Lake	5.07	63		Pn	02 05 11.0	-0.5
BERG	Berg Lake	5.07	63	IAML		02 06 09.7	
	comp=N,503nm,0.2s						
BERG				IAML		02 06 11.1	
	comp=E,426nm,0.5s						
K17K	Iditarod	5.11	330		Pn	02 05 12.0	0.0
K17K	Iditarod	5.11	330	P	Pn	02 05 11.6	-0.4
	baz=146,SNR=17						
CHNA	Chernabura Isl	5.17	229	P	Pn	02 05 12.3	-0.4
	baz=44						
CNBA	Chernabura Isl	5.18	229	Pn	Pn	02 05 11.9	-1.0
CNBA				IAML		02 06 27.4	
	comp=E,382nm,0.6s						
CNBA				IAML		02 06 34.1	
	comp=N,364nm,0.7s						
BGLC	Bering Glacier	5.19	66		Pn	02 05 13.6	+0.6
SDPT	Sand Point	5.19	237		Pn	02 05 11.9	-1.1
SDPT	Sand Point	5.19	237	IAML		02 06 33.9	
	comp=N,419nm,0.6s						
SDPT	Sand Point	5.19	237	P	Pn	02 05 13.2	+0.1
SDPT	Sand Point	5.19	237	P	Pn	02 05 13.4	+0.4
	baz=51,SNR=7.7						
M14K	Bethel	5.22	301		Pn	02 05 13.5	+0.1
M14K	Bethel	5.22	301	P	Pn	02 05 13.3	-0.1
	baz=113,SNR=26						
TRF	Thorofare Moun	5.22	13		Pn	02 05 13.9	+0.2
TRF	Thorofare Moun	5.22	13	IAML		02 06 24.7	
	comp=N,406nm,0.7s						
TRF				IAML		02 06 43.6	
	comp=E,249nm,0.8s						
TRF	Thorofare Moun	5.22	13	P	Pn	02 05 14.4	+0.7
	baz=195,SNR=50						
N25K	Chitina, Valde	5.24	48		Pn	02 05 13.5	-0.2
N25K	Chitina, Valde	5.24	48	P	Pn	02 05 13.4	-0.4
	baz=236						
KTH	Kantishna Hill	5.26	9		Pn	02 05 14.0	-0.1
KTH	Kantishna Hill	5.26	9	IAML		02 06 38.0	
	comp=E,261nm,0.9s						
KTH				IAML		02 06 56.3	
	comp=N,285nm,0.9s						
RND	Reindeer	5.39	19		Pn	02 05 15.6	-0.3
DHY	Denali Highway	5.40	27		Pn	02 05 16.1	-0.1
DHY	Denali Highway	5.40	27	P	Pn	02 05 16.5	+0.3
	baz=212,SNR=19						
SNH	Sunshine Point	5.42	66		Pn	02 05 16.6	+0.4
J18K	Innoko River	5.43	341		Pn	02 05 16.6	+0.1
J18K	Innoko River	5.43	341	P	Pn	02 05 16.3	-0.1
	baz=158,SNR=48						
CRQM	Cirque	5.46	60		Pn	02 05 16.7	-0.2
GLB	Gilahina Butte	5.47	52		Pn	02 05 16.8	-0.2
CRQE	Cirque	5.48	60	P	Pn	02 05 16.9	-0.2
	baz=249,SNR=10						
VRDI	Verde Repeater	5.52	55		Pn	02 05 17.1	-0.6
CHUM	Lake Minchumin	5.52	2		Pn	02 05 18.2	+0.7
CHUM	Lake Minchumin	5.52	2	P	Pn	02 05 18.4	+0.9
	baz=183,SNR=58						
HARP	HAARP	5.53	40		Pn	02 05 17.8	+0.1
HARP	HAARP	5.53	40	P	Pn	02 05 18.7	+1.0
	baz=227,SNR=11						
WACK	Wrangell Chich	5.56	46		Pn	02 05 18.4	+0.1
CYK	Cape Yakataga	5.57	68		Pn	02 05 18.9	+0.7
WASW	Wrangell South	5.59	47		Pn	02 05 18.8	0.0
TGL	Tana Glacier	5.60	61		Pn	02 05 18.7	-0.2
BARK	Barkley Ridge	5.65	65		Pn	02 05 19.4	0.0
MCK	McKinley	5.68	18		Pn	02 05 20.1	+0.3
MCK	McKinley	5.68	18	P	Pn	02 05 20.6	+0.8
	baz=201,SNR=29						
PS1A	Pavlof South-1	5.72	242		Pn	02 05 19.8	-0.6
M13K	Dall Lake	5.75	295		Pn	02 05 20.6	-0.1
M13K	Dall Lake	5.75	295	P	Pn	02 05 21.0	+0.3
	baz=106,SNR=21						
MCARA	McCarthy VSAT	5.77	55		Pn	02 05 21.0	-0.1
MCARA	McCarthy VSAT	5.77	55	P	Pn	02 05 21.3	+0.3
	baz=243						
J19K	Poorman	5.78	348		Pn	02 05 20.9	-0.3
J19K	Poorman	5.78	348	P	Pn	02 05 21.2	0.0
	baz=166,SNR=28						
L14K	Kuka Creek	5.78	305		Pn	02 05 21.3	+0.1
L14K	Kuka Creek	5.78	305	P	Pn	02 05 21.3	+0.1
	baz=117,SNR=28						
BPAW	Bear Paw Mtn.	5.80	8	Pn	Pn	02 05 22.1	+0.6
BPAW	Bear Paw Mtn.	5.80	8	P	Pn	02 05 22.0	+0.6
	baz=190,SNR=24						
K15K	Wolf Creek Mou	5.83	316		Pn	02 05 22.0	+0.1
K15K	Wolf Creek Mou	5.83	316	P	Pn	02 05 22.1	+0.2
	baz=129,SNR=18						
PN7A	Pavlof North-7	5.84	243		Pn	02 05 21.6	-0.5
PAX	Paxson	5.84	35		Pn	02 05 21.9	-0.1
PAX	Paxson	5.84	35	P	Pn	02 05 22.5	+0.4
	baz=221,SNR=28						
J20K	Nowinta River	5.84	354	Pn	Pn	02 05 22.9	+0.9
J20K	Nowinta River	5.84	354	P	Pn	02 05 22.4	+0.4
	baz=173,SNR=120						
MESA	MESA	5.85	68		Pn	02 05 22.6	+0.3
MESA	MESA	5.85	68	P	Pn	02 05 22.5	+0.2
	baz=257,SNR=7.3						
J17K	VABM Dome	5.88	331		Pn	02 05 22.3	-0.1
J17K	VABM Dome	5.88	331	P	Pn	02 05 22.6	+0.1
	baz=146,SNR=6.3						
KIAG	Kiagna River	5.88	60		Pn	02 05 22.5	-0.2
PTPK	Patty Peak	5.93	57		Pn	02 05 23.5	+0.1
YAH	Yahtse	6.00	66		Pn	02 05 24.7	+0.4
BWN	Browne	6.02	14		Pn	02 05 24.6	+0.1
GRNC	Granite Creek	6.09	63		Pn	02 05 26.3	+0.7
RKAV	Rock Avalanche	6.17	67		Pn	02 05 26.9	+0.2
J16K	Anvik River	6.21	326		Pn	02 05 26.8	-0.2
J16K	Anvik River	6.21	326	P	Pn	02 05 27.1	+0.1
	baz=139,SNR=8.6						
BARN	Barnard Glacie	6.25	60		Pn	02 05 27.6	-0.1
M26K	Nabesna, AK	6.31	46		Pn	02 05 28.6	+0.1
M26K	Nabesna, AK	6.31	46	P	Pn	02 05 28.6	+0.1
	baz=235,SNR=10						
CTG	Chitna Glacier	6.36	61	P	Pn	02 05 29.6	+0.3
	baz=251,SNR=6.8						
CTGM	Chitina Glacie	6.36	61		Pn	02 05 29.5	+0.2
K24K	Donnelly Dome	6.41	29	P	Pn	02 05 31.5	+1.7
	baz=215,SNR=22						
SAMH	Samovar Hills	6.41	69		Pn	02 05 30.8	+0.9
LOGN	Logan Glacier	6.47	63		Pn	02 05 30.7	-0.1
NEA2	Nenana	6.48	14		Pn	02 05 29.9	-0.8
NEA2	Nenana	6.48	14	P	Pn	02 05 30.4	-0.3
	baz=198,SNR=44						
I20K	Naagheideneel	6.48	354		Pn	02 05 30.0	-0.7
I20K	Naagheideneel	6.48	354	P	Pn	02 05 31.4	+0.7
	baz=172,SNR=20						
WRH	Wood River Hil	6.51	18		Pn	02 05 30.3	-0.8
L26K	Log Cabin Wild	6.57	41		Pn	02 05 33.3	+1.3
L26K	Log Cabin Wild	6.57	41	P	Pn	02 05 33.5	+1.5
	baz=229,SNR=11						
RIDG	Independent Ri	6.61	32		Pn	02 05 33.0	+0.4
RIDG	Independent Ri	6.61	32	P	Pn	02 05 33.1	+0.5
	baz=219,SNR=6.4						
HDA	Harding Lake	6.66	23		Pn	02 05 33.1	-0.1
HDA	Harding Lake	6.66	23	P	Pn	02 05 34.2	+1.0
	baz=208,SNR=43						
GCSA	Galena City Sc	6.67	345		Pn	02 05 32.6	-0.6
GCSA	Galena City Sc	6.67	345	P	Pn	02 05 33.6	+0.4
	baz=162,SNR=18						
PCA	Pinnacle	6.67	70		Pn	02 05 33.3	0.0
PINM	Pinnacle	6.67	70	P	Pn	02 05 33.8	+0.4
	baz=260						
I17K	Unalakleet	6.70	329		Pn	02 05 34.0	+0.3
I17K	Unalakleet	6.70	329	P	Pn	02 05 34.2	+0.5
	baz=142						
CCB	Clear Creek Bu	6.72	19		Pn	02 05 32.8	-1.2
M27K	Edge Creek, AK	6.72	49		Pn	02 05 34.6	+0.4
M27K	Edge Creek, AK	6.72	49	P	Pn	02 05 34.7	+0.4
	baz=238						
MLY	Manley	6.74	8		Pn	02 05 34.0	-0.3
MLY	Manley	6.74	8	P	Pn	02 05 34.7	+0.4
	baz=190,SNR=27						
I21K	Tanana	6.83	3		Pn	02 05 35.4	-0.1
I21K	Tanana	6.83	3	P	Pn	02 05 35.6	+0.2
	baz=184						
FALS	False Pass	6.84	243		Pn	02 05 34.6	-0.9
FALS	False Pass	6.84	243	P	Pn	02 05 36.3	+0.7
FALS	False Pass	6.84	243	P	Pn	02 05 35.9	+0.3
	baz=55						
O28M	Mount Upton	6.84	64		Pn	02 05 36.0	0.0
O28M	Mount Upton	6.84	64	P	Pn	02 05 36.5	+0.6
	baz=255,SNR=34						
J14K	Nanvaranak Lak	6.86	314		Pn	02 05 35.9	0.0
J14K	Nanvaranak Lak	6.86	314	P	Pn	02 05 36.4	+0.5
	baz=125,SNR=9.4						
YKU2	Yakutat	6.89	75	P	Pn	02 05 37.0	+0.6
COLA	College	6.92	18		Pn	02 05 36.1	-0.6
COLA	College	6.92	18	P	Pn	02 05 36.6	-0.1
COLA	College	6.92	18	P	Pn	02 05 38.4	+1.7
	baz=202						
MDM	Murphy Dome	6.94	16	Pn	Pn	02 05 36.5	-0.5
BCPM	Bancas Point	6.96	71		Pn	02 05 37.0	-0.2
I23K	Minto, Yukon-K	6.98	12		Pn	02 05 37.5	0.0
I23K	Minto, Yukon-K	6.98	12	P	Pn	02 05 37.5	0.0
	baz=195,SNR=31						
IL31		7.00	21		Pn	02 05 37.5	-0.2
ILAR	Eielson Array	7.00	21		Pn	02 05 37.4	-0.4
ILAR	Eielson Array	7.00	21	P	Pn	02 05 36.8	-1.0
	comp=N,2.9nm,0.3s,baz=210,slow=14,SNR=57						
ILAR				S	Sn	02 06 49.0	-6.8
	comp=N,18nm,0.7s,baz=214,slow=20,SNR=4.9						
ILAR				LR	LR	02 08 44.2	
	comp=N,180nm,20.9s,baz=221,slow=41						
	comp=N,7.2nm,0.3s						
SCRK	Sand Creek	7.04	34	Pn	Pn	02 05 38.8	+0.3
SCRK	Sand Creek	7.04	34	P	Pn	02 05 38.8	+0.3
	baz=221						
PNL	Peninsula	7.04	74		Pn	02 05 38.4	-0.1
PNL	Peninsula	7.04	74	P	Pn	02 05 38.6	+0.1
PNL	Peninsula	7.04	74	P	Pn	02 05 38.7	+0.3
	baz=265,SNR=14						
YUK3	Moose Creek	7.05	56	P	Pn	02 05 39.6	+0.9
	baz=247,SNR=18						
M11K	Mekoryuk	7.12	292	P	Pn	02 05 39.6	+0.1
	baz=101						
L27K	Beaver Creek,	7.13	44		Pn	02 05 39.6	-0.1
L27K	Beaver Creek,	7.13	44	P	Pn	02 05 40.3	+0.5
	baz=234,SNR=8.0						
BCAR	Beaver Creek A	7.15	44	Pn	Pn	02 05 40.1	+0.2
J25K	Salcha River,	7.18	27		Pn	02 05 39.7	-0.7
J25K	Salcha River,	7.18	27	P	Pn	02 05 40.8	+0.4
	baz=213,SNR=35						
YUK8	Steele Glacier	7.19	61	P	Pn	02 05 42.0	+1.3
	baz=252,SNR=21						
H20K	Anotleneega Mo	7.19	353		Pn	02 05 40.7	+0.1
H20K	Anotleneega Mo	7.19	353	P	Pn	02 05 40.6	+0.1
	baz=172,SNR=22						
POKR	Poker Plat Res	7.21	18		Pn	02 05 40.2	-0.6
POKR	Poker Plat Res	7.21	18	P	Pn	02 05 41.1	+0.3
	baz=203						
H18K	Honhosa River	7.28	341		Pn	02 05 41.2	-0.4
H18K	Honhosa River	7.28	341	P	Pn	02 05 41.6	0.0
	baz=157,SNR=40						
H21K	Melozitna Rive	7.29	0		Pn	02 05 41.6	-0.3
H21K	Melozitna Rive	7.29	0	P	Pn	02 05 42.2	+0.3
	baz=180,SNR=20						
H19K	Roundabout Mou	7.36	348	P	Pn	02 05 43.7	+0.9
	baz=165,SNR=10						
H17K	Granite Mounta	7.38	336		Pn	02 05 41.6	-1.5
H17K	Granite Mounta	7.38	336	P	Pn	02 05 43.0	0.0
	baz=150,SNR=33						
O29M	Mount Kennedy	7.53	69		Pn	02 05 46.0	+0.8
O29M	Mount Kennedy	7.53	69	P	Pn	02 05 45.8	+0.6
	baz=261,SNR=30						
J26L	Joseph Creek	7.56	32		Pn	02 05 44.9	-0.6
J26L	Joseph Creek	7.56	32	P	Pn	02 05 45.9	+0.3
	baz=220						
H22K	Ishtalitna Cre	7.56	4	P	Pn	02 05 46.2	+0.7
	baz=186						
H23K	Yukon River	7.62	10		Pn	02 05 46.4	+0.1
H23K	Yukon River	7.62	10	P	Pn	02 05 46.6	+0.3
	baz=193						
IMAR	Indian Mountai	7.63	357	Pn	Pn	02 05 47.1	+0.7
K27K	Chicken	7.67	38		Pn	02 05 48.3	+1.4
K27K	Chicken	7.67	38	P	Pn	02 05 47.5	+0.5
	baz=227						
H16K	Elim	7.71	328	P	Pn	02 05 48.1	+0.6
	baz=140						
YUK6	Outpost Mounta	7.75	65	P	Pn	02 05 48.6	+0.2
	baz=257						
H24K	Noodor Dome	7.82	15	Pn	Pn	02 05 49.5	+0.4
H24K	Noodor Dome	7.82	15	P	Pn	02 05 49.5	+0.4
	baz=200						
P29M	Windy Craggy	7.88	75	Pn	Pn	02 05 50.1	+0.2
P29M	Windy Craggy	7.88	75	P	Pn	02 05 50.5	+0.5
	baz=267,SNR=10						
PRP	Porcupine Dome	7.93	23	Pn	Pn	02 05 51.8	+1.1
PRP	Porcupine Dome	7.93	23	P	Pn	02 05 51.1	+0.5
	baz=209,SNR=14						
G18K	Tagagawik	8.01	343	P	Pn	02 05 52.4	+0.7
	baz=158,SNR=15						
G17K	Kiwalik Mounta	8.03	336	P	Pn	02 05 52.7	+0.8
	baz=149,SNR=5.1						
G19K	Purcell Mounta	8.03	347	P	Pn	02 05 52.4	+0.5
	baz=164,SNR=12						
HYT	Haines Junctio	8.14	66	Pn	Pn	02 05 54.5	+1.0
HYT	Haines Junctio	8.14	66	P	Pn	02 05 53.9	+0.4
	baz=259						
G21K	Allakaket	8.16	358	P	Pn	02 05 54.0	+0.3
	baz=178,SNR=25						
M29M	Somme Creek	8.18	54	Pn	Pn	02 05 54.6	+0.6
M29M	Somme Creek	8.18	54	P	Pn	02 05 54.4	+0.3
	baz=247,SNR=37						
I26K	Coal Creek Min	8.30	29		Pn	02 05 55.3	-0.3
I26K	Coal Creek Min	8.30	29	P	Pn	02 05 56.0	+0.4
	baz=218						
P30M	Million Dollar	8.31	71	P	Pn	02 05 56.3	+0.5
	baz=265,SNR=11						
G16K	Koyuk River	8.34	331	P	Pn	02 05 56.4	+0.4
	baz=143						
AKUT	Akutan	8.37	245	P	Pn	02 05 56.8	+0.2
G23K	Bananza Creek	8.45	8	P	Pn	02 05 58.0	+0.3
	baz=190,SNR=17						
N30M	Aishikik Lake	8.47	62		Pn	02 05 58.1	+0.1
N30M	Aishikik Lake	8.47	62	P	Pn	02 05 58.2	+0.1
	baz=256,SNR=5.4						
G15K	Niukluk	8.49	326	P	Pn	02 05 59.1	+0.8
	baz=136						
H25L	Birch Creek	8.54	19	P	Pn	02 05

baz=240
F15K North Star Dit 9.19 328 P Pn 02 06 09.1 +1.3
baz=138
I28M Miner Creek 9.31 35 Pn Pn 02 06 10.2 +0.7
I28M Miner Creek 9.31 35 P Pn 02 06 10.3 +0.7
baz=226
E19K Redstone River 9.32 349 P Pn 02 06 10.4 +0.9
baz=166
WHY Whitehorse 9.39 68 Pn Pn 02 06 10.9 +0.3
WHY Whitehorse 9.39 68 P Pn 02 06 10.9 +0.3
baz=264,SNR=11
F24K Squaw Lake 9.43 12 P Pn 02 06 11.3 +0.2
baz=196
H27K Steamboat Moun 9.44 29 P Pn 02 06 11.5 +0.3
baz=219
SIT Sitka 9.45 91 P Pn 02 06 09.5 -1.9
SIT Sitka 9.45 91 P Pn 02 06 09.6 -1.7
baz=285
G26K Porcupine Rive 9.53 22 P Pn 02 06 13.7 +1.4
baz=210
R32K Eaglecrest 9.62 83 P Pn 02 06 14.3 +0.6
baz=278
E17K Hotham Inlet 9.64 339 P Pn 02 06 14.6 +0.7
baz=151,SNR=8.4
E18K Tukpahlearik C 9.72 342 P Pn 02 06 16.1 +1.0
baz=155,SNR=20
S32K Killisnoo 9.74 88 Pn Pn 02 06 15.1 -0.2
S32K Killisnoo 9.74 88 P Pn 02 06 15.5 +0.2
baz=283,SNR=13
F25K Christian Rive 9.79 16 P Pn 02 06 16.0 0.0
baz=203
E22K Anaktuvuk Pass 9.79 2 P Pn 02 06 16.2 +0.2
baz=183
BMAR Burnt Mountain 9.81 19 Pn Pn 02 06 17.0 +0.8
E23K Chandalar 9.81 7 P Pn 02 06 16.3 0.0
baz=190
G27K Doyon Strip 9.87 27 P Pn 02 06 17.4 +0.3
baz=216
M31M Drury Creek, Y 9.90 60 Pn 02 06 17.2 -0.3
M31M Drury Creek, Y 9.90 60 P Pn 02 06 17.8 +0.3
baz=256,SNR=5.3
E24K Your Creek 9.91 9 P Pn 02 06 18.3 +0.7
baz=194
P32M Atlin 9.93 75 Pn Pn 02 06 18.0 +0.1
P32M Atlin 9.93 75 P Pn 02 06 18.2 +0.3
baz=271
J30M Hart River 10.01 45 Pn 02 06 20.6 +1.6
J30M Hart River 10.01 45 P Pn 02 06 19.7 +0.6
baz=239
E20K Nigu River 10.02 353 P Pn 02 06 20.3 +1.2
baz=170
TNA Tin City 10.09 322 P Pn 02 06 21.0 +1.1
baz=129
E21K Killik River 10.10 358 P Pn 02 06 20.8 +0.5
baz=177
F26K Sheenjek River 10.12 19 P Pn 02 06 21.1 +0.6
baz=207
E25K Arctic Village 10.29 15 P Pn 02 06 23.2 +0.5
baz=202
H29M Whitestone 10.31 34 P Pn 02 06 24.6 +1.5
baz=227
N32M Quiet Lake 10.32 66 Pn 02 06 23.9 +0.7
N32M Quiet Lake 10.32 66 P Pn 02 06 22.7 -0.5
baz=263
I30M Mount Dempster 10.34 42 Pn Pn 02 06 24.1 +0.6
I30M Mount Dempster 10.34 42 P Pn 02 06 25.0 +1.4
baz=236
FARO Faro, Yukon 10.38 60 Pn 02 06 24.1 0.0
P33M Teslin, Yukon 10.38 71 Pn Pn 02 06 24.1 0.0
P33M Teslin, Yukon 10.38 71 P Pn 02 06 23.9 -0.2
baz=268
TOLK Toolik Lake Re 10.39 7 Pn Pn 02 06 24.2 0.0
TOLK Toolik Lake Re 10.39 7 P Pn 02 06 25.1 +1.0
baz=190
D19K Kuna River 10.41 349 P Pn 02 06 26.1 +1.6
baz=165
D17K Noatak River 10.42 338 P Pn 02 06 25.9 +1.4
baz=149
D20K Etivluk River 10.50 352 P Pn 02 06 27.8 +2.2
baz=169
D22K Ayikyak River 10.53 0 P Pn 02 06 28.1 +2.0
baz=180
NIKH Nikolski High 10.54 246 P Pn 02 06 26.8 +0.5
baz=53
D23K Nanushuk River 10.66 4 P Pn 02 06 29.3 +1.5
baz=186
Q32M Nakina River 10.71 78 Pn Pn 02 06 29.5 +0.8
Q32M Nakina River 10.71 78 P Pn 02 06 28.8 +0.1
baz=276
C21K Knifeblade Rid 10.84 356 P Pn 02 06 31.6 +1.3
baz=175
EPYK Eagle Plains 10.91 36 P Pn 02 06 32.6 +1.3
baz=230
F28M Old Crow 10.94 27 Pn 02 06 31.3 -0.3
F28M Old Crow 10.94 27 P Pn 02 06 32.4 +0.8
baz=218
C18K Utukok River 10.94 344 P Pn 02 06 32.2 +0.6
baz=156
D24K Happy Valley 10.95 8 P Pn 02 06 33.6 +1.9
baz=191
E27K Coleen River 11.03 22 P Pn 02 06 33.9 +1.1
baz=212
C17K DeLong Mountai 11.11 340 P Pn 02 06 34.6 +0.7
baz=151
CRAG Craig 11.14 97 P Pn 02 06 34.0 -0.4
C19K Lookout Ridge 11.16 347 P Pn 02 06 36.2 +1.6
baz=161
B21K Ikpikpuk River 11.30 357 P Pn 02 06 38.8 +2.3
baz=175
D25K Kavik River 11.33 12 P Pn 02 06 37.7 +0.8
baz=198
R33M Jennings River 11.34 76 Pn Pn 02 06 37.2 +0.1
R33M Jennings River 11.34 76 P Pn 02 06 37.3 +0.1
baz=274,SNR=6.8
H31M Peel River 11.37 42 P Pn 02 06 37.4 -0.1
baz=238
C16K Lisburne Hills 11.37 336 P Pn 02 06 35.5 -1.9
baz=145
MMPY Sheldon Lake, 11.41 59 Pn 02 06 37.4 -0.8
S34M Telegraph Cree 11.46 83 Pn Pn 02 06 39.0 +0.2
S34M Telegraph Cree 11.46 83 P Pn 02 06 38.9 +0.2
baz=282
C23K Itkillik River 11.53 4 P Pn 02 06 40.9 +1.2
baz=186
B20K Meade River 11.81 353 P Pn 02 06 43.8 +0.3
baz=169
DLBC Dease Lake 11.94 80 Pn Pn 02 06 46.4 +1.1
DLBC Dease Lake 11.94 80 P Pn 02 06 46.3 +0.9
baz=279,SNR=7.5
DLBC Dease Lake 11.94 80 P Pn 02 06 46.6 +1.2
comp=N,4.3nm,0.3s,baz=298,slow=3.2,SNR=46
DLBC S Sn 02 08 55.0 -1.8
comp=N,7.4nm,0.4s,baz=218,slow=25,SNR=11
DLBC LR LR 02 11 40.6
comp=N,100nm,18.6s,baz=262,slow=38
comp=N,10nm,0.3s
V35K Ketchikan 11.99 96 P Pn 02 06 45.7 -0.3
baz=293
F30M Barrier River 12.01 33 P Pn 02 06 47.6 +1.4
baz=228
G31M Satah River 12.02 37 P Pn 02 06 45.1 -1.3
baz=234
T35M Bob Quinn 12.14 87 Pn Pn 02 06 49.4 +1.2
T35M Bob Quinn 12.14 87 P Pn 02 06 49.2 +1.1
baz=286,SNR=7.1
INK Inuvik 13.11 33 P Pn 02 07 00.1 -1.0
baz=230
INK Inuvik 13.11 33 P Pn 02 06 59.8 -1.4
comp=N,0.1nm,0.3s,baz=238,slow=14,SNR=4.7
INK LR LR 02 12 03.5
comp=N,129nm,21.7s,baz=200,slow=37
comp=N,6.8nm,1.0s
ATKA Atka Island 13.63 252 P Pn 02 07 07.8 -0.5
comp=N,134nm,1.5s
BBB Bella Bella 15.33 103 P Pn 02 07 30.6 0.0
comp=N,5.7nm,0.9s,baz=324,slow=16,SNR=2.5
BBB S Sn 02 10 14.0 -5.0
comp=N,3.7nm,0.8s,baz=17,slow=14,SNR=6.5
BBB LR LR 02 12 45.6
comp=N,56nm,19.8s,baz=240,slow=34
C36M Paulatuk 16.55 37 P Pn 02 07 45.5 -0.4
baz=243
A36M Sachs Harbour 17.61 28 P Pn 02 07 59.2 +0.1
baz=234
YKA Yellowknife Ar 19.09 61 P P 02 08 16.0 +0.4
YKA Yellowknife Ar 19.09 61 P P 02 08 16.3 +0.7
comp=N,1.7nm,0.3s,baz=275,slow=10,SNR=68
YKA LR LR 02 16 24.1
comp=N,132nm,19.8s,baz=304,slow=39
comp=N,4.7nm,0.5s
CLRS Cowichan Lake 19.39 107 P Pn 02 08 20.6 0.0
SHEM Shemya Is, Ala 19.41 267 LR LR 02 15 43.9
comp=N,51nm,20.7s,baz=266,slow=37
B04A Port Angeles 20.20 108 P P 02 08 28.5 +0.7
B04A IAmb IAmb 02 08 32.1
comp=Z,14nm,0.8s
NLWA Neilton Lookou 20.47 110 P P 02 08 31.4 +0.6
GNW Green Mountain 20.87 108 P P 02 08 36.3 +1.2
E03A Lebam 21.21 111 P P 02 08 39.1 +0.4
E03A IAmb IAmb 02 09 02.2
comp=Z,18nm,1.0s
LON Longmire 21.93 109 P P 02 08 45.7 -0.9
LTY Liberty 22.16 106 P P 02 08 50.4 +1.4
EDM Edmonton 22.53 86 P P 02 08 53.2 +0.3
D08A Wollman Farm, 23.18 104 P P 02 08 59.7 +0.1
H04A Detroit Lake 23.22 113 P P 02 09 01.3 +1.4
H04A IAmb IAmb 02 09 16.7
comp=Z,15nm,1.1s
NEW Newport 23.33 100 P P 02 09 02.4 +1.4
NEW Newport 23.33 100 P P 02 09 02.4 +1.4
baz=309
NEW Newport 23.33 100 LR LR 02 17 46.3
comp=Z,53nm,18.4s,baz=294,slow=35
F07A Phinny Hill Vi 23.47 108 P P 02 09 02.2 -0.1
F07A IAmb IAmb 02 09 06.3
comp=Z,9.1nm,0.7s
J01E Myrtle Point 23.53 118 P P 02 09 03.9 +1.1
J01E IAmb IAmb 02 09 07.2
comp=Z,16nm,0.9s
KEBM Edson Butte 23.57 119 P P 02 09 03.4 +0.1
KEBM IAmb IAmb 02 09 07.8
comp=Z,21nm,1.0s
I04A Tendick Farm, 23.77 115 P P 02 09 06.9 +1.7
I05D Terrebonne, OR 23.88 112 P P 02 09 07.7 +1.5
I05D IAmb IAmb 02 09 10.6
comp=Z,8.7nm,0.7s
DBO Dodson Butte 23.89 117 P P 02 09 08.7 +2.5
DBO IAmb IAmb 02 09 10.7
comp=Z,14nm,0.8s
E09A Wood Farm, Sta 23.95 105 P P 02 09 07.7 +1.1
K02D Willamette Mer 24.02 118 P P 02 09 08.2 +0.8
G08A Pilot Rock 24.38 108 P P 02 09 11.4 +0.6
PINE Pine Mountain 24.48 113 P P 02 09 12.6 +0.8
PINE IAmb IAmb 02 09 15.7
comp=Z,10nm,1.1s
J05D Fort Rock, OR 24.72 114 P P 02 09 14.3 +0.5
F10A Beach Ranch, E 24.78 104 P P 02 09 13.7 -0.7
L04D Klamath Falls 25.02 117 P P 02 09 17.6 +1.0
YBH Yreka Blue Hor 25.21 118 P P 02 09 21.8 +3.6
YBH Yreka Blue Hor 25.21 118 LR LR 02 17 25.0
comp=Z,25nm,18.4s,baz=304,slow=32
K05A Summer Lake 25.30 114 P P 02 09 23.0 +3.8
K05A IAmb IAmb 02 09 38.5
comp=Z,18nm,1.2s
CHMT Chamberlain Mo 26.20 99 P P 02 09 29.6 +2.3
OVMT Ovando 26.24 98 P P 02 09 27.7 +0.1
RES Resolute Bay 26.64 30 LR LR 02 20 30.9
comp=Z,55nm,18.8s,baz=70,slow=37
LYMT Lyon Mountain 26.67 98 P P 02 09 33.7 +2.0
EGMT Eagleton 27.33 93 P P 02 09 37.8 +0.5
baz=308
PETK Petropavlovsk- 27.81 281 P P 02 09 40.5 -1.0
comp=Z,2.3nm,0.6s,baz=71,slow=15,SNR=5.1
PETK LR LR 02 20 04.2
comp=Z,20nm,20.8s,baz=88,slow=35
comp=Z,2.3nm,0.6s
HLID Hailey 27.90 105 P P 02 09 43.3 +0.8
baz=316
MA2 Magadan 28.36 297 LR LR 02 22 10.2
comp=Z,60nm,18.4s,baz=114,slow=39
PAHR Pah Rah Range 28.36 117 P P 02 09 49.5 +2.9
MPK Martis Peak 28.38 118 P P 02 09 50.1 +3.1
MPK IAmb IAmb 02 10 11.2
comp=Z,15nm,1.3s
PNTR Pine Nut 28.75 118 P P 02 09 53.4 +3.1
WAKR Walker 29.29 118 P P 02 09 58.2 +3.2
FLWY Flagg Ranch 29.44 100 P P 02 09 59.6 +3.3
FLWY IAmb IAmb 02 10 15.2
comp=Z,7.5nm,0.7s
IMW Indian Meadow 29.44 101 P P 02 09 59.5 +3.1
RLMT Red Lodge 29.47 98 P P 02 09 58.9 +2.3
RLMT Red Lodge 29.47 98 P P 02 09 56.7 +0.1
baz=312
ELK Elko 29.56 110 P P 02 10 00.5 +3.1
ELK IAmb IAmb 02 10 43.2
comp=Z,3.8nm,0.4s
ELK Elko 29.56 110 LR LR 02 20 49.0
comp=Z,50nm,19.0s,baz=318,slow=34
NVAR Mina Array Bea 29.88 117 P P 02 10 02.9 +2.6
comp=Z,1.6nm,0.7s,baz=312,slow=9.1,SNR=12
NVAR PcP PcP 02 13 02.8 +0.9
comp=Z,0.8nm,0.8s,baz=316,slow=2.5,SNR=3.4
NVAR LR LR 02 21 06.7
comp=Z,42nm,19.2s,baz=286,slow=34
comp=Z,1.6nm,0.7s
MDPB Devils Postpil 30.16 119 P P 02 10 05.6 +2.8
MDPB IAmb IAmb 02 10 21.4
comp=Z,8.1nm,1.4s
BW06 Boulder Array 30.95 101 P P 02 10 10.8 +1.1
baz=316
PDAR Pinedale Array 30.95 101 P P 02 10 11.7 +2.0
comp=Z,0.9nm,0.6s,baz=316,slow=4.9,SNR=10
PDAR PcP PcP 02 13 04.2 -0.4
comp=Z,0.3nm,0.5s,baz=40,slow=1.5,SNR=2.1
PDAR LR LR 02 21 31.9
comp=Z,40nm,20.8s,baz=323,slow=34
comp=Z,0.9nm,0.6s
DUG Dugway, Tooele 31.18 108 P P 02 10 14.4 +2.7
baz=319
R11B Troy Canyon, C 31.25 113 P P 02 10 14.9 +2.6
R11B Troy Canyon, C 31.25 113 P P 02 10 12.3 0.0
baz=322,SNR=5.1
GRAC Grapevine Rang 31.48 117 P P 02 10 17.8 +3.7
GRAC IAmb IAmb 02 10 18.4
comp=Z,11nm,1.1s
GRAC Grapevine Rang 31.48 117 P P 02 10 16.3 +2.2
baz=324,SNR=5.2
CWC Cottonwood Cre 31.60 119 P P 02 10 17.2 +1.9
baz=325
VES Vestal, Richgr 31.63 121 P P 02 10 16.3 +0.9
baz=326
BSUT Blindstream Ca 31.96 105 P P 02 10 21.9 +3.2
BSUT IAmb IAmb 02 10 22.2
comp=Z,7.7nm,1.2s
WCT Wildcat Mounta 31.99 117 P P 02 10 21.9 +3.2
WCT IAmb IAmb 02 10 22.5
comp=Z,8.8nm,1.3s
TPNV Topopah Spring 32.04 116 P P 02 10 21.7 +2.5
TPNV IAmb IAmb 02 10 22.8
comp=Z,7.9nm,1.1s
TPNV Topopah Spring 32.04 116 P P 02 10 20.7 +1.5
baz=324,SNR=7.0
PKM Mcpherson Peak 32.10 123 P P 02 10 22.0 +2.3
baz=327
FURC Furnace Creek, 32.14 117 P P 02 10 21.8 +1.9
baz=324
MPMC Manual Prospec 32.18 118 P P 02 10 22.1 +1.6
baz=325
GWY Greenwater Val 32.46 117 P P 02 10 25.8 +2.9
GWY IAmb IAmb 02 10 26.5
comp=Z,6.2nm,0.9s
QSM Queen of Sheba 32.55 118 P P 02 10 26.6 +3.1
QSM IAmb IAmb 02 10 27.3
comp=Z,9.6nm,0.9s
K22A Casper 32.61 98 P P 02 10 24.9 +0.7
baz=315
MDND Maddock 32.78 85 P P 02 10 26.4 +1.0
baz=309
RSSD Black Hills 32.89 94 P P 02 10 28.9 +2.3
RSSD Black Hills 32.89 94 P P 02 10 28.7 +2.0
baz=313
EDW2 Edwards Air Fo 32.92 120 P P 02 10 29.2 +2.4
baz=326
RWWY Rawlins 32.94 100 P P 02 10 29.2 +2.0
GSC Goldstone, Bar 33.12 118 P P 02 10 31.5 +2.9
GSC IAmb IAmb 02 10 32.3
comp=Z,6.0nm,0.9s
GSC Goldstone, Bar 33.12 118 P P 02 10 31.3 +2.7
baz=326
ULM Lac du Bonnet 33.26 79 LR LR 02 24 32.3
comp=Z,72nm,19.1s,baz=223,slow=37
TUQ Turquoise Moun 33.42 117 P P 02 10 32.6 +1.3
baz=325
BFSC Mount Baldy Ra 33.61 120 P P 02 10 36.0 +3.1
baz=327
V12A Nelson 33.69 116 P P 02 10 36.9 +3.3
V12A IAmb IAmb 02 10 37.5
comp=Z,6.0nm,0.9s
HEC Hector,Ludlow 33.73 118 P P 02 10 36.6 +2.8
baz=326
CIS Catalina Islan 33.97 122 P P 02 10 37.0 +1.1
baz=328
GMRC Granite Mounta 34.08 117 P P 02 10 38.1 +1.1
baz=326
N23A Red Feather La 34.17 100 P P 02 10 38.7 +0.8
baz=317
BELC Belle Mtn. Jos 34.57 119 P P 02 10 42.3 +1.1
baz=326
W13A Hualapai Mount 34.66 115 P P 02 10 45.0 +2.9
W13A IAmb IAmb 02 10 45.6
comp=Z,3.1nm,0.8s
PFO Pinyon Flats O 34.68 120 P P 02 10 42.9 +0.8
baz=327
PFO Pinyon Flats O 34.68 120 LR LR 02 22 32.4
comp=Z,55nm,21.8s,baz=316,slow=32
PMD Palm Desert 34.69 119 P P 02 10 44.3 +2.2
PMD IAmb IAmb 02 10 45.0
comp=Z,4.8nm,0.9s
TPFO Pinon Flats 34.69 120 P P 02 10 43.4 +1.1
baz=327
IRM Iron Mountain 34.84 117 P P 02 10 46.0 +2.6
baz=326,SNR=8.4
109C Camp Elliot, M 34.99 121 P P 02 10 46.4 +1.7
baz=328
BC3 Big Chuckawall 35.11 118 P P 02 10 47.2 +1.3
baz=326
PDMCI Parker Dam,Lak 35.19 116 P P 02 10 48.0 +1.7
baz=325
MONP2 Monument Peak 35.30 120 P P 02 10 50.0 +2.4
baz=327
BLYC Blythe 35.46 117 P P 02 10 51.4 +2.7
SWSC Sam W. Stewart 35.54 119 P P 02 10 50.9 +1.5
baz=327
WUAZ Wupatki 35.54 112 P P 02 10 52.5 +2.9
WUAZ IAmb IAmb 02 10 53.1
comp=Z,5.2nm,0.8s
WUAZ Wupatki 35.54 112 P P 02 10 51.6 +2.0
baz=323
MVCO Mesa Verde 35.64 107 P P 02 10 52.4 +1.9
MVCO IAmb IAmb 02 10 53.4
comp=Z,4.2nm,0.9s
MVCO Mesa Verde 35.64 107 P P 02 10 51.2 +0.8
baz=321
IKP In-Ko-Pah, Jac 35.65 120 P P 02 10 51.6 +1.2
baz=327
GLA Glamis 35.90 118 P P 02 10 54.4 +1.8
baz=326
S22A 4UR Ranch, Cre 36.07 104 P P 02 10 56.2 +1.9
baz=320
OGNE Ogallala 36.18 96 P P 02 10 56.4 +1.5
baz=316
X16A Lo Mia Camp, P 36.39 113 P P 02 11 00.1 +3.2
W18A Petrified Fore 36.66 110 P P 02 11 01.3 +2.1
baz=323
SDCO Great Sand Dun 36.75 103 P P 02 11 02.7 +2.7
SDCO IAmb IAmb 02 11 03.3
comp=Z,2.7nm,0.7s
SDCO Great Sand Dun 36.75 103 P P 02 11 01.6 +1.5
baz=320,SNR=5.9
X18A Snowflake 37.03 111 P P 02 11 05.2 +2.9
X18A IAmb IAmb 02 11 05.7
comp=Z,5.1nm,0.8s
ECSD EROS Data Cent 37.06 88 P P 02 11 03.6 +1.3
baz=314
KSCO Kaye Shedlock' 37.28 99 P P 02 11 06.4 +2.0
baz=318
214A Organ Pipe Nat 37.75 117 P P 02 11 09.3 +1.1
baz=326
T25A Trinidad 37.77 103 P P 02 11 09.7 +1.0
baz=320
BGNE Belgrade 37.88 92 P P 02 11 11.4 +2.1
BGNE Belgrade 37.88 92 P P 02 11 11.3 +2.0
baz=316,SNR=5.4
SPMN Marine on St. 38.05 83 P P 02 11 11.2 +0.5
baz=312
FRB Frobisher Bay 38.30 46 LR LR 02 28 29.5
comp=Z,62nm,18.5s,baz=83,slow=38
TUC Tucson 38.42 114 P P 02 11 16.8 +2.9
TUC Tucson 38.42 114 P P 02 11 15.7 +1.8
baz=326
ANMO Albuquerque 38.44 107 P P 02 11 14.5 +0.3
baz=322
ANMO Albuquerque 38.44 107 LR LR 02 25 54.0
comp=Z,34nm,18.1s,baz=45,slow=34
I37A Lemond, Waseca 38.56 85 P P 02 11 16.6 +1.7
CBKS Cedar Bluff 38.94 96 P P 02 11 19.4 +1.2
baz=318
N35A Tabor 39.60 91 P P 02 11 26.1 +2.5
121A Cookes Peak, D 39.70 111 P P 02 11 27.8 +3.0
121A IAmb IAmb 02 11 28.4
comp=Z,4.6nm,0.9s
121A Cookes Peak, D 39.70 111 P P 02 11 26.0 +1.2
baz=324
KSU1 Kansas State U 40.37 93 P P 02 11 30.0 0.0
baz=318
AMTX Amarillo 40.92 102 P P 02 11 34.3 -0.3
baz=321
JFWS Jewell Farm 40.98 84 P P 02 11 35.4 +0.5
baz=315
L40A Anamosa 41.07 86 P P 02 11 36.4 +0.7
MSTX Muleshoe 41.07 104 P P 02 11 37.9 +1.9
MSTX IAmb IAmb 02 11 39.0
comp=Z,6.0nm,0.8s
MSTX Muleshoe 41.07 104 P P 02 11 37.4 +1.4
baz=322
ASAJ Asahikawa 41.19 279 LR LR 02 29 19.0
comp=Z,22nm,20.1s,baz=116,slow=37
MNTX Cornudas Mount 41.57 109 P P 02 11 41.2 +1.2
baz=324
P38A Dawn 41.60 90 P P 02 11 41.2 +1.1
P38A IAmb IAmb 02 12 02.8
comp=Z,15nm,1.3s
POST Post 42.44 104 P P 02 11 48.9 +1.8
POST IAmb IAmb 02 11 48.9
comp=Z,5.8nm,0.8s
WMOK Wichita Mounta 42.53 100 P P 02 11 49.6 +1.9
WMOK IAmb IAmb 02 11 53.4
comp=Z,6.6nm,0.6s
WMOK Wichita Mounta 42.53 100 P P 02 11 49.1 +1.3
baz=321
HDIL Hopedale 43.16 86 P P 02 11 53.1 +0.4
baz=316
TUL3 Leonard 43.19 96 P P 02 11 53.9 +0.9
baz=320
KLR Kul'dur 43.22 292 LR LR 02 31 49.6
comp=Z,35nm,18.5s,baz=24,slow=39
R40A Maddies Statio 43.25 90 P P 02 11 53.9 +0.4
R40A IAmb IAmb 02 12 11.1
comp=Z,8.6nm,0.8s
SPITS Spitsbergen Ar 43.52 3 P P 02 11 53.9 -1.4
comp=Z,3.6nm,0.8s,baz=28,slow=11,SNR=1.0
comp=Z,3.6nm,0.8s
U38A Gravette 43.53 94 P P 02 11 56.5 +0.7
P43A Skaggs, Pawnee 43.70 87 P P 02 11 58.0 +0.9
ABTX Abilene, Hawle 43.74 102 P P 02 11 59.2 +1.7
baz=322
CCM Cathedral Cave 43.97 90 P P 02 11 59.9 +0.7
baz=318
OZNA Ozona 44.34 105 P P 02 12 04.0 +1.6
OZNA IAmb IAmb 02 12 04.2
comp=Z,4.9nm,0.7s
TXAR Lajitas Array 44.35 109 P P 02 12 04.2 +1.7
comp=Z,1.2nm,0.9s,baz=320,slow=6.2,SNR=8.4
TXAR PcP PcP 02 13 46.0 +0.4
comp=Z,0.3nm,0.5s,baz=317,slow=1.1,SNR=3.7
TXAR LR LR 02 28 58.4
comp=Z,25nm,21.9s,baz=327,slow=34
comp=Z,1.2nm,0.9s
SCHQ Schefferville 44.38 56 P P 02 12 01.9 -0.6
comp=Z,3.6nm,0.6s,baz=274,slow=6.0,SNR=4.6
SCHQ LR LR 02 32 07.7
comp=Z,64nm,19.2s,baz=259,slow=38
comp=Z,3.6nm,0.6s
HEH HeiHe 44.62 296 *e*P **P 02 12 01.7 -2.6**
HEH pmax pmax
comp=Z,10.0nm,0.9s
N47A Urbana 44.81 82 P P 02 12 06.5 +0.5
BRDY Brady 45.13 103 P P 02 12 10.1 +1.4
BRDY IAmb IAmb 02 12 10.2
comp=Z,4.6nm,0.8s

JCT	Junction City	45.37	104	P		P	02 12 12.1 +1.6
JCT	Junction City	45.37	104	P		P	02 12 12.2 +1.7
	baz=324,SNR=8.4						
WHTX	Lake Whitney,	45.37	101	P		P	02 12 11.6 +1.1
	baz=323						
MIAR	Mount Ida	45.40	95	P		P	02 12 11.6 +0.9
	baz=321						
SADO	Sadowa	45.41	74	LR		LR	02 30 56.1
	comp=Z,39nm,20.3s,baz=133,slow=36						
O48B	Farmland	45.54	83	P		P	02 12 11.8 +0.1
O48B	Farmland	45.54	83	P		P	02 12 11.4 -0.4
	baz=317						
P48A	Milroy	45.99	84	P		P	02 12 15.4 +0.2
435B	Jarrell	46.26	102	P		P	02 12 19.7 +2.2
435B	Jarrell	46.26	102	P		P	02 12 19.2 +1.7
	baz=323						
P49A	Miami Univ. Ec	46.30	83	P		P	02 12 18.0 +0.2
	baz=318						
WCI	Wyandotte Cave	46.44	85	P		P	02 12 19.2 +0.3
	baz=318						
USRK	Ussuriysk Ar.	46.58	287	LR		LR	02 32 55.6
	comp=Z,36nm,20.2s,baz=346,slow=38						
ACSO	Alum Creek Sta	46.69	81	P		P	02 12 20.6 -0.2
	baz=317						
NATX	Nacogdoches	47.00	98	P		P	02 12 22.9 -0.4
	baz=322						
WVT	Waverly	47.21	89	P		P	02 12 25.0 +0.1
	baz=320						
833A	Chaparral WMA,	47.32	106	P		P	02 12 27.6 +1.8
	baz=325						
R50A	Paris	47.43	84	P		P	02 12 27.3 +0.7
P52A	Corning	47.58	81	P		P	02 12 26.9 -0.8
	baz=318						
OXF	Oxford	47.61	91	P		P	02 12 29.0 +0.9
	baz=320						
PLAL	Pickwick Lake	47.96	90	P		P	02 12 31.8 +1.1
V48A	Smith Brothers	48.04	88	P		P	02 12 32.5 +1.2
S51A	Deputy	48.30	84	P		P	02 12 34.2 +0.9
TZTN	Tazewell	49.15	85	P		P	02 12 40.3 +0.4
	baz=319						
TKL	Tuckaleechee C	49.70	86	LR		LR	02 33 34.0
	comp=Z,55nm,20.1s,baz=342,slow=36						
LRAL	Lakeview Retre	50.02	91	P		P	02 12 48.4 +1.9
	baz=321						
KMSC	Kings Mountain	51.38	84	P		P	02 12 56.6 -0.1
	baz=320						
BORG	Borgarnes	51.81	24	LR		LR	02 36 11.9
	comp=Z,17nm,21.1s,baz=330,slow=37						
ARCES	ARCESS Array B	52.37	1	P		P	02 13 02.3 -1.3
	comp=Z,1.6nm,0.9s,baz=355,slow=8.1,SNR=1.5						
ARCES				LR		LR	02 37 35.7
	comp=Z,16nm,18.7s,baz=264,slow=39						
	comp=Z,1.6nm,0.9s						
KSRS	Korea Array	53.64	284	P		P	02 13 12.6 -0.8
	comp=Z,1.3nm,0.5s,baz=42,slow=7.1,SNR=7.7						
KSRS				LR		LR	02 35 44.7
	comp=Z,11nm,22.0s,baz=225,slow=36						
	comp=Z,1.3nm,0.5s						
SONM	Songino Array	55.82	307	P		P	02 13 29.4 +0.2
SONM				IAmb		IAmb	02 13 44.7
	comp=Z,4.7nm,0.8s						
SONM	Songino Array	55.82	307	P		P	02 13 29.2 -0.1
	comp=Z,2.2nm,0.7s,baz=36,slow=7.0,SNR=12						
SONM				LR		LR	02 39 16.8
	comp=Z,37nm,18.8s,baz=8.5,slow=38						
	comp=Z,2.2nm,0.7s						
ZALV	Zalesovo Beam	58.73	324	P		P	02 13 47.8 -1.6
	comp=Z,0.5nm,0.3s,baz=38,slow=5.8,SNR=4.1						
ZALV				LR		LR	02 42 12.5
	comp=Z,18nm,18.4s,baz=17,slow=39						
	comp=Z,0.5nm,0.3s						
HHC	Hu-ho-hao-te	59.02	298	*e*P		P	02 13 54.1 +2.3
HHC				pmax		pmax	
	comp=Z,18nm,0.8s						
HHC				pmax		pmax	
	comp=Z,190nm,5.7s						
NOA	NORSAR Array B	60.26	9	P		P	02 13 59.1 -0.7
	comp=Z,0.7nm,0.7s,baz=352,slow=6.6,SNR=3.6						
	comp=Z,0.7nm,0.7s						
FINES	FINESS Array B	60.50	1	P		P	02 14 00.5 -0.9
	comp=Z,4.0nm,1.0s,baz=12,slow=9.8,SNR=8.6						
	comp=Z,4.0nm,1.0s						
HFS	Hagfors	61.34	8	P		P	02 14 06.2 -1.0
	comp=Z,3.6nm,0.8s,baz=352,slow=4.5,SNR=5.4						
	comp=Z,3.6nm,0.8s						
KIRV	Kirov	62.05	347	LR		LR	02 44 27.1
	comp=Z,18nm,18.2s,baz=2.9,slow=39						
ARU	Arti	62.81	341	LR		LR	02 44 47.5
	comp=Z,19nm,19.0s,baz=1.0,slow=39						
KURBB	Kurchatov Arra	63.53	326	P		P	02 14 20.2 -1.7
	comp=Z,0.4nm,0.4s,baz=28,slow=6.4,SNR=3.0						
	comp=Z,0.4nm,0.4s						
BVAR	Borovoye Array	63.54	332	P		P	02 14 21.1 -0.8
	comp=Z,0.9nm,0.7s,baz=42,slow=6.8,SNR=4.5						
BVAR				LR		LR	02 49 00.8
	comp=Z,14nm,19.8s,baz=23,slow=43						
	comp=Z,0.9nm,0.7s						
EKA	Eskdalemuir Ar	64.03	19	P		P	02 14 24.5 -0.7
	comp=Z,1.5nm,0.8s,baz=326,slow=4.7,SNR=1.7						
	comp=Z,1.5nm,0.8s						
GUMO	Guam	64.12	253	LR		LR	02 39 41.9
	comp=Z,11nm,21.6s,baz=115,slow=34						
MKAR	Makanchi Array	65.75	322	P		P	02 14 34.9 -1.6
	comp=Z,0.7nm,0.8s,baz=52,slow=7.9,SNR=3.9						
	comp=Z,0.7nm,0.8s						
WMQ	Urumqi	66.49	317	*e*P		P	02 14 46.0 +4.6
AKASG	Malin Array Be	71.26	359	P		P	02 15 09.7 -1.0
	comp=Z,1.0nm,0.5s,baz=2.5,slow=5.9,SNR=7.4						
	comp=Z,1.0nm,0.5s						
AAK	Ala-Archa	71.93	325	LR		LR	02 49 47.1
	comp=Z,13nm,19.6s,baz=14,slow=38						
PZH	PanZhiHua	75.42	297	P		P	02 15 37.6 +1.8
PZH				pmax		pmax	
	comp=Z,7.0nm,0.8s						
PZH				pmax		pmax	
	comp=Z,100nm,4.3s						
KBZ	Khabaz	77.41	348	P		P	02 15 46.2 -0.3
	comp=Z,2.0nm,0.8s,baz=6.0,slow=6.2,SNR=5.2						
	comp=Z,2.0nm,0.8s						
HNR	Honiara	77.62	228	LR		LR	02 43 57.0
	comp=Z,435nm,20.9s,baz=139,slow=31						
ESDC	Sonseca Array	78.89	24	P		P	02 15 54.9 -0.1
	comp=Z,0.4nm,0.5s,baz=341,slow=5.0,SNR=7.2						
	comp=Z,0.4nm,0.5s						
GEYT	Alibeck	80.61	336	LR		LR	02 56 20.2
	comp=Z,11nm,20.2s,baz=318,slow=39						
GNI	Garni	80.73	346	LR		LR	02 55 44.9
	comp=Z,9.7nm,18.9s,baz=52,slow=39						
CMAR	Chiang Mai Arr	83.63	295	LR		LR	02 59 17.6
	comp=Z,12nm,18.3s,baz=295,slow=40						
NNA	Nana	92.90	108	LR		LR	02 58 03.6
	comp=Z,57nm,18.3s,baz=310,slow=35						
QSPA	South Pole Qui	148.18	180	PKPbc		PKPbc	02 23 35.6 -0.3
	comp=Z,5.3nm,0.6s,baz=76,slow=0.7,SNR=25						
BOSA	Boshof	150.20	3	PKPbc		PKPbc	02 23 41.8 -0.5
	comp=Z,5.1nm,1.2s,baz=34,slow=3.6,SNR=1.9						
VNA3	Neumayer Olymp	160.17	145	⇑PKPab		PKPab	02 24 28.7 -1.0
	comp=Z,2.3nm,0.6s						
VNA2	Neumayer--Watz	160.97	145	⇑PKPab		PKPab	02 24 32.3 -1.0
	comp=Z,2.2nm,0.8s,baz=255,slow=4.0						
MAW	Mawson	161.64	225	PKPab		PKPab	02 24 34.1 -2.1
	comp=Z,0.8nm,0.4s,baz=61,slow=5.4,SNR=2.3						
SNAA	Sanae	161.93	149	⇑PKPab		PKPab	02 24 38.0 +0.5
	comp=Z,24nm,0.5s						
SNAA	Sanae	161.93	149	PKPab		PKPab	02 24 36.5 -1.0
	comp=Z,1.5nm,0.8s,baz=234,slow=7.3,SNR=8.8						
TROLL	Troll, Antarti	163.08	154	⇑PKPab		PKPab	02 24 42.1 -0.5
	comp=Z,198nm,0.6s						

PRE ***05*** *02:14:07.5±0.9,26°.45S×27°.38E, h2km, ML2.0*
EAF ***05*** *02:14:12.6,26°.67S×27°.34E, h13km, MC3.4*
BUL ***05*** *02:14:14.9±1.3,26°.66S×27°.33E, h10km±16km, MD3.4*
ISC 05 02:14:11.2±2.5,26°.58S±0°.04×27°.37E±0°.04, h17km±17km, n18,σ2§05/33, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	Silverton	1.18	44	*e*P	Pn	02 14 28.4	-4.6
SLR				*e*S	Sb	02 14 43.1	-5.0
SLR				IAML		02 14 49.0	
	comp=Z,54nm,0.2s						
SNKL	Senekal, Frees	1.73	168	*e*P	Pn	02 14 40.9	+0.3
SNKL				*e*S	Sg	02 15 05.5	-1.3
SNKL				IAML		02 15 10.5	
	comp=Z,53nm,0.7s						
LBTB	Lobatse	2.23	314	*i* P	Pn	02 14 49.0	+1.5
LBTB				*i* S	Sn	02 15 16.4	+1.6
LBTB	Lobatse	2.23	314	*e*P	Pn	02 14 45.8	-1.7
LBTB				*e*S	Sn	02 15 12.5	-2.3
LBTB				IAML		02 15 17.1	
	comp=Z,53nm,0.2s						
LBTB	Lobatse	2.23	314	*i* P	Pn	02 14 49.0	+1.5
	baz=316						
LBTB				*i* S	Sn	02 15 16.4	+1.6
	baz=316						
CRLN	Carolina, Mapu	2.45	77	*e*P	Pn	02 14 49.2	-1.4
CRLN				*e*S	Sn	02 15 18.6	-1.8
CRLN				IAML		02 15 21.4	
	comp=Z,13nm,0.3s						
LEPH	Lephalale, Lim	2.74	8	*e*P	Pn	02 14 51.7	-2.8
LEPH				*e*S	Sn	02 15 23.4	-3.9
LEPH				IAML		02 15 33.9	
	comp=Z,11nm,0.3s						
BOSA	Boshof	2.76	222	*i* P	Pn	02 14 56.3	+1.4
BOSA				*i* S	Sn	02 15 25.4	-2.5
BOSA	Boshof	2.76	222	*e*P	Pn	02 14 55.2	+0.3
BOSA				*e*S	Sn	02 15 30.2	+2.3
BOSA				IAML		02 15 41.7	
	comp=Z,5.5nm,0.2s						
BOSA	Boshof	2.76	222	*i* P	Pn	02 14 56.3	+1.4
	baz=223						
BOSA				*i* S	Sn	02 15 25.4	-2.5
	baz=223						
KSTD	Kokstad	4.37	157	*e*P	Pn	02 15 18.1	+1.2
KSTD				*e*S	Sn	02 16 08.8	+1.2
KSTD				IAML		02 16 32.2	
	comp=Z,4.5nm,0.4s						
MOPA	Mopani	4.76	51	*i* P	Pn	02 15 25.0	+2.8
MOPA				*i* S	Sn	02 16 15.5	-1.5
MOPA	Mopani	4.76	51	*i* P	Pn	02 15 25.0	+2.8
	baz=50						
MOPA				*i* S	Sn	02 16 15.5	-1.5
	baz=50						
MUSN	Musina, Limpop	4.84	28	*i* P	Pn	02 15 27.0	+3.6
MUSN				*i* S	Sn	02 16 18.5	-0.6
MUSN	Musina, Limpop	4.84	28	*i* P	Pn	02 15 27.0	+3.6
	baz=28						
MUSN				*i* S	Sn	02 16 18.5	-0.6
	baz=28						
GRAF	Camdeboo Natio	6.21	203	*e*P	Pn	02 15 43.9	+1.8
GRAF				*e*S	Sn	02 16 53.1	+0.3
GRAF				IAML		02 17 10.5	
	comp=Z,2.1nm,0.6s						
BRAK	Brakfontein	6.49	216	*e*P	Pn	02 15 46.2	+0.1
BRAK				*e*S	Sn	02 16 58.6	-1.3
BRAK				IAML		02 17 04.1	
	comp=Z,1.1nm,0.4s						
FRAZ	Fraserburg	7.45	223	*e*P	Pn	02 15 59.3	0.0
FRAZ				*e*S	Sn	02 17 21.2	-2.3
FRAZ				IAML		02 17 37.8	
	comp=Z,1.0nm,0.9s						

IDC ***05*** *02:17:10.5±1.0,48°.83N×85°.30E, h0km, mb3.8/9, mbtmp3.8/16, ML3.2/7, MS2.8/3, Error ellipse: s-maj=16.9km s-min=12.0km az=106.0*
ASRS ***05*** *02:17:16.6±0.7,49°.N±3°×8°.5E±°, h10km, MLh4.3/11, Error ellipse: s-maj=7.2km s-min=5.0km az=26.2, confirmed*
NNC ***05*** *02:17:16.3±1.3,48°.88N×84°.62E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=12.1km s-min=6.2km az=77.0*
ISC 05 02:17:13.6±1.2,48°.85N±0°.03×84°.94E±0°.03, h14km±8km, n44,σ1§78/70, mb3.7/8, 16C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	Jazzator, Alta	1.84	61	⇑Pg	Pg	02 17 49.8	+0.9
DGZ				Sg	Sg	02 18 13.2	+0.4
UKR	Ust'-Kan	2.10	357	Pg	Pg	02 17 53.9	+0.1
UKR				Sg	Sg	02 18 20.9	-0.1
CHBI	Chibit, Altay	2.22	48	Pg	Pg	02 17 55.0	-1.1
CHBI				Sg	Sg	02 18 25.2	+0.3
AKAR	Aktash	2.28	49	Pg	Pg	02 17 56.1	-1.2
AKAR				Sg	Sg	02 18 26.7	-0.3
ELDR	Elanda	2.49	17	Pg	Pg	02 18 00.3	-0.9
ELDR				Sg	Sg	02 18 33.5	+0.1
CUR	Chagan-Uzun	2.55	59	Pg	Pb	02 17 59.5	+0.4
CUR				Sg	Sg	02 18 35.0	-0.5
ULGR	Ulagan, Altay	2.64	47	Pg	Pg	02 18 03.3	-0.9
ULGR				Sg	Sg	02 18 38.3	-0.2
MK31	Makanchi Array	2.72	222	⇑Pn	Pn	02 17 59.8	+2.9
	38nm,0.5s,baz=46,slow=14,SNR=704						
MK31				⇑Lg	Lg	02 18 37.4	
	75nm,0.5s,baz=39,slow=31,SNR=5.3						
MKAR	Makanchi Array	2.72	222	Pg	Pb	02 18 00.3	-1.8
MKAR				Sg	Sb	02 18 36.0	+0.7
MKAR	Makanchi Array	2.72	222	Pn	Pn	02 17 59.8	+2.9
	28nm,0.3s,baz=47,slow=14,SNR=208						
MKAR				Lg	Lg	02 18 35.4	
	46nm,0.3s,baz=232,slow=14,SNR=8.3						
	42nm,0.4s						
MAKZ	Makanchi	2.86	226	⇓Pn	Pn	02 18 01.5	+2.8
	15nm,0.4s						
MAKZ				⇑Pg	Pg	02 18 08.6	+0.3
	20nm,0.3s						
MAKZ				⇑Lg	Lg	02 18 40.3	
	111nm,0.6s						
ARTR	Artybash	3.31	26	Pg	Pg	02 18 18.3	+1.3
ARTR				Sg	Sg	02 19 00.0	+0.1
YALR	Yailyu, Altay	3.39	29	Pn	Pb	02 18 13.6	+0.2
YALR				Pg	Pg	02 18 17.9	-0.5
YALR				Sg	Sg	02 19 01.8	-0.5
TASR	Tashtagol	4.34	24	Pg	Pg	02 18 35.0	-1.6
TASR				Sg	Sg	02 19 32.2	-0.5
ELT	Eltsovka	4.50	10	Pn	Pn	02 18 25.5	+4.3
ELT				Pg	Pb	02 18 34.5	+2.3
ELT				S	Sn	02 19 17.2	+3.9
ELT				Sg	Sg	02 19 36.2	-1.6
KURK	Kurchatov	4.50	297	⇑Pn	Pn	02 18 22.0	+0.7
	15nm,0.4s						
KURK				⇑Sn	Sn	02 19 14.5	+1.1
	64nm,0.4s						
KURK				⇑Lg	Lg	02 19 33.9	
	253nm,0.5s						
KURK	Kurchatov	4.50	297	Pn	Pn	02 18 23.4	+2.0
KURK				Sg	Sg	02 19 36.9	-1.2
KURBB	Kurchatov Arra	4.52	296	⇓Pn	Pn	02 18 23.1	+1.5
	12nm,0.3s						
KURBB				⇓Sn	Sn	02 19 16.3	+2.4
	103nm,0.6s						
KURBB				⇓Lg	Lg	02 19 34.3	
	572nm,0.6s						
KURBB	Kurchatov Arra	4.52	296	Pn	Pn	02 18 23.2	+1.7
	1.1nm,0.3s,baz=105,slow=15,SNR=46						
KURBB				Lg	Lg	02 19 34.1	
	5.6nm,0.3s,baz=104,slow=32,SNR=7.3						
KURBB				LR	LR	02 20 14.6	
	comp=Z,54nm,18.7s,baz=162,slow=39						
	2.8nm,0.3s						
ZAA0	Zalesovo Array	5.11	359	⇓Pg	Pg	02 18 48.7	-2.7
	2.2nm,0.5s						
ZAA0				⇑Lg	Lg	02 19 57.8	
	29nm,0.8s						
ZALV	Zalesovo Beam	5.11	359	Pn	Pn	02 18 30.2	+0.5
	1.5nm,0.3s,baz=181,slow=13,SNR=12						
ZALV				Pg	Pb	02 18 44.0	+1.4
	4.2nm,0.3s,baz=177,slow=16,SNR=14						
ZALV				Sn	Sn	02 19 26.0	-2.3
	6.3nm,0.3s,baz=178,slow=20,SNR=2.4						
ZALV				Lg	Lg	02 19 56.8	
	15nm,0.3s,baz=179,slow=25,SNR=3.9						
	2.6nm,0.3s						
WMQ	Urumqi	5.38	158	*e*P	Pn	02 18 33.5	+0.1
WMQ				smax	smax		
	comp=N,46nm,1.3s						
WMQ				smax	smax		
	comp=E,67nm,1.3s						
LUZB	Luzhba, Kemero	5.42	26	Pn	Pn	02 18 40.1	+6.1
LUZB				Pg	Pg	02 18 57.0	-0.4
LUZB				Sg	Sg	02 20 05.1	-2.4
DJO	Djoy, Khakassi	5.60	43	Pg	Pg	02 18 58.5	-2.2
DJO				Sg	Sg	02 20 13.1	0.0
OTUK	Ortayu	8.39	271	⇓Pn	Pn	02 19 15.0	+0.3
	comp=E,3.1nm,0.6s						
OTUK				⇑Sn	Sn	02 20 50.1	+0.9
	comp=E,8.0nm,0.6s						
OTUK				⇓Lg	Lg	02 21 35.7	
	comp=E,56nm,1.0s						
AAK	Ala-Archa	9.58	234	Pn	Pn	02 19 32.3	+1.2
	comp=E,0.6nm,0.3s,baz=102,slow=5.5,SNR=4.6						
AAK				Lg	Lg	02 22 17.2	
	comp=E,0.4nm,0.3s,baz=314,slow=21,SNR=1.9						
	comp=E,1.2nm,0.3s						
BVA0	Borovoye Array	10.09	300	Pn	Pn	02 19 39.7	+1.8
	comp=E,2.3nm,0.8s,baz=115,slow=12,SNR=9.3						
BVA0				⇑Sn	Sn	02 21 31.1	+0.2
	comp=E,7.5nm,0.5s,baz=227,slow=26,SNR=6.4						
BVA0				⇓Lg	Lg	02 22 31.4	
	comp=E,30nm,0.9s,baz=109,slow=28,SNR=3.7						
BVAR	Borovoye Array	10.09	300	Pn	Pn	02 19 38.8	+0.9
	comp=E,0.1nm,0.3s,baz=115,slow=12,SNR=11						
BVAR				Sn	Sn	02 21 26.9	-4.0
	comp=E,1.0nm,0.3s,baz=110,slow=24,SNR=16						
BVAR				Lg	Lg	02 22 37.0	
	baz=112,slow=30						
	comp=E,1.3nm,0.3s						
BRVK	Borovoye	10.16	300	⇑Pn	Pn	02 19 39.5	+0.5
	comp=E,2.6nm,0.8s						
BRVK				⇑Sn	Sn	02 21 32.6	0.0
	comp=E,13nm,0.4s						
BRVK				⇑Lg	Lg	02 22 35.2	
	comp=E,28nm,0.9s						
KK31	Karatay Array	11.56	246	⇑Pn	Pn	02 19 57.5	-0.6
	comp=E,0.9nm,0.4s,baz=51,slow=13,SNR=3.7						
KK31				⇓Sn	Sn	02 22 09.0	+2.0
	comp=E,3.1nm,0.6s						
KK31				⇑Lg	Lg	02 23 18.8	
	comp=E,4.6nm,0.6s,baz=50,slow=29,SNR=3.7						
SONM	Songino Array	14.30	86	Lg	Lg	02 24 36.2	
	comp=E,0.2nm,0.3s,baz=279,slow=28,SNR=3.5						
AKTO	Aktyubinsk	17.48	285	P	Pn	02 21 17.1	+0.3
	comp=E,0.1nm,0.3s,baz=115,slow=9.2,SNR=2.0						
AKTO				Lg	Lg	02 26 23.6	
	comp=E,0.1nm,0.3s,baz=256,slow=12,SNR=2.0						
	comp=E,0.6nm,0.4s						
ARU	Arti	17.64	305	P	P	02 21 20.0	+0.5
	comp=E,0.4nm,0.3s,baz=114,slow=20,SNR=1.5						
ARU				S	Sn	02 24 28.6	-6.0
	comp=E,2.1nm,0.3s,baz=93,slow=22,SNR=2.8						
	comp=E,0.8nm,0.3s						
NRIK	Noril'sk	20.60	3	P	P	02 21 52.2	+0.4
	comp=E,1.8nm,0.4s,baz=153,slow=9.0,SNR=2.5						
	comp=E,1.8nm,0.4s						
GEYT	Alibeck	22.23	251	LR	LR	02 32 51.4	
	comp=E,16nm,21.1s,baz=145,slow=42						
FINES	FINESS Array B	34.66	314	P	P	02 24 02.7	+0.5
	comp=E,1.9nm,0.9s,baz=76,slow=5.9,SNR=1.4						
	comp=E,1.9nm,0.9s						
BRTR	Keskin Array B	37.21	276	P	P	02 24 25.9	+1.4
	comp=E,0.7nm,0.8s,baz=69,slow=5.9,SNR=2.3						
	comp=E,0.7nm,0.8s						
HFS	Hagfors	40.87	314	P	P	02 24 55.5	+0.9
	comp=E,2.0nm,0.8s,baz=65,slow=10,SNR=1.3						
	comp=E,2.0nm,0.8s						
NOA	NORSAR Array B	41.76	315	P	P	02 25 03.8	+1.8
	comp=E,0.8nm,0.9s,baz=71,slow=8.4,SNR=1.7						
	comp=E,0.8nm,0.9s						
KEST	Kesra	55.24	286	LR	LR	02 51 25.6	
	comp=E,30nm,20.7s,baz=280,slow=37						
ILAR	Eielson Array	59.78	23	P	P	02 27 14.6	-3.0
	comp=E,0.2nm,0.5s,baz=319,slow=5.9,SNR=1.7						
	comp=E,0.2nm,0.5s						
TORD	Torodi Ar. Bea	75.80	274	P	P	02 28 59.0	-0.3
	comp=E,1.3nm,0.9s,baz=38,slow=5.5,SNR=12						
	comp=E,1.3nm,0.9s						
ULM	Lac du Bonnet	81.28	1	P	P	02 29 26.9	-2.1
	comp=E,1.9nm,0.7s,baz=63,slow=6.8,SNR=1.8						
	comp=E,1.9nm,0.7s						
WRA	Warramunga Arr	81.38	134	P	P	02 29 29.0	-0.8
	comp=E,0.4nm,0.7s,baz=339,slow=5.3,SNR=5.6						
	comp=E,0.4nm,0.7s						

ISC 05 02:21:31.2±1.4,26°.89N±0°.09×111°.4W±0°.1, h10km, n6, σ1§10/7, 4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNIRB	San Nicol¡s	0.38	204	⇓*e*P	Pg	02 21 40.2	+1.5
SNIRB				*e*S	Sb	02 21 46.1	0.0
SNIRB				⇓*e*		02 21 49.1	
SNIRB				IAML		02 21 49.1	
	comp=E,638nm,0.4s						
SNIRB				⇓*e*		02 21 49.7	
SNIRB				IAML		02 21 49.7	
	comp=N,480nm,0.2s						
NE77	Loreto B.C.S	0.88	179	⇓*e*P	Pg	02 21 48.4	+0.4
GUYB	Guaymas	1.09	24	*e*P	Pb	02 21 51.9	-0.4
CDOB	Cd. Obregon	1.22	65	*e*P	Pb	02 21 54.7	+0.3
UAGRB	Rancho Última	1.33	175	*e*P	Pn	02 21 54.4	-1.5
NE80	Navojoa	1.91	89	*e*P	Pn	02 22 03.6	-0.3

NEIC ***05*** *02:26:00.8±1.0,36°.46N±0°.02×98°.79W±0°.03, h14km±6km, Error ellipse: s-maj=3.4km s-min=2.1km az=99.0*
TUL 05 02:26:01.2±1.6,36°.45N±0°.01×98°.77W±0°.02, h8km±8km, ML3.0, mb_Lg2.7/54(NEIC), ML3.2/20(NEIC), Error ellipse: s-maj=2.5km s-min=1.9km az=116.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	West end E0370	0.04	46	Pg	Pg	02 26 03.1	+0.2
OK038				Sg	Sg	02 26 04.6	+0.5
U32A	Winter Ranch,	0.20	248	Pg	Pg	02 26 05.5	+0.3
U32A				Sg	Sg	02 26 08.7	+0.7
U32A				IAML		02 26 09.0	
	comp=N,6μm,0.2s						
U32A				IAML		02 26 09.3	
	comp=E,3μm,0.1s						
NOKA	Waynoka	0.22	325	Pg	Pg	02 26 06.1	+0.4
NOKA				Sg	Sg	02 26 09.6	+0.9
OK035	E0210 Rd and N	0.26	11	Pg	Pg	02 26 06.8	+0.4
OK035				Sg	Sg	02 26 10.7	+0.8
OK032	Salt Plains WL	0.57	52	Pg	Pg	02 26 12.2	-0.1
OK032				Sg	Sg	02 26 20.1	+0.4
OK032				IAML		02 26 22.0	
	comp=E,2μm,0.2s						
OK032				IAML		02 26 23.8	
	comp=E,1μm,0.1s						
CROK	Carrier	0.64	85		Pg	02 26 13.5	-0.1
CROK				Sg	Sg	02 26 22.3	+0.4
CROK				IAML		02 26 24.5	
	comp=E,958nm,0.2s						
ELIS	Ellis County	0.65	234		Pg	02 26 13.8	0.0
ELIS				Sg	Sg	02 26 22.8	+0

comp=Z,9.1nm,0.9s
LOOK Love County 2.78 152 Pn Pn 02 26 46.4 +0.4
LOOK IAmb_Lg 02 27 35.2
comp=Z,31nm,1.0s
AMTX Amarillo 2.84 237 Pn 02 26 47.3 +0.5
KSU1 Kansas State U 3.15 32 Pn 02 26 52.0 +0.9
DKNS Dickens 3.29 213 Pn Pn 02 26 54.0 +0.9
DKNS IAmb_Lg 02 27 49.5
comp=Z,14nm,0.7s
APMT Aspermont 3.31 200 Pn 02 26 54.3 +0.9
APMT IAmb_Lg 02 27 44.4
comp=Z,9.1nm,0.8s
FW03 Perrin-Whitt E 3.46 170 Pn Pn 02 26 55.8 +0.5
FW03 IAmb_Lg 02 27 48.0
comp=Z,9.8nm,0.7s
U38A Gravette 3.54 89 Pn Pn 02 26 57.1 +0.7
U38A IAmb_Lg 02 28 00.3
comp=Z,23nm,0.8s
FW06 Azle 3.62 164 IAmb_Lg 02 27 57.6
comp=Z,9.1nm,0.7s
FW07 Weatherford 3.83 167 IAmb_Lg 02 28 04.5
comp=Z,10nm,0.8s
ABTX Abilene, Hawle 3.89 191 Pn Pn 02 27 01.4 +0.1
HHAR Hobbs 3.91 91 Pn Pn 02 27 01.1 -0.4
HHAR IAmb_Lg 02 28 15.4
comp=Z,12nm,1.0s
KSCO Kaye Shedlock' 3.98 311 Pn Pn 02 27 02.5 -0.2
SN01 Snyder 1 3.98 207 Pn Pn 02 27 02.6 0.0
SN01 IAmb_Lg 02 28 13.6
comp=Z,20nm,1.0s
POST Post 4.06 214 Pn Pn 02 27 04.4 +0.8
POST IAmb_Lg 02 28 12.5
comp=Z,16nm,1.0s
MSTX Muleshoe 4.11 234 IAmb_Lg 02 28 16.6
comp=Z,22nm,0.8s
N33A J Bar K, Exete 4.40 13 IAmb_Lg 02 28 30.4
comp=Z,20nm,1.0s
S39A Bolivar 4.53 73 Pn Pn 02 27 10.1 0.0
S39A IAmb_Lg 02 28 27.1
comp=Z,23nm,0.7s
T25A Trinidad 4.58 280 Pn Pn 02 27 11.1 +0.3
T25A IAmb_Lg 02 28 33.4
comp=Z,16nm,0.9s
MIAR Mount Ida 4.65 113 Pn Pn 02 27 11.9 +0.3
MIAR IAmb_Lg 02 28 40.6
comp=Z,13nm,1.1s
SGCY Sterling City 4.93 204 IAmb_Lg 02 28 50.3
comp=Z,17nm,1.1s
BGNE Belgrade 4.97 5 Pn Pn 02 27 16.3 +0.2
BGNE IAmb_Lg 02 28 50.6
comp=Z,18nm,0.8s
BRDY Brady 5.16 182 Pn Pn 02 27 17.8 -0.9
BRDY IAmb_Lg 02 28 52.6
comp=Z,4.7nm,0.7s
P38A Dawn 5.21 51 Pn Pn 02 27 19.2 -0.2
P38A IAmb_Lg 02 28 46.3
comp=Z,11nm,0.7s
X40A Basin Creek Fa 5.23 110 Pn Pn 02 27 19.0 -0.7
MGMO Mountain Grove 5.27 80 IAmb_Lg 02 28 55.5
comp=Z,10nm,0.7s
WHAR Wooly Hollow 5.39 101 Pn Pn 02 27 22.7 +0.8
R40A Maddies Statio 5.50 69 IAmb_Lg 02 29 00.9
comp=Z,12nm,0.8s
SDCO Great Sand Dun 5.53 285 Pn Pn 02 27 24.6 +0.5
435B Jarrell 5.74 170 IAmb_Lg 02 29 09.9
comp=Z,12nm,0.8s
OZNA Ozona 5.86 200 Pn Pn 02 27 27.7 -0.6
JCT Junction City 6.02 188 IAmb_Lg 02 29 21.6
comp=Z,18nm,1.1s
T42A Van Buren 6.20 82 IAmb_Lg 02 29 20.6
comp=Z,9.5nm,0.7s
CCM Cathedral Cave 6.21 73 IAmb_Lg 02 29 29.4
comp=Z,14nm,0.7s
PBMO Poplar Bluff 6.72 85 IAmb_Lg 02 29 45.0
comp=Z,14nm,0.9s
PHWY Pilot Hill 7.11 315 IAmb_Lg 02 29 49.8
comp=Z,6.1nm,0.7s
SLM Saint Louis 7.12 70 IAmb_Lg 02 29 53.6
comp=Z,15nm,0.7s
N23A Red Feather La 7.15 311 IAmb_Lg 02 30 02.5
comp=Z,12nm,1.1s
CGM3 Cape Girardeau 7.36 81 IAmb_Lg 02 30 00.8
comp=Z,9.9nm,1.1s

---

*IDC **05** 02:43:57.9±1.9, 31°.47S×177°.62W, h0km, mb3.9/2, mbtmp4.0/4, ML4.0/2, MS2.8/1, Error ellipse: s-maj=54.7km s-min=29.8km az=119.0*

ISC 05 02:43:58.9±1.9, 31°.4S±0°.1×177°.8W±0°.4, h10km, n8, σ1§80/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.19**	**357**	Pn	**Pn**	**02 44 35.8**	**+0.4**
	85nm,0.3s,baz=149,slow=23,SNR=2.2						
RAO				Sn	**Sn**	**02 45 00.3**	**-2.3**
	126nm,0.3s,baz=73,slow=21,SNR=2.9						
	186nm,0.3s						
URZ	**Urewera**	**7.99**	**210**	Pn	**Pn**	**02 45 55.1**	**0.0**
	1.0nm,0.3s,baz=336,slow=3.5,SNR=10						
URZ				Sn	**Sn**	**02 47 23.2**	**-2.3**
	2.0nm,0.3s,baz=5.7,slow=19,SNR=6.3						
	2.5nm,0.3s						
PPT	**Papeete**	**29.04**	**68**	LR	LR	02 58 06.2	
	comp=Z,18nm,20.0s,baz=355,slow=29						
ASAR	**Alice Springs**	**43.25**	**268**	P	**P**	**02 52 02.4**	**+1.6**
	0.9nm,0.8s,baz=104,slow=7.0,SNR=6.9						
	0.9nm,0.8s						
WRA	**Warramunga Arr**	**44.34**	**273**	P	**P**	**02 52 10.6**	**+1.1**
	0.9nm,0.3s,baz=112,slow=8.0,SNR=27						
	0.9nm,0.3s						
FINES	**FINESS Array B**	**146.19**	**340**	PKPbc	**PKPab**	**03 03 39.5**	**+0.1**
	4.1nm,0.7s,baz=50,slow=4.0,SNR=25						
HFS	**Hagfors**	**150.30**	**348**	PKPbc	**PKPbc**	**03 03 48.3**	**-1.5**
	4.5nm,1.0s,baz=35,slow=5.3,SNR=2.2						
MMAI	**Mount Meron Ar**	**151.95**	**282**	PKPbc	**PKiKP**	**03 03 56.5**	**+1.6**
	0.6nm,0.4s,baz=97,slow=3.3,SNR=2.4						

IDC 05 02:51:11.5±2.5, 1°.04N×127°.52E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=193.1km s-min=29.8km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.90**	**163**	P	P	02 56 06.0	-0.4
	0.3nm,0.5s,baz=342,slow=11,SNR=3.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**25.33**	**166**	P	P	02 56 40.6	+0.4
	0.3nm,0.7s,baz=328,slow=7.9,SNR=3.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**60.20**	**326**	P	P	03 01 21.4	-0.1
	0.3nm,0.7s,baz=120,slow=8.5,SNR=2.2						
	0.3nm,0.7s						

---

*IDC **05** 03:02:49.0±1.1, 33°.10S×178°.43W, h0km, mb4.2/5, mbtmp4.2/6, ML4.0/1, MS3.2/3, Error ellipse: s-maj=37.2km s-min=26.4km az=42.0*

*NEIC **05** 03:02:57.4±1.0, 33°.5S±0°.1×178°.76W±0°.04, h35km±2km, mb4.4/11, Error ellipse: s-maj=20.1km s-min=5.8km az=184.0*

ISC 05 03:02:56.7±0.8, 33°.38S±0°.10×178°.7W±0°.1, h41km, n37, σ1§32/32, mb4.3/13, MS3.1/3, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.16**	**9**	Sn	Sn	03 04 29.7	-15
	41nm,0.3s,baz=90,slow=20,SNR=1.5						
MXZ	**Matakaoa Point**	**4.85**	**210**	Pn	**Pn**	**03 04 06.2**	**-0.9**
URZ	**Urewera**	**5.96**	**214**	Pn	**Pn**	**03 04 21.7**	**-0.6**
	3.2nm,0.3s,baz=159,slow=9.9,SNR=5.2						
URZ				Sn	**Sn**	**03 05 31.5**	**+2.3**
	6.3nm,0.3s,baz=241,slow=18,SNR=9.2						
	9.3nm,0.3s						
RTZ	**Ruatahuna**	**6.30**	**213**		**Pn**	**03 04 26.5**	**-0.6**
BKZ	**Black Stump Fm**	**6.97**	**213**	Pn	**Pn**	**03 04 35.1**	**-1.2**
MRZ	**Mangatainoka R**	**8.60**	**211**	Pn	**Pn**	**03 04 56.7**	**-1.9**
KHZ	**Kahutara**	**10.92**	**212**	Pn	**Pn**	**03 05 30.8**	**+0.5**
RPZ	**Rata Peaks**	**13.07**	**215**	Pn	**Pn**	**03 05 56.1**	**-3.7**
	0.6nm,0.3s,baz=66,slow=22,SNR=1.3						
RPZ				Sn	Sn	03 08 11.9	-12
	0.3nm,0.3s,baz=28,slow=23,SNR=1.2						
EIDS	**Eidsvold**	**27.47**	**279**	P	**P**	**03 08 38.5**	**-0.6**
EIDS				IAmb	IAmb	03 09 02.1	
	comp=Z,14nm,1.4s						
PPT	**Papeete**	**30.48**	**66**	LR	LR	03 19 50.4	
	comp=Z,34nm,18.7s,baz=297,slow=34						
STKA	**Stephens Creek**	**33.36**	**261**	LR	LR	03 23 00.0	
	comp=Z,51nm,18.4s,baz=205,slow=36						
CTA	**Charters Tower**	**33.84**	**284**	LR	LR	03 20 35.8	
	comp=Z,36nm,18.7s,baz=82,slow=31						
CTAO	**Charters Tower**	**33.84**	**284**	P	**P**	**03 09 35.9**	**+0.5**
AS31	**Alice Springs**	**42.47**	**270**	P	**P**	**03 10 48.7**	**+0.7**
ASAR	**Alice Springs**	**42.47**	**270**	P	**P**	**03 10 47.7**	**-0.3**
ASAR	**Alice Springs**	**42.47**	**270**	P	**P**	**03 10 48.3**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=108,slow=7.5,SNR=47						
ASAR				PcP	**PcP**	**03 12 38.7**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=120,slow=5.5,SNR=2.5						
	comp=Z,4.0nm,0.6s						
WB2	**Warramunga Arr**	**43.72**	**276**	P	**P**	**03 10 58.0**	**-0.1**
WB2				IAmb	IAmb	03 11 27.6	
	comp=Z,7.2nm,1.4s						
WRAB	**Tennant Creek**	**43.72**	**276**	P	**P**	**03 10 57.9**	**-0.3**
WRAB				IAmb	IAmb	03 11 23.7	
	comp=Z,6.7nm,1.1s						
WRA	**Warramunga Arr**	**43.73**	**276**	P	**P**	**03 10 57.8**	**-0.4**
WRA	**Warramunga Arr**	**43.73**	**276**	P	**P**	**03 10 57.8**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=117,slow=7.4,SNR=22						
WRA				PcP	**PP**	**03 12 41.9**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=132,slow=3.0,SNR=2.5						
	comp=Z,1.9nm,0.5s						
WB0	**Warramunga Arr**	**43.77**	**276**	P	**P**	**03 10 58.5**	**0.0**
WB0				IAmb	IAmb	03 10 59.0	
	comp=Z,5.0nm,0.8s						
CASY	**Casey**	**52.26**	**209**	P	**P**	**03 12 04.0**	**+0.6**
CASY				IAmb	IAmb	03 12 05.8	
	comp=Z,4.1nm,0.8s						
QSPA	**South Pole Qui**	**56.74**	**180**	P	**P**	**03 12 37.5**	**+1.3**
QSPA				IAmb	IAmb	03 12 50.3	
	comp=Z,4.0nm,1.1s						
QSPA	**South Pole Qui**	**56.74**	**180**	P	**P**	**03 12 36.7**	**+0.5**
	comp=Z,1.8nm,1.0s,baz=328,slow=1.2,SNR=5.8						
	comp=Z,1.8nm,1.0s						
SOEI	**Soe**	**57.27**	**280**	P	**P**	**03 12 39.5**	**-1.2**
SNAA	**Sanae**	**75.20**	**179**	P	**P**	**03 14 34.8**	**+0.3**
SNAA				IAmb	IAmb	03 14 38.5	
	comp=Z,5.4nm,1.4s						
SNAA	**Sanae**	**75.20**	**179**	⇑P	P	03 14 44.9	+10
	comp=Z,13nm,0.4s						
SNAA	**Sanae**	**75.20**	**179**	P	**P**	**03 14 35.1**	**+0.5**
	comp=Z,1.7nm,1.1s,baz=169,slow=10,SNR=2.5						
	comp=Z,1.7nm,1.1s						
VNA3	**Neumayer Olymp**	**75.38**	**176**	⇑P	P	03 14 46.2	+11
	comp=Z,2.3nm,0.4s						
VNA2	**Neumayer--Watz**	**75.81**	**177**	⇑P	P	03 14 49.0	+11
	comp=Z,4.6nm,0.8s,baz=176,slow=5.0						
VNA1	**Neumayer--Stat**	**76.04**	**177**	⇑P	P	03 14 50.8	+12
	comp=Z,2.9nm,0.6s						
PLCA	**Paso Flores**	**80.90**	**133**	P	**P**	**03 15 05.8**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=311,slow=9.7,SNR=2.9						
	comp=Z,1.5nm,0.7s						
GSTR	**Great Sitkin T**	**85.14**	**2**	P	**P**	**03 15 30.2**	**+2.3**
KBZ	**Khabaz**	**146.20**	**300**	PKPbc	**PKPdf**	**03 22 31.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=142,slow=3.2,SNR=4.0						
FINES	**FINESS Array B**	**147.71**	**338**	PKPbc	**PKPdf**	**03 22 34.1**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=31,slow=4.4,SNR=8.1						
MMAI	**Mount Meron Ar**	**151.56**	**279**	PKPbc	**PKPbc**	**03 22 44.2**	**-2.4**
	comp=Z,1.5nm,0.5s,baz=96,slow=4.3,SNR=4.1						
BRTR	**Keskin Array B**	**153.38**	**293**	PKPbc	**PKPbc**	**03 22 49.5**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=115,slow=6.4,SNR=2.5						

---

*IDC **05** 03:31:22.7±2.4, 24°.07S×175°.93W, h0km, mb4.2/3, mbtmp4.2/4, ML4.1/1, Error ellipse: s-maj=62.6km s-min=46.4km az=152.0*

ISC 05 03:31:27.2±2.4, 24°.0S±0°.3×175°.9W±0°.3, h31km, n7, σ0§96/6, mb4.0/3, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.39**	**317**	Pn	**Pn**	**03 33 26.9**	**+0.1**
	0.1nm,0.3s,baz=141,slow=22,SNR=7.7						
	17nm,0.7s						
CTA	**Charters Tower**	**35.21**	**269**	P	**P**	**03 38 19.2**	**+0.3**
	4.4nm,0.4s,baz=88,slow=9.5,SNR=15						
	4.4nm,0.4s						
ASAR	**Alice Springs**	**45.70**	**260**	P	**P**	**03 39 45.8**	**+0.1**
	1.2nm,0.7s,baz=103,slow=7.3,SNR=8.5						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**46.12**	**265**	P	**P**	**03 39 48.0**	**-0.9**
	1.0nm,0.6s,baz=102,slow=8.7,SNR=16						
	1.0nm,0.6s						
HFS	**Hagfors**	**143.25**	**352**	PKhKP	PKPpre	03 50 54.1	
	4.4nm,1.0s,baz=90,slow=1.4,SNR=4.1						
AKASG	**Malin Array Be**	**146.98**	**330**	PKPbc	**PKPbc**	**03 51 05.6**	**-0.8**
	0.8nm,0.3s,baz=41,slow=3.8,SNR=6.9						
MMAI	**Mount Meron Ar**	**151.13**	**295**	PKPbc	**PKiKP**	**03 51 19.2**	**+1.0**
	1.1nm,0.4s,baz=74,slow=6.2,SNR=2.9						

---

*NNC **05** 03:32:52.9±0.8, 42°.55N×70°.59E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=6.4km s-min=2.2km az=50.0*

*KRNET **05** 03:32:53.2±0.1, 42°.57N×70°.69E, h10km, mb2.9*

*SOME **05** 03:32:53.8, 42°.48N×70°.58E, h10km*

ISC 05 03:32:50.0±1.3, 42°.60N±0°.04×70°.55E±0°.03, h6km±11km, n28, σ1§40/38, 12C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.50**	**357**	⇓P	**Pn**	**03 33 03.8**	**0.0**
	8.6nm,0.6s,baz=191,slow=25,SNR=326						
KK31				⇑S	**Sn**	**03 33 11.6**	**-1.2**
	12nm,0.2s,baz=181,slow=30,SNR=37						
KKAR	**Karatay Array**	**0.50**	**357**	⇓*i*P	**Pn**	**03 33 04.0**	**+0.2**
	baz=46						
KKAR				⇓*i*S	**Sn**	**03 33 12.1**	**-0.7**
	baz=46						
IUG	**Iuzhnay**	**0.59**	**220**	*e*P	**Pb**	**03 33 03.0**	**+0.1**
	35nm,0.1s						
IUG				*e*S	**Sg**	**03 33 10.2**	**+1.0**
	288nm,0.3s						
DZA	**Taraz**	**0.65**	**63**	*e*P	**Pn**	**03 33 06.0**	**+0.2**
	95nm,0.1s						
DZA				*e*S	**Sn**	**03 33 15.3**	**-1.2**
	349nm,0.2s						
CHM	**Chimkent**	**0.75**	**248**	*e*P	**Pn**	**03 33 07.7**	**+0.4**
	99nm,0.1s						
CHM				*e*S	**Sb**	**03 33 18.3**	**+2.2**
	310nm,0.6s						
ARK	**Arkit**	**1.32**	**127**	⇑*i*P	**Pn**	**03 33 16.6**	**+1.4**
	baz=28						
ARK				⇑*i*S	**Sn**	**03 33 33.5**	**+0.2**
	baz=28						
MNAS	**Manas**	**1.45**	**94**	⇑*i*P	**Pb**	**03 33 18.7**	**+1.1**
	baz=93						
MNAS				⇑*i*S	**Sn**	**03 33 37.6**	**+1.2**
	baz=93						
MRKS	**Merke**	**1.98**	**85**	Pg	**Pg**	**03 33 29.3**	**+1.3**
	7.6nm,0.4s						
MRKS				Lg	Lg	03 33 55.5	
	104nm,0.5s						
MRKS	**Merke**	**1.98**	**85**	*e*P	**Pg**	**03 33 30.2**	**+2.2**
	7.6nm,0.4s						
MRKS				*e*S	**Sg**	**03 33 55.5**	**+1.8**
	104nm,0.5s						
AML	**Almayashu**	**2.38**	**100**	⇑Pg	**Pg**	**03 33 36.0**	**+0.4**
	1.2nm,0.7s						
AML				⇑Lg	Lg	03 34 08.5	
	3.6nm,0.6s						
BTK	**Batken**	**2.55**	**175**	⇑*i*P	**Pg**	**03 33 37.6**	**-1.3**
	baz=78						
BTK				⇑*i*S	**Sg**	**03 34 09.7**	**-2.2**
	baz=78						
ARLS	**Aral**	**2.90**	**104**	⇑*i*P	**Pb**	**03 33 41.5**	**-0.8**
	baz=4.0						
ARLS				⇑*i*S	**Sb**	**03 34 16.6**	**-1.5**
	baz=4.0						
SGDS	**Sogindy**	**3.11**	**73**	Pg	**Pg**	**03 33 49.2**	**-0.4**
	3.4nm,0.3s						
SGDS				Lg	Lg	03 34 29.4	
	53nm,0.5s						
TKM2	**Tokmak 2**	**3.73**	**83**	⇓Pg	**Pg**	**03 34 00.4**	**-1.2**
	7.4nm,0.9s						
TKM2				⇑Lg	Lg	03 34 48.7	
	7.6nm,0.5s						
DGS	**Degeres**	**3.89**	**79**	Pg	**Pg**	**03 34 03.9**	**-0.7**
	9.5nm,0.5s						
DGS				Lg	Lg	03 34 54.4	
	28nm,0.6s						
DGS	**Degeres**	**3.89**	**79**	*e*Pg	**Pg**	**03 34 03.9**	**-0.7**
	9.5nm,0.5s						
DGS				*e*Lg	Lg	03 34 54.4	
	28nm,0.6s						
KRBS	**Karabastau**	**3.91**	**72**	Pg	**Pg**	**03 34 04.3**	**-0.6**
	2.8nm,0.2s						
KRBS				Lg	Lg	03 34 55.3	
	13nm,0.4s						
KRBS	**Karabastau**	**3.91**	**72**	*e*Pg	**Pg**	**03 34 06.0**	**+1.1**
	2.8nm,0.2s						
KRBS				*e*Lg	Lg	03 34 57.4	
	13nm,0.4s						
KST	**Kastek**	**4.01**	**82**	Pg	**Pg**	**03 34 05.1**	**-1.8**
	3.3nm,0.3s						
KST				Lg	Lg	03 34 56.6	
	22nm,0.5s						
KST	**Kastek**	**4.01**	**82**	*e*Pg	**Pg**	**03 34 06.5**	**-0.3**
	3.3nm,0.3s						
KST				*e*Lg	Lg	03 34 58.5	
	22nm,0.5s						
KUU	**Kurty**	**4.42**	**71**	Pg	**Pg**	**03 34 13.6**	**-1.2**
	1.4nm,0.1s						
KUU				Lg	Lg	03 35 10.4	
	20nm,0.5s						
KUU	**Kurty**	**4.42**	**71**	*e*Pg	**Pg**	**03 34 13.6**	**-1.2**
	1.4nm,0.1s						
KUU				*e*Lg	Lg	03 35 10.4	
	20nm,0.5s						
IZV	**Izvestkoviy**	**4.48**	**82**	Pg	**Pg**	**03 34 13.3**	**-2.6**
	0.7nm,0.1s						
IZV				Lg	Lg	03 35 12.0	
	13nm,0.4s						
KTBS	**Karatobe**	**4.62**	**74**	Pg	**Pg**	**03 34 16.6**	**-2.0**
	2.1nm,0.5s						
KTBS				Lg	Lg	03 35 16.4	
	31nm,0.4s						
KTBS	**Karatobe**	**4.62**	**74**	*e*Pg	**Pg**	**03 34 16.6**	**-2.0**
	2.1nm,0.5s						
KTBS				*e*Lg	Lg	03 35 16.4	
	31nm,0.4s						
TNSS	**Tian-Shan**	**4.73**	**83**	Pg	**Pg**	**03 34 18.6**	**-2.0**
	2.6nm,0.3s						
TNSS				Lg	Lg	03 35 19.8	
	14nm,0.5s						
TNSS	**Tian-Shan**	**4.73**	**83**	*e*Pg	**Pg**	**03 34 18.6**	**-2.0**
	2.6nm,0.3s						
TNSS				*e*Lg	Lg	03 35 19.8	
	14nm,0.5s						
ARXS	**Arharly**	**5.54**	**71**	Pg	**Pg**	**03 34 36.9**	**+0.7**
	2.0nm,0.2s						
ARXS				Lg	Lg	03 35 46.3	
	7.3nm,0.4s						

IDC 05 03:35:36.6±4.9, 6°.55S×149°.21E, h86km±46km, mb3.6/2, mbtmp4.0/4, ML1.6/1, Error ellipse: s-maj=98.1km s-min=33.9km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.49**	**216**	P	Pn	03 36 30.3	+1.6
	4.4nm,0.3s,baz=122,slow=7.8,SNR=2.2						
PMG				S	Sn	03 37 09.1	+0.2
	107nm,0.5s,baz=46,slow=16,SNR=17						
	11nm,0.3s						
WRA	**Warramunga Arr**	**19.64**	**226**	P	P	03 39 58.1	-0.5
	5.0nm,0.5s,baz=52,slow=11,SNR=23						
ASAR	**Alice Springs**	**22.50**	**219**	P	P	03 40 30.1	+0.8
	2.0nm,0.6s,baz=50,slow=9.3,SNR=19						
	2.0nm,0.6s						
ILAR	**Eielson Array**	**85.13**	**23**	P	P	03 48 02.6	-0.3
	0.8nm,0.6s,baz=252,slow=4.8,SNR=11						
	0.8nm,0.6s						

IDC 05 03:43:32.9±8.8, 18°.95S×174°.48W, h87km±49km, mb3.8/3, mbtmp4.1/4, ML4.0/1, Error ellipse: s-maj=203.4km s-min=26.7km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.65**	**28**	P	Pn	03 44 54.4	0.0
	4.2nm,0.3s,baz=202,slow=21,SNR=1.4						
AFI				S	Sn	03 45 50.7	-7.3
	32nm,0.4s,baz=263,slow=19,SNR=3.3						
	38nm,0.8s						
ASAR	**Alice Springs**	**48.11**	**255**	P	P	03 52 04.6	+0.3
	1.7nm,0.4s,baz=92,slow=7.6,SNR=24						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**48.12**	**260**	P	P	03 52 03.9	-0.5
	1.9nm,0.3s,baz=96,slow=7.3,SNR=87						
	1.9nm,0.3s						
H03S2	**Juan Fernandez**	**84.11**	**124**	T	T	05 28 49.4	
	baz=249,slow=75,SNR=8.4						
H03S1	**Juan Fernandez**	**84.12**	**124**	T	T	05 28 50.8	
	baz=249,slow=75,SNR=6.8						
H03S3	**Juan Fernandez**	**84.12**	**124**	T	T	05 28 49.7	
	baz=249,slow=75,SNR=8.3						
ILAR	**Eielson Array**	**86.11**	**11**	P	P	03 56 03.9	+0.1
	0.2nm,0.5s,baz=229,slow=6.4,SNR=8.3						
	0.2nm,0.5s						
BRTR	**Keskin Array B**	**148.13**	**316**	PKPbc	PKPbc	04 03 08.2	-0.9
	0.3nm,0.5s,baz=52,slow=2.4,SNR=2.6						

---

*IDC **05** 03:48:40.8±1.7, 17°.72S×178°.72W, h568km±18km, mb3.2/9, mbtmp4.1/11, Error ellipse: s-maj=24.2km s-min=17.2km az=139.0*

ISC 05 03:48:38.7±0.7, 17°.7S±0°.2×178°.6W±0°.1, h547km, n16, σ1§17/18, mb3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.22**	**269**	P	**P**	**03 49 58.2**	**+3.3**
	17nm,0.6s,baz=75,slow=2.1,SNR=14						
AFI	**Afiamalu**	**7.56**	**61**	P	**P**	**03 50 31.3**	**-0.8**
	45nm,0.7s,baz=259,slow=10,SNR=2.5						
DZM	**Mont Dzumac**	**14.74**	**250**	P	**P**	**03 51 44.6**	**-1.0**
	6.1nm,0.6s,baz=47,slow=23,SNR=8.3						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**03 55 15.2**	**0.0**
	1.9nm,0.4s,baz=89,slow=11,SNR=5.7						
	1.9nm,0.4s						
WRA	**Warramunga Arr**	**44.51**	**259**	P	**P**	**03 56 01.2**	**-0.9**
	0.8nm,0.6s,baz=97,slow=6.8,SNR=20						
WRA				PcP	**PcP**	**03 57 33.2**	**-0.4**
	0.3nm,0.5s,baz=90,slow=3.3,SNR=2.3						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**03 56 03.2**	**-0.3**
	6.2nm,0.4s,baz=89,slow=8.1,SNR=96						
ASAR				PcP	**PcP**	**03 57 33.8**	**-0.4**
	0.4nm,0.4s,baz=97,slow=4.4,SNR=3.3						
	6.2nm,0.4s						
MJAR	**Matsushiro Arr**	**67.66**	**323**	P	**P**	**03 58 41.2**	**-0.3**
	1.2nm,0.6s,baz=172,slow=4.6,SNR=2.2						
	1.2nm,0.6s						
QSPA	**South Pole Qui**	**72.34**	**180**	P	**P**	**03 59 09.4**	**+0.4**
	1.1nm,0.7s,baz=332,slow=1.4,SNR=7.9						
	1.1nm,0.7s						
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**03 59 48.3**	**-0.2**
	0.7nm,0.8s,baz=228,slow=8.1,SNR=1.9						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**85.73**	**13**	P	**P**	**04 00 19.2**	**-0.3**
	0.4nm,0.5s,baz=223,slow=5.1,SNR=12						
	0.4nm,0.5s						
TXAR	**Lajitas Array**	**86.02**	**58**	P	**P**	**04 00 24.1**	**+2.1**
	1.0nm,0.8s,baz=211,slow=5.9,SNR=9.8						
	1.0nm,0.8s						
SNAA	**Sanae**	**90.80**	**179**	P	**P**	**04 00 42.7**	**-0.6**
	1.4nm,1.0s,baz=189,slow=7.3,SNR=11						
	1.4nm,1.0s						
BVAR	**Borovoye Array**	**116.59**	**321**	PK

3.8nm,1.0s,baz=98,slow=9.3,SNR=3.9
3.8nm,1.0s
ASAR Alice Springs 42.24 260 P **P 04 31 07.3 0.0**
3.6nm,0.8s,baz=95,slow=7.8,SNR=32
3.6nm,0.8s
WRA Warramunga Arr 42.57 266 P **P 04 31 09.4 -0.5**
4.0nm,0.6s,baz=103,slow=8.2,SNR=47
4.0nm,0.6s
QSPA South Pole Qui 66.69 180 P **P 04 33 58.9 +0.5**
0.8nm,0.6s,baz=336,slow=1.4,SNR=6.9
0.8nm,0.6s
SNAA Sanae 85.17 179 P **P 04 35 39.4 -0.9**
0.7nm,1.0s,baz=233,slow=20,SNR=1.3
0.7nm,1.0s
TXAR Lajitas Array 90.05 58 P **P 04 36 04.3 +0.3**
0.5nm,0.9s,baz=223,slow=4.2,SNR=4.2
0.5nm,0.9s
HFS Hagfors 142.07 349 PKhKP PKPpre 04 42 27.3
1.5nm,0.7s,baz=57,slow=5.3,SNR=6.1
AKASG Malin Array Be 144.61 328 PKP **PKPdf 04 42 36.2 -0.1**
0.7nm,0.6s,baz=50,slow=1.4,SNR=1.7

IDC 05 04:28:27.2±50.0, 20°32S×176°20W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=930.8km s-min=169.0km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.39**	**244**	P	P	04 35 58.1	-0.6
	2.0nm,0.7s,baz=94,slow=7.6,SNR=4.6						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**46.20**	**256**	P	P	04 36 54.5	+0.2
	1.6nm,0.6s,baz=94,slow=8.2,SNR=20						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**46.30**	**261**	P	P	04 36 54.9	-0.2
	0.3nm,0.4s,baz=97,slow=7.4,SNR=11						
	0.3nm,0.4s						

---

*IDC **05** 04:29:47.7±0.8, 29°94S×179°42W, h324km±12km, mb3.4/4, mbtmp4.1/5, Error ellipse: s-maj=29.8km s-min=19.6km az=43.0*

ISC 05 04:29:47.0±0.9, 30°0S±0°1×179°8W±0°2, h300km, n8, σ1°93/10, mb3.6/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.82**	**68**	P	**Pn**	**04 30 34.3**	**+1.9**
	420nm,0.3s,baz=197,slow=21,SNR=4.2						
RAO				S	**S**	**04 31 09.2**	**+0.6**
	218nm,0.3s,baz=217,slow=24,SNR=1.8						
URZ	**Urewera**	**8.65**	**196**	P	**Pn**	**04 31 50.3**	**+1.8**
	4.1nm,0.3s,baz=358,slow=4.0,SNR=25						
URZ				S	**S**	**04 33 27.5**	**+0.2**
	9.5nm,0.3s,baz=7.9,slow=23,SNR=14						
ASAR	**Alice Springs**	**41.54**	**267**	P	**P**	**04 37 07.1**	**+1.1**
	0.7nm,0.4s,baz=103,slow=7.2,SNR=7.7						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**42.48**	**273**	P	**P**	**04 37 14.9**	**+1.3**
	1.9nm,0.6s,baz=113,slow=7.1,SNR=24						
	1.9nm,0.6s						
QSPA	**South Pole Qui**	**60.15**	**180**	P	**P**	**04 39 22.7**	**-0.6**
	1.6nm,0.5s,baz=108,slow=20,SNR=17						
	1.6nm,0.5s						
SNAA	**Sanae**	**78.63**	**179**	P	**P**	**04 41 13.6**	**-2.0**
	1.4nm,1.1s,baz=212,slow=9.5,SNR=2.3						
	1.4nm,1.1s						
FINES	**FINESS Array B**	**144.17**	**339**	PKP	**PKPab**	**04 48 42.6**	**-2.5**
	2.4nm,0.5s,baz=44,slow=3.7,SNR=25						
TORD	**Torodi Ar. Bea**	**163.21**	**185**	PKPab	**PKPab**	**04 50 03.9**	**-2.4**
	0.5nm,0.7s,baz=197,slow=2.9,SNR=5.5						

---

*OSPL **05** 04:33:49.5±0.3, 19°83N×75°70W, h22km±2km, ML2.1*
*SSNC **05** 04:33:50.6±1.5, 19°83N×75°63W, h18km±4km, MD2.4, ML2.0, MW2.5*

ISC 05 04:33:48.4±1.3, 19°9N±0°2×75°68W±0°07, h32km±11km, n6, σ0°49/11, 1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.15**	**355**	*e*P	**Pb**	**04 33 54.6**	**+0.3**
RCC				*e*S	**Sb**	**04 33 57.8**	**-0.5**
RCC				IAML		04 33 57.9	
	comp=N,340nm,0.1s						
RCC				IAML		04 33 57.9	
	comp=E,616nm,0.1s						
GTBY	**Guantanamo Bay**	**0.54**	**82**	*e*P	**Pb**	**04 33 59.7**	**+0.1**
GTBY				*e*S	**Sb**	**04 34 07.2**	**-0.1**
GTBY				IAML		04 34 07.4	
	comp=E,61nm,0.1s						
GTBY				IAML		04 34 07.6	
	comp=E,163nm,0.1s						
GTBY	**Guantanamo Bay**	**0.54**	**82**	*i* P	**Pb**	**04 33 59.8**	**+0.1**
GTBY				*e*S	**Sb**	**04 34 07.3**	**0.0**
GTBY				IAML		04 34 07.6	
	comp=Z,64nm,0.3s						
MASC	**Masc**	**1.40**	**76**	*e*P	**Pn**	**04 34 11.8**	**0.0**
MASC				*e*S	**Sn**	**04 34 28.3**	**-0.9**
MASC				IAML		04 34 33.0	
	comp=E,19nm,0.2s						
MASC				IAML		04 34 33.7	
	comp=N,20nm,0.4s						
MASC	**Masc**	**1.40**	**76**	‖*i*P	**Pn**	**04 34 12.3**	**+0.6**
MASC				*e*S	**Sn**	**04 34 29.3**	**+0.1**
MASC				IAML		04 34 37.2	
	comp=Z,30nm,2.5s						
MTDJ	**Mount Denham**	**2.38**	**228**	IAML		04 34 52.5	
	comp=Z,22nm,1.4s						
MTDJ				*e*S	**Sn**	**04 34 53.2**	**-0.3**

---

*NEIC **05** 04:55:19.2±1.6, 17°14N±0°06×95°10W±0°05, h33km±11km, mb4.1/13, Md4.4/12(MEX), Error ellipse: s-maj=8.9km s-min=5.4km az=209.0*
*MEX **05** 04:55:19.0±0.6, 17°21N×95°15W, h70km±12km, MD4.5*
*IDC **05** 04:55:24.3±7.4, 17°94N×94°62W, h0km, mb3.7/2, mbtmp3.7/4, ML3.8/2, MS3.6/1, Error ellipse: s-maj=138.6km s-min=29.3km az=6.0*

ISC 05 04:55:16.0±1.3, 17°21N±0°03×95°13W±0°02, h12km±10km, n78, σ1°92/120, mb3.7/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.81**	**142**	*i* P	**Pb**	**04 55 31.9**	**-0.1**
NILT				*e*S	**Sg**	**04 55 43.3**	**+1.0**
UXUV	**UXUV**	**0.95**	**83**	*e*P	**Pn**	**04 55 35.1**	**0.0**
UXUV				*i* S	**Sn**	**04 55 49.1**	**+0.5**
TUIG	**Tuzandepetl**	**1.06**	**39**	*i* P	**Pg**	**04 55 37.9**	**+1.4**
TUIG				*e*S	**Sn**	**04 55 55.8**	**+4.4**
PMUV	**Sontecomapan**	**1.33**	**0**	*e*P	**Pn**	**04 55 39.4**	**-1.0**
PMUV				*e*S	**Sn**	**04 55 57.0**	**-1.0**
OXLC	**Oaxaca**	**1.51**	**265**	*i* P	**Pn**	**04 55 42.9**	**-0.1**
OXLC				*e*S	**Sn**	**04 56 01.4**	**-1.3**
CARR	**Arriaga**	**1.51**	**129**	*e*P	**Pb**	**04 55 44.4**	**+0.4**
CARR				*e*S	**Sg**	**04 56 04.5**	**-0.2**
OXBJ	**Oaxaca**	**1.53**	**265**	*i* P	**Pn**	**04 55 43.3**	**0.0**
OXBJ				*e*S	**Sn**	**04 56 01.8**	**-1.4**
OXIG	**Oaxaca**	**1.54**	**265**		**Pn**	**04 55 43.2**	**-0.2**
OXIG					**Sn**	**04 56 01.7**	**-1.7**
VHO	**Vista Hermosa**	**1.54**	**265**	*e*P	**Pn**	**04 55 43.2**	**-0.2**
VHO				*e*S	**Sn**	**04 56 01.7**	**-1.7**
HUIG	**Huatulco**	**1.71**	**213**		**Pn**	**04 55 45.8**	**+0.2**
HUIG					**Sn**	**04 56 05.2**	**-2.3**
HUIG	**Huatulco**	**1.71**	**213**	*e*P	**Pn**	**04 55 45.5**	**-0.1**
HUIG				*e*S	**Sn**	**04 56 05.2**	**-2.3**
TGIG		**1.97**	**102**	*e*P	**Pb**	**04 55 51.6**	**-0.2**
TGIG				*e*P	**Pg**	**04 55 51.8**	**-2.1**
TGIG				*e*S	**Sb**	**04 56 16.6**	**+0.2**
TGIG				*e*S	**Sg**	**04 56 17.1**	**-2.3**
TGBT	**Tuxtla Gutierr**	**2.00**	**102**	*e*P	**Pb**	**04 55 51.0**	**-1.3**
TGBT				*e*S	**Sb**	**04 56 16.4**	**-0.8**
PANG	**Puerto Angel**	**2.00**	**220**	*e*P	**Pn**	**04 55 50.3**	**+0.7**
PANG				*e*S	**Sb**	**04 56 16.7**	**-0.5**
TOIG	**Toxpalan**	**2.04**	**296**	*e*P	**Pn**	**04 55 50.1**	**-0.2**
TOIG				*e*S	**Sn**	**04 56 16.3**	**+0.5**
PEIG	**Puerto Escondi**	**2.28**	**238**	*e*P	**Pn**	**04 55 53.0**	**-0.4**
PEIG				*e*S	**Sb**	**04 56 24.7**	**-0.5**
YOIG	**Yosondua**	**2.33**	**262**		**Pn**	**04 55 55.4**	**+0.9**
YOIG					**Sn**	**04 56 24.2**	**+1.0**
YOIG	**Yosondua**	**2.33**	**262**	*e*P	**Pn**	**04 55 55.4**	**+0.9**
YOIG				*e*S	**Sn**	**04 56 24.2**	**+1.0**
PCIG		**2.37**	**129**		**Pn**	**04 55 54.6**	**0.0**
PCIG					**Sb**	**04 56 28.2**	**+0.4**
PCIG		**2.37**	**129**	*e*P	**Pn**	**04 55 54.6**	**0.0**
PCIG				*e*S	**Sb**	**04 56 28.2**	**+0.4**
TPIG	**Tehuac#an**	**2.44**	**300**	*e*P	**Pn**	**04 55 55.9**	**+0.1**
TPIG				*e*S	**Sn**	**04 56 28.7**	**+3.0**
TXIG	**Tlaxiaco**	**2.52**	**271**	*e*P	**Pn**	**04 55 58.4**	**+1.4**
TXIG				*e*S	**Sn**	**04 56 30.3**	**+2.5**
HLIG	**Huajuapan de L**	**2.62**	**284**	*e*P	**Pn**	**04 55 59.3**	**+1.0**
HLIG				*e*S	**Sn**	**04 56 29.7**	**-0.5**
LVIG	**Laguna Verde**	**2.78**	**334**	*e*P	**Pn**	**04 55 57.6**	**-2.7**
LVIG				*i* S	**Sn**	**04 56 28.7**	**-5.1**
FTIG	**Fresnillo de T**	**2.94**	**284**	*e*P	**Pn**	**04 56 03.8**	**+1.0**
FTIG				*e*S	**Sn**	**04 56 39.0**	**+0.9**
PNIG	**Pinotepa**	**2.98**	**255**	*e*P	**Pn**	**04 56 01.6**	**-1.6**
PNIG				*e*S	**Sn**	**04 56 36.9**	**-1.9**
CCIG	**Comitan**	**3.01**	**107**	*e*P	**Pb**	**04 56 07.6**	**-2.1**
CCIG				*e*S	**Sb**	**04 56 44.1**	**-2.5**
TLIG	**Tlapa**	**3.30**	**277**	*e*P	**Pn**	**04 56 08.2**	**+0.6**
TLIG				*e*S	**Sn**	**04 56 48.6**	**+1.8**
PATR	**El Naranjo**	**3.48**	**126**	*e*P	**Pn**	**04 56 09.8**	**-0.3**
PATR				*e*S	**Sn**	**04 56 53.8**	**+2.4**
PAVE	**Pavencul**	**3.48**	**125**	*e*P	**Pn**	**04 56 12.7**	**+2.6**
PAVE				*e*S	**Sb**	**04 56 56.0**	**-4.0**
THIG		**3.58**	**129**	*e*P	**Pn**	**04 56 15.2**	**+3.8**
THIG				*e*S	**Sn**	**04 56 55.2**	**+1.6**
CHUJ	**Union Juarez**	**3.59**	**125**	*e*P	**Pn**	**04 56 13.4**	**+1.8**
CHUJ				*e*S	**Sn**	**04 56 57.6**	**+3.5**
PPM	**Popocatepetl**	**3.80**	**300**	*e*P	**Pn**	**04 56 17.2**	**+2.4**
PPM				*i* S	**Sn**	**04 57 00.1**	**+0.3**
HUEH	**Huehuetenango**	**3.96**	**118**	Pn	**Pn**	**04 56 17.4**	**+0.7**
YAIG	**Yautepec**	**4.09**	**294**	*e*P	**Pn**	**04 56 19.7**	**+1.2**
YAIG				*e*S	**Sn**	**04 57 07.7**	**+1.4**
SCIG	**Sabancuy**	**4.14**	**64**	*i* P	**Pn**	**04 56 20.4**	**+1.4**
SCIG				*e*S	**Sn**	**04 57 04.7**	**-2.7**
RTAL	**Retalhuleu**	**4.25**	**128**	Pn	**Pn**	**04 56 21.6**	**+1.1**
DAIG	**Los Arroyos**	**4.33**	**268**	*e*P	**Pn**	**04 56 20.7**	**-0.9**
DAIG				*e*S	**Sn**	**04 57 10.6**	**-1.4**
PLIG	**Platanillo**	**4.33**	**286**	*e*P	**Pn**	**04 56 22.7**	**+1.0**
PLIG				*e*S	**Sn**	**04 57 08.0**	**-4.1**
MEIG	**Mezcala**	**4.34**	**280**	*e*P	**Pn**	**04 56 21.8**	**0.0**
MEIG				*e*S	**Sn**	**04 57 10.1**	**-2.3**
DEIG	**Demacu**	**4.81**	**310**	*e*P	**Pn**	**04 56 27.8**	**-0.7**
DEIG				*e*S	**Sn**	**04 57 24.7**	**+0.4**
CAIG	**El Cayaco**	**4.91**	**269**	*e*P	**Pn**	**04 56 30.2**	**+0.6**
CAIG				*e*S	**Sn**	**04 57 29.4**	**+3.0**
PETF	**Flores**	**5.04**	**93**	Pn	**Pn**	**04 56 32.3**	**+0.8**
ARIG	**Puente Sto Nin**	**5.08**	**283**	*i* P	**Pn**	**04 56 33.1**	**+1.1**
ARIG				*i* S	**Sn**	**04 57 27.4**	**-3.3**
ZIIG	**Zihuatanejo**	**6.06**	**275**	*e*P	**Pn**	**04 56 46.7**	**+1.2**
ZIIG				*e*S	**Sn**	**04 57 48.6**	**-6.1**
MTO3	**Montecristo**	**6.22**	**116**	Pn	**Pn**	**04 56 47.9**	**0.0**
MYIG	**Mrida**	**6.32**	**53**	*e*P	**Pn**	**04 56 50.0**	**+1.0**
MYIG				*e*S	**Sn**	**04 57 57.3**	**-3.8**
RPIG	**Rio Verde**	**6.52**	**316**	*e*P	**Pn**	**04 56 50.0**	**-1.8**
RPIG				*e*		04 58 14.4	
TEIG	**Tepich**	**7.16**	**64**		**Pn**	**04 57 00.1**	**-0.4**
TEIG	**Tepich**	**7.16**	**64**	Pn	**Pn**	**04 56 60.0**	**-0.5**
	75nm,0.3s,baz=238,slow=15,SNR=60						
TEIG				Sn	**Sn**	**04 58 14.9**	**-6.8**
	81nm,0.3s,baz=284,slow=19,SNR=8.7						
TEIG				LR	LR	05 00 11.7	
	comp=Z,425nm,18.6s,baz=5.5,slow=45						
LNIG	**Linares**	**8.65**	**333**	*e*P	**Pn**	**04 57 23.5**	**+2.4**
833A	**Chaparral WMA,**	**11.74**	**341**	Pn	**Pn**	**04 58 05.2**	**+1.9**
HNDO	**Hondo**	**12.84**	**344**	Pn	**Pn**	**04 58 19.4**	**+1.0**
DRIO	**Del Rio**	**13.16**	**339**	Pn	**Pn**	**04 58 25.5**	**+2.8**
TXAR	**Lajitas Array**	**14.38**	**329**	Pn	**Pn**	**04 58 41.9**	**+2.3**
TXAR	**Lajitas Array**	**14.38**	**329**	Pn	**P**	**04 58 46.0**	**-0.6**
	0.1nm,0.3s,baz=146,slow=14,SNR=12						
	0.6nm,0.7s						
TX31	**Lajitas Ar. Si**	**14.38**	**329**	Pn	**Pn**	**04 58 42.0**	**+2.4**
TX32	**Lajitas Array**	**14.38**	**329**	Pn	**Pn**	**04 58 41.7**	**+2.1**
BRDY	**Brady**	**14.45**	**347**		**Pn**	**04 58 42.0**	**+1.6**
OZNA	**Ozona**	**14.70**	**339**	Pn	**Pn**	**04 58 46.1**	**+2.1**
237A	**Washetta, Mont**	**14.74**	**358**	Pn	**Pn**	**04 58 45.6**	**+1.3**
FW13	**Cleburne**	**15.22**	**353**	Pn	**Pn**	**04 58 53.4**	**+2.6**
FW13				IAmb	IAmb	04 58 53.6	
	comp=Z,12nm,0.7s						
ALPN	**Alpine**	**15.23**	**331**	Pn	**Pn**	**04 58 52.1**	**+1.0**
ALPN				IAmb	IAmb	04 59 07.1	
	comp=Z,8.9nm,0.8s						
FW06	**Azle**	**15.85**	**353**	Pn	**Pn**	**04 59 00.7**	**+1.7**
FW06				IAmb	IAmb	04 59 14.0	
	comp=Z,10.0nm,0.5s						
Z41A	**Richland Creek**	**16.12**	**7**	Pn	**Pn**	**04 59 02.8**	**+0.3**
425A	**Indio Mountain**	**16.23**	**328**	Pn	**P**	**04 59 06.3**	**-0.8**
WLAR	**White Oak Lake**	**16.51**	**6**	Pn	**Pn**	**04 59 08.0**	**+0.6**
WLAR				IAmb	IAmb	04 59 50.2	
	comp=Z,16nm,0.7s						
WTFS	**Witchita Falls**	**16.76**	**350**		**P**	**04 59 13.1**	**+0.3**
WTFS				IAmb	IAmb	04 59 15.0	
	comp=Z,13nm,0.4s						
LOOK	**Love County**	**16.81**	**354**		**P**	**04 59 14.2**	**+0.7**
X37A	**Clayton**	**17.31**	**359**		**P**	**04 59 19.4**	**+0.5**
X37A				IAmb	IAmb	04 59 28.8	
	comp=Z,9.2nm,0.6s						
MIAR	**Mount Ida**	**17.32**	**4**		**P**	**04 59 19.9**	**+0.9**
121A	**Cookes Peak, D**	**19.07**	**325**		**P**	**04 59 38.4**	**-0.1**
121A				IAmb	IAmb	04 59 49.6	
	comp=Z,9.7nm,0.7s						
T35A	**Sooner Cattle**	**19.67**	**357**	P	**P**	**04 59 45.4**	**+0.6**
T35A				IAmb	IAmb	05 00 00.0	
	comp=Z,7.1nm,0.8s						
ANMO	**Albuquerque**	**20.35**	**332**	P	Pn	04 59 54.3	-0.3
ANMO	**Albuquerque**	**20.35**	**332**	P	Pn	04 59 59.6	+5.0
	comp=Z,0.1nm,0.3s,baz=232,slow=11,SNR=12						
	comp=Z,2.9nm,0.7s						
X16A	**Lo Mia Camp, P**	**22.51**	**323**	P	**P**	**05 00 17.5**	**+1.7**
X16A				IAmb	IAmb	05 00 28.7	
	comp=Z,4.2nm,0.8s						
PDAR	**Pinedale Array**	**28.29**	**337**	P	P	05 01 15.4	+5.9
	comp=Z,0.6nm,0.9s,baz=131,slow=8.6,SNR=4.2						
	comp=Z,0.6nm,0.9s						
NVAR	**Mina Array Bea**	**29.29**	**321**	P	P	05 01 26.3	+7.8
	comp=Z,1.0nm,0.8s,baz=127,slow=9.2,SNR=9.7						
	comp=Z,1.0nm,0.8s						

IDC 05 05:49:19.9±1.6, 5°08S×150°59E, h0km, mb3.4/3, mbtmp3.4/3, MS2.9/1, Error ellipse: s-maj=68.2km s-min=18.6km az=143.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.62**	**62**	Pn	Pb	05 49 50.8	0.0
	88nm,0.3s,baz=287,slow=24,SNR=20						
KRVT				Sn	Sn	05 50 11.2	-0.3
	107nm,0.3s,baz=180,slow=2.0,SNR=7.6						
WRA	**Warramunga Arr**	**21.64**	**226**	P	P	05 54 13.3	+1.2
	0.4nm,0.5s,baz=51,slow=10,SNR=8.1						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**24.50**	**219**	P	P	05 54 41.3	+0.1
	0.3nm,0.7s,baz=54,slow=8.9,SNR=4.4						
	0.3nm,0.7s						
STKA	**Stephens Creek**	**27.96**	**196**	P	P	05 55 11.4	-0.8
	1.9nm,0.8s,baz=0.0,slow=18,SNR=1.5						
	1.9nm,0.8s						
ASAJ	**Asahikawa**	**49.50**	**352**	LR	LR	06 16 59.6	
	comp=Z,14nm,21.8s,baz=58,slow=34						
TORD	**Torodi Ar. Bea**	**148.29**	**287**	PKPbc	PKPbc	06 09 07.7	-1.6
	0.2nm,0.4s,baz=54,slow=2.5,SNR=1.5						

IDC 05 06:01:07.1±2.7, 53°57N×87°80E, h0km, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=23.2km s-min=15.6km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**283**	I	I	06 13 15.6	
	baz=96,slow=333,SNR=9.4						
ZALV	**Zalesovo Beam**	**1.81**	**283**	Pn	Pn	06 01 39.0	-0.4
	1.7nm,0.3s,baz=99,slow=14,SNR=23						
ZALV				Lg	Lg	06 02 05.1	
	1.1nm,0.3s,baz=102,slow=21,SNR=3.5						
KURBB	**Kurchatov Arra**	**6.43**	**246**	Pn	Pn	06 02 43.9	+1.0
	0.1nm,0.3s,baz=62,slow=14,SNR=7.7						
KURBB				Sn	Sn	06 03 54.9	-2.0
	baz=60,slow=23,SNR=1.8						
KURBB				Lg	Lg	06 04 29.9	
	0.1nm,0.3s,baz=62,slow=34,SNR=9.7						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**7.65**	**210**	Pn	Pn	06 03 01.0	+1.3
	0.2nm,0.3s,baz=24,slow=12,SNR=7.4						
MKAR				Sn	Sn	06 04 26.4	-0.6
	0.1nm,0.3s,baz=32,slow=25,SNR=8.0						
MKAR				Lg	Lg	06 05 09.8	
	0.1nm,0.3s,baz=25,slow=27,SNR=5.1						
	0.4nm,0.3s						

IDC 05 06:04:59.2±2.7, 54°17N×86°57E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=22.0km s-min=13.6km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**259**	I	I	06 12 00.0	
	baz=78,slow=327,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.05**	**259**	Pg	Pg	06 05 17.6	-1.7
	1.2nm,0.3s,baz=79,slow=16,SNR=6.8						
ZALV				Lg	Lg	06 05 35.0	
	2.3nm,0.3s,baz=77,slow=30,SNR=12						
KURBB	**Kurchatov Arra**	**6.07**	**237**	Pn	Pn	06 06 30.3	+0.3
	0.1nm,0.3s,baz=54,slow=13,SNR=4.5						
KURBB				Lg	Lg	06 08 12.1	
	baz=57,slow=33,SNR=2.8						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.87**	**202**	Pn	Pn	06 06 56.4	+1.6
	0.2nm,0.3s,baz=26,slow=15,SNR=9.6						
	0.2nm,0.3s						

---

*LDG **05** 06:22:02.8±0.1, 42°96N×3°31W, h2km, Ml3.0/22, Error ellipse: s-maj=2.1km s-min=1.6km az=5.0*
*STR **05** 06:22:03.4±1.5, 43°N±18°×°±°, h5km, MLv3.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=177.8, preliminary*
*SFS **05** 06:22:04.1, 42°82N×3°30W, h0km, ML3.7/7, ML3.6/6, MLv3.6/7*
*MDD **05** 06:22:04.7±0.2, 42°96N×3°32W, h12km, mb_Lg3.1/47, Error ellipse: s-maj=1.6km s-min=1.0km az=166.0*
*INMG **05** 06:22:04.8±1.6, 42°97N×3°31W, h18km±4km, ML2.7, Error ellipse: s-maj=3.5km s-min=2.4km az=160.0*

ISC 05 06:22:01.6±1.0, 42°93N±0°02×3°29W±0°01, h7km±9km, n96, σ2°02/190, 1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELAN	**Lanestosa**	**0.32**	**341**	‖Pg	**Pg**	**06 22 08.2**	**+0.4**
ELAN				Sg	**Sg**	**06 22 12.2**	**+0.2**
ELAN				*i* Vmb_Lg		06 22 14.9	
EARA	**Aranguren**	**1.27**	**97**	Pg	**Pn**	**06 22 27.7**	**+1.9**
EARA				Sg	**Sn**	**06 22 44.9**	**+1.7**
EARA				*i* Vmb_Lg		06 22 47.4	
EARA	**Aranguren**	**1.27**	**97**	P	**Pn**	**06 22 27.5**	**+1.7**
EARA	**Aranguren**	**1.27**	**97**	S	**Sn**	**06 22 45.5**	**+2.4**
EALK	**Alkurruntz**	**1.34**	**77**	Pg	**Pg**	**06 22 27.7**	**+0.4**
EALK				Sg	**Sn**	**06 22 46.5**	**+1.5**
EALK				*i* Vmb_Lg		06 22 47.9	
EALK	**Alkurruntz**	**1.34**	**77**	P	**Pg**	**06 22 27.8**	**+0.5**
EALK	**Alkurruntz**	**1.34**	**77**	S	**Sn**	**06 22 46.9**	**+1.9**
EARI	**Arriondas**	**1.45**	**285**	Pg	**Pb**	**06 22 29.5**	**+0.5**
EARI				Sg	**Sg**	**06 22 49.2**	**+1.0**
EARI				*i* Vmb_Lg		06 22 52.9	
EORO	**Oroz-Betelu**	**1.46**	**91**	Pg	**Pg**	**06 22 30.1**	**+0.6**
EORO				Sg	**Sg**	**06 22 50.5**	**+2.1**
EORO				*i* Vmb_Lg		06 22 53.8	
OSSF	**Osses**	**1.52**	**77**	P	**Pg**	**06 22 30.9**	**+0.1**
OSSF				S	**Sg**	**06 22 52.1**	**+1.6**
SJPF	**Ste Jean**	**1.53**	**83**	*e*Pg	**Pg**	**06 22 31.2**	**+0.3**
SJPF				*e*Sg	**Sg**	**06 22 50.9**	**+0.2**
	137nm,0.4s						
ATE	**Arette**	**1.91**	**85**	P	**Pb**	**06 22 36.7**	**0.0**
ATE				S	**Sg**	**06 23 02.0**	**-0.9**
ETSF	**Etsaut**	**2.01**	**90**	*e*P	**Pb**	**06 22 38.1**	**-0.4**
ETSF				*e*Sn	**Sn**	**06 23 01.1**	**-0.3**
	76nm,0.4s						
ETSF				*e*Sg	**Sg**	**06 23 07.1**	**+1.0**
CANF	**Canfranc**	**2.05**	**94**	P	**Pb**	**06 22 38.7**	**-0.4**
ETOR	**Torete**	**2.31**	**156**	Pn	**Pb**	**06 22 42.7**	**-0.9**
ETOR				Pg	**Pg**	**06 22 45.0**	**-0.7**
ETOR				Sg	**Sg**	**06 23 15.2**	**-0.4**
ETOR				*i* Vmb_Lg		06 23 25.7	
GUD	**Guadarrama**	**2.38**	**196**	Pg	**Pg**	**06 22 47.2**	**0.0**
GUD				Sg	**Sg**	**06 23 17.7**	**-0.2**
ESAC	**San Caprasio**	**2.42**	**119**	Pn	**Pn**	**06 22 43.2**	**+1.6**
ESAC				Pg	**Pg**	**06 22 46.9**	**-1.1**
ESAC				Sg	**Sg**	**06 23 20.4**	**+1.1**
VIEF	**Viey**	**2.44**	**90**	P	**Pn**	**06 22 43.9**	**+2.0**
VIEF				S	**Sn**	**06 23 13.4**	**+1.4**
ECHI	**Chisagues Biel**	**2.58**	**95**	Pn	**Pn**	**06 22 45.6**	**+1.7**
ECHI				Sn	**Sn**	**06 23 17.6**	**+1.9**
ECHI				Sg	**Sg**	**06 23 22.7**	**-1.7**
ECHI				*i* Vmb_Lg		06 23 29.0	
ECHI	**Chisagues Biel**	**2.58**	**95**	P	**Pn**	**06 22 45.7**	**+1.8**
ECHI	**Chisagues Biel**	**2.58**	**95**	S	**Sn**	**06 23 17.3**	**+1.6**
EPF	**Esparros**	**2.67**	**87**	*e*P	**Pb**	**06 22 47.9**	**-1.8**
EPF	**Esparros**	**2.67**	**87**	*e*Pg	**Pg**	**06 22 53.0**	**+0.3**
EPF				*e*Sn	**Sn**	**06 23 16.5**	**-1.1**
	26nm,0.4s						
EJUZ	**Juzbado, Salam**	**2.67**	**227**	Pg	**Pg**	**06 22 52.4**	**-0.5**
EJUZ				Sg	**Sg**	**06 23 26.4**	**-1.1**
ECAL	**

7.9nm,0.8s
EMIR Miracle 3.71 104 Sn **Sn 06 23 44.5 +1.1**
EMIR Sg **Sg 06 23 58.9 -1.8**
EMIR *i* Vmb_Lg 06 24 13.2
ECHE Chera 3.77 152 Pn **Pn 06 23 03.6 +3.4**
ECHE Pg **Pg 06 23 12.6 -1.2**
ECHE Sg **Sg 06 24 03.4 +0.7**
ECHE Chera 3.77 152 Pn **Pn 06 23 01.1 +0.9**
PGAV Gavieira, Arco 3.81 257 *e*Pn **Pn 06 23 02.5 +1.7**
PGAV *e*Sg **Sg 06 24 01.8 -2.1**
PGAV A A 06 24 14.8
14nm,0.7s
EVIV Cofrentes, Val 4.01 155 Pn **Pn 06 23 06.3 +2.8**
EVIV Pg **Pg 06 23 17.1 -1.4**
EVIV Sg **Sg 06 24 08.1 -2.4**
EVIV *i* Vmb_Lg 06 24 20.8
MTLF Montolieu 4.05 82 *e*P **Pn 06 23 07.1 +3.1**
MTLF *e*Sn **Sn 06 23 49.7 -2.1**
6.0nm,0.5s
EZAM Zamans 4.07 261 Sg **Sg 06 24 10.1 -2.1**
EZAM *i* Vmb_Lg 06 24 17.6
MTE Manteigas 4.07 233 *e*Pn **Pn 06 23 05.0 +0.7**
MTE *e*Sg **Sg 06 24 09.4 -2.8**
MTE A A 06 24 16.7
19nm,0.5s
PVIS Viseu 4.09 239 *e*Pn **Pn 06 23 05.7 +1.1**
PVIS *e*Sg **Sg 06 24 10.6 -2.3**
PVIS A A 06 24 16.7
12nm,0.5s
EMAZ Mazaricos 4.17 272 Pn **Pn 06 23 06.3 +0.6**
EMAZ Sn **Sn 06 23 53.2 -1.5**
EMAZ Sg **Sg 06 24 13.6 -2.0**
EMAZ *i* Vmb_Lg 06 24 17.0
RJF Les Rejaudoux 4.20 54 *e*Pn **Pn 06 23 06.4 +0.4**
RJF *e*Sn **Sn 06 23 52.1 -3.2**
5.1nm,0.2s
RJF *e*Sg **Sg 06 24 13.7 -2.6**
11nm,0.4s
MFF Saint Martin d 4.30 30 *e*Pn **Pn 06 23 07.4 0.0**
MFF *e*Sn **Sn 06 23 54.0 -3.8**
7.7nm,0.5s
CAF Calviac 4.35 61 *e*Pn **Pn 06 23 08.7 +0.5**
CAF *e*Sn **Sn 06 23 56.2 -3.0**
7.0nm,0.3s
PCBR Castelo Branco 4.41 227 *e*Sg **Sg 06 24 21.3 -1.9**
PCBR A A 06 24 26.8
8.5nm,0.5s
ETOB Tobarra 4.48 162 Pn **Pn 06 23 12.2 +2.2**
ETOB Sn **Sn 06 24 01.0 -1.4**
ETOB Sg **Sg 06 24 24.4 -1.2**
ETOB *i* Vmb_Lg 06 24 32.3
ETOB Tobarra 4.48 162 Pn **Pn 06 23 12.1 +2.2**
EJON La Jonquera 4.58 94 Pn **Pn 06 23 13.5 +2.2**
EJON Sg **Sg 06 24 25.1 -3.6**
EJON *i* Vmb_Lg 06 24 29.2
EJON La Jonquera 4.58 94 Pn **Pn 06 23 13.0 +1.7**
EJON Sn **Sn 06 24 04.4 -0.5**
PMRV Marv??o 4.67 223 *e*Pn **Pn 06 23 13.3 +0.7**
PMRV *e*Sn **Sn 06 24 05.5 -1.5**
PMRV *e*Sg **Sg 06 24 28.4 -3.2**
PCAS Casmilo, Conde 4.85 235 *e*Sg **Sg 06 24 36.5 -0.9**
PCAS A A 06 24 49.0
14nm,0.6s
EADA Adamuz 4.86 192 Pn **Pn 06 23 16.0 +0.8**
EADA Sn **Sn 06 24 09.3 -2.4**
EADA Sg **Sg 06 24 36.1 -1.5**
EADA *i* Vmb_Lg 06 24 47.7
EADA Adamuz 4.86 192 Sn **Sn 06 24 07.9 -3.9**
EADA Pn **Pn 06 23 15.3 +0.1**
EADA Sg **Sg 06 24 35.0 -2.6**
QUIF Quistinic 4.99 1 *e*Pn **Pn 06 23 16.0 -0.8**
QUIF *e*Sn **Sn 06 24 10.2 -4.5**
3.2nm,0.3s
EBAD Badajoz 5.04 215 Sg **Sg 06 24 40.5 -2.8**
EBAD *i* Vmb_Lg 06 24 50.9
EBAD Badajoz 5.04 215 Sg **Sg 06 24 42.7 -0.6**
EBAD Pn **Pn 06 23 19.0 +1.5**
ECAB El Cabril 5.12 199 Sg **Sg 06 24 42.9 -3.0**
ECAB *i* Vmb_Lg 06 24 54.4
EQES Quesada 5.13 178 Pg **Pg 06 23 41.1 +1.3**
EQES Sg **Sg 06 24 44.9 -1.4**
TCF Toulx Ste Croi 5.17 48 *e*Pn **Pn 06 23 18.4 -0.9**
TCF *e*Sn **Sn 06 24 15.5 -3.7**
5.5nm,0.4s
TCF *e*Sg **Sg 06 24 44.1 -3.3**
7.0nm,0.5s
EZAR Zarzadilla de 5.20 166 Sg **Sg 06 24 46.3 -2.1**
EZAR *i* Vmb_Lg 06 24 54.4
PESTR Estremoz 5.21 220 *e*Pn **Pn 06 23 20.7 +0.8**
PESTR *e*Sg **Sg 06 24 46.8 -1.9**
PESTR A A 06 24 51.5
6.8nm,0.5s
PESTR Estremoz 5.21 220 Pn **Pn 06 23 19.9 0.0**
PESTR Sg **Sg 06 24 47.6 -1.1**
EIBI Ibiza 5.25 136 Pn **Pn 06 23 22.2 +1.7**
LASF Ste Croix 5.32 75 *e*P **Pn 06 23 23.6 +2.1**
LASF *e*Sn **Sn 06 24 19.5 -3.6**
4.8nm,0.5s
SGMF Saint Gilles 5.35 5 *e*Pn **Pn 06 23 20.6 -1.2**
SGMF *e*Sn **Sn 06 24 18.9 -4.7**
PMTG Montargil 5.37 226 *e*Pn **Pn 06 23 22.4 +0.3**
PMTG *e*Sn **Sn 06 24 23.1 -1.1**
PMTG *e*Sg **Sg 06 24 50.6 -3.3**
PMTG A A 06 24 55.2
6.4nm,0.6s
ROSF Rostrenen 5.40 0 *e*Pn **Pn 06 23 20.7 -1.9**
ROSF *e*Sn **Sn 06 24 20.2 -4.8**
2.8nm,0.3s
PBAR Barrancos 5.54 212 *e*Pn **Pn 06 23 24.5 0.0**
PBAR *e*Sn **Sn 06 24 26.9 -1.6**
PBAR *e*Sg **Sg 06 24 56.9 -2.6**
PBAR Barrancos 5.54 212 Pn **Pn 06 23 24.3 -0.2**
ETOS Mallorca 5.58 122 Pn **Pn 06 23 27.3 +2.3**
ETOS Sn **Sn 06 24 25.5 -3.9**
BGF Bois d'Agland 5.68 48 *e*Pn **Pn 06 23 27.1 +0.7**
BGF *e*Sn **Sn 06 24 27.5 -4.3**
20nm,0.4s
GRR Gorron 5.72 17 *e*Pn **Pn 06 23 27.2 +0.3**
GRR *e*Sn **Sn 06 24 27.8 -4.9**
3.9nm,0.3s
EQUE Quentar 5.72 181 Sg **Sg 06 25 01.1 -4.2**
EQUE *i* Vmb_Lg 06 25 10.8
EMIN Mina Concepcio 5.77 208 Sg **Sg 06 25 04.4 -2.4**
EMIN *i* Vmb_Lg 06 25 06.4
VIVF Saint-Julien-l 6.07 69 *e*P **Pn 06 23 33.3 +1.6**
LDF La Druitiere 6.08 20 *e*Pn **Pn 06 23 31.6 -0.3**
LDF *e*Sn **Sn 06 24 36.7 -5.0**
2.1nm,0.3s
AVF Avril sur Loir 6.10 48 *e*Pn **Pn 06 23 31.9 -0.2**
AVF *e*Sn **Sn 06 24 37.6 -4.5**
2.0nm,0.4s
FLN La Foliniere 6.15 18 *e*Pn **Pn 06 23 32.2 -0.6**
baz=200
FLN *e*Sn **Sn 06 24 38.8 -4.6**
6.7nm,0.5s
EGRO El Granado 6.27 212 *i* Vmb_Lg 06 25 14.7
EGRO Sg **Sg 06 25 19.8 -3.1**
SMF Signal de Mont 6.29 51 *e*Pn **Pn 06 23 34.8 +0.1**
SSF Saint Saulge 6.34 47 *e*Pn **Pn 06 23 35.5 0.0**
SSF *e*Sn **Sn 06 24 43.4 -4.8**
1.3nm,0.3s
PCVE Castro Verde 6.42 216 *e*Pn **Pn 06 23 36.9 +0.4**
PVAQ Vaqueiros 6.48 213 *e*Pn **Pn 06 23 39.7 +2.3**
PBDV Barranco-do-Ve 6.70 214 *e*Pn **Pn 06 23 41.0 +0.5**

*IDC **05** 07:09:24.2±1.3,29°.80N×51°.51E, h0km, mb3.9/14, mbtmp3.9/18, ML3.8/3, MS2.9/4, Error ellipse: s-maj=26.0km s-min=19.0km az=3.0*
*NEIC **05** 07:09:26.1±1.6,29°.8N±0°.1×51°.5E±0°.1, h10km±2km, mb4.1/12, Error ellipse: s-maj=29.4km s-min=12.8km az=218.0*
*TEH **05** 07:09:27.3,29°.84N×51°.63E, h11km±19km, ML3.9*
*OMAN **05** 07:09:29.9±1.1,29°.68N×51°.84E, h14km, mb4.1/14, ml3.7/2, ms2.5/3, Error ellipse: s-maj=11.6km s-min=8.9km az=32.0*
*DSN **05** 07:09:30.1±1.8,29°.61N×51°.79E, h10km, ML3.7/8, Error ellipse: s-maj=31.1km s-min=14.2km az=33.0*
ISC 05 07:09:26.7±0.5,**29°.82N**±0°.03×**51°.68E**±0°.04,**h15km,n138,**
σ1§**89**/161,**mb4.1**/29,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.75**	**103**	Pg	**Pn**	**07 09 42.9**	**0.0**
SHI				Sg	**Sn**	**07 09 54.7**	**+0.6**
KLNJ	**Kolanjah**	**1.19**	**356**	Pg	**Pn**	**07 09 48.9**	**-0.3**
ABEH	**Behbahan**	**1.46**	**303**	Pg	**Pg**	**07 09 54.3**	**-0.5**
ABEH				Sg	**Sg**	**07 10 15.5**	**+1.7**
DSBU	**Dashti - Bushe**	**1.49**	**194**	Pg	**Pg**	**07 09 56.7**	**+1.2**
QIR1	**Qir**	**1.79**	**138**	Pn	**Pg**	**07 10 01.0**	**-0.2**
IRAM	**Ramesheh**	**2.08**	**17**	Pn	**Pb**	**07 10 04.4**	**+0.2**
IBRJ	**Brojen**	**2.12**	**350**	Pn	**Pb**	**07 10 04.4**	**-0.6**
IGAR	**Gharneh**	**2.60**	**7**	Pn	**Pb**	**07 10 11.8**	**-1.4**
ISAD	**Sadrabad**	**2.71**	**39**	Pn	**Pb**	**07 10 14.2**	**-0.9**
AMIS	**Naft Sefid**	**2.76**	**312**	Pn	**Pn**	**07 10 12.2**	**+1.7**
LMD1	**Lamerd**	**2.79**	**152**	Pn	**Pb**	**07 10 15.0**	**-1.3**
IPIR	**Pirpir**	**2.94**	**347**	Pn	**Pn**	**07 10 15.6**	**+2.5**
IMEH	**Mehriz**	**2.98**	**57**	Pn	**Pb**	**07 10 17.8**	**-1.9**
IZEF	**Zefreh**	**3.12**	**10**	Pn	**Pn**	**07 10 18.7**	**+3.1**
ICHK	**Chekchek**	**3.37**	**43**	Pn	**Pn**	**07 10 22.6**	**+3.6**
IKLH	**Kolahrood**	**3.49**	**359**	Pn	**Pn**	**07 10 23.3**	**+2.6**
IBAF	**Bafgh**	**3.79**	**61**	Pn	**Pn**	**07 10 28.5**	**+3.8**
ANAR	**Anarak**	**3.79**	**27**	Pn	**Pn**	**07 10 28.0**	**+3.3**
QAMS	**Qamsar**	**3.92**	**357**	Pn	**Pn**	**07 10 29.1**	**+2.6**
SAKB	**Bahrain**	**3.95**	**195**	P	**Pn**	**07 10 29.9**	**+3.1**
SAKB				S	**Sn**	**07 11 15.1**	**+2.1**
SAKB	**Bahrain**	**3.95**	**195**	Pn	**Pn**	**07 10 30.0**	**+3.1**
KRSH	**Karshahi**	**4.16**	**5**	Pn	**Pn**	**07 10 32.2**	**+2.4**
KHGB	**Koh Gabri**	**4.20**	**81**	Pn	**Pn**	**07 10 34.1**	**+3.7**
ZRDN	**Zarand Kerman**	**4.35**	**73**	Pn	**Pn**	**07 10 36.3**	**+3.8**
NGRK	**Negar Kerman**	**4.40**	**91**	Pn	**Pn**	**07 10 37.5**	**+4.2**
TVBK	**TV Kerman**	**4.42**	**87**	Pn	**Pn**	**07 10 37.7**	**+4.1**
ISFB	**Sefidab**	**4.55**	**6**	Pn	**Pn**	**07 10 37.2**	**+2.1**
GENO	**Geno**	**4.63**	**120**	Pn	**Pn**	**07 10 39.7**	**+3.4**
IKFM	**Kafar-mosalman**	**4.93**	**320**	Pn	**Pn**	**07 10 42.7**	**+2.4**
JRN	**Qarnain Island**	**4.96**	**168**	P	**Pn**	**07 10 42.6**	**+1.9**
JRN				S	**Sn**	**07 11 39.5**	**+1.6**
JRN	**Qarnain Island**	**4.96**	**168**	Pn	**Pn**	**07 10 43.5**	**+2.8**
HSAM	**Samen**	**5.10**	**330**	Pn	**Pn**	**07 10 45.4**	**+2.5**
ESRB	**Sir Abu**	**5.11**	**153**	Pn	**Pn**	**07 10 44.8**	**+2.1**
IVRN	**Varamin**	**5.17**	**0**	Pn	**Pn**	**07 10 45.5**	**+1.9**
TPRV	**Parvadeh(Tabas**	**5.34**	**52**	Pn	**Pn**	**07 10 49.5**	**+3.5**
HAGD	**Aghdareh**	**5.43**	**337**	Pn	**Pn**	**07 10 50.0**	**+2.6**
SHME	**Shamm**	**5.45**	**132**	P	**Pn**	**07 10 47.3**	**-0.1**
SHME				S	**Sn**	**07 11 52.0**	**+2.3**
SHME	**Shamm**	**5.45**	**132**	P	**Pn**	**07 10 50.4**	**+3.1**
SHME				S	**Sn**	**07 11 52.3**	**+2.5**
SHME	**Shamm**	**5.45**	**132**	Pn	**Pn**	**07 10 49.6**	**+2.3**
UMQ	**Umm Al-Quwin**	**5.54**	**139**	P	**Pn**	**07 10 48.3**	**-0.4**
IKOM	**Komasi**	**5.61**	**322**	Pn	**Pn**	**07 10 51.0**	**+1.4**
BANOM	**Banah**	**5.64**	**132**	P	**Pn**	**07 10 50.2**	**+0.2**
ILAS	**Lasjerd**	**5.66**	**11**	Pn	**Pn**	**07 10 52.9**	**+2.5**
IFIR	**Firoozkooh**	**5.88**	**9**	Pn	**Pn**	**07 10 55.9**	**+2.4**
KBAM	**BAM**	**5.95**	**95**	Pn	**Pn**	**07 10 59.0**	**+4.7**
MASF	**Masafi**	**5.95**	**137**	P	**Pn**	**07 10 55.6**	**+1.2**
MASF				S	**Sn**	**07 12 02.8**	**+0.5**
MSFE	**Esma-Masafi**	**5.96**	**137**	P	**Pn**	**07 10 56.3**	**+1.9**
MSFE	**Esma-Masafi**	**5.96**	**137**	Pn	**Pn**	**07 10 57.0**	**+2.5**
NAZ	**Nazwa, Dubai**	**5.97**	**143**	P	**Pn**	**07 10 55.8**	**+1.2**
NAZ	**Nazwa, Dubai**	**5.97**	**143**	P	**Pn**	**07 10 55.5**	**+0.9**
NAZ				S	**Sn**	**07 12 03.4**	**+0.7**
NAZ	**Nazwa, Dubai**	**5.97**	**143**	Pn	**Pn**	**07 10 56.5**	**+1.9**
TKDS	**Koohdasht(Taba**	**5.99**	**49**	Pn	**Pn**	**07 10 57.8**	**+2.9**
MDH	**Madha**	**6.09**	**137**	P	**Pn**	**07 10 57.6**	**+1.5**
MDH				S	**Sn**	**07 12 04.6**	**-1.0**
MDH	**Madha**	**6.09**	**137**	Pn	**Pn**	**07 10 57.9**	**+1.7**
ASUD	**Al Ashush, Dub**	**6.11**	**147**	P	**Pn**	**07 10 57.8**	**+1.3**
ASUD	**Al Ashush, Dub**	**6.11**	**147**	P	**Pn**	**07 10 58.5**	**+2.1**
ASUD				S	**Sn**	**07 12 06.8**	**+0.8**
ASUD	**Al Ashush, Dub**	**6.11**	**147**	Pn	**Pn**	**07 10 58.8**	**+2.4**
ISHM	**Shahmirzad**	**6.13**	**12**	Pn	**Pn**	**07 10 59.8**	**+2.9**
FAQ	**Al Faqa, Dubai**	**6.13**	**144**	P	**Pn**	**07 10 57.6**	**+0.7**
FAQ				S	**Sn**	**07 12 06.2**	**-0.5**
IGHG	**Ghaleghazi**	**6.25**	**317**	Pn	**Pn**	**07 11 01.3**	**+2.8**
UOSS	**Minazif**	**6.30**	**139**	Pn	**Pn**	**07 10 59.8**	**+0.6**
UOSS	**Minazif**	**6.30**	**139**	P	**Pn**	**07 11 00.1**	**+0.9**
UOSS	**Minazif**	**6.30**	**139**	P	**Pn**	**07 11 00.0**	**+0.9**
UOSS				S	**Sn**	**07 12 09.1**	**-1.8**
HATD	**Hatta, Dubai**	**6.36**	**140**	P	**Pn**	**07 11 01.3**	**+1.4**
HATD	**Hatta, Dubai**	**6.36**	**140**	P	**Pn**	**07 11 01.5**	**+1.6**
HATD				S	**Sn**	**07 12 11.0**	**-1.2**
HATD	**Hatta, Dubai**	**6.36**	**140**	Pn	**Pn**	**07 11 02.8**	**+2.9**
ASHO	**Ashiyiah**	**6.43**	**142**	P	**Pn**	**07 11 02.3**	**+1.4**
ASHO				S	**Sn**	**07 12 12.6**	**-1.4**
ASHO	**Ashiyiah**	**6.43**	**142**	P	**Pn**	**07 11 01.9**	**+1.0**
	SNR=17						
ASHO				S	**Sn**	**07 12 12.6**	**-1.4**
ASHO	**Ashiyiah**	**6.43**	**142**	Pn	**Pn**	**07 11 02.9**	**+2.0**
IDHR	**Dehrash**	**6.62**	**319**	Pn	**Pn**	**07 11 05.6**	**+2.0**
KLST	**Kelardasht - M**	**6.70**	**356**	Pn	**Pn**	**07 11 07.0**	**+2.1**
JASK	**Jask - Hormozg**	**6.74**	**124**	P	**Pn**	**07 11 07.3**	**+2.1**
ALNE	**Al Ain**	**6.79**	**147**	P	**Pn**	**07 11 06.3**	**+0.4**
ALNE				S	**Sn**	**07 12 23.5**	**+0.6**
ALNE	**Al Ain**	**6.79**	**147**	Pn	**Pn**	**07 11 07.8**	**+2.0**
IGLO	**Ghaloghah**	**6.91**	**15**	Pn	**Pn**	**07 11 11.6**	**+4.0**
MZR	**Muzera**	**6.97**	**166**	P	**Pn**	**07 11 10.5**	**+2.1**
MZR	**Muzera**	**6.97**	**166**	P	**Pn**	**07 11 10.7**	**+2.3**
MZR				S	**Sn**	**07 12 28.6**	**+1.1**
MZR	**Muzera**	**6.97**	**166**	Pn	**Pn**	**07 11 11.3**	**+2.9**
SOHO	**SOHO**	**7.12**	**141**	P	**Pn**	**07 11 10.8**	**+0.4**
SOHO	**SOHO**	**7.12**	**141**	P	**Pn**	**07 11 11.7**	**+1.2**
SOHO				S	**Sn**	**07 12 30.3**	**-0.9**
ARQ	**Araqi**	**7.77**	**145**	P	**Pn**	**07 11 20.2**	**+0.9**
ARQ				S	**Sn**	**07 12 45.7**	**-1.5**
HOQ	**Hoqain**	**7.99**	**140**	P	**Pn**	**07 11 23.3**	**+0.9**
HOQ				S	**Sn**	**07 12 51.6**	**-1.0**
BSY	**Bisya**	**8.61**	**144**	P	**Pn**	**07 11 31.9**	**+1.1**
BSY				S	**Sn**	**07 13 05.8**	**-1.9**
SMDO	**Samad**	**8.82**	**138**	P	**Pn**	**07 11 34.4**	**+0.5**
SMDO				P	**Pn**	**07 11 34.4**	**+0.5**
SMDO				S	**Sn**	**07 13 11.3**	**-1.8**
SMDO				S	**Sn**	**07 13 11.3**	**-1.8**
WSAR	**Wadi Sarin**	**9.03**	**135**	P	**Pn**	**07 11 37.6**	**+0.9**
WSAR	**Wadi Sarin**	**9.03**	**135**	Pn	**Pn**	**07 11 36.9**	**+0.2**
	1.7nm,0.3s,baz=333,slow=8.4,SNR=13						
WSAR				Sn	**Sn**	**07 13 12.1**	**-6.1**
	0.7nm,0.3s,baz=218,slow=17,SNR=1.4						
	4.5nm,0.4s						
JMDO	**Jabal Madar**	**9.40**	**141**	P	**Pn**	**07 11 42.7**	**+1.1**
WBK	**Wadi Bani Khal**	**9.71**	**136**	P	**Pn**	**07 11 46.1**	**+0.2**
SRVN	**Saravan**	**9.72**	**102**	Pn	Pn	07 11 51.1	+4.9
JLN	**Jalan Bani Buh**	**10.32**	**136**	P	**Pn**	**07 11 53.6**	**-0.7**
MHTO	**MHTO**	**10.47**	**146**	P	**Pn**	**07 11 56.3**	**+0.1**
DOK	**Doka**	**11.37**	**168**	P	**Pn**	**07 12 09.3**	**+0.7**
	SNR=7.7						
GNI	**Garni**	**11.77**	**333**	LR	LR	07 17 16.1	
	comp=Z,35nm,21.4s,baz=122,slow=40						
WHFO	**Wadi Hawf**	**12.00**	**170**	P	**Pn**	**07 12 17.8**	**+0.5**
	SNR=7.3						
SHAO	**Shalim**	**12.28**	**162**	P	**Pn**	**07 12 21.3**	**+0.2**
DMTO	**DMTO**	**12.41**	**165**	P	**Pn**	**07 12 22.1**	**-0.8**
	SNR=11						
ABTO	**Aybut**	**12.49**	**173**	P	**Pn**	**07 12 25.0**	**+0.9**
ABTO				P	**Pn**	**07 12 25.0**	**+0.9**
MMAI	**Mount Meron Ar**	**14.26**	**287**	Pn	**Pn**	**07 12 46.2**	**-2.0**
	0.2nm,0.3s,baz=93,slow=15,SNR=1.5						
MMAI				LR	LR	07 19 33.7	
	comp=Z,39nm,18.3s,baz=99,slow=43						
KBZ	**Khabaz**	**15.55**	**336**	Pn	**Pn**	**07 13 07.4**	**+2.0**
	0.3nm,0.3s,baz=154,slow=10.0,SNR=3.7						
	1.7nm,0.4s						
BNN	**Bunyan**	**15.87**	**309**	Pn	**Pn**	**07 13 09.3**	**-0.3**
CSS	**Mathiatis**	**16.32**	**293**	Pn	**Pn**	**07 13 12.8**	**-2.5**
CSS				IAmb	IAmb	07 13 35.9	
	comp=Z,18nm,1.3s						
BRTR	**Keskin Array B**	**17.79**	**309**	P	**Pn**	**07 13 33.2**	**-0.7**
BRTR	**Keskin Array B**	**17.79**	**309**	P	**Pn**	**07 13 33.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=133,slow=14,SNR=6.6						
	comp=Z,1.3nm,0.7s						
KK31	**Karatay Array**	**20.07**	**44**	P	**P**	**07 14 00.8**	**+1.3**
KKAR	**Karatay Array**	**20.07**	**44**	P	Pn	07 14 01.3	-0.1
ABKAR	**Akbulak array**	**20.41**	**16**	P	**P**	**07 14 03.1**	**+0.1**
AKTO	**Aktyubinsk**	**21.14**	**11**	P	**P**	**07 14 10.9**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=205,slow=7.2,SNR=7.2						
	comp=Z,1.8nm,0.4s						
KSH	**Kashi**	**22.14**	**58**	P	**P**	**07 14 24.1**	**+2.1**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ALN	**Alexandroupoli**	**23.57**	**305**	P	**P**	**07 14 35.4**	**-1.2**
ALN				IAmb	IAmb	07 14 44.8	
	comp=Z,7.3nm,1.2s						
RDO	**Rodhopi**	**24.01**	**305**	P	**P**	**07 14 39.9**	**-1.0**
RDO				IAmb	IAmb	07 14 43.5	
	comp=Z,3.4nm,0.6s						
MLR	**Muntele Rosu**	**25.54**	**315**	P	**P**	**07 14 55.9**	**+1.0**
AKASG	**Malin Array Be**	**26.81**	**327**	P	**P**	**07 15 04.9**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=131,slow=9.1,SNR=6.7						
AKASG				LR	LR	07 26 44.4	
	comp=Z,36nm,19.6s,baz=320,slow=39						
	comp=Z,0.7nm,0.3s						
AKBB	**Malin Array Si**	**26.81**	**327**	P	**P**	**07 15 05.2**	**-0.9**
AKBB				IAmb	IAmb	07 15 41.2	
	comp=Z,5.1nm,1.1s						
FNA	**Florina**	**26.92**	**302**	P	**P**	**07 15 08.0**	**+0.6**
FNA				IAmb	IAmb	07 15 11.2	
	comp=Z,1.9nm,0.6s						
BVAR	**Borovoye Array**	**26.94**	**25**	P	**P**	**07 15 08.8**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=212,slow=5.3,SNR=5.4						
	comp=Z,1.5nm,0.6s						
BURAR	**Bucovina Array**	**27.04**	**318**	P	**P**	**07 15 09.7**	**+1.2**
KURBB	**Kurchatov Arra**	**28.93**	**36**	P	**P**	**07 15 26.4**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=236,slow=9.4,SNR=11						
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**29.03**	**36**	P	**P**	**07 15 26.7**	**+0.7**
KURK				IAmb	IAmb	07 15 31.7	
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**33.99**	**35**	P	**P**	**07 16 09.9**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=237,slow=8.6,SNR=7.5						
	comp=Z,1.3nm,0.3s						
KBA	**Koelnbreinsper**	**34.20**	**311**	*i* P	**P**	**07 16 11.3**	**-0.5**
	comp=Z,4.1nm,0.6s						
KHC	**Kasperske Hory**	**34.69**	**315**	P	**P**	**07 16 15.5**	**-0.3**
LESA	**Schwarzleotal**	**34.74**	**311**	*e*P	**P**	**07 16 16.1**	**-0.2**
	comp=Z,4.0nm,0.5s						
WTTA	**Wattenberg**	**35.38**	**311**	*i* P	**P**	**07 16 21.2**	**-0.7**
	comp=Z,6.9nm,0.5s						
WATA	**Walderalm**	**35.43**	**311**	*i* P	**P**	**07 16 22.0**	**-0.3**
	comp=Z,5.4nm,0.5s						
SQTA	**Sankt Quirin**	**35.65**	**311**	*i* P	**P**	**07 16 23.8**	**-0.4**
	comp=Z,12nm,0.4s						
MOTA	**Moosalm**	**35.75**	**311**	*i* P	**P**	**07 16 24.6**	**-0.5**
	comp=Z,7.8nm,0.8s						
FINES	**FINESS Array B**	**35.86**	**339**	P	**P**	**07 16 24.3**	**-1.3**
	comp=Z,3.0nm,0.9s,baz=141,slow=12,SNR=3.9						
	comp=Z,3.0nm,0.9s						
FETA	**Feichten**	**35.91**	**310**	*i* P	**P**	**07 16 26.3**	**-0.2**
	comp=Z,5.7nm,0.5s						
RETA	**Reutte**	**36.01**	**311**	*i* P	**P**	**07 16 26.6**	**-0.5**
	comp=Z,3.7nm,0.4s						
DAVA	**Damuels**	**36.54**	**310**	*i* P	**P**	**07 16 31.4**	**-0.4**
	comp=Z,22nm,0.5s						
HFS	**Hagfors**	**39.55**	**331**	P	**P**	**07 16 55.8**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=132,slow=8.5,SNR=12						
	comp=Z,1.2nm,0.3s						
NOA	**NORSAR Array B**	**41.06**	**331**	P	**P**	**07 17 07.3**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=133,slow=7.5,SNR=1.4						
NOA				LR	LR	07 35 31.7	
	comp=Z,24nm,18.6s,baz=290,slow=38						
	comp=Z,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**42.49**	**347**	P	**P**	**07 17 20.8**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=154,slow=12,SNR=13						
	comp=Z,0.9nm,0.4s						
EKA	**Eskdalemuir Ar**	**46.21**	**320**	P	**P**	**07 17 49.4**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=102,slow=8.1,SNR=1.9						
	comp=Z,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**48.99**	**261**	P	**P**	**07 18 12.2**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=56,slow=8.9,SNR=11						
	comp=Z,1.2nm,0.7s						
SPITS	**Spitsbergen Ar**	**50.93**	**351**	P	**P**	**07 18 27.5**	**+0.6**
	comp=Z,1.4nm,0.4s,baz=130,slow=9.1,SNR=7.3						
	comp=Z,1.4nm,0.4s						
KSRS	**Korea Array**	**62.35**	**61**	P	**P**	**07 19 48.7**	**0.0**
	comp=Z,0.7nm,0.6s,baz=288,slow=6.3,SNR=5.0						
	comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**84.61**	**8**	P	**P**	**07 21 59.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=313,slow=4.0,SNR=2.7						
	comp=Z,0.3nm,0.6s						

*NNC **05** 07:27:58.6±0.5,50°.02N×78°.81E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=12.4km s-min=2.5km az=72.0, Suspected Mining explosion.*
*IDC **05** 07:27:59.1±1.1,50°.02N×78°.75E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=17.6km s-min=6.2km az=67.0*
ISC 05 07:27:59.3±1.5,**49°.99N**±0°.08×**78°.7E**±0°.2,**h0km,n16,**
σ0§**88**/27,**19C-5D,Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.61**	**348**	⇑P	**Pg**	**07 28 10.3**	**-0.7**
KUR07				⇑S	**Sg**	**07 28 19.5**	**+0.7**
KUR06	**Kurchatov Arra**	**0.63**	**349**	⇓P	**Pg**	**07 28 10.8**	**-0.6**
KUR06				⇓S	**Sg**	**07 28 20.1**	**+0.7**
KUR14	**Kurchatov Arra**	**0.63**	**353**	⇑P	**Pg**	**07 28 10.5**	**-1.0**
KUR14				⇑S	**Sg**	**07 28 19.9**	**+0.4**
KUR15	**Kurchatov Arra**	**0.64**	**351**	⇑P	**Pg**	**07 28 10.8**	**-0.8**
KUR15				⇑S	**Sg**	**07 28 20.3**	**+0.5**
KURBB	**Kurchatov Arra**	**0.65**	**349**	⇑P	**Pg**	**07 28 10.8**	**-0.8**
	13nm,0.3s						
KURBB				⇑S	**Sg**	**07 28 19.9**

baz=6.0

IDC 05 07:30:48.7±3.3, 53°.57N×87°.57E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=29.1km s-min=17.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**284**	I	I	07 42 35.0	
	0.1nm,1.1s,baz=100,slow=332,SNR=13						
ZALV	**Zalesovo Beam**	**1.68**	**284**	Pg	Pn	07 31 19.8	+0.4
	0.8nm,0.3s,baz=99,slow=17,SNR=12						
ZALV				Lg	Lg	07 31 41.7	
	0.7nm,0.3s,baz=101,slow=15,SNR=2.1						
KURBB	**Kurchatov Arra**	**6.30**	**246**	Pn	Pn	07 32 23.0	+0.1
	0.1nm,0.3s,baz=61,slow=14,SNR=4.4						
KURBB				Lg	Lg	07 34 07.8	
	baz=63,slow=32,SNR=7.4						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	Pn	07 32 42.2	+1.7
	0.1nm,0.3s,baz=31,slow=12,SNR=3.1						
MKAR				Lg	Lg	07 34 47.7	
	baz=24,slow=28,SNR=5.2						
	0.4nm,0.5s						

HEL 05 07:44:34.2±0.3, 67°.82N×20°.24E, h0km, ML1.2, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.70**	**70**	PG	Pg	07 44 46.3	-1.3
LANU				SG	Sg	07 44 55.9	-0.8
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	07 44 56.5	-0.8
KIF	**Kilpisjarvi**	**1.21**	**10**	PG	Pg	07 44 56.6	-0.7
KIF				MSG		07 45 11.8	
	comp=Z,3.9nm,0.2s						
KIF				SG	Sg	07 45 11.8	-1.1
PAJU	**Pajala**	**1.37**	**125**	PG	Pg	07 44 58.3	-2.1
	baz=304						
PAJU				SG	Sg	07 45 17.3	-0.8
HEF	**Hetta**	**1.41**	**64**	*e*P	Pn	07 44 58.8	-2.3
HEF	**Hetta**	**1.41**	**64**	PG	Pn	07 44 59.4	-1.7
HEF				MSG		07 45 16.7	
	comp=Z,1.9nm,0.2s						
HEF				SN	Sn	07 45 21.1	+0.7
ERTU	**Ertsjaerv**	**1.48**	**148**	PG	Pn	07 45 00.5	-1.6
	baz=328						
ERTU				SG	Sg	07 45 21.6	-0.2
KLF	**Kolari**	**1.55**	**111**	PG	Pn	07 45 01.6	-1.3
KLF				MSG		07 45 20.6	
	comp=Z,1.3nm,0.2s						
KLF				SN	Sn	07 45 23.5	-0.2
KTK1	**Kautokeino**	**1.63**	**41**	PG	Pn	07 45 03.3	-0.9
KTK1				SN	Sg	07 45 26.6	0.0
KALU	**Kalix**	**2.33**	**147**	PN	Pn	07 45 13.9	+0.3
KALU				SG	Sb	07 45 46.1	0.0
TOF	**Tornio**	**2.38**	**136**	PN	Pn	07 45 15.1	+0.8
	baz=315						
TOF				MSG		07 45 44.4	
	comp=Z,0.7nm,0.2s						
TOF				SG	Sb	07 45 48.4	+0.8
SGF	**Sodankyl**	**2.44**	**96**	SB	Sn	07 45 46.4	+0.8
RNF	**Rovaniemi**	**2.56**	**116**	PB	Pn	07 45 18.2	+1.4
RNF				SG	Sb	07 45 52.6	-0.2
ARA0	**ARCESS Array S**	**2.58**	**46**	PN	Pn	07 45 17.6	+0.4
ARA0				SG	Sb	07 45 51.8	-1.8
KEV	**Kevo**	**3.13**	**49**	SB	Sb	07 46 06.2	-3.2
KEV				MSG		07 46 06.2	
	comp=Z,0.7nm,0.2s						
BURU	**Burvik**	**3.29**	**171**	SN	Sn	07 46 04.9	-1.6
OUL	**Oulu**	**3.56**	**138**	PN	Pn	07 45 30.8	+0.1
UMAU	**Umeaa**	**3.96**	**177**	SG	Sg	07 46 37.9	-3.4

IDC 05 08:01:20.8±15.0, 48°.80S×68°.62E, h0km, mb3.7/3, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=385.8km s-min=42.9km az=126.0, Kerguelen Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S1	**CROZET ISLANDS**	**11.41**	**274**	T	T	08 15 22.7	
	baz=108,slow=76,SNR=9.7						
H04S2	**CROZET ISLANDS**	**11.41**	**274**	T	T	08 15 18.8	
	baz=108,slow=76,SNR=3.9						
H04S3	**CROZET ISLANDS**	**11.42**	**274**	T	T	08 15 25.9	
	baz=108,slow=76,SNR=5.1						
H04N2	**CROZET ISLANDS**	**11.68**	**277**	T	T	08 15 31.4	
	baz=111,slow=76						
H04N3	**CROZET ISLANDS**	**11.69**	**277**	T	T	08 15 32.5	
	baz=111,slow=76						
H04N1	**CROZET ISLANDS**	**11.70**	**277**	T	T	08 15 38.8	
	baz=111						
MAW	**Mawson**	**19.09**	**187**	P	P	08 05 44.6	+0.1
	baz=358,slow=13,SNR=1.5						
	1.1nm,0.4s						
STKA	**Stephens Creek**	**56.02**	**101**	P	P	08 11 01.1	0.0
	2.0nm,0.8s,baz=217,slow=10,SNR=2.0						
	2.0nm,0.8s						
ASAR	**Alice Springs**	**56.43**	**88**	P	P	08 11 04.2	0.0
	0.4nm,0.7s,baz=219,slow=6.6,SNR=6.3						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**59.33**	**86**	P	P	08 11 24.4	-0.2
	0.5nm,0.7s,baz=222,slow=6.3,SNR=5.7						
	0.5nm,0.7s						

SJA ***05*** *08:06:56.3±0.8, 22°.97S×65°.61W, h299km±5km, ML3.3, MW3.5*

ISC 05 08:06:55.7±1.3, 23°.02S±0°.07×65°.68W±0°.06, h300km, n22, σ1§65/41, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.31**	**127**	*e*P	**Pn**	**08 07 35.4**	**+0.9**
YJA	**Yavi**	**0.85**	**11**	*e*P	**Pn**	**08 07 37.0**	**+0.9**
YJA				*e*S	**S**	**08 08 06.4**	**-1.8**
SLA	**San Lorenzo**	**1.70**	**175**	*e*P	**Pn**	**08 07 41.9**	**+1.5**
SLA				*e*S	**S**	**08 08 14.6**	**-1.4**
ALOL	**LOMAS DE OLMED**	**1.75**	**117**	*e*P	**Pn**	**08 07 41.1**	**+0.5**
LVC	**Limon Verde**	**3.00**	**277**	*e*P	**Pn**	**08 07 53.4**	**+1.4**
LVC				*e*S	**S**	**08 08 36.8**	**0.0**
FSA	**Cafayete**	**3.09**	**185**	*e*P	**Pn**	**08 07 53.5**	**+0.9**
PB15	**IPOC Station P**	**3.49**	**266**	*e*P	**Pn**	**08 07 58.2**	**+1.5**
PB15				*i* S	**S**	**08 08 43.8**	**-1.6**
PB15				IAML		08 08 46.8	
	comp=E,330nm,0.3s						
PB15	**IPOC Station P**	**3.49**	**266**	*e*P	**Pn**	**08 07 58.4**	**+1.6**
PB15				*e*S	**S**	**08 08 44.8**	**-0.7**
PB09	**IPOC Station P**	**3.51**	**290**	*e*P	**Pn**	**08 07 58.6**	**+1.7**
PB09				*i* S	**S**	**08 08 43.5**	**-2.3**
PB09				IAML		08 08 49.4	
	comp=N,13nm,0.3s						
PB09	**IPOC Station P**	**3.51**	**290**	*e*P	**Pn**	**08 07 58.6**	**+1.7**
PB09				*e*S	**S**	**08 08 45.6**	**-0.2**
PB09				IAML		08 09 18.1	
	comp=Z,22nm,2.8s						
PB06	**IPOC Station P**	**3.60**	**274**	*e*P	**Pn**	**08 07 59.3**	**+1.5**
PB06				*e*S	**S**	**08 08 46.8**	**-0.7**
PB06				IAML		08 08 50.0	
	comp=Z,24nm,0.4s						
PB01	**IPOC Station P**	**4.04**	**298**	*e*P	**Pn**	**08 08 03.6**	**+1.1**
PB01				*i* S	**S**	**08 08 53.7**	**-2.3**
PB01				IAML		08 08 54.8	
	comp=E,28nm,0.3s						
PB01	**IPOC Station P**	**4.04**	**298**	*e*P	**Pn**	**08 08 03.7**	**+1.2**
PB01				*e*S	**S**	**08 08 54.6**	**-1.4**
PB01				IAML		08 08 55.6	
	comp=Z,19nm,0.1s						
PB07	**IPOC Station P**	**4.10**	**287**	⇑*i*P	**Pn**	**08 08 04.2**	**+1.0**
PB07				*i* S	**S**	**08 08 53.8**	**-3.5**
PB07				IAML		08 08 56.3	
	comp=N,40nm,0.2s						
PB07	**IPOC Station P**	**4.10**	**287**	*e*P	**Pn**	**08 08 04.3**	**+1.0**
PB07				*e*S	**S**	**08 08 55.2**	**-2.1**
PB07				IAML		08 08 56.6	
	comp=Z,20nm,0.1s						
GO02	**Mina Guanaco**	**4.16**	**238**	*e*P	**Pn**	**08 08 05.6**	**+1.6**
GO02				*e*S	**S**	**08 08 57.7**	**-1.0**
PB04	**IPOC Station P**	**4.18**	**279**	*e*P	**Pn**	**08 08 05.4**	**+1.3**
PB04				*e*S	**S**	**08 08 57.3**	**-1.7**
PB04				IAML		08 08 59.9	
	comp=Z,28nm,0.2s						
PB02	**IPOC Station P**	**4.25**	**293**	*e*P	**Pn**	**08 08 05.8**	**+0.9**
PB02				*i* S	**S**	**08 08 56.9**	**-3.5**
PB02				IAML		08 08 58.8	
	comp=N,39nm,0.1s						
PB02	**IPOC Station P**	**4.25**	**293**	*e*P	**Pn**	**08 08 05.9**	**+1.0**
PB02				*e*S	**S**	**08 08 57.7**	**-2.6**
PB02				IAML		08 09 00.2	
	comp=Z,26nm,0.2s						
PB08	**IPOC Station P**	**4.32**	**311**	*e*P	**Pn**	**08 08 07.6**	**+1.7**
PB08				*e*S	**S**	**08 09 01.5**	**-0.6**
GO01	**Chusmiza**	**4.67**	**315**	*e*P	**Pn**	**08 08 12.1**	**+2.1**
GO01				*e*S	**S**	**08 09 10.6**	**+1.0**
PATCX	**Punta Patache**	**4.69**	**297**	*e*P	**Pn**	**08 08 10.7**	**+0.9**
PATCX				*e*S	**S**	**08 09 07.6**	**-1.7**
PATCX				IAML		08 09 49.1	
	comp=Z,20nm,3.2s						

VAO ***05*** *08:11:35.9±0.2, 22°.28S×68°.43W, h113km, mb5.3*
SJA ***05*** *08:11:35.1±1.3, 22°.41S×68°.59W, h127km±8km, ML5.6, MW5.3*
MOS ***05*** *08:11:36.1±1.5, 22°.47S×68°.64W, h116km, mb5.5/11, Error ellipse: s-maj=15.7km s-min=6.5km az=98.0*
NEIC ***05*** *08:11:37.0±2.1, 22°.38S±0°.04×68°.52W±0°.05, h110km±3km, mb5.6/59, Mwr5.4/40, Mww5.5/16, Mww5.5(GUC), Error ellipse: s-maj=7.1km s-min=5.1km az=46.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr-1.31; Mθθ0.12; Mφφ1.19; Mrθ0.81; Mθφ-0.48; Mφr-0.99; Fault plane solution: M0 1.86000×10^17^ NP1: φs326.71000°, δ67.12000°, λ-100.26000°. NP2: φs171.67000°, δ24.96000°, λ-67.12000°. Principal axes: T 1.8559, Plg21.0000°, Azm64.0000°; N 0.0032, Plg9.0000°, Azm331.0000°; P -1.8590, Plg66.0000°, Azm218.0000°;*
NEIC ***05*** *08:11:36.8, 22°.40S×68°.71W, h100km, Moment Tensor Solution. Duration: 2§9 Moment tensor: Scale 10^17^Nm; Mrr-1.66; Mθθ0.41; Mφφ1.25; Mrθ0.60; Mθφ-1.06; Mφr-0.65; Fault plane solution: M0 2.02000×10^17^ NP1: φs150.96000°, δ32.39000°, λ-81.77000°. NP2: φs321.24000°, δ57.98000°, λ-95.19000°. Principal axes: T 2.1703, Plg13.0000°, Azm55.0000°; N -0.3003, Plg4.0000°, Azm324.0000°; P -1.8700, Plg76.0000°, Azm215.0000°;*
NEIC ***05*** *08:11:36.8, 22°.40S×68°.50W, h100km*
NEIC ***05*** *08:11:36.9, 22°.41S×68°.57W, h113km*
IDC ***05*** *08:11:36.1±0.3, 22°.42S×68°.68W, h112km±2km, mb4.9/20, mbtmp5.2/21, MS4.2/40, Error ellipse: s-maj=13.6km s-min=8.3km az=87.0*
GUC ***05*** *08:11:37.3±0.7, 22°.37S×68°.54W, h115km±4km, ML5.8*
BJI ***05*** *08:11:37.0±0.0, 22°.40S×68°.40W, h100km, mB5.3/7*
GCMT ***05*** *08:11:40.0±0.1, 22°.34S±0°.01×68°.49W±0°.01, h140km, MW5.5/132, Moment Tensor Solution. s130, c184; s132, c235; Duration: 1§3 Moment tensor: Scale 10^17^ Nm; Mrr-1.77±.02; Mθθ0.30±.03; Mφφ1.47±.04; Mrθ0.50±.02; Mθφ-0.95±.03; Mφr-0.38±.03; Best double couple: M0 1.99100×10^17^ NP1: φs323.00000°, δ54.00000°, λ-100.00000°. NP2: φs159.00000°, δ37.00000°, λ-76.00000°. Principal axes: T 2.0910, Plg9.0000°, Azm60.0000°; N -0.1970, Plg8.0000°, Azm329.0000°; P -1.8910, Plg78.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 08:11:36.2±0.2, 22°.40S±0°.03×68°.48W±0°.04, h110km±1km, h111km: pP-P, n871, σ1§58/1098, mb5.4/78, 23C-32D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.45**	**243**	Pn	**Pn**	**08 11 53.7**	**+0.5**
LVC				Sn	**Sn**	**08 12 06.2**	**+0.1**
LVC	**Limon Verde**	**0.45**	**243**	*e*P	**Pn**	**08 11 53.8**	**+0.5**
LVC				*e*S	**Sn**	**08 12 05.4**	**-0.6**
LVC	**Limon Verde**	**0.45**	**243**	P	**Pn**	**08 11 53.2**	**0.0**
	25μm,0.4s,baz=60,slon=3.3						
LVC				S	**Sn**	**08 12 06.1**	**+0.1**
	78μm,0.4s,baz=356,slow=23,SNR=33						
LVC	**Limon Verde**	**0.45**	**243**	⇓*i*P	**Pn**	**08 11 53.9**	**+0.6**
LVC				*i* S	**Sn**	**08 12 06.2**	**+0.1**
LVC				IAML		08 12 07.8	
	comp=Z,722μm,0.7s						
LVC	**Limon Verde**	**0.45**	**243**	*i* P	**Pn**	**08 11 54.3**	**+1.0**
LVC				*e*S	**Sn**	**08 12 06.2**	**+0.1**
LVC				IAML		08 12 07.0	
	comp=Z,101μm,0.6s						
AF01	**San Pedro de A**	**0.61**	**153**		**Pn**	**08 11 55.5**	**+1.2**
AF01				Sn	**Sn**	**08 12 09.8**	**+2.0**
AF01	**San Pedro de A**	**0.61**	**153**	⇓*i*P	**Pn**	**08 11 55.6**	**+1.3**
AF01				*i* S	**Sn**	**08 12 09.9**	**+2.0**
PB09	**IPOC Station P**	**0.93**	**310**		**Pn**	**08 11 57.4**	**+0.4**
PB09				Sn	**Sn**	**08 12 13.2**	**+0.7**
PB09	**IPOC Station P**	**0.93**	**310**	⇓*i*P	**Pn**	**08 11 57.9**	**+0.9**
PB09				*e*S	**Sn**	**08 12 13.3**	**+0.7**
PB09				IAML		08 12 15.3	
	comp=E,337μm,0.7s						
PB09	**IPOC Station P**	**0.93**	**310**	*i* P	**Pn**	**08 11 57.8**	**+0.9**
PB09				*e*S	**Sn**	**08 12 13.5**	**+0.9**
PB06	**IPOC Station P**	**1.06**	**253**		**Pn**	**08 11 58.5**	**+0.3**
PB06				Sn	**Sn**	**08 12 15.6**	**+0.8**
PB06	**IPOC Station P**	**1.06**	**253**	⇑*i*P	**Pn**	**08 11 58.9**	**+0.8**
PB06				*i* S	**Sn**	**08 12 15.2**	**+0.3**
PB06				IAML		08 12 18.9	
	comp=E,134μm,0.7s						
PB06	**IPOC Station P**	**1.06**	**253**	*i* P	**Pn**	**08 11 59.0**	**+0.8**
PB06				*e*S	**Sn**	**08 12 15.5**	**+0.7**
PB15	**IPOC Station P**	**1.22**	**229**		**Pn**	**08 12 01.2**	**+1.2**
PB15				Sn	**Sn**	**08 12 19.8**	**+1.8**
PB15	**IPOC Station P**	**1.22**	**229**	⇑*i*P	**Pn**	**08 12 01.2**	**+1.2**
PB15				*e*S	**Sn**	**08 12 19.8**	**+1.8**
PB15	**IPOC Station P**	**1.22**	**229**	*i* P	**Pn**	**08 12 01.2**	**+1.2**
PB15				*e*S	**Sn**	**08 12 18.6**	**+0.6**
PB07	**IPOC Station P**	**1.47**	**297**		**Pn**	**08 12 03.1**	**+0.2**
PB07				Sn	**Sn**	**08 12 23.1**	**0.0**
PB07	**IPOC Station P**	**1.47**	**297**	⇑*i*P	**Pn**	**08 12 03.5**	**+0.6**
PB07				*i* S	**Sn**	**08 12 23.1**	**0.0**
PB07				IAML		08 12 24.9	
	comp=N,363μm,0.2s						
PB07	**IPOC Station P**	**1.47**	**297**	*i* P	**Pn**	**08 12 03.6**	**+0.6**
PB07				*e*S	**Sn**	**08 12 22.4**	**-0.7**
PB04	**IPOC Station P**	**1.55**	**272**	Pn	**Pn**	**08 12 03.8**	**0.0**
PB04	**IPOC Station P**	**1.55**	**272**	⇑*i*P	**Pn**	**08 12 04.2**	**+0.3**
PB04				*i* S	**Sn**	**08 12 24.5**	**-0.3**
PB04				IAML		08 12 31.8	
	comp=N,145μm,0.7s						
PB04	**IPOC Station P**	**1.55**	**272**	*i* P	**Pn**	**08 12 04.2**	**+0.3**
PB04				*e*S	**Sn**	**08 12 23.6**	**-1.2**
PB01	**IPOC Station P**	**1.65**	**325**		**Pn**	**08 12 05.2**	**+0.3**
PB01	**IPOC Station P**	**1.65**	**325**	⇓*i*P	**Pn**	**08 12 05.3**	**+0.3**
PB01				*i* S	**Sn**	**08 12 26.7**	**-0.1**
PB01				IAML		08 12 35.8	
	comp=E,76μm,0.3s						
PB01	**IPOC Station P**	**1.65**	**325**	*i* P	**Pn**	**08 12 05.4**	**+0.4**
PB01				*e*S	**Sn**	**08 12 27.7**	**+0.9**
PB01				IAML		08 12 32.0	
	comp=Z,45μm,0.5s						
PB02	**IPOC Station P**	**1.70**	**309**		**Pn**	**08 12 05.7**	**0.0**
PB02	**IPOC Station P**	**1.70**	**309**	⇓*i*P	**Pn**	**08 12 06.0**	**+0.4**
PB02				*i* S	**Sn**	**08 12 27.6**	**-0.4**
PB02	**IPOC Station P**	**1.70**	**309**	*i* P	**Pn**	**08 12 06.3**	**+0.6**
PATCX	**Punta Patache**	**2.22**	**315**	Pn	**Pn**	**08 12 11.8**	**-0.3**
PATCX	**Punta Patache**	**2.22**	**315**	⇑*i*P	**Pn**	**08 12 11.9**	**-0.2**
PATCX				*e*S	**Sn**	**08 12 39.2**	**-0.4**
PATCX	**Punta Patache**	**2.22**	**315**	*i* P	**Pn**	**08 12 11.3**	**-0.7**
PB08	**IPOC Station P**	**2.34**	**344**		**Pn**	**08 12 15.2**	**+1.3**
PB08	**IPOC Station P**	**2.34**	**344**	⇓*i*P	**Pn**	**08 12 15.3**	**+1.3**
PB08				*i* S	**Sn**	**08 12 44.4**	**+1.6**
PB08	**IPOC Station P**	**2.34**	**344**	*i* P	**Pn**	**08 12 15.5**	**+1.5**
PB08				IAML		08 12 47.5	
	comp=Z,20μm,0.6s						
TA01	**Diego Aracena**	**2.42**	**319**		**Pn**	**08 12 14.1**	**-0.6**
TA01	**Diego Aracena**	**2.42**	**319**	⇑*i*P	**Pn**	**08 12 14.0**	**-0.6**
TA01				*i* S	**Sn**	**08 12 42.2**	**-1.9**
TA01	**Diego Aracena**	**2.42**	**319**	*i* P	**Pn**	**08 12 14.0**	**-0.6**
TA01				IAML		08 12 51.2	
	comp=Z,35μm,0.4s						
HMBC	**Humberstone**	**2.49**	**328**	⇓*i*P	**Pn**	**08 12 15.2**	**-0.5**
HMBC				*i* S	**Sn**	**08 12 44.4**	**-1.6**
HMBC				IAML		08 12 58.0	
	comp=E,58μm,0.7s						
HMBC	**Humberstone**	**2.49**	**328**	*i* P	**Pn**	**08 12 15.2**	**-0.5**
TA02	**Huaiquique**	**2.62**	**324**		**Pn**	**08 12 16.0**	**-1.3**
TA02	**Huaiquique**	**2.62**	**324**	*i* P	**Pn**	**08 12 16.5**	**-0.8**
YJA	**Yavi**	**2.75**	**86**	*i* P	**Pn**	**08 12 21.6**	**+2.2**
GO01	**Chusmiza**	**2.80**	**346**		**Pn**	**08 12 21.0**	**+0.9**
GO01	**Chusmiza**	**2.80**	**346**	*i* P	**Pn**	**08 12 21.1**	**+0.9**
PB14	**IPOC Station P**	**2.83**	**218**	Pn	**Pn**	**08 12 19.3**	**-1.0**
PB14	**IPOC Station P**	**2.83**	**218**	*i* P	**Pn**	**08 12 19.7**	**-0.6**
PB14				IAML		08 13 22.2	
	comp=Z,16μm,0.8s						
GO02	**Mina Guanaco**	**2.93**	**200**	Pn	**Pn**	**08 12 21.7**	**0.0**
GO02	**Mina Guanaco**	**2.93**	**200**	*i* P	**Pn**	**08 12 22.1**	**+0.5**
GO02				*e*S	**Sn**	**08 12 50.7**	**-5.8**
HJA	**Humahuaca**	**2.94**	**106**	*i* P	**Pn**	**08 12 24.3**	**+2.4**
SLA	**San Lorenzo**	**3.57**	**131**	*i* P	**Pn**	**08 12 33.0**	**+3.0**
ASTB	**Santa Barbara**	**4.01**	**113**	*i* P	**Pn**	**08 12 37.2**	**+1.4**
PB12	**IPOC Station P**	**4.15**	**335**	Pn	**Pn**	**08 12 35.9**	**-1.9**
PB12	**IPOC Station P**	**4.15**	**335**	*i* P	**Pn**	**08 12 36.3**	**-1.4**
PB12				IAML		08 13 50.5	
	comp=Z,8μm,0.7s						
PB16	**IPOC Station P**	**4.16**	**346**	Pn	**Pn**	**08 12 38.9**	**+0.6**
PB16	**IPOC Station P**	**4.16**	**346**	*i* P	**Pn**	**08 12 38.5**	**+0.2**
PB16				IAML		08 14 05.3	
	comp=Z,5μm,0.7s						
AC01	**Pan de Azucar**	**4.20**	**207**		**Pn**	**08 12 36.5**	**-1.8**
AC01	**Pan de Azucar**	**4.20**	**207**	⇑*i*P	**Pn**	**08 12 36.6**	**-1.7**
ALOL	**LOMAS DE OLMED**	**4.37**	**110**	*i* P	**Pn**	**08 12 41.4**	**+0.8**
AP01	**Chacalluta**	**4.38**	**336**		**Pn**	**08 12 40.1**	**-0.6**
AC02	**Maricunga**	**4.45**	**188**	Pn	**Pn**	**08 12 42.5**	**+0.4**
PB18	**Visviri**	**4.88**	**349**		**Pn**	**08 12 49.9**	**+1.9**
AC06	**Mina Casimiro**	**5.22**	**199**	Pn	**Pn**	**08 12 49.9**	**-2.2**
GO03	**Copiap**	**5.41**	**197**		**Pn**	**08 12 52.6**	**-2.0**
GO03	**Copiap**	**5.41**	**197**	*i* P	**Pn**	**08 12 52.6**	**-2.0**
LPAZ	**La Paz**	**6.09**	**3**		**Pn**	**08 13 04.8**	**+0.4**
LPAZ	**La Paz**	**6.09**	**3**	*e*P	**Pn**	**08 13 04.8**	**+0.4**
LPAZ	**La Paz**	**6.09**	**3**	*e*P	**Pn**	**08 13 04.8**	**+0.4**
LPAZ	**La Paz**	**6.09**	**3**	*e*P	**Pn**	**08 13 05.4**	**+0.9**
AC04	**Llanos de Chal**	**6.24**	**202**		**Pn**	**08 13 01.7**	**-4.0**
LCO	**Las Campanas**	**6.88**	**196**		**Pn**	**08 13 11.2**	**-3.5**
LCO	**Las Campanas**	**6.88**	**196**	*e*P	**Pn**	**08 13 11.2**	**-3.5**
TICA	**Tres Isletas**	**8.38**	**120**	*e*P	**Pn**	**08 13 35.1**	**+0.4**
BBSD	**Serra de San D**	**9.04**	**56**	*e*P	**Pn**	**08 13 40.7**	**-3.2**
ZON	**Zonda**	**9.11**	**181**		**Pn**	**08 13 42.3**	**-2.5**
ZON	**Zonda**	**9.11**	**181**	P	**Pn**	**08 13 42.3**	**-2.5**
CFA	**Coronel Fontan**	**9.17**	**179**	P	**Pn**	**08 13 42.8**	**-2.8**
	comp=Z,105nm,0.8s,baz=355,slow=13,SNR=179						
CFA				S	**Sn**	**08 15 21.6**	**-5.3**
	comp=Z,98nm,0.7s,baz=0.8,slow=20,SNR=1.2						
CFA				LR	LR	08 17 00.1	
	comp=Z,2μm,20.4s,baz=354,slow=35						
SIV	**San Ignacio**	**9.46**	**49**	P	**Pn**	**08 13 46.6**	**-3.1**
	comp=Z,490nm,0.5s,baz=260,slow=8.1,SNR=514						
SIV				S	Sn	08 15 22.1	-12
	comp=Z,60nm,0.7s,baz=217,slow=12,SNR=1.0						
SIV				LR	LR	08 18 26.7	
	comp=Z,3μm,21.2s,baz=282,slow=43						
ESFA	**Espinillo Form**	**9.50**	**107**	*e*P	**Pn**	**08 13 49.3**	**-0.8**
MURT	**Porto Murtinho**	**10.11**	**88**	*e*P	**Pn**	**08 13 56.2**	**-2.1**
SCCA	**San Cayetano,**	**10.30**	**122**	*e*P	**Pn**	**08 14 01.2**	**+0.3**
VA03	**San Esteban**	**10.48**	**190**		**Pn**	**08 13 59.2**	**-4.3**
CPUP	**Villa Florida**	**10.89**	**113**	*e*P	**Pn**	**08 14 08.0**	**-0.9**
CPUP	**Villa Florida**	**10.89**	**113**	P	**Pn**	**08 14 07.5**	**-1.3**
	comp=Z,9.2nm,0.7s,baz=296,slow=12,SNR=28						
CPUP				LR	LR	08 19 05.7	
	comp=Z,2μm,20.0s,baz=306,slow=41						
BDQN	**Bodoquena, MS**	**11.10**	**82**	*e*P	**Pn**	**08 14 08.6**	**-3.1**
PTLB	**Pontes e Lacer**	**11.22**	**54**	*e*P	**Pn**	**08 14 09.7**	**-3.7**
MECA	**Mercedes**	**11.54**	**129**	*e*P	**Pn**	**08 14 17.6**	**+0.1**
ANTJ	**Antonio Joao (**	**11.56**	**90**	*e*P	**Pn**	**08 14 16.1**	**-1.8**
AQDB	**Aquidauana**	**12.05**	**83**	*e*P	**Pn**	**08 14 22.4**	**-2.0**
VILB	**Vilhena**	**12.26**	**41**		**Pn**	**08 14 24.8**	**-2.5**
VILB	**Vilhena**	**12.26**	**41**	*e*P	**Pn**	**08 14 24.3**	**-2.9**
ETMB	**Extrema**	**12.70**	**10**		**Pn**	**08 14 28.9**	**-4.0**
ETMB	**Extrema**	**12.70**	**10**	*e*P	**Pn**	**08 14 29.4**	**-3.6**
ITQB	**Itaqui**	**12.88**	**127**		**Pn**	**08 14 34.3**	**-0.9**
ITQB	**Itaqui**	**12.88**	**127**	*e*P	**Pn**	**08 14 34.4**	**-0.7**
NNA	**Nana**	**13.08**	**321**	*e*P	**P**	**08 14 43.1**	**-0.8**
NNA	**Nana**	**13.08**	**321**	P	**P**	**08 14 45.4**	**+1.4**
	comp=Z,80nm,1.1s,baz=158,slow=11,SNR=12						
NNA				S	Sn	08 16 52.8	-9.2
	comp=Z,30nm,0.7s,baz=299,slow=11,SNR=1.5						
MCR1	**Marechal Candi**	**13.41**	**102**	*e*P	**Pn**	**08 14 41.5**	**-0.7**
PP1B	**Ponte de Pedra**	**13.64**	**72**	*e*P	**Pn**	**08 14 42.8**	**-2.5**
SALV	**Santo Antonio**	**13.70**	**64**	*e*P	**Pn**	**08 14 42.4**	**-3.5**
UNIS	**Unistalda (Bra**	**13.78**	**122**	*e*P	**Pn**	**08 14 47.7**	**+0.8**
RPRD	**Ribas do Rio P**	**13.89**	**85**	*e*P	**Pn**	**08 14 48.2**	**-0.2**
CRSM	**Crissiumal (Br**	**14.04**	**114**	*e*P	**Pn**	**08 14 50.6**	**+0.3**
RODS	**Rosario do Sul**	**14.28**	**126**	*e*P	**Pn**	**08 14 53.5**	**+0.1**
SAML	**Samuel**	**14.31**	**22**	*e*P	**Pn**	**08

MACA Manacapuru-AM 20.57 23 P **P** **08 16 03.6 -2.7**
MACA Manacapuru-AM 20.57 23 *e*P **P** **08 16 03.8 -2.6**
LL02 Futaleuf 20.92 187 P **P** **08 16 09.4 -0.5**
PMNB Patos De Minas 21.00 83 *e*P **P** **08 16 10.1 -1.0**
PARB Paraibuna 21.08 97 *e*P **P** **08 16 10.7 -1.2**
MCRA Macar, Loja 21.09 327 *e*P **P** **08 16 13.0 +1.0**
BOSC San Juan Bosco 21.46 332 P **P** **08 16 16.0 -0.2**
ITTB Itaituba 21.77 36 *e*P **P** **08 16 16.6 -2.6**
BSCB Bom Sucesso 22.07 91 *e*P **P** **08 16 21.8 -0.6**
ESAR Angra dos Reis 22.18 96 *e*P **P** **08 16 23.1 -0.4**
SGCB S.to Gabriel d 22.19 4 *e*P **P** **08 16 22.4 -1.2**
AY01 Puyuhuapi 22.23 188 P **P** **08 16 22.6 -1.1**
COHC Cochancay 22.41 331 P **P** **08 16 27.6 +1.8**
COHC Cochancay 22.41 331 *e*P **P** **08 16 27.4 +1.5**
VAS01 Vassouras-RJ 23.15 94 *e*P **P** **08 16 32.7 -0.4**
PTLC Puerto Leguiza 23.27 344 *e*P **P** **08 16 31.0 -3.2**
COYC Coyhaique 23.30 186 P **P** **08 16 33.6 -0.7**
PIAT Ana Tenorio 23.31 335 *e*P **P** **08 16 37.3 +2.2**
DIAM Diamantina, MG 23.60 85 *e*P **P** **08 16 36.7 -0.7**
JANB Januaria 24.00 76 *e*P **P** **08 16 39.0 -1.9**
DUB01 Friburgo-RJ 24.16 94 *e*P **P** **08 16 41.3 -1.0**
SMTB Santa Maria do 24.16 59 *e*P **P** **08 16 41.1 -1.2**
PRPB Paraiapebas 24.18 51 *e*P **P** **08 16 40.7 -1.9**
BONI La Bonita 24.37 338 *e*P **P** **08 16 45.1 +0.6**
IMBA Imbabura, San 24.45 336 P **P** **08 16 47.7 +2.3**
OTAV Otavalo 24.51 335 P **P** **08 16 48.2 +2.2**
OTAV Otavalo 24.51 335 P **P** **08 16 48.2 +2.2**
OTAV Otavalo 24.51 335 *e*P **P** **08 16 49.4 +3.4**
OTAV Otavalo 24.51 335 *e*P **P** **08 16 44.8 -1.2**
SDBA SAO DESIDERIO 24.56 70 *e*P **P** **08 16 44.2 -1.7**
MALB Monte Alegre 24.66 36 *e*P **P** **08 16 45.7 -1.1**
PAC1 Pacto, Paraso 24.67 335 *e*P **P** **08 16 49.1 +2.0**
TULM Tulcn-Chalpat 24.71 337 P **P** **08 16 48.5 +0.7**
TULM Tulcn-Chalpat 24.71 337 *e*P **P** **08 16 51.7 +4.0**
FLOC Florencia 24.85 343 *e*P **P** **08 16 49.3 +0.8**
CMBC Cumbal 24.93 337 *e*P **P** **08 16 53.6 +3.8**
MACC Macarena, Meta 24.96 347 *e*P **P** **08 16 45.8 -3.8**
GCUF Volcan Galeras 25.03 339 *e*P **P** **08 16 53.9 +3.2**
GUVC San Jose del G 25.12 350 *e*P **P** **08 16 52.1 +1.1**
CRUC La Cruz 25.22 340 *e*P **P** **08 16 57.2 +4.9**
GARC Garzon, Huila 25.38 343 *e*P **P** **08 16 53.6 -0.1**
BBAC Balboa, Cauca 25.74 339 *e*P **P** **08 16 57.5 +0.6**
SJMB Sao Joao De Ma 25.80 87 *e*P **P** **08 16 56.1 -1.1**
BOAV Boa Vista 25.84 18 P **P** **08 16 57.1 -0.5**
BOAV Boa Vista 25.84 18 *e*P **P** **08 16 57.5 -0.1**
BOAV Boa Vista 25.84 18 *e*P **P** **08 16 57.7 +0.1**
BETC Betania 25.84 344 *e*P **P** **08 16 56.6 -1.0**
ALF01 Guarapari-ES 25.87 91 *e*P **P** **08 16 57.0 -0.7**
POPC Popayan, Colom 26.05 341 *e*P **P** **08 17 01.1 +1.4**
RIB01 Linhares ES 26.41 89 *e*P **P** **08 17 01.2 -1.4**
PTGC Puerto Gaitan, 26.68 352 *e*P **P** **08 17 04.5 -0.5**
JAMC Jamundi, Valle 26.69 342 *e*P **P** **08 17 06.4 +1.0**
PRAC Prado 26.70 346 *e*P **P** **08 17 02.7 -2.6**
ORTC Ortega, Tolima 26.98 345 *e*P **P** **08 17 06.3 -1.4**
MCPB Macapa, AP 27.12 38 *e*P **P** **08 17 08.4 -0.7**
YOTC Yotoco, Valle 27.33 343 *e*P **P** **08 17 13.4 +2.3**
CHIC Chingaza 27.35 349 *e*P **P** **08 17 06.6 -4.9**
ANIL Santa Ana 27.57 345 *e*P **P** **08 17 18.4 +5.0**
GUA01 Guaratinga, BA 27.61 83 *e*P **P** **08 17 13.5 0.0**
ROSC El Rosal 27.67 347 P **P** **08 17 14.1 -0.3**
ROSC El Rosal 27.67 347 *e*P **P** **08 17 15.3 +0.9**
ROSC El Rosal 27.67 347 P **P** **08 17 13.1 -1.3**
comp=Z,5.5nm,0.4s,baz=184,slow=22,SNR=1.3
ROSC LR LR 08 30 12.4
comp=Z,1µm,21.2s,baz=193,slow=40
comp=Z,5.5nm,0.4s
TMAB Tom-Au,PA,Br 28.08 48 *e*P **P** **08 17 17.1 -0.5**
PLMC San Jos del P 28.19 343 *e*P **P** **08 17 19.6 +1.0**
GUY2C Guyana, Caldas 28.27 345 *e*P **P** **08 17 19.6 -0.2**
SPBC San Pablo de B 28.41 348 *e*P **P** **08 17 21.7 +1.1**
RUSC La Rusia 28.48 350 *e*P **P** **08 17 21.7 0.0**
NORC Norcasia 28.49 347 *e*P **P** **08 17 20.2 -1.1**
TAMC Tame, Arauca 28.84 353 *e*P **P** **08 17 28.6 +4.2**
BARC Barichara 29.18 350 *e*P **P** **08 17 27.4 -0.2**
MG05 Puerto Natales 29.39 185 P **P** **08 17 28.9 +0.1**
MG05 IAmb IAmb 08 18 08.5
comp=Z,99nm,1.1s
PAMC Pamplona, Colo 29.85 352 *e*P **P** **08 17 32.9 -0.8**
EFI East Falkland 30.32 167 P **P** **08 17 37.5 +0.5**
EFI pP **pP** **08 18 03.1 +1.0**
EFI sP **sP** **08 18 16.3 +1.1**
ZARC Zaragoza, Cauc 30.36 347 *e*P **P** **08 17 35.6 -2.2**
UREC San Jos de Ur 30.75 346 *e*P **P** **08 17 41.4 +0.2**
APAC Apartado, Choc 31.14 344 *e*P P 08 17 55.6 +11
BAUV El Baul 31.16 1 P **P** **08 17 43.3 -1.4**
BAUV IAmb IAmb 08 18 29.0
comp=Z,130nm,1.0s
SDV Santo Domingo 31.17 356 P **P** **08 17 42.6 -2.5**
SDV Santo Domingo 31.17 356 *e*P **P** **08 17 44.4 -0.7**
SDV Santo Domingo 31.17 356 P **P** **08 17 43.4 -1.6**
comp=Z,6.7nm,0.3s,baz=273,slow=1.8,SNR=7.1
SDV LR LR 08 31 27.2
comp=Z,829nm,19.3s,baz=174,slow=38
comp=Z,6.7nm,0.3s
MDP Montagnes des 31.42 31 LR LR 08 31 28.4
comp=Z,2µm,20.2s,baz=226,slow=38
MPGF Montagnes des 31.43 31 P **P** **08 17 46.2 -1.0**
MPGF pP **pP** **08 18 10.1 -3.0**
MPGF sP **sP** **08 18 23.8 -2.6**
LL6C La Loma 6 Bece 32.28 351 *e*P **P** **08 17 50.3 -4.4**
ARGC Ariguani, Magd 32.56 349 *e*P **P** **08 17 54.6 -2.4**
PCRV Puerto La Cruz 32.59 7 P **P** **08 17 56.9 -0.5**
comp=Z,7.6nm,0.4s,baz=176,slow=3.6,SNR=6.5
PCRV LR LR 08 32 18.2
comp=Z,1µm,21.5s,slow=38
comp=Z,7.6nm,0.4s
SJCC San Jacinto, C 32.77 348 *e*P **P** **08 17 55.2 -3.7**
BCIP Isla Barro Col 33.29 339 *e*P **P** **08 18 05.5 +2.0**
URIC Uribia, Colomb 34.07 354 *e*P **P** **08 18 08.5 -1.7**
GRGR Grenville 34.97 12 P **P** **08 18 17.7 -0.2**
RCBR Riachuelo 35.50 67 *e*P **P** **08 18 23.2 +0.5**
RCBR Riachuelo 35.50 67 P **P** **08 18 22.7 0.0**
SOCE Pocosol 36.22 332 P **P** **08 18 30.8 +2.1**
SOCE IAmb IAmb 08 18 59.7
comp=Z,361nm,1.2s
JTS Las Juntas de 36.28 332 P **P** **08 18 27.8 -1.4**
JTS IAmb IAmb 08 18 59.2
comp=Z,174nm,1.4s
JTS Las Juntas de 36.28 332⇑*e*P **P** **08 18 27.4 -1.8**
FDF Fort de France 37.60 12 P **P** **08 18 40.7 +0.4**
FDF IAmb IAmb 08 18 42.1
comp=Z,106nm,0.7s
FDF Fort de France 37.60 12 P **P** **08 18 40.7 +0.4**
FDF pmax pmax
comp=Z,106nm,0.7s
FDF Fort de France 37.60 12 P **P** **08 18 40.6 +0.3**
HOPE Hope Point 39.90 151 P **P** **08 19 01.4 +2.3**
HOPE Hope Point 39.90 151 P **P** **08 19 01.4 +2.3**
HOPE pmax pmax
comp=Z,541nm,1.0s
HOPE Hope Point 39.90 151 P **P** **08 19 01.1 +2.1**
HOPE pP **pP** **08 19 28.6 +3.6**
HOPE sP **sP** **08 19 40.4 +2.5**
SJG San Juan 40.33 3 P **P** **08 19 00.3 -2.6**
SJG IAmb IAmb 08 19 31.8
comp=Z,102nm,0.8s
SJG San Juan 40.33 3 P **P** **08 19 00.3 -2.6**
SJG pmax pmax
comp=Z,102nm,0.8s
SJG San Juan 40.33 3 *e*P **P** **08 18 59.5 -3.5**
SJG San Juan 40.33 3 P **P** **08 19 00.2 -2.8**
comp=Z,30nm,0.6s,baz=118,slow=5.7,SNR=22
SJG pP **pP** **08 19 26.3 -3.1**
comp=Z,89nm,0.7s,baz=78,slow=2.5,SNR=8.3
SJG LR LR 08 37 41.7
comp=Z,246nm,19.3s,baz=190,slow=39
SJG San Juan 40.33 3 P **P** **08 19 00.4 -2.6**
SJG pP **pP** **08 19 27.5 -2.0**
TGUH Tegucigalpa,Un 40.65 331 P **P** **08 19 05.7 -0.2**
TGUH Tegucigalpa,Un 40.65 331 *e*P **P** **08 19 06.9 +1.0**
ORCD Orcadas 41.73 163 P **P** **08 19 12.6 -1.4**
PMSA Palmer Station 42.46 177 *e*P **P** **08 19 22.3 +2.5**
PMSA Palmer Station 42.46 177 LR LR 08 37 36.9
comp=Z,497nm,20.8s,baz=358,slow=37
PMSA Palmer Station 42.46 177 P **P** **08 19 21.3 +1.4**
PMSA sP **sP** **08 20 00.7 +1.6**
TEIG Tepich 46.57 334 *e*P **P** **08 19 54.0 +0.9**
TEIG Tepich 46.57 334 P **P** **08 19 50.4 -2.7**
comp=Z,278nm,0.8s,baz=238,slow=18,SNR=6.5
TEIG pP **pP** **08 20 17.7 -2.3**
comp=Z,173nm,0.5s,baz=114,slow=2.0,SNR=4.0
comp=Z,278nm,0.8s

TEIG Tepich 46.57 334 P **P** **08 19 53.7 +0.6**
TEIG pP **pP** **08 20 20.5 +0.4**
TEIG sP **sP** **08 20 33.1 +0.2**
061Z Ochoppi 49.47 345 S **S** **08 27 17.6 +3.1**
baz=165
DWPF Disney Wildern 51.75 345 P **P** **08 20 32.7 +0.3**
baz=165
DWPF Disney Wildern 51.75 345 S **S** **08 27 45.4 -0.6**
baz=165
TIGA Tifton 55.46 344 P **P** **08 20 59.4 0.0**
baz=163
255A Hazlehurst 55.66 346 S **S** **08 28 40.3 +1.8**
baz=164
352A Blakely 55.85 343 P **P** **08 21 02.3 +0.1**
baz=162
BRAL Brewton 56.17 341 P **P** **08 21 04.8 +0.3**
baz=159
NHSC New Hope 56.32 348 P **P** **08 21 06.0 +0.5**
NHSC New Hope 56.32 348 P **P** **08 21 06.0 +0.5**
baz=167
NHSC New Hope 56.32 348 P **P** **08 21 06.5 +1.0**
baz=167
NHSC S **S** **08 28 50.2 +3.0**
baz=167
154A Montrose 56.47 345 P **P** **08 21 06.8 +0.3**
baz=164
250A Grady 56.69 342 P **P** **08 21 07.5 -0.7**
250A IAmb IAmb 08 21 09.1
comp=Z,163nm,1.4s
250A Grady 56.69 342 P **P** **08 21 07.9 -0.3**
baz=160,SNR=7.0
HAW Hawthorne Fire 56.85 347 P **P** **08 21 09.8 +0.5**
baz=166
HAW S **S** **08 28 55.9 +1.6**
baz=166
Y60A Bolivia 56.86 350 S **S** **08 28 56.3 +2.0**
baz=169
Y60A S **S** **08 28 56.3 +2.0**
baz=169
152A Waverly Hall 56.92 344 P **P** **08 21 08.9 -1.0**
152A Waverly Hall 56.92 344 P **P** **08 21 09.5 -0.3**
baz=162,SNR=5.5
Y58A Scranton 57.00 349 P **P** **08 21 11.3 +1.0**
baz=168
Y58A P **P** **08 21 11.3 +1.0**
baz=168
Y58A S **S** **08 28 54.0 -2.2**
baz=168
Y58A S **S** **08 28 54.0 -2.2**
baz=168
Y57A Sumter 57.24 348 P **P** **08 21 12.5 +0.5**
baz=167,SNR=5.8
Y57A P **P** **08 21 12.5 +0.5**
baz=167,SNR=5.8
Y57A S **S** **08 29 00.9 +1.5**
baz=167
Y57A S **S** **08 29 00.9 +1.5**
baz=167
GOGA Godfrey 57.31 345 P **P** **08 21 13.0 +0.4**
baz=164
344A Westbrook Farm 57.64 337 P **P** **08 21 15.1 +0.2**
baz=156
Z51A Franklin 57.65 343 P **P** **08 21 14.8 -0.1**
baz=162
Z51A S **S** **08 29 05.8 +1.0**
baz=162
JSC Jenkinsville 57.67 347 P **P** **08 21 14.5 -0.5**
JSC IAmb IAmb 08 21 45.5
comp=Z,51nm,1.2s
JSC Jenkinsville 57.67 347 P **P** **08 21 14.5 -0.5**
JSC pmax pmax
comp=Z,51nm,1.2s
JSC Jenkinsville 57.67 347 P **P** **08 21 15.4 +0.3**
baz=166,SNR=6.1
BIRD Birdtown, Kers 57.87 348 P **P** **08 21 17.0 +0.6**
baz=167,SNR=10
BIRD S **S** **08 29 09.3 +1.8**
baz=167
Y52A Lilburn 57.89 345 P **P** **08 21 16.5 -0.1**
baz=163
Y52A P **P** **08 21 16.5 -0.1**
baz=163
Y52A S **S** **08 29 05.9 -2.0**
baz=163
Y52A S **S** **08 29 05.9 -2.0**
baz=163
LRAL Lakeview Retre 57.89 342 P **P** **08 21 15.6 -1.0**
baz=160,SNR=6.2
LRAL Lakeview Retre 57.89 342 P **P** **08 21 16.1 -0.5**
baz=160,SNR=6.2
LRAL S **S** **08 29 05.8 -2.1**
baz=160
441A DeRidder 57.93 335 P **P** **08 21 18.7 +1.7**
baz=153
441A S **S** **08 29 10.2 +1.7**
baz=153
CNNC Cliffs of the 58.02 351 P **P** **08 21 16.8 -0.6**
baz=170
CNNC Cliffs of the 58.02 351 P **P** **08 21 18.5 +1.1**
baz=170
W59A Clinton 58.03 350 S **S** **08 29 10.0 +0.4**
baz=169
VBMS Vicksburg 58.26 338 P **P** **08 21 19.4 +0.2**
baz=156
W57A Gilead 58.27 349 P **P** **08 21 19.8 +0.6**
baz=168,SNR=6.6
W57A P **P** **08 21 19.8 +0.6**
baz=168,SNR=6.6
W57A S **S** **08 29 11.9 -0.9**
baz=168
W57A S **S** **08 29 11.9 -0.9**
baz=168
735A Kenedy 58.28 330 P **P** **08 21 20.8 +1.4**
baz=148
HKT Hockley 58.32 332*d i*P **P** **08 21 20.4 +0.8**
HKT pmax pmax
comp=Z,29nm,1.0s
HKT Hockley 58.32 332 P **P** **08 21 20.8 +1.2**
baz=150
HKT Hockley 58.32 332 P **P** **08 21 20.3 +0.8**
HKT pP **pP** **08 21 48.3 +0.6**
HKT sP **sP** **08 22 01.4 +1.1**
Z47A Carrollton 58.37 341 P **P** **08 21 19.6 -0.3**
baz=159
V61A Roper 58.38 352 P **P** **08 21 21.0 +1.0**
baz=171
V61A P **P** **08 21 21.0 +1.0**
baz=171
Y49A Blount Mountai 58.50 343 P **P** **08 21 20.3 -0.6**
baz=161
Y49A S **S** **08 29 13.6 -2.3**
baz=161
KMSC Kings Mountain 58.52 348 P **P** **08 21 21.6 +0.7**
baz=166,SNR=6.8
KMSC Kings Mountain 58.52 348 P **P** **08 21 21.4 +0.4**
baz=166,SNR=6.8
KMSC S **S** **08 29 16.8 +0.9**
baz=166
833A Chaparral WMA, 58.59 328 P **P** **08 21 22.1 +0.4**
833A Chaparral WMA, 58.59 328 P **P** **08 21 22.7 +1.1**
baz=146,SNR=40
833A Chaparral WMA, 58.59 328 P **P** **08 21 22.4 +0.8**
baz=146,SNR=40
833A S **S** **08 29 18.9 +1.7**
baz=146
BG3 Lake Jocassee 58.71 346 P **P** **08 21 22.1 -0.2**
BG3 IAmb IAmb 08 21 52.9
comp=Z,42nm,1.0s
CASEE Lake Jocassee 58.71 346 P **P** **08 21 22.8 +0.5**
baz=164,SNR=7.2
V58A Windy Hill, Pi 58.75 350 P **P** **08 21 22.7 +0.1**
baz=169,SNR=7.8
V58A P **P** **08 21 22.7 +0.1**
baz=169,SNR=7.8
V58A S **S** **08 29 19.9 +0.9**
baz=169
V58A S **S** **08 29 19.9 +0.9**
baz=169
X51A Calhoun 58.76 344 P **P** **08 21 22.2 -0.4**
X51A IAmb IAmb 08 21 53.4
comp=Z,71nm,1.1s
X51A Calhoun 58.76 344 P **P** **08 21 22.7 0.0**
baz=162,SNR=5.1
X51A P **P** **08 21 22.7 0.0**
baz=162,SNR=5.1
X51A S **S** **08 29 18.4 -0.7**
baz=162
X51A S **S** **08 29 18.4 -0.7**

baz=162
W52A Murphy 59.03 345 P **P** **08 21 24.4 -0.2**
baz=163,SNR=5.4
W52A S **S** **08 29 21.7 -1.0**
baz=163
VNA3 Neumayer Olymp 59.10 161 ⇓P **P** **08 21 25.8 +1.2**
comp=Z,34nm,0.9s
VNA3 Neumayer Olymp 59.10 161 ⇑PcP **PcP** **08 22 06.5 -5.6**
U59A Littleton 59.10 351 P **P** **08 21 24.9 -0.1**
baz=170,SNR=11
U59A P **P** **08 21 24.9 -0.1**
baz=170,SNR=11
U59A S **S** **08 29 24.5 +1.1**
baz=170
U59A S **S** **08 29 24.5 +1.1**
baz=170
X48A Hartselle 59.23 342 P **P** **08 21 25.7 -0.2**
baz=160,SNR=16
X48A S **S** **08 29 23.3 -2.0**
baz=160
VNA1 Neumayer--Stat 59.30 160 ⇓P **P** **08 21 27.6 +1.6**
comp=Z,36nm,0.9s
VNA1 Neumayer--Stat 59.30 160 ⇑PcP **PcP** **08 22 07.8 -5.1**
V53A Saluda 59.33 346 P **P** **08 21 26.8 +0.1**
baz=165,SNR=5.6
V53A P **P** **08 21 26.8 +0.1**
baz=165,SNR=5.6
V53A S **S** **08 29 24.1 -2.5**
baz=165
V53A S **S** **08 29 24.1 -2.5**
baz=165
NATX Nacogdoches 59.41 334 P **P** **08 21 28.6 +1.5**
baz=152,SNR=13
NATX Nacogdoches 59.41 334 P **P** **08 21 28.5 +1.3**
baz=152,SNR=13
Y45A Yeager Farm, C 59.44 340 P **P** **08 21 27.7 +0.3**
baz=157,SNR=7.5
W50A Signal Mountai 59.47 344 P **P** **08 21 27.4 -0.2**
baz=162,SNR=12
W50A S **S** **08 29 22.3 -6.2**
baz=162
U56A King 59.51 349 P **P** **08 21 28.2 +0.4**
baz=167,SNR=10
U56A P **P** **08 21 28.2 +0.4**
baz=167,SNR=10
TKL Tuckaleechee C 59.53 346 P **P** **08 21 27.9 -0.1**
baz=164,SNR=7.8
TKL S **S** **08 29 28.7 -0.4**
baz=164
TKL Tuckaleechee C 59.53 346 P **P** **08 21 26.6 -1.4**
comp=Z,27nm,0.9s,baz=158,slow=9.3,SNR=16
TKL pP **pP** **08 21 54.4 -1.5**
comp=Z,58nm,1.0s,baz=159,slow=9.2,SNR=12
TKL LR LR 08 49 06.9
comp=Z,188nm,20.2s,baz=152,slow=38
comp=Z,27nm,0.9s
V52A Sevierville 59.67 346 P **P** **08 21 29.0 0.0**
baz=164,SNR=12
V52A S **S** **08 29 29.4 -1.5**
baz=164
VNA2 Neumayer--Watz 59.67 161 ⇓P **P** **08 21 29.7 +1.2**
comp=Z,43nm,1.0s,baz=288,slow=8.0
VNA2 Neumayer--Watz 59.67 161 ⇑PcP **PcP** **08 22 10.0 -4.4**
baz=285,slow=8.0
T59A Double "B" Far 59.67 352 P **P** **08 21 29.1 +0.2**
baz=170,SNR=12
T59A P **P** **08 21 29.1 +0.2**
baz=170,SNR=12
T59A S **S** **08 29 35.3 +4.5**
baz=170
T59A S **S** **08 29 35.3 +4.5**
baz=170
T60A Surry 59.73 352 P **P** **08 21 29.4 +0.1**
baz=171
T60A P **P** **08 21 29.4 +0.1**
baz=171
435B Jarrell 59.81 331 P **P** **08 21 30.3 +0.3**
baz=149
435B Jarrell 59.81 331 P **P** **08 21 30.7 +0.7**
baz=149,SNR=8.2
435B S **S** **08 29 34.3 +1.4**
baz=149
V51A Loudon 59.81 345 P **P** **08 21 29.7 -0.1**
baz=163
V51A S **S** **08 29 33.6 +0.9**
baz=163
U54A Nelsons Funny 59.95 348 P **P** **08 21 31.1 +0.2**
baz=166,SNR=9.6
U54A P **P** **08 21 31.1 +0.2**
baz=166,SNR=9.6
U54A S **S** **08 29 36.2 +1.7**
baz=166
U54A S **S** **08 29 36.2 +1.7**
baz=166
T57A Hurt 59.95 350 P **P** **08 21 31.1 +0.3**
baz=169,SNR=11
T57A P **P** **08 21 31.1 +0.3**
baz=169,SNR=11
T57A S **S** **08 29 36.9 +2.4**
baz=169
T57A S **S** **08 29 36.9 +2.4**
baz=169
OXF Oxford 60.00 340 P **P** **08 21 30.0 -1.1**
baz=158,SNR=12
OXF Oxford 60.00 340 P **P** **08 21 30.2 -0.9**
baz=158,SNR=12
Z41A Richland Creek 60.02 337 P **P** **08 21 31.9 +0.6**
baz=154,SNR=7.0
Z41A P **P** **08 21 31.9 +0.6**
baz=154,SNR=7.0
237A Washetta, Mont 60.09 333 P **P** **08 21 33.0 +1.1**
baz=151,SNR=19
CCAR Cane Creek 60.24 338 P **P** **08 21 33.5 +0.6**
baz=155,SNR=8.8
TZTN Tazewell 60.33 346 P **P** **08 21 32.7 -0.7**
baz=164
TZTN Tazewell 60.33 346 S **S** **08 29 37.7 -1.6**
baz=164
BLA Blacksburg 60.35 349 P **P** **08 21 33.8 +0.2**
BLA IAmb IAmb 08 22 19.5
comp=Z,48nm,0.9s
BLA Blacksburg 60.35 349 P **P** **08 21 33.8 +0.2**
BLA pmax pmax
comp=Z,48nm,0.9s
BLA Blacksburg 60.35 349 P **P** **08 21 34.2 +0.7**
baz=167,SNR=10
BLA Blacksburg 60.35 349 P **P** **08 21 34.3 +0.7**
baz=167,SNR=10
BLA S **S** **08 29 43.1 +3.5**
baz=167
V48A Smith Brothers 60.38 343 P **P** **08 21 33.4 -0.4**
baz=160,SNR=18
JCT Junction City 60.58 329 P **P** **08 21 35.4 +0.1**
JCT Junction City 60.58 329 P **P** **08 21 35.4 +0.1**
JCT pmax pmax
comp=Z,98nm,0.8s
JCT Junction City 60.58 329 P **P** **08 21 35.9 +0.6**
baz=147,SNR=47
JCT Junction City 60.58 329 P **P** **08 21 35.8 +0.6**
baz=147,SNR=47
S57A Dark Hollow, R 60.65 350 P **P** **08 21 36.2 +0.7**
baz=169,SNR=12
S57A P **P** **08 21 36.2 +0.7**
baz=169,SNR=12
S57A S **S** **08 29 42.7 -0.6**
baz=169
S57A S **S** **08 29 42.7 -0.6**
baz=169
R58B Mineral 60.69 351 P **P** **08 21 36.6 +0.8**
baz=170,SNR=12
R58B P **P** **08 21 36.6 +0.8**
baz=170,SNR=12
R58B S **S** **08 29 45.2 +1.4**
baz=170
R58B S **S** **08 29 45.2 +1.4**
baz=170
WHTX Lake Whitney, 60.78 332 P **P** **08 21 37.2 +0.7**
baz=149,SNR=38
WHTX Lake Whitney, 60.78 332 P **P** **08 21 37.0 +0.5**
baz=149,SNR=38
U49A Red Boiling Sp 60.84 344 P **P** **08 21 36.1 -0.8**
U49A IAmb IAmb 08 22 06.9
comp=Z,45nm,1.1s
U49A Red Boiling Sp 60.84 344 P **P** **08 21 36.3 -0.5**
baz=162,SNR=6.8
U49A S **S** **08 29 44.1 -1.6**
baz=162
Z38A Mt. Pleasant 60.85 335 P **P** **08 21 38.1 +1.1**

	baz=152,SNR=10				
CBN	**Corbin Frederi**	**60.86 352**	P	**P**	**08 21 37.5 +0.6**
	baz=171				
CBN	**Corbin Frederi**	**60.86 352**	P	**P**	**08 21 37.6 +0.7**
	baz=171				
BRDY	**Brady**	**60.88 330**	P	**P**	**08 21 37.2 0.0**
BRDY			IAmb	IAmb	08 21 38.6
	comp=Z,56nm,0.9s				
WVT	**Waverly**	**61.03 342**	P	**P**	**08 21 37.3 -0.8**
	baz=160				
WVT	**Waverly**	**61.03 342**	P	**P**	**08 21 37.3 -0.8**
	baz=160,SNR=21				
WVT			S	**S**	**08 29 47.0 -1.2**
	baz=160				
WVT	**Waverly**	**61.03 342**	P	**P**	**08 21 37.2 -0.8**
WVT			pP	**pP**	**08 22 04.8 -1.4**
SLBS	**Sierra La Lagu**	**61.03 316**	P	**P**	**08 21 40.9 +2.4**
SLBS			pP	**pP**	**08 22 08.8 +2.1**
SLBS			PcP	**PcP**	**08 22 22.3 +1.7**
T50A	**Nancy**	**61.09 345**	P	**P**	**08 21 38.0 -0.5**
	baz=163				
T50A			P	**P**	**08 21 38.0 -0.5**
	baz=163				
T50A			S	**S**	**08 29 46.6 -2.3**
	baz=163				
T50A			S	**S**	**08 29 46.6 -2.3**
	baz=163				
S54A	**Dingess, Beckl**	**61.09 348**	P	**P**	**08 21 38.8 +0.2**
	baz=166,SNR=13				
S54A			P	**P**	**08 21 38.8 +0.2**
	baz=166,SNR=13				
S54A			S	**S**	**08 29 49.4 +0.5**
	baz=166				
S54A			S	**S**	**08 29 49.4 +0.5**
	baz=166				
X40A	**Basin Creek Fa**	**61.13 337**	P	**P**	**08 21 38.9 0.0**
	baz=154				
X40A			P	**P**	**08 21 38.9 0.0**
	baz=154				
SNAA	**Sanae**	**61.30 161**	P	**P**	**08 21 40.6 +0.9**
SNAA			IAmb	IAmb	08 21 42.1
	comp=Z,76nm,1.1s				
SNAA	**Sanae**	**61.30 161**	*d iP*	**P**	**08 21 40.7 +1.1**
SNAA			pmax	pmax	
	comp=Z,92nm,1.3s				
SNAA	**Sanae**	**61.30 161**	⇓P	**P**	**08 21 40.7 +1.1**
	comp=Z,982nm,0.9s				
SNAA	**Sanae**	**61.30 161**	⇑PcP	**PcP**	**08 22 21.5 +0.5**
	comp=Z,62nm,0.4s				
SNAA	**Sanae**	**61.30 161**	P	**P**	**08 21 39.3 -0.3**
	comp=Z,42nm,1.0s,baz=288,slow=5.9,SNR=114				
SNAA			LR	LR	08 48 38.8
	comp=Z,130nm,19.9s,baz=224,slow=36				
	comp=Z,42nm,1.0s				
R55A	**Marlinton**	**61.35 350**	P	**P**	**08 21 41.3 +1.0**
	baz=168,SNR=9.6				
R55A			P	**P**	**08 21 41.3 +1.0**
	baz=168,SNR=9.6				
R55A			S	**S**	**08 29 56.4 +4.1**
	baz=168				
R55A			S	**S**	**08 29 56.4 +4.1**
	baz=168				
MIAR	**Mount Ida**	**61.45 337**	P	**P**	**08 21 41.4 +0.3**
	baz=154,SNR=25				
MIAR	**Mount Ida**	**61.45 337**	P	**P**	**08 21 41.1 +0.1**
	baz=154,SNR=25				
TX31	**Lajitas Ar. Si**	**61.60 325**	P	**P**	**08 21 42.9 +0.7**
	baz=143,SNR=26				
TXAR	**Lajitas Array**	**61.60 325**	P	**P**	**08 21 40.8 -1.4**
	comp=Z,7.2nm,0.7s,baz=150,slow=8.4,SNR=92				
TXAR			pP	**pP**	**08 22 10.5 0.0**
	comp=Z,5.3nm,0.8s,baz=152,slow=8.5,SNR=5.5				
	comp=Z,7.2nm,0.7s				
T47A	**Sharon Grove**	**61.63 343**	P	**P**	**08 21 41.6 -0.6**
	baz=160,SNR=23				
T47A			S	**S**	**08 29 54.3 -1.4**
	baz=160				
FW06	**Azle**	**61.67 332**	P	**P**	**08 21 43.0 +0.5**
FW06			IAmb	IAmb	08 21 45.1
	comp=Z,53nm,1.0s				
R53A	**Hurricane**	**61.72 348**	S	**S**	**08 29 56.7 -0.2**
	baz=166				
R53A			S	**S**	**08 29 56.7 -0.2**
	baz=166				
HICK	**Hickman**	**61.82 341**	P	**P**	**08 21 42.2 -1.2**
Z35A	**Perchaven, San**	**61.85 333**	P	**P**	**08 21 44.3 +0.6**
	baz=150,SNR=32				
Q56A	**Snyder Ridge,**	**61.94 351**	P	**P**	**08 21 45.0 +0.7**
	baz=169,SNR=12				
Q56A			P	**P**	**08 21 45.0 +0.7**
	baz=169,SNR=12				
T45B	**Paducah**	**62.09 342**	P	**P**	**08 21 44.7 -0.5**
	baz=159,SNR=8.9				
Q54A	**Coxs Mills**	**62.15 349**	P	**P**	**08 21 46.0 +0.4**
	baz=167				
Q54A			P	**P**	**08 21 46.0 +0.4**
	baz=167				
R50A	**Paris**	**62.17 346**	P	**P**	**08 21 45.8 0.0**
	baz=164				
R50A			P	**P**	**08 21 45.8 0.0**
	baz=164				
X37A	**Clayton**	**62.17 335**	P	**P**	**08 21 46.6 +0.7**
	baz=152,SNR=26				
P57A	**Homestead Farm**	**62.20 352**	P	**P**	**08 21 47.0 +1.0**
	baz=170,SNR=9.2				
P57A			P	**P**	**08 21 47.0 +1.0**
	baz=170,SNR=9.2				
P57A			S	**S**	**08 30 07.6 +4.7**
	baz=170				
P57A			S	**S**	**08 30 07.6 +4.7**
	baz=170				
GEDE	**Greenville**	**62.25 354**	P	**P**	**08 21 46.8 +0.6**
	baz=173				
ABTX	**Abilene, Hawle**	**62.30 330**	P	**P**	**08 21 46.7 -0.1**
ABTX			IAmb	IAmb	08 21 48.4
	comp=Z,115nm,1.1s				
ABTX	**Abilene, Hawle**	**62.30 330**	P	**P**	**08 21 47.3 +0.5**
	baz=147,SNR=29				
R49A	**Shelbyville**	**62.38 345**	P	**P**	**08 21 46.1 -1.1**
	baz=163,SNR=5.2				
R49A			P	**P**	**08 21 46.1 -1.1**
	baz=163,SNR=5.2				
R49A			S	**S**	**08 30 02.4 -2.8**
	baz=163				
R49A			S	**S**	**08 30 02.4 -2.8**
	baz=163				
Q52A	**Bidwell**	**62.40 348**	P	**P**	**08 21 47.5 +0.2**
	baz=166				
Q52A			P	**P**	**08 21 47.5 +0.2**
	baz=166				
Q52A			S	**S**	**08 30 02.6 -2.8**
	baz=166				
Q52A			S	**S**	**08 30 02.6 -2.8**
	baz=166				
PBMO	**Poplar Bluff**	**62.40 340**	P	**P**	**08 21 46.7 -0.7**
	baz=157,SNR=21				
PBMO			S	**S**	**08 30 02.4 -3.1**
	baz=157				
WCI	**Wyandotte Cave**	**62.59 344**	P	**P**	**08 21 47.8 -0.7**
	baz=162				
WCI	**Wyandotte Cave**	**62.59 344**	P	**P**	**08 21 47.7 -0.9**
	baz=162,SNR=7.5				
WCI	**Wyandotte Cave**	**62.59 344**	P	**P**	**08 21 47.4 -1.1**
WCI			pP	**pP**	**08 22 15.5 -1.3**
MCWV	**Mont Chateau**	**62.65 350**	P	**P**	**08 21 49.7 +0.7**
	baz=168,SNR=8.2				
MCWV	**Mont Chateau**	**62.65 350**	P	**P**	**08 21 49.6 +0.7**
	baz=168,SNR=8.2				
MCWV			S	**S**	**08 30 09.7 +1.3**
	baz=168				
Q51A	**Peebles**	**62.67 347**	S	**S**	**08 30 09.6 +0.7**
	baz=165				
Q51A			S	**S**	**08 30 09.6 +0.7**
	baz=165				
P53A	**Whipple**	**62.74 349**	P	**P**	**08 21 49.9 +0.4**
	baz=167,SNR=9.4				
P53A			P	**P**	**08 21 49.9 +0.4**
	baz=167,SNR=9.4				
P53A			S	**S**	**08 30 09.5 -0.1**
	baz=167				
P53A			S	**S**	**08 30 09.5 -0.1**
	baz=167				
U40A	**Yellville**	**62.82 338**	P	**P**	**08 21 50.0 -0.2**
	baz=155,SNR=17				
U40A			P	**P**	**08 21 50.0 -0.2**
	baz=155,SNR=17				
T42A	**Van Buren**	**62.84 340**	P	**P**	**08 21 49.4 -0.8**
	baz=156,SNR=9.7				
T42A			S	**S**	**08 30 11.6 +0.6**
	baz=156				
S44A	**Carbondale**	**62.89 342**	P	**P**	**08 21 50.0 -0.5**
	baz=158,SNR=12				
TROLL	**Troll, Antarti**	**63.01 161**	⇓P	**P**	**08 21 52.5 +1.3**
	comp=Z,1μm,0.5s				
P52A	**Corning**	**63.02 348**	P	**P**	**08 21 51.0 -0.4**
	baz=166,SNR=6.2				
PABK	**Blue Knob Stat**	**63.05 351**	P	**P**	**08 21 52.5 +0.9**
	baz=170				
PABK			S	**S**	**08 30 16.8 +3.2**
	baz=170				
P51A	**Williamsport**	**63.05 347**	S	**S**	**08 30 13.2 -0.4**
	baz=165				
P51A			S	**S**	**08 30 13.2 -0.4**
	baz=165				
APMT	**Aspermont**	**63.10 330**	P	**P**	**08 21 52.3 +0.2**
APMT			IAmb	IAmb	08 21 53.7
	comp=Z,74nm,0.8s				
FOR	**Fordham**	**63.14 355**	S	**S**	**08 30 14.7 +0.2**
	baz=174				
N62A	**Caumsett State**	**63.18 356**	S	**S**	**08 30 16.1 +1.1**
	baz=175				
N62A			S	**S**	**08 30 16.1 +1.1**
	baz=175				
O54A	**Avella**	**63.24 350**	P	**P**	**08 21 53.0 +0.1**
O54A	**Avella**	**63.24 350**	P	**P**	**08 21 53.2 +0.3**
	baz=168				
O54A			P	**P**	**08 21 53.2 +0.3**
	baz=168				
O54A			S	**S**	**08 30 16.9 +1.0**
	baz=168				
O54A			S	**S**	**08 30 16.9 +1.0**
	baz=168				
PAL	**Palisades**	**63.28 355**	P	**P**	**08 21 53.3 +0.2**
	baz=174				
PAL	**Palisades**	**63.28 355**	S	**S**	**08 30 16.5 +0.2**
	baz=174				
SSPA	**Standing Stone**	**63.32 352**	P	**P**	**08 21 53.9 +0.5**
	baz=170				
SSPA	**Standing Stone**	**63.32 352**	P	**P**	**08 21 53.8 +0.4**
	baz=170,SNR=6.8				
SSPA			S	**S**	**08 30 16.1 -0.7**
	baz=170				
SSPA	**Standing Stone**	**63.32 352**	P	**P**	**08 21 54.0 +0.6**
SSPA			pP	**pP**	**08 22 21.8 +0.1**
ODNJ	**Ogdensburg**	**63.42 355**	S	**S**	**08 30 20.6 +2.6**
	baz=174				
O52A	**Adamsville**	**63.43 349**	P	**P**	**08 21 53.9 -0.1**
	baz=166,SNR=5.4				
O52A			P	**P**	**08 21 53.9 -0.1**
	baz=166,SNR=5.4				
O52A			S	**S**	**08 30 16.2 -2.0**
	baz=166				
O52A			S	**S**	**08 30 16.2 -2.0**
	baz=166				
U38A	**Gravette**	**63.44 337**	P	**P**	**08 21 54.3 +0.1**
	baz=153				
U38A			S	**S**	**08 30 18.7 +0.2**
	baz=153				
O53A	**New Philadelph**	**63.45 349**	P	**P**	**08 21 53.6 -0.6**
	baz=167,SNR=6.1				
P49A	**Miami Univ. Ec**	**63.46 346**	P	**P**	**08 21 53.5 -0.8**
	baz=163,SNR=5.5				
P49A	**Miami Univ. Ec**	**63.46 346**	P	**P**	**08 21 53.3 -1.0**
	baz=163,SNR=5.5				
UPAO	**U. Pittsburgh**	**63.48 350**	P	**P**	**08 21 55.2 +0.8**
	baz=168				
UPAO			S	**S**	**08 30 20.7 +1.9**
	baz=168				
TUL3	**Leonard**	**63.50 335**	P	**P**	**08 21 54.4 -0.3**
TUL3	**Leonard**	**63.50 335**	P	**P**	**08 21 54.8 +0.2**
	baz=152,SNR=13				
TUL3	**Leonard**	**63.50 335**	P	**P**	**08 21 54.8 +0.2**
	baz=152,SNR=13				
FVM	**French Village**	**63.51 341**	P	**P**	**08 21 54.4 -0.3**
	baz=157,SNR=23				
OLIL	**Olney**	**63.54 343**	P	**P**	**08 21 54.4 -0.4**
	baz=160				
P48A	**Milroy**	**63.55 345**	P	**P**	**08 21 53.5 -1.4**
	baz=163				
P48A			P	**P**	**08 21 53.5 -1.4**
	baz=163				
P48A			S	**S**	**08 30 17.8 -2.0**
	baz=163				
P48A			S	**S**	**08 30 17.8 -2.0**
	baz=163				
M63A	**Gales Ferry**	**63.57 357**	S	**S**	**08 30 21.9 +2.1**
	baz=176				
M63A			S	**S**	**08 30 21.9 +2.1**
	baz=176				
M65A	**Busby, Falmout**	**63.67 358**	P	**P**	**08 21 55.2 -0.4**
	baz=178				
BRNY	**Black Rk. Fore**	**63.70 355**	S	**S**	**08 30 23.8 +2.4**
	baz=174				
WMOK	**Wichita Mounta**	**63.70 332**	P	**P**	**08 21 55.4 -0.6**
	baz=149,SNR=16				
WMOK	**Wichita Mounta**	**63.70 332**	P	**P**	**08 21 55.5 -0.6**
	baz=149,SNR=16				
ACSO	**Alum Creek Sta**	**63.76 348**	P	**P**	**08 21 55.8 -0.4**
	baz=165,SNR=6.2				
ACSO	**Alum Creek Sta**	**63.76 348**	P	**P**	**08 21 56.0 -0.2**
	baz=165,SNR=6.2				
CCM	**Cathedral Cave**	**63.83 340**	P	**P**	**08 21 56.3 -0.4**
	baz=157				
CCM	**Cathedral Cave**	**63.83 340**	P	**P**	**08 21 56.3 -0.4**
	baz=157,SNR=24				
CCM			S	**S**	**08 30 21.9 -1.3**
	baz=157				
CCM	**Cathedral Cave**	**63.83 340**	P	**P**	**08 21 56.5 -0.3**
CCM			pP	**pP**	**08 22 24.6 -0.4**
M57A	**Sunshine Farm,**	**63.92 353**	P	**P**	**08 21 57.7 +0.4**
M57A			IAmb	IAmb	08 22 29.6
	comp=Z,70nm,1.2s				
M57A	**Sunshine Farm,**	**63.92 353**	P	**P**	**08 21 58.2 +0.9**
	baz=171,SNR=6.8				
M57A			P	**P**	**08 21 58.2 +0.9**
	baz=171,SNR=6.8				
PSDB	**Penn State Uni**	**63.92 351**	P	**P**	**08 21 58.0 +0.7**
	baz=170				
PSDB			S	**S**	**08 30 26.1 +1.8**
	baz=170				
N53A	**Lisbon**	**63.93 350**	P	**P**	**08 21 56.9 -0.4**
	baz=167,SNR=5.0				
N53A			P	**P**	**08 21 56.9 -0.4**
	baz=167,SNR=5.0				
PAMR	**Moraine State**	**63.94 350**	P	**P**	**08 21 58.1 +0.7**
	baz=168				
PAMR			S	**S**	**08 30 25.6 +1.1**
	baz=168				
Q44A	**Meyer Farm, Va**	**63.95 342**	P	**P**	**08 21 56.7 -0.8**
	baz=159,SNR=6.8				
Q44A			S	**S**	**08 30 21.1 -3.5**
	baz=159				
KSPA	**Keystone Colle**	**63.99 354**	P	**P**	**08 21 58.1 +0.4**
	baz=173,SNR=6.0				
O49A	**Covington**	**64.00 347**	P	**P**	**08 21 56.0 -1.8**
	baz=164,SNR=7.2				
O49A			P	**P**	**08 21 56.0 -1.8**
	baz=164,SNR=7.2				
O49A			S	**S**	**08 30 22.4 -2.8**
	baz=164				
O49A			S	**S**	**08 30 22.4 -2.8**
	baz=164				
NPNY	**Mohonk Preserv**	**64.05 355**	S	**S**	**08 30 32.2 +6.4**
	baz=174				
L64A	**Middleborough**	**64.05 358**	S	**S**	**08 30 28.4 +2.7**
	baz=178				
L64A			S	**S**	**08 30 28.4 +2.7**
	baz=178				
SLM	**Saint Louis**	**64.06 341**	S	**S**	**08 30 24.3 -1.7**
	baz=158				
S39A	**Bolivar**	**64.18 338**	P	**P**	**08 21 59.2 +0.1**
	baz=154,SNR=30				
S39A			S	**S**	**08 30 27.0 -0.7**
	baz=154				
O48B	**Farmland**	**64.25 346**	P	**P**	**08 21 58.5 -1.0**
	baz=163,SNR=7.1				
O48B	**Farmland**	**64.25 346**	P	**P**	**08 21 58.6 -0.8**
	baz=163,SNR=7.1				
N51A	**Ashland**	**64.31 348**	P	**P**	**08 21 59.5 -0.3**
	baz=166				
N51A			P	**P**	**08 21 59.5 -0.3**
	baz=166				
MNTX	**Cornudas Mount**	**64.37 325**	P	**P**	**08 22 00.5 0.0**
	baz=142,SNR=60				
MNTX	**Cornudas Mount**	**64.37 325**	P	**P**	**08 22 00.4 0.0**
	baz=142,SNR=60				
MNTX			S	**S**	**08 30 32.1 +1.9**
	baz=142				
R40A	**Maddies Statio**	**64.37 339**	P	**P**	**08 21 60.0 -0.3**
	baz=156,SNR=18				
OK051	**E0350 and S346**	**64.42 335**	P	**P**	**08 22 00.9 +0.2**
M53A	**WI Miller and**	**64.52 350**	P	**P**	**08 22 01.4 +0.2**
	baz=168				
L59A	**Walton**	**64.55 355**	P	**P**	**08 22 02.4 +0.9**
	baz=173,SNR=12				
L59A			P	**P**	**08 22 02.4 +0.9**
	baz=173,SNR=12				
L59A			S	**S**	**08 30 33.8 +1.7**
	baz=173				
L59A			S	**S**	**08 30 33.8 +1.7**
	baz=173				
ALLY	**Alegheny Colle**	**64.64 350**	P	**P**	**08 22 02.3 +0.3**
	baz=168				
ALLY			S	**S**	**08 30 32.7 -0.4**
	baz=168				
L61B	**Northampton**	**64.64 357**	P	**P**	**08 22 02.3 +0.4**
	baz=176				
BINY	**Binghamton**	**64.65 354**	P	**P**	**08 22 02.3 +0.3**
	baz=172,SNR=13				
BINY	**Binghamton**	**64.65 354**	P	**P**	**08 22 02.4 +0.3**
	baz=172,SNR=13				
T35B	**Sooner Cattle**	**64.66 335**	P	**P**	**08 22 02.7 +0.5**
	baz=151,SNR=18				
T35B			S	**S**	**08 30 34.6 +1.0**
	baz=151				
N49A	**Columbus Grove**	**64.67 347**	P	**P**	**08 22 01.6 -0.6**
	baz=164,SNR=12				
N49A			P	**P**	**08 22 01.6 -0.6**
	baz=164,SNR=12				
N49A			S	**S**	**08 30 28.5 -5.0**
	baz=164				
N49A			S	**S**	**08 30 28.5 -5.0**
	baz=164				
L56A	**Greenwood**	**64.76 353**	P	**P**	**08 22 03.0 +0.2**
	baz=171,SNR=6.1				
L56A			P	**P**	**08 22 03.0 +0.2**
	baz=171,SNR=6.1				
L56A			S	**S**	**08 30 36.5 +1.8**
	baz=171				
L56A			S	**S**	**08 30 36.5 +1.8**
	baz=171				
P43A	**Skaggs, Pawnee**	**64.78 342**	P	**P**	**08 22 02.3 -0.6**
	baz=159,SNR=7.5				
SFIN	**Lafayette**	**64.82 344**	P	**P**	**08 22 02.0 -1.2**
	baz=161				
K62A	**Royalston**	**64.83 357**	S	**S**	**08 30 38.1 +2.7**
	baz=176				
K62A			S	**S**	**08 30 38.1 +2.7**
	baz=176				
MSTX	**Muleshoe**	**64.87 329**	P	**P**	**08 22 04.2 +0.4**
	baz=145,SNR=89				
MSTX	**Muleshoe**	**64.87 329**	P	**P**	**08 22 04.2 +0.4**
	baz=145,SNR=89				
N47A	**Urbana**	**64.96 346**	S	**S**	**08 30 33.9 -3.2**
	baz=162				
N47A			S	**S**	**08 30 33.9 -3.2**
	baz=162				
TRY	**Troy**	**64.98 356**	P	**P**	**08 22 05.3 +1.2**
	baz=175,SNR=7.3				
TRY			S	**S**	**08 30 39.4 +2.1**
	baz=175				
HCNY	**Howe Caverns**	**65.00 355**	P	**P**	**08 22 05.8 +1.5**
	baz=174				
HCNY			S	**S**	**08 30 40.8 +3.3**
	baz=174				
ERPA	**Erie**	**65.07 351**	P	**P**	**08 22 04.8 0.0**
	baz=168				
ERPA	**Erie**	**65.07 351**	S	**S**	**08 30 39.0 +0.6**
	baz=168				
AMTX	**Amarillo**	**65.11 330**	P	**P**	**08 22 05.2 -0.1**
	baz=146				
AMTX	**Amarillo**	**65.11 330**	P	**P**	**08 22 05.3 -0.1**
	baz=146,SNR=9.6				
U32A	**Winter Ranch,**	**65.19 333**	P	**P**	**08 22 06.0 +0.3**
	baz=149,SNR=11				
UNH	**University of**	**65.21 358**	S	**S**	**08 30 43.0 +3.1**
	baz=178				
K57A	**Scipio Center**	**65.23 353**	P	**P**	**08 22 05.1 -0.6**
	baz=172,SNR=5.8				
HDIL	**Hopedale**	**65.57 343**	P	**P**	**08 22 07.1 -0.8**
	baz=159,SNR=7.4				
HDIL	**Hopedale**	**65.57 343**	P	**P**	**08 22 06.8 -1.2**
	baz=159,SNR=7.4				
ACCN	**Adirondack Com**	**65.63 356**	P	**P**	**08 22 09.4 +1.1**
	baz=175,SNR=5.1				
L48A	**N Adams**	**65.70 347**	S	**S**	**08 30 44.4 -1.7**
	baz=164				
L48A			S	**S**	**08 30 44.4 -1.7**
	baz=164				
J58A	**Remsen**	**65.73 355**	P	**P**	**08 22 09.4 +0.4**
	baz=173				
J58A			P	**P**	**08 22 09.4 +0.4**
	baz=173				
J59A	**Piesco**	**65.78 355**	P	**P**	**08 22 10.1 +0.8**
	baz=174,SNR=17				
J59A			P	**P**	**08 22 10.1 +0.8**
	baz=174,SNR=17				
J59A			S	**S**	**08 30 49.1 +2.1**
	baz=174				
J59A			S	**S**	**08 30 49.1 +2.1**
	baz=174				
J56A	**Wolcott**	**65.81 353**	S	**S**	**08 30 51.2 +3.9**
	baz=172				
J56A			S	**S**	**08 30 51.2 +3.9**
	baz=172				
NVL	**N'lazarevskaya**	**65.85 159**	*e*P	**P**	**08 22 12.4 +2.9**
NVL			*e**PP	**PcP**	**08 22 42.6 +3.0**
NVL			*e**SP	sP	08 22 58.2 +8.2
NVL			*e*S	**S**	**08 30 44.3 -3.0**
NVL			pmax	pmax	
	comp=Z,113nm,1.9s				
NVL			smax	smax	
	comp=N,276nm,17.1s				
J57A	**Williamstown**	**65.85 354**	P	**P**	**08 22 10.3 +0.6**
	baz=172,SNR=6.3				
J57A			P	**P**	**08 22 10.3 +0.6**
	baz=172,SNR=6.3				
AAM	**Ann Arbor**	**65.89 348**	S	**S**	**08 30 45.6 -2.7**
	baz=165				
J55A	**Hilton**	**65.91 353**	S	**S**	**08 30 48.8 +0.3**
	baz=171				
J55A			S	**S**	**08 30 48.8 +0.3**
	baz=171				
P38A	**Dawn**	**66.00 339**	P	**P**	**08 22 10.7 -0.1**
	baz=155,SNR=10				
P38A			S	**S**	**08 30 49.9 +0.1**
	baz=155				
M44A	**Midewin, Midew**	**66.01 344**	S	**S**	**08 30 44.9 -4.9**
	baz=160				
J54A	**Appleton**	**66.02 352**	S	**S**	**08 30 50.6 +0.8**
	baz=170				
J54A			S	**S**	**08 30 50.6 +0.8**
	baz=170				
N41A	**Harden Midland**	**66.15 342**	S	**S**	**08 30 46.0 -5.5**
	baz=157				
K50A	**Casco**	**66.15 349**	P	**P**	**08 22 11.2 -0.4**
	baz=166				
K50A			P	**P**	**08 22 11.2 -0.4**
	baz=166				
K50A			S	**S**	**08 30 49.7 -1.7**
	baz=166				
K50A			S	**S**	**08 30 49.7 -1.7**
	baz=166				
I63A	**Otisfield**	**66.15 358**	P	**P**	**08 22 13.4 +1.7**
	baz=178				
I63A			P	**P**	**08 22 13.4 +1.7**
	baz=178				
MCVT	**Middlebury Col**	**66.16 356**	P	**P**	**08 22 13.4 +1.7**
	baz=176,SNR=5.7				
MCVT			S	**S**	**08 30 57.3 +5.7**
	baz=176				
121A	**Cookes Peak, D**	**66.29 324**	P	**P**	**08 22 15.0 +1.9**
	baz=140,SNR=32				
121A	**Cookes Peak, D**	**66.29 324**	P	**P**	**08 22 14.9 +1.9**
	baz=140,SNR=32				
WCNY	**West Carthage**	**66.38 354**	P	**P**	**08 22 13.7 +0.6**
	baz=173,SNR=7.5				
WCNY			S	**S**	**08 30 53.5 -0.8**
	baz=173				
LBNH	**Lisbon**	**66.39 357**	P	**P**	**08 22 14.2 +1.0**
	baz=177				
LBNH	**Lisbon**	**66.39 357**	P	**P**	**08 22 14.5 +1.3**
	baz=177				
VT1	**Waterbury**	**66.52 357**	P	**P**	**08 22 15.0 +1.0**

baz=176
VT1 S S 08 30 59.5 +3.6
baz=176
KSU1 Kansas State U 66.61 336 P P 08 22 14.4 -0.3
baz=152,SNR=9.8
KSU1 Kansas State U 66.61 336 P P 08 22 14.2 -0.5
baz=152,SNR=9.8
KSU1 S S 08 30 55.6 -1.6
baz=152
WVL Waterville 66.65 359 P P 08 22 16.1 +1.4
baz=179,SNR=5.7
WVL S S 08 31 00.4 +3.0
baz=179
R32A Long Quarter, 66.83 335 P P 08 22 16.6 +0.4
baz=150,SNR=26
LONY Lake Ozonia 66.93 355 P P 08 22 17.5 +0.9
baz=174,SNR=8.3
N38A Joes South For 66.96 340 P P 08 22 16.1 -0.7
baz=155,SNR=6.4
L42A Oliver, Polo 67.02 343 P P 08 22 15.9 -1.3
baz=159
J47A Sunmer 67.03 347 P P 08 22 16.8 -0.5
baz=164
J47A P P 08 22 16.8 -0.5
baz=164
J47A S S 08 31 02.9 +0.9
baz=164
J47A S S 08 31 02.9 +0.9
baz=164
Y22D IRIS PASSCAL I 67.03 326 P P 08 22 17.3 -0.3
baz=142
Y22F Passcal Instru 67.03 326 P P 08 22 16.9 -0.8
baz=142
FRNY Flat Rock 67.07 356 P P 08 22 17.6 +0.1
FRNY IAmb IAmb 08 22 19.5
comp=Z,83nm,1.4s
FRNY Flat Rock 67.07 356 P P 08 22 18.3 +0.8
baz=175,SNR=12
FRNY S S 08 31 04.4 +1.9
baz=175
BMNY Brushton-Moira 67.14 355 P P 08 22 17.4 -0.5
baz=174,SNR=17
BMNY S S 08 31 07.8 +4.5
baz=174
I49A Point Hope 67.32 349 S S 08 31 04.7 -0.7
baz=166
I49A S S 08 31 04.7 -0.7
baz=166
G62A West of Eustis 67.32 358 P P 08 22 20.1 +1.1
baz=178,SNR=21
G62A P P 08 22 20.1 +1.1
baz=178,SNR=21
G62A S S 08 31 07.9 +2.4
baz=178
G62A S S 08 31 07.9 +2.4
baz=178
K43A Burlington 67.32 344 S S 08 31 02.8 -2.8
baz=160
PKME Peaks-Kenny Pk 67.34 359 P P 08 22 20.0 +0.9
baz=179,SNR=5.7
PKME Peaks-Kenny Pk 67.34 359 P P 08 22 20.1 +1.0
baz=179,SNR=5.7
PKME S S 08 31 06.4 +0.7
baz=179
ANMO Albuquerque 67.47 327 P P 08 22 21.4 +0.9
ANMO IAmb IAmb 08 22 23.2
comp=Z,50nm,0.8s
ANMO Albuquerque 67.47 327 *d iP* P 08 22 21.8 +1.3
ANMO pmax pmax
comp=Z,44nm,0.9s
ANMO Albuquerque 67.47 327 P P 08 22 22.0 +1.5
baz=142
ANMO Albuquerque 67.47 327 P P 08 22 22.0 +1.5
baz=142,SNR=85
ANMO Albuquerque 67.47 327 ⇓P P 08 22 21.9 +1.4
ANMO pP pP 08 22 50.5 +1.3
L40A Anamosa 67.50 342 P P 08 22 19.5 -0.8
baz=157,SNR=13
L40A S S 08 31 05.8 -2.0
baz=157
SADO Sadowa 67.55 352 LR LR 08 54 33.9
comp=Z,175nm,20.1s,baz=116,slow=38
CBKS Cedar Bluff 67.58 334 P P 08 22 21.4 +0.5
CBKS IAmb IAmb 08 22 22.8
comp=Z,131nm,0.9s
CBKS Cedar Bluff 67.58 334 P P 08 22 21.4 +0.5
CBKS pmax pmax
comp=Z,131nm,1.0s
CBKS Cedar Bluff 67.58 334 P P 08 22 21.8 +0.9
baz=149,SNR=22
CBKS Cedar Bluff 67.58 334 P P 08 22 21.6 +0.7
baz=149,SNR=22
TUC Tucson 67.79 322 P P 08 22 24.0 +1.6
baz=138
TUC Tucson 67.79 322 P P 08 22 24.0 +1.6
TUC pP pP 08 22 52.1 +1.0
QSPA South Pole Qui 67.79 180 P P 08 22 22.5 +0.5
comp=Z,40nm,0.9s,baz=321,slow=0.8,SNR=129
QSPA pP pP 08 22 50.2 -0.3
comp=Z,42nm,1.0s,baz=175,slow=3.8,SNR=7.0
QSPA LR LR 08 53 23.4
comp=Z,132nm,20.0s,baz=163,slow=37
comp=Z,40nm,0.9s
QSPA South Pole Qui 67.79 180 P P 08 22 23.5 +1.4
QSPA pP pP 08 22 52.3 +1.7
QSPA sP sP 08 23 04.9 +2.0
N35A Tabor 67.82 338 P P 08 22 21.9 -0.4
baz=153,SNR=12
F64A Sherman 67.94 0 P P 08 22 24.0 +1.1
baz=180,SNR=14
F64A P P 08 22 24.0 +1.1
baz=180,SNR=14
SCIA State Center 67.96 340 P P 08 22 22.9 -0.2
baz=155,SNR=6.4
SCIA State Center 67.96 340 P P 08 22 23.0 -0.2
baz=155,SNR=6.4
JFWS Jewell Farm 68.02 343 P P 08 22 22.7 -0.8
JFWS Jewell Farm 68.02 343 P P 08 22 22.7 -0.8
JFWS pmax pmax
comp=Z,40nm,0.9s
JFWS Jewell Farm 68.02 343 P P 08 22 23.4 -0.1
baz=158,SNR=10.0
JFWS Jewell Farm 68.02 343 P P 08 22 23.0 -0.5
baz=158,SNR=10.0
T25A Trinidad 68.22 330 P P 08 22 26.7 +1.5
baz=144,SNR=23
LIC Lamto 68.26 73⇑ *eP* P 08 22 25.4 -0.2
comp=Z,45nm,0.6s
N33B J Bar K, Exete 68.36 337 P P 08 22 25.9 +0.2
baz=151,SNR=11
TIC Toumodi 68.45 73⇑ *eP* P 08 22 26.1 -0.8
comp=Z,68nm,1.1s
E63A Oxbow 68.50 0 P P 08 22 27.3 +0.9
baz=180
E63A P P 08 22 27.3 +0.9
baz=180
K38A Parkersburg 68.50 341 P P 08 22 26.1 -0.4
baz=156,SNR=6.3
GLMI Grayling 68.51 348 P P 08 22 25.9 -0.6
baz=164
KIC Kosan Boka 68.57 73⇓ *eP* P 08 22 27.3 -0.3
comp=Z,67nm,0.6s
I42A Draeger Farm, 68.58 344 P P 08 22 26.9 -0.1
baz=160,SNR=6.7
DBIC Dimbokro 68.61 73 P P 08 22 27.3 -0.5
DBIC Dimbokro 68.61 73 P P 08 22 27.3 -0.5
E62A Clayton Lake 68.70 359 P P 08 22 28.8 +1.2
baz=179,SNR=16
E62A P P 08 22 28.8 +1.2
baz=179,SNR=16
214A Organ Pipe Nat 68.71 320 P P 08 22 30.4 +2.3
baz=136,SNR=24
H43A Windswept, Lux 68.85 345 P P 08 22 28.4 -0.2
baz=161
KSCO Kaye Shedlock' 68.95 332 P P 08 22 30.8 +1.2
baz=146,SNR=16
KSCO Kaye Shedlock' 68.95 332 P P 08 22 30.9 +1.3
baz=146,SNR=16
X18A Snowflake 68.98 324 P P 08 22 31.1 +1.2
I40A Norwalk 69.03 343 P P 08 22 29.6 -0.2
baz=158
L34A Svendsen Farm, 69.05 338 P P 08 22 29.7 -0.2
baz=152,SNR=9.7
D62A Allapoint, All 69.16 360 P P 08 22 31.3 +0.8
baz=180,SNR=16
D62A P P 08 22 31.3 +0.8
baz=180,SNR=16
BGNE Belgrade 69.20 337 P P 08 22 31.4 +0.5
baz=151,SNR=23
BGNE Belgrade 69.20 337 P P 08 22 31.0 +0.1
baz=151,SNR=23
SDCO Great Sand Dun 69.22 329 P P 08 22 33.1 +1.6
baz=144,SNR=111
SDCO Great Sand Dun 69.22 329 P P 08 22 32.9 +1.4
baz=144,SNR=111
W18A Petrified Fore 69.31 325 P P 08 22 33.6 +1.6
baz=139,SNR=6.2
ELIB Princess Elisa 69.46 161 *dP* P 08 22 33.6 +1.3
TAOE Nuku Hiva Isla 69.78 269 *eP* P 08 22 43.9 +8.7
comp=Z,147nm,26.7s
TAOE *eS* S 08 31 18.0 -18
comp=Z,319nm,25.7s
S22A 4UR Ranch, Cre 69.86 328 P P 08 22 36.7 +1.3
baz=142,SNR=20
I37B Waseca 69.93 341 P P 08 22 35.0 -0.3
baz=156,SNR=12
Q24A Divide 70.04 330 P P 08 22 37.6 +1.1
baz=144
G40A Rib Lake 70.20 344 P P 08 22 36.5 -0.4
baz=159
MVCO Mesa Verde 70.27 327 P P 08 22 39.3 +1.5
baz=141,SNR=53
OGNE Ogallala 70.32 334 P P 08 22 38.7 +0.9
baz=147
OGNE Ogallala 70.32 334 P P 08 22 39.0 +1.2
baz=147
WUAZ Wupatki 70.49 324 P P 08 22 41.5 +2.3
baz=138,SNR=38
GLA Glamis 70.68 320 P P 08 22 42.3 +2.1
baz=135,SNR=8.6
ECSD EROS Data Cent 70.70 339 P P 08 22 40.1 0.0
baz=153,SNR=12
ECSD EROS Data Cent 70.70 339 P P 08 22 39.9 -0.1
baz=153,SNR=12
COWI Conover 70.71 345 P P 08 22 39.9 -0.2
baz=160
SPMN Marine on St. 70.86 342 P P 08 22 40.5 -0.4
baz=156,SNR=7.4
SPMN Marine on St. 70.86 342 P P 08 22 40.1 -0.9
baz=156,SNR=7.4
ISCO Idaho Springs 70.93 331 P P 08 22 43.4 +1.5
baz=144,SNR=37
ISCO Idaho Springs 70.93 331 P P 08 22 43.3 +1.5
baz=144,SNR=37
YUH Yuha Desert 71.06 319 P P 08 22 43.3 +0.8
PDMCI Parker Dam,Lak 71.17 321 P P 08 22 45.0 +2.0
baz=136,SNR=5.4
IKP In-Ko-Pah, Jac 71.18 319 P P 08 22 45.5 +2.2
baz=134,SNR=9.3
SWSC Sam W. Stewart 71.19 319 P P 08 22 45.2 +1.9
baz=134,SNR=6.3
D41A Chassel 71.48 346 P P 08 22 44.8 +0.2
baz=160,SNR=5.0
BC3 Big Chuckawall 71.48 320 P P 08 22 47.1 +2.0
baz=135,SNR=28
MONP2 Monument Peak 71.53 319 P P 08 22 47.6 +2.0
baz=134,SNR=9.5
BAR Barrett 71.54 318 P P 08 22 45.8 +0.4
IRM Iron Mountain 71.65 321 P P 08 22 47.9 +1.9
baz=135,SNR=24
F36A Milaca 71.65 342 P P 08 22 45.3 -0.4
baz=156,SNR=12
NEE2 Needles Airpor 71.77 321 P P 08 22 47.9 +1.2
baz=136
E38A The Farm, Brul 71.79 343 P P 08 22 46.6 +0.1
baz=158
109C Camp Elliot, M 71.95 318 P P 08 22 49.2 +1.4
baz=133
N23A Red Feather La 71.96 331 P P 08 22 48.9 +0.9
N23A Red Feather La 71.96 331 P P 08 22 49.6 +1.6
baz=144,SNR=24
BELC Belle Mtn. Jos 72.05 320 P P 08 22 50.3 +1.8
baz=134,SNR=14
TPFO Pinon Flats 72.05 319 P P 08 22 50.7 +2.2
baz=134,SNR=10
PFO Pinyon Flats O 72.05 319 *d iP* P 08 22 49.2 +0.7
PFO pmax pmax
comp=Z,19nm,0.9s
PFO Pinyon Flats O 72.05 319 P P 08 22 50.7 +2.2
baz=134,SNR=12
PFO Pinyon Flats O 72.05 319 LR LR 08 51 10.8
comp=Z,70nm,21.9s,baz=144,slow=33
SUSD Miller 72.13 338 P P 08 22 48.2 -0.4
baz=151
GMRC Granite Mounta 72.39 321 P P 08 22 52.8 +2.2
baz=135,SNR=39
O20A White River Ci 72.42 329 P P 08 22 52.1 +1.4
baz=142
F33A 5 Mile Ranch, 72.47 340 P P 08 22 49.8 -0.8
baz=153,SNR=7.5
MURC Murrieta 72.49 319 P P 08 22 53.2 +2.1
baz=133,SNR=6.0
BBRC Big Bear Solar 72.78 320 P P 08 22 54.5 +1.5
baz=134
MTPU Mount Pierson 72.80 325 P P 08 22 54.0 +0.8
HEC Hector,Ludlow 72.82 320 P P 08 22 55.1 +2.1
baz=134,SNR=6.3
SCI2 San Clemente I 72.91 318 P P 08 22 55.9 +2.4
baz=132
TUQ Turquoise Moun 73.00 321 P P 08 22 56.1 +2.0
baz=135,SNR=19
KOWA Kowa 73.01 66 P P 08 22 54.1 -0.3
KOWA IAmb IAmb 08 23 25.2
comp=Z,54nm,0.8s
KOWA Kowa 73.01 66 LR LR 08 54 27.5
comp=Z,282nm,20.6s,baz=202,slow=35
EYMN Ely 73.02 344 P P 08 22 53.5 -0.3
baz=158,SNR=7.1
EYMN Ely 73.02 344 P P 08 22 52.9 -0.9
baz=158,SNR=7.1
CIS Catalina Islan 73.11 318 P P 08 22 56.0 +1.4
baz=132
BFSC Mount Baldy Ra 73.21 319 P P 08 22 57.2 +1.8
baz=133,SNR=12
FMP Fort Macarthur 73.24 318 P P 08 22 56.1 +0.7
baz=133
RRX Edison Barstow 73.25 320 P P 08 22 57.6 +2.1
baz=134
GSC Goldstone, Bar 73.43 320 P P 08 22 58.5 +1.9
baz=134,SNR=16
SHOC Shoshone, Teco 73.53 321 P P 08 22 58.8 +1.7
baz=134,SNR=7.1
TBI Tubuai 73.58 251 *eP* P 08 22 50.5 -7.2
comp=Z,685nm,19.8s
TBI *eS* **SKiKP** 08 32 14.4 -2.8
comp=Z,2μm,24.5s
TBI Tubuai 73.58 251 *eLR* LR 08 45 20.6
comp=Z,4μm,42.5s
TBI *eLR* LR 08 45 39.2
comp=Z,17μm,15.2s
DECC Green Verdugo 73.63 319 P P 08 22 59.9 +2.2
baz=133,SNR=6.0
K22A Casper 73.63 332 P P 08 22 58.8 +1.1
baz=144,SNR=15
K22A Casper 73.63 332 P P 08 22 58.9 +1.2
baz=144,SNR=15
SNCC San Nicolas Is 73.69 317 P P 08 22 59.4 +1.4
baz=132
RSSD Black Hills 73.78 334 P P 08 22 59.4 +0.8
baz=146
RSSD Black Hills 73.78 334 P P 08 22 59.6 +0.9
baz=146,SNR=20
EDW2 Edwards Air Fo 73.85 319 P P 08 23 00.7 +1.7
baz=133,SNR=13
B35A Bob, Littlefor 73.99 343 P P 08 22 59.3 -0.1
baz=156,SNR=9.9
LRMC Laurel Mtn Rad 74.07 320 P P 08 23 02.3 +1.9
baz=133,SNR=14
OSI Osito Audit: C 74.11 319 P P 08 23 01.8 +1.3
baz=132
TPNV Topopah Spring 74.25 322 P P 08 23 03.8 +2.4
baz=135,SNR=30
SCZ2 Santa Cruz Isl 74.26 318 P P 08 23 03.0 +1.6
baz=132
FURC Furnace Creek, 74.27 321 P P 08 23 03.4 +2.1
baz=134,SNR=34
MPMC Manual Prospec 74.35 321 P P 08 23 03.7 +1.6
baz=134,SNR=18
ARVC Arvin 74.52 319 P P 08 23 04.7 +1.9
baz=132
E28A Huff 74.59 338 P P 08 23 04.3 +1.3
baz=149,SNR=13
SBC Santa Barbara 74.60 318 P P 08 23 04.6 +1.3
baz=132
ISA Isabella, Lake 74.66 320 P P 08 23 05.8 +2.0
baz=133,SNR=28
DUG Dugway, Tooele 74.73 326 P P 08 23 06.1 +2.0
baz=138,SNR=29
R11B Troy Canyon, C 74.86 323 P P 08 23 06.4 +1.4
baz=136,SNR=31
GRAC Grapevine Rang 74.92 321 P P 08 23 07.5 +2.3
baz=134,SNR=9.1
CWC Cottonwood Cre 74.96 321 P P 08 23 07.7 +2.1
baz=133
PKM Mcpherson Peak 74.96 318 P P 08 23 07.7 +2.1
baz=132,SNR=10
SBA Scott Base 75.02 190 P P 08 23 07.7 +2.6
SBA Scott Base 75.02 190 P P 08 23 07.7 +2.6
SBA pmax pmax
comp=Z,62nm,1.5s
BW06 Boulder Array 75.09 330 P P 08 23 07.3 +1.1
baz=141,SNR=22
PDAR Pinedale Array 75.09 330 P P 08 23 05.9 -0.3
comp=Z,3.8nm,0.7s,baz=149,slow=6.3,SNR=36
PDAR pP pP 08 23 34.1 -1.2
comp=Z,3.5nm,0.6s,baz=132,slow=8.6,SNR=5.2
PDAR LR LR 08 58 24.2
comp=Z,79nm,18.4s,baz=150,slow=37
comp=Z,3.8nm,0.7s
VES Vestal, Richgr 75.15 319 P P 08 23 08.4 +2.0
baz=132,SNR=17
MDND Maddock 75.31 339 P P 08 23 08.2 +1.1
baz=150,SNR=30
MDND Maddock 75.31 339 P P 08 23 07.9 +0.8
baz=150,SNR=30
SMMC Simmler 75.35 319 P P 08 23 09.7 +2.0
baz=132,SNR=18
TIN Tinemaha, Big 75.47 321 P P 08 23 10.7 +2.3
baz=133
PPT2 Papeete2 75.50 257 *eP* P 08 23 00.9 -8.1
comp=Z,177nm,18.0s
PPT2 *eS* S 08 32 36.5 -4.5
comp=Z,289nm,16.8s
PPT2 Papeete2 75.50 257 *eLR* LR 08 46 23.4
comp=Z,759nm,45.5s
PPT2 *eLR* LR 08 46 32.1
comp=Z,239nm,15.0s
VOG Valley Oaks Go 75.65 320 P P 08 23 10.2 +0.9
baz=132
MLAC Mammoth, Mammo 76.21 321 P P 08 23 15.0 +2.3
baz=133
ULM Lac du Bonnet 76.30 342 P P 08 23 12.1 -0.5
comp=Z,24nm,0.9s,baz=146,slow=6.0,SNR=18
ULM LR LR 08 59 32.3
comp=Z,88nm,21.0s,baz=154,slow=38
comp=Z,24nm,0.9s
ELK Elko 76.39 325 LR LR 08 58 45.9
comp=Z,78nm,18.1s,baz=154,slow=37
NVAR Mina Array Bea 76.45 322 P P 08 23 14.7 +0.6
comp=Z,9.6nm,0.9s,baz=158,slow=7.0,SNR=55
NVAR pP pP 08 23 42.9 -0.5
comp=Z,4.4nm,0.8s,baz=149,slow=7.7,SNR=3.4
comp=Z,9.6nm,0.9s
LAO LASA Array 76.77 334 P P 08 23 16.4 +0.9
baz=144,SNR=23
LAO LASA Array 76.77 334 P P 08 23 16.6 +1.1
baz=144,SNR=23
RLMT Red Lodge 76.80 332 P P 08 23 17.4 +1.6
baz=142,SNR=27
H17A Grant Village 76.82 330 P P 08 23 18.4 +2.3
baz=140,SNR=11
SCHQ Schefferville 76.93 1 P P 08 23 14.9 -1.2
comp=Z,24nm,1.0s,baz=186,slow=4.6,SNR=11
SCHQ LR LR 08 59 35.3
comp=Z,54nm,19.9s,baz=214,slow=37
comp=Z,24nm,1.0s
TOA0 Torodi Ar. Sit 77.28 70 P P 08 23 18.3 -0.6
TOA0 IAmb IAmb 08 23 50.9
comp=Z,75nm,0.9s
TORD Torodi Ar. Bea 77.28 70 P P 08 23 18.5 -0.5
comp=Z,26nm,0.4s,baz=259,slow=4.2,SNR=115
TORD S S 08 32 58.2 -2.1
comp=Z,3.9nm,1.1s,baz=261,slow=7.3,SNR=7.5
TORD LR LR 08 57 37.2
comp=Z,107nm,19.0s,baz=308,slow=36
comp=Z,26nm,0.4s
DGMT Dagmar 77.46 337 P P 08 23 20.3 +1.0
baz=146,SNR=13
DGMT Dagmar 77.46 337 P P 08 23 20.8 +1.5
baz=146,SNR=13
SUR Sutherland 77.78 120 P P 08 23 23.3 +1.5
SUR IAmb IAmb 08 23 24.9
comp=Z,224nm,1.8s
SUR Sutherland 77.78 120 LR LR 08 52 10.1
comp=Z,86nm,19.3s,baz=235,slow=31
HLID Hailey 78.02 328 P P 08 23 24.8 +2.1
baz=137,SNR=93
BOZ Bozeman (W) 78.22 331 P P 08 23 24.7 +1.0
baz=140,SNR=18
EGMT Eagleton 79.28 333 P P 08 23 30.0 +0.7
baz=142,SNR=8.2
TSUM Tsumeb 79.40 106 P P 08 23 31.9 +1.1
TSUM IAmb IAmb 08 24 02.7
comp=Z,97nm,1.1s
TSUM Tsumeb 79.40 106 LR LR 08 56 08.5
comp=Z,254nm,20.3s,baz=292,slow=34
MSO Missoula 80.20 330 P P 08 23 36.2 +1.8
baz=138,SNR=8.2
MORF Marmelete 81.82 44 *eP* P 08 23 45.9 +2.8
PTEO Sao Teotonio 81.92 44 *eP* P 08 23 45.0 +1.4
comp=Z,120nm,1.8s
MDT Midelt 82.02 50 LR LR 08 59 23.8
comp=Z,140nm,21.2s,baz=255,slow=35
PBDV Barranco-do-Ve 82.25 45 *eP* P 08 23 46.0 +0.6
comp=Z,120nm,1.7s
K02D Willamette Mer 82.33 322 P P 08 23 46.7 +0.9
PNCL Nicolau / Gran 82.38 44 *eP* P 08 23 46.1 +0.2
comp=Z,40nm,1.6s
PMAFR Mafra 82.40 43 *eP* P 08 23 47.1 +1.0
comp=Z,70nm,2.2s
PCVE Castro Verde 82.41 44 *eP* P 08 23 47.3 +1.2
MESJ Messejana 82.42 44 *eP* P 08 23 47.1 +0.9
MESJ Messejana 82.42 44 *eP* P 08 23 46.9 +0.8
MESJ *eS* S 08 33 54.6 +1.2
MESJ pmax pmax
comp=Z,158nm,2.2s
MESJ Messejana 82.42 44 *eP* P 08 23 47.0 +0.8
MESJ IAmb IAmb 08 23 49.6
comp=Z,158nm,2.2s
MESJ *eS* S 08 33 54.6 +1.2
PVAQ Vaqueiros 82.48 44 *eP* P 08 23 48.1 +1.6
BOSA Boshof 82.67 118 P P 08 23 48.1 +0.1
comp=Z,30nm,1.0s,baz=253,slow=4.7,SNR=21
BOSA pP pP 08 24 17.0 -0.8
comp=Z,10nm,0.7s,baz=247,slow=4.9,SNR=3.3
BOSA LR LR 08 57 51.9
comp=Z,121nm,19.2s,baz=218,slow=34
comp=Z,30nm,1.0s
NEW Newport 82.72 330 P P 08 23 48.1 +0.5
baz=136,SNR=6.7
NEW Newport 82.72 330 LR LR 09 02 57.4
comp=Z,72nm,18.9s,baz=138,slow=37
PBEJ Beja 82.75 44 *eP* P 08 23 48.7 +0.8
comp=Z,43nm,1.7s
KEBM Edson Butte 82.82 322 P P 08 23 49.2 +1.0
KEBM IAmb IAmb 08 23 51.1
comp=Z,79nm,1.1s
EVO Evora 82.95 43 *eP* P 08 23 49.8 +0.9
PMTG Montargil 83.13 43 *eP* P 08 23 50.6 +0.8
comp=Z,58nm,1.6s
MAW Mawson 83.35 163 P P 08 23 52.0 +1.4
MAW Mawson 83.35 163 P P 08 23 52.0 +1.4
MAW pmax pmax
comp=Z,8.0nm,1.1s
MAW Mawson 83.35 163 P P 08 23 51.0 +0.4
comp=Z,12nm,0.5s,baz=213,slow=5.9,SNR=43
MAW pP pP 08 24 19.9 -0.1
comp=Z,21nm,0.9s,baz=213,slow=4.7,SNR=6.1
MAW LR LR 09 03 06.0
comp=Z,130nm,19.0s,baz=215,slow=37
comp=Z,12nm,0.5s
PBAR Barrancos 83.37 44 *eP* P 08 23 51.7 +0.6
comp=Z,46nm,1.7s
PESTR Estremoz 83.42 43 *eP* P 08 23 53.2 +1.9
comp=Z,52nm,1.7s
PMRV Marv??o 83.87 43 *eP* P 08 23 54.5 +0.9
PCBR Castelo Branco 84.05 43 *eP* P 08 23 55.0 +0.5
comp=Z,30nm,1.9s
LBTB Lobatse 84.28 115 P P 08 23 57.0 +0.7
LBTB IAmb IAmb 08 23 58.2
comp=Z,63nm,1.1s
LBTB Lobatse 84.28 115 P P 08 23 57.0 +0.7
LBTB pmax pmax
comp=Z,63nm,1.1s

PVIS	Viseu	84.30	42	eP		P		08 23 57.6 +1.8
MTE	Manteigas	84.33	42	eP		P		08 23 56.6 +0.6
	comp=Z,41nm,1.5s							
PVRL	Vila Real	84.74	41	eP		P		08 23 59.0 +1.0
	comp=Z,54nm,1.4s							
EDM	Edmonton	84.75	335	P		P		08 23 57.1 -0.7
EDM				IAmb		IAmb		08 24 29.0
	comp=Z,75nm,1.2s							
EDM	Edmonton	84.75	335	P		P		08 23 57.1 -0.7
EDM				pmax		pmax		
	comp=Z,75nm,1.2s							
POLO	Lamas de Olo	84.75	41	eP		P		08 23 58.6 +0.5
	comp=Z,23nm,1.9s							
MVO	Moncorvo	85.10	42	eP		P		08 24 00.6 +0.8
	comp=Z,83nm,1.7s							
PBRG	Braganca	85.64	41	eP		P		08 24 02.7 +0.2
	comp=Z,69nm,1.7s							
FRB	Frobisher Bay	85.86	360	LR		LR		09 04 00.0
	comp=Z,73nm,20.5s,baz=191,slow=37							
PGC	Sidney	86.07	327	P		P		08 24 05.2 +0.8
PGC				IAmb		IAmb		08 24 06.6
	comp=Z,99nm,1.5s							
ESDC	Sonseca Array	86.19	44	P		P		08 24 05.4 +0.1
ESDC	Sonseca Array	86.19	44	P		P		08 24 05.8 +0.4
	comp=Z,28nm,1.2s,baz=237,slow=5.1,SNR=49							
ESDC				pP		pP		08 24 36.0 +0.6
	comp=Z,16nm,1.1s,baz=233,slow=5.3,SNR=6.0							
ESDC				LR		LR		08 59 38.9
	comp=Z,107nm,21.1s,baz=228,slow=33							
	comp=Z,28nm,1.2s							
ESBB	Sonseca Array	86.20	44	P		P		08 24 05.8 +0.5
ESBB				IAmb		IAmb		08 24 08.8
	comp=Z,60nm,1.4s							
MATP	Matopo	88.51	111	LR		LR		09 00 05.5
	comp=Z,162nm,21.1s,baz=240,slow=33							
SFJD	Kangerlussuaq	90.13	7	LR		LR		09 06 54.9
	comp=Z,51nm,19.1s,baz=196,slow=37							
LSZ	Lusaka	90.25	107			P		08 24 25.4 +0.1
LSZ				IAmb		IAmb		08 25 01.3
	comp=Z,113nm,1.9s							
LSZ	Lusaka	90.25	107	P		P		08 24 25.4 +0.1
LSZ				pmax		pmax		
	comp=Z,113nm,1.9s							
LSZ	Lusaka	90.25	107	LR		LR		09 02 28.4
	comp=Z,222nm,20.4s,baz=340,slow=34							
YKA	Yellowknife Ar	92.17	340	P		P		08 24 32.1 -0.7
	comp=Z,24nm,0.8s,baz=134,slow=4.4,SNR=54							
YKA				pP		pP		08 25 02.0 -0.6
	comp=Z,9.3nm,0.7s,baz=138,slow=4.4,SNR=6.8							
YKA				LR		LR		09 09 29.0
	comp=Z,111nm,20.0s,baz=130,slow=38							
	comp=Z,24nm,0.8s							
KEST	Kesra	93.53	53	P		P		08 24 40.0 +0.1
	comp=Z,8.2nm,0.9s,baz=354,slow=7.4,SNR=4.2							
KEST				LR		LR		09 08 33.3
	comp=Z,213nm,19.6s,baz=268,slow=36							
	comp=Z,8.2nm,0.9s							
BORG	Borgarnes	94.15	18	LR		LR		09 03 20.8
	comp=Z,86nm,20.3s,baz=236,slow=33							
T35M	Bob Quinn	94.44	331	P		P		08 24 44.8 +1.3
	baz=125							
EKA	Eskdalemuir Ar	95.17	31	P		P		08 24 46.7 -0.1
	comp=Z,2.6nm,0.8s,baz=216,slow=4.1,SNR=4.2							
	comp=Z,2.6nm,0.8s							
DLBC	Dease Lake	95.19	332	P		P		08 24 47.7 +0.8
	baz=125							
DLBC	Dease Lake	95.19	332	LR		LR		09 12 05.2
	comp=Z,48nm,20.3s,baz=100,slow=38							
S34M	Telegraph Cree	95.37	332	P		P		08 24 48.2 +0.6
	baz=124							
MBAR	Mbarara	98.29	94	⇑eP		P		08 25 00.6 -1.6
MBAR				pmax		pmax		
	comp=Z,3.0nm,1.0s							
MBAR	Mbarara	98.29	94	LR		LR		09 08 22.4
	comp=Z,209nm,19.4s,baz=206,slow=35							
RES	Resolute Bay	98.34	353	LR		LR		09 11 17.3
	comp=Z,72nm,21.0s,baz=150,slow=36							
DAVOX	Davos/Dischmat	98.45	43	P		P		08 25 01.3 -0.8
	comp=Z,1.1nm,0.3s,baz=262,slow=7.6,SNR=2.3							
DAVOX				LR		LR		09 10 27.9
	comp=Z,197nm,18.6s,baz=264,slow=36							
	comp=Z,1.1nm,0.3s							
H31M	Peel River	100.91	337	P		Pdif		08 25 13.7 +1.2
	baz=121							
L29M	L29M	101.02	334	P		Pdif		08 25 14.3 +1.3
	baz=118							
YUK3	Moose Creek	101.38	333	P		Pdif		08 25 14.8 0.0
	baz=116							
INK	Inuvik	101.92	340	P		Pdif		08 25 17.8 +1.0
	baz=121							
CLL	Collm	102.06	39	eSP		SP		08 38 24.0 -0.6
CLL				ePPS		PPS		08 39 24.0
CLL				eSS		SS		08 44 06.0 +7.6
I29M	Ogilvie Camp,	102.14	336	P		Pdif		08 25 17.7 -0.2
	baz=117							
H29M	Whitestone	102.55	337	P		Pdif		08 25 20.4 +0.8
	baz=117							
KLU	Klutina	103.65	331	P		Pdif		08 25 25.3 +0.6
	baz=112							
WAT6	Susitna Watana	104.84	332	P		Pdif		08 25 30.7 +0.6
	baz=110							
ILAR	Eielson Array	105.23	334	Pdiff		Pdif		08 25 30.4 -1.2
	comp=Z,0.2nm,0.4s,baz=50,slow=24,SNR=4.9							
CAPN	Captain Cook N	105.80	330	P		PKiKP		08 29 46.5 +0.3
	baz=108							
B21K	Ikpikpuk River	109.46	338	P		PKiKP		08 29 54.1 +1.2
	baz=102							
DZM	Mont Dzumac	110.60	234	eLR		LR		09 02 29.7
	comp=Z,328nm,35.1s							
NACGM	Naroch	111.00	38	ePdif		Pdif		08 25 55.5 -1.9
	comp=Z,27nm,0.8s,baz=261							
E17K	Hotham Inlet	111.71	335	P		PKiKP		08 29 58.0 +0.9
	baz=96							
AKASG	Malin Array Be	111.80	43	PKiKP		PKiKP		08 29 56.5 -1.3
	comp=Z,0.3nm,0.3s,baz=262,slow=1.9,SNR=4.2							
ARCES	ARCESS Array B	112.17	22	PKKPbc		PKKPab		08 40 59.4 +2.6
	comp=Z,2.4nm,0.8s,baz=86,slow=6.6,SNR=6.0							
BRTR	Keskin Array B	113.02	55	PKiKP		PKiKP		08 30 01.3 +0.6
	comp=Z,1.8nm,0.8s,baz=197,slow=1.3,SNR=7.0							
NIKH	Nikolski High	113.74	319	P		PKiKP		08 30 02.5 +1.0
	baz=96							
APA	Apatity	115.03	24	⇓iPKIKP		PKPdf		08 30 05.3 +1.8
APA				i				08 31 07.0
APA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
OBN	Obninsk	116.63	38	⇓iPKIKP		PKPdf		08 30 06.0 -0.9
KLMR	Klimovskoe	118.06	32	ePKPdf		PKPdf		08 30 08.5 -1.1
KLMR				AMP				08 30 11.8
	comp=Z,19nm,1.4s							
KLMR				epPKPdf		pPKPdf		08 30 41.4 +0.8
KLMR	Klimovskoe	118.06	32	ePKIKP		PKPdf		08 30 08.4 -1.1
KLMR				e				08 30 41.4
KLMR				pmax		pmax		
	comp=Z,19nm,1.4s							
STKA	Stephens Creek	118.83	209	PKP		PKPdf		08 30 10.7 -1.4
	comp=Z,3.8nm,0.8s,baz=89,slow=2.4,SNR=3.9							
KIV	Kislovodsk	120.22	51	i PKIKP		PKiKP		08 30 15.4 +0.9
KIV				pmax		pmax		
	comp=Z,11nm,1.0s							
KIV				MLR		MLR		
	comp=Z,44nm,22.0s							
KBZ	Khabaz	120.37	51	c iPKIKP		PKiKP		08 30 15.5 +0.9
KBZ	Khabaz	120.37	51	PKP		PKPdf		08 30 12.4 -2.0
	comp=Z,8.5nm,0.9s,baz=284,slow=1.1,SNR=12							
PRGR	Permogore	120.89	31	ePKIKP		PKiKP		08 30 15.0 -0.1
PRGR				pmax		pmax		
	comp=Z,11nm,0.7s							
GNI	Garni	121.53	56	c iPKIKP		PKiKP		08 30 18.4 +1.1
GNI				pmax		pmax		
	comp=Z,14nm,1.3s							
KIRV	Kirov	123.34	34	c iPKIKP		PKiKP		08 30 20.6 +0.7
MAK	Makhachkala	123.71	52	i P		Pdif		08 26 55.8 +1.6
MAK				i				08 30 21.5
MAK				e				08 30 49.8
MAK				e				08 32 06.4
MAK				ePPP		PPP		08 34 45.1
MAK				e				08 37 18.1
MAK				eSS		SS		08 48 52.4 +7.3
MAK				pmax		pmax		
	comp=Z,214nm,1.0s							
CTA	Charters Tower	125.83	221	PKP		PKPdf		08 30 25.1 -0.8
	comp=Z,5.5nm,0.8s,baz=228,slow=4.0,SNR=6.3							
H11S2	WAKE ISLAND Hyl	28.38	276	T		T		10 51 02.0
	baz=103,slow=74,SNR=310							
H11S1	WAKE ISLAND Hyl	28.39	276	T		T		10 50 57.3
	baz=103,slow=74,SNR=210							
H11S3	WAKE ISLAND Hyl	28.40	276	T		T		10 51 03.5
	baz=103,slow=74,SNR=192							
H11N3	WAKE ISLAND Hyl	28.49	278	T		T		10 51 05.6
	baz=104,slow=74,SNR=285							
H11N2	WAKE ISLAND Hyl	28.50	278	T		T		10 51 06.8
	baz=104,slow=74,SNR=243							
H11N1	WAKE ISLAND Hyl	28.50	278	T		T		10 51 06.1
	baz=104,slow=74,SNR=216							
ARU	Arti	128.66	35	i PKIKP		PKiKP		08 30 31.1 +0.4
ARU								08 32 39.4
ARU	Arti	128.66	35	PKP		PKPdf		08 30 30.2 +0.2
	comp=Z,6.3nm,0.4s,baz=307,slow=2.5,SNR=13							
ASAR	Alice Springs	129.30	207	PKP		PKPdf		08 30 31.0 -1.5
	comp=Z,15nm,0.8s,baz=148,slow=2.2,SNR=85							
ASAR				pPKP		pPKPdf		08 31 02.8 -0.6
	comp=Z,8.3nm,1.0s,baz=142,slow=2.3,SNR=6.0							
TIXI	Tiksi	129.73	353	c iPKIKP		PKPdf		08 30 31.8 +0.2
TIXI				pmax		pmax		
	comp=Z,10.0nm,0.8s							
AKTO	Aktyubinsk	130.04	42	PKP		PKPdf		08 30 31.8 -1.0
	comp=Z,6.4nm,0.9s,baz=323,slow=2.4,SNR=14							
AKTO				pPKP		pPKPdf		08 31 03.7 -0.2
	comp=Z,5.0nm,0.8s,baz=281,slow=4.1,SNR=5.2							
NRIK	Noril'sk	130.87	11	d iPKIKP		PKiKP		08 30 34.6 -0.2
NRIK	Noril'sk	130.87	11	PKP		PKPdf		08 30 34.1 +0.3
	comp=Z,1.4nm,0.3s,baz=149,slow=0.6,SNR=5.7							
SEY	Seymchan	131.08	337	⇑iPKIKP		PKiKP		08 30 36.2 +0.9
SEY				pmax		pmax		
	comp=Z,33nm,1.3s							
GEYT	Alibeck	131.93	59	PKP		PKPdf		08 30 36.2 -0.7
	comp=Z,2.7nm,0.6s,baz=277,slow=4.9,SNR=8.2							
GEYT				pPKP		pPKPdf		08 31 08.6 +0.6
	comp=Z,2.1nm,0.4s,baz=248,slow=7.8,SNR=2.4							
WRA	Warramunga Arr	132.38	210	PKP		PKPdf		08 30 37.3 -1.0
	comp=Z,9.7nm,0.8s,baz=158,slow=1.7,SNR=47							
WRA				pPKP		pPKPdf		08 31 07.8 -1.6
	comp=Z,9.2nm,1.1s,baz=155,slow=1.6,SNR=5.9							
WRAB	Tennant Creek	132.38	210	d iPKIKP		PKiKP		08 30 39.2 -0.2
WRAB				pmax		pmax		
	comp=Z,36nm,1.7s							
PETK	Petropavlovsk-	133.52	323	PKP		PKPdf		08 30 38.1 -1.3
	comp=Z,6.7nm,0.9s,baz=60,slow=2.7,SNR=7.8							
BRVK	Borovoye	136.23	35	d iPKIKP		PKiKP		08 30 45.7 -0.4
BRVK				pmax		pmax		
	comp=Z,9.0nm,1.7s							
BVAR	Borovoye Array	136.30	35	PKP		PKPdf		08 30 44.0 -0.5
	comp=Z,5.8nm,0.8s,baz=302,slow=2.8,SNR=20							
YAK	Yakutsk	138.48	347	d iPKIKP		PKiKP		08 30 49.7 -0.7
YAK				pmax		pmax		
	comp=Z,13nm,0.7s							
IUG	Iuzhnay	140.25	50	ePKP		PKPdf		08 30 52.1 -0.2
	baz=50							
IUG	Iuzhnay	140.25	50	ePKPKP		PKPdf		08 30 52.0 -0.2
KURK	Kurchatov	141.85	34	deP KIKP		PKPdf		08 30 55.7 +1.0
KURBB	Kurchatov Arra	141.86	34	PKhKP		PKPpre		08 30 50.3
	comp=Z,0.8nm,0.4s,baz=286,slow=28,SNR=1.6							
BTLS	Baital	141.99	44	ePKP		PKPdf		08 30 54.7 -0.5
	baz=44							
BTLS	Baital	141.99	44	ePKIKP		PKPdf		08 30 54.7 -0.5
ZALV	Zaleskovo Beam	142.59	26	PKhKP		PKPpre		08 30 52.1
	comp=Z,3.3nm,0.7s,baz=318,slow=2.0,SNR=9.3							
AAK	Ala-Archa	143.22	48	deP KIKP		PKPbc		08 30 55.4 +0.4
AAK	Ala-Archa	143.22	48	PKhKP		PKPpre		08 30 53.6
	comp=Z,12nm,1.0s,baz=67,slow=3.3,SNR=7.4							
KUU	Kurty	143.96	45	ePKP		PKPbc		08 30 57.4 +0.6
	baz=45							
KUU	Kurty	143.96	45	ePKIKP		PKPbc		08 30 57.4 +0.5
BOD	Bodaibo	144.58	358	ePKIKP		PKPbc		08 30 58.4 +0.2
BOD				pmax		pmax		
	comp=Z,109nm,1.5s							
TNSS	Tian-Shan	144.72	46	ePKP		PKPab		08 30 59.6 0.0
	baz=46							
TNSS	Tian-Shan	144.72	46	ePKIKP		PKPab		08 30 59.6 0.0
TDK	Taldyqorghan	144.78	42	ePKP		PKPbc		08 30 59.4 +0.1
	baz=42							
TDK	Taldyqorghan	144.78	42	ePKIKP		PKPbc		08 30 59.4 0.0
ARXS	Arharly	144.78	44	ePKIKP		PKPbc		08 30 59.6 +0.1
YSS	Yuzh-Sakhalins	144.90	322	k iPKIKP		PKPdf		08 31 00.3 +0.1
YSS				e				08 31 30.1
YSS				e				08 34 27.5
YSS				e				08 37 58.9
YSS				eSS		SS		08 53 02.0 +3.1
YSS				pmax		pmax		
	comp=Z,400nm,3.6s							
YSS				pmax		pmax		
	comp=Z,40nm,0.7s							
KSH	Kashi	145.34	52	PKPbc		PKPab		08 31 02.2 +0.5
KSH				pPKP		pPKPdf		08 31 32.8 +0.3
KSH				AMB		AMB		
	comp=Z,100nm,5.5s							
ZHN	Zhinishke	145.65	45	ePKP		PKPdf		08 31 00.5 -1.4
	baz=45							
ZHN	Zhinishke	145.65	45	ePKIKP		PKPdf		08 31 00.4 -1.4
GRNR	Gornyy	145.66	332	⇑iPKP2		PKPab		08 31 03.4 +1.0
GRNR				pmax		pmax		
	comp=Z,80nm,1.1s							
GRNR				MLR		MLR		
	comp=E,340nm,20.0s							
GRNR				MLR		MLR		
	comp=N,70nm,13.0s							
GRNR				MLR		MLR		
	comp=Z,150nm,19.0s							
KPKS	Kokpek	145.68	44	i PKP		PKPdf		08 31 00.8 -1.0
	baz=44							
KPKS	Kokpek	145.68	44	i PKIKP		PKPdf		08 31 00.8 -1.0
SATY	Saty	145.68	45	ePKP		PKPdf		08 31 00.7 -1.2
	baz=45							
SATY	Saty	145.68	45	ePKIKP		PKPdf		08 31 00.7 -1.2
UZB	Uzynbulak	146.04	45	ePKP		PKPdf		08 31 01.5 -1.0
	baz=45							
UZB	Uzynbulak	146.04	45	ePKIKP		PKPdf		08 31 01.5 -1.0
MK31	Makanchi Array	146.12	37	d iPKP2		PKPbc		08 31 02.9 -0.6
MKAR	Makanchi Array	146.12	37	PKPbc		PKPbc		08 31 03.4 -0.1
	comp=Z,37nm,0.8s,baz=311,slow=2.8,SNR=114							
SHLS	Shalkode	146.32	44	ePKP		PKPdf		08 31 02.1 -0.9
	baz=44							
SHLS	Shalkode	146.32	44	ePKIKP		PKPdf		08 31 02.9 -0.1
DGZ	Jazzator, Alta	146.80	29	deP KP2		PKPbc		08 31 04.9 -0.6
ZSN	Zaisan	147.10	34	ePKP		PKPdf		08 31 03.1 -0.9
	baz=34							
ZSN	Zaisan	147.10	34	ePKIKP		PKPdf		08 31 03.0 -0.9
HYB	Hyderabad	148.65	93	ePKIKP		PKiKP		08 31 12.4 -0.2
GMJI	Gumukmas	149.46	184	PKP		PKiKP		08 31 14.6 +0.2
HEH	HeiHe	149.53	340	ePKPbc		PKPdf		08 31 08.8 +1.0
MOY	Mondy	149.67	13	ePKHKP		PKPpre		08 31 10.1
MOY				pmax		pmax		
	comp=Z,121nm,1.7s							
IRK	Irkutsk	149.69	9	ePKHKP		PKPpre		08 31 09.0
IRK				pmax		pmax		
	comp=Z,136nm,2.2s							
CMJI	Cimerak	149.85	174	PKP		PKPbc		08 31 13.1 -1.2
LEM	Lembang	150.70	172	PKPbc		PKPbc		08 31 16.6 0.0
	comp=Z,168nm,0.8s,baz=36,slow=2.4,SNR=24							
WMQ	Urumqi	150.95	37	ePKPbc		PKPdf		08 31 10.4 0.0
WMQ				LR		LR		
	comp=Z,190nm,26.5s							
ZAK	Zakamensk	151.34	11	ePKIKP		PKPdf		08 31 12.0 +1.2
ZAK				pmax		pmax		
	comp=Z,19nm,1.4s							
USRK	Ussuriysk Ar.	152.48	327	PKP		PKPdf		08 31 11.2 -1.3
	comp=Z,3.3nm,0.8s,baz=64,slow=4.4,SNR=4.6							
USRK				PKPbc		PKPbc		08 31 19.3 -0.2
	comp=Z,16nm,0.9s,baz=17,slow=1.9,SNR=15							
USRK				PKPab		PKPab		08 31 30.4 +0.2
	comp=Z,3.7nm,0.6s,baz=46,slow=5.5,SNR=5.4							
USRK				pPKPbc		pPKPbc		08 31 50.2 -0.2
	comp=Z,18nm,0.9s,baz=25,slow=1.3,SNR=6.6							
MJAR	Matsushiro Arr	152.94	307	PKPbc		PKiKP		08 31 21.0 0.0
	comp=Z,25nm,1.2s,baz=112,slow=0.3,SNR=22							
MJAR				PKPab		PKPab		08 31 32.6 +0.1
	comp=Z,9.3nm,0.8s,baz=69,slow=1.5,SNR=12							
MJAR				pPKPbc		pPKPbc		08 31 51.0 -0.8
	comp=Z,17nm,0.9s,baz=80,slow=1.3,SNR=8.2							
SONM	Songino Array	154.29	8	PKP		PKPdf		08 31 15.7 +0.5
	comp=Z,5.8nm,0.8s,baz=298,slow=1.6,SNR=22							
SONM				PKPbc		PKPbc		08 31 23.3 -0.3
	comp=Z,3.3nm,0.5s,baz=304,slow=1.9,SNR=9.5							
SONM				PKPab		PKPab		08 31 38.3 +0.5
	comp=Z,3.3nm,0.6s,baz=322,slow=5.3,SNR=6.2							
XLT	XiLinHaoTe	158.23	351	⇑iPKP		PKPdf		08 31 22.0 +1.6
KSRS	Korea Array	159.38	320	PKP		PKPdf		08 31 19.9 -2.0
	comp=Z,7.6nm,0.9s,baz=60,slow=0.6,SNR=23							
KSRS				pPKP		pPKPdf		08 31 51.3 -1.6
	comp=Z,9.3nm,1.1s,baz=61,slow=1.1,SNR=7.0							
GOMU	GeErMu	160.01	43	PKP		PKPdf		08 31 25.4 +2.3
GTA	Gaotai	160.33	28	ePKP		PKPdf		08 31 24.4 +1.3
GTA				PKPab		PKPab		08 32 05.0 +0.8
HHC	Hu-ho-hao-te	161.61	360	ePKP		PKPdf		08 31 25.9 +1.6
HHC				PP		PP		08 35 53.6 +1.2
HHC				SKKS				08 42 32.4
HHC				SS		SS		08 55 58.5 -1.6
HHC				AMB		AMB		
	comp=Z,290nm,10.8s							
HHC				LR		LR		
	comp=Z,210nm,19.6s							
HHC				LR		LR		
	comp=Z,250nm,18.7s							
HHC				LR		LR		
	comp=Z,190nm,20.0s							
BTO	Baotou	161.81	4	ePKP		PKPdf		08 31 26.5 +1.9
BJI	Beijing	161.98	348	PKP		PKPdf		08 31 25.8 +1.2
HNS	HongShan	164.80	350	⇑P		PKPab		08 32 24.3 +0.8
HNS				pmax		pmax		
	comp=Z,18nm,1.0s							
CMAR	Chiang Mai Arr	167.57	106	PKP		PKPdf		08 31 29.1 -0.9
	comp=Z,2.8nm,0.8s,baz=274,slow=2.1,SNR=16							
CMAR				pPKPab		PKPab		08 32 36.6 0.0
	comp=Z,3.4nm,0.8s,baz=250,slow=5.4,SNR=7.9							
CMAR				pPKPab		pPKPab		08 33 06.7 -0.3
	comp=Z,8.8nm,1.0s,baz=255,slow=5.1,SNR=5.8							
CMAR				PP		PP		08 36 24.1 -1.5
	comp=Z,0.7nm,0.2s,baz=255,slow=5.2,SNR=6.4							
LYN	LuoYang	167.87	356	⇓PKP		PKPdf		08 31 30.1 +0.3
LYN				PKPab		PKPab		08 32 37.2 +0.1
LYN				AMB		AMB		
	comp=Z,220nm,6.5s							
XAN	Xi'an	168.18	11	PKP		PKPdf		08 31 31.4 +1.3
NJ2	Nanjing	168.39	327	ePKP		PKPdf		08 31 29.9 -0.3
PZH	PanZhiHua	170.20	63	PKP		PKPdf		08 31 30.3 -1.4
WHN	Wuhan	171.51	343	PKP		PKPdf		08 31 33.7 +1.6
WHN				PKPab		PKPab		08 32 53.1 -0.3
QIZ	Qiongzhong	176.29	155	PKP		PKPdf		08 31 32.5 -1.6
QIZ				PP		PP		08 37 07.2 +0.4
QIZ				SS		SS		08 58 30.9 +4.2
QIZ				LR		LR		
	comp=Z,140nm,9.3s							
QIZ				LR		LR		
	comp=Z,170nm,10.5s							
QIZ				LR		LR		
	comp=Z,220nm,15.1s							

IDC ***05*** *08:16:27.6±1.6,24°.13S×66°.70W,h183km±19km,mb4.0/4, mbtmp4.6/7,Error ellipse: s-maj=26.9km s-min=19.9km az=97.0*

SJA ***05*** *08:16:27.7±0.6,24°.13S×66°.88W,h219km±5km,ML3.9, MW4.0*

NEIC ***05*** *08:16:28.9±1.7,24°.15S±0°.09×66°.9W±0°.2,h197km±14km, mb4.3/6,ML4.5(GUC),Error ellipse: s-maj=23.6km s-min=12.4km az=102.0*

GUC ***05*** *08:16:30.2±0.6,24°.10S×67°.29W,h242km±8km,ML4.6*

ISC 05 08:16:28.9±0.7,24°.11S±0°.04×66°.92W±0°.04,h207km±6km, n60,σ1.9°22/79,mb4.1/5,1C,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.43	116	eP	Pn	08 17 02.9	+0.1
SLA				eS	S	08 17 29.1	+0.3
SLA				IAML		08 17 30.3	
	comp=Z,279nm,0.7s						
HJA	Humahuaca	1.65	57	eP	Pn	08 17 05.1	+0.2
AZAP	Zapla	1.69	94	eP	Pn	08 17 04.8	-0.4
AZAP				IAML		08 17 36.1	
	comp=Z,250nm,1.2s						
FSA	Cafayete	2.17	157	eP	Pn	08 17 09.6	-0.2
FSA				eS	S	08 17 39.5	-1.9
ASTB	Santa Barbara	2.26	87	eP	Pn	08 17 10.4	-0.3
YJA	Yavi	2.31	34	eP	Pn	08 17 12.6	+0.9
LVC	Limon Verde	2.36	309	Pn	Pn	08 17 12.2	+0.1
LVC	Limon Verde	2.36	309	P	Pn	08 17 12.5	+0.4
	comp=Z,213nm,0.9s,baz=169,slow=14,SNR=1.2						
LVC				S	S	08 17 45.2	0.0
	comp=Z,368nm,0.6s,baz=248,slow=23,SNR=14						
LVC	Limon Verde	2.36	309	eP	Pn	08 17 12.8	+0.7
LVC				eS	S	08 17 45.3	0.0
LVC				IAML		08 17 47.0	
	comp=Z,3μm,0.7s						
LVC	Limon Verde	2.36	309	eP	Pn	08 17 12.9	+0.8
LVC				eS	S	08 17 46.1	+0.9
LVC				IAML		08 17 49.0	
	comp=Z,353nm,1.1s						
PB15	IPOC Station P	2.51	290	Pn	Pn	08 17 13.2	-0.3
PB15	IPOC Station P	2.51	290	eP	Pn	08 17 14.1	+0.6
PB15				eS	S	08 17 47.2	-0.5
PB15	IPOC Station P	2.51	290	eP	Pn	08 17 14.2	+0.7
PB15				eS	S	08 17 47.9	+0.2
GO02	Mina Guanaco	2.65	246	Pn	Pn	08 17 14.7	-0.5
GO02	Mina Guanaco	2.65	246	eP	Pn	08 17 15.6	+0.4
GO02				eS	S	08 17 50.7	-0.1
GO02				IAML		08 17 53.1	
	comp=E,2μm,0.2s						
GO02	Mina Guanaco	2.65	246	eP	Pn	08 17 15.6	+0.4
GO02				eS

QSPA	**South Pole Qui**	**66.10**	**180**	P	**P**	**08 26 55.0**	**+1.4**
QSPA				IAmb	IAmb	08 26 56.6	
comp=Z,4.7nm,0.7s							
QSPA	**South Pole Qui**	**66.10**	**180**	P	**P**	**08 26 54.7**	**+1.1**
comp=Z,3.8nm,0.5s,baz=57,slow=0.5,SNR=6.8							
comp=Z,3.8nm,0.5s							
TOA0	**Torodi Ar. Sit**	**76.54**	**69**	P	**P**	**08 27 56.5**	**-0.3**
TOA0				IAmb	IAmb	08 28 09.7	
comp=Z,5.2nm,1.2s							
TORD	**Torodi Ar. Bea**	**76.54**	**69**	P	**P**	**08 27 55.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**76.54**	**69**	P	**P**	**08 27 56.6**	**-0.1**
comp=Z,1.7nm,0.5s,baz=263,slow=5.1,SNR=4.0							
comp=Z,1.7nm,0.5s							
MAW	**Mawson**	**81.31**	**163**	P	**P**	**08 28 23.5**	**+1.8**
comp=Z,3.9nm,0.6s,baz=242,slow=6.2,SNR=3.9							
comp=Z,3.9nm,0.6s							
ASAR	**Alice Springs**	**128.39**	**205**	PKP	**PKiKP**	**08 35 12.2**	**0.0**
comp=Z,0.8nm,0.7s,baz=142,slow=2.3,SNR=2.8							
WRA	**Warramunga Arr**	**131.57**	**207**	PKP	**PKiKP**	**08 35 19.0**	**+0.3**
comp=Z,0.8nm,0.6s,baz=163,slow=1.7,SNR=5.0							
ZALV	**Zalesovo Beam**	**143.45**	**28**	PKP	PKPbc	08 35 36.9	+0.7
comp=Z,1.8nm,0.6s,baz=324,slow=5.1,SNR=2.8							
MKAR	**Makanchi Array**	**146.56**	**40**	PKPbc	**PKPab**	**08 35 47.0**	**-0.3**
comp=Z,3.4nm,0.6s,baz=299,slow=3.3,SNR=9.1							

*KRNET **05** 08:19:26.8±0.1, 41°.29N×71°.76E, h12km, mb2.6*
*ISU **05** 08:19:28.0, 41°.32N×71°.77E, h15km*
*NNC **05** 08:19:28.6±1.9, 41°.24N×71°.75E, h0km, mb2.9, mpv3.0,*
Error ellipse: s-maj=17.3km s-min=5.0km az=4.0
*SOME **05** 08:19:29.1, 41°.32N×71°.88E, h10km*

ISC 05 08:19:27.0±1.1, 41°.29N±0°.02×71°.80E±0°.02, h3km±11km, n34, σ1°59/58, 11C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSNS	**Kasansay**	**0.24**	**238**	P	**Pg**	**08 19 31.8**	**0.0**
KSNS				S	**Sg**	08 19 36.2	+1.2
NAM	**Namangan**	**0.31**	**200**	P	**Pn**	08 19 38.8	+0.3
ARK	**Arkit**	**0.53**	**14**	⇓*eP*	**Pg**	08 19 37.1	-0.1
ARK				⇓*i*S	**Sg**	08 19 44.6	+0.6
baz=17							
ARK	**Arkit**	**0.53**	**14**	P	**Pg**	08 19 37.2	+0.1
ARK				S	**Sg**	08 19 44.6	+0.6
TRKS	**Terek-Say**	**0.55**	**296**	⇓*i*P	**Pg**	08 19 36.1	-1.5
baz=91							
TRKS				⇓*i*S	**Sg**	08 19 42.8	-2.0
baz=91							
ANR	**Andizhan**	**0.68**	**141**	S	**Sn**	08 19 52.3	-2.4
TSTA	**Tashata**	**0.88**	**144**	P	**Pn**	08 19 49.0	+2.7
TSTA				S	**Sn**	08 20 01.6	+2.1
FRG	**Fergana**	**0.91**	**181**	S	**Sn**	08 20 03.7	+3.3
MINT	**Mingtut**	**1.03**	**218**	S	**Sn**	08 20 00.5	-2.8
CHMI	**Chimion**	**1.04**	**192**	P	**Pn**	08 19 49.6	+1.1
CHMI				P	**Pn**	08 19 49.6	+1.1
CHMI				S	**Sn**	08 20 04.7	+1.2
CHMI				S	**Sn**	08 20 04.7	+1.2
OHH	**Osh**	**1.07**	**135**	⇓*i*P	**Pb**	08 19 47.7	-0.5
baz=34							
OHH				⇓*i*S	**Sn**	08 20 02.9	-1.4
baz=34							
OHH	**Osh**	**1.07**	**135**	P	**Pb**	08 19 47.7	-0.5
OHH				S	**Sn**	08 20 03.0	-1.4
MNAS	**Manas**	**1.31**	**24**	⇓*i*P	**Pg**	08 19 51.9	-0.3
baz=25							
MNAS				⇓*i*S	**Sg**	08 20 10.1	+0.9
baz=25							
CHMG	**Chimgan**	**1.37**	**282**	P	**Pg**	08 19 52.8	-0.5
CHMG				S	**Sg**	08 20 11.0	0.0
BTK	**Batken**	**1.44**	**212**	⇓*i*P	**Pg**	08 19 53.8	-0.8
baz=10.0							
BTK				⇓*i*S	**Sg**	08 20 13.5	+0.3
baz=10.0							
BTK	**Batken**	**1.44**	**212**	P	**Pg**	08 19 53.8	-0.8
BTK				S	**Sg**	08 20 13.5	+0.3
IUG	**Iuzhnay**	**1.58**	**304**	P	**Pg**	08 19 58.2	+1.0
30nm,0.1s							
IUG				S	**Sg**	08 20 17.9	+0.1
314nm,0.4s							
IUG	**Iuzhnay**	**1.58**	**304**	*e*P	**Pg**	08 19 59.2	+1.9
28nm,0.1s							
IUG				*e*S	**Sg**	08 20 20.0	+2.3
314nm,0.4s							
DZA	**Taraz**	**1.64**	**348**	*e*P	**Pg**	08 20 00.6	+2.1
84nm,0.1s							
DZA				*e*S	**Sg**	08 20 22.2	+2.4
169nm,0.2s							
AML	**Almayashu**	**1.65**	**59**	⇑P	**Pg**	08 19 59.7	+1.0
0.2nm,0.3s							
AML				⇑S	**Sg**	08 20 23.6	+3.4
4.8nm,0.7s							
MRKS	**Merke**	**1.81**	**36**	*e*P	**Pg**	08 20 02.5	+0.9
6.3nm,0.2s							
MRKS				*e*S	**Sg**	08 20 26.2	+1.2
46nm,0.4s							
SFK	**Sufi-Kurgan**	**1.82**	**134**	⇑*i*P	**Pb**	08 20 00.7	-0.4
baz=33							
SFK				⇑*i*S	**Sg**	08 20 25.9	+0.5
baz=33							
ARLS	**Aral**	**1.98**	**72**	⇑*i*P	**Pb**	08 20 04.1	+0.3
baz=73							
ARLS				⇑*i*S	**Sg**	08 20 31.2	+0.6
baz=73							
KK31	**Karatay Array**	**2.05**	**333**	⇓Pn	**Pg**	08 20 05.1	-1.3
5.3nm,0.5s,baz=155,slow=15,SNR=47							
KK31				⇓Sn	**Sg**	08 20 32.8	-0.1
8.6nm,0.3s,baz=153,slow=24,SNR=12							
KKAR	**Karatay Array**	**2.05**	**333**	⇑*i*P	**Pb**	08 20 04.3	-0.6
baz=33							
KKAR				⇑*i*S	**Sg**	08 20 31.4	-1.5
baz=33							
FRU1	**Bishkek**	**2.60**	**53**	⇑*i*P	**Pb**	08 20 12.5	-1.8
baz=54							
FRU1				⇑*i*S	**Sb**	08 20 45.8	-0.9
baz=54							
SGDS	**Sogindy**	**3.01**	**43**	Pg	**Pg**	08 20 23.4	-1.4
1.4nm,0.2s							
SGDS				Lg	Lg	08 21 01.9	
8.2nm,0.4s							
TKM2	**Tokmak 2**	**3.26**	**59**	⇑Pg	**Pg**	08 20 27.8	-1.7
6.6nm,1.2s							
TKM2				⇓Lg	Lg	08 21 13.6	
4.8nm,0.5s							
KST	**Kastek**	**3.56**	**59**	Pg	**Pg**	08 20 33.4	-1.8
0.9nm,0.1s							
KST				Lg	Lg	08 21 18.5	
12nm,0.5s							
KST	**Kastek**	**3.56**	**59**	*e*Pg	**Pg**	08 20 33.4	-1.8
0.9nm,0.1s							
KST				*e*Lg	Lg	08 21 18.5	
12nm,0.5s							
KRBS	**Karabastau**	**3.74**	**49**	Pg	**Pg**	08 20 36.0	-2.7
0.9nm,0.3s							
KRBS				Lg	Lg	08 21 23.0	
2.7nm,0.5s							
KRBS	**Karabastau**	**3.74**	**49**	*e*Pg	**Pg**	08 20 36.5	-2.2
0.9nm,0.3s							
KRBS				*e*Lg	Lg	08 21 23.8	
2.7nm,0.5s							
KTBS	**Karatobe**	**4.35**	**55**	Pg	**Pg**	08 20 48.0	-2.4
0.3nm,0.2s							
KTBS				Lg	Lg	08 21 43.6	
2.6nm,0.3s							
KTBS	**Karatobe**	**4.35**	**55**	*e*Pg	**Pg**	08 20 48.0	-2.4
0.3nm,0.2s							
KTBS				*e*Lg	Lg	08 21 43.6	
2.6nm,0.3s							

*NOU **05** 08:18:42.7, 33°.99S×176°.04W, h0km, mb4.6/7, South of Kermadec Islands*
*WEL **05** 08:19:29.0±1.6, 35°.5S±10°×18°.0W±1°.4, h33km, ML4.2/16,*
Error ellipse: s-maj=0.0km s-min=0.0km az=85.9, confirmed
*IDC **05** 08:19:35.5±2.9, 35°.34S×178°.61E, h0km, mb3.7/2,*
mbtmp3.7/3, ML3.5/1, MS4.3/1, Error ellipse: s-maj=63.1km s-min=32.7km az=96.0

ISC 05 08:19:29.4±1.9, 35°.57S±0°.09×179°.5W±0°.1, h35km, n63, σ1°41/64, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.67**	**221**	P	**Pn**	**08 20 10.1**	**+0.2**
PKGZ	**Pakihiroa**	**3.04**	**220**	P	**Pn**	**08 20 15.6**	**+0.6**
PKGZ				S	**Sn**	**08 20 50.3**	**+0.2**
PUZ	**Puketiti**	**3.09**	**215**	P	**Pn**	**08 20 15.9**	**+0.2**
HAZ	**Te Kaha**	**3.10**	**224**	P	**Pn**	**08 20 16.3**	**+0.6**
HAZ				S	**Sn**	**08 20 53.6**	**+2.0**
RUGZ	**Raukumara Rang**	**3.31**	**223**	P	**Pn**	**08 20 19.1**	**+0.4**
CNGZ	**Carnagh Statio**	**3.45**	**212**	P	**Pn**	**08 20 21.7**	**+1.1**
TKGZ	**Te Karaka**	**3.58**	**216**	P	**Pn**	**08 20 23.0**	**+0.6**
MWZ	**Matawai**	**3.66**	**220**	P	**Pn**	**08 20 23.3**	**-0.2**
RIGZ	**Rimuhau**	**3.83**	**214**	P	**Pn**	**08 20 25.9**	**0.0**
URZ	**Urewera**	**3.83**	**224**	P	**Pn**	**08 20 25.6**	**-0.2**
URZ	**Urewera**	**3.83**	**224**	P	**Pn**	**08 20 25.4**	**-0.4**
URZ	**Urewera**	**3.83**	**224**	Pn	**Pn**	**08 20 25.1**	**-0.7**
5.8nm,0.3s,baz=341,slow=4.5,SNR=43							
URZ				Sn	**Sn**	**08 21 07.6**	**-2.1**
4.0nm,0.3s,baz=264,slow=23,SNR=1.8							
14nm,0.3s							
RAGZ	**Rawiri**	**3.84**	**219**	P	**Pn**	**08 20 26.1**	**+0.1**
OPRZ	**Ohinepanea**	**3.91**	**233**	P	**Pn**	**08 20 26.7**	**-0.3**
MARZ	**Manawahe**	**3.92**	**231**	P	**Pn**	**08 20 28.8**	**+1.8**
PRGZ	**Paritu Road**	**3.96**	**211**	P	**Pn**	**08 20 27.5**	**-0.1**
TGRZ	**Tauranga**	**4.05**	**237**	P	**Pn**	**08 20 28.8**	**0.0**
KUZ	**Kuaotunu**	**4.06**	**252**	P	**Pn**	**08 20 29.0**	**+0.1**
KUZ	**Kuaotunu**	**4.06**	**252**	P	**Pn**	**08 20 28.7**	**-0.2**
SNGZ	**Shannon Statio**	**4.09**	**217**	P	**Pn**	**08 20 29.7**	**+0.3**
MHGZ	**Mahia Peninsul**	**4.14**	**209**	P	**Pn**	**08 20 31.1**	**+0.9**
RTZ	**Ruatahuna**	**4.16**	**222**	P	**Pn**	**08 20 30.4**	**+0.1**
MUGZ	**Murupara**	**4.18**	**225**	P	**Pn**	**08 20 30.2**	**-0.4**
KARZ	**Kaharoa**	**4.22**	**233**	P	**Pn**	**08 20 31.2**	**0.0**
RRRZ	**Republican Roa**	**4.24**	**228**	P	**Pn**	**08 20 32.4**	**+0.9**
RAHZ	**Arahi**	**4.32**	**218**	P	**Pn**	**08 20 33.7**	**+1.0**
MTHZ	**Maungataniwha**	**4.40**	**221**	P	**Pn**	**08 20 34.3**	**+0.6**
ALRZ	**Allen Road**	**4.48**	**227**	P	**Pn**	**08 20 34.5**	**-0.3**
TOZ	**Tahuroa Road**	**4.58**	**240**	P	**Pn**	**08 20 36.1**	**0.0**
MKAZ	**Moumakai**	**4.59**	**249**	P	**Pn**	**08 20 36.7**	**+0.4**
NMHZ	**Naumai**	**4.60**	**219**	P	**Pn**	**08 20 37.1**	**+0.6**
MRHZ	**Matea Rd**	**4.62**	**224**	P	**Pn**	**08 20 36.3**	**-0.5**
BKZ	**Black Stump Fm**	**4.82**	**221**	P	**Pn**	**08 20 39.1**	**-0.3**
BKZ	**Black Stump Fm**	**4.82**	**221**	P	**Pn**	**08 20 38.4**	**-1.1**
TLZ	**Tolley Road**	**4.85**	**234**	P	**Pn**	**08 20 42.5**	**+2.6**
MCHZ	**McNeill Hill**	**4.92**	**217**	P	**Pn**	**08 20 41.1**	**+0.3**
AWAZ	**Awhitu Peninsu**	**4.98**	**251**	P	**Pn**	**08 20 43.4**	**+1.8**
RITZ	**Rihia Road**	**5.04**	**226**	P	**Pn**	**08 20 42.6**	**+0.1**
KWHZ	**Kaweka Forest**	**5.04**	**219**	P	**Pn**	**08 20 42.1**	**-0.5**
KAHZ	**Kahuranaki**	**5.12**	**213**	P	**Pn**	**08 20 41.8**	**-1.8**
KATZ	**Kakaramea**	**5.14**	**227**	P	**Pn**	**08 20 47.9**	**+4.0**
TMVZ	**Te Maari**	**5.22**	**226**	P	**Pn**	**08 20 44.7**	**-0.4**
ETVZ	**East Tongariro**	**5.23**	**226**	P	**Pn**	**08 20 44.5**	**-0.7**
OTVZ	**Oturere**	**5.28**	**226**	P	**Pn**	**08 20 45.4**	**-0.4**
BHHZ	**Black Hill Sta**	**5.28**	**221**	P	**Pn**	**08 20 45.0**	**-0.8**
NNVZ	**North Ngauruho**	**5.29**	**226**	P	**Pn**	**08 20 45.4**	**-0.6**
WTVZ	**West Tongariro**	**5.29**	**226**	P	**Pn**	**08 20 46.8**	**+0.8**
SNVZ	**South Ngauruho**	**5.31**	**226**	P	**Pn**	**08 20 46.0**	**-0.3**
PXZ	**Pawanui**	**5.32**	**212**	P	**Pn**	**08 20 45.2**	**-1.0**
TWVZ	**Taurewa**	**5.35**	**228**	P	**Pn**	**08 20 47.2**	**+0.4**
MOVZ	**Moawhango**	**5.39**	**223**	P	**Pn**	**08 20 46.1**	**-1.2**
HIZ	**Hauiti**	**5.40**	**235**	P	**Pn**	**08 20 49.8**	**+2.4**
HIZ	**Hauiti**	**5.40**	**235**	P	**Pn**	**08 20 49.7**	**+2.3**
OUZ	**Omahuta**	**5.67**	**271**	P	**Pn**	**08 20 48.9**	**-2.1**
OUZ	**Omahuta**	**5.67**	**271**	P	**Pn**	**08 20 49.1**	**-2.0**
ANWZ	**Angora Road**	**5.84**	**212**	P	Pn	08 20 44.2	-9.2
BFZ	**Birch Farm**	**6.12**	**212**	P	**Pn**	**08 20 54.5**	**-2.8**
BFZ	**Birch Farm**	**6.12**	**212**	P	**Pn**	**08 20 54.3**	**-2.9**
MRZ	**Mangatainoka R**	**6.41**	**216**	P	**Pn**	**08 20 59.4**	**-1.8**
RPZ	**Rata Peaks**	**10.93**	**219**	Sn	Sn	08 23 52.0	-12
0.2nm,0.3s,baz=73,slow=14,SNR=1.6							
ASAR	**Alice Springs**	**41.88**	**273**	P	**P**	**08 27 15.4**	**-1.0**
0.5nm,0.5s,baz=115,slow=7.7,SNR=4.2							
0.5nm,0.5s							
WRA	**Warramunga Arr**	**43.33**	**278**	P	**P**	**08 27 25.9**	**-2.4**
0.7nm,0.5s,baz=119,slow=7.7,SNR=15							
WRA				LR	LR	08 45 07.5	
comp=Z,388nm,20.9s,baz=341,slow=37							
0.7nm,0.5s							
FINES	**FINESS Array B**	**149.46**	**336**	PKPbc	**PKPab**	**08 39 23.3**	**+4.5**
1.5nm,0.8s,baz=48,slow=2.1,SNR=4.2							

IDC 05 08:27:34.5±2.6, 53°.68N×86°.94E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=26.2km s-min=14.8km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**283**	I	I	08 36 20.0	
baz=102,slow=327,SNR=9.7							
ZALV	**Zalesovo Beam**	**1.28**	**283**	Pg	Pg	08 27 58.3	-0.9
1.6nm,0.3s,baz=102,slow=17,SNR=23							
ZALV				Lg	Lg	08 28 16.5	
3.4nm,0.3s,baz=103,slow=25,SNR=25							
ZALV				Rg	Rg	08 28 22.8	
2.2nm,0.4s,baz=103,slow=31,SNR=8.1							
KURBB	**Kurchatov Arra**	**6.01**	**243**	Pn	Pn	08 29 04.6	-0.1
0.1nm,0.3s,baz=63,slow=14,SNR=5.2							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**7.51**	**205**	Pn	Pn	08 29 27.0	+1.7
0.2nm,0.3s,baz=28,slow=14,SNR=11							
0.3nm,0.4s							

*SOME **05** 08:31:07.1, 42°.27N×76°.72E, h10km*
*KRNET **05** 08:31:07.4±0.1, 42°.25N×76°.69E, h21km, mb2.8*
*NNC **05** 08:31:08.2±0.8, 42°.32N×76°.68E, h0km, mb2.8, mpv2.9,*
Error ellipse: s-maj=5.5km s-min=3.1km az=172.0

ISC 05 08:31:07.3±1.1, 42°.27N±0°.03×76°.68E±0°.02, h10km±10km, n36, σ0°43/69, 9C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOOM	**Boomskoye usch**	**0.59**	**292**	⇑*e*P	**Pg**	**08 31 19.2**	**+0.5**
baz=94							
BOOM				⇑*e*S	**Sb**	**08 31 28.1**	**-0.2**
baz=94							
IZV	**Izvestkoviy**	**0.77**	**356**	P	**Pg**	**08 31 22.4**	**+0.3**
6.0nm,0.2s							
IZV				S	**Sb**	**08 31 33.5**	**0.0**
28nm,0.3s							
IZV	**Izvestkoviy**	**0.77**	**356**	*e*P	**Pg**	**08 31 22.4**	**+0.3**
baz=56							
IZV				*e*S	**Sb**	**08 31 33.5**	**0.0**
baz=56							
IZV	**Izvestkoviy**	**0.77**	**356**	*e*P	**Pg**	**08 31 22.4**	**+0.3**
6.0nm,0.2s							
IZV				*e*S	**Sb**	**08 31 33.5**	**0.0**
28nm,0.3s							
TNSS	**Tian-Shan**	**0.79**	**14**	*e*P	**Pg**	**08 31 22.7**	**+0.1**
baz=13							
TNSS				*e*S	**Sb**	**08 31 34.0**	**-0.4**
baz=13							
TNSS	**Tian-Shan**	**0.79**	**14**	*e*P	**Pg**	**08 31 22.7**	**+0.1**
1.9nm,0.1s							
TNSS				*e*S	**Sb**	**08 31 34.0**	**-0.4**
8.6nm,0.2s							
MTBS	**Maitube**	**0.88**	**348**	P	**Pg**	**08 31 24.4**	**+0.1**
7.8nm,0.2s							
MTBS				S	**Sb**	**08 31 36.6**	**0.0**
18nm,0.4s							
MTBS	**Maitube**	**0.88**	**348**	*e*P	**Pg**	**08 31 24.4**	**+0.1**
baz=48							
MTBS				*e*S	**Sb**	**08 31 36.6**	**0.0**
baz=48							
MTBS	**Maitube**	**0.88**	**348**	*e*P	**Pg**	**08 31 24.4**	**+0.1**
7.8nm,0.2s							
MTBS				*e*S	**Sb**	**08 31 36.6**	**0.0**
18nm,0.4s							
ANVS	**Anan'yevo**	**0.89**	**55**	⇑*e*P	**Pg**	**08 31 24.5**	**0.0**
baz=53							
ANVS				⇑*e*S	**Sg**	**08 31 36.4**	**+0.2**
baz=53							
KST	**Kastek**	**0.94**	**326**	*e*P	**Pg**	**08 31 24.7**	**-0.6**
1.9nm,0.1s							
KST				*e*S	**Sg**	**08 31 37.3**	**-0.2**
14nm,0.3s							
NRN	**Naryn**	**0.98**	**211**	⇑*e*P	**Pg**	**08 31 26.0**	**-0.1**
baz=13							
NRN				⇑*e*S	**Sg**	**08 31 39.1**	**+0.3**
baz=13							
KOTS	**Kotyrbulak**	**1.02**	**18**	P	**Pg**	**08 31 26.8**	**-0.1**
15nm,0.1s							
KOTS				S	**Sb**	**08 31 41.1**	**+0.6**
54nm,0.6s							
KOTS	**Kotyrbulak**	**1.02**	**18**	*e*P	**Pg**	**08 31 26.8**	**-0.1**
baz=17							
KOTS				*e*S	**Sb**	**08 31 41.2**	**+0.6**
baz=17							
KOTS	**Kotyrbulak**	**1.02**	**18**	*e*P	**Pg**	**08 31 26.8**	**-0.1**
15nm,0.1s							
KOTS				*e*S	**Sb**	**08 31 41.1**	**+0.6**
54nm,0.6s							
TKM2	**Tokmak 2**	**1.03**	**310**	⇓P	**Pg**	**08 31 26.8**	**-0.3**
10nm,1.1s							
TKM2				⇑S	**Sb**	**08 31 41.4**	**+0.3**
3.0nm,0.3s							
DGS	**Degeres**	**1.18**	**326**	*e*P	**Pb**	**08 31 29.4**	**-0.4**
baz=26							
DGS				*e*S	**Sb**	**08 31 45.3**	**+0.1**
baz=26							
DGS	**Degeres**	**1.18**	**326**	*e*P	**Pb**	**08 31 29.4**	**-0.4**
1.9nm,0.1s							
DGS				*e*S	**Sb**	**08 31 45.4**	**+0.1**
11nm,0.2s							
KTBS	**Karatobe**	**1.44**	**0**	P	**Pb**	**08 31 34.4**	**+0.1**
6.9nm,0.3s							
KTBS				S	**Sg**	**08 31 53.9**	**+0.2**
17nm,0.2s							
KTBS	**Karatobe**	**1.44**	**0**	*e*P	**Pb**	**08 31 34.3**	**+0.1**
baz=60							
KTBS				*e*S	**Sg**	**08 31 53.9**	**+0.2**
baz=60							
KTBS	**Karatobe**	**1.44**	**0**	*e*P	**Pb**	**08 31 34.3**	**+0.1**
6.9nm,0.3s							
KTBS				*e*S	**Sg**	**08 31 53.9**	**+0.2**
17nm,0.2s							
SATY	**Saty**	**1.50**	**58**	P	**Pn**	**08 31 34.2**	**-0.2**
SATY				S	**Sn**	**08 31 53.9**	**-0.2**
SATY	**Saty**	**1.50**	**58**	*e*P	**Pn**	**08 31 34.2**	**-0.2**
SATY				*e*S	**Sn**	**08 31 53.9**	**-0.2**
KRBS	**Karabastau**	**1.61**	**333**	*e*P	**Pb**	**08 31 37.2**	**+0.1**
baz=33							
KRBS				*e*S	**Sg**	**08 31 58.6**	**-0.3**
baz=33							
KRBS	**Karabastau**	**1.61**	**333**	*e*P	**Pb**	**08 31 37.2**	**+0.1**
2.9nm,0.2s							
KRBS				*e*S	**Sg**	**08 31 58.6**	**-0.3**
10.0nm,0.2s							
KUU	**Kurty**	**1.64**	**351**	P	**Pb**	**08 31 37.7**	**0.0**
3.2nm,0.3s							
KUU				S	**Sb**	**08 31 59.3**	**+0.8**
13nm,0.6s							
KUU	**Kurty**	**1.64**	**351**	*e*P	**Pb**	**08 31 37.7**	**0.0**
baz=51							
KUU				*e*S	**Sb**	**08 31 59.3**	**+0.8**
baz=51							
KUU	**Kurty**	**1.64**	**351**	*e*P	**Pb**	**08 31 37.7**	**0.0**
3.2nm,0.3s							
KUU				*e*S	**Sb**	**08 31 59.3**	**+0.8**
13nm,0.6s							
KPKS	**Kokpek**	**1.90**	**50**	P	**Pb**	**08 31 42.2**	**+0.1**
KPKS				S	**Sg**	**08 32 07.1**	**-1.2**
KPKS	**Kokpek**	**1.90**	**50**	*e*P	**Pb**	**08 31 41.6**	**-0.5**
KPKS				*e*S	**Sb**	**08 32 06.3**	**+0.4**
UZB	**Uzynbulak**	**1.94**	**62**	P	**Pb**	**08 31 42.5**	**-0.3**
UZB				S	**Sb**	**08 32 07.9**	**+0.8**
UZB	**Uzynbulak**	**1.94**	**62**	*e*P	**Pb**	**08 31 42.5**	**-0.3**
UZB				*e*S	**Sb**	**08 32 07.9**	**+0.8**
ARXS	**Arharly**	**2.12**	**23**	*e*Pg	**Pb**	**08 31 46.0**	**+0.3**
12nm,0.4s							
ARXS				*e*Lg	Lg	08 32 14.0	
7.2nm,0.1s							
AML	**Almayashu**	**2.22**	**267**	⇑Pn	**Pb**	**08 31 47.6**	**-0.1**
1.7nm,1.1s							
AML				⇑Sn	**Sg**	**08 32 17.5**	**-1.2**
0.2nm,0.4s							
MRKS	**Merke**	**2.60**	**282**	Pg	**Pb**	**08 31 54.8**	**+0.9**
1.7nm,0.3s							
MRKS				Lg	Lg	08 32 28.7	
4.3nm,0.4s							
MRKS	**Merke**	**2.60**	**282**	*e*Pg	**Pb**	**08 31 54.9**	**+0.9**
1.7nm,0.3s							
MRKS				*e*Lg	Lg	08 32 28.7	
4.3nm,0.4s							

IDC 05 08:37:59.4±3.5, 53°.60N×87°.95E, h0km, mbtmp3.1/2, ML2.6/2, Error ellipse: s-maj=34.2km s-min=19.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**282**	I	I	08 51 07.3	
baz=102,slow=325,SNR=7.6							
ZALV	**Zalesovo Beam**	**1.89**	**282**	Pn	Pn	08 38 32.0	-0.8
1.4nm,0.3s,baz=95,slow=13,SNR=20							
ZALV				Lg	Lg	08 38 59.3	
3.5nm,0.3s,baz=99,slow=26,SNR=17							
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn	08 39 37.2	+0.7
0.1nm,0.3s,baz=61,slow=14,SNR=7.1							
1.0nm,0.3s							
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	08 39 54.2	+1.2
0.1nm,0.3s,baz=21,slow=8.5,SNR=2.7							
0.3nm,0.4s							

*IDC **05** 08:45:49.0±1.3, 55°.89S×27°.59W, h0km, mb4.0/2,*
mbtmp4.0/3, ML3.8/1, MS3.3/1, Error ellipse: s-maj=72.7km s-min=27.0km az=91.0

ISC 05 08:46:02.7±1.5, 56°.05±0°.2×27°.6W±0°.5, h112km, n17, σ2°02/11, 6C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.93**	**158**	⇑P	**P**	**08 49 52.3**	**-0.2**
comp=Z,2.7nm,0.2s							
VNA3	**Neumayer Olymp**	**17.12**	**160**	⇑P	**P**	**08 49 52.8**	**-1.7**
comp=Z,1.7nm,0.3s							
VNA2	**Neumayer--Watz**	**17.33**	**158**	⇑P	**P**	**08 49 55.1**	**-1.7**
comp=Z,1.7nm,0.5s,ba

*IDC **05** 08:49:35.9±1.2,25°.51N×141°.13E,h138km±12km,mb3.6/8, mbtmp4.2/12,MS3.7/2,Error ellipse: s-maj=22.0km s-min=12.8km az=93.0*
*NEIC **05** 08:49:38.1±2.1,25°.51N±0°.08×141°.0E±0°.1,h147km±6km, mb4.5/14,Error ellipse: s-maj=20.0km s-min=10.2km az=111.0*
*NIED **05** 08:49:40.7,25°.64N×141°.13E,h147km,MW4.3,Moment Tensor Solution. s1 Moment tensor: Scale 10^15^Nm; M_{rr}0.75; $M_{\theta\theta}$-0.02; $M_{\phi\phi}$-0.73; $M_{r\theta}$0.82; $M_{\theta\phi}$0.02; $M_{\phi r}$2.63; Fault plane solution: $M_0$2.85000×10^15^ NP1:ϕ_s17.00000°, δ83.00000°,λ.94.00000°. NP2:ϕ_s165.00000°,δ8.00000°, λ.59.00000°.*
*JMA **05** 08:49:40.7±0.1,26°N±1°×14°1E±°,h147km±3km,MD4.5/30, MV4.8/30,IOTO ISLANDS REGION*

ISC 05 08:49:38.7±0.6,25°.59N±0°.06×141°.17E±0°.10,h160km,n51, σ2^{S}02/53,mb4.3/16,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.37**	**41**	P	**Pn**	**08 50 08.8**	**+1.0**
JHH2				*e*S	**Sn**	**08 50 30.2**	**0.0**
JHH2	**Haha-jima-NKT2**	**1.37**	**41**	A	A	08 50 08.8	
	comp=E,13nm,0.4s,comp=N,11nm,0.5s						
CBIJ	**Chichi jima**	**1.75**	**31**	*e*P	**Pn**	**08 50 12.9**	**+1.2**
CBIJ				*e*S	**Sn**	**08 50 37.9**	**+0.7**
CBIJ	**Chichi jima**	**1.75**	**31**	A	A	08 50 12.9	
	comp=E,13nm,0.8s,comp=N,15nm,0.9s						
JCJ	**Chichijima**	**1.75**	**31**		**Pn**	**08 50 12.6**	**+0.9**
JCJ	**Chichijima**	**1.75**	**31**	P	**Pn**	**08 50 09.0**	**-2.7**
	comp=N,2μm,0.4s,baz=306,slow=23,SNR=214						
JCJ				S	**Sn**	**08 50 33.7**	**-3.4**
	comp=N,2μm,0.4s,baz=315,slow=23,SNR=57						
JCJ				LR	LR	08 50 49.9	
	comp=N,201nm,20.9s,baz=156,slow=40						
JHCJ	**Hachijojimakas**	**7.55**	**351**	*e*P	**Pn**	**08 51 27.0**	**+1.0**
JHJ	**Hachijo jima 2**	**7.60**	**351**	P	**Pn**	**08 51 25.4**	**-1.2**
	comp=N,92nm,0.4s,baz=228,slow=4.6,SNR=2.0						
JHJ				S	**Sn**	**08 52 49.1**	**-2.5**
	comp=N,137nm,0.6s,baz=70,slow=15,SNR=1.9						
JMKN	**Mikurajimanish**	**8.38**	**351**	*e*P	**Pn**	**08 51 37.7**	**+0.6**
BSO4	**Boso 4**	**9.39**	**356**	*e*P	**Pn**	**08 51 49.9**	**-0.5**
JAI	**Aioi**	**10.04**	**326**	*e*P	**Pn**	**08 52 03.6**	**+4.5**
JAO	**Obara**	**10.21**	**342**	*e*P	**Pn**	**08 52 02.6**	**+1.2**
JAO				*e*S	**Sn**	**08 53 48.0**	**-6.6**
JMN	**Monobe**	**10.29**	**324**	Pn	**Pn**	**08 52 06.1**	**+3.7**
JHU	**Hanno**	**10.35**	**351**	*e*P	**Pn**	**08 52 01.3**	**-1.8**
JHU				*e*S	**Sn**	**08 53 57.5**	**-0.4**
INU	**Inuyama**	**10.36**	**341**	Pn	**Pn**	**08 52 05.2**	**+1.9**
JGF	**Kuroka**	**10.50**	**343**	*e*P	**Pn**	**08 52 06.3**	**+1.2**
JAG	**Ashikaga**	**10.90**	**353**	*e*P	**Pn**	**08 52 07.3**	**-2.9**
JHO	**Hitachi**	**10.99**	**357**	*e*P	**Pn**	**08 52 09.2**	**-2.3**
JHO				*e*S	Sn	08 54 01.7	-12
MJAR	**Matsushiro Arr**	**11.20**	**348**	P	**Pn**	**08 52 12.0**	**-2.3**
	comp=N,1.4nm,0.3s,baz=279,slow=6.8,SNR=11						
MAJO	**Matsushiro**	**11.21**	**348**		**Pn**	**08 52 13.3**	**-1.0**
MJB9	**Matsu-Tunnel**	**11.21**	**348**		**Pn**	**08 52 14.4**	**+0.1**
JMM	**Marumori**	**12.24**	**359**		**Pn**	**08 52 25.7**	**-2.0**
JSD	**Sado**	**12.65**	**349**	Pn	Pn	08 52 29.5	-3.5
JTM	**Tenmabayashi**	**15.15**	**360**	Pn	**Pn**	**08 53 04.3**	**-0.2**
KSRS	**Korea Array**	**16.33**	**320**	P	**P**	**08 53 19.4**	**+0.5**
	comp=N,3.6nm,0.6s,baz=138,slow=12,SNR=19						
ERM	**Erimo**	**16.46**	**5**	P	**Pn**	**08 53 22.7**	**+2.3**
ASAJ	**Asahikawa**	**18.52**	**3**	P	**P**	**08 53 43.3**	**+0.5**
	comp=N,10nm,0.6s,baz=227,slow=9.1,SNR=6.0						
JKA	**Kamikawa-asahi**	**18.52**	**3**	P	**P**	**08 53 45.1**	**+2.3**
SEY	**Seymchan**	**38.07**	**8**	P	**P**	**08 56 42.0**	**+0.6**
	comp=N,2.9nm,0.7s,baz=190,slow=9.5,SNR=7.2						
	comp=N,2.9nm,0.7s						
COEN	**Coen**	**39.36**	**177**	P	**P**	**08 56 52.3**	**-0.4**
COEN				IAmb	IAmb	08 57 00.7	
	comp=Z,18nm,1.4s						
MTN	**Manton Dam**	**39.44**	**196**	P	**P**	**08 56 52.5**	**-0.8**
MTN				IAmb	IAmb	08 56 53.3	
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**39.66**	**268**	P	**P**	**08 56 54.8**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=51,slow=6.6,SNR=5.4						
	comp=Z,0.6nm,0.5s						
KIWB	**Kanaga Island**	**40.95**	**39**	P	**P**	**08 57 09.0**	**+3.6**
WB0	**Warramunga Arr**	**45.57**	**189**	P	**P**	**08 57 41.5**	**-1.2**
WB0				IAmb	IAmb	08 57 42.4	
	comp=Z,9.5nm,0.9s						
CTAO	**Charters Tower**	**45.68**	**173**	P	**P**	**08 57 43.1**	**-0.6**
CTAO				IAmb	IAmb	08 57 44.1	
	comp=Z,6.6nm,0.7s						
WRA	**Warramunga Arr**	**45.75**	**189**	P	**P**	**08 57 43.0**	**-1.2**
WRA	**Warramunga Arr**	**45.75**	**189**	P	**P**	**08 57 42.8**	**-1.4**
	comp=Z,8.9nm,0.6s,baz=8.8,slow=8.6,SNR=125						
	comp=Z,8.9nm,0.6s						
AS31	**Alice Springs**	**49.47**	**189**	P	**P**	**08 58 11.5**	**-1.3**
ASAR	**Alice Springs**	**49.47**	**189**	P	**P**	**08 58 10.8**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=14,slow=12,SNR=16						
ASAR				LR	LR	09 18 07.6	
	comp=Z,75nm,21.5s,baz=141,slow=35						
	comp=Z,0.5nm,0.5s						
EIDS	**Eidsvold**	**51.56**	**169**	P	**P**	**08 58 27.8**	**-0.7**
EIDS				IAmb	IAmb	08 58 40.0	
	comp=Z,10nm,1.3s						
K20K	**Telida**	**56.15**	**29**	P	**P**	**08 59 03.1**	**+1.8**
K20K				IAmb	IAmb	08 59 27.6	
	comp=Z,11nm,1.4s						
J20K	**Nowinta River**	**56.26**	**28**	P	**P**	**08 59 04.2**	**+2.1**
J20K				IAmb	IAmb	08 59 05.4	
	comp=Z,5.5nm,0.8s						
IMAR	**Indian Mountai**	**56.79**	**26**	P	**P**	**08 59 07.6**	**+1.8**
STKA	**Stephens Creek**	**57.15**	**180**	P	**P**	**08 59 07.7**	**-1.0**
STKA	**Stephens Creek**	**57.15**	**180**	P	**P**	**08 59 07.5**	**-1.3**
	comp=Z,2.3nm,0.4s,baz=4.5,slow=7.6,SNR=13						
	comp=Z,2.3nm,0.4s						
H23K	**Yukon River**	**58.46**	**27**	P	**P**	**08 59 19.7**	**+2.2**
H23K				IAmb	IAmb	08 59 50.1	
	comp=Z,3.9nm,1.2s						
BVAR	**Borovoye Array**	**58.54**	**318**	LR	LR	09 27 37.7	
	comp=Z,65nm,21.0s,baz=305,slow=39						
ILAR	**Eielson Array**	**59.46**	**28**	P	**P**	**08 59 24.0**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=257,slow=6.3,SNR=7.3						
	comp=Z,1.1nm,0.9s						
FINES	**FINESS Array B**	**78.89**	**334**	P	**P**	**09 01 22.4**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=60,slow=5.6,SNR=4.3						
	comp=Z,0.7nm,0.4s						
NVAR	**Mina Array Bea**	**82.16**	**51**	P	**P**	**09 01 43.5**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=318,slow=6.6,SNR=2.1						
	comp=Z,0.4nm,0.8s						
PLCA	**Paso Flores**	**149.65**	**128**	PKPbc	**PKPbc**	**09 09 09.2**	**-0.4**
	comp=Z,3.5nm,1.1s,baz=181,slow=5.1,SNR=2.9						

IDC 05 08:55:28.9±2.7,54°29N×86°28E,h0km,mbtmp3.2/2, ML2.9/2,Error ellipse: s-maj=20.6km s-min=13.5km az=48.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**249**	I	I	09 01 20.0	
ZALV	**Zalesovo Beam**	**0.93**	**249**	Pg	Pg	08 55 45.5	-1.1
	1.4nm,0.3s,baz=68,slow=15,SNR=4.9						
ZALV				Lg	Lg	08 55 59.5	
	5.5nm,0.3s,baz=69,slow=24,SNR=18						
KURBB	**Kurchatov Arra**	**5.99**	**235**	Pn	Pn	08 57 00.1	+1.4
	0.1nm,0.3s,baz=53,slow=13,SNR=7.0						
KURBB				Lg	Lg	08 58 42.2	
	0.1nm,0.3s,baz=51,slow=32,SNR=2.7						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**7.92**	**200**	Pn	Pn	08 57 26.1	+0.8
	0.4nm,0.3s,baz=19,slow=12,SNR=8.3						
MKAR				Sn	Sn	08 58 53.9	-1.7
	0.1nm,0.3s,baz=22,slow=30,SNR=1.6						
	0.9nm,0.4s						

*KRNET **05** 09:01:59.6±0.1,39°.46N×73°.10E,h14km,mb3.3*
*SOME **05** 09:02:00.8,39°.62N×72°.77E,h5km*
*ISU **05** 09:02:04.0,39°.64N×73°.07E,h10km*
*NNC **05** 09:02:07.7±4.2,39°.83N×73°.32E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=31.3km s-min=19.9km az=174.0*

ISC 05 09:01:59.1±1.9,39°.50N±0°.08×73°.27E±0°.03,h6km±11km, n39,σ1^{S}64/56,25C-3D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.54**	**20**	⇑*i*P	**Pb**	**09 02 12.1**	**+0.9**
	baz=29						
SFK				⇑*i*S	**Sn**	**09 02 21.3**	**-1.9**
	baz=29						
OHH	**Osh**	**1.08**	**340**	⇑*i*P	**Pn**	**09 02 20.6**	**-0.4**
	baz=47						
OHH				⇑*i*S	**Sn**	**09 02 35.9**	**-0.5**
	baz=47						
TSTA	**Tashata**	**1.23**	**331**	P	**Pn**	**09 02 22.1**	**-0.9**
TSTA				S	**Sb**	**09 02 37.3**	**-1.7**
ANR	**Andizhan**	**1.43**	**331**	P	**Sg**	**09 02 45.9**	**+0.8**
FRG	**Fergana**	**1.43**	**308**	P	**Pb**	**09 02 26.4**	**+0.1**
FRG				S	**Sn**	**09 02 43.5**	**-1.4**
CHMI	**Chimion**	**1.54**	**300**	P	**Pn**	**09 02 27.4**	**+0.2**
CHMI				P	**Pn**	**09 02 27.4**	**+0.2**
CHMI				S	**Sn**	**09 02 46.3**	**-1.3**
CHMI				S	**Sn**	**09 02 46.3**	**-1.3**
NAM	**Namangan**	**1.93**	**321**	S	**Sg**	**09 03 03.3**	**+2.2**
BTK	**Batken**	**1.96**	**287**	⇑*e*P	**Pb**	**09 02 34.4**	**-1.0**
	baz=90						
BTK				⇑*e*S	**Sb**	**09 02 59.7**	**-0.5**
	baz=90						
MINT	**Mingtut**	**2.00**	**299**	P	**Pb**	**09 02 37.0**	**+1.0**
MINT				S	**Sb**	**09 03 01.6**	**+0.4**
KSNS	**Kasansay**	**2.12**	**322**	S	**Sg**	**09 03 08.2**	**+0.9**
ARLS	**Aral**	**2.49**	**19**	⇑*e*P	**Pb**	**09 02 44.6**	**+0.3**
	baz=21						
ARLS				⇑*i*S	**Sg**	**09 03 17.6**	**-1.5**
	baz=21						
ARK	**Arkit**	**2.50**	**337**	⇑*e*P	**Pb**	**09 02 43.7**	**-0.8**
	baz=40						
ARK				⇑*i*S	**Sb**	**09 03 15.9**	**+0.4**
	baz=40						
TRKS	**Terek-Say**	**2.59**	**322**	⇓*i*P	**Pn**	**09 02 43.6**	**+1.8**
	baz=24						
TRKS				⇓*i*S	**Sb**	**09 03 15.6**	**-2.7**
	baz=24						
AML	**Almayashu**	**2.65**	**7**	P	**Pb**	**09 02 48.7**	**+1.6**
	SNR=18						
AML	**Almayashu**	**2.65**	**7**	⇓Pn	**Pb**	**09 02 48.1**	**+1.0**
	1.6nm,0.5s						
AML				⇑Lg	Lg	09 03 23.7	
	6.6nm,0.6s						
NRN	**Naryn**	**2.84**	**46**	⇑*i*P	**Pb**	**09 02 49.9**	**-0.5**
	baz=47						
NRN				⇑*i*S	**Sb**	**09 03 26.4**	**+0.8**
	baz=47						
UCH	**Uchtor**	**2.88**	**19**	P	**Pb**	**09 02 51.8**	**+0.5**
	SNR=14						
MNAS	**Manas**	**3.04**	**349**	⇑*e*P	**Pb**	**09 02 51.5**	**-2.2**
	baz=52						
MNAS				⇑*i*S	**Sb**	**09 03 29.7**	**-1.3**
	baz=52						
CHMG	**Chimgan**	**3.21**	**311**	S	**Sb**	**09 03 39.2**	**+3.0**
MRKS	**Merke**	**3.24**	**359**	Pg	**Pg**	**09 03 00.8**	**-0.4**
	12nm,0.5s						
MRKS				Lg	Lg	09 03 43.9	
	27nm,0.4s						
MRKS	**Merke**	**3.24**	**359**	*e*Pg	**Pg**	**09 03 00.1**	**-1.0**
	12nm,0.5s						
MRKS				*e*Lg	Lg	09 03 42.6	
	27nm,0.4s						
AAK	**Ala-Archa**	**3.27**	**16**	P	**Pb**	**09 02 58.0**	**+0.4**
	SNR=7.7						
TGS	**TashGRES**	**3.44**	**305**	S	**Sg**	**09 03 47.0**	**-2.6**
ULHL	**Ulahol**	**3.55**	**39**	P	**Pb**	**09 03 02.2**	**-0.3**
	SNR=10.0						
IUG	**Iuzhnay**	**3.60**	**318**	Pg	**Pb**	**09 03 00.4**	**-2.9**
	16nm,0.2s						
IUG				Lg	Lg	09 03 43.1	
	47nm,0.4s						
IUG	**Iuzhnay**	**3.60**	**318**	*e*Pg	**Pb**	**09 03 01.5**	**-1.8**
	16nm,0.2s						
IUG				*e*Lg	Lg	09 03 44.8	
	47nm,0.4s						
BOOM	**Boomskoye usch**	**3.60**	**33**	⇑*e*P	**Pb**	**09 03 01.1**	**-2.3**
	baz=34						
BOOM				⇑*e*S	**Sb**	**09 03 45.2**	**-2.3**
	baz=34						
CHMS	**Chumysh**	**3.67**	**17**	P	**Pb**	**09 03 03.3**	**-1.1**
	SNR=9.2						
TKM2	**Tokmak 2**	**3.84**	**27**	P	**Pb**	**09 03 05.8**	**-1.6**
	SNR=5.2						
TKM2	**Tokmak 2**	**3.84**	**27**	⇑Pn	**Pb**	**09 03 05.6**	**-1.9**
	4.5nm,0.6s						
TKM2				⇑Sn	**Sn**	**09 03 43.5**	**-1.1**
	4.4nm,0.6s						
TKM2				⇑Lg	Lg	09 04 01.4	
	8.6nm,0.8s						
KST	**Kastek**	**4.08**	**29**	*e*Pg	**Pg**	**09 03 17.9**	**+0.7**
	4.0nm,0.3s						
KST				*e*Lg	Lg	09 04 13.2	
	18nm,1.3s						
KK31	**Karatay Array**	**4.15**	**331**	⇑Pn	Pn	09 03 07.6	+4.5
	1.4nm,0.3s,baz=154,slow=14,SNR=16						
KK31				⇑Sn	**Sn**	**09 03 56.1**	**+4.2**
	10nm,0.5s,baz=148,slow=24,SNR=7.0						
KK31				⇑Lg	Lg	09 04 10.3	
	4.3nm,0.3s						
KKAR	**Karatay Array**	**4.15**	**331**	⇑*e*P	**Pn**	**09 03 06.4**	**+3.3**
	baz=33						
KKAR				⇑*i*S	**Sn**	**09 03 55.2**	**+3.3**
	baz=33						
IZV	**Izvestkoviy**	**4.34**	**34**	*e*Pg	**Pg**	**09 03 23.5**	**+1.3**
	0.7nm,0.2s						
IZV				*e*Lg	Lg	09 04 22.5	
	16nm,0.4s						
TNSS	**Tian-Shan**	**4.49**	**37**	Pg	**Pg**	**09 03 25.7**	**+0.6**
	4.8nm,0.4s						
TNSS				Lg	Lg	09 04 26.4	
	4.3nm,0.3s						
KRBS	**Karabastau**	**4.56**	**23**	Pg	**Pg**	**09 03 26.3**	**-0.2**
	4.6nm,0.7s						
KRBS				Lg	Lg	09 04 27.2	
	5.5nm,1.1s						
KRBS	**Karabastau**	**4.56**	**23**	*e*Pg	**Pg**	**09 03 26.3**	**-0.2**
	4.6nm,0.7s						
KRBS				*e*Lg	Lg	09 04 27.2	
	5.5nm,1.1s						
KTBS	**Karatobe**	**4.92**	**30**	Pg	**Pg**	**09 03 34.5**	**+1.1**
	6.4nm,0.5s						
KTBS				Lg	Lg	09 04 41.9	
	11nm,1.1s						
KTBS	**Karatobe**	**4.92**	**30**	*e*Pg	**Pg**	**09 03 34.5**	**+1.1**
	6.4nm,0.3s						
KTBS				*e*Lg	Lg	09 04 41.9	
	9.6nm,0.3s						

*NEIC **05** 09:04:45.3±2.1,31°.56S±0°.08×178°.0W±0°.2,h31km±7km, mb4.7/18,Error ellipse: s-maj=25.2km s-min=12.1km az=93.0*
*IDC **05** 09:04:52.0±2.3,31°.09S×177°.76W,h75km±19km,mb4.0/6, mbtmp4.4/7,MS3.8/21,Error ellipse: s-maj=25.5km s-min=16.8km az=108.0*

ISC 05 09:04:48.4±0.6,31°.24S±0°.08×178°.5W±0°.1,h35km,n80, σ2^{S}09/42,mb4.6/16,MS3.9/22,5C-1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.04**	**14**		**Pn**	**09 05 21.0**	**+0.8**
RAO	**Raoul Island**	**2.04**	**14**	P	**Pn**	**09 05 20.4**	**+0.2**
	661nm,0.2s,baz=199,slow=20,SNR=9.7						
RAO				S	**Sn**	**09 05 44.6**	**+0.1**
	871nm,0.3s,baz=85,slow=20,SNR=5.9						
URZ	**Urewera**	**7.89**	**206**	P	**Pn**	**09 06 39.1**	**-1.4**
	3.1nm,0.3s,baz=351,slow=5.6,SNR=13						
URZ				S	**Sn**	**09 08 08.5**	**0.0**
	35nm,0.6s,baz=266,slow=21,SNR=7.5						
KHZ	**Kahutara**	**12.85**	**208**	Pn	Pn	09 07 44.4	-4.0
LTZ	**Lake Taylor**	**13.68**	**210**	Pn	Pn	09 07 56.0	-3.8
RPZ	**Rata Peaks**	**14.96**	**211**	P	**P**	**09 08 23.1**	**+0.9**
	7.0nm,0.7s,baz=337,slow=4.9,SNR=2.1						
DZM	**Mont Dzumac**	**16.27**	**301**	*e*LR	LR	09 12 41.6	
	comp=Z,576nm,24.1s						
DZM	**Mont Dzumac**	**16.27**	**301**	LR	LR	09 13 48.3	
	comp=Z,396nm,19.6s,baz=100,slow=32						
RAR	**Rarotonga**	**19.49**	**64**	LR	LR	09 15 59.6	
	comp=Z,87nm,18.2s,baz=230,slow=35						
ARMA	**Armidale**	**25.66**	**264**	P	**P**	**09 10 14.7**	**-0.3**
ARMA				IAmb	IAmb	09 10 32.6	
	comp=Z,14nm,1.3s						
TBI	**Tubuai**	**26.89**	**80**	*e*LR	LR	09 16 49.1	
	comp=Z,5μm,23.2s						
TBI				*e*LR	LR	09 16 58.0	
	comp=Z,1μm,24.2s						
TBI	**Tubuai**	**26.89**	**80**	*e*T	T	09 38 14.3	
	comp=Z,5.6nm,0.3s						
CAN	**Canberra**	**27.43**	**253**	P	**P**	**09 10 29.4**	**-1.6**
CAN				IAmb	IAmb	09 10 45.3	
	comp=Z,39nm,1.4s						
PAE	**Paea**	**29.46**	**69**	*e*T	T	09 41 26.1	
	comp=Z,3.5nm,0.3s						
PPT2	**Papeete2**	**29.51**	**69**	*e*LR	LR	09 17 38.4	
	comp=Z,232nm,30.2s						
PPT2				*e*LR	LR	09 18 05.1	
	comp=Z,305nm,26.8s						
PPT2	**Papeete2**	**29.51**	**69**	*e*T	T	09 41 26.1	
	comp=Z,1.4nm,0.3s						
PPT	**Papeete**	**29.52**	**69**	LR	LR	09 19 16.0	
	comp=Z,94nm,20.2s,baz=190,slow=30						
HNR	**Honiara**	**29.56**	**313**	LR	LR	09 22 01.4	
	comp=Z,1μm,18.1s,baz=143,slow=34						
CTA	**Charters Tower**	**33.55**	**281**	LR	LR	09 24 31.2	
	comp=Z,149nm,18.9s,baz=88,slow=35						
CTAO	**Charters Tower**	**33.55**	**281**	P	**P**	**09 11 26.0**	**+1.0**
STKA	**Stephens Creek**	**33.90**	**258**	P	**P**	**09 11 28.2**	**+0.1**
STKA	**Stephens Creek**	**33.90**	**258**	P	P	09 11 33.5	+5.5
	comp=Z,4.8nm,1.0s,baz=115,slow=8.6,SNR=5.0						
STKA				LR	LR	09 23 24.7	
	comp=Z,144nm,21.4s,baz=39,slow=32						
	comp=Z,4.8nm,1.0s						
BBOO	**Buckleboo**	**38.36**	**255**	P	**P**	**09 12 03.7**	**-2.4**
COEN	**Coen**	**39.12**	**287**	P	**P**	**09 12 12.2**	**-0.5**
COEN				IAmb	IAmb	09 12 32.7	
	comp=Z,12nm,1.1s						
TAOE	**Nuku Hiva Isla**	**42.01**	**66**	*e*LR	LR	09 23 51.5	
	comp=Z,170nm,27.6s						
AS31	**Alice Springs**	**42.67**	**268**	P	**P**	**09 12 41.6**	**-0.3**
ASAR	**Alice Springs**	**42.67**	**268**	P	**P**	**09 12 40.4**	**-1.5**
ASAR	**Alice Springs**	**42.67**	**268**	P	**P**	**09 12 46.5**	**+4.6**
	comp=Z,5.2nm,0.5s,baz=105,slow=7.2,SNR=84						
	comp=Z,5.2nm,0.5s						
WR0	**Warramunga Arr**	**43.55**	**273**	P	**P**	**09 12 50.7**	**+1.7**
WR0				IAmb	IAmb	09 13 07.4	
	comp=Z,18nm,1.2s						
WB2	**Warramunga Arr**	**43.72**	**273**	P	**P**	**09 12 53.9**	**+3.5**
WB2				IAmb	IAmb	09 13 11.7	
	comp=Z,12nm,0.6s						
WRAB	**Tennant Creek**	**43.73**	**273**	P	**P**	**09 12 54.8**	**+4.4**
WRAB				IAmb	IAmb	09 13 08.7	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**43.73**	**273**	P	**P**	**09 12 54.8**	**+4.2**
WRA	**Warramunga Arr**	**43.73**	**273**	P	**P**	**09 12 54.8**	**+4.2**
	comp=Z,8.7nm,0.4s,baz=112,slow=7.9,SNR=86						
	comp=Z,8.7nm,0.4s						
WB0	**Warramunga Arr**	**43.76**	**274**	P	**P**	**09 12 51.2**	**+0.5**
WB0				IAmb	IAmb	09 13 01.6	
	comp=Z,22nm,1.1s						
FORT	**Forrest**	**45.45**	**256**	P	**P**	**09 13 01.4**	**-2.6**
SBA	**Scott Base**	**47.17**	**184**	P	P	09 13 11.9	-5.0
SBA				IAmb	IAmb	09 13 40.2	
	comp=Z,4.8nm,0.9s						
KNRA	**Kununurra**	**50.37**	**275**	P	**P**	**09 13 41.8**	**-0.6**
KNRA				IAmb	IAmb	09 13 48.5	
	comp=Z,19nm,1.3s						
BATI	**Baumata**	**57.36**	**278**	LR	LR	09 39 53.0	
	comp=Z,218nm,18.3s,baz=156,slow=36						
QSPA	**South Pole Qui**	**58.87**	**180**	P	**P**	**09 14 45.0**	**+1.5**
QSPA	**South Pole Qui**	**58.87**	**180**	P	**P**	**09 14 44.4**	**+0.9**
	comp=Z,3.9nm,0.9s,baz=346,slow=0.6,SNR=11						
	comp=Z,3.9nm,0.9s						
BELA	**Belgrano 2**	**69.01**	**172**	P	P	09 15 43.8	-5.9
MAW	**Mawson**	**71.38**	**201**	LR	LR	09 46 38.6	
	comp=Z,75nm,19.5s,baz=114,slow=35						
TROLL	**Troll, Antarti**	**77.03**	**180**	⇑P	**P**	**09 16 39.0**	**+1.6**
	comp=Z,57nm,0.5s						
SNAA	**Sanae**	**77.33**	**179**	P	P	09 16 34.1	-4.9
SNAA				IAmb	IAmb	09 17 00.6	
	comp=Z,8.9nm,1.2s						
SNAA	**Sanae**	**77.33**	**179**	⇑P	**P**	**09 16 40.1**	**+1.1**
	comp=Z,34nm,0.8s						
SNAA	**Sanae**	**77.33**	**179**	P	**P**	**09 16 38.9**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=2.6,slow=4.7,SNR=3.2						
SNAA				LR	LR	09 48 27.0	
	comp=Z,15nm,21.1s,baz=192,slow=34						
	comp=Z,1.4nm,0.8s						
VNA3	**Neumayer Olymp**	**77.49**	**176**	⇑P	**P**	**09 16 41.1**	**+1.2**
	comp=Z,2.1nm,0.7s						
VNA3	**Neumayer Olymp**	**77.49**	**176**	⇓pP	pP	09 16 48.5	-1.5
VNA2	**Neumayer--Watz**	**77.92**	**177**	⇑P	pP	09 16 51.0	-1.4
	baz=185,slow=4.0						
VNA1	**Neumayer--Stat**	**78.16**	**177**	⇑P	pP	09 16 51.9	-1.7
H03S2	**Juan Fernandez**	**80.34**	**124**	T	T	10 45 55.8	
	baz=237,slow=74,SNR=5.9						
H03S1	**Juan Fernandez**	**80.35**	**124**	T	T	10 46 12.7	
	baz=237,slow=74,SNR=5.5						
H03S3	**Juan Fernandez**	**80.35**	**124**	T	T	10 45 54.7	
	baz=237,slow=74,SNR=8.1						
H03N3	**Juan Fernandez**	**80.53**	**123**	T	T	10 46 00.7	
	baz=240,slow=72,SNR=7.4						
H03N2	**Juan Fernandez**	**80.54**	**123**	T	T	10 46 00.6	
	baz=240,slow=72,SNR=5.4						
H03N1	**Juan Fernandez**	**80.55**	**123**	T	T	10 45 59.7	
	baz=240,slow=72,SNR=14						
SHEM	**Shemya Is, Ala**	**83.87**	**355**	LR	LR	09 50 01.6	
	comp=Z,50nm,19.5s,baz=288,slow=32						
PFO	**Pinyon Flats O**	**87.07**	**48**	LR	LR	09 52 19.8	
	comp=Z,63nm,18.1s,baz=226,slow=33						
YBH	**Yreka Blue Hor**	**88.94**	**38**	LR	LR	09 53 29.1	
	comp=

SSNC ***05*** *09:31:22.1±1.2, 18°.59N×78°.97W, h23km±16km, MD3.7, MW3.8*
JSN 05 09:31:23.0±0.4, 18°.98N×78°.50W, h0km±13km, MD4.1
ISC 05 09:31:20.4±1.4, 18°.56N±0°.08×79°.00W±0°.05, h35km, n12, σ1§91/20, 1D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**1.43**	**103**	*eP*			**Pn**	**09 31 44.2**	**+0.2**
MTDJ				*eS*			**Sn**	**09 31 59.8**	**-1.9**
MTDJ				IVmB_BB				09 32 02.2	
	comp=Z,13μm,0.3s								
MTDJ				IVmB_BB				09 32 03.4	
	12μm,0.5s								
MTDJ	**Mount Denham**	**1.43**	**103**	*i* P			**Pn**	**09 31 44.3**	**+0.2**
MTDJ				*i* P			**Pn**	**09 31 45.0**	**+1.0**
MTDJ				*i* S			**Sn**	**09 32 00.7**	**-1.0**
PCJ	**Portland Cotta**	**1.93**	**115**	*i* P			**Pn**	**09 31 53.6**	**+2.7**
STH	**Stony Hill**	**2.14**	**103**	*i* P			**Pn**	**09 31 54.6**	**+0.9**
FSCY	**Frank Sound, G**	**2.20**	**290**	*eP*			**Pn**	**09 31 55.1**	**+0.7**
FSCY				*eS*			**Sn**	**09 32 18.9**	**-1.5**
FSCY				IVmB_BB				09 32 20.0	
	comp=N,5μm,0.2s								
FSCY				IVmB_BB				09 32 20.3	
	comp=E,4μm,0.3s								
HOJ	**Hope**	**2.21**	**104**	*i* P			**Pn**	**09 31 55.5**	**+0.9**
GWJ	**Greenwich**	**2.21**	**102**	*i* P			**Pn**	**09 31 55.3**	**+0.5**
LMGC	**Las Mercedes**	**2.41**	**51**	*eP*			**Pn**	**09 31 59.1**	**+1.8**
LMGC				*eS*			**Sn**	**09 32 23.6**	**-2.0**
LMGC				*eSg*			**Sn**	**09 32 24.8**	**-0.8**
RCC	**Rio Carpintero**	**3.43**	**65**	*eP*			**Pn**	**09 32 12.5**	**+1.1**
RCC				*eS*			**Sn**	**09 32 47.3**	**-3.6**
RCC				IVmB_BB				09 32 50.8	
	comp=N,231nm,0.0s								
RCC				IVmB_BB				09 32 51.1	
	comp=E,401nm,0.3s								
GTBY	**Guantanamo Bay**	**3.92**	**69**	*eP*			**Pn**	**09 32 20.8**	**+2.6**
GTBY				*eS*			**Sn**	**09 33 00.5**	**-2.4**
GTBY				IVmB_BB				09 33 04.5	
	comp=E,202nm,0.5s								
GTBY				IVmB_BB				09 33 04.5	
	comp=E,350nm,0.2s								
MASC	**Masc**	**4.78**	**70⇓**	*eP*			**Pn**	**09 32 33.0**	**+3.0**
MASC				*eS*			**Sn**	**09 33 23.3**	**-0.9**
SOR	**Soroa**	**5.64**	**319**	*eP*			Pn	09 32 48.2	+6.4

IDC ***05*** *09:40:31.6±2.1, 54°.35N×169°.08E, h0km, mb3.4/3, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=63.3km s-min=30.3km az=174.0*
KRSC ***05*** *09:40:35.5±1.8, 53°.95N×168°.38E, h16km±39km, Ml4.0*
ISC 05 09:40:35.3±1.2, 54°.0N±0°.1×168°.99E±0°.08, h35km, n32, σ1§79/37, mb3.5/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.13**	**306**	*eS*			**Sn**	**09 41 31.6**	**-1.8**
MKZ	**Mys Kozlova**	**4.29**	**280**	*eP*			**Pn**	**09 41 38.8**	**+0.8**
MKZ				*eS*			**Sn**	**09 42 24.7**	**-2.0**
SMKR	**Semkarok**	**5.01**	**304**	*eP*			**Pn**	**09 41 49.3**	**+1.3**
ZLN	**Zelenaya**	**5.12**	**296**	*eP*			**Pn**	**09 41 52.2**	**+2.7**
TUMD	**Tumrok D**	**5.14**	**287**	*eP*			**Pn**	**09 41 50.7**	**+1.1**
TUMD				*eS*			**Sn**	**09 42 46.8**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**5.16**	**295**	*eP*			**Pn**	**09 41 52.7**	**+2.8**
KZV	**Kizimen**	**5.18**	**286**	*eP*			**Pn**	**09 41 51.3**	**+0.9**
KZV				*eS*			**Sn**	**09 42 48.7**	**-0.3**
BZWR	**Bezymyannyi-We**	**5.27**	**295**	*eP*			**Pn**	**09 41 54.5**	**+2.9**
KMNR	**Kamenistaya**	**5.35**	**293**	*eP*			**Pn**	**09 41 54.3**	**+1.7**
KPT	**Kopyto**	**5.42**	**295**	*eP*			**Pn**	**09 41 56.4**	**+2.9**
SPN	**Mys Shipunski**	**5.42**	**264**	*eP*			**Pn**	**09 41 54.9**	**+1.3**
SPN				*eS*			**Sn**	**09 42 52.6**	**-2.0**
KII	**Karymskiy**	**5.63**	**274**	*eP*			**Pn**	**09 41 58.0**	**+1.6**
NLC	**Nalytchevo**	**5.80**	**266**	*eS*			**Sn**	**09 43 02.7**	**-1.4**
SDLR	**Sedlovina**	**6.05**	**267**	*eP*			**Pn**	**09 42 03.7**	**+1.4**
SDLR				*eS*			**Sn**	**09 43 10.5**	**+0.1**
SMAR	**Somma**	**6.11**	**267**	*eP*			**Pn**	**09 42 04.6**	**+1.5**
KRER	**Koryakskii**	**6.13**	**268**	*eP*			**Pn**	**09 42 05.1**	**+1.7**
KRER				*eS*			**Sn**	**09 43 11.1**	**-1.2**
AVH	**Avacha**	**6.14**	**267**	*eP*			**Pn**	**09 42 05.4**	**+1.9**
AVH				*eS*			**Sn**	**09 43 13.2**	**+0.7**
KRX	**Arik**	**6.18**	**268**	*eP*			**Pn**	**09 42 05.6**	**+1.5**
KRX				*eS*			**Sn**	**09 43 11.6**	**-1.8**
DALK	**Dalny**	**6.18**	**265**	*eP*			**Pn**	**09 42 05.7**	**+1.7**
GNL	**Ganaly**	**6.55**	**272**	*eP*			**Pn**	**09 42 11.4**	**+2.3**
KRMR	**Karymshinskiy**	**6.60**	**264**	*eP*			**Pn**	**09 42 11.6**	**+1.9**
KRMR				*eS*			**Sn**	**09 43 23.0**	**-0.6**
PETK	**Petropavlovsk-**	**6.79**	**267**	Pn			**Pn**	**09 42 15.0**	**+2.7**
	0.8nm,0.3s,baz=79,slow=19,SNR=24								
PETK				Sn			**Sn**	**09 43 29.1**	**+0.8**
	0.7nm,0.3s,baz=144,slow=26,SNR=1.4								
	2.5nm,0.6s								
KDTR	**Khodutka, Kamc**	**6.96**	**256**	*eP*			**Pn**	**09 42 16.1**	**+1.5**
KDTR				*eS*			**Sn**	**09 43 29.7**	**-2.6**
ILAR	**Eielson Array**	**24.37**	**46**	P			**P**	**09 45 48.5**	**-1.2**
	0.5nm,0.9s,baz=260,slow=6.3,SNR=4.8								
	0.5nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**34.25**	**184**	T			T	10 23 52.3	
	baz=1.9,slow=76,SNR=87								
H11N3	**WAKE ISLAND Hy**	**34.26**	**183**	T			T	10 23 53.3	
	baz=1.9,slow=76,SNR=80								
H11N1	**WAKE ISLAND Hy**	**34.27**	**184**	T			T	10 23 56.8	
	baz=1.9,slow=76,SNR=71								
H11S1	**WAKE ISLAND Hy**	**35.47**	**184**	T			T	10 25 26.8	
	baz=2.1,slow=76,SNR=48								
H11S3	**WAKE ISLAND Hy**	**35.48**	**184**	T			T	10 25 23.9	
	baz=2.1,slow=76,SNR=21								
H11S2	**WAKE ISLAND Hy**	**35.49**	**184**	T			T	10 25 24.6	
	baz=2.1,slow=76,SNR=51								
ARCES	**ARCESS Array B**	**53.93**	**345**	P			**P**	**09 49 53.2**	**-1.5**
	1.3nm,0.8s,baz=13,slow=8.7,SNR=4.1								
	1.3nm,0.8s								
TXAR	**Lajitas Array**	**65.34**	**74**	P			**P**	**09 51 14.7**	**+0.8**
	0.2nm,0.5s,baz=307,slow=4.5,SNR=8.2								
	0.2nm,0.5s								

NEIC ***05*** *09:43:07.8±2.3, 25°.0S±0°.1×178°.6E±0°.1, h547km±7km, mb4.6/89, Error ellipse: s-maj=17.3km s-min=14.2km az=110.0*
IDC ***05*** *09:43:09.8±1.0, 25°.01S×178°.30E, h571km±10km, mb3.8/14, mbtmp4.7/18, Error ellipse: s-maj=11.3km s-min=10.6km az=147.0*
NOU ***05*** *09:43:09.4, 24°.97S×178°.66E, h591km, mb4.7/63, South of Fiji Islands*
ISC 05 09:43:09.6±0.3, 24°.97S±0°.05×178°.52E±0°.05, h579km, n246, σ1§33/229, mb4.6/62, 5C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.32**	**144**	P			**P**	**09 44 42.7**	**-1.0**
	151nm,0.3s,baz=32,slow=22,SNR=1.4								
GLKZ	**Green Lake**	**5.33**	**144**	P			**P**	**09 44 45.4**	**+1.7**
MSVF	**Nonsavu**	**7.21**	**356**	P			**P**	**09 44 59.1**	**-1.8**
MSVF	**Nonsavu**	**7.21**	**356**	P			**P**	**09 45 00.5**	**-0.4**
MSVF	**Nonsavu**	**7.21**	**356**	P			**P**	**09 45 00.1**	**-0.7**
	36nm,0.8s,baz=176,slow=7.2,SNR=21								
MSVF				S			**S**	**09 46 31.5**	**-0.4**
	9.5nm,0.8s,baz=112,slow=22,SNR=1.4								
YSA	**Yasawairara**	**8.27**	**354**	P			**P**	**09 45 11.8**	**+0.8**
TAVE	**Taveuni**	**8.35**	**10**	P			**P**	**09 45 13.0**	**+1.3**
DGTI	**Dogotuki**	**8.70**	**8**	P			**P**	**09 45 15.9**	**+0.8**
MARNC	**Mare, Loyalty**	**10.25**	**288**	P			**P**	**09 45 30.3**	**-0.1**
MARNC	**Mare, Loyalty**	**10.25**	**288**	P			**P**	**09 45 30.5**	**0.0**
PINNC	**Pines Island,**	**10.40**	**281**	P			**P**	**09 45 31.2**	**-0.9**
OUENC	**Ouen Island, N**	**10.99**	**281**	P			**P**	**09 45 37.9**	**-0.1**
YATNC	**Mamie plateau,**	**11.05**	**283**	P			**P**	**09 45 39.3**	**+0.7**
OUZ	**Omahuta**	**11.07**	**201**	P			**P**	**09 45 39.9**	**+1.4**
OUZ	**Omahuta**	**11.07**	**201**	P			**P**	**09 45 40.1**	**+1.6**
LIFNC	**LIFOU**	**11.20**	**290**	P			**P**	**09 45 40.1**	**0.0**
LIFNC	**LIFOU**	**11.20**	**290**	P			**P**	**09 45 40.2**	**+0.1**
DZM	**Mont Dzumac**	**11.45**	**282**	*e*Pn			**P**	**09 45 41.4**	**-1.3**
DZM				*eS*			S	09 47 34.4	-14
	250nm,26.1s								
DZM	**Mont Dzumac**	**11.45**	**282**	P			**P**	**09 45 43.4**	**+0.7**
DZM	**Mont Dzumac**	**11.45**	**282**	P			**P**	**09 45 43.5**	**+0.8**
DZM	**Mont Dzumac**	**11.45**	**282**	P			**P**	**09 45 42.9**	**+0.2**
	48nm,0.9s,baz=121,slow=9.6,SNR=44								
DZM				S			**S**	**09 47 49.7**	**+1.1**
	17nm,0.9s,baz=130,slow=8.1,SNR=3.6								
WCZ	**Waipu Caves**	**11.51**	**197**	P			**P**	**09 45 44.8**	**+1.7**
GRZ	**Great Barrier**	**11.55**	**192**	P			**P**	**09 45 44.2**	**+0.8**
NOUC	**Port Laguerre**	**11.56**	**282**	P			**P**	**09 45 44.6**	**+0.8**
KUZ	**Kuaotunu**	**11.98**	**191**	P			**P**	**09 45 48.5**	**+0.7**
KUZ	**Kuaotunu**	**11.98**	**191**	P			**P**	**09 45 48.5**	**+0.7**
NIUE	**Niue**	**12.21**	**64**	P			**P**	**09 45 53.4**	**+3.0**
	baz=12,SNR=6.7								
HAZ	**Te Kaha**	**12.77**	**183**	P			P	09 45 52.7	-3.1
TGRZ	**Tauranga**	**12.87**	**188**	P			**P**	**09 45 58.6**	**+1.7**
OPRZ	**Ohinepanea**	**12.95**	**187**	P			**P**	**09 45 58.5**	**+0.9**
RUGZ	**Raukumara Rang**	**12.98**	**183**	P			**P**	**09 45 56.5**	**-1.7**
TOZ	**Tahuroa Road**	**12.98**	**191**	P			**P**	**09 45 58.4**	**+0.3**
TOZ	**Tahuroa Road**	**12.98**	**191**	P			**P**	**09 45 58.6**	**+0.6**
KMRZ	**Kaimai**	**13.03**	**189**	P			**P**	**09 46 00.7**	**+2.2**
PUZ	**Puketiti**	**13.07**	**181**	P			**P**	**09 45 57.8**	**-1.1**
URZ	**Urewera**	**13.31**	**185**	P			**P**	**09 45 59.2**	**-2.2**
URZ	**Urewera**	**13.31**	**185**	P			P	09 45 58.0	-3.4
URZ	**Urewera**	**13.31**	**185**	P			P	09 45 57.8	-3.6
	7.5nm,0.4s,baz=77,slow=22,SNR=4.8								
URZ				S			S	09 48 13.2	-9.5
	8.4nm,0.6s,baz=86,slow=9.9,SNR=2.2								
MWZ	**Matawai**	**13.35**	**183**	P			P	09 45 58.7	-3.3
CNGZ	**Carnagh Statio**	**13.48**	**181**	P			**P**	**09 46 02.0**	**-1.2**
HRRZ	**Handcock Road**	**13.52**	**188**	P			P	09 46 00.5	-3.2
MUGZ	**Murupara**	**13.55**	**186**	P			**P**	**09 46 03.3**	**-0.7**
RTZ	**Ruatahuna**	**13.67**	**185**	P			**P**	**09 46 02.4**	**-2.8**
RTZ							**S**	**09 48 27.8**	**-1.7**
KOUNC	**Koumac, New Ca**	**13.84**	**286**	P			**P**	**09 46 08.0**	**+0.8**
HIZ	**Hauiti**	**13.86**	**192**	P			**P**	**09 46 07.4**	**+0.3**
BKZ	**Black Stump Fm**	**14.26**	**186**	P			P	09 46 07.5	-3.6
BKZ							**S**	**09 48 39.2**	**-0.8**
BKZ	**Black Stump Fm**	**14.26**	**186**	P			**P**	**09 46 08.5**	**-2.6**
AFI	**Afiamalu**	**14.30**	**42**	P			**P**	**09 46 08.3**	**-3.5**
AFI	**Afiamalu**	**14.30**	**42**	P			**P**	**09 46 10.3**	**-1.6**
AFI	**Afiamalu**	**14.30**	**42**	P			**P**	**09 46 07.7**	**-4.2**
	43nm,0.8s,baz=140,slow=19,SNR=2.8								
AFI				S			**S**	**09 48 38.5**	**-2.8**
	22nm,0.7s,baz=60,slow=22,SNR=1.5								
KHEZ	**Kahui Hut**	**14.78**	**194**	P			**P**	**09 46 17.7**	**+1.5**
BFZ	**Birch Farm**	**15.79**	**186**	P			**P**	**09 46 23.0**	**-2.7**
BFZ	**Birch Farm**	**15.79**	**186**	P			**P**	**09 46 23.1**	**-2.6**
MRZ	**Mangatainoka R**	**15.84**	**188**	P			**P**	**09 46 23.2**	**-3.0**
MRZ				IAmb			IAmb	09 46 27.6	
	comp=Z,28nm,0.9s								
TCW	**Tory Channel**	**16.58**	**191**	P			**P**	**09 46 31.9**	**-1.0**
QRZ	**Quartz Range**	**16.59**	**196**	P			**P**	**09 46 33.1**	**0.0**
QRZ	**Quartz Range**	**16.59**	**196**	P			**P**	**09 46 33.0**	**0.0**
SNZO	**South Karori**	**16.61**	**190**	P			**P**	**09 46 31.5**	**-1.6**
SNZO	**South Karori**	**16.61**	**190**	P			**P**	**09 46 32.1**	**-1.1**
BHW	**Baring Head**	**16.68**	**190**	P			**P**	**09 46 32.4**	**-1.4**
TKNZ	**Takaka Hill**	**16.68**	**195**	P			**P**	**09 46 33.3**	**-0.6**
NNZ	**Nelson**	**16.76**	**194**	P			**P**	**09 46 34.0**	**-0.6**
PLWZ	**Palliser**	**16.78**	**189**	P			**P**	**09 46 33.0**	**-1.8**
TUWZ	**Tuamarina**	**16.85**	**192**	P			**P**	**09 46 33.6**	**-1.8**
THZ	**Tophouse**	**17.39**	**194**	P			**P**	**09 46 39.7**	**-0.6**
KHZ	**Kahutara**	**17.88**	**192**	P			**P**	**09 46 43.6**	**-1.2**
KHZ	**Kahutara**	**17.88**	**192**	P			**P**	**09 46 43.5**	**-1.2**
LHI	**Lord Howe Isla**	**18.33**	**245**	P			**P**	**09 46 48.6**	**-0.4**
	baz=18,SNR=3.9								
LHI	**Lord Howe Isla**	**18.33**	**245**	P			**P**	**09 46 50.2**	**+1.2**
LTZ	**Lake Taylor**	**18.50**	**195**	P			**P**	**09 46 48.9**	**-1.5**
GVZ	**Greta Valley S**	**18.51**	**193**	P			**P**	**09 46 49.6**	**-0.9**
INZ	**Inchbonnie**	**18.65**	**196**	P			**P**	**09 46 50.5**	**-1.2**
RPZ	**Rata Peaks**	**19.68**	**196**	P			**P**	**09 47 00.9**	**-0.2**
RPZ				IAmb			IAmb	09 47 04.1	
	comp=Z,20nm,0.7s								
RPZ	**Rata Peaks**	**19.68**	**196**	P			**P**	**09 47 00.7**	**-0.4**
RPZ	**Rata Peaks**	**19.68**	**196**	P			**P**	**09 47 00.1**	**-1.0**
	comp=Z,17nm,0.6s,baz=2.2,slow=2.4,SNR=18								
FOZ	**Fox Glacier**	**19.85**	**199**	P			**P**	**09 47 02.0**	**-0.6**
FOZ				IAmb			IAmb	09 47 03.3	
	comp=Z,32nm,0.8s								
JCZ	**Jackson Bay**	**20.65**	**200**	P			**P**	**09 47 09.4**	**-0.6**
ODZ	**Otahua Downs**	**21.02**	**196**	P			**P**	**09 47 13.1**	**-0.1**
MLZ	**Mavora Lakes**	**22.02**	**200**	P			**P**	**09 47 22.2**	**0.0**
MLZ				IAmb			IAmb	09 47 23.4	
	comp=Z,37nm,0.8s								
WHZ	**Wether Hill Ro**	**22.55**	**200**	P			**P**	**09 47 26.4**	**-0.4**
SYZ	**Scrubby Hill**	**22.80**	**197**	P			**P**	**09 47 29.2**	**+0.2**
ARMA	**Armidale**	**24.39**	**251**	P			**P**	**09 47 44.8**	**+1.2**
	baz=24,SNR=21								
ARMA	**Armidale**	**24.39**	**251**	P			**P**	**09 47 44.6**	**+1.1**
ARMA				IAmb			IAmb	09 47 45.5	
	comp=Z,26nm,0.7s								
ARMA	**Armidale**	**24.39**	**251**	P			**P**	**09 47 44.7**	**+1.2**
EIDS	**Eidsvold**	**24.82**	**263**	P			**P**	**09 47 47.6**	**+0.2**
	baz=25,SNR=18								
EIDS	**Eidsvold**	**24.82**	**263**	P			**P**	**09 47 47.5**	**+0.2**
EIDS				IAmb			IAmb	09 47 48.4	
	comp=Z,26nm,0.7s								
MGCD	**Mangrove Creek**	**25.27**	**245**	P			**P**	**09 47 52.6**	**+1.4**
	baz=25,SNR=7.1								
MGCD	**Mangrove Creek**	**25.27**	**245**	P			**P**	**09 47 52.5**	**+1.4**
RMQ	**Roma**	**26.83**	**260**	P			**P**	**09 48 05.2**	**+0.2**
	baz=27,SNR=8.5								
CNB	**Canberra Magne**	**27.15**	**241**	P			**P**	**09 48 08.2**	**+0.5**
	baz=27,SNR=18								
CNB	**Canberra Magne**	**27.15**	**241**	P			**P**	**09 48 08.8**	**+1.1**
CAN	**Canberra**	**27.44**	**241**	P			**P**	**09 48 10.6**	**+0.4**
CAN				IAmb			IAmb	09 48 12.1	
	comp=Z,51nm,1.1s								
CAN	**Canberra**	**27.44**	**241**	P			**P**	**09 48 11.2**	**+0.9**
MILA	**Mila**	**27.79**	**237**	P			**P**	**09 48 14.1**	**+0.8**
	baz=28,SNR=16								
MILA	**Mila**	**27.79**	**237**	P			**P**	**09 48 14.1**	**+0.8**
CMSA	**Cobar Meteorol**	**29.57**	**250**	P			**P**	**09 48 28.8**	**+0.1**
	baz=30,SNR=31								
CMSA	**Cobar Meteorol**	**29.57**	**250**	P			**P**	**09 48 28.8**	**+0.1**
TV1H	**Townsville Har**	**29.89**	**275**	P			**P**	**09 48 31.9**	**+0.3**
GLAD	**Gladstone**	**29.97**	**230**	P			**P**	**09 48 32.2**	**+0.2**
CTAO	**Charters Tower**	**30.15**	**273**	P			**P**	**09 48 34.1**	**+0.3**
CTAO				IAmb			IAmb	09 48 35.2	
	comp=Z,46nm,1.0s								
CTAO	**Charters Tower**	**30.15**	**273**	P			**P**	**09 48 34.3**	**+0.4**
PPT2	**Papeete2**	**30.57**	**82**	*es*S			**sS**	**09 55 53.8**	**+0.2**
	comp=Z,129nm,26.2s								
PPT2				*es*S			**SS**	**09 55 59.7**	**-8.6**
	comp=Z,114nm,26.0s								
TOO	**Toolangi**	**30.74**	**238**	P			**P**	**09 48 39.2**	**+0.5**
	baz=31,SNR=24								
TOO	**Toolangi**	**30.74**	**238**	P			**P**	**09 48 39.2**	**+0.5**
TOO	**Toolangi**	**30.74**	**238**	P			**P**	**09 48 39.0**	**+0.3**
QLP	**Quilpie**	**30.86**	**260**	P			**P**	**09 48 39.8**	**0.0**
	baz=31,SNR=25								
MOO	**Moorlands**	**31.11**	**228**	P			**P**	**09 48 42.3**	**+0.5**
TAU	**Tasmania Unive**	**31.22**	**227**	P			**P**	**09 48 43.2**	**+0.6**
TAU	**Tasmania Unive**	**31.22**	**227**	P			**P**	**09 48 43.3**	**+0.6**
GEXS	**Deakin Univers**	**31.81**	**237**	P			**P**	**09 48 48.8**	**+1.0**
BRAT	**Ballarat**	**31.94**	**239**	P			**P**	**09 48 49.9**	**+1.1**
MTSU	**Mount Surprise**	**32.46**	**275**	P			**P**	**09 48 54.2**	**+0.6**
	baz=32,SNR=18								
STKA	**Stephens Creek**	**33.08**	**249**	P			**P**	**09 48 58.9**	**+0.2**
	baz=33,SNR=47								
STKA	**Stephens Creek**	**33.08**	**249**	P			**P**	**09 48 58.7**	**+0.1**
STKA	**Stephens Creek**	**33.08**	**249**	P			**P**	**09 48 58.8**	**+0.2**
STKA	**Stephens Creek**	**33.08**	**249**	P			**P**	**09 48 58.8**	**+0.2**
	comp=Z,18nm,0.6s,baz=95,slow=11,SNR=54								
STKA				ScP			**ScP**	**09 54 14.4**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=5.7,slow=4.7,SNR=3.7								
	comp=Z,18nm,0.6s								
ARPS	**Mount Arapiles**	**33.42**	**241**	P			**P**	**09 49 01.5**	**+0.1**
	baz=33,SNR=18								
ARPS	**Mount Arapiles**	**33.42**	**241**	P			**P**	**09 49 01.8**	**+0.4**
COEN	**Coen**	**34.98**	**282**	P			**P**	**09 49 14.3**	**-0.3**
COEN				IAmb			IAmb	09 49 16.1	
	comp=Z,18nm,0.9s								
COEN	**Coen**	**34.98**	**282**	P			**P**	**09 49 15.5**	**+0.8**
HTT	**Hallett**	**35.41**	**247**	P			**P**	**09 49 18.0**	**-0.1**
	baz=35,SNR=17								
HTT	**Hallett**	**35.41**	**247**	P			**P**	**09 49 18.1**	**0.0**
LCRK	**Leigh Creek**	**35.96**	**252**	P			**P**	**09 49 22.5**	**-0.1**
QIS	**Mount Isa**	**36.06**	**269**	P			**P**	**09 49 23.2**	**-0.4**
	baz=36,SNR=11								
QIS	**Mount Isa**	**36.06**	**269**	P			**P**	**09 49 23.3**	**-0.4**
WHYH	**Whyalla**	**36.52**	**248**	P			**P**	**09 49 27.1**	**0.0**
BBOO	**Buckleboo**	**37.79**	**248**	P			**P**	**09 49 36.9**	**-0.6**
	baz=38,SNR=66								
BBOO	**Buckleboo**	**37.79**	**248**	P			**P**	**09 49 37.0**	**-0.6**
BBOO	**Buckleboo**	**37.79**	**248**	P			**P**	**09 49 36.6**	**-0.9**
OOD	**Oodnadatta**	**38.33**	**256**	P			**P**	**09 49 42.4**	**+0.4**
MULG	**Mulgathing**	**39.56**	**252**	P			**P**	**09 49 51.0**	**-0.8**
AS31	**Alice Springs**	**40.54**	**262**	P			**P**	**09 49 59.7**	**-0.1**
AS31				IAmb			IAmb	09 50 01.5	
	comp=Z,12nm,0.5s								
ASAR	**Alice Springs**	**40.54**	**262**	P			**P**	**09 49 59.7**	**-0.1**
ASAR	**Alice Springs**	**40.54**	**262**	P			**P**	**09 49 59.5**	**-0.4**
	comp=Z,22nm,0.6s,baz=90,slow=6.9,SNR=347								
ASAR				PcP			**PcP**	**09 51 48.3**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=86,slow=5.1,SNR=4.0								
ASAR				ScP			**ScP**	**09 54 45.0**	**+2.3**
	comp=Z,2.3nm,0.8s,baz=106,slow=4.2,SNR=7.4								
ASAR				S			**S**	**09 55 26.3**	**-2.0**
	comp=Z,2.1nm,0.9s,baz=96,slow=16,SNR=7.4								
	comp=Z,22nm,0.6s								
WR0	**Warramunga Arr**	**40.81**	**268**	P			**P**	**09 50 01.4**	**-0.6**
WR0				IAmb			IAmb	09 50 02.0	
	comp=Z,32nm,0.7s								
WB2	**Warramunga Arr**	**40.99**	**268**	P			**P**	**09 50 02.9**	**-0.5**
WRAB	**Tennant Creek**	**40.99**	**268**	P			**P**	**09 50 02.8**	**-0.6**
WRAB	**Tennant Creek**	**40.99**	**268**	P			**P**	**09 50 02.6**	**-0.8**
WB0	**Warramunga Arr**	**41.00**	**268**	P			**P**	**09 50 02.8**	**-0.7**
WRA	**Warramunga Arr**	**41.00**	**268**	IAmb			IAmb	09 50 03.5	
	comp=Z,6.6nm,0.7s								
WRA	**Warramunga Arr**	**41.00**	**268**	P			**P**	**09 50 02.5**	**-1.0**
	comp=Z,57nm,0.6s,baz=104,slow=8.0,SNR=490								
WRA				PcP			**pwP**	**09 51 48.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=104,slow=6.2,SNR=2.1								
WRA				ScP			**ScP**	**09 54 46.0**	**+1.4**
	comp=Z,4.4nm,0.8s,baz=104,slow=3.9,SNR=16								
WRA				S			**S**	**09 55 31.1**	**-4.0**
	comp=Z,7.8nm,0.9s,baz=102,slow=15,SNR=20								
	comp=Z,57nm,0.6s								
FORT	**Forrest**	**44.68**	**251**	P			**P**	**09 50 30.9**	**-1.0**
	baz=45,SNR=16								
FORT	**Forrest**	**44.68**	**251**	P			**P**	**09 50 30.9**	**-1.0**
KDU	**Kakadu**	**45.06**	**277**	P			**P**	**09 50 34.1**	**-0.9**
	baz=45,SNR=9.0								
WRKA	**Warakurna**	**45.29**	**259**	P			**P**	**09 50 36.3**	**-0.5**
	baz=45,SNR=48								
WRKA	**Warakurna**	**45.29**	**259**	P			**P**	**09 50 36.3**	**-0.5**
KNRA	**Kununurra**	**47.34**	**271**	P			**P**	**09 50 52.1**	**-0.2**
	baz=47,SNR=19								
KNRA	**Kununurra**	**47.34**	**271**	P			**P**	**09 50 52.2**	**-0.1**
KMBL	**Kambalda**	**49.88**	**249**	P			**P**	**09 51 09.8**	**-1.1**
	baz=50,SNR=7.3								
KMBL	**Kambalda**	**49.88**	**249**	P			**P**	**09 51 10.0**	**-0.9**
SBA	**Scott Base**	**53.24**	**183**	P			**P**	**09 51 35.6**	**+1.4**
KLBR	**Kellerberrin**	**53.33**	**248**	P			**P**	**09 51 34.8**	**-0.9**
	baz=53,SNR=8.3

	comp=Z,4.0nm,1.0s						
319A	**Douglas**	**88.86**	**55**	IAmb	IAmb	09 55 07.3	
	comp=Z,9.1nm,1.1s						
LCMT	**Little Creek M**	**88.98**	**48**	IAmb	IAmb	09 55 07.0	
	comp=Z,4.4nm,1.1s						
XLT	**XiLinHaoTe**	**89.22 320**		*e*P	P	09 54 59.4	-5.0
XLT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,69nm,4.7s						
J08A	**Circle Bar Ran**	**89.24**	**41**	IAmb	IAmb	09 55 08.4	
	comp=Z,5.8nm,1.2s						
KNB	**Kanab**	**89.27**	**48**	IAmb	IAmb	09 55 08.6	
	comp=Z,4.3nm,0.9s						
U15A	**North Rim**	**89.32**	**49**	IAmb	IAmb	09 55 09.0	
	comp=Z,5.6nm,0.7s						
GNW	**Green Mountain**	**89.38**	**35**	IAmb	IAmb	09 55 08.1	
	comp=Z,3.3nm,0.8s						
D05A	**Enumclaw**	**89.58**	**36**	IAmb	IAmb	09 55 10.1	
	comp=Z,16nm,1.3s						
ELK	**Elko**	**89.72**	**44**	P	**P**	**09 55 08.7**	**+1.6**
PKCU	**Pink Cliffs**	**89.84**	**48**	IAmb	IAmb	09 55 11.9	
	comp=Z,7.5nm,0.9s						
PZH	**PanZhiHua**	**90.01 299**		P	**P**	**09 55 10.3**	**+1.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
HHC	**Hu-ho-hao-te**	**90.22 316**		*e*P	P	09 55 14.9	+5.7
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,5.1s						
MVU	**Marysvale**	**90.47**	**47**	IAmb	IAmb	09 55 14.4	
	comp=Z,11nm,0.9s						
TMUT	**Trail Mountain**	**91.55**	**47**	IAmb	IAmb	09 55 19.2	
	comp=Z,5.6nm,0.7s						
TX31	**Lajitas Ar. Si**	**92.14**	**59**	IAmb	IAmb	09 55 21.7	
	comp=Z,5.1nm,0.9s						
TXAR	**Lajitas Array**	**92.14**	**59**	P	**P**	**09 55 20.4**	**+2.2**
	comp=Z,1.4nm,0.8s,baz=210,slow=7.3,SNR=18						
	comp=Z,1.4nm,0.8s						
BSUT	**Blindstream Ca**	**92.49**	**46**	IAmb	IAmb	09 55 23.0	
	comp=Z,4.9nm,0.8s						
LZH	**Lanzhou**	**92.97 309**		*e*P	P	09 55 27.2	+5.2
LZH				pP	pP	09 57 27.0	+0.3
LZH				sP	sP	09 58 18.7	-5.2
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
ILAR	**Eielson Array**	**93.39**	**14**	P	**P**	**09 55 23.5**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=238,slow=5.4,SNR=1.6						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**94.39**	**45**	P	**P**	**09 55 29.9**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=192,slow=3.6,SNR=4.5						
	comp=Z,0.4nm,0.7s						
DRIO	**Del Rio**	**94.56**	**60**	IAmb	IAmb	09 55 31.8	
	comp=Z,4.1nm,1.0s						
BVAR	**Borovoye Array**	**120.34 318**		PKP	**PKPdf**	**10 00 55.4**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=119,slow=1.9,SNR=4.8						
FINES	**FINESS Array B**	**139.00 340**		PKP	**PKPdf**	**10 01 28.6**	**-1.6**
	comp=Z,1.8nm,0.9s,baz=102,slow=6.1,SNR=1.8						
NB2	**NORSAR Subarra**	**142.90 350**		PKP	**PKPdf**	**10 01 35.9**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=13,slow=3.1						
NOA	**NORSAR Array B**	**142.90 350**		PKP	**PKPdf**	**10 01 35.4**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=0.6,slow=1.3,SNR=8.7						
HFS	**Hagfors**	**143.30 347**		PKP	PKPab	10 01 36.4	+0.1
	comp=Z,7.9nm,0.4s,baz=72,slow=4.8,SNR=52						
AKASG	**Malin Array Be**	**145.10 325**		PKPbc	**PKPdf**	**10 01 42.2**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=46,slow=4.1,SNR=9.0						
BNN	**Bunyan**	**145.67 303**			**PKPbc**	**10 01 45.2**	**+0.5**
MMAI	**Mount Meron Ar**	**146.88 293**		PKPbc	**PKPbc**	**10 01 49.3**	**+1.2**
	comp=Z,5.1nm,0.6s,baz=69,slow=4.6,SNR=9.7						
BRTR	**Keskin Array B**	**147.11 305**			**PKPbc**	**10 01 48.7**	**+0.1**
BRTR	**Keskin Array B**	**147.11 305**		PKPbc	**PKPbc**	**10 01 48.5**	**0.0**
	comp=Z,1.5nm,0.6s,baz=137,slow=5.1,SNR=5.5						
EKA	**Eskdalemuir Ar**	**149.64**	**2**	PKPbc	**PKPbc**	**10 01 54.5**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=355,slow=2.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**167.87 195**			**PKPab**	**10 03 21.8**	**0.0**
TORD	**Torodi Ar. Bea**	**167.87 195**		PKPab	**PKPab**	**10 03 20.9**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=164,slow=4.3,SNR=16						

IDC ***05*** *09:58:38.9±0.8, 6°.69N×72°.95W, h159km±9km, mb3.4/5, mbtmp3.9/7, Error ellipse: s-maj=26.1km s-min=7.7km az=131.0*

RSNC ***05*** *09:58:39.8±1.4, 6°.86N×73°.13W, h152km±5km, ML3.8, Mw4.2*

ISC 05 09:58:39.3±0.8, 6°.85N±0°.03×73°.09W±0°.04, h155km±6km, n50, σ1§72/91, mb3.6/5, 5C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**200**	⇑*i*P	**Pn**	**09 59 00.5**	**-0.3**
BARC				*e*S	**Sn**	**09 59 15.8**	**-1.3**
BARC				*i*		09 59 16.6	
	comp=Z,3μm,0.3s						
PAMC	**Pamplona, Colo**	**0.62**	**38**	⇑*i*P	**Pn**	**09 59 03.3**	**+0.8**
PAMC				*e*S	**Sn**	**09 59 20.6**	**+0.4**
PAMC				*i*		09 59 22.6	
	comp=Z,2μm,0.6s						
RUSC	**La Rusia**	**0.95**	**180**	⇑*i*P	**Pn**	**09 59 04.3**	**-0.5**
RUSC				*e*S	**Sn**	**09 59 23.1**	**-1.1**
RUSC				*i*		09 59 24.6	
	comp=Z,1μm,0.4s						
TAMC	**Tame, Arauca**	**1.35**	**108**	⇑*i*P	**Pn**	**09 59 08.7**	**+0.9**
TAMC				*e*S	**Sn**	**09 59 30.4**	**+0.7**
SPBC	**San Pablo de B**	**1.54**	**219**	⇓*e*P	**Pn**	**09 59 09.3**	**-0.6**
SPBC				*e*S	**Sn**	**09 59 31.7**	**-1.5**
SPBC				*i*		09 59 34.0	
	comp=Z,1μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	*e*P	**Pn**	**09 59 13.1**	**-0.2**
ZARC				*e*S	**Sn**	**09 59 38.8**	**-0.6**
ZARC				*i*		09 59 46.5	
	comp=Z,671nm,0.2s						
NORC	**Norcasia**	**2.19**	**234**	*e*P	**Pn**	**09 59 16.1**	**-0.9**
NORC				*e*S	**Sn**	**09 59 44.3**	**-1.7**
NORC				*i*		09 59 49.3	
	comp=Z,559nm,0.2s						
CHIC	**Chingaza**	**2.30**	**196**	*e*P	**Pn**	**09 59 18.3**	**-0.4**
CHIC				*e*S	**Sn**	**09 59 47.8**	**-1.2**
CHIC				*i*		09 59 56.1	
	comp=Z,284nm,0.5s						
ROSC	**El Rosal**	**2.34**	**212**	⇓*e*P	**Pn**	**09 59 20.1**	**+0.9**
ROSC				*e*S	**Sn**	**09 59 50.6**	**+0.7**
ROSC				*i*		09 59 56.0	
	comp=Z,709nm,0.3s						
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**09 59 19.9**	**+0.7**
	comp=Z,261nm,0.4s,baz=281,slow=20,SNR=113						
ROSC				S	**Sn**	**09 59 48.8**	**-1.1**
	comp=Z,620nm,0.4s,baz=205,slow=20,SNR=8.0						
UREC	**San Jos de Ur**	**2.59**	**290**	*e*P	**Pn**	**09 59 21.1**	**-0.6**
UREC				*e*S	**Sn**	**09 59 52.3**	**-2.2**
UREC				*i*		09 59 54.7	
	comp=Z,531nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.78**	**235**	*e*P	**Pn**	**09 59 24.5**	**-0.2**
GUY2C				*e*S	**Sn**	**10 00 02.4**	**+2.8**
GUY2C				*i*		10 00 08.5	
	comp=Z,478nm,0.6s						
PTGC	**Puerto Gaitan,**	**2.80**	**160**	⇑*i*P	**Pn**	**09 59 23.4**	**-1.0**
PTGC				*e*S	**Sn**	**09 59 56.5**	**-2.9**
PTGC				*i*		09 59 59.3	
	comp=Z,200nm,0.4s						
RECRC	**Villamaria, Ca**	**2.93**	**230**	*e*P	**Pn**	**09 59 28.3**	**+1.7**
RECRC				*e*S	**Sn**	**10 00 05.3**	**+2.2**
NIZA	**Niza - Manizal**	**2.97**	**233**	*e*P	**Pn**	**09 59 29.5**	**+2.8**
NIZA				*e*S	**Sn**	**10 00 05.3**	**+1.8**
DBBC	**Dabeiba**	**3.10**	**273**	*e*P	**Pn**	**09 59 28.4**	**+0.1**
DBBC				*e*S	**Sn**	**10 00 04.1**	**-2.1**
DBBC				*i*		10 00 07.2	
	comp=Z,271nm,0.2s						
SDV	**Santo Domingo**	**3.16**	**50**	*e*P	**Pn**	**09 59 30.1**	**+1.0**
SDV				*e*S	**Sn**	**10 00 07.2**	**-0.5**
SDV				*i*		10 00 11.6	
	comp=Z,193nm,0.4s						
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**09 59 30.0**	**+1.0**
	comp=Z,27nm,0.3s,baz=216,slow=8.1,SNR=9.6						
SDV				S	**Sn**	**10 00 07.6**	**-0.1**
	comp=Z,185nm,0.4s,baz=250,slow=23,SNR=44						
ARGC	**Ariguani, Magd**	**3.20**	**339**	*e*P	**Pn**	**09 59 30.8**	**+1.4**
ARGC				*e*S	**Sn**	**10 00 09.6**	**+1.2**
ARGC				*i*		10 00 12.3	
	comp=Z,78nm,0.3s						
ANIL	**Santa Ana**	**3.29**	**225**	*e*P	**Pn**	**09 59 31.2**	**+0.3**
ANIL				*e*S	**Sn**	**10 00 12.4**	**+1.7**
ARMEC	**Armenia, Quind**	**3.43**	**228**	*e*P	**Pn**	**09 59 34.1**	**+1.5**
ARMEC				*e*S	**Sn**	**10 00 17.9**	**+4.0**
PRAC	**Prado**	**3.59**	**210**	*e*P	**Pn**	**09 59 33.6**	**-1.0**
PRAC				*e*S	**Sn**	**10 00 16.3**	**-1.1**
PRAC				*i*		10 00 23.8	
	comp=Z,361nm,0.4s						
APAC	**Apartado, Choc**	**3.62**	**287**	*e*P	**Pn**	**09 59 34.7**	**0.0**
APAC				*e*S	**Sn**	**10 00 17.0**	**-0.9**
APAC				*i*		10 00 21.8	
	comp=Z,218nm,0.4s						
ORTC	**Ortega, Tolima**	**3.63**	**216**	*e*P	**Pn**	**09 59 34.4**	**-0.6**
ORTC				*e*S	**Sn**	**10 00 17.8**	**-0.4**
ORTC				*i*		10 00 24.6	
	comp=Z,116nm,0.4s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P	**Pn**	**09 59 34.5**	**-0.9**
SJCC				*e*S	**Sn**	**10 00 16.4**	**-2.7**
SJCC				*i*		10 00 20.6	
	comp=Z,117nm,0.5s						
PLMC	**San Jos del P**	**3.72**	**239**	*e*P	**Pn**	**09 59 35.8**	**-0.4**
PLMC				*e*S	**Sn**	**10 00 19.3**	**-1.0**
PLMC				*i*		10 00 23.5	
	comp=Z,166nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	*e*P	**Pn**	**09 59 40.8**	**-1.0**
CRJC				*e*S	**Sn**	**10 00 28.0**	**-2.4**
CRJC				*i*		10 00 33.9	
	comp=Z,75nm,0.2s						
GUVC	**San Jose del G**	**4.30**	**174**	*e*P	**Pn**	**09 59 43.5**	**-0.2**
GUVC				*e*S	**Sn**	**10 00 31.2**	**-2.6**
GUVC				*i*		10 00 34.4	
	comp=Z,313nm,0.4s						
YOTC	**Yotoco, Valle**	**4.32**	**229**	*e*P	**Pn**	**09 59 43.1**	**-0.9**
YOTC				*e*S	**Sn**	**10 00 34.0**	**-0.4**
SMRC	**Santa Marta, M**	**4.43**	**345**	*e*P	**Pn**	**09 59 46.4**	**+1.0**
SMRC				*e*S	**Sn**	**10 00 33.9**	**-3.0**
SMRC				*i*		10 00 37.4	
	comp=Z,53nm,0.2s						
PTAC	**Punta Ardita,**	**4.70**	**274**	*e*P	**Pn**	**09 59 48.4**	**-0.5**
PTAC				*e*S	**Sn**	**10 00 40.6**	**-2.5**
MACC	**Macarena, Meta**	**4.74**	**189**	*e*P	**Pn**	**09 59 47.4**	**-2.0**
MACC				*e*S	**Sn**	**10 00 39.3**	**-4.8**
BETC	**Betania**	**4.76**	**210**	*e*P	**Pn**	**09 59 49.0**	**-0.8**
BETC				*e*S	**Sn**	**10 00 41.5**	**-3.2**
BETC				*i*		10 00 51.9	
	comp=Z,62nm,0.4s						
URIC	**Uribia, Colomb**	**4.94**	**13**	*e*P	**Pn**	**09 59 50.9**	**-1.2**
URIC				*e*S	**Sn**	**10 00 45.0**	**-3.8**
JAMC	**Jamundi, Valle**	**5.08**	**225**	*e*P	**Pn**	**09 59 53.9**	**-0.3**
JAMC				*e*S	**Sn**	**10 00 55.1**	**+2.6**
UPD2	**Meteti**	**5.17**	**289**	*e*P	**Pn**	**09 59 54.2**	**-0.8**
UPD2				*e*S	**Sn**	**10 00 51.1**	**-3.1**
UPD2				*i*		10 00 58.0	
	comp=Z,92nm,0.5s						
GARC	**Garzon, Huila**	**5.22**	**207**	*e*P	**Pn**	**09 59 54.5**	**-1.4**
GARC				*e*S	**Sn**	**10 00 51.5**	**-4.3**
GARC				*i*		10 00 57.0	
	comp=Z,63nm,0.2s						
POPC	**Popayan, Colom**	**5.58**	**220**	*e*P	**Pn**	**10 00 00.3**	**-0.5**
POPC				*e*S	**Sn**	**10 01 02.8**	**-1.6**
FLOC	**Florencia**	**5.83**	**206**	*e*P	**Pn**	**10 00 03.1**	**-0.7**
FLOC				*e*S	**Sn**	**10 01 08.1**	**-1.9**
BBAC	**Balboa, Cauca**	**6.34**	**221**	*e*P	**Pn**	**10 00 11.4**	**+0.6**
BBAC				*e*S	**Sn**	**10 01 19.8**	**-2.8**
BBAC				*i*		10 01 24.1	
	comp=Z,12nm,0.4s						
CRUC	**La Cruz**	**6.51**	**216**	*e*P	**Pn**	**10 00 15.3**	**+2.0**
GCUF	**Volcan Galeras**	**7.02**	**217**	*e*P	**Pn**	**10 00 21.2**	**+1.0**
GCUF				*e*S	**Sn**	**10 01 37.5**	**-1.7**
TEIG	**Tepich**	**19.84**	**314**	P	**P**	**10 03 00.4**	**+2.1**
	comp=Z,68nm,0.5s,baz=105,slow=11,SNR=7.9						
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**10 05 30.3**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=126,slow=9.1,SNR=12						
	comp=Z,0.8nm,0.6s						
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**10 07 04.4**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=120,slow=9.9,SNR=2.4						
	comp=Z,0.5nm,0.6s						
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**10 07 04.2**	**+1.0**
	comp=Z,9.8nm,0.8s,baz=193,slow=7.3,SNR=9.3						
	comp=Z,9.8nm,0.8s						
NVAR	**Mina Array Bea**	**51.49**	**315**	P	**P**	**10 07 29.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=71,slow=34,SNR=2.5						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**10 08 51.2**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=163,slow=6.5,SNR=2.5						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**10 18 08.8**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=122,slow=3.4,SNR=9.6						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**10 18 12.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=107,slow=3.1,SNR=14						

UPP ***05*** *10:01:36.6±2.9, 64°.56N×31°.22E, h0km, ML1.8*

KOLA ***05*** *10:01:40.5, 64°.75N×30°.89E, h0km, ML2.3, Error ellipse: s-maj=26.3km s-min=13.4km az=160.0, Kostomuksha, Karelia*

IDC ***05*** *10:01:41.3±2.5, 64°.79N×29°.94E, h0km, mbtmp2.7/3, ML2.0/3, Error ellipse: s-maj=38.2km s-min=8.6km az=99.0*

BER ***05*** *10:01:41.5±0.8, 64°.78N×30°.78E, h0km, ML1.8, Suspected explosion*

ISC 05 10:01:37.5±1.7, 64°.71N±0°.07×30°.80E±0°.07, h0km, n22, σ2§22/30, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**3.04**	**16**	P	**Pn**	**10 02 28.7**	**+1.9**
APA0				S	**Sn**	**10 03 04.5**	**+0.6**
KALU	**Kalix**	**3.33**	**294**	P	**Pn**	**10 02 32.9**	**+2.1**
PAJU	**Pajala**	**3.92**	**310**	P	**Pn**	**10 02 40.3**	**+1.4**
PAJU				S	**Sn**	**10 03 28.8**	**+3.3**
FINES	**FINESS Array B**	**3.92**	**215**	Pn	**Pn**	**10 02 39.2**	**+0.3**
	0.1nm,0.3s,baz=28,slow=13,SNR=1.3						
FINES				Lg	Lg	10 03 40.7	
	2.2nm,0.3s,baz=27,slow=28,SNR=11						
	1.1nm,0.7s						
SJUU	**Sjulsmark**	**3.97**	**286**	P	**Pn**	**10 02 41.4**	**+1.9**
SJUU				S	**Sn**	**10 03 29.1**	**+2.4**
ERTU	**Ertsjaerv**	**4.02**	**301**	P	**Pn**	**10 02 42.0**	**+1.8**
BURU	**Burvik**	**4.05**	**272**	P	**Pn**	**10 02 41.9**	**+1.2**
HARU	**Harads**	**4.35**	**294**	P	**Pn**	**10 02 46.8**	**+2.0**
ODEU	**Stanfors**	**4.36**	**271**	P	**Pn**	**10 02 45.5**	**+0.6**
UMAU	**Umeaa**	**4.49**	**264**	P	**Pn**	**10 02 47.3**	**+0.7**
HEF	**Hetta**	**4.68**	**326**	*e*P	**Pn**	**10 02 50.2**	**+0.9**
LILU	**Lilltraesk**	**4.68**	**282**	P	**Pn**	**10 02 50.5**	**+1.1**
TERR	**Teriberka**	**4.81**	**19**	P	**Pn**	**10 02 52.2**	**+1.0**
TERR				S	**Sn**	**10 03 46.6**	**-1.0**
KTK1	**Kautokeino**	**5.24**	**329**	*e*P	**Pn**	**10 02 57.8**	**+0.7**
ARA0	**ARCESS Array S**	**5.26**	**339**	*e*P	**Pn**	**10 02 58.0**	**+0.7**
ARA0				*e*S	**Sn**	**10 03 55.0**	**-3.7**
ARA0				IAML		10 04 24.9	
	comp=Z,2.6nm,0.5s						
ARCES	**ARCESS Array B**	**5.26**	**339**	P	**Pn**	**10 02 57.9**	**+0.6**
ARCES				S	**Sn**	**10 03 56.9**	**-1.7**
ARCES	**ARCESS Array B**	**5.26**	**339**	Pn	**Pn**	**10 02 58.0**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=157,slow=14,SNR=41						
ARCES				Sn	**Sn**	**10 03 52.5**	**-6.2**
	comp=Z,0.2nm,0.3s,baz=166,slow=16,SNR=5.5						
ARCES				Lg	Lg	10 04 16.7	
	comp=Z,0.6nm,0.3s,baz=153,slow=27,SNR=7.5						
	comp=Z,0.6nm,0.3s						
KEV	**Kevo**	**5.27**	**346**	*e*P	**Pn**	**10 02 58.4**	**+0.9**
SALU	**Saltoluokta**	**5.67**	**304**	*e*P	**Pn**	**10 03 03.9**	**+0.8**
KIF	**Kilpisjarvi**	**5.83**	**322**	*e*P	**Pn**	**10 03 07.2**	**+2.1**
KIF				*e*S	**Sn**	**10 04 09.1**	**-3.5**
FAUS	**Fauske**	**6.85**	**300**	S	**Sn**	**10 04 36.9**	**-0.8**
NOA	**NORSAR Array B**	**9.65**	**257**	Pn	**Pn**	**10 03 53.7**	**-3.8**
	baz=62,slow=12,SNR=1.9						
	comp=Z,0.2nm,0.5s						

GCMT 05 10:01:39.0±0.5, 43°.00S±0°.02×82°.91W±0°.03, h20km±2km, MW4.8/76, Moment Tensor Solution. s8,c8; s76,c93; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.25±.14; Mθθ0.70±.13; Mφφ-0.44±.12; Mrθ-0.24±.21; Mθφ-1.83±.08; Mφr0.77±.24; **Best double couple:** M0 2.07900×10^16 **NP1:**φs171.00000°, δ89.00000°, λ-23.00000°. **NP2:**φs261.00000°, δ67.00000°, λ-179.00000°. **Principal axes:** T 2.2200, Plg15.0000°, Azm218.0000°; N -0.2820, Plg67.0000°, Azm347.0000°; P -1.9380, Plg17.0000°, Azm123.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function West Chile Rise**

BUT ***05*** *10:03:44.7±1.8, 46°.13N±0°.04×110°.32W±0°.06, h15km±7km Error ellipse: s-maj=6.5km s-min=5.2km az=100.0*

NEIC 05 10:03:44.1±1.6, 46°.15N±0°.03×110°.30W±0°.05, h5km±2km, ML2.4/36, ML2.6/13(BUT), Error ellipse: s-maj=5.8km s-min=5.4km az=168.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	**Bozeman (W)**	**1.08 240**			Pg	10 04 03.9	-1.0
BOZ					Sg	10 04 18.1	-0.8
BOZ	**Bozeman (W)**	**1.08 240**		IAML		10 04 21.3	
	96nm,0.2s						
RLMT	**Red Lodge**	**1.26 145**			Pg	10 04 07.5	-0.8
YMP	**Mirror Lake Pl**	**1.42 176**			Pn	10 04 10.3	-0.5
YMP	**Mirror Lake Pl**	**1.42 176**		IAML		10 04 29.3	
	comp=N,84nm,0.4s						
YHH	**Holmes Hill**	**1.42 196**			Pn	10 04 10.4	-0.5
YHL	**Hebgen Lake**	**1.44 206**			Pn	10 04 10.3	-0.9
YHL	**Hebgen Lake**	**1.44 206**		IAML		10 04 32.5	
	comp=N,66nm,0.3s						
YPK	**Parker Peak, Y**	**1.45 169**			Pn	10 04 10.9	-0.4
YNR	**Norris Junctio**	**1.46 191**			Pn	10 04 10.8	-0.6
YNR				IAML		10 04 33.9	
	comp=E,34nm,0.5s						
YMC	**Maple Creek**	**1.48 200**			Pb	10 04 12.0	-0.3
BEMT	**Mount Belmont**	**1.52 294**			Pn	10 04 11.9	-0.4
ELMT	**Elliston**	**1.56 284**			Pn	10 04 12.7	-0.1
LYMT	**Lyon Mountain**	**1.60 301**			Pn	10 04 13.4	+0.2
H17A	**Grant Village**	**1.77 186**			Pb	10 04 17.0	-0.2
DLMT	**Dillon**	**1.79 245**			Pb	10 04 16.9	-0.6
DLMT	**Dillon**	**1.79 245**		IAML		10 04 42.1	
	comp=E,44nm,0.3s						
DLMT				IAML		10 04 43.3	
	comp=E,36nm,0.2s						
CMI	**Centennial Mou**	**1.88 210**			Pn	10 04 17.7	+0.6
EGMT	**Eagleton**	**1.91 11**			Pn	10 04 17.3	-0.1
MCID	**Moose Creek**	**2.06 198**			Pn	10 04 20.4	+0.8
OVMT	**Ovando**	**2.07 297**			Pn	10 04 20.0	+0.4
FLWY	**Flagg Ranch**	**2.09 188**			Pb	10 04 22.6	-0.1
CHMT	**Chamberlain Mo**	**2.17 292**			Pn	10 04 21.0	-0.1
BPMT	**Black Pine Rid**	**2.20 279**			Pn	10 04 21.7	+0.1
IMW	**Indian Meadow**	**2.30 192**			Pn	10 04 23.6	+0.6
IMW				IAML		10 05 02.8	
	comp=E,24nm,0.5s						
IMW				IAML		10 05 05.7	
	comp=E,14nm,0.5s						
MOOW	**Moose Ponds**	**2.42 188**		Pn	Pn	10 04 25.5	+0.9
TPAW	**Teton Pass**	**2.70 190**		Pn	Pn	10 04 28.4	-0.1
SNOW	**Snow King Moun**	**2.71 187**		Pn	Pn	10 04 28.6	+0.1
SNOW				IAML		10 04 47.3	
	comp=E,13nm,4.4s						
SNOW				IAML		10 05 53.6	
	comp=E,9.0nm,4.5s						
BCYI	**Bear Canyon**	**2.86 231**			Pn	10 04 31.2	+0.5
HLID	**Hailey**	**3.91 230**		Pn	Pn	10 04 45.5	+0.5
HLID				IAML		10 05 50.7	
	comp=E,7.5nm,0.3s						
HLID				IAML		10 05 56.6	
	comp=E,5.3nm,0.9s						
PLID	**Pearl Lake**	**4.14 257**		Pn	Pn	10 04 48.7	+0.5
PLID				IAML		10 06 01.5	
	comp=E,6.7nm,2.4s						
PLID				IAML		10 06 29.4	
	comp=E,6.5nm,4.0s						

IDC ***05*** *10:06:22.1±3.3, 31°.05S×178°.43W, h79km±37km, mb3.8/3, mbtmp4.1/3, Error ellipse: s-maj=33.2km s-min=28.9km az=62.0*

ISC 05 10:06:19.4±1.3, 31°.2S±0°.1×178°.5W±0°.3, h50km, n6, σ1§31/6, mb4.2/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.99**	**15**	P	**Pn**	**10 06 50.2**	**-0.4**
	225nm,0.3s,baz=198,slow=20,SNR=2.1						
RAO				S	**Sn**	**10 07 15.3**	**+1.0**
	342nm,0.3s,baz=104,slow=18,SNR=2.4						
URZ	**Urewera**	**7.92**	**206**	P	Pn	10 08 06.1	-5.8
	8.4nm,0.9s,baz=64,slow=22,SNR=2.0						
URZ				S	Sn	10 09 33.5	-6.6
	14nm,0.7s,baz=91,slow=23,SNR=8.4						
ASAR	**Alice Springs**	**42.64**	**268**	P	**P**	**10 14 11.3**	**+0.2**
	0.6nm,0.4s,baz=106,slow=7.4,SNR=26						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**43.70**	**273**	P	**P**	**10 14 20.0**	**+0.3**
	1.6nm,0.3s,baz=111,slow=8.0,SNR=56						
	1.6nm,0.3s						
QSPA	**South Pole Qui**	**58.93**	**180**	P	**P**	**10 16 14.0**	**+0.7**
	1.7nm,0.6s,baz=37,slow=1.1,SNR=14						
	1.7nm,0.6s						
FINES	**FINESS Array B**	**145.72**	**339**	PKPbc	**PKPdf**	**10 25 49.7**	**-1.8**
	1.6nm,0.4s,baz=57,slow=3.6,SNR=20						

IDC ***05*** *10:11:04.9±0.6, 31°.25N×49°.22E, h0km, mb4

KLST Kelardasht - M 5.45 16 Pn **Pn 10 12 31.3 +2.4**
MZPU Pul - Mazandar 5.51 20 Pn **Pn 10 12 32.2 +2.5**
IPRN Peran 5.59 27 Pn **Pn 10 12 32.9 +2.1**
IANJ Anjilo 5.73 42 Pn **Pn 10 12 34.9 +2.1**
MAHB Mahabad 6.22 333 Pn **Pn 10 12 40.3 +1.0**
KHGB Koh Gabri 6.29 96 Pn **Pn 10 12 43.1 +2.6**
IGLO Ghaloghah 6.47 35 Pn **Pn 10 12 45.5 +2.6**
TPRV Parvadeh(Tabas 6.56 73 Pn **Pn 10 12 46.4 +2.4**
TVBK TV Kerman 6.61 99 Pn **Pn 10 12 47.7 +2.7**
NGRK Negar Kerman 6.67 102 Pn **Pn 10 12 48.4 +2.6**
TNSJ Nastanj 6.78 65 Pn **Pn 10 12 49.2 +2.1**
TKDS Koohdasht(Taba 7.07 69 Pn **Pn 10 12 53.0 +2.0**
GENO Geno 7.18 121 Pn **Pn 10 12 54.7 +2.1**
CHMN Cheshme madani 7.30 99 Pn **Pn 10 12 57.4 +3.0**
ESRB Sir Abu 7.47 143 Pn **Pn 10 12 58.9 +2.5**
GRMI Germi 7.60 352 Pn **Pn 10 12 60.0 +1.7**
IMND Minoodasht 7.86 39 Pn **Pn 10 13 04.1 +2.3**
SHME Shamm 7.99 129 *i* P **Pn 10 13 04.8 +1.2**
SNR=6.5
SHME S **Sn 10 14 30.7 -3.3**
SHME Shamm 7.99 129 P **Pn 10 13 03.2 -0.3**
SNR=6.5
SHME S **Sn 10 14 30.8 -3.3**
SHME Shamm 7.99 129 Pn **Pn 10 13 05.1 +1.5**
ITEG Tejag 8.24 76 Pn **Pn 10 13 09.3 +2.2**
KBAM BAM 8.26 103 Pn **Pn 10 13 09.3 +2.0**
NAZ Nazwa, Dubai 8.45 136 *i* P **Pn 10 13 11.3 +1.5**
SNR=17
NAZ Nazwa, Dubai 8.45 136 P **Pn 10 13 09.1 -0.7**
SNR=17
NAZ S **Sn 10 14 41.7 -3.5**
SNR=17
BSRN Basiran 8.47 83 Pn **Pn 10 13 12.3 +2.1**
MASF Masafi 8.47 132 P **Pn 10 13 09.9 -0.3**
SNR=5.9
MASF S **Sn 10 14 42.3 -3.7**
SNR=20
MSFE Esma-Masafi 8.48 132 *i* P **Pn 10 13 11.0 +0.7**
SNR=5.9
MRVT Maraveh tapeh 8.52 40 Pn **Pn 10 13 12.8 +1.9**
ASUD Al Ashush, Dub 8.53 139 *i* P **Pn 10 13 13.1 +2.1**
SNR=6.4
ASUD Al Ashush, Dub 8.53 139 P **Pn 10 13 10.2 -0.8**
SNR=8.1
ASUD S **Sn 10 14 44.8 -2.6**
SNR=11
AFRZ Afriz 8.55 73 Pn **Pn 10 13 14.3 +2.9**
FAQ Al Faqa, Dubai 8.59 138 P **Pn 10 13 13.5 +1.7**
FAQ Al Faqa, Dubai 8.59 138 P **Pn 10 13 11.1 -0.7**
SNR=5.8
FAQ S **Sn 10 14 46.0 -2.8**
SNR=12
MDH Madha 8.61 132 P **Pn 10 13 13.2 +1.1**
MDH Madha 8.61 132 P **Pn 10 13 11.8 -0.3**
MDH S **Sn 10 14 46.6 -2.7**
SNR=14
SBZV Sabzevar 8.64 52 Pn **Pn 10 13 14.9 +2.2**
UOSS Minazif 8.80 134 Pn **Pn 10 13 15.5 +0.7**
UOSS Minazif 8.80 134 *i* P **Pn 10 13 15.0 +0.2**
SNR=5.9
UOSS Minazif 8.80 134 P **Pn 10 13 14.1 -0.7**
UOSS S **Sn 10 14 50.8 -3.3**
SNR=13
HATD Hatta, Dubai 8.85 135 *i* P **Pn 10 13 16.3 +0.9**
SNR=13
HATD Hatta, Dubai 8.85 135 P **Pn 10 13 14.9 -0.5**
SNR=13
ASHO Ashiyiah 8.91 136 *i* P **Pn 10 13 17.3 +1.1**
SNR=26
ASHO Ashiyiah 8.91 136 P **Pn 10 13 15.7 -0.6**
SNR=26
ASHO S **Sn 10 14 53.9 -2.8**
SNR=10
MZR Muzera 9.06 154 *i* P **Pn 10 13 20.2 +1.9**
SNR=19
MZR Muzera 9.06 154 P **Pn 10 13 17.2 -1.1**
SNR=19
MZR S **Sn 10 14 57.2 -3.1**
ALNE Al Ain 9.22 140 *i* P **Pn 10 13 22.0 +1.6**
SNR=14
ALNE Al Ain 9.22 140 P **Pn 10 13 19.8 -0.6**
SNR=14
ALNE S **Sn 10 15 01.4 -2.9**
JASK Jask - Hormozg 9.30 123 P **Pn 10 13 21.4 -0.2**
JASK S **Sn 10 15 03.6 -2.8**
IAKL Akhelmad 9.53 54 Pn **Pn 10 13 27.4 +2.4**
GNI Garni 9.58 339⇑ *e*P **Pn 10 13 26.9 +1.4**
GNI Garni 9.58 339 Pn Pn 10 13 33.8 +8.3
1.5nm,0.3s,baz=226,slow=11,SNR=1.6
GNI Lg Lg 10 16 09.3
1.0nm,0.3s,baz=59,slow=20,SNR=1.3
GNI LR LR 10 17 50.9
comp=Z,186nm,18.0s,baz=150,slow=42
SOHO SOHO 9.61 136 *i* P **Pn 10 13 25.9 +0.2**
SNR=7.7
SOHO SOHO 9.61 136 P **Pn 10 13 25.3 -0.4**
SOHO S **Sn 10 15 11.2 -2.6**
SHRT Shahrakht 9.64 73 Pn **Pn 10 13 28.9 +2.6**
IMOG Moghan 9.70 57 Pn **Pn 10 13 29.7 +2.4**
GEYT Alibeck 9.88 45 Pn **Pn 10 13 32.6 +3.1**
GEYT Alibeck 9.88 45 Pn **Pn 10 13 30.5 +1.0**
3.6nm,0.3s,baz=242,slow=11,SNR=40
GEYT Lg Lg 10 16 21.0
1.5nm,0.3s,baz=214,slow=39,SNR=1.6
46nm,1.0s
GYA0 ALIBECK ARRAY 9.88 45 P **Pn 10 13 32.2 +2.7**
GYA0B ALIBECK ARRAY 9.88 45 Pn **Pn 10 13 32.2 +2.6**
TBJM Torbat-e-JAM 10.11 64 Pn **Pn 10 13 35.8 +3.1**
IKRD Kardeh 10.14 54 Pn **Pn 10 13 36.2 +2.8**
ARQ Araqi 10.22 139 P **Pn 10 13 33.3 -0.8**
SNR=7.0
ARQ S **Sn 10 15 26.1 -2.7**
IMYA Miami 10.36 58 Pn **Pn 10 13 39.1 +2.9**
HOQ Hoqain 10.49 135 P **Pn 10 13 37.2 -0.7**
HOQ S **Sn 10 15 31.8 -3.7**
ASF Jabal al Asfar 10.54 278 Pn **Pn 10 13 38.1 -0.5**
3.9nm,0.3s,baz=82,slow=4.0,SNR=18
ASF Sn **Sn 10 15 31.6 -5.3**
2.0nm,0.3s,baz=151,slow=10,SNR=5.9
ASF Lg Lg 10 16 41.7
1.1nm,0.3s,baz=60,slow=21,SNR=1.6
7.9nm,0.3s
BIDO Bidbid 11.04 132 P **Pn 10 13 45.0 -0.4**
BIDO S **Sn 10 15 44.8 -4.2**
BSY Bisya 11.06 138 P **Pn 10 13 45.0 -0.8**
SNR=15
BSY S **Sn 10 15 45.7 -3.9**
SNR=7.0
SMDO Samad 11.33 134 P **Pn 10 13 48.8 -0.6**
SNR=13
SMDO S **Sn 10 15 51.3 -4.9**
SNR=7.7
KSHT Keshet 11.51 282 Pn **Pn 10 13 51.0 -0.8**
WSAR Wadi Sarin 11.56 131 P **Pn 10 13 52.1 -0.5**
SNR=5.7
WSAR S **Sn 10 15 56.9 -5.0**
WSAR Wadi Sarin 11.56 131 Pn **Pn 10 13 50.4 -2.2**
2.2nm,0.3s,baz=339,slow=11,SNR=28
WSAR Sn Sn 10 15 53.5 -8.3
2.0nm,0.3s,baz=288,slow=20,SNR=2.5
WSAR LR LR 10 19 23.5
comp=Z,293nm,19.3s,baz=11,slow=43
11nm,0.6s
GEM Giv'at Ha'Em 11.65 283 Pn **Pn 10 13 53.2 -0.5**
HMDT Nahal Hemdat 11.71 278 Pn **Pn 10 13 54.3 -0.2**
MAK Makhachkala 11.75 354 *e*P **Pn 10 13 50.8 -4.2**
MAK *e*S **Sn 10 16 00.8 -5.4**
MAK pmax pmax
comp=Z,208nm,1.2s
MAK MLR MLR
comp=Z,547nm,12.0s
MMLI Mount Malkishu 11.80 279 Pn **Pn 10 13 55.9 +0.1**
MMA0B Mount Meron ar 11.85 282 Pn **Pn 10 13 56.1 -0.4**
MMAI Mount Meron Ar 11.85 282 Pn **Pn 10 13 57.2 +0.7**
comp=Z,1.2nm,0.3s,baz=91,slow=18,SNR=3.3
MMAI Sn **Sn 10 16 08.2 -0.7**
comp=Z,1.6nm,0.3s,baz=112,slow=29,SNR=3.7
MMAI Lg Lg 10 17 15.2
baz=108,slow=26
MMAI LR LR 10 19 33.7
comp=Z,184nm,20.1s,baz=70,slow=43
comp=Z,0.8nm,0.3s
BCA Borcka 11.86 331 ⇑P **Pn 10 13 58.5 +2.0**
MSBI Mazada 11.87 274 Pn **Pn 10 13 56.1 -0.6**
JMDO Jabal Madar 11.88 136 P **Pn 10 13 56.2 -0.8**
SNR=8.6
HNTI Hanita 12.05 282 Pn **Pn 10 13 58.5 -0.7**
ZFRI Zfri 12.09 270 Pn **Pn 10 13 59.3 -0.4**
SLTI Sal'it 12.12 278 Pn **Pn 10 13 59.4 -0.7**
WBK Wadi Bani Khal 12.23 132 P **Pn 10 14 01.1 -0.7**
WBK S **Sn 10 16 14.9 -3.4**
PRNI Paran 12.27 269 Pn **Pn 10 14 02.5 +0.3**
EIL Elat 12.42 266 Pn **Pn 10 14 04.0 -0.3**
EIL Elat 12.42 266 Pn **Pn 10 14 04.9 +0.6**
EIL Elat 12.42 266 Pn **Pn 10 14 03.9 -0.3**
comp=Z,1.7nm,0.3s,baz=102,slow=7.6,SNR=7.2
EIL LR LR 10 19 49.7
comp=Z,330nm,21.5s,baz=65,slow=42
comp=Z,5.5nm,0.4s
MBRI Mt Berech 12.43 267 Pn **Pn 10 14 03.9 -0.6**
JLN Jalan Bani Buh 12.85 133 P **Pn 10 14 09.3 -0.7**
SNR=7.0
MHTO MHTO 12.89 140 P **Pn 10 14 10.3 -0.5**
SNR=18
MHTO S **Sn 10 16 29.7 -4.6**
DOK Doka 13.35 159 P **Pn 10 14 16.0 -1.0**
SNR=15
DOK S **Sn 10 16 42.7 -2.9**
KBZ Khabaz 13.41 340 *de*P **Pn 10 14 20.9 +3.3**
KBZ Khabaz 13.41 340 Pn **Pn 10 14 19.1 +1.5**
comp=Z,0.2nm,0.3s,baz=138,slow=7.8,SNR=3.6
KBZ LR LR 10 19 02.1
comp=Z,109nm,21.2s,baz=159,slow=36
comp=Z,6.2nm,0.9s
KIV Kislovodsk 13.68 340 **Pn 10 14 20.8 -0.6**
KIV Kislovodsk 13.68 340 *e*P **Pn 10 14 25.4 +4.0**
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,41nm,12.0s
CSS Mathiatis 13.83 290 Pn **Pn 10 14 24.4 +1.0**
WHFO Wadi Hawf 13.91 162 P **Pn 10 14 24.0 -0.8**
SNR=7.4
WHFO S **Sn 10 16 56.2 -3.1**
ABTO Aybut 14.34 164 P **Pn 10 14 29.7 -0.9**
SHAO Shalim 14.40 155 P **Pn 10 14 30.6 -0.8**
SOC Sochi 14.42 331 *e*P **Pn 10 14 30.5 -1.0**
SOC *e* 10 17 11.2
SOC MLR MLR
comp=Z,192nm,13.0s
RBK Rabkut 14.43 161 P **Pn 10 14 30.8 -1.0**
DMTO DMTO 14.46 158 P **Pn 10 14 31.4 -0.7**
SNR=9.8
DMTO S **Sn 10 17 08.3 -4.2**
SNR=8.1
BR131 Keskin Array S 15.23 308 Pn **Pn 10 14 44.2 +1.5**
BR131 IAmb IAmb 10 14 50.1
comp=Z,33nm,0.9s
BR131 Keskin Array S 15.23 308 *ce*P **Pn 10 14 44.8 +2.2**
BR131 Keskin Array S 15.23 308 P **P 10 14 49.1 +1.4**
SNR=17
BRTR Keskin Array B 15.23 308 Pn **Pn 10 14 43.5 +0.8**
BRTR Keskin Array B 15.23 308 Pn **Pn 10 14 42.8 +0.2**
comp=Z,1.7nm,1.1s,baz=161,slow=16,SNR=3.6
BRTR LR LR 10 21 27.3
comp=Z,172nm,18.6s,baz=129,slow=41
ANTO Ankara 15.87 307 P **P 10 14 57.1 +2.4**
ANN Anapa 16.37 329 *e*P **P 10 15 00.9 +0.8**
ANN *e*S **S 10 18 08.9 -2.4**
ANN pmax pmax
comp=Z,33nm,1.1s
ANN MLR MLR
comp=Z,316nm,15.0s
ELL Elmali 16.92 294 P **P 10 15 07.3 +0.9**
ELL Elmali 16.92 294 P **P 10 15 07.3 +0.9**
ELL pmax pmax
comp=Z,129nm,1.0s
KBL Kabul 16.95 74 **Pn 10 15 06.3 +1.4**
KBL Kabul 16.95 74 P **Pn 10 15 06.3 +1.4**
KBL pmax pmax
comp=Z,21nm,1.1s
KBL Kabul 16.95 74 P **P 10 15 07.7 +0.8**
SNR=10
MDUB Mudurnu 17.24 307 P **P 10 15 10.8 +0.9**
BTK Batken 19.57 57 **P 10 15 36.0 +0.5**
BTK Batken 19.57 57 P **P 10 15 36.0 +0.5**
BTK pmax pmax
comp=Z,9.0nm,0.9s
ABKAR Akbulak array 19.70 21 **P 10 15 37.0 +0.3**
ABKAR **Sn 10 19 20.3 +0.9**
ABKAR Akbulak array 19.70 21 P **P 10 15 37.7 +1.0**
ABKAR IAmb IAmb 10 15 41.9
comp=Z,9.9nm,0.8s
AKTO Aktyubinsk 20.24 16 P **P 10 15 42.1 -0.5**
comp=Z,6.3nm,0.7s,baz=216,slow=11,SNR=9.5
comp=Z,6.3nm,0.7s
NIL Nilore 20.40 77 Pn 10 15 46.2 -0.4
NIL IAmb IAmb 10 15 52.2
comp=Z,52nm,1.1s
NIL Nilore 20.40 77 P Pn 10 15 46.2 -0.4
NIL pmax pmax
comp=Z,52nm,1.2s
ATD Arta Tunnel 20.51 198 P Pn 10 15 48.5 +0.5
ATD IAmb IAmb 10 15 55.4
comp=Z,25nm,1.1s
ATD Arta Tunnel 20.51 198 *e*P Pn 10 15 48.8 +0.8
ATD Arta Tunnel 20.51 198 P **P 10 15 46.7 +0.9**
ATD Arta Tunnel 20.51 198 P **P 10 15 44.7 -1.1**
comp=Z,0.1nm,0.3s,baz=103,slow=23,SNR=1.5
ATD LR LR 10 24 07.9
comp=Z,10nm,21.1s,baz=33,slow=38
ATD Arta Tunnel 20.51 198 *e*P Pn 10 15 48.8 +0.8
baz=203
KK31 Karatay Array 20.60 49 P Pn 10 15 48.4 -0.5
KK31 Karatay Array 20.60 49 P Pn 10 15 48.4 -0.5
KK31 pmax pmax
comp=Z,20nm,1.3s
KKAR Karatay Array 20.60 49 P **P 10 15 47.3 +0.7**
KKAR Karatay Array 20.60 49 P Pn 10 15 48.6 -0.2
KKAR IAmb IAmb 10 15 54.2
comp=Z,20nm,1.3s
KKAR Karatay Array 20.60 49 P **P 10 15 47.3 +0.7**
EFOR EFORIE 20.65 314 ⇑P Pn 10 15 49.0 -0.4
VRH Novokhopyorsk 20.68 347 *e*P **P 10 15 46.6 -0.7**
VRH pmax pmax
comp=Z,170nm,0.8s
IDI Anoyia 20.73 288 ⇓P Pn 10 15 50.3 -0.1
IDI Anoyia 20.73 288 P **P 10 15 49.2 +1.1**
IDI Anoyia 20.73 288 P **P 10 15 45.3 -2.8**
comp=Z,32nm,0.9s,baz=135,slow=20,SNR=2.5
IDI LR LR 10 27 12.8
comp=Z,35nm,20.7s,baz=86,slow=47
comp=Z,32nm,0.9s
PSN Preselentsi 20.74 312 *e*P **P 10 15 47.2 -0.9**
TEND Ethiopian Broa 20.82 203 *e*P **P 10 15 48.2 -1.0**
baz=228
MFTR Murfatlar 20.83 314 ⇓P **P 10 15 50.2 +1.1**
JURR Jurilovca 20.87 316 ⇓P **P 10 15 50.4 +1.0**
PRD Provadia 20.98 311 *e*P **P 10 15 51.8 +1.2**
TIRR Tirgusor 20.99 315 ⇑P **P 10 15 51.8 +1.1**
TIRR Tirgusor 20.99 315 **P 10 15 50.9 +0.2**
TIRR IAmb IAmb 10 15 52.5
comp=Z,62nm,1.0s
TIRR Tirgusor 20.99 315 P **P 10 15 50.9 +0.2**
TIRR pmax pmax
comp=Z,62nm,1.0s
ALN Alexandroupoli 21.01 304 IAmb IAmb 10 15 56.4
comp=Z,44nm,1.1s
VORD Divnogorie 21.02 342 *e*P **P 10 15 50.0 -1.0**
VORD pmax pmax
comp=Z,140nm,1.2s
TLCR 21.14 317 ⇓P **P 10 15 53.4 +1.0**
TLCR 21.14 317 P **P 10 15 53.3 +1.0**
BELG Belogornoye 21.14 357 *c i*P **P 10 15 51.7 -0.6**
BELG pmax pmax
comp=Z,23nm,0.9s
BELG Belogornoye 21.14 357 P **P 10 15 52.0 -0.3**
comp=Z,122nm,1.0s,baz=153,slow=0.9,SNR=25
comp=Z,122nm,1.0s
TPGR Topolog 21.19 316 ⇓P **P 10 15 54.0 +1.0**
VSR Storozhevoye 21.28 342 *e*P **P 10 15 51.5 -2.3**
VSR pmax pmax
comp=Z,70nm,1.3s
HARR Harsova 21.40 315 ⇓P **P 10 15 56.8 +1.6**
HARR Harsova 21.40 315 P **P 10 15 56.7 +1.6**
RDO Rodhopi 21.45 304 **P 10 15 56.6 +0.8**
RDO IAmb IAmb 10 16 02.8
comp=Z,29nm,1.1s
CFR Carcaliu 21.54 316 ⇓P **P 10 15 57.5 +0.9**
CFR Carcaliu 21.54 316 P **P 10 15 57.5 +0.9**
SZH Strazhitsa 21.96 310 *e*P **P 10 16 01.9 +0.6**
LPSR Galich'ya Gora 22.61 344 *e*P **P 10 16 06.2 -1.8**
LPSR pmax pmax
comp=Z,30nm,0.7s
VRI Vrincioaia 22.74 316 ⇑P **P 10 16 10.6 +1.0**
VRI Vrincioaia 22.74 316 P **P 10 16 10.5 +1.0**
NEHR Nehoiu 22.77 315 ⇑P **P 10 16 10.7 +0.7**
PLOR Plostina 22.78 316 ⇑P **P 10 16 11.5 +1.5**
PLOR Plostina 22.78 316 P **P 10 16 11.5 +1.5**
PGB Panagyurishte 22.89 306 *e*P **P 10 16 11.7 +0.6**
MLR Muntele Rosu 23.02 315 ⇓P **P 10 16 14.5 +1.9**
MLR Muntele Rosu 23.02 315 P **P 10 16 14.9 +2.3**
MLR IAmb IAmb 10 16 18.8
comp=Z,40nm,1.3s
MLR Muntele Rosu 23.02 315 P **P 10 16 12.8 +0.2**
comp=Z,14nm,1.0s,baz=90,slow=1.4,SNR=16
comp=Z,14nm,1.0s
AAK Ala-Archa 23.07 53 P **P 10 16 14.3 +1.0**
AAK IAmb IAmb 10 16 30.8
comp=Z,16nm,1.1s
AAK Ala-Archa 23.07 53 *de*P **P 10 16 14.8 +1.6**
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 23.07 53 P **P 10 16 17.1 +3.9**
AAK Ala-Archa 23.07 53 P **P 10 16 13.7 +0.5**
comp=Z,1.5nm,0.3s,baz=214,slow=18,SNR=2.1
AAK LR LR 10 27 31.4
comp=Z,94nm,18.5s,baz=257,slow=43
comp=Z,1.5nm,0.3s
TESR Tescani 23.14 318 ⇓P **P 10 16 14.1 +0.4**
KSH Kashi 23.24 62 P **P 10 16 13.3 -1.6**
KSH pP pP 10 16 18.8 +0.9
KSH sP sP 10 16 22.9 +3.7
KSH S **S 10 20 20.4 -6.8**
KSH pmax pmax
comp=Z,15nm,1.5s
KSH LR LR
comp=Z,160nm,8.2s
KSH LR LR
comp=Z,390nm,12.7s
KSH LR LR
comp=Z,520nm,14.4s
OZUR 23.42 316 ⇓P **P 10 16 18.6 +2.0**
MPEP Malo Peshtene 23.49 308 *e*P **P 10 16 18.3 +1.0**
VOIR 23.54 314 ⇑P **P 10 16 19.2 +1.4**
VOIR 23.54 314 P **P 10 16 19.2 +1.4**
VTS Vitosha 23.57 306 *e*P **P 10 16 19.0 +0.8**
DOPR Dopca 23.59 315 ⇑P **P 10 16 19.9 +1.6**
ARR Arges 23.77 313 ⇑P **P 10 16 22.0 +1.9**
GRD1 Great Renaissa 23.95 216 *e*P **P 10 16 24.1 +2.1**
baz=219
WLRA Wolmera 24.14 206 *e*P **P 10 16 25.8 +1.7**
baz=209
FURI Furi 24.33 206 *e*P **P 10 16 25.8 0.0**
FURI AMP 10 27 56.8
comp=Z,762nm,9.1s
FURI Furi 24.33 206 *e*P **P 10 16 25.8 0.0**
baz=209
FURI AMP 10 27 56.8
comp=Z,763nm,9.1s,baz=209
FNA Florina 24.36 301 P **P 10 16 24.6 -1.0**
FNA Florina 24.36 301 P **P 10 16 24.6 -1.0**
FNA pmax pmax
comp=Z,11nm,1.3s
AKASG Malin Array Be 24.46 328 P **P 10 16 24.9 -1.4**
comp=Z,3.9nm,0.7s,baz=139,slow=9.3,SNR=12
comp=Z,3.9nm,0.7s
AKBB Malin Array Si 24.46 328 P **P 10 16 24.9 -1.4**
AKBB IAmb IAmb 10 16 26.2
comp=Z,30nm,1.4s
AKBB Malin Array Si 24.46 328 *de*P **P 10 16 25.9 -0.4**
BURAR Bucovina Array 24.56 319 ⇑P **P 10 16 28.6 +1.1**
BURAR Bucovina Array 24.56 319 P **P 10 16 27.4 0.0**
BURAR Bucovina Array 24.56 319 P **P 10 16 28.5 +1.1**
BUR08 Bucovina Ar. S 24.59 319 P **P 10 16 26.4 -1.3**
KBN Korca 24.76 300 P **P 10 16 30.2 +0.9**
KBN Korca 24.76 300 P **P 10 16 30.2 +0.9**
KBN pmax pmax
comp=Z,32nm,0.8s
DJES Djerdap 24.82 310 P **P 10 16 30.3 +0.7**
GZR Gura Zlata 24.95 312 ⇑P **P 10 16 32.5 +1.6**
GZR Gura Zlata 24.95 312 P **P 10 16 32.5 +1.6**
HERR Herculane 24.97 311 ⇑P **P 10 16 32.8 +1.9**
BOVS Bovan 24.97 307 ⇑P **P 10 16 31.8 +0.8**
MARR Marisel-Cluj 25.31 315 ⇓P **P 10 16 35.5 +1.3**
MDVR Moldovita 25.39 310 ⇓P **P 10 16 36.2 +1.3**
OBN Obninsk 25.48 343 *c i*P **P 10 16 35.3 -0.1**
OBN *e* 10 17 12.0
OBN pmax pmax
comp=Z,87nm,1.7s
OBN MLR MLR
comp=Z,52nm,13.0s
MOS Moscow 25.80 345 *e*P **P 10 16 38.1 -0.2**
MOS pmax pmax
comp=Z,162nm,1.2s
ARU Arti 25.99 12 P **P 10 16 39.3 -0.8**
ARU IAmb IAmb 10 16 44.2
comp=Z,26nm,1.4s
ARU Arti 25.99 12 *d i*P **P 10 16 40.0 -0.1**
ARU 10 17 13.9
ARU S **S 10 21 12.1 +1.6**
ARU SS **SnSn 10 22 07.7 +0.2**
ARU pmax pmax
comp=Z,22nm,1.4s
ARU Arti 25.99 12 LR LR 10 29 11.5
comp=Z,125nm,20.3s,baz=174,slow=42
DIVS Divibare 26.30 307 IAmb IAmb 10 16 46.7
comp=Z,13nm,1.2s
BRVK Borovoye 26.60 29 P **P 10 16 46.2 +0.5**
BRVK IAmb IAmb 10 16 48.3
comp=Z,15nm,1.1s
BRVK Borovoye 26.60 29 *ce*P **P 10 16 46.4 +0.7**
BRVK pmax pmax
comp=Z,14nm,1.0s
BVAR Borovoye Array 26.62 29 P **P 10 16 46.4 +0.5**
comp=Z,8.4nm,0.7s,baz=219,slow=6.9,SNR=23
BVAR LR LR 10 29 31.6
comp=Z,160nm,19.5s,baz=222,slow=42
comp=Z,8.4nm,0.7s
DILA Dilla 26.75 205 *e*P P 10 16 37.0 -11
DILA Dilla 26.75 205 *e*P P 10 16 37.0 -11
baz=227
KOLS Kolonicke sedl 26.93 319 *e*P **P 10 16 51.0 +2.3**
KOLS Kolonicke sedl 26.93 319 *e*P **P 10 16 51.0 +2.3**
KWP Kalwaria Pacla 27.05 320 P **P 10 16 49.1 -0.7**
KWP IAmb IAmb 10 17 30.1
comp=Z,12nm,0.9s
KWP Kalwaria Pacla 27.05 320 P **P 10 16 49.1 -0.7**
KWP pmax pmax
comp=Z,12nm,0.9s
KIRV Kirov 27.32 0 *ce*P **P 10 16 52.0 0.0**
KIRV Kirov 27.32 0 LR LR 10 29 33.2
comp=Z,127nm,18.9s,baz=171,slow=40
CRVS Cervenica-Dubn 27.37 318 *e*P **P 10 16 54.4 +1.7**
CRVS pmax pmax
comp=Z,26nm,1.1s
CRVS Cervenica-Dubn 27.37 318 *e*P **P 10 16 54.4 +1.7**
CUC Castrocucco 28.39 297 P **P 10 17 01.3 -0.7**
CUC IAmb IAmb 10 17 13.1
comp=Z,8.9nm,0.9s
NACGM Naroch 28.51 332 *e*P P 10 16 56.2 -6.6
comp=Z,24nm,0.8s,baz=136
LANS Liptovska Anna 28.64 317 *e*P **P 10 17 06.2 +2.1**
LANS pmax pmax
comp=Z,5.0nm,1.0s
LANS Liptovska Anna 28.64 317 *e*P **P 10 17 06.1 +2.0**
VYHS Vyhne 28.72 316 *e*P **P 10 17 06.4 +1.6**
VYHS Vyhne 28.72 316 *e*P **P 10 17 06.4 +1.6**
KURBB Kurchatov Arra 29.09 40 P **P 10 17 08.9 +0.9**
comp=Z,3.0nm,1.0s,baz=243,slow=9.1,SNR=11
KURBB LR LR 10 30 11.9
comp=Z,138nm,21.7s,baz=172,slow=39
comp=Z,3.0nm,1.0s
KURK Kurchatov 29.19 40 ⇑*e*P **P 10 17 10.3 +1.5**
KURK pmax pmax
comp=Z,4.0nm,0.8s
PYUN Piuthan 29.43 87 *e*P **P 10 17 12.7 +1.2**
comp=Z,17nm,0.8s
JAVC Velka Javorina 29.58 316 *e*P **P 10 17 14.0 +1.6**
SMOL Smolenice 29.58 315 *e*P **P 10 17 14.2 +1.8**
MODS Modra-Piesok 29.62 314 *e*P **P 10 17 13.2 +0.5**
MODS pmax pmax
comp=Z,21nm,1.2s
MODS Modra-Piesok 29.62 314 *e*P **P 10 17 13.2 +0.5**
MK31 Makanchi Array 29.73 49 ⇑*e*P **P 10 17 14.2 +0.5**

MKAR Makanchi Array 29.73 49 P **P** **10 17 13.5 -0.2**
comp=Z,1.4nm,0.8s,baz=238,slow=8.4,SNR=5.3
MKAR LR LR 10 30 57.6
comp=Z,188nm,20.0s,baz=285,slow=40
comp=Z,1.4nm,0.8s
RONA Rosalia, Austr 29.97 313 *i* P **P** **10 17 17.0 +1.1**
comp=Z,7.9nm,1.5s
DANN Dangsing 30.03 87 *eP* **P** **10 17 18.5 +1.6**
comp=Z,54nm,0.9s
KOLN Koldanda 30.04 88 *eP* **P** **10 17 17.6 +0.7**
comp=Z,75nm,2.0s
MORC Moravsky Berou 30.05 317 P **P** **10 17 16.6 +0.1**
MORC IAmb IAmb 10 17 18.1
comp=Z,16nm,1.2s
MORC Moravsky Berou 30.05 317 *eP* **P** **10 17 16.7 +0.2**
MORC Moravsky Berou 30.05 317 P **P** **10 17 16.6 +0.1**
MORC pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 30.28 351 *eP* **P** **10 17 15.2 -3.2**
KLMR AMP 10 17 20.2
comp=Z,39nm,1.1s
KLMR Klimovskoe 30.28 351 *eP* **P** **10 17 15.2 -3.2**
KLMR pmax pmax
comp=Z,39nm,1.1s
ARSA Arzberg 30.30 311 *i* P **P** **10 17 19.7 +0.9**
comp=Z,3.0nm,0.7s
VRAC Vranov 30.41 316 *eP* **P** **10 17 20.3 +0.6**
KRUC Moravsky 30.43 315 *eP* **P** **10 17 20.4 +0.6**
SOKA Soboth 30.43 310 *i* P **P** **10 17 20.9 +0.9**
comp=Z,2.3nm,0.8s
PRGR Permogore 30.47 357 *eP* **P** **10 17 20.1 +0.1**
PRGR pmax pmax
comp=Z,13nm,0.3s
LODK Lodwar 30.63 208 P **P** **10 17 23.6 +1.6**
DPC Dobruska-Polom 31.00 317 *eP* **P** **10 17 25.3 +0.3**
DPC Dobruska-Polom 31.00 317 *eP* **P** **10 17 25.3 +0.3**
OSTC Ostas 31.16 318 *eP* **P** **10 17 27.0 +0.7**
OSTC Ostas 31.16 318 *eP* **P** **10 17 27.0 +0.7**
UPC Upice 31.25 318 *eP* **P** **10 17 27.6 +0.5**
UPC Upice 31.25 318 *eP* **P** **10 17 27.6 +0.5**
CHVC Chvalec 31.26 318 *eP* **P** **10 17 26.2 -1.0**
CHVC Chvalec 31.26 318 *eP* **P** **10 17 26.2 -1.0**
MURB Monte Urbino 31.33 303 P **P** **10 17 29.8 +1.8**
MURB IAmb IAmb 10 17 31.2
comp=Z,20nm,1.1s
KKN Kakani 31.47 87 *eP* **P** **10 17 30.5 +1.0**
comp=Z,63nm,1.2s
CKRC Cesky Krumlov 31.61 314 *eP* **P** **10 17 30.3 0.0**
CKRC Cesky Krumlov 31.61 314 *eP* **P** **10 17 30.3 0.0**
PKIN Phulchoki 31.63 87 *eP* **P** **10 17 32.0 +1.0**
comp=Z,42nm,1.1s
PKI Pulchoki 31.64 87 *eP* **P** **10 17 31.9 +0.8**
comp=Z,58nm,1.2s
BIOA Bad Ischl, Aus 31.66 311 *eP* **P** **10 17 31.5 +0.7**
comp=Z,8.0nm,0.8s
KBA Koelnbreinsper 31.66 310 *i* P **P** **10 17 31.0 0.0**
comp=Z,7.7nm,0.9s
GOPC GO Pecny, Ondr 31.73 316 *eP* **P** **10 17 31.4 +0.1**
GOPC GO Pecny, Ondr 31.73 316 *eP* **P** **10 17 31.4 +0.1**
ZVC Zvikov 31.90 315 *eP* **P** **10 17 33.2 +0.3**
GUN Gumba 31.95 87 *eP* **P** **10 17 35.2 +1.3**
GERES GERESS Array B 32.00 314 P **P** **10 17 33.5 -0.3**
comp=Z,1.1nm,0.5s,baz=150,slow=22,SNR=2.1
comp=Z,1.1nm,0.5s
CIMO Cimolais 32.05 309 P **P** **10 17 33.4 -0.8**
CIMO IAmb IAmb 10 17 38.3
comp=Z,10nm,1.2s
ABTA Abfaltersbach 32.11 309 *i* P **P** **10 17 35.7 +0.9**
comp=Z,6.8nm,1.2s
KHC Kasperske Hory 32.17 314 IAmb IAmb 10 17 37.6
comp=Z,24nm,1.4s
KHC Kasperske Hory 32.17 314⇓*eP* **P** **10 17 36.1 +0.9**
KHC pmax pmax
comp=Z,20nm,1.2s
KHC Kasperske Hory 32.17 314 *eP* **P** **10 17 35.7 +0.5**
LESA Schwarzleotal 32.20 311 *i* P **P** **10 17 36.0 +0.5**
comp=Z,5.5nm,1.0s
JIRN Jiri 32.28 87 *eP* **P** **10 17 37.9 +1.0**
comp=Z,22nm,0.7s
WMQ Urumqi 32.68 56 *eP* **P** **10 17 42.3 +2.5**
WMQ sP sP 10 17 48.4 +4.2
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ LR LR
comp=Z,91nm,18.7s
RAMN Ramite 32.83 88 *eP* **P** **10 17 42.1 +0.6**
comp=Z,35nm,1.0s
WTTA Wattenberg 32.83 310 *i* P **P** **10 17 41.7 +0.5**
comp=Z,11nm,1.2s
WATA Walderalm 32.89 310 *i* P **P** **10 17 42.3 +0.6**
comp=Z,16nm,1.3s
SQTA Sankt Quirin 33.10 310 *i* P **P** **10 17 43.8 +0.3**
comp=Z,9.5nm,1.0s
MOTA Moosalm 33.20 310 *i* P **P** **10 17 44.3 -0.1**
comp=Z,8.5nm,0.9s
CLL Collm 33.32 318 *eP* **P** **10 17 46.0 +0.8**
CLL Collm 33.32 318 *eP* **P** **10 17 46.0 +0.8**
FETA Feichten 33.37 309 *i* P **P** **10 17 46.2 +0.3**
comp=Z,6.0nm,1.1s
KEST Kesra 33.40 289 P **P** **10 17 45.4 -0.8**
comp=Z,8.5nm,0.9s,baz=238,slow=15,SNR=2.8
comp=Z,8.5nm,0.9s
RETA Reutte 33.46 310 *i* P **P** **10 17 46.8 +0.2**
comp=Z,1.7nm,0.6s
FINES FINESS Array B 33.77 340 *i* P **P** **10 17 50.4 +1.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 33.77 340 P **P** **10 17 47.1 -1.9**
comp=Z,4.1nm,0.8s,baz=137,slow=8.6,SNR=11
comp=Z,4.1nm,0.8s
DAVOX Davos/Dischmat 33.88 309 LR LR 10 33 44.7
comp=Z,67nm,19.3s,baz=82,slow=40
DGZ Jazzator, Alta 33.93 46⇑*eP* **P** **10 17 51.3 +0.6**
DGZ pmax pmax
comp=Z,4.0nm,1.3s
DAVA Damuels 33.99 309 *i* P **P** **10 17 51.3 -0.1**
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 34.08 38 P **P** **10 17 52.1 +0.3**
ZALV Zalesovo Beam 34.08 38 *i* P **P** **10 17 52.5 +0.7**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 34.08 38 P **P** **10 17 50.9 -0.9**
comp=Z,2.1nm,0.7s,baz=248,slow=10,SNR=8.5
ZALV LR LR 10 32 39.6
comp=Z,74nm,18.8s,baz=232,slow=38
comp=Z,2.1nm,0.7s
KMBO Kilima Mbogo 34.17 202 LR LR 10 31 51.3
comp=Z,130nm,18.5s,baz=86,slow=36
KIBK Kibwezi 35.08 200 P **P** **10 18 02.7 +1.8**
KIBK IAmb IAmb 10 18 05.0
comp=Z,8.1nm,1.0s
BNI Bardonecchia 35.76 305 IAmb IAmb 10 18 07.6
comp=Z,18nm,1.1s
MBAR Mbarara 36.23 212 *ceP* **P** **10 18 14.0 +3.1**
MBAR pmax pmax
comp=Z,10.0nm,1.3s
MBAR Mbarara 36.23 212 LR LR 10 32 15.2
comp=Z,39nm,20.1s,baz=37,slow=35
HFS Hagfors 37.26 331 P **P** **10 18 18.5 -0.6**
comp=Z,16nm,1.0s,baz=127,slow=9.4,SNR=12
HFS LR LR 10 36 17.2
comp=Z,66nm,19.2s,baz=118,slow=41
comp=Z,16nm,1.0s
SHL Shillong 37.77 88 P **P** **10 18 24.0 0.0**
SHL IAmb IAmb 10 18 29.6
comp=Z,7.6nm,0.7s
SHL Shillong 37.77 88 P **P** **10 18 24.0 0.0**
SHL pmax pmax
comp=Z,8.0nm,0.7s
SHL Shillong 37.77 88 P **P** **10 18 25.3 +1.3**
SNR=5.7
GOMU GeErMu 37.96 70 P **P** **10 18 27.6 +1.9**
GOMU pP sP 10 18 32.9 +2.8
GOMU sP pP 10 18 34.2 +5.4
GOMU pmax pmax
comp=Z,6.0nm,1.2s
GOMU pmax pmax
comp=Z,34nm,3.9s
NB2 NORSAR Subarra 38.78 331 P **P** **10 18 30.8 -1.1**
comp=Z,1.0nm,0.6s,baz=123,slow=8.6
NOA NORSAR Array B 38.78 331 P **P** **10 18 29.8 -2.1**
comp=Z,3.7nm,1.0s,baz=122,slow=8.3,SNR=5.4
NOA LR LR 10 36 42.3
comp=Z,49nm,18.4s,baz=125,slow=40
comp=Z,3.7nm,1.0s
ARCES ARCESS Array B 40.61 347 P **P** **10 18 46.8 -0.1**
comp=Z,2.6nm,0.9s,baz=154,slow=12,SNR=5.0
comp=Z,2.6nm,0.9s
GTA Gaotai 41.60 64 *eP* **P** **10 18 57.9 +2.2**
GTA pP sP 10 19 01.0 +0.9
GTA pmax pmax
comp=Z,12nm,1.2s
GTA LR LR
comp=Z,100nm,18.9s
GTA LR LR
comp=Z,140nm,20.4s
GTA LR LR
comp=Z,170nm,20.0s
ESDC Sonseca Array 43.59 296 P **P** **10 19 11.4 -0.3**
ESDC Sonseca Array 43.59 296 P **P** **10 19 10.6 -1.2**
comp=Z,2.6nm,1.0s,baz=77,slow=7.4,SNR=12
comp=Z,2.6nm,1.0s
TNCH TengChong 43.62 85 *eP* **P** **10 19 13.0 +0.7**
TNCH pP pP 10 19 16.1 +0.7
TNCH pmax pmax
comp=Z,27nm,0.5s
NRIK Noril'sk 43.84 19 *deP* **P** **10 19 14.7 +1.4**
NRIK Noril'sk 43.84 19 P **P** **10 19 12.5 -0.7**
comp=Z,1.8nm,0.4s,baz=199,slow=8.1,SNR=4.7
NRIK LR LR 10 41 30.0
comp=Z,124nm,19.4s,baz=170,slow=42
comp=Z,1.8nm,0.4s
LZH Lanzhou 45.21 69 *eP* **P** **10 19 27.3 +2.4**
LZH pP sP 10 19 32.9 +3.6
LZH pmax pmax
comp=Z,26nm,1.0s
LZH LR LR
comp=Z,210nm,17.8s
LZH LR LR
comp=Z,210nm,21.4s
LZH LR LR
comp=Z,270nm,21.7s
PBRG Braganca 45.47 300 *eP* **P** **10 19 28.0 +1.2**
MVO Moncorvo 45.75 299 *eP* **P** **10 19 30.1 +1.1**
PZH PanZhiHua 45.87 82 P **P** **10 19 32.2 +2.0**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.4s
SONM Songino Array 46.01 52 P **P** **10 19 30.9 -0.2**
comp=Z,0.6nm,0.5s,baz=278,slow=10.0,SNR=5.4
SONM LR LR 10 40 52.4
comp=Z,127nm,19.6s,baz=262,slow=39
comp=Z,0.6nm,0.5s
PBAR Barrancos 46.16 295 *eP* **P** **10 19 33.2 +1.0**
PCBR Castelo Branco 46.25 297 *eP* **P** **10 19 34.0 +1.1**
PVRL Vila Real 46.26 299 *eP* **P** **10 19 34.3 +1.3**
POLO Lamas de Olo 46.30 299 *eP* **P** **10 19 34.6 +1.2**
CHTO Chiang Mai 46.37 93 P **P** **10 19 34.5 +0.5**
CHTO Chiang Mai 46.37 93 P **P** **10 19 34.5 +0.5**
ULN Ulaanbaatar 46.45 52⇑*eP* **P** **10 19 35.4 +0.8**
ULN pmax pmax
comp=Z,6.0nm,1.0s
PVIS Viseu 46.46 298 *eP* **P** **10 19 36.1 +1.5**
PESTR Estremoz 46.48 296 *eP* **P** **10 19 36.0 +1.3**
CMAR Chiang Mai Arr 46.52 94 P **P** **10 19 34.0 -1.3**
comp=Z,2.2nm,0.7s,baz=291,slow=7.9,SNR=12
CMAR PcP **PcP** **10 21 10.6 +1.0**
comp=Z,0.7nm,0.4s,baz=290,slow=5.7,SNR=4.1
CMAR LR LR 10 42 35.2
comp=Z,32nm,18.1s,baz=290,slow=41
comp=Z,2.2nm,0.7s
PGAV Gavieira, Arco 46.59 300 *eP* **P** **10 19 37.4 +1.7**
comp=Z,40nm,1.6s
PCAS Casmilo, Conde 47.00 297 *eP* **P** **10 19 40.2 +1.4**
comp=Z,24nm,1.6s
TOA0 Torodi Ar. Sit 47.17 259 P **P** **10 19 40.7 +0.4**
TOA0 Torodi Ar. Sit 47.17 259 P **P** **10 19 42.5 +2.2**
SNR=5.6
TORD Torodi Ar. Bea 47.17 259 P **P** **10 19 40.8 +0.5**
TORD Torodi Ar. Bea 47.17 259 P **P** **10 19 41.0 +0.6**
comp=Z,11nm,0.8s,baz=51,slow=9.3,SNR=72
TORD LR LR 10 41 21.8
comp=Z,88nm,18.7s,baz=70,slow=38
comp=Z,11nm,0.8s
KMI Kunming 47.18 83 ⇓P **P** **10 19 41.9 +1.3**
KMI pmax pmax
comp=Z,12nm,1.3s
PNCL Nicolau / Gran 47.33 295 *eP* **P** **10 19 42.8 +1.5**
SPITS Spitsbergen Ar 49.18 351 P **P** **10 19 53.0 -2.1**
comp=Z,1.0nm,0.4s,baz=141,slow=11,SNR=4.9
comp=Z,1.0nm,0.4s
BTO Baotou 49.23 61 *eP* **P** **10 19 56.8 +0.7**
BTO pP **sP** **10 20 01.3 +0.7**
BTO sP **pP** **10 20 03.8 +4.5**
BTO S **S** **10 26 59.5 -2.6**
BTO pmax pmax
comp=Z,47nm,0.9s
BTO pmax pmax
comp=Z,200nm,4.5s
BTO LR LR
comp=Z,300nm,18.1s
BTO LR LR
comp=Z,270nm,23.5s
BTO LR LR
comp=Z,380nm,26.1s
XAN Xi'an 49.71 70 ⇑P **P** **10 20 00.7 +0.9**
XAN pmax pmax
comp=Z,27nm,0.9s
LSZ Lusaka 50.50 207 LR LR 10 42 00.4
comp=Z,116nm,18.5s,baz=319,slow=37
BOD Bodaibo 50.83 39 *eP* **P** **10 20 08.2 +0.3**
BOD pmax pmax
comp=Z,17nm,1.6s
KOWA Kowa 51.34 264 P **P** **10 20 12.0 -0.2**
KOWA IAmb IAmb 10 20 14.3
comp=Z,12nm,1.1s
KOWA Kowa 51.34 264 LR LR 10 42 41.0
comp=Z,97nm,20.8s,baz=24,slow=37
LYN LuoYang 52.42 68 ⇑P **P** **10 20 21.6 +1.5**
LYN pmax pmax
comp=Z,26nm,0.4s
LYN pmax pmax
comp=Z,260nm,4.3s
XLT XiLinHaoTe 53.11 56 *eP* **P** **10 20 30.0 +4.8**
XLT pP sP 10 20 34.3 +4.6
XLT sP pP 10 20 38.0 +10
XLT pmax pmax
comp=Z,9.0nm,0.7s
XLT pmax pmax
comp=Z,73nm,3.6s
BJI Beijing 53.95 61 P **P** **10 20 32.6 +1.3**
BJI pP **pP** **10 20 35.2 +0.7**
BJI pmax pmax
comp=Z,4.0nm,0.8s
TIA Tai'an 55.64 65 P **P** **10 20 44.9 +1.3**
TIA pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 57.40 22⇓*eP* **P** **10 20 55.7 +0.1**
TIXI pmax pmax
comp=Z,11nm,2.5s
NJ2 Nanjing 58.27 69 *eP* **P** **10 21 03.0 +0.7**
NJ2 pP **pP** **10 21 06.1 +0.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,460nm,3.7s
TSUM Tsumeb 58.67 215 LR LR 10 46 49.6
comp=Z,86nm,18.3s,baz=334,slow=37
HEH HeiHe 59.43 47 *eP* **P** **10 21 10.5 +0.4**
HEH pmax pmax
comp=Z,13nm,1.0s
HEH pmax pmax
comp=Z,120nm,4.8s
MDJ Mudanjiang 62.36 53 P P 10 21 24.6 -5.5
MDJ pmax pmax
comp=Z,18nm,2.2s
MDJ pmax pmax
comp=Z,260nm,4.6s
KLR Kul'dur 62.41 47⇓*eP* **P** **10 21 30.0 -0.4**
KLR pmax pmax
comp=Z,6.0nm,1.7s
KLR Kul'dur 62.41 47 LR LR 10 48 34.6
comp=Z,51nm,19.8s,baz=282,slow=36
KSRS Korea Array 63.49 61 P **P** **10 21 36.1 -1.6**
comp=Z,6.7nm,0.9s,baz=285,slow=6.7,SNR=14
KSRS LR LR 10 52 51.3
comp=Z,66nm,19.3s,baz=295,slow=40
comp=Z,6.7nm,0.9s
BOSA Boshof 63.78 203 P **P** **10 21 37.0 -2.8**
BOSA Boshof 63.78 203 P **P** **10 21 37.0 -2.8**
comp=Z,4.0nm,0.8s,baz=66,slow=10.0,SNR=2.5
BOSA LR LR 10 50 35.3
comp=Z,121nm,18.9s,baz=13,slow=37
comp=Z,4.0nm,0.8s
USRK Ussuriysk Ar. 64.12 52 P **P** **10 21 39.6 -2.2**
comp=Z,5.5nm,1.0s,baz=287,slow=10,SNR=5.6
comp=Z,5.5nm,1.0s
KKM Kota Kinabalu 67.23 97 P **P** **10 22 02.9 +0.5**
JNU Nakatsue 67.34 64 LR LR 10 54 40.8
comp=Z,58nm,20.5s,baz=254,slow=39
SEY Seymchan 68.27 29⇓*eP* **P** **10 22 09.5 +1.4**
SEY pmax pmax
comp=Z,23nm,1.7s
SUR Sutherland 68.78 206 LR LR 10 53 33.7
comp=Z,147nm,19.5s,baz=20,slow=37
MA2 Magadan 69.06 32 LR LR 10 56 19.6
comp=Z,28nm,18.2s,baz=316,slow=39
ASAJ Asahikawa 71.21 49 LR LR 10 56 16.9
comp=Z,69nm,20.0s,baz=336,slow=38
MJAR Matsushiro Arr 71.43 58 LR LR 10 56 58.8
comp=Z,42nm,18.0s,baz=304,slow=38
PETK Petropavlovsk- 75.61 36 P **P** **10 22 51.0 -1.3**
comp=Z,8.5nm,1.1s,baz=219,slow=0.9,SNR=4.1
PETK LR LR 10 58 54.5
comp=Z,56nm,19.3s,baz=328,slow=38
comp=Z,8.5nm,1.1s
SCHQ Schefferville 78.25 328 P **P** **10 23 05.3 -1.9**
comp=Z,9.5nm,1.0s,baz=93,slow=4.3,SNR=3.8
comp=Z,9.5nm,1.0s
JCJ Chichijima 78.77 65 LR LR 11 02 31.4
comp=Z,60nm,21.1s,baz=109,slow=39
BMAR Burnt Mountain 81.06 5 P **P** **10 23 22.9 +0.6**
IMAR Indian Mountai 81.45 9 P **P** **10 23 23.3 -1.0**
H21K Melozitna Rive 81.89 9 P **P** **10 23 27.7 +1.0**
H21K IAmb IAmb 10 23 29.4
comp=Z,16nm,1.4s
ILAR Eielson Array 83.45 7 P **P** **10 23 32.4 -2.4**
comp=Z,1.2nm,1.0s,baz=344,slow=4.9,SNR=6.9
ILAR LR LR 11 07 26.2
comp=Z,28nm,18.3s,baz=260,slow=40
comp=Z,1.2nm,1.0s
BPAW Bear Paw Mtn. 83.62 9 P **P** **10 23 36.2 +0.5**
YKA Yellowknife Ar 85.66 353 P **P** **10 23 45.9 -0.1**
comp=Z,2.6nm,0.9s,baz=9.7,slow=5.0,SNR=3.5
comp=Z,2.6nm,0.9s
HYT Haines Junctio 88.08 3 P **P** **10 23 58.6 +0.6**
DLBC Dease Lake 90.64 360 LR LR 11 11 09.8
comp=Z,21nm,20.3s,baz=149,slow=40
WRA Warramunga Arr 96.11 109 P **P** **10 24 35.0 -0.6**
comp=Z,0.6nm,0.9s,baz=312,slow=4.7,SNR=4.5
comp=Z,0.6nm,0.9s
QSPA South Pole Qui 121.11 180 PKP **PKPdf** **10 29 59.6 +0.1**
comp=Z,4.9nm,1.1s,baz=289,slow=2.5,SNR=6.8

---

*TRN **05** 10:11:41.8, 10.70N×62.45W, h45km, MD3.1*
*FUNV **05** 10:11:41.7, 10.71N×62.40W, h21km, MW3.4*
ISC 05 10:11:41.6±1.4, 10.70N±0.07×62.46W±0.05, h59km±21km, n14, σ1.9 38/23, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.77**	**269**	*eP*	**Pn**	**10 11 57.3**	**+0.7**
CRUV				*eS*	**Sn**	**10 12 06.3**	**-1.3**
TRN	**Trinidad (W)**	**1.03**	**92**	*eP*	**Pn**	**10 12 00.5**	**+0.5**
TRN				*eS*	**Sn**	**10 12 13.1**	**-0.6**
GRGR	**Grenville**	**1.63**	**29**	*eP*	**Pn**	**10 12 08.1**	**0.0**
GRGR				*eS*	**Sn**	**10 12 27.7**	**-0.3**
GRW	**Mount Saint Ca**	**1.65**	**28**	*eP*	**Pn**	**10 12 09.4**	**+1.0**
GRW				*eS*	**Sn**	**10 12 28.5**	**-0.1**
GRHS	**Sauteurs**	**1.72**	**28**	*eP*	**Pn**	**10 12 09.7**	**+0.5**
GRHS				*eS*	**Sn**	**10 12 29.5**	**-0.5**
GCMP	**Grenada, Carri**	**2.05**	**29**	*eP*	**Pn**	**10 12 13.6**	**0.0**
GCMP				*eS*	**Sn**	**10 12 37.0**	**-1.0**
PCRV	**Puerto La Cruz**	**2.21**	**257**	*eP*	**Pn**	**10 12 17.7**	**+1.8**
PCRV				*eS*	**Sn**	**10 12 43.1**	**+1.0**
SLCP	**Castries, St.**	**3.59**	**23**	*eS*	**Sn**	**10 13 15.3**	**-0.7**
SLBI	**Saint Lucia, B**	**3.61**	**23**	*eP*	**Pn**	**10 12 36.2**	**+1.2**
SLBI				*eS*	**Sn**	**10 13 15.5**	**-0.9**
CACV	**CAICARA DEL OR**	**5.09**	**233**	*eP*	Pn	10 12 50.1	-5.2
CACV				*eS*	Sn	10 13 42.5	-10
BENV	**Beln**	**5.11**	**262**	*eP*	**Pn**	**10 12 57.2**	**+1.5**
BENV				*eS*	**Sn**	**10 13 51.4**	**-2.1**
BAUV	**El Baul**	**5.77**	**253**	*eP*	**Pn**	**10 13 05.2**	**+0.5**
BAUV				*eS*	**Sn**	**10 14 06.9**	**-2.8**
BAUV	**El Baul**	**5.77**	**253**	*eP*	**Pn**	**10 13 06.3**	**+1.6**
BAUV	**El Baul**	**5.77**	**253**	*eS*	**Sn**	**10 14 07.1**	**-2.5**

TRN 05 10:15:12.9, 18.73N×63.36W, h67km, MD3.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDO	**Antigua, Disas**	**2.17**	**138**	*eP*	Pn	10 15 49.1	+2.2
ANDO				*eS*	Sn	10 16 14.2	+1.4
MBFL	**Flemmings, Mon**	**2.25**	**151**	*eP*	Pn	10 15 49.3	+1.3
MBFL				*eS*	Sn	10 16 15.4	+0.6
ANBD	**Bethesda, Anti**	**2.26**	**137**	*eP*	Pn	10 15 50.2	+2.1
ANBD				*eS*	Sn	10 16 16.2	+1.3
MLYT	**Lee's Yard**	**2.29**	**151**	*eP*	Pn	10 15 50.8	+2.4
MLYT				*eS*	Sn	10 16 17.8	+2.2
MAGL	**Barre de l'ile**	**3.41**	**144**	*eP*	Pn	10 16 04.5	+0.8
MAGL				*eS*	Sn	10 16 44.3	+1.4

---

*IDC **05** 10:25:39.7±3.9, 26.51N×95.61E, h89km±40km, mb3.1/5, mbtmp3.5/6, Error ellipse: s-maj=64.8km s-min=17.2km az=67.0*
*NDI **05** 10:25:39.3±19.0, 26.71N×95.55E, h13km±104km, ML4.0*
ISC 05 10:25:38.4±1.0, 26.71N±0.05×95.56E±0.06, h75km±10km, n18, σ1.9 80/27, mb3.4/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**0.68**	**22**	*eP*	**Pn**	**10 25 52.4**	**-1.1**
LKP				*eS*	**Sn**	**10 26 04.1**	**-0.5**
LKP				IAML		10 26 09.3	
	comp=N,9μm,0.4s						
DIBR	**DIBRUGARH**	**0.95**	**323**	*eP*	**Pn**	**10 25 57.4**	**+0.7**
DIBR				*eS*	**Sn**	**10 26 10.5**	**+0.3**
DIBR				IAML		10 26 15.5	
	comp=E,4μm,0.3s						
MOKO	**MOKOCHONG**	**1.01**	**248**	*eP*	**Pn**	**10 25 56.2**	**-1.3**
MOKO				*eS*	**Sn**	**10 26 10.6**	**-1.1**
MOKO				IAML		10 26 13.8	
	comp=E,5μm,0.2s						
MOKO				IAML		10 26 14.6	
	comp=N,5μm,0.3s						
JORH	**JORHAT**	**1.17**	**272**	*eP*	**Pn**	**10 25 59.8**	**+0.5**
JORH				*eS*	**Sn**	**10 26 17.1**	**+2.2**
JORH				IAML		10 26 18.1	
	comp=N,17μm,0.2s						
KOHI	**KOHIMA**	**1.63**	**233**	*eP*	**Pn**	**10 26 05.8**	**+0.3**
KOHI				*eS*	**Sn**	**10 26 27.9**	**+2.0**
KOHI				IAML		10 26 31.5	
	comp=N,2μm,0.4s						
KOHI				IAML		10 26 33.6	
	comp=E,1μm,0.3s						
ITAN	**ITANAGAR**	**1.70**	**285**	*eP*	**Pn**	**10 26 05.8**	**-0.3**
ITAN				*eS*	**Sn**	**10 26 26.6**	**-0.6**
ITAN				IAML		10 26 34.0	
	comp=N,1μm,0.1s						
ZIRO	**ZIRO**	**1.73**	**299**	*eP*	**Pn**	**10 26 05.8**	**-1.0**
ZIRO				*eS*	**Sn**	**10 26 26.9**	**-1.3**
ZIRO				IAML		10 26 28.9	
	comp=E,3μm,0.2s						
ZIRO				IAML		10 26 29.1	
	comp=N,4μm,0.3s						
IMP	**Imphal**	**2.37**	**218**	*eP*	**Pn**	**10 26 17.0**	**+1.8**
IMP				*eS*	**Sn**	**10 26 46.8**	**+3.4**
IMP				IAML		10 26 52.5	
	comp=E,554nm,0.6s						
TEZP	**TEZPUR**	**2.47**	**269**	*eP*	**Pn**	**10 26 15.4**	**-1.2**
TEZP				IAML		10 26 54.9	
	comp=E,2μm,0.2s						
SHL	**Shillong**	**3.49**	**252**	*eS*	**Sn**	**10 27 07.2**	**-3.7**
AZL	**Aizawl**	**3.93**	**222**	*eP*	**Pn**	**10 26 35.0**	**-1.6**
AZL				*eS*	**Sn**	**10 27 19.0**	**-2.6**
AZL				IAML		10 27 31.8	
	comp=E,211nm,0.4s						
SAIH	**SAIHA**	**4.81**	**210**	*eP*	**Pn**	**10 26 49.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**8.78**	**158**	P	**Pn**	**10 27 41.4**	**-1.4**
	comp=E,4.5nm,0.8s,baz=332,slow=13,SNR=30						
MKAR	**Makanchi Array**	**22.63**	**336**	P	**P**	**10 30 34.5**	**+1.3**
	comp=E,0.5nm,0.5s,baz=140,slow=10.0,SNR=4.7						

comp=E,0.5nm,0.5s
SONM Songino Array 22.74 19 P **P 10 30 35.7 +1.2**
comp=E,0.7nm,0.4s,baz=197,slow=9.4,SNR=3.9
comp=E,0.7nm,0.4s
KURBB Kurchatov Arra 27.20 336 P **P 10 31 17.9 +2.9**
comp=E,0.2nm,0.4s,baz=146,slow=10,SNR=2.1
comp=E,0.2nm,0.4s
WRA Warramunga Arr 59.70 137 P **P 10 35 33.9 -1.6**
comp=E,0.4nm,0.6s,baz=322,slow=7.6,SNR=23
comp=E,0.4nm,0.6s
ASAR Alice Springs 62.30 140 P **P 10 35 51.8 -1.3**
comp=E,0.2nm,0.5s,baz=321,slow=6.4,SNR=8.3
comp=E,0.2nm,0.5s

---

*MOS **05** 11:17:27.5±1.0, 7°.36N×126°.51E, h21km, mb5.1/39, Error ellipse: s-maj=9.7km s-min=5.1km az=114.7*
*NEIC **05** 11:17:28.9, 7°.36N×126°.46E, h26km*
*NEIC **05** 11:17:28.4±2.6, 7°.30N±0°.06×126°.51E±0°.05, h10km, mb5.0/105, Mww4.8/10, Error ellipse: s-maj=10.2km s-min=8.8km az=352.0*
*NEIC **05** 11:17:28.9, 7°.16N×126°.56E, h26km, Moment Tensor Solution. Duration: 1s2 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.50; $M_{\theta\theta}$1.58; $M_{\phi\phi}$-0.08; $M_{r\theta}$-0.35; $M_{\theta\phi}$-0.43; $M_{\phi r}$0.39; Fault plane solution: $M_0$1.68000×10^{16} NP1: ϕ_s271.95000°, δ38.55000°, λ-108.33000°. NP2: ϕ_s114.90000°, δ53.73000°, λ-75.93000°. Principal axes: T 1.7438, Plg8.0000°, Azm195.0000°; N -0.1229, Plg11.0000°, Azm286.0000°; P -1.6209, Plg76.0000°, Azm71.0000°;*
*IDC **05** 11:17:29.2±1.8, 7°.29N×126°.51E, h22km±11km, mb4.5/28, mbtmp4.7/31, ML5.2/3, MS3.6/34 Error ellipse: s-maj=12.2km s-min=10.3km az=78.0*
*GCMT **05** 11:17:30.4±0.3, 7°.20N±0°.02×126°.32E±0°.03, h24km±1km, MW4.9/65, Moment Tensor Solution. s25,c29; s65,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.67±.19; $M_{\theta\theta}$2.44±.12; $M_{\phi\phi}$-0.76±.12; $M_{r\theta}$-0.21±.14; $M_{\theta\phi}$-0.11±.09; $M_{\phi r}$2.33±.26; Best double couple: $M_0$3.03500×10^{16} NP1:ϕ_s127.00000°, δ62.00000°, λ-45.00000°. NP2: ϕ_s242.00000°, δ51.00000°, λ-143.00000°. Principal axes: T 2.4770, Plg7.0000°, Azm187.0000°; N 1.1190, Plg39.0000°, Azm282.0000°; P -3.5940, Plg51.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **05** 11:17:33.4±0.4, 7°N±3°×12°7E±°, h50km±3km, M5.0/61, mb5.2/61, mB5.5/31, MLv5.5/6, Mw(mB)4.9/31, MwMwp4.5/4, Mwp4.9/4*
ISC 05 11:17:28.8±0.6, 7°.31N±0°.04×126°.54E±0°.05, h17km±3km, n492, σ1s20/465, mb5.0/129, MS3.9/47, 21C-11D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.99**	**256**	⇓*iP*		**Pb**		**11 17 47.0**	**-0.5**
DAV	**Davao City (W)**	**0.99**	**256**			**Pb**		**11 17 46.8**	**-0.7**
DAV	**Davao City (W)**	**0.99**	**256**	Pg		**Pb**		**11 17 46.3**	**-1.2**
	407nm,0.3s,baz=73,slow=1.2,SNR=73								
DAV				Lg		Lg		11 18 00.1	
	2μm,0.3s,baz=62,slow=22,SNR=12								
TNTI	**Ternate**	**6.55**	**173**	Pn		**Pn**		**11 19 06.8**	**+2.3**
TNTI	**Ternate**	**6.55**	**173**	P		**Pn**		**11 19 09.1**	**+4.6**
TNTI	**Ternate**	**6.55**	**173**	P		**Pn**		**11 19 07.7**	**+3.2**
	514nm,0.6s,13μm2.6nm								
GTOI	**Gorontalo**	**7.51**	**208**	P		**Pn**		**11 19 18.2**	**+0.5**
	181nm,1.0s,2μm0.7nm								
LBMI	**Labuha**	**7.95**	**173**	P		**Pn**		**11 19 26.3**	**+2.5**
	266nm,0.8s,3μm2.1nm								
MRSI	**Marisa**	**8.19**	**214**	P		**Pn**		**11 19 27.7**	**+0.6**
	187nm,0.5s,2μm2μm								
MYLDM	**Lahad Datu**	**8.27**	**256**	Pn		**Pn**		**11 19 29.1**	**+1.0**
TOLI2	**Tolitoli**	**8.42**	**223**	Pn		**Pn**		**11 19 27.3**	**-2.9**
TGY	**Tagaytay City**	**8.71**	**321**	Pn		Pn		11 19 40.6	+6.4
	baz=322,slow=8.9								
TGY				LR		LR		11 23 21.7	
	comp=Z,880nm,18.7s,baz=171,slow=40								
LUWI	**Luwuk**	**9.11**	**205**	Pn		**Pn**		**11 19 41.8**	**+2.2**
LUWI	**Luwuk**	**9.11**	**205**	P		**Pn**		**11 19 41.6**	**+1.9**
LUWI	**Luwuk**	**9.11**	**205**	P		**Pn**		**11 19 42.9**	**+3.2**
	385nm,1.1s,7μm								
SANI	**Sanana**	**9.31**	**183**	P		**Pn**		**11 19 42.6**	**+0.1**
	222nm,0.9s,2μm								
SWI	**Sorong**	**9.38**	**150**	P		**Pn**		**11 19 44.4**	**+1.0**
	111nm,0.4s,2μm								
SIJI	**Sorong**	**9.39**	**150**	Pn		**Pn**		**11 19 43.7**	**+0.2**
	36nm,0.3s,baz=322,slow=14,SNR=62								
SIJI				Sn		**Sn**		**11 21 24.8**	**-4.1**
	6.5nm,0.3s,baz=276,slow=23,SNR=12								
SIJI				LR		LR		11 24 32.5	
	comp=Z,127nm,18.4s,baz=342,slow=45								
	86nm,0.4s								
MPSI	**Mapaga**	**9.59**	**224**	P		**Pn**		**11 19 48.4**	**+2.2**
	28nm,0.7s								
NLAI	**Namlea**	**10.49**	**177**	P		**Pn**		**11 19 58.7**	**+0.1**
	72nm,0.6s								
RKPI	**Ransiki, Papua**	**11.61**	**139**	P		**Pn**		**11 20 16.3**	**+2.4**
	96nm,1.5s,5μm								
FAKI	**Fak Fak**	**11.65**	**151**	Pn		**Pn**		**11 20 16.4**	**+2.0**
FAKI	**Fak Fak**	**11.65**	**151**	P		**Pn**		**11 20 16.9**	**+2.4**
FAKI	**Fak Fak**	**11.65**	**151**	P		**Pn**		**11 20 16.4**	**+2.0**
	54nm,0.8s,587nm								
TTSI	**Tana Toraja**	**12.28**	**213**	P		**Pn**		**11 20 24.7**	**+1.6**
	116nm,1.1s,1μm								
KAPI	**Kappang**	**13.99**	**209**	Pn		**Pn**		**11 20 47.1**	**+0.6**
KAPI	**Kappang**	**13.99**	**209**	P		**Pn**		**11 20 50.4**	**+3.9**
KAPI	**Kappang**	**13.99**	**209**	*ce*P		**Pn**		**11 20 49.5**	**+3.0**
KAPI				pmax		pmax			
	comp=Z,9.0nm,0.5s								
KAPI	**Kappang**	**13.99**	**209**	Pn		**Pn**		**11 20 49.2**	**+2.7**
	comp=Z,2.4nm,0.3s,baz=38,slow=8.6,SNR=18								
BKSI	**Bulukumba**	**14.09**	**207**	P		**Pn**		**11 20 49.7**	**+1.9**
	comp=Z,66nm,1.2s,comp=Z,678nm								
SBUM	**Sibu**	**15.06**	**252**	P		**P**		**11 21 04.3**	**-2.0**
SMPI	**Sarmi**	**15.26**	**127**	P		**P**		**11 21 07.0**	**-1.5**
	comp=Z,342nm,1.3s,comp=Z,3μm								
MMRI	**Maumere**	**16.41**	**195**	Pn		**Pn**		**11 21 18.6**	**0.0**
MMRI				IAmb		IAmb		11 21 26.2	
	comp=Z,116nm,1.1s								
MMRI	**Maumere**	**16.41**	**195**	P		**P**		**11 21 20.6**	**-0.7**
MMRI	**Maumere**	**16.41**	**195**	P		**Pn**		**11 21 20.1**	**+1.5**
	comp=Z,137nm,0.8s								
GENI	**Genyem**	**16.78**	**125**	P		**P**		**11 21 26.3**	**+0.9**
GENI	**Genyem**	**16.78**	**125**	P		**P**		**11 21 24.6**	**-0.8**
	comp=Z,232nm,0.9s,comp=Z,3μm								
TPUB	**Ta-pu**	**16.89**	**341**	Pn		**Pn**		**11 21 21.9**	**-2.7**
SOEI	**Soe**	**17.10**	**188**	P		**P**		**11 21 29.0**	**-0.1**
SOEI	**Soe**	**17.10**	**188**	P		**P**		**11 21 30.3**	**+1.2**
SOEI	**Soe**	**17.10**	**188**	P		**P**		**11 21 29.1**	**0.0**
	comp=Z,148nm,0.9s,comp=Z,2μm								
JAY	**Jayapura**	**17.17**	**124**	P		**P**		**11 21 30.3**	**+0.5**
	comp=Z,72nm,1.1s,comp=Z,652nm								
JAY	**Jayapura**	**17.17**	**124**	P		**P**		**11 21 32.0**	**+2.2**
	comp=Z,90nm,0.9s,baz=244,slow=5.2,SNR=19								
KSM	**Kuching**	**17.19**	**251**	P		**P**		**11 21 31.9**	**+2.0**
SSLB	**Suanglung**	**17.24**	**342**			**Pn**		**11 21 29.5**	**+0.4**
BATI	**Baumata**	**17.64**	**189**	P		**P**		**11 21 35.2**	**+0.3**
	comp=Z,336nm,0.9s,comp=Z,3μm								
BATI	**Baumata**	**17.64**	**189**	P		**Pn**		**11 21 33.7**	**-0.3**
	comp=Z,29nm,0.3s,baz=36,slow=1.2,SNR=10								
BATI				LR		LR		11 28 33.2	
	comp=Z,403nm,21.1s,baz=12,slow=38								
	comp=Z,82nm,0.6s								
PLAI	**Plampang**	**18.26**	**209**	P		**P**		**11 21 42.5**	**+0.8**
PLAI	**Plampang**	**18.26**	**209**	P		**P**		**11 21 42.3**	**+0.6**
	comp=Z,151nm,1.0s,comp=Z,1μm								
DLV	**T Lat**	**18.39**	**286**	P		**Pn**		**11 21 46.6**	**+3.2**
TWSI	**Taliwang, Sumb**	**18.62**	**211**	P		**Pn**		**11 21 46.7**	**+0.6**
	comp=Z,49nm,0.9s,comp=Z,908nm								
KMMI	**Kalianget**	**19.00**	**222**	P		**Pn**		**11 21 51.1**	**+0.5**
	comp=Z,88nm,1.0s								
SRBI	**Singaraja**	**19.01**	**217**	P		**Pn**		**11 21 51.4**	**+0.6**
	comp=Z,66nm,0.9s								
GUMO	**Guam**	**19.06**	**69**	P		**Pn**		**11 21 52.0**	**+0.6**
GUMO	**Guam**	**19.06**	**69**	P		**Pn**		**11 21 52.0**	**+0.6**
GUMO				pmax		pmax			
	comp=Z,45nm,0.7s								
GUMO	**Guam**	**19.06**	**69**	P		**Pn**		**11 21 54.4**	**+3.0**
	comp=Z,38nm,0.8s,baz=212,slow=20,SNR=1.9								
GUMO				LR		LR		11 30 24.2	
	comp=Z,75nm,18.8s,baz=245,slow=41								
JOW	**Kunigami**	**19.49**	**5**	P		**P**		**11 21 55.1**	**0.0**
JOW				IAmb		IAmb		11 22 06.8	
	comp=Z,75nm,0.8s								
JOW	**Kunigami**	**19.49**	**5**	P		**Pn**		**11 21 57.3**	**+0.9**
JOW	**Kunigami**	**19.49**	**5**	P		**Pn**		**11 21 56.1**	**-0.4**
	comp=Z,4.7nm,0.3s,baz=192,slow=11,SNR=7.9								
JOW				LR		LR		11 30 23.2	
	comp=Z,50nm,18.7s,baz=125,slow=40								
	comp=Z,54nm,0.7s								
JAGI	**Jajag, Banyuwa**	**19.96**	**218**			**P**		**11 22 00.8**	**+0.4**
JAGI	**Jajag, Banyuwa**	**19.96**	**218**	P		**Pn**		**11 22 02.3**	**+0.2**
	comp=Z,46nm,0.5s								
QIZ	**Qiongzhong**	**19.98**	**307**	P		**P**		**11 22 00.6**	**0.0**
QIZ				S		**S**		**11 25 44.2**	**-0.7**
QIZ				pmax		pmax			
	comp=Z,38nm,0.9s								
QIZ				LR		LR			
	comp=Z,500nm,14.3s								
QIZ				LR		LR			
	comp=Z,420nm,15.1s								
QIZ				LR		LR			
	comp=Z,710nm,17.7s								
QIZ	**Qiongzhong**	**19.98**	**307**	P		**Pn**		**11 22 03.9**	**+1.5**
GMJI	**Gumukmas**	**20.25**	**220**	P		**P**		**11 22 04.6**	**+1.0**
	comp=Z,56nm,1.4s								
MTN	**Manton Dam**	**20.53**	**167**	P		**P**		**11 22 07.7**	**+1.1**
MTN	**Manton Dam**	**20.53**	**167**	P		**P**		**11 22 07.8**	**+1.1**
UWJI	**Ujung Watu**	**20.69**	**229**	P		Pn		11 22 10.5	-0.2
	comp=Z,141nm,0.9s,comp=Z,9μm								
KDU	**Kakadu**	**20.72**	**163**	P		**P**		**11 22 09.1**	**+0.4**
WOJI	**Wonogiri, Jawa**	**21.66**	**226**	P		**P**		**11 22 20.4**	**+1.6**
	comp=Z,122nm,1.4s								
UGM	**Wanagama**	**22.00**	**227**	P		**P**		**11 22 22.1**	**-0.3**
KPJI	**Karang Pucung**	**22.80**	**231**	P		**P**		**11 22 32.5**	**+1.4**
	comp=Z,88nm,1.1s,comp=Z,1μm								
KNRA	**Kununurra**	**22.94**	**175**	P		**P**		**11 22 33.2**	**+0.7**
KNRA	**Kununurra**	**22.94**	**175**	P		**P**		**11 22 32.9**	**+0.4**
BBJI	**Bungbulang**	**23.88**	**232**	P		**P**		**11 22 43.5**	**+1.6**
JCJ	**Chichijima**	**24.65**	**35**	P		**P**		**11 22 48.7**	**-0.1**
JCJ	**Chichijima**	**24.65**	**35**	P		**P**		**11 22 45.3**	**-3.6**
	comp=Z,115nm,0.5s,baz=263,slow=9.6,SNR=6.7								
LWLI	**Liwa**	**25.56**	**242**	P		**P**		**11 22 58.4**	**+1.1**
	comp=Z,266nm,1.0s								
NJ2	**Nanjing**	**25.64**	**345**	*eP*		**P**		**11 22 58.7**	**+1.0**
NJ2				pP		**pP**		**11 23 02.1**	**-0.7**
NJ2				pmax		pmax			
	comp=Z,13nm,1.0s								
NJ2				pmax		pmax			
	comp=Z,280nm,4.0s								
NAYO	**Nakonayok**	**25.72**	**288**	P		**P**		**11 23 00.3**	**+1.7**
KULM	**Kulim**	**25.81**	**267**	P		**P**		**11 22 58.6**	**-1.0**
KULM				IAmb		IAmb		11 23 06.5	
	comp=Z,48nm,1.0s								
JNU	**Nakatsue**	**26.00**	**8**	IAmb		IAmb		11 23 09.3	
	comp=Z,35nm,1.0s								
JNU	**Nakatsue**	**26.00**	**8**	P		**P**		**11 23 02.5**	**+1.5**
SDSI	**Sungai Dareh**	**26.36**	**253**	P		**P**		**11 23 05.1**	**+0.7**
	comp=Z,16nm,0.6s,comp=Z,2μm								
PMG	**Port Moresby**	**26.41**	**129**	P		**P**		**11 23 03.6**	**-1.3**
PMG	**Port Moresby**	**26.41**	**129**	P		**P**		**11 23 05.1**	**+0.2**
PMG	**Port Moresby**	**26.41**	**129**	P		**P**		**11 23 05.3**	**+0.4**
PMG	**Port Moresby**	**26.41**	**129**	*d*iP		**P**		**11 23 04.8**	**-0.1**
PMG				pmax		pmax			
	comp=Z,66nm,0.8s								
PMG	**Port Moresby**	**26.41**	**129**	LR		LR		11 34 31.6	
	comp=Z,118nm,18.9s,baz=278,slow=39								
COEN	**Coen**	**26.81**	**142**	P		**P**		**11 23 08.2**	**-0.3**
COEN				IAmb		IAmb		11 23 09.2	
	comp=Z,23nm,0.8s								
COEN	**Coen**	**26.81**	**142**	P		**P**		**11 23 08.5**	**0.0**
GYA	**Guiyang**	**26.84**	**318**	⇓P		**P**		**11 23 11.3**	**+2.5**
GYA				S		**S**		**11 27 45.8**	**+1.0**
GYA				pmax		pmax			
	comp=Z,15nm,0.9s								
GYA				pmax		pmax			
	comp=Z,120nm,3.5s								
GYA				LR		LR			
	comp=Z,320nm,14.5s								
GYA				LR		LR			
	comp=Z,330nm,21.2s								
GYA				LR		LR			
	comp=Z,330nm,16.8s								
JMN	**Monobe**	**27.15**	**13**	P		**P**		**11 23 12.3**	**+0.9**
JMN				IAmb		IAmb		11 23 25.1	
	comp=Z,53nm,1.0s								
PSI	**Prapat**	**27.87**	**262**	P		**P**		**11 23 19.4**	**+1.2**
PSI	**Prapat**	**27.87**	**262**	P		**P**		**11 23 18.1**	**-0.1**
PSI				pmax		pmax			
	comp=Z,17nm,1.0s								
RPSI	**Rantau Prapat**	**27.89**	**262**	P		**P**		**11 23 18.1**	**-0.1**
WB0	**Warramunga Arr**	**27.99**	**164**	IAmb		IAmb		11 23 39.1	
	comp=Z,30nm,1.1s								
WRAB	**Tennant Creek**	**28.14**	**164**	P		**P**		**11 23 19.3**	**-1.0**
WRAB				IAmb		IAmb		11 23 50.3	
	comp=Z,20nm,0.8s								
WRAB	**Tennant Creek**	**28.14**	**164**	P		**P**		**11 23 20.0**	**-0.4**
WRAB	**Tennant Creek**	**28.14**	**164**	*ce*P		**P**		**11 23 19.7**	**-0.7**
WRAB				pmax		pmax			
	comp=Z,25nm,1.3s								
WRA	**Warramunga Arr**	**28.15**	**164**	P		**P**		**11 23 20.1**	**-0.3**
WRA	**Warramunga Arr**	**28.15**	**164**	*i*P		**P**		**11 23 19.7**	**-0.7**
WRA				pmax		pmax			
	comp=Z,8.0nm,0.5s								
WRA	**Warramunga Arr**	**28.15**	**164**	P		**P**		**11 23 19.5**	**-0.9**
	comp=Z,2.4nm,0.4s,baz=344,slow=10,SNR=46								
WRA				ScP		**ScP**		**11 30 13.5**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=339,slow=3.2,SNR=5.2								
	comp=Z,2.4nm,0.4s								
WB2	**Warramunga Arr**	**28.15**	**164**	P		**P**		**11 23 19.7**	**-0.8**
WB2				IAmb		IAmb		11 23 58.1	
	comp=Z,18nm,0.8s								
CRAI	**Chiangrai**	**28.42**	**300**	P		**P**		**11 23 24.3**	**+1.3**
CRAI				IAmb		IAmb		11 23 34.2	
	comp=Z,22nm,0.9s								
KMI	**Kunming**	**28.83**	**311**	⇓P		**P**		**11 23 29.1**	**+2.4**
KMI				sP		pP		11 23 33.1	+1.1
KMI				S		**S**		**11 28 18.0**	**+1.7**
KMI				pmax		pmax			
	comp=Z,27nm,0.9s								
KMI				pmax		pmax			
	comp=Z,170nm,5.2s								
KMI				LR		LR			
	comp=Z,220nm,18.6s								
KMI				LR		LR			
	comp=Z,280nm,20.5s								
KMI				LR		LR			
	comp=Z,320nm,20.4s								
KCSI	**Kotacane, Aceh**	**28.88**	**264**	P		**P**		**11 23 26.3**	**-0.8**
	comp=Z,42nm,1.1s,comp=Z,939nm								
CMAR	**Chiang Mai Arr**	**29.05**	**295**	P		**P**		**11 23 30.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**29.05**	**295**	*i*P		**P**		**11 23 30.5**	**+2.0**
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**29.05**	**295**	P		**P**		**11 23 29.0**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=93,slow=7.5,SNR=15								
CMAR				PcP		**PcP**		**11 26 37.6**	**+0.8**
	comp=Z,4.8nm,0.8s,baz=96,slow=1.0,SNR=19								
CMAR				ScP		**ScP**		**11 30 16.9**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=143,slow=1.1,SNR=6.6								
CMAR				LR		LR		11 35 42.3	
	comp=Z,314nm,18.8s,baz=95,slow=38								
	comp=Z,2.0nm,0.6s								
MBWA	**Marble Bar**	**29.07**	**193**	P		**P**		**11 23 27.4**	**-1.2**
MBWA				IAmb		IAmb		11 23 33.7	
	comp=Z,21nm,0.8s								
MBWA	**Marble Bar**	**29.07**	**193**	P		**P**		**11 23 27.7**	**-0.9**
CHTO	**Chiang Mai**	**29.16**	**296**	P		**P**		**11 23 30.0**	**+0.5**
CHTO	**Chiang Mai**	**29.16**	**296**	P		**P**		**11 23 30.0**	**+0.5**
PSA00	**Pilbara Seismi**	**29.45**	**193**	P		**P**		**11 23 30.5**	**-1.5**
PSA00				IAmb		IAmb		11 23 37.1	
	comp=Z,22nm,0.9s								
PSA00	**Pilbara Seismi**	**29.45**	**193**	IAmb		IAmb		11 23 37.2	
	comp=Z,42nm,0.8s								
PSA00	**Pilbara Seismi**	**29.45**	**193**	P		**P**		**11 23 31.4**	**-0.5**
GSI	**Gunungsitoli**	**29.48**	**260**	P		**P**		**11 23 31.4**	**-1.0**
GSI	**Gunungsitoli**	**29.48**	**260**	P		**P**		**11 23 32.7**	**+0.3**
GSI	**Gunungsitoli**	**29.48**	**260**	P		**P**		**11 23 32.1**	**-0.3**
	comp=Z,61nm,0.8s								
INU	**Inuyama**	**29.52**	**18**	P		**P**		**11 23 31.9**	**-0.6**
INU				IAmb		IAmb		11 23 41.8	
	comp=Z,25nm,0.8s								
INU	**Inuyama**	**29.52**	**18**	P		**P**		**11 23 32.3**	**-0.2**
KSRS	**Korea Array**	**30.03**	**2**	P		**P**		**11 23 36.6**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=170,slow=11,SNR=7.3								
KSRS				ScP		**ScP**		**11 30 19.2**	**-1.4**
	comp=Z,2.0nm,0.9s,baz=179,slow=4.6,SNR=5.8								
KSRS				LR		LR		11 38 31.0	
	comp=Z,51nm,18.5s,baz=180,slow=42								
	comp=Z,2.3nm,0.9s								
PZH	**PanZhiHua**	**30.34**	**312**	P		**P**		**11 23 41.7**	**+1.7**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,100nm,5.5s								
QIS	**Mount Isa**	**30.52**	**155**	P		**P**		**11 23 41.1**	**-0.4**
MTSU	**Mount Surprise**	**30.77**	**145**	P		**P**		**11 23 44.4**	**+0.6**
MAJO	**Matsushiro**	**30.99**	**18**	P		**P**		**11 23 44.4**	**-1.1**
MAJO				IAmb		IAmb		11 23 54.1	
	comp=Z,14nm,0.8s								
MAJO	**Matsushiro**	**30.99**	**18**	⇑*eP*		**P**		**11 23 44.6**	**-0.9**
MAJO				pmax		pmax			
	comp=Z,8.0nm,0.8s								
MJAR	**Matsushiro Arr**	**30.99**	**18**	P		**P**		**11 23 44.3**	**-1.2**
	comp=Z,7.9nm,0.7s,baz=195,slow=9.3,SNR=18								
MJAR				LR		LR		11 35 38.4	
	comp=Z,123nm,20.1s,baz=214,slow=35								
	comp=Z,7.9nm,0.7s								
MJB9	**Matsu-Tunnel**	**30.99**	**18**	IAmb		IAmb		11 23 55.1	
	comp=Z,14nm,0.8s								
XAN	**Xi'an**	**31.19**	**331**	⇑P		**P**		**11 23 46.5**	**-0.8**
XAN				pP		pP		11 23 50.9	-1.5
XAN				sP		sP		11 23 53.6	-0.9
XAN				pmax		pmax			
	comp=Z,11nm,1.6s								
XAN				LR		LR			
	comp=Z,370nm,23.8s								
XAN				LR		LR			
	comp=Z,300nm,19.2s								
XAN				LR		LR			
	comp=Z,390nm,18.9s								
AS31	**Alice Springs**	**31.61**	**167**	P		**P**		**11 23 51.3**	**+0.1**
ASAR	**Alice Springs**	**31.61**	**167**	P		**P**		**11 23 51.3**	**+0.2**
ASAR	**Alice Springs**	**31.61**	**167**	P		**P**		**11 23 51.3**	**+0.2**
ASAR	**Alice Springs**	**31.61**	**167**	P		**P**		**11 23 50.6**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=352,slow=7.2,SNR=39								
ASAR				PcP		**PcP**		**11 26 43.0**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=348,slow=2.4,SNR=8.1								
ASAR				LR		LR		11 39 00.9	
	comp=Z,126nm,18.1s,baz=32,slow=41								
	comp=Z,4.1nm,0.6s								
CD2	**Chengdu**	**31.72**	**321**	P		**P**		**11 23 53.9**	**+1.9**
CD2				S		**S**		**11 29 04.5**	**+3.3**
CD2				pmax		pmax			
	comp=Z,20nm,0.7s								
CD2				pmax		pmax			
	comp=Z,100nm,4.1s								
CD2				LR		LR			
	comp=Z,350nm,17.3s								
HNS	**HongShan**	**31.83**	**342**	⇑P		**P**		**11 23 57.2**	**+4.4**
HNS				pmax		pmax			
	comp=Z,8.0nm,0.8s								
HNS				LR		LR			
	comp=Z,270nm,15.1s								
HNS				LR		LR			
	comp=Z,280nm,19.8s								
TNCH	**TengChong**	**32.05**	**307**	*eP*		**P**		**11 23 55.8**	**+0.6**
TNCH				pP		pP		11 23 58.7	-1.8
TNCH				pmax		pmax			
	comp=Z,21nm,0.8s								
WRKA	**Warakurna**	**32.20**	**177**	P		**P**		**11 23 56.2**	**0.0**
MND	**Mandalay**	**32.77**	**300**	P		**P**		**11 24 02.2**	**+0.9**
JMM	**Marumori**	**33.05**	**21**	P		**P**		**11 24 04.0**	**+0.5**
TV1H	**Townsville Har**	**33.10**	**143**	P		**P**		**11 24 04.7**	**+0.6**
CTA	**Charters Tower**	**33.43**	**145**	P		**P**		**11 24 07.8**	**+0.7**
CTA	**Charters Tower**	**33.43**	**145**	LR		LR		11 39 45.8	
	comp=Z,123nm,18.1s,baz=296,slow=40								
CTAO	**Charters Tower**	**33.43**	**145**	P		**P**		**11 24 08.0**	**+0.9**
CTAO				IAmb		IAmb		11 24 08.8	
	comp=Z,15nm,0.7s								
CTAO	**Charters Tower**	**33.43**	**145**	P		**P**		**11 24 07.9**	**+0.9**
CTAO	**Charters Tower**	**33.43**	**145**	P		**P**		**11 24 08.0**	**+0.9**
CTAO				pmax		pmax			
	comp=Z,15nm,0.7s								
BJI	**Beijing**	**33.89**	**346**	P		**P**		**11 24 11.8**	**+1.0**
BJI				pP		**pP**		**11 24 14.6**	**-1.4**
BJI				sP		**sP**		**11 24 16.7**	**-1.4**
BJI				PcP		**PcP**		**11 26 50.2**	**+0.9**
BJI				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BJI				pmax		pmax			
	comp=Z,43nm,4.0s								
MEEK	**Meekatharra**	**34.61**	**193**	P		**P**		**11 24 16.6**	**-0.7**
LZH	**Lanzhou**	**35.38**	**327**	*eP*		**P**		**11 24 22.8**	**-1.2**
LZH				pP		pP		11 24 27.8	-1.3
LZH				sP		sP		11 24 29.8	-1.4
LZH				p

comp=Z,22nm,0.8s
ASAJ Asahikawa 39.26 18 LR LR 11 40 49.1
comp=Z,97nm,20.4s,baz=346,slow=36
JKA Kamikawa-asahi 39.26 18 P **P** **11 24 58.3 +1.7**
KLBR Kellerberrin 39.58 192 P **P** **11 24 58.8 -0.6**
GTA Gaotai 39.98 327 *e*P **P** **11 25 03.4 +0.6**
GTA pP pP 11 25 07.3 -0.7
GTA sP sP 11 25 10.2 +0.1
GTA PcP **PcP** **11 27 08.8 +0.8**
GTA LR LR
comp=Z,180nm,20.7s
GTA LR LR
comp=Z,240nm,20.7s
GTA LR LR
comp=Z,320nm,20.4s
MUN Mundaring 40.29 194 P **P** **11 25 05.0 -0.3**
EIDS Eidsvold 40.31 144 P **P** **11 25 04.1 -1.5**
EIDS Eidsvold 40.31 144 P **P** **11 25 05.3 -0.3**
H11S3 WAKE ISLAND Hy 40.58 70 T T 12 08 27.2
baz=262,slow=74,SNR=153
H11S1 WAKE ISLAND Hy 40.60 70 T T 12 08 29.6
baz=262,slow=74,SNR=78
H11S2 WAKE ISLAND Hy 40.60 70 T T 12 08 36.7
baz=262,slow=74,SNR=88
GOMU GeErMu 40.82 319 P **P** **11 25 12.3 +2.2**
GOMU pP pP 11 25 15.9 +0.3
GOMU sP sP 11 25 17.0 -0.4
GOMU S **S** **11 31 21.3 +0.4**
GOMU sS sS 11 31 29.3 -0.5
GOMU pmax pmax
comp=Z,7.0nm,1.0s
GOMU pmax pmax
comp=Z,110nm,6.6s
GOMU LR LR
comp=Z,120nm,14.1s
GOMU LR LR
comp=Z,140nm,16.5s
GOMU LR LR
comp=Z,170nm,15.1s
BBOO Buckleboo 40.91 168 P **P** **11 25 09.6 -0.9**
NWAO Narrogin (SRO) 40.98 192 P **P** **11 25 10.8 -0.2**
NWAO IAmb IAmb 11 25 16.5
comp=Z,34nm,0.8s
NWAO Narrogin (SRO) 40.98 192 P **P** **11 25 10.7 -0.3**
NWAO IAmb IAmb 11 25 16.5
comp=Z,110nm,0.8s
NWAO Narrogin (SRO) 40.98 192 P **P** **11 25 10.9 -0.2**
NWAO Narrogin (SRO) 40.98 192 P **P** **11 25 10.8 -0.2**
NWAO Narrogin (SRO) 40.98 192 P **P** **11 25 10.7 -0.3**
NWAO pmax pmax
comp=Z,110nm,0.8s
H11N1 WAKE ISLAND Hy 41.01 68 T T 12 09 10.7
baz=265,slow=74,SNR=131
H11N2 WAKE ISLAND Hy 41.02 68 T T 12 09 09.2
baz=265,slow=74,SNR=100
H11N3 WAKE ISLAND Hy 41.02 68 T T 12 09 12.2
baz=265,slow=74,SNR=80
WHYH Whyalla 41.47 166 P **P** **11 25 15.8 +0.8**
STKA Stephens Creek 41.53 161 P **P** **11 25 15.4 -0.2**
STKA Stephens Creek 41.53 161 P **P** **11 25 15.4 -0.2**
STKA Stephens Creek 41.53 161 *ce*P **P** **11 25 15.6 0.0**
STKA Stephens Creek 41.53 161 P **P** **11 25 14.9 -0.6**
comp=Z,4.9nm,0.3s,baz=326,slow=9.2,SNR=26
STKA LR LR 11 44 54.5
comp=Z,75nm,19.5s,baz=353,slow=40
comp=Z,4.9nm,0.3s
TAPN Taplejung 41.84 303 *e*P **P** **11 25 19.8 +1.3**
comp=Z,26nm,0.6s
YSS Yuzh-Sakhalins 41.88 17 *e*P **P** **11 25 19.9 +1.7**
YSS pmax pmax
comp=Z,10.0nm,0.9s
AULRC Lightning Ridg 41.95 152 P **P** **11 25 18.8 -0.2**
KLR Kul'dur 42.01 5|| *e*P **P** **11 25 18.7 -0.5**
KLR pmax pmax
comp=Z,3.0nm,1.3s
AUBSH Beerwah State 42.53 144 P **P** **11 25 23.4 -0.4**
RAMN Ramite 42.62 302 *e*P **P** **11 25 26.4 +1.5**
comp=Z,39nm,0.8s
RKGY Rocky Gully 42.66 192 P **P** **11 25 25.5 +0.8**
CMSA Cobar Meteorol 42.75 156 P **P** **11 25 26.1 +0.6**
JIRN Jiri 43.21 303 *e*P **P** **11 25 30.7 +0.9**
comp=Z,43nm,0.9s
GUN Gumba 43.55 303 *e*P **P** **11 25 33.5 +1.0**
comp=Z,86nm,1.0s
ULN Ulaanbaatar 43.69 341 *de*P **P** **11 25 32.4 -0.7**
ULN pmax pmax
comp=Z,5.0nm,1.0s
PKI Pulchoki 43.83 303 *e*P **P** **11 25 35.6 +0.8**
comp=Z,18nm,0.8s
PKIN Phulchoki 43.84 303 *e*P **P** **11 25 35.5 +0.7**
comp=Z,10nm,0.5s
SONM Songino Array 43.88 340 P **P** **11 25 34.0 -0.6**
comp=Z,1.3nm,0.8s,baz=156,slow=7.5,SNR=5.6
SONM PcP **PcP** **11 27 20.7 0.0**
comp=Z,2.2nm,0.6s,baz=157,slow=3.4,SNR=6.4
SONM ScP **ScP** **11 31 10.1 -1.8**
comp=Z,0.9nm,0.7s,baz=173,slow=4.3,SNR=4.2
SONM LR LR 11 46 17.5
comp=Z,111nm,19.3s,baz=142,slow=39
comp=Z,1.3nm,0.8s
DMN Daman 44.09 302 *e*P **P** **11 25 39.0 +2.2**
comp=Z,27nm,0.8s
ARMA Armidale 44.57 149 P **P** **11 25 39.0 -1.3**
ARMA IAmb IAmb 11 25 42.2
comp=Z,32nm,1.1s
ARMA Armidale 44.57 149 P **P** **11 25 41.1 +0.8**
AUDCS Dubbo College 44.61 153 P **P** **11 25 41.2 +0.8**
AUPHS Peel High Scho 44.74 150 P **P** **11 25 42.2 +0.6**
DANN Dangsing 45.46 303 *e*P **P** **11 25 48.4 +0.7**
PYUN Piuthan 46.03 302 *e*P **P** **11 25 52.3 +0.2**
comp=Z,41nm,0.8s
ZEA Zeya 46.30 1 *e*P **P** **11 25 51.1 -2.4**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
HYB Hyderabad 47.82 287 *e*P **P** **11 26 07.4 +1.3**
DZM Mont Dzumac 48.80 128 *e*LR LR 11 40 05.2
comp=Z,208nm,24.3s
DZM Mont Dzumac 48.80 128 P **P** **11 26 14.2 +0.7**
DZM Mont Dzumac 48.80 128 P **P** **11 26 14.3 +0.7**
DZM Mont Dzumac 48.80 128 LR LR 11 46 44.4
comp=Z,51nm,20.3s,baz=287,slow=36
MOY Mondy 48.98 339 *e*P **P** **11 26 13.1 -1.5**
OUENC Ouen Island, N 49.30 128 P **P** **11 26 17.9 +0.6**
WMQ Urumqi 49.73 323 *e*P **P** **11 26 19.9 -0.5**
WMQ sP sP 11 26 27.8 +0.1
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ LR LR
comp=Z,210nm,20.7s
PINNC Pines Island, 49.87 128 P **P** **11 26 22.8 +1.1**
BOD Bodaibo 51.32 351 *e*P **P** **11 26 29.2 -2.9**
BOD pmax pmax
comp=Z,9.0nm,1.6s
CORO Coronation Par 52.07 160 P **P** **11 26 39.0 +1.1**
PEA0B Petropavlovsk- 52.22 23 P **P** **11 26 40.2 +1.3**
PEA0B Petropavlovsk- 52.22 23 P **P** **11 26 40.2 +1.3**
PEA0B pmax pmax
comp=Z,85nm,1.5s
PETK Petropavlovsk- 52.22 23 P **P** **11 26 39.1 +0.2**
PETK Petropavlovsk- 52.22 23 P **P** **11 26 39.9 +1.0**
comp=Z,4.4nm,0.6s,baz=211,slow=4.7,SNR=22
comp=Z,4.4nm,0.6s
DGZ Jazzator, Alta 53.42 329|| *e*P **P** **11 26 47.6 -0.5**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
ZSN Zaisan 53.44 326 *e*P **P** **11 26 47.9 -0.1**
baz=326
ZSN *i* S **S** **11 34 20.4 +0.5**
baz=326
ZSN Zaisan 53.44 326 *e*P **P** **11 26 47.9 -0.1**
SHLS Shalkode 54.52 319 *e*P **P** **11 26 54.6 -1.5**
baz=319
SHLS Shalkode 54.52 319 *e*P **P** **11 26 54.6 -1.5**
MK31 Makanchi Array 54.55 324 P **P** **11 26 56.1 0.0**
MK31 IAmb IAmb 11 27 60.0
comp=Z,8.3nm,0.7s
MK31 Makanchi Array 54.55 324 *c i*P **P** **11 26 56.5 +0.3**
MKAR Makanchi Array 54.55 324 P **P** **11 26 56.4 +0.2**
MKAR Makanchi Array 54.55 324 *i*P **P** **11 26 56.7 +0.5**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 54.55 324 P **P** **11 26 56.2 0.0**
comp=Z,8.7nm,0.7s,baz=124,slow=7.8,SNR=46
MKAR PcP **PcP** **11 27 59.0 -0.3**
comp=Z,16nm,0.7s,baz=115,slow=4.5,SNR=14
MKAR ScP **ScP** **11 31 54.6 -2.6**
comp=Z,1.7nm,1.0s,baz=134,slow=5.2,SNR=4.0
MKAR LR LR 11 52 06.9
comp=Z,151nm,18.4s,baz=88,slow=38
comp=Z,8.7nm,0.7s
YAK Yakutsk 54.66 2 *e*P **P** **11 26 55.8 -0.8**
YAK pmax pmax
comp=Z,18nm,0.9s
MAKZ Makanchi 54.74 324 P **P** **11 26 57.3 -0.3**
MAKZ IAmb IAmb 11 28 00.5
comp=Z,11nm,0.6s
MAKZ Makanchi 54.74 324 P **P** **11 26 57.3 -0.3**
MAKZ pmax pmax
comp=Z,11nm,0.6s
UZB Uzynbulak 54.80 319 *e*P **P** **11 26 58.5 +0.2**
baz=319
UZB Uzynbulak 54.80 319 *e*P **P** **11 26 58.4 +0.2**
KPKS Kokpek 55.16 319 *e*P **P** **11 27 01.0 +0.2**
baz=319
KPKS Kokpek 55.16 319 *e*P **P** **11 27 01.0 +0.2**
SATY Saty 55.17 318 *e*P **P** **11 27 01.1 +0.2**
comp=Z,8.6nm,0.9s,baz=318
SATY Saty 55.17 318 *e*P **P** **11 27 01.0 +0.2**
SATY pmax pmax
comp=Z,9.0nm,0.9s
MA2 Magadan 55.31 15 LR LR 11 50 43.3
comp=Z,24nm,20.5s,baz=176,slow=36
KSH Kashi 55.43 313 P **P** **11 27 05.0 +2.2**
KSH sP sP 11 27 14.0 +3.8
KSH PcP **PcP** **11 28 04.3 +1.3**
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH LR LR
comp=Z,130nm,17.2s
NIL Nilore 55.65 306 P **P** **11 27 04.7 +0.4**
NIL Nilore 55.65 306 P **P** **11 27 04.7 +0.4**
NIL pmax pmax
comp=Z,37nm,0.7s
TDK Taldyqorghan 56.03 320 *e*P **P** **11 27 06.8 -0.2**
baz=320
TDK Taldyqorghan 56.03 320 *e*P **P** **11 27 06.7 -0.2**
ARXS Arharly 56.05 319 *e*P **P** **11 27 07.0 -0.1**
TNSS Tian-Shan 56.13 318 *e*P **P** **11 27 08.3 +0.2**
baz=318
TNSS Tian-Shan 56.13 318 *e*P **P** **11 27 08.3 +0.2**
MSVF Nonsavu 56.62 117 P **P** **11 27 11.5 0.0**
MSVF Nonsavu 56.62 117|| *e*P **P** **11 27 13.3 +1.8**
MSVF pmax pmax
comp=Z,56nm,0.9s
MSVF Nonsavu 56.62 117 LR LR 11 48 21.7
comp=Z,53nm,21.5s,baz=133,slow=33
KUU Kurty 56.88 318 *e*P **P** **11 27 12.7 -0.3**
baz=318
KUU Kurty 56.88 318 *e*P **P** **11 27 12.7 -0.3**
TKM2 Tokmak 2 56.98 317 P **P** **11 27 14.5 +0.6**
SNR=13
KBK Karagaybulak 57.32 317 P **P** **11 27 17.6 +1.2**
SNR=5.5
ZAA0 Zalesovo Array 57.35 332 P **P** **11 27 14.5 -1.5**
ZALV Zalesovo Beam 57.35 332 P **P** **11 27 14.4 -1.6**
ZALV Zalesovo Beam 57.35 332 *i*P **P** **11 27 15.0 -1.0**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 57.35 332 P **P** **11 27 15.3 -0.7**
comp=Z,3.4nm,0.5s,baz=137,slow=6.8,SNR=13
ZALV PcP **PcP** **11 28 08.8 -1.2**
comp=Z,2.4nm,0.6s,baz=146,slow=3.4,SNR=5.4
ZALV LR LR 11 53 14.2
comp=Z,66nm,18.8s,baz=138,slow=37
comp=Z,3.4nm,0.5s
UCH Uchtor 57.46 316 P **P** **11 27 19.1 +1.5**
SNR=23
AAK Ala-Archa 57.62 316 P **P** **11 27 18.7 +0.3**
AAK Ala-Archa 57.62 316 *ce*P **P** **11 27 19.2 +0.8**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 57.62 316 LR LR 11 53 47.4
comp=Z,90nm,21.2s,baz=98,slow=38
USP Ospenovka 57.86 317 P **P** **11 27 19.8 -0.2**
SNR=9.1
AML Almayashu 57.99 316 P **P** **11 27 21.8 +0.5**
SNR=17
EKS2 Erkin-Say 58.12 316 P **P** **11 27 22.7 +0.8**
SNR=14
SEY Seymchan 58.61 14|| *e*P **P** **11 27 25.5 +0.8**
SEY pmax pmax
comp=Z,9.0nm,1.7s
SEY Seymchan 58.61 14 LR LR 11 54 43.9
comp=Z,23nm,18.5s,baz=226,slow=38
KURK Kurchatov 58.66 326 P **P** **11 27 24.4 -0.9**
KURK IAmb IAmb 11 27 26.8
comp=Z,21nm,0.9s
KURK Kurchatov 58.66 326 *ce*P **P** **11 27 25.6 +0.3**
KURK pmax pmax
comp=Z,34nm,1.3s
KURBB Kurchatov Arra 58.66 326 P **P** **11 27 24.8 -0.5**
comp=Z,11nm,0.7s,baz=126,slow=6.1,SNR=86
KURBB LR LR 11 53 42.7
comp=Z,89nm,21.1s,baz=172,slow=37
comp=Z,11nm,0.7s
BTLS Baital 58.85 319 *e*P **P** **11 27 26.1 -0.6**
baz=319
BTLS Baital 58.85 319 *e*P **P** **11 27 26.1 -0.6**
KBL Kabul 59.25 306 P **P** **11 27 29.1 -0.9**
KBL IAmb IAmb 11 27 30.8
comp=Z,13nm,0.6s
KBL Kabul 59.25 306 P **P** **11 27 29.1 -0.9**
KBL pmax pmax
comp=Z,13nm,0.6s
KK31 Karatay Array 60.53 316 P **P** **11 27 38.4 0.0**
KK31 Karatay Array 60.53 316 P **P** **11 27 38.4 0.0**
KK31 pmax pmax
comp=Z,18nm,0.8s
KKAR Karatay Array 60.53 316 P **P** **11 27 38.4 0.0**
KKAR Karatay Array 60.53 316 P **P** **11 27 38.4 0.0**
KKAR IAmb IAmb 11 27 39.2
comp=Z,18nm,0.8s
KKAR Karatay Array 60.53 316 P **P** **11 27 38.4 0.0**
KKAR pmax pmax
comp=Z,18nm,0.8s
IUG Iuzhnay 60.56 315 *e*P **P** **11 27 39.0 +0.2**
comp=Z,11nm,0.7s,baz=314
IUG Iuzhnay 60.56 315 *e*P **P** **11 27 38.9 +0.2**
IUG pmax pmax
comp=Z,11nm,0.7s
BRZS Berezniki 61.70 324 *i*P **P** **11 27 45.5 -0.6**
baz=324
BRZS Berezniki 61.70 324 *i*P **P** **11 27 45.5 -0.6**
MSZ Milford Sound 63.74 148 P **P** **11 28 01.7 +1.9**
JCZ Jackson Bay 63.79 147 P **P** **11 28 01.4 +1.2**
TOZ Tahuroa Road 63.93 138 P **P** **11 28 02.2 +1.0**
BVAR Borovoye Array 64.25 326 P **P** **11 28 02.8 -0.3**
comp=Z,4.5nm,0.7s,baz=114,slow=7.2,SNR=19
BVAR PcP **PcP** **11 28 37.6 -0.2**
comp=Z,6.9nm,0.6s,baz=127,slow=4.5,SNR=6.1
BVAR LR LR 11 58 55.2
comp=Z,72nm,18.6s,baz=107,slow=39
comp=Z,4.5nm,0.7s
TIXI Tiksi 64.29 1 P **P** **11 28 01.8 -1.2**
TIXI Tiksi 64.29 1|| *e*P **P** **11 28 02.1 -0.8**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 64.32 326 P **P** **11 28 02.8 -0.8**
BRVK IAmb IAmb 11 28 09.7
comp=Z,11nm,0.8s
BRVK Borovoye 64.32 326 *de*P **P** **11 28 02.7 -0.8**
BRVK pmax pmax
comp=Z,12nm,1.0s
RAO Raoul Island 64.59 127 LR LR 11 55 00.2
comp=Z,26nm,20.8s,baz=132,slow=35
NNZ Nelson 64.60 142 P **P** **11 28 04.7 -0.7**
THZ Tophouse 64.64 143 P **P** **11 28 05.3 -0.5**
HRA Herat 64.73 305 IAmb IAmb 11 28 07.5
comp=Z,7.9nm,0.7s
AFI Afiamalu 64.74 109 LR LR 11 50 56.6
comp=Z,49nm,22.0s,baz=132,slow=31
LBZ Lake Benmore 64.75 147 P **P** **11 28 06.6 +0.1**
RPZ Rata Peaks 64.79 146 P **P** **11 28 06.9 +0.2**
LTZ Lake Taylor 64.89 144 P **P** **11 28 08.7 +1.3**
BHHZ Black Hill Sta 65.27 140 P **P** **11 28 10.0 0.0**
URZ Urewera 65.29 138 P **P** **11 28 10.7 +0.7**
URZ Urewera 65.29 138 P **P** **11 28 09.7 -0.3**
comp=Z,4.1nm,0.6s,baz=285,slow=12,SNR=1.6
URZ LR LR 11 58 58.1
comp=Z,64nm,18.0s,baz=32,slow=38
comp=Z,4.1nm,0.6s
BKZ Black Stump Fm 65.37 139 P **P** **11 28 10.0 -0.6**
BKZ Black Stump Fm 65.37 139 P **P** **11 28 10.3 -0.4**
RTZ Ruatahuna 65.39 138 P **P** **11 28 10.1 -0.7**
RTZ Ruatahuna 65.39 138 P **P** **11 28 10.6 -0.2**
KHZ Kahutara 65.41 143 P **P** **11 28 09.6 -1.1**
MTHZ Maungataniwha 65.43 139 P **P** **11 28 11.3 +0.3**
HAZ Te Kaha 65.47 137 P **P** **11 28 12.0 +0.8**
KWHZ Kaweka Forest 65.47 139 P **P** **11 28 11.6 +0.3**
RUGZ Raukumara Rang 65.51 137 P **P** **11 28 10.9 -0.7**
NMHZ Naumai 65.54 139 P **P** **11 28 12.6 +0.9**
MWZ Matawai 65.60 138 P **P** **11 28 12.6 +0.5**
MCHZ McNeill Hill 65.66 139 P **P** **11 28 12.8 +0.4**
KAHZ Kahuranaki 65.97 140 P **P** **11 28 15.7 +1.2**
BFZ Birch Farm 66.06 141 P **P** **11 28 16.3 +1.3**
PXZ Pawanui 66.09 140 P **P** **11 28 14.3 -0.8**
WSAR Wadi Sarin 66.88 292 LR LR 11 57 19.7
comp=Z,22nm,21.7s,baz=57,slow=36
NRIK Noril'sk 66.93 346|| *e*P **P** **11 28 18.6 -1.5**
NRIK pmax pmax
comp=Z,3.0nm,0.6s
NRIK Noril'sk 66.93 346 P **P** **11 28 19.5 -0.6**
comp=Z,1.7nm,0.4s,baz=144,slow=6.4,SNR=2.0
comp=Z,1.7nm,0.4s
GEYT Alibeck 68.54 308 IAmb IAmb 11 28 32.5
comp=Z,8.3nm,0.8s
GEYT Alibeck 68.54 308 P **P** **11 28 31.2 +0.3**
comp=Z,5.8nm,0.7s,baz=132,slow=4.4,SNR=8.9
comp=Z,5.8nm,0.7s
ABKAR Akbulak array 69.29 320 P **P** **11 28 34.1 -1.2**
ABKAR Akbulak array 69.29 320 IAmb IAmb 11 28 35.7
comp=Z,7.9nm,0.9s
AKTO Aktyubinsk 70.77 321 LR LR 12 02 01.2
comp=Z,169nm,19.8s,baz=30,slow=38
SVE Sverdlovsk 70.84 328 *e*P **P** **11 28 44.7 +0.1**
SVE pmax pmax
comp=Z,13nm,0.9s
ARU Arti 71.84 327 P **P** **11 28 49.7 -1.0**
ARU IAmb IAmb 11 29 01.8
comp=Z,7.5nm,0.7s
ARU Arti 71.84 327 *c i*P **P** **11 28 50.0 -0.7**
ARU 11 31 29.3
ARU S **S** **11 38 12.7 +2.1**
ARU SS **SS** **11 42 45.6 -1.1**
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 71.84 327 LR LR 12 03 52.2
comp=Z,54nm,18.1s,baz=122,slow=39
CASY Casey 74.33 187 P **P** **11 29 04.3 -0.7**
CASY IAmb IAmb 11 29 06.0
comp=Z,12nm,0.9s
L14K Kuka Creek 74.44 28 P **P** **11 29 06.6 +0.7**
baz=256
C18K Utukok River 76.80 21 P **P** **11 29 21.7 +2.2**
baz=256
KIRV Kirov 77.09 328 *de*P **P** **11 29 20.1 -1.0**
KIRV Kirov 77.09 328 LR LR 12 05 24.6
comp=Z,61nm,20.9s,baz=101,slow=37
C19K Lookout Ridge 77.48 21 P **P** **11 29 23.2 0.0**
baz=258
BELG Belogornoye 77.48 322 *ce*P **P** **11 29 22.6 -0.9**
BELG pmax pmax
comp=Z,9.0nm,0.9s
N18K Kilae Creek 77.58 29 P **P** **11 29 24.7 +0.8**
baz=263
D19K Kuna River 77.88 21 P **P** **11 29 25.4 0.0**
baz=259
H19K Roundabout Mou 78.01 25 P **P** **11 29 27.1 +1.0**
baz=261
E19K Redstone River 78.01 23 P **P** **11 29 26.8 +0.6**
baz=260
D20K Etivluk River 78.46 21 P **P** **11 29 28.6 0.0**
baz=260
F20K Avaraart Lake 78.53 23 P **P** **11 29 29.6 +0.6**
baz=262
E20K Nigu River 78.54 22 P **P** **11 29 31.6 +2.4**
baz=261
J20K Nowinta River 78.80 26 P **P** **11 29 30.8 +0.3**
baz=264
KDAK Kodiak Island 78.99 33 LR LR 11 59 15.7
comp=Z,52nm,21.2s,baz=228,slow=32
GNI Garni 79.07 309 *de*P **P** **11 29 33.3 +0.5**
GNI pmax pmax
comp=Z,17nm,1.3s
PRGR Permogore 79.29 331 *e*P **P** **11 29 31.7 -1.6**
PRGR pmax pmax
comp=Z,12nm,0.6s
B21K Ikpikpuk River 79.30 20 P **P** **11 29 34.5 +1.3**
baz=262
G21K Allakaket 79.33 24 P **P** **11 29 33.4 -0.1**
baz=264
CAST Castle Rocks 79.64 27 IAmb IAmb 11 29 46.5
comp=Z,18nm,1.3s
CAST Castle Rocks 79.64 27 P **P** **11 29 35.3 0.0**
baz=266
F22K John River 79.95 23 P **P** **11 29 38.0 +1.2**
baz=265
BPAW Bear Paw Mtn. 80.17 26 P **P** **11 29 38.0 -0.1**
BPAW Bear Paw Mtn. 80.17 26 P **P** **11 29 38.7 +0.6**
baz=266
MLY Manley 80.34 25 IAmb IAmb 11 30 24.8
comp=Z,34nm,2.0s
MLY Manley 80.34 25 P **P** **11 29 38.8 -0.2**
baz=267
KBZ Khabaz 80.41 313 *ce*P **P** **11 29 39.6 -0.1**
KBZ pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 80.41 313 P **P** **11 29 39.6 -0.1**
comp=Z,9.6nm,1.0s,baz=106,slow=6.5,SNR=9.1
comp=Z,9.6nm,1.0s
KIV Kislovodsk 80.56 313 *e*P **P** **11 29 41.4 +0.7**
KIV pmax pmax
comp=Z,24nm,1.1s
COLD Coldfoot 80.69 23 P **P** **11 29 40.8 0.0**
baz=267
C23K Itkillik River 80.71 20 P **P** **11 29 41.1 +0.3**
baz=266
H23K Yukon River 80.88 25 IAmb IAmb 11 30 34.8
comp=Z,24nm,1.8s
H23K Yukon River 80.88 25 P **P** **11 29 42.2 +0.3**
baz=268
PMR Palmer 80.92 29 P **P** **11 29 41.1 -1.0**
baz=269
I23K Minto, Yukon-K 80.93 25 IAmb IAmb 11 30 20.4
comp=Z,34nm,1.8s
I23K Minto, Yukon-K 80.93 25 P **P** **11 29 42.3 +0.2**
baz=268
E23K Chandalar 80.96 22 P **P** **11 29 41.5 -0.9**
baz=267
NEA2 Nenana 81.03 26 P **P** **11 29 42.6 0.0**
baz=268
MCK McKinley 81.06 27 P **P** **11 29 42.2 -0.7**
baz=268
VRH Novokhopyorsk 81.11 321 *e*P **P** **11 29 40.7 -2.6**
VRH pmax pmax
comp=Z,30nm,0.7s
WAT1 Susitna Watana 81.22 28 P **P** **11 29 43.2 -0.5**
baz=269
KNK Knik Glacier 81.23 29 P **P** **11 29 43.4 -0.5**
baz=269
SML Sawmill 81.30 29 P **P** **11 29 44.3 +0.1**
baz=269
MDM Murphy Dome 81.40 25 IAmb IAmb 11 31 49.7
comp=Z,25nm,1.9s
H24K Noodor Dome 81.57 25 P **P** **11 29 44.7 -0.8**
H24K IAmb IAmb 11 30 54.1
comp=Z,29nm,1.8s
H24K Noodor Dome 81.57 25 P **P** **11 29 43.5 -2.0**
baz=269
WAT6 Susitna Watana 81.59 28 P **P** **11 29 44.8 -1.0**
baz=270
M23K Glacier View 81.59 29 P **P** **11 29 46.0 +0.3**
baz=270
F24K Squaw Lake 81.60 23 P **P** **11 29 45.8 +0.1**
baz=269
G24K Hadweenzic Riv 81.74 24 P **P** **11 29 46.2 -0.2**
baz=269
DHY Denali Highway 81.76 27 P **P** **11 29 44.9 -1.8**
baz=270
HDA Harding Lake 81.95 26 IAmb IAmb 11 32 11.6
comp=Z,28nm,1.9s
HDA Harding Lake 81.95 26 P **P** **11 29 46.5 -1.0**
baz=270
IL31 81.97 26 IAmb IAmb 11 32 29.4
comp=Z,21nm,1.9s
ILAR Eielson Array 81.97 26 P **P** **11 29 47.2 -0.5**
comp=Z,1.2nm,0.6s,baz=240,slow=4.9,SNR=28
comp=Z,1.2nm,0.6s

KLMR	**Klimovskoe**	**82.22**	**330**	*e*P	**P**	**11 29 46.6**	**-2.4**
KLMR				AMP		11 29 57.6	
	comp=Z,20nm,0.9s						
KLMR	**Klimovskoe**	**82.22**	**330**	*e*P	**P**	**11 29 46.6**	**-2.4**
KLMR				pmax	pmax		
	comp=Z,20nm,0.9s						
G25K	**Bearman Lake**	**82.29**	**24**	P	**P**	**11 29 50.2**	**+1.0**
	baz=270						
H25L	**Birch Creek**	**82.41**	**24**	P	**P**	**11 29 51.2**	**+1.3**
	baz=271						
PAX	**Paxson**	**82.63**	**27**	P	**P**	**11 29 50.8**	**-0.4**
	baz=272						
J25K	**Salcha River,**	**82.63**	**26**	IAmb	IAmb	11 30 30.2	
	comp=Z,29nm,1.9s						
J25K	**Salcha River,**	**82.63**	**26**	P	**P**	**11 29 50.6**	**-0.6**
	baz=272						
VORD	**Divnogorie**	**82.65**	**320**	*e*P	**P**	**11 29 48.9**	**-2.5**
VORD				pmax	pmax		
	comp=Z,20nm,0.8s						
VORR	**Voronezh**	**82.67**	**321**	*e*P	**P**	**11 29 49.2**	**-2.3**
VORR				pmax	pmax		
	comp=Z,100nm,0.5s						
VSR	**Storozhevoye**	**82.72**	**321**	*e*P	**P**	**11 29 49.3**	**-2.5**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SOC	**Sochi**	**82.72**	**313**	*e*P	**P**	**11 29 50.1**	**-1.9**
SOC				*e*		11 33 03.0	
SOC				*e*PPP	PPP	11 35 01.9	
SOC				*e*S	**S**	**11 40 07.8**	**-1.5**
SOC				*e*SS	**SS**	**11 45 29.2**	**-2.3**
SOC				*e*SSS	SSS	11 48 58.6	
SOC				pmax	pmax		
	comp=Z,15nm,0.5s						
LPSR	**Galich'ya Gora**	**82.80**	**322**	*e*P	**P**	**11 29 49.4**	**-2.8**
LPSR				pmax	pmax		
	comp=Z,40nm,0.9s						
RIDG	**Independent Ri**	**82.88**	**27**	P	**P**	**11 29 52.1**	**-0.4**
	baz=272						
SCRK	**Sand Creek**	**83.25**	**26**	P	**P**	**11 29 53.8**	**-0.7**
	baz=273						
J26L	**Joseph Creek**	**83.41**	**26**	IAmb	IAmb	11 30 36.1	
	comp=Z,24nm,1.9s						
J26L	**Joseph Creek**	**83.41**	**26**	P	**P**	**11 29 54.8**	**-0.4**
	baz=273						
I26K	**Coal Creek Min**	**83.54**	**25**	P	**P**	**11 29 55.5**	**-0.3**
	baz=273						
L26K	**Log Cabin Wild**	**83.59**	**27**	P	**P**	**11 29 56.5**	**+0.4**
	baz=274						
M26K	**Nabesna, AK**	**83.79**	**28**	P	**P**	**11 29 57.2**	**0.0**
	baz=274						
G27K	**Doyon Strip**	**84.05**	**23**	P	**P**	**11 29 58.5**	**0.0**
	baz=275						
OBN	**Obninsk**	**84.05**	**325⇓**	*e*P	**P**	**11 29 58.3**	**-0.2**
OBN				*e*		11 30 05.9	
OBN				*e*		11 33 12.3	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,75nm,16.0s						
K27K	**Chicken**	**84.09**	**26**	IAmb	IAmb	11 30 00.8	
	comp=Z,8.0nm,0.9s						
K27K	**Chicken**	**84.09**	**26**	P	**P**	**11 29 59.5**	**+0.8**
	baz=274						
H27K	**Steamboat Moun**	**84.15**	**24**	P	**P**	**11 29 59.3**	**+0.4**
	baz=275						
I27K	**Kandik River**	**84.16**	**25**	P	**P**	**11 29 60.0**	**+1.0**
	baz=275						
ANN	**Anapa**	**84.28**	**314**	*e*P	**P**	**11 29 58.5**	**-1.4**
ANN				pmax	pmax		
	comp=Z,51nm,0.7s						
L27K	**Beaver Creek,**	**84.28**	**27**	P	**P**	**11 30 00.2**	**+0.6**
	baz=275						
BCAR	**Beaver Creek A**	**84.30**	**27**	P	**P**	**11 30 00.3**	**+0.5**
F28M	**Old Crow**	**84.67**	**23**	IAmb	IAmb	11 30 04.5	
	comp=Z,8.4nm,0.8s						
F28M	**Old Crow**	**84.67**	**23**	P	**P**	**11 30 01.9**	**+0.4**
	baz=276						
CTG	**Chitna Glacier**	**84.69**	**29**	P	**P**	**11 30 02.5**	**+0.6**
	baz=276						
I28M	**Miner Creek**	**84.87**	**25**	P	**P**	**11 30 03.7**	**+1.0**
I28M				IAmb	IAmb	11 30 04.6	
	comp=Z,10nm,0.8s						
I28M	**Miner Creek**	**84.87**	**25**	P	**P**	**11 30 03.4**	**+0.7**
	baz=276						
DAWY	**Dawson**	**85.26**	**26**	P	**P**	**11 30 04.9**	**+0.3**
	baz=277						
O28M	**Mount Upton**	**85.28**	**29**	P	**P**	**11 30 05.2**	**+0.2**
	baz=276						
H29M	**Whitestone**	**85.42**	**24**	P	**P**	**11 30 05.9**	**+0.6**
	baz=278						
G29M	**Pine Creek**	**85.46**	**23**	P	**P**	**11 30 06.7**	**+1.2**
	baz=278						
I29M	**Ogilvie Camp,**	**85.56**	**25**	IAmb	IAmb	11 30 32.2	
	comp=Z,12nm,1.3s						
I29M	**Ogilvie Camp,**	**85.56**	**25**	P	**P**	**11 30 06.6**	**+0.6**
	baz=278						
M29M	**Somme Creek**	**85.89**	**28**	P	**P**	**11 30 07.9**	**0.0**
	baz=278						
L29M	**L29M**	**85.95**	**27**	P	**P**	**11 30 09.1**	**+1.1**
	baz=278						
EPYK	**Eagle Plains**	**86.06**	**24**	P	**P**	**11 30 07.1**	**-1.4**
	baz=279						
YUK6	**Outpost Mounta**	**86.14**	**29**	P	**P**	**11 30 09.9**	**+0.6**
	baz=278						
I30M	**Mount Dempster**	**86.38**	**25**	P	**P**	**11 30 10.7**	**+0.4**
	baz=280						
PPT2	**Papeete2**	**86.39**	**108**	*e*LR	LR	11 57 35.5	
	comp=Z,101nm,27.2s						
PAE	**Paea**	**86.40**	**108**	*e*T	T	13 05 26.1	
	comp=Z,0.8nm,0.2s						
SPA0	**Spitsbergen Ar**	**86.95**	**349**	*e*P	**P**	**11 30 12.6**	**-0.1**
SPITS	**Spitsbergen Ar**	**86.95**	**349**	P	**P**	**11 30 11.9**	**-0.7**
	comp=Z,8.1nm,0.7s,baz=93,slow=6.7,SNR=6.8						
	comp=Z,8.1nm,0.7s						
MMAI	**Mount Meron Ar**	**87.02**	**303**	P	**P**	**11 30 13.6**	**-0.4**
	comp=Z,8.1nm,0.9s,baz=94,slow=6.8,SNR=5.7						
	comp=Z,8.1nm,0.9s						
MAW	**Mawson**	**87.03**	**200**	P	**P**	**11 30 12.7**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=68,slow=5.4,SNR=2.9						
	comp=Z,1.8nm,0.6s						
ARA0	**ARCESS Array S**	**87.05**	**340**	*e*P	**P**	**11 30 12.0**	**-1.3**
ARCES	**ARCESS Array B**	**87.05**	**340**	IAmb	IAmb	11 30 22.5	
	comp=Z,12nm,1.0s						
ARCES	**ARCESS Array B**	**87.05**	**340**	P	**P**	**11 30 12.2**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=79,slow=6.7,SNR=15						
	comp=Z,2.5nm,0.5s						
TBI	**Tubuai**	**87.39**	**114**	*e*LR	LR	11 58 00.8	
	comp=Z,1μm,23.5s						
BR131	**Keskin Array S**	**87.61**	**310**	P	**P**	**11 30 15.6**	**-1.2**
BR131				IAmb	IAmb	11 30 16.7	
	comp=Z,5.2nm,0.8s						
BR131	**Keskin Array S**	**87.61**	**310**	*ce*P	**P**	**11 30 15.6**	**-1.2**
BRTR	**Keskin Array B**	**87.61**	**310**	P	**P**	**11 30 14.9**	**-1.9**
BRTR	**Keskin Array B**	**87.61**	**310**	*i* P	**P**	**11 30 15.6**	**-1.2**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRTR	**Keskin Array B**	**87.61**	**310**	P	**P**	**11 30 15.7**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=120,slow=5.3,SNR=13						
	comp=Z,2.8nm,0.7s						
PMOR	**Pomariorio Ree**	**87.61**	**105**	*e*T	T	13 07 06.1	
	comp=Z,8.1nm,0.3s						
WHY	**Whitehorse**	**87.87**	**29**	P	**P**	**11 30 16.7**	**-0.8**
	baz=281						
SBA	**Scott Base**	**87.88**	**172**	P	**P**	**11 30 16.9**	**-0.1**
SBA				IAmb	IAmb	11 30 38.6	
	comp=Z,9.1nm,1.2s						
SBA	**Scott Base**	**87.88**	**172**	P	**P**	**11 30 16.9**	**-0.1**
SBA				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KTK1	**Kautokeino**	**87.96**	**339**	*e*P	**P**	**11 30 15.6**	**-2.0**
FARO	**Faro, Yukon**	**88.27**	**27**	P	**P**	**11 30 19.6**	**+0.2**
	baz=282						
FINES	**FINESS Array B**	**88.61**	**332**	*i* P	**P**	**11 30 20.2**	**-0.6**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
FINES	**FINESS Array B**	**88.61**	**332**	P	**P**	**11 30 19.6**	**-1.2**
	comp=Z,7.3nm,0.6s,baz=58,slow=5.5,SNR=28						
FINES				LR	LR	12 12 00.7	
	comp=Z,71nm,18.4s,baz=53,slow=37						
	comp=Z,7.3nm,0.6s						
JETT	**Jettan, Norway**	**88.77**	**340**	*e*P	**P**	**11 30 20.8**	**-0.7**
AKASG	**Malin Array Be**	**89.02**	**321**	IAmb	IAmb	11 30 22.8	
	comp=Z,8.7nm,0.9s						
AKASG	**Malin Array Be**	**89.02**	**321**	P	**P**	**11 30 21.6**	**-1.4**
	comp=Z,10nm,0.8s,baz=69,slow=4.1,SNR=24						
	comp=Z,10nm,0.8s						
AKBB	**Malin Array Si**	**89.02**	**321**	P	**P**	**11 30 21.2**	**-1.7**
AKBB				IAmb	IAmb	11 30 23.1	
	comp=Z,17nm,1.1s						
AKBB	**Malin Array Si**	**89.02**	**321**	*ce*P	**P**	**11 30 21.7**	**-1.3**
NACGM	**Naroch**	**89.65**	**325**	*e*P	**P**	**11 30 25.5**	**-0.4**
	comp=Z,24nm,0.8s,baz=78						
STEI	**Steigen**	**91.10**	**339**	*e*P	**P**	**11 30 30.7**	**-1.6**
FAUS	**Fauske**	**91.29**	**339**	*e*P	**P**	**11 30 31.9**	**-1.3**
BURAR	**Bucovina Array**	**92.22**	**318**	P	**P**	**11 30 37.6**	**-0.5**
BUR08	**Bucovina Ar. S**	**92.22**	**318**	P	**P**	**11 30 37.6**	**-0.6**
BUR08				IAmb	IAmb	11 30 41.9	
	comp=Z,5.2nm,0.9s						
TAOE	**Nuku Hiva Isla**	**94.35**	**98**	*e*LR	LR	12 01 13.7	
	comp=Z,167nm,25.9s						
HFS	**Hagfors**	**94.78**	**332**	P	**P**	**11 30 48.1**	**-1.4**
	comp=Z,2.9nm,0.5s,baz=104,slow=6.3,SNR=11						
HFS				LR	LR	12 17 17.6	
	comp=Z,34nm,21.2s,baz=59,slow=38						
	comp=Z,2.9nm,0.5s						
NB2	**NORSAR Subarra**	**95.52**	**334**	P	**P**	**11 30 51.8**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=59,slow=5.3						
NB2	**NORSAR Subarra**	**95.52**	**334**	P	**P**	**11 30 51.8**	**-1.1**
	baz=59,slow=5.3						
NOA	**NORSAR Array B**	**95.52**	**334**	P	**P**	**11 30 51.4**	**-1.5**
	comp=Z,2.0nm,0.7s,baz=64,slow=4.5,SNR=6.7						
	comp=Z,2.0nm,0.7s						
JMI	**Jan Mayen**	**96.45**	**347**	*e*P	**P**	**11 30 57.2**	**+0.3**
DIVS	**Divibare**	**96.66**	**316**	P	**P**	**11 30 56.3**	**-2.3**
DIVS				IAmb	IAmb	11 30 58.4	
	comp=Z,4.7nm,0.9s						
QSPA	**South Pole Qui**	**97.19**	**180**	P	**P**	**11 31 00.0**	**-0.4**
QSPA				IAmb	IAmb	11 31 07.4	
	comp=Z,5.4nm,1.0s						
QSPA	**South Pole Qui**	**97.19**	**180**	P	**P**	**11 31 00.0**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=278,slow=1.4,SNR=13						
	comp=Z,2.5nm,0.8s						
CLL	**Collm**	**98.64**	**324**	*e*P	Pdif	11 31 08.0	+0.8
CLL	**Collm**	**98.64**	**324**	*e*Pdif	Pdif	11 31 08.0	+0.8
LSZ	**Lusaka**	**99.92**	**256**	LR	LR	12 14 35.8	
	comp=Z,348nm,19.2s,baz=86,slow=34						
NVAR	**Mina Array Bea**	**104.65**	**47**	Pdiff	**Pdif**	**11 31 34.4**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=250,slow=2.6,SNR=2.1						
PDAR	**Pinedale Array**	**108.78**	**40**	PKiKP	**PKiKP**	**11 35 58.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=116,slow=3.4,SNR=3.8						
ANMO	**Albuquerque**	**114.73**	**46⇑**	*i*PKIKP	PKPdf	11 36 10.4	+1.1
ANMO				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TXAR	**Lajitas Array**	**119.52**	**50**	PKP	**PKPdf**	**11 36 18.3**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=356,slow=3.2,SNR=31						
TORD	**Torodi Ar. Bea**	**121.57**	**290**	PKP	**PKPdf**	**11 36 21.7**	**-1.1**
	comp=Z,3.4nm,0.5s,baz=58,slow=2.2,SNR=44						
PLCA	**Paso Flores**	**143.39**	**158**	PKP	**PKPdf**	**11 37 02.5**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=259,slow=5.7,SNR=3.9						

NEIC ***05*** *11:33:42.9±1.0, 42°.36S±0°.10×83°.1W±0°.1, h10km±2km, mb4.3/6, Error ellipse: s-maj=21.0km s-min=4.8km az=322.0*

GCMT ***05*** *11:33:45.0±0.5, 43°.01S±0°.02×82°.78W±0°.03, h15km±2km, MW4.8/76, Moment Tensor Solution. s9,c10; s76,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.34±.12; Mθθ0.42±.10; Mφφ-0.08±.08; Mrθ0.48±.21; Mφφ-1.47±.08; Mφr1.20±.31; Best double couple: M0 1.96500×10^16 NP1:φs172.00000°, δ77.00000°, λ-36.00000°. NP2: φs271.00000°, δ55.00000°, λ-164.00000°. Principal axes: T 1.7610, Plg14.0000°, Azm226.0000°; N 0.4060, Plg52.0000°, Azm335.0000°; P -2.1680, Plg34.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC ***05*** *11:33:47.2±1.6, 42°.91S×82°.17W, h0km, mb3.7/4, mbtmp3.7/5, ML3.4/1, MS4.0/22 Error ellipse: s-maj=42.8km s-min=36.7km az=39.0*

ISC 05 11:33:43.2±1.9, 42°.5S±0°.1×83°.0W±0°.2, h10km, n44, σ0s98/19, mb3.9/5, MS3.9/20, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AY02	**Valle Explorad**	**8.07**	**123**	Pn	**Pn**	**11 35 40.6**	**+0.2**
GO06	**Curarrehue**	**9.15**	**76**		**Pn**	**11 35 54.0**	**-1.3**
H03S1	**Juan Fernandez**	**9.16**	**22**	T	T	11 45 58.9	
	baz=195,slow=73,SNR=227						
H03S2	**Juan Fernandez**	**9.16**	**22**	T	T	11 45 55.0	
	baz=195,slow=73,SNR=252						
H03S3	**Juan Fernandez**	**9.18**	**22**	T	T	11 45 59.9	
	baz=195,slow=73,SNR=258						
PLCA	**Paso Flores**	**9.46**	**84**		**Pn**	**11 36 00.1**	**+0.5**
PLCA	**Paso Flores**	**9.46**	**84**	Pn	**Pn**	**11 35 59.4**	**-0.2**
	0.1nm,0.3s,baz=256,slow=12,SNR=1.8						
PLCA				LR	LR	11 39 02.3	
	comp=Z,816nm,18.9s,baz=258,slow=35						
	1.7nm,0.8s						
GO05	**Huala**	**11.37**	**53**	Pn	**Pn**	**11 36 25.3**	**-0.3**
BO02	**Sierra Bellavi**	**12.21**	**55**		**Pn**	**11 36 36.8**	**-0.4**
BO01	**Tunca**	**12.30**	**53**		**Pn**	**11 36 38.2**	**-0.2**
MT01	**Popeta**	**12.57**	**51**	Pn	**Pn**	**11 36 41.7**	**-0.4**
MT09	**Talagante**	**12.79**	**51**		**Pn**	**11 36 45.7**	**+0.5**
LMEL	**Las Melosas**	**13.20**	**54**		**Pn**	**11 36 50.4**	**-0.4**
VA03	**San Esteban**	**13.78**	**50**	Pn	**Pn**	**11 36 58.5**	**-0.2**
CO03	**El Pedregal**	**15.19**	**44**	Pn	**Pn**	**11 37 17.4**	**-0.5**
CO03				IAmb	IAmb	11 37 43.9	
	comp=Z,19nm,1.1s						
ZON	**Zonda**	**15.74**	**51**		**Pn**	**11 37 23.7**	**-1.4**
ZON				IAmb	IAmb	11 37 25.6	
	comp=Z,19nm,1.3s						
CFA	**Coronel Fontan**	**15.96**	**52**	LR	LR	11 42 38.6	
	comp=Z,673nm,20.9s,baz=182,slow=34						
LCO	**Las Campanas**	**16.67**	**40**	P	**Pn**	**11 37 35.4**	**-1.8**
AC05	**El Transito**	**17.02**	**41**	Pn	**Pn**	**11 37 40.1**	**-1.4**
LVC	**Limon Verde**	**23.00**	**35**	LR	LR	11 45 47.4	
	comp=Z,294nm,20.5s,baz=196,slow=31						
RPN	**Rapa Nui**	**26.36**	**297**	LR	LR	11 47 06.1	
	comp=Z,393nm,19.9s,baz=98,slow=30						
CPUP	**Villa Florida**	**26.43**	**61**	P	**P**	**11 39 22.3**	**+2.2**
	comp=Z,2.6nm,0.9s,baz=243,slow=2.3,SNR=2.2						
CPUP				LR	LR	11 49 47.7	
	comp=Z,555nm,18.8s,baz=225,slow=37						
	comp=Z,2.6nm,0.9s						
NNA	**Nana**	**30.81**	**12**	LR	LR	11 48 37.0	
	comp=Z,249nm,21.3s,baz=192,slow=29						
ATAH	**Atahualpa**	**35.40**	**8**	LR	LR	11 52 30.0	
	comp=Z,118nm,18.9s,baz=200,slow=31						
BDFB	**Brasilia**	**40.12**	**59**	LR	LR	11 58 30.7	
	comp=Z,348nm,18.8s,baz=249,slow=37						
SNAA	**Sanae**	**47.31**	**155**	P	**P**	**11 42 17.0**	**+0.5**
SNAA				IAmb	IAmb	11 42 30.9	
	comp=Z,5.7nm,1.3s						
SNAA	**Sanae**	**47.31**	**155**	P	**P**	**11 42 16.6**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=266,slow=7.7,SNR=3.0						
	comp=Z,1.1nm,0.8s						
ROSC	**El Rosal**	**47.71**	**12**	LR	LR	12 01 11.5	
	comp=Z,290nm,18.5s,baz=230,slow=34						
QSPA	**South Pole Qui**	**47.80**	**180**	P	**P**	**11 42 20.2**	**-0.3**
QSPA				IAmb	IAmb	11 42 45.9	
	comp=Z,2.7nm,1.3s						
QSPA	**South Pole Qui**	**47.80**	**180**	LR	LR	12 00 13.5	
	comp=Z,98nm,18.8s,baz=120,slow=34						
SDV	**Santo Domingo**	**52.31**	**15**	LR	LR	12 03 23.4	
	comp=Z,124nm,20.7s,baz=251,slow=34						
MDP	**Montagnes des**	**54.76**	**38**	LR	LR	12 07 26.0	
	comp=Z,95nm,19.0s,baz=174,slow=37						
PCRV	**Puerto La Cruz**	**54.99**	**22**	LR	LR	12 05 14.4	
	comp=Z,109nm,18.1s,slow=34						
RCBR	**Riachuelo**	**55.29**	**52**	LR	LR	12 07 19.0	
	comp=Z,459nm,18.1s,baz=237,slow=37						
MAW	**Mawson**	**67.27**	**167**	LR	LR	12 12 58.1	
	comp=Z,58nm,18.3s,baz=214,slow=35						
RPZ	**Rata Peaks**	**71.62**	**227**	LR	LR	12 08 23.3	
	comp=Z,138nm,19.9s,baz=128,slow=29						
URZ	**Urewera**	**71.69**	**235**	LR	LR	12 08 52.7	
	comp=Z,121nm,19.4s,baz=209,slow=29						
ANMO	**Albuquerque**	**79.97**	**341**	LR	LR	12 14 44.6	
	comp=Z,59nm,20.0s,baz=302,slow=30						
MSVF	**Nonsavu**	**84.64**	**251**	LR	LR	12 14 32.2	
	comp=Z,48nm,21.5s,baz=124,slow=29						
NVAR	**Mina Array Bea**	**86.67**	**333**	P	P	11 46 36.2	+9.2
	comp=Z,0.1nm,0.5s,baz=133,slow=5.3,SNR=1.2						
	comp=Z,0.1nm,0.5s						
PDAR	**Pinedale Array**	**88.14**	**341**	P	P	11 46 42.7	+8.7
	comp=Z,0.4nm,0.8s,baz=141,slow=5.0,SNR=3.4						
	comp=Z,0.4nm,0.8s						
DZM	**Mont Dzumac**	**89.44**	**240**	LR	LR	12 18 19.2	
	comp=Z,58nm,18.9s,baz=217,slow=30						
KOWA	**Kowa**	**91.71**	**72**	LR	LR	12 28 24.6	
	comp=Z,53nm,18.2s,baz=223,slow=36						
TORD	**Torodi Ar. Bea**	**94.87**	**77**	LR	LR	12 29 04.0	
	comp=Z,27nm,19.5s,baz=207,slow=35						

IDC ***05*** *11:36:57.3±4.1, 21°.87N×94°.97E, h129km±39km, mb3.3/7, mbtmp3.7/8, MS3.3/2, Error ellipse: s-maj=79.8km s-min=18.8km az=60.0*

ISC 05 11:36:59.1±1.1, 21°.9N±0°.3×95°.2E±0°.3, h150km, n10, σ0s72/8, mb3.6/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.93**	**133**	P	**Pn**	**11 38 10.8**	**-0.8**
	2.4nm,0.7s,baz=309,slow=14,SNR=14						
CMAR				S	Sn	11 38 53.9	-14
	2.3nm,0.8s,baz=309,slow=18,SNR=6.8						
MKAR	**Makanchi Array**	**26.94**	**340**	P	**P**	**11 42 26.7**	**+0.3**
	0.7nm,0.4s,baz=137,slow=10,SNR=11						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**31.50**	**340**	P	**P**	**11 43 06.7**	**+0.1**
	0.5nm,0.5s,baz=147,slow=8.8,SNR=4.7						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**32.95**	**349**	P	**P**	**11 43 19.5**	**+0.3**
	0.7nm,0.4s,baz=181,slow=7.2,SNR=2.4						
	0.7nm,0.4s						
BVAR	**Borovoye Array**	**36.40**	**335**	P	**P**	**11 43 48.4**	**-0.5**
	0.7nm,0.6s,baz=138,slow=9.7,SNR=2.8						
	0.7nm,0.6s						
GNI	**Garni**	**46.23**	**305**	LR	LR	12 08 26.4	
	comp=Z,35nm,19.3s,baz=92,slow=41						
WRA	**Warramunga Arr**	**56.53**	**135**	P	**P**	**11 46 27.2**	**+1.2**
	0.3nm,0.9s,baz=318,slow=7.6,SNR=5.7						
	0.3nm,0.9s						
IDI	**Anoyia**	**61.98**	**299**	LR	LR	12 19 33.7	
	comp=Z,25nm,18.2s,baz=90,slow=41						
ARCES	**ARCESS Array B**	**62.57**	**338**	P	**P**	**11 47 06.5**	**-0.2**
	0.7nm,0.4s,baz=84,slow=7.8,SNR=12						
	0.7nm,0.4s						
TORD	**Torodi Ar. Bea**	**88.33**	**283**	P	**P**	**11 49 34.5**	**0.0**
	0.1nm,0.3s,baz=73,slow=3.3,SNR=1.8						
	0.1nm,0.3s						

RSPR ***05*** *11:48:00.7±4.9, 19°.1N±0°.2×67°.5W±0°.1, h97km±10km, Error ellipse: s-maj=26.8km s-min=11.5km az=199.0*

SDD ***05*** *11:48:01.0±1.6, 19°.53N×67°.29W, h21km±131km, MD3.8, ML3.0*

NEIC ***05*** *11:48:01.5±1.9, 19°.4N±0°.1×66°.99W±0°.09, h35km±2km, ML3.3/4, Md2.9/3(RSPR), Error ellipse: s-maj=24.5km s-min=6.0km az=35.0*

ISC 05 11:47:59.9±2.7, 19°.3N±0°.1×67°.08W±0°.06, h13km±14km, n8, σ0s98/16, 6C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRSN	**Puerto Rico Se**	**1.04**	**183**		**Pg**	**11 48 20.0**	**+0.1**
PRSN					**Sb**	**11 48 34.4**	**+1.1**
PCDR	**Punta Cana, DR**	**1.44**	**239⇑**	*e*Pg	**Pb**	**11 48 25.8**	**-0.7**
PCDR				⇓*e*Sg	**Sb**	**11 48 45.5**	**+0.8**
PCDR				IAML		11 48 48.2	
	comp=E,164nm,0.7s						
PCDR				IAML		11 48 57.1	
	comp=N,356nm,0.4s						
SJG	**San Juan**	**1.44**	**142**	Pn	**Pb**	**11 48 25.8**	**-0.8**
SJG				Sn	**Sn**	**11 48 44.0**	**-0.6**
SJG				IAML		11 48 47.2	
	comp=N,340nm,0.4s						
HIDR	**Higuey Centro**	**1.68**	**247⇓**	*e*Pg	**Pb**	**11 48 29.4**	**-1.3**
HIDR				⇓*e*Sg	**Sn**	**11 48 49.4**	**-1.1**
HIDR				IAML		11 48 53.5	
	comp=E,172nm,0.2s						
HIDR				IAML		11 49 00.7	
	comp=N,159nm,0.3s						
MIDR	**Miches**	**1.88**	**262⇓**	*e*Pg	**Pn**	**11 48 31.6**	**-0.1**
MIDR				⇑*e*Sg	**Sn**	**11 48 54.5**	**-0.8**
MIDR				IAML		11 49 06.5	
	comp=E,68nm,0.4s						
MIDR				IAML		11 49 13.9	
	comp=N,52nm,1.8s						
SADR	**Isla Saona**	**1.93**	**237⇑**	*e*Pg	**Pb**	**11 48 34.2**	**-0.6**
SADR				⇑*e*Sg	**Sb**	**11 48 58.9**	**+0.1**
SADR				IAML		11 49 09.2	
	comp=N,336nm,0.5s						
SADR				IAML		11 49 17.0	
	comp=E,164nm,0.6s						
HATOM	**Hato Mayor del**	**2.22**	**258⇑**	*e*Pg	**Pn**	**11 48 37.1**	**+0.6**
HATOM				⇑*e*Sg	**Sn**	**11 49 03.3**	**-0.6**
HATOM				IAML		11 49 04.7	
	comp=E,76nm,0.6s						
HATOM				IAML		11 49 18.1	
	comp=N,81nm,0.4s						
SDDR	**Presa de Saban**	**3.98**	**267**	Pn	**Pn**	**11 49 02.5**	**+1.8**
SDDR				Sn	**Sn**	**11 49 47.9**	**+0.5**
SDDR				IAML		11 50 20.6	
	comp=N,52nm,0.7s						

IDC ***05*** *11:55:07.5±1.1, 37°.14N×5°.67W, h0km, mb3.9/7, mbtmp3.9/10, ML3.6/3, MS3.0/4, Error ellipse: s-maj=35.8km s-min=18.2km az=112.0*

CNRM ***05*** *11:55:10.7, 37°.25N×5°.04W, h0km, ml4.0*

SFS ***05*** *11:55:12.6, 37°.08N×5°.07W, h11km, mb4.2/5, ML4.3/26, ML4.3/23, MLv4.1/26*

IGIL ***05*** *11:55:12.4, 37°.06N×5°.08W, h4km, ML4.0*

MDD ***05*** *11:55:13.2±0.2, 37°.06N×5°.08W, h12km, mb_Lg4.2/55, Error ellipse: s-maj=1.7km s-min=1.1km az=2.0*

LDG ***05*** *11:55:13.0±0.1, 37°.08N×5

PBAR	Barrancos	1.91 305	ePn	Pn	11 55 43.5	+0.3
PBAR	Barrancos	1.91 305	ePg	Pb	11 55 46.9	+1.1
PBAR			eSg	Sb	11 56 12.5	+3.2
PBAR			A	A	11 56 17.1	
527nm,0.4s						
PBAR	Barrancos	1.91 305	Pn	Pn	11 55 43.5	+0.3
EGRO	El Granado	1.98 284	⇑Pn	Pn	11 55 44.6	+0.5
EGRO			Pg	Pb	11 55 47.6	+0.6
EGRO			Sg	Sb	11 56 14.3	+3.0
EGRO			i Vmb_Lg		11 56 18.9	
EGRO	El Granado	1.98 284	Pn	Pn	11 55 44.6	+0.5
EALB	Alboran	2.00 124	Sn	Sn	11 56 09.6	+0.5
EALB			i Vmb_Lg		11 56 23.0	
EALB	Alboran	2.00 124	Pn	Pn	11 55 46.3	+1.8
PVLZ	Peæn de	2.01 162	Sn	Sn	11 56 10.3	+1.0
PVLZ			Pn	Pn	11 55 44.2	-0.3
PALE	Palemas	2.08 154	P	Pn	11 55 48.2	+2.6
PVAQ	Vaqueiros	2.14 279	⇑ePn	Pn	11 55 46.9	+0.5
PVAQ			eSn	Sn	11 56 14.5	+2.0
PVAQ			A	A	11 56 28.4	
349nm,0.3s						
PVAQ	Vaqueiros	2.14 279	P	Pn	11 55 47.0	+0.5
PVAQ	Vaqueiros	2.14 279	Pn	Pn	11 55 46.9	+0.5
EBAD	Badajoz	2.27 318	Pn	Pn	11 55 48.7	+0.5
EBAD			Sn	Sn	11 56 16.8	+1.1
EBAD			Sg	Sb	11 56 23.3	+3.6
EBAD			i Vmb_Lg		11 56 28.1	
PBDV	Barranco-do-Ve	2.29 275	ePn	Pn	11 55 49.3	+0.8
PBDV			eSn	Sn	11 56 17.8	+1.4
PBDV			A	A	11 56 36.2	
330nm,0.6s						
ENIJ	Nijar	2.29 92	Pn	Pn	11 55 50.2	+1.6
ENIJ			Sg	Sb	11 56 22.7	+2.2
ENIJ			i Vmb_Lg		11 56 26.6	
ENIJ	Nijar	2.29 92	Pn	Pn	11 55 50.0	+1.4
ENIJ			Sn	Sn	11 56 16.7	+0.3
PBEJ	Beja	2.41 294	ePn	Pn	11 55 50.8	+0.6
PBEJ	Beja	2.41 294	ePg	Pb	11 55 54.1	-0.3
PBEJ			eSg	Sb	11 56 27.7	+3.8
PBEJ			A	A	11 56 33.6	
257nm,0.6s						
PCVE	Castro Verde	2.43 284	ePn	Pn	11 55 50.8	+0.4
PCVE			eSg	Sg	11 56 28.4	-1.1
PCVE			A	A	11 56 35.1	
287nm,0.3s						
PCVE	Castro Verde	2.43 284	Pn	Pn	11 55 50.9	+0.5
WMELI	Melilla	2.46 135	Sn	Sn	11 56 20.8	+0.3
GOG	Mont Gurugu	2.50 137	P	Pn	11 55 54.0	+2.5
PAB	San Pablo	2.52 13	Pn	Pn	11 55 53.3	+1.6
PAB			Sg	Sb	11 56 31.5	+4.4
PAB			i Vmb_Lg		11 56 36.8	
MESJ	Messejana	2.62 288	ePn	Pn	11 55 53.6	+0.6
MESJ			eSn	Sn	11 56 26.6	+2.2
MESJ			eSg	Sg	11 56 34.6	-1.0
MESJ			A	A	11 56 41.2	
213nm,0.6s						
MESJ	Messejana	2.62 288	eP	Pn	11 55 53.6	+0.6
MESJ			eS	Sn	11 56 23.9	-0.5
MESJ			IAML		11 56 41.1	
comp=N,618nm,0.8s						
PESTR	Estremoz	2.67 313	ePn	Pn	11 55 54.6	+0.9
PESTR	Estremoz	2.67 313	ePg	Pb	11 56 00.3	+1.5
PESTR			eSg	Sg	11 56 36.5	-0.8
PESTR			A	A	11 56 47.8	
comp=N,407nm,0.4s						
PESTR	Estremoz	2.67 313	P	Pn	11 55 54.3	+0.6
PESTR	Estremoz	2.67 313	Pn	Pn	11 55 54.3	+0.6
PESTR			Sg	Sg	11 56 36.4	-0.8
ESDC	Sonseca Array	2.73 18	Pn	Pn	11 55 56.1	+1.6
ESDC			Sn	Sn	11 56 27.6	+0.4
ESDC			Sg	Sb	11 56 37.3	+4.4
ESDC			i Vmb_Lg		11 56 42.9	
ESDC	Sonseca Array	2.73 18	Pn	Pn	11 55 55.8	+1.3
comp=N,16nm,0.3s,baz=199,slow=12,SNR=322						
ESDC			Sn	Sn	11 56 24.5	-2.7
comp=N,22nm,0.3s,baz=197,slow=16,SNR=6.9						
ESDC			LR	LR	11 56 33.3	
comp=N,84nm,18.1s,baz=60,slow=30						
ESDC			Lg	Lg	11 56 39.4	
comp=N,136nm,0.3s,baz=203,slow=28,SNR=48						
comp=N,27nm,0.4s						
EVO	Evora	2.74 303	⇓ePn	Pn	11 55 55.6	+0.9
EVO			eSg	Sb	11 56 37.7	+4.3
EVO			A	A	11 56 54.3	
comp=N,272nm,0.5s						
EVO	Evora	2.74 303	Sn	Sn	11 56 28.9	+1.4
EVO			Pn	Pn	11 55 55.6	+0.9
AKLM	AKL	2.75 159	P	Pn	11 55 57.0	+2.1
TLOR	Lorca, Murcia	2.75 77	Sg	Sg	11 56 40.6	+0.7
EZAR	Zarzadilla de	2.80 73	Pn	Pn	11 55 57.2	+1.6
EZAR			Sn	Sn	11 56 31.5	+2.5
EZAR			Sg	Sg	11 56 41.8	+0.4
EZAR			i Vmb_Lg		11 56 51.0	
CHAS	Isla Isabel II	2.86 131	Pn	Pn	11 55 57.0	+0.7
CHAS			Sn	Sn	11 56 30.4	+0.1
MORF	Marmelete	2.87 275	ePn	Pn	11 55 57.1	+0.6
MORF			eSn	Sn	11 56 32.7	+2.0
MORF			A	A	11 56 51.6	
comp=N,160nm,0.5s						
MORF	Marmelete	2.87 275	eP	Pn	11 55 57.0	+0.6
PNCL	Nicolau / Gran	2.93 291	ePn	Pn	11 55 58.0	+0.7
PNCL	Nicolau / Gran	2.93 291	ePg	Pb	11 56 06.4	+3.1
PNCL			eSg	Sb	11 56 43.1	+4.3
PNCL			A	A	11 56 50.5	
comp=N,329nm,0.6s						
PNCL	Nicolau / Gran	2.93 291	Pn	Pn	11 55 57.9	+0.7
PTEO	Sao Teotonio	2.95 280	⇓ePn	Pn	11 55 58.4	+0.9
PTEO			eSn	Sn	11 56 34.4	+1.8
PTEO			eSg	Sg	11 56 45.2	-1.0
PTEO			A	A	11 56 56.5	
comp=N,397nm,0.6s						
PMRV	Marv??o	2.97 323	ePn	Pn	11 55 58.5	+0.7
PMRV	Marv??o	2.97 323	ePg	Pb	11 56 05.6	+1.7
PMRV			eSg	Sb	11 56 44.5	+4.6
PMRV			A	A	11 56 54.0	
comp=N,418nm,0.6s						
PFVI	Vila Bisbo	3.00 272	ePn	Pn	11 55 58.7	+0.3
PFVI			eSn	Sn	11 56 34.1	+0.2
PFVI			A	A	11 56 55.6	
comp=N,218nm,0.6s						
PFVI	Vila Bisbo	3.00 272	P	Pn	11 55 58.6	+0.3
PFVI	Vila Bisbo	3.00 272	Pn	Pn	11 55 58.6	+0.3
EPLA	Plasencia	3.08 345	⇑Pn	Pn	11 55 59.8	+0.4
EPLA			Sn	Sn	11 56 37.0	+1.2
EPLA			Sg	Sb	11 56 47.5	+4.5
EPLA			i Vmb_Lg		11 56 52.1	
EMUR	La Murta	3.14 75	Pn	Pn	11 56 00.8	+0.7
EMUR			Sg	Sg	11 56 50.8	-1.4
EMUR			i Vmb_Lg		11 56 58.4	
EMUR	La Murta	3.14 75	Sn	Sn	11 56 37.2	-0.1
EMUR			Pn	Pn	11 56 01.0	+0.8
PMTG	Montargil	3.18 309	ePn	Pn	11 56 01.3	+0.6
PMTG	Montargil	3.18 309	ePg	Pb	11 56 10.1	+2.6
PMTG			eSg	Sb	11 56 51.3	+5.3
PMTG			A	A	11 57 02.7	
comp=N,334nm,0.5s						
ETOB	Tobarra	3.19 60	⇑Pn	Pn	11 56 01.4	+0.5
ETOB			Sn	Sn	11 56 40.4	+1.8
ETOB			Sg	Sg	11 56 54.9	+0.9
ETOB			i Vmb_Lg		11 57 04.3	
CART	Cartagena	3.28 80	P	Pn	11 56 02.6	+0.5
CART	Cartagena	3.28 80	Sn	Sn	11 56 37.5	-3.2
CART			Pn	Pn	11 56 02.1	0.0
PCBR	Castelo Branco	3.34 326	ePn	Pn	11 56 03.8	+0.9
PCBR			eSg	Sg	11 56 56.9	-1.7
PCBR			A	A	11 57 09.8	
comp=N,257nm,0.4s						
LCRM	LCR	3.40 177	P	Pb	11 56 10.0	-1.3
PACT	Alcochete	3.42 301	ePn	Pn	11 56 05.2	+1.2
PACT			eSg	Sb	11 56 58.2	+5.4
PACT			A	A	11 57 32.0	
comp=N,361nm,0.5s						
IFR	Ifrane	3.56 181	Pn	Pn	11 56 07.0	+0.8
IFR			Sn	Sn	11 56 45.6	-2.4
GUD	Guadarrama	3.62 11	Pn	Pn	11 56 08.4	+1.4
GUD			Sn	Sn	11 56 50.5	+1.1
GUD			Sg	Sb	11 57 04.3	+5.4
GUD			i Vmb_Lg		11 57 09.3	
EVIV	Cofrentes, Val	3.80 54	⇑Pn	Pn	11 56 09.5	+0.3
EVIV			Sg	Sg	11 57 12.4	-1.0
EVIV			i Vmb_Lg		11 57 28.8	
PMAFR	Mafra	3.81 301	ePn	Pn	11 56 10.3	+0.8
PMAFR			eSn	Sn	11 56 54.3	+0.4
PMAFR			eSg	Sg	11 57 13.2	-0.8
PMAFR			A	A	11 57 23.0	
comp=N,332nm,0.6s						
PMAFR	Mafra	3.81 301	Pn	Pn	11 56 10.1	+0.6
PMAFR			Sn	Sn	11 56 52.8	-1.1
MTE	Manteigas	3.83 330	ePn	Pn	11 56 11.4	+1.6
MTE			eSn	Sn	11 56 54.7	+0.2
MTE			eSg	Sb	11 57 11.2	+6.4
MTE			A	A	11 57 20.8	
comp=N,496nm,0.6s						
AFON	Font Roja	3.91 65	⇑Pn	Pn	11 56 11.5	+0.6
AFON			Sn	Sn	11 56 59.3	+2.8
AFON			Sg	Sg	11 57 16.7	-0.4
AFON			i Vmb_Lg		11 57 25.3	
PCAS	Casmilo, Conde	4.00 319	ePn	Pn	11 56 13.3	+1.3
PCAS			eSn	Sn	11 56 58.3	-0.2
PCAS			eSg	Sg	11 57 18.6	-1.3
PCAS			A	A	11 57 30.2	
comp=N,509nm,0.5s						
EJUZ	Juzbado, Salam	4.04 351	Pn	Pn	11 56 14.1	+1.5
EJUZ			Sg	Sb	11 57 17.2	+6.3
COI	Coimbra	4.07 321	ePn	Pn	11 56 15.3	+2.4
COI			eSn	Sn	11 57 00.4	+0.2
COI			eSg	Sg	11 57 22.3	+0.2
COI			A	A	11 57 29.2	
comp=N,479nm,0.6s						
ECHE	Chera	4.08 51	Pn	Pn	11 56 13.8	+0.6
ECHE			Sn	Sn	11 57 03.8	+3.3
ECHE			Sg	Sg	11 57 23.4	+1.0
ECHE			i Vmb_Lg		11 57 31.0	
ECHE	Chera	4.08 51	Sg	Sg	11 57 22.9	+0.4
ECHE			Pn	Pn	11 56 13.5	+0.4
AVE	Averroes	4.24 208	Pn	Pn	11 56 16.2	+0.9
PVIS	Viseu	4.24 330	ePn	Pn	11 56 16.7	+1.3
PVIS			eSn	Sn	11 57 04.4	-0.1
PVIS			eSg	Sg	11 57 25.8	-1.8
PVIS			A	A	11 57 34.8	
comp=N,263nm,0.6s						
MDT	Midelt	4.28 175	Pn	Pn	11 56 16.7	+0.8
comp=N,1.1nm,0.3s,baz=347,slow=16,SNR=36						
MDT			Sn	Sn	11 57 03.9	-1.7
comp=N,6.4nm,0.3s,baz=193,slow=20,SNR=8.8						
MDT			LR	LR	11 57 30.8	
comp=N,38nm,18.4s,baz=358,slow=33						
comp=N,2.8nm,0.3s						
MVO	Moncorvo	4.35 340	ePn	Pn	11 56 17.6	+0.8
MVO			eSn	Sn	11 57 05.2	-2.0
MVO			eSg	Sg	11 57 27.9	-3.1
MVO			A	A	11 57 38.0	
comp=N,432nm,0.7s						
ETOR	Torete	4.41 31	Pn	Pn	11 56 18.7	+1.1
ETOR			Sn	Sn	11 57 09.5	+0.8
ETOR			Sg	Sg	11 57 30.8	-2.1
ETOR			i Vmb_Lg		11 57 38.3	
PVRL	Vila Real	4.66 335	ePn	Pn	11 56 21.8	+0.7
PVRL			eSn	Sn	11 57 13.9	-1.0
PVRL			eSg	Sg	11 57 40.3	-0.8
PVRL			A	A	11 57 45.1	
comp=N,168nm,0.4s						
TDRA	Tendrara	4.74 147	P	Pn	11 56 26.0	+3.6
POLO	Lamas de Olo	4.78 335	ePn	Pn	11 56 23.5	+0.8
POLO			eSn	Sn	11 57 17.1	-0.6
POLO			eSg	Sg	11 57 41.8	-2.9
POLO			A	A	11 57 52.3	
comp=N,138nm,0.5s						
EMOS	Mosqueruela	4.86 46	Sg	Sb	11 57 41.9	+7.4
EMOS			i Vmb_Lg		11 57 57.7	
PBRG	Braganca	4.89 345	ePn	Pn	11 56 25.2	+1.0
PBRG			eSn	Sn	11 57 19.9	-0.5
PBRG			eSg	Sg	11 57 45.8	-2.5
PBRG			A	A	11 57 59.1	
comp=N,225nm,0.6s						
ECAL	Calabor	5.02 346	Pn	Pn	11 56 27.1	+1.1
ECAL			Sn	Sn	11 57 22.2	-1.5
ECAL			Sg	Sg	11 57 49.7	-2.8
ECAL	Calabor	5.02 346	Sn	Sn	11 57 22.3	-1.5
ECAL			Pn	Pn	11 56 26.8	+0.7
ECAL			Sg	Sg	11 57 49.7	-2.8
ELOB	Lobios	5.31 335	Pn	Pn	11 56 30.7	+0.7
ELOB			Sn	Sn	11 57 29.5	-1.3
ELOB			Sg	Sg	11 57 56.7	-5.0
ELOB			i Vmb_Lg		11 58 07.8	
EIBI	Ibiza	5.42 67	Pn	Pn	11 56 32.1	+0.7
PGAV	Gavieira, Arco	5.46 334	ePn	Pn	11 56 33.0	+0.8
PGAV			eSn	Sn	11 57 33.3	-1.4
PGAV			eSg	Sg	11 58 03.7	-3.1
PGAV			A	A	11 58 20.0	
comp=N,219nm,0.6s						
ESAC	San Caprasio	5.84 36	Pn	Pn	11 56 39.1	+1.7
ESAC			i Vmb_Lg		11 58 26.1	
EAGO	Agolada(Pontev	6.16 339	Pn	Pn	11 56 43.3	+1.6
EAGO			Sn	Sn	11 57 51.5	-0.3
EAGO			i Vmb_Lg		11 58 38.8	
EARI	Arriondas	6.21 359	Pn	Pn	11 56 44.3	+1.9
EARI			Sn	Sn	11 57 50.0	-3.0
EARI			i Vmb_Lg		11 58 40.8	
ELAN	Lanestosa	6.26 11	Pn	Pn	11 56 44.0	+0.8
ELAN			Sn	Sn	11 57 53.2	-1.2
ELAN			i Vmb_Lg		11 58 40.6	
TZRR	Tazzarine	6.30 184	P	Pn	11 56 47.0	+3.3
TIO	Tiouine	6.41 197	Pn	Pn	11 56 46.2	+1.0
TIO			Sn	Sn	11 57 55.2	-2.9
EPON	Pontenova	6.43 346	Pn	Pn	11 56 46.3	+0.9
EPON			Sn	Sn	11 57 57.2	-1.2
EPON			i Vmb_Lg		11 58 43.7	
EORO	Oroz-Betelu	6.48 25	⇓Pn	Pn	11 56 47.8	+1.7
EORO			i Vmb_Lg		11 58 49.2	
EMAZ	Mazaricos	6.58 334	Pn	Pn	11 56 47.9	+0.5
EMAZ			Sn	Sn	11 58 01.2	-0.8
EMAZ			i Vmb_Lg		11 58 52.8	
SJPF	Ste Jean	6.70 25	ePn	Pn	11 56 50.4	+1.3
SJPF			eSn	Sn	11 58 01.5	-3.6
comp=N,166nm,1.0s						
SJPF			eSg	Sg	11 58 40.8	-5.6
EALK	Alkurruntz	6.71 23	⇓Pn	Pn	11 56 50.7	+1.4
EALK			Sn	Sn	11 58 05.3	0.0
EALK			i Vmb_Lg		11 58 58.2	
ETOS	Mallorca	6.74 64	Pn	Pn	11 56 49.4	-0.3
ETOS	Mallorca	6.74 64	Pn	Pn	11 56 49.4	-0.3
ETSF	Etsaut	6.76 29	ePn	Pn	11 56 50.9	+1.0
ETSF			eSn	Sn	11 58 02.9	-3.6
comp=N,78nm,0.7s						
ETSF			eSg	Sg	11 58 43.9	-4.3
EPF	Esparros	7.24 33	ePn	Pn	11 56 58.3	+1.7
EPF			eSn	Sn	11 58 14.8	-3.6
comp=N,44nm,0.8s						
EJON	La Jonquera	8.14 46	Pn	Pn	11 57 09.5	+0.7
MTLF	Montolieu	8.37 39	ePn	Pn	11 57 12.2	+0.2
MTLF			eSn	Sn	11 58 41.6	-4.5
comp=N,83nm,1.2s						
MTLF			eSg		11 59 34.0	
LFF	La Frestale	8.99 27	ePn	Pn	11 57 19.9	-0.5
CAF	Calviac	9.50 32	ePn	Pn	11 57 27.4	-0.2
CAF			eSn	Sn	11 59 08.0	-6.0
comp=N,32nm,1.0s						
RJF	Les Rejaudoux	9.59 29	ePn	Pn	11 57 28.7	0.0
RJF			eSn	Sn	11 59 10.4	-5.6
comp=N,87nm,1.5s						
LASF	Ste Croix	9.73 41	ePn	Pn	11 57 30.9	+0.2
LASF			eSn	Sn	11 59 13.8	-5.8
comp=N,18nm,0.9s						
MFF	Saint Martin d	10.19 20	ePn	Pn	11 57 36.4	-0.5
MFF			eSn	Sn	11 59 24.8	-5.9
comp=N,7.3nm,0.5s						
TCF	Toulx Ste Croi	10.68 28	ePn	Pn	11 57 43.0	-0.6
QUIF	Quistinic	10.91 7	ePn	Pn	11 57 46.5	-0.3
QUIF			eSn	Sn	11 59 41.8	-6.6
comp=N,14nm,0.6s						
BGF	Bois d'Agland	11.15 29	ePn	Pn	11 57 49.8	-0.2
SGMF	Saint Gilles	11.31 9	ePn	Pn	11 57 52.3	+0.1
ROSF	Rostrenen	11.32 6	ePn	Pn	11 57 52.0	-0.4
ROSF			eSn	Sn	11 59 51.9	-6.5
comp=N,4.2nm,0.4s						
AVF	Avril sur Loir	11.54 30	ePn	Pn	11 57 55.3	-0.1
SMF	Signal de Mont	11.62 32	ePn	Pn	11 57 56.5	-0.1
KEST	Kesra	11.70 92	Pn	Pn	11 58 01.8	+4.1
comp=N,0.2nm,0.3s,baz=269,slow=13,SNR=1.5						
comp=N,3.8nm,0.8s						
GRR	Gorron	11.71 14	ePn	Pn	11 57 57.6	-0.1
SSF	Saint Saulge	11.82 30	ePn	Pn	11 57 59.0	-0.2
SSF			eSg		12 01 21.6	
comp=N,1.7nm,0.3s						
LDF	La Druitiere	12.06 16	ePn	Pn	11 58 01.9	-0.5
LOR	Lormes	12.13 30	ePn	Pn	11 58 04.0	+0.5
baz=216						
CABF	La Chapelle	12.63 38	eSn	Sn	12 00 24.0	-6.5
comp=N,5.4nm,0.4s						
HFS	Hagfors	26.00 22	P	P	12 00 42.9	-0.3
comp=N,2.0nm,0.9s,baz=218,slow=9.1,SNR=1.5						
comp=N,2.0nm,0.9s						
BVAR	Borovoye Array	53.14 47	P	P	12 04 29.3	+1.1
comp=N,1.0nm,0.6s,baz=303,slow=8.7,SNR=6.8						
comp=N,1.0nm,0.6s						
KURBB	Kurchatov Arra	58.69 48	P	P	12 05 08.3	+0.4
comp=N,2.7nm,0.8s,baz=294,slow=7.7,SNR=12						
comp=N,2.7nm,0.8s						
ZALV	Zalesovo Beam	60.97 43	P	P	12 05 23.8	+0.3
comp=N,1.2nm,0.6s,baz=285,slow=6.3,SNR=5.0						
comp=N,1.2nm,0.6s						
KSH	Kashi	61.52 60	P	P	12 05 28.4	+0.7
KSH			pmax	pmax		
comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	62.51 51	P	P	12 05 34.4	+0.3
comp=Z,1.0nm,0.7s,baz=291,slow=4.0,SNR=3.8						
comp=Z,1.0nm,0.7s						
PDAR	Pinedale Array	75.00 312	P	P	12 06 48.5	-3.7
comp=Z,0.2nm,0.5s,baz=46,slow=6.4,SNR=1.8						
comp=Z,0.2nm,0.5s						
SONM	Songino Array	75.73 40	P	P	12 06 56.5	+0.3
comp=Z,0.6nm,0.7s,baz=297,slow=6.5,SNR=4.6						
comp=Z,0.6nm,0.7s						
CMAR	Chiang Mai Arr	89.70 67	LR	LR	12 56 46.1	
comp=Z,9.2nm,18.2s,baz=180,slow=41						
PLCA	Paso Flores	97.94 224	LR	LR	12 53 07.8	
comp=Z,39nm,18.5s,baz=164,slow=36						
QSPA	South Pole Qui	126.96 180	PKP	PKPdf	12 14 13.1	-0.4
comp=Z,1.0nm,0.9s,baz=247,slow=2.3,SNR=2.3						
STKA	Stephens Creek	152.12 89	PKPbc	PKPbc	12 15 05.8	-0.2
comp=Z,1.0nm,0.6s,baz=7.4,slow=5.8,SNR=3.0						

GII **05** *12:26:06.6±0.3, 36°.55N×26°.94E, h118km, Mm3.3/7*
IDC **05** *12:26:11.0±0.8, 36°.52N×26°.87E, h130km±13km, mb3.3/8, mbtmp3.7/14, MS3.2/2, Error ellipse: s-maj=19.2km s-min=9.9km az=159.0*
AFAD **05** *12:26:12.3±0.0, 36°.44N×27°.10E, h25km±5km, ML2.9*
ATH **05** *12:26:13.1, 36°.56N×26°.90E, h116km±3km, ML3.5/11, Manual Solution by K.Orfanogiannaki First location: 2019/05/29 14:06:04, This location: 2019/05/29 17:14:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISK **05** *12:26:13.1, 36°.60N×26°.89E, h106km±1km, ML3.0/22*
THE **05** *12:26:13.9, 36°.58N×26°.87E, h141km±2km, ML3.5/14, Error ellipse: s-maj=2.5km s-min=0.6km az=82.0*

ISC 05 12:26:11.2±0.7, 36°.51N±0°.03×26°.97E±0°.03, h130km±5km, n111, σ1§63/149, mb3.6/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSK	Kos Island	0.24	1	Pg	Pn	12 26 28.4	-0.7
KOSK				Sg	Sn	12 26 39.7	-3.0
RFTD	Palamutbuku-Ka	0.46	67	Pg	Pn	12 26 29.9	-0.1
RFTD				Sg	Sn	12 26 42.3	-1.9
RFTB	Kemer-Bodrum	0.51	28	Pg	Pn	12 26 29.8	-0.5
DAT	Datca	0.53	65	Pg	Pn	12 26 31.3	+0.7
DAT	Datca	0.53	65	P	Pn	12 26 31.6	+1.0
DAT				S	Sn	12 26 45.6	+0.4
DAT	Datca	0.53	65	P	Pn	12 26 31.3	+0.7
DAT				S	Sn	12 26 45.3	+0.1
BODT	Bodrum	0.62	26	Pg	Pn	12 26 30.6	-0.4
BODT	Bodrum	0.62	26	P	Pn	12 26 31.6	+0.6
BODT				S	Sn	12 26 46.0	0.0
RFTC	Emecik-Datca	0.73	68	Pg	Pn	12 26 32.4	+0.7
RFTAA	Mazikoy-Bodrum	0.79	51	Pg	Pn	12 26 32.6	+0.4
KARP	Karpathos	0.97	171	Pg	Pn	12 26 35.4	+1.5
KARP	Karpathos	0.97	171	P	Pn	12 26 35.1	+1.2
KARP				S	Sn	12 26 52.3	+1.3
2μm,0.2s							
KARP	Karpathos	0.97	171	P	Pn	12 26 35.1	+1.2
KARP				S	Sn	12 26 51.7	+0.6
ARG	Arkhangelos	0.97	107	Pg	Pn	12 26 35.7	+1.9
ARG	Arkhangelos	0.97	107	P	Pn	12 26 35.6	+1.8
ARG				S	Sn	12 26 52.0	+1.0
708nm,0.2s							
ARG	Arkhangelos	0.97	107	P	Pn	12 26 35.5	+1.8
ARG				S	Sn	12 26 52.4	+1.4
MLSB	Milas	1.02	39	Pg	Pn	12 26 34.6	+0.4
TURN	Turunc	1.06	75	Pn	Pn	12 26 35.9	+1.4
TURN	Turunc	1.06	75	P	Pn	12 26 35.7	+1.2
TURN				S	Sn	12 26 52.7	+0.4
TURN			i	AML	AML	12 26 53.0	
comp=N,331nm,0.2s							
TURN			i	AML	AML	12 26 54.0	
comp=E,737nm,0.3s							
SMG	Samos	1.20	355	P	Pn	12 26 36.1	+0.1
SMG				S	Sn	12 26 53.2	-1.9
78nm,0.7s							
SMG	Samos	1.20	355	P	Pn	12 26 36.1	+0.1
SMG				S	Sn	12 26 53.8	-1.3
GCAM	G?zelcaml?	1.21	10	Pn	Pn	12 26 36.3	+0.2
YER	Yerkesik	1.22	59	Pn	Pn	12 26 37.3	+1.0
YER	Yerkesik	1.22	59	P	Pn	12 26 37.9	+1.6
YER				S	Sn	12 26 56.8	+1.4
SANT	Santorini	1.23	264	Pn	Pn	12 26 36.5	+0.1
SANT	Santorini	1.23	264	P	Pn	12 26 36.9	+0.6
SANT				S	Sn	12 26 54.5	-1.0
APE	Apeiranthos	1.29	296	P	Pn	12 26 37.4	+0.4
APE	Apeiranthos	1.29	296	Pn	Pn	12 26 35.8	-1.2
APE	Apeiranthos	1.29	296	P	Pn	12 26 37.2	+0.3
MULA	Mugla, Merkez-	1.31	55	P	Pn	12 26 38.9	+1.6
MULA				S	Sn	12 26 58.9	+1.7
MULA			i	AML	AML	12 27 00.0	
comp=N,166nm,0.3s							
MULA			i	AML	AML	12 27 02.0	
comp=E,240nm,0.4s							
AYDN	Tasoluk	1.36	32	P	Pn	12 26 38.8	+1.1
AYDN				S	Sn	12 26 57.5	-0.5
AYDN			i	AML	AML	12 26 58.0	
comp=E,120nm,0.7s							
AYDN			i	AML	AML	12 26 59.0	
comp=N,94nm,1.0s							
DALY	Dalyan (Mula)	1.39	77	Pn	Pn	12 26 39.9	+2.0
ZKR	Zakros	1.52	204	Pn	Pn	12 26 41.7	+2.2
ZKR	Zakros	1.52	204	P	Pn	12 26 41.6	+2.1
ZKR				S	Sn	12 27 02.7	+1.6
328nm,0.5s							
ZKR	Zakros	1.52	204	P	P

MHLO	Agia Marina, M	2.08	276	P	Pn	12 26 46.9 +0.9
IDI	Anoyia	2.08	235	Pn	Pn	12 26 46.9 +0.7
IDI	Anoyia	2.08	235	P	Pn	12 26 46.6 +0.4
IDI				S	Sn	12 27 11.7 -1.4
	700nm,0.3s					
IDI	Anoyia	2.08	235	P	Pn	12 26 46.7 +0.4
	64nm,0.4s,baz=49,slow=4.2,SNR=158					
IDI				S	Sn	12 27 11.7 -1.4
	255nm,0.4s,baz=156,slow=20,SNR=44					
IDI	Anoyia	2.08	235	P	Pn	12 26 46.8 +0.6
APMY	Acipayam-Deniz	2.10	62	Pn	Pn	12 26 47.7 +1.3
APMY				Sn	Sn	12 27 14.3 +0.9
KSL	Kastellorizon	2.14	99	P	Pn	12 26 48.2 +1.5
AKAS	Kas	2.14	97	Pn	Pn	12 26 49.1 +2.1
AKAS	Kas	2.14	97	P	Pn	12 26 48.5 +1.5
AKAS				S	Sn	12 27 14.3 -0.1
AKAS				*i* AML	AML	12 27 19.0
	comp=E,199nm,0.4s					
AKAS				*i* AML	AML	12 27 19.0
	comp=N,360nm,0.3s					
RFT5	Foca	2.15	355	Pn	Pn	12 26 47.6 +0.6
GOLH	Golhisar	2.20	70	P	Pn	12 26 49.3 +1.6
GOLH				S	Sn	12 27 16.4 +0.8
GOLH				*i* AML	AML	12 27 18.0
	comp=E,181nm,0.5s					
GOLH				*i* AML	AML	12 27 21.0
	comp=N,114nm,0.3s					
PRNS	Prines Rethymn	2.31	241	P	Pn	12 26 51.0 +2.1
ELL	Elmali	2.37	83	P	Pn	12 26 51.8 +1.9
KULA	Kula-Manisa	2.41	33	Pn	Pn	12 26 51.3 +1.0
RFT7	Candarli	2.45	359	Pn	Pn	12 26 51.5 +0.9
IMMV	Iera Moni Meta	2.64	248	P	Pn	12 26 54.3 +1.1
IMMV				S	Sn	12 27 23.5 -2.0
	928nm,0.3s					
IMMV	Iera Moni Meta	2.64	248	P	Pn	12 26 53.7 +0.5
PASA	Karahalli, USA	2.72	47	P	Pn	12 26 54.9 +0.8
PASA				S	Sn	12 27 26.9 -0.4
PASA				*i* AML	AML	12 27 29.0
	comp=N,19nm,0.7s					
PASA				*i* AML	AML	12 27 30.0
	comp=E,39nm,0.8s					
AKUM	Antalya-Kumluc	2.72	93	P	Pn	12 26 56.0 +1.8
AKUM				S	Sn	12 27 29.2 +1.9
AKUM				*i* AML	AML	12 27 31.0
	comp=N,83nm,0.3s					
AKUM				*i* AML	AML	12 27 32.0
	comp=E,133nm,0.3s					
KORT	Korkueli	2.76	79	P	Pn	12 26 56.1 +1.4
KORT				S	Sn	12 27 29.9 +1.6
KORT				*i* AML	AML	12 27 33.0
	comp=E,79nm,1.3s					
KORT				*i* AML	AML	12 27 34.0
	comp=N,79nm,0.6s					
RODP	Rodopos	2.77	251	P	Pn	12 26 55.5 +0.7
RODP				S	Sn	12 27 26.1 -2.4
	140nm,0.4s					
VLY	Voula,Athens	2.87	299	P	Pn	12 26 56.8 +0.7
GVD	Gavdhos	2.88	236	P	Pn	12 26 57.5 +1.3
GVD				S	Sn	12 27 31.2 +0.3
	922nm,0.3s					
KNDR	Palaiochora Ch	2.96	246	P	Pn	12 26 59.7 +2.5
KNDR				S	Sn	12 27 33.3 +0.6
	265nm,0.6s					
ANKY	Antikythira Is	3.04	259	P	Pn	12 26 59.0 +0.7
ANKY				S	Sn	12 27 32.6 -2.0
	272nm,0.4s					
KTHA	Kythira Island	3.17	267	P	Pn	12 27 00.6 +0.7
KTHA				S	Sn	12 27 35.2 -2.4
	232nm,0.4s					
KRND	KRANIDI	3.19	287	P	Pn	12 27 00.8 +0.7
VLI	Veliai	3.25	275	P	Pn	12 27 01.4 +0.3
VLI				S	Sn	12 27 37.0 -2.6
	150nm,0.4s					
CSS	Mathiatis	5.40	105	Pn	Pn	12 27 26.3 -3.3
CSS				Sn	Sn	12 28 28.1 -2.5
BRTR	Keskin Array B	6.16	57	P	Pn	12 27 41.2 +1.3
	2.0nm,0.8s,baz=232,slow=14,SNR=7.6					
BRTR				S	Sn	12 28 51.9 +2.8
	1.4nm,0.6s,baz=218,slow=23,SNR=4.4					
HNTI	Hanita	7.56	114	Pn	Pn	12 27 54.4 -4.3
HNTI				Sn	Sn	12 29 20.4 -2.5
MMA0B	Mount Meron ar	7.76	114	Pn	Pn	12 27 58.5 -3.0
MMA0B				Sn	Sn	12 29 24.2 -3.7
MMAI	Mount Meron Ar	7.76	114	P	Pn	12 28 01.6 +0.2
	7.7nm,0.3s,baz=307,slow=11,SNR=25					
MMAI				S	Sn	12 29 26.3 -1.5
	2.7nm,0.5s,baz=298,slow=24,SNR=3.9					
GEM	Giv'at Ha'Em	7.86	112	Sn	Sn	12 29 26.7 -3.5
NATI	Neve Ativ	7.89	112	Pn	Pn	12 27 59.3 -3.8
MMLI	Mount Malkishu	8.07	118	Pn	Pn	12 28 01.8 -3.8
MMLI				Sn	Sn	12 29 31.9 -3.4
KSHT	Keshet	8.08	113	Pn	Pn	12 28 02.0 -3.7
SALP	Salfit	8.11	121	Sn	Sn	12 29 33.7 -2.6
HMDT	Nahal Hemdat	8.24	119	Sn	Sn	12 29 36.2 -3.2
AMAZ	Amatzia	8.25	125	Sn	Sn	12 29 36.9 -2.7
KZIT	Kziot	8.33	130	Sn	Sn	12 29 37.9 -3.7
YTIR	Yattir	8.49	125	Pn	Pn	12 28 07.7 -3.6
YTIR				Sn	Sn	12 29 42.9 -2.6
MDBI	Mazsada	8.68	124	Pn	Pn	12 28 09.2 -4.5
MDBI				Sn	Sn	12 29 46.9 -3.0
MSBI	Mazada	8.68	124	Pn	Pn	12 28 10.2 -3.5
MSBI				Sn	Sn	12 29 46.7 -3.2
ZFRI	Zfri	9.06	129	Pn	Pn	12 28 15.1 -3.8
KRMI	Paran Flat	9.09	132	Pn	Pn	12 28 15.8 -3.5
PRNI	Paran	9.09	130	Pn	Pn	12 28 15.9 -3.4
ASF	Jabal al Asfar	9.27	115	P	Pn	12 28 22.1 +0.2
	2.4nm,0.3s,baz=326,slow=5.9,SNR=5.8					
HRFI	Mount Harif	9.34	131	Pn	Pn	12 28 18.3 -4.3
HRFI				Sn	Sn	12 30 02.2 -3.7
EIL	Elat	9.55	133	P	Pn	12 28 25.6 +0.2
	4.0nm,0.5s,baz=26,slow=4.8,SNR=15					
EIL				S	Sn	12 30 05.4 -5.7
	10nm,0.3s,baz=227,slow=9.0,SNR=11					
KBZ	Khabaz	14.15	54	P	P	12 29 31.0 +1.9
	3.6nm,0.9s,baz=257,slow=7.2,SNR=4.2					
AKASG	Malin Array Be	14.28	6	P	Pn	12 29 28.5 +1.3
	0.7nm,0.5s,baz=195,slow=12,SNR=6.0					
ESDC	Sonseca Array	24.49	287	P	P	12 31 17.6 -0.6
	0.4nm,0.7s,baz=81,slow=8.3,SNR=2.6					
	0.4nm,0.7s					
FINES	FINESS Array B	24.96	359	P	P	12 31 21.5 -0.7
	0.8nm,0.4s,baz=162,slow=11,SNR=9.0					
	0.8nm,0.4s					
HFS	Hagfors	25.14	344	P	P	12 31 22.9 -1.0
	3.7nm,0.9s,baz=156,slow=15,SNR=5.2					
	3.7nm,0.9s					
WSAR	Wadi Sarin	30.32	107	LR	LR	12 48 51.9
	comp=Z,34nm,18.4s,baz=234,slow=45					
TORD	Torodi Ar. Bea	32.48	231	P	P	12 32 29.7 +0.2
	0.4nm,0.3s,baz=36,slow=9.4,SNR=4.2					
	0.4nm,0.3s					
ARCES	ARCESS Array B	33.09	359	P	P	12 32 33.0 -1.2
	1.7nm,1.1s,baz=167,slow=7.5,SNR=4.2					
	1.7nm,1.1s					
KURBB	Kurchatov Arra	39.13	52	P	P	12 33 26.4 +0.6
	0.3nm,0.3s,baz=274,slow=8.5,SNR=4.2					
	0.3nm,0.3s					
MKAR	Makanchi Array	41.81	58	P	P	12 33 48.4 +0.6
	0.4nm,0.4s,baz=271,slow=8.5,SNR=6.3					
	0.4nm,0.4s					
ZALV	Zalesovo Beam	43.01	47	P	P	12 33 57.3 -0.1
	0.9nm,0.7s,baz=302,slow=8.2,SNR=2.2					
	0.9nm,0.7s					
RES	Resolute Bay	62.74	345	LR	LR	13 03 26.2
	comp=Z,23nm,18.9s,baz=9.5,slow=36					

*IDC **05** 12:34:08.2±1.2, 0°.97N×127°.46E, h0km, mb3.7/4, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=51.4km s-min=19.4km az=56.0*
*DJA **05** 12:34:09.0±0.3, 1°N±3°×12°7E±°, h10km, M3.7/8, mb3.9/2, MLv3.6/8*
ISC 05 12:34:09.7±1.3, **1°.0N**±0°.1×**127°.47E**±0°.07, **h10**km, **n10,**
σ0°50/12, **mb3.8/4, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.24	205	P	Pb	12 34 15.2	+0.6
LBMI	Labuha	1.62	179	P	Pn	12 34 37.9	-0.4
SANI	Sanana	3.36	206	P	Pn	12 35 01.7	-0.6
SANI				S	Sn	12 35 42.6	+0.2
SWI	Sorong	4.21	116	S	Sn	12 36 03.6	+0.2
SIJI	Sorong	4.22	116	Pn	Pn	12 35 14.0	-0.2
	2.0nm,0.3s,baz=326,slow=18,SNR=16					
SIJI				Sn	Sn	12 36 03.5	-0.1
	1.3nm,0.3s,baz=253,slow=23,SNR=1.5					
	4.6nm,0.3s					
FAKI	Fak Fak	6.16	129	P	Pn	12 35 40.6	-0.2
WRA	Warramunga Arr	21.87	162	P	P	12 39 02.3	-0.6
	1.0nm,0.5s,baz=340,slow=11,SNR=11					
	1.0nm,0.5s					
ASAR	Alice Springs	25.29	166	P	P	12 39 36.9	+0.3
	1.1nm,0.7s,baz=341,slow=9.4,SNR=12					
	1.1nm,0.7s					
MKAR	Makanchi Array	60.22	326	P	P	12 44 17.6	-0.5
	0.6nm,0.5s,baz=129,slow=8.7,SNR=5.2					
	0.6nm,0.5s					
KURBB	Kurchatov Arra	64.43	328	P	P	12 44 46.9	+0.6
	0.8nm,0.6s,baz=128,slow=6.2,SNR=6.0					
	0.8nm,0.6s					

*NEIC **05** 12:34:23.4±2.6, 15°.61N±0°.10×95°.11W±0°.05, h67km±18km, mb4.1/5, Md4.3/22(MEX), Error ellipse: s-maj=14.3km s-min=6.0km az=192.0*
*MEX **05** 12:34:25.6±0.6, 15°.80N×95°.08W, h16km±6km, MD4.3*
ISC 05 12:34:23.3±1.1, **15°.75N**±0°.05×**95°.10W**±0°.02, **h45**km±22km,
n52, σ2°13/92, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	Santiago Nilte	0.94	30	*e*P	Pn	12 34 39.4	-0.6
NILT				*i* S	Sn	12 34 50.3	-2.0
HUIG	Huatulco	0.97	271		Pn	12 34 41.0	+0.5
HUIG					Sn	12 34 53.2	+0.1
HUIG	Huatulco	0.97	271	*i* P	Pn	12 34 41.0	+0.5
HUIG				*e*S	Sn	12 34 52.8	-0.3
CARR	Arriaga	1.25	66	*e*P	Pn	12 34 43.7	-0.6
CARR				*e*S	Sn	12 34 57.8	-2.1
UXUV	UXUV	1.81	30	*e*P	Pn	12 34 52.1	+0.1
UXUV				*e*S	Sn	12 35 12.1	-1.6
PCIG		1.81	91		Pn	12 34 52.6	+0.6
PCIG					Sn	12 35 13.9	+0.1
PCIG		1.81	91	*i* P	Pn	12 34 52.6	+0.6
PCIG				*e*S	Sn	12 35 13.3	-0.6
PEIG	Puerto Escondi	1.98	277		Pn	12 34 54.8	+0.3
PEIG					Sn	12 35 15.4	-2.7
PEIG	Puerto Escondi	1.98	277	*i* P	Pn	12 34 54.7	+0.3
PEIG				*e*S	Sn	12 35 16.3	-1.8
OXIG	Oaxaca	2.04	310		Pn	12 34 57.3	+1.9
OXIG					Sn	12 35 20.6	+0.8
VHO	Vista Hermosa	2.04	310	*i* P	Pn	12 34 57.2	+1.8
VHO				*e*S	Sn	12 35 19.9	+0.1
TGIG		2.16	61		Pn	12 34 57.0	+0.1
TGIG					Sn	12 35 19.7	-2.7
TGIG		2.16	61	*e*P	Pn	12 34 57.1	+0.3
TGIG				*e*S	Sn	12 35 21.7	-0.8
TUIG	Tuzandepetl	2.36	16	*e*P	Pn	12 34 59.8	+0.3
TUIG				*e*S	Sn	12 35 26.6	-0.7
YOIG	Yosondua	2.59	295		Pn	12 35 04.9	+1.9
YOIG	Yosondua	2.59	295	*e*P	Pn	12 35 04.9	+1.9
YOIG				*e*S	Sn	12 35 28.9	-4.5
PMUV	Sontecomapan	2.78	360	*i* P	Pn	12 35 04.2	-1.2
PMUV				*e*S	Sn	12 35 33.8	-3.9
PATR	El Naranjo	2.84	102	*e*P	Pn	12 35 07.4	+1.1
PATR				*e*S	Sn	12 35 40.0	+0.7
THIG		2.86	107	*e*P	Pn	12 35 07.4	+0.9
THIG				*e*S	Sn	12 35 40.5	+0.9
PAVE	Pavencul	2.88	101	*e*P	Pn	12 35 08.4	+1.6
PAVE				*e*S	Sn	12 35 41.9	+1.6
CCIG	Comitan	2.90	79	*e*P	Pn	12 35 07.8	+0.7
CCIG				*e*S	Sn	12 35 44.1	+3.2
CHUJ	Union Juarez	2.96	102	*e*P	Pn	12 35 09.3	+1.3
CHUJ				*e*S	Sn	12 35 42.2	-0.3
TXIG	Tlaxiaco	2.96	301	*e*P	Pn	12 35 10.3	+2.2
TXIG				*e*S	Sn	12 35 40.7	-1.8
PNIG	Pinotepa	2.98	283	*i* P	Pn	12 35 08.9	+0.9
PNIG				*e*S	Sn	12 35 38.8	-3.8
TOIG	Toxpalan	3.00	321		Pn	12 35 11.8	+3.4
TOIG					Sn	12 35 42.8	-0.3
TOIG	Toxpalan	3.00	321	*e*P	Pn	12 35 11.8	+3.4
TOIG				*i* S	Sn	12 35 42.8	-0.3
HLIG	Huajuapan de L	3.31	309		Pn	12 35 15.1	+2.3
HLIG	Huajuapan de L	3.31	309	*e*P	Pn	12 35 15.1	+2.3
HLIG				*e*S	Sn	12 35 50.8	-0.3
TPIG	Tehuac#an	3.42	321	*e*P	Pn	12 35 17.9	+3.5
TPIG				*e*S	Sn	12 35 55.1	+1.3
HUEH	Huehuetenango	3.50	97	Pn	Pn	12 35 15.8	+0.5
RTAL	Retalhuleu	3.51	110	Pn	Pn	12 35 13.6	-1.8
FTIG	Fresnillo de T	3.61	307		Pn	12 35 19.7	+2.9
FTIG					Sn	12 35 58.3	0.0
FTIG	Fresnillo de T	3.61	307	*e*P	Pn	12 35 19.7	+2.9
FTIG				*e*S	Sn	12 35 58.3	0.0
TLIG	Tlapa	3.78	299	*i* P	Pn	12 35 21.9	+2.8
TLIG				*e*S	Sn	12 36 00.4	-2.1
LVIG	Laguna Verde	4.15	343	*e*P	Pn	12 35 22.5	-1.6
LVIG				*e*S	Sn	12 36 06.4	-4.9
DAIG	Los Arroyos	4.54	287	*e*P	Pn	12 35 28.8	-0.8
DAIG				*e*S	Sn	12 36 17.5	-3.7
PPM	Popocatepetl	4.71	315	*e*P	Pn	12 35 36.5	+4.2
PPM				*e*S	Sn	12 36 29.5	+3.5
MEIG	Mezcala	4.84	297	*e*P	Pn	12 35 36.4	+2.7
MEIG				*e*S	Sn	12 36 28.4	-0.1
YAIG	Yautepec	4.89	310	*e*P	Pn	12 35 37.7	+3.2
YAIG				*i* S	Sn	12 36 28.4	-1.6
PLIG	Platanillo	4.96	303	*e*P	Pn	12 35 38.7	+3.4
PLIG				*e*S	Sn	12 36 29.1	-2.5
CAIG	El Cayaco	5.12	285	*i* P	Pn	12 35 39.1	+1.6
CAIG				*e*S	Sn	12 36 30.1	-5.3
PETF	Flores	5.16	76	Pn	Pn	12 35 38.5	+0.6
ARIG	Puente Sto Nin	5.61	297	*i* P	Pn	12 35 47.7	+3.5
ARIG				*e*S	Sn	12 36 45.8	-1.8
DEIG	Demacu	5.87	321	*e*P	Pn	12 35 50.5	+2.5
DEIG				*e*S	Sn	12 36 55.3	+1.1
ZIIG	Zihuatanejo	6.37	288	*i* P	Pn	12 35 57.1	+2.5
ZIIG				*e*S	Sn	12 37 03.7	-2.4
TEIG	Tepich	7.87	55	Pn	Pn	12 36 14.2	-1.1
CJM	Chamela	10.19	293	*e*	Pn	12 36 50.7	+3.8
BRDY	Brady	15.87	348	Pn	Pn	12 38 03.5	-0.1
BRDY				IAmb	IAmb	12 38 08.6	
	comp=Z,5.5nm,0.9s						
OZNA	Ozona	16.08	341	Pn	Pn	12 38 05.7	-0.6
OZNA				IAmb	IAmb	12 38 16.1	
	comp=Z,6.7nm,0.8s						
WHTX	Lake Whitney,	16.31	353	P	P	12 38 11.5	0.0
WHTX				IAmb	IAmb	12 38 13.2	
	comp=Z,16nm,0.6s						
SGCY	Sterling City	17.00	342	P	Pn	12 38 17.3	-0.6
SGCY				IAmb	IAmb	12 38 22.1	
	comp=Z,10nm,0.7s						
OK031	S. Brethren Rd	20.18	356	P	P	12 38 53.8	-0.2

*IDC **05** 12:43:49.9±9.0, 37°.01N×71°.16E, h226km±57km, mb3.2/3, mbtmp3.6/7, Error ellipse: s-maj=93.8km s-min=46.9km az=168.0*
ISC 05 12:43:47.7±3.3, **37°.0N**±0°.3×**70°.9E**±0°.3, **h200**km, **n7,**
σ0°78/8, **mb3.4/3, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	6.32	25	P	Pn	12 45 19.6	+0.4
	2.9nm,0.4s,baz=195,slow=9.8,SNR=4.1						
AAK				S	Sn	12 46 32.0	+0.4
	2.5nm,0.4s,baz=358,slow=22,SNR=2.7						
MKAR	Makanchi Array	12.98	37	P	Pn	12 46 45.4	+0.5
	0.2nm,0.5s,baz=209,slow=12,SNR=1.8						
KURBB	Kurchatov Arra	14.72	20	P	Pn	12 47 05.7	-0.6
	0.2nm,0.4s,baz=208,slow=10,SNR=3.2						
ZALV	Zalesovo Beam	19.54	25	P	P	12 47 58.5	-1.4
	0.8nm,0.3s,baz=221,slow=10,SNR=4.7						
ARCES	ARCESS Array B	40.68	337	P	P	12 51 08.4	+0.4
	0.7nm,0.6s,baz=108,slow=8.6,SNR=4.6						
	0.7nm,0.6s						
HFS	Hagfors	42.64	322	P	P	12 51 24.4	+0.3
	2.2nm,0.8s,baz=96,slow=12,SNR=5.0						
	2.2nm,0.8s						
NOA	NORSAR Array B	43.95	323	P	P	12 51 34.6	0.0
	0.6nm,0.6s,baz=91,slow=7.6,SNR=3.5						
	0.6nm,0.6s						

*IDC **05** 12:59:40.7±1.2, 2°.00N×127°.79E, h0km, mb3.7/5, mbtmp3.8/6, ML3.8/1, MS2.8/4, Error ellipse: s-maj=53.3km s-min=18.8km az=67.0*
*DJA **05** 12:59:40.4±0.6, 3°N±5°×12°8E±°, h10km, M3.9/10, mb3.9/5, mB5.7/1, MLv3.8/10, Mw(mB)5.2/1*
ISC 05 12:59:40.7±1.2, **2°.6N**±0°.1×**128°.31E**±0°.09, **h10**km, **n17,**
σ2°28/14, **mb3.9/5, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.04	208	P	Pn	13 00 15.2	0.0
TNTI				S	Sn	13 00 43.2	+2.4
LBMI	Labuha	3.31	194	P	Pn	13 00 36.6	+3.9
SWI	Sorong	4.53	139	P	Pn	13 00 50.3	+0.9
SIJI	Sorong	4.53	139	Pn	Pn	13 00 50.5	+1.0
	4.5nm,0.3s,baz=149,slow=23,SNR=14						
SIJI				Sn	Sn	13 01 43.8	+1.4
	1.6nm,0.3s,baz=188,slow=23,SNR=5.8						
	9.3nm,0.3s						
SANI	Sanana	5.17	207	P	Pn	13 00 58.2	0.0
	9.5nm,1.1s,0.1nm						
DAV	Davao City (W)	5.21	329	LR	LR	13 03 12.3	
	comp=Z,48nm,21.2s,baz=165,slow=38						
MRSI	Marisa	6.71	252	P	Pn	13 01 18.5	-0.9
	25nm,0.8s,0.1nm						
FAKI	Fak Fak	6.74	144	P	Pn	13 01 21.0	+1.1
	6.5nm,0.9s,0.0nm						
SMPI	Sarmi	11.35	114	P	Pn	13 02 23.7	+0.6
GUMO	Guam	19.68	55	LR	LR	13 11 02.5	
	comp=Z,14nm,19.1s,baz=199,slow=33						
LEM	Lembang	22.68	246	LR	LR	13 12 49.0	
	comp=Z,51nm,18.2s,baz=220,slow=36						
WRA	Warramunga Arr	23.16	165	P	P	13 04 45.2	-2.5
	4.1nm,0.6s,baz=345,slow=10,SNR=41						
	4.1nm,0.6s						
ASAR	Alice Springs	26.66	169	P	P	13 05 16.9	-3.2
	0.4nm,0.5s,baz=354,slow=8.8,SNR=10						
	0.4nm,0.5s						
KSRS	Korea Array	34.69	359	P	P	13 06 38.1	+7.4
	0.4nm,0.6s,baz=173,slow=8.9,SNR=2.1						
	0.4nm,0.6s						
STKA	Stephens Creek	36.53	161	P	P	13 06 44.1	-2.5
	0.8nm,0.4s,baz=343,slow=12,SNR=3.8						
	0.8nm,0.4s						
ASAJ	Asahikawa	43.24	15	LR	LR	13 26 38.7	
	comp=Z,12nm,18.7s,baz=55,slow=37						
KURBB	Kurchatov Arra	63.54	327	P	P	13 10 14.1	+2.7
	0.4nm,0.4s,baz=132,slow=6.5,SNR=4.5						
	0.4nm,0.4s						

*IDC **05** 13:04:36.1±1.2, 1°.05N×127°.54E, h0km, mb3.7/4, mbtmp3.7/5, ML3.2/1, MS2.4/1, Error ellipse: s-maj=53.7km s-min=20.2km az=56.0*
*DJA **05** 13:04:36.9±0.5, 1°N±3°×12°7E±°, h10km±3km, M3.5/6, MLv3.5/6*
ISC 05 13:04:37.8±1.2, **1°.00N**±0°.08×**127°.44E**±0°.08, **h10**km, **n9,**
σ1°46/13, **mb3.8/4, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.24	198	P	Pb	13 04 43.3	+0.6
TNTI				S	Sb	13 04 48.3	+2.3
LBMI	Labuha	1.63	178	P	Pn	13 05 06.0	-0.6
LBMI				S	Sb	13 05 28.5	-0.1
SANI	Sanana	3.36	206	P	Pn	13 05 29.4	-1.0
SANI				S	Sn	13 06 09.7	-0.7
SWI	Sorong	4.25	116	P	Pn	13 05 45.2	+2.6
SIJI	Sorong	4.25	116	Pn	Pn	13 05 41.9	-0.8
	1.5nm,0.3s,baz=326,slow=18,SNR=6.6						
SIJI				Sn	Sn	13 06 30.2	-2.3
	0.9nm,0.3s,baz=105,slow=24,SNR=1.6						
SIJI				LR	LR	13 07 36.2	
	comp=Z,53nm,21.9s,baz=27,slow=43						
	3.3nm,0.3s						
WRA	Warramunga Arr	21.89	162	P	P	13 09 30.4	-0.8
	1.9nm,0.8s,baz=341,slow=11,SNR=7.6						
	1.9nm,0.8s						
ASAR	Alice Springs	25.31	166	P	P	13 10 05.5	+0.7
	1.4nm,0.8s,baz=347,slow=11,SNR=8.9						
	1.4nm,0.8s						
MKAR	Makanchi Array	60.19	326	P	P	13 14 46.0	0.0
	0.5nm,0.5s,baz=122,slow=8.6,SNR=5.3						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	64.41	328	P	P	13 15 14.1	-0.1
	0.6nm,0.6s,baz=127,slow=6.0,SNR=3.1						
	0.6nm,0.6s						

*TEH **05** 13:07:50.4, 33°.67N×45°.73E, h5km, ML2.9*
*ISN **05** 13:07:50.6±0.4, 33°.71N×45°.75E, h24km±7km, ML2.9*
ISC 05 13:07:51.3±0.9, **33°.64N**±0°.05×**45°.72E**±0°.04, **h13**km, **n11,**
σ0°84/15, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.41	92	Pg	Pg	13 07 58.8	-0.7
ILBA				Sg	Sg	13 08 05.3	+0.3
IGHG	Ghaleghazi	0.98	46	Pg	Pg	13 08 10.9	+0.5
BHD	Baghdad	1.18	252	*e*Pg	Pb	13 08 13.0	-0.5
BHD				*e*Sg	Sn	13 08 29.0	-0.3
IDHR	Dehrash	1.19	28	Pg	Pn	13 08 14.1	+0.2
KCHF	Cheshme Sefid,	1.27	60	Pg	Pg	13 08 16.2	+0.5
IKOM	Komasi	1.58	70	Pg	Pg	13 08 22.2	+0.4
IKFM	Kafar-mosalman	1.78	93	Pg	Pg	13 08 26.5	+1.0
RAFI	Al-Rafai	1.94	170	*e*Pn	Pn	13 08 25.0	+1.0
RAFI				*e*Sn	Sb	13 08 50.0	-0.7
IBZA	Bozab	1.96	65	Pn	Pb	13 08 27.3	+0.2
IKRK	Kirkuk	2.09	327	*e*Pg	Pn	13 08 27.0	+1.0
IKRK				*e*Sg	Sb	13 08 54.0	-1.0
HSAM	Samen	2.46	76	Pn	Pb	13 08 34.1	-1.5

*ISN **05** 13:13:14.3±0.7, 33°.66N×45°.74E, h19km±12km, ML3.1*
*TEH **05** 13:13:14.2, 33°.68N×45°.73E, h6km±36km, ML3.0*
ISC 05 13:13:14.2±1.6, **33°.64N**±0°.04×**45°.70E**±0°.04, **h9**km±14km,
n11, σ1°32/16, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	Ilam Banvizeh	0.42	92	Pg	Pg	13 13

comp=E,134nm,0.8s
HSAM Samen 2.49 76 Pn **Pn 13 16 45.7 +1.4**

---

*BUL **05** 13:18:59.2±1.8,26°.28S×29°.62E,h10km,MD4.0*
EAF 05 13:18:56.9,26°.37S×29°.80E,h10km,MC3.8,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.19**	**27**	*i* P	Pn	13 19 46.9	-0.3
MOPA				*i* S	Sn	13 20 22.5	-2.8
MOPA	**Mopani**	**3.19**	**27**	*i* P	Pn	13 19 46.9	-0.3
	baz=29						
MOPA				*i* S	Sn	13 20 22.5	-2.8
	baz=29						
LBTB	**Lobatse**	**4.03**	**289**	*i* P	Pn	13 19 57.4	-1.3
LBTB				*i* S	Sn	13 20 41.5	-4.5
LBTB	**Lobatse**	**4.03**	**289**	*i* P	Pn	13 19 57.4	-1.3
	baz=288						
LBTB				*i* S	Sn	13 20 41.5	-4.5
	baz=288						
MUSN	**Musina, Limpop**	**4.06**	**1**	*i* P	Pn	13 20 00.2	+0.9
MUSN				*i* S	Sn	13 20 44.5	-2.4
MUSN	**Musina, Limpop**	**4.06**	**1**	*i* P	Pn	13 20 00.2	+0.9
	baz=2.0						
MUSN				*i* S	Sn	13 20 44.5	-2.4
	baz=2.0						
BOSA	**Boshof**	**4.61**	**240**	*i* P	Pn	13 20 07.3	+0.4
BOSA				*i* S	Sn	13 20 57.7	-2.8
BOSA	**Boshof**	**4.61**	**240**	*i* P	Pn	13 20 07.3	+0.4
	baz=239						
BOSA				*i* S	Sn	13 20 57.7	-2.8
	baz=239						
MATP	**Matopo**	**6.04**	**348**	*i* P	Pn	13 20 23.2	-3.2
MATP				*i* S	Sn	13 21 30.1	-5.6
MATP	**Matopo**	**6.04**	**348**	*i* P	Pn	13 20 23.2	-3.2
	baz=349						
MATP				*i* S	Sn	13 21 30.1	-5.6
	baz=349						
KRI	**Karoi**	**9.49**	**359**	*i* P	Pn	13 21 05.3	-8.6
KRI				*i* S	Sn	13 22 38.1	-23
KRI	**Karoi**	**9.49**	**359**	*i* P	Pn	13 21 00.3	-14
	baz=1.0						
KRI				*i* S	Sn	13 22 38.1	-23
	baz=1.0						
KRI	**Karoi**	**9.49**	**359**	*i* P	Pn	13 21 05.3	-8.6
	baz=2.0						
KRI				*i* S	Sn	13 22 38.1	-23
	baz=2.0						

IDC 05 13:24:33.0±2.2,2°.98N×128°.10E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=143.0km s-min=27.8km az=68.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**165**	P	P	13 29 45.6	0.0
	0.6nm,0.5s,baz=345,slow=10,SNR=11 0.6nm,0.5s						
ASAR	**Alice Springs**	**27.08**	**168**	P	P	13 30 17.1	-0.4
	0.2nm,0.6s,baz=351,slow=8.0,SNR=10 0.2nm,0.6s						
MKAR	**Makanchi Array**	**58.95**	**325**	P	P	13 34 34.6	+0.4
	0.5nm,1.0s,baz=115,slow=6.5,SNR=1.6 0.5nm,1.0s						

IDC 05 13:28:13.3±2.3,6°.56S×129°.42E,h0km,mb3.5/1, mbtmp3.5/3,ML3.4/2,Error ellipse: s-maj=116.6km s-min=33.0km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.14**	**161**	Pn	Pn	13 31 34.5	-0.5
	0.2nm,0.3s,baz=339,slow=13,SNR=14						
WRA				Sn	Sn	13 34 01.7	-11
	0.2nm,0.3s,baz=337,slow=22,SNR=5.9 0.3nm,0.3s						
ASAR	**Alice Springs**	**17.55**	**166**	P	Pn	13 32 19.9	+0.2
	0.1nm,0.3s,baz=347,slow=11,SNR=14						
ASAR				S	Sn	13 35 27.1	-8.7
	0.2nm,0.6s,baz=356,slow=27,SNR=1.3 0.7nm,0.6s						
MKAR	**Makanchi Array**	**67.54**	**327**	P	P	13 39 11.6	0.0
	0.2nm,0.4s,baz=109,slow=7.7,SNR=1.7 0.2nm,0.4s						

---

*GII **05** 13:43:19.6±0.0,37°.92N×29°.52E,h9km,Mm3.5/9*
*IDC **05** 13:43:20.2±1.4,37°.91N×29°.52E,h0km,mb3.8/3, mbtmp3.8/4,ML3.5/1,MS2.7/5,Error ellipse: s-maj=63.2km s-min=17.9km az=154.0*
*ISK **05** 13:43:21.4,37°.90N×29°.50E,h8km,ML3.9/45*
*AFAD **05** 13:43:22.4±0.0,37°.87N×29°.51E,h6km±2km,MW4.0*
ISC 05 13:43:21.6±1.0,37°.86N±0°.02×29°.51E±0°.02,h10km±8km, n140,σ1°03/202,mb3.7/3,4C-3D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APMY	**Acipayam-Deniz**	**0.42**	**203**	Pg	**Pb**	**13 43 30.1**	**-1.0**
APMY				Sg	**Sb**	**13 43 37.3**	**-0.2**
BASM	**Basmaki-Afyon**	**0.43**	**81**	Pg	**Pg**	**13 43 30.4**	**+0.3**
BASM				Sg	**Sg**	**13 43 36.5**	**+0.6**
DNIZ	**Denizli-Tavas-**	**0.44**	**238**	P	**Pg**	**13 43 30.5**	**+0.3**
DNIZ				S	**Sb**	**13 43 38.5**	**+0.4**
DNIZ				*i* AML	AML	13 43 40.0	
	comp=N,2μm,0.3s						
DNIZ				*i* AML	AML	13 43 40.0	
	comp=E,2μm,0.4s						
BRDR	**BURDUR-Merkez**	**0.47**	**110**	P	**Pb**	**13 43 31.0**	**-1.0**
BRDR				S	**Sb**	**13 43 39.8**	**+0.8**
BRDR				*i* AML	AML	13 43 40.0	
	comp=N,9μm,0.5s						
BRDR				*i* AML	AML	13 43 40.0	
	comp=E,1μm,0.5s						
KHL	**Karahalli**	**0.47**	**2**	Pg	**Pg**	**13 43 30.9**	**+0.1**
KHL				Sg	**Sg**	**13 43 36.8**	**-0.2**
PASA	**Karahalli, USA**	**0.49**	**358**	P	**Pg**	**13 43 30.7**	**-0.5**
PASA				S	**Sg**	**13 43 37.9**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.61**	**231**	P	**Pg**	**13 43 33.3**	**-0.1**
TAVA				S	**Sb**	**13 43 42.9**	**-0.3**
TAVA				*i* AML	AML	13 43 43.0	
	comp=N,4μm,0.7s						
GOLH	**Golhisar**	**0.62**	**176**	P	**Pb**	**13 43 34.0**	**-0.5**
GOLH				S	**Sn**	**13 43 46.2**	**-0.4**
KZIL	**AFYON_Kizioren**	**0.64**	**51**	P	**Pg**	**13 43 33.9**	**-0.2**
KZIL				S	**Sg**	**13 43 43.5**	**+1.0**
KZIL				*i* AML	AML	13 43 50.0	
	comp=N,6μm,0.4s						
KZIL				*i* AML	AML	13 43 50.0	
	comp=E,1μm,0.3s						
CAEL	**Denizli, Camel**	**0.75**	**192**	P	**Pb**	**13 43 35.9**	**-0.9**
CAEL				S	**Sn**	**13 43 48.4**	**-1.4**
CAEL				*i* AML	AML	13 43 54.0	
	comp=E,3μm,1.0s						
CAEL				*i* AML	AML	13 43 55.0	
	comp=N,5μm,0.7s						
CAME	**Cameli-Denizli**	**0.93**	**190**	Pg	**Pb**	**13 43 39.6**	**-0.2**
CAME				Sg	**Sn**	**13 43 54.3**	**+0.1**
KULA	**Kula-Manisa**	**0.94**	**315**	Pg	**Pg**	**13 43 39.6**	**0.0**
KULA				Sg	**Sg**	**13 43 52.3**	**+0.4**
KULA	**Kula-Manisa**	**0.94**	**315**	P	**Pg**	**13 43 39.6**	**0.0**
KULA				S	**Sb**	**13 43 54.1**	**+1.6**
USAK	**Uak-Merkez**	**0.94**	**336**	P	**Pg**	**13 43 39.4**	**-0.3**
USAK				S	**Sn**	**13 43 55.0**	**+0.5**
USAK				*i* AML	AML	13 43 56.0	
	comp=N,4μm,0.5s						
USAK				*i* AML	AML	13 43 56.0	
	comp=E,6μm,0.4s						
BCK	**Bucak**	**0.94**	**114**	Pg	**Pn**	**13 43 40.7**	**-0.3**
BCK				Sg	**Sn**	**13 43 54.3**	**-0.3**
MANT	**Manisa**	**0.98**	**311**	P	**Pg**	**13 43 40.6**	**+0.1**
MANT				S	**Sg**	**13 43 53.8**	**+0.5**
MANT				*i* AML	AML	13 43 57.0	
	comp=N,5μm,0.6s						
BUCA	**Burdur, Bucak-**	**0.99**	**122**	P	**Pn**	**13 43 41.0**	**-0.6**
BUCA				S	**Sn**	**13 43 57.0**	**+1.4**
KORT	**Korkueli**	**1.08**	**142**	Pn	**Pn**	**13 43 43.5**	**+0.5**
KORT				Sn	**Sn**	**13 43 59.5**	**+1.3**
MULA	**Mugla, Merkez-**	**1.12**	**238**	P	**Pg**	**13 43 41.2**	**-1.9**
MULA				*i* AML	AML	13 44 04.0	
	comp=E,1μm,0.7s						
AFYO	**Afyonkarahisar**	**1.12**	**34**	P	**Pg**	**13 43 42.3**	**-0.8**
AFYO				S	**Sn**	**13 44 01.1**	**+2.1**
ELL	**Elmali**	**1.15**	**164**	Pn	**Pn**	**13 43 44.9**	**+1.0**
ELL				Sn	**Sn**	**13 44 01.8**	**+2.0**
GEDZ	**Gediz**	**1.19**	**356**	Pn	**Pg**	**13 43 43.9**	**-0.6**
GEDZ				Sn	**Sg**	**13 44 00.3**	**+0.4**
YER	**Yerkesik**	**1.21**	**234**	Pn	**Pn**	**13 43 44.8**	**+0.1**
YER				Sn	**Sn**	**13 44 02.7**	**+1.5**
YER	**Yerkesik**	**1.21**	**234**	P	**Pn**	**13 43 45.0**	**+0.3**
YER				S	**Sn**	**13 44 03.6**	**+2.4**
DALY	**Dalyan (Mula)**	**1.24**	**214**	Pn	**Pn**	**13 43 46.1**	**+1.1**
DALY				Sn	**Sn**	**13 44 04.0**	**+2.3**
SUTC	**Sutluce-Ispart**	**1.24**	**107**	Pn	**Pn**	**13 43 45.1**	**-0.1**
SUTC				Sn	**Sn**	**13 44 04.1**	**+2.0**
IZMR	**zmir-demi**	**1.26**	**283**	P	**Pn**	**13 43 45.0**	**-0.3**
IZMR				S	**Sg**	**13 44 02.5**	**+0.3**
FETY	**Fethiye**	**1.26**	**196**	Pn	**Pn**	**13 43 46.5**	**+1.1**
FETY				Sn	**Sn**	**13 44 04.7**	**+2.3**
SIMA	**Simav-Kutahya**	**1.29**	**342**	Pn	**Pn**	**13 43 45.7**	**-0.1**
SIMA				Sn	**Sb**	**13 44 03.4**	**+0.6**
AYDN	**Tasoluk**	**1.30**	**262**	P	**Pn**	**13 43 46.2**	**+0.3**
AYDN				S	**Sn**	**13 44 04.1**	**+0.6**
ANTB	**Antalya**	**1.32**	**136**	Pn	**Pg**	**13 43 47.8**	**+0.9**
ANTB				Sn	**Sn**	**13 44 06.3**	**+2.6**
DEMI	**Demirci**	**1.34**	**333**	P	**Pn**	**13 43 46.0**	**-0.4**
DEMI				S	**Sb**	**13 44 04.4**	**+0.3**
KURO	**Afyon-Bolvadin**	**1.43**	**52**	P	**Pn**	**13 43 48.0**	**+0.3**
KURO				S	**Sg**	**13 44 09.4**	**+2.0**
TURN	**Turunc**	**1.48**	**223**	Pn	**Pg**	**13 43 49.9**	**0.0**
TURN				Sn	**Sg**	**13 44 09.9**	**+0.9**
MLSB	**Milas**	**1.48**	**248**	Pn	**Pb**	**13 43 49.5**	**+0.2**
MLSB				Sn	**Sg**	**13 44 09.7**	**+0.4**
GOMA	**Golmarmara-Man**	**1.51**	**305**	Pn	**Pn**	**13 43 49.0**	**+0.2**
GOMA				Sn	**Sn**	**13 44 09.2**	**+0.7**
AKAS	**Kas**	**1.62**	**177**	Pn	**Pb**	**13 43 51.5**	**-0.2**
RFTAA	**Mazikoy-Bodrum**	**1.64**	**239**	Pn	**Pb**	**13 43 51.4**	**-0.5**
RFTAA				Sn	**Sg**	**13 44 13.6**	**-0.8**
AKUM	**Antalya-Kumluc**	**1.67**	**156**	P	**Pg**	**13 43 53.7**	**+0.1**
AKS	**Akhisar**	**1.68**	**308**	Pn	**Pn**	**13 43 51.1**	**0.0**
ANDZ	**Kutahya, Merke**	**1.68**	**10**	P	**Pn**	**13 43 50.7**	**-0.5**
ANDZ				S	**Sg**	**13 44 16.1**	**+0.4**
RFTC	**Emecik-Datca**	**1.72**	**232**	Pn	**Pb**	**13 43 52.9**	**-0.4**
GCAM	**G?zelcaml?**	**1.81**	**266**	Pn	**Pn**	**13 43 52.9**	**+0.1**
DDIM	**Aydin, Didim**	**1.84**	**258**	P	**Pn**	**13 43 54.3**	**+1.0**
DDIM				*i* AML	AML	13 44 28.0	
	comp=E,1μm,0.8s						
DDIM				*i* AML	AML	13 44 29.0	
	comp=N,1μm,0.5s						
DST	**Dursunbey**	**1.88**	**339**	Pn	**Pn**	**13 43 54.1**	**+0.2**
SEYD	**Seydisehir-KON**	**1.90**	**103**	Pn	**Pb**	**13 43 55.4**	**-1.1**
SEYD				Sn	**Sb**	**13 44 20.5**	**+0.1**
DAT	**Datca**	**1.91**	**234**	Pn	**Pn**	**13 43 55.1**	**+0.8**
DAT				Sn	**Sb**	**13 44 20.1**	**-0.3**
DAT	**Datca**	**1.91**	**234**	P	**Pn**	**13 43 55.0**	**+0.8**
DAT				S	**Sg**	**13 44 24.5**	**+1.7**
BODT	**Bodrum**	**1.92**	**246**	Pn	**Pb**	**13 43 55.7**	**-0.9**
BODT				Sn	**Sb**	**13 44 19.9**	**-0.8**
BODT	**Bodrum**	**1.92**	**246**	P	**Pb**	**13 43 55.8**	**-0.9**
BODT				S	**Sg**	**13 44 24.9**	**+1.6**
CIFT	**Cifteler, Eski**	**1.94**	**39**	Pn	**Pn**	**13 43 54.9**	**+0.2**
ARG	**Arkhangelos**	**1.97**	**214**	P	**Pb**	**13 43 57.5**	**-0.1**
ARG				S	**Sg**	**13 44 25.2**	**+0.2**
RFTB	**Kemer-Bodrum**	**1.99**	**244**	Pn	**Pb**	**13 43 56.9**	**-1.0**
STEP	**BALIKESIR_Sava**	**2.07**	**318**	P	**Pn**	**13 43 56.5**	**+0.1**
SMG	**Samos**	**2.12**	**267**	P	**Pn**	**13 43 57.1**	**0.0**
KIZT	**Kizilcal**	**2.13**	**61**	Pn	**Pn**	**13 43 57.9**	**+0.6**
BALB	**Balikesir**	**2.19**	**325**	Pn	**Pn**	**13 43 57.9**	**-0.2**
BALB				Sn	**Sn**	**13 44 26.1**	**+0.9**
ZEDA	**zmir-Bergama**	**2.21**	**301**	P	**Pn**	**13 43 58.4**	**+0.1**
ZEDA				S	**Sn**	**13 44 24.2**	**-1.5**
ORLT	**Orhaneli**	**2.24**	**348**	Pn	**Pn**	**13 43 58.5**	**-0.3**
SVRH	**Sivrihisar-ESK**	**2.24**	**44**	Pn	**Pn**	**13 43 59.2**	**+0.4**
SVRH				Sn	**Sn**	**13 44 27.3**	**+0.7**
LADK	**Ladik-KONYA**	**2.28**	**80**	Pn	**Pn**	**13 44 00.5**	**+1.0**
LADK				Sn	**Sn**	**13 44 28.8**	**+1.1**
RFT7	**Candarli**	**2.31**	**299**	Pn	**Pn**	**13 44 00.1**	**+0.4**
RFT5	**Foca**	**2.31**	**291**	Pn	**Pn**	**13 44 00.1**	**+0.3**
RFT5				Sn	**Sn**	**13 44 29.5**	**+1.2**
CAVI	**Cavuskoy**	**2.36**	**6**	Pn	**Pn**	**13 44 00.7**	**+0.3**
CAVI				Sn	**Sn**	**13 44 30.1**	**+0.7**
DKL	**Dikili**	**2.38**	**302**	Pn	**Pn**	**13 44 00.9**	**+0.3**
DKL				Sn	**Sn**	**13 44 30.6**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.56**	**349**	Pn	**Pn**	**13 44 02.3**	**+0.2**
KCTX	**Karacabey (Bur**	**2.57**	**340**	Pn	**Pn**	**13 44 03.3**	**0.0**
ADVT	**Abdulvahap**	**2.58**	**4**	Pn	**Pn**	**13 44 03.8**	**+0.4**
GEMT	**Gemlik**	**2.59**	**355**	Pn	**Pn**	**13 44 04.5**	**+1.0**
GONE	**Gonen-Balikesi**	**2.61**	**328**	Pn	**Pn**	**13 44 04.0**	**+0.2**
GULT	**Gulveren**	**2.69**	**17**	Pn	**Pn**	**13 44 05.6**	**+0.6**
YLV	**Yalova**	**2.71**	**358**	Pn	**Pn**	**13 44 05.5**	**+0.2**
CHOS	**Chios island**	**2.77**	**282**	P	**Pn**	**13 44 07.2**	**+1.0**
PRK	**Paraskevi**	**2.89**	**300**	P	**Pn**	**13 44 07.7**	**0.0**
KARP	**Karpathos**	**2.98**	**220**	P	**Pn**	**13 44 11.3**	**+2.4**
SIGR	**SIGRI**	**3.17**	**296**	P	**Pn**	**13 44 11.9**	**+0.4**
APE	**Apeiranthos**	**3.26**	**257**	Pn	**Pn**	**13 44 11.9**	**-0.9**
BRTR	**Keskin Array B**	**3.73**	**59**	Pn	**Pn**	**13 44 20.2**	**+0.8**
	3.4nm,0.3s,baz=238,slow=15,SNR=33						
BRTR				Sn	**Sn**	**13 45 04.5**	**+1.1**
	6.4nm,0.3s,baz=291,slow=12,SNR=3.2						
BRTR				LR	LR	13 46 17.2	
	comp=Z,199nm,19.2s,baz=206,slow=48 9.3nm,0.4s						
LIA	**Limnos Island**	**3.94**	**302**	P	**Pn**	**13 44 22.8**	**+0.7**
SMTH	**Samothraki Isl**	**4.05**	**311**	P	**Pn**	**13 44 23.9**	**+0.3**
CSS	**Mathiatis**	**4.22**	**132**	Pn	**Pn**	**13 44 24.9**	**-1.2**
CSS	**Mathiatis**	**4.22**	**132**	P	**Pn**	**13 44 27.2**	**+1.1**
IDI	**Anoyia**	**4.51**	**237**	LR	LR	13 46 57.3	
	comp=Z,52nm,21.0s,baz=104,slow=48						
DIM	**Dimitrovgrad**	**5.16**	**325**	*e*P	**Pn**	**13 44 40.0**	**+1.1**
JMB	**Yambol**	**5.16**	**335**	*e*P	**Pn**	**13 44 39.0**	**+0.1**
RZN	**Rozhen**	**5.31**	**318**	*e*P	**Pn**	**13 44 43.2**	**+2.1**
PGB	**Panagyurishte**	**6.19**	**320**	*e*P	**Pn**	**13 44 53.2**	**+0.1**
PVL	**Pavlikeni**	**6.21**	**329**	*e*P	**Pn**	**13 44 54.2**	**+0.9**
HNTI	**Hanita**	**6.64**	**134**	Pn	**Pn**	**13 44 59.1**	**-0.1**
HNTI				Sn	**Sn**	**13 46 13.6**	**-1.3**
HNTI	**Hanita**	**6.64**	**134**	P	**Pn**	**13 44 59.5**	**+0.3**
VTS	**Vitosha**	**6.75**	**317**	*e*P	**Pn**	**13 45 01.3**	**+0.4**
MMA0B	**Mount Meron ar**	**6.82**	**133**	Pn	**Pn**	**13 45 01.6**	**-0.1**
MMA0B				Sn	**Sn**	**13 46 19.2**	**-0.2**
GEM	**Giv'at Ha'Em**	**6.83**	**131**	Pn	**Pn**	**13 45 01.6**	**-0.2**
GEM				Sn	**Sn**	**13 46 18.9**	**-0.8**
GEM	**Giv'at Ha'Em**	**6.83**	**131**	P	**Pn**	**13 45 02.8**	**+1.0**
GEM				S	**Sn**	**13 46 19.9**	**+0.2**
NATI	**Neve Ativ**	**6.84**	**130**	Pn	**Pn**	**13 45 01.5**	**-0.4**
NATI				Sn	**Sn**	**13 46 19.4**	**-0.4**
NATI	**Neve Ativ**	**6.84**	**130**	P	**Pn**	**13 45 02.6**	**+0.7**
NATI				S	**Sn**	**13 46 17.9**	**-1.9**
OFRI	**`Ofer**	**6.88**	**138**	Pn	**Pn**	**13 45 01.4**	**-1.2**
OFRI	**`Ofer**	**6.88**	**138**	P	**Pn**	**13 45 02.6**	**0.0**
BLGI	**Bet Lehem HaGe**	**6.91**	**136**	Pn	**Pn**	**13 45 01.6**	**-1.3**
BLGI				Sn	**Sn**	**13 46 20.4**	**-1.1**
BLGI	**Bet Lehem HaGe**	**6.91**	**136**	P	**Pn**	**13 45 03.4**	**+0.5**
MPEP	**Malo Peshtene**	**7.03**	**323**	*e*P	**Pn**	**13 45 05.1**	**+0.5**
KSHT	**Keshet**	**7.08**	**132**	Sn	**Sn**	**13 46 25.2**	**-0.7**
SLTI	**Sal'it**	**7.21**	**139**	Pn	**Pn**	**13 45 05.3**	**-1.7**
SHMJ	**Saham**	**7.23**	**133**	P	**Pn**	**13 45 08.4**	**+1.0**
MMLI	**Mount Malkishu**	**7.26**	**136**	Pn	**Pn**	**13 45 07.5**	**-0.2**
MMLI				Sn	**Sn**	**13 46 29.4**	**-0.8**
QRNJ	**Al-Qirein**	**7.42**	**136**	P	**Pn**	**13 45 10.6**	**+0.7**
SALP	**Salfit**	**7.42**	**139**	Pn	**Pn**	**13 45 09.7**	**-0.3**
SALP				Sn	**Sn**	**13 46 33.7**	**-0.6**
HMDT	**Nahal Hemdat**	**7.45**	**137**	Sn	**Sn**	**13 46 34.7**	**-0.3**
HMDT	**Nahal Hemdat**	**7.45**	**137**	P	**Pn**	**13 45 11.3**	**+0.9**
HMDT				S	**Sn**	**13 46 36.7**	**+1.7**
UJAP	**Al Uja**	**7.66**	**139**	Pn	**Pn**	**13 45 11.3**	**-1.8**
UJAP	**Al Uja**	**7.66**	**139**	P	**Pn**	**13 45 13.9**	**+0.8**
AMAZ	**Amatzia**	**7.72**	**143**	Pn	**Pn**	**13 45 13.3**	**-0.8**
AMAZ				Sn	**Sn**	**13 46 40.7**	**-0.9**
AMAZ	**Amatzia**	**7.72**	**143**	P	**Pn**	**13 45 13.7**	**-0.4**
HSUJ	**Al Zarqa**	**7.94**	**134**	P	**Pn**	**13 45 17.0**	**-0.1**
YTIR	**Yattir**	**7.96**	**143**	Pn	**Pn**	**13 45 16.2**	**-1.2**
YTIR				Sn	**Sn**	**13 46 47.2**	**-0.3**
YTIR	**Yattir**	**7.96**	**143**	P	**Pn**	**13 45 18.2**	**+0.8**
MLR	**Muntele Rosu**	**8.08**	**342**	⇑P	**Pn**	**13 45 22.8**	**+3.7**
MSBI	**Mazada**	**8.11**	**142**	Pn	**Pn**	**13 45 19.0**	**-0.4**
MSBI				Sn	**Sn**	**13 46 50.3**	**-0.9**
WALJ	**Wala**	**8.14**	**139**	P	**Pn**	**13 45 20.7**	**+0.8**
BOVS	**Bovan**	**8.27**	**317**	⇑P	**Pn**	**13 45 22.3**	**+0.7**
VRI	**Vrincioaia**	**8.27**	**346**	⇓P	**Pn**	**13 45 23.0**	**+1.5**
PLOR	**Plostina**	**8.27**	**346**	⇑P	**Pn**	**13 45 25.7**	**+4.1**
VOIR		**8.28**	**338**	⇓P	**Pn**	**13 45 22.5**	**+0.8**
KARJ	**KARJ**	**8.42**	**141**	P	Pn	13 45 14.4	-9.2
ZFRI	**Zfri**	**8.66**	**146**	Pn	**Pn**	**13 45 25.1**	**-1.9**
PRNI	**Paran**	**8.76**	**147**	Pn	**Pn**	**13 45 27.5**	**-0.9**
PRNI	**Paran**	**8.76**	**147**	P	**Pn**	**13 45 29.5**	**+1.1**
HRFI	**Mount Harif**	**9.05**	**148**	Pn	**Pn**	**13 45 31.3**	**-1.0**
HRFI				Sn	**Sn**	**13 47 13.7**	**-0.6**
GZR	**Gura Zlata**	**9.06**	**328**	⇑P	**Pn**	**13 45 28.9**	**-3.5**
MDVR	**Moldovita**	**9.07**	**322**	⇓P	**Pn**	**13 45 30.1**	**-2.4**
MBRI	**Mt Berech**	**9.21**	**149**	Pn	**Pn**	**13 45 33.2**	**-1.4**
MBRI				Sn	**Sn**	**13 47 19.0**	**+0.7**
MBRI	**Mt Berech**	**9.21**	**149**	P	**Pn**	**13 45 35.8**	**+1.2**
EIL	**Elat**	**9.34**	**149**	Pn	**Pn**	**13 45 35.4**	**-0.8**
EIL				Sn	**Sn**	**13 47 21.2**	**-0.1**
EIL	**Elat**	**9.34**	**149**	P	**Pn**	**13 45 37.3**	**+1.1**
AKASG	**Malin Array Be**	**12.85**	**359**	LR	LR	13 51 50.5	
	comp=Z,38nm,18.7s,baz=37,slow=40						
NOA	**NORSAR Array B**	**25.89**	**340**	LR	LR	14 00 55.5	
	comp=Z,17nm,20.6s,baz=145,slow=41						
ESDC	**Sonseca Array**	**26.08**	**284**	P	**P**	**13 48 55.4**	**0.0**
	0.5nm,0.9s,baz=90,slow=8.9,SNR=4.3 0.5nm,0.9s						
BVAR	**Borovoye Array**	**31.95**	**48**	LR	LR	14 04 41.1	
	comp=Z,17nm,20.4s,baz=207,slow=40						
TORD	**Torodi Ar. Bea**	**34.90**	**233**	P	**P**	**13 50 14.0**	**+0.5**
	2.0nm,0.6s,baz=36,slow=9.8,SNR=13 2.0nm,0.6s						
MKAR	**Makanchi Array**	**39.38**	**60**	P	**P**	**13 50 51.3**	**0.0**
	1.9nm,1.0s,baz=272,slow=7.2,SNR=4.9 1.9nm,1.0s						

IDC 05 13:46:03.7±3.8,28°.50S×23°.11E,h0km,mbtmp3.3/1, ML2.3/1,Error ellipse: s-maj=38.0km s-min=13.8km az=151.0,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I47ZA	**BOSHOF INFRASO**	**1.88**	**94**	I	I	13 56 40.0	
	0.5nm,1.0s,baz=277,slow=317,SNR=5.7						
BOSA	**Boshof**	**1.90**	**94**	Pg	Pn	13 46 38.0	+0.5
	0.9nm,0.3s,baz=278,slow=18,SNR=12						
BOSA				Lg		13 47 04.0	
	1.7nm,0.3s,baz=335,slow=9.5,SNR=12						
BOSA				Rg	Rg	13 47 15.1	
	180nm,0.9s,baz=290,slow=1.1,SNR=39						
SUR	**Sutherland**	**4.34**	**207**	Pn	Pn	13 47 13.0	+1.8
	0.2nm,0.3s,baz=11,slow=14,SNR=9.5						
SUR				Pg	Pg	13 47 24.3	-2.7
	0.5nm,0.3s,baz=29,slow=19,SNR=6.1						
SUR				Sn	Sn	13 48 02.5	-0.1
	0.4nm,0.3s,baz=245,slow=14,SNR=1.8						
SUR				Lg	Lg	13 48 18.0	
	1.7nm,0.3s,baz=301,slow=23,SNR=12 8.3nm,1.1s						
I35NA	**TSUMEB INFRASO**	**10.56**	**330**	I	I	14 53 10.0	
	0.1nm,1.5s,baz=156,slow=310,SNR=2.0						

IDC 05 13:47:15.5±2.4,21°.92N×92°.65E,h0km,mb3.4/3, mbtmp3.3/4,ML3.6/1,MS3.1/2,Error ellipse: s-maj=129.4km s-min=27.2km az=57.0, Myanmar-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.84**	**119**	Pn	Pn	13 48 58.7	+1.5
	0.3nm,0.3s,baz=310,slow=13,SNR=5.0						
CMAR				Lg	Lg	13 50 42.7	
	0.2nm,0.3s,baz=310,slow=31,SNR=4.7 0.6nm,0.4s						
MKAR	**Makanchi Array**	**26.20**	**344**	P	P	13 52 52.0	+0.2
	0.3nm,0.5s,baz=153,slow=11,SNR=4.2 0.3nm,0.5s						
GEYT	**Alibeck**	**33.68**	**306**	LR	LR	14 11 04.8	
	comp=Z,16nm,20.1s,baz=142,slow=42						
NRIK	**Noril'sk**	**47.52**	**358**	LR	LR	14 18 01.9	
	comp=Z,42nm,20.7s,baz=134,slow=39						
WRA	**Warramunga Arr**	**58.23**	**133**	P	P	13 57 11.4	-0.5
	0.3nm,0.6s,baz=322,slow=7.5,SNR=9.6 0.3nm,0.6s						
ASAR	**Alice Springs**	**60.53**	**136**	P	P	13 57 27.9	0.0
	0.2nm,0.5s,baz=322,slow=6.7,SNR=10.0 0.2nm,0.5s						

BER 05 13:50:58.6±1.5,67°.28N×15°.44E,h0km,ML1.4, Suspected explosion,Northern Norway

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

YER	**Yerkesik**	**0.20**	**115**	Pg	**Pg**	**13 52 00.1**	**+1.1**
YER				Sg	**Sg**	**13 52 02.9**	**+1.2**
MULA	**Mugla, Merkez-**	**0.22**	**81**	P	**Pg**	**13 52 00.9**	**+1.6**
MULA				*i* AML	AML	13 52 05.0	
	comp=N,281nm,0.2s						
MULA				*i* AML	AML	13 52 05.0	
	comp=E,402nm,0.4s						
MLSB	**Milas**	**0.23**	**289**	Pg	**Pg**	**13 52 00.9**	**+1.4**
MLSB				Sg	**Sg**	**13 52 04.8**	**+2.3**
RFTAA	**Mazikoy-Bodrum**	**0.33**	**228**	Pg	**Pg**	**13 52 02.2**	**+0.8**
RFTAA				Sg	**Sg**	**13 52 07.5**	**+1.8**
AYDN	**Tasoluk**	**0.46**	**343**	P	**Pg**	**13 52 03.3**	**-0.6**
AYDN				S	**Sg**	**13 52 09.9**	**0.0**
AYDN				*i* AML	AML	13 52 11.0	
	comp=N,171nm,0.2s						
AYDN				*i* AML	AML	13 52 11.0	
	comp=E,257nm,0.2s						
TURN	**Turunc**	**0.47**	**161**	Pg	**Pg**	**13 52 04.3**	**+0.2**
TURN				Sg	**Sb**	**13 52 12.3**	**-1.5**
TURN	**Turunc**	**0.47**	**161**	P	**Pg**	**13 52 05.0**	**+0.8**
TURN				S	**Sg**	**13 52 11.5**	**+1.3**
RFTC	**Emecik-Datca**	**0.48**	**203**	Pg	**Pb**	**13 52 05.6**	**-0.8**
RFTC				Sg	**Sb**	**13 52 12.1**	**-1.9**
BDRM	**Kayabasi**	**0.51**	**252**	S	**Sg**	**13 52 12.3**	**+0.9**
BODT	**Bodrum**	**0.61**	**255**	Pg	**Pb**	**13 52 08.2**	**-0.5**
BODT				Sg	**Sb**	**13 52 16.8**	**-1.1**
DAT	**Datca**	**0.62**	**218**	Pg	**Pg**	**13 52 07.6**	**+0.6**
DAT				Sg	**Sg**	**13 52 16.3**	**+1.3**
DAT	**Datca**	**0.62**	**218**	P	**Pg**	**13 52 07.4**	**+0.4**
DAT				S	**Sb**	**13 52 16.4**	**-1.8**
DAT				*i* AML	AML	13 52 22.0	
	comp=E,58nm,0.2s						
DAT				*i* AML	AML	13 52 24.0	
	comp=N,69nm,0.2s						
DALY	**Dalyan (Mula)**	**0.63**	**130**	Pg	**Pb**	**13 52 08.1**	**-0.9**
DALY				Sg	**Sb**	**13 52 17.3**	**-1.0**
RFTB	**Kemer-Bodrum**	**0.67**	**248**	Pg	**Pg**	**13 52 08.6**	**+0.6**
RFTB				Sg	**Sb**	**13 52 18.7**	**-0.9**
RFTD	**Palamutbuku-Ka**	**0.70**	**220**	Pg	**Pb**	**13 52 09.4**	**-0.7**
RFTD				Sg	**Sb**	**13 52 19.4**	**-0.9**
TAVA	**DENIZLI_Tavas**	**0.73**	**70**	S	**Sg**	**13 52 18.1**	**-0.5**
GCAM	**G?zelcaml?**	**0.81**	**307**	Pg	**Pb**	**13 52 11.9**	**-0.1**
ARG	**Arkhangelos**	**1.00**	**176**	Pg	**Pg**	**13 52 14.4**	**0.0**
FETY	**Fethiye**	**1.01**	**125**	Pg	**Pb**	**13 52 15.8**	**+0.2**
CAME	**Cameli-Denizli**	**1.04**	**105**	Pg	**Pb**	**13 52 16.1**	**0.0**

IDC 05 13:52:19.3±9.8, 12°.57N×92°.09E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=531.9km s-min=30.9km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**27.97**	**225**	T	T	14 27 28.3	
	baz=44,slow=75,SNR=16						
H08S2	**Diego Garcia H**	**27.98**	**225**	T	T	14 27 28.5	
	baz=44,slow=75,SNR=10						
H08S1	**Diego Carcia H**	**27.99**	**225**	T	T	14 27 27.7	
	baz=44,slow=75,SNR=9.9						
MKAR	**Makanchi Array**	**35.10**	**348**	P	P	13 59 14.2	-0.1
	0.3nm,0.6s,baz=173,slow=13,SNR=1.8						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**52.66**	**127**	P	P	14 01 35.6	-0.2
	0.3nm,0.6s,baz=300,slow=10,SNR=7.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**54.49**	**131**	P	P	14 01 49.2	0.0
	0.4nm,0.4s,baz=309,slow=7.1,SNR=18						
	0.4nm,0.4s						
H04N2	**CROZET ISLANDS**	**68.77**	**209**	T	T	15 18 37.0	
	baz=43,slow=75,SNR=9.8						
H04N1	**CROZET ISLANDS**	**68.78**	**209**	T	T	15 18 42.3	
	baz=43,slow=75,SNR=11						
H04N3	**CROZET ISLANDS**	**68.79**	**209**	T	T	15 18 38.8	
	baz=43,slow=75,SNR=8.9						

*EAF **05** 14:14:19.1, 25°.96S×29°.75E, h10km, MC3.4*
BUL 05 14:14:20.4±1.5, 25°.93S×29°.65E, h10km, MD3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.88**	**34**	*i* P	Pn	14 15 03.2	-3.2
MOPA				*i* S	Sn	14 15 37.1	-4.0
MOPA	**Mopani**	**2.88**	**34**	*i* P	Pn	14 15 03.2	-3.2
	baz=32						
MOPA				*i* S	Sn	14 15 37.1	-4.0
	baz=32						
MUSN	**Musina, Limpop**	**3.63**	**3**	*i* P	Pn	14 15 16.3	-0.4
MUSN				*i* S	Sn	14 15 57.8	-1.9
MUSN	**Musina, Limpop**	**3.63**	**3**	*i* P	Pn	14 15 16.3	-0.4
	baz=2.0						
MUSN				*i* S	Sn	14 15 57.8	-1.9
	baz=2.0						
LBTB	**Lobatse**	**3.78**	**283**	*i* P	Pn	14 15 17.0	-1.9
LBTB				*i* S	Sn	14 16 01.1	-2.3
LBTB	**Lobatse**	**3.78**	**283**	*i* P	Pn	14 15 17.0	-1.9
	baz=283						
LBTB				*i* S	Sn	14 16 01.1	-2.3
	baz=283						
BOSA	**Boshof**	**4.74**	**235**	*i* P	Pn	14 15 32.0	-0.1
BOSA				*i* S	Sn	14 16 24.1	-3.1
BOSA	**Boshof**	**4.74**	**235**	*i* P	Pn	14 15 32.0	-0.1
	baz=236						
BOSA				*i* S	Sn	14 16 24.1	-3.1
	baz=236						

*IDC **05** 14:28:17.8±2.7, 16°.80N×120°.39E, h90km±35km, mb3.3/9, mbtmp3.7/9, MS2.7/2, Error ellipse: s-maj=31.4km s-min=26.6km az=74.0*
ISC 05 14:28:16.8±0.8, 16°.88N±0°.09×120°.4E±0°.2, h76km, n11, σ0°54/12, mb3.7/8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.81**	**169**	P	**Pn**	**14 28 59.4**	**-0.2**
	1μm,0.5s,baz=297,slow=3.1,SNR=20						
TGY				S	**Sn**	**14 29 32.9**	**+0.4**
	609nm,0.5s,baz=117,slow=18,SNR=3.0						
CMAR	**Chiang Mai Arr**	**20.50**	**278**	P	**P**	**14 32 49.4**	**+0.6**
	0.5nm,0.7s,baz=88,slow=8.6,SNR=4.1						
CMAR				LR	LR	14 40 42.6	
	comp=Z,12nm,19.8s,baz=220,slow=36						
	0.5nm,0.7s						
KSRS	**Korea Array**	**21.55**	**17**	P	**P**	**14 33 00.2**	**+0.4**
	1.4nm,0.8s,baz=194,slow=12,SNR=5.5						
	1.4nm,0.8s						
SONM	**Songino Array**	**32.95**	**343**	P	**P**	**14 34 44.6**	**+0.4**
	0.5nm,0.5s,baz=162,slow=12,SNR=4.4						
	0.5nm,0.5s						
KLR	**Kul'dur**	**33.57**	**14**	LR	LR	14 51 31.2	
	comp=Z,19nm,18.5s,baz=160,slow=41						
MKAR	**Makanchi Array**	**43.34**	**322**	P	**P**	**14 36 11.4**	**+0.1**
	0.2nm,0.3s,baz=138,slow=6.0,SNR=8.4						
MKAR				PcP	**PcP**	**14 37 58.0**	**-0.9**
	0.8nm,0.8s,baz=132,slow=4.1,SNR=4.7						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**47.42**	**325**	P	**P**	**14 36 43.2**	**-0.3**
	0.8nm,0.6s,baz=120,slow=8.7,SNR=5.7						
	0.8nm,0.6s						
ARCES	**ARCESS Array B**	**76.03**	**339**	P	**P**	**14 39 55.5**	**0.0**
	0.7nm,0.5s,baz=56,slow=6.5,SNR=6.7						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**76.04**	**26**	P	**P**	**14 39 56.0**	**+0.3**
	0.6nm,0.9s,baz=275,slow=7.4,SNR=5.0						
	0.6nm,0.9s						
FINES	**FINESS Array B**	**77.38**	**331**	P	**P**	**14 40 02.7**	**-0.5**
	0.6nm,0.5s,baz=35,slow=7.0,SNR=3.8						
	0.6nm,0.5s						
NOA	**NORSAR Array B**	**84.32**	**332**	P	**P**	**14 40 39.6**	**-0.7**
	0.6nm,0.7s,baz=84,slow=6.5,SNR=2.2						
	0.6nm,0.7s						

MEX 05 14:38:09.6±0.8, 15°.30N×94°.58W, h16km±14km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.14**	**34**	*e* P	Pn	14 38 27.7	-3.2
CARR				*e* S	Sb	14 38 41.1	-4.4
NILT	**Santiago Nilte**	**1.26**	**358**	*e* P	Pn	14 38 28.4	-4.1
NILT				*e* S	Sb	14 38 43.1	-5.8
PCIG		**1.37**	**73**	*e* P	Pn	14 38 31.0	-3.0
PCIG				*e* S	Sn	14 38 47.4	-4.5
HUIG	**Huatulco**	**1.55**	**288**	*e* P	Pn	14 38 32.6	-3.9
HUIG				*e* S	Sn	14 38 49.0	-7.3
TGIG		**2.03**	**43**	*i* P	Pn	14 38 39.6	-3.6
TGIG				*e* S	Sn	14 39 02.2	-6.1
UXUV	**UXUV**	**2.05**	**12**	*e* P	Pn	14 38 40.3	-3.1
THIG		**2.27**	**100**	*e* P	Pn	14 38 34.2	-12
THIG				*e* S	Sn	14 39 09.3	-4.7
PATR	**El Naranjo**	**2.27**	**94**	*e* P	Pn	14 38 43.8	-2.8
PATR				*e* S	Sn	14 39 09.3	-5.2
PAVE	**Pavencul**	**2.32**	**92**	*e* P	Pn	14 38 45.7	-1.7
PAVE				*e* S	Sn	14 39 10.7	-5.0
CHUJ	**Union Juarez**	**2.39**	**95**	*e* P	Pn	14 38 45.6	-2.8
CHUJ				*e* S	Sn	14 39 12.3	-5.1
CCIG	**Comitan**	**2.54**	**67**	*e* P	Pn	14 38 48.0	-2.4
CCIG				*e* S	Sn	14 39 19.4	-1.7
PEIG	**Puerto Escondi**	**2.57**	**286**	*e* P	Pn	14 38 46.5	-4.1
PEIG				*e* S	Sn	14 39 13.2	-8.4
VHO	**Vista Hermosa**	**2.72**	**311**	*e* P	Pn	14 38 46.5	-6.4
VHO				*e* S	Sn	14 39 19.4	-6.1
TUIG	**Tuzandepetl**	**2.72**	**3**	*e* P	Pn	14 38 48.8	-3.9
TUIG				*e* S	Sn	14 39 19.1	-6.2
YOIG	**Yosondua**	**3.25**	**299**	*e* P	Pn	14 38 58.7	-1.5
YOIG				*e* S	Sn	14 39 33.3	-5.4
PMUV	**Sontecomapan**	**3.27**	**351**	*e* P	Pn	14 38 55.8	-4.5
PMUV				*e* S	Sn	14 39 27.3	-12
PNIG	**Pinotepa**	**3.58**	**288**	*e* P	Pn	14 39 01.2	-3.4
PNIG				*e* S	Sn	14 39 36.5	-10
TXIG	**Tlaxiaco**	**3.63**	**303**	*e* P	Pn	14 39 01.7	-3.7
TXIG				*e* S	Sn	14 39 40.9	-7.2
TOIG	**Toxpalan**	**3.66**	**320**	*e* P	Pn	14 39 04.3	-1.4
TOIG				*e* S	Sn	14 39 44.0	-4.6

*NEIC **05** 14:55:14.8±0.3, 36°.04N±0°.01×97°.52W±0°.01, h4km±3km, Error ellipse: s-maj=1.9km s-min=1.2km az=178.0*
TUL 05 14:55:14.2±0.5, 36°.05N±0°.01×97°.52W±0°.01, h6km±3km, ML2.6, mb_Lg2.3/18(NEIC), ML2.5/48(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=195.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.26**	**168**		Pg	14 55 19.4	+0.2
OK033	**Mehan**	**0.47**	**91**		Pg	14 55 23.6	+0.3
OK033				IAML		14 55 31.1	
	277nm,0.1s						
OK031	**S. Brethren Rd**	**0.56**	**100**		Pg	14 55 25.2	+0.2
OK031				IAmb_Lg		14 55 32.3	
	comp=Z,27nm,0.8s						
OK031				Sg	Sg	14 55 33.2	+0.9
OK031				IAML		14 55 35.4	
	comp=Z,406nm,0.4s						
OK052	**Battle Ridge R**	**0.58**	**95**		Pg	14 55 25.7	+0.3
OK052				IAML		14 55 36.1	
	comp=Z,232nm,0.4s						
CROK	**Carrier**	**0.59**	**321**		Pg	14 55 25.7	+0.2
CROK				Sg	Sg	14 55 33.8	+0.6
CROK				IAML		14 55 36.3	
	comp=E,442nm,0.4s						
OK048	**Pawnee Station**	**0.59**	**52**		Pg	14 55 25.8	+0.2
OK048				IAML		14 55 36.0	
	comp=E,218nm,0.4s						
OK048				IAML		14 55 36.3	
	comp=E,229nm,0.6s						
OKCSW	**OKLAHOMA CITY**	**0.65**	**174**	Pg	Pg	14 55 26.5	-0.1
OKCSW				IAML		14 55 38.5	
	comp=E,207nm,0.3s						
QUOK	**Quay**	**0.67**	**79**		Pg	14 55 27.2	+0.2
QUOK				IAML		14 55 38.9	
	comp=N,172nm,0.2s						
QUOK				IAML		14 55 40.0	
	comp=E,188nm,0.2s						
OK051	**E0350 and S346**	**0.71**	**50**		Pg	14 55 28.0	0.0
OK051				IAML		14 55 41.9	
	comp=E,323nm,0.2s						
BLOK	**Blackwell**	**0.75**	**19**	Pg	Pg	14 55 28.7	0.0
BLOK				IAML		14 55 43.4	
	comp=N,320nm,0.2s						
GC02	**Grant County #**	**0.85**	**341**		Pg	14 55 30.1	-0.4
DEOK	**Depew**	**0.85**	**104**		Pg	14 55 30.3	-0.2
DEOK				IAML		14 55 42.9	
	comp=N,150nm,0.3s						
DEOK				IAML		14 55 44.9	
	comp=E,144nm,0.2s						
KAN13	**South Haven SW**	**0.96**	**2**		Pg	14 55 32.5	-0.2
KAN14	**Manchester OK**	**0.97**	**339**		Pg	14 55 32.5	-0.4
KAN14				IAML		14 55 49.4	
	comp=N,198nm,0.1s						
KAN17	**Caldwell West**	**1.01**	**349**		Pg	14 55 33.3	-0.3
KAN17				IAML		14 55 53.1	
	comp=E,163nm,0.2s						
KAN17				IAML		14 55 55.5	
	comp=N,197nm,0.2s						
CSTR	**Hydro, Custer**	**1.03**	**247**		Pg	14 55 33.8	-0.3
W35A	**Tecumseh**	**1.04**	**149**		Pg	14 55 33.4	-0.7
W35A				IAML		14 55 49.9	
	comp=N,146nm,0.2s						
OK038	**West end E0370**	**1.08**	**294**	Pg	Pg	14 55 34.2	-0.6
KAN09	**Caldwell North**	**1.09**	**356**	Pg	Pg	14 55 34.7	-0.4
KAN05	**Bluff City Nor**	**1.09**	**345**	Pg	Pg	14 55 34.9	-0.3
KAN01	**Argonia South**	**1.12**	**350**	Pg	Pg	14 55 35.3	-0.4
KAN10	**Anthony SW Sta**	**1.17**	**337**	Pg	Pg	14 55 36.1	-0.5
KS20	**Mayfield South**	**1.18**	**359**	Pg	Pg	14 55 36.3	-0.5
KS20				IAmb_Lg		14 55 52.0	
	comp=Z,35nm,0.9s						
T35A	**Sooner Cattle**	**1.19**	**43**		Pg	14 55 36.4	-0.5
T35A				IAML		14 55 56.8	
	comp=N,116nm,0.5s						
KAN08	**Anthony NE Sta**	**1.23**	**343**		Pg	14 55 37.2	-0.6
KAN08				IAML		14 55 57.0	
	comp=E,92nm,0.3s						
KAN08				IAML		14 55 58.9	
	comp=N,97nm,0.1s						
U32A	**Winter Ranch,**	**1.24**	**286**	Pg	Pg	14 55 37.2	-0.8
U32A				IAML		14 55 59.1	
	comp=E,76nm,0.2s						
U32A				IAML		14 56 22.4	
	comp=N,104nm,0.9s						
KAN12	**Harper NE Stat**	**1.30**	**343**		Pn	14 55 38.7	-0.2
TUL3	**Leonard**	**1.41**	**95**		Pn	14 55 39.6	-0.8
X34A	**Smith Ranch, M**	**1.47**	**190**	Pg	Pb	14 55 41.7	-0.2
WMOK	**Wichita Mounta**	**1.67**	**219**		Pn	14 55 44.4	+0.4
RLO	**Rose Lookout**	**2.02**	**86**	Pn	Pn	14 55 49.7	+0.8
LOOK	**Love County**	**2.07**	**172**	IAmb_Lg		14 56 25.4	
	comp=Z,9.5nm,0.9s						
X37A	**Clayton**	**2.28**	**129**	IAmb_Lg		14 56 30.8	
	comp=Z,20nm,0.9s						
WTFS	**Witchita Falls**	**2.41**	**199**	Pn	Pn	14 55 55.1	+1.0
U38A	**Gravette**	**2.56**	**80**	IAmb_Lg		14 56 33.8	
	comp=Z,9.7nm,0.7s						
AMTX	**Amarillo**	**3.59**	**252**	IAmb_Lg		14 57 07.3	
	comp=Z,5.0nm,0.8s						
S39A	**Bolivar**	**3.74**	**63**	IAmb_Lg		14 57 12.4	
	comp=Z,13nm,0.9s						
ABTX	**Abilene, Hawle**	**3.84**	**208**	IAmb_Lg		14 57 16.8	
	comp=Z,8.6nm,1.0s						
R40A	**Maddies Statio**	**4.75**	**60**	IAmb_Lg		14 57 54.0	
	comp=Z,8.3nm,1.0s						
P38A	**Dawn**	**4.76**	**40**	IAmb_Lg		14 57 54.8	
	comp=Z,7.7nm,0.8s						

*IDC **05** 15:01:53.2±0.7, 6°.76N×72°.96W, h161km±7km, mb3.5/6, mbtmp4.0/8, Error ellipse: s-maj=23.3km s-min=7.6km az=131.0*
*RSNC **05** 15:01:54.0±1.0, 6°.82N×73°.14W, h148km±4km, ML3.8, Mw4.1, Fault plane solution: NP1:φs33.00000°, δ89.00000°, λ-122.00000°.*
ISC 05 15:01:52.8±0.7, 6°.82N±0°.03×73°.10W±0°.04, h155km±6km, n48, σ1°37/85, mb3.7/6, 2C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**200**	⇓*i* P	**Pn**	**15 02 14.0**	**-0.1**
BARC				*e* S	**Sn**	**15 02 29.1**	**-1.1**
BARC				*i*		15 02 30.0	
	comp=Z,3μm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**38**	⇓*i* P	**Pn**	**15 02 16.9**	**+0.8**
PAMC				*e* S	**Sn**	**15 02 34.1**	**+0.3**
PAMC				*i*		15 02 36.5	
	comp=Z,2μm,0.6s						
RUSC	**La Rusia**	**0.93**	**179**	⇓*i* P	**Pn**	**15 02 17.9**	**-0.1**
RUSC				*e* S	**Sn**	**15 02 36.5**	**-0.7**
RUSC				*i*		15 02 38.4	
	comp=Z,1μm,0.3s						
TAMC	**Tame, Arauca**	**1.35**	**106**	⇓*i* P	**Pn**	**15 02 22.5**	**+1.2**
TAMC				*e* S	**Sn**	**15 02 44.0**	**+0.9**
TAMC				*i*		15 02 45.9	
	comp=Z,187nm,0.3s						
SPBC	**San Pablo de B**	**1.51**	**220**	⇑*i* P	**Pn**	**15 02 22.7**	**-0.3**
SPBC				*e* S	**Sn**	**15 02 45.1**	**-1.1**
SPBC				*i*		15 02 49.7	
	comp=Z,1μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*e* P	**Pn**	**15 02 26.5**	**-0.2**
ZARC				*e* S	**Sn**	**15 02 51.9**	**-1.0**
ZARC				*i*		15 02 58.0	
	comp=Z,954nm,0.3s						
NORC	**Norcasia**	**2.16**	**235**	*e* P	**Pn**	**15 02 29.7**	**-0.4**
NORC				*e* S	**Sn**	**15 02 57.6**	**-1.4**
NORC				*i*		15 03 02.8	
	comp=Z,380nm,0.3s						
CHIC	**Chingaza**	**2.27**	**196**	*e* P	**Pn**	**15 02 32.0**	**+0.2**
CHIC				*e* S	**Sn**	**15 03 01.9**	**0.0**
CHIC				*i*		15 03 03.8	
	comp=Z,523nm,0.4s						
ROSC	**El Rosal**	**2.32**	**212**	*e* P	**Pn**	**15 02 33.7**	**+1.3**
ROSC				*e* S	**Sn**	**15 03 03.6**	**+0.8**
ROSC				*i*		15 03 08.6	
	comp=Z,679nm,0.4s						
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**15 02 33.9**	**+1.5**
	comp=Z,104nm,0.3s,baz=82,slow=10.0,SNR=26						
ROSC				S	**Sn**	**15 03 04.6**	**+1.8**
	comp=Z,437nm,0.3s,baz=265,slow=24,SNR=9.8						
UREC	**San Jos de Ur**	**2.59**	**291**	*e* P	**Pn**	**15 02 34.0**	**-1.2**
UREC				*e* S	**Sn**	**15 03 05.4**	**-2.6**
UREC				*i*		15 03 07.7	
	comp=Z,585nm,0.1s						
VILC	**Villavicencio,**	**2.76**	**192**	*e* P	**Pn**	**15 02 37.4**	**-0.1**
VILC				*e* S	**Sn**	**15 03 11.8**	**-0.3**
VILC				*i*		15 03 17.5	
	comp=Z,289nm,0.4s						
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*e* P	**Pn**	**15 02 38.2**	**+0.3**
GUY2C				*e* S	**Sn**	**15 03 14.8**	**+2.3**
GUY2C				*i*		15 03 22.4	
	comp=Z,443nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.78**	**160**	⇓*i* P	**Pn**	**15 02 37.1**	**-0.5**
PTGC				*e* S	**Sn**	**15 03 10.5**	**-1.8**
PTGC				*i*		15 03 13.0	
	comp=Z,249nm,0.4s						
DBBC	**Dabeiba**	**3.10**	**274**	*e* P	**Pn**	**15 02 42.1**	**+0.5**
DBBC				*e* S	**Sn**	**15 03 18.4**	**-1.1**
DBBC				*i*		15 03 19.3	
	comp=Z,214nm,0.3s						
SDV	**Santo Domingo**	**3.19**	**50**	*e* P	**Pn**	**15 02 43.7**	**+0.8**
SDV				*e* S	**Sn**	**15 03 21.6**	**-0.2**
SDV				*i*		15 03 25.8	
	comp=Z,105nm,0.6s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**15 02 43.6**	**+0.6**
	comp=Z,22nm,0.3s,baz=224,slow=18,SNR=5.7						
SDV				S	**Sn**	**15 03 21.3**	**-0.4**
	comp=Z,124nm,0.4s,baz=252,slow=21,SNR=42						
ARGC	**Ariguani, Magd**	**3.22**	**339**	*e* P	**Pn**	**15 02 44.3**	**+1.1**
ARGC				*e* S	**Sn**	**15 03 22.6**	**+0.3**
ARGC				*i*		15 03 34.5	
	comp=Z,110nm,0.4s						
ANIL	**Santa Ana**	**3.26**	**225**	*e* P	**Pn**	**15 02 45.2**	**+1.2**
ANIL				*e* S	**Sn**	**15 03 23.7**	**+0.1**
PRAC	**Prado**	**3.57**	**210**	*e* P	**Pn**	**15 02 47.6**	**-0.1**
PRAC				*e* S	**Sn**	**15 03 29.6**	**-0.7**
PRAC				*i*		15 03 32.1	
	comp=Z,262nm,0.3s						
ORTC	**Ortega, Tolima**	**3.60**	**217**	⇓*i* P	**Pn**	**15 02 48.5**	**+0.4**
ORTC				*e* S	**Sn**	**15 03 30.5**	**-0.5**
ORTC				*i*		15 03 36.7	
	comp=Z,157nm,0.7s						
APAC	**Apartado, Choc**	**3.62**	**287**	⇑*i* P	**Pn**	**15 02 48.0**	**-0.2**
APAC				*e* S	**Sn**	**15 03 30.8**	**-0.5**
APAC				*i*		15 03 34.1	
	comp=Z,203nm,0.7s						
SJCC	**San Jacinto, C**	**3.68**	**326**	*e* P	**Pn**	**15 02 47.8**	**-1.3**
SJCC				*e* S	**Sn**	**15 03 29.4**	**-3.6**
SJCC				*i*		15 03 35.2	
	comp=Z,119nm,0.4s						
PLMC	**San Jos del P**	**3.70**	**239**	*e* P	**Pn**	**15 02 49.6**	**+0.2**
PLMC				*e* S	**Sn**	**15 03 31.9**	**-1.4**
PLMC				*i*		15 03 37.5	
	comp=Z,96nm,0.2s						
LCBC	**Los crdobas,**	**3.82**	**302**	*e* P	**Pn**	**15 02 51.7**	**+0.9**
LCBC				*e* S	**Sn**	**15 03 36.2**	**+0.3**
LCBC				*i*		15 03 38.9	
	comp=Z,256nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*e* P	**Pn**	**15 02 54.6**	**-1.0**
CRJC				*e* S	**Sn**	**15 03 42.5**	**-2.0**
CRJC				*i*		15 03 49.4	
	comp=Z,148nm,0.4s						
GUVC	**San Jose del G**	**4.28**	**174**	*e* P	**Pn**	**15 02 56.8**	**-0.1**
GUVC				*e* S	**Sn**	**15 03 45.1**	**-1.6**
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e* P	**Pn**	**15 02 56.7**	**-0.4**
YOTC				*e* S	**Sn**	**15 03 48.2**	**+1.0**
SMRC	**Santa Marta, M**	**4.45**	**346**	*e* P	**Pn**	**15 02 59.4**	**+0.3**
SMRC				*e* S	**Sn**	**15 03 47.8**	**-3.1**
SMRC				*i*		15 03 51.8	
	comp=Z,56nm,0.2s						
MACC	**Macarena, Meta**	**4.71**	**189**	*e* P	**Pn**	**15 03 01.1**	**-1.4**
MACC				*e* S	**Sn**	**15 03 52.2**	**-4.7**
MACC				*i*		15 04 23.0	
	comp=Z,57nm,0.7s						
URIC	**Uribia, Colomb**	**4.97**	**13**	*e* P	**Pn**	**15 03 05.1**	**-0.9**
URIC				*e* S	**Sn**	**15 04 02.7**	**-0.3**
JAMC	**Jamundi, Valle**	**5.05**	**225**	*e* P	**Pn**	**15 03 08.0**	**+0.8**
JAMC				*e* S	**Sn**	**15 04 06.3**	**+1.0**
MALC	**Bahia Malaga**	**5.06**	**237**	*e* P	**Pn**	**15 03 09.7**	**+2.6**
MALC				*e* S	**Sn**	**15 04 06.0**	**+0.9**
MALC				*i*		15 04 10.0	
	comp=Z,67nm,0.8s						
GARC	**Garzon, Huila**	**5.19**	**208**	*e* P	**Pn**	**15 03 08.3**	**-0.8**
GARC				*e* S	**Sn**	**15 04 05.2**	**-3.4**
GARC				*i*		15 04 10.3	
	comp=Z,57nm

MOPA			*i* S	Sb	15 26 44.6	-0.3
	baz=218					
MUSN	**Musina, Limpop**	**2.77 264**	*i* P	Pn	15 26 27.7	-0.3
MUSN			*i* S	Sn	15 26 60.0	-1.6
MUSN	**Musina, Limpop**	**2.77 264**	*i* P	Pn	15 26 27.7	-0.3
	baz=262					
MUSN			*i* S	Sn	15 26 60.0	-1.6
	baz=262					
KRI	**Karoi**	**5.99 329**	*i* P	Pn	15 27 02.5	-10
KRI			*i* S	Sn	15 28 00.0	-21
KRI	**Karoi**	**5.99 329**	*i* P	Pn	15 27 02.5	-10
	baz=330					
KRI			*i* S	Sn	15 28 00.0	-21
	baz=330					

*SJA **05** 15:27:14.8±0.8, 22°.31S×68°.79W, h120km±3km, ML3.6, MW3.7*
*GUC **05** 15:27:16.5±0.8, 22°.28S×68°.82W, h117km±3km, ML3.8*
ISC 05 15:27:16.2±1.5, **22°.31S**±0°.03×**68°.85W**±0°.06, **h118**km±8km, **n30**, σ1§**08**/58, **8C-5D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.31**	**191**	⇓*i*P	**Pn**	**15 27 32.8**	**-0.6**
LVC				*i* S	**Sn**	**15 27 45.0**	**-1.5**
LVC				IAML		15 27 45.5	
	comp=Z,10μm,0.2s						
LVC	**Limon Verde**	**0.31**	**191**	*e*P	**Pn**	**15 27 32.8**	**-0.6**
LVC				*e*S	**Sn**	**15 27 45.6**	**-0.8**
LVC				IAML		15 27 45.8	
	comp=Z,999nm,0.4s						
PB09	**IPOC Station P**	**0.62**	**324**	⇑*i*P	**Pn**	**15 27 35.3**	**+0.2**
PB09				*i* S	**Sn**	**15 27 48.6**	**-0.6**
PB09				IAML		15 27 50.3	
	comp=E,3μm,0.3s						
PB09	**IPOC Station P**	**0.62**	**324**	*e*P	**Pn**	**15 27 35.2**	**+0.2**
PB09				*e*S	**Sn**	**15 27 49.5**	**+0.3**
PB09				IAML		15 27 50.2	
	comp=Z,3μm,0.2s						
PB06	**IPOC Station P**	**0.78**	**239**	⇓*i*P	**Pn**	**15 27 36.3**	**+0.1**
PB06				*i* S	**Sn**	**15 27 51.7**	**+0.4**
PB06				IAML		15 27 52.7	
	comp=E,3μm,0.2s						
PB06	**IPOC Station P**	**0.78**	**239**	*e*P	**Pn**	**15 27 36.3**	**+0.1**
PB06				*e*S	**Sn**	**15 27 52.1**	**+0.7**
PB06				IAML		15 27 53.3	
	comp=Z,930nm,0.2s						
AF01	**San Pedro de A**	**0.89**	**136**	⇓*i*P	**Pn**	**15 27 37.4**	**0.0**
AF01				*i* S	**Sn**	**15 27 53.3**	**0.0**
AF01				IAML		15 27 54.4	
	comp=N,5μm,0.5s						
PB15	**IPOC Station P**	**1.07**	**213**	⇓*i*P	**Pn**	**15 27 39.1**	**+0.1**
PB15				*i* S	**Sn**	**15 27 57.2**	**+1.0**
PB15	**IPOC Station P**	**1.07**	**213**	*e*P	**Pn**	**15 27 38.9**	**-0.1**
PB15				*e*S	**Sn**	**15 27 57.1**	**+0.8**
PB07	**IPOC Station P**	**1.12**	**301**	⇑*i*P	**Pn**	**15 27 39.9**	**+0.4**
PB07				*i* S	**Sn**	**15 27 57.0**	**-0.2**
PB07				IAML		15 27 57.5	
	comp=N,4μm,0.3s						
PB07	**IPOC Station P**	**1.12**	**301**	*e*P	**Pn**	**15 27 39.7**	**+0.2**
PB07				*e*S	**Sn**	**15 27 57.6**	**+0.4**
PB07				IAML		15 27 59.1	
	comp=Z,1μm,0.4s						
PB04	**IPOC Station P**	**1.21**	**268**	⇓*i*P	**Pn**	**15 27 40.8**	**+0.4**
PB04				*i* S	**Sn**	**15 27 58.8**	**+0.1**
PB04				IAML		15 28 01.4	
	comp=N,2μm,0.2s						
PB04	**IPOC Station P**	**1.21**	**268**	*e*P	**Pn**	**15 27 40.7**	**+0.4**
PB04				*e*S	**Sn**	**15 27 59.4**	**+0.7**
PB04				IAML		15 28 01.0	
	comp=Z,2μm,0.2s						
PB02	**IPOC Station P**	**1.38**	**315**	⇑*i*P	**Pn**	**15 27 42.5**	**+0.2**
PB02				*i* S	**Sn**	**15 28 01.9**	**-0.2**
PB02				IAML		15 28 06.1	
	comp=E,2μm,0.4s						
PB02	**IPOC Station P**	**1.38**	**315**	*e*P	**Pn**	**15 27 42.5**	**+0.2**
PB02				*e*S	**Sn**	**15 28 02.6**	**+0.5**
PB02				*e*S	**Sn**	**15 28 02.7**	**+0.6**
PB02				IAML		15 28 04.7	
	comp=Z,1μm,0.2s						
PB01	**IPOC Station P**	**1.39**	**335**	⇑*i*P	**Pn**	**15 27 42.3**	**-0.1**
PB01				*i* S	**Sn**	**15 28 01.8**	**-0.4**
PB01				IAML		15 28 03.1	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**1.39**	**335**	*e*P	**Pn**	**15 27 42.3**	**-0.1**
PB01				*e*S	**Sn**	**15 28 02.7**	**+0.5**
PB01				IAML		15 28 03.0	
	comp=Z,489nm,0.2s						
PATCX	**Punta Patache**	**1.91**	**320**	⇑*i*P	**Pn**	**15 27 48.2**	**-0.4**
PATCX				*i* S	**Sn**	**15 28 11.8**	**-1.5**
PATCX				IAML		15 28 15.6	
	comp=N,591nm,0.1s						
PATCX	**Punta Patache**	**1.91**	**320**	*e*P	**Pn**	**15 27 48.5**	**-0.1**
PATCX				*e*S	**Sn**	**15 28 15.0**	**+1.7**
PATCX				IAML		15 28 15.4	
	comp=Z,265nm,0.3s						
TA01	**Diego Aracena**	**2.13**	**324**	⇑*i*P	**Pn**	**15 27 50.5**	**-0.7**
TA01				IAML		15 28 23.1	
	comp=E,283nm,0.3s						
TA01	**Diego Aracena**	**2.13**	**324**	*e*P	**Pn**	**15 27 50.0**	**-1.2**
TA01				*e*S	**Sn**	**15 28 16.6**	**-1.4**
TA01				IAML		15 28 26.4	
	comp=Z,117nm,0.2s						
PB08	**IPOC Station P**	**2.17**	**352**	⇑*i*P	**Pn**	**15 27 52.6**	**+0.5**
PB08				*i* S	**Sn**	**15 28 20.2**	**+0.6**
PB08				IAML		15 28 22.6	
	comp=N,167nm,0.2s						
PB08	**IPOC Station P**	**2.17**	**352**	*e*P	**Pn**	**15 27 52.1**	**0.0**
PB08				*e*S	**Sn**	**15 28 25.7**	**+6.1**
GO01	**Chusmiza**	**2.64**	**353**	⇑*i*P	**Pn**	**15 27 58.5**	**+0.2**
GO01				*i* S	**Sn**	**15 28 30.3**	**-0.2**
GO01	**Chusmiza**	**2.64**	**353**	*e*P	**Pn**	**15 27 58.2**	**-0.1**
GO01				*e*S	**Sn**	**15 28 30.4**	**-0.2**
GO01				IAML		15 28 37.5	
	comp=Z,113nm,0.3s						
PB14	**IPOC Station P**	**2.72**	**211**	*e*P	**Pn**	**15 27 58.5**	**-0.5**
PB14				*e*P	**Pn**	**15 27 58.9**	**-0.2**
PB14				*e*S	**Sn**	**15 28 31.3**	**-0.7**
PB14				IAML		15 28 34.1	
	comp=Z,150nm,0.1s						
GO02	**Mina Guanaco**	**2.92**	**193**	*e*P	**Pn**	**15 28 01.8**	**+0.1**
GO02				*e*S	**Sn**	**15 28 38.0**	**+1.2**
GO02				IAML		15 28 50.9	
	comp=Z,208nm,0.3s						
HJA	**Humahuaca**	**3.30**	**106**	*e*P	Pn	15 27 55.2	-12
PB12	**IPOC Station P**	**3.93**	**339**	*e*P	**Pn**	**15 28 13.4**	**-1.5**
PB12				*e*S	**Sn**	**15 28 58.5**	**-1.7**
PB12				IAML		15 29 28.6	
	comp=Z,44nm,0.6s						
PB16	**IPOC Station P**	**4.00**	**351**	*e*P	**Pn**	**15 28 16.1**	**-0.2**
PB16				IAML		15 29 35.5	
	comp=Z,29nm,0.6s						

*IDC **05** 15:38:34.2±0.8, 1°.72N×126°.13E, h0km, mb4.0/9, mbtmp3.9/10, ML3.1/1, MS2.5/2, Error ellipse: s-maj=50.3km s-min=15.0km az=62.0*
*DJA **05** 15:38:39.1±0.5, 2°N±7°×12°7E±°, h10km, M4.1/10, mb4.3/4, MLv4.0/10*
*NEIC **05** 15:38:40.7±1.0, 1°.8N±0°.1×126°.40E±0°.09, h50km±11km, mb4.2/13, Error ellipse: s-maj=19.4km s-min=9.3km az=208.0*
ISC 05 15:38:40.6±0.6, **1°.86N**±0°.09×**126°.49E**±0°.07, **h47**km, **n38**, σ1§**74**/40, **mb4.1**/14, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.39**	**141**		**Pn**	**15 39 02.7**	**-0.8**
TNTI	**Ternate**	**1.39**	**141**	P	**Pn**	**15 39 03.6**	**0.0**
LBMI	**Labuha**	**2.68**	**158**	P	**Pn**	**15 39 22.6**	**+1.4**
GTOI	**Gorontalo**	**3.69**	**251**	P	**Pn**	**15 39 37.1**	**+2.0**
MRSI	**Marisa**	**4.75**	**253**	P	**Pn**	**15 39 53.1**	**+3.4**
NLAI	**Namlea**	**5.10**	**173**	P	**Pn**	**15 39 56.4**	**+1.9**
	7.1nm,0.6s,0.2nm						
SIJI	**Sorong**	**5.49**	**120**	Pn	**Pn**	**15 40 02.1**	**+2.2**
	0.5nm,0.3s,baz=307,slow=18,SNR=2.6						
	3.9nm,0.6s						
TOLI2	**Tolitoli**	**5.75**	**263**		**Pn**	**15 40 02.8**	**-0.7**
TOLI2				Sn	**Sn**	**15 41 04.6**	**-3.7**
MPSI	**Mapaga**	**6.76**	**257**	P	**Pn**	**15 40 21.2**	**+3.9**
	22nm,0.8s,0.1nm						
TTSI	**Tana Toraja**	**8.26**	**234**	P	**Pn**	**15 40 42.5**	**+4.7**
MYLDM	**Lahad Datu**	**8.63**	**293**		**Pn**	**15 40 44.6**	**+1.6**
KAPI	**Kappang**	**9.59**	**225**	LR	LR	15 44 28.3	
	comp=Z,42nm,19.6s,baz=70,slow=38						
KKM	**Kota Kinabalu**	**11.06**	**292**	Pn	**Pn**	**15 41 17.6**	**+1.3**
SBUM	**Sibu**	**14.27**	**273**		**Pn**	**15 42 01.1**	**+1.0**
MTN	**Manton Dam**	**15.31**	**163**	Pn	**Pn**	**15 42 14.3**	**+0.5**
MTN				IAmb	IAmb	15 42 58.0	
	comp=Z,22nm,1.3s						
KNRA	**Kununurra**	**17.57**	**173**	P	**Pn**	**15 42 41.5**	**-0.6**
WB0	**Warramunga Arr**	**22.85**	**161**	P	**P**	**15 43 38.3**	**-1.7**
WB0				IAmb	IAmb	15 43 44.3	
	comp=Z,7.4nm,0.7s						
WRAB	**Tennant Creek**	**22.99**	**161**	P	**P**	**15 43 40.2**	**-1.2**
WRAB				IAmb	IAmb	15 43 45.9	
	comp=Z,9.1nm,0.7s						
WRA	**Warramunga Arr**	**22.99**	**161**	P	**P**	**15 43 39.9**	**-1.6**
WRA	**Warramunga Arr**	**22.99**	**161**	P	**P**	**15 43 40.4**	**-1.1**
	comp=Z,3.4nm,0.5s,baz=338,slow=11,SNR=57						
WRA				PcP	**PcP**	**15 47 30.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=335,slow=2.2,SNR=2.8						
	comp=Z,3.4nm,0.5s						
WB2	**Warramunga Arr**	**23.00**	**161**	P	**P**	**15 43 39.8**	**-1.7**
WR0	**Warramunga Arr**	**23.07**	**160**	P	**P**	**15 43 40.8**	**-1.5**
WR0				IAmb	IAmb	15 43 46.8	
	comp=Z,6.5nm,0.8s						
AS31	**Alice Springs**	**26.38**	**165**	P	**P**	**15 44 11.4**	**-1.3**
ASAR	**Alice Springs**	**26.38**	**165**	P	**P**	**15 44 10.9**	**-1.7**
ASAR	**Alice Springs**	**26.38**	**165**	P	**P**	**15 44 12.2**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=348,slow=13,SNR=22						
ASAR				PcP	**PcP**	**15 47 38.0**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=345,slow=2.1,SNR=10						
	comp=Z,0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.65**	**303**	P	**P**	**15 44 59.4**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=124,slow=8.9,SNR=2.4						
CMAR				LR	LR	15 58 29.3	
	comp=Z,5.9nm,21.4s,baz=115,slow=38						
	comp=Z,0.3nm,0.7s						
KSRS	**Korea Array**	**35.45**	**2**	P	**P**	**15 45 33.9**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=181,slow=10,SNR=1.9						
	comp=Z,0.4nm,0.6s						
STKA	**Stephens Creek**	**36.48**	**158**	P	**P**	**15 45 40.6**	**-0.7**
STKA				IAmb	IAmb	15 45 48.4	
	comp=Z,3.3nm,1.4s						
STKA	**Stephens Creek**	**36.48**	**158**	P	**P**	**15 45 41.5**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=337,slow=10,SNR=3.6						
	comp=Z,0.9nm,0.4s						
MK31	**Makanchi Array**	**58.96**	**326**	P	**P**	**15 48 34.3**	**-0.9**
MK31				IAmb	IAmb	15 48 36.0	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**58.96**	**326**	P	**P**	**15 48 34.5**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=123,slow=7.8,SNR=23						
	comp=Z,1.4nm,0.4s						
MAKZ	**Makanchi**	**59.14**	**326**	P	**P**	**15 48 34.9**	**-1.6**
MAKZ				IAmb	IAmb	15 48 37.6	
	comp=Z,2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**63.18**	**328**	P	**P**	**15 49 03.1**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=129,slow=6.2,SNR=18						
	comp=Z,1.6nm,0.5s						
KURK	**Kurchatov**	**63.19**	**328**	P	**P**	**15 49 02.8**	**-1.0**
BVAR	**Borovoye Array**	**68.75**	**327**	P	**P**	**15 49 39.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=152,slow=9.7,SNR=3.5						
	comp=Z,0.5nm,0.6s						
ABKAR	**Akbulak array**	**73.44**	**321**	P	**P**	**15 50 07.2**	**-0.8**
ABKAR	**Akbulak array**	**73.44**	**321**	P	**P**	**15 50 07.2**	**-0.8**
ABKAR				IAmb	IAmb	15 50 11.3	
	comp=Z,2.2nm,1.2s						
FINES	**FINESS Array B**	**93.36**	**332**	P	**P**	**15 51 50.8**	**+0.4**
	comp=Z,5.1nm,1.2s,baz=48,slow=2.1,SNR=1.9						
	comp=Z,5.1nm,1.2s						

*DJA **05** 15:58:14.5±0.6, 6°N±4°×12°6E±°, h11km±4km, M4.7/13, mB5.2/7, mb4.6/13, MLv4.8/10, Mw(mB)4.6/7*
*IDC **05** 15:58:15.0±2.4, 5°.80N×125°.36E, h73km±20km, mb3.6/4, mbtmp4.2/6, MS2.7/1, Error ellipse: s-maj=76.4km s-min=16.8km az=86.0*
*NEIC **05** 15:58:17.2±1.9, 5°.74N±0°.07×125°.7E±0°.1, h72km±9km, mb4.5/26, Error ellipse: s-maj=15.4km s-min=9.6km az=91.0*
ISC 05 15:58:15.4±0.5, **5°.71N**±0°.05×**125°.75E**±0°.08, **h50**km, **n69**, σ1§**88**/71, **mb4.4**/15, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.36**	**353**		**Pn**	**15 58 36.6**	**-1.5**
DAV				Sn	**Sn**	**15 58 57.0**	**+2.0**
DAV	**Davao City (W)**	**1.36**	**353**	P	**Pn**	**15 58 37.0**	**-1.1**
	274nm,0.3s,baz=202,slow=5.4,SNR=14						
DAV				S	**Sn**	**15 58 54.0**	**-0.9**
	761nm,0.3s,baz=66,slow=23,SNR=5.6						
TNTI	**Ternate**	**5.17**	**162**	P	Pn	15 59 26.5	-3.7
GTOI	**Gorontalo**	**5.73**	**209**	P	**Pn**	**15 59 40.2**	**+2.2**
	120nm,0.6s,2μm0.6nm						
GTOI				S	**Sn**	**16 00 40.5**	**-2.0**
	120nm,0.6s,2μm0.6nm						
MRSI	**Marisa**	**6.44**	**216**	P	**Pn**	**15 59 50.1**	**+2.4**
	110nm,0.7s,1μm1.0nm						
TOLI2	**Tolitoli**	**6.74**	**227**		**Pn**	**15 59 51.4**	**-0.4**
TOLI2				Sn	**Sn**	**16 01 02.1**	**-5.2**
MYLDM	**Lahad Datu**	**7.23**	**266**		**Pn**	**16 00 01.0**	**+2.5**
LUWI	**Luwuk**	**7.33**	**204**		**Pn**	**16 00 04.1**	**+4.1**
LUWI	**Luwuk**	**7.33**	**204**	P	**Pn**	**16 00 04.3**	**+4.3**
	185nm,0.8s,4μm1.4nm						
SANI	**Sanana**	**7.71**	**178**	P	**Pn**	**16 00 05.9**	**+0.7**
SANI	**Sanana**	**7.71**	**178**	P	**Pn**	**16 00 06.4**	**+1.2**
	49nm,0.8s,2μm0.2nm						
MPSI	**Mapaga**	**7.91**	**228**	P	**Pn**	**16 00 07.7**	**-0.2**
	7.2nm,0.5s,445nm0.1nm						
SIJI	**Sorong**	**8.55**	**140**	P	**Pn**	**16 00 19.8**	**+3.1**
	6.2nm,0.4s,baz=324,slow=16,SNR=9.5						
NLAI	**Namlea**	**8.99**	**171**	P	**Pn**	**16 00 24.2**	**+1.5**
	13nm,0.4s,3μm						
KKM	**Kota Kinabalu**	**9.49**	**272**	Pn	**Pn**	**16 00 32.0**	**+2.5**
TTSI	**Tana Toraja**	**10.52**	**214**	P	Pn	16 00 48.9	+5.3
	39nm,0.8s						
FAKI	**Fak Fak**	**10.76**	**143**	Pn	**Pn**	**16 00 49.4**	**+2.5**
BBKI	**Banjar Baru**	**14.20**	**230**	P	**P**	**16 01 44.1**	**+4.1**
MMRI	**Maumere**	**14.67**	**194**	Pn	**Pn**	**16 01 38.9**	**-1.2**
SOEI	**Soe**	**15.43**	**185**		**Pn**	**16 01 49.7**	**-0.4**
SOEI				IAmb	IAmb	16 02 11.0	
	comp=Z,20nm,0.9s						
SOEI	**Soe**	**15.43**	**185**	P	**Pn**	**16 01 49.3**	**-0.8**
BATI	**Baumata**	**15.95**	**187**	P	**Pn**	**16 01 59.3**	**+2.7**
	comp=Z,30nm,0.7s						
BATI				pP	**P**	**16 02 03.0**	**+3.6**
	comp=Z,30nm,0.7s						
BATI	**Baumata**	**15.95**	**187**	P	**Pn**	**16 01 57.3**	**+0.7**
	comp=Z,25nm,0.6s,baz=22,slow=16,SNR=3.8						
TWSI	**Taliwang, Sumb**	**16.86**	**212**	P	**P**	**16 02 12.6**	**+3.1**
MTN	**Manton Dam**	**19.20**	**164**	P	**P**	**16 02 36.4**	**+1.2**
MTN				IAmb	IAmb	16 02 56.3	
	comp=Z,23nm,1.2s						
MTN	**Manton Dam**	**19.20**	**164**	P	**P**	**16 02 36.4**	**+1.2**
KDU	**Kakadu**	**19.46**	**160**	P	**P**	**16 02 39.1**	**+1.0**
JOW	**Kunigami**	**21.14**	**6**	P	**P**	**16 02 59.8**	**+3.5**
JOW	**Kunigami**	**21.14**	**6**	LR	LR	16 10 42.5	
	comp=Z,21nm,19.6s,baz=164,slow=35						
KNRA	**Kununurra**	**21.46**	**172**	P	**P**	**16 03 00.0**	**+0.3**
KNRA				IAmb	IAmb	16 03 03.0	
	comp=Z,31nm,0.6s						
KNRA	**Kununurra**	**21.46**	**172**	P	**P**	**16 03 00.6**	**+0.9**
PMG	**Port Moresby**	**26.09**	**125**	P	**P**	**16 03 43.2**	**-1.5**
PMG				IAmb	IAmb	16 04 06.2	
	comp=Z,22nm,1.1s						
COEN	**Coen**	**26.10**	**139**	P	**P**	**16 03 43.8**	**-0.9**
COEN				IAmb	IAmb	16 03 51.7	
	comp=Z,34nm,1.5s						
WB0	**Warramunga Arr**	**26.71**	**162**	P	**P**	**16 03 49.0**	**-1.3**
WRA	**Warramunga Arr**	**26.86**	**162**	P	**P**	**16 03 49.8**	**-1.7**
WRA	**Warramunga Arr**	**26.86**	**162**	P	**P**	**16 03 50.7**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=338,slow=10,SNR=36						
	comp=Z,0.7nm,0.3s						
WB2	**Warramunga Arr**	**26.86**	**162**	P	**P**	**16 03 50.7**	**-0.9**
WB2				IAmb	IAmb	16 03 55.5	
	comp=Z,9.8nm,1.1s						
WR0	**Warramunga Arr**	**26.94**	**161**	P	**P**	**16 03 50.8**	**-1.4**
PSA00	**Pilbara Seismi**	**27.72**	**192**	P	**P**	**16 03 57.2**	**-2.1**
PSA00				IAmb	IAmb	16 03 59.2	
	comp=Z,14nm,1.0s						
PSA00	**Pilbara Seismi**	**27.72**	**192**	P	**P**	**16 03 56.8**	**-2.5**
PSA00				IAmb	IAmb	16 03 59.0	
	comp=Z,6.5nm,1.0s						
PSA00	**Pilbara Seismi**	**27.72**	**192**	P	**P**	**16 03 58.7**	**-0.6**
RABL	**Rabaul**	**28.16**	**110**	P	**P**	**16 04 03.5**	**+0.2**
RABL				IAmb	IAmb	16 04 19.4	
	comp=Z,14nm,0.8s						
GSI	**Gunungsitoli**	**28.45**	**262**	P	**P**	**16 04 04.7**	**-1.2**
GSI				IAmb	IAmb	16 04 30.1	
	comp=Z,9.4nm,0.9s						
QIS	**Mount Isa**	**29.44**	**153**	P	**P**	**16 04 15.8**	**+1.2**
AS31	**Alice Springs**	**30.26**	**165**	P	**P**	**16 04 21.6**	**-0.3**
ASAR	**Alice Springs**	**30.27**	**165**	P	**P**	**16 04 21.0**	**-0.9**
ASAR	**Alice Springs**	**30.27**	**165**	P	**P**	**16 04 21.3**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=337,slow=7.1,SNR=39						
	comp=Z,0.8nm,0.4s						
OOD	**Oodnadatta**	**34.67**	**164**	P	**P**	**16 05 00.7**	**+0.4**
MORW	**Morawa**	**35.82**	**195**	P	**P**	**16 05 09.0**	**-1.2**
MORW				IAmb	IAmb	16 05 23.7	
	comp=Z,22nm,1.4s						
MORW	**Morawa**	**35.82**	**195**	P	**P**	**16 05 09.2**	**-1.0**
FORT	**Forrest**	**36.35**	**177**	P	**P**	**16 05 14.2**	**-0.5**
FORT	**Forrest**	**36.35**	**177**	P	**P**	**16 05 14.5**	**-0.2**
BLDU	**Ballidu**	**37.14**	**193**	P	**P**	**16 05 20.4**	**-1.1**
KLBR	**Kellerberrin**	**37.87**	**191**	P	**P**	**16 05 26.9**	**-0.7**
LCRK	**Leigh Creek**	**37.89**	**162**	P	**P**	**16 05 28.5**	**+0.7**
MUN	**Mundaring**	**38.57**	**193**	P	**P**	**16 05 32.8**	**-0.7**
NWAO	**Narrogin (SRO)**	**39.27**	**191**	P	**P**	**16 05 38.5**	**-0.8**
NWAO	**Narrogin (SRO)**	**39.27**	**191**	P	**P**	**16 05 38.3**	**-1.0**
NWAO				IAmb	IAmb	16 06 20.4	
	comp=Z,24nm,1.2s						
BBOO	**Buckleboo**	**39.54**	**166**	P	**P**	**16 05 41.4**	**-0.2**
STKA	**Stephens Creek**	**40.32**	**159**	P	**P**	**16 05 47.9**	**-0.2**
STKA	**Stephens Creek**	**40.32**	**159**	P	**P**	**16 05 46.8**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=341,slow=10,SNR=4.5						
	comp=Z,2.0nm,0.6s						
CAN	**Canberra**	**46.31**	**153**	P	**P**	**16 06 36.3**	**-0.1**
CASY	**Casey**	**72.66**	**186**	P	**P**	**16 09 34.8**	**-2.7**
CASY				IAmb	IAmb	16 10 12.3	
	comp=Z,6.7nm,1.4s						
IMAR	**Indian Mountai**	**80.95**	**24**	P	**P**	**16 10 23.1**	**-1.1**
CAST	**Castle Rocks**	**81.42**	**27**	P	**P**	**16 10 25.4**	**-1.4**
BPAW	**Bear Paw Mtn.**	**81.95**	**26**	P	**P**	**16 10 28.4**	**-1.2**
BPAW				IAmb	IAmb	16 10 32.3	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**83.75**	**26**	P	**P**	**16 10 36.4**	**-2.5**
	comp=Z,0.3nm,0.5s,baz=269,slow=4.2,SNR=6.7						
	comp=Z,0.3nm,0.5s						
BMAR	**Burnt Mountain**	**84.64**	**23**	P	**P**	**16 10 42.6**	**-0.8**
I28M	**Miner Creek**	**86.65**	**25**	P	**P**	**16 10 52.5**	**-1.1**
I28M				IAmb	IAmb	16 11 11.2	
	comp=Z,5.5nm,1.2s						

*IDC **05** 16:01:33.2±2.5, 15°.24S×173°.90W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=61.4km s-min=45.1km az=60.0*
*NEIC **05** 16:01:35.3±2.2, 15°.36S±0°.06×173°.8W±0°.1, h10km±2km, mb4.4/5, Error ellipse: s-maj=20.3km s-min=5.0km az=296.0*
ISC 05 16:01:35.2±0.9, **15°.39S**±0°.09×**173°.8W**±0°.1, **h10**km, **n14**, σ1§**01**/15, **mb4.0**/5, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.43**	**53**		**Pb**	**16 02 19.7**	**+0.6**
AFI				Sn	**Sn**	**16 02 43.9**	**-1.1**
AFI	**Afiamalu**	**2.43**	**53**	Sn	**Sn**	**16 02 45.0**	**+0.1**
	67nm,0.3s,baz=302,slow=21,SNR=4.4						
NIUE	**Niue**	**5.19**	**135**	Pn	Pn	16 02 58.6	+5.6
NIUE				Sn	**Sn**	**16 03 52.1**	**-0.8**
URZ	**Urewera**	**24.16**	**198**	P	**P**	**16 06 52.4**	**+0.8**
	1.3nm,0.3s,baz=85,slow=13,SNR=1.2						
	1.3nm,0.3s						
BKZ	**Black Stump Fm**	**25.18**	**198**		**P**	**16 07 00.6**	**-0.4**
WHZ	**Wether Hill Ro**	**34.06**	**203**	P	**P**	**16 08 20.5**	**+0.9**
WRAB	**Tennant Creek**	**49.48**	**257**	P	**P**	**16 10 27.6**	**+1.3**
WRAB				IAmb	IAmb	16 11 01.0	
	comp=Z,6.1nm,1.2s						
WRA	**Warramunga Arr**	**49.49**	**257**	P	**P**	**16 10 25.0**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=92,slow=7.3,SNR=2.3						
	comp=Z,0.4nm,0.4s						
AS31	**Alice Springs**	**49.77**	**252**	P	**P**	**16 10 27.2**	**-1.2**
ASAR	**Alice Springs**	**49.77**	**252**	P	**P**	**16 10 27.2**	**-1.2**
ASAR	**Alice Springs**	**49.77**	**252**	P	**P**	**16 10 27.6**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=83,slow=8.7,SNR=8.0						
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**74.65**	**180**	P	**P**	**16 13 15.1**	**+0.4**
QSPA				IAmb	IAmb	16 13 42.5	
	comp=Z,3.5nm,1.2s						
QSPA	**South Pole Qui**	**74.65**	**180**	P	**P**	**16 13 15.1**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=6.6,slow=6.6,SNR=2.3						
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**145.92**	**321**	PKPbc	**PKPdf**	**16 21 14.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=72,slow=4.7,SNR=3.8						

*DJ

comp=Z,38nm,1.4s
PSA00 Pilbara Seismi 19.85 202 P P 16 08 03.5 +0.3
PSA00 Pilbara Seismi 19.85 202 P P 16 08 03.8 +0.5
PSA00 IAmb IAmb 16 08 16.7
comp=Z,16nm,1.1s
LEM Lembang 20.30 259 P P 16 08 09.2 +0.8
comp=Z,20nm,0.7s,baz=162,slow=23,SNR=4.7
comp=Z,20nm,0.7s
AS31 Alice Springs 21.29 164 P P 16 08 19.5 +0.5
AS31 S **16 12 11.2 -1.8**
ASAR Alice Springs 21.30 164 P P 16 08 19.0 0.0
ASAR S **16 12 10.7 -2.3**
ASAR Alice Springs 21.30 164 P P 16 08 19.0 0.0
comp=Z,6.2nm,0.4s,baz=334,slow=7.2,SNR=84
ASAR S S **16 12 12.5 -0.5**
comp=Z,3.3nm,0.9s,baz=348,slow=24,SNR=7.7
ASAR ScP **ScP 16 15 53.9 -1.3**
comp=Z,0.4nm,0.7s,baz=352,slow=2.3,SNR=2.8
ASAR LR LR 16 16 26.4
comp=Z,36nm,20.2s,baz=347,slow=36
comp=Z,6.2nm,0.4s
GUMO Guam 23.82 45 LR LR 16 18 07.1
comp=Z,26nm,20.9s,baz=208,slow=37
FORT Forrest 27.51 179 P P 16 09 18.5 +0.3
MORW Morawa 28.06 202 P P 16 09 22.8 -0.5
MORW IAmb IAmb 16 09 50.8
comp=Z,20nm,1.4s
GSI Gunungsitoli 30.39 278 P P 16 09 43.0 -1.1
GSI IAmb IAmb 16 09 44.3
comp=Z,11nm,0.9s
BBOO Buckleboo 30.56 166 P P 16 09 45.0 -0.3
STKA Stephens Creek 31.46 157 P P 16 09 53.0 -0.3
STKA Stephens Creek 31.46 157 P P 16 09 53.0 -0.3
comp=Z,2.8nm,0.6s,baz=328,slow=8.2,SNR=7.9
comp=Z,2.8nm,0.6s
CMAR Chiang Mai Arr 35.49 308 P P 16 10 29.9 +1.4
comp=Z,0.3nm,0.6s,baz=132,slow=7.7,SNR=4.2
comp=Z,0.3nm,0.6s
CAN Canberra 37.65 151 P P 16 10 47.3 +0.5
KSRS Korea Array 40.38 0 LR LR 16 27 28.7
comp=Z,8.3nm,21.2s,baz=195,slow=35
MJAR Matsushiro Arr 40.67 13 P P 16 11 10.9 -1.0
comp=Z,1.1nm,0.6s,baz=190,slow=9.3,SNR=1.9
comp=Z,1.1nm,0.6s
USA0B Ussuriysk Arra 47.27 4 P P 16 12 04.7 0.0
USA0B IAmb IAmb 16 12 37.2
comp=Z,14nm,1.4s
USRK Ussuriysk Ar. 47.27 4 P P 16 12 04.9 +0.2
USRK Ussuriysk Ar. 47.27 4 P P 16 12 04.6 -0.1
comp=Z,1.3nm,0.5s,baz=191,slow=10,SNR=6.2
comp=Z,1.3nm,0.5s
KLR Kul'dur 52.27 3 LR LR 16 32 18.0
comp=Z,6.5nm,21.3s,baz=134,slow=33
SONM Songino Array 54.06 342 P P 16 12 57.2 +1.2
comp=Z,0.3nm,0.4s,baz=122,slow=10,SNR=1.6
comp=Z,0.3nm,0.4s
WKZ Wanaka 55.15 145 P P 16 13 03.7 -0.1
BKZ Black Stump Fm 56.98 136 P P 16 13 17.0 0.0
MRZ Mangatainoka R 57.03 138 P P 16 13 18.4 +1.1
MKAR Makanchi Array 63.73 327 P P 16 14 03.0 0.0
MKAR Makanchi Array 63.73 327 P P 16 14 03.3 +0.4
comp=Z,1.0nm,0.6s,baz=116,slow=7.9,SNR=8.1
comp=Z,1.0nm,0.6s
MAKZ Makanchi 63.91 327 P P 16 14 04.1 0.0
MAKZ IAmb IAmb 16 14 25.7
comp=Z,3.8nm,1.2s
MA2 Magadan 65.12 13 P P 16 14 13.4 +1.7
ZALV Zalesovo Beam 67.10 334 P P 16 14 25.4 +0.9
comp=Z,0.3nm,0.4s,baz=128,slow=4.4,SNR=1.9
comp=Z,0.3nm,0.4s
KURBB Kurchatov Arra 68.01 329 P P 16 14 29.8 -0.5
comp=Z,1.1nm,0.7s,baz=130,slow=5.8,SNR=12
comp=Z,1.1nm,0.7s
RAR Rarotonga 72.63 111 LR LR 16 42 42.4
comp=Z,50nm,22.0s,baz=213,slow=32
ABKAR Akbulak array 78.04 322 P P 16 15 28.9 -0.8
QSPA South Pole Qui 86.83 180 P P 16 16 14.4 -1.0
QSPA IAmb IAmb 16 16 29.1
comp=Z,2.6nm,1.1s
QSPA South Pole Qui 86.83 180 P P 16 16 14.6 -0.8
comp=Z,1.2nm,0.8s,baz=295,slow=1.7,SNR=8.1
comp=Z,1.2nm,0.8s
TORD Torodi Ar. Bea 125.69 284 PKP PKPdf 16 22 33.0 -0.5
comp=Z,0.3nm,0.7s,baz=61,slow=4.3,SNR=3.6
CPUP Villa Florida 150.32 171 PKPbc PKPbc 16 23 22.8 -0.1
comp=Z,2.1nm,1.0s,baz=16,slow=7.1,SNR=2.9

---

*IDC **05** 16:05:42.4±1.1, 16°.05S×173°.59W, h0km, mb3.8/5, mbtmp3.8/6, ML3.3/1, MS3.0/3, Error ellipse: s-maj=50.4km s-min=23.7km az=137.0*
ISC 05 16:05:43.5±1.0, 15°.9S±0°.3×173°.5W±0°.3, h10km, n20, σ1§78/8, mb3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.59**	**41**	Pn	**Pn**	**16 06 26.6**	**+1.0**
	5.4nm,0.3s,baz=223,slow=18,SNR=6.6						
AFI				Sn	**Sn**	**16 06 54.4**	**-2.8**
	45nm,0.3s,baz=69,slow=22,SNR=11						
	23nm,0.3s						
MSVF	**Nonsavu**	**8.27**	**256**	LR	LR	16 10 11.8	
	comp=Z,70nm,21.3s,baz=54,slow=33						
DZM	**Mont Dzumac**	**19.90**	**249**	LR	LR	16 16 34.7	
	comp=Z,81nm,19.3s,baz=34,slow=33						
PPT	**Papeete**	**23.01**	**98**	LR	LR	16 17 59.6	
	comp=Z,32nm,18.1s,baz=3.0,slow=32						
HNR	**Honiara**	**26.63**	**281**	LR	LR	16 20 36.7	
	comp=Z,1μm,19.5s,baz=206,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.30**	**330**	T	T	16 55 21.8	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**39.31**	**330**	T	T	16 55 29.7	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**39.31**	**330**	T	T	16 55 17.8	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**40.25**	**331**	T	T	16 56 33.9	
	baz=150,slow=76,SNR=5.0						
H11N1	**WAKE ISLAND Hy**	**40.26**	**331**	T	T	16 56 38.6	
	baz=150,slow=76,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**40.27**	**331**	T	T	16 56 32.4	
	baz=150,slow=76,SNR=4.1						
WRA	**Warramunga Arr**	**49.61**	**257**	P	**P**	**16 14 35.0**	**-0.5**
	0.4nm,0.7s,baz=89,slow=7.5,SNR=2.8						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**49.84**	**252**	P	**P**	**16 14 36.2**	**-1.0**
	2.1nm,0.7s,baz=83,slow=8.3,SNR=14						
	2.1nm,0.7s						
QSPA	**South Pole Qui**	**74.18**	**180**	P	**P**	**16 17 19.8**	**-0.5**
	2.4nm,1.0s,baz=13,slow=3.2,SNR=3.6						
	2.4nm,1.0s						
PDAR	**Pinedale Array**	**82.70**	**42**	P	**P**	**16 18 09.2**	**+1.4**
	0.6nm,0.8s,baz=208,slow=5.1,SNR=4.1						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**82.93**	**11**	P	**P**	**16 18 09.7**	**+1.4**
	0.4nm,0.7s,baz=224,slow=6.1,SNR=4.7						
	0.4nm,0.7s						
H03S2	**Juan Fernandez**	**85.05**	**124**	T	T	17 52 01.7	
	baz=251						
H03S1	**Juan Fernandez**	**85.07**	**124**	T	T	17 51 57.3	
	baz=251						
H03S3	**Juan Fernandez**	**85.07**	**124**	T	T	17 52 02.4	
	baz=251						
BRTR	**Keskin Array B**	**146.43**	**320**	PKPbc	**PKiKP**	**16 25 27.1**	**-1.3**
	0.8nm,0.6s,baz=103,slow=2.2,SNR=5.6						

---

*IDC **05** 16:11:30.9±0.8, 28°.94N×92°.09E, h0km, mb3.7/9, mbtmp3.6/11, ML3.3/2, MS3.2/2, Error ellipse: s-maj=46.3km s-min=16.8km az=56.0*
ISC 05 16:11:32.5±0.8, 29°.0N±0°.2×92°.1E±0°.2, h10km, n12, σ0§98/11, mb3.7/9, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.20**	**148**	Pn	**Pn**	**16 14 26.0**	**-0.4**
	0.1nm,0.3s,baz=318,slow=12,SNR=2.6						
CMAR				LR	LR	16 19 07.7	
	comp=Z,21nm,20.7s,baz=105,slow=38						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**19.37**	**339**	P	**Pn**	**16 15 57.7**	**-1.7**
	baz=154,slow=11,SNR=2.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**23.92**	**338**	P	**P**	**16 16 47.1**	**+0.7**
	0.1nm,0.3s,baz=157,slow=9.8,SNR=1.5						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**25.51**	**350**	P	**P**	**16 17 01.5**	**+0.7**
	0.3nm,0.4s,baz=183,slow=8.4,SNR=2.0						
	0.3nm,0.4s						
BRTR	**Keskin Array B**	**48.68**	**299**	P	**P**	**16 20 16.4**	**-0.8**
	0.5nm,0.7s,baz=78,slow=7.8,SNR=2.5						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**63.46**	**135**	P	**P**	**16 22 02.0**	**-0.8**
	1.3nm,0.8s,baz=326,slow=6.9,SNR=7.7						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**66.02**	**138**	P	**P**	**16 22 19.8**	**+0.3**
	1.2nm,0.7s,baz=322,slow=6.9,SNR=16						
	1.2nm,0.7s						
JMIC	**Jan Mayen**	**66.26**	**339**	LR	LR	16 54 21.9	
	comp=Z,118nm,21.9s,baz=265,slow=39						
EKA	**Eskdalemuir Ar**	**69.53**	**323**	P	**P**	**16 22 41.0**	**-0.3**
	0.6nm,0.6s,baz=59,slow=7.5,SNR=1.3						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**75.99**	**22**	P	**P**	**16 23 20.2**	**+0.8**
	0.5nm,0.8s,baz=282,slow=4.5,SNR=4.7						
	0.5nm,0.8s						
STKA	**Stephens Creek**	**76.65**	**138**	P	**P**	**16 23 23.7**	**+0.2**
	1.1nm,0.7s,baz=318,slow=12,SNR=1.6						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**84.10**	**282**	P	**P**	**16 24 05.4**	**+1.3**
	0.3nm,0.6s,baz=76,slow=3.1,SNR=2.0						
	0.3nm,0.6s						

---

*SOME **05** 16:16:44.4, 40°.78N×74°.08E, h5km*
*IDC **05** 16:16:44.4±1.3, 40°.86N×73°.93E, h0km, mb3.7/4, mbtmp3.6/10, ML2.9/6, Error ellipse: s-maj=21.2km s-min=12.1km az=123.0*
*KRNET **05** 16:16:45.0±0.1, 40°.79N×74°.12E, h17km, mb3.9*
*MOS **05** 16:16:46.3±2.6, 40°.84N×74°.09E, h28km, mb4.2/2, Error ellipse: s-maj=11.2km s-min=6.8km az=68.7*
*NNC **05** 16:16:47.1±0.8, 40°.93N×74°.10E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=5.6km s-min=3.4km az=24.0*
*KNET **05** 16:16:47.2±1.0, 40°.94N×74°.11E, h11km±8km, ml3.7, Error ellipse: s-maj=7.7km s-min=5.4km az=66.0*
ISC 05 16:16:43.9±1.2, 40°.78N±0°.03×73°.99E±0°.02, h2km±8km, n103, σ1§20/135, mb3.6/5, 39C-22D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.85**	**206**	⇓*i*P	**Pn**	**16 17 02.2**	**-0.9**
	baz=12						
SFK				⇓*i*S	**Sn**	**16 17 14.3**	**-1.9**
	baz=12						
SFK	**Sufi-Kurgan**	**0.85**	**206**	*e*PG	**Pn**	**16 17 02.2**	**-0.9**
OHH	**Osh**	**0.95**	**255**	⇑*i*P	**Pn**	**16 17 04.7**	**+0.4**
	baz=56						
OHH				⇑*i*S	**Sn**	**16 17 18.8**	**+0.3**
	baz=56						
OHH	**Osh**	**0.95**	**255**	*e*PG	**Pn**	**16 17 04.7**	**+0.4**
ARLS	**Aral**	**1.11**	**13**	⇓*e*P	**Pg**	**16 17 04.9**	**-0.3**
	baz=8.0						
ARLS				⇓*e*S	**Sg**	**16 17 19.5**	**-0.1**
	baz=8.0						
AML	**Almayashu**	**1.37**	**351**	⇑P	**Pg**	**16 17 10.1**	**-0.1**
	173nm,0.2s,SNR=330						
AML				⇓S	**Sg**	**16 17 27.6**	**-0.3**
	1μm,0.6s						
AML	**Almayashu**	**1.37**	**351**	⇓P	**Pg**	**16 17 10.1**	**-0.1**
	18nm,0.5s						
AML				⇑S	**Sg**	**16 17 27.9**	**-0.1**
	92nm,0.6s						
UCH	**Uchtor**	**1.50**	**15**	⇑P	**Pn**	**16 17 12.0**	**-0.2**
	128nm,0.2s,SNR=207						
UCH				⇑S	**Sg**	**16 17 31.7**	**-0.5**
	891nm,0.4s						
NRN	**Naryn**	**1.66**	**66**	⇓*i*P	**Pn**	**16 17 13.4**	**-0.9**
	baz=65						
NRN				⇓*i*S	**Sn**	**16 17 34.2**	**-2.1**
	baz=65						
NRN	**Naryn**	**1.66**	**66**	*i* P*	**Pn**	**16 17 13.4**	**-0.9**
NRN				*i* S	**Sn**	**16 17 34.2**	**-2.1**
ARK	**Arkit**	**1.83**	**304**	⇑*e*P	**Pg**	**16 17 19.6**	**+0.5**
	baz=3.0						
ARK				⇑*e*S	**Sg**	**16 17 45.4**	**+2.5**
	baz=3.0						
EKS2	**Erkin-Say**	**1.89**	**355**	⇓P	**Pb**	**16 17 19.4**	**+0.2**
	113nm,0.3s,SNR=88						
EKS2				⇓S	**Sg**	**16 17 44.3**	**-0.3**
	209nm,0.4s						
AAK	**Ala-Archa**	**1.90**	**11**	⇓P	**Pb**	**16 17 19.2**	**-0.1**
	220nm,0.4s,SNR=133						
AAK				⇓S	**Sb**	**16 17 43.3**	**-0.2**
	272nm,0.4s						
AAK	**Ala-Archa**	**1.90**	**11**	*d* iPN	**Pb**	**16 17 19.0**	**-0.3**
AAK	**Ala-Archa**	**1.90**	**11**	Pg	**Pb**	**16 17 19.2**	**-0.1**
	60nm,0.3s,baz=168,slow=8.6,SNR=156						
AAK				Lg	Lg	16 17 43.4	
	54nm,0.3s,baz=335,slow=20,SNR=15						
KSH	**Kashi**	**1.98**	**129**	Pg	**Pg**	**16 17 22.5**	**+0.7**
KSH				Sg	**Sg**	**16 17 49.6**	**+2.2**
KSH				pmax	pmax		
	comp=Z,520nm,0.7s						
KSH				smax	smax		
	comp=N,590nm,0.5s						
KSH				smax	smax		
	comp=E,370nm,0.6s						
KBK	**Karagaybulak**	**2.01**	**21**	⇓P	**Pb**	**16 17 21.1**	**-0.1**
	comp=E,117nm,0.2s,SNR=155						
KBK				⇑S	**Sb**	**16 17 47.8**	**+1.0**
	comp=E,993nm,0.5s						
MNAS	**Manas**	**2.04**	**327**	⇑*i*P	**Pg**	**16 17 22.3**	**-0.7**
	baz=25						
MNAS				⇑*i*S	**Sg**	**16 17 49.2**	**-0.2**
	baz=25						
MNAS	**Manas**	**2.04**	**327**	*e*PN	**Pg**	**16 17 22.3**	**-0.7**
MRKS	**Merke**	**2.05**	**344**	*e*Pg	**Pg**	**16 17 22.6**	**-0.6**
	comp=E,136nm,0.4s						
MRKS				*e*Lg	Lg	16 17 49.9	
	comp=E,372nm,0.4s						
FRU1	**Bishkek**	**2.09**	**13**	⇑*i*P	**Pb**	**16 17 22.1**	**-0.4**
	baz=11						
FRU1				⇑*i*S	**Sb**	**16 17 48.8**	**-0.1**
	baz=11						
FRU1	**Bishkek**	**2.09**	**13**	*i* PN	**Pb**	**16 17 22.1**	**-0.4**
FRU1				*i* S	**Sb**	**16 17 48.8**	**-0.1**
ULHL	**Ulahol**	**2.24**	**48**	⇑P	**Pn**	**16 17 23.9**	**+1.7**
	comp=E,93nm,0.2s,SNR=44						
ULHL				⇓S	**Sn**	**16 17 52.8**	**+2.3**
	comp=E,115nm,0.2s						
BOOM	**Boomskoye usch**	**2.25**	**40**	⇑*i*P	**Pn**	**16 17 23.5**	**+1.2**
	baz=38						
BOOM				⇑*i*S	**Sn**	**16 17 51.5**	**+0.8**
	baz=38						
BOOM	**Boomskoye usch**	**2.25**	**40**	*i* PN	**Pn**	**16 17 23.5**	**+1.2**
BOOM				*i* S	**Sn**	**16 17 51.5**	**+0.8**
TRKS	**Terek-Say**	**2.28**	**290**	⇓*i*P	**Pb**	**16 17 25.6**	**-0.2**
	baz=88						
TRKS				⇓*i*S	**Sb**	**16 17 54.7**	**+0.2**
	baz=88						
TRKS	**Terek-Say**	**2.28**	**290**	*i* PN	**Pb**	**16 17 25.6**	**-0.2**
TRKS				*i* S	**Sb**	**16 17 54.7**	**+0.2**
CHMS	**Chumysh**	**2.29**	**14**	⇓P	**Pb**	**16 17 25.8**	**-0.2**
	comp=E,213nm,0.6s,SNR=116						
CHMS				⇑S	**Sb**	**16 17 55.6**	**+0.9**
	comp=E,336nm,0.6s						
CHMS	**Chumysh**	**2.29**	**14**	⇓Pn	**Pb**	**16 17 26.3**	**+0.4**
	comp=E,178nm,0.6s						
CHMS				Pg	**Sb**	**16 17 54.0**	**-0.7**
	comp=E,62nm,0.3s						
CHMS				Lg	Lg	16 18 43.4	
	comp=E,411nm,0.4s						
TKM2	**Tokmak 2**	**2.46**	**29**	⇑P	**Pb**	**16 17 28.2**	**-0.7**
	comp=E,36nm,0.2s,SNR=56						
TKM2				⇑S	**Sb**	**16 17 59.4**	**-0.3**
	comp=E,273nm,0.3s						
TKM2	**Tokmak 2**	**2.46**	**29**	⇑Pn	**Pb**	**16 17 28.0**	**-0.9**
	comp=E,32nm,0.4s						
TKM2				⇓Lg	Lg	16 18 00.7	
	comp=E,391nm,0.7s						
USP	**Ospenovka**	**2.52**	**9**	⇑P	**Pb**	**16 17 29.3**	**-0.5**
	comp=E,110nm,0.3s,SNR=160						
BTK	**Batken**	**2.52**	**254**	⇑*i*P	**Pb**	**16 17 29.6**	**-0.4**
	baz=55						
BTK				⇑*i*S	**Sb**	**16 18 01.6**	**+0.1**
	baz=55						
BTK	**Batken**	**2.52**	**254**	*i* PN	**Pb**	**16 17 29.6**	**-0.4**
BTK				*i* S	**Sb**	**16 18 01.6**	**+0.1**
KST	**Kastek**	**2.70**	**32**	Pg	**Pb**	**16 17 33.1**	**+0.1**
	comp=E,88nm,0.6s						
KST				Lg	Lg	16 18 07.8	
	comp=E,319nm,0.6s						
KST	**Kastek**	**2.70**	**32**	*e*Pg	**Pb**	**16 17 33.1**	**+0.1**
	comp=E,88nm,0.6s						
KST				*e*Lg	Lg	16 18 08.4	
	comp=E,319nm,0.6s						
SGDS	**Sogindy**	**2.71**	**10**	Pg	**Pb**	**16 17 33.0**	**-0.2**
	comp=E,70nm,0.4s						
SGDS				Lg	Lg	16 18 08.0	
	comp=E,209nm,0.5s						
DGS	**Degeres**	**2.80**	**28**	Pg	**Pb**	**16 17 35.6**	**+0.9**
	comp=E,163nm,0.6s						
DGS				Lg	Lg	16 18 12.4	
	comp=E,867nm,0.7s						
DGS	**Degeres**	**2.80**	**28**	*e*Pg	**Pb**	**16 17 35.6**	**+0.9**
	comp=E,163nm,0.6s						
DGS				*e*Lg	Lg	16 18 12.4	
	comp=E,867nm,0.7s						
DZA	**Taraz**	**2.90**	**318**	*e*Pg	**Pg**	**16 17 38.6**	**-0.8**
	comp=E,141nm,0.3s						
DZA				*e*Lg	Lg	16 18 18.2	
	comp=E,584nm,0.7s						
MTBS	**Maitube**	**2.97**	**37**	Pg	**Pb**	**16 17 37.8**	**+0.2**
	comp=E,55nm,0.3s						
MTBS				Lg	Lg	16 18 16.1	
	comp=E,332nm,0.3s						
MTBS	**Maitube**	**2.97**	**37**	*e*Pg	**Pb**	**16 17 37.8**	**+0.2**
	comp=E,55nm,0.2s						
MTBS				*e*Lg	Lg	16 18 16.1	
	comp=E,332nm,0.3s						
IZV	**Izvestkoviy**	**2.99**	**40**	Pg	**Pb**	**16 17 38.0**	**+0.1**
	comp=E,63nm,0.8s						
IZV				Lg	Lg	16 18 16.7	
	comp=E,244nm,0.8s						
IZV	**Izvestkoviy**	**2.99**	**40**	*e*Pg	**Pb**	**16 17 38.0**	**+0.1**
	comp=E,63nm,0.4s						
IZV				*e*Lg	Lg	16 18 16.7	
	comp=E,244nm,0.8s						
TNSS	**Tian-Shan**	**3.16**	**43**	Pg	**Pb**	**16 17 41.2**	**+0.2**
	comp=E,59nm,0.5s						
TNSS				Lg	Lg	16 18 21.8	
	comp=E,122nm,0.9s						
TNSS	**Tian-Shan**	**3.16**	**43**	*e*Pg	**Pb**	**16 17 41.1**	**+0.2**
	comp=E,59nm,0.5s						
TNSS				*e*Lg	Lg	16 18 21.8	
	comp=E,122nm,0.9s						
KRBS	**Karabastau**	**3.17**	**23**	Pg	**Pb**	**16 17 42.0**	**+0.9**
	comp=E,98nm,0.4s						
KRBS				Lg	Lg	16 18 22.7	
	comp=E,213nm,0.6s						
KRBS	**Karabastau**	**3.17**	**23**	*e*Pg	**Pb**	**16 17 42.0**	**+0.9**
	comp=E,98nm,0.4s						
KRBS				*e*Lg	Lg	16 18 22.6	
	comp=E,213nm,0.6s						
IUG	**Iuzhnay**	**3.27**	**296**	*e*Pg	**Pg**	**16 17 46.5**	**-0.2**
	comp=E,61nm,0.5s						
IUG				*e*Lg	Lg	16 18 30.7	
	comp=E,422nm,0.3s						
KNDC	**Almaty**	**3.30**	**41**	⇑Pg	**Pb**	**16 17 44.2**	**+1.0**
	comp=E,136nm,0.5s						
KNDC				⇑Lg	Lg	16 18 27.3	
	comp=E,608nm,0.7s						
KOTS	**Kotyrbulak**	**3.38**	**42**	Pg	**Pb**	**16 17 45.6**	**+0.9**
	comp=E,68nm,0.5s						
KOTS				Lg	Lg	16 18 29.1	
	comp=E,301nm,0.5s						
KOTS	**Kotyrbulak**	**3.38**	**42**	*e*Pg	**Pb**	**16 17 45.6**	**+0.9**
	comp=E,68nm,0.5s						
KOTS				*e*Lg	Lg	16 18 29.1	
	comp=E,301nm,0.5s						
ANVS	**Anan'yevo**	**3.40**	**53**	⇑*e*P	**Pn**	**16 17 39.0**	**+0.8**
	baz=52						
ANVS				⇑*e*S	**Sn**	**16 18 19.0**	**-0.2**
	baz=52						
KK31	**Karatay Array**	**3.48**	**313**	⇑Pn	**Pn**	**16 17 41.9**	**+2.8**
	comp=E,1.8nm,0.3s,baz=92,slow=10,SNR=200						
KK31				⇑Pg	**Pg**	**16 17 48.9**	**-1.8**
	comp=E,16nm,0.4s,baz=136,slow=16,SNR=54						
KK31				⇑Lg	Lg	16 18 35.1	
	comp=E,32nm,0.3s,baz=129,slow=27,SNR=8.1						
KTBS	**Karatobe**	**3.55**	**33**	Pg	**Pb**	**16 17 48.3**	**+0.9**
	comp=E,36nm,0.5s						
KTBS				Lg	Lg	16 18 33.9	
	comp=E,250nm,0.5s						
KTBS	**Karatobe**	**3.55**	**33**	*e*Pg	**Pb**	**16 17 48.3**	**+0.9**
	comp=E,36nm,0.5s						
KTBS				*e*Lg	Lg	16 18 33.9	
	comp=E,250nm,0.5s						
KUU	**Kurty**	**3.57**	**28**	Pg	**Pb**	**16 17 48.3**	**+0.6**
	comp=E,24nm,0.3s						
KUU				Lg	Lg	16 18 34.1	
	comp=E,155nm,0.7s						
KUU	**Kurty**	**3.57**	**28**	*e*Pg	**Pb**	**16 17 48.3**	**+0.6**
	comp=E,24nm,0.3s						
KUU				*e*Lg	Lg	16 18 34.1	
	comp=E,155nm,0.7s						
CHM	**Chimkent**	**3.63**	**297**	*e*Pg	**Pg**	**16 17 54.0**	**+0.5**
	comp=E,62nm,0.3s						
CHM				*e*Lg	Lg	16 18 43.4	
	comp=E,411nm,0.4s						
PRZ	**Przheval'sk**	**3.72**	**61**	⇑*i*P	**Pn**	**16 17 43.5**	**+1.0**
	baz=60						
PRZ				⇑*i*S	**Sn**	**16 18 26.2**	**-0.8**
	baz=60						
PRZ	**Przheval'sk**	**3.72**	**61**	*i* PN	**Pn**	**16 17 43.5**	**+1.0**
PRZ				*i* S	**Sn**	**16 18 26.2**	**-0.8**
SATY	**Saty**	**4.01**	**54**	Pg	**Pb**	**16 17 56.4**	**+1.1**
	comp=E,51nm,0.9s						
SATY				Lg	Lg	16 18 48.2	
	comp=E,159nm,0.7s						
SATY	**Saty**	**4.01**	**54**	*e*Pg	**Pb**	**16 17 56.4**	**+1.1**
	comp=E,51nm,0.9s						
SATY				*e*Lg	Lg	16 18 48.2	
	comp=E,159nm,0.7s						
ZHN	**Zhinishke**	**4.09**	**53**	Pg	**Pb**	**16 17 57.6**	**+0.9**
	comp=E,20nm,0.2s						
ZHN				Lg	Lg	16 18 49.9	
	comp=E,109nm,0.3s						
ZHN	**Zhinishke**	**4.09**	**53**	*e*Pg	**Pb**	**16 17 57.5**	**+0.9**
	comp=E,20nm,0.2s						
ZHN				*e*Lg	Lg	16 18 49.9	
	comp=E,109nm,0.3s						
KURS	**Kuram**	**4.12**	**48**	Pg	**Pb**	**16 17 58.3**	**+1.1**
	comp=E,35nm,0.6s						
KURS				Lg	Lg	16 18 51.1	
	comp=E,54nm,1.3s						
KURS	**Kuram**	**4.12**	**48**	*e*Pg	**Pb**	**16 17 58.3**	**+1.1**
	comp=E,35nm,0.6s						
KURS				*e*Lg	Lg	16 18 51.1	
	comp=E,54nm,1.3s						
BTLS	**Baital**	**4.26**	**1**	Pg	**Pb**	**16 18 01.0**	**+1.5**
	comp=E,6.9nm,0.5s						
BTLS				Lg	Lg	16 18 55.6	
	comp=E,13nm,1.0s						
BTLS	**Baital**	**4.26**	**1**	*e*Pg	**Pb**	**16 18 02.0**	**+2.5**
	comp=E,6.9nm,0.5s						
BTLS				*e*Lg	Lg	16 18 57.0	
	comp=E,13nm,1.0s						
KPKS	**Kokpek**	**4.41**	**51**	Pg	**Pb**	**16 18 03.6**	**+1.6**
	comp=E,43nm,0.5s						
KPKS				Lg	Lg	16 19 01.2	
	comp=E,87nm,0.6s						
KPKS	**Kokpek**	**4.41**	**51**	*e*Pg	**Pb**	**16 18 03.6**	**+1.6**
	comp=E,43nm,0.5s						
KPKS				*e*Lg	Lg	16 19 01.2	
	comp=E,87nm,0.6s						
UZB	**Uzynbulak**	**4.44**	**56**

comp=E,95nm,0.7s
PDGK Podgornoye 4.83 56 Pg **Pb 16 18 12.2 +3.0**
comp=E,18nm,0.7s
PDGK Lg Lg 16 19 14.9
comp=E,30nm,0.8s
PDGK Podgornoye 4.83 56 ⇑Pn **Pn 16 17 59.1 +1.4**
comp=E,11nm,0.7s
PDGK ⇓Pg **Pb 16 18 09.9 +0.7**
comp=E,30nm,0.6s
PDGK ⇑Lg Lg 16 19 15.9
comp=E,79nm,0.8s
KNOS Konyrlen 5.24 45 Pg **Pb 16 18 18.4 +2.0**
comp=E,21nm,0.4s
KNOS Lg Lg 16 19 25.9
comp=E,66nm,0.8s
KTMS Ketmen 5.43 59 Pg **Pg 16 18 24.5 -3.5**
comp=E,11nm,0.7s
KTMS Lg Lg 16 19 36.9
comp=E,23nm,0.5s
KTMS Ketmen 5.43 59 *e*Pg **Pg 16 18 24.5 -3.5**
comp=E,11nm,0.7s
KTMS *e*Lg Lg 16 19 36.9
comp=E,23nm,0.5s
MK31 Makanchi Array 8.49 42 Pn **Pn 16 18 51.0 +3.1**
comp=E,1.3nm,0.5s,baz=229,slow=14,SNR=4.2
MK31 ⇑Lg Lg 16 21 16.5
comp=E,5.7nm,0.7s,baz=207,slow=25,SNR=4.5
MK31 Makanchi Array 8.49 42⇑*e*P **Pn 16 18 45.0 -2.9**
MKAR Makanchi Array 8.49 42 Pn **Pn 16 18 49.0 +1.1**
comp=E,0.1nm,0.3s,baz=227,slow=15,SNR=4.6
MKAR Sn **Sn 16 20 23.2 -1.1**
baz=227,slow=27
MKAR Lg Lg 16 21 08.0
comp=E,0.3nm,0.3s,baz=233,slow=29,SNR=3.3
comp=E,0.6nm,0.6s
KURBB Kurchatov Arra 10.34 16 ⇑Lg Lg 16 22 11.5
comp=E,46nm,0.8s
KURBB Kurchatov Arra 10.34 16 Pn **Pn 16 19 12.8 -0.3**
baz=202,slow=12,SNR=5.3
KURBB Lg Lg 16 22 06.6
comp=E,0.1nm,0.3s,baz=200,slow=29,SNR=8.6
comp=E,0.2nm,0.5s
KURK Kurchatov 10.45 16 ⇑Lg Lg 16 22 12.4
comp=E,49nm,0.9s
KURK Kurchatov 10.45 16 P **Pn 16 19 12.9 -1.7**
BVAR Borovoye Array 12.49 350 Pn **Pn 16 19 39.5 -3.1**
comp=E,0.1nm,0.3s,baz=154,slow=14,SNR=8.9
BVAR Lg Lg 16 23 15.7
baz=144,slow=25,SNR=2.7
comp=E,0.8nm,0.4s
BRVK Borovoye 12.54 350⇓*e*P **Pn 16 19 43.0 -0.2**
BRVK pmax pmax
comp=Z,1.0nm,0.8s
GEYT Alibeck 12.61 262 Pn **Pn 16 19 44.2 -0.1**
comp=Z,0.4nm,0.3s,baz=110,slow=7.8,SNR=2.0
GEYT Sn **Sn 16 22 03.3 -2.0**
comp=Z,0.2nm,0.3s,baz=94,slow=38,SNR=1.5
GEYT Lg Lg 16 23 17.9
baz=65,slow=27
comp=Z,0.8nm,0.3s
DGZ Jazzator, Alta 13.00 42⇑*e*P **Pn 16 19 47.4 -2.2**
DGZ pmax pmax
comp=Z,1.0nm,1.2s
ZALV Zalesovo Beam 15.06 25 Pn **Pn 16 20 17.0 -0.5**
comp=Z,0.2nm,0.3s,baz=220,slow=12,SNR=3.6
ZALV Sn **Sn 16 23 05.2 +0.5**
comp=Z,0.1nm,0.3s,baz=204,slow=17,SNR=1.5
ZALV Lg Lg 16 24 36.3
comp=Z,0.1nm,0.3s,baz=215,slow=19,SNR=2.1
comp=Z,0.9nm,0.4s
ARU Arti 18.62 332 P **P 16 21 01.9 -0.5**
comp=Z,0.3nm,0.3s,baz=153,slow=13,SNR=3.7
ARU Lg Lg 16 26 33.6
comp=Z,0.2nm,0.3s,baz=170,slow=23,SNR=1.3
comp=Z,1.7nm,0.5s
KIV Kislovodsk 23.27 288 *e*P **P 16 21 53.6 +0.8**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,10.0nm,14.0s
FINES FINESS Array B 35.40 322 *i*P **P 16 23 41.9 +1.2**
FINES pmax pmax
comp=Z,3.0nm,1.0s
FINES FINESS Array B 35.40 322 P **P 16 23 41.4 +0.7**
comp=Z,3.1nm,1.0s,baz=119,slow=11,SNR=4.5
comp=Z,3.1nm,1.0s
ARCES ARCESS Array B 38.18 335 *e*P **P 16 24 06.0 +1.6**
ARCES ARCESS Array B 38.18 335 P **P 16 24 05.6 +1.2**
comp=Z,0.5nm,0.5s,baz=108,slow=7.9,SNR=8.8
comp=Z,0.5nm,0.5s
TORD Torodi Ar. Bea 68.16 269 P **P 16 27 45.7 -0.1**
comp=Z,0.2nm,0.5s,baz=49,slow=6.1,SNR=1.8
comp=Z,0.2nm,0.5s
ASAR Alice Springs 84.88 127 P **P 16 29 21.3 +1.1**
comp=Z,0.2nm,0.7s,baz=336,slow=6.1,SNR=2.0
comp=Z,0.2nm,0.7s

*NNC **05** 16:32:10.1±4.5, 37°.77N×71°.54E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=35.1km s-min=27.6km az=165.0
ISC 05 16:32:08.0±3.6, 37°.4N±0°.2×71°.5E±0°.1, h35km, n9,
σ1§53/13, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.04**	**19**	P	**Pn**	**16 33 22.8**	**+1.4**
	SNR=124						
AML	**Almayashu**	**5.04**	**19**	⇑P	**Pn**	**16 33 22.6**	**+1.2**
	2.4nm,0.6s						
AML				⇑S	**Sn**	**16 34 17.4**	**-1.1**
	8.7nm,0.6s						
UCH	**Uchtor**	**5.37**	**25**	P	**Pn**	**16 33 26.7**	**+0.7**
	SNR=11						
EKS2	**Erkin-Say**	**5.56**	**18**	P	**Pn**	**16 33 29.9**	**+1.6**
	SNR=41						
AAK	**Ala-Archa**	**5.73**	**23**	P	**Pn**	**16 33 32.1**	**+1.4**
	SNR=5.3						
KK31	**Karatay Array**	**5.75**	**353**	⇑P	**Pn**	**16 33 33.5**	**+2.7**
	1.5nm,0.2s,baz=169,slow=12,SNR=103						
KK31				S	**Sn**	**16 34 36.6**	**+1.1**
	16nm,0.3s,baz=166,slow=21,SNR=27						
USP	**Ospenovka**	**6.31**	**21**	P	**Pn**	**16 33 38.9**	**+0.3**
	SNR=8.1						
TKM2	**Tokmak 2**	**6.37**	**29**	⇑P	**Pn**	**16 33 39.5**	**0.0**
	1.9nm,0.6s						
TKM2				⇓S	**Sn**	**16 34 51.6**	**+0.6**
	2.8nm,0.6s						
AB31	**Akbulak array**	**14.49**	**329**	⇓P	**Pn**	**16 35 29.3**	**-1.1**
	0.1nm,0.2s,baz=134,slow=14,SNR=15						
AB31				⇑S	**Sn**	**16 38 07.8**	**-2.0**
	1.2nm,0.5s,baz=153,slow=22,SNR=7.0						

*RHSSO **05** 16:50:28.2±0.6, 42°.01N×20°.73E, h4km±2km, ML3.3/12*
*TIR **05** 16:50:29.5, 42°.08N×20°.65E, h23km±2km, Md3.3, Ml3.0*
*PDG **05** 16:50:29.4±0.1, 42°.09N×20°.59E, h7km, MD3.5/5,*
ML3.4/11, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0
*SKO **05** 16:50:30.1, 42°.03N×20°.60E, h7km, ML3.4*
*BEO **05** 16:50:31.2±0.2, 42°.09N×20°.61E, h10km±3km, ML3.0/15*
*THE **05** 16:50:31.1, 42°.05N×20°.61E, h1km±7km, ML2.7/5, Error*
ellipse: s-maj=11.8km s-min=0.9km az=336.0
ISC 05 16:50:29.9±1.1, 42°.08N±0°.02×20°.59E±0°.01, h5km±9km,
n132, σ1§30/197, 17C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKO	**Skopje**	**0.64**	**99**	*e*Pg	**Pg**	**16 50 42.5**	**+0.3**
SKO				*e*Sg	**Sb**	**16 50 53.0**	**+0.1**
SKO	**Skopje**	**0.64**	**99**⇑*i*Pg		**Pg**	**16 50 42.5**	**+0.3**
SKO				*i* Sg	**Sb**	**16 50 51.9**	**-1.0**
PVY	**Plav**	**0.70**	**318**⇓*i*Pg		**Pg**	**16 50 42.2**	**-1.1**
PVY				*i* Sg	**Sg**	**16 50 52.3**	**0.0**
TIR	**Tirane**	**0.91**	**217**	⇑P	**Pg**	**16 50 47.2**	**-0.2**
TIR				⇓S	**Sb**	**16 51 01.3**	**+0.6**
TIR	**Tirane**	**0.91**	**217**	P	**Pg**	**16 50 47.2**	**-0.2**
TIR				S	**Sb**	**16 51 00.6**	**-0.1**
	165nm,0.3s						
TIR	**Tirane**	**0.91**	**217**	P	**Pg**	**16 50 47.2**	**-0.2**
	baz=220						
TIR				S	**Sb**	**16 51 01.1**	**+0.4**
	baz=220						
TIR				AMP			
	comp=N,1.0nm,0.3s,baz=220						
TIR	**Tirane**	**0.91**	**217**	*e*Pg	**Pg**	**16 50 47.2**	**-0.2**
TIR				*e*Sg	**Sn**	**16 51 02.0**	**-1.0**
TIR	**Tirane**	**0.91**	**217**	*i* Pg	**Pg**	**16 50 47.4**	**0.0**
TIR				*i* Sg	**Sb**	**16 51 01.5**	**+0.8**
IVA	**Berane**	**0.94**	**327**⇑*i*Pg		**Pg**	**16 50 46.7**	**-1.3**
IVA				*i* Sg	**Sg**	**16 51 01.4**	**+1.1**
OHR	**Ohrid**	**0.98**	**171**	*e*Pg	**Pg**	**16 50 48.2**	**-0.5**
OHR				*e*Sg	**Sb**	**16 51 03.2**	**+0.5**
OHR	**Ohrid**	**0.98**	**171**⇓*i*Pg		**Pg**	**16 50 48.3**	**-0.4**
OHR				*i* Sg	**Sb**	**16 51 03.0**	**+0.2**
OHR				*e*Lg	Lg	16 51 03.3	
	comp=E,684nm,0.7s						
OHR				*e*Lg	Lg	16 51 03.4	
	comp=N,623nm,0.3s						
ULC	**Ulcinj**	**1.01**	**264**⇓*i*Pg		**Pg**	**16 50 48.0**	**-1.3**
ULC				*i* Sg	**Sb**	**16 51 03.9**	**+0.3**
DRME	**Dracevica, Mon**	**1.05**	**276**⇓*i*Pg		**Pg**	**16 50 48.5**	**-1.6**
DRME				*e*Sg	**Sb**	**16 51 05.5**	**+0.8**
DRME	**Dracevica, Mon**	**1.05**	**276**⇑*i*Pg		**Pg**	**16 50 48.8**	**-1.3**
DRME				*i* Sg	**Sb**	**16 51 05.3**	**+0.6**
PDG	**Podgorica**	**1.05**	**290**	⇑P	**Pg**	**16 50 48.3**	**-1.8**
PDG	**Podgorica**	**1.05**	**290**	*e*Pg	**Pg**	**16 50 48.3**	**-1.8**
PDG				*e*Sg	**Sb**	**16 51 05.0**	**+0.3**
PDG	**Podgorica**	**1.05**	**290**⇑*i*Pg		**Pg**	**16 50 48.3**	**-1.8**
PDG				*e*Sg	**Sb**	**16 51 05.2**	**+0.5**
PDG	**Podgorica**	**1.05**	**290**	*e*Pg	**Pg**	**16 50 48.7**	**-1.4**
PDG				*i* Sg	**Sb**	**16 51 05.2**	**+0.5**
BARS	**Barje**	**1.17**	**51**	*e*Pg	**Pn**	**16 50 52.7**	**-0.2**
BARS				*e*Sg	**Sn**	**16 51 08.6**	**-0.7**
BARS	**Barje**	**1.17**	**51**	*i* Pg	**Pn**	**16 50 52.9**	**-0.1**
BARS				*i* Sg	**Sn**	**16 51 08.7**	**-0.6**
PRVS	**Prvonek**	**1.18**	**68**	*e*Pg	**Pg**	**16 50 52.5**	**0.0**
PRVS				*e*Sg	**Sb**	**16 51 08.4**	**-0.1**
SELS	**Selova**	**1.20**	**19**	*e*Pg	**Pg**	**16 50 53.0**	**0.0**
SELS				*e*Sg	**Sg**	**16 51 08.8**	**+0.2**
SJES	**Sjenica**	**1.27**	**339**	*e*Pg	**Pn**	**16 50 53.6**	**-0.8**
SJES				*e*Sg	**Sn**	**16 51 12.2**	**+0.3**
SJES	**Sjenica**	**1.27**	**339**⇑*i*Pg		**Pn**	**16 50 52.4**	**-2.0**
SJES				*e*Sg	**Sn**	**16 51 12.7**	**+0.8**
BUM	**Brajici-Budva**	**1.28**	**280**⇓*i*Pg		**Pn**	**16 50 53.0**	**-1.6**
BUM				*i* Sg	**Sn**	**16 51 13.1**	**+0.9**
CEME	**Cevo**	**1.33**	**291**	*e*Pg	**Pn**	**16 50 53.6**	**-1.6**
CEME				*i* Sg	**Sn**	**16 51 14.4**	**+1.1**
NKME	**Niksic**	**1.39**	**300**⇑*i*Pg		**Pn**	**16 50 55.0**	**-1.1**
NKME				*i* Sg	**Sg**	**16 51 16.8**	**+2.1**
FNA	**Florina**	**1.42**	**155**	P	**Pn**	**16 50 56.1**	**-0.4**
FNA				S	**Sg**	**16 51 16.2**	**+0.6**
	comp=N,885nm,0.6s						
FNA	**Florina**	**1.42**	**155**	P	**Pn**	**16 50 55.8**	**-0.7**
	baz=156						
FNA				S	**Sg**	**16 51 15.6**	**0.0**
	baz=156						
FNA	**Florina**	**1.42**	**155**	*e*Pg	**Pn**	**16 50 55.7**	**-0.8**
FNA				*e*Sg	**Sg**	**16 51 17.0**	**+1.4**
FNA	**Florina**	**1.42**	**155**	*i* Pg	**Pn**	**16 50 56.2**	**-0.4**
FNA				*i* Sg	**Sg**	**16 51 15.6**	**0.0**
BOSS	**Bosilegrad**	**1.46**	**73**	*e*Pg	**Pb**	**16 50 57.4**	**-0.2**
BOSS				*e*Sg	**Sg**	**16 51 16.7**	**-0.1**
KBN	**Korca**	**1.46**	**174**	P	**Pn**	**16 50 57.2**	**+0.2**
KBN				S	**Sg**	**16 51 17.7**	**+0.8**
	comp=N,298nm,0.6s						
KBN	**Korca**	**1.46**	**174**	P	**Pn**	**16 50 57.3**	**+0.2**
	baz=175						
KBN				S	**Sg**	**16 51 17.7**	**+0.8**
	baz=175						
KBN				AMP			
	comp=N,1.3nm,0.6s,baz=175						
IVAS	**Ivanjica**	**1.53**	**348**	*e*Pg	**Pn**	**16 50 57.3**	**-0.7**
IVAS				*e*Sg	**Sg**	**16 51 19.4**	**+0.4**
PLE	**Pljevlja**	**1.53**	**325**	*e*Pg	**Pn**	**16 50 57.5**	**-0.6**
PLE				*i* Sg	**Sg**	**16 51 20.8**	**+1.7**
HCY	**Herceg Novi**	**1.60**	**284**	*e*Pn	**Pn**	**16 50 58.1**	**-0.8**
HCY				*e*Sn	**Sb**	**16 51 21.3**	**+0.8**
HCY	**Herceg Novi**	**1.60**	**284**	*e*Pn	**Pn**	**16 50 58.8**	**-0.1**
HCY				*i* Sn	**Sg**	**16 51 22.5**	**+1.2**
VAY	**Valandovo**	**1.66**	**116**	*e*Pg	**Pb**	**16 51 00.6**	**-0.4**
VAY				*e*Sg	**Sg**	**16 51 23.9**	**+0.6**
VAY	**Valandovo**	**1.66**	**116**	*i* Pn	**Pb**	**16 51 00.9**	**-0.1**
UPM	**Unac-Piva**	**1.68**	**313**	*e*Pn	**Pn**	**16 51 00.1**	**0.0**
UPM				*i* Sn	**Sg**	**16 51 24.5**	**+0.8**
NEST	**Nestorio**	**1.70**	**168**	P	**Pb**	**16 51 01.0**	**-0.7**
NEST				S	**Sb**	**16 51 23.8**	**+0.3**
	comp=N,155nm,0.3s						
BOVS	**Bovan**	**1.76**	**27**	⇑P	**Pn**	**16 51 00.6**	**-0.4**
BOVS	**Bovan**	**1.76**	**27**	*e*Pn	**Pn**	**16 51 00.7**	**-0.3**
GRG	**Griva**	**1.76**	**129**	P	**Pb**	**16 51 02.0**	**-0.7**
GRG				S	**Sb**	**16 51 24.5**	**-0.7**
	comp=N,102nm,0.6s						
GRG	**Griva**	**1.76**	**129**	*i* Pn	**Pb**	**16 51 02.0**	**-0.7**
TREB	**Trebinje**	**1.78**	**292**	*e*Pn	**Pn**	**16 51 02.0**	**+0.7**
TREB				*e*Sn	**Sb**	**16 51 26.3**	**+0.7**
TREB	**Trebinje**	**1.78**	**292**	*e*Pn	**Pn**	**16 51 01.8**	**+0.5**
TREB				*e*Sn	**Sb**	**16 51 25.9**	**+0.3**
RUDO	**Rudo**	**1.78**	**330**	*e*Pn	**Pn**	**16 51 00.9**	**-0.5**
RUDO				*e*Sn	**Sn**	**16 51 25.0**	**+0.6**
GRUS	**Gruza**	**1.81**	**3**	*e*Pn	**Pn**	**16 51 01.6**	**-0.2**
DBRK	**Dubrovnik**	**1.91**	**289**	*e*Pn	**Pb**	**16 51 04.9**	**-0.2**
KKB	**Krupnik**	**1.91**	**96**	*i* P	**Pg**	**16 51 06.8**	**+0.4**
KNT	**Kendrikon**	**1.96**	**117**	P	**Pn**	**16 51 04.2**	**+0.4**
BBLS	**Lazići**	**1.98**	**334**	*e*Pn	**Pn**	**16 51 05.0**	**+0.7**
BBLS	**Lazići**	**1.98**	**334**	*e*Pn	**Pn**	**16 51 04.0**	**-0.3**
BBLS				*e*Sn	**Sb**	**16 51 30.9**	**-0.8**
VTS	**Vitosha**	**2.03**	**74**	⇑P	**Pb**	**16 51 07.5**	**+0.1**
VTS	**Vitosha**	**2.03**	**74**	*e*Pg	**Pb**	**16 51 07.7**	**+0.3**
VTS				*e*Sg	**Sb**	**16 51 33.3**	**+0.2**
VTS	**Vitosha**	**2.03**	**74**	*i* Pn	**Pg**	**16 51 08.7**	**-0.2**
VTS	**Vitosha**	**2.03**	**74**	*i* P	**Pb**	**16 51 06.5**	**-0.9**
DIVS	**Divibare**	**2.06**	**348**	*e*Pn	**Pn**	**16 51 05.0**	**-0.4**
DIVS	**Divibare**	**2.06**	**348**	*e*Pn	**Pn**	**16 51 04.9**	**-0.4**
DIVS				*e*Sn	**Sn**	**16 51 31.8**	**+0.3**
NEVS	**Nevesinje**	**2.20**	**304**	*e*Pn	**Pn**	**16 51 07.8**	**+0.6**
NEVS				*e*Sn	**Sn**	**16 51 36.5**	**+1.6**
KPRO	**Kipourio**	**2.20**	**164**	P	**Pn**	**16 51 08.1**	**+0.9**
STON	**Ston**	**2.28**	**291**	*e*Pn	**Pb**	**16 51 10.4**	**-1.2**
STON	**Ston**	**2.28**	**291**	*e*Pn	**Pb**	**16 51 10.3**	**-1.2**
STON				*e*Sn	**Sn**	**16 51 36.7**	**0.0**
STON	**Ston**	**2.28**	**291**	*e*Pn	**Pn**	**16 51 08.4**	**+0.2**
STON				*e*Sn	**Sb**	**16 51 38.9**	**-1.1**
THE	**Thessaloniki**	**2.30**	**128**	*i* Pn	**Pb**	**16 51 12.4**	**+0.5**
HORT	**Hortiatis**	**2.40**	**127**	P	**Pn**	**16 51 10.8**	**+0.8**
SOH	**Sokhos**	**2.43**	**120**	P	**Pn**	**16 51 11.4**	**+1.1**
KEK	**Kerkira**	**2.44**	**195**	P	**Pb**	**16 51 12.4**	**-1.9**
SRS	**Serrai**	**2.45**	**112**	P	**Pn**	**16 51 11.2**	**+0.6**
IGT	**Igoumenitsa**	**2.55**	**185**	P	**Pn**	**16 51 13.2**	**+1.2**
IGT	**Igoumenitsa**	**2.55**	**185**	P	**Pn**	**16 51 14.0**	**+2.0**
	baz=186						
IGT				S	**Sb**	**16 51 46.6**	**-1.3**
	baz=186						
NVR	**Nevrokopi**	**2.56**	**106**	P	**Pn**	**16 51 13.3**	**+1.2**
SCTE	**Santa Cesarea**	**2.57**	**219**	P	**Pn**	**16 51 12.6**	**+0.4**
	baz=221						
TEKS	**Tekeris**	**2.59**	**343**	*e*Pn	**Pn**	**16 51 11.7**	**-0.8**
PGB	**Panagyurishte**	**2.69**	**80**	*i* P	**Pg**	**16 51 20.4**	**-1.1**
THL	**Klokotos Trika**	**2.74**	**156**	P	**Pn**	**16 51 15.5**	**+1.0**
MDVR	**Moldovita**	**2.82**	**16**	⇑P	**Pn**	**16 51 15.4**	**-0.4**
LSTV	**Lastovo**	**2.82**	**285**	*i* Pn	**Pn**	**16 51 17.0**	**+1.3**
MAKA	**Makarska**	**2.90**	**296**	*e*Pn	**Pn**	**16 51 18.7**	**+2.0**
RICI	**Ricice**	**2.91**	**300**	*e*Pn	**Pn**	**16 51 19.8**	**+2.8**
NOCI	**Noci**	**2.95**	**245**	P	**Pn**	**16 51 17.8**	**+0.4**
	baz=246						
HERR	**Herculane**	**3.10**	**25**	⇓P	**Pn**	**16 51 19.6**	**+0.1**
RZN	**Rozhen**	**3.12**	**96**	*i* P	**Pg**	**16 51 28.1**	**-1.6**
KAVA	**Kavala**	**3.14**	**109**	P	**Pn**	**16 51 21.1**	**+1.1**
SRKY	**Kupres RS**	**3.20**	**310**	*e*Pn	**Pn**	**16 51 21.4**	**+0.4**
SRKY				*e*Sn	**Sn**	**16 52 00.3**	**+0.7**
HVAR	**Hvar**	**3.25**	**291**	*e*Pn	**Pn**	**16 51 22.6**	**+1.0**
MATE	**Matera**	**3.26**	**245**	⇑P	**Pn**	**16 51 22.1**	**+0.4**
MAKR	**Makrakomi, Fth**	**3.28**	**159**	P	**Pn**	**16 51 23.1**	**+1.1**
MGRS	**Mrkonjic Grad**	**3.47**	**314**	*e*Pn	**Pn**	**16 51 25.1**	**+0.5**
MGRS				*e*Sn	**Sn**	**16 52 06.8**	**+0.7**
BZS	**Buzias**	**3.61**	**11**	⇓P	**Pn**	**16 51 26.5**	**0.0**
BZS	**Buzias**	**3.61**	**11**	*e*Pn	**Pn**	**16 51 26.1**	**-0.4**
KIJV	**Kijevo**	**3.62**	**303**	*e*Pn	**Pn**	**16 51 29.4**	**+2.7**
BLY	**Banja Luka**	**3.64**	**318**	*e*Pn	**Pn**	**16 51 27.3**	**+0.3**
BLY				*e*Sn	**Sn**	**16 52 10.7**	**+0.3**
GZR	**Gura Zlata**	**3.67**	**25**	⇑P	**Pn**	**16 51 28.1**	**+0.7**
SURR	**Surduc**	**3.83**	**16**	⇓P	**Pn**	**16 51 30.6**	**+1.0**
ZIRJ	**Zirje**	**3.96**	**295**	*e*Pn	**Pn**	**16 51 33.3**	**+1.9**
MORI	**Morici**	**4.00**	**298**	*e*Pn	**Pn**	**16 51 33.9**	**+2.0**
LOT	**Lotru**	**4.08**	**33**	⇑P	**Pn**	**16 51 33.4**	**+0.3**
KNYS	**Krupa na Uni**	**4.19**	**314**	*e*Pn	**Pn**	**16 51 34.2**	**-0.3**
KNYS				*e*Sn	**Sn**	**16 52 24.0**	**+0.2**
UDBI	**Udbina**	**4.29**	**306**	*e*Pn	**Pn**	**16 51 39.0**	**+3.1**
MORH	**Mrgy, Hungar**	**4.36**	**342**	⇑P	**Pn**	**16 51 36.6**	**-0.2**
MORH	**Mrgy, Hungar**	**4.36**	**342**	*e*Pn	**Pn**	**16 51 36.4**	**-0.5**
MORH				*e*Sn	**Sn**	**16 52 28.0**	**-0.1**
ARR	**Arges**	**4.40**	**40**	⇓P	**Pn**	**16 51 38.9**	**+1.4**
DUGI	**Dugi Otok**	**4.48**	**297**	*e*Pn	**Pn**	**16 51 40.1**	**+1.6**
PLIT	**Plitvice**	**4.57**	**309**	*e*Pn	**Pn**	**16 51 43.0**	**+3.3**
VIRC	**Vir**	**4.61**	**300**	*e*Pn	**Pn**	**16 51 41.9**	**+1.6**
VOIR		**4.66**	**42**	⇑P	**Pn**	**16 51 42.5**	**+1.5**
A254A	**Petrova Gora**	**4.74**	**315**	*e*Pn	**Pn**	**16 51 45.0**	**+2.9**
NVLJ	**Novalja**	**4.86**	**303**	*e*Pn	**Pn**	**16 51 45.2**	**+1.7**
MLR	**Muntele Rosu**	**5.16**	**47**	⇑P	**Pn**	**16 51 49.4**	**+1.5**
BOJS	**Bojanci**	**5.16**	**313**	*e*Pn	**Pn**	**16 51 47.7**	**-0.1**
BOJS				*e*Sn	**Sn**	**16 52 47.5**	**-0.3**
CRES	**Cresnjev**	**5.27**	**317**	*e*Pn	**Pn**	**16 51 49.1**	**-0.2**
CRES				*e*Sn	**Sn**	**16 52 49.0**	**-1.4**
SMRN	**Sveta Marina**	**5.53**	**304**	*e*Pn	**Pn**	**16 51 54.2**	**+1.3**
BRJN	**Brijuni**	**5.72**	**302**	*e*Pn	**Pn**	**16 51 56.7**	**+1.2**
CEY	**Cerknica**	**5.76**	**311**	*e*Pn	**Pn**	**16 51 55.6**	**-0.5**
CEY				*e*Sn	**Sn**	**16 53 01.8**	**-0.8**
A253A	**Karojba, Istri**	**5.87**	**305**	*e*Pn	**Pn**	**16 51 59.4**	**+1.8**
SKDS	**Skadanscina**	**5.88**	**308**	*e*Pn	**Pn**	**16 51 57.6**	**-0.2**
SKDS				*e*Sn	**Sn**	**16 53 03.6**	**-2.1**
OBKA	**Obir**	**6.20**	**318**	*e*Pn	**Pn**	**16 52 05.5**	**+3.3**
	comp=N,1.3nm,0.2s						
OBKA	**Obir**	**6.20**	**318**	*e*Pn	**Pn**	**16 52 01.5**	**-0.6**
OBKA				*e*Sn	**Sn**	**16 53 10.8**	**-2.6**
ARSA	**Arzberg**	**6.31**	**327**	*i* Pn	**Pn**	**16 52 04.8**	**+1.2**
	comp=N,2.9nm,0.4s						
ARSA				*e*Sn	**Sn**	**16 53 12.9**	**-3.1**
	comp=N,4.6nm,0.8s						
ARSA	**Arzberg**	**6.31**	**327**	*e*Pn	**Pn**	**16 52 03.1**	**-0.5**
KECS	**Kecovo**	**6.40**	**359**	*e*PN	**Pn**	**16 52 09.1**	**+4.2**
KECS				*e*SN	**Sn**	**16 53 18.7**	**+0.3**
VYHS	**Vyhne**	**6.53**	**350**	*e*PN	**Pn**	**16 52 09.7**	**+3.0**
VYHS				*e*SN	**Sn**	**16 53 18.9**	**-2.6**
MYKA	**Terra Mystica**	**6.74**	**315**	*e*Pn	**Pn**	**16 52 13.3**	**+3.7**
	comp=N,1.2nm,0.2s						
MYKA				*e*Sn	**Sn**	**16 53 29.0**	**+2.2**
	comp=N,1.8nm,0.5s						
STHS	**Stebnicka Huta**	**7.35**	**3**	*e*PN	**Pn**	**16 52 17.4**	**-0.5**
ABTA	**Abfaltersbach**	**7.43**	**312**	*e*Pn	**Pn**	**16 52 20.8**	**+1.8**
	comp=N,0.6nm,0.2s						
LESA	**Schwarzleotal**	**7.76**	**316**	*e*Pn	**Pn**	**16 52 27.4**	**+3.8**
	comp=N,1.2nm,0.3s						
SQTA	**Sankt Quirin**	**8.43**	**311**	*i* Pn	**Pn**	**16 52 36.6**	**+3.8**
	comp=N,0.9nm,0.1s						
MOTA	**Moosalm**	**8.56**	**311**	*i* Pn	**Pn**	**16 52 38.4**	**+3.8**
	comp=N,0.7nm,0.2s						
FETA	**Feichten**	**8.60**	**308**	*e*Pn	**Pn**	**16 52 38.6**	**+3.4**
	comp=N,0.8nm,0.3s						

IDC 05 16:57:05.2±999.0, 50°.97N×49°.92E, h0km, Error ellipse:
s-maj=830.1km s-min=110.8km az=92.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.19**	**93**	I	I	17 30 50.0	
	0.3nm,0.8s,baz=279,slow=323,SNR=6.7						
I46RU	**ZALESOVO INFRA**	**21.34**	**68**	I	I	19 04 00.0	
	baz=280,slow=328,SNR=2.4						
I34MN	**SONGINO INFRAS**	**36.15**	**72**	I	I	20 36 30.0	
	baz=293,slow=322,SNR=1.1						

*UPP **05** 17:01:24.9±0.1, 67°.05N×20°.99E, h0km, ML2.3, Suspected explosion*
*HEL **05** 17:01:24.4±0.2, 67°.02N×20°.86E, h0km, ML2.2, Explosion*
*IDC **05** 17:01:26.0±0.8, 67°.08N×21°.46E, h0km, mbtmp3.0/4,*
ML2.0/4, Error ellipse: s-maj=15.3km s-min=6.6km
az=113.0
ISC 05 17:01:24.5±0.7, 67°.05N±0°.02×21°.00E±0°.02, h0km, n44,
σ1§49/63, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.18**	**293**	P	**Pg**	**17 01 28.6**	**+0.6**
DUNU				S	**Sg**	**17 01 31.3**	**+0.9**
ERTU	**Ertsjaerv**	**0.68**	**136**	P	**Pg**	**17 01 38.0**	**+0.4**
ERTU	**Ertsjaerv**	**0.68**	**136**	PB	**Pg**	**17 01 37.9**	**+0.4**
ERTU				SG	**Sg**	**17 01 43.5**	**-2.9**
PAJU	**Pajala**	**0.83**	**91**	P	**Pg**	**17 01 40.7**	**+0.4**
PAJU	**Pajala**	**0.83**	**91**	PG	**Pg**	**17 01 40.4**	**+0.1**
PAJU				SB	**Sb**	**17 01 53.3**	**-0.1**
HARU	**Harads**	**0.89**	**181**	P	**Pg**	**17 01 41.6**	**+0.2**
KUA	**Kurravaara**	**0.94**	**345**	P	**Pg**	**17 01 42.4**	**-0.2**
RATU	**Laukkuluspa**	**0.

FINES	**FINESS Array B**	**6.04**	**156**	Pn	**Pn**	**17 02 56.8**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=340,slow=14,SNR=11						
FINES				Sn	**Sn**	**17 04 03.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=345,slow=23,SNR=2.1						
FINES				Lg	Lg	17 04 36.0	
	comp=Z,0.2nm,0.3s,baz=342,slow=26,SNR=1.7						
	comp=Z,2.8nm,1.0s						
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**17 03 15.4**	**+1.8**
	baz=38,slow=13,SNR=5.2						
NOA				Sn	**Sn**	**17 04 38.3**	**+0.3**
	baz=49,slow=13,SNR=1.3						
	comp=Z,0.7nm,1.0s						
HFS	**Hagfors**	**7.66**	**209**	Pn	**Pn**	**17 03 17.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=27,slow=16,SNR=6.1						
HFS				Sn	**Sn**	**17 04 43.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=21,SNR=1.9						
	comp=Z,1.6nm,0.8s						

*KRNET **05** 17:03:31.1±0.1, 41°.58N×73°.27E, h11km, mb2.7*
*SOME **05** 17:03:31.9, 41°.70N×73°.30E, h0km*
*KNET **05** 17:03:32.8±0.4, 41°.64N×73°.39E, h12km±2km, ml2.4, Error ellipse: s-maj=4.0km s-min=2.6km az=121.0*
*NNC **05** 17:03:32.2±0.6, 41°.64N×73°.24E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=4.7km s-min=2.9km az=139.0*

ISC 05 17:03:31.5±1.2, 41°.61N±0°.03×73°.28E±0°.02, h4km±11km, n51, σ1°14/74, 32C-14D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.61**	**30**	⇓P	**Pb**	**17 03 43.9**	**-1.1**
	52nm,0.1s,SNR=225						
AML				⇓S	**Sb**	**17 03 52.4**	**-1.7**
	236nm,0.2s						
AML	**Almayashu**	**0.61**	**30**	⇑P	**Pb**	**17 03 44.0**	**-1.1**
	0.2nm,0.2s						
AML				⇑S	**Sb**	**17 03 52.5**	**-1.6**
	17nm,0.6s						
ARLS	**Aral**	**0.82**	**72**	⇑*i*P	**Pg**	**17 03 47.1**	**-0.2**
	baz=71						
ARLS				⇑*i*S	**Sg**	**17 03 58.4**	**+0.4**
	baz=71						
ARK	**Arkit**	**1.00**	**282**	⇓*e*P	**Pg**	**17 03 50.5**	**-0.3**
	baz=83						
ARK				⇓*e*S	**Sg**	**17 04 04.0**	**+0.2**
	baz=83						
MNAS	**Manas**	**1.05**	**327**	⇑*i*P	**Pg**	**17 03 51.3**	**-0.4**
	baz=28						
MNAS				⇑*i*S	**Sb**	**17 04 06.1**	**-0.5**
	baz=28						
UCH	**Uchtor**	**1.11**	**56**	⇑P	**Pg**	**17 03 52.4**	**-0.4**
	79nm,0.1s,SNR=61						
UCH				⇑S	**Sb**	**17 04 08.0**	**-0.5**
	25nm,0.1s						
EKS2	**Erkin-Say**	**1.12**	**19**	⇑P	**Pb**	**17 03 52.7**	**-0.8**
	6.9nm,0.1s,SNR=22						
MRKS	**Merke**	**1.14**	**358**	P	**Pb**	**17 03 53.1**	**-0.8**
	14nm,0.1s						
MRKS				S	**Sn**	**17 04 08.5**	**-2.0**
	76nm,0.1s						
MRKS	**Merke**	**1.14**	**358**	*e*P	**Pb**	**17 03 53.0**	**-0.8**
	14nm,0.1s						
MRKS				*e*S	**Sn**	**17 04 08.5**	**-2.0**
	76nm,0.1s						
OHH	**Osh**	**1.14**	**199**	⇑*e*P	**Pb**	**17 03 52.0**	**-1.8**
	baz=99						
OHH				⇑*e*S	**Sb**	**17 04 07.5**	**-1.6**
	baz=99						
AAK	**Ala-Archa**	**1.37**	**41**	⇑P	**Pb**	**17 03 57.5**	**-0.3**
	19nm,0.2s,SNR=15						
AAK				⇑S	**Sg**	**17 04 15.8**	**+0.2**
	52nm,0.3s						
FRU1	**Bishkek**	**1.57**	**39**	⇑*i*P	**Pb**	**17 04 00.8**	**-0.3**
	baz=39						
FRU1				⇑*i*S	**Sg**	**17 04 22.6**	**+0.7**
	baz=39						
SFK	**Sufi-Kurgan**	**1.60**	**174**	⇓*i*P	**Pn**	**17 04 00.5**	**-0.2**
	baz=74						
SFK				⇓*i*S	**Sn**	**17 04 22.1**	**+0.2**
	baz=74						
TRKS	**Terek-Say**	**1.61**	**268**	⇑*e*P	**Pn**	**17 04 00.9**	**+0.1**
	baz=66						
TRKS				⇑*e*S	**Sn**	**17 04 22.1**	**+0.1**
	baz=66						
KBK	**Karagaybulak**	**1.63**	**49**	⇑P	**Pb**	**17 04 02.0**	**-0.2**
	32nm,0.2s,SNR=68						
KBK				⇓S	**Sg**	**17 04 23.9**	**+0.2**
	42nm,0.2s						
CHMS	**Chumysh**	**1.77**	**38**	⇑P	**Pb**	**17 04 04.5**	**0.0**
	11nm,0.1s,SNR=16						
CHMS				⇑S	**Sg**	**17 04 27.9**	**-0.5**
	27nm,0.2s						
CHMS	**Chumysh**	**1.77**	**38**	⇓P	**Pb**	**17 04 04.4**	**-0.2**
	8.0nm,0.3s						
CHMS				⇓S	**Sg**	**17 04 28.4**	**0.0**
	24nm,0.5s						
USP	**Ospenovka**	**1.89**	**28**	⇑P	**Pb**	**17 04 06.1**	**-0.5**
	29nm,0.3s,SNR=13						
USP				⇓S	**Sg**	**17 04 32.0**	**-0.2**
	70nm,0.2s						
DZA	**Taraz**	**1.94**	**312**	*e*P	**Pb**	**17 04 08.0**	**+0.7**
DZA				*e*S	**Sg**	**17 04 33.9**	**+0.2**
NRN	**Naryn**	**2.05**	**94**	⇑*i*P	**Pb**	**17 04 08.4**	**-1.1**
	baz=94						
NRN				⇑*i*S	**Sb**	**17 04 35.6**	**+0.2**
	baz=94						
SGDS	**Sogindy**	**2.10**	**28**	Pg	**Pb**	**17 04 09.3**	**-0.8**
	7.6nm,0.2s						
SGDS				Lg	Lg	17 04 37.0	
	51nm,0.5s						
TKM2	**Tokmak 2**	**2.17**	**52**	⇓P	**Pb**	**17 04 10.6**	**-0.8**
	26nm,0.2s,SNR=44						
TKM2				⇑S	**Sg**	**17 04 40.1**	**-1.0**
	18nm,0.2s						
TKM2	**Tokmak 2**	**2.17**	**52**	⇓Pn	**Pb**	**17 04 10.6**	**-0.8**
	24nm,0.4s						
TKM2				⇑Lg	Lg	17 04 39.9	
	11nm,0.4s						
BOOM	**Boomskoye usch**	**2.17**	**65**	⇑*i*P	**Pb**	**17 04 10.4**	**-1.0**
	baz=65						
BOOM				⇑*i*S	**Sb**	**17 04 39.1**	**+0.4**
	baz=65						
ULHL	**Ulahol**	**2.30**	**73**	⇓P	**Pb**	**17 04 11.9**	**-1.8**
	4.0nm,0.2s,SNR=13						
BTK	**Batken**	**2.42**	**231**	⇑*i*P	**Pn**	**17 04 13.3**	**+1.3**
	baz=32						
BTK				⇑*i*S	**Sn**	**17 04 44.4**	**+2.3**
	baz=32						
KST	**Kastek**	**2.46**	**53**	Pg	**Pb**	**17 04 16.8**	**+0.5**
	26nm,0.3s						
KST				Lg	Lg	17 04 49.2	
	32nm,0.6s						
KST	**Kastek**	**2.46**	**53**	*e*Pg	**Pb**	**17 04 16.8**	**+0.5**
	26nm,0.3s						
KST				*e*Lg	Lg	17 04 49.2	
	32nm,0.3s						
DGS	**Degeres**	**2.47**	**48**	Pg	**Pb**	**17 04 17.1**	**+0.6**
	10nm,0.5s						
DGS				Lg	Lg	17 04 49.6	
	19nm,0.6s						
DGS	**Degeres**	**2.47**	**48**	*e*Pg	**Pb**	**17 04 17.1**	**+0.6**
	10nm,0.5s						
DGS				*e*Lg	Lg	17 04 49.6	
	19nm,0.6s						
IUG	**Iuzhnay**	**2.49**	**284**	*e*Pg	**Pb**	**17 04 17.6**	**+0.8**
	13nm,0.2s						
IUG				*e*Lg	Lg	17 04 50.6	
	41nm,0.5s						
KK31	**Karatay Array**	**2.54**	**307**	⇑Pg	**Pb**	**17 04 17.2**	**-0.4**
	1.5nm,0.4s,baz=345,slow=20,SNR=32						
KK31				⇓Lg	Lg	17 04 52.0	
	3.0nm,0.2s,baz=120,slow=28,SNR=12						
KKAR	**Karatay Array**	**2.54**	**307**	⇑*i*P	**Pn**	**17 04 15.4**	**+1.9**
	baz=8.0						
KKAR				⇑*i*S	**Sb**	**17 04 47.8**	**-1.4**
	baz=8.0						
KRBS	**Karabastau**	**2.74**	**39**	Pg	**Pb**	**17 04 21.7**	**+0.7**
	7.2nm,0.3s						
KRBS				Lg	Lg	17 04 57.6	
	11nm,0.3s						
KRBS	**Karabastau**	**2.74**	**39**	*e*Pg	**Pb**	**17 04 21.7**	**+0.7**
	7.2nm,0.3s						
KRBS				*e*Lg	Lg	17 04 57.6	
	11nm,0.3s						
MTBS	**Maitube**	**2.79**	**56**	Pg	**Pb**	**17 04 22.6**	**+0.7**
	5.5nm,0.2s						
MTBS				Lg	Lg	17 04 59.1	
	16nm,0.3s						
MTBS	**Maitube**	**2.79**	**56**	*e*Pg	**Pb**	**17 04 22.6**	**+0.7**
	5.5nm,0.2s						
MTBS				*e*Lg	Lg	17 04 59.1	
	16nm,0.3s						
IZV	**Izvestkoviy**	**2.86**	**59**	Pg	**Pb**	**17 04 24.4**	**+1.3**
	3.0nm,0.3s						
IZV				Lg	Lg	17 05 01.8	
	12nm,0.6s						
IZV	**Izvestkoviy**	**2.86**	**59**	*e*Pg	**Pb**	**17 04 24.4**	**+1.3**
	3.0nm,0.3s						
IZV				*e*Lg	Lg	17 05 01.8	
	11nm,0.3s						
KUU	**Kurty**	**3.21**	**44**	Pg	**Pb**	**17 04 30.3**	**+1.2**
	3.3nm,0.2s						
KUU				Lg	Lg	17 05 12.2	
	17nm,0.4s						
KUU	**Kurty**	**3.21**	**44**	*e*Pg	**Pb**	**17 04 30.3**	**+1.2**
	3.3nm,0.2s						
KUU				*e*Lg	Lg	17 05 12.2	
	17nm,0.4s						
KOTS	**Kotyrbulak**	**3.27**	**59**	Pg	**Pb**	**17 04 31.7**	**+1.5**
	4.3nm,0.4s						
KOTS				Lg	Lg	17 05 14.0	
	15nm,0.5s						
KOTS	**Kotyrbulak**	**3.27**	**59**	*e*Pg	**Pb**	**17 04 31.7**	**+1.5**
	4.3nm,0.4s						
KOTS				*e*Lg	Lg	17 05 15.0	
	15nm,0.5s						
KTBS	**Karatobe**	**3.28**	**49**	Pg	**Pb**	**17 04 31.4**	**+1.2**
	2.9nm,0.2s						
KTBS				Lg	Lg	17 05 14.4	
	11nm,0.2s						
KTBS	**Karatobe**	**3.28**	**49**	*e*Pg	**Pb**	**17 04 31.4**	**+1.2**
	2.9nm,0.2s						
KTBS				*e*Lg	Lg	17 05 14.4	
	11nm,0.2s						
BTLS	**Baital**	**3.48**	**9**	Pg	**Pb**	**17 04 34.3**	**+0.7**
	0.9nm,0.1s						
BTLS				Lg	Lg	17 05 19.4	
	10.0nm,0.4s						
BTLS	**Baital**	**3.48**	**9**	*e*Pg	**Pb**	**17 04 34.3**	**+0.7**
	0.9nm,0.1s						
BTLS				*e*Lg	Lg	17 05 19.4	
	10.0nm,0.4s						
ARXS	**Arharly**	**4.24**	**51**	Pg	**Pb**	**17 04 48.6**	**+2.0**
	1.6nm,0.3s						
ARXS				Lg	Lg	17 05 43.9	
	7.0nm,0.3s						
ARXS	**Arharly**	**4.24**	**51**	*e*Pg	**Pb**	**17 04 48.6**	**+2.0**
	1.6nm,0.3s						
ARXS				*e*Lg	Lg	17 05 43.9	
	7.0nm,0.3s						
KPKS	**Kokpek**	**4.41**	**63**	Pg	**Pb**	**17 04 52.3**	**+2.8**
	1.6nm,0.1s						
KPKS				Lg	Lg	17 05 49.7	
	6.1nm,0.9s						
KPKS	**Kokpek**	**4.41**	**63**	*e*Pg	**Pb**	**17 04 52.3**	**+2.8**
	1.6nm,0.1s						
KPKS				*e*Lg	Lg	17 05 49.7	
	6.1nm,0.9s						

*IDC **05** 17:09:01.2±3.7, 5°.25S×152°.32E, h50km±31km, mb3.4/4, mbtmp3.7/5, ML1.5/1, Error ellipse: s-maj=52.4km s-min=12.6km az=113.0*

ISC 05 17:08:60.0±1.2, 5°.29S±0°.08×152°.5E±0°.2, h40km, n7, σ1°17/9, mb3.5/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.06**	**336**	P	**Pn**	**17 09 18.9**	**+0.4**
	1μm,0.5s,baz=283,slow=24,SNR=574						
KRVT				S	**Sn**	**17 09 32.2**	**+0.1**
	495nm,0.3s,baz=278,slow=2.3,SNR=10						
PMG	**Port Moresby**	**6.66**	**232**	P	**Pn**	**17 10 37.3**	**+1.9**
	0.7nm,0.3s,baz=234,slow=15,SNR=2.1						
PMG				S	**Sn**	**17 11 48.5**	**-1.6**
	19nm,0.7s,baz=167,slow=22,SNR=5.8						
	24nm,1.1s						
WRA	**Warramunga Arr**	**22.87**	**229**	P	**P**	**17 13 59.2**	**-1.0**
	1.1nm,0.7s,baz=53,slow=9.9,SNR=11						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**25.57**	**223**	P	**P**	**17 14 25.8**	**+0.3**
	0.4nm,0.5s,baz=56,slow=9.1,SNR=15						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**82.73**	**22**	P	**P**	**17 21 19.6**	**+0.2**
	0.8nm,0.7s,baz=242,slow=6.0,SNR=7.3						
	0.8nm,0.7s						
QSPA	**South Pole Qui**	**84.68**	**180**	P	**P**	**17 21 29.0**	**-0.5**
	0.4nm,0.7s,baz=355,slow=20,SNR=1.3						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.13**	**287**	PKPbc	**PKPbc**	**17 28 47.1**	**-0.5**
	0.8nm,0.7s,baz=50,slow=3.7,SNR=5.0						

*NEIC **05** 17:15:34.2±1.3, 19°.13N±0°.08×155°.30W±0°.07, h28km±7km, Error ellipse: s-maj=11.5km s-min=9.3km az=175.0*

HVO 05 17:15:32.5±1.1, 18°.90N±0°.03×155°.25W±0°.01, h13km±6km, ML2.1/1, ML2.5/12(NEIC), Error ellipse: s-maj=4.9km s-min=1.1km az=160.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.36**	**338**		Pg	17 15 39.7	-0.1
HLP	**Hilina Pali**	**0.39**	**352**	Pg	Pg	17 15 40.1	-0.3
HLP				IAML		17 15 47.4	
	comp=E,732nm,3.5s						
HLP				IAML		17 15 49.5	
	comp=N,381nm,1.4s						
PUH	**Pauahi**	**0.47**	**4**	Pg	Pg	17 15 40.8	-1.0
PUH				IAML		17 15 56.8	
	comp=N,321nm,2.6s						
KHU	**Kahuku**	**0.48**	**315**	IAML		17 15 45.1	
	comp=N,302nm,4.6s						
KHU	**Kahuku**	**0.48**	**315**		Pg	17 15 41.3	-0.9
KHU				IAML		17 15 48.1	
	comp=E,381nm,3.2s						
KHU	**Kahuku**	**0.48**	**315**		Sg	17 15 47.8	-0.9
SDHHI	**Sand Hill**	**0.48**	**355**	Pg	Pg	17 15 41.0	-1.2
KKO	**Keanakako`i**	**0.49**	**358**	Pg	Pg	17 15 41.3	-1.0
KKO				IAML		17 15 49.9	
	comp=E,555nm,2.6s						
STCH	**Steam Cracks**	**0.49**	**14**	Pg	Pg	17 15 41.5	-0.8
AIN	**Ainahou**	**0.51**	**337**		Pg	17 15 41.9	-0.6
UWE	**Uwekahuna**	**0.52**	**356**		Pg	17 15 42.9	+0.1
JOKA	**Jonika Flow**	**0.58**	**24**		Pg	17 15 42.4	-1.5
MLH	**Mauna Loa**	**0.60**	**348**		Pg	17 15 43.2	-1.1
MWH	**Moku`aweowe**	**0.66**	**331**	Pg	Pg	17 15 45.3	-0.3
HMH	**Humu`ula Sheep**	**0.73**	**343**		Pg	17 15 45.1	-1.7
ALEP	**Alea Permanent**	**0.73**	**330**		Pg	17 15 44.7	-2.1
KHLU	**Kahalu`u**	**0.91**	**319**		Pg	17 15 47.1	-3.1
HUH	**Hualalai**	**0.95**	**325**	Pn	Pg	17 15 48.2	-2.8

*ISK **05** 17:18:08.3, 37°.25N×28°.08E, h5km, ML2.7/15*
*AFAD **05** 17:18:08.6±0.0, 37°.23N×28°.05E, h7km±3km, ML2.0*

ISC 05 17:18:08.7±0.9, 37°.24N±0°.03×28°.06E±0°.02, h14km±8km, n23, σ0°32/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.20**	**86**	P	**Pg**	**17 18 13.8**	**+0.3**
MULA				S	**Sg**	**17 18 16.6**	**0.0**
MULA				*i* AML	AML	17 18 18.0	
	comp=E,279nm,0.4s						
YER	**Yerkesik**	**0.20**	**122**	Pg	**Pg**	**17 18 12.9**	**-0.5**
YER	**Yerkesik**	**0.20**	**122**	P	**Pg**	**17 18 13.5**	**+0.1**
YER				S	**Sg**	**17 18 16.5**	**-0.1**
MLSB	**Milas**	**0.23**	**283**	Pg	**Pg**	**17 18 13.7**	**-0.2**
RFTAA	**Mazikoy-Bodrum**	**0.35**	**226**	Pg	**Pg**	**17 18 16.1**	**+0.2**
RFTAA				Sg	**Sb**	**17 18 21.8**	**-0.3**
AYDN	**Tasoluk**	**0.44**	**341**	P	**Pb**	**17 18 18.0**	**-0.3**
AYDN				S	**Sg**	**17 18 23.8**	**+0.2**
AYDN				*i* AML	AML	17 18 25.0	
	comp=Z,106nm,0.3s						
AYDN				*i* AML	AML	17 18 25.0	
	comp=E,223nm,0.3s						
AYDN				*i* AML	AML	17 18 26.0	
	comp=N,130nm,0.2s						
TURN	**Turunc**	**0.49**	**163**	Pg	**Pg**	**17 18 18.5**	**+0.1**
TURN				Sg	**Sb**	**17 18 25.8**	**-0.2**
TURN	**Turunc**	**0.49**	**163**	P	**Pg**	**17 18 17.9**	**-0.5**
TURN				S	**Sb**	**17 18 25.6**	**-0.5**
TURN				*i* AML	AML	17 18 27.0	
	comp=E,84nm,0.3s						
TURN				*i* AML	AML	17 18 29.0	
	comp=N,85nm,0.3s						
RFTC	**Emecik-Datca**	**0.51**	**203**	Pg	**Pg**	**17 18 18.8**	**+0.1**
BODT	**Bodrum**	**0.63**	**254**	Pg	**Pg**	**17 18 21.1**	**+0.1**
BODT	**Bodrum**	**0.63**	**254**	P	**Pg**	**17 18 21.1**	**+0.1**
BODT				S	**Sb**	**17 18 30.4**	**+0.3**
DALY	**Dalyan (Mula)**	**0.64**	**132**	Pg	**Pg**	**17 18 20.9**	**-0.2**
DAT	**Datca**	**0.64**	**217**	Pg	**Pb**	**17 18 21.6**	**-0.2**
DAT	**Datca**	**0.64**	**217**	P	**Pg**	**17 18 21.4**	**0.0**
DAT				S	**Sb**	**17 18 30.4**	**-0.3**
TAVA	**DENIZLI_Tavas**	**0.71**	**72**	P	**Pb**	**17 18 23.0**	**+0.1**
TAVA				S	**Sg**	**17 18 32.0**	**-0.1**
RFTD	**Palamutbuku-Ka**	**0.72**	**219**	Pg	**Pb**	**17 18 23.1**	**+0.1**
GCAM	**G?zelcami?**	**0.80**	**305**	Pg	**Pb**	**17 18 24.4**	**0.0**
DNIZ	**Denizli-Tavas-**	**0.86**	**63**	P	**Pb**	**17 18 25.8**	**+0.2**
DNIZ				S	**Sb**	**17 18 37.8**	**+0.8**
DNIZ				*i* AML	AML	17 18 43.0	
	comp=E,101nm,0.3s						
DNIZ				*i* AML	AML	17 18 45.0	
	comp=N,70nm,0.3s						
APMY	**Acipayam-Deniz**	**1.01**	**77**	Pg	**Pg**	**17 18 27.9**	**-0.4**
FETY	**Fethiye**	**1.02**	**126**	Pg	**Pg**	**17 18 28.1**	**-0.3**
ARG	**Arkhangelos**	**1.03**	**177**	Pg	**Pb**	**17 18 28.6**	**+0.4**
ARG	**Arkhangelos**	**1.03**	**177**	P	**Pb**	**17 18 28.9**	**+0.7**
CAME	**Cameli-Denizli**	**1.03**	**106**	Pg	**Pb**	**17 18 28.7**	**+0.2**

*IDC **05** 17:24:13.6±1.0, 13°.68N×144°.65E, h112km±11km, mb3.2/4, mbtmp3.6/4, Error ellipse: s-maj=50.5km s-min=24.8km az=99.0*
*NEIC **05** 17:24:14.3±1.4, 13°.7N±0°.2×144°.9E±0°.4, h115km±4km, mb4.5/11, Error ellipse: s-maj=65.9km s-min=12.1km az=115.0*

ISC 05 17:24:14.0±0.9, 13°.7N±0°.2×144°.7E±0°.2, h118km±8km, n20, σ0°63/19, mb4.2/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.21**	**121**	Pn	**Pn**	**17 24 31.0**	**+0.5**
GUMO				Sn	**Sn**	**17 24 42.3**	**-0.6**
GUMO	**Guam**	**0.21**	**121**	P	**Pn**	**17 24 30.8**	**+0.3**
	2μm,0.3s,baz=218,slow=16,SNR=1613						
GUMO				S	**Sn**	**17 24 42.7**	**-0.2**
	2μm,0.3s,baz=222,slow=23,SNR=14						
H11N1	**WAKE ISLAND Hy**	**22.09**	**71**	T	T	17 52 07.4	
	baz=258,slow=75,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**22.09**	**71**	T	T	17 52 08.1	
	baz=258,slow=75,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**22.10**	**71**	T	T	17 52 08.9	
	baz=258,slow=75,SNR=6.0						
MTN	**Manton Dam**	**29.59**	**208**	P	**P**	**17 30 08.5**	**+0.5**
MTN				IAmb	IAmb	17 30 44.1	
	comp=Z,18nm,1.2s						
SBUM	**Sibu**	**33.97**	**254**	P	**P**	**17 30 46.8**	**+0.2**
SBUM				IAmb	IAmb	17 31 29.4	
	comp=Z,4.4nm,1.5s						
WB0	**Warramunga Arr**	**34.76**	**197**	P	**P**	**17 30 53.2**	**0.0**
WB0				IAmb	IAmb	17 31 00.1	
	comp=Z,5.3nm,1.3s						
WR0	**Warramunga Arr**	**34.90**	**197**	P	**P**	**17 30 54.0**	**-0.5**
WR0				IAmb	IAmb	17 31 28.2	
	comp=Z,6.9nm,1.4s						
WRAB	**Tennant Creek**	**34.93**	**197**	P	**P**	**17 30 54.6**	**-0.1**
WRAB				IAmb	IAmb	17 30 57.8	
	comp=Z,6.7nm,0.5s						
WB2	**Warramunga Arr**	**34.94**	**197**	P	**P**	**17 30 53.8**	**-1.0**
WB2				IAmb	IAmb	17 31 05.3	
	comp=Z,7.7nm,1.3s						
WRA	**Warramunga Arr**	**34.94**	**197**	P	**P**	**17 30 53.8**	**-1.0**
WRA	**Warramunga Arr**	**34.94**	**197**	P	**P**	**17 30 54.8**	**0.0**
	comp=Z,0.9nm,0.6s,baz=20,slow=9.3,SNR=14						
	comp=Z,0.9nm,0.6s						
ASAR	**Alice Springs**	**38.60**	**196**	P	**P**	**17 31 25.2**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=21,slow=13,SNR=6.8						
	comp=Z,0.4nm,0.6s						
ARMA	**Armidale**	**44.37**	**171**	P	**P**	**17 32 13.0**	**+0.2**
ARMA				IAmb	IAmb	17 32 26.1	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**45.41**	**184**	P	**P**	**17 32 19.7**	**-1.2**
BBOO	**Buckleboo**	**46.97**	**190**	P	**P**	**17 32 33.4**	**+0.2**
FORT	**Forrest**	**47.02**	**200**	P	**P**	**17 32 34.1**	**+0.5**
DZM	**Mont Dzumac**	**2.74**	**281**	P	**Pn**	**17 31 52.9**	**-0.3**
NOUC	**Port Laguerre**	**2.86**	**280**	P	**Pn**	**17 31 54.4**	**-0.4**

NOU 05 17:31:07.9, 22°.64S×169°.34E, h0km, MLv3.1/9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.68**	**313**	P	Pn	17 31 38.0	-0.5
PINNC	**Pines Island,**	**1.75**	**271**	P	Pn	17 31 38.9	-0.6
OUENC	**Ouen Island, N**	**2.32**	**275**	P	Pn	17 31 47.2	-0.2
YATNC	**Mamie plateau,**	**2.34**	**284**	P	Pn	17 31 47.2	-0.5
ONTNC	**Ouen Toro**	**2.69**	**277**	P	Pn	17 31 52.6	+0.1
LIFNC	**LIFOU**	**2.69**	**313**	P	Pn	17 31 52.2	-0.3
DZM	**Mont Dzumac**	**2.74**	**281**	P	Pn	17 31 52.9	-0.3
NOUC	**Port Laguerre**	**2.86**	**280**	P	Pn	17 31 54.4	-0.4

*NEIC **05** 17:43:16.7±1.2, 36°.43N±0°.02×98°.79W±0°.05, h5km±2km, Error ellipse: s-maj=6.7km s-min=3.0km az=289.0*

TUL 05 17:43:16.8±0.7, 36°.46N±0°.02×98°.82W±0°.05, h7km±6km, ML3.0, mb_Lg2.6/51(NEIC), ML2.8/40(NEIC), Error ellipse: s-maj=5.7km s-min=1.3km az=110.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.06**	**71**	Pg	Pg	17 43 18.8	+0.3
OK032	**Salt Plains WL**	**0.60**	**55**	Pg	Pg	17 43 28.2	-0.1
ELIS	**Ellis County**	**0.62**	**231**		Pg	17 43 28.9	+0.1
ELIS				IAML		17 43 42.9	
	comp=N,689nm,0.2s						
ELIS				IAML		17 43 43.7	
	comp=E,666nm,0.3s						
CROK	**Carrier**	**0.67**	**86**	Pg	Pg	17 43 29.7	-0.1
CROK				IAML		17 43 42.0	
	comp=N,470nm,0.5s						
CROK				IAML		17 43 53.7	
	comp=E,410nm,0.3s						
CSTR	**Hydro, Custer**	**0.82**	**173**	Pg	Pg	17 43 32.4	-0.1
KAN14	**Manchester OK**	**0.85**	**54**	Pg	Pg	17 43 33.0	-0.1
KAN14				IAML		17 43 51.4	
	comp=N,321nm,0.1s						
GC02	**Grant County #**	**0.86**	**63**	Pg	Pg	17 43 33.1	-0.3
KAN10	**Anthony SW Sta**	**0.88**	**41**	Pg	Pg	17 43 33.6	-0.2
KAN10				IAML		17 43 52.1	
	comp=E,344nm,0.1s

KS21	Milan North St	1.24	48	Pg	Pb	17 43 40.0	-0.6
KS20	Mayfield South	1.27	52		Pn	17 43 40.5	-0.6
KS20				IAML		17 44 01.0	
	comp=E,220nm,0.2s						
KS20				IAML		17 44 07.7	
	comp=E,206nm,0.1s						
BLOK	Blackwell	1.32	76		Pn	17 43 41.4	-0.4
OK048	Pawnee Station	1.51	91	Pg	Pn	17 43 44.4	0.0
OKCSW	OKLAHOMA CITY	1.54	133	IAmb_Lg		17 44 08.9	
	comp=Z,32nm,0.8s						
OK051	E0350 and S346	1.60	88		Pn	17 43 45.9	+0.4
OK031	S. Brethren Rd	1.68	107		Pn	17 43 46.7	+0.1
OK052	Battle Ridge R	1.69	105		Pn	17 43 46.7	-0.2
WMOK	Wichita Mounta	1.72	179		Pn	17 43 47.0	-0.2
T35A	Sooner Cattle	1.91	75		Pn	17 43 49.5	-0.3
R32A	Long Quarter,	1.96	2		Pn	17 43 50.2	-0.4
DEOK	Depew	1.98	107	Pn	Pn	17 43 50.2	-0.5
X34A	Smith Ranch, M	2.02	156		Pb	17 43 52.8	-1.1
CBKS	Cedar Bluff	2.46	343		Pn	17 43 57.6	+0.1
CBKS				IAmb_Lg		17 44 38.2	
	comp=Z,22nm,0.7s						
WTFS	Witchita Falls	2.70	174		Pn	17 44 00.0	-0.7
WTFS				IAmb_Lg		17 44 49.1	
	comp=Z,4.6nm,0.7s						
AMTX	Amarillo	2.81	237		Pn	17 44 03.5	+1.2
AMTX				IAmb_Lg		17 44 53.2	
	comp=Z,15nm,0.8s						
KSU1	Kansas State U	3.17	33	Pn	Pn	17 44 06.7	-0.4
DKNS	Dickens	3.28	212		Pn	17 44 08.5	-0.2
APMT	Aspermont	3.30	199		Pn	17 44 09.3	+0.2
APMT				IAmb_Lg		17 45 10.4	
	comp=Z,13nm,0.9s						
X37A	Clayton	3.37	123	IAmb_Lg		17 45 10.7	
	comp=Z,22nm,0.9s						
FW03	Perrin-Whitt E	3.47	169	IAmb_Lg		17 45 10.7	
	comp=Z,10nm,0.8s						
U38A	Gravette	3.57	89	IAmb_Lg		17 45 16.2	
	comp=Z,18nm,0.8s						
FW06	Azle	3.63	163	Pn	Pn	17 44 12.6	-0.9
FW06				IAmb_Lg		17 45 16.3	
	comp=Z,11nm,0.7s						
ABTX	Abilene, Hawle	3.88	190		Pn	17 44 16.2	-0.9
ABTX				IAmb_Lg		17 45 25.9	
	comp=Z,12nm,0.8s						
KSCO	Kaye Shedlock'	3.95	311	IAmb_Lg		17 45 29.6	
	comp=Z,11nm,0.8s						
SN01	Snyder 1	3.97	206	IAmb_Lg		17 45 33.1	
	comp=Z,14nm,0.9s						
POST	Post	4.04	214		Pn	17 44 19.1	-0.1
POST				IAmb_Lg		17 45 31.9	
	comp=Z,9.7nm,0.7s						
MSTX	Muleshoe	4.08	234		Pn	17 44 19.6	-0.2
MSTX				IAmb_Lg		17 45 29.0	
	comp=Z,16nm,1.2s						
N33A	J Bar K, Exete	4.41	14	Pn	Pn	17 44 23.7	-0.5
T25A	Trinidad	4.54	280	IAmb_Lg		17 45 49.6	
	comp=Z,16nm,0.8s						
S39A	Bolivar	4.56	73	IAmb_Lg		17 45 39.0	
	comp=Z,11nm,0.9s						
WHTX	Lake Whitney,	4.60	165	Pn	Pn	17 44 26.5	-0.3
WHTX				IAmb_Lg		17 45 46.5	
	comp=Z,8.7nm,1.0s						
SGCY	Sterling City	4.92	204	IAmb_Lg		17 46 04.8	
	comp=Z,16nm,0.9s						
BGNE	Belgrade	4.97	6	Pn	Pn	17 44 32.4	+0.5
OGNE	Ogallala	5.14	332	Pn	Pn	17 44 35.5	+1.2
BRDY	Brady	5.16	182	IAmb_Lg		17 46 09.1	
	comp=Z,5.2nm,0.8s						
P38A	Dawn	5.24	51	IAmb_Lg		17 46 11.0	
	comp=Z,6.5nm,0.7s						
X40A	Basin Creek Fa	5.26	110	IAmb_Lg		17 46 12.0	
	comp=Z,8.1nm,0.7s						
MGMO	Mountain Grove	5.30	81	IAmb_Lg		17 46 07.5	
	comp=Z,13nm,1.0s						
OZNA	Ozona	5.85	200	IAmb_Lg		17 46 29.5	
	comp=Z,16nm,0.9s						
P40A	Paris	6.16	58	IAmb_Lg		17 46 32.3	
	comp=Z,9.9nm,0.8s						
ISCO	Idaho Springs	6.31	304	IAmb_Lg		17 46 38.1	
	comp=Z,5.8nm,1.0s						
PHWY	Pilot Hill	7.08	315	IAmb_Lg		17 47 05.0	
	comp=Z,7.1nm,0.8s						
N23A	Red Feather La	7.12	311	IAmb_Lg		17 47 12.0	
	comp=Z,8.4nm,0.8s						
N41A	Harden Midland	7.54	53	IAmb_Lg		17 47 30.0	
	comp=Z,9.0nm,0.8s						

*KRSC **05** 17:49:54.4±0.9, 52°.90N×160°.17E, h50km±9km, Ml4.4*
*MOS **05** 17:49:55.8±0.9, 52°.92N×160°.00E, h59km, mb4.0/7, Error ellipse: s-maj=8.9km s-min=4.4km az=89.1*
*IDC **05** 17:49:59.6±2.1, 53°.03N×159°.57E, h78km±17km, mb3.6/19, mbtmp3.9/20, MS2.6/5, Error ellipse: s-maj=22.5km s-min=15.9km az=115.0*
ISC 05 17:49:55.5±0.7, 52°.91N±0°.04×160°.11E±0°.04, h45km±5km, n116, σ1°73/135, mb3.9/21, MS2.5/3, 2C-3D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.20	344	PN	Pn	17 50 03.8	+0.5
SPN	Mys Shipunski	0.20	344	*i* P	Pn	17 50 03.8	+0.5
SPN				eS	Sn	17 50 09.2	+0.4
NLC	Nalytchevo	0.53	300	PN	Pn	17 50 08.4	+1.5
NLC				S	Sn	17 50 16.4	+1.4
NLC	Nalytchevo	0.53	300	*i* P	Pn	17 50 08.4	+1.5
NLC				eS	Sn	17 50 16.4	+1.4
SDLR	Sedlovina	0.83	297	PN	Pn	17 50 11.5	+0.6
SDLR	Sedlovina	0.83	297	*e*P	Pn	17 50 11.5	+0.6
DALK	Dalny	0.83	279	PN	Pn	17 50 11.0	+0.2
DALK				S	Sn	17 50 22.4	+0.4
DALK	Dalny	0.83	279	*e*P	Pn	17 50 11.0	+0.2
DALK				eS	Sn	17 50 22.4	+0.4
UGLR	Uglovaya	0.83	292	PN	Pn	17 50 11.6	+0.6
UGLR	Uglovaya	0.83	292	*e*P	Pn	17 50 11.6	+0.6
SMAR	Somma	0.87	295	PN	Pn	17 50 11.7	+0.2
SMAR	Somma	0.87	295	*e*P	Pn	17 50 11.7	+0.2
PET	Petropavlovsk	0.89	278	PN	Pn	17 50 12.1	+0.5
PET				S	Sn	17 50 23.6	+0.2
PET	Petropavlovsk	0.89	278	*e*P	Pn	17 50 12.1	+0.5
PET				eS	Sn	17 50 23.6	+0.2
AVH	Avacha	0.90	294	PN	Pn	17 50 12.7	+0.8
AVH	Avacha	0.90	294	*e*P	Pn	17 50 12.7	+0.8
KRER	Koryakskii	0.91	296	PN	Pn	17 50 12.9	+0.8
KRER	Koryakskii	0.91	296	*i* P	Pn	17 50 12.9	+0.8
KOK	Koryaka	0.97	294	PN	Pn	17 50 13.4	+0.6
KOK	Koryaka	0.97	294	*e*P	Pn	17 50 13.4	+0.6
KRX	Arik	0.99	298	PN	Pn	17 50 13.7	+0.6
KRX	Arik	0.99	298	*e*P	Pn	17 50 13.7	+0.6
KII	Karymskiy	1.20	341	PN	Pn	17 50 17.0	+1.1
KII	Karymskiy	1.20	341	*e*P	Pn	17 50 17.0	+1.1
KRMR	Karymshinskiy	1.21	267	PN	Pn	17 50 16.5	+0.6
KRMR				S	Sn	17 50 31.6	+0.6
KRMR	Karymshinskiy	1.21	267	*i* P	Pn	17 50 16.5	+0.6
KRMR				eS	Sn	17 50 31.6	+0.6
GRL	Gorelyy	1.29	255	PN	Pn	17 50 18.5	+1.3
GRL				S	Sn	17 50 34.5	+1.2
GRL	Gorelyy	1.29	255	*e*P	Pn	17 50 18.5	+1.3
GRL				eS	Sn	17 50 34.5	+1.2
ASAK	Asacha	1.45	250	PN	Pn	17 50 20.7	+1.4
ASAK				S	Sn	17 50 39.1	+2.0
ASAK	Asacha	1.45	250	*e*P	Pn	17 50 20.7	+1.4
ASAK				eS	Sn	17 50 39.1	+2.0
PEA0B	Petropavlovsk-	1.47	279	*d i*PN	Pn	17 50 20.8	+1.2
PETK	Petropavlovsk-	1.47	279	P	Pn	17 50 20.0	+0.4
	569nm,0.5s,baz=95,slow=21,SNR=2124						
PETK				S	Sn	17 50 39.6	+1.9
	194nm,0.4s,baz=99,slow=18,SNR=5.6						
PETK				LR	LR	17 51 08.1	
	comp=Z,205nm,19.1s,baz=133,slow=61						
GNL	Ganaly	1.52	302	PN	Pn	17 50 22.0	+1.6
GNL				S	Sn	17 50 42.3	+3.3
GNL	Ganaly	1.52	302	*e*P	Pn	17 50 22.0	+1.6
GNL				eS	Sn	17 50 42.3	+3.3
KDTR	Khodutka, Kamc	1.66	229	PN	Pn	17 50 23.4	+1.2
KDTR				S	Sn	17 50 44.3	+2.0
KDTR	Khodutka, Kamc	1.66	229	*e*P	Pn	17 50 23.4	+1.2
KDTR				eS	Sn	17 50 44.3	+2.0
APC	Apacha	1.79	272	PN	Pn	17 50 26.0	+2.1
APC				S	Sn	17 50 48.7	+3.3
APC	Apacha	1.79	272	*e*P	Pn	17 50 26.0	+2.1
APC				eS	Sn	17 50 48.7	+3.3
MKZ	Mys Kozlova	1.91	30	PN	Pn	17 50 25.7	+0.2
MKZ				S	Sn	17 50 48.3	0.0
MKZ	Mys Kozlova	1.91	30	*e*P	Pn	17 50 25.7	+0.2
MKZ				*e*S	Sn	17 50 48.3	0.0
KZV	Kizimen	2.21	3	PN	Pn	17 50 31.6	+1.7
KZV				S	Sn	17 50 58.8	+2.7
KZV	Kizimen	2.21	3	*e*P	Pn	17 50 31.6	+1.7
KZV				*e*S	Sn	17 50 58.8	+2.7
TUMD	Tumrok D	2.31	4	*e*P	Pn	17 50 32.5	+1.4
TUMD				*e*S	Sn	17 51 00.8	+2.6
TUMR	Tumrok	2.38	0	PN	Pn	17 50 32.5	+0.4
TUMR				S	Sn	17 51 00.8	+0.7
TUMR	Tumrok	2.38	0	*e*P	Pn	17 50 34.3	+2.2
PAU	Pauzhetka	2.49	236	PN	Pn	17 50 36.9	+3.4
PAU	Pauzhetka	2.49	236	*e*P	Pn	17 50 36.9	+3.4
KMNR	Kamenistaya	2.86	1	PN	Pn	17 50 40.9	+2.2
KMNR	Kamenistaya	2.86	1	*e*P	Pn	17 50 40.9	+2.2
BZMR	Bezymyannaya	3.04	4	PN	Pn	17 50 43.7	+2.5
BZMR	Bezymyannaya	3.04	4	*e*P	Pn	17 50 43.7	+2.5
BZGR	Bezymyannyi-Gr	3.06	6	PN	Pn	17 50 43.5	+2.1
BZGR	Bezymyannyi-Gr	3.06	6	*e*P	Pn	17 50 43.5	+2.1
KPT	Kopyto	3.07	1	PN	Pn	17 50 43.6	+2.1
KPT	Kopyto	3.07	1	*e*P	Pn	17 50 43.6	+2.1
BZWR	Bezymyannyi-We	3.07	4	PN	Pn	17 50 43.3	+1.7
BZWR	Bezymyannyi-We	3.07	4	*e*P	Pn	17 50 43.3	+1.7
ESO	Esso	3.14	345	PN	Pn	17 50 43.9	+1.5
ESO	Esso	3.14	345	*e*P	Pn	17 50 43.9	+1.5
KOZ	Kozyrevsk	3.16	358	PN	Pn	17 50 44.8	+2.1
KOZ	Kozyrevsk	3.16	358	*e*P	Pn	17 50 44.8	+2.1
CIRR	Tsirk	3.24	6	PN	Pn	17 50 47.4	+3.5
CIRR	Tsirk	3.24	6	*e*P	Pn	17 50 47.4	+3.5
KRSR	Krestovskiy	3.33	4	PN	Pn	17 50 48.0	+2.9
KRSR	Krestovskiy	3.33	4	*e*P	Pn	17 50 48.0	+2.9
SKR	Severo-Kuril's	3.33	230	*e*PN	Pn	17 50 47.2	+2.1
SKR				eS	Sn	17 51 24.2	+0.8
SKR				smax	smax		
	comp=E,471nm,0.6s						
SKR				smax	smax		
	comp=N,292nm,0.5s						
SKR				MLR	MLR		
	comp=Z,800nm,18.0s						
SKR	Severo-Kuril's	3.33	230	*e*P	Pn	17 50 46.4	+1.3
SRDR	Sredinnyy	3.43	356	PN	Pn	17 50 48.1	+1.7
SRDR	Sredinnyy	3.43	356	*e*P	Pn	17 50 48.1	+1.7
KLY	Klyuchi	3.43	5	PN	Pn	17 50 48.9	+2.5
KLY	Klyuchi	3.43	5	*e*P	Pn	17 50 48.9	+2.5
BDR	Baidarnaya	3.72	9	PN	Pn	17 50 54.7	+4.2
BDR	Baidarnaya	3.72	9	*e*P	Pn	17 50 54.7	+4.2
SMKR	Semkarok	3.77	11	PN	Pn	17 50 53.3	+2.2
SMKR	Semkarok	3.77	11	*e*P	Pn	17 50 53.3	+2.2
MA2	Magadan	8.46	326	LR	LR	17 55 06.8	
	comp=Z,33nm,21.5s,baz=162,slow=38						
ASAJ	Asahikawa	14.53	240	P	Pn	17 53 18.0	-0.2
ASAJ	Asahikawa	14.53	240	P	Pn	17 53 17.9	-0.2
	comp=Z,12nm,1.0s,baz=0.6,slow=8.9,SNR=2.7						
KLR	Kul'dur	18.14	270	LR	LR	18 01 05.0	
	comp=Z,27nm,19.7s,baz=122,slow=37						
YAK	Yakutsk	18.57	311	*e*P	P	17 54 08.2	-0.1
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
USRK	Ussuriysk Ar.	20.44	256	P	P	17 54 27.0	-1.9
	comp=Z,1.5nm,0.5s,baz=64,slow=12,SNR=1.7						
USRK				LR	LR	18 02 22.7	
	comp=Z,36nm,20.6s,baz=293,slow=37						
	comp=Z,1.5nm,0.5s						
MJA0	Matsu Arr-Jizo	22.42	232	*e*P	P	17 54 51.4	+1.1
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MJAR	Matsushiro Arr	22.44	232	P	P	17 54 50.9	+0.5
	comp=Z,2.7nm,0.8s,baz=22,slow=12,SNR=7.2						
MJAR				LR	LR	18 05 41.5	
	comp=Z,16nm,18.8s,baz=134,slow=42						
	comp=Z,2.7nm,0.8s						
TIXI	Tiksi	23.26	335⇓	*e*P	P	17 54 56.5	-2.0
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.7s						
KSRS	Korea Array	27.16	248	P	P	17 55 33.1	-1.3
	comp=Z,2.6nm,1.1s,baz=32,slow=9.4,SNR=3.3						
KSRS				LR	LR	18 05 14.3	
	comp=Z,9.8nm,20.7s,baz=115,slow=34						
	comp=Z,2.6nm,1.1s						
H11N2	WAKE ISLAND Hy	33.53	168	T	T	18 32 12.9	
	baz=353,slow=76,SNR=168						
H11N3	WAKE ISLAND Hy	33.54	168	T	T	18 32 14.0	
	baz=353,slow=76,SNR=149						
H11N1	WAKE ISLAND Hy	33.55	168	T	T	18 32 16.5	
	baz=353,slow=76,SNR=180						
H11S1	WAKE ISLAND Hy	34.71	169	T	T	18 34 04.1	
	baz=352,slow=76,SNR=35						
H11S3	WAKE ISLAND Hy	34.72	169	T	T	18 34 05.0	
	baz=352,slow=76,SNR=54						
H11S2	WAKE ISLAND Hy	34.73	169	T	T	18 34 05.5	
	baz=352,slow=76,SNR=26						
DGZ	Jazzator, Alta	43.76	296⇓	*e*P	P	17 57 55.3	-1.1
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SPITS	Spitsbergen Ar	47.32	350	P	P	17 58 23.6	-0.4
	comp=Z,2.2nm,0.5s,baz=53,slow=7.9,SNR=8.7						
	comp=Z,2.2nm,0.5s						
MKAR	Makanchi Array	48.25	296	P	P	17 58 29.4	-2.2
	comp=Z,0.5nm,0.5s,baz=62,slow=7.3,SNR=9.5						
	comp=Z,0.5nm,0.5s						
BVAR	Borovoye Array	50.51	308	P	P	17 58 46.1	-2.7
	comp=Z,0.6nm,0.4s,baz=74,slow=8.2,SNR=3.3						
	comp=Z,0.6nm,0.4s						
ARCES	ARCESS Array B	53.47	342	P	P	17 59 09.0	-1.5
	comp=Z,0.7nm,0.7s,baz=48,slow=8.6,SNR=1.3						
ARCES				PcP	PcP	18 00 16.2	-0.8
	comp=Z,1.8nm,0.9s,baz=39,slow=5.8,SNR=2.2						
	comp=Z,0.7nm,0.7s						
ARU	Arti	53.54	317	*c i*P	P	17 59 13.0	+1.8
ARU				*PP	sP	17 59 29.1	+0.1
ARU						18 01 12.4	
ARU				S	S	18 06 42.6	+2.0
ARU				SS	SS	18 10 21.0	+0.4
ARU				pmax	pmax		
	comp=Z,6.0nm,1.6s						
PDAR	Pinedale Array	57.60	61	P	P	17 59 42.7	+1.8
	comp=Z,0.4nm,0.7s,baz=287,slow=2.5,SNR=3.9						
	comp=Z,0.4nm,0.7s						
FINES	FINESS Array B	60.30	337	*e*P	P	17 59 58.4	-0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	60.30	337	P	P	17 59 57.7	-1.2
	comp=Z,0.6nm,0.4s,baz=41,slow=8.3,SNR=7.3						
	comp=Z,0.6nm,0.4s						
NB2	NORSAR Subarra	63.73	344	P	P	18 00 21.3	-0.7
	comp=Z,0.5nm,0.4s,baz=20,slow=6.9						
NOA	NORSAR Array B	63.73	344	*e*P	P	18 00 21.3	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	63.73	344	P	P	18 00 20.2	-1.8
	comp=Z,0.6nm,0.6s,baz=20,slow=6.2,SNR=5.3						
	comp=Z,0.8nm,0.6s						
HFS	Hagfors	64.13	342	P	P	18 00 23.7	-0.9
	comp=Z,0.9nm,0.4s,baz=0.0,slow=3.0,SNR=12						
	comp=Z,0.9nm,0.4s						
AKASG	Malin Array Be	68.78	329	P	P	18 00 53.2	-1.2
	comp=Z,0.9nm,0.6s,baz=21,slow=8.0,SNR=1.5						
	comp=Z,0.9nm,0.6s						
TXAR	Lajitas Array	70.70	67	P	P	18 01 08.7	+2.0
	comp=Z,0.4nm,0.5s,baz=286,slow=5.0,SNR=6.4						
	comp=Z,0.4nm,0.5s						
EKA	Eskdalemuir Ar	71.24	350	P	P	18 01 09.5	+0.1
	comp=Z,1.3nm,0.5s,baz=16,slow=4.9,SNR=9.9						
	comp=Z,1.3nm,0.5s						
GERES	GERESS Array B	74.69	338	P	P	18 01 29.5	-0.6
	comp=Z,1.0nm,0.5s,baz=39,slow=6.3,SNR=1.6						
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	75.92	205	P	P	18 01 36.7	-0.6
	comp=Z,0.3nm,0.6s,baz=19,slow=5.9,SNR=2.5						
	comp=Z,0.3nm,0.6s						
ASAR	Alice Springs	79.59	204	P	P	18 01 58.2	+0.6
	comp=Z,0.5nm,0.7s,baz=21,slow=5.4,SNR=6.6						
	comp=Z,0.5nm,0.7s						
MMAI	Mount Meron Ar	81.85	316	P	P	18 02 09.0	-0.9
	comp=Z,1.6nm,0.5s,baz=39,slow=5.4,SNR=5.5						
	comp=Z,1.6nm,0.5s						
ESDC	Sonseca Array	86.77	348	P	P	18 02 34.6	-0.1
	comp=Z,0.8nm,0.8s,baz=10,slow=3.4,SNR=5.2						
	comp=Z,0.8nm,0.8s						
H03N2	Juan Fernandez	134.18	89	T	T	20 38 05.9	
	baz=313,slow=77,SNR=4.5						
H03N1	Juan Fernandez	134.19	89	T	T	20 38 00.3	
	baz=313,slow=77,SNR=5.6						
H03N3	Juan Fernandez	134.20	89	T	T	20 38 03.9	
	baz=313,slow=77,SNR=5.9						
QSPA	South Pole Qui	142.65	180	PKhKP	PKPpre	18 09 18.1	
	comp=Z,0.5nm,0.6s,baz=349,slow=1.0,SNR=8.3						

IDC 05 17:56:11.9±2.1, 8°.33S×124°.27E, h0km, mb3.4/1, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=198.2km s-min=33.1km az=58.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	15.11	141	Pn	Pn	17 59 46.4	-0.4
	0.1nm,0.3s,baz=320,slow=13,SNR=2.1						
WRA				Sn	Sn	18 02 19.6	-15
	baz=308,slow=23,SNR=2.2						
	0.2nm,0.5s						
ASAR	Alice Springs	17.83	150	P	Pn	18 00 21.8	+0.2
	baz=316,slow=12,SNR=4.7						
	0.2nm,0.6s						
MKAR	Makanchi Array	66.37	330	P	P	18 07 02.6	0.0
	0.3nm,0.6s,baz=114,slow=7.1,SNR=2.3						
	0.3nm,0.6s						

*GCG **05** 18:09:58.9±2.2, 14°.17N×92°.49W, h18km, MD4.0*
*MEX **05** 18:10:01.1±0.5, 14°.20N×92°.52W, h50km±26km, MD4.3*
ISC 05 18:09:57.6±2.3, 14°.28N±0°.06×92°.56W±0°.03, h9km±16km, n21, σ1°56/41, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.68	24	*e*P	Pn	18 10 13.5	+0.1
THIG				eS	Sn	18 10 23.5	-0.6
PATR	El Naranjo	0.89	20	*e*P	Pn	18 10 16.4	0.0
PATR				eS	Sn	18 10 29.0	-0.5
CHUJ	Union Juarez	0.92	28	*e*P	Pn	18 10 17.1	+0.2
CHUJ				eS	Sn	18 10 29.5	-0.7
SULM	Suchitepequez,	0.96	88	*e*P	Pn	18 10 18.7	+1.5
SULM				eS	Sg	18 10 27.2	-1.3
PAVE	Pavencul	0.98	22	*e*P	Pn	18 10 17.8	+0.2
PAVE				eS	Sn	18 10 31.1	-0.7
STG3	Santiaguito 3,	1.04	66	*e*P	Pn	18 10 19.1	+0.5
STG3				eS	Sb	18 10 31.3	-0.6
PCIG		1.55	336	*e*P	Pn	18 10 26.0	+0.6
PCIG				eS	Sn	18 10 45.4	-0.3
FUG	Fuego 3	1.67	84	*e*P	Pn	18 10 27.3	+0.2
FUG				eS	Sn	18 10 47.9	-0.9
PCG	Pacaya	1.89	86	*e*P	Pn	18 10 30.9	+0.7
PCG				eS	Sn	18 10 54.0	-0.4
CCIG	Comitan	2.03	11	*e*P	Pb	18 10 35.4	+0.7
CCIG				eS	Sb	18 10 59.5	-0.7
NBG	Las Nubes	2.16	82	*e*P	Pn	18 10 35.8	+1.8
NBG				eS	Sn	18 11 01.0	0.0
CARR	Arriaga	2.35	326	*e*P	Pn	18 10 37.8	+1.4
CARR				eS	Sn	18 11 04.3	-1.1
TGIG		2.54	348	*e*P	Pn	18 10 40.8	+1.8
TGIG				eS	Sn	18 11 10.7	+0.5
NILT	Santiago Nilte	3.02	319	*e*P	Pn	18 10 46.8	+1.2
NILT				eS	Sn	18 11 21.0	-0.8
UXUV	UXUV	3.39	333	*e*P	Pn	18 10 53.5	+2.9
UXUV				eS	Sn	18 11 33.4	+2.5
HUIG	Huatulco	3.74	294	*e*P	Pn	18 10 54.9	-0.6
HUIG				eS	Sn	18 11 31.3	-8.3
NEUV	Arroyo Zacate	4.62	318	*e*P	Pn	18 11 07.9	+0.3
NEUV				eS	Sn	18 12 00.6	-0.9
PEIG	Puerto Escondi	4.75	292	*e*P	Pn	18 11 10.2	+0.8
PEIG				eS	Sn	18 11 59.8	-4.9
TOIG	Toxpalan	5.76	312	*e*P	Pn	18 11 24.9	+1.6
TOIG				eS	Sn	18 12 28.7	-0.9
TXIG	Tlaxiaco	5.82	301	*e*P	Pn	18 11 27.6	+3.2
TXIG				eS	Sn	18 12 33.8	+2.3
JAUV	Jalcomulco	6.49	322	*e*P	Pn	18 11 31.6	-1.7
JAUV				eS	Sn	18 12 45.1	-2.5

*MEX **05** 18:22:16.7±0.5, 15°.64N×94°.85W, h16km±999km, MD4.2*
*IDC **05** 18:22:19.1±8.1, 15°.84N×94°.51W, h70km±57km, mb3.6/2, mbtmp3.7/3, ML3.3/1, MS3.2/2, Error ellipse: s-maj=87.1km s-min=40.3km az=174.0*
ISC 05 18:22:12.3±1.8, 15°.73N±0°.04×94°.87W±0°.02, h20km±14km, n34, σ1°75/57, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	Santiago Nilte	0.86	16	*e*P	Pn	18 22 31.2	+1.8
NILT				*i* S	Sn	18 22 42.6	+1.1
CARR	Arriaga	1.05	60	*e*P	Pn	18 22 32.9	+0.9
CARR				eS	Sb	18 22 45.4	+0.1
HUIG	Huatulco	1.20	272	*e*P	Pb	18 22 35.4	+1.0
HUIG				*i* S	Sn	18 22 49.9	+0.2
PANG	Puerto Angel	1.55	268	*e*P	Pb	18 22 39.9	-0.5
PANG				eS	Sn	18 22 57.1	-1.2
PCIG		1.58	91	*e*P	Pb	18 22 40.6	-0.4
PCIG				eS	Sn	18 22 58.7	-0.6
UXUV	UXUV	1.72	23	*e*P	Pb	18 22 44.3	+0.9
UXUV				*i* S	Sb	18 23 04.1	-0.5
TGIG		1.97	58	*e*P	Pb	18 22 46.9	-0.8
TGIG				eS	Sb	18 23 11.7	-0.1
T

EAST				*e*S	Sn	18 49 40.0	+0.9
	baz=126						
TAWH	**Dawu Township**	**0.08**	**138**	P	Pn	18 49 35.3	+0.4
	baz=127						
TAWH				S	Sn	18 49 40.2	+0.9
	baz=127						
SLIU	**Shizi**	**0.19**	**188**	*e*P	Pn	18 49 35.9	-2.3
	baz=188						
SLIU				*e*S	Sn	18 49 41.0	-6.3
	baz=188						
SCZT	**Fangliau**	**0.19**	**261**	P	Pn	18 49 36.0	-1.9
	baz=262						
SCZT				S	Sn	18 49 41.4	-5.5
	baz=262						
ECL	**Taimali**	**0.23**	**31**	P	Pn	18 49 36.8	-0.6
	baz=38						
ECL				S	Sn	18 49 41.7	-3.7
	baz=38						
MASBT	**Mashibuluo**	**0.28**	**319**	P	Pn	18 49 36.9	0.0
	baz=320						
MASBT				S	Sn	18 49 42.6	-1.6
	baz=320						
TSMG	**Majia**	**0.35**	**331**	P	Pn	18 49 38.5	+1.3
	baz=331						
TSMG				S	Sn	18 49 43.5	-0.4
	baz=331						
TWG	**Pinlang**	**0.47**	**28**	*e*P	Pn	18 49 39.7	+0.8
	baz=37						
TWGBT	**Beinan**	**0.47**	**29**	*e*P	Pn	18 49 39.7	+0.8
	baz=37						

IDC 05 18:55:39.9±2.0, 8°.16S×123°.87E, h0km, mb3.3/1, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=77.0km s-min=27.8km az=71.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.05**	**186**	Pn	Pn	18 56 16.1	+0.4
	4.7nm,0.3s,baz=316,slow=3.1,SNR=5.2						
BATI				Sn	Sn	18 56 39.7	-2.2
	2.4nm,0.3s,baz=172,slow=20,SNR=2.4 13nm,0.4s						
WRA	**Warramunga Arr**	**15.50**	**140**	Pn	Pn	18 59 18.6	-1.4
	0.1nm,0.3s,baz=316,slow=12,SNR=1.6 0.5nm,0.8s						
ASAR	**Alice Springs**	**18.18**	**149**	P	P	18 59 54.4	+0.1
	0.1nm,0.3s,baz=321,slow=12,SNR=6.6 0.8nm,0.8s						
MKAR	**Makanchi Array**	**66.02**	**330**	P	P	19 06 28.3	-0.1
	0.2nm,0.5s,baz=140,slow=7.0,SNR=2.1 0.2nm,0.5s						

HEL 05 18:55:44.0±0.1, 60°.14N×24°.71E, h0km, ML0.6, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEL1	**Helsinki**	**0.09**	**66**	*e*P	Pg	18 55 45.7	-0.1
HEL1				*e*S	Sg	18 55 46.9	0.0
MEF	**Metsahovi**	**0.18**	**296**	*e*P	Pg	18 55 47.2	-0.1
MEF				*e*S	Sg	18 55 49.5	-0.2
NUR	**Nurmijrvi**	**0.37**	**355**	*e*P	Pg	18 55 50.8	-0.4
NUR				*e*S	Sg	18 55 55.4	-0.6
PVF	**Pernaja**	**0.70**	**54**	*e*PB	Pg	18 55 57.3	-0.1
PVF				*e*S	Sg	18 56 05.8	-0.7
PVF				MSG		18 56 07.9	
	comp=Z,0.6nm,0.2s						
FIA0	**FINESS Array S**	**1.47**	**26**	*e*P	Pn	18 56 10.4	-1.3

HEL 05 18:57:18.6±0.2, 67°.17N×20°.50E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.91**	**132**	PG	Pg	18 57 35.1	-0.9
ERTU				SB	Sg	18 57 47.6	-0.2
PAJU	**Pajala**	**1.03**	**97**	PG	Pg	18 57 37.2	-1.2
	baz=280						
PAJU				SB	Sg	18 57 51.2	-0.6
LANU	**Lannavaara**	**1.05**	**32**	PB	Pg	18 57 37.9	-0.9
	baz=214						
LANU				SB	Sg	18 57 52.6	+0.2
KLF	**Kolari**	**1.35**	**86**	PG	Pg	18 57 42.8	-1.7
KLF				MSG		18 57 59.3	
	comp=Z,1.4nm,0.2s						
KLF				SG	Sg	18 58 01.0	-1.0
HEF	**Hetta**	**1.73**	**43**	*e*P	Pn	18 57 49.4	-0.6
HEF	**Hetta**	**1.73**	**43**	PG	Pn	18 57 49.2	-0.7
	baz=225						
HEF				MSG		18 58 10.2	
	comp=Z,2.4nm,0.2s						
HEF				SN	Sn	18 58 12.3	-0.4
KALU	**Kalix**	**1.74**	**138**	PG	Pn	18 57 50.5	+0.5
	baz=316						
KALU				SN	Sb	18 58 14.1	+0.3
KIF	**Kilpisjarvi**	**1.85**	**3**	*e*P	Pb	18 57 52.5	-0.7
KIF	**Kilpisjarvi**	**1.85**	**3**	PG	Pb	18 57 52.6	-0.6
KIF				MSG		18 58 14.8	
	comp=Z,4.7nm,0.2s						
TOF	**Tornio**	**1.88**	**124**	PG	Pn	18 57 52.3	+0.4
TOF				MSG		18 58 14.6	
	comp=Z,3.6nm,0.2s						
TOF				SG	Sb	18 58 17.3	-0.3
KTK1	**Kautokeino**	**2.12**	**28**	PG	Pb	18 57 56.9	-0.9
KTK1				SG	Sb	18 58 25.0	+0.4
RNF	**Rovaniemi**	**2.25**	**102**	PG	Pn	18 57 58.2	+1.3
	baz=292						
RNF				SG	Sb	18 58 27.7	-0.6
SGF	**Sodankyl**	**2.35**	**81**	PG	Pn	18 57 59.7	+1.3
SGF				SG	Sb	18 58 30.7	-0.7
BURU	**Burvik**	**2.62**	**172**	*e*SB	Pb	18 58 04.3	-2.1
BURU	**Burvik**	**2.62**	**172**	PB	Pb	18 58 04.3	-2.1
ARA0	**ARCESS Array S**	**3.02**	**36**	SN	Sn	18 58 44.2	-0.1
OUL	**Oulu**	**3.03**	**131**	SG	Sb	18 58 51.9	+1.0
OUF	**Merijarvi**	**3.31**	**146**	PG	Pb	18 58 19.5	+1.4
KEV	**Kevo**	**3.54**	**40**	SN	Sn	18 58 56.8	-0.3
VRF	**Varrio**	**3.56**	**76**	SG	Sb	18 59 05.6	-0.4
OLKF	**Oulanka, Finla**	**3.63**	**99**	PG	Pb	18 58 25.2	+1.6
OLKF				SN	Sn	18 59 00.4	+0.8
MSF	**Maaselka**	**3.64**	**106**	SG	Sb	18 59 10.6	+2.1
KU6	**Riekki**	**3.92**	**103**	SN	Sn	18 59 07.1	+0.5
VAF	**Ylistaro**	**4.24**	**166**	SG	Sg	18 59 31.8	-3.0

*IDC **05** 19:36:18.1±1.8, 17°.13S×175°.38W, h258km±17km, mb3.5/10, mbtmp4.1/13, Error ellipse: s-maj=22.1km s-min=12.4km az=140.0*
*NEIC **05** 19:36:18.1±1.2, 17°.2S±0°.1×175°.2W±0°.1, h266km±10km, mb4.6/30, Error ellipse: s-maj=17.3km s-min=15.9km az=173.0*
ISC 05 19:36:16.6±0.5, 17°.14S±0°.09×175°.31W±0°.08, h250km, n51, σ1§21/53, mb4.5/26, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.68**	**47**		**Pn**	**19 37 29.9**	**+1.2**
AFI					**S**	**19 38 23.3**	**-2.7**
AFI	**Afiamalu**	**4.68**	**47**	P	**Pn**	**19 37 30.5**	**+1.8**
	72nm,0.4s,baz=183,slow=1.9,SNR=18						
AFI				S	**S**	**19 38 23.5**	**-2.5**
	185nm,0.5s,baz=306,slow=9.9,SNR=13						
NIUE	**Niue**	**5.47**	**111**	Pn	**Pn**	**19 37 39.4**	**+1.2**
MSVF	**Nonsavu**	**6.37**	**264**	Pn	**Pn**	**19 37 51.8**	**+2.3**
MSVF	**Nonsavu**	**6.37**	**264**	P	**Pn**	**19 37 50.8**	**+1.3**
	5.1nm,0.8s,baz=88,slow=16,SNR=1.6						
DZM	**Mont Dzumac**	**17.87**	**251**	P	**P**	**19 40 09.0**	**+0.9**
DZM				IAmb	IAmb	19 40 50.9	
	comp=Z,13nm,1.0s						
DZM	**Mont Dzumac**	**17.87**	**251**	P	**P**	**19 40 09.0**	**+0.9**
	comp=Z,4.0nm,0.6s,baz=90,slow=18,SNR=1.8						
MXZ	**Matakaoa Point**	**21.11**	**194**	P	**P**	**19 40 42.5**	**+0.2**
MXZ				IAmb	IAmb	19 41 08.7	
	comp=Z,24nm,0.8s						
URZ	**Urewera**	**22.07**	**196**	P	**P**	**19 40 52.9**	**+1.7**
	comp=Z,20nm,0.4s,baz=43,slow=4.9,SNR=31 comp=Z,20nm,0.4s						
RTZ	**Ruatahuna**	**22.44**	**196**	P	**P**	**19 40 54.3**	**-0.3**
RTZ				IAmb	IAmb	19 40 58.4	
	comp=Z,9.1nm,0.6s						
BKZ	**Black Stump Fm**	**23.08**	**196**	P	**P**	**19 40 59.5**	**-1.0**
BKZ				IAmb	IAmb	19 41 36.3	
	comp=Z,38nm,1.5s						
BFZ	**Birch Farm**	**24.57**	**196**	P	**P**	**19 41 13.9**	**0.0**
MRZ	**Mangatainoka R**	**24.73**	**197**	P	**P**	**19 41 15.2**	**-0.1**
MRZ				IAmb	IAmb	19 41 56.2	
	comp=Z,41nm,1.4s						
TCW	**Tory Channel**	**25.61**	**198**	P	**P**	**19 41 24.3**	**+1.0**
BHW	**Baring Head**	**25.62**	**197**	P	**P**	**19 41 23.4**	**0.0**
QRZ	**Quartz Range**	**25.84**	**202**	P	**P**	**19 41 25.3**	**0.0**
QRZ				IAmb	IAmb	19 42 00.1	
	comp=Z,40nm,1.4s						
TKNZ	**Takaka Hill**	**25.87**	**201**	P	**P**	**19 41 24.8**	**-0.8**
NNZ	**Nelson**	**25.90**	**200**	P	**P**	**19 41 24.9**	**-0.9**
TUWZ	**Tuamarina**	**25.91**	**199**	P	**P**	**19 41 23.5**	**-2.5**
THZ	**Tophouse**	**26.55**	**200**	P	**P**	**19 41 31.1**	**-0.6**
DSZ	**Denniston Nort**	**26.90**	**202**	P	**P**	**19 41 33.3**	**-1.6**
LTZ	**Lake Taylor**	**27.67**	**200**	P	**P**	**19 41 39.9**	**-1.7**
LTZ				IAmb	IAmb	19 42 21.6	
	comp=Z,19nm,1.3s						
EIDS	**Eidsvold**	**32.31**	**250**	P	**P**	**19 42 21.1**	**-1.5**
ARMA	**Armidale**	**32.89**	**240**	P	**P**	**19 42 27.9**	**+0.2**
ARMA				IAmb	IAmb	19 42 29.2	
	comp=Z,7.3nm,0.8s						
CTAO	**Charters Tower**	**36.49**	**259**	P	**P**	**19 42 57.5**	**-1.0**
CTAO				IAmb	IAmb	19 43 37.6	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**41.59**	**241**	P	**P**	**19 43 40.6**	**+0.1**
STKA	**Stephens Creek**	**41.59**	**241**	P	**P**	**19 43 40.0**	**-0.5**
	comp=Z,7.2nm,0.8s,baz=91,slow=11,SNR=13 comp=Z,7.2nm,0.8s						
BBOO	**Buckleboo**	**46.36**	**241**	P	**P**	**19 44 16.5**	**-1.8**
BBOO				IAmb	IAmb	19 44 49.3	
	comp=Z,39nm,1.4s						
WR0	**Warramunga Arr**	**47.49**	**258**	P	**P**	**19 44 27.2**	**+0.1**
WB0	**Warramunga Arr**	**47.65**	**259**	P	**P**	**19 44 27.4**	**-0.9**
WB2	**Warramunga Arr**	**47.67**	**258**	P	**P**	**19 44 27.8**	**-0.8**
WRA	**Warramunga Arr**	**47.68**	**258**	P	**P**	**19 44 27.7**	**-0.9**
WRA	**Warramunga Arr**	**47.68**	**258**	P	**P**	**19 44 28.2**	**-0.4**
	comp=Z,4.5nm,0.7s,baz=96,slow=7.0,SNR=84 comp=Z,4.5nm,0.7s						
AS31	**Alice Springs**	**47.84**	**253**	P	**P**	**19 44 29.7**	**-0.2**
AS31				IAmb	IAmb	19 44 30.9	
	comp=Z,10nm,0.5s						
ASAR	**Alice Springs**	**47.84**	**253**	P	**P**	**19 44 29.9**	**+0.1**
	comp=Z,34nm,0.6s,baz=87,slow=8.6,SNR=665						
MTN	**Manton Dam**	**51.78**	**267**	P	**P**	**19 44 57.6**	**-1.8**
MTN				IAmb	IAmb	19 45 00.1	
	comp=Z,27nm,1.2s						
KNRA	**Kununurra**	**53.51**	**263**	P	**P**	**19 45 11.7**	**-0.4**
KNRA				IAmb	IAmb	19 45 55.0	
	comp=Z,24nm,1.2s						
SOEI	**Soe**	**59.04**	**269**	P	**P**	**19 45 50.3**	**-0.9**
SOEI				IAmb	IAmb	19 46 03.3	
	comp=Z,15nm,0.7s						
PSA00	**Pilbara Seismi**	**60.97**	**254**	P	**P**	**19 46 03.8**	**-0.3**
PSA00	**Pilbara Seismi**	**60.97**	**254**	P	**P**	**19 46 03.3**	**-0.7**
PSA00				IAmb	IAmb	19 46 05.1	
	comp=Z,20nm,1.2s						
MBWA	**Marble Bar**	**61.13**	**255**	P	**P**	**19 46 04.3**	**-0.9**
MBWA				IAmb	IAmb	19 46 46.3	
	comp=Z,22nm,1.2s						
JAGI	**Jajag, Banyuwa**	**69.02**	**267**	P	**P**	**19 46 55.1**	**-0.8**
JNU	**Nakatsue**	**71.67**	**314**	P	**P**	**19 47 11.3**	**-0.3**
QSPA	**South Pole Qui**	**72.91**	**180**	P	**P**	**19 47 17.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=80,slow=6.1,SNR=6.3 comp=Z,0.4nm,0.4s						
PETK	**Petropavlovsk-**	**73.74**	**343**	P	**P**	**19 47 22.6**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=156,slow=7.6,SNR=1.6 comp=Z,1.7nm,0.8s						
NVAR	**Mina Array Bea**	**76.84**	**43**	P	**P**	**19 47 42.6**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=227,slow=9.3,SNR=7.0 comp=Z,0.8nm,0.7s						
TXAR	**Lajitas Array**	**83.09**	**57**	P	**P**	**19 48 16.5**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=261,slow=3.6,SNR=4.0 comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**84.50**	**12**	P	**P**	**19 48 20.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=239,slow=5.5,SNR=2.0 comp=Z,0.8nm,0.6s						
PDAR	**Pinedale Array**	**84.78**	**42**	P	**P**	**19 48 23.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=233,slow=2.8,SNR=3.0 comp=Z,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**91.43**	**289**	P	**P**	**19 48 57.1**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=143,slow=3.5,SNR=4.3 comp=Z,0.5nm,0.7s						
BRTR	**Keskin Array B**	**146.28**	**318**	PKPbc	**PKPbc**	**19 55 29.5**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=57,slow=4.6,SNR=4.1						

*NNC **05** 19:50:25.9±2.1, 41°.44N×83°.82E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=15.0km s-min=9.5km az=140.0*
*SOME **05** 19:50:26.9, 41°.50N×83°.85E, h10km*
ISC 05 19:50:22.8±3.8, 41°.3N±0°.2×84°.0E±0°.1, h10km, n21, σ3§05/22, 8C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.47**	**310**	*e*Pg	**Pg**	**19 51 27.4**	**-1.9**
	16nm,0.5s						
KTMS				*e*Lg	Lg	19 52 10.6	
	34nm,0.8s						
SHLS	**Shalkode**	**3.86**	**301**	*e*Pg	**Pb**	**19 51 28.9**	**-2.2**
	17nm,0.3s						
SHLS				*e*Lg	Lg	19 52 13.1	
	121nm,0.7s						
PDGK	**Podgornoye**	**3.93**	**303**	Pg	**Pb**	**19 51 34.7**	**+2.5**
	4.9nm,0.5s						
PDGK				Lg	Lg	19 52 23.1	
	19nm,0.6s						
PDGK	**Podgornoye**	**3.93**	**303**	⇓Pg	**Pb**	**19 51 33.6**	**+1.4**
	14nm,0.8s						
PDGK				⇓Lg	Lg	19 52 25.0	
	26nm,0.5s						
UZB	**Uzynbulak**	**4.15**	**299**	Pg	**Pb**	**19 51 37.2**	**+1.2**
	8.8nm,0.4s						
UZB				Lg	Lg	19 52 27.4	
	18nm,1.0s						
UZB	**Uzynbulak**	**4.15**	**299**	*e*Pg	**Pb**	**19 51 38.3**	**+2.4**
	8.8nm,0.1s						
UZB				*e*Lg	Lg	19 52 29.4	
	20nm,0.4s						
DJR	**Jarkent**	**4.36**	**316**	Pg	**Pg**	**19 51 43.1**	**-3.1**
	6.0nm,0.5s						
DJR				Lg	Lg	19 52 38.0	
	15nm,0.5s						
DJR	**Jarkent**	**4.36**	**316**	*e*Pg	**Pg**	**19 51 43.1**	**-3.1**
	5.8nm,0.2s						
DJR				*e*Lg	Lg	19 52 38.0	
	15nm,0.3s						
KPKS	**Kokpek**	**4.51**	**301**	Pg	**Pb**	**19 51 45.6**	**+3.5**
	10nm,0.4s						
KPKS				Lg	Lg	19 52 41.9	
	35nm,0.7s						
KPKS	**Kokpek**	**4.51**	**301**	*e*Pg	**Pb**	**19 51 45.6**	**+3.5**
	10nm,0.4s						
KPKS				*e*Lg	Lg	19 52 41.9	
	36nm,0.3s						
SATY	**Saty**	**4.53**	**295**	Pg	**Pb**	**19 51 46.2**	**+3.8**
	11nm,0.5s						
SATY				Lg	Lg	19 52 42.6	
	30nm,0.5s						
SATY	**Saty**	**4.53**	**295**	*e*Pg	**Pb**	**19 51 46.2**	**+3.8**
	11nm,0.5s						
SATY				*e*Lg	Lg	19 52 42.6	
	30nm,0.5s						
KNOS	**Konyrlen**	**4.71**	**313**	Pg	**Pg**	**19 51 49.9**	**-3.1**
	9.9nm,0.7s						
KNOS				Lg	Lg	19 52 49.5	
	15nm,0.6s						
KURS	**Kuram**	**4.86**	**299**	Pg	**Pg**	**19 51 52.4**	**-3.3**
	4.5nm,0.6s						
KURS				Lg	Lg	19 52 54.0	
	12nm,1.1s						
KURS	**Kuram**	**4.86**	**299**	*e*Pg	**Pg**	**19 51 52.5**	**-3.3**
	4.5nm,0.6s						
KURS				*e*Lg	Lg	19 52 54.0	
	12nm,1.1s						
BLB	**Baldybastay**	**4.96**	**307**	Pg	**Pb**	**19 51 52.7**	**+2.9**
BLB				Lg	Lg	19 52 54.1	
MK31	**Makanchi Array**	**5.67**	**348**	⇑Pn	**Pn**	**19 51 48.1**	**+1.0**
	0.3nm,0.5s,baz=148,slow=14,SNR=7.1						
MK31				⇓Pg	**Pb**	**19 52 05.7**	**+3.9**
	0.8nm,0.3s,baz=171,slow=14,SNR=6.1						
MK31				⇑Sn	**Sn**	**19 52 51.7**	**-0.6**
	4.4nm,0.7s						
MK31				⇑Lg	Lg	19 53 20.5	
	17nm,0.7s,baz=163,slow=27,SNR=8.0						
MAKZ	**Makanchi**	**5.74**	**346**	⇓Sn	**Sn**	**19 52 55.5**	**+1.7**
	3.1nm,0.6s						
MAKZ				⇑Lg	Lg	19 53 25.7	
	7.5nm,0.6s						
ZSN	**Zaisan**	**6.22**	**5**	*e*Pg	**Pg**	**19 52 17.5**	**-4.4**
	3.7nm,0.7s						
ZSN				*e*Lg	Lg	19 53 36.5	
	26nm,0.9s						
TKM2	**Tokmak 2**	**6.46**	**288**	⇑Pn	**Pn**	**19 51 58.0**	**-0.1**
	3.9nm,1.2s						
TKM2				⇑Lg	Lg	19 53 44.4	
	12nm,0.8s						
AML	**Almayashu**	**7.76**	**280**	⇑Pg	Pb	19 52 43.9	+6.3
	1.3nm,1.2s						
AML				⇑Lg	Lg	19 54 28.0	
	1.9nm,1.1s						

*NCEDC **05** 20:02:38.8±3.3, 40°.16N±0°.08×127°.19W±0°.03, h12km±2km, Error ellipse: s-maj=13.3km s-min=4.3km az=171.0*
NEIC 05 20:02:40.5±1.5, 40°.41N±0°.02×126°.85W±0°.09, h10km±13km, ML2.9/44, ML3.1/11(NCEDC), Error ellipse: s-maj=10.7km s-min=1.4km az=78.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**1.92**	**87**		Pn	20 03 14.1	+0.8
KCTM					Sg	20 03 41.2	-1.0
KSMM	**Slide Mountain**	**2.06**	**95**		Pn	20 03 14.8	-0.5
KSMM					Sb	20 03 42.5	-1.2
KMPM	**Mount Pierce**	**2.08**	**89**		Pn	20 03 16.1	+0.5
JCC	**Jacoby Creek,**	**2.18**	**78**	Pn	Pn	20 03 16.4	-0.5
JCC				IAML		20 03 48.7	
	comp=E,52nm,0.5s						
KRPM	**Rodgers**	**2.27**	**70**		Pn	20 03 17.8	-0.4
KRPM	**Rodgers**	**2.27**	**70**	IAML		20 03 50.0	
	comp=E,46nm,1.0s						
KRPM				IAML		20 03 51.2	
	comp=N,66nm,1.0s						
KCRM	**Chalk Rock**	**2.31**	**89**		Pn	20 03 19.1	+0.3
KCRM					Sb	20 03 50.2	-0.8
KMRM	**Mail Ridge**	**2.41**	**93**		Pn	20 03 20.4	+0.3
KMRM					Sb	20 03 53.8	0.0
KMRM	**Mail Ridge**	**2.41**	**93**	IAML		20 03 56.7	
	comp=N,119nm,0.7s						
KHMM	**Horse Mountain**	**2.42**	**78**		Pn	20 03 20.1	-0.1
KHMM	**Horse Mountain**	**2.42**	**78**	IAML		20 03 55.0	
	comp=E,65nm,0.5s						
KHMM				IAML		20 03 59.7	
	comp=N,69nm,0.6s						
KRMB	**Red Mountain**	**2.49**	**63**		Pn	20 03 20.9	-0.4
KCPM	**Cahto Peak**	**2.61**	**105**		Pn	20 03 22.3	-0.6
KIPM	**Iron Peak**	**2.65**	**102**		Pn	20 03 23.7	+0.2
KSXB	**Camp Six Broad**	**2.66**	**57**		Pn	20 03 23.4	-0.2
KPPM	**Pickett Peak**	**2.66**	**90**		Pn	20 03 24.8	+1.1
KBO	**Bosley Butte**	**2.67**	**47**	Pn	Pn	20 03 22.5	-1.2
KBO				IAML		20 03 43.5	
	comp=E,28nm,1.1s						
KBO				IAML		20 03 44.9	
	comp=N,31nm,1.7s						
GTC	**Three Chop Rid**	**2.73**	**111**		Pn	20 03 24.4	-0.1
GTC					Sn	20 03 57.9	+0.4
KFPM	**Farley Peak**	**2.74**	**105**		Pn	20 03 25.3	+0.7
DCMP	**DeCamp, Califo**	**2.86**	**108**		Pn	20 03 26.1	-0.1
L02F	**Cave Junction**	**3.00**	**54**		Pn	20 03 28.4	+0.2
L02F				IAML		20 04 14.2	
	comp=N,22nm,0.5s						
GGUM	**Gualala**	**3.02**	**120**		Pn	20 03 28.0	-0.4
KEBM	**Edson Butte**	**3.10**	**37**	Pn	Pn	20 03 28.5	-1.0
KEBM				IAML		20 04 10.0	
	comp=N,28nm,1.2s						
KEBM				IAML		20 04 57.9	
	comp=E,32nm,1.7s						
LGPM	**Granite Peak**	**3.10**	**79**		Pn	20 03 29.8	+0.1
O02D	**Mt. Diablo Mer**	**3.11**	**93**		Pn	20 03 30.8	+1.0
GHLM	**Highland Sprin**	**3.25**	**114**		Pn	20 03 31.7	0.0
K02D	**Willamette Mer**	**3.30**	**45**		Pn	20 03 31.9	-0.5
GHCM	**House Creek**	**3.35**	**121**		Pn	20 03 32.8	-0.2
YBH	**Yreka Blue Hor**	**3.40**	**66**	Pn	Pn	20 03 34.3	+0.6
J01E	**Myrtle Point**	**3.51**	**37**		Pn	20 03 33.7	-1.5
J01E				IAML		20 04 19.2	
	comp=N,16nm,0.8s						
J01E				IAML		20 04 19.9	
	comp=E,17nm,0.5s						
GDXM	**Geysers**	**3.52**	**116**		Pn	20 03 35.4	0.0
DBO	**Dodson Butte**	**3.82**	**44**	Pn	Pn	20 03 39.2	-0.3
DBO				IAML		20 04 31.0	
	comp=N,10nm,0.8s						
MCCM	**Marconi Confer**	**3.82**	**125**		Pn	20 03 38.5	-0.9
L04D	**Klamath Falls**	**3.87**	**61**	Pn	Pn	20 03 42.3	+2.0
I03D	**Drain, OR**	**4.19**	**37**		Pn	20 03 44.8	+0.2
ORV	**Oroville**	**4.20**	**100**		Pn	20 03 44.7	+0.1
ORV				IAML		20 06 22.0	
	comp=N,12nm,0.2s						
ORV				IAML		20 06 22.0	
	comp=E,13nm,0.2s						
K04D	**Chiloquin, OR**	**4.42**	**58**		Pn	20 03 48.2	+0.4
I04A	**Tendick Farm,**	**4.72**	**43**	Pn	Pn	20 03 52.1	+0.2
AFDM	**Forest Hills D**	**4.76**	**106**	Pn	Pn	20 03 52.6	+0.2
AFDM				IAML		20 04 55.4	
	comp=N,6.4nm,0.6s						
AFDM				IAML		20 04 56.2	
	comp=E,7.6nm,0.9s						
K05A	**Summer Lake**	**5.03**	**61**	Pn	Pn	20 03 57.0	+0.7
K05A				IAML		20 04 33.5	
	comp=N,11nm,3.0s						
K05A				IAML		20 05 46.8	
	comp=E,11nm,4.0s						
J05D	**Fort Rock, OR**	**5.08**	**54**	Pn	Pn	20 03 57.9	+0.9
EMB	**Emerald Bay**	**5.40**	**103**		Pn	20 04 02.9	+1.6
H04A	**Detroit Lake**	**5.49**	**37**	Pn	Pn	20 04 02.8	+0.5
PINE	**Pine Mountain**	**5.54**	**51**	Pn	Pn	20 04 04.1	+0.8
CMB	**Columbia Colle**	**5.55**	**113**	Pn	Pn	20 04 05.4	+2.1
SAO	**San Andreas Ge**	**5.58**	**129**	Pn	Pn	20 04 03.1	-0.6
PNTR	**Pine Nut**	**5.74**	**101**	Pn	Pn	20 04 05.6	-0.5
PAHR	**Pah Rah Range**	**5.77**	**95**	Pn	Pn	20 04 05.4	-1.0
BBGB	**Big Mountain B**	**5.95**	**128**	Pn	Pn	20 04 07.8	-1.0
WAKR	**Walker**	**6.04**	**106**	Pn	Pn	20 04 14.4	+4.2
G05A	**Wamic**	**6.31**	**38**	Pn	Pn	20 04 13.2	-0.5
PMPB	**Monarch Peak**	**6.34**	**129**	Pn	Pn	20 04 13.3	-0.7
WVOR	**Wild Horse Val**	**6.50**	**69**		Pn	20 04 14.7	-1.6
MDPB	**Devils Postpil**	**6.66**	**112**	Pn	Pn	20 04 21.8	+3.2
LHV	**Little Huntoon**	**6.82**	**106**	Pn	Pn	20 04 20.7	+0.1
KVN	**Kaiserville**	**6.88**	**99**	Pn	Pn	20 04 23.2

1.0nm,0.9s,baz=143,slow=7.9,SNR=3.7
1.0nm,0.9s
TORD Torodi Ar. Bea 49.27 263 P **P 20 11 53.1 -1.5**
0.8nm,0.9s,baz=66,slow=8.5,SNR=4.0
0.8nm,0.9s
SFJD Kangerlussuaq 68.84 336 LR LR 20 44 04.1
comp=Z,32nm,18.1s,baz=269,slow=36

---

*IDC **05** 20:07:11.8±14.0, 22°.82S×177°.16W, h253km±103km, mb3.3/5, mbtmp3.9/6, MS2.7/1, Error ellipse: s-maj=173.8km s-min=24.8km az=140.0*

ISC 05 20:07:11.2±1.2, 22°.9S±0°.2×177°.1W±0°.2, h250km, n13, σ0°71/13, mb3.5/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.85**	**317**	P	**Pn**	**20 08 50.2**	**+0.1**
	6.1nm,0.6s,baz=119,slow=21,SNR=5.8						
MSVF				LR	LR	20 10 48.4	
	comp=Z,63nm,20.5s,baz=101,slow=32						
CTA	**Charters Tower**	**34.20**	**268**	P	**P**	**20 13 33.7**	**+0.3**
	4.0nm,0.6s,baz=104,slow=8.8,SNR=5.6						
	4.0nm,0.6s						
ASAR	**Alice Springs**	**44.88**	**259**	P	**P**	**20 15 00.8**	**-0.5**
	0.8nm,0.7s,baz=96,slow=7.7,SNR=11						
ASAR				PcP	**PcP**	**20 16 39.1**	**+0.7**
	0.3nm,0.7s,baz=97,slow=2.9,SNR=2.5						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**45.19**	**264**	P	**P**	**20 15 02.5**	**-1.3**
	0.2nm,0.3s,baz=95,slow=8.2,SNR=31						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**90.40**	**12**	P	**P**	**20 19 43.1**	**-0.6**
	0.7nm,0.8s,baz=217,slow=5.3,SNR=4.7						
	0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**91.71**	**289**	P	**P**	**20 19 51.8**	**+1.0**
	0.2nm,0.4s,baz=150,slow=4.2,SNR=3.1						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**121.42**	**319**	PKP	**PKPdf**	**20 25 34.2**	**-0.2**
	0.6nm,0.3s,baz=104,slow=2.6,SNR=6.8						
ARCES	**ARCESS Array B**	**131.38**	**350**	PKP	**PKPdf**	**20 25 53.3**	**+0.3**
	1.4nm,0.9s,baz=13,slow=1.6,SNR=4.9						
HFS	**Hagfors**	**141.98**	**351**	PKhKP	PKPpre	20 26 07.4	
	0.7nm,0.3s,baz=77,slow=2.5,SNR=8.9						
AKASG	**Malin Array Be**	**145.48**	**330**	PKPbc	**PKPdf**	**20 26 18.5**	**-0.7**
	0.9nm,0.3s,baz=43,slow=4.0,SNR=6.0						
BRTR	**Keskin Array B**	**149.03**	**310**	PKPbc	**PKPbc**	**20 26 29.7**	**-0.4**
	0.5nm,0.5s,baz=137,slow=4.3,SNR=3.2						
MMAI	**Mount Meron Ar**	**149.69**	**297**	PKPbc	**PKPbc**	**20 26 32.5**	**+0.8**
	0.6nm,0.3s,baz=54,slow=9.6,SNR=4.7						
GERES	**GERESS Array B**	**152.68**	**344**	PKPbc	**PKPbc**	**20 26 38.4**	**+0.3**
	0.4nm,0.4s,baz=64,slow=2.3,SNR=1.8						

---

*MEX **05** 20:11:49.8±0.5, 27°.62N×111°.76W, h9km±15km, MD4.3*
*ECX **05** 20:11:50.2±0.5, 27°.77N×111°.77W, h10km±28km, ML3.6,*
Fault plane solution: NP1:φs=138.00000°, δ=18.00000°, λ=-146.00000°.

ISC 05 20:11:47.9±1.5, 27°.75N±0°.04×111°.78W±0°.04, h8km±13km, n18, σ1°71/26, 5C-5D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.81**	**79**	⇑*i*P	**Pb**	**20 12 04.0**	**-0.3**
GUYB				*e*S	**Sb**	**20 12 15.0**	**-0.5**
GUYB				IAML		20 12 15.8	
	comp=N,2μm,0.2s						
GUYB				⇓*e*		20 12 15.8	
GUYB	**Guaymas**	**0.81**	**79**	*e*P	**Pb**	**20 12 03.8**	**-0.5**
GUYB				*e*S	**Sb**	**20 12 14.4**	**-1.1**
BKIRB	**Bahia Kino**	**1.12**	**350**	⇓*e*P	**Pn**	**20 12 09.6**	**-0.3**
SFQB	**San Francisqui**	**1.16**	**304**	⇑*e*P	**Pn**	**20 12 09.8**	**-0.6**
SFQB				IAML		20 12 35.0	
	comp=E,803nm,0.7s						
SFQB				⇑*e*		20 12 35.0	
SNIRB	**San Nicol¡s**	**1.22**	**170**	*e*P	**Pg**	**20 12 11.9**	**+0.5**
HSIG		**1.46**	**30**	⇓*e*P	**Pb**	**20 12 15.2**	**-0.2**
HSIG				*e*S	**Sg**	**20 12 34.6**	**-0.3**
HSIG				*e*		20 12 35.0	
HSIG				IAML		20 12 35.0	
	comp=N,685nm,0.2s						
HSIG				IAML		20 12 35.1	
	comp=E,2μm,0.3s						
HSIG				⇑*e*		20 12 35.1	
HSIG		**1.46**	**30**	*e*P	**Pn**	**20 12 14.1**	**-0.5**
HSIG				*e*S	**Sb**	**20 12 33.9**	**-0.2**
BAHB	**Baha de los**	**1.97**	**307**	*e*P	**Pn**	**20 12 22.4**	**+0.7**
BAHB				IAML		20 12 56.0	
	comp=N,346nm,0.3s						
BAHB				⇓*e*		20 12 56.0	
BAHB	**Baha de los**	**1.97**	**307**	*e*P	**Pn**	**20 12 21.3**	**-0.3**
BAHB				*i*S	**Sn**	**20 12 44.0**	**-2.6**
NE74	**Guerrero Negro**	**2.00**	**278**	*e*P	**Pn**	**20 12 23.8**	**+1.8**
NOVRB	**El Novillo Son**	**2.22**	**57**	*e*P	**Pn**	**20 12 25.4**	**+0.2**
NE80	**Navojoa**	**2.41**	**110**	⇑*e*P	**Pb**	**20 12 32.1**	**+0.5**
LAPR	**La Primavera**	**2.78**	**350**	⇓*e*P	**Pn**	**20 12 34.2**	**+1.4**
CSIG	**Choix**	**3.17**	**106**	*e*P	**Pn**	**20 12 37.1**	**-1.0**
CSIG				*i*S	**Sn**	**20 13 15.6**	**-0.5**
TSIG	**Topolobambo**	**3.25**	**131**	*e*	Pg	20 12 56.3	+6.1
NZIG	**Nacozari, Sono**	**3.26**	**36**	*e*P	**Pb**	**20 12 45.1**	**-1.1**
NZIG				*e*S	**Sb**	**20 13 22.7**	**-3.3**
CGIG		**4.22**	**51**	*e*P	**Pn**	**20 12 55.8**	**+3.0**
CGIG				*e*S	**Sn**	**20 13 42.3**	**-0.1**
TUC	**Tucson**	**4.62**	**10**	*e*P	**Pn**	**20 12 59.4**	**+1.2**
TUC				*e*S	**Sn**	**20 13 57.1**	**+4.9**

---

*IDC **05** 20:41:24.3±1.1, 37°.28N×28°.12E, h0km, mb3.9/3, mbtmp3.6/10, ML3.5/7, MS2.4/3, Error ellipse: s-maj=19.3km s-min=16.7km az=168.0*
*ISK **05** 20:41:25.1, 37°.23N×28°.05E, h7km, ML3.6/32*
*AFAD **05** 20:41:25.1±0.0, 37°.25N×28°.05E, h7km±2km, MW3.6*
*THE **05** 20:41:25.6, 37°.23N×28°.06E, h3km±2km, ML3.5/7, Error ellipse: s-maj=3.0km s-min=0.6km az=26.0*
*ATH **05** 20:41:26.1, 37°.26N×28°.02E, h7km±1km, ML3.4/14, Error ellipse: s-maj=2.3km s-min=1.0km az=235.0*
*NEIC **05** 20:41:26.4±1.6, 37°.17N±0°.04×28°.04E±0°.06, h10km±2km, mb4.2/2, Error ellipse: s-maj=8.1km s-min=7.0km az=266.0*

ISC 05 20:41:25.8±0.8, 37°24N±0°.02×28°.06E±0°.01, h12km±6km, n110, σ0°99/156, mb4.0/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.21**	**120**	Pg	**Pg**	**20 41 30.0**	**-0.3**
YER				Sg	**Sg**	**20 41 33.0**	**-0.4**
YER	**Yerkesik**	**0.21**	**120**	P	**Pg**	**20 41 29.9**	**-0.3**
YER				S	**Sg**	**20 41 33.0**	**-0.4**
MULA	**Mugla, Merkez-**	**0.21**	**85**	P	**Pg**	**20 41 30.1**	**-0.2**
MULA				S	**Sg**	**20 41 32.8**	**-0.7**
MLSB	**Milas**	**0.23**	**285**	Pg	**Pg**	**20 41 30.8**	**0.0**
MLSB				Sg	**Sg**	**20 41 33.9**	**-0.2**
RFTAA	**Mazikoy-Bodrum**	**0.35**	**227**	Pg	**Pg**	**20 41 32.5**	**-0.3**
RFTAA				Sg	**Sg**	**20 41 37.7**	**+0.3**
TURN	**Turunc**	**0.48**	**162**	Pg	**Pg**	**20 41 34.7**	**-0.6**
TURN				Sg	**Sg**	**20 41 42.4**	**+0.7**
RFTC	**Emecik-Datca**	**0.50**	**203**	Pg	**Pg**	**20 41 34.8**	**-0.8**
RFTC				Sg	**Sg**	**20 41 42.7**	**+0.6**
BODT	**Bodrum**	**0.62**	**254**	Pg	**Pg**	**20 41 37.6**	**-0.4**
BODT				Sg	**Sg**	**20 41 46.1**	**-0.1**
BODT	**Bodrum**	**0.62**	**254**	P	**Pg**	**20 41 37.5**	**-0.4**
BODT				S	**Sb**	**20 41 47.2**	**-0.2**
DALY	**Dalyan (Mula)**	**0.63**	**131**	Pg	**Pg**	**20 41 37.8**	**-0.3**
DALY				Sg	**Sb**	**20 41 47.5**	**-0.2**
DAT	**Datca**	**0.64**	**217**	Pg	**Pg**	**20 41 37.6**	**-0.6**
DAT				Sg	**Sg**	**20 41 46.9**	**+0.3**
DAT	**Datca**	**0.64**	**217**	P	**Pg**	**20 41 37.8**	**-0.4**
DAT				S	**Sb**	**20 41 47.5**	**-0.4**
DAT	**Datca**	**0.64**	**217**	P	**Pg**	**20 41 38.1**	**-0.1**
DAT				S	**Sb**	**20 41 47.6**	**-0.2**
RFTB	**Kemer-Bodrum**	**0.69**	**247**	Pg	**Pg**	**20 41 39.0**	**-0.1**
RFTB				Sg	**Sb**	**20 41 49.1**	**-0.1**
DDIM	**Aydin, Didim**	**0.69**	**289**	P	**Pg**	**20 41 39.0**	**-0.1**
DDIM				S	**Sg**	**20 41 48.0**	**-0.2**
RFTD	**Palamutbuku-Ka**	**0.71**	**219**	Pg	**Pg**	**20 41 38.8**	**-0.8**
RFTD				Sg	**Sg**	**20 41 49.0**	**0.0**
TAVA	**DENIZLI_Tavas**	**0.72**	**71**	P	**Pg**	**20 41 39.1**	**-0.6**
TAVA				S	**Sg**	**20 41 48.1**	**-1.1**
GCAM	**G?zelcaml?**	**0.80**	**305**	Pg	**Pb**	**20 41 41.3**	**-0.4**
GCAM				Sg	**Sb**	**20 41 52.1**	**-0.5**
DNIZ	**Denizli-Tavas-**	**0.87**	**63**	P	**Pg**	**20 41 42.2**	**-0.4**
DNIZ				S	**Sg**	**20 41 51.8**	**-2.2**
NISR	**Nisiros**	**0.97**	**230**	P	**Pg**	**20 41 44.5**	**-0.1**
NISR				S	**Sb**	**20 41 57.5**	**+0.1**
	2μm,0.3s						
NISR	**Nisiros**	**0.97**	**230**	P	**Pg**	**20 41 43.7**	**-0.8**
NISR				S	**Sb**	**20 41 57.7**	**+0.3**
NISR				AML	AML	20 42 00.4	
	comp=N,4144μm,0.4s						
NISR				AML	AML	20 42 02.6	
	comp=E,8313μm,0.3s						
KOSK	**Kos Island**	**0.99**	**241**	Pg	**Pg**	**20 41 44.6**	**-0.3**
KOSK				Sg	**Sb**	**20 41 58.8**	**+0.8**
KOSK	**Kos Island**	**0.99**	**241**	P	**Pg**	**20 41 44.1**	**-0.8**
KOSK				S	**Sb**	**20 41 59.2**	**+1.2**
	comp=E,5μm,0.5s						
KOSK	**Kos Island**	**0.99**	**241**	P	**Pg**	**20 41 43.9**	**-1.0**
KOSK				S	**Sg**	**20 41 56.9**	**-0.9**
KOSK				AML	AML	20 42 01.3	
	comp=N,29807μm,0.5s						
KOSK				AML	AML	20 42 01.9	
	comp=E,26377μm,0.5s						
CAEL	**Denizli, Camel**	**1.01**	**96**	P	**Pb**	**20 41 45.8**	**+0.3**
CAEL				S	**Sg**	**20 41 58.9**	**+0.3**
FETY	**Fethiye**	**1.02**	**126**	Pg	**Pg**	**20 41 45.3**	**-0.1**
FETY				Sg	**Sb**	**20 42 00.0**	**+1.3**
APMY	**Acipayam-Deniz**	**1.02**	**76**	Pg	**Pg**	**20 41 44.8**	**-0.6**
APMY				Sg	**Sb**	**20 42 00.1**	**+1.3**
ARG	**Arkhangelos**	**1.02**	**177**	Pg	**Pg**	**20 41 44.5**	**-1.0**
ARG	**Arkhangelos**	**1.02**	**177**	P	**Pg**	**20 41 44.7**	**-0.7**
ARG				S	**Sn**	**20 42 00.5**	**+0.3**
	comp=E,2μm,1.0s						
ARG	**Arkhangelos**	**1.02**	**177**		**Pg**	**20 41 44.8**	**-0.6**
ARG	**Arkhangelos**	**1.02**	**177**	P	**Pg**	**20 41 44.8**	**-0.7**
ARG				S	**Sn**	**20 42 01.1**	**+0.8**
ARG				AML	AML	20 42 06.5	
	comp=N,4417μm,1.2s						
ARG				AML	AML	20 42 10.8	
	comp=E,4451μm,0.7s						
CAME	**Cameli-Denizli**	**1.04**	**106**	Pg	**Pg**	**20 41 45.9**	**+0.1**
SMG	**Samos**	**1.08**	**296**	P	**Pg**	**20 41 45.8**	**-0.8**
SMG				S	**Sn**	**20 42 01.6**	**-0.2**
	comp=E,2μm,0.4s						
SMG	**Samos**	**1.08**	**296**	P	**Pg**	**20 41 46.0**	**-0.6**
SMG				S	**Sg**	**20 41 59.8**	**-0.9**
SMG				AML	AML	20 42 03.5	
	comp=N,4717μm,0.4s						
SMG				AML	AML	20 42 10.2	
	comp=E,3147μm,0.5s						
DGB	**zmir**	**1.24**	**311**	P	**Pb**	**20 41 48.6**	**-0.6**
DGB				S	**Sb**	**20 42 05.2**	**+0.1**
MANT	**Manisa**	**1.31**	**17**	P	**Pn**	**20 41 49.7**	**-0.6**
MANT				S	**Sb**	**20 42 07.7**	**+0.2**
KULA	**Kula-Manisa**	**1.36**	**20**	Pn	**Pn**	**20 41 50.6**	**-0.2**
KULA				Sn	**Sn**	**20 42 10.5**	**+1.7**
KULA	**Kula-Manisa**	**1.36**	**20**	P	**Pn**	**20 41 50.4**	**-0.4**
KULA				S	**Sb**	**20 42 08.4**	**-0.4**
IKRA	**Agios-Kirikos-**	**1.46**	**285**	P	**Pn**	**20 41 51.0**	**-0.9**
IKRA				AML	AML	20 42 19.8	
	comp=E,3391μm,0.8s						
IKRA				AML	AML	20 42 21.7	
	comp=N,2332μm,0.6s						
GOMA	**Golmarmara-Man**	**1.47**	**356**	Pn	**Pb**	**20 41 53.1**	**-0.1**
ELL	**Elmali**	**1.56**	**108**	Pn	**Pn**	**20 41 53.9**	**+0.4**
ELL				Sn	**Sb**	**20 42 15.4**	**+0.9**
ELL	**Elmali**	**1.56**	**108**		**Pb**	**20 41 54.9**	**+0.2**
KHL	**Karahalli**	**1.59**	**46**	Pn	**Pb**	**20 41 54.9**	**-0.3**
AKAS	**Kas**	**1.60**	**128**	Pn	**Pn**	**20 41 54.8**	**+0.8**
URLA	**Izmir**	**1.61**	**314**	Pn	**Pn**	**20 41 53.7**	**-0.5**
AKS	**Akhisar**	**1.65**	**353**	Pn	**Pn**	**20 41 55.1**	**+0.4**
BRDR	**BURDUR-Merkez**	**1.66**	**73**	P	**Pn**	**20 41 55.9**	**+1.0**
BRDR				S	**Sg**	**20 42 18.8**	**-0.4**
USAK	**Uak-Merkez**	**1.66**	**27**	P	**Pn**	**20 41 55.0**	**+0.1**
USAK				S	**Sg**	**20 42 20.2**	**+1.0**
BASM	**Basmaki-Afyon**	**1.72**	**66**	Pn	**Pn**	**20 41 56.5**	**+0.8**
RFT5	**Foca**	**1.76**	**324**	Pn	**Pn**	**20 41 55.8**	**-0.3**
KARP	**Karpathos**	**1.83**	**204**	Pn	**Pn**	**20 41 57.5**	**+0.3**
KARP	**Karpathos**	**1.83**	**204**	P	**Pn**	**20 41 57.7**	**+0.5**
KARP				S	**Sn**	**20 42 20.3**	**-0.1**
	comp=N,1μm,0.5s						
KARP	**Karpathos**	**1.83**	**204**		**Pn**	**20 41 57.5**	**+0.3**
KARP	**Karpathos**	**1.83**	**204**	P	**Pn**	**20 41 57.7**	**+0.5**
KARP				S	**Sn**	**20 42 20.0**	**-0.4**
KARP				AML	AML	20 42 25.0	
	comp=E,2580μm,0.5s						
KARP				AML	AML	20 42 25.6	
	comp=N,2932μm,0.6s						
KORT	**Korkueli**	**1.85**	**97**	Pn	**Pn**	**20 41 57.9**	**+0.4**
RFT7	**Candarli**	**1.94**	**333**	Pn	**Pn**	**20 41 59.5**	**+0.9**
CHOS	**Chios island**	**1.96**	**306**	Pn	**Pn**	**20 41 58.9**	**0.0**
CHOS	**Chios island**	**1.96**	**306**	P	**Pn**	**20 41 59.0**	**0.0**
CHOS	**Chios island**	**1.96**	**306**	P	**Pn**	**20 41 59.0**	**0.0**
CHOS				AML	AML	20 42 37.2	
	comp=E,922μm,0.7s						
CHOS				AML	AML	20 42 37.3	
	comp=N,746μm,0.8s						
APE	**Apeiranthos**	**2.03**	**266**	Pn	**Pn**	**20 42 00.0**	**+0.1**
APE	**Apeiranthos**	**2.03**	**266**	P	**Pn**	**20 42 00.0**	**+0.1**
APE				S	**Sn**	**20 42 24.4**	**-0.8**
	comp=N,90nm,0.7s						
APE	**Apeiranthos**	**2.03**	**266**	P	**Pn**	**20 41 59.6**	**-0.3**
APE				S	**Sn**	**20 42 23.3**	**-1.9**
APE				AML	AML	20 42 42.5	
	comp=N,435μm,0.5s						
APE				AML	AML	20 42 45.2	
	comp=E,409μm,0.6s						
DKL	**Dikili**	**2.04**	**334**	Pn	**Pn**	**20 42 00.8**	**+0.7**
SANT	**Santorini**	**2.26**	**248**	Pn	**Pn**	**20 42 03.9**	**+0.8**
SANT	**Santorini**	**2.26**	**248**		**Pn**	**20 42 03.1**	**0.0**
SANT	**Santorini**	**2.26**	**248**	P	**Pn**	**20 42 03.7**	**+0.6**
SANT				AML	AML	20 42 46.1	
	comp=N,284μm,1.1s						
SANT				AML	AML	20 42 46.2	
	comp=E,790μm,0.6s						
EAG1	**Polichnitos, L**	**2.35**	**322**	P	**Pn**	**20 42 04.1**	**-0.1**
EAG1				AML	AML	20 42 49.1	
	comp=N,3297μm,0.7s						
EAG1				AML	AML	20 42 52.8	
	comp=E,4996μm,0.9s						
BALB	**Balikesir**	**2.40**	**357**		**Pb**	**20 42 07.4**	**-1.6**
PRK	**Paraskevi**	**2.45**	**325**	P	**Pn**	**20 42 05.2**	**-0.5**
PRK				AML	AML	20 42 48.4	
	comp=N,1106μm,0.7s						
PRK				AML	AML	20 42 54.8	
	comp=E,1281μm,0.7s						
ZKR	**Zakros**	**2.59**	**216**	P	**Pn**	**20 42 08.8**	**+1.2**
ZKR				AML	AML	20 42 46.4	
	comp=E,564μm,0.6s						
ZKR				AML	AML	20 42 48.1	
	comp=N,237μm,0.7s						
SIGR	**SIGRI**	**2.63**	**319**	P	**Pn**	**20 42 08.1**	**+0.1**
SIGR				AML	AML	20 42 53.2	
	comp=E,389μm,0.6s						
SIGR				AML	AML	20 42 59.1	
	comp=N,399μm,0.8s						
FRMA	**Ierapetra Chan**	**2.91**	**221**	P	**Pn**	**20 42 12.8**	**+0.9**
IDI	**Anoyia**	**3.21**	**234**		**Pn**	**20 42 16.3**	**0.0**
IDI	**Anoyia**	**3.21**	**234**	Pn	**Pn**	**20 42 16.6**	**+0.3**
	comp=N,2.2nm,0.3s,baz=55,slow=14,SNR=20						
IDI				Sn	**Sn**	**20 42 53.4**	**-1.2**
	comp=N,2.8nm,0.3s,baz=319,slow=15,SNR=6.2						
IDI				LR	LR	20 43 41.5	
	comp=N,61nm,21.2s,baz=356,slow=42						
	comp=N,5.7nm,0.7s						
IDI	**Anoyia**	**3.21**	**234**	P	**Pn**	**20 42 16.4**	**+0.1**
DION	**Dionisos Attik**	**3.38**	**286**	P	**Pn**	**20 42 19.7**	**+1.2**
VLY	**Voula,Athens**	**3.44**	**282**	P	**Pn**	**20 42 19.1**	**-0.2**
LIA	**Limnos Island**	**3.48**	**321**	P	**Pn**	**20 42 20.4**	**+0.5**
LIA				AML	AML	20 43 26.1	
	comp=N,225μm,1.0s						
LIA				AML	AML	20 43 26.2	
	comp=E,207μm,0.8s						
SMTH	**Samothraki Isl**	**3.79**	**329**	P	**Pn**	**20 42 24.0**	**0.0**
VIL2	**Platees**	**3.92**	**286**	P	**Pn**	**20 42 26.4**	**+0.5**
ALN	**Alexandroupoli**	**3.98**	**337**		**Pn**	**20 42 29.0**	**+2.4**
ALN	**Alexandroupoli**	**3.98**	**337**	P	**Pn**	**20 42 26.2**	**-0.4**
MDUB	**Mudurnu**	**4.05**	**36**	Pn	**Pn**	**20 42 28.4**	**+0.6**
RDO	**Rodhopi**	**4.37**	**334**		**Pn**	**20 42 32.8**	**+0.8**
GUR	**Goura**	**4.59**	**280**	P	**Pn**	**20 42 36.7**	**+1.5**
KLV	**Kalavryta, Ach**	**4.76**	**282**	P	**Pn**	**20 42 38.8**	**+1.4**
CSS	**Mathiatis**	**4.83**	**116**		**Pn**	**20 42 39.2**	**+0.7**
BR131	**Keskin Array S**	**5.03**	**59**		**Pn**	**20 42 42.6**	**+1.3**
BRTR	**Keskin Array B**	**5.03**	**59**		**Pn**	**20 42 42.5**	**+1.2**
BRTR	**Keskin Array B**	**5.03**	**59**	Pn	**Pn**	**20 42 42.3**	**+1.0**
	comp=E,1.0nm,0.3s,baz=240,slow=17,SNR=39						
BRTR				Sn	**Sn**	**20 43 38.6**	**-0.9**
	baz=237,slow=27						
BRTR				LR	LR	20 45 12.0	
	comp=E,79nm,19.7s,baz=244,slow=46						
	comp=E,4.7nm,0.6s						
NVR	**Nevrokopi**	**5.24**	**323**	P	**Pn**	**20 42 45.3**	**+1.3**
GRG	**Griva**	**5.76**	**312**	P	**Pn**	**20 42 53.1**	**+2.0**
BNN	**Bunyan**	**6.35**	**73**	Pn	**Pn**	**20 42 57.3**	**-2.1**
KBN	**Korca**	**6.60**	**303**	Pn	**Pn**	**20 43 03.0**	**+0.2**
KEK	**Kerkira**	**6.94**	**293**	Pn	**Pn**	**20 43 07.7**	**+0.4**
MMAI	**Mount Meron Ar**	**7.34**	**123**	Pn	**Pn**	**20 43 12.8**	**-0.1**
	comp=E,3.9nm,0.3s,baz=304,slow=11,SNR=26						
MMAI				Sn	**Sn**	**20 44 32.4**	**-3.9**
	comp=E,1.7nm,0.3s,baz=307,slow=29,SNR=2.3						
	comp=E,3.7nm,0.4s						
SCTE	**Santa Cesarea**	**8.02**	**294**	Pn	**Pn**	**20 43 23.9**	**+1.7**
MLR	**Muntele Rosu**	**8.40**	**350**	Pn	**Pn**	**20 43 28.6**	**+1.1**
MLR	**Muntele Rosu**	**8.40**	**350**	Pn	**Pn**	**20 43 26.4**	**-1.0**
	comp=E,0.1nm,0.3s,baz=228,slow=9.8,SNR=3.2						
	comp=E,1.5nm,0.8s						
ASF	**Jabal al Asfar**	**8.86**	**122**	Pn	**Pn**	**20 43 34.5**	**+0.7**
	comp=E,0.4nm,0.3s,baz=144,slow=2.7,SNR=5.2						
ASF				Sn	**Sn**	**20 45 11.2**	**-2.3**
	comp=E,0.2nm,0.3s,baz=345,slow=21,SNR=1.9						
	comp=E,0.8nm,0.4s						
EIL	**Elat**	**9.49**	**141**	Pn	**Pn**	**20 43 43.5**	**+1.2**
	comp=E,0.8nm,0.3s,baz=342,slow=9.6,SNR=8.7						
EIL				Sn	**Sn**	**20 45 23.9**	**-5.0**
	comp=E,0.5nm,0.3s,baz=270,slow=22,SNR=2.3						
	comp=E,3.8nm,0.6s						
CUC	**Castrocucco**	**9.97**	**290**	Pn	**Pn**	**20 43 51.4**	**+2.4**
GNI	**Garni**	**13.35**	**72**	LR	LR	20 51 06.9	
	comp=E,9.0nm,21.2s,baz=284,slow=44						
GERES	**GERESS Array B**	**15.61**	**323**	Pn	**Pn**	**20 45 07.4**	**+1.7**
GERES	**GERESS Array B**	**15.61**	**323**	Pn	**Pn**	**20 45 07.8**	**+2.1**
	comp=E,0.2nm,0.3s,baz=135,slow=19,SNR=3.5						
	comp=E,0.6nm,0.7s						
ESDC	**Sonseca Array**	**25.13**	**285**	P	**P**	**20 46 52.4**	**+1.7**
	comp=E,0.4nm,0.7s,baz=84,slow=9.5,SNR=4.3						
	comp=E,0.4nm,0.7s						
TOA0	**Torodi Ar. Sit**	**33.62**	**231**	P	**P**	**20 48 05.8**	**-0.4**
TOA0				IAmb	IAmb	20 48 07.0	
	comp=Z,2.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**33.62**	**231**	P	**P**	**20 48 04.8**	**-1.4**
TORD				IAmb	IAmb	20 48 09.8	
	comp=Z,1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**33.62**	**231**	P	**P**	**20 48 06.3**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=35,slow=9.2,SNR=38						
	comp=Z,2.6nm,0.5s						
KURBB	**Kurchatov Arra**	**38.00**	**53**	P	**P**	**20 48 43.5**	**0.0**
	comp=Z,0.5nm,0.2s,baz=278,slow=9.0,SNR=2.1						
	comp=Z,0.5nm,0.2s						

---

*IDC **05** 20:43:54.3±2.5, 6°.31S×130°.57E, h0km, mb3.5/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=145.9km s-min=32.3km az=71.0*

ISC 05 20:44:07.9±1.5, 7°.2S±0°.1×129°.5E±0°.2, h100km, n10, σ3°28/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.87**	**165**	P	**Pn**	**20 45 37.0**	**+4.6**
KDU	**Kakadu**	**6.21**	**152**	P	**Pn**	**20 45 40.6**	**+3.5**
KNRA	**Kununurra**	**8.50**	**185**	P	**Pn**	**20 46 12.0**	**+3.7**
WRAB	**Tennant Creek**	**13.53**	**160**	P	**Pn**	**20 47 15.2**	**-0.7**
WRA	**Warramunga Arr**	**13.54**	**160**	Pn	**Pn**	**20 47 14.3**	**-1.7**
	0.3nm,0.3s,baz=348,slow=13,SNR=23						
WRA				Sn	**Sn**	**20 49 40.9**	**-4.1**
	1.0nm,0.3s,baz=343,slow=21,SNR=11						
	0.6nm,0.5s						
QIS	**Mount Isa**	**16.51**	**145**	P	**P**	**20 47 55.0**	**+0.5**
ASAR	**Alice Springs**	**16.95**	**166**	P	**Pn**	**20 48 00.7**	**+1.7**
	0.3nm,0.3s,baz=344,slow=8.9,SNR=21						
ASAR				S	**Sn**	**20 51 03.8**	**-3.5**
	0.6nm,0.6s,baz=350,slow=25,SNR=4.3						
	0.8nm,0.5s						
WRKA	**Warakurna**	**17.82**	**184**	P	**Pn**	**20 48 12.1**	**+2.5**
OOD	**Oodnadatta**	**21.34**	**165**	P	**P**	**20 48 49.2**	**+2.2**
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**20 54 55.2**	**-1.8**
	0.2nm,0.3s,baz=112,slow=7.3,SNR=4.2						
	0.2nm,0.3s						

---

*TAP **05** 20:53:15.7, 23°.88N×122°.62E, h26km±1km, ML2.5, D*
*JMA **05** 20:53:16.4±0.2, 24°.N±1°.×122°.6E±0°.7, h28km, MV2.1/10, NW OFF ISHIGAKIJIMA IS*

**ISC 05 20:53:16.1±1.2, 23°.91N±0°.05×122°.59E±0°.02, h24km±13km

KZV	Kizimen	5.34 287	*e*P	Pn	20 55 33.1	+3.8
KZV			*e*S	Sn	20 56 30.7	+1.3
BZWR	Bezymyannyi-We	5.43 296	*e*P	Pn	20 55 34.8	+4.2
TUMR	Tumrok	5.45 288	*e*P	Pn	20 55 35.7	+4.9
TUMR			*e*S	Sn	20 56 35.5	+3.4
KMNR	Kamenistaya	5.51 293	*e*P	Pn	20 55 35.6	+4.0
KMNR			*e*S	Sn	20 56 36.2	+2.6
KIRR	Kirishev	5.51 295	*e*P	Pn	20 55 36.0	+4.4
KII	Karymskiy	5.77 275	*e*P	Pn	20 55 39.5	+4.5
SRDR	Sredinnyy	5.96 298	*e*S	Sn	20 56 49.5	+4.8
SDLR	Sedlovina	6.18 268	*e*P	Pn	20 55 45.0	+4.2
UGLR	Uglovaya	6.23 268	*e*P	Pn	20 55 45.7	+4.2
SMAR	Somma	6.24 268	*e*P	Pn	20 55 46.1	+4.4
KRER	Koryakskii	6.26 269	*e*P	Pn	20 55 46.6	+4.7
AVH	Avacha	6.27 268	*e*P	Pn	20 55 46.4	+4.4
KRX	Arik	6.31 269	*e*P	Pn	20 55 47.0	+4.4
KOK	Koryaka	6.33 269	*e*P	Pn	20 55 47.3	+4.6
GNL	Ganaly	6.68 273	*e*P	Pn	20 55 53.0	+5.3
KRMR	Karymshinskiy	6.72 265	*e*P	Pn	20 55 52.2	+4.2
KRMR			*e*S	Sn	20 57 05.9	+2.8
GRL	Gorelyy	6.82 263	*e*P	Pn	20 55 54.4	+4.8
ASAK	Asacha	6.97 262	*e*P	Pn	20 55 56.5	+4.9
KDTR	Khodutka, Kamc	7.06 257	*e*P	Pn	20 55 57.1	+4.4
KDTR			*e*S	Sn	20 57 12.7	+1.3

*IDC **05** 21:21:58.3±3.1, 42°.94N×104°.86W, h0km, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=56.6km s-min=11.2km az=158.0*
*NEIC **05** 21:22:02.5±0.9, 43°.62N±0°.04×105°.24W±0°.08, h0km±2km, ML3.1/68, Error ellipse: s-maj=11.1km s-min=6.0km az=120.0*

ISC 05 21:22:02.7±1.2, 43°.63N±0°.06×105°.13W±0°.06, h0km, n33, σ1§79/25, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.93	58	Pg	Pn	21 22 21.7	-1.6
K22A	Casper	1.41	227	Pn	Pn	21 22 27.6	-2.2
K22A				IAML		21 22 50.6	
	comp=N,297nm,0.3s						
PHWY	Pilot Hill	2.33	186	Pn	Pn	21 22 42.0	-0.6
PHWY				IAML		21 23 18.0	
	comp=N,81nm,0.7s						
RWWY	Rawlins	2.47	219	Pn	Pn	21 22 42.3	-2.2
RWWY				IAML		21 23 21.6	
	comp=N,126nm,0.8s						
N23A	Red Feather La	2.79	193	Pn	Pn	21 22 48.4	-0.6
N23A				IAML		21 23 36.9	
	comp=N,100nm,0.7s						
N23A				IAML		21 23 37.5	
	comp=E,80nm,1.1s						
BRIGG	Briggsdale	3.10	168	Pn	Pn	21 22 53.0	-0.1
LAO	LASA Array	3.16	346	Pn	Pn	21 22 51.4	-2.4
RLMT	Red Lodge	3.32	298	Pn	Pn	21 22 56.5	+0.3
RLMT				IAML		21 23 57.7	
	comp=E,41nm,0.8s						
RLMT				IAML		21 24 06.7	
	comp=E,42nm,1.0s						
BW06	Boulder Array	3.35	257	Pn	Pn	21 22 54.1	-2.4
PD31	Pinedale Array	3.35	257	Pn	Pn	21 22 53.6	-3.0
PDAR	Pinedale Array	3.35	257	Pn	Pn	21 22 53.8	-2.7
PDAR	Pinedale Array	3.35	257	Pn	Pn	21 22 56.5	0.0
	comp=E,1.3nm,0.3s,baz=79,slow=16,SNR=34						
PDAR				Lg	Lg	21 23 46.1	
	comp=E,6.6nm,0.3s,baz=77,slow=32,SNR=12						
	comp=E,1.5nm,0.3s						
YMP	Mirror Lake Pl	3.78	289	Pn	Pn	21 23 02.8	+0.2
YMP				IAML		21 24 27.3	
	comp=E,43nm,1.2s						
LKWY	Lake	3.91	286		Pn	21 23 04.5	+0.3
LKWY				IAML		21 23 27.7	
	comp=E,44nm,0.8s						
LKWY				IAML		21 24 31.8	
	comp=E,23nm,0.8s						
LOHW	Long Hollow	3.97	272		Pn	21 23 03.3	-1.9
H17A	Grant Village	4.00	283		Pg	21 23 21.0	+1.5
H17A				IAML		21 24 19.3	
	comp=N,25nm,0.1s						
H17A				IAML		21 24 19.6	
	comp=E,28nm,0.1s						
FLWY	Flagg Ranch	4.05	278		Pb	21 23 16.8	+1.6
FLWY				IAML		21 24 37.7	
	comp=E,26nm,1.3s						
MOOW	Moose Ponds	4.07	274		Pg	21 23 20.6	-0.2
SNOW	Snow King Moun	4.09	270	Pg	Pg	21 23 20.5	-0.7
SNOW				IAML		21 24 37.3	
	comp=E,38nm,1.4s						
REDW	Red Top Meadow	4.17	268		Pg	21 23 22.3	-0.4
O20A	White River Ci	4.19	215		Pn	21 23 09.7	+1.6
O20A				IAML		21 25 32.4	
	comp=E,35nm,4.7s						
IMW	Indian Meadow	4.22	276	Pn	Pb	21 23 19.3	+1.3
IMW				IAML		21 24 23.6	
	comp=E,19nm,1.6s						
IMW				IAML		21 24 25.4	
	comp=E,24nm,0.8s						
TPAW	Teton Pass	4.23	270		Pb	21 23 21.1	+2.9
TPAW				IAML		21 24 35.4	
	comp=E,18nm,1.1s						
TPAW				IAML		21 24 37.0	
	comp=E,25nm,0.9s						
FXWY	Fox Creek	4.28	272	Pn	Pn	21 23 06.9	-2.4
ID10	Lander Cutoff	4.36	257	IAML		21 24 26.9	
	comp=E,29nm,1.1s						
YHL	Hebgen Lake	4.52	288	IAML		21 24 37.6	
	comp=N,24nm,1.4s						
YHL				IAML		21 24 53.1	
	comp=E,16nm,0.8s						
ID09	Alton	4.66	255	IAML		21 24 44.0	
	comp=E,20nm,1.1s						
ID09				IAML		21 25 34.0	
	comp=E,13nm,4.4s						
DGMT	Dagmar	4.89	7	IAML		21 24 54.1	
	comp=E,49nm,1.0s						
DGMT				IAML		21 24 56.7	
	comp=E,66nm,0.9s						
BOZ	Bozeman (W)	5.04	295	IAML		21 25 11.4	
	comp=E,10nm,3.4s						
HWUT	Hardware Ranch	5.16	249	IAML		21 25 17.9	
	comp=E,15nm,1.3s						
BSUT	Blindstream Ca	5.20	236	IAML		21 25 14.2	
	comp=N,10nm,1.3s						
BSUT				IAML		21 25 25.3	
	comp=E,12nm,4.5s						
I10CA	LAC DU BONNET	9.05	40	I	I	22 12 05.0	
	comp=E,0.2nm,1.3s,baz=222,slow=320,SNR=23						
ULM	Lac du Bonnet	9.16	40	Pn	Pn	21 24 14.7	-1.4
	comp=E,0.4nm,0.3s,baz=231,slow=12,SNR=1.4						
ULM				Lg	Lg	21 26 53.0	
	comp=E,0.2nm,0.3s,baz=111,slow=21,SNR=1.8						
	comp=E,1.0nm,0.3s						

*IDC **05** 21:22:24.6±1.3, 10°.03S×152°.60E, h0km, mb4.0/8, mbtmp4.0/10, ML1.4/1, MS3.4/22, Error ellipse: s-maj=35.7km s-min=21.0km az=116.0*

ISC 05 21:22:29.3±1.0, 10°.19S±0°.09×152°.7E±0°.1, h35km, n30, σ1§17/13, mb4.0/7, MS3.4/19, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.48	278	Pn	Pn	21 23 46.9	-1.5
	0.7nm,0.3s,baz=212,slow=6.1,SNR=3.2						
PMG				Sn	Sn	21 24 52.2	+2.0
	1.9nm,0.3s,baz=215,slow=16,SNR=1.8						
PMG				LR	LR	21 25 56.9	
	comp=Z,261nm,20.2s,baz=84,slow=39						
	7.6nm,0.7s						
KRVT	Keravat (AS076	5.88	354	Sn	Sn	21 25 00.5	+0.4
	6.1nm,0.3s,baz=102,slow=23,SNR=1.9						
CTA	Charters Tower	11.62	211	Pn	Pn	21 25 11.4	-1.3
	1.0nm,0.3s,baz=24,slow=12,SNR=1.8						
CTA				LR	LR	21 29 17.0	
	comp=Z,269nm,19.7s,baz=54,slow=35						
DZM	Mont Dzumac	17.73	133	LR	LR	21 32 30.5	
	comp=Z,170nm,19.5s,baz=257,slow=34						
WRA	Warramunga Arr	20.15	239	P	P	21 27 01.0	+0.3
	7.4nm,0.9s,baz=63,slow=10,SNR=32						
	7.4nm,0.9s						
ASAR	Alice Springs	22.36	231	P	P	21 27 25.1	+0.6
	3.5nm,0.8s,baz=64,slow=8.9,SNR=25						
ASAR				LR	LR	21 35 56.3	
	comp=Z,136nm,18.4s,baz=72,slow=36						
	3.5nm,0.8s						
STKA	Stephens Creek	23.89	204	P	P	21 27 41.6	+1.8
	5.2nm,0.9s,baz=13,slow=10,SNR=6.2						
	5.2nm,0.9s						
GUMO	Guam	24.86	342	LR	LR	21 35 30.5	
	comp=Z,23nm,20.6s,baz=162,slow=32						
KAPI	Kappang	33.01	276	LR	LR	21 45 25.1	
	comp=Z,26nm,18.4s,baz=131,slow=42						
URZ	Urewera	35.53	146	LR	LR	21 42 54.5	
	comp=Z,104nm,18.4s,baz=30,slow=34						
RPZ	Rata Peaks	37.03	158	LR	LR	21 42 46.6	
	comp=Z,127nm,21.3s,baz=318,slow=33						
NWAO	Narrogin (SRO)	39.67	230	LR	LR	21 46 18.1	
	comp=Z,117nm,18.0s,baz=158,slow=36						
JOW	Kunigami	43.76	328	LR	LR	21 46 35.2	
	comp=Z,21nm,19.7s,baz=272,slow=33						
MJAR	Matsushiro Arr	48.43	344	LR	LR	21 48 30.6	
	comp=Z,17nm,20.5s,baz=162,slow=32						
KSRS	Korea Array	52.76	335	LR	LR	21 52 21.1	
	comp=Z,7.9nm,20.5s,baz=150,slow=34						
CMAR	Chiang Mai Arr	60.15	298	P	P	21 32 33.9	-0.1
	0.5nm,0.3s,baz=124,slow=4.7,SNR=7.9						
	0.5nm,0.3s						
KLR	Kul'dur	61.96	345	LR	LR	21 58 14.2	
	comp=Z,9.6nm,18.8s,baz=141,slow=35						
PETK	Petropavlovsk-	63.19	3	LR	LR	21 56 27.8	
	comp=Z,22nm,19.4s,baz=152,slow=32						
MA2	Magadan	69.55	359	LR	LR	22 04 23.1	
	comp=Z,11nm,18.8s,baz=174,slow=36						
SONM	Songino Array	70.81	329	P	P	21 33 41.5	-0.9
	1.5nm,1.0s,baz=143,slow=5.7,SNR=6.5						
SONM				LR	LR	22 04 10.8	
	comp=Z,16nm,20.6s,baz=87,slow=36						
	1.5nm,1.0s						
QSPA	South Pole Qui	79.81	180	LR	LR	22 08 09.2	
	comp=Z,22nm,19.5s,baz=336,slow=34						
MAW	Mawson	80.58	203	LR	LR	22 07 03.3	
	comp=Z,37nm,21.1s,baz=125,slow=33						
MKAR	Makanchi Array	84.29	319	P	P	21 34 57.7	+0.2
	1.2nm,1.0s,baz=111,slow=6.6,SNR=5.4						
	1.2nm,1.0s						
ZALV	Zalesovo Beam	85.54	327	P	P	21 35 03.4	-0.2
	1.6nm,0.8s,baz=106,slow=5.3,SNR=6.6						
	1.6nm,0.8s						
ILAR	Eielson Array	87.18	22	P	P	21 35 12.4	+1.0
	1.4nm,1.1s,baz=261,slow=5.2,SNR=5.6						
	1.4nm,1.1s						
YBH	Yreka Blue Hor	92.73	48	LR	LR	22 13 57.0	
	comp=Z,30nm,18.3s,baz=224,slow=33						
INK	Inuvik	93.50	21	LR	LR	22 14 50.7	
	comp=Z,22nm,21.5s,baz=154,slow=34						
SNAA	Sanae	96.70	188	LR	LR	22 17 56.1	
	comp=Z,42nm,20.6s,baz=192,slow=34						
NEW	Newport	97.66	42	LR	LR	22 15 44.3	
	comp=Z,37nm,18.2s,baz=235,slow=33						
TORD	Torodi Ar. Bea	151.42	279	PKPbc	PKiKP	21 42 21.2	+0.2
	0.9nm,1.0s,baz=104,slow=2.3,SNR=3.0						

*IDC **05** 21:23:15.6±2.6, 49°.51S×164°.32E, h0km, mb3.7/2, mbtmp3.9/3, ML3.4/1, MS3.4/2, Error ellipse: s-maj=72.6km s-min=40.7km az=177.0*

ISC 05 21:23:20.9±1.0, 49°.6S±0°.1×164°.32E±0°.09, h40km, n41, σ1§11/36, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	The Paps	3.68	43	P	Pn	21 24 15.0	-0.3
APZ				S	Sn	21 24 55.7	-1.7
PYZ	Puysegur Point	3.76	26	P	Pn	21 24 16.6	+0.2
PYZ	Puysegur Point	3.76	26	P	Pn	21 24 16.5	+0.2
WHZ	Wether Hill Ro	4.42	35	P	Pn	21 24 24.8	-0.6
WHZ				S	Sn	21 25 12.5	-3.1
SYZ	Scrubby Hill	4.43	49	P	Pn	21 24 25.9	+0.3
SYZ	Scrubby Hill	4.43	49	P	Pn	21 24 25.8	+0.2
DCZ	Deep Cove	4.54	26	P	Pn	21 24 25.9	-1.1
MLZ	Mavora Lakes	4.93	33	P	Pn	21 24 32.8	+0.4
MLZ				S	Sn	21 25 28.4	+0.1
TUZ	Tuapeka	5.09	47	P	Pn	21 24 34.7	+0.1
TUZ				S	Sn	21 25 32.4	+0.3
MSZ	Milford Sound	5.48	28	P	Pn	21 24 41.4	+1.5
EAZ	Earnscleugh	5.51	40	P	Pn	21 24 39.7	-0.6
HHSZ	Highcliff Hill	5.62	51	P	Pn	21 24 42.7	+0.8
WKZ	Wanaka	5.72	36	P	Pn	21 24 44.4	+1.0
WKZ				S	Sn	21 25 49.1	+1.3
MCQ	Macquarie Isla	5.94	212	P	Pn	21 24 45.6	-0.6
ODZ	Otahua Downs	6.24	46	P	Pn	21 24 49.7	-0.7
ODZ	Otahua Downs	6.24	46	P	Pn	21 24 49.5	-1.0
JCZ	Jackson Bay	6.29	31	P	Pn	21 24 52.6	+1.3
JCZ	Jackson Bay	6.29	31	P	Pn	21 24 52.6	+1.3
LBZ	Lake Benmore	6.56	40	P	Pn	21 24 53.0	-1.7
FOZ	Fox Glacier	7.13	34	P	Pn	21 25 02.9	+0.3
RPZ	Rata Peaks	7.47	41	P	Pn	21 25 09.3	+2.1
RPZ	Rata Peaks	7.47	41	P	Pn	21 25 07.7	+0.5
RPZ	Rata Peaks	7.47	41	Pn	Pn	21 25 05.4	-1.8
	0.6nm,0.3s,baz=198,slow=13,SNR=1.3						
RPZ				Sn	Sn	21 26 20.7	-10
	1.4nm,0.3s,baz=274,slow=13,SNR=3.9						
RPZ				LR	LR	21 28 05.9	
	comp=Z,256nm,18.5s,baz=259,slow=39						
	4.9nm,0.3s						
GCSZ	Gaunt Creek Bo	7.50	36	P	Pn	21 25 07.9	+0.2
QRZ	Quartz Range	10.48	37	P	Pn	21 25 49.1	+0.6
GLAD	Gladstone	14.32	301	P	Pn	21 26 40.5	-0.3
	25nm,0.9s						
CTZ	Chatham Island	14.32	73	P	Pn	21 26 42.1	+1.3
URZ	Urewera	14.56	44	LR	LR	21 32 57.1	
	comp=Z,162nm,20.9s,baz=34,slow=40						
ASAR	Alice Springs	35.14	306	P	P	21 30 10.9	+0.2
	1.0nm,0.6s,baz=139,slow=7.8,SNR=17						
	1.0nm,0.6s						
WRA	Warramunga Arr	38.02	310	P	P	21 30 34.5	-0.6
	0.6nm,0.6s,baz=138,slow=7.9,SNR=13						
	0.6nm,0.6s						
H01W1	Cape Leeuwin H	39.19	273	T	T	22 12 03.9	
	baz=128,slow=76						
H01W2	Cape Leeuwin H	39.20	273	T	T	22 12 07.1	
	baz=128,slow=76						
H01W3	Cape Leeuwin H	39.21	273	T	T	22 12 05.9	
	baz=128,slow=76						
H04S2	CROZET ISLANDS	67.57	223	T	T	22 48 44.3	
	baz=139,slow=75,SNR=6.8						
H04S1	CROZET ISLANDS	67.57	223	T	T	22 48 43.7	
	baz=139,slow=75,SNR=6.9						
H04S3	CROZET ISLANDS	67.58	223	T	T	22 48 43.5	
	baz=139,slow=75,SNR=6.9						
H08S2	Diego Garcia H	85.43	264	T	T	23 09 41.8	
	baz=140,slow=76,SNR=244						
H08S1	Diego Garcia H	85.44	264	T	T	23 09 44.3	
	baz=140,slow=76,SNR=230						
H08S3	Diego Garcia H	85.45	264	T	T	23 09 44.8	
	baz=140,slow=76,SNR=415						
ARCES	ARCESS Array B	151.99	330	PKPbc	PKPbc	21 43 10.5	+0.3
	9.3nm,1.3s,baz=52,slow=5.0,SNR=4.9						
FINES	FINESS Array B	154.03	313	PKPbc	PKiKP	21 43 16.1	+1.2
	3.3nm,1.1s,baz=70,slow=6.1,SNR=4.0						

IDC 05 21:32:39.6±4.7, 9°.03S×152°.99E, h0km, mb3.6/4, mbtmp3.7/4, MS3.1/3, Error ellipse: s-maj=95.7km s-min=42.8km az=90.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	18.32	137	LR	LR	21 42 24.3	
	comp=Z,48nm,19.3s,baz=231,slow=32						
WRA	Warramunga Arr	21.04	237	P	P	21 37 25.0	-0.3
	2.9nm,0.8s,baz=61,slow=11,SNR=18						
	2.9nm,0.8s						
ASAR	Alice Springs	23.34	229	P	P	21 37 49.1	-0.7
	1.6nm,0.8s,baz=63,slow=9.5,SNR=14						
ASAR				LR	LR	21 46 01.4	
	comp=Z,82nm,18.4s,baz=80,slow=34						
	1.6nm,0.8s						
STKA	Stephens Creek	25.07	203	P	P	21 38 06.7	+0.7
	2.1nm,0.8s,baz=8.7,slow=13,SNR=2.9						
	2.1nm,0.8s						
MJAR	Matsushiro Arr	47.41	344	LR	LR	22 00 20.7	
	comp=Z,16nm,19.8s,baz=164,slow=35						
CMAR	Chiang Mai Arr	59.90	297	P	P	21 42 48.1	+0.3
	0.2nm,0.3s,baz=92,slow=5.5,SNR=1.8						
	0.2nm,0.3s						

*KRNET **05** 21:40:24.1±0.1, 40°.41N×77°.06E, mb3.0*
*SOME **05** 21:40:25.4, 40°.50N×77°.07E, h5km*

*NNC **05** 21:40:26.2±1.1, 40°.49N×77°.05E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.7km s-min=5.2km az=166.0*

ISC 05 21:40:25.9±1.9, 40°.45N±0°.08×76°.99E±0°.04, h4km±15km, n65, σ1§45/73, 22C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.23	323	⇑*i*P	Pn	21 40 48.8	-1.5
NRN				⇑*i*S	Sn	21 41 06.9	-0.6
TARG	Taragay, Kyrgy	1.42	26	⇓*i*P	Pn	21 40 51.2	-1.7
TARG				⇓*i*S	Sn	21 41 11.1	-1.2
ULHL	Ulahol	1.88	343	P	Pb	21 41 00.3	-0.6
BOOM	Boomskoye usch	2.18	339	⇑*e*P	Pb	21 41 04.5	-1.6
BOOM				⇑*i*S	Sb	21 41 34.0	+0.5
PRZ	Przheval'sk	2.29	27	⇑*e*P	Pn	21 41 05.6	+0.9
PRZ				⇑*i*S	Sb	21 41 36.0	-0.7
ANVS	Anan'yevo	2.38	12	⇓*e*P	Pn	21 41 07.0	+1.0
ANVS				⇓*i*S	Sb	21 41 38.2	-1.2
ARLS	Aral	2.45	306	⇑*e*P	Pn	21 41 08.3	+1.4
ARLS				⇑*i*S	Sb	21 41 40.5	-0.9
UCH	Uchtor	2.57	314	P	Pb	21 41 11.1	-1.8
TNSS	Tian-Shan	2.58	359	Pg	Pb	21 41 13.5	+0.5
TNSS				Lg	Lg	21 41 48.2	
TNSS	Tian-Shan	2.58	359	*e*Pg	Pb	21 41 13.5	+0.5
TNSS				*e*Lg	Lg	21 41 48.2	
IZV	Izvestkoviy	2.60	354	Pg	Pb	21 41 14.2	+1.1
IZV				Lg	Lg	21 41 49.2	
IZV	Izvestkoviy	2.60	354	*e*Pg	Pb	21 41 14.2	+1.1
IZV				*e*Lg	Lg	21 41 49.2	
TKM2	Tokmak 2	2.68	338	P	Pb	21 41 12.6	-2.0
TKM2	Tokmak 2	2.68	338	⇓Pg	Pb	21 41 12.4	-2.1
TKM2				⇑Lg	Lg	21 41 52.1	
KBK	Karagaybulak	2.68	326	P	Pb	21 41 15.7	+1.1
KST	Kastek	2.70	344	Pg	Pb	21 41 15.3	+0.5
KST				Lg	Lg	21 41 51.2	
KST	Kastek	2.70	344	*e*Pg	Pb	21 41 15.3	+0.5
KST				*e*Lg	Lg	21 41 51.2	
SFK	Sufi-Kurgan	2.70	262	⇑*i*P	Pn	21 41 11.7	+1.3
SFK				⇑*i*S	Sb	21 41 46.4	-2.2
MTBS	Maitube	2.71	351	Pg	Pb	21 41 15.5	+0.6
MTBS				Lg	Lg	21 41 51.7	
MTBS	Maitube	2.71	351	*e*Pg	Pb	21 41 15.5	+0.6
MTBS				*e*Lg	Lg	21 41 51.7	
KNDC	Almaty	2.76	360	⇑Pg	Pb	21 41 16.5	+0.6
KNDC				⇑Lg	Lg	21 41 54.7	
KOTS	Kotyrbulak	2.78	2	Pg	Pb	21 41 17.0	+0.7
KOTS				Lg	Lg	21 41 53.9	
KOTS	Kotyrbulak	2.78	2	*e*Pg	Pb	21 41 17.0	+0.7
KOTS				*e*Lg	Lg	21 41 53.9	
SATY	Saty	2.81	22	Pg	Pb	21 41 17.3	+0.5
SATY				Lg	Lg	21 41 54.3	
SATY	Saty	2.81	22	*e*Pg	Pb	21 41 17.3	+0.5
SATY				*e*Lg	Lg	21 41 54.3	
AAK	Ala-Archa	2.87	320	P	Pb	21 41 18.7	+0.9
ZHN	Zhinishke	2.92	21	Pg	Pb	21 41 19.1	+0.5
ZHN				Lg	Lg	21 41 57.4	
ZHN	Zhinishke	2.92	21	*e*Pg	Pb	21 41 19.1	+0.5
ZHN				*e*Lg	Lg	21 41 57.4	
DGS	Degeres	2.93	342	Pg	Pb	21 41 20.4	+1.6
DGS				Lg	Lg	21 42 00.0	
DGS	Degeres	2.93	342	*e*Pg	Pb	21 41 20.4	+1.6
DGS				*e*Lg	Lg	21 42 00.0	
FRU1	Bishkek	2.94	324	⇑*e*P	Pn	21 41 15.7	+2.1
FRU1				⇑*e*S	Sb	21 41 53.3	-2.1
AML	Almayashu	2.99	305	P	Pn	21 41 17.1	+2.6
AML	Almayashu	2.99	305	⇑Pn	Pn	21 41 16.6	+2.0
AML				⇑Lg	Lg	21 42 02.4	
CHMS	Chumysh	3.04	327	P	Pb	21 41 17.6	-3.0
CHMS	Chumysh	3.04	327	⇑Pg	Pn	21 41 17.5	+2.6
CHMS				⇑Lg	Lg	21 42 03.2	
UZB	Uzynbulak	3.09	29	Pg	Pb	21 41 21.6	0.0
UZB				Lg	Lg	21 42 01.8	
UZB	Uzynbulak	3.09	29	*e*Pg	Pb	21 41 21.6	0.0
UZB				*e*Lg	Lg	21 42 01.8	
KURS	Kuram	3.16	16	Pg	Pb	21 41 23.4	+0.7
KURS				Lg	Lg	21 42 05.2	
KURS	Kuram	3.16	16	*e*Pg	Pb	21 41 23.4	+0.7
KURS				*e*Lg	Lg	21 42 05.2	
KTBS	Karatobe	3.26	356	Pg	Pb	21 41 25.5	+1.1
KTBS				Lg	Lg	21 42 09.0	
KTBS	Karatobe	3.26	356	*e*Pg	Pb	21 41 25.6	+1.1
KTBS				*e*Lg	Lg	21 42 09.0	
KPKS	Kokpek	3.27	22	Pg	Pb	21 41 25.4	+0.9
KPKS				Lg	Lg	21 42 08.2	
KPKS	Kokpek	3.27	22	*e*Pg	Pb	21 41 25.3	+0.7
KPKS				*e*Lg	Lg	21 42 07.8	
SHLS	Shalkode	3.27	34	Pg	Pg	21 41 28.6	-0.1

SHLS				Lg	Lg	21 42 14.0	
	33nm,0.9s						
SHLS	**Shalkode**	**3.27**	**34**	*e*Pg	**Pg**	**21 41 28.6**	**-0.1**
	7.2nm,0.5s						
SHLS				*e*Lg	Lg	21 42 13.9	
	33nm,0.9s						
USP	**Ospenovka**	**3.37**	**327**	P	**Pb**	**21 41 27.0**	**+0.8**
	SNR=5.9						
KRBS	**Karabastau**	**3.38**	**344**	Pg	**Pb**	**21 41 27.8**	**+1.3**
	3.5nm,0.4s						
KRBS				Lg	Lg	21 42 12.6	
	20nm,0.4s						
KRBS	**Karabastau**	**3.38**	**344**	*e*Pg	**Pb**	**21 41 27.8**	**+1.3**
	3.5nm,0.4s						
KRBS				*e*Lg	Lg	21 42 12.6	
	20nm,0.4s						
PDGK	**Podgornoye**	**3.43**	**32**	Pg	**Pb**	**21 41 27.5**	**+0.2**
	3.5nm,0.4s						
PDGK				Lg	Lg	21 42 11.9	
	15nm,1.0s						
PDGK	**Podgornoye**	**3.43**	**32**	⇑Pg	**Pb**	**21 41 27.1**	**-0.2**
	4.5nm,0.5s						
PDGK				⇑Lg	Lg	21 42 13.6	
	39nm,0.8s						
KUU	**Kurty**	**3.47**	**352**	Pg	**Pb**	**21 41 29.4**	**+1.4**
	2.5nm,0.5s						
KUU				Lg	Lg	21 42 15.0	
	26nm,0.5s						
KUU	**Kurty**	**3.47**	**352**	*e*Pg	**Pb**	**21 41 29.4**	**+1.4**
	2.5nm,0.5s						
KUU				*e*Lg	Lg	21 42 15.0	
	26nm,0.5s						
SGDS	**Sogindy**	**3.47**	**330**	Pg	**Pb**	**21 41 29.7**	**+1.7**
	4.4nm,0.4s						
SGDS				Lg	Lg	21 42 15.4	
	19nm,0.5s						
MRKS	**Merke**	**3.63**	**310**	Pg	**Pb**	**21 41 32.9**	**+2.2**
	2.1nm,0.3s						
MRKS				Lg	Lg	21 42 21.2	
	12nm,0.7s						
MRKS	**Merke**	**3.63**	**310**	*e*Pg	**Pb**	**21 41 32.9**	**+2.2**
	2.4nm,0.3s						
MRKS				*e*Lg	Lg	21 42 21.2	
	10.0nm,0.4s						
BLB	**Baldybastay**	**3.81**	**16**	Pg	**Pb**	**21 41 34.6**	**+0.9**
	2.8nm,0.1s						
BLB				Lg	Lg	21 42 24.5	
	23nm,0.6s						
ARXS	**Arharly**	**3.81**	**9**	Pg	**Pb**	**21 41 34.9**	**+1.1**
	4.9nm,0.6s						
ARXS				Lg	Lg	21 42 24.7	
	17nm,0.4s						
ARXS	**Arharly**	**3.81**	**9**	*e*Pg	**Pb**	**21 41 34.9**	**+1.1**
	4.9nm,0.6s						
ARXS				*e*Lg	Lg	21 42 24.7	
	17nm,0.4s						
KTMS	**Ketmen**	**3.91**	**39**	Pg	**Pb**	**21 41 35.3**	**-0.1**
	2.1nm,0.4s						
KTMS				Lg	Lg	21 42 25.7	
	10.0nm,0.6s						
KTMS	**Ketmen**	**3.91**	**39**	*e*Pg	**Pb**	**21 41 36.7**	**+1.3**
	1.6nm,0.1s						
KTMS				*e*Lg	Lg	21 42 27.7	
	10.0nm,0.3s						
DJR	**Jarkent**	**4.40**	**27**	Pg	**Pb**	**21 41 45.3**	**+1.6**
	1.7nm,0.2s						
DJR				Lg	Lg	21 42 42.5	
	10.0nm,0.5s						
DJR	**Jarkent**	**4.40**	**27**	*e*Pg	**Pb**	**21 41 45.3**	**+1.6**
	1.7nm,0.2s						
DJR				*e*Lg	Lg	21 42 42.5	
	10.0nm,0.5s						
BTLS	**Baital**	**5.07**	**336**	Pg	**Pb**	**21 41 58.1**	**+3.0**
	0.8nm,0.2s						
BTLS				Lg	Lg	21 43 04.8	
	11nm,1.2s						
BTLS	**Baital**	**5.07**	**336**	*e*Pg	**Pb**	**21 41 58.9**	**+3.7**
	0.9nm,0.2s						
BTLS				*e*Lg	Lg	21 43 05.5	
	11nm,1.2s						
KK31	**Karatay Array**	**5.52**	**301**	⇓Pg	**Pg**	**21 42 09.7**	**-1.9**
	0.3nm,0.3s,baz=120,slow=17,SNR=4.9						
KK31				⇑Lg	Lg	21 43 23.5	
	0.8nm,0.5s,baz=125,slow=27,SNR=3.9						

*TRN **05** 21:56:31.9, 18°.75N×64°.25W, h44km, M4.6*
*RSPR **05** 21:56:33.9±4.9, 19°.6N±0°.3×64°.6W±0°.2, h19km±10km,*
Error ellipse: s-maj=47.6km s-min=12.9km az=143.0
*NEIC **05** 21:56:34.5±1.5, 18°.6N±0°.1×64°.36W±0°.04, h35km±2km,*
ML3.8/18, Md3.4/3(RSPR), Error ellipse: s-maj=20.4km
s-min=5.2km az=352.0

ISC 05 21:56:33.4±2.1, 18°.7N±0°.2×64°.30W±0°.07, h53km, n20,
σ1s22/26, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**1.86**	**251**	Pn	**Pn**	**21 57 02.0**	**-0.9**
SJG	**San Juan**	**1.86**	**251**	*e*P	**Pn**	**21 57 02.8**	**-0.1**
PRSN	**Puerto Rico Se**	**2.75**	**260**		**Pn**	**21 57 14.7**	**-0.3**
PRSN					**Sn**	**21 57 46.1**	**-0.9**
MBFL	**Flemmings, Mon**	**2.81**	**134**	*e*P	**Pn**	**21 57 16.4**	**+0.6**
MBFL				*e*S	**Sn**	**21 57 48.0**	**-0.5**
MLYT	**Lee's Yard**	**2.84**	**135**	*e*P	**Pn**	**21 57 17.4**	**+1.0**
MLYT				*e*S	**Sn**	**21 57 49.4**	**0.0**
ANDO	**Antigua, Disas**	**2.85**	**124**	*e*P	**Pn**	**21 57 15.4**	**-1.1**
ANDO				*e*S	**Sn**	**21 57 49.1**	**-0.6**
ANBD	**Bethesda, Anti**	**2.94**	**124**	*e*P	**Pn**	**21 57 16.8**	**-0.9**
ANBD				*e*S	**Sn**	**21 57 50.5**	**-1.3**
ABD	**La Joyeuse, An**	**3.50**	**130**	Pn	**Pn**	**21 57 25.7**	**+0.3**
ABD				IAML		21 58 10.2	
	comp=E,183nm,0.6s						
ABD				IAML		21 58 26.3	
	comp=N,176nm,0.8s						
CBE	**Ff, Capester**	**3.70**	**135**	Pn	**Pn**	**21 57 29.5**	**+1.4**
GDSD	**La Dsirade Is**	**3.92**	**127**	Pn	**Pn**	**21 57 31.6**	**+0.6**
MAGL	**Barre de l'ile**	**4.00**	**133**	Pn	**Pn**	**21 57 33.2**	**+1.0**
MAGL				IAML		21 59 05.4	
	comp=E,167nm,3.2s						
MAGL				IAML		21 59 38.7	
	comp=N,122nm,1.9s						
MAGL	**Barre de l'ile**	**4.00**	**133**	*e*P	**Pn**	**21 57 32.9**	**+0.6**
MAGL				*e*S	**Sn**	**21 58 15.9**	**-2.0**
SVN	**Savane Anatole**	**4.90**	**142**	Pn	**Pn**	**21 57 44.4**	**-0.2**
FDF	**Fort de France**	**5.00**	**142**	Pn	**Pn**	**21 57 45.7**	**-0.2**
FDF				IAML		21 58 36.7	
	comp=E,65nm,1.5s						
FDF				IAML		21 59 15.1	
	comp=N,76nm,2.6s						
BIM	**Bigot**	**5.22**	**143**	*e*P	**Pn**	**21 57 48.7**	**-0.2**
BIM	**Bigot**	**5.22**	**143**	*e*S	**Sn**	**21 58 45.3**	**-2.6**
MPOM	**Morne Pois Mar**	**5.40**	**142**	Pn	**Pn**	**21 57 52.5**	**+1.1**
MPOM				IAML		21 59 07.8	
	comp=N,39nm,1.4s						
MPOM				IAML		21 59 23.8	
	comp=E,31nm,1.2s						
SDDR	**Presa de Saban**	**6.62**	**273**	Pn	**Pn**	**21 58 10.1**	**+1.9**
SDDR	**Presa de Saban**	**6.62**	**273**	*e*P	**Pn**	**21 58 10.5**	**+2.3**
GRGR	**Grenville**	**7.04**	**158**	Pn	**Pn**	**21 58 15.5**	**+1.5**

IDC 05 21:58:02.1±2.9, 6°.18S×146°.96E, h0km, mb3.1/1,
mbtmp3.4/3, ML2.6/2, MS3.1/2, Error ellipse:
s-maj=70.4km s-min=32.7km az=85.0, Eastern New
Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.21**	**177**	Pn	Pn	21 58 53.2	-0.7
	14nm,0.3s,baz=344,slow=6.2,SNR=15						
PMG				Sn	Sn	21 59 34.4	+1.4
	7.0nm,0.3s,baz=206,slow=23,SNR=1.6						
	28nm,0.3s						
SIJI	**Sorong**	**16.53**	**288**	LR	LR	22 09 45.4	
	comp=Z,35nm,18.4s,baz=96,slow=43						
WRA	**Warramunga Arr**	**18.38**	**221**	P	Pn	22 02 17.8	-0.8
	baz=43,slow=12,SNR=3.6						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**21.45**	**215**	P	P	22 02 52.5	+0.2
	0.5nm,0.6s,baz=49,slow=9.2,SNR=8.6						
	0.5nm,0.6s						
BATI	**Baumata**	**23.40**	**259**	LR	LR	22 14 53.1	
	comp=Z,72nm,18.0s,baz=192,slow=43						
TORD	**Torodi Ar. Bea**	**145.10**	**284**	PKPbc	PKPbc	22 17 41.6	-0.5
	2.0nm,0.8s,baz=64,slow=5.0,SNR=11						

*IDC **05** 22:33:21.5±1.8, 21°.81N×144°.46E, h48km±15km, mb4.2/28,*
mbtmp4.5/33, ML3.8/5, MS3.5/57, Error ellipse:
s-maj=17.8km s-min=11.2km az=78.0
*NEIC **05** 22:33:21.3±1.9, 21°.82N±0°.06×144°.6E±0°.1, h47km±6km,*
mb4.7/119, Error ellipse: s-maj=13.8km s-min=9.1km
az=76.0
*BJI **05** 22:33:24.2±0.0, 21°.71N×144°.71E, h102km, mb4.6/47,*
mB4.9/24

ISC 05 22:33:23.3±0.3, 21°.85N±0°.05×144°.53E±0°.06, h69km, n243,
σ1s56/216, mb4.6/94, 3C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.64**	**338**	Pn	**Pn**	**22 34 43.8**	**-0.8**
JCJ				Sn	**Sn**	**22 35 46.6**	**-1.4**
JCJ	**Chichijima**	**5.64**	**338**	P	**Pn**	**22 34 42.3**	**-2.3**
	20nm,0.3s,baz=105,slow=20,SNR=13						
JCJ				S	**Sn**	**22 35 44.0**	**-4.1**
	250nm,0.6s,baz=286,slow=23,SNR=12						
	57nm,0.3s						
GUMO	**Guam**	**8.22**	**178**	Pn	**Pn**	**22 35 16.5**	**-3.3**
GUMO	**Guam**	**8.22**	**178**	P	Pn	22 35 25.4	+5.5
GUMO	**Guam**	**8.22**	**178**	P	**Pn**	**22 35 17.2**	**-2.7**
	1.2nm,0.3s,baz=176,slow=20,SNR=1.5						
GUMO				LR	LR	22 37 56.1	
	comp=Z,140nm,20.4s,baz=46,slow=34						
	10nm,0.3s						
JMZ	**Minamidaito 2**	**12.80**	**291**	Pn	**Pn**	**22 36 19.1**	**-3.4**
JMZ	**Minamidaito 2**	**12.80**	**291**	P	**P**	**22 36 29.7**	**-1.2**
INU	**Inuyama**	**14.97**	**336**	Pn	**Pn**	**22 36 49.5**	**-1.5**
JMN	**Monobe**	**15.12**	**324**	P	**P**	**22 36 55.5**	**-1.1**
JWT	**Wachi**	**15.59**	**331**		**P**	**22 37 00.8**	**-0.9**
JOW	**Kunigami**	**15.62**	**292**	Pn	**Pn**	**22 36 55.1**	**-4.2**
JOW				IAmb	IAmb	22 37 28.7	
	comp=Z,40nm,1.1s						
JOW	**Kunigami**	**15.62**	**292**	P	**Pn**	**22 36 58.5**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=107,slow=14,SNR=1.6						
JOW				LR	LR	22 42 03.5	
	comp=Z,395nm,20.8s,baz=102,slow=34						
	comp=Z,12nm,0.9s						
MJAR	**Matsushiro Arr**	**15.64**	**341**	P	**Pn**	**22 36 59.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=172,slow=9.8,SNR=8.8						
MJAR				LR	LR	22 42 52.3	
	comp=Z,131nm,21.7s,baz=127,slow=36						
	comp=Z,3.9nm,0.7s						
MAJO	**Matsushiro**	**15.64**	**341**	Pn	**Pn**	**22 36 57.9**	**-1.7**
MAJO	**Matsushiro**	**15.64**	**341**	P	**P**	**22 37 03.3**	**+0.9**
MJB9	**Matsu-Tunnel**	**15.65**	**341**	P	**Pn**	**22 37 00.7**	**+1.1**
JMM	**Marumori**	**16.29**	**349**	P	**P**	**22 37 08.7**	**-0.8**
JMM	**Marumori**	**16.29**	**349**	P	**P**	**22 37 12.2**	**+2.7**
JNU	**Nakatsue**	**16.50**	**316**	P	**Pn**	**22 37 10.8**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=71,slow=18,SNR=1.4						
JNU				LR	LR	22 43 36.1	
	comp=Z,23nm,18.4s,baz=130,slow=37						
	comp=Z,15nm,1.2s						
JSD	**Sado**	**17.02**	**343**	Pn	**Pn**	**22 37 14.1**	**-2.6**
KSRS	**Korea Array**	**21.16**	**321**	P	**P**	**22 38 04.6**	**+1.8**
	comp=Z,9.0nm,0.8s,baz=154,slow=8.9,SNR=37						
KSRS				LR	LR	22 45 34.7	
	comp=Z,102nm,21.8s,baz=130,slow=35						
	comp=Z,9.0nm,0.8s						
KSAR	**Wonju Array Be**	**21.18**	**321**	P	**P**	**22 38 00.2**	**-2.7**
KS19	**Wonju Array Si**	**21.23**	**321**	P	**P**	**22 38 02.6**	**-0.9**
KS19				IAmb	IAmb	22 38 14.3	
	comp=Z,30nm,1.1s						
NACB	**Ninganchiao**	**21.23**	**281**	P	**P**	**22 37 58.4**	**-5.3**
NACB				IAmb	IAmb	22 38 32.3	
	comp=Z,28nm,1.1s						
YHNB	**Yeheng**	**21.45**	**282**	P	**P**	**22 38 07.6**	**+1.5**
YHNB				IAmb	IAmb	22 38 19.2	
	comp=Z,61nm,1.3s						
YULB	**Yu-li**	**21.50**	**279**	P	**P**	**22 38 08.4**	**+1.9**
YULB				IAmb	IAmb	22 38 45.6	
	comp=Z,54nm,1.5s						
SSLB	**Suanglung**	**21.81**	**280**	P	**P**	**22 38 12.4**	**+2.5**
SSLB				IAmb	IAmb	22 38 14.4	
	comp=Z,32nm,1.0s						
SSLB	**Suanglung**	**21.81**	**280**	P	**P**	**22 38 13.5**	**+3.6**
DAV	**Davao City (W)**	**23.46**	**234**	LR	LR	22 45 39.6	
	comp=Z,261nm,21.9s,baz=48,slow=32						
TGY	**Tagaytay City**	**23.70**	**255**	LR	LR	22 46 03.9	
	comp=Z,204nm,22.0s,baz=348,slow=32						
USA0B	**Ussuriysk Arra**	**24.59**	**338**	P	**P**	**22 38 39.5**	**+2.7**
USA0B				IAmb	IAmb	22 38 44.9	
	comp=Z,22nm,0.9s						
USRK	**Ussuriysk Ar.**	**24.59**	**338**	P	**P**	**22 38 39.1**	**+2.3**
	comp=Z,14nm,0.9s,baz=168,slow=9.1,SNR=24						
USRK				LR	LR	22 47 21.8	
	comp=Z,76nm,20.7s,baz=159,slow=34						
	comp=Z,14nm,0.9s						
NJ2	**Nanjing**	**24.98**	**299**	⇑P	**P**	**22 38 42.3**	**+1.7**
NJ2				pP	**sP**	**22 39 04.1**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,21nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,270nm,4.3s						
MDJ	**Mudanjiang**	**25.84**	**335**	P	**P**	**22 38 46.4**	**-1.7**
MDJ				pP	pwP	22 39 08.5	+0.7
MDJ				sP	sP	22 39 20.6	+9.4
MDJ				S	**S**	**22 43 09.1**	**-3.6**
MDJ				sS	sS	22 43 47.9	+8.6
MDJ				ScP	**ScP**	**22 45 43.9**	**-5.6**
MDJ				PcS	**PcS**	**22 45 54.3**	**-2.3**
MDJ				pmax	pmax		
	comp=Z,14nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.9s						
SIJI	**Sorong**	**26.03**	**212**	LR	LR	22 46 51.9	
	comp=Z,42nm,19.8s,baz=250,slow=31						
FAKI	**Fak Fak**	**27.39**	**207**	P	**P**	**22 39 02.6**	**+0.2**
FAKI				IAmb	IAmb	22 39 05.2	
	comp=Z,16nm,1.2s						
WHN	**Wuhan**	**28.36**	**294**	P	**P**	**22 39 15.5**	**+4.5**
KLR	**Kul'dur**	**29.15**	**343**	P	**P**	**22 39 18.9**	**+1.1**
	comp=Z,2.3nm,0.4s,baz=152,slow=7.6,SNR=12						
KLR				LR	LR	22 50 34.5	
	comp=Z,78nm,21.3s,baz=155,slow=35						
	comp=Z,2.3nm,0.4s						
BJT	**Baijiatuau**	**30.14**	**313**	P	**P**	**22 39 27.8**	**+1.2**
MYLDM	**Lahad Datu**	**30.16**	**240**	P	**P**	**22 39 28.7**	**+1.7**
TOLI2	**Tolitoli**	**30.98**	**231**	P	**P**	**22 39 34.0**	**-0.2**
TOLI2				IAmb	IAmb	22 39 38.2	
	comp=Z,13nm,1.0s						
TOLI2	**Tolitoli**	**30.98**	**231**	P	**P**	**22 39 37.2**	**+2.9**
HEH	**HeiHe**	**31.39**	**339**	*e*P	**P**	**22 39 39.0**	**+1.5**
HEH				pmax	pmax		
	comp=Z,20nm,1.0s						
KKM	**Kota Kinabalu**	**31.56**	**244**	P	**P**	**22 39 40.8**	**+1.3**
KKM				IAmb	IAmb	22 39 43.8	
	comp=Z,11nm,1.0s						
KKM	**Kota Kinabalu**	**31.56**	**244**	P	**P**	**22 39 42.6**	**+3.1**
QIZ	**Qiongzhong**	**32.58**	**271**	P	**P**	**22 39 47.8**	**-0.6**
QIZ				S	**S**	**22 44 57.4**	**-1.8**
QIZ				sS	sS	22 45 35.8	+10
QIZ				pmax	pmax		
	comp=Z,24nm,2.1s						
QIZ				LR	LR		
	comp=Z,130nm,19.3s						
QIZ				LR	LR		
	comp=Z,230nm,15.1s						
QIZ				LR	LR		
	comp=Z,170nm,20.2s						
PETK	**Petropavlovsk-**	**32.80**	**15**	LR	LR	22 51 17.4	
	comp=Z,83nm,20.2s,baz=195,slow=33						
XAN	**Xi'an**	**33.55**	**299**	⇓P	**P**	**22 39 57.0**	**+0.3**
XAN				pmax	pmax		
	comp=Z,11nm,1.3s						
XAN				LR	LR		
	comp=Z,200nm,13.7s						
XAN				LR	LR		
	comp=Z,200nm,19.2s						
HHC	**Hu-ho-hao-te**	**33.66**	**312**	*e*P	**P**	**22 40 00.9**	**+3.3**
HHC				pmax	pmax		
	comp=Z,29nm,0.7s						
HHC				pmax	pmax		
	comp=Z,190nm,4.6s						
HNR	**Honiara**	**34.57**	**152**	LR	LR	22 55 25.7	
	comp=Z,608nm,18.2s,baz=346,slow=38						
DLV	**T Lat**	**35.78**	**260**	P	**P**	**22 40 19.3**	**+3.0**
KAPI	**Kappang**	**36.08**	**225**	P	**P**	**22 40 19.4**	**+0.9**
KAPI	**Kappang**	**36.08**	**225**	LR	LR	22 55 20.1	
	comp=Z,39nm,18.3s,baz=52,slow=37						
SBUM	**Sibu**	**36.85**	**243**	P	**P**	**22 40 23.9**	**-1.3**
SOEI	**Soe**	**37.17**	**214**	P	**P**	**22 40 24.8**	**-3.2**
MMRI	**Maumere**	**37.36**	**218**	P	**P**	**22 40 27.1**	**-2.4**
BATI	**Baumata**	**37.87**	**215**	LR	LR	22 56 47.1	
	comp=Z,50nm,18.1s,baz=74,slow=37						
LZH	**Lanzhou**	**38.04**	**301**	*e*P	**P**	**22 40 36.1**	**+0.9**
LZH				pP	sP	22 40 58.0	-0.9
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
SHEM	**Shemya Is, Ala**	**38.27**	**29**	LR	LR	22 53 25.9	
	comp=Z,97nm,20.3s,baz=320,slow=31						
PZH	**PanZhiHua**	**39.18**	**286**	P	**P**	**22 40 46.7**	**+1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
ULN	**Ulaanbaatar**	**39.65**	**320**	P	**P**	**22 40 47.9**	**-0.6**
ULN				IAmb	IAmb	22 41 06.4	
	comp=Z,14nm,1.4s						
SONM	**Songino Array**	**40.03**	**320**	P	**P**	**22 40 50.4**	**-1.3**
SONM	**Songino Array**	**40.03**	**320**	P	**P**	**22 40 52.2**	**+0.6**
	comp=Z,4.5nm,0.9s,baz=126,slow=6.7,SNR=15						
SONM				LR	LR	22 57 05.2	
	comp=Z,67nm,21.6s,baz=100,slow=36						
	comp=Z,4.5nm,0.9s						
KNRA	**Kununurra**	**40.37**	**204**	P	**P**	**22 40 52.0**	**-2.5**
CTA	**Charters Tower**	**41.71**	**178**	LR	LR	22 55 59.3	
	comp=Z,43nm,21.7s,baz=262,slow=33						
CTAO	**Charters Tower**	**41.71**	**178**	P	**P**	**22 41 05.8**	**+0.3**
CTAO				IAmb	IAmb	22 41 15.6	
	comp=Z,20nm,1.4s						
GTA	**Gaotai**	**41.80**	**305**	*e*P	**P**	**22 41 07.4**	**+1.0**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JAGI	**Jajag, Banyuwa**	**42.38**	**228**	P	**P**	**22 41 09.7**	**-1.4**
QIS	**Mount Isa**	**42.42**	**187**	P	**P**	**22 41 12.1**	**+0.8**
WB0	**Warramunga Arr**	**42.53**	**194**	P	**P**	**22 41 11.2**	**-1.0**
WB0				IAmb	IAmb	22 41 14.1	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**42.68**	**194**	P	**P**	**22 41 13.5**	**0.0**
WR0				IAmb	IAmb	22 41 16.0	
	comp=Z,16nm,1.1s						
WRAB	**Tennant Creek**	**42.70**	**194**	P	**P**	**22 41 13.0**	**-0.6**
WRAB	**Tennant Creek**	**42.70**	**194**	P	**P**	**22 41 13.9**	**+0.3**
WB2	**Warramunga Arr**	**42.71**	**194**	P	**P**	**22 41 13.2**	**-0.4**
WRA	**Warramunga Arr**	**42.71**	**194**	P	**P**	**22 41 12.9**	**-0.8**
WRA	**Warramunga Arr**	**42.71**	**194**	P	**P**	**22 41 12.7**	**-1.0**
	comp=Z,11nm,0.6s,baz=14,slow=9.1,SNR=85						
WRA				ScP	**ScP**	**22 46 49.7**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=20,slow=4.6,SNR=4.0						
	comp=Z,11nm,0.6s						
CHTO	**Chiang Mai**	**42.74**	**274**	P	**P**	**22 41 13.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**42.81**	**274**	P	**P**	**22 41 15.3**	**+0.6**
	comp=Z,3.0nm,1.0s,baz=55,slow=8.2,SNR=15						
CMAR				ScP	**ScP**	**22 46 51.1**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=62,slow=4.2,SNR=5.1						
CMAR				LR	LR	22 57 34.7	
	comp=Z,74nm,21.7s,baz=125,slow=34						
	comp=Z,3.0nm,1.0s						
SURA	**Surathani**	**44.90**	**261**	P	**P**	**22 41 34.7**	**+3.3**
	comp=Z,13nm,1.0s						
SRIT	**Nakonsritamara**	**45.14**	**260**	P	**P**	**22 41 37.4**	**+4.1**
GOMU	**GeErMu**	**45.30**	**300**	P	**P**	**22 41 37.4**	**+2.6**
GOMU				pmax	pmax		
	comp=Z,15nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,46nm,3.5s						
KULM	**Kulim**	**45.51**	**255**	P	**P**	**22 41 36.0**	**-0.3**
LEM	**Lembang**	**46.06**	**236**	LR	LR	22 59 56.8	
	comp=Z,44nm,21.6s,baz=352,slow=35						
AS31	**Alice Springs**	**46.40**	**193**	P	**P**	**22 41 42.9**	**-0.2**
ASAR	**Alice Springs**	**46.41**	**193**	P	**P**	**22 41 42.7**	**-0.4**
ASAR	**Alice Springs**	**46.41**	**193**	P	**P**	**22 41 42.5**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=17,slow=8.5,SNR=40						
ASAR				LR	LR	23 01 33.5	
	comp=Z,56nm,18.4s,baz=21,slow=36						
	comp=Z,4.1nm,0.6s						
QLP	**Quilpie**	**48.14**	**180**	P	**P**	**22 41 57.5**	**+1.0**
RPSI	**Rantau Prapat**	**48.20**	**253**	P	**P**	**22 41 57.4**	**+0.2**
LSA	**Lhasa**	**48.35**	**291**	P	**P**	**22 41 59.1**	**+0.3**
LSA				IAmb	IAmb	22 42 03.7	
	comp=Z,6.6nm,0.9s						
DZM	**Mont Dzumac**	**48.60**	**153**	*e*LR	LR	22 56 00.0	
	comp=Z,215nm,27.4s						
DZM	**Mont Dzumac**	**48.60**	**153**	P	**P**	**22 41 59.9**	**-0.4**
DZM	**Mont Dzumac**	**48.60**	**153**	LR	LR	22 59 35.0	
	comp=Z,69nm,21.7s,baz=58,slow=32						
MARNC	**Mare, Loyalty**	**48.79**	**150**	P	**P**	**22 42 02.7**	**+1.1**
LHMI	**Lhok Sumawe**	**48.88**	**257**	P	**P**	**22 42 04.1**	**+1.6**
WRKA	**Warakurna**	**49.20**	**200**	P	**P**	**22 42 04.9**	**+0.2**
PSA00	**Pilbara Seismi**	**49.42**	**211**	P	**P**	**22 42 07.0**	**+0.6**
PSA00				IAmb	IAmb	22 42 08.5	
	comp=Z,7.1nm,0.8s						
TIXI	**Tiksi**	**50.63**	**354**	P	**P**	**22 42 17.2**	**+2.2**
WMQ	**Urumqi**	**51.45**	**309**	*e*P	**P**	**22 42 23.2**	**+1.5**
WMQ				pP	sP	22 42 49.4	+3.5
WMQ				pmax	pmax		
	comp=Z,12nm,1.1s						
WMQ				LR	LR		
	comp=Z,77nm,24.9s						
TAPN	**Taplejung**	**51.59**	**288**	*e*P	**P**	**22 42 23.8**	**+0.6**
	comp=Z,56nm,1.0s						
ODAN	**Odare**	**51.93**	**288**	*e*P	**P**	**22 42 26.1**	**+0.4**
	comp=Z,53nm,1.1s						
RAMN	**Ramite**	**52.62**	**288**	*e*P	**P**	**22 42 31.3**	**+0.5**
	comp=Z,31nm,0.9s						
MULG	**Mulgathing**	**52.80**	**191**	P	**P**	**22 42 31.0**	**-0.6**
JIRN	**Jiri**	**52.89**	**289**	*e*P	**P**	**22 42 33.5**	**+0.6**
	comp=Z,51nm,0.7s						
GUN	**Gumba**	**53.13**	**289**	*e*P	**P**	**22 42 35.8**	**+1.1**
	comp=Z,37nm,0.9s						
STKA	**Stephens Creek**	**53.49**	**183**	P	**P**	**22 42 36.8**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=7.7,slow=11,SNR=3.5						
	comp=Z,2.3nm,0.7s						
PKI	**Pulchoki**	**53.59**	**289**	*e*P	**P**	**22 42 38.2**	**+0.2**
	comp=Z,

KSH Kashi 60.18 304 P **P** **22 43 28.8 +4.5**
KSH pP sP 22 43 50.3 +1.7
KSH pmax pmax
comp=Z,4.0nm,1.0s
NWAO Narrogin (SRO) 60.38 206 P **P** **22 43 25.9 +0.5**
NWAO Narrogin (SRO) 60.38 206 P **P** **22 43 26.0 +0.6**
NWAO IAmb IAmb 22 43 27.7
comp=Z,113nm,1.3s
AAK Ala-Archa 61.07 308 P **P** **22 43 31.5 +1.2**
AAK IAmb IAmb 22 43 36.6
comp=Z,5.5nm,1.3s
AAK Ala-Archa 61.07 308 LR LR 23 13 36.9
comp=Z,36nm,18.2s,baz=86,slow=40
IL31 61.34 27 P **P** **22 43 32.1 +0.6**
IL31 IAmb IAmb 22 43 32.9
comp=Z,8.4nm,1.2s
ILAR Eielson Array 61.34 27 P **P** **22 43 31.5 0.0**
ILAR Eielson Array 61.34 27 P **P** **22 43 31.8 +0.3**
comp=Z,2.8nm,1.0s,baz=256,slow=5.8,SNR=14
ILAR LR LR 23 06 33.8
comp=Z,32nm,21.5s,baz=262,slow=32
comp=Z,2.8nm,1.0s
SCRK Sand Creek 62.47 28 P **P** **22 43 40.5 +1.2**
J26L Joseph Creek 62.72 28 P **P** **22 43 41.7 +0.9**
J26L IAmb IAmb 22 43 43.7
comp=Z,3.9nm,0.8s
BVAR Borovoye Array 63.37 319 P **P** **22 43 46.1 +0.8**
comp=Z,9.6nm,0.3s,baz=92,slow=8.0,SNR=141
BVAR LR LR 23 11 55.0
comp=Z,30nm,18.2s,baz=83,slow=36
comp=Z,9.6nm,0.3s
BRVK Borovoye 63.43 319 P **P** **22 43 46.1 +0.4**
BRVK IAmb IAmb 22 43 47.6
comp=Z,8.1nm,0.8s
KK31 Karatay Array 63.94 308 P **P** **22 43 50.1 +0.8**
KK31 IAmb IAmb 22 43 51.3
comp=Z,6.6nm,0.9s
KKAR Karatay Array 63.94 308 P **P** **22 43 49.8 +0.5**
KKAR Karatay Array 63.94 308 P **P** **22 43 50.1 +0.8**
KKAR IAmb IAmb 22 43 51.3
comp=Z,6.6nm,0.9s
M29M Somme Creek 64.87 30 P **P** **22 43 55.9 +0.8**
M29M IAmb IAmb 22 44 14.7
comp=Z,7.3nm,1.2s
J30M Hart River 65.84 28 P **P** **22 44 01.0 -0.3**
J30M IAmb IAmb 22 44 14.1
comp=Z,6.2nm,1.1s
N31M Braeburn, Yuko 66.15 31 P **P** **22 44 03.0 -0.3**
N31M IAmb IAmb 22 44 15.1
comp=Z,13nm,1.2s
KBL Kabul 66.36 299 P **P** **22 44 05.8 +0.5**
URZ Urewera 67.16 153 LR LR 23 09 17.7
comp=Z,38nm,21.5s,baz=31,slow=32
RAR Rarotonga 69.18 124 LR LR 23 07 32.2
comp=Z,136nm,20.7s,baz=306,slow=30
ARU Arti 69.88 324 P **P** **22 44 26.6 -0.1**
ARU IAmb IAmb 22 44 45.2
comp=Z,4.7nm,0.5s
ARU Arti 69.88 324 P **P** **22 44 27.0 +0.3**
comp=Z,3.4nm,0.4s,baz=75,slow=6.4,SNR=12
ARU LR LR 23 15 59.5
comp=Z,34nm,20.7s,baz=90,slow=37
comp=Z,3.4nm,0.4s
ABKAR Akbulak array 70.31 316 P **P** **22 44 29.3 -0.1**
ABKAR IAmb IAmb 22 44 34.4
comp=Z,6.8nm,0.9s
ABKAR Akbulak array 70.31 316 P **P** **22 44 29.5 0.0**
AKTO Aktyubinsk 71.30 318 P **P** **22 44 35.3 -0.1**
comp=Z,1.4nm,0.5s,baz=66,slow=5.5,SNR=4.7
AKTO LR LR 23 16 34.9
comp=Z,37nm,20.6s,baz=74,slow=36
comp=Z,1.4nm,0.5s
BBB Bella Bella 71.46 40 LR LR 23 07 16.8
comp=Z,71nm,21.2s,baz=212,slow=28
HRA Herat 71.87 300 P **P** **22 44 39.9 +0.5**
HRA IAmb IAmb 22 44 41.6
comp=Z,7.2nm,1.0s
GEYT Alibeck 74.19 305 P **P** **22 44 53.7 +0.9**
GEYT IAmb IAmb 22 44 56.7
comp=Z,8.4nm,1.4s
GEYT Alibeck 74.19 305 P **P** **22 44 54.3 +1.4**
comp=Z,2.8nm,0.8s,baz=72,slow=9.4,SNR=3.4
comp=Z,2.8nm,0.8s
GYA0B ALIBECK ARRAY 74.19 305 P **P** **22 44 53.6 +0.7**
KIRV Kirov 74.23 327 LR LR 23 18 15.2
comp=Z,24nm,20.2s,baz=20,slow=36
PPT2 Papeete2 75.48 116 *e*LR LR 23 07 50.1
comp=Z,297nm,30.0s
PPT2 *e*LR LR 23 07 58.9
comp=Z,206nm,31.2s
YKA Yellowknife Ar 75.74 28 P **P** **22 45 02.5 +1.3**
comp=Z,4.0nm,0.9s,baz=291,slow=5.9,SNR=5.9
YKA LR LR 23 16 59.4
comp=Z,41nm,21.5s,baz=344,slow=34
comp=Z,4.0nm,0.9s
H04A Detroit Lake 77.22 47 P **P** **22 45 10.7 +0.7**
H04A IAmb IAmb 22 45 32.5
comp=Z,14nm,1.3s
KHMM Horse Mountain 77.30 51 P **P** **22 45 10.9 +0.2**
KHMM IAmb IAmb 22 45 29.9
comp=Z,16nm,1.4s
I04A Tendick Farm, 77.34 48 P **P** **22 45 08.2 -2.6**
HOOD Mount Hood Mea 77.38 46 P **P** **22 45 08.1 -2.9**
HOOD IAmb IAmb 22 45 33.8
comp=Z,6.7nm,0.9s
LTY Liberty 77.41 44 P **P** **22 45 11.6 +0.5**
G05A Wamic 77.63 46 P **P** **22 45 11.6 -0.7**
YBH Yreka Blue Hor 77.77 50 LR LR 23 11 10.1
comp=Z,74nm,21.5s,baz=274,slow=29
WSAR Wadi Sarin 78.09 290 LR LR 23 20 38.5
comp=Z,18nm,20.9s,baz=44,slow=36
J05D Fort Rock, OR 78.31 48 P **P** **22 45 15.8 -0.5**
PINE Pine Mountain 78.35 47 P **P** **22 45 17.3 +0.8**
PINE IAmb IAmb 22 45 39.5
comp=Z,11nm,1.0s
TBI Tubuai 78.39 121 *e*LR LR 23 09 16.0
comp=Z,708nm,33.5s
K05A Summer Lake 78.73 49 P **P** **22 45 19.4 +0.8**
ARCES ARCESS Array B 79.17 342 P **P** **22 45 21.7 +1.4**
comp=Z,1.0nm,0.5s,baz=67,slow=7.3,SNR=19
comp=Z,1.0nm,0.5s
G08A Pilot Rock 79.18 46 P **P** **22 45 21.5 +0.5**
E09A Wood Farm, Sta 79.30 44 P **P** **22 45 21.1 -0.3**
E09A IAmb IAmb 22 45 44.0
comp=Z,9.4nm,1.3s
NEW Newport 79.33 42 P **P** **22 45 21.6 0.0**
NEW Newport 79.33 42 LR LR 23 13 37.1
comp=Z,53nm,20.4s,baz=273,slow=30
UOSS Minazif 79.64 293 P **P** **22 45 23.9 +0.2**
UOSS IAmb IAmb 22 45 27.2
comp=Z,8.6nm,1.0s
EDM Edmonton 79.73 37 P **P** **22 45 23.9 +0.2**
EDM IAmb IAmb 22 45 57.8
comp=Z,20nm,1.4s
J08A Circle Bar Ran 80.18 47 P **P** **22 45 26.8 +0.3**
J08A IAmb IAmb 22 45 49.0
comp=Z,14nm,1.3s
CMB Columbia Colle 80.68 53 P **P** **22 45 29.7 +0.6**
CMB IAmb IAmb 22 45 51.5
comp=Z,10nm,1.3s
PAHR Pah Rah Range 80.83 51 P **P** **22 45 31.0 +1.0**
PNTR Pine Nut 80.89 52 P **P** **22 45 30.1 -0.3**
WAKR Walker 81.21 52 P **P** **22 45 33.0 +0.8**
MDPB Devils Postpil 81.79 53 P **P** **22 45 32.3 -3.0**
MDPB IAmb IAmb 22 45 36.3
comp=Z,6.6nm,0.7s
MFID Camas Ranch 81.95 47 P **P** **22 45 35.9 0.0**
MFID IAmb IAmb 22 45 58.4
comp=Z,9.9nm,1.2s
LHV Little Huntoon 81.99 52 P **P** **22 45 35.6 -0.3**
LHV IAmb IAmb 22 46 13.4
comp=Z,7.8nm,1.4s
KVN Kaiserville 81.99 51 P **P** **22 45 36.4 +0.1**
KVN IAmb IAmb 22 45 38.5
comp=Z,7.4nm,1.3s
NVAR Mina Array Bea 82.07 52 P **P** **22 45 36.5 -0.2**
NVAR Mina Array Bea 82.07 52 P **P** **22 45 38.5 +1.8**
comp=Z,1.7nm,0.6s,baz=276,slow=4.7,SNR=18
NVAR LR LR 23 14 09.7
comp=Z,66nm,21.4s,baz=269,slow=30
comp=Z,1.7nm,0.6s
NV11 Mina Array Sit 82.18 52 P **P** **22 45 36.8 -0.4**
BCW Bitter Crk WRg 82.51 55 P **P** **22 45 38.8 -0.1**
DSP Deep Springs 82.70 53 P **P** **22 45 39.6 -0.1**
ELMT Elliston 82.90 43 P **P** **22 45 41.1 +0.3**
MZP Montezuma Peak 83.02 52 P **P** **22 45 41.4 -0.3**

KBZ Khabaz 83.16 314 P **P** **22 45 42.9 +1.0**
comp=Z,4.4nm,0.8s,baz=111,slow=2.5,SNR=8.7
KBZ LR LR 23 24 59.6
comp=Z,24nm,21.8s,baz=54,slow=37
comp=Z,4.4nm,0.8s
LRM Limekiln Ridge 83.22 43 P **P** **22 45 43.6 +1.0**
GMN Gold Mountain 83.26 53 P **P** **22 45 42.4 -0.5**
GRAC Grapevine Rang 83.29 53 P **P** **22 45 42.4 -0.4**
GRAC IAmb IAmb 22 45 58.4
comp=Z,3.4nm,0.6s
GNI Garni 83.31 310 LR LR 23 26 46.5
comp=Z,13nm,18.6s,baz=70,slow=38
ELK Elko 83.39 49 P **P** **22 45 40.7 -2.8**
ELK Elko 83.39 49 LR LR 23 15 30.5
comp=Z,42nm,20.0s,baz=226,slow=30
FINES FINESS Array B 83.58 335 P **P** **22 45 43.8 +0.1**
comp=Z,4.5nm,0.4s,baz=71,slow=4.5,SNR=127
comp=Z,4.5nm,0.4s
AKH Akhalkalaki 83.68 312 P **P** **22 45 44.3 -0.6**
WCT Wildcat Mounta 83.92 53 P **P** **22 45 44.9 -1.3**
QSM Queen of Sheba 84.06 54 P **P** **22 45 46.0 -0.7**
QSM IAmb IAmb 22 45 49.5
comp=Z,5.5nm,0.9s
R11B Troy Canyon, C 84.08 51 P **P** **22 45 46.0 -1.0**
R11B IAmb IAmb 22 46 10.3
comp=Z,6.8nm,1.4s
GWY Greenwater Val 84.12 53 P **P** **22 45 46.8 -0.5**
GWY IAmb IAmb 22 45 49.9
comp=Z,4.3nm,0.7s
KARS Kars 84.28 311 P **P** **22 45 48.2 +0.2**
HVU Hansel Valley 84.67 47 P **P** **22 45 49.8 -0.2**
HVU IAmb IAmb 22 45 53.2
comp=Z,6.0nm,1.2s
YHH Holmes Hill 84.68 44 P **P** **22 45 50.2 +0.1**
SPR3 Spring Creek 3 84.72 50 **P** **22 45 49.4 -1.0**
SPR3 IAmb IAmb 22 46 13.2
comp=Z,9.6nm,1.4s
PSUT Pine Spring 85.25 50 P **P** **22 45 52.2 -0.7**
PSUT IAmb IAmb 22 45 55.7
comp=Z,3.9nm,0.9s
DUG Dugway, Tooele 85.30 49 P **P** **22 45 52.1 -1.0**
DUG IAmb IAmb 22 46 16.1
comp=Z,10nm,1.4s
RLMT Red Lodge 85.54 43 P **P** **22 45 53.4 -0.9**
RLMT IAmb IAmb 22 46 18.1
comp=Z,7.3nm,1.1s
LCMT Little Creek M 86.32 52 P **P** **22 45 57.5 -0.7**
LCMT IAmb IAmb 22 46 01.2
comp=Z,3.6nm,1.0s
PDAR Pinedale Array 86.40 45 P **P** **22 45 59.6 +1.0**
comp=Z,0.8nm,0.9s,baz=222,slow=1.2,SNR=1.8
PDAR LR LR 23 17 31.9
comp=Z,38nm,20.5s,baz=291,slow=31
comp=Z,0.8nm,0.9s
KNB Kanab 86.62 51 P **P** **22 45 58.1 -1.6**
U15A North Rim 87.25 52 P **P** **22 46 01.6 -1.3**
U15A IAmb IAmb 22 46 06.1
comp=Z,3.7nm,0.8s
SRU San Rafael Swe 87.36 49 P **P** **22 46 01.3 -2.0**
SRU IAmb IAmb 22 46 05.8
comp=Z,4.3nm,0.9s
AKASG Malin Array Be 88.11 325 P **P** **22 46 05.4 -0.9**
comp=Z,0.4nm,0.3s,baz=51,slow=5.3,SNR=3.1
comp=Z,0.4nm,0.3s
HFS Hagfors 89.07 338 P **P** **22 46 09.7 -1.0**
comp=Z,1.1nm,0.4s,baz=64,slow=3.4,SNR=13
HFS LR LR 23 28 48.1
comp=Z,21nm,20.0s,baz=8.0,slow=37
comp=Z,1.1nm,0.4s
NOA NORSAR Array B 89.25 339 P **P** **22 46 10.4 -1.2**
comp=Z,0.7nm,0.8s,baz=50,slow=2.2,SNR=1.9
NOA LR LR 23 30 33.1
comp=Z,19nm,18.7s,baz=310,slow=38
comp=Z,0.7nm,0.8s
ULM Lac du Bonnet 90.62 34 LR LR 23 26 51.0
comp=Z,27nm,20.4s,baz=34,slow=35
SFJD Kangerlussuaq 90.70 6 LR LR 23 27 23.8
comp=Z,25nm,19.8s,baz=336,slow=36
FRB Frobisher Bay 90.85 14 LR LR 23 30 27.3
comp=Z,23nm,20.1s,baz=284,slow=38
BRTR Keskin Array B 91.14 314 P **P** **22 46 20.1 -0.9**
comp=Z,0.9nm,0.9s,baz=108,slow=4.7,SNR=3.1
comp=Z,0.9nm,0.9s
ANMO Albuquerque 92.16 51 LR LR 23 22 07.1
comp=Z,47nm,20.5s,baz=7.5,slow=32
BORG Borgarnes 92.99 354 LR LR 23 34 20.5
comp=Z,7.8nm,18.1s,baz=311,slow=39
MNTX Cornudas Mount 94.51 53 P **P** **22 46 34.7 -1.8**
MNTX IAmb IAmb 22 46 55.0
comp=Z,5.3nm,1.4s
EIL Elat 95.09 305 LR LR 23 33 29.6
comp=Z,14nm,21.2s,baz=72,slow=38
VRAC Vranov 95.40 329 LR LR 23 31 42.3
comp=Z,22nm,21.2s,baz=33,slow=37
TXAR Lajitas Array 96.95 55 P **P** **22 46 49.1 +1.4**
comp=Z,0.3nm,0.7s,baz=227,slow=3.5,SNR=3.4
TXAR LR LR 23 24 23.6
comp=Z,36nm,19.7s,baz=235,slow=32
comp=Z,0.3nm,0.7s
GERES GERESS Array B 97.09 330 LR LR 23 32 34.4
comp=Z,31nm,20.7s,baz=24,slow=37
IDI Anoyia 99.39 314 LR LR 23 36 19.2
comp=Z,8.0nm,18.0s,baz=71,slow=38
TROLL Troll, Antarti 125.39 194 ⇑Pdiff **Pdif** **22 48 53.0 -0.2**
comp=Z,45nm,0.4s
VNA1 Neumayer--Stat 128.62 191 ⇑Pdiff **Pdif** **22 49 07.1 -0.3**
comp=Z,4.9nm,0.2s
TORD Torodi Ar. Bea 129.61 310 PKP **PKPdf** **22 52 24.9 -0.4**
comp=Z,0.4nm,0.4s,baz=39,slow=2.1,SNR=14
TORD SKPbc SKPab 22 55 39.3 -1.5
comp=Z,1.5nm,1.0s,baz=33,slow=4.6,SNR=5.3
PLCA Paso Flores 144.91 131 PKP **PKPdf** **22 52 53.5 +0.7**
comp=Z,4.7nm,0.8s,baz=273,slow=4.4,SNR=7.2
LPAZ La Paz 148.68 86 PKPbc **PKiKP** **22 53 06.2 +0.5**
comp=Z,4.9nm,0.7s,baz=337,slow=4.9,SNR=6.7

*AFAD **05** 23:09:46.5±0.0, 35°.59N×36°.46E, h7km±2km, MW3.2*
*GII **05** 23:09:46.2±0.0, 35°.57N×36°.45E, h5km, MD3.1/4, Mm3.0/5*
*ISK **05** 23:09:46.0, 35°.50N×36°.38E, h16km, ML3.1/11*
*GRAL **05** 23:09:47.0±0.3, 35°.53N×36°.61E, h0km±2km, MD3.3*
*NIC **05** 23:09:49.2, 35°.72N×36°.26E, h15km±31km, Ml2.9/9*
ISC 05 23:09:46.0±1.3, 35°.58N±0°.02×36°.42E±0°.04, h4km±11km, n65, σ0°89/96, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHAN	**Hatay/Reyhanl**	**0.69**	**12**	P	**Pg**	**23 09 59.6**	**+0.2**
RHAN				S	**Sg**	**23 10 09.2**	**+0.8**
RHAN				*i* AML	AML	23 10 12.0	
	comp=E,2μm,0.4s						
RHAN				*i* AML	AML	23 10 13.0	
	comp=N,2μm,0.5s						
RHAN				*i* AML	AML	23 10 15.0	
	comp=Z,938nm,0.5s						
ASUZ	**Hatay-Arsuz**	**0.88**	**324**	P	**Pg**	**23 10 02.9**	**0.0**
ASUZ				S	**Sb**	**23 10 16.5**	**+0.5**
ASUZ				*i* AML	AML	23 10 20.0	
	comp=N,318nm,0.1s						
ASUZ				*i* AML	AML	23 10 21.0	
	comp=Z,155nm,0.3s						
ASUZ				*i* AML	AML	23 10 22.0	
	comp=E,237nm,0.2s						
BEIL	**Beino**	**1.05**	**191**	*e*P	**Pg**	**23 10 05.6**	**-0.6**
BEIL				*e*S	**Sg**	**23 10 19.7**	**-0.2**
HWQ	**Hawqa**	**1.35**	**197**	*e*P	**Pn**	**23 10 11.1**	**-0.8**
HWQ				*e*S	**Sb**	**23 10 29.0**	**-0.8**
YURE	**YUREGIR**	**1.40**	**333**	P	**Pn**	**23 10 11.5**	**-0.8**
YURE				S	**Sb**	**23 10 31.3**	**+0.3**
YURE				*i* AML	AML	23 10 36.0	
	comp=N,96nm,0.3s						
YURE				*i* AML	AML	23 10 36.0	
	comp=E,111nm,0.6s						
YURE				*i* AML	AML	23 10 37.0	
	comp=Z,53nm,0.5s						
CEYT	**Ceyhan**	**1.53**	**339**	Pn	**Pn**	**23 10 14.4**	**+0.3**
CEYT				Sn	**Sn**	**23 10 34.9**	**+0.4**
GAZ	**Gaziantep**	**1.71**	**22**	Pn	**Pn**	**23 10 17.2**	**+0.5**
GAZ				Sn	**Sb**	**23 10 39.9**	**-0.2**
ZAHL	**Zahle**	**1.77**	**195**	*e*P	**Pn**	**23 10 17.7**	**+0.1**
ZAHL				*e*S	**Sn**	**23 10 40.1**	**-0.5**
NZIP	**Nizip/Gaziante**	**1.78**	**34**	P	**Pn**	**23 10 17.7**	**0.0**
NZIP				S	**Sn**	**23 10 40.7**	**0.0**
NZIP				*i* AML	AML	23 10 47.0	
	comp=E,524nm,0.3s						
NZIP				*i* AML	AML	23 10 48.0	
	comp=Z,277nm,0.4s						
NZIP				*i* AML	AML	23 10 49.0	
	comp=N,360nm,0.4s						
BHL	**Bhannes**	**1.79**	**201**	*e*P	**Pn**	**23 10 18.1**	**+0.3**
HCB	**Kahramanmara**	**1.81**	**12**	P	**Pn**	**23 10 16.3**	**-1.7**
HCB				S	**Sn**	**23 10 40.5**	**-0.8**
KHMR	**Kahramanmara**	**1.81**	**12**	P	**Pn**	**23 10 16.4**	**-1.5**
KHMR				S	**Sn**	**23 10 40.5**	**-0.9**
KMRS	**Kahramanmaras**	**1.96**	**11**	Pn	**Pn**	**23 10 20.6**	**+0.5**
KAHM	**Kahramanmaras,**	**1.99**	**13**	P	**Pb**	**23 10 22.5**	**-0.3**
KAHM				S	**Sb**	**23 10 47.7**	**-0.2**
KAHM				*i* AML	AML	23 10 50.0	
	comp=Z,62nm,0.3s						
KAHM				*i* AML	AML	23 10 54.0	
	comp=N,129nm,0.4s						
KAHM				*i* AML	AML	23 10 57.0	
	comp=E,119nm,0.4s						
DQRL	**Deir Qamar**	**2.00**	**201**	*e*P	**Pn**	**23 10 20.9**	**+0.2**
KARA	**Karaisali**	**2.01**	**327**	Pn	**Pn**	**23 10 21.0**	**+0.3**
PARAL	**Paralimni**	**2.03**	**254**	P	**Pn**	**23 10 20.3**	**-0.7**
PARAL				S	**Sn**	**23 10 46.0**	**-0.9**
PARAL				AML	AML	23 10 47.9	
	0.4nm,0.4s						
PARAL				AML	AML	23 10 47.9	
	0.2nm,0.4s						
KIZK	**Mersin**	**2.05**	**297**	Pn	**Pn**	**23 10 21.2**	**-0.1**
RCY	**Rachaya**	**2.13**	**193**	*e*P	**Pn**	**23 10 22.5**	**-0.1**
SHBL	**Chebaa**	**2.29**	**194**	*e*P	**Pn**	**23 10 24.8**	**0.0**
IKL	**Isikli**	**2.32**	**287**	Pn	**Pn**	**23 10 24.5**	**-0.5**
IKL				Sn	**Sn**	**23 10 52.5**	**-1.4**
MVOU	**Mavrovouni**	**2.35**	**257**	P	**Pn**	**23 10 25.8**	**+0.3**
MVOU				S	**Sn**	**23 10 53.8**	**-0.9**
MVOU				AML	AML	23 11 12.9	
	0.1nm,0.9s						
MVOU				AML	AML	23 11 14.7	
	0.1nm,0.6s						
KEBE	**Keben-Mersin**	**2.36**	**292**	Pn	**Pn**	**23 10 25.3**	**-0.3**
CMRD	**Camardi-Nigde**	**2.38**	**331**	Pn	**Pn**	**23 10 26.0**	**+0.1**
NATI	**Neve Ativ**	**2.38**	**194**	Pn	**Pn**	**23 10 25.6**	**-0.2**
NATI				Sn	**Sn**	**23 10 55.1**	**-0.3**
NATI	**Neve Ativ**	**2.38**	**194**	P	**Pn**	**23 10 26.0**	**+0.2**
AKKU	**Akkuyu-Mersin**	**2.40**	**285**	Pn	**Pn**	**23 10 25.6**	**-0.5**
GEM	**Giv'at Ha'Em**	**2.44**	**195**	Pn	**Pn**	**23 10 26.5**	**-0.2**
GEM				Sn	**Sn**	**23 10 57.5**	**+0.4**
GEM	**Giv'at Ha'Em**	**2.44**	**195**	P	**Pn**	**23 10 26.7**	**0.0**
TEVE	**Tevekalti-Mers**	**2.56**	**290**	Pn	**Pn**	**23 10 28.1**	**-0.3**
CSS	**Mathiatis**	**2.60**	**257**	Pn	**Pn**	**23 10 28.3**	**-0.6**
CSS	**Mathiatis**	**2.60**	**257**	P	**Pn**	**23 10 28.4**	**-0.6**
CSS				S	**Sn**	**23 11 01.9**	**+0.9**
CSS				AML	AML	23 11 03.0	
	0.1nm,0.4s						
CSS				AML	AML	23 11 22.5	
	0.1nm,0.9s						
CSS	**Mathiatis**	**2.60**	**257**	P	**Pn**	**23 10 28.0**	**-0.9**
KSHT	**Keshet**	**2.64**	**191**	Pn	**Pn**	**23 10 29.8**	**+0.3**
KSHT				Sn	**Sn**	**23 11 02.7**	**+0.7**
MMA0B	**Mount Meron ar**	**2.69**	**199**	Pn	**Pn**	**23 10 29.7**	**-0.5**
MMA0B				Sn	**Sn**	**23 11 03.7**	**+0.4**
HNTI	**Hanita**	**2.69**	**203**	Pn	**Pn**	**23 10 30.3**	**+0.1**
HNTI				Sn	**Sn**	**23 11 02.5**	**-0.8**
HNTI	**Hanita**	**2.69**	**203**	P	**Pn**	**23 10 30.0**	**-0.2**
ASGA	**Asgata**	**2.72**	**254**	P	**Pn**	**23 10 31.2**	**+0.8**
ASGA				S	**Sn**	**23 11 03.5**	**-0.3**
ASGA				AML	AML	23 11 04.9	
	0.1nm,0.3s						
ASGA				AML	AML	23 11 05.1	
	0.1nm,0.5s						
SARI	**SarD1z-Kayseri**	**2.82**	**360**	Pn	**Pn**	**23 10 32.9**	**+0.8**
SHMJ	**Saham**	**2.90**	**191**	P	**Pn**	**23 10 34.1**	**+1.2**
TROD	**Troodos**	**2.98**	**259**	P	**Pn**	**23 10 35.4**	**+1.1**
TROD				S	**Sn**	**23 11 09.9**	**-0.6**
TROD				AML	AML	23 11 33.9	
	0.1nm,1.3s						
TROD				AML	AML	23 11 36.2	
	0.1nm,1.1s						
ALFC	**Alefka**	**3.15**	**263**	P	**Pn**	**23 10 35.6**	**-0.9**
ALFC				S	**Sn**	**23 11 15.6**	**+1.0**
ALFC				AML	AML	23 11 21.5	
	0.1nm,0.4s						
ALFC				AML	AML	23 11 22.4	
	0.1nm,0.2s						
OFRI	**`Ofer**	**3.18**	**202**	Pn	**Pn**	**23 10 37.2**	**+0.3**
OFRI				Sn	**Sn**	**23 11 16.0**	**+0.7**
OFRI	**`Ofer**	**3.18**	**202**	P	**Pn**	**23 10 37.4**	**+0.5**
MMLI	**Mount Malkishu**	**3.24**	**195**	Pn	**Pn**	**23 10 37.8**	**+0.1**
MMLI	**Mount Malkishu**	**3.24**	**195**	P	**Pn**	**23 10 38.5**	**+0.8**
MMLI				S	**Sb**	**23 11 22.1**	**-1.9**
MMLI				AML	AML	23 11 33.6	
	0.1nm,0.4s						
MMLI				AML	AML	23 11 34.0	
	0.2nm,0.5s						
NATA	**Nata**	**3.25**	**257**	P	**Pn**	**23 10 38.7**	**+0.8**
NATA				S	**Sn**	**23 11 18.6**	**+1.5**
NATA				AML	AML	23 11 34.2	
	0.2nm,0.7s						
NATA				AML	AML	23 11 41.6	
	0.2nm,1.3s						
QRNJ	**Al-Qirein**	**3.31**	**193**	P	**Pn**	**23 10 40.7**	**+2.1**
AKMS	**Akamas**	**3.39**	**262**	P	**Pn**	**23 10 41.4**	**+1.7**
AKMS				S	**Sn**	**23 11 21.8**	**+1.4**
AKMS				AML	AML	23 11 37.3	
	0.1nm,0.9s						
HMDT	**Nahal Hemdat**	**3.40**	**193**	Pn	**Pn**	**23 10 40.5**	**+0.7**
HMDT	**Nahal Hemdat**	**3.40**	**193**	P	**Pn**	**23 10 40.6**	**+0.7**
ASF	**Jabal al Asfar**	**3.42**	**173**	P	**Pn**	**23 10 40.4**	**+0.2**
HSUJ	**Al Zarqa**	**3.47**	**183**	P	**Pn**	**23 10 40.5**	**-0.4**
SLTI	**Sal'it**	**3.52**	**199**	Pn	**Pn**	**23 10 41.4**	**-0.1**
SLTI				Sn	**Sn**	**23 11 24.4**	**+0.7**
SALP	**Salfit**	**3.65**	**197**	Pn	**Pn**	**23 10 42.9**	**-0.4**
SALP				Sn	**Sn**	**23 11 27.0**	**+0.2**
UJAP	**Al Uja**	**3.70**	**193**	Pn	**Pn**	**23 10 44.4**	**+0.4**
AMAZ	**Amatzia**	**4.23**	**198**	Pn	**Pn**	**23 10 51.1**	**-0.2**
AMAZ				Sn	**Sn**	**23 11 41.9**	**+0.8**
AMAZ	**Amatzia**	**4.23**	**198**	P	**Pn**	**23 10 52.5**	**+1.2**
GHAJ	**Ghor Haditha**	**4.32**	**190**	Pn	**Pn**	**23 10 52.3**	**-0.2**
GHAJ	**Ghor Haditha**	**4.32**	**190**	P	**Pn**	**23 10 55.3**	**+2.8**
YTIR	**Yattir**	**4.34**	**195**	Pn	**Pn**	**23 10 53.5**	**+0.6**
YTIR	**Yattir**	**4.34**	**195**	P	**Pn**	**23 10 54.9**	**+2.0**
KZIT	**Kziot**	**4.96**	**201**	Pn	**Pn**	**23 11 01.9**	**+0.6**
PRNI	**Paran**	**5.35**	**193**	Pn	**Pn**	**23 11 06.9**	**+0.3**
PRNI	**Paran**	**5.35**	**193**	P	**Pn**	**23 11 10.0**	**+3.4**

*IDC **05** 23:11:33.6±1.2, 0°.80N×127°.26E, h0km, mb3.8/4,*
mbtmp4.0/6, ML3.8/2, MS2.8/2, Error ellipse: s-maj=49.8km
s-min=20.6km az=65.0
ISC 05 23:11:37.4±1.4, 0°.8N±0°.2×127°.3E±0°.1, h35km, n7, σ1§41/6, mb3.8/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.27**	**113**	Pn	**Pn**	**23 12 40.2**	**+0.2**
	1.0nm,0.3s,baz=323,slow=20,SNR=2.3						
SIJI				Sn	**Sn**	**23 13 27.6**	**-1.0**
	1.5nm,0.3s,baz=154,slow=22,SNR=1.8						
	3.8nm,0.4s						
KAPI	**Kappang**	**9.52**	**233**	LR	LR	23 18 14.7	
	comp=Z,22nm,18.3s,baz=110,slow=42						
BATI	**Baumata**	**11.53**	**198**	Pn	**Pn**	**23 14 18.8**	**-0.9**
	3.6nm,0.3s,baz=45,slow=5.7,SNR=2.4						
BATI				LR	LR	23 19 21.3	
	comp=Z,94nm,18.3s,baz=169,slow=41						
	16nm,0.5s						
WRA	**Warramunga Arr**	**21.73**	**162**	P	**P**	**23 16 27.4**	**+1.6**
	1.9nm,0.6s,baz=340,slow=11,SNR=17						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**25.14**	**166**	P	**P**	**23 17 00.8**	**+1.3**
	1.2nm,0.7s,baz=343,slow=9.5,SNR=13						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**60.30**	**326**	P	**P**	**23 21 42.4**	**-0.3**
	0.7nm,0.6s,baz=116,slow=8.6,SNR=6.0						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**64.52**	**328**	P	P	23 22 14.0	+3.3
	0.5nm,0.3s,baz=116,slow=6.3,SNR=1.8						
	0.5nm,0.3s						

IDC 05 23:15:31.3±51.0, 22°.52S×177°.23W, h0km, mb4.0/3,
mbtmp4.0/3, Error ellipse: s-maj=930.3km
s-min=163.0km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.60**	**247**	P	P	23 22 46.3	-1.5

0.9nm,0.4s,baz=96,slow=9.2,SNR=3.0
0.9nm,0.4s
ASAR Alice Springs 44.79 259 P P 23 23 46.9 -0.3
0.5nm,0.3s,baz=96,slow=8.4,SNR=12
0.5nm,0.3s
WRA Warramunga Arr 45.06 264 P P 23 23 50.2 +0.9
1.7nm,0.4s,baz=99,slow=8.2,SNR=63
1.7nm,0.4s

---

*IDC **05** 23:48:05.1±2.8, 5.°23S×129.°81E, h216km±35km, mb3.5/6, mbtmp4.1/9, Error ellipse: s-maj=65.2km s-min=14.5km az=81.0*
*NEIC **05** 23:48:05.6±2.1, 5.°33S±0.°09×129.°8E±0.°1, h224km±11km, mb4.1/11, Error ellipse: s-maj=19.1km s-min=11.4km az=114.0*
*DJA **05** 23:48:06.0±0.3, 5.°S±3.°×13.°0E±.°, h234km±7km, M4.4/13, mb4.3/6, mB5.0/2, MLv4.4/13, Mw(mB)4.3/2*
ISC 05 23:48:06.0±0.6,**5.°36S**±0.°05×**129.°87E**±0.°06,**h250**km,**n44,**
σ1⁹**90**/**48**,**mb3.8/7**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.83**	**2**	P	**Pn**	**23 48 38.9**	**-1.3**
SAUI	**Saumlaki**	**2.97**	**151**	Pn	**Pn**	**23 48 57.7**	**-0.5**
SAUI	**Saumlaki**	**2.97**	**151**	P	**Pn**	**23 48 59.4**	**+1.2**
FAKI	**Fak Fak**	**3.39**	**44**		**Pn**	**23 49 01.9**	**-0.9**
FAKI				Sn	**S**	**23 49 43.5**	**-4.4**
FAKI	**Fak Fak**	**3.39**	**44**	P	**Pn**	**23 49 02.1**	**-0.7**
NLAI	**Namlea**	**3.47**	**307**	P	**Pn**	**23 49 04.2**	**+0.5**
KMPI	**Kaimana, Papua**	**4.18**	**66**	P	**Pn**	**23 49 12.4**	**+0.5**
SIJI	**Sorong**	**4.67**	**17**	P	**Pn**	**23 49 16.3**	**-1.6**
	13nm,0.3s,baz=18,slow=4.0,SNR=15						
SIJI				S	**S**	**23 50 08.9**	**-6.2**
	31nm,0.3s,baz=263,slow=23,SNR=7.1						
SWI	**Sorong**	**4.68**	**17**	P	**Pn**	**23 49 16.5**	**-1.4**
SANI	**Sanana**	**5.08**	**310**	P	**Pn**	**23 49 20.7**	**-2.1**
LBMI	**Labuha**	**5.25**	**333**	P	**Pn**	**23 49 25.4**	**+0.5**
	73nm,0.5s,2μm0.6nm						
RKPI	**Ransiki, Papua**	**5.75**	**49**	P	**Pn**	**23 49 31.8**	**+0.7**
	118nm,0.6s,0.7nm						
MTN	**Manton Dam**	**7.54**	**171**		**Pn**	**23 49 53.0**	**-0.5**
BATI	**Baumata**	**7.81**	**232**	S	**S**	**23 51 22.1**	**-4.2**
	30nm,0.6s,baz=303,slow=22,SNR=6.8						
KNRA	**Kununurra**	**10.31**	**186**	Pn	**Pn**	**23 50 27.8**	**-0.7**
WB0	**Warramunga Arr**	**14.98**	**163**	P	**Pn**	**23 51 26.7**	**+0.6**
WB0				IAmb	IAmb	23 51 43.8	
	comp=Z,6.2nm,0.9s						
WRAB	**Tennant Creek**	**15.13**	**164**	P	**Pn**	**23 51 28.9**	**+1.1**
WRAB				IAmb	IAmb	23 51 53.7	
	comp=Z,7.9nm,1.2s						
WRA	**Warramunga Arr**	**15.13**	**164**		**Pn**	**23 51 27.9**	**-0.1**
WRA	**Warramunga Arr**	**15.13**	**164**	P	**Pn**	**23 51 28.7**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=347,slow=12,SNR=16						
WRA				S	**S**	**23 54 09.8**	**-5.0**
	comp=Z,0.7nm,0.4s,baz=348,slow=23,SNR=3.3						
WB2	**Warramunga Arr**	**15.14**	**164**	P	**Pn**	**23 51 28.6**	**+0.7**
WB2				IAmb	IAmb	23 51 29.4	
	comp=Z,5.7nm,1.0s						
WR0	**Warramunga Arr**	**15.21**	**163**		**Pn**	**23 51 29.4**	**+0.6**
WR0				IAmb	IAmb	23 51 47.0	
	comp=Z,5.1nm,0.6s						
COEN	**Coen**	**15.64**	**124**	P	**Pn**	**23 51 36.4**	**+2.3**
COEN				IAmb	IAmb	23 51 37.9	
	comp=Z,10nm,0.8s						
AS31	**Alice Springs**	**18.61**	**168**	P	**Pn**	**23 52 08.2**	**-0.7**
AS31				IAmb	IAmb	23 52 13.9	
	comp=Z,2.9nm,0.3s						
ASAR	**Alice Springs**	**18.61**	**168**	P	**Pn**	**23 52 07.9**	**-0.9**
ASAR	**Alice Springs**	**18.61**	**168**	P	**Pn**	**23 52 08.6**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=349,slow=11,SNR=26						
ASAR				S	**S**	**23 55 24.4**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=349,slow=19,SNR=14						
CMAR	**Chiang Mai Arr**	**38.60**	**309**	P	**P**	**23 55 06.1**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=129,slow=6.3,SNR=4.4						
	comp=Z,1.0nm,0.3s						
TAPN	**Taplejung**	**52.11**	**311**	*e*P	**P**	**23 56 51.7**	**+0.3**
	comp=Z,10.0nm,0.4s						
THZ	**Tophouse**	**52.70**	**140**	P	**P**	**23 56 54.6**	**-0.6**
NNZ	**Nelson**	**52.72**	**139**	P	**P**	**23 56 56.1**	**+0.8**
RAMN	**Ramite**	**52.75**	**310**	*e*P	**P**	**23 56 57.6**	**+1.6**
	comp=Z,11nm,0.4s						
JIRN	**Jiri**	**53.42**	**310**	*e*P	**P**	**23 57 00.7**	**-0.4**
	comp=Z,3.4nm,0.3s						
GUN	**Gumba**	**53.79**	**310**	*e*P	**P**	**23 57 03.8**	**+0.1**
	comp=Z,9.3nm,0.7s						
PKIN	**Phulchoki**	**53.99**	**310**	*e*P	**P**	**23 57 05.2**	**+0.1**
	comp=Z,2.3nm,0.3s						
GKN	**Gorkha**	**54.78**	**310**	*e*P	**P**	**23 57 10.6**	**0.0**
	comp=Z,5.8nm,0.3s						
PYUN	**Piuthan**	**56.10**	**309**	*e*P	**P**	**23 57 20.2**	**+0.2**
	comp=Z,3.8nm,0.4s						
SONM	**Songino Array**	**56.85**	**341**	P	**P**	**23 57 26.8**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=156,slow=6.5,SNR=4.5						
	comp=Z,0.7nm,0.7s						
MK31	**Makanchi Array**	**66.79**	**327**	P	**P**	**23 58 33.0**	**+2.1**
MKAR	**Makanchi Array**	**66.79**	**327**	P	**P**	**23 58 33.2**	**+2.3**
MKAR	**Makanchi Array**	**66.79**	**327**	P	**P**	**23 58 33.0**	**+2.2**
	comp=Z,1.3nm,0.3s,baz=114,slow=8.2,SNR=41						
	comp=Z,1.3nm,0.3s						
MAKZ	**Makanchi**	**66.97**	**326**	P	**P**	**23 58 33.8**	**+1.8**
MAKZ				IAmb	IAmb	23 58 34.4	
	comp=Z,1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**70.06**	**334**	P	**P**	**23 58 52.0**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=130,slow=6.6,SNR=4.1						
	comp=Z,0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**71.05**	**328**	P	**P**	**23 58 58.8**	**+1.9**
	comp=Z,1.8nm,0.6s,baz=129,slow=5.0,SNR=14						
	comp=Z,1.8nm,0.6s						
KKAR	**Karatay Array**	**72.03**	**319**	P	**P**	**23 59 03.8**	**+0.9**
BVAR	**Borovoye Array**	**76.61**	**328**	P	**P**	**23 59 31.1**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=86,slow=4.6,SNR=3.6						
	comp=Z,0.4nm,0.4s						

---

*SOF **05** 23:54:34.7, 40.°37N×28.°74E, h16km, MD4.0*
*AFAD **05** 23:54:42.6±0.0, 40.°82N×28.°35E, h7km±4km, MW3.4*
*ISK **05** 23:54:42.3, 40.°84N×28.°34E, h14km, ML3.6/34*
ISC 05 23:54:42.5±0.9,**40.°83N**±0.°02×**28.°35E**±0.°02,**h15**km±8km,
n87,σ0⁹**88**/112,**13C-3D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELBA	**Catalca**	**0.33**	**11**	P	**Pg**	**23 54 49.5**	**+0.2**
ELBA				S	**Sg**	**23 54 53.6**	**-0.3**
ELBA				*i* AML	AML	23 54 54.0	
	comp=Z,2μm,0.1s						
ELBA				*i* AML	AML	23 54 54.0	
	comp=N,3μm,0.1s						
ELBA				*i* AML	AML	23 54 57.0	
	comp=E,3μm,0.5s						
AVCI	**Avcilar-stanb**	**0.33**	**59**	Pg	**Pb**	**23 54 49.7**	**-0.3**
AVCI				Sg	**Sb**	**23 54 55.1**	**0.0**
SLVT	**Silivri**	**0.42**	**345**	Pg	**Pb**	**23 54 51.5**	**0.0**
SLVT				Sg	**Sb**	**23 54 57.6**	**-0.1**
CTKS	**Kestanelik-??a**	**0.43**	**16**	Pg	**Pg**	**23 54 51.2**	**+0.1**
CTKS				Sg	**Sg**	**23 54 56.7**	**-0.2**
ARMT	**Armutlu**	**0.47**	**124**	Pg	**Pb**	**23 54 52.8**	**+0.4**
BGKT	**Bogazkoy**	**0.48**	**42**	Pg	**Pb**	**23 54 52.3**	**-0.3**
BAND	**Balkesir-Ban**	**0.51**	**202**	P	**Pb**	**23 54 53.1**	**0.0**
BAND				S	**Sb**	**23 54 59.4**	**-0.9**
BAND				*i* AML	AML	23 55 01.0	
	comp=Z,590nm,0.2s						
BAND				*i* AML	AML	23 55 01.0	
	comp=N,2μm,0.2s						
BAND				*i* AML	AML	23 55 01.0	
	comp=E,2μm,0.5s						
CRLT	**Corlu**	**0.55**	**303**	Pg	**Pb**	**23 54 54.2**	**+0.3**
KCTX	**Karacabey (Bur**	**0.56**	**179**	Pg	**Pb**	**23 54 54.4**	**+0.4**
KCTX				Sg	**Sb**	**23 55 02.1**	**+0.3**
ISK	**Istanbul-Kandi**	**0.59**	**66**	Pg	**Pg**	**23 54 54.1**	**0.0**
ISK	**Istanbul-Kandi**	**0.59**	**66**	P	**Pg**	**23 54 54.0**	**0.0**
ISK				S	**Sg**	**23 55 01.6**	**-0.3**
KAVV	**Kandilli-Istan**	**0.59**	**66**	Pg	**Pb**	**23 54 54.2**	**-0.2**
EDC	**Edincik**	**0.61**	**218**	Pg	**Pb**	**23 54 54.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.61**	**138**	Pg	**Pb**	**23 54 55.4**	**+0.6**
TKR	**Tekirdag**	**0.64**	**285**	Pg	**Pb**	**23 54 55.6**	**+0.3**
CTYL	**Yalikoy Yolu**	**0.65**	**356**	Pg	**Pg**	**23 54 55.2**	**0.0**
CTYL				Sg	**Sg**	**23 55 03.5**	**-0.3**
KLYT	**Kilyos**	**0.68**	**51**	Pg	**Pb**	**23 54 55.9**	**0.0**
KURT	**Yalova, Merkez**	**0.69**	**110**	P	**Pb**	**23 54 56.7**	**+0.4**
KURT				S	**Sb**	**23 55 06.1**	**+0.5**
KURT				*i* AML	AML	23 55 07.0	
	comp=E,862nm,0.7s						
KURT				*i* AML	AML	23 55 08.0	
	comp=Z,471nm,0.4s						
KURT				*i* AML	AML	23 55 09.0	
	comp=N,1μm,0.7s						
GEMT	**Gemlik**	**0.75**	**121**	Pg	**Pb**	**23 54 57.4**	**+0.2**
YLV	**Yalova**	**0.82**	**108**	Pg	**Pb**	**23 54 58.6**	**+0.2**
KNL	**Balıkesir**	**0.84**	**229**	P	**Pb**	**23 54 59.0**	**+0.3**
KNL				S	**Sn**	**23 55 11.7**	**-0.1**
KNL				*i* AML	AML	23 55 13.0	
	comp=Z,770nm,0.6s						
KNL				*i* AML	AML	23 55 13.0	
	comp=N,2μm,0.2s						
KNL				*i* AML	AML	23 55 13.0	
	comp=E,2μm,0.3s						
IGD	**Bursa**	**0.86**	**131**	P	**Pn**	**23 54 59.5**	**-0.5**
IGD				S	**Sn**	**23 55 11.6**	**-0.7**
IGD				*i* AML	AML	23 55 13.0	
	comp=Z,304nm,0.3s						
IGD				*i* AML	AML	23 55 13.0	
	comp=N,479nm,0.7s						
IGD				*i* AML	AML	23 55 13.0	
	comp=E,457nm,0.4s						
ORLT	**Orhaneli**	**0.88**	**152**	Pg	**Pn**	**23 54 59.9**	**-0.5**
SART	**Tekirdag**	**0.90**	**262**	P	**Pg**	**23 54 59.6**	**-0.4**
SART				S	**Sb**	**23 55 12.2**	**+0.6**
SART				*i* AML	AML	23 55 13.0	
	comp=N,1μm,0.5s						
SART				*i* AML	AML	23 55 13.0	
	comp=E,1μm,0.3s						
SART				*i* AML	AML	23 55 19.0	
	comp=Z,316nm,0.5s						
RKY	**Sarkoy-Tekirda**	**0.90**	**262**	Pg	**Pg**	**23 54 59.3**	**-0.7**
RKY				Sg	**Sb**	**23 55 12.2**	**+0.6**
ULDT	**Uludag**	**0.91**	**138**	P	**Pn**	**23 55 00.4**	**-0.4**
ULDT				S	**Sb**	**23 55 12.2**	**+0.2**
ULDT				*i* AML	AML	23 55 15.0	
	comp=N,351nm,0.3s						
ULDT				*i* AML	AML	23 55 15.0	
	comp=E,276nm,0.8s						
ULDT				*i* AML	AML	23 55 17.0	
	comp=Z,204nm,0.5s						
KRBG	**Karabiga-Canak**	**0.91**	**242**	Pg	**Pn**	**23 55 00.2**	**-0.5**
KRBG				Sg	**Sn**	**23 55 12.9**	**-0.6**
GONE	**Gonen-Balikesi**	**0.93**	**213**	Pg	**Pn**	**23 55 01.1**	**+0.2**
HRT	**Hereke**	**1.00**	**90**	Pg	**Pg**	**23 55 01.8**	**0.0**
HRT				Sg	**Sn**	**23 55 15.5**	**-0.3**
PHSR	**Pinarhisar**	**1.02**	**322**	Pg	**Pb**	**23 55 01.6**	**-0.2**
SILT	**Sile**	**1.03**	**71**	Pg	**Pg**	**23 55 02.3**	**-0.1**
OSMT	**Osmaniye**	**1.05**	**102**	Pg	**Pg**	**23 55 02.5**	**-0.3**
ADVT	**Abdulvahap**	**1.13**	**110**	Pn	**Pg**	**23 55 03.9**	**-0.3**
BKES	**Balkesir-Mer**	**1.14**	**197**	P	**Pg**	**23 55 04.3**	**-0.1**
BKES				S	**Sn**	**23 55 19.4**	**+0.3**
BKES				*i* AML	AML	23 55 21.0	
	comp=N,970nm,0.4s						
BKES				*i* AML	AML	23 55 23.0	
	comp=Z,855nm,0.4s						
BKES				*i* AML	AML	23 55 23.0	
	comp=E,2μm,0.3s						
BALY	**Balya**	**1.22**	**207**	P	**Pg**	**23 55 05.9**	**-0.1**
BALY				S	**Sg**	**23 55 22.7**	**+0.8**
BALY				*i* AML	AML	23 55 23.0	
	comp=Z,302nm,0.4s						
BALY				*i* AML	AML	23 55 25.0	
	comp=N,872nm,0.7s						
BALY				*i* AML	AML	23 55 25.0	
	comp=E,997nm,0.4s						
DURS	**Dursunbey**	**1.23**	**176**	P	**Pg**	**23 55 06.7**	**+0.6**
DURS				S	**Sg**	**23 55 22.0**	**-0.2**
DURS				*i* AML	AML	23 55 25.0	
	comp=Z,428nm,0.2s						
DURS				*i* AML	AML	23 55 25.0	
	comp=E,781nm,0.3s						
DURS				*i* AML	AML	23 55 26.0	
	comp=N,797nm,0.3s						
DST	**Dursunbey**	**1.24**	**170**	Pn	**Pg**	**23 55 06.6**	**+0.3**
BALB	**Balikesir**	**1.24**	**197**	Pn	**Pg**	**23 55 06.1**	**-0.2**
CANM	**Can-anakkale**	**1.28**	**231**	Pn	**Pn**	**23 55 04.3**	**-1.5**
LPK	**Lapseki**	**1.29**	**250**	Pn	**Pg**	**23 55 06.9**	**-0.5**
CAVI	**Cavuskoy**	**1.30**	**118**	Pn	**Pg**	**23 55 07.3**	**-0.2**
UKOP	**Uzunkopru-Edir**	**1.33**	**284**	Pn	**Pn**	**23 55 06.7**	**+0.2**
ERIK	**Erikli-Kesan**	**1.40**	**264**	Pn	**Pn**	**23 55 07.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.49**	**254**	Pn	**Pn**	**23 55 09.1**	**+0.4**
SAUV	**Serdivan-Sakar**	**1.50**	**93**	Pn	**Pb**	**23 55 09.9**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.53**	**199**	P	**Pb**	**23 55 09.9**	**-0.6**
STEP				S	**Sg**	**23 55 30.3**	**-1.4**
EDRB	**Edirne**	**1.58**	**311**	P	**Pn**	**23 55 09.5**	**-0.4**
COMU	**Canakkale**	**1.60**	**244**	Pn	**Pn**	**23 55 10.4**	**+0.1**
BUHA	**Balikesir, Bur**	**1.64**	**217**	P	**Pg**	**23 55 13.6**	**-0.5**
BUHA				S	**Sg**	**23 55 35.3**	**-0.1**
BUHA				*i* AML	AML	23 55 37.0	
	comp=N,648nm,0.4s						
BUHA				*i* AML	AML	23 55 37.0	
	comp=E,931nm,0.4s						
BUHA				*i* AML	AML	23 55 39.0	
	comp=Z,248nm,0.7s						
ENEZ	**Enez**	**1.67**	**268**	Pn	**Pn**	**23 55 11.3**	**+0.1**
ENEZ	**Enez**	**1.67**	**268**	P	**Pn**	**23 55 11.2**	**+0.1**
ENEZ				S	**Sb**	**23 55 33.5**	**-0.2**
ALN	**Alexandroupoli**	**1.75**	**273**	Pn	**Pn**	**23 55 12.4**	**+0.2**
ALN	**Alexandroupoli**	**1.75**	**273**	P	**Pn**	**23 55 12.1**	**-0.1**
ALN				S	**Sb**	**23 55 36.9**	**+0.9**
RFT2	**Karaagac**	**1.81**	**220**	Pn	**Pn**	**23 55 13.1**	**+0.1**
EZN	**Ezine**	**1.84**	**238**	Pn	**Pn**	**23 55 13.6**	**+0.1**
EZN	**Ezine**	**1.84**	**238**	P	**Pb**	**23 55 16.1**	**+0.3**
EZN				S	**Sg**	**23 55 41.6**	**-0.2**
JMB	**Yambol**	**2.15**	**321**	*i* P	**Pn**	**23 55 17.5**	**-0.3**
RDO	**Rodhopi**	**2.15**	**279**	P	**Pn**	**23 55 18.1**	**+0.3**
RDO				S	**Sg**	**23 55 50.2**	**-1.5**
SMTH	**Samothraki Isl**	**2.17**	**262**	P	**Pn**	**23 55 17.5**	**-0.6**
PRK	**Paraskevi**	**2.24**	**226**	P	**Pn**	**23 55 19.5**	**+0.5**
ROIA	**ROIAK**	**2.38**	**343**	*i* P	**Pb**	**23 55 23.2**	**-1.8**
KDZ	**Kurdzhali**	**2.41**	**290**	*i* P	**Pb**	**23 55 26.5**	**+1.0**
DIM	**Dimitrovgrad**	**2.41**	**301**	*i* P	**Pn**	**23 55 22.1**	**+0.7**
PRD	**Provadia**	**2.44**	**344**	*e*P	**Pg**	**23 55 27.8**	**-1.4**
SIGR	**SIGRI**	**2.50**	**231**	P	**Pn**	**23 55 23.3**	**+0.7**
LIA	**Limnos Island**	**2.59**	**250**	P	**Pn**	**23 55 23.4**	**-0.4**
RZN	**Rozhen**	**2.86**	**289**	*e*P	**Pn**	**23 55 28.6**	**+1.0**
LOZB	**Loznitsa**	**2.86**	**333**	⇓P	**Pb**	**23 55 35.3**	**+2.1**
MANR	**Mangalia**	**2.99**	**3**	⇓P	**Pb**	**23 55 37.5**	**+2.0**
PLD	**Plovdiv**	**3.01**	**297**	*i* P	**Pb**	**23 55 37.4**	**+1.7**
RAZG	**Razgrad**	**3.06**	**334**	⇑P	**Pb**	**23 55 37.2**	**+0.6**
PVL	**Pavlikeni**	**3.30**	**315**	*e*P	**Pn**	**23 55 33.5**	**0.0**
SGRR	**Singureni**	**3.82**	**333**	⇑P	**Pb**	**23 55 50.7**	**+1.1**
COPA	**Copaceanca**	**4.04**	**326**	⇑P	**Pn**	**23 55 43.6**	**0.0**
KKB	**Krupnik**	**4.06**	**286**	*i* P	**Pb**	**23 55 53.8**	**+0.2**
SULR		**4.15**	**339**	⇑P	**Pb**	**23 55 51.2**	**-3.9**
VTS	**Vitosha**	**4.23**	**297**	⇑P	**Pn**	**23 55 49.1**	**+2.7**
MPEP	**Malo Peshtene**	**4.26**	**308**	P	**Pn**	**23 55 47.4**	**+0.6**
APE	**Apeiranthos**	**4.35**	**211**	⇑P	**Pn**	**23 55 51.3**	**+3.3**
MLR	**Muntele Rosu**	**4.98**	**340**	⇓P	**Pn**	**23 55 59.0**	**+2.2**
VLDR	**Vladesti**	**5.02**	**358**	⇑P	**Pn**	**23 55 58.8**	**+1.7**
VRI	**Vrincioaia**	**5.17**	**347**	⇑P	**Pn**	**23 56 00.7**	**+1.4**
VOIR		**5.20**	**333**	⇑P	**Pn**	**23 56 00.9**	**+1.1**
BOVS	**Bovan**	**5.67**	**302**	⇑P	**Pn**	**23 56 06.5**	**+0.4**
HERR	**Herculane**	**5.95**	**315**	⇑P	**Pn**	**23 56 09.2**	**-0.7**
GZR	**Gura Zlata**	**6.12**	**320**	⇑P	**Pn**	**23 56 11.9**	**-0.5**
BZS	**Buzias**	**6.86**	**316**	⇑P	**Pn**	**23 56 21.7**	**-0.8**

---

*GRAL **06** 00:06:04.5±0.6, 35.°39N×35.°82E, h0km±8km, MD3.0*
*AFAD **06** 00:06:04.9±0.0, 35.°58N×36.°00E, h6km±3km, ML2.1*
ISC 06 00:06:02.3±1.4,**35.°47N**±0.°03×**35.°92E**±0.°08,**h7**km±13km,
n10,σ0⁹**76**/**16**,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASUZ	**Hatay-Arsuz**	**0.83**	**352**	P	**Pg**	**00 06 18.8**	**+0.5**
ASUZ				S	**Sb**	**00 06 30.3**	**0.0**
BEIL	**Beino**	**0.95**	**167**	*e*P	**Pg**	**00 06 20.7**	**+0.2**
BEIL				*e*S	**Sg**	**00 06 32.6**	**-0.3**
RHAN	**Hatay/Reyhanl**	**0.96**	**35**	P	**Pg**	**00 06 21.4**	**+0.6**
RHAN				S	**Sb**	**00 06 33.2**	**-1.0**
RHAN				*i* AML	AML	00 06 35.0	
	comp=N,113nm,0.4s						
RHAN				*i* AML	AML	00 06 35.0	
	comp=E,85nm,0.7s						
RHAN				*i* AML	AML	00 06 36.0	
	comp=Z,50nm,0.1s						
HWQ	**Hawqa**	**1.19**	**179**	*e*P	Pn	00 06 24.1	-1.3
HWQ				*e*S	**Sg**	**00 06 39.3**	**-1.2**
YURE	**YUREGIR**	**1.37**	**350**	P	**Pn**	**00 06 26.9**	**-1.0**
YURE				S	**Sn**	**00 06 47.3**	**+1.0**
YURE				*i* AML	AML	00 06 51.0	
	comp=N,26nm,0.6s						
BHL	**Bhannes**	**1.58**	**188**	*e*P	**Pn**	**00 06 31.1**	**+0.3**
ZAHL	**Zahle**	**1.61**	**181**	*e*P	**Pn**	**00 06 31.7**	**+0.5**
DQRL	**Deir Qamar**	**1.78**	**189**	*e*P	**Pn**	**00 06 33.9**	**+0.3**
HCB	**Kahramanmara**	**2.03**	**23**	P	**Pn**	**00 06 37.4**	**+0.5**
HCB				S	**Sn**	**00 07 01.7**	**-0.9**
SURC	**SANLIURFA_SURC**	**2.59**	**56**	P	**Pb**	**00 06 49.1**	**0.0**
SURC				S	**Sb**	**00 07 21.6**	**+0.4**
SURC				*i* AML	AML	00 07 35.0	
	comp=E,9.8nm,1.0s						

---

*NNC **06** 00:13:13.9±15.0, 48.°73N×84.°74E, h0km, mpv2.8, Error ellipse: s-maj=113.6km s-min=34.6km az=52.0*
*SOME **06** 00:13:15.4, 47.°85N×82.°72E, h0km*
ISC 06 00:13:13.2±6.9,**48.°1N**±0.°5×**83.°16E**±0.°09,**h10**km,**n5,**
σ0⁹**58**/**4**,**2C**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.31**	**117**	*e*P	**Pg**	**00 13 38.4**	**+0.1**
	4.8nm,0.2s						
ZSN				*e*S	**Sg**	**00 13 55.1**	**-0.1**
	17nm,0.2s						
MK31	**Makanchi Array**	**1.40**	**205**	Pg	**Pn**	**00 13 38.4**	**-0.4**
	4.8nm,0.2s						
MK31				Lg	Lg	00 13 55.1	
	16nm,0.2s						
KURBB	**Kurchatov Arra**	**3.96**	**312**	⇑Lg	Lg	00 14 35.2	
	0.2nm,0.2s,baz=41,slow=29,SNR=6.1						
KURK	**Kurchatov**	**3.98**	**314**	⇑Lg	Lg	00 13 59.9	
	0.1nm,0.2s,baz=33,slow=15,SNR=6.3						
DJR	**Jarkent**	**4.40**	**213**	*e*Pg	**Pb**	**00 14 31.0**	**+0.3**
	0.4nm,0.1s						
DJR				*e*Lg	Lg	00 15 25.1	
	0.6nm,0.1s						

---

*IDC **06** 00:14:29.4±2.3, 0.°86N×127.°16E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=176.1km s-min=29.2km az=66.0*
*DJA **06** 00:14:31.4±0.4, 1.°N±3.°×12.°7E±.°, h10km, M3.3/6, MLv3.3/6*
ISC 06 00:14:30.4±1.6,**1.°0N**±0.°1×**127.°5E**±0.°2,**h10**km,**n6**,σ0⁹**69**/**7**,
mb3.2/**3**,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.28**	**216**	P	**Pb**	**00 14 37.5**	**-0.1**
TNTI				S	**Sb**	**00 14 42.6**	**+0.1**
LBMI	**Labuha**	**1.63**	**181**	P	**Pg**	**00 15 01.5**	**-0.3**
SANI	**Sanana**	**3.40**	**207**	S	**Sn**	**00 16 04.3**	**+0.2**
WRA	**Warramunga Arr**	**21.86**	**163**	P	**P**	**00 19 24.5**	**+1.1**
	0.4nm,0.5s,baz=341,slow=11,SNR=7.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.29**	**166**	P	**P**	**00 19 56.5**	**-0.8**
	0.5nm,0.8s,baz=344,slow=8.8,SNR=2.3						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**60.24**	**326**	P	**P**	**00 24 39.0**	**+0.1**
	0.3nm,0.6s,baz=123,slow=7.6,SNR=1.8						
	0.3nm,0.6s						

---

*SJA **06** 00:15:10.5±0.7, 29.°84S×71.°49W, h13km±2km, ML3.6, MW3.6*
*GUC **06** 00:15:13.7±0.8, 29.°88S×71.°36W, h51km±2km, ML3.9*
*NEIC **06** 00:15:13.9±1.7, 29.°85S±0.°02×71.°43W±0.°08, h41km±17km, Error ellipse: s-maj=10.2km s-min=1.7km az=107.0*
ISC 06 00:15:14.3±1.0,**29.°86S**±0.°02×**71.°50W**±0.°04,**h32**km±7km,
n74,σ1⁹**98**/113,**1C-5D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.23**	**105**		**Pb**	**00 15 20.9**	**-0.1**
CO05					**Sb**	**00 15 26.4**	**+0.7**
CO05	**La Serena**	**0.23**	**105**	⇓*i*P	**Pb**	**00 15 21.2**	**+0.1**
CO05				*i* S	**Sb**	**00 15 26.4**	**+0.7**
CO05				IAML		00 15 27.0	
	comp=E,45μm,0.4s						
GO04	**Tololo Observa**	**0.68**	**118**		**Pb**	**00 15 26.3**	**-1.7**
GO04					**Sb**	**00 15 35.2**	**-2.0**
GO04	**Tololo Observa**	**0.68**	**118**	⇓*i*P	**Pb**	**00 15 26.2**	**-1.7**
GO04				*i* S	**Sb**	**00 15 35.3**	**-2.0**
GO04				IAML		00 15 36.2	
	comp=E,20μm,0.3s						
GO04	**Tololo Observa**	**0.68**	**118**	*e*P	**Pb**	**00 15 26.1**	**-1.9**
CO06	**Fray Jorge**	**0.82**	**188**		**Pb**	**00 15 28.8**	**-1.3**
CO06					**Sb**	**00 15 40.9**	**-0.1**

VCA IAML 00 16 50.6
comp=Z,238nm,0.3s
ROC1 El Roble 3.14 173 Pn **Pn** 00 15 58.3 -3.5
ROC1 **El Roble 3.14 173** *eP* **Pn** **00 16 04.1 +2.4**
ROC1 *eS* **Sb** **00 16 45.4 -2.0**
VA01 Torpederas 3.16 182 Pn **Pn** **00 15 59.8 -2.0**
CFA Coronel Fontan 3.30 123 *eP* **Pn** **00 16 05.3 +1.4**
CFA *eS* **Sb** **00 16 50.8 -1.2**
CFA IAML 00 16 53.7
comp=Z,68nm,0.4s
PEL Peldehue 3.35 168 **Pn** **00 16 03.6 -0.9**
PEL Peldehue 3.35 168 *eP* **Pn** **00 16 05.8 +1.3**
PEL *eS* **Sn** **00 16 47.6 +4.4**
MT02 Curacav 3.41 175 **Pn** **00 16 04.1 -1.1**
MT02 Curacav 3.41 175 *eP* **Pn** **00 16 05.2 0.0**
MT02 *i* S **Sn** **00 16 43.8 -0.7**
MT02 IAML 00 17 04.5
comp=E,136nm,0.1s
MT02 Curacav 3.41 175 *eP* **Pn** **00 16 05.2 0.0**
MT02 *eS* **Sn** **00 16 50.6 +6.1**
MT02 IAML 00 16 54.6
comp=Z,144nm,0.6s
ASAL Salagasta 3.55 141 *eP* **Pn** **00 16 09.8 +2.5**
ASAL *eS* **Sb** **00 16 59.3 +0.1**
ASAL IAML 00 17 11.1
comp=Z,61nm,0.9s
MT05 Renca 3.58 170 Pn Pn 00 16 03.0 -4.7
MT05 Renca 3.58 170 *eP* **Pn** **00 16 09.8 +2.1**
MT05 *eS* **Sn** **00 16 55.5 +6.5**
MT05 IAML 00 17 07.0
comp=Z,145nm,0.3s
FCH Farellones 3.61 164 *eP* **Pn** **00 16 10.1 +1.8**
FCH *i* S **Sn** **00 16 53.3 +3.3**
FCH IAML 00 17 09.3
comp=E,122nm,0.3s
AC02 Maricunga 3.66 35 **Pn** **00 16 09.1 0.0**
AC02 Maricunga 3.66 35 *eP* **Pn** **00 16 09.9 +0.7**
AC02 IAML 00 17 08.2
comp=Z,95nm,0.5s
AC02 *eS* **Sb** **00 17 08.4 +5.6**
MT03 Universidad Ad 3.72 167 **Pn** **00 16 10.4 +0.7**
MT03 Universidad Ad 3.72 167 *eP* **Pn** **00 16 11.7 +2.1**
MT03 *i* S **Sn** **00 16 54.0 +1.6**
MT03 IAML 00 17 15.1
comp=N,238nm,0.5s
MT03 Universidad Ad 3.72 167 *eP* **Pn** **00 16 12.2 +2.6**
MT03 IAML 00 17 15.1
comp=Z,126nm,0.4s
AC01 Pan de Azucar 3.78 12 Pn **Pn** **00 16 10.5 +0.1**
AC01 Pan de Azucar 3.78 12 *eP* **Pn** **00 16 08.8 -1.6**
AC01 *eS* **Sb** **00 17 06.4 +0.8**
AC01 IAML 00 17 13.9
comp=Z,71nm,0.4s
VA05 Santo Domingo 3.79 181 Pn **Pn** **00 16 08.6 -1.9**
MT08 Bocatoma Ro 3.79 161 Pn **Pn** **00 16 10.1 -0.7**
MT09 Talagante 3.93 174 Pn **Pn** **00 16 12.4 -0.2**
MT01 Popeta 4.00 177 **Pn** **00 16 13.7 +0.3**
MT01 Popeta 4.00 177 *eP* **Pn** **00 16 13.3 0.0**
MT13 San Alfonso 4.01 165 Pn **Pn** **00 16 15.3 +1.7**
LMEL Las Melosas 4.13 165 **Pn** **00 16 16.5 +1.2**
BO04 La Punta 4.19 170 **Pn** **00 16 15.4 -0.6**
BO04 La Punta 4.19 170 *eP* **Pn** **00 16 16.7 +0.7**
BO04 *i* S **Sn** **00 17 03.2 -0.6**
ACHE Chepes 4.37 109 *eP* **Pn** **00 16 18.7 +0.1**
ACHE *eS* **Sn** **00 17 07.9 -0.6**
BO01 Tunca 4.54 176 **Pn** **00 16 19.4 -1.3**
BO01 Tunca 4.54 176 *eP* **Pn** **00 16 21.1 +0.4**
BO01 *eS* **Sn** **00 17 15.9 +3.6**
BO01 IAML 00 17 41.1
comp=Z,48nm,0.7s
BO02 Sierra Bellavi 4.96 173 Pn **Pn** **00 16 25.4 -1.2**
BO02 Sierra Bellavi 4.96 173 *eP* **Pn** **00 16 29.0 +2.4**
BO02 IAML 00 17 48.7
comp=Z,66nm,1.1s
GO05 Huala 5.15 184 Pn **Pn** **00 16 27.6 -1.5**
GO05 Huala 5.15 184 *eP* **Pn** **00 16 28.1 -1.1**
CYA Choya 5.18 76 *eP* **Pn** **00 16 30.1 +0.5**
CYA *eS* **Sn** **00 17 35.3 +7.1**
CYA IAML 00 17 36.9
comp=Z,46nm,0.7s

*IDC **06** 00:40:10.3±4.1, 64°.56N×0°.45W, h0km, mbtmp3.4/5, ML2.7/5, Error ellipse: s-maj=48.2km s-min=29.9km az=115.0*
*NAO **06** 00:40:10.6±4.2, 64°.57N×0°.44W, ML2.8*
*BGS **06** 00:40:14.9±0.8, 64°.40N×0°.14W, h10km, ML2.9*
*BER **06** 00:40:16.1±3.3, 64°.47N×0°.12W, h14km±19km, ML2.3, ML2.8(NAO), Confirmed Earthquake*
ISC 06 00:40:09.9±1.2, 64°.54N±0°.06×0°.20W±0°.08, h10km, n44, σ3°.05/77, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOO	**Floro**	**3.79**	**139**	Pn	**Pn**	**00 41 10.4**	**+2.2**
FOO				Sn	**Sn**	**00 41 52.5**	**-0.4**
MOL	**Molde**	**3.99**	**116**	Pn	**Pn**	**00 41 14.6**	**+3.7**
MOL				Sn	**Sn**	**00 41 57.2**	**-0.5**
MOL	**Molde**	**3.99**	**116**	*eP*	**Pn**	**00 41 14.6**	**+3.7**
MOL				*eS*	**Sn**	**00 41 57.1**	**-0.6**
MOL				IAML		00 41 59.5	
	comp=N,10nm,0.3s						
MOL				IAML		00 41 59.9	
	comp=E,13nm,0.2s						
MOL	**Molde**	**3.99**	**116**	*eP*	**Pn**	**00 41 14.6**	**+3.7**
MOL				*eS*	**Sn**	**00 41 57.2**	**-0.5**
AKN	**Aaknes**	**4.01**	**123**	Pn	**Pn**	**00 41 14.8**	**+3.4**
AKN				Sn	**Sn**	**00 41 57.8**	**-0.6**
AKN	**Aaknes**	**4.01**	**123**	Pn	**Pn**	**00 41 14.8**	**+3.4**
AKN				Sn	**Sn**	**00 41 57.8**	**-0.6**
LRW	**Lerwick**	**4.44**	**186**	Pn	**Pn**	**00 41 19.7**	**+2.6**
LRW				Sn	**Sn**	**00 42 07.9**	**-0.9**
LRW	**Lerwick**	**4.44**	**186**	*eP*	**Pn**	**00 41 19.8**	**+2.7**
LRW				*eS*	**Sn**	**00 42 07.4**	**-1.4**
LRW				IAML		00 42 08.5	
	comp=E,7.2nm,0.4s						
LRW				IAML		00 42 10.4	
	comp=N,12nm,0.5s						
LRW	**Lerwick**	**4.44**	**186**	Pn	**Pn**	**00 41 19.7**	**+2.6**
LRW				Sn	**Sn**	**00 42 07.9**	**-0.9**
LRW				IAML		00 42 11.4	
	comp=Z,9.1nm,0.5s						
NSS	**Namsos**	**5.25**	**85**	Pn	**Pn**	**00 41 31.6**	**+3.3**
NSS				Sn	**Sn**	**00 42 27.1**	**-1.7**
NSS	**Namsos**	**5.25**	**85**	*eP*	**Pn**	**00 41 31.6**	**+3.3**
NSS				*eS*	**Sn**	**00 42 27.2**	**-1.6**
NSS				IAML		00 42 31.5	
	comp=Z,10.0nm,0.3s						
STOK	**Stokkvaagen**	**5.80**	**66**	Pn	**Pn**	**00 41 39.3**	**+3.5**
STOK				Sn	**Sn**	**00 42 40.0**	**-2.2**
STOK	**Stokkvaagen**	**5.80**	**66**	*eP*	**Pn**	**00 41 39.1**	**+3.3**
STOK				*eS*	**Sn**	**00 42 39.2**	**-3.1**
KONS	**Konsvik**	**5.88**	**64**	Pn	**Pn**	**00 41 40.1**	**+3.2**
KONS				Sn	**Sn**	**00 42 41.3**	**-2.9**
KONS	**Konsvik**	**5.88**	**64**	*eP*	**Pn**	**00 41 40.2**	**+3.4**
KONS				*eS*	**Sn**	**00 42 41.3**	**-2.9**
KONS				IAML		00 42 44.2	
	comp=Z,7.1nm,0.4s						
NB2	**NORSAR Subarra**	**6.30**	**119**	Pn	**Pn**	**00 41 45.5**	**+2.7**
	baz=309,slow=14						
NB2				Sn	**Sn**	**00 42 54.2**	**-0.4**
	baz=309,slow=28						
NB2	**NORSAR Subarra**	**6.30**	**119**	Pn	**Pn**	**00 41 45.5**	**+2.7**
	baz=309,slow=14						
NB2				Sn	**Sn**	**00 42 54.2**	**-0.4**
	baz=309,slow=28						
NOA	**NORSAR Array B**	**6.30**	**119**	Pn	**Pn**	**00 41 45.4**	**+2.7**
	baz=310,slow=13,SNR=1.7						
NOA				Sn	**Sn**	**00 42 54.3**	**-0.4**
	baz=305,slow=23,SNR=2.8						
	comp=Z,0.8nm,0.8s						
NAO01	**NORSAR Array S**	**6.30**	**121**	*eP*	**Pn**	**00 41 45.7**	**+2.9**
BIGH	**Upper Bighouse**	**6.32**	**198**	*eP*	**Pn**	**00 41 45.6**	**+2.6**
BIGH	**Upper Bighouse**	**6.32**	**198**	*eP*	**Pn**	**00 41 45.6**	**+2.6**
NB201	**NORSAR Array S**	**6.32**	**118**	*eP*	**Pn**	**00 41 46.4**	**+3.3**
LOF	**Lofoten**	**6.60**	**51**	Pn	**Pn**	**00 41 48.8**	**+2.1**
LOF				Sn	**Sn**	**00 42 58.5**	**-3.3**
LOF	**Lofoten**	**6.60**	**51**	*eP*	**Pn**	**00 41 49.0**	**+2.3**
LOF				*eS*	**Sn**	**00 42 57.3**	**-4.5**
LOF				IAML		00 43 02.9	
	comp=Z,5.4nm,0.7s						
NRA0	**NORESS Array S**	**6.62**	**120**	Pn	**Pn**	**00 41 49.4**	**+2.3**
	baz=317,slow=14						
NRA0				Sn	**Sn**	**00 43 01.9**	**-0.5**
	baz=312,slow=28						
NRA0	**NORESS Array S**	**6.62**	**120**	Pn	**Pn**	**00 41 49.4**	**+2.3**
	baz=317,slow=14						
NRA0				Sn	**Sn**	**00 43 01.9**	**-0.5**
	baz=312,slow=28						
FAUS	**Fauske**	**6.94**	**59**	*eP*	**Pn**	**00 41 55.2**	**+3.8**
FAUS				*eS*	**Sn**	**00 43 05.6**	**-4.5**
STEI	**Steigen**	**7.10**	**55**	*eP*	**Pn**	**00 41 56.8**	**+3.2**
STEI				*eS*	**Sn**	**00 43 10.6**	**-3.6**
STEI				IAML		00 43 16.7	
	comp=Z,3.6nm,0.3s						
KPL	**Plockton**	**7.69**	**203**	*eP*	**Pn**	**00 42 04.0**	**+2.2**
KPL				*eS*	**Sn**	**00 43 23.3**	**-5.4**
KPL				IAML		00 43 34.2	
	comp=N,3.4nm,0.6s						
KPL				IAML		00 43 42.1	
	comp=E,3.6nm,0.7s						
KPL	**Plockton**	**7.69**	**203**	*eP*	**Pn**	**00 42 03.8**	**+2.1**
KPL				*eS*	**Sn**	**00 43 23.4**	**-5.4**
HFS	**Hagfors**	**7.82**	**118**	Pn	**Pn**	**00 42 06.7**	**+3.1**
	baz=320,slow=12						
HFS				Sn	**Sn**	**00 43 29.1**	**-3.0**
	baz=308,slow=22						
HFS	**Hagfors**	**7.82**	**118**	Pn	**Pn**	**00 42 06.7**	**+3.1**
	baz=320,slow=12						
HFS				Sn	**Sn**	**00 43 29.1**	**-3.0**
	baz=308,slow=22						
HFS	**Hagfors**	**7.82**	**118**	Pn	**Pn**	**00 42 05.7**	**+2.1**
	comp=E,0.1nm,0.3s,baz=316,slow=10,SNR=2.4						
	comp=E,3.8nm,1.0s						
EKA	**Eskdalemuir Ar**	**9.35**	**190**	Pn	**Pn**	**00 42 26.1**	**+1.6**
	baz=8.1,slow=12						
	comp=E,1.6nm,0.7s						
KIF	**Kilpisjarvi**	**9.40**	**52**	*eP*	Pn	00 42 29.9	+4.8
KIF				*eS*	**Sn**	**00 44 07.7**	**-2.8**
JETT	**Jettan, Norway**	**9.46**	**49**	Pn	**Pn**	**00 42 30.6**	**+4.7**
JETT				Sn	**Sn**	**00 44 11.8**	**-0.4**
JETT	**Jettan, Norway**	**9.46**	**49**	Pn	**Pn**	**00 42 30.6**	**+4.7**
JETT				Sn	**Sn**	**00 44 11.8**	**-0.4**
HEF	**Hetta**	**10.26**	**57**	*eP*	**Pn**	**00 42 40.9**	**+4.0**
HEF				*eS*	**Sn**	**00 44 25.8**	**-6.0**
ARA0	**ARCESS Array S**	**11.15**	**52**	Pn	**Pn**	**00 42 51.9**	**+2.8**
	baz=244,slow=14						
ARA0	**ARCESS Array S**	**11.15**	**52**	Pn	**Pn**	**00 42 51.9**	**+2.8**
	baz=244,slow=14						
ARCES	**ARCESS Array B**	**11.15**	**52**	Pn	**Pn**	**00 42 52.0**	**+2.9**
	baz=256,slow=22,SNR=5.4						
ARCES				Sn	**Sn**	**00 44 47.8**	**-5.9**
	comp=E,0.1nm,0.3s,baz=240,slow=23,SNR=6.1						
	comp=E,0.6nm,0.7s						
FIA0	**FINESS Array S**	**12.29**	**93**	Pn	**Pn**	**00 43 07.1**	**+2.4**
FIA0	**FINESS Array S**	**12.29**	**93**	Pn	**Pn**	**00 43 07.1**	**+2.4**
FINES	**FINESS Array B**	**12.29**	**93**	Pn	**Pn**	**00 43 06.9**	**+2.2**
	comp=E,0.1nm,0.3s,baz=300,slow=12,SNR=4.2						
FINES				Sn	**Sn**	**00 45 15.9**	**-5.7**
	comp=E,0.1nm,0.3s,baz=306,slow=22,SNR=1.1						
	comp=E,1.1nm,0.8s						

*IDC **06** 00:45:22.3±2.9, 8°.61S×118°.14E, h129km±22km, mb3.5/7, mbtmp4.0/10, Error ellipse: s-maj=51.3km s-min=14.2km az=59.0*
*DJA **06** 00:45:23.9±0.3, 9°.5±5°.11°.8E±°, h127km±5km, M4.4/10, mb4.8/5, mB5.0/2, MLv4.3/10, Mw(mB)4.3/2*
*NEIC **06** 00:45:24.1±1.9, 8°.7S±0°.1×118°.35E±0°.06, h130km±17km, mb4.3/12, Error ellipse: s-maj=14.8km s-min=9.0km az=175.0*
ISC 06 00:45:24.2±0.6, 8°.62S±0°.05×118°.31E±0°.04, h152km, n50, σ1°.90/58, mb3.9/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.57**	**248**	P	**Pn**	**00 45 44.2**	**-2.0**
PLAI	**Plampang**	**0.57**	**248**	P	**Pn**	**00 45 44.2**	**-2.0**
PLAI				S	**Sn**	**00 45 58.6**	**-4.3**
TWSI	**Taliwang, Sumb**	**1.42**	**265**	P	**Pn**	**00 45 51.9**	**-1.2**
TWSI				S	**Sn**	**00 46 13.4**	**-1.8**
BASI	**Baing, Sumba**	**2.75**	**126**	P	**Pn**	**00 46 07.7**	**-0.8**
SRBI	**Singaraja**	**3.11**	**280**	P	**Pn**	**00 46 13.0**	**-0.1**
IGBI	**Denpasar**	**3.14**	**266**	P	**Pn**	**00 46 14.2**	**+0.8**
BKSI	**Bulukumba**	**3.73**	**29**	P	**Pn**	**00 46 20.7**	**-0.4**
KAPI	**Kappang**	**3.85**	**22**	P	**Pn**	**00 46 23.0**	**+0.3**
KAPI	**Kappang**	**3.85**	**22**	P	**Pn**	**00 46 22.2**	**-0.4**
	19nm,0.6s,baz=201,slow=7.3,SNR=12						
KAPI				S	**Sn**	**00 47 04.1**	**-4.0**
	9.7nm,0.5s,baz=252,slow=20,SNR=2.0						
MMRI	**Maumere**	**3.88**	**91**		**Pn**	**00 46 21.8**	**-1.2**
MMRI	**Maumere**	**3.88**	**91**	P	**Pn**	**00 46 22.9**	**-0.1**
MMRI	**Maumere**	**3.88**	**91**	P	**Pn**	**00 46 22.0**	**-1.0**
JAGI	**Jajag, Banyuwa**	**4.12**	**272**		**Pn**	**00 46 25.2**	**-0.9**
JAGI				Sn	**Sn**	**00 47 13.7**	**-0.5**
JAGI	**Jajag, Banyuwa**	**4.12**	**272**	P	**Pn**	**00 46 25.4**	**-0.7**
JAGI	**Jajag, Banyuwa**	**4.12**	**272**	P	**Pn**	**00 46 25.2**	**-0.9**
GMJI	**Gumukmas**	**4.83**	**274**	P	**Pn**	**00 46 34.9**	**-0.5**
BATI	**Baumata**	**5.51**	**107**	P	**Pn**	**00 46 43.3**	**-1.2**
	138nm,0.6s,2μm0.7nm						
BATI	**Baumata**	**5.51**	**107**	P	**Pn**	**00 46 43.6**	**-1.0**
	117nm,0.4s,baz=286,slow=11,SNR=16						
BATI				S	**Sn**	**00 47 43.8**	**-3.5**
	59nm,0.4s,baz=306,slow=19,SNR=2.0						
SOEI	**Soe**	**5.99**	**101**		**Pn**	**00 46 49.6**	**-1.4**
SOEI	**Soe**	**5.99**	**101**	P	**Pn**	**00 46 50.0**	**-1.0**
SOEI	**Soe**	**5.99**	**101**	P	**Pn**	**00 46 49.6**	**-1.4**
	88nm,0.7s,1μm0.3nm						
KNRA	**Kununurra**	**12.39**	**125**		**Pn**	**00 48 14.2**	**-1.4**
MBWA	**Marble Bar**	**12.55**	**174**	Pn	**Pn**	**00 48 16.3**	**-1.3**
PSA00	**Pilbara Seismi**	**12.97**	**174**	Pn	**Pn**	**00 48 22.3**	**-0.7**
MTN	**Manton Dam**	**13.28**	**110**	P	**Pn**	**00 48 27.5**	**+0.5**
GIRL	**Giralia**	**14.49**	**195**		**Pn**	**00 48 41.1**	**-1.1**
FAKI	**Fak Fak**	**14.97**	**69**	Pn	**Pn**	**00 48 48.2**	**-0.1**
WB0	**Warramunga Arr**	**19.11**	**127**	P	**Pn**	**00 49 36.2**	**-1.8**
WB0				IAmb	IAmb	00 49 38.7	
	comp=Z,6.6nm,0.7s						
WRA	**Warramunga Arr**	**19.16**	**128**	P	**P**	**00 49 36.0**	**-0.2**
WRA	**Warramunga Arr**	**19.16**	**128**	P	**Pn**	**00 49 36.6**	**-2.1**
	comp=Z,2.4nm,0.7s,baz=302,slow=13,SNR=52						
WRA				S	**S**	**00 53 03.6**	**-1.8**
	comp=Z,1.0nm,0.7s,baz=298,slow=23,SNR=2.7						
WRA				ScP	**ScP**	**00 57 18.1**	**+2.6**
	comp=Z,0.6nm,0.7s,baz=323,slow=2.1,SNR=1.7						
WRAB	**Tennant Creek**	**19.17**	**128**	P	**Pn**	**00 49 37.2**	**-1.6**
WRAB				IAmb	IAmb	00 49 56.9	
	comp=Z,20nm,1.5s						
WB2	**Warramunga Arr**	**19.17**	**128**	P	**Pn**	**00 49 36.9**	**-1.9**
WB2				IAmb	IAmb	00 49 45.1	
	comp=Z,5.1nm,0.6s						
WR0	**Warramunga Arr**	**19.33**	**127**	P	**Pn**	**00 49 38.8**	**-1.9**
WR0				IAmb	IAmb	00 49 41.5	
	comp=Z,12nm,0.7s						
MORW	**Morawa**	**20.46**	**186**	P	Pn	00 49 52.2	-1.6
MORW				IAmb	IAmb	00 50 11.9	
	comp=Z,28nm,1.4s						
AS31	**Alice Springs**	**21.14**	**137**	P	**P**	**00 49 58.1**	**+0.7**
ASAR	**Alice Springs**	**21.14**	**137**	P	**P**	**00 49 58.6**	**+1.2**
ASAR	**Alice Springs**	**21.14**	**137**	P	**P**	**00 49 58.4**	**+1.0**
	comp=Z,2.5nm,0.5s,baz=309,slow=9.1,SNR=52						
ASAR				S	**S**	**00 53 51.5**	**+7.5**
	comp=Z,1.3nm,0.8s,baz=318,slow=22,SNR=6.4						
ASAR				ScP	**ScP**	**00 57 23.2**	**+3.1**
	comp=Z,0.7nm,0.7s,baz=333,slow=0.8,SNR=5.8						
	comp=Z,2.5nm,0.5s						
QIS	**Mount Isa**	**23.75**	**122**	P	**P**	**00 50 25.4**	**+2.6**
	comp=Z,9.9nm,0.7s						
FORT	**Forrest**	**23.86**	**159**	P	**P**	**00 50 25.6**	**+1.9**
NWAO	**Narrogin (SRO)**	**24.21**	**182**	P	**P**	**00 50 27.6**	**+0.7**
COEN	**Coen**	**24.94**	**105**	P	**P**	**00 50 34.3**	**+0.6**
COEN				IAmb	IAmb	00 50 38.6	
	comp=Z,20nm,1.4s						
BBOO	**Buckleboo**	**29.15**	**148**	P	**P**	**00 51 10.1**	**-1.0**
STKA	**Stephens Creek**	**31.68**	**140**	P	**P**	**00 51 34.9**	**+1.5**
STKA	**Stephens Creek**	**31.68**	**140**	P	**P**	**00 51 35.4**	**+2.0**
	comp=Z,0.8nm,0.4s,baz=290,slow=7.1,SNR=3.2						
	comp=Z,0.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**54.01**	**12**	P	**P**	**00 54 33.2**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=179,slow=6.9,SNR=2.8						
	comp=Z,1.4nm,0.5s						
SONM	**Songino Array**	**57.19**	**350**	P	**P**	**00 54 56.1**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=173,slow=8.4,SNR=6.7						
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**63.81**	**333**	P	**P**	**00 55 40.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=145,slow=5.7,SNR=8.7						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**68.33**	**334**	P	**P**	**00 56 08.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=138,slow=5.9,SNR=2.0						
	comp=Z,0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**68.44**	**339**	P	**P**	**00 56 08.5**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=138,slow=6.3,SNR=5.9						
	comp=Z,1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**117.72**	**280**	PKP	**PKiKP**	**01 03 54.8**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=31,slow=2.4,SNR=11						

*IDC **06** 01:00:29.7±0.5, 13°.64N×120°.93E, h196km±3km, mb3.6/15, mbtmp4.1/16, Error ellipse: s-maj=26.5km s-min=9.6km az=68.0*
ISC 06 01:00:29.8±0.6, 13°.56N±0°.10×120°.9E±0°.2, h200km, n25, σ0°.73/27, mb3.9/15, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.55**	**5**	P	**Pn**	**01 00 57.7**	**+0.5**
	5μm,0.6s,baz=229,slow=2.7,SNR=147						
TGY				S	**Sn**	**01 01 17.8**	**-0.8**
	1μm,0.5s,baz=43,slow=23,SNR=9.6						
KAPI	**Kappang**	**18.48**	**184**	P	**Pn**	**01 04 32.9**	**-0.7**
	4.5nm,0.3s,baz=160,slow=18,SNR=2.2						
CMAR	**Chiang Mai Arr**	**21.64**	**286**	P	**P**	**01 05 05.5**	**+0.9**
	10nm,1.0s,baz=95,slow=8.1,SNR=43						
	10nm,1.0s						
BATI	**Baumata**	**23.77**	**173**	P	**P**	**01 05 25.1**	**+0.8**
	15nm,0.4s,baz=47,slow=5.3,SNR=2.0						
	15nm,0.4s						
KSRS	**Korea Array**	**24.61**	**14**	P	**P**	**01 05 32.1**	**+0.4**
	1.6nm,0.8s,baz=196,slow=9.2,SNR=4.9						
	1.6nm,0.8s						
ODAN	**Odare**	**33.99**	**298**	*eP*	**P**	**01 06 55.4**	**+0.4**
	40nm,0.6s						
RAMN	**Ramite**	**34.69**	**298**	*eP*	**P**	**01 07 01.7**	**+0.6**
	19nm,0.6s						
JIRN	**Jiri**	**35.24**	**299**	*eP*	**P**	**01 07 06.0**	**+0.1**
	29nm,0.4s						
GUN	**Gumba**	**35.57**	**299**	*eP*	**P**	**01 07 09.0**	**+0.3**
	21nm,0.5s						
WRA	**Warramunga Arr**	**35.82**	**158**	P	**P**	**01 07 10.7**	**+0.3**
	1.5nm,0.5s,baz=336,slow=9.5,SNR=7.4						
	1.5nm,0.5s						
PKI	**Pulchoki**	**35.88**	**298**	*eP*	**P**	**01 07 10.9**	**-0.4**
	10nm,0.4s						
PKIN	**Phulchoki**	**35.89**	**298**	*eP*	**P**	**01 07 11.1**	**-0.2**
	11nm,0.4s						
SONM	**Songino Array**	**36.25**	**343**	P	**P**	**01 07 13.9**	**0.0**
	2.0nm,0.6s,baz=164,slow=9.6,SNR=10						
	2.0nm,0.6s						
DANN	**Dangsing**	**37.49**	**299**	*eP*	**P**	**01 07 24.5**	**-0.4**
	11nm,0.5s						
PYUN	**Piuthan**	**38.09**	**298**	*eP*	**P**	**01 07 29.8**	**+0.1**
	20nm,0.8s						
ASAR	**Alice Springs**	**39.12**	**161**	P	**P**	**01 07 38.6**	**+0.5**
	2.3nm,0.4s,baz=337,slow=6.7,SNR=34						
ASAR				S	**S**	**01 13 21.0**	**-1.9**
	1.1nm,0.9s,baz=348,slow=20,SNR=6.7						
	2.3nm,0.4s						
CTA	**Charters Tower**	**41.72**	**143**	P	**P**	**01 08 00.3**	**+0.9**
	4.0nm,0.8s,baz=343,slow=6.8,SNR=4.0						
	4.0nm,0.8s						
MKAR	**Makanchi Array**	**46.26**	**324**	P	**P**	**01 08 35.0**	**-0.2**
	1.1nm,0.7s,baz=113,slow=9.3,SNR=11						
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**49.27**	**333**	P	**P**	**01 08 57.2**	**-0.9**
	0.9nm,0.5s,baz=122,slow=7.5,SNR=4.0						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**50.41**	**326**	P	**P**	**01 09 06.7**	**0.0**
	1.3nm,0.7s,baz=129,slow=7.9,SNR=14						
	1.3nm,0.7s						
BVAR	**Borovoye Array**	**55.99**	**326**	P	**P**	**01 09 47.3**	**-0.2**
	0.7nm,0.6s,baz=120,slow=8.1,SNR=5.3						
	0.7nm,0.6s						
NRIK	**Noril'sk**	**59.59**	**347**	P	**P**	**01 10 12.7**	**+0.5**
	1.2nm,0.3s,baz=156,slow=5.3,SNR=1.7						
	1.2nm,0.3s						
ARCES	**ARCESS Array B**	**79.28**	**339**	P	**P**	**01 12 11.4**	**-1.3**
	1.4nm,0.8s,baz=72,slow=7.8,SNR=13						
	1.4nm,0.8s						
FINES	**FINESS Array B**	**80.50**	**331**	P	**P**	**01 12 18.9**	**-0.5**
	2.5nm,1.0s,baz=27,slow=6.4,SNR=4.5						
	2.5nm,1.0s						
NOA	**NORSAR Array B**	**87.47**	**333**	P	**P**	**01 12 53.7**	**-1.0**
	0.3nm,0.7s,baz=41,slow=4.3,SNR=1.8						
	0.3nm,0.7s						

*IDC **06** 01:01:53.6±1.4, 5°.33S×148°.20E, h213km±14km, mb3.4/7, mbtmp4.0/11, Error ellipse: s-maj=24.1km s-min=12.6km az=115.0*
ISC 06 01:01:52.8±0.8, 5°.44S±0°.09×148°.2E±0°.1, h200km, n12, σ1°.75/15, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.03**	**74**	P	**Pn**	**01 02 56.8**	**+1.9**
	44nm,0.4s,baz=191,slow=6.9,SNR=7.8						
PMG	**Port Moresby**	**4.07**	**194**	P	**Pn**	**01 02 56.8**	**+1.4**
	9.8nm,0.4s,baz=2.6,slow=8.7,SNR=2.2						
PMG				S	**Sn**	**01 03 44.0**	**-0.7**
	26nm,0.4s,baz=331,slow=13,SNR=7.0						
JAY	**Jayapura**	**7.97**	**291**	P	**Pn**	**01 03 47.6**	**+1.9**
	7.2nm,0.5s,baz=127,slow=6.4,SNR=5.9						
WRA	**Warramunga Arr**	**19.71**	**222**	P	**P**	**01 06 07.3**	**+0.1**
	2.5nm,0.4s,baz=44,slow=11,SNR=63						
WRA				S	**S**	**01 09 35.7**	**-2.8**
	1.8nm,1.0s,baz=46,slow=19,SNR=5.9						
ASAR	**Alice Springs**	**22.73**	**216**	P	**P**	**01 06 39.2**	**+1.3**
	0.9nm,0.4s,baz=46,slow=8.7,SNR=16						
ASAR				S	**S**	**01 10 34.4**	**+3.0**
	1.2

comp=N,230nm,0.2s
PSDA Pessada-Kefalo 0.60 297 P Pg 01 21 46.6 -0.7
UPR University Cam 0.61 43 P Pb 01 21 47.6 +0.1
VLS Valsamata 0.63 303 P Pg 01 21 47.2 -0.6
VLS S Sb 01 21 58.0 +1.4
comp=N,192nm,0.2s
VLS Valsamata 0.63 303 P Pg 01 21 47.2 -0.6
VLS AML AML 01 22 01.9
comp=E,353µm,0.2s
VLS AML AML 01 22 03.5
comp=N,470µm,0.4s
LAKA Lakka 0.69 54 P Pg 01 21 47.9 -1.1
LAKA S Sb 01 21 58.8 +0.5
comp=N,850nm,0.6s
LAKA Lakka 0.69 54 P Pg 01 21 47.9 -1.1
LAKA AML AML 01 22 03.4
comp=E,1678µm,0.6s
LAKA AML AML 01 22 07.1
comp=N,1960µm,0.5s
AST1 Astakos 0.72 349 P Pg 01 21 49.3 -0.1
KLV Kalavryta, Ach 0.73 73 P Pg 01 21 48.2 -1.5
KLV S Sb 01 21 59.5 +0.1
comp=N,185nm,0.3s
EFP Efpalio 0.78 40 P Pg 01 21 49.6 -1.0
EFP S Sb 01 22 01.5 +0.8
comp=N,228nm,0.4s
EFP Efpalio 0.78 40 P Pg 01 21 49.5 -1.0
EFP AML AML 01 22 07.2
comp=E,458µm,0.2s
EFP AML AML 01 22 09.2
comp=N,317µm,0.3s
KEF4 Livadi, Kephal 0.79 303 P Pg 01 21 50.0 -0.7
KEF4 S Sn 01 22 02.3 -0.7
comp=N,1µm,0.3s
KEF4 Livadi, Kephal 0.79 303 P Pg 01 21 49.8 -0.8
ALIK Aliki, Aigiali 0.79 57 P Pg 01 21 50.2 -0.6
VSK1 VASILIKIADES 0.79 316 P Pg 01 21 50.2 -0.7
PVO Paravola 0.81 15 P Pb 01 21 49.8 -1.1
PVO S Sn 01 22 03.0 -0.6
comp=N,830nm,0.3s
PVO Paravola 0.81 15 P Pb 01 21 49.8 -1.1
DMLN Damoulianata-K 0.81 300 P Pg 01 21 50.4 -0.8
DMLN S Sn 01 22 04.2 +0.5
comp=N,358nm,0.4s
DMLN Damoulianata-K 0.81 300 P Pg 01 21 50.3 -0.8
KEF3 Kipouria, Keph 0.81 297 P Pb 01 21 49.9 -1.1
KEF3 S Sn 01 22 03.0 -0.7
comp=N,955nm,0.4s
KEF3 Kipouria, Keph 0.81 297 P Pb 01 21 49.9 -1.1
TRIZ Trizonia 0.83 50 P Pb 01 21 50.1 -1.2
TRIZ S Sg 01 22 03.0 +0.6
comp=N,125nm,0.4s
TRIZ Trizonia 0.83 50 P Pb 01 21 50.2 -1.1
FSK Fiskardo 0.83 319 P Pb 01 21 50.9 -0.5
FSK S Sn 01 22 03.7 -0.5
comp=N,122nm,0.3s
FSK Fiskardo 0.83 319 P Pb 01 21 50.8 -0.5
FSK AML AML 01 22 08.1
comp=N,200µm,0.4s
FSK AML AML 01 22 10.3
comp=E,240µm,0.2s
GUR Goura 0.86 83 P Pb 01 21 50.1 -1.8
KALE Kalithea 0.89 51 P Pb 01 21 51.2 -1.1
KALE S Sg 01 22 04.2 -0.1
KALE Kalithea 0.89 51 P Pb 01 21 51.2 -1.1
KALE AML AML 01 22 10.5
comp=E,463µm,0.3s
KALE AML AML 01 22 15.0
comp=N,818µm,0.3s
ANX Ano Chora 0.92 34 P Pb 01 21 52.0 -0.9
ANX S Sn 01 22 06.2 -0.2
ANX Ano Chora 0.92 34 P Pb 01 21 51.9 -0.9
EVGI Lefkada island 0.92 329 P Pb 01 21 52.3 -0.5
EVGI S Sg 01 22 05.7 +0.4
comp=N,235nm,0.1s
EVGI Lefkada island 0.92 329 P Pb 01 21 52.4 -0.4
NYDR Nydri-Lefkada 0.98 333 P Pb 01 21 52.9 -1.0
NYDR Nydri-Lefkada 0.98 333 P Pb 01 21 53.3 -0.6
DRAG Dragano-Lefkad 1.00 328 P Pb 01 21 53.8 -0.6
DRAG Dragano-Lefkad 1.00 328 P Pb 01 21 53.7 -0.6
TSLK Tsoukalades, L 1.10 334 P Pb 01 21 56.1 +0.2
THAL Thalero 1.12 79 P Pb 01 21 56.3 0.0
THAL AML AML 01 22 17.8
comp=N,1061µm,0.5s
THAL AML AML 01 22 23.9
comp=E,1037µm,0.4s
EVR Evrytania 1.16 21 P Pb 01 21 57.4 +0.4
EVR AML AML 01 22 22.6
comp=N,229µm,0.7s
EVR AML AML 01 22 23.1
comp=E,170µm,0.4s
MAKR Makrakomi, Fth 1.36 30 P Pb 01 22 00.4 0.0
MAKR AML AML 01 22 28.4
comp=E,349µm,0.5s
MAKR AML AML 01 22 32.4
comp=N,256µm,0.6s
LOUT Loutraki 1.36 83 P Pb 01 22 00.9 +0.5
AXAR Agios Charalam 1.44 49 P Pn 01 22 01.1 +0.4
AXAR AML AML 01 22 27.1
comp=N,468µm,0.4s
AXAR AML AML 01 22 29.6
comp=E,569µm,0.5s
EPID Epidavros 1.49 98 P Pn 01 22 02.0 +0.6
LKR Lokris 1.59 59 P Pb 01 22 03.7 -0.5
LKR AML AML 01 22 27.5
comp=N,118µm,0.3s
LKR AML AML 01 22 29.7
comp=E,178µm,0.2s
ATAL Atalanti 1.63 58 P Pb 01 22 04.5 -0.4
ATAL AML AML 01 22 28.5
comp=E,79µm,0.4s
ATAL AML AML 01 22 34.8
comp=N,90µm,0.4s
VIL2 Platees 1.63 76 P Pb 01 22 05.0 +0.1
VIL2 AML AML 01 22 32.8
comp=N,163µm,0.7s
VIL2 AML AML 01 22 37.4
comp=E,224µm,0.7s
VLI Veliai 1.74 129 P Pb 01 22 06.2 -0.7
ATHU Athens Univers 2.00 86 P Pn 01 22 09.6 +1.2
VLY Voula,Athens 2.00 89 P Pn 01 22 09.5 +1.0
PTL Penteli 2.07 83 P Pn 01 22 10.4 +1.0
DION Dionisos Attik 2.12 83 P Pn 01 22 11.6 +1.5
DION AML AML 01 22 41.8
comp=E,233µm,0.5s
DION AML AML 01 22 42.5
comp=N,169µm,0.6s
NEO Neokhori 2.12 46 P Pn 01 22 11.1 +1.0
KTHA Kythira Island 2.13 137 P Pn 01 22 11.8 +1.5
KYMI Kymi, Euboea I 2.37 70 P Pn 01 22 14.3 +0.8

IDC 06 01:22:14.4±6.5, 17°.42S×176°.82W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=297.2km s-min=55.4km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.21**	**259**	P	P	01 30 40.8	-0.8
	0.2nm,0.2s,baz=96,slow=7.7,SNR=14 0.2nm,0.2s						
ASAR	**Alice Springs**	**46.38**	**254**	P	P	01 30 43.5	+0.5
	3.2nm,0.6s,baz=88,slow=8.0,SNR=36 3.2nm,0.6s						
BRTR	**Keskin Array B**	**145.50**	**316**	PKPbc	PKPdf	01 41 54.4	-0.6
	0.3nm,0.4s,baz=96,slow=4.6,SNR=2.3						
MMAI	**Mount Meron Ar**	**147.13**	**304**	PKPbc	PKPbc	01 41 59.0	-1.0
	1.1nm,0.5s,baz=82,slow=6.1,SNR=2.2						

*NOU **06** 01:30:49.0, 37°.95S×176°.60E, h181km, MLv3.5/8, North Island, New Zealand*
*WEL **06** 01:30:52.5±0.8, 38°S±5°×17°7E±°, h139km±7km, M3.1/72, ML2.5/7, MLv3.1/72, Error ellipse: s-maj=0.0km s-min=0.0km az=52.6, confirmed*

ISC 06 01:30:47.1±1.8, 37°.86S±0°.05×176°.60E±0°.06, h184km±10km, n135, σ1°85/142, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.04**	**292**	P	**Pn**	**01 31 11.9**	**+0.6**
OPRZ				S	**Sn**	**01 31 27.5**	**-2.5**
MARZ	**Manawahe**	**0.14**	**154**	P	**Pn**	**01 31 12.4**	**+0.9**
OMRZ	**Omania**	**0.30**	**215**	P	**Pn**	**01 31 12.8**	**+1.0**
KARZ	**Kaharoa**	**0.32**	**240**	P	**Pn**	**01 31 12.8**	**+1.0**
TARZ	**Mount Tarawera**	**0.38**	**191**	P	**Pn**	**01 31 13.5**	**+1.4**
NGRZ	**Ngongotaha**	**0.41**	**233**	P	**Pn**	**01 31 13.4**	**+1.3**
HLRZ	**Highlands Stat**	**0.44**	**206**	P	**Pn**	**01 31 13.6**	**+1.4**
RRRZ	**Republican Roa**	**0.48**	**188**	P	**Pn**	**01 31 13.5**	**+1.2**
KMRZ	**Kaimai**	**0.52**	**271**	P	**Pn**	**01 31 13.6**	**+1.1**
HSRZ	**Hossack Road**	**0.53**	**211**	P	**Pn**	**01 31 14.0**	**+1.5**
URZ	**Urewera**	**0.57**	**135**	P	**Pn**	**01 31 13.4**	**+0.8**
URZ	**Urewera**	**0.57**	**135**	P	**Pn**	**01 31 13.5**	**+0.9**
URZ				S	**Sn**	**01 31 30.1**	**-2.3**
HRRZ	**Handcock Road**	**0.59**	**205**	P	**Pn**	**01 31 14.3**	**+1.5**
GRRZ	**Galatos Road**	**0.62**	**218**	P	**Pn**	**01 31 14.6**	**+1.6**
MUGZ	**Murupara**	**0.63**	**168**	P	**Pn**	**01 31 14.1**	**+1.1**
MYRZ	**Mayor Island**	**0.64**	**334**	P	**Pn**	**01 31 14.0**	**+0.9**
PRRZ	**Plateau Road**	**0.66**	**194**	P	**Pn**	**01 31 14.4**	**+1.3**
ALRZ	**Allen Road**	**0.73**	**196**	P	**Pn**	**01 31 15.0**	**+1.5**
WPRZ	**Whakapapatarin**	**0.74**	**207**	P	**Pn**	**01 31 15.1**	**+1.5**
RTZ	**Ruatahuna**	**0.81**	**158**	P	**Pn**	**01 31 15.5**	**+1.5**
RTZ				S	**Sn**	**01 31 33.5**	**-1.6**
RUGZ	**Raukumara Rang**	**0.86**	**98**	P	**Pn**	**01 31 14.8**	**+0.3**
MWZ	**Matawai**	**0.88**	**123**	P	**Pn**	**01 31 15.6**	**+1.2**
TOZ	**Tahuroa Road**	**0.88**	**278**	P	**Pn**	**01 31 15.7**	**+1.4**
KUTZ	**Kaahu Road**	**0.88**	**224**	P	**Pn**	**01 31 16.2**	**+1.8**
RAGZ	**Rawiri**	**0.91**	**135**	P	**Pn**	**01 31 16.5**	**+1.8**
HAZ	**Te Kaha**	**0.94**	**84**	P	**Pn**	**01 31 15.6**	**+0.8**
HAZ				S	**Sn**	**01 31 34.2**	**-2.0**
TLZ	**Tolley Road**	**0.96**	**240**	P	**Pn**	**01 31 16.8**	**+1.8**
MRHZ	**Matea Rd**	**0.98**	**188**	P	**Pn**	**01 31 16.7**	**+1.5**
MTHZ	**Maungataniwha**	**1.01**	**169**	P	**Pn**	**01 31 17.1**	**+1.8**
MTHZ				S	**Sn**	**01 31 35.9**	**-1.5**
WATZ	**Wairara**	**1.09**	**218**	P	**Pn**	**01 31 18.0**	**+2.1**
SNGZ	**Shannon Statio**	**1.09**	**148**	P	**Pn**	**01 31 18.0**	**+2.1**
SNGZ				S	**Sn**	**01 31 37.4**	**-1.0**
HATZ	**Hinemaiaia**	**1.10**	**201**	P	**Pn**	**01 31 17.6**	**+1.5**
RAHZ	**Arahi**	**1.12**	**160**	P	**Pn**	**01 31 18.5**	**+2.4**
TKGZ	**Te Karaka**	**1.15**	**121**	P	**Pn**	**01 31 18.7**	**+2.4**
TKGZ				S	**Sn**	**01 31 38.1**	**-0.9**
PKGZ	**Pakihiroa**	**1.17**	**92**	P	**Pn**	**01 31 19.1**	**+2.5**
RATZ	**Rangitukua**	**1.20**	**212**	P	**Pn**	**01 31 18.9**	**+2.1**
NMHZ	**Naumai**	**1.25**	**172**	P	**Pn**	**01 31 19.9**	**+2.7**
RIGZ	**Rimuhau**	**1.25**	**133**	P	**Pn**	**01 31 19.6**	**+2.4**
RITZ	**Rihia Road**	**1.26**	**207**	P	**Pn**	**01 31 19.7**	**+2.5**
BKZ	**Black Stump Fm**	**1.31**	**184**	P	**Pn**	**01 31 19.4**	**+1.7**
BKZ	**Black Stump Fm**	**1.31**	**184**	P	**Pn**	**01 31 19.4**	**+1.7**
KUZ	**Kuaotunu**	**1.31**	**328**	P	**Pn**	**01 31 18.8**	**+1.0**
WHHZ	**Waihua**	**1.32**	**158**	P	**Pn**	**01 31 20.3**	**+2.6**
KATZ	**Kakaramea**	**1.32**	**212**	P	**Pn**	**01 31 20.0**	**+2.1**
PUZ	**Puketiti**	**1.33**	**100**	P	**Pn**	**01 31 20.4**	**+2.5**
MKAZ	**Moumakai**	**1.37**	**303**	P	**Pn**	**01 31 19.8**	**+1.6**
MXZ	**Matakaoa Point**	**1.39**	**78**	P	**Pn**	**01 31 20.8**	**+2.4**
MXZ	**Matakaoa Point**	**1.39**	**78**	P	**Pn**	**01 31 20.6**	**+2.2**
ARHZ	**Aropaoanui**	**1.44**	**168**	P	**Pn**	**01 31 21.3**	**+2.6**
KNZ	**Kokohu**	**1.44**	**144**	P	**Pn**	**01 31 21.2**	**+2.4**
TMVZ	**Te Maari**	**1.44**	**209**	P	**Pn**	**01 31 21.1**	**+2.1**
WMGZ	**Waiomatatini S**	**1.44**	**89**	P	**Pn**	**01 31 21.1**	**+2.2**
KRVZ	**Karewarewa**	**1.45**	**211**	P	**Pn**	**01 31 21.3**	**+2.3**
ETVZ	**East Tongariro**	**1.45**	**208**	P	**Pn**	**01 31 21.3**	**+2.2**
PRGZ	**Paritu Road**	**1.47**	**137**	P	**Pn**	**01 31 21.6**	**+2.5**
WTVZ	**West Tongariro**	**1.48**	**212**	P	**Pn**	**01 31 21.5**	**+2.2**
NNVZ	**North Ngauruho**	**1.49**	**211**	P	**Pn**	**01 31 21.9**	**+2.4**
OTVZ	**Oturere**	**1.50**	**209**	P	**Pn**	**01 31 21.8**	**+2.3**
TWVZ	**Taurewa**	**1.52**	**217**	P	**Pn**	**01 31 21.9**	**+2.3**
HIZ	**Hauiti**	**1.52**	**244**	P	**Pn**	**01 31 22.1**	**+2.6**
SNVZ	**South Ngauruho**	**1.52**	**209**	P	**Pn**	**01 31 22.3**	**+2.5**
NGZ	**Ngauruhoe**	**1.53**	**210**	P	**Pn**	**01 31 22.4**	**+2.5**
KWHZ	**Kaweka Forest**	**1.57**	**185**	P	**Pn**	**01 31 22.4**	**+2.3**
WIAZ	**Waiheke Island**	**1.58**	**312**	P	**Pn**	**01 31 21.8**	**+1.6**
MCHZ	**McNeill Hill**	**1.59**	**177**	P	**Pn**	**01 31 22.8**	**+2.6**
TUVZ	**Tukino**	**1.59**	**207**	P	**Pn**	**01 31 22.7**	**+2.3**
ETAZ	**East Tamaki Re**	**1.61**	**304**	P	**Pn**	**01 31 22.3**	**+1.9**
FWVZ	**Far West T-bar**	**1.62**	**210**	P	**Pn**	**01 31 23.1**	**+2.4**
WHVZ	**Whangaehu Hut**	**1.63**	**209**	P	**Pn**	**01 31 23.1**	**+2.2**
MHGZ	**Mahia Peninsul**	**1.65**	**142**	P	**Pn**	**01 31 23.7**	**+2.9**
WNVZ	**Wahianoa**	**1.66**	**208**	P	**Pn**	**01 31 23.3**	**+2.2**
BHHZ	**Black Hill Sta**	**1.68**	**194**	P	**Pn**	**01 31 23.1**	**+1.9**
MOVZ	**Moawhango**	**1.68**	**203**	P	**Pn**	**01 31 23.0**	**+1.8**
PKVZ	**Pokaka**	**1.73**	**214**	P	**Pn**	**01 31 24.1**	**+2.4**
MBAZ	**Motutapu North**	**1.74**	**308**	P	**Pn**	**01 31 23.7**	**+2.0**
AWAZ	**Awhitu Peninsu**	**1.74**	**296**	P	**Pn**	**01 31 23.5**	**+1.7**
MTVZ	**Mangateitei**	**1.76**	**210**	P	**Pn**	**01 31 24.4**	**+2.4**
KRHZ	**Kereru**	**1.79**	**186**	P	**Pn**	**01 31 24.3**	**+2.0**
CKHZ	**Cape Kidnapper**	**1.84**	**168**	P	**Pn**	**01 31 25.4**	**+2.7**
GRZ	**Great Barrier**	**1.84**	**330**	P	**Pn**	**01 31 24.4**	**+1.6**
WTAZ	**Waiatarua**	**1.86**	**299**	P	**Pn**	**01 31 24.9**	**+1.9**
VRZ	**Vera Road**	**1.92**	**228**	P	**Pn**	**01 31 26.6**	**+3.1**
KAHZ	**Kahuranaki**	**1.95**	**174**	P	**Pn**	**01 31 26.6**	**+2.7**
PNHZ	**Pukenui**	**2.08**	**188**	P	**Pn**	**01 31 27.0**	**+1.8**
PXZ	**Pawanui**	**2.18**	**175**	P	**Pn**	**01 31 28.7**	**+2.3**
WPHZ	**Waipukurau**	**2.21**	**183**	P	**Pn**	**01 31 28.7**	**+2.1**
TSZ	**Takapari Road**	**2.25**	**192**	P	**Pn**	**01 31 29.0**	**+1.8**
WAZ	**Wanganui**	**2.27**	**213**	P	**Pn**	**01 31 30.0**	**+2.5**
PRHZ	**Porangahau**	**2.41**	**179**	P	**Pn**	**01 31 31.0**	**+2.1**
NEZ	**North Egmont**	**2.42**	**233**	P	**Pn**	**01 31 32.7**	**+3.6**
PKE	**Pukeiti**	**2.44**	**236**	P	**Pn**	**01 31 33.0**	**+3.7**
DVHZ	**Dannevirke**	**2.46**	**188**	P	**Pn**	**01 31 31.1**	**+1.6**
OHWZ	**Ohakea**	**2.55**	**203**	P	**Pn**	**01 31 32.9**	**+2.4**
ANWZ	**Angora Road**	**2.60**	**182**	P	**Pn**	**01 31 33.4**	**+2.3**
POWZ	**Post Office Ro**	**2.61**	**194**	P	**Pn**	**01 31 32.8**	**+1.6**
WCZ	**Waipu Caves**	**2.63**	**316**	P	**Pn**	**01 31 33.7**	**+2.2**
PRWZ	**Pori Road**	**2.74**	**190**	P	**Pn**	**01 31 34.7**	**+2.0**
BFZ	**Birch Farm**	**2.83**	**185**	P	**Pn**	**01 31 35.5**	**+1.6**
BFZ	**Birch Farm**	**2.83**	**185**	P	**Pn**	**01 31 35.5**	**+1.6**
MRZ	**Mangatainoka R**	**2.91**	**195**	P	**Pn**	**01 31 36.1**	**+1.3**
TIWZ	**Tintock**	**2.97**	**190**	P	**Pn**	**01 31 37.1**	**+1.6**
CPWZ	**Castlepoint**	**3.06**	**186**	P	**Pn**	**01 31 38.9**	**+2.3**
HOWZ	**Holdsworth Sta**	**3.15**	**195**	P	**Pn**	**01 31 38.8**	**+1.1**
OGWZ	**Otaki Gorge**	**3.15**	**200**	P	**Pn**	**01 31 39.0**	**+1.2**
KIW	**Kapiti Island**	**3.27**	**203**	P	**Pn**	**01 31 40.0**	**+0.8**
TMWZ	**Te Maipa**	**3.29**	**189**	P	**Pn**	**01 31 40.7**	**+1.3**
MTW	**Mount Morrison**	**3.40**	**194**	P	**Pn**	**01 31 41.3**	**+0.5**
CAW	**Cannon Point**	**3.46**	**200**	P	**Pn**	**01 31 42.3**	**+0.9**
OUZ	**Omahuta**	**3.57**	**317**	P	**Pn**	**01 31 45.9**	**+3.0**
OUZ	**Omahuta**	**3.57**	**317**	P	**Pn**	**01 31 45.9**	**+3.0**
DUWZ	**D'Urville Isla**	**3.60**	**214**	P	**Pn**	**01 31 43.9**	**+0.7**
TRWZ	**Traveller**	**3.60**	**191**	P	**Pn**	**01 31 44.3**	**+1.0**
PAWZ	**Paruwai Farm**	**3.63**	**194**	P	**Pn**	**01 31 44.4**	**+0.7**
WEL	**Wellington**	**3.70**	**202**	P	**Pn**	**01 31 45.6**	**+1.1**
BHW	**Baring Head**	**3.79**	**200**	P	**Pn**	**01 31 46.0**	**+0.4**
TCW	**Tory Channel**	**3.80**	**207**	P	**Pn**	**01 31 46.2**	**+0.5**
PLWZ	**Palliser**	**3.85**	**195**	P	**Pn**	**01 31 46.8**	**+0.4**
TUWZ	**Tuamarina**	**4.11**	**209**	P	**Pn**	**01 31 50.1**	**+0.5**
NNZ	**Nelson**	**4.18**	**216**	P	**Pn**	**01 31 51.2**	**+0.7**
TKNZ	**Takaka Hill**	**4.24**	**220**	P	**Pn**	**01 31 51.9**	**+0.6**
QRZ	**Quartz Range**	**4.33**	**226**	P	**Pn**	**01 31 53.9**	**+1.5**
BSWZ	**Blackbirch Sta**	**4.39**	**208**	P	**Pn**	**01 31 53.7**	**+0.6**
MRNZ	**Matariki Terra**	**4.61**	**219**	P	**Pn**	**01 31 56.9**	**+0.8**
THZ	**Tophouse**	**4.83**	**215**	P	**Pn**	**01 31 59.4**	**+0.5**
KHZ	**Kahutara**	**5.12**	**206**	P	**Pn**	**01 32 02.9**	**+0.3**
KHZ	**Kahutara**	**5.12**	**206**	P	**Pn**	**01 32 02.7**	**+0.1**
GVZ	**Greta Valley S**	**5.78**	**207**	P	**Pn**	**01 32 11.1**	**-0.1**
LTZ	**Lake Taylor**	**5.92**	**213**	P	**Pn**	**01 32 12.8**	**-0.3**
OKCZ	**Okains Bay**	**6.45**	**203**	P	**Pn**	**01 32 19.7**	**-0.1**
MQZ	**McQueen's Vall**	**6.56**	**206**	P	**Pn**	**01 32 20.1**	**-1.3**
AKCZ	**Akaroa Harbour**	**6.63**	**204**	P	**Pn**	**01 32 21.9**	**-0.3**
MHCZ	**Mount Hutt**	**6.83**	**212**	P	**Pn**	**01 32 24.6**	**-0.3**
TMZ	**Timaru**	**7.76**	**211**	P	**Pn**	**01 32 37.1**	**-0.1**
ODZ	**Otahua Downs**	**8.46**	**210**	P	**Pn**	**01 32 46.5**	**+0.3**
ODZ	**Otahua Downs**	**8.46**	**210**	P	**Pn**	**01 32 45.9**	**-0.3**

*DJA **06** 01:32:52.6±1.1, 10°S±6°×15°3E±1°3, h20km±4km, M4.8/12, mB5.3/3, mb4.6/12, MLv4.9/1, Mw(mB)4.8/3*
*IDC **06** 01:32:54.0±0.8, 10°.01S×152°.32E, h0km, mb4.2/12, mbtmp4.2/16, ML4.0/3, MS3.9/23, Error ellipse: s-maj=27.5km s-min=16.7km az=105.0*
*NEIC **06** 01:32:57.5±1.4, 9°.96S±0°.09×152°.21E±0°.07, h10km±1km, mb4.5/19, Error ellipse: s-maj=18.0km s-min=6.6km az=145.0*

ISC 06 01:32:56.0±0.6, 10°.19S±0°.07×152°.44E±0°.09, h10km, n75, σ1°74/60, mb4.5/27, MS3.8/19, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.26**	**278**		**Pn**	**01 34 12.0**	**-2.7**
PMG	**Port Moresby**	**5.26**	**278**	Pn	**Pn**	**01 34 14.0**	**-0.7**
	5.7nm,0.3s,baz=280,slow=19,SNR=1.4						
PMG				Sn	**Sn**	**01 35 18.6**	**+3.2**
	0.2nm,0.3s,baz=280,slow=22,SNR=0.9						
PMG				LR	LR	01 36 26.0	
	comp=Z,883nm,20.2s,baz=97,slow=41						
KRVT	**Keravat (AS076**	**5.86**	**356**	Pn	**Pn**	**01 34 19.5**	**-3.4**
	8.3nm,0.3s,baz=16,slow=11,SNR=4.1						
KRVT				Sn	**Sn**	**01 35 31.6**	**+1.5**
	9.2nm,0.3s,baz=90,slow=0.4,SNR=3.9 35nm,0.5s						
HNR	**Honiara**	**7.44**	**85**	LR	LR	01 36 57.9	
	comp=Z,3µm,21.2s,baz=326,slow=32						
COEN	**Coen**	**9.80**	**247**	Pn	**Pn**	**01 35 14.8**	**-2.3**
CTA	**Charters Tower**	**11.51**	**210**	Pn	**Pn**	**01 35 39.9**	**-0.6**
	0.4nm,0.3s,baz=30,slow=15,SNR=2.9						
CTA				LR	LR	01 40 05.4	
	comp=Z,1µm,18.3s,baz=52,slow=37 2.6nm,0.6s						
EIDS	**Eidsvold**	**15.15**	**185**	Pn	**P**	**01 36 35.1**	**-0.3**
EIDS				IAmb	IAmb	01 36 56.4	
	comp=Z,14nm,1.2s						
SMPI	**Sarmi**	**15.88**	**300**	P	**P**	**01 36 42.7**	**-0.8**
	comp=Z,143nm,1.3s,comp=Z,4µm						
DZM	**Mont Dzumac**	**17.89**	**133**	LR	LR	01 43 08.1	
	comp=Z,674nm,18.4s,baz=356,slow=34						
WB0	**Warramunga Arr**	**19.84**	**239**	P	**P**	**01 37 27.6**	**+0.3**
WB0				IAmb	IAmb	01 37 32.9	
	comp=Z,33nm,1.1s						
WRAB	**Tennant Creek**	**19.95**	**239**	P	**P**	**01 37 28.4**	**0.0**
WRAB				IAmb	IAmb	01 37 32.7	
	comp=Z,30nm,0.8s						
WB2	**Warramunga Arr**	**19.96**	**239**	P	**P**	**01 37 28.0**	**-0.5**
WB2				IAmb	IAmb	01 37 32.8	
	comp=Z,25nm,0.8s						
WRA	**Warramunga Arr**	**19.97**	**239**	P	**P**	**01 37 27.6**	**-1.0**
WRA	**Warramunga Arr**	**19.97**	**239**	P	**P**	**01 37 27.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=62,slow=10,SNR=21 comp=Z,25nm,0.8s						
ARMA	**Armidale**	**20.14**	**182**	P	Pn	01 37 34.1	+1.7
ARMA				IAmb	IAmb	01 37 37.9	
	comp=Z,26nm,1.5s						
FAKI	**Fak Fak**	**21.30**	**288**	P	**P**	**01 37 43.3**	**+0.2**
	comp=Z,59nm,1.6s,comp=Z,1µm						
AS31	**Alice Springs**	**22.19**	**231**	P	**P**	**01 37 53.3**	**+0.7**
ASAR	**Alice Springs**	**22.19**	**231**	P	**P**	**01 37 52.6**	**0.0**
ASAR	**Alice Springs**	**22.19**	**231**	P	**P**	**01 37 52.7**	**+0.2**
	comp=Z,11nm,0.8s,baz=64,slow=9.0,SNR=39						
ASAR				LR	LR	01 46 25.1	
	comp=Z,641nm,18.1s,baz=55,slow=36 comp=Z,11nm,0.8s						
SIJI	**Sorong**	**22.99**	**292**	LR	LR	01 48 06.7	
	comp=Z,251nm,20.5s,baz=107,slow=40						
STKA	**Stephens Creek**	**23.80**	**203**	P	**P**	**01 38 11.0**	**+1.9**
STKA	**Stephens Creek**	**23.80**	**203**	P	**P**	**01 38 10.1**	**+1.0**
	comp=Z,11nm,0.9s,baz=19,slow=11,SNR=11						
STKA				LR	LR	01 47 55.0	
	comp=Z,658nm,19.7s,baz=18,slow=38 comp=Z,11nm,0.9s						
MSVF	**Nonsavu**	**25.94**	**110**	LR	LR	01 47 05.7	
	comp=Z,164nm,20.9s,baz=171,slow=33						
SANI	**Sanana**	**27.49**	**285**	P	**P**	**01 38 42.7**	**-0.1**
	comp=Z,40nm,1.0s						
BATI	**Baumata**	**28.31**	**267**	LR	LR	01 51 18.2	
	comp=Z,342nm,20.1s,baz=110,slow=39						
TOLI2	**Tolitoli**	**33.44**	**288**	P	**P**	**01 39 33.8**	**-1.7**
TOLI2				IAmb	IAmb	01 39 35.3	
	comp=Z,6.2nm,0.9s						
URZ	**Urewera**	**35.65**	**146**	LR	LR	01 53 23.3	
	comp=Z,243nm,19.2s,baz=32,slow=34						
RPZ	**Rata Peaks**	**37.11**	**157**	LR	LR	01 53 26.2	
	comp=Z,536nm,20.8s,baz=322,slow=33						
JCJ	**Chichijima**	**38.37**	**345**	LR	LR	01 53 53.8	
	comp=Z,164nm,18.8s,baz=120,slow=33						
KKM	**Kota Kinabalu**	**39.52**	**293**	P	**P**	**01 40 25.1**	**-2.3**
KKM				IAmb	IAmb	01 40 27.8	
	comp=Z,16nm,1.2s						
SBUM	**Sibu**	**41.96**	**285**	P	**P**	**01 40 47.3**	**-0.2**
SBUM				IAmb	IAmb	01 40 49.7	
	comp=Z,3.3nm,1.0s						
KSM	**Kuching**	**43.50**	**283**	P	**P**	**01 40 59.3**	**-0.7**
JOW	**Kunigami**	**43.64**	**328**	LR	LR	01 57 04.7	
	comp=Z,86nm,21.0s,baz=129,slow=33						
LEM	**Lembang**	**44.42**	**271**	LR	LR	02 03 49.9	
	comp=Z,112nm,18.2s,baz=118,slow=42						
JHJ	**Hachijo jima 2**	**44.72**	**345**	LR	LR	01 58 08.9	
	comp=Z,43nm,18.9s,baz=296,slow=34						
MJAR	**Matsushiro Arr**	**48.37**	**345**	P	**P**	**01 41 36.6**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=159,slow=10,SNR=2.0						
MJAR				LR	LR	02 01 32.6	
	comp=Z,51nm,18.1s,baz=176,slow=36 comp=Z,0.9nm,0.4s						
KSRS	**Korea Array**	**52.67**	**335**	P	**P**	**01 42 09.4**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=150,slow=7.8,SNR=4.9 comp=Z,2.2nm,0.9s						
NJ2	**Nanjing**	**52.87**	**324**	*e*P	**P**	**01 42 12.9**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,180nm,3.5s						
ASAJ	**Asahikawa**	**54.78**	**351**	LR	LR	02 03 46.5	
	comp=Z,49nm,20.8s,baz=113,slow=34						
USRK	**Ussuriysk Ar.**	**57.22**	**343**	P	**P**	**01 42 42.9**	**-0.5**
USRK	**Ussuriysk Ar.**	**57.22**	**343**	LR	LR	02 05 17.5	
	comp=Z,49nm,21

comp=Z,104nm,20.1s,baz=270,slow=31
MK31 Makanchi Array 84.14 319 P **P** **01 45 26.7 -0.7**
MK31 IAmb IAmb 01 45 30.1
comp=Z,2.9nm,0.9s
MKAR Makanchi Array 84.14 319 P **P** **01 45 26.2 -1.2**
MKAR Makanchi Array 84.14 319 P **P** **01 45 25.3 -2.1**
comp=Z,1.8nm,0.8s,baz=126,slow=6.2,SNR=10
comp=Z,1.8nm,0.8s
ZAA0 Zalesovo Array 85.42 327 P **P** **01 45 31.8 -1.8**
ZALV Zalesovo Beam 85.42 327 P **P** **01 45 30.4 -3.3**
comp=Z,1.6nm,0.5s,baz=115,slow=6.7,SNR=6.7
comp=Z,1.6nm,0.5s
ILAR Eielson Array 87.26 22 P **P** **01 45 42.1 -0.4**
ILAR Eielson Array 87.26 22 P **P** **01 45 40.6 -1.9**
comp=Z,2.0nm,1.0s,baz=264,slow=4.8,SNR=10.0
comp=Z,2.0nm,1.0s
KURBB Kurchatov Arra 87.80 322 P **P** **01 45 43.4 -2.0**
comp=Z,0.2nm,0.4s,baz=108,slow=4.4,SNR=4.1
comp=Z,0.2nm,0.4s
BCAR Beaver Creek A 88.42 25 P **P** **01 45 49.1 +1.0**
NVAR Mina Array Bea 95.67 52 P **P** **01 46 23.4 +0.9**
comp=Z,1.5nm,1.1s,baz=245,slow=5.4,SNR=5.5
comp=Z,1.5nm,1.1s
BDFB Brasilia 147.31 141 PKPbc **PKPbc** **01 52 42.0 +1.0**
comp=Z,2.3nm,0.8s,baz=207,slow=5.3,SNR=2.9
TORD Torodi Ar. Bea 151.20 279 PKPbc **PKPbc** **01 52 49.6 -1.1**
comp=Z,1.4nm,0.8s,baz=49,slow=3.4,SNR=7.0

---

*IDC **06** 01:38:27.3±1.9, 6.°79S×129.°31E, h0km, mb3.8/2, mbtmp3.9/4, ML4.1/2, MS3.6/1, Error ellipse: s-maj=146.5km s-min=29.4km az=68.0*
ISC 06 01:38:42.5±0.9, 7.°18S±0.°10×129.°4E±0.°1, h139km, n14, σ1§52/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.04**	**113**	P		**Pn**	**01 39 20.9**	**+3.3**
FAKI	**Fak Fak**	**5.09**	**34**	P		**Pn**	**01 39 57.2**	**+0.1**
MTN	**Manton Dam**	**5.88**	**163**	P		**Pn**	**01 40 08.5**	**+0.9**
KDU	**Kakadu**	**6.25**	**151**	P		**Pn**	**01 40 12.7**	**+0.1**
KNRA	**Kununurra**	**8.47**	**184**	P		**Pn**	**01 40 41.9**	**-0.4**
PLAI	**Plampang**	**11.63**	**261**	P		**Pn**	**01 41 25.7**	**+1.3**
	46nm,1.4s							
WRA	**Warramunga Arr**	**13.56**	**160**	Pn		**Pn**	**01 41 46.5**	**-2.9**
	0.9nm,0.3s,baz=342,slow=12,SNR=30							
WRA				Sn		Sn	01 44 08.8	-11
	1.2nm,0.3s,baz=334,slow=22,SNR=8.1							
	1.4nm,0.4s							
COEN	**Coen**	**15.12**	**118**	P		**P**	**01 42 11.0**	**+0.1**
	11nm,1.3s							
QIS	**Mount Isa**	**16.57**	**144**	P		**P**	**01 42 27.2**	**+0.2**
ASAR	**Alice Springs**	**16.95**	**166**	P		**P**	**01 42 31.2**	**0.0**
	1.0nm,0.3s,baz=345,slow=10,SNR=36							
ASAR				S		S	01 45 29.6	-11
	0.6nm,0.5s,baz=337,slow=21,SNR=3.7							
	2.5nm,0.6s							
OOD	**Oodnadatta**	**21.35**	**165**	P		**P**	**01 43 18.9**	**+0.1**
SONM	**Songino Array**	**58.42**	**342**	LR		LR	02 15 24.0	
	comp=Z,51nm,20.6s,baz=100,slow=38							
MKAR	**Makanchi Array**	**68.05**	**327**	P		**P**	**01 49 26.8**	**-0.3**
	0.5nm,0.4s,baz=122,slow=7.0,SNR=7.1							
	0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**72.35**	**329**	P		**P**	**01 49 52.5**	**-0.7**
	0.5nm,0.6s,baz=124,slow=4.6,SNR=6.6							
	0.5nm,0.6s							

---

*IDC **06** 02:03:43.4±0.5, 0.°73N×25.°42W, h0km, mb4.1/22, mbtmp4.1/22, MS4.7/75, Error ellipse: s-maj=22.2km s-min=14.6km az=135.0*
*NEIC **06** 02:03:48.3±1.9, 0.°96N±0.°08×25.°5W±0.°1, h10km±1km, mb4.8/62, Ms_20 4.9/146, Mwb5.5/48, Mww5.5/23, Error ellipse: s-maj=17.4km s-min=13.5km az=260.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.20; $M_{\theta\theta}$=0.24; $M_{\phi\phi}$=-0.04; $M_{r\theta}$=0.03; $M_{\theta\phi}$=-2.03; $M_{\phi r}$=-0.29; Fault plane solution: M_0=2.06000×10^{17} NP1: ϕ_s=357.88000°, δ=87.82000°, λ=-8.27000°. NP2: ϕ_s=88.19000°, δ=81.74000°, λ=-177.80000°. Principal axes: T 2.1493, Plg=4.0000°, Azm=43.0000°; N -0.1848, Plg=81.0000°, Azm=163.0000°; P -1.9645, Plg=7.0000°, Azm=313.0000°;*
*NEIC **06** 02:03:48.4, 0.°95N×25.°50W, h22km*
*NEIC **06** 02:03:48.2, 0.°93N×25.°51W, h10km*
*NEIC **06** 02:03:48.4, 1.°35N×25.°80W, h22km, Moment Tensor Solution. Duration: 2§9 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.51; $M_{\theta\theta}$=0.24; $M_{\phi\phi}$=0.27; $M_{r\theta}$=0.34; $M_{\theta\phi}$=-2.31; $M_{\phi r}$=0.12; Fault plane solution: M_0=2.35000×10^{17} NP1: ϕ_s=179.68000°, δ=79.86000°, λ=-6.20000°. NP2: ϕ_s=270.78000°, δ=83.89000°, λ=-169.80000°. Principal axes: T 2.5757, Plg=3.0000°, Azm=45.0000°; N -0.4530, Plg=78.0000°, Azm=301.0000°; P -2.1227, Plg=12.0000°, Azm=136.0000°;*
*GCMT **06** 02:03:49.3±0.1, 0.°92N±0.°01×25.°76W±0.°01, h17km, MW5.6/151, Moment Tensor Solution. s111,c178; s151,c300; Duration: 1§5 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.28±.03; $M_{\theta\theta}$=0.69±.03; $M_{\phi\phi}$=-0.41±.03; $M_{r\theta}$=0.86±.09; $M_{\theta\phi}$=-2.58±.03; $M_{\phi r}$=0.06±.08; Best double couple: M_0=2.77800×10^{17} NP1: ϕ_s=265.00000°, δ=88.00000°, λ=-162.00000°. NP2: ϕ_s=174.00000°, δ=72.00000°, λ=-2.00000°. Principal axes: T 2.9050, Plg=11.0000°, Azm=38.0000°; N -0.2540, Plg=71.0000°, Azm=271.0000°; P -2.6520, Plg=14.0000°, Azm=131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 02:03:46.4±0.4, 0.°37N±0.°07×25.°39W±0.°08, h12km, n292, σ2§70/141, mb4.6/67, MS4.8/156, 3C-1D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.17**	**239**	LR		LR	02 10 09.1	
	comp=Z,3μm,18.8s,baz=44,slow=31							
H10N3	**ASCENSION HYDR**	**13.58**	**127**	T		T	02 21 27.3	
	baz=306,slow=75,SNR=1186							
H10N2	**ASCENSION HYDR**	**13.59**	**127**	T		T	02 21 24.4	
	baz=306,slow=75,SNR=954							
H10N1	**ASCENSION HYDR**	**13.60**	**127**	T		T	02 21 29.2	
	baz=306,slow=75,SNR=1071							
H10S3	**ASCENSION HYDR**	**14.15**	**131**	T		T	02 22 13.4	
	baz=310,slow=74,SNR=352							
H10S2	**ASCENSION HYDR**	**14.16**	**131**	T		T	02 22 14.9	
	baz=270,slow=74,SNR=93							
SACV	**Santiago Islan**	**14.61**	**7**	Pn		Pn	02 07 05.4	-7.7
MBO	**M'Bour**	**16.24**	**31**	Pn		**Pn**	**02 07 30.5**	**-4.0**
MBO				IAmb		IAmb	02 07 40.9	
	comp=Z,99nm,1.2s							
LIC	**Lamto**	**21.14**	**74⇑**	*e*P		**P**	**02 08 33.5**	**+2.0**
	comp=Z,124nm,1.1s							
TIC	**Toumodi**	**21.26**	**73⇑**	*e*P		**P**	**02 08 37.0**	**+4.2**
	comp=Z,42nm,1.1s							
DBIC	**Dimbokro**	**21.42**	**73**	P		**P**	**02 08 34.0**	**-0.5**
KIC	**Kosan Boka**	**21.45**	**73⇑**	*e*P		**P**	**02 08 36.7**	**+1.9**
	comp=Z,103nm,1.1s							
KOWA	**Kowa**	**25.37**	**55**	P		**P**	**02 09 13.0**	**-0.8**
KOWA				IAMs_20		IAMs_20	02 18 05.8	
	comp=Z,5μm,21.0s							
KOWA	**Kowa**	**25.37**	**55**	LR		LR	02 18 24.4	
	comp=Z,4μm,18.5s,baz=235,slow=35							
BDFB	**Brasília**	**27.43**	**234**	P		**P**	**02 09 33.7**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=60,slow=14,SNR=1.4							
BDFB				LR		LR	02 19 00.2	
	comp=Z,4μm,21.2s,baz=48,slow=33							
	comp=Z,0.8nm,0.3s							
TOA0	**Torodi Ar. Sit**	**29.69**	**64**	P		**P**	**02 09 51.0**	**-1.6**
TOA0				IAmb		IAmb	02 10 10.0	
	comp=Z,13nm,1.1s							
TORD	**Torodi Ar. Bea**	**29.69**	**64**	P		**P**	**02 09 51.5**	**-1.0**
TORD				IAmb		IAmb	02 10 10.5	
	comp=Z,14nm,1.2s							
TORD	**Torodi Ar. Bea**	**29.69**	**64**	P		**P**	**02 09 50.9**	**-1.7**
	comp=Z,3.5nm,0.7s,baz=245,slow=9.7,SNR=17							
TORD				LR		LR	02 20 38.4	
	comp=Z,4μm,18.9s,baz=244,slow=34							
	comp=Z,3.5nm,0.7s							
BOAV	**Boa Vista**	**35.17**	**274**	P		**P**	**02 10 41.1**	**+0.4**
AVE	**Averroes**	**36.86**	**26**	IAMs_20		IAMs_20	02 24 02.6	
	comp=Z,2μm,19.0s							
TAM	**Tamanrasset**	**37.42**	**51**	P		**P**	**02 10 59.6**	**-0.3**
MDT	**Midelt**	**37.74**	**29**	LR		LR	02 26 09.9	
	comp=Z,3μm,19.6s,baz=248,slow=36							
SAML	**Samuel**	**38.76**	**255**	P		**P**	**02 11 13.1**	**+2.0**
SIV	**San Ignacio**	**38.79**	**244**	LR		LR	02 26 15.2	
	comp=Z,2μm,19.0s,baz=82,slow=35							
PFVI	**Vila Bisbo**	**39.66**	**21**	*e*P		**P**	**02 11 16.6**	**-1.7**
PFVI	**Vila Bisbo**	**39.66**	**21**	*e*PP		PP	02 12 56.4	+6.9
PFVI				*e*S		**S**	**02 17 19.7**	**-1.7**
PFVI				*e*SS		**SS**	**02 20 14.0**	**-3.0**
MORF	**Marmelete**	**39.87**	**21**	*e*PP		PP	02 13 01.3	+9.4
MORF				*e*SS		SS	02 20 18.1	-3.3
PBDV	**Barranco-do-Ve**	**40.08**	**22**	*e*P		**P**	**02 11 20.0**	**-1.9**
PBDV	**Barranco-do-Ve**	**40.08**	**22**	*e*PP		PP	02 13 02.0	+7.8
PBDV				*e*S		**S**	**02 17 31.3**	**+3.4**
PBDV				*e*SS		**SS**	**02 20 23.7**	**-1.8**
PCRV	**Puerto La Cruz**	**40.22**	**285**	LR		LR	02 26 46.4	
	comp=Z,339nm,21.7s,slow=34							
PVAQ	**Vaqueiros**	**40.30**	**22**	*e*P		**P**	**02 11 27.1**	**+3.4**
PVAQ	**Vaqueiros**	**40.30**	**22**	*e*PP		PP	02 13 02.9	+6.4
PVAQ				*e*S		**S**	**02 17 37.6**	**+6.5**
PVAQ				*e*SS		**SS**	**02 20 28.1**	**-1.8**
PVAQ				*e*LR		LR	02 22 39.1	
	comp=Z,837nm,18.0s							
PCVE	**Castro Verde**	**40.38**	**21**	*e*P		**P**	**02 11 28.8**	**+4.5**
PCVE	**Castro Verde**	**40.38**	**21**	*e*PP		PP	02 13 06.2	+8.8
PCVE				*e*SS		SS	02 20 30.0	-1.5
PNCL	**Nicolau / Gran**	**40.64**	**21**	*e*P		**P**	**02 11 28.6**	**+2.2**
PNCL	**Nicolau / Gran**	**40.64**	**21**	*e*PP		PP	02 13 07.2	+7.1
PNCL				*e*S		**S**	**02 17 42.5**	**+6.4**
PNCL				*e*SS		**SnSn**	**02 20 49.5**	**+7.0**
CPUP	**Villa Florida**	**40.65**	**227**	P		**P**	**02 11 30.6**	**+3.9**
CPUP	**Villa Florida**	**40.65**	**227**	P		**P**	**02 11 26.8**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=55,slow=12,SNR=2.0							
CPUP				LR		LR	02 27 58.4	
	comp=Z,2μm,18.2s,baz=56,slow=36							
	comp=Z,1.6nm,0.9s							
PMAFR	**Mafra**	**41.14**	**19**	*e*P		**P**	**02 11 32.2**	**+1.6**
PMAFR	**Mafra**	**41.14**	**19**	*e*PP		PP	02 13 12.7	+7.1
PMAFR				*e*S		**S**	**02 17 44.7**	**+1.1**
PMAFR				*e*SS		**SS**	**02 20 47.2**	**+0.7**
PBAR	**Barrancos**	**41.23**	**22**	*e*P		**P**	**02 11 33.2**	**+1.9**
PBAR	**Barrancos**	**41.23**	**22**	*e*PP		PP	02 13 13.8	+7.1
PBAR				*e*S		**S**	**02 17 43.7**	**-1.3**
PBAR				*e*SS		**SS**	**02 20 50.3**	**+1.9**
PMTG	**Montargil**	**41.60**	**20**	*e*P		**P**	**02 11 36.8**	**+2.5**
PMTG	**Montargil**	**41.60**	**20**	*e*PP		PP	02 13 17.3	+6.7
PMTG				*e*S		**S**	**02 17 48.3**	**-2.1**
PMTG				*e*SS		**SS**	**02 21 01.3**	**+5.7**
PESTR	**Estremoz**	**41.64**	**21**	*e*P		**P**	**02 11 36.1**	**+1.4**
PESTR	**Estremoz**	**41.64**	**21**	*e*PP		PP	02 13 15.9	+4.8
PESTR				*e*S		**S**	**02 17 51.1**	**0.0**
PESTR				*e*SS		**SS**	**02 21 01.8**	**+5.3**
ETMB	**Extrema**	**41.87**	**255**	P		**P**	**02 11 39.2**	**+2.3**
PMRV	**Marv??o**	**42.21**	**21**	*e*P		**P**	**02 11 43.6**	**+4.2**
PMRV	**Marv??o**	**42.21**	**21**	*e*PP		PP	02 13 23.8	+6.6
PMRV				*e*S		**S**	**02 18 03.7**	**+4.2**
PMRV				*e*SS		**SnSn**	**02 21 15.2**	**-5.2**
PMRV				*e*LR		LR	02 25 49.7	
	comp=Z,798nm,18.0s							
PCAS	**Casmilo, Conde**	**42.39**	**19**	*e*PP		PP	02 13 26.2	+7.1
PCAS				*e*S		S	02 18 14.9	+13
PCAS				*e*SS		**SS**	**02 21 16.6**	**+5.3**
COI	**Coimbra**	**42.56**	**19**	*e*P		**P**	**02 11 44.0**	**+1.9**
COI	**Coimbra**	**42.56**	**19**	*e*PP		**PP**	**02 13 26.1**	**+5.2**
COI				*e*S		**S**	**02 18 04.4**	**-0.1**
COI				*e*SS		**SS**	**02 21 15.6**	**+1.1**
COI	**Coimbra**	**42.56**	**19**	IAMs_20		IAMs_20	02 26 03.5	
	comp=Z,1μm,18.0s							
MTE	**Manteigas**	**43.02**	**20**	*e*P		**P**	**02 11 43.1**	**-2.9**
MTE	**Manteigas**	**43.02**	**20**	*e*PP		PP	02 13 31.0	+5.0
MTE				*e*S		**S**	**02 18 14.8**	**+3.3**
MTE				*e*SS		**SS**	**02 21 31.9**	**+8.1**
MTE				*e*LR		LR	02 24 53.6	
	comp=Z,722nm,18.0s							
ESDC	**Sonseca Array**	**43.74**	**24**	P		**P**	**02 11 49.4**	**-2.3**
ESDC	**Sonseca Array**	**43.74**	**24**	P		**P**	**02 11 49.3**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=224,slow=8.2,SNR=5.4							
ESDC				LR		LR	02 29 39.8	
	comp=Z,648nm,19.0s,baz=220,slow=36							
	comp=Z,0.8nm,0.9s							
SJG	**San Juan**	**43.75**	**296**	LR		LR	02 25 46.6	
	comp=Z,337nm,21.7s,baz=106,slow=30							
POLO	**Lamas de Olo**	**43.81**	**19**	*e*P		**P**	**02 11 56.6**	**+4.2**
POLO	**Lamas de Olo**	**43.81**	**19**	*e*PP		PP	02 13 39.1	+4.6
POLO				*e*S		S	02 18 34.1	+11
POLO				*e*SS		**ScS**	**02 21 49.7**	**-2.1**
MVO	**Moncorvo**	**43.88**	**20**	*e*P		**P**	**02 11 56.7**	**+3.8**
MVO	**Moncorvo**	**43.88**	**20**	*e*PP		PP	02 13 41.5	+6.3
MVO				*e*S		**S**	**02 18 26.4**	**+2.3**
MVO				*e*SS		**ScS**	**02 21 51.1**	**-1.1**
MVO				*e*LR		LR	02 25 13.9	
	comp=Z,760nm,18.0s							
PGAV	**Gavieira, Arco**	**44.19**	**18**	*e*P		**P**	**02 11 53.0**	**-2.4**
PGAV	**Gavieira, Arco**	**44.19**	**18**	*e*PP		**PP**	**02 13 37.8**	**-0.8**
PGAV				*e*S		**S**	**02 18 32.1**	**+3.5**
PGAV				*e*SS		**ScS**	**02 21 54.7**	**+0.5**
PGAV				*e*LR		LR	02 25 42.6	
	comp=Z,799nm,18.0s							
PBRG	**Braganca**	**44.55**	**20**	*e*P		**P**	**02 12 00.8**	**+2.6**
PBRG	**Braganca**	**44.55**	**20**	*e*PP		PP	02 13 45.4	+3.1
PBRG				*e*S		**S**	**02 18 34.0**	**+0.3**
PBRG				*e*SS		**ScS**	**02 21 58.6**	**+2.2**
LPAZ	**La Paz**	**45.29**	**247**	P		**P**	**02 12 06.1**	**+0.9**
LPAZ				IAmb		IAmb	02 12 17.7	
	comp=Z,8.2nm,0.8s							
LPAZ	**La Paz**	**45.29**	**247**	P		**P**	**02 12 06.0**	**+0.8**
	comp=Z,2.8nm,1.0s,baz=62,slow=8.8,SNR=7.5							
LPAZ				LR		LR	02 30 02.4	
	comp=Z,885nm,19.1s,baz=48,slow=35							
	comp=Z,2.8nm,1.0s							
SDV	**Santo Domingo**	**45.83**	**282**	LR		LR	02 30 35.3	
	comp=Z,379nm,20.2s,baz=98,slow=35							
TSUM	**Tsumeb**	**46.43**	**117**	IAMs_20		IAMs_20	02 26 52.1	
	comp=Z,2μm,21.0s							
TSUM	**Tsumeb**	**46.43**	**117**	LR		LR	02 27 26.7	
	comp=Z,2μm,21.9s,baz=314,slow=30							
WIN	**Windhoek**	**47.23**	**122**	IAMs_20		IAMs_20	02 27 40.0	
	comp=Z,1μm,21.0s							
KEST	**Kesra**	**47.75**	**39**	P		**P**	**02 12 22.1**	**-1.5**
	comp=Z,2.5nm,1.0s,baz=262,slow=12,SNR=1.2							
KEST				LR		LR	02 32 19.4	
	comp=Z,3μm,21.6s,baz=190,slow=36							
	comp=Z,2.5nm,1.0s							
LVC	**Limon Verde**	**48.12**	**239**	LR		LR	02 33 27.9	
	comp=Z,704nm,19.5s,baz=68,slow=37							
ROSC	**El Rosal**	**49.06**	**276**	LR		LR	02 32 10.7	
	comp=Z,965nm,19.8s,baz=112,slow=35							
CFA	**Coronel Fontan**	**51.52**	**228**	LR		LR	02 34 58.4	
	comp=Z,1μm,20.0s,baz=80,slow=36							
SSB	**Saint Sauveur**	**51.95**	**27**	IAMs_20		IAMs_20	02 34 15.1	
	comp=Z,852nm,18.0s							
NNA	**Nana**	**52.52**	**255**	LR		LR	02 34 20.4	
	comp=Z,295nm,20.2s,baz=69,slow=35							
BOSC	**San Juan Bosco**	**53.19**	**266**	P		**P**	**02 13 04.5**	**-0.8**
ATAH	**Atahualpa**	**53.39**	**261**	LR		LR	02 34 30.7	
	comp=Z,585nm,20.9s,baz=83,slow=35							
SUR	**Sutherland**	**54.40**	**131**	LR		LR	02 32 20.3	
	comp=Z,724nm,19.2s,baz=298,slow=31							
AQU	**L'Aquila**	**54.41**	**35**	IAMs_20		IAMs_20	02 40 20.8	
	comp=Z,1μm,18.0s							
LSZ	**Lusaka**	**55.16**	**109**	LR		LR	02 32 37.5	
	comp=Z,971nm,21.7s,baz=288,slow=31							
ECH	**Echery**	**55.35**	**26**	IAMs_20		IAMs_20	02 34 22.1	
	comp=Z,791nm,18.0s							
DAVOX	**Davos/Dischmat**	**55.55**	**29**	LR		LR	02 36 17.8	
	comp=Z,805nm,19.3s,baz=258,slow=35							
FUORN	**Ofenpass-Fuorn**	**55.62**	**29**	IAMs_20		IAMs_20	02 36 32.7	
	comp=Z,661nm,18.0s							
DAVA	**Damuels**	**55.91**	**28**	*i* pP		**P**	**02 13 25.7**	**+1.3**
	comp=Z,8.7nm,1.2s							
WLF	**Walferdange**	**56.04**	**24**	IAMs_20		IAMs_20	02 36 58.9	
	comp=Z,1μm,18.0s							
FETA	**Feichten**	**56.13**	**29**	*e*P		**P**	**02 13 24.7**	**-1.3**
	comp=Z,7.8nm,1.4s							
MBAR	**Mbarara**	**56.14**	**91**	IAMs_20		IAMs_20	02 35 04.4	
	comp=Z,942nm,18.0s							
MBAR	**Mbarara**	**56.14**	**91**	LR		LR	02 34 07.4	
	comp=Z,872nm,21.7s,baz=252,slow=32							
BOSA	**Boshof**	**56.33**	**125**	P		**P**	**02 13 27.5**	**-0.2**
	comp=Z,2.9nm,1.1s,baz=263,slow=9.2,SNR=1.2							
BOSA				LR		LR	02 33 21.0	
	comp=Z,1μm,20.5s,baz=288,slow=31							
	comp=Z,2.9nm,1.1s							
RETA	**Reutte**	**56.47**	**29**	*e*P		**P**	**02 13 25.4**	**-2.9**
	comp=Z,8.1nm,1.5s							
SQTA	**Sankt Quirin**	**56.50**	**29**	*e*pP		pP	02 13 33.1	+1.6
	comp=Z,8.6nm,1.4s							
MOTA	**Moosalm**	**56.54**	**29**	*e*P		**P**	**02 13 26.1**	**-2.8**
	comp=Z,6.0nm,1.3s							
WTTA	**Wattenberg**	**56.74**	**29**	*i* P		**P**	**02 13 30.7**	**+0.3**
	comp=Z,15nm,1.9s							
WATA	**Walderalm**	**56.76**	**29**	*e*pP		pP	02 13 32.8	-0.6
	comp=Z,8.4nm,1.6s							
ABTA	**Abfaltersbach**	**56.82**	**30**	*e*pP		pP	02 13 35.9	+2.2
	comp=Z,13nm,1.8s							
MYKA	**Terra Mystica**	**57.32**	**31**	*e*pP		pP	02 13 38.0	+0.7
	comp=Z,6.9nm,1.1s							
LESA	**Schwarzleotal**	**57.36**	**30**	*e*pP		**P**	**02 13 36.3**	**+1.6**
	comp=Z,4.8nm,0.9s							
M65A	**Busby, Falmout**	**57.82**	**321**	IAMs_20		IAMs_20	02 31 29.8	
	comp=Z,736nm,21.0s							
PLCA	**Paso Flores**	**57.88**	**220**	LR		LR	02 37 29.9	
	comp=Z,506nm,19.9s,baz=54,slow=35							
PDG	**Podgorica**	**57.92**	**38**	IAMs_20		IAMs_20	02 40 43.6	
	comp=Z,802nm,19.0s							
BIOA	**Bad Ischl, Aus**	**58.02**	**30**	*e*P		**P**	**02 13 38.9**	**-0.3**
	comp=Z,4.8nm,1.0s							
SOKA	**Soboth**	**58.07**	**32**	*i* pP		pP	02 13 45.6	+3.0
	comp=Z,5.1nm,0.8s							
IDI	**Anoyia**	**58.23**	**48**	IAMs_20		IAMs_20	02 41 23.1	
	comp=Z,940nm,20.0s							
BRYW	**Bryant College**	**58.58**	**321**	IAMs_20		IAMs_20	02 31 51.6	
	comp=Z,697nm,21.0s							
GERES	**GERESS Array B**	**58.83**	**29**	LR		LR	02 38 54.4	
	comp=Z,615nm,18.6s,baz=238,slow=36							
KHC	**Kasperske Hory**	**58.97**	**29**	*ex*		x	02 14 01.5	
KHC				*e*S		**S**	**02 21 45.7**	**-6.3**
KHC				AMS		AMS	02 42 30.0	
	comp=Z,700nm,13.9s							
CKRC	**Cesky Krumlov**	**59.11**	**29**	*e*S		**S**	**02 21 51.2**	**-2.7**
CKRC				AMS		AMS	02 45 00.0	
	comp=Z,600nm,13.9s							
SANT	**Santorini**	**59.11**	**47**	IAMs_20		IAMs_20	02 38 34.2	
	comp=Z,936nm,20.0s							
YLE	**Yale**	**59.15**	**320**	IAMs_20		IAMs_20	02 32 04.9	
	comp=Z,676nm,20.0s							
CONA	**Conrad Observa**	**59.31**	**31**	*e*pP		pP	02 13 51.8	+0.6
	comp=Z,6.9nm,1.4s							
RONA	**Rosalia, Austr**	**59.39**	**31**	*i* pP		**P**	**02 13 50.2**	**+1.4**
	comp=Z,3.3nm,0.7s							
FFD	**Franklin Falls**	**59.48**	**322**	IAMs_20		IAMs_20	02 34 12.4	
	comp=Z,740nm,20.0s							
CNNC	**Cliffs of the**	**59.86**	**311**	IAMs_20		IAMs_20	02 32 24.4	
	comp=Z,686nm,20.0s							
HSKC	**Hora Svate Kat**	**59.91**	**27**	AMS		AMS	02 44 40.0	
	comp=Z,500nm,14.8s							
PRU	**Pruhonice**	**60.01**	**29**	*e*S		**S**	**02 22 09.3**	**+4.0**
PRU				AMS		AMS	02 40 00.0	
	comp=Z,800nm,16.4s							
PRA	**Prague**	**60.01**	**28**	AMS		AMS	02 39 10.0	
	comp=Z,700nm,21.0s							
KARP	**Karpathos**	**60.03**	**48**	IAMs_20		IAMs_20	02 42 50.8	
	comp=Z,846nm,19.0s							
LBNH	**Lisbon**	**60.07**	**323**	IAMs_20		IAMs_20	02 33 19.8	
	comp=Z,779nm,19.0s							
CLL	**Collm**	**60.20**	**27**	*e*P		**P**	**02 13 54.0**	**-0.2**
CLL				*e*PPIp			02 16 06.0	
CLL				*e*PPP		PPP	02 17 30.0	
CLL				*e*S		**S**	**02 22 12.0**	**+4.3**
	comp=N,600nm,28.4s							
CLL				*e*S		**S**	**02 22 12.0**	**+4.3**
	comp=E,700nm,26.8s							
CLL				*e*S		**S**	**02 22 12.0**	**+4.3**
	comp=Z,300nm,19.9s							
CLL				L		L	02 41 00.0	
	comp=Z,400nm,18.9s							
MODS	**Modra-Piesok**	**60.33**	**31**	*e*P		P	02 14 05.0	+10
BRG	**Berggiesshubel**	**60.33**	**28**	S		**S**	**02 22 15.0**	**+5.6**
BRG				Amp			02 41 21.0	
	comp=Z,0.7nm,12.5s							
BRG				Amp			02 41 23.0	
	comp=N,0.3nm,15.4s							
BRG				Amp			02 41 23.0	
	comp=E,0.5nm,15.7s							
TRY	**Troy**	**60.34**	**321**	IAMs_20		IAMs_20	02 32 43.5	
	comp=Z,730nm,22.0s							
PVCC	**Panska Ves**	**60.38**	**28**	AMS		AMS	02 39 20.0	
	comp=Z,900nm,16.9s							
VT1	**Waterbury**	**60.62**	**323**	IAMs_20		IAMs_20	02 33 59.2	
	comp=Z

LCAR	Lake Charles	70.34	308	P	P	02 14 59.4	-0.9
LCAR				IAmb	IAmb	02 15 15.8	
	comp=Z,6.0nm,0.9s						
PMSA	Palmer Station	70.81	196	LR	LR	02 39 44.0	
	comp=Z,292nm,19.9s,baz=26,slow=30						
CCM	Cathedral Cave	70.92	310	IAMs_20	IAMs_20	02 39 05.2	
	comp=Z,636nm,22.0s						
GURO	Guroymak-BITLI	72.24	49	P	P	02 15 11.9	-0.1
GURO				IAmb	IAmb	02 15 30.2	
	comp=Z,7.0nm,1.1s						
FINES	FINESS Array B	72.24	23	P	P	02 15 07.7	-3.6
	comp=Z,3.0nm,1.0s,baz=224,slow=5.8,SNR=2.7						
FINES				LR	LR	02 45 12.3	
	comp=Z,528nm,19.3s,baz=232,slow=35						
	comp=Z,3.0nm,1.0s						
NATX	Nacogdoches	72.25	303	IAMs_20	IAMs_20	02 42 58.9	
	comp=Z,607nm,20.0s						
SUMG	Summit	72.56	356	P	P	02 15 11.6	-1.9
SUMG				IAmb	IAmb	02 15 22.4	
	comp=Z,13nm,1.1s						
SUMG	Summit	72.56	356 *i*	P	P	02 15 15.0	+1.5
SUMG				IAmb	IAmb	02 15 18.6	
	comp=Z,9.2nm,1.1s						
HKT	Hockley	72.92	301	IAMs_20	IAMs_20	02 47 54.3	
	comp=Z,480nm,19.0s						
SCIA	State Center	73.38	314	IAMs_20	IAMs_20	02 37 58.5	
	comp=Z,454nm,19.0s						
SNAA	Sanae	73.38	173	P	P	02 15 22.5	+4.6
SNAA	Sanae	73.38	173	P	P	02 15 17.8	-0.1
	comp=Z,1.2nm,1.0s,baz=335,slow=4.2,SNR=2.5						
SNAA				LR	LR	02 41 06.4	
	comp=Z,222nm,20.3s,baz=11,slow=30						
	comp=Z,1.2nm,1.0s						
OBN	Obninsk	74.02	32	LR	LR	02 48 18.4	
	comp=Z,338nm,18.7s,baz=204,slow=36						
KVAR	Kislovodsk Arr	74.10	44	LR	LR	02 49 01.1	
	comp=Z,261nm,21.9s,baz=111,slow=37						
KBZ	Khabaz	74.18	44	P	P	02 15 22.1	-1.0
	comp=Z,2.2nm,0.9s,baz=253,slow=11,SNR=1.6						
KBZ				LR	LR	02 49 29.4	
	comp=Z,372nm,21.9s,baz=255,slow=37						
	comp=Z,2.2nm,0.9s						
435B	Jarrell	74.54	302	IAMs_20	IAMs_20	02 46 05.1	
	comp=Z,544nm,19.0s						
WHTX	Lake Whitney,	74.63	303	P	P	02 15 25.6	-0.4
WHTX				IAmb	IAmb	02 15 37.2	
	comp=Z,7.0nm,0.9s						
GNI	Garni	74.66	48	LR	LR	02 49 38.3	
	comp=Z,287nm,21.6s,baz=266,slow=37						
KSU1	Kansas State U	75.25	310	IAMs_20	IAMs_20	02 41 38.8	
	comp=Z,483nm,22.0s						
WTFS	Witchita Falls	75.75	305	P	P	02 15 30.9	-1.5
WTFS				IAmb	IAmb	02 15 40.2	
	comp=Z,9.6nm,0.9s						
BRDY	Brady	75.82	302	P	P	02 15 29.9	-3.0
BRDY				IAmb	IAmb	02 15 34.7	
	comp=Z,6.9nm,1.1s						
ECSD	EROS Data Cent	76.24	315	IAMs_20	IAMs_20	02 43 39.2	
	comp=Z,438nm,20.0s						
JCT	Junction City	76.39	301	P	P	02 15 35.0	-1.2
JCT				IAmb	IAmb	02 15 47.6	
	comp=Z,8.4nm,1.1s						
OK038	West end E0370	76.42	307	IAMs_20	IAMs_20	02 42 48.5	
	comp=Z,490nm,20.0s						
ARCES	ARCESS Array B	76.83	16	LR	LR	02 44 56.2	
	comp=Z,500nm,20.5s,baz=234,slow=32						
DRIO	Del Rio	76.96	300	P	P	02 15 38.9	-0.6
DRIO				IAmb	IAmb	02 15 42.3	
	comp=Z,5.8nm,1.0s						
ULM	Lac du Bonnet	77.32	122	LR	LR	02 43 25.6	
	comp=Z,388nm,20.1s,baz=94,slow=31						
KEV	Kevo	77.38	16	IAMs_20	IAMs_20	02 44 10.0	
	comp=Z,620nm,21.0s						
OZNA	Ozona	77.58	301	P	P	02 15 41.0	-2.0
OZNA				IAmb	IAmb	02 15 49.5	
	comp=Z,22nm,1.6s						
CBKS	Cedar Bluff	77.59	310	IAMs_20	IAMs_20	02 42 24.0	
	comp=Z,534nm,20.0s						
KLMR	Klimovskoe	77.69	27 *e*		P	02 15 37.4	-5.4
KLMR				AMP		02 15 53.3	
	comp=Z,25nm,1.8s						
KLMR				LQ	LQ	02 39 50.7	
KLMR				LQ	LQ	02 39 50.7	
KLMR				LR	LR	02 42 41.7	
KLMR				AMP		02 51 26.3	
	comp=Z,646nm,17.0s						
NEEM	North Greenlan	78.26	354 *i*	P	P	02 15 46.8	+0.7
NEEM				IAmb	IAmb	02 15 53.6	
	comp=Z,12nm,0.8s						
SAND	Sanderson	78.32	300	IAmb	IAmb	02 15 50.4	
	comp=Z,5.7nm,1.0s						
ELIB	Princess Elisa	78.50	166 *d*	P	P	02 15 54.9	+7.6
MSTX	Muleshoe	79.33	304	IAmb	IAmb	02 16 01.6	
	comp=Z,8.0nm,0.9s						
BELG	Belogornoye	79.39	37	P	P	02 15 49.4	-3.0
	comp=Z,5.1nm,0.7s,baz=242,slow=3.4,SNR=1.7						
BELG				LR	LR	02 54 01.9	
	comp=Z,554nm,19.4s,baz=300,slow=38						
	comp=Z,5.1nm,0.7s						
TXAR	Lajitas Array	79.59	300	P	P	02 15 52.5	-1.7
TXAR	Lajitas Array	79.59	300	P	P	02 15 52.1	-2.0
	comp=Z,3.2nm,1.0s,baz=125,slow=6.0,SNR=16						
	comp=Z,3.2nm,1.0s						
TX31	Lajitas Ar. Si	79.59	300	IAmb	IAmb	02 16 12.1	
	comp=Z,16nm,1.1s						
ALPN	Alpine	79.67	301	IAmb	IAmb	02 16 11.6	
	comp=Z,5.5nm,1.0s						
PECS	Pecos	79.96	302	IAmb	IAmb	02 15 59.9	
	comp=Z,9.8nm,0.8s						
SPITS	Spitsbergen Ar	80.78	8	LR	LR	02 46 16.1	
	comp=Z,493nm,18.3s,baz=186,slow=32						
425A	Indio Mountain	80.86	301	IAmb	IAmb	02 16 13.1	
	comp=Z,12nm,1.1s						
MNTX	Cornudas Mount	81.28	302	IAMs_20	IAMs_20	02 47 42.5	
	comp=Z,433nm,20.0s						
KIRV	Kirov	81.79	31	LR	LR	02 53 39.8	
	comp=Z,608nm,18.2s,baz=259,slow=37						
UOSS	Minazif	82.22	65	IAMs_20	IAMs_20	02 52 23.1	
	comp=Z,674nm,20.0s						
EPT	El Paso	82.24	302	IAMs_20	IAMs_20	02 50 39.0	
	comp=Z,627nm,18.0s						
PHWY	Pilot Hill	82.28	312	IAMs_20	IAMs_20	02 46 58.8	
	comp=Z,578nm,20.0s						
ANMO	Albuquerque	82.45	305	LR	LR	02 47 53.8	
	comp=Z,275nm,19.9s,baz=187,slow=32						
RES	Resolute Bay	84.30	346	LR	LR	02 49 54.1	
	comp=Z,130nm,18.6s,baz=184,slow=33						
WSAR	Wadi Sarin	84.36	67	LR	LR	02 54 21.0	
	comp=Z,524nm,20.0s,baz=294,slow=36						
GEYT	Alibeck	84.64	52	LR	LR	02 56 55.8	
	comp=Z,358nm,19.8s,baz=286,slow=38						
RPN	Rapa Nui	84.77	243	LR	LR	02 52 24.1	
	comp=Z,117nm,18.4s,baz=40,slow=34						
PDAR	Pinedale Array	85.45	313		P	02 16 23.6	-1.0
PDAR	Pinedale Array	85.45	313	P	P	02 16 21.7	-2.9
	comp=Z,0.5nm,0.9s,baz=84,slow=8.3,SNR=2.3						
PDAR				LR	LR	02 48 44.5	
	comp=Z,501nm,21.6s,baz=115,slow=32						
	comp=Z,0.5nm,0.9s						
AKTO	Aktyubinsk	85.50	40	P	P	02 16 21.5	-2.9
	comp=Z,0.6nm,0.6s,baz=269,slow=6.8,SNR=2.2						
AKTO				LR	LR	02 59 33.8	
	comp=Z,287nm,18.5s,baz=248,slow=39						
	comp=Z,0.6nm,0.6s						
EGMT	Eagleton	85.94	318	IAMs_20	IAMs_20	02 48 11.2	
	comp=Z,523nm,22.0s						
YMP	Mirror Lake Pl	86.01	315	P	P	02 16 25.4	-2.1
BSUT	Blindstream Ca	86.23	310	P	P	02 16 28.2	-0.5
LOHW	Long Hollow	86.27	314	IAmb	IAmb	02 16 38.2	
	comp=Z,10nm,1.2s						
ARU	Arti	86.34	34	IAMs_20	IAMs_20	02 52 18.1	
	comp=Z,522nm,20.0s						
ARU	Arti	86.34	34	LR	LR	02 55 44.9	
	comp=Z,216nm,21.2s,baz=262,slow=36						
FLWY	Flagg Ranch	86.36	314	P	P	02 16 27.6	-1.4
FLWY				IAMs_20	IAMs_20	02 49 27.1	
	comp=Z,603nm,22.0s						
ID10	Lander Cutoff	86.42	312	P	P	02 16 29.3	-0.1
ID10				IAmb	IAmb	02 16 37.9	
	comp=Z,6.9nm,1.2s						
YHH	Holmes Hill	86.50	315	P	P	02 16 28.1	-1.8
TPAW	Teton Pass	86.51	313	IAmb	IAmb	02 16 38.8	
	comp=Z,8.5nm,1.0s						
TPAW				IAMs_20	IAMs_20	02 49 21.4	
	comp=Z,554nm,18.0s						
IMW	Indian Meadow	86.52	314	IAmb	IAmb	02 16 40.7	
	comp=Z,11nm,1.2s						
IMW				IAMs_20	IAMs_20	02 50 34.6	
	comp=Z,536nm,20.0s						
X16A	Lo Mia Camp, P	86.52	304	P	P	02 16 29.3	-0.7
FXWY	Fox Creek	86.58	314	IAmb	IAmb	02 16 38.9	
	comp=Z,6.0nm,1.1s						
FXWY				IAMs_20	IAMs_20	02 49 17.9	
	comp=Z,480nm,21.0s						
MPU	Maple Canyon	86.88	310	P	P	02 16 31.6	0.0
MPU				IAmb	IAmb	02 16 45.9	
	comp=Z,5.3nm,1.1s						
HWUT	Hardware Ranch	86.88	311	IAmb	IAmb	02 16 42.2	
	comp=Z,9.2nm,1.1s						
NLU	North Lily Min	87.21	310	IAmb	IAmb	02 16 43.2	
	comp=Z,6.8nm,1.1s						
DLMT	Dillon	87.77	315	IAMs_20	IAMs_20	02 51 49.0	
	comp=Z,411nm,19.0s						
DUG	Dugway, Tooele	87.78	310	IAmb	IAmb	02 16 47.7	
	comp=Z,6.5nm,1.2s						
SZCU	Shurtz Canyon	87.94	307	IAmb	IAmb	02 16 46.3	
	comp=Z,5.9nm,1.0s						
BGU	Big Grassy Mou	87.97	311	P	P	02 16 36.7	-0.2
CCUT	Cedar City	88.16	307	IAmb	IAmb	02 16 47.6	
	comp=Z,3.8nm,1.0s						
HLID	Hailey	89.03	313	IAMs_20	IAMs_20	02 52 05.0	
	comp=Z,464nm,19.0s						
YKA	Yellowknife Ar	89.31	332	LR	LR	02 51 34.0	
	comp=Z,425nm,21.3s,baz=80,slow=32						
PRN	Pahroc Range	89.50	307	P	P	02 16 43.8	-0.4
ELK	Elko	89.64	311	P	P	02 16 42.6	-2.3
ELK				IAmb	IAmb	02 16 53.9	
	comp=Z,6.9nm,1.7s						
ELK	Elko	89.64	311	LR	LR	02 51 51.9	
	comp=Z,347nm,19.0s,baz=98,slow=32						
MAW	Mawson	89.68	157	P	P	02 16 44.7	+0.7
	comp=Z,0.6nm,0.3s,baz=306,slow=7.2,SNR=2.5						
MAW				LR	LR	02 48 45.8	
	comp=Z,183nm,20.1s,baz=281,slow=30						
	comp=Z,0.6nm,0.3s						
MFID	Camas Ranch	90.06	313	IAMs_20	IAMs_20	02 50 39.2	
	comp=Z,590nm,21.0s						
QSPA	South Pole Qui	90.44	180	P	P	02 16 50.7	+2.9
QSPA	South Pole Qui	90.44	180	P	P	02 16 49.0	+1.2
	comp=Z,2.7nm,0.9s,baz=151,slow=1.7,SNR=5.4						
	comp=Z,2.7nm,0.9s						
PFO	Pinyon Flats O	90.69	303	LR	LR	02 55 00.3	
	comp=Z,220nm,19.0s,baz=98,slow=34						
NEW	Newport	90.88	318	LR	LR	02 52 13.7	
	comp=Z,507nm,21.3s,baz=84,slow=32						
BMO	Blue Mountains	91.10	315	IAMs_20	IAMs_20	02 53 26.3	
	comp=Z,428nm,20.0s						
NVAR	Mina Array Bea	92.06	308	P	P	02 16 53.4	-2.7
	comp=Z,0.1nm,0.3s,baz=103,slow=4.1,SNR=1.5						
	comp=Z,0.1nm,0.3s						
BRVK	Borovoye	93.13	37	IAMs_20	IAMs_20	03 00 01.5	
	comp=Z,388nm,20.0s						
BVAR	Borovoye Array	93.19	37	LR	LR	03 00 14.5	
	comp=Z,310nm,19.5s,baz=275,slow=36						
PGC	Sidney	95.05	319	P	P	02 17 07.9	-1.4
YBH	Yreka Blue Hor	95.22	312	LR	LR	02 55 32.9	
	comp=Z,385nm,19.2s,baz=86,slow=33						
INK	Inuvik	96.30	339	LR	LR	02 56 28.3	
	comp=Z,312nm,20.9s,baz=90,slow=33						
AAK	Ala-Archa	97.03	47	IAMs_20	IAMs_20	03 01 32.6	
	comp=Z,408nm,19.0s						
AAK	Ala-Archa	97.03	47	LR	LR	03 06 04.1	
	comp=Z,168nm,18.6s,baz=272,slow=39						
DLBC	Dease Lake	97.32	329	LR	LR	02 57 18.1	
	comp=Z,311nm,20.0s,baz=80,slow=33						
H31M	Peel River	97.35	337	IAMs_20	IAMs_20	02 57 25.7	
	comp=Z,494nm,20.0s						
BBB	Bella Bella	97.50	323	LR	LR	02 57 52.9	
	comp=Z,386nm,18.6s,baz=66,slow=33						
NRIK	Norilʼsk	97.60	19	LR	LR	03 02 50.5	
	comp=Z,355nm,18.0s,baz=302,slow=36						
KURBB	Kurchatov Arra	98.53	39	P	P	02 17 23.2	-1.8
	comp=Z,0.3nm,0.3s,baz=288,slow=3.8,SNR=1.5						
KURBB				LR	LR	03 04 09.7	
	comp=Z,194nm,21.8s,baz=226,slow=37						
	comp=Z,0.3nm,0.3s						
KURK	Kurchatov	98.56	39	IAMs_20	IAMs_20	03 08 03.8	
	comp=Z,327nm,19.0s						
MAKZ	Makanchi	101.56	42	IAMs_20	IAMs_20	03 05 49.9	
	comp=Z,369nm,19.0s						
TIXI	Tiksi	106.21	8	IAMs_20	IAMs_20	03 14 43.0	
	comp=Z,247nm,20.0s						
LSA	Lhasa	112.68	58	IAMs_20	IAMs_20	03 14 05.9	
	comp=Z,304nm,20.0s						
YAK	Yakutsk	114.95	13	IAMs_20	IAMs_20	03 18 34.2	
	comp=Z,313nm,21.0s						
TBI	Tubuai	121.16	243 *e*	SS	SS	02 40 45.7	+2.1
	comp=Z,1μm,30.8s						
TBI	Tubuai	121.16	243 *e*	LR	LR	03 00 01.0	
	comp=Z,8μm,22.0s						
TBI				*e*LR	LR	03 00 38.3	
	comp=Z,1μm,23.5s						
PPT2	Papeete2	122.54	249 *e*	SS	SS	02 41 13.6	+12
	comp=Z,135nm,26.2s						
PPT2	Papeete2	122.54	249 *e*	LR	LR	03 00 43.3	
	comp=Z,294nm,27.8s						
PPT2				*e*LR	LR	03 01 00.0	
	comp=Z,210nm,27.8s						
PZH	PanZhiHua	122.55	58	PKP	PKiKP	02 22 43.6	+0.5
HHC	Hu-ho-hao-te	123.38	38 *e*	PKPdf	PKPdf	02 22 39.9	-4.2
HHC				LR	LR		
	comp=N,690nm,19.6s						
HHC				LR	LR		
	comp=E,460nm,18.7s						
HHC				LR	LR		
	comp=Z,820nm,18.7s						
XLT	XiLinHaoTe	124.13	33 *e*	PKPdf	PKPdf	02 22 43.2	-2.2
XLT				pmax	pmax		
	comp=Z,15nm,0.9s						
XLT				pmax	pmax		
	comp=Z,86nm,3.7s						
SLVN	Son La	126.02	63	IAMs_20	IAMs_20	03 23 18.2	
	comp=Z,183nm,20.0s						
MYKOM	Kota Tinggi	129.21	87	IAMs_20	IAMs_20	03 14 27.8	
	comp=Z,271nm,20.0s						
QIZ	Qiongzhong	132.03	64	SS	SS	02 43 00.8	+1.1
QIZ				LR	LR		
	comp=N,240nm,17.7s						
QIZ				LR	LR		
	comp=E,190nm,15.1s						
QIZ				LR	LR		
	comp=Z,270nm,18.5s						
NJ2	Nanjing	133.29	43 *e*	PKPdf	PKPdf	02 23 02.6	-0.4
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
BKZ	Black Stump Fm	136.50	205	IAMs_20	IAMs_20	03 23 45.8	
	comp=Z,279nm,21.0s						
TOLI2	Tolitoli	146.15	87	IAMs_20	IAMs_20	03 22 15.8	
	comp=Z,184nm,20.0s						
STKA	Stephens Creek	146.34	160	PKPbc	PKPdf	02 23 26.7	0.0
	comp=Z,0.5nm,0.4s,baz=255,slow=6.4,SNR=1.5						
ASAR	Alice Springs	149.34	141		PKPbc	02 23 36.8	+0.5
ASAR	Alice Springs	149.34	141	PKPbc	PKPbc	02 23 36.2	-0.1
	comp=Z,1.0nm,0.7s,baz=206,slow=2.6,SNR=10.0						
AS31	Alice Springs	149.35	141		PKPdf	02 23 33.0	+1.1
WRA	Warramunga Arr	152.22	136	PKPdf	PKPdf	02 23 36.2	-0.2
WRA					PKPab	02 23 54.0	+1.3
WRA	Warramunga Arr	152.22	136	PKPbc	PKPbc	02 23 42.1	-1.0
	comp=Z,0.3nm,0.8s,baz=230,slow=2.3,SNR=4.1						
DZM	Mont Dzumac	155.54	207 *e*	LR	LR	03 15 58.7	
	comp=Z,324nm,31.6s						

*IDC **06** 02:07:18.8±1.3,0.°39N×25.°63W,h0km,mb4.0/6, mbtmp4.0/6,Error ellipse: s-maj=56.4km s-min=24.7km az=149.0*

ISC 06 02:07:20.2±1.2,0.°3N±0.°3×25.°6W±0.°2,h12km,n12,σ0s68/7, mb4.0/6,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	ASCENSION HYDR	13.65	126	T	T	02 25 15.8	
	baz=306,slow=75,SNR=9.5						
H10N2	ASCENSION HYDR	13.66	126	T	T	02 25 15.2	
	baz=306,slow=75,SNR=8.5						
H10N1	ASCENSION HYDR	13.67	126	T	T	02 25 16.2	
	baz=306,slow=75,SNR=11						
H10S3	ASCENSION HYDR	14.20	130	T	T	02 25 58.8	
	baz=308,slow=74,SNR=9.3						
H10S2	ASCENSION HYDR	14.22	130	T	T	02 25 59.2	
	baz=272,slow=74,SNR=7.5						
TORD	Torodi Ar. Bea	29.90	64	P	P	02 13 28.3	+0.1
	0.9nm,0.6s,baz=252,slow=9.7,SNR=2.0						
	0.9nm,0.6s						
ESDC	Sonseca Array	43.92	24	P	P	02 15 26.5	-0.5
	1.4nm,0.9s,baz=225,slow=8.8,SNR=6.8						
	1.4nm,0.9s						
LPAZ	La Paz	45.08	247	P	P	02 15 36.9	-0.5
	2.3nm,0.9s,baz=78,slow=10.0,SNR=4.2						
	2.3nm,0.9s						
BRTR	Keskin Array B	66.57	46	P	P	02 18 11.3	+0.6
	0.9nm,0.6s,baz=230,slow=8.2,SNR=4.8						
	0.9nm,0.6s						
AKASG	Malin Array Be	68.28	34	P	P	02 18 20.5	-0.6
	1.3nm,0.6s,baz=238,slow=7.4,SNR=5.1						
	1.3nm,0.6s						
TXAR	Lajitas Array	79.50	300	P	P	02 19 28.2	+0.8
	1.3nm,1.0s,baz=119,slow=7.3,SNR=4.5						
	1.3nm,1.0s						
ASAR	Alice Springs	149.36	141	PKPbc	PKiKP	02 27 11.4	+0.1
	0.2nm,0.4s,baz=213,slow=2.8,SNR=1.4						

*NDI **06** 02:10:20.2±2.2,27.°83N×95.°93E,h14km±13km,ML3.8*

ISC 06 02:10:20.5±2.3,27.°8N±0.°1×95.°77E±0.°09,h10km,n14, σ0s95/20,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	Lekhapani	0.44	172	*e*P	Pb	02 10 30.2	-0.2
DIBR	DIBRUGARH	0.82	249	*e*P	Pn	02 10 39.4	+1.2
DIBR				*e*S	Sn	02 10 52.3	+1.9
DIBR				IAML		02 10 55.1	
	comp=N,3μm,0.2s						
ZIRO	ZIRO	1.72	262	*e*P	Pb	02 10 52.5	+0.1
ZIRO				*e*S	Sg	02 11 16.0	0.0
ZIRO				IAML		02 11 19.5	
	comp=N,973nm,0.3s						
MOKO	MOKOCHONG	1.83	218	*e*P	Pb	02 10 53.7	-0.4
MOKO				*e*S	Sg	02 11 19.1	-0.2
MOKO				IAML		02 11 22.0	
	comp=E,894nm,0.5s						
MOKO				IAML		02 11 22.2	
	comp=N,660nm,0.4s						
ITAN	ITANAGAR	1.93	252	*e*P	Pb	02 10 55.3	-0.5
ITAN				*e*S	Sg	02 11 21.0	-1.5
ITAN				IAML		02 11 25.6	
	comp=E,1μm,0.3s						
ITAN				IAML		02 11 26.1	
	comp=N,1μm,0.2s						
TEZP	TEZPUR	2.89	247	*e*P	Pn	02 11 07.7	+1.1
TEZP				*e*S	Sn	02 11 42.9	+1.6
TEZP				IAML		02 11 44.4	
	comp=E,391nm,0.2s						
TEZP				IAML		02 11 45.6	
	comp=N,559nm,0.2s						
SHL	Shillong	4.12	239	*e*P	Pn	02 11 23.7	+0.1
SHL				*e*S	Sn	02 12 10.5	-1.5
RAMN	Ramite	8.20	266	*e*P	Pn	02 12 19.8	0.0
	comp=N,35nm,0.6s						
JIRN	Jiri	8.49	271	*e*P	Pn	02 12 24.3	+0.3
	comp=N,22nm,0.3s						
GUN	Gumba	8.76	273	*e*P	Pn	02 12 27.3	-0.3
	comp=N,51nm,0.4s						
PKI	Pulchoki	9.19	271	*e*P	Pn	02 12 33.3	-0.2
	comp=N,17nm,0.5s						
PKIN	Phulchoki	9.20	271	*e*P	Pn	02 12 33.0	-0.6
	comp=N,18nm,0.4s						
DMN	Daman	9.46	271	*e*P	Pn	02 12 36.5	-0.6
	comp=N,12nm,0.4s						
GKN	Gorkha	9.86	274	*e*P	Pn	02 12 41.6	-0.9
	comp=N,12nm,0.3s						

*NEIC **06** 02:31:10.1±1.1,41.°23N±0.°01×125.°9W±0.°2,h10km±10km, Error ellipse: s-maj=18.0km s-min=1.0km az=84.0*

NCEDC 06 02:31:12.5±1.2,41.°24N±0.°05×125.°8W±0.°1,h8km±8km, Md3.0/24,ML2.8/46(NEIC),Error ellipse: s-maj=11.9km s-min=7.4km az=70.0,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	Rodgers	1.33	93		Pn	02 31 35.5	-2.0
KRPM				IAML		02 31 56.3	
	comp=N,98nm,0.6s						
KRPM				IAML		02 31 56.5	
	comp=E,166nm,0.7s						
KCTM	Capetown	1.33	124		Pn	02 31 35.8	-1.6
KCTM					Sb	02 31 54.0	-1.0
JCC	Jacoby Creek,	1.39	107	Pn	Pn	02 31 36.0	-2.2
JCC				IAML		02 31 55.0	
	comp=N,146nm,0.3s						
KRMB	Red Mountain	1.44	78		Pn	02 31 36.7	-2.3
KRMB	Red Mountain	1.44	78	IAML		02 31 55.9	
	comp=E,117nm,0.4s						
KMPM	Mount Pierce	1.50	123		Pn	02 31 38.0	-1.8
KBO	Bosley Butte	1.52	49	Pn	Pn	02 31 37.3	-2.7
KBO				IAML		02 31 56.5	
	comp=E,162nm,0.3s						
KBO				IAML		02 31 57.4	
	comp=N,152nm,0.3s						
KSXB	Camp Six Broad	1.54	67		Pn	02 31 38.2	-2.3
KSXB	Camp Six Broad	1.54	67	IAML		02 31 58.1	
	comp=N,142nm,0.3s						
KSXB				IAML		02 31 59.3	
	comp=E,154nm,0.3s						
KHMM	Horse Mountain	1.59	103		Pn	02 31 39.2	-1.9
KHMM	Horse Mountain	1.59	103	IAML		02 32 00.8	
	comp=N,91nm,0.3s						
KSMM	Slide Mountain	1.61	130		Pn	02 31 39.2	-2.1
KCRM	Chalk Rock	1.69	118		Pn	02 31 40.7	-1.7
KOMM	Orleans Mounta	1.75	88		Pn	02 31 41.8	-1.5
KMRM	Mail Ridge	1.87	122		Pn	02 31 43.6	-1.3
L02F	Cave Junction	1.87	61		Pn	02 31 43.0	-1.9
L02F				IAML		02 32 07.2	
	comp=E,72nm,0.4s						
L02F				IAML		02 32 09.1	
	comp=N,71nm,0.3s						
KTRM	Thompson Ridge	1.92	69		Pn	02 31 44.4	-1.3
KEBM	Edson Butte	1.96	33	Pn	Pn	02 31 42.7	-3.4
KEBM				IAML		02 32 12.8	
	comp=E,48nm,1.2s						
KHBM	Hayfork Bally	2.02	106		Pn	02 31 45.4	-1.8
K02D	Willamette Mer	2.15	47		Pn	02 31 46.5	-2.2
M02C	Callahan	2.21	85		Pn	02 31 48.3	-1.3
LGPM	Granite Peak	2.25	97		Pn	02 31 48.6	-1.6
KIPM	Iron Peak	2.26	128		Pn	02 31 49.0	-1.4

*TIR **06** 02:31:55.2, 40°.87N×20°.58E, h1km±1km, Md2.5, Ml1.5*
*SKO **06** 02:31:55.9, 40°.77N×20°.58E, h15km, ML1.3*
*ATH **06** 02:31:58.6, 40°.80N×20°.71E, h15km±4km, ML1.7/4, Error ellipse: s-maj=7.2km s-min=1.9km az=130.0*
ISC 06 02:31:56.8±1.1, 40°.85N±0°.03×20°.62E±0°.03, h15km±10km, n17, σ1§10/27, 2C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.26**	**150**	P	**Pg**	**02 32 01.8**	**-0.5**
KBN	baz=146			S	**Sb**	**02 32 06.7**	**-0.8**
KBN	baz=146			AMP			
OHR	comp=N,2.9nm,0.3s,baz=146 **Ohrid**	**0.30**	**27**	⇑*i*Pg	**Pb**	**02 32 03.6**	**-0.3**
OHR				*i* Sg	**Sb**	**02 32 09.2**	**+0.5**
OHR				*e*Lg	Lg	02 32 09.3	
OHR	comp=N,78nm,0.3s			*e*Lg	Lg	02 32 09.9	
NEST	comp=E,69nm,0.4s **Nestorio**	**0.54**	**143**	P	**Pg**	**02 32 06.8**	**-0.7**
NEST				S	**Sg**	**02 32 14.6**	**-0.2**
NEST				AML	AML	02 32 18.5	
NEST	comp=E,278μm,0.2s			AML	AML	02 32 19.4	
FNA	comp=N,208μm,0.3s **Florina**	**0.58**	**96**	P	**Pb**	**02 32 08.0**	**-0.7**
FNA	baz=97			S	**Sb**	**02 32 17.9**	**+1.2**
FNA	baz=97 **Florina**	**0.58**	**96**	⇑*i*Pg	**Pb**	**02 32 08.0**	**-0.7**
FNA				*i* Sg	**Sn**	**02 32 19.1**	**-0.8**
FNA	**Florina**	**0.58**	**96**	P	**Pb**	**02 32 07.9**	**-0.7**
FNA				S	**Sb**	**02 32 16.2**	**-0.6**
FNA				AML	AML	02 32 21.6	
FNA	comp=E,399μm,0.3s			AML	AML	02 32 21.6	
TIR	comp=N,340μm,0.6s **Tirane**	**0.76**	**312**	P	**Pg**	**02 32 10.7**	**-0.8**
TIR	baz=313			S	**Sg**	**02 32 21.4**	**-0.2**
TIR	baz=313			AMP			
TIR	comp=E,0.1nm,0.3s,baz=313 **Tirane**	**0.76**	**312**	*i* Pg	**Pb**	**02 32 11.4**	**-0.4**
TIR				*i* Sg	**Sn**	**02 32 25.5**	**+1.3**
PENT	**Pentalofos**	**0.76**	**149**	P	**Pb**	**02 32 11.4**	**-0.5**
KPRO	**Kipourio**	**1.06**	**147**	P	**Pb**	**02 32 16.7**	**-0.1**
KPRO				AML	AML	02 32 35.2	
KPRO	comp=E,82μm,0.2s			AML	AML	02 32 41.0	
KEK	comp=N,73μm,0.5s **Kerkira**	**1.29**	**209**	P	**Pg**	**02 32 21.3**	**-0.4**
IGT	**Igoumenitsa**	**1.33**	**190**	P	**Pg**	**02 32 22.2**	**-0.2**
IGT	baz=189			S	**Sg**	**02 32 42.2**	**+2.5**
IGT	baz=189 **Igoumenitsa**	**1.33**	**190**	P	**Pg**	**02 32 21.6**	**-0.9**
IGT				AML	AML	02 32 48.3	
IGT	comp=E,45μm,0.5s			AML	AML	02 32 49.2	
GRG	comp=N,34μm,0.4s **Griva**	**1.35**	**85**	*i* Pg	**Pg**	**02 32 22.3**	**-0.6**
GRG				*i* Sg	**Sg**	**02 32 43.7**	**+3.2**
GRG	**Griva**	**1.35**	**85**	P	**Pb**	**02 32 21.9**	**0.0**
KNT	**Kendrikon**	**1.75**	**79**	*i* Pg	**Pb**	**02 32 28.0**	**-0.7**
KNT	**Kendrikon**	**1.75**	**79**	P	**Pb**	**02 32 27.6**	**-1.1**

IDC 06 02:34:27.2±2.3, 0°.85N×127°.06E, h0km, mb3.4/3, mbtmp3.4/3, MS2.3/1, Error ellipse: s-maj=171.7km s-min=28.8km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.54**	**112**	LR	LR	02 37 43.3	
WRA	comp=Z,31nm,18.7s,baz=126,slow=43 **Warramunga Arr**	**21.86**	**161**	P	P	02 39 22.5	+0.7
	0.5nm,0.5s,baz=340,slow=11,SNR=4.7 0.5nm,0.5s						
ASAR	**Alice Springs**	**25.26**	**165**	P	P	02 39 54.9	-0.5
	0.7nm,0.7s,baz=342,slow=7.7,SNR=7.3 0.7nm,0.7s						
MKAR	**Makanchi Array**	**60.10**	**326**	P	P	02 44 36.5	0.0
	0.5nm,0.8s,baz=120,slow=8.5,SNR=2.6 0.5nm,0.8s						

IDC 06 02:38:48.7±1.1, 12°.83N×144°.59E, h104km±82km, mb3.2/3, mbtmp3.5/3, MS4.1/1, Error ellipse: s-maj=298.9km s-min=27.4km az=83.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.80**	**20**	P	Pn	02 39 08.2	+0.8
GUMO	252nm,0.3s,baz=50,slow=1.3,SNR=70 333nm,0.4s,baz=19,slow=23,SNR=7.9			S	Sn	02 39 22.3	+0.8
GUMO				LR	LR	02 39 29.5	
WRA	comp=Z,63nm,18.6s,baz=196,slow=51 **Warramunga Arr**	**34.10**	**197**	P	P	02 45 23.1	-0.4
	0.6nm,0.7s,baz=20,slow=9.4,SNR=7.7 0.6nm,0.7s						
ASAR	**Alice Springs**	**37.75**	**196**	P	P	02 45 54.8	0.0
	0.3nm,0.5s,baz=17,slow=11,SNR=9.4 0.3nm,0.5s						
SONM	**Songino Array**	**47.19**	**325**	P	P	02 47 10.9	-0.1
	0.4nm,0.5s,baz=134,slow=6.3,SNR=3.0 0.4nm,0.5s						
NWAO	**Narrogin (SRO)**	**52.47**	**209**	LR	LR	03 13 17.3	
	comp=Z,167nm,18.5s,baz=218,slow=39						

*GCG **06** 02:49:19.0±3.9, 12°.18N×90°.39W, h38km, MD3.9*
*SNET **06** 02:49:28.3±0.8, 13°.16N×89°.59W, h40km±8km, ML3.4*
ISC 06 02:49:25.5±1.7, 13°.06N±0°.07×89°.63W±0°.04, h18km±4km, n44, σ0§56/62, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.52**	**35**	*e*P	**Pn**	**02 49 38.3**	**+0.3**
LALI				*e*S	**Sn**	**02 49 45.5**	**-0.9**
JAYA	**Jayaque - finc**	**0.61**	**17**	*e*P	**Pn**	**02 49 39.3**	**-0.1**
JAYA				*e*S	**Sn**	**02 49 48.1**	**-0.9**
JAYA				IAML		02 49 49.4	
ITCA	comp=Z,4μm,0.1s **Escuela Especi**	**0.70**	**29**	*e*P	**Pn**	**02 49 40.4**	**-0.1**
ITCA				*e*S	**Sb**	**02 49 49.9**	**+1.4**
MAGS	**Ministerio de**	**0.70**	**28**	*e*P	**Pn**	**02 49 40.5**	**-0.1**
PMON	**Piamonte**	**0.71**	**25**	*e*P	**Pn**	**02 49 40.8**	**0.0**
SNET	**Serv Nac Est T**	**0.73**	**32**	*e*P	**Pn**	**02 49 40.8**	**-0.2**
SNET				*e*S	**Sn**	**02 49 50.9**	**-0.9**
SNET				IAML		02 49 51.9	
SEMO	comp=Z,1μm,0.2s **Seminario San**	**0.75**	**32**	*e*P	**Pn**	**02 49 40.8**	**-0.5**
BOQS	**Boqueron**	**0.75**	**27**	*e*P	**Pn**	**02 49 41.4**	**0.0**
BOQS				*e*S	**Sn**	**02 49 51.9**	**-0.5**
UEES	**Universidad Ev**	**0.75**	**30**	*e*P	**Pn**	**02 49 41.2**	**-0.1**
UEES				*e*S	**Sg**	**02 49 50.9**	**+0.5**
UTEC	**Universidad Te**	**0.76**	**33**	*e*P	**Pn**	**02 49 41.4**	**0.0**
UTEC				*e*S	**Sg**	**02 49 51.1**	**+0.6**
CEVE	**Cerro Verde**	**0.76**	**0**	*e*P	**Pn**	**02 49 41.6**	**+0.1**
CEVE				IAML		02 49 59.0	
CEDA	comp=Z,2μm,0.3s **San Andres**	**0.77**	**17**	*e*P	**Pn**	**02 49 41.5**	**0.0**
CEDA				IAML		02 49 53.8	
LFRS	comp=Z,1μm,0.2s **El Faro**	**0.79**	**45**	*e*P	**Pn**	**02 49 41.9**	**+0.1**
IGN	**Direccin Gen**	**0.79**	**35**	*e*P	**Pn**	**02 49 41.8**	**0.0**
SNJE	**San Jose**	**0.80**	**2**	*e*P	**Pn**	**02 49 42.1**	**0.0**
AEIL	**Aeropuerto Ilo**	**0.80**	**38**	*e*P	**Pn**	**02 49 42.5**	**+0.5**
SJTE	**Alcalda de S**	**0.82**	**48**	*e*P	**Pn**	**02 49 42.3**	**+0.2**
SJTE				*e*S	**Sg**	**02 49 53.2**	**+0.8**
SJTE				IAML		02 49 54.2	
RTR	comp=Z,2μm,0.2s **El Retiro**	**0.83**	**359**	*e*P	**Pn**	**02 49 42.5**	**+0.1**
RTR				*e*S	Sn	**02 49 54.5**	**+0.2**
QUEZ	**Alcaldia de Qu**	**0.84**	**24**	*e*P	**Pn**	**02 49 42.2**	**-0.3**
LFU	**La Fuente**	**0.85**	**36**	*e*P	**Pn**	**02 49 42.9**	**+0.3**
LBRS	**Las Brisas**	**0.88**	**40**	*e*P	**Pn**	**02 49 43.0**	**-0.1**
LBRS				*e*S	**Sg**	**02 49 54.9**	**+0.5**
COEG	**Centro de Oper**	**0.92**	**53**	⇓*e*P	**Pn**	**02 49 43.8**	**+0.2**
COEG				*e*S	**Sg**	**02 49 55.4**	**-0.1**
COEG	comp=Z,1μm,0.3s			IAML		02 49 58.1	
UNIC	**Universidad Ca**	**0.92**	**5**	*e*P	**Pn**	**02 49 43.6**	**+0.1**
PAVA	**Las Pavas**	**0.93**	**46**	*e*P	**Pn**	**02 49 44.5**	**+0.6**
PAVA				*e*S	**Sn**	**02 49 57.0**	**+0.2**
LOAL	**Lomas de Alarc**	**0.94**	**351**	*e*P	**Pn**	**02 49 44.2**	**+0.3**
SNVI	**San Vicente**	**0.94**	**55**	*e*P	**Pn**	**02 49 44.3**	**+0.3**
TECO	**Alcaldia de Te**	**0.95**	**60**	*e*P	**Pg**	**02 49 43.9**	**-0.1**
TECO				*e*S	**Sg**	**02 49 56.3**	**-0.3**
SLOZ	**Alcaldia de Sa**	**0.97**	**351**	*e*P	**Pg**	**02 49 44.4**	**0.0**
SLOZ				*e*S	**Sb**	**02 49 56.8**	**+0.6**
UESV	**Universidad de**	**1.00**	**55**	*e*P	**Pg**	**02 49 44.9**	**0.0**
UESV				*e*S	**Sb**	**02 49 57.5**	**+0.4**
ALJI	**Alcalda de J**	**1.06**	**76**	*e*P	**Pg**	**02 49 45.7**	**-0.5**
ALJI				IAML		02 50 02.2	
SCLA	comp=Z,616nm,0.3s **Alcaldia de Sa**	**1.08**	**54**	*e*P	**Pg**	**02 49 46.4**	**-0.2**
TECA	**Tecapa**	**1.18**	**69**	*e*P	**Pb**	**02 49 47.4**	**0.0**
LLGN	**La Laguna**	**1.28**	**31**	*e*P	**Pn**	**02 49 48.8**	**+0.2**
PACA	**Pacayal**	**1.33**	**72**	*e*P	**Pb**	**02 49 50.3**	**+0.2**
MTO3	**Montecristo**	**1.35**	**11**	*e*P	**Pb**	**02 49 50.0**	**-0.4**
RANC	**El Ranchito**	**1.36**	**74**	*e*P	**Pb**	**02 49 50.4**	**-0.1**
VSM	**San Miguel**	**1.37**	**74**	*e*P	**Pb**	**02 49 50.9**	**+0.2**
ESQI	**Esquipulas**	**1.51**	**11**	*e*P	**Pn**	**02 49 52.4**	**+0.6**
PCG	**Pacaya**	**1.63**	**324**	*e*S	**Sn**	**02 50 13.3**	**-0.8**
NBG	**Las Nubes**	**1.67**	**335**	*e*P	**Pb**	**02 49 55.4**	**-0.5**
NBG				*e*S	**Sn**	**02 50 14.3**	**-0.8**
LCND	**La Caada**	**1.71**	**82**	*e*P	**Pb**	**02 49 55.2**	**-1.2**
LCND				IAML		02 50 19.1	
CNCH	comp=Z,359nm,0.4s **Conchagua**	**1.76**	**83**	*e*P	**Pn**	**02 49 55.8**	**+0.6**
FUG	**Fuego 3**	**1.81**	**320**	*e*P	**Pb**	**02 49 57.5**	**-0.8**
FUG				*e*S	**Sn**	**02 50 19.1**	**+0.5**
STG3	**Santiaguito 3,**	**2.50**	**311**	*e*P	**Pn**	**02 50 07.0**	**+1.6**
STG3				*e*S	**Sn**	**02 50 34.0**	**-1.5**

BER 06 02:55:24.1±2.0, 72°.12N×0°.96E, h10km, mb(Pn)3.9, Confirmed Earthquake, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.86**	**127**	*e*P	Pn	02 56 47.8	-3.0
LOF				IAML		02 57 54.5	
TRO	comp=Z,3.8nm,1.0s **Tromso**	**6.40**	**104**	*e*P	Pn	02 56 54.7	-3.5
TRO				IAML		02 58 04.0	
STEI	comp=Z,2.0nm,0.5s **Steigen**	**6.44**	**124**	*e*P	Pn	02 56 55.8	-3.0
FAUS	**Fauske**	**6.86**	**127**	*e*P	Pn	02 57 01.5	-3.1
FAUS				IAML		02 58 19.6	
JETT	comp=Z,1.5nm,0.4s **Jettan, Norway**	**6.88**	**102**	*e*P	Pn	02 57 01.3	-3.6
JETT				*e*S	Sn	02 58 13.6	-9.5
JETT				IAML		02 58 15.1	
SPA0	comp=Z,2.9nm,0.3s **Spitsbergen Ar**	**7.23**	**26**	*e*P	Pn	02 57 06.1	-3.4
KIF	**Kilpisjarvi**	**7.30**	**106**	*e*P	Pn	02 57 06.8	-3.8
KIF				*e*S	Sn	02 58 24.2	-9.1
SALU	**Saltoluokta**	**7.70**	**119**	*e*P	Pn	02 57 14.4	-1.7
KTK1	**Kautokeino**	**8.02**	**102**	*e*P	Pn	02 57 17.8	-2.7
ARA0	**ARCESS Array S**	**8.45**	**96**	*e*P	Pn	02 57 22.9	-3.4
HEF	**Hetta**	**8.49**	**105**	*e*P	Pn	02 57 24.1	-2.8
VADS	**Vadso**	**9.37**	**89**	*e*P	Pn	02 57 35.9	-3.0

IDC 06 03:08:42.5±1.8, 0°.25N×25°.75W, h0km, mb3.9/5, mbtmp3.9/5, MS3.5/6, Error ellipse: s-maj=94.4km s-min=24.8km az=155.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.80**	**239**	LR	LR	03 15 07.0	
H10N3	comp=Z,88nm,18.9s,baz=61,slow=33 **ASCENSION HYDR**	**13.80**	**126**	T	T	03 26 38.0	
H10N2	baz=306,slow=75,SNR=26 **ASCENSION HYDR**	**13.80**	**126**	T	T	03 26 34.4	
H10N1	baz=306,slow=75,SNR=28 **ASCENSION HYDR**	**13.82**	**126**	T	T	03 26 35.4	
H10S3	baz=306,slow=75,SNR=26 **ASCENSION HYDR**	**14.34**	**130**	T	T	03 27 19.2	
H10S2	baz=309,slow=74,SNR=17 **ASCENSION HYDR**	**14.35**	**130**	T	T	03 27 20.6	
BDFB	baz=271,slow=74,SNR=7.9 **Brasilia**	**27.07**	**233**	LR	LR	03 23 47.2	
MDP	comp=Z,126nm,21.9s,baz=337,slow=33 **Montagnes des**	**27.28**	**281**	LR	LR	03 22 10.8	
TORD	comp=Z,81nm,18.3s,baz=124,slow=30 **Torodi Ar. Bea**	**30.06**	**64**	P	P	03 14 54.2	+0.4
	1.1nm,0.8s,baz=251,slow=9.1,SNR=7.3 1.1nm,0.8s						
MDT	**Midelt**	**38.03**	**30**	LR	LR	03 31 11.6	
CPUP	comp=Z,73nm,18.1s,baz=282,slow=36 **Villa Florida**	**40.30**	**227**	LR	LR	03 32 55.9	
LPAZ	comp=Z,75nm,19.9s,baz=58,slow=36 **La Paz**	**44.91**	**246**	P	P	03 16 59.8	-0.4
	1.3nm,0.7s,baz=92,slow=6.1,SNR=6.3 1.3nm,0.7s						
KEST	**Kesra**	**48.07**	**39**	LR	LR	03 36 35.1	
BRTR	comp=Z,68nm,20.5s,baz=252,slow=35 **Keskin Array B**	**66.70**	**46**	P	P	03 19 36.1	+0.3
	0.8nm,0.7s,baz=241,slow=5.7,SNR=3.7 0.8nm,0.7s						
AKASG	**Malin Array Be**	**68.39**	**34**	P	P	03 19 45.1	-0.8
	1.4nm,0.6s,baz=243,slow=6.1,SNR=4.8 1.4nm,0.6s						
TXAR	**Lajitas Array**	**79.35**	**300**	P	P	03 20 51.5	+0.6
	0.3nm,0.7s,baz=119,slow=5.2,SNR=3.4 0.3nm,0.7s						

*IDC **06** 03:38:50.7±1.3, 9°.87S×152°.51E, h0km, mb3.9/8, mbtmp4.0/9, ML3.7/1, MS3.6/2, Error ellipse: s-maj=48.0km s-min=21.4km az=109.0*
ISC 06 03:38:52.2±1.2, 9°.9S±0°.2×152°.5E±0°.3, h10km, n11, σ0§92/10, mb4.0/7, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**11.77**	**210**	Pn	**Pn**	**03 41 39.1**	**-1.1**
	0.3nm,0.3s,baz=38,slow=14,SNR=1.5 0.8nm,0.3s						
WRA	**Warramunga Arr**	**20.14**	**238**	P	**P**	**03 43 27.2**	**+0.5**
	6.0nm,0.8s,baz=63,slow=10,SNR=24 6.0nm,0.8s						
ASAR	**Alice Springs**	**22.39**	**230**	P	**P**	**03 43 51.5**	**+0.5**
	3.9nm,1.0s,baz=62,slow=9.6,SNR=19 3.9nm,1.0s						
STKA	**Stephens Creek**	**24.07**	**203**	P	**P**	**03 44 08.8**	**+1.0**
	2.7nm,0.6s,baz=15,slow=13,SNR=4.8						
STKA				LR	LR	03 53 14.0	
	comp=Z,121nm,19.7s,baz=24,slow=36 2.7nm,0.6s						
NWAO	**Narrogin (SRO)**	**39.71**	**229**	LR	LR	04 01 58.8	
	comp=Z,108nm,20.1s,baz=57,slow=35						
SONM	**Songino Array**	**70.48**	**329**	P	**P**	**03 50 05.9**	**-1.2**
	1.6nm,1.1s,baz=147,slow=8.1,SNR=4.1 1.6nm,1.1s						
QSPA	**South Pole Qui**	**80.08**	**180**	P	**P**	**03 51 02.1**	**0.0**
	0.8nm,0.7s,baz=23,slow=1.5,SNR=1.7 0.8nm,0.7s						
MKAR	**Makanchi Array**	**83.96**	**319**	P	**P**	**03 51 23.4**	**+0.7**
	0.7nm,0.7s,baz=90,slow=6.8,SNR=4.4 0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**85.21**	**327**	P	**P**	**03 51 29.0**	**+0.2**
	1.5nm,0.7s,baz=106,slow=9.4,SNR=4.8 1.5nm,0.7s						
ILAR	**Eielson Array**	**86.98**	**22**	P	**P**	**03 51 37.1**	**-0.3**
	0.7nm,0.9s,baz=252,slow=5.6,SNR=4.9 0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**151.20**	**279**	PKPbc	**PKiKP**	**03 58 48.6**	**+1.1**
	0.5nm,0.6s,baz=64,slow=2.6,SNR=2.9						

*SDD **06** 03:44:59.4±1.7, 20°.43N×70°.57W, h23km±999km, MD3.5, ML2.8*
*OSPL **06** 03:44:59.6±1.9, 20°.38N×70°.53W, h0km±138km, ML2.6*
ISC 06 03:44:58.3±2.3, 20°.39N±0°.09×70°.54W±0°.05, h8km±11km, n13, σ1§02/25, 12C-8D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUDR	**Luperon**	**0.63**	**218**	⇓*e*Pg	**Pg**	**03 45 10.7**	**+0.3**
LUDR				IAML		03 45 19.3	
LUDR	comp=N,2μm,0.2s			⇑*e*Sg	**Sg**	**03 45 19.3**	**+0.7**
LUDR	comp=E,3μm,0.3s			IAML		03 45 19.7	
SC01	**Santiago de lo**	**0.97**	**190**	⇓*e*Pg	**Pg**	**03 45 16.1**	**-1.0**
SC01				⇓*e*Sg	**Sg**	**03 45 30.8**	**+1.1**
SC01				IAML		03 45 33.1	
SC01	comp=N,255nm,0.6s			IAML		03 45 36.9	
MADR	comp=E,142nm,0.6s **Mao Valverde**	**0.98**	**213**	⇓*e*Pg	**Pg**	**03 45 16.6**	**-0.4**
MADR				⇓*e*Sg	**Sg**	**03 45 28.4**	**-1.4**
MADR				IAML		03 45 30.8	
MADR	comp=N,182nm,0.3s			IAML		03 45 37.4	
NADR	comp=E,276nm,0.5s **Nagua**	**1.22**	**148**	⇑*e*Pg	**Pn**	**03 45 20.0**	**-1.6**
NADR				⇑*e*Sg	**Sb**	**03 45 37.8**	**+0.4**
NADR				IAML		03 45 43.7	
NADR	comp=N,254nm,0.6s			IAML		03 45 45.8	
REDR	comp=E,173nm,0.3s **Restauracion**	**1.46**	**213**	⇑*e*Pg	**Pn**	**03 45 26.0**	**+1.0**
REDR				⇓*e*Sg	**Sb**	**03 45 45.5**	**+1.1**
REDR				IAML		03 45 48.1	
REDR	comp=E,227nm,0.5s			IAML		03 45 48.3	
SDDR	comp=N,170nm,0.6s **Presa de Saban**	**1.57**	**207**	⇓*e*Pg	**Pn**	**03 45 25.4**	**-1.1**
SDDR				⇑*e*Sg	**Sn**	**03 45 45.3**	**-1.8**
SDDR				IAML		03 45 48.2	
SDDR	comp=N,117nm,0.6s			IAML		03 45 48.9	
SDDR	comp=E,86nm,0.6s **Presa de Saban**	**1.57**	**207**	*i* P	**Pn**	**03 45 25.2**	**-1.3**
SDDR				*e*S	**Sn**	**03 45 46.8**	**-0.3**
SDDR				IAML		03 45 48.2	
HATOM	comp=Z,68nm,0.6s **Hato Mayor del**	**1.94**	**145**	⇑*e*Pg	**Pn**	**03 45 31.8**	**+0.3**
HATOM				⇓*e*Sg	**Sn**	**03 45 55.3**	**-0.7**
HATOM				IAML		03 45 56.1	
HATOM	comp=E,56nm,0.6s			IAML		03 45 56.2	
MIDR	comp=N,32nm,0.6s **Miches**	**1.99**	**135**	⇓*e*Pg	**Pn**	**03 45 33.0**	**+0.8**
MIDR				⇑*e*Sg	**Sn**	**03 45 58.0**	**+0.8**
MIDR				IAML		03 46 06.4	
MIDR	comp=N,23nm,2.3s			IAML		03 46 12.9	
BANI	comp=E,25nm,2.6s **BANI**	**2.00**	**175**	⇑*e*Pg	**Pn**	**03 45 32.6**	**+0.1**
BANI				⇑*e*Sg	**Sn**	**03 45 57.4**	**-0.3**
BANI				IAML		03 46 02.2	
BANI	comp=E,129nm,0.3s			IAML		03 46 02.4	
PODR	comp=N,99nm,0.9s **Polo**	**2.32**	**198**	⇑*e*Pg	**Pn**	**03 45 38.2**	**+1.2**
PODR				⇑*e*Sg	**Sn**	**03 46 06.6**	**+0.7**
PODR				IAML		03 46 15.4	
PODR	comp=E,50nm,0.4s			IAML		03 46 16.1	
LOPE2	comp=N,62nm,0.8s **Hotel El Peder**	**2.61**	**206**	*i* P	**Pn**	**03 45 41.5**	**+0.7**
MASC	**Masc**	**3.47**	**267**	*i* P	**Pn**	**03 45 53.0**	**+0.4**
MASC				*e*S	**Sn**	**03 46 32.8**	**-1.1**

*IDC **06** 04:03:11.7±0.7, 10°.00S×152°.38E, h0km, mb4.4/16, mbtmp4.4/20, ML4.2/3, MS3.9/46, Error ellipse: s-maj=22.5km s-min=15.1km az=99.0*
*NEIC **06** 04:03:16.4±2.0, 10°.22S±0°.10×152°.18E±0°.04, h10km±1km, mb4.8/32, Error ellipse: s-maj=16.9km s-min=7.4km az=181.0*
*GCMT **06** 04:03:16.4±0.3, 10°.08S±0°.02×152°.26E±0°.04, h19km±1km, MW4.9/79, Moment Tensor Solution. s6,c6; s79,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.45±.28; $M_{\theta\theta}$2.79±.17; $M_{\phi\phi}$-0.33±.14; $M_{r\theta}$0.15±.23; $M_{\theta\phi}$-0.47±.08; $M_{\phi r}$-0.08±.40; Best double couple: $M_0$2.66000×10^{16} NP1:ϕ_s280.00000°, δ47.00000°, λ-88.00000°. NP2: ϕ_s97.00000°, δ43.00000°, λ-92.00000°. Principal axes: T 2.8630, Plg2.0000°, Azm8.0000°; N -0.4040, Plg2.0000°, Azm98.0000°; P -2.4570, Plg88.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **06** 04:03:18.1±1.0, 10°.S±.3°×15°.2E±°, h32km±8km, M5.0/30, mB5.6/7, mb4.8/30, MLv5.1/2, Mw(mB)5.1/7*
ISC 06 04:03:14.7±0.5, 10°.10S±0°.06×152°.18E±0°.07, h10km, n120, σ1§53/87, mb4.8/44, MS3.9/45, 1D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.00**	**277**		**Pn**	**04 04 32.1**	**+2.3**
PMG	**Port Moresby**	**5.00**	**277**	Pn	**Pn**	**04 04 30.0**	**+0.1**
	8.4nm,0.4s,baz=55,slow=17,SNR=1.9						
PMG				Sn	**Sb**	**04 05 42.7**	**+0.2**
	2.0nm,0.3s,baz=297,slow=5.3,SNR=3.0						
PMG				LR	LR	04 06 44.7	
	comp=Z,1μm,19.7s,baz=71,slow=41						
KRVT	**Keravat (AS076**	**5.76**	**358**	Pn	Pn	04 04 35.0	-5.2
	11nm,0.3s,baz=46,slow=24,SNR=2.3						
KRVT				Sn	**Sn**	**04 05 41.0**	**-5.5**
	23nm,0.3s,baz=226,slow=23,SNR=2.5 56nm,0.4s						
CTA	**Charters Tower**	**11.46**	**209**	Pn	**Pn**	**04 05 58.1**	**-0.4**
	1.4nm,0.3s,baz=31,slow=14,SNR=14						
CTA				Sn	**Sn**	**04 08 02.4**	**-4.3**
	0.6nm,0.3s,baz=117,slow=20,SNR=1.8						
CTA				LR	LR	04 10 22.1	
	comp=Z,1μm,18.1s,baz=46,slow=37 5.0nm,0.4s						
CTAO	**Charters Tower**	**11.46**	**209**	Pn	**Pn**	**04 05 57.8**	**-0.8**
JAY	**Jayapura**	**13.67**	**303**	Pn	**Pn**	**04 06 27.6**	**-1.2**
	0.5nm,0.3s,baz=73,slow=19,SNR=1.9 5.8nm,0.8s						
EIDS	**Eidsvold**	**15.22**	**184**		**Pn**	**04 06 49.8**	**-0.1**
DZM	**Mont Dzumac**	**18.13**	**133**		**Pn**	**04 07 27.7**	**+0.8**
DZM	**Mont Dzumac**	**18.13**	**133**	P	**Pn**	**04 07 26.9**	**0.0**
	14nm,1.0s,baz=36,slow=9.6,SNR=4.6						
DZM				LR	LR	04 13 33.4	
	comp=Z,1μm,18.2s,baz=328,slow=34						
WR0	**Warramunga Arr**	**19.64**	**238**	P	**P**	**04 07 44.1**	**+0.4**
WR0				IAmb	IAmb	04 07 46.7	
	comp=Z,61nm,0.8s						
WB0	**Warramunga Arr**	**19.68**	**239**	P	**P**	**04 07 44.8**	**+0.6**
WB0				IAmb	IAmb	04 07 46.6	
	comp=Z,34nm,0.8s						
WRAB	**Tennant Creek**	**19.79**	**238**	P	**P**	**04 07 46.4**	**+1.1**
WRAB				IAmb	IAmb	04 07 47.7	
	comp=Z,43nm,0.7s						
WB2	**Warramunga Arr**	**19.79**	**238**	P	**P**	**04 07 46.0**	**+0.6**
WB2				IAmb	IAmb	04 07 47.8	
	comp=Z,42nm,0.7s						
WRA	**Warramunga Arr**	**19.80**	**238**		**P**	**04 07 45.7**	**+0.2**
WRA	**Warramunga Arr**	**19.80**	**238**	P	**Pn**	**04 07 47.1**	**0.0**
	comp=Z,37nm,0.7s,baz=62,slow=10,SNR=163 comp=Z,37nm,0.7s						
ARMA	**Armidale**	**20.22**	**181**	P	**P**	**04 07 51.4**	**+1.3**
ARMA				IAmb	IAmb	04 07 59.4	
	comp=Z,117nm,2.0s						
MTN	**Manton Dam**	**20.81**	**260**	P	**P**	**04 07 57.8**	**+1.3**
MTN				IAmb	IAmb	04 08 07.2	
	comp=Z,36nm,0.8

comp=Z,38nm,0.9s
STKA Stephens Creek 23.79 203 P P 04 08 27.7 0.0
STKA Stephens Creek 23.79 203 P P 04 08 28.4 +0.7
comp=Z,9.8nm,0.8s,baz=12,slow=9.7,SNR=13
STKA LR LR 04 18 20.1
comp=Z,662nm,18.2s,baz=20,slow=38
comp=Z,9.8nm,0.8s
GUMO Guam 24.63 343 LR LR 04 16 27.8
comp=Z,89nm,19.4s,baz=138,slow=32
MSVF Nonsavu 26.21 110 LR LR 04 17 32.1
comp=Z,110nm,19.2s,baz=149,slow=33
TNTI Ternate 26.95 292 P P 04 08 56.4 -0.3
comp=Z,10nm,0.7s
SANI Sanana 27.23 285 P P 04 08 59.7 +0.6
comp=Z,50nm,0.9s
SOEI Soe 27.50 268 P P 04 09 01.0 -0.7
comp=Z,63nm,0.5s
BATI Baumata 28.07 267 LR LR 04 21 35.1
comp=Z,587nm,18.4s,baz=112,slow=39
FORT Forrest 30.44 224 P P 04 09 28.1 +0.5
KAPI Kappang 32.53 277 P P 04 09 46.5 +0.3
KAPI Kappang 32.53 277 LR LR 04 24 46.9
comp=Z,72nm,18.1s,baz=111,slow=40
TOLI2 Tolitoli 33.18 288 P P 04 09 51.2 -0.7
TOLI2 IAmb IAmb 04 09 52.6
comp=Z,10nm,0.9s
MPSI Mapaga 33.75 286 P P 04 09 56.4 -0.5
comp=Z,13nm,0.8s
RAO Raoul Island 33.83 129 LR LR 04 21 25.5
comp=Z,212nm,20.3s,baz=126,slow=32
PLAI Plampang 33.95 269 P P 04 09 58.2 -0.4
comp=Z,35nm,1.1s
TWSI Taliwang, Sumb 34.84 269 P P 04 10 05.3 -1.0
comp=Z,28nm,0.9s
URZ Urewera 35.86 146 LR LR 04 23 48.2
comp=Z,344nm,18.3s,baz=32,slow=34
MYLDM Lahad Datu 36.83 293 P P 04 10 25.1 +1.7
MYLDM IAmb IAmb 04 10 31.2
comp=Z,10nm,0.9s
RPZ Rata Peaks 37.29 157 LR LR 04 23 42.7
comp=Z,735nm,20.7s,baz=324,slow=33
JAGI Jajag, Banyuwa 37.55 269 P P 04 10 28.1 -1.5
comp=Z,90nm,0.8s,comp=Z,6μm
JCJ Chichijima 38.23 346 LR LR 04 24 10.7
comp=Z,236nm,21.8s,baz=112,slow=33
SBUM Sibu 41.70 285 P P 04 11 05.7 +1.6
KSM Kuching 43.24 283 P P 04 11 18.2 +1.5
KSM IAmb IAmb 04 11 18.5
comp=Z,11nm,0.8s
JOW Kunigami 43.43 328 LR LR 04 25 39.7
comp=Z,132nm,20.0s,baz=17,slow=31
LEM Lembang 44.17 271 LR LR 04 33 30.5
comp=Z,185nm,18.1s,baz=144,slow=41
JHJ Hachijo jima 2 44.57 345 LR LR 04 27 17.2
comp=Z,89nm,18.6s,baz=284,slow=32
CGJI Cibinong 46.10 271 P P 04 11 38.2 -1.3
INU Inuyama 47.42 343 P P 04 11 52.3 +2.9
JNU Nakatsue 47.54 336 LR LR 04 29 57.7
comp=Z,40nm,20.8s,baz=173,slow=34
MJAR Matsushiro Arr 48.22 345 LR LR 04 30 44.6
comp=Z,73nm,20.3s,baz=166,slow=34
KSRS Korea Array 52.49 336 P P 04 12 27.6 -0.3
comp=Z,1.7nm,0.9s,baz=134,slow=7.2,SNR=4.7
KSRS LR LR 04 33 07.3
comp=Z,52nm,20.6s,baz=145,slow=34
comp=Z,1.7nm,0.9s
KSAR Wonju Array Be 52.49 336 P P 04 12 29.4 +1.5
NJ2 Nanjing 52.65 324 *e*P P 04 12 36.8 +7.5
NJ2 pP pwP 04 12 38.5 +3.5
NJ2 sP sP 04 12 42.1 +10
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,210nm,3.5s
WHN Wuhan 54.35 319 P P 04 12 48.3 +6.6
ASAJ Asahikawa 54.66 352 LR LR 04 33 53.1
comp=Z,47nm,21.3s,baz=145,slow=34
USRK Ussuriysk Ar. 57.07 343 P P 04 13 03.6 +2.6
USRK Ussuriysk Ar. 57.07 343 P P 04 12 59.4 -1.6
comp=Z,1.0nm,0.6s,baz=178,slow=11,SNR=1.9
USRK LR LR 04 35 24.4
comp=Z,50nm,20.4s,baz=161,slow=34
comp=Z,1.0nm,0.6s
MDJ Mudanjiang 58.17 341 P P 04 13 17.4 +8.6
MDJ pmax pmax
comp=Z,14nm,1.3s
MDJ pmax pmax
comp=Z,210nm,4.3s
CRAI Chiangrai 59.21 301 P P 04 13 17.4 +0.8
CRAI IAmb IAmb 04 13 17.7
comp=Z,9.1nm,0.9s
KMI Kunming 59.55 307 ⇓*P* **P 04 13 22.8 +3.7**
KMI pmax pmax
comp=Z,8.0nm,0.8s
CMAR Chiang Mai Arr 59.70 298 P P 04 13 20.0 +0.1
CMAR Chiang Mai Arr 59.70 298 P P 04 13 18.8 -1.2
comp=Z,1.1nm,0.3s,baz=124,slow=5.6,SNR=14
CMAR LR LR 04 42 12.9
comp=Z,18nm,18.2s,baz=155,slow=39
comp=Z,1.1nm,0.3s
CHTO Chiang Mai 59.84 299 P P 04 13 21.9 +1.0
XAN Xi'an 60.11 319 P P 04 13 22.2 -0.3
XAN sP pwP 04 13 28.4 +0.1
XAN pmax pmax
comp=Z,17nm,1.2s
PZH PanZhiHua 61.01 308 P P 04 13 35.6 +6.7
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.3s
KLR Kul'dur 61.75 345 LR LR 04 39 27.9
comp=Z,38nm,19.3s,baz=204,slow=35
XLT XiLinHaoTe 62.95 331 *e*P P 04 13 47.3 +5.7
XLT pP pwP 04 13 51.6 +4.0
XLT sP sP 04 13 55.7 +11
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,140nm,4.9s
HHC Hu-ho-hao-te 63.03 326 *e*P P 04 13 48.0 +5.8
HHC pmax pmax
comp=Z,30nm,0.6s
HHC pmax pmax
comp=Z,100nm,3.9s
HHC LR LR
comp=N,230nm,16.2s
HHC LR LR
comp=E,270nm,17.0s
HHC LR LR
comp=Z,300nm,16.2s
PETK Petropavlovsk- 63.13 4 P P 04 13 40.4 -2.1
comp=Z,1.7nm,0.8s,baz=180,slow=8.2,SNR=1.6
PETK LR LR 04 35 45.0
comp=Z,85nm,21.6s,baz=174,slow=31
comp=Z,1.7nm,0.8s
HEH HeiHe 63.87 343 *e*P **P 04 13 48.2 +0.8**
HEH pmax pmax
comp=Z,5.0nm,0.7s
LZH Lanzhou 64.66 318 *e*P **P 04 13 53.8 +0.7**
LZH pP pwP 04 13 59.3 +0.4
LZH sP sP 04 14 01.0 +4.6
LZH pmax pmax
comp=Z,14nm,1.3s
LZH LR LR
comp=N,270nm,14.1s
LZH LR LR
comp=E,180nm,14.8s
LZH LR LR
comp=Z,290nm,15.8s
SHEM Shemya Is, Ala 65.34 14 LR LR 04 37 11.2
comp=Z,176nm,20.8s,baz=164,slow=31
SHL Shillong 68.54 303 P P 04 14 18.7 +0.5
SHL IAmb IAmb 04 14 20.0
comp=Z,11nm,1.1s
ULN Ulaanbaatar 70.19 330 P P 04 14 31.2 +3.4
ULN IAmb IAmb 04 14 49.4
comp=Z,14nm,1.7s
SONM Songino Array 70.50 329 P P 04 14 30.7 +1.0
SONM IAmb IAmb 04 14 49.3
comp=Z,8.5nm,1.3s
SONM Songino Array 70.50 329 P P 04 14 29.4 -0.4
comp=Z,3.2nm,1.0s,baz=136,slow=4.8,SNR=11
SONM LR LR 04 45 10.0
comp=Z,65nm,21.3s,baz=98,slow=36
comp=Z,3.2nm,1.0s
SEY Seymchan 72.81 0 LR LR 04 44 46.9
comp=Z,20nm,20.1s,baz=168,slow=34

JIRN Jiri 74.04 303 *e*P **P 04 14 51.4 -0.3**
comp=Z,9.4nm,0.7s
GUN Gumba 74.39 303 *e*P **P 04 14 53.4 -0.3**
comp=Z,31nm,1.0s
PKIN Phulchoki 74.67 302 *e*P **P 04 14 54.0 -1.2**
comp=Z,6.8nm,0.5s
DMN Daman 74.93 302 *e*P **P 04 14 55.8 -0.9**
DANN Dangsing 76.30 302 *e*P **P 04 15 03.7 -0.9**
comp=Z,17nm,0.8s
PYUN Piuthan 76.86 302 *e*P **P 04 15 06.8 -0.9**
comp=Z,26nm,0.9s
WMQ Urumqi 79.23 318 *e*P P 04 15 27.2 +6.8
WMQ sP PcP 04 15 33.2 +4.6
WMQ PcP pwP 04 15 36.8 +11
WMQ pmax pmax
comp=Z,28nm,1.5s
QSPA South Pole Qui 79.89 180 P P 04 15 23.6 -0.1
QSPA South Pole Qui 79.89 180 P P 04 15 22.8 -0.8
comp=Z,4.3nm,0.7s,baz=301,slow=0.5,SNR=15
QSPA LR LR 04 51 16.2
comp=Z,206nm,18.7s,baz=251,slow=36
comp=Z,4.3nm,0.7s
MAW Mawson 80.48 203 P P 04 15 26.1 -0.4
comp=Z,1.1nm,0.2s,baz=136,slow=6.1,SNR=2.5
MAW LR LR 04 47 36.8
comp=Z,178nm,22.0s,baz=91,slow=33
comp=Z,1.1nm,0.2s
KDAK Kodiak Island 81.16 26 LR LR 04 46 35.5
comp=Z,89nm,19.2s,baz=243,slow=32
MK31 Makanchi Array 83.92 320 P P 04 15 45.3 +0.3
MK31 IAmb IAmb 04 15 56.5
comp=Z,6.0nm,1.4s
MKAR Makanchi Array 83.92 320 P P 04 15 44.3 -0.7
MKAR Makanchi Array 83.92 320 P P 04 15 43.9 -1.1
comp=Z,1.4nm,0.7s,baz=105,slow=6.8,SNR=11
MKAR LR LR 04 53 33.1
comp=Z,40nm,19.5s,baz=42,slow=36
comp=Z,1.4nm,0.7s
ZALV Zasovo Beam 85.21 327 P P 04 15 49.6 -1.7
comp=Z,1.8nm,0.6s,baz=93,slow=5.9,SNR=8.0
ZALV LR LR 04 54 05.5
comp=Z,36nm,19.4s,baz=92,slow=36
comp=Z,1.8nm,0.6s
IMAR Indian Mountai 85.55 19 P P 04 15 55.5 +2.8
KSH Kashi 85.92 311 P P 04 15 59.4 +4.0
KSH pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 87.27 22 P P 04 15 58.9 -2.4
comp=Z,1.6nm,0.8s,baz=256,slow=5.1,SNR=11
ILAR LR LR 04 47 40.8
comp=Z,118nm,20.7s,baz=216,slow=31
comp=Z,1.6nm,0.8s
AAK Ala-Archa 87.86 314 LR LR 04 55 07.1
comp=Z,32nm,21.4s,baz=88,slow=35
L27K Beaver Creek, 88.43 25 P P 04 16 09.7 +2.8
K29M Barlow Dome 90.52 25 P P 04 16 18.2 +1.5
NRIK Noril'sk 90.75 341 P P 04 16 15.4 -2.1
comp=Z,1.6nm,0.4s,baz=76,slow=4.2,SNR=3.6
NRIK LR LR 04 58 06.2
comp=Z,10nm,18.4s,baz=150,slow=36
comp=Z,1.6nm,0.4s
KKAR Karatay Array 90.81 314 P P 04 16 18.2 -0.2
BBB Bella Bella 91.66 37 LR LR 04 50 51.4
comp=Z,84nm,20.1s,baz=234,slow=31
DLBC Dease Lake 92.21 31 LR LR 04 51 57.6
comp=Z,86nm,19.6s,baz=268,slow=32
YBH Yreka Blue Hor 93.02 48 LR LR 04 51 24.0
comp=Z,107nm,21.9s,baz=267,slow=31
BVAR Borovoye Array 93.09 323 LR LR 04 59 28.3
comp=Z,26nm,18.8s,baz=79,slow=36
INK Inuvik 93.59 21 LR LR 04 53 49.2
comp=Z,108nm,20.4s,baz=183,slow=32
AFDM Forest Hills D 93.83 51 P P 04 16 34.0 +1.4
AFDM IAmb IAmb 04 16 44.4
comp=Z,5.2nm,1.1s
J05D Fort Rock, OR 94.37 47 P P 04 16 35.5 +0.4
NVAR Mina Array Bea 95.81 52 P P 04 16 42.6 +0.7
NVAR Mina Array Bea 95.81 52 P P 04 16 41.3 -0.7
comp=Z,1.0nm,1.0s,baz=244,slow=6.7,SNR=4.1
NVAR LR LR 04 54 54.3
comp=Z,36nm,19.1s,baz=268,slow=32
comp=Z,1.0nm,1.0s
PFO Pinyon Flats O 96.63 57 LR LR 04 54 17.1
comp=Z,56nm,19.6s,baz=245,slow=32
SNAA Sanae 96.73 188 LR LR 04 58 42.5
comp=Z,174nm,21.8s,baz=191,slow=34
NEW Newport 97.91 42 LR LR 04 52 51.0
comp=Z,144nm,21.9s,baz=236,slow=30
ELK Elko 98.45 50 LR LR 04 54 14.3
comp=Z,46nm,21.2s,baz=201,slow=31
BDFB Brasilia 147.53 142 PKPbc PKPdf 04 22 56.9 -0.9
comp=Z,3.4nm,0.9s,baz=183,slow=5.3,SNR=4.3
TORD Torodi Ar. Bea 150.94 279 PKPbc PKPbc 04 23 07.0 -1.8
comp=Z,2.6nm,0.7s,baz=57,slow=3.1,SNR=14

SJA ***06*** *04:06:46.7±0.7, 34°.78S×70°.88W, h109km±2km, ML3.7, MW3.6*
GUC ***06*** *04:06:48.5±0.8, 34°.79S×70°.85W, h103km±3km, ML3.8*
ISC 06 04:06:47.9±1.4, 34°.79S±0°.04×70°.86W±0°.04, h105km±8km, n47, σ0°.86/82, 5C-10D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO02	**Sierra Bellavi**	**0.07**	**96**	⇓*iP*	**Pn**	**04 07 02.4**	**-0.2**
BO02				*i* S	**Sn**	**04 07 13.1**	**-0.4**
BO02				IAML		04 07 15.2	
comp=N,18μm,0.1s							
BO02	**Sierra Bellavi**	**0.07**	**96**	*e*P	**Pn**	**04 07 02.4**	**-0.2**
BO02				*e*S	**Sn**	**04 07 14.0**	**+0.4**
BO01	**Tunca**	**0.43**	**335**	⇓*iP*	**Pn**	**04 07 03.6**	**-0.2**
BO01				*i* S	**Sn**	**04 07 15.4**	**-0.3**
BO01				IAML		04 07 16.4	
comp=N,4μm,0.1s							
BO01	**Tunca**	**0.43**	**335**	*e*P	**Pn**	**04 07 03.4**	**-0.5**
BO01				*e*S	**Sn**	**04 07 15.8**	**0.0**
BO01				IAML		04 07 16.4	
comp=Z,1μm,0.1s							
BO04	**La Punta**	**0.82**	**15**	⇓*iP*	**Pn**	**04 07 06.9**	**-0.1**
BO04				*i* S	**Sn**	**04 07 21.3**	**-0.1**
BO04				IAML		04 07 22.6	
comp=N,4μm,0.4s							
GO05	**Huala**	**0.91**	**255**	⇑*iP*	**Pn**	**04 07 07.9**	**+0.1**
GO05				*i* S	**Sn**	**04 07 22.7**	**-0.1**
GO05				IAML		04 07 24.6	
comp=E,3μm,0.3s							
GO05	**Huala**	**0.91**	**255**	*e*P	**Pn**	**04 07 07.7**	**-0.1**
GO05				*e*S	**Sn**	**04 07 23.3**	**+0.5**
BO03	**Pichilemu**	**0.95**	**287**	⇑*iP*	**Pn**	**04 07 08.9**	**+0.7**
BO03				*i* S	**Sn**	**04 07 24.7**	**+1.2**
BO03				IAML		04 07 26.8	
comp=N,1μm,0.2s							
MT01	**Popeta**	**0.97**	**340**	⇑*iP*	**Pn**	**04 07 08.3**	**-0.2**
MT01				*i* S	**Sn**	**04 07 23.4**	**-0.5**
MT01				IAML		04 07 25.1	
comp=E,5μm,0.2s							
MT01	**Popeta**	**0.97**	**340**	*e*P	**Pn**	**04 07 08.2**	**-0.3**
MT01				*e*S	**Sn**	**04 07 23.9**	**-0.1**
MT01				IAML		04 07 24.8	
comp=Z,2μm,0.1s							
MT09	**Talagante**	**1.01**	**354**	⇓*iP*	**Pn**	**04 07 09.1**	**0.0**
MT09				*i* S	**Sn**	**04 07 24.8**	**-0.1**
MT09				IAML		04 07 25.4	
comp=E,8μm,0.2s							
ML02	**Panimavida**	**1.08**	**205**	*e*P	**Pn**	**04 07 10.1**	**+0.5**
ML02				*i* S	**Sn**	**04 07 26.8**	**+0.9**
ML02				IAML		04 07 27.9	
comp=N,4μm,0.5s							
LMEL	**Las Melosas**	**1.08**	**30**	⇓*iP*	**Pn**	**04 07 10.0**	**+0.2**
LMEL				*i* S	**Sn**	**04 07 26.8**	**+0.5**
LMEL				IAML		04 07 31.1	
comp=N,5μm,0.3s							
MT13	**San Alfonso**	**1.14**	**25**	⇓*iP*	**Pn**	**04 07 10.8**	**+0.3**
MT13				*i* S	**Sn**	**04 07 28.0**	**+0.6**
MT13				IAML		04 07 31.6	
comp=E,2μm,0.2s							
VA05	**Santo Domingo**	**1.29**	**331**	⇑*iP*	**Pn**	**04 07 12.2**	**+0.3**
VA05				*i* S	**Sn**	**04 07 30.2**	**+0.2**
VA05				IAML		04 07 34.5	
comp=E,3μm,0.4s							
MT03	**Universidad Ad**	**1.32**	**13**	⇓*iP*	**Pn**	**04 07 12.4**	**0.0**
MT03				*i* S	**Sn**	**04 07 31.1**	**+0.1**
MT03				IAML		04 07 36.5	
comp=N,3μm,0.2s							
MT03	**Universidad Ad**	**1.32**	**13**	*e*P	**Pn**	**04 07 12.4**	**0.0**
MT03				*e*S	**Sn**	**04 07 31.5**	**+0.5**
MT03				IAML		04 07 32.4	
comp=Z,1μm,0.3s							
MT05	**Renca**	**1.39**	**4**	*e*P	**Pn**	**04 07 13.4**	**+0.1**
MT05				*i* S	**Sn**	**04 07 33.0**	**+0.5**
MT05				IAML		04 07 34.1	
comp=E,3μm,0.5s							
MT05	**Renca**	**1.39**	**4**	*e*P	**Pn**	**04 07 13.5**	**+0.2**
MT05				*e*S	**Sn**	**04 07 33.2**	**+0.8**
MT05				IAML		04 07 35.6	
comp=Z,998nm,0.4s							
MT14	**Cerro Calıın**	**1.41**	**11**	⇓*iP*	**Pn**	**04 07 13.6**	**+0.1**
MT14				*i* S	**Sn**	**04 07 33.1**	**+0.3**
MT14				IAML		04 07 35.2	
comp=E,2μm,0.2s							
MT04	**Ro Olivares**	**1.50**	**24**	⇓*iP*	**Pn**	**04 07 15.0**	**+0.2**
MT04				*i* S	**Sn**	**04 07 35.9**	**+0.8**
MT04				IAML		04 07 39.1	
comp=E,1μm,0.5s							
FCH	**Farellones**	**1.53**	**18**	⇓*iP*	**Pn**	**04 07 15.0**	**-0.1**
FCH				*i* S	**Sn**	**04 07 35.5**	**-0.3**
FCH				IAML		04 07 38.6	
comp=N,1μm,0.1s							
MT02	**Curacav**	**1.54**	**351**	*e*P	**Pn**	**04 07 15.1**	**+0.1**
MT02				*i* S	**Sn**	**04 07 34.4**	**-1.1**
MT02				IAML		04 07 37.0	
comp=N,834nm,0.4s							
MT02	**Curacav**	**1.54**	**351**	*e*P	**Pn**	**04 07 15.1**	**+0.1**
MT02				*e*S	**Sn**	**04 07 34.0**	**-1.5**
MT02				IAML		04 07 38.4	
comp=Z,428nm,0.4s							
EDS3	**Malargue**	**1.55**	**130**	*e*P	**Pn**	**04 07 15.3**	**+0.2**
PEL	**Peldehue**	**1.64**	**5**	*e*P	**Pn**	**04 07 16.4**	**+0.1**
PEL				*i* S	**Sn**	**04 07 38.0**	**+0.2**
PEL				IAML		04 07 39.9	
comp=E,923nm,0.2s							
PEL	**Peldehue**	**1.64**	**5**	*e*P	**Pn**	**04 07 16.4**	**+0.1**
PEL				*e*S	**Sn**	**04 07 38.9**	**+1.0**
ROC1	**El Roble**	**1.81**	**356**	*e*P	**Pn**	**04 07 18.7**	**+0.2**
ROC1				*e*S	**Sn**	**04 07 41.5**	**-0.3**
VA01	**Torpederas**	**1.88**	**339**	*e*P	**Pn**	**04 07 19.6**	**+0.5**
VA01				IAML		04 07 44.6	
comp=E,1μm,0.1s							
VA01	**Torpederas**	**1.88**	**339**	IAML		04 07 44.0	
comp=Z,344nm,0.1s							
RFA	**San Rafael**	**1.97**	**90**	*e*P	**Pn**	**04 07 19.5**	**-0.9**
RFA				*e*S	**Sn**	**04 07 43.2**	**-2.0**
VA03	**San Esteban**	**2.03**	**7**	⇑*e*P	**Pn**	**04 07 21.1**	**-0.1**
VA03				*i* S	**Sn**	**04 07 46.9**	**+0.2**
VA03				IAML		04 07 49.7	
comp=E,809nm,0.1s							
VA03	**San Esteban**	**2.03**	**7**	*e*P	**Pn**	**04 07 21.3**	**+0.1**
VA03				*e*S	**Sn**	**04 07 48.0**	**+1.3**
VA03				IAML		04 07 50.3	
comp=Z,348nm,0.3s							
AVIZ	**Vizcacheras**	**2.34**	**57**	*e*P	**Pn**	**04 07 25.4**	**+0.2**
AAGR	**Agrelo**	**2.39**	**45**	*e*P	**Pn**	**04 07 26.5**	**+0.6**
AAGR				*e*S	**Sn**	**04 07 56.9**	**+1.8**
ARCO	**CERRO ARCO**	**2.52**	**40**	*e*P	**Pn**	**04 07 28.2**	**+0.6**
ARCO				*e*S	**Sn**	**04 08 02.6**	**+4.6**
ASAL	**Salagasta**	**2.76**	**38**	*e*P	**Pn**	**04 07 31.5**	**+0.8**
RTLS	**Leoncito**	**3.25**	**24**	*e*P	**Pn**	**04 07 38.2**	**+0.7**
RTLS				IAML		04 08 20.4	
comp=Z,92nm,0.5s							
CO02	**Combarbal**	**3.57**	**358**	*e*P	**Pn**	**04 07 41.0**	**-0.6**
CO02				*e*S	Sn	04 08 12.9	-10
CO02				IAML		04 08 29.4	
comp=Z,137nm,0.3s							
ZON	**Zonda**	**3.71**	**30**	*e*P	**Pn**	**04 07 43.6**	**+0.2**
ZON				*e*S	**Sn**	**04 08 26.9**	**+0.6**
CFA	**Coronel Fontan**	**3.86**	**35**	*e*P	**Pn**	**04 07 44.8**	**-0.5**
CFA				*e*S	**Sn**	**04 08 29.0**	**-0.8**
CO03	**El Pedregal**	**3.94**	**2**	*e*P	**Pn**	**04 07 46.2**	**-0.3**
CO03				*e*S	**Sn**	**04 08 30.9**	**-0.9**
CO03				IAML		04 08 34.9	
comp=Z,70nm,0.2s							
DOCA	**Reserva Natura**	**4.11**	**22**	*e*P	**Pn**	**04 07 48.6**	**-0.4**
GO04	**Tololo Observa**	**4.60**	**1**	*e*P	**Pn**	**04 07 54.8**	**-0.8**
GO04				*e*S	**Sn**	**04 08 46.0**	**-1.9**
CO01	**Juntas del Tor**	**4.84**	**8**	*e*P	**Pn**	**04 07 58.8**	**0.0**
LR03	**Panguipulli**	**4.98**	**193**	*e*P	**Pn**	**04 07 58.9**	**-1.5**
ACHE	**Chepes**	**5.05**	**45**	*e*P	**Pn**	**04 07 59.7**	**-1.8**

SOME ***06*** *04:27:50.5, 39°.57N×73°.08E, h0km*
KRNET ***06*** *04:27:52.3±0.1, 39°.41N×73°.44E, mb4.0*
IDC ***06*** *04:27:53.5±1.1, 39°.40N×73°.22E, h0km, mb3.8/12, mbtmp3.7/20, ML3.2/8, MS3.4/1, Error ellipse: s-maj=19.4km s-min=12.7km az=141.0*
NNC ***06*** *04:27:55.6±1.7, 39°.64N×73°.25E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=13.8km s-min=7.7km az=173.0*
MOS ***06*** *04:27:56.1±1.8, 39.55N×73°.34E, h19km, mb4.4/3, Error ellipse: s-maj=9.8km s-min=5.3km az=91.9*
ISC 06 04:27:53.8±1.6, 39°.42N±0°.05×73°.37E±0°.03, h0km±9km, n117, σ2°.23/141, mb3.8/14, 29C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.60**	**10**	*i* P	**Pg**	**04 28 04.3**	**-0.9**
baz=5.0							
SFK				*i* S	**Sg**	**04 28 13.1**	**+0.1**
baz=5.0							
SFK	**Sufi-Kurgan**	**0.60**	**10**	*e*PG	**Pg**	**04 28 04.3**	**-0.9**
OHH	**Osh**	**1.19**	**338**	⇑*iP*	**Pb**	**04 28 15.7**	**-1.5**
baz=36							
OHH				⇑*iS*	**Sg**	**04 28 32.8**	**+0.8**
baz=36							
OHH	**Osh**	**1.19**	**338**	*i* PG	**Pb**	**04 28 15.7**	**-1.5**
OHH				*i* S	**Sg**	**04 28 32.8**	**+0.8**
KSH	**Kashi**	**2.02**	**87**	Pg	Pn	04 28 26.0	-3.1
KSH				Sg	**Sn**	**04 28 54.9**	**-0.1**
KSH				pmax	pmax		
comp=Z,84nm,1.0s							
KSH				smax	smax		
comp=N,430nm,0.8s							
KSH				smax	smax		
comp=E,270nm,0.9s							
BTK	**Batken**	**2.07**	**289**	⇑*eP*	**Pn**	**04 28 31.3**	**+1.5**
baz=89							
BTK				⇑*iS*	**Sb**	**04 28 59.6**	**+1.1**
baz=89							
BTK	**Batken**	**2.07**	**289**	*i* PN	**Pn**	**04 28 31.3**	**+1.5**
BTK				*i* S	**Sb**	**04 28 59.6**	**+1.1**
ARLS	**Aral**	**2.54**	**16**	⇑*iP*	**Pn**	**04 28 36.9**	**+0.5**
baz=15							
ARLS				⇑*iS*	**Sb**	**04 29 09.4**	**-2.7**
baz=15							
ARLS	**Aral**	**2.54**	**16**	*e*PN	**Pn**	**04 28 36.9**	**+0.5**
ARK	**Arkit**	**2.60**	**336**	⇑*eP*	**Pn**	**04 28 38.5**	**+1.3**
baz=35							
ARK				⇑*iS*	**Sb**	**04 29 12.1**	**-1.8**
baz=35							
ARK	**Arkit**	**2.60**	**336**	*e*PN	**Pn**	**04 28 38.5**	**+1.3**
TRKS	**Terek-Say**	**2.71**	**322**	⇑*iP*	**Pn**	**04 28 39.1**	**+0.4**
baz=21							
TRKS				⇑*iS*	**Sn**	**04 29 13.2**	**+1.0**
baz=21							
TRKS	**Terek-Say**	**2.71**	**322**	*i* PN	**Pn**	**04 28 39.2**	**+0.5**
TRKS				*i* S	**Sn**	**04 29 13.2**	**+1.0**
AML	**Almayashu**	**2.72**	**5**	P	**Pn**	**04 28 41.4**	**+2.4**
SNR=53							
AML	**Almayashu**	**2.72**	**5**	⇑Pn	**Pn**	**04 28 41.7**	**+2.7**
comp=E,3.6nm,0.5s							
AML				⇑Lg	Lg	04 29 19.3	
comp=E,61nm,0.7s							
NRN	**Naryn**	**2.84**	**44**	⇑*iP*	**Pn**	**04 28 40.5**	**-0.1**
baz=43							
NRN				⇑*iS*	**Sn**	**04 29 15.7**	**+0.1**
baz=43							
NRN	**Naryn**	**2.84**	**44**	*i* PN	**Pn**	**04 28 40.5**	**-0.1**
NRN				*i* S	**Sn**	**04 29 15.7**	**+0.1**
UCH	**Uchtor**	**2.93**	**17**	P	**Pn**	**04 28 44.4**	**+2.4**
SNR=56							
MNAS	**Manas**	**3.13**	**348**	⇑*iP*	**Pn**	**04 28 45.6**	**+1.1**
baz=47							
MNAS				⇑*eS*	**Sb**	**04 29 24.4**	**-4.7**
baz=47							
MNAS	**Manas**	**3.13**	**348**	*e*PN	**Pn**	**04 28 45.6**	**+1.1**
EKS2	**Erkin-Say**	**3.25**	**5**	P	**Pn**	**04 28 50.3**	**+4.2**
SNR=12							
MRKS	**Merke**	**3.32**	**358**	Pg	**Pn**	**04 28 50.1**	**+3.1**
comp=E,30nm,0.5s							
MRKS				Lg	Lg	04 29 32.9	

comp=E,195nm,0.2s
MRKS Merke 3.32 358 *e*Pg **Pn 04 28 50.1 +3.1**
comp=E,18nm,0.2s
MRKS *e*Lg Lg 04 29 32.9
comp=E,193nm,0.2s
AAK Ala-Archa 3.32 14 P **Pn 04 28 50.2 +3.1**
SNR=20
AAK Ala-Archa 3.32 14 Pn **Pn 04 28 50.1 +3.0**
comp=E,6.4nm,0.3s,baz=190,slow=8.8,SNR=32
AAK Sn **Sb 04 29 33.4 -1.2**
comp=E,6.8nm,0.3s,baz=327,slow=20,SNR=8.5
comp=E,20nm,0.3s
KBK Karagaybulak 3.44 20 P **Pn 04 28 52.2 +3.4**
SNR=21
FRU1 Bishkek 3.51 15⇑*i*P **Pn 04 28 50.8 +1.1**
baz=14
FRU1 ⇑*i*S **Sn 04 29 33.3 +1.4**
baz=14
FRU1 Bishkek 3.51 15 *i* PN **Pn 04 28 50.8 +1.1**
BOOM Boomskoye usch 3.63 32⇓*e*P **Pn 04 28 51.9 +0.6**
baz=31
BOOM ⇓*i*S **Sn 04 29 35.5 +0.6**
baz=31
BOOM Boomskoye usch 3.63 32 *i* PN **Pn 04 28 51.9 +0.6**
IUG Iuzhnay 3.72 318 Pg **Pn 04 28 55.1 +2.6**
comp=E,62nm,0.2s
IUG Lg Lg 04 29 41.5
comp=E,120nm,0.6s
IUG Iuzhnay 3.72 318 *e*Pg **Pn 04 28 55.1 +2.6**
comp=E,62nm,0.2s
IUG *e*Lg Lg 04 29 41.5
comp=E,120nm,0.6s
DZA Taraz 3.79 337 Pg **Pn 04 28 57.0 +3.5**
comp=E,124nm,0.1s
DZA Lg Lg 04 29 44.9
comp=E,174nm,0.1s
DZA Taraz 3.79 337 *e*Pg **Pn 04 28 57.0 +3.5**
comp=E,124nm,0.1s
DZA *e*Lg Lg 04 29 44.9
comp=E,174nm,0.1s
TKM2 Tokmak 2 3.88 25 P **Pn 04 28 57.6 +2.8**
SNR=8.2
TKM2 Tokmak 2 3.88 25 ⇑Pn **Pn 04 28 56.8 +2.1**
comp=E,12nm,0.5s
TKM2 ⇑Lg Lg 04 29 56.9
comp=E,43nm,0.5s
USP Ospenovka 3.93 12 P **Pn 04 28 58.5 +3.1**
SNR=9.9
KST Kastek 4.11 28 Pg **Pb 04 29 06.9 -0.1**
comp=E,25nm,0.6s
KST Lg Lg 04 30 01.9
comp=E,152nm,0.4s
KST Kastek 4.11 28 *e*Pg **Pb 04 29 06.9 -0.1**
comp=E,25nm,0.6s
KST *e*Lg Lg 04 30 01.9
comp=E,152nm,0.4s
SGDS Sogindy 4.13 13 Pg **Pb 04 29 07.3 -0.1**
comp=E,15nm,0.4s
SGDS Lg Lg 04 30 03.0
comp=E,48nm,0.6s
DGS Degeres 4.22 25 Pg **Pb 04 29 08.7 -0.2**
comp=E,60nm,0.3s
DGS Lg Lg 04 30 05.2
comp=E,157nm,0.6s
DGS Degeres 4.22 25 *e*Pg **Pb 04 29 08.7 -0.2**
comp=E,60nm,0.3s
DGS *e*Lg Lg 04 30 05.2
comp=E,157nm,0.6s
KK31 Karatay Array 4.26 331 Pn **Pn 04 29 01.8 +1.9**
comp=E,12nm,0.5s,baz=133,slow=12,SNR=84
KK31 ⇑Pg **Pb 04 29 13.5 +4.0**
comp=E,8.1nm,0.4s,baz=151,slow=14,SNR=5.0
KK31 Lg Lg 04 30 08.4
comp=E,41nm,0.5s,baz=140,slow=30,SNR=4.0
KKAR Karatay Array 4.26 331⇑*e*P **Pn 04 29 01.4 +1.5**
baz=30
KKAR ⇑*i*S **Sn 04 29 51.7 +1.4**
baz=30
KKAR Karatay Array 4.26 331 *e*PN **Pn 04 29 01.4 +1.5**
IZV Izvestkoviy 4.36 33 Pg **Pb 04 29 11.9 +0.6**
comp=E,16nm,0.4s
IZV Lg Lg 04 30 10.6
comp=E,160nm,0.5s
IZV Izvestkoviy 4.36 33 *e*Pg **Pb 04 29 11.9 +0.6**
comp=E,16nm,0.4s
IZV *e*Lg Lg 04 30 10.6
comp=E,160nm,0.5s
MTBS Maitube 4.36 31 Pg **Pb 04 29 11.5 +0.3**
comp=E,25nm,0.2s
MTBS Lg Lg 04 30 10.0
comp=E,50nm,0.3s
MTBS Maitube 4.36 31 *e*Pg **Pb 04 29 11.5 +0.3**
comp=E,25nm,0.2s
MTBS *e*Lg Lg 04 30 10.0
comp=E,50nm,0.3s
TNSS Tian-Shan 4.50 36 Pg **Pb 04 29 14.8 +0.9**
comp=E,22nm,0.4s
TNSS Lg Lg 04 30 15.6
comp=E,29nm,0.4s
TNSS Tian-Shan 4.50 36 *e*Pg **Pb 04 29 14.8 +0.9**
comp=E,22nm,0.4s
TNSS *e*Lg Lg 04 30 15.6
comp=E,29nm,0.4s
KRBS Karabastau 4.60 21 Pg **Pb 04 29 15.4 -0.1**
comp=E,29nm,0.5s
KRBS Lg Lg 04 30 16.4
comp=E,46nm,0.5s
KRBS Karabastau 4.60 21 *e*Pg **Pb 04 29 15.4 -0.1**
comp=E,29nm,0.5s
KRBS *e*Lg Lg 04 30 16.4
comp=E,46nm,0.5s
ANVS Anan'yevo 4.67 43⇑*e*P **Pn 04 29 06.3 +0.7**
baz=42
ANVS ⇑*i*S **Sn 04 30 00.2 -0.4**
baz=42
ANVS Anan'yevo 4.67 43 *i* PN **Pn 04 29 06.3 +0.7**
ANVS *i* S **Sn 04 30 00.2 -0.4**
KOTS Kotyrbulak 4.73 35 Pg **Pb 04 29 18.9 +1.2**
comp=E,25nm,0.4s
KOTS Lg Lg 04 30 22.3
comp=E,322nm,0.6s
KOTS Kotyrbulak 4.73 35 *e*Pg **Pb 04 29 18.9 +1.2**
comp=E,25nm,0.4s
KOTS *e*Lg Lg 04 30 22.3
comp=E,322nm,0.6s
KTBS Karatobe 4.95 29 Pg **Pb 04 29 22.4 +1.1**
comp=E,19nm,0.5s
KTBS Lg Lg 04 30 28.3
comp=E,85nm,0.3s
KTBS Karatobe 4.95 29 *e*Pg **Pb 04 29 22.4 +1.1**
comp=E,19nm,0.5s
KTBS *e*Lg Lg 04 30 28.3
comp=E,85nm,0.3s
KUU Kurty 4.99 25 Pg **Pb 04 29 23.7 +1.8**
comp=E,12nm,0.5s
KUU Lg Lg 04 30 30.9
comp=E,87nm,0.9s
KUU Kurty 4.99 25 *e*Pg **Pb 04 29 23.7 +1.8**
comp=E,12nm,0.5s
KUU *e*Lg Lg 04 30 30.9
comp=E,87nm,0.9s
SATY Saty 5.25 45 Pg **Pb 04 29 28.5 +2.0**
comp=E,33nm,0.8s
SATY Lg Lg 04 30 39.2
comp=E,42nm,0.5s
SATY Saty 5.25 45 *e*Pg **Pb 04 29 28.5 +2.0**
comp=E,33nm,0.8s
SATY *e*Lg Lg 04 30 39.2
comp=E,42nm,0.5s
ZHN Zhinishke 5.34 44 Pg **Pb 04 29 30.5 +2.5**
comp=E,23nm,0.4s
ZHN Lg Lg 04 30 42.4
comp=E,20nm,0.4s
ZHN Zhinishke 5.34 44 *e*Pg **Pb 04 29 30.5 +2.5**
comp=E,23nm,0.4s
ZHN *e*Lg Lg 04 30 42.5
comp=E,20nm,0.4s
KURS Kuram 5.43 40 Pg **Pb 04 29 32.3 +2.9**
comp=E,15nm,0.8s
KURS Lg Lg 04 30 45.7
comp=E,35nm,0.6s
KURS Kuram 5.43 40 *e*Pg **Pb 04 29 32.4 +2.9**
comp=E,15nm,0.8s
KURS *e*Lg Lg 04 30 45.7
comp=E,35nm,0.6s
BTLS Baital 5.64 5 Pg **Pb 04 29 33.5 +0.5**
comp=E,5.4nm,0.3s
BTLS Lg Lg 04 30 47.8
comp=E,21nm,0.4s
BTLS Baital 5.64 5 *e*Pg **Pb 04 29 33.5 +0.5**
comp=E,5.4nm,0.3s
BTLS *e*Lg Lg 04 30 47.8
comp=E,21nm,0.4s
UZB Uzynbulak 5.65 47 Pg **Pb 04 29 36.7 +3.4**
comp=E,14nm,0.7s
UZB Lg Lg 04 30 53.1
comp=E,17nm,0.6s
UZB Uzynbulak 5.65 47 *e*Pg **Pb 04 29 36.7 +3.4**
comp=E,14nm,0.7s
UZB *e*Lg Lg 04 30 53.1
comp=E,17nm,0.6s
KPKS Kokpek 5.68 43 Pg **Pb 04 29 36.4 +2.7**
comp=E,23nm,0.5s
KPKS Lg Lg 04 30 52.6
comp=E,36nm,0.6s
KPKS Kokpek 5.68 43 *e*Pg **Pb 04 29 36.4 +2.7**
comp=E,23nm,0.5s
KPKS *e*Lg Lg 04 30 52.6
comp=E,36nm,0.6s
ARXS Arharly 5.83 33 Pg **Pb 04 29 38.8 +2.5**
comp=E,13nm,0.4s
ARXS Lg Lg 04 30 56.6
comp=E,48nm,0.7s
ARXS Arharly 5.83 33 *e*Pg **Pb 04 29 38.8 +2.5**
comp=E,13nm,0.4s
ARXS *e*Lg Lg 04 30 56.6
comp=E,48nm,0.7s
ARXS Arharly 5.83 33 *e*PN **Pb 04 29 38.2 +1.9**
SHLS Shalkode 5.91 49 Pg **Pg 04 29 46.7 -0.3**
comp=E,23nm,0.3s
SHLS Lg Lg 04 31 10.4
comp=E,34nm,0.5s
SHLS Shalkode 5.91 49⇑*i*Pg **Pg 04 29 46.7 -0.3**
comp=E,23nm,0.3s
SHLS *e*Lg Lg 04 31 10.4
comp=E,34nm,0.5s
BLB Baldybastay 6.03 38 Pg **Pb 04 29 42.8 +3.1**
comp=E,14nm,0.3s
BLB Lg Lg 04 31 03.6
comp=E,22nm,0.9s
PDGK Podgornoye 6.03 48 Pg **Pb 04 29 44.0 +4.2**
comp=E,6.8nm,0.5s
PDGK Lg Lg 04 31 05.7
comp=E,9.6nm,0.5s
KNOS Konyrlen 6.56 39 Pg **Pb 04 29 52.8 +4.0**
comp=E,13nm,0.5s
KNOS Lg Lg 04 31 20.7
comp=E,17nm,0.5s
KTMS Ketmen 6.61 50 Pg Pb 04 29 55.1 +5.5
comp=E,4.3nm,0.4s
KTMS Lg Lg 04 31 24.6
comp=E,6.1nm,0.3s
KTMS Ketmen 6.61 50 *e*Pg Pb 04 29 55.1 +5.5
comp=E,4.3nm,0.4s
KTMS *e*Lg Lg 04 31 24.6
comp=E,6.1nm,0.3s
DJR Jarkent 6.85 42 Pg **Pb 04 29 58.5 +4.8**
comp=E,4.8nm,0.4s
DJR Lg Lg 04 31 30.4
comp=E,11nm,0.5s
DJR Jarkent 6.85 42 *e*Pg **Pb 04 29 58.5 +4.8**
comp=E,4.8nm,0.4s
DJR *e*Lg Lg 04 31 30.4
comp=E,11nm,0.5s
MK31 Makanchi Array 9.83 39 *i* P **Pn 04 30 19.5 +3.2**
MK31 *i* S **Sn 04 32 05.5 -1.9**
MKAR Makanchi Array 9.83 39 Pn **Pn 04 30 19.5 +3.2**
baz=235,slow=15,SNR=2.7
MKAR Lg Lg 04 32 59.3
comp=E,0.1nm,0.3s,baz=259,slow=26,SNR=1.3
comp=E,0.5nm,0.8s
KURBB Kurchatov Arra 11.77 16 Pn **Pn 04 30 42.8 -0.1**
baz=210,slow=13,SNR=3.3
KURBB Lg Lg 04 34 02.1
comp=E,0.1nm,0.3s,baz=212,slow=29,SNR=5.1
comp=E,0.2nm,0.2s
KURK Kurchatov 11.88 16 P **Pn 04 30 42.8 -1.5**
GEYT Alibeck 12.02 268 Pn Pn 04 30 43.6 -2.7
comp=E,0.5nm,0.3s,baz=68,slow=16,SNR=3.0
GEYT Sn **Sn 04 32 57.9 -3.1**
comp=E,0.2nm,0.3s,baz=316,slow=56,SNR=1.9
comp=E,0.9nm,0.3s
AB31 Akbulak array 13.73 320⇓P **Pn 04 31 07.7 -1.8**
comp=E,1.7nm,0.6s,baz=128,slow=13,SNR=27
BVAR Borovoye Array 13.76 352 Pn **Pn 04 31 08.8 -1.1**
baz=150,slow=15,SNR=4.7
BVAR Lg Lg 04 35 00.6
baz=165,slow=20,SNR=1.8
comp=E,1.3nm,0.7s
BRVK Borovoye 13.80 352 *i* P **Pn 04 31 13.5 +3.0**
AKTO Aktyubinsk 15.44 320⇑P **P 04 31 37.4 0.0**
comp=E,3.6nm,0.8s
AKTO Aktyubinsk 15.44 320 Pn **Pn 04 31 30.7 -2.0**
comp=E,0.2nm,0.3s,baz=135,slow=15,SNR=2.1
comp=E,0.9nm,0.5s
ZALV Zalesovo Beam 16.48 24 Pn **Pn 04 31 45.3 -0.9**
comp=E,0.2nm,0.3s,baz=220,slow=15,SNR=2.5
comp=E,0.7nm,0.4s
ARU Arti 19.62 335 P **P 04 32 21.6 -2.0**
comp=E,1.3nm,0.3s,baz=118,slow=17,SNR=1.9
comp=E,3.3nm,0.3s
BELG Belogornoye 21.97 315 P **P 04 32 47.0 -2.0**
BELG Belogornoye 21.97 315 P **P 04 32 47.0 -2.0**
comp=E,8.9nm,0.7s,baz=112,slow=5.4,SNR=2.6
comp=E,8.9nm,0.7s
GNI Garni 21.98 281 *ce*P **P 04 32 53.4 +4.0**
GNI pmax pmax
comp=Z,16nm,1.2s
KBZ Khabaz 23.13 291 *ce*P **P 04 33 04.2 +2.9**
KBZ pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 25.18 60 P **P 04 33 22.6 +1.7**
comp=Z,0.6nm,0.7s,baz=256,slow=5.8,SNR=2.1
comp=Z,0.6nm,0.7s
OBN Obninsk 29.07 315 LR LR 04 46 52.7
comp=Z,82nm,20.9s,baz=176,slow=39
BR131 Keskin Array S 30.46 283 *i* P **P 04 34 09.0 +0.8**
BRTR Keskin Array B 30.46 283 P **P 04 34 08.8 +0.7**
comp=Z,0.7nm,0.7s,baz=94,slow=6.8,SNR=4.8
comp=Z,0.7nm,0.7s
AKASG Malin Array Be 32.69 305 P **P 04 34 26.9 -0.6**
comp=Z,0.3nm,0.4s,baz=77,slow=3.7,SNR=6.9
comp=Z,0.3nm,0.4s
MNK Minsk 33.85 312 *i* P **P 04 34 42.0 +4.4**
comp=E,6.0nm,0.9s
MNK *i* P **P 04 34 42.0 +4.4**
comp=N,18nm,1.0s
MNK *i* P **P 04 34 42.0 +4.4**
comp=Z,8.0nm,0.7s,baz=97
MNK *i* PP **PnPn 04 35 47.6 -2.2**
MNK *i* S **S 04 40 06.9 +4.4**
MNK *i* SS **SnSn 04 42 10.7 +3.9**
MNK *i* LQ LQ 04 43 54.7
MNK *i* LR LR 04 45 49.6
MNK *i* LRM MLR 04 49 18.7
comp=Z,41nm,14.7s
MNK *i* LRM MLR 04 49 26.2
comp=E,12nm,21.1s
MNK *i* LRM MLR 04 49 44.3
comp=N,35nm,19.7s
MNK Minsk 33.85 312 *i* P **P 04 34 41.9 +4.4**
MNK *i* 04 35 47.6
MNK *i* 04 37 19.4
MNK *i* S **S 04 40 06.9 +4.4**
MNK *i* SS **SnSn 04 42 10.7 +3.9**
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,18nm,1.0s
MNK MLR MLR
comp=Z,41nm,15.0s
MNK MLR MLR
comp=E,12nm,21.0s
MNK MLR MLR
comp=N,35nm,20.0s
FINES FINESS Array B 36.19 323 P **P 04 34 56.8 -0.8**
comp=N,0.6nm,0.3s,baz=117,slow=8.7,SNR=7.3
comp=N,0.6nm,0.3s
ARCES ARCESS Array B 39.21 336 P **P 04 35 23.1 0.0**
comp=N,0.5nm,0.5s,baz=110,slow=10,SNR=6.8
comp=N,0.5nm,0.5s
HFS Hagfors 41.99 320 P **P 04 35 45.9 -0.3**
comp=N,2.2nm,0.5s,baz=97,slow=12,SNR=7.4
comp=N,2.2nm,0.5s
NB2 NORSAR Subarra 43.23 321 P **P 04 35 55.7 -0.7**
comp=Z,0.9nm,0.6s,baz=91,slow=7.9
NOA NORSAR Array B 43.23 321 P **P 04 35 55.6 -0.8**
comp=Z,1.2nm,0.6s,baz=91,slow=7.7,SNR=5.1
comp=Z,1.2nm,0.6s
ESDC Sonseca Array 57.77 297 P **P 04 37 45.4 -1.3**
comp=Z,0.4nm,0.6s,baz=53,slow=6.7,SNR=4.8
comp=Z,0.4nm,0.6s
TORD Torodi Ar. Bea 67.66 269 P **P 04 38 51.0 -1.9**
comp=Z,0.4nm,0.5s,baz=51,slow=5.5,SNR=6.0
comp=Z,0.4nm,0.5s
ILAR Eielson Array 71.45 17 P **P 04 39 14.2 -1.4**
comp=Z,0.4nm,0.8s,baz=325,slow=4.4,SNR=3.0
comp=Z,0.4nm,0.8s
WRA Warramunga Arr 82.00 124 P **P 04 40 16.2 +0.5**
comp=Z,0.5nm,0.7s,baz=324,slow=5.1,SNR=5.0
comp=Z,0.5nm,0.7s

---

*NDI **06** 04:36:46.0±3.5, 27.°88N×95.°88E, h10km±10km, ML4.1*
*IDC **06** 04:36:49.5±2.3, 28.°11N×96.°00E, h0km, mb3.3/3,*
mbtmp3.5/4, ML4.2/1, MS3.6/1, Error ellipse: s-maj=72.4km
s-min=32.9km az=74.0

ISC 06 04:36:46.0±1.7, 27.°64N±0.°07×95.°84E±0.°04, h8km±13km,
n28, σ1°56/34, mb3.5/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**0.30**	**179**	*e*P	P	Pg	04 36 55.9	+3.8
LKP				*e*S		Sg	04 37 03.3	+7.2
DIBR	**DIBRUGARH**	**0.84**	**259**	*e*P	**Pn**	**04 37 04.3**		**+0.2**
DIBR				*e*S	**Sn**	**04 37 18.9**		**+2.2**
DIBR				IAML		04 37 21.1		
comp=E,10μm,0.5s								
MOKO	**MOKOCHONG**	**1.77**	**222**	*e*P	**Pg**	**04 37 20.1**		**+0.2**
MOKO				*e*S	**Sg**	**04 37 45.6**		**+2.8**
MOKO				IAML		04 37 48.1		
comp=E,3μm,0.6s								
MOKO				IAML		04 37 48.4		
comp=N,2μm,0.6s								
ZIRO	**ZIRO**	**1.77**	**267**	*e*P	**Pn**	**04 37 18.6**		**+1.5**
ZIRO				*e*S	**Sn**	**04 37 40.0**		**+0.1**
ITAN	**ITANAGAR**	**1.95**	**256**	*e*P	**Pb**	**04 37 21.7**		**0.0**
ITAN				*e*S	**Sg**	**04 37 47.9**		**-0.7**
ITAN				IAML		04 37 52.1		
comp=E,3μm,0.3s								
KOHI	**KOHIMA**	**2.46**	**219**	*e*P	**Pb**	**04 37 29.2**		**-1.3**
KOHI				*e*S	**Sg**	**04 38 02.9**		**-2.1**
KOHI				IAML		04 38 10.8		
comp=N,840nm,0.5s								
TEZP	**TEZPUR**	**2.89**	**250**	*e*P	**Pn**	**04 37 33.6**		**+1.2**
TEZP				*e*S	**Sn**	**04 38 09.5**		**+2.1**
TNCH	**TengChong**	**3.54**	**137**	*e*Pn	**Pn**	**04 37 40.6**		**-0.9**
TNCH				Pg	**Pg**	**04 37 54.2**		**+0.3**
TNCH				Sg	**Sg**	**04 38 40.6**		**+0.8**
TNCH				smax	smax			
comp=N,240nm,0.5s								
TNCH				smax	smax			
comp=E,330nm,0.5s								
TNCH				LR	LR			
comp=N,1μm,6.3s								
TNCH				LR	LR			
comp=E,800nm,6.3s								
TNCH				LR	LR			
comp=Z,830nm,7.7s								
GUWA	**GUWAHATI**	**3.97**	**250**	*e*P	**Pn**	**04 37 48.1**		**+0.9**
GUWA				*e*S	**Sn**	**04 38 33.0**		**-1.1**
GUWA				IAML		04 38 35.4		
comp=E,252nm,0.4s								
SHL	**Shillong**	**4.10**	**241**	*e*P	**Pn**	**04 37 49.8**		**+0.6**
SHL				*e*S	**Sn**	**04 38 35.5**		**-1.9**
LSA	**Lhasa**	**4.61**	**298**	Pn	**Pn**	**04 37 57.9**		**+1.5**
LSA				Sn	**Sn**	**04 38 51.2**		**+0.9**
LSA				smax	smax			
comp=N,44nm,1.0s								
LSA				smax	smax			
comp=E,45nm,0.7s								
AZL	**Aizawl**	**4.81**	**217**	*e*P	**Pn**	**04 38 01.5**		**+2.6**
SAIH	**SAIHA**	**5.74**	**207**	*e*P	Pn	04 38 16.5		+4.8
RAMN	**Ramite**	**8.25**	**267**	*e*P	**Pn**	**04 38 47.5**		**+1.3**
comp=E,60nm,0.5s								
JIRN	**Jiri**	**8.56**	**272**	*e*P	**Pn**	**04 38 50.9**		**+0.3**
comp=E,31nm,0.3s								
GUN	**Gumba**	**8.83**	**274**	*e*P	**Pn**	**04 38 53.5**		**-0.8**
comp=E,80nm,0.4s								
PKI	**Pulchoki**	**9.26**	**272**	*e*P	**Pn**	**04 39 00.2**		**+0.1**
comp=E,48nm,0.6s								
PKIN	**Phulchoki**	**9.27**	**272**	*e*P	**Pn**	**04 38 59.7**		**-0.5**
comp=E,46nm,0.5s								
CMAR	**Chiang Mai Arr**	**9.57**	**162**	Pn	Pn	04 39 14.4		+10
comp=E,0.5nm,0.3s,baz=335,slow=12,SNR=1.3								
comp=E,0.9nm,0.3s								
GKN	**Gorkha**	**9.93**	**275**	*e*P	**Pn**	**04 39 07.2**		**-2.0**
comp=E,14nm,0.3s								
DANN	**Dangsing**	**10.70**	**277**	*e*P	**Pn**	**04 39 17.6**		**-2.3**
comp=E,11nm,0.3s								
PYUN	**Piuthan**	**11.38**	**275**	*e*P	**Pn**	**04 39 26.1**		**-3.0**
comp=E,11nm,0.2s								
KSH	**Kashi**	**20.31**	**311**	P	Pn	04 41 25.8		+1.3
KSH				pP	sP	04 41 29.5		+3.5
KSH				pmax	pmax			
comp=Z,3.0nm,0.7s								
SONM	**Songino Array**	**21.78**	**19**	P	**P**	**04 41 37.4**		**-1.0**
comp=Z,2.2nm,1.2s,baz=206,slow=12,SNR=2.5								
comp=Z,2.2nm,1.2s								
MKAR	**Makanchi Array**	**21.90**	**334**	P	**P**	**04 41 40.8**		**+1.3**
comp=Z,0.4nm,0.6s,baz=159,slow=12,SNR=2.8								
comp=Z,0.4nm,0.6s								
XLT	**XiLinHaoTe**	**22.99**	**40**	*e*P	**P**	**04 41 49.4**		**-1.9**
XLT				pP	pP	04 41 53.7		0.0
XLT				sP	sP	04 41 56.4		+1.6
XLT				pmax	pmax			
comp=Z,6.0nm,0.8s								
XLT				pmax	pmax			
comp=Z,41nm,4.1s								
KURBB	**Kurchatov Arra**	**26.46**	**335**	P	**P**	**04 42 24.5**		**+1.1**
comp=Z,0.8nm,0.7s,baz=146,slow=9.5,SNR=4.5								
comp=Z,0.8nm,0.7s								
OBN	**Obninsk**	**50.35**	**320**	LR	LR	05 10 03.6		
comp=Z,64nm,18.5s,baz=138,slow=40								

IDC 06 04:48:46.7±39.0, 3.°10S×103.°81E, h0km, mb3.6/3,
mbtmp3.6/3, Error ellipse: s-maj=686.3km
s-min=217.1km az=137.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.17**	**122**	P	P	P	04 55 33.9	-0.1
0.6nm,0.8s,baz=295,slow=10.0,SNR=5.3								
0.6nm,0.8s								
ASAR	**Alice Springs**	**35.55**	**128**	P	P	P	04 55 45.7	-0.3
0.3nm,0.5s,baz=297,slow=7.6,SNR=4.1								
0.3nm,0.5s								
STKA	**Stephens Creek**	**45.60**	**133**	P	P	P	04 57 09.2	+0.2
1.0nm,0.5s,baz=288,slow=9.6,SNR=3.6								
1.0nm,0.5s								

---

*IDC **06** 04:56:19.7±0.9, 10.°42N×126.°33E, h0km, mb3.8/10,*
mbtmp3.8/10, MS3.0/5, Error ellipse: s-maj=47.5km
s-min=18.8km az=66.0

ISC 06 04:56:25.9±0.9, 10.°4N±0.°2×126.°3E±0.°3, h44km, n14,
σ0°42/13, mb3.8/10, MS3.4/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**12.23**	**156**	LR	LR		05 03 58.0	
comp=Z,38nm,21.1s,baz=158,slow=37								
GUMO	**Guam**	**18.46**	**78**	LR	LR		05 08 03.4	
comp=Z,46nm,18.6s,baz=214,slow=38								
CMAR	**Chiang Mai Arr**	**27.64**	**290**	P	**P**		**05 02 09.6**	**-0.1**
0.6nm,0.5s,baz=104,slow=6.8,SNR=4.9								
CMAR				LR	LR		05 11 35.9	
comp=Z,7.1nm,20.5s,baz=210,slow=33								
0.6nm,0.5s								
WRA	**Warramunga Arr**	**31.16**	**165**	P	**P**		**05 02 40.0**	**-0.8**
0.2nm,0.6s,baz=345,slow=9.5,SNR=2.0								
WRA				PcP	**PcP**		**05 05 35.8**	**+0.5**
0.3nm,0.8s,baz=5.9,slow=2.5,SNR=1.8								
0.2nm,0.6s								
ASAR	**Alice Springs**	**34.65**	**168**	P	**P**		**05 03 11.6**	**+0.3**
0.2nm,0.4s,baz=358,slow=8.3,SNR=2.0								
ASAR				PcP	**PcP**		**05 05 45.6**	**+0.7**
0.2nm,0.4s,baz=358,slow=2.8,SNR=4.4								
0.2nm,0.4s								
SONM	**Songino Array**	**40.92**	**340**	P	**P**		**05 04 04.1**	**0.0**

0.8nm,0.7s,baz=146,slow=8.7,SNR=3.3
0.8nm,0.7s
MKAR Makanchi Array 51.95 323 P P 05 05 30.5 0.0
1.7nm,0.8s,baz=128,slow=7.9,SNR=9.7
MKAR PcP PcP 05 06 42.9 +0.2
1.0nm,0.7s,baz=101,slow=6.3,SNR=4.4
1.7nm,0.8s
ZALV Zalesovo Beam 54.53 331 P P 05 05 49.2 -0.1
1.8nm,0.6s,baz=120,slow=8.8,SNR=5.3
1.8nm,0.6s
KURBB Kurchatov Arra 55.99 325 P P 05 05 59.4 -0.5
1.1nm,0.5s,baz=129,slow=6.8,SNR=9.4
1.1nm,0.5s
BVAR Borovoye Array 61.58 325 P P 05 06 38.8 +0.1
0.9nm,0.6s,baz=120,slow=10,SNR=2.8
0.9nm,0.6s
ILAR Eielson Array 79.34 26 P P 05 08 26.6 -0.2
0.3nm,0.7s,baz=272,slow=6.2,SNR=2.5
0.3nm,0.7s
ARCES ARCESS Array B 84.09 340 P P 05 08 52.0 +0.1
2.1nm,0.7s,baz=71,slow=5.4,SNR=8.7
2.1nm,0.7s
NOA NORSAR Array B 92.66 334 LR LR 05 53 25.8
comp=Z,13nm,20.3s,baz=280,slow=37
MBAR Mbarara 95.56 270 LR LR 05 53 31.7
comp=Z,25nm,18.0s,baz=250,slow=36

---

*IDC **06** 04:59:28.9±0.5, 17°.60S×64°.38W, h0km, mb4.3/11, mbtmp4.3/14, ML4.0/3, MS3.5/13, Error ellipse: s-maj=19.3km s-min=14.6km az=94.0*
*SCB **06** 04:59:29.7±1.1, 17°.53S×64°.11W, h33km±7km, ML4.5/1, MW4.3, Error ellipse: s-maj=3.8km s-min=2.6km az=0.0*
*SJA **06** 04:59:30.0±1.1, 17°.46S×63°.83W, h80km±85km, ML4.1, MW4.2*
*VAO **06** 04:59:32.0±0.2, 17°.53S×64°.12W, h10km, mb4.6*
*NEIC **06** 04:59:34.5±1.9, 17°.57S±0°.06×64°.18W±0°.03, h35km±7km, mb4.6/41, Error ellipse: s-maj=9.8km s-min=2.9km az=199.0*
ISC 06 04:59:30.5±0.3, 17°.54S±0°.04×64°.19W±0°.03, h10km, n192, σ1§48/192, mb4.7/33, MS3.6/10, 5C, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOET	**ToroToro**	**1.65**	**249**	Pg	**Pb**	**05 00 02.1**	**+1.0**
SIV	**San Ignacio**	**3.36**	**63**	Pn	**Pn**	**05 00 24.2**	**+1.1**
SIV	**San Ignacio**	**3.36**	**63**	Pn	**Pn**	**05 00 25.0**	**+1.9**
	5.9nm,0.3s,baz=259,slow=8.7,SNR=654						
SIV				Pg	**Pg**	**05 00 35.1**	**+0.2**
	30nm,0.3s,baz=250,slow=11,SNR=44						
SIV				Sn	**Sn**	**05 01 04.0**	**+0.9**
	16nm,0.3s,baz=257,slow=8.4,SNR=8.7						
SIV				Lg	Lg	05 01 14.2	
	18nm,0.3s,baz=0.0,slow=23,SNR=4.1						
	104nm,0.3s						
BBSD	**Serra de San D**	**3.44**	**85**	Pn	**Pn**	**05 00 25.1**	**+0.9**
BBSD				Sn	**Sn**	**05 01 06.1**	**+1.1**
BBSD				IAML		05 01 09.1	
	1000nm,0.3s						
BBSD	**Serra de San D**	**3.44**	**85**	*eP*	**Pn**	**05 00 25.6**	**+1.4**
BBSD				*eS*	**Sn**	**05 01 06.0**	**+1.1**
SOEO	**Opoqueri**	**3.66**	**253**	Pn	**Pn**	**05 00 30.6**	**+3.0**
BBOE	**La Paz, Chanca**	**3.70**	**281**	Pn	**Pn**	**05 00 31.8**	**+3.6**
SOEJ	**Jacaque**	**3.86**	**278**	Pn	**Pn**	**05 00 33.5**	**+3.0**
MOCB	**Mochara**	**3.94**	**200**	Pn	**Pn**	**05 00 34.2**	**+2.8**
LPAZ	**La Paz**	**3.97**	**288**	Pn	**Pn**	**05 00 34.2**	**+2.2**
LPAZ	**La Paz**	**3.97**	**288**	Pn	**Pn**	**05 00 34.7**	**+2.7**
LPAZ	**La Paz**	**3.97**	**288**	*eP*	**Pn**	**05 00 34.3**	**+2.2**
LPAZ				*eS*	**Sn**	**05 01 22.1**	**+3.1**
LPAZ	**La Paz**	**3.97**	**288**	Pn	**Pn**	**05 00 34.5**	**+2.4**
LPAZ				Pg	**Pg**	**05 00 45.8**	**-0.8**
	24nm,0.3s,baz=118,slow=14,SNR=3.2						
LPAZ				Sn	**Sn**	**05 01 19.2**	**+0.2**
	41nm,0.3s,baz=336,slow=2.8,SNR=3.4						
LPAZ				Lg	Lg	05 01 33.6	
	38nm,0.3s,baz=69,slow=23,SNR=3.3						
LPAZ	**La Paz**	**3.97**	**288**	*i P*	**Pn**	**05 00 34.4**	**+2.4**
AOVT	**TarijaAcel**	**4.00**	**187**	Pn	**Pn**	**05 00 34.9**	**+2.8**
BBRB	**Robore, Bolivi**	**4.24**	**101**	Pn	**Pn**	**05 00 35.8**	**+0.6**
BBRB	**Robore, Bolivi**	**4.24**	**101**	*eP*	**Pn**	**05 00 35.0**	**-0.2**
BBRB				*eS*	**Sn**	**05 01 25.6**	**+0.8**
BBOD	**La Paz, Gloria**	**4.31**	**281**	Pn	**Pn**	**05 00 39.7**	**+3.1**
YJA	**Yavi**	**4.78**	**195**	Pn	**Pn**	**05 00 45.7**	**+2.7**
YJA	**Yavi**	**4.78**	**195**	*i P*	**Pn**	**05 00 44.8**	**+1.8**
YJA				*eS*	**Sn**	**05 01 39.3**	**+0.6**
YJA				IAML		05 02 03.3	
	comp=Z,235nm,0.5s						
PB18	**Visviri**	**5.04**	**269**	Pn	**Pn**	**05 00 50.7**	**+4.0**
PB16	**IPOC Station P**	**5.12**	**260**	Pn	**Pn**	**05 00 51.5**	**+3.7**
PB16	**IPOC Station P**	**5.12**	**260**	*i P*	**Pn**	**05 00 52.1**	**+4.2**
PB16				IAML		05 02 24.9	
	comp=Z,37nm,1.8s						
GO01	**Chusmiza**	**5.20**	**245**		**Pn**	**05 00 50.5**	**+1.7**
PTLB	**Pontes e Lacer**	**5.28**	**68**	Pn	**Pn**	**05 00 50.8**	**+1.3**
PTLB	**Pontes e Lacer**	**5.28**	**68**	Pn	**Pn**	**05 00 50.7**	**+1.3**
PTLB	**Pontes e Lacer**	**5.28**	**68**	*eP*	**Pn**	**05 00 50.9**	**+1.4**
PTLB	**Pontes e Lacer**	**5.28**	**68**	*i P*	**Pn**	**05 00 50.6**	**+1.1**
PB08	**IPOC Station P**	**5.36**	**240**		**Pn**	**05 00 53.0**	**+2.0**
PB08	**IPOC Station P**	**5.36**	**240**	Pn	**Pn**	**05 00 53.0**	**+2.0**
PB12	**IPOC Station P**	**5.93**	**259**	Pn	**Pn**	**05 01 00.7**	**+2.1**
VILB	**Vilhena**	**5.97**	**41**	Pn	**Pn**	**05 01 00.9**	**+1.9**
VILB	**Vilhena**	**5.97**	**41**	*eP*	**Pn**	**05 01 01.7**	**+2.7**
HMBC	**Humberstone**	**6.04**	**242**	Pn	**Pn**	**05 01 02.8**	**+2.7**
PB01	**IPOC Station P**	**6.10**	**234**		**Pn**	**05 01 03.2**	**+2.4**
PB09	**IPOC Station P**	**6.37**	**228**		**Pn**	**05 01 06.8**	**+2.2**
PB09	**IPOC Station P**	**6.37**	**228**	Pn	**Pn**	**05 01 07.4**	**+2.8**
AF01	**San Pedro de A**	**6.56**	**214**		**Pn**	**05 01 10.0**	**+2.7**
PB02	**IPOC Station P**	**6.57**	**234**		**Pn**	**05 01 10.1**	**+2.9**
PB02	**IPOC Station P**	**6.57**	**234**	Pn	**Pn**	**05 01 09.7**	**+2.4**
LVC	**Limon Verde**	**6.72**	**221**	Pn	**Pn**	**05 01 12.3**	**+2.7**
LVC	**Limon Verde**	**6.72**	**221**	Pn	**Pn**	**05 01 12.1**	**+2.6**
LVC	**Limon Verde**	**6.72**	**221**	*eP*	**Pn**	**05 01 11.8**	**+2.2**
LVC	**Limon Verde**	**6.72**	**221**	Pn	**Pn**	**05 01 10.9**	**+1.4**
	comp=Z,3.0nm,0.3s,baz=40,slow=9.3,SNR=17						
LVC				LR	LR	05 03 22.3	
	comp=Z,185nm,21.2s,baz=9.5,slow=36						
SLA	**San Lorenzo**	**7.25**	**190**	Pn	**Pn**	**05 01 18.0**	**+1.3**
MURT	**Porto Murtinho**	**7.43**	**125**	*eP*	**Pn**	**05 01 19.1**	**0.0**
PB15	**IPOC Station P**	**7.50**	**220**		**Pn**	**05 01 22.2**	**+2.0**
BDQN	**Bodoquena, MS**	**7.61**	**114**	*eP*	**Pn**	**05 01 21.1**	**-0.4**
ETMB	**Extrema**	**7.92**	**345**	Pn	**Pn**	**05 01 26.4**	**+0.6**
ETMB	**Extrema**	**7.92**	**345**	Pn	**Pn**	**05 01 27.0**	**+1.2**
ETMB	**Extrema**	**7.92**	**345**	*eP*	**Pn**	**05 01 26.6**	**+0.8**
SALV	**Santo Antonio**	**8.30**	**80**	*eP*	**Pn**	**05 01 31.8**	**+0.7**
AQDB	**Aquidauana**	**8.55**	**111**	Pn	**Pn**	**05 01 34.6**	**+0.2**
AQDB	**Aquidauana**	**8.55**	**111**	*eP*	**Pn**	**05 01 34.9**	**+0.6**
SAML	**Samuel**	**8.60**	**7**	Pn	**Pn**	**05 01 35.9**	**+0.8**
SAML	**Samuel**	**8.60**	**7**	Pn	**Pn**	**05 01 36.0**	**+1.0**
SAML	**Samuel**	**8.60**	**7**	*eP*	**Pn**	**05 01 35.7**	**+0.7**
PP1B	**Ponte de Pedra**	**8.88**	**92**	*eP*	**Pn**	**05 01 39.5**	**+0.5**
ANTJ	**Antonio Joao (**	**8.89**	**121**	*eP*	**Pn**	**05 01 39.7**	**+0.5**
ESFA	**Espinillo Form**	**9.10**	**145**	*eP*	**Pn**	**05 01 44.0**	**+2.1**
GO02	**Mina Guanaco**	**9.10**	**213**	Pn	**Pn**	**05 01 42.6**	**+0.4**
PDRB	**Porto dos Gac**	**9.32**	**52**	*eP*	**Pn**	**05 01 45.6**	**+0.6**
TICA	**Tres Isletas**	**9.49**	**159**	*eP*	**Pn**	**05 01 48.5**	**+1.3**
AC02	**Maricunga**	**10.32**	**205**	Pn	**Pn**	**05 01 59.4**	**+0.3**
RPRD	**Ribas do Rio P**	**10.35**	**108**	*eP*	**Pn**	**05 02 00.4**	**+1.3**
CLDB	**Colider**	**10.49**	**52**	*eP*	**Pn**	**05 02 01.9**	**+0.8**
CPUP	**Villa Florida**	**10.82**	**145**	Pn	**Pn**	**05 02 03.3**	**-2.2**
CPUP	**Villa Florida**	**10.82**	**145**	*eP*	**Pn**	**05 02 05.4**	**-0.1**
CPUP	**Villa Florida**	**10.82**	**145**	Pn	**Pn**	**05 02 03.0**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=319,slow=11,SNR=5.6						
CPUP				Lg	Lg	05 05 08.9	
	comp=Z,0.7nm,0.3s,baz=261,slow=17,SNR=1.7						
CPUP				LR	LR	05 07 15.4	
	comp=Z,113nm,20.1s,baz=306,slow=43						
C2SB	**Chapadao do Su**	**10.86**	**98**	*eP*	**Pn**	**05 02 07.5**	**+1.3**
MCR1	**Marechal Candi**	**11.72**	**128**	*eP*	**Pn**	**05 02 19.1**	**+1.3**
ARAG	**Araguaiana, MT**	**12.01**	**83**	*eP*	**Pn**	**05 02 21.6**	**-0.2**
TRCB	**Terra Rica**	**12.04**	**118**	*eP*	**Pn**	**05 02 23.6**	**+1.3**
CZSB	**Cruzeiro do Su**	**12.80**	**319**	*eP*	**Pn**	**05 02 35.0**	**+2.2**
MECA	**Mercedes**	**12.94**	**156**	*eP*	**Pn**	**05 02 34.9**	**+0.4**
ITRB	**Iturama**	**13.29**	**101**	*eP*	**Pn**	**05 02 40.6**	**+1.2**
PTGB	**Pitanga**	**13.37**	**124**	*eP*	**Pn**	**05 02 41.8**	**+1.3**
CRSM	**Crissiumal (Br**	**13.63**	**138**	*eP*	**Pn**	**05 02 45.4**	**+1.4**
ITQB	**Itaqui**	**13.92**	**152**	Pn	**Pn**	**05 02 46.5**	**-1.3**
ITQB	**Itaqui**	**13.92**	**152**	*eP*	**Pn**	**05 02 48.6**	**+0.8**
TBTG	**Tabatinga, AM**	**14.40**	**336**	Pn	**Pn**	**05 02 53.1**	**-1.5**
TBTG	**Tabatinga, AM**	**14.40**	**336**	*eP*	**Pn**	**05 02 57.0**	**+2.4**
CFA	**Coronel Fontan**	**14.48**	**194**	Pn	**Pn**	**05 02 52.2**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=360,slow=9.8,SNR=4.2						
CFA				Lg	Lg	05 07 04.5	
	comp=Z,0.1nm,0.3s,baz=143,slow=10,SNR=1.7						
	comp=Z,2.3nm,0.5s						
MACA	**Manacapuru-AM**	**14.70**	**14**	Pn	**Pn**	**05 02 57.8**	**-0.8**
MACA	**Manacapuru-AM**	**14.70**	**14**	*eP*	**Pn**	**05 02 57.9**	**-0.8**
ITAB	**Concordia**	**14.74**	**133**	*eP*	**Pn**	**05 02 59.7**	**+0.6**
BDFB	**Brasilia**	**15.62**	**85**	Pn	**P**	**05 03 14.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=248,slow=12,SNR=6.3						
BDFB				Lg	Lg	05 07 40.6	
	comp=Z,0.7nm,0.3s,baz=203,slow=15,SNR=4.2						
BDFB				LR	LR	05 09 12.0	
	comp=Z,90nm,19.4s,baz=335,slow=37						
	comp=Z,4.1nm,0.7s						
CPSB	**Cacapava Do Su**	**16.13**	**145**	*eP*	**Pn**	**05 03 18.5**	**+1.1**
MT03	**Universidad Ad**	**16.87**	**198**	Pn	**Pn**	**05 03 25.6**	**-1.3**
MT03				IAmb	IAmb	05 03 34.2	
	comp=Z,33nm,0.9s						
PMNB	**Patos De Minas**	**16.91**	**96**	*eP*	**Pn**	**05 03 28.1**	**+0.5**
VAO	**Valinhos**	**17.05**	**111**	*eP*	**Pn**	**05 03 29.7**	**+0.5**
PLTB	**Pedras Altas**	**17.10**	**148**	*eP*	**Pn**	**05 03 30.8**	**+1.0**
MT09	**Talagante**	**17.28**	**199**	Pn	**Pn**	**05 03 30.7**	**-1.4**
ATAH	**Atahualpa**	**17.29**	**305**	P	**P**	**05 03 35.2**	**+1.2**
	comp=Z,7.2nm,0.7s,baz=81,slow=14,SNR=3.8						
ATAH				Lg	Lg	05 08 37.2	
	comp=Z,0.2nm,0.3s,baz=96,slow=23,SNR=2.9						
MT01	**Popeta**	**17.45**	**200**	Pn	**Pn**	**05 03 33.0**	**-1.0**
PRPB	**Parauapebas**	**18.03**	**53**	*eP*	**Pn**	**05 03 40.4**	**-1.0**
SMTB	**Santa Maria do**	**18.31**	**64**	*eP*	**P**	**05 03 45.3**	**+0.4**
PARB	**Paraibuna**	**18.33**	**111**	*eP*	**P**	**05 03 45.6**	**+0.5**
BSCB	**Bom Sucesso**	**18.65**	**104**	*eP*	**P**	**05 03 48.9**	**+0.2**
BOSC	**San Juan Bosco**	**20.03**	**314**	P	**P**	**05 04 03.7**	**-0.3**
BOAV	**Boa Vista**	**20.14**	**11**	*eP*	Pn	05 04 06.7	-0.1
MCRA	**Macar, Loja**	**20.24**	**308**	P	**P**	**05 04 06.4**	**+0.2**
MCRA	**Macar, Loja**	**20.24**	**308**	*eP*	**P**	**05 04 03.6**	**-2.5**
MACC	**Macarena, Meta**	**21.75**	**333**	*eP*	**P**	**05 04 23.0**	**+0.6**
SLOR	**San Lorenzo -**	**21.84**	**318**	P	**P**	**05 04 22.6**	**-1.2**
SLOR				IAmb	IAmb	05 04 28.6	
	comp=Z,21nm,0.8s						
TMAB	**Tom-Au,PA,Br**	**21.84**	**48**	*eP*	**P**	**05 04 24.5**	**+1.2**
SJMB	**Sao Joao De Ma**	**21.90**	**97**	*eP*	**P**	**05 04 24.2**	**+0.3**
FLOC	**Florencia**	**22.11**	**328**	*eP*	P	05 04 15.5	-11
TULM	**Tulcn-Chalpat**	**22.55**	**322**	P	**P**	**05 04 32.2**	**+0.8**
TULM				IAmb	IAmb	05 04 53.8	
	comp=Z,31nm,0.9s						
OTAV	**Otavalo**	**22.56**	**320**	P	**P**	**05 04 30.3**	**-1.3**
GO06	**Curarrehue**	**22.86**	**195**	P	**P**	**05 04 33.5**	**-0.6**
GO06				IAmb	IAmb	05 04 39.4	
	comp=Z,18nm,0.9s						
VILC	**Villavicencio,**	**23.47**	**336**	*eP*	**P**	**05 04 42.2**	**+1.7**
PLCA	**Paso Flores**	**23.76**	**192**	P	**P**	**05 04 42.3**	**-0.8**
PLCA				IAmb	IAmb	05 04 45.8	
	comp=Z,16nm,1.0s						
PLCA	**Paso Flores**	**23.76**	**192**	P	**P**	**05 04 41.4**	**-1.8**
	comp=Z,12nm,1.0s,baz=17,slow=13,SNR=6.3						
	comp=Z,12nm,1.0s						
CHIC	**Chingaza**	**23.96**	**336**	*eP*	**P**	**05 04 45.3**	**-0.3**
ROSC	**El Rosal**	**24.38**	**335**	P	**P**	**05 04 48.1**	**-1.4**
ROSC				IAmb	IAmb	05 05 16.5	
	comp=Z,24nm,1.3s						
ROSC	**El Rosal**	**24.38**	**335**	P	**P**	**05 04 48.5**	**-1.0**
	comp=Z,3.7nm,0.5s,baz=160,slow=12,SNR=3.6						
ROSC				Lg	Lg	05 12 21.8	
	comp=Z,0.7nm,0.3s,baz=134,slow=19,SNR=2.3						
	comp=Z,3.7nm,0.5s						
RUSC	**La Rusia**	**24.88**	**339**	*eP*	**P**	**05 04 52.7**	**-1.5**
SPBC	**San Pablo de B**	**25.02**	**336**	*eP*	**P**	**05 04 54.1**	**-0.9**
MDP	**Montagnes des**	**25.22**	**28**	LR	LR	05 15 34.6	
	comp=Z,143nm,21.4s,baz=174,slow=38						
BAUV	**El Baul**	**26.59**	**351**	P	**P**	**05 05 09.3**	**+0.2**
UREC	**San Jos de Ur**	**27.52**	**335**	*eP*	**P**	**05 05 15.0**	**-2.5**
PCRV	**Puerto La Cruz**	**27.54**	**359**	LR	LR	05 17 07.9	
	comp=Z,137nm,21.4s,slow=38						
SJCC	**San Jacinto, C**	**29.34**	**337**	*eP*	**P**	**05 05 31.1**	**-2.6**
TKL	**Tuckaleechee C**	**56.07**	**341**	LR	LR	05 33 48.9	
	comp=Z,64nm,19.1s,baz=159,slow=37						
HNDO	**Hondo**	**57.76**	**324**	P	**P**	**05 09 21.2**	**-0.7**
HNDO				IAmb	IAmb	05 09 22.2	
	comp=Z,4.4nm,0.8s						
TXAR	**Lajitas Array**	**60.19**	**320**	P	**P**	**05 09 37.8**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=144,slow=8.7,SNR=4.2						
	comp=Z,0.3nm,0.8s						
APMT	**Aspermont**	**61.12**	**326**	P	**P**	**05 09 45.0**	**-0.1**
APMT				IAmb	IAmb	05 09 45.4	
	comp=Z,5.1nm,0.8s						
R40A	**Maddies Statio**	**61.47**	**335**	P	**P**	**05 09 46.0**	**-1.3**
WMOK	**Wichita Mounta**	**61.51**	**328**	P	**P**	**05 09 47.2**	**-0.5**
VNA3	**Neumayer Olymp**	**62.45**	**163**	⇑P	**P**	**05 09 53.8**	**+0.2**
	comp=Z,9.8nm,0.9s						
VNA1	**Neumayer--Stat**	**62.58**	**162**	⇑P	**P**	**05 09 54.7**	**+0.4**
	comp=Z,8.1nm,1.0s						
VNA2	**Neumayer--Watz**	**62.96**	**162**	⇑P	**P**	**05 09 57.0**	**+0.1**
	comp=Z,8.2nm,0.8s,baz=300,slow=8.0						
SNAA	**Sanae**	**64.61**	**162**	P	**P**	**05 10 07.6**	**-0.2**
SNAA				IAmb	IAmb	05 10 08.8	
	comp=Z,9.4nm,1.1s						
SNAA	**Sanae**	**64.61**	**162**	⇑P	**P**	**05 10 07.7**	**-0.2**
	comp=Z,106nm,0.9s						
SNAA	**Sanae**	**64.61**	**162**	P	**P**	**05 10 07.5**	**-0.4**
	comp=Z,4.6nm,0.9s,baz=297,slow=6.1,SNR=16						
SNAA				LR	LR	05 37 01.6	
	comp=Z,19nm,21.4s,baz=12,slow=35						
	comp=Z,4.6nm,0.9s						
L34A	**Svendsen Farm,**	**66.26**	**334**	P	**P**	**05 10 17.8**	**-1.1**
TROLL	**Troll, Antarti**	**66.31**	**162**	⇑P	**P**	**05 10 19.0**	**+0.1**
	comp=Z,152nm,0.8s						
BGNE	**Belgrade**	**66.55**	**333**	P	**P**	**05 10 20.0**	**-0.7**
TUC	**Tucson**	**66.68**	**318**	P	**P**	**05 10 20.7**	**-1.2**
KSCO	**Kaye Shedlock'**	**66.77**	**328**	P	**P**	**05 10 22.0**	**-0.3**
214A	**Organ Pipe Nat**	**67.77**	**316**	P	**P**	**05 10 28.5**	**-0.2**
214A				IAmb	IAmb	05 10 29.9	
	comp=Z,4.7nm,1.1s						
MVCO	**Mesa Verde**	**68.61**	**323**	P	**P**	**05 10 33.7**	**-0.4**
MVCO				IAmb	IAmb	05 10 38.4	
	comp=Z,6.8nm,1.1s						
U15A	**North Rim**	**70.32**	**320**	P	**P**	**05 10 44.5**	**-0.2**
U15A				IAmb	IAmb	05 10 46.4	
	comp=Z,5.7nm,1.3s						
KNB	**Kanab**	**71.03**	**321**	P	**P**	**05 10 49.2**	**+0.3**
KNB				IAmb	IAmb	05 10 50.9	
	comp=Z,9.8nm,1.2s						
CCUT	**Cedar City**	**71.70**	**321**	P	**P**	**05 10 53.8**	**+0.7**
TOA0	**Torodi Ar. Sit**	**71.82**	**69**	P	**P**	**05 10 53.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**71.82**	**69**	P	**P**	**05 10 53.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**71.82**	**69**	P	**P**	**05 10 54.0**	**+0.1**
	comp=Z,9.2nm,0.7s,baz=262,slow=5.4,SNR=49						
	comp=Z,9.2nm,0.7s						
SCHQ	**Schefferville**	**72.11**	**358**	P	**P**	**05 10 54.7**	**-0.2**
	comp=Z,7.3nm,0.9s,baz=132,slow=3.7,SNR=3.9						
	comp=Z,7.3nm,0.9s						
MDND	**Maddock**	**72.40**	**336**	P	**P**	**05 10 56.8**	**0.0**
QSPA	**South Pole Qui**	**72.63**	**180**	P	**P**	**05 10 58.2**	**+0.1**
QSPA				IAmb	IAmb	05 11 03.4	
	comp=Z,4.3nm,0.8s						
QSPA	**South Pole Qui**	**72.63**	**180**	P	**P**	**05 10 58.2**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=103,slow=2.0,SNR=12						
QSPA				LR	LR	05 43 40.7	
	comp=Z,66nm,19.0s,baz=168,slow=36						
	comp=Z,3.3nm,0.7s						
PD31	**Pinedale Array**	**73.08**	**327**	P	**P**	**05 11 01.0**	**-0.2**
PD31				IAmb	IAmb	05 11 05.2	
	comp=Z,6.2nm,1.4s						
PDAR	**Pinedale Array**	**73.08**	**327**	P	**P**	**05 11 00.7**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=125,slow=7.2,SNR=9.8						
	comp=Z,1.0nm,0.7s						
MOOW	**Moose Ponds**	**74.39**	**327**	P	**P**	**05 11 08.6**	**-0.3**
FXWY	**Fox Creek**	**74.46**	**327**	P	**P**	**05 11 09.0**	**-0.3**
FXWY				IAmb	IAmb	05 11 13.8	
	comp=Z,5.3nm,1.3s						
IMW	**Indian Meadow**	**74.59**	**327**	P	**P**	**05 11 10.0**	**-0.2**
IMW				IAmb	IAmb	05 11 11.3	
	comp=Z,8.9nm,1.0s						
YHH	**Holmes Hill**	**75.17**	**328**	P	**P**	**05 11 13.9**	**+0.5**
NVAR	**Mina Array Bea**	**75.29**	**319**	P	**P**	**05 11 14.5**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=132,slow=7.5,SNR=4.4						
	comp=Z,0.6nm,0.8s						
MDT	**Midelt**	**75.81**	**49**	LR	LR	05 44 04.8	
	comp=Z,25nm,19.1s,baz=207,slow=35						
HLID	**Hailey**	**76.23**	**325**	P	**P**	**05 11 19.8**	**+0.4**
HLID				IAmb	IAmb	05 11 21.1	
	comp=Z,4.3nm,0.8s						
SUR	**Sutherland**	**76.71**	**120**	LR	LR	05 43 05.3	
	comp=Z,37nm,18.5s,baz=281,slow=34						
PAHR	**Pah Rah Range**	**76.73**	**319**	P	**P**	**05 11 22.9**	**+0.6**
PAHR				IAmb	IAmb	05 11 24.1	
	comp=Z,5.5nm,1.2s						
MFID	**Camas Ranch**	**76.92**	**324**	P	**P**	**05 11 24.3**	**+1.1**
MFID				IAmb	IAmb	05 11 28.4	
	comp=Z,11nm,1.2s						
ESDC	**Sonseca Array**	**79.91**	**43**	P	**P**	**05 11 41.2**	**+1.4**
	comp=Z,3.2nm,0.9s,baz=204,slow=5.5,SNR=18						
	comp=Z,3.2nm,0.9s						
PINE	**Pine Mountain**	**80.08**	**322**	P	**P**	**05 11 40.7**	**-0.1**
PINE				IAmb	IAmb	05 11 49.7	
	comp=Z,6.4nm,1.1s						
C09A	**Chrisman Ranch**	**81.02**	**326**	P	**P**	**05 11 45.2**	**-0.2**
BOSA	**Boshof**	**81.33**	**117**	LR	LR	05 44 06.4	
	comp=Z,35nm,18.6s,baz=338,slow=33						
VNDA	**Vanda**	**81.47**	**189**	P	**P**	**05 11 48.5**	**+0.9**
	baz=146,slow=3.6						
EDM	**Edmonton**	**82.19**	**333**	P	**P**	**05 11 50.3**	**-1.3**
DY2G	**Dye2**	**84.83**	**7**	*i P*	**P**	**05 12 04.2**	**-0.9**
DY2G				IAmb	IAmb	05 12 05.9	
	comp=Z,11nm,0.8s						
MAW	**Mawson**	**86.77**	**162**	LR	LR	05 50 55.9	
	comp=Z,15nm,19.9s,baz=204,slow=36						
ICESG	**Greenland Ices**	**88.17**	**9**	*i P*	**P**	**05 12 20.1**	**-1.5**
ICESG				IAmb	IAmb	05 12 23.1	
	comp=Z,9.3nm,1.0s						
YKA	**Yellowknife Ar**	**89.03**	**339**	P	**P**	**05 12 24.5**	**-0.7**
	comp=Z,4.0nm,0.7s,baz=124,slow=3.9,SNR=6.2						
	comp=Z,4.0nm,0.7s						
SUMG	**Summit**	**91.53**	**8**	*i P*	**P**	**05 12 38.0**	**+0.7**
SUMG				IAmb	IAmb	05 12 39.6	
	comp=Z,5.2nm,0.9s						
DAVOX	**Davos/Dischmat**	**92.16**	**41**	LR	LR	05 50 57.0	
	comp=Z,25nm,18.6s,baz=263,slow=33						
SCO	**Scoresbysund**	**92.56**	**13**	*i P*	**P**	**05 12 40.3**	**-1.2**
SCO				IAmb	IAmb	05 12 44.8	
	comp=Z,57nm,1.4s						
SEY	**Seymchan**	**128.09**	**340**	PKP	**PKiKP**	**05 18 37.2**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=166,slow=1.8,SNR=4.8						
BVAR	**Borovoye Array**	**130.03**	**34**	PKP	**PKPdf**	**05 18 41.1**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=325,slow=2.3,SNR=3.6						
ASAR	**Alice Springs**	**135.40**	**204**	PKP	**PKPdf**	**05 18 51.2**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=132,slow=1.5,SNR=6.8						
KURBB	**Kurchatov Arra**	**135.60**	**33**	PKP	**PKPdf**	**05 18 50.9**	**0.0**
	comp=Z,0.5nm,0.3s,baz=296,slow=2.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**136.47**	**26**	PKP	**PKPdf**	**05 18 53.2**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=306,slow=3.5,SNR=6.5						
WRA	**Warramunga Arr**	**138.54**	**207**	PKP	**PKPdf**	**05 18 57.1**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=154,slow=1.5,SNR=7.9						
KLR	**Kul'dur**	**145.85**	**341**	PKPbc	**PKPdf**	**05 19 09.6**	**+0.1**
	comp=Z,7.5nm,1.1s,baz=1.2,slow=4.4,SNR=10.0						
HIA	**Hailar**	**148.19**	**355**	PKPbc	**PKPbc**	**05 19 16.1**	**-0.6**
SONM	**Songino

GNL	**Ganaly**	**2.85 313**	PN	**Pn**	**05 16 41.0**	**+1.0**
GNL			S	**Sn**	**05 17 13.0**	**-0.2**
GNL	**Ganaly**	**2.85 313**	*e*P	**Pn**	**05 16 41.0**	**+1.0**
GNL			*e*S	**Sn**	**05 17 15.2**	**+2.0**
APC	**Apacha**	**2.85 295**	PN	**Pn**	**05 16 40.3**	**+0.4**
APC			S	**Sn**	**05 17 13.0**	**-0.1**
APC	**Apacha**	**2.85 295**	*e*P	**Pn**	**05 16 40.3**	**+0.4**
APC			*e*S	**Sn**	**05 17 14.7**	**+1.6**
PAU	**Pauzhetka**	**2.89 265**	*e*S	**Sn**	**05 17 14.5**	**+0.4**
KZV	**Kizimen**	**3.39 349**	PN	**Pn**	**05 16 47.6**	**0.0**
KZV			S	**Sn**	**05 17 25.5**	**-1.3**
KZV	**Kizimen**	**3.39 349**	*e*P	**Pn**	**05 16 47.6**	**0.0**
KZV			*e*S	**Sn**	**05 17 25.9**	**-0.9**
TUMD	**Tumrok D**	**3.47 350**	*e*P	**Pn**	**05 16 48.0**	**-0.5**
TUMD			*e*S	**Sn**	**05 17 26.7**	**-1.8**
SKR	**Severo-Kuril's**	**3.52 254**	*e*PN	**Pb**	**05 16 58.4**	**+0.3**
SKR			*e*S	**Sn**	**05 17 26.1**	**-3.4**
SKR			pmax	pmax		
	comp=Z,134nm,0.3s					
SKR			smax	smax		
	comp=N,540nm,0.3s					
SKR			smax	smax		
	comp=E,434nm,0.5s					
SKR			MLR	MLR		
	comp=Z,300nm,15.0s					
SKR	**Severo-Kuril's**	**3.52 254**	*e*S	**Sn**	**05 17 35.7**	**+6.2**
TUMR	**Tumrok**	**3.58 348**	PN	**Pn**	**05 16 50.3**	**+0.2**
TUMR	**Tumrok**	**3.58 348**	*e*P	**Pn**	**05 16 50.5**	**+0.4**
TUMR			*e*S	**Sn**	**05 17 31.2**	**-0.1**
KMNR	**Kamenistaya**	**4.03 350**	PN	**Pn**	**05 16 57.2**	**+0.9**
KMNR	**Kamenistaya**	**4.03 350**	*e*P	**Pn**	**05 16 57.3**	**+1.1**
KMNR			*e*S	**Sn**	**05 17 43.2**	**+0.8**
BZP	**Bezymyannyi-Pe**	**4.16 353**	*e*P	**Pn**	**05 16 58.8**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**4.18 354**	*e*P	**Pn**	**05 16 58.7**	**+0.4**
BZGR			*e*S	**Sn**	**05 17 46.2**	**+0.2**
BZMR	**Bezymyannaya**	**4.19 353**	*e*P	**Pn**	**05 16 60.0**	**+1.5**
BZWR	**Bezymyannyi-We**	**4.21 353**	PN	**Pn**	**05 16 59.3**	**+0.4**
BZWR	**Bezymyannyi-We**	**4.21 353**	*e*P	**Pn**	**05 16 59.6**	**+0.7**
KIRR	**Kirishev**	**4.22 352**	*e*P	**Pn**	**05 17 00.1**	**+1.2**
KPT	**Kopyto**	**4.24 351**	PN	**Pn**	**05 17 00.4**	**+1.3**
KPT	**Kopyto**	**4.24 351**	*e*P	**Pn**	**05 16 59.9**	**+0.8**
ZLN	**Zelenaya**	**4.25 355**	*e*P	**Pn**	**05 16 60.0**	**+0.7**
CIRR	**Tsirk**	**4.35 355**	PN	**Pn**	**05 17 02.5**	**+1.8**
KOZ	**Kozyrevsk**	**4.37 349**	PN	**Pn**	**05 17 01.4**	**+0.6**
ESO	**Esso**	**4.44 340**	PN	**Pn**	**05 17 02.5**	**+0.7**
ESO	**Esso**	**4.44 340**	*e*P	**Pn**	**05 17 02.5**	**+0.7**
KRSR	**Krestovskiy**	**4.46 354**	*e*P	**Pn**	**05 17 02.5**	**+0.3**
KRSR			*e*S	**Sn**	**05 17 53.4**	**+0.4**
SRDR	**Sredinnyy**	**4.64 348**	PN	**Pn**	**05 17 04.9**	**+0.3**
SRDR	**Sredinnyy**	**4.64 348**	*e*P	**Pn**	**05 17 05.4**	**+0.8**
BDR	**Baidarnaya**	**4.79 359**	*e*P	**Pn**	**05 17 07.6**	**+1.0**
SMKR	**Semkarok**	**4.80 0**	PN	**Pn**	**05 17 07.1**	**+0.3**
SMKR	**Semkarok**	**4.80 0**	*e*P	**Pn**	**05 17 07.3**	**+0.5**
SRKR	**Sorokina**	**4.87 358**	*e*S	**Sn**	**05 18 04.3**	**+1.2**
SHEM	**Shemya Is, Ala**	**7.84 78**	Pn	**Pn**	**05 17 47.5**	**-0.9**
	comp=Z,37nm,0.5s,baz=121,slow=2.8,SNR=5.7					
SHEM			Sn	**Sn**	**05 19 10.8**	**-5.0**
	comp=Z,8.6nm,0.3s,baz=224,slow=15,SNR=5.7					
MA2	**Magadan**	**9.84 327**	LR	LR	05 22 41.7	
	comp=Z,47nm,18.1s,baz=114,slow=44					
ILAR	**Eielson Array**	**29.18 44**	P	**P**	**05 21 54.3**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=248,slow=7.2,SNR=5.8					
	comp=Z,0.3nm,0.7s					
KURK	**Kurchatov**	**49.12 303**	P	**P**	**05 24 41.7**	**+0.8**
KURBB	**Kurchatov Arra**	**49.22 303**	P	**P**	**05 24 41.7**	**0.0**
	comp=Z,0.8nm,0.2s,baz=52,slow=8.2,SNR=4.1					
	comp=Z,0.8nm,0.2s					
MKAR	**Makanchi Array**	**49.46 297**	P	**P**	**05 24 43.2**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=59,slow=7.3,SNR=6.5					
	comp=Z,0.7nm,0.6s					
BVAR	**Borovoye Array**	**51.84 310**	P	**P**	**05 25 01.5**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=53,slow=8.2,SNR=7.9					
	comp=Z,1.6nm,0.5s					
ARCES	**ARCESS Array B**	**54.78 343**	P	**P**	**05 25 21.9**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=28,slow=8.2,SNR=1.6					
	comp=Z,0.9nm,0.8s					
NVAR	**Mina Array Bea**	**55.42 70**	P	**P**	**05 25 29.7**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=306,slow=8.0,SNR=5.4					
	comp=Z,0.5nm,0.6s					
PDAR	**Pinedale Array**	**57.45 61**	P	**P**	**05 25 43.8**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=319,slow=3.6,SNR=5.7					
	comp=Z,0.7nm,0.7s					
FINES	**FINESS Array B**	**61.64 337**	P	**P**	**05 26 10.8**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=38,slow=7.0,SNR=5.5					
	comp=Z,0.7nm,0.4s					
AKASG	**Malin Array Be**	**70.15 330**	P	**P**	**05 27 05.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=27,slow=7.3,SNR=1.7					
	comp=Z,0.3nm,0.3s					
TXAR	**Lajitas Array**	**70.39 67**	P	**P**	**05 27 08.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=296,slow=4.8,SNR=10.0					
	comp=Z,0.4nm,0.5s					
WRA	**Warramunga Arr**	**75.26 206**	P	P	05 27 46.0	+10
	comp=Z,0.7nm,0.9s,baz=23,slow=6.3,SNR=4.0					
	comp=Z,0.7nm,0.9s					
MLR	**Muntele Rosu**	**75.78 329**	LR	LR	06 03 19.0	
	comp=Z,22nm,18.5s,baz=280,slow=38					
ASAR	**Alice Springs**	**78.92 206**	P	P	05 28 06.8	+10
	comp=Z,0.3nm,0.4s,baz=8.2,slow=6.2,SNR=4.1					
	comp=Z,0.3nm,0.4s					

*IDC **06** 05:38:33.2±1.6, 5°.71S×147°.58E, h203km±17km, mb3.3/6, mbtmp3.8/8, Error ellipse: s-maj=37.9km s-min=11.7km az=114.0*

ISC 06 05:38:30.1±0.9, **5°.47S**±0°.09×**147°.5E**±0°.2, **h170**km, **n19**, σ2°.**07/23**, **mb3.6/6**, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.93 185**		P	**Pn**	**05 39 32.2**	**+2.2**
PMG	**Port Moresby**	**3.93 185**		P	**Pn**	**05 39 32.3**	**+2.2**
PMG	**Port Moresby**	**3.93 185**		P	**Pn**	**05 39 32.0**	**+2.0**
	60nm,0.2s,baz=19,slow=9.4,SNR=40						
PMG				S	**Sn**	**05 40 15.8**	**-1.1**
	42nm,0.6s,baz=344,slow=6.7,SNR=4.1						
COEN	**Coen**	**9.45 206**		P	**Pn**	**05 40 45.8**	**+3.1**
KDU	**Kakadu**	**16.47 243**		P	**P**	**05 42 11.7**	**+0.3**
QIS	**Mount Isa**	**16.85 206**		P	**Pn**	**05 42 17.8**	**+1.6**
WRAB	**Tennant Creek**	**19.25 220**		P	**P**	**05 42 42.4**	**+0.8**
WRA	**Warramunga Arr**	**19.26 220**		P	**P**	**05 42 42.4**	**+0.6**
	1.4nm,0.5s,baz=48,slow=11,SNR=23						
WRA				S	**S**	**05 46 06.2**	**-4.8**
	1.8nm,1.0s,baz=44,slow=20,SNR=8.8						
WRA				PcP	**PcP**	**05 46 57.9**	**+0.4**
	0.2nm,0.5s,baz=21,slow=1.5,SNR=1.8						
KNRA	**Kununurra**	**21.01 240**		P	**P**	**05 43 01.8**	**+1.3**
ASAR	**Alice Springs**	**22.34 215**		P	**P**	**05 43 14.8**	**+0.6**
	0.9nm,0.5s,baz=46,slow=8.1,SNR=17						
ASAR				S	**S**	**05 47 02.4**	**-4.8**
	0.4nm,0.8s,baz=26,slow=20,SNR=1.6						
	0.9nm,0.5s						
OOD	**Oodnadatta**	**24.88 206**		P	**P**	**05 43 38.1**	**+0.8**
WRKA	**Warakurna**	**26.79 221**		P	**P**	**05 43 54.8**	**+0.2**
MULG	**Mulgathing**	**27.74 206**		P	**P**	**05 44 03.4**	**+0.5**
SONM	**Songino Array**	**64.19 331**		P	**P**	**05 48 48.3**	**+1.6**
	0.3nm,0.3s,baz=152,slow=6.4,SNR=2.6						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**77.41 320**		P	**P**	**05 50 06.2**	**-0.3**
	0.2nm,0.4s,baz=93,slow=7.5,SNR=4.0						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**78.83 328**		P	**P**	**05 50 13.5**	**-0.6**
	0.6nm,0.4s,baz=125,slow=7.2,SNR=1.8						
	0.6nm,0.4s						
QSPA	**South Pole Qui**	**84.50 180**		P	**P**	**05 50 42.0**	**-1.8**
	1.0nm,0.7s,baz=224,slow=1.2,SNR=3.8						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**84.80 23**		P	**P**	**05 50 43.7**	**-1.4**
	0.3nm,0.6s,baz=263,slow=4.7,SNR=6.1						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.44 285**		PKPbc	**PKPdf**	**05 57 48.1**	**-0.8**
	0.9nm,0.6s,baz=51,slow=4.3,SNR=8.4						

*NEIC **06** 05:56:28.8±1.1, 51°.6N±0°.2×178°.45E±0°.08, h75km±6km, mb4.3/30, ML4.0/6, ML3.7(AEIC), Error ellipse: s-maj=24.6km s-min=6.5km az=187.0*

*IDC **06** 05:56:29.4±2.6, 51°.96N×178°.50E, h75km±20km, mb3.6/9, mbtmp3.9/12, Error ellipse: s-maj=46.1km s-min=14.1km az=5.0*

*AEIC **06** 05:56:29.8±1.9, 51°.6N±0°.1×178°.44E±0°.08, h66km±6km, Error ellipse: s-maj=21.6km s-min=7.3km az=184.0*

ISC 06 05:56:28.7±0.7, **51°.7N**±0°.1×**178°.46E**±0°.04, **h75**km, **n74**, σ1°.**24/78**, **mb4.2/17**, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.28**	**14**		**Pn**	**05 56 40.5**	**+0.1**
LSPA	**Little Sitkin**	**0.30**	**14**		**Pn**	**05 56 40.5**	**0.0**
LSNW	**Little Sitkin**	**0.31**	**7**		**Pn**	**05 56 40.5**	**-0.1**
AMKA	**Amchitka**	**0.60**	**118**	Pn	**Pn**	**05 56 42.0**	**-0.8**
AMKA	**Amchitka**	**0.60**	**118**		**Sn**	**05 56 52.8**	**-0.6**
CETU	**Semis' Tuman**	**0.71**	**64**		**Pn**	**05 56 44.4**	**+0.3**
CESW	**Semis' Southwe**	**0.73**	**70**		**Pn**	**05 56 44.2**	**-0.1**
CEAP	**Semis' Anvil P**	**0.78**	**63**		**Pn**	**05 56 45.0**	**+0.2**
GASW	**Gareloi Southw**	**1.68**	**85**		**Pn**	**05 56 56.5**	**+0.4**
GASW					**Sn**	**05 57 17.4**	**+0.5**
GALAA	**Gareloi Lava P**	**1.73**	**86**		**Pn**	**05 56 57.4**	**+0.6**
GAEA	**Gareloi East**	**1.74**	**85**		**Pn**	**05 56 57.5**	**+0.5**
TANO	**Tanaga North**	**2.14**	**82**		**Pn**	**05 57 02.7**	**+0.4**
TAFP	**Tanaga Falls P**	**2.22**	**82**		**Pn**	**05 57 03.6**	**+0.1**
TAFP					**Sn**	**05 57 29.2**	**-0.8**
TAPA	**Tanaga Point A**	**2.32**	**85**		**Pn**	**05 57 05.1**	**+0.2**
TAPA					**Sn**	**05 57 32.7**	**+0.2**
KIMD	**Kanaga Island**	**2.68**	**86**		**Pn**	**05 57 09.9**	**+0.3**
KIWB	**Kanaga Island**	**2.74**	**84**	Pn	**Pn**	**05 57 10.4**	**+0.1**
SHEM	**Shemya Is, Ala**	**2.89**	**293**	P	**Pn**	**05 57 12.8**	**+0.4**
	64nm,0.3s,baz=110,slow=3.3,SNR=16						
SHEM				S	**Sn**	**05 57 45.4**	**-0.6**
	99nm,0.4s,baz=306,slow=19,SNR=16						
SMY	**Shemya**	**2.89**	**293**	Pn	**Pn**	**05 57 12.7**	**+0.3**
SMY	**Shemya**	**2.89**	**293**		**Sn**	**05 57 45.3**	**-0.7**
SMY	**Shemya**	**2.89**	**293**	IAML		05 57 48.9	
	comp=N,316nm,2.4s						
SMY				IAML		05 58 51.0	
	comp=E,317nm,4.1s						
ADK	**Adak**	**3.03**	**84**	Pn	**Pn**	**05 57 14.0**	**-0.3**
ADK				IAML		05 57 49.9	
	comp=E,443nm,0.4s						
GSCK	**Great Sitkin C**	**3.36**	**82**		**Pn**	**05 57 18.7**	**-0.1**
GSMY	**Great Sitkin M**	**3.42**	**81**		**Pn**	**05 57 19.8**	**+0.1**
GSTR	**Great Sitkin T**	**3.43**	**81**	Pn	**Pn**	**05 57 18.5**	**-1.3**
ATKA	**Atka Island**	**4.58**	**80**	Pn	**Pn**	**05 57 34.6**	**-0.7**
ATKA				IAML		05 58 29.1	
	comp=E,136nm,0.8s						
ATKA				IAML		05 58 31.8	
	comp=N,139nm,1.8s						
AKUT	**Akutan**	**9.85**	**69**	Pn	**Pn**	**05 58 49.6**	**+2.4**
PETK	**Petropavlovsk-**	**12.76**	**285**	P	**Pn**	**05 59 27.2**	**+0.2**
	comp=N,2.9nm,0.8s,baz=87,slow=16,SNR=2.2						
PETK				S	**Sn**	**06 01 42.2**	**-4.7**
	comp=N,1.7nm,0.8s,baz=318,slow=52,SNR=1.6						
SDPT	**Sand Point**	**13.06**	**65**	Pn	**Pn**	**05 59 29.1**	**-1.8**
N18K	**Kilae Creek**	**16.79**	**48**	P	**P**	**06 00 20.6**	**+0.8**
N18K				IAmb	IAmb	06 00 48.9	
	comp=Z,22nm,1.4s						
O18K	**Koktuh Hills**	**16.84**	**51**	P	**P**	**06 00 20.9**	**+0.5**
O18K				IAmb	IAmb	06 01 05.0	
	comp=Z,42nm,1.4s						
SVW2	**Sparrevohn**	**17.09**	**46**	P	**Pn**	**06 00 22.0**	**-0.4**
SVW2				IAmb	IAmb	06 01 06.1	
	comp=Z,18nm,1.4s						
N19K	**Bonanza Creek**	**17.49**	**48**	P	**P**	**06 00 28.4**	**+0.8**
KDAK	**Kodiak Island**	**17.72**	**58**	P	**P**	**06 00 26.7**	**-3.3**
KDAK				IAmb	IAmb	06 00 58.1	
	comp=Z,36nm,1.2s						
KDAK	**Kodiak Island**	**17.72**	**58**	P	**P**	**06 00 27.3**	**-2.7**
	comp=Z,3.7nm,0.4s,baz=284,slow=1.2,SNR=26						
P19K	**Oil Pt**	**17.75**	**52**	P	**Pn**	**06 00 31.4**	**+0.9**
L19K	**White Mountain**	**17.83**	**43**	P	**Pn**	**06 00 32.2**	**+0.7**
L19K				IAmb	IAmb	06 00 36.5	
	comp=Z,24nm,1.5s						
M20K	**Styx River**	**18.47**	**45**	P	**Pn**	**06 00 39.4**	**+0.1**
M20K				IAmb	IAmb	06 00 45.2	
	comp=Z,17nm,1.2s						
K20K	**Telida**	**18.66**	**41**	P	**P**	**06 00 40.6**	**+0.4**
CNPM	**China Poot**	**18.71**	**53**	P	**P**	**06 00 40.2**	**-0.7**
J20K	**Nowinta River**	**19.00**	**38**	P	**Pn**	**06 00 45.4**	**-0.1**
SKT	**Skwentna**	**19.21**	**46**	P	**Pn**	**06 00 47.6**	**-0.4**
SKT				IAmb	IAmb	06 01 25.1	
	comp=Z,19nm,1.4s						
SUA	**Susitna One**	**19.41**	**48**	P	**P**	**06 00 48.8**	**+0.1**
SUA				IAmb	IAmb	06 01 03.1	
	comp=Z,29nm,1.3s						
CAST	**Castle Rocks**	**19.50**	**42**	P	**P**	**06 00 50.3**	**+0.9**
O22K	**Cooper Landing**	**19.65**	**51**	P	**P**	**06 00 50.5**	**-0.6**
IMAR	**Indian Mountai**	**20.06**	**34**	P	**P**	**06 00 56.0**	**+0.4**
H21K	**Melozitna Rive**	**20.23**	**35**	P	**P**	**06 00 57.1**	**-0.2**
H21K				IAmb	IAmb	06 01 01.4	
	comp=Z,17nm,1.5s						
TRF	**Thorofare Moun**	**20.25**	**42**	P	**P**	**06 00 58.0**	**+0.2**
TRF				IAmb	IAmb	06 01 27.1	
	comp=Z,33nm,1.4s						
NEA2	**Nenana**	**21.18**	**40**	P	**P**	**06 01 07.6**	**+0.1**
DHY	**Denali Highway**	**21.38**	**45**	P	**P**	**06 01 10.2**	**+0.3**
DHY				IAmb	IAmb	06 01 12.5	
	comp=Z,9.2nm,0.5s						
ILAR	**Eielson Array**	**22.12**	**40**	P	**P**	**06 01 15.8**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=246,slow=8.5,SNR=17						
	comp=Z,1.0nm,0.6s						
TOLK	**Toolik Lake Re**	**22.85**	**30**	P	**P**	**06 01 25.2**	**-0.2**
TOLK				IAmb	IAmb	06 01 27.8	
	comp=Z,7.9nm,0.8s						
J26L	**Joseph Creek**	**23.40**	**42**	P	**P**	**06 01 29.0**	**-1.7**
DAWY	**Dawson**	**25.09**	**44**	P	**P**	**06 01 45.8**	**-0.1**
DAWY				IAmb	IAmb	06 02 06.5	
	comp=Z,11nm,1.2s						
EDM	**Edmonton**	**40.16**	**60**	P	**P**	**06 03 56.0**	**-1.1**
YBH	**Yreka Blue Hor**	**40.53**	**80**	P	**P**	**06 04 01.1**	**+0.8**
YBH				IAmb	IAmb	06 04 02.9	
	comp=Z,3.4nm,0.9s						
XLT	**XiLinHaoTe**	**41.47**	**285**	*e*P	**P**	**06 04 10.7**	**+2.7**
XLT				pP	sP	06 04 30.4	-4.4
XLT				sP	pP	06 04 37.4	+11
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,47nm,4.4s						
PNTR	**Pine Nut**	**44.01**	**81**	P	**P**	**06 04 29.4**	**+0.7**
SONM	**Songino Array**	**44.98**	**295**	P	**P**	**06 04 36.8**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=46,slow=8.3,SNR=2.6						
	comp=Z,0.3nm,0.4s						
NVAR	**Mina Array Bea**	**45.21**	**81**	P	**P**	**06 04 38.2**	**-0.1**
NVAR	**Mina Array Bea**	**45.21**	**81**	P	**P**	**06 04 38.7**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=297,slow=7.3,SNR=21						
	comp=Z,2.4nm,0.7s						
R11B	**Troy Canyon, C**	**46.93**	**79**	P	**P**	**06 04 51.5**	**-0.3**
TPNV	**Topopah Spring**	**47.41**	**81**	P	**P**	**06 04 55.8**	**+0.2**
ARCES	**ARCESS Array B**	**57.51**	**349**	P	**P**	**06 06 08.4**	**-1.1**
	comp=Z,1.9nm,1.0s,baz=21,slow=7.8,SNR=2.4						
	comp=Z,1.9nm,1.0s						
KURBB	**Kurchatov Arra**	**57.68**	**312**	P	**P**	**06 06 10.2**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=42,slow=6.7,SNR=11						
	comp=Z,0.7nm,0.5s						
WMQ	**Urumqi**	**57.74**	**301**	*e*P	**P**	**06 06 15.2**	**+3.6**
MKAR	**Makanchi Array**	**58.50**	**307**	P	**P**	**06 06 15.7**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=46,slow=4.3,SNR=1.6						
	comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**59.55**	**318**	P	**P**	**06 06 23.0**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=46,slow=9.0,SNR=5.4						
	comp=Z,0.6nm,0.4s						
TX31	**Lajitas Ar. Si**	**60.29**	**79**	P	**P**	**06 06 28.9**	**-0.6**
TX32	**Lajitas Array**	**60.29**	**79**	P	**P**	**06 06 29.1**	**-0.3**
TX32				IAmb	IAmb	06 06 29.8	
	comp=Z,1.9nm,0.9s						
TXAR	**Lajitas Array**	**60.30**	**79**	P	**P**	**06 06 28.8**	**-0.7**
TXAR	**Lajitas Array**	**60.30**	**79**	P	**P**	**06 06 29.2**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=296,slow=5.1,SNR=15						
	comp=Z,1.0nm,0.8s						
SCHQ	**Schefferville**	**60.83**	**37**	P	**P**	**06 06 31.9**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=315,slow=5.9,SNR=10						
	comp=Z,2.2nm,0.4s						
PZH	**PanZhiHua**	**61.61**	**278**	P	**P**	**06 06 38.9**	**+0.4**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
KSH	**Kashi**	**66.94**	**305**	P	**P**	**06 07 17.5**	**+4.3**
KSH				pmax	pmax		
	comp=Z,2.0nm,1.0s						

MEX 06 05:59:57.9±0.4, **15°.78N**×**93°.06W**, **h29**km±13km, **MD3.4**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.17**	**244**	*i* P	Pb	06 00 02.3	-1.4
PCIG				*i* S	Sb	06 00 06.2	-1.5
TGIG		**0.99**	**356**	*e*S	Sn	06 00 25.5	-3.5
CCIG	**Comitan**	**1.01**	**61**	*i* P	Pn	06 00 14.2	-2.2
CCIG				*i* S	Sn	06 00 26.4	-3.4
PAVE	**Pavencul**	**1.03 124**		*e*S	Sn	06 00 29.4	-0.9
PATR	**El Naranjo**	**1.03 130**		*e*S	Sn	06 00 28.9	-1.4
CHUJ	**Union Juarez**	**1.14 127**		*e*S	Sn	06 00 31.7	-1.3

*TAP **06** 06:05:04.9, 24°.68N×122°.56E, h17km, ML3.2, C*
*JMA **06** 06:05:05.7±0.1, 25°.N±1°.×122°.5E±0°.5, h17km±2km, MV2.7/12, NW OFF ISHIGAKIJIMA IS*

ISC 06 06:05:05.1±1.1, **24°.70N**±0°.04×**122°.56E**±0°.02, **h18**km±8km, **n46**, σ0°.**38/58**, **1C**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.41 227⇑**		*i* P	**Pb**	**06 05 13.6**	**-0.1**
	baz=228						
EOS2				S	**Sb**	**06 05 20.1**	**+0.5**
	baz=228						
JYNG	**Yonagunijimaku**	**0.43 125**		*e*P	**Pb**	**06 05 14.2**	**0.0**
JYNG				S	**Sb**	**06 05 20.2**	**-0.2**
EOS3	**EOS3**	**0.47 208**		*i* P	**Pb**	**06 05 14.6**	**-0.1**
	baz=209						
YOJ	**Yonaguni jima**	**0.47 120**		P	**Pb**	**06 05 14.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.47 120**		P	**Pb**	**06 05 15.0**	**-0.1**
YOJ				S	**Sg**	**06 05 21.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.47 120**		*i* P	**Pb**	**06 05 15.0**	**-0.1**
	baz=117						
YOJ				S	**Sb**	**06 05 21.6**	**0.0**
	baz=117						
TWB1	**Santiao Chiao**	**0.60 301**		*e*P	**Pg**	**06 05 17.2**	**+0.1**
	baz=302						
TWB1				*e*S	**Sg**	**06 05 25.2**	**0.0**
	baz=302						
EOS4	**EOS4**	**0.61 201**		P	**Pb**	**06 05 17.3**	**+0.2**
	baz=201						
TWC	**Suao**	**0.65 262**		*e*P	**Pg**	**06 05 17.1**	**-0.9**
	baz=263						
SXI1	**Grass Mountain**	**0.73 303**		P	**Pb**	**06 05 19.7**	**+0.2**
	baz=303						
EWUT	**Wuta**	**0.75 251**		*e*P	**Pg**	**06 05 19.9**	**0.0**
	baz=251						
EWUT				*e*S	**Sg**	**06 05 30.4**	**+0.5**
	baz=251						
NDS	**Dongshan**	**0.77 265**		P	**Pg**	**06 05 20.3**	**+0.1**
	baz=266						
NDS				*e*S	**Sn**	**06 05 31.4**	**-0.9**
	baz=266						
ENA	**Nanau**	**0.79 250**		*e*P	**Pb**	**06 05 20.3**	**-0.1**
	baz=251						
NWF	**Wu-fen Shan**	**0.80 298**		P	**Pb**	**06 05 20.8**	**+0.3**
	baz=299						
WFSB	**Wu-fen Shan**	**0.80 298**		*e*P	**Pb**	**06 05 20.8**	**+0.3**
	baz=299						
FUSB	**Fushanzhiwuyua**	**0.89 274**		P	**Pb**	**06 05 22.1**	**+0.1**
	baz=275						
ENTT	**Nioudou**	**0.90 267**		P	**Pb**	**06 05 22.5**	**+0.2**
	baz=267						
LATG	**Datong**	**0.95 260**		P	**Pb**	**06 05 23.2**	**0.0**
	baz=261						
LATG				*e*S	**Sn**	**06 05 36.6**	**-0.3**
	baz=261						
NDT	**Datong Townshi**	**0.96 264**		P	**Pg**	**06 05 23.5**	**-0.2**
	baz=265						
NWLT	**Wulai**	**0.96 275**		P	**Pb**	**06 05 23.5**	**+0.1**
	baz=275						
YM01	**YM01**	**1.00 297**		*e*P	**Pb**	**06 05 23.8**	**-0.2**
	baz=297						
TATO	**Taipei**	**1.01 286**		P	**Pb**	**06 05 24.5**	**+0.4**
NACB	**Ninganchiao**	**1.02 239**		P	**Pb**	**06 05 24.0**	**-0.3**
NACB	**Ninganchiao**	**1.02 239**		P	**Pb**	**06 05 24.1**	**-0.3**
	baz=240						
TWD	**Chiawan**	**1.07 235**		*e*P	**Pg**	**06 05 26.8**	**+0.9**
	baz=235						
YHNB	**Yeheng**	**1.08 269**		P	**Pb**	**06 05 25.4**	**+0.1**
YHNB	**Yeheng**	**1.08 269**		P	**Pn**	**06 05 25.5**	**+0.1**
	baz=269						
YHNB				*e*S	**Sg**	**06 05 40.1**	**-0.1**
	baz=269						
NNSB	**Datong**	**1.10 256**		P	**Pb**	**06 05 25.5**	**-0.3**
	baz=256						
NNSB				*e*S	**Sb**	**06 05 40.0**	**+0.1**
	baz=256						
NNS	**Nan Shan**	**1.11 257**		*e*P	**

σ1ꝑ97/27, 13C-1D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.33**	**282**	⇑*e*P	**Pb**	**07 01 48.3**	**0.0**
	baz=87						
NRN				⇑*e*S	**Sb**	**07 02 06.4**	**+0.5**
	baz=87						
PRZ	**Przheval'sk**	**1.42**	**21**	⇑*e*P	**Pg**	**07 01 51.3**	**+1.9**
	baz=19						
PRZ				⇑*e*S	**Sn**	**07 02 10.6**	**+1.6**
	baz=19						
ULHL	**Ulahol**	**1.55**	**315**	⇑*i*P	**Pb**	**07 01 52.1**	**+0.1**
	baz=18						
ULHL				⇑*i*S	**Sn**	**07 02 12.7**	**+0.4**
	baz=18						
ANVS	**Anan'yevo**	**1.62**	**359**	⇑*i*P	**Pb**	**07 01 53.7**	**+0.5**
	baz=59						
ANVS				⇑*i*S	**Sn**	**07 02 15.8**	**+1.7**
	baz=59						
BOOM	**Boomskoye usch**	**1.88**	**315**	⇑*i*P	**Pn**	**07 01 56.6**	**+0.7**
	baz=18						
BOOM				⇑*i*S	**Sn**	**07 02 20.7**	**+0.3**
	baz=18						
TNSS	**Tian-Shan**	**1.96**	**343**	P	Pn	07 01 52.2	-5.1
	2.9nm,0.2s						
TNSS				S	Sn	07 02 12.8	-10
	1.3nm,0.2s						
TNSS	**Tian-Shan**	**1.96**	**343**	*e*P	Pn	07 01 52.2	-5.1
	2.9nm,0.2s						
TNSS				*e*S	Sn	07 02 12.8	-10
	1.3nm,0.2s						
KST	**Kastek**	**2.29**	**326**	P	**Pn**	**07 01 59.1**	**-2.4**
	2.6nm,0.2s						
KST				S	**Sn**	**07 02 24.9**	**-5.6**
	6.2nm,0.5s						
KST	**Kastek**	**2.29**	**326**	*e*Pg	**Pn**	**07 01 59.1**	**-2.4**
	2.6nm,0.2s						
KST				*e*Lg	Lg	07 02 24.9	
	6.2nm,0.5s						
TKM2	**Tokmak 2**	**2.37**	**319**	⇓Pn	**Pn**	**07 02 04.4**	**+1.8**
	1.2nm,0.3s						
TKM2				⇑Sn	**Sn**	**07 02 33.7**	**+1.2**
	3.8nm,0.8s						
KPKS	**Kokpek**	**2.41**	**17**	P	Pn	07 01 57.4	-5.7
	1.9nm,0.1s						
KPKS				S	Sn	07 02 21.0	-12
	1.8nm,0.2s						
KPKS	**Kokpek**	**2.41**	**17**	*e*P	Pn	07 01 57.0	-6.1
	1.9nm,0.1s						
KPKS				*e*S	Sn	07 02 20.9	-13
	3.5nm,0.2s						
ARLS	**Aral**	**2.65**	**286**	⇑*e*P	**Pn**	**07 02 06.4**	**0.0**
	baz=89						
ARLS				⇑*e*S	**Sn**	**07 02 37.0**	**-2.3**
	baz=89						
KTBS	**Karatobe**	**2.66**	**344**	Pg	**Pn**	**07 02 04.2**	**-2.3**
	2.5nm,0.3s						
KTBS				Lg	Lg	07 02 33.7	
	8.6nm,0.8s						
KTBS	**Karatobe**	**2.66**	**344**	*e*Pg	**Pn**	**07 02 04.2**	**-2.3**
	2.5nm,0.3s						
KTBS				*e*Lg	Lg	07 02 33.7	
	8.6nm,0.8s						
KUU	**Kurty**	**2.92**	**340**	Pg	**Pn**	**07 02 08.5**	**-1.5**
	1.8nm,0.2s						
KUU				Lg	Lg	07 02 41.1	
	6.0nm,0.5s						
KUU	**Kurty**	**2.92**	**340**	*e*Pg	**Pn**	**07 02 08.5**	**-1.5**
	1.8nm,0.2s						
KUU				*e*Lg	Lg	07 02 41.1	
	6.0nm,0.5s						
KRBS	**Karabastau**	**2.95**	**330**	Pg	**Pn**	**07 02 10.6**	**+0.1**
	1.8nm,0.3s						
KRBS				Lg	Lg	07 02 44.8	
	3.2nm,0.3s						
KRBS	**Karabastau**	**2.95**	**330**	*e*Pg	**Pn**	**07 02 10.6**	**+0.1**
	1.8nm,0.3s						
KRBS				*e*Lg	Lg	07 02 44.8	
	3.2nm,0.3s						
KTMS	**Ketmen**	**3.00**	**40**	Pg	**Pn**	**07 02 09.7**	**-1.6**
	0.9nm,0.2s						
KTMS				Lg	Lg	07 02 42.9	
	2.0nm,0.2s						
KTMS	**Ketmen**	**3.00**	**40**	*e*Pg	**Pn**	**07 02 09.7**	**-1.6**
	0.9nm,0.2s						
KTMS				*e*Lg	Lg	07 02 42.9	
	2.0nm,0.2s						
ARXS	**Arharly**	**3.05**	**1**	Pg	**Pn**	**07 02 09.7**	**-2.2**
	3.8nm,0.3s						
ARXS				Lg	Lg	07 02 42.9	
	2.3nm,0.3s						
ARXS	**Arharly**	**3.05**	**1**	*e*Pg	**Pn**	**07 02 09.7**	**-2.2**
	3.8nm,0.3s						
ARXS				*e*Lg	Lg	07 02 42.9	
	2.3nm,0.3s						

*IDC **06** 07:05:50.1±0.7, 13°.90N×146°.54E, h0km, mb4.3/20, mbtmp4.3/20, MS3.8/21, Error ellipse: s-maj=17.8km s-min=14.3km az=101.0*
*NEIC **06** 07:05:52±2.0, 13°.82N±0°.10×146°.60E±0°.09, h10km±1km, mb4.7/33, Error ellipse: s-maj=16.9km s-min=14.4km az=173.0*
ISC 06 07:05:51.1±0.5, 13°.82N±0°.07×146°.60E±0°.06, h10km, n86, σ1ꝑ37/78, mb4.6/43, MS3.8/27, 3C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.70**	**262**	Pn	**Pn**	**07 06 21.1**	**+0.3**
	296nm,0.3s,baz=98,slow=5.0,SNR=141						
GUMO				Sn	**Sg**	**07 06 43.9**	**-1.7**
	188nm,0.3s,baz=232,slow=20,SNR=8.0						
GUMO				LR	LR	07 07 16.7	
	comp=Z,2μm,20.2s,baz=159,slow=52						
PATS	**Pohnpei**	**13.45**	**120**	Pn	**Pn**	**07 08 59.3**	**-2.8**
JCJ	**Chichijima**	**13.84**	**343**	Pn	**Pn**	**07 09 06.1**	**-1.3**
MANU	**Manus Island**	**15.78**	**177**	Pn	**Pn**	**07 09 32.4**	**-1.2**
KRVT	**Keravat (AS076**	**18.80**	**163**	LR	LR	07 17 13.3	
	comp=Z,248nm,20.3s,baz=86,slow=36						
JHJ	**Hachijo jima 2**	**20.19**	**343**	LR	LR	07 17 42.6	
	comp=Z,380nm,18.4s,baz=284,slow=36						
SIJI	**Sorong**	**21.07**	**227**	P	**P**	**07 10 37.4**	**+1.7**
	12nm,0.7s,baz=39,slow=10,SNR=12						
	12nm,0.7s						
JOW	**Kunigami**	**21.48**	**310**	P	**P**	**07 10 40.6**	**+0.6**
	14nm,0.3s,baz=136,slow=9.6,SNR=3.9						
JOW				LR	LR	07 18 49.3	
	comp=Z,310nm,19.4s,baz=128,slow=36						
	14nm,0.3s						
DAV	**Davao City (W)**	**21.72**	**254**	LR	LR	07 19 50.4	
	comp=Z,134nm,19.2s,baz=158,slow=39						
FAKI	**Fak Fak**	**21.89**	**222**	P	**P**	**07 10 45.2**	**+0.8**
FAKI				IAmb	IAmb	07 11 05.7	
	comp=Z,50nm,1.2s						
TNTI	**Ternate**	**23.03**	**237**	P	**P**	**07 10 57.4**	**+0.8**
TNTI				IAmb	IAmb	07 11 32.1	
	comp=Z,18nm,0.7s						
MJAR	**Matsushiro Arr**	**23.84**	**343**	P	**P**	**07 11 02.6**	**-1.9**
	comp=Z,1.0nm,0.4s,baz=172,slow=7.8,SNR=4.3						
MJAR				LR	LR	07 19 38.4	
	comp=Z,289nm,18.3s,baz=155,slow=35						
	comp=Z,1.0nm,0.4s						
JNU	**Nakatsue**	**23.96**	**326**	P	**P**	**07 11 06.1**	**+0.3**
TGY	**Tagaytay City**	**24.90**	**274**	LR	LR	07 21 02.7	
	comp=Z,127nm,19.0s,baz=32,slow=37						
HNR	**Honiara**	**26.63**	**149**	LR	LR	07 23 00.5	
	comp=Z,2μm,18.1s,baz=334,slow=38						
LUWI	**Luwuk**	**27.85**	**240**	P	**P**	**07 11 40.3**	**-0.7**
KSRS	**Korea Array**	**28.82**	**328**	P	**P**	**07 11 49.4**	**-0.1**
	comp=Z,7.8nm,0.9s,baz=143,slow=10,SNR=19						
KSRS				LR	LR	07 23 39.1	
	comp=Z,171nm,18.0s,baz=135,slow=37						
	comp=Z,7.8nm,0.9s						
KSAR	**Wonju Array Be**	**28.84**	**328**	P	**P**	**07 11 49.0**	**-0.6**
ASAJ	**Asahikawa**	**30.39**	**354**	LR	LR	07 26 50.9	
	comp=Z,88nm,18.8s,baz=179,slow=42						
NJ2	**Nanjing**	**31.19**	**310**	*e*P	**P**	**07 12 12.4**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**32.75**	**340**	LR	LR	07 25 01.9	
	comp=Z,183nm,18.5s,baz=160,slow=35						
CTA	**Charters Tower**	**33.70**	**181**	LR	LR	07 27 05.3	
	comp=Z,74nm,18.1s,baz=54,slow=38						
QIZ	**Qiongzhong**	**35.59**	**283**	P	**P**	**07 12 46.5**	**-2.6**
QIZ				S	**S**	**07 18 27.2**	**+1.9**
QIZ				LR	LR		
	comp=N,160nm,19.3s						
QIZ				LR	LR		
	comp=E,320nm,18.5s						
QIZ				LR	LR		
	comp=Z,360nm,18.5s						
WB2	**Warramunga Arr**	**35.65**	**200**	P	**P**	**07 12 49.4**	**-0.1**
WB2				IAmb	IAmb	07 13 03.2	
	comp=Z,10.0nm,1.1s						
WRA	**Warramunga Arr**	**35.65**	**200**	P	**P**	**07 12 50.1**	**+0.5**
WRA	**Warramunga Arr**	**35.65**	**200**	P	**P**	**07 12 49.0**	**-0.6**
	comp=Z,5.7nm,1.1s,baz=22,slow=9.3,SNR=8.1						
WRA				PcP	**PcP**	**07 15 18.7**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=15,slow=2.9,SNR=4.1						
	comp=Z,5.7nm,1.1s						
SBUM	**Sibu**	**35.80**	**255**	P	**P**	**07 12 50.8**	**-0.1**
HNS	**HongShan**	**36.83**	**315**	⇑P	**P**	**07 13 00.0**	**+0.6**
HNS				S	**S**	**07 18 43.4**	**-0.5**
HNS				pmax	pmax		
	comp=Z,18nm,1.2s						
HNS				LR	LR		
	comp=N,120nm,17.5s						
HNS				LR	LR		
	comp=E,250nm,17.4s						
HNS				LR	LR		
	comp=Z,260nm,18.2s						
LYN	**LuoYang**	**37.09**	**310**	⇓P	**P**	**07 13 00.5**	**-1.2**
LYN				sP	sP	07 13 07.5	+4.3
LYN				pmax	pmax		
	comp=Z,16nm,0.6s						
LYN				pmax	pmax		
	comp=Z,200nm,4.1s						
BJI	**Beijing**	**37.33**	**320**	P	**P**	**07 13 04.0**	**+0.4**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,44nm,3.6s						
BJI				LR	LR		
	comp=N,150nm,17.9s						
BJI				LR	LR		
	comp=E,71nm,15.4s						
BJI				LR	LR		
	comp=Z,140nm,14.4s						
KLR	**Kul'dur**	**37.37**	**344**	LR	LR	07 27 46.3	
	comp=Z,161nm,18.1s,baz=192,slow=35						
ASAR	**Alice Springs**	**39.27**	**199**	P	**P**	**07 13 20.0**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=24,slow=7.6,SNR=7.1						
ASAR				LR	LR	07 31 25.8	
	comp=Z,109nm,18.2s,baz=48,slow=39						
	comp=Z,1.0nm,0.9s						
XAN	**Xi'an**	**39.58**	**307**	*e*P	**P**	**07 13 23.8**	**+1.0**
XAN				S	**S**	**07 19 20.8**	**-5.0**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
XAN				LR	LR		
	comp=N,190nm,15.8s						
XAN				LR	LR		
	comp=E,280nm,20.2s						
XAN				LR	LR		
	comp=Z,440nm,17.9s						
XLT	**XiLinHaoTe**	**39.74**	**325**	*e*P	**P**	**07 13 24.4**	**+0.4**
XLT				pP	sP	07 13 29.2	+3.7
XLT				sP	pwP	07 13 32.3	-1.5
XLT				pmax	pmax		
	comp=Z,12nm,0.7s						
XLT				pmax	pmax		
	comp=Z,64nm,3.9s						
DZM	**Mont Dzumac**	**40.63**	**151**	LR	LR	07 30 33.1	
	comp=Z,161nm,18.2s,baz=14,slow=36						
BTO	**Baotou**	**41.60**	**317**	*e*P	**P**	**07 13 42.5**	**+3.1**
BTO				pP	**pwP**	**07 13 47.1**	**-2.1**
BTO				sP	sP	07 13 49.5	+8.6
BTO				S	**S**	**07 19 59.4**	**+3.6**
BTO				pmax	pmax		
	comp=Z,26nm,0.9s						
BTO				pmax	pmax		
	comp=Z,150nm,4.9s						
BTO				LR	LR		
	comp=N,350nm,15.7s						
BTO				LR	LR		
	comp=E,300nm,15.0s						
BTO				LR	LR		
	comp=Z,370nm,14.9s						
PZH	**PanZhiHua**	**43.74**	**294**	P	**P**	**07 13 59.2**	**+2.1**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
SHEM	**Shemya Is, Ala**	**44.57**	**24**	LR	LR	07 35 11.9	
	comp=Z,54nm,18.1s,baz=280,slow=40						
STKA	**Stephens Creek**	**45.69**	**186**	P	**P**	**07 14 14.3**	**+2.1**
	comp=Z,1.6nm,0.7s,baz=349,slow=14,SNR=3.4						
	comp=Z,1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**45.91**	**282**	P	**P**	**07 14 14.3**	**0.0**
	comp=Z,4.5nm,1.0s,baz=84,slow=5.9,SNR=11						
CMAR				LR	LR	07 33 16.9	
	comp=Z,92nm,19.8s,baz=90,slow=36						
	comp=Z,4.5nm,1.0s						
SONM	**Songino Array**	**47.52**	**324**	P	**P**	**07 14 26.9**	**+0.2**
SONM				IAmb	IAmb	07 14 31.5	
	comp=Z,6.0nm,1.0s						
SONM	**Songino Array**	**47.52**	**324**	P	**P**	**07 14 26.8**	**+0.1**
	comp=Z,5.9nm,1.0s,baz=135,slow=7.2,SNR=6.0						
SONM				LR	LR	07 35 01.0	
	comp=Z,133nm,18.8s,baz=118,slow=37						
	comp=Z,5.9nm,1.0s						
AFI	**Afiamalu**	**49.58**	**122**	LR	LR	07 33 17.7	
	comp=Z,142nm,18.8s,baz=70,slow=33						
WMQ	**Urumqi**	**58.20**	**313**	*e*P	**P**	**07 15 47.1**	**+1.5**
WMQ				pP	pwP	07 15 52.5	-2.8
WMQ				sP	sP	07 15 55.4	+8.2
WMQ				pmax	pmax		
	comp=Z,15nm,1.1s						
WMQ				LR	LR		
	comp=Z,140nm,15.7s						
TIXI	**Tiksi**	**58.79**	**354**	P	**P**	**07 15 49.1**	**0.0**
URZ	**Urewera**	**59.17**	**152**	LR	LR	07 39 50.2	
	comp=Z,46nm,18.3s,baz=31,slow=34						
RPZ	**Rata Peaks**	**61.46**	**160**	LR	LR	07 41 42.8	
	comp=Z,53nm,19.6s,baz=336,slow=35						
ZALV	**Zalesovo Beam**	**62.42**	**324**	P	**P**	**07 16 14.2**	**0.0**
ZALV	**Zalesovo Beam**	**62.42**	**324**	P	**P**	**07 16 13.7**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=104,slow=4.7,SNR=7.0						
	comp=Z,1.7nm,0.6s						
MK31	**Makanchi Array**	**62.49**	**316**	P	**P**	**07 16 15.2**	**+0.3**
MK31				IAmb	IAmb	07 16 16.6	
	comp=Z,4.7nm,1.1s						
MKAR	**Makanchi Array**	**62.49**	**316**	P	**P**	**07 16 14.8**	**-0.1**
MKAR	**Makanchi Array**	**62.49**	**316**	P	**P**	**07 16 14.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=91,slow=8.4,SNR=16						
MKAR				LR	LR	07 45 24.7	
	comp=Z,58nm,19.1s,baz=110,slow=38						
	comp=Z,0.9nm,0.3s						
RAR	**Rarotonga**	**63.12**	**123**	LR	LR	07 42 57.8	
	comp=Z,123nm,18.0s,baz=283,slow=35						
KURK	**Kurchatov**	**65.49**	**320**	P	**P**	**07 16 34.4**	**-0.1**
KURBB	**Kurchatov Arra**	**65.54**	**320**	P	**P**	**07 16 34.7**	**-0.1**
	comp=Z,14nm,1.0s,baz=99,slow=6.5,SNR=43						
	comp=Z,14nm,1.0s						
NRIK	**Noril'sk**	**66.47**	**341**	P	**P**	**07 16 39.6**	**-0.8**
NRIK				IAmb	IAmb	07 16 54.0	
	comp=Z,6.4nm,1.0s						
NRIK	**Noril'sk**	**66.47**	**341**	P	**P**	**07 16 40.1**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=107,slow=9.8,SNR=4.4						
	comp=Z,2.5nm,0.5s						
ILAR	**Eielson Array**	**67.64**	**25**	P	**P**	**07 16 47.9**	**-0.1**
	comp=Z,3.6nm,1.1s,baz=255,slow=5.9,SNR=12						
	comp=Z,3.6nm,1.1s						
KKAR	**Karatay Array**	**70.57**	**311**	P	**P**	**07 17 06.5**	**-0.1**
BVAR	**Borovoye Array**	**70.79**	**322**	P	**P**	**07 17 08.0**	**+0.3**
	comp=Z,6.4nm,0.8s,baz=92,slow=7.4,SNR=27						
	comp=Z,6.4nm,0.8s						
BRVK	**Borovoye**	**70.86**	**322**	P	**P**	**07 17 08.3**	**+0.2**
ABKAR	**Akbulak array**	**77.50**	**318**	P	**P**	**07 17 46.8**	**-0.1**
ARU	**Arti**	**77.53**	**325**	P	**P**	**07 17 47.0**	**0.0**
	comp=Z,1.6nm,0.3s,baz=151,slow=5.8,SNR=4.7						
	comp=Z,1.6nm,0.3s						
E03A	**Lebam**	**80.00**	**44**	P	**P**	**07 18 02.0**	**+1.2**
YBH	**Yreka Blue Hor**	**81.45**	**49**	P	**P**	**07 18 10.9**	**+2.0**
I05D	**Terrebonne, OR**	**81.94**	**46**	P	**P**	**07 18 11.2**	**-0.1**
I05D				IAmb	IAmb	07 18 22.6	
	comp=Z,8.9nm,1.1s						
AFDM	**Forest Hills D**	**83.31**	**52**	P	**P**	**07 18 20.9**	**+2.4**
AFDM				IAmb	IAmb	07 18 25.2	
	comp=Z,8.6nm,1.2s						
CMB	**Columbia Colle**	**83.96**	**52**	P	**P**	**07 18 23.2**	**+1.3**
CMB				IAmb	IAmb	07 18 27.9	
	comp=Z,7.1nm,1.1s						
BMO	**Blue Mountains**	**84.64**	**45**	P	**P**	**07 18 26.4**	**+1.1**
NVAR	**Mina Array Bea**	**85.46**	**52**	P	**P**	**07 18 30.8**	**+1.1**
NVAR	**Mina Array Bea**	**85.46**	**52**	P	**P**	**07 18 31.5**	**+1.8**
	comp=Z,2.8nm,0.9s,baz=263,slow=5.1,SNR=14						
	comp=Z,2.8nm,0.9s						
MFID	**Camas Ranch**	**86.03**	**46**	P	**P**	**07 18 33.1**	**+0.8**
MFID				IAmb	IAmb	07 18 49.2	
	comp=Z,3.6nm,0.8s						
HLID	**Hailey**	**86.98**	**46**	P	**P**	**07 18 37.1**	**+0.1**
HLID				IAmb	IAmb	07 18 43.0	
	comp=Z,4.4nm,1.2s						
ELK	**Elko**	**87.16**	**49**	P	**P**	**07 18 39.5**	**+1.4**
ELK				IAmb	IAmb	07 18 44.6	
	comp=Z,7.8nm,1.1s						
QSM	**Queen of Sheba**	**87.19**	**54**	P	**P**	**07 18 40.1**	**+2.1**
QSM				IAmb	IAmb	07 18 44.5	
	comp=Z,9.8nm,1.4s						
ARCES	**ARCESS Array B**	**87.38**	**342**	P	**P**	**07 18 38.9**	**+0.7**
	comp=Z,2.7nm,1.0s,baz=58,slow=9.2,SNR=5.1						
	comp=Z,2.7nm,1.0s						
R11B	**Troy Canyon, C**	**87.55**	**51**	P	**P**	**07 18 41.3**	**+1.4**
BOZ	**Bozeman (W)**	**88.29**	**43**	P	**P**	**07 18 43.0**	**-0.3**
SPR3	**Spring Creek 3**	**88.31**	**50**	P	**P**	**07 18 44.4**	**+0.7**
SPR3				IAmb	IAmb	07 18 51.1	
	comp=Z,6.9nm,1.1s						
DUG	**Dugway, Tooele**	**89.09**	**49**	P	**P**	**07 18 48.1**	**+1.0**
DUG				IAmb	IAmb	07 18 53.0	
	comp=Z,6.5nm,1.2s						
FXWY	**Fox Creek**	**89.31**	**45**	P	**P**	**07 18 49.8**	**+1.6**
FXWY				IAmb	IAmb	07 18 55.1	
	comp=Z,5.1nm,1.2s						
PDAR	**Pinedale Array**	**90.61**	**46**	P	**P**	**07 18 54.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=304,slow=1.6,SNR=1.9						
	comp=Z,0.1nm,0.3s						
FINES	**FINESS Array B**	**91.66**	**336**	P	**P**	**07 18 57.8**	**-0.6**
	comp=Z,3.2nm,1.0s,baz=64,slow=4.4,SNR=4.7						
	comp=Z,3.2nm,1.0s						
KIC	**Kosan Boka**	**145.19**	**303**	⇑*i*PKP1	**PKPdf**	**07 25 31.3**	**+1.2**
	comp=Z,39nm,1.1s						
TIC	**Toumodi**	**145.26**	**304**	⇑*e*PKP1	**PKPdf**	**07 25 30.7**	**+0.5**
	comp=Z,36nm,1.1s						
LPAZ	**La Paz**	**146.40**	**99**	PKPbc	**PKPab**	**07 25 35.5**	**+0.5**
	comp=Z,3.3nm,1.1s,baz=11,slow=1.2,SNR=7.7						

IDC 06 07:28:53.3±4.1, 16°.81S×179°.60W, h548km±18km, mb3.0/3, mbtmp3.9/4, Error ellipse: s-maj=122.8km s-min=76.7km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.43**	**247**	P	P	07 30 05.0	0.0
	60nm,0.7s,baz=57,slow=2.8,SNR=30						
STKA	**Stephens Creek**	**38.18**	**240**	P	P	07 35 26.0	-0.4
	0.6nm,0.3s,baz=74,slow=9.8,SNR=3.7						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**43.72**	**259**	P	P	07 36 10.2	-0.4
	0.2nm,0.3s,baz=92,slow=7.9,SNR=11						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**44.01**	**253**	P	P	07 36 12.9	+0.2
	3.6nm,0.5s,baz=88,slow=8.1,SNR=76						
ASAR				PcP	PcP	07 37 45.7	-0.6
	0.2nm,0.4s,baz=107,slow=4.0,SNR=1.8						
	3.6nm,0.5s						

*IDC **06** 07:32:19.6±1.8, 17°.92S×178°.46W, h576km±20km, mb3.0/11, mbtmp3.9/12, Error ellipse: s-maj=26.4km s-min=14.4km az=141.0*
ISC 06 07:32:19.6±0.7, 17°.95±0°.2×178°.5W±0°.2, h579km, n15, σ0ꝑ53/17, mb3.5/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.32**	**273**	P	**P**	**07 33 39.0**	**-0.1**
	12nm,0.7s,baz=107,slow=24,SNR=5.4						
STKA	**Stephens Creek**	**38.57**	**241**	P	**P**	**07 38 54.5**	**+0.5**
	0.5nm,0.4s,baz=64,slow=7.4,SNR=5.1						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**44.57**	**260**	P	**P**	**07 39 41.1**	**-0.3**
	0.4nm,0.7s,baz=97,slow=7.0,SNR=8.9						
WRA				PcP	**PcP**	**07 41 12.0**	**+0.3**
	0.4nm,0.6s,baz=92,slow=3.9,SNR=2.6						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**44.73**	**254**	P	**P**	**07 39 42.6**	**0.0**
	2.2nm,0.7s,baz=87,slow=8.6,SNR=31						
ASAR				PcP	**PcP**	**07 41 12.6**	**+0.3**
	0.5nm,0.6s,baz=108,slow=3.7,SNR=6.5						
	2.2nm,0.7s						
QSPA	**South Pole Qui**	**72.14**	**180**	P	**P**	**07 42 46.5**	**+0.3**
	2.0nm,0.8s,baz=360,slow=0.7,SNR=12						
	2.0nm,0.8s						
YBH	**Yreka Blue Hor**	**78.57**	**39**	P	**P**	**07 43 22.7**	**+0.6**
	1.1nm,0.8s,baz=196,slow=2.1,SNR=3.2						
	1.1nm,0.8s						
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**07 43 27.6**	**+0.4**
	0.7nm,0.7s,baz=220,slow=8.3,SNR=6.8						
	0.7nm,0.7s						
ELK	**Elko**	**82.70**	**43**	P	**P**	**07 43 44.1**	**+0.4**
	0.7nm,0.6s,baz=253,slow=6.5,SNR=4.4						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**85.90**	**13**	P	**P**	**07 43 57.5**	**-0.9**
	0.4nm,0.4s,baz=221,slow=5.1,SNR=12						
	0.4nm,0.4s						
TXAR	**Lajitas Array**	**86.05**	**58**	P	**P**	**07 44 00.7**	**+0.5**
	1.0nm,0.8s,baz=218,slow=5.6,SNR=13						
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**87.40**	**43**	P	**P**	**07 44 06.1**	**-0.3**
	0.5nm,0.6s,baz=210,slow=2.6,SNR=6.5						
	0.5nm,0.6s						
SNAA	**Sanae**	**90.60**	**179**	P	**P**	**07 44 19.5**	**-1.1**
	0.9nm,0.9s,baz=187,slow=16,SNR=6.5						
	0.9nm,0.9s						
ARCES	**ARCESS Array B**	**126.31**	**350**	PKP	**PKPdf**	**07 50 16.3**	**-0.2**
	1.1nm,0.8s,baz=59,slow=2.4,SNR=1.9						
BRTR	**Keskin Array B**	**144.74**	**315**	PKP	**PKPdf**	**07 50 52.0**	**+0.5**
	1.2nm,0.7s,baz=158,slow=3.6,SNR=4.4						
MMAI	**Mount Meron Ar**	**146.09**	**303**	PKPbc	**PKPbc**	**07 50 55.9**	**-0.2**
	1.2nm,0.5s,baz=122,slow=5.4,SNR=1.8						

VIE 06 07:50:20.8±0.1, 47°.53N×14°.95E, h0km, mb0.8/1, ml1.1/3, Error ellipse: s-maj=1.4km s-min=0.9km az=41.0 3 km
ENE of Erzberg Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.48**	**125**	*i* Pg	Pg	07 50 29.9	-0.2
	0.4nm,0.1s						
ARSA				*i* Sg	Sg	07 50 36.7	+

IDC ***06*** *07:59:30.1±0.4, 37°.34N×144°.07E, h0km, mb5.7/32, mbtmp5.7/39, ML4.5/6, MS5.8/85, Error ellipse: s-maj=11.1km s-min=11.0km az=149.0*

NEIC ***06*** *07:59:32.9±1.8, 37°.50N±0°.05×144°.02E±0°.05, h9km±1km, mb6.3/176, Ms_20 5.9/580, Mww6.2/34, Error ellipse: s-maj=8.9km s-min=5.5km az=211.0*

NIED ***06*** *07:59:32.9, 37°.44N×143°.95E, h57km, MW6.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^18Nm; Mrr=1.16; Mθθ=0.05; Mφφ=1.21; Mrθ=0.34; Mφθ=0.86; Mφr=0.34; Fault plane solution: M0=1.53000×10^18 NP1: φs=183.00000°, δ=54.00000°, λ=-124.00000°. NP2: φs=51.00000°, δ=48.00000°, λ=-53.00000°.*

JMA ***06*** *07:59:32.9±0.2, 37°.4N±0°.7×14°.4E±°, h57km, MD6.3/38, MW6.2/38, FAR E OFF NORTH HONSHU*

JMA Felt II J1 at FAR E OFF NORTH HONSHU .

NEIC ***06*** *07:59:32.9, 37°.46N×144°.33E, h18km, Moment Tensor Solution. Duration: 58 Moment tensor: Scale 10^18Nm; Mrr=1.98; Mθθ=0.16; Mφφ=1.82; Mrθ=0.05; Mφθ=0.98; Mφr=0.83; Fault plane solution: M0=2.29000×10^18 NP1: φs=217.05000°, δ=36.69000°, λ=-70.94000°. NP2: φs=13.74000°, δ=55.61000°, λ=-103.68000°. Principal axes: T 2.3991, Plg10.0000°, Azm114.0000°; N -0.2190, Plg11.0000°, Azm22.0000°; P -2.1801, Plg75.0000°, Azm243.0000°;*

NEIC ***06*** *07:59:32.9, 37°.46N×143°.95E, h18km*

BJI ***06*** *07:59:33.7±0.0, 37°.63N×143°.63E, h6km, mb5.9/88, mB6.4/82, Ms6.5/98, Ms7 6.3/95*

MOS ***06*** *07:59:34.2±1.0, 37°.71N×143°.92E, h23km, mb6.5/82, MS6.3/50, Error ellipse: s-maj=5.6km s-min=3.2km az=115.3*

GCMT ***06*** *07:59:35.9±0.1, 37°.48N×144°.00E, h14km, MW6.2/160, Moment Tensor Solution. s150, c328; s160, c594; Duration: 3s1 Moment tensor: Scale 10^18Nm; Mrr=1.84±.02; Mθθ=-0.18±.01; Mφφ=2.01±.01; Mrθ=0.24±.03; Mφθ=1.43±.01; Mφr=0.88±.03; Best double couple: M0=2.46100×10^18 NP1:φs=199.00000°, δ=56.00000°, λ=-100.00000°. NP2:φs=36.00000°, δ=35.00000°, λ=-76.00000°. Principal axes: T 2.8870, Plg11.0000°, Azm296.0000°; N -0.8600, Plg8.0000°, Azm204.0000°; P -2.0340, Plg77.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BGR ***06*** *07:59:40.4, 38°.10N×144°.29E, h46km, mb6.4, mB_BB6.7, Ms6.4*

ISC 06 07:59:33.1±0.3, 37°.46N±0°.02×144°.01E±0°.02, h13km±1km, h13km:pP-P, n2756, σ1°70/2902, mb6.3/391, MS5.9/451, 80C-182D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.18**	**294**	*i* P		**Pn**		**08 00 07.4**	**-1.7**
JIKH				*e*S		**Sn**		**08 00 32.5**	**-3.6**
JIKH	**Ishinomakikobu**	**2.18**	**294**	A		A		08 00 07.4	
comp=E,205nm,7.3s,comp=N,203nm,9.4s									
JIO	**Ouri**	**2.32**	**296**	*i* P		**Pn**		**08 00 09.5**	**-1.6**
JIO				*e*S		**Sn**		**08 00 36.0**	**-3.5**
JIO	**Ouri**	**2.32**	**296**	A		A		08 00 09.5	
comp=E,286nm,5.5s,comp=N,229nm,4.5s									
JKMT	**Kesennumamotoy**	**2.41**	**305**	*i* P		**Pn**		**08 00 10.6**	**-1.7**
JKMT				S		**Sn**		**08 00 38.8**	**-2.8**
JKMT	**Kesennumamotoy**	**2.41**	**305**	A		A		08 00 10.6	
comp=E,204nm,5.7s,comp=N,238nm,5.1s									
OFUJ	**Ofunato**	**2.45**	**312**	*i* P		**Pn**		**08 00 11.1**	**-1.7**
OFUJ				S		**Sn**		**08 00 39.6**	**-3.0**
OFUJ	**Ofunato**	**2.45**	**312**	A		A		08 00 11.1	
comp=E,179nm,5.3s,comp=N,172nm,4.9s									
JMST	**Minamisoumatoc**	**2.49**	**277**	*i* P		**Pn**		**08 00 11.1**	**-2.3**
JMST				S		**Sn**		**08 00 40.1**	**-3.6**
JMST	**Minamisoumatoc**	**2.49**	**277**	A		A		08 00 11.1	
comp=E,186nm,7.5s,comp=N,249nm,8.2s									
JFK	**Kawauchi**	**2.50**	**269**	P		**Pn**		**08 00 11.3**	**-2.2**
JFK				S		**Sn**		**08 00 40.5**	**-3.3**
JFK	**Kawauchi**	**2.50**	**269**	A		A		08 00 11.3	
comp=E,266nm,6.4s,comp=N,206nm,2.1s									
JMM	**Marumori**	**2.58**	**280**	P		**Pn**		**08 00 12.6**	**-2.1**
JMM	**Marumori**	**2.58**	**280**	P		**Pn**		**08 00 14.1**	**-0.6**
JMM	**Marumori**	**2.58**	**280**	A		A		08 00 12.7	
comp=E,231nm,7.3s,comp=N,237nm,7.7s									
JMM	**Marumori**	**2.58**	**280**	P		**Pn**		**08 00 12.5**	**-2.1**
JMM	**Marumori**	**2.58**	**280**	⇑P		**Pn**		**08 00 12.6**	**-2.1**
ONAJ	**Iwakimizuishiy**	**2.58**	**263**	A		A		08 00 12.6	
comp=E,222nm,4.9s,comp=N,247nm,8.1s									
JMK	**Ichinoseki**	**2.65**	**305**	*i* P		**Pn**		**08 00 14.1**	**-1.5**
JMK				S		**Sn**		**08 00 45.0**	**-2.6**
JMK	**Ichinoseki**	**2.65**	**305**	A		A		08 00 14.1	
comp=E,184nm,4.9s,comp=N,192nm,6.1s									
JOFO	**Osakifurukawao**	**2.69**	**296**	A		A		08 00 14.5	
comp=E,1μm,3.5s,comp=N,969nm,4.2s									
MIYJ	**Miyakonagasawa**	**2.72**	**322**	A		A		08 00 15.1	
comp=E,143nm,5.7s,comp=N,171nm,4.2s									
JFFD	**Fukushimafurud**	**2.77**	**263**	A		A		08 00 15.3	
comp=E,163nm,5.5s,comp=N,230nm,5.2s									
JOU	**Okura**	**2.79**	**290**	A		A		08 00 15.8	
comp=E,221nm,8.5s,comp=N,272nm,1.8s									
JOU	**Okura**	**2.79**	**290**	P		**Pn**		**08 00 16.5**	**-1.1**
JOTO	**OTAMA OYAMA**	**2.92**	**273**	*i* P		**Pn**		**08 00 18.1**	**-1.2**
JOTO				S		**Sn**		**08 00 52.0**	**-2.4**
JOTO	**OTAMA OYAMA**	**2.92**	**273**	A		A		08 00 18.1	
comp=E,468nm,1.7s,comp=N,590nm,1.2s									
JOM	**Ohasama**	**2.93**	**314**	*i* P		**Pn**		**08 00 18.2**	**-1.2**
JOM				S		**Sn**		**08 00 51.1**	**-3.4**
JOM	**Ohasama**	**2.93**	**314**	A		A		08 00 18.2	
comp=E,217nm,4.9s,comp=N,230nm,3.5s									
JHYU	**Hitachinakayam**	**2.96**	**249**	A		A		08 00 17.9	
comp=E,231nm,6.2s,comp=N,157nm,8.1s									
JYAR	**Yonezawaarcadi**	**3.10**	**279**	A		A		08 00 20.0	
comp=E,292nm,7.7s,comp=N,414nm,1.4s									
JIHU	**Itakohorinouch**	**3.17**	**243**	A		A		08 00 20.8	
comp=E,638nm,5.4s,comp=N,730nm,3.9s									
JYS	**Shirataka**	**3.21**	**285**	A		A		08 00 21.7	
comp=E,224nm,2.5s,comp=N,185nm,1.8s									
JYK	**Kaneyama**	**3.22**	**298**	*i* P		**Pn**		**08 00 22.4**	**-1.0**
JYK				S		**Sn**		**08 01 00.8**	**-0.8**
JYK	**Kaneyama**	**3.22**	**298**	A		A		08 00 22.4	
comp=E,199nm,6.4s,comp=N,174nm,7.3s									
JKEN	**Kujiedanarisaw**	**3.27**	**327**	A		A		08 00 23.0	
comp=E,172nm,2.4s,comp=N,187nm,2.0s									
JKZ	**Kuzumaki**	**3.27**	**321**	A		A		08 00 23.0	
comp=E,145nm,4.7s,comp=N,186nm,5.9s									
JRG	**Rokugo**	**3.28**	**307**	A		A		08 00 22.9	
comp=E,180nm,4.1s,comp=N,232nm,7.1s									
JRG	**Rokugo**	**3.28**	**307**	P		**Pn**		**08 00 23.1**	**-1.1**
JSB	**Shiboa**	**3.30**	**263**	A		A		08 00 22.7	
comp=E,423nm,5.9s,comp=N,419nm,5.2s									
JSZI	**Iwateshizukuis**	**3.30**	**314**	A		A		08 00 23.2	
comp=E,377nm,5.2s,comp=N,368nm,2.5s									
JSMT	**Sammumatsuo**	**3.39**	**239**	A		A		08 00 23.9	
comp=E,591nm,5.8s,comp=N,513nm,6.8s									
JFY	**Yanaizu**	**3.42**	**270**	P		**Pn**		**08 00 25.1**	**-1.2**
JANG	**Nango**	**3.50**	**327**	P		**Pn**		**08 00 25.1**	**-2.1**
JANG				*e*S		**Sn**		**08 01 05.6**	**-2.9**
JYYZ	**Yamagatayuza**	**3.56**	**297**	A		A		08 00 26.7	
comp=E,566nm,6.0s,comp=N,694nm,6.1s									
JYA	**Atsumi**	**3.57**	**290**	A		A		08 00 26.8	
comp=E,149nm,5.1s,comp=N,167nm,5.1s									
JYA	**Atsumi**	**3.57**	**290**	P		**Pn**		**08 00 27.4**	**-0.9**
JYW	**Yuwa**	**3.63**	**306**	A		A		08 00 27.8	
comp=E,385nm,2.2s,comp=N,401nm,5.1s									
I30JP	**ISUMI INFRASON**	**3.67**	**235**	Pn		**Pn**		**08 00 31.2**	**+1.5**
baz=59,slow=19									
JCN	**Nagara**	**3.69**	**237**	A		A		08 00 28.0	
comp=E,934nm,6.2s,comp=N,673nm,6.6s									
BSO1	**Boso 1**	**3.73**	**222**	P		**Pn**		**08 00 28.0**	**-1.9**
JNS	**Sasagawa**	**3.74**	**277**	P		**Pn**		**08 00 29.6**	**-1.0**
JNS	**Sasagawa**	**3.74**	**277**	A		A		08 00 29.6	
comp=E,157nm,5.8s,comp=N,186nm,7.3s									
JAH	**Hinai**	**3.79**	**317**	A		A		08 00 30.1	
comp=E,134nm,6.2s,comp=N,167nm,5.0s									
JAG	**Ashikaga**	**3.79**	**255**	P		**Pn**		**08 00 29.5**	**-1.8**
JKUC	**kamogawauchiur**	**3.84**	**234**	A		A		08 00 30.2	
comp=E,206nm,6.0s,comp=N,162nm,5.5s									
TOK	**Tokyo**	**3.85**	**244**	A		A		08 00 30.4	
comp=E,641nm,7.6s,comp=N,438nm,5.1s									
JKT	**Katashina**	**3.87**	**261**	A		A		08 00 30.7	
comp=E,101nm,4.2s,comp=N,167nm,8.3s									
BSO3	**Boso 3**	**3.88**	**228**	P		**Pn**		**08 00 30.6**	**-1.7**
JAW	**Awa shima**	**3.89**	**286**	A		A		08 00 31.2	
comp=E,282nm,6.9s,comp=N,162nm,6.0s									
JAW	**Awa shima**	**3.89**	**286**	P		**Pn**		**08 00 32.1**	**-0.6**
JTB	**Tobi-shima**	**3.90**	**298**	A		A		08 00 31.5	
comp=E,187nm,5.1s,comp=N,139nm,6.9s									
JUON	**Uonuma**	**3.95**	**268**	A		A		08 00 31.9	
comp=E,105nm,8.7s,comp=N,128nm,11.0s									
JUON	**Uonuma**	**3.95**	**268**	P		**Pn**		**08 00 32.5**	**-1.0**
JTM	**Tenmabayashi**	**4.03**	**326**	Pn		**Pn**		**08 00 32.9**	**-1.7**
JTM				Sn		**Sn**		**08 01 18.0**	**-3.6**
JTM	**Tenmabayashi**	**4.03**	**326**	P		**Pn**		**08 00 34.8**	**+0.3**
JTM	**Tenmabayashi**	**4.03**	**326**	A		A		08 00 33.7	
comp=E,164nm,4.7s,comp=N,118nm,7.0s									
JTM	**Tenmabayashi**	**4.03**	**326**	P		**Pn**		**08 00 33.1**	**-1.4**
JTM	**Tenmabayashi**	**4.03**	**326**	⇑P		**Pn**		**08 00 33.1**	**-1.4**
JARK	**Aomorirokkasho**	**4.09**	**331**	A		A		08 00 34.5	
comp=E,149nm,4.4s,comp=N,113nm,3.4s									
JNTW	**Noshirotokiwa**	**4.11**	**314**	A		A		08 00 34.5	
comp=E,487nm,4.8s,comp=N,466nm,4.8s									
TATJ	**Tateyama 2**	**4.12**	**235**	A		A		08 00 34.1	
comp=E,354nm,5.6s,comp=N,345nm,7.8s									
JYO	**Yokosk**	**4.16**	**239**	A		A		08 00 34.7	
comp=E,392nm,5.3s,comp=N,300nm,7.3s									
JIZZ	**Izumozaki**	**4.21**	**273**	A		A		08 00 35.6	
comp=E,449nm,5.2s,comp=N,431nm,4.5s									
JHHS	**Hirosakihyakuz**	**4.26**	**319**	A		A		08 00 36.8	
comp=E,387nm,4.2s,comp=N,369nm,4.6s									
JSGW	**Sagamiharawaka**	**4.29**	**246**	A		A		08 00 36.5	
comp=E,85nm,6.5s,comp=N,90nm,8.5s									
JAHD	**Aomorihigashid**	**4.32**	**332**	A		A		08 00 37.8	
comp=E,193nm,2.8s,comp=N,178nm,1.4s									
JRY	**Ryogami san**	**4.35**	**252**	*i* P		**Pn**		**08 00 37.1**	**-1.9**
JRY				*e*S		**Sn**		**08 01 25.1**	**-4.5**
JGK	**Kuni**	**4.39**	**260**	A		A		08 00 38.0	
comp=E,165nm,4.2s,comp=N,302nm,3.6s									
JIW	**Iwasaki**	**4.41**	**316**	A		A		08 00 38.9	
comp=E,168nm,5.5s,comp=N,118nm,8.6s									
JOT	**Ohata**	**4.53**	**331**	P		**Pn**		**08 00 40.5**	**-1.0**
JOT				S		**Sn**		**08 01 30.1**	**-4.0**
JOT	**Ohata**	**4.53**	**331**	A		A		08 00 40.5	
comp=E,82nm,5.2s,comp=N,75nm,9.0s									
JOD2	**Odawara 2**	**4.54**	**243**	P		**Pn**		**08 00 39.2**	**-2.3**
JOD2				*e*S		**Sn**		**08 01 28.4**	**-5.8**
JOD2	**Odawara 2**	**4.54**	**243**	A		A		08 00 39.2	
comp=E,118nm,5.6s,comp=N,144nm,5.3s									
JSI2	**Shiura 2**	**4.54**	**323**	A		A		08 00 40.9	
comp=E,122nm,6.1s,comp=N,106nm,5.3s									
JOG3	**Oga3**	**4.57**	**304**	A		A		08 00 34.4	
comp=E,179nm,7.0s,comp=N,230nm,5.7s									
JSD	**Sado**	**4.59**	**279**	Pn		**Pn**		**08 00 41.0**	**-1.2**
JSD				Sn		**Sn**		**08 01 38.0**	**+2.5**
JSD	**Sado**	**4.59**	**279**	P		**Pn**		**08 00 42.4**	**+0.1**
JSD	**Sado**	**4.59**	**279**	A		A		08 00 41.0	
comp=E,97nm,7.4s,comp=N,102nm,7.1s									
JSD	**Sado**	**4.59**	**279**	⇑P		**Pn**		**08 00 41.0**	**-1.2**
ERM	**Erimo**	**4.59**	**352**	Pn		**Pn**		**08 00 40.4**	**-1.9**
ERM	**Erimo**	**4.59**	**352**	P		**Pn**		**08 00 41.7**	**-0.6**
ERM	**Erimo**	**4.59**	**352**	*c i* P		**Pn**		**08 00 40.8**	**-1.5**
ERM				pmax		pmax			
comp=Z,8μm,1.0s									
ERM	**Erimo**	**4.59**	**352**	⇑P		**Pn**		**08 00 40.4**	**-1.9**
JEM	**Erimo**	**4.59**	**352**	P		**Pn**		**08 00 41.6**	**-0.7**
JEM	**Erimo**	**4.59**	**352**	A		A		08 00 41.9	
comp=E,69nm,6.9s,comp=N,45nm,7.0s									
JIM2	**Oshima 3**	**4.61**	**235**	A		A		08 00 41.0	
comp=E,151nm,6.3s,comp=N,145nm,5.5s									
MJAR	**Matsushiro Arr**	**4.73**	**261**	Pn		**Pn**		**08 00 42.8**	**-1.4**
comp=N,100nm,0.3s,baz=90,slow=15,SNR=484									
MJAR				Sn		**Sn**		**08 01 38.7**	**-0.3**
comp=N,57nm,0.3s,baz=60,slow=23,SNR=10									
comp=N,1μm,0.5s									
MAJO	**Matsushiro**	**4.73**	**261**	Pn		**Pn**		**08 00 43.5**	**-0.7**
MAJO				Sn		**Sn**		**08 01 37.4**	**-1.7**
MAJO	**Matsushiro**	**4.73**	**261**	P		**Pn**		**08 00 44.7**	**+0.4**
MAJO	**Matsushiro**	**4.73**	**261**	*c i* P		**Pn**		**08 00 44.7**	**+0.4**
MAJO	**Matsushiro**	**4.73**	**261**	⇑P		**Pn**		**08 00 43.9**	**-0.4**
MAT	**Matsushiro**	**4.73**	**261**	P		**Pn**		**08 00 43.8**	**-0.4**
MJB9	**Matsu-Tunnel**	**4.73**	**261**			**Pn**		**08 00 44.5**	**+0.2**
JHTM	**Izuhatsuma**	**4.75**	**240**	A		A		08 00 43.0	
comp=E,136nm,6.4s,comp=N,132nm,8.1s									
JYN	**Shimob**	**4.82**	**248**	A		A		08 00 44.0	
comp=E,97nm,7.5s,comp=N,106nm,8.0s									
JTHY	**Toshimahigashi**	**4.82**	**234**	A		A		08 00 44.0	
comp=E,146nm,5.5s,comp=N,181nm,6.7s									
JTHR	**Tokachihiroo**	**4.85**	**354**	A		A		08 00 45.5	
comp=E,69nm,4.6s,comp=N,58nm,7.5s									
JFNN	**Fujinakano**	**4.86**	**244**	A		A		08 00 44.5	
comp=E,204nm,5.7s,comp=N,163nm,5.2s									
JNBK	**Urakawa-nobuka**	**4.91**	**349**	A		A		08 00 46.2	
comp=E,130nm,1.9s,comp=N,125nm,3.5s									
JSR	**Shiriuchi**	**4.92**	**327**	A		A		08 00 46.1	
comp=E,96nm,6.5s,comp=N,110nm,5.3s									
JNIO	**Niijimaoohara**	**4.94**	**232**	A		A		08 00 45.6	
comp=E,127nm,4.5s,comp=N,125nm,5.2s									
JMYK	**Miyake Tsubota**	**4.97**	**228**	A		A		08 00 46.0	
comp=E,135nm,9.0s,comp=N,159nm,6.3s									
JIZS	**Izushimoda**	**4.97**	**238**	A		A		08 00 46.1	
comp=E,81nm,6.3s,comp=N,77nm,5.3s									
JNT	**Takato**	**4.98**	**253**	A		A		08 00 46.2	
comp=E,58nm,5.0s,comp=N,139nm,4.8s									
JKB	**Kayabe**	**4.98**	**333**	P		**Pn**		**08 00 46.7**	**-0.8**
JSKK	**Shikinejimakit**	**4.99**	**233**	A		A		08 00 46.3	
comp=E,94nm,6.3s,comp=N,95nm,8.6s									
JMKN	**Mikurajimanish**	**5.06**	**227**	A		A		08 00 47.3	
comp=E,151nm,7.7s,comp=N,92nm,8.1s									
JSHD	**Hidakashinhida**	**5.08**	**347**	A		A		08 00 48.6	
comp=E,178nm,1.9s,comp=N,135nm,2.5s									
JKO	**Kozu shima**	**5.13**	**232**	A		A		08 00 48.3	
comp=E,128nm,3.7s,comp=N,86nm,6.4s									
JCH	**Churui**	**5.17**	**355**	P		**Pn**		**08 00 48.4**	**-1.8**
JCH				S		**Sn**		**08 01 43.7**	**-6.0**
JCH	**Churui**	**5.17**	**355**	A		A		08 00 48.4	
comp=E,60nm,8.4s,comp=N,63nm,9.3s									
SHZ3	**Shizuoka 3**	**5.26**	**245**	A		A		08 00 50.1	
comp=E,67nm,8.0s,comp=N,80nm,2.2s									
JNY	**Yasuok**	**5.38**	**249**	A		A		08 00 51.8	
comp=E,76nm,1.5s,comp=N,142nm,1.8s									
JIAM	**Iburiatsuma**	**5.39**	**343**	A		A		08 00 52.9	
comp=E,194nm,4.2s,comp=N,223nm,5.6s									
JTT	**Ttatey**	**5.41**	**263**	A		A		08 00 52.2	
comp=E,122nm,9.2s,comp=N,136nm,6.0s									
JTT	**Ttatey**	**5.41**	**263**	P		**Pn**		**08 00 54.2**	**+0.7**
JYM2	**Yakumo 2**	**5.42**	**330**	A		A		08 00 53.2	
comp=E,78nm,8.1s,comp=N,78nm,5.5s									
JOB	**Onbets**	**5.43**	**359**	A		A		08 00 53.7	
comp=E,73nm,6.4s,comp=N,83nm,1.8s									
JBT2	**Biratori 2**	**5.46**	**347**	A		A		08 00 53.9	
comp=E,75nm,2.1s,comp=N,68nm,4.2s									
JBT2	**Biratori 2**	**5.46**	**347**	P		**Pn**		**08 00 53.5**	**-0.6**
JSG	**Sagara**	**5.47**	**241**			**Pn**		**08 00 54.9**	**+0.5**
JSG	**Sagara**	**5.47**	**241**	P		**Pn**		**08 00 54.9**	**+0.5**
JSG	**Sagara**	**5.47**	**241**	A		A		08 00 53.1	
comp=E,150nm,6.4s,comp=N,128nm,8.4s									
JSG	**Sagara**	**5.47**	**241**	⇑P		**Pn**		**08 00 54.4**	**-0.1**
JNB	**Noboribetsu**	**5.49**	**336**	A		A		08 00 54.3	
comp=E,47nm,5.5s,comp=N,28nm,2.3s									
JHJ2	**Mitsune**	**5.53**	**220**	P		**Pn**		**08 00 54.8**	**-0.4**
JHJ2	**Mitsune**	**5.53**	**220**	P		**Pn**		**08 00 52.8**	**-2.4**
JHJ2	**Mitsune**	**5.53**	**220**	A		A		08 00 52.8	
comp=E,89nm,7.3s,comp=N,85nm,7.8s									
JHJ2	**Mitsune**	**5.53**	**220**	⇑P		**Pn**		**08 00 52.9**	**-2.4**
JHJ	**Hachijo jima 2**	**5.54**	**220**	Pn		**Pn**		**08 00 52.9**	**-2.5**
comp=N,2μm,0.3s,baz=249,slow=22,SNR=70									
JHJ				Sn		Sn		08 01 50.0	-9.0
comp=N,2μm,0.3s,baz=287,slow=19,SNR=2.7									
JHJ				LR		LR		08 03 27.1	
comp=N,43μm,21.2s,baz=48,slow=43									
JAK	**Akkeshi**	**5.55**	**5**	A		A		08 00 55.4	
comp=E,124nm,1.3s,comp=N,109nm,1.4s									
JAK	**Akkeshi**	**5.55**	**5**	⇓P		**Pn**		**08 00 52.6**	**-2.8**
JAK				⇓S		**Sn**		**08 01 51.9**	**-7.2**
JHCJ	**Hachijojimakas**	**5.57**	**219**	A		A		08 00 54.5	
comp=E,77nm,7.0s,comp=N,81nm,9.9s									
JKKS	**Kakegawashinom**	**5.58**	**243**	A		A		08 00 54.5	
comp=E,130nm,4.9s,comp=N,113nm,5.8s									
JGF	**Kuroka**	**5.67**	**253**	A		A		08 00 55.8	
comp=E,60nm,6.9s,comp=N,72nm,8.8s									
JKHN	**Kushirohamanak**	**5.68**	**9**	A		A		08 00 57.2	
comp=E,85nm,3.8s,comp=N,95nm,1.4s									
JKHN	**Kushirohamanak**	**5.68**	**9**	S		**Sn**		**08 01 54.7**	**-7.6**
JEW	**Eniwo**	**5.71**	**341**	A		A		08 00 57.4	
comp=E,104nm,5.8s,comp=N,89nm,8.2s									
JOSM	**Okushiri--Mats**	**5.78**	**324**	P		**Pn**		**08 00 58.2**	**-0.5**
JOSM				S		**Sn**		**08 02 00.1**	**-4.7**
JFR	**Furan**	**5.79**	**350**	A		A		08 00 58.6	
comp=E,63nm,1.7s,comp=N,46nm,2.4s									
JAR	**Ashorobuto**	**5.83**	**358**	A		A		08 00 59.2	
comp=E,105nm,1.5s,comp=N,90nm,0.5s									
JAR	**Ashorobuto**	**5.83**	**358**	⇓P		**Pn**		**08 00 56.5**	**-2.8**
JSSY	**Shinshiroyabe**	**5.84**	**246**	A		A		08 00 58.2	
comp=E,46nm,6.0s,comp=N,61nm,6.6s									
JAO	**Obara**	**5.87**	**250**	A		A		08 00 58.7	
comp=E,75nm,2.6s,comp=N,61nm,8.4s									
JHST	**Hiyamasetana**	**5.88**	**329**	A		A		08 00 59.5	
comp=E,89nm,6.4s,comp=N,59nm,3.5s									
INU	**Inuyama**	**6.02**	**252**	Pn		**Pn**		**08 01 01.8**	**-0.1**
INU	**Inuyama**	**6.02**	**252**	P		**Pn**		**08 01 02.9**	**+1.0**
INU	**Inuyama**	**6.02**	**252**	⇑P		**Pn**		**08 01 01.6**	**-0.3**
NEM2	**Nemuro 2**	**6.04**	**12**	P		**Pn**		**08 00 58.4**	**-3.8**
NEM2				S		**Sn**		**08 02 03.0**	**-8.2**
NEM2	**Nemuro 2**	**6.04**	**12**	A		A		08 00 58.4	
comp=E,42nm,8.1s,comp=N,43nm,8.8s									
NMR	**Nemuro--Hokkai**	**6.04**	**12**	⇓*i* P		**Pn**		**08 00 58.3**	**-3.9**
NMR				*e*S		**Sn**		**08 02 02.6**	**-8.6**
JAOM	**Aogashimamukai**	**6.08**	**216**	A		A		08 01 01.7	
comp=E,154nm,7.2s,comp=N,107nm,7.7s									
JISS	**Ishikarishitsu**	**6.13**	**342**	A		A		08 01 03.2	
comp=E,142nm,5.3s,comp=N,159nm,7.1s									
JNK	**Nakash**	**6.14**	**5**	A		A		08 01 03.6	
comp=E,49nm,2.8s,comp=N,41nm,1.6s									
JNK	**Nakash**	**6.14**	**5**	P		**Pn**		**08 01 00.0**	**-3.5**
JYTA	**Yamagatataniai**	**6.14**	**254**	A		A		08 01 02.5	
comp=E,37nm,8.0s,comp=N,62nm,3.0s									
JICN	**Ichinomiyachia**	**6.17**	**252**	A		A		08 01 02.8	
comp=E,62nm,2.3s,comp=N,101nm,2.3s									
JAB	**Ashibetsu**	**6.18**	**348**	A		A		08 01 04.1	
comp=E,88nm,7.1s,comp=N,94nm,1.8s									
JAA	**Atsumi**	**6.24**	**245**	A		A		08 01 03.8	
comp=E,42nm,5.0s,comp=N,45nm,5.8s									
JTKR	**Abashiri--Toko**	**6.50**	**359**	P		**Pn**		**08 01 06.6**	**-1.8**
JTKR				*e*S		**Sn**		**08 02 15.6**	**-6.9**
JHR	**Hokuryu**	**6.51**	**345**	P		**Pn**		**08 01 08.5**	**-0.1**
JHR				*e*S		**Sn**		**08 02 21.9**	**-0.8**
JMP	**Maruseppu**	**6.55**	**356**	P		**Pn**		**08 01 06.9**	**-2.4**
JIE	**Ise**	**6.67**	**245**	P		**Pn**		**08 01 10.0**	**-0.8**
RUSJ	**Misakicho**	**6.70**	**8**	⇓*i* P		**Pn**		**08 01 08.3**	**-2.9**
RUSJ				*e*S		**Sn**		**08 02 19.5**	**-7.9**
YUK	**Yuzh-Kuril'sk**	**6.71**	**12**	*d i* P		**Pn**		**08 01 08.0**	**-3.4**
YUK				*i* S		**Sn**		**08 02 18.8**	**-8.9**
YUK				pmax		pmax			
comp=Z,15μm,1.1s									
YUK				pmax		pmax			
comp=E,3μm,0.2s									
YUK				pmax		pmax			
comp=Z,8μm,0.2s									
YUK				MLR		MLR			
comp=Z,52μm,12.0s									
JKA	**Kamikawa-as

comp=N,5.2nm,0.3s,baz=89,slow=13,SNR=134
KSRS Sn **Sn** **08 04 55.9 -0.8**
baz=234,slow=36
KSRS LR LR 08 07 30.4
comp=N,72μm,18.2s,baz=85,slow=37
comp=N,257nm,1.0s
KSAR Wonju Array Be 12.81 275 Pn 08 02 34.4 -0.6
KSAR Wonju Array Be 12.81 275 P **Pn 08 02 34.4 -0.6**
KS19 Wonju Array Si 12.82 275 Pn 08 02 35.7 +0.6
MDJ Mudanjiang 13.01 308 P **Pn 08 02 37.0 -0.6**
MDJ pP P 08 02 39.8 -8.3
MDJ PP **PnPn 08 02 43.8 -1.6**
MDJ S **Sn 08 05 02.4 +0.2**
MDJ SS **SnSn 08 05 15.6 +1.3**
MDJ PcS **PcS 08 11 44.7 -0.1**
MDJ ScS **ScS 08 15 21.0 +1.2**
MDJ pmax pmax
comp=N,310nm,1.2s
MDJ pmax pmax
comp=N,18μm,11.4s
MDJ LR LR
comp=N,91μm,17.3s
MDJ LR LR
comp=N,88μm,15.2s
MDJ LR LR
comp=N,140μm,16.8s
MDJ Mudanjiang 13.01 308 Pn 08 02 36.7 -0.9
MDJ Mudanjiang 13.01 308 P **Pn 08 02 38.5 +0.9**
TJN Taejon 13.36 270 Pn 08 02 42.3 -0.3
TJN Taejon 13.36 270 P **Pn 08 02 42.2 -0.3**
TJN Taejon 13.36 270 *ce*P **Pn 08 02 43.8 +1.3**
TYV Tymovskoe 13.43 356 *e*P **Pn 08 02 41.5 -1.8**
TYV *e*S **Sn 08 05 11.3 -1.1**
TYV pmax pmax
comp=Z,255nm,1.3s
TYV pmax pmax
comp=Z,3μm,4.6s
TYV smax smax
comp=N,99nm,1.7s
TYV smax smax
comp=E,76nm,1.7s
TYV smax smax
comp=N,8μm,6.2s
TYV smax smax
comp=E,9μm,6.2s
TYV MLR MLR
comp=N,59μm,16.0s
TYV MLR MLR
comp=Z,80μm,16.0s
INCN Inchon 13.80 275 Pn 08 02 47.8 -0.7
INCN Inchon 13.80 275 P **Pn 08 02 47.8 -0.7**
GRNR Gornyy 14.36 340 ⇓*i*P **Pn 08 02 55.0 -1.1**
GRNR *e*S **Sn 08 05 36.0 +0.8**
GRNR pmax pmax
comp=E,130nm,1.2s
GRNR pmax pmax
comp=N,200nm,1.1s
GRNR pmax pmax
comp=Z,220nm,1.1s
GRNR smax smax
comp=N,20nm,0.9s
GRNR MLR MLR
comp=E,82μm,16.0s
GRNR MLR MLR
comp=N,32μm,15.0s
GRNR MLR MLR
comp=Z,36μm,16.0s
KLR Kul'dur 14.73 327 *i* P **Pn 08 02 58.9 -2.3**
KLR Kul'dur 14.73 327 Pn **Pn 08 02 58.0 -3.2**
comp=Z,3.7nm,0.3s,baz=132,slow=12,SNR=88
KLR Sn **Sn 08 05 42.1 -2.1**
baz=318,slow=19
KLR LR LR 08 09 05.2
comp=Z,76μm,18.9s,baz=144,slow=39
BNX BinXian 14.90 309 ⇓P **Pn 08 03 01.4 -2.0**
BNX pP **P 08 03 05.0 -4.1**
BNX sP 08 03 08.7
BNX PP **PnPn 08 03 15.7 +4.3**
BNX S **Sn 08 05 47.9 -0.4**
BNX sS S 08 05 51.4 -15
BNX pmax pmax
comp=Z,61nm,1.4s
BNX pmax pmax
comp=Z,3μm,3.9s
BNX LR LR
comp=Z,45μm,12.7s
BNX LR LR
comp=Z,97μm,15.5s
BNX LR LR
comp=Z,121μm,17.9s
CN2 Changchun 15.43 300 *e*P **Pn 08 03 07.7 -2.8**
CN2 *e*S **Sn 08 05 56.4 -4.9**
CN2 pmax pmax
comp=Z,8μm,11.0s
CN2 LR LR
comp=Z,36μm,17.0s
CN2 LR LR
comp=Z,58μm,17.0s
CN2 LR LR
comp=Z,27μm,19.0s
SKR Severo-Kuril's 15.79 29 *e*P **Pn 08 03 10.5 -4.6**
SKR pmax pmax
comp=Z,3μm,0.9s
SKR pmax pmax
comp=Z,10μm,4.2s
SKR MLR MLR
comp=Z,27μm,10.0s
NKL Nikolayevsk 15.86 353 *e*P **Pn 08 03 14.1 -1.8**
NKL *e*S **Sn 08 06 04.0 -7.4**
NKL pmax pmax
comp=N,870nm,1.2s
NKL pmax pmax
comp=E,165nm,1.2s
NKL pmax pmax
comp=Z,1μm,1.2s
NKL smax smax
comp=E,1μm,4.9s
NKL smax smax
comp=N,1μm,2.4s
JMZ Minamidaito 2 15.90 227 Pn 08 03 16.2 -0.4
JMZ Minamidaito 2 15.90 227 P **Pn 08 03 18.0 +1.4**
OKH Okha 16.10 358 *d i*P **Pn 08 03 17.7 -1.4**
OKH *i* S **Sn 08 06 13.1 -4.4**
OKH pmax pmax
comp=Z,1μm,9.2s
OKH smax smax
comp=E,3μm,24.7s
OKH smax smax
comp=N,7μm,11.5s
OKH MLR MLR
comp=E,88μm,16.0s
SNY Shenyang 16.32 292 ⇓P **Pn 08 03 20.5 -1.5**
SNY S **Sn 08 06 24.5 +1.6**
SNY pmax pmax
comp=E,95nm,1.4s
SNY pmax pmax
comp=E,7μm,6.5s
SNY LR LR
comp=E,47μm,13.0s
SNY LR LR
comp=E,103μm,16.7s
SNY LR LR
comp=E,172μm,16.3s
JOW Kunigami 17.00 236 Pn 08 03 30.4 -0.3
JOW Kunigami 17.00 236 P **Pn 08 03 31.5 +0.8**
JOW Kunigami 17.00 236 ⇑P **Pn 08 03 28.1 -2.6**
JOW Kunigami 17.00 236 Pn **Pn 08 03 27.6 -3.1**
comp=E,0.9nm,0.3s,baz=53,slow=12,SNR=1.9
JOW Sn **Sn 08 06 41.8 +2.2**
comp=E,1.7nm,0.3s,baz=111,slow=20,SNR=1.5
JOW LR LR 08 10 17.0
comp=E,15μm,20.1s,baz=46,slow=38
HEH HeiHe 17.46 322 *e*P **Pn 08 03 31.8 -4.5**
HEH S **Sn 08 06 50.2 -0.2**
HEH pmax pmax
comp=E,390nm,0.8s
HEH pmax pmax
comp=E,15μm,6.5s
HEH LR LR
comp=E,95μm,16.7s
HEH LR LR
comp=E,73μm,16.7s
HEH LR LR
comp=E,109μm,16.6s
DL2 Dalian 17.65 282 ⇑*i*P **Pn 08 03 37.0 -1.7**
DL2 S **Sn 08 06 48.8 -6.3**
DL2 pmax pmax
comp=E,870nm,1.2s
DL2 pmax pmax
comp=E,15μm,11.1s
DL2 LR LR
comp=E,25μm,11.2s
DL2 LR LR
comp=E,53μm,17.2s
DL2 LR LR
comp=E,75μm,16.5s
PEA0B Petropavlovsk- 18.32 27 P **Pn 08 03 45.8 -1.0**
PEA0B Petropavlovsk- 18.32 27 *d i*P **Pn 08 03 45.7 -1.2**
PETK Petropavlovsk- 18.32 27 Pn 08 03 44.1 -2.8
PETK Petropavlovsk- 18.32 27 P **Pn 08 03 45.2 -1.7**
comp=E,0.9nm,0.3s,baz=206,slow=16,SNR=32
PETK LR LR 08 11 47.1
comp=E,8μm,19.4s,baz=209,slow=40
comp=E,57nm,0.7s
PET Petropavlovsk 18.61 29 P **P 08 03 50.1 +0.1**
PET Petropavlovsk 18.61 29 P **Pn 08 03 51.4 +1.1**
PET Petropavlovsk 18.61 29 *d i*P **P 08 03 49.6 -0.5**
PET *e*S **Sn 08 07 08.9 -9.2**
PET pmax pmax
comp=Z,338nm,1.1s
PET pmax pmax
comp=Z,14μm,7.0s
PET pmax pmax
comp=Z,22μm,6.6s
PET MLR MLR
comp=Z,25μm,13.0s
PET MLR MLR
comp=Z,28μm,12.0s
PET Petropavlovsk 18.61 29 ⇓P **P 08 03 46.1 -4.0**
SSE Sheshan 19.88 258 P **P 08 04 01.6 -2.5**
SSE S **S 08 07 46.4 -1.2**
SSE pmax pmax
comp=Z,110nm,1.4s
SSE pmax pmax
comp=Z,3μm,9.5s
SSE LR LR
comp=Z,3μm,19.9s
SSE LR LR
comp=Z,9μm,22.3s
ZEA Zeya 19.97 330 *e*P **P 08 04 04.8 -0.2**
ZEA *e*S S 08 07 34.5 -15
ZEA pmax pmax
comp=E,5μm,6.1s
ZEA pmax pmax
comp=N,7μm,7.9s
ZEA pmax pmax
comp=Z,10μm,7.8s
ZEA pmax pmax
comp=E,31nm,0.9s
ZEA pmax pmax
comp=N,540nm,0.8s
ZEA pmax pmax
comp=Z,830nm,0.8s
ZEA smax smax
comp=E,8μm,9.5s
ZEA smax smax
comp=N,14μm,6.8s
ZEA MLR MLR
comp=N,22μm,15.0s
ZEA MLR MLR
comp=E,23μm,16.0s
ZEA MLR MLR
comp=Z,32μm,16.0s
JMJ Miyako jima 2 20.34 237 P **P 08 04 09.7 +0.5**
HIA Hailar 21.12 312 P **P 08 04 16.1 -1.4**
HIA Hailar 21.12 312 P **P 08 04 16.2 -1.4**
HIA pmax pmax
comp=Z,521nm,1.1s
HIA MLR MLR
comp=Z,105μm,18.0s
NJ2 Nanjing 21.33 263 ⇑P **P 08 04 20.3 +0.4**
NJ2 pP **sP 08 04 23.6 +1.3**
NJ2 sP **pwP 08 04 29.7 -1.2**
NJ2 S **S 08 08 17.0 +0.4**
NJ2 SS **SnSn 08 08 44.5 +5.5**
NJ2 pmax pmax
comp=Z,3μm,4.2s
NJ2 LR LR
comp=Z,43μm,14.2s
NJ2 LR LR
comp=Z,85μm,15.0s
NJ2 LR LR
comp=Z,74μm,15.6s
TIA Tai'an 21.53 275 P **P 08 04 20.7 -1.3**
TIA pmax pmax
comp=Z,210nm,1.0s
TIA pmax pmax
comp=Z,1μm,4.2s
TIA LR LR
comp=Z,74μm,15.4s
BJI Beijing 21.82 285 P **P 08 04 23.5 -1.6**
BJI pP **pP 08 04 26.4 -0.2**
BJI S **S 08 08 20.7 -5.4**
BJI PcS **PcS 08 12 00.8 -2.3**
BJI ScS **ScS 08 15 43.1 -3.0**
BJI LR LR
comp=Z,20μm,14.3s
BJI LR LR
comp=Z,25μm,14.3s
BJI LR LR
comp=Z,32μm,15.5s
BJT Baijiatuau 21.83 285 P **P 08 04 25.0 -0.2**
BJT IAmb IAmb 08 04 41.7
comp=Z,1μm,1.2s
BJT Baijiatuau 21.83 285 IAMs_20 IAMs_20 08 13 25.2
comp=Z,37μm,18.0s
BJT Baijiatuau 21.83 285 P **P 08 04 25.3 +0.1**
BJT Baijiatuau 21.83 285 P **P 08 04 25.0 -0.2**
BJT pmax pmax
comp=Z,1μm,1.2s
BJT MLR MLR
comp=Z,38μm,18.0s
XLT XiLinHaoTe 22.07 296 *e*P **P 08 04 26.0 -1.9**
XLT sP sP 08 04 34.2 +4.0
XLT PP **PnPn 08 04 49.2 -0.5**
XLT PcP **PcP 08 08 26.9 +1.6**
XLT S **S 08 08 29.8 -1.2**
XLT sS pS 08 08 36.6 +2.5
XLT SS **SnSn 08 09 02.1 +5.0**
XLT ScP **ScP 08 12 00.1 -2.3**
XLT PcS **PcS 08 12 04.8 +0.9**
XLT pmax pmax
comp=Z,770nm,1.0s
XLT pmax pmax
comp=Z,12μm,4.8s
XLT LR LR
comp=Z,4μm,11.9s
XLT LR LR
comp=Z,32μm,14.5s
XLT LR LR
comp=Z,33μm,14.9s
YOJ Yonaguni jima 22.12 240 P **P 08 04 25.3 -3.1**
YOJ Yonaguni jima 22.12 240 P **P 08 04 27.4 -1.0**
YOJ Yonaguni jima 22.12 240 P **P 08 04 25.3 -3.1**
YOJ pmax pmax
comp=Z,502nm,1.4s
YOJ Yonaguni jima 22.12 240 ⇓P **P 08 04 27.5 -1.0**
MA2 Magadan 22.55 9 P **P 08 04 32.0 -0.8**
MA2 IAmb IAmb 08 04 38.4
comp=Z,2μm,1.9s
MA2 Magadan 22.55 9 P **P 08 04 33.6 +0.8**
MA2 Magadan 22.55 9 *d i*P **P 08 04 32.4 -0.4**
MA2 pmax pmax
comp=Z,656nm,1.7s
MA2 Magadan 22.55 9 ⇓P **P 08 04 32.3 -0.4**
MA2 Magadan 22.55 9 P **P 08 04 32.7 -0.1**
comp=Z,94nm,0.7s,baz=196,slow=10,SNR=29
MA2 LR LR 08 12 49.3
comp=Z,12μm,21.6s,baz=202,slow=35
comp=Z,94nm,0.7s
TATO Taipei 22.86 243 IAMs_20 IAMs_20 08 14 21.9
comp=Z,32μm,18.0s
TATO Taipei 22.86 243 P **P 08 04 36.7 +0.4**
YHNB Yeheng 23.14 243 IAMs_20 IAMs_20 08 14 13.2
comp=Z,37μm,20.0s
YHNB Yeheng 23.14 243 P **P 08 04 39.7 +0.5**
HNS HongShan 23.23 279 ⇑P **P 08 04 37.0 -3.0**
HNS S **S 08 08 45.3 -6.4**
HNS SS **SnSn 08 09 28.7 +3.3**
HNS pmax pmax
comp=Z,590nm,1.4s
HNS pmax pmax
comp=Z,8μm,8.9s
HNS LR LR
comp=Z,9μm,15.2s
HNS LR LR
comp=Z,72μm,17.0s
HNS LR LR
comp=Z,71μm,17.1s
NACB Ninganchiao 23.29 242 P **P 08 04 38.0 -2.8**
NACB IAMs_20 IAMs_20 08 15 01.4
comp=Z,42μm,20.0s
NACB Ninganchiao 23.29 242 P **P 08 04 40.5 -0.3**
GUMO Guam 23.79 178 P **P 08 04 44.4 -1.2**
GUMO IAmb IAmb 08 05 05.8
comp=Z,690nm,1.2s
GUMO Guam 23.79 178 P **P 08 04 47.2 +1.6**
GUMO Guam 23.79 178 P **P 08 04 44.4 -1.2**
GUMO pmax pmax
comp=Z,690nm,1.3s
GUMO Guam 23.79 178 LR LR 08 12 01.5
comp=Z,18μm,21.8s,baz=4.5,slow=32
SSLB Suanglung 23.99 242 P **P 08 04 46.3 -1.2**
SSLB IAmb IAmb 08 05 02.7
comp=Z,663nm,1.3s
SSLB IAMs_20 IAMs_20 08 15 02.9
comp=Z,49μm,20.0s
SSLB Suanglung 23.99 242 P **P 08 04 46.4 -1.2**
YULB Yu-li 24.00 241 IAMs_20 IAMs_20 08 15 50.3
comp=Z,34μm,20.0s
YULB Yu-li 24.00 241 P **P 08 04 46.7 -1.0**
TPUB Ta-pu 24.53 241 P **P 08 04 51.0 -1.5**
TPUB IAmb IAmb 08 05 10.2
comp=Z,1μm,1.0s
TPUB IAMs_20 IAMs_20 08 15 59.2
comp=Z,68μm,19.0s
TPUB Ta-pu 24.53 241 P **P 08 04 52.9 +0.3**
TWGBT Beinan 24.53 240 P **P 08 04 52.8 +0.2**
TWG Pinlang 24.54 240 P **P 08 04 50.6 -2.0**
TWG IAmb IAmb 08 05 15.4
comp=Z,539nm,0.8s
TIY Taiyuan 24.96 280 ⇓P **P 08 04 57.1 +0.7**
TIY S **S 08 09 18.9 -1.0**
TIY pmax pmax
comp=Z,140nm,1.2s
TIY pmax pmax
comp=Z,10μm,6.1s
TIY LR LR
comp=Z,51μm,16.5s
TIY LR LR
comp=Z,26μm,16.5s
TIY LR LR
comp=Z,76μm,17.2s
QZH Quanzhou 24.98 247 ⇓*i*P **P 08 04 55.1 -1.5**
QZH S **S 08 09 16.2 -3.9**
QZH pmax pmax
comp=Z,400nm,1.1s
QZH pmax pmax
comp=Z,7μm,7.1s
QZH LR LR
comp=Z,41μm,18.7s
QZH LR LR
comp=Z,63μm,19.5s
QZH LR LR
comp=Z,41μm,17.5s
HHC Hu-ho-hao-te 25.30 288 *e*P **P 08 04 59.6 +0.1**
HHC S **S 08 09 21.7 -3.6**
HHC sS sS 08 09 31.9 +3.7
HHC PcS **PcS 08 12 14.5 +1.7**
HHC pmax pmax
comp=Z,350nm,1.3s
HHC pmax pmax
comp=Z,20μm,6.3s
HHC LR LR
comp=Z,30μm,15.7s
HHC LR LR
comp=Z,108μm,15.7s
HHC LR LR
comp=Z,169μm,15.7s
KNMB Chin-men Tao 25.41 247 P **P 08 04 58.5 -2.0**
KNMB IAMs_20 IAMs_20 08 16 29.5
comp=Z,26μm,19.0s
WHN Wuhan 25.47 263 ⇓P **P 08 05 01.2 +0.3**
WHN pP **sP 08 05 04.6 +1.2**
WHN S **S 08 09 27.1 -0.7**
WHN pmax pmax
comp=Z,2μm,1.1s
WHN pmax pmax
comp=Z,27μm,5.5s
WHN LR LR
comp=Z,337μm,15.5s
WHN LR LR
comp=Z,142μm,15.3s
WHN LR LR
comp=Z,168μm,15.5s
LYN LuoYang 25.62 273 ⇓*i*P **P 08 05 01.3 -1.0**
LYN sP sP 08 05 08.6 +3.9
LYN PP **PnPn 08 05 41.6 +3.4**
LYN S **S 08 09 28.1 -2.0**
LYN sS sS 08 09 37.9 +4.8
LYN pmax pmax
comp=Z,250nm,0.6s
LYN pmax pmax
comp=Z,18μm,6.1s
LYN LR LR
comp=Z,171μm,16.1s
LYN LR LR
comp=Z,62μm,14.4s
LYN LR LR
comp=Z,66μm,16.8s
CIT Chita 25.83 314 *e*P **P 08 05 04.4 +0.2**
CIT *e* 08 05 17.8
CIT *e* 08 05 44.6
CIT *e* 08 08 33.6
CIT *e*S **S 08 09 37.1 +3.7**
CIT *e* 08 10 34.0
CIT pmax pmax
comp=Z,4μm,2.2s
SHEM Shemya Is, Ala 25.91 44 LR LR 08 13 50.0
comp=Z,18μm,18.3s,baz=246,slow=33
SMY Shemya 25.91 44 P **P 08 05 05.5 +0.8**
SMY IAmb IAmb 08 05 09.8
comp=Z,1μm,1.3s
SMY Shemya 25.91 44 P **P 08 05 07.4 +2.7**
SMY Shemya 25.91 44 P **P 08 05 05.5 +0.8**
SMY pmax pmax
comp=Z,1μm,1.3s
SMY Shemya 25.91 44 ⇑P **P 08 05 07.3 +2.5**
SEY Seymchan 26.01 9 *d i*P **P 08 05 06.5 +0.9**
SEY pmax pmax
comp=Z,1μm,1.7s
SEY Seymchan 26.01 9 LR LR 08 17 07.6
comp=Z,8μm,19.3s,baz=195,slow=40
YAK Yakutsk 26.15 345 P **P 08 05 06.0 -0.8**
YAK IAmb IAmb 08 05 22.9
comp=Z,699nm,0.8s
YAK IAMs_20 IAMs_20 08 15 53.1
comp=Z,48μm,20.0s
YAK Yakutsk 26.15 345 *e*P **P 08 05 07.0 +0.2**
YAK *e**PP **sP 08 05 11.3 +2.0**
YAK *e* 08 05 44.0
YAK *e* 08 08 33.7
YAK *e*S **S 08 09 39.7 +1.7**
YAK *e*SS **SnSn 08 10 42.1 +5.6**
YAK pmax pmax
comp=Z,261nm,0.9s
YAK pmax pmax
comp=N,107nm,0.9s
YAK pmax pmax
comp=E,18nm,0.6s
YAK pmax pmax
comp=Z,4μm,5.8s
YAK pmax pmax
comp=N,4μm,4.8s
YAK pmax pmax
comp=E,3μm,5.8s
YAK smax smax
comp=E,26μm,8.8s
YAK smax smax
comp=N,22μm,7.4s
YAK MLR MLR
comp=E,40μm,23.0s
YAK Yakutsk 26.15 345 ⇓P **P 08 05 06.1 -0.8**
BTO Baotou 26.49 287 *e*P **P 08 05 11.9 +1.6**
BTO pP **sP 08 05 16.1 +3.4**
BTO PP **PnPn 08 05 54.7 +4.5**
BTO S **S 08 09 49.3 +5.2**

BTO				pmax	pmax	
	comp=E,420nm,1.2s					
BTO				pmax	pmax	
	comp=E,29μm,6.3s					
BTO				LR	LR	
	comp=E,74μm,16.5s					
BTO				LR	LR	
	comp=E,108μm,15.1s					
BTO				LR	LR	
	comp=E,166μm,16.2s					
WAKE	**Wake Island**	**26.81**	**126**	P	**P**	**08 05 13.0 -0.2**
WAKE				IAmb	IAmb	08 05 51.6
	comp=Z,472nm,1.0s					
WAKE	**Wake Island**	**26.81**	**126**	P	**P**	**08 05 13.9 +0.7**
CNSH	**ChangSha**	**27.60**	**260**	⇓P	**P**	**08 05 20.1 -0.2**
CNSH				S	**S**	**08 10 02.0 +0.4**
CNSH				pmax	pmax	
	comp=Z,51nm,1.4s					
CNSH				pmax	pmax	
	comp=Z,10μm,7.9s					
CNSH				LR	LR	
	comp=Z,61μm,14.6s					
CNSH				LR	LR	
	comp=Z,51μm,16.2s					
CNSH				LR	LR	
	comp=Z,49μm,16.7s					
BOD	**Bodaibo**	**28.31**	**326**	*e*P	**P**	**08 05 26.2 0.0**
BOD				pmax	pmax	
	comp=Z,894nm,1.4s					
XAN	**Xi'an**	**28.58**	**274**	⇓P	**P**	**08 05 28.6 -0.4**
XAN				S	**S**	**08 10 17.1 +0.1**
XAN				pmax	pmax	
	comp=Z,580nm,1.2s					
XAN				pmax	pmax	
	comp=Z,18μm,8.0s					
XAN				LR	LR	
	comp=Z,52μm,14.3s					
XAN				LR	LR	
	comp=Z,69μm,16.1s					
XAN				LR	LR	
	comp=Z,92μm,14.7s					
ULN	**Ulaanbaatar**	**28.84**	**303**	P	**P**	**08 05 31.6 +0.2**
ULN				IAmb	IAmb	08 05 40.6
	comp=Z,723nm,1.2s					
ULN	**Ulaanbaatar**	**28.84**	**303**	IAMs_20	IAMs_20	08 17 09.9
	comp=Z,33μm,19.0s					
ULN	**Ulaanbaatar**	**28.84**	**303**	*de*P	**P**	**08 05 32.5 +1.2**
ULN				pmax	pmax	
	comp=Z,111nm,0.8s					
ULN				MLR	MLR	
	comp=Z,41μm,16.0s					
ULN	**Ulaanbaatar**	**28.84**	**303**	P	**P**	**08 05 32.3 +0.9**
ULN				P	**P**	**08 05 32.3 +0.9**
ULN				P	**P**	**08 05 32.3 +0.9**
ULN				S	**S**	**08 10 23.2 +2.1**
ULN				S	**S**	**08 10 23.2 +2.1**
ULN				S	**S**	**08 10 23.2 +2.1**
ULN	**Ulaanbaatar**	**28.84**	**303**	⇓P	**P**	**08 05 31.9 +0.5**
SONM	**Songino Array**	**29.28**	**303**	P	**P**	**08 05 35.2 0.0**
SONM				IAmb	IAmb	08 05 44.4
	comp=Z,762nm,1.4s					
SONM	**Songino Array**	**29.28**	**303**	P	**P**	**08 05 36.2 +1.1**
	comp=Z,83nm,0.9s,baz=101,slow=10.0,SNR=51					
SONM				PcP	**PcP**	**08 08 40.0 -1.7**
	comp=Z,21nm,0.8s,baz=122,slow=7.0,SNR=2.6					
SONM				LR	LR	08 17 36.3
	comp=Z,33μm,18.4s,baz=114,slow=37					
	comp=Z,83nm,0.9s					
ENH	**Enshi**	**29.43**	**266**	IAMs_20	IAMs_20	08 17 47.4
	comp=Z,36μm,19.0s					
HKC	**Hong Kong Obse**	**29.80**	**248**	⇑P	P	08 05 45.0 +5.2
HKPS	**Hong Kong Po S**	**29.84**	**248**	IAMs_20	IAMs_20	08 19 05.5
	comp=Z,24μm,20.0s					
HKPS	**Hong Kong Po S**	**29.84**	**248**	P	**P**	**08 05 40.7 +0.5**
GZH	**Guangzhou**	**29.95**	**250**	P	**P**	**08 05 36.9 -4.3**
GZH				S	**S**	**08 10 31.9 -6.7**
GZH				pmax	pmax	
	comp=Z,3μm,2.3s					
GZH				LR	LR	
	comp=Z,21μm,12.3s					
GZH				LR	LR	
	comp=Z,16μm,12.0s					
GZH				LR	LR	
	comp=Z,22μm,13.0s					
KIWB	**Kanaga Island**	**30.74**	**50**	P	**P**	**08 05 47.7 -0.1**
GULI	**GuiLin**	**31.02**	**257**	P	**P**	**08 05 54.2 +3.6**
GULI				S	**S**	**08 10 57.7 +2.4**
GULI				pmax	pmax	
	comp=Z,50nm,1.2s					
GULI				LR	LR	
	comp=Z,51μm,19.5s					
GULI				LR	LR	
	comp=Z,26μm,19.5s					
GULI				LR	LR	
	comp=Z,31μm,17.4s					
TGY	**Tagaytay City**	**31.03**	**228**	LR	LR	08 20 43.8
	comp=Z,8μm,18.1s,baz=32,slow=41					
ADK	**Adak**	**31.03**	**50**	P	**P**	**08 05 49.7 -0.7**
ADK				IAmb	IAmb	08 05 53.9
	comp=Z,850nm,1.6s					
ADK				IAMs_20	IAMs_20	08 15 53.2
	comp=Z,21μm,21.0s					
ADK	**Adak**	**31.03**	**50**	P	**P**	**08 05 49.7 -0.7**
ADK				pmax	pmax	
	comp=Z,850nm,1.6s					
IRK	**Irkutsk**	**31.36**	**311**	*e*P	**P**	**08 05 53.7 +0.3**
IRK				pmax	pmax	
	comp=Z,814nm,2.1s					
ZAK	**Zakamensk**	**31.64**	**307**	*e*P	**P**	**08 05 56.4 +0.4**
ZAK				pmax	pmax	
	comp=Z,412nm,1.1s					
LZH	**Lanzhou**	**32.03**	**280**	⇓P	**P**	**08 06 00.1 +0.4**
LZH				sP	pwP	08 06 07.6 -2.7
LZH				PP	**PnPn**	**08 07 08.3 +3.5**
LZH				PcP	**PcP**	**08 08 47.9 -1.3**
LZH				S	**S**	**08 11 10.4 -0.9**
LZH				sS	sS	08 11 17.6 +3.3
LZH				SS	**SnSn**	**08 12 59.4 -1.2**
LZH				pmax	pmax	
	comp=Z,85nm,1.4s					
LZH				pmax	pmax	
	comp=Z,5μm,5.5s					
LZH				LR	LR	
	comp=Z,47μm,15.8s					
LZH				LR	LR	
	comp=Z,68μm,15.5s					
LZH				LR	LR	
	comp=Z,97μm,15.5s					
ATKA	**Atka Island**	**32.60**	**50**	P	**P**	**08 06 04.1 -0.1**
ATKA				IAmb	IAmb	08 06 07.4
	comp=Z,645nm,1.8s					
ATKA				IAMs_20	IAMs_20	08 17 50.7
	comp=Z,20μm,19.0s					
ATKA	**Atka Island**	**32.60**	**50**	P	**P**	**08 06 06.9 +2.7**
ATKA	**Atka Island**	**32.60**	**50**	⇑P	**P**	**08 06 04.6 +0.4**
PATS	**Pohnpei**	**33.15**	**153**	P	**P**	**08 06 08.1 -1.3**
PATS				IAmb	IAmb	08 06 33.6
	comp=Z,818nm,1.7s					
PATS				IAMs_20	IAMs_20	08 21 29.8
	comp=Z,33μm,19.0s					
PATS	**Pohnpei**	**33.15**	**153**	P	**P**	**08 06 09.3 0.0**
MOY	**Mondy**	**33.26**	**309**	*e*P	**P**	**08 06 10.6 +0.5**
MOY				pmax	pmax	
	comp=Z,516nm,2.8s					
GYA	**Guiyang**	**33.33**	**262**	⇑P	**P**	**08 06 10.7 -0.4**
GYA				S	**S**	**08 11 28.0 -3.6**
GYA				sS	sS	08 11 36.2 +1.6
GYA				pmax	pmax	
	comp=Z,78nm,1.2s					
GYA				pmax	pmax	
	comp=Z,5μm,7.6s					
GYA				LR	LR	
	comp=Z,43μm,14.8s					
GYA				LR	LR	
	comp=Z,25μm,16.7s					
GYA				LR	LR	
	comp=Z,32μm,23.8s					
MIDW	**Midway**	**33.54**	**95**	P	**P**	**08 06 12.1 -0.6**
MIDW				IAmb	IAmb	08 06 16.1
	comp=Z,372nm,1.1s					
MIDW				IAMs_20	IAMs_20	08 20 49.9
	comp=Z,16μm,18.0s					
MIDW	**Midway**	**33.54**	**95**	P	**P**	**08 06 14.6 +1.9**
CD2	**Chengdu**	**33.74**	**271**	P	**P**	**08 06 13.9 -0.6**
CD2				sP	sP	08 06 18.7 +1.7
CD2				S	**S**	**08 11 36.5 -1.2**
CD2				sS	sS	08 11 41.8 +1.1
CD2				pmax	pmax	
	comp=Z,450nm,0.9s					
CD2				pmax	pmax	
	comp=Z,6μm,6.8s					
CD2				LR	LR	
	comp=Z,28μm,14.9s					
CD2				LR	LR	
	comp=Z,34μm,14.1s					
CD2				LR	LR	
	comp=Z,24μm,14.3s					
GTA	**Gaotai**	**34.41**	**287**	⇓P	**P**	**08 06 21.3 +0.9**
GTA				pP	sP	08 06 25.4 +2.6
GTA				PcP	**PcP**	**08 08 58.7 +2.9**
GTA				S	**S**	**08 11 39.9 -8.3**
GTA				sS	sS	08 11 51.1 0.0
GTA				pmax	pmax	
	comp=Z,58nm,1.6s					
GTA				pmax	pmax	
	comp=Z,7μm,8.0s					
GTA				LR	LR	
	comp=Z,29μm,16.4s					
GTA				LR	LR	
	comp=Z,37μm,17.5s					
GTA				LR	LR	
	comp=Z,57μm,16.4s					
DAV	**Davao City (W)**	**34.58**	**214**	⇓*e*P	**P**	**08 06 21.0 -0.8**
DAV	**Davao City (W)**	**34.58**	**214**	P	**P**	**08 06 20.7 -1.2**
DAV	**Davao City (W)**	**34.58**	**214**	LR	LR	08 18 41.6
	comp=Z,15μm,21.6s,baz=44,slow=33					
QIZ	**Qiongzhong**	**35.00**	**248**	P	**P**	**08 06 25.2 -0.2**
QIZ				PP	**PP**	**08 07 47.2 +2.4**
QIZ				S	**S**	**08 11 58.1 +0.9**
QIZ				pmax	pmax	
	comp=Z,77nm,1.3s					
QIZ				pmax	pmax	
	comp=Z,3μm,7.4s					
QIZ				LR	LR	
	comp=Z,32μm,17.7s					
QIZ				LR	LR	
	comp=Z,36μm,17.2s					
QIZ				LR	LR	
	comp=Z,27μm,11.8s					
QIZ	**Qiongzhong**	**35.00**	**248**	IAMs_20	IAMs_20	08 22 11.2
	comp=Z,20μm,20.0s					
TIXI	**Tiksi**	**35.14**	**352**	P	**P**	**08 06 25.1 -0.9**
TIXI				IAMs_20	IAMs_20	08 22 27.7
	comp=Z,19μm,18.0s					
TIXI	**Tiksi**	**35.14**	**352**	*de*P	**P**	**08 06 25.2 -0.8**
TIXI				pmax	pmax	
	comp=Z,196nm,1.7s					
TIXI				MLR	MLR	
	comp=Z,18μm,18.0s					
TIXI	**Tiksi**	**35.14**	**352**	⇑P	**P**	**08 06 25.2 -0.8**
SPIA	**Saint Paul Isl**	**35.87**	**42**	P	**P**	**08 06 31.9 -0.5**
	baz=257					
NIKH	**Nikolski High**	**35.93**	**49**	P	**P**	**08 06 32.6 -0.5**
	baz=264					
KMI	**Kunming**	**37.07**	**263**	⇓P	**P**	**08 06 43.2 -0.2**
KMI				pP	sP	08 06 46.2 +0.3
KMI				PP	**PnPn**	**08 08 12.5 +4.4**
KMI				PcP	**PcP**	**08 09 06.4 +2.4**
KMI				S	**S**	**08 12 23.8 -5.5**
KMI				pmax	pmax	
	comp=Z,360nm,1.0s					
KMI				pmax	pmax	
	comp=Z,4μm,8.0s					
KMI				LR	LR	
	comp=Z,36μm,15.3s					
KMI				LR	LR	
	comp=Z,30μm,16.8s					
KMI				LR	LR	
	comp=Z,30μm,23.7s					
PZH	**PanZhiHua**	**37.20**	**265**	⇓P	**P**	**08 06 44.2 -0.2**
PZH				pP	**sP**	**08 06 48.9 +2.0**
PZH				sP	**pwP**	**08 06 53.2 -1.9**
PZH				PP	**PnPn**	**08 08 11.8 +2.2**
PZH				S	**S**	**08 12 32.1 +1.0**
PZH				sS	**sS**	**08 12 35.8 +1.7**
PZH				pmax	pmax	
	comp=Z,330nm,1.0s					
PZH				pmax	pmax	
	comp=Z,5μm,7.4s					
PZH				LR	LR	
	comp=Z,46μm,20.1s					
PZH				LR	LR	
	comp=Z,22μm,19.1s					
PZH				LR	LR	
	comp=Z,32μm,16.3s					
GAMB	**Gambell**	**37.28**	**31**	P	**P**	**08 06 44.8 +0.4**
	baz=246					
UNV	**Unalaska Valle**	**37.42**	**48**	P	**P**	**08 06 44.4 -1.3**
	baz=265					
SLVN	**Son La**	**38.14**	**257**	IAMs_20	IAMs_20	08 25 19.4
	comp=Z,24μm,18.0s					
M11K	**Mekoryuk**	**38.66**	**37**	P	**P**	**08 06 56.1 0.0**
	baz=257,SNR=7.0					
GOMU	**GeErMu**	**39.03**	**284**	P	**P**	**08 07 00.7 +0.6**
GOMU				pP	sP	08 07 04.6 +2.1
GOMU				sP	pP	08 07 06.2 +4.3
GOMU				S	**S**	**08 12 58.5 -0.7**
GOMU				sS	sS	08 13 06.2 +4.0
GOMU				pmax	pmax	
	comp=Z,88nm,1.5s					
GOMU				LR	LR	
	comp=Z,22μm,16.5s					
GOMU				LR	LR	
	comp=Z,9μm,14.7s					
GOMU				LR	LR	
	comp=Z,19μm,15.2s					
FALS	**False Pass**	**39.31**	**46**	P	**P**	**08 07 00.9 -0.7**
	baz=266					
TNA	**Tin City**	**39.47**	**29**	P	**P**	**08 07 04.0 +1.2**
	baz=249,SNR=7.6					
TNA	**Tin City**	**39.47**	**29**	⇓P	**P**	**08 07 04.1 +1.3**
SMPI	**Sarmi**	**39.56**	**188**	P	**P**	**08 07 04.0 -0.1**
	comp=Z,789nm,1.4s,comp=Z,11μmcomp=Z,6μm					
TNTI	**Ternate**	**39.61**	**207**	P	**P**	**08 07 03.5 -1.0**
TNTI				IAmb	IAmb	08 07 10.0
	comp=Z,684nm,1.1s					
TNTI	**Ternate**	**39.61**	**207**	P	**P**	**08 07 05.4 +0.9**
TNTI	**Ternate**	**39.61**	**207**	P	**P**	**08 07 03.8 -0.7**
	comp=Z,664nm,1.4s,comp=Z,10μmcomp=Z,3μm					
TNTI	**Ternate**	**39.61**	**207**	⇓P	**P**	**08 07 03.5 -1.0**
MYLDM	**Lahad Datu**	**39.68**	**222**	P	**P**	**08 07 05.9 +0.7**
MYLDM				IAMs_20	IAMs_20	08 20 16.5
	comp=Z,20μm,20.0s					
MYLDM	**Lahad Datu**	**39.68**	**222**	⇑P	**P**	**08 07 06.1 +0.9**
RKPI	**Ransiki, Papua**	**39.84**	**195**	P	**P**	**08 07 05.6 -0.8**
	comp=Z,244nm,1.3s,comp=Z,12μmcomp=Z,4μm					
JAY	**Jayapura**	**39.90**	**185**	P	**P**	**08 07 06.0 -0.9**
	comp=Z,294nm,1.0s,comp=Z,4μm					
JAY	**Jayapura**	**39.90**	**185**	LR	LR	08 20 09.7
	comp=Z,8μm,21.7s,baz=16,slow=31					
SWI	**Sorong**	**39.92**	**200**	P	**P**	**08 07 06.5 -0.6**
	comp=Z,303nm,1.4s,comp=Z,6μmcomp=Z,5μm					
GENI	**Genyem**	**40.01**	**186**	P	**P**	**08 07 09.2 +1.3**
GENI	**Genyem**	**40.01**	**186**	P	**P**	**08 07 07.7 -0.2**
	comp=Z,825nm,1.3s,comp=Z,11μmcomp=Z,7μm					
GENI	**Genyem**	**40.01**	**186**	⇓P	**P**	**08 07 07.6 -0.3**
M13K	**Dall Lake**	**40.05**	**38**	P	**P**	**08 07 08.4 +0.7**
	baz=259,SNR=14					
ANM	**Nome**	**40.15**	**31**	P	**P**	**08 07 10.0 +1.4**
ANM				IAmb	IAmb	08 07 13.5
	comp=Z,540nm,1.1s					
ANM	**Nome**	**40.15**	**31**	P	**P**	**08 07 10.0 +1.4**
ANM				pmax	pmax	
	comp=Z,540nm,1.1s					
ANM				MLR	MLR	
	comp=Z,8μm,20.0s					
ANM	**Nome**	**40.15**	**31**	P	**P**	**08 07 09.2 +0.7**
	baz=252,SNR=22					
KKM	**Kota Kinabalu**	**40.23**	**226**	P	**P**	**08 07 10.4 +0.5**
J14K	**Nanvaranak Lak**	**40.45**	**34**	P	**P**	**08 07 11.8 +0.8**
	baz=256,SNR=18					
TNCH	**TengChong**	**40.46**	**266**	⇓P	**P**	**08 07 12.2 +0.4**
TNCH				pP	sP	08 07 15.3 +1.1
TNCH				PP	**PnPn**	**08 08 49.3 +0.6**
TNCH				PcP	**PcP**	**08 09 15.6 +1.1**
TNCH				S	**S**	**08 13 20.3 0.0**
TNCH				sS	sS	08 13 25.4 +2.1
TNCH				SS	**SS**	**08 16 12.6 -6.9**
TNCH				pmax	pmax	
	comp=Z,350nm,0.7s					
TNCH				pmax	pmax	
	comp=Z,4μm,5.7s					
TNCH				LR	LR	
	comp=Z,31μm,16.0s					
TNCH				LR	LR	
	comp=Z,20μm,15.1s					
TNCH				LR	LR	
	comp=Z,34μm,15.5s					
L14K	**Kuka Creek**	**40.55**	**36**	P	**P**	**08 07 12.4 +0.6**
	baz=259,SNR=28					
DLV	**T Lat**	**40.68**	**241**	P	**P**	**08 07 13.9 +0.2**
DLV	**T Lat**	**40.68**	**241**	⇓P	**P**	**08 07 14.4 +0.7**
M14K	**Bethel**	**40.79**	**37**	P	**P**	**08 07 14.6 +0.8**
	baz=260,SNR=41					
N14K	**Kuskokwak Cree**	**40.79**	**39**	P	**P**	**08 07 14.6 +0.8**
	baz=262,SNR=22					
F15K	**North Star Dit**	**40.80**	**30**	P	**P**	**08 07 15.2 +1.3**
	baz=252,SNR=28					
G15K	**Niukluk**	**40.83**	**31**	P	**P**	**08 07 15.2 +1.1**
	baz=253,SNR=38					
LBMI	**Labuha**	**40.87**	**206**	P	**P**	**08 07 14.7 -0.3**
	comp=Z,1μm,1.4s,comp=Z,16μm					
O14K	**Tigyukauivet M**	**40.91**	**40**	P	**P**	**08 07 14.8 0.0**
	baz=263,SNR=6.8					
SDPT	**Sand Point**	**41.02**	**46**	P	**P**	**08 07 17.8 +2.0**
SDPT	**Sand Point**	**41.02**	**46**	P	**P**	**08 07 14.5 -1.3**
	baz=268					
L15K	**Ungalak Mounta**	**41.17**	**36**	P	**P**	**08 07 16.5 -0.5**
	baz=260					
K15K	**Wolf Creek Mou**	**41.27**	**35**	P	**P**	**08 07 19.7 +1.9**
	baz=259,SNR=27					
M15K	**Kasigluk River**	**41.40**	**38**	P	**P**	**08 07 20.2 +1.3**
	baz=262,SNR=42					
C16K	**Lisburne Hills**	**41.41**	**26**	P	**P**	**08 07 19.9 +1.0**
	baz=248,SNR=42					
H16K	**Elim**	**41.47**	**32**	P	**P**	**08 07 20.9 +1.4**
	baz=256,SNR=31					
CRAI	**Chiangrai**	**41.49**	**258**	P	**P**	**08 07 20.2 +0.1**
CRAI				IAmb	IAmb	08 07 35.5
	comp=Z,375nm,0.9s					
CHNA	**Chernabura Isl**	**41.52**	**47**	P	**P**	**08 07 19.5 -0.4**
	baz=269					
CNBA	**Chernabura Isl**	**41.52**	**47**	P	**P**	**08 07 19.5 -0.4**
CNBA				IAMs_20	IAMs_20	08 22 19.5
	comp=Z,15μm,20.0s					
S14K	**Fog Glacier**	**41.58**	**44**	P	**P**	**08 07 20.5 0.0**
	baz=268					
N15K	**Kwethluk River**	**41.62**	**39**	P	**P**	**08 07 22.0 +1.3**
	baz=263,SNR=31					
G16K	**Koyuk River**	**41.62**	**31**	P	**P**	**08 07 21.4 +0.8**
	baz=255,SNR=15					
FAKI	**Fak Fak**	**41.64**	**198**	P	**P**	**08 07 20.3 -0.9**
FAKI				IAmb	IAmb	08 07 26.5
	comp=Z,741nm,1.9s					
FAKI	**Fak Fak**	**41.64**	**198**	P	**P**	**08 07 22.2 +0.9**
FAKI	**Fak Fak**	**41.64**	**198**	P	**P**	**08 07 20.4 -0.9**
	comp=Z,178nm,2.1s,comp=Z,5μmcomp=Z,5μm					
FAKI	**Fak Fak**	**41.64**	**198**	⇓P	**P**	**08 07 19.9 -1.4**
O15K	**Ungalikthiuk R**	**41.64**	**40**	P	**P**	**08 07 22.0 +1.2**
	baz=264,SNR=28					
DGZ	**Jazzator, Alta**	**41.82**	**306**	*d*P	**P**	**08 07 23.9 +1.2**
DGZ				pmax	pmax	
	comp=Z,554nm,0.8s					
DGZ				MLR	MLR	
	comp=Z,42μm,17.0s					
J16K	**Anvik River**	**41.88**	**34**	P	**P**	**08 07 24.0 +1.2**
	baz=259,SNR=39					
I17K	**Unalakleet**	**41.96**	**33**	P	**P**	**08 07 25.2 +1.8**
	baz=258,SNR=34					
D17K	**Noatak River**	**42.01**	**27**	P	**P**	**08 07 24.8 +1.0**
	baz=252					
TOLI2	**Tolitoli**	**42.03**	**216**	P	**P**	**08 07 23.5 -1.0**
TOLI2	**Tolitoli**	**42.03**	**216**	P	**P**	**08 07 23.9 -0.6**
MRSI	**Marisa**	**42.06**	**214**	P	**P**	**08 07 24.3 -0.5**
	comp=Z,939nm,1.3s,comp=Z,15μmcomp=Z,9μm					
L16K	**Owhat River**	**42.13**	**36**	P	**P**	**08 07 26.0 +1.2**
	baz=262,SNR=38					
DIBR	**DIBRUGARH**	**42.20**	**271**	*e*P	**P**	**08 07 27.2 +1.4**
DIBR				IAmb	IAmb	08 07 50.4
	comp=Z,1μm,1.2s					
CHGN	**Chignik**	**42.21**	**44**	P	**P**	**08 07 24.8 -0.8**
	baz=269					
KRVT	**Keravat (AS076**	**42.22**	**168**	LR	LR	08 25 43.5
	comp=Z,6μm,18.3s,baz=123,slow=37					
C17K	**DeLong Mountai**	**42.23**	**26**	P	**P**	**08 07 27.2 +1.6**
	baz=251,SNR=31					
M16K	**Timber Creek**	**42.28**	**37**	P	**P**	**08 07 27.7 +1.6**
	baz=263,SNR=24					
E17K	**Hotham Inlet**	**42.29**	**28**	P	**P**	**08 07 27.3 +1.2**
	baz=254,SNR=48					
N16K	**Nishlik Lake**	**42.31**	**38**	P	**P**	**08 07 27.5 +1.1**
	baz=264,SNR=66					
F17K	**Baldwin Pennin**	**42.33**	**29**	P	**P**	**08 07 28.0 +1.6**
	baz=255,SNR=50					
G17K	**Kiwalik Mounta**	**42.34**	**31**	P	**P**	**08 07 27.9 +1.4**
	baz=256,SNR=58					
WMQ	**Urumqi**	**42.49**	**297**	P	**P**	**08 07 29.0 +0.9**
WMQ				pP	sP	08 07 32.6 +2.0
WMQ				sP	pwP	08 07 36.6 -2.2
WMQ				pmax	pmax	
	comp=Z,490nm,1.3s					
WMQ				pmax	pmax	
	comp=Z,5μm,6.3s					
WMQ				LR	LR	
	comp=Z,25μm,17.9s					
WMQ				LR	LR	
	comp=Z,18μm,13.7s					
WMQ				LR	LR	
	comp=Z,16μm,24.7s					
H17K	**Granite Mounta**	**42.51**	**32**	P	**P**	**08 07 29.4 +1.5**
	baz=258,SNR=47					
O16K	**Kokwok River B**	**42.56**	**40**	P	**P**	**08 07 29.8 +1.4**
	baz=265,SNR=26					
P16K	**Nushagak River**	**42.57**	**40**	P	**P**	**08 07 30.2 +1.7**
	baz=266,SNR=18					
J17K	**VABM Dome**	**42.58**	**34**	P	**P**	**08 07 30.4 +1.9**
	baz=260,SNR=59					
SANI	**Sanana**	**42.72**	**207**	P	**P**	**08 07 28.7 -1.4**
SANI	**Sanana**	**42.72**	**207**	P	**P**	**08 07 28.2 -1.9**
	comp=Z,798nm,1.2s,comp=Z,11μmcomp=Z,5μm					
SANI	**Sanana**	**42.72**	**207**	P	**P**	**08 07 26.0 -4.1**
SANI	**Sanana**	**42.72**	**207**	⇓P	**P**	**08 07 27.8 -2.3**
L17K	**Donlin**	**42.74**	**36**	P	**P**	**08 07 31.5 +1.7**
	baz=262,SNR=50					
K17K	**Iditarod**	**42.82**	**35**	P	**P**	**08 07 32.3 +1.8**
	baz=262,SNR=93					
E18K	**Tukpahlearik C**	**42.84**	**28**	P	**P**	**08 07 32.3 +1.8**
	baz=254					
C18K	**Utukok River**	**42.98**	**26**	P	**P**	**08 07 32.9 +1.1**
	baz=252,SNR=85					
F18K	**Selawik**	**42.99**	**29**	P	**P**	**08 07 32.9 +1.1**
	baz=256					
B18K	**Kokolik River**	**43.00**	**25**	P	**P**	**08 07 33.2 +1.4**
	baz=251,SNR=74					
ZIRO	**ZIRO**	**43.02**	**272**	*e*P	**P**	**08 07 33.2 +0.6**
ZIRO				IAmb	IAmb	08 07 52.9
	comp=Z,441nm,0.9s					
MOKO	**MOKOCHONG**	**43.03**	**270**	*e*P	**P**	**08 07 33.2 +0.4**
MOKO				IAmb	IAmb	08 07 53.6
	comp=Z,1μm,0.6s					
M17K	**Holitna River**	**43.05**	**37**	P	**P**	**08 07 34.2 +1.8**
	baz=264,SNR=54					
LUWI	**Luwuk**	**43.06**	**212**	P	**P**	**08 07 30.5 -2.3**
LUWI				IAmb	IAmb	08 07 39.5
	comp=Z,830nm,1.3s					
LUWI	**Luwuk**	**43.06**	**212**	P	**P**	**08 07 33.4 +0.5**
LUWI	**Luwuk**	**43.06**	**212**	P	**P**	**08 07 30.9 -2.0**
	comp=Z,379nm,1.3s,comp=Z,7μmcomp=Z,7μm					
LUWI	**Luwuk**	**43.06**	**212**	P	P	08 07 26.5 -6.4
LUWI	**Luwuk**	**43.06**	**212**	⇓P	**P**	**08 07 30.7 -2.2**
O17K	**Koliganek Bris**	**43.08**	**39**	P	**P**	**08 07 34.2 +1.7**
	baz=266,SNR=40					
N17K	**Nushagak Hills**	**43.09**	**38**	P	**P**	**08 07 34.5 +1.9**
	baz=265,SNR=36					
MPSI	**Mapaga**	**43.13**	**217**	P	**P**	**08 07 32.8 -0.6**
	comp=Z,176nm,1.4s,comp=Z,4μmcomp=Z,7μm					
ZALV	**Zalesovo Beam**	**43.16**	**312**	P	**P**	**08 07 33.5 +0.2**
	comp=Z,85nm,0.8s,baz=93,slow=5.9,SNR=98					
ZALV				PcP	**PcP**	**08 09 21.3 -1.4**
	comp=Z,166nm,0.7s,baz=96,slow=3.4,SNR=7.6					
ZALV				LR	LR	08 27 18.6
	comp=Z,35μm,18.0s,baz=82,slow=38					
	comp=Z,85nm,0.8s					
H18K	**Honhosa River**	**43.20**	**31**	P	**P**	**08 07 34.8 +1.2**
	baz=259					
G18K	**Tagagawik**	**43.23**	**30**	P	**P**	**08 07 34.9 +1.1**
	baz=258,SNR=107					
Q16K	**King Salmon**	**43.24**	**41**	P	**P**	**08 07 35.0 +1.1**
	baz=268,SNR=20					

ITAN	ITANAGAR	43.29	271	eP	P	08 07 35.6	+0.9
ITAN				IAmb	IAmb	08 07 55.2	
comp=Z,1μm,0.7s							
R17K	Ugashik Creek	43.35	43	P	P	08 07 34.7	-0.1
baz=269							
P17K	Kvichak River	43.38	40	P	P	08 07 36.4	+1.4
baz=267,SNR=16							
CHTO	Chiang Mai	43.40	257	P	P	08 07 35.2	-0.5
CHTO	Chiang Mai	43.40	257	P	P	08 07 35.2	-0.5
NLAI	Namlea	43.44	205	P	P	08 07 35.9	0.0
comp=Z,129nm,1.2s,comp=Z,7μm							
L18K	Granite Mounta	43.50	36	P	P	08 07 37.9	+2.0
baz=264,SNR=45							
A19K	Wainwright	43.51	24	P	P	08 07 37.7	+1.8
baz=251							
CM31	Chiang Mai Arr	43.61	257	P	P	08 07 36.6	-0.8
CM31	Chiang Mai Arr	43.61	257	P	P	08 07 37.8	+0.5
SNR=92							
CM31				S	S	08 14 08.4	+1.7
CMAR	Chiang Mai Arr	43.61	257	P	P	08 07 36.8	-0.6
CMAR	Chiang Mai Arr	43.61	257	P	P	08 07 36.8	-0.6
CMAR	Chiang Mai Arr	43.61	257	P	P	08 07 37.9	+0.5
comp=Z,73nm,0.8s,baz=46,slow=8.6,SNR=109							
CMAR				PcP	PcP	08 09 23.7	-1.1
comp=Z,54nm,0.9s,baz=25,slow=3.2,SNR=7.3							
CMAR				LR	LR	08 27 17.1	
comp=Z,16μm,18.3s,baz=55,slow=38							
CMAR				PKPPKP	P'P'df	08 39 21.4	-6.9
comp=Z,1.0nm,0.3s,baz=267,slow=3.8,SNR=4.0							
comp=Z,73nm,0.8s							
KOHI	KOHIMA	43.63	269	eP	P	08 07 36.6	-1.1
KOHI				IAmb	IAmb	08 07 48.3	
comp=Z,915nm,1.1s							
Q17K	Contact Creek	43.63	42	P	P	08 07 36.7	-0.5
baz=269,SNR=38							
J18K	Innoko River	43.64	34	P	P	08 07 38.1	+1.1
baz=262,SNR=57							
C19K	Lookout Ridge	43.67	26	P	P	08 07 38.8	+1.5
baz=254,SNR=102							
N18K	Kilae Creek	43.74	38	P	P	08 07 39.0	+1.0
N18K				IAmb	IAmb	08 07 43.1	
comp=Z,772nm,1.3s							
N18K	Kilae Creek	43.74	38	P	P	08 07 39.9	+1.9
baz=266,SNR=68							
GCSA	Galena City Sc	43.75	32	P	P	08 07 38.1	+0.2
baz=261,SNR=31							
NRIK	Noril'sk	43.75	335	P	P	08 07 37.1	-0.8
NRIK	Noril'sk	43.75	335	d iP	P	08 07 37.5	-0.4
NRIK	Noril'sk	43.75	335	P	P	08 07 37.9	0.0
comp=Z,146nm,1.0s,baz=109,slow=8.3,SNR=79							
NRIK				LR	LR	08 26 47.9	
comp=Z,40μm,19.6s,baz=106,slow=37							
comp=Z,146nm,1.0s							
F19K	Shaleruckik Mo	43.77	29	P	P	08 07 38.8	+0.7
baz=258,SNR=106							
CHIR	Chirikof Islan	43.78	45	IAMs_20	IAMs_20	08 22 58.2	
comp=Z,18μm,22.0s							
CHIR	Chirikof Islan	43.78	45	P	P	08 07 38.5	+0.2
baz=271							
BNDI	Bandanaira	43.79	201	P	P	08 07 39.8	+1.1
BNDI	Bandanaira	43.79	201	P	P	08 07 37.6	-1.1
comp=Z,898nm,1.3s,comp=Z,18μmcomp=Z,7μm							
ZSN	Zaisan	43.79	303	eP	P	08 07 38.9	+0.3
comp=Z,527nm,2.0s,baz=302							
ZSN				eS	S	08 14 09.5	+0.7
baz=302							
ZSN	Zaisan	43.79	303	eP	P	08 07 38.8	+0.3
ZSN				eS	S	08 14 09.5	+0.7
ZSN				pmax	pmax		
comp=Z,527nm,2.0s							
MND	Mandalay	43.88	263	P	P	08 07 39.7	+0.2
TTA	Tatalina	43.89	35	IAMs_20	IAMs_20	08 24 53.0	
comp=Z,10μm,19.0s							
TTA	Tatalina	43.89	35	P	P	08 07 40.6	+1.4
TTA	Tatalina	43.89	35	P	P	08 07 40.3	+1.1
baz=264,SNR=37							
TTA	Tatalina	43.89	35	⇓P	P	08 07 40.3	+1.1
G19K	Purcell Mounta	43.91	30	P	P	08 07 40.2	+1.0
baz=259,SNR=94							
SVW2	Sparrevohn	43.92	38	P	P	08 07 41.4	+2.0
P18K	Big Mountain,	44.01	40	P	P	08 07 40.7	+0.6
P18K				IAmb	IAmb	08 07 44.6	
comp=Z,842nm,1.3s							
P18K				IAMs_20	IAMs_20	08 24 39.0	
comp=Z,10μm,18.0s							
P18K	Big Mountain,	44.01	40	P	P	08 07 41.2	+1.0
baz=268,SNR=20							
D19K	Kuna River	44.03	27	P	P	08 07 41.1	+1.0
baz=256							
O18K	Koktuh Hills	44.04	39	P	P	08 07 41.1	+0.8
O18K				IAmb	IAmb	08 07 47.5	
comp=Z,361nm,0.9s							
O18K	Koktuh Hills	44.04	39	P	P	08 07 42.0	+1.6
baz=268,SNR=37							
H19K	Roundabout Mou	44.06	31	P	P	08 07 42.0	+1.6
baz=260,SNR=253							
Q18K	Katmai Hardscr	44.10	41	P	P	08 07 40.6	-0.4
baz=269,SNR=18							
E19K	Redstone River	44.11	28	P	P	08 07 42.1	+1.2
baz=258							
IMP	Imphal	44.19	268	eP	P	08 07 44.6	+2.5
IMP				IAmb	IAmb	08 08 01.5	
comp=Z,304nm,1.1s							
J19K	Poorman	44.19	33	P	P	08 07 42.5	+1.0
baz=263,SNR=98							
LSA	Lhasa	44.23	276	P	P	08 07 43.4	+0.6
LSA				S	S	08 14 18.8	+2.4
LSA				pmax	pmax		
comp=Z,6μm,9.3s							
LSA				LR	LR		
comp=Z,12μm,18.5s							
LSA				LR	LR		
comp=Z,11μm,16.7s							
LSA				LR	LR		
comp=Z,21μm,16.7s							
LSA	Lhasa	44.23	276	IAMs_20	IAMs_20	08 27 42.3	
comp=Z,21μm,18.0s							
LSA	Lhasa	44.23	276	P	P	08 07 43.3	+0.6
TEZP	TEZPUR	44.26	271	eP	P	08 07 42.5	0.0
TEZP				IAmb	IAmb	08 08 02.6	
comp=Z,466nm,1.0s							
NAYO	Nakonayok	44.29	250	P	P	08 07 43.2	+0.4
L19K	White Mountain	44.35	36	P	P	08 07 44.3	+1.5
baz=266,SNR=60							
R18K	Karluk	44.39	43	P	P	08 07 42.3	-0.8
baz=271							
N19K	Bonanza Creek	44.44	38	IAMs_20	IAMs_20	08 24 48.7	
comp=Z,10μm,18.0s							
N19K	Bonanza Creek	44.44	38	P	P	08 07 44.9	+1.3
baz=267							
O19K	Port Alsworth	44.49	39	P	P	08 07 45.0	+1.1
O19K				IAmb	IAmb	08 07 48.7	
comp=Z,441nm,1.2s							
O19K	Port Alsworth	44.49	39	P	P	08 07 45.4	+1.5
baz=268,SNR=27							
M19K	Big River Lodg	44.55	36	P	P	08 07 45.8	+1.4
baz=266							
SII	Sitkinak Islan	44.56	44	P	P	08 07 44.1	-0.5
SII				IAMs_20	IAMs_20	08 24 02.9	
comp=Z,17μm,21.0s							
SII	Sitkinak Islan	44.56	44	P	P	08 07 47.1	+2.5
SII	Sitkinak Islan	44.56	44	P	P	08 07 44.7	+0.1
baz=272							
F20K	Avaraart Lake	44.61	29	P	P	08 07 45.9	+1.1
baz=260,SNR=82							
D20K	Etivluk River	44.61	27	P	P	08 07 45.8	+1.0
baz=257							
E20K	Nigu River	44.67	27	P	P	08 07 46.5	+1.2
baz=258							
H20K	Anotleneega Mo	44.70	31	P	P	08 07 46.7	+1.2
baz=262,SNR=105							
TARA	Tarawa	44.72	137	P	P	08 07 45.8	-0.5
TARA				IAmb	IAmb	08 07 50.8	
comp=Z,609nm,1.6s							
TARA	Tarawa	44.72	137	IAMs_20	IAMs_20	08 27 25.7	
comp=Z,21μm,19.0s							
TARA	Tarawa	44.72	137	P	P	08 07 47.5	+1.3
B20K	Meade River	44.73	25	P	P	08 07 47.0	+1.3
baz=255							
I20K	Naaghedeneel	44.78	32	P	P	08 07 47.7	+1.6
baz=263,SNR=103							
K20K	Telida	44.81	34	IAMs_20	IAMs_20	08 25 32.0	
comp=Z,11μm,19.0s							
K20K	Telida	44.81	34	P	P	08 07 47.6	+1.2
baz=265							
Q19K	Cape Douglas,	44.81	41	P	P	08 07 46.2	-0.3
Q19K				IAmb	IAmb	08 07 49.5	
comp=Z,264nm,0.8s							
Q19K	Cape Douglas,	44.81	41	P	P	08 07 46.2	-0.3
baz=270,SNR=18							
J20K	Nowinta River	44.85	33	P	P	08 07 48.1	+1.4
baz=264,SNR=111							
P19K	Oil Pt	45.03	40	IAMs_20	IAMs_20	08 25 11.0	
comp=Z,12μm,18.0s							
P19K	Oil Pt	45.03	40	P	P	08 07 48.9	+0.6
baz=270,SNR=10							
SMKI	Samarinda	45.13	220	P	P	08 07 50.2	+0.7
comp=Z,360nm,0.4s,comp=Z,11μm							
M20K	Styx River	45.14	36	P	P	08 07 50.6	+1.4
baz=267,SNR=32							
A21K	Barrow	45.25	23	P	P	08 07 50.4	+0.6
A21K	Barrow	45.25	23	P	P	08 07 50.4	+0.6
baz=255							
GUWA	GUWAHATI	45.34	271	eP	P	08 07 50.7	-0.3
GUWA				IAmb	IAmb	08 08 11.1	
comp=Z,414nm,0.9s							
O20K	Slope Mountain	45.34	39	P	P	08 07 51.5	+0.7
baz=270,SNR=7.9							
C21K	Knifeblade Rid	45.35	26	P	P	08 07 52.2	+1.5
baz=259,SNR=48							
KDAK	Kodiak Island	45.39	42	IAMs_20	IAMs_20	08 25 50.6	
comp=Z,18μm,20.0s							
KDAK	Kodiak Island	45.39	42	P	P	08 07 50.9	-0.2
baz=272							
KDAK	Kodiak Island	45.39	42	⇑P	P	08 07 50.0	-1.1
G21K	Allakaket	45.39	30	P	P	08 07 52.2	+1.2
baz=262							
SBUM	Sibu	45.45	228	P	P	08 07 51.2	-0.9
SBUM	Sibu	45.45	228	⇑P	P	08 07 52.0	-0.1
SBUM				⇓P	pP	08 07 52.3	-1.6
Q20K	Shuyak Island	45.47	41	P	P	08 07 51.5	-0.2
baz=271,SNR=26							
SYI	Shuyak Island	45.47	41	IAMs_20	IAMs_20	08 24 13.7	
comp=Z,11μm,19.0s							
SHL	Shillong	45.48	270	P	P	08 07 51.2	-1.2
SHL				IAmb	IAmb	08 08 05.3	
comp=Z,388nm,0.9s							
SHL	Shillong	45.48	270	eP	P	08 07 51.8	-0.7
SHL				IAmb	IAmb	08 08 05.5	
comp=Z,290nm,0.8s							
SHL	Shillong	45.48	270	P	P	08 07 51.2	-1.2
SHL				pmax	pmax		
comp=Z,388nm,0.9s							
SHL	Shillong	45.48	270	P	P	08 07 51.8	-0.7
SNR=131							
F21K	Alatna River	45.50	29	P	P	08 07 52.9	+1.0
baz=262,SNR=74							
B21K	Ikpikpuk River	45.51	26	P	P	08 07 52.9	+1.0
baz=258							
E21K	Killik River	45.51	27	P	P	08 07 52.6	+0.6
baz=260							
N20K	Mount Spurr	45.56	37	P	P	08 07 54.2	+1.6
baz=269,SNR=80							
SPCR	Spurr Chakacha	45.56	37	P	P	08 07 54.2	+1.6
baz=269,SNR=68							
H21K	Melozitna Rive	45.58	31	P	P	08 07 53.7	+1.2
baz=264,SNR=152							
PPLA	Purkeypile	45.63	35	P	P	08 07 54.9	+1.8
baz=267,SNR=62							
CHUM	Lake Minchumin	45.63	34	P	P	08 07 54.8	+1.9
baz=266,SNR=61							
MK31	Makanchi Array	45.64	302	i P	P	08 07 53.0	-0.3
MK31				pmax	pmax		
comp=Z,201nm,0.8s							
MKAR	Makanchi Array	45.64	302	P	P	08 07 52.5	-0.9
MKAR	Makanchi Array	45.64	302	P	P	08 07 53.0	-0.3
comp=Z,50nm,0.8s,baz=82,slow=9.9,SNR=126							
MKAR				PcP	PcP	08 09 30.2	-1.2
comp=Z,40nm,0.8s,baz=98,slow=2.9,SNR=1.8							
MKAR				S	S	08 14 37.6	+1.9
comp=Z,2.2nm,1.0s,baz=112,slow=42,SNR=1.1							
MKAR				LR	LR	08 27 24.9	
comp=Z,14μm,18.5s,baz=84,slow=37							
MKAR				PKPPKP	P'P'df	08 39 19.9	-12
comp=Z,2.1nm,1.1s,baz=255,slow=2.4,SNR=5.6							
MKAR				P4KPbc		08 45 41.0	
comp=Z,1.6nm,0.8s,baz=74,slow=4.5,SNR=7.4							
comp=Z,50nm,0.8s							
A22K	Sinclair Lake	45.69	24	P	P	08 07 53.2	-0.1
baz=257,SNR=13							
JOHN	Johnston Islan	45.70	104	IAMs_20	IAMs_20	08 27 22.9	
comp=Z,16μm,20.0s							
CAST	Castle Rocks	45.70	34	P	P	08 07 54.0	+0.5
CAST	Castle Rocks	45.70	34	P	P	08 07 55.0	+1.4
baz=267,SNR=111							
AZL	Aizawl	45.72	268	eP	P	08 07 53.6	-0.6
AZL				IAmb	IAmb	08 08 09.4	
comp=Z,178nm,0.7s							
HOM	Homer	45.84	40	P	P	08 07 54.3	-0.3
HOM				IAMs_20	IAMs_20	08 26 25.2	
comp=Z,10μm,18.0s							
HOM	Homer	45.84	40	P	P	08 07 52.9	-1.7
baz=271							
MAKZ	Makanchi	45.85	302	P	P	08 07 54.1	-0.9
MAKZ				IAmb	IAmb	08 08 09.8	
comp=Z,221nm,0.9s							
MAKZ				IAMs_20	IAMs_20	08 27 11.6	
comp=Z,19μm,19.0s							
MAKZ	Makanchi	45.85	302	P	P	08 07 54.6	-0.4
MAKZ	Makanchi	45.85	302	⇓P	P	08 07 54.7	-0.3
SKT	Skwentna	45.90	36	P	P	08 07 55.8	+0.6
SKT				IAmb	IAmb	08 07 59.2	
comp=Z,401nm,1.3s							
SKT	Skwentna	45.90	36	P	P	08 07 55.9	+0.8
baz=269,SNR=58							
BKB	Balikpapan	45.98	219	P	P	08 07 57.2	+1.0
BKB	Balikpapan	45.98	219	P	P	08 07 55.6	-0.6
comp=Z,704nm,1.5s,comp=Z,19μmcomp=Z,15μm							
F22K	John River	46.04	29	P	P	08 07 57.3	+1.2
baz=263,SNR=138							
CNPM	China Poot	46.05	40	IAMs_20	IAMs_20	08 27 31.9	
comp=Z,9μm,19.0s							
D22K	Ayikyak River	46.05	27	P	P	08 07 57.3	+1.1
baz=261,SNR=84							
B22K	Teshekpuk Lake	46.05	25	P	P	08 07 57.1	+0.9
baz=259,SNR=18							
CAPN	Captain Cook N	46.07	38	P	P	08 07 58.1	+1.7
baz=270							
SAIH	SAIHA	46.11	266	eP	P	08 07 56.7	-0.7
SAIH				IAmb	IAmb	08 08 12.0	
comp=Z,766nm,0.6s							
TTSI	Tana Toraja	46.14	215	P	P	08 07 56.8	-0.7
comp=Z,107nm,1.3s,comp=Z,3μmcomp=Z,5μm							
H22K	Ishtalitna Cre	46.18	31	P	P	08 07 58.9	+1.6
baz=265,SNR=187							
BRLK	Bradley Lake	46.22	39	IAMs_20	IAMs_20	08 26 35.2	
comp=Z,9μm,19.0s							
BPAW	Bear Paw Mtn.	46.23	33	IAMs_20	IAMs_20	08 26 45.7	
comp=Z,10μm,20.0s							
BPAW	Bear Paw Mtn.	46.23	33	P	P	08 07 58.9	+1.2
baz=267,SNR=54							
G22K	Bettles	46.23	30	P	P	08 07 58.6	+1.0
baz=264							
KTH	Kantishna Hill	46.23	34	IAMs_20	IAMs_20	08 26 25.9	
comp=Z,11μm,21.0s							
E22K	Anaktuvuk Pass	46.26	28	P	P	08 07 59.0	+1.1
baz=262							
SUA	Susitna One	46.27	37	P	P	08 07 58.6	+0.5
baz=270,SNR=28							
BRSE	Bradley Lake S	46.29	40	P	P	08 07 57.6	-0.7
baz=272,SNR=17							
SEM	Semipalatinsk	46.32	307	eP	P	08 07 58.1	-0.8
comp=Z,238nm,1.5s,baz=307							
SEM				eS	S	08 14 45.5	-0.2
baz=307							
SEM				LR	LR	08 27 16.2	
comp=Z,19μm,14.6s,baz=307							
SEM	Semipalatinsk	46.32	307	eP	P	08 07 58.0	-0.8
SEM				eS	S	08 14 43.3	-2.5
SEM				pmax	pmax		
comp=Z,238nm,1.5s							
SEM				MLR	MLR		
comp=Z,19μm,15.0s							
MLY	Manley	46.39	32	IAMs_20	IAMs_20	08 27 57.8	
comp=Z,9μm,18.0s							
MLY	Manley	46.39	32	P	P	08 08 00.3	+1.4
baz=266,SNR=177							
CUT	Chulitna	46.50	36	P	P	08 07 59.6	-0.2
baz=269,SNR=25							
TRF	Thorofare Moun	46.51	34	IAMs_20	IAMs_20	08 26 46.3	
comp=Z,10μm,20.0s							
TRF	Thorofare Moun	46.51	34	P	P	08 08 00.6	+0.5
baz=268,SNR=36							
FIS	Fire Island	46.52	38	IAMs_20	IAMs_20	08 25 54.1	
comp=Z,9μm,18.0s							
M22K	Willow	46.57	37	P	P	08 07 59.9	-0.4
baz=270,SNR=22							
PMG	Port Moresby	46.72	176	P	P	08 08 01.4	-0.5
PMG				IAmb	IAmb	08 08 06.7	
comp=Z,349nm,1.4s							
PMG	Port Moresby	46.72	176	P	P	08 08 03.2	+1.3
PMG	Port Moresby	46.72	176	P	P	08 08 03.5	+1.6
PMG	Port Moresby	46.72	176	P	P	08 08 01.4	-0.5
PMG				pmax	pmax		
comp=Z,349nm,1.4s							
PMG				MLR	MLR		
comp=Z,5μm,18.0s							
PMG	Port Moresby	46.72	176	⇓P	P	08 08 01.0	-0.9
SAUI	Saumlaki	46.75	197	P	P	08 08 02.1	-0.1
SAUI	Saumlaki	46.75	197	P	P	08 08 03.0	+0.8
SAUI	Saumlaki	46.75	197	P	P	08 08 01.8	-0.4
comp=Z,503nm,1.3s,comp=Z,18μmcomp=Z,9μm							
MTKI	Muara Teweh, K	46.75	222	P	P	08 08 02.3	0.0
comp=Z,161nm,0.8s,comp=Z,15μmcomp=Z,9μm							
RC01	Rabbit Creek A	46.76	38	IAMs_20	IAMs_20	08 26 33.0	
comp=Z,10μm,20.0s							
RC01	Rabbit Creek A	46.76	38	P	P	08 08 01.6	-0.2
baz=271,SNR=50							
DHUB	DHUBRI	46.77	272	eP	P	08 08 03.6	+1.3
DHUB				IAmb	IAmb	08 08 23.8	
comp=Z,262nm,1.1s							
COLD	Coldfoot	46.77	29	P	P	08 08 02.9	+1.0
baz=265,SNR=64							
D23K	Nanushuk River	46.78	27	P	P	08 08 03.5	+1.6
baz=263,SNR=66							
O22K	Cooper Landing	46.78	38	P	P	08 08 02.4	+0.4
baz=272,SNR=20							
G23K	Bananza Creek	46.80	30	P	P	08 08 03.1	+1.0
baz=266,SNR=85							
BWN	Browne	46.90	33	IAMs_20	IAMs_20	08 26 58.3	
comp=Z,10μm,19.0s							
C23K	Itkillik River	46.92	26	P	P	08 08 04.2	+1.2
baz=262,SNR=157							
SEW	Seward	46.93	39	P	P	08 08 03.3	+0.2
baz=272,SNR=24							
H23K	Yukon River	46.93	31	P	P	08 08 05.0	+1.8
baz=267							
I23K	Minto, Yukon-K	46.98	32	P	P	08 08 04.7	+1.2
baz=268,SNR=112							
PMR	Palmer	47.04	37	P	P	08 08 04.0	0.0
PMR	Palmer	47.04	37	P	P	08 08 05.2	+1.2
PMR	Palmer	47.04	37	P	P	08 08 04.0	0.0
PMR				pmax	pmax		
comp=Z,833nm,1.4s							
PMR	Palmer	47.04	37	P	P	08 08 04.1	0.0
baz=271,SNR=63							
E23K	Chandalar	47.07	28	P	P	08 08 05.7	+1.3
baz=265,SNR=178							
NEA2	Nenana	47.08	33	P	P	08 08 04.7	+0.4
NEA2	Nenana	47.08	33	P	P	08 08 05.3	+1.0
baz=268,SNR=244							
BRDH	Bariadhala	47.08	267	LR	LR	08 31 04.4	
comp=Z,19μm,18.9s,baz=59,slow=40							
MCK	McKinley	47.12	34	P	P	08 08 05.1	+0.4
baz=269,SNR=78							
TOLK	Toolik Lake Re	47.14	27	IAMs_20	IAMs_20	08 30 32.5	
comp=Z,12μm,19.0s							
TOLK	Toolik Lake Re	47.14	27	P	P	08 08 06.0	+1.2
baz=264,SNR=71							
GTK	Tadong	47.28	274	eP	P	08 08 06.3	-0.2
GTK				IAmb	IAmb	08 08 39.7	
comp=Z,196nm,1.0s							
KURK	Kurchatov	47.30	308	P	P	08 08 05.3	-0.9
KURK	Kurchatov	47.30	308	d iP	P	08 08 05.6	-0.6
KURK				pmax	pmax		
comp=Z,493nm,1.0s							
KURK				MLR	MLR		
comp=Z,31μm,17.0s							
KURK	Kurchatov	47.30	308	P	P	08 08 05.8	-0.3
KURK				P	P	08 08 05.8	-0.3
KURK				P	P	08 08 05.8	-0.3
KURK				S	S	08 14 56.2	-3.0
KURK				S	S	08 14 56.2	-3.0
KURK				S	S	08 14 56.2	-3.0
KURK	Kurchatov	47.30	308	⇓P	P	08 08 05.6	-0.6
WAT1	Susitna Watana	47.30	35	P	P	08 08 06.1	+0.1
baz=271							
KURBB	Kurchatov Arra	47.37	308	P	P	08 08 05.8	-0.9
KURBB	Kurchatov Arra	47.37	308	P	P	08 08 06.2	-0.5
comp=Z,156nm,0.9s,baz=82,slow=8.3,SNR=289							
KURBB				PcP	PcP	08 09 37.3	0.0
comp=Z,51nm,0.9s,baz=85,slow=3.6,SNR=5.2							
KURBB				S	S	08 15 02.8	+2.6
comp=Z,2.9nm,0.8s,baz=96,slow=29,SNR=1.9							
KURBB				LR	LR	08 29 35.9	
comp=Z,28μm,18.5s,baz=76,slow=38							
KURBB				PKP2ab		08 40 15.7	
comp=Z,1.3nm,0.2s,baz=248,slow=3.8,SNR=5.6							
comp=Z,156nm,0.9s							
KNK	Knik Glacier	47.37	37	IAMs_20	IAMs_20	08 27 25.1	
comp=Z,14μm,20.0s							
KNK	Knik Glacier	47.37	37	P	P	08 08 07.2	+0.5
baz=272,SNR=48							
KSM	Kuching	47.37	229	P	P	08 08 07.3	+0.1
KSM	Kuching	47.37	229	P	P	08 08 08.3	+1.1
KSM	Kuching	47.37	229	⇑P	P	08 08 07.7	+0.6
SML	Sawmill	47.42	37	P	P	08 08 07.4	+0.4
baz=272,SNR=47							
MDM	Murphy Dome	47.45	32	IAMs_20	IAMs_20	08 28 41.9	
comp=Z,12μm,18.0s							
PWL	Port Wells	47.45	38	P	P	08 08 07.6	+0.3
baz=273,SNR=36							
D24K	Happy Valley	47.46	27	P	P	08 08 08.4	+1.2
baz=264							
E24K	Your Creek	47.49	28	P	P	08 08 08.9	+1.4
baz=266,SNR=164							
C24K	Franklin Bluff	47.56	26	P	P	08 08 08.8	+0.9
baz=264							
COLA	College	47.61	32	P	P	08 08 09.9	+1.5
COLA	College	47.61	32	P	P	08 08 09.2	+0.8
COLA	College	47.61	32	P	P	08 08 09.7	+1.3
baz=269							
H24K	Noodor Dome	47.62	31	P	P	08 08 10.0	+1.5
baz=268,SNR=150							
WAT6	Susitna Watana	47.67	36	P	P	08 08 09.6	+0.5
baz=272,SNR=56							
F24K	Squaw Lake	47.68	29	P	P	08 08 09.9	+0.9
baz=267,SNR=38							
M23K	Glacier View	47.70	37	P	P	08 08 09.4	+0.2
baz=272,SNR=37							
POKR	Poker Plat Res	47.79	32	IAMs_20	IAMs_20	08 28 51.9	
comp=Z,10μm,19.0s							
POKR	Poker Plat Res	47.79	32	P	P	08 08 11.5	+1.7
baz=269,SNR=225							
G24K	Hadweenzic Riv	47.81	30	P	P	08 08 11.7	+1.7
baz=268,SNR=278							
STKI	Sintang	47.81	227	P	P	08 08 10.9	+0.3
comp=Z,505nm,1.3s,comp=Z,11μm							
DHY	Denali Highway	47.83	35	P	P	08 08 10.8	+0.4
baz=271,SNR=76							
SCM	Sheep Creek Mo	47.89	37	IAMs_20	IAMs_20	08 27 34.9	
comp=Z,11μm,

comp=Z,140nm,0.8s
BKSI Bulukumba 48.04 213 P P 08 08 11.2 -1.1
comp=Z,95nm,1.1s,comp=Z,4μmcomp=Z,10μm
GLI Glacier Island 48.05 38 P P 08 08 12.3 +0.4
GLI Glacier Island 48.05 38 P P 08 08 11.1 -0.8
baz=274,SNR=22
D25K Kavik River 48.35 26 P P 08 08 15.0 +0.8
baz=267,SNR=91
G25K Bearman Lake 48.35 30 P P 08 08 15.8 +1.7
baz=269,SNR=108
FID Port Fidalgo 48.37 38 IAMs_20 IAMs_20 08 29 22.0
comp=Z,10μm,20.0s
HIN Hinchinbrook I 48.38 38 IAMs_20 IAMs_20 08 27 21.0
comp=Z,10μm,19.0s
PDGK Podgornoye 48.40 298 P P 08 08 13.3 -1.7
EVN Everest 48.41 276 ⇓P P 08 08 16.1 +0.3
M24K Tolsona, Glenn 48.42 36 IAMs_20 IAMs_20 08 27 52.9
comp=Z,9μm,20.0s
M24K Tolsona, Glenn 48.42 36 P P 08 08 15.9 +1.0
baz=273,SNR=33
ODAN Odare 48.45 275 *eP* **P 08 08 15.2 -0.5**
comp=Z,869nm,1.3s
SHLS Shalkode 48.47 298 *eP* **P 08 08 13.0 -2.5**
baz=298
SHLS *eS* **S 08 15 12.5 -3.8**
baz=298
SHLS Shalkode 48.47 298 *eP* **P 08 08 13.0 -2.5**
SHLS *eS* **S 08 15 12.4 -3.8**
K24K Donnelly Dome 48.52 34 P P 08 08 15.8 +0.2
baz=272,SNR=81
Q23K Middleton Isla 48.54 40 P P 08 08 15.7 0.0
baz=276
F25K Christian Rive 48.55 29 P P 08 08 17.5 +1.8
baz=269,SNR=128
KLU Klutina 48.58 37 IAMs_20 IAMs_20 08 28 31.2
comp=Z,13μm,20.0s
KLU Klutina 48.58 37 P P 08 08 16.4 +0.3
baz=274,SNR=44
E25K Arctic Village 48.59 28 P P 08 08 17.7 +1.7
baz=268,SNR=121
PRP Porcupine Dome 48.59 32 P P 08 08 16.3 +0.1
baz=271,SNR=78
J25K Salcha River, 48.67 33 IAMs_20 IAMs_20 08 29 28.4
comp=Z,9μm,19.0s
J25K Salcha River, 48.67 33 P P 08 08 15.8 -0.9
baz=272,SNR=33
TDK Taldyqorghan 48.70 301 *eP* **P 08 08 17.7 +0.6**
comp=Z,398nm,1.3s,baz=300
TDK *eS* **S 08 15 19.2 0.0**
baz=300
TDK LR LR 08 29 05.0
comp=Z,16μm,16.0s,baz=300
TDK Taldyqorghan 48.70 301 *eP* **P 08 08 17.7 +0.6**
TDK *eS* **S 08 15 19.2 0.0**
TDK pmax pmax
comp=Z,398nm,1.3s
TDK MLR MLR
comp=Z,16μm,16.0s
PAX Paxson 48.70 35 P P 08 08 17.5 +0.5
baz=273,SNR=47
EYAK Cordova Ski Ar 48.74 38 P P 08 08 18.9 +1.7
EYAK Cordova Ski Ar 48.74 38 P P 08 08 17.8 +0.6
baz=275,SNR=17
UZB Uzynbulak 48.78 298 *eP* **P 08 08 17.4 -0.6**
baz=298
UZB *eS* **S 08 15 20.1 -0.7**
baz=298
UZB Uzynbulak 48.78 298 *eP* **P 08 08 17.4 -0.6**
UZB *eS* **S 08 15 20.0 -0.7**
HARP HAARP 48.88 36 P P 08 08 19.0 +0.7
baz=274,SNR=28
C26K Camden Bay 48.89 26 P P 08 08 20.2 +2.0
baz=268,SNR=24
SURA Surathani 48.90 246 P P 08 08 20.2 +1.2
BBKI Banjar Baru 48.91 220 P P 08 08 18.3 -0.7
comp=Z,550nm,1.1s,comp=Z,14μm
KPKS Kokpek 48.92 299 *eP* **P 08 08 19.1 0.0**
baz=298
KPKS *eS* **S 08 15 22.5 -0.2**
baz=298
KPKS Kokpek 48.92 299 *eP* **P 08 08 19.0 0.0**
KPKS *eS* **S 08 15 22.5 -0.2**
RIDG Independent Ri 48.94 34 IAMs_20 IAMs_20 08 28 55.5
comp=Z,10μm,20.0s
RIDG Independent Ri 48.94 34 P P 08 08 19.1 +0.3
baz=273,SNR=56
BMAR Burnt Mountain 48.95 29 P P 08 08 20.0 +1.2
HNR Honiara 48.98 159 IAMs_20 IAMs_20 08 30 50.5
comp=Z,19μm,18.0s
RAMN Ramite 49.03 275 *eP* **P 08 08 20.1 -0.1**
comp=Z,3μm,1.4s
JIRN Jiri 49.03 276 *eP* **P 08 08 20.9 +0.5**
comp=Z,547nm,0.8s
F26K Sheenjek River 49.12 29 P P 08 08 22.0 +1.9
baz=270,SNR=195
GUN Gumba 49.17 277 *eP* **P 08 08 21.9 +0.5**
comp=Z,2μm,1.0s
ZHN Zhinishke 49.18 298 *eP* **P 08 08 21.2 +0.2**
baz=298
ZHN Zhinishke 49.18 298 *eP* **P 08 08 21.2 +0.2**
N25K Chitina, Valde 49.20 37 IAMs_20 IAMs_20 08 28 58.6
comp=Z,11μm,19.0s
N25K Chitina, Valde 49.20 37 P P 08 08 22.0 +1.1
baz=275,SNR=32
SATY Saty 49.23 298 *eP* **P 08 08 21.9 +0.4**
baz=298
SATY *eS* **S 08 15 27.9 +0.8**
baz=298
SATY Saty 49.23 298 *eP* **P 08 08 21.8 +0.4**
SATY *eS* **S 08 15 27.9 +0.8**
BMRM Bremner River 49.26 38 P P 08 08 22.6 +1.3
baz=276,SNR=23
G26K Porcupine Rive 49.27 30 P P 08 08 23.1 +1.9
baz=271,SNR=168
RAGM Ragged Mountai 49.28 38 IAMs_20 IAMs_20 08 28 05.9
comp=Z,14μm,20.0s
SRIT Nakonsritamara 49.30 246 P P 08 08 22.6 +0.6
SRIT IAmb IAmb 08 08 28.6
comp=Z,270nm,0.8s
SRIT Nakonsritamara 49.30 246 P P 08 08 23.0 +0.9
ARXS Arharly 49.31 300 *eP* **P 08 08 21.7 -0.2**
SCRK Sand Creek 49.31 34 IAMs_20 IAMs_20 08 28 54.1
comp=Z,9μm,19.0s
SCRK Sand Creek 49.31 34 P P 08 08 21.8 +0.1
baz=274,SNR=125
J26L Joseph Creek 49.46 33 IAMs_20 IAMs_20 08 29 27.1
comp=Z,10μm,18.0s
J26L Joseph Creek 49.46 33 P P 08 08 22.8 -0.1
baz=274,SNR=72
KAIM Kayak Island 49.46 39 P P 08 08 22.3 -0.5
HMT Hamilton 49.49 38 IAMs_20 IAMs_20 08 31 11.4
comp=Z,12μm,18.0s
I26K Coal Creek Min 49.59 32 IAMs_20 IAMs_20 08 30 08.3
comp=Z,10μm,20.0s
I26K Coal Creek Min 49.59 32 P P 08 08 22.7 -0.9
baz=273
GLB Gilahina Butte 49.60 37 IAMs_20 IAMs_20 08 28 04.0
comp=Z,10μm,20.0s
L26K Log Cabin Wild 49.66 35 IAMs_20 IAMs_20 08 33 20.6
comp=Z,14μm,18.0s
L26K Log Cabin Wild 49.66 35 P P 08 08 25.7 +1.4
baz=275,SNR=146
PKI Pulchoki 49.69 276 *eP* **P 08 08 25.1 -0.3**
comp=Z,860nm,1.2s
KKN Kakani 49.69 277 *eP* **P 08 08 25.5 +0.2**
comp=Z,2μm,1.2s
PKIN Phulchoki 49.70 277 *eP* **P 08 08 25.1 -0.3**
comp=Z,1μm,1.4s
VRDI Verde Repeater 49.79 37 IAMs_20 IAMs_20 08 29 00.1
comp=Z,10μm,21.0s
M26K Nabesna, AK 49.88 36 IAMs_20 IAMs_20 08 30 50.5
comp=Z,10μm,20.0s
M26K Nabesna, AK 49.88 36 P P 08 08 27.5 +1.5
baz=276,SNR=55
DMN Daman 49.91 277 *eP* **P 08 08 27.0 0.0**
comp=Z,672nm,1.2s
MCARA McCarthy VSAT 49.98 37 IAMs_20 IAMs_20 08 29 07.1
comp=Z,9μm,20.0s
MCARA McCarthy VSAT 49.98 37 P P 08 08 27.8 +1.1
baz=277,SNR=30
CHKK Chushkaly 49.99 300 *eP* **P 08 08 27.1 +0.1**
baz=299
CHKK Chushkaly 49.99 300 *eP* **P 08 08 27.1 +0.1**
BGLC Bering Glacier 50.01 39 P P 08 08 27.7 +0.9
baz=277
CRQE Cirque 50.02 38 P P 08 08 28.0 +0.8
baz=277,SNR=48

E27K Coleen River 50.08 28 P P 08 08 28.8 +1.4
baz=272,SNR=110
GKN Gorkha 50.11 277 *eP* **P 08 08 28.5 +0.2**
comp=Z,1μm,0.8s
G27K Doyon Strip 50.12 30 P P 08 08 29.1 +1.4
baz=273,SNR=94
K27K Chicken 50.14 33 P P 08 08 28.7 +0.8
baz=275
TGL Tana Glacier 50.15 38 P P 08 08 29.1 +0.9
TGL IAMs_20 IAMs_20 08 29 52.7
comp=Z,9μm,18.0s
MMRI Maumere 50.18 209 P P 08 08 28.0 -0.7
MMRI Maumere 50.18 209 P P 08 08 30.1 +1.4
MMRI Maumere 50.18 209 P P 08 08 28.2 -0.5
comp=Z,403nm,2.4s,comp=Z,11μmcomp=Z,7μm
H27K Steamboat Moun 50.20 31 P P 08 08 30.1 +1.7
baz=274,SNR=247
I27K Kandik River 50.21 31 P P 08 08 29.3 +0.8
baz=274,SNR=51
AAA Alma-Ata 50.23 299 *eP* **P 08 08 29.6 +0.6**
baz=299
AAA Alma-Ata 50.23 299 *eP* **P 08 08 29.5 +0.6**
TNSS Tian-Shan 50.26 299 *eP* **P 08 08 30.4 +0.8**
baz=298
TNSS Tian-Shan 50.26 299 *eP* **P 08 08 30.4 +0.8**
D27M Malcolm River 50.27 27 P P 08 08 30.2 +1.4
baz=272,SNR=60
L27K Beaver Creek, 50.35 35 IAMs_20 IAMs_20 08 29 26.8
comp=Z,13μm,20.0s
L27K Beaver Creek, 50.35 35 P P 08 08 30.9 +1.4
baz=276,SNR=78
M27K Edge Creek, AK 50.41 36 P P 08 08 31.2 +1.1
baz=277,SNR=49
KUU Kurty 50.43 300 *eP* **P 08 08 29.8 -0.6**
comp=Z,735nm,1.9s,baz=300
KUU *eS* **S 08 15 44.0 +0.5**
baz=300
KUU LR LR 08 30 11.6
comp=Z,13μm,14.5s,baz=300
KUU Kurty 50.43 300 *eP* **P 08 08 29.7 -0.6**
KUU *eS* **S 08 15 44.0 +0.5**
KUU pmax pmax
comp=Z,735nm,1.9s
KUU MLR MLR
comp=Z,13μm,14.0s
SOEI Soe 50.48 206 P P 08 08 31.1 0.0
SOEI Soe 50.48 206 P P 08 08 30.1 -1.0
comp=Z,485nm,1.3s,comp=Z,7μmcomp=Z,6μm
SOEI Soe 50.48 206 P P 08 08 26.8 -4.3
SOEI Soe 50.48 206 ⇓P P 08 08 29.3 -1.8
DANN Dangsing 50.64 278 *eP* **P 08 08 33.0 +0.5**
comp=Z,2μm,0.6s
MESA MESA 50.66 38 IAMs_20 IAMs_20 08 27 33.2
comp=Z,10μm,19.0s
MESA MESA 50.66 38 P P 08 08 32.4 +0.4
baz=278
GRNC Granite Creek 50.67 38 IAMs_20 IAMs_20 08 27 35.7
comp=Z,9μm,21.0s
YAH Yahtse 50.73 38 IAMs_20 IAMs_20 08 30 26.1
comp=Z,9μm,18.0s
F28M Old Crow 50.76 29 P P 08 08 34.1 +1.6
baz=274,SNR=166
E28M Babbage River 50.82 27 P P 08 08 34.4 +1.5
baz=274,SNR=135
KULM Kulim 50.83 242 P P 08 08 34.0 +0.3
KULM IAmb IAmb 08 08 39.6
comp=Z,328nm,1.4s
KULM IAMs_20 IAMs_20 08 31 10.2
comp=Z,11μm,20.0s
CTG Chitna Glacier 50.84 37 P P 08 08 34.8 +1.4
baz=278,SNR=22
CTGM Chitina Glacie 50.84 37 IAMs_20 IAMs_20 08 30 15.0
comp=Z,8μm,18.0s
BVCY Beaver Creek 50.87 35 P P 08 08 33.5 +0.1
baz=278
I28M Miner Creek 50.92 31 P P 08 08 34.8 +0.9
baz=276,SNR=118
ULHL Ulahol 51.00 298 P P 08 08 35.5 +0.5
SNR=9.6
KOLN Koldanda 51.03 278 *eP* **P 08 08 34.7 -0.7**
comp=Z,2μm,1.6s
KDU Kakadu 51.05 195 P P 08 08 34.0 -1.2
KDU Kakadu 51.05 195 ⇑P P 08 08 33.6 -1.5
D28M Stokes Point 51.06 26 P P 08 08 35.8 +1.1
baz=274
BOK Bokaro 51.10 272 *eP* **P 08 08 35.9 +0.2**
BOK IAmb IAmb 08 08 50.0
comp=Z,186nm,0.9s
BATI Baumata 51.11 206 P P 08 08 35.2 -0.5
comp=Z,262nm,0.7s,comp=Z,6μmcomp=Z,5μm
BATI Baumata 51.11 206 LR LR 08 28 26.7
comp=Z,3μm,21.0s,baz=7.0,slow=34
YUK3 Moose Creek 51.14 36 P P 08 08 36.6 +0.9
baz=278,SNR=50
COEN Coen 51.15 181 P P 08 08 35.4 -0.6
COEN IAmb IAmb 08 08 41.8
comp=Z,285nm,1.1s
COEN Coen 51.15 181 P P 08 08 35.7 -0.3
COEN Coen 51.15 181 ⇓P P 08 08 35.4 -0.6
BRZS Berezniki 51.17 308 *eP* **P 08 08 35.1 -0.8**
baz=308
BRZS *eS* **S 08 15 53.3 -0.4**
baz=308
BRZS Berezniki 51.17 308 *eP* **P 08 08 35.0 -0.8**
BRZS *eS* **S 08 15 53.2 -0.4**
MYKOM Kota Tinggi 51.20 236 P P 08 08 36.6 +0.2
MYKOM IAMs_20 IAMs_20 08 33 28.9
comp=Z,8μm,18.0s
TKM2 Tokmak 2 51.24 299 P P 08 08 37.3 +0.5
SNR=115
TKM2 Tokmak 2 51.24 299 *i* P **P 08 08 36.7 -0.1**
TKM2 pmax pmax
comp=Z,553nm,1.0s
DAWY Dawson 51.31 33 P P 08 08 37.5 +0.8
baz=277,SNR=68
PYUN Piuthan 51.36 278 *eP* **P 08 08 38.0 +0.2**
comp=Z,2μm,1.3s
TPRI Tanjung Pinang 51.41 234 P P 08 08 38.4 +0.4
comp=Z,214nm,1.3s,comp=Z,5μmcomp=Z,8μm
O28M Mount Upton 51.43 37 P P 08 08 38.9 +1.0
baz=279,SNR=22
E29M Blow River 51.44 28 P P 08 08 39.2 +1.6
baz=275,SNR=212
NRN Naryn 51.44 297 P P 08 08 38.4 0.0
NRN Naryn 51.44 297 P P 08 08 38.4 0.0
NRN pmax pmax
comp=Z,110nm,0.8s
H29M Whitestone 51.48 30 P P 08 08 39.3 +1.4
baz=277,SNR=102
MTN Manton Dam 51.48 196 P P 08 08 37.0 -1.4
MTN IAmb IAmb 08 08 41.4
comp=Z,372nm,1.0s
MTN Manton Dam 51.48 196 P P 08 08 37.2 -1.2
MTN Manton Dam 51.48 196 ⇑P P 08 08 35.5 -2.9
MTN ⇓P P 08 08 37.2 -1.2
MTN ⇑P sP 08 08 39.4 -1.8
PINM Pinnacle 51.51 38 P P 08 08 38.6 +0.3
baz=280
G29M Pine Creek 51.54 30 P P 08 08 40.2 +1.9
baz=276,SNR=134
YUK8 Steele Glacier 51.55 37 P P 08 08 39.7 +0.8
baz=279,SNR=10
I29M Ogilvie Camp, 51.61 32 P P 08 08 40.0 +1.0
baz=277,SNR=201
BTLS Baital 51.65 302 *eP* **P 08 08 39.0 -0.6**
baz=302
BTLS *i* S **S 08 16 01.0 +0.6**
baz=302
BTLS Baital 51.65 302 *eP* **P 08 08 38.9 -0.6**
BTLS *i* S **S 08 16 00.9 +0.6**
SGDS Sogindy 51.74 300 *eP* **P 08 08 40.3 0.0**
baz=300
SGDS *eS* **S 08 16 02.3 +0.4**
baz=300
SGDS Sogindy 51.74 300 *eP* **P 08 08 40.3 0.0**
SGDS *eS* **S 08 16 02.3 +0.4**
J29N Klondike Camp 51.77 33 P P 08 08 41.3 +1.1
baz=278,SNR=13
KBK Karagaybulak 51.78 299 P P 08 08 41.0 +0.2
SNR=64
CHMS Chumysh 51.80 299 P P 08 08 41.3 +0.5
SNR=28
BVA0 Borovoye Array 51.81 312 *i* P **P 08 08 40.0 -0.6**
BVAR Borovoye Array 51.81 312 P P 08 08 40.3 -0.3
comp=Z,107nm,0.7s,baz=70,slow=7.8,SNR=104
BVAR PcP **PcP 08 09 53.5 -0.1**
comp=Z,133nm,0.9s,baz=58,slow=3.6,SNR=6.2

BVAR S **S 08 16 06.4 +4.0**
comp=Z,2.6nm,0.8s,baz=91,slow=12,SNR=1.5
BVAR LR LR 08 32 19.8
comp=Z,27μm,18.1s,baz=74,slow=38
BVAR P4KPbc 08 46 06.9
comp=Z,0.4nm,0.4s,baz=105,slow=3.4,SNR=2.4
comp=Z,107nm,0.7s
BCPM Bancas Point 51.84 38 IAMs_20 IAMs_20 08 28 33.4
comp=Z,9μm,20.0s
OTUK Ortayu 51.85 306 P P 08 08 39.9 -1.1
BRVK Borovoye 51.87 313 P P 08 08 40.7 -0.3
BRVK Borovoye 51.87 313 *i* P **P 08 08 40.7 -0.3**
BRVK pmax pmax
comp=Z,210nm,1.1s
BRVK MLR MLR
comp=Z,29μm,18.0s
BRVK Borovoye 51.87 313 P P 08 08 41.1 +0.1
BRVK P **P 08 08 41.1 +0.1**
BRVK P **P 08 08 41.1 +0.1**
BRVK S **S 08 16 02.8 -0.3**
BRVK S **S 08 16 02.8 -0.3**
BRVK S **S 08 16 02.8 -0.3**
USP Ospenovka 51.89 300 P P 08 08 41.5 +0.1
SNR=62
FRU1 Bishkek 51.95 299 IAMs_20 IAMs_20 08 30 56.3
comp=Z,16μm,19.0s
M29M Somme Creek 51.97 35 P P 08 08 43.4 +1.7
baz=280,SNR=49
L29M L29M 52.01 34 P P 08 08 43.8 +1.8
baz=279,SNR=110
PNL Peninsula 52.01 39 P P 08 08 44.9 +2.9
PNL Peninsula 52.01 39 P P 08 08 42.9 +0.9
baz=281
OPA Opana 52.06 90 P P 08 08 44.1 +1.3
OPA IAmb IAmb 08 08 48.9
comp=Z,362nm,1.1s
OPA IAMs_20 IAMs_20 08 34 10.2
comp=Z,9μm,19.0s
OPA Opana 52.06 90 P P 08 08 44.2 +1.3
OPA pmax pmax
comp=Z,362nm,1.1s
OPA MLR MLR
comp=Z,9μm,19.0s
YUK4 Talbot Arm 52.07 37 P P 08 08 44.3 +1.6
baz=280,SNR=32
AAK Ala-Archa 52.10 299 P P 08 08 43.0 -0.1
SNR=41
AAK Ala-Archa 52.10 299 P P 08 08 42.9 -0.3
AAK Ala-Archa 52.10 299 IAMs_20 IAMs_20 08 32 50.1
comp=Z,16μm,18.0s
AAK Ala-Archa 52.10 299 *d i* P **P 08 08 43.0 -0.1**
AAK pmax pmax
comp=Z,194nm,1.4s
AAK MLR MLR
comp=Z,21μm,17.0s
AAK Ala-Archa 52.10 299 *i* P **P 08 08 43.2 +0.1**
SNR=60
AAK Ala-Archa 52.10 299 P P 08 08 43.2 +0.1
AAK P **P 08 08 43.2 +0.1**
AAK S **S 08 16 08.5 +1.5**
AAK S **S 08 16 08.5 +1.5**
AAK Ala-Archa 52.10 299 ⇑P P 08 08 43.0 -0.1
AAK ⇑P **P 08 08 43.2 +0.1**
AAK Ala-Archa 52.10 299 LR LR 08 33 12.1
comp=Z,13μm,18.2s,baz=77,slow=39
KSH Kashi 52.11 295 P P 08 08 47.7 +4.5
KSH pP pwP 08 08 50.2 -3.8
KSH PcP **PcP 08 09 59.4 +4.3**
KSH PP **PP 08 10 48.6 +7.3**
KSH S **S 08 16 12.4 +5.2**
KSH SS **SS 08 19 46.8 +2.7**
KSH pmax pmax
comp=Z,81nm,1.2s
KSH pmax pmax
comp=Z,7μm,7.0s
KSH LR LR
comp=Z,33μm,15.5s
KSH LR LR
comp=Z,47μm,16.8s
KSH LR LR
comp=Z,61μm,15.1s
EPYK Eagle Plains 52.12 30 P P 08 08 44.0 +1.3
baz=278,SNR=198
K29M Barlow Dome 52.16 33 P P 08 08 44.6 +1.4
baz=279,SNR=118
PLAI Plampang 52.19 214 P P 08 08 42.5 -1.3
PLAI Plampang 52.19 214 P P 08 08 41.4 -2.4
comp=Z,261nm,1.9s,comp=Z,4μm
KIP Kipapa 52.19 91 P P 08 08 44.9 +1.1
UCH Uchtor 52.22 298 P P 08 08 45.3 +0.9
SNR=37
G30M tAoh Zraii Nji 52.23 29 P P 08 08 44.1 +0.5
G30M tAoh Zraii Nji 52.23 29 P P 08 08 44.6 +1.0
baz=278,SNR=179
BASI Baing, Sumba 52.27 210 P P 08 08 44.8 +0.4
comp=Z,597nm,1.1s,comp=Z,8μm
YUK6 Outpost Mounta 52.28 37 P P 08 08 45.8 +1.5
baz=281,SNR=16
O29M Mount Kennedy 52.30 38 IAMs_20 IAMs_20 08 28 44.4
comp=Z,9μm,20.0s
O29M Mount Kennedy 52.30 38 P P 08 08 45.9 +1.7
baz=281,SNR=46
F30M Barrier River 52.31 28 P P 08 08 46.1 +1.9
baz=278,SNR=109
KMMI Kalianget 52.42 219 P P 08 08 45.4 -0.1
I30M Mount Dempster 52.43 32 P P 08 08 46.3 +1.1
baz=279,SNR=359
DSRI Dabo 52.44 233 P P 08 08 46.5 +0.8
comp=Z,140nm,2.0s,comp=Z,6μmcomp=Z,8μm
PBA Port Blair 52.46 255 P P 08 08 46.1 +0.2
TWSI Taliwang, Sumb 52.51 215 P P 08 08 44.2 -1.9
comp=Z,373nm,1.1s,comp=Z,4μm
J30M Hart River 52.56 32 P P 08 08 47.3 +1.2
baz=280,SNR=74
EKS2 Erkin-Say 52.59 299 P P 08 08 46.6 -0.1
SNR=32
M30M Minto, Yukon 52.71 35 IAMs_20 IAMs_20 08 30 25.0
comp=Z,9μm,21.0s
M30M Minto, Yukon 52.71 35 P P 08 08 48.8 +1.6
baz=281,SNR=49
SRBI Singaraja 52.71 217 P P 08 08 47.6 0.0
comp=Z,1μm,1.1s,comp=Z,18μmcomp=Z,9μm
HYT Haines Junctio 52.71 37 P P 08 08 49.2 +1.9
baz=282,SNR=95
PPBI Pangkal Pinang 52.77 230 P P 08 08 47.9 -0.2
comp=Z,202nm,1.4s,comp=Z,9μmcomp=Z,9μm
N30M Aishikik Lake 52.78 36 IAMs_20 IAMs_20 08 30 18.2
comp=Z,8μm,20.0s
N30M Aishikik Lake 52.78 36 P P 08 08 49.4 +1.6
baz=281,SNR=24
AML Almayashu 52.83 298 P P 08 08 49.3 +0.5
SNR=148
AML Almayashu 52.83 298 *i* P **P 08 08 49.1 +0.3**
AML pmax pmax
comp=Z,125nm,1.1s
P29M Windy Craggy 52.84 39 P P 08 08 50.1 +1.9
baz=282,SNR=33
PTH Pithoragarh 52.88 281 *eP* **P 08 08 49.2 0.0**
LGTI Lohaghat 52.91 281 *eP* **P 08 08 50.1 +1.1**
MAYO Mayo, Yukon 52.92 34 P P 08 08 50.4 +1.7
baz=281
ABJI Asem Bagus 52.93 218 P P 08 08 48.8 -0.5
comp=Z,428nm,1.3s,comp=Z,9μmcomp=Z,8μm
G31M Satah River 53.00 29 P P 08 08 50.0 +0.8
baz=280,SNR=79
INK Inuvik 53.05 27 P P 08 08 50.3 +0.7
baz=279,SNR=57
INK Inuvik 53.05 27 ⇓P P 08 08 50.1 +0.5
INK Inuvik 53.05 27 LR LR 08 32 29.5
comp=Z,7μm,21.8s,baz=286,slow=37
GRJI Gresik 53.06 221 P P 08 08 49.7 -0.5
comp=Z,854nm,1.2s,comp=Z,12μmcomp=Z,7μm
F31M Tsilgehtchic 53.12 29 P P 08 08 50.7 +0.7
baz=280,SNR=95
P30M Million Dollar 53.12 38 P P 08 08 52.0 +1.7
baz=282
H31M Peel River 53.17 31 P P 08 08 51.6 +1.1
baz=280,SNR=239
BLJI Banyuglugur 53.20 219 P P 08 08 50.2 -1.1
comp=Z,199nm,0.9s,comp=Z,5μm
DNP Denpasar 53.23 216 P P 08 08 50.8 -0.6
comp=Z,714nm,0.9s
IGBI Denpasar 53.38 216 P P 08 08 50.1 -2.5
comp=Z,224nm,1.4s,comp=Z,4μm
N31M Braeburn, Yuko 53.39 36 IAMs_20 IAMs_20 08 30 46.4
comp=Z,9μm,20.0s

N31M	Braeburn, Yuko	53.39	36	P	P	08 08 54.1	+1.9
	baz=282,SNR=39						
O30N	Mendenhall	53.40	37	P	P	08 08 53.6	+1.3
	baz=283,SNR=19						
UWJI	Ujung Watu	53.45	222	P	P	08 08 53.2	+0.1
	comp=Z,776nm,1.3s,comp=Z,11µm						
LHMI	Lhok Sumawe	53.51	245	IAMs_20	IAMs_20	08 32 07.1	
	comp=Z,13µm,21.0s						
LHMI	Lhok Sumawe	53.51	245	P	P	08 08 54.9	+1.3
LHMI	Lhok Sumawe	53.51	245	P	P	08 08 54.4	+0.8
	comp=Z,374nm,1.2s,comp=Z,9µmcomp=Z,14µm						
JAGI	Jajag, Banyuwa	53.55	218	P	P	08 08 53.0	-0.9
JAGI				IAmb	IAmb	08 09 07.3	
	comp=Z,281nm,1.3s						
JAGI	Jajag, Banyuwa	53.55	218	P	P	08 08 53.2	-0.7
JAGI	Jajag, Banyuwa	53.55	218	P	P	08 08 53.1	-0.8
	comp=Z,154nm,1.3s,comp=Z,4µmcomp=Z,5µm						
JAGI	Jajag, Banyuwa	53.55	218	⇓P	P	08 08 51.3	-2.6
PLBC	Pleasant Camp	53.57	39	P	P	08 08 55.4	+2.0
	baz=283,SNR=28						
GMJI	Gumukmas	53.73	219	P	P	08 08 53.3	-1.9
	comp=Z,138nm,1.1s,comp=Z,3µm						
PSI	Prapat	53.80	241	P	P	08 08 55.6	-0.3
PSI	Prapat	53.80	241	P	P	08 08 55.2	-0.7
PSI				pmax	pmax		
	comp=Z,167nm,1.1s						
PSI				MLR	MLR		
	comp=Z,7µm,20.0s						
RPSI	Rantau Prapat	53.88	241	P	P	08 08 55.2	-1.1
M31M	Drury Creek, Y	53.88	35	P	P	08 08 56.7	+0.9
M31M				IAMs_20	IAMs_20	08 36 06.0	
	comp=Z,8µm,18.0s						
M31M	Drury Creek, Y	53.88	35	P	P	08 08 57.1	+1.3
	baz=283,SNR=46						
NGJI	Ngawi	53.98	221	P	P	08 08 56.8	-0.2
	comp=Z,465nm,1.2s,comp=Z,8µmcomp=Z,12µm						
S31K	Pelican	53.99	40	P	P	08 08 57.1	+0.5
	baz=285						
WHY	Whitehorse	54.01	37	P	P	08 08 58.4	+1.6
	baz=284,SNR=40						
SKAG	Skagway	54.08	38	P	P	08 08 57.9	+0.7
SKAG				IAmb	IAmb	08 09 03.5	
	comp=Z,291nm,1.3s						
SKAG	Skagway	54.08	38	P	P	08 08 59.1	+1.9
SKAG	Skagway	54.08	38	P	P	08 08 59.0	+1.9
	baz=284						
SKAG	Skagway	54.08	38	⇑P	P	08 08 59.1	+1.9
KCSI	Kotacane, Aceh	54.10	243	P	P	08 08 56.6	-1.4
	comp=Z,88nm,1.1s						
R31K	City Hall, Gus	54.13	40	P	P	08 08 58.9	+1.3
	baz=285						
BKNI	Bangkinang	54.15	237	P	P	08 08 58.3	0.0
BKNI				IAMs_20	IAMs_20	08 33 09.2	
	comp=Z,8µm,20.0s						
BKNI	Bangkinang	54.15	237	P	P	08 08 58.6	+0.3
BKNI	Bangkinang	54.15	237	P	P	08 08 58.5	+0.3
	comp=Z,897nm,1.2s,comp=Z,9µmcomp=Z,8µm						
BKNI	Bangkinang	54.15	237	P	P	08 08 54.5	-3.8
BKNI	Bangkinang	54.15	237	⇓P	P	08 08 58.7	+0.4
DZA	Taraz	54.20	300	*e*P	P	08 08 58.5	+0.1
	baz=300						
DZA	Taraz	54.20	300	*e*P	P	08 08 58.5	+0.1
PMBI	Palembang	54.21	231	P	P	08 08 59.7	+1.0
	comp=Z,632nm,0.6s,comp=Z,51µm						
DDI	Dehra Dun	54.22	283	*e*P	P	08 08 59.1	+0.4
SMRI	Semarang	54.25	223	P	P	08 08 58.9	-0.1
SMRI	Semarang	54.25	223	P	P	08 08 59.3	+0.3
SMRI	Semarang	54.25	223	P	P	08 08 59.4	+0.4
	comp=Z,1µm,1.2s,comp=Z,14µmcomp=Z,10µm						
SMRI	Semarang	54.25	223	⇑P	P	08 08 59.4	+0.4
FARO	Faro, Yukon	54.35	35	P	P	08 09 00.5	+1.3
	baz=284						
PWJI	Pagerwojo	54.35	221	P	P	08 08 58.0	-1.7
	comp=Z,428nm,0.8s,comp=Z,3µm						
SMLA	Simla	54.55	285	*e*P	P	08 09 00.2	-0.8
SMLA				IAmb	IAmb	08 09 18.9	
	comp=Z,574nm,0.9s						
MLSI	Meulaboh, Aceh	54.56	245	P	P	08 09 00.1	-1.2
	comp=Z,108nm,0.7s						
WOJI	Wonogiri, Jawa	54.65	222	P	P	08 09 01.5	-0.4
	comp=Z,190nm,1.1s,comp=Z,9µmcomp=Z,5µm						
KK31	Karatay Array	54.69	301	*i* P	P	08 09 01.7	-0.3
KKAR	Karatay Array	54.69	301	P	P	08 09 01.4	-0.6
KKAR	Karatay Array	54.69	301	P	P	08 09 01.4	-0.6
KKAR	Karatay Array	54.69	301	⇑P	P	08 09 00.3	-1.7
KKAR				⇑P	pP	08 09 01.8	-2.1
SIT	Sitka	54.70	41	P	P	08 09 02.9	+1.1
SIT				IAmb	IAmb	08 09 06.9	
	comp=Z,788nm,1.9s						
SIT	Sitka	54.70	41	P	P	08 09 03.8	+2.0
SIT	Sitka	54.70	41	P	P	08 09 02.9	+1.1
SIT				pmax	pmax		
	comp=Z,788nm,1.9s						
SIT	Sitka	54.70	41	P	P	08 09 03.1	+1.4
	baz=286						
DHRM	DHARAMSHALA	54.73	286	*e*P	P	08 09 02.3	-0.4
DHRM				IAmb	IAmb	08 09 24.7	
	comp=Z,782nm,1.0s						
N32M	Quiet Lake	54.74	36	IAMs_20	IAMs_20	08 30 31.6	
	comp=Z,9µm,20.0s						
N32M	Quiet Lake	54.74	36	P	P	08 09 03.2	+1.1
	baz=285						
KNRA	Kununurra	54.77	198	P	P	08 09 01.9	-0.7
KNRA				IAmb	IAmb	08 09 05.6	
	comp=Z,644nm,1.3s						
KNRA	Kununurra	54.77	198	P	P	08 09 03.9	+1.3
R32K	Eaglecrest	54.79	40	P	P	08 09 04.0	+1.5
	baz=286,SNR=12						
SDSI	Sungai Dareh	54.83	236	P	P	08 09 03.1	-0.1
	comp=Z,455nm,1.2s,comp=Z,8µmcomp=Z,8µm						
P32M	Atlin	54.84	38	P	P	08 09 03.8	+1.0
P32M				IAmb	IAmb	08 09 08.9	
	comp=Z,276nm,1.4s						
P32M	Atlin	54.84	38	P	P	08 09 04.5	+1.7
	baz=285,SNR=19						
UGM	Wanagama	54.93	222	P	P	08 09 03.3	-0.7
UGM	Wanagama	54.93	222	P	P	08 09 03.2	-0.7
	comp=Z,2µm,1.2s,comp=Z,19µmcomp=Z,8µm						
YOGI	Yogyakarta	54.97	222	P	P	08 09 02.9	-1.3
	comp=Z,837nm,1.2s,comp=Z,10µm						
S32K	Killisnoo	54.98	41	P	P	08 09 03.9	+0.1
S32K				IAmb	IAmb	08 09 09.8	
	comp=Z,309nm,1.6s						
S32K	Killisnoo	54.98	41	P	P	08 09 05.0	+1.3
	baz=286						
JCJI	Jatiwangi	54.98	225	P	P	08 09 05.8	+1.5
	comp=Z,1µm,1.4s,comp=Z,18µm						
POHA	Pohakuloa	55.04	91	P	P	08 09 05.3	+0.3
POHA				IAmb	IAmb	08 09 10.8	
	comp=Z,439nm,1.1s						
POHA	Pohakuloa	55.04	91	P	P	08 09 07.1	+2.1
POHA	Pohakuloa	55.04	91	⇓P	P	08 09 06.6	+1.6
A36M	Sachs Harbour	55.08	22	P	P	08 09 05.2	+0.9
	baz=284						
THN	Thein Dam	55.10	287	*e*P	P	08 09 05.4	+0.4
P33M	Teslin, Yukon	55.11	37	P	P	08 09 05.9	+1.1
P33M				IAmb	IAmb	08 09 09.8	
	comp=Z,669nm,1.5s						
P33M				IAMs_20	IAMs_20	08 32 15.7	
	comp=Z,9µm,20.0s						
P33M	Teslin, Yukon	55.11	37	P	P	08 09 06.3	+1.5
	baz=286,SNR=70						
MLOA	Mauna Loa Obse	55.12	91	P	P	08 09 04.0	-1.9
MLOA				IAmb	IAmb	08 09 11.8	
	comp=Z,307nm,1.0s						
MMPY	Sheldon Lake,	55.19	34	P	P	08 09 06.8	+1.5
	baz=285						
KHU	Kahuku	55.25	92	P	P	08 09 06.3	-0.3
KHU	Kahuku	55.25	92	P	P	08 09 06.3	-0.3
KHU				pmax	pmax		
	comp=Z,877nm,1.5s						
MTSU	Mount Surprise	55.30	180	P	P	08 09 06.0	-0.5
AIN	Ainahou	55.30	91	P	P	08 09 06.8	-0.1
KPJI	Karang Pucung	55.31	224	P	P	08 09 05.7	-0.9
	comp=Z,684nm,1.2s,comp=Z,8µm						
IUG	Iuzhnay	55.37	300	*e*P	P	08 09 07.2	+0.1
	comp=Z,453nm,1.4s,baz=300						
IUG				*e*S	S	08 16 51.7	+0.5
	baz=300						
IUG	Iuzhnay	55.37	300	*e*P	P	08 09 07.1	+0.1
IUG				*e*S	S	08 16 51.7	+0.5
IUG				pmax	pmax		
	comp=Z,453nm,1.4s						
RAGD	RAYAGADA	55.38	269	*e*P	P	08 09 07.8	+0.5
PDSI	Padang	55.45	237	P	P	08 09 07.2	-0.6
	comp=Z,84nm,1.3s						
PUH	Pauahi	55.50	91	P	P	08 09 07.7	-0.5
PUH				IAmb	IAmb	08 09 13.3	
	comp=Z,226nm,0.9s						
CHM	Chimkent	55.60	300	*e*P	P	08 09 08.8	+0.2
	baz=300						
CHM				LR	LR	08 33 47.0	
	baz=300						
CHM	Chimkent	55.60	300	*e*P	P	08 09 08.7	+0.2
LEM	Lembang	55.63	226	P	P	08 09 08.8	-0.4
	comp=Z,790nm,1.3s,comp=Z,12µmcomp=Z,7µm						
LEM	Lembang	55.63	226	LR	LR	08 33 21.7	
	comp=Z,6µm,20.5s,baz=6.5,slow=37						
KLI	Kotabumi	55.68	230	P	P	08 09 08.6	-0.7
	comp=Z,798nm,1.1s,comp=Z,10µmcomp=Z,9µm						
Q32M	Nakina River	55.73	39	P	P	08 09 10.9	+1.5
	baz=287,SNR=15						
GSI	Gunungsitoli	55.81	241	P	P	08 09 10.0	-0.2
GSI				IAMs_20	IAMs_20	08 33 48.1	
	comp=Z,13µm,20.0s						
GSI	Gunungsitoli	55.81	241	P	P	08 09 11.7	+1.4
GSI	Gunungsitoli	55.81	241	P	P	08 09 10.1	-0.2
	comp=Z,762nm,1.2s,comp=Z,10µmcomp=Z,8µm						
GSI	Gunungsitoli	55.81	241	⇓P	P	08 09 10.1	-0.2
SNSI	Sinabang, Aceh	55.91	243	P	P	08 09 10.8	-0.2
	comp=Z,273nm,1.3s,comp=Z,8µmcomp=Z,11µm						
SONA	Sohna	55.92	282	*e*P	P	08 09 11.1	+0.1
CMJI	Cimerak	55.95	224	P	P	08 09 08.0	-3.2
	comp=Z,186nm,1.3s,comp=Z,4µm						
T33K	Petersburg	56.02	41	P	P	08 09 12.6	+1.4
	baz=288,SNR=12						
JHNI	Jhansi	56.11	278	*e*P	P	08 09 10.2	-2.2
BBJI	Bungbulang	56.13	225	P	P	08 09 13.2	+0.6
KSI	Kapahiang	56.14	233	P	P	08 09 11.6	-1.1
U33K	Whale Pass	56.15	42	P	P	08 09 13.5	+1.4
U33K				IAmb	IAmb	08 09 19.1	
	comp=Z,363nm,1.1s						
U33K				IAMs_20	IAMs_20	08 30 17.0	
	comp=Z,7µm,20.0s						
U33K	Whale Pass	56.15	42	P	P	08 09 13.6	+1.4
	baz=288,SNR=19						
C36M	Paulatuk	56.16	25	P	P	08 09 12.7	+0.6
C36M	Paulatuk	56.16	25	P	P	08 09 12.9	+0.8
	baz=287,SNR=22						
SVE	Sverdlovsk	56.19	319	*c*e*P	P	08 09 12.7	+0.2
SVE				*e*		08 11 23.4	
SVE				*e*S	S	08 17 02.2	+0.8
SVE				*e*		08 18 55.0	
SVE				pmax	pmax		
	comp=Z,619nm,1.1s						
SVE				pmax	pmax		
	comp=Z,3µm,9.6s						
SVE				MLR	MLR		
	comp=Z,56µm,17.0s						
SVE				MLR	MLR		
	comp=E,42µm,16.0s						
R33M	Jennings River	56.24	38	P	P	08 09 14.3	+1.3
R33M	Jennings River	56.24	38	P	P	08 09 14.8	+1.8
	baz=288,SNR=55						
LWLI	Liwa	56.28	230	P	P	08 09 12.2	-1.6
	comp=E,355nm,1.3s,comp=E,5µm						
PBSI	Pulau Batu	56.30	239	P	P	08 09 13.6	-0.2
	comp=E,287nm,1.8s						
CNJI	Cibinong	56.30	226	P	P	08 09 11.5	-2.2
	comp=E,133nm,1.2s,comp=E,2µm						
VIS	Vishakhapatnam	56.31	267	*e*P	P	08 09 14.6	+0.7
CRAG	Craig	56.35	43	P	P	08 09 15.6	+2.0
CRAG	Craig	56.35	43	P	P	08 09 15.2	+1.6
	baz=288						
FUNA	Funafuti	56.36	137	P	P	08 09 15.0	+0.8
KASI	Kota Agung	56.42	229	P	P	08 09 11.8	-2.8
	comp=E,173nm,1.3s,comp=E,3µm						
KUDL	Kundal	56.43	282	*e*P	P	08 09 13.3	-1.3
NIL	Nilore	56.44	289	IAMs_20	IAMs_20	08 35 56.4	
	comp=Z,9µm,21.0s						
TV1H	Townsville Har	56.48	177	P	P	08 09 14.7	-0.2
CGJI	Cibinong	56.57	228	P	P	08 09 12.3	-3.4
	comp=Z,171nm,1.3s						
S34M	Telegraph Cree	56.62	40	P	P	08 09 17.2	+1.6
	baz=288,SNR=26						
SISI	Saibi	56.67	238	P	P	08 09 15.8	-0.7
	comp=Z,162nm,1.1s,comp=Z,4µmcomp=Z,7µm						
AUAYR	Ayr State High	56.83	176	P	P	08 09 17.5	+0.2
TGTN	Hyland Airport	56.85	35	P	P	08 09 18.9	+1.7
	baz=288						
DLBC	Dease Lake	57.00	39	P	P	08 09 19.2	+0.8
DLBC				IAmb	IAmb	08 09 24.7	
	comp=Z,295nm,1.1s						
DLBC	Dease Lake	57.00	39	P	P	08 09 20.1	+1.8
	baz=289,SNR=46						
DLBC	Dease Lake	57.00	39	LR	LR	08 31 41.3	
	comp=Z,4µm,20.8s,baz=286,slow=34						
PPSI	Pulau Pagai	57.13	236	P	P	08 09 19.1	-0.6
	comp=Z,589nm,1.3s,comp=Z,7µm						
V35K	Ketchikan	57.21	43	IAMs_20	IAMs_20	08 31 22.7	
	comp=Z,7µm,20.0s						
V35K	Ketchikan	57.21	43	P	P	08 09 20.8	+1.1
	baz=290						
CTA	Charters Tower	57.28	177	P	P	08 09 19.6	-1.0
CTA	Charters Tower	57.28	177	LR	LR	08 35 08.8	
	comp=Z,3µm,18.9s,baz=1.5,slow=37						
CTAO	Charters Tower	57.28	177	P	P	08 09 18.9	-1.7
CTAO	Charters Tower	57.28	177	P	P	08 09 19.4	-1.2
CTAO	Charters Tower	57.28	177	P	P	08 09 18.9	-1.7
CTAO	Charters Tower	57.28	177	⇑P	P	08 09 19.2	-1.4
T35M	Bob Quinn	57.37	40	P	P	08 09 22.8	+1.8
T35M				IAmb	IAmb	08 09 28.8	
	comp=Z,313nm,1.1s						
T35M	Bob Quinn	57.37	40	P	P	08 09 23.0	+2.0
	baz=290,SNR=63						
ARU	Arti	57.40	319	P	P	08 09 21.3	+0.2
ARU				IAmb	IAmb	08 09 35.9	
	comp=Z,417nm,0.9s						
ARU	Arti	57.40	319	*d*P	P	08 09 20.9	-0.2
ARU						08 11 22.4	
ARU				S	S	08 17 19.2	+1.8
ARU						08 18 58.6	
ARU				SSS	SSS	08 23 28.9	
ARU				pmax	pmax		
	comp=Z,823nm,1.5s						
ARU				pmax	pmax		
	comp=Z,2µm,7.2s						
ARU				MLR	MLR		
	comp=Z,47µm,17.0s						
ARU	Arti	57.40	319	LR	LR	08 36 42.3	
	comp=Z,43µm,18.1s,baz=66,slow=39						
DIB	Dawson Inlet,	57.46	45	P	P	08 09 22.0	+0.5
DIB				IAmb	IAmb	08 09 26.7	
	comp=Z,545nm,1.6s						
WRAB	Tennant Creek	57.81	191	P	P	08 09 22.4	-1.9
WRAB				IAmb	IAmb	08 09 26.3	
	comp=Z,376nm,0.8s						
WRAB	Tennant Creek	57.81	191	P	P	08 09 22.7	-1.6
WRAB	Tennant Creek	57.81	191	P	P	08 09 22.4	-1.9
WRAB				pmax	pmax		
	comp=Z,376nm,0.8s						
WB2	Warramunga Arr	57.82	191	P	P	08 09 22.5	-1.9
WRA	Warramunga Arr	57.82	191	P	P	08 09 20.7	-3.7
	comp=Z,287nm,0.7s,baz=12,slow=7.3,SNR=334						
WRA				S	S	08 17 20.4	-3.2
	comp=Z,0.3nm,0.3s,baz=354,slow=23,SNR=1.1						
WRA				PKP2bc		08 39 17.4	
	comp=Z,6.6nm,1.0s,baz=211,slow=1.8,SNR=7.4						
WRA				PKP2ab		08 39 35.2	
	comp=Z,6.4nm,1.0s,baz=195,slow=2.4,SNR=5.0						
WRA				P4KPbc		08 46 29.3	
	comp=Z,0.5nm,1.0s,baz=204,slow=9.9,SNR=2.5						
	comp=Z,287nm,0.7s						
WB1	Warramunga Ar.	57.84	191	P	P	08 09 22.9	-1.6
QIS	Mount Isa	57.86	185	P	P	08 09 23.5	-1.2
BHPL	Bhopal	58.09	276	*e*P	P	08 09 25.5	-1.0
BHPL				IAmb	IAmb	08 09 43.9	
	comp=Z,533nm,1.6s						
WRGLY	Wrigley	58.39	32	P	P	08 09 29.1	+1.2
	baz=291						
LIRD	Liard River Hi	58.59	37	P	P	08 09 31.0	+1.6
	baz=291						
AJM	Ajmer	58.67	281	*e*P	P	08 09 30.5	0.0
AJM				IAmb	IAmb	08 09 48.7	
	comp=Z,845nm,1.3s						
VJD	Vijayawada	59.11	268	*e*P	P	08 09 34.5	+0.9
KBL	Kabul	59.19	292	P	P	08 09 33.3	-0.9
KBL				IAmb	IAmb	08 09 51.6	
	comp=Z,590nm,1.4s						
KBL	Kabul	59.19	292	P	P	08 09 33.3	-0.9
KBL				pmax	pmax		
	comp=Z,590nm,1.5s						
KBL				MLR	MLR		
	comp=Z,24µm,19.0s						
KBL	Kabul	59.19	292	P	P	08 09 33.2	-1.0
	SNR=70						
KBL				P	P	08 09 33.2	-1.0
	SNR=70						
KBL				P	P	08 09 33.2	-1.0
	SNR=70						
KBL				S	S	08 17 41.4	-0.4
KBL				S	S	08 17 41.4	-0.4
KBL				S	S	08 17 41.4	-0.4
AB31	Akbulak array	59.24	311	*i* P	P	08 09 33.4	-0.6
ABKAR	Akbulak array	59.24	311	P	P	08 09 33.0	-1.0
ABKAR				IAmb	IAmb	08 09 48.5	
	comp=Z,296nm,1.0s						
KOTAN	Kotaneelee Air	59.28	36	P	P	08 09 35.2	+1.0
	baz=292						
EUNU	Eureka	59.45	9	IAMs_20	IAMs_20	08 37 17.5	
	comp=Z,9µm,20.0s						
XMI	Christmas Isla	59.67	225	P	P	08 09 38.1	+0.7
XMIS	Christmas Isla	59.72	225	P	P	08 09 38.7	+1.0
AKL	Akola	59.73	274	*e*P	P	08 09 37.8	-0.1
AKL				IAmb	IAmb	08 09 52.2	
	comp=Z,424nm,0.9s						
AKTO	Aktyubinsk	59.92	313	P	P	08 09 37.8	-0.9
AKTO	Aktyubinsk	59.92	313	LR	LR	08 36 35.8	
	comp=Z,15µm,18.3s,baz=57,slow=37						
HOPEN	Hopen	60.12	346	*e*P	P	08 09 41.6	+1.9
HOPEN				IVmB_BB		08 09 43.4	
	comp=Z,4µm,2.6s						
HOPEN				*e*S	S	08 17 54.1	+1.9
HOPEN				IVMs_BB	IVMs_BB	08 38 47.9	
	comp=Z,9µm,15.4s						
HYB	Hyderabad	60.28	270	*e*P	P	08 09 41.5	-0.3
HYB				IAmb	IAmb	08 09 55.8	
	comp=Z,502nm,1.3s						
HYB	Hyderabad	60.28	270	*e*P	P	08 09 41.6	-0.1
HYB				IVmB_BB		08 09 42.3	
	comp=Z,2µm,1.6s						
HYB				*e*sP	sP	08 09 45.7	+1.5
HYB				*e*PcP	PcP	08 10 27.2	+0.2
HYB				*e*PP	PP	08 11 55.5	+0.9
HYB				*e*PcS	PcS	08 14 29.2	-0.4
HYB				*e*S	S	08 17 56.9	+1.0
HYB				*e*ScS	ScS	08 19 32.8	+0.2
HYB				*e*SS	SS	08 21 56.0	+2.8
BBB	Bella Bella	60.30	45	LR	LR	08 33 06.5	
	comp=Z,4µm,19.7s,baz=292,slow=33						
SPA0	Spitsbergen Ar	60.50	349	*e*P	P	08 09 41.7	-0.6
SPA0				IVmB_BB		08 09 47.5	
	comp=Z,2µm,2.4s						
SPA0				*e*S	S	08 17 57.1	0.0
SPA0				IVMs_BB	IVMs_BB	08 40 57.7	
	comp=Z,5µm,16.7s						
SPB2	Spitsbergen Ar	60.50	349	P	P	08 09 42.0	-0.3
SPITS	Spitsbergen Ar	60.50	349	P	P	08 09 40.8	-1.5
	comp=Z,87nm,1.1s,baz=85,slow=9.5,SNR=18						
SPITS				LR	LR	08 39 02.1	
	comp=Z,13µm,18.2s,baz=4.0,slow=39						
	comp=Z,87nm,1.1s						
KBS	Kingsbay	60.58	351	P	P	08 09 43.2	+0.3
KBS				IAmb	IAmb	08 09 46.7	
	comp=Z,269nm,1.0s						
KBS	Kingsbay	60.58	351	IAMs_20	IAMs_20	08 34 58.9	
	comp=Z,10µm,20.0s						
KBS	Kingsbay	60.58	351	P	P	08 09 43.2	+0.3
KBS				pmax	pmax		
	comp=Z,269nm,1.0s						
KBS	Kingsbay	60.58	351	*e*P	P	08 09 43.8	+0.9
KBS				IVmB_BB		08 09 46.6	
	comp=Z,1µm,1.5s						
KBS				*e*S	S	08 18 01.8	+3.7
KBS				IVMs_BB	IVMs_BB	08 39 38.1	
	comp=Z,3µm,15.0s						
KBS	Kingsbay	60.58	351	⇓P	P	08 09 43.4	+0.6
KBS				⇑P	P	08 09 43.7	+0.9
KBS	Kingsbay	60.58	351	*i* P	P	08 09 42.1	-0.8
NOR	Nord	60.75	357	*i* P	P	08 09 42.4	-1.6
NOR				IAmb	IAmb	08 09 46.7	
	comp=Z,989nm,1.9s						
KOUNC	Koumac, New Ca	60.78	158	P	P	08 09 45.4	+0.5
KOUNC	Koumac, New Ca	60.78	158	⇓P	P	08 09 45.2	+0.4
KOUNC				⇑P	pP	08 09 45.6	-1.2
RK1H	Rockhampton Ha	60.83	173	P	P	08 09 44.8	-0.3
HOLB	Holberg	60.92	47	P	P	08 09 46.1	+0.5
HOLB				IAmb	IAmb	08 09 51.3	
	comp=Z,434nm,1.3s						
KIRV	Kirov	61.15	323	*d* *i* P	P	08 09 46.8	-0.1
KIRV	Kirov	61.15	323	LR	LR	08 39 06.8	
	comp=Z,20µm,18.2s,baz=61,slow=39						
GD1S	Gladstone Soft	61.35	173	P	P	08 09 50.8	+2.2
MDRS	Chennai	61.39	265	*e*P	P	08 09 50.2	+1.0
MDRS				IAmb	IAmb	08 10 04.5	
	comp=Z,306nm,0.9s						
HSPB	Hornsund (broa	61.45	348	*i* P	P	08 09 49.3	+0.5
HSPB				*e*S	S	08 18 09.2	0.0
HSPB				*e*L	L	08 35 50.1	
	comp=Z,11µm,22.6s						
PRGR	Permogore	61.52	327	⇓ *i* P	P	08 09 49.6	+0.2
PRGR				*e*		08 12 06.2	
PRGR				*e*S	S	08 18 12.9	+2.4
PRGR				pmax	pmax		
	comp=Z,300nm,1.0s						
AS31	Alice Springs	61.54	191	P	P	08 09 48.5	-1.5
ASAR	Alice Springs	61.54	191	P	P	08 09 48.1	-1.9
ASAR	Alice Springs	61.54	191	P	P	08 09 48.3	-1.7
	comp=Z,113nm,0.9s,baz=9.9,slow=5.6,SNR=271						
ASAR				LR	LR	08 34 30.4	
	comp=Z,4µm,21.9s,baz=10,slow=34						
ASAR				PKPPKP	P'P'df	08 38 58.0	+3.0
	comp=Z,2.2nm,1.0s,baz=204,slow=2.4,SNR=5.7						
ASAR				PKP2bc		08 39 09.2	
	comp=Z,10nm,0.9s,baz=182,slow=2.2,SNR=11						
ASAR				P4KPbc		08 46 43.9	
	comp=Z,0.2nm,0.7s,baz=359,slow=4.6,SNR=2.6						
	comp=Z,113nm,0.9s						
RES	Resolute Bay	61.66	15	P	P	08 09 50.2	0.0
RES				IAmb	IAmb	08 09 53.5	
	comp=Z,408nm,1.1s						
RES	Resolute Bay	61.66	15	P	P	08 09 50.2	0.0
RES				pmax	pmax		
	comp=Z,408nm,1.2s						
RES	Resolute Bay

VADS IVmB_BB 08 10 01.9
comp=Z,3μm,1.2s
VADS *e*S **S** **08 18 28.6 +1.1**
VADS *e*SS **SS** **08 22 34.4 +2.5**
VADS IVMs_BB IVMs_BB 08 41 46.0
comp=Z,8μm,16.7s
PSA00 Pilbara Seismi 62.98 205 P **P** **08 09 58.0 -1.6**
PSA00 Pilbara Seismi 62.98 205 P **P** **08 10 00.7 +1.1**
YATNC Mamie plateau, 63.01 156 P **P** **08 10 01.8 +2.0**
ONTNC Ouen Toro 63.10 157 P **P** **08 10 00.5 +0.1**
ONTNC Ouen Toro 63.10 157 P **P** **08 10 01.2 +0.8**
APA Apatity 63.14 336 ⇓*i*P P 08 09 53.3 -6.9
APA *i* 08 12 16.0
APA *i* PPP PPP 08 13 52.0
APA *i* S **S** **08 18 30.0 -0.6**
APA *i* SSS SSS 08 25 19.0
APA pmax pmax
comp=Z,120nm,0.9s
DGTI Dogotuki 63.17 141 P **P** **08 10 02.9 +1.9**
OUENC Ouen Island, N 63.33 156 P **P** **08 10 03.7 +1.8**
ADZR Andozero 63.38 332 *e*P **P** **08 10 02.6 +0.8**
ADZR pmax pmax
comp=Z,201nm,1.3s
POO Poona 63.41 274 *e*P **P** **08 10 02.4 -0.4**
POO IAmb IAmb 08 10 21.1
comp=Z,324nm,1.2s
MSVF Nonsavu 63.58 143 IAMs_20 IAMs_20 08 38 46.5
comp=Z,9μm,18.0s
MSVF Nonsavu 63.58 143 P **P** **08 10 05.6 +1.9**
MSVF Nonsavu 63.58 143 LR LR 08 37 46.0
comp=Z,7μm,18.2s,baz=338,slow=36
TAVE Taveuni 63.70 141 P **P** **08 10 06.2 +1.8**
PINNC Pines Island, 63.70 156 IAMs_20 IAMs_20 08 41 21.1
comp=Z,12μm,18.0s
PINNC Pines Island, 63.70 156 P **P** **08 10 05.9 +1.5**
KEV Kevo 63.76 340 IAMs_20 IAMs_20 08 42 14.7
comp=Z,12μm,18.0s
RMQ Roma 63.77 175 P **P** **08 10 05.4 +0.6**
SALM Salem 63.83 265 *e*P **P** **08 10 05.9 +0.4**
WRKA Warakurna 63.90 196 P **P** **08 10 04.5 -1.2**
MALK Mahakanadarawa 63.92 260 P **P** **08 10 04.9 -1.3**
HAMF Hammerfest 64.08 341 *e*P **P** **08 10 05.6 -0.7**
HAMF IVmB_BB 08 10 09.3
comp=Z,2μm,1.9s
HAMF *e*S **S** **08 18 43.5 +1.2**
HAMF *e*SS **SS** **08 22 52.8 +2.5**
HAMF IVMs_BB IVMs_BB 08 44 46.6
comp=Z,6μm,14.9s
XMAS Kiritimati 64.13 109 P **P** **08 10 07.6 +0.1**
XMAS Kiritimati 64.13 109 P **P** **08 10 09.9 +2.4**
BHUJ Bhuj 64.20 280 *e*P **P** **08 10 07.8 -0.1**
HRA Herat 64.23 295 P **P** **08 10 07.5 -0.8**
HRA IAmb IAmb 08 10 27.9
comp=Z,280nm,1.2s
HRA IAMs_20 IAMs_20 08 40 58.3
comp=Z,10μm,18.0s
ARA0 ARCESS Array S 64.31 340 *e*P **P** **08 10 08.0 +0.1**
ARA0 IVmB_BB 08 10 11.4
comp=Z,2μm,1.7s
ARA0 *e*S **S** **08 18 47.1 +1.8**
ARA0 *e*SS **SS** **08 22 52.8 -1.2**
ARA0 IVMs_BB IVMs_BB 08 44 15.5
comp=Z,8μm,15.0s
ARCES ARCESS Array B 64.31 340 P **P** **08 10 07.6 -0.4**
ARCES IAmb IAmb 08 10 11.4
comp=Z,302nm,1.4s
ARCES ARCESS Array B 64.31 340 P **P** **08 10 07.5 -0.4**
comp=Z,44nm,0.8s,baz=54,slow=5.7,SNR=85
ARCES PKP2bc 08 39 01.9
comp=Z,4.8nm,0.9s,baz=270,slow=1.2,SNR=7.3
ARCES LR LR 08 42 44.6
comp=Z,17μm,18.2s,baz=52,slow=40
comp=Z,44nm,0.8s
TULEG Thule 64.39 8 IAMs_20 IAMs_20 08 37 10.1
comp=Z,6μm,22.0s
KLMR Klimovskoe 64.49 328 ⇓*i*P **P** **08 10 09.3 +0.1**
KLMR ⇑*i*P **P** **08 10 09.3 +0.1**
KLMR *e*P **P** **08 10 09.3 +0.1**
KLMR AMP 08 10 13.3
comp=Z,536nm,1.5s
KLMR *e*PcP **PcP** **08 10 42.5 -0.8**
KLMR *e*PP **PP** **08 12 31.9 +1.4**
KLMR S **S** **08 18 47.3 -0.3**
KLMR S **S** **08 18 47.3 -0.3**
KLMR SS **SS** **08 22 51.8 -5.3**
KLMR SS **SS** **08 22 51.8 -5.3**
KLMR LQ LQ 08 30 30.8
KLMR LQ LQ 08 30 30.8
KLMR LR LR 08 33 38.7
KLMR AMP 08 40 48.3
comp=Z,24μm,17.3s
KLMR Klimovskoe 64.49 328*d i*P **P** **08 10 09.3 +0.1**
KLMR *e* 08 10 42.5
KLMR *e* 08 12 31.8
KLMR S **S** **08 18 47.2 -0.3**
KLMR SS **SS** **08 22 51.7 -5.3**
KLMR pmax pmax
comp=Z,536nm,1.5s
KLMR MLR MLR
comp=Z,24μm,17.0s
BELG Belogornoye 64.89 318*d i*P **P** **08 10 12.0 +0.1**
BELG pmax pmax
comp=Z,82nm,1.2s
BELG MLR MLR
comp=Z,6μm,16.0s
BELG Belogornoye 64.89 318 LR LR 08 41 04.4
comp=Z,28μm,18.4s,baz=51,slow=38
INKA Innaminka 64.93 183 P **P** **08 10 13.0 +0.7**
NEEM North Greenlan 64.98 4 *i*P **P** **08 10 10.9 -1.6**
NEEM IAmb IAmb 08 10 15.3
comp=Z,531nm,1.1s
KTK1 Kautokeino 65.27 340 *e*P **P** **08 10 14.2 0.0**
KTK1 IVmB_BB 08 10 17.5
comp=Z,2μm,1.8s
OOD Oodnadatta 65.38 188 P **P** **08 10 14.8 -0.5**
GEYT Alibeck 65.43 300 P **P** **08 10 15.1 -0.6**
GEYT IAmb IAmb 08 10 32.3
comp=Z,279nm,1.1s
GEYT Alibeck 65.43 300 P **P** **08 10 15.8 +0.1**
comp=Z,45nm,0.9s,baz=57,slow=5.5,SNR=68
GEYT PKP2ab 08 38 57.4
comp=Z,1.9nm,0.8s,baz=263,slow=12,SNR=4.4
GEYT LR LR 08 40 13.4
comp=Z,10μm,20.2s,baz=86,slow=37
comp=Z,45nm,0.9s
GYA0 ALIBECK ARRAY 65.43 300 P **P** **08 10 15.0 -0.8**
GYA0B ALIBECK ARRAY 65.43 300 P **P** **08 10 15.1 -0.6**
GYA0B IAmb IAmb 08 10 32.3
comp=Z,311nm,1.2s
DAG Danmarks Havn 65.51 356 P **P** **08 10 13.0 -2.6**
DAG S **S** **08 19 00.6 +0.8**
DAG Danmarks Havn 65.51 356 *i*P **P** **08 10 14.0 -1.6**
DAG IAmb IAmb 08 10 18.2
comp=Z,392nm,1.2s
JETT Jettan, Norway 65.65 341 *e*S **S** **08 19 03.4 +1.7**
JETT IVMs_BB IVMs_BB 08 45 01.4
comp=Z,7μm,14.7s
AFI Afiamalu 65.85 132 IAMs_20 IAMs_20 08 41 32.7
comp=Z,8μm,19.0s
AFI Afiamalu 65.85 132 P **P** **08 10 19.3 +0.6**
AFI Afiamalu 65.85 132 LR LR 08 37 54.6
comp=Z,4μm,18.1s,baz=330,slow=35
GC1S Gold Coast 1 S 65.89 171 P **P** **08 10 19.7 +1.2**
TRO Tromso 65.97 342 *e*P **P** **08 10 18.2 -0.4**
TRO IVmB_BB 08 10 21.7
comp=Z,2μm,1.8s
TRO *e*S **S** **08 19 07.8 +2.3**
TRO IVMs_BB IVMs_BB 08 43 07.0
comp=Z,7μm,17.9s
GIRL Giralia 66.03 210 P **P** **08 10 19.4 -0.2**
GIRL Giralia 66.03 210 P **P** **08 10 20.7 +1.1**
COCO West Island 66.31 232 P **P** **08 10 21.3 -0.2**
COCO West Island 66.31 232 P **P** **08 10 21.3 -0.2**
COCO pmax pmax
comp=Z,1μm,1.5s
AULRC Lightning Ridg 66.65 176 P **P** **08 10 23.3 -0.1**
TRD Trivandrum 66.67 263 *e*P **P** **08 10 24.0 0.0**
KULLO Kullorsuaq 67.35 6 *i*P **P** **08 10 25.6 -1.7**
KULLO IAmb IAmb 08 10 29.8
comp=Z,519nm,1.3s
EDM Edmonton 67.71 39 P **P** **08 10 29.4 -0.7**
EDM IAmb IAmb 08 10 35.2
comp=Z,307nm,1.2s
EDM Edmonton 67.71 39 P **P** **08 10 29.4 -0.7**
EDM pmax pmax
comp=Z,307nm,1.2s
LCRK Leigh Creek 67.78 185 P **P** **08 10 30.4 -0.1**
ARMA Armidale 67.91 173 IAMs_20 IAMs_20 08 39 56.5
comp=Z,6μm,19.0s
ARMA Armidale 67.91 173 P **P** **08 10 32.4 +0.9**
HAWA Hanford 67.96 48 P **P** **08 10 31.7 -0.1**
HAWA IAmb IAmb 08 10 37.2
comp=Z,538nm,1.9s
DBG Daneborg 68.01 355 *i*P **P** **08 10 30.4 -1.2**
DBG IAmb IAmb 08 10 34.1
comp=Z,216nm,1.3s
MULG Mulgathing 68.03 189 P **P** **08 10 31.3 -0.9**
MEEK Meekatharra 68.08 204 P **P** **08 10 31.5 -1.1**
MOS Moscow 68.12 324 *e*P **P** **08 10 29.9 -2.7**
MOS *e* 08 10 56.6
MOS *e* 08 13 02.6
MOS *e*PPP PPP 08 14 42.8
MOS *e*S **S** **08 19 28.3 -3.6**
MOS *e* 08 20 08.1
MOS *e*SS **SS** **08 23 57.0 +3.4**
MOS pmax pmax
comp=Z,2μm,1.9s
MOS pmax pmax
comp=Z,725nm,1.5s
MOS pmax pmax
comp=N,254nm,1.4s
MOS pmax pmax
comp=E,161nm,1.1s
MOS smax smax
comp=E,5μm,6.2s
MOS smax smax
comp=N,3μm,5.6s
MOS MLR MLR
comp=Z,20μm,16.0s
MOS MLR MLR
comp=N,14μm,15.0s
STEI Steigen 68.13 341 *e*P **P** **08 10 32.3 -0.1**
STEI IVmB_BB 08 10 35.8
comp=Z,3μm,5.6s
STEI *e*S **S** **08 19 33.9 +2.3**
STEI IVMs_BB IVMs_BB 08 46 04.1
comp=Z,6μm,15.6s
E08A Dider Farm, El 68.19 48 P **P** **08 10 33.4 +0.2**
E08A IAmb IAmb 08 10 36.4
comp=Z,401nm,2.0s
NEW Newport 68.37 45 IAMs_20 IAMs_20 08 43 26.0
comp=Z,5μm,19.0s
NEW Newport 68.37 45 P **P** **08 10 34.9 +0.6**
baz=302,SNR=76
NEW Newport 68.37 45 LR LR 08 41 14.0
comp=Z,2μm,18.1s,baz=306,slow=37
LOF Lofoten 68.40 342 *e*P **P** **08 10 34.3 +0.3**
LOF *e*S **S** **08 19 37.5 +2.7**
LOF IVMs_BB IVMs_BB 08 45 17.1
comp=Z,4μm,21.0s
PINE Pine Mountain 68.47 51 P **P** **08 10 35.5 +0.2**
AUPHS Peel High Scho 68.51 174 P **P** **08 10 35.1 -0.1**
FAUS Fauske 68.53 341 *e*P **P** **08 10 34.9 0.0**
FAUS IVmB_BB 08 10 37.9
comp=Z,2μm,1.2s
FAUS *e*S **S** **08 19 38.7 +2.3**
FAUS IVMs_BB IVMs_BB 08 45 50.7
comp=Z,6μm,14.8s
VRH Novokhopyorsk 68.64 319 *e*P **P** **08 10 35.1 -0.7**
VRH *e* 08 13 04.8
VRH *e*S **S** **08 19 35.2 -2.9**
VRH pmax pmax
comp=Z,540nm,1.3s
VRH pmax pmax
comp=Z,340nm,1.2s
VRH smax smax
comp=E,5μm,15.9s
VRH MLR MLR
comp=Z,43μm,15.0s
CMSA Cobar Meteorol 68.66 178 P **P** **08 10 35.7 -0.4**
OBN Obninsk 68.98 324 P **P** **08 10 37.9 0.0**
OBN Obninsk 68.98 324*d i*P **P** **08 10 37.8 0.0**
OBN *i* *SP **sP** **08 10 42.0 +1.6**
OBN *i* 08 10 50.8
OBN *e* 08 11 05.2
OBN *i* 08 13 13.7
OBN *i* S **S** **08 19 40.5 -1.5**
OBN *i* PS **PnS** **08 20 00.0 -6.4**
OBN pmax pmax
comp=Z,571nm,1.3s
OBN MLR MLR
comp=Z,21μm,16.0s
OBN Obninsk 68.98 324 LR LR 08 43 23.9
comp=Z,13μm,18.1s,baz=46,slow=38
STKA Stephens Creek 69.02 182 P **P** **08 10 36.8 -1.5**
STKA Stephens Creek 69.02 182 P **P** **08 10 37.2 -1.1**
STKA Stephens Creek 69.02 182 P **P** **08 10 36.8 -1.5**
STKA Stephens Creek 69.02 182 P **P** **08 10 36.5 -1.7**
comp=Z,45nm,0.7s,baz=343,slow=7.5,SNR=47
STKA PKP2ab 08 38 49.8
comp=Z,5.7nm,1.0s,baz=77,slow=3.2,SNR=5.5
STKA LR LR 08 40 39.9
comp=Z,4μm,21.0s,baz=360,slow=36
comp=Z,45nm,0.7s
UPNV Upernavik 69.16 6 *i*P **P** **08 10 35.3 -3.4**
UPNV IAmb IAmb 08 10 41.3
comp=Z,805nm,1.7s
LPSR Galich'ya Gora 69.28 321 *e*P **P** **08 10 39.4 -0.4**
LPSR *e* 08 13 11.4
LPSR *e*S **S** **08 19 41.9 -3.9**
LPSR pmax pmax
comp=Z,580nm,1.1s
LPSR pmax pmax
comp=Z,360nm,1.0s
LPSR smax smax
comp=E,4μm,11.3s
LPSR MLR MLR
comp=Z,19μm,17.0s
FINES FINESS Array B 69.38 333 P **P** **08 10 39.9 -0.4**
FINES FINESS Array B 69.38 333 P **P** **08 10 40.1 -0.2**
comp=Z,132nm,0.8s,baz=57,slow=7.0,SNR=80
FINES LR LR 08 44 45.6
comp=Z,20μm,18.5s,baz=50,slow=39
comp=Z,132nm,0.8s
AUDCS Dubbo College 69.47 176 P **P** **08 10 41.2 +0.1**
FORT Forrest 69.51 195 P **P** **08 10 41.0 -0.3**
HOPS Hopland Field 69.64 56 IAMs_20 IAMs_20 08 46 11.2
comp=Z,7μm,18.0s
MOR8 Moi Rana 69.66 340 *e*P **P** **08 10 40.7 -1.3**
MOR8 *e*S **S** **08 19 48.8 -1.1**
MOR8 *i* 08 27 29.1
MOR8 IVMs_BB IVMs_BB 08 45 03.5
comp=Z,11μm,16.6s
VORR Voronezh 69.67 320 *e*P **P** **08 10 41.3 -1.0**
VORR *e* 08 13 15.2
VORR *e*S **S** **08 19 43.8 -6.6**
VORR pmax pmax
comp=Z,140nm,0.6s
VORR pmax pmax
comp=Z,450nm,1.2s
VORR smax smax
comp=E,770nm,6.2s
VORR MLR MLR
comp=Z,31μm,14.0s
KONS Konsvik 69.76 341 *e*P **P** **08 10 42.1 -0.5**
MAK Makhachkala 69.81 309 *e*P **P** **08 10 40.4 -2.9**
MAK *e* 08 13 23.9
MAK *e*PPP PPP 08 14 59.0
MAK *e*S **S** **08 19 48.7 -3.6**
MAK *e*SS **SS** **08 24 18.7 -1.5**
MAK pmax pmax
comp=Z,418nm,1.9s
MAK MLR MLR
comp=Z,16μm,16.0s
NFK Norfolk Island 69.86 158 P **P** **08 10 45.1 +1.5**
STOK Stokkvaagen 69.91 341 *e*P **P** **08 10 45.9 +2.4**
VSR Storozhevoye 69.96 320 *e*P **P** **08 10 43.4 -0.6**
VSR *e*S **S** **08 19 50.5 -3.3**
VSR pmax pmax
comp=Z,1μm,1.9s
VSR pmax pmax
comp=Z,380nm,1.2s
VSR smax smax
comp=E,3μm,9.7s
VSR MLR MLR
comp=Z,28μm,15.0s
VORD Divnogorie 70.04 319 *e*P **P** **08 10 44.4 -0.1**
VORD *e* 08 13 20.0
VORD *e*S **S** **08 19 49.5 -5.2**
VORD pmax pmax
comp=Z,450nm,1.4s
VORD pmax pmax
comp=Z,380nm,1.4s
VORD smax smax
comp=E,1μm,7.2s
VORD MLR MLR
comp=Z,9μm,13.0s
LHI Lord Howe Isla 70.06 166 P **P** **08 10 44.9 +0.3**
LHI Lord Howe Isla 70.06 166 P **P** **08 10 46.5 +1.8**
JMIC Jan Mayen 70.07 351 *e*P **P** **08 10 45.5 +1.2**
JMIC Jan Mayen 70.07 351 LR LR 08 42 00.2
comp=Z,3μm,20.6s,baz=48,slow=36
MCCM Marconi Confer 70.22 57 IAMs_20 IAMs_20 08 33 46.6
comp=Z,6μm,20.0s
SUMG Summit 70.24 1 P **P** **08 10 46.2 +0.3**
SUMG IAMs_20 IAMs_20 08 39 52.3
comp=Z,9μm,22.0s
SUMG Summit 70.24 1 P **P** **08 10 46.2 +0.3**
SUMG pmax pmax
comp=Z,1μm,1.6s
SUMG Summit 70.24 1 P **P** **08 10 44.6 -1.3**
SUMG S **S** **08 19 58.6 +1.2**
SUMG Summit 70.24 1 *i*P **P** **08 10 46.0 +0.1**
SUMG IAmb IAmb 08 10 49.5
comp=Z,1μm,1.5s
BBOO Buckleboo 70.31 187 IAMs_20 IAMs_20 08 38 47.5
comp=Z,5μm,21.0s
BBOO Buckleboo 70.31 187 P **P** **08 10 45.6 -0.6**
WHYH Whyalla 70.39 186 P **P** **08 10 47.0 +0.3**
PTPS Port Pirie 70.50 185 P **P** **08 10 48.6 +1.3**
MGCD Mangrove Creek 70.62 174 P **P** **08 10 48.3 +0.2**
WVOR Wild Horse Val 70.62 51 IAMs_20 IAMs_20 08 37 30.0
comp=Z,5μm,19.0s
HTT Hallett 70.69 185 P **P** **08 10 47.9 -0.7**
HMDM Hanimaadhoo 70.70 264 IAMs_20 IAMs_20 08 46 45.1
comp=Z,6μm,18.0s
HMDM Hanimaadhoo 70.70 264 P **P** **08 10 50.3 +1.1**
MEF Metsahovi 70.82 333 *e*P **P** **08 10 49.1 -0.1**
SEKA Sheki 70.95 308 P **P** **08 10 50.5 +0.1**
MSO Missoula 70.96 45 P **P** **08 10 50.2 -0.2**
baz=305,SNR=52
NIUE Niue 71.01 134 P **P** **08 10 52.5 +1.7**
PLTX Planet X, Gerl 71.05 53 P **P** **08 10 51.5 +0.4**
PLTX IAmb IAmb 08 10 56.6
comp=Z,324nm,1.4s
VSU Vasula 71.12 330 *i*P **P** **08 10 50.9 -0.1**
VSU MLR MLR
comp=Z,30μm,17.0s
VSU Vasula 71.12 330 *e*P **P** **08 10 50.4 -0.5**
SYDH Sydney Hard Ro 71.14 174 P **P** **08 10 51.6 +0.4**
MORW Morawa 71.19 206 P **P** **08 10 50.9 -0.8**
RAF Rauma 71.20 334 *e*P **P** **08 10 50.5 -0.9**
RIV Riverview 71.24 174 P **P** **08 10 53.1 +1.3**
MNGR Mingechevir, A 71.26 307 P **P** **08 10 52.9 +0.7**
LKRN Lenkeran, Azer 71.31 305 P **P** **08 10 52.1 -0.4**
GOF Gofitskoye 71.34 313*d i*P **P** **08 10 53.1 +0.5**
GOF *e*S **S** **08 20 09.8 -0.3**
YNG Young 71.52 176 P **P** **08 10 53.5 0.0**
KMBL Kambalda 71.53 200 P **P** **08 10 52.5 -1.2**
UMMG Uummannaq 71.54 6 *i*P **P** **08 10 49.3 -4.0**
UMMG IAmb IAmb 08 10 56.1
comp=Z,1μm,2.0s
NSS Namsos 71.59 340 *e*P **P** **08 10 53.5 -0.3**
NSS IVmBBB 08 10 58.2
comp=Z,2μm,4.1s
NSS *e*S **S** **08 20 13.1 +0.7**
NSS IVMs_BB IVMs_BB 08 46 55.1
comp=Z,7μm,23.3s
PAHR Pah Rah Range 71.65 54 P **P** **08 10 54.7 -0.1**
PAHR IAmb IAmb 08 11 00.0
comp=Z,227nm,1.3s
GANJ Ganja 71.82 307 P **P** **08 10 55.7 +0.1**
JASK Jask - Hormozg 71.88 289 P **P** **08 10 57.3 +1.1**
SNR=9.5
JASK S **S** **08 20 19.2 +2.3**
SCO Scoresbysund 71.88 355 IAMs_20 IAMs_20 08 48 32.3
comp=Z,6μm,19.0s
SCO Scoresbysund 71.88 355 *i*P **P** **08 10 54.5 -0.9**
NCK Nalchik 71.89 311 *i*P **P** **08 10 56.8 +0.8**
NCK pmax pmax
comp=Z,201nm,0.8s
CMB Columbia Colle 71.93 56 IAMs_20 IAMs_20 08 35 20.8
comp=Z,6μm,20.0s
MTSE Matsula 72.07 332 *e*P **P** **08 10 57.3 +0.6**
ZEI Tsey 72.11 310 *e*P **P** **08 10 54.3 -3.2**
ZEI pmax pmax
comp=Z,122nm,0.9s
KIV Kislovodsk 72.17 312 ⇓*i*P **P** **08 10 58.6 +0.9**
KIV Kislovodsk 72.17 312 *e*P **P** **08 10 58.4 +0.6**
KIV *e* 08 11 16.1
KIV *e* 08 13 38.5
KIV *e*PPP PPP 08 15 22.3
KIV *e*S **S** **08 20 21.0 +1.0**
KIV *e*SS **SS** **08 24 57.2 +0.6**
KIV pmax pmax
comp=Z,1μm,4.2s
KIV pmax pmax
comp=Z,611nm,1.1s
KIV MLR MLR
comp=Z,19μm,18.0s
KIV Kislovodsk 72.17 312 *i*P **P** **08 10 57.9 +0.2**
SNR=115
KIV Kislovodsk 72.17 312 P **P** **08 10 58.4 +0.6**
KIV P **P** **08 10 58.4 +0.6**
KIV S **S** **08 20 20.4 +0.4**
KIV S **S** **08 20 20.4 +0.4**
KBZ Khabaz 72.18 312*d i*P **P** **08 10 57.7 +0.1**
KBZ pmax pmax
comp=Z,436nm,1.0s
KBZ Khabaz 72.18 312 P **P** **08 10 58.4 +0.7**
comp=Z,244nm,0.9s,baz=64,slow=4.9,SNR=88
KBZ LR LR 08 45 37.9
comp=Z,9μm,18.6s,baz=48,slow=38
comp=Z,244nm,0.9s
BLDU Ballidu 72.38 205 P **P** **08 10 57.7 -1.1**
AAL Aland 72.41 334 *e*P **P** **08 10 58.5 -0.2**
HLID Hailey 72.55 48 P **P** **08 11 00.7 +0.6**
baz=305,SNR=64
CAN Canberra 72.57 176 P **P** **08 10 59.8 -0.1**
CAN IAmb IAmb 08 11 06.2
comp=Z,225nm,1.4s
CAN IAMs_20 IAMs_20 08 49 08.8
comp=Z,6μm,18.0s
CAN Canberra 72.57 176 P **P** **08 11 00.7 +0.8**
CAN Canberra 72.57 176 P **P** **08 10 59.8 -0.1**
CAN pmax pmax
comp=Z,225nm,1.4s
EGMT Eagleton 72.57 42 IAMs_20 IAMs_20 08 49 03.0
comp=Z,5μm,19.0s
EGMT Eagleton 72.57 42 P **P** **08 11 00.3 +0.2**
baz=307,SNR=23
CNB Canberra Magne 72.58 175 P **P** **08 11 00.0 0.0**
AUUHS Ulladulla High 72.70 174 P **P** **08 11 01.1 +0.5**
BCYI Bear Canyon 72.71 47 P **P** **08 11 00.5 -0.7**
WSAR Wadi Sarin 72.74 286 P **P** **08 11 01.7 +0.3**
SNR=18
WSAR S **S** **08 20 27.0 0.0**
WSAR Wadi Sarin 72.74 286 LR LR 08 47 58.6
comp=Z,6μm,18.1s,baz=100,slow=40
JLN Jalan Bani Buh 72.75 285 P **P** **08 11 01.4 -0.1**
SNR=36
JLN P **P** **08 11 01.4 -0.1**
SNR=36
JLN S **S** **08 20 25.6 -1.3**
JLN S **S** **08 20 25.6 -1.3**
WBK Wadi Bani Khal 72.83 286 P **P** **08 11 02.4 +0.5**
SNR=31
WBK P **P** **08 11 02.4 +0.5**
SNR=31
WBK S **S** **08 20 28.7 +0.7**
WBK S **S** **08 20 28.7 +0.7**
KLBR Kellerberrin 72.95 203 P **P** **08 11 01.3 -0.9**
BIDO Bidbid 72.97 287 P **P** **08 11 02.6 -0.1**
SNR=22
BIDO P **P** **08 11 02.6 -0.1**
SNR=22
BIDO S **S** **08 20 29.4 -0.1**
BIDO S **S** **08 20 29.4 -0.1**
BOZ Bozeman (W) 72.98 45 P **P** **08 11 02.9 +0.2**
baz=306,SNR=124
ILULI Ilulissat 73.05 6 P **P** **08 11 01.9 -0.5**
ILULI IAMs_20 IAMs_20 08 48 42.7
comp=Z,8μm,18.0s

ILULI	**Ilulissat**	**73.05**	**6**		P	**P**	**08 11 01.9**	**-0.5**
ILULI					pmax	pmax			
	comp=Z,851nm,1.6s								
ILULI	**Ilulissat**	**73.05**	**6**	*i*	P	**P**	**08 11 00.2**	**-2.1**
ILULI					IAmb	IAmb	08 11 05.1		
	comp=Z,1μm,1.8s								
NVAR	**Mina Array Bea**	**73.06**	**54**		P	**P**	**08 11 03.4**	**+0.1**
NVAR	**Mina Array Bea**	**73.06**	**54**		P	**P**	**08 11 04.2**	**+0.8**
	comp=Z,45nm,0.8s,baz=287,slow=5.9,SNR=179								
NVAR					LR	LR	08 36 54.1		
	comp=Z,3μm,21.1s,baz=296,slow=31								
NVAR					PKP2ab		08 38 39.1		
	comp=Z,1.5nm,1.0s,baz=134,slow=4.3,SNR=4.1								
	comp=Z,45nm,0.8s								
SHME	**Shamm**	**73.07**	**290**	*i*	P	**P**	**08 11 03.1**	**-0.1**
	SNR=23								
SHME	**Shamm**	**73.07**	**290**		P	**P**	**08 11 03.3**	**0.0**
	SNR=11								
SHME					P	**P**	**08 11 03.3**	**0.0**
	SNR=11								
SHME					S	**S**	**08 20 29.0**	**-1.5**
SHME					S	**S**	**08 20 29.0**	**-1.5**
TBLU	**Trondheim**	**73.07**	**340**	*eP*		**P**	**08 11 01.9**	**-0.7**
TBLU				*eS*		**S**	**08 20 28.5**	**-0.8**
TBLU					IVMs_BB	IVMs_BB	08 47 17.0		
	comp=Z,6μm,15.3s								
GNI	**Garni**	**73.09**	**308**		P	**P**	**08 11 03.7**	**+0.3**
GNI					IAmb	IAmb	08 11 23.5		
	comp=Z,347nm,1.1s								
GNI	**Garni**	**73.09**	**308**	*d i*	P	**P**	**08 11 04.3**	**+0.9**
GNI					pmax	pmax			
	comp=Z,534nm,1.4s								
GNI					MLR	MLR			
	comp=Z,16μm,17.0s								
GNI	**Garni**	**73.09**	**308**		P	**P**	**08 11 04.6**	**+1.2**
GNI	**Garni**	**73.09**	**308**		P	**P**	**08 11 04.4**	**+1.1**
GNI					P	**P**	**08 11 04.4**	**+1.1**
GNI					S	**S**	**08 20 31.3**	**+0.6**
GNI					S	**S**	**08 20 31.3**	**+0.6**
GNI	**Garni**	**73.09**	**308**		LR	LR	08 46 29.5		
	comp=Z,16μm,18.0s,baz=66,slow=38								
IZAR	**Zarasai**	**73.14**	**328**	*eP*		**P**	**08 11 03.2**	**+0.1**
AKH	**Akhalkalaki**	**73.15**	**309**		P	**P**	**08 11 04.9**	**+1.2**
AKH	**Akhalkalaki**	**73.15**	**309**		P	**P**	**08 11 03.6**	**-0.1**
AKH	**Akhalkalaki**	**73.15**	**309**		P	**P**	**08 11 03.6**	**-0.1**
AKH					pmax	pmax			
	comp=Z,636nm,1.1s								
AKH					MLR	MLR			
	comp=Z,51μm,18.0s								
NV11	**Mina Array Sit**	**73.16**	**54**		P	**P**	**08 11 04.2**	**+0.4**
MLAC	**Mammoth, Mammo**	**73.17**	**55**		P	**P**	**08 11 04.8**	**+0.9**
	baz=305,SNR=23								
NAX	**Nakhchivan**	**73.17**	**307**		P	**P**	**08 11 04.1**	**+0.3**
AUMAG	**Moama Anglican**	**73.20**	**179**		P	**P**	**08 11 04.5**	**+1.0**
MNK	**Minsk**	**73.28**	**327**	*i*	P	**P**	**08 11 05.0**	**+0.9**
	comp=E,88nm,1.1s								
MNK				*i*	P	**P**	**08 11 05.0**	**+0.9**
	comp=N,188nm,1.0s								
MNK				*i*	P	**P**	**08 11 05.0**	**+0.9**
	comp=Z,315nm,0.8s,baz=48								
MNK				*i*	PP	**PP**	**08 13 50.3**	**+3.6**
MNK				*i*	PPP	PPP	08 15 27.3		
MNK				*i*	S	**S**	**08 20 32.2**	**+0.1**
MNK				*i*	SS	**SS**	**08 25 17.1**	**+4.3**
MNK				*i*	SSS	SSS	08 28 39.3		
MNK				*i*	LQ	LQ	08 36 04.0		
MNK				*i*	LR	LR	08 42 00.8		
MNK				*i*	LRM	MLR	08 46 22.3		
	comp=E,7μm,15.7s								
MNK				*i*	LRM	MLR	08 46 24.3		
	comp=Z,22μm,17.9s								
MNK				*i*	LRM	MLR	08 46 35.8		
	comp=N,12μm,16.2s								
MNK	**Minsk**	**73.28**	**327**	*i*	P	**P**	**08 11 04.9**	**+0.9**
MNK				*i*			08 13 50.3		
MNK				*i*	PPP	PPP	08 15 27.3		
MNK				*i*	S	**S**	**08 20 32.1**	**+0.1**
MNK				*i*	SS	**SS**	**08 25 17.0**	**+4.3**
MNK					pmax	pmax			
	comp=Z,315nm,0.8s								
MNK					pmax	pmax			
	comp=E,88nm,1.1s								
MNK					pmax	pmax			
	comp=N,188nm,1.0s								
MNK					MLR	MLR			
	comp=E,7μm,16.0s								
MNK					MLR	MLR			
	comp=Z,22μm,18.0s								
MNK					MLR	MLR			
	comp=N,12μm,16.0s								
SMDO	**Samad**	**73.29**	**286**		P	**P**	**08 11 04.4**	**-0.3**
	SNR=30								
SMDO					P	**P**	**08 11 04.4**	**-0.3**
	SNR=30								
SMDO					S	**S**	**08 20 33.9**	**+0.6**
SMDO					S	**S**	**08 20 33.9**	**+0.6**
ISAL	**Salakas**	**73.31**	**328**	*eP*		**P**	**08 11 05.8**	**+1.7**
MDH	**Madha**	**73.37**	**289**		P	**P**	**08 11 04.3**	**-0.7**
MDH	**Madha**	**73.37**	**289**		P	**P**	**08 11 04.1**	**-0.9**
MDH					P	**P**	**08 11 04.1**	**-0.9**
MDH					S	**S**	**08 20 33.0**	**-0.9**
MDH					S	**S**	**08 20 33.0**	**-0.9**
SLIT	**Slitere, Latvi**	**73.41**	**331**	*eP*		**P**	**08 11 05.0**	**+0.4**
IIGN	**Ignalina**	**73.42**	**328**	*eP*		**P**	**08 11 05.8**	**+1.0**
MASF	**Masafi**	**73.43**	**289**		P	**P**	**08 11 05.5**	**+0.1**
	SNR=8.8								
MASF					P	**P**	**08 11 05.5**	**+0.1**
	SNR=8.8								
MASF					S	**S**	**08 20 34.7**	**-0.1**
MASF					S	**S**	**08 20 34.7**	**-0.1**
MSFE	**Esma-Masafi**	**73.44**	**289**	*i*	P	**P**	**08 11 05.3**	**-0.2**
	SNR=12								
UPP	**Uppsala**	**73.46**	**335**	*eP*		**P**	**08 11 04.1**	**-0.8**
NACGM	**Naroch**	**73.49**	**328**	*i*	P	**P**	**08 11 05.5**	**+0.3**
TASB	**TASBURUN-IGDIR**	**73.50**	**308**		P	**P**	**08 11 07.3**	**+1.6**
VOG	**Valley Oaks Go**	**73.55**	**57**		P	**P**	**08 11 06.0**	**+0.1**
	baz=305								
HOQ	**Hoqain**	**73.56**	**287**		P	**P**	**08 11 05.8**	**-0.4**
	SNR=30								
HOQ					P	**P**	**08 11 05.8**	**-0.4**
	SNR=30								
HOQ					S	**S**	**08 20 33.8**	**-2.3**
HOQ					S	**S**	**08 20 33.8**	**-2.3**
JMDO	**Jabal Madar**	**73.63**	**286**		P	**P**	**08 11 06.3**	**-0.3**
	SNR=38								
JMDO					P	**P**	**08 11 06.3**	**-0.3**
	SNR=38								
JMDO					S	**SKiKP**	**08 20 36.5**	**0.0**
JMDO					S	**SKiKP**	**08 20 36.5**	**0.0**
UOSS	**Minazif**	**73.64**	**289**		P	**P**	**08 11 05.9**	**-0.7**
UOSS	**Minazif**	**73.64**	**289**		IAMs_20	IAMs_20	08 46 26.7		
	comp=Z,6μm,21.0s								
UOSS	**Minazif**	**73.64**	**289**	*i*	P	**P**	**08 11 06.3**	**-0.3**
	SNR=17								
UOSS	**Minazif**	**73.64**	**289**		P	**P**	**08 11 06.1**	**-0.6**
UOSS					P	**P**	**08 11 06.1**	**-0.6**
UOSS					S	**S**	**08 20 36.8**	**-0.2**
UOSS					S	**S**	**08 20 36.8**	**-0.2**
ELK	**Elko**	**73.68**	**51**		LR	LR	08 42 33.0		
	comp=Z,2μm,18.4s,baz=300,slow=35								
SMMC	**Simmler**	**73.71**	**58**		P	**P**	**08 11 07.9**	**+0.9**
	baz=305,SNR=19								
UMQ	**Umm Al-Quwin**	**73.72**	**290**		P	**P**	**08 11 07.7**	**+0.6**
UMQ					P	**P**	**08 11 07.7**	**+0.6**
UMQ					S	**S**	**08 20 38.4**	**+0.5**
UMQ					S	**S**	**08 20 38.4**	**+0.5**
ICESG	**Greenland Ices**	**73.72**	**1**	*i*	P	**P**	**08 11 06.1**	**-0.7**
ICESG					IAmb	IAmb	08 11 10.3		
	comp=Z,898nm,1.3s								
HATD	**Hatta, Dubai**	**73.76**	**289**	*i*	P	**P**	**08 11 07.1**	**-0.3**
	SNR=14								
HATD	**Hatta, Dubai**	**73.76**	**289**		P	**P**	**08 11 07.5**	**+0.1**
	SNR=16								
HATD					P	**P**	**08 11 07.5**	**+0.1**
	SNR=16								
HATD					S	**S**	**08 20 38.3**	**-0.1**
HATD					S	**S**	**08 20 38.3**	**-0.1**
MUN	**Mundaring**	**73.80**	**204**		P	**P**	**08 11 09.4**	**+2.2**
SOHO	**SOHO**	**73.84**	**288**	*i*	P	**P**	**08 11 06.7**	**-1.1**
	SNR=36								
SOHO	**SOHO**	**73.84**	**288**		P	**P**	**08 11 07.5**	**-0.3**
SOHO					S	**S**	**08 20 38.8**	**-0.5**
KARS	**Kars**	**73.86**	**309**		P	**P**	**08 11 09.4**	**+1.6**
KARS	**Kars**	**73.86**	**309**		P	**P**	**08 11 08.2**	**+0.3**
KARS	**Kars**	**73.86**	**309**		P	**P**	**08 11 08.2**	**+0.3**
KARS					pmax	pmax			
	comp=Z,565nm,0.9s								
KARS					MLR	MLR			
	comp=Z,44μm,18.0s								
DSP	**Deep Springs**	**73.88**	**55**		P	**P**	**08 11 08.2**	**+0.4**
DSP					IAmb	IAmb	08 11 13.6		
	comp=Z,258nm,1.4s								
ARPS	**Mount Arapiles**	**73.89**	**182**		P	**P**	**08 11 06.8**	**-0.8**
ASHO	**Ashiyiah**	**73.89**	**289**	*i*	P	**P**	**08 11 07.9**	**-0.2**
	SNR=32								
ASHO	**Ashiyiah**	**73.89**	**289**		P	**P**	**08 11 08.0**	**-0.2**
	SNR=21								
ASHO					P	**P**	**08 11 08.0**	**-0.2**
	SNR=21								
ASHO					S	**S**	**08 20 39.7**	**-0.3**
ASHO					S	**S**	**08 20 39.7**	**-0.3**
TIN	**Tinemaha, Big**	**73.89**	**56**		P	**P**	**08 11 09.0**	**+0.9**
	baz=305								
VSVD	**Vaisvydziai**	**73.93**	**330**	*eP*		**P**	**08 11 07.9**	**+0.2**
NAZ	**Nazwa, Dubai**	**74.02**	**289**	*i*	P	**P**	**08 11 08.2**	**-0.6**
	SNR=15								
NAZ	**Nazwa, Dubai**	**74.02**	**289**		P	**P**	**08 11 08.4**	**-0.5**
	SNR=12								
NAZ					P	**P**	**08 11 08.4**	**-0.5**
	SNR=12								
NAZ					S	**S**	**08 20 39.7**	**-1.6**
NAZ					S	**S**	**08 20 39.7**	**-1.6**
VES	**Vestal, Richgr**	**74.02**	**57**		P	**P**	**08 11 08.7**	**0.0**
	baz=305,SNR=75								
PKM	**Mcpherson Peak**	**74.07**	**58**		P	**P**	**08 11 10.3**	**+1.0**
	baz=305,SNR=38								
BSY	**Bisya**	**74.11**	**287**		P	**P**	**08 11 09.3**	**-0.2**
	SNR=44								
BSY					P	**P**	**08 11 09.3**	**-0.2**
	SNR=44								
BSY					S	**S**	**08 20 41.8**	**-0.7**
BSY					S	**S**	**08 20 41.8**	**-0.7**
BATM	**Batumi**	**74.13**	**310**		P	**P**	**08 11 10.0**	**+0.7**
SOC	**Sochi**	**74.14**	**313**	*d i*	P	**P**	**08 11 08.3**	**-0.9**
SOC				*i*			08 13 48.8		
SOC				*e*	PPP	PPP	08 15 37.4		
SOC				*e*	S	**S**	**08 20 41.8**	**-0.2**
SOC				*e*	SS	**SS**	**08 25 21.4**	**-4.9**
SOC					pmax	pmax			
	comp=Z,364nm,1.6s								
SOC					MLR	MLR			
	comp=Z,11μm,18.0s								
CLDR	**Caldiran**	**74.19**	**307**		P	**P**	**08 11 11.1**	**+1.1**
FAQ	**Al Faqa, Dubai**	**74.21**	**289**	*i*	P	**P**	**08 11 09.4**	**-0.5**
	SNR=14								
FAQ	**Al Faqa, Dubai**	**74.21**	**289**		P	**P**	**08 11 09.5**	**-0.5**
	SNR=11								
FAQ					P	**P**	**08 11 09.5**	**-0.5**
	SNR=11								
FAQ					S	**S**	**08 20 42.2**	**-1.3**
FAQ					S	**S**	**08 20 42.2**	**-1.3**
FAQ					S	**SKiKP**	**08 20 42.8**	**+5.4**
FAQ					S	**SKiKP**	**08 20 42.8**	**+5.4**
PABE	**Paberze**	**74.25**	**329**		P	**P**	**08 11 09.7**	**0.0**
PABE	**Paberze**	**74.25**	**329**	*eP*		**P**	**08 11 09.0**	**-0.7**
BCA	**Borcka**	**74.27**	**310**	⇑P		**P**	**08 11 09.9**	**-0.2**
BCA	**Borcka**	**74.27**	**310**		P	**P**	**08 11 10.7**	**+0.6**
ARQ	**Araqi**	**74.30**	**287**		P	**P**	**08 11 10.5**	**0.0**
	SNR=30								
ARQ					P	**P**	**08 11 10.5**	**0.0**
	SNR=30								
ARQ					S	**S**	**08 20 43.9**	**-0.6**
ARQ					S	**S**	**08 20 43.9**	**-0.6**
H17A	**Grant Village**	**74.30**	**46**		P	**P**	**08 11 12.3**	**+1.8**
H17A	**Grant Village**	**74.30**	**46**		P	**P**	**08 11 12.7**	**+2.2**
	baz=307,SNR=125								
MILA	**Mila**	**74.30**	**176**		P	**P**	**08 11 10.6**	**+0.5**
BCW	**Bitter Crk WRg**	**74.31**	**58**		P	**P**	**08 11 11.3**	**+0.7**
BCW					IAmb	IAmb	08 11 16.1		
	comp=Z,800nm,1.7s								
CWC	**Cottonwood Cre**	**74.34**	**56**		P	**P**	**08 11 11.1**	**+0.3**
	baz=305								
SENK	**Senkaya-Erzuru**	**74.34**	**309**		P	**P**	**08 11 12.3**	**+1.5**
NWAO	**Narrogin (SRO)**	**74.35**	**203**		P	**P**	**08 11 09.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**74.35**	**203**		P	**P**	**08 11 09.9**	**-0.5**
NWAO	**Narrogin (SRO)**	**74.35**	**203**		P	**P**	**08 11 12.6**	**+2.2**
NWAO					P	**P**	**08 11 12.6**	**+2.2**
MOL	**Molde**	**74.35**	**341**	*eP*		**P**	**08 11 10.7**	**+0.5**
MOL				*eS*		**S**	**08 20 46.5**	**+2.7**
MOL					IVMs_BB	IVMs_BB	08 47 21.8		
	comp=Z,6μm,17.8s								
DOMB	**Dombas**	**74.38**	**340**	*eP*		**P**	**08 11 10.4**	**+0.1**
DOMB					IVmB_BB		08 11 13.6		
	comp=Z,2μm,1.6s								
DOMB					IVMs_BB	IVMs_BB	08 50 15.1		
	comp=Z,7μm,15.8s								
SBC	**Santa Barbara**	**74.39**	**59**		P	**P**	**08 11 11.8**	**+0.9**
	baz=305,SNR=7.6								
ASUD	**Al Ashush, Dub**	**74.47**	**289**	*i*	P	**P**	**08 11 11.2**	**-0.3**
	SNR=14								
ASUD	**Al Ashush, Dub**	**74.47**	**289**		P	**P**	**08 11 11.5**	**0.0**
	SNR=9.6								
ASUD					P	**P**	**08 11 11.5**	**0.0**
	SNR=9.6								
ASUD					S	**S**	**08 20 45.4**	**-1.0**
ASUD					S	**S**	**08 20 45.4**	**-1.0**
ASUD					S	**SKiKP**	**08 20 46.0**	**+8.2**
ASUD					S	**SKiKP**	**08 20 46.0**	**+8.2**
ALNE	**Al Ain**	**74.47**	**288**	*i*	P	**P**	**08 11 10.9**	**-0.6**
	SNR=19								
ALNE	**Al Ain**	**74.47**	**288**		P	**P**	**08 11 11.2**	**-0.4**
	SNR=32								
ALNE					P	**P**	**08 11 11.2**	**-0.4**
	SNR=32								
ALNE					S	**S**	**08 20 44.6**	**-1.9**
ALNE					S	**S**	**08 20 44.6**	**-1.9**
GRAC	**Grapevine Rang**	**74.49**	**55**		P	**P**	**08 11 11.9**	**+0.4**
GRAC					IAmb	IAmb	08 11 17.6		
	comp=Z,214nm,1.2s								
GRAC	**Grapevine Rang**	**74.49**	**55**		P	**P**	**08 11 12.3**	**+0.8**
	baz=305,SNR=41								
MHTO	**MHTO**	**74.51**	**285**		P	**P**	**08 11 11.6**	**-0.2**
	SNR=105								
MHTO					P	**P**	**08 11 11.6**	**-0.2**
	SNR=105								
MHTO					S	**S**	**08 20 45.1**	**-1.8**
MHTO					S	**S**	**08 20 45.1**	**-1.8**
MHTO					S	**SKiKP**	**08 20 45.5**	**+7.7**
MHTO					S	**SKiKP**	**08 20 45.5**	**+7.7**
AGRB	**Hanur-Agry**	**74.52**	**308**		P	**P**	**08 11 12.2**	**+0.4**
ISA	**Isabella, Lake**	**74.53**	**57**		P	**P**	**08 11 11.5**	**-0.3**
	baz=305,SNR=52								
HFS	**Hagfors**	**74.53**	**337**		P	**P**	**08 11 10.8**	**-0.4**
	comp=Z,50nm,0.4s,baz=44,slow=5.1,SNR=107								
HFS					PP	**PP**	**08 13 58.1**	**+1.0**
	comp=Z,27nm,1.1s,baz=51,slow=12,SNR=2.1								
HFS					LR	LR	08 47 30.9		
	comp=Z,17μm,19.0s,baz=36,slow=39								
	comp=Z,50nm,0.4s								
NB2	**NORSAR Subarra**	**74.57**	**338**		P	**P**	**08 11 11.2**	**-0.3**
	comp=Z,1μm,2.5s,baz=39,slow=6.2								
NB2	**NORSAR Subarra**	**74.57**	**338**		P	**P**	**08 11 11.2**	**-0.3**
	baz=39,slow=6.2								
NOA	**NORSAR Array B**	**74.57**	**338**		P	**P**	**08 11 11.3**	**-0.2**
	comp=Z,79nm,0.8s,baz=42,slow=4.5,SNR=77								
NOA					PP	**PP**	**08 13 57.1**	**-0.4**
	comp=Z,21nm,1.1s,baz=37,slow=8.7,SNR=4.6								
NOA					LR	LR	08 49 06.2		
	comp=Z,20μm,19.0s,baz=40,slow=40								
	comp=Z,79nm,0.8s								
SOEG	**Soedalen**	**74.59**	**358**	*i*	P	**P**	**08 11 09.5**	**-1.9**
SOEG					IAmb	IAmb	08 11 14.4		
	comp=Z,534nm,1.7s								
RLMT	**Red Lodge**	**74.59**	**45**		P	**P**	**08 11 12.2**	**0.0**
RLMT	**Red Lodge**	**74.59**	**45**		P	**P**	**08 11 12.4**	**+0.2**
	baz=308,SNR=39								
ARVC	**Arvin**	**74.60**	**58**		P	**P**	**08 11 11.9**	**-0.2**
	baz=305,SNR=26								
BRAT	**Ballarat**	**74.64**	**180**		P	**P**	**08 11 12.4**	**+0.5**
TOO	**Toolangi**	**74.68**	**179**		IAMs_20	IAMs_20	08 41 58.6		
	comp=Z,5μm,19.0s								
TOO	**Toolangi**	**74.68**	**179**		P	**P**	**08 11 12.5**	**+0.3**
PBUR	**Paburge**	**74.69**	**330**	*eP*		**P**	**08 11 13.3**	**+1.1**
SCZ2	**Santa Cruz Isl**	**74.70**	**59**		P	**P**	**08 11 13.1**	**+0.4**
	baz=305								
ANN	**Anapa**	**74.71**	**315**	*eP*		**P**	**08 11 11.9**	**-0.6**
ANN				*e*			08 14 01.4		
ANN				*e*	PPP	PPP	08 15 47.6		
ANN				*eS*		**S**	**08 20 46.2**	**-2.1**
ANN				*e*			08 21 19.8		
ANN					pmax	pmax			
	comp=Z,196nm,1.3s								
NC602	**NORSAR Array S**	**74.72**	**338**	*eP*		**P**	**08 11 11.8**	**-0.5**
NC602					IVmB_BB		08 11 16.8		
	comp=Z,2μm,4.6s								
NC602				*e*	PP	**PP**	**08 13 58.8**	**+0.2**
NC602				*eS*		**S**	**08 20 49.0**	**+1.0**
NC602					IVMs_BB	IVMs_BB	08 48 51.6		
	comp=Z,8μm,18.0s								
LOHW	**Long Hollow**	**74.75**	**47**		P	**P**	**08 11 13.1**	**0.0**
REDW	**Red Top Meadow**	**74.76**	**47**		P	**P**	**08 11 13.6**	**+0.4**
AJN	**Ajban**	**74.77**	**289**		P	**P**	**08 11 12.6**	**-0.6**
AJN					P	**P**	**08 11 12.6**	**-0.6**
AJN					S	**S**	**08 20 47.2**	**-2.5**
AJN					S	**S**	**08 20 47.2**	**-2.5**
VIKU	**Vikbolandet**	**74.79**	**334**	*eP*		**P**	**08 11 12.2**	**-0.5**
AKN	**Aaknes**	**74.82**	**341**	*eP*		**P**	**08 11 13.4**	**+0.5**
AKN					IVmB_BB		08 11 22.2		
	comp=Z,3μm,2.9s								
AKN				*eS*		**S**	**08 20 51.4**	**+2.2**
AKN					IVMs_BB	IVMs_BB	08 47 32.5		
	comp=Z,8μm,17.4s								
ID05	**Sulphur Canyon**	**74.84**	**48**		P	**P**	**08 11 13.4**	**-0.3**
VANB	**Van**	**74.85**	**307**		P	**P**	**08 11 14.9**	**+1.3**
R11B	**Troy Canyon, C**	**74.86**	**53**		P	**P**	**08 11 14.1**	**+0.3**
	baz=306,SNR=136								
MPMC	**Manual Prospec**	**74.95**	**56**		P	**P**	**08 11 14.6**	**+0.2**
	baz=306,SNR=119								
OSI	**Osito Audit: C**	**74.96**	**58**		P	**P**	**08 11 14.7**	**+0.5**
	baz=305								
AHID	**Auburn Hatcher**	**74.98**	**47**		P	**P**	**08 11 14.6**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**74.99**	**309**		P	**P**	**08 11 15.8**	**+1.3**
CHOM	**Cayeli-Rize**	**75.00**	**310**		P	**P**	**08 11 15.1**	**+0.8**
MLAZ	**Malazgirt-MUS**	**75.06**	**308**		P	**P**	**08 11 15.3**	**+0.4**
CCAC	**Calif City Air**	**75.13**	**57**		P	**P**	**08 11 15.7**	**+0.5**
FURC	**Furnace Creek,**	**75.13**	**55**		P	**P**	**08 11 15.6**	**+0.5**
	baz=306,SNR=122								
LRMC	**Laurel Mtn Rad**	**75.16**	**57**		P	**P**	**08 11 15.5**	**0.0**
	baz=306,SNR=48								
DGMT	**Dagmar**	**75.20**	**40**		IAMs_20	IAMs_20	08 48 13.4		
	comp=Z,7μm,19.0s								
DGMT	**Dagmar**	**75.20**	**40**		P	**P**	**08 11 15.0**	**-0.4**
	baz=310,SNR=23								
DGMT	**Dagmar**	**75.20**	**40**		P	**P**	**08 11 15.1**	**-0.2**
	baz=310								
SNCC	**San Nicolas Is**	**75.20**	**59**		P	**P**	**08 11 16.3**	**+0.7**
	baz=305								
AKASG	**Malin Array Be**	**75.21**	**323**		P	**P**	**08 11 14.1**	**-1.2**
AKASG					IAmb	IAmb	08 11 18.4		
	comp=Z,349nm,1.1s								
AKASG	**Malin Array Be**	**75.21**	**323**		P	**P**	**08 11 14.8**	**-0.5**
	comp=Z,130nm,0.7s,baz=43,slow=5.8,SNR=172								
AKASG					PP	**PP**	**08 14 09.1**	**+6.0**
	comp=Z,39nm,1.0s,baz=41,slow=8.8,SNR=4.5								
AKASG					LR	LR	08 49 20.6		
	comp=Z,19μm,18.2s,baz=53,slow=40								
	comp=Z,130nm,0.7s								
AKBB	**Malin Array Si**	**75.21**	**323**	*d i*	P	**P**	**08 11 15.0**	**-0.3**
AKBB					pmax	pmax			
	comp=Z,450nm,1.0s								
ID09	**Alton**	**75.24**	**48**		P	**P**	**08 11 15.9**	**0.0**
ID09					IAmb	IAmb	08 11 20.2		
	comp=Z,373nm,1.9s								
TPNV	**Topopah Spring**	**75.25**	**55**		P	**P**	**08 11 15.9**	**-0.1**
TPNV					IAmb	IAmb	08 11 21.2		
	comp=Z,370nm,1.4s								
TPNV					IAMs_20	IAMs_20	08 37 31.7		
	comp=Z,6μm,20.0s								
TPNV	**Topopah Spring**	**75.25**	**55**		P	**P**	**08 11 15.9**	**-0.1**
TPNV					pmax	pmax			
	comp=Z,370nm,1.5s								
TPNV	**Topopah Spring**	**75.25**	**55**		P	**P**	**08 11 16.4**	**+0.4**
	baz=306,SNR=137								
AKDM	**Akdamar-Van**	**75.26**	**307**		P	**P**	**08 11 16.7**	**+0.6**
SFJD	**Kangerlussuaq**	**75.26**	**6**		IAMs_20	IAMs_20	08 50 01.2		
	comp=Z,5μm,18.0s								
SFJD	**Kangerlussuaq**	**75.26**	**6**	*i*	P	**P**	**08 11 13.8**	**-1.5**
SFJD					IAmb	IAmb	08 11 18.2		
	comp=Z,826nm,1.6s								
SFJD	**Kangerlussuaq**	**75.26**	**6**		LR	LR	08 45 17.7		
	comp=Z,3μm,21.4s,baz=350,slow=36								
LAO	**LASA Array**	**75.28**	**42**		IAMs_20	IAMs_20	08 50 24.7		
	comp=Z,6μm,18.0s								
LAO	**LASA Array**	**75.28**	**42**		P	**P**	**08 11 16.1**	**+0.2**
	baz=309,SNR=36								
LAO	**LASA Array**	**75.28**	**42**		P	**P**	**08 11 16.6**	**+0.7**
	baz=309								
GEXS	**Deakin Univers**	**75.29**	**180**		P	**P**	**08 11 16.2**	**+0.5**
EDW2	**Edwards Air Fo**	**75.30**	**57**		P	**P**	**08 11 16.7**	**+0.5**
	baz=306,SNR=82								
RAO	**Raoul Island**	**75.35**	**146**		IAMs_20	IAMs_20	08 43 44.8		
	comp=Z,5μm,20.0s								
RAO	**Raoul Island**	**75.35**	**146**		LR	LR	08 39 56.6		
	comp=Z,3μm,20.8s,baz=327,slow=32								
DECC	**Green Verdugo**	**75.43**	**58**		P	**P**	**08 11 17.3**	**+0.4**
	baz=306,SNR=12								
CUKT	**Cukurca**	**75.50**	**306**		P	**P**	**08 11 16.9**	**-0.5**
DUG	**Dugway, Tooele**	**75.50**	**50**		P	**P**	**08 11 18.1**	**+0.7**
	baz=307,SNR=65								
PASC	**Pasadena

KONO **Kongsberg** 76.17 338 P P 08 11 20.6 0.0
KONO **Kongsberg** 76.17 338 P P 08 11 20.8 +0.2
KONO **Kongsberg** 76.17 338 *e*P P 08 11 21.1 +0.4
KONO IVmB_BB 08 11 24.4
comp=Z,5μm,5.7s
KONO *e*PP PP 08 14 14.2 +3.2
KONO *e*S S 08 21 06.6 +2.5
KONO *e*SS SS 08 25 58.2 +1.9
KONO IVMs_BB IVMs_BB 08 49 51.6
comp=Z,9μm,16.7s
BNGB Bingl 76.31 309 P P 08 11 22.6 +0.6
ESPY Espiye-Giresun 76.33 311 P P 08 11 20.7 -1.3
SUE Sulen 76.35 341 *e*S S 08 21 09.4 +3.5
TUQ Turquoise Moun 76.35 56 P P 08 11 22.8 +0.4
baz=306,SNR=49
BBRC Big Bear Solar 76.38 57 P P 08 11 22.6 0.0
baz=306,SNR=24
HEC Hector,Ludlow 76.44 57 P P 08 11 23.5 +0.7
baz=306,SNR=96
SIM Simferopol' 76.45 317 *c i*P P 08 11 22.9 +0.4
SIM *e* 08 11 35.0
SIM pmax pmax
comp=Z,167nm,0.8s
SIM MLR MLR
comp=Z,5μm,14.1s
ERZN Erzincan 76.54 310 P P 08 11 23.9 +0.6
MURC Murrieta 76.58 58 P P 08 11 23.6 0.0
baz=306,SNR=33
ASK Askoy 76.72 340 *e*P P 08 11 24.7 +0.9
ASK IVmB_BB 08 11 27.7
comp=Z,6μm,6.1s
ASK IVMs_BB IVMs_BB 08 52 35.5
comp=Z,4μm,4.4s
BER Bergen 76.77 340 *e*P P 08 11 24.7 +0.7
BER IVmB_BB 08 11 28.2
comp=Z,5μm,5.8s
BER *e*S S 08 21 14.0 +3.5
MZR Muzera 76.79 289 *i*P P 08 11 24.0 -0.8
SNR=52
MZR Muzera 76.79 289 P P 08 11 24.3 -0.5
SNR=24
MZR P P 08 11 24.3 -0.5
SNR=24
MZR S S 08 21 08.0 -4.1
MZR S S 08 21 08.0 -4.1
ODD1 Odda 76.81 339 *e*P P 08 11 24.5 +0.2
ODD1 IVmB_BB 08 11 28.2
comp=Z,3μm,1.8s
ODD1 *e*S S 08 21 13.1 +1.8
ODD1 IVMs_BB IVMs_BB 08 51 33.4
comp=Z,5μm,9.2s
V12A Nelson 76.88 55 P P 08 11 25.2 -0.1
V12A IAmb IAmb 08 11 30.5
comp=Z,418nm,1.9s
GMRC Granite Mounta 76.91 56 P P 08 11 25.7 +0.2
baz=307,SNR=64
109C Camp Elliot, M 77.06 59 P P 08 11 26.1 -0.1
109C IAMs_20 IAMs_20 08 40 27.0
comp=Z,6μm,19.0s
109C Camp Elliot, M 77.06 59 P P 08 11 26.3 +0.1
baz=306,SNR=14
PFO Pinyon Flats O 77.07 58 P P 08 11 26.0 -0.4
PFO IAmb IAmb 08 11 31.3
comp=Z,318nm,1.8s
PFO Pinyon Flats O 77.07 58 IAMs_20 IAMs_20 08 40 23.2
comp=Z,8μm,20.0s
PFO Pinyon Flats O 77.07 58 *i*P P 08 11 23.4 -3.0
PFO MLR MLR
comp=Z,10μm,18.0s
PFO Pinyon Flats O 77.07 58 P P 08 11 26.6 +0.2
baz=306,SNR=69
PFO Pinyon Flats O 77.07 58 LR LR 08 40 46.1
comp=Z,7μm,19.4s,baz=294,slow=32
TPFO Pinon Flats 77.08 58 P P 08 11 26.6 +0.1
baz=306,SNR=63
BELC Belle Mtn. Jos 77.15 57 P P 08 11 26.7 -0.1
baz=307,SNR=46
PTK Pertek 77.17 309 P P 08 11 28.2 +1.2
ANGG Ammassalik, Gr 77.24 1 IAMs_20 IAMs_20 08 46 24.5
comp=Z,5μm,21.0s
ANGG Ammassalik, Gr 77.24 1 *i*P P 08 11 26.0 -0.6
ANGG IAmb IAmb 08 11 28.9
comp=Z,150nm,0.9s
SAKB Bahrain 77.26 293 P P 08 11 26.6 -0.8
SAKB S S 08 21 12.1 -5.0
BLS5 Blasjo 77.27 339 *e*P P 08 11 28.1 +1.2
BLS5 IVMs_BB IVMs_BB 08 48 51.2
comp=Z,7μm,15.5s
DYBB Diyarbakir 77.28 308 P P 08 11 28.7 +1.3
ISOG Isortoq, Green 77.29 1 *i*P P 08 11 24.7 -2.1
ILIC ilic-Erzincan 77.33 310 P P 08 11 28.8 +1.0
DEL Delary 77.34 334 *e*P P 08 11 26.8 -0.5
SORM Soroca 77.35 322 ⇑P P 08 11 27.8 +0.2
SORM Soroca 77.35 322 P P 08 11 27.7 +0.2
OUZ Omahuta 77.36 156 IAMs_20 IAMs_20 08 47 50.9
comp=Z,8μm,19.0s
MAZI Mazidag 77.39 308 P P 08 11 28.9 +0.8
BORG Borgarnes 77.47 354 P P 08 11 29.1 +1.2
BORG IAmb IAmb 08 11 32.8
comp=Z,380nm,0.9s
BORG Borgarnes 77.47 354 P P 08 11 29.1 +1.2
BORG pmax pmax
comp=Z,379nm,1.0s
BORG Borgarnes 77.47 354 LR LR 08 44 29.4
comp=Z,3μm,22.0s,baz=18,slow=35
RSDY Resadiye-TOKAT 77.49 311 P P 08 11 28.0 -0.5
MONP2 Monument Peak 77.52 58 P P 08 11 29.2 +0.2
baz=307,SNR=30
SVRC Sivrice-ELAZID 77.54 309 P P 08 11 29.2 +0.2
NEE2 Needles Airpor 77.61 56 P P 08 11 29.2 -0.1
baz=307
IRM Iron Mountain 77.62 56 P P 08 11 29.6 +0.3
baz=307,SNR=88
HOMB Homborsund 77.63 338 *e*P P 08 11 29.5 +0.6
HOMB IVmB_BB 08 11 32.3
comp=Z,3μm,2.6s
HOMB *e*S S 08 21 21.9 +1.9
HOMB IVMs_BB IVMs_BB 08 49 13.6
comp=Z,8μm,17.2s
K22A Casper 77.69 45 P P 08 11 29.7 -0.1
baz=310,SNR=49
K22A Casper 77.69 45 P P 08 11 29.9 +0.1
baz=310,SNR=49
ARPR Arapgir-MALATY 77.69 310 P P 08 11 30.3 +0.5
BC3 Big Chuckawall 77.72 57 P P 08 11 30.0 0.0
baz=307,SNR=62
KMY Karmoy 77.78 340 *e*P P 08 11 30.6 +1.0
KMY *e*S S 08 21 25.2 +3.6
KMY IVMsBB 08 51 43.0
comp=Z,5μm,13.9s
KVT Kavak 77.82 313 P P 08 11 30.7 +0.3
IKP In-Ko-Pah, Jac 77.88 58 P P 08 11 31.0 +0.1
baz=307,SNR=50
OVD Ostervraa, Den 77.88 336 *i*P P 08 11 30.2 -0.1
OVD IAmb IAmb 08 11 33.3
comp=Z,2μm,1.8s
KIS Kishinev 77.89 321 ⇓*i*P P 08 11 27.0 -3.6
comp=Z,1μm,6.0s
KIS Kishinev 77.89 321 *e*PP PP 08 14 29.0 +3.2
KIS Kishinev 77.89 321 *d i*P P 08 11 27.0 -3.6
KIS *e* 08 14 29.0
KIS *e*PPP PPP 08 16 20.0
KIS *i*S S 08 21 20.0 -3.3
KIS *e*PS PnS 08 21 56.0 -7.3
KIS *e*SS SS 08 26 25.0 +2.1
KIS pmax pmax
comp=Z,1μm,6.0s
KIS smax smax
comp=E,2μm,12.3s
KIS MLR MLR
comp=Z,7μm,18.0s
MDND Maddock 77.91 38 P P 08 11 30.5 -0.1
baz=313,SNR=15
MDND Maddock 77.91 38 P P 08 11 30.6 -0.1
baz=313
RWWY Rawlins 77.91 46 IAMs_20 IAMs_20 08 52 05.6
comp=Z,5μm,19.0s
SWSC Sam W. Stewart 77.91 58 P P 08 11 30.9 0.0
baz=307,SNR=36
DIKM Dikmen 77.92 313 ⇓P P 08 11 31.6 +0.7
DIKM Dikmen 77.92 313 P P 08 11 32.0 +1.2
NUUK Nuuk 77.93 7 *i*P P 08 11 30.2 -0.2
NUUK IAmb IAmb 08 11 33.8
comp=Z,424nm,1.1s
SNART Snartemo 77.96 338 *e*P P 08 11 31.2 +0.5

SNART IVmB_BB 08 11 34.5
comp=Z,6μm,1.6s
SNART *e*S S 08 21 22.4 -1.2
SVSK Karacayir 77.99 311 P P 08 11 32.4 +1.2
ULM Lac du Bonnet 77.99 35 P P 08 11 29.9 -1.2
comp=Z,39nm,0.9s,baz=313,slow=6.3,SNR=22
comp=Z,39nm,0.9s
TOKT Tokat 78.00 312 P P 08 11 32.2 +0.8
YUH Yuha Desert 78.00 58 P P 08 11 30.9 -0.6
SHAO Shalim 78.02 284 P P 08 11 30.9 -0.8
SHAO Shalim 78.02 284 P P 08 11 31.4 -0.3
SHAO P P 08 11 31.4 -0.3
SHAO P P 08 11 31.5 -0.3
SHAO P P 08 11 31.5 -0.3
SHAO S S 08 21 23.7 -1.8
SHAO S S 08 21 23.7 -1.8
BSD Bornholm Skovb 78.03 333 *e*P P 08 11 31.7 +0.5
BSD Bornholm Skovb 78.03 333 *i*P P 08 11 29.4 -1.8
BSD IAmb IAmb 08 11 34.0
comp=Z,610nm,1.3s
RSSD Black Hills 78.12 43 IAMs_20 IAMs_20 08 52 17.8
comp=Z,6μm,19.0s
RSSD Black Hills 78.12 43 P P 08 11 31.9 -0.3
baz=311
RSSD Black Hills 78.12 43 P P 08 11 31.8 -0.4
baz=311
GLAD Gladstone 78.16 177 P P 08 11 33.1 +1.3
BEL Belsk 78.20 328 *e*P P 08 11 32.7 +0.5
BEL *e*S S 08 21 29.3 +2.9
BEL *e*L L 08 49 11.2
comp=Z,21μm,17.2s
PDMCI Parker Dam,Lak 78.20 56 P P 08 11 32.9 +0.4
baz=307,SNR=24
LVV L'vov 78.23 325 *e*P P 08 11 31.7 -0.7
LVV *e* 08 14 28.5
LVV *e*PPP PPP 08 16 20.7
LVV *e*S S 08 21 22.6 -4.3
LVV *e*PS PnS 08 22 05.3 -2.2
LVV *e*SSS SSS 08 29 45.9
LVV pmax pmax
comp=Z,1μm,1.7s
LVV MLR MLR
comp=N,14μm,16.0s
LVV MLR MLR
comp=E,16μm,16.0s
LVV MLR MLR
comp=Z,21μm,16.0s
E28A Huff 78.23 40 P P 08 11 31.9 -0.6
baz=313
O20A White River Ci 78.29 48 P P 08 11 33.4 +0.2
baz=309,SNR=36
AULHS Lilydale High 78.39 178 P P 08 11 35.7 +2.6
URFA Urfa 78.42 308 P P 08 11 34.8 +1.0
COP Copenhagen 78.45 334 *i*P P 08 11 31.0 -2.4
COP IAmb IAmb 08 11 36.3
comp=Z,532nm,0.9s
GLA Glamis 78.50 57 P P 08 11 34.4 +0.1
baz=307,SNR=17
DARE Darende-Malaty 78.54 310 P P 08 11 36.3 +1.8
GKP Gorka Klasztor 78.57 331 *i*P P 08 11 34.5 +0.3
GKP *e*S S 08 21 29.7 -0.6
GKP *e*L L 08 49 34.3
comp=Z,25μm,17.5s
CORO Coronation Par 78.59 178 P P 08 11 35.5 +1.3
VASR Vaslui 78.65 321 ⇑P P 08 11 35.3 +0.5
DMTO DMTO 78.72 284 P P 08 11 34.9 -0.8
DMTO P P 08 11 34.9 -0.8
DMTO S S 08 21 29.3 -3.7
DMTO S S 08 21 29.3 -3.7
RAR Rarotonga 78.76 128 IAMs_20 IAMs_20 08 51 27.8
comp=Z,7μm,19.0s
RAR Rarotonga 78.76 128 LR LR 08 47 16.4
comp=Z,2μm,18.0s,baz=314,slow=36
DOK Doka 78.82 285 P P 08 11 35.2 -0.9
SNR=9.6
DOK P P 08 11 35.2 -0.9
SNR=9.6
DOK S S 08 21 29.1 -5.0
DOK S S 08 21 29.1 -5.0
MUD Monsted U'grnd 78.91 336 *i*P P 08 11 34.0 -2.0
MUD IAmb IAmb 08 11 39.3
comp=Z,2μm,2.2s
PRAR RASCA 78.92 322 ⇑P P 08 11 36.8 +0.5
KWP Kalwaria Pacla 78.97 326 *e*P P 08 11 37.2 +0.7
KWP *e*PP PP 08 14 33.3 -1.4
KWP *e*S S 08 21 34.5 -0.3
KWP *e*L L 08 50 05.3
comp=Z,37μm,16.6s
RGN Rugen 79.04 333 *e*P P 08 11 37.7 +0.9
VLDR Vladesti 79.05 320 ⇓P P 08 11 37.9 +1.0
TLCR 79.12 319 ⇑P P 08 11 37.9 +0.6
TLCR 79.12 319 P P 08 11 37.9 +0.6
VARL Varlezi 79.13 320 ⇑P P 08 11 37.8 +0.4
N23A Red Feather La 79.15 46 P P 08 11 38.6 +0.6
baz=311,SNR=58
YOZ Yozgat 79.16 312 P P 08 11 38.3 +0.4
SCTR Scanteiesti 79.21 320 ⇑P P 08 11 38.2 +0.3
CORM Corum 79.22 313 P P 08 11 39.3 +1.1
KURC Kurucasile-Bar 79.22 315 P P 08 11 40.7 +2.7
BURAR Bucovina Array 79.24 323 ⇑P P 08 11 38.0 -0.2
BURAR Bucovina Array 79.24 323 P P 08 11 37.9 -0.2
WUAZ Wupatki 79.25 53 IAMs_20 IAMs_20 08 43 02.6
comp=Z,5μm,19.0s
WUAZ Wupatki 79.25 53 P P 08 11 39.0 +0.5
baz=309,SNR=80
SARI SarD1z-Kayseri 79.29 310 P P 08 11 39.8 +1.1
TESR Tescani 79.31 321 ⇓P P 08 11 38.9 +0.5
BNN Bunyan 79.35 311 P P 08 11 39.7 +0.7
IZVR Izvoarele 79.42 320 ⇓P P 08 11 39.6 +0.6
RBK Rabkut 79.42 284 P P 08 11 38.6 -0.9
RBK P P 08 11 38.6 -0.9
RBK S S 08 21 35.4 -5.2
RBK S S 08 21 35.4 -5.2
KUZ Kuaotunu 79.46 155 P P 08 11 39.9 +0.8
CFR Carcaliu 79.48 320 ⇑P P 08 11 39.2 -0.2
CFR Carcaliu 79.48 320 P P 08 11 39.1 -0.2
WHFO Wadi Hawf 79.51 284 P P 08 11 38.7 -1.3
SNR=6.2
WHFO P P 08 11 38.7 -1.3
SNR=6.2
WHFO S S 08 21 36.5 -5.0
WHFO S S 08 21 36.5 -5.0
TPGR Topolog 79.55 319 ⇑P P 08 11 40.2 +0.4
SSRD Sdr. Stenderup 79.56 336 *i*P P 08 11 37.8 -1.8
SSRD IAmb IAmb 08 11 43.2
comp=Z,3μm,1.9s
KMRS Kahramanmaras 79.57 309 P P 08 11 40.6 +0.6
MOO Moorlands 79.58 178 P P 08 11 40.2 +0.6
GAZ Gaziantep 79.59 309 P P 08 11 41.6 +1.4
GAZ Gaziantep 79.59 309 IAMs_20 IAMs_20 08 52 22.2
comp=Z,9μm,18.0s
D32B Dogwood Acres, 79.67 37 P P 08 11 39.4 -0.9
baz=315
KOLS Kolonicke sedl 79.67 325 *e*P P 08 11 41.3 +1.0
KOLS pmax pmax
comp=Z,210nm,0.9s
KOLS Kolonicke sedl 79.67 325 *e*P P 08 11 41.3 +1.0
VRI Vrincioaia 79.72 321 ⇓P P 08 11 41.2 +0.4
VRI Vrincioaia 79.72 321 P P 08 11 41.1 +0.4
PLOR Plostina 79.77 321 ⇓P P 08 11 41.6 +0.6
PLOR Plostina 79.77 321 P P 08 11 41.6 +0.6
OJC Ojcow 79.81 327 *i*P P 08 11 41.8 +0.7
OJC *e*PP PP 08 14 43.8 +2.1
OJC *e*S S 08 21 42.3 -1.4
OJC *e*L L 08 50 14.9
comp=Z,25μm,18.1s
TIRR Tirgusor 79.83 319 ⇓P P 08 11 41.6 +0.4
TIRR Tirgusor 79.83 319 P P 08 11 41.6 +0.4
HARR Harsova 79.92 319 P P 08 11 42.4 +0.7
MVCO Mesa Verde 79.99 51 IAMs_20 IAMs_20 08 54 16.3
comp=Z,4μm,18.0s
MVCO Mesa Verde 79.99 51 P P 08 11 42.8 +0.2
baz=310,SNR=61
ARCR ARCALIA 80.03 323 ⇓P P 08 11 43.2 +0.9
OZUR 80.03 321 ⇓P P 08 11 43.5 +1.1
TAU Tasmania Unive 80.05 178 P P 08 11 43.6 +1.5
ISCO Idaho Springs 80.06 47 IAMs_20 IAMs_20 08 53 20.4
comp=Z,4μm,20.0s
ISCO Idaho Springs 80.06 47 P P 08 11 43.5 +0.6
baz=311,SNR=41
ISCO Idaho Springs 80.06 47 P P 08 11 42.2 -0.8
baz=311
CRVS Cervenica-Dubn 80.06 326 *e*P P 08 11 43.2 +0.7

CRVS pmax pmax
comp=Z,2μm,1.8s
CRVS Cervenica-Dubn 80.06 326 *e*P P 08 11 43.2 +0.7
CRVS Cervenica-Dubn 80.06 326 *e*S S 08 21 44.8 -1.6
CRVS *e*L L 08 50 56.5
AUTAR Taroona High S 80.08 178 P P 08 11 43.8 +1.5
DGAR Diego Garcia 80.09 253 IAMs_20 IAMs_20 08 52 48.2
comp=Z,5μm,18.0s
BR131 Keskin Array S 80.10 313 P P 08 11 43.0 0.0
SNR=110
BR131 P P 08 11 43.0 0.0
SNR=110
BR131 S S 08 21 46.7 -0.7
BR131 S S 08 21 46.7 -0.7
BRTR Keskin Array B 80.10 313 P P 08 11 43.2 +0.2
comp=Z,29nm,0.8s,baz=95,slow=3.1,SNR=89
BRTR LR LR 08 51 35.4
comp=Z,9μm,18.1s,baz=39,slow=39
comp=Z,29nm,0.8s
TRPA Tarpa 80.13 325 ⇓P P 08 11 44.0 +1.2
NIE Niedzica 80.19 327 *i*P P 08 11 44.6 +1.4
NIE *e*PP PP 08 14 48.0 +3.1
NIE *e*S S 08 21 50.0 +2.2
NIE *e*L L 08 50 50.4
comp=Z,15μm,17.4s
ABTO Aybut 80.20 284 P P 08 11 42.9 -0.9
SNR=11
ABTO P P 08 11 42.9 -0.9
SNR=11
ABTO S S 08 21 45.3 -3.6
ABTO S S 08 21 45.3 -3.6
NEHR Nehoiu 80.24 321 ⇑P P 08 11 44.5 +1.0
TOZ Tahuroa Road 80.28 155 P P 08 11 42.6 -0.8
AMRR Amara 80.28 320 ⇓P P 08 11 43.6 -0.1
AMRR Amara 80.28 320 P P 08 11 43.6 -0.1
KAMT Kaman 80.29 312 P P 08 11 43.4 -0.6
DOPR Dopca 80.31 322 ⇓P P 08 11 43.6 -0.3
B35A Bob, Littlefor 80.33 35 P P 08 11 43.2 -0.8
baz=317,SNR=32
ISR Istrita 80.33 320 ⇓P P 08 11 44.8 +0.7
ISR Istrita 80.33 320 P P 08 11 44.8 +0.7
MLR Muntele Rosu 80.37 321 ⇑P P 08 11 44.8 +0.4
MLR Muntele Rosu 80.37 321 P P 08 11 44.7 +0.4
MLR Muntele Rosu 80.37 321 LR LR 08 51 06.1
comp=Z,19μm,19.0s,baz=44,slow=38
ANTO Ankara 80.49 313 ⇑P P 08 11 45.6 +0.6
ANTO Ankara 80.49 313 IAMs_20 IAMs_20 08 52 32.0
comp=Z,6μm,19.0s
ANTO Ankara 80.49 313 P P 08 11 45.6 +0.6
ANTO Ankara 80.49 313 P P 08 11 45.9 +0.8
ANTO P P 08 11 45.9 +0.8
ANTO S S 08 21 51.3 -0.1
ANTO S S 08 21 51.3 -0.1
RUE Ruedersdorf 80.51 332 *e*P P 08 11 44.3 -0.4
RUE Ruedersdorf 80.51 332 *e*P P 08 11 45.3 +0.5
comp=Z,770nm,1.4s,baz=35,slow=5.2
YAYX Yaylak 80.51 312 P P 08 11 44.6 -0.6
214A Organ Pipe Nat 80.52 57 P P 08 11 44.9 -0.4
214A Organ Pipe Nat 80.52 57 P P 08 11 45.5 +0.2
baz=308,SNR=38
PSN Preselentsi 80.54 319 P P 08 11 44.7 -0.4
W18A Petrified Fore 80.55 53 P P 08 11 46.0 +0.4
baz=309
SUSD Miller 80.59 40 P P 08 11 44.9 -0.5
baz=314,SNR=19
SUSD Miller 80.59 40 P P 08 11 45.1 -0.3
baz=314
BSEG Bad Segeberg 80.59 334 *e*P P 08 11 45.6 +0.4
comp=Z,275nm,1.0s,baz=35,slow=5.2
CEYT Ceyhan 80.59 310 P P 08 11 46.9 +1.4
AFSR Afar-Bala (An 80.61 313 P P 08 11 45.9 +0.2
CMRD Camardi-Nigde 80.63 310 P P 08 11 47.1 +1.2
GULA Gulagac 80.64 311 P P 08 11 45.6 -0.3
SERE Sereflikochisa 80.65 312 P P 08 11 46.5 +0.5
CJR Cluj-Napoca 80.66 323 ⇓P P 08 11 46.8 +1.1
CJR Cluj-Napoca 80.66 323 P P 08 11 46.8 +1.1
S22A 4UR Ranch, Cre 80.67 49 P P 08 11 47.0 +0.7
baz=310,SNR=80
LANS Liptovska Anna 80.76 327 *e*P P 08 11 47.9 +1.7
LANS pmax pmax
comp=Z,520nm,1.9s
LANS Liptovska Anna 80.76 327 *e*P P 08 11 47.9 +1.7
HIZ Hauiti 80.78 156 IAMs_20 IAMs_20 08 45 41.2
comp=Z,4μm,19.0s
HIZ Hauiti 80.78 156 P P 08 11 48.6 +2.4
YUVA Yuva-Kibriscik 80.78 314 P P 08 11 46.1 -0.5
SULR 80.79 320 ⇓P P 08 11 46.5 +0.1
KECS Kecovo 80.80 326 *e*P P 08 11 47.5 +1.0
KECS pmax pmax
comp=Z,186nm,1.2s
KECS Kecovo 80.80 326 *e*P P 08 11 47.5 +1.0
KSP Ksiaz 80.80 329 *i*P P 08 11 46.6 +0.2
KSP *e*PP PP 08 14 52.8 +2.9
KSP *e*S S 08 21 53.5 -0.6
KSP *e*L L 08 49 41.2
comp=Z,12μm,20.5s
OKC Ostrava-Krasne 80.81 328 *e*P P 08 11 47.3 +0.9
OKC *e* 08 21 53.3
OKC MLR MLR
comp=Z,22μm,16.9s
OKC Ostrava-Krasne 80.81 328⇓*e*P P 08 11 47.3 +0.9
OKC *e*S S 08 21 53.3 -0.8
OKC AMS AMS 08 50 30.0
comp=Z,22μm,16.9s
KARA Karaisali 80.85 310 P P 08 11 47.7 +0.8
VOIR 80.86 321 ⇑P P 08 11 47.4 +0.5
VOIR 80.86 321 P P 08 11 47.4 +0.5
Q24A Divide 80.87 48 P P 08 11 47.2 -0.3
baz=311
MARR Marisel-Cluj 80.91 323 ⇓P P 08 11 48.0 +0.8
KULU Kulu 80.92 313 P P 08 11 48.2 +0.8
F33A 5 Mile Ranch, 80.94 38 P P 08 11 46.4 -0.8
F33A 5 Mile Ranch, 80.94 38 P P 08 11 46.9 -0.3
baz=316
LTVH Ltavrtes, Hu 80.97 324 ⇓P P 08 11 47.2 -0.1
GORT1 Trebel 81.01 333 *e*P P 08 11 48.2 +0.8
comp=Z,701nm,1.5s,baz=35,slow=5.2
MDUB Mudurnu 81.01 315 P P 08 11 48.4 +0.6
OSTC Ostas 81.06 329 *e*P P 08 11 48.6 +0.8
OSTC *e* 08 21 56.3
OSTC MLR MLR
comp=Z,14μm,15.3s
OSTC Ostas 81.06 329⇓*e*P P 08 11 48.6 +0.8
OSTC *e*S S 08 21 56.3 -0.5
OSTC AMS AMS 08 50 50.0
comp=Z,14μm,15.3s
CHVC Chvalec 81.10 329 *e*P P 08 11 48.7 +0.7
CHVC MLR MLR
comp=Z,14μm,15.4s
CHVC Chvalec 81.10 329 *e*P P 08 11 48.7 +0.7
CHVC AMS AMS 08 51 00.0
comp=Z,14μm,15.4s
MXZ Matakaoa Point 81.10 153 IAMs_20 IAMs_20 08 48 03.0
comp=Z,5μm,20.0s
MORC Moravsky Berou 81.11 328 ⇓P P 08 11 48.6 +0.4
MORC Moravsky Berou 81.11 328 *e*P P 08 11 48.2 +0.1
MORC *e* 08 14 52.8
MORC *e*S S 08 21 56.9 -0.5
MORC Moravsky Berou 81.11 328 P P 08 11 48.5 +0.4
ARR Arges 81.11 322 ⇓P P 08 11 49.2 +1.0
SULT Sultanhani-AKS 81.17 312 P P 08 11 49.4 +0.7
DPC Dobruska-Polom 81.17 329 *e*P P 08 11 49.5 +1.1
DPC *e* 08 21 58.9
DPC MLR MLR
comp=Z,12μm,15.1s
DPC Dobruska-Polom 81.17 329⇓*e*P P 08 11 49.5 +1.1
DPC *e*S S 08 21 58.9 +0.8
DPC AMS AMS 08 57 10.0
comp=Z,12μm,15.1s
IVI Ivigtut 81.18 6 IAMs_20 IAMs_20 08 54 26.5
comp=Z,6μm,19.0s
IVI Ivigtut 81.18 6 *i*P P 08 11 46.2 -2.0
IVI IAmb IAmb 08 11 50.9
comp=Z,377nm,1.5s
UPC Upice 81.18 329 *e*P P 08 11 49.1 +0.7
UPC *e* 08 21 57.8
UPC MLR MLR
comp=Z,16μm,15.3s
UPC Upice 81.18 329⇓*e*P P 08 11 49.1 +0.7
UPC *e*S S 08 21 57.8 -0.2
UPC AMS AMS 08 56 30.0
comp=Z,16μm,15.3s
KHEZ Kahui Hut 81.22 157 P P 08 11 50.8 +2.2
NEZ North Egmont 81.22 157 P P 08 11 51.4 +2.8

CHBY Cihanbeyli 81.29 312 P **P 08 11 49.0 -0.3**
MAUC Maruska 81.30 328⇓*e*P **P 08 11 48.8 -0.3**
VRZ Vera Road 81.30 156 P P 08 11 55.3 +6.4
URZ Urewera 81.30 154 LR LR 08 45 17.7
comp=Z,4μm,19.4s,baz=62,slow=34
SAUV Serdivan-Sakar 81.32 315 P **P 08 11 49.0 -0.3**
OGNE Ogallala 81.34 44 IAMs_20 IAMs_20 08 49 08.1
comp=Z,4μm,20.0s
OGNE Ogallala 81.34 44 P **P 08 11 49.2 -0.4**
baz=313,SNR=10
OGNE Ogallala 81.34 44 P **P 08 11 49.6 +0.1**
baz=313,SNR=10
GULT Gulveren 81.42 315 P **P 08 11 50.9 +0.9**
NRS Narsarsuaq 81.42 5 IAMs_20 IAMs_20 08 51 04.9
comp=Z,5μm,20.0s
NRS Narsarsuaq 81.42 5 *i* P **P 08 11 49.1 -0.3**
NRS IAmb IAmb 08 11 51.8
comp=Z,976nm,2.4s
RAZG Razgrad 81.44 319 ⇑P **P 08 11 50.3 +0.4**
SDCO Great Sand Dun 81.47 49 IAMs_20 IAMs_20 08 49 19.8
comp=Z,4μm,20.0s
SDCO Great Sand Dun 81.47 49 P **P 08 11 51.0 +0.5**
baz=311,SNR=71
SDCO Great Sand Dun 81.47 49 P **P 08 11 51.3 +0.7**
baz=311,SNR=71
LOT Lotru 81.48 322 ⇓P **P 08 11 50.6 +0.3**
PSZ Piszkesteto 81.49 326 ⇓P **P 08 11 50.6 +0.3**
PSZ Piszkesteto 81.49 326 P **P 08 11 50.5 +0.3**
SVRH Sivrihisar-ESK 81.51 314 P **P 08 11 50.1 -0.4**
VYHS Vyhne 81.53 327 *e*P **P 08 11 51.2 +0.9**
VYHS pmax pmax
comp=Z,471nm,1.3s
VYHS Vyhne 81.53 327 *e*P **P 08 11 51.2 +0.9**
VYHS *e*PP **PP 08 14 59.7 +3.8**
VYHS *e*S **S 08 22 00.6 -1.1**
VYHS *e*L L 08 51 26.5
WTVZ West Tongariro 81.56 156 P **P 08 11 51.3 +0.8**
FLTG Flechtingen 81.57 333 *e*P **P 08 11 50.1 -0.3**
comp=Z,354nm,1.1s,baz=35,slow=5.2
RTZ Ruatahuna 81.58 154 IAMs_20 IAMs_20 08 45 56.5
comp=Z,5μm,19.0s
NNVZ North Ngauruho 81.58 156 P **P 08 11 52.0 +1.3**
DEV Deva 81.59 323 P **P 08 11 52.5 +1.8**
TMVZ Te Maari 81.60 156 P **P 08 11 53.2 +2.6**
ETVZ East Tongariro 81.62 156 P **P 08 11 51.8 +1.0**
SRCK Saricakaya, Es 81.62 315 P **P 08 11 51.2 +0.2**
TUC Tucson 81.64 56 IAMs_20 IAMs_20 08 53 26.9
comp=Z,7μm,18.0s
TUC Tucson 81.64 56 P **P 08 11 51.4 +0.1**
baz=309
EYMN Ely 81.64 34 P **P 08 11 49.9 -1.0**
baz=319,SNR=26
EYMN Ely 81.64 34 P **P 08 11 49.7 -1.2**
baz=319,SNR=26
LEWI Lewis, Hebride 81.67 345 *e*P **P 08 11 50.2 -0.7**
KIZT Kizilcal 81.68 313 P **P 08 11 51.7 +0.3**
BRG Berggiesshubel 81.71 331⇑*i*P **P 08 11 52.2 +0.9**
BRG Amp 08 11 55.5
comp=Z,359nm,1.1s
BRG PP PP 08 14 46.8 -11
BRG Amp 08 14 49.1
comp=Z,50nm,1.2s
BRG Berggiesshubel 81.71 331 SKS **S 08 22 05.0 +1.5**
BRG Berggiesshubel 81.71 331 SS SS 08 27 27.0 +7.2
BRG Amp 08 52 40.0
comp=N,13nm,16.6s
BRG Amp 08 52 42.0
comp=E,14nm,16.1s
BRG Amp 08 52 46.0
comp=Z,20nm,16.0s
BRG Berggiesshubel 81.71 331⇑*i*P **P 08 11 52.1 +0.9**
BRG 08 22 05.0
BRG SS SS 08 27 27.0 +7.2
BRG pmax pmax
comp=Z,359nm,1.1s
BRG MLR MLR
comp=E,14μm,16.1s
BRG MLR MLR
comp=Z,20μm,16.0s
BRG Berggiesshubel 81.71 331 *e*P **P 08 11 51.9 +0.7**
comp=Z,333nm,1.1s,baz=35,slow=5.2
CLL Collm 81.73 331⇓*i*P **P 08 11 51.0 -0.3**
CLL *e* 08 14 59.0
CLL *e*S **S 08 22 02.0 -1.7**
CLL pmax pmax
comp=Z,489nm,1.0s
CLL MLR MLR
comp=Z,18μm,17.3s
CLL Collm 81.73 331 *e*P **P 08 11 51.2 -0.1**
comp=Z,418nm,1.0s,baz=35,slow=5.2
CLL Collm 81.73 331⇓*i*P **P 08 11 51.0 -0.3**
comp=Z,489nm,1.0s
CLL *e*Pmax 08 11 48.0
CLL *e*Plp 08 11 52.0
CLL *e*Plp 08 11 52.0
CLL *e*Plp 08 11 52.0
CLL *i* x x 08 12 03.2
comp=Z,320nm,1.1s
CLL *e*PP **PP 08 14 59.0 +1.5**
CLL *e*PP **PP 08 14 59.0 +1.5**
CLL *e*PP **PP 08 14 59.0 +1.5**
CLL *e*PPP PPP 08 16 49.0
CLL *e*S **S 08 22 02.0 -1.7**
CLL *e*S **S 08 22 02.0 -1.7**
comp=E,2μm,12.6s
CLL *e*SS **SS 08 27 19.0 -1.0**
CLL AMS AMS 08 45 00.0
comp=N,23μm,18.4s
CLL AMS AMS 08 45 00.0
comp=E,30μm,18.7s
CLL L L 08 47 00.0
comp=Z,10μm,21.6s
CLL AMS AMS 08 52 00.0
PVCC Panska Ves 81.74 330⇓*i*P **P 08 11 51.9 +0.5**
PVCC MLR MLR
comp=Z,23μm,17.5s
PVCC Panska Ves 81.74 330⇓*i*P **P 08 11 51.9 +0.5**
PVCC AMS AMS 08 51 20.0
comp=Z,23μm,17.5s
JAVC Velka Javorina 81.75 327 *e*P **P 08 11 52.6 +1.0**
JAVC *e* 08 15 00.1
JAVC *e*S **S 08 22 06.2 +2.0**
BSZH Besenyszg 81.78 325 ⇓P **P 08 11 52.5 +0.8**
ISK Istanbul-Kandi 81.80 316 P **P 08 11 52.0 +0.1**
CIFT Cifteler, Eski 81.83 314 P **P 08 11 51.5 -0.7**
NRDL Niedersach Rie 81.84 334 *e*P **P 08 11 52.0 +0.3**
comp=Z,559nm,1.8s,baz=35,slow=5.2
LADK Ladik-KONYA 81.85 312 P **P 08 11 51.7 -0.6**
VRAC Vranov 81.86 328 ⇓P **P 08 11 52.5 +0.4**
VRAC Vranov 81.86 328 *e*P **P 08 11 52.4 +0.3**
VRAC *e* 08 14 58.9
VRAC *e*S **S 08 22 05.6 +0.4**
VRAC Vranov 81.86 328 P **P 08 11 52.5 +0.4**
VRAC Vranov 81.86 328 LR LR 08 51 39.2
comp=Z,17μm,18.3s,baz=29,slow=38
SIRR Siria 81.90 324 ⇓P **P 08 11 52.7 +0.4**
RETH Rethem/Aller, 81.90 334 *e*P **P 08 11 52.5 +0.3**
comp=Z,405nm,1.4s,baz=35,slow=5.2
FBE Freiberg 81.90 331 *e*P **P 08 11 52.6 +0.4**
comp=Z,423nm,1.0s,baz=35,slow=5.2
BKZ Black Stump Fm 81.91 155 IAMs_20 IAMs_20 08 48 54.2
comp=Z,7μm,18.0s
BKZ Black Stump Fm 81.91 155 P **P 08 11 51.7 -0.5**
BKZ Black Stump Fm 81.91 155 P **P 08 11 52.0 -0.2**
RICC Richard 81.91 330⇓*e*P **P 08 11 52.9 +0.6**
RICC AMS AMS 08 51 40.0
comp=Z,24μm,16.6s
KIZK Mersin 81.92 310 P **P 08 11 51.7 -0.9**
SZH Strazhitsa 81.92 319 P **P 08 11 52.9 +0.4**
ASSE Asse, Remlinge 81.93 333 *e*P **P 08 11 52.6 +0.3**
comp=Z,266nm,1.5s,baz=35,slow=5.2
WAZ Wanganui 81.95 156 P **P 08 11 52.8 +0.5**
CAVI Cavuskoy 81.95 315 P **P 08 11 53.0 +0.3**
GZR Gura Zlata 82.00 323 ⇓P **P 08 11 52.9 -0.1**
GZR Gura Zlata 82.00 323 P **P 08 11 52.8 -0.1**
KONT Konya--Tatoy 82.02 312 P **P 08 11 53.5 +0.4**
BHHZ Black Hill Sta 82.06 156 P **P 08 11 55.0 +2.1**
SURR Surduc 82.06 323 ⇓P **P 08 11 53.7 +0.5**
KWHZ Kaweka Forest 82.12 155 P **P 08 11 53.9 +0.6**
SMOL Smolenice 82.12 327 *e*P **P 08 11 55.0 +1.6**
SMOL pmax pmax
comp=Z,248nm,1.1s
HSKC Hora Svate Kat 82.12 331⇓*i*P **P 08 11 53.8 +0.4**
HSKC AMS AMS 08 51 40.0
comp=Z,22μm,17.3s
GOPC GO Pecny, Ondr 82.13 330 *e*P **P 08 11 54.1 +0.6**
GOPC MLR MLR
comp=Z,13μm,15.6s
GOPC GO Pecny, Ondr 82.13 330⇓*e*P **P 08 11 54.1 +0.6**
GOPC AMS AMS 08 51 40.0
comp=Z,13μm,15.6s
KRUC Moravsky 82.14 328 *e*P **P 08 11 53.7 +0.2**
KRUC *e* 08 15 02.4
KRUC *e*S **S 08 22 08.0 0.0**
KPL Plockton 82.15 344 *e*P **P 08 11 53.1 -0.2**
PRA Prague 82.15 330⇓*i*P **P 08 11 53.8 +0.3**
PRA *e* 08 22 07.5
PRA MLR MLR
comp=Z,20μm,17.5s
PRA Prague 82.15 330⇓*i*P **P 08 11 53.8 +0.3**
PRA *e*S **S 08 22 07.5 -0.6**
PRA AMS AMS 08 51 40.0
comp=Z,20μm,17.5s
PRU Pruhonice 82.17 330⇓*i*P **P 08 11 53.7 0.0**
PRU *e* 08 15 01.0
PRU *e* 08 22 04.9
PRU MLR MLR
comp=Z,16μm,16.9s
PRU Pruhonice 82.17 330⇓*i*P **P 08 11 53.7 0.0**
PRU *e*PP **PP 08 15 01.0 -0.1**
PRU *e*S **S 08 22 04.9 -3.4**
PRU AMS AMS 08 51 40.0
comp=Z,16μm,16.9s
JMB Yambol 82.18 319 P **P 08 11 54.3 +0.5**
QRZ Quartz Range 82.18 159 IAMs_20 IAMs_20 08 43 42.3
comp=Z,6μm,19.0s
QRZ Quartz Range 82.18 159 P **P 08 11 53.4 -0.1**
KEBE Keben-Mersin 82.20 310 P **P 08 11 54.2 +0.1**
F36A Milaca 82.25 37 P **P 08 11 53.3 -0.9**
baz=318,SNR=12
SRO Srobarova 82.27 326 *e*P **P 08 11 55.4 +1.2**
SRO pmax pmax
comp=Z,485nm,1.1s
SRO Srobarova 82.27 326 *e*P **P 08 11 55.4 +1.2**
NEUB Neuenburg 82.28 332 *e*P **P 08 11 54.3 +0.2**
comp=Z,450nm,1.1s,baz=35,slow=5.2
CLZ Clausthal 82.28 333 *e*P **P 08 11 54.7 +0.4**
comp=Z,424nm,1.2s,baz=35,slow=5.2
CLZ *e*pP **pwP 08 12 08.0 +2.8**
ECSD EROS Data Cent 82.28 40 IAMs_20 IAMs_20 08 47 54.3
comp=Z,5μm,19.0s
ECSD EROS Data Cent 82.28 40 P **P 08 11 53.5 -0.9**
baz=316,SNR=65
ECSD EROS Data Cent 82.28 40 P **P 08 11 53.9 -0.5**
baz=316
MODS Modra-Piesok 82.29 327 *e*P **P 08 11 55.3 +0.9**
MODS pmax pmax
comp=Z,1μm,1.2s
MODS Modra-Piesok 82.29 327 *e*P **P 08 11 55.3 +0.9**
MODS *e*PP **PP 08 15 07.1 +4.9**
MODS *e*S **S 08 22 11.1 +1.5**
MODS *e*L L 08 52 19.6
KSCO Kaye Shedlock' 82.31 46 P **P 08 11 54.6 -0.1**
baz=313,SNR=26
KSCO Kaye Shedlock' 82.31 46 P **P 08 11 54.9 +0.1**
baz=313,SNR=26
SRE Strehaia 82.33 322 ⇓P **P 08 11 55.6 +1.0**
SRE Strehaia 82.33 322 P **P 08 11 55.5 +1.0**
TREC Trest 82.33 329 *e*P **P 08 11 55.2 +0.6**
TREC Trest 82.33 329⇓*e*P **P 08 11 55.2 +0.6**
IKL Isikli 82.35 310 P **P 08 11 54.8 0.0**
BZS Buzias 82.40 323 ⇓P **P 08 11 54.9 -0.1**
BZS Buzias 82.40 323 P **P 08 11 54.8 -0.1**
PVL Pavlikeni 82.44 320 P **P 08 11 55.3 +0.1**
PMOR Pomoriorio Ree 82.47 115 *e*P **P 08 11 54.9 -0.7**
comp=Z,312nm,1.4s
PMOR Pomoriorio Ree 82.47 115 *e*T T 09 41 50.9
comp=Z,20nm,0.2s
AKKU Akkuyu-Mersin 82.49 310 P **P 08 11 55.7 +0.1**
ZST Bratislava 82.50 327 *e*P **P 08 11 56.6 +1.2**
ZST pmax pmax
comp=Z,905nm,1.3s
ZST Bratislava 82.50 327 *e*P **P 08 11 56.6 +1.2**
ZST Bratislava 82.50 327 *e*S **S 08 22 14.1 +2.4**
EDRB Edirne 82.52 318 P **P 08 11 53.9 -1.7**
T25A Trinidad 82.52 49 P **P 08 11 56.4 +0.3**
baz=312,SNR=56
EREN Erenkoy 82.52 309 P **P 08 11 56.2 +0.5**
TSZ Takapari Road 82.54 156 P **P 08 11 54.8 -0.6**
BERE Bereket-Mersin 82.56 310 P **P 08 11 56.2 +0.1**
HDMB Hadim 82.60 311 P **P 08 11 55.6 -0.8**
INVG Invergeldie, C 82.62 343 *e*P **P 08 11 55.7 -0.1**
E38A The Farm, Brul 82.62 35 P **P 08 11 54.8 -1.2**
baz=319,SNR=16
TANN Tannenbergstha 82.65 331 *e*P **P 08 11 56.5 +0.3**
comp=Z,443nm,1.8s,baz=35,slow=5.2
GTTG Gottingen 82.67 333 *e*P **P 08 11 56.4 +0.2**
comp=Z,255nm,1.0s,baz=35,slow=5.2
GTTG *e*pP **pwP 08 12 09.8 +2.7**
WERD Werda 82.69 331 *e*P **P 08 11 56.5 +0.1**
comp=Z,202nm,1.1s,baz=35,slow=5.2
WERD *e*pP **pwP 08 12 09.9 +2.6**
SEYD Seydisehir-KON 82.69 312 P **P 08 11 57.7 +1.0**
WPHZ Waipukurau 82.70 155 P **P 08 11 57.7 +1.5**
PLN Plauen 82.71 331 *e*P **P 08 11 56.8 +0.3**
comp=Z,228nm,1.3s,baz=35,slow=5.2
ANMO Albuquerque 82.72 51 P **P 08 11 57.5 +0.5**
baz=311
ANMO Albuquerque 82.72 51 P **P 08 11 57.1 +0.1**
baz=311,SNR=95
ANMO Albuquerque 82.72 51 LR LR 08 44 54.5
comp=Z,3μm,20.1s,baz=42,slow=33
GUNZ Gunzen 82.74 331 *e*P **P 08 11 56.9 +0.2**
comp=Z,272nm,1.1s,baz=35,slow=5.2
ZVC Zvikov 82.75 330⇓*e*P **P 08 11 57.0 +0.3**
ZVC AMS AMS 08 51 50.0
comp=Z,13μm,16.2s
TEKE Tekeli-Mersin 82.76 310 P **P 08 11 56.2 -0.8**
MRNZ Matariki Terra 82.77 159 P **P 08 11 56.0 -0.6**
WERN Wernitzgruen 82.79 331 *e*P **P 08 11 57.2 +0.2**
comp=Z,231nm,1.0s,baz=35,slow=5.2
MOX Moxa 82.79 332 *e*P **P 08 11 57.1 +0.2**
comp=Z,261nm,1.2s,baz=35,slow=5.2
MOX *e*L L 08 52 22.0
comp=Z,16μm,18.7s
NNZ Nelson 82.79 158 IAMs_20 IAMs_20 08 43 04.4
comp=Z,7μm,21.0s
NNZ Nelson 82.79 158 P **P 08 11 56.1 -0.6**
NKC Novy Kostel 82.80 331⇓*i*P **P 08 11 57.6 +0.6**
NKC *e* 08 22 13.6
NKC MLR MLR
comp=Z,18μm,17.0s
NKC Novy Kostel 82.80 331⇓*i*P **P 08 11 57.6 +0.6**
NKC *e*SKS **S 08 22 13.6 -1.2**
NKC AMS AMS 08 51 50.0
comp=Z,18μm,17.0s
IBBN Ibbenburen 82.81 335 *e*P **P 08 11 57.0 +0.1**
comp=Z,486nm,1.2s,baz=35,slow=5.2
DSZ Denniston Nort 82.82 159 IAMs_20 IAMs_20 08 49 57.3
comp=Z,6μm,18.0s
DSZ Denniston Nort 82.82 159 P **P 08 11 57.6 +0.7**
DVHZ Dannevirke 82.82 156 P **P 08 11 52.5 -4.4**
KIW Kapiti Island 82.93 157 P **P 08 11 57.0 -0.5**
MRZ Mangatainoka R 82.96 156 P **P 08 11 56.6 -1.0**
MDVR Moldovita 82.97 323 ⇑P **P 08 11 57.9 0.0**
ASF Jabal al Asfar 82.97 305 LR LR 08 55 28.9
comp=Z,2μm,18.6s,baz=58,slow=40
PRWZ Pori Road 82.99 156 P **P 08 11 57.7 0.0**
PPT Papeete 82.99 118 LR LR 08 46 39.5
comp=Z,3μm,18.6s,baz=296,slow=34
Y22F Passcal Instru 82.99 52 P **P 08 11 59.1 +0.7**
baz=311
Y22D IRIS PASSCAL I 83.00 52 IAMs_20 IAMs_20 08 47 26.6
comp=Z,4μm,20.0s
Y22D IRIS PASSCAL I 83.00 52 P **P 08 11 59.0 +0.6**
baz=311
MPEP Malo Peshtene 83.00 321 P **P 08 11 58.6 +0.5**
PPT2 Papeete2 83.01 118 *e*PKP1 **P 08 12 00.9 +2.4**
comp=Z,134nm,1.4s
PPT2 Papeete2 83.01 118 *e*PP **PP 08 15 14.8 +5.2**
comp=Z,246nm,25.0s
PPT2 *e*S **SKSac 08 22 20.6 +0.3**
comp=Z,3μm,25.0s
PPT2 *e*SS **SS 08 27 40.0 -1.9**
comp=Z,3μm,25.5s
PPT2 *e*LR LR 08 36 57.3
comp=Z,14μm,33.5s
PPT2 *e*LR LR 08 37 23.1
comp=Z,16μm,25.5s
PPT2 Papeete2 83.01 118 *e*T T 09 42 32.9
comp=Z,3.5nm,0.3s
PPTF Pamatai, Papee 83.02 118 IAMs_20 IAMs_20 08 46 10.8
comp=Z,4μm,19.0s
Y22A Socorro 83.06 52 P **P 08 11 59.4 +0.5**
baz=311
SPMN Marine on St. 83.07 37 P **P 08 11 57.9 -0.5**
baz=318,SNR=14
SPMN Marine on St. 83.07 37 P **P 08 11 58.0 -0.5**
baz=318,SNR=14
LFK Lefkose 83.08 309 P **P 08 11 58.9 +0.2**
LAWE Loch Awe, Argy 83.08 343 *e*P **P 08 11 57.8 -0.5**
MANZ Manzenberg 83.13 331 *e*P **P 08 11 59.0 +0.2**
comp=Z,45nm,1.0s,baz=35,slow=5.2
BGNE Belgrade 83.13 42 P **P 08 11 58.4 -0.5**
baz=315,SNR=28
BGNE Belgrade 83.13 42 P **P 08 11 57.8 -1.1**
baz=315,SNR=28
THZ Tophouse 83.15 159 IAMs_20 IAMs_20 08 43 28.0
comp=Z,6μm,20.0s
TUWZ Tuamarina 83.15 158 P **P 08 11 58.5 -0.1**
HOWZ Holdsworth Sta 83.15 156 P **P 08 11 57.4 -1.2**
GAZI Gazipasa 83.18 311 P **P 08 11 57.7 -1.5**
CKRC Cesky Krumlov 83.19 329⇓*i*P **P 08 11 58.9 -0.1**
CKRC *e* 08 15 10.2
CKRC *e* 08 22 17.8
CKRC MLR MLR
comp=Z,12μm,16.0s
CKRC Cesky Krumlov 83.19 329⇓*i*P **P 08 11 58.9 -0.1**
CKRC *e*PP **PP 08 15 10.2 +0.7**
CKRC *e*S **S 08 22 17.8 -1.0**
CKRC AMS AMS 08 55 20.0
comp=Z,12μm,16.0s
BFZ Birch Farm 83.19 156 IAMs_20 IAMs_20 08 45 38.1
comp=Z,5μm,20.0s
BFZ Birch Farm 83.19 156 P **P 08 12 00.0 +1.2**
RONA Rosalia, Austr 83.23 327 *i* pP **P 08 11 59.7 +0.4**
comp=Z,530nm,1.0s,SNR=156
KHC Kasperske Hory 83.24 330⇓*i*P **P 08 11 59.6 +0.3**
KHC *e* 08 12 03.5
KHC *e* 08 15 11.9
KHC *e* 08 22 16.9
KHC MLR MLR
comp=Z,18μm,17.2s
KHC Kasperske Hory 83.24 330⇓*i*P **P 08 11 59.6 +0.3**
KHC *e*pP **PcP 08 12 03.5 -0.3**
KHC *e*PP **PP 08 15 11.9 +2.0**
KHC *e*S **S 08 22 16.9 -2.4**
KHC AMS AMS 08 52 10.0
comp=Z,18μm,17.2s
CONA Conrad Observa 83.24 328 *e*pP **P 08 12 00.2 +0.8**
comp=Z,441nm,1.1s,SNR=206
ROTZ Rotzenmuhle 83.27 331 *e*P **P 08 12 00.1 +0.7**
comp=Z,141nm,1.4s,baz=35,slow=5.2
SNZO South Karori 83.28 157 IAMs_20 IAMs_20 08 53 36.3
comp=Z,5μm,18.0s
PGBU Glenifferbraes 83.28 343 *e*P **P 08 11 59.5 +0.2**
PGBU IAmb IAmb 08 12 03.2
comp=Z,1μm,1.3s
MORH Mrgy, Hungar 83.33 325 ⇓P **P 08 11 59.5 -0.3**
PLD Plovdiv 83.36 319 P **P 08 12 01.3 +1.4**
MTW Mount Morrison 83.39 157 P **P 08 11 58.9 -0.9**
MMAI Mount Meron Ar 83.39 307 P **P 08 12 01.0 +0.6**
comp=Z,133nm,0.8s,baz=45,slow=6.0,SNR=98
MMAI LR LR 08 52 45.8
comp=Z,5μm,20.1s,baz=25,slow=38
comp=Z,133nm,0.8s
PGB Panagyurishte 83.39 320 P **P 08 12 01.3 +1.1**
BSWZ Blackbirch Sta 83.39 158 P **P 08 12 00.1 +0.3**
EKA Eskdalemuir Ar 83.39 342 P **P 08 11 59.3 -0.6**
comp=Z,32nm,0.8s,baz=15,slow=4.8,SNR=25
EKA PP **PP 08 15 10.2 -0.7**
comp=Z,7.9nm,0.9s,baz=27,slow=6.6,SNR=3.9
comp=Z,32nm,0.8s
GEC2 GERESS Array S 83.41 330 *e*P **P 08 12 00.3 0.0**
comp=Z,253nm,1.2s,baz=35,slow=5.2
GERES GERESS Array B 83.41 330 P **P 08 12 00.1 -0.1**
comp=Z,70nm,0.7s,baz=36,slow=5.3,SNR=53
GERES PP **PP 08 15 12.9 +1.5**
comp=Z,5.7nm,0.9s,baz=30,slow=8.1,SNR=2.5
GERES PKKPbc **PKKPbc 08 30 14.7 -3.9**
comp=Z,3.2nm,0.7s,baz=28,slow=26,SNR=8.5
GERES LR LR 08 52 54.9
comp=Z,10μm,18.9s,baz=22,slow=38
comp=Z,70nm,0.7s
BHW Baring Head 83.42 157 IAMs_20 IAMs_20 08 53 41.1
comp=Z,5μm,18.0s
ESK Eskdalemuir 83.42 342 *e*P **P 08 12 00.1 +0.1**
ESK IAmb IAmb 08 12 03.7
comp=Z,368nm,1.3s
BALB Balikesir 83.44 316 P **P 08 12 00.1 -0.3**
121A Cookes Peak, D 83.45 54 P **P 08 12 01.7 +0.8**
baz=311,SNR=47
121A Cookes Peak, D 83.45 54 P **P 08 12 01.6 +0.8**
baz=311
TMWZ Te Maipa 83.46 156 P **P 08 11 59.3 -0.9**
KASTN Kahler Asten 83.50 334 *e*P **P 08 12 00.6 0.0**
comp=Z,120nm,0.9s,baz=35,slow=5.2
WET Wettzell 83.50 330 *e*P **P 08 12 01.1 +0.5**
comp=Z,407nm,1.4s,baz=35,slow=5.2
EDMD Edmundbyers 83.54 341 *e*P **P 08 12 00.1 -0.5**
EDMD IAmb IAmb 08 12 04.0
comp=Z,1μm,2.1s
EDMD IAMs_20 IAMs_20 08 53 16.4
comp=Z,11μm,16.5s
ALN Alexandroupoli 83.56 318 P **P 08 12 00.1 -0.9**
D41A Chassel 83.60 33 P **P 08 11 59.8 -1.3**
baz=321,SNR=16
ENEZ Enez 83.61 317 P **P 08 12 00.6 -0.7**
INZ Inchbonnie 83.63 160 P **P 08 11 59.5 -1.5**
INZ IAMs_20 IAMs_20 08 48 07.7
comp=Z,7μm,19.0s
RDO Rodhopi 83.65 318 P **P 08 11 59.3 -2.2**
L34A Svendsen Farm, 83.67 41 P **P 08 12 00.9 -0.8**
baz=316,SNR=31
I37B Waseca 83.68 38 P **P 08 12 01.5 -0.1**
baz=318,SNR=58
RZN Rozhen 83.68 319 P **P 08 12 02.3 +0.4**
BUG Bochum--Univer 83.70 334 *e*P **P 08 12 01.6 +0.1**
comp=Z,142nm,1.0s,baz=35,slow=5.2
GRA1 Grafenberg Arr 83.71 331 P **P 08 12 01.6 -0.1**
GRF Grafenberg Arr 83.71 331 P **P 08 12 01.6 -0.1**
GRF pmax pmax
comp=Z,1μm,1.4s
GRF MLR MLR
comp=Z,15μm,18.0s
GRF Grafenberg Arr 83.71 331 *e*P **P 08 12 02.4 +0.7**
comp=Z,1μm,1.4s,baz=35,slow=5.2
GRF *e*L L 08 52 50.8
comp=Z,15μm,18.6s
GRFO Grafenberg 83.71 331 P **P 08 12 01.8 +0.2**
GRFO Grafenberg 83.71 331 P **P 08 12 01.8 +0.2**
GRFO pmax pmax
comp=Z,950nm,1.4s
GRFO MLR MLR
comp=Z,15μm,18.0s
KULA Kula-Manisa 83.78 315 P **P 08 12 01.8 -0.5**
VTS Vitosha 83.79 320 P **P 08 12 03.3 +0.9**
BOVS Bovan 83.81 322 ⇓P **P 08 12 02.1 -0.2**
NEWG New Galloway 83.85 342 *e*P **P 08 12 02.4 +0.2**
NEWG IAmb IAmb 08 12 05.8
comp=Z,413nm,1.2s
ARSA Arzberg 83.91 328 *i* P **P 08 12 03.0 +0.3**
comp=Z,137nm,0.9s,SNR=73
KHZ Kahutara 83.94 158 IAMs_20 IAMs_20 08 52 32.8
comp=Z,8μm,18.0s
FOZ Fox Glacier 83.96 161 IAMs_20 IAMs_20 08 53 41.2
comp=Z,5μm,18.0s
MOA Molln 83.97 329 *i* pP **P 08 12 03.6 +0.5**
comp=Z,308nm,1.8s,SNR=63
N33B J Bar K, Exete 83.98 42 P **P 08 12 02.0 -1.2**
baz=316,SNR=12
KESW Keswick, Cumbr 84.05 341 *e*P **P 08 12 02.9 -0.4**
CBKS Cedar Bluff 84.08 45 IAMs_20 IAMs_20 08 56 04.8
comp=Z,5μm,19.0s
CBKS Cedar Bluff 84.08 45 P **P 08 12 02.6 -1.2**
baz=314,SNR=17
CBKS Cedar Bluff 84.08 45 P **P 08 12 02.9 -0.9**
baz=314
COWI Conover 84.09 34 IAMs_20 IAMs_20 08 55 05.8
comp=Z,4μm,19.0s
COWI Conover 84.09 34 P **P 08 12 02.9 -0.8**
baz=320
SMTH Samothraki Isl 84.14 318 P **P 08 12 01.4 -2.6**
EZN Ezine 84.16 317 P **P 08 12 02.6 -1.5**
TEKS Tekeris 84.18 324⇓*i*P **P 08 12 03.6 -0.6**

GAL1 Galloway 84.19 342 *e*P **P 08 12 03.1 -0.9**
GAL1 IAmb IAmb 08 12 07.4
comp=Z,524nm,1.0s
JCZ Jackson Bay 84.21 162 P **P 08 12 05.8 +1.7**
KOGS Kog 84.22 327 *i* P **P 08 12 03.9 -0.5**
KOGS *e*PP **PP 08 15 15.3 -2.6**
KOGS *e* 08 23 14.6
HPK Haverah Park 84.23 340 *e*P **P 08 12 04.3 +0.1**
HPK IAMs_20 IAMs_20 08 52 07.3
comp=Z,12μm,19.2s
G40A Rib Lake 84.25 35 P **P 08 12 03.9 -0.6**
baz=320,SNR=23
TAOE Nuku Hiva Isla 84.28 106 *e*PKP1 **P 08 12 07.8 +2.7**
comp=Z,681nm,24.4s
TAOE Nuku Hiva Isla 84.28 106 *e*S **S 08 22 35.1 +4.3**
comp=Z,4μm,29.0s
TAOE Nuku Hiva Isla 84.28 106 *e*LR LR 08 37 29.1
comp=Z,21μm,33.5s
GVZ Greta Valley S 84.30 159 IAMs_20 IAMs_20 08 44 03.4
comp=Z,6μm,21.0s
DIVS Divibare 84.30 323 ||*i*P **P 08 12 04.5 -0.4**
KAVA Kavala 84.30 319 P **P 08 12 03.9 -0.9**
TNS Taunus Mts 84.30 333 *e*P **P 08 12 04.9 +0.1**
comp=Z,246nm,1.3s,baz=35,slow=5.2
TNS *e*pP **pwP 08 12 18.2 +2.5**
CLGH Cloghs, Cushen 84.33 343 *e*P **P 08 12 04.5 -0.2**
CLGH IAmb IAmb 08 12 08.3
comp=Z,799nm,1.5s
LMK Market Rasen 84.33 339 *e*P **P 08 12 04.6 -0.1**
SCHQ Schefferville 84.33 17 IAMs_20 IAMs_20 08 57 09.6
comp=Z,6μm,18.0s
SCHQ Schefferville 84.33 17 P **P 08 12 04.4 -0.3**
comp=Z,53nm,0.8s,baz=352,slow=6.5,SNR=30
SCHQ PKKPbc **PKKPbc 08 30 13.4 -3.1**
comp=Z,6.2nm,0.7s,baz=250,slow=5.1,SNR=5.4
SCHQ LR LR 08 50 40.2
comp=Z,5μm,21.8s,baz=350,slow=36
comp=Z,53nm,0.8s
OXZ Oxford 84.35 160 IAMs_20 IAMs_20 08 50 24.7
comp=Z,7μm,20.0s
BIOA Bad Ischl, Aus 84.35 329 *i* pP **P 08 12 05.4 +0.4**
comp=Z,484nm,1.3s,SNR=100
KALN Kalnik 84.38 326 *i* P **P 08 12 04.3 -0.8**
NVR Nevrokopi 84.39 319 P **P 08 12 06.0 +0.7**
KKB Krupnik 84.41 320 P **P 08 12 06.7 +1.3**
RPZ Rata Peaks 84.45 161 IAMs_20 IAMs_20 08 49 06.3
comp=Z,6μm,18.0s
RPZ Rata Peaks 84.45 161 LR LR 08 48 49.7
comp=Z,3μm,18.8s,baz=332,slow=35
THAS Thassos island 84.47 318 P **P 08 12 03.9 -1.8**
SOKA Soboth 84.57 327 *i* pP **P 08 12 06.5 +0.3**
comp=Z,186nm,1.0s,SNR=128
PRK Paraskevi 84.60 316 P **P 08 12 04.7 -1.6**
MOSL Moslavina 84.64 326 *i* P **P 08 12 05.8 -0.7**
RJOB Jochberg 84.66 329 *e*P **P 08 12 07.1 +0.5**
comp=Z,529nm,1.1s,baz=35,slow=5.2
SRS Serrai 84.70 319 P **P 08 12 05.1 -1.7**
KOKK Kokkinochori, 84.70 319 P **P 08 12 04.7 -2.1**
DOB Doboj 84.71 325 *e*P **P 08 12 08.6 +1.8**
IOMK Kirk Michael 84.71 342 *e*P **P 08 12 05.2 -1.4**
IOMK IAmb IAmb 08 12 10.1
comp=Z,1μm,1.3s
IOMK IAMs_20 IAMs_20 08 53 46.9
comp=Z,16μm,17.7s
LIA Limnos Island 84.73 317 P **P 08 12 04.3 -2.7**
BBLS Lazići 84.75 323 ||*i*P **P 08 12 07.2 0.0**
LBWR Ladybower, Pea 84.76 340 *e*P **P 08 12 06.4 -0.5**
LBWR IAmb IAmb 08 12 10.6
comp=Z,998nm,1.2s
LBWR IAMs_20 IAMs_20 08 52 24.9
comp=Z,10μm,18.4s
EPT El Paso 84.76 54 IAMs_20 IAMs_20 08 55 52.2
comp=Z,4μm,18.0s
KIDD KIDD Seismic O 84.76 54 P **P 08 12 07.2 -0.2**
baz=311
PTJ Puntijarka 84.76 326 *i* P **P 08 12 06.5 -0.7**
BEBN Eben Emael 84.78 335 *d*P **P 08 12 07.1 +0.1**
comp=Z,253nm,1.0s
F42A Maple Grove Fa 84.80 34 P **P 08 12 07.0 -0.2**
baz=321
BTNL Ternell 84.81 335 *d*P **P 08 12 06.2 -1.0**
comp=Z,146nm,1.0s
BTNL *dx* x 08 12 19.7
E43A Lone Tree Farm 84.81 33 P **P 08 12 06.7 -0.6**
baz=322,SNR=12
MEM Membach 84.83 335 *d*P **P 08 12 07.7 +0.4**
comp=Z,174nm,1.0s
WIM Isle of Man 84.84 342 *e*P **P 08 12 06.8 -0.5**
LBZ Lake Benmore 84.85 161 IAMs_20 IAMs_20 08 42 59.9
comp=Z,5μm,20.0s
N35A Tabor 84.85 41 P **P 08 12 07.2 -0.4**
baz=316,SNR=37
SIGR SIGRI 84.85 317 P **P 08 12 05.1 -2.5**
MQZ McQueen's Vall 84.87 160 IAMs_20 IAMs_20 08 51 36.5
comp=Z,6μm,18.0s
OBKA Obir 84.91 328 *i* pP **P 08 12 08.2 +0.3**
comp=Z,93nm,0.8s,SNR=21
OBKA Obir 84.91 328 ||*i*P **P 08 12 07.4 -0.5**
FUR Furstenfeldbru 84.92 330 *e*P **P 08 12 08.1 +0.2**
comp=Z,698nm,0.9s,baz=35,slow=5.2
R32A Long Quarter, 84.93 44 P **P 08 12 07.1 -1.0**
baz=315
SJES Sjenica 84.94 323 ||*i*P **P 08 12 08.2 +0.1**
YER Yerkesik 84.95 314 P **P 08 12 08.4 +0.2**
RUDO Rudo 84.96 323 *e*P **P 08 12 07.6 -0.5**
LESA Schwarzleotal 84.96 329 *i* P **P 08 12 08.3 +0.1**
comp=Z,171nm,1.2s
KBA Koelnbreinsper 84.96 329 *i* PcP **P 08 12 09.4 +1.1**
comp=Z,126nm,1.0s
WKZ Wanaka 84.98 162 IAMs_20 IAMs_20 08 43 13.2
comp=Z,8μm,19.0s
K38A Parkersburg 85.00 38 P **P 08 12 07.5 -0.8**
baz=318,SNR=18
BSTI Sart Tilman 85.00 335 *d*P **P 08 12 08.3 +0.2**
comp=Z,26nm,1.3s
KNT Kendrikon 85.02 320 P **P 08 12 06.8 -1.7**
SOH Sokhos 85.03 319 P **P 08 12 07.6 -1.0**
BHOU Houvegnez 85.05 335 *d*P **P 08 12 08.7 +0.3**
comp=Z,137nm,1.1s
BHOU *dx* x 08 12 21.3
CRES Cresnjev 85.05 327 ||*i*P **P 08 12 08.1 -0.4**
OUR Ouranopolis 85.06 318 P **P 08 12 06.4 -2.2**
VAY Valandovo 85.08 320 *i* P **P 08 12 09.3 +0.6**
I40A Norwalk 85.10 36 P **P 08 12 07.9 -0.9**
baz=320,SNR=16
BLY Banja Luka 85.12 325 ||*i*P **P 08 12 08.2 -0.7**
DCZ Deep Cove 85.15 164 IAMs_20 IAMs_20 08 50 45.7
comp=Z,5μm,18.0s
PLE Pljevlja 85.17 323 **P 08 12 10.1 +0.8**
STNC Stoke 85.17 340 *e*P **P 08 12 08.4 -0.5**
STNC IAmb IAmb 08 12 12.7
comp=Z,2μm,1.7s
SKO Skopje 85.17 321 *i* P **P 08 12 10.2 +1.0**
MYKA Terra Mystica 85.19 328 *i* P **P 08 12 08.7 -0.7**
comp=Z,96nm,0.9s,SNR=50
STU Stuttgart 85.23 332 *e*P **P 08 12 09.5 +0.2**
comp=Z,1μm,1.0s,baz=35,slow=5.2
BCLA Clavier 85.23 335 *d*P **P 08 12 09.0 -0.3**
comp=Z,174nm,1.0s
CWF Charnwood Fore 85.24 340 *e*P **P 08 12 08.4 -0.9**
CWF IAmb IAmb 08 12 12.6
comp=Z,816nm,1.5s
CWF IAMs_20 IAMs_20 08 52 50.5
comp=Z,10μm,18.7s
IVA Berane 85.27 322 ||*i*P **P 08 12 10.0 +0.2**
MLZ Mavora Lakes 85.27 163 IAMs_20 IAMs_20 08 47 17.0
comp=Z,5μm,19.0s
LJU Ljubljana 85.28 327 *i* P **P 08 12 09.4 -0.3**
LJU *e*PP **PP 08 15 24.9 -1.8**
LJU *e*SKSac **SKSac 08 22 35.8 +1.4**
LJU *e*S **SKKSac 08 22 45.4 +4.6**
LJU *e* 08 28 51.1
A254A Petrova Gora 85.30 326 *i* P **P 08 12 09.2 -0.6**
SCIA State Center 85.33 39 IAMs_20 IAMs_20 08 46 11.8
comp=Z,5μm,22.0s
SCIA State Center 85.33 39 P **P 08 12 09.7 -0.3**
baz=318,SNR=12
SCIA State Center 85.33 39 P **P 08 12 09.9 -0.1**
baz=318,SNR=12
CHOS Chios island 85.33 316 P **P 08 12 09.3 -0.8**
HORT Hortiatis 85.33 319 P **P 08 12 07.2 -2.9**
BGES Gesves 85.33 335 *d*P **P 08 12 10.0 +0.2**
comp=Z,157nm,1.0s
SMG Samos 85.37 315 P **P 08 12 08.9 -1.4**
THE Thessaloniki 85.38 319 P **P 08 12 06.8 -3.4**

BOJS Bojanci 85.39 327 ||*i*P **P 08 12 09.3 -0.9**
MGRS Mrkonjic Grad 85.42 325 *e*P **P 08 12 11.0 +0.6**
GRG Griva 85.43 320 P **P 08 12 06.4 -4.2**
PVY Plav 85.44 322 ||*i*P **P 08 12 10.6 -0.1**
WATA Walderalm 85.48 330 *i* P **P 08 12 10.8 0.0**
comp=Z,258nm,1.2s,SNR=40
WPS Cemaes, Angles 85.48 342 *e*P **P 08 12 09.0 -1.4**
WPS IAmb IAmb 08 12 14.6
comp=Z,1μm,1.9s
RCHB Rochefort 85.48 335 *d*P **P 08 12 10.2 -0.3**
comp=Z,198nm,1.0s
RCHB *dx* x 08 12 23.3
UPM Unac-Piva 85.49 323 ||*i*P **P 08 12 10.4 -0.6**
UPM Unac-Piva 85.49 323 ||*i*P **P 08 12 10.6 -0.4**
BMRD Maredsous 85.51 335 *d*P **P 08 12 10.8 +0.1**
comp=Z,260nm,0.9s
WTTA Wattenberg 85.51 330 *i* PcP **P 08 12 11.2 +0.2**
comp=Z,163nm,1.1s,SNR=52
MNTX Cornudas Mount 85.53 53 P **P 08 12 11.3 +0.1**
baz=312,SNR=67
MNTX Cornudas Mount 85.53 53 P **P 08 12 11.1 -0.1**
baz=312
BODT Bodrum 85.55 314 P **P 08 12 09.7 -1.5**
CEY Cerknica 85.57 327 ||*i*P **P 08 12 09.8 -1.3**
CEY Cerknica 85.57 327 *i* P **P 08 12 10.4 -0.7**
CEY *e*PP **PP 08 15 26.0 -3.0**
CEY *e*SKSac **SKSac 08 22 39.3 +3.0**
CEY *e*S **SKKSac 08 22 47.1 +4.0**
CEY *e* 08 23 46.7
ABTA Abfaltersbach 85.57 329 *i* P **P 08 12 10.5 -0.7**
comp=Z,96nm,1.3s,SNR=49
ODZ Otahua Downs 85.58 161 IAMs_20 IAMs_20 08 43 23.2
comp=Z,6μm,19.0s
WLF Walferdange 85.58 334 *d*P **P 08 12 11.6 +0.5**
WLF *dx* x 08 12 23.6
WLF Walferdange 85.58 334 P **P 08 12 10.9 -0.1**
WLF S **SKSac 08 22 39.5 +3.4**
WLF Walferdange 85.58 334 *e*P **P 08 12 11.9 +0.8**
comp=Z,595nm,1.4s,baz=35,slow=5.2
WLF *e*pP **pwP 08 12 25.3 +3.2**
KSU1 Kansas State U 85.60 43 IAMs_20 IAMs_20 08 51 40.5
comp=Z,5μm,20.0s
KSU1 Kansas State U 85.60 43 P **P 08 12 10.6 -0.9**
baz=316
KSU1 Kansas State U 85.60 43 P **P 08 12 10.3 -1.1**
baz=316
FOEL Foel Wylfa 85.61 341 *e*P **P 08 12 10.8 -0.4**
FOEL IAmb IAmb 08 12 14.9
comp=Z,827nm,1.1s
FOEL IAMs_20 IAMs_20 08 51 58.4
comp=Z,9μm,19.1s
MSTX Muleshoe 85.63 50 P **P 08 12 11.4 -0.4**
baz=313,SNR=20
MSTX Muleshoe 85.63 50 P **P 08 12 11.4 -0.4**
baz=313
DAT Datca 85.63 314 P **P 08 12 10.5 -1.2**
MOTA Moosalm 85.66 330 *i* PcP **P 08 12 11.8 +0.1**
comp=Z,168nm,1.1s,SNR=68
AMTX Amarillo 85.67 49 IAMs_20 IAMs_20 08 57 39.7
comp=Z,5μm,19.0s
AMTX Amarillo 85.67 49 P **P 08 12 11.8 -0.1**
baz=314
ARG Arkhangelos 85.67 313 P **P 08 12 09.7 -2.1**
ARG Arkhangelos 85.67 313 P **P 08 12 11.7 -0.1**
ARG Arkhangelos 85.67 313 P **P 08 12 11.7 -0.1**
ARG pmax pmax
comp=Z,669nm,1.1s
RETA Reutte 85.68 330 *i* P **P 08 12 11.7 -0.1**
comp=Z,507nm,1.2s,SNR=121
PYZ Puysegur Point 85.71 164 IAMs_20 IAMs_20 08 51 40.6
comp=Z,7μm,18.0s
PYZ Puysegur Point 85.71 164 P **P 08 12 13.2 +1.8**
SQTA Sankt Quirain 85.72 330 *i* PcP **P 08 12 12.2 +0.2**
comp=Z,86nm,0.9s,SNR=41
SABO M.te Sabotino 85.73 328 IAMs_20 IAMs_20 08 56 54.5
comp=Z,14μm,21.0s
WHZ Wether Hill Ro 85.73 163 IAMs_20 IAMs_20 08 43 10.1
comp=Z,5μm,19.0s
DOU Dourbes 85.75 335 *d*P **P 08 12 11.9 0.0**
comp=Z,96nm,1.0s
LLW Llanuwychllyn 85.77 341 *e*P **P 08 12 12.2 +0.3**
UBR Ueberruh 85.78 331 *e*P **P 08 12 12.2 0.0**
comp=Z,136nm,1.1s,baz=35,slow=5.2
NKME Niksic 85.80 323 ||*i*P **P 08 12 11.5 -0.9**
NEVS Nevesinje 85.80 324 *e*P **P 08 12 11.7 -0.7**
SKY Skiros Island 85.80 317 P **P 08 12 11.6 -0.8**
EIL Elat 85.86 304 LR LR 08 55 57.6
comp=Z,10μm,18.2s,baz=40,slow=39
HLM1 Long Mynd 85.86 340 *e*P **P 08 12 12.2 -0.3**
HLM1 IAmb IAmb 08 12 15.8
comp=Z,704nm,1.7s
HLM1 IAMs_20 IAMs_20 08 54 36.8
comp=Z,9μm,19.7s
I42A Draeger Farm, 85.89 35 P **P 08 12 12.2 -0.5**
baz=321,SNR=23
SKDS Skadanscina 85.90 327 ||*i*P **P 08 12 11.1 -1.7**
PDG Podgorica 85.91 322 ||*i*P **P 08 12 12.8 0.0**
PDG Podgorica 85.91 322 ||*i*P **P 08 12 12.3 -0.5**
PDG Podgorica 85.91 322 ||*i*P **P 08 12 12.6 -0.2**
BFO Black Forest 85.92 332 *e*P **P 08 12 12.9 +0.1**
comp=Z,417nm,1.1s,baz=35,slow=5.2
ELSH Elham, Standar 85.94 338 *e*P **P 08 12 11.7 -1.1**
ELSH IAMs_20 IAMs_20 08 55 19.1
comp=Z,18μm,18.0s
CIMO Cimolais 85.95 329 IAMs_20 IAMs_20 08 58 15.8
comp=Z,11μm,20.0s
E46A Sault Ste Mari 85.96 31 P **P 08 12 12.6 -0.4**
baz=324,SNR=19
H43A Windswept, Lux 85.97 34 P **P 08 12 12.7 -0.4**
baz=321
NISR Nisiros 85.97 314 P **P 08 12 13.8 +0.5**
CEME Cevo 85.98 323 ||*i*P **P 08 12 12.3 -1.0**
KTI Kastanea 85.99 319 P **P 08 12 13.1 -0.4**
JFWS Jewell Farm 86.02 37 IAMs_20 IAMs_20 08 49 33.0
comp=Z,6μm,19.0s
JFWS Jewell Farm 86.02 37 P **P 08 12 12.7 -0.8**
baz=320,SNR=16
JFWS Jewell Farm 86.02 37 P **P 08 12 12.3 -1.1**
baz=320,SNR=16
KIJV Kijevo 86.05 325 *i* P **P 08 12 12.9 -0.6**
FETA Feichten 86.07 330 *i* PcP **P 08 12 13.8 0.0**
comp=Z,178nm,0.9s,SNR=77
DSB Dublin 86.08 343 P **P 08 12 13.2 -0.2**
DSB S **S 08 22 47.5 +0.2**
FNA Florina 86.08 320 P **P 08 12 10.9 -2.9**
FNA Florina 86.08 320 IAMs_20 IAMs_20 08 55 44.7
comp=Z,5μm,18.0s
RICI Ricice 86.10 324 *i* P **P 08 12 12.1 -1.7**
DRME Dracevica, Mon 86.13 322 ||*i*P **P 08 12 11.8 -2.1**
DRME Dracevica, Mon 86.13 322 ||*i*P **P 08 12 13.8 -0.1**
TREB Trebinje 86.13 323 *e*P **P 08 12 12.4 -1.5**
OHR Ohrid 86.13 321 *i* P **P 08 12 14.5 +0.5**
N38A Joes South For 86.14 40 P **P 08 12 13.1 -0.9**
baz=318,SNR=36
BUM Brajici-Budva 86.18 323 ||*i*P **P 08 12 14.0 -0.3**
DAVA Damuels 86.19 331 *i* PcP **P 08 12 14.5 +0.1**
comp=Z,445nm,1.0s,SNR=91
L40A Anamosa 86.19 38 P **P 08 12 13.3 -1.0**
baz=319,SNR=28
U32A Winter Ranch, 86.20 46 P **P 08 12 14.7 +0.2**
baz=315,SNR=19
NEO Neokhori 86.20 318 P **P 08 12 12.6 -1.8**
KYMI Kymi, Euboea I 86.22 317 P **P 08 12 13.0 -1.5**
SMRN Sveta Marina 86.24 327 *i* P **P 08 12 13.3 -1.0**
HCY Herceg Novi 86.26 323 ||*i*P **P 08 12 13.8 -0.8**
HCY Herceg Novi 86.26 323 ||*i*P **P 08 12 14.1 -0.5**
ULC Ulcinj 86.27 322 ||*i*P **P 08 12 14.3 -0.4**
OK038 West end E0370 86.28 46 IAMs_20 IAMs_20 08 55 25.1
comp=Z,4μm,20.0s
MAKA Makarska 86.32 324 *i* P **P 08 12 13.1 -1.7**
STON Ston 86.32 324 *i* P **P 08 12 13.5 -1.4**
STON Ston 86.32 324 ||*i*P **P 08 12 12.8 -2.0**
STRD Stroud 86.33 340 *e*P **P 08 12 14.8 +0.1**
STRD IAmb IAmb 08 12 18.2
comp=Z,3μm,1.7s
STRD IAMs_20 IAMs_20 08 58 38.4
comp=Z,13μm,16.8s
OK032 Salt Plains WL 86.35 45 IAMs_20 IAMs_20 08 55 08.9
comp=Z,5μm,19.0s
MCH1 Michaelchurch 86.36 340 *e*P **P 08 12 14.4 -0.5**
MCH1 IAmb IAmb 08 12 20.0
comp=Z,358nm,1.1s
TIR Tirane 86.42 321 P **P 08 12 15.1 -0.3**
HMNX Herstmonceux 86.42 338 *e*P **P 08 12 15.2 0.0**
HMNX IAmb IAmb 08 12 19.1
comp=Z,1μm,1.1s
G45A Suttons Bay 86.44 33 P **P 08 12 15.1 -0.4**
baz=323
G45A P **P 08 12 15.1 -0.4**
baz=323
MONM Monmouth 86.45 340 *e*P **P 08 12 14.8 -0.5**
MONM IAmb IAmb 08 12 18.7
comp=Z,707nm,1.4s
SWN1 Swindon 86.47 339 *e*P **P 08 12 14.7 -0.7**
SWN1 IAmb IAmb 08 12 19.0
comp=Z,2μm,1.6s
MORI Morici 86.47 325 *i* P **P 08 12 14.4 -1.2**
KBN Korca 86.50 320 P **P 08 12 12.6 -3.3**
NEST Nestorio 86.52 320 P **P 08 12 15.1 -1.0**
APE Apeiranthos 86.56 315 ⇑P **P 08 12 16.5 +0.2**
APE Apeiranthos 86.56 315 P **P 08 12 12.2 -4.0**
APE Apeiranthos 86.56 315 P **P 08 12 16.4 +0.2**
IGLA Glengowla, Co 86.59 344 *e*P **P 08 12 15.1 -0.8**
DAVOX Davos/Dischmat 86.60 330 LR LR 08 54 55.5
comp=Z,19μm,18.6s,baz=25,slow=38
PENT Pentalofos 86.64 320 P **P 08 12 15.7 -0.9**
THL Klokotos Trika 86.65 319 P **P 08 12 13.4 -3.2**
DUGI Dugi Otok 86.66 326 *i* P **P 08 12 15.7 -0.8**
ZIRJ Zirje 86.66 325 *i* P **P 08 12 14.9 -1.6**
KARP Karpathos 86.70 313 P **P 08 12 16.3 -0.6**
KARP Karpathos 86.70 313 IAMs_20 IAMs_20 08 56 24.5
comp=Z,7μm,18.0s
KPRO Kipourio 86.70 320 P **P 08 12 15.3 -1.6**
DION Dionisos Attik 86.71 317 P **P 08 12 15.6 -1.3**
ATAL Atalanti 86.76 318 P **P 08 12 14.7 -2.4**
LSTV Lastovo 86.78 324 *i* P **P 08 12 15.6 -1.5**
P38A Dawn 86.85 41 P **P 08 12 17.1 -0.4**
baz=318,SNR=41
ATHU Athens Univers 86.88 317 P **P 08 12 17.0 -0.7**
VLY Voula,Athens 86.95 317 P **P 08 12 14.3 -3.8**
IWEX Carrickbyrne, 86.98 343 *e*P **P 08 12 18.0 +0.1**
VILL Villia 86.99 317 P **P 08 12 14.2 -4.1**
I45A Fountain 86.99 34 P **P 08 12 17.9 -0.2**
baz=322
I45A P **P 08 12 17.9 -0.2**
baz=322
TBI Tubuai 86.99 122 *e*P P 08 12 25.9 +7.6
comp=Z,2μm,25.0s
TBI Tubuai 86.99 122 *e*PP PP 08 15 54.4 +13
comp=Z,1μm,35.2s
TBI *e*S **SKSac 08 22 40.4 -4.8**
comp=Z,14μm,27.0s
TBI *e*SS **SS 08 28 40.3 0.0**
comp=Z,8μm,26.5s
TBI *e*LR LR 08 38 32.0
comp=Z,102μm,30.2s
TBI *e*LR LR 08 38 41.7
comp=Z,66μm,36.0s
TBI Tubuai 86.99 122 *e*T T 09 47 29.5
comp=Z,38nm,0.3s
L42A Oliver, Polo 86.99 37 P **P 08 12 17.3 -0.9**
baz=320,SNR=12
MAKR Makrakomi, Fth 87.00 319 P **P 08 12 16.1 -2.2**
GLMI Grayling 87.06 32 IAMs_20 IAMs_20 08 53 03.3
comp=Z,5μm,20.0s
GLMI Grayling 87.06 32 P **P 08 12 18.4 -0.1**
baz=323,SNR=12
GLMI Grayling 87.06 32 P **P 08 12 18.3 -0.2**
baz=323
K43A Burlington 87.08 36 P **P 08 12 17.5 -1.1**
baz=321
SANT Santorini 87.09 315 IAMs_20 IAMs_20 08 56 30.8
comp=Z,8μm,18.0s
JAN Janina 87.19 320 P **P 08 12 18.2 -1.0**
T35B Sooner Cattle 87.23 44 P **P 08 12 19.1 -0.3**
baz=316,SNR=24
EVR Evrytania 87.24 319 P **P 08 12 18.4 -1.2**
LOUT Loutraki 87.30 317 P **P 08 12 17.8 -2.0**
OK051 E0350 and S346 87.34 45 IAMs_20 IAMs_20 08 56 46.0
comp=Z,5μm,19.0s
OK048 Pawnee Station 87.34 45 IAMs_20 IAMs_20 08 56 37.1
comp=Z,6μm,19.0s
N41A Harden Midland 87.40 38 P **P 08 12 19.7 -0.5**
baz=320,SNR=23
ANX Ano Chora 87.42 318 P **P 08 12 18.8 -1.6**
THAL Thalero 87.43 318 P **P 08 12 17.1 -3.3**
KALE Kalithea 87.45 318 P **P 08 12 17.5 -3.1**
WMOK Wichita Mounta 87.48 47 IAMs_20 IAMs_20 08 58 50.6
comp=Z,4μm,18.0s
WMOK Wichita Mounta 87.48 47 P **P 08 12 20.4 -0.3**
baz=315,SNR=42
WMOK Wichita Mounta 87.48 47 P **P 08 12 20.2 -0.5**
baz=315,SNR=42
OK029 Liberty Lake 87.50 46 IAMs_20 IAMs_20 08 59 23.3
comp=Z,4μm,18.0s
TRIZ Trizonia 87.50 318 P **P 08 12 18.3 -2.4**
IGT Igoumenitsa 87.55 320 P **P 08 12 18.8 -2.1**
EFP Éfpalio 87.55 318 P **P 08 12 19.4 -1.5**
ZKR Zakros 87.55 313 P **P 08 12 19.1 -1.9**
PVO Paravola 87.61 319 P **P 08 12 19.1 -2.1**
OK033 Mehan 87.61 45 IAMs_20 IAMs_20 08 55 55.3
comp=Z,5μm,20.0s
KRND KRANIDI 87.64 317 P **P 08 12 17.8 -3.6**
LAKA Lakka 87.65 318 P **P 08 12 19.0 -2.5**
HTL Hartland 87.67 341 *e*P **P 08 12 19.6 -1.6**
HTL IAMs_20 IAMs_20 09 00 47.0
comp=Z,10μm,14.7s
GUR Goura 87.68 318 P **P 08 12 19.6 -2.1**
KEK Kerkira 87.68 320 P **P 08 12 20.0 -1.6**
L44A Lake County Fo 87.69 36 IAMs_20 IAMs_20 08 50 17.0
comp=Z,6μm,20.0s
L44A Lake County Fo 87.69 36 P **P 08 12 20.7 -0.8**
baz=321
L44A Lake County Fo 87.69 36 P **P 08 12 20.7 -0.8**
baz=321
P40A Paris 87.69 40 P **P 08 12 21.3 -0.3**
baz=319,SNR=14
SLBS Sierra La Lagu 87.69 62 IAMs_20 IAMs_20 08 50 26.7
comp=Z,6μm,19.0s
KLV Kalavryta, Ach 87.70 318 P **P 08 12 19.5 -2.3**
OK052 Battle Ridge R 87.73 45 IAMs_20 IAMs_20 08 56 08.3
comp=Z,5μm,21.0s
OK031 S. Brethren Rd 87.73 45 IAMs_20 IAMs_20 08 55 59.5
comp=Z,5μm,20.0s
TSLK Tsoukalades, L 87.91 319 P **P 08 12 22.1 -0.6**
NYDR Nydri-Lefkada 87.97 319 P **P 08 12 21.1 -1.8**
HQIL Hanson Quary C 88.01 36 IAMs_20 IAMs_20 08 50 55.5
comp=Z,7μm,19.0s
RLS Riolos of Patr 88.05 318 P **P 08 12 22.5 -0.8**
DRAG Dragano-Lefkad 88.06 319 P **P 08 12 22.4 -1.0**
EVGI Lefkada island 88.06 319 P **P 08 12 22.1 -1.3**
ZCCA Zocca 88.14 328 P **P 08 12 23.8 0.0**
ZCCA IAmb IAmb 08 12 32.9
comp=Z,172nm,1.0s
GUMA Gualdo di Mace 88.17 326 IAMs_20 IAMs_20 08 56 44.0
comp=Z,26μm,18.0s
VAL Valentia 88.17 344 P **P 08 12 22.0 -1.6**
VAL S **S 08 23 08.8 +1.3**
IDI Anoyia 88.19 314 ||P **P 08 12 24.5 +0.3**
IDI Anoyia 88.19 314 P **P 08 12 21.7 -2.5**
IDI Anoyia 88.19 314 P **P 08 12 22.4 -1.7**
IDI IAmb IAmb 08 12 29.8
comp=Z,122nm,1.1s
IDI IAMs_20 IAMs_20 08 56 30.8
comp=Z,6μm,20.0s
IDI Anoyia 88.19 314 LR LR 08 57 22.2
comp=Z,5μm,18.5s,baz=18,slow=39
TX31 Lajitas Ar. Si 88.21 54 P **P 08 12 23.3 -1.1**
TX31 IAmb IAmb 08 12 28.8
comp=Z,263nm,1.3s
TX31 Lajitas Ar. Si 88.21 54 P **P 08 12 24.0 -0.4**
baz=313,SNR=96
TXAR Lajitas Array 88.21 54 P **P 08 12 23.6 -0.8**
TXAR Lajitas Array 88.21 54 P **P 08 12 23.7 -0.7**
comp=Z,27nm,0.8s,baz=300,slow=3.3,SNR=164
TXAR PP **PP 08 15 49.7 -1.2**
comp=Z,1.7nm,0.7s,baz=305,slow=3.2,SNR=1.6
TXAR PKKPbc **PKKPbc 08 30 04.9 -2.1**
comp=Z,0.4nm,0.8s,baz=114,slow=4.4,SNR=2.4
TXAR PKPPKP P'P'df 08 38 11.8 -9.1
comp=Z,0.8nm,1.0s,baz=123,slow=4.6,SNR=3.7
TXAR LR LR 08 49 01.9
comp=Z,4μm,18.9s,baz=307,slow=34
comp=Z,27nm,0.8s
FSK Fiskardo 88.23 319 P **P 08 12 22.1 -2.1**
M44A Midewin, Midew 88.24 36 P **P 08 12 23.6 -0.6**
baz=321,SNR=14
J47A Sunmer 88.25 33 P **P 08 12 23.9 -0.2**
baz=323
J47A P **P 08 12 23.9 -0.2**

	baz=323							
VLI	Veliai	88.25	316	P	P	08 12 20.0	-4.3	
HDIL	Hopedale	88.28	38	IAMs_20	IAMs_20	08 49 51.4		
	comp=Z,5μm,20.0s							
HDIL	Hopedale	88.28	38	P	P	08 12 23.7	-0.7	
	baz=320,SNR=28							
HDIL	Hopedale	88.28	38	P	P	08 12 23.9	-0.5	
	baz=320,SNR=28							
TUL3	Leonard	88.35	45	P	P	08 12 24.3	-0.5	
	baz=317,SNR=24							
TUL3	Leonard	88.35	45	P	P	08 12 24.3	-0.5	
	baz=317,SNR=24							
PRNS	Prines Rethymn	88.36	315	P	P	08 12 25.6	+0.8	
MURB	Monte Urbino	88.36	327	P	P	08 12 24.8	0.0	
CTZ	Chatham Island	88.36	153	IAMs_20	IAMs_20	08 54 03.4		
	comp=Z,7μm,19.0s							
CTZ	Chatham Island	88.36	153	P	P	08 12 26.0	+1.7	
S39A	Bolivar	88.39	42	P	P	08 12 24.1	-0.9	
	baz=318,SNR=36							
VLS	Valsamata	88.43	319	P	P	08 12 23.1	-2.1	
NRCA	Norcia	88.44	326	P	P	08 12 25.1	-0.2	
KEF4	Livadi, Kephal	88.45	319	P	P	08 12 24.3	-0.9	
ABTX	Abilene, Hawle	88.46	49	P	P	08 12 24.9	-0.5	
	baz=315,SNR=17							
ABTX	Abilene, Hawle	88.46	49	P	P	08 12 25.3	-0.2	
	baz=315,SNR=17							
PSDA	Pessada-Kefalo	88.48	319	P	P	08 12 23.6	-1.7	
DMLN	Damoulianata-K	88.49	319	P	P	08 12 24.7	-0.8	
MATE	Matera	88.50	323	⇑P	P	08 12 25.4	0.0	
R40A	Maddies Statio	88.50	41	P	P	08 12 24.6	-0.9	
	baz=319,SNR=41							
KTHA	Kythira Island	88.51	316	P	P	08 12 23.5	-2.1	
KEF3	Kipouria, Keph	88.53	319	P	P	08 12 23.8	-1.8	
L46A	Eue Claire	88.56	35	P	P	08 12 25.4	-0.3	
	baz=322,SNR=11							
L46A				P	P	08 12 25.4	-0.3	
	baz=322,SNR=11							
IMMV	Iera Moni Meta	88.58	315	P	P	08 12 22.7	-3.2	
CCA1	Carnmenellis	88.60	341	*e*P	P	08 12 24.7	-1.0	
CCA1				IAMs_20	IAMs_20	09 01 07.0		
	comp=Z,11μm,16.4s							
JSA	Saint Aubin	88.66	339	*e*P	P	08 12 24.9	-1.0	
JSA				IAmb	IAmb	08 12 29.4		
	comp=Z,148nm,1.1s							
ANKY	Antikythira Is	88.67	316	P	P	08 12 23.8	-2.5	
U38A	Gravette	88.74	43	P	P	08 12 26.1	-0.6	
	baz=318,SNR=26							
INTR	Introdacqua	88.75	325	P	P	08 12 25.5	-1.2	
INTR				IAmb	IAmb	08 12 29.7		
	comp=Z,153nm,0.9s							
PYL	PYLOS	88.77	317	P	P	08 12 23.8	-3.0	
CESX	Cesi	88.86	326	P	P	08 12 25.6	-1.5	
CESX				IAmb	IAmb	08 12 29.5		
	comp=Z,158nm,1.1s							
P43A	Skaggs, Pawnee	88.87	38	P	P	08 12 26.9	-0.3	
	baz=320,SNR=19							
GVD	Gavdhos	88.97	315	P	P	08 12 28.8	+1.1	
O44A	Mansfield	89.00	37	P	P	08 12 27.1	-0.6	
	baz=321,SNR=12							
HHAR	Hobbs	89.10	43	P	P	08 12 27.5	-0.8	
	baz=318							
CCM	Cathedral Cave	89.21	40	P	P	08 12 28.4	-0.4	
	baz=319							
CCM	Cathedral Cave	89.21	40	P	P	08 12 28.3	-0.5	
	baz=319,SNR=80							
CCM				S	S	08 23 21.8	+4.0	
	baz=319							
BNI	Bardonecchia	89.28	331	P	P	08 12 28.2	-1.0	
BNI				IAmb	IAmb	08 12 32.8		
	comp=Z,244nm,1.6s							
BNI	Bardonecchia	89.28	331	P	P	08 12 28.2	-1.0	
BNI				pmax	pmax			
	comp=Z,244nm,1.7s							
BNI				MLR	MLR			
	comp=Z,17μm,20.0s							
SLM	Saint Louis	89.28	39	P	P	08 12 28.7	-0.4	
	baz=320,SNR=10							
SLM				S	S	08 23 16.1	-2.5	
	baz=320							
SADO	Sadowa	89.33	29	LR	LR	08 53 06.1		
	comp=Z,2μm,21.7s,baz=350,slow=36							
Z35A	Perchaven, San	89.37	47	P	P	08 12 29.3	-0.4	
	baz=316,SNR=9.0							
L48A	N Adams	89.45	34	P	P	08 12 29.7	-0.2	
	baz=324,SNR=20							
L48A				P	P	08 12 29.7	-0.2	
	baz=324,SNR=20							
SFIN	Lafayette	89.47	36	P	P	08 12 29.4	-0.6	
	baz=322,SNR=25							
SFIN	Lafayette	89.47	36	P	P	08 12 29.7	-0.3	
	baz=322,SNR=25							
AAM	Ann Arbor	89.51	33	IAMs_20	IAMs_20	08 56 20.0		
	comp=Z,4μm,20.0s							
AAM	Ann Arbor	89.51	33	P	P	08 12 29.6	-0.5	
	baz=324							
AAM	Ann Arbor	89.51	33	P	P	08 12 29.8	-0.3	
	baz=324							
X37A	Clayton	89.55	45	P	P	08 12 30.0	-0.5	
	baz=317,SNR=20							
K50A	Casco	89.57	32	P	P	08 12 29.8	-0.6	
	baz=325,SNR=6.8							
K50A				P	P	08 12 29.8	-0.6	
	baz=325,SNR=6.8							
U40A	Yellville	89.64	43	P	P	08 12 30.4	-0.5	
	baz=318,SNR=63							
U40A				P	P	08 12 30.4	-0.5	
	baz=318,SNR=63							
FVM	French Village	89.69	40	P	P	08 12 30.6	-0.5	
	baz=320,SNR=28							
FVM				S	S	08 23 26.2	+3.8	
	baz=320							
Q44A	Meyer Farm, Va	89.69	39	P	P	08 12 30.6	-0.4	
	baz=321,SNR=27							
N47A	Urbana	89.73	35	P	P	08 12 30.6	-0.6	
	baz=323,SNR=21							
N47A				P	P	08 12 30.6	-0.6	
	baz=323,SNR=21							
JCT	Junction City	89.86	51	IAMs_20	IAMs_20	08 49 47.8		
	comp=Z,3μm,20.0s							
JCT	Junction City	89.86	51	P	P	08 12 31.0	-1.1	
	baz=315,SNR=26							
JCT	Junction City	89.86	51	P	P	08 12 31.3	-0.7	
	baz=315,SNR=26							
P46A	Rosedale	90.02	37	P	P	08 12 32.0	-0.5	
	baz=322							
T42A	Van Buren	90.06	41	P	P	08 12 32.1	-0.7	
	baz=319							
WHTX	Lake Whitney,	90.21	48	P	P	08 12 33.4	-0.2	
	baz=316,SNR=34							
WHTX	Lake Whitney,	90.21	48	P	P	08 12 33.6	0.0	
	baz=316,SNR=34							
OLIL	Olney	90.28	38	P	P	08 12 33.6	-0.2	
	baz=321,SNR=26							
N49A	Columbus Grove	90.39	34	P	P	08 12 34.0	-0.2	
	baz=324,SNR=16							
N49A				P	P	08 12 34.0	-0.2	
	baz=324,SNR=16							
O48B	Farmland	90.48	35	IAMs_20	IAMs_20	08 53 00.9		
	comp=Z,6μm,20.0s							
O48B	Farmland	90.48	35	P	P	08 12 33.5	-1.2	
	baz=323,SNR=18							
O48B	Farmland	90.48	35	P	P	08 12 34.1	-0.6	
	baz=323,SNR=18							
S44A	Carbondale	90.50	39	P	P	08 12 34.5	-0.4	
	baz=320,SNR=17							
M50A	Fremont	90.50	33	P	P	08 12 33.1	-1.7	
	baz=324							
M50A				P	P	08 12 33.1	-1.7	
	baz=324							
MIAR	Mount Ida	90.58	44	IAMs_20	IAMs_20	08 51 39.5		
	comp=Z,4μm,21.0s							
MIAR	Mount Ida	90.58	44	P	P	08 12 35.2	-0.1	
	baz=318,SNR=69							
MIAR	Mount Ida	90.58	44	P	P	08 12 35.1	-0.3	
	baz=318,SNR=69							
PBMO	Poplar Bluff	90.60	41	P	P	08 12 35.0	-0.3	
	baz=320,SNR=69							
Z38A	Mt. Pleasant	90.73	46	P	P	08 12 35.6	-0.4	
	baz=317,SNR=10							
LCAR	Lake Charles	90.76	42	P	P	08 12 35.6	-0.5	
	baz=319,SNR=28							
D62A	Allapoint, All	90.78	22	P	P	08 12 35.6	-0.3	
	baz=334,SNR=12							
D62A				P	P	08 12 35.6	-0.3	
	baz=334,SNR=12							
J54A	Appleton	90.79	30	P	P	08 12 35.6	-0.5	
	baz=328							
J54A				P	P	08 12 35.6	-0.5	
	baz=328							
O49A	Covington	90.91	35	P	P	08 12 36.4	-0.3	
	baz=324,SNR=7.2							
O49A				P	P	08 12 36.4	-0.3	
	baz=324,SNR=7.2							
P48A	Milroy	90.99	36	P	P	08 12 36.5	-0.6	
	baz=323,SNR=11							
P48A				P	P	08 12 36.5	-0.6	
	baz=323,SNR=11							
BMNY	Brushton-Moira	90.99	26	P	P	08 12 36.2	-0.8	
	baz=330,SNR=16							
435B	Jarrell	90.99	49	IAMs_20	IAMs_20	09 01 29.8		
	comp=Z,4μm,18.0s							
435B	Jarrell	90.99	49	P	P	08 12 36.7	-0.5	
	baz=316							
435B	Jarrell	90.99	49	P	P	08 12 36.8	-0.5	
	baz=316							
X40A	Basin Creek Fa	91.04	44	P	P	08 12 37.0	-0.4	
	baz=318,SNR=30							
X40A				P	P	08 12 37.0	-0.4	
	baz=318,SNR=30							
E62A	Clayton Lake	91.05	22	P	P	08 12 36.8	-0.5	
	baz=334,SNR=8.0							
E62A				P	P	08 12 36.8	-0.5	
	baz=334,SNR=8.0							
J55A	Hilton	91.12	29	P	P	08 12 37.1	-0.5	
	baz=328,SNR=6.8							
J55A				P	P	08 12 37.1	-0.5	
	baz=328,SNR=6.8							
M52A	Chesterland	91.12	32	P	P	08 12 37.2	-0.5	
	baz=326							
M52A				P	P	08 12 37.2	-0.5	
	baz=326							
LONY	Lake Ozonia	91.16	26	IAMs_20	IAMs_20	08 56 17.2		
	comp=Z,4μm,21.0s							
LONY	Lake Ozonia	91.16	26	P	P	08 12 37.0	-0.8	
	baz=330,SNR=12							
237A	Washetta, Mont	91.17	47	P	P	08 12 37.8	-0.3	
	baz=317,SNR=6.2							
N51A	Ashland	91.19	33	P	P	08 12 37.2	-0.8	
	baz=325							
N51A				P	P	08 12 37.2	-0.8	
	baz=325							
ERPA	Erie	91.21	31	IAMs_20	IAMs_20	08 57 39.0		
	comp=Z,4μm,20.0s							
ERPA	Erie	91.21	31	P	P	08 12 37.6	-0.4	
	baz=327							
ERPA	Erie	91.21	31	P	P	08 12 37.7	-0.4	
	baz=327							
P49A	Miami Univ. Ec	91.26	36	IAMs_20	IAMs_20	08 52 14.5		
	comp=Z,6μm,20.0s							
P49A	Miami Univ. Ec	91.26	36	P	P	08 12 37.5	-0.9	
	baz=323,SNR=20							
P49A	Miami Univ. Ec	91.26	36	P	P	08 12 37.8	-0.5	
	baz=323,SNR=20							
FRNY	Flat Rock	91.32	26	P	P	08 12 37.4	-1.1	
	baz=331							
WCNY	West Carthage	91.32	27	P	P	08 12 37.9	-0.7	
	baz=330,SNR=12							
T45B	Paducah	91.33	40	P	P	08 12 38.2	-0.5	
	baz=321							
HBAR	Harrisburg	91.41	42	P	P	08 12 38.9	-0.2	
	baz=320							
PQI	Presque Isle	91.45	21	IAMs_20	IAMs_20	08 59 14.7		
	comp=Z,4μm,18.0s							
J56A	Wolcott	91.48	29	P	P	08 12 38.5	-0.8	
	baz=329							
J56A				P	P	08 12 38.5	-0.8	
	baz=329							
ACSO	Alum Creek Sta	91.48	34	IAMs_20	IAMs_20	08 57 23.4		
	comp=Z,6μm,21.0s							
ACSO	Alum Creek Sta	91.48	34	P	P	08 12 38.8	-0.5	
	baz=324,SNR=13							
ACSO	Alum Creek Sta	91.48	34	P	P	08 12 38.8	-0.5	
	baz=324,SNR=13							
M53A	Wl Miller and	91.49	32	IAMs_20	IAMs_20	08 57 58.4		
	comp=Z,4μm,20.0s							
M53A	Wl Miller and	91.49	32	P	P	08 12 38.8	-0.6	
	baz=326							
ALLY	Alegheny Colle	91.54	31	P	P	08 12 39.3	-0.3	
	baz=326							
ALLY				S	S	08 23 34.6	-4.6	
	baz=326							
WCI	Wyandotte Cave	91.55	37	IAMs_20	IAMs_20	08 59 55.4		
	comp=Z,4μm,19.0s							
WCI	Wyandotte Cave	91.55	37	P	P	08 12 39.3	-0.4	
	baz=322							
WCI	Wyandotte Cave	91.55	37	P	P	08 12 39.3	-0.4	
	baz=322,SNR=18							
WCI				S	S	08 23 39.9	+0.5	
	baz=322							
E63A	Oxbow	91.56	22	P	P	08 12 39.0	-0.6	
	baz=335,SNR=15							
E63A				P	P	08 12 39.0	-0.6	
	baz=335,SNR=15							
E63A				S	S	08 23 37.9	-1.3	
	baz=335							
E63A				S	S	08 23 37.9	-1.3	
	baz=335							
F62A	Pittston Farm,	91.56	23	P	P	08 12 39.5	-0.1	
	baz=334,SNR=23							
F62A				P	P	08 12 39.5	-0.1	
	baz=334,SNR=23							
F62A				S	S	08 23 39.7	+0.4	
	baz=334							
F62A				S	S	08 23 39.7	+0.4	
	baz=334							
LNXT	Lenox	91.61	41	P	P	08 12 39.6	-0.4	
	baz=320							
833A	Chaparral WMA,	91.62	52	P	P	08 12 40.2	0.0	
	baz=315,SNR=8.7							
833A	Chaparral WMA,	91.62	52	P	P	08 12 40.2	0.0	
	baz=315,SNR=8.7							
833A				S	S	08 23 43.1	+2.8	
	baz=315							
MSEY	Mahe Island	91.64	265	IAMs_20	IAMs_20	08 58 23.9		
	comp=Z,6μm,18.0s							
MSEY	Mahe Island	91.64	265	P	P	08 12 40.9	+0.3	
J57A	Williamstown	91.69	28	P	P	08 12 39.7	-0.5	
	baz=329,SNR=13							
J57A				P	P	08 12 39.7	-0.5	
	baz=329,SNR=13							
ATD	Arta Tunnel	91.76	286	IAMs_20	IAMs_20	09 02 13.9		
	comp=Z,4μm,18.0s							
ATD	Arta Tunnel	91.76	286	*e*P	P	08 12 41.3	+0.2	
ATD				*e*S	PP	08 16 13.8	-5.9	
ATD	Arta Tunnel	91.76	286	P	P	08 12 41.6	+0.5	
	SNR=21							
ATD	Arta Tunnel	91.76	286	LR	LR	08 57 58.4		
	comp=Z,131nm,19.8s,baz=50,slow=38							
ATD	Arta Tunnel	91.76	286	*e*P	P	08 12 41.3	+0.2	
	baz=293							
ATD				*e*S	PP	08 16 13.8	-5.9	
	baz=293							
PAOC	Oil Creek Stat	91.84	31	P	P	08 12 40.6	-0.4	
	baz=327							
N53A	Lisbon	91.95	32	P	P	08 12 41.1	-0.4	
	baz=326							
N53A				P	P	08 12 41.1	-0.4	
	baz=326							
Z41A	Richland Creek	91.97	45	P	P	08 12 41.4	-0.3	
	baz=318							
Z41A				P	P	08 12 41.4	-0.3	
	baz=318							
J58A	Remsen	91.99	28	P	P	08 12 41.0	-0.7	
	baz=330,SNR=12							
J58A				P	P	08 12 41.0	-0.7	
	baz=330,SNR=12							
G62A	West of Eustis	91.99	24	P	P	08 12 41.9	+0.2	
	baz=333,SNR=13							
G62A				P	P	08 12 41.9	+0.2	
	baz=333,SNR=13							
G62A				S	S	08 23 46.8	+3.6	
	baz=333							
G62A				S	S	08 23 46.8	+3.6	
	baz=333							
F63A	Nahmakanta, Br	92.00	23	P	P	08 12 41.3	-0.4	
	baz=334,SNR=8.0							
F63A				P	P	08 12 41.3	-0.4	
	baz=334,SNR=8.0							
F63A				S	S	08 23 42.6	-0.7	
	baz=334							
F63A				S	S	08 23 42.6	-0.7	
	baz=334							
NATX	Nacogdoches	92.02	47	IAMs_20	IAMs_20	08 59 23.6		
	comp=Z,4μm,21.0s							
NATX	Nacogdoches	92.02	47	P	P	08 12 41.8	-0.2	
	baz=317							
NATX	Nacogdoches	92.02	47	P	P	08 12 41.7	-0.3	
	baz=317							
R49A	Shelbyville	92.04	37	P	P	08 12 41.9	-0.1	
	baz=323,SNR=8.4							
R49A				P	P	08 12 41.9	-0.1	
	baz=323,SNR=8.4							
R49A				S	S	08 23 43.8	0.0	
	baz=323							
R49A				S	S	08 23 43.8	0.0	
	baz=323							
VT1	Waterbury	92.04	25	IAMs_20	IAMs_20	08 54 56.9		
	comp=Z,5μm,21.0s							
VT1	Waterbury	92.04	25	P	P	08 12 42.1	+0.2	
	baz=332,SNR=10.0							
VT1				S	S	08 23 43.7	0.0	
	baz=332							
CCAR	Cane Creek	92.05	43	P	P	08 12 42.2	+0.1	
	baz=319,SNR=24							
P51A	Williamsport	92.06	35	P	P	08 12 41.2	-0.9	
	baz=324,SNR=9.2							
P51A				P	P	08 12 41.2	-0.9	
	baz=324,SNR=9.2							
P51A				S	S	08 23 46.4	+2.5	
	baz=324							
P51A				S	S	08 23 46.4	+2.5	
	baz=324							
K57A	Scipio Center	92.07	29	P	P	08 12 41.4	-0.6	
	baz=329							
O52A	Adamsville	92.08	33	P	P	08 12 41.7	-0.4	
	baz=325,SNR=6.1							
O52A				P	P	08 12 41.7	-0.4	
	baz=325,SNR=6.1							
O52A				S	S	08 23 48.2	+4.1	
	baz=325							
O52A				S	S	08 23 48.2	+4.1	
	baz=325							
F64A	Sherman	92.09	22	P	P	08 12 41.7	-0.3	
	baz=335,SNR=9.3							
F64A				P	P	08 12 41.7	-0.3	
	baz=335,SNR=9.3							
VAE	Valguarnera	92.09	322	LR	LR	08 59 42.3		
	comp=Z,6μm,18.7s,baz=48,slow=39							
T47A	Sharon Grove	92.13	39	P	P	08 12 41.9	-0.5	
	baz=322,SNR=18							
T47A				S	S	08 23 41.8	-2.9	
	baz=322							
PAMR	Moraine State	92.15	32	P	P	08 12 42.1	-0.4	
	baz=326							
PAMR				S	S	08 23 44.3	-0.5	
	baz=326							
L56A	Greenwood	92.17	30	P	P	08 12 42.0	-0.6	
	baz=328,SNR=12							
L56A				P	P	08 12 42.0	-0.6	
	baz=328,SNR=12							
J59A	Piesco	92.19	27	P	P	08 12 42.0	-0.6	
	baz=330,SNR=12							
J59A				P	P	08 12 42.0	-0.6	
	baz=330,SNR=12							
735A	Kenedy	92.23	51	P	P	08 12 43.6	+0.6	
	baz=316							
O53A	New Philadelph	92.25	33	IAMs_20	IAMs_20	08 53 46.5		
	comp=Z,6μm,20.0s							
O53A	New Philadelph	92.25	33	P	P	08 12 42.1	-0.8	
	baz=326,SNR=7.1							
MCVT	Middlebury Col	92.29	26	P	P	08 12 42.8	-0.3	
	baz=332							
MCVT				S	S	08 23 45.7	-0.3	
	baz=332							
Q51A	Peebles	92.30	35	P	P	08 12 42.8	-0.4	
	baz=324,SNR=18							
Q51A				P	P	08 12 42.8	-0.4	
	baz=324,SNR=18							
Q51A				S	S	08 23 50.1	+4.0	
	baz=324							
Q51A				S	S	08 23 50.1	+4.0	
	baz=324							
PKME	Peaks-Kenny Pk	92.34	23	IAMs_20	IAMs_20	08 54 46.3		
	comp=Z,5μm,21.0s							
PKME	Peaks-Kenny Pk	92.34	23	P	P	08 12 43.1	-0.2	
	baz=334,SNR=9.6							
PKME	Peaks-Kenny Pk	92.34	23	P	P	08 12 43.4	+0.1	
	baz=334,SNR=9.6							
P52A	Corning	92.35	34	IAMs_20	IAMs_20	08 55 47.2		
	comp=Z,4μm,22.0s							
P52A	Corning	92.35	34	P	P	08 12 42.4	-1.0	
	baz=325,SNR=6.8							
H62A	Milan	92.36	24	P	P	08 12 43.4	0.0	
	baz=333,SNR=11							
H62A				P	P	08 12 43.4	0.0	
	baz=333,SNR=11							
LBNH	Lisbon	92.41	25	IAMs_20	IAMs_20	08 54 18.1		
	comp=Z,4μm,22.0s							
LBNH	Lisbon	92.41	25	P	P	08 12 43.5	-0.1	
	baz=332							
LBNH	Lisbon	92.41	25	P	P	08 12 43.5	-0.1	
	baz=332							
LBNH				S	S	08 23 47.9	+0.9	
	baz=332							
WVT	Waverly	92.43	40	IAMs_20	IAMs_20	08 52 50.0		
	comp=Z,4μm,20.0s							
WVT	Waverly	92.43	40	P	P	08 12 43.0	-0.8	
	baz=321							
WVT	Waverly	92.43	40	P	P	08 12 43.4	-0.5	
	baz=321,SNR=23							
R50A	Paris	92.44	36	P	P	08 12 43.4	-0.5	
	baz=324,SNR=14							
R50A				P	P	08 12 43.4	-0.5	
	baz=324,SNR=14							
PSDB	Penn State Uni	92.55	31	P	P	08 12 44.2	-0.1	
	baz=327							
ACCN	Adirondack Com	92.56	26	P	P	08 12 43.9	-0.4	
	baz=331,SNR=12							
UPAO	U. Pittsburgh	92.56	32	P	P	08 12 44.2	-0.2	
	baz=326							
HKT	Hockley	92.64	49	P	P	08 12 44.4	-0.5	
	baz=317							
O54A	Avella	92.66	32	P	P	08 12 44.5	-0.3	
	baz=326,SNR=11							
O54A				P	P	08 12 44.5	-0.3	
	baz=326,SNR=11							
BINY	Binghamton	92.73	29	IAMs_20	IAMs_20	09 01 53.0		
	comp=Z,5μm,18.0s							
BINY	Binghamton	92.73	29	P	P	08 12 44.4	-0.8	
	baz=329,SNR=5.9							
BINY	Binghamton	92.73	29	P	P	08 12 44.6	-0.5	
	baz=329,SNR=5.9							
BINY				S	S	08 23 51.1	+1.2	
	baz=329							
HNH	Hanover	92.76	25	IAMs_20	IAMs_20	08 59 54.4		
	comp=Z,4μm,19.0s							
P53A	Whipple	92.80	33	P	P	08 12 44.4	-1.0	
	baz=326							
P53A				P	P	08 12 44.4	-1.0	
	baz=326							
P53A				S	S	08 23 54.9	+4.4	
	baz=326							
P53A				S	S	08 23 54.9	+4.4	
	baz=326							
Q52A	Bidwell	92.84	34	P	P	08 12 44.3	-1.4	
	baz=325							
Q52A				P	P	08 12 44.3	-1.4	
	baz=325							
WVL	Waterville	92.86	23	IAMs_20	IAMs_20	08 55 37.9		
	comp=Z,5μm,20.0s							
WVL	Waterville	92.86	23	P	P	08 12 45.5	-0.1	
	baz=334							
WVL				S	S	08 23 49.1	-1.8	
	baz=334							
OXF	Oxford	92.87	42	IAMs_20	IAMs_20	08 58 33.6		
	comp=Z,3μm,20.0s							
OXF	Oxford	92.87	42	P	P	08 12 45.2	-0.7	
	baz=320,SNR=19							
OXF	Oxford	92.87	42	P	P	08 12 45.3	-0.5	
	baz=320,SNR=19							
G65A	Princeton	92.92	22	P	P	08 12 45.5	-0.4	
	baz=335,SNR=10							
G65A				P	P	08 12 45.5	-0.4	
	baz=335,SNR=10							
EJON	La Jonquera	92.93	332	P	P	08 12 45.3	-0.8	
TEND	Ethiopian Broa	93.00	287	*e*P	P	08 12 48.5	+1.7	
	baz=292							
I63A	Otisfield	93.02	24	P	P	08 12 46.9	+0.5	
	baz=333,SNR=7.9							
I63A				P	P	08 12 46.9	+0.5	
	baz=333,SNR=7.9							
M57A	Sunshine Farm,	93.02	30	P	P	08 12 46.3	-0.2	
	baz=328,SNR=10							

M57A P P 08 12 46.3 -0.2
baz=328,SNR=10
L59A Walton 93.09 28 P P 08 12 46.3 -0.5
baz=330,SNR=6.5
L59A P P 08 12 46.3 -0.5
baz=330,SNR=6.5
KVTX Kingsville 93.10 52 IAMs_20 IAMs_20 09 01 23.9
comp=Z,5μm,18.0s
TRY Troy 93.13 27 IAMs_20 IAMs_20 08 56 01.3
comp=Z,5μm,20.0s
TRY Troy 93.13 27 P P 08 12 46.7 -0.2
baz=331
U49A Red Boiling Sp 93.16 38 P P 08 12 46.2 -1.0
baz=323,SNR=18
143A Socs Landing, 93.16 44 P P 08 12 47.2 -0.1
baz=319
FFD Franklin Falls 93.18 25 IAMs_20 IAMs_20 08 54 40.6
comp=Z,4μm,20.0s
FFD Franklin Falls 93.18 25 P P 08 12 46.8 -0.3
baz=332
PLAL Pickwick Lake 93.20 40 IAMs_20 IAMs_20 08 59 28.4
comp=Z,4μm,18.0s
T50A Nancy 93.21 37 P P 08 12 46.9 -0.5
baz=323
T50A P P 08 12 46.9 -0.5
baz=323
V48A Smith Brothers 93.25 39 P P 08 12 46.8 -0.8
baz=322,SNR=11
Y45A Yeager Farm, C 93.29 42 P P 08 12 47.7 -0.1
baz=320,SNR=25
S51A Beattyville 93.30 36 P P 08 12 47.0 -0.9
baz=324
S51A P P 08 12 47.0 -0.9
baz=324
SSPA Standing Stone 93.31 31 P P 08 12 46.8 -1.1
baz=328
SSPA Standing Stone 93.31 31 P P 08 12 47.2 -0.6
baz=328
MCWV Mont Chateau 93.32 32 IAMs_20 IAMs_20 08 55 04.9
comp=Z,4μm,21.0s
MCWV Mont Chateau 93.32 32 P P 08 12 47.6 -0.3
baz=327,SNR=6.8
MCWV Mont Chateau 93.32 32 P P 08 12 47.6 -0.3
baz=327,SNR=6.8
WDD Wied Dalam 93.33 321 IAMs_20 IAMs_20 09 01 59.9
comp=Z,5μm,18.0s
PABK Blue Knob Stat 93.34 31 P P 08 12 47.3 -0.7
baz=328
KSPA Keystone Colle 93.36 29 P P 08 12 47.4 -0.6
baz=329
EMMW East Machias 93.40 22 IAMs_20 IAMs_20 08 58 38.3
comp=Z,4μm,20.0s
Q54A Coxs Mills 93.45 33 P P 08 12 48.2 -0.3
baz=326,SNR=9.5
Q54A P P 08 12 48.2 -0.3
baz=326,SNR=9.5
R53A Hurricane 93.49 34 P P 08 12 48.1 -0.6
baz=325
R53A P P 08 12 48.1 -0.6
baz=325
K62A Royalston 93.69 26 P P 08 12 49.2 -0.4
baz=332
K62A P P 08 12 49.2 -0.4
baz=332
L61B Northampton 93.72 26 IAMs_20 IAMs_20 08 56 40.1
comp=Z,3μm,20.0s
L61B Northampton 93.72 26 P P 08 12 49.0 -0.7
baz=332
NPNY Mohonk Preserv 93.80 28 P P 08 12 49.9 -0.2
baz=331
QUA2 Belchertown 93.99 26 IAMs_20 IAMs_20 08 55 34.1
comp=Z,3μm,20.0s
VBMS Vicksburg 94.02 44 P P 08 12 51.0 -0.2
baz=320
VBMS Vicksburg 94.02 44 P P 08 12 51.1 -0.1
baz=320
Q56A Snyder Ridge, 94.12 32 P P 08 12 50.9 -0.7
baz=327
Q56A P P 08 12 50.9 -0.7
baz=327
X48A Hartselle 94.14 40 P P 08 12 50.3 -1.4
baz=322,SNR=8.1
BRNY Black Rk. Fore 94.15 28 P P 08 12 50.7 -1.0
baz=331
TZTN Tazewell 94.21 37 IAMs_20 IAMs_20 08 53 13.7
comp=Z,5μm,20.0s
TZTN Tazewell 94.21 37 P P 08 12 51.6 -0.5
baz=324
TZTN Tazewell 94.21 37 P P 08 12 51.6 -0.5
baz=324
ODNJ Ogdensburg 94.22 28 P P 08 12 51.0 -0.9
baz=330
S54A Dingess, Beckl 94.22 34 P P 08 12 51.1 -1.0
baz=326
S54A P P 08 12 51.1 -1.0
baz=326
WES Weston 94.25 25 IAMs_20 IAMs_20 09 00 48.1
comp=Z,4μm,19.0s
WES Weston 94.25 25 P P 08 12 51.2 -0.8
baz=333
R55A Marlinton 94.35 33 P P 08 12 52.0 -0.7
baz=326,SNR=8.0
R55A P P 08 12 52.0 -0.7
baz=326,SNR=8.0
BCX Boston College 94.35 25 IAMs_20 IAMs_20 09 03 56.6
comp=Z,3μm,19.0s
V51A Loudon 94.42 38 P P 08 12 52.3 -0.7
baz=324,SNR=11
W50A Signal Mountai 94.43 39 P P 08 12 52.1 -1.0
baz=323
146A Union 94.49 43 P P 08 12 53.4 0.0
baz=320
PAL Palisades 94.54 28 P P 08 12 53.0 -0.4
baz=331
PAL Palisades 94.54 28 P P 08 12 52.7 -0.7
baz=331
Z47A Carrollton 94.59 42 P P 08 12 52.9 -0.9
baz=321
BRYW Bryant College 94.59 26 IAMs_20 IAMs_20 09 03 24.1
comp=Z,4μm,18.0s
MAHO Mahon 94.60 330 P P 08 12 53.1 -0.6
WSPT Westport, CT 94.61 27 IAMs_20 IAMs_20 08 54 16.7
comp=Z,4μm,22.0s
YLE Yale 94.63 27 IAMs_20 IAMs_20 08 56 56.1
comp=Z,5μm,20.0s
V52A Sevierville 94.75 37 P P 08 12 54.0 -0.5
baz=324,SNR=6.3
TKL Tuckaleechee C 94.81 37 P P 08 12 54.3 -0.5
baz=324,SNR=9.5
TKL Tuckaleechee C 94.81 37 LR LR 09 01 22.8
comp=Z,2μm,18.2s,baz=331,slow=39
L64A Middleborough 94.82 25 P P 08 12 53.9 -0.8
baz=333
L64A P P 08 12 53.9 -0.8
baz=333
PSUB Penn St. - Bra 94.89 29 P P 08 12 54.8 -0.3
baz=330
GEDE Greenville 94.92 30 P P 08 12 54.3 -0.8
baz=330
Y49A Blount Mountai 94.93 40 P P 08 12 54.4 -1.0
baz=322
BLA Blacksburg 95.10 34 IAMs_20 IAMs_20 08 55 58.2
comp=Z,5μm,21.0s
BLA Blacksburg 95.10 34 P P 08 12 54.8 -1.4
baz=326
BLA Blacksburg 95.10 34 P P 08 12 55.4 -0.7
baz=326
X51A Calhoun 95.16 39 P P 08 12 55.6 -0.8
baz=323
X51A P P 08 12 55.6 -0.8
baz=323
M65A Busby, Falmout 95.21 25 IAMs_20 IAMs_20 08 57 31.5
comp=Z,4μm,21.0s
M65A Busby, Falmout 95.21 25 P P 08 12 55.7 -0.8
baz=333
LRAL Lakeview Retre 95.28 41 IAMs_20 IAMs_20 09 02 20.3
comp=Z,3μm,20.0s
LRAL Lakeview Retre 95.28 41 P P 08 12 55.8 -1.1
baz=322
LRAL Lakeview Retre 95.28 41 P P 08 12 56.0 -0.9
baz=322
ETOS Mallorca 95.28 331 P P 08 12 55.7 -1.2
S57A Dark Hollow, R 95.29 33 P P 08 12 56.2 -0.7
baz=327
S57A P P 08 12 56.2 -0.7
baz=327
CBN Corbin Frederi 95.58 32 IAMs_20 IAMs_20 09 00 20.8
comp=Z,3μm,20.0s
CBN Corbin Frederi 95.58 32 P P 08 12 56.8 -1.4
baz=328
CASEE Lake Jocassee 95.75 37 P P 08 12 58.7 -0.5
baz=324,SNR=9.8
U56A King 95.83 35 P P 08 12 58.9 -0.5
baz=326
U56A P P 08 12 58.9 -0.5
baz=326
KEST Kesra 95.91 324 P P 08 12 59.8 -0.1
SNR=6.7
KEST P P 08 12 59.8 -0.1
SNR=6.7
KEST Kesra 95.91 324 P P 08 12 59.1 -0.8
comp=Z,42nm,0.9s,baz=285,slow=2.8,SNR=24
KEST LR LR 09 01 35.8
comp=Z,25μm,18.0s,baz=326,slow=39
comp=Z,42nm,0.9s
Z51A Franklin 95.99 40 P P 08 12 59.4 -0.8
baz=323
Y52A Lilburn 96.11 39 P P 08 12 59.4 -1.3
baz=324
Y52A P P 08 12 59.4 -1.3
baz=324
KMSC Kings Mountain 96.39 36 P P 08 13 00.6 -1.4
baz=325
KMSC Kings Mountain 96.39 36 P P 08 13 00.9 -1.1
baz=325
WLRA Wolmera 96.45 287 *e*P P 08 13 06.4 +3.3
baz=284
EIBI Ibiza 96.48 332 P P 08 13 01.5 -0.9
250A Grady 96.49 41 P P 08 13 01.8 -0.7
baz=322
T59A Double "B" Far 96.55 32 P P 08 13 00.9 -1.8
baz=328
T59A P P 08 13 00.9 -1.8
baz=328
ECAL Calabor 96.58 338 P P 08 13 01.2 -1.6
FURI Furi 96.59 286 IAMs_20 IAMs_20 09 03 53.7
comp=Z,4μm,19.0s
BRAL Brewton 96.70 42 IAMs_20 IAMs_20 09 01 24.3
comp=Z,4μm,19.0s
BRAL Brewton 96.70 42 P P 08 13 02.1 -1.4
baz=322
PBRG Braganca 96.71 338 *e*P P 08 13 02.7 -0.7
comp=Z,56nm,1.4s
PBRG Braganca 96.71 338 *e*PP PP 08 17 01.4 +4.4
GOGA Godfrey 96.77 38 IAMs_20 IAMs_20 09 02 19.7
comp=Z,4μm,19.0s
GOGA Godfrey 96.77 38 P P 08 13 03.1 -0.6
baz=324
ECHE Chera 96.84 333 P P 08 13 03.0 -1.0
PGAV Gavieira, Arco 97.00 340 *e*P P 08 13 04.6 -0.1
comp=Z,93nm,1.4s
PGAV Gavieira, Arco 97.00 340 *e*PP PP 08 17 01.3 +2.0
PGAV *e*SKSac S 08 24 32.8 +5.5
PGAV *e*SS SS 08 31 09.9 +8.4
PGAV Gavieira, Arco 97.00 340 *e*LQ LQ 08 42 08.7
PGAV *e*LR LR 08 46 38.1
comp=Z,6μm,20.0s
MVO Moncorvo 97.38 338 *e*P P 08 13 06.2 -0.3
comp=Z,73nm,1.3s
MVO Moncorvo 97.38 338 *e*PP PP 08 17 04.0 +1.8
MVO *e*SKSac S 08 24 34.7 +4.1
MVO *e*SS SS 08 31 12.8 +5.9
MVO Moncorvo 97.38 338 *e*LQ LQ 08 43 04.8
MVO *e*LR LR 08 46 51.0
comp=Z,9μm,16.0s
POLO Lamas de Olo 97.41 339 *e*P P 08 13 06.4 -0.2
comp=Z,46nm,1.2s
POLO Lamas de Olo 97.41 339 *e*PP PP 08 17 03.9 +1.4
POLO *e*SKSac S 08 24 36.2 +5.4
POLO *e*SS SS 08 31 14.0 +6.6
PVRL Vila Real 97.48 339 *e*P Pdif 08 13 06.9 0.0
comp=Z,92nm,1.3s
ESDC Sonseca Array 97.79 336 P P 08 13 07.8 -0.5
comp=Z,16nm,0.9s,baz=18,slow=3.6,SNR=58
ESDC PKKP PKKPbc 08 29 42.1 -0.5
comp=Z,2.5nm,1.1s,baz=216,slow=2.9,SNR=6.8
ESDC LR LR 09 01 18.4
comp=Z,10μm,21.4s,baz=22,slow=38
comp=Z,16nm,0.9s
CNNC Cliffs of the 97.87 33 IAMs_20 IAMs_20 09 02 29.4
comp=Z,5μm,19.0s
CNNC Cliffs of the 97.87 33 P P 08 13 07.4 -1.3
baz=328
ETOB Tobarra 97.88 333 P P 08 13 07.3 -1.5
UNM Universidad Na 98.03 58 IAMs_20 IAMs_20 08 50 46.0
comp=Z,3μm,20.0s
PVIS Viseu 98.05 339 *e*P P 08 13 09.0 -0.5
PVIS Viseu 98.05 339 *e*PP PP 08 17 09.2 +1.9
MTE Manteigas 98.24 338 *e*P P 08 13 10.1 -0.2
comp=Z,54nm,1.2s
MTE Manteigas 98.24 338 *e*PP PP 08 17 10.8 +2.0
MTE *e*SKSac S 08 24 40.7 +2.8
MTE *e*SS SS 08 31 25.6 +6.6
MTE Manteigas 98.24 338 *e*LQ LQ 08 43 00.2
MTE *e*LR LR 08 47 39.9
comp=Z,9μm,18.0s
TIGA Tifton 98.30 40 P P 08 13 09.0 -1.7
baz=324
DILA Dilla 98.44 285 *e*P P 08 13 06.7 -5.1
DILA *e*S PP 08 17 22.2 +10
DILA Dilla 98.44 285 *e*P P 08 13 06.7 -5.1
baz=277
DILA *e*S PP 08 17 22.2 +10
baz=277
EMUR La Murta 98.48 333 P P 08 13 09.9 -1.6
NHSC New Hope 98.61 36 IAMs_20 IAMs_20 08 55 49.1
comp=Z,5μm,20.0s
NHSC New Hope 98.61 36 P P 08 13 10.5 -1.5
baz=326
CART Cartagena 98.62 333 IAMs_20 IAMs_20 09 00 09.4
comp=Z,7μm,19.0s
CART Cartagena 98.62 333 P P 08 13 09.9 -2.1
COI Coimbra 98.66 339 *e*PP PP 08 17 14.2 +2.2
PCBR Castelo Branco 98.73 338 *e*P Pdif 08 13 12.9 +0.4
PCBR Castelo Branco 98.73 338 *e*PP PP 08 17 13.8 +1.3
PCAS Casmilo, Conde 98.83 339 *e*P P 08 13 11.8 -1.1
PCAS Casmilo, Conde 98.83 339 *e*PP PP 08 17 14.6 +1.3
PCAS *e*SKSac S 08 24 45.4 +2.6
PCAS *e*SS SS 08 31 35.4 +8.2
PMRV Marv??o 99.09 338 *e*P Pdif 08 13 15.1 +1.0
PMRV Marv??o 99.09 338 *e*PP PP 08 17 13.6 -1.6
PMRV *e*SKSac S 08 24 50.6 +5.6
PMRV *e*SS SS 08 31 43.3 +12
PMRV Marv??o 99.09 338 *e*LQ LQ 08 43 39.0
PMRV *e*LR LR 08 47 39.6
comp=Z,9μm,18.0s
EADA Adamuz 99.35 335 P Pdif 08 13 14.0 -1.3
ENIJ Nijar 99.61 333 P Pdif 08 13 13.8 -2.6
PESTR Estremoz 99.66 338 *e*P Pdif 08 13 17.5 +0.8
PESTR Estremoz 99.66 338 *e*PP PP 08 17 16.4 -3.2
PESTR Estremoz 99.66 338 *e*SS SS 08 31 45.6 +6.7
PMTG Montargil 99.67 338 *e*P Pdif 08 13 18.4 +1.8
PMTG Montargil 99.67 338 *e*PP PP 08 17 19.2 -0.4
PMTG *e*SKSac S 08 24 59.9 +10
PMTG *e*SS SS 08 31 49.7 +11
PMAFR Mafra 100.08 339 *e*P Pdif 08 13 17.8 -0.7
PMAFR Mafra 100.08 339 *e*SKSac Sdif 08 24 55.4 +2.1
PMAFR *e*SS SS 08 31 53.4 +8.8
EVO Evora 100.10 338 *e*P Pdif 08 13 19.2 +0.6
EVO Evora 100.10 338 *e*PP PP 08 17 24.8 +1.9
PBAR Barrancos 100.13 337 *e*P Pdif 08 13 19.0 +0.3
PBAR Barrancos 100.13 337 *e*PP PP 08 17 25.5 +2.3
PBAR *e*SKSac Sdif 08 24 58.8 +5.1
PBAR *e*SS SS 08 31 53.6 +8.2
LIS Lisbon 100.26 339 *i* P Pdif 08 13 19.6 +0.3
LIS Lisbon 100.26 339 *e*Pdif Pdif 08 13 19.6 +0.3
LIS IAMs_20 IAMs_20 09 04 49.6
comp=N,16μm,18.2s
PBEJ Beja 100.52 338 *e*P Pdif 08 13 22.3 +1.8
PNCL Nicolau / Gran 100.64 338 *e*P Pdif 08 13 20.0 -1.0
PNCL Nicolau / Gran 100.64 338 *e*PP PP 08 17 28.3 +1.3
PNCL *e*SKSac Sdif 08 25 03.1 +5.2
PNCL *e*SS SS 08 32 01.9 +9.4
MESJ Messejana 100.80 338 *e*P Pdif 08 13 23.2 +1.5
MESJ Messejana 100.80 338 *i* P Pdif 08 13 21.8 +0.1
MESJ *e* 08 17 29.5
MESJ Messejana 100.80 338 *e*Pdif Pdif 08 13 21.9 +0.1
MESJ *e*PP PP 08 17 29.5 +1.3
MESJ IAMs_20 IAMs_20 08 58 58.7
comp=E,11μm,19.4s
PCVE Castro Verde 100.94 338 *e*P Pdif 08 13 23.0 +0.7
PCVE Castro Verde 100.94 338 *e*PP PP 08 17 31.3 +2.0
PCVE Castro Verde 100.94 338 *e*SS SS 08 32 05.1 +8.4
PVAQ Vaqueiros 101.05 337 *e*P Pdif 08 13 23.7 +0.9
PVAQ Vaqueiros 101.05 337 *e*PP PP 08 17 32.1 +2.0
PVAQ *e*SKSac Sdif 08 25 03.7 +2.3
PVAQ *e*SS SS 08 32 04.8 +6.6
PVAQ Vaqueiros 101.05 337 *e*LQ LQ 08 44 18.1
PVAQ *e*LR LR 08 48 34.9
comp=E,11μm,18.0s
PTEO Sao Teotonio 101.22 338 *e*P Pdif 08 13 25.8 +2.2
PBDV Barranco-do-Ve 101.26 337 *e*P Pdif 08 13 27.1 +3.3
PBDV Barranco-do-Ve 101.26 337 *e*PP PP 08 17 33.5 +1.7
PBDV *e*SKSac Sdif 08 25 07.1 +3.8
PBDV *e*SS SS 08 32 10.9 +10
MORF Marmelete 101.42 338 *e*P Pdif 08 13 24.6 +0.1
MORF Marmelete 101.42 338 *e*PP PP 08 17 35.0 +2.0
MORF *e*SKSac Sdif 08 25 08.1 +3.5
MORF *e*SS SS 08 32 09.6 +6.1
MORF Marmelete 101.42 338 *i* P Pdif 08 13 24.6 +0.1
MORF *e* 08 17 34.1
MORF Marmelete 101.42 338 *e*Pdif Pdif 08 13 24.7 +0.1
MORF *e*PP PP 08 17 34.2 +1.2
MORF IAMs_20 IAMs_20 08 56 23.4
comp=E,14μm,18.4s
PFVI Vila Bisbo 101.64 338 *e*P Pdif 08 13 25.8 +0.4
PFVI Vila Bisbo 101.64 338 *e*PP PP 08 17 39.7 +5.2
PFVI *e*SKSac Sdif 08 25 06.4 +0.1
PFVI *e*SS SS 08 32 16.8 +10
DWPF Disney Wildern 102.08 40 IAMs_20 IAMs_20 09 08 40.5
comp=Z,4μm,18.0s
DWPF Disney Wildern 102.08 40 P Pdif 08 13 27.1 -0.5
baz=325
LODK Lodwar 102.59 284 IAMs_20 IAMs_20 09 07 22.9
comp=Z,5μm,18.0s
LODK Lodwar 102.59 284 *e*P Pdif 08 13 31.1 +0.9
LODK IAMs_20 IAMs_20 08 40 18.3
comp=N,3μm,20.4s
LODK Lodwar 102.59 284 P Pdif 08 13 30.4 +0.2
LODK Lodwar 102.59 284 *e*P Pdif 08 13 31.1 +0.9
baz=270
LODK IAMs_20 IAMs_20 08 40 18.3
comp=N,3μm,20.4s,baz=270
ROSA Rosais 103.85 354 IAMs_20 IAMs_20 09 04 39.3
comp=Z,4μm,18.0s
KMBO Kilima Mbogo 103.95 279 IAMs_20 IAMs_20 09 08 51.3
comp=Z,4μm,18.0s
KMBO Kilima Mbogo 103.95 279 Pdiff Pdif 08 13 35.5 -1.0
comp=Z,1.8nm,0.7s,baz=12,slow=8.7,SNR=5.3
TEIG Tepich 104.42 50 IAMs_20 IAMs_20 09 10 41.4
comp=Z,3μm,19.0s
BBSR BB Station 105.54 25 IAMs_20 IAMs_20 09 00 03.7
comp=Z,3μm,22.0s
ABPO Ambohimpanom 106.56 259 IAMs_20 IAMs_20 09 01 06.3
comp=Z,3μm,20.0s
PMOZ Porto Moniz, M 107.91 343 *e*P Pdif 08 13 55.6 +2.0
PMOZ Porto Moniz, M 107.91 343 *e*PP PP 08 18 23.8 +2.6
PMOZ *e*SKSac Sdif 08 26 03.9 +4.8
PMOZ Porto Moniz, M 107.91 343 *e*LR LR 08 51 53.3
comp=Z,3μm,18.0s
PMAR Madeira 107.94 343 *e*P Pdif 08 13 56.2 +2.4
PMAR Madeira 107.94 343 *e*PP PP 08 18 25.8 +4.3
TAM Tamanrasset 108.45 320 IAMs_20 IAMs_20 09 09 18.4
comp=Z,6μm,19.0s
VOI Vohitsoka 108.51 256 IAMs_20 IAMs_20 09 02 17.2
comp=Z,3μm,20.0s
MBAR Mbarara 108.70 284 IAMs_20 IAMs_20 09 07 02.8
comp=Z,5μm,20.0s
TGUH Tegucigalpa,Un 109.68 54 IAMs_20 IAMs_20 09 10 21.3
comp=Z,3μm,20.0s
TGUH Tegucigalpa,Un 109.68 54 *e*P PKiKP 08 18 12.4 +7.9
CNGN Cerro Negro 111.22 54 *e*P **PKiKP** **08 18 06.1 -1.2**
GTBY Guantanamo Bay 112.06 40 IAMs_20 IAMs_20 09 10 27.9
comp=Z,3μm,20.0s
GTBY Guantanamo Bay 112.06 40 *e*P PKiKP 08 18 22.4 +14
MACI Morro de la Ar 112.12 341 IAMs_20 IAMs_20 09 06 25.4
comp=Z,4μm,20.0s
MTDJ Mount Denham 112.19 43 IAMs_20 IAMs_20 09 10 21.7
comp=Z,3μm,21.0s
MTDJ Mount Denham 112.19 43 *e*P **PKiKP** **08 18 11.0 +1.8**
SDDR Presa de Saban 114.75 37 IAMs_20 IAMs_20 09 11 57.9
comp=Z,4μm,20.0s
SBA Scott Base 115.88 175 IAMs_20 IAMs_20 09 08 47.3
comp=Z,2μm,19.0s
SJG San Juan 117.85 33 IAMs_20 IAMs_20 09 10 26.6
comp=Z,2μm,20.0s
BCIP Isla Barro Col 118.09 51 IAMs_20 IAMs_20 09 17 00.7
comp=Z,2μm,19.0s
TORD Torodi Ar. Bea 118.46 317 PKP **PKPdf** **08 18 19.5 -1.6**
comp=Z,8.9nm,0.7s,baz=18,slow=2.3,SNR=44
TORD PKKPab **PKKPbc** **08 28 39.4 +2.3**
comp=Z,6.4nm,0.8s,baz=228,slow=2.6,SNR=11
TORD SKKPbc SKKPbc 08 32 20.1 -1.2
comp=Z,1.9nm,0.9s,baz=205,slow=4.0,SNR=3.6
VA02 Isla de Pascua 118.49 104 IAMs_20 IAMs_20 09 04 03.4
comp=Z,5μm,20.0s
AZU Azuero 118.88 52 *e*P **PKPdf** **08 18 14.4 -7.6**
UPD2 Meteti 119.68 50 *e*P PKPdf 08 18 15.2 -8.3
CRJC Cerrejon, Guaj 120.65 43 *e*P **PKPdf** **08 18 23.5 -2.0**
MAW Mawson 120.83 206 PKIKP **PKPdf** **08 18 22.0 -2.0**
MAW Mawson 120.83 206 PKP **PKPdf** **08 18 22.0 -2.0**
comp=Z,22nm,1.0s,baz=0.2,slow=1.8,SNR=20
MAW PKKPbc **PKKPbc** **08 28 30.8 +1.6**
comp=Z,1.9nm,0.6s,baz=217,slow=4.7,SNR=4.9
APAC Apartado, Choc 121.06 49 *e*P **PKPdf** **08 18 20.4 -5.8**
ABD La Joyeuse, An 121.22 29 IAMs_20 IAMs_20 09 12 12.6
comp=Z,3μm,20.0s
LL6C La Loma 6 Bece 121.49 44 *e*P **PKPdf** **08 18 25.8 -1.2**
GDSD La Dsirade Is 121.53 29 IAMs_20 IAMs_20 09 12 51.8
comp=Z,4μm,20.0s
HATO Hato, Curacao 121.72 39 IAMs_20 IAMs_20 09 17 07.7
comp=Z,2μm,20.0s
MAGL Barre de l'ile 121.78 29 IAMs_20 IAMs_20 09 12 38.4
comp=Z,2μm,21.0s
UREC San Jos de Ur 121.80 48 *e*P **PKPdf** **08 18 23.6 -4.0**
ZARC Zaragoza, Cauc 122.40 47 *e*P **PKPdf** **08 18 28.5 -0.3**
SVN Savane Anatole 122.83 29 IAMs_20 IAMs_20 09 13 33.4
comp=Z,3μm,20.0s
FDF Fort de France 122.94 29 IAMs_20 IAMs_20 09 13 36.1
comp=Z,3μm,21.0s
MPOM Morne Pois Mar 123.32 29 IAMs_20 IAMs_20 09 13 56.0
comp=Z,3μm,21.0s
PLMC San Jos del P 123.59 51 *e*P **PKPdf** **08 18 30.2 -0.9**
SDV Santo Domingo 123.64 42 IAMs_20 IAMs_20 09 18 23.9
comp=Z,2μm,20.0s
SDV Santo Domingo 123.64 42 *e*P **PKPdf** **08 18 30.0 -1.4**
SDV Santo Domingo 123.64 42 *e*P **PKPdf** **08 18 30.7 -0.7**
PAMC Pamplona, Colo 123.77 45 *e*P **PKPdf** **08 18 31.0 -1.0**
GUY2C Guyana, Caldas 123.90 50 *e*P **PKPdf** **08 18 30.8 -1.4**
NORC Norcasia 123.94 49 *e*P **PKPdf** **08 18 30.2 -1.6**
BARC Barichara 124.10 46 *e*P **PKPdf** **08 18 31.3 -1.1**
YOTC Yotoco, Valle 124.27 51 *e*P **PKPdf** **08 18 30.9 -1.6**
SPBC San Pablo de B 124.34 48 *e*P **PKPdf** **08 18 31.5 -1.1**
JAMC Jamundi, Valle 124.66 52 *e*P **PKPdf** **08 18 32.7 -0.7**
RUSC La Rusia 124.72 47 *e*P **PKPdf** **08 18 32.5 -1.3**
ROSC El Rosal 124.84 49 *e*P **PKPdf** **08 18 33.6 -0.3**
ROSC El Rosal 124.84 49 PKP **PKPdf** **08 18 32.5 -1.5**
comp=Z,36nm,0.6s,baz=136,slow=2.4,SNR=19
BBGH Gun Hill 125.00 28 IAMs_20 IAMs_20 09 10 47.7
comp=Z,4μm,22.0s
ORTC Ortega, Tolima 125.01 50 *e*P **PKPdf** **08 18 32.5 -1.3**
GRGR Grenville 125.09 31 IAMs_20 IAMs_20 09 14 54.4
comp=Z,3μm,21.0s
POPC Popayan, Colom 125.18 53 *e*P **PKPdf** **08 18 32.9 -1.5**
BBAC Balboa, Cauca 125.21 54 *e*P **PKPdf** **08 18 33.1 -1.3**
CHIC Chingaza 125.36 48 *e*P **PKPdf** **08 18 32.3 -2.7**
CMBC Cumbal 125.66 55 *e*P **PKiKP** **08 18 36.2 +0.2**
GCUF Volcan Galeras 125.75 54 *e*P **PKPdf** **08 18 34.1 -1.7**
OTAV Otavalo 125.77 56 IAMs_20 IAMs_20 09 18 60.0
comp=Z,3μm,18.0s
OTAV Otavalo 125.77 56 *e*P **PKPdf** **08 18 34.0 -1.8**
OTAV Otavalo 125.77 56 *e*P **PKPdf** **08 18 32.1 -3.6**
BETC Betania 125.85 52 *e*P **PKPdf** **08 18 32.1 -3.4**
TULM Tulcn-Chalpat 125.85 55 *e*P **PKPdf** **08 18 34.6 -1.3**
GARC Garzon, Huila 126.20 52 *e*P **PKPdf** **08 18 35.4 -1.0**
BONI La Bonita 126.22 55 *e*P **PKPdf** **08 18 36.2 -0.2**
FLOC Florencia 126.56 53 *e*P **PKPdf** **08 18 35.4 -1.4**
PTGC Puerto Gaitan, 126.64 47 *e*P **PKPdf** **08 18 35.1 -1.8**
PIAT Ana Tenorio 126.81 57 *e*P **PKPdf** **08 18 37.2 -0.5**
QSPA South Pole Qui 127.21 180 IAMs_20 IAMs_20 09 13 00.1
comp=Z,3μm,20.0s
QSPA South Pole Qui 127.21 180 PKP **PKPdf** **08 18 34.5 -1.9**
comp=Z,52nm,1.0s,baz=286,slow=0.9,SNR=70
COHC Cochancay 127.22 59 *e*P **PKPdf** **08 18 37.0 -0.9**
MACC Macarena, Meta 127.25 50 *e*P **PKPdf** **08 18 36.3 -1.8**
TIC Toumodi 127.45 320⇑ *e*P **PKPdf** **08 18 37.8 -0.7**

comp=Z,33nm,0.9s
KIC Kosan Boka 127.55 319⇑ eP PKiKP 08 18 39.2 0.0
comp=Z,46nm,0.8s
LIC Lamto 127.81 320⇑ eP PKPdf 08 18 37.1 -2.0
comp=Z,55nm,0.8s
MCRA Macar, Loja 128.09 62 eP PKPdf 08 18 39.3 -0.4
PTLC Puerto Leguiza 128.19 53 eP PKPdf 08 18 39.3 -0.6
BOSA Boshof 128.69 261 PKhKP PKPpre 08 18 33.6
comp=Z,7.9nm,0.9s,baz=96,slow=3.1,SNR=9.4
BOSA PP PP 08 20 49.5 +2.5
comp=Z,18nm,1.1s,baz=51,slow=6.3,SNR=4.0
SGCB Sto Gabriel d 133.08 45 eP PKPdf 08 18 48.9 -0.2
SUR Sutherland 133.74 259 IAMs_20 IAMs_20 09 28 43.4
comp=Z,3μm,20.0s
BOAV Boa Vista 134.28 35 eP PKPdf 08 18 49.1 -2.2
BOAV Boa Vista 134.28 35 eP PKPdf 08 18 51.2 -0.1
ELIB Princess Elisa 134.59 202 dPKPdf PKPdf 08 18 49.2 -1.1
ELIB dPP PP 08 21 24.0 +0.1
ELIB dSKP 08 22 19.9
TBTG Tabatinga, AM 134.63 51 eP PKPdf 08 18 50.9 -1.1
TBTG Tabatinga, AM 134.63 51 eP PKPdf 08 18 50.8 -1.2
CZSB Cruzeiro do Su 135.49 58 eP PKPdf 08 18 51.2 -2.4
NNA Nana 135.56 66 IAMs_20 IAMs_20 09 18 59.3
comp=Z,3μm,19.0s
NNA Nana 135.56 66 eP PKPdf 08 18 53.0 -0.7
TEFE Tefe 137.21 45 eP PKPdf 08 18 57.6 +0.8
NVL N'lazarevskaya 138.46 202 ePKHKP PKPpre 08 18 40.1
MACA Manacapuru-AM 139.03 40 eP PKPdf 08 18 58.9 -1.3
BELA Belgrano 2 139.48 180 IAMs_20 IAMs_20 09 20 10.5
comp=Z,2μm,20.0s
MCPB Macapa, AP 140.21 26 eP PKPdf 08 19 01.6 -0.7
TROLL Troll, Antarti 140.28 198 ⇑PKPdf PKPdf 08 18 51.9 -8.9
comp=Z,1μm,0.7s
TROLL ⇑PP PP 08 22 01.4 +2.2
comp=Z,817nm,1.0s
MALB Monte Alegre 140.77 30 eP PKPdf 08 19 03.0 -0.3
SNAA Sanae 141.75 196 IAMs_20 IAMs_20 09 30 27.6
comp=Z,2μm,18.0s
SNAA Sanae 141.75 196 ⇑PKPdf PKPdf 08 18 55.7 -7.7
comp=Z,1μm,1.0s
SNAA ⇑PP PP 08 22 07.4 -0.7
comp=Z,877nm,1.3s
SNAA Sanae 141.75 196 PKhKP PKPpre 08 18 55.8
comp=Z,45nm,1.0s,baz=199,slow=6.1,SNR=72
SNAA PP PP 08 22 06.8 -1.3
comp=Z,117nm,1.3s,baz=123,slow=10,SNR=10.0
SAML Samuel 142.46 48 IAMs_20 IAMs_20 09 30 33.2
comp=Z,3μm,19.0s
SAML Samuel 142.46 48 eP PKPdf 08 19 01.7 -4.6
SAML Samuel 142.46 48 eP PKPdf 08 19 05.0 -1.3
VNA2 Neumayer--Watz 143.29 195 ⇑PKPdf PKPab 08 19 02.1 +0.1
comp=Z,89nm,0.6s,baz=122,slow=2.0
VNA2 ⇑PP PP 08 22 16.2 -1.1
comp=Z,17nm,0.8s,baz=137,slow=4.0
TMAB Tom-Au,PA,Br 143.34 21 eP PKPbc 08 19 05.9 +1.0
VNA3 Neumayer Olymp 143.50 194 ⇑PKPdf PKPab 08 19 02.7 -0.1
comp=Z,62nm,1.0s
VNA3 ⇑PP PP 08 22 19.3 +0.8
comp=Z,26nm,0.9s
VNA1 Neumayer--Stat 143.69 195 ⇑PKPdf PKPab 08 19 03.4 -0.1
comp=Z,268nm,0.9s
VNA1 ⇑PP PP 08 22 20.2 +0.6
comp=Z,36nm,1.3s
LPAZ La Paz 144.68 62 eP PKPab 08 19 09.1 -0.4
LPAZ La Paz 144.68 62 eP PKPbc 08 19 09.7 0.0
LPAZ La Paz 144.68 62 PKP PKPab 08 19 08.8 -0.8
comp=Z,27nm,0.8s,baz=304,slow=7.3,SNR=39
SMAI San Martin Ant 144.77 160 IAMs_20 IAMs_20 09 13 12.0
comp=Z,2μm,20.0s
ROSB Rosrio 144.80 14 eP PKPbc 08 19 09.7 +0.3
NPGB Novo Progresso 144.97 35 eP PKPab 08 19 09.2 -0.8
PRPB Paraua pebas 146.40 25 eP PKPdf 08 19 13.7 +0.5
VILB Vilhena 147.40 48 eP PKPdf 08 19 13.3 -1.5
PMSA Palmer Station 148.01 158 eP PKPdf 08 19 15.1 +0.9
LVC Limon Verde 148.08 72 IAMs_20 IAMs_20 09 15 28.3
comp=Z,3μm,20.0s
LVC Limon Verde 148.08 72 eP PKPdf 08 19 16.5 +0.3
CLDB Colider 148.09 39 eP PKPdf 08 19 14.6 -1.4
PDRB Porto dos Gac 148.24 41 eP PKPdf 08 19 17.0 +0.8
RCBR Riachuelo 148.51 360 IAMs_20 IAMs_20 09 25 10.5
comp=Z,3μm,22.0s
RCBR Riachuelo 148.51 360 eP PKPdf 08 19 16.5 -0.2
SMTB Santa Maria do 149.65 23 eP PKPdf 08 19 19.3 +0.8
PTLB Pontes e Lacer 149.99 49 eP PKPdf 08 19 19.3 +0.4
BBSD Serra de San D 150.38 54 eP PKPdf 08 19 20.3 +0.7
SNDB Serra Nova Dou 151.15 32 eP PKPdf 08 19 21.5 +0.7
BBRB Robore, Bolivi 151.70 54 eP PKPdf 08 19 21.7 +0.1
BO02 Sierra Bellavi 151.87 95 PKPdf 08 19 20.8 -0.6
MT13 San Alfonso 151.96 93 PKPdf 08 19 21.2 -0.4
MT13 IAMs_20 IAMs_20 09 23 42.6
comp=Z,3μm,19.0s
GO06 Curarrehue 152.27 105 IAMs_20 IAMs_20 09 18 16.5
comp=Z,3μm,20.0s
SALV Santo Antonio 152.34 44 eP PKPdf 08 19 22.9 +0.3
PLCA Paso Flores 153.09 108 eP PKPdf 08 19 22.9 -0.2
PLCA Paso Flores 153.09 108 PKP PKPdf 08 19 22.0 -1.0
comp=Z,18nm,1.2s,baz=229,slow=2.5,SNR=6.5
PLCA PKPbc PKPbc 08 19 30.4 0.0
comp=Z,16nm,0.9s,baz=260,slow=2.1,SNR=13
PLCA PKPab PKPab 08 19 41.4 -0.6
comp=Z,29nm,1.0s,baz=244,slow=7.0,SNR=8.5
SDBA SÃO DESIDERIO 153.80 20 eP PKPdf 08 19 24.8 0.0
PP1B Ponte de Pedra 154.17 45 eP PKPdf 08 19 25.2 +0.1
ARAG Araguaiana, MT 154.20 37 eP PKPdf 08 19 25.2 0.0
BDQN Bodoquena, MS 155.24 53 eP PKPdf 08 19 26.9 +0.3
MURT Porto Murtinho 155.56 56 eP PKPdf 08 19 26.9 -0.1
BDFB Brasilia 155.79 29 PKPdf 08 19 26.5 -1.0
BDFB Brasilia 155.79 29 PKIKP PKPdf 08 19 26.5 -1.0
BDFB Brasilia 155.79 29 PKP PKPdf 08 19 26.8 -0.8
comp=Z,11nm,1.0s,baz=17,slow=1.7,SNR=9.2
BDFB PP PP 08 23 29.8 -0.2
comp=Z,7.8nm,0.9s,baz=72,slow=13,SNR=3.2
AQDB Aquidauana 155.92 51 PKPdf 08 19 26.5 -1.0
AQDB Aquidauana 155.92 51 eP PKPdf 08 19 27.4 -0.1
C2SB Chapadao do Su 156.25 43 eP PKPdf 08 19 26.9 -1.0
JANB Januaria 156.49 21 eP PKPdf 08 19 28.1 -0.3
TICA Tres Isletas 156.60 69 eP PKPdf 08 19 27.8 -0.4
ANTJ Antonio Joao (156.85 54 eP PKPdf 08 19 28.8 +0.1
RPRD Ribas do Rio P 157.12 47 eP PKPdf 08 19 29.0 0.0
ESFA Espinillo Form 157.14 63 eP PKPdf 08 19 28.3 -0.6
IPMB Ipameri, GO 157.82 32 eP PKPdf 08 19 29.9 -0.1
AMBA Amambai (Brazi 158.16 54 eP PKPdf 08 19 30.2 -0.1
ITRB Iturama 158.32 39 eP PKPdf 08 19 29.9 -0.6
SCCA San Cayetano, 158.56 69 eP PKPdf 08 19 29.9 -0.6
CPUP Villa Florida 158.80 65 eP PKPdf 08 19 30.4 -0.5
CPUP Villa Florida 158.80 65 PKP PKPdf 08 19 29.4 -1.5
comp=Z,16nm,1.1s,baz=337,slow=1.9,SNR=11
CPUP PKPab PKPab 08 20 05.5 -1.3
comp=Z,39nm,1.3s,baz=336,slow=5.8,SNR=6.2
GUA01 Guaratinga, BA 158.93 10 eP PKPdf 08 19 30.7 -0.7
PMNB Patos De Minas 159.04 29 eP PKPdf 08 19 31.1 -0.4
TRQA Tornquist 159.46 100 IAMs_20 IAMs_20 09 48 01.1
comp=Z,3μm,20.0s
TRQA Tornquist 159.46 100 eP PKPdf 08 19 31.1 -0.3
TRCB Terra Rica 159.53 49 eP PKPdf 08 19 31.4 -0.6
DIAM Diamantina, MG 159.75 22 eP PKPdf 08 19 32.1 -0.4
MECA Mercedes 159.80 73 eP PKPdf 08 19 32.8 +0.8
MCR1 Marechal Candi 159.86 55 eP PKPdf 08 19 31.6 -0.6
BB19B Bebedouro 160.37 37 eP PKPdf 08 19 31.8 -1.1
ABR01 Abrolhos, BA 160.43 8 eP PKPdf 08 19 33.0 0.0
SJMB Sao Joao De Ma 160.76 15 eP PKPdf 08 19 33.3 -0.1
LDASE Londrina, Braz 160.88 47 eP PKPdf 08 19 33.0 -0.4
ITOB Itaqui 161.16 72 eP PKPdf 08 19 33.3 -0.2
PTGB Pitanga 161.30 52 eP PKPdf 08 19 33.3 -0.6
RIB01 Linhares ES 161.51 13 eP PKPdf 08 19 33.3 -0.9
FRBT Francisco Belt 161.54 57 eP PKPdf 08 19 33.3 -0.8
FRTB Fartura 161.72 43 eP PKPdf 08 19 34.0 -0.4
CRSM Crissiumal (Br 161.84 62 eP PKPdf 08 19 32.8 -1.5
BSCB Bom Sucesso 161.91 27 eP PKPdf 08 19 34.2 -0.4
RCLB Rio Claro- Sao 162.00 37 eP PKPdf 08 19 34.2 -0.5
UNIS Unistalda (Bra 162.00 68 eP PKPdf 08 19 34.2 -0.2
RODS Rosario do Sul 162.56 72 eP PKPdf 08 19 33.5 -1.4
ALF01 Guarapari-ES 162.72 15 eP PKPdf 08 19 35.1 -0.1
VAO Valinhos 162.77 36 eP PKPdf 08 19 35.1 -0.3
ITAB Concordia 163.00 58 eP PKPdf 08 19 35.4 0.0
ALGR Alto Alegre (B 163.34 64 eP PKPdf 08 19 35.4 -0.4
VAS01 Vassouras-RJ 163.56 25 eP PKPdf 08 19 35.9 -0.3
PARB Paraibuna 163.67 33 eP PKPdf 08 19 35.4 -0.9
PET01 Itanhaem-SP 163.70 40 eP PKPdf 08 19 35.4 -0.8
DUB01 Friburgo-RJ 163.71 22 eP PKPdf 08 19 35.6 -0.7
ESAR Angra dos Reis 163.87 29 eP PKPdf 08 19 35.9 -0.5
CPSB Cacapava Do Su 163.91 69 eP PKPdf 08 19 36.6 +0.4
PLTB Pedras Altas 164.43 74 eP PKPdf 08 19 36.8 +0.1
CNLB Canela 165.18 61 eP PKPdf 08 19 37.5 +0.1

JMA 06 08:01:31.0±0.1, 32°.7N±0°.3×130°.8E±0°.4, h6km±1km, MV0.9/10, SOUTHERN KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	Izumi3	0.13	164	eP	Pg	08 01 33.8	+0.1
JIU3				eS	Sg	08 01 36.0	+0.5

DJA 06 08:18:49.0±0.3, 10°.S±4°.×12°.4E±°, h10km, M4.0/10, mb4.1/6, MLv4.0/10, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	0.26	39	P	Pg	08 18 54.3	-0.1
BATI	Baumata	0.49	240	P	Pg	08 18 58.6	-0.1
MMRI	Maumere	2.26	305	P	Pn	08 19 27.5	+1.0
BASI	Baing, Sumba	3.48	265	P	Pn	08 19 43.3	+0.1
BKSI	Bulukumba	6.06	319	P	Pn	08 20 18.6	-0.2
5.3nm,0.9s,0.1nm							
PLAI	Plampang	6.34	280	P	Pn	08 20 23.0	+0.4
24nm,1.0s,0.2nm							
TWSI	Taliwang, Sumb	7.23	279	P	Pn	08 20 34.9	+0.1
27nm,1.3s,0.2nm							

*IDC **06** 08:25:15.0±1.1, 37°.41N×143°.90E, h0km, mb3.6/5, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=33.5km s-min=21.5km az=90.0*
*JMA **06** 08:25:20.2±0.2, 37°.5N±0°.7×14°.4E±°, h53km, MV3.8/30, FAR E OFF FUKUSHIMA PREF*
ISC 06 08:25:19.7±1.0, 37°.49N±0°.06×143°.91E±0°.07, h35km, n25, σ1§45/42, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakibou	2.10	294	P	Pn	08 25 52.6	+0.2
JIKH				S	Sn	08 26 16.3	-1.0
JIO	Ouri	2.25	296	P	Pn	08 25 54.9	+0.5
JIO				S	Sn	08 26 20.5	-0.4
JKMT	Kesennumamotoy	2.33	305	P	Pn	08 25 55.8	+0.2
JKMT				S	Sn	08 26 22.2	-0.8
OFUJ	Ofunato	2.38	313	P	Pn	08 25 56.4	+0.2
OFUJ				eS	Sn	08 26 23.1	-1.1
JMST	Minamisoumatoc	2.41	277	P	Pn	08 25 56.4	-0.3
JMST				eS	Sn	08 26 23.7	-1.3
JFK	Kawauchi	2.42	268	P	Pn	08 25 56.6	-0.2
JFK				eS	Sn	08 26 23.8	-1.5
JMK	Ichinoseki	2.58	305	eP	Pn	08 25 59.6	+0.7
JMK				S	Sn	08 26 28.5	-0.5
JOTO	OTAMA OYAMA	2.85	273	P	Pn	08 26 03.9	+1.2
JOTO				S	Sn	08 26 36.3	+0.6
JOM	Ohasama	2.86	315	P	Pn	08 26 03.6	+0.8
JOM				S	Sn	08 26 35.6	-0.4
JYK	Kaneyama	3.14	298	P	Pn	08 26 08.0	+1.3
JYK				eS	Sn	08 26 43.2	+0.1
JANG	Nango	3.44	328	P	Pn	08 26 12.1	+1.3
JRY	Ryogami san	4.28	251	P	Pn	08 26 22.1	-0.3
JRY				S	Sn	08 27 08.1	-3.1
JOD2	Odawara 2	4.48	242	P	Pn	08 26 24.7	-0.4
JOD2				S	Sn	08 27 12.4	-3.6
JOT	Ohata	4.48	331	eS	Sn	08 27 13.4	-2.6
MJAR	Matsushiro Arr	4.66	260	Pn	Pn	08 26 27.8	+0.2
0.9nm,0.3s,baz=117,slow=15,SNR=38							
MJAR				Sn	Sn	08 27 19.3	-1.2
0.4nm,0.3s,baz=89,slow=25,SNR=6.6							
5.1nm,0.4s							
JCH	Churui	5.14	355	P	Pn	08 26 34.0	-0.1
JCH				S	Sn	08 27 30.7	-1.6
NEM2	Nemuro 2	6.04	13	P	Pn	08 26 44.6	-1.9
NEM2				S	Sn	08 27 49.9	-4.4
JTKR	Abashiri--Toko	6.48	360	P	Pn	08 26 52.2	-0.3
JTKR				S	Sn	08 28 03.9	-1.3
ASAJ	Asahikawa	6.70	352	Pn	Pn	08 26 56.4	+0.9
2.7nm,0.3s,baz=216,slow=14,SNR=9.2							
ASAJ				Sn	Sn	08 28 08.6	-2.1
0.6nm,0.3s,baz=183,slow=18,SNR=1.5							
6.8nm,0.4s							
MKAR	Makanchi Array	45.57	302	P	P	08 33 35.3	-0.9
0.3nm,0.5s,baz=90,slow=8.6,SNR=2.2							
0.3nm,0.5s							
KURBB	Kurchatov Arra	47.30	308	P	P	08 33 51.0	+1.5
0.6nm,0.4s,baz=79,slow=7.9,SNR=3.1							
ILAR	Eielson Array	48.04	33	P	P	08 33 56.5	+1.4
0.6nm,0.8s,baz=251,slow=5.6,SNR=5.5							
0.6nm,0.8s							
WRA	Warramunga Arr	57.83	191	P	P	08 35 07.7	-0.1
0.7nm,0.4s,baz=8.7,slow=7.0,SNR=14							
0.7nm,0.4s							
ASAR	Alice Springs	61.55	190	P	P	08 35 33.5	+0.1
0.2nm,0.5s,baz=10.0,slow=7.6,SNR=5.2							
0.2nm,0.5s							
AKASG	Malin Array Be	75.14	323	P	P	08 36 58.7	+0.6
0.4nm,0.4s,baz=28,slow=0.9,SNR=1.2							
0.4nm,0.4s							

IDC 06 08:30:28.0±3.8, 53°.62N×87°.90E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=35.9km s-min=18.7km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.86	281	I	I	08 42 33.1	
baz=98,slow=335,SNR=11							
ZALV	Zalesovo Beam	1.86	281	Pg	Pn	08 31 01.6	+0.6
0.8nm,0.3s,baz=103,slow=16,SNR=6.2							
ZALV				Lg	Lg	08 31 26.6	
1.9nm,0.3s,baz=98,slow=23,SNR=10							
KURBB	Kurchatov Arra	6.50	246	Pn	Pn	08 32 06.0	+1.1
0.1nm,0.3s,baz=61,slow=14,SNR=2.0							
1.2nm,0.2s							
MKAR	Makanchi Array	7.72	210	Pn	Pn	08 32 22.4	+0.8
0.1nm,0.3s,baz=30,slow=16,SNR=1.7							
0.1nm,0.3s							

*IDC **06** 08:31:56.5±1.1, 37°.36N×143°.95E, h0km, mb3.8/6, mbtmp3.9/10, ML3.8/4, Error ellipse: s-maj=28.4km s-min=19.3km az=99.0*
*JMA **06** 08:32:00.6±0.2, 37°.5N±0°.7×14°.4E±°, h62km, MV4.0/31, FAR E OFF FUKUSHIMA PREF*
ISC 06 08:32:02.5±1.0, 37°.54N±0°.06×143°.79E±0°.08, h50km, n29, σ2§45/48, mb3.9/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakibou	2.00	293	P	Pn	08 32 33.3	-0.4
JIKH				S	Sn	08 32 57.3	-0.2
JIO	Ouri	2.14	296	P	Pn	08 32 35.4	-0.3
JIO				S	Sn	08 33 01.3	+0.3
JKMT	Kesennumamotoy	2.23	306	P	Pn	08 32 36.4	-0.4
JKMT				S	Sn	08 33 02.9	-0.3
OFUJ	Ofunato	2.27	313	*i* P	Pn	08 32 37.0	-0.6
OFUJ				S	Sn	08 33 03.8	-0.6
JMST	Minamisoumatoc	2.31	276	eP	Pn	08 32 37.1	-1.0
JMST				eS	Sn	08 33 04.6	-0.8
JFK	Kawauchi	2.33	267	P	Pn	08 32 37.4	-0.9
JFK				eS	Sn	08 33 04.9	-0.9
JMK	Ichinoseki	2.47	306	eP	Pn	08 32 40.0	-0.2
JOTO	OTAMA OYAMA	2.75	272	eP	Pn	08 32 44.2	+0.2
JOTO				eS	Sn	08 33 17.0	+0.9
JOM	Ohasama	2.75	315	P	Pn	08 32 44.0	-0.1
JOM				S	Sn	08 33 16.7	+0.5
JYK	Kaneyama	3.04	298	P	Pn	08 32 48.4	+0.5
JYK				eS	Sn	08 33 24.4	+1.3
JANG	Nango	3.34	329	P	Pn	08 32 51.9	-0.4
JANG				eS	Sn	08 33 30.2	-0.5
JRY	Ryogami san	4.21	250	P	Pn	08 33 03.1	-1.0
JRY				eS	Sn	08 33 48.9	-3.1
JOT	Ohata	4.39	332	P	Pn	08 33 06.8	+0.3
JOD2	Odawara 2	4.42	241	eP	Pn	08 33 05.8	-1.2
JOD2				eS	Sn	08 33 53.9	-3.3
MJAR	Matsushiro Arr	4.58	259	Pn	Pn	08 33 08.5	-0.6
0.9nm,0.3s,baz=90,slow=15,SNR=29							
MJAR				Sn	Sn	08 34 02.4	+1.4
0.3nm,0.3s,baz=79,slow=32,SNR=4.8							
2.6nm,0.3s							
JCH	Churui	5.08	356	P	Pn	08 33 14.5	-1.6
JCH				S	Sn	08 34 09.4	-4.0
JHJ	Hachijo jima 2	5.49	218	Pn	Pn	08 33 18.7	-3.0
7.6nm,0.3s,baz=63,slow=12,SNR=1.7							
JHJ				Sn	Sn	08 34 14.8	-8.7
12nm,0.3s,baz=73,slow=19,SNR=1.6							
227nm,0.9s							
NEM2	Nemuro 2	6.01	14	eP	Pn	08 33 25.1	-3.6
NEM2				eS	Sn	08 34 29.5	-6.6
JHR	Hokuryu	6.40	346	eP	Pn	08 33 34.9	+0.9
JHR				eS	Sn	08 34 46.3	+0.7
JTKR	Abashiri--Toko	6.43	1	P	Pn	08 33 32.6	-1.9
JTKR				eS	Sn	08 34 41.1	-5.3
ASAJ	Asahikawa	6.64	353	Pn	Pn	08 33 36.5	-0.8
3.9nm,0.3s,baz=192,slow=12,SNR=18							
ASAJ				Sn	Sn	08 34 48.1	-3.4
0.9nm,0.3s,baz=252,slow=20,SNR=1.8							
8.3nm,0.3s							
USRK	Ussuriysk Ar.	11.14	310	Pn	Pn	08 34 36.1	-2.9
0.3nm,0.3s,baz=108,slow=14,SNR=1.8							
KLR	Kul'dur	14.58	327	Pn	P	08 35 29.1	-1.9
0.2nm,0.3s,baz=297,slow=24,SNR=1.9							
1.8nm,0.7s							
KURBB	Kurchatov Arra	47.19	308	P	P	08 40 32.2	+2.3
0.9nm,0.3s,baz=80,slow=8.2,SNR=1.9							
0.9nm,0.3s							
ILAR	Eielson Array	48.05	33	P	P	08 40 38.1	+1.7
0.8nm,0.8s,baz=267,slow=5.8,SNR=6.5							
0.8nm,0.8s							
BVAR	Borovoye Array	51.64	312	P	P	08 41 06.3	+2.5
0.6nm,0.4s,baz=72,slow=9.3,SNR=2.2							
0.6nm,0.4s							
WRA	Warramunga Arr	57.86	191	P	P	08 41 48.8	-0.3
0.4nm,0.4s,baz=8.6,slow=7.1,SNR=10.0							
0.4nm,0.4s							
ASAR	Alice Springs	61.58	190	P	P	08 42 14.7	0.0
0.3nm,0.7s,baz=4.1,slow=6.5,SNR=1.9							
0.3nm,0.7s							
NOA	NORSAR Array B	74.44	338	P	P	08 43 37.0	+2.0
1.3nm,0.8s,baz=38,slow=7.3,SNR=2.1							
1.3nm,0.8s							

DJA 06 08:34:06.5±0.3, 1°.S±4°.×12°.0E±°, h10km, M3.7/7, mB5.9/1, MLv3.7/7, Mw(mB)5.5/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.85	356	P	Pg	08 34 22.1	-0.9
MRSI	Marisa	2.21	63	P	Pn	08 34 42.9	-0.4
TTSI	Tana Toraja	2.51	183	P	Pn	08 34 46.8	-0.6
SMKI	Samarinda	2.75	272	P	Pn	08 34 50.9	+0.2
LUWI	Luwuk	2.86	100	P	Pn	08 34 51.9	-0.3
MTKI	Muara Teweh, K	5.08	265	P	Pn	08 35 22.7	-0.1

*NEIC **06** 08:41:40.2±2.8, 19°.41N±0°.02×156°.32W±0°.03, h10km±2km, Error ellipse: s-maj=4.6km s-min=3.4km az=63.0*
HVO 06 08:41:44.4±2.9, 19°.38N±0°.02×156°.22W±0°.03, h14km±4km, ML2.9/28, ML2.9/48(NEIC), Error ellipse: s-maj=4.8km s-min=2.4km az=70.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	Captain Cook	0.30	69		Pb	08 41 51.5	-0.1
KHLU	Kahalu`u	0.37	56		Pg	08 41 52.1	+0.2
KHLU					Sg	08 41 57.6	+0.5
KHLU	Kahalu`u	0.37	56	IAML		08 41 57.9	
comp=E,502nm,1.8s							
KHLU				IAML		08 41 58.0	
comp=N,526nm,0.1s							
HUH	Hualalai	0.47	50		Sg	08 42 00.6	+0.3
HUH	Hualalai	0.47	50	Pg	Pg	08 41 53.3	-0.5
HUH	Hualalai	0.47	50	IAML		08 42 03.1	
comp=N,555nm,0.1s							
HUH				IAML		08 42 10.6	
comp=E,391nm,1.3s							
ALEP	Alea Permanent	0.57	74		Pg	08 41 54.9	-0.8
ALEP					Sg	08 42 02.6	-0.6
KHU	Kahuku	0.59	103		Pg	08 41 54.8	-1.2
KHU					Sg	08 42 02.8	-1.0
KHU	Kahuku	0.59	103	IAML		08 42 03.1	
comp=E,679nm,1.0s							
MWH	Moku'aweowe	0.60	80	IAML		08 42 08.6	
comp=E,537nm,0.7s							
MWH				IAML		08 42 10.9	
comp=N,646nm,0.2s							
MWH	Moku'aweowe	0.60	80		Pg	08 41 54.9	-1.3
MWH					Sg	08 42 02.9	-1.4
MLOA	Mauna Loa Obse	0.63	76		Pg	08 41 55.4	-1.4
MLOA	Mauna Loa Obse	0.63	76	Sg	Sg	08 42 02.7	-2.5
MLOA				IAML		08 42 03.6	
comp=E,836nm,0.1s							
MLOA				IAML		08 42 03.6	
comp=N,2μm,0.2s							
AIN	Ainahou	0.72	91		Pg	08 41 56.4	-2.1
AIN	Ainahou	0.72	91	Sg	Sg	08 42 05.2	-2.8
AIN				IAML		08 42 05.9	
comp=N,1μm,0.2s							
AIN				IAML		08 42 06.1	
comp=E,760nm,0.1s							
HMH	Humu'ula Sheep	0.73	72		Pg	08 41 56.8	-1.8
HMH					Sg	08 42 06.1	-2.3
HMH	Humu'ula Sheep	0.73	72	IAML		08 42 06.9	
comp=E,629nm,0.6s							
POHA	Pohakuloa	0.75	60		Pg	08 41 56.8	-2.2
POHA	Pohakuloa	0.75	60	IAML		08 42 05.9	
comp=E,497nm,0.2s							
POHA				IAML		08 42 07.0	
comp=E,694nm,0.2s							
HTC	Hot Caves	0.79	100		Pg	08 41 57.2	-2.5
MLH	Mauna Loa	0.80	82		Pg	08 41 57.4	-2.5
MLH	Mauna Loa	0.80	82	IAML		08 42 08.1	
comp=E,560nm,0.4s							
HPAH	Hawaii Prepara	0.81	37		Pg	08 41 57.3	-2.9
HPAH	Hawaii Prepara	0.81	37	IAML		08 42 07.0	
comp=N,280nm,0.2s							
HPAH				IAML		08 42 07.0	
comp=E,422nm,0.3s							
MHA	Mahukona	0.86	20		Pg	08 41 58.2	-2.8
HLP	Hilina Pali	0.87	95		Pg	08 41 58.2	-2.9
HLP	Hilina Pali	0.87	95	IAML		08 42 14.3	
comp=N,533nm,1.0s							
WRMHI	West Rim	0.87	88		Pg	08 41 58.1	-3.2
WRMHI					Sg	08 42 08.3	-4.4
WRMHI	West Rim	0.87	88	IAML		08 42 09.1	
comp=N,552nm,0.5s							
SDHHI	Sand Hill	0.88	89		Pg	08 41 58.2	-3.2
SDHHI					Sg	08 42 08.4	-4.5
UWE	Uwekahuna	0.88	87		Pg	08 41 58.2	-3.2
UWE					Sg	08 42 08.9	-4.1
UWE	Uwekahuna	0.88	87	IAML		08 42 28.0	
comp=N,471nm,2.8s							
OBL	Observatory Le	0.89	87		Pg	08 41 58.2	-3.3
OBL					Sg	08 42 09.1	-4.1
OBL	Observatory Le	0.89	87	IAML		08 42 20.6	
comp=N,541nm,0.4s							
NPH	North Pit	0.89	88		Pg	08 41 58.2	-3.4
UWB	Uwekahuna B	0.89	87		Pg	08 41 58.2	-3.5
UWB	Uwekahuna B	0.89	87	IAML		08 42 05.8	
comp=N,147nm,4.1s							
UWB				IAML		08 42 13.6	
comp=E,167nm,3.0s							
RIM	Rim	0

comp=N,301nm,0.3s
WMR Waimanalo Ridg 2.37 325 Pn 08 42 18.5 -4.3

IDC 06 08:56:56.9±3.9, 53°.66N×88°.05E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=35.4km s-min=18.9km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**280**	I	I	09 09 12.9	
	baz=96,slow=335,SNR=6.4						
ZALV	**Zalesovo Beam**	**1.94**	**280**	Pg	Pn	08 57 31.9	+0.8
	1.2nm,0.3s,baz=98,slow=15,SNR=11						
ZALV				Lg	Lg	08 57 58.9	
	1.7nm,0.3s,baz=107,slow=25,SNR=14						
KURBB	**Kurchatov Arra**	**6.60**	**246**	Pn	Pn	08 58 35.0	-0.1
	0.1nm,0.3s,baz=66,slow=16,SNR=1.8						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**7.80**	**211**	Pn	Pn	08 58 53.4	+1.8
	0.1nm,0.3s,baz=30,slow=12,SNR=2.4						
MKAR				Lg	Lg	09 01 02.4	
	0.1nm,0.3s,baz=30,slow=30,SNR=2.4						
	0.1nm,0.3s						

---

*IDC **06** 09:02:16.8±0.8, 10°.03S×152°.28E, h0km, mb4.1/8, mbtmp4.1/12, ML3.8/3, Error ellipse: s-maj=26.1km s-min=17.3km az=104.0*
*NEIC **06** 09:02:19.0±2.3, 9°.97S±0°.09×152°.21E±0°.05, h10km±2km, mb4.1/14, Error ellipse: s-maj=15.8km s-min=8.7km az=347.0*
ISC 06 09:02:18.1±0.6, 10°.02S±0°.06×152°.24E±0°.08, h10km, n33, σ1§21/36, mb4.1/9, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**277**	Pn	**Pn**	**09 03 33.2**	**-0.7**
PMG	**Port Moresby**	**5.04**	**277**	Pn	**Pn**	**09 03 33.6**	**-0.3**
	9.2nm,0.8s,baz=295,slow=14,SNR=1.8						
PMG				Sn	**Sn**	**09 04 35.2**	**+2.9**
	0.9nm,0.3s,baz=74,slow=23,SNR=1.2						
KRVT	**Keravat (AS076**	**5.68**	**358**	Pn	**Pn**	**09 03 42.7**	**+0.1**
	2.8nm,0.3s,baz=277,slow=23,SNR=2.1						
KRVT				Sn	**Sn**	**09 04 46.1**	**-1.9**
	8.3nm,0.3s,baz=200,slow=2.2,SNR=5.0						
	16nm,0.4s						
RABL	**Rabaul**	**5.79**	**359**	Pn	**Pn**	**09 03 43.5**	**-0.8**
CTA	**Charters Tower**	**11.55**	**209**	Pn	**Pn**	**09 05 01.8**	**-1.5**
	0.6nm,0.3s,baz=28,slow=15,SNR=8.3						
CTA				Sn	**Sn**	**09 07 08.2**	**-4.3**
	0.4nm,0.3s,baz=124,slow=20,SNR=1.8						
	2.7nm,0.6s						
CTAO	**Charters Tower**	**11.55**	**209**	Pn	**Pn**	**09 05 03.1**	**-0.2**
EIDS	**Eidsvold**	**15.30**	**184**	Pn	**Pn**	**09 05 55.4**	**+1.0**
EIDS				IAmb	IAmb	09 06 07.0	
	comp=Z,5.7nm,0.8s						
WR0	**Warramunga Arr**	**19.73**	**238**	P	**Pn**	**09 06 49.7**	**+0.1**
WR0				IAmb	IAmb	09 06 52.1	
	comp=Z,14nm,0.9s						
WB0	**Warramunga Arr**	**19.76**	**239**	P	**Pn**	**09 06 49.8**	**-0.2**
WB0				IAmb	IAmb	09 06 52.6	
	comp=Z,12nm,1.1s						
WRAB	**Tennant Creek**	**19.87**	**238**	P	**Pn**	**09 06 50.6**	**-0.7**
WRAB				IAmb	IAmb	09 06 52.5	
	comp=Z,12nm,1.1s						
WB2	**Warramunga Arr**	**19.88**	**238**	P	**Pn**	**09 06 50.8**	**-0.6**
WB2				IAmb	IAmb	09 06 52.7	
	comp=Z,7.4nm,1.0s						
WRA	**Warramunga Arr**	**19.89**	**238**	P	**P**	**09 06 50.2**	**+0.3**
WRA	**Warramunga Arr**	**19.89**	**238**	P	**Pn**	**09 06 51.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=63,slow=10,SNR=16						
	comp=Z,10.0nm,1.0s						
AS31	**Alice Springs**	**22.14**	**230**	P	**P**	**09 07 13.6**	**-0.6**
ASAR	**Alice Springs**	**22.14**	**230**	P	**P**	**09 07 14.6**	**+0.3**
ASAR	**Alice Springs**	**22.14**	**230**	P	**P**	**09 07 15.2**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=65,slow=8.7,SNR=53						
	comp=Z,3.7nm,0.7s						
TARA	**Tarawa**	**23.49**	**62**	P	**P**	**09 07 27.6**	**-0.8**
KNRA	**Kununurra**	**23.56**	**254**	P	**P**	**09 07 29.1**	**+0.2**
KNRA				IAmb	IAmb	09 07 35.5	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**23.88**	**203**	P	**P**	**09 07 32.3**	**+0.3**
STKA	**Stephens Creek**	**23.88**	**203**	P	**P**	**09 07 31.9**	**-0.1**
	comp=Z,4.6nm,0.6s,baz=29,slow=15,SNR=13						
	comp=Z,4.6nm,0.6s						
BBOO	**Buckleboo**	**27.15**	**211**	P	**P**	**09 08 01.5**	**-0.2**
FORT	**Forrest**	**30.53**	**224**	P	**P**	**09 08 33.0**	**+1.1**
TUWZ	**Tuamarina**	**36.67**	**152**	P	**P**	**09 09 26.6**	**+1.5**
VNDA	**Vanda**	**67.67**	**178**	P	**P**	**09 13 15.8**	**+0.7**
	baz=317,slow=8.8						
SONM	**Songino Array**	**70.45**	**329**	P	**P**	**09 13 32.3**	**-0.6**
SONM				IAmb	IAmb	09 13 35.2	
	comp=Z,2.3nm,1.1s						
SONM	**Songino Array**	**70.45**	**329**	P	**P**	**09 13 34.7**	**+1.8**
	comp=Z,1.2nm,0.9s,baz=134,slow=7.2,SNR=5.7						
	comp=Z,1.2nm,0.9s						
QSPA	**South Pole Qui**	**79.97**	**180**	P	**P**	**09 14 28.0**	**+0.5**
QSPA				IAmb	IAmb	09 14 32.0	
	comp=Z,2.7nm,1.1s						
QSPA	**South Pole Qui**	**79.97**	**180**	P	**P**	**09 14 27.4**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=357,slow=12,SNR=6.3						
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**83.89**	**320**	P	**P**	**09 14 48.6**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=96,slow=6.1,SNR=5.6						
	comp=Z,0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**85.17**	**327**	P	**P**	**09 14 53.8**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=107,slow=7.7,SNR=6.8						
	comp=Z,3.0nm,0.7s						
ILAR	**Eielson Array**	**87.18**	**22**	P	**P**	**09 15 03.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=252,slow=5.4,SNR=7.0						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**95.72**	**52**	P	**P**	**09 15 45.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=270,slow=4.5,SNR=3.9						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.99**	**279**	PKPbc	**PKPbc**	**09 22 12.3**	**0.0**
	comp=Z,1.2nm,1.0s,baz=77,slow=2.7,SNR=4.7						

---

*SOME **06** 09:04:51.7, 43°.72N×69°.65E*
*KRNET **06** 09:04:52.3±0.1, 43°.54N×69°.57E, mb2.6*
*NNC **06** 09:04:54.8±3.9, 43°.57N×69°.75E, h0km, mb4.1, mpv2.8, Error ellipse: s-maj=22.7km s-min=13.3km az=125.0, Suspected Mining explosion.*
ISC 06 09:04:51.7±4.4, 43°.7N±0°.1×69°.8E±0°.2, h0km, n5, σ1§31/10, 4C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKAR	**Karatay Array**	**0.78**	**135⇑**	*i*P	**Pg**	**09 05 07.9**	**+1.2**
	baz=22						
KKAR				⇑*i*S	**Sb**	**09 05 19.5**	**+0.2**
	baz=22						
MNAS	**Manas**	**2.33**	**119⇑**	*e*P	**Pb**	**09 05 35.0**	**+0.3**
	baz=15						
MNAS				⇑*i*S	**Sb**	**09 06 06.2**	**+2.1**
	baz=15						
TRKS	**Terek-Say**	**2.36**	**154⇓**	*e*P	**Pb**	**09 05 35.1**	**-0.1**
	baz=50						
TRKS				⇓*e*S	**Sg**	**09 06 06.0**	**-1.4**
	baz=50						
ARK	**Arkit**	**2.47**	**138⇓**	*i*P	**Pb**	**09 05 36.0**	**-1.0**
	baz=34						
ARK				⇓*i*S	**Sb**	**09 06 07.7**	**-0.3**
	baz=34						
EKS2	**Erkin-Say**	**3.11**	**107⇓**	*e*P	**Pb**	**09 05 46.4**	**-1.5**
	baz=4.0						
EKS2				⇓*i*S	**Sb**	**09 06 26.0**	**-0.4**
	baz=4.0						

NNC 06 09:05:36.3±4.2, 51°.64N×75°.43E, h0km, mb4.1, mpv2.5, Error ellipse: s-maj=189.8km s-min=27.0km az=26.0, Suspected Mining explosion., Eastern Kazakhstan

---

NNC 06 09:16:28.9±2.4, 51°.81N×75°.58E, h0km, mb3.5, Error ellipse: s-maj=131.2km s-min=13.7km az=27.0, Suspected Mining explosion., Eastern Kazakhstan

---

JMA 06 09:18:38.2±0.3, 37°.5N±0°.9×14°.4E±°, h44km, MV3.6/27, FAR E OFF FUKUSHIMA PREF, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.01**	**295**	P	Pn	09 19 11.0	+1.3
JIKH				*e*S	Sn	09 19 34.9	+1.2
JIO	**Ouri**	**2.16**	**297**	P	Pn	09 19 13.1	+1.4
JIO				S	Sn	09 19 38.9	+1.7
JKMT	**Kesennumamotoy**	**2.25**	**307**	*e*P	Pn	09 19 14.1	+1.1
JKMT				S	Sn	09 19 40.4	+0.8
OFUJ	**Ofunato**	**2.31**	**314**	P	Pn	09 19 14.7	+0.9
OFUJ				S	Sn	09 19 41.7	+0.8
JMST	**Minamisoumatoc**	**2.32**	**277**	P	Pn	09 19 14.7	+0.9
JMST				*e*S	Sn	09 19 42.2	+1.1
JFK	**Kawauchi**	**2.32**	**268**	P	Pn	09 19 15.1	+1.0
JFK				S	Sn	09 19 42.6	+1.2
JMK	**Ichinoseki**	**2.50**	**307**	P	Pn	09 19 18.6	+2.2
JOTO	**OTAMA OYAMA**	**2.75**	**273**	P	Pn	09 19 22.0	+2.2
JOTO				S	Sn	09 19 54.7	+2.9
JOM	**Ohasama**	**2.79**	**316**	P	Pn	09 19 22.0	+1.7
JOM				S	Sn	09 19 54.3	+1.5
JYK	**Kaneyama**	**3.06**	**299**	P	Pn	09 19 26.4	+2.3
JANG	**Nango**	**3.38**	**329**	*e*P	Pn	09 19 30.1	+1.5
JRY	**Ryogami san**	**4.19**	**251**	P	Pn	09 19 40.9	+1.2
JOT	**Ohata**	**4.43**	**332**	*e*P	Pn	09 19 45.2	+2.3
JCH	**Churui**	**5.13**	**356**	P	Pn	09 19 52.0	-0.6
JCH				*e*S	Sn	09 20 47.4	-3.1
JTKR	**Abashiri--Toko**	**6.48**	**1**	P	Pn	09 20 10.3	-0.7
JTKR				*e*S	Sn	09 21 18.9	-4.6

JMA 06 09:18:58.3±0.5, 38°N±1°×14°4E±°, h51km, MV3.5/19, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.06**	**293**	P	Pn	09 19 31.6	+1.3
JKMT	**Kesennumamotoy**	**2.28**	**305**	*e*P	Pn	09 19 34.7	+1.3
JKMT				*e*S	Sn	09 20 01.0	+0.6
JOTO	**OTAMA OYAMA**	**2.81**	**272**	*e*P	Pn	09 19 42.9	+2.1
JOTO				*e*S	Sn	09 20 15.6	+2.1
JRY	**Ryogami san**	**4.27**	**251**	P	Pn	09 20 01.5	+0.7
JRY				*e*S	Sn	09 20 47.7	-1.6
JCH	**Churui**	**5.09**	**356**	*e*P	Pn	09 20 12.2	+0.3
JCH				*e*S	Sn	09 21 07.4	-1.9
NEM2	**Nemuro 2**	**5.99**	**13**	*e*P	Pn	09 20 22.8	-1.5
NEM2				*e*S	Sn	09 21 28.0	-3.6
JTKR	**Abashiri--Toko**	**6.43**	**0**	*e*P	Pn	09 20 30.7	+0.4
JTKR				*e*S	Sn	09 21 39.4	-2.8

---

*NORS **06** 09:23:36.6±0.0, 42°.94N×45°.87E, h33km, MPVA3.5*
*MOS **06** 09:23:37.2±0.0, 42°.96N×45°.90E, h21km, MPVA3.3*
*TIF **06** 09:23:38.0, 42°.97N×45°.78E, h24km±1km*
*DRS **06** 09:23:39.0±0.0, 42°.99N×45°.77E, h18km*
ISC 06 09:23:38.2±0.9, 42°.97N±0°.04×45°.85E±0°.02, h24km±7km, n20, σ1§04/40, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.20**	**95**	*i*Pg	**Pb**	**09 23 43.9**	**+0.1**
DVE				*e*Sg	**Sb**	**09 23 49.0**	**+1.3**
GROC	**Groznyy**	**0.23**	**350**	*e*Pg	**Pb**	**09 23 43.8**	**-0.4**
GROC				*e*Sg	**Sb**	**09 23 47.5**	**-0.8**
BTLR	**Botlikh**	**0.41**	**139**	*e*Pg	**Pb**	**09 23 47.1**	**+0.1**
BTLR				*e*Sg	**Sb**	**09 23 53.3**	**+0.4**
DLMR	**Dylym**	**0.58**	**80**	*e*Pg	**Pb**	**09 23 48.9**	**-0.8**
DLMR				*e*Sg	**Sn**	**09 23 58.6**	**-1.2**
SHTL	**Shatili**	**0.60**	**239**	*e*Pg	**Pb**	**09 23 49.8**	**-0.5**
SHTL				*e*Sg	**Sb**	**09 23 58.2**	**-0.3**
SHTL	**Shatili**	**0.60**	**239**	P	**Pb**	**09 23 49.8**	**-0.5**
SHTL				S	**Sb**	**09 23 58.2**	**-0.3**
DBC	**Dubki**	**0.72**	**86**	*e*Pg	**Pb**	**09 23 51.9**	**-0.2**
DBC				*e*Sg	**Sn**	**09 24 02.0**	**-1.3**
UNCR	**Uncukul**	**0.74**	**110**	*e*Pg	**Pb**	**09 23 52.4**	**-0.1**
UNCR				*e*Sg	**Sn**	**09 24 02.8**	**-1.0**
KRNR	**Karanay**	**0.79**	**100**	*e*Pg	**Pb**	**09 23 53.1**	**-0.2**
KRNR				*e*Sg	**Sn**	**09 24 04.1**	**-1.0**
ARKR	**Arakani**	**0.92**	**113**	*e*Pg	**Pn**	**09 23 55.6**	**-0.1**
ARKR				*e*Sg	**Sn**	**09 24 08.5**	**+0.3**
GNBR	**Gunib**	**1.01**	**125**	*e*Pg	**Pb**	**09 23 57.2**	**+0.2**
GNBR				*e*Sg	**Sn**	**09 24 11.1**	**+0.7**
MTEO	**Meteo**	**1.01**	**254**	P	**Pn**	**09 23 56.4**	**-1.0**
MTEO				S	**Sb**	**09 24 09.7**	**-0.8**
TRKR	**Terskaya**	**1.11**	**313**	*e*Pg	**Pb**	**09 24 00.6**	**+1.9**
TRKR				*e*Sg	**Sn**	**09 24 16.4**	**+3.6**
LACR	**Lac**	**1.15**	**263**	*e*Pg	**Pn**	**09 23 58.0**	**-1.0**
LACR				*e*Sg	**Sb**	**09 24 14.4**	**+0.3**
LGD	**Lagodekhi**	**1.17**	**166**	*e*Pg	**Pb**	**09 24 00.1**	**+0.3**
LGD				*e*Sg	**Sb**	**09 24 16.2**	**+1.6**
LGD	**Lagodekhi**	**1.17**	**166**	P	**Pb**	**09 24 00.1**	**+0.3**
LGD				S	**Sb**	**09 24 16.2**	**+1.6**
KMKR	**Kumukh**	**1.25**	**132**	*e*Pg	**Pb**	**09 24 01.0**	**-0.2**
KMKR				*e*Sg	**Sb**	**09 24 18.1**	**+1.2**
ALIG	**Mtskhetisjvari**	**1.85**	**243**	*e*Pg	**Pb**	**09 24 10.7**	**-0.6**
ALIG				*e*Sg	**Sb**	**09 24 34.6**	**+0.6**
ALIG	**Mtskhetisjvari**	**1.85**	**243**	P	**Pb**	**09 24 10.7**	**-0.6**
ALIG				S	**Sb**	**09 24 34.6**	**+0.6**
KBZ	**Khabaz**	**2.28**	**290**	*e*Pn	**Pn**	**09 24 14.8**	**+0.4**
KBZ				*e*Sn	**Sb**	**09 24 45.2**	**-1.3**

---

*DJA **06** 09:23:40.6±1.0, 0°S±4°×12°0E±°, h13km±10km, M4.7/12, mb4.7/6, mB5.1/2, MLv4.8/12, Mw(mB)4.4/2*
*NEIC **06** 09:23:45.0±1.8, 0°.52S±0°.06×119°.93E±0°.06, h41km±11km, mb4.4/13, Error ellipse: s-maj=10.3km s-min=6.4km az=135.0*
*IDC **06** 09:23:47.4±3.1, 0°.64S×120°.05E, h68km±31km, mb3.8/13, mbtmp4.1/14, ML4.3/1, MS4.2/8, Error ellipse: s-maj=29.3km s-min=13.6km az=68.0*
ISC 06 09:23:40.6±0.5, 0°.61S±0°.05×119°.90E±0°.08, h10km, n56, σ1§80/55, mb4.4/25, MS4.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.94**	**360**	P	**Pg**	**09 23 56.3**	**-2.5**
TOLI2	**Tolitoli**	**1.93**	**27**	Pn	**Pn**	**09 24 13.6**	**+0.1**
MRSI	**Marisa**	**2.31**	**62**	P	**Pn**	**09 24 16.4**	**-2.3**
TTSI	**Tana Toraja**	**2.42**	**182**	P	**Pb**	**09 24 22.7**	**-1.5**
LUWI	**Luwuk**	**2.90**	**98**		**Pn**	**09 24 29.6**	**+2.7**
LUWI	**Luwuk**	**2.90**	**98**	P	**Pn**	**09 24 28.2**	**+1.3**
KAPI	**Kappang**	**4.38**	**182**	Pn	**Pn**	**09 24 50.5**	**+3.3**
KAPI	**Kappang**	**4.38**	**182**	P	**Pn**	**09 24 49.5**	**+2.4**
	15nm,0.3s,baz=311,slow=8.8,SNR=16						
KAPI				S	**Sn**	**09 25 42.2**	**+4.0**
	52nm,0.6s,baz=136,slow=3.0,SNR=3.6						
KAPI				LR	LR	09 26 32.9	
	comp=Z,555nm,19.4s,baz=342,slow=38						
	45nm,0.4s						
BKSI	**Bulukumba**	**4.68**	**177**	P	**Pn**	**09 24 53.0**	**+1.6**
MTKI	**Muara Teweh, K**	**5.01**	**266**	P	**Pn**	**09 24 54.4**	**-1.5**
MYLDM	**Lahad Datu**	**5.92**	**346**	Pn	**Pn**	**09 25 10.0**	**+1.6**
KKM	**Kota Kinabalu**	**7.57**	**331**	Pn	**Pn**	**09 25 32.0**	**+0.8**
LBMI	**Labuha**	**7.60**	**90**	P	**Pn**	**09 25 32.2**	**+0.7**
	46nm,1.4s,0.5nm						
NLAI	**Namlea**	**7.66**	**110**	P	**Pn**	**09 25 32.8**	**+0.6**
	30nm,0.8s,0.1nm						
SRBI	**Singaraja**	**8.77**	**212**	P	**Pn**	**09 25 46.5**	**-1.1**
	43nm,1.2s						
DAV	**Davao City (W)**	**9.51**	**37**	LR	LR	09 29 24.1	
	comp=Z,795nm,19.0s,baz=288,slow=36						
WB0	**Warramunga Arr**	**23.75**	**144**	P	**P**	**09 28 52.5**	**-0.8**
WB0				IAmb	IAmb	09 29 00.7	
	comp=Z,19nm,1.3s						
WRAB	**Tennant Creek**	**23.85**	**145**	P	**P**	**09 28 54.5**	**+0.2**
WRAB				IAmb	IAmb	09 29 02.4	
	comp=Z,13nm,1.0s						
WRA	**Warramunga Arr**	**23.85**	**145**	P	**P**	**09 28 53.4**	**-1.0**
WRA	**Warramunga Arr**	**23.85**	**145**	P	**P**	**09 28 53.0**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=325,slow=10,SNR=21						
	comp=Z,3.0nm,0.8s						
WB2	**Warramunga Arr**	**23.86**	**145**	P	**P**	**09 28 53.4**	**-1.0**
WB2				IAmb	IAmb	09 29 02.4	
	comp=Z,12nm,0.9s						
WR0	**Warramunga Arr**	**23.98**	**144**	P	**P**	**09 28 54.7**	**-0.9**
WR0				IAmb	IAmb	09 29 05.2	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**26.64**	**150**	P	**P**	**09 29 20.2**	**+0.5**
ASAR	**Alice Springs**	**26.64**	**150**	P	**P**	**09 29 19.2**	**-0.6**
ASAR	**Alice Springs**	**26.64**	**150**	P	**P**	**09 29 20.9**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=345,slow=15,SNR=11						
ASAR				LR	LR	09 40 47.4	
	comp=Z,496nm,19.5s,baz=334,slow=38						
	comp=Z,0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.99**	**314**	P	**P**	**09 29 32.2**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=133,slow=6.8,SNR=5.0						
CMAR				LR	LR	09 41 12.0	
	comp=Z,217nm,19.9s,baz=110,slow=37						
	comp=Z,0.6nm,0.3s						
PZH	**PanZhiHua**	**32.14**	**328**	P	**P**	**09 30 11.3**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
STKA	**Stephens Creek**	**37.25**	**149**	P	**P**	**09 30 52.7**	**+0.1**
STKA	**Stephens Creek**	**37.25**	**149**	P	**P**	**09 30 49.9**	**-2.7**
	comp=Z,2.0nm,0.8s,baz=316,slow=11,SNR=2.1						
	comp=Z,2.0nm,0.8s						
KSRS	**Korea Array**	**38.60**	**10**	P	**P**	**09 31 03.1**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=187,slow=10.0,SNR=3.6						
	comp=Z,1.7nm,0.9s						
MJAR	**Matsushiro Arr**	**40.69**	**23**	P	**P**	**09 31 21.0**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=200,slow=9.1,SNR=2.5						
	comp=Z,1.3nm,0.6s						
HHC	**Hu-ho-hao-te**	**41.96**	**351**	*e*P	**P**	**09 31 33.5**	**+1.6**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,5.1s						
XLT	**XiLinHaoTe**	**44.45**	**356**	*e*P	P	09 31 56.5	+4.6
XLT				pP	sP	09 32 03.0	+6.5
XLT				sP	pP	09 32 05.4	+10
XLT				PcP	**PP**	**09 33 40.2**	**+4.5**
XLT				PP	**PP**	**09 33 41.7**	**+6.0**
XLT				ScP	**ScP**	**09 37 27.2**	**-0.7**
XLT				PcS	**PcS**	**09 37 29.8**	**+1.0**
USRK	**Ussuriysk Ar.**	**45.90**	**12**	P	**P**	**09 32 03.2**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=191,slow=6.6,SNR=4.9						
	comp=Z,3.2nm,0.8s						
HEH	**HeiHe**	**51.08**	**6**	*e*P	**P**	**09 32 42.6**	**-0.6**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WMQ	**Urumqi**	**52.76**	**331**	*e*P	**P**	**09 32 54.2**	**-1.8**
WMQ				pP	sP	09 33 08.9	+8.3
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KSH	**Kashi**	**56.61**	**320**	P	P	09 33 31.6	+7.6
KSH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MK31	**Makanchi Array**	**57.55**	**330**	P	**P**	**09 33 28.9**	**-1.5**
MK31				IAmb	IAmb	09 33 36.5	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**57.55**	**330**	P	**P**	**09 33 28.7**	**-1.7**
MKAR	**Makanchi Array**	**57.55**	**330**	P	**P**	**09 33 31.6**	**+1.2**
	comp=Z,3.5nm,1.0s,baz=134,slow=7.9,SNR=12						
	comp=Z,3.5nm,1.0s						
MAKZ	**Makanchi**	**57.72**	**330**	P	**P**	**09 33 29.9**	**-1.7**
MAKZ				IAmb	IAmb	09 33 39.3	
	comp=Z,2.5nm,0.7s						
ZAA0	**Zalesovo Array**	**61.63**	**337**	P	**P**	**09 33 57.7**	**-0.7**
ZAA0				IAmb	IAmb	09 34 00.5	
	comp=Z,3.8nm,0.9s						
ZALV	**Zalesovo Beam**	**61.63**	**337**	P	**P**	**09 33 57.3**	**-1.1**
ZALV	**Zalesovo Beam**	**61.63**	**337**	P	**P**	**09 33 58.0**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=148,slow=8.5,SNR=5.9						
	comp=Z,1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**61.98**	**332**	P	**P**	**09 34 00.8**	**0.0**
	comp=Z,2.6nm,1.0s,baz=144,slow=6.3,SNR=8.0						
	comp=Z,2.6nm,1.0s						
KURK	**Kurchatov**	**62.00**	**332**	P	**P**	**09 34 01.8**	**+0.9**
KKAR	**Karatay Array**	**62.00**	**321**	P	**P**	**09 34 00.1**	**-1.1**
BVAR	**Borovoye Array**	**67.44**	**330**	P	**P**	**09 34 37.1**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=137,slow=8.9,SNR=11						
	comp=Z,3.3nm,0.8s						
BRVK	**Borovoye**	**67.51**	**330**	P	**P**	**09 34 36.5**	**-0.3**
ABKAR	**Akbulak array**	**71.34**	**323**	P	**P**	**09 35 00.6**	**0.0**
AKTO	**Aktyubinsk**	**72.95**	**324**	P	**P**	**09 35 10.1**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=121,slow=3.5,SNR=8.4						
	comp=Z,3.8nm,0.7s						
VNDA	**Vanda**	**80.09**	**172**	P	**P**	**09 35 48.6**	**-1.6**
MMAI	**Mount Meron Ar**	**85.71**	**303**	LR	LR	10 22 17.2	
	comp=Z,238nm,18.2s,baz=171,slow=41						
EIL	**Elat**	**85.91**	**300**	LR	LR	10 22 45.9	
	comp=Z,354nm,18.5s,baz=244,slow=41						
BRTR	**Keskin Array B**	**87.50**	**310**	P	**P**	**09 36 28.0**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=134,slow=6.2,SNR=4.5						
BRTR				LR	LR	10 24 01.4	
	comp=Z,212nm,18.3s,baz=222,slow=41						
	comp=Z,1.0nm,0.9s						
HFS	**Hagfors**	**98.56**	**331**	LR	LR	10 25 32.7	
	comp=Z,241nm,18.9s,baz=212,slow=38						

NNC 06 09:28:22.5±1.5, 51°.55N×75°.45E, h0km, mb3.9, mpv3.3, Error ellipse: s-maj=25.5km s-min=9.5km az=25.0, Suspected Mining explosion., Eastern Kazakhstan

---

IDC 06 09:30:08.6±3.4, 54°.39N×86°.45E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=25.0km s-min=16.1km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**246**	I	I	09 35 02.1	
	baz=65,slow=338,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.05**	**246**	Pg	Pg	09 30 27.3	-1.4
	1.2nm,0.3s,baz=65,slow=16,SNR=9.6						
ZALV				Lg	Lg	09 30 44.1	
	2.3nm,0.3s,baz=65,slow=28

URLA			*i* AML	AML	09 40 08.0		
	comp=N,126nm,0.6s						
URLA			*i* AML	AML	09 40 08.0		
	comp=E,157nm,0.6s						
ZEYE	**Izmir, Urla-Ze**	**0.41 290**	P	Pg	09 40 00.2	+0.8	
ZEYE			S	Sg	09 40 04.3	-0.5	
ZEYE			*i* AML	AML	09 40 07.0		
	comp=N,82nm,0.7s						
ZEYE			*i* AML	AML	09 40 10.0		
	comp=E,52nm,0.5s						
BDRM	**Kayabasi**	**1.10 161**	P	Pg	09 40 12.5	0.0	
BDRM			S	Sg	09 40 15.8	-11	
BDRM			*i* AML	AML	09 40 29.0		
	comp=E,4.8nm,0.6s						

ISK 06 09:40:07.6, 36°97N×27°62E, h20km±1km, ML1.1/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.10**	**76**	Pg	Pb	09 40 11.9	-1.9
RFTAA				Sg	Sb	09 40 14.8	-3.4
DAT	**Datca**	**0.25**	**188**	Pg	Pb	09 40 13.8	0.0
RFTC	**Emecik-Datca**	**0.25**	**141**	Pg	Pb	09 40 14.1	+0.4
RFTC				Sg	Sb	09 40 18.6	+0.8
BODT	**Bodrum**	**0.27**	**290**	Pg	Pb	09 40 14.4	+0.5
BODT				Sg	Sb	09 40 18.8	+0.6
RFTD	**Palamutbuku-Ka**	**0.31**	**199**	Pg	Pb	09 40 14.1	-0.3
MLSB	**Milas**	**0.34**	**21**	Pg	Pb	09 40 15.2	+0.2
MLSB				Sg	Sb	09 40 21.2	+1.2
TURN	**Turunc**	**0.54**	**111**	Pg	Pb	09 40 18.6	+0.3
TURN				Sg	Sb	09 40 26.9	+1.3

*IDC **06** 09:43:26.8±1.9, 9°68S×125°00E, h0km, mb3.9/1, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=39.6km s-min=33.0km az=39.0*
*DJA **06** 09:43:31.9±0.3, 10°S±4°×12°5E±°, h10km, M4.3/8, mb4.4/5, mB5.0/1, MLv4.2/8, Mw(mB)4.4/1*
ISC 06 09:43:25.0±1.3, 9°9S±0°1×125°12E±0°10, h10km, n11, σ1°60/12, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.85**	**279**	P	**Pg**	**09 43 39.0**	**-2.5**
BATI	**Baumata**	**1.47**	**257**	P	**Pn**	**09 43 52.9**	**+1.2**
BATI	**Baumata**	**1.47**	**257**	Pg	**Pb**	**09 43 53.3**	**+0.7**
	115nm,0.3s,baz=292,slow=8.2,SNR=47						
BATI				Lg	Lg	09 44 08.7	
	78nm,0.3s,baz=124,slow=23,SNR=5.3						
MMRI	**Maumere**	**3.10**	**293**	P	**Pn**	**09 44 14.3**	**+0.2**
BASI	**Baing, Sumba**	**4.49**	**265**	P	**Pn**	**09 44 33.8**	**+0.7**
PLAI	**Plampang**	**7.32**	**278**	P	**Pn**	**09 45 12.7**	**+0.5**
	30nm,1.0s,0.2nm						
TWSI	**Taliwang, Sumb**	**8.21**	**277**	P	**Pn**	**09 45 25.4**	**+1.1**
	34nm,1.4s,0.1nm						
FAKI	**Fak Fak**	**9.90**	**46**	P	Pn	09 45 59.2	+12
WRA	**Warramunga Arr**	**13.38**	**139**	Pn	**P**	**09 46 42.2**	**-2.6**
	0.5nm,0.3s,baz=311,slow=14,SNR=29						
WRA				Sn	**Sn**	**09 49 04.8**	**+0.6**
	0.2nm,0.3s,baz=320,slow=5.2,SNR=3.8						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**16.07**	**150**	Pn	**P**	**09 47 16.2**	**+1.6**
	0.8nm,0.6s,baz=328,slow=12,SNR=1.9						
ASAR				Sn	**Sn**	**09 50 09.2**	**-0.5**
	baz=313,slow=22,SNR=3.1						
MKAR	**Makanchi Array**	**68.12**	**330**	P	**P**	**09 54 27.1**	**+1.8**
	0.9nm,0.8s,baz=133,slow=8.0,SNR=4.1						
	0.9nm,0.8s						

IDC 06 09:46:49.5±4.5, 53°58N×90°90E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=45.6km s-min=29.0km az=41.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.63**	**278**	I	I	10 12 39.9	
	0.1nm,1.3s,baz=90,slow=336,SNR=4.6						
ZALV	**Zalesovo Beam**	**3.63**	**278**	Pn	Pn	09 47 48.7	+1.9
	0.5nm,0.3s,baz=96,slow=16,SNR=4.4						
ZALV				Lg	Lg	09 48 42.8	
	0.5nm,0.3s,baz=95,slow=27,SNR=5.3						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**8.17**	**254**	Pn	Pn	09 48 49.1	-0.1
	baz=64,slow=14,SNR=2.7						
KURBB				Lg	Lg	09 51 09.4	
	baz=71,slow=32						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**8.75**	**223**	Pn	Pn	09 48 57.6	+0.4
	0.1nm,0.3s,baz=19,slow=14,SNR=2.0						
	0.1nm,0.3s						
I34MN	**SONGINO INFRAS**	**11.40**	**114**	I	I	10 52 40.0	
	baz=310,slow=326,SNR=3.1						

*NEIC **06** 09:57:59.3±0.9, 23°73S±0°08×175°29W±0°09, h10km±1km, mb4.4/12, Error ellipse: s-maj=18.0km s-min=7.4km az=131.0*
*IDC **06** 09:58:00.9±0.7, 23°53S×175°98W, h0km, mb4.1/9, mbtmp4.1/9, MS3.8/1, Error ellipse: s-maj=28.1km s-min=22.9km az=118.0*
ISC 06 09:58:02.7±0.7, 23°80S±0°09×175°9W±0°1, h10km, n42, σ1°58/30, mb4.4/15, 3C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.27**	**51**	Pn	Pn	09 59 39.1	-10
MSVF	**Nonsavu**	**8.28**	**316**	Pn	**Pn**	**10 00 03.2**	**+0.2**
MSVF	**Nonsavu**	**8.28**	**316**	Pn	Pn	10 00 08.7	+5.7
	1.1nm,0.3s,baz=123,slow=11,SNR=6.8						
MSVF				LR	LR	10 02 59.8	
	comp=Z,675nm,21.1s,baz=84,slow=37						
AFI	**Afiamalu**	**10.58**	**22**	Pn	Pn	10 00 27.4	-7.0
AFI	**Afiamalu**	**10.58**	**22**	Pn	Pn	10 00 27.9	-6.6
	3.1nm,0.3s,baz=126,slow=2.5,SNR=4.5						
AFI				Sn	Sn	10 02 15.7	-17
	1.9nm,0.3s,baz=83,slow=21,SNR=3.6						
RAR	**Rarotonga**	**15.11**	**83**	Pn	Pn	10 01 25.8	-11
RAR	**Rarotonga**	**15.11**	**83**	Pn	Pn	10 01 27.1	-9.3
	6.1nm,0.3s,baz=261,slow=12,SNR=11						
URZ	**Urewera**	**15.60**	**201**	Pn	**P**	**10 01 48.8**	**+1.8**
	0.8nm,0.3s,baz=173,slow=15,SNR=1.8						
URZ				Sn	**Sn**	**10 04 29.5**	**-6.2**
	0.4nm,0.3s,baz=79,slow=22,SNR=1.6						
BKZ	**Black Stump Fm**	**16.63**	**201**	P	**Pn**	**10 01 57.0**	**+1.0**
BKZ				IAmb	IAmb	10 02 22.1	
	comp=Z,13nm,1.1s						
ARMA	**Armidale**	**29.59**	**250**	P	**P**	**10 04 08.9**	**+0.7**
CTAO	**Charters Tower**	**35.24**	**269**	P	**P**	**10 04 58.2**	**+0.5**
CTAO				IAmb	IAmb	10 05 03.5	
	comp=Z,5.3nm,0.7s						
AS31	**Alice Springs**	**45.76**	**260**	P	**P**	**10 06 24.7**	**0.0**
ASAR	**Alice Springs**	**45.76**	**260**	P	**P**	**10 06 25.3**	**+0.6**
ASAR	**Alice Springs**	**45.76**	**260**	P	**P**	**10 06 24.5**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=99,slow=7.5,SNR=8.4						
	comp=Z,1.1nm,0.9s						
WR0	**Warramunga Arr**	**45.98**	**265**	P	**P**	**10 06 26.4**	**0.0**
WR0				IAmb	IAmb	10 06 29.6	
	comp=Z,4.0nm,1.1s						
WB2	**Warramunga Arr**	**46.16**	**265**	P	**P**	**10 06 27.5**	**-0.3**
WB2				IAmb	IAmb	10 06 38.8	
	comp=Z,3.3nm,0.7s						
WRAB	**Tennant Creek**	**46.16**	**265**	P	**P**	**10 06 26.8**	**-1.1**
WRAB				IAmb	IAmb	10 06 34.8	
	comp=Z,4.0nm,0.9s						
WB0	**Warramunga Arr**	**46.16**	**265**	P	**P**	**10 06 28.0**	**+0.1**
WRA	**Warramunga Arr**	**46.17**	**265**	P	**P**	**10 06 27.6**	**-0.3**
WRA	**Warramunga Arr**	**46.17**	**265**	P	**P**	**10 06 26.6**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=94,slow=8.3,SNR=17						
	comp=Z,1.4nm,0.7s						
CASY	**Casey**	**61.85**	**206**	P	**P**	**10 08 22.0**	**+0.2**
CASY				IAmb	IAmb	10 08 24.4	
	comp=Z,3.1nm,0.8s						
QSPA	**South Pole Qui**	**66.28**	**180**	P	P	10 08 46.9	-4.2
QSPA	**South Pole Qui**	**66.28**	**180**	P	**P**	**10 08 53.4**	**+2.3**
	comp=Z,4.7nm,0.6s,baz=63,slow=0.6,SNR=34						
	comp=Z,4.7nm,0.6s						
MAW	**Mawson**	**79.13**	**199**	P	**P**	**10 10 04.9**	**-2.3**
MAW	**Mawson**	**79.13**	**199**	P	**P**	**10 10 08.5**	**+1.3**
	comp=Z,2.3nm,0.6s,baz=135,slow=5.8,SNR=6.6						
	comp=Z,2.3nm,0.6s						
PETK	**Petropavlovsk-**	**79.96**	**344**	P	**P**	**10 10 11.3**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=118,slow=8.3,SNR=2.5						
	comp=Z,2.7nm,0.8s						
NVAR	**Mina Array Bea**	**82.11**	**42**	P	**P**	**10 10 22.6**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=221,slow=6.7,SNR=3.0						
	comp=Z,0.5nm,0.7s						
H03S2	**Juan Fernandez**	**82.53**	**124**	T	T	11 42 09.5	
	baz=245,slow=75,SNR=8.2						
H03S1	**Juan Fernandez**	**82.54**	**124**	T	T	11 42 09.4	
	baz=245,slow=75,SNR=7.2						
H03S3	**Juan Fernandez**	**82.55**	**124**	T	T	11 42 09.3	
	baz=245,slow=75,SNR=8.8						
H03N2	**Juan Fernandez**	**82.68**	**123**	T	T	11 42 00.6	
	baz=251,slow=72,SNR=9.8						
H03N3	**Juan Fernandez**	**82.68**	**123**	T	T	11 41 54.5	
	baz=251,slow=72,SNR=9.5						
H03N1	**Juan Fernandez**	**82.70**	**123**	T	T	11 42 02.5	
	baz=251,slow=72,SNR=8.1						
TROLL	**Troll, Antarti**	**84.44**	**180**	⇑P	**P**	**10 10 36.6**	**+1.3**
	comp=Z,150nm,0.7s						
SNAA	**Sanae**	**84.66**	**178**	⇑P	**P**	**10 10 37.2**	**+0.8**
	comp=Z,39nm,0.8s						
SNAA	**Sanae**	**84.66**	**178**	P	**P**	**10 10 36.7**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=205,slow=18,SNR=6.3						
	comp=Z,1.7nm,0.9s						
VNA2	**Neumayer--Watz**	**85.19**	**176**	⇑P	**P**	**10 10 39.6**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=181,slow=3.0						
TXAR	**Lajitas Array**	**87.21**	**56**	P	**P**	**10 10 49.1**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=215,slow=7.7,SNR=25						
	comp=Z,1.6nm,0.7s						
ILAR	**Eielson Array**	**91.10**	**12**	P	**P**	**10 11 06.1**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=217,slow=7.4,SNR=1.4						
	comp=Z,0.2nm,0.7s						
AKASG	**Malin Array Be**	**146.84**	**330**	PKPbc	**PKPdf**	**10 17 42.4**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=40,slow=3.8,SNR=9.1						
BRTR	**Keskin Array B**	**150.47**	**310**	PKPbc	**PKPbc**	**10 17 54.1**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=107,slow=3.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**169.16**	**167**	PKPab	**PKPab**	**10 19 23.3**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=188,slow=3.9,SNR=3.6						

ROM 06 10:02:51.9±0.1, 42°836N×0°003×13°039E±0°004, h11km, ML1.3/11, 2C-3D, Error ellipse: s-maj=0.3km s-min=0.3km az=57.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.06**	**92**	P	Pg	10 02 54.1	-0.1
NRCA				S	Sg	10 02 56.1	+0.2
FEMA	**Monte Fema**	**0.13**	**3**	P	Pg	10 02 55.8	+0.6
FEMA				S	Sg	10 02 57.9	+0.5
MC2	**Monte Cornacci**	**0.14**	**55**	P	Pg	10 02 55.8	+0.5
MC2				S	Sg	10 02 58.3	+0.6
T1221	**Campello sul C**	**0.14**	**280**	⇑P	Pg	10 02 55.9	+0.6
T1221				S	Sg	10 02 58.6	+0.9
T1221				AML	AML		
	comp=E,89μm,0.1s						
T1221				AML	AML		
	comp=E,107μm,0.1s						
T1214	**Arquata del Tr**	**0.15**	**121**	P	Pg	10 02 55.9	+0.5
T1214				S	Sg	10 02 58.5	+0.6
CESI	**CESI - Serrava**	**0.20**	**330**	P	Pg	10 02 56.7	+0.6
CESI				S	Sg	10 02 59.9	+0.8
CESI				AML	AML		
	comp=E,68μm,1.1s						
CESI				AML	AML		
	comp=N,86μm,0.6s						
CESI				AML	AML		
	comp=E,68μm,1.1s						
CESI				AML	AML		
	comp=N,86μm,0.6s						
CESI				AML	AML		
	comp=E,46μm,0.2s						
CESI				AML	AML		
	comp=N,85μm,0.2s						
FDMO	**Fordimonte**	**0.20**	**10**	P	Pg	10 02 56.5	+0.2
FDMO				S	Sg	10 03 00.3	+1.0
MMO1	**Montemonaco**	**0.22**	**73**	⇓P	Pg	10 02 57.2	+0.6
MMO1				S	Sg	10 03 00.7	+0.9
LNSS	**Leonessa**	**0.23**	**180**	P	Pg	10 02 57.5	+0.7
LNSS				S	Sg	10 03 01.1	+1.0
LNSS				AML	AML		
	comp=E,96μm,1.4s						
LNSS				AML	AML		
	comp=N,128μm,0.1s						
CSP1	**Cessapalombo**	**0.28**	**25**	⇑P	Pg	10 02 58.4	+0.7
CSP1				S	Sb	10 03 02.9	-1.0
CSP1				AML	AML		
	comp=E,54μm,1.2s						
CSP1				AML	AML		
	comp=N,69μm,1.4s						
CSP1				AML	AML		
	comp=E,53μm,0.4s						
CSP1				AML	AML		
	comp=N,55μm,0.1s						
MF5	**Montefalcone A**	**0.34**	**64**	P	Pb	10 02 59.6	-0.5
MF5				AML	AML		
	comp=E,70μm,0.2s						
ASSB	**Assisi San Ben**	**0.35**	**307**	P	Pg	10 02 59.1	+0.3
ASSB				S	Sg	10 03 04.6	+1.1
RM33	**Pellescritta (**	**0.35**	**158**	⇓P	Pb	10 02 59.7	-0.6
RM33				S	Sb	10 03 04.7	-1.1
FOSV	**Fossato di Vic**	**0.50**	**336**	⇓P	Pg	10 03 00.3	-1.5
ARVD	**Arcevia**	**0.67**	**354**	P	Pg	10 03 01.9	-3.0
ARVD				AML	AML		
	comp=E,24μm,1.5s						
ARVD				AML	AML		
	comp=N,24μm,1.5s						

KRSZO 06 10:05:17.7±1.1, 48°87N×20°50E, h0km, ML1.9/7, Error ellipse: s-maj=4.6km s-min=4.2km az=144.0, Explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.39**	**182**	Pg	Pg	10 05 25.9	+0.8
	comp=Z,54nm,SNR=10						
KECS				Lg	Lg	10 05 31.2	
KECS	**Kecovo**	**0.39**	**182**	*e*PG	Pg	10 05 25.9	+0.8
KECS				*e*SG	Sg	10 05 31.4	+1.3
CRVS	**Cervenica-Dubn**	**0.63**	**87**	Pg	Pg	10 05 30.5	+0.7
	comp=Z,1.7nm,SNR=2.0						
CRVS				Lg	Lg	10 05 38.9	
CRVS	**Cervenica-Dubn**	**0.63**	**87**	*e*PG	Pg	10 05 30.6	+0.8
CRVS				*e*SG	Sg	10 05 38.8	+0.8
STHS	**Stebnicka Huta**	**0.73**	**41**	Pg	Pg	10 05 31.5	-0.2
	comp=Z,8.8nm,SNR=3.4						
STHS	**Stebnicka Huta**	**0.73**	**41**	*e*PG	Pg	10 05 31.5	-0.2
LANS	**Liptovska Anna**	**0.74**	**293**	Lg	Lg	10 05 43.9	
LANS	**Liptovska Anna**	**0.74**	**293**	*e*PG	Pb	10 05 32.8	-0.7
LANS				*e*SG	Sb	10 05 43.2	-0.9
ABAH	**Abaujker**	**0.75**	**139**	x	x	10 05 35.1	
	comp=Z,9.8nm,SNR=1.7						
ABAH				Lg	Lg	10 05 43.9	
PSZ	**Piszkesteto**	**1.03**	**203**	Pg	Pn	10 05 39.4	-0.1
	comp=Z,6.9nm,SNR=2.3						
PSZ				Lg	Lg	10 05 53.7	
VYHS	**Vyhne**	**1.17**	**252**	Pg	Pn	10 05 41.9	+0.6
	comp=Z,1.0nm,SNR=2.5						
VYHS				Lg	Lg	10 05 56.5	
VYHS	**Vyhne**	**1.17**	**252**	*e*PG	Pn	10 05 41.3	0.0
VYHS				*e*SG	Sg	10 05 55.5	+0.3
KOLS	**Kolonicke sedl**	**1.17**	**86**	Pn	Pn	10 05 41.1	-0.2
	comp=Z,1μm,SNR=5.6						
KOLS	**Kolonicke sedl**	**1.17**	**86**	*e*PG	Pn	10 05 41.1	-0.3
OJC	**Ojcow**	**1.43**	**342**	Pg	Pb	10 05 46.6	+1.4
	comp=Z,6.8nm,SNR=1.4						
OJC				Lg	Lg	10 06 03.3	

AFAD 06 10:08:32.4±0.0, 37°30N×28°53E, h5km±4km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MULA	**Mugla, Merkez-**	**0.17**	**256**	P	Pg	10 08 36.7	+0.9
MULA				S	Sg	10 08 39.1	+1.1
MULA				*i* AML	AML	10 08 41.0	
	comp=N,167nm,0.6s						
MULA				*i* AML	AML	10 08 44.0	
	comp=E,235nm,0.4s						
MULA	**Mugla, Merkez-**	**0.17**	**256**	P	Pg	10 08 35.0	-0.7
MULA				S	Sg	10 08 40.8	+2.8
MULA				*i* AML	AML	10 08 41.0	
	comp=N,167nm,0.6s						
MULA				*i* AML	AML	10 08 44.0	
	comp=E,235nm,0.4s						
TURN	**Turunc**	**0.57**	**203**	P	Pg	10 08 43.2	-0.1
TURN				S	Sb	10 08 53.1	-0.1
TURN				*i* AML	AML	10 08 54.0	
	comp=E,27nm,0.3s						
TURN				*i* AML	AML	10 08 57.0	
	comp=N,31nm,0.4s						
TURN	**Turunc**	**0.57**	**203**	P	Pg	10 08 42.4	-0.9
TURN				S	Sb	10 08 53.1	-0.1
TURN				*i* AML	AML	10 08 54.0	
	comp=E,27nm,0.3s						
TURN				*i* AML	AML	10 08 57.0	
	comp=N,31nm,0.4s						
DAT	**Datca**	**0.95**	**233**	P	Pn	10 08 53.1	+0.6
DAT				S	Sg	10 09 02.9	0.0
DAT				*i* AML	AML	10 09 10.0	
	comp=N,14nm,0.4s						
DAT				*i* AML	AML	10 09 10.0	
	comp=E,7.0nm,0.3s						
DAT	**Datca**	**0.95**	**233**	P	Pn	10 08 53.9	+1.4
DAT				S	Sg	10 09 02.9	0.0
DAT				*i* AML	AML	10 09 14.0	
	comp=E,6.1nm,0.4s						
DAT				*i* AML	AML	10 09 20.0	
	comp=N,5.2nm,0.4s						

*NEIC **06** 10:11:55.3±2.3, 16°45N±0°04×95°09W±0°03, h10km±1km, mb4.1/9, Md4.5/28(MEX), Error ellipse: s-maj=6.1km s-min=4.7km az=22.0*
*MEX **06** 10:12:00.0±0.7, 16°46N×95°18W, h82km±8km, MD4.4*
ISC 06 10:11:58.4±0.9, 16°48N±0°03×95°15W±0°02, h81km±9km, n69, σ2°13/112, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.52**	**81**	*e*P	**Pn**	**10 12 12.3**	**-0.1**
NILT				*e*S	**Sn**	**10 12 22.6**	**-0.2**
HUIG	**Huatulco**	**1.16**	**232**		**Pn**	**10 12 18.5**	**-1.0**
HUIG					**Sn**	**10 12 34.6**	**-0.7**
HUIG	**Huatulco**	**1.16**	**232**	*e*P	**Pn**	**10 12 18.5**	**-1.0**
HUIG				*e*S	**Sn**	**10 12 34.7**	**-0.6**
CARR	**Arriaga**	**1.21**	**101**	*e*P	**Pn**	**10 12 20.6**	**+0.5**
CARR				*e*S	**Sn**	**10 12 36.3**	**-0.1**
NEUV	**Arroyo Zacate**	**1.37**	**333**	*i* P	**Pn**	**10 12 22.5**	**+0.3**
NEUV				*i* S	**Sn**	**10 12 40.4**	**+0.5**
PANG	**Puerto Angel**	**1.51**	**238**		**Pn**	**10 12 22.2**	**-1.7**
PANG					**Sn**	**10 12 41.4**	**-1.7**
PANG	**Puerto Angel**	**1.51**	**238**	*e*P	**Pn**	**10 12 22.2**	**-1.7**
PANG				*e*S	**Sn**	**10 12 41.4**	**-1.7**
OXLC	**Oaxaca**	**1.59**	**291**	*i* P	**Pn**	**10 12 26.9**	**+1.7**
OXLC				*e*S	**Sn**	**10 12 47.4**	**+2.0**
OXBJ	**Oaxaca**	**1.61**	**291**		**Pn**	**10 12 27.2**	**+1.8**
OXBJ					**Sn**	**10 12 47.2**	**+1.3**
OXBJ	**Oaxaca**	**1.61**	**291**	*i* P	**Pn**	**10 12 27.2**	**+1.8**
OXBJ				*e*S	**Sn**	**10 12 47.2**	**+1.3**
OXIG	**Oaxaca**	**1.62**	**291**		**Pn**	**10 12 27.4**	**+1.8**
OXIG					**Sn**	**10 12 47.3**	**+1.2**
VHO	**Vista Hermosa**	**1.62**	**291**	*i* P	**Pn**	**10 12 27.3**	**+1.8**
VHO				*e*S	**Sn**	**10 12 47.7**	**+1.6**
TUIG	**Tuzandepetl**	**1.69**	**24**	*e*P	**Pn**	**10 12 26.7**	**+0.4**
TUIG				*e*S	**Sn**	**10 12 47.6**	**+0.2**
TGIG		**1.97**	**81**	*e*P	**Pn**	**10 12 30.5**	**+0.5**
TGIG				*e*S	**Sn**	**10 12 52.7**	**-1.3**
PEIG	**Puerto Escondi**	**1.98**	**256**	*e*P	**Pn**	**10 12 29.0**	**-1.1**
PEIG				*e*S	**Sn**	**10 12 50.6**	**-3.6**
TGBT	**Tuxtla Gutierr**	**2.00**	**81**		**Pn**	**10 12 31.6**	**+1.3**
TGBT	**Tuxtla Gutierr**	**2.00**	**81**	*i* P	**Pn**	**10 12 31.6**	**+1.3**
TGBT				*e*S	**Sn**	**10 12 54.4**	**-0.2**
PCIG		**2.01**	**112**		**Pn**	**10 12 31.3**	**+0.8**
PCIG					**Sn**	**10 12 55.2**	**+0.2**
PCIG		**2.01**	**112**	*i* P	**Pn**	**10 12 31.3**	**+0.8**
PCIG				*i* S	**Sn**	**10 12 55.2**	**+0.2**
PMUV	**Sontecomapan**	**2.05**	**1**	*i* P	**Pn**	**10 12 30.5**	**-0.6**
PMUV				*e*S	**Sn**	**10 12 52.2**	**-3.8**
YOIG	**Yosondua**	**2.32**	**280**	*e*P	**Pn**	**10 12 35.9**	**+1.0**
YOIG				*e*S	**Sn**	**10 13 02.1**	**-0.7**
TOIG	**Toxpalan**	**2.43**	**312**	*e*P	**Pn**	**10 12 38.4**	**+2.2**
TOIG				*e*S	**Sn**	**10 12 59.4**	**-5.8**
TXIG	**Tlaxiaco**	**2.62**	**287**	*i* P	**Pn**	**10 12 40.7**	**+1.8**
TXIG				*e*S	**Sn**	**10 13 10.3**	**+0.4**
TPIG	**Tehuac#an**	**2.85**	**313**	*i* P	**Pn**	**10 12 44.4**	**+2.4**
TPIG				*e*S	**Sn**	**10 13 07.8**	**-7.7**
PNIG	**Pinotepa**	**2.86**	**269**		**Pn**	**10 12 41.5**	**-0.4**
PNIG	**Pinotepa**	**2.86**	**269**	*i* P	**Pn**	**10 12 41.5**	**-0.4**
PNIG				*e*S	**Sn**	**10 13 12.1**	**-3.2**
HLIG	**Huajuapan de L**	**2.87**	**298**	*i* P	**Pn**	**10 12 44.3**	**+2.1**
HLIG				*i* S	**Sn**	**10 13 15.9**	**0.0**
CCIG	**Comitan**	**2.90**	**94**	Pn	**Pn**	**10 12 41.6**	**-0.9**
CCIG	**Comitan**	**2.90**	**94**	*e*P	**Pn**	**10 12 43.2**	**+0.6**
CCIG				*e*S	**Sn**	**10 13 13.6**	**-3.1**
PATR	**El Naranjo**	**3.12**	**115**	*e*P	**Pn**	**10 12 46.7**	**+1.0**
PATR				*e*S	**Sn**	**10 13 22.2**	**+0.1**
PAVE	**Pavencul**	**3.14**	**114**	*i* P	**Pn**	**10 12 47.5**	**+1.7**
PAVE				*e*S	**Sn**	**10 13 23.2**	**+0.8**
FTIG	**Fresnillo de T**	**3.18**	**297**	*e*P	**Pn**	**10 12 48.6**	**+2.2**
FTIG				*e*S	**Sn**	**10 13 22.3**	**-1.1**
THIG		**3.19**	**119**	*e*P	**Pn**	**10 12 48.1**	**+1.7**
THIG				*e*S	**Sn**	**10 13 21.4**	**-1.9**
CHUJ	**Union Juarez**	**3.24**	**115**	*e*P	**Pn**	**10 12 48.4**	**+1.1**
CHUJ				*e*S	**Sn**	**10 13 25.5**	**+0.5**
JAUV	**Jalcomulco**	**3.27**	**332**	*e*P	**Pn**	**10 12 46.9**	**-0.6**
JAUV				*e*S	**Sn**	**10 13 23.7**	**-1.6**
TLIG	**Tlapa**	**3.44**	**289**	Pn	**Pn**	**10 12 49.6**	**-0.2**
TLIG	**Tlapa**	**3.44**	**289**	*i* P	**Pn**	**10 12 51.9**	**+2.0**
TLIG				*e*S	**Sn**	**10 13 28.4**	**-1.2**
LVIG	**Laguna Verde**	**3.44**	**340**	*e*P	**Pn**	**10 12 48.8**	**-1.0**
LVIG				*e*S	**Sn**	**10 13 24.7**	**-4.7**
HUEH	**Huehuetenango**	**3.70**	**108**	Pn	**Pn**	**10 12 52.4**	**-1.1**
RTAL	**Retalhuleu**	**3.86**	**120**	Pn	**Pn**	**10 12 53.8**	**-1.7**
PPM	**Popocatepetl**	**4.19**	**308**	*e*P	**Pn**	**10 13 04.5**	**+4.0**
PPM				*e*S	**

*IDC **06** 10:16:10.0±2.1,37°.36N×143°.95E,h0km,mb3.3/2, mbtmp3.4/4,ML3.3/2,Error ellipse: s-maj=41.6km s-min=31.2km az=79.0*
*JMA **06** 10:16:15.2±0.3,37°.5N±0°.8×14°.4E±°,h51km,MV3.5/27, FAR E OFF FUKUSHIMA PREF*
ISC 06 10:16:14.1±1.4,37.48N±0°.07×143°.95E±0°.08,h35km,n19, σ1§44/34,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.13**	**294**	P	**Pn**	**10 16 47.6**	**+0.4**
JIKH				S	**Sn**	**10 17 11.6**	**-0.8**
JIO	**Ouri**	**2.27**	**296**	P	**Pn**	**10 16 49.7**	**+0.6**
JIO				S	**Sn**	**10 17 15.3**	**-0.6**
JKMT	**Kesennumamotoy**	**2.36**	**305**	*eP*	**Pn**	**10 16 50.1**	**-0.2**
JKMT				S	**Sn**	**10 17 17.3**	**-0.8**
OFUJ	**Ofunato**	**2.40**	**312**	*eP*	**Pn**	**10 16 51.4**	**+0.5**
OFUJ				S	**Sn**	**10 17 18.5**	**-0.6**
JMST	**Minamisoumatoc**	**2.44**	**277**	P	**Pn**	**10 16 51.4**	**-0.1**
JMST				S	**Sn**	**10 17 18.4**	**-1.7**
JFK	**Kawauchi**	**2.45**	**268**	*eP*	**Pn**	**10 16 51.7**	**+0.1**
JFK				S	**Sn**	**10 17 18.3**	**-2.0**
JMK	**Ichinoseki**	**2.60**	**305**	*eP*	**Pn**	**10 16 54.7**	**+1.0**
JMK				S	**Sn**	**10 17 23.6**	**-0.4**
JOTO	**OTAMA OYAMA**	**2.87**	**273**	P	**Pn**	**10 16 58.7**	**+1.2**
JOTO				S	**Sn**	**10 17 30.6**	**-0.2**
JOM	**Ohasama**	**2.88**	**315**	P	**Pn**	**10 16 58.8**	**+1.2**
JOM				S	**Sn**	**10 17 31.2**	**+0.3**
JYK	**Kaneyama**	**3.17**	**298**	P	**Pn**	**10 17 03.1**	**+1.6**
JANG	**Nango**	**3.46**	**327**	*eS*	**Sn**	**10 17 45.4**	**+0.3**
JRY	**Ryogami san**	**4.31**	**252**	*eP*	**Pn**	**10 17 17.1**	**0.0**
JRY				*eS*	**Sn**	**10 18 01.9**	**-4.2**
MJAR	**Matsushiro Arr**	**4.69**	**260**	Pn	**Pn**	**10 17 23.1**	**+0.8**
	0.3nm,0.3s,baz=88,slow=15,SNR=19						
MJAR				Sn	**Sn**	**10 18 14.7**	**-0.8**
	0.2nm,0.3s,baz=344,slow=24,SNR=5.1						
	3.2nm,0.5s						
JCH	**Churui**	**5.15**	**355**	*eP*	**Pn**	**10 17 29.3**	**+0.7**
JCH				*eS*	**Sn**	**10 18 25.0**	**-1.8**
NEM2	**Nemuro 2**	**6.04**	**13**	*eP*	**Pn**	**10 17 40.3**	**-0.6**
NEM2				*eS*	**Sn**	**10 18 45.2**	**-3.5**
JTKR	**Abashiri--Toko**	**6.48**	**360**	P	**Pn**	**10 17 47.6**	**+0.6**
JTKR				S	**Sn**	**10 18 58.6**	**-1.1**
ASAJ	**Asahikawa**	**6.71**	**352**	Pn	**Pn**	**10 17 51.6**	**+1.5**
	1.2nm,0.3s,baz=189,slow=16,SNR=16						
ASAJ				Sn	**Sn**	**10 19 02.5**	**-2.7**
	0.1nm,0.3s,baz=16,slow=30,SNR=1.4						
	3.0nm,0.3s						
MKAR	**Makanchi Array**	**45.59**	**302**	P	**P**	**10 24 31.6**	**+0.9**
	0.2nm,0.6s,baz=79,slow=7.5,SNR=1.7						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**57.83**	**191**	P	**P**	**10 26 02.3**	**+0.2**
	0.3nm,0.7s,baz=12,slow=7.7,SNR=5.6						
	0.3nm,0.7s						

---

*IDC **06** 10:25:35.4±0.7,33°.11N×103°.70E,h0km,mb3.9/15, mbtmp3.9/17,ML3.9/2,Error ellipse: s-maj=23.5km s-min=14.5km az=54.0*
*BJI **06** 10:25:37.3±0.0,33°.23N×103°.80E,h20km,mb4.0/9, mB4.6/3,ML4.4/26,Ms4.1/20,Ms7 3.9/19*
*NEIC **06** 10:25:38.6±0.9,33°.18N±0°.04×103°.75E±0°.09,h15km±5km, mb4.4/12,Error ellipse: s-maj=12.6km s-min=2.9km az=116.0*
ISC 06 10:25:37.2±0.4,33°.16N±0°.03×103°.75E±0°.04,h10km,n54, σ1§77/72,mb4.1/20,2C-2D,Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.24**	**180**	Pn	**Pb**	**10 26 17.1**	**-0.8**
CD2				Pg	**Pg**	**10 26 19.7**	**-0.6**
CD2				Sn	**Sn**	**10 26 43.3**	**+1.0**
CD2				Sg	**Sg**	**10 26 51.9**	**+2.5**
CD2				smax	smax		
	comp=N,2μm,0.7s						
CD2				smax	smax		
	comp=E,2μm,0.7s						
LZH	**Lanzhou**	**2.92**	**1**	Pg	**Pb**	**10 26 28.7**	**-0.8**
LZH				Sg	**Sb**	**10 27 06.2**	**+0.9**
LZH				smax	smax		
	comp=N,3μm,1.4s						
LZH				smax	smax		
	comp=E,2μm,1.3s						
XAN	**Xi'an**	**4.40**	**77**	Pn	**Pn**	**10 26 43.2**	**-1.0**
XAN				Pg	**Pb**	**10 26 54.4**	**-0.3**
XAN				Sg	**Sb**	**10 27 51.3**	**+3.4**
XAN				smax	smax		
	comp=N,1μm,0.7s						
XAN				smax	smax		
	comp=E,1μm,0.8s						
XAN				LR	LR		
	comp=N,2μm,4.1s						
XAN				LR	LR		
	comp=E,3μm,6.1s						
XAN				LR	LR		
	comp=Z,2μm,7.1s						
ENH	**Enshi**	**5.67**	**119**		**Pn**	**10 27 02.5**	**+0.9**
PZH	**PanZhiHua**	**6.86**	**195**	Pn	**Pn**	**10 27 22.1**	**+4.1**
PZH				Pg	**Pb**	**10 27 34.8**	**-1.8**
PZH				Sn	**Sn**	**10 28 41.6**	**+5.4**
PZH				Sg	**Sg**	**10 29 16.8**	**-0.7**
PZH				smax	smax		
	comp=N,40nm,1.1s						
PZH				smax	smax		
	comp=E,50nm,1.3s						
GYA	**Guiyang**	**7.14**	**159**	⇑Pn	**Pn**	**10 27 22.9**	**+1.0**
GYA				Sn	**Sn**	**10 28 44.0**	**+0.8**
GYA				Sg	**Sg**	**10 29 30.4**	**+3.9**
GYA				smax	smax		
	comp=N,220nm,0.9s						
GYA				smax	smax		
	comp=E,250nm,1.0s						
GYA				LR	LR		
	comp=N,730nm,6.8s						
GYA				LR	LR		
	comp=Z,470nm,8.4s						
LYN	**LuoYang**	**7.38**	**77**	⇑Pn	**Pn**	**10 27 22.8**	**-2.2**
LYN				Sn	**Sn**	**10 28 50.5**	**+1.6**
LYN				LR	LR		
	comp=N,1μm,6.0s						
LYN				LR	LR		
	comp=E,1μm,6.2s						
LYN				LR	LR		
	comp=Z,1μm,11.0s						
TIY	**Taiyuan**	**8.41**	**55**	P	**Pn**	**10 27 40.1**	**+0.8**
TIY				smax	smax		
	comp=N,86nm,0.8s						
TIY				smax	smax		
	comp=E,120nm,1.1s						
BTO	**Baotou**	**8.96**	**32**	*eP*	**Pn**	**10 27 47.1**	**+0.3**
BTO				S	Sn	10 29 18.3	-10
BTO				smax	smax		
	comp=N,190nm,0.9s						
BTO				smax	smax		
	comp=E,270nm,0.9s						
TNCH	**TengChong**	**9.30**	**211**	*eP*	**Pn**	**10 27 51.1**	**-0.5**
TNCH				S	**Sn**	**10 29 37.3**	**+0.9**
TNCH				pmax	pmax		
	comp=Z,160nm,3.7s						
TNCH				LR	LR		
	comp=E,430nm,6.2s						
TNCH				LR	LR		
	comp=Z,800nm,12.7s						
CNSH	**ChangSha**	**9.33**	**120**	⇓P	**Pn**	**10 27 51.5**	**-0.3**
CNSH				S	**Sn**	**10 29 29.8**	**-7.0**
CNSH				smax	smax		
	comp=N,74nm,1.4s						
CNSH				smax	smax		
	comp=E,48nm,1.2s						
WHN	**Wuhan**	**9.38**	**103**	⇓P	**Pn**	**10 27 52.0**	**-0.5**
WHN				sP		10 28 00.6	
WHN				S	**Sn**	**10 29 37.1**	**-1.0**
WHN				LR	LR		
	comp=N,2μm,9.1s						
WHN				LR	LR		
	comp=E,2μm,8.8s						
WHN				LR	LR		
	comp=Z,1μm,10.0s						
GULI	**GuiLin**	**9.74**	**142**	P	**Pn**	**10 28 00.3**	**+2.9**
GULI				S	**Sn**	**10 29 44.3**	**-2.5**
GULI				LR	LR		
	comp=N,750nm,12.5s						
GULI				LR	LR		
	comp=Z,380nm,14.1s						
LSA	**Lhasa**	**11.30**	**256**	Pn	**Pn**	**10 28 19.4**	**+0.1**
BJT	**Baijiatuau**	**12.09**	**52**	Pn	**Pn**	**10 28 29.6**	**+0.1**
SHL	**Shillong**	**12.81**	**237**		**Pn**	**10 28 40.6**	**+0.9**
SONM	**Songino Array**	**14.79**	**7**	Pn	**Pn**	**10 29 06.7**	**+0.2**
SONM	**Songino Array**	**14.79**	**7**	Pn	**Pn**	**10 29 05.9**	**-0.7**
	0.3nm,0.3s,baz=175,slow=15,SNR=4.8						
SONM				Lg	Lg	10 33 18.6	
	baz=196,slow=20						
	1.0nm,0.6s						
CHTO	**Chiang Mai**	**14.92**	**198**		**Pn**	**10 29 08.1**	**-0.2**
QIZ	**Qiongzhong**	**15.09**	**157**	P	**Pn**	**10 29 07.6**	**-3.0**
QIZ				S	**Sn**	**10 31 53.8**	**-4.1**
QIZ				LR	LR		
	comp=N,320nm,15.1s						
QIZ				LR	LR		
	comp=Z,640nm,21.9s						
CMAR	**Chiang Mai Arr**	**15.27**	**198**	Pn	**Pn**	**10 29 14.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**15.27**	**198**	Pn	**Pn**	**10 29 10.7**	**-2.2**
	0.2nm,0.3s,baz=6.3,slow=11,SNR=8.3						
CMAR				Sn	**Sn**	**10 32 02.9**	**+0.8**
	0.4nm,0.3s,baz=237,slow=16,SNR=1.9						
	0.5nm,0.3s						
WMQ	**Urumqi**	**16.44**	**315**	*eP*	**P**	**10 29 33.1**	**+2.3**
WMQ				pP	sP	10 29 39.5	+3.1
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
KSRS	**Korea Array**	**20.17**	**71**	P	**P**	**10 30 12.3**	**+0.6**
	2.3nm,0.7s,baz=261,slow=9.2,SNR=8.0						
	2.3nm,0.7s						
MK31	**Makanchi Array**	**21.26**	**316**	P	**P**	**10 30 23.2**	**-0.3**
MKAR	**Makanchi Array**	**21.26**	**316**	P	**P**	**10 30 23.2**	**-0.3**
	6.3nm,0.9s,baz=115,slow=12,SNR=23						
	6.3nm,0.9s						
MAKZ	**Makanchi**	**21.45**	**316**	P	**P**	**10 30 25.5**	**-0.1**
MAKZ				IAmb	IAmb	10 30 28.5	
	comp=Z,11nm,0.8s						
HEH	**HeiHe**	**24.41**	**39**	*eP*	**P**	**10 30 57.9**	**+2.2**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
USA0B	**Ussuriysk Arra**	**24.53**	**55**	P	**P**	**10 30 55.9**	**-1.0**
USA0B				IAmb	IAmb	10 30 59.3	
	comp=Z,4.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**24.53**	**55**	P	**P**	**10 30 56.8**	**0.0**
USRK	**Ussuriysk Ar.**	**24.53**	**55**	P	**P**	**10 30 57.4**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=269,slow=8.5,SNR=1.9						
	comp=Z,1.9nm,0.8s						
ZAA0	**Zalesovo Array**	**24.75**	**333**	P	**P**	**10 30 58.5**	**-0.2**
ZALV	**Zalesovo Beam**	**24.75**	**333**	P	**P**	**10 30 58.3**	**-0.5**
ZALV	**Zalesovo Beam**	**24.75**	**333**	P	**P**	**10 30 58.1**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=128,slow=12,SNR=6.5						
	comp=Z,1.4nm,0.6s						
NIL	**Nilore**	**25.43**	**280**	P	**P**	**10 31 05.3**	**+0.2**
NIL				IAmb	IAmb	10 31 07.4	
	comp=Z,13nm,1.1s						
KURBB	**Kurchatov Arra**	**25.44**	**321**	P	**P**	**10 31 04.5**	**-0.6**
	comp=Z,3.1nm,0.9s,baz=124,slow=12,SNR=6.6						
	comp=Z,3.1nm,0.9s						
RPSI	**Rantau Prapat**	**30.64**	**189**	P	**P**	**10 31 52.0**	**+0.2**
GEYT	**Alibeck**	**37.15**	**291**	P	**P**	**10 32 49.1**	**+0.8**
	comp=Z,1.6nm,0.4s,baz=96,slow=10,SNR=4.3						
	comp=Z,1.6nm,0.4s						
GYA0B	**ALIBECK ARRAY**	**37.15**	**291**	P	**P**	**10 32 48.0**	**-0.3**
GYA0B				IAmb	IAmb	10 32 51.4	
	comp=Z,6.0nm,0.9s						
NRIK	**Noril'sk**	**37.36**	**351**	P	**P**	**10 32 49.9**	**+0.3**
NRIK				IAmb	IAmb	10 32 52.4	
	comp=Z,5.0nm,0.9s						
NRIK	**Noril'sk**	**37.36**	**351**	P	**P**	**10 32 49.5**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=162,slow=9.7,SNR=4.0						
	comp=Z,4.4nm,0.9s						
ARCES	**ARCESS Array B**	**55.27**	**335**	P	**P**	**10 35 10.2**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=73,slow=9.5,SNR=4.0						
	comp=Z,1.3nm,0.8s						
BRTR	**Keskin Array B**	**55.48**	**298**	P	**P**	**10 35 11.1**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=72,slow=4.7,SNR=2.1						
	comp=Z,0.4nm,0.6s						
FINES	**FINESS Array B**	**55.70**	**325**	P	**P**	**10 35 12.7**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=107,slow=6.4,SNR=6.3						
	comp=Z,1.5nm,0.7s						
WRAB	**Tennant Creek**	**60.34**	**147**	P	**P**	**10 35 46.2**	**-0.3**
WRA	**Warramunga Arr**	**60.35**	**147**	P	**P**	**10 35 46.0**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=341,slow=7.2,SNR=38						
	comp=Z,4.0nm,0.8s						
WB2	**Warramunga Arr**	**60.35**	**147**	P	**P**	**10 35 46.3**	**-0.2**
WR0	**Warramunga Arr**	**60.46**	**146**	P	**P**	**10 35 47.0**	**-0.2**
WR0				IAmb	IAmb	10 35 47.7	
	comp=Z,5.3nm,1.1s						
HFS	**Hagfors**	**61.91**	**325**	P	**P**	**10 35 57.4**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=80,slow=16,SNR=4.3						
	comp=Z,3.2nm,0.9s						
NOA	**NORSAR Array B**	**62.77**	**327**	P	**P**	**10 36 03.1**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=79,slow=9.1,SNR=1.7						
	comp=Z,0.7nm,0.7s						
AS31	**Alice Springs**	**63.40**	**149**	P	**P**	**10 36 07.1**	**0.0**
ASAR	**Alice Springs**	**63.40**	**149**	P	**P**	**10 36 07.2**	**+0.2**
ASAR	**Alice Springs**	**63.40**	**149**	P	**P**	**10 36 06.7**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=336,slow=7.0,SNR=27						
	comp=Z,1.6nm,0.5s						
ILAR	**Eielson Array**	**68.12**	**26**	P	**P**	**10 36 36.9**	**0.0**
	comp=Z,0.2nm,0.8s,baz=296,slow=4.8,SNR=2.4						
	comp=Z,0.2nm,0.8s						

---

*IDC **06** 10:38:28.5±11.0,23°.25S×179°.38E,h573km±105km, mb2.6/4,mbtmp3.6/5,Error ellipse: s-maj=252.7km s-min=26.3km az=158.0*
ISC 06 10:38:25.5±1.6,23°.65±0°.3×179°.6E±0°.2,h550km,n6, σ1§62/6,mb3.1/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.06**	**346**	P	**P**	**10 40 04.9**	**0.0**
	5.6nm,0.6s,baz=346,slow=20,SNR=3.1						
CTA	**Charters Tower**	**31.12**	**270**	P	**P**	**10 44 00.5**	**+0.8**
	1.1nm,0.3s,baz=96,slow=12,SNR=1.3						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**41.73**	**260**	P	**P**	**10 45 27.1**	**+0.1**
	0.4nm,0.8s,baz=91,slow=7.7,SNR=4.7						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**42.08**	**266**	P	**P**	**10 45 29.3**	**-0.5**
	0.4nm,0.6s,baz=103,slow=8.1,SNR=15						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**90.59**	**58**	P	**P**	**10 50 30.7**	**+1.0**
	0.2nm,0.7s,baz=216,slow=4.5,SNR=3.5						
	0.2nm,0.7s						
HFS	**Hagfors**	**142.23**	**349**	PKP	**PKPdf**	**10 56 52.5**	**-2.5**
	1.0nm,0.4s,baz=48,slow=2.1,SNR=7.2						

---

*SFS **06** 10:40:11.0,39°.53N×0°.53W,h23km,ML2.7/6,ML2.7/6, MLv2.7/6*
MDD 06 10:40:12.3±0.2,39°.36N×0°.55W,h12km,mb_Lg2.6/41,1C, Error ellipse: s-maj=1.8km s-min=1.1km az=134.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHE	**Chera**	**0.39**	**305**	Pg	Pg	10 40 17.9	-2.3
ECHE				Sg	Sg	10 40 23.9	-1.5
ECHE				*i* Vmb_Lg		10 40 28.0	
EVIV	**Cofrentes, Val**	**0.45**	**258**	⇑Pg	Pg	10 40 18.7	-2.5
EVIV				Sg	Sg	10 40 24.7	-2.5
EVIV				*i* Vmb_Lg		10 40 31.0	
AFON	**Font Roja**	**0.70**	**179**	Pg	Pg	10 40 25.1	-0.8
AFON				Sg	Sg	10 40 35.6	+0.5
AFON				*i* Vmb_Lg		10 40 39.2	
EBEN2	**Beniarda presa**	**0.74**	**158**	Pg	Pg	10 40 26.1	-0.6
EBEN2				Sg	Sg	10 40 36.4	0.0
EBEN2				*i* Vmb_Lg		10 40 39.3	
EMOS	**Mosqueruela**	**1.00**	**4**	Pg	Pg	10 40 30.0	-1.6
EMOS				Sg	Sg	10 40 43.9	-0.9
EMOS				*i* Vmb_Lg		10 40 45.8	
ETOB	**Tobarra**	**1.06**	**227**	Pg	Pb	10 40 30.5	-2.1
ETOB				Sg	Sb	10 40 44.1	-2.3
ETOB				*i* Vmb_Lg		10 40 46.8	
ETOB	**Tobarra**	**1.06**	**227**	Pn	Pb	10 40 30.5	-2.2
ETOB				Sn	Sb	10 40 45.0	-1.4
ECOL	**Islas Columbre**	**1.09**	**60**	Pg	Pb	10 40 31.9	-1.3
ECOL				Sg	Sb	10 40 46.4	-1.0
EIBI	**Ibiza**	**1.51**	**102**	Pn	Pn	10 40 36.5	-2.7
EIBI				Sn	Sn	10 40 54.4	-4.4
EIBI				*i* Vmb_Lg		10 41 00.3	
EIBI	**Ibiza**	**1.51**	**102**	Sn	Sn	10 40 53.0	-5.9
EIBI				Pn	Pn	10 40 35.9	-3.3
EMUR	**La Murta**	**1.61**	**200**	Pg	Pn	10 40 40.4	-0.2
EMUR				Sg	Sb	10 41 02.4	0.0
EMUR				*i* Vmb_Lg		10 41 04.2	
EMUR	**La Murta**	**1.61**	**200**	Pn	Pn	10 40 40.4	-0.2
EMUR				Sn	Sn	10 41 01.2	-0.2
ERTA	**Horta de San J**	**1.73**	**23**	Pn	Pn	10 40 40.7	-1.5
ERTA				Sg	Sn	10 41 04.5	+0.2
ERTA				*i* Vmb_Lg		10 41 06.1	
CART	**Cartagena**	**1.81**	**191**	Sn	Sn	10 41 04.9	-1.3
ETOR	**Torete**	**1.85**	**322**	Pg	Pb	10 40 45.5	-0.7
ETOR				Sn	Sn	10 41 07.5	+0.1
ETOR				*i* Vmb_Lg		10 41 12.5	
TLOR	**Lorca, Murcia**	**1.93**	**208**	Sn	Sn	10 41 08.3	-0.7
EPOB	**Poblet**	**2.34**	**32**	Pn	Pn	10 40 48.7	-2.1
EPOB				Sn	Sn	10 41 16.9	-2.6
EPOB				Sg	Sb	10 41 23.4	-0.1
EPOB				*i* Vmb_Lg		10 41 25.8	
ESAC	**San Caprasio**	**2.36**	**2**	Pg	Pb	10 40 55.6	+0.8
ESAC				Sn	Sn	10 41 19.8	0.0
ESAC				Sg	Sb	10 41 23.8	0.0
EQES	**Quesada**	**2.52**	**232**	Pn	Pn	10 40 52.9	-0.2
EQES				Pg	Pb	10 40 57.7	+0.2
EQES				Sg	Sb	10 41 29.7	+1.3
EQES				*i* Vmb_Lg		10 41 31.8	
ETOS	**Mallorca**	**2.63**	**80**	Pn	Pn	10 40 52.0	-2.7
ETOS				Sn	Sn	10 41 23.0	-3.5
ETOS				*i* Vmb_Lg		10 41 38.1	
ETOS	**Mallorca**	**2.63**	**80**	Pn	Pn	10 40 51.6	-3.1
ETOS				Sn	Sn	10 41 20.4	-6.2
ESDC	**Sonseca Array**	**2.66**	**278**	Pn	Pn	10 40 52.1	-2.9
ESDC				Sn	Sn	10 41 23.9	-3.3
ESDC				Sg	Sb	10 41 32.5	0.0
ESDC				*i* Vmb_Lg		10 41 35.9	
PAB	**San Pablo**	**2.94**	**275**	Pn	Pn	10 40 56.5	-2.5
PAB				Sn	Sn	10 41 30.9	-3.4
PAB				Sg	Sb	10 41 42.7	+2.0
PAB				*i* Vmb_Lg		10 41 44.6	
GUD	**Guadarrama**	**3.05**	**296**	Pg	Pb	10 41 08.3	+1.7
GUD				Sg	Sb	10 41 46.3	+2.5
EQUE	**Quentar**	**3.13**	**227**	Sn	Sn	10 41 37.0	-2.0
EQUE				Sg	Sb	10 41 48.5	+2.3
EQUE				*i* Vmb_Lg		10 41 53.1	
ECHI	**Chisagues Biel**	**3.34**	**9**	Sg	Sb	10 41 54.7	+2.3
ECHI				*i* Vmb_Lg		10 42 05.2	
EADA	**Adamuz**	**3.37**	**250**	Pn	Pn	10 41 03.4	-1.4
EADA				Pg	Pb	10 41 12.5	+0.6
EADA				Sn	Sn	10 41 40.2	-4.5
EADA				Sg	Sb	10 41 54.9	+2.1
EADA				*i* Vmb_Lg		10 42 01.2	
EADA	**Adamuz**	**3.37**	**250**	Sn	Sn	10 41 40.5	-4.2
EADA				Pn	Pn	10 41 01.7	-3.1
EADA				Sg	Sb	10 41 53.7	+0.9
EORO	**Oroz-Betelu**	**3.57**	**351**	Pg	Pb	10 41 15.3	-0.1
EORO				Sg	Sb	10 42 01.3	+2.5
EORO				*i* Vmb_Lg		10 42 13.1	
EALK	**Alkurruntz**	**3.92**	**350**	Sg	Sb	10 42 12.4	+3.6
EALK				*i* Vmb_Lg		10 42 14.1	
ECAB	**El Cabril**	**4.02**	**253**	Sg	Sg	10 42 17.3	-4.0
ECAB				*i* Vmb_Lg		10 42 28.8	
ELAN	**Lanestosa**	**4.43**	**332**	Pn	Pn	10 41 18.1	-1.3
ELAN				*i* Vmb_Lg		10 41 43.2	
MCH1	**Michaelchurch**	**12.75**	**353**	P	Pn	10 43 12.9	-0.5
DKL	**Dikili**	**21.25**	**82**	P	P	10 44 58.7	+0.4

IDC 06 10:41:13.0±5.6,16°.10S×172°.49W,h0km,mb3.4/3, mbtmp3.6/4,ML4.4/1,Error ellipse: s-maj=198.4km s-min=27.5km az=131.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.28**	**18**	Pn	Pn	10 41 52.0	0.0
	91nm,0.3s,baz=249,slow=8.6,SNR=87						
AFI				Sn	Sn	10 42 11.8	-9.0
	559nm,0.3s,baz=165,slow=20,SNR=22						
	222nm,0.3s						
WRA	**Warramunga Arr**	**50.54**	**257**	P	P	10 50 12.6	-1.1
	0.4nm,0.9s,baz=96,slow=7.1,SNR=2.2						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**50.73**	**252**	P	P	10 50 15.6	+0.6
	0.2nm,0.3s,baz=88,slow=7.8,SNR=8.0						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**82.96**	**11**	P	P	10 53 39.5	0.0
	0.4nm,0.9s,baz=216,slow=5.6,SNR=2.1						
	0.4nm,0.9s						

---

*IGIL **06** 10:45:17.3,37°.30N×16°.19W,h26km,ML3.4*
*CNRM **06** 10:45:18.9,37°.04N×15°.90W,h26km,ml4.0*
*MDD **06** 10:45:19.5±0.9,37°.78N×15°.77W,h0km,Mb4.3/12, M_mb3.7/12,Error ellipse: s-maj=7.4km s-min=6.1km az=62.0*
*INMG **06** 10:45:20.4±2.3,37°.31N×16°.20W,h15km,ML3.3,Error ellipse: s-maj=12.1km s-min=4.5km az=127.0*
ISC 06 10:45:12.9±1.0,37.40N±0°.05×15°.91W±0°.06,h10km,n64, σ3§31/88,12C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**4.33**	**185**	*eP*	**Pn**	**10 46 18.9**	**+0.1**
PMPST				*eS*	**Sn**	**10 47 02.6**	**-6.6**
PMPST				A	A	10 47 12.2	
	21nm,0.3s						
PMOZ	**Porto Moniz, M**	**4.69**	**193**	*eP*	**Pn**	**10 46 24.0**	**+0.2**
PMOZ	**Porto Moniz, M**	**4.69**	**193**	P	**Pn**	**10 46 23.3**	**-0.6**
PMOZ				S	**Sn**	**10 47 15.1**	**-3.3**
PMOZ	**Porto Moniz, M**	**4.69**	**193**	Pn	**Pn**	**10 46 22.6**	**-1.2**
PMOZ				Sn	**Sn**	**10 47 14.6**	**-3.7**
PMAR	**Madeira**	**4.74**	**190**	*eP*	**Pn**	**10 46 24.9**	**+0.3**
PMAR				*eS*	Sn	10 47 11.7	-8.0
PMAR				A	A	10 47 19.4	
	45nm,0.2s						
PMAR	**Madeira**	**4.74**	**190**	P	**Pn**	**10 46 24.4**	**-0.2**
PMAR				S	**Sn**	**10 47 14.6**	**-5.1**
FUL	**Funchal**	**4.81**	**190**	*eP*	**Pn**	**10 46 26.2**	**+0.8**
FUL				*eS*	**Sn**	**10 47 14.6**	**-6.6**
PMAFR	**Mafra**	**5.45**	**71**	*eP*	Pn	10 46 38.9	+4.7
PMAFR				*eS*	**Sn**	**10 47 38.0**	**+1.0**
PMAFR				A	A	10 47 42.3	
	64nm,0.2s						
PMAFR	**Mafra**	**5.45**	**71**	Sn	**Sn**	**10 47 37.0**	**+0.1**
PMAFR				Pn	**Pn**	**10 46 37.9**	**+3.7**
PFVI	**Vila Bisbo**	**5.66**	**91**	*eP*	**Pn**	**10

EVO	Evora	6.34	77	Sn	Sn	10 47 57.5	-1.5
PBDV	Barranco-do-Ve	6.36	89	eP	Pn	10 46 50.8	+4.0
PBDV				eS	Sn	10 47 59.2	-0.3
PBDV				A	A	10 48 06.9	
comp=N,12nm,0.2s							
PCAS	Casmilo, Conde	6.37	63	eP	Pn	10 46 52.5	+5.6
PCAS				eS	Sn	10 47 57.2	-2.5
PCAS				A	A	10 48 03.1	
comp=N,12nm,0.3s							
PBEJ	Beja	6.41	82	eS	Sn	10 48 00.3	-0.3
PBEJ				A	A	10 48 06.9	
comp=N,9.4nm,0.3s							
PVAQ	Vaqueiros	6.52	87	eP	Pn	10 46 53.7	+4.7
PVAQ				eS	Sn	10 48 03.5	+0.1
PVAQ				A	A	10 48 13.4	
comp=N,12nm,0.3s							
PVAQ	Vaqueiros	6.52	87	Pn	Pn	10 46 52.7	+3.8
PVAQ				Sn	Sn	10 48 04.0	+0.6
EGRO	El Granado	6.71	86	Pn	Pn	10 46 55.4	+3.9
EGRO				⇑iVmb_V		10 46 57.3	
comp=N,88nm,SNR=0.7							
EGRO				Sn	Sn	10 48 06.5	-1.4
EGRO	El Granado	6.71	86	Pn	Pn	10 46 55.3	+3.9
PESTR	Estremoz	6.72	75	eP	Pn	10 46 57.9	+6.2
PESTR				eS	Sn	10 48 06.9	-1.4
PESTR				A	A	10 48 13.2	
comp=N,8.5nm,0.3s							
PESTR	Estremoz	6.72	75	P	Pn	10 46 58.2	+6.5
PESTR				S	Sn	10 48 14.2	+5.9
PESTR	Estremoz	6.72	75	Pn	Pn	10 46 55.6	+3.9
PESTR				Sn	Sn	10 48 06.6	-1.7
PMRV	Marv??o	6.99	71	eP	Pn	10 46 58.9	+3.5
PMRV				eS	Sn	10 48 12.6	-2.3
PMRV				A	A	10 48 16.4	
comp=N,17nm,0.5s							
PCBR	Castelo Branco	7.04	67	eS	Sn	10 48 14.0	-2.1
PCBR				A	A	10 48 17.7	
comp=N,9.1nm,0.2s							
PVIS	Viseu	7.06	60	eS	Sn	10 48 13.7	-3.1
PBAR	Barrancos	7.07	81	eP	Pn	10 47 01.2	+4.7
PBAR				eS	Sn	10 48 16.1	-0.8
PBAR				A	A	10 48 21.5	
comp=N,10nm,0.3s							
PBAR	Barrancos	7.07	81	Pn	Pn	10 47 01.2	+4.7
EBAD	Badajoz	7.15	76	Pn	Pn	10 47 01.4	+3.9
MTE	Manteigas	7.18	63	eS	Sn	10 48 16.9	-2.8
MTE				A	A	10 48 23.3	
comp=N,12nm,0.4s							
EZAM	Zamans	7.30	47	Pn	Pn	10 47 01.3	+1.6
EZAM				⇑iVmb_V		10 47 04.6	
comp=N,201nm,SNR=1.4							
EZAM				Sn	Sn	10 48 15.4	-7.2
EMIN	Mina Concepcio	7.35	84	Pn	Pn	10 47 04.5	+4.2
EMIN				⇑iVmb_V		10 47 06.2	
comp=N,65nm,SNR=1.1							
EMIN				Sn	Sn	10 48 22.1	-1.6
POLO	Lamas de Olo	7.43	55	eS	Sn	10 48 20.7	-5.2
POLO				A	A	10 48 26.0	
comp=N,3.5nm,0.4s							
PVRL	Vila Real	7.44	56	eS	Sn	10 48 23.2	-2.8
PVRL				A	A	10 48 29.1	
comp=N,10nm,0.2s							
PGAV	Gavieira, Arco	7.45	50	eP	Pn	10 47 06.1	+4.3
PGAV				eS	Sn	10 48 21.9	-4.4
PGAV				A	A	10 48 24.6	
comp=N,26nm,0.5s							
ELOB	Lobios	7.52	51	Pn	Pn	10 47 04.9	+2.1
ELOB				⇑iVmb_V		10 47 08.3	
comp=N,187nm,SNR=2.5							
ELOB				Sn	Sn	10 48 22.3	-5.8
EMAZ	Mazaricos	7.67	42	⇑iVmb_V		10 47 09.9	
comp=N,152nm,SNR=0.7							
EMAZ				Sn	Sn	10 48 23.4	-8.3
MVO	Moncorvo	7.85	59	eS	Sn	10 48 30.9	-5.2
MVO				A	A	10 48 33.7	
comp=N,11nm,0.2s							
EAGO	Agolada(Pontev	8.06	46	Pn	Pn	10 47 11.1	+1.0
EAGO				⇑iVmb_V		10 47 14.2	
comp=N,199nm,SNR=1.4							
EAGO				Sn	Sn	10 48 32.3	-9.0
EPLA	Plasencia	8.13	68	Pn	Pn	10 47 16.0	+4.9
EPLA				⇑iVmb_V		10 47 17.4	
comp=N,46nm,SNR=0.7							
EPLA				Sn	Sn	10 48 39.2	-3.8
PBRG	Braganca	8.33	55	eS	Sn	10 48 43.4	-4.6
PBRG				A	A	10 48 49.1	
comp=N,6.3nm,0.4s							
ECAB	El Cabril	8.34	82	Pn	Pn	10 47 18.7	+4.7
ECAB				⇑iVmb_V		10 47 22.6	
comp=N,81nm,SNR=1.6							
ECAB				Sn	Sn	10 48 44.8	-3.4
ECAL	Calabor	8.40	54	Pn	Pn	10 47 18.0	+3.2
ECAL				⇑iVmb_V		10 47 21.2	
comp=N,84nm,SNR=1.2							
ECAL				Sn	Sn	10 48 44.8	-5.0
ECAL	Calabor	8.40	54	Pn	Pn	10 47 17.8	+3.0
ZHG	ZHG	8.53	115	P	Pn	10 47 17.5	+0.9
ZHG				S	Sn	10 48 53.1	+0.1
EPON	Pontenova	8.93	46	Pn	Pn	10 47 23.8	+1.8
EPON				⇑iVmb_V		10 47 26.3	
comp=N,244nm,SNR=1.0							
EPON				Sn	Sn	10 48 53.5	-9.1
EADA	Adamuz	9.01	82	Pn	Pn	10 47 27.5	+4.5
EADA				⇑iVmb_V		10 47 29.5	
comp=N,61nm,SNR=1.4							
EADA				Sn	Sn	10 49 01.9	-2.7
OUK	Oukaimeden	9.08	131	P	Pn	10 47 24.4	0.0
OUK				S	Sn	10 49 06.1	-0.6
IFR	Ifrane	9.61	111	Sn	Sn	10 49 16.1	-3.5
TIO	Tiouine	9.64	129	Sn	Sn	10 49 17.7	-2.6
OUZM	OUZ	9.97	128	P	Pn	10 47 36.2	-0.1
EARI	Arriondas	10.07	51	Pn	Pn	10 47 40.2	+2.5
EARI				⇑iVmb_V		10 47 41.7	
comp=N,166nm,SNR=1.0							
EARI				Sn	Sn	10 49 23.6	-7.0
MD31	MD31	10.19	113	P	Pn	10 47 41.5	+2.2
MDT	Midelt	10.33	113	P	Pn	10 47 43.3	+2.0

*SFS **06** 10:45:53.1, 39.°47N×0.°55W, h21km*
MDD 06 10:45:53.8±0.5, 39.°39N×0.°58W, h12km±1km, mb_Lg1.9/11, 1D, Error ellipse: s-maj=3.2km s-min=2.8km az=146.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHE	Chera	0.36	304	⇓Pg	Pg	10 46 00.1	-0.9
ECHE				Sg	Sg	10 46 05.4	-0.5
ECHE				i Vmb_Lg		10 46 07.6	
EVIV	Cofrentes, Val	0.43	254	Pg	Pg	10 46 00.9	-1.5
EVIV				Sg	Sg	10 46 06.5	-1.7
EVIV				i Vmb_Lg		10 46 06.9	
AFON	Font Roja	0.72	177	Pg	Pg	10 46 07.7	-0.1
AFON				Sg	Sg	10 46 17.4	0.0
AFON				i Vmb_Lg		10 46 20.3	
EBEN2	Beniarda presa	0.78	157	Pg	Pg	10 46 08.3	-0.5
EBEN2				Sg	Sg	10 46 19.2	+0.2
EBEN2				i Vmb_Lg		10 46 20.8	
EMOS	Mosqueruela	0.98	5	Pg	Pg	10 46 12.5	-0.2
EMOS				Sg	Sg	10 46 24.2	-1.3
EMOS				i Vmb_Lg		10 46 27.3	
ETOB	Tobarra	1.06	226	Pg	Pb	10 46 12.7	-1.4
ETOB				Sg	Sb	10 46 26.5	-1.4
ETOB				i Vmb_Lg		10 46 28.5	
ETOB	Tobarra	1.06	226	Pn	Pb	10 46 12.5	-1.6
ETOB				Sn	Sb	10 46 27.1	-0.9
EIBI	Ibiza	1.54	103	Pn	Pn	10 46 19.4	-1.7
EIBI				Sn	Sn	10 46 36.9	-4.2
EIBI				i Vmb_Lg		10 46 38.9	
EIBI	Ibiza	1.54	103	Pn	Pn	10 46 18.1	-3.0
ETOR	Torete	1.82	322	Pn	Pn	10 46 24.8	-0.3
ETOR				Pg	Pb	10 46 27.3	+0.2
ETOR				Sg	Sb	10 46 50.9	+1.0
ETOR				i Vmb_Lg		10 46 54.5	

HEL 06 11:00:16.5±0.2, 68.°64N×27.°61E, h0km, ML1.5, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEV	Kevo	1.14	349	PG	Pg	11 00 37.1	-1.2
KEV				MSG		11 00 51.2	
comp=Z,5.4nm,0.2s							
KEV				SG	Sg	11 00 51.5	-1.5
VRF	Varrio	1.17	139	PB	Pg	11 00 37.7	-1.1
VRF				MSG		11 00 52.0	
comp=Z,4.5nm,0.2s							
VRF				SN	Sn	11 00 57.9	+1.2
ARA0	ARCESS Array S baz=140	1.17	321	PG	Pg	11 00 37.4	-1.5
ARA0				SG	Sg	11 00 52.3	-1.8
SGF	Sodankyl	1.27	199	PB	Pg	11 00 40.1	-0.7
SGF				SB	Sg	11 00 56.4	-1.0
HEF	Hetta baz=76	1.47	263	PG	Pn	11 00 43.6	-0.7
HEF				MSG		11 01 00.8	
comp=Z,6.2nm,0.2s							
HEF				SG	Sg	11 01 02.7	-1.1
KTK1	Kautokeino	1.63	285	PG	Pn	11 00 46.1	-0.4
KTK1				SG	Sn	11 01 06.7	-1.4
KLF	Kolari baz=46	1.98	226	PG	Pn	11 00 51.5	+0.3
KLF				MSG		11 01 15.1	
comp=Z,3.7nm,0.2s							
KLF				SG	Sn	11 01 17.2	+0.7
RNF	Rovaniemi baz=18	2.13	197	PG	Pn	11 00 54.0	+0.7
RNF				SG	Sn	11 01 21.5	+1.0
LANU	Lannavaara	2.17	257	P	Pn	11 00 52.6	-1.2
LANU	Lannavaara	2.17	257	PB	Pn	11 00 52.5	-1.3
LANU				SG	Sb	11 01 22.9	-1.1
PAJU	Pajala	2.36	228	PB	Pn	11 00 56.9	+0.5
PAJU				SN	Sn	11 01 23.0	-3.0
PAJU	Pajala	2.36	228	S	Sn	11 01 23.0	-3.0
OLKF	Oulanka, Finla baz=343	2.43	163	PG	Pb	11 00 59.3	-1.8
OLKF				MSG		11 01 28.3	
comp=Z,1.1nm,0.2s							
OLKF				SB	Sb	11 01 29.8	-1.7
KIF	Kilpisjarvi	2.50	282	PG	Pn	11 00 60.0	+1.6
KIF				MSG		11 01 30.4	
comp=Z,3.0nm,0.2s							
LVZ	Lovozero	2.72	103	PN	Pn	11 01 01.7	+0.2
KU6	Riekki baz=343	2.77	160	PG	Pb	11 01 05.4	-1.5
KU6				MSG		11 01 38.1	
comp=Z,1.0nm,0.2s							
KU6				SG	Sb	11 01 40.4	-0.9
MSF	Maaselka	2.80	168	SB	Sb	11 01 40.3	-1.8
TOF	Tornio	2.87	208	SN	Sn	11 01 35.6	-3.0
TOF				MSG		11 01 41.0	
comp=Z,1.2nm,0.2s							
ERTU	Ertsjaerv baz=42	2.95	227	PN	Pn	11 01 04.8	+0.2
KALU	Kalix	3.25	213	SB	Sb	11 01 51.9	-3.0
OUF	Merijarvi	4.45	196	SN	Sn	11 02 13.1	-4.3

UPP 06 11:00:39.2±0.0, 67.°82N×20.°22E, h0km, ML2.0, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	18	P	Pg	11 00 42.1	+0.2
KUA				S	Sg	11 00 44.1	+0.4
RATU	Laukkuluspa	0.24	271	P	Pg	11 00 43.9	+0.2
RATU				S	Sg	11 00 47.3	+0.5
KOVU	Salmi	0.41	357	P	Pg	11 00 47.0	0.0
DUNU	Dundret	0.71	169	P	Pg	11 00 52.6	-0.3
SALU	Saltoluokta	0.79	237	P	Pg	11 00 54.2	-0.2
PAJU	Pajala	1.37	124	P	Pg	11 01 04.3	-1.2
ERTU	Ertsjaerv	1.49	148	P	Pn	11 01 07.2	+0.1
HARU	Harads	1.69	170	P	Pn	11 01 10.1	+0.2

*IDC **06** 11:12:49.6±0.8, 2.°53N×126.°74E, h0km, mb4.0/9, mbtmp4.0/10, ML3.4/1, MS3.0/1, Error ellipse: s-maj=61.2km s-min=14.3km az=62.0*
*DJA **06** 11:12:56.9±0.7, 2.°N±9.9°×12.°7E±.°, h10km, M4.0/7, mb4.2/5, mB4.9/1, MLv3.8/7, Mw(mB)4.2/1*
ISC 06 11:12:57.6±0.7, 2.°6N±0.°1×127.°0E±0.°1, h53km, n14, σ2°13/20, mb4.0/10, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	3.23	172	P	Pn	11 13 44.6	-1.2
SIJI	Sorong	5.45	129	Pn	Pn	11 14 15.9	-0.5
1.1nm,0.3s,baz=221,slow=22,SNR=2.9							
SIJI				Sn	Sn	11 15 20.8	+3.0
0.3nm,0.3s,baz=211,slow=23,SNR=1.6							
SIJI				LR	LR	11 16 48.5	
comp=Z,165nm,21.4s,baz=269,slow=42 4.2nm,0.4s							
MRSI	Marisa	5.49	248	P	Pn	11 14 17.8	+0.9
41nm,0.8s,1μm0.2nm							
MPSI	Mapaga 10nm,1.0s,0.0nm	7.46	253	P	Pn	11 14 46.2	+2.3
WRA	Warramunga Arr	23.50	163	P	P	11 18 01.3	-1.6
2.4nm,0.6s,baz=344,slow=11,SNR=33							
WRA				PcP	PcP	11 21 47.2	-0.4
0.2nm,0.7s,baz=337,slow=2.4,SNR=1.3 2.4nm,0.6s							
ASAR	Alice Springs	26.93	166	P	P	11 18 33.1	-1.0
0.5nm,0.5s,baz=345,slow=7.8,SNR=16							
ASAR				PcP	PcP	11 21 54.6	-0.7
0.2nm,0.8s,baz=352,slow=0.9,SNR=1.6 0.5nm,0.5s							
CMAR	Chiang Mai Arr	31.71	302	P	P	11 19 14.4	-2.2
0.6nm,0.3s,baz=119,slow=6.8,SNR=7.0 0.6nm,0.3s							
STKA	Stephens Creek	36.95	159	P	P	11 20 01.3	-0.5
1.2nm,0.3s,baz=0.1,slow=7.9,SNR=5.2 1.2nm,0.3s							
XLT	XiLinHaoTe	42.28	348	eP	P	11 20 50.7	+4.7
XLT				pP	sP	11 21 07.5	+2.2
XLT				sP	pwP	11 21 11.0	+9.0
XLT				PcP	PcP	11 22 44.3	+5.2
XLT				ScP	ScP	11 26 26.6	+1.1
XLT				PcS	PcS	11 26 33.8	+2.9
XLT				pmax	pmax		
comp=Z,8.0nm,0.9s							
SONM	Songino Array	48.48	342	P	P	11 21 34.8	-0.3
comp=Z,0.9nm,0.8s,baz=145,slow=4.5,SNR=4.7							
SONM				PcP	PcP	11 22 59.9	-0.6
comp=Z,0.2nm,0.5s,baz=106,slow=4.7,SNR=2.0 comp=Z,0.9nm,0.8s							
MKAR	Makanchi Array	58.66	326	P	P	11 22 47.9	-1.8
comp=Z,1.6nm,0.6s,baz=128,slow=8.7,SNR=12 comp=Z,1.6nm,0.6s							
ZALV	Zalesovo Beam	61.74	333	P	P	11 23 08.4	-2.0
comp=Z,0.7nm,0.6s,baz=69,slow=9.7,SNR=3.8 comp=Z,0.7nm,0.6s							
KURBB	Kurchatov Arra	62.86	328	P	P	11 23 16.3	-1.8
comp=Z,2.1nm,0.3s,baz=127,slow=6.2,SNR=11 comp=Z,2.1nm,0.3s							
BVAR	Borovoye Array	68.44	327	P	P	11 23 52.3	-1.7
comp=Z,1.9nm,0.8s,baz=128,slow=9.6,SNR=7.0 comp=Z,1.9nm,0.8s							

IDC 06 11:24:21.4±1.9, 0.°78N×126.°84E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=175.4km s-min=23.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.87	161	P	P	11 29 16.2	+0.1
0.6nm,0.5s,baz=339,slow=11,SNR=7.1 0.6nm,0.5s							
ASAR	Alice Springs	25.25	165	P	P	11 29 49.4	-0.1
1.2nm,0.9s,baz=346,slow=10,SNR=9.8 1.2nm,0.9s							
MKAR	Makanchi Array	60.04	326	P	P	11 34 30.8	+0.5
0.3nm,0.6s,baz=122,slow=7.3,SNR=2.2 0.3nm,0.6s							
KURBB	Kurchatov Arra	64.28	328	P	P	11 34 57.9	-0.6
0.2nm,0.4s,baz=128,slow=6.0,SNR=1.9 0.2nm,0.4s							

*IDC **06** 11:28:55.8±0.7, 38.°18N×143.°88E, h0km, mb4.0/16, mbtmp4.0/19, ML3.0/3, MS3.4/3, Error ellipse: s-maj=19.6km s-min=17.8km az=167.0*
*NIED **06** 11:28:55.9, 37.°45N×143.°77E, h60km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.16; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$1.31; $M_{r\theta}$-0.43; $M_{\theta\phi}$0.63; $M_{\phi r}$0.92; Fault plane solution: $M_0$1.72000×10^{15} NP1: ϕ_s175.00000°, δ65.00000°, λ-119.00000°. NP2: ϕ_s47.00000°, δ38.00000°, λ-44.00000°.*
*JMA **06** 11:28:55.9±0.3, 37.°5N±0.°8×14.°4E±.°, h60km, MV4.4/31, FAR E OFF FUKUSHIMA PREF*
ISC 06 11:28:54.6±3.3, 37.°71N±0.°05×143.°70E±0.°06, h6km±20km, n42, σ2°28/59, mb4.1/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.86	289	eP	Pn	11 29 28.6	+1.6
JIKH				eS	Sb	11 29 52.7	+0.1
JIO	Ouri	2.00	292	i P	Pb	11 29 30.7	-0.6
JIO				S	Sb	11 29 56.4	0.0
JKMT	Kesennumamotoy	2.07	303	i P	Pb	11 29 31.9	-0.6
JKMT				S	Sb	11 29 58.1	-0.3
OFUJ	Ofunato	2.10	311	i P	Pb	11 29 32.4	-0.7
OFUJ				S	Sb	11 29 59.2	-0.2
JMST	Minamisoumatoc	2.23	271	i P	Pn	11 29 32.2	+0.2
JMST				eS	Sn	11 29 59.5	-0.4
JFK	Kawauchi	2.27	262	P	Pn	11 29 32.5	-0.2
JFK				S	Sn	11 29 59.5	-1.5
JMK	Ichinoseki	2.31	303	P	Pb	11 29 35.5	-1.2
JMK				eS	Sb	11 30 04.6	-0.8
JOM	Ohasama	2.58	314	i P	Pb	11 29 39.7	-1.5
JOM				S	Sb	11 30 11.8	-1.3
JOM	Ohasama	2.58	314	A	A	11 29 39.7	
comp=E,4.0nm,0.3s,comp=N,3.0nm,0.3s							
JOTO	OTAMA OYAMA	2.68	268	P	Pn	11 29 39.5	+1.3
JOTO				S	Sn	11 30 12.1	+1.2
JYK	Kaneyama	2.89	296	eP	Pn	11 29 43.9	+2.7
JYK				S	Sb	11 30 19.9	-2.2
JANG	Nango	3.15	328	eP	Pn	11 29 46.8	+1.9
JANG				eS	Sn	11 30 24.8	+2.1
JOT	Ohata	4.20	332	eP	Pn	11 30 01.9	+2.8
JOT				S	Sn	11 30 49.0	+0.6
JRY	Ryogami san	4.20	248	P	Pn	11 29 58.0	-1.2
JRY				eS	Sn	11 30 43.1	-5.5
JOD2	Odawara 2	4.45	238	P	Pn	11 30 00.2	-2.3
JOD2				eS	Sn	11 30 48.3	-6.3
MJAR	Matsushiro Arr	4.54	257	Pn	Pn	11 30 03.9	0.0
comp=N,2.0nm,0.3s,baz=90,slow=15,SNR=88							
MJAR				Sn	Sn	11 30 57.3	+0.4
comp=N,1.1nm,0.3s,baz=290,slow=10,SNR=7.2							
JCH	Churui	4.90	357	i P	Pn	11 30 10.0	+1.2
JCH				S	Sn	11 31 04.9	-1.0
NEM2	Nemuro 2	5.86	15	P	Pn	11 30 20.2	-1.7
NEM2				eS	Sn	11 31 25.1	-4.2
JHR	Hokuryu	6.21	347	P	Pn	11 30 30.3	+3.5
JHR				eS	Sn	11 31 39.9	+1.9
JTKR	Abashiri--Toko	6.25	1	P	Pn	11 30 28.2	+0.8
JTKR				eS	Sn	11 31 37.6	-1.5
ASAJ	Asahikawa	6.45	353	Pn	Pn	11 30 31.7	+1.6
comp=N,9.4nm,0.3s,baz=197,slow=9.2,SNR=90							
ASAJ				Sn	Sn	11 31 35.2	-8.8
comp=N,1.5nm,0.3s,baz=199,slow=32,SNR=1.2							
USRK	Ussuriysk Ar.	10.97	310	Pn	Pn	11 31 29.5	-2.5
comp=N,0.1nm,0.3s,baz=114,slow=14,SNR=2.0 comp=N,1.3nm,0.6s							
JNU	Nakatsue	11.42	250	LR	LR	11 37 02.7	
comp=N,176nm,18.4s,baz=50,slow=42							
KSRS	Korea Array	12.52	274	Pn	Pn	11 31 55.7	+2.5
comp=N,0.1nm,0.3s,baz=160,slow=11,SNR=1.5							
KSRS				LR	LR	11 36 22.8	
comp=N,140nm,18.6s,baz=80,slow=35 comp=N,1.8nm,0.9s							
PETK	Petropavlovsk-	18.21	28	P	Pn	11 33 05.7	-2.2
comp=N,0.1nm,0.3s,baz=202,slow=11,SNR=1.3 comp=N,4.7nm,1.0s							
SONM	Songino Array	28.94	302	P	P	11 34 57.3	+2.7
comp=N,0.4nm,0.4s,baz=92,slow=36,SNR=3.4 comp=N,0.4nm,0.4s							
ZALV	Zalesovo Beam	42.81	312	P	P	11 36 53.5	+0.6
comp=N,0.9nm,0.5s,baz=96,slow=6.4,SNR=5.6							
ZALV				PcP	PcP	11 38 43.5	-0.6
comp=N,1.2nm,0.4s,baz=74,slow=3.6,SNR=4.2 comp=N,0.9nm,0.5s							
CMAR	Chiang Mai Arr	43.43	256	P	P	11 37 01.1	+2.8
comp=N,0.7nm,0.6s,baz=46,slow=6.5,SNR=5.9 comp=N,0.7nm,0.6s							
MKAR	Makanchi Array	45.30	302	P	P	11 37 14.3	+1.2
comp=N,1.0nm,0.7s,baz=81,slow=7.7,SNR=7.0 comp=N,1.0nm,0.7s							
KURBB	Kurchatov Arra	47.02	308	P	P	11 37 27.6	+1.1
comp=N,1.4nm,0.5s,baz=82,slow=8.1,SNR=13 comp=N,1.4nm,0.5s							
ILAR	Eielson Array	47.94	33	P	P	11 37 33.5	0.0
comp=N,3.0nm,0.8s,baz=265,slow=6.6,SNR=38 comp=N,3.0nm,0.8s							
BVAR	Borovoye Array	51.46	312	P	P	11 38 01.9	+1.3
comp=N,1.5nm,0.5s,baz=72,slow=9.5,SNR=6.7							
BVAR				PcP	PcP	11 39 14.3	-0.5
comp=N,0.7nm,0.6s,baz=73,slow=5.0,SNR=1.8 comp=N,1.5nm,0.5s							
CTA	Charters Tower	57.54	177	LR	LR	12 06 16.6	
comp=N,45nm,18.0s,baz=318,slow=39							
WRA	Warramunga Arr	58.02	190	P	P	11 38 54.7	+6.4
comp=N,5.0nm,0.6s,baz=11,slow=7.3,SNR=6.9 comp=N,5.0nm,0.6s							
ASAR	Alice Springs	61.74	190	P	P	11 39 20.6	+6.7
comp=N,2.1nm,0.8s,baz=6.0,slow=6.6,SNR=3.9 comp=N,2.1nm,0.8s							
ARCES	ARCESS Array B	64.00	340	P	P	11 39 28.4	+0.1
comp=N,0.7nm,0.7s,baz=47,slow=7.5,SNR=5.3 comp=N,0.7nm,0.7s							
FINES	FINESS Array B	69.05	333	P	P	11 40 00.5	-0.3
comp=N,2.4nm,0.9s,baz=67,slow=15,SNR=3.4 comp=N,2.4nm,0.9s							
NVAR	Mina Array Bea	73.12	54	P	P	11 40 25.7	-0.5
comp=N,0.5nm,0.8s,baz=292,slow=5.4,SNR=4.6 comp=N,0.5nm,0.8s							
HFS	Hagfors	74.21	337	P	P	11 40 32.8	+0.9
comp=N,1.1nm,0.4s,baz=35,slow=8.1,SNR=5.2 comp=N,1.1nm,0.4s							
AKASG	Malin Array Be	74.86	323	P	P	11 40 36.2	+0.4
comp=N,1.3nm,0.5s,baz=44,slow=6.0,SNR=7.3 comp=N,1.3nm,0.5s							
PDAR	Pinedale Array	75.89	47	P	P	11 40 41.1	-1.0
comp=N,0.5nm,0.7s,baz=291,slow=1.4,SNR=5.6 comp=N,0.5nm,0.7s							
TXAR	Lajitas Array	88.26	54	P	P	11 41 45.8	-1.4
comp=N,0.4nm,0.7s,baz=284,slow=2.7,SNR=6.3 comp=N,0.4nm,0.7s							

*BJI **06** 11:28:57.0±0.0, 6.°61S×156.°13E, h83km, mb5.2/68, mB5.1/34*
*IDC **06** 11:29:00.7±0.5, 6.°88S×155.°88E, h102km±4km, mb4.9/24, mbtmp5.2/29, MS3.7/38, Error ellipse: s-maj=10.7km s-min=9.1km az=79.0*
*GCMT **06** 11:29:00.3±0.2, 6.°94S±0.°02×155.°89E±0.°02, h98km±3km, MW5.1/97, Moment Tensor Solution. s38,c42; s97,c145; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.20±.17; $M_{\theta\theta}$2.35±.16; $M_{\phi\phi}$-4.54±.15; $M_{r\theta}$2.40±.11; $M_{\theta\phi}$0.74±.17; $M_{\phi r}$1.68±.12; Best double couple: $M_0$4.96100×10^{16} NP1: ϕ_s30.00000°, δ70.00000°, λ136.00000°. NP2: ϕ_s138.00000°, δ49.00000°, λ27.00000°. Principal axes: T 4.9830, Plg45.0000°, Azm346.0000°; N -0.0330, Plg43.0000°, Azm190.0000°; P -4.9400, Plg13.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. n

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	4.61 305			Pn	11 30 09.3	+0.9
RABL	Rabaul	4.61 305		P	Pn	11 29 59.6	-8.8
KRVT	Keravat (AS076	4.66 303		P	Pn	11 30 08.2	-0.9
	179nm,0.5s,baz=310,slow=1.0,SNR=20						
KRVT				S	Sn	11 31 06.3	+4.2
	1μm,0.7s,baz=61,slow=0.1,SNR=3.6						
HNR	Honiara	4.71 123			Pn	11 30 10.1	+0.4
HNR	Honiara	4.71 123		P	Pn	11 30 10.8	+1.1
HNR	Honiara	4.71 123		P	Pn	11 30 10.8	+1.1
	22μm,0.7s,baz=245,slow=2.5,SNR=50						
HNR				S	Sn	11 31 06.3	+3.1
	23μm,0.6s,baz=273,slow=19,SNR=1.9						
HNR				LR	LR	11 32 14.1	
	comp=Z,17μm,18.1s,baz=306,slow=41						
PMG	Port Moresby	9.04 253		P	Pn	11 31 09.3	+0.7
	386nm,0.4s,baz=68,slow=5.6,SNR=44						
PMG				S	Sn	11 32 51.3	+2.6
	102nm,0.7s,baz=176,slow=23,SNR=1.3						
PMG				LR	LR	11 34 41.1	
	comp=Z,706nm,18.4s,baz=53,slow=38						
MANU	Manus Island	9.80 299		P	Pn	11 31 08.8	-10
PATS	Pohnpei	13.83 10		P	Pn	11 32 11.5	-1.0
	baz=14,SNR=5.3						
PATS	Pohnpei	13.83 10		Pn	Pn	11 32 11.9	-0.6
PATS	Pohnpei	13.83 10		P	Pn	11 32 11.6	-1.0
COEN	Coen	14.38 240		Pn	Pn	11 32 21.1	+1.5
JAY	Jayapura	15.79 285		P	Pn	11 32 36.8	-0.6
	70nm,1.1s,756nm						
JAY	Jayapura	15.79 285		P	Pn	11 32 37.1	-0.3
	38nm,0.6s,baz=133,slow=5.4,SNR=18						
JAY				LR	LR	11 39 11.0	
	comp=Z,392nm,19.8s,baz=204,slow=39						
KOUNC	Koumac, New Ca	15.81 150		Pn	Pn	11 32 36.0	-1.6
MTSU	Mount Surprise	15.91 224		P	Pn	11 32 38.8	-0.2
	baz=16,SNR=11						
CTA	Charters Tower	16.14 215		P	P	11 32 42.6	-0.3
	11nm,0.9s,baz=38,slow=10,SNR=16						
CTA				LR	LR	11 38 01.5	
	comp=Z,364nm,19.4s,baz=37,slow=34						
CTAO	Charters Tower	16.14 215		P	P	11 32 43.1	+0.1
CTAO	Charters Tower	16.14 215		P	P	11 32 43.1	+0.1
GENI	Genyem	16.28 284		P	Pn	11 32 43.5	0.0
	114nm,0.7s,2μm						
SMPI	Sarmi	17.84 285		P	P	11 33 02.6	+0.8
	565nm,0.9s,4μm						
DZM	Mont Dzumac	18.19 147		*e*Pn	P	11 33 06.9	+1.3
	156nm,1.0s						
DZM				*e*LR	LR	11 37 17.7	
	comp=Z,1μm,30.2s						
DZM	Mont Dzumac	18.19 147		P	P	11 33 06.7	+1.1
DZM	Mont Dzumac	18.19 147		P	Pn	11 33 07.3	+0.6
	30nm,0.9s,baz=319,slow=22,SNR=12						
ONTNC	Ouen Toro	18.39 148		P	P	11 33 07.2	-0.4
YATNC	Mamie plateau,	18.42 146		P	Pn	11 33 12.9	+3.5
MARNC	Mare, Loyalty	18.64 142		P	P	11 33 11.5	+1.1
OUENC	Ouen Island, N	18.68 147		P	P	11 33 11.5	+0.5
TARA	Tarawa	18.82 65		P	P	11 33 12.6	0.0
EIDS	Eidsvold	18.96 194		P	P	11 33 14.5	+0.6
	baz=19,SNR=4.1						
EIDS	Eidsvold	18.96 194		P	Pn	11 33 15.2	-0.6
RMQ	Roma	20.66 199		P	P	11 33 32.9	+0.6
	baz=21,SNR=4.2						
QIS	Mount Isa	20.86 228		P	P	11 33 35.3	+0.7
	baz=21,SNR=18						
RKPI	Ransiki, Papua	22.34 283		P	P	11 33 50.2	-0.1
	280nm,1.3s						
KMPI	Kaimana, Papua	22.36 277		P	P	11 33 51.6	+1.0
	229nm,0.7s,2μm						
QLP	Quilpie	22.54 208		P	P	11 33 53.2	+1.1
	baz=23,SNR=5.9						
QLP	Quilpie	22.54 208		P	P	11 33 53.7	+1.5
AULRC	Lightning Ridg	23.65 198		P	P	11 34 03.8	+1.1
ARMA	Armidale	23.76 189		P	P	11 34 05.1	+1.3
	baz=24,SNR=4.9						
ARMA	Armidale	23.76 189		P	P	11 34 05.3	+1.5
KDU	Kakadu	23.82 254		P	P	11 34 04.0	-0.4
	baz=24,SNR=88						
KDU	Kakadu	23.82 254		P	P	11 34 05.0	+0.6
FAKI	Fak Fak	23.92 278		P	P	11 34 04.1	-1.3
	93nm,0.7s,2μm						
MSVF	Nonsavu	24.11 119		P	P	11 34 08.2	+1.1
MSVF	Nonsavu	24.11 119		*i* P	P	11 34 05.8	-1.4
SAUI	Saumlaki	24.45 266		P	P	11 34 10.1	-0.1
SAUI	Saumlaki	24.45 266		P	P	11 34 11.0	+0.8
	570nm,1.3s,8μm						
WR0	Warramunga Arr	24.49 236		P	P	11 34 11.0	+0.5
WB0	Warramunga Arr	24.52 236		P	P	11 34 11.2	+0.4
WRAB	Tennant Creek	24.64 236		P	P	11 34 12.2	+0.4
WRAB	Tennant Creek	24.64 236		P	P	11 34 12.2	+0.4
WRAB	Tennant Creek	24.64 236		*ce*P	P	11 34 10.9	-0.9
WRAB				pmax	pmax		
	comp=Z,184nm,1.3s						
WB2	Warramunga Arr	24.64 236		P	P	11 34 12.3	+0.4
WRA	Warramunga Arr	24.65 236		P	P	11 34 12.2	+0.2
WRA	Warramunga Arr	24.65 236		*i* P	P	11 34 10.5	-1.4
WRA				pmax	pmax		
	comp=Z,73nm,0.8s						
WRA	Warramunga Arr	24.65 236		P	P	11 34 11.5	-0.5
	comp=Z,103nm,0.7s,baz=74,slow=8.7,SNR=343						
WRA				PcP	PcP	11 37 47.4	+0.5
	comp=Z,14nm,0.7s,baz=59,slow=2.2,SNR=11						
WRA				ScP	ScP	11 41 19.5	+3.1
	comp=Z,5.4nm,0.9s,baz=69,slow=3.1,SNR=10						
	comp=Z,103nm,0.7s						
NFK	Norfolk Island	24.78 154		P	P	11 34 14.8	+1.8
	baz=25,SNR=5.5						
MTN	Manton Dam	25.13 254		P	P	11 34 16.2	-0.2
	baz=25,SNR=27						
MTN	Manton Dam	25.13 254		P	P	11 34 16.0	-0.3
MTN	Manton Dam	25.13 254		P	P	11 34 16.7	+0.4
INKA	Innaminka	25.25 213		P	P	11 34 17.1	-0.2
SWI	Sorong	25.32 283		P	P	11 34 17.4	-0.7
	comp=Z,352nm,0.7s,comp=Z,3μm						
CMSA	Cobar Meteorol	26.33 200		P	P	11 34 27.3	+0.4
	baz=26,SNR=26						
CMSA	Cobar Meteorol	26.33 200		P	P	11 34 27.4	+0.4
AS31	Alice Springs	26.95 229		P	P	11 34 32.5	-0.2
ASAR	Alice Springs	26.95 229		P	P	11 34 32.4	-0.4
	comp=Z,26nm,0.6s,baz=59,slow=9.3,SNR=620						
ASAR				PcP	PcP	11 37 52.8	+0.5
	comp=Z,16nm,0.8s,baz=58,slow=2.7,SNR=13						
ASAR				ScP	ScP	11 41 26.0	+3.0
	comp=Z,6.4nm,0.8s,baz=55,slow=3.4,SNR=19						
ASAR				LR	LR	11 44 41.5	
	comp=Z,279nm,18.6s,baz=55,slow=35						
	comp=Z,26nm,0.6s						
KNRA	Kununurra	28.01 249		P	P	11 34 42.1	-0.1
	baz=28,SNR=45						
KNRA	Kununurra	28.01 249		P	P	11 34 42.2	0.0
KNRA				IAmb	IAmb	11 34 48.5	
	comp=Z,47nm,0.8s						
STKA	Stephens Creek	28.24 206		P	P	11 34 43.8	-0.2
	baz=28,SNR=8.4						
STKA	Stephens Creek	28.24 206		P	P	11 34 43.9	-0.2
STKA	Stephens Creek	28.24 206		P	P	11 34 43.9	-0.2
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA	Stephens Creek	28.24 206		P	P	11 34 43.6	-0.5
	comp=Z,4.0nm,0.7s,baz=25,slow=12,SNR=9.1						
STKA				pP	pP	11 35 05.8	-0.8
	comp=Z,12nm,0.6s,baz=37,slow=12,SNR=6.7						
STKA				PcP	PcP	11 37 55.4	+0.3
	comp=Z,12nm,0.8s,baz=50,slow=7.9,SNR=6.1						
STKA				ScP	ScP	11 41 30.0	+3.2
	comp=Z,5.3nm,0.8s,baz=68,slow=5.4,SNR=6.3						
STKA				LR	LR	11 45 10.9	
	comp=Z,319nm,21.2s,baz=24,slow=34						
	comp=Z,4.0nm,0.7s						
OOD	Oodnadatta	28.30 220		P	P	11 34 44.5	-0.1
LCRK	Leigh Creek	28.74 213		P	P	11 34 48.6	+0.1
NLAI	Namlea	28.95 276		P	P	11 34 50.8	+0.3
	comp=Z,55nm,0.6s,comp=Z,5μm						
LBMI	Labuha	29.03 281		P	P	11 34 52.4	+1.1
	comp=Z,866nm,1.1s,comp=Z,8μm						
TNTI	Ternate	29.50 284		P	P	11 34 55.4	0.0
TNTI	Ternate	29.50 284		P	P	11 34 55.5	0.0
	comp=Z,113nm,1.2s						
SANI	Sanana	30.23 278		P	P	11 35 02.1	+0.2
SANI	Sanana	30.23 278		P	P	11 35 01.5	-0.4
	comp=Z,125nm,1.0s,comp=Z,1μm						
HTT	Hallett	30.77 209		P	P	11 35 06.8	+0.3
	baz=31,SNR=4.0						
MULG	Mulgathing	31.05 219		P	P	11 35 08.4	-0.5
WHYH	Whyalla	31.11 211		P	P	11 35 09.4	0.0
	comp=Z,43nm,0.8s						
SOEI	Soe	31.46 263		P	P	11 35 11.4	-1.5
SOEI				IAmb	IAmb	11 36 22.4	
	comp=Z,66nm,1.0s						
SOEI	Soe	31.46 263		P	P	11 35 13.0	+0.1
	comp=Z,47nm,0.7s,comp=Z,861nm						
BBOO	Buckleboo	31.73 213		P	P	11 35 14.5	-0.4
	baz=32,SNR=7.3						
BBOO	Buckleboo	31.73 213		P	P	11 35 14.3	-0.6
BBOO				IAmb	IAmb	11 35 38.5	
	comp=Z,83nm,1.6s						
TOO	Toolangi	31.99 196		P	P	11 35 17.2	0.0
TOO	Toolangi	31.99 196		P	P	11 35 17.2	0.0
TOO				pmax	pmax		
	comp=Z,39nm,1.6s						
WRKA	Warakurna	32.01 233		P	P	11 35 16.7	-0.8
	baz=32,SNR=103						
WRKA	Warakurna	32.01 233		P	P	11 35 17.0	-0.5
BATI	Baumata	32.08 262		P	P	11 35 18.2	0.0
	comp=Z,51nm,0.7s						
BATI	Baumata	32.08 262		P	P	11 35 17.2	-1.0
	comp=Z,23nm,0.7s,baz=114,slow=20,SNR=1.8						
BATI				LR	LR	11 50 33.5	
	comp=Z,244nm,18.7s,baz=118,slow=40						
	comp=Z,23nm,0.7s						
ARPS	Mount Arapiles	32.41 201		P	P	11 35 21.6	+0.8
	baz=33,SNR=6.2						
ARPS	Mount Arapiles	32.41 201		P	P	11 35 21.2	+0.4
OUZ	Omahuta	32.54 152		P	P	11 35 23.8	+1.8
DAV	Davao City (W)	33.30 294		LR	LR	11 49 00.8	
	comp=Z,93nm,18.3s,baz=130,slow=36						
MMRI	Maumere	33.43 265		P	P	11 35 28.0	-2.0
MMRI	Maumere	33.43 265		P	P	11 35 29.1	-0.9
MMRI	Maumere	33.43 265		P	P	11 35 29.5	-0.5
	comp=Z,184nm,0.7s,comp=Z,2μm						
LUWI	Luwuk	33.57 278		P	P	11 35 31.3	+0.1
	comp=Z,249nm,0.9s,comp=Z,4μm						
MRSI	Marisa	34.70 281		P	P	11 35 40.0	-0.9
	comp=Z,134nm,1.0s,comp=Z,932nm						
KUZ	Kuaotunu	34.78 152		P	P	11 35 43.8	+2.5
FORT	Forrest	35.31 224		P	P	11 35 45.9	-0.1
	baz=35,SNR=59						
FORT	Forrest	35.31 224		P	P	11 35 45.7	-0.3
FORT	Forrest	35.31 224		P	P	11 35 46.2	+0.2
TOZ	Tahuroa Road	35.48 153		P	P	11 35 48.6	+1.3
TOZ				IAmb	IAmb	11 36 10.9	
	comp=Z,44nm,1.3s						
TOZ	Tahuroa Road	35.48 153		P	P	11 35 48.7	+1.3
BKSI	Bulukumba	35.64 270		P	P	11 35 48.5	-0.5
	comp=Z,63nm,1.0s,comp=Z,499nm						
HIZ	Hauiti	35.84 154		P	P	11 35 52.3	+1.8
TOLI2	Tolitoli	35.97 281		P	P	11 35 50.6	-1.2
TOLI2	Tolitoli	35.97 281		P	P	11 35 51.2	-0.6
KAPI	Kappang	36.03 271		P	P	11 35 52.6	+0.1
KAPI	Kappang	36.03 271		P	P	11 35 51.8	-0.6
KAPI	Kappang	36.03 271		*i* P	P	11 35 52.5	+0.1
KAPI				pmax	pmax		
	comp=Z,107nm,0.8s						
KAPI	Kappang	36.03 271		P	P	11 35 52.2	-0.1
	comp=Z,119nm,0.9s,baz=95,slow=4.3,SNR=44						
	comp=Z,119nm,0.9s						
KAPI	Kappang	36.03 271		P	P	11 35 52.3	-0.1
KAPI				pP	pP	11 36 11.6	-4.2
KAPI				sP	pwP	11 36 21.6	+5.8
TTSI	Tana Toraja	36.17 274		P	P	11 35 53.9	+0.3
	comp=Z,39nm,0.8s,comp=Z,1μm						
VRZ	Vera Road	36.31 155		P	P	11 35 56.9	+2.5
HAZ	Te Kaha	36.58 150		P	P	11 35 57.9	+1.2
URZ	Urewera	36.65 152		P	P	11 35 58.2	+0.9
URZ	Urewera	36.65 152		LR	LR	11 48 48.8	
	comp=Z,192nm,20.0s,baz=33,slow=32						
MPSI	Mapaga	36.66 280		P	P	11 35 56.8	-1.0
	comp=Z,271nm,0.8s,comp=Z,2μm						
TAU	Tasmania Unive	36.68 191		P	P	11 35 59.0	+1.6
TAU				IAmb	IAmb	11 36 44.1	
	comp=Z,36nm,1.1s						
TAU	Tasmania Unive	36.68 191		P	P	11 35 59.0	+1.6
TAU				pmax	pmax		
	comp=Z,36nm,1.1s						
MXZ	Matakaoa Point	36.69 150		P	P	11 35 58.6	+1.0
NGZ	Ngauruhoe	36.71 154		P	P	11 35 59.7	+1.7
RTZ	Ruatahuna	36.88 152		P	P	11 36 00.3	+1.0
RTZ				IAmb	IAmb	11 36 03.5	
	comp=Z,28nm,0.7s						
RTZ	Ruatahuna	36.88 152		P	P	11 36 00.2	+1.0
QRZ	Quartz Range	36.91 159		P	P	11 36 01.2	+1.8
MWZ	Matawai	36.91 151		P	P	11 36 01.5	+1.9
MTHZ	Maungataniwha	37.00 152		P	P	11 36 01.9	+1.5
PUZ	Puketiti	37.06 150		P	P	11 36 01.3	+0.5
BKZ	Black Stump Fm	37.10 153		P	P	11 36 02.0	+0.9
BKZ				IAmb	IAmb	11 36 04.9	
	comp=Z,17nm,0.7s						
BKZ	Black Stump Fm	37.10 153		P	P	11 36 01.9	+0.7
RAHZ	Arahi	37.17 152		P	P	11 36 03.0	+1.3
BHHZ	Black Hill Sta	37.17 154		P	P	11 36 02.8	+1.0
SNGZ	Shannon Statio	37.18 152		P	P	11 36 02.8	+1.0
NMHZ	Naumai	37.18 153		P	P	11 36 03.1	+1.2
KWHZ	Kaweka Forest	37.28 153		P	P	11 36 04.3	+1.6
ARHZ	Aropaoanui	37.40 153		P	P	11 36 04.8	+1.1
KRHZ	Kereru	37.43 154		P	P	11 36 04.6	+0.6
KNZ	Kokohu	37.52 152		P	P	11 36 05.5	+0.8
TSZ	Takapari Road	37.60 154		P	P	11 36 06.1	+0.7
MBWA	Marble Bar	37.76 244		P	P	11 36 06.4	-0.6
MBWA	Marble Bar	37.76 244		P	P	11 36 06.6	-0.4
MBWA	Marble Bar	37.76 244		P	P	11 36 06.1	-0.9
MBWA				pP	pP	11 36 26.3	-3.8
MBWA				PcP	PcP	11 38 21.6	-0.3
PSA00	Pilbara Seismi	37.78 243		P	P	11 36 06.1	-1.1
PSA00				IAmb	IAmb	11 36 08.1	
	comp=Z,22nm,0.8s						
PSA00	Pilbara Seismi	37.78 243		P	P	11 36 06.6	-0.6
PLAI	Plampang	37.84 264		P	P	11 36 06.5	-1.2
PLAI	Plampang	37.84 264		P	P	11 36 05.8	-1.9
	comp=Z,154nm,0.8s,comp=Z,1μm						
THZ	Tophouse	37.86 159		P	P	11 36 08.3	+0.7
TCW	Tory Channel	37.89 157		P	P	11 36 08.6	+0.8
MRZ	Mangatainoka R	37.94 155		P	P	11 36 08.3	+0.1
PXZ	Pawanui	37.97 154		P	P	11 36 08.6	+0.2
INZ	Inchbonnie	38.23 161		P	P	11 36 11.4	+0.8
BFZ	Birch Farm	38.24 155		P	P	11 36 10.8	+0.2
FOZ	Fox Glacier	38.49 164		P	P	11 36 14.3	+1.7
LTZ	Lake Taylor	38.55 161		P	P	11 36 14.4	+1.1
KHZ	Kahutara	38.66 159		P	P	11 36 13.8	-0.4
TWSI	Taliwang, Sumb	38.72 265		P	P	11 36 14.7	-0.4
	comp=Z,62nm,0.8s						
OXZ	Oxford	38.96 161		P	P	11 36 16.9	+0.2
GVZ	Greta Valley S	38.97 160		P	P	11 36 16.4	-0.4
RPZ	Rata Peaks	39.01 163		P	P	11 36 18.5	+1.3
RPZ	Rata Peaks	39.01 163		LR	LR	11 50 16.4	
	comp=Z,160nm,20.8s,baz=337,slow=33						
MSZ	Milford Sound	39.07 166		P	P	11 36 20.5	+2.9
MYLDM	Lahad Datu	39.24 287		P	P	11 36 20.6	+1.1
BKB	Balikpapan	39.32 276		P	P	11 36 20.3	+0.2
LBZ	Lake Benmore	39.38 164		P	P	11 36 20.9	+0.7
MQZ	McQueen's Vall	39.50 161		P	P	11 36 21.1	0.0
TMZ	Timaru	39.61 163		P	P	11 36 21.9	-0.2
MLZ	Mavora Lakes	39.77 167		P	P	11 36 24.0	+0.5
KMBL	Kambalda	40.06 228		P	P	11 36 26.1	+0.1
	baz=40,SNR=31						
KMBL	Kambalda	40.06 228		P	P	11 36 26.2	+0.1
WHZ	Wether Hill Ro	40.23 167		P	P	11 36 27.2	0.0
IGBI	Denpasar	40.44 265		P	P	11 36 28.7	-0.7
MEEK	Meekatharra	40.55 237		P	P	11 36 29.9	-0.2
	baz=41,SNR=23						
MEEK	Meekatharra	40.55 237		P	P	11 36 30.0	-0.2
TUZ	Tuapeka	40.69 165		P	P	11 36 29.9	-1.0
BBKI	Banjar Baru	41.06 273		P	P	11 36 35.3	+0.8
	comp=Z,186nm,0.8s,comp=Z,15μm						
MTKI	Muara Teweh, K	41.35 276		P	P	11 36 37.0	+0.2
	comp=Z,201nm,1.0s						
JAGI	Jajag, Banyuwa	41.42 265		P	P	11 36 35.4	-2.1
JAGI				IAmb	IAmb	11 36 38.8	
	comp=Z,44nm,0.8s						
JAGI	Jajag, Banyuwa	41.42 265		P	P	11 36 35.0	-2.5
	comp=Z,60nm,0.8s						
KKM	Kota Kinabalu	41.66 287		P	P	11 36 39.4	-0.2
JHJ	Hachijo jima 2	42.64 340		LR	LR	11 52 37.0	
	comp=Z,73nm,20.3s,baz=100,slow=33						
JOW	Kunigami	42.92 322		LR	LR	11 52 11.2	
	comp=Z,68nm,20.4s,baz=304,slow=32						
KLBR	Kellerberrin	43.27 230		P	P	11 36 51.6	-0.6
	baz=43,SNR=45						
KLBR	Kellerberrin	43.27 230		P	P	11 36 51.5	-0.7
MORW	Morawa	43.58 235		P	P	11 36 54.1	-0.6
	baz=44,SNR=20						
MORW	Morawa	43.58 235		P	P	11 36 54.1	-0.6
MORW				IAmb	IAmb	11 36 55.1	
	comp=Z,43nm,0.8s						
MORW	Morawa	43.58 235		P	P	11 36 54.3	-0.4
BLDU	Balliidu	43.66 232		P	P	11 36 54.8	-0.6
	baz=44,SNR=9.2						
NWAO	Narrogin (SRO)	44.27 229		P	P	11 37 00.0	-0.2
	baz=44,SNR=11						
NWAO				P	P	11 37 00.0	-0.2
	baz=44,SNR=11						
NWAO	Narrogin (SRO)	44.27 229		P	P	11 36 59.9	-0.2
NWAO				IAmb	IAmb	11 37 00.7	
	comp=Z,36nm,0.9s						
NWAO	Narrogin (SRO)	44.27 229		P	P	11 36 59.9	-0.2
NWAO				pmax	pmax		
	comp=Z,36nm,0.9s						
NWAO	Narrogin (SRO)	44.27 229		LR	LR	11 55 01.8	
	comp=Z,232nm,18.3s,baz=233,slow=35						
SBUM	Sibu	44.61 281		P	P	11 37 03.7	+0.6
SBUM				IAmb	IAmb	11 37 05.1	
	comp=Z,44nm,1.1s						
MUN	Mundaring	44.63 231		P	P	11 37 02.8	-0.3
	baz=45,SNR=6.5						
MUN	Mundaring	44.63 231		P	P	11 37 03.2	+0.2
UGM	Wanagama	45.03 266		P	P	11 37 06.0	-0.5
	comp=Z,204nm,1.4s						
RKGY	Rocky Gully	45.24 227		P	P	11 37 08.7	+0.8
	baz=45,SNR=8.5						
YULB	Yu-li	45.29 313		P	P	11 37 08.2	-0.2
YULB				IAmb	IAmb	11 38 24.8	
	comp=Z,42nm,1.2s						
JMN	Monobe	45.48 334		P	P	11 37 10.9	+1.1
NACB	Ninganchiao	45.55 314		P	P	11 37 10.1	-0.3
NACB				IAmb	IAmb	11 37 11.3	
	comp=Z,32nm,1.0s						
INU	Inuyama	45.63 338		P	P	11 37 12.1	+1.3
INU	Inuyama	45.63 338		P	P	11 37 11.9	+1.1
TPUB	Ta-pu	45.72 312		P	P	11 37 10.8	-1.0
TPUB				IAmb	IAmb	11 37 38.5	
	comp=Z,68nm,1.3s						
SSLB	Suanglung	45.78 313		P	P	11 37 11.5	-0.8
SSLB				IAmb	IAmb	11 37 16.0	
	comp=Z,38nm,1.1s						
YHNB	Yeheng	46.01 314		P	P	11 37 13.9	-0.3
KSM	Kuching	46.28 279		P	P	11 37 15.9	-0.5
KSM	Kuching	46.28 279		P	P	11 37 16.8	+0.4
MJAR	Matsushiro Arr	46.29 340		P	P	11 37 15.4	-0.6
	comp=Z,11nm,0.7s,baz=170,slow=8.4,SNR=26						
MJAR				LR	LR	11 55 01.9	
	comp=Z,50nm,18.2s,baz=160,slow=34						
	comp=Z,11nm,0.7s						
MAJO	Matsushiro	46.29 340		P	P	11 37 15.8	-0.2
MAJO				IAmb	IAmb	11 37 17.3	
	comp=Z,28nm,0.8s						
MAJO	Matsushiro	46.29 340		*i* P	P	11 37 16.0	0.0
MAJO				pmax	pmax		
	comp=Z,98nm,2.0s						
MAJO	Matsushiro	46.29 340		P	P	11 37 15.6	-0.4
MJB9	Matsu-Tunnel	46.29 340		P	P	11 37 16.1	0.0
MJB9				IAmb	IAmb	11 37 18.3	
	comp=Z,27nm,0.7s						
JNU	Nakatsue	46.37 331		P	P	11 37 16.7	0.0
JNU	Nakatsue	46.37 331		P	P	11 37 16.9	+0.1
	comp=Z,62nm,0.8s,baz=97,slow=3.6,SNR=34						
JNU				LR	LR	11 56 05.9	
	comp=Z,62nm,18.1s,baz=156,slow=35						
	comp=Z,62nm,0.8s						
KPJI	Karang Pucung	46.63 266		P	P	11 37 18.5	-0.6
	comp=Z,115nm,0.8s						
CMJI	Cimerak	47.09 266		P	P	11 37 21.5	-1.1
	comp=Z,111nm,0.9s						
JSD	Sado	47.63 341		P	P	11 37 27.8	+1.4
JSD				IAmb	IAmb	11 37 29.3	
	comp=Z,28nm,0.7s						
BBJI	Bungbulang	47.89 266		P	P	11 37 28.2	-0.8
LEM	Lembang	47.96 267		P	P	11 37 29.1	-0.5
	comp=Z,96nm,0.8s						
LEM	Lembang	47.96 267		P	P	11 37 29.1	-0.5
	comp=Z,80nm,0.6s,baz=40,slow=6.0,SNR=10.0						
LEM				pP	pP	11 37 52.8	-1.5
	comp=Z,30nm,0.4s,baz=161,slow=21,SNR=2.4						
LEM				LR	LR	12 02 02.4	
	comp=Z,44nm,18.1s,baz=178,slow=41						
	comp=Z,80nm,0.6s						
CNJI	Cibinong	48.41 266		P	P	11 37 31.4	-1.5
	comp=Z,123nm,1.1s,comp=Z,895nm						
CBJI	Citeko	48.74 268		P	P	11 37 33.8	-1.6
	comp=Z,98nm,0.7s						
JTM	Tenmabayashi	49.37 345		P	P	11 37 40.2	+0.5
JTM				IAmb	IAmb	11 37 42.4	
	comp=Z,55nm,1.0s						
PPBI	Pangkal Pinang	49.84 273		P	P	11 37 43.6	-0.2
	comp=Z,93nm,0.8s,comp=Z,23μm						
CGJI	Cibinong	49.88 267		P	P	11 37 42.3	-1.7
	comp=Z,283nm,0.8s,comp=Z,2μm						
ERM	Erimo	50.05 348		P	P	11 37 45.4	+0.6
ERM				IAmb	IAmb	11 38 03.0	
	comp=Z,58nm,1.2s						
ERM	Erimo	50.05 348		P	P	11 37 45.4	+0.6
ERM				pmax	pmax		
	comp=Z,58nm,1.2s						
TJN	Taejon	50.70 330		P	P	11 37 50.0	+0.2
TJN	Taejon	50.70 330		*ce*P	P	11 37 49.7	-0.1
DLV	T Lat	50.76 291		P	P	11 37 50.5	-0.4
KASI	Kota Agung	51.14 268		P	P	11 37 51.1	-2.4
	comp=Z,128nm,1.3s						
KSRS	Korea Array	51.28 331		P	P	11

comp=Z,30nm,0.7s
YSS Yuzh-Sakhalins 54.87 349 P P 11 38 21.3 +1.1
YSS pP pP 11 38 44.3 -1.6
BKNI Bangkinang 55.23 275 P P 11 38 23.2 -0.3
USA0B Ussuriysk Arra 55.25 339 P P 11 38 23.9 +0.8
USA0B IAmb IAmb 11 38 25.3
comp=Z,29nm,1.1s
USA0B Ussuriysk Arra 55.25 339 *i* P **P 11 38 23.5 +0.4**
USRK Ussuriysk Ar. 55.25 339 P **P 11 38 23.9 +0.7**
USRK Ussuriysk Ar. 55.25 339 P **P 11 38 24.0 +0.9**
comp=Z,14nm,0.9s,baz=160,slow=6.5,SNR=23
USRK pP pP 11 38 47.0 -1.7
comp=Z,8.9nm,0.9s,baz=154,slow=7.4,SNR=3.9
USRK LR LR 11 58 01.9
comp=Z,30nm,20.5s,baz=168,slow=32
comp=Z,14nm,0.9s
PDSI Padang 55.63 274 P **P 11 38 23.8 -2.7**
comp=Z,78nm,0.6s,comp=Z,2μm
KULM Kulim 56.48 281 P **P 11 38 31.2 -1.3**
MDJ Mudanjiang 56.49 338 P **P 11 38 32.0 +0.1**
MDJ pP pP 11 38 57.6 0.0
MDJ sP sP 11 39 08.0 -1.3
MDJ PcP **PcP 11 39 32.2 +4.7**
MDJ PP **PP 11 40 41.1 +2.2**
MDJ ScP **ScP 11 43 17.7 +0.3**
MDJ S **S 11 46 16.2 +1.1**
MDJ pmax pmax
comp=Z,18nm,1.2s
MDJ pmax pmax
comp=Z,230nm,11.2s
MDJ Mudanjiang 56.49 338 P **P 11 38 33.2 +1.3**
MDJ Mudanjiang 56.49 338 P **P 11 38 32.9 +1.0**
SISI Saibi 56.94 273 P **P 11 38 35.6 -0.1**
comp=Z,79nm,0.8s
CN2 Changchun 57.49 334 *e*P **P 11 38 39.7 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
NONG Nongkai 57.69 296 P **P 11 38 41.2 +0.3**
RPSI Rantau Prapat 57.69 278 P **P 11 38 39.3 -1.7**
PSI Prapat 57.71 278 P **P 11 38 39.3 -2.0**
PSI pmax pmax
comp=Z,12nm,0.8s
ENH Enshi 57.85 312 P **P 11 38 42.6 +0.7**
ENH Enshi 57.85 312 P **P 11 38 41.7 -0.2**
ENH PcP **PcP 11 39 32.7 -0.6**
NAYO Nakonayok 58.12 291 P **P 11 38 44.8 +0.8**
LYN LuoYang 58.16 318 ⇓P **P 11 38 44.1 +0.2**
LYN S **S 11 46 38.7 +1.3**
LYN SS **SS 11 50 32.9 +2.0**
LYN pmax pmax
comp=Z,44nm,0.5s
SRIT Nakonsritamara 58.22 284 P **P 11 38 44.4 -0.4**
SRIT Nakonsritamara 58.22 284 P **P 11 38 44.6 -0.1**
BNX BinXian 58.27 337 ⇓P **P 11 38 45.1 +0.7**
BNX pmax pmax
comp=Z,22nm,0.8s
BNX pmax pmax
comp=Z,57nm,3.6s
SURA Surathani 58.33 285 P **P 11 38 45.5 0.0**
COCO West Island 58.43 260 P **P 11 38 44.9 -1.2**
COCO West Island 58.43 260 P **P 11 38 44.9 -1.2**
COCO pmax pmax
comp=Z,931nm,2.0s
HNS HongShan 58.49 322 ⇑P **P 11 38 46.3 +0.2**
HNS pmax pmax
comp=Z,57nm,1.2s
GSI Gunungsitoli 58.80 276 P **P 11 38 47.6 -1.2**
GSI Gunungsitoli 58.80 276 P **P 11 38 49.2 +0.4**
GSI Gunungsitoli 58.80 276 P **P 11 38 47.3 -1.5**
comp=Z,194nm,0.9s
KCSI Kotacane, Aceh 58.97 278 P **P 11 38 47.4 -2.6**
comp=Z,43nm,0.7s,comp=Z,2μm
BJT Baijiatuau 59.35 325 P **P 11 38 51.7 -0.3**
BJT IAmb IAmb 11 38 54.6
comp=Z,14nm,0.7s
BJT Baijiatuau 59.35 325 P **P 11 38 53.2 +1.2**
BJT Baijiatuau 59.35 325 P **P 11 38 51.7 -0.3**
BJT pmax pmax
comp=Z,14nm,0.7s
BJI Beijing 59.36 325 P **P 11 38 52.0 -0.1**
BJI pmax pmax
comp=Z,6.0nm,0.7s
PET Petropavlovsk 59.72 2 P **P 11 38 54.4 +0.1**
PET IAmb IAmb 11 40 13.8
comp=Z,36nm,1.1s
KLR Kul'dur 59.75 342 *ce*P **P 11 38 55.3 +0.7**
KLR pmax pmax
comp=Z,36nm,1.6s
KLR Kul'dur 59.75 342 P **P 11 38 55.1 +0.5**
comp=Z,8.7nm,0.8s,baz=178,slow=1.6,SNR=22
KLR pP **pP 11 39 19.5 -0.9**
comp=Z,8.9nm,1.0s,baz=136,slow=7.9,SNR=4.9
comp=Z,8.7nm,0.8s
PEA0B Petropavlovsk- 59.78 1 P **P 11 38 55.3 +0.5**
PEA0B Petropavlovsk- 59.78 1 P **P 11 38 55.3 +0.5**
PEA0B pmax pmax
comp=Z,49nm,1.2s
PETK Petropavlovsk- 59.78 1 P **P 11 38 56.0 +1.3**
PETK Petropavlovsk- 59.78 1 P **P 11 38 55.8 +1.1**
comp=Z,18nm,0.8s,baz=172,slow=7.4,SNR=16
PETK pP **pP 11 39 19.4 -1.1**
comp=Z,19nm,0.9s,baz=155,slow=5.0,SNR=4.9
comp=Z,18nm,0.8s
LHMI Lhok Sumawe 60.09 280 P **P 11 38 56.8 -0.8**
LHMI Lhok Sumawe 60.09 280 P **P 11 38 56.8 -0.8**
comp=Z,82nm,1.4s
TIY Taiyuan 60.09 321 *e*P **P 11 38 58.6 +1.3**
TIY pmax pmax
comp=Z,18nm,0.7s
XAN Xi'an 60.28 316 ⇑P **P 11 38 58.3 -0.3**
XAN pmax pmax
comp=Z,41nm,0.7s
XAN Xi'an 60.28 316 P **P 11 38 58.4 -0.3**
MLSI Meulaboh, Aceh 60.44 279 P **P 11 38 58.2 -1.8**
comp=Z,101nm,0.8s
DRV Dumont d'Urvil 60.69 187 P **P 11 39 00.1 -0.6**
DRV pP pP 11 39 20.8 -5.4
KMI Kunming 60.73 304 ⇓P **P 11 39 03.0 +0.9**
KMI pmax pmax
comp=Z,16nm,1.2s
CRAI Chiangrai 60.90 298 P **P 11 39 03.4 +0.4**
CRAI IAmb IAmb 11 39 04.6
comp=Z,25nm,1.0s
SHEM Shemya Is, Ala 61.37 12 LR LR 12 02 19.0
comp=Z,98nm,19.1s,baz=188,slow=33
CM31 Chiang Mai Arr 61.58 295 P **P 11 39 08.4 +0.7**
CM31 IAmb IAmb 11 39 09.4
comp=Z,40nm,1.0s
CMAR Chiang Mai Arr 61.58 295 P **P 11 39 07.7 +0.1**
CMAR Chiang Mai Arr 61.58 295 *i* P **P 11 39 08.3 +0.6**
CMAR pmax pmax
comp=Z,24nm,0.9s
CMAR Chiang Mai Arr 61.58 295 P **P 11 39 08.2 +0.5**
comp=Z,24nm,0.9s,baz=113,slow=5.0,SNR=104
CMAR LR LR 12 06 13.3
comp=Z,15nm,19.0s,baz=120,slow=36
comp=Z,24nm,0.9s
CHTO Chiang Mai 61.70 296 P **P 11 39 08.8 +0.4**
CHTO Chiang Mai 61.70 296 P **P 11 39 08.8 +0.4**
CHTO pmax pmax
comp=Z,1.0nm,1.2s
HEH HeiHe 62.05 340 *e*P **P 11 39 10.3 +0.2**
HEH pmax pmax
comp=Z,15nm,0.8s
XLT XiLinHaoTe 62.05 328 *e*P **P 11 39 10.8 +0.4**
XLT pP pP 11 39 27.0 -10
XLT sP PcP 11 39 40.6 -9.3
XLT PcP sP 11 39 48.3 +0.1
XLT ScP **ScP 11 43 42.9 +0.6**
XLT PcS **PcS 11 43 47.4 -5.7**
XLT S **S 11 47 29.3 +2.2**
XLT sS pS 11 48 05.3 +9.4
XLT SS **SS 11 51 36.4 +4.6**
XLT pmax pmax
comp=Z,130nm,0.8s
XLT pmax pmax
comp=Z,180nm,5.1s
PZH PanZhiHua 62.12 305 P **P 11 39 13.6 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.5s
CD2 Chengdu 62.45 310 P **P 11 39 13.1 -0.2**
CD2 pmax pmax
comp=Z,50nm,0.6s

HHC Hu-ho-hao-te 62.56 323 *e*P **P 11 39 14.6 +0.7**
HHC pmax pmax
comp=Z,70nm,0.9s
HHC pmax pmax
comp=Z,120nm,4.3s
BTO Baotou 63.34 322 ⇓*i*P **P 11 39 21.1 +2.0**
BTO pP pP 11 39 40.8 -4.5
BTO sP **PcP 11 39 49.3 -5.9**
BTO S **S 11 47 47.4 +4.1**
BTO pmax pmax
comp=Z,54nm,0.9s
BTO pmax pmax
comp=Z,190nm,10.8s
TNCH TengChong 64.22 302 *e*P **P 11 39 25.4 +0.2**
TNCH pP pP 11 39 47.6 -3.8
TNCH pmax pmax
comp=Z,28nm,0.7s
HIA Hailar 64.22 335 P **P 11 39 25.0 +0.4**
HIA IAmb IAmb 11 39 26.8
comp=Z,14nm,0.6s
HIA Hailar 64.22 335 P **P 11 39 26.3 +1.7**
HIA Hailar 64.22 335 P **P 11 39 25.0 +0.4**
HIA pmax pmax
comp=Z,14nm,0.6s
HIA Hailar 64.22 335 P **P 11 39 25.3 +0.8**
LZH Lanzhou 64.89 315 *e*P **P 11 39 30.2 +0.8**
LZH pmax pmax
comp=Z,34nm,1.4s
ZEA Zeya 65.06 342 *e*P **P 11 39 30.9 +1.0**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,40nm,1.0s
MND Mandalay 65.24 298 P **P 11 39 32.7 +1.0**
MA2 Magadan 66.37 357 P **P 11 39 39.0 +0.8**
MA2 IAmb IAmb 11 41 23.9
comp=Z,62nm,1.8s
MA2 Magadan 66.37 357 *ce*P **P 11 39 38.5 +0.3**
MA2 pmax pmax
comp=Z,12nm,0.8s
MA2 Magadan 66.37 357 LR LR 12 09 24.2
comp=Z,27nm,18.9s,baz=179,slow=36
MA2 Magadan 66.37 357 P **P 11 39 38.8 +0.6**
MA2 pP **PcP 11 40 02.5 -4.7**
CASY Casey 66.99 198 P **P 11 39 42.3 +0.3**
CASY Casey 66.99 198 P **P 11 39 41.9 -0.2**
CASY pP **PcP 11 40 04.1 -5.6**
GTA Gaotai 69.30 317 *e*P **P 11 39 57.9 +0.7**
GTA pmax pmax
comp=Z,11nm,0.7s
BRDH Bariadhala 69.38 297 LR LR 12 09 54.0
comp=Z,55nm,20.4s,baz=64,slow=35
ULN Ulaanbaatar 69.41 327 P **P 11 39 59.0 +1.3**
ULN Ulaanbaatar 69.41 327 *ce*P **P 11 39 58.9 +1.2**
ULN pmax pmax
comp=Z,90nm,0.9s
ULN Ulaanbaatar 69.41 327 P **P 11 39 58.8 +1.1**
ULN pP **PcP 11 40 20.6 +0.2**
SEY Seymchan 69.67 358 *ce*P **P 11 39 59.6 +0.9**
SEY pmax pmax
comp=Z,11nm,1.1s
SEY Seymchan 69.67 358 LR LR 12 06 49.4
comp=Z,34nm,21.4s,baz=178,slow=33
SONM Songino Array 69.75 327 P **P 11 40 00.6 +0.9**
SONM Songino Array 69.75 327 P **P 11 40 00.9 +1.1**
comp=Z,91nm,0.8s,baz=137,slow=6.3,SNR=337
SONM LR LR 12 10 27.9
comp=Z,36nm,19.5s,baz=124,slow=36
comp=Z,91nm,0.8s
SHL Shillong 70.05 300 P **P 11 40 02.2 +0.1**
SHL IAmb IAmb 11 40 24.7
comp=Z,40nm,1.1s
SHL Shillong 70.05 300 P **P 11 40 02.2 +0.1**
SHL pmax pmax
comp=Z,40nm,1.1s
CCD Concordia, Ant 70.65 188 P **P 11 40 05.8 +0.6**
CCD PcP **PcP 11 40 26.6 +1.1**
CCD pP **pP 11 40 29.7 -1.6**
SBA Scott Base 71.16 178 P **P 11 40 09.2 +1.5**
YAK Yakutsk 71.65 347 *ce*P **P 11 40 11.6 +0.8**
YAK pmax pmax
comp=Z,28nm,1.3s
LSA Lhasa 71.98 304 P **P 11 40 13.4 -0.7**
LSA Lhasa 71.98 304 P **P 11 40 13.4 -0.7**
LSA pmax pmax
comp=Z,11nm,0.7s
BOD Bodaibo 72.86 338 *e*P **P 11 40 18.3 +0.2**
BOD pmax pmax
comp=Z,20nm,1.7s
ZAK Zakamensk 72.89 328 *e*P **P 11 40 18.7 +0.1**
ZAK pmax pmax
comp=Z,46nm,1.0s
O15K Ungalikthiuk R 74.68 22 P **P 11 40 29.4 +0.7**
baz=226
MOY Mondy 74.81 328 *e*P **P 11 40 30.3 +0.5**
MOY pmax pmax
comp=Z,41nm,2.4s
N15K Kwethluk River 75.28 21 P **P 11 40 33.7 +1.5**
baz=225
J14K Nanvaranak Lak 76.01 18 P **P 11 40 37.5 +1.3**
baz=222
Q18K Katmai Hardscr 76.19 24 P **P 11 40 38.3 +0.8**
baz=230
M16K Timber Creek 76.28 21 P **P 11 40 38.8 +1.1**
baz=226
K15K Wolf Creek Mou 76.31 19 P **P 11 40 38.9 +1.0**
baz=224
L16K Owhat River 76.58 20 P **P 11 40 39.9 +0.4**
baz=226
TNA Tin City 76.98 15 P **P 11 40 43.4 +1.8**
baz=217
N18K Kilae Creek 77.16 22 P **P 11 40 44.0 +1.2**
baz=229
L17K Donlin 77.27 20 P **P 11 40 44.8 +1.4**
baz=227
J16K Anvik River 77.32 19 P **P 11 40 44.7 +1.1**
baz=224
P19K Oil Pt 77.53 24 P **P 11 40 46.7 +1.8**
baz=232
K17K Iditarod 77.67 20 P **P 11 40 46.9 +1.3**
baz=227
I17K Unalakleet 77.72 18 P **P 11 40 47.3 +1.5**
baz=224
J17K VABM Dome 77.89 19 P **P 11 40 48.3 +1.5**
baz=226
L18K Granite Mounta 77.89 21 P **P 11 40 47.9 +1.2**
baz=228
G16K Koyuk River 78.33 17 P **P 11 40 50.5 +1.4**
baz=222
M19K Big River Lodg 78.50 22 P **P 11 40 50.5 +0.3**
M19K Big River Lodg 78.50 22 P **P 11 40 51.1 +0.9**
baz=230
L19K White Mountain 78.51 21 P **P 11 40 51.4 +1.1**
L19K White Mountain 78.51 21 P **P 11 40 51.4 +1.1**
baz=230
TTA Tatalina 78.59 20 P **P 11 40 52.8 +2.1**
baz=229
J18K Innoko River 78.71 20 P **P 11 40 51.8 +0.5**
baz=228
H17K Granite Mounta 78.71 18 P **P 11 40 52.5 +1.2**
baz=225
G17K Kiwalik Mounta 78.90 17 P **P 11 40 53.3 +1.0**
baz=224
H18K Honhosa River 79.33 18 P **P 11 40 56.0 +1.3**
baz=226
WMQ Urumqi 79.38 317 *e*P **P 11 40 56.1 +0.6**
WMQ PcP **PcP 11 41 03.3 0.0**
WMQ pmax pmax
comp=Z,12nm,1.3s
F17K Baldwin Pennin 79.41 16 P **P 11 40 56.4 +1.4**
baz=223
J19K Poorman 79.43 20 P **P 11 40 56.2 +1.0**
baz=229
GCSA Galena City Sc 79.52 19 P **P 11 40 56.7 +1.1**
baz=228
K20K Teller 79.54 21 P **P 11 40 56.3 +0.4**
baz=231
SUA Susitna One 79.61 23 P **P 11 40 56.3 0.0**
baz=234
SKT Skwentna 79.61 22 P **P 11 40 57.8 +1.5**
baz=233
E17K Hotham Inlet 79.73 16 P **P 11 40 57.6 +0.9**
baz=223
G18K Tagagawik 79.76 17 P **P 11 40 58.0 +1.0**
baz=226
D17K Noatak River 79.86 15 P **P 11 40 58.0 +0.6**
baz=221
PPLA Purkeypile 79.93 21 P **P 11 40 58.6 +0.5**
baz=232
F18K Selawik 79.97 16 P **P 11 40 58.8 +0.8**
baz=225
M22K Willow 80.02 23 P **P 11 40 58.5 +0.1**
baz=235
J20K Nowinta River 80.04 20 P **P 11 40 59.6 +1.1**
J20K Nowinta River 80.04 20 P **P 11 40 58.9 +0.4**
baz=230
HYB Hyderabad 80.12 289 *e*P **P 11 40 59.5 -0.5**
HYB *e*PcP **PcP 11 41 07.2 +0.2**
HYB *e*S **S 11 50 59.8 +3.2**
H19K Roundabout Mou 80.18 18 P **P 11 40 59.9 +0.7**
baz=228,SNR=9.6
PWL Port Wells 80.22 24 P **P 11 41 00.2 +0.6**
baz=236
CAST Castle Rocks 80.28 21 P **P 11 41 00.2 +0.3**
CAST Castle Rocks 80.28 21 P **P 11 41 00.5 +0.6**
baz=232
E18K Tukpahlearik C 80.30 16 P **P 11 41 00.6 +0.7**
baz=224
PMR Palmer 80.32 23 P **P 11 41 00.4 +0.4**
baz=236
I20K Naaghedeneel 80.33 19 P **P 11 41 01.0 +1.0**
baz=230
TIXI Tiksi 80.38 352 P **P 11 40 59.2 -0.9**
TIXI Tiksi 80.38 352 *ce*P **P 11 40 59.2 -0.9**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
G19K Purcell Mounta 80.40 18 P **P 11 41 01.6 +1.2**
baz=227,SNR=9.4
C17K DeLong Mountai 80.42 14 P **P 11 41 01.3 +0.8**
baz=221
CHUM Lake Minchumin 80.49 21 P **P 11 41 01.6 +0.7**
baz=232
H20K Anotleneega Mo 80.65 19 P **P 11 41 02.4 +0.7**
baz=230
F19K Shaleruckik Mo 80.67 17 P **P 11 41 02.6 +0.8**
baz=227
SML Sawmill 80.75 23 P **P 11 41 03.2 +0.8**
baz=236
KTH Kantishna Hill 80.78 21 P **P 11 41 02.3 -0.2**
KTH IAmb IAmb 11 41 50.8
comp=Z,70nm,1.9s
TRF Thorofare Moun 80.95 22 P **P 11 41 04.1 +0.5**
baz=234
C18K Utukok River 81.04 15 P **P 11 41 04.7 +0.9**
baz=223
BPAW Bear Paw Mtn. 81.08 21 P **P 11 41 04.6 +0.5**
baz=233
SCM Sheep Creek Mo 81.16 24 P **P 11 41 05.2 +0.5**
baz=237
WAT1 Susitna Watana 81.24 23 P **P 11 41 05.6 +0.6**
baz=236
E19K Redstone River 81.25 17 P **P 11 41 06.5 +1.5**
baz=227
IMAR Indian Mountai 81.32 19 P **P 11 41 06.1 +0.8**
F20K Avaraart Lake 81.41 17 P **P 11 41 07.1 +1.4**
baz=229,SNR=5.5
H21K Melozitna Rive 81.42 19 P **P 11 41 07.4 +1.5**
H21K Melozitna Rive 81.42 19 P **P 11 41 07.3 +1.5**
baz=232
RND Reindeer 81.45 22 P **P 11 41 06.3 +0.2**
RND IAmb IAmb 11 41 51.9
comp=Z,60nm,1.9s
RND Reindeer 81.45 22 P **P 11 41 06.3 +0.2**
RND pmax pmax
comp=Z,60nm,1.9s
KLU Klutina 81.55 24 P **P 11 41 08.0 +1.3**
baz=238
MCK McKinley 81.61 22 P **P 11 41 07.5 +0.6**
baz=235
DGZ Jazzator, Alta 81.62 322 *i* P **P 11 41 07.4 -0.1**
DGZ pmax pmax
comp=Z,13nm,0.8s
MLY Manley 81.73 20 P **P 11 41 07.8 +0.3**
MLY Manley 81.73 20 P **P 11 41 08.0 +0.5**
baz=234
D19K Kuna River 81.73 16 P **P 11 41 07.9 +0.4**
baz=226
G21K Allakaket 81.74 18 P **P 11 41 08.1 +0.6**
baz=231
C19K Lookout Ridge 81.78 15 P **P 11 41 08.9 +1.2**
baz=225
DHY Denali Highway 81.82 23 P **P 11 41 08.9 +0.7**
baz=237
NEA2 Nenana 82.05 21 P **P 11 41 09.5 +0.3**
baz=235
E20K Nigu River 82.09 16 P **P 11 41 10.4 +1.0**
baz=228,SNR=9.3
F21K Alatna River 82.19 18 P **P 11 41 10.7 +0.8**
baz=231
I23K Minto, Yukon-K 82.27 20 P **P 11 41 11.0 +0.7**
baz=235
D20K Etivluk River 82.28 16 P **P 11 41 11.3 +1.0**
baz=228
ZSN Zaisan 82.46 320 *e*P **P 11 41 11.7 0.0**
baz=320
ZSN Zaisan 82.46 320 *e*P **P 11 41 11.7 0.0**
H23K Yukon River 82.60 20 P **P 11 41 12.8 +0.7**
baz=235
G22K Bettles 82.61 18 P **P 11 41 12.6 +0.5**
baz=233
COLA College 82.64 21 P **P 11 41 11.9 -0.3**
COLA College 82.64 21 P **P 11 41 11.9 -0.3**
COLA pmax pmax
comp=Z,18nm,0.9s
COLA College 82.64 21 P **P 11 41 13.1 +0.9**
baz=236
MCARA McCarthy VSAT 82.70 25 P **P 11 41 14.2 +1.6**
baz=241
HDA Harding Lake 82.71 22 P **P 11 41 13.7 +1.1**
baz=237
F22K John River 82.77 18 P **P 11 41 13.9 +1.0**
baz=232
K24K Donnelly Dome 82.82 22 P **P 11 41 14.0 +0.8**
baz=238
E21K Killik River 82.83 17 P **P 11 41 13.9 +0.7**
baz=230
POKR Poker Plat Res 82.92 21 P **P 11 41 12.3 -1.4**
baz=237
IL31 82.93 21 P **P 11 41 12.6 -1.1**
IL31 IAmb IAmb 11 41 49.1
comp=Z,48nm,1.9s
ILAR Eielson Array 82.93 21 P **P 11 41 12.8 -0.9**
ILAR Eielson Array 82.93 21 P **P 11 41 13.1 -0.6**
comp=Z,4.8nm,0.9s,baz=257,slow=5.3,SNR=30
ILAR PKKPbc **PKKPbc 11 59 35.6 -3.8**
comp=Z,0.1nm,0.5s,baz=23,slow=1.8,SNR=5.7
ILAR LR LR 12 17 10.1
comp=Z,46nm,18.3s,baz=227,slow=35
comp=Z,4.8nm,0.9s
IL03 Eielson Array 82.94 21 P **P 11 41 12.9 -0.9**
G23K Bananza Creek 82.96 19 P **P 11 41 14.5 +0.6**
baz=234
B20K Meade River 83.02 15 P **P 11 41 14.9 +0.8**
baz=227
C21K Knifeblade Rid 83.07 16 P **P 11 41 15.6 +1.2**
baz=229
QSPA South Pole Qui 83.09 180 P **P 11 41 15.3 +0.6**
QSPA IAmb IAmb 11 41 16.6
comp=Z,75nm,1.4s
QSPA South Pole Qui 83.09 180 P **P 11 41 14.9 +0.1**
comp=Z,20nm,0.8s,baz=3.0,slow=2.6,SNR=166
QSPA pP **pP 11 41 40.9 -0.8**
comp=Z,18nm,0.8s,baz=105,slow=1.9,SNR=8.4
QSPA LR LR 12 14 12.8
comp=Z,38nm,19.4s,baz=14,slow=33
comp=Z,20nm,0.8s
RIDG Independent Ri 83.14 23 P **P 11 41 15.2 +0.3**
RIDG IAmb IAmb 11 42 09.3
comp=Z,54nm,1.8s
RIDG Independent Ri 83.14 23 P **P 11 41 15.2 +0.3**
baz=239
H24K Noodor Dome 83.17 20 P **P 11 41 16.4 +1.4**
baz=236
M26K Nabesna, AK 83.20 24 P **P 11 41 16.6 +1.3**
baz=241
COLD Coldfoot 83.21 18 P **P 11 41 15.5 +0.3**
baz=234
CTG Chitna Glacier 83.22 26 P **P 11 41 15.0 -0.5**
baz=243
E22K Anaktuvuk Pass 83.26 17 P **P 11 41 15.5 +0.1**
baz=232

L26K Log Cabin Wild 83.37 24 P P 11 41 16.4 +0.3
baz=241
J25K Salcha River, 83.40 22 P P 11 41 16.2 0.0
J25K IAmb IAmb 11 41 51.0
comp=Z,61nm,2.0s
J25K Salcha River, 83.40 22 P P 11 41 16.7 +0.5
baz=239
B21K Ikpikpuk River 83.42 16 P P 11 41 17.0 +0.9
baz=229
D22K Ayikyak River 83.48 17 P P 11 41 17.5 +1.0
baz=231
SCRK Sand Creek 83.59 23 P P 11 41 18.0 +0.7
SCRK Sand Creek 83.59 23 P P 11 41 18.2 +0.9
baz=240
M27K Edge Creek, AK 83.64 25 P P 11 41 18.3 +0.7
M27K IAmb IAmb 11 41 47.3
comp=Z,94nm,1.9s
M27K Edge Creek, AK 83.64 25 P P 11 41 18.3 +0.7
baz=242,SNR=5.6
G24K Hadweenzic Riv 83.79 20 P P 11 41 19.2 +1.1
baz=236
E23K Chandalar 83.88 18 P P 11 41 19.7 +1.0
baz=234
MK31 Makanchi Array 83.94 318 P P 11 41 19.6 +0.2
MK31 IAmb IAmb 11 41 20.8
comp=Z,40nm,0.8s
MK31 Makanchi Array 83.94 318 *i* P **P 11 41 19.6 +0.2**
MKAR Makanchi Array 83.94 318 P **P 11 41 19.6 +0.2**
comp=Z,49nm,0.8s,baz=104,slow=5.5,SNR=285
MKAR pP **pP 11 41 45.4 -1.4**
comp=Z,23nm,0.8s,baz=101,slow=6.3,SNR=3.5
MKAR LR LR 12 21 36.1
comp=Z,24nm,18.1s,baz=98,slow=38
comp=Z,49nm,0.8s
L27K Beaver Creek, 83.99 24 P P 11 41 20.2 +0.9
baz=242
BCAR Beaver Creek A 84.01 24 P P 11 41 19.5 +0.1
J26L Joseph Creek 84.01 22 P P 11 41 20.4 +1.0
baz=240
D23K Nanushuk River 84.10 17 P P 11 41 21.0 +1.3
baz=233,SNR=7.9
F24K Squaw Lake 84.11 19 P P 11 41 20.6 +0.8
baz=236
MAKZ Makanchi 84.15 318 P P 11 41 20.6 +0.2
MAKZ Makanchi 84.15 318 P P 11 41 20.6 +0.2
MAKZ pmax pmax
comp=Z,59nm,0.9s
B22K Teshekpuk Lake 84.20 15 P P 11 41 21.3 +1.2
baz=230
TOLK Toolik Lake Re 84.23 17 P P 11 41 21.9 +1.5
TOLK IAmb IAmb 11 41 42.4
comp=Z,55nm,1.9s
TOLK Toolik Lake Re 84.23 17 P P 11 41 21.2 +0.8
baz=234
G25K Bearman Lake 84.28 20 P P 11 41 21.7 +1.1
baz=238
K27K Chicken 84.35 23 P P 11 41 22.9 +1.9
baz=242
ZAA0 Zalesovo Array 84.61 326 P P 11 41 22.1 -0.4
ZAA0 IAmb IAmb 11 41 22.9
comp=Z,29nm,0.7s
ZALV Zalesovo Beam 84.61 326 P P 11 41 21.9 -0.6
comp=Z,31nm,0.7s,baz=114,slow=5.8,SNR=109
ZALV LR LR 12 20 59.2
comp=Z,25nm,18.9s,baz=76,slow=37
comp=Z,31nm,0.7s
C23K Itkillik River 84.64 16 P P 11 41 23.5 +1.2
baz=233
PLBC Pleasant Camp 84.83 28 P P 11 41 24.9 +1.4
baz=247
MAW Mawson 84.86 203 P P 11 41 24.4 +0.8
baz=85,SNR=13
MAW Mawson 84.86 203 P P 11 41 24.3 +0.8
MAW Mawson 84.86 203 P P 11 41 24.3 +0.8
MAW pmax pmax
comp=Z,5.0nm,0.8s
MAW Mawson 84.86 203 P P 11 41 24.1 +0.6
comp=Z,19nm,0.6s,baz=99,slow=6.3,SNR=39
MAW LR LR 12 16 17.4
comp=Z,27nm,19.3s,baz=79,slow=33
comp=Z,19nm,0.6s
F25K Christian Rive 84.87 19 P P 11 41 25.1 +1.4
baz=238
SHLS Shalkode 84.91 314 *eP* **P 11 41 23.0 -1.5**
baz=314
SHLS Shalkode 84.91 314 *eP* **P 11 41 22.9 -1.5**
PDGK Podgornoye 84.93 315 P P 11 41 24.0 -0.6
C24K Franklin Bluff 85.11 17 P P 11 41 25.4 +0.7
baz=235
BMAR Burnt Mountain 85.14 19 P P 11 41 25.9 +1.0
G26K Porcupine Rive 85.16 20 P P 11 41 26.6 +1.6
baz=240
E25K Arctic Village 85.18 19 P P 11 41 26.4 +1.3
baz=238
UZB Uzynbulak 85.22 314 *eP* **P 11 41 26.2 +0.1**
baz=314
UZB Uzynbulak 85.22 314 *eP* **P 11 41 26.1 +0.1**
I27K Kandik River 85.27 22 P P 11 41 27.4 +1.7
baz=242
F26K Sheenjek River 85.42 19 P P 11 41 27.8 +1.4
baz=240
DAWY Dawson 85.42 23 P P 11 41 28.7 +2.3
baz=244
O30N Mendenhall 85.47 27 P P 11 41 27.4 +0.7
O30N IAmb IAmb 11 41 31.6
comp=Z,22nm,0.7s
KPKS Kokpek 85.53 315 *eP* **P 11 41 27.4 -0.1**
baz=315
KPKS Kokpek 85.53 315 *eP* **P 11 41 27.4 -0.1**
D25K Kavik River 85.57 18 P P 11 41 28.4 +1.3
baz=237
H27K Steamboat Moun 85.60 21 P P 11 41 28.5 +1.2
baz=242
SATY Saty 85.63 314 *i* P **P 11 41 27.8 -0.3**
baz=314
SATY Saty 85.63 314 *i* P **P 11 41 27.7 -0.3**
ZHN Zhinishke 85.64 314 *eP* **P 11 41 28.1 0.0**
baz=314
ZHN Zhinishke 85.64 314 *eP* **P 11 41 28.0 0.0**
I28M Miner Creek 85.82 22 P P 11 41 29.6 +1.1
baz=244
G27K Doyon Strip 85.83 21 P P 11 41 29.3 +1.0
baz=242
M30M Minto, Yukon 85.87 25 P P 11 41 29.2 +0.6
baz=247
K29M Barlow Dome 86.08 24 P P 11 41 30.7 +1.0
K29M Barlow Dome 86.08 24 P P 11 41 30.9 +1.1
baz=246
TDK Taldyqorghan 86.09 316 *eP* **P 11 41 30.2 +0.1**
baz=316
TDK Taldyqorghan 86.09 316 *eP* **P 11 41 30.2 +0.1**
C26K Camden Bay 86.32 17 P P 11 41 31.5 +0.8
baz=239
I29M Ogilvie Camp, 86.40 23 P P 11 41 31.5 +0.3
I29M Ogilvie Camp, 86.40 23 P P 11 41 32.2 +1.0
baz=245
E27K Coleen River 86.50 19 P P 11 41 33.2 +1.6
baz=242,SNR=9.0
MAYO Mayo, Yukon 86.64 25 P P 11 41 33.9 +1.5
baz=247
KSH Kashi 86.65 310 P P 11 41 35.6 +2.4
KSH pmax pmax
comp=Z,29nm,0.9s
TNSS Tian-Shan 86.67 314 *eP* **P 11 41 34.1 +0.5**
baz=314
TNSS Tian-Shan 86.67 314 *eP* **P 11 41 34.0 +0.5**
M31M Drury Creek, Y 86.76 26 P P 11 41 33.7 +0.7
baz=249
F28M Old Crow 86.81 20 P P 11 41 34.4 +1.2
F28M Old Crow 86.81 20 P P 11 41 34.3 +1.2
baz=244
CHKK Chushkaly 86.82 315 *eP* **P 11 41 33.3 -0.4**
baz=315
CHKK Chushkaly 86.82 315 *eP* **P 11 41 33.3 -0.4**
J30M Hart River 86.85 24 P P 11 41 34.6 +1.1
J30M Hart River 86.85 24 P P 11 41 34.8 +1.3
baz=247
S34M Telegraph Cree 86.86 31 P P 11 41 34.0 +0.5
baz=252
T35M Bob Quinn 87.03 32 P P 11 41 35.4 +0.9
baz=253
I30M Mount Dempster 87.08 23 P P 11 41 35.6 +0.9
I30M IAmb IAmb 11 41 38.2
comp=Z,59nm,2.0s
I30M Mount Dempster 87.08 23 P P 11 41 35.7 +1.0
baz=247,SNR=6.2
G29M Pine Creek 87.16 21 P P 11 41 35.0 +0.1
G29M IAmb IAmb 11 41 37.7
comp=Z,28nm,1.1s
G29M Pine Creek 87.16 21 P P 11 41 35.7 +0.9
baz=245
D27M Malcolm River 87.20 19 P P 11 41 36.1 +1.0
baz=242,SNR=8.0
BOOM Boomskoye usch 87.28 313 P P 11 41 36.6 +0.5
BOOM IAmb IAmb 11 41 39.0
comp=Z,22nm,0.7s
BOOM Boomskoye usch 87.28 313 P P 11 41 36.7 +0.5
BOOM pmax pmax
comp=Z,22nm,0.7s
KUU Kurty 87.29 315 *eP* **P 11 41 35.9 -0.1**
baz=315
KUU Kurty 87.29 315 *eP* **P 11 41 35.9 -0.1**
KURK Kurchatov 87.32 322 P P 11 41 34.8 -1.1
KURK IAmb IAmb 11 41 35.9
comp=Z,16nm,0.6s
KURK Kurchatov 87.32 322 P P 11 41 35.5 -0.4
KURK *PP **pP 11 42 04.0 +0.5**
KURBB Kurchatov Arra 87.36 322 P P 11 41 35.2 -0.9
KURBB Kurchatov Arra 87.36 322 P P 11 41 35.5 -0.6
comp=Z,13nm,0.6s,baz=104,slow=3.9,SNR=90
KURBB pP **pP 11 42 04.0 +0.3**
comp=Z,3.4nm,0.7s,baz=102,slow=4.2,SNR=3.0
comp=Z,13nm,0.6s
E28M Babbage River 87.37 19 P P 11 41 37.0 +1.2
baz=244,SNR=6.7
EPYK Eagle Plains 87.41 22 P P 11 41 37.1 +1.1
EPYK IAmb IAmb 11 41 38.8
comp=Z,15nm,0.8s
EPYK Eagle Plains 87.41 22 P P 11 41 37.2 +1.1
baz=246,SNR=7.3
DLBC Dease Lake 87.57 30 P P 11 41 37.3 +0.2
DLBC IAmb IAmb 11 41 43.0
comp=Z,34nm,1.4s
TKM2 Tokmak 2 87.62 314 P P 11 41 38.0 +0.1
SNR=21
TKM2 Tokmak 2 87.62 314 P P 11 41 37.7 -0.1
NIL Nilore 87.72 304 P P 11 41 37.5 -0.8
NIL Nilore 87.72 304 P P 11 41 37.5 -0.8
NIL pmax pmax
comp=Z,36nm,0.7s
E29M Blow River 87.82 20 P P 11 41 38.9 +0.9
baz=245
KBK Karagaybulak 88.03 313 P P 11 41 40.4 +0.6
SNR=7.4
H31M Peel River 88.09 23 P P 11 41 39.8 +0.4
H31M IAmb IAmb 11 41 58.8
comp=Z,22nm,1.4s
H31M Peel River 88.09 23 P P 11 41 39.7 +0.4
baz=249
YBH Yreka Blue Hor 88.12 48 LR LR 12 16 53.0
comp=Z,31nm,18.2s,baz=236,slow=33
F30M Barrier River 88.24 21 P P 11 41 41.2 +1.2
baz=247
CHMS Chumysh 88.24 314 P P 11 41 40.7 +0.2
SNR=9.1
UCH Uchtor 88.27 313 P P 11 41 41.9 +0.7
SNR=12
AAK Ala-Archa 88.36 313 P P 11 41 41.5 +0.2
SNR=11
AAK Ala-Archa 88.36 313 P P 11 41 41.6 +0.2
AAK IAmb IAmb 11 41 42.5
comp=Z,15nm,0.8s
AAK Ala-Archa 88.36 313 *ceP* **P 11 41 41.0 -0.3**
AAK pmax pmax
comp=Z,14nm,0.7s
AAK Ala-Archa 88.36 313 LR LR 12 22 04.8
comp=Z,30nm,19.7s,baz=82,slow=36
SGDS Sogindy 88.41 314 *eP* **P 11 41 41.1 -0.3**
baz=314
SGDS Sogindy 88.41 314 *eP* **P 11 41 41.1 -0.3**
USP Ospenovka 88.47 314 P P 11 41 41.5 -0.2
SNR=16
G31M Satah River 88.52 22 P P 11 41 42.2 +0.9
baz=249
AML Almayashu 88.85 313 P P 11 41 44.4 +0.5
SNR=28
AML Almayashu 88.85 313 P P 11 41 43.9 0.0
EKS2 Erkin-Say 88.88 313 P P 11 41 44.5 +0.8
SNR=12
NRIK Noril'sk 88.94 341 P P 11 41 42.5 -0.7
NRIK Noril'sk 88.94 341 *ceP* **P 11 41 42.4 -0.8**
NRIK pmax pmax
comp=Z,14nm,0.9s
NRIK Noril'sk 88.94 341 P P 11 41 42.5 -0.7
comp=Z,13nm,0.9s,baz=112,slow=4.6,SNR=14
comp=Z,13nm,0.9s
BTLS Baital 89.12 315 *eP* **P 11 41 44.6 -0.1**
baz=315
BTLS Baital 89.12 315 *eP* **P 11 41 44.5 -0.1**
INK Inuvik 89.29 21 P P 11 41 45.4 +0.6
INK Inuvik 89.29 21 P P 11 41 45.4 +0.6
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 89.29 21 P P 11 41 45.2 +0.3
baz=249
INK Inuvik 89.29 21 LR LR 12 19 39.7
comp=Z,45nm,18.4s,baz=182,slow=34
OTUK Ortayu 90.83 318 P P 11 41 50.5 -2.1
NVAR Mina Array Bea 90.92 52 P P 11 41 55.2 +1.8
comp=Z,0.7nm,0.8s,baz=245,slow=5.3,SNR=4.9
RPN Rapa Nui 91.09 117 LR LR 12 14 23.8
comp=Z,56nm,21.5s,baz=279,slow=30
KBL Kabul 91.31 304 P P 11 41 54.4 -0.9
KBL IAmb IAmb 11 41 54.9
comp=Z,18nm,0.8s
KBL Kabul 91.31 304 P P 11 41 54.4 -0.9
KBL pmax pmax
comp=Z,18nm,0.8s
KK31 Karatay Array 91.32 313 P P 11 41 54.7 -0.3
KK31 Karatay Array 91.32 313 *i* P **P 11 41 54.0 -0.9**
KKAR Karatay Array 91.32 313 P P 11 41 54.6 -0.3
KKAR Karatay Array 91.32 313 P P 11 41 54.6 -0.3
KKAR pmax pmax
comp=Z,7.0nm,0.9s
IUG luzhnay 91.54 312 *eP* **P 11 41 55.7 -0.4**
baz=312
IUG luzhnay 91.54 312 *eP* **P 11 41 55.7 -0.4**
CHM Chimkent 91.88 312 *eP* **P 11 41 57.1 -0.4**
baz=312
CHM Chimkent 91.88 312 *eP* **P 11 41 57.1 -0.4**
BVA0 Borovoye Array 92.77 323 *i* P **P 11 42 00.0 -1.4**
BVAR Borovoye Array 92.77 323 P P 11 42 00.4 -0.9
comp=Z,29nm,0.8s,baz=101,slow=6.2,SNR=92
BVAR pP **pP 11 42 29.6 +0.5**
comp=Z,7.9nm,0.8s,baz=96,slow=4.5,SNR=3.6
BVAR LR LR 12 26 46.1
comp=Z,18nm,18.1s,baz=87,slow=37
comp=Z,29nm,0.8s
BRVK Borovoye 92.84 323 *ceP* **P 11 42 00.5 -1.2**
BRVK pmax pmax
comp=Z,22nm,0.9s
NEW Newport 93.05 42 LR LR 12 15 54.6
comp=Z,53nm,21.8s,baz=261,slow=30
ELK Elko 93.55 50 LR LR 12 19 58.4
comp=Z,48nm,18.3s,baz=240,slow=33
ELIB Princess Elisa 95.53 193 *dP* **P 11 42 14.1 +0.2**
comp=Z,9.1nm,1.1s
ELIB *dpP* **pP 11 42 40.0 -1.2**
YKA Yellowknife Ar 95.80 28 P P 11 42 14.3 -0.7
comp=Z,2.6nm,0.9s,baz=272,slow=3.7,SNR=5.1
YKA LR LR 12 19 52.1
comp=Z,33nm,20.4s,baz=293,slow=32
comp=Z,2.6nm,0.9s
HRA Herat 96.88 304 P P 11 42 20.1 -0.8
HRA IAmb IAmb 11 42 20.8
comp=Z,9.8nm,0.8s
PDAR Pinedale Array 97.93 48 P P 11 42 24.6 -0.8
comp=Z,0.5nm,0.8s,baz=208,slow=2.5,SNR=4.6
comp=Z,0.5nm,0.8s
AB31 Akbulak array 99.08 319 *i* P **Pdif 11 42 28.1 -2.0**
ABKAR Akbulak array 99.08 319 Pdif 11 42 28.5 -1.6
ABKAR IAmb IAmb 11 42 29.1
comp=Z,5.3nm,0.8s
ARU Arti 99.78 326 Pdif Pdif 11 42 31.7 -1.3
ARU IAmb IAmb 11 42 32.2
comp=Z,6.4nm,0.8s
ARU Arti 99.78 326 *c i* P **Pdif 11 42 31.7 -1.3**
ARU *PP **pP 11 43 02.2 +1.4**
ARU 11 46 37.4
ARU S **SKSac 11 52 58.8 -3.1**
ARU SS **SS 12 00 48.3 -3.5**
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 99.78 326 LR LR 12 29 56.5
comp=Z,39nm,19.4s,baz=110,slow=37
AKTO Aktyubinsk 100.31 320 P Pdif 11 42 33.1 -2.5
GEYT Alibeck 100.35 307 P Pdif 11 42 34.8 -1.3
comp=Z,1.9nm,0.3s,baz=90,slow=8.6,SNR=4.4
TXAR Lajitas Array 102.39 62 PKKPbc PKKPbc 11 58 46.6 -0.6
comp=Z,0.7nm,0.8s,baz=93,slow=3.1,SNR=7.8
KIV Kislovodsk 111.43 315 *e*PKIKP **PKiKP 11 47 24.3 +1.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
SOC Sochi 113.61 315 *i* PKIKP **PKiKP 11 47 24.6 -2.5**
SOC *e* 11 48 19.8
SOC *e*PPP PPP 11 50 51.4
SOC *e*SS SS 12 04 04.2 +4.1
SOC *e*SSS SSS 12 08 13.2
FINES FINESS Array B 114.22 336 PKP PKPdf 11 47 27.1 -0.6
comp=Z,3.1nm,0.8s,baz=96,slow=5.9,SNR=7.5
NACGM Naroch 117.34 330 *e*PKP **PKiKP 11 47 38.1 +4.2**
comp=Z,13nm,0.7s,baz=60
AKASG Malin Array Be 117.99 325 PKP PKPdf 11 47 34.7 -0.6
comp=Z,6.6nm,0.6s,baz=61,slow=2.0,SNR=19
KMBO Kilima Mbogo 118.30 265 PKP PKiKP 11 47 37.5 +0.2
comp=Z,2.2nm,0.7s,baz=61,slow=4.2,SNR=4.8
BRTR Keskin Array B 119.01 312 PKPdf PKPdf 11 47 36.9 -1.0
BRTR Keskin Array B 119.01 312 PKP PKPdf 11 47 37.2 -0.6
comp=Z,1.9nm,0.6s,baz=139,slow=2.5,SNR=8.5
MMAI Mount Meron Ar 119.23 304 PKP PKPdf 11 47 38.2 -0.2
comp=Z,0.7nm,0.3s,baz=113,slow=6.4,SNR=4.2
HFS Hagfors 119.73 339 PKP PKPdf 11 47 37.0 -1.4
comp=Z,2.6nm,0.8s,baz=86,slow=4.6,SNR=7.2
NB2 NORSAR Subarra119.90 341 PKPdf PKPdf 11 47 38.0 -0.8
comp=Z,1.3nm,0.6s,baz=41,slow=1.9
NOA NORSAR Array B119.90 341 PKP PKPdf 11 47 38.3 -0.5
comp=Z,1.3nm,0.5s,baz=44,slow=1.9,SNR=7.4
BOSA Boshof 120.82 231 PKP PKiKP 11 47 41.5 -0.3
comp=Z,6.5nm,0.7s,baz=135,slow=2.7,SNR=16
VRI Vrincioaia 121.58 321 ⇓P **PKPdf 11 47 41.1 -1.3**
VRI Vrincioaia 121.58 321 ⇓PKIKP **PKPdf 11 47 41.1 -1.3**
BUR08 Bucovina Ar. S 121.72 323 PKPdf **PKiKP 11 47 43.6 +0.7**
BURAR Bucovina Array 121.73 323 ⇑P **PKiKP 11 47 44.0 +1.1**
BURAR Bucovina Array 121.73 323 PKPdf **PKiKP 11 47 43.7 +0.8**
BURAR Bucovina Array 121.73 323 ⇑PKIKP **PKiKP 11 47 44.0 +1.1**
LBTB Lobatse 122.21 235 PKPdf **PKPdf 11 47 43.8 -0.6**
LBTB Lobatse 122.21 235 PKIKP **PKPdf 11 47 43.8 -0.6**
MLR Muntele Rosu 122.24 320 ⇑P **PKPdf 11 47 42.6 -1.3**
MLR Muntele Rosu 122.24 320 ⇑PKIKP **PKPdf 11 47 42.6 -1.3**
KOLS Kolonicke sedl 122.79 325 *e*PKIKP **PKiKP 11 47 45.8 +0.9**
KOLS Kolonicke sedl 122.79 325 *e*PKP **PKiKP 11 47 45.8 +0.9**
VOIR 122.83 321 ⇓P **PKPdf 11 47 44.8 -0.1**
VOIR 122.83 321 ⇓PKIKP **PKPdf 11 47 44.8 -0.1**
ARR Arges 123.12 321 ⇑P **PKiKP 11 47 46.5 +0.8**
LANS Liptovska Anna 124.22 327 *e*PKIKP **PKiKP 11 47 49.0 +1.3**
LANS Liptovska Anna 124.22 327 *e*PKP **PKiKP 11 47 49.0 +1.3**
GZR Gura Zlata 124.27 322 ⇑P **PKPdf 11 47 47.2 -0.5**
GZR Gura Zlata 124.27 322 ⇑PKIKP **PKPdf 11 47 47.2 -0.5**
RDO Rodhopi 124.33 316 PKPdf 11 47 47.1 -0.7
SURR Surduc 124.49 322 ⇑P **PKPdf 11 47 47.8 -0.2**
SIRR Siria 124.51 323 ⇑P **PKPdf 11 47 47.8 -0.3**
BZS Buzias 124.87 322 ⇑P **PKPdf 11 47 48.7 0.0**
BZS Buzias 124.87 322 ⇑PKIKP **PKPdf 11 47 48.7 0.0**
MORC Moravsky Berou 124.89 328 ⇓P **PKiKP 11 47 49.2 +0.2**
MORC Moravsky Berou 124.89 328 *e*PKP **PKiKP 11 47 49.2 +0.2**
MORC Moravsky Berou 124.89 328 ⇓PKIKP **PKiKP 11 47 49.2 +0.2**
VYHS Vyhne 124.94 326 *e*PKIKP **PKiKP 11 47 49.5 +0.4**
VYHS Vyhne 124.94 326 *e*PKP **PKiKP 11 47 49.5 +0.4**
MAUC Maruska 124.98 328 *e*PKPDF **PKiKP 11 47 49.8 +0.6**
CHVC Chvalec 125.15 330 *e*PKIKP **PKiKP 11 47 49.7 +0.2**
CHVC Chvalec 125.15 330 *e*PKPDF **PKiKP 11 47 49.7 +0.2**
DPC Dobruska-Polom 125.16 329 *e*PKIKP **PKiKP 11 47 49.6 0.0**
DPC Dobruska-Polom 125.16 329 *e*PKPDF **PKiKP 11 47 49.6 0.0**
MDVR Moldovita 125.22 321 ⇓P **PKPdf 11 47 49.1 -0.4**
JAVC Velka Javorina 125.36 327 *e*PKP **PKiKP 11 47 51.2 +1.2**
VRAC Vranov 125.66 328 *e*PKP **PKiKP 11 47 50.6 +0.1**
BOVS Bovan 125.78 320 ⇑P **PKPdf 11 47 49.7 -0.8**
MODS Modra-Piesok 125.86 327 *e*PKIKP **PKiKP 11 47 51.7 +0.7**
MODS Modra-Piesok 125.86 327 *e*PKP **PKiKP 11 47 51.7 +0.7**
KRUC Moravsky 125.92 328 *e*PKP **PKiKP 11 47 51.1 +0.1**
PVCC Panska Ves 125.92 331 *e*PKIKP **PKiKP 11 47 51.5 +0.5**
PVCC Panska Ves 125.92 331 *e*PKPDF **PKiKP 11 47 51.5 +0.5**
BRG Berggiesshubel 126.00 331 *i* PKP **PKiKP 11 47 52.0 +0.8**
BRG Amp 11 47 52.5
comp=Z,12nm,0.7s
BRG Berggiesshubel 126.00 331 *i* PKIKP **PKiKP 11 47 51.9 +0.8**
BRG pmax pmax
comp=Z,12nm,0.7s
CLL Collm 126.16 332 *i* PKIKP **PKPdf 11 47 51.1 +0.1**
CLL pmax pmax
comp=Z,16nm,0.7s
CLL Collm 126.16 332 *i* PKPdf **PKPdf 11 47 51.1 +0.1**
comp=Z,16nm,0.7s
PRU Pruhonice 126.28 330 *e*PKIKP **PKPdf 11 47 51.4 +0.1**
PRU Pruhonice 126.28 330 *e*PKPDF **PKPdf 11 47 51.4 +0.1**
MORH Mrgy, Hungar 126.32 324 ⇑P **PKPdf 11 47 51.1 -0.3**
HSKC Hora Svate Kat 126.42 331 *e*PKPDF **PKiKP 11 47 51.9 -0.1**
DIVS Divibare 126.63 321 PKPdf PKPdf 11 47 52.0 -0.3
ZVC Zvikov 126.81 330 *e*PKPDF **PKiKP 11 47 52.9 +0.1**
CONA Conrad Observa 126.88 327 *e*PKiKP **PKiKP 11 47 53.3 +0.1**
comp=Z,4.9nm,0.6s
CKRC Cesky Krumlov 127.14 329 *e*PKIKP **PKiKP 11 47 53.6 +0.1**
CKRC Cesky Krumlov 127.14 329 *e*PKPDF **PKiKP 11 47 53.6 +0.1**
KHC Kasperske Hory 127.31 330 PKPdf PKPdf 11 47 53.3 -0.1
KHC Kasperske Hory 127.31 330 *e*PKP **PKiKP 11 47 54.0 +0.1**
KHC Kasperske Hory 127.31 330 *e*PKPDF **PKiKP 11 47 54.0 +0.1**
GEC2 GERESS Array S 127.44 329 PKPdf 11 47 53.6 -0.1
GERES GERESS Array B 127.44 329 PKPdf 11 47 54.0 -0.2
GERES GERESS Array B 127.44 329 PKP PKiKP 11 47 54.1 -0.1
comp=Z,7.3nm,0.6s,baz=50,slow=2.1,SNR=18
ARSA Arzberg 127.48 327 *e*PKIKP **PKiKP 11 47 54.5 +0.2**
comp=Z,4.4nm,1.0s
SOKA Soboth 128.09 327 *e*PKP **PKPdf 11 47 54.7 -0.3**
comp=Z,8.5nm,1.1s
LESA Schwarzleotal 128.88 329 *e*PKP **PKPdf 11 47 56.6 +0.2**
comp=Z,6.7nm,0.6s
EKA Eskdalemuir Ar 128.88 345 PKP PKPdf 11 47 55.6 -0.4
comp=Z,1.3nm,0.5s,baz=19,slow=2.9,SNR=5.7
WATA Walderalm 129.50 329 PKP PKPdf 11 47 56.6 -1.1
comp=Z,6.8nm,0.5s
WTTA Wattenberg 129.52 329 *e*PKP **PKPdf 11 47 57.5 -0.3**
comp=Z,9.8nm,1.2s
MOTA Moosalm 129.74 329 *e*PKP **PKPdf 11 47 58.3 +0.2**
comp=Z,7.1nm,0.6s
SQTA Sankt Quirin 129.77 329 *e*PKP **PKPdf 11 47 57.5 -0.7**
comp=Z,4.8nm,0.7s
RETA Reutte 129.81 330 *e*PKiKP **PKiKP 11 47 58.7 -0.3**
comp=Z,2.3nm,0.6s
FETA Feichten 130.14 329 *e*PKP **PKPdf 11 47 59.2 +0.2**
comp=Z,3.0nm,0.6s
ZCCA Zocca 131.77 326 PKPdf PKiKP 11 48 04.2 +1.2
MVO Moncorvo 142.64 339 *e*PKP **PKPdf 11 48 21.2 -0.9**
ESDC Sonseca Array 142.69 334 PKP PKPdf 11 48 19.5 -2.8
comp=Z,1.6nm,0.9s,baz=4.0,slow=3.1,SNR=6.5
POLO Lamas de Olo 142.72 340 *e*PKP **PKPdf 11 48 20.4 -1.9**
PVRL Vila Real 142.78 339 *e*PKP **PKPdf 11 48 21.6 -0.8**
PVIS Viseu 143.34 339 *e*PKP PKPbc 11 48 20.9 +0.2
MTE Manteigas 143.50 339 *e*PKP PKPbc 11 48 21.6 +0.4
PCBR Castelo Branco 143.96 338 *e*PKP PKPbc 11 48 23.0 +0.5
PCAS Casmilo, Conde 144.14 339 *e*PKP **PKiKP 11 48 28.4 +0.1**
PMRV Marv??o 144.29 338 *e*PKP PKPbc 11 48 23.9 +0.4
PESTR Estremoz 144.85 337 *e*PKP **PKPab 11 48 25.6 +0.3**
PMTG Montargil 144.92 338 *e*PKP PKPbc 11 48 24.6 -0.8
PBAR Barrancos 145.24 336 *e*PKP **PKPab 11 48 26.9 +0.2**
EVO Evora 145.31 338 *e*PKP **PKPab 11 48 27.4 +0.5**
PBEJ Beja 145.69 337 *e*PKP **PKPab 11 48 28.7 +0.3**
PNCL Nicolau / Gran 145.87 338 *e*PKP **PKPdf 11 48 27.4 -0.3**
MESJ Messejana 145.99 337 *e*PKP **PKPab 11 48 29.9 +0.4**
MESJ Messejana 145.99 337 *e*PKP **PKPbc 11 48 29.1 +0.3**
PCVE Castro Verde 146.10 337 *e*PKP **PKPab 11 48 30.0 +0.1**
PVAQ Vaqueiros 146.17 336 *e*PKP **PKPab 11 48 30.4 +0.2**
JBK JBK 146.24 327 P PKPab 11 48 31.0 +0.2
PALE Palemas 146.27 330 P PKPbc 11 48 30.0 +0.1
PBDV Barranco-do-Ve 146.40 336 *e*PKP **PKPdf 11 48 28.9 +0.2**
PTEO Sao Teotonio 146.44 338 *e*PKP **PKPbc 11 48 30.1 -0.1**
SMIR Smir Dam 146.60 332 P PKPbc 11 48 31.0 +0.3
MORF Marmelete 146.63 337 *e*PKP **PKPab 11 48 32.0 0.0**
AKLM AKL 146.79 329 P PKPbc 11 48 31.2 -0.2
PFVI Vila Bisbo 146.84 337 *e*PKP **PKPbc 11 48 30.5 -0.9**
TDRA Tendrara 146.90 325 P PKPab 11 48 33.0 -0.5
CHEFC Chefchaouen 147.05 331 P PKPbc 11 48 33.0 +0.8
FIGM Figuig 147.09 323 P PKPbc 11 48 33.0 +0.6
MDT Midelt 148.49 328 P PKiKP 11 48 37.0 -0.6
ZHG ZHG 149.03 331 P PKiKP 11 48 38.2 -0.4
TOA0 Torodi Ar. Sit 153.90 286 PKPdf PKPdf 11 48 39.1 -1.9
TOA0 PKPbc **PKPbc 11 48 48.5 -0.5**

TOA0				PKPab	PKPab	11 49 00.2	-2.4
TORD	Torodi Ar. Bea	153.90	286	PKP	PKPdf	11 48 39.2	-1.8
comp=Z,1.2nm,0.8s,baz=31,slow=2.3,SNR=6.4							
TORD				PKPbc	PKPbc	11 48 48.4	-0.6
comp=Z,12nm,0.8s,baz=51,slow=3.5,SNR=41							
TORD				PKPab	PKPab	11 48 59.6	-2.9
comp=Z,6.1nm,0.7s,baz=68,slow=4.2,SNR=7.8							
KIC	Kosan Boka	160.80	270	↓iPKP1	PKPab	11 49 32.6	+0.1
comp=Z,80nm,0.8s							
LIC	Lamto	161.08	269	↑ePKP1	PKPab	11 49 33.4	-0.3
comp=Z,58nm,0.8s							
TIC	Toumodi	161.09	270	↓ePKP1	PKPab	11 49 33.8	+0.1
comp=Z,48nm,0.9s							

*JMA **06** 11:55:42.3±0.2, 25°N±2°×122°8E±0°6, h104km±1km, MV1.8/11, NW OFF ISHIGAKIJIMA IS*
*TAP **06** 11:55:43.0, 24°72N×122°77E, h102km, ML2.6, C*
ISC 06 11:55:42.7±1.6, 24°67N±0°07×122°82E±0°03, h104km±9km, n57, σ0°79/90, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.24	151	P	Pn	11 55 57.1	-0.4
JYNG				S	Sn	11 56 08.3	-0.2
YOJ	Yonaguni jima	0.27	139	P	Pn	11 55 57.5	-0.1
YOJ				S	Sn	11 56 08.4	-0.2
YOJ	Yonaguni jima	0.27	139	eS	Sn	11 56 09.5	+0.8
baz=147							
EOS2	EOS2	0.59	245	eP	Pn	11 56 00.4	+1.1
baz=249							
EOS2				eS	Sn	11 56 12.7	+0.9
baz=249							
EOS3	EOS3	0.59	231	eP	Pn	11 56 00.1	+0.8
baz=235							
EOS3				eS	Sn	11 56 13.1	+1.2
baz=235							
EOS4	EOS4	0.71	220	eP	Pn	11 56 00.9	+0.8
baz=215							
EOS4				eS	Sn	11 56 13.9	+0.7
baz=215							
TWC	Suao	0.88	267	eP	Pn	11 56 01.7	-0.5
baz=260							
TWC				eS	Sn	11 56 15.3	-1.5
baz=260							
IRIF	Iriomote-Funau	0.89	111	P	Pn	11 56 01.9	-0.4
IRIF				eS	Sn	11 56 16.9	-0.1
EWUT	Wuta	0.97	257	eP	Pn	11 56 03.7	+0.6
baz=250							
NDS	Dongshan	1.00	268	eP	Pn	11 56 04.0	+0.6
baz=259							
ENA	Nanau	1.01	257	eP	Pn	11 56 03.7	+0.2
baz=248							
HATJ	Hateruma jima	1.08	124	S	Sn	11 56 20.6	0.0
FUSB	Fushanzhiwuyua	1.12	275	P	Pn	11 56 04.8	0.0
baz=272							
FUSB				S	Sn	11 56 20.4	-1.1
baz=272							
ENTT	Nioudou	1.14	269	P	Pn	11 56 05.4	+0.4
baz=266							
ENTT				eS	Sn	11 56 21.6	-0.2
baz=266							
JKRS	Kuro-shima	1.17	111	P	Pn	11 56 05.3	+0.1
JKRS				S	Sn	11 56 22.4	+0.2
LATG	Datong	1.18	264	P	Pn	11 56 05.8	+0.2
baz=256							
LATG				S	Sn	11 56 22.3	-0.5
baz=256							
NDT	Datong Townshi	1.19	267	eP	Pn	11 56 05.7	+0.2
baz=262							
NDT				eS	Sn	11 56 22.5	-0.2
baz=262							
NWLT	Wulai	1.20	276	eP	Pn	11 56 05.3	-0.4
baz=273							
NACB	Ninganchiao	1.22	247	eP	Pn	11 56 06.3	+0.5
baz=236							
NACB				eS	Sn	11 56 21.8	-1.5
baz=236							
YM01	YM01	1.23	293	eP	Pn	11 56 06.3	+0.3
baz=285							
JIJ	Ishigaki jima	1.24	104	P	Pn	11 56 05.8	-0.3
JIJ				S	Sn	11 56 22.8	-1.0
TWD	Chiawan	1.26	243	eP	Pn	11 56 06.6	+0.3
baz=239							
ETLH	Xiulin Townshi	1.30	250	eP	Pn	11 56 07.6	+0.7
baz=246							
ETLH				eS	Sn	11 56 24.3	-0.8
baz=246							
YHNB	Yeheng	1.31	271	P	Pn	11 56 07.1	+0.1
baz=274							
YHNB				S	Sn	11 56 24.8	-0.5
baz=274							
NNSB	Datong	1.33	260	eP	Pn	11 56 06.8	-0.4
baz=250							
NNSB				S	Sn	11 56 25.1	-0.6
baz=250							
NNS	Nan Shan	1.33	261	eP	Pn	11 56 07.7	+0.4
baz=251							
JISG	Ishigakijimahi	1.36	93	P	Pn	11 56 07.1	-0.4
JISG				eS	Sn	11 56 25.0	-1.3
ETM	Tongmen	1.40	240	eP	Pn	11 56 07.5	-0.4
baz=232							
LXIB	Xiulin Townshi	1.43	244	eP	Pn	11 56 08.3	-0.2
baz=241							
LXIB				S	Sn	11 56 26.7	-1.3
baz=241							
WHF	Hehuan Shan	1.51	250	eP	Pn	11 56 09.7	0.0
baz=247							
WHF				eS	Sn	11 56 28.7	-1.4
baz=247							
NFF	Wufeng Townshi	1.55	269	eP	Pn	11 56 10.3	+0.5
baz=266							
TWT	Tachien	1.55	255	eP	Pn	11 56 11.1	+1.1
baz=248							
TWT				eS	Sn	11 56 30.2	-0.4
baz=248							
TDCB	Techi	1.57	255	P	Pn	11 56 10.5	+0.4
baz=248							
TDCB				S	Sn	11 56 29.9	-1.1
baz=248							
WARBT	Fenglin Townsh	1.61	234	eP	Pn	11 56 09.9	-0.7
baz=232							
WARBT				eS	Sn	11 56 29.9	-1.8
baz=232							
CHGB	Renai	1.61	248	P	Pn	11 56 10.7	-0.1
baz=239							
CHGB				eS	Sn	11 56 31.4	-0.7
baz=239							
LIOB	Emei	1.64	270	eP	Pn	11 56 11.0	+0.1
baz=267							
LIOB				eS	Sn	11 56 31.9	-0.4
baz=267							
NSTT	Nanjuang	1.65	269	eP	Pn	11 56 11.1	0.0
baz=267							
NSTT				eS	Sn	11 56 31.9	-0.7
baz=267							
OWD	Renai	1.66	245	eP	Pn	11 56 11.2	0.0
baz=238							
WUSB	Renai	1.69	247	P	Pn	11 56 11.9	+0.3
baz=240							
WUSB				S	Sn	11 56 32.8	-0.9
baz=240							
HGSD	Ruisui	1.73	228	eP	Pn	11 56 11.8	-0.2
baz=223							
HGSD				eS	Sn	11 56 33.4	-0.9
baz=223							
WHP	Taichung City	1.75	258	eP	Pn	11 56 13.4	+1.1
baz=252							
WHP				eS	Sn	11 56 35.2	+0.4
baz=252							
VWDT	VWDT	1.78	240	eP	Pn	11 56 12.8	+0.2
baz=232							
VWDT				S	Sn	11 56 34.8	-0.6
baz=232							
EHY	Hungye	1.79	230	eP	Pn	11 56 12.9	+0.1
baz=233							
WCS	Beigang Elemen	1.84	251	eP	Pn	11 56 14.3	+0.9
baz=245							
YULB	Yu-li	1.88	228	P	Pn	11 56 13.2	-0.7
baz=233							
YULB				S	Sn	11 56 36.1	-1.6
baz=233							
SSLB	Suanglung	1.91	243	eP	Pn	11 56 14.8	+0.4
baz=235							
SMLT	Sun Moon Lake	1.92	246	eP	Pn	11 56 15.6	+1.1
baz=238							
SMLT				eS	Sn	11 56 39.9	+1.3
baz=238							
TYC	Yuchr	1.94	247	eP	Pn	11 56 15.6	+0.9
baz=239							
FULB	Fuli	2.02	224	eP	Pn	11 56 16.2	+0.5
baz=216							
WHYT	Xinyi Township	2.04	242	eP	Pn	11 56 16.9	+0.9
baz=236							
EHD	Haiduan	2.11	225	eP	Pn	11 56 16.8	-0.1
baz=230							
ALS	Alishan	2.17	238	eP	Pn	11 56 19.2	+1.3
baz=236							
CHN5	Tsauling	2.23	242	eP	Pn	11 56 19.2	+0.8
baz=232							
JMJ	Miyako jima 2	2.26	86	eP	Pn	11 56 20.4	+1.6
baz=88							
STYH	Taoyuan	2.39	232	eP	Pn	11 56 19.8	-0.7
baz=224							
CHN4	Tsaushan	2.42	238	eP	Pn	11 56 22.3	+1.4
baz=235							
TPUB	Ta-pu	2.42	236	eP	Pn	11 56 22.2	+1.3
baz=234							
TPUB				eS	Sn	11 56 51.6	+1.4
baz=234							

*IDC **06** 11:59:04.7±1.0, 0°87N×127°15E, h0km, mb3.7/6, mbtmp3.7/7, ML2.9/1, Error ellipse: s-maj=59.2km s-min=18.3km az=63.0*
ISC 06 11:59:09.8±1.1, 0°9N±0°2×127°3E±0°2, h35km, n7, σ0°78/8, mb3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	4.35	113	Pn	Pn	12 00 12.5	-0.9
0.6nm,0.3s,baz=320,slow=16,SNR=4.9							
SIJI				Sn	Sn	12 01 03.8	+0.9
0.4nm,0.3s,baz=181,slow=23,SNR=1.5 4.6nm,0.5s							
WRA	Warramunga Arr	21.81	162	P	P	12 03 59.4	+0.2
1.2nm,0.6s,baz=339,slow=11,SNR=13 1.2nm,0.6s							
ASAR	Alice Springs	25.23	166	P	P	12 04 33.0	+0.4
2.6nm,0.8s,baz=344,slow=11,SNR=20 2.6nm,0.8s							
SONM	Songino Array	50.16	342	P	P	12 08 02.9	+0.9
1.2nm,1.1s,baz=168,slow=7.4,SNR=1.4 1.2nm,1.1s							
MKAR	Makanchi Array	60.21	326	P	P	12 09 13.8	-0.6
0.7nm,0.6s,baz=134,slow=6.9,SNR=5.7 0.7nm,0.6s							
KURBB	Kurchatov Arra	64.43	328	P	P	12 09 42.2	-0.3
0.8nm,0.6s,baz=128,slow=6.4,SNR=4.8 0.8nm,0.6s							
BVAR	Borovoye Array	70.00	327	P	P	12 10 17.7	-0.2
0.4nm,0.4s,baz=112,slow=6.4,SNR=2.0 0.4nm,0.4s							

*NOU **06** 12:21:28.7, 42°90S×172°98E, h20km, MLv3.7/10, South Island, New Zealand*
*WEL **06** 12:21:28.9±0.3, 43°S±3°×17°3E±°, h5km, M3.2/26, ML3.3/12, MLv3.2/26, Error ellipse: s-maj=0.0km s-min=0.0km az=150.5, confirmed*
ISC 06 12:21:28.0±0.8, 42°73S±0°03×172°78E±0°03, h10km, n78, σ1°35/81, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.30	142	P	Pb	12 21 36.6	+1.1
GVZ				S	Sb	12 21 42.4	+1.9
LTZ	Lake Taylor	0.38	262	P	Pg	12 21 36.0	+0.5
LTZ				S	Sg	12 21 41.1	+0.5
AMCZ	Amberley	0.46	192	P	Pn	12 21 39.3	-1.3
KHZ	Kahutara	0.64	61	P	Pb	12 21 41.9	+0.6
KHZ	Kahutara	0.64	61	P	Pb	12 21 41.9	+0.6
KHZ				S	Sb	12 21 51.6	+1.3
OXZ	Oxford	0.81	222	P	Pb	12 21 44.6	+0.5
OXZ				S	Sn	12 21 56.3	-1.3
THZ	Tophouse	0.97	5	P	Pg	12 21 46.2	-0.6
MQZ	McQueen's Vall	0.98	186	P	Pb	12 21 47.1	0.0
INZ	Inchbonnie	0.99	270	P	Pg	12 21 46.7	-0.3
OKCZ	Okains Bay	1.01	169	P	Pn	12 21 48.4	+0.1
RACZ	Rakaia	1.10	205	P	Pb	12 21 48.7	-0.4
AKCZ	Akaroa Harbour	1.14	175	P	Pg	12 21 49.8	-0.2
MHCZ	Mount Hutt	1.20	228	P	Pn	12 21 50.8	-0.1
DSZ	Denniston Nort	1.23	323	P	Pn	12 21 51.0	-0.3
BSWZ	Blackbirch Sta	1.30	39	P	Pg	12 21 53.0	0.0
MRNZ	Matariki Terra	1.33	359	P	Pn	12 21 52.5	-0.2
WACZ	Wakanui South	1.39	209	P	Pn	12 21 52.9	-0.6
CMWZ	Cape Campbell	1.45	48	P	Pb	12 21 55.2	+0.2
WVZ	Waitaha Valley	1.54	256	P	Pn	12 21 55.6	+0.1
TUWZ	Tuamarina	1.56	34	P	Pn	12 21 56.1	+0.3
NNZ	Nelson	1.58	17	P	Pn	12 21 56.3	+0.2
RPZ	Rata Peaks	1.60	232	P	Pn	12 21 55.7	-0.7
RPZ	Rata Peaks	1.60	232	P	Pn	12 21 55.8	-0.6
ARCZ	Arundel	1.69	223	P	Pn	12 21 57.1	-0.5
TKNZ	Takaka Hill	1.70	5	P	Pn	12 21 58.3	+0.5
TCW	Tory Channel	1.88	37	P	Pn	12 22 00.3	0.0
GCSZ	Gaunt Creek Bo	1.89	251	P	Pn	12 22 00.7	+0.3
QRZ	Quartz Range	1.91	354	P	Pb	12 22 02.2	-0.8
QRZ	Quartz Range	1.91	354	P	Pn	12 22 00.8	+0.1
SNZO	South Karori	2.02	46	P	Pn	12 22 01.8	-0.3
BHW	Baring Head	2.04	52	P	Pn	12 22 01.9	-0.5
WEL	Wellington	2.07	46	P	Pn	12 22 02.7	-0.1
TMZ	Timaru	2.10	217	P	Pn	12 22 02.7	-0.5
DUWZ	D'Urville Isla	2.11	24	P	Pn	12 22 04.5	+1.1
PLWZ	Palliser	2.17	59	P	Pn	12 22 03.3	-1.0
FOZ	Fox Glacier	2.31	249	P	Pn	12 22 06.6	+0.4
CAW	Cannon Point	2.35	47	P	Pn	12 22 06.1	-0.6
PAWZ	Paruwai Farm	2.39	56	P	Pn	12 22 05.9	-1.3
KIW	Kapiti Island	2.45	41	P	Pn	12 22 08.0	-0.2
LBZ	Lake Benmore	2.51	228	P	Pn	12 22 09.2	+0.3
MTW	Mount Morrison	2.57	53	P	Pn	12 22 08.6	-1.1
OGWZ	Otaki Gorge	2.62	44	P	Pn	12 22 09.8	-0.6
HOWZ	Holdsworth Sta	2.74	49	P	Pn	12 22 10.9	-1.3
ODZ	Otahua Downs	2.78	213	P	Pn	12 22 11.6	-1.0
ODZ	Otahua Downs	2.78	213	P	Pn	12 22 11.5	-1.0
MRZ	Mangatainoka R	2.94	46	P	Pn	12 22 13.7	-1.2
JCZ	Jackson Bay	3.21	244	P	Pn	12 22 19.3	+0.7
JCZ	Jackson Bay	3.21	244	P	Pn	12 22 18.5	0.0
WAZ	Wanganui	3.41	30	P	Pn	12 22 23.4	+2.1
LREZ	Lake Rotokare	3.49	21	P	Pb	12 22 28.2	-1.7
NBEZ	Newall Road No	3.56	14	P	Pn	12 22 25.6	+2.4
KHEZ	Kahui Hut	3.56	16	P	Pn	12 22 25.6	+2.2
KHEZ	Kahui Hut	3.56	16	P	Pn	12 22 25.8	+2.4
TSZ	Takapari Road	3.58	43	P	Pn	12 22 22.3	-1.4
NEZ	North Egmont	3.60	16	P	Pn	12 22 26.2	+2.3
PKE	Pukeiti	3.65	15	P	Pn	12 22 26.6	+2.0
DREZ	Durham Road	3.70	17	P	Pn	12 22 27.3	+2.1
VRZ	Vera Road	3.90	23	P	Pn	12 22 29.9	+1.9
MOVZ	Moawhango	4.01	35	P	Pn	12 22 33.1	+3.5
WNVZ	Wahianoa	4.01	33	P	Pn	12 22 30.2	+0.5
BHHZ	Black Hill Sta	4.08	39	P	Pn	12 22 30.0	-0.5
NGZ	Ngauruhoe	4.14	32	P	Pn	12 22 32.0	+0.5
NNVZ	North Ngauruho	4.19	32	P	Pn	12 22 32.5	+0.4
ETVZ	East Tongariro	4.22	33	P	Pn	12 22 32.6	+0.1
KRVZ	Karewarewa	4.23	32	P	Pn	12 22 36.3	+3.7
TMWZ	Te Maari	4.24	32	P	Pn	12 22 32.8	+0.1
RATZ	Rangitukua	4.48	31	P	Pb	12 22 42.5	-4.3
HIZ	Hauiti	4.50	21	P	Pn	12 22 37.1	+0.9
HIZ	Hauiti	4.50	21	P	Pn	12 22 37.2	+0.9
BKZ	Black Stump Fm	4.54	39	P	Pn	12 22 36.5	-0.3
BKZ	Black Stump Fm	4.54	39	P	Pn	12 22 39.0	+2.2
TLZ	Tolley Road	4.87	26	P	Pn	12 22 42.3	+0.9
RTZ	Ruatahuna	5.20	39	P	Pb	12 22 52.7	-6.5
TOZ	Tahuroa Road	5.41	24	P	Pn	12 22 49.5	+0.7
MKAZ	Moumakai	5.91	19	P	Pn	12 22 56.3	+0.7
CNGZ	Carnagh Statio	5.92	46	P	Pn	12 22 59.8	+4.1
ETAZ	East Tamaki Re	6.00	17	P	Pn	12 22 57.8	+1.0
KUZ	Kuaotunu	6.39	22	P	Pn	12 23 03.3	+1.1

*NIED **06** 12:23:56.6, 37°54N×143°82E, h59km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=0.33; $M_{\theta\theta}$=0.63; $M_{\phi\phi}$=0.96; $M_{r\theta}$=0.63; $M_{\theta\phi}$=0.66; $M_{\phi r}$=0.69; Fault plane solution: M_0=1.42000×10^14^ NP1: ϕ_s=159.00000°, δ=78.00000°, λ=-139.00000°. NP2: ϕ_s=59.00000°, δ=50.00000°, λ=-16.00000°.*
JMA 06 12:23:56.6±0.3, 37°5N±0°8×14°4E±°, h59km, MV3.9/29, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.02	293	P	Pn	12 24 29.2	+1.0
JIKH				S	Sn	12 24 53.2	+0.9
JIO	Ouri	2.16	296	P	Pn	12 24 31.3	+1.2
JIO				S	Sn	12 24 56.9	+1.2
JKMT	Kesennumamotoy	2.24	305	P	Pn	12 24 32.2	+0.9
JKMT				S	Sn	12 24 58.7	+0.8
OFUJ	Ofunato	2.29	313	P	Pn	12 24 32.7	+0.8
OFUJ				S	Sn	12 24 59.2	+0.2
JMK	Ichinoseki	2.49	305	P	Pn	12 24 35.8	+1.1
JOM	Ohasama	2.77	315	P	Pn	12 24 39.9	+1.3
JOM				S	Sn	12 25 12.2	+1.5
JOTO	OTAMA OYAMA	2.77	272	P	Pn	12 24 40.4	+1.8
JOTO				S	Sn	12 25 13.4	+2.5
JYK	Kaneyama	3.05	298	eP	Pn	12 24 44.5	+2.0
JYK				eS	Sn	12 25 20.1	+2.3
JANG	Nango	3.35	328	P	Pn	12 24 47.5	+0.9
JANG				S	Sn	12 25 25.1	0.0
JRY	Ryogami san	4.23	250	P	Pn	12 24 59.5	+1.0
JRY				S	Sn	12 25 45.9	-0.8
JOT	Ohata	4.40	332	P	Pn	12 25 02.8	+2.0
JCH	Churui	5.08	356	P	Pn	12 25 09.3	-0.9
JCH				S	Sn	12 26 04.3	-3.2
NEM2	Nemuro 2	6.00	14	P	Pn	12 25 19.6	-3.2
NEM2				S	Sn	12 26 23.3	-6.9
JTKR	Abashiri--Toko	6.43	1	P	Pn	12 25 27.5	-1.1
JTKR				S	Sn	12 26 36.5	-4.0

*IDC **06** 12:26:52.0±2.7, 56°81N×25°81E, h0km, mbtmp3.0/3, ML2.2/3, Error ellipse: s-maj=22.9km s-min=14.2km az=149.0*
ISC 06 12:26:54.6±1.2, 56°89N±0°06×25°29E±0°07, h10km, n10, σ1°95/11, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PABE	Paberze	1.57	209	eP	Pg	12 27 30.6	+5.9
IIGN	Ignalina	1.62	161	eP	Pb	12 27 23.4	-1.3
VSU	Vasula	1.76	26	eP	Pn	12 27 24.8	-0.3
SLIT	Slitere, Latvi	1.79	296	eP	Pg	12 27 31.1	+2.2
MTSE	Matsula	2.00	337	eP	Pb	12 27 30.0	-1.0
AAL	Aland	4.31	322	eP	Pb	12 28 07.2	-3.2
FINES	FINESS Array B	4.59	5	Pn	Pn	12 28 03.8	-0.2
0.2nm,0.3s,baz=180,slow=13,SNR=6.3							
FINES				Sn	Sn	12 28 59.5	+2.1
1.1nm,0.3s,baz=187,slow=20,SNR=11							
FINES				Lg	Lg	12 29 17.6	
1.3nm,0.3s,baz=181,slow=25,SNR=7.9 0.9nm,0.4s							
I43RU	DUBNA INFRASON	6.55	86	I	I	13 04 20.0	
baz=276,slow=321,SNR=2.6							
HFS	Hagfors	6.89	303	Pn	Pn	12 28 35.8	+0.2
0.2nm,0.3s,baz=115,slow=13,SNR=5.9							
HFS				Sn	Sn	12 29 56.1	+2.2
0.6nm,0.3s,baz=111,slow=29,SNR=6.4							
HFS				Lg	Lg	12 30 36.8	
0.8nm,0.3s,baz=115,slow=30,SNR=5.8 1.1nm,0.5s							
NOA	NORSAR Array B	8.38	306	Pn	Pn	12 28 55.6	-0.4
baz=110,slow=14,SNR=5.5							
NOA				Sn	Sn	12 30 28.7	-1.8
baz=158,slow=19,SNR=1.3							
NOA				Lg	Lg	12 31 23.1	
baz=117,slow=17,SNR=2.0 0.6nm,0.7s							

*IDC **06** 13:04:32.3±2.4, 36°93N×70°00E, h0km, mb3.8/5, mbtmp3.8/12, ML3.4/7, MS3.1/1, Error ellipse: s-maj=43.2km s-min=18.7km az=150.0*
*NNC **06** 13:04:39.3±4.0, 37°52N×69°65E, h0km, mb3.0, mpv3.0, Error ellipse: s-maj=34.2km s-min=26.0km az=154.0*
ISC 06 13:04:37.0±0.8, 37°39N±0°09×69°51E±0°07, h10km, n27, σ1°78/28, mb3.7/4, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.73	33	P	Pn	13 06 03.9	+1.3
SNR=69							
UCH	Uchtor	6.18	37	P	Pn	13 06 09.6	+0.8
SNR=16							
EKS2	Erkin-Say	6.20	31	P	Pn	13 06 12.6	+3.9
SNR=13							
AAK	Ala-Archa	6.49	35	P	Pn	13 06 14.0	+1.2
SNR=10							
AAK	Ala-Archa	6.49	35	Pn	Pn	13 06 14.1	+1.4
3.5nm,0.3s,baz=205,slow=5.6,SNR=21							
AAK				Sn	Sn	13 07 27.0	+0.1
baz=217,slow=20							
AAK				Lg	Lg	13 07 59.0	
0.9nm,0.3s,baz=41,slow=20,SNR=2.4 7.9nm,0.4s							
CHMS	Chumysh	6.89	34	P	Pn	13 06 19.8	+1.6
SNR=5.4							
USP	Ospenovka	7.00	31	P	Pn	13 06 20.6	+0.9
SNR=6.5							
TKM2	Tokmak 2	7.23	38	P	Pn	13 06 24.0	+1.1
SNR=7.8							
GEYT	Alibeck	9.05	277	Pn	Pn	13 06 48.3	+0.5
1.5nm,0.3s,baz=83,slow=11,SNR=11							
GEYT				Sn	Sn	13 08 27.4	-2.4
0.7nm,0.3s,baz=101,slow=22,SNR=4.3 2.9nm,0.3s							
MKAR	Makanchi Array	13.34	41	Pn	Pn	13 07 44.3	-2.1
0.1nm,0.3s,baz=230,slow=14,SNR=8.1 1.0nm,0.7s							
PYUN	Piuthan	14.63	125	eP	Pn	13 08 03.7	-0.6
12nm,0.7s							
KURBB	Kurchatov Arra	14.72	23	Pn	Pn	13 08 03.0	-2.1
0.1nm,0.3s,baz=211,slow=11,SNR=4.6							
KURBB				Lg	Lg	13 12 24.6	
baz=210,slow=32,SNR=4.2 0.2nm,0.2s							
DANN	Dangsing	14.97	123	eP	Pn	13 08 09.7	+0.7
7.9nm,0.4s							
AKTO	Aktyubinsk	15.43	331	Pn	Pn	13 08 14.4	-0.2
0.2nm,0.3s,baz=138,slow=11,SNR=3.7							
AKTO				Sn	Sn	13 11 02.3	-3.2
0.1nm,0.3s,baz=204,slow=20,SNR=3.0 1.1nm,0.5s							
BVAR	Borovoye Array	15.65	2	Pn	Pn	13 08 16.5	-1.0
baz=178,slow=12,SNR=2.3 0.4nm,0.4s							
PKIN	Phulchoki	16.57	122	eP	Pn	13 08 29.0	-0.8
3.5nm,0.2s							
PKI	Pulchoki	16.59	122	eP	Pn	13 08 28.9	-1.1
7.3nm,0.4s							
GUN	Gumba	16.69	120	eP	Pn	13 08 31.2	-0.2
16nm,0.8s							
JIRN	Jiri	17.06	120	eP	Pn	13 08 35.5	-0.6
9.6nm,0.4s							
RAMN	Ramite	17.80	121	eP	Pn	13 08 43.5	-1.6
ZALV	Zalesovo Beam	19.64	28	P	P	13 09 04.4	-1.3
0.5nm,0.3s,baz=217,slow=12,SNR=9.2 1.8nm,0.5s							
ARU	Arti	20.42	342	P	Pn	13 09 17.8	+1.6
2.5nm,0.3s,baz=108,slow=20,SNR=1.9 2.5nm,0.3s							
BELG	Belogornoye	21.45	321	P	P	13 09 29.5	+4.3
13nm,0.6s,baz=111,slow=5.4,SNR=2.8 13nm,0.6s							
ARCES	ARCESS Array B	39.87	338	LR	LR	13 28 49.1	
comp=Z,22nm,18.6s,baz=283,slow=36							
NOA	NORSAR Array B	42.95	323	P	P	13 12 37.2	+1.3
0.2nm,0.4s,baz=104,slow=7.6,SNR=1.6 0.2nm,0.4s							
TORD	Torodi Ar. Bea	64.56	267	P	P	13 15 14.8	+0.2
0.4nm,

12nm,0.3s
WRA Warramunga Arr 18.61 221 P P 13 11 00.9 -0.8
0.1nm,0.3s,baz=44,slow=11,SNR=2.1
0.4nm,0.9s
ASAR Alice Springs 21.66 215 P P 13 11 34.9 0.0
0.3nm,0.7s,baz=55,slow=8.7,SNR=5.3
0.3nm,0.7s
TORD Torodi Ar. Bea 145.38 284 PKPbc PKPbc 13 26 22.9 -0.6
0.3nm,0.5s,baz=63,slow=3.7,SNR=5.4

IDC 06 13:10:20.3±9.6, 4°.50S×152°.79E, h98km±66km, mb4.0/2, mbtmp4.2/3, ML1.9/1, MS3.4/4, Error ellipse: s-maj=132.3km s-min=57.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.79**	**284**	LR	LR	13 10 59.9	
	comp=Z,419nm,19.9s,baz=234,slow=50						
PMG	**Port Moresby**	**7.42**	**229**	P	Pn	13 12 05.6	-0.3
	1.2nm,0.3s,baz=50,slow=16,SNR=2.4						
PMG				S	Sn	13 13 29.4	+0.9
	22nm,0.7s,baz=118,slow=20,SNR=2.7						
	4.6nm,0.4s						
HNR	**Honiara**	**8.62**	**125**	LR	LR	13 15 30.2	
	comp=Z,2μm,20.1s,baz=6.0,slow=36						
JAY	**Jayapura**	**12.23**	**279**	LR	LR	13 17 09.9	
	comp=Z,78nm,20.9s,baz=211,slow=34						
GUMO	**Guam**	**19.62**	**336**	LR	LR	13 22 54.0	
	comp=Z,24nm,18.5s,baz=142,slow=38						
WRA	**Warramunga Arr**	**23.64**	**228**	P	P	13 15 23.3	+0.4
	6.5nm,0.5s,baz=53,slow=9.7,SNR=29						
	6.5nm,0.5s						
ASAR	**Alice Springs**	**26.36**	**222**	P	P	13 15 47.4	-0.1
	1.6nm,0.4s,baz=55,slow=8.7,SNR=14						
	1.6nm,0.4s						
INK	**Inuvik**	**88.18**	**21**	LR	LR	13 56 35.5	
	comp=Z,37nm,21.2s,baz=198,slow=32						
TORD	**Torodi Ar. Bea**	**150.21**	**289**	PKPbc	PKPbc	13 30 00.5	-0.6
	0.6nm,0.6s,baz=61,slow=2.7,SNR=4.8						

*ISK **06** 13:13:59.9, 38°.85N×25°.96E, h8km, ML3.5/30*
*AFAD **06** 13:14:00.3±0.0, 38°.86N×25°.98E, h20km±2km, ML3.4*
*THE **06** 13:14:00.8, 38°.86N×26°.01E, h9km, ML3.2/6, Error ellipse: s-maj=1.0km s-min=0.4km az=80.0*
*ATH **06** 13:14:00.7, 38°.86N×26°.00E, h13km, ML3.3/13, Manual Solution by K.Orfanogiannaki First location: 2019/05/29 14:30:12, This location: 2019/06/04 11:06:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

ISC 06 13:14:00.8±0.9, 38°.86N±0°.01×26°.00E±0°.02, h12km±7km, n105, σ6°54/150, 7C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG1	**Polichnitos, L**	**0.28**	**37**	P	**Pg**	**13 14 06.5**	**-0.1**
EAG1				S	**Sg**	**13 14 10.2**	**-0.3**
EAG2	**Marmaro, Chios**	**0.33**	**165**	P	**Pg**	**13 14 07.5**	**+0.1**
EAG2				S	**Sg**	**13 14 12.1**	**+0.4**
SIGR	**SIGRI**	**0.37**	**342**	Pg	**Pg**	**13 14 08.3**	**+0.1**
SIGR				Sg	**Sg**	**13 14 13.5**	**+0.4**
SIGR	**SIGRI**	**0.37**	**342**	P	**Pg**	**13 14 08.3**	**+0.1**
SIGR				S	**Sg**	**13 14 13.6**	**+0.4**
	6μm,0.3s						
SIGR	**SIGRI**	**0.37**	**342**	P	**Pg**	**13 14 08.3**	**+0.1**
SIGR				S	**Sg**	**13 14 13.2**	**+0.1**
KARB	**zmir-Karabur**	**0.38**	**121**	P	**Pg**	**13 14 08.0**	**-0.3**
KARB				S	**Sg**	**13 14 13.0**	**-0.3**
KARB				*i* AML	AML	13 14 15.0	
	comp=E,2μm,0.3s						
KARB				*i* AML	AML	13 14 15.0	
	comp=N,2μm,0.5s						
PRK	**Paraskevi**	**0.44**	**28**	P	**Pg**	**13 14 09.4**	**0.0**
PRK				S	**Sb**	**13 14 16.1**	**-1.0**
	8μm,0.4s						
PRK	**Paraskevi**	**0.44**	**28**	P	**Pg**	**13 14 09.4**	**0.0**
PRK				S	**Sg**	**13 14 15.2**	**-0.1**
PSRA	**Psara**	**0.47**	**227**	P	**Pg**	**13 14 10.1**	**+0.1**
PSRA				S	**Sg**	**13 14 16.2**	**+0.1**
CHOS	**Chios island**	**0.47**	**175**	P	**Pg**	**13 14 10.1**	**0.0**
CHOS				S	**Sg**	**13 14 16.8**	**+0.4**
	5μm,0.4s						
CHOS	**Chios island**	**0.47**	**175**	P	**Pg**	**13 14 10.1**	**0.0**
EAG3	**Mitilini, Lesv**	**0.50**	**63**	P	**Pg**	**13 14 10.5**	**0.0**
EAG3				S	**Sg**	**13 14 16.8**	**-0.3**
CESE	**eme**	**0.58**	**156**	Pg	**Pg**	**13 14 11.5**	**-0.5**
GPNR	**Gulpinar-Canak**	**0.60**	**10**	Pg	**Pg**	**13 14 12.4**	**-0.2**
GPNR				Sg	**Sb**	**13 14 21.5**	**-0.3**
RFT5	**Foca**	**0.62**	**109**	Pg	**Pg**	**13 14 12.8**	**0.0**
URLA	**Izmir**	**0.68**	**137**	Pg	**Pg**	**13 14 13.7**	**-0.3**
URLA				Sg	**Sb**	**13 14 23.9**	**-0.1**
URLA	**Izmir**	**0.68**	**137**	P	**Pg**	**13 14 13.7**	**-0.3**
URLA				S	**Sb**	**13 14 24.3**	**+0.3**
URLA				*i* AML	AML	13 14 26.0	
	comp=E,1μm,0.3s						
URLA				*i* AML	AML	13 14 27.0	
	comp=N,1μm,0.3s						
AYVA	**Ayvalik**	**0.70**	**50**	P	**Pg**	**13 14 14.1**	**-0.2**
AYVA				S	**Sb**	**13 14 25.0**	**+0.5**
AYVA				*i* AML	AML	13 14 26.0	
	comp=E,3μm,0.3s						
AYVA				*i* AML	AML	13 14 27.0	
	comp=N,3μm,0.2s						
RFT7	**Candarli**	**0.72**	**82**	Pg	**Pg**	**13 14 14.9**	**+0.1**
ZEYE	**Izmir, Urla-Ze**	**0.73**	**147**	P	**Pg**	**13 14 14.8**	**-0.1**
ZEYE				S	**Sb**	**13 14 26.3**	**+0.8**
ZEYE				*i* AML	AML	13 14 28.0	
	comp=E,2μm,0.2s						
ZEYE				*i* AML	AML	13 14 29.0	
	comp=N,2μm,0.3s						
DKL	**Dikili**	**0.73**	**73**	Pg	**Pb**	**13 14 15.2**	**-0.3**
DKL				Sg	**Sb**	**13 14 26.5**	**+1.0**
DKL	**Dikili**	**0.73**	**73**	P	**Pg**	**13 14 15.0**	**0.0**
DKL				S	**Sb**	**13 14 25.3**	**-0.3**
RFT1	**Sazli**	**0.75**	**27**	Pg	**Pg**	**13 14 15.4**	**0.0**
ZEDA	**zmir-Bergama**	**0.84**	**82**	P	**Pb**	**13 14 17.2**	**-0.2**
ZEDA				S	**Sb**	**13 14 28.9**	**+0.2**
ZEDA				*i* AML	AML	13 14 30.0	
	comp=N,797nm,0.3s						
ZEDA				*i* AML	AML	13 14 31.0	
	comp=E,692nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.98**	**25**	P	**Pb**	**13 14 18.9**	**-0.8**
BAYC				S	**Sg**	**13 14 32.8**	**+0.5**
BAYC				*i* AML	AML	13 14 35.0	
	comp=E,2μm,0.6s						
BAYC				*i* AML	AML	13 14 36.0	
	comp=N,767nm,0.3s						
BOZC	**Bozcaada**	**0.98**	**2**	Pg	**Pb**	**13 14 19.1**	**-0.7**
BOZC	**Bozcaada**	**0.98**	**2**	P	**Pb**	**13 14 19.1**	**-0.7**
BOZC				S	**Sg**	**13 14 32.6**	**+0.1**
BOZC				*i* AML	AML	13 14 35.0	
	comp=E,1μm,0.2s						
BOZC				*i* AML	AML	13 14 35.0	
	comp=N,1μm,0.3s						
EZN	**Ezine**	**1.00**	**14**	Pg	**Pb**	**13 14 19.3**	**-0.7**
EZN	**Ezine**	**1.00**	**14**	P	**Pb**	**13 14 19.0**	**-1.0**
EZN				S	**Sg**	**13 14 33.3**	**+0.3**
EFSA	**Agios Efstrati**	**1.04**	**311**	P	**Pb**	**13 14 20.6**	**-0.1**
BUHA	**Balikesir, Bur**	**1.05**	**52**	P	**Pb**	**13 14 20.7**	**-0.2**
BUHA				S	**Sg**	**13 14 35.0**	**+0.3**
BUHA				*i* AML	AML	13 14 36.0	
	comp=N,1μm,0.4s						
BUHA				*i* AML	AML	13 14 37.0	
	comp=E,2μm,0.5s						
SKY	**Skiros Island**	**1.13**	**271**	P	**Pb**	**13 14 22.0**	**-0.4**
SKY	**Skiros Island**	**1.13**	**271**	P	**Pb**	**13 14 22.0**	**-0.4**
ECEA	**Canakkale, Ece**	**1.19**	**6**	P	**Pn**	**13 14 22.9**	**-0.3**
ECEA				S	**Sg**	**13 14 39.4**	**+0.2**
ECEA				*i* AML	AML	13 14 41.0	
	comp=N,2μm,0.6s						
ECEA				*i* AML	AML	13 14 43.0	
	comp=E,2μm,0.5s						
LIA	**Limnos Island**	**1.22**	**329**	P	**Pn**	**13 14 23.0**	**-0.6**
LIA				S	**Sg**	**13 14 39.9**	**-0.1**
LIA	**Limnos Island**	**1.22**	**329**	P	**Pn**	**13 14 23.4**	**-0.2**
LIA				S	**Sb**	**13 14 39.3**	**-0.1**
CNKL	**anakkale-Mer**	**1.24**	**14**	P	**Pn**	**13 14 23.3**	**-0.7**
CNKL				S	**Sg**	**13 14 40.6**	**-0.2**
CNKL				*i* AML	AML	13 14 43.0	
	comp=N,836nm,0.2s						
CNKL				*i* AML	AML	13 14 46.0	
	comp=E,1μm,0.4s						
IKRA	**Agios-Kirikos-**	**1.27**	**170**	P	**Pb**	**13 14 24.5**	**-0.1**
IKRA				S	**Sn**	**13 14 40.9**	**-0.4**
COMU	**Canakkale**	**1.29**	**16**	Pn	**Pb**	**13 14 24.9**	**-0.1**
SMG	**Samos**	**1.32**	**150**	P	**Pn**	**13 14 24.1**	**-1.0**
SMG				S	**Sg**	**13 14 43.1**	**-0.3**
SMG	**Samos**	**1.32**	**150**	P	**Pn**	**13 14 25.0**	**-0.2**
SMG				S	**Sg**	**13 14 43.4**	**0.0**
GADA	**Gvkgeada**	**1.33**	**357**	Pn	**Pb**	**13 14 25.4**	**-0.3**
GOKA	**anakkale-Gk**	**1.33**	**357**	P	**Pb**	**13 14 25.7**	**0.0**
GOKA				S	**Sg**	**13 14 43.3**	**-0.3**
GOKA				*i* AML	AML	13 14 45.0	
	comp=E,3μm,0.4s						
GOKA				*i* AML	AML	13 14 45.0	
	comp=N,2μm,0.6s						
CANM	**Can-anakkale**	**1.41**	**35**	Pn	**Pn**	**13 14 25.1**	**-1.2**
AKS	**Akhisar**	**1.41**	**89**	Pn	**Pb**	**13 14 26.7**	**-0.4**
AKHS	**Akhisar**	**1.41**	**89**	P	**Pn**	**13 14 26.2**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.43**	**68**	P	**Pn**	**13 14 26.4**	**-0.3**
STEP				S	**Sb**	**13 14 45.7**	**+0.1**
STEP				*i* AML	AML	13 14 50.0	
	comp=E,801nm,0.5s						
STEP				*i* AML	AML	13 14 51.0	
	comp=N,752nm,0.5s						
KYMI	**Kymi, Euboea I**	**1.50**	**262**	P	**Pn**	**13 14 26.9**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.50**	**262**	P	**Pn**	**13 14 27.0**	**-0.7**
GCAM	**G?zelcaml?**	**1.51**	**140**	Pn	**Pn**	**13 14 27.7**	**+0.1**
GCAM	**G?zelcaml?**	**1.51**	**140**	P	**Pb**	**13 14 28.8**	**+0.1**
GCAM				S	**Sg**	**13 14 49.3**	**0.0**
GCAM				*i* AML	AML	13 14 52.0	
	comp=N,321nm,0.5s						
GCAM				*i* AML	AML	13 14 53.0	
	comp=E,234nm,0.3s						
BALY	**Balya**	**1.53**	**54**	P	**Pn**	**13 14 27.9**	**-0.2**
BALY				S	**Sg**	**13 14 50.9**	**+0.8**
BALY				*i* AML	AML	13 14 54.0	
	comp=N,519nm,0.3s						
BALY				*i* AML	AML	13 14 55.0	
	comp=E,373nm,0.8s						
GELI	**Tayfur-Gelibol**	**1.58**	**13**	Pn	**Pn**	**13 14 28.9**	**+0.3**
LPK	**Lapseki**	**1.62**	**21**	Pn	**Pb**	**13 14 29.8**	**-0.8**
SMTH	**Samothraki Isl**	**1.65**	**347**	P	**Pn**	**13 14 29.0**	**-0.6**
SMTH				S	**Sn**	**13 14 50.9**	**+0.1**
	452nm,0.4s						
SMTH	**Samothraki Isl**	**1.65**	**347**	P	**Pn**	**13 14 29.2**	**-0.4**
BALB	**Balikesir**	**1.65**	**61**	Pn	**Pn**	**13 14 29.7**	**+0.1**
DDIM	**Aydin, Didim**	**1.71**	**145**	P	**Pg**	**13 14 33.1**	**-0.4**
DDIM				S	**Sg**	**13 14 56.4**	**+0.8**
BKES	**Balkesir-Mer**	**1.73**	**59**	P	**Pn**	**13 14 30.7**	**-0.1**
BKES				S	**Sn**	**13 14 52.2**	**-0.6**
BKES				*i* AML	AML	13 15 00.0	
	comp=N,309nm,0.8s						
BKES				*i* AML	AML	13 15 06.0	
	comp=E,247nm,0.5s						
GONE	**Gonen-Balikesi**	**1.76**	**47**	Pn	**Pn**	**13 14 31.8**	**+0.7**
DION	**Dionisos Attik**	**1.80**	**245**	P	**Pn**	**13 14 31.9**	**+0.2**
DION	**Dionisos Attik**	**1.80**	**245**	P	**Pn**	**13 14 31.9**	**+0.2**
APE	**Apeiranthos**	**1.83**	**192**	⇑P	**Pn**	**13 14 31.7**	**-0.4**
APE				⇓S	**Sn**	**13 14 55.1**	**-0.1**
APE	**Apeiranthos**	**1.83**	**192**	Pn	**Pn**	**13 14 31.6**	**-0.4**
APE	**Apeiranthos**	**1.83**	**192**	P	**Pn**	**13 14 30.8**	**-1.2**
APE				S	**Sn**	**13 14 54.7**	**-0.5**
	260nm,0.4s						
APE	**Apeiranthos**	**1.83**	**192**	P	**Pn**	**13 14 30.9**	**-1.2**
KRBG	**Karabiga-Canak**	**1.83**	**33**	Pn	**Pn**	**13 14 31.5**	**-0.6**
KNL	**Balıkesir**	**1.84**	**39**	P	**Pb**	**13 14 34.3**	**0.0**
KNL				S	**Sb**	**13 14 58.1**	**+0.8**
KNL				*i* AML	AML	13 15 02.0	
	comp=N,279nm,0.6s						
KNL				*i* AML	AML	13 15 03.0	
	comp=E,399nm,0.7s						
ERIK	**Erikli-Kesan**	**1.85**	**12**	Pn	**Pn**	**13 14 32.8**	**+0.4**
ENEZ	**Enez**	**1.88**	**3**	Pn	**Pn**	**13 14 32.9**	**+0.2**
AYDN	**Tasoluk**	**1.90**	**128**	P	**Pn**	**13 14 32.1**	**-1.0**
AYDN				S	**Sg**	**13 15 00.8**	**-1.1**
THAS	**Thassos island**	**2.01**	**331**	P	**Pn**	**13 14 34.1**	**-0.4**
THAS	**Thassos island**	**2.01**	**331**	P	**Pn**	**13 14 34.1**	**-0.4**
VLY	**Voula,Athens**	**2.01**	**241**	P	**Pn**	**13 14 33.6**	**-0.9**
MANT	**Manisa**	**2.03**	**100**	P	**Pb**	**13 14 36.6**	**-1.2**
MANT				S	**Sb**	**13 15 04.0**	**+0.8**
ALN	**Alexandroupoli**	**2.04**	**1**	Pn	**Pn**	**13 14 35.1**	**+0.2**
ALN	**Alexandroupoli**	**2.04**	**1**	P	**Pn**	**13 14 34.6**	**-0.3**
DURS	**Dursunbey**	**2.06**	**68**	P	**Pn**	**13 14 34.9**	**-0.4**
DURS				S	**Sn**	**13 15 00.8**	**-0.2**
DURS				*i* AML	AML	13 15 08.0	
	comp=N,147nm,0.4s						
DURS				*i* AML	AML	13 15 13.0	
	comp=E,155nm,0.5s						
EDC	**Edincik**	**2.07**	**43**	Pn	**Pn**	**13 14 35.9**	**+0.6**
BODT	**Bodrum**	**2.07**	**150**	Pn	**Pn**	**13 14 35.8**	**+0.4**
MLSB	**Milas**	**2.10**	**138**	Pn	**Pn**	**13 14 36.4**	**+0.6**
KULA	**Kula-Manisa**	**2.11**	**99**	Pn	**Pn**	**13 14 36.8**	**+0.8**
BDRM	**Kayabasi**	**2.12**	**147**	P	**Pn**	**13 14 36.3**	**+0.2**
BDRM				S	**Sb**	**13 15 06.6**	**+1.1**
OUR	**Ouranopolis**	**2.15**	**314**	Pn	**Pn**	**13 14 36.4**	**0.0**
OUR	**Ouranopolis**	**2.15**	**314**	P	**Pn**	**13 14 36.4**	**0.0**
VIL2	**Platees**	**2.24**	**254**	P	**Pn**	**13 14 36.8**	**-0.9**
RDO	**Rodhopi**	**2.31**	**351**	Pn	**Pn**	**13 14 39.1**	**+0.4**
RDO	**Rodhopi**	**2.31**	**351**	P	**Pn**	**13 14 38.5**	**-0.2**
USAK	**Uak-Merkez**	**2.36**	**93**	P	**Pn**	**13 14 40.2**	**+0.8**
KOKK	**Kokkinochori,**	**2.49**	**322**	P	**Pn**	**13 14 41.0**	**-0.2**
SANT	**Santorini**	**2.52**	**190**	⇓P	**Pn**	**13 14 40.5**	**-1.1**
SANT				⇓S	**Sn**	**13 15 13.7**	**+1.4**
PASA	**Karahalli, USA**	**2.78**	**100**	P	**Pn**	**13 14 45.5**	**+0.3**
ARMT	**Armutlu**	**2.79**	**51**	Pn	**Pn**	**13 14 46.2**	**+0.9**
RZN	**Rozhen**	**2.99**	**342**	*i* P	**Pn**	**13 14 48.6**	**+0.4**
MMB	**Musomishta**	**3.19**	**328**	*e*P	**Pn**	**13 14 51.8**	**+1.0**
IDI	**Anoyia**	**3.67**	**194**	⇑P	**Pn**	**13 14 57.9**	**+0.4**
VTS	**Vitosha**	**4.30**	**332**	*e*P	**Pn**	**13 15 07.5**	**+1.3**
BOVS	**Bovan**	**5.77**	**327**	⇑P	**Pn**	**13 15 26.7**	**+0.5**
VOIR		**6.61**	**354**	⇑P	**Pn**	**13 15 38.7**	**+0.9**
MLR	**Muntele Rosu**	**6.63**	**360**	⇑P	**Pn**	**13 15 38.5**	**+0.4**
MDVR	**Moldovita**	**6.73**	**333**	⇓P	**Pn**	**13 15 40.3**	**+0.9**
GZR	**Gura Zlata**	**6.96**	**341**	⇓P	**Pn**	**13 15 42.5**	**0.0**
PLOR	**Plostina**	**7.00**	**4**	⇑P	**Pn**	**13 15 43.8**	**+0.6**
VRI	**Vrincioaia**	**7.02**	**4**	⇑P	**Pn**	**13 15 43.0**	**-0.4**
SURR	**Surduc**	**7.46**	**339**	⇓P	**Pn**	**13 15 50.4**	**+0.9**

*IDC **06** 13:23:42.0±0.7, 37°.39N×143°.95E, h0km, mb4.2/22, mbtmp4.2/27, ML3.9/5, MS3.3/12, Error ellipse: s-maj=16.4km s-min=15.3km az=110.0*
*NEIC **06** 13:23:43.8±1.7, 37°.50N±0°.09×144°.0E±0°.1, h10km±1km, mb4.7/20, Error ellipse: s-maj=17.8km s-min=12.5km az=127.0*
*MOS **06** 13:23:44.5±1.5, 37°.64N×143°.98E, h27km, mb4.6/15, Error ellipse: s-maj=9.8km s-min=5.4km az=101.4*
*JMA **06** 13:23:45.5±0.2, 37°.5N±0°.7×14°4E±°, h58km, MV4.2/29, FAR E OFF NORTH HONSHU*
*NIED **06** 13:23:45.5, 37°.48N×143°.81E, h58km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.81; $M_{\theta\theta}$0.71; $M_{\phi\phi}$ 1.10; $M_{r\theta}$1.21; $M_{\theta\phi}$0.65; $M_{\phi r}$0.59; Fault plane solution: M_o2.16000×10^{15} NP1: ϕ_s≤232.00000°, δ64.00000°, λ-78.00000°. NP2:ϕ_s27.00000°, δ28.00000°, λ-113.00000°.*

ISC 06 13:23:45.3±4.2, 37°.62N±0°.06×143°.95E±0°.05, h17km±26km, n117, σ1°61/134, mb4.4/46, MS3.4/7, 5C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**2.08**	**290**	*i* P	**Pn**	**13 24 18.3**	**-1.2**
JIKH				S	**Sn**	**13 24 42.3**	**-2.7**
JIO	**Ouri**	**2.22**	**293**	*i* P	**Pn**	**13 24 20.4**	**-0.9**
JIO				S	**Sn**	**13 24 46.5**	**-1.8**
JKMT	**Kesennumamotoy**	**2.28**	**302**	P	**Pn**	**13 24 21.4**	**-0.9**
JKMT				S	**Sn**	**13 24 48.4**	**-1.6**
OFUJ	**Ofunato**	**2.31**	**310**	*i* P	**Pn**	**13 24 22.0**	**-0.6**
OFUJ				*e*S	**Sn**	**13 24 49.1**	**-1.5**
JMST	**Minamisoumatoc**	**2.43**	**273**	P	**Pn**	**13 24 22.1**	**-2.2**
JMST				S	**Sn**	**13 24 50.0**	**-3.6**
JFK	**Kawauchi**	**2.46**	**265**	P	**Pn**	**13 24 22.4**	**-2.3**
JFK				*e*S	Sn	13 24 49.2	-5.2
JMM	**Marumori**	**2.51**	**277**		**Pn**	**13 24 23.6**	**-1.8**
JMK	**Ichinoseki**	**2.53**	**303**	P	**Pn**	**13 24 25.1**	**-0.5**
JMK				S	**Sn**	**13 24 54.0**	**-2.0**
JOM	**Ohasama**	**2.79**	**312**	P	**Pn**	**13 24 29.3**	**+0.1**
JOM				S	**Sn**	**13 25 01.8**	**-0.6**
JOTO	**OTAMA OYAMA**	**2.87**	**270**	P	**Pn**	**13 24 29.2**	**-1.1**
JOTO				*e*S	**Sn**	**13 25 02.2**	**-2.4**
JYK	**Kaneyama**	**3.11**	**296**	P	**Pn**	**13 24 33.7**	**+0.1**
JYK				*e*S	**Sn**	**13 25 09.3**	**-1.1**
JANG	**Nango**	**3.34**	**326**	P	**Pn**	**13 24 37.1**	**+0.3**
JANG				*e*S	**Sn**	**13 25 13.6**	**-2.5**
BSO1	**Boso 1**	**3.81**	**220**	*e*P	**Pn**	**13 24 38.2**	**-4.6**
JTM	**Tenmabayashi**	**3.87**	**326**	Pn	**Pn**	**13 24 45.6**	**+1.5**
JRY	**Ryogami san**	**4.35**	**250**	P	**Pn**	**13 24 47.9**	**-2.8**
JRY				S	Sn	13 25 34.6	-6.6
JOT	**Ohata**	**4.38**	**330**	P	**Pn**	**13 24 52.1**	**+1.1**
JOT				S	**Sn**	**13 25 39.0**	**-2.6**
ERM	**Erimo**	**4.43**	**352**	Pn	**Pn**	**13 24 51.9**	**+0.1**
ERM	**Erimo**	**4.43**	**352**	*i* P	**Pn**	**13 24 51.7**	**-0.1**
JSD	**Sado**	**4.52**	**277**		**Pn**	**13 24 53.0**	**0.0**
JOD2	**Odawara 2**	**4.57**	**240**	P	**Pn**	**13 24 51.0**	**-2.7**
MJAR	**Matsushiro Arr**	**4.71**	**259**	Pn	**Pn**	**13 24 53.4**	**-2.3**
	1.5nm,0.3s,baz=90,slow=16,SNR=62						
MJAR				Sn	**Sn**	**13 25 47.4**	**-2.6**
	0.3nm,0.3s,baz=84,slow=25,SNR=6.3						
MJAR				LR	LR	13 26 54.4	
	comp=Z,231nm,20.9s,baz=73,slow=41						
	9.1nm,0.5s						
MAJO	**Matsushiro**	**4.71**	**259**	Pn	**Pn**	**13 24 55.4**	**-0.3**
MAJO	**Matsushiro**	**4.71**	**259**	*i* P	**Pn**	**13 24 55.2**	**-0.5**
MJB9	**Matsu-Tunnel**	**4.72**	**259**		**Pn**	**13 24 56.4**	**+0.6**
JCH	**Churui**	**5.01**	**355**	P	**Pn**	**13 24 59.5**	**-0.2**
JCH				S	**Sn**	**13 25 54.9**	**-2.3**
JHJ	**Hachijo jima 2**	**5.63**	**218**	Pn	**Pn**	**13 25 02.9**	**-5.5**
	8.0nm,0.3s,baz=56,slow=12,SNR=1.7						
JHJ				Sn	Sn	13 25 56.9	-16
	9.3nm,0.3s,baz=257,slow=22,SNR=1.6						
	152nm,0.9s						
NEM2	**Nemuro 2**	**5.90**	**13**	P	**Pn**	**13 25 10.0**	**-1.9**
NEM2				S	Sn	13 26 13.3	-5.7
NMR	**Nemuro--Hokkai**	**5.90**	**13**	*e*P	**Pn**	**13 25 09.4**	**-2.5**
NMR				*e*S	Sn	13 26 12.5	-6.6
INU	**Inuyama**	**6.03**	**250**	Pn	**Pn**	**13 25 12.3**	**-1.3**
JTKR	**Abashiri--Toko**	**6.34**	**360**	P	**Pn**	**13 25 17.6**	**-0.4**
JTKR				*e*S	**Sn**	**13 26 26.4**	**-3.7**
RUSJ	**Misakicho**	**6.55**	**8**	*e*P	**Pn**	**13 25 20.0**	**-0.9**
RUSJ				*e*S	**Sn**	**13 26 31.8**	**-3.4**
JKA	**Kamikawa-asahi**	**6.57**	**351**	Pn	**Pn**	**13 25 21.7**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**6.57**	**12**	*c i*P	**Pn**	**13 25 19.9**	**-1.2**
YUK				*i* S	Sn	13 26 29.4	-6.2
YUK				pmax	pmax		
	comp=E,26nm,0.3s						
YUK				pmax	pmax		
	comp=Z,152nm,0.3s						
YUK				smax	smax		
	comp=N,218nm,0.3s						
YUK				smax	smax		
	comp=E,396nm,0.4s						
ASAJ	**Asahikawa**	**6.57**	**351**	P	**Pn**	**13 25 21.7**	**+0.6**
ASAJ	**Asahikawa**	**6.57**	**351**	Pn	**Pn**	**13 25 21.6**	**+0.4**
	comp=E,8.3nm,0.3s,baz=195,slow=12,SNR=91						
ASAJ				Sn	**Sn**	**13 26 31.8**	**-3.9**
	comp=E,2.9nm,0.3s,baz=72,slow=32,SNR=6.8						
ASAJ				LR	LR	13 28 25.7	
	comp=E,81nm,19.3s,baz=224,slow=42						
	comp=E,20nm,0.3s						
SHO	**Shikotan**	**6.62**	**18**	*e*P	**Pn**	**13 25 19.7**	**-2.0**
SHO				*e*S	Sn	13 26 30.1	-6.6
SHO				pmax	pmax		
	comp=N,13nm,0.2s						
SHO				pmax	pmax		
	comp=Z,18nm,0.2s						
KUR	**Kuril'sk**	**8.15**	**20**	*e*P	**Pn**	**13 25 40.9**	**-1.9**
KUR				*e*S	**Sn**	**13 27 09.1**	**-5.5**
KUR				pmax	pmax		
	comp=Z,41nm,0.5s						
KUR				smax	smax		
	comp=N,74nm,0.7s						
KUR				smax	smax		
	comp=E,53nm,0.5s						
YSS	**Yuzh-Sakhalins**	**9.37**	**355**	Pn	**Pn**	**13 25 59.5**	**0.0**
YSS	**Yuzh-Sakhalins**	**9.37**	**355**	*e*P	**Pn**	**13 25 59.9**	**+0.4**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,15.0s						
USA0B	**Ussuriysk Arra**	**11.18**	**310**	Pn	**Pn**	**13 26 26.6**	**+2.3**
USA0B	**Ussuriysk Arra**	**11.18**	**310**	P	**Pn**	**13 26 26.6**	**+2.3**
USRK	**Ussuriysk Ar.**	**11.18**	**310**	Pn	**Pn**	**13 26 24.7**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=116,slow=13,SNR=5.5						
USRK				LR	LR	13 30 38.9	
	comp=Z,190nm,19.3s,baz=167,slow=37						
	comp=Z,4.0nm,0.8s						
KSRS	**Korea Array**	**12.72**	**274**	Pn	**Pn**	**13 26 47.4**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=8.8						
KSRS				LR	LR	13 31 23.3	
	comp=Z,78nm,19.0s,baz=80,slow=36			

CMAR			PcP	**PcP**	**13 33 36.3**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=117,slow=0.2,SNR=4.0					
	comp=Z,1.7nm,0.7s					
KDAK	**Kodiak Island**	**45.31 42**	P	**P**	**13 32 01.9**	**-0.1**
KDAK	**Kodiak Island**	**45.31 42**	P	**P**	**13 32 01.9**	**-0.1**
KDAK			pmax	pmax		
	comp=Z,68nm,1.3s					
MK31	**Makanchi Array**	**45.52 302**	P	**P**	**13 32 03.8**	**-0.1**
MK31	**Makanchi Array**	**45.52 302**	*i* P	**P**	**13 32 04.1**	**+0.2**
MKAR	**Makanchi Array**	**45.52 302**	*i* P	**P**	**13 32 04.5**	**+0.6**
MKAR			pmax	pmax		
	comp=Z,3.0nm,1.0s					
MKAR	**Makanchi Array**	**45.52 302**	P	**P**	**13 32 03.5**	**-0.4**
	comp=Z,2.5nm,1.0s,baz=88,slow=9.8,SNR=11					
MKAR			LR	LR	13 52 34.0	
	comp=Z,22nm,18.4s,baz=44,slow=38					
	comp=Z,2.5nm,1.0s					
KURK	**Kurchatov**	**47.16 308**	P	**P**	**13 32 16.2**	**-0.5**
KURK			IAmb	IAmb	13 32 18.4	
	comp=Z,8.1nm,1.1s					
KURK	**Kurchatov**	**47.16 308**	*i* P	**P**	**13 32 16.9**	**+0.2**
KURK			pmax	pmax		
	comp=Z,8.0nm,1.1s					
KURBB	**Kurchatov Arra**	**47.24 308**	P	**P**	**13 32 17.4**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=82,slow=8.0,SNR=28					
	comp=Z,4.3nm,0.9s					
ILAR	**Eielson Array**	**47.91 33**	P	**P**	**13 32 23.3**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=265,slow=6.4,SNR=25					
	comp=Z,2.5nm,0.8s					
G29M	**Pine Creek**	**51.42 30**	P	**P**	**13 32 51.2**	**+2.2**
G29M			IAmb	IAmb	13 32 52.5	
	comp=Z,7.3nm,0.8s					
BVAR	**Borovoye Array**	**51.67 312**	P	**P**	**13 32 51.8**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=61,slow=7.0,SNR=6.8					
BVAR			LR	LR	13 55 57.9	
	comp=Z,48nm,18.2s,baz=31,slow=37					
	comp=Z,3.4nm,0.9s					
BRVK	**Borovoye**	**51.73 312**	*i* P	**P**	**13 32 50.6**	**-0.9**
BRVK			pmax	pmax		
	comp=Z,1.0nm,0.4s					
AAK	**Ala-Archa**	**51.98 299**	*ce*P	**P**	**13 32 55.6**	**+1.8**
AAK			pmax	pmax		
	comp=Z,1.0nm,0.8s					
G30M	**tAoh Zraii Nji**	**52.12 29**	P	**P**	**13 32 55.8**	**+1.5**
G30M			IAmb	IAmb	13 33 19.0	
	comp=Z,10nm,1.3s					
I30M	**Mount Dempster**	**52.32 32**	P	**P**	**13 32 57.3**	**+1.4**
I30M			IAmb	IAmb	13 32 59.2	
	comp=Z,9.1nm,1.0s					
HYT	**Haines Junctio**	**52.62 37**	P	**P**	**13 33 01.0**	**+2.9**
HYT			IAmb	IAmb	13 33 39.4	
	comp=Z,11nm,1.1s					
INK	**Inuvik**	**52.94 28**	P	**P**	**13 33 01.2**	**+1.0**
INK			IAmb	IAmb	13 33 45.1	
	comp=Z,6.9nm,1.2s					
INK	**Inuvik**	**52.94 28**	P	**P**	**13 33 01.2**	**+1.0**
INK			pmax	pmax		
	comp=Z,7.0nm,1.2s					
F31M	**Tsiigehtchic**	**53.00 29**	P	**P**	**13 33 01.9**	**+1.2**
H31M	**Peel River**	**53.06 31**	P	**P**	**13 33 02.5**	**+1.3**
H31M			IAmb	IAmb	13 33 04.1	
	comp=Z,9.9nm,1.0s					
FARO	**Faro, Yukon**	**54.25 35**	P	**P**	**13 33 10.8**	**+0.8**
ARU	**Arti**	**57.26 319**	*ce*P	**P**	**13 33 33.0**	**+1.4**
ARU			pmax	pmax		
	comp=Z,15nm,2.5s					
ARU	**Arti**	**57.26 319**	P	**P**	**13 33 32.2**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=55,slow=3.4,SNR=8.2					
ARU			LR	LR	14 00 36.0	
	comp=Z,79nm,18.2s,baz=100,slow=38					
	comp=Z,4.6nm,0.6s					
WB0	**Warramunga Arr**	**57.78 191**	P	**P**	**13 33 33.7**	**-2.0**
WR0	**Warramunga Arr**	**57.95 190**	P	**P**	**13 33 34.4**	**-2.4**
WR0			IAmb	IAmb	13 33 44.6	
	comp=Z,4.2nm,0.6s					
WB2	**Warramunga Arr**	**57.96 191**	P	**P**	**13 33 34.9**	**-2.0**
WB2			IAmb	IAmb	13 33 45.1	
	comp=Z,5.4nm,0.7s					
WRA	**Warramunga Arr**	**57.97 191**	P	**P**	**13 33 34.9**	**-2.0**
WRA	**Warramunga Arr**	**57.97 191**	P	**P**	**13 33 34.9**	**-2.0**
WRA	**Warramunga Arr**	**57.97 191**	P	**P**	**13 33 33.6**	**-3.3**
	comp=Z,4.3nm,0.7s,baz=11,slow=7.3,SNR=43					
	comp=Z,4.3nm,0.7s					
ABKAR	**Akbulak array**	**59.10 311**	P	**P**	**13 33 44.5**	**-0.1**
EUNU	**Eureka**	**59.30 9**	P	**P**	**13 33 45.4**	**-0.3**
EUNU			IAmb	IAmb	13 33 47.4	
	comp=Z,6.3nm,1.1s					
AKTO	**Aktyubinsk**	**59.78 312**	P	**P**	**13 33 49.5**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=71,slow=8.4,SNR=10					
	comp=Z,2.9nm,0.7s					
ASAR	**Alice Springs**	**61.69 190**	P	**P**	**13 34 00.3**	**-2.1**
	comp=Z,0.9nm,0.7s,baz=6.6,slow=7.2,SNR=9.0					
	comp=Z,0.9nm,0.7s					
ARCES	**ARCESS Array B**	**64.15 340**	P	**P**	**13 34 18.8**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=46,slow=6.5,SNR=1.9					
	comp=Z,1.0nm,0.8s					
FINES	**FINESS Array B**	**69.22 333**	P	**P**	**13 34 50.6**	**-0.2**
FINES	**FINESS Array B**	**69.22 333**	*i* P	**P**	**13 34 51.0**	**+0.2**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.7s					
FINES	**FINESS Array B**	**69.22 333**	P	**P**	**13 34 51.1**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=48,slow=5.7,SNR=4.3					
	comp=Z,2.2nm,0.7s					
SUMG	**Summit**	**70.09 1**	P	**P**	**13 34 56.9**	**+0.4**
SUMG	**Summit**	**70.09 1**	P	**P**	**13 34 56.9**	**+0.4**
SUMG			pmax	pmax		
	comp=Z,14nm,1.4s					
KBZ	**Khabaz**	**72.04 312**	P	**P**	**13 35 09.5**	**+1.2**
	comp=Z,3.4nm,0.9s,baz=90,slow=4.0,SNR=3.0					
	comp=Z,3.4nm,0.9s					
NVAR	**Mina Array Bea**	**73.01 54**	P	**P**	**13 35 15.7**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=281,slow=6.1,SNR=6.0					
	comp=Z,0.8nm,0.8s					
HFS	**Hagfors**	**74.37 337**	P	**P**	**13 35 22.5**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=28,slow=3.4,SNR=5.9					
HFS			LR	LR	14 13 19.2	
	comp=Z,38nm,18.8s,baz=359,slow=40					
	comp=Z,1.3nm,0.5s					
NOA	**NORSAR Array B**	**74.41 338**	P	**P**	**13 35 22.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=38,slow=5.8,SNR=3.8					
	comp=Z,1.2nm,0.8s					
AKASG	**Malin Array Be**	**75.05 323**	P	**P**	**13 35 26.1**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=50,slow=4.5,SNR=6.6					
	comp=Z,1.6nm,0.6s					
PDAR	**Pinedale Array**	**75.80 47**	P	**P**	**13 35 30.8**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=264,slow=2.7,SNR=5.7					
	comp=Z,0.5nm,0.7s					
CLL	**Collm**	**81.57 331**	*i* P	**P**	**13 36 02.7**	**+0.8**
CLL			pmax	pmax		
	comp=Z,6.0nm,1.1s					
CLL	**Collm**	**81.57 331**	*i* P	**P**	**13 36 02.7**	**+0.8**
	comp=Z,6.0nm,1.1s					
VRAC	**Vranov**	**81.71 328**	P	**P**	**13 36 03.4**	**+0.7**
	comp=Z,4.5nm,0.8s,baz=53,slow=5.1,SNR=4.3					
	comp=Z,4.5nm,0.8s					
MMAI	**Mount Meron Ar**	**83.26 307**	P	**P**	**13 36 12.4**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=10,slow=8.8,SNR=2.1					
	comp=Z,0.7nm,0.4s					
TXAR	**Lajitas Array**	**88.15 54**	P	**P**	**13 36 35.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=243,slow=1.1,SNR=7.0					
	comp=Z,0.5nm,0.7s					

IDC 06 13:32:32.7±766.0, 53°.04N×33°.48E, h0km, Error ellipse: s-maj=307.9km s-min=91.7km az=35.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.28**	**29**	I	I	14 00 40.0	
	0.4nm,0.8s,baz=212,slow=318,SNR=4.6						
I31KZ	**AKTYUBINSK INF**	**15.42**	**90**	I	I	15 03 40.0	
	baz=290,slow=327,SNR=2.0						
I46RU	**ZALESOVO INFRA**	**30.01**	**67**	I	I	16 35 10.0	
	baz=290,slow=331,SNR=1.5						

KRSC 06 13:34:15.8±0.6, 53°.73N×169°.45E, h35km±12km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**4.62**	**283**	*eP*	Pn	13 35 27.4	+4.4
KZV	**Kizimen**	**5.53**	**288**	*eP*	Pn	13 35 40.3	+4.6
KZV				*eS*	Sn	13 36 42.5	+4.5
TUMR	**Tumrok**	**5.64**	**290**	*eP*	Pn	13 35 42.2	+5.0
KMNR	**Kamenistaya**	**5.71**	**295**	*eP*	Pn	13 35 43.2	+5.0
KMNR				*eS*	Sn	13 36 47.8	+5.3
SDLR	**Sedlovina**	**6.32**	**270**	*eP*	Pn	13 35 51.4	+4.8
SDLR				*eS*	Sn	13 37 02.4	+4.8
SMAR	**Somma**	**6.38**	**270**	*eP*	Pn	13 35 52.5	+5.1
KRER	**Koryakskii**	**6.40**	**271**	*eP*	Pn	13 35 52.7	+5.0
KRX	**Arik**	**6.45**	**271**	*eP*	Pn	13 35 53.2	+4.8
KOK	**Koryaka**	**6.47**	**271**	*eP*	Pn	13 35 53.5	+4.9
PET	**Petropavlovsk**	**6.50**	**268**	*eP*	Pn	13 35 54.0	+5.1
GNL	**Ganaly**	**6.83**	**274**	*eP*	Pn	13 35 58.7	+5.1
KRMR	**Karymshinskiy**	**6.85**	**267**	*eP*	Pn	13 35 59.1	+5.4
KDTR	**Khodutka, Kamc**	**7.17**	**259**	*eP*	Pn	13 36 03.6	+5.6

NOU 06 13:38:06.1, 20°.00S×168°.83E, h0km, MLv4.0/12, Loyalty Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.65**	**207**	P	Pn	13 38 34.4	-2.0
LIFNC	**LIFOU**	**1.68**	**242**	P	Pn	13 38 35.7	-1.1
RTV	**Rentapao**	**2.23**	**350**	P	Pn	13 38 44.4	+0.1
YATNC	**Mamie plateau,**	**2.73**	**221**	P	Pn	13 38 50.7	-0.6
PINNC	**Pines Island,**	**2.90**	**206**	P	Pn	13 38 54.3	+0.7
OUENC	**Ouen Island, N**	**3.04**	**217**	P	Pn	13 38 56.4	+0.9
NOUC	**Port Laguerre**	**3.15**	**228**	P	Pn	13 38 57.7	+0.7

*IDC **06** 13:48:18.1±0.7, 11°.95N×95°.06E, h0km, mb4.2/17, mbtmp4.2/18, ML3.9/1, MS3.8/1, Error ellipse: s-maj=25.4km s-min=14.3km az=56.0*

ISC 06 13:48:21.1±0.7, 11°.83N±0°.08×94°.99E±0°.10, h21km, n42, σ1§08/42, mb4.2/22, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.61**	**30**	Pn	**Pn**	**13 50 09.2**	**-1.7**
	0.5nm,0.3s,baz=219,slow=14,SNR=29						
CMAR				Lg	Lg	13 52 02.9	
	baz=214,slow=34						
	5.7nm,0.8s						
TNCH	**TengChong**	**13.55**	**14**	*eP*	**Pn**	**13 51 34.8**	**+2.5**
TNCH				pP	P	13 51 43.6	+2.3
TNCH				S	**Sn**	**13 54 03.2**	**+0.8**
TNCH				pmax	pmax		
	comp=Z,21nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,140nm,4.5s						
TNCH				LR	LR		
	comp=N,310nm,9.6s						
TNCH				LR	LR		
	comp=E,550nm,9.4s						
TNCH				LR	LR		
	comp=Z,380nm,12.3s						
QIZ	**Qiongzhong**	**16.00**	**62**	P	**Pn**	**13 52 05.2**	**+0.2**
QIZ				LR	LR		
	comp=N,300nm,9.6s						
QIZ				LR	LR		
	comp=E,490nm,12.8s						
QIZ				LR	LR		
	comp=Z,660nm,9.6s						
TAPN	**Taplejung**	**16.89**	**337**	*eP*	**P**	**13 52 20.8**	**+2.3**
	comp=Z,49nm,0.8s						
RAMN	**Ramite**	**16.99**	**334**	*eP*	**P**	**13 52 19.5**	**-0.1**
	comp=Z,208nm,1.3s						
JIRN	**Jiri**	**17.78**	**334**	*eP*	**P**	**13 52 29.8**	**+1.3**
	comp=Z,81nm,1.1s						
PKI	**Pulchoki**	**18.06**	**332**	*eP*	**P**	**13 52 31.6**	**+0.1**
	comp=Z,104nm,1.1s						
PKIN	**Phulchoki**	**18.07**	**332**	*eP*	**P**	**13 52 31.7**	**+0.1**
	comp=Z,207nm,1.5s						
LSA	**Lhasa**	**18.14**	**349**	P	**Pn**	**13 52 31.4**	**-0.9**
LSA				pmax	pmax		
	comp=Z,12nm,0.5s						
DMN	**Daman**	**18.23**	**331**	*eP*	**Pn**	**13 52 33.1**	**-0.1**
KOLN	**Koldanda**	**19.12**	**328**	*eP*	**P**	**13 52 42.5**	**-0.5**
DANN	**Dangsing**	**19.51**	**329**	*eP*	**Pn**	**13 52 48.1**	**-0.6**
	comp=Z,95nm,1.1s						
PYUN	**Piuthan**	**19.70**	**327**	*eP*	**P**	**13 52 49.7**	**+0.2**
	comp=Z,110nm,1.0s						
LEM	**Lembang**	**22.39**	**145**	LR	LR	14 03 46.6	
	comp=Z,220nm,19.9s,baz=338,slow=41						
GOMU	**GeErMu**	**24.26**	**360**	P	P	13 53 46.5	+9.2
GOMU				pP	sP	13 53 51.1	+5.4
GOMU				sP	pwP	13 53 51.9	+6.3
GOMU				S	**S**	**13 57 54.9**	**-0.3**
GOMU				sS	pS	13 57 59.7	-2.1
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WHN	**Wuhan**	**25.86**	**41**	⇑P	**P**	**13 53 52.4**	**+1.1**
WHN				pP	**pwP**	**13 54 03.2**	**+2.5**
GTA	**Gaotai**	**27.80**	**8**	*eP*	**P**	**13 54 09.0**	**+0.1**
GTA				pP	sP	13 54 16.3	-0.6
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KSH	**Kashi**	**32.32**	**332**	P	**P**	**13 54 48.0**	**-1.0**
KSH				pP	pwP	13 55 01.4	+3.3
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**36.47**	**345**	P	**P**	**13 55 24.5**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=158,slow=9.1,SNR=11						
	comp=Z,2.4nm,0.9s						
SONM	**Songino Array**	**37.14**	**13**	P	**P**	**13 55 29.8**	**-0.7**
	comp=Z,3.3nm,0.8s,baz=194,slow=9.0,SNR=19						
	comp=Z,3.3nm,0.8s						
KSRS	**Korea Array**	**38.99**	**43**	P	**P**	**13 55 44.8**	**-1.3**
	comp=Z,3.4nm,0.9s,baz=236,slow=9.4,SNR=9.4						
	comp=Z,3.4nm,0.9s						
KURBB	**Kurchatov Arra**	**40.97**	**344**	P	**P**	**13 56 01.4**	**-0.9**
	comp=Z,2.9nm,0.9s,baz=161,slow=7.7,SNR=17						
	comp=Z,2.9nm,0.9s						
GEYT	**Alibeck**	**41.93**	**315**	P	**P**	**13 56 11.6**	**+1.1**
	comp=Z,8.2nm,0.6s,baz=128,slow=8.5,SNR=14						
	comp=Z,8.2nm,0.6s						
ZALV	**Zalesovo Beam**	**42.79**	**351**	P	**P**	**13 56 16.6**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=169,slow=8.5,SNR=8.1						
	comp=Z,2.6nm,0.8s						
BVAR	**Borovoye Array**	**45.57**	**339**	P	**P**	**13 56 38.8**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=123,slow=9.4,SNR=6.0						
	comp=Z,1.1nm,0.7s						
HEH	**HeiHe**	**46.63**	**28**	*eP*	**P**	**13 56 46.9**	**-0.9**
HEH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**49.97**	**129**	P	**P**	**13 57 14.3**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=307,slow=8.4,SNR=29						
	comp=Z,5.0nm,0.9s						
ASAR	**Alice Springs**	**51.89**	**133**	P	**P**	**13 57 28.8**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=310,slow=7.1,SNR=29						
	comp=Z,3.5nm,0.9s						
BRTR	**Keskin Array B**	**60.55**	**309**	P	**P**	**13 58 29.1**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=120,slow=8.8,SNR=6.4						
	comp=Z,1.3nm,0.7s						
STKA	**Stephens Creek**	**62.27**	**136**	P	**P**	**13 58 42.9**	**+1.0**
	comp=Z,4.1nm,0.9s,baz=329,slow=12,SNR=4.7						
	comp=Z,4.1nm,0.9s						
KLMR	**Klimovskoe**	**63.30**	**333**	*eP*	**P**	**13 58 51.1**	**+2.9**
KLMR				AMP		13 58 57.8	
	comp=Z,21nm,1.9s						
FINES	**FINESS Array B**	**69.64**	**331**	P	**P**	**13 59 28.8**	**0.0**
	comp=Z,1.2nm,0.7s,baz=93,slow=7.0,SNR=1.5						
	comp=Z,1.2nm,0.7s						
ARCES	**ARCESS Array B**	**71.86**	**340**	P	**P**	**13 59 42.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=82,slow=7.4,SNR=1.6						
	comp=Z,0.6nm,0.6s						
GERES	**GERESS Array B**	**75.47**	**318**	P	**P**	**14 00 04.1**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=70,slow=5.6,SNR=3.1						
	comp=Z,1.5nm,0.6s						
HFS	**Hagfors**	**75.50**	**329**	P	**P**	**14 00 03.9**	**+0.3**
	comp=Z,5.0nm,1.1s,baz=69,slow=7.9,SNR=2.3						
	comp=Z,5.0nm,1.1s						
NB2	**NORSAR Subarra**	**76.73**	**330**	P	P	14 00 21.5	+11
	comp=Z,1.7nm,0.8s,baz=92,slow=5.3						
TORD	**Torodi Ar. Bea**	**90.51**	**283**	P	**P**	**14 01 22.2**	**0.0**
	comp=Z,0.9nm,0.9s,baz=74,slow=6.2,SNR=3.5						
	comp=Z,0.9nm,0.9s						
ILAR	**Eielson Array**	**90.79**	**22**	P	**P**	**14 01 21.4**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=303,slow=4.2,SNR=21						
	comp=Z,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**121.11**	**30**	PKP	**PKiKP**	**14 07 13.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=307,slow=2.3,SNR=4.7						
PDAR	**Pinedale Array**	**121.20**	**21**	PKP	**PKPdf**	**14 07 13.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=328,slow=3.2,SNR=2.8						
TXAR	**Lajitas Array**	**135.29**	**23**	PKP	**PKPdf**	**14 07 39.4**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=96,slow=1.8,SNR=2.7						
PLCA	**Paso Flores**	**148.52**	**201**	PKPbc	**PKiKP**	**14 08 08.6**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=84,slow=6.1,SNR=4.4						

*BJI **06** 14:00:29.4±0.0, 11°.61N×95°.14E, h24km, mb4.7/72, mB5.1/56, Ms5.0/75, Ms7 4.8/73*

*IDC **06** 14:00:29.6±0.5, 11°.98N×95°.06E, h0km, mb4.4/30, mbtmp4.4/31, ML4.2/1, MS4.2/56, Error ellipse: s-maj=15.6km s-min=11.8km az=58.0*

*MOS **06** 14:00:29.3±0.9, 11°.90N×95°.08E, h14km, mb5.0/31, MS4.3/7, Error ellipse: s-maj=10.3km s-min=4.9km az=106.8*

*NDI **06** 14:00:29.9±3.8, 11°.95N×95°.45E, h10km, mb5.3, mb5.1(NEIC)*

*NEIC **06** 14:00:31.5±2.0, 11°.98N±0°.02×95°.08E±0°.06, h10km±4km, mb5.1/48, Mww5.0/21, Error ellipse: s-maj=9.5km s-min=1.3km az=69.0*

*NEIC **06** 14:00:31.5, 11°.88N×94°.87E, h12km, Moment Tensor Solution. Duration: 1§7 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.08; $M_{\theta\theta}$2.04; $M_{\phi\phi}$1.04; $M_{r\theta}$-2.90; $M_{\theta\phi}$2.45; $M_{\phi r}$0.79; Fault plane solution: $M_0$4.72000×10^{16} NP1: ϕ_s204.00000°, δ39.09000°, λ-139.25000°. NP2: ϕ_s80.22000°, δ65.69000°, λ-58.39000°. Principal axes: T 4.5083, Plg15.0000°, Azm148.0000°; N 0.4187, Plg29.0000°, Azm246.0000°; P -4.9270, Plg57.0000°, Azm33.0000°;*

*NEIC **06** 14:00:31.5, 11°.98N×95°.08E, h12km*

*GCMT **06** 14:00:33.5±0.2, 11°.89N±0°.02×95°.04E±0°.02, h12km, MW5.1/104, Moment Tensor Solution. s49,c61; s104,c172; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.71±.13; $M_{\theta\theta}$2.91±.12; $M_{\phi\phi}$0.80±.12; $M_{r\theta}$2.31±.37; $M_{\theta\phi}$3.14±.10; $M_{\phi r}$0.62±.36; Best double couple: $M_0$5.08600×10^{16} NP1:ϕ_s248.00000°, δ60.00000°, λ-73.00000°. NP2:ϕ_s37.00000°, δ34.00000°, λ-117.00000°. Principal axes: T 5.7060, Plg14.0000°, Azm326.0000°; N -1.2390, Plg14.0000°, Azm59.0000°; P -4.4660, Plg70.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 14:00:32.4±0.4, 11°.84N±0°.04×95°.11E±0°.04, h18km±2km, h18km:pP-P, n474, σ1§54/466, mb4.9/99, MS4.3/82, 15C-4D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.32**	**266**	Pn	**Pn**	**14 01 10.3**	**+0.6**
PBA	**Port Blair**	**2.32**	**266**	*eP*	**Pn**	**14 01 10.4**	**+0.6**
PBA				*eS*	**Sg**	**14 01 46.5**	**-0.7**
SRIT	**Nakonsritamara**	**5.47**	**126**		**Pn**	**14 01 53.1**	**0.0**
CM31	**Chiang Mai Arr**	**7.55**	**29**		**Pn**	**14 02 18.7**	**-3.1**
CM31	**Chiang Mai Arr**	**7.55**	**29**	P	**Pn**	**14 02 21.3**	**-0.4**
	SNR=20						
CMAR	**Chiang Mai Arr**	**7.55**	**29**	Pn	**Pn**	**14 02 20.1**	**-1.7**
CMAR	**Chiang Mai Arr**	**7.55**	**29**	*i* P	**Pn**	**14 02 20.7**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,14nm,0.8s						
CMAR	**Chiang Mai Arr**	**7.55**	**29**	Pn	**Pn**	**14 02 20.8**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=220,slow=15,SNR=49						
CMAR				Lg	Lg	14 04 20.5	
	baz=201,slow=31						
CMAR				LR	LR	14 05 30.3	
	comp=Z,824nm,19.8s,baz=215,slow=40						
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai**	**7.86**	**28**	Pn	**Pn**	**14 02 24.1**	**-1.9**
CHTO	**Chiang Mai**	**7.86**	**28**	P	**Pn**	**14 02 24.1**	**-1.9**
KULM	**Kulim**	**8.50**	**139**	Pn	**Pn**	**14 02 34.9**	**+0.1**
CRAI	**Chiangrai**	**9.76**	**31**	Pn	**Pn**	**14 02 51.3**	**-0.7**
MND	**Mandalay**	**10.17**	**5**	Pn	**Pn**	**14 02 54.2**	**-3.4**
SAIH	**SAIHA**	**10.79**	**349**	*eP*	**Pn**	**14 03 02.7**	**-3.5**
SAIH				IAmb	IAmb	14 03 16.7	
	comp=Z,114nm,1.4s						
BRDH	**Bariadhala**	**11.28**	**343**	LR	LR	14 08 45.7	
	comp=Z,2μm,19.4s,baz=92,slow=45						
AZL	**Aizawl**	**12.06**	**349**	*eP*	**Pn**	**14 03 19.9**	**-3.6**
AZL				IAmb	IAmb	14 03 29.0	
	comp=Z,43nm,1.1s						
IMP	**Imphal**	**12.97**	**355**	*eP*	**Pn**	**14 03 32.4**	**-3.6**
IMP				IAmb	IAmb	14 03 49.5	
	comp=Z,40nm,0.9s						
MYKOM	**Kota Tinggi**	**13.22**	**138**		**Pn**	**14 03 39.6**	**+0.2**
TNCH	**TengChong**	**13.51**	**13**	⇑P	**Pn**	**14 03 45.0**	**+1.5**
TNCH				pP	P	14 03 49.5	-3.2
TNCH				sP		14 03 53.1	
TNCH				PP	**PnPn**	**14 04 00.1**	**+8.4**
TNCH				S	**Sn**	**14 06 14.5**	**+1.0**
TNCH				SS	**SnSn**	**14 06 30.5**	**+4.2**
TNCH				pmax	pmax		
	comp=Z,25nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,600nm,4.5s						
TNCH				LR	LR		
	comp=Z,2μm,10.1s						
TNCH				LR	LR		
	comp=Z,4μm,9.9s						
TNCH				LR	LR		
	comp=Z,3μm,14.4s						
KOHI	**KOHIMA**	**13.84**	**356**	*eP*	Pn	14 03 42.7	-5.3
KOHI				IAmb	IAmb	14 04 12.9	
	comp=Z,81nm,0.9s						
SHL	**Shillong**	**13.99**	**348**	Pn	Pn	14 03 44.4	-5.7
SHL	**Shillong**	**13.99**	**348**	*eP*	**Pn**	**14 03 48.3**	**-1.8**
SHL	**Shillong**	**13.99**	**348**	P	Pn	14 03 44.4	-5.7
MOKO	**MOKOCHONG**	**14.42**	**358**	*eP*	**Pn**	**14 03 53.6**	**-2.3**
MOKO				IAmb	IAmb	14 04 14.8	
	comp=Z,58nm,0.8s						
DHUB	**DHUBRI**	**14.91**	**342**	*eP*	Pn	14 03 57.8	-4.6
DHUB				IAmb	IAmb	14 04 16.0	
	comp=Z,190nm,1.6s						
KMI	**Kunming**	**15.06**	**28**	⇑P	**P**	**14 04 10.2**	**+0.3**

LSA	**Lhasa**	**18.15 349**	P	**Pn**	**14 04 42.4 -1.7**
LSA			S	**Sn**	**14 08 07.5 +0.9**
LSA			LR	LR	
	comp=Z,1μm,27.0s				
LSA			LR	LR	
	comp=Z,820nm,23.5s				
LSA			LR	LR	
	comp=Z,1μm,22.1s				
LSA	**Lhasa**	**18.15 349**	P	**Pn**	**14 04 41.7 -2.5**
LSA			IAmb	IAmb	14 04 52.1
	comp=Z,216nm,1.6s				
LSA	**Lhasa**	**18.15 349**	P	**Pn**	**14 04 41.7 -2.5**
LSA			pmax	pmax	
	comp=Z,216nm,1.6s				
GYA	**Guiyang**	**18.17 35**	⇑P	**Pn**	**14 04 44.6 +0.6**
GYA			S	**Sn**	**14 08 02.5 -4.0**
GYA			pmax	pmax	
	comp=Z,53nm,1.6s				
GYA			pmax	pmax	
	comp=Z,1μm,3.7s				
GYA			LR	LR	
	comp=Z,1μm,9.2s				
GYA			LR	LR	
	comp=Z,2μm,7.0s				
GYA			LR	LR	
	comp=Z,870nm,12.3s				
GUN	**Gumba**	**18.18 333**	*e*P	**Pn**	**14 04 43.6 -0.8**
	comp=Z,945nm,1.8s				
KSM	**Kuching**	**18.26 123**	P	**P**	**14 04 47.2 +2.1**
DMN	**Daman**	**18.28 331**	*e*P	**Pn**	**14 04 45.4 -0.1**
	comp=Z,238nm,1.1s				
KKN	**Kakani**	**18.35 331**	*e*P	**Pn**	**14 04 45.7 -0.6**
	comp=Z,274nm,1.9s				
VLK	**Valmikinagar**	**18.67 327**	*e*P	**Pn**	**14 04 51.5 +1.5**
GKN	**Gorkha**	**18.84 330**	*e*P	**P**	**14 04 51.4 -0.2**
	comp=Z,278nm,1.4s				
SBUM	**Sibu**	**19.36 117**		**Pn**	**14 05 00.3 +1.9**
AKL	**Akola**	**19.46 299**	*e*P	**P**	**14 05 00.2 +1.8**
DANN	**Dangsing**	**19.56 329**	*e*P	**P**	**14 04 59.4 -0.3**
	comp=Z,856nm,1.6s				
PYUN	**Piuthan**	**19.76 327**	*e*P	**P**	**14 05 02.2 +0.4**
	comp=Z,407nm,1.2s				
CD2	**Chengdu**	**20.60 22**	P	**P**	**14 05 09.6 -1.1**
CD2			pP	pwP	14 05 16.8 -2.0
CD2			S	**S**	**14 09 03.9 +3.4**
CD2			pmax	pmax	
	comp=Z,90nm,0.9s				
CD2			pmax	pmax	
	comp=Z,520nm,4.7s				
CD2			LR	LR	
	comp=Z,2μm,9.8s				
CD2			LR	LR	
	comp=Z,5μm,9.8s				
CD2			LR	LR	
	comp=Z,3μm,10.0s				
KKM	**Kota Kinabalu**	**21.62 104**	P	**P**	**14 05 23.9 +2.0**
KKM			IAmb	IAmb	14 05 38.0
	comp=Z,176nm,1.1s				
LEM	**Lembang**	**22.33 146**	LR	LR	14 15 57.3
	comp=Z,2μm,18.2s,baz=318,slow=41				
LGTI	**Lohaghat**	**22.33 324**	*e*P	**P**	**14 05 29.4 +0.1**
PTH	**Pithoragarh**	**22.42 324**	*e*P	**P**	**14 05 32.9 +2.4**
ENH	**Enshi**	**22.68 34**	P	**P**	**14 05 31.5 -1.6**
ENH			IAmb	IAmb	14 05 41.5
	comp=Z,57nm,0.9s				
CNSH	**ChangSha**	**23.29 43**	⇑P	**P**	**14 05 38.7 -0.7**
CNSH			S	**S**	**14 09 52.0 +0.9**
CNSH			pmax	pmax	
	comp=Z,59nm,1.9s				
CNSH			LR	LR	
	comp=Z,2μm,9.2s				
CNSH			LR	LR	
	comp=Z,1μm,10.8s				
CNSH			LR	LR	
	comp=Z,1μm,9.1s				
MYLDM	**Lahad Datu**	**24.05 104**	P	**P**	**14 05 47.3 +0.5**
AJM	**Ajmer**	**24.15 310**	*e*P	**P**	**14 05 49.5 +1.8**
SMRI	**Semarang**	**24.18 140**	P	**P**	**14 05 49.4 +1.4**
GOMU	**GeErMu**	**24.26 359**	P	**P**	**14 05 49.0 0.0**
GOMU			pP	sP	14 05 53.7 -1.7
GOMU			sP	pwP	14 05 55.6 -1.8
GOMU			S	**S**	**14 10 08.3 +1.1**
GOMU			pmax	pmax	
	comp=Z,48nm,1.0s				
GOMU			pmax	pmax	
	comp=Z,47nm,3.8s				
GOMU			LR	LR	
	comp=Z,810nm,10.1s				
GOMU			LR	LR	
	comp=Z,710nm,13.4s				
GOMU			LR	LR	
	comp=Z,810nm,10.7s				
TGY	**Tagaytay City**	**25.27 82**	P	**P**	**14 05 58.5 +0.6**
	comp=Z,155nm,0.3s,baz=315,slow=11,SNR=2.2				
TGY			LR	LR	14 15 17.7
	comp=Z,585nm,18.9s,baz=261,slow=35				
LZH	**Lanzhou**	**25.40 17**	*e*P	**P**	**14 05 59.4 +0.3**
LZH			sP	pwP	14 06 09.1 +1.6
LZH			S	**S**	**14 10 18.6 -6.6**
LZH			sS	sS	14 10 35.8 +3.1
LZH			SS	**SnSn**	**14 11 23.2 +5.4**
LZH			pmax	pmax	
	comp=Z,57nm,1.4s				
LZH			LR	LR	
	comp=Z,2μm,14.8s				
LZH			LR	LR	
	comp=Z,2μm,14.8s				
LZH			LR	LR	
	comp=Z,2μm,15.8s				
XAN	**Xi'an**	**25.45 27**	P	**P**	**14 05 58.5 -0.9**
XAN			pP	pwP	14 06 05.5 -2.4
XAN			S	**S**	**14 10 25.3 -0.4**
XAN			pmax	pmax	
	comp=Z,69nm,0.9s				
XAN			pmax	pmax	
	comp=Z,460nm,3.9s				
XAN			LR	LR	
	comp=Z,1μm,12.9s				
XAN			LR	LR	
	comp=Z,4μm,11.6s				
XAN			LR	LR	
	comp=Z,4μm,12.5s				
WHN	**Wuhan**	**25.78 41**	⇑P	**P**	**14 06 02.7 +0.3**
WHN			pP	**pwP**	**14 06 10.2 -0.4**
WHN			S	**S**	**14 10 29.0 -1.9**
WHN			pmax	pmax	
	comp=Z,160nm,1.0s				
WHN			LR	LR	
	comp=Z,6μm,11.6s				
WHN			LR	LR	
	comp=Z,5μm,14.6s				
WHN			LR	LR	
	comp=Z,7μm,11.9s				
THN	**Thein Dam**	**27.16 322**	*e*P	**P**	**14 06 14.8 -0.1**
LYN	**LuoYang**	**27.59 32**	⇓P	**P**	**14 06 18.2 -0.5**
LYN			pP	pwP	14 06 30.1 +2.9
LYN			S	**S**	**14 10 54.7 -4.7**
LYN			sS	sS	14 11 14.0 +7.1
LYN			pmax	pmax	
	comp=Z,46nm,1.0s				
LYN			pmax	pmax	
	comp=Z,550nm,3.8s				
LYN			LR	LR	
	comp=Z,4μm,12.0s				
LYN			LR	LR	
	comp=Z,2μm,13.1s				
LYN			LR	LR	
	comp=Z,6μm,13.1s				
TOLI2	**Tolitoli**	**27.61 111**	P	**P**	**14 06 18.5 -0.6**
TOLI2			IAmb	IAmb	14 06 28.9
	comp=Z,58nm,1.8s				
GTA	**Gaotai**	**27.78 8**	*e*P	**P**	**14 06 20.1 -0.4**
GTA			sP	pwP	14 06 28.3 -0.6
GTA			S	**S**	**14 11 03.6 +1.0**
GTA			pmax	pmax	
	comp=Z,16nm,1.2s				
GTA			LR	LR	
	comp=Z,830nm,11.3s				
GTA			LR	LR	
	comp=Z,790nm,10.5s				
GTA			LR	LR	
	comp=Z,790nm,12.0s				
NIL	**Nilore**	**29.50 321**	P	**P**	**14 06 34.4 -1.4**
NIL			IAmb	IAmb	14 07 40.0
	comp=Z,27nm,1.1s				
NIL	**Nilore**	**29.50 321**	P	**P**	**14 06 34.4 -1.4**
NIL			pmax	pmax	
	comp=Z,27nm,1.1s				
H08S3	**Diego Garcia H**	**29.67 230**	T	T	14 37 48.4
	baz=49				
H08S2	**Diego Garcia H**	**29.67 230**	T	T	14 37 48.4
	baz=49				
KAPI	**Kappang**	**29.68 123**	P	**P**	**14 06 38.5 +0.9**
KAPI			IAmb	IAmb	14 06 48.1
	comp=Z,112nm,1.9s				
KAPI	**Kappang**	**29.68 123**	P	**P**	**14 06 38.5 +0.9**
KAPI			pmax	pmax	
	comp=Z,112nm,1.9s				
KAPI	**Kappang**	**29.68 123**	LR	LR	14 18 58.0
	comp=Z,710nm,20.1s,baz=293,slow=37				
H08S1	**Diego Carcia H**	**29.69 230**	T	T	14 37 55.6
	baz=49				
NJ2	**Nanjing**	**29.70 44**	*e*P	**P**	**14 06 38.1 +0.5**
NJ2			pP	**pP**	**14 06 41.3 -0.9**
NJ2			sP	**pwP**	**14 06 47.3 +1.5**
NJ2			pmax	pmax	
	comp=Z,21nm,1.2s				
NJ2			LR	LR	
	comp=Z,1μm,9.6s				
NJ2			LR	LR	
	comp=Z,880nm,11.7s				
NJ2			LR	LR	
	comp=Z,1μm,10.8s				
LUWI	**Luwuk**	**30.31 113**	P	**P**	**14 06 45.5 +2.3**
HNS	**HongShan**	**30.93 31**	⇓P	**P**	**14 06 48.9 +0.5**
HNS			S	**S**	**14 11 57.0 +5.0**
HNS			pmax	pmax	
	comp=Z,28nm,0.9s				
HNS			LR	LR	
	comp=Z,2μm,11.2s				
HNS			LR	LR	
	comp=Z,600nm,9.8s				
HNS			LR	LR	
	comp=Z,2μm,12.6s				
BTO	**Baotou**	**31.53 22**	*e*P	**P**	**14 06 54.1 +0.4**
BTO			pP	**pwP**	**14 07 00.1 -2.1**
BTO			sP	**sP**	**14 07 03.2 +3.1**
BTO			PP	**PnPn**	**14 07 58.9 +1.8**
BTO			S	**S**	**14 12 01.4 0.0**
BTO			sS	**sS**	**14 12 11.3 +2.4**
BTO			SS	**SnSn**	**14 13 50.8 +3.9**
BTO			pmax	pmax	
	comp=Z,25nm,0.5s				
BTO			pmax	pmax	
	comp=Z,250nm,3.8s				
BTO			LR	LR	
	comp=Z,2μm,11.9s				
BTO			LR	LR	
	comp=Z,2μm,9.8s				
BTO			LR	LR	
	comp=Z,2μm,11.4s				
HHC	**Hu-ho-hao-te**	**32.32 24**	*e*P	**P**	**14 07 01.0 +0.3**
HHC			pmax	pmax	
	comp=Z,35nm,0.7s				
HHC			pmax	pmax	
	comp=Z,260nm,4.0s				
HHC			LR	LR	
	comp=Z,3μm,11.1s				
HHC			LR	LR	
	comp=Z,2μm,10.2s				
HHC			LR	LR	
	comp=Z,4μm,11.1s				
KSH	**Kashi**	**32.37 332**	P	**P**	**14 07 00.1 -1.0**
KSH			pP	sP	14 07 06.7 -0.9
KSH			sP	pwP	14 07 11.0 +1.4
KSH			PcP	**PcP**	**14 09 47.8 -0.9**
KSH			S	**S**	**14 12 17.2 +2.6**
KSH			pmax	pmax	
	comp=Z,5.0nm,0.5s				
KSH			LR	LR	
	comp=Z,540nm,18.9s				
KSH			LR	LR	
	comp=Z,810nm,18.6s				
KSH			LR	LR	
	comp=Z,1μm,21.3s				
WMQ	**Urumqi**	**32.51 350**	*e*P	**P**	**14 07 02.9 +0.7**
WMQ			pP	sP	14 07 07.6 -1.1
WMQ			S	**S**	**14 12 15.9 -0.6**
WMQ			ScP	**ScP**	**14 13 30.5 -1.6**
WMQ			pmax	pmax	
	comp=Z,8.0nm,0.9s				
WMQ			pmax	pmax	
	comp=Z,240nm,4.3s				
WMQ			LR	LR	
	comp=Z,580nm,12.1s				
WMQ			LR	LR	
	comp=Z,430nm,18.5s				
WMQ			LR	LR	
	comp=Z,400nm,21.3s				
KBL	**Kabul**	**32.75 318**	P	**P**	**14 07 02.7 -2.0**
KBL	**Kabul**	**32.75 318**	P	**P**	**14 07 02.7 -2.0**
KBL			pmax	pmax	
	comp=Z,10.0nm,1.1s				
KBL	**Kabul**	**32.75 318**	P	P	14 07 10.8 +6.1
	SNR=5.1				
BJT	**Baijiatuau**	**33.68 30**	P	**P**	**14 07 11.8 -0.6**
BJT			IAmb	IAmb	14 07 22.1
	comp=Z,54nm,1.8s				
BJT	**Baijiatuau**	**33.68 30**	P	**P**	**14 07 11.8 -0.6**
BJT			pmax	pmax	
	comp=Z,54nm,1.8s				
BJI	**Beijing**	**33.70 30**	P	**P**	**14 07 12.6 0.0**
BJI			pP	**sP**	**14 07 17.8 -1.2**
BJI			sP	**pwP**	**14 07 20.5 -0.6**
BJI			pmax	pmax	
	comp=Z,6.0nm,1.0s				
BJI			pmax	pmax	
	comp=Z,91nm,4.5s				
BJI			LR	LR	
	comp=Z,330nm,12.0s				
BJI			LR	LR	
	comp=Z,380nm,12.2s				
BJI			LR	LR	
	comp=Z,480nm,13.5s				
SHLS	**Shalkode**	**34.03 339**	*e*P	**P**	**14 07 13.6 -2.0**
	comp=Z,18nm,1.8s,baz=340				
SHLS	**Shalkode**	**34.03 339**	*e*P	**P**	**14 07 13.5 -2.0**
SHLS			pmax	pmax	
	comp=Z,18nm,1.8s				
UZB	**Uzynbulak**	**34.17 339**	*e*P	**P**	**14 07 16.5 -0.4**
	baz=339				
UZB	**Uzynbulak**	**34.17 339**	*e*P	**P**	**14 07 16.4 -0.4**
SATY	**Saty**	**34.32 338**	*e*P	**P**	**14 07 17.4 -0.7**
	comp=Z,20nm,1.6s,baz=338				
SATY	**Saty**	**34.32 338**	*e*P	**P**	**14 07 17.4 -0.7**
SATY			pmax	pmax	
	comp=Z,20nm,1.6s				
ZHN	**Zhinishke**	**34.40 338**	*e*P	**P**	**14 07 18.1 -0.7**
	baz=338				
ZHN	**Zhinishke**	**34.40 338**	*e*P	**P**	**14 07 18.1 -0.7**
JOW	**Kunigami**	**34.54 60**	LR	LR	14 22 53.5
	comp=Z,173nm,20.4s,baz=270,slow=39				
KPKS	**Kokpek**	**34.57 339**	*e*P	**P**	**14 07 19.8 -0.4**
	baz=339				
KPKS	**Kokpek**	**34.57 339**	*e*P	**P**	**14 07 19.8 -0.4**
BTK	**Batken**	**35.36 327**	P	**P**	**14 07 27.7 +0.6**
CHKK	**Chushkaly**	**35.53 337**	*e*P	**P**	**14 07 28.0 -0.4**
	baz=337				
CHKK	**Chushkaly**	**35.53 337**	*e*P	**P**	**14 07 28.0 -0.4**
AAK	**Ala-Archa**	**35.54 333**	P	**P**	**14 07 29.3 +0.6**
AAK			IAmb	IAmb	14 07 38.6
	comp=Z,22nm,1.1s				
AAK	**Ala-Archa**	**35.54 333**	*i* P	**P**	**14 07 28.5 -0.2**
AAK			pmax	pmax	
	comp=Z,7.0nm,0.8s				
AAK	**Ala-Archa**	**35.54 333**	P	P	14 07 34.4 +5.7
AAK	**Ala-Archa**	**35.54 333**	LR	LR	14 23 38.4
	comp=Z,1μm,21.7s,baz=138,slow=39				
JLN	**Jalan Bani Buh**	**35.56 292**	P	P	14 07 38.1 +9.2
KUU	**Kurty**	**35.81 337**	*e*P	**P**	**14 07 29.8 -1.1**
	baz=336				
KUU	**Kurty**	**35.81 337**	*e*P	**P**	**14 07 29.7 -1.1**
BATI	**Baumata**	**35.84 127**	LR	LR	14 26 19.8
	comp=Z,525nm,18.0s,baz=284,slow=43				
WBK	**Wadi Bani Khal**	**36.05 292**	P	P	14 07 42.5 +9.3
	SNR=5.8				
WBK			S	**S**	**14 13 17.5 +5.8**
SOEI	**Soe**	**36.06 125**	P	**P**	**14 07 32.4 -1.0**
SGDS	**Sogindy**	**36.14 334**	*e*P	**P**	**14 07 32.9 -0.9**
	baz=334				
SGDS	**Sogindy**	**36.14 334**	*e*P	**P**	**14 07 32.8 -0.9**
TRKS	**Terek-Say**	**36.27 329**	P	**P**	**14 07 33.5 -1.4**
WSAR	**Wadi Sarin**	**36.48 293**	P	P	14 07 45.7 +8.9
WSAR			S	**S**	**14 13 22.6 +4.3**
WSAR	**Wadi Sarin**	**36.48 293**	LR	LR	14 21 59.3
	comp=Z,662nm,21.6s,baz=112,slow=36				
MK31	**Makanchi Array**	**36.49 345**	P	P	14 07 31.7 -4.9
MK31	**Makanchi Array**	**36.49 345***c i* P		**P**	**14 07 35.7 -0.9**
MKAR	**Makanchi Array**	**36.49 345**	P	**P**	**14 07 34.4 -2.2**
MKAR	**Makanchi Array**	**36.49 345** *i* P		**P**	**14 07 36.4 -0.2**
MKAR			pmax	pmax	
	comp=Z,2.0nm,0.7s				
MKAR	**Makanchi Array**	**36.49 345**	P	**P**	**14 07 35.6 -1.0**
	comp=Z,2.7nm,0.9s,baz=156,slow=9.3,SNR=14				
MKAR			LR	LR	14 27 07.3
	comp=Z,317nm,19.8s,baz=171,slow=44				
	comp=Z,2.7nm,0.9s				
ZSN	**Zaisan**	**36.53 348** *e*P		**P**	**14 07 36.1 -0.9**
	baz=348				
ZSN	**Zaisan**	**36.53 348** *e*P		**P**	**14 07 36.0 -0.9**
MAKZ	**Makanchi**	**36.58 345**	P	**P**	**14 07 34.2 -3.2**
MAKZ	**Makanchi**	**36.58 345**	P	**P**	**14 07 34.2 -3.2**
MAKZ			pmax	pmax	
	comp=Z,29nm,1.5s				
MHTO	**MHTO**	**36.69 289**	P	P	14 07 46.9 +8.3
	SNR=5.8				
XLT	**XiLinHaoTe**	**36.71 26** *e*P		**P**	**14 07 37.9 -0.7**
XLT			pP	pwP	14 07 44.8 -2.3
XLT			sP	sP	14 07 46.8 +1.7
XLT			PcP	**PcP**	**14 09 59.4 -1.7**
XLT			S	**S**	**14 13 20.6 -0.9**
XLT			ScP	**ScP**	**14 13 45.1 -2.1**
XLT			PcS	**PcS**	**14 13 47.7 -1.3**
XLT			pmax	pmax	
	comp=Z,33nm,1.1s				
XLT			pmax	pmax	
	comp=Z,220nm,6.0s				
XLT			LR	LR	
	comp=Z,1μm,11.1s				
XLT			LR	LR	
	comp=Z,2μm,10.6s				
JMDO	**Jabal Madar**	**36.79 292**	P	P	14 07 48.2 +8.7
SMDO	**Samad**	**36.97 293**	P	P	14 07 49.8 +8.7
	SNR=6.2				
BIDO	**Bidbid**	**36.99 293**	P	P	14 07 50.0 +8.8
SONM	**Songino Array**	**37.11 13**	P	**P**	**14 07 40.8 -1.2**
SONM			IAmb	IAmb	14 07 50.9
	comp=Z,74nm,1.9s				
SONM	**Songino Array**	**37.11 13**	P	**P**	**14 07 40.8 -1.2**
SONM			pmax	pmax	
	comp=Z,74nm,1.9s				
SONM	**Songino Array**	**37.11 13**	P	**P**	**14 07 41.1 -0.9**
	comp=Z,7.7nm,0.9s,baz=193,slow=8.1,SNR=29				
	comp=Z,7.7nm,0.9s				
IUG	**Iuzhnay**	**37.28 329** *e*P		**P**	**14 07 43.0 -0.6**
	baz=326				
IUG	**Iuzhnay**	**37.28 329** *e*P		**P**	**14 07 42.9 -0.6**
ULN	**Ulaanbaatar**	**37.29 13**	P	**P**	**14 07 40.6 -2.9**
ULN			IAmb	IAmb	14 07 52.2
	comp=Z,56nm,1.8s				
ULN	**Ulaanbaatar**	**37.29 13***ce*P		**P**	**14 07 42.0 -1.5**
ULN			pmax	pmax	
	comp=Z,8.0nm,0.9s				
ULN	**Ulaanbaatar**	**37.29 13**	P	**P**	**14 07 47.5 +3.9**
BTLS	**Baital**	**37.68 335** *e*P		**P**	**14 07 45.5 -1.2**
	baz=335				
BTLS	**Baital**	**37.68 335** *e*P		**P**	**14 07 45.5 -1.2**
BSY	**Bisya**	**37.68 292**	P	P	14 07 56.0 +8.9
	SNR=13				
HOQ	**Hoqain**	**37.74 293**	P	P	14 07 56.2 +8.7
	SNR=9.5				
KK31	**Karatay Array**	**37.75 330**	P	**P**	**14 07 45.9 -1.5**
KK31	**Karatay Array**	**37.75 330**	P	**P**	**14 07 45.9 -1.5**
KK31			pmax	pmax	
	comp=Z,15nm,1.2s				
KKAR	**Karatay Array**	**37.75 330**	P	**P**	**14 07 45.9 -1.5**
KKAR	**Karatay Array**	**37.75 330**	P	**P**	**14 07 45.9 -1.5**
SIJI	**Sorong**	**38.07 107**	LR	LR	14 26 20.7
	comp=Z,113nm,19.4s,baz=170,slow=41				
DGZ	**Jazzator, Alta**	**38.28 352** *i* P		**P**	**14 07 51.9 0.0**
DGZ			pmax	pmax	
	comp=Z,10.0nm,1.4s				
ARQ	**Araqi**	**38.40 293**	P	P	14 08 01.7 +8.6
SOHO	**SOHO**	**38.54 294**	P	P	14 08 02.5 +8.2
SHAO	**Shalim**	**38.59 284**	P	P	14 08 03.9 +9.2
SNY	**Shenyang**	**38.87 35**	⇑P	**P**	**14 07 56.3 -0.4**
SNY			S	**S**	**14 13 53.6 -0.4**
SNY			pmax	pmax	
	comp=Z,19nm,0.9s				
SNY			pmax	pmax	
	comp=Z,160nm,4.2s				
SNY			LR	LR	
	comp=Z,560nm,13.3s				
SNY			LR	LR	
	comp=Z,750nm,14.8s				
SNY			LR	LR	
	comp=Z,1μm,12.9s				
KSAR	**Wonju Array Be**	**38.87 43**	P	**P**	**14 07 55.7 -1.1**
KSAR	**Wonju Array Be**	**38.87 43**	P	**P**	**14 07 55.7 -1.1**
KSRS	**Korea Array**	**38.91 43**	P	**P**	**14 07 56.1 -1.0**
	comp=Z,6.6nm,0.9s,baz=243,slow=9.1,SNR=17				
KSRS			LR	LR	14 24 38.3
	comp=Z,292nm,18.4s,baz=225,slow=37				
	comp=Z,6.6nm,0.9s				
JNU	**Nakatsue**	**38.97 51**	LR	LR	14 25 48.3
	comp=Z,282nm,18.0s,baz=245,slow=39				
MDH	**Madha**	**39.00 296**	P	P	14 08 06.5 +8.4
UOSS	**Minazif**	**39.00 295**	P	P	14 08 06.1 +7.9
ZAK	**Zakamensk**	**39.02 8** *e*P		**P**	**14 07 56.5 -1.5**
ZAK			pmax	pmax	
	comp=Z,20nm,1.8s				
HATD	**Hatta, Dubai**	**39.04 295**	P	P	14 08 07.1 +8.6
ASHO	**Ashiyiah**	**39.08 295**	P	P	14 08 06.8 +8.0
ALNE	**Al Ain**	**39.23 294**	P	P	14 08 08.9 +8.8
	SNR=6.9				
ASUD	**Al Ashush, Dub**	**39.72 294**	P	P	14 08 12.3 +8.2
FAKI	**Fak Fak**	**39.73 109**	P	**P**	**14 08 04.0 -0.3**
AJN	**Ajban**	**40.01 294**	P	P	14 08 14.1 +7.6
DOK	**Doka**	**40.04 285**	P	P	14 08 15.2 +8.3
WHFO	**Wadi Hawf**	**40.34 284**	P	P	14 08 17.9 +8.5
ABTO	**Aybut**	**40.77 283**	P	P	14 08 21.5 +8.4
KURBB	**Kurchatov Arra**	**40.99 344**	P	**P**	**14 08 13.2 -1.1**
	comp=Z,3.0nm,0.6s,baz=160,slow=8.0,SNR=12				
KURBB			LR	LR	14 29 32.8
	comp=Z,276nm,19.7s,baz=178,slow=43				
	comp=Z,3.0nm,0.6s				
KURK	**Kurchatov**	**41.05 344**	P	**P**	**14 08 13.0 -1.7**
KURK			IAmb	IAmb	14 08 34.3
	comp=Z,49nm,1.3s				
KURK	**Kurchatov**	**41.05 344***ce*P		**P**	**14 08 14.5 -0.3**
KURK			pmax	pmax	
	comp=Z,36nm,1.6s				
MZR	**Muzera**	**41.11 291**	P	P	14 08 23.1 +7.5
PSA00	**Pilbara Seismi**	**41.14 144**	PcP	**PcP**	**14 10 13.5 -1.7**
PSA00	**Pilbara Seismi**	**41.14 144**	P	**P**	**14 08 14.3 -1.5**
CN2	**Changchun**	**41.21 34** *e*P		**P**	**14 08 15.3 -0.8**
CN2			PP	**PP**	**14 09 51.2 -0.2**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.8s				
CN2			pmax	pmax	
	comp=Z,100nm,3.0s				
CN2			LR	LR	
	comp=Z,700nm,11.0s				
CN2			LR	LR	
	comp=Z,800nm,11.0s				
CN2			LR	LR	
	comp=Z,500nm,12.3s				
JRN	**Qarnain Island**	**41.99 294**	P	P	14 08 28.9 +6.1
GEYT	**Alibeck**	**42.00 315**	P	**P**	**14 08 21.5 -1.4**
GEYT			IAmb	IAmb	14 08 32.8
	comp=Z,44nm,1.2s				
GEYT	**Alibeck**	**42.00 315**	P	**P**	**14 08 21.5 -1.4**
GEYT			pmax	pmax	
	comp=Z,44nm,1.2s				
GEYT	**Alibeck**	**42.00 315**	P	**P**	**14 08 22.6 -0.3**
	comp=Z,11nm,0.7s,baz=142,slow=7.5,SNR=14				
GEYT			LR	LR	14 28 19.7
	comp=Z,238nm,19.3s,baz=138,slow=40				
	comp=Z,11nm,0.7s				
GYA0	**ALIBECK ARRAY**	**42.00 315**	P	**P**	**14 08 21.5 -1.3**
GYA0B	**ALIBECK ARRAY**	**42.00 315**	P	**P**	**14 08 21.5 -1.4**
GYA0B			IAmb	IAmb	14 08 32.7
	comp=Z,45nm,1.2s				
BRZS	**Berezniki**	**42.28 339** *e*P		**P**	**14 08 24.1 -0.8**
	baz=338				
BRZS	**Berezniki**	**42.28 339** *e*P		**P**	**14 08 24.1 -0.8**
HIA	**Hailar**	**42.53 24**	P	**P**	**14 08 26.5 -0.5**

HIA IAmb IAmb 14 08 35.6
comp=Z,65nm,1.5s
HIA Hailar 42.53 24 P **P 14 08 26.5 -0.5**
HIA pmax pmax
comp=Z,65nm,1.5s
ZALV Zalesovo Beam 42.80 351 P **P 14 08 27.7 -1.3**
comp=Z,2.8nm,0.8s,baz=180,slow=7.0,SNR=11
ZALV LR LR 14 29 10.7
comp=Z,131nm,19.1s,baz=174,slow=40
comp=Z,2.8nm,0.8s
BNX BinXian 43.53 33 ⇓P **P 14 08 34.8 -0.2**
BNX pmax pmax
comp=Z,18nm,0.9s
BNX pmax pmax
comp=Z,86nm,3.5s
MDJ Mudanjiang 44.03 36 P **P 14 08 39.3 +0.2**
MDJ pP sP 14 08 44.8 -0.8
MDJ sP pwP 14 08 48.9 +1.2
MDJ PP **PP 14 10 22.6 +0.8**
MDJ S **S 14 15 12.4 +1.9**
MDJ sS sS 14 15 23.4 +5.2
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ pmax pmax
comp=Z,190nm,5.3s
MDJ LR LR
comp=Z,380nm,13.6s
MDJ LR LR
comp=Z,1μm,12.7s
MDJ LR LR
comp=Z,1μm,11.6s
USRK Ussuriysk Ar. 45.18 37 P **P 14 08 46.7 -1.6**
comp=Z,3.9nm,0.9s,baz=256,slow=6.9,SNR=5.2
comp=Z,3.9nm,0.9s
BVAR Borovoye Array 45.60 339 P **P 14 08 50.1 -1.4**
comp=Z,2.5nm,0.8s,baz=140,slow=11,SNR=3.9
BVAR LR LR 14 31 44.5
comp=Z,288nm,19.2s,baz=146,slow=41
comp=Z,2.5nm,0.8s
BRVK Borovoye 45.67 339 P **P 14 08 49.7 -2.4**
BRVK Borovoye 45.67 339 *ce*P **P 14 08 50.6 -1.4**
BRVK pmax pmax
comp=Z,11nm,2.5s
BRVK Borovoye 45.67 339 P **P 14 08 52.8 +0.8**
MJAR Matsushiro Arr 45.85 50 P **P 14 08 53.8 0.0**
comp=Z,4.9nm,0.9s,baz=231,slow=7.7,SNR=7.8
MJAR LR LR 14 29 59.2
comp=Z,305nm,18.7s,baz=240,slow=39
comp=Z,4.9nm,0.9s
HEH HeiHe 46.57 28 *e*P **P 14 08 58.1 -1.1**
HEH pmax pmax
comp=Z,11nm,0.7s
HEH LR LR
comp=Z,900nm,14.6s
HEH LR LR
comp=Z,640nm,13.9s
HEH LR LR
comp=Z,1μm,13.9s
ABKAR Akbulak array 47.29 329 P **P 14 09 03.1 -1.6**
KLR Kul'dur 48.02 32 *ce*P **P 14 09 09.3 -1.2**
KLR pmax pmax
comp=Z,29nm,2.5s
KLR Kul'dur 48.02 32 LR LR 14 30 40.5
comp=Z,239nm,18.6s,baz=228,slow=38
BOD Bodaibo 48.10 13 *e*P **P 14 09 09.8 -1.1**
BOD pmax pmax
comp=Z,61nm,1.9s
GUMO Guam 48.51 82 LR LR 14 27 01.4
comp=Z,101nm,21.1s,baz=264,slow=33
ZEA Zeya 48.98 25 *e*P **P 14 09 17.3 -0.4**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=N,600nm,15.0s
ZEA MLR MLR
comp=Z,500nm,11.0s
AKTO Aktyubinsk 49.00 329 LR LR 14 31 27.1
comp=Z,333nm,21.7s,baz=104,slow=38
NWAO Narrogin (SRO) 49.27 155 LR LR 14 29 32.1
comp=Z,244nm,21.9s,baz=2.5,slow=35
WB0 Warramunga Arr 49.82 129 P **P 14 09 24.8 +0.1**
WB0 IAmb IAmb 14 09 33.8
comp=Z,18nm,0.8s
WRA Warramunga Arr 49.88 129 P **P 14 09 23.4 -1.8**
WRA Warramunga Arr 49.88 129 P **P 14 09 23.4 -1.8**
WRA pmax pmax
comp=Z,2.0nm,1.7s
WRA Warramunga Arr 49.88 129 P **P 14 09 25.1 -0.1**
comp=Z,10nm,0.9s,baz=308,slow=8.3,SNR=64
WRA PcP **PcP 14 10 45.9 +0.2**
comp=Z,4.2nm,0.8s,baz=316,slow=3.4,SNR=6.6
comp=Z,10nm,0.9s
WRAB Tennant Creek 49.89 129 P **P 14 09 23.1 -2.1**
WRAB IAmb IAmb 14 09 34.5
comp=Z,21nm,0.8s
WRAB Tennant Creek 49.89 129 *e*P **P 14 09 25.1 -0.1**
WB2 Warramunga Arr 49.89 129 P **P 14 09 25.2 -0.1**
WB2 IAmb IAmb 14 09 34.4
comp=Z,19nm,0.8s
WR0 Warramunga Arr 50.05 129 P **P 14 09 25.4 -1.0**
WR0 IAmb IAmb 14 09 41.3
comp=Z,35nm,1.1s
ATD Arta Tunnel 51.12 275 LR LR 14 28 42.3
comp=Z,8.0nm,19.6s,baz=62,slow=33
MAK Makhachkala 51.47 316 *e*P P 14 09 32.7 -4.1
MAK *e* 14 11 32.6
MAK *e*PPP PPP 14 12 32.3
MAK *e*S S 14 16 49.0 -7.1
MAK *e*SS **SS 14 20 28.2 -3.9**
MAK *e*SSS SSS 14 22 05.0
MAK pmax pmax
comp=Z,330nm,1.2s
AS31 Alice Springs 51.81 133 P **P 14 09 40.1 +0.4**
ASAR Alice Springs 51.81 133 P **P 14 09 40.0 +0.3**
ASAR Alice Springs 51.81 133 P **P 14 09 40.0 +0.3**
ASAR Alice Springs 51.81 133 P **P 14 09 40.1 +0.5**
comp=Z,7.2nm,0.9s,baz=312,slow=6.7,SNR=60
ASAR PcP **PcP 14 10 53.1 +0.4**
comp=Z,3.5nm,0.9s,baz=319,slow=3.8,SNR=5.0
ASAR LR LR 14 32 22.7
comp=Z,329nm,21.8s,baz=304,slow=37
comp=Z,7.2nm,0.9s
ASAJ Asahikawa 51.84 42 P **P 14 09 39.5 -0.1**
comp=Z,9.7nm,0.7s,baz=281,slow=16,SNR=4.7
ASAJ LR LR 14 32 12.5
comp=Z,159nm,19.6s,baz=253,slow=37
comp=Z,9.7nm,0.7s
SVE Sverdlovsk 52.12 337 *e*P P 14 09 48.4 +6.9
SVE pmax pmax
comp=Z,61nm,1.5s
GNI Garni 52.44 312 *ce*P **P 14 09 45.5 +1.1**
GNI pmax pmax
comp=Z,20nm,1.7s
GNI Garni 52.44 312 P **P 14 09 46.4 +2.0**
GNI Garni 52.44 312 LR LR 14 34 44.9
comp=Z,254nm,22.0s,baz=118,slow=39
ARU Arti 52.67 335 P **P 14 09 43.9 -1.7**
ARU IAmb IAmb 14 09 54.5
comp=Z,22nm,1.0s
ARU Arti 52.67 335 *d i*P **P 14 09 44.5 -1.0**
ARU 14 11 40.8
ARU S **S 14 17 12.3 0.0**
ARU SS **SS 14 20 47.6 -3.1**
ARU pmax pmax
comp=Z,10.0nm,1.4s
ARU MLR MLR
comp=Z,479nm,21.0s
ARU Arti 52.67 335 LR LR 14 36 06.0
comp=Z,165nm,19.0s,baz=132,slow=41
YSS Yuzh-Sakhalins 53.11 39 *e*P **P 14 09 49.6 +0.7**
YSS pmax pmax
comp=Z,20nm,1.2s
ZEI Tsey 53.88 315 *e*P **P 14 09 58.4 +3.4**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
GURO Guroymak-BITLI 54.01 309 P **P 14 09 54.0 -1.9**
GURO IAmb IAmb 14 10 26.5
comp=Z,17nm,1.1s
KVAR Kislovodsk Arr 55.09 316 LR LR 14 36 57.2
comp=Z,162nm,20.5s,baz=254,slow=40
KIV Kislovodsk 55.10 316 *e*P **P 14 10 02.5 -1.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,154nm,17.0s
BELG Belogornoye 55.49 327 *i* P **P 14 10 03.5 -2.7**
BELG pmax pmax
comp=Z,2.0nm,1.1s
BELG Belogornoye 55.49 327 LR LR 14 38 06.7
comp=Z,212nm,19.9s,baz=348,slow=41
YAK Yakutsk 55.96 19 *e*P **P 14 10 08.4 -1.0**
YAK *e**PP **pwP 14 10 17.1 -0.9**
YAK *e* 14 11 00.5
YAK *e*PPP PPP 14 13 26.7
YAK *e*S **S 14 17 53.2 -3.2**
YAK *e**SS sS 14 18 17.4 +13
YAK *e* 14 19 56.8
YAK *e*SS **SS 14 21 37.9 -4.5**
YAK pmax pmax
comp=Z,29nm,1.6s
YAK pmax pmax
comp=N,18nm,1.9s
YAK pmax pmax
comp=E,14nm,2.0s
YAK pmax pmax
comp=Z,133nm,7.1s
YAK pmax pmax
comp=N,101nm,6.1s
YAK pmax pmax
comp=E,66nm,6.4s
YAK smax smax
comp=E,173nm,6.4s
YAK smax smax
comp=N,153nm,5.8s
YAK MLR MLR
comp=Z,275nm,24.0s
YAK MLR MLR
comp=N,110nm,22.0s
YAK MLR MLR
comp=E,251nm,19.0s
SOC Sochi 57.04 315 *e*P **P 14 10 14.7 -2.7**
SOC *e* 14 12 19.0
SOC *e*PPP PPP 14 13 37.0
SOC *e*S **S 14 18 08.0 -3.4**
SOC *e*SS **SS 14 21 58.9 -1.2**
SOC *e*SSS SSS 14 24 16.7
SOC MLR MLR
comp=Z,164nm,21.0s
NRIK Noril'sk 57.66 357 *i* P **P 14 10 20.3 -1.0**
NRIK pmax pmax
comp=Z,11nm,1.8s
NRIK Noril'sk 57.66 357 P **P 14 10 20.6 -0.8**
comp=Z,1.8nm,0.4s,baz=176,slow=6.2,SNR=3.6
NRIK LR LR 14 38 54.8
comp=Z,144nm,19.0s,baz=165,slow=40
comp=Z,1.8nm,0.4s
KIRV Kirov 57.87 334 *i* P **P 14 10 22.4 -0.6**
KIRV Kirov 57.87 334 LR LR 14 37 20.7
comp=Z,512nm,21.7s,baz=130,slow=38
EIL Elat 58.37 298 LR LR 14 39 38.5
comp=Z,170nm,18.8s,baz=64,slow=40
CTA Charters Tower 59.49 122 LR LR 14 38 55.0
comp=Z,135nm,20.1s,baz=282,slow=39
BR131 Keskin Array S 60.63 309 P **P 14 10 40.4 -2.3**
BR131 IAmb IAmb 14 11 02.9
comp=Z,48nm,1.8s
BR131 Keskin Array S 60.63 309 P **P 14 10 40.4 -2.3**
BR131 pmax pmax
comp=Z,48nm,1.8s
BRTR Keskin Array B 60.63 309 *i* P **P 14 10 40.9 -1.8**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 60.63 309 P **P 14 10 40.3 -2.4**
comp=Z,2.1nm,0.7s,baz=101,slow=6.4,SNR=6.9
BRTR LR LR 14 40 28.7
comp=Z,246nm,20.4s,baz=112,slow=40
comp=Z,2.1nm,0.7s
PRGR Permogore 61.13 336 *e*P P 14 10 51.6 +6.2
PRGR pmax pmax
comp=Z,30nm,1.1s
STKA Stephens Creek 62.20 136 P **P 14 10 53.9 +0.8**
STKA Stephens Creek 62.20 136 P **P 14 10 53.9 +0.8**
STKA pmax pmax
comp=Z,5.0nm,1.3s
STKA Stephens Creek 62.20 136 P **P 14 10 54.2 +1.1**
comp=Z,8.8nm,0.9s,baz=303,slow=5.9,SNR=11
STKA LR LR 14 40 34.1
comp=Z,242nm,20.0s,baz=310,slow=39
comp=Z,8.8nm,0.9s
MOS Moscow 62.24 327 *e*P **P 14 10 56.7 +3.6**
MOS *e* 14 11 34.6
OBN Obninsk 62.59 326 ⇑ *e*P **P 14 10 55.4 0.0**
OBN *e**PP **pwP 14 11 02.6 -1.4**
OBN *i* *SP **sP 14 11 04.3 +2.3**
OBN S **S 14 19 20.0 -2.4**
OBN SSS SSS 14 26 16.0
OBN pmax pmax
comp=Z,10.0nm,0.4s
OBN MLR MLR
comp=Z,248nm,25.0s
OBN Obninsk 62.59 326 LR LR 14 41 51.2
comp=Z,116nm,18.9s,baz=172,slow=40
MA2 Magadan 62.84 28 P **P 14 10 56.2 -0.8**
MA2 Magadan 62.84 28 *ce*P **P 14 10 57.9 +0.9**
MA2 pmax pmax
comp=Z,55nm,1.7s
MA2 Magadan 62.84 28 P **P 14 10 56.4 -0.6**
comp=Z,28nm,0.8s,baz=230,slow=6.0,SNR=11
comp=Z,28nm,0.8s
KLMR Klimovskoe 63.35 333 *e*P **P 14 10 58.6 -1.8**
KLMR AMP 14 11 10.4
comp=Z,22nm,1.3s
KLMR LQ LQ 14 35 52.5
KLMR LQ LQ 14 35 52.5
KLMR LR LR 14 38 52.0
KLMR LRM MLR 14 41 08.6
KLMR Klimovskoe 63.35 333 *e*P **P 14 10 58.5 -1.8**
KLMR pmax pmax
comp=Z,22nm,1.3s
PET Petropavlovsk 64.79 37 *e*P **P 14 11 09.3 -0.7**
PET *e*S **S 14 19 49.3 -0.6**
SEY Seymchan 64.95 25 *ce*P **P 14 11 11.2 +0.4**
SEY pmax pmax
comp=Z,16nm,1.3s
SEY Seymchan 64.95 25 P **P 14 11 09.5 -1.3**
comp=Z,6.6nm,1.1s,baz=203,slow=2.1,SNR=7.6
SEY LR LR 14 40 42.0
comp=Z,135nm,20.0s,baz=242,slow=37
comp=Z,6.6nm,1.1s
MBAR Mbarara 65.08 264 LR LR 14 39 24.4
comp=Z,166nm,18.4s,baz=38,slow=36
AKASG Malin Array Be 65.69 320 *i* P **P 14 11 15.3 -0.5**
AKASG Malin Array Be 65.69 320 P **P 14 11 14.2 -1.6**
comp=Z,0.3nm,0.3s,baz=80,slow=4.4,SNR=4.8
AKASG LR LR 14 43 27.5
comp=Z,236nm,21.3s,baz=88,slow=39
comp=Z,0.3nm,0.3s
MLR Muntele Rosu 67.06 314 LR LR 14 44 24.5
comp=Z,357nm,22.0s,baz=96,slow=39
IDI Anoyia 67.15 303 LR LR 14 45 50.9
comp=Z,46nm,20.4s,baz=83,slow=41
MNK Minsk 67.26 324 *i* P **P 14 11 23.1 -2.7**
comp=E,11nm,2.1s
MNK *i* P **P 14 11 23.1 -2.7**
comp=N,14nm,0.7s
MNK *i* P **P 14 11 23.1 -2.7**
comp=Z,15nm,0.9s,baz=102
MNK *i* PP **PP 14 13 53.9 -0.1**
MNK *i* PPP PPP 14 15 24.1
MNK *i* S **S 14 20 16.8 -3.2**
MNK *i* SS SS 14 24 26.2 -13
MNK *i* SSS SSS 14 28 44.0
MNK *i* LQ LQ 14 36 02.6
MNK *i* LR LR 14 40 33.6
MNK *i* LRM MLR 14 46 17.8
comp=Z,258nm,19.0s
MNK *i* LRM MLR 14 46 20.4
comp=E,76nm,19.3s
MNK *i* LRM MLR 14 46 20.4
comp=N,117nm,17.3s
MNK Minsk 67.26 324 *i* P **P 14 11 23.0 -2.7**
MNK *i* 14 13 53.9
MNK *i* S **S 14 20 16.7 -3.2**
MNK pmax pmax
comp=N,14nm,0.7s
MNK pmax pmax
comp=E,11nm,2.1s
MNK pmax pmax
comp=Z,15nm,0.9s
HNR Honiara 67.82 105 LR LR 14 43 03.8
comp=Z,407nm,21.1s,baz=272,slow=38
CAN Canberra 69.24 135 P **P 14 11 38.6 0.0**
CAN pmax pmax
comp=Z,105nm,1.7s
PABE Paberze 69.66 325 P **P 14 11 39.9 -0.9**
FINES FINESS Array B 69.69 331 P **P 14 11 39.6 -1.3**
FINES FINESS Array B 69.69 331 P **P 14 11 39.6 -1.3**
FINES FINESS Array B 69.69 331 P **P 14 11 40.3 -0.5**
comp=Z,2.1nm,0.7s,baz=91,slow=5.6,SNR=4.6
FINES LR LR 14 44 30.9
comp=Z,361nm,21.9s,baz=104,slow=38
comp=Z,2.1nm,0.7s
CRVS Cervenica-Dubn 70.43 318 *e*P **P 14 11 49.3 +3.6**
CRVS Cervenica-Dubn 70.43 318 *e*P **P 14 11 49.3 +3.6**
LSZ Lusaka 71.52 249 LR LR 14 39 12.1
comp=Z,93nm,21.0s,baz=110,slow=32
ARCES ARCESS Array B 71.89 340 P **P 14 11 52.9 -1.3**
comp=Z,1.3nm,0.6s,baz=94,slow=4.9,SNR=7.6
ARCES LR LR 14 46 59.8
comp=Z,388nm,20.4s,baz=117,slow=39
comp=Z,1.3nm,0.6s
VYHS Vyhne 72.14 317 *e*P **P 14 11 55.6 -0.5**
VYHS Vyhne 72.14 317 *e*P **P 14 11 55.6 -0.5**
JAVC Velka Javorina 72.92 318 *e*P **P 14 12 00.7 -0.1**
MORC Moravsky Berou 73.03 319 *e*P **P 14 12 01.2 -0.2**
VRAC Vranov 73.64 318 *e*P **P 14 12 03.1 -1.8**
VRAC Vranov 73.64 318 LR LR 14 49 33.9
comp=Z,47nm,18.6s,baz=98,slow=40
KRUC Moravsky 73.77 318 *e*P **P 14 12 04.0 -1.7**
BRG Berggiesshubel 75.35 320 *e*P **P 14 12 15.5 +0.6**
BRG Amp 14 12 16.8
comp=Z,3.8nm,1.0s
BRG Berggiesshubel 75.35 320 P P 14 12 23.0 +8.2
BRG Amp 14 12 25.3
comp=Z,18nm,1.4s
BRG Berggiesshubel 75.35 320 *e*P **P 14 12 15.4 +0.6**
BRG 14 12 23.0
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,18nm,1.4s
BRG pmax pmax
comp=Z,9.0nm,1.1s
BRG MLR MLR
comp=Z,249nm,21.0s
GEC2 GERESS Array S 75.54 318 P **P 14 12 15.2 -0.9**
GERES GERESS Array B 75.54 318 P **P 14 12 15.6 -0.5**
GERES GERESS Array B 75.54 318 P **P 14 12 15.6 -0.5**
GERES GERESS Array B 75.54 318 P **P 14 12 14.9 -1.2**
comp=Z,2.1nm,0.7s,baz=102,slow=5.6,SNR=5.2
comp=Z,2.1nm,0.7s
HFS Hagfors 75.55 329 P **P 14 12 14.8 -1.0**
comp=Z,1.5nm,0.6s,baz=112,slow=9.8,SNR=6.6
HFS LR LR 14 49 01.2
comp=Z,323nm,20.3s,baz=95,slow=39
comp=Z,1.5nm,0.6s
KHC Kasperske Hory 75.62 318 *e*P P 14 12 23.5 +7.0
KHC Kasperske Hory 75.62 318 *e*P P 14 12 23.5 +7.0
CLL Collm 75.93 320 *i* P P 14 12 25.1 +7.0
CLL pmax pmax
comp=Z,53nm,2.2s
CLL Collm 75.93 320 *i* Pmax 14 12 25.1
comp=Z,53nm,2.2s
CLL AMS AMS 14 50 00.0
comp=Z,200nm,21.3s
SPITS Spitsbergen Ar 76.18 348 P **P 14 12 18.2 -1.0**
comp=Z,5.6nm,0.7s,baz=104,slow=8.7,SNR=4.1
comp=Z,5.6nm,0.7s
NB2 NORSAR Subarra 76.78 330 P P 14 12 29.4 +6.6
comp=Z,26nm,1.7s,baz=90,slow=5.9
NB2 NORSAR Subarra 76.78 330 P P 14 12 29.4 +6.6
baz=90,slow=5.9
NOA NORSAR Array B 76.78 330 P **P 14 12 22.6 -0.2**
comp=Z,0.5nm,0.6s,baz=94,slow=5.7,SNR=2.1
NOA LR LR 14 49 56.5
comp=Z,96nm,20.9s,baz=100,slow=39
comp=Z,0.5nm,0.6s
DZM Mont Dzumac 77.61 116 LR LR 14 51 27.2
comp=Z,106nm,18.7s,baz=252,slow=39
DAVOX Davos/Dischmat 78.23 316 LR LR 14 53 46.8
comp=Z,101nm,18.4s,baz=82,slow=41
BOSA Boshof 78.50 237 P **P 14 12 33.8 +0.7**
comp=Z,3.0nm,0.8s,baz=62,slow=6.2,SNR=4.8
BOSA LR LR 14 43 54.4
comp=Z,200nm,18.2s,baz=27,slow=33
comp=Z,3.0nm,0.8s
CASY Casey 78.73 174 P **P 14 12 33.9 +0.5**
CASY IAmb IAmb 14 12 44.0
comp=Z,20nm,1.1s
MAW Mawson 82.58 192 P **P 14 12 55.7 +1.8**
comp=Z,2.5nm,0.8s,baz=57,slow=6.8,SNR=2.4
MAW LR LR 14 45 16.0
comp=Z,68nm,18.6s,baz=52,slow=32
comp=Z,2.5nm,0.8s
JMIC Jan Mayen 83.28 341 LR LR 14 53 32.4
comp=Z,103nm,21.4s,baz=308,slow=38
C17K DeLong Mountai 83.34 21 P **P 14 12 57.5 -0.6**
baz=285
F15K North Star Dit 83.48 24 P **P 14 12 58.6 -0.2**
baz=284
B18K Kokolik River 83.57 20 P **P 14 12 58.9 -0.3**
baz=286
D17K Noatak River 83.58 22 P **P 14 12 59.4 +0.1**
baz=285
C18K Utukok River 83.99 21 P **P 14 13 00.9 -0.5**
baz=287
E17K Hotham Inlet 84.21 23 P **P 14 13 02.5 0.0**
baz=287
C19K Lookout Ridge 84.40 20 P **P 14 13 04.0 +0.4**
baz=288
G16K Koyuk River 84.49 24 P **P 14 13 03.8 -0.2**
baz=286
E18K Tukpahlearik C 84.57 22 P **P 14 13 04.8 +0.4**
baz=288,SNR=5.3
A21K Barrow 84.61 18 P **P 14 13 02.7 -1.7**
baz=291
F17K Baldwin Pennin 84.62 23 P **P 14 13 04.3 -0.3**
baz=287
H16K Elim 84.75 25 P **P 14 13 04.7 -0.6**
baz=286
B20K Meade River 84.91 19 P **P 14 13 06.1 +0.1**
baz=291
D19K Kuna River 85.11 21 P **P 14 13 08.1 +1.0**
baz=290,SNR=6.2
G17K Kiwalik Mounta 85.14 24 P **P 14 13 06.1 -1.2**
baz=288
F18K Selawik 85.18 23 P **P 14 13 06.4 -1.0**
baz=289
D20K Etivluk River 85.55 20 P **P 14 13 09.7 +0.4**
baz=291
H17K Granite Mounta 85.61 24 P **P 14 13 09.1 -0.5**
baz=289
E19K Redstone River 85.78 22 P **P 14 13 10.3 -0.2**
baz=291,SNR=9.3
G18K Tagagawik 85.79 23 P **P 14 13 10.1 -0.5**
baz=290
F19K Shaleruckik Mo 85.81 22 P **P 14 13 10.6 +0.1**
baz=290
J16K Anvik River 85.84 26 P **P 14 13 10.8 0.0**
baz=288
E20K Nigu River 85.86 21 P **P 14 13 10.8 -0.2**
baz=292,SNR=11
B21K Ikpikpuk River 85.87 19 P **P 14 13 10.7 -0.1**
baz=293
C21K Knifeblade Rid 86.00 20 P **P 14 13 11.9 +0.4**
baz=293
H18K Honhosa River 86.16 24 P **P 14 13 12.0 -0.3**
baz=290
G19K Purcell Mounta 86.31 23 P **P 14 13 12.9 -0.2**
baz=291,SNR=9.3
J17K VABM Dome 86.45 26 P **P 14 13 14.3 +0.4**
baz=289
F20K Avaraart Lake 86.48 22 P **P 14 13 13.6 -0.3**
baz=292,SNR=19
E21K Killik River 86.55 20 P **P 14 13 14.0 -0.2**
baz=294,SNR=9.8
H19K Roundabout Mou 86.78 23 P **P 14 13 15.9 +0.5**
baz=292,SNR=8.5
D22K Ayikyak River 86.80 20 P **P 14 13 15.8 +0.4**
baz=295
GCSA Galena City Sc 86.89 24 P **P 14 13 16.0 +0.1**
baz=291,SNR=5.6
MSVF Nonsavu 86.97 109 P **P 14 13 18.8 +1.6**
comp=Z,8.0nm,0.8s,baz=297,slow=2.3,SNR=4.0
comp=Z,8.0nm,0.8s
K17K Iditarod 87.02 26 P **P 14 13 16.6 0.0**
baz=290
C23K Itkillik River 87.04 18 P **P 14 13 17.1 +0.5**
baz=297

F21K	Alatna River	87.22	21	P	P	14 13 17.1	-0.5
	baz=294,SNR=9.0						
H20K	Anotleneega Mo	87.39	23	P	P	14 13 18.8	+0.4
	baz=293,SNR=8.8						
E22K	Anaktuvuk Pass	87.41	20	P	P	14 13 18.0	-0.5
	baz=296						
D23K	Nanushuk River	87.42	19	P	P	14 13 18.2	-0.2
	baz=297,SNR=7.4						
J18K	Innoko River	87.43	25	P	P	14 13 18.3	-0.2
	baz=292						
G21K	Allakaket	87.50	22	P	P	14 13 18.6	-0.2
	baz=294,SNR=21						
F22K	John River	87.56	21	P	P	14 13 19.2	+0.1
	baz=295,SNR=9.3						
N16K	Nishlik Lake	87.57	28	P	P	14 13 19.7	+0.3
	baz=290						
IMAR	Indian Mountai	87.63	22	P	P	14 13 19.2	-0.3
J19K	Poorman	87.68	25	P	P	14 13 20.3	+0.5
	baz=292,SNR=6.9						
C24K	Franklin Bluff	87.69	18	P	P	14 13 19.4	-0.3
	baz=299						
I20K	Naaghedeneel	87.83	24	P	P	14 13 20.9	+0.5
	baz=293						
M17K	Holitna River	87.86	27	P	P	14 13 19.9	-0.8
	baz=291						
L18K	Granite Mounta	87.89	26	P	P	14 13 20.1	-0.8
	baz=292						
TTA	Tatalina	87.92	26	P	P	14 13 21.2	+0.1
	baz=292						
TOLK	Toolik Lake Re	87.92	19	P	P	14 13 20.9	0.0
TOLK				IAmb	IAmb	14 13 30.3	
	comp=Z,25nm,1.2s						
TOLK	Toolik Lake Re	87.92	19	P	P	14 13 20.8	0.0
	baz=298						
G22K	Bettles	88.05	21	P	P	14 13 21.3	-0.2
	baz=296						
H21K	Melozitna Rive	88.12	23	P	P	14 13 22.1	+0.2
H21K	Melozitna Rive	88.12	23	P	P	14 13 22.6	+0.7
	baz=295,SNR=18						
RPZ	Rata Peaks	88.16	135	LR	LR	14 55 15.1	
	comp=Z,85nm,18.6s,baz=247,slow=37						
E23K	Chandalar	88.18	20	P	P	14 13 21.8	-0.4
	baz=298						
J20K	Nowinta River	88.20	24	P	P	14 13 21.9	-0.4
	baz=294						
COLD	Coldfoot	88.37	21	P	P	14 13 22.9	0.0
	baz=297						
E24K	Your Creek	88.55	20	P	P	14 13 23.8	-0.1
	baz=299						
K20K	Telida	88.57	25	P	P	14 13 24.7	+0.7
K20K	Telida	88.57	25	P	P	14 13 23.9	-0.2
	baz=294						
D25K	Kavik River	88.60	18	P	P	14 13 24.2	+0.1
	baz=301,SNR=10						
I21K	Tanana	88.63	23	P	P	14 13 24.6	+0.3
I21K	Tanana	88.63	23	P	P	14 13 25.0	+0.7
	baz=296						
G23K	Bananza Creek	88.67	21	P	P	14 13 24.4	-0.1
	baz=297						
L19K	White Mountain	88.70	26	P	P	14 13 24.8	+0.1
	baz=293						
F24K	Squaw Lake	89.02	20	P	P	14 13 26.3	+0.2
	baz=299						
CHUM	Lake Minchumin	89.06	24	P	P	14 13 26.9	+0.6
	baz=295,SNR=6.9						
MLY	Manley	89.17	23	P	P	14 13 27.5	+0.6
	baz=297,SNR=12						
H23K	Yukon River	89.25	22	P	P	14 13 28.0	+0.8
	baz=298,SNR=11						
CAST	Castle Rocks	89.35	25	P	P	14 13 28.0	+0.3
	baz=296,SNR=19						
ESDC	Sonseca Array	89.40	310	P	P	14 13 27.8	-0.7
	comp=Z,0.8nm,0.9s,baz=60,slow=4.5,SNR=5.0						
	comp=Z,0.8nm,0.9s						
N19K	Bonanza Creek	89.41	27	P	P	14 13 27.6	-0.6
	baz=294						
E25K	Arctic Village	89.47	19	P	P	14 13 28.3	+0.1
	baz=302						
BPAW	Bear Paw Mtn.	89.49	24	P	P	14 13 28.6	+0.3
	baz=297,SNR=15						
G24K	Hadweenzic Riv	89.56	21	P	P	14 13 29.3	+0.6
	baz=300,SNR=5.0						
M20K	Styx River	89.57	26	P	P	14 13 28.7	-0.2
	baz=295						
I23K	Minto, Yukon-K	89.64	22	P	P	14 13 29.7	+0.8
	baz=298,SNR=8.6						
F25K	Christian Rive	89.72	20	P	P	14 13 30.2	+0.7
	baz=301						
H24K	Noodor Dome	89.85	22	P	P	14 13 30.0	0.0
	baz=299						
G25K	Bearman Lake	90.00	20	P	P	14 13 30.8	+0.2
	baz=301						
NEA2	Nenana	90.01	23	P	P	14 13 31.2	+0.5
	baz=298,SNR=7.4						
TRF	Thorofare Moun	90.06	24	P	P	14 13 31.4	+0.1
	baz=297						
F26K	Sheenjek River	90.16	19	P	P	14 13 31.6	+0.2
	baz=303,SNR=12						
BORG	Borgarnes	90.16	337	LR	LR	14 57 02.0	
	comp=Z,164nm,20.7s,baz=67,slow=38						
SKT	Skwentna	90.21	26	P	P	14 13 31.8	+0.1
	baz=296						
D27M	Malcolm River	90.25	17	P	P	14 13 31.8	-0.1
	baz=306						
SPCR	Spurr Chakacha	90.26	27	P	P	14 13 32.3	+0.2
	baz=296						
N20K	Mount Spurr	90.26	27	P	P	14 13 32.1	0.0
	baz=296						
H25L	Birch Creek	90.36	21	P	P	14 13 32.6	+0.3
	baz=301						
POKR	Poker Plat Res	90.36	22	P	P	14 13 32.6	+0.1
	baz=300						
MCK	McKinley	90.47	24	P	P	14 13 33.2	+0.3
	baz=298						
TORD	Torodi Ar. Bea	90.61	283	P	P	14 13 34.0	-0.5
	comp=Z,1.2nm,0.7s,baz=60,slow=8.9,SNR=4.0						
TORD				PP	PP	14 17 09.7	0.0
	comp=Z,0.3nm,0.5s,baz=64,slow=9.8,SNR=2.4						
TORD				LR	LR	14 53 18.3	
	comp=Z,89nm,20.7s,baz=100,slow=35						
	comp=Z,1.2nm,0.7s						
G26K	Porcupine Rive	90.68	20	P	P	14 13 33.9	+0.1
	baz=303,SNR=8.0						
E27K	Coleen River	90.68	18	P	P	14 13 33.5	-0.3
	baz=305						
ILAR	Eielson Array	90.74	22	P	P	14 13 32.8	-1.4
	comp=Z,2.9nm,0.7s,baz=303,slow=4.4,SNR=34						
	comp=Z,2.9nm,0.7s						
SUA	Susitna One	90.78	26	P	P	14 13 35.0	+0.4
	baz=297						
PRP	Porcupine Dome	90.85	21	P	P	14 13 35.1	+0.3
	baz=302,SNR=8.7						
HDA	Harding Lake	90.90	23	P	P	14 13 33.3	-1.6
	baz=300						
M22K	Willow	90.91	26	P	P	14 13 35.1	+0.1
	baz=297						
E28M	Babbage River	91.05	17	P	P	14 13 35.6	0.0
	baz=307,SNR=8.7						
URZ	Urewera	91.06	129	LR	LR	14 58 41.3	
	comp=Z,185nm,18.2s,baz=22,slow=38						
MVO	Moncorvo	91.25	312	eP	P	14 13 45.2	+8.1
	comp=Z,22nm,2.4s						
J25K	Salcha River,	91.38	22	P	P	14 13 36.5	-0.7
	baz=302						
RC01	Rabbit Creek A	91.38	26	P	P	14 13 36.6	-0.6
	baz=298						
PMR	Palmer	91.40	26	P	P	14 13 37.4	+0.1
	baz=298						
G27K	Doyon Strip	91.45	19	P	P	14 13 37.7	+0.3
	baz=305						
WAT6	Susitna Watana	91.50	24	P	P	14 13 37.8	-0.2
	baz=300						
F28M	Old Crow	91.54	18	P	P	14 13 37.4	-0.5
	baz=307,SNR=5.2						
SML	Sawmill	91.64	25	P	P	14 13 38.1	-0.3
	baz=299						
K24K	Donnelly Dome	91.65	23	P	P	14 13 38.2	-0.2
	baz=301						
E29M	Blow River	91.66	17	P	P	14 13 38.4	0.0
	baz=309,SNR=7.0						
O22K	Cooper Landing	91.67	27	P	P	14 13 38.2	-0.3
	baz=298						
KNK	Knik Glacier	91.77	26	P	P	14 13 39.3	+0.2
	baz=299						
I26K	Coal Creek Min	91.80	21	P	P	14 13 38.9	-0.1
	baz=304						
H27K	Steamboat Moun	91.83	20	P	P	14 13 39.0	-0.3
	baz=305,SNR=5.1						
MTE	Manteigas	91.84	312	eP	P	14 13 40.8	+0.9
	comp=Z,22nm,1.6s						
M23K	Glacier View	91.89	25	P	P	14 13 39.6	0.0
	baz=300						
PCBR	Castelo Branco	91.96	311	eP	P	14 13 40.8	+0.5
	comp=Z,19nm,1.4s						
RIDG	Independent Ri	92.04	23	P	P	14 13 39.8	-0.4
	baz=302						
SCM	Sheep Creek Mo	92.04	25	P	P	14 13 41.6	+1.2
	baz=300						
PWL	Port Wells	92.09	26	P	P	14 13 40.5	0.0
	baz=299						
J26L	Joseph Creek	92.10	22	P	P	14 13 40.5	-0.1
	baz=303,SNR=7.1						
PBAR	Barrancos	92.12	310	eP	P	14 13 40.9	-0.2
	comp=Z,23nm,1.5s						
I27K	Kandik River	92.16	20	P	P	14 13 41.5	+0.7
	baz=305,SNR=7.4						
PAX	Paxson	92.20	23	P	P	14 13 40.6	-0.5
	baz=302						
SCRK	Sand Creek	92.23	22	P	P	14 13 40.7	-0.5
	baz=303						
G29M	Pine Creek	92.54	18	P	P	14 13 42.7	+0.2
	baz=308						
F30M	Barrier River	92.77	17	P	P	14 13 43.8	+0.3
	baz=311						
KLU	Klutina	92.79	25	P	P	14 13 42.8	-1.0
	baz=301						
I28M	Miner Creek	92.82	20	P	P	14 13 43.7	-0.2
	baz=307,SNR=6.6						
H29M	Whitestone	92.86	19	P	P	14 13 43.5	-0.4
	baz=308,SNR=5.1						
K27K	Chicken	92.90	22	P	P	14 13 44.7	+0.6
	baz=305						
INK	Inuvik	92.94	16	P	P	14 13 44.8	+0.6
	baz=313						
L26K	Log Cabin Wild	92.99	23	P	P	14 13 45.5	+0.8
	baz=303						
G30M	tAoh Zraii Nji	93.05	18	P	P	14 13 44.8	-0.1
	baz=310,SNR=5.4						
N25K	Chitina, Valde	93.27	24	P	P	14 13 46.1	+0.1
	baz=302						
EPYK	Eagle Plains	93.29	19	P	P	14 13 45.4	-0.6
	baz=310						
F31M	Tsiigehtchic	93.47	17	P	P	14 13 46.7	+0.1
	baz=312						
M26K	Nabesna, AK	93.47	23	P	P	14 13 48.1	+1.2
	baz=304						
L27K	Beaver Creek,	93.55	22	P	P	14 13 47.4	+0.1
	baz=305						
BMRM	Bremner River	93.61	25	P	P	14 13 47.7	+0.1
	baz=302						
G31M	Satah River	93.67	17	P	P	14 13 47.0	-0.6
	baz=312						
DAWY	Dawson	93.84	21	P	P	14 13 48.7	+0.1
	baz=307						
M27K	Edge Creek, AK	93.93	23	P	P	14 13 48.7	-0.4
	baz=305						
I30M	Mount Dempster	94.14	19	P	P	14 13 50.0	0.0
	baz=310						
H31M	Peel River	94.39	18	P	P	14 13 51.0	0.0
	baz=312						
C36M	Paulatuk	94.51	13	P	P	14 13 51.0	-0.4
	baz=322						
J30M	Hart River	94.57	20	P	P	14 13 51.5	-0.4
	baz=310						
K29M	Barlow Dome	94.63	21	P	P	14 13 51.8	-0.4
	baz=309						
L29M	L29M	94.87	21	P	P	14 13 53.6	+0.3
	baz=308						
M29M	Somme Creek	95.16	22	P	P	14 13 54.3	-0.5
	baz=308						
M30M	Minto, Yukon	95.69	21	P	P	14 13 56.3	-0.7
	baz=309						
N31M	Braeburn, Yuko	96.75	22	P	P	14 14 00.3	-1.5
	baz=310						
M31M	Drury Creek, Y	96.78	21	P	P	14 14 00.1	-1.9
	baz=312						
O30N	Mendenhall	97.10	23	P	P	14 14 01.9	-1.6
	baz=310						
P30M	Million Dollar	97.17	23	P	P	14 14 01.1	-2.7
	baz=309						
NVAR	Mina Array Bea	121.04	30	PKP	PKPdf	14 19 25.0	+0.2
	comp=Z,1.0nm,0.7s,baz=307,slow=2.0,SNR=8.4						
NVAR				PKKPbc	PKKPbc	14 29 28.4	-0.1
	comp=Z,0.3nm,0.6s,baz=142,slow=4.6,SNR=3.7						
PDAR	Pinedale Array	121.15	21	PKP	PKPdf	14 19 24.0	-0.9
	comp=Z,0.5nm,0.8s,baz=288,slow=0.3,SNR=4.3						
PDAR				PP	PP	14 20 54.8	+1.0
	comp=Z,0.1nm,0.5s,baz=333,slow=3.0,SNR=4.5						
PDAR				PKKPab	PKKPab	14 29 31.1	+1.5
	comp=Z,0.4nm,0.6s,baz=134,slow=5.2,SNR=4.5						
TXAR	Lajitas Array	135.24	24	PKP	PKPdf	14 19 51.5	-0.4
	comp=Z,0.3nm,0.6s,baz=329,slow=1.1,SNR=3.1						
BDFB	Brasilia	144.01	260	PKP	PKPbc	14 20 08.4	+2.5
	comp=Z,1.8nm,0.5s,baz=163,slow=6.6,SNR=3.0						
PLCA	Paso Flores	148.57	201	PKPbc	PKPbc	14 20 19.8	+1.0
	comp=Z,5.0nm,0.9s,baz=111,slow=5.6,SNR=6.0						
CPUP	Villa Florida	150.32	237	PKPbc	PKPbc	14 20 23.3	-0.1
	comp=Z,2.1nm,0.4s,baz=82,slow=5.6,SNR=5.3						

*NEIC **06** 14:16:28.9±1.9,22°.5S±0°.3×179°.6E±0°.2,h608km±26km, mb4.0/12,Error ellipse: s-maj=48.1km s-min=27.0km az=193.0*
*IDC **06** 14:16:30.7±2.0,22°.04S×179°.44E,h628km±70km,mb2.9/4, mbtmp3.9/5,Error ellipse: s-maj=111.6km s-min=27.6km az=22.0*

ISC 06 14:16:29.5±1.6,22°.4S±0°.2×179°.5E±0°.2,h600km,n20, σ1ϑ11/20,mb3.9/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.83	344	P	P	14 18 00.7	-0.6
MSVF	Nonsavu	4.83	344	P	P	14 18 01.7	+0.4
	4.9nm,0.6s,baz=85,slow=12,SNR=9.5						
DZM	Mont Dzumac	12.08	269	P	P	14 19 10.6	+1.4
CTAO	Charters Tower	31.02	268	P	P	14 22 00.5	+0.4
CTAO				IAmb	IAmb	14 22 09.5	
	comp=Z,16nm,1.5s						
STKA	Stephens Creek	34.86	246	P	P	14 22 31.5	-0.8
STKA				IAmb	IAmb	14 23 14.8	
	comp=Z,2.2nm,1.4s						
STKA	Stephens Creek	34.86	246	P	P	14 22 32.1	-0.1
	comp=Z,1.0nm,0.5s,baz=79,slow=10,SNR=3.7						
	comp=Z,1.0nm,0.5s						
BBOO	Buckleboo	39.61	245	P	P	14 23 09.4	-1.6
AS31	Alice Springs	41.82	259	P	P	14 23 27.9	-0.8
ASAR	Alice Springs	41.83	259	P	P	14 23 28.3	-0.3
ASAR	Alice Springs	41.83	259	P	P	14 23 28.6	-0.1
	comp=Z,1.6nm,0.7s,baz=88,slow=8.7,SNR=27						
	comp=Z,1.6nm,0.7s						
WR0	Warramunga Arr	41.86	265	P	P	14 23 28.3	-0.6
WR0				IAmb	IAmb	14 23 57.7	
	comp=Z,8.9nm,1.5s						
WB0	Warramunga Arr	42.03	265	P	P	14 23 28.8	-1.5
WB0				IAmb	IAmb	14 24 02.5	
	comp=Z,10.0nm,1.4s						
WB2	Warramunga Arr	42.04	265	P	P	14 23 29.0	-1.3
WB2				IAmb	IAmb	14 24 10.6	
	comp=Z,9.6nm,1.5s						
WRAB	Tennant Creek	42.04	265	P	P	14 23 27.9	-2.4
WRAB				IAmb	IAmb	14 23 42.7	
	comp=Z,5.0nm,1.1s						
WRA	Warramunga Arr	42.05	265	P	P	14 23 29.1	-1.3
WRA	Warramunga Arr	42.05	265	P	P	14 23 29.9	-0.4
	comp=Z,0.5nm,0.2s,baz=96,slow=8.3,SNR=58						
	comp=Z,0.5nm,0.2s						
FORT	Forrest	46.40	248	P	P	14 24 02.5	-1.1
KNRA	Kununurra	48.23	269	P	P	14 24 17.5	+0.1
QSPA	South Pole Qui	67.68	180	P	P	14 26 27.6	-0.3
QSPA	South Pole Qui	67.68	180	P	P	14 26 29.2	+1.3
	comp=Z,1.2nm,0.7s,baz=91,slow=4.2,SNR=9.5						
	comp=Z,1.2nm,0.7s						

*IDC **06** 14:17:29.8±3.6,36°.83N×70°.02E,h0km,mb3.6/3, mbtmp3.7/10,ML3.4/7,MS3.8/2,Error ellipse: s-maj=54.6km s-min=23.8km az=164.0*
*NNC **06** 14:17:39.0±4.2,37°.65N×69°.63E,h0km,mb3.5,mpv2.6, Error ellipse: s-maj=43.8km s-min=23.1km az=155.0*

ISC 06 14:17:38.0±1.8,37°.7N±0°.2×69°.37E±0°.09,h10km,n19, σ1ϑ85/20,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.55	35	P	Pn	14 19 02.1	+1.1
	SNR=41						
EKS2	Erkin-Say	6.01	33	P	Pn	14 19 10.2	+3.2
	SNR=12						
UCH	Uchtor	6.02	39	P	Pn	14 19 08.4	+0.9
	SNR=18						
AAK	Ala-Archa	6.32	37	P	Pn	14 19 13.1	+1.8
	SNR=12						
AAK	Ala-Archa	6.32	37	Pn	Pn	14 19 12.6	+1.3
	4.3nm,0.3s,baz=215,slow=7.4,SNR=32						
AAK				Sn	Sn	14 20 25.3	+1.7
	0.5nm,0.3s,baz=349,slow=24,SNR=1.3						
AAK				Lg	Lg	14 20 55.8	
	0.7nm,0.3s,baz=319,slow=22,SNR=1.5						
	9.3nm,0.3s						
CHMS	Chumysh	6.71	36	P	Pn	14 19 18.1	+1.5
	SNR=12						
USP	Ospenovka	6.81	33	P	Pn	14 19 19.3	+1.3
	SNR=6.9						
TKM2	Tokmak 2	7.07	40	P	Pn	14 19 22.5	+0.8
	SNR=9.7						
GEYT	Alibeck	8.91	275	Pn	Pn	14 19 47.0	+0.2
	0.8nm,0.3s,baz=98,slow=10,SNR=12						
GEYT				Sn	Sn	14 21 28.3	+1.0
	1.7nm,0.3s,baz=99,slow=28,SNR=7.6						
	1.7nm,0.4s						
MKAR	Makanchi Array	13.20	42	Pn	Pn	14 20 43.5	-1.9
	0.1nm,0.3s,baz=229,slow=14,SNR=15						
	1.7nm,0.7s						
KURBB	Kurchatov Arra	14.49	24	Pn	Pn	14 20 59.8	-3.3
	baz=212,slow=12,SNR=2.4						
KURBB				Lg	Lg	14 25 25.1	
	baz=211,slow=30						
	0.2nm,0.3s						
AKTO	Aktyubinsk	15.11	331	Pn	P	14 21 15.4	-1.3
	0.2nm,0.3s,baz=136,slow=11,SNR=11						
AKTO				Sn	Sn	14 23 56.0	-2.8
	0.1nm,0.3s,baz=105,slow=18,SNR=1.2						
	3.4nm,0.8s						
BVAR	Borovoye Array	15.36	2	Pn	Pn	14 21 15.0	+0.3
	baz=180,slow=11,SNR=2.2						
	0.6nm,0.4s						
ZALV	Zalesovo Beam	19.43	28	P	P	14 22 02.5	-1.8
	0.5nm,0.3s,baz=212,slow=9.6,SNR=5.9						
	1.2nm,0.4s						
ARU	Arti	20.10	342	P	Pn	14 22 15.1	+1.6
	1.1nm,0.3s,baz=101,slow=16,SNR=3.5						
	1.1nm,0.3s						
ARCES	ARCESS Array B	39.56	337	P	P	14 25 09.9	+1.1
	0.8nm,0.8s,baz=116,slow=8.1,SNR=4.4						
	0.8nm,0.8s						
ESDC	Sonseca Array	55.76	297	LR	LR	14 58 48.1	
	comp=Z,39nm,19.0s,baz=81,slow=44						
FRB	Frobisher Bay	73.54	342	LR	LR	15 04 23.5	
	comp=Z,117nm,21.2s,baz=4.0,slow=38						
ILAR	Eielson Array	73.99	15	P	P	14 29 12.1	-1.1
	0.4nm,0.9s,baz=323,slow=5.8,SNR=3.4						
	0.4nm,0.9s						

*IDC **06** 14:31:27.2±1.1,52°.02N×169°.95W,h0km,mb3.8/11, mbtmp3.7/13,ML3.3/2,Error ellipse: s-maj=33.3km s-min=21.3km az=1.0*
*NEIC **06** 14:31:31.1±1.1,51°.88N±0°.09×169°.83W±0°.09, h27km±14km,ML3.6/8,ML3.2(AEIC),Error ellipse: s-maj=12.9km s-min=7.5km az=164.0*
*AEIC **06** 14:31:31.3±1.2,51°.95N±0°.07×169°.9W±0°.1,h59km±10km, Error ellipse: s-maj=10.9km s-min=8.4km az=146.0*

ISC 06 14:31:31.3±0.8,51°.93N±0°.08×169°.88W±0°.06,h29km,n29, σ0ϑ98/33,mb3.8/11,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	Concord Point,	0.86	6		Pb	14 31 48.0	+0.2
CLCO					Sn	14 31 59.4	+0.3
CLES	Cleveland East	0.90	359		Pb	14 31 48.3	0.0
CLES					Sn	14 32 02.8	+2.9
NIKH	Nikolski High	1.22	31		Pn	14 31 52.0	-0.3
NIKH					Sb	14 32 08.7	-0.3
OKSP	Okmok Steeple	1.64	36		Pn	14 31 57.9	-0.3
OKTU	Okmok Mt. Tuli	1.84	37		Pn	14 32 01.2	+0.2
OKFG	Magazine Ridge	1.91	38		Pn	14 32 02.2	+0.4
MAPS	Pakushin South	2.59	42		Pn	14 32 11.8	+0.6
MAPS					Sn	14 32 42.6	+0.9
KOFP	Korovin Flat P	2.63	279		Pn	14 32 12.2	+0.4
ATKA	Atka Island	2.68	278		Pn	14 32 12.1	-0.3
UNV	Unalaska Valle	2.80	45		Pn	14 32 14.6	+0.5
AKUT	Akutan	3.32	47	Pn	Pn	14 32 22.4	+1.2
AKUT				IAML		14 33 17.2	
	comp=N,128nm,4.4s						
AKUT				IAML		14 34 23.7	
	comp=E,110nm,3.6s						
GSMY	Great Sitkin M	3.82	274		Pn	14 32 28.8	+0.6
ADK	Adak	4.22	272	Pn	Pn	14 32 33.5	-0.1
ADK				IAML		14 33 09.2	
	comp=E,73nm,3.4s						
ADK				IAML		14 35 23.2	
	comp=E,103nm,4.5s						
KIWB	Kanaga Island	4.51	272	Pn	Pn	14 32 38.3	+0.8
TASE	Tanaga Southea	5.06	272		Pn	14 32 45.7	+0.5
KDAK	Kodiak Island	11.54	53	Pn	Pn	14 34 12.7	-1.3
	comp=E,0.4nm,0.3s,baz=284,slow=17,SNR=1.4						
ILAR	Eielson Array	17.49	34	P	Pn	14 35 30.4	-2.4
	comp=E,0.1nm,0.3s,baz=230,slow=11,SNR=5.1						
	comp=E,0.3nm,0.6s						
PETK	Petropavlovsk-	19.68	286	P	P	14 35 58.0	+0.2
	comp=E,0.8nm,0.3s,baz=84,slow=14,SNR=20						
	comp=E,2.4nm,0.5s						
PDAR	Pinedale Array	40.80	78	P	P	14 39 10.8	+0.7
	comp=E,0.3nm,0.5s,baz=346,slow=3.1,SNR=3.8						
	comp=E,0.3nm,0.5s						
NRIK	Noril'sk	46.66	332	P	P	14 39 54.8	-1.8
	comp=E,1.5nm,0.4s,baz=77,slow=5.4,SNR=3.7						
	comp=E,1.5nm,0.4s						
SONM	Songino Array	51.26	301	P	P	14 40 32.4	+0.2
	comp=E,0.5nm,0.7s,baz=46,slow=8.3,SNR=2.6						
	comp=E,0.5nm,0.7s						
TXAR	Lajitas Array	53.07	88	P	P	14 40 46.3	+0.4
	comp=E,0.2nm,0.6s,baz=290,slow=6.4,SNR=3.0						
	comp=E,0.2nm,0.6s						
ARCES	ARCESS Array B	58.33	354	P	P	14 41 23.0	+0.1
	comp=E,1.4nm,0.9s,baz=8.2,slow=8.2,SNR=1.9						
	comp=E,1.4nm,0.9s						
KURBB	Kurchatov Arra	62.60	318	P	P	14 41 52.4	0.0
	comp=E,0.5nm,0.7s,baz=46,slow=6.3,SNR=2.3						
	comp=E,0.5nm,0.7s						
BVAR	Borovoye Array	63.88	324	P	P	14 42 00.8	0.0
	comp=E,1.1nm,0.5s,baz=50,slow=6.5,SNR=7.7						
	comp=E,1.1nm,0.5s						
HFS	Hagfors	68.25	358	P	P	14 42 28.0	-0.8
	comp=E,3.2nm,0.9s,baz=22,slow=4.7,SNR=4.3						
	comp=E,3.2nm,0.9s						
CMAR	Chiang Mai Arr	76.41	282	P	P	14 43 17.3	-0.7
	comp=E,0.5nm,0.6s,baz=38,slow=7.4,SNR=6.2						
	comp=E,0.5nm,0.6s						
ESDC	Sonseca Array	87.95	11	P	P	14 44 19.8	+1.6
	comp=E,0.2nm,0.3s,baz=348,slow=5.6,SNR=2.7						
	comp=E,0.2nm,0.3s						
ASAR	Alice Springs	89.87	230	P	P	14 44 27.6	+0.4
	comp=E,0.4nm,0.8s,baz=24,slow=4.9,SNR=6.7						
	comp=E,0.4nm,0.8s						

*BGR **06** 14:56:37.7,37°.07N×142°.57E,h33km,mb6.2,mB_BB6.4, Ms5.5*
*MOS **06** 14:56:38.4±1.0,37°.13N×141°.15E,h40km,mb6.4/77, MS

Azm13.0000°; P -3.3239, Plg23.0000°, Azm104.0000°;
JMA ***06*** *14:56:40.8±0.1, 37°.1N±0°.3×141°.2E±0°.7, h53km, MD5.9/40, MWS.7/40, E OFF FUKUSHIMA PREF*
JMA Felt V J1 at E OFF FUKUSHIMA PREF .
NEIC ***06*** *14:56:40.3, 37°.09N×141°.04E, h50km*
NEIC ***06*** *14:56:41.3±2.2, 37°.10N±0°.04×141°.08E±0°.06, h44km±1km, mb5.9/150, Ms_20 5.1/492, Mwb5.7/80, Mww5.6/20, Error ellipse: s-maj=9.1km s-min=5.7km az=49.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=4.08; Mθθ=-1.49; Mφφ=-2.59; Mrθ=1.22; Mθφ=-1.92; Mφr=2.84; Fault plane solution: M0=5.10000×10^17^ NP1:φ=28.84000°, δ=63.71000°, λ=82.80000°. NP2:φ=224.77000°, δ=27.19000°, λ=104.24000°. Principal axes: T 5.1632, Plg70.0000°, Azm283.0000°; N -0.1220, Plg6.0000°, Azm32.0000°; P -5.0412, Plg18.0000°, Azm124.0000°;*
NEIC ***06*** *14:56:41.4, 37°.16N×141°.09E, h44km*
IDC ***06*** *14:56:41.7±0.5, 37°.15N×140°.98E, h50km±4km, mb5.5/52, mbtmp5.8/58, MS5.1/81, Error ellipse: s-maj=9.7km s-min=6.7km az=77.0*
GCMT ***06*** *14:56:43.3±0.1, 37°.10N±0°.01×141°.25E±0°.01, h52km, MW5.8/157, Moment Tensor Solution. s142,c292; s157,c343; Duration: 1s8 Moment tensor: Scale 1017 Nm; Mrr=4.48±.06; Mθθ-0.77±.04; Mφφ-3.71±.04; Mrθ 1.14±.04; Mθφ-1.58±.03; Mφr2.92±.04; Best double couple: M0=5.43400×1017 NP1:φ=22.00000°, δ=63.00000°, λ=89.00000°. NP2:φ=205.00000°, δ=27.00000°, λ=92.00000°. Principal axes: T 5.4760, Plg72.0000°, Azm290.0000°; N -0.0860, Plg1.0000°, Azm23.0000°; P -5.3920, Plg18.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 14:56:41.4±0.2, 37°.12N±0°.02×141°.08E±0°.02, h54km±1km, h54km:pP-P, n2433, σ1956/2348, mb6.0/355, MS5.2/394, 189C-70D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.23**	**265**	*i* P		**Pn**	**14 56 50.0**	**-0.4**
ONAJ				S		**Sn**	**14 56 56.6**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.23**	**265**	A		A	14 56 50.0	
	comp=E,5μm,2.2s,comp=N,1μm,1.6s							
JFK	**Kawauchi**	**0.29**	**326**	⇓*i* P		**Pn**	**14 56 50.6**	**-0.3**
JFK				⇓S		**Sn**	**14 56 57.7**	**0.0**
JFK	**Kawauchi**	**0.29**	**326**	A		A	14 56 50.6	
	comp=E,4μm,1.4s,comp=N,1μm,0.6s							
JFFD	**Fukushimafurud**	**0.41**	**266**	⇓*i* P		**Pn**	**14 56 51.9**	**-0.1**
JFFD				⇓S		**Sn**	**14 56 59.7**	**+0.1**
JFFD	**Fukushimafurud**	**0.41**	**266**	A		A	14 56 51.9	
	comp=E,2μm,2.5s,comp=N,845nm,1.3s							
JMST	**Minamisoumatoc**	**0.62**	**346**	A		A	14 56 54.3	
	comp=E,2μm,1.6s,comp=N,830nm,0.9s							
JHO	**Hitachi**	**0.65**	**219**	*i* P		**Pn**	**14 56 53.9**	**-0.9**
JHO				S		**Sn**	**14 57 03.1**	**-1.3**
JHO	**Hitachi**	**0.65**	**219**	A		A	14 56 53.9	
	comp=E,872nm,2.5s,comp=N,795nm,2.2s							
JOTO	**OTAMA OYAMA**	**0.74**	**307**	*i* P		**Pn**	**14 56 56.7**	**+0.9**
JOTO				S		**Sn**	**14 57 08.4**	**+2.1**
JOTO	**OTAMA OYAMA**	**0.74**	**307**	A		A	14 56 56.7	
	comp=E,3μm,1.9s,comp=N,2μm,0.9s							
JMM	**Marumori**	**0.78**	**343**			**Pn**	**14 56 56.3**	**0.0**
JMM				Sn		**Sn**	**14 57 07.2**	**0.0**
JMM	**Marumori**	**0.78**	**343**	⇓*i* P		**Pn**	**14 56 56.3**	**0.0**
JMM				⇓S		**Sn**	**14 57 07.7**	**+0.6**
JMM	**Marumori**	**0.78**	**343**	A		A	14 56 56.3	
	comp=E,2μm,0.6s,comp=N,1μm,1.5s							
JHYU	**Hitachinakayam**	**0.87**	**207**	A		A	14 56 57.1	
	comp=E,441nm,3.1s,comp=N,337nm,0.6s							
JSB	**Shiboa**	**0.94**	**261**	A		A	14 56 58.8	
	comp=E,1μm,2.1s,comp=N,1μm,2.7s							
JYAR	**Yonezawaarcadi**	**1.08**	**317**	A		A	14 57 00.9	
	comp=E,568nm,1.0s,comp=N,789nm,1.3s							
JFY	**Yanaizu**	**1.13**	**285**	⇓*i* P		**Pn**	**14 57 01.6**	**+0.6**
JFY	**Yanaizu**	**1.13**	**285**	A		A	14 57 01.6	
	comp=E,434nm,4.0s,comp=N,340nm,3.7s							
JYT	**Yasato**	**1.14**	**219**	A		A	14 57 01.0	
	comp=E,680nm,0.4s,comp=N,349nm,0.8s							
JIKH	**Ishinomakikobu**	**1.23**	**14**	A		A	14 57 02.2	
	comp=E,380nm,3.1s,comp=N,151nm,1.9s							
JIHU	**Itakohorinouch**	**1.24**	**201**	A		A	14 57 02.0	
	comp=E,771nm,5.1s,comp=N,658nm,4.1s							
JOU	**Okura**	**1.28**	**345**	⇓*i* P		**Pn**	**14 57 03.3**	**+0.2**
JOU	**Okura**	**1.28**	**345**	A		A	14 57 03.3	
	comp=E,844nm,1.0s,comp=N,746nm,0.9s							
JIO	**Ouri**	**1.35**	**9**	⇓*i* P		**Pn**	**14 57 03.4**	**-0.4**
JIO				⇓S		**Sn**	**14 57 19.9**	**-0.8**
JIO	**Ouri**	**1.35**	**9**	A		A	14 57 03.4	
	comp=E,285nm,2.0s,comp=N,194nm,3.3s							
JYS	**Shiratake**	**1.36**	**324**	*i* P		**Pn**	**14 57 05.0**	**+0.9**
JYS	**Shiratake**	**1.36**	**324**	A		A	14 57 05.0	
	comp=E,645nm,2.8s,comp=N,788nm,1.5s							
JAG	**Ashikaga**	**1.48**	**242**	⇓P		**Pn**	**14 57 05.7**	**0.0**
JAG				⇓S		**Sn**	**14 57 24.2**	**+0.3**
JAG	**Ashikaga**	**1.48**	**242**	A		A	14 57 05.7	
	comp=E,169nm,4.8s,comp=N,187nm,2.4s							
JOFO	**Osakifurukawao**	**1.48**	**355**	A		A	14 57 06.2	
	comp=E,2μm,2.2s,comp=N,1μm,1.6s							
JKT	**Katashina**	**1.51**	**257**	⇓P		**Pn**	**14 57 07.0**	**+0.8**
JKT				⇓*e*S		**Sn**	**14 57 26.1**	**+1.3**
JKT	**Katashina**	**1.51**	**257**	A		A	14 57 07.0	
	comp=E,224nm,5.1s,comp=N,253nm,3.4s							
JSMT	**Sammumatsuo**	**1.56**	**199**	A		A	14 57 06.6	
	comp=E,537nm,3.0s,comp=N,407nm,5.2s							
JNS	**Sasagawa**	**1.56**	**297**	A		A	14 57 07.8	
	comp=E,261nm,2.7s,comp=N,155nm,1.7s							
JNS	**Sasagawa**	**1.56**	**297**	P		**Pn**	**14 57 07.0**	**+0.2**
JUON	**Uonuma**	**1.62**	**274**	A		A	14 57 08.4	
	comp=E,197nm,7.4s,comp=N,132nm,1.8s							
JUON	**Uonuma**	**1.62**	**274**	⇓P		**Pn**	**14 57 08.4**	**+0.9**
JKMT	**Kesennumamotoy**	**1.71**	**10**	A		A	14 57 09.3	
	comp=E,155nm,1.8s,comp=N,103nm,0.6s							
TOK	**Tokyo**	**1.79**	**217**	A		A	14 57 10.1	
	comp=E,442nm,2.3s,comp=N,356nm,1.5s							
JYA	**Atsumi**	**1.82**	**324**	A		A	14 57 11.4	
	comp=E,425nm,1.0s,comp=N,440nm,1.5s							
JYA	**Atsumi**	**1.82**	**324**	⇓P		**Pn**	**14 57 11.4**	**+1.0**
JMK	**Ichinoseki**	**1.83**	**3**	A		A	14 57 11.0	
	comp=E,182nm,1.1s,comp=N,87nm,3.9s							
JMK	**Ichinoseki**	**1.83**	**3**	P		**Pn**	**14 57 10.1**	**-0.4**
JCN	**Nagara**	**1.84**	**203**	A		A	14 57 10.6	
	comp=E,650nm,2.8s,comp=N,359nm,3.2s							
JYK	**Kaneyama**	**1.88**	**343**	A		A	14 57 12.1	
	comp=E,295nm,3.1s,comp=N,154nm,1.3s							
JYK	**Kaneyama**	**1.88**	**343**	⇓P		**Pn**	**14 57 12.0**	**+0.8**
I30JP	**ISUMI INFRASON**	**1.91**	**199**	P		**Pn**	**14 57 13.5**	**+1.9**
	baz=38,slow=18,SNR=0.7							
I30JP				I		I	15 08 00.0	
	baz=17,slow=323,SNR=5.1							
JHU	**Hanno**	**1.92**	**229**	A		A	14 57 12.3	
	comp=E,117nm,2.0s,comp=N,138nm,2.1s							
JIZZ	**Izumozaki**	**1.93**	**283**	A		A	14 57 13.0	
	comp=E,698nm,5.0s,comp=N,631nm,5.5s							
JIZZ	**Izumozaki**	**1.93**	**283**	⇓P		**Pn**	**14 57 13.5**	**+1.7**
JAW	**Awa shima**	**1.97**	**313**	A		A	14 57 13.6	
	comp=E,134nm,5.3s,comp=N,142nm,3.2s							
JAW	**Awa shima**	**1.97**	**313**	⇓P		**Pn**	**14 57 13.1**	**+0.8**
OFUJ	**Ofunato**	**2.01**	**13**	A		A	14 57 13.4	
	comp=E,129nm,0.9s,comp=N,108nm,0.9s							
JGK	**Kuni**	**2.03**	**255**	A		A	14 57 14.2	
	comp=E,182nm,3.6s,comp=N,389nm,3.6s							
JRY	**Ryogami san**	**2.07**	**238**	A		A	14 57 14.5	
	comp=E,99nm,2.7s,comp=N,147nm,3.0s							
JRY	**Ryogami san**	**2.07**	**238**	⇓P		**Pn**	**14 57 13.8**	**0.0**
JKUC	**kamogawauchiur**	**2.08**	**200**	A		A	14 57 14.0	
	comp=E,307nm,2.7s,comp=N,262nm,5.8s							
JYYZ	**Yamagatayuza**	**2.10**	**335**	A		A	14 57 15.2	
	comp=E,515nm,8.5s,comp=N,772nm,5.5s							
JSGW	**Sagamiharawaka**	**2.14**	**225**	A		A	14 57 15.3	
	comp=E,233nm,3.8s,comp=N,136nm,3.8s							
JYO	**Yokosk**	**2.21**	**212**	A		A	14 57 16.0	
	comp=E,335nm,3.8s,comp=N,275nm,3.8s							
JRG	**Rokugo**	**2.30**	**351**	A		A	14 57 17.9	
	comp=E,216nm,4.6s,comp=N,174nm,1.2s							
JRG	**Rokugo**	**2.30**	**351**	⇓P		**Pn**	**14 57 18.0**	**+1.2**
TATJ	**Tateyama 2**	**2.30**	**205**	A		A	14 57 17.1	
	comp=E,599nm,6.5s,comp=N,833nm,2.0s							
JJN	**Nakama**	**2.33**	**270**	A		A	14 57 18.6	
	comp=E,182nm,5.9s,comp=N,204nm,4.9s							
JOM	**Ohasama**	**2.35**	**4**	A		A	14 57 18.5	
	comp=E,275nm,2.3s,comp=N,92nm,1.7s							
JOM	**Ohasama**	**2.35**	**4**	⇓P		**Pn**	**14 57 17.8**	**+0.2**
MJAR	**Matsushiro Arr**	**2.37**	**257**	P		**Pn**	**14 57 18.0**	**+0.1**
MJAR	**Matsushiro Arr**	**2.37**	**257**	P		**Pn**	**14 57 18.0**	**+0.1**
	comp=N,887nm,0.4s,baz=81,slow=15,SNR=2749							
MJAR				S		**Sn**	**14 57 48.2**	**+2.3**
	comp=N,2μm,0.6s,baz=68,slow=22,SNR=3.9							
MJAR				LR		LR	14 58 37.6	
	comp=N,81μm,21.8s,baz=78,slow=50							
MAJO	**Matsushiro**	**2.38**	**257**			**Pn**	**14 57 19.4**	**+1.4**
MAJO	**Matsushiro**	**2.38**	**257**	P		**Pn**	**14 57 19.9**	**+2.0**
MAJO	**Matsushiro**	**2.38**	**257**	*i* P		**Pn**	**14 57 19.1**	**+1.2**
MAT	**Matsushiro**	**2.38**	**257**	P		**Pn**	**14 57 19.4**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.38**	**257**			**Pn**	**14 57 20.2**	**+2.3**
JTB	**Tobi-shima**	**2.39**	**330**	A		A	14 57 19.5	
	comp=E,421nm,2.9s,comp=N,305nm,2.4s							
JSD	**Sado**	**2.42**	**293**			**Pn**	**14 57 18.5**	**+0.1**
JSD	**Sado**	**2.42**	**293**	P		**Pn**	**14 57 19.0**	**+0.5**
JSD	**Sado**	**2.42**	**293**	A		A	14 57 19.9	
	comp=E,70nm,5.9s,comp=N,61nm,3.0s							
JOD2	**Odawara 2**	**2.46**	**222**	A		A	14 57 19.7	
	comp=E,132nm,2.9s,comp=N,202nm,2.8s							
JNG	**Nsakai**	**2.50**	**254**	A		A	14 57 20.7	
	comp=E,79nm,4.5s,comp=N,145nm,3.6s							
JYW	**Yuwa**	**2.51**	**344**	A		A	14 57 21.0	
	comp=E,439nm,2.1s,comp=N,415nm,2.5s							
MIYJ	**Miyakonagasawa**	**2.52**	**13**	A		A	14 57 20.6	
	comp=E,150nm,2.1s,comp=N,99nm,1.7s							
JYN	**Shimob**	**2.61**	**232**	A		A	14 57 22.0	
	comp=E,336nm,3.1s,comp=N,307nm,2.8s							
JYN	**Shimob**	**2.61**	**232**	⇓P		**Pn**	**14 57 21.9**	**+0.7**
JSZI	**Iwateshizukuis**	**2.62**	**358**	A		A	14 57 22.3	
	comp=E,450nm,2.1s,comp=N,311nm,2.6s							
JNT	**Takato**	**2.68**	**243**	A		A	14 57 23.2	
	comp=E,98nm,4.4s,comp=N,121nm,1.8s							
JFNN	**Fujinakano**	**2.73**	**226**	A		A	14 57 23.6	
	comp=E,212nm,3.3s,comp=N,213nm,3.3s							
JHTM	**Izuhatsuma**	**2.73**	**218**	A		A	14 57 23.5	
	comp=E,198nm,1.9s,comp=N,221nm,3.3s							
JIM2	**Oshima 3**	**2.75**	**210**	A		A	14 57 23.6	
	comp=E,160nm,2.5s,comp=N,152nm,4.5s							
JKZ	**Kuzumaki**	**2.87**	**4**	A		A	14 57 25.7	
	comp=E,117nm,3.3s,comp=N,76nm,0.8s							
JTH	**Tanohata**	**2.88**	**12**	A		A	14 57 25.8	
	comp=E,112nm,2.3s,comp=N,112nm,1.9s							
JTHY	**Toshimahigashi**	**2.97**	**210**	A		A	14 57 26.8	
	comp=E,116nm,3.0s,comp=N,129nm,2.5s							
JSZ	**Suzu**	**2.98**	**277**	A		A	14 57 27.8	
	comp=E,60nm,4.0s,comp=N,83nm,3.6s							
JSZ	**Suzu**	**2.98**	**277**	⇓P		**Pn**	**14 57 26.9**	**+0.8**
JIZS	**Izushimoda**	**2.99**	**217**	A		A	14 57 27.1	
	comp=E,78nm,2.0s,comp=N,78nm,2.0s							
JTT	**Ttate**	**3.05**	**261**	A		A	14 57 28.6	
	comp=E,138nm,3.5s,comp=N,196nm,7.1s							
JAH	**Hinai**	**3.08**	**354**	A		A	14 57 28.9	
	comp=E,297nm,4.5s,comp=N,94nm,3.6s							
JAH	**Hinai**	**3.08**	**354**	⇓P		**Pn**	**14 57 29.1**	**+1.6**
SHZ3	**Shizuoka 3**	**3.10**	**229**	A		A	14 57 28.9	
	comp=E,136nm,3.5s,comp=N,130nm,2.3s							
SHZ3	**Shizuoka 3**	**3.10**	**229**	P		**Pn**	**14 57 29.2**	**+1.3**
JKEN	**Kujiedanarisaw**	**3.12**	**9**	A		A	14 57 29.2	
	comp=E,384nm,0.7s,comp=N,416nm,0.9s							
JNIO	**Nijinooohara**	**3.13**	**209**	A		A	14 57 28.9	
	comp=E,134nm,1.6s,comp=N,145nm,2.3s							
JNY	**Yasuok**	**3.14**	**237**	A		A	14 57 29.6	
	comp=E,290nm,2.5s,comp=N,207nm,1.7s							
JGN	**Niukaw**	**3.15**	**255**	A		A	14 57 30.1	
	comp=E,27nm,6.6s,comp=N,37nm,3.8s							
JSKK	**Shikinejimakit**	**3.17**	**209**	A		A	14 57 29.5	
	comp=E,94nm,3.1s,comp=N,47nm,5.7s							
JOG3	**Oga3**	**3.20**	**331**	A		A	14 57 27.4	
	comp=E,192nm,3.2s,comp=N,174nm,3.0s							
JNTW	**Noshirotokiwa**	**3.23**	**347**	A		A	14 57 31.0	
	comp=E,333nm,3.4s,comp=N,381nm,3.0s							
JANG	**Nango**	**3.27**	**6**	A		A	14 57 31.3	
	comp=E,89nm,2.1s,comp=N,67nm,1.9s							
JMYK	**Miyake Tsubota**	**3.30**	**203**	A		A	14 57 31.3	
	comp=E,99nm,4.0s,comp=N,75nm,2.8s							
JKO	**Kozu shima**	**3.33**	**209**	A		A	14 57 31.7	
	comp=E,158nm,3.4s,comp=N,101nm,3.5s							
JGF	**Kuroka**	**3.37**	**244**	A		A	14 57 32.9	
	comp=E,73nm,4.9s,comp=N,97nm,3.2s							
JHG	**Hegura jima**	**3.39**	**284**	A		A	14 57 33.6	
	comp=E,44nm,2.5s,comp=N,39nm,3.9s							
JHG	**Hegura jima**	**3.39**	**284**	⇓P		**Pn**	**14 57 32.4**	**+0.7**
JSG	**Sagara**	**3.39**	**225**			**Pn**	**14 57 32.1**	**+0.4**
JSG	**Sagara**	**3.39**	**225**	P		**Pn**	**14 57 34.8**	**+3.0**
JSG	**Sagara**	**3.39**	**225**	A		A	14 57 32.9	
	comp=E,129nm,2.9s,comp=N,105nm,3.9s							
JMKN	**Mikurajimanish**	**3.44**	**201**	A		A	14 57 33.3	
	comp=E,53nm,9.4s,comp=N,43nm,2.6s							
JMKN	**Mikurajimanish**	**3.44**	**201**	S		**Sn**	**14 58 11.1**	**-1.0**
JJH	**Hakui**	**3.44**	**268**	A		A	14 57 34.3	
	comp=E,48nm,6.3s,comp=N,71nm,2.5s							
JKKS	**Kakegawashinom**	**3.45**	**228**	A		A	14 57 33.8	
	comp=E,196nm,3.1s,comp=N,146nm,2.8s							
HMMJ	**Hamamatsu 2**	**3.54**	**231**	A		A	14 57 35.1	
	comp=E,46nm,4.4s,comp=N,56nm,4.3s							
JIW	**Iwasaki**	**3.56**	**347**	A		A	14 57 35.8	
	comp=E,71nm,1.3s,comp=N,59nm,4.7s							
JHHS	**Hirosakihykuz**	**3.57**	**351**	A		A	14 57 35.8	
	comp=E,278nm,4.9s,comp=N,237nm,3.8s							
JAO	**Obara**	**3.60**	**240**	A		A	14 57 36.2	
	comp=E,97nm,3.1s,comp=N,78nm,2.5s							
JSSY	**Shinshiroyabe**	**3.64**	**234**	A		A	14 57 36.5	
	comp=E,59nm,3.7s,comp=N,48nm,5.2s							
JTM	**Tenmabayashi**	**3.66**	**360**			**Pn**	**14 57 36.9**	**+1.4**
JTM	**Tenmabayashi**	**3.66**	**360**	P		**Pn**	**14 57 37.2**	**+1.7**
JTM	**Tenmabayashi**	**3.66**	**360**	A		A	14 57 37.0	
	comp=E,104nm,2.9s,comp=N,63nm,1.8s							
JTM	**Tenmabayashi**	**3.66**	**360**	P		**Pn**	**14 57 36.7**	**+1.2**
INU	**Inuyama**	**3.73**	**243**	Pn		**Pn**	**14 57 38.0**	**+1.6**
INU	**Inuyama**	**3.73**	**243**	P		**Pn**	**14 57 38.6**	**+2.1**
JYTA	**Yamagatataniai**	**3.82**	**248**	A		A	14 57 39.3	
	comp=E,52nm,3.3s,comp=N,48nm,3.4s							
JYTA	**Yamagatataniai**	**3.82**	**248**	⇓P		**Pn**	**14 57 39.7**	**+2.0**
JICN	**Ichinomiyachia**	**3.88**	**243**	A		A	14 57 40.0	
	comp=E,127nm,2.2s,comp=N,137nm,3.4s							
JARK	**Aomorirokkasho**	**3.89**	**3**	A		A	14 57 40.1	
	comp=E,128nm,2.6s,comp=N,95nm,1.3s							
JKG	**Kaga**	**3.91**	**259**	A		A	14 57 40.7	
	comp=E,28nm,5.9s,comp=N,59nm,4.7s							
JKG	**Kaga**	**3.91**	**259**	⇓P		**Pn**	**14 57 41.4**	**+2.5**
TTO5	**TONANKAI O.B.S**	**3.96**	**225**	A		A	14 57 40.9	
	comp=E,198nm,2.0s,comp=N,185nm,2.8s							
JSI2	**Shiura 2**	**3.96**	**353**	A		A	14 57 41.3	
	comp=E,63nm,2.2s,comp=N,74nm,1.8s							
JAA	**Atsumi**	**4.05**	**233**	A		A	14 57 42.3	
	comp=E,49nm,4.5s,comp=N,52nm,2.8s							
JHJ	**Hachijo jima 2**	**4.13**	**195**	P		**Pn**	**14 57 41.6**	**-0.3**
	comp=N,2μm,0.3s,baz=311,slow=19,SNR=83							
JHJ				S		**Sn**	**14 58 27.4**	**-1.7**
	comp=N,6μm,0.4s,baz=86,slow=23,SNR=14							
JHJ2	**Mitsune**	**4.13**	**195**			**Pn**	**14 57 41.5**	**-0.5**
JHJ2	**Mitsune**	**4.13**	**195**	P		**Pn**	**14 57 42.1**	**+0.1**
JHJ2	**Mitsune**	**4.13**	**195**	A		A	14 57 42.8	
	comp=E,38nm,2.6s,comp=N,38nm,3.8s							
JAHD	**Aomorihigashid**	**4.14**	**3**	A		A	14 57 43.7	
	comp=E,315nm,1.1s,comp=N,247nm,1.2s							
JHCJ	**Hachijojimakas**	**4.17**	**195**	A		A	14 57 43.4	
	comp=E,25nm,4.6s,comp=N,28nm,3.6s							
TTO4	**TONANKAI O.B.S**	**4.24**	**224**	A		A	14 57 44.8	
	comp=E,125nm,3.4s,comp=N,108nm,3.9s							
JOT	**Ohata**	**4.25**	**360**	A		A	14 57 45.3	
	comp=E,82nm,4.5s,comp=N,72nm,4.8s							
JEG	**Eigenji**	**4.28**	**244**	A		A	14 57 45.7	
	comp=E,34nm,4.7s,comp=N,49nm,4.2s							
JFM	**Mihama**	**4.41**	**250**	A		A	14 57 47.6	
	comp=E,41nm,2.0s,comp=N,56nm,2.2s							
TTO3	**TONANKAI O.B.S**	**4.43**	**224**	A		A	14 57 47.4	
	comp=E,136nm,2.8s,comp=N,123nm,6.0s							
JSR	**Shiriuchi**	**4.43**	**354**	A		A	14 57 47.9	
	comp=E,98nm,4.3s,comp=N,76nm,2.4s							
JOMM	**Oshimamatsumae**	**4.47**	**350**	A		A	14 57 48.5	
	comp=E,36nm,6.1s,comp=N,28nm,3.1s							
JIE	**Ise**	**4.48**	**234**	A		A	14 57 48.3	
	comp=E,47nm,2.9s,comp=N,43nm,3.7s							
TSUJ	**Tsu 2**	**4.48**	**239**	A		A	14 57 48.5	
	comp=E,42nm,3.0s,comp=N,47nm,10.1s							
TTO2	**TONANKAI O.B.S**	**4.73**	**226**	A		A	14 57 51.7	
	comp=E,146nm,3.7s,comp=N,116nm,4.0s							
JKB	**Kayabe**	**4.76**	**360**	A		A	14 57 52.4	
	comp=E,146nm,1.7s,comp=N,115nm,3.6s							
JAOM	**Aogashimamukai**	**4.77**	**193**	A		A	14 57 51.8	
	comp=E,47nm,2.4s,comp=N,46nm,4.6s							
JKN2	**Miekihoku**	**4.85**	**235**	A		A	14 57 53.6	
	comp=E,23nm,6.2s,comp=N,30nm,3.1s							
JWT	**Wachi**	**4.94**	**250**	A		A	14 57 55.1	
	comp=E,19nm,3.6s,comp=N,28nm,6.5s							
JWT	**Wachi**	**4.94**	**250**	⇓P		**Pn**	**14 57 55.3**	**+2.2**
TTO1	**TONANKAI O.B.S**	**4.95**	**226**	A		A	14 57 54.8	
	comp=E,118nm,3.2s,comp=N,217nm,4.5s							
JYM2	**Yakumo 2**	**5.02**	**354**	A		A	14 57 56.1	
	comp=E,50nm,4.6s,comp=N,53nm,1.8s							
JHE	**Heguri**	**5.02**	**242**	A		A	14 57 56.1	
	comp=E,23nm,4.6s,comp=N,37nm,6.5s							
JHE	**Heguri**	**5.02**	**242**	⇓P		**Pn**	**14 57 55.2**	**+1.0**
JKY	**Yasaka**	**5.05**	**255**	A		A	14 57 56.6	
	comp=E,28nm,2.0s,comp=N,41nm,2.3s							
JNTK	**Naratenkawa**	**5.09**	**238**	A		A	14 57 57.0	
	comp=E,33nm,4.0s,comp=N,30nm,4.7s							
JOSM	**Okushiri--Mats**	**5.11**	**346**	A		A	14 57 57.4	
	comp=E,25nm,4.2s,comp=N,19nm,6.4s							
ERM	**Erimo**	**5.14**	**18**	Pn		**Pn**	**14 57 55.5**	**-0.3**
ERM	**Erimo**	**5.14**	**18**	P		**Pn**	**14 57 55.8**	**0.0**
ERM	**Erimo**	**5.14**	**18**	*ce*P		**Pn**	**14 57 54.9**	**-0.9**
ERM				pmax		pmax		
	comp=Z,1μm,1.0s							
JEM	**Erimo**	**5.14**	**18**	P		**Pn**	**14 57 56.0**	**+0.2**
JEM	**Erimo**	**5.14**	**18**	A		A	14 57 57.5	
	comp=E,42nm,1.9s,comp=N,39nm,3.6s							
JMMH	**Miemihama**	**5.28**	**233**	A		A	14 57 59.5	
	comp=E,17nm,5.7s,comp=N,20nm,2.5s							
JNBK	**Urakawa-nobuka**	**5.31**	**14**	A		A	14 57 59.9	
	comp=E,81nm,1.2s,comp=N,90nm,1.0s							
JWY	**Kouya**	**5.32**	**239**	A		A	14 58 00.2	
	comp=E,21nm,3.1s,comp=N,39nm,2.4s							
JWY	**Kouya**	**5.32**	**239**	P		**Pn**	**14 57 59.4**	**+1.0**
JNB	**Noboribetsu**	**5.34**	**360**	A		A	14 58 00.5	
	comp=E,31nm,2.7s,comp=N,23nm,2.1s							
JNB	**Noboribetsu**	**5.34**	**360**	P		**Pn**	**14 57 58.9**	**+0.4**
JHST	**Hiyamasetana**	**5.37**	**350**	A		A	14 58 01.1	
	comp=E,51nm,2.5s,comp=N,29nm,2.6s							
JSHD	**Hidakashinhida**	**5.39**	**11**	A		A	14 58 01.0	
	comp=E,117nm,1.7s,comp=N,150nm,1.9s							
JKSM	**Kasumi**	**5.40**	**255**	A		A	14 58 01.5	
	comp=E,16nm,4.1s,comp=N,20nm,4.9s							
JKSM	**Kasumi**	**5.40**	**255**	P		**Pn**	**14 58 01.7**	**+2.4**
JMIK	**Miki**	**5.40**	**246**	A		A	14 58 01.5	
	comp=E,28nm,2.2s,comp=N,52nm,2.3s							
JTHR	**Tokachihiroo**	**5.44**	**18**	A		A	14 58 01.6	
	comp=E,47nm,3.2s,comp=N,41nm,1.0s							
JKS	**Kasai**	**5.48**	**249**	A		A	14 58 02.6	
	comp=E,11nm,4.3s,comp=N,27nm,3.6s							
JKS	**Kasai**	**5.48**	**249**	P		**Pn**	**14 58 02.2**	**+1.7**
JIAM	**Iburiatsuma**	**5.53**	**6**	A		A	14 58 03.0	
	comp=E,74nm,2.3s,comp=N,121nm,1.3s							
JTNC	**Tanabenakahech**	**5.55**	**235**	A		A	14 58 03.3	
	comp=E,33nm,2.2s,comp=N,38nm,3.3s							
**

KSRS			LR	LR	15 03 00.6
	comp=Z,20μm,20.2s,baz=85,slow=36				
KSRS			PcP	**PcP**	**15 05 11.2 +0.9**
	comp=Z,14nm,1.1s,baz=76,slow=0.4,SNR=5.8				
KSRS			ScP	**ScP**	**15 08 38.6 +0.6**
	comp=Z,7.4nm,1.0s,baz=114,slow=1.1,SNR=11				
KSAR	**Wonju Array Be**	**10.52 276**	Pn	**Pn**	**14 59 12.8 +3.4**
KSAR	**Wonju Array Be**	**10.52 276**	P	**Pn**	**14 59 12.8 +3.4**
KS19	**Wonju Array Si**	**10.53 276**		**Pn**	**14 59 12.9 +3.3**
TJN	**Taejon**	**11.03 270**	Pn	**Pn**	**14 59 19.7 +3.3**
TJN	**Taejon**	**11.03 270**	P	**Pn**	**14 59 19.3 +2.9**
TJN	**Taejon**	**11.03 270**	*i* P	**Pn**	**14 59 19.1 +2.7**
MDJ	**Mudanjiang**	**11.47 314**	P	**Pn**	**14 59 23.8 +1.5**
MDJ			sP		14 59 36.8
MDJ			S	**Sn**	**15 01 32.7 +3.9**
MDJ			SS	**SnSn**	**15 01 48.7 +7.5**
MDJ			ScP	**ScP**	**15 08 39.7 +0.5**
MDJ			PcS	**PcS**	**15 08 43.5 -1.4**
MDJ			ScS	**ScS**	**15 12 14.9 +0.3**
MDJ			pmax	pmax	
	comp=Z,42nm,1.3s				
MDJ			LR	LR	
	comp=Z,13μm,21.0s				
MDJ			LR	LR	
	comp=Z,10μm,23.3s				
MDJ			LR	LR	
	comp=Z,24μm,24.0s				
MDJ	**Mudanjiang**	**11.47 314**		**Pn**	**14 59 24.6 +2.2**
MDJ	**Mudanjiang**	**11.47 314**	P	**Pn**	**14 59 25.3 +3.0**
INCN	**Inchon**	**11.51 276**	Pn	**Pn**	**14 59 25.9 +2.9**
INCN	**Inchon**	**11.51 276**	P	**Pn**	**14 59 25.9 +2.9**
INCN	**Inchon**	**11.51 276**	P	**Pn**	**14 59 27.2 +4.2**
INCN			S	Sn	15 01 40.9 +11
UGL	**Uglegorsk**	**11.97 3**	*e*P	**Pn**	**14 59 28.5 -0.7**
UGL			S	**Sn**	**15 01 34.1 -7.0**
UGL			pmax	pmax	
	comp=Z,130nm,1.0s				
UGL			pmax	pmax	
	comp=Z,700nm,3.3s				
UGL			smax	smax	
	comp=N,500nm,3.1s				
UGL			smax	smax	
	comp=E,800nm,3.2s				
UGL			MLR	MLR	
	comp=Z,8μm,16.0s				
UGL			MLR	MLR	
	comp=E,4μm,21.0s				
UGL			MLR	MLR	
	comp=N,6μm,17.0s				
BNX	**BinXian**	**13.38 314**	⇓P	**Pn**	**14 59 48.8 +0.4**
BNX			pP	**P**	**14 59 58.6 +2.3**
BNX			PP	**PnPn**	**15 00 01.0 +4.6**
BNX			sP		15 00 05.2
BNX			S	**Sn**	**15 02 16.6 +1.2**
BNX			sS	**S**	**15 02 31.7 -5.1**
BNX			pmax	pmax	
	comp=N,92nm,1.1s				
BNX			pmax	pmax	
	comp=N,2μm,3.5s				
BNX			LR	LR	
	comp=N,4μm,15.6s				
BNX			LR	LR	
	comp=N,7μm,18.7s				
BNX			LR	LR	
	comp=N,14μm,25.1s				
CN2	**Changchun**	**13.63 304**	*e*P	**Pn**	**14 59 52.1 +0.2**
CN2			*e*S	**Sn**	**15 02 22.5 +0.8**
CN2			pmax	pmax	
	comp=N,30nm,1.2s				
CN2			pmax	pmax	
	comp=N,800nm,3.0s				
CN2			LR	LR	
	comp=N,5μm,15.0s				
CN2			LR	LR	
	comp=N,10μm,15.0s				
CN2			LR	LR	
	comp=N,6μm,16.0s				
TYV	**Tymovskoe**	**13.78 4**	*e*P	**Pn**	**14 59 52.2 -1.7**
TYV			*e*S	**Sn**	**15 02 23.1 -2.1**
TYV			pmax	pmax	
	comp=Z,700nm,4.4s				
TYV			pmax	pmax	
	comp=Z,169nm,1.1s				
TYV			smax	smax	
	comp=N,25nm,1.3s				
TYV			smax	smax	
	comp=N,800nm,5.1s				
TYV			smax	smax	
	comp=E,900nm,5.1s				
TYV			MLR	MLR	
	comp=N,6μm,19.0s				
TYV			MLR	MLR	
	comp=Z,6μm,19.0s				
KLR	**Kul'dur**	**13.87 334**	*ce*P	**Pn**	**14 59 55.0 -0.1**
KLR			pmax	pmax	
	comp=Z,12nm,0.7s				
KLR	**Kul'dur**	**13.87 334**	P	**Pn**	**14 59 55.5 +0.5**
	comp=Z,22nm,0.7s,baz=132,slow=13,SNR=34				
KLR			LR	LR	15 05 15.2
	comp=Z,12μm,19.0s,baz=146,slow=37				
KLR			ScP	**ScP**	**15 08 43.1 +0.3**
	comp=Z,19nm,1.3s,baz=195,slow=4.2,SNR=5.2				
GRNR	**Gornyy**	**14.04 348**	⇑*i*P	**Pn**	**14 59 55.8 -1.6**
GRNR			*e*S	**Sn**	**15 02 30.4 -1.2**
GRNR			pmax	pmax	
	comp=E,30nm,0.8s				
GRNR			pmax	pmax	
	comp=N,60nm,0.9s				
GRNR			pmax	pmax	
	comp=Z,70nm,0.8s				
GRNR			smax	smax	
	comp=E,20nm,0.9s				
GRNR			MLR	MLR	
	comp=E,3μm,16.0s				
GRNR			MLR	MLR	
	comp=N,5μm,20.0s				
GRNR			MLR	MLR	
	comp=Z,7μm,20.0s				
JMZ	**Minamidaito 2**	**14.05 219**	P	**Pn**	**14 59 57.9 +0.3**
SNY	**Shenyang**	**14.31 295**	⇑P	**Pn**	**15 00 01.9 +1.0**
SNY			pP	P	15 00 12.5 +5.9
SNY			sP		15 00 20.6
SNY			S	**Sn**	**15 02 40.7 +2.7**
SNY			pmax	pmax	
	comp=Z,110nm,1.1s				
SNY			pmax	pmax	
	comp=Z,2μm,4.4s				
SNY			LR	LR	
	comp=Z,5μm,12.9s				
SNY			LR	LR	
	comp=Z,12μm,17.0s				
SNY			LR	LR	
	comp=Z,15μm,17.5s				
JOW	**Kunigami**	**14.93 230**		**Pn**	**15 00 06.1 -3.0**
JOW	**Kunigami**	**14.93 230**	P	**Pn**	**15 00 08.9 -0.3**
JOW	**Kunigami**	**14.93 230**	P	**Pn**	**15 00 07.2 -1.9**
	comp=Z,66nm,1.0s,baz=41,slow=13,SNR=7.8				
JOW			LR	LR	15 05 60.0
	comp=Z,7μm,21.8s,baz=63,slow=38				
DL2	**Dalian**	**15.44 283**	P	**Pn**	**15 00 16.8 +1.2**
DL2			S	**Sn**	**15 03 09.3 +3.8**
DL2			pmax	pmax	
	comp=Z,580nm,1.0s				
DL2			pmax	pmax	
	comp=Z,4μm,6.6s				
DL2			LR	LR	
	comp=Z,3μm,14.5s				
DL2			LR	LR	
	comp=Z,8μm,18.0s				
DL2			LR	LR	
	comp=Z,10μm,18.5s				
JAGN	**Aguni-jima**	**15.74 232**	P	**Pn**	**15 00 18.1 -1.5**
NKL	**Nikolayevsk**	**16.03 359**	*e*P	**Pn**	**15 00 21.4 -1.7**
NKL			*e*S	**Sn**	**15 03 18.3 -1.4**
NKL			pmax	pmax	
	comp=N,377nm,1.0s				
NKL			pmax	pmax	
	comp=E,121nm,0.9s				
NKL			pmax	pmax	
	comp=Z,531nm,0.9s				
NKL			smax	smax	
	comp=E,797nm,6.0s				
NKL			smax	smax	
	comp=N,755nm,3.1s				
NKL			MLR	MLR	
	comp=E,13μm,13.0s				
NKL			MLR	MLR	
	comp=N,9μm,14.0s				
NKL			MLR	MLR	
	comp=Z,13μm,15.0s				
HEH	**HeiHe**	**16.39 327**	*e*P	**Pn**	**15 00 24.1 -3.6**
HEH			pP	**P**	**15 00 33.4 +3.6**
HEH			pmax	pmax	
	comp=Z,71nm,1.2s				
HEH			pmax	pmax	
	comp=Z,1μm,4.5s				
HEH			LR	LR	
	comp=Z,7μm,20.9s				
HEH			LR	LR	
	comp=Z,6μm,20.2s				
HEH			LR	LR	
	comp=Z,13μm,19.3s				
OKH	**Okha**	**16.48 4**	*d i*P	**Pn**	**15 00 28.7 0.0**
OKH			*i* S	**Sn**	**15 03 22.9 -7.7**
OKH			pmax	pmax	
	comp=Z,300nm,14.2s				
OKH			smax	smax	
	comp=N,700nm,10.2s				
OKH			MLR	MLR	
	comp=Z,5μm,19.0s				
OKH			MLR	MLR	
	comp=E,9μm,18.0s				
OKH			MLR	MLR	
	comp=N,6μm,17.0s				
SKR	**Severo-Kuril's**	**17.31 34**	*e*P	**Pn**	**15 00 34.8 -4.3**
SKR			*e*S	Sn	15 03 38.9 -12
SKR			pmax	pmax	
	comp=Z,339nm,0.7s				
SKR			smax	smax	
	comp=N,264nm,1.0s				
SKR			smax	smax	
	comp=E,46nm,0.9s				
SKR			MLR	MLR	
	comp=Z,3μm,12.0s				
SSE	**Sheshan**	**17.52 256**	P	**Pn**	**15 00 41.3 -0.6**
SSE			pP	**pP**	**15 00 52.1 -2.3**
SSE			sP	**sP**	**15 00 59.3 -2.0**
SSE			S	**Sn**	**15 03 56.7 +0.5**
SSE			pmax	pmax	
	comp=Z,51nm,1.2s				
SSE			pmax	pmax	
	comp=Z,950nm,6.2s				
SSE			LR	LR	
	comp=Z,3μm,15.2s				
JMJ	**Miyako jima 2**	**18.24 232**	P	**Pn**	**15 00 51.0 +0.4**
NJ2	**Nanjing**	**18.97 261**	*e*P	**P**	**15 00 56.8 -1.5**
NJ2			PP	**PnPn**	**15 01 15.4 +2.3**
NJ2			S	**S**	**15 04 28.4 -2.5**
NJ2			sS	**sS**	**15 04 46.2 -4.0**
NJ2			SS	**SnSn**	**15 04 47.4 +1.9**
NJ2			pmax	pmax	
	comp=Z,160nm,1.0s				
NJ2			LR	LR	
	comp=Z,4μm,17.1s				
NJ2			LR	LR	
	comp=Z,10μm,18.5s				
NJ2			LR	LR	
	comp=Z,13μm,19.9s				
ZEA	**Zeya**	**19.18 334**	*e*P	**P**	**15 00 58.5 -1.9**
ZEA			pmax	pmax	
	comp=E,160nm,1.0s				
ZEA			pmax	pmax	
	comp=N,490nm,0.9s				
ZEA			pmax	pmax	
	comp=Z,660nm,0.9s				
ZEA			pmax	pmax	
	comp=E,210nm,0.7s				
ZEA			pmax	pmax	
	comp=N,420nm,0.8s				
ZEA			pmax	pmax	
	comp=Z,670nm,0.8s				
ZEA			MLR	MLR	
	comp=E,1μm,19.0s				
ZEA			MLR	MLR	
	comp=N,4μm,15.0s				
ZEA			MLR	MLR	
	comp=Z,5μm,15.0s				
TIA	**Tai'an**	**19.23 275**	P	**P**	**15 00 59.5 -1.6**
TIA			pmax	pmax	
	comp=Z,90nm,1.4s				
TIA			LR	LR	
	comp=Z,9μm,17.3s				
HIA	**Hailar**	**19.65 315**	P	**P**	**15 01 02.3 -3.3**
HIA	**Hailar**	**19.65 315**	P	**P**	**15 01 03.8 -1.9**
HIA	**Hailar**	**19.65 315**	P	**P**	**15 01 02.3 -3.3**
HIA			pmax	pmax	
	comp=Z,114nm,0.9s				
BJI	**Beijing**	**19.67 286**	P	**P**	**15 01 03.6 -2.3**
BJI			S	**S**	**15 04 40.4 -4.4**
BJI			pmax	pmax	
	comp=Z,470nm,3.6s				
BJI			LR	LR	
	comp=Z,1μm,15.3s				
BJI			LR	LR	
	comp=Z,2μm,14.5s				
BJI			LR	LR	
	comp=Z,2μm,14.7s				
BJT	**Baijiatuau**	**19.67 286**	P	**P**	**15 01 03.9 -2.0**
BJT	**Baijiatuau**	**19.67 286**	P	**Pn**	**15 01 09.5 +1.8**
BJT	**Baijiatuau**	**19.67 286**	P	**P**	**15 01 03.9 -2.0**
BJT			pmax	pmax	
	comp=Z,213nm,0.9s				
PEA0B	**Petropavlovsk-**	**19.75 31**	P	**P**	**15 01 06.8 +0.2**
PEA0B	**Petropavlovsk-**	**19.75 31**	P	**P**	**15 01 06.8 +0.2**
PEA0B			pmax	pmax	
	comp=Z,178nm,1.1s				
PETK	**Petropavlovsk-**	**19.75 31**	P	**P**	**15 01 07.2 +0.6**
PETK	**Petropavlovsk-**	**19.75 31**	P	**P**	**15 01 07.4 +0.8**
	comp=Z,115nm,1.1s,baz=202,slow=7.5,SNR=26				
PETK			PcP	**PcP**	**15 05 23.6 +0.6**
	comp=Z,32nm,1.0s,baz=239,slow=2.5,SNR=6.3				
PETK			LR	LR	15 09 01.1
	comp=Z,1μm,21.8s,baz=221,slow=37				
YOJ	**Yonaguni jima**	**19.96 236**	P	**P**	**15 01 05.0 -4.1**
YOJ	**Yonaguni jima**	**19.96 236**	P	**P**	**15 01 07.5 -1.6**
	comp=Z,92nm,0.9s				
YOJ	**Yonaguni jima**	**19.96 236**	P	**P**	**15 01 05.0 -4.1**
YOJ			pmax	pmax	
	comp=Z,478nm,1.9s				
PET	**Petropavlovsk**	**20.08 32**	P	**P**	**15 01 09.6 -0.6**
PET	**Petropavlovsk**	**20.08 32**	P	Pn	15 01 12.5 +0.1
	comp=Z,666nm,1.2s				
PET	**Petropavlovsk**	**20.08 32**	*ce*P	Pn	15 01 11.7 -0.7
PET			pmax	pmax	
	comp=Z,243nm,1.3s				
PET			MLR	MLR	
	comp=Z,5μm,23.0s				
XLT	**XiLinHaoTe**	**20.13 297**	⇑*i*P	**P**	**15 01 09.4 -1.6**
XLT			pP	pP	15 01 19.4 -3.8
XLT			sP	sP	15 01 31.0 +1.0
XLT			S	**S**	**15 04 48.5 -5.6**
XLT			SS	**SnSn**	**15 05 20.0 +6.0**
XLT			PcP	**PcP**	**15 05 22.5 -1.5**
XLT			pmax	pmax	
	comp=Z,1μm,1.1s				
XLT			pmax	pmax	
	comp=Z,2μm,4.3s				
XLT			LR	LR	
	comp=Z,12μm,16.2s				
XLT			LR	LR	
	comp=Z,14μm,15.7s				
TATO	**Taipei**	**20.65 240**	P	**P**	**15 01 14.1 -2.5**
TATO	**Taipei**	**20.65 240**	P	**P**	**15 01 15.8 -0.8**
	comp=Z,182nm,1.2s				
TATO	**Taipei**	**20.65 240**	P	**P**	**15 01 14.5 -2.1**
YHNB	**Yeheng**	**20.93 239**	P	**P**	**15 01 16.1 -3.6**
YHNB	**Yeheng**	**20.93 239**	P	**P**	**15 01 18.5 -1.2**
HNS	**HongShan**	**20.97 279**	⇑P	**P**	**15 01 17.3 -2.7**
HNS			S	**S**	**15 05 01.7 -8.9**
HNS			SS	**SnSn**	**15 05 37.8 +3.3**
HNS			pmax	pmax	
	comp=Z,1μm,1.2s				
HNS			LR	LR	
	comp=Z,2μm,16.3s				
HNS			LR	LR	
	comp=Z,10μm,17.8s				
HNS			LR	LR	
	comp=Z,9μm,14.6s				
NACB	**Ninganchiao**	**21.10 238**	P	**P**	**15 01 17.5 -4.0**
NACB	**Ninganchiao**	**21.10 238**	P	**P**	**15 01 19.4 -2.1**
SSLB	**Suanglung**	**21.80 238**	P	**P**	**15 01 24.4 -4.5**
YULB	**Yu-li**	**21.83 237**	P	**P**	**15 01 23.2 -6.1**
TPUB	**Ta-pu**	**22.34 238**	P	**P**	**15 01 30.1 -4.7**
TPUB	**Ta-pu**	**22.34 238**	P	**P**	**15 01 32.1 -2.7**
TWGBT	**Beinan**	**22.37 236**	P	**P**	**15 01 35.4 +0.3**
TWG	**Pinlang**	**22.38 236**	P	**P**	**15 01 31.4 -3.8**
QZH	**Quanzhou**	**22.71 244**	⇓*i*P	**P**	**15 01 32.8 -5.9**
QZH			S	S	15 05 31.7 -12
QZH			sS	Sn	15 05 53.1 -7.8
QZH			pmax	pmax	
	comp=Z,140nm,0.8s				
QZH			pmax	pmax	
	comp=Z,1μm,4.5s				
QZH			LR	LR	
	comp=Z,4μm,23.1s				
QZH			LR	LR	
	comp=Z,4μm,17.9s				
QZH			LR	LR	
	comp=Z,6μm,25.1s				
TIY	**Taiyuan**	**22.73 280**	*e*P	**P**	**15 01 36.6 -2.3**
TIY			S	**S**	**15 05 36.1 -7.5**
TIY			pmax	pmax	
	comp=Z,130nm,0.9s				
TIY			pmax	pmax	
	comp=Z,710nm,3.7s				
TIY			LR	LR	
	comp=Z,3μm,17.9s				
TIY			LR	LR	
	comp=Z,6μm,19.9s				
TIY			LR	LR	
	comp=Z,8μm,22.7s				
WHN	**Wuhan**	**23.11 261**	⇓*i*P	**P**	**15 01 40.9 -1.8**
WHN			pP	**pP**	**15 01 55.8 +0.5**
WHN			S	**S**	**15 05 45.3 -4.6**
WHN			pmax	pmax	
	comp=Z,1μm,1.1s				
WHN			pmax	pmax	
	comp=Z,4μm,4.6s				
WHN			LR	LR	
	comp=Z,11μm,12.5s				
WHN			LR	LR	
	comp=Z,10μm,12.3s				
WHN			LR	LR	
	comp=Z,31μm,19.8s				
KNMB	**Chin-men Tao**	**23.15 243**	P	**P**	**15 01 40.5 -2.6**
KNMB			IAmb	IAmb	15 01 41.5
	comp=Z,265nm,1.0s				
HHC	**Hu-ho-hao-te**	**23.19 288**	*e*P	**P**	**15 01 40.1 -3.5**
HHC			sP	pP	15 01 59.4 +3.2
HHC			PP	**PnPn**	**15 02 11.5 +0.6**
HHC			S	**S**	**15 05 48.7 -2.6**
HHC			SS	**SnSn**	**15 06 30.4 +1.4**
HHC			pmax	pmax	
	comp=Z,180nm,1.5s				
HHC			pmax	pmax	
	comp=Z,1μm,6.3s				
HHC			LR	LR	
	comp=Z,5μm,14.1s				
HHC			LR	LR	
	comp=Z,4μm,16.2s				
HHC			LR	LR	
	comp=Z,6μm,16.5s				
LYN	**LuoYang**	**23.30 272**	⇑P	**P**	**15 01 40.7 -3.9**
LYN			sP	sP	15 02 02.5 -1.5
LYN			PP	**PnPn**	**15 02 14.3 +1.9**
LYN			S	**S**	**15 05 45.1 -7.9**
LYN			sS	Sn	15 06 07.8 -7.1
LYN			SS	**SnSn**	**15 06 35.2 +3.6**
LYN			pmax	pmax	
	comp=Z,200nm,1.1s				
LYN			pmax	pmax	
	comp=Z,2μm,5.8s				
LYN			LR	LR	
	comp=Z,4μm,15.8s				
LYN			LR	LR	
	comp=Z,9μm,19.2s				
LYN			LR	LR	
	comp=Z,13μm,19.6s				
MA2	**Magadan**	**23.32 12**	P	**P**	**15 01 44.6 +0.1**
MA2	**Magadan**	**23.32 12**	P	**P**	**15 01 45.3 +0.8**
MA2	**Magadan**	**23.32 12**	*ce*P	**P**	**15 01 44.7 +0.2**
MA2			pmax	pmax	
	comp=Z,1μm,1.3s				
MA2			MLR	MLR	
	comp=Z,2μm,16.0s				
MA2	**Magadan**	**23.32 12**	LR	LR	15 10 42.9
	comp=Z,2μm,21.6s,baz=186,slow=36				
GUMO	**Guam**	**23.68 171**	P	**P**	**15 01 46.3 -1.9**
GUMO			IAmb	IAmb	15 02 10.2
	comp=Z,951nm,1.4s				
GUMO	**Guam**	**23.68 171**	P	**P**	**15 01 48.2 0.0**
GUMO	**Guam**	**23.68 171**	P	**P**	**15 01 48.0 -0.2**
GUMO	**Guam**	**23.68 171**	P	**P**	**15 01 48.0 -0.2**
	comp=Z,115nm,0.8s,baz=350,slow=6.1,SNR=5.1				
GUMO			LR	LR	15 09 37.7
	comp=Z,2μm,21.9s,baz=20,slow=33				
	comp=Z,115nm,0.8s				
BTO	**Baotou**	**24.37 288**	*e*P	**P**	**15 01 54.9 +0.4**
BTO			pP	**pP**	**15 02 08.0 -0.2**
BTO			sP	**sP**	**15 02 16.3 +1.7**
BTO			PP	**PnPn**	**15 02 32.9 +5.9**
BTO			S	**S**	**15 06 12.0 +1.7**
BTO			sS	**sS**	**15 06 32.1 -0.9**
BTO			pmax	pmax	
	comp=Z,510nm,1.4s				
BTO			pmax	pmax	
	comp=Z,2μm,3.7s				
BTO			LR	LR	
	comp=Z,7μm,15.9s				
BTO			LR	LR	
	comp=Z,6μm,16.8s				
BTO			LR	LR	
	comp=Z,7μm,14.4s				
CIT	**Chita**	**24.43 316**	*e*P	**P**	**15 01 52.5 -2.4**
CIT			*e*		15 02 04.6
CIT			*e*		15 02 39.4
CIT			pmax	pmax	
	comp=Z,1μm,1.5s				
CNSH	**ChangSha**	**25.25 258**	⇑P	**P**	**15 02 02.0 -0.4**
CNSH			S	**S**	**15 06 20.7 -3.6**
CNSH			pmax	pmax	
	comp=Z,250nm,0.9s				
CNSH			LR	LR	
	comp=Z,4μm,19.3s				
CNSH			LR	LR	
	comp=Z,4μm,22.4s				
CNSH			LR	LR	
	comp=Z,6μm,21.7s				
YAK	**Yakutsk**	**25.93 348**	P	**P**	**15 02 06.5 -1.7**
YAK			IAMs_20	IAMs_20	15 12 26.2
	comp=Z,6μm,19.0s				
YAK	**Yakutsk**	**25.93 348**	*c i*P	**P**	**15 02 08.5 +0.3**
YAK			*e**PP	**sP**	**15 02 26.0 -2.2**
YAK			*e*		15 02 48.8
YAK			*e*		15 05 32.6
YAK			*e*S	**S**	**15 06 33.1 -1.3**
YAK			*e*SS	**SnSn**	**15 07 36.5 +1.2**
YAK			pmax	pmax	
	comp=Z,447nm,0.9s				
YAK			pmax	pmax	
	comp=N,297nm,1.3s				
YAK			pmax	pmax	
	comp=E,64nm,1.1s				
YAK			pmax	pmax	
	comp=Z,933nm,3.9s				
YAK			pmax	pmax	
	comp=N,972nm,3.9s				
YAK			pmax	pmax	
	comp=E,372nm,2.0s				
YAK			smax	smax	
	comp=E,1μm,3.2s				
YAK			smax	smax	
	comp=N,1μm,2.5s				
YAK			MLR	MLR	
	comp=Z,8μm,24.0s				
YAK			MLR	MLR	
	comp=N,5μm,23.0s				
YAK			MLR	MLR	
	comp=E,2μm,29.0s				
XAN	**Xi'an**	**26.27 273**	P	**P**	**15 02 10.2 -1.5**
XAN			pP	pP	15 02 22.2 -3.1
XAN			PP	**PnPn**	**15 02 53.5 +0.6**
XAN			S	**S**	**15 06 35.3 -5.2**
XAN			pmax	pmax	
	comp=E,200nm,0.8s				
XAN			pmax	pmax	
	comp=E,3μm,4.7s				

XAN LR LR
comp=E,6μm,19.1s
XAN LR LR
comp=E,3μm,18.5s
XAN LR LR
comp=E,8μm,21.6s
SEY Seymchan 26.76 11 *ce*P **P 15 02 17.0 +1.3**
SEY pmax pmax
comp=Z,850nm,1.7s
SEY MLR MLR
comp=Z,3μm,16.0s
SEY Seymchan 26.76 11 LR LR 15 14 29.9
comp=Z,2μm,18.7s,baz=206,slow=40
ENH Enshi 27.07 265 P **P 15 02 17.7 -1.3**
ENH IAmb IAmb 15 02 21.6
comp=Z,393nm,0.9s
ENH IAMs_20 IAMs_20 15 13 05.5
comp=Z,7μm,21.0s
ENH Enshi 27.07 265 P **P 15 02 18.6 -0.4**
ULN Ulaanbaatar 27.08 304 P **P 15 02 18.6 -0.5**
ULN IAmb IAmb 15 02 23.9
comp=Z,355nm,0.8s
ULN Ulaanbaatar 27.08 304 IAMs_20 IAMs_20 15 13 31.2
comp=Z,6μm,18.0s
ULN Ulaanbaatar 27.08 304 *ce*P **P 15 02 18.2 -0.8**
ULN pmax pmax
comp=Z,566nm,1.3s
ULN MLR MLR
comp=Z,5μm,16.0s
ULN Ulaanbaatar 27.08 304 P **P 15 02 18.3 -0.8**
ULN S **S 15 06 51.9 -1.4**
BOD Bodaibo 27.31 328 *e*P **P 15 02 19.2 -1.6**
BOD pmax pmax
comp=Z,470nm,0.8s
SONM Songino Array 27.51 304 P **P 15 02 20.8 -2.1**
SONM IAmb IAmb 15 02 24.8
comp=Z,206nm,1.1s
SONM Songino Array 27.51 304 P **P 15 02 22.2 -0.7**
comp=Z,81nm,0.7s,baz=107,slow=9.1,SNR=210
SONM PcP **PcP 15 05 40.5 +0.7**
comp=Z,38nm,0.9s,baz=116,slow=2.8,SNR=7.0
SONM ScP **ScP 15 09 16.2 +0.5**
comp=Z,22nm,1.2s,baz=90,slow=1.4,SNR=9.2
comp=Z,81nm,0.7s
GZH Guangzhou 27.65 247 P **P 15 02 18.8 -5.3**
GZH S **S 15 06 54.7 -7.6**
GZH pmax pmax
comp=Z,130nm,0.9s
GZH LR LR
comp=Z,2μm,11.5s
GZH LR LR
comp=Z,1μm,13.8s
WAKE Wake Island 28.56 121 IAMs_20 IAMs_20 15 11 09.8
comp=Z,7μm,22.0s
GULI GuiLin 28.67 255 ⇑P **P 15 02 36.1 +2.9**
GULI S **S 15 07 19.8 +1.4**
GULI pmax pmax
comp=Z,60nm,1.2s
GULI LR LR
comp=Z,4μm,17.4s
GULI LR LR
comp=Z,4μm,15.2s
GULI LR LR
comp=Z,7μm,18.4s
TGY Tagaytay City 29.12 223 P **P 15 02 37.4 0.0**
comp=Z,176nm,0.4s,baz=288,slow=6.0,SNR=15
TGY LR LR 15 14 36.1
comp=Z,612nm,19.4s,baz=45,slow=37
comp=Z,176nm,0.4s
LZH Lanzhou 29.79 279 ⇑P **P 15 02 43.1 -0.2**
LZH pP pP 15 02 55.1 -1.9
LZH sP sP 15 03 00.6 -2.8
LZH PcP **PcP 15 05 47.4 +1.7**
LZH S **S 15 07 35.6 -0.5**
LZH sS sS 15 07 57.1 -2.0
LZH SS **SnSn 15 09 12.0 +1.9**
LZH ScP **ScP 15 09 24.7 +1.6**
LZH pmax pmax
comp=Z,290nm,1.4s
LZH pmax pmax
comp=Z,1μm,4.1s
LZH LR LR
comp=Z,5μm,15.8s
LZH LR LR
comp=Z,10μm,15.8s
LZH LR LR
comp=Z,14μm,16.8s
IRK Irkutsk 29.84 312 *e*P **P 15 02 41.9 -1.5**
IRK pmax pmax
comp=Z,134nm,1.9s
ZAK Zakamensk 30.00 308 *e*P **P 15 02 44.2 -0.7**
ZAK *e* 15 05 43.3
ZAK pmax pmax
comp=Z,96nm,1.0s
ZAK pmax pmax
comp=Z,53nm,1.3s
GYA Guiyang 30.97 260 ⇓P **P 15 02 53.3 -0.4**
GYA sP sP 15 03 12.5 -1.3
GYA S **S 15 07 48.9 -5.8**
GYA pmax pmax
comp=Z,340nm,1.0s
GYA pmax pmax
comp=Z,1μm,3.5s
GYA LR LR
comp=Z,3μm,23.7s
GYA LR LR
comp=Z,5μm,23.8s
GYA LR LR
comp=Z,11μm,23.7s
CD2 Chengdu 31.41 270 ⇓P **P 15 02 56.8 -0.6**
CD2 pP pP 15 03 09.2 -2.0
CD2 sP sP 15 03 14.6 -3.0
CD2 S **S 15 07 58.6 -2.7**
CD2 sS sS 15 08 23.6 -0.8
CD2 pmax pmax
comp=Z,140nm,0.7s
CD2 pmax pmax
comp=Z,670nm,5.5s
CD2 LR LR
comp=Z,3μm,12.1s
CD2 LR LR
comp=Z,9μm,16.5s
MOY Mondy 31.68 310 *e*P **P 15 02 59.0 -0.7**
MOY pmax pmax
comp=Z,107nm,1.2s
GTA Gaotai 32.28 287 ⇑P **P 15 03 04.3 -0.8**
GTA pP pP 15 03 13.8 -5.2
GTA PcP **PcP 15 05 53.8 +1.5**
GTA S **S 15 08 09.0 -6.0**
GTA ScP **ScP 15 09 31.8 +0.5**
GTA PcS **PcS 15 09 37.8 +0.5**
GTA ScS **ScS 15 13 29.9 -0.7**
GTA pmax pmax
comp=Z,22nm,0.9s
GTA pmax pmax
comp=Z,840nm,8.4s
GTA LR LR
comp=Z,3μm,17.1s
GTA LR LR
comp=Z,3μm,22.9s
GTA LR LR
comp=Z,5μm,23.3s
QIZ Qiongzhong 32.72 245 ⇑*i*P **P 15 03 06.5 -2.5**
QIZ PP **PnPn 15 04 19.8 +1.1**
QIZ S **S 15 08 20.4 -1.5**
QIZ pmax pmax
comp=Z,84nm,1.1s
QIZ pmax pmax
comp=Z,1μm,3.3s
QIZ LR LR
comp=Z,2μm,15.1s
QIZ LR LR
comp=Z,2μm,14.3s
QIZ LR LR
comp=Z,2μm,22.7s
QIZ Qiongzhong 32.72 245 P **P 15 03 09.2 +0.2**
QIZ IAmb IAmb 15 03 11.3
comp=Z,117nm,1.2s
QIZ Qiongzhong 32.72 245 P **P 15 03 10.1 +1.1**
QIZ Qiongzhong 32.72 245 P **P 15 03 09.9 +0.9**
DAV Davao City (W) 33.08 209 P **P 15 03 11.7 -0.4**
comp=Z,170nm,0.4s,baz=91,slow=4.4,SNR=9.0
DAV LR LR 15 15 50.2
comp=Z,2μm,21.1s,baz=48,slow=35
comp=Z,170nm,0.4s
PATS Pohnpei 33.99 148 P **P 15 03 19.5 -0.6**
PATS IAmb IAmb 15 03 35.4
comp=Z,193nm,1.0s
ATKA Atka Island 34.60 50 IAMs_20 IAMs_20 15 14 38.5
comp=Z,4μm,22.0s
ATKA Atka Island 34.60 50 P **P 15 03 26.6 +1.6**
KMI Kunming 34.71 261 ⇑P **P 15 03 25.7 -0.8**
KMI pP pP 15 03 39.3 -1.0
KMI sP sP 15 03 45.7 -1.0
KMI PP **PP 15 04 45.9 0.0**
KMI PcP **PcP 15 06 00.0 +0.5**
KMI S **S 15 08 49.0 -4.0**
KMI ScP **ScP 15 09 41.7 +1.5**
KMI PcS **PcS 15 09 46.7 +0.3**
KMI pmax pmax
comp=Z,360nm,1.2s
KMI pmax pmax
comp=Z,1μm,3.3s
KMI LR LR
comp=Z,4μm,23.3s
KMI LR LR
comp=Z,6μm,21.7s
KMI LR LR
comp=Z,8μm,23.8s
KMI Kunming 34.71 261 P **P 15 03 26.1 -0.4**
PZH PanZhiHua 34.84 264 ⇑P **P 15 03 26.8 -0.7**
PZH pP **pP 15 03 43.9 +2.5**
PZH S **S 15 08 51.9 -3.0**
PZH pmax pmax
comp=Z,120nm,1.2s
PZH pmax pmax
comp=Z,1μm,5.2s
PZH LR LR
comp=Z,3μm,18.4s
PZH LR LR
comp=Z,4μm,20.0s
PZH LR LR
comp=Z,6μm,18.8s
TIXI Tiksi 35.17 353 P **P 15 03 29.3 -0.3**
TIXI IAmb IAmb 15 03 30.8
comp=Z,215nm,1.1s
TIXI Tiksi 35.17 353 *ce*P **P 15 03 29.0 -0.6**
TIXI pmax pmax
comp=Z,205nm,1.0s
TIXI MLR MLR
comp=Z,2μm,18.0s
TIXI Tiksi 35.17 353 P **P 15 03 29.6 -0.1**
MIDW Midway 35.85 92 IAMs_20 IAMs_20 15 16 15.2
comp=Z,4μm,20.0s
GOMU GeErMu 36.84 283 P **P 15 03 44.3 -0.5**
GOMU S **S 15 09 19.3 -6.4**
MYLDM Lahad Datu 37.91 218 P **P 15 03 51.9 -1.7**
MYLDM IAMs_20 IAMs_20 15 18 52.2
comp=Z,3μm,20.0s
TNCH TengChong 38.10 264 ⇑P **P 15 03 55.7 +0.3**
TNCH pP pP 15 04 08.4 -1.0
TNCH sP sP 15 04 14.1 -1.6
TNCH PP **PnPn 15 05 26.2 +1.1**
TNCH PcP **PcP 15 06 10.7 +1.1**
TNCH S **S 15 09 45.0 +0.3**
TNCH ScP **ScP 15 09 53.2 +0.5**
TNCH sS sS 15 10 06.4 -1.7
TNCH SS **SnSn 15 12 24.1 -7.7**
TNCH pmax pmax
comp=Z,470nm,1.1s
TNCH pmax pmax
comp=Z,2μm,4.0s
TNCH LR LR
comp=Z,1μm,13.1s
TNCH LR LR
comp=Z,790nm,13.9s
TNCH LR LR
comp=Z,4μm,28.0s
KKM Kota Kinabalu 38.36 222 P **P 15 03 57.6 0.0**
KKM IAmb IAmb 15 03 59.9
comp=Z,463nm,1.6s
KKM Kota Kinabalu 38.36 222 P **P 15 03 58.9 +1.4**
DLV T Lat 38.50 238 P **P 15 04 00.1 +1.3**
SWI Sorong 38.88 196 P **P 15 04 01.2 -0.4**
comp=Z,82nm,1.3s,comp=Z,1μmcomp=Z,2μm
SIJI Sorong 38.88 196 LR LR 15 19 37.7
comp=Z,1μm,18.4s,baz=5.5,slow=35
RKPI Ransiki, Papua 38.97 191 P **P 15 04 01.0 -1.4**
comp=Z,86nm,0.7s,comp=Z,2μm
SMPI Sarmi 38.98 184 P **P 15 04 03.3 +0.8**
comp=Z,135nm,2.1s,comp=Z,2μm
CRAI Chiangrai 39.14 256 P **P 15 04 03.1 -0.8**
CRAI IAmb IAmb 15 04 06.0
comp=Z,389nm,1.4s
JAY Jayapura 39.44 181 P **P 15 04 05.1 -1.3**
comp=Z,68nm,1.0s,comp=Z,1μm
JAY Jayapura 39.44 181 P **P 15 04 07.1 +0.7**
comp=Z,15nm,0.8s,baz=330,slow=7.6,SNR=7.2
JAY LR LR 15 17 52.3
comp=Z,1μm,20.7s,baz=4.5,slow=32
comp=Z,15nm,0.8s
LBMI Labuha 39.62 202 P P 15 03 54.8 -13
GTOI Gorontalo 39.96 209 P **P 15 04 09.6 -1.1**
comp=Z,159nm,1.6s,comp=Z,2μm
DGZ Jazzator, Alta 40.12 306 *i*P **P 15 04 12.8 +0.8**
DGZ pmax pmax
comp=Z,1μm,0.8s
DGZ MLR MLR
comp=Z,5μm,21.0s
TOLI2 Tolitoli 40.44 212 P **P 15 04 11.8 -2.9**
TOLI2 IAmb IAmb 15 04 15.8
comp=Z,181nm,1.2s
TOLI2 Tolitoli 40.44 212 P **P 15 04 14.1 -0.6**
MRSI Marisa 40.53 210 P **P 15 04 14.9 -0.5**
comp=Z,422nm,1.4s,comp=Z,6μmcomp=Z,3μm
WMQ Urumqi 40.56 297 *e*P **P 15 04 17.0 +1.4**
WMQ sP sP 15 04 34.2 -1.8
WMQ PcP **PcP 15 06 14.2 -2.7**
WMQ ScP **ScP 15 10 03.3 +1.6**
WMQ S **S 15 10 21.5 +0.5**
WMQ pmax pmax
comp=Z,880nm,0.9s
WMQ pmax pmax
comp=Z,2μm,3.8s
WMQ LR LR
comp=Z,3μm,20.9s
WMQ LR LR
comp=Z,3μm,15.1s
WMQ LR LR
comp=Z,5μm,26.9s
FAKI Fak Fak 40.67 194 P **P 15 04 14.4 -2.2**
FAKI IAmb IAmb 15 04 33.6
comp=Z,86nm,0.6s
FAKI IAMs_20 IAMs_20 15 17 53.7
comp=Z,3μm,22.0s
FAKI Fak Fak 40.67 194 P **P 15 04 16.6 0.0**
FAKI Fak Fak 40.67 194 P **P 15 04 15.7 -0.9**
comp=Z,124nm,0.7s,comp=Z,2μm
TNA Tin City 40.91 30 P **P 15 04 19.5 +1.5**
baz=252
CHTO Chiang Mai 41.05 255 P **P 15 04 17.9 -1.9**
CHTO Chiang Mai 41.05 255 P **P 15 04 17.9 -1.9**
CHTO pmax pmax
comp=Z,5.0nm,1.1s
CHTO MLR MLR
comp=Z,100nm,20.0s
CM31 Chiang Mai Arr 41.26 255 P **P 15 04 21.8 +0.3**
CM31 Chiang Mai Arr 41.26 255 P **P 15 04 21.5 0.0**
SNR=46
CMAR Chiang Mai Arr 41.26 255 P **P 15 04 21.1 -0.4**
CMAR Chiang Mai Arr 41.26 255 P **P 15 04 21.4 0.0**
comp=Z,25nm,1.0s,baz=44,slow=7.8,SNR=108
CMAR PcP **PcP 15 06 20.7 +1.2**
comp=Z,32nm,1.0s,baz=22,slow=2.5,SNR=12
CMAR ScP **ScP 15 10 05.3 +0.6**
comp=Z,3.8nm,1.1s,baz=20,slow=3.5,SNR=4.8
CMAR PKiKP **PKiKP 15 13 27.1 -0.1**
comp=Z,1.0nm,0.7s,baz=236,slow=1.2,SNR=4.9
CMAR LR LR 15 22 35.1
comp=Z,3μm,20.2s,baz=50,slow=38
comp=Z,25nm,1.0s
K13K Kusilvak Mount 41.39 35 P **P 15 04 23.2 +1.2**
baz=259
SANI Sanana 41.42 203 P **P 15 04 21.7 -1.0**
SANI Sanana 41.42 203 P **P 15 04 21.5 -1.2**
comp=Z,270nm,0.9s,comp=Z,4μmcomp=Z,2μm
MPSI Mapaga 41.51 213 P **P 15 04 23.2 -0.3**
comp=Z,122nm,1.9s,comp=Z,3μmcomp=Z,2μm
MND Mandalay 41.52 262 P **P 15 04 23.6 +0.1**
LUWI Luwuk 41.59 208 P **P 15 04 24.7 +0.5**
LUWI IAmb IAmb 15 05 05.2
comp=Z,159nm,0.9s
LUWI Luwuk 41.59 208 P **P 15 04 22.9 -1.3**
comp=Z,195nm,0.8s,comp=Z,4μm
ZAA0 Zalesovo Array 41.66 312 P **P 15 04 25.0 +0.7**
ZALV Zalesovo Beam 41.66 312 P **P 15 04 24.8 +0.5**
ZALV Zalesovo Beam 41.66 312 P **P 15 04 24.8 +0.5**
ZALV Zalesovo Beam 41.66 312 P **P 15 04 24.1 -0.2**
comp=Z,513nm,0.8s,baz=92,slow=7.4,SNR=877
ZALV PcP **PcP 15 06 20.4 +0.2**
comp=Z,67nm,0.7s,baz=97,slow=2.3,SNR=6.9
ZALV ScP **ScP 15 10 07.2 +1.4**
comp=Z,17nm,0.9s,baz=90,slow=4.4,SNR=5.8
ZALV LR LR 15 22 28.1
comp=Z,5μm,18.3s,baz=83,slow=37
comp=Z,513nm,0.8s
ANM Nome 41.66 32 P **P 15 04 26.2 +2.0**
baz=255
M13K Dall Lake 41.76 38 P **P 15 04 25.2 +0.2**
baz=262
LSA Lhasa 41.93 275 P **P 15 04 28.5 +1.0**
LSA S S 15 10 30.4 -12
LSA pmax pmax
comp=Z,320nm,1.2s
LSA LR LR
comp=Z,1μm,16.0s
LSA LR LR
comp=Z,3μm,16.0s
LSA LR LR
comp=Z,5μm,16.4s
LSA Lhasa 41.93 275 IAMs_20 IAMs_20 15 23 37.7
comp=Z,3μm,18.0s
LSA Lhasa 41.93 275 *i*P **P 15 04 28.3 +0.9**
SNR=61
LSA Lhasa 41.93 275 P **P 15 04 29.1 +1.6**
LSA pP **pP 15 04 41.7 +0.1**
LSA sP **sP 15 04 46.3 -1.6**
ZSN Zaisan 42.01 303 ⇑*i*P **P 15 04 28.1 +0.7**
comp=Z,440nm,0.9s,baz=303
ZSN *e*S **S 15 10 43.9 +1.6**
baz=303
ZSN Zaisan 42.01 303 *c i*P **P 15 04 28.0 +0.7**
ZSN *e*S **S 15 10 43.8 +1.5**
ZSN pmax pmax
comp=Z,440nm,0.9s
J14K Nanvaranak Lak 42.05 34 P **P 15 04 28.2 +0.9**
baz=259
NLAI Namlea 42.21 201 P **P 15 04 28.1 -1.1**
comp=Z,48nm,1.3s,comp=Z,3μm
L14K Kuka Creek 42.22 37 P **P 15 04 29.7 +0.9**
baz=262
F15K North Star Dit 42.25 30 P **P 15 04 30.5 +1.5**
baz=255,SNR=10
G15K Niukluk 42.32 31 P **P 15 04 31.2 +1.6**
baz=256,SNR=5.3
KRVT Keravat (AS076 42.46 164 P **P 15 04 33.8 +2.5**
comp=Z,19nm,0.7s,baz=24,slow=0.7,SNR=5.1
comp=Z,19nm,0.7s
M14K Bethel 42.48 38 P **P 15 04 32.6 +1.7**
baz=263,SNR=8.7
N14K Kuskokwak Cree 42.52 39 P **P 15 04 32.8 +1.6**
baz=264
O14K Tigyukauivet M 42.67 40 P **P 15 04 33.7 +1.2**
baz=265
BNDI Bandanaira 42.72 197 P **P 15 04 35.0 +1.7**
BNDI Bandanaira 42.72 197 P **P 15 04 32.8 -0.5**
comp=Z,537nm,1.0s,comp=Z,8μm
C16K Lisburne Hills 42.74 26 P **P 15 04 34.1 +1.2**
baz=251,SNR=14
K15K Wolf Creek Mou 42.90 35 P **P 15 04 35.7 +1.4**
baz=262
H16K Elim 42.99 32 P **P 15 04 36.1 +1.1**
baz=258,SNR=6.4
NRIK Noril'sk 43.08 335 P **P 15 04 35.5 -0.1**
NRIK IAmb IAmb 15 04 37.0
comp=Z,519nm,1.5s
NRIK Noril'sk 43.08 335 *ce*P **P 15 04 35.4 -0.2**
NRIK pmax pmax
comp=Z,404nm,1.5s
NRIK MLR MLR
comp=Z,4μm,18.0s
NRIK Noril'sk 43.08 335 P **P 15 04 35.5 -0.2**
comp=Z,178nm,1.1s,baz=109,slow=9.3,SNR=125
NRIK PcP **PcP 15 06 25.6 +0.9**
comp=Z,90nm,0.9s,baz=114,slow=5.3,SNR=5.1
NRIK LR LR 15 24 05.9
comp=Z,4μm,18.6s,baz=112,slow=38
comp=Z,178nm,1.1s
M15K Kasigluk River 43.10 38 P **P 15 04 37.1 +1.2**
baz=264,SNR=6.8
G16K Koyuk River 43.10 31 P **P 15 04 37.2 +1.3**
baz=257
SHL Shillong 43.14 269 P **P 15 04 36.3 -0.6**
SHL Shillong 43.14 269 P **P 15 04 36.3 -0.6**
SHL pmax pmax
comp=Z,90nm,0.8s
SHL MLR MLR
comp=Z,4μm,18.0s
SHL Shillong 43.14 269 P **P 15 04 36.3 -0.6**
SNR=32
N15K Kwethluk River 43.34 39 P **P 15 04 39.4 +1.5**
baz=265
D17K Noatak River 43.39 27 P **P 15 04 40.1 +1.9**
baz=254,SNR=68
O15K Ungalikthiuk R 43.40 40 P **P 15 04 40.0 +1.6**
baz=266
CNBA Chernabura Isl 43.45 46 IAMs_20 IAMs_20 15 20 30.5
comp=Z,2μm,21.0s
J16K Anvik River 43.47 34 P **P 15 04 40.7 +1.8**
baz=261
I17K Unalakleet 43.52 33 P **P 15 04 41.3 +2.0**
baz=261,SNR=7.0
SBUM Sibu 43.54 224 P **P 15 04 40.2 +0.3**
C17K DeLong Mountai 43.57 26 P **P 15 04 41.1 +1.4**
baz=253,SNR=28
E17K Hotham Inlet 43.70 28 P **P 15 04 42.3 +1.6**
baz=256,SNR=38
F17K Baldwin Pennin 43.77 29 P **P 15 04 43.0 +1.8**
baz=258
L16K Owhat River 43.79 36 P **P 15 04 43.0 +1.6**
baz=264,SNR=9.6
G17K Kiwalik Mounta 43.82 31 P **P 15 04 43.4 +1.7**
baz=259,SNR=23
MK31 Makanchi Array 43.84 302 P **P 15 04 42.1 -0.1**
MK31 IAmb IAmb 15 04 43.9
comp=Z,288nm,0.9s
MK31 Makanchi Array 43.84 302 *i*P **P 15 04 42.4 +0.2**
MKAR Makanchi Array 43.84 302 *i*P **P 15 04 42.2 0.0**
MKAR pmax pmax
comp=Z,180nm,0.8s
MKAR Makanchi Array 43.84 302 P **P 15 04 42.3 +0.1**
comp=Z,179nm,0.8s,baz=88,slow=8.7,SNR=880
MKAR PcP **PcP 15 06 28.1 +0.4**
comp=Z,66nm,0.9s,baz=81,slow=4.8,SNR=5.9
MKAR ScP **ScP 15 10 16.0 +1.2**
comp=Z,6.5nm,0.9s,baz=110,slow=5.3,SNR=4.1
MKAR LR LR 15 23 45.3
comp=Z,2μm,18.1s,baz=88,slow=37
comp=Z,179nm,0.8s
M16K Timber Creek 43.97 37 P **P 15 04 44.5 +1.6**
baz=265
N16K Nishlik Lake 44.02 38 P **P 15 04 45.0 +1.6**
baz=266,SNR=14
H17K Granite Mounta 44.03 32 P **P 15 04 45.2 +1.9**
baz=260,SNR=11
MAKZ Makanchi 44.05 302 P **P 15 04 42.4 -1.5**
MAKZ IAmb IAmb 15 04 45.7
comp=Z,365nm,1.0s
MAKZ IAMs_20 IAMs_20 15 23 20.2
comp=Z,3μm,22.0s
MAKZ Makanchi 44.05 302 P **P 15 04 44.1 +0.2**
MAKZ Makanchi 44.05 302 P **P 15 04 44.4 +0.6**
J17K VABM Dome 44.16 34 P **P 15 04 46.3 +1.8**
baz=263,SNR=16
E18K Tukpahlearik C 44.24 28 P **P 15 04 46.6 +1.6**
baz=257,SNR=32
B18K Kokolik River 44.30 25 P **P 15 04 47.4 +1.9**
baz=254,SNR=22
O16K Kokwok River B 44.31 39 P **P 15 04 46.7 +1.0**
baz=268,SNR=6.4
C18K Utukok River 44.32 26 P **P 15 04 46.8 +1.1**
baz=255,SNR=50
P16K Nushagak River 44.34 40 P **P 15 04 48.1 +2.2**
baz=268
L17K Donlin 44.38 36 P **P 15 04 47.9 +1.7**
baz=265,SNR=14
F18K Selawik 44.44 29 P **P 15 04 48.4 +1.9**
baz=259
K17K Iditarod 44.44 35 P **P 15 04 48.3 +1.7**

baz=264,SNR=14
TTSI Tana Toraja 44.59 211 P **P** **15 04 47.1 -1.3**
comp=Z,52nm,1.6s,comp=Z,1μm
G18K Tagagawik 44.71 30 P **P** **15 04 50.1 +1.3**
baz=261,SNR=36
H18K Honhosa River 44.71 32 P **P** **15 04 50.3 +1.5**
baz=262,SNR=21
BRDH Bariadhala 44.73 266 LR LR 15 26 23.6
comp=Z,4μm,18.6s,baz=58,slow=40
M17K Holitna River 44.73 37 P **P** **15 04 51.0 +2.0**
baz=266,SNR=9.1
A19K Wainwright 44.77 24 P **P** **15 04 51.3 +2.1**
baz=254,SNR=7.5
N17K Nushagak Hills 44.81 38 P **P** **15 04 51.1 +1.5**
baz=267,SNR=8.6
O17K Koliganek Bris 44.82 39 P **P** **15 04 51.3 +1.5**
baz=268
C19K Lookout Ridge 44.99 26 P **P** **15 04 52.9 +1.8**
baz=256,SNR=56
Q16K King Salmon 45.03 41 P **P** **15 04 52.6 +1.2**
baz=270
L18K Granite Mounta 45.14 36 P **P** **15 04 54.4 +2.1**
baz=266,SNR=17
P17K Kvichak River 45.15 40 P **P** **15 04 53.8 +1.4**
baz=269
F19K Shaleruckik Mo 45.21 29 P **P** **15 04 54.1 +1.4**
baz=260,SNR=23
J18K Innoko River 45.23 34 P **P** **15 04 54.6 +1.7**
baz=265,SNR=14
GCSA Galena City Sc 45.28 32 P **P** **15 04 54.1 +0.8**
baz=264,SNR=8.7
G19K Purcell Mounta 45.38 30 P **P** **15 04 55.2 +1.1**
baz=262,SNR=24
D19K Kuna River 45.38 27 P **P** **15 04 55.6 +1.5**
baz=259,SNR=64
Q17K Contact Creek 45.44 41 P **P** **15 04 56.4 +1.6**
baz=271
N18K Kilae Creek 45.45 38 P **P** **15 04 56.7 +1.9**
baz=268,SNR=15
TTA Tatalina 45.50 35 P **P** **15 04 56.4 +1.2**
baz=266
E19K Redstone River 45.52 28 P **P** **15 04 56.9 +1.7**
baz=260,SNR=45
H19K Roundabout Mou 45.56 31 P **P** **15 04 56.9 +1.4**
baz=263,SNR=62
KURK Kurchatov 45.67 308 P **P** **15 04 55.8 -0.8**
KURK Kurchatov 45.67 308 *ce*P **P** **15 04 56.4 -0.2**
KURK pmax pmax
comp=Z,1μm,1.7s
KURK MLR MLR
comp=Z,4μm,18.0s
KURK Kurchatov 45.67 308 P **P** **15 04 56.6 0.0**
KURK S **S** **15 11 32.9 -2.5**
KURK S S 15 11 34.0 -1.4
KURK Kurchatov 45.67 308 P **P** **15 04 56.9 +0.3**
KURK pP **pP** **15 05 09.5 -1.4**
KURK sP **sP** **15 05 15.5 -1.7**
TAPN Taplejung 45.67 274 *e*P **P** **15 04 58.0 +0.7**
comp=Z,725nm,1.1s
CHIR Chirikof Islan 45.67 45 IAMs_20 IAMs_20 15 21 32.3
comp=Z,3μm,18.0s
KURBB Kurchatov Arra 45.74 308 P **P** **15 04 56.7 -0.4**
KURBB Kurchatov Arra 45.74 308 P **P** **15 04 57.1 0.0**
comp=Z,325nm,0.8s,baz=86,slow=8.2,SNR=565
KURBB PcP **PcP** **15 06 33.8 -0.3**
comp=Z,23nm,0.9s,baz=80,slow=4.3,SNR=4.9
KURBB LR LR 15 24 59.3
comp=Z,6μm,19.0s,baz=83,slow=37
comp=Z,325nm,0.8s
J19K Poorman 45.76 33 P **P** **15 04 58.6 +1.5**
baz=265,SNR=30
P18K Big Mountain, 45.77 40 P **P** **15 04 58.8 +1.5**
baz=270
O18K Koktuh Hills 45.78 39 P **P** **15 04 56.0 -1.4**
O18K IAmb IAmb 15 05 19.5
comp=Z,289nm,1.6s
O18K Koktuh Hills 45.78 39 P **P** **15 04 59.2 +1.9**
baz=270,SNR=7.6
Q18K Katmai Hardscr 45.89 41 P **P** **15 04 58.8 +0.5**
baz=271
D20K Etivluk River 45.97 27 P **P** **15 05 00.7 +1.9**
baz=260,SNR=45
L19K White Mountain 46.00 36 P **P** **15 05 00.8 +1.7**
baz=268,SNR=15
B20K Meade River 46.02 25 P **P** **15 05 00.3 +1.2**
baz=258,SNR=26
F20K Avaraart Lake 46.04 29 P **P** **15 05 00.2 +0.9**
baz=262,SNR=20
E20K Nigu River 46.04 27 P **P** **15 05 00.8 +1.4**
baz=261,SNR=35
ODAN Odare 46.14 273 *e*P **P** **15 05 01.3 +0.4**
comp=Z,2μm,1.5s
N19K Bonanza Creek 46.14 38 P **P** **15 05 02.1 +1.8**
baz=270
H20K Anotleneega Mo 46.20 31 P **P** **15 05 02.5 +1.9**
baz=265,SNR=32
M19K Big River Lodg 46.21 36 P **P** **15 05 02.3 +1.6**
baz=269
R18K Karluk 46.22 42 P **P** **15 05 01.9 +1.1**
baz=273
O19K Port Alsworth 46.22 39 P **P** **15 05 02.4 +1.6**
baz=270,SNR=8.5
I20K Naaghedeneel 46.31 32 P **P** **15 05 03.8 +2.3**
baz=266,SNR=17
KAPI Kappang 46.40 210 P **P** **15 05 01.5 -1.2**
KAPI Kappang 46.40 210 P **P** **15 05 03.1 +0.4**
KAPI Kappang 46.40 210 *i*P **P** **15 05 03.2 +0.5**
KAPI pmax pmax
comp=Z,462nm,1.5s
KAPI MLR MLR
comp=Z,607nm,21.0s
KAPI Kappang 46.40 210 P **P** **15 05 03.3 +0.5**
KAPI S **S** **15 11 46.1 -0.5**
KAPI Kappang 46.40 210 LR LR 15 24 00.0
comp=Z,592nm,20.6s,baz=5.5,slow=35
KAPI Kappang 46.40 210 P **P** **15 05 03.2 +0.5**
KAPI PcP **PcP** **15 06 38.0 +1.1**
K20K Telida 46.41 34 P **P** **15 05 01.1 -1.2**
K20K Telida 46.41 34 P **P** **15 05 04.1 +1.9**
baz=267,SNR=20
J20K Nowinta River 46.41 33 P **P** **15 05 04.0 +1.7**
baz=267,SNR=35
SII Sitkinak Islan 46.43 44 IAMs_20 IAMs_20 15 22 16.2
comp=Z,3μm,21.0s
A21K Barrow 46.48 23 P **P** **15 05 03.7 +1.1**
baz=257
PDGK Podgornoye 46.50 298 P **P** **15 05 02.8 -0.6**
BKSI Bulukumba 46.54 209 P **P** **15 05 03.4 -0.3**
comp=Z,210nm,1.0s,comp=Z,2μmcomp=Z,2μm
SHLS Shalkode 46.56 298⇑ *i*P **P** **15 05 01.6 -2.3**
comp=Z,272nm,1.5s,baz=297
SHLS Shalkode 46.56 298 *c i*P **P** **15 05 01.6 -2.3**
SHLS pmax pmax
comp=Z,272nm,1.5s
Q19K Cape Douglas, 46.59 40 P **P** **15 05 04.7 +0.9**
baz=272
PMG Port Moresby 46.63 172 P **P** **15 05 05.8 +1.4**
PMG Port Moresby 46.63 172 P **P** **15 05 05.6 +1.2**
PMG Port Moresby 46.63 172 LR LR 15 24 27.4
comp=Z,325nm,19.7s,baz=344,slow=36
C21K Knifeblade Rid 46.69 26 P **P** **15 05 06.0 +1.6**
baz=261,SNR=23
IMAR Indian Mountai 46.71 31 P **P** **15 05 05.1 +0.5**
RAMN Ramite 46.73 274 *e*P **P** **15 05 06.3 +0.7**
comp=Z,2μm,1.2s
JIRN Jiri 46.74 275 *e*P **P** **15 05 06.6 +0.8**
comp=Z,2μm,1.1s
P19K Oil Pt 46.78 39 P **P** **15 05 07.0 +1.7**
baz=272
M20K Styx River 46.80 36 P **P** **15 05 03.4 -2.1**
M20K IAmb IAmb 15 05 44.5
comp=Z,108nm,1.4s
M20K Styx River 46.80 36 P **P** **15 05 07.6 +2.2**
baz=270,SNR=10
B21K Ikpikpuk River 46.82 26 P **P** **15 05 06.9 +1.5**
baz=261,SNR=37
G21K Allakaket 46.86 30 P **P** **15 05 07.5 +1.8**
baz=265,SNR=40
TDK Taldyqorghan 46.86 300⇑ *i*P **P** **15 05 06.8 +0.7**
comp=Z,502nm,1.7s,baz=300
TDK LR LR 15 24 58.7
comp=Z,5μm,17.4s,baz=300
TDK Taldyqorghan 46.86 300 *c i*P **P** **15 05 06.7 +0.7**
TDK pmax pmax
comp=Z,502nm,1.7s
TDK MLR MLR
comp=Z,5μm,17.0s

UZB Uzynbulak 46.87 298⇑ *e*P **P** **15 05 06.4 0.0**
baz=298
UZB *e*S **S** **15 11 53.7 +0.4**
baz=298
UZB Uzynbulak 46.87 298 *ce*P **P** **15 05 06.3 0.0**
UZB *e*S **S** **15 11 53.6 +0.4**
GUN Gumba 46.88 275 *e*P **P** **15 05 07.6 +0.8**
comp=Z,1μm,0.9s
E21K Killik River 46.88 27 P **P** **15 05 07.6 +1.6**
baz=263,SNR=37
F21K Alatna River 46.93 29 P **P** **15 05 08.0 +1.6**
baz=264,SNR=15
A22K Sinclair Lake 46.94 24 P **P** **15 05 08.0 +1.7**
baz=259
KPKS Kokpek 47.03 298⇑ *i*P **P** **15 05 07.9 +0.3**
baz=298
KPKS Kokpek 47.03 298 *c i*P **P** **15 05 07.8 +0.3**
O20K Slope Mountain 47.08 39 P **P** **15 05 08.7 +1.1**
baz=272
H21K Melozitna Rive 47.08 31 P **P** **15 05 08.7 +1.2**
baz=266,SNR=42
CHUM Lake Minchumin 47.21 34 P **P** **15 05 10.6 +2.1**
baz=269,SNR=27
KDAK Kodiak Island 47.21 42 P **P** **15 05 09.1 +0.5**
KDAK IAmb IAmb 15 05 24.1
comp=Z,197nm,1.1s
KDAK Kodiak Island 47.21 42 IAMs_20 IAMs_20 15 23 53.0
comp=Z,3μm,21.0s
KDAK Kodiak Island 47.21 42 P **P** **15 05 09.1 +0.5**
KDAK pmax pmax
comp=Z,197nm,1.1s
KDAK Kodiak Island 47.21 42 P **P** **15 05 09.4 +0.8**
baz=274
KDAK Kodiak Island 47.21 42 LR LR 15 25 08.4
comp=Z,2μm,21.5s,baz=266,slow=36
KDAK Kodiak Island 47.21 42 P **P** **15 05 09.2 +0.7**
KDAK pP **pP** **15 05 22.7 -0.1**
PPLA Purkeypile 47.25 35 P **P** **15 05 10.9 +1.9**
baz=270,SNR=15
N20K Mount Spurr 47.25 37 P **P** **15 05 10.6 +1.7**
baz=271,SNR=23
SPCR Spurr Chakacha 47.25 37 P **P** **15 05 10.7 +1.8**
baz=271,SNR=18
WUS Wushi 47.25 295 P **P** **15 05 10.9 +1.6**
Q20K Shuyak Island 47.26 41 P **P** **15 05 10.1 +1.2**
baz=273
SYI Shuyak Island 47.26 41 P **P** **15 05 08.1 -0.9**
SYI IAmb IAmb 15 05 25.4
comp=Z,224nm,1.2s
ZHN Zhinishke 47.28 298 *e*P **P** **15 05 09.1 -0.4**
baz=298
ZHN Zhinishke 47.28 298 *e*P **P** **15 05 09.9 +0.4**
CAST Castle Rocks 47.30 34 P **P** **15 05 10.7 +1.5**
baz=269,SNR=21
SATY Saty 47.33 298⇑ *i*P **P** **15 05 10.2 +0.3**
baz=298
SATY *e*S **S** **15 12 00.1 +0.3**
baz=298
SATY Saty 47.33 298 *c i*P **P** **15 05 10.2 +0.3**
SATY *e*S **S** **15 12 00.1 +0.3**
B22K Teshekpuk Lake 47.34 25 P **P** **15 05 10.8 +1.4**
baz=262,SNR=6.7
I21K Tanana 47.40 32 P **P** **15 05 10.9 +1.0**
I21K Tanana 47.40 32 P **P** **15 05 11.7 +1.8**
baz=268
PKI Pulchoki 47.40 275 *e*P **P** **15 05 11.0 +0.1**
comp=Z,753nm,1.1s
D22K Ayikyak River 47.41 27 P **P** **15 05 11.5 +1.5**
baz=264,SNR=36
KKN Kakani 47.41 276 *e*P **P** **15 05 11.3 +0.5**
comp=Z,2μm,1.3s
PKIN Phulchoki 47.41 275 *e*P **P** **15 05 11.0 +0.1**
comp=Z,893nm,1.4s
ARXS Arharly 47.45 299 *e*P **P** **15 05 11.0 +0.3**
F22K John River 47.46 29 P **P** **15 05 12.0 +1.6**
baz=265,SNR=46
PRZ Przheval'sk 47.49 297 IAMs_20 IAMs_20 15 25 42.9
comp=Z,3μm,22.0s
SKT Skwentna 47.56 36 P **P** **15 05 09.8 -1.5**
SKT Skwentna 47.56 36 P **P** **15 05 12.3 +1.0**
baz=271,SNR=8.7
HOM Homer 47.59 39 P **P** **15 05 13.4 +2.0**
baz=273
DMN Daman 47.63 275 *e*P **P** **15 05 12.9 +0.4**
comp=Z,1μm,1.5s
E22K Anaktuvuk Pass 47.65 28 P **P** **15 05 13.9 +2.0**
baz=265,SNR=62
H22K Ishtalitna Cre 47.68 31 P **P** **15 05 13.7 +1.6**
baz=268
G22K Bettles 47.68 29 P **P** **15 05 13.5 +1.5**
baz=266,SNR=79
BPAW Bear Paw Mtn. 47.80 33 P **P** **15 05 11.9 -1.2**
BPAW Bear Paw Mtn. 47.80 33 P **P** **15 05 14.5 +1.4**
baz=270,SNR=24
GKN Gorkha 47.83 276 *e*P **P** **15 05 14.5 +0.5**
comp=Z,2μm,1.2s
MLY Manley 47.92 32 P **P** **15 05 15.7 +1.7**
baz=269,SNR=51
SUA Susitna One 47.95 37 P **P** **15 05 14.8 +0.4**
baz=272,SNR=6.5
BRSE Bradley Lake S 48.04 39 P **P** **15 05 17.3 +2.3**
baz=274
TRF Thorofare Moun 48.11 34 P **P** **15 05 16.7 +1.1**
baz=271,SNR=11
CHKK Chushkaly 48.12 299 *e*P **P** **15 05 16.2 +0.3**
baz=299
CHKK Chushkaly 48.12 299 *e*P **P** **15 05 16.2 +0.3**
D23K Nanushuk River 48.13 27 P **P** **15 05 17.0 +1.4**
baz=265,SNR=18
CUT Chulitna 48.14 36 P **P** **15 05 16.3 +0.6**
baz=272
COLD Coldfoot 48.21 29 P **P** **15 05 17.4 +1.3**
baz=267,SNR=14
C23K Itkillik River 48.23 26 P **P** **15 05 17.8 +1.5**
baz=265,SNR=31
M22K Willow 48.23 36 P **P** **15 05 17.3 +0.9**
baz=272
G23K Bananza Creek 48.26 30 P **P** **15 05 18.3 +1.7**
baz=268,SNR=29
AAA Alma-Ata 48.34 298 *e*P **P** **15 05 18.9 +1.3**
comp=Z,500nm,1.5s,baz=298
AAA Alma-Ata 48.34 298 *e*P **P** **15 05 18.9 +1.3**
AAA pmax pmax
comp=Z,500nm,1.5s
TNSS Tian-Shan 48.37 298⇑ *i*P **P** **15 05 19.2 +1.0**
baz=298
TNSS Tian-Shan 48.37 298⇑ *i*P **P** **15 05 19.2 +1.0**
DANN Dangsing 48.37 277 *e*P **P** **15 05 19.0 +0.7**
comp=Z,3μm,1.2s
H23K Yukon River 48.43 31 P **P** **15 05 20.2 +2.3**
H23K IAmb IAmb 15 05 21.5
comp=Z,181nm,1.2s
H23K Yukon River 48.43 31 P **P** **15 05 20.3 +2.3**
baz=269
RC01 Rabbit Creek A 48.45 37 P **P** **15 05 18.2 +0.1**
baz=273,SNR=11
BWN Browne 48.47 33 P **P** **15 05 20.4 +2.2**
E23K Chandalar 48.47 28 P **P** **15 05 19.3 +1.1**
baz=267,SNR=93
O22K Cooper Landing 48.50 38 P **P** **15 05 19.0 +0.5**
baz=274
I23K Minto, Yukon-K 48.50 32 P **P** **15 05 20.3 +1.9**
baz=270,SNR=36
TOLK Toolik Lake Re 48.52 27 P **P** **15 05 20.3 +1.8**
TOLK IAmb IAmb 15 05 21.6
comp=Z,109nm,1.1s
TOLK Toolik Lake Re 48.52 27 P **P** **15 05 20.4 +1.9**
baz=267,SNR=23
KUU Kurty 48.56 299⇑ *i*P **P** **15 05 19.3 0.0**
comp=Z,530nm,1.7s,baz=299
KUU LR LR 15 26 21.9
baz=299
KUU Kurty 48.56 299 *c i*P **P** **15 05 19.2 0.0**
KUU pmax pmax
comp=Z,530nm,1.7s
KULM Kulim 48.63 239 P **P** **15 05 20.3 +0.2**
NEA2 Nenana 48.63 33 P **P** **15 05 20.6 +1.2**
NEA2 IAmb IAmb 15 05 22.5
comp=Z,206nm,1.3s
NEA2 Nenana 48.63 33 P **P** **15 05 21.0 +1.5**
baz=271,SNR=64
SEW Seward 48.66 39 P **P** **15 05 21.4 +1.7**
baz=274,SNR=6.2
MCK McKinley 48.71 34 P **P** **15 05 21.0 +0.9**
baz=272,SNR=18
PMR Palmer 48.72 37 P **P** **15 05 20.4 +0.3**
baz=273

KOLN Koldanda 48.75 276 *e*P **P** **15 05 21.7 +0.5**
comp=Z,3μm,1.6s
RND Reindeer 48.76 34 P **P** **15 05 20.9 +0.4**
RND IAmb IAmb 15 05 41.4
comp=Z,90nm,1.2s
RND Reindeer 48.76 34 P **P** **15 05 20.9 +0.4**
RND pmax pmax
comp=Z,90nm,1.2s
RND MLR MLR
comp=Z,900nm,20.0s
GHO Glory Hole Cre 48.80 36 P **P** **15 05 22.1 +1.2**
GHO IAmb IAmb 15 05 42.0
comp=Z,186nm,1.2s
D24K Happy Valley 48.81 27 P **P** **15 05 22.6 +1.8**
baz=267
MMRI Maumere 48.83 205 P **P** **15 05 20.8 -0.7**
comp=Z,230nm,1.2s,comp=Z,4μmcomp=Z,3μm
C24K Franklin Bluff 48.89 26 P **P** **15 05 23.0 +1.7**
baz=267
E24K Your Creek 48.89 28 P **P** **15 05 23.0 +1.6**
baz=268,SNR=61
WAT1 Susitna Watana 48.92 35 P **P** **15 05 22.0 +0.3**
baz=273
KNK Knik Glacier 49.05 37 P **P** **15 05 23.6 +0.8**
baz=274,SNR=8.2
SML Sawmill 49.08 36 P **P** **15 05 23.8 +0.8**
baz=274,SNR=16
ULHL Ulahol 49.09 297 P **P** **15 05 24.8 +1.3**
SNR=12
PYUN Piuthan 49.09 277 *e*P **P** **15 05 24.3 +0.5**
comp=Z,3μm,1.2s
F24K Squaw Lake 49.11 29 P **P** **15 05 24.6 +1.4**
baz=269,SNR=12
H24K Noodor Dome 49.12 31 P **P** **15 05 25.1 +1.9**
baz=271,SNR=41
COLA College 49.15 32 P **P** **15 05 24.9 +1.6**
baz=272
COLA College 49.15 32 P **P** **15 05 24.9 +1.6**
PWL Port Wells 49.15 38 IAMs_20 IAMs_20 15 28 00.1
comp=Z,2μm,20.0s
PWL Port Wells 49.15 38 P **P** **15 05 24.0 +0.5**
baz=275,SNR=13
CCB Clear Creek Bu 49.17 33 P **P** **15 05 24.2 +0.6**
SOEI Soe 49.23 202 P **P** **15 05 23.9 -0.8**
SOEI Soe 49.23 202 P **P** **15 05 25.2 +0.5**
SOEI Soe 49.23 202 P **P** **15 05 23.4 -1.3**
comp=Z,377nm,1.2s,comp=Z,4μm
G24K Hadweenzic Riv 49.27 30 P **P** **15 05 26.4 +2.1**
baz=270,SNR=51
WAT6 Susitna Watana 49.31 35 P **P** **15 05 25.2 +0.3**
baz=274,SNR=11
POKR Poker Plat Res 49.32 32 P **P** **15 05 26.9 +2.2**
baz=272,SNR=137
TPRI Tanjung Pinang 49.34 232 P **P** **15 05 25.3 -0.2**
comp=Z,96nm,1.1s,comp=Z,3μm
TKM2 Tokmak 2 49.35 298 P **P** **15 05 26.5 +0.9**
SNR=146
TKM2 Tokmak 2 49.35 298 P **P** **15 05 25.9 +0.3**
M23K Glacier View 49.37 36 P **P** **15 05 25.7 +0.5**
baz=274,SNR=8.3
DHY Denali Highway 49.44 35 P **P** **15 05 26.5 +0.6**
baz=274,SNR=16
BRZS Berezniki 49.54 308⇑ *i*P **P** **15 05 26.4 -0.3**
baz=308
BRZS *e*S **S** **15 12 30.9 +0.3**
baz=308
BRZS Berezniki 49.54 308 *c i*P **P** **15 05 26.3 -0.3**
BRZS *e*S **S** **15 12 30.8 +0.3**
HDA Harding Lake 49.55 33 P **P** **15 05 26.8 +0.3**
baz=273,SNR=52
SCM Sheep Creek Mo 49.55 36 P **P** **15 05 25.9 -0.8**
SCM IAmb IAmb 15 05 44.5
comp=Z,88nm,1.0s
SCM Sheep Creek Mo 49.55 36 P **P** **15 05 25.9 -0.8**
SCM pmax pmax
comp=Z,88nm,1.0s
SCM Sheep Creek Mo 49.55 36 P **P** **15 05 27.9 +1.2**
baz=275,SNR=9.8
IL31 49.56 32 P **P** **15 05 25.6 -1.0**
IL31 IAmb IAmb 15 05 44.0
comp=Z,91nm,0.9s
ILAR Eielson Array 49.56 32 P **P** **15 05 26.8 +0.2**
ILAR pP **pP** **15 05 41.8 +1.0**
ILAR Eielson Array 49.56 32 P **P** **15 05 26.9 +0.2**
comp=Z,34nm,0.9s,baz=270,slow=5.8,SNR=275
comp=Z,34nm,0.9s
HNR Honiara 49.58 155 IAMs_20 IAMs_20 15 22 57.5
comp=Z,2μm,21.0s
HNR Honiara 49.58 155 LR LR 15 23 30.0
comp=Z,26μm,21.8s,baz=324,slow=32
D25K Kavik River 49.69 26 P **P** **15 05 28.8 +1.2**
baz=269,SNR=27
P23K Montague Islan 49.69 39 P **P** **15 05 28.9 +1.3**
baz=276
GLI Glacier Island 49.75 38 P **P** **15 05 28.9 +0.8**
baz=276,SNR=9.7
G25K Bearman Lake 49.81 30 P **P** **15 05 30.7 +2.3**
baz=272,SNR=26
BATI Baumata 49.84 203 P **P** **15 05 28.2 -1.0**
comp=Z,366nm,1.0s,comp=Z,3μmcomp=Z,2μm
BATI Baumata 49.84 203 LR LR 15 25 58.0
comp=Z,571nm,21.4s,baz=45,slow=35
BTLS Baital 49.84 301⇑ *i*P **P** **15 05 28.8 -0.2**
baz=301
BTLS Baital 49.84 301 *c i*P **P** **15 05 28.7 -0.2**
SGDS Sogindy 49.88 299 *e*P **P** **15 05 29.7 +0.3**
baz=299
SGDS Sogindy 49.88 299 *e*P **P** **15 05 29.6 +0.3**
KBK Karagaybulak 49.89 298 P **P** **15 05 30.4 +0.8**
SNR=183
CHMS Chumysh 49.92 299 P **P** **15 05 30.1 +0.4**
SNR=36
H25L Birch Creek 49.94 30 P **P** **15 05 31.6 +2.2**
baz=272
F25K Christian Rive 49.97 29 P **P** **15 05 31.7 +2.0**
baz=271,SNR=28
E25K Arctic Village 49.99 28 P **P** **15 05 31.9 +2.1**
baz=271,SNR=32
USP Ospenovka 50.02 299 P **P** **15 05 31.3 +0.8**
SNR=55
M24K Tolsona, Glenn 50.07 36 P **P** **15 05 32.6 +2.0**
baz=276,SNR=9.9
PRP Porcupine Dome 50.10 31 P **P** **15 05 31.0 +0.2**
PRP IAmb IAmb 15 05 49.1
comp=Z,71nm,1.0s
PRP Porcupine Dome 50.10 31 P **P** **15 05 32.5 +1.7**
baz=273,SNR=45
K24K Donnelly Dome 50.11 34 P **P** **15 05 31.4 +0.6**
baz=274,SNR=21
PBA Port Blair 50.12 252 IAMs_20 IAMs_20 15 29 21.3
comp=Z,3μm,19.0s
PBA Port Blair 50.12 252 P **P** **15 05 31.4 0.0**
KSH Kashi 50.12 294 P **P** **15 05 35.9 +4.5**
KSH pP pP 15 05 49.6 +3.8
KSH sP sP 15 05 54.8 +2.7
KSH S S 15 12 49.2 +10
KSH pmax pmax
comp=Z,120nm,1.3s
KSH pmax pmax
comp=Z,1μm,6.5s
KSH LR LR
comp=Z,4μm,16.1s
KSH LR LR
comp=Z,3μm,15.8s
KSH LR LR
comp=Z,6μm,16.8s
OTUK Ortayu 50.16 306 P **P** **15 05 31.1 -0.3**
KDU Kakadu 50.20 191 P **P** **15 05 31.9 0.0**
C26K Camden Bay 50.21 26 P **P** **15 05 33.5 +2.1**
baz=270,SNR=6.2
AAK Ala-Archa 50.21 298 P **P** **15 05 32.4 +0.4**
SNR=72
AAK Ala-Archa 50.21 298 P **P** **15 05 32.5 +0.4**
AAK IAmb IAmb 15 05 34.8
comp=Z,80nm,0.8s
AAK Ala-Archa 50.21 298 *ce*P **P** **15 05 32.3 +0.3**
AAK pmax pmax
comp=Z,257nm,2.1s
AAK MLR MLR
comp=Z,8μm,19.0s
AAK Ala-Archa 50.21 298 *i*P **P** **15 05 32.1 +0.1**
SNR=30
AAK Ala-Archa 50.21 298 P **P** **15 05 32.5 +0.4**
AAK S **S** **15 12 41.0 +0.7**
AAK Ala-Archa 50.21 298 LR LR 15 28 07.1
comp=Z,9μm,19.7s,baz=74,slow=38
AAK Ala-Archa 50.21 298 P **P** **15 05 32.5 +0.4**

AAK PcP **PcP** **15 06 50.2 -0.4**
J25K Salcha River, 50.22 33 P **P** **15 05 31.5 -0.2**
baz=274,SNR=15
KLU Klutina 50.25 37 IAMs_20 IAMs_20 15 28 40.2
comp=Z,2μm,20.0s
KLU Klutina 50.25 37 P **P** **15 05 32.8 +0.9**
baz=276,SNR=11
BVA0 Borovoye Array 50.31 312 *i* P **P** **15 05 32.1 -0.4**
BVAR Borovoye Array 50.31 312 P **P** **15 05 32.5 0.0**
comp=Z,150nm,0.8s,baz=80,slow=8.1,SNR=590
BVAR pP **pP** **15 05 46.7 -0.2**
comp=Z,50nm,0.6s,baz=64,slow=6.8,SNR=5.4
BVAR PcP **PcP** **15 06 51.0 +0.5**
comp=Z,136nm,0.7s,baz=81,slow=4.0,SNR=12
BVAR LR LR 15 28 06.3
comp=Z,5μm,18.5s,baz=77,slow=38
BVAR PKPPKP **P'P'df** **15 36 21.8 -4.4**
comp=Z,0.5nm,0.7s,baz=207,slow=2.9,SNR=3.9
BVAR P4KPbc 15 43 05.2
comp=Z,3.0nm,0.7s,baz=87,slow=4.9,SNR=16
comp=Z,150nm,0.8s
PAX Paxson 50.31 35 P **P** **15 05 33.2 +0.8**
baz=275,SNR=13
UCH Uchtor 50.32 298 P P 15 05 21.1 -12
SNR=5.3
BRVK Borovoye 50.37 312 P **P** **15 05 33.1 +0.3**
BRVK Borovoye 50.37 312 *ceP* **P** **15 05 32.9 0.0**
BRVK pmax pmax
comp=Z,299nm,1.0s
BRVK MLR MLR
comp=Z,4μm,18.0s
BRVK Borovoye 50.37 312 P **P** **15 05 33.3 +0.5**
BRVK S **S** **15 12 40.3 -1.6**
BRVK Borovoye 50.37 312 P **P** **15 05 33.5 +0.6**
BRVK sP **sP** **15 05 52.0 -1.5**
BRVK PcP **PcP** **15 06 51.3 +0.6**
BMAR Burnt Mountain 50.38 29 P **P** **15 05 34.8 +2.0**
DSRI Dabo 50.39 231 P **P** **15 05 32.8 -0.7**
comp=Z,82nm,1.8s,comp=Z,2μmcomp=Z,2μm
EYAK Cordova Ski Ar 50.45 38 P **P** **15 05 34.7 +1.4**
EYAK Cordova Ski Ar 50.45 38 P **P** **15 05 35.2 +1.9**
baz=277
HARP HAARP 50.52 35 P **P** **15 05 34.8 +0.9**
baz=276
RIDG Independent Ri 50.52 34 P **P** **15 05 34.2 +0.2**
RIDG IAmb IAmb 15 06 54.2
comp=Z,125nm,1.1s
RIDG Independent Ri 50.52 34 P **P** **15 05 34.2 +0.2**
baz=275,SNR=11
F26K Sheenjek River 50.54 28 P **P** **15 05 36.1 +2.1**
baz=273,SNR=97
MTN Manton Dam 50.57 193 P **P** **15 05 34.8 +0.1**
MTN IAmb IAmb 15 05 39.7
comp=Z,192nm,1.1s
PLAI Plampang 50.66 210 P **P** **15 05 34.4 -1.0**
PLAI Plampang 50.66 210 P **P** **15 05 32.5 -2.9**
comp=Z,146nm,1.5s,comp=Z,2μm
EKS2 Erkin-Say 50.71 298 P **P** **15 05 36.0 +0.3**
SNR=63
G26K Porcupine Rive 50.72 29 P **P** **15 05 37.8 +2.5**
baz=274,SNR=35
COEN Coen 50.84 177 P **P** **15 05 37.5 +0.8**
COEN IAmb IAmb 15 05 52.6
comp=Z,96nm,0.9s
N25K Chitina, Valde 50.87 36 P **P** **15 05 38.7 +2.1**
N25K Chitina, Valde 50.87 36 P **P** **15 05 38.6 +2.0**
baz=277
SCRK Sand Creek 50.88 33 P **P** **15 05 37.6 +0.9**
SCRK IAmb IAmb 15 05 38.9
comp=Z,194nm,1.3s
SCRK Sand Creek 50.88 33 P **P** **15 05 37.6 +0.9**
baz=276,SNR=67
AML Almayashu 50.93 298 P **P** **15 05 38.5 +0.7**
SNR=209
AML Almayashu 50.93 298 P **P** **15 05 38.1 +0.4**
TWSI Taliwang, Sumb 50.95 211 P **P** **15 05 34.9 -2.7**
comp=Z,164nm,1.0s,comp=Z,2μm
TWSI pP **pP** **15 05 47.8 -4.1**
comp=Z,164nm,1.0s,comp=Z,2μm
BMRM Bremner River 50.95 37 P **P** **15 05 37.5 +0.3**
baz=278
RAGM Ragged Mountai 51.00 38 P **P** **15 05 39.1 +1.6**
RAGM IAmb IAmb 15 05 59.6
comp=Z,147nm,1.2s
J26L Joseph Creek 51.01 33 P **P** **15 05 38.2 +0.6**
J26L Joseph Creek 51.01 33 P **P** **15 05 37.8 +0.1**
baz=276,SNR=17
I26K Coal Creek Min 51.10 32 P **P** **15 05 38.6 +0.4**
I26K Coal Creek Min 51.10 32 P **P** **15 05 38.5 +0.3**
baz=276
KAIM Kayak Island 51.19 39 P **P** **15 05 40.8 +1.8**
baz=279
LHMI Lhok Sumawe 51.26 243 P **P** **15 05 41.8 +1.8**
LHMI Lhok Sumawe 51.26 243 P **P** **15 05 42.6 +2.6**
LHMI Lhok Sumawe 51.26 243 P **P** **15 05 39.4 -0.6**
comp=Z,412nm,1.3s,comp=Z,6μmcomp=Z,4μm
GLB Gilahina Butte 51.27 37 IAMs_20 IAMs_20 15 26 28.0
comp=Z,2μm,22.0s
ABJI Asem Bagus 51.27 215 P **P** **15 05 38.7 -1.3**
comp=Z,238nm,1.3s,comp=Z,4μm
L26K Log Cabin Wild 51.27 34 P **P** **15 05 41.5 +1.9**
L26K IAmb IAmb 15 05 58.2
comp=Z,108nm,0.9s
L26K Log Cabin Wild 51.27 34 P **P** **15 05 41.4 +1.9**
baz=277,SNR=38
GRJI Gresik 51.33 217 P **P** **15 05 38.0 -2.4**
comp=Z,604nm,1.2s,comp=Z,7μmcomp=Z,3μm
VRDI Verde Repeater 51.47 37 P **P** **15 05 42.4 +1.2**
VRDI IAmb IAmb 15 06 03.0
comp=Z,94nm,1.2s
E27K Coleen River 51.47 28 P **P** **15 05 42.8 +1.9**
baz=274,SNR=28
M26K Nabesna, AK 51.52 35 P **P** **15 05 43.4 +2.0**
baz=278,SNR=22
G27K Doyon Strip 51.57 30 P **P** **15 05 43.1 +1.4**
baz=276,SNR=17
PSI Prapat 51.61 239 P **P** **15 05 43.2 +0.4**
D27M Malcolm River 51.62 26 P **P** **15 05 43.4 +1.3**
baz=274,SNR=22
MCARA McCarthy VSAT 51.65 37 IAMs_20 IAMs_20 15 27 11.1
comp=Z,2μm,21.0s
MCARA McCarthy VSAT 51.65 37 P **P** **15 05 43.6 +1.3**
baz=279,SNR=9.6
H27K Steamboat Moun 51.68 30 P **P** **15 05 44.4 +1.8**
baz=276,SNR=42
K27K Chicken 51.71 33 P **P** **15 05 44.1 +1.4**
K27K IAmb IAmb 15 06 01.3
comp=Z,106nm,1.0s
K27K Chicken 51.71 33 P **P** **15 05 44.3 +1.6**
baz=277
I27K Kandik River 51.71 31 P **P** **15 05 44.0 +1.2**
baz=277,SNR=10
CRQE Cirque 51.72 37 P **P** **15 05 44.3 +1.3**
baz=279,SNR=7.1
KCSI Kotacane, Aceh 51.89 240 P **P** **15 05 42.7 -2.0**
comp=Z,73nm,1.4s
JAGI Jajag, Banyuwa 51.90 215 P **P** **15 05 43.3 -1.4**
comp=Z,181nm,1.2s,comp=Z,2μm
L27K Beaver Creek, 51.95 34 P **P** **15 05 46.8 +2.2**
L27K IAmb IAmb 15 05 48.0
comp=Z,114nm,1.1s
L27K Beaver Creek, 51.95 34 P **P** **15 05 45.7 +1.0**
baz=278,SNR=44
BCAR Beaver Creek A 51.97 34 P **P** **15 05 46.8 +2.0**
BKNI Bangkinang 52.02 235 P **P** **15 05 45.0 -0.7**
comp=Z,511nm,1.1s,comp=Z,6μm
M27K Edge Creek, AK 52.04 35 IAMs_20 IAMs_20 15 28 40.3
comp=Z,2μm,22.0s
M27K Edge Creek, AK 52.04 35 P **P** **15 05 46.7 +1.3**
baz=279,SNR=30
GMJI Gumukmas 52.05 216 P **P** **15 05 43.5 -2.3**
comp=Z,141nm,1.0s
F28M Old Crow 52.17 28 P **P** **15 05 48.2 +2.0**
baz=276,SNR=33
E28M Babbage River 52.19 27 P **P** **15 05 48.1 +1.8**
baz=276,SNR=26
NGJI Ngawi 52.22 218 P **P** **15 05 46.5 -0.6**
comp=Z,146nm,1.2s
MLSI Meulaboh, Aceh 52.32 242 P **P** **15 05 44.6 -3.3**
comp=Z,144nm,1.1s
DZA Taraz 52.35 299 *eP* **P** **15 05 48.4 +0.5**
baz=300
DZA Taraz 52.35 299 *eP* **P** **15 05 48.3 +0.4**
MESA MESA 52.37 38 P **P** **15 05 48.5 +0.5**
baz=280
D28M Stokes Point 52.40 26 P **P** **15 05 49.7 +2.0**
baz=276

I28M Miner Creek 52.43 31 P **P** **15 05 49.6 +1.4**
I28M IAmb IAmb 15 05 51.4
comp=Z,313nm,1.6s
I28M Miner Creek 52.43 31 P **P** **15 05 49.8 +1.6**
baz=278,SNR=54
CTG Chitna Glacier 52.52 37 P **P** **15 05 50.6 +1.6**
baz=280
SDSI Sungai Dareh 52.73 233 P **P** **15 05 51.0 +0.1**
comp=Z,280nm,1.2s,comp=Z,4μmcomp=Z,2μm
YUK3 Mose Creek 52.79 36 P **P** **15 05 51.9 +0.8**
baz=280,SNR=12
E29M Blow River 52.82 27 P **P** **15 05 52.9 +2.0**
baz=278,SNR=71
KK31 Karatay Array 52.85 300 P **P** **15 05 51.7 +0.1**
KK31 IAmb IAmb 15 05 54.7
comp=Z,242nm,1.1s
KK31 Karatay Array 52.85 300 *i* P **P** **15 05 51.5 0.0**
KKAR Karatay Array 52.85 300 P **P** **15 05 51.7 +0.1**
KKAR Karatay Array 52.85 300 P **P** **15 05 51.7 +0.1**
DAWY Dawson 52.87 33 P **P** **15 05 52.2 +0.7**
DAWY Dawson 52.87 33 P **P** **15 05 52.5 +1.0**
baz=280,SNR=13
WOJI Wonogiri, Jawa 52.89 219 P **P** **15 05 50.4 -1.6**
comp=Z,128nm,1.2s
H29M Whitestone 52.95 30 P **P** **15 05 53.8 +1.9**
H29M IAmb IAmb 15 05 55.4
comp=Z,142nm,1.3s
H29M Whitestone 52.95 30 P **P** **15 05 53.9 +1.9**
baz=279,SNR=30
G29M Pine Creek 52.98 29 P **P** **15 05 54.4 +2.2**
baz=279,SNR=52
O28M Mount Upton 53.11 37 P **P** **15 05 54.6 +1.0**
baz=282
I29M Ogilvie Camp, 53.11 31 P **P** **15 05 55.1 +2.0**
baz=280,SNR=59
UGM Wanagama 53.16 219 P **P** **15 05 54.1 +0.1**
UGM Wanagama 53.16 219 P **P** **15 05 53.7 -0.3**
UGM Wanagama 53.16 219 P **P** **15 05 53.2 -0.8**
comp=Z,619nm,1.3s
YOGI Yogyakarta 53.19 219 P **P** **15 05 53.6 -0.6**
comp=Z,439nm,1.4s,comp=Z,5μm
YUK8 Steele Glacier 53.21 36 P **P** **15 05 55.3 +1.0**
baz=281
J29N Klondike Camp 53.31 32 P **P** **15 05 56.0 +1.3**
baz=280
PDSI Padang 53.33 234 P **P** **15 05 54.3 -1.1**
comp=Z,40nm,1.0s,comp=Z,1μmcomp=Z,2μm
NDI New Delhi 53.39 281 *eP* **P** **15 05 55.0 -0.7**
NDI *eS* **S** **15 13 29.0 +5.0**
KPJI Karang Pucung 53.48 221 P **P** **15 05 54.5 -1.9**
comp=Z,221nm,1.2s
IUG luzhnay 53.50 299⇑ *iP* **P** **15 05 57.0 +0.5**
comp=Z,213nm,1.3s,baz=299
IUG luzhnay 53.50 299 *c iP* **P** **15 05 57.0 +0.5**
IUG pmax pmax
comp=Z,213nm,1.3s
EPYK Eagle Plains 53.58 30 P **P** **15 05 58.3 +1.7**
baz=280,SNR=75
M29M Somme Creek 53.59 35 P **P** **15 05 59.3 +2.5**
M29M IAmb IAmb 15 06 00.4
comp=Z,78nm,1.1s
M29M IAMs_20 IAMs_20 15 28 34.1
comp=Z,2μm,21.0s
M29M Somme Creek 53.59 35 P **P** **15 05 58.3 +1.5**
baz=282,SNR=22
L29M L29M 53.60 34 P **P** **15 05 59.1 +2.3**
baz=281,SNR=70
GSI Gunungsitoli 53.62 239 P **P** **15 05 58.1 +0.6**
GSI Gunungsitoli 53.62 239 P **P** **15 05 57.8 +0.3**
GSI Gunungsitoli 53.62 239 P **P** **15 05 56.8 -0.7**
comp=Z,348nm,1.2s,comp=Z,11μm
G30M tAoh Zrail Nji 53.67 29 P **P** **15 05 59.0 +1.7**
baz=280,SNR=67
SNSI Sinabang, Aceh 53.69 241 P **P** **15 05 57.9 -0.1**
comp=Z,557nm,1.2s,comp=Z,7μm
KLI Kotabumi 53.71 227 P **P** **15 05 57.2 -0.9**
comp=Z,607nm,0.8s,comp=Z,6μm
F30M Barrier River 53.72 28 P **P** **15 05 59.3 +1.8**
baz=280,SNR=44
K29M Barlow Dome 53.73 33 P **P** **15 05 59.2 +1.4**
baz=281,SNR=48
YUK4 Talbot Arm 53.73 36 P **P** **15 06 00.3 +2.3**
baz=282,SNR=11
CHM Chimkent 53.74 299 LR LR 15 29 38.6
baz=299
LEM Lembang 53.76 223 P **P** **15 05 57.9 -0.7**
comp=Z,442nm,1.2s,comp=Z,5μm
LEM Lembang 53.76 223 LR LR 15 29 45.1
comp=Z,582nm,20.3s,baz=6.0,slow=37
KNRA Kununurra 53.78 195 P **P** **15 05 58.6 +0.1**
KNRA IAmb IAmb 15 06 14.4
comp=Z,196nm,0.9s
KNRA Kununurra 53.78 195 P **P** **15 05 58.9 +0.4**
CBJI Citeko 53.84 224 P **P** **15 05 58.6 -0.4**
comp=Z,117nm,1.5s,comp=Z,4μm
I30M Mount Dempster 53.94 31 IAMs_20 IAMs_20 15 30 47.3
comp=Z,1μm,21.0s
I30M Mount Dempster 53.94 31 P **P** **15 06 00.9 +1.6**
baz=281,SNR=135
YUK6 Outpost Mounta 53.95 37 P **P** **15 06 01.7 +2.1**
baz=283,SNR=7.3
O29M Mount Kennedy 53.99 37 IAMs_20 IAMs_20 15 26 07.0
comp=Z,2μm,22.0s
O29M Mount Kennedy 53.99 37 P **P** **15 06 01.9 +2.1**
baz=283,SNR=14
J30M Hart River 54.09 32 P **P** **15 06 01.8 +1.4**
J30M Hart River 54.09 32 P **P** **15 06 02.0 +1.6**
baz=282,SNR=24
KSI Kapahiang 54.10 230 P **P** **15 05 59.3 -1.7**
comp=Z,166nm,1.0s
BBJI Bungbulang 54.27 222 P **P** **15 06 01.7 -0.5**
LWLI Liwa 54.30 228 P **P** **15 05 58.5 -4.0**
comp=Z,251nm,0.7s,comp=Z,5μm
M30M Minto, Yukon 54.31 34 P **P** **15 06 04.4 +2.4**
baz=283,SNR=16
NIL Nilore 54.33 288 P **P** **15 06 03.3 +0.7**
NIL Nilore 54.33 288 P **P** **15 06 03.3 +0.7**
NIL pmax pmax
comp=Z,368nm,0.8s
HYT Haines Junctio 54.39 37 P **P** **15 06 04.8 +2.1**
baz=284,SNR=22
INK Inuvik 54.43 27 P **P** **15 06 04.0 +1.4**
baz=282,SNR=26
INK Inuvik 54.43 27 LR LR 15 32 12.6
comp=Z,620nm,18.3s,baz=252,slow=39
G31M Satah River 54.43 29 P **P** **15 06 04.1 +1.4**
baz=282,SNR=17
N30M Aishikik Lake 54.44 36 P **P** **15 06 04.2 +1.3**
baz=284,SNR=6.5
KASI Kota Agung 54.45 227 P **P** **15 06 00.4 -3.1**
F31M Tsiigehtchic 54.53 28 P **P** **15 06 04.4 +1.1**
baz=282,SNR=31
SISI Saibi 54.54 235 P **P** **15 06 01.1 -3.1**
comp=Z,158nm,1.1s
P29M Windy Craggy 54.56 38 P **P** **15 06 05.3 +1.5**
baz=284,SNR=6.6
H31M Peel River 54.65 30 P **P** **15 06 05.7 +1.4**
H31M Peel River 54.65 30 P **P** **15 06 05.9 +1.6**
baz=283,SNR=75
CGJI Cibinong 54.65 225 P **P** **15 06 01.6 -3.3**
comp=Z,56nm,0.9s,comp=Z,1μm
P30M Million Dollar 54.82 37 P **P** **15 06 07.1 +1.4**
baz=284
SVE Sverdlovsk 54.90 319 *deP* **P** **15 06 06.9 +0.6**
SVE *eS* **S** **15 13 41.5 -2.1**
SVE *e* 15 17 28.5
SVE pmax pmax
comp=Z,936nm,1.0s
SVE MLR MLR
comp=Z,4μm,17.0s
SVE MLR MLR
comp=E,3μm,17.0s
N31M Braeburn, Yuko 55.04 36 P **P** **15 06 08.9 +1.7**
baz=284,SNR=12
MTSU Mount Surprise 55.04 176 P **P** **15 06 07.8 +0.1**
O30N Mendenhall 55.07 36 IAMs_20 IAMs_20 15 26 35.4
comp=Z,2μm,22.0s
O30N Mendenhall 55.07 36 P **P** **15 06 09.3 +1.7**
baz=285,SNR=6.8
PLBC Pleasant Camp 55.28 38 P **P** **15 06 11.0 +2.0**
baz=285,SNR=9.1
M31M Drury Creek, Y 55.49 34 P **P** **15 06 11.8 +1.3**
baz=285,SNR=18
SIMJ Simiganj 55.49 295 P **P** **15 06 11.5 +0.5**
SIMJ PcP **PcP** **15 07 10.2 -0.3**
WHY Whitehorse 55.68 36 P **P** **15 06 14.1 +2.2**
WHY IAmb IAmb 15 06 30.9
comp=Z,225nm,1.7s
WHY Whitehorse 55.68 36 P **P** **15 06 13.3 +1.3**
baz=286,SNR=10.0
S31K Pelican 55.76 40 P **P** **15 06 13.5 +1.1**
baz=286
SKAG Skagway 55.79 38 P **P** **15 06 15.1 +2.5**
SKAG Skagway 55.79 38 P **P** **15 06 14.7 +2.2**
baz=286,SNR=7.4
R31K City Hall, Gus 55.88 39 P **P** **15 06 14.6 +1.4**
baz=287
ARU Arti 56.12 318 P **P** **15 06 15.1 +0.1**
ARU Arti 56.12 318 P **P** **15 06 15.1 +0.1**
comp=Z,580nm,0.8s,baz=79,slow=3.8,SNR=750
ARU LR LR 15 32 36.7
comp=Z,4μm,18.0s,baz=68,slow=38
comp=Z,580nm,0.8s
ARU Arti 56.12 318 P **P** **15 06 15.1 +0.1**
ARU sP **sP** **15 06 33.9 -2.0**
A36M Sachs Harbour 56.28 22 P **P** **15 06 17.2 +1.3**
baz=286
TV1H Townsville Har 56.34 174 P **P** **15 06 17.6 +0.7**
comp=Z,62nm,0.9s
N32M Quiet Lake 56.38 36 IAMs_20 IAMs_20 15 27 59.1
comp=Z,1μm,22.0s
N32M Quiet Lake 56.38 36 P **P** **15 06 18.1 +1.2**
baz=287
R32K Eaglecrest 56.54 39 P **P** **15 06 19.6 +1.6**
baz=288
P32M Atlin 56.54 37 P **P** **15 06 20.1 +2.0**
baz=287,SNR=8.1
S32K Killisnoo 56.76 40 P **P** **15 06 20.7 +1.2**
baz=288
MMPY Sheldon Lake, 56.77 34 P **P** **15 06 21.5 +1.9**
baz=287
P33M Teslin, Yukon 56.78 37 P **P** **15 06 22.0 +2.2**
P33M IAmb IAmb 15 06 39.0
comp=Z,107nm,1.1s
P33M Teslin, Yukon 56.78 37 P **P** **15 06 21.7 +1.9**
baz=288,SNR=26
WB0 Warramunga Arr 56.93 188 P **P** **15 06 20.6 -0.5**
WB0 IAmb IAmb 15 06 36.1
comp=Z,150nm,0.8s
WRAB Tennant Creek 57.10 188 P **P** **15 06 21.6 -0.8**
WRAB IAmb IAmb 15 06 37.4
comp=Z,141nm,0.8s
WRAB Tennant Creek 57.10 188 P **P** **15 06 21.8 -0.5**
WRAB Tennant Creek 57.10 188 *ceP* **P** **15 06 21.6 -0.8**
WRAB pmax pmax
comp=Z,125nm,1.7s
WRAB Tennant Creek 57.10 188 P **P** **15 06 21.6 -0.8**
WRAB pP **pP** **15 06 34.8 -2.0**
WR0 Warramunga Arr 57.11 187 P **P** **15 06 21.6 -0.8**
WR0 IAmb IAmb 15 06 37.4
comp=Z,144nm,0.8s
CTA Charters Tower 57.11 174 P **P** **15 06 21.9 -0.5**
comp=Z,12nm,1.0s,baz=352,slow=7.3,SNR=8.9
CTA LR LR 15 29 27.4
comp=Z,868nm,21.8s,baz=336,slow=34
comp=Z,12nm,1.0s
CTAO Charters Tower 57.11 174 P **P** **15 06 22.1 -0.3**
CTAO Charters Tower 57.11 174 P **P** **15 06 22.6 +0.2**
CTAO Charters Tower 57.11 174 P **P** **15 06 22.1 -0.3**
CTAO pmax pmax
comp=Z,38nm,0.9s
CTAO Charters Tower 57.11 174 P **P** **15 06 22.3 0.0**
CTAO pP **pP** **15 06 35.5 -1.4**
WB2 Warramunga Arr 57.11 188 P **P** **15 06 21.6 -0.8**
WB2 IAmb IAmb 15 06 37.5
comp=Z,142nm,0.8s
WRA Warramunga Arr 57.11 188 P **P** **15 06 21.0 -1.4**
WRA Warramunga Arr 57.11 188 P **P** **15 06 21.5 -0.9**
comp=Z,26nm,0.6s,baz=4.3,slow=7.0,SNR=254
WRA S **S** **15 14 09.5 -4.1**
comp=Z,1.5nm,1.1s,baz=6.6,slow=13,SNR=6.7
WRA LR LR 15 31 36.5
comp=Z,753nm,18.4s,baz=12,slow=37
WRA PKPPKP **P'P'df** **15 36 11.2 +4.5**
comp=Z,2.3nm,1.0s,baz=180,slow=2.1,SNR=6.5
WRA PKP2bc 15 36 23.9
comp=Z,6.3nm,1.0s,baz=191,slow=1.9,SNR=8.2
comp=Z,26nm,0.6s
KBL Kabul 57.13 291 P **P** **15 06 22.8 0.0**
KBL IAMs_20 IAMs_20 15 32 19.5
comp=Z,2μm,22.0s
KBL Kabul 57.13 291 P **P** **15 06 22.8 0.0**
KBL pmax pmax
comp=Z,500nm,1.2s
KBL MLR MLR
comp=Z,2μm,22.0s
KBL Kabul 57.13 291 P **P** **15 06 22.8 0.0**
SNR=183
KBL S **S** **15 14 12.9 -1.5**
Q32M Nakina River 57.44 38 P **P** **15 06 25.9 +1.3**
baz=289,SNR=5.6
C36M Paulatuk 57.46 25 P **P** **15 06 25.1 +0.8**
baz=289,SNR=9.4
AB31 Akbulak array 57.68 310 *i* P **P** **15 06 25.8 -0.4**
ABKAR Akbulak array 57.68 310 P **P** **15 06 26.0 -0.2**
ABKAR Akbulak array 57.68 310 P **P** **15 06 26.0 -0.2**
ABKAR IAmb IAmb 15 06 27.5
comp=Z,399nm,1.1s
R33M Jennings River 57.93 37 P **P** **15 06 30.2 +2.3**
baz=290,SNR=11
HYB Hyderabad 57.94 268 *eP* **P** **15 06 28.9 +0.4**
HYB IVmB_BB 15 06 29.2
comp=Z,3μm,1.4s
HYB ⇑*ePcP* **PcP** **15 07 20.8 +0.6**
HYB *ePP* **PP** **15 08 37.8 +0.5**
HYB *ePcS* **PcS** **15 11 21.7 -0.2**
HYB *eS* **S** **15 14 27.2 +2.3**
HYB *eScS* **ScS** **15 16 15.1 +1.4**
U33K Whale Pass 57.95 41 P **P** **15 06 30.3 +2.3**
baz=290
CRAG Craig 58.17 42 P **P** **15 06 31.5 +2.0**
baz=290
S34M Telegraph Cree 58.36 39 P **P** **15 06 32.9 +2.1**
baz=290,SNR=13
AKTO Aktyubinsk 58.42 312 P **P** **15 06 30.4 -0.9**
AKTO Aktyubinsk 58.42 312 P **P** **15 06 30.9 -0.4**
comp=Z,212nm,0.8s,baz=78,slow=5.5,SNR=240
AKTO LR LR 15 32 55.2
comp=Z,4μm,19.4s,baz=65,slow=37
comp=Z,212nm,0.8s
TGTN Hyland Airport 58.46 34 P **P** **15 06 33.3 +1.7**
baz=290
DLBC Dease Lake 58.72 38 P **P** **15 06 36.2 +2.8**
baz=291,SNR=19
DLBC Dease Lake 58.72 38 LR LR 15 30 34.6
comp=Z,478nm,21.5s,baz=284,slow=35
T35M Bob Quinn 59.13 40 P **P** **15 06 38.3 +2.0**
T35M IAmb IAmb 15 06 41.2
comp=Z,177nm,1.4s
T35M Bob Quinn 59.13 40 P **P** **15 06 38.8 +2.6**
baz=292,SNR=16
HOPEN Hopen 59.89 346 *eP* **P** **15 06 41.8 +0.7**
WRGLY Wrigley 59.91 31 P **P** **15 06 43.1 +1.7**
baz=293
KIRV Kirov 60.02 323 *ceP* **P** **15 06 42.4 +0.2**
KIRV Kirov 60.02 323 P **P** **15 06 42.5 +0.4**
comp=Z,860nm,0.7s,baz=67,slow=4.8,SNR=287
KIRV LR LR 15 34 54.8
comp=Z,2μm,18.7s,baz=58,slow=38
comp=Z,860nm,0.7s
ALE Alert 60.04 3 IAMs_20 IAMs_20 15 34 40.1
comp=Z,1μm,19.0s
ALE Alert 60.04 3 P **P** **15 06 42.9 +0.8**
ALE pP **pP** **15 06 57.2 +0.5**
ALE sP **sP** **15 07 01.8 -1.0**
EUNU Eureka 60.14 8 P **P** **15 06 43.4 +0.5**
EUNU IAmb IAmb 15 06 45.6
comp=Z,58nm,0.8s
SPA0 Spitsbergen Ar 60.38 349⇑ *iP* **P** **15 06 45.1 +0.7**
SPITS Spitsbergen Ar 60.38 349 P **P** **15 06 45.2 +0.7**
comp=Z,58nm,0.9s,baz=74,slow=11,SNR=13
SPITS LR LR 15 34 30.4
comp=Z,1μm,21.9s,baz=12,slow=38
comp=Z,58nm,0.9s
KBS Kingsbay 60.52 350 P **P** **15 06 46.7 +1.3**
KBS Kingsbay 60.52 350 *ceP* **P** **15 06 46.9 +1.5**
KBS pmax pmax
comp=Z,345nm,1.3s
KBS Kingsbay 60.52 350⇑ *iP* **P** **15 06 45.8 +0.4**
KBS Kingsbay 60.52 350 *i* P **P** **15 06 44.2 -1.2**
KBS Kingsbay 60.52 350 P **P** **15 06 46.5 +1.1**
KBS sP **sP** **15 07 04.9 -1.3**
PRGR Permogore 60.55 327⇑ *iP* **P** **15 06 46.1 +0.3**

PRGR e 15 07 29.0
PRGR eS **S** **15 14 57.9 +0.6**
PRGR pmax pmax
comp=Z,709nm,1.4s
ASAR Alice Springs 60.84 188 P **P** **15 06 48.3 +0.1**
ASAR Alice Springs 60.84 188 P **P** **15 06 47.8 -0.4**
comp=Z,10nm,0.7s,baz=15,slow=6.4,SNR=140
ASAR S **S** **15 15 08.3 +6.5**
comp=Z,0.8nm,0.9s,baz=20,slow=19,SNR=3.0
ASAR LR LR 15 31 44.3
comp=Z,584nm,20.4s,baz=359,slow=35
ASAR PKPPKP **P'P'df** **15 36 06.5 +5.4**
comp=Z,4.2nm,1.0s,baz=151,slow=2.1,SNR=7.8
ASAR P4KPbc 15 43 51.5
comp=Z,2.3nm,1.1s,baz=24,slow=5.2,SNR=7.8
comp=Z,10nm,0.7s
KOTAN Kotaneelee Air 60.90 35 P **P** **15 06 49.7 +1.4**
baz=294
NOR Nord 60.95 356 *i* P **P** **15 06 47.1 -1.2**
NOR IAmb IAmb 15 06 49.6
comp=Z,433nm,1.9s
HSPB Hornsund (broa 61.30 348 *i* P **P** **15 06 51.5 +0.8**
HSPB eL L 15 32 15.2
comp=Z,2μm,25.2s
HSPB Hornsund (broa 61.30 348 *e*P **P** **15 06 51.9 +1.2**
MBWA Marble Bar 61.37 203 P **P** **15 06 51.7 -0.1**
MBWA Marble Bar 61.37 203 P **P** **15 06 51.4 -0.4**
MBWA sP **pP** **15 07 09.9 +3.5**
PSA00 Pilbara Seismi 61.72 203 P **P** **15 06 54.0 -0.1**
PSA00 IAmb IAmb 15 06 55.3
comp=Z,253nm,1.6s
PSA00 Pilbara Seismi 61.72 203 P **P** **15 06 53.8 -0.3**
LVZ Lovozero 61.92 336*ce*P **P** **15 06 53.9 -1.1**
LVZ pmax pmax
comp=Z,250nm,1.3s
LVZ MLR MLR
comp=Z,3μm,18.0s
LVZ Lovozero 61.92 336 P **P** **15 06 55.1 +0.1**
BBB Bella Bella 62.19 44 LR LR 15 31 41.0
comp=Z,480nm,21.1s,baz=299,slow=34
HRA Herat 62.23 294 P **P** **15 06 58.7 +0.8**
VADS Vadso 62.39 339⇑*i*P **P** **15 06 58.7 +0.6**
APA Apatity 62.50 336⇓*i*P **P** **15 06 57.4 -1.4**
APA *i* 15 07 15.0
APA *i* S **S** **15 15 14.0 -7.8**
APA *i* PS **PnS** **15 15 46.0 +2.5**
APA *i* SS **SS** **15 19 26.0 +0.3**
APA pmax pmax
comp=Z,123nm,1.0s
APA MLR MLR
comp=Z,4μm,18.0s
ADZR Andozero 62.56 331 *e*P **P** **15 06 59.5 +0.2**
ADZR *e* 15 07 33.2
ADZR pmax pmax
comp=Z,334nm,0.9s
RES Resolute Bay 62.58 14 P **P** **15 06 59.7 +0.4**
RES IAmb IAmb 15 07 01.5
comp=Z,138nm,1.1s
RES Resolute Bay 62.58 14 P **P** **15 06 59.7 +0.4**
RES pmax pmax
comp=Z,138nm,1.2s
RES Resolute Bay 62.58 14 LR LR 15 35 39.1
comp=Z,664nm,21.9s,baz=325,slow=37
EIDS Eidsvold 62.87 170 P **P** **15 07 02.6 +0.9**
EIDS IAMs_20 IAMs_20 15 32 44.6
comp=Z,1μm,22.0s
WRKA Warakurna 62.99 193 P **P** **15 07 02.6 0.0**
KEV Kevo 63.26 339 P **P** **15 07 04.4 +0.5**
KEV Kevo 63.26 339 P **P** **15 07 04.4 +0.5**
KEV Kevo 63.26 339 P **P** **15 07 04.2 +0.4**
KEV sP **sP** **15 07 23.4 -1.5**
NOUC Port Laguerre 63.53 154 P **P** **15 07 08.0 +1.8**
KLMR Klimovskoe 63.54 328⇑*i*P **P** **15 07 06.2 +0.4**
KLMR ⇓*i*P **P** **15 07 06.2 +0.4**
KLMR ⇓*i*P **P** **15 07 06.2 +0.4**
KLMR AMP 15 07 07.3
comp=Z,658nm,1.4s
KLMR *e*pP **pP** **15 07 23.0 +2.3**
KLMR *e*PcP **PcP** **15 07 41.1 -0.9**
KLMR *e*PP **PP** **15 09 25.8 +0.2**
KLMR S **S** **15 15 39.7 +4.7**
KLMR S **S** **15 15 39.7 +4.7**
KLMR SS **SS** **15 19 37.2 -4.9**
KLMR SS **SS** **15 19 37.2 -4.9**
KLMR LQ LQ 15 29 03.5
KLMR LQ LQ 15 29 03.5
KLMR LR LR 15 30 43.0
KLMR AMP 15 36 54.6
comp=Z,1μm,16.3s
KLMR Klimovskoe 63.54 328*c* *i*P **P** **15 07 06.1 +0.3**
KLMR *e**PP **pP** **15 07 23.0 +2.3**
KLMR *e* 15 07 41.1
KLMR *e* 15 09 25.7
KLMR S **S** **15 15 39.6 +4.6**
KLMR pmax pmax
comp=Z,848nm,1.3s
KLMR pmax pmax
comp=Z,658nm,1.4s
KLMR MLR MLR
comp=Z,1μm,16.0s
DZM Mont Dzumac 63.55 154 *e*P **P** **15 07 05.6 -0.8**
comp=Z,386nm,1.5s
DZM *e*S S 15 15 23.4 -13
comp=Z,1μm,28.6s
DZM *e*SS **SS** **15 19 55.0 +10**
comp=Z,1μm,28.4s
DZM *e*LR LR 15 25 57.9
comp=Z,4μm,21.4s
DZM Mont Dzumac 63.55 154 P **P** **15 07 08.9 +2.5**
DZM Mont Dzumac 63.55 154 P **P** **15 07 07.9 +1.5**
comp=Z,58nm,1.1s,baz=30,slow=9.1,SNR=13
DZM LR LR 15 32 37.0
comp=Z,2μm,20.5s,baz=326,slow=34
comp=Z,58nm,1.1s
DZM Mont Dzumac 63.55 154 P **P** **15 07 08.1 +1.7**
DZM pP **pP** **15 07 22.1 +0.9**
BELG Belogornoye 63.55 317 *e*P **P** **15 07 06.5 +0.4**
BELG pmax pmax
comp=Z,139nm,1.0s
BELG MLR MLR
comp=Z,474nm,17.0s
BELG Belogornoye 63.55 317 P **P** **15 07 06.0 0.0**
comp=Z,725nm,0.9s,baz=68,slow=0.9,SNR=158
BELG LR LR 15 37 03.8
comp=Z,3μm,18.3s,baz=69,slow=38
comp=Z,725nm,0.9s
GEYT Alibeck 63.56 299 P **P** **15 07 07.0 +0.5**
GEYT Alibeck 63.56 299 P **P** **15 07 06.8 +0.4**
comp=Z,275nm,0.9s,baz=59,slow=5.7,SNR=292
GEYT LR LR 15 37 40.7
comp=Z,1μm,18.0s,baz=62,slow=39
comp=Z,275nm,0.9s
GYA0 ALIBECK ARRAY 63.56 299 P **P** **15 07 06.2 -0.2**
GYA0B ALIBECK ARRAY 63.56 299 P **P** **15 07 07.0 +0.5**
GYA0B IAMs_20 IAMs_20 15 37 19.4
comp=Z,2μm,19.0s
HAMF Hammerfest 63.65 341⇑*i*P **P** **15 07 06.5 +0.1**
RMQ Roma 63.68 172 P **P** **15 07 09.3 +2.2**
YATNC Mamie plateau, 63.70 153 P **P** **15 07 09.5 +2.2**
comp=Z,50nm,1.2s
ARA0 ARCESS Array S 63.82 339⇑*i*P **P** **15 07 08.1 +0.5**
ARCES ARCESS Array B 63.82 339 P **P** **15 07 08.1 +0.5**
ARCES IAmb IAmb 15 07 09.4
comp=Z,168nm,1.1s
ARCES ARCESS Array B 63.82 339 P **P** **15 07 08.1 +0.5**
ARCES pmax pmax
comp=Z,167nm,1.1s
ARCES ARCESS Array B 63.82 339 P **P** **15 07 07.7 +0.1**
comp=Z,69nm,0.8s,baz=61,slow=8.6,SNR=178
ARCES PKP2ab 15 36 16.1
comp=Z,2.4nm,0.9s,baz=260,slow=1.6,SNR=3.9
ARCES LR LR 15 37 24.6
comp=Z,2μm,21.4s,baz=56,slow=38
comp=Z,69nm,0.8s
YKA Yellowknife Ar 63.87 30 P **P** **15 07 09.3 +1.3**
YKA Yellowknife Ar 63.87 30 *i* P **P** **15 07 08.6 +0.6**
YKA pmax pmax
comp=Z,49nm,1.1s
YKA Yellowknife Ar 63.87 30 P **P** **15 07 08.7 +0.6**
comp=Z,50nm,1.1s,baz=297,slow=6.5,SNR=56
YKA LR LR 15 34 55.7
comp=Z,425nm,21.8s,baz=288,slow=36
YKA PKPPKP **P'P'df** **15 36 00.9 -4.8**
comp=Z,8.9nm,1.2s,baz=117,slow=2.6,SNR=8.3
comp=Z,50nm,1.1s

MSVF Nonsavu 64.74 141 P **P** **15 07 15.7 +1.4**
comp=Z,30nm,1.1s,baz=108,slow=6.9,SNR=5.0
MSVF pP **pP** **15 07 30.5 +1.4**
comp=Z,53nm,0.9s,baz=293,slow=12,SNR=12
MSVF LR LR 15 29 32.8
comp=Z,2μm,21.8s,baz=324,slow=30
comp=Z,30nm,1.1s
OOD Oodnadatta 64.77 185 P **P** **15 07 14.0 -0.2**
KTK1 Kautokeino 64.78 339⇑*i*P **P** **15 07 14.4 +0.5**
JETT Jettan, Norway 65.20 341⇑*i*P **P** **15 07 17.1 +0.4**
NEEM North Greenlan 65.45 3 *i* P **P** **15 07 16.8 -1.7**
NEEM IAmb IAmb 15 07 19.9
comp=Z,151nm,1.0s
TRO Tromso 65.54 341⇑*i*P **P** **15 07 19.1 +0.3**
DAG Danmarks Havn 65.66 355 *i* P **P** **15 07 19.0 -0.5**
DAG IAmb IAmb 15 07 20.6
comp=Z,187nm,1.0s
MEEK Meekatharra 66.85 202 P **P** **15 07 27.2 -0.5**
MOS Moscow 67.02 323 *e*P **P** **15 07 26.7 -1.7**
MOS *e* 15 07 55.7
MOS *e* 15 09 54.1
MOS *e*PPP PPP 15 11 30.4
MOS *e*S **S** **15 16 14.8 -3.0**
MOS pmax pmax
comp=Z,1μm,1.5s
MOS pmax pmax
comp=E,400nm,1.6s
MOS pmax pmax
comp=Z,691nm,1.3s
MOS pmax pmax
comp=N,400nm,1.3s
MOS pmax pmax
comp=N,328nm,1.4s
MOS pmax pmax
comp=E,260nm,1.1s
MOS smax smax
comp=N,800nm,2.7s
MOS smax smax
comp=E,400nm,2.2s
MOS MLR MLR
comp=Z,1μm,17.0s
VRH Novokhopyorsk 67.33 318 *e*P **P** **15 07 30.7 +0.2**
VRH *e*S **S** **15 16 21.6 -0.1**
VRH pmax pmax
comp=Z,449nm,1.2s
VRH MLR MLR
comp=Z,3μm,18.0s
MNCI Minicoy 67.54 263 IAMs_20 IAMs_20 15 40 00.7
comp=Z,1μm,18.0s
STEI Steigen 67.70 341⇑*i*P **P** **15 07 32.8 +0.3**
OBN Obninsk 67.86 323*c* *i*P **P** **15 07 33.6 -0.2**
OBN *e**PP **pP** **15 07 50.3 +1.6**
OBN *e* 15 08 03.3
OBN *e* 15 10 03.0
OBN *e*S **S** **15 16 27.3 -0.6**
OBN *e**SS sS 15 17 04.7 +12
OBN pmax pmax
comp=Z,597nm,1.3s
OBN MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 67.86 323 P **P** **15 07 34.0 +0.3**
comp=Z,210nm,0.8s,baz=54,slow=2.2,SNR=85
OBN LR LR 15 39 56.4
comp=Z,1μm,18.2s,baz=58,slow=38
comp=Z,210nm,0.8s
OBN Obninsk 67.86 323 P **P** **15 07 34.1 +0.3**
ARMA Armidale 67.91 170 P **P** **15 07 36.1 +1.7**
ARMA IAmb IAmb 15 07 37.7
comp=Z,82nm,1.2s
KULLO Kullorsuaq 67.91 5 *i* P **P** **15 07 31.5 -2.3**
KULLO IAmb IAmb 15 07 34.8
comp=Z,162nm,1.4s
PUL Pulkovo 67.97 329*ce*P **P** **15 07 35.2 +0.8**
PUL pmax pmax
comp=Z,661nm,1.3s
LOF Lofoten 67.99 341⇑*i*P **P** **15 07 33.8 -0.6**
LPSR Galich'ya Gora 68.06 320 *e*P **P** **15 07 34.3 -0.8**
LPSR pmax pmax
comp=Z,510nm,0.8s
LPSR MLR MLR
comp=Z,5μm,17.0s
FAUS Fauske 68.08 340⇑*i*P **P** **15 07 35.4 +0.5**
DBG Daneborg 68.15 355 *i* P **P** **15 07 33.9 -1.4**
DBG IAmb IAmb 15 07 36.3
comp=Z,77nm,1.2s
MAK Makhachkala 68.19 308 *e*P **P** **15 07 36.0 -0.1**
MAK *e**PP **pP** **15 07 51.5 +0.4**
MAK *e**SP **sP** **15 07 58.9 +1.7**
MAK *e* 15 10 07.4
MAK *e*S **S** **15 16 33.0 +0.8**
MAK *e**SS **sS** **15 17 00.6 +3.0**
MAK *e*SS **SS** **15 20 53.2 -1.9**
MAK pmax pmax
comp=Z,236nm,1.1s
MAK MLR MLR
comp=Z,1μm,14.0s
VORR Voronezh 68.42 319 *e*P **P** **15 07 37.9 +0.6**
VORR *e*S **S** **15 16 35.7 +1.0**
VORR pmax pmax
comp=Z,448nm,1.2s
VORR MLR MLR
comp=Z,4μm,17.0s
CMSA Cobar Meteorol 68.44 176 P **P** **15 07 38.5 +1.0**
FINES FINESS Array B 68.61 332 P **P** **15 07 38.8 +0.5**
FINES FINESS Array B 68.61 332 P **P** **15 07 38.8 +0.5**
FINES FINESS Array B 68.61 332 P **P** **15 07 38.1 -0.3**
comp=Z,184nm,0.7s,baz=60,slow=7.5,SNR=408
FINES LR LR 15 40 10.1
comp=Z,3μm,19.8s,baz=51,slow=38
comp=Z,184nm,0.7s
COR Corvallis 68.62 50 P **P** **15 07 42.5 +3.8**
COR pP **pP** **15 07 55.5 +1.9**
FORT Forrest 68.64 192 P **P** **15 07 39.5 +0.7**
STKA Stephens Creek 68.64 180 P **P** **15 07 39.4 +0.5**
STKA Stephens Creek 68.64 180⇑*i*P **P** **15 07 39.0 +0.2**
STKA Stephens Creek 68.64 180 P **P** **15 07 38.8 0.0**
comp=Z,19nm,0.7s,baz=353,slow=6.8,SNR=29
STKA pP **pP** **15 07 53.7 -0.1**
comp=Z,33nm,0.7s,baz=2.0,slow=6.5,SNR=15
STKA PKP2bc 15 35 54.1
comp=Z,5.8nm,1.1s,baz=185,slow=3.4,SNR=3.8
comp=Z,19nm,0.7s
VSR Storozhevoye 68.69 319 *e*P **P** **15 07 38.1 -0.9**
VSR pmax pmax
comp=Z,400nm,0.8s
VSR MLR MLR
comp=Z,4μm,16.0s
VORD Divnogorie 68.76 318 *e*P **P** **15 07 38.5 -0.9**
VORD pmax pmax
comp=Z,500nm,1.4s
VORD MLR MLR
comp=Z,3μm,14.0s
SEKA Sheki 69.29 306 P **P** **15 07 41.5 -1.6**
KONS Konsvik 69.31 340 *e*P **P** **15 07 42.5 -0.1**
EDM Edmonton 69.44 38 P **P** **15 07 45.0 +1.3**
EDM IAmb IAmb 15 07 46.5
comp=Z,235nm,1.3s
EDM Edmonton 69.44 38 P **P** **15 07 45.0 +1.3**
EDM pmax pmax
comp=Z,235nm,1.3s
EDM MLR MLR
comp=Z,800nm,20.0s
STOK Stokkvaagen 69.46 340 *e*P **P** **15 07 44.0 +0.5**
LKRN Lenkeran, Azer 69.56 303 P **P** **15 07 43.6 -1.1**
MNGR Mingechevir, A 69.59 306 P **P** **15 07 43.8 -1.0**
BBOO Buckleboo 69.73 185 P **P** **15 07 46.1 +0.6**
BBOO Buckleboo 69.73 185 P **P** **15 07 45.6 +0.1**
JASK Jask - Hormozg 69.77 288 P **P** **15 07 47.4 +1.2**
SNR=15
GOF Gofitskoye 69.83 312*c* *i*P **P** **15 07 46.5 +0.3**
MORW Morawa 69.91 203 P **P** **15 07 47.1 +0.4**
MORW IAmb IAmb 15 07 48.0
comp=Z,297nm,1.6s
JMIC Jan Mayen 70.01 350 LR LR 15 40 35.4
comp=Z,298nm,18.7s,baz=52,slow=38
MEF Metsahovi 70.03 332 *e*P **P** **15 07 46.7 -0.4**
GANJ Ganja 70.15 306 P **P** **15 07 47.2 -1.1**
HTT Hallett 70.22 182 P **P** **15 07 50.1 +1.5**
VSU Vasula 70.24 329 *i* P **P** **15 07 49.2 +0.7**
VSU Vasula 70.24 329 *e*P **P** **15 07 48.9 +0.5**
NEW Newport 70.25 44 P **P** **15 07 49.6 +0.8**
baz=304,SNR=18
NCK Nalchik 70.34 310 *i* P **P** **15 07 49.5 +0.1**
NCK pmax pmax
comp=Z,287nm,1.2s

RAF Rauma 70.47 333 *e*P **P** **15 07 49.8 0.0**
YBH Yreka Blue Hor 70.50 52 LR LR 15 33 29.3
comp=Z,537nm,21.8s,baz=298,slow=31
ZEI Tsey 70.54 309 *e*P **P** **15 07 47.9 -3.0**
ZEI pmax pmax
comp=Z,211nm,1.4s
JLN Jalan Bani Buh 70.57 283 P **P** **15 07 51.7 +0.6**
SNR=36
WSAR Wadi Sarin 70.59 285 P **P** **15 07 51.8 +0.6**
SNR=22
WSAR S **S** **15 16 57.0 -4.1**
WSAR Wadi Sarin 70.59 285 LR LR 15 44 46.9
comp=Z,783nm,18.2s,baz=90,slow=41
SUMG Summit 70.60 360 P **P** **15 07 51.9 +1.0**
SUMG IAmb IAmb 15 07 53.4
comp=Z,226nm,1.0s
SUMG Summit 70.60 360 P **P** **15 07 51.9 +1.0**
SUMG pmax pmax
comp=Z,226nm,1.0s
SUMG MLR MLR
comp=Z,2μm,20.0s
SUMG Summit 70.60 360 *i* P **P** **15 07 51.0 +0.1**
SUMG IAmb IAmb 15 07 53.1
comp=Z,224nm,1.0s
KVAR Kislovodsk Arr 70.64 311 P **P** **15 07 52.4 +1.0**
comp=Z,230nm,1.1s,baz=90,slow=20,SNR=38
KVAR LR LR 15 43 17.2
comp=Z,1μm,18.4s,baz=280,slow=40
comp=Z,230nm,1.1s
KBZ Khabaz 70.64 310*ce*P **P** **15 07 51.6 +0.5**
KBZ pmax pmax
comp=Z,457nm,1.1s
KBZ MLR MLR
comp=Z,2μm,17.0s
KBZ Khabaz 70.64 310 P **P** **15 07 51.6 +0.5**
comp=Z,260nm,1.0s,baz=51,slow=3.2,SNR=181
KBZ LR LR 15 43 40.4
comp=Z,2μm,18.1s,baz=54,slow=40
comp=Z,260nm,1.0s
KIV Kislovodsk 70.65 311⇑P **P** **15 07 52.1 +0.7**
KIV Kislovodsk 70.65 311 *e*P **P** **15 07 51.8 +0.4**
KIV *e* 15 08 12.1
KIV *e* 15 10 28.9
KIV *e*S **S** **15 17 01.9 +0.6**
KIV *e*SS **SS** **15 21 35.7 +2.6**
KIV pmax pmax
comp=Z,804nm,1.1s
KIV pmax pmax
comp=Z,308nm,4.7s
KIV MLR MLR
comp=Z,1μm,18.0s
KIV Kislovodsk 70.65 311 *i* P **P** **15 07 51.9 +0.6**
SNR=69
KIV Kislovodsk 70.65 311 P **P** **15 07 52.1 +0.7**
KIV S **S** **15 16 57.2 -4.2**
KIV Kislovodsk 70.65 311 P **P** **15 07 52.5 +1.1**
KIV PcP **PcP** **15 08 12.6 +0.5**
WBK Wadi Bani Khal 70.66 284 P **P** **15 07 52.7 +1.0**
SNR=44
BIDO Bidbid 70.82 285 P **P** **15 07 53.2 +0.6**
SNR=55
BIDO S **S** **15 17 04.5 +0.7**
SHME Shamm 70.98 289 *i* P **P** **15 07 54.0 +0.5**
SNR=145
SHME Shamm 70.98 289 P **P** **15 07 54.2 +0.6**
SNR=36
NSS Namsos 71.11 339 *e*P **P** **15 07 54.1 +0.5**
SMDO Samad 71.13 285 P **P** **15 07 55.0 +0.4**
SNR=89
MTSE Matsula 71.24 331 *e*P **P** **15 07 54.6 +0.1**
MDH Madha 71.26 288 *i* P **P** **15 07 54.8 -0.5**
SNR=19
MDH Madha 71.26 288 P **P** **15 07 54.9 -0.4**
SNR=9.0
MASF Masafi 71.33 288 P **P** **15 07 56.2 +0.5**
SNR=32
MSFE Esma-Masafi 71.34 288 *i* P **P** **15 07 56.2 +0.4**
SNR=51
HOQ Hoqain 71.42 286 P **P** **15 07 56.7 +0.4**
SNR=91
GNI Garni 71.44 307*ce*P **P** **15 07 57.6 +1.3**
GNI pmax pmax
comp=Z,339nm,1.3s
GNI MLR MLR
comp=Z,2μm,18.0s
GNI Garni 71.44 307 P **P** **15 07 57.0 +0.7**
GNI Garni 71.44 307 P **P** **15 07 57.4 +1.1**
GNI Garni 71.44 307 P **P** **15 07 57.3 +1.0**
comp=Z,218nm,1.2s,baz=156,slow=5.5,SNR=59
GNI LR LR 15 42 12.6
comp=Z,2μm,18.3s,baz=61,slow=38
comp=Z,218nm,1.2s
GNI Garni 71.44 307 P **P** **15 07 57.3 +1.0**
JMDO Jabal Madar 71.47 284 P **P** **15 07 57.0 +0.4**
SNR=84
UOSS Minazif 71.53 288 P **P** **15 07 57.3 +0.4**
UOSS Minazif 71.53 288 IAMs_20 IAMs_20 15 43 14.7
comp=Z,928nm,20.0s
UOSS Minazif 71.53 288 *i* P **P** **15 07 56.8 -0.1**
SNR=62
UOSS Minazif 71.53 288 P **P** **15 07 57.1 +0.2**
UOSS S **S** **15 17 10.0 -1.9**
UOSS Minazif 71.53 288 P **P** **15 07 57.0 +0.2**
UOSS pP **pP** **15 08 11.0 -1.1**
AKH Akhalkalaki 71.54 308 *e*P **P** **15 07 57.8 +0.9**
UMQ Umm Al-Quwin 71.62 288 *i* P **P** **15 07 58.5 +1.1**
SNR=14
UMQ Umm Al-Quwin 71.62 288 P **P** **15 07 58.6 +1.1**
SNR=12
HATD Hatta, Dubai 71.64 288 *i* P **P** **15 07 57.9 +0.3**
SNR=94
HATD Hatta, Dubai 71.64 288 P **P** **15 07 58.1 +0.5**
SNR=37
AAL Aland 71.69 333 *e*P **P** **15 07 56.6 -0.6**
SOHO SOHO 71.71 287 *i* P **P** **15 07 57.7 -0.2**
SNR=125
SOHO SOHO 71.71 287 P **P** **15 07 58.0 +0.1**
KLBR Kellerberrin 71.75 201 P **P** **15 07 57.3 -0.6**
ASHO Ashiyiah 71.78 287 *i* P **P** **15 07 58.7 +0.3**
SNR=111
ASHO Ashiyiah 71.78 287 P **P** **15 07 59.0 +0.5**
SNR=56
TASB TASBURUN-IGDIR 71.85 307 *e*P **P** **15 07 59.8 +1.1**
NAZ Nazwa, Dubai 71.92 288 *i* P **P** **15 07 59.4 +0.2**
SNR=24
NAZ Nazwa, Dubai 71.92 288 P **P** **15 07 59.5 +0.3**
SNR=33
BSY Bisya 71.96 285 P **P** **15 08 00.0 +0.5**
SNR=95
SCO Scoresbysund 72.00 354 *i* P **P** **15 07 58.8 -0.1**
SCO IAmb IAmb 15 08 00.9
comp=Z,124nm,1.1s
FAQ Al Faqa, Dubai 72.10 288 *i* P **P** **15 08 00.3 0.0**
SNR=25
FAQ Al Faqa, Dubai 72.10 288 P **P** **15 08 00.6 +0.3**
SNR=32
ARQ Araqi 72.16 286 P **P** **15 08 01.4 +0.7**
SNR=135
IZAR Zarasai 72.19 327 *e*P **P** **15 07 59.2 -1.1**
KARS Kars 72.23 308 *e*P **P** **15 08 02.4 +1.3**
MNK Minsk 72.27 326 *i* P **P** **15 08 01.8 +1.0**
comp=E,161nm,1.3s
MNK *i* P **P** **15 08 01.8 +1.0**
comp=N,350nm,1.3s
MNK *i* P **P** **15 08 01.8 +1.0**
comp=Z,658nm,1.1s,baz=50
MNK *i* PP **PP** **15 10 42.1 +0.8**
MNK *i* PPP PPP 15 12 26.4
MNK *i* S **S** **15 17 21.7 +2.1**
MNK *i* SS **SS** **15 21 57.8 +0.7**
MNK *i* SSS SSS 15 25 32.5
MNK *i* LQ LQ 15 32 16.2
MNK *i* LR LR 15 38 53.0
MNK *i* LRM MLR 15 42 55.1
comp=E,531nm,20.8s
MNK *i* LRM MLR 15 43 02.8
comp=Z,2μm,16.5s
MNK *i* LRM MLR 15 43 09.2
comp=N,1μm,15.9s
MNK Minsk 72.27 326 *i* P **P** **15 08 01.7 +1.0**
MNK *i* 15 10 42.1
MNK *i* PPP PPP 15 12 26.3
MNK *i* S **S** **15 17 21.6 +2.1**
MNK *i* SS **SS** **15 21 57.8 +0.7**
MNK pmax pmax
comp=Z,658nm,1.1s

MNK pmax pmax
comp=E,161nm,1.3s
MNK pmax pmax
comp=N,350nm,1.3s
MNK MLR MLR
comp=E,531nm,21.0s
MNK MLR MLR
comp=Z,2μm,17.0s
MNK MLR MLR
comp=N,1μm,16.0s
MHTO MHTO 72.33 283 P **P 15 08 02.1 +0.4**
SNR=162
ALNE Al Ain 72.36 287 *i* P **P 15 08 02.0 +0.2**
SNR=47
ALNE Al Ain 72.36 287 P **P 15 08 02.4 +0.5**
SNR=95
ISAL Salakas 72.36 327 *e*P **P 15 08 03.4 +2.1**
ASUD Al Ashush, Dub 72.37 288 *i* P **P 15 08 02.2 +0.3**
SNR=50
ASUD Al Ashush, Dub 72.37 288 P **P 15 08 02.6 +0.7**
SNR=39
CAN Canberra 72.45 173 IAMs_20 IAMs_20 15 38 23.8
comp=Z,1μm,19.0s
IIGN Ignalina 72.46 327 *e*P **P 15 08 02.9 +1.0**
NACGM Naroch 72.50 327 *i* P **P 15 08 02.9 +0.7**
comp=E,11μm,1.1s
CLDR Caldiran 72.52 306 *e*P **P 15 08 04.1 +1.2**
BATM Batumi 72.56 309 *e*P **P 15 08 03.4 +0.6**
MUN Mundaring 72.57 202 P **P 15 08 04.5 +1.8**
SLIT Slitere, Latvi 72.57 330 *e*P **P 15 08 02.3 -0.2**
TBLU Trondheim 72.57 339⇑*i*P **P 15 08 02.2 -0.3**
SOC Sochi 72.64 312 *e*P **P 15 08 00.6 -2.6**
SOC *e*S **S 15 17 19.5 -4.6**
SOC *e*SS **SS 15 22 01.3 -2.1**
SOC *e*SSS SSS 15 25 13.5
SOC pmax pmax
comp=Z,135nm,0.7s
SOC MLR MLR
comp=Z,2μm,16.0s
AJN Ajban 72.66 288 *i* P **P 15 08 03.3 -0.3**
SNR=11
AJN Ajban 72.66 288 P **P 15 08 03.7 0.0**
SNR=33
BCA Borcka 72.69 309 ⇓P **P 15 08 04.4 +0.8**
BCA Borcka 72.69 309 *e*P **P 15 08 03.8 +0.2**
PLID Pearl Lake 72.69 46 P **P 15 08 04.5 +0.7**
SENK Senkaya-Erzuru 72.73 308 *e*P **P 15 08 05.3 +1.2**
MSO Missoula 72.84 44 P **P 15 08 05.1 +0.6**
baz=306,SNR=22
AGRB Hanur-Agry 72.88 307 *e*P **P 15 08 06.3 +1.3**
VSVD Vaisvydziai 73.02 328 *e*P **P 15 08 04.9 -0.3**
NWAO Narrogin (SRO) 73.16 201 P **P 15 08 06.7 +0.5**
NWAO IAmb IAmb 15 08 07.7
comp=Z,126nm,1.1s
NWAO Narrogin (SRO) 73.16 201 P **P 15 08 06.6 +0.5**
NWAO Narrogin (SRO) 73.16 201 P **P 15 08 06.0 -0.2**
NWAO Narrogin (SRO) 73.16 201 P **P 15 08 06.7 +0.5**
NWAO pmax pmax
comp=Z,126nm,1.2s
NWAO Narrogin (SRO) 73.16 201 LR LR 15 39 49.1
comp=Z,214nm,20.8s,baz=44,slow=35
VANB Van 73.17 306 *e*P **P 15 08 07.8 +1.2**
ANN Anapa 73.28 314 *c i*P **P 15 08 06.4 -0.5**
ANN *e**PP **pP 15 08 22.1 -0.1**
ANN *e*S **S 15 17 29.8 -1.4**
ANN pmax pmax
comp=Z,524nm,1.4s
ANN MLR MLR
comp=Z,2μm,18.0s
PABE Paberze 73.32 328 P **P 15 08 07.8 +0.8**
PABE Paberze 73.32 328 *e*P **P 15 08 07.1 +0.1**
KOPR Koprukoy-ERZUR 73.37 308 *e*P **P 15 08 08.8 +1.0**
MLAZ Malazgirt-MUS 73.41 307 *e*P **P 15 08 09.2 +1.2**
CHOM Cayeli-Rize 73.42 309 *e*P **P 15 08 07.3 -0.6**
AKDM Akdamar-Van 73.58 306 *e*P **P 15 08 09.9 +0.8**
ILULI Ilulissat 73.59 5 IAMs_20 IAMs_20 15 42 13.0
comp=Z,995nm,19.0s
ILULI Ilulissat 73.59 5 *i* P **P 15 08 06.5 -1.9**
ILULI IAmb IAmb 15 08 09.7
comp=Z,138nm,1.1s
CUKT Cukurca 73.78 305 *e*P **P 15 08 10.5 +0.2**
NC405 NORSAR Array S 73.79 337 P **P 15 08 09.9 +0.2**
PBUR Paburge 73.82 329 *e*P **P 15 08 10.6 +0.7**
DOMB Dombas 73.87 339⇑*i*P **P 15 08 10.7 +0.5**
MOL Molde 73.88 340⇑*i*P **P 15 08 10.8 +0.7**
HFS Hagfors 73.90 336 P **P 15 08 10.5 +0.2**
comp=Z,138nm,0.9s,baz=49,slow=6.8,SNR=98
HFS LR LR 15 43 20.8
comp=Z,4μm,19.3s,baz=44,slow=38
comp=Z,138nm,0.9s
NB2 NORSAR Subarra 74.00 337 P **P 15 08 11.2 +0.2**
comp=Z,255nm,0.9s,baz=39,slow=6.2
NB2 NORSAR Subarra 74.00 337 P **P 15 08 11.2 +0.2**
baz=39,slow=6.2
NOA NORSAR Array B 74.00 337 P **P 15 08 11.0 0.0**
NOA NORSAR Array B 74.00 337 P **P 15 08 10.9 0.0**
comp=Z,132nm,0.8s,baz=39,slow=5.9,SNR=337
NOA PP **PP 15 10 56.3 +0.3**
comp=Z,5.7nm,0.9s,baz=45,slow=7.3,SNR=3.4
NOA LR LR 15 43 57.3
comp=Z,3μm,19.5s,baz=35,slow=38
comp=Z,132nm,0.8s
FCC Fort Churchill 74.04 26 P **P 15 08 11.8 +0.7**
FCC Fort Churchill 74.04 26 P **P 15 08 11.9 +0.7**
FCC pmax pmax
comp=Z,288nm,1.2s
AKASG Malin Array Be 74.06 322 P **P 15 08 11.3 -0.1**
AKASG Malin Array Be 74.06 322 *i* P **P 15 08 11.1 -0.3**
AKASG pmax pmax
comp=Z,54nm,0.5s
AKASG Malin Array Be 74.06 322 P **P 15 08 11.2 -0.2**
comp=Z,165nm,0.8s,baz=45,slow=6.1,SNR=505
AKASG LR LR 15 43 40.6
comp=Z,3μm,18.9s,baz=56,slow=38
comp=Z,165nm,0.8s
AKBB Malin Array Si 74.06 322 P **P 15 08 11.2 -0.2**
AKBB Malin Array Si 74.06 322 *ce*P **P 15 08 11.2 -0.2**
AKBB pmax pmax
comp=Z,445nm,1.0s
AKBB MLR MLR
comp=Z,3μm,17.0s
VIKU Vikbolandet 74.07 333 *e*P **P 15 08 11.3 -0.1**
JRN Qarnain Island 74.07 289 P **P 15 08 11.2 -0.7**
SNR=17
GURO Guroymak-BITLI 74.07 306 *e*P **P 15 08 13.4 +1.5**
VRTB Varto-Mus 74.09 307 *e*P **P 15 08 13.1 +1.0**
ICESG Greenland Ices 74.10 0 *i* P **P 15 08 11.4 -0.4**
ICESG IAmb IAmb 15 08 13.7
comp=Z,204nm,1.0s
KTUT Trabzon 74.10 309 ⇑P **P 15 08 12.0 +0.2**
KTUT Trabzon 74.10 309 *e*P **P 15 08 11.9 0.0**
NC602 NORSAR Array S 74.13 337⇑*i*P **P 15 08 11.8 +0.1**
NBO00 NORSAR Array S 74.14 337 P **P 15 08 12.4 +0.6**
NBO00 IAmb IAmb 15 08 13.4
comp=Z,204nm,0.8s
MILA Mila 74.19 173 P **P 15 08 12.9 +0.7**
AKN Aaknes 74.35 340⇑*i*P **P 15 08 13.7 +0.7**
EGMT Eagleton 74.38 41 P **P 15 08 14.5 +1.0**
baz=308
SIRT Sirnak 74.41 305 *e*P **P 15 08 14.4 +0.6**
TOO Toolangi 74.44 176 P **P 15 08 14.9 +1.3**
TOO Toolangi 74.44 176 P **P 15 08 14.9 +1.3**
TOO pmax pmax
comp=Z,31nm,1.0s
HLID Hailey 74.51 47 P **P 15 08 15.9 +1.5**
baz=307,SNR=47
SUW Suwalki 74.67 327 *i* P **P 15 08 14.7 -0.2**
SUW *e*L L 15 43 51.3
comp=Z,3μm,19.8s
SUW Suwalki 74.67 327 *e*P **P 15 08 14.8 -0.1**
MZR Muzera 74.67 287 *i* P **P 15 08 15.1 -0.4**
SNR=47
MZR Muzera 74.67 287 P **P 15 08 15.3 -0.2**
SNR=80
BNGB Bingl 74.68 307 *e*P **P 15 08 16.5 +1.1**
ESPY Espiye-Giresun 74.78 310 *e*P **P 15 08 15.6 -0.2**
SOEG Soedalen 74.84 357 *i* P **P 15 08 14.7 -1.0**
SOEG IAmb IAmb 15 08 17.3
comp=Z,98nm,0.9s
BOZ Bozeman (W) 74.86 44 P **P 15 08 17.5 +1.0**
baz=308,SNR=58
OSL Oslo 75.01 337⇑*i*P **P 15 08 17.5 +0.7**
SIM Simferopol' 75.08 315 *c i*P **P 15 08 17.7 +0.3**
SIM pmax pmax
comp=Z,1.0nm,1.3s
SIM MLR MLR
comp=Z,670nm,15.5s
NVAR Mina Array Bea 75.15 53 P **P 15 08 19.7 +1.4**
NVAR Mina Array Bea 75.15 53 P **P 15 08 19.9 +1.7**
comp=Z,37nm,1.1s,baz=286,slow=5.2,SNR=103
NVAR PKPPKP **P'P'df 15 35 42.0 -4.2**
comp=Z,1.1nm,1.0s,baz=152,slow=4.1,SNR=4.3
comp=Z,37nm,1.1s
SKAR Skarslia 75.17 338⇑*i*P **P 15 08 18.4 +0.6**
SAKB Bahrain 75.23 291 P **P 15 08 18.3 -0.3**
MLAC Mammoth, Mammo 75.27 54 P **P 15 08 20.7 +1.7**
baz=306
FOO Floro 75.36 340 *e*P **P 15 08 19.4 +0.7**
HYA Hoyanger 75.39 339 *e*P **P 15 08 19.8 +0.8**
KLNR Kaliningrad 75.51 329 *i* P **P 15 08 20.1 +0.4**
KLNR pmax pmax
comp=Z,475nm,1.3s
KLNR MLR MLR
comp=Z,3μm,19.0s
PTK Pertek 75.56 308 *e*P **P 15 08 21.8 +1.2**
KONO Kongsberg 75.59 337 P **P 15 08 20.8 +0.7**
KONO IAmb IAmb 15 08 21.8
comp=Z,109nm,0.9s
KONO Kongsberg 75.59 337 *ce*P **P 15 08 21.0 +0.9**
KONO pmax pmax
comp=Z,202nm,1.7s
KONO Kongsberg 75.59 337 *e*P **P 15 08 20.6 +0.5**
DYBB Diyarbakir 75.63 307 *e*P **P 15 08 21.1 +0.2**
ELK Elko 75.70 50 LR LR 15 35 23.5
comp=Z,521nm,20.4s,baz=312,slow=31
SHAO Shalim 75.81 282 *i* P **P 15 08 22.1 0.0**
SNR=6.6
SHAO Shalim 75.81 282 P **P 15 08 22.3 +0.2**
SNR=5.4
SFJD Kangerlussuaq 75.82 5 *i* P **P 15 08 19.6 -1.7**
SFJD IAmb IAmb 15 08 22.7
comp=Z,94nm,1.0s
SFJD Kangerlussuaq 75.82 5 LR LR 15 45 48.6
comp=Z,641nm,18.5s,baz=350,slow=39
SMMC Simmler 75.85 56 P **P 15 08 24.0 +1.8**
baz=306,SNR=6.7
SUE Sulen 75.89 340⇑*i*P **P 15 08 22.7 +1.0**
SVRC Sivrice-ELAZID 75.91 308 *e*P **P 15 08 24.0 +1.4**
RSDY Resadiye-TOKAT 75.95 310 *e*P **P 15 08 23.6 +1.0**
TIN Tinemaha, Big 76.00 54 P **P 15 08 24.4 +1.4**
baz=306
ARPR Arapgir-MALATY 76.10 309 *e*P **P 15 08 25.4 +1.8**
VES Vestal, Richgr 76.15 56 P **P 15 08 24.3 +0.5**
baz=306,SNR=11
H17A Grant Village 76.19 44 P **P 15 08 27.1 +2.9**
baz=309,SNR=47
PKM Mcpherson Peak 76.22 57 P **P 15 08 26.2 +1.7**
baz=306,SNR=12
ASK Askoy 76.24 339⇑*i*P **P 15 08 24.9 +1.1**
BER Bergen 76.28 339⇑*i*P **P 15 08 24.9 +0.9**
ODD1 Odda 76.29 338⇑*i*P **P 15 08 25.1 +1.0**
KVT Kavak 76.31 311 *e*P **P 15 08 25.9 +1.3**
RAO Raoul Island 76.41 144 LR LR 15 36 00.5
comp=Z,1μm,21.4s,baz=0.0,slow=31
DIKM Dikmen 76.43 312 ⇓P **P 15 08 26.5 +1.2**
DIKM Dikmen 76.43 312 *e*P **P 15 08 26.1 +0.8**
SVSK Karacayir 76.44 310 *e*P **P 15 08 26.5 +1.2**
CWC Cottonwood Cre 76.46 55 P **P 15 08 26.6 +0.9**
baz=306
RLMT Red Lodge 76.46 43 P **P 15 08 26.3 +0.7**
baz=309,SNR=32
TOKT Tokat 76.47 310 *e*P **P 15 08 26.5 +0.9**
DMTO DMTO 76.52 282 P **P 15 08 25.9 -0.2**
SNR=6.8
DY2G Dye2 76.58 3 *i* P **P 15 08 24.8 -1.1**
DY2G IAmb IAmb 15 08 27.7
comp=Z,324nm,1.2s
GRAC Grapevine Rang 76.59 54 P **P 15 08 28.0 +1.7**
baz=306,SNR=32
DEL Delary 76.60 333 *e*P **P 15 08 25.5 -0.4**
DOK Doka 76.64 283 P **P 15 08 26.6 -0.2**
SNR=26
KIS Kishinev 76.65 319⇑*i*P **P 15 08 25.8 -0.6**
comp=Z,580nm,5.5s
KIS *e*L L 15 34 40.0
KIS LRM MLR 15 44 54.0
comp=Z,6μm,18.0s
KIS Kishinev 76.65 319 *c i*P **P 15 08 25.8 -0.6**
KIS pmax pmax
comp=Z,600nm,5.5s
KIS MLR MLR
comp=Z,6μm,18.0s
ISA Isabella, Lake 76.66 55 P **P 15 08 26.7 0.0**
baz=306,SNR=16
BLS5 Blasjo 76.74 338⇑*i*P **P 15 08 27.5 +0.9**
ARVC Arvin 76.74 56 P **P 15 08 27.7 +0.6**
baz=306
URFA Urfa 76.78 307 *e*P **P 15 08 28.6 +1.2**
R11B Troy Canyon, C 76.92 52 P **P 15 08 29.5 +1.2**
baz=307,SNR=180
DGMT Dagmar 76.94 38 P **P 15 08 28.7 +0.7**
baz=312
DGMT Dagmar 76.94 38 P **P 15 08 28.7 +0.7**
baz=312
DARE Darende-Malaty 76.95 309 *e*P **P 15 08 30.3 +2.0**
HOMB Homborsund 77.03 336 *e*P **P 15 08 28.7 +0.4**
MPMC Manual Prospec 77.07 55 P **P 15 08 30.0 +0.8**
baz=307,SNR=48
LAO LASA Array 77.08 41 P **P 15 08 30.4 +1.5**
baz=311
LAO LASA Array 77.08 41 P **P 15 08 30.2 +1.3**
baz=311
OSI Osito Audit: C 77.11 56 P **P 15 08 30.2 +0.9**
baz=306
LVV L'vov 77.15 324 *e*P **P 15 08 28.6 -0.5**
LVV *e**PP **pP 15 08 45.1 +0.7**
LVV *e* 15 11 22.0
LVV *e*PPP PPP 15 13 13.4
LVV *e*S **S 15 18 11.8 -2.3**
LVV *e*PS **PnS 15 18 57.1 -1.6**
LVV *e*SS **SS 15 23 12.0 +0.6**
LVV *e*SSS SSS 15 26 38.9
LVV pmax pmax
comp=Z,1μm,1.1s
LVV MLR MLR
comp=N,1μm,17.0s
LVV MLR MLR
comp=E,2μm,17.0s
LVV MLR MLR
comp=Z,2μm,17.0s
IAS Iasi 77.18 320 ⇓P **P 15 08 30.1 +0.7**
IAS Iasi 77.18 320 *e*P **P 15 08 29.8 +0.5**
IAS Iasi 77.18 320 P **P 15 08 30.0 +0.7**
RBK Rabkut 77.22 282 P **P 15 08 29.7 -0.4**
SNR=15
BEL Belsk 77.22 327 *e*P **P 15 08 30.6 +1.1**
BEL *e*L L 15 43 54.1
comp=Z,2μm,22.6s
FURC Furnace Creek, 77.23 54 P **P 15 08 30.7 +0.9**
baz=307,SNR=16
OVD Ostervraa, Den 77.23 335 *i* P **P 15 08 28.1 -1.3**
OVD IAmb IAmb 15 08 30.7
comp=Z,991nm,1.4s
BSD Bornholm Skovb 77.24 332 *e*P **P 15 08 29.7 +0.2**
BSD Bornholm Skovb 77.24 332 *i* P **P 15 08 28.1 -1.4**
BSD IAmb IAmb 15 08 30.5
comp=Z,338nm,1.0s
CCAC Calif City Air 77.26 56 IAMs_20 IAMs_20 15 35 16.5
comp=Z,1μm,22.0s
KMY Karmoy 77.27 338 *e*P **P 15 08 30.4 +0.8**
LRMC Laurel Mtn Rad 77.29 55 P **P 15 08 31.3 +0.9**
baz=307
WHFO Wadi Hawf 77.32 283 P **P 15 08 29.8 -0.8**
SNR=18
TPNV Topopah Spring 77.34 53 IAMs_20 IAMs_20 15 35 15.4
comp=Z,890nm,20.0s
TPNV Topopah Spring 77.34 53 P **P 15 08 32.2 +1.5**
baz=307,SNR=49
SNCC San Nicolas Is 77.38 58 P **P 15 08 31.6 +0.9**
baz=306
SNART Snartemo 77.39 337⇑*i*P **P 15 08 31.2 +1.0**
VASR Vaslui 77.42 320 ⇑P **P 15 08 31.3 +0.6**
EDW2 Edwards Air Fo 77.44 56 P **P 15 08 32.1 +1.0**
baz=307,SNR=31
DUG Dugway, Tooele 77.50 49 P **P 15 08 32.9 +1.4**
baz=308
BORG Borgarnes 77.53 352 P **P 15 08 33.1 +2.2**
BORG IAmb IAmb 15 08 34.7
comp=Z,189nm,1.1s
BORG Borgarnes 77.53 352 P **P 15 08 33.1 +2.2**
BORG pmax pmax
comp=Z,189nm,1.1s
BORG Borgarnes 77.53 352 LR LR 15 43 34.0
comp=Z,494nm,21.4s,baz=27,slow=36
DECC Green Verdugo 77.58 56 P **P 15 08 32.4 +0.5**
baz=307
ANGG Ammassalik, Gr 77.59 359 *i* P **P 15 08 29.7 -1.5**
ANGG IAmb IAmb 15 08 32.2
comp=Z,109nm,1.0s
YOZ Yozgat 77.63 310 *e*P **P 15 08 31.9 -0.3**
ISOG Isortoq, Green 77.66 0 *i* P **P 15 08 31.4 -0.3**
ISOG IAmb IAmb 15 08 33.1
comp=Z,188nm,1.1s
GKP Gorka Klasztor 77.69 329 *e*P **P 15 08 32.2 +0.2**
GKP *e*S **S 15 18 20.1 +0.3**
GKP *e*L L 15 45 29.0
comp=Z,3μm,19.7s
GKP Gorka Klasztor 77.69 329 *e*P **P 15 08 32.3 +0.2**
SARI SarD1z-Kayseri 77.71 309 *e*P **P 15 08 33.8 +1.1**
CORM Corum 77.71 311 *e*P **P 15 08 33.3 +0.7**
COP Copenhagen 77.72 333 *i* P **P 15 08 31.4 -0.8**
COP IAmb IAmb 15 08 33.7
comp=Z,552nm,0.9s
KURC Kurucasile-Bar 77.79 313 *e*P **P 15 08 33.1 +0.3**
BNN Bunyan 77.79 310 *e*P **P 15 08 34.1 +1.0**
VLDR Vladesti 77.79 319 ⇑P **P 15 08 33.3 +0.6**
BW06 Boulder Array 77.80 45 P **P 15 08 34.2 +1.0**
BW06 Boulder Array 77.80 45 P **P 15 08 33.9 +0.7**
baz=310,SNR=52
PD31 Pinedale Array 77.80 45 P **P 15 08 34.0 +0.8**
PDAR Pinedale Array 77.80 45 P **P 15 08 34.2 +1.0**
PDAR Pinedale Array 77.80 45 P **P 15 08 34.0 +0.8**
comp=Z,20nm,0.9s,baz=282,slow=2.9,SNR=105
PDAR PKKPbc **PKKPbc 15 27 33.8 +0.2**
comp=Z,1.6nm,1.0s,baz=132,slow=2.6,SNR=7.0
PDAR PKPPKP **P'P'df 15 35 37.6 -4.0**
comp=Z,1.1nm,1.0s,baz=125,slow=5.6,SNR=5.1
PDAR LR LR 15 38 59.1
comp=Z,435nm,21.7s,baz=327,slow=33
comp=Z,20nm,0.9s
TLCR 77.83 318 ⇓P **P 15 08 33.8 +0.7**
TLCR 77.83 318 P **P 15 08 33.7 +0.7**
VARL Varlezi 77.88 319 ⇑P **P 15 08 34.1 +0.9**
KWP Kalwaria Pacla 77.90 324 *i* P **P 15 08 34.3 +0.9**
KWP *e*L L 15 46 27.5
comp=Z,2μm,17.5s
FMP Fort Macarthur 77.93 57 P **P 15 08 34.3 +0.5**
baz=307
SCTR Scanteiesti 77.95 319 ⇑P **P 15 08 34.6 +0.9**
SHOC Shoshone, Teco 77.95 54 P **P 15 08 34.8 +0.9**
baz=307
KMRS Kahramanmaras 77.96 308 *e*P **P 15 08 35.1 +1.2**
GAZ Gaziantep 77.96 308 *e*P **P 15 08 35.5 +1.5**
GSC Goldstone, Bar 77.97 55 P **P 15 08 34.9 +0.8**
baz=307,SNR=13
TATR Tatarca 77.97 319 ⇑P **P 15 08 34.5 +0.7**
GHRR 78.00 319 ⇑P **P 15 08 35.2 +1.2**
ABTO Aybut 78.01 283 P **P 15 08 34.2 -0.3**
SNR=19
CIS Catalina Islan 78.03 57 P **P 15 08 35.2 +0.8**
baz=307,SNR=6.6
BFSC Mount Baldy Ra 78.04 56 P **P 15 08 35.1 +0.6**
baz=307,SNR=13
BUR08 Bucovina Ar. S 78.06 322 P **P 15 08 34.8 +0.4**
BUR08 IAmb IAmb 15 08 36.5
comp=Z,239nm,1.1s
BURAR Bucovina Array 78.08 322 ⇑P **P 15 08 35.1 +0.6**
BURAR Bucovina Array 78.08 322 P **P 15 08 35.2 +0.7**
BURAR IAmb IAmb 15 08 36.8
comp=Z,227nm,1.1s
TESR Tescani 78.09 320 ⇑P **P 15 08 35.2 +0.7**
IZVR Izvoarele 78.16 319 ⇑P **P 15 08 35.5 +0.7**
SCI2 San Clemente I 78.19 58 P **P 15 08 36.3 +1.0**
baz=307
CFR Carcaliu 78.20 318 ⇓P **P 15 08 35.7 +0.6**
CFR Carcaliu 78.20 318 P **P 15 08 35.6 +0.6**
MUD Monsted U'grnd 78.26 335 *i* P **P 15 08 33.8 -1.3**
MUD IAmb IAmb 15 08 36.8
comp=Z,212nm,1.0s
TPGR Topolog 78.26 318 ⇓P **P 15 08 36.5 +1.1**
RGN Rugen 78.27 332 *e*P **P 15 08 36.0 +0.8**
ODBI Odobesti 78.38 319 ⇑P **P 15 08 37.3 +1.3**
CORO Coronation Par 78.39 175 P **P 15 08 39.2 +3.4**
TUQ Turquoise Moun 78.46 54 P **P 15 08 38.1 +1.2**
baz=308,SNR=36
VRI Vrincioaia 78.49 319 ⇑P **P 15 08 37.3 +0.7**
VRI Vrincioaia 78.49 319 *e*P **P 15 08 37.4 +0.7**
VRI Vrincioaia 78.49 319 P **P 15 08 37.3 +0.7**
BBRC Big Bear Solar 78.52 56 P **P 15 08 38.5 +1.1**
baz=307
NUUK Nuuk 78.53 6 *i* P **P 15 08 35.8 -0.6**
NUUK IAmb IAmb 15 08 38.4
comp=Z,201nm,1.1s
TIRR Tirgusor 78.53 318 ⇑P **P 15 08 37.6 +0.7**
TIRR Tirgusor 78.53 318 *e*P **P 15 08 37.3 +0.4**
TIRR Tirgusor 78.53 318 P **P 15 08 37.5 +0.7**
PLOR Plostina 78.54 320 ⇑P **P 15 08 37.7 +0.7**
PLOR Plostina 78.54 320 P **P 15 08 37.6 +0.7**
HEC Hector,Ludlow 78.56 55 P **P 15 08 38.8 +1.4**
baz=307,SNR=40
BR131 Keskin Array S 78.59 311 P **P 15 08 38.0 +0.5**
BR131 IAmb IAmb 15 08 39.4
comp=Z,217nm,1.1s
BR131 Keskin Array S 78.59 311 *i* P **P 15 08 37.9 +0.4**
BR131 Keskin Array S 78.59 311 P **P 15 08 37.7 +0.2**
SNR=76
BRTR Keskin Array B 78.59 311 P **P 15 08 38.1 +0.5**
BRTR Keskin Array B 78.59 311 P **P 15 08 37.6 +0.1**
comp=Z,104nm,1.1s,baz=92,slow=3.0,SNR=211
BRTR PP **PP 15 11 35.5 +0.1**
comp=Z,10nm,0.9s,baz=69,slow=6.9,SNR=4.3
BRTR LR LR 15 48 06.3
comp=Z,986nm,18.9s,baz=56,slow=39
comp=Z,104nm,1.1s
KOLS Kolonicke sedl 78.59 324 *e*P **P 15 08 38.2 +1.0**
KOLS pmax pmax
comp=Z,195nm,1.2s
KOLS Kolonicke sedl 78.59 324 *e*P **P 15 08 38.2 +1.0**
HARR Harsova 78.63 318 ⇓P **P 15 08 38.2 +0.7**
HARR Harsova 78.63 318 P **P 15 08 38.1 +0.7**
EFOR EFORIE 78.66 317 ⇑P **P 15 08 38.3 +0.7**
MURC Murrieta 78.73 56 P **P 15 08 38.9 +0.6**
baz=307
STHS Stebnicka Huta 78.73 325 *e*P **P 15 08 38.3 +0.3**
STHS pmax pmax
comp=Z,215nm,1.1s
STHS Stebnicka Huta 78.73 325 *e*P **P 15 08 38.3 +0.3**
COVR Voineasa-Covas 78.77 320 ⇑P **P 15 08 39.1 +0.9**
KAMT Kaman 78.77 311 *e*P **P 15 08 39.0 +0.5**
OJC Ojcow 78.82 326 *i* P **P 15 08 39.0 +0.6**
OJC *e*PP PP 15 11 28.7 -8.0
OJC *e*S **S 15 18 27.9 -4.1**
OJC *e*L L 15 44 27.8
comp=Z,1μm,25.6s
OZUR 78.82 320 ⇑P **P 15 08 40.1 +1.6**
ARCR ARCALIA 78.87 322 ⇓P **P 15 08 40.5 +1.7**
SSRD Sdr. Stenderup 78.88 334 *i* P **P 15 08 37.5 -1.1**
SSRD IAmb IAmb 15 08 40.4
comp=Z,570nm,1.1s
BMR Baia Mare 78.88 322 ⇑P **P 15 08 40.0 +1.2**
BMR Baia Mare 78.88 322 P **P 15 08 40.0 +1.2**
YAYX Yaylak 78.98 311 *e*P **P 15 08 38.8 -0.8**
CEYT Ceyhan 78.99 308 *e*P **P 15 08 41.0 +1.5**
CRVS Cervenica-Dubn 79.00 324 *e*P **P 15 08 40.4 +1.0**
CRVS pmax pmax
comp=Z,371nm,1.3s
CRVS Cervenica-Dubn 79.00 324 *e*P **P 15 08 40.3 +0.9**
AMRR Amara 79.00 318 ⇑P **P 15 08 40.7 +1.2**
AMRR Amara 79.00 318 P **P 15 08 40.6 +1.2**
ANTO Ankara 79.01 312 ⇑P **P 15 08 40.2 +0.5**
ANTO Ankara 79.01 312 P **P 15 08 40.2 +0.5**
ANTO Ankara 79.01 312 P **P 15 08 40.5 +0.8**
GMRC Granite Mounta 79.03 55 P **P 15 08 41.1 +1.1**
baz=308,SNR=24
TRPA Tarpa 79.03 323 ⇑P **P 15 08 40.5 +0.9**
CMRD Camardi-Nigde 79.06 309 *e*P **P 15 08 41.5 +1.4**
ISR Istrita 79.08 319 ⇑P **P 15 08 41.2 +1.1**
ISR Istrita 79.08 319 P **P 15 08 41.1 +1.1**
GULA Gulagac 79.10 310 *e*P **P 15 08 40.5 +0.2**
AFSR Afar-Bala (An 79.11 311 *e*P **P 15 08 40.1 -0.2**
DOPR Dopca 79.11 320 ⇓P **P 15 08 41.2 +1.1**
SERE Sereflikochisa 79.13 311 *e*P **P 15 08 41.1 +0.6**
MLR Muntele Rosu 79.14 320 ⇑P **P 15 08 40.9 +0.4**
MLR Muntele Rosu 79.14 320 *e*P **P 15 08 40.9 +0.4**

MLR	Muntele Rosu	79.14	320	P	P	15 08 40.8 +0.4
	comp=Z,83nm,1.1s,baz=12,slow=3.9,SNR=50					
MLR				LR	LR	15 46 58.9
	comp=Z,4μm,18.8s,baz=49,slow=38					
	comp=Z,83nm,1.1s					
NIE	Niedzica	79.17	325	*i* P	P	15 08 42.2 +1.9
NIE				*e*PP	PP	15 11 41.3 +1.6
NIE				*e*S	S	15 18 38.9 +3.0
PFO	Pinyon Flats O	79.21	56	*i* P	P	15 08 42.4 +1.4
PFO				pmax	pmax	
	comp=Z,103nm,1.3s					
PFO				MLR	MLR	
	comp=Z,513nm,21.0s					
PFO	Pinyon Flats O	79.21	56	P	P	15 08 41.8 +0.8
	baz=308,SNR=21					
109C	Camp Elliot, M	79.22	57	P	P	15 08 42.0 +1.1
	baz=307					
PSN	Preselentsi	79.22	317	*i* P	P	15 08 41.3 +0.6
TPFO	Pinon Flats	79.22	56	P	P	15 08 41.6 +0.6
	baz=308,SNR=26					
KARA	Karaisali	79.27	309	*e*P	P	15 08 41.5 +0.4
BELC	Belle Mtn. Jos	79.28	55	P	P	15 08 41.8 +0.3
	baz=308,SNR=17					
YUVA	Yuva-Kibriscik	79.33	313	*e*P	P	15 08 42.4 +0.9
KULU	Kulu	79.41	311	*e*P	P	15 08 42.7 +0.7
CBBR	Cluj-Babes-Bol	79.48	322	⇑P	P	15 08 43.4 +1.3
CJR	Cluj-Napoca	79.50	322	⇑P	P	15 08 43.8 +1.6
CJR	Cluj-Napoca	79.50	322	P	P	15 08 43.8 +1.6
MESR	Meseseni	79.51	322	⇑P	P	15 08 43.8 +1.5
SULR		79.53	319	⇑P	P	15 08 43.2 +0.9
MDUB	Mudurnu	79.56	313	*e*P	P	15 08 43.4 +0.6
K22A	Casper	79.57	44	P	P	15 08 43.5 +0.6
	baz=311					
K22A	Casper	79.57	44	P	P	15 08 43.3 +0.4
	baz=311,SNR=18					
ULM	Lac du Bonnet	79.58	33	P	P	15 08 42.9 +0.4
ULM				IAmb	IAmb	15 08 44.0
	comp=Z,140nm,1.1s					
ULM				IAMs_20	IAMs_20	15 42 19.4
	comp=Z,758nm,19.0s					
ULM	Lac du Bonnet	79.58	33	P	P	15 08 42.9 +0.4
ULM				pmax	pmax	
	comp=Z,140nm,1.1s					
ULM	Lac du Bonnet	79.58	33	P	P	15 08 42.5 -0.1
	comp=Z,102nm,1.1s,baz=316,slow=6.6,SNR=40					
ULM				LR	LR	15 45 11.9
	comp=Z,511nm,20.5s,baz=338,slow=37					
	comp=Z,102nm,1.1s					
MDND	Maddock	79.60	37	IAMs_20	IAMs_20	15 42 21.2
	comp=Z,997nm,21.0s					
MDND	Maddock	79.60	37	P	P	15 08 43.5 +0.8
	baz=315					
MDND	Maddock	79.60	37	P	P	15 08 43.6 +0.9
	baz=315					
SULT	Sultanhani-AKS	79.63	310	*e*P	P	15 08 43.8 +0.6
VOIR		79.64	320	⇑P	P	15 08 43.6 +0.5
VOIR		79.64	320	P	P	15 08 43.6 +0.5
MONP2	Monument Peak	79.67	57	P	P	15 08 44.4 +0.7
	baz=308,SNR=20					
RUE	Ruedersdorf	79.68	330	*e*P	P	15 08 43.2 +0.3
NEE2	Needles Airpor	79.71	54	P	P	15 08 44.3 +0.7
	baz=308					
LANS	Liptovska Anna	79.74	325	*e*P	P	15 08 45.1 +1.6
LANS				pmax	pmax	
	comp=Z,128nm,1.2s					
LANS	Liptovska Anna	79.74	325	*e*P	P	15 08 45.1 +1.6
IRM	Iron Mountain	79.75	55	P	P	15 08 45.2 +1.4
	baz=308,SNR=40					
KECS	Kecovo	79.75	324	*e*P	P	15 08 44.5 +1.0
KECS				pmax	pmax	
	comp=Z,503nm,1.2s					
KECS	Kecovo	79.75	324	*e*P	P	15 08 44.5 +1.0
MARR	Marisel-Cluj	79.76	322	⇑P	P	15 08 44.5 +0.8
CHBY	Cihanbeyli	79.77	311	*e*P	P	15 08 43.8 -0.1
OKC	Ostrava-Krasne	79.83	326	*e*P	P	15 08 44.8 +0.9
OKC				MLR	MLR	
	comp=Z,1μm,16.0s					
OKC	Ostrava-Krasne	79.83	326	*e*P	P	15 08 44.8 +0.9
OKC				AMS	AMS	15 46 50.0
	comp=Z,1μm,16.0s					
BC3	Big Chuckawall	79.85	55	P	P	15 08 45.6 +1.2
	baz=308,SNR=29					
BSEG	Bad Segeberg	79.86	333	*e*P	P	15 08 44.6 +0.7
	comp=Z,265nm,1.1s,baz=37,slow=5.2					
KSP	Ksiaz	79.89	328	*i* P	P	15 08 45.1 +0.9
KSP				*e*S	S	15 18 43.5 +0.2
KSP				*e*L	L	15 43 18.0
	comp=Z,2μm,27.8s					
ARR	Arges	79.90	320	⇑P	P	15 08 45.9 +1.4
RSSD	Black Hills	79.94	42	IAMs_20	IAMs_20	15 39 12.6
	comp=Z,749nm,20.0s					
RSSD	Black Hills	79.94	42	P	P	15 08 45.7 +0.8
	baz=313					
RSSD	Black Hills	79.94	42	P	P	15 08 45.4 +0.5
	baz=313					
E28A	Huff	79.97	38	IAMs_20	IAMs_20	15 40 27.0
	comp=Z,765nm,21.0s					
E28A	Huff	79.97	38	P	P	15 08 45.7 +1.0
	baz=314					
GULT	Gulveren	79.98	313	*e*P	P	15 08 45.8 +0.8
SILT	Sile	80.02	314	*e*P	P	15 08 45.7 +0.6
IKP	In-Ko-Pah, Jac	80.03	57	P	P	15 08 46.8 +1.3
	baz=308,SNR=30					
SVRH	Sivrihisar-ESK	80.03	312	*e*P	P	15 08 45.6 +0.3
SWSC	Sam W. Stewart	80.06	56	P	P	15 08 46.5 +1.1
	baz=308,SNR=18					
BORR	Bors	80.12	323	⇑P	P	15 08 47.0 +1.5
OSTC	Ostas	80.13	328	*e*P	P	15 08 46.6 +1.0
OSTC				MLR	MLR	
	comp=Z,3μm,18.4s					
OSTC	Ostas	80.13	328	*e*P	P	15 08 46.6 +1.0
OSTC				AMS	AMS	15 47 10.0
	comp=Z,3μm,18.4s					
MORC	Moravsky Berou	80.14	327	⇓P	P	15 08 47.0 +1.3
MORC	Moravsky Berou	80.14	327	P	P	15 08 46.0 +0.4
MORC				IAmb	IAmb	15 08 47.8
	comp=Z,267nm,1.1s					
MORC	Moravsky Berou	80.14	327	*e*P	P	15 08 46.0 +0.4
MORC	Moravsky Berou	80.14	327	P	P	15 08 46.9 +1.3
U15A	North Rim	80.17	52	P	P	15 08 48.2 +1.8
U15A				IAmb	IAmb	15 08 50.3
	comp=Z,179nm,1.5s					
SRCK	Saricakaya, Es	80.17	313	*e*P	P	15 08 46.2 +0.2
CHVC	Chvalec	80.18	328	*e*P	P	15 08 46.7 +0.9
CHVC				MLR	MLR	
	comp=Z,3μm,18.9s					
CHVC	Chvalec	80.18	328	*e*P	P	15 08 46.7 +0.9
CHVC				AMS	AMS	15 47 30.0
	comp=Z,3μm,18.9s					
KIZT	Kizilcal	80.18	312	*e*P	P	15 08 46.5 +0.3
HRT	Hereke	80.22	314	*e*P	P	15 08 46.7 +0.5
LOZB	Loznitsa	80.23	318	⇑P	P	15 08 46.8 +0.5
DPC	Dobruska-Polom	80.24	328	*e*P	P	15 08 47.3 +1.1
DPC				*e*S	S	15 18 42.9 -4.3
DPC				MLR	MLR	
	comp=Z,2μm,18.6s					
DPC	Dobruska-Polom	80.24	328	*e*P	P	15 08 47.3 +1.1
DPC				*e*S	S	15 18 42.9 -4.3
DPC				AMS	AMS	15 47 10.0
	comp=Z,2μm,18.6s					
O20A	White River Ci	80.25	47	P	P	15 08 47.5 +0.9
	baz=311					
UPC	Upice	80.25	328	*e*P	P	15 08 47.2 +1.0
UPC				MLR	MLR	
	comp=Z,3μm,17.7s					
UPC	Upice	80.25	328	*e*P	P	15 08 47.2 +1.0
UPC				AMS	AMS	15 47 20.0
	comp=Z,3μm,17.7s					
LOT	Lotru	80.29	321	⇑P	P	15 08 47.1 +0.5
KLYT	Kilyos	80.29	315	*e*P	P	15 08 47.1 +0.6
HUMR	Humele	80.30	319	⇑P	P	15 08 47.4 +0.8
PDMCI	Parker Dam,Lak	80.31	54	P	P	15 08 47.8 +1.0
	baz=308,SNR=20					
MAUC	Maruska	80.31	326	*e*P	P	15 08 47.6 +1.0
LADK	Ladik-KONYA	80.33	311	*e*P	P	15 08 47.2 +0.2
BIGH	Upper Bighouse	80.35	342	*e*P	P	15 08 47.1 +0.6
BIGH				IAmb	IAmb	15 08 48.4
	comp=Z,144nm,1.0s					
CIFT	Cifteler, Eski	80.36	312	*e*P	P	15 08 47.3 +0.2
ISK	Istanbul-Kandi	80.41	315	*e*P	P	15 08 47.6 +0.4
DEV	Deva	80.42	321	⇑P	P	15 08 48.2 +1.0
DEV	Deva	80.42	321	P	P	15 08 48.1 +1.0
RAR	Rarotonga	80.43	126	LR	LR	15 36 17.9
	comp=Z,2μm,21.4s,baz=320,slow=30					
PSZ	Piszkesteto	80.43	324	⇑P	P	15 08 48.2 +0.9
PSZ	Piszkesteto	80.43	324	P	P	15 08 48.2 +0.9
ADVT	Abdulvahap	80.43	314	*e*P	P	15 08 47.9 +0.6
COPA	Copaceanca	80.45	319	⇑P	P	15 08 47.7 +0.4
BGKT	Bogazkoy	80.49	315	*e*P	P	15 08 47.3 -0.3
KONT	Konya--Tatoy	80.49	311	*e*P	P	15 08 48.3 +0.6
VYHS	Vyhne	80.50	325	*e*P	P	15 08 48.7 +1.1
VYHS				pmax	pmax	
	comp=Z,307nm,1.4s					
VYHS	Vyhne	80.50	325	*e*P	P	15 08 48.7 +1.1
CAVI	Cavuskoy	80.52	314	*e*P	P	15 08 48.4 +0.5
YLV	Yalova	80.56	314	*e*P	P	15 08 48.4 +0.3
CTYL	Yalikoy Yolu	80.57	315	*e*P	P	15 08 47.9 -0.1
CTKS	Kestanelik-??a	80.61	315	*e*P	P	15 08 47.3 -0.9
KEBE	Keben-Mersin	80.61	309	*e*P	P	15 08 49.0 +0.5
GLA	Glamis	80.64	56	P	P	15 08 49.9 +1.3
	baz=308					
JAVC	Velka Javorina	80.76	326	*e*P	P	15 08 50.5 +1.5
IKL	Isikli	80.76	309	*e*P	P	15 08 49.3 +0.1
SIRR	Siria	80.77	322	⇑P	P	15 08 50.0 +0.9
FLTG	Flechtingen	80.78	331	*e*P	P	15 08 48.9 0.0
	comp=Z,296nm,1.1s,baz=37,slow=5.2					
GZR	Gura Zlata	80.83	321	⇓P	P	15 08 49.8 +0.4
GZR	Gura Zlata	80.83	321	P	P	15 08 49.8 +0.4
BRG	Berggiesshubel	80.84	329	⇑*i*P	P	15 08 50.2 +0.9
BRG				Amp		15 08 51.8
	comp=Z,213nm,1.2s					
BRG	Berggiesshubel	80.84	329	P	pP	15 09 04.0 -0.7
BRG				Amp		15 09 08.1
	comp=Z,48nm,1.1s					
BRG	Berggiesshubel	80.84	329	SKS	S	15 18 49.0 -4.3
BRG	Berggiesshubel	80.84	329	SS	SS	15 24 07.0 +0.5
BRG				Amp		15 47 48.0
	comp=Z,2.1nm,19.8s					
BRG				Amp		15 47 51.0
	comp=E,1.2nm,18.5s					
BRG				Amp		15 47 53.0
	comp=N,1.1nm,17.9s					
BRG	Berggiesshubel	80.84	329	⇑*i*P	P	15 08 50.2 +0.9
BRG						15 09 03.9
BRG						15 18 49.0
BRG				SS	SS	15 24 07.0 +0.5
BRG				pmax	pmax	
	comp=Z,213nm,1.2s					
BRG				pmax	pmax	
	comp=Z,48nm,1.1s					
BRG				pmax	pmax	
	comp=Z,54nm,1.2s					
BRG				pmax	pmax	
	comp=Z,14nm,1.1s					
BRG				pmax	pmax	
	comp=Z,22nm,1.1s					
BRG				pmax	pmax	
	comp=Z,2μm,19.8s					
BRG				MLR	MLR	
	comp=E,1μm,18.5s					
BRG				MLR	MLR	
	comp=N,1μm,17.9s					
BRG	Berggiesshubel	80.84	329	*e*P	P	15 08 50.4 +1.1
	comp=N,180nm,1.1s,baz=37,slow=5.2					
PVCC	Panska Ves	80.84	329	*e*P	P	15 08 50.5 +1.2
PVCC				MLR	MLR	
	comp=Z,2μm,17.9s					
PVCC	Panska Ves	80.84	329	*e*P	P	15 08 50.5 +1.2
PVCC				AMS	AMS	15 47 30.0
	comp=Z,2μm,17.9s					
ARMT	Armutlu	80.85	314	*e*P	P	15 08 49.4 -0.2
JMB	Yambol	80.86	317	*i* P	P	15 08 49.9 +0.3
CLL	Collm	80.89	330	⇑*i*P	P	15 08 49.6 +0.1
CLL				*i* *PP	pP	15 09 05.0 +0.1
CLL				*e*S	S	15 18 53.0 -0.7
CLL				pmax	pmax	
	comp=Z,357nm,1.1s					
CLL				MLR	MLR	
	comp=Z,2μm,21.4s					
CLL	Collm	80.89	330	*e*P	P	15 08 49.7 +0.2
	comp=Z,301nm,1.0s,baz=37,slow=5.2					
CLL	Collm	80.89	330	⇑*i*P	P	15 08 49.6 +0.1
	comp=Z,357nm,1.1s					
CLL				*e*Pmax		15 08 50.0
CLL				*e*Plp		15 08 50.0
CLL				*i* pP	pP	15 09 05.0 +0.1
	comp=Z,114nm,1.3s					
CLL				*e*PP	PP	15 11 58.0 +4.3
CLL				*e*S	S	15 18 53.0 -0.7
CLL				*e*sS	sS	15 19 20.0 +0.2
CLL				*e*PS	PnS	15 19 50.0 +4.5
CLL				*e*SS	SS	15 24 42.0 +35
CLL				AMS	AMS	15 47 00.0
	comp=Z,2μm,21.4s					
CLL				AMS	AMS	15 48 00.0
PHSR	Pinarhisar	80.89	316	*e*P	P	15 08 50.7 +0.9
AKKU	Akkuyu-Mersin	80.90	309	*e*P	P	15 08 50.2 +0.3
SURR	Surduc	80.90	322	⇑P	P	15 08 50.2 +0.5
VRAC	Vranov	80.90	327	⇑P	P	15 08 50.5 +0.8
VRAC	Vranov	80.90	327	*e*P	P	15 08 50.3 +0.6
VRAC	Vranov	80.90	327	P	P	15 08 50.5 +0.8
	comp=Z,192nm,1.1s,baz=50,slow=5.1,SNR=139					
VRAC				LR	LR	15 47 37.7
	comp=Z,2μm,18.8s,baz=39,slow=38					
	comp=Z,192nm,1.1s					
EREN	Erenkoy	80.91	308	*e*P	P	15 08 50.3 +0.4
GUVIX	Guadalupe Vict	80.93	56	IAMs_20	IAMs_20	15 38 04.8
	comp=Z,1μm,20.0s					
VLAD	Vladila	80.97	319	⇓P	P	15 08 51.1 +1.0
LINV	Loch Inver, As	80.97	343	*e*P	P	15 08 49.6 -0.2
LINV				IAmb	IAmb	15 08 51.8
	comp=Z,210nm,1.1s					
BERE	Bereket-Mersin	80.98	309	*e*P	P	15 08 50.6 +0.1
MCD	Coleburn Disti	80.99	341	*e*P	P	15 08 50.1 +0.2
VTX	Valle De La Tr	81.02	57	IAMs_20	IAMs_20	15 37 37.2
	comp=Z,896nm,19.0s					
RICC	Richard	81.03	329	*e*P	P	15 08 51.6 +1.3
RICC				AMS	AMS	15 47 50.0
	comp=Z,2μm,17.9s					
FBE	Freiberg	81.04	330	*e*P	P	15 08 51.1 +0.8
	comp=Z,301nm,1.0s,baz=37,slow=5.2					
HDMB	Hadim	81.04	310	*e*P	P	15 08 50.7 -0.2
N23A	Red Feather La	81.06	45	P	P	15 08 52.3 +1.3
	baz=312					
NRDL	Niedersach Rie	81.08	332	*e*P	P	15 08 50.9 +0.5
	comp=Z,136nm,1.1s,baz=37,slow=5.2					
SMOL	Smolenice	81.12	326	*e*P	P	15 08 52.5 +1.6
SMOL				pmax	pmax	
	comp=Z,149nm,1.2s					
SRE	Strehaia	81.12	320	⇑P	P	15 08 51.8 +0.9
SRE	Strehaia	81.12	320	P	P	15 08 51.8 +0.9
ASSE	Asse, Remlinge	81.15	332	*e*P	P	15 08 51.0 +0.2
	comp=Z,113nm,1.2s,baz=37,slow=5.2					
RETH	Rethem/Aller,	81.16	333	*e*P	P	15 08 51.4 +0.5
	comp=Z,274nm,1.2s,baz=37,slow=5.2					
PVL	Pavlikeni	81.16	318	*i* P	P	15 08 51.3 +0.1
KRUC	Moravsky	81.17	327	*e*P	P	15 08 51.5 +0.4
EDRB	Edirne	81.18	316	P	P	15 08 51.7 +0.5
EDRB	Edirne	81.18	316	*e*P	P	15 08 51.8 +0.5
TEKE	Tekeli-Mersin	81.18	309	*e*P	P	15 08 51.6 +0.2
GOPC	GO Pecny, Ondr	81.22	328	*e*P	P	15 08 52.4 +1.0
GOPC				MLR	MLR	
	comp=Z,3μm,19.6s					
GOPC	GO Pecny, Ondr	81.22	328	*e*P	P	15 08 52.4 +1.0
GOPC				AMS	AMS	15 47 40.0
	comp=Z,3μm,19.6s					
ASF	Jabal al Asfar	81.23	304	P	P	15 08 52.2 +0.4
	comp=Z,68nm,1.0s,baz=48,slow=2.4,SNR=69					
ASF				PP	PP	15 11 58.5 +1.1
	comp=Z,24nm,1.1s,baz=17,slow=6.8,SNR=3.1					
ASF				LR	LR	15 48 51.8
	comp=Z,1μm,19.2s,baz=76,slow=39					
	comp=Z,68nm,1.0s					
SRO	Srobarova	81.24	325	*e*P	P	15 08 53.1 +1.6
SRO				pmax	pmax	
	comp=Z,283nm,1.2s					
SRO	Srobarova	81.24	325	*e*P	P	15 08 53.1 +1.6
BZS	Buzias	81.25	322	⇑P	P	15 08 51.6 0.0
BZS	Buzias	81.25	322	*e*P	P	15 08 52.2 +0.6
BZS	Buzias	81.25	322	P	P	15 08 51.6 0.0
PRA	Prague	81.25	328	*e*P	P	15 08 52.4 +0.9
PRA				MLR	MLR	
	comp=Z,3μm,19.5s					
PRA	Prague	81.25	328	*e*P	P	15 08 52.4 +0.9
PRA				AMS	AMS	15 47 40.0
	comp=Z,3μm,19.5s					
HSKC	Hora Svate Kat	81.25	329	*e*P	P	15 08 52.3 +0.7
HSKC				AMS	AMS	15 47 40.0
	comp=Z,2μm,17.6s					
PRU	Pruhonice	81.27	328	*e*P	P	15 08 52.3 +0.7
PRU				*e*S	S	15 18 54.4 -3.4
PRU				MLR	MLR	
	comp=Z,3μm,18.8s					
PRU	Pruhonice	81.27	328	*e*P	P	15 08 52.3 +0.7
PRU				*e*S	S	15 18 54.4 -3.4
PRU				AMS	AMS	15 47 40.0
	comp=Z,3μm,18.8s					
MODS	Modra-Piesok	81.29	326	*e*P	P	15 08 53.3 +1.5
MODS				pmax	pmax	
	comp=Z,496nm,1.2s					
MODS	Modra-Piesok	81.29	326	*e*P	P	15 08 53.3 +1.5
WUAZ	Wupatki	81.32	52	P	P	15 08 53.8 +1.4
	baz=310,SNR=50					
D32B	Dogwood Acres,	81.33	36	P	P	15 08 52.1 +0.1
	baz=317					
D32A	Dogwood Acres,	81.33	36	IAMs_20	IAMs_20	15 43 55.0
	comp=Z,697nm,20.0s					
KCTX	Karacabey (Bur	81.34	314	*e*P	P	15 08 52.7 +0.5
LEWI	Lewis, Hebride	81.36	343	*e*P	P	15 08 52.5 +0.6
LEWI				IAmb	IAmb	15 08 53.8
	comp=Z,200nm,1.0s					
HERR	Herculane	81.37	321	⇑P	P	15 08 52.3 +0.1
DRUM	Mains of Drumt	81.39	341	*e*P	P	15 08 52.7 +0.7
TREC	Trest	81.39	327	*e*P	P	15 08 53.1 +0.8
TREC				MLR	MLR	
	comp=Z,2μm,18.3s					
TREC	Trest	81.39	327	*e*P	P	15 08 53.1 +0.8
TREC				AMS	AMS	15 48 10.0
	comp=Z,2μm,18.3s					
NEUB	Neuenburg	81.45	331	*e*P	P	15 08 53.0 +0.5
	comp=Z,342nm,1.1s,baz=37,slow=5.2					
LFK	Lefkose	81.47	308	*e*P	P	15 08 53.3 +0.3
DJES	Djerdap	81.47	321	⇑P	P	15 08 53.2 +0.4
CLZ	Clausthal	81.50	332	*e*P	P	15 08 53.3 +0.4
	comp=Z,385nm,1.2s,baz=37,slow=5.2					
BAIL	Bailesti	81.50	320	⇑P	P	15 08 54.0 +1.1
ZST	Bratislava	81.50	326	*e*P	P	15 08 54.5 +1.6
ZST				pmax	pmax	
	comp=Z,543nm,1.5s					
ZST	Bratislava	81.50	326	*e*P	P	15 08 54.5 +1.6
GEDZ	Gediz	81.54	313	*e*P	P	15 08 54.1 +0.8
EDC	Edincik	81.56	315	*e*P	P	15 08 54.1 +0.8
GAZI	Gazipasa	81.62	309	*e*P	P	15 08 53.0 -0.7
SUTC	Sutluce-Ispart	81.62	311	*e*P	P	15 08 53.9 0.0
MMAI	Mount Meron Ar	81.69	305	P	P	15 08 55.1 +0.9
	comp=Z,120nm,0.9s,baz=46,slow=6.0,SNR=96					
MMAI				PP	PP	15 12 02.4 +1.2
	comp=Z,24nm,1.1s,baz=42,slow=12,SNR=4.2					
MMAI				LR	LR	15 48 36.4
	comp=Z,2μm,21.7s,baz=16,slow=38					
	comp=Z,120nm,0.9s					
IVI	Ivigtut	81.73	5	*i* P	P	15 08 53.4 -0.4
IVI				IAmb	IAmb	15 08 55.2
	comp=Z,104nm,1.1s					
MPEP	Malo Peshtene	81.76	319	*i* P	P	15 08 54.9 +0.6
SIMA	Simav-Kutahya	81.76	313	*e*P	P	15 08 54.5 0.0
MDVR	Moldovita	81.79	321	⇑P	P	15 08 55.1 +0.5
TANN	Tannenbergstha	81.80	330	*e*P	P	15 08 54.8 +0.3
	comp=Z,202nm,1.6s,baz=37,slow=5.2					
CSS	Mathiatis	81.80	308	*e*P	P	15 08 54.9 +0.2
KPL	Plockton	81.81	343	*e*P	P	15 08 55.3 +1.0
KPL				IAmb	IAmb	15 08 57.4
	comp=Z,466nm,1.0s					
WERD	Werda	81.83	330	*e*P	P	15 08 55.1 +0.5
	comp=Z,166nm,1.2s,baz=37,slow=5.2					
ZVC	Zvikov	81.83	328	*e*P	P	15 08 55.4 +0.8
ZVC				AMS	AMS	15 47 50.0
	comp=Z,2μm,19.0s					
HSY	Hisarkoy	81.83	308	*e*P	P	15 08 55.3 +0.4
KRBG	Karabiga-Canak	81.85	315	*e*P	P	15 08 55.6 +0.8
PLN	Plauen	81.86	330	*e*P	P	15 08 55.2 +0.5
	comp=Z,203nm,1.5s,baz=37,slow=5.2					
SFX	San Felipe	81.86	57	IAMs_20	IAMs_20	15 37 02.5
	comp=Z,1μm,21.0s					
BCK	Bucak	81.88	311	*e*P	P	15 08 54.3 -0.9
GTTG	Gottingen	81.89	332	*e*P	P	15 08 55.3 +0.5
	comp=Z,230nm,1.1s,baz=37,slow=5.2					
GUNZ	Gunzen	81.89	330	*e*P	P	15 08 55.5 +0.6
	comp=Z,175nm,1.1s,baz=37,slow=5.2					
B35A	Bob, Littlefor	81.92	33	P	P	15 08 55.4 +0.3
	baz=319					
NRS	Narsarsuaq	81.92	3	*i* P	P	15 09 01.1 +6.3
NRS				IAmb	IAmb	15 09 10.1
	comp=Z,41nm,0.9s					
WERN	Wernitzgruen	81.93	330	*e*P	P	15 08 55.7 +0.5
	comp=Z,181nm,1.1s,baz=37,slow=5.2					
NKC	Novy Kostel	81.94	330	*e*P	P	15 08 55.8 +0.6
NKC				MLR	MLR	
	comp=Z,2μm,14.6s					
NKC	Novy Kostel	81.94	330	*e*P	P	15 08 55.8 +0.6
NKC				AMS	AMS	15 48 40.0
	comp=Z,2μm,14.6s					
MOX	Moxa	81.95	330	*e*P	P	15 08 55.7 +0.4
	comp=Z,244nm,1.4s,baz=37,slow=5.2					
MOX				*e*L	L	15 49 34.4
	comp=Z,2μm,19.9s					
LEF	Lefka	81.97	308	*e*P	P	15 08 55.6 0.0
ISCO	Idaho Springs	81.98	46	P	P	15 08 57.3 +1.4
	baz=312,SNR=25					
ISCO	Idaho Springs	81.98	46	P	P	15 08 56.1 +0.1
	baz=312,SNR=25					
MVCO	Mesa Verde	82.00	49	P	P	15 08 57.2 +1.2
	baz=311,SNR=53					
BALB	Balikesir	82.03	314	*e*P	P	15 08 56.0 +0.2
MMLI	Mount Malkishu	82.05	305	*e*P	P	15 08 56.6 +0.5
URZ	Urewera	82.05	152	P	P	15 08 57.9 +2.3
URZ	Urewera	82.05	152	LR	LR	15 41 22.3
	comp=Z,1μm,21.6s,baz=52,slow=33					
PLD	Plovdiv	82.06	318	*e*P	P	15 08 56.8 +0.9
PLD	Plovdiv	82.06	318	*i* P	P	15 08 56.8 +0.9
IBBN	Ibbenburen	82.09	333	*e*P	P	15 08 56.2 +0.3
	comp=Z,301nm,1.0s,baz=37,slow=5.2					
KDZ	Kurdzhali	82.10	317	*e*P	P	15 08 57.2 +1.1
ERIK	Erikli-Kesan	82.10	316	*e*P	P	15 08 56.7 +0.5
PGB	Panagyurishte	82.11	318	*i* P	P	15 08 56.8 +0.5
LPK	Lapseki	82.17	315	*e*P	P	15 08 57.6 +1.1
ALN	Alexandroupoli	82.21	316	P	P	15 08 56.8 +0.1
ALN	Alexandroupoli	82.21	316	*e*P	P	15 08 57.2 +0.5
ALN	Alexandroupoli	82.21	316	IAMs_20	IAMs_20	15 50 00.4
	comp=Z,1μm,20.0s					
INVG	Invergeldie, C	82.22	341	*e*P	P	15 08 57.1 +0.6
RONA	Rosalia, Austr	82.23	326	*i* P	P	15 08 57.9 +1.1
	comp=Z,350nm,1.5s,SNR=93					
MORH	Mrgy, Hungar	82.25	324

comp=Z,170nm,1.2s,baz=37,slow=5.2
GERES **GERESS Array B** 82.50 328 P **P** 15 08 58.1 -0.1
GERES **GERESS Array B** 82.50 328 P **P** 15 08 58.4 +0.2
comp=Z,62nm,0.8s,baz=35,slow=5.4,SNR=99
GERES LR LR 15 49 10.3
comp=Z,2µm,18.6s,baz=43,slow=38
comp=Z,62nm,0.8s
VTS Vitosha 82.54 319 *e*P **P** 15 09 01.5 +2.9
VTS Vitosha 82.54 319 *i* P **P** 15 08 59.6 +1.0
W18A Petrified Fore 82.60 51 P **P** 15 09 00.5 +1.4
baz=311,SNR=9.3
WET Wettzell 82.61 329 *e*P **P** 15 08 59.4 +0.7
comp=Z,195nm,1.2s,baz=37,slow=5.2
BOVS Bovan 82.61 320 ⇓P **P** 15 08 58.8 0.0
F33A 5 Mile Ranch, 82.62 36 P **P** 15 08 59.2 +0.4
baz=317
APMY Acipayam-Deniz 82.64 312 *e*P **P** 15 08 59.3 +0.1
S22A 4UR Ranch, Cre 82.64 48 P **P** 15 09 00.9 +1.5
baz=312,SNR=74
214A Organ Pipe Nat 82.65 55 IAms_20 IAms_20 15 38 03.1
comp=Z,1µm,21.0s
214A Organ Pipe Nat 82.65 55 P **P** 15 09 00.5 +1.3
baz=309,SNR=16
GHAJ Ghor Haditha 82.66 304 P **P** 15 08 59.9 +0.6
GHAJ IAms_20 IAms_20 15 51 39.0
comp=Z,1µm,20.0s
LAWE Loch Awe, Argy 82.71 342 *e*P **P** 15 08 59.8 +0.8
LAWE IAmb IAmb 15 09 00.2
comp=Z,110nm,1.1s
KASTN Kahler Asten 82.74 332 *e*P **P** 15 08 59.7 +0.4
comp=Z,102nm,1.1s,baz=37,slow=5.2
ELL Elmali 82.75 311 *e*P **P** 15 08 59.9 +0.1
ELL Elmali 82.75 311 P **P** 15 08 59.6 -0.2
ELL Elmali 82.75 311 P **P** 15 08 59.6 -0.2
ELL pmax pmax
comp=Z,412nm,0.9s
QRZ Quartz Range 82.76 156 IAms_20 IAms_20 15 40 22.1
comp=Z,1µm,20.0s
QRZ Quartz Range 82.76 156 P **P** 15 08 58.6 -0.6
GADA Gvkgeada 82.77 316 *e*P **P** 15 09 00.0 +0.3
EZN Ezine 82.78 315 P **P** 15 08 59.6 -0.1
EZN Ezine 82.78 315 *e*P **P** 15 09 00.0 +0.3
SMTH Samothraki Isl 82.79 316 P **P** 15 08 59.3 -0.5
GRA1 Grafenberg Arr 82.86 330 P **P** 15 09 00.7 +0.7
GRF Grafenberg Arr 82.86 330 P **P** 15 09 00.7 +0.7
GRF pmax pmax
comp=Z,383nm,1.0s
GRF MLR MLR
comp=Z,2µm,19.0s
GRF Grafenberg Arr 82.86 330 *e*P **P** 15 09 00.9 +1.0
comp=Z,435nm,1.1s,baz=37,slow=5.2
GRF *e*L L 15 49 29.7
comp=Z,2µm,19.8s
GRFO Grafenberg 82.86 330 P **P** 15 09 01.0 +1.0
GRFO Grafenberg 82.86 330 P **P** 15 09 01.0 +1.0
GRFO pmax pmax
comp=Z,413nm,1.1s
GRFO MLR MLR
comp=Z,2µm,19.0s
PGBU Glenifferbraes 82.88 341 *e*P **P** 15 09 00.2 +0.3
PGBU IAmb IAmb 15 09 02.8
comp=Z,377nm,1.0s
ARSA Arzberg 82.92 326 *i* P **P** 15 09 01.0 +0.6
comp=Z,148nm,1.4s,SNR=38
BOZC Bozcaada 82.93 315 *e*P **P** 15 09 00.8 +0.3
EKA Eskdalemuir Ar 82.96 340 P **P** 15 09 00.8 +0.5
comp=Z,66nm,0.9s,baz=25,slow=4.5,SNR=64
EKA PP **PP** 15 12 10.5 -0.1
comp=Z,20nm,1.0s,baz=31,slow=7.2,SNR=5.8
comp=Z,66nm,0.9s
DKL Dikili 82.97 314 *e*P **P** 15 09 00.8 +0.1
BUG Bochum--Univer 82.97 333 *e*P **P** 15 09 00.5 +0.1
comp=Z,157nm,1.1s,baz=37,slow=5.2
KAVA Kavala 82.98 317 P **P** 15 09 01.1 +0.4
ESK Eskdalemuir 82.99 340 *e*P **P** 15 09 01.2 +0.7
ESK IAmb IAmb 15 09 02.1
comp=Z,117nm,1.0s
ESK Eskdalemuir 82.99 340 P **P** 15 09 01.3 +0.7
ESK IAmb IAmb 15 09 02.3
comp=Z,127nm,1.1s
ESK Eskdalemuir 82.99 340 P **P** 15 09 01.3 +0.8
ESK pmax pmax
comp=Z,127nm,1.1s
ESK MLR MLR
comp=Z,2µm,19.0s
MMB Musomishta 83.01 318 *i* P **P** 15 09 01.8 +0.8
MOA Molln 83.02 327 *i* P **P** 15 09 01.2 +0.4
comp=Z,176nm,1.2s,SNR=78
MOA *e*PP **PP** 15 12 08.1 -3.3
comp=Z,58nm,1.3s
TEKS Tekeris 83.04 322⇑*i*P **P** 15 09 01.1 +0.1
NVR Nevrokopi 83.09 318 P **P** 15 09 02.6 +1.2
KKB Krupnik 83.14 318 *i* P **P** 15 09 02.4 +0.8
THAS Thassos island 83.14 317 P **P** 15 09 01.5 -0.1
DIVS Divibare 83.14 322⇑*i*P **P** 15 09 01.8 +0.2
KOGS Kog 83.19 325 *i* P **P** 15 09 01.4 -0.3
OGNE Ogallala 83.20 43 P **P** 15 09 02.4 +0.4
baz=314,SNR=5.1
OGNE Ogallala 83.20 43 P **P** 15 09 02.3 +0.3
baz=314,SNR=5.1
EYMN Ely 83.21 33 IAms_20 IAms_20 15 47 31.3
comp=Z,898nm,21.0s
EYMN Ely 83.21 33 P **P** 15 09 01.9 +0.1
baz=320,SNR=66
EYMN Ely 83.21 33 P **P** 15 09 01.8 +0.1
baz=320,SNR=66
PRK Paraskevi 83.21 315 P **P** 15 09 01.9 0.0
AKAS Kas 83.28 311 *e*P **P** 15 09 02.1 -0.4
FETY Fethiye 83.32 311 *e*P **P** 15 09 02.6 0.0
RFT5 Foca 83.34 314 *e*P **P** 15 09 03.2 +0.6
LIA Limnos Island 83.37 316 P **P** 15 09 02.5 -0.3
LIA Limnos Island 83.37 316 *e*P **P** 15 09 02.9 +0.1
KOKK Kokkinochori, 83.39 317 P **P** 15 09 03.1 +0.2
SRS Serrai 83.40 318 P **P** 15 09 02.8 -0.1
SRS Serrai 83.40 318 *e*P **P** 15 09 03.0 +0.1
BIOA Bad Ischl, Aus 83.41 327 *i* P **P** 15 09 03.4 +0.5
comp=Z,261nm,1.3s,SNR=56
SDCO Great Sand Dun 83.43 47 P **P** 15 09 04.5 +1.0
baz=312,SNR=48
SDCO Great Sand Dun 83.43 47 P **P** 15 09 04.9 +1.4
baz=312
NEWG New Galloway 83.44 341 *e*P **P** 15 09 03.4 +0.6
NEWG IAmb IAmb 15 09 05.2
comp=Z,90nm,1.0s
DALY Dalyan (Mula) 83.46 312 *e*P **P** 15 09 03.8 +0.5
SIGR SIGRI 83.47 315 P **P** 15 09 03.3 0.0
SIGR SIGRI 83.47 315 *e*P **P** 15 09 03.6 +0.3
YER Yerkesik 83.47 312 P **P** 15 09 04.2 +0.8
YER Yerkesik 83.47 312 *e*P **P** 15 09 04.0 +0.6
TNS Taunus Mts 83.52 332 *e*P **P** 15 09 03.7 +0.3
comp=Z,172nm,1.4s,baz=37,slow=5.2
PERS Pernice 83.57 326 *i* P **P** 15 09 03.8 +0.1
PERS *e*PP **PP** 15 12 18.7 +2.7
SOKA Soboth 83.57 326 *i* P **P** 15 09 04.1 +0.3
comp=Z,384nm,1.2s,SNR=119
BBLS Lazići 83.60 322⇑*i*P **P** 15 09 04.8 +0.8
KESW Keswick, Cumbr 83.60 340 *e*P **P** 15 09 04.5 +0.9
KESW IAmb IAmb 15 09 05.5
comp=Z,205nm,0.9s
DOB Doboj 83.60 323 *e*P P 15 09 13.6 +10
URLA Izmir 83.63 314 *e*P **P** 15 09 04.4 +0.2
MLSB Milas 83.66 313 *e*P **P** 15 09 05.4 +1.0
GCAM G?zelcaml? 83.70 313 *e*P **P** 15 09 05.1 +0.6
TURN Turunc 83.73 312 *e*P **P** 15 09 05.6 +0.9
OUR Ouranopolis 83.73 317 P **P** 15 09 04.9 +0.3
OUR Ouranopolis 83.73 317 *e*P **P** 15 09 05.0 +0.3
RJOB Jochberg 83.73 328 *e*P **P** 15 09 05.4 +0.8
comp=Z,222nm,1.0s,baz=37,slow=5.2
SOH Sokhos 83.73 317 P **P** 15 09 04.7 0.0
HPK Haverah Park 83.74 339 *e*P **P** 15 09 05.1 +0.7
HPK IAmb IAmb 15 09 06.2
comp=Z,205nm,0.8s
KNT Kendrikon 83.74 318 P **P** 15 09 04.9 +0.2
KNT Kendrikon 83.74 318 *e*P **P** 15 09 05.1 +0.4
TUC Tucson 83.74 54 P **P** 15 09 06.2 +1.2
baz=310
SJES Sjenica 83.76 321⇑*i*P **P** 15 09 05.3 +0.4
GAL1 Galloway 83.78 341 *e*P **P** 15 09 05.3 +0.7
GAL1 IAmb IAmb 15 09 05.7
comp=Z,124nm,0.8s
RUDO Rudo 83.80 322⇑*i*P **P** 15 09 05.1 +0.2
VAY Valandovo 83.80 318 *i* P **P** 15 09 05.5 +0.6
BFZ Birch Farm 83.88 154 P **P** 15 09 06.4 +1.4
RFTAA Mazikoy-Bodrum 83.88 312 *e*P **P** 15 09 05.9 +0.5
F36A Milaca 83.90 35 IAms_20 IAms_20 15 44 37.8
comp=Z,909nm,21.0s
F36A Milaca 83.90 35 P **P** 15 09 05.2 -0.2
baz=319
OBKA Obir 83.92 326 *i* P **P** 15 09 05.6 0.0
comp=Z,98nm,1.5s,SNR=13
OBKA *e*PP **PP** 15 12 13.4 -5.5
comp=Z,53nm,1.5s
OBKA Obir 83.92 326⇑*i*P **P** 15 09 05.2 -0.4
CHOS Chios island 83.92 314 P **P** 15 09 05.7 0.0
SMG Samos 83.93 313 P **P** 15 09 05.6 -0.1
SKO Skopje 83.94 319 *i* P **P** 15 09 07.0 +1.3
CLGH Cloghs, Cushen 83.95 342 *e*P **P** 15 09 06.4 +0.9
CLGH IAmb IAmb 15 09 07.3
comp=Z,227nm,0.9s
PLE Pljevlja 84.00 321⇑*i*P **P** 15 09 06.7 +0.6
KBA Koelnbreinsper 84.01 327 *i* P **P** 15 09 06.2 0.0
comp=Z,121nm,1.0s
ECSD EROS Data Cent 84.01 38 IAms_20 IAms_20 15 42 38.0
comp=Z,1µm,21.0s
ECSD EROS Data Cent 84.01 38 P **P** 15 09 06.2 +0.2
baz=317
ECSD EROS Data Cent 84.01 38 P **P** 15 09 06.2 +0.2
baz=317
CRES Cresnjev 84.03 325⇑*i*P **P** 15 09 06.0 0.0
LESA Schwarzleotal 84.03 328 *i* P **P** 15 09 06.4 +0.3
comp=Z,306nm,1.7s
BLY Banja Luka 84.03 324⇑*i*P **P** 15 09 06.1 0.0
HORT Hortiatis 84.03 317 P **P** 15 09 06.1 -0.2
HORT Hortiatis 84.03 317 *e*P **P** 15 09 06.2 -0.1
FUR Furstenfeldbru 84.04 329 *e*P **P** 15 09 06.6 +0.6
comp=Z,349nm,0.9s,baz=37,slow=5.2
BEBN Eben Emael 84.08 333 *d*P **P** 15 09 05.9 -0.2
comp=Z,120nm,1.0s
THE Thessaloniki 84.08 318 P **P** 15 09 06.1 -0.3
IVA Berane 84.08 321⇑*i*P **P** 15 09 06.8 +0.3
BTNL Ternell 84.08 333 *d*P **P** 15 09 06.5 +0.3
comp=Z,71nm,1.1s
BODT Bodrum 84.09 313 P **P** 15 09 06.7 +0.2
BODT Bodrum 84.09 313 *e*P **P** 15 09 06.8 +0.2
EIL Elat 84.10 303 *e*P **P** 15 09 06.3 -0.4
EIL Elat 84.10 303 P **P** 15 09 06.9 +0.2
comp=Z,159nm,0.9s,baz=17,slow=2.8,SNR=87
EIL PP **PP** 15 12 20.7 -0.2
comp=Z,33nm,1.1s,baz=345,slow=7.4,SNR=4.1
EIL LR LR 15 50 25.5
comp=Z,990nm,21.9s,baz=64,slow=38
comp=Z,159nm,0.9s
MEM Membach 84.11 333 *d*P **P** 15 09 06.4 +0.1
comp=Z,71nm,1.0s
WACR West Acre 84.14 337 *e*P **P** 15 09 06.8 +0.3
GRG Griva 84.15 318 P **P** 15 09 06.7 -0.1
GRG Griva 84.15 318 *e*P **P** 15 09 06.3 -0.5
DAT Datca 84.16 312 P **P** 15 09 06.4 -0.6
DAT Datca 84.16 312 *e*P **P** 15 09 06.6 -0.4
ARG Arkhangelos 84.18 312 P **P** 15 09 07.3 +0.3
ARG Arkhangelos 84.18 312 *e*P **P** 15 09 07.6 +0.6
KSCO Kaye Shedlock' 84.21 45 P **P** 15 09 07.6 +0.3
baz=314,SNR=7.3
KSCO Kaye Shedlock' 84.21 45 P **P** 15 09 08.0 +0.7
baz=314,SNR=7.3
E38A The Farm, Brul 84.21 33 IAms_20 IAms_20 15 46 18.1
comp=Z,760nm,21.0s
E38A The Farm, Brul 84.21 33 P **P** 15 09 06.7 -0.2
baz=320,SNR=44
MYKA Terra Mystica 84.22 327 *i* P **P** 15 09 06.8 -0.3
comp=Z,97nm,1.0s,SNR=32
MYKA *e*PP **PP** 15 12 14.2 -7.2
comp=Z,65nm,1.6s
RFTD Palamutbuku-Ka 84.24 312 *e*P **P** 15 09 07.1 -0.2
PVY Plav 84.25 321⇑*i*P **P** 15 09 07.6 +0.2
A254A Petrova Gora 84.25 325 *i* P **P** 15 09 07.5 +0.3
LBWR Ladybower, Pea 84.26 339 *e*P **P** 15 09 07.4 +0.3
LBWR IAmb IAmb 15 09 08.8
comp=Z,456nm,1.0s
LJU Ljubljana 84.28 326 *i* P **P** 15 09 07.2 -0.1
LJU *i* PP **PP** 15 12 24.4 +2.6
BSTI Sart Tilman 84.29 333 *d*P **P** 15 09 07.4 +0.2
BHOU Houvegnez 84.32 333 *d*P **P** 15 09 07.9 +0.4
comp=Z,52nm,1.2s
MGRS Mrkonjic Grad 84.33 323⇑*i*P **P** 15 09 08.8 +1.2
UPM Unac-Piva 84.33 322⇑*i*P **P** 15 09 08.5 +0.6
UPM Unac-Piva 84.33 322⇑*i*P **P** 15 09 07.6 -0.3
BOJS Bojanci 84.36 325⇑*i*P **P** 15 09 07.8 +0.1
STU Stuttgart 84.40 330 IAms_20 IAms_20 15 51 03.7
comp=Z,1µm,19.0s
STU Stuttgart 84.40 330 *e*P **P** 15 09 08.2 +0.4
comp=Z,726nm,1.0s,baz=37,slow=5.2
PRED Cave del Predi 84.40 327 P **P** 15 09 07.5 -0.5
PRED IAmb IAmb 15 09 08.6
comp=Z,67nm,0.9s
WIM Isle of Man 84.42 341 *e*P **P** 15 09 08.2 +0.3
SKY Skiros Island 84.43 315 P **P** 15 09 08.2 0.0
PMOR Pomariorio Ree 84.46 113 *e*T T 16 41 48.0
comp=Z,52nm,0.2s
T25A Trinidad 84.47 47 P **P** 15 09 09.8 +1.0
baz=313,SNR=54
NISR Nisiros 84.50 312 P **P** 15 09 08.1 -0.5
BCLA Clavier 84.52 333 *d*P **P** 15 09 08.6 +0.2
comp=Z,56nm,1.3s
SRKY Kures RS 84.55 323⇑*i*P **P** 15 09 09.2 +0.4
CEY Cerknica 84.56 326⇑*i*P **P** 15 09 08.2 -0.6
ELMS Elmsett, Ipswi 84.57 337 *e*P **P** 15 09 08.7 +0.1
ELMS IAmb IAmb 15 09 09.9
comp=Z,325nm,0.9s
WATA Walderalm 84.57 328 *i* P **P** 15 09 08.8 -0.1
comp=Z,117nm,1.6s,SNR=20
WTTA Wattenberg 84.60 328 *i* P **P** 15 09 09.2 0.0
comp=Z,75nm,1.2s,SNR=24
ABTA Abfaltersbach 84.63 327 *i* P **P** 15 09 08.4 -0.7
comp=Z,122nm,1.2s,SNR=26
BGES Gesves 84.63 333 *d*P **P** 15 09 09.1 +0.1
comp=Z,66nm,1.2s
BGES *d*x x 15 09 25.8
NKME Niksic 84.63 321⇑*i*P **P** 15 09 09.2 0.0
NEVS Nevesinje 84.66 322 *e*P **P** 15 09 09.9 +0.5
KTI Kastanea 84.70 318 P **P** 15 09 09.4 -0.3
SPMN Marine on St. 84.71 35 IAms_20 IAms_20 15 45 24.3
comp=Z,979nm,22.0s
SPMN Marine on St. 84.71 35 P **P** 15 09 09.6 +0.1
baz=320,SNR=6.7
SPMN Marine on St. 84.71 35 P **P** 15 09 09.8 +0.3
baz=320,SNR=6.7
CWF Charnwood Fore 84.72 338 *e*P **P** 15 09 09.6 +0.3
PDG Podgorica 84.72 321 ⇑P **P** 15 09 09.7 +0.1
PDG Podgorica 84.72 321 *e*P **P** 15 09 10.0 +0.4
PDG Podgorica 84.72 321 P **P** 15 09 09.8 +0.2
PDG Podgorica 84.72 321⇑*i*P **P** 15 09 10.0 +0.4
PDG Podgorica 84.72 321⇑*i*P **P** 15 09 09.9 +0.4
ANMO Albuquerque 84.73 50 *c*e*P **P** 15 09 12.0 +1.9
ANMO pmax pmax
comp=Z,99nm,1.3s
ANMO Albuquerque 84.73 50 P **P** 15 09 11.6 +1.5
baz=312
ANMO Albuquerque 84.73 50 P **P** 15 09 11.3 +1.3
baz=312,SNR=73
SABO M.te Sabotino 84.75 326 IAms_20 IAms_20 15 49 43.5
comp=Z,2µm,22.0s
MOTA Moosalm 84.76 328 *i* P **P** 15 09 09.8 0.0
comp=Z,192nm,1.3s,SNR=56
RCHB Rochefort 84.77 333 *d*P **P** 15 09 09.7 +0.1
comp=Z,85nm,1.2s
RETA Reutte 84.79 329 *i* P **P** 15 09 10.2 +0.3
comp=Z,306nm,1.2s,SNR=85
BMRD Maredsous 84.81 334 *d*P **P** 15 09 10.1 +0.2
comp=Z,122nm,1.1s
CEME Cevo 84.81 321⇑*i*P **P** 15 09 10.0 -0.1
SQTA Sankt Quirin 84.81 328 *i* P **P** 15 09 10.2 +0.1
comp=Z,120nm,1.5s,SNR=28
FNA Florina 84.82 319 P **P** 15 09 09.7 -0.5
WLF Walferdange 84.84 332 *d*P **P** 15 09 10.9 +0.9
comp=Z,59nm,1.5s
WLF Walferdange 84.84 332 *e*P **P** 15 09 10.5 +0.4
comp=Z,440nm,1.6s,baz=37,slow=5.2
XOR Xorichti 84.85 317 P **P** 15 09 09.5 -0.8
KYMI Kymi, Euboea I 84.86 316 P **P** 15 09 09.9 -0.5
NEO Neokhori 84.87 316 P **P** 15 09 09.7 -0.8
OHR Ohrid 84.89 319 *i* P **P** 15 09 11.3 +0.8
SKDS Skadanscina 84.89 326⇑*i*P **P** 15 09 09.8 -0.7
UBR Ueberruh 84.90 329 *e*P **P** 15 09 10.2 -0.3
comp=Z,105nm,1.2s,baz=37,slow=5.2
PPT Papeete 84.91 116 LR LR 15 41 32.0
comp=Z,1µm,19.5s,baz=299,slow=32
PPT2 Papeete2 84.93 116 *e*P P 15 09 01.9 -9.1
comp=Z,287nm,25.2s
PPT2 Papeete2 84.93 116 *e*S **SKSac** 15 19 28.1 -3.0
comp=Z,590nm,26.2s
PPT2 *e*SS **SS** 15 25 01.3 -8.6
comp=Z,469nm,25.5s
PPT2 Papeete2 84.93 116 *e*LR LR 15 35 15.5
comp=Z,6µm,29.8s
PPT2 *e*LR LR 15 35 25.1
comp=Z,4µm,33.2s
PPT2 Papeete2 84.93 116 *e*T T 16 42 30.7
comp=Z,13nm,0.3s
BGNE Belgrade 84.93 40 P **P** 15 09 10.6 -0.1
baz=316,SNR=11
BGNE Belgrade 84.93 40 P **P** 15 09 10.8 0.0
baz=316,SNR=11
DRME Dracevica, Mon 84.94 321⇑*i*P **P** 15 09 11.3 +0.6
DRME Dracevica, Mon 84.94 321⇑*i*P **P** 15 09 10.9 +0.2
RPZ Rata Peaks 84.94 159 LR LR 15 41 41.5
comp=Z,1µm,21.4s,baz=332,slow=32
ILTH Belurgan, Co L 84.96 341 *e*P **P** 15 09 10.3 -0.2
TREB Trebinje 84.97 322 *e*P **P** 15 09 09.5 -1.3
RICI Ricice 84.99 323 *i* P **P** 15 09 10.6 -0.3
CIMO Cimolais 85.00 327 IAms_20 IAms_20 15 51 17.7
comp=Z,2µm,19.0s
BUM Brajici-Budva 85.00 321⇑*i*P **P** 15 09 11.2 +0.1
Y22D IRIS PASSCAL I 85.03 51 P **P** 15 09 13.0 +1.5
baz=312
Y22F Passcal Instru 85.03 51 P **P** 15 09 13.1 +1.6
baz=312
WPS Cemaes, Angles 85.04 340 *e*P **P** 15 09 12.2 +1.3
DOU Dourbes 85.04 334 *d*P **P** 15 09 11.1 0.0
comp=Z,50nm,1.2s
TIAR Tiarei 85.07 116 *e*T T 16 42 46.9
comp=Z,5.2nm,0.3s
ULC Ulcinj 85.07 321⇑*i*P **P** 15 09 11.6 +0.2
BFO Black Forest 85.09 331 P **P** 15 09 11.4 0.0
BFO IAms_20 IAms_20 15 53 22.2
comp=Z,924nm,20.0s
BFO Black Forest 85.09 331 P **P** 15 09 11.4 0.0
BFO pmax pmax
comp=Z,312nm,1.0s
BFO Black Forest 85.09 331 *e*P **P** 15 09 11.7 +0.3
comp=Z,342nm,1.0s,baz=37,slow=5.2
HCY Herceg Novi 85.10 321 *e*P **P** 15 09 10.6 -0.9
HCY Herceg Novi 85.10 321⇑*i*P **P** 15 09 11.3 -0.2
Y22A Socorro 85.10 51 P **P** 15 09 13.2 +1.3
baz=312,SNR=26
WLF1 Llynfaes 85.11 340 *e*P **P** 15 09 11.8 +0.5
WLF1 IAmb IAmb 15 09 13.0
comp=Z,795nm,1.3s
APE Apeiranthos 85.13 314 ⇑P **P** 15 09 11.3 -0.6
APE Apeiranthos 85.13 314 *e*P **P** 15 09 09.8 -2.0
APE Apeiranthos 85.13 314 P **P** 15 09 11.2 -0.6
FOEL Foel Wylfa 85.13 339 *e*P **P** 15 09 11.8 +0.4
FOEL IAmb IAmb 15 09 13.5
comp=Z,437nm,1.0s
SBD1 Bryn Du 85.14 339 *e*P pP 15 09 24.0 -2.9
D41A Chassel 85.14 32 P **P** 15 09 11.9 +0.3
baz=322,SNR=16
FETA Feichten 85.17 328 *i* P **P** 15 09 11.9 0.0
comp=Z,132nm,1.1s,SNR=50
FETA *e*PP **PP** 15 12 24.5 -4.7
comp=Z,22nm,1.4s
STON Ston 85.18 322⇑*i*P **P** 15 09 10.5 -1.3
YLL Llanberis 85.18 340 *e*P **P** 15 09 12.0 +0.3
TIR Tirane 85.20 320 P **P** 15 09 12.4 +0.4
TIR Tirane 85.20 320 *e*P **P** 15 09 12.4 +0.4
KARP Karpathos 85.21 312 P **P** 15 09 11.8 -0.4
KARP Karpathos 85.21 312 *e*P **P** 15 09 12.1 -0.1
KBN Korca 85.25 319 P **P** 15 09 12.4 0.0
KBN Korca 85.25 319 IAms_20 IAms_20 15 50 27.6
comp=Z,1µm,21.0s
NEST Nestorio 85.26 318 P **P** 15 09 12.4 -0.1
LLW Llanuwychllyn 85.30 339 *e*P **P** 15 09 13.1 +0.8
DAVA Damuels 85.31 329 *i* PcP **P** 15 09 12.7 0.0
comp=Z,286nm,1.1s,SNR=67
SCHQ Schefferville 85.33 16 P **P** 15 09 13.2 +0.8
SCHQ IAmb IAmb 15 09 14.8
comp=Z,155nm,1.1s
SCHQ IAms_20 IAms_20 15 48 38.5
comp=Z,884nm,21.0s
SCHQ Schefferville 85.33 16 P **P** 15 09 13.2 +0.8
comp=Z,94nm,1.0s,baz=350,slow=5.5,SNR=36
SCHQ LR LR 15 48 50.4
comp=Z,781nm,21.5s,baz=356,slow=37
comp=Z,94nm,1.0s
ELSH Elham, Standar 85.33 336 *e*P **P** 15 09 12.9 +0.4
THL Klokotos Trika 85.35 317 P **P** 15 09 11.2 -1.6
I37A Lemond, Waseca 85.35 36 IAms_20 IAms_20 15 44 43.4
comp=Z,929nm,20.0s
I37B Waseca 85.35 36 P **P** 15 09 13.6 +0.9
baz=319
HLM1 Long Mynd 85.37 339 *e*P **P** 15 09 12.5 -0.2
HLM1 IAmb IAmb 15 09 14.3
comp=Z,174nm,1.3s
ATAL Atalanti 85.42 316 P **P** 15 09 12.0 -1.2
KPRO Kipourio 85.42 318 P **P** 15 09 12.5 -0.8
L34A Svendsen Farm, 85.43 39 P **P** 15 09 13.3 +0.1
baz=318,SNR=22
ATHU Athens Univers 85.50 315 P **P** 15 09 11.7 -1.9
121A Cookes Peak, D 85.52 52 P **P** 15 09 15.7 +1.7
baz=312,SNR=54
121A Cookes Peak, D 85.52 52 P **P** 15 09 15.4 +1.4
baz=312,SNR=54
HVAR Hvar 85.56 323 *i* P **P** 15 09 12.9 -0.9
AXAR Agios Charalam 85.56 316 P **P** 15 09 13.1 -0.8
VLY Voula,Athens 85.57 315 P **P** 15 09 12.3 -1.7
DUGI Dugi Otok 85.60 324 *i* P **P** 15 09 13.7 -0.3
VILL Villia 85.63 316 P **P** 15 09 12.5 -1.8
SANT Santorini 85.65 313 ⇓P **P** 15 09 13.4 -1.0
SANT Santorini 85.65 313 P **P** 15 09 12.5 -1.9
SANT Santorini 85.65 313 *e*P **P** 15 09 12.6 -1.9
THR3 Thira Island, 85.66 313 P **P** 15 09 13.4 -1.0
COWI Conover 85.66 32 IAms_20 IAms_20 15 49 05.1
comp=Z,845nm,21.0s
COWI Conover 85.66 32 P **P** 15 09 14.3 +0.1
baz=322
MAKR Makrakomi, Fth 85.68 317 P **P** 15 09 13.4 -1.1
DAVOX Davos/Dischmat 85.71 329 P **P** 15 09 14.3 -0.4
comp=Z,101nm,1.1s,baz=20,slow=2.9,SNR=58
DAVOX PP **PP** 15 12 31.4 -2.1
comp=Z,11nm,0.9s,baz=352,slow=8.4,SNR=3.4
DAVOX LR LR 15 51 03.3
comp=Z,3µm,19.2s,baz=27,slow=38
comp=Z,101nm,1.1s
N33B J Bar K, Exete 85.78 41 P **P** 15 09 14.4 -0.6
baz=317,SNR=5.9
STRD Stroud 85.81 338 *e*P **P** 15 09 15.2 +0.4
STRD IAmb IAmb 15 09 16.5
comp=Z,721nm,1.0s
HMNX Herstmonceux 85.83 336 *e*P **P** 15 09 15.2 +0.3
HMNX IAmb IAmb 15 09 16.9
comp=Z,584nm,0.9s
G40A Rib Lake 85.85 34 P **P** 15 09 15.5 +0.3
baz=321,SNR=57
MCH1 Michaelchurch 85.86 339 *e*P **P** 15 09 15.6 +0.5
MCH1 IAmb IAmb 15 09 16.7
comp=Z,238nm,0.9s
JAN Janina 85.91 318 P **P** 15 09 15.9 +0.3
EVR Evrytania 85.92 317 P **P** 15 09 16.0 +0.2
WOL Wolverton 85.93 337 *e*P **P** 15 09 15.7 +0.2
SWN1 Swindon 85.94 338 *e*P **P** 15 09 16.4 +0.9
SWN1 IAmb IAmb 15 09 17.3
comp=Z,722nm,1.1s
MONM Monmouth 85.95 338 *e*P **P** 15 09 16.0 +0.5
MONM IAmb IAmb 15 09 17.1
comp=Z,356nm,0.9s
CBKS Cedar Bluff 85.95 43 IAms_20 IAms_20 15 42 03.6
comp=Z,606nm,18.0s
CBKS Cedar Bluff 85.95 43 P **P** 15 09 15.5 -0.3
baz=316,SNR=8.4
CBKS Cedar Bluff 85.95 43 P **P** 15 09 15.6 -0.3
baz=316,SNR=8.4
ZKR Zakros 86.06 312 P **P** 15 09 16.1 -0.3
ZKR Zakros 86.06 312 *e*P **P** 15 09 16.8 +0.4
KALE Kalithea 86.12 316 P **P** 15 09 15.1 -1.6
TRIZ Trizonia 86.17 316 P **P** 15 09 15.4 -1.5
MEH Mehetia 86.20 116 *e*T T 16 42 40.8
comp=Z,26nm,0.3s
EFP Efpalio 86.22 317 P **P** 15 09 16.4 -0.7
IGT Igoumenitsa 86.28 318 P **P** 15 09 16.6 -0.8
LAKA Lakka 86.31 316 P **P** 15 09 16.9 -0.7
GUR Goura 86.33 316 P **P** 15 09 16.0 -1.8
E43A Lone Tree Farm 86.34 31 P **P** 15 09 17.6 0.0
baz=324,SNR=19
KLV Kalavryta, Ach 86.36 316 P **P** 15 09 16.6 -1.3
RSBS Rosebush, Pemb 86.40 340 *e*P **P** 15 09 18.1 +0.4

RSBS IAmb IAmb 15 09 19.2
comp=Z,245nm,1.1s
KEK Kerkira 86.43 319 P **P 15 09 17.6 -0.2**
KEK Kerkira 86.43 319 *e*P **P 15 09 17.9 -0.2**
TAOE Nuku Hiva Isla 86.45 104 *e*S **SKSac 15 19 40.3 -0.7**
comp=Z,629nm,26.6s
TAOE Nuku Hiva Isla 86.45 104 *e*LR LR 15 36 03.2
comp=Z,5µm,25.8s
N35A Tabor 86.62 39 P **P 15 09 19.7 +0.6**
baz=318,SNR=22
NYDR Nydri-Lefkada 86.67 317 P **P 15 09 18.8 -0.5**
K38A Parkersburg 86.69 37 IAMs_20 IAMs_20 15 46 32.8
comp=Z,971nm,19.0s
K38A Parkersburg 86.69 37 P **P 15 09 19.5 +0.2**
baz=320
RLS Riolos of Patr 86.72 317 P **P 15 09 19.2 -0.4**
IDI Anoyia 86.73 313 ⇑P **P 15 09 19.3 -0.5**
IDI Anoyia 86.73 313 P **P 15 09 18.2 -1.6**
IDI Anoyia 86.73 313 *e*P **P 15 09 18.6 -1.2**
IDI Anoyia 86.73 313 IAMs_20 IAMs_20 15 52 48.3
comp=Z,796nm,21.0s
IDI Anoyia 86.73 313 P **P 15 09 18.7 -1.1**
comp=Z,214nm,1.1s,baz=24,slow=8.9,SNR=67
IDI LR LR 15 52 58.7
comp=Z,612nm,20.2s,baz=44,slow=39
comp=Z,214nm,1.1s
I40A Norwalk 86.73 35 P **P 15 09 19.8 +0.2**
baz=321,SNR=7.5
EVGI Lefkada island 86.76 317 P **P 15 09 19.1 -0.7**
R32A Long Quarter, 86.79 43 P **P 15 09 19.9 -0.1**
baz=316
VLI Veliai 86.86 315 P **P 15 09 17.8 -2.5**
FSK Fiskardo 86.93 317 P **P 15 09 19.5 -1.1**
SGRT San Giovanni R 86.97 322 P **P 15 09 20.9 0.0**
SCIA State Center 87.04 37 IAMs_20 IAMs_20 15 44 34.0
comp=Z,832nm,22.0s
SCIA State Center 87.04 37 P **P 15 09 21.9 +0.9**
baz=320
SCIA State Center 87.04 37 P **P 15 09 21.9 +0.9**
baz=320,SNR=11
KTHA Kythira Island 87.11 314 P **P 15 09 20.2 -1.4**
KTHA Kythira Island 87.11 314 *e*P **P 15 09 20.6 -1.0**
VLS Valsamata 87.12 317 P **P 15 09 20.8 -0.8**
GUMA Gualdo di Mace 87.12 325 IAMs_20 IAMs_20 15 51 20.0
comp=Z,1µm,22.0s
IMMV Iera Moni Meta 87.14 313 P **P 15 09 20.5 -1.2**
IMMV Iera Moni Meta 87.14 313 *e*P **P 15 09 21.6 -0.1**
PSDA Pessada-Kefalo 87.17 317 P **P 15 09 21.0 -0.7**
HTL Hartland 87.18 339 *e*P **P 15 09 22.3 +0.7**
HTL IAmb IAmb 15 09 23.2
comp=Z,178nm,1.0s
DMLN Damoulianata-K 87.19 317 P **P 15 09 21.4 -0.5**
KEF3 Kipouria, Keph 87.23 317 P **P 15 09 21.3 -0.8**
ANKY Antikythira Is 87.25 314 P **P 15 09 21.0 -1.2**
FDMO Fiordimonte 87.25 325 IAMs_20 IAMs_20 15 51 14.5
comp=Z,1µm,21.0s
MATE Matera 87.33 321 ⇑P **P 15 09 22.2 -0.2**
MATE Matera 87.33 321 *e*P **P 15 09 22.6 +0.1**
PYL PYLOS 87.40 316 P **P 15 09 21.3 -1.6**
KSU1 Kansas State U 87.42 41 P **P 15 09 22.8 -0.2**
baz=318,SNR=11
KSU1 Kansas State U 87.42 41 P **P 15 09 23.0 0.0**
baz=318,SNR=11
KSU1 S **S 15 19 54.9 -4.7**
baz=318
E46A Sault Ste Mari 87.43 30 P **P 15 09 23.0 +0.1**
baz=325
KNDR Palaiochora Ch 87.47 313 *e*P **P 15 09 22.9 -0.4**
I42A Draeger Farm, 87.50 34 IAMs_20 IAMs_20 15 47 36.0
comp=Z,723nm,20.0s
I42A Draeger Farm, 87.50 34 P **P 15 09 23.8 +0.5**
baz=322,SNR=24
I42A S **S 15 19 56.4 -3.8**
baz=322
GVD Gavdhos 87.52 313 P **P 15 09 22.8 -0.7**
GVD Gavdhos 87.52 313 *e*P **P 15 09 22.5 -1.0**
DYA Yadsworthy 87.52 338 *e*P **P 15 09 23.5 +0.3**
H43A Windswept, Lux 87.54 33 IAMs_20 IAMs_20 15 49 52.0
comp=Z,725nm,22.0s
H43A Windswept, Lux 87.54 33 P **P 15 09 23.9 +0.5**
baz=323,SNR=24
MNTX Cornudas Mount 87.59 51 P **P 15 09 24.5 +0.6**
baz=313,SNR=39
MNTX Cornudas Mount 87.59 51 P **P 15 09 24.7 +0.7**
baz=313,SNR=39
MSTX Muleshoe 87.62 48 P **P 15 09 24.5 +0.3**
baz=314,SNR=12
MSTX Muleshoe 87.62 48 P **P 15 09 24.9 +0.7**
baz=314,SNR=12
MSTX S **S 15 20 02.3 +0.3**
baz=314
AMTX Amarillo 87.63 47 P **P 15 09 25.2 +0.9**
baz=315
AMTX Amarillo 87.63 47 P **P 15 09 25.1 +0.9**
baz=315,SNR=20
JFWS Jewell Farm 87.66 35 IAMs_20 IAMs_20 15 47 04.4
comp=Z,1µm,22.0s
JFWS Jewell Farm 87.66 35 P **P 15 09 23.9 -0.2**
baz=321
JFWS Jewell Farm 87.66 35 P **P 15 09 23.9 -0.2**
baz=321,SNR=6.8
JFWS S **S 15 19 59.2 -2.6**
baz=321
L40A Anamosa 87.87 36 IAMs_20 IAMs_20 15 47 44.1
comp=Z,839nm,21.0s
L40A Anamosa 87.87 36 P **P 15 09 25.2 +0.2**
baz=321,SNR=16
N38A Joes South For 87.88 38 P **P 15 09 25.5 +0.4**
baz=320,SNR=10
N38A S **S 15 20 02.7 -1.2**
baz=320
G45A Suttons Bay 87.97 31 P **P 15 09 26.1 +0.6**
baz=324,SNR=6.8
G45A P **P 15 09 26.1 +0.6**
baz=324,SNR=6.8
G45A S **S 15 20 03.1 -1.5**
baz=324
G45A S **S 15 20 03.1 -1.5**
baz=324
JSA Saint Aubin 88.09 337 *e*P **P 15 09 26.1 +0.2**
JSA IAmb IAmb 15 09 27.4
comp=Z,304nm,1.0s
U32A Winter Ranch, 88.10 44 P **P 15 09 27.0 +0.7**
baz=316
CCA1 Carnmenellis 88.12 339 *e*P **P 15 09 26.4 +0.3**
CCA1 IAmb IAmb 15 09 27.4
comp=Z,201nm,1.2s
OK038 West end E0370 88.17 44 IAMs_20 IAMs_20 15 46 10.7
comp=Z,800nm,20.0s
BNI Bardonecchia 88.42 330 P **P 15 09 28.2 +0.4**
BNI IAmb IAmb 15 09 30.5
comp=Z,99nm,1.7s
BNI Bardonecchia 88.42 330 P **P 15 09 28.2 +0.4**
BNI pmax pmax
comp=Z,99nm,1.7s
BNI MLR MLR
comp=Z,2µm,22.0s
I45A Fountain 88.54 32 P **P 15 09 29.3 +1.1**
baz=324
I45A P **P 15 09 29.3 +1.1**
baz=324
GLMI Grayling 88.57 31 P **P 15 09 29.0 +0.6**
baz=325,SNR=7.3
GLMI Grayling 88.57 31 P **P 15 09 29.6 +1.2**
baz=325
P38A Dawn 88.61 39 P **P 15 09 29.0 +0.4**
baz=319,SNR=16
P38A S **S 15 20 09.0 -1.9**
baz=319
L42A Oliver, Polo 88.64 35 IAMs_20 IAMs_20 15 46 37.4
comp=Z,770nm,20.0s
L42A Oliver, Polo 88.64 35 P **P 15 09 28.5 -0.2**
baz=322,SNR=13
K43A Burlington 88.70 34 P **P 15 09 29.1 +0.1**
baz=323,SNR=5.5
K43A S **S 15 20 08.5 -3.0**
baz=323
TBI Tubuai 88.80 121 *e*S **S 15 20 06.4 -6.4**
comp=Z,2µm,28.8s
TBI Tubuai 88.80 121 *e*LR LR 15 37 10.1
comp=Z,20µm,26.8s
TBI Tubuai 88.80 121 *e*T T 16 47 20.6
comp=Z,107nm,0.3s
BLOK Blackwell 88.81 43 IAMs_20 IAMs_20 15 36 00.5
comp=Z,747nm,18.0s
T35B Sooner Cattle 89.08 43 P **P 15 09 31.3 +0.4**
baz=318,SNR=16
T35B S **S 15 20 13.6 -1.9**
baz=318
N41A Harden Midland 89.10 37 IAMs_20 IAMs_20 15 47 57.5
comp=Z,908nm,22.0s
N41A Harden Midland 89.10 37 P **P 15 09 31.2 +0.3**
baz=321,SNR=8.4
N41A S **S 15 20 12.6 -2.8**
baz=321
MSEY Mahe Island 89.28 264 IAMs_20 IAMs_20 15 48 37.1
comp=Z,985nm,21.0s
MSEY Mahe Island 89.28 264 P **P 15 09 32.5 +0.3**
MSEY Mahe Island 89.28 264 P **P 15 09 32.9 +0.7**
L44A Lake County Fo 89.30 34 IAMs_20 IAMs_20 15 48 16.8
comp=Z,1µm,21.0s
L44A Lake County Fo 89.30 34 P **P 15 09 32.1 +0.3**
baz=323
L44A Lake County Fo 89.30 34 P **P 15 09 32.4 +0.6**
baz=323
WMOK Wichita Mounta 89.41 45 P **P 15 09 33.1 +0.5**
baz=316,SNR=36
WMOK Wichita Mounta 89.41 45 P **P 15 09 33.0 +0.5**
baz=316,SNR=36
P40A Paris 89.43 38 IAMs_20 IAMs_20 15 45 06.3
comp=Z,655nm,21.0s
P40A Paris 89.43 38 P **P 15 09 33.0 +0.6**
baz=320,SNR=32
P40A S **S 15 20 16.6 -1.9**
baz=320
ATD Arta Tunnel 89.59 284 IAMs_20 IAMs_20 15 53 58.5
comp=Z,836nm,22.0s
ATD Arta Tunnel 89.59 284 *e*P **P 15 09 33.8 +0.2**
ATD *e*S **PP 15 13 09.8 +4.2**
ATD Arta Tunnel 89.59 284 P **P 15 09 34.9 +1.2**
SNR=10
ATD Arta Tunnel 89.59 284 LR LR 15 51 43.7
comp=Z,29nm,21.9s,baz=44,slow=37
ATD Arta Tunnel 89.59 284 *e*P **P 15 09 33.8 +0.2**
baz=161
ATD *e*S **PP 15 13 09.8 +4.2**
baz=161
HQIL Hanson Quary C 89.63 34 IAMs_20 IAMs_20 15 48 25.5
comp=Z,963nm,20.0s
J47A Sunmer 89.79 32 P **P 15 09 35.1 +1.1**
baz=325
J47A P **P 15 09 35.1 +1.1**
baz=325
J47A S **S 15 20 21.4 -0.3**
baz=325
J47A S **S 15 20 21.4 -0.3**
baz=325
M44A Midewin, Midew 89.87 35 IAMs_20 IAMs_20 15 48 23.9
comp=Z,800nm,20.0s
M44A Midewin, Midew 89.87 35 P **P 15 09 34.5 0.0**
baz=323,SNR=8.5
M44A S **S 15 20 20.2 -2.4**
baz=323
HDIL Hopedale 89.95 36 IAMs_20 IAMs_20 15 47 58.1
comp=Z,774nm,22.0s
HDIL Hopedale 89.95 36 P **P 15 09 35.3 +0.4**
baz=322
HDIL Hopedale 89.95 36 P **P 15 09 35.4 +0.4**
baz=322,SNR=11
HDIL S **S 15 20 21.9 -1.5**
baz=322
S39A Bolivar 90.19 40 P **P 15 09 35.8 -0.3**
baz=320,SNR=24
TUL3 Leonard 90.21 43 P **P 15 09 36.1 -0.1**
baz=318,SNR=7.5
TUL3 Leonard 90.21 43 P **P 15 09 36.7 +0.5**
baz=318,SNR=7.5
TUL3 S **S 15 20 23.9 -2.1**
baz=318
R40A Maddies Statio 90.27 39 IAMs_20 IAMs_20 15 51 16.7
comp=Z,594nm,18.0s
R40A Maddies Statio 90.27 39 P **P 15 09 36.6 +0.2**
baz=320,SNR=24
TX31 Lajitas Ar. Si 90.28 52 P **P 15 09 37.7 +0.9**
baz=314,SNR=58
TXAR Lajitas Array 90.28 52 P **P 15 09 37.8 +1.0**
comp=Z,29nm,1.0s,baz=293,slow=3.0,SNR=129
TXAR pP **pP 15 09 52.9 +0.7**
comp=Z,11nm,0.6s,baz=313,slow=2.6,SNR=13
TXAR PKKPbc **PKKPbc 15 27 06.0 +1.7**
comp=Z,0.4nm,0.5s,baz=144,slow=5.2,SNR=6.9
TXAR PKPPKP **P'P'df 15 35 20.6 +2.4**
comp=Z,0.4nm,0.8s,baz=184,slow=2.7,SNR=2.6
TXAR LR LR 15 43 49.8
comp=Z,730nm,22.0s,baz=316,slow=31
comp=Z,29nm,1.0s
ABTX Abilene, Hawle 90.43 47 P **P 15 09 38.0 +0.7**
baz=316
ABTX Abilene, Hawle 90.43 47 P **P 15 09 38.4 +1.1**
baz=316,SNR=20
P43A Skaggs, Pawnee 90.57 37 IAMs_20 IAMs_20 15 47 38.4
comp=Z,731nm,19.0s
P43A Skaggs, Pawnee 90.57 37 P **P 15 09 38.0 +0.3**
baz=322,SNR=5.7
U38A Gravette 90.57 42 P **P 15 09 38.1 +0.2**
baz=319,SNR=16
O44A Mansfield 90.66 36 IAMs_20 IAMs_20 15 48 07.8
comp=Z,700nm,21.0s
O44A Mansfield 90.66 36 P **P 15 09 38.6 +0.5**
baz=323
O44A S **S 15 20 29.5 -0.4**
baz=323
SADO Sadowa 90.74 27 IAMs_20 IAMs_20 15 56 19.4
comp=Z,685nm,21.0s
SADO Sadowa 90.74 27 LR LR 15 52 53.6
comp=Z,588nm,20.2s,baz=335,slow=37
TEND Ethiopian Broa 90.85 285 *e*P **P 15 09 40.4 +0.9**
baz=165
VAE Valguarnera 90.89 320 LR LR 15 54 50.0
comp=Z,1µm,18.6s,baz=52,slow=38
CCM Cathedral Cave 90.96 39 P **P 15 09 39.8 +0.1**
baz=321
CCM Cathedral Cave 90.96 39 P **P 15 09 39.9 +0.3**
baz=321,SNR=15
CCM S **S 15 20 29.1 -3.6**
baz=321
SLM Saint Louis 91.01 38 IAMs_20 IAMs_20 15 47 06.2
comp=Z,757nm,21.0s
SLM Saint Louis 91.01 38 P **P 15 09 41.1 +1.3**
baz=322
L48A N Adams 91.01 32 IAMs_20 IAMs_20 15 54 03.9
comp=Z,645nm,20.0s
L48A N Adams 91.01 32 P **P 15 09 40.6 +0.8**
baz=325,SNR=12
L48A P **P 15 09 40.6 +0.8**
baz=325,SNR=12
AAM Ann Arbor 91.05 31 P **P 15 09 40.4 +0.5**
baz=326
AAM Ann Arbor 91.05 31 P **P 15 09 41.6 +1.7**
baz=326
TRQ Mont Tremblant 91.06 24 IAMs_20 IAMs_20 15 57 16.8
comp=Z,680nm,20.0s
K50A Casco 91.08 31 IAMs_20 IAMs_20 15 49 09.6
comp=Z,850nm,22.0s
K50A Casco 91.08 31 P **P 15 09 41.6 +1.5**
baz=327
K50A P **P 15 09 41.6 +1.5**
baz=327
SFIN Lafayette 91.11 35 IAMs_20 IAMs_20 15 49 19.7
comp=Z,765nm,20.0s
SFIN Lafayette 91.11 35 P **P 15 09 40.4 +0.2**
baz=324,SNR=11
SFIN Lafayette 91.11 35 P **P 15 09 40.6 +0.3**
baz=324,SNR=11
Z35A Perchaven, San 91.30 45 P **P 15 09 41.5 +0.2**
baz=317,SNR=11
N47A Urbana 91.33 34 IAMs_20 IAMs_20 15 49 42.5
comp=Z,726nm,19.0s
N47A Urbana 91.33 34 P **P 15 09 41.5 +0.2**
baz=324,SNR=12
N47A P **P 15 09 41.5 +0.2**
baz=324,SNR=12
Q44A Meyer Farm, Va 91.39 37 IAMs_20 IAMs_20 15 46 37.2
comp=Z,638nm,20.0s
Q44A Meyer Farm, Va 91.39 37 P **P 15 09 42.0 +0.5**
baz=322,SNR=6.8
Q44A S **S 15 20 37.2 +0.6**
baz=322
FVM French Village 91.42 38 P **P 15 09 42.1 +0.3**
baz=321
FVM S **S 15 20 33.6 -3.4**
baz=321
X37A Clayton 91.42 43 P **P 15 09 42.3 +0.4**
baz=318,SNR=13
U40A Yellville 91.44 41 P **P 15 09 42.1 +0.2**
baz=320,SNR=53
U40A P **P 15 09 42.1 +0.2**
baz=320,SNR=53
DELO Deloro Mine 91.51 27 IAMs_20 IAMs_20 15 52 09.7
comp=Z,894nm,20.0s
P46A Rosedale 91.67 35 IAMs_20 IAMs_20 15 46 50.5
comp=Z,976nm,22.0s
P46A Rosedale 91.67 35 P **P 15 09 43.7 +0.8**
baz=324,SNR=7.3
HMAD Nubian desert 91.71 296 *i* P **P 15 09 43.5 +0.1**
HMAD *i* 15 09 48.2
baz=279,slow=7.4
JCT Junction City 91.86 49 P **P 15 09 44.2 +0.2**
baz=316
JCT Junction City 91.86 49 P **P 15 09 44.6 +0.6**
baz=316,SNR=11
D62A Allapoint, All 91.93 20 IAMs_20 IAMs_20 15 55 10.5
comp=Z,700nm,21.0s
D62A Allapoint, All 91.93 20 P **P 15 09 45.0 +1.0**
baz=336,SNR=14
D62A P **P 15 09 45.0 +1.0**
baz=336,SNR=14
OLIL Olney 91.96 36 P **P 15 09 45.8 +1.6**
baz=323,SNR=5.3
N49A Columbus Grove 91.96 33 P **P 15 09 44.9 +0.7**
baz=326,SNR=10
N49A P **P 15 09 44.9 +0.7**
baz=326,SNR=10
N49A S **S 15 20 40.1 -1.5**
baz=326
N49A S **S 15 20 40.1 -1.5**
baz=326
MNTQ Montreal, Queb 92.00 24 IAMs_20 IAMs_20 15 58 06.5
comp=Z,750nm,18.0s
O48B Farmland 92.08 34 IAMs_20 IAMs_20 15 50 04.2
comp=Z,819nm,21.0s
O48B Farmland 92.08 34 P **P 15 09 44.6 -0.2**
baz=325,SNR=15
O48B Farmland 92.08 34 P **P 15 09 45.3 +0.5**
baz=325,SNR=15
WHTX Lake Whitney, 92.16 46 P **P 15 09 46.0 +0.7**
baz=317,SNR=17
WHTX Lake Whitney, 92.16 46 P **P 15 09 45.8 +0.5**
baz=317,SNR=17
FCAR Ozark Folk Cen 92.18 41 IAMs_20 IAMs_20 15 51 11.4
comp=Z,756nm,20.0s
J54A Appleton 92.21 28 IAMs_20 IAMs_20 15 57 06.3
comp=Z,670nm,20.0s
J54A Appleton 92.21 28 P **P 15 09 46.2 +0.9**
baz=329,SNR=6.6
J54A P **P 15 09 46.2 +0.9**
baz=329,SNR=6.6
E62A Clayton Lake 92.22 21 IAMs_20 IAMs_20 15 55 04.2
comp=Z,583nm,19.0s
E62A Clayton Lake 92.22 21 P **P 15 09 45.6 +0.3**
baz=336,SNR=9.3
E62A P **P 15 09 45.6 +0.3**
baz=336,SNR=9.3
S44A Carbondale 92.23 38 IAMs_20 IAMs_20 15 56 43.4
comp=Z,688nm,19.0s
S44A Carbondale 92.23 38 P **P 15 09 45.9 +0.4**
baz=322,SNR=9.5
SIUC Southern Illin 92.23 38 IAMs_20 IAMs_20 15 56 44.5
comp=Z,700nm,21.0s
BMNY Brushton-Moira 92.30 24 P **P 15 09 45.8 +0.2**
baz=332,SNR=9.8
BLO Bloomington 92.34 35 IAMs_20 IAMs_20 15 47 47.4
comp=Z,989nm,22.0s
PBMO Poplar Bluff 92.36 39 P **P 15 09 46.8 +0.6**
baz=321,SNR=9.4
MIAR Mount Ida 92.43 42 P **P 15 09 47.0 +0.5**
baz=319
MIAR Mount Ida 92.43 42 P **P 15 09 47.6 +1.1**
baz=319,SNR=34
LONY Lake Ozonia 92.47 25 IAMs_20 IAMs_20 15 51 44.0
comp=Z,746nm,22.0s
LONY Lake Ozonia 92.47 25 P **P 15 09 46.3 -0.2**
baz=332,SNR=8.1
O49A Covington 92.50 33 IAMs_20 IAMs_20 15 51 02.3
comp=Z,902nm,19.0s
O49A Covington 92.50 33 P **P 15 09 47.6 +0.9**
baz=325
O49A P **P 15 09 47.6 +0.9**
baz=325
J55A Hilton 92.52 27 IAMs_20 IAMs_20 15 57 32.5
comp=Z,686nm,20.0s
J55A Hilton 92.52 27 P **P 15 09 46.9 +0.2**
baz=330,SNR=7.7
J55A P **P 15 09 46.9 +0.2**
baz=330,SNR=7.7
LCAR Lake Charles 92.54 40 P **P 15 09 47.2 +0.2**
baz=321,SNR=7.9
PQI Presque Isle 92.59 20 IAMs_20 IAMs_20 15 57 27.8
comp=Z,822nm,21.0s
FRNY Flat Rock 92.61 24 IAMs_20 IAMs_20 15 57 44.5
comp=Z,894nm,19.0s
P48A Milroy 92.61 34 IAMs_20 IAMs_20 15 51 01.3
comp=Z,872nm,22.0s
P48A Milroy 92.61 34 P **P 15 09 47.8 +0.6**
baz=325
P48A P **P 15 09 47.8 +0.6**
baz=325
M52A Chesterland 92.63 30 IAMs_20 IAMs_20 15 50 17.5
comp=Z,760nm,22.0s
Z38A Mt. Pleasant 92.63 44 P **P 15 09 48.2 +0.8**
baz=319,SNR=5.6
WCNY West Carthage 92.67 26 P **P 15 09 46.4 -1.0**
baz=332,SNR=9.3
ERPA Erie 92.68 29 P **P 15 09 47.5 0.0**
baz=328
E63A Oxbow 92.71 20 P **P 15 09 47.9 +0.4**
baz=337,SNR=11
E63A P **P 15 09 47.9 +0.4**
baz=337,SNR=11
N51A Ashland 92.73 31 IAMs_20 IAMs_20 15 58 46.3
comp=Z,562nm,19.0s
F62A Pittston Farm, 92.76 21 IAMs_20 IAMs_20 15 55 41.4
comp=Z,804nm,19.0s
F62A Pittston Farm, 92.76 21 P **P 15 09 49.3 +1.5**
baz=336
F62A P **P 15 09 49.3 +1.5**
baz=336
USIN University of 92.78 37 IAMs_20 IAMs_20 15 50 20.9
comp=Z,674nm,21.0s
J56A Wolcott 92.86 27 IAMs_20 IAMs_20 15 54 28.5
comp=Z,767nm,20.0s
J56A Wolcott 92.86 27 P **P 15 09 48.7 +0.4**
baz=331,SNR=8.9
J56A P **P 15 09 48.7 +0.4**
baz=331,SNR=8.9
P49A Miami Univ. Ec 92.86 34 IAMs_20 IAMs_20 15 50 37.0
comp=Z,882nm,21.0s
P49A Miami Univ. Ec 92.86 34 P **P 15 09 48.2 -0.2**
baz=325
P49A Miami Univ. Ec 92.86 34 P **P 15 09 49.0 +0.5**
baz=325,SNR=8.5
X40A Basin Creek Fa 92.88 42 P **P 15 09 48.8 +0.3**
baz=320,SNR=14
X40A P **P 15 09 48.8 +0.3**
baz=320,SNR=14
MMNY Mt. Morris Dam 92.95 28 IAMs_20 IAMs_20 15 57 36.9
comp=Z,810nm,20.0s
435B Jarrell 92.97 47 IAMs_20 IAMs_20 15 48 25.8
comp=Z,568nm,20.0s
435B Jarrell 92.97 47 P **P 15 09 49.4 +0.3**
baz=317
435B Jarrell 92.97 47 P **P 15 09 49.5 +0.5**
baz=317
M53A WI Miller and 92.99 30 P **P 15 09 48.9 0.0**
baz=328
PVMO Portageville 93.01 39 IAMs_20 IAMs_20 15 50 26.3
comp=Z,606nm,20.0s
ACSO Alum Creek Sta 93.05 32 P **P 15 09 49.2 0.0**
baz=326
ACSO Alum Creek Sta 93.05 32 P **P 15 09 49.6 +0.4**
baz=326
J57A Williamstown 93.05 26 IAMs_20 IAMs_20 15 56 51.4
comp=Z,820nm,20.0s
J57A Williamstown 93.05 26 P **P 15 09 49.8 +0.6**
baz=331,SNR=15
J57A P **P 15 09 49.8 +0.6**
baz=331,SNR=15
T45A Paducah 93.06 38 IAMs_20 IAMs_20 15 57 15.5
comp=Z,704nm,21.0s
HICK Hickman 93.15 38 IAMs_20 IAMs_20 15 57 16.8
comp=Z,593nm,20.0s
F63A Nahmakanta, Br 93.18 21 IAMs_20 IAMs_20 15 50 37.5
comp=Z,608nm,22.0s

F63A	**Nahmakanta, Br**	**93.18**	**21**	P	**P**	**15 09 50.7**	**+1.0**
	baz=336,SNR=9.2						
F63A				P	**P**	**15 09 50.7**	**+1.0**
	baz=336,SNR=9.2						
G62A	**West of Eustis**	**93.21**	**22**	IAMs_20	IAMs_20	15 52 34.4	
	comp=Z,668nm,20.0s						
G62A	**West of Eustis**	**93.21**	**22**	P	**P**	**15 09 50.6**	**+0.7**
	baz=335,SNR=16						
G62A				P	**P**	**15 09 50.6**	**+0.7**
	baz=335,SNR=16						
WCI	**Wyandotte Cave**	**93.21**	**35**	IAMs_20	IAMs_20	15 49 47.3	
	comp=Z,722nm,19.0s						
WCI	**Wyandotte Cave**	**93.21**	**35**	P	**P**	**15 09 50.5**	**+0.4**
	baz=324						
WCI	**Wyandotte Cave**	**93.21**	**35**	P	**P**	**15 09 50.6**	**+0.6**
	baz=324,SNR=5.1						
F64A	**Sherman**	**93.24**	**20**	IAMs_20	IAMs_20	15 56 00.2	
	comp=Z,780nm,20.0s						
F64A	**Sherman**	**93.24**	**20**	P	**P**	**15 09 51.1**	**+1.1**
	baz=337,SNR=8.9						
F64A				P	**P**	**15 09 51.1**	**+1.1**
	baz=337,SNR=8.9						
VT1	**Waterbury**	**93.33**	**24**	IAMs_20	IAMs_20	15 53 51.8	
	comp=Z,866nm,21.0s						
VT1	**Waterbury**	**93.33**	**24**	P	**P**	**15 09 51.8**	**+1.4**
	baz=334,SNR=5.2						
GLAT	**Glass**	**93.33**	**39**	IAMs_20	IAMs_20	15 50 32.7	
	comp=Z,734nm,21.0s						
J58A	**Remsen**	**93.34**	**26**	IAMs_20	IAMs_20	15 57 24.1	
	comp=Z,856nm,20.0s						
J58A	**Remsen**	**93.34**	**26**	P	**P**	**15 09 51.0**	**+0.4**
	baz=332,SNR=12						
J58A				P	**P**	**15 09 51.0**	**+0.4**
	baz=332,SNR=12						
N53A	**Lisbon**	**93.46**	**31**	IAMs_20	IAMs_20	15 54 46.5	
	comp=Z,792nm,22.0s						
K57A	**Scipio Center**	**93.46**	**27**	IAMs_20	IAMs_20	15 56 47.3	
	comp=Z,724nm,20.0s						
K57A	**Scipio Center**	**93.46**	**27**	P	**P**	**15 09 52.1**	**+1.0**
	baz=331						
J59A	**Piesco**	**93.52**	**25**	IAMs_20	IAMs_20	15 54 49.7	
	comp=Z,692nm,20.0s						
J59A	**Piesco**	**93.52**	**25**	P	**P**	**15 09 51.9**	**+0.5**
	baz=332,SNR=17						
J59A				P	**P**	**15 09 51.9**	**+0.5**
	baz=332,SNR=17						
PKME	**Peaks-Kenny Pk**	**93.53**	**21**	IAMs_20	IAMs_20	15 51 19.8	
	comp=Z,723nm,21.0s						
PKME	**Peaks-Kenny Pk**	**93.53**	**21**	P	**P**	**15 09 52.3**	**+1.0**
	baz=336,SNR=11						
PKME	**Peaks-Kenny Pk**	**93.53**	**21**	P	**P**	**15 09 52.5**	**+1.2**
	baz=336,SNR=11						
MCVT	**Middlebury Col**	**93.59**	**24**	P	**P**	**15 09 52.9**	**+1.2**
	baz=333,SNR=7.2						
L56A	**Greenwood**	**93.59**	**28**	IAMs_20	IAMs_20	15 58 16.9	
	comp=Z,904nm,21.0s						
L56A	**Greenwood**	**93.59**	**28**	P	**P**	**15 09 51.5**	**-0.3**
	baz=330						
L56A				P	**P**	**15 09 51.5**	**-0.3**
	baz=330						
H62A	**Milan**	**93.61**	**22**	IAMs_20	IAMs_20	15 56 09.9	
	comp=Z,604nm,20.0s						
H62A	**Milan**	**93.61**	**22**	P	**P**	**15 09 53.3**	**+1.6**
	baz=335,SNR=25						
H62A				P	**P**	**15 09 53.3**	**+1.6**
	baz=335,SNR=25						
O52A	**Adamsville**	**93.62**	**32**	P	**P**	**15 09 52.5**	**+0.6**
	baz=327,SNR=5.6						
O52A				P	**P**	**15 09 52.5**	**+0.6**
	baz=327,SNR=5.6						
P51A	**Williamsport**	**93.63**	**33**	IAMs_20	IAMs_20	15 51 58.3	
	comp=Z,739nm,22.0s						
P51A	**Williamsport**	**93.63**	**33**	P	**P**	**15 09 52.3**	**+0.3**
	baz=326,SNR=6.9						
P51A				P	**P**	**15 09 52.3**	**+0.3**
	baz=326,SNR=6.9						
PAMR	**Moraine State**	**93.64**	**30**	P	**P**	**15 09 53.0**	**+1.0**
	baz=328						
833A	**Chaparral WMA,**	**93.65**	**50**	P	**P**	**15 09 52.9**	**+0.7**
	baz=316						
833A	**Chaparral WMA,**	**93.65**	**50**	P	**P**	**15 09 53.7**	**+1.4**
	baz=316						
LBNH	**Lisbon**	**93.67**	**23**	IAMs_20	IAMs_20	15 52 24.6	
	comp=Z,657nm,22.0s						
LBNH	**Lisbon**	**93.67**	**23**	P	**P**	**15 09 52.5**	**+0.4**
	baz=334						
R49A	**Shelbyville**	**93.67**	**35**	IAMs_20	IAMs_20	15 50 39.6	
	comp=Z,874nm,20.0s						
R49A	**Shelbyville**	**93.67**	**35**	P	**P**	**15 09 53.8**	**+1.6**
	baz=325						
R49A				P	**P**	**15 09 53.8**	**+1.6**
	baz=325						
O53A	**New Philadelph**	**93.77**	**31**	IAMs_20	IAMs_20	15 53 55.9	
	comp=Z,755nm,21.0s						
O53A	**New Philadelph**	**93.77**	**31**	P	**P**	**15 09 52.7**	**+0.1**
	baz=328,SNR=6.3						
T47A	**Sharon Grove**	**93.83**	**37**	IAMs_20	IAMs_20	15 47 48.7	
	comp=Z,701nm,22.0s						
T47A	**Sharon Grove**	**93.83**	**37**	P	**P**	**15 09 53.6**	**+0.7**
	baz=324,SNR=7.4						
ACCN	**Adirondack Com**	**93.87**	**25**	IAMs_20	IAMs_20	15 58 37.0	
	comp=Z,936nm,22.0s						
ACCN	**Adirondack Com**	**93.87**	**25**	P	**P**	**15 09 53.8**	**+0.9**
	baz=333,SNR=7.2						
Q51A	**Peebles**	**93.89**	**33**	IAMs_20	IAMs_20	15 51 54.0	
	comp=Z,688nm,20.0s						
Q51A	**Peebles**	**93.89**	**33**	P	**P**	**15 09 53.6**	**+0.5**
	baz=326,SNR=14						
Q51A				P	**P**	**15 09 53.6**	**+0.5**
	baz=326,SNR=14						
MET	**Memphis--Engin**	**93.90**	**40**	IAMs_20	IAMs_20	15 48 13.0	
	comp=Z,602nm,22.0s						
P52A	**Corning**	**93.90**	**32**	IAMs_20	IAMs_20	15 51 21.4	
	comp=Z,605nm,21.0s						
P52A	**Corning**	**93.90**	**32**	P	**P**	**15 09 52.7**	**-0.5**
	baz=327,SNR=6.5						
NATX	**Nacogdoches**	**93.93**	**45**	P	**P**	**15 09 53.9**	**+0.4**
	baz=319						
HNH	**Hanover**	**94.04**	**24**	IAMs_20	IAMs_20	15 54 00.3	
	comp=Z,754nm,22.0s						
WVL	**Waterville**	**94.06**	**21**	IAMs_20	IAMs_20	15 55 37.9	
	comp=Z,778nm,20.0s						
WVL	**Waterville**	**94.06**	**21**	P	**P**	**15 09 55.1**	**+1.3**
	baz=336,SNR=7.1						
R50A	**Paris**	**94.06**	**34**	IAMs_20	IAMs_20	15 51 13.8	
	comp=Z,848nm,21.0s						
R50A	**Paris**	**94.06**	**34**	P	**P**	**15 09 54.6**	**+0.7**
	baz=325,SNR=8.6						
R50A				P	**P**	**15 09 54.6**	**+0.7**
	baz=325,SNR=8.6						
G65A	**Princeton**	**94.07**	**20**	IAMs_20	IAMs_20	15 45 16.0	
	comp=Z,564nm,20.0s						
G65A	**Princeton**	**94.07**	**20**	P	**P**	**15 09 55.0**	**+1.2**
	baz=338,SNR=9.3						
G65A				P	**P**	**15 09 55.0**	**+1.2**
	baz=338,SNR=9.3						
BINY	**Binghamton**	**94.11**	**27**	IAMs_20	IAMs_20	15 57 36.6	
	comp=Z,951nm,20.0s						
BINY	**Binghamton**	**94.11**	**27**	P	**P**	**15 09 54.5**	**+0.4**
	baz=331						
BINY	**Binghamton**	**94.11**	**27**	P	**P**	**15 09 55.5**	**+1.4**
	baz=331						
WVT	**Waverly**	**94.16**	**38**	P	**P**	**15 09 54.5**	**+0.1**
	baz=323						
WVT	**Waverly**	**94.16**	**38**	P	**P**	**15 09 55.1**	**+0.7**
	baz=323,SNR=5.8						
O54A	**Avella**	**94.17**	**31**	IAMs_20	IAMs_20	15 51 15.4	
	comp=Z,822nm,20.0s						
O54A	**Avella**	**94.17**	**31**	P	**P**	**15 09 55.4**	**+1.0**
	baz=328,SNR=6.4						
O54A				P	**P**	**15 09 55.4**	**+1.0**
	baz=328,SNR=6.4						
I62A	**Tamworth**	**94.18**	**23**	IAMs_20	IAMs_20	15 53 03.2	
	comp=Z,615nm,21.0s						
I63A	**Otisfield**	**94.25**	**22**	IAMs_20	IAMs_20	15 55 37.0	
	comp=Z,733nm,21.0s						
I63A	**Otisfield**	**94.25**	**22**	P	**P**	**15 09 56.2**	**+1.5**
	baz=335,SNR=18						
I63A				P	**P**	**15 09 56.2**	**+1.5**
	baz=335,SNR=18						
J61A	**Chester**	**94.27**	**24**	IAMs_20	IAMs_20	15 53 23.6	
	comp=Z,824nm,21.0s						
J61A	**Chester**	**94.27**	**24**	P	**P**	**15 09 56.1**	**+1.3**
	baz=334,SNR=5.3						
J61A				P	**P**	**15 09 56.1**	**+1.3**
	baz=334,SNR=5.3						
WLRA	**Wolmera**	**94.29**	**285**	*eP*	**P**	**15 09 57.7**	**+1.9**
	baz=171						
WLRA				*eS*	**PP**	**15 13 44.8**	**+1.6**
	baz=171						
GGN	**Saint George**	**94.34**	**19**	IAMs_20	IAMs_20	15 56 41.1	
	comp=Z,654nm,20.0s						
P53A	**Whipple**	**94.34**	**32**	P	**P**	**15 09 55.8**	**+0.6**
	baz=327						
P53A				P	**P**	**15 09 55.8**	**+0.6**
	baz=327						
Q52A	**Bidwell**	**94.41**	**32**	IAMs_20	IAMs_20	16 00 02.8	
	comp=Z,616nm,19.0s						
Q52A	**Bidwell**	**94.41**	**32**	P	**P**	**15 09 56.2**	**+0.7**
	baz=327						
Q52A				P	**P**	**15 09 56.2**	**+0.7**
	baz=327						
FURI	**Furi**	**94.43**	**285**	*eP*	**P**	**15 09 57.9**	**+1.5**
FURI				*eS*	**PP**	**15 13 49.3**	**+5.1**
FURI				IAMs_20	IAMs_20	15 57 07.3	
	comp=Z,820nm,24.5s						
FURI	**Furi**	**94.43**	**285**	*eP*	**P**	**15 09 57.9**	**+1.5**
	baz=171						
FURI				*eS*	**PP**	**15 13 49.3**	**+5.1**
	baz=171						
FURI				IAMs_20	IAMs_20	15 57 07.3	
	comp=Z,820nm,24.5s,baz=171						
FFD	**Franklin Falls**	**94.45**	**23**	IAMs_20	IAMs_20	15 54 46.2	
	comp=Z,869nm,21.0s						
M57A	**Sunshine Farm,**	**94.45**	**28**	IAMs_20	IAMs_20	15 58 26.5	
	comp=Z,914nm,19.0s						
M57A	**Sunshine Farm,**	**94.45**	**28**	P	**P**	**15 09 56.7**	**+1.0**
	baz=330,SNR=8.5						
M57A				P	**P**	**15 09 56.7**	**+1.0**
	baz=330,SNR=8.5						
TRY	**Troy**	**94.45**	**25**	IAMs_20	IAMs_20	16 00 23.4	
	comp=Z,697nm,19.0s						
L59A	**Walton**	**94.46**	**26**	IAMs_20	IAMs_20	15 57 42.7	
	comp=Z,644nm,19.0s						
L59A	**Walton**	**94.46**	**26**	P	**P**	**15 09 56.5**	**+0.8**
	baz=332,SNR=8.3						
L59A				P	**P**	**15 09 56.5**	**+0.8**
	baz=332,SNR=8.3						
EMMW	**East Machias**	**94.55**	**20**	IAMs_20	IAMs_20	15 58 55.8	
	comp=Z,731nm,19.0s						
EMMW	**East Machias**	**94.55**	**20**	P	**P**	**15 09 55.7**	**-0.3**
	baz=338,SNR=8.4						
OXF	**Oxford**	**94.65**	**40**	P	**P**	**15 09 56.5**	**-0.1**
	baz=322						
KSPA	**Keystone Colle**	**94.76**	**27**	IAMs_20	IAMs_20	15 58 07.6	
	comp=Z,963nm,20.0s						
KSPA	**Keystone Colle**	**94.76**	**27**	P	**P**	**15 09 58.4**	**+1.3**
	baz=331						
SSPA	**Standing Stone**	**94.77**	**29**	P	**P**	**15 09 57.0**	**-0.2**
	baz=330						
KEST	**Kesra**	**94.79**	**322**	P	**P**	**15 09 57.5**	**+0.1**
KEST	**Kesra**	**94.79**	**322**	P	**P**	**15 09 57.2**	**-0.3**
	comp=Z,53nm,1.1s,baz=352,slow=1.4,SNR=14						
KEST				LR	LR	15 56 32.6	
	comp=Z,839nm,21.5s,baz=356,slow=38						
	comp=Z,53nm,1.1s						
PABK	**Blue Knob Stat**	**94.81**	**29**	P	**P**	**15 09 58.0**	**+0.6**
	baz=329						
MCWV	**Mont Chateau**	**94.83**	**30**	P	**P**	**15 09 57.5**	**+0.1**
	baz=328						
MCWV	**Mont Chateau**	**94.83**	**30**	P	**P**	**15 09 58.4**	**+0.9**
	baz=328						
U49A	**Red Boiling Sp**	**94.84**	**36**	IAMs_20	IAMs_20	15 56 19.4	
	comp=Z,765nm,21.0s						
U49A	**Red Boiling Sp**	**94.84**	**36**	P	**P**	**15 09 57.9**	**+0.4**
	baz=324,SNR=8.1						
T50A	**Nancy**	**94.86**	**35**	IAMs_20	IAMs_20	15 49 14.1	
	comp=Z,911nm,22.0s						
T50A	**Nancy**	**94.86**	**35**	P	**P**	**15 09 57.7**	**+0.1**
	baz=325						
T50A				P	**P**	**15 09 57.7**	**+0.1**
	baz=325						
CLTN	**Cedars of Leba**	**94.92**	**37**	IAMs_20	IAMs_20	15 49 05.5	
	comp=Z,566nm,20.0s						
S51A	**Beattyville**	**94.92**	**34**	IAMs_20	IAMs_20	15 51 50.5	
	comp=Z,839nm,19.0s						
S51A	**Beattyville**	**94.92**	**34**	P	**P**	**15 09 57.2**	**-0.7**
	baz=326,SNR=6.5						
S51A				P	**P**	**15 09 57.2**	**-0.7**
	baz=326,SNR=6.5						
V48A	**Smith Brothers**	**94.96**	**37**	IAMs_20	IAMs_20	15 56 46.8	
	comp=Z,619nm,21.0s						
K62A	**Royalston**	**94.98**	**24**	IAMs_20	IAMs_20	15 53 56.5	
	comp=Z,729nm,22.0s						
Q54A	**Coxs Mills**	**95.00**	**32**	P	**P**	**15 09 58.8**	**+0.6**
	baz=328,SNR=9.0						
Q54A				P	**P**	**15 09 58.8**	**+0.6**
	baz=328,SNR=9.0						
L61B	**Northampton**	**95.03**	**24**	IAMs_20	IAMs_20	15 59 59.7	
	comp=Z,686nm,18.0s						
L61B	**Northampton**	**95.03**	**24**	P	**P**	**15 09 58.4**	**+0.1**
	baz=334						
UNH	**University of**	**95.04**	**23**	P	**P**	**15 09 58.7**	**+0.4**
	baz=335,SNR=6.8						
JAWL	**J.Aulia**	**95.10**	**293**	*i* P	**P**	**15 09 58.8**	**-0.3**
JAWL				*i*		15 10 05.9	
	baz=300,slow=5.9						
QUA2	**Belchertown**	**95.29**	**24**	IAMs_20	IAMs_20	15 59 41.6	
	comp=Z,595nm,19.0s						
KSCT	**Kent School, K**	**95.41**	**25**	IAMs_20	IAMs_20	16 00 28.7	
	comp=Z,773nm,19.0s						
WES	**Weston**	**95.53**	**24**	IAMs_20	IAMs_20	15 54 53.9	
	comp=Z,789nm,21.0s						
ODNJ	**Ogdensburg**	**95.59**	**26**	IAMs_20	IAMs_20	15 57 17.6	
	comp=Z,658nm,20.0s						
HAL	**Halifax**	**95.61**	**17**	IAMs_20	IAMs_20	15 56 38.6	
	comp=Z,740nm,20.0s						
BCX	**Boston College**	**95.62**	**23**	IAMs_20	IAMs_20	15 51 51.4	
	comp=Z,650nm,19.0s						
Q56A	**Snyder Ridge,**	**95.62**	**30**	IAMs_20	IAMs_20	15 52 00.8	
	comp=Z,606nm,21.0s						
TRNY	**Table Rock, Ra**	**95.67**	**26**	IAMs_20	IAMs_20	15 58 46.7	
	comp=Z,606nm,20.0s						
LUPA	**Lehigh Univers**	**95.74**	**27**	IAMs_20	IAMs_20	15 58 37.6	
	comp=Z,971nm,20.0s						
UCCT	**U. Connecticut**	**95.77**	**24**	IAMs_20	IAMs_20	15 54 04.2	
	comp=Z,792nm,22.0s						
SWET	**Sewanee**	**95.81**	**37**	IAMs_20	IAMs_20	15 49 54.3	
	comp=Z,692nm,22.0s						
TZTN	**Tazewell**	**95.84**	**35**	IAMs_20	IAMs_20	15 51 02.9	
	comp=Z,882nm,21.0s						
TZTN	**Tazewell**	**95.84**	**35**	P	**P**	**15 10 00.9**	**-1.3**
	baz=326						
TZTN	**Tazewell**	**95.84**	**35**	P	**P**	**15 10 02.1**	**0.0**
	baz=326,SNR=8.5						
BRYW	**Bryant College**	**95.88**	**24**	IAMs_20	IAMs_20	15 54 22.2	
	comp=Z,706nm,21.0s						
R55A	**Marlinton**	**95.89**	**31**	IAMs_20	IAMs_20	15 56 14.8	
	comp=Z,680nm,22.0s						
R55A	**Marlinton**	**95.89**	**31**	P	**P**	**15 10 03.2**	**+0.8**
	baz=328,SNR=7.5						
R55A				P	**P**	**15 10 03.2**	**+0.8**
	baz=328,SNR=7.5						
PAL	**Palisades**	**95.90**	**26**	IAMs_20	IAMs_20	16 00 16.9	
	comp=Z,797nm,19.0s						
PAL	**Palisades**	**95.90**	**26**	P	**P**	**15 10 02.3**	**+0.1**
	baz=333						
MVL	**Millersville**	**95.90**	**28**	IAMs_20	IAMs_20	15 59 30.0	
	comp=Z,729nm,20.0s						
WSPT	**Westport, CT**	**95.96**	**25**	IAMs_20	IAMs_20	16 01 26.2	
	comp=Z,682nm,19.0s						
YLE	**Yale**	**95.96**	**25**	IAMs_20	IAMs_20	16 00 42.3	
	comp=Z,858nm,18.0s						
V51A	**Loudon**	**96.08**	**36**	IAMs_20	IAMs_20	15 49 40.4	
	comp=Z,1μm,22.0s						
L64A	**Middleborough**	**96.09**	**23**	IAMs_20	IAMs_20	15 57 49.7	
	comp=Z,626nm,20.0s						
N62A	**Caumsett State**	**96.12**	**26**	IAMs_20	IAMs_20	16 01 32.6	
	comp=Z,709nm,18.0s						
W50A	**Signal Mountai**	**96.12**	**37**	IAMs_20	IAMs_20	15 54 53.5	
	comp=Z,767nm,22.0s						
PBRG	**Braganca**	**96.12**	**336**	*eP*	**P**	**15 10 03.4**	**0.0**
	comp=Z,58nm,1.3s						
PBRG	**Braganca**	**96.12**	**336**	*eP*	**PP**	**15 13 56.6**	**+0.9**
M63A	**Gales Ferry**	**96.18**	**24**	IAMs_20	IAMs_20	16 00 09.1	
	comp=Z,568nm,18.0s						
WUPA	**West Chester U**	**96.24**	**28**	IAMs_20	IAMs_20	15 59 26.9	
	comp=Z,654nm,20.0s						
CPCT	**Cooper Cave**	**96.29**	**36**	IAMs_20	IAMs_20	15 52 19.9	
	comp=Z,648nm,19.0s						
Z47A	**Carrollton**	**96.37**	**40**	IAMs_20	IAMs_20	15 49 25.2	
	comp=Z,628nm,20.0s						
V52A	**Sevierville**	**96.40**	**35**	IAMs_20	IAMs_20	15 49 38.8	
	comp=Z,1μm,22.0s						
V52A	**Sevierville**	**96.40**	**35**	P	**P**	**15 10 05.1**	**+0.4**
	baz=326						
PGAV	**Gavieira, Arco**	**96.46**	**338**	*eP*	**P**	**15 10 05.2**	**+0.3**
	comp=Z,52nm,1.2s						
PGAV	**Gavieira, Arco**	**96.46**	**338**	*eP*	**PP**	**15 14 01.1**	**+2.8**
PGAV				*eSKSac*	SKSac	15 20 50.9	+14
PGAV				*eSS*	**SS**	**15 28 03.3**	**+10**
PGAV	**Gavieira, Arco**	**96.46**	**338**	*eLQ*	LQ	15 40 17.0	
PGAV				*eLR*	LR	15 44 18.7	
	comp=Z,1μm,22.0s						
TKL	**Tuckaleechee C**	**96.47**	**35**	IAMs_20	IAMs_20	15 55 57.6	
	comp=Z,801nm,21.0s						
TKL	**Tuckaleechee C**	**96.47**	**35**	P	**P**	**15 10 04.8**	**-0.2**
	baz=326,SNR=6.1						
M65A	**Busby, Falmout**	**96.49**	**23**	IAMs_20	IAMs_20	15 52 08.3	
	comp=Z,707nm,22.0s						
FPAL	**Fort Paine**	**96.51**	**37**	IAMs_20	IAMs_20	15 52 53.9	
	comp=Z,736nm,21.0s						
U54A	**Nelsons Funny**	**96.64**	**34**	IAMs_20	IAMs_20	15 53 28.9	
	comp=Z,836nm,21.0s						
BLA	**Blacksburg**	**96.67**	**32**	IAMs_20	IAMs_20	15 53 03.4	
	comp=Z,685nm,21.0s						
P61A	**Hammonton**	**96.76**	**27**	IAMs_20	IAMs_20	15 56 06.8	
	comp=Z,739nm,20.0s						
MVO	**Moncorvo**	**96.80**	**336**	*eP*	**P**	**15 10 06.4**	**0.0**
	comp=Z,68nm,1.4s						
MVO	**Moncorvo**	**96.80**	**336**	*ePP*	**PP**	**15 14 03.1**	**+2.2**
MVO				*eSKSac*	SKSac	15 20 51.4	+12
MVO	**Moncorvo**	**96.80**	**336**	*eLQ*	LQ	15 39 41.2	
MVO				*eLR*	LR	15 43 04.9	
	comp=Z,2μm,18.0s						
S57A	**Dark Hollow, R**	**96.81**	**31**	IAMs_20	IAMs_20	15 52 47.3	
	comp=Z,733nm,21.0s						
S57A	**Dark Hollow, R**	**96.81**	**31**	P	**P**	**15 10 07.2**	**+0.7**
	baz=329						
S57A				P	**P**	**15 10 07.2**	**+0.7**
	baz=329						
POLO	**Lamas de Olo**	**96.85**	**337**	*eP*	**P**	**15 10 06.6**	**-0.1**
	comp=Z,37nm,1.3s						
POLO	**Lamas de Olo**	**96.85**	**337**	*ePP*	**PP**	**15 13 59.1**	**-2.2**
X51A	**Calhoun**	**96.86**	**37**	IAMs_20	IAMs_20	15 54 40.9	
	comp=Z,650nm,20.0s						
W52A	**Murphy**	**96.86**	**36**	IAMs_20	IAMs_20	15 50 28.0	
	comp=Z,647nm,22.0s						
V53A	**Saluda**	**96.90**	**35**	IAMs_20	IAMs_20	15 52 20.0	
	comp=Z,802nm,20.0s						
V53A	**Saluda**	**96.90**	**35**	P	**P**	**15 10 07.5**	**+0.5**
	baz=326						
V53A				P	**P**	**15 10 07.5**	**+0.5**
	baz=326						
PVRL	**Vila Real**	**96.91**	**337**	*eP*	**P**	**15 10 06.7**	**-0.2**
	comp=Z,57nm,1.3s						
LRAL	**Lakeview Retre**	**97.04**	**39**	IAMs_20	IAMs_20	16 00 03.8	
	comp=Z,549nm,20.0s						
ESDC	**Sonseca Array**	**97.09**	**334**	P	**P**	**15 10 07.6**	**-0.2**
	comp=Z,13nm,1.0s,baz=21,slow=3.8,SNR=62						
ESDC				PP	**PP**	**15 14 02.4**	**-0.9**
	comp=Z,6.2nm,1.1s,baz=14,slow=7.3,SNR=6.7						
ESDC				LR	LR	15 58 02.2	
	comp=Z,2μm,21.4s,baz=16,slow=38						
	comp=Z,13nm,1.0s						
T57A	**Hurt**	**97.34**	**31**	IAMs_20	IAMs_20	15 56 17.3	
	comp=Z,796nm,19.0s						
T57A	**Hurt**	**97.34**	**31**	P	Pdif	15 10 09.5	+0.5
	baz=329						
T57A				P	Pdif	15 10 09.5	+0.5
	baz=329						
PAB	**San Pablo**	**97.34**	**334**	P	**P**	**15 10 08.8**	**-0.2**
BG3	**Lake Jocassee**	**97.41**	**35**	IAMs_20	IAMs_20	15 52 31.4	
	comp=Z,747nm,21.0s						
CASEE	**Lake Jocassee**	**97.41**	**35**	P	Pdif	15 10 09.8	+0.5
	baz=326						
U56A	**King**	**97.41**	**33**	IAMs_20	IAMs_20	15 54 06.3	
	comp=Z,666nm,21.0s						
PVIS	**Viseu**	**97.48**	**337**	*eP*	**P**	**15 10 09.5**	**0.0**
PVIS	**Viseu**	**97.48**	**337**	*ePP*	**PP**	**15 14 07.2**	**+1.1**
MTE	**Manteigas**	**97.65**	**336**	*eP*	**P**	**15 10 10.2**	**-0.1**
	comp=Z,44nm,1.4s						
MTE	**Manteigas**	**97.65**	**336**	*ePP*	**PP**	**15 14 08.5**	**+1.0**
MTE				*eSKSac*	SKSac	15 20 57.7	+14
MTE	**Manteigas**	**97.65**	**336**	*eLQ*	LQ	15 40 34.5	
MTE				*eLR*	LR	15 45 05.7	
	comp=Z,1μm,20.0s						
Z51A	**Franklin**	**97.72**	**38**	IAMs_20	IAMs_20	15 57 03.8	
	comp=Z,665nm,20.0s						
Y52A	**Lilburn**	**97.81**	**37**	IAMs_20	IAMs_20	15 58 00.1	
	comp=Z,700nm,21.0s						
KMSC	**Kings Mountain**	**98.01**	**34**	IAMs_20	IAMs_20	15 53 47.2	
	comp=Z,1μm,22.0s						
KMSC	**Kings Mountain**	**98.01**	**34**	P	**P**	**15 10 10.3**	**-1.6**
	baz=327						
KMSC	**Kings Mountain**	**98.01**	**34**	P	Pdif	15 10 12.8	+0.9
	baz=327						
COI	**Coimbra**	**98.10**	**337**	*eP*	Pdif	15 10 12.9	+0.6
	comp=Z,59nm,1.1s						
PCBR	**Castelo Branco**	**98.14**	**336**	*eP*	**P**	**15 10 12.1**	**-0.3**
	comp=Z,40nm,1.4s						
PCBR	**Castelo Branco**	**98.14**	**336**	*ePP*	**PP**	**15 14 12.7**	**+1.6**
250A	**Grady**	**98.25**	**39**	IAMs_20	IAMs_20	16 00 50.1	
	comp=Z,550nm,19.0s						
PCAS	**Casmilo, Conde**	**98.27**	**337**	*eP*	Pdif	15 10 13.2	+0.1
	comp=Z,43nm,1.3s						
PCAS	**Casmilo, Conde**	**98.27**	**337**	*ePP*	**PP**	**15 14 14.8**	**+2.7**
V58A	**Windy Hill, Pi**	**98.42**	**32**	IAMs_20	IAMs_20	15 57 44.0	
	comp=Z,849nm,21.0s						
GOGA	**Godfrey**	**98.46**	**36**	IAMs_20	IAMs_20	15 59 31.3	
	comp=Z,564nm,19.0s						
152A	**Waverly Hall**	**98.47**	**38**	IAMs_20	IAMs_20	15 49 48.6	
	comp=Z,757n

MORF IAMs_20 IAMs_20 15 57 34.8
comp=Z,2μm,16.0s
PFVI Vila Bisbo 101.04 336 *eP* **Pdif 15 10 26.6 +1.2**
PFVI Vila Bisbo 101.04 336 *e*SKSac SKSac 15 21 28.5 +28
KMBO Kilima Mbogo 101.70 278 IAMs_20 IAMs_20 15 57 23.6
comp=Z,995nm,22.0s
KMBO Kilima Mbogo 101.70 278 *eP* **Pdif 15 10 28.8 -0.2**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 101.70 278 P **Pdif 15 10 29.0 0.0**
KMBO Kilima Mbogo 101.70 278 P **Pdif 15 10 28.6 -0.4**
comp=Z,6.7nm,1.0s,baz=36,slow=7.0,SNR=10.0
KMBO PP **PP 15 14 40.1 +0.2**
comp=Z,7.7nm,0.8s,baz=37,slow=11,SNR=7.9
KIBK Kibwezi 101.80 276 IAMs_20 IAMs_20 16 04 44.8
comp=Z,550nm,19.0s
KIBK Kibwezi 101.80 276 P **Pdif 15 10 29.5 +0.2**
AVE Averroes 104.03 333 IAMs_20 IAMs_20 16 03 24.1
comp=Z,757nm,19.0s
ABPO Ambohimpanom 104.21 257 IAMs_20 IAMs_20 16 00 08.4
comp=Z,473nm,20.0s
TAM Tamanrasset 107.17 317 IAMs_20 IAMs_20 16 05 32.1
comp=Z,799nm,20.0s
PMOZ Porto Moniz, M 107.52 341 *e*LR LR 15 47 48.3
comp=Z,601nm,22.0s
MACI Morro de la Ar 111.65 339 IAMs_20 IAMs_20 16 09 25.8
comp=Z,698nm,18.0s
ACON Acoyapa 114.65 51 IAMs_20 IAMs_20 16 04 18.5
comp=Z,451nm,19.0s
TOA0 Torodi Ar. Sit 117.08 315 **PKPdf 15 15 20.6 -0.3**
TORD Torodi Ar. Bea 117.08 315 **PKPdf 15 15 20.4 -0.5**
TORD Torodi Ar. Bea 117.08 315 Pdiff **Pdif 15 11 42.1 +5.0**
comp=Z,0.6nm,0.8s,baz=33,slow=3.4,SNR=2.8
TORD PKP **PKPdf 15 15 20.1 -0.8**
comp=Z,8.3nm,0.6s,baz=18,slow=2.6,SNR=35
TORD PP **PP 15 16 28.0 -2.3**
comp=Z,65nm,1.2s,baz=27,slow=6.3,SNR=8.4
TORD PKKPab **PKKPab 15 25 51.5 -0.1**
comp=Z,1.2nm,0.7s,baz=230,slow=1.1,SNR=5.2
LSZ Lusaka 117.22 271 **PKiKP 15 15 21.5 +0.3**
LSZ Lusaka 117.22 271 PKIKP **PKiKP 15 15 21.5 +0.3**
KOWA Kowa 119.04 321 **PKPdf 15 15 24.6 -0.1**
SJG San Juan 119.36 30 *eP* **PKiKP 15 15 27.8 +2.5**
MAW Mawson 119.50 206 PKP **PKiKP 15 15 23.9 0.0**
comp=Z,7.3nm,0.9s,baz=48,slow=6.6,SNR=6.7
MAW PKKPbc **PKKPbc 15 25 36.0 -0.7**
comp=Z,5.1nm,1.0s,baz=295,slow=9.6,SNR=4.4
SJCC San Jacinto, C 122.17 44 *eP* **PKPdf 15 15 29.1 -1.7**
URIC Uribia, Colomb 122.34 39 *eP* **PKiKP 15 15 31.8 +0.6**
CRJC Cerrejon, Guaj 122.46 41 *eP* **PKPdf 15 15 29.5 -1.9**
UREC San Jos de Ur 123.73 45 *eP* **PKiKP 15 15 34.0 0.0**
SVN Savane Anatole 124.23 26 **PKiKP 15 15 35.0 0.0**
ZARC Zaragoza, Cauc 124.32 45 *eP* **PKiKP 15 15 35.5 +0.3**
LBTB Lobatse 124.38 263 **PKiKP 15 15 35.0 0.0**
LBTB Lobatse 124.38 263 PKIKP **PKiKP 15 15 35.0 0.0**
SDV Santo Domingo 125.43 40 IAMs_20 IAMs_20 16 16 21.2
comp=Z,562nm,19.0s
SDV Santo Domingo 125.43 40 *eP* **PKPdf 15 15 37.3 +0.1**
SDV Santo Domingo 125.43 40 *eP* **PKPdf 15 15 37.1 -0.1**
PLMC San Jos del P 125.59 48 *eP* **PKiKP 15 15 37.7 -0.1**
GUY2C Guyana, Caldas 125.87 47 *eP* **PKPdf 15 15 37.0 -1.4**
NORC Norcasia 125.89 46 *eP* **PKPdf 15 15 37.5 -0.4**
BARC Barichara 126.00 44 *eP* **PKPdf 15 15 38.1 -0.2**
DBIC Dimbokro 126.04 317 **PKPdf 15 15 38.0 -0.1**
DBIC Dimbokro 126.04 317 PKIKP **PKPdf 15 15 38.1 -0.1**
TIC Toumodi 126.15 317⇑ *e*PKIKP **PKPdf 15 15 38.0 -0.4**
comp=Z,92nm,1.0s
KIC Kosan Boka 126.23 316⇑ *e*PKIKP **PKPdf 15 15 37.9 -0.6**
comp=Z,132nm,0.9s
SPBC San Pablo de B 126.27 45 *eP* **PKPdf 15 15 38.8 +0.1**
YOTC Yotoco, Valle 126.28 49 *eP* **PKiKP 15 15 39.1 -0.1**
BOSA Boshof 126.33 259 **PKiKP 15 15 38.7 -0.1**
BOSA Boshof 126.33 259 PKIKP **PKiKP 15 15 38.7 -0.1**
BOSA Boshof 126.33 259 PKP **PKPdf 15 15 38.3 -0.1**
comp=Z,47nm,0.9s,baz=65,slow=1.4,SNR=44
ANIL Santa Ana 126.44 47 *eP* **PKiKP 15 15 39.9 +0.2**
LIC Lamto 126.50 316⇑ *e*PKIKP **PKPdf 15 15 38.1 -0.9**
comp=Z,166nm,0.9s
GRGR Grenville 126.55 28 IAMs_20 IAMs_20 16 07 49.6
comp=Z,634nm,21.0s
RUSC La Rusia 126.63 44 *eP* **PKPdf 15 15 38.9 -1.0**
BAUV El Baul 126.66 37 **PKPdf 15 15 39.3 -0.1**
JAMC Jamundi, Valle 126.69 50 *eP* **PKPdf 15 15 36.7 -3.0**
ROSC El Rosal 126.79 46 *eP* **PKiKP 15 15 41.0 +0.5**
ROSC El Rosal 126.79 46 PKP **PKiKP 15 15 41.1 +0.5**
comp=Z,61nm,1.0s,baz=305,slow=4.9,SNR=27
QSPA South Pole Qui 126.86 180 **PKiKP 15 15 38.3 -0.3**
QSPA South Pole Qui 126.86 180 IAMs_20 IAMs_20 16 08 03.7
comp=Z,678nm,22.0s
QSPA South Pole Qui 126.86 180 PKP **PKPdf 15 15 37.9 -0.2**
comp=Z,21nm,0.8s,baz=302,slow=0.7,SNR=93
ORTC Ortega, Tolima 127.00 48 *eP* **PKiKP 15 15 41.5 +0.9**
POPC Popayan, Colom 127.22 50 *eP* **PKPdf 15 15 39.0 -1.7**
BBAC Balboa, Cauca 127.27 51 *eP* **PKPdf 15 15 39.9 -0.9**
CHIC Chingaza 127.30 46 *eP* **PKPdf 15 15 39.7 -1.4**
PRAC Prado 127.37 48 *eP* **PKPdf 15 15 38.5 -2.3**
GRHM Grahamstown, E 127.44 253 **PKiKP 15 15 41.3 +0.5**
PAC1 Pacto, Paraso 127.64 54 *eP* **PKPdf 15 15 41.2 -0.2**
VILC Villavicencio, 127.74 46 *eP* **PKiKP 15 15 42.8 +0.6**
TSUM Tsumeb 127.83 274 **PKiKP 15 15 42.7 +0.6**
BETC Betania 127.86 49 *eP* **PKPdf 15 15 41.9 +0.2**
OTAV Otavalo 127.88 54 *eP* **PKPdf 15 15 38.4 -3.9**
OTAV Otavalo 127.88 54 *eP* **PKPdf 15 15 40.8 -1.5**
GARC Garzon, Huila 128.22 49 *eP* **PKiKP 15 15 43.2 -0.1**
BONI La Bonita 128.31 53 *eP* **PKiKP 15 15 44.1 +0.7**
FLOC Florencia 128.60 50 *eP* **PKiKP 15 15 44.7 +1.0**
PIAT Ana Tenorio 128.94 55 *eP* **PKPdf 15 15 46.3 +0.1**
MACC Macarena, Meta 129.24 48 *eP* **PKPdf 15 15 43.2 -1.1**
COHC Cochancay 129.38 57 *eP* **PKiKP 15 15 45.0 -0.2**
PTLC Puerto Leguiza 130.23 50 *eP* **PKPdf 15 15 45.5 -0.7**
MCRA Macar, Loja 130.29 59 *eP* **PKPdf 15 15 43.2 -3.1**
ELIB Princess Élisa 133.39 202 *d*PKPdf **PKPdf 15 15 50.1 -0.4**
ELIB *d*PP **PP 15 18 19.0 -0.1**
BOAV Boa Vista 135.85 32 **PKPdf 15 15 56.9 +0.2**
BOAV Boa Vista 135.85 32 *eP* **PKPdf 15 15 56.3 -0.5**
MDP Montagnes des 136.09 20 PKP **PKPdf 15 15 57.9 +0.7**
comp=Z,23nm,1.0s,baz=63,slow=2.3,SNR=6.2
NVL N'lazarevskaya 137.27 202 *e*PKIKP **PKPdf 15 15 54.0 -3.5**
NVL pmax pmax
comp=Z,40nm,1.1s
CZSB Cruzeiro do Su 137.62 55 *eP* **PKPdf 15 15 56.4 -3.6**
TROLL Troll, Antarti 139.23 198 ⇑PKPdf PKPdf 15 15 51.0 -10
comp=Z,378nm,0.6s
SNAA Sanae 140.75 197 ⇑PKPdf PKPdf 15 15 55.8 -8.2
comp=Z,375nm,0.9s
SNAA Sanae 140.75 197 PKhKP PKPpre 15 15 55.7
comp=Z,6.9nm,0.6s,baz=120,slow=2.9,SNR=30
SNAA PP **PP 15 19 03.3 -1.5**
comp=Z,6.2nm,1.0s,baz=154,slow=6.0,SNR=4.5
VNA2 Neumayer--Watz 142.33 196 ⇑PKPdf **PKPdf 15 16 02.0 -4.7**
comp=Z,30nm,0.7s,baz=113,slow=3.0
VNA3 Neumayer Olymp 142.58 195 ⇑PKPdf **PKPdf 15 16 02.7 -4.6**
comp=Z,30nm,0.8s
VNA1 Neumayer--Stat 142.73 196 ⇑PKPdf **PKPdf 15 16 03.7 -3.7**
comp=Z,41nm,1.0s
SAML Samuel 144.37 44 **PKPab 15 16 10.4 +0.2**
SAML Samuel 144.37 44 PKIKP **PKPab 15 16 10.4 +0.2**
SAML MLR MLR
comp=Z,600nm,20.0s
SAML Samuel 144.37 44 *eP* **PKPab 15 16 09.3 -0.9**
SMAI San Martin Ant 145.20 162 **PKPdf 15 16 12.8 +1.0**
PB12 IPOC Station P 146.89 65 **PKPdf 15 16 16.6 +0.3**
H03N2 Juan Fernandez 147.30 96 T T 18 01 16.8
baz=291,slow=76,SNR=744
H03N3 Juan Fernandez 147.31 96 T T 18 01 15.6
baz=291,slow=76,SNR=989
H03N1 Juan Fernandez 147.32 96 T T 18 01 18.0
baz=291,slow=76,SNR=817
PB08 IPOC Station P 148.71 66 **PKPdf 15 16 20.7 +1.0**
PB08 **PKiKP 15 16 25.6 +0.7**
RCBR Riachuelo 148.73 354 PKPbc **PKPbc 15 16 23.4 +0.1**
comp=Z,109nm,0.9s,baz=345,slow=2.9,SNR=23
VILB Vilhena 149.31 44 **PKiKP 15 16 26.0 +0.1**
VILB IAMs_20 IAMs_20 16 37 32.5
comp=Z,499nm,20.0s
LVC Limon Verde 150.39 69 PKP **PKPdf 15 16 23.5 +1.2**
comp=Z,9.9nm,0.9s,baz=250,slow=6.3,SNR=5.5
LVC PKPbc **PKiKP 15 16 29.0 +0.7**
comp=Z,126nm,1.0s,baz=282,slow=3.4,SNR=53
SIV San Ignacio 151.23 49 PKP **PKPdf 15 16 24.0 +0.7**
comp=Z,30nm,1.0s,baz=302,slow=0.7,SNR=61
SIV PKPbc **PKiKP 15 16 30.0 +0.2**
comp=Z,176nm,0.9s,baz=311,slow=1.2,SNR=124
CO02 Combarbal 152.89 87 **PKPdf 15 16 25.5 0.0**
CO02 PKPbc **PKiKP 15 16 33.2 +0.3**
BO02 Sierra Bellavi 154.17 94 **PKPdf 15 16 26.9 -0.3**
BO02 PKPbc **PKiKP 15 16 36.5 +1.1**
PLCA Paso Flores 155.20 108 **PKPdf 15 16 27.9 -0.5**
PLCA pPKPbc 15 16 56.7 +3.3
PLCA Paso Flores 155.20 108 PKP **PKPdf 15 16 28.3 -0.1**
comp=Z,8.7nm,1.1s,baz=354,slow=2.3,SNR=3.8
BDFB Brasilia 157.13 23 PKPdf **PKPdf 15 16 32.5 +0.8**
BDFB **PKPab 15 17 03.5 +1.2**
BDFB Brasilia 157.13 23 PKP **PKPdf 15 16 31.9 +0.2**
comp=Z,25nm,1.1s,baz=69,slow=2.5,SNR=13
BDFB PKPab **PKPab 15 17 02.5 +0.2**
comp=Z,36nm,1.0s,baz=351,slow=4.2,SNR=13
BDFB PP **PP 15 20 39.1 -1.0**
comp=Z,16nm,1.0s,baz=343,slow=8.4,SNR=6.7
CPUP Villa Florida 161.03 61 **PKPdf 15 16 35.8 0.0**
CPUP **PKPab 15 17 19.4 +0.4**
CPUP Villa Florida 161.03 61 PKP **PKPdf 15 16 35.7 -0.1**
comp=Z,12nm,1.1s,baz=303,slow=0.7,SNR=9.3
CPUP PKPab **PKPab 15 17 19.1 0.0**
comp=Z,8.1nm,0.9s,baz=316,slow=7.4,SNR=5.7
PLTB Pedras Altas 166.76 70 **PKPdf 15 16 41.5 +0.6**
PLTB PKPab **PKPab 15 17 43.8 -0.4**

JMA 06 14:57:54.2±0.1, 31°.4N±0°.2×130°.6E±0°.2, h12km±1km, MV0.4/8, SATSUMA PENINSULA REGION, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.17**	**307**	P	Pg	14 57 58.2	+0.1
JSU				S	Sg	14 58 01.0	0.0
JTSR	**Tashiro 2**	**0.35**	**132**	P	Pg	14 58 01.1	-0.1

DJA 06 14:59:19.7±0.3, 1°.S±2°.×12°.0E±°, h10km, M3.6/11, mb3.4/2, MLv3.7/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.63**	**344**	P	Pn	14 59 47.3	-1.2
MPSI				S	Sn	15 00 09.8	+0.3
TTSI	**Tana Toraja**	**1.87**	**196**	P	Pn	14 59 51.5	-0.2
TTSI				S	Sn	15 00 16.3	+0.9
MRSI	**Marisa**	**2.34**	**43**	P	Pn	14 59 56.8	-1.4
LUWI	**Luwuk**	**2.44**	**85**	P	Pn	15 00 01.1	+1.5
GTOI	**Gorontalo**	**3.26**	**55**	P	Pn	15 00 11.4	+0.5
BKSI	**Bulukumba**	**4.06**	**183**	P	Pn	15 00 20.6	-1.3
SANI	**Sanana**	**5.70**	**98**	P	Pn	15 00 43.4	-1.1
	4.3nm,1.3s,0.0nm						
SRBI	**Singaraja**	**8.50**	**217**	P	Pn	15 01 20.9	-2.1

*IDC **06** 15:00:42.7±2.6, 37°.18N×141°.18E, h54km±20km, mb4.1/7, mbtmp4.4/10, ML3.3/2, Error ellipse: s-maj=29.0km s-min=15.8km az=134.0*
*JMA **06** 15:00:42.6±0.1, 37°.1N±0°.3×141°.1E±0°.6, h52km, MD4.1/39, MV4.3/39, E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
ISC 06 15:00:41.8±1.1, 37°.09N±0°.05×141°.20E±0°.08, h49km±8km, n30, σ0°67/33, mb4.3/7, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.32**	**272**	⇓*iP*	**Pn**	**15 00 51.5**	**+0.4**
ONAJ				⇓S	**Sn**	**15 00 57.7**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.32**	**272**	A	A	15 00 51.5	
comp=E,65nm,0.3s,comp=N,43nm,0.2s							
JFK	**Kawauchi**	**0.38**	**317**	⇓*iP*	**Pn**	**15 00 52.0**	**+0.3**
JFK				⇓S	**Sn**	**15 00 58.6**	**-0.1**
JFK	**Kawauchi**	**0.38**	**317**	A	A	15 00 52.0	
comp=E,34nm,0.6s,comp=N,40nm,0.5s							
JFFD	**Fukushimafurud**	**0.51**	**270**	⇓*iP*	**Pn**	**15 00 53.4**	**+0.2**
JFFD				⇓S	**Sn**	**15 01 00.8**	**-0.5**
JFFD	**Fukushimafurud**	**0.51**	**270**	A	A	15 00 53.4	
comp=E,23nm,0.6s,comp=N,29nm,0.2s							
JMST	**Minamisoumatoc**	**0.68**	**339**	A	A	15 00 55.7	
comp=E,15nm,0.5s,comp=N,15nm,0.2s							
JHO	**Hitachi**	**0.70**	**227**	*i* P	**Pn**	**15 00 55.6**	**+0.1**
JHO				S	**Sn**	**15 01 04.6**	**-0.8**
JOTO	**OTAMA OYAMA**	**0.83**	**304**	*i* P	**Pn**	**15 00 57.9**	**+0.6**
JOTO				S	**Sn**	**15 01 09.0**	**+0.4**
JMM	**Marumori**	**0.84**	**338**	⇓*iP*	**Pn**	**15 00 57.6**	**+0.2**
JMM				⇓S	**Sn**	**15 01 08.4**	**-0.3**
JMM	**Marumori**	**0.84**	**338**	A	A	15 00 57.6	
comp=E,25nm,0.4s,comp=N,15nm,0.2s							
JFY	**Yanaizu**	**1.23**	**285**	⇓*iP*	**Pn**	**15 01 02.8**	**+0.1**
JOU	**Okura**	**1.34**	**342**	P	**Pn**	**15 01 04.7**	**+0.5**
JIO	**Ouri**	**1.37**	**5**	P	**Pn**	**15 01 05.0**	**+0.5**
JIO				S	**Sn**	**15 01 21.6**	**+0.1**
JYS	**Shiratake**	**1.44**	**322**	⇓P	**Pn**	**15 01 06.1**	**+0.6**
JAG	**Ashikaga**	**1.55**	**245**	P	**Pn**	**15 01 07.2**	**+0.2**
JAG				S	**Sn**	**15 01 25.4**	**-0.6**
JKT	**Katashina**	**1.59**	**259**	P	**Pn**	**15 01 08.5**	**+0.8**
MJAR	**Matsushiro Arr**	**2.46**	**258**	P	**Pn**	**15 01 19.0**	**-0.5**
comp=N,1.3nm,0.3s,baz=82,slow=15,SNR=6.1							
MJAR				S	**Sn**	**15 01 49.9**	**+1.6**
comp=N,21nm,0.4s,baz=86,slow=27,SNR=1.7							
comp=N,9.2nm,0.3s							
JHJ	**Hachijo jima 2**	**4.13**	**197**	P	**Pn**	**15 01 44.0**	**+1.7**
comp=N,28nm,0.3s,baz=323,slow=20,SNR=0.9							
JHJ				S	**Sn**	**15 02 29.4**	**+0.1**
comp=N,149nm,0.3s,baz=263,slow=22,SNR=2.3							
comp=N,123nm,0.4s							
ASAJ	**Asahikawa**	**7.10**	**8**	P	**Pn**	**15 02 22.9**	**-0.1**
comp=N,102nm,1.1s,baz=214,slow=12,SNR=0.5							
ASAJ				S	**Sn**	**15 03 42.2**	**-0.1**
comp=N,32nm,0.9s,baz=172,slow=21,SNR=1.2							
SONM	**Songino Array**	**27.61**	**304**	P	**P**	**15 06 24.7**	**+0.1**
comp=N,3.6nm,0.7s,baz=104,slow=8.1,SNR=1.2							
comp=N,3.6nm,0.7s							
ZALV	**Zalesovo Beam**	**41.75**	**312**	P	**P**	**15 08 26.2**	**+0.3**
comp=N,6.9nm,0.6s,baz=91,slow=8.2,SNR=2.3							
comp=N,6.9nm,0.6s							
MKAR	**Makanchi Array**	**43.94**	**302**	P	**P**	**15 08 43.9**	**+0.1**
comp=N,2.5nm,0.6s,baz=87,slow=7.5,SNR=1.4							
comp=N,2.5nm,0.6s							
ARCES	**ARCESS Array B**	**63.88**	**339**	P	**P**	**15 11 07.8**	**-1.2**
comp=N,2.6nm,0.9s,baz=47,slow=6.6,SNR=1.0							
comp=N,2.6nm,0.9s							
FINES	**FINESS Array B**	**68.68**	**332**	P	**P**	**15 11 39.3**	**-0.4**
comp=N,4.3nm,0.8s,baz=46,slow=8.0,SNR=1.5							
comp=N,4.3nm,0.8s							
AKASG	**Malin Array Be**	**74.15**	**322**	P	**P**	**15 12 11.9**	**-0.9**
comp=N,1.0nm,0.3s,baz=47,slow=6.1,SNR=4.9							
comp=N,1.0nm,0.3s							
TXAR	**Lajitas Array**	**90.22**	**52**	P	**P**	**15 13 38.6**	**+1.2**
comp=N,1.8nm,0.9s,baz=295,slow=2.8,SNR=2.5							
comp=N,1.8nm,0.9s							
H03N2	**Juan Fernandez**	**147.20**	**96**	T	T	18 05 16.0	
baz=285							
H03N3	**Juan Fernandez**	**147.21**	**96**	T	T	18 05 17.3	
baz=285							
H03N1	**Juan Fernandez**	**147.22**	**96**	T	T	18 05 18.7	
baz=285							

JMA 06 15:09:39.4±0.2, 37°.5N±0°.8×14°.4E±°, h52km, MV3.6/29, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.03**	**294**	P	Pn	15 10 12.2	+1.1
JIKH				*e*S	Sn	15 10 36.2	+1.0
JIO	**Ouri**	**2.17**	**297**	P	Pn	15 10 14.2	+1.2
JIO				*e*S	Sn	15 10 40.1	+1.4
JKMT	**Kesennumamotoy**	**2.26**	**306**	P	Pn	15 10 15.3	+0.9
JKMT				S	Sn	15 10 41.8	+0.8
OFUJ	**Ofunato**	**2.31**	**314**	*i* P	Pn	15 10 15.8	+0.7
OFUJ				S	Sn	15 10 42.5	+0.3
JMST	**Minamisoumatoc**	**2.33**	**277**	*e*P	Pn	15 10 16.1	+0.8
JMST				S	Sn	15 10 43.7	+0.9
JFK	**Kawauchi**	**2.34**	**268**	S	Sn	15 10 44.0	+0.9
JMK	**Ichinoseki**	**2.51**	**306**	P	Pn	15 10 18.9	+1.3
JMK				S	Sn	15 10 48.5	+1.5
JOTO	**OTAMA OYAMA**	**2.77**	**272**	P	Pn	15 10 23.4	+2.1
JOTO				*e*S	Sn	15 10 56.3	+2.8
JOM	**Ohasama**	**2.79**	**316**	P	Pn	15 10 23.0	+1.4
JOM				S	Sn	15 10 55.0	+0.8
JYK	**Kaneyama**	**3.07**	**299**	P	Pn	15 10 27.6	+2.2
JYK				*e*S	Sn	15 11 03.2	+2.4
JANG	**Nango**	**3.39**	**329**	*e*P	Pn	15 10 31.4	+1.7
JRY	**Ryogami san**	**4.21**	**251**	P	Pn	15 10 42.2	+1.1
JRY				S	Sn	15 11 28.5	-0.4
JOT	**Ohata**	**4.43**	**332**	*e*P	Pn	15 10 46.0	+1.9
JCH	**Churui**	**5.12**	**356**	P	Pn	15 10 53.1	-0.5
JCH				*e*S	Sn	15 11 48.3	-3.1
NEM2	**Nemuro 2**	**6.05**	**13**	*e*P	Pn	15 11 02.4	-3.8
NEM2				*e*S	Sn	15 12 08.6	-5.4
JTKR	**Abashiri--Toko**	**6.47**	**1**	P	Pn	15 11 11.3	-0.7
JTKR				*e*S	Sn	15 12 20.3	-4.1

IDC 06 15:14:00.6±2.2, 2°.59N×126°.98E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=157.0km s-min=28.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.53**	**162**	P	P	15 19 12.7	0.0
0.6nm,0.8s,baz=342,slow=11,SNR=22							
0.6nm,0.8s							
ASAR	**Alice Springs**	**26.96**	**166**	P	P	15 19 44.3	+0.2
0.6nm,1.0s,baz=345,slow=7.4,SNR=1.7							
0.6nm,1.0s							
MKAR	**Makanchi Array**	**58.63**	**326**	P	P	15 23 59.5	-0.2
0.1nm,0.3s,baz=123,slow=7.1,SNR=2.3							
0.1nm,0.3s							

NOU 06 15:20:47.5, 16°.32S×168°.44E, h0km, MLv3.9/5, Vanuatu Islands, Vanuatu Islands

*NEIC **06** 15:32:10.1±2.7, 4°.28S±0°.08×80°.79W±0°.09, h35km±9km, mb4.5/19, Error ellipse: s-maj=15.0km s-min=8.2km az=50.0*
*IDC **06** 15:32:14.5±2.4, 4°.24S×80°.56W, h74km±21km, mb3.9/10, mbtmp4.3/13, MS3.7/4, Error ellipse: s-maj=26.7km s-min=14.1km az=72.0*
ISC 06 15:32:09.8±0.5, 4°.20S±0°.05×80°.72W±0°.08, h35km, n59, σ19°57/64, mb4.4/20, 8C-1D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCRA	**Macar, Loja**	**0.78**	**102**		**Pn**	**15 32 23.1**	**-1.3**
SALI	**Salinas**	**2.02**	**352**		**Pn**	**15 32 42.7**	**+1.3**
COHC	**Cochancay**	**2.26**	**40**		**Pn**	**15 32 46.3**	**+1.6**
BOSC	**San Juan Bosco**	**2.45**	**65**		**Pn**	**15 32 50.3**	**+2.8**
CHSH	**Refugio Sur-Vo**	**3.26**	**35**	Pn	**Pn**	**15 33 00.3**	**+1.3**
ATAH	**Atahualpa**	**3.72**	**142**	P	**Pn**	**15 33 07.6**	**+2.4**
180nm,0.7s,baz=356,slow=8.0,SNR=6.3							
ATAH				S	**Sn**	**15 33 50.5**	**+2.5**
490nm,0.5s,baz=130,slow=21,SNR=8.8							
ATAH				LR	LR	15 34 30.6	
comp=Z,314nm,21.4s,baz=295,slow=38							
SLOR	**San Lorenzo -**	**4.10**	**33**		**Pn**	**15 33 14.2**	**+3.7**
PULU	**Pululahua**	**4.74**	**28**		**Pn**	**15 33 22.2**	**+2.9**
OTAV	**Otavalo**	**4.96**	**27**		**Pn**	**15 33 24.5**	**+2.3**
IMBA	**Imbabura, San**	**5.11**	**30**	Pn	**Pn**	**15 33 28.8**	**+4.5**
NNA	**Nana**	**8.63**	**154**	P	**Pn**	**15 34 15.2**	**+2.8**
10.0nm,0.3s,baz=306,slow=16,SNR=3.9							
NNA				S	**Sn**	**15 35 50.8**	**+2.1**
15nm,0.4s,baz=319,slow=23,SNR=1.6							
CZSB	**Cruzeiro do Su**	**8.71**	**114**		**Pn**	**15 34 13.0**	**-0.4**
ROSC	**El Rosal**	**11.02**	**36**	LR	LR	15 39 23.9	
comp=Z,360nm,21.9s,baz=167,slow=39							
ETMB	**Extrema**	**15.44**	**112**	Pn	**Pn**	**15 35 40.9**	**-4.2**
ETMB				IAmb	IAmb	15 35 58.3	
comp=Z,12nm,0.8s							
SDV	**Santo Domingo**	**16.43**	**38**	P	**P**	**15 36 01.0**	**+0.4**
comp=Z,12nm,0.5s,baz=215,slow=12,SNR=10							
SDV				LR	LR	15 43 22.7	
comp=Z,193nm,19.3s,baz=271,slow=41							
LPAZ	**La Paz**	**17.24**	**135**	Pn	**Pn**	**15 36 08.2**	**-0.4**
PB16	**IPOC Station P**	**17.82**	**143**	P	**P**	**15 36 16.1**	**-0.2**
SAML	**Samuel**	**18.04**	**106**	P	**Pn**	**15 36 16.8**	**-1.1**
BAUV	**El Baul**	**18.17**	**44**	P	**P**	**15 36 17.6**	**-2.0**
BAUV				IAmb	IAmb	15 36 21.2	
comp=Z,22nm,1.1s							
MACA	**Manacapuru-AM**	**20.02**	**88**	P	**P**	**15 36 39.3**	**-0.5**
PB07	**IPOC Station P**	**20.35**	**150**	P	**P**	**15 36 44.1**	**+0.6**
PB07				IAmb	IAmb	15 36 49.0	
comp=Z,39nm,1.5s							
MTO3	**Montecristo**	**20.37**	**335**	P	Pn	15 36 46.6	+0.5
MTO3				IAmb	IAmb	15 36 48.1	
comp=Z,9.0nm,0.7s							
BOAV	**Boa Vista**	**21.22**	**72**	P	**P**	**15 36 52.4**	**-0.4**
BOAV				IAmb	IAmb	15 37 07.8	
comp=Z,18nm,0.9s							
PCRV	**Puerto La Cruz**	**21.46**	**48**	P	**P**	**15 36 57.7**	**+2.3**
comp=Z,8.7nm,0.6s,baz=222,slow=2.9,SNR=2.6							
comp=Z,8.7nm,0.6s							
GO02	**Mina Guanaco**	**23.43**	**154**	P	**P**	**15 37 18.2**	**+1.9**
GO02				IAmb	IAmb	15 37 47.0	
comp=Z,22nm,1.2s							
AC01	**Pan de Azucar**	**23.88**	**157**	P	**P**	**15 37 19.7**	**-0.6**
PTLB	**Pontes e Lacer**	**23.99**	**119**	P	**P**	**15 37 20.8**	**-0.6**
AC02	**Maricunga**	**25.09**	**155**	P	**P**	**15 37 31.5**	**-0.4**
AC02				IAmb	IAmb	15 37 57.2	
comp=Z,12nm,1.2s							
PLCA	**Paso Flores**	**37.50**	**167**	P	**P**	**15 39 19.9**	**-0.5**
PLCA				IAmb	IAmb	15 39 38.9	
comp=Z,17nm,1.5s							
WLAR	**White Oak Lake**	**39.46**	**344**	P	**P**	**15 39 35.8**	**-1.0**
WLAR				IAmb	IAmb	15 39 39.8	
comp=Z,10nm,0.6s							
TXAR	**Lajitas Array**	**39.96**	**328**	P	**P**	**15 39 43.0**	**+1.7**
comp=Z,0.2nm,0.7s,baz=130,slow=8.4,SNR=1.6							
TXAR				PcP	**PcP**	**15 41 47.2**	**+1.0**
comp=Z,0.5nm,0.7s,baz=146,slow=5.1,SNR=6.2							
TZTN	**Tazewell**	**40.62**	**356**	P	**P**	**15 39 43.7**	**-2.7**
TZTN				IAmb	IAmb	15 40 26.4	
comp=Z,21nm,1.4s							
AY01	**Puyuhuapi**	**40.68**	**171**	P	**P**	**15 39 44.3**	**-2.5**
PDAR

KURBB Kurchatov Arra 130.55 17 PKP **PKPdf 15 51 17.2 +0.2**
comp=Z,0.5nm,0.5s,baz=332,slow=2.0,SNR=4.9
MKAR Makanchi Array 135.09 17 PKP **PKPdf 15 51 25.4 -0.4**
comp=Z,0.5nm,0.8s,baz=349,slow=3.1,SNR=3.9
SONM Songino Array 136.10 353 PKP **PKPdf 15 51 27.4 -0.3**
comp=Z,0.3nm,0.4s,baz=12,slow=2.1,SNR=2.7
ASAR Alice Springs 136.34 229 PKhKP PKPpre 15 51 23.3
comp=Z,0.7nm,1.0s,baz=122,slow=3.7,SNR=4.5
ASAR PKP **PKPdf 15 51 28.4 -0.4**
comp=Z,0.4nm,0.7s,baz=117,slow=2.0,SNR=2.9
KSRS Korea Array 137.79 325 PKP **PKPdf 15 51 30.9 -0.1**
comp=Z,1.3nm,0.7s,baz=354,slow=2.1,SNR=4.7
WRA Warramunga Arr 138.02 234 PKP **PKPdf 15 51 31.4 -0.5**
comp=Z,0.4nm,0.5s,baz=114,slow=2.1,SNR=9.9
CMAR Chiang Mai Arr 165.83 1 PKP **PKPdf 15 52 11.7 -0.4**
comp=Z,0.5nm,1.0s,baz=282,slow=1.3,SNR=4.9
CMAR PKPab **PKPab 15 53 10.6 -0.7**
comp=Z,0.6nm,0.8s,baz=332,slow=5.7,SNR=5.0

---

*JMA **06** 15:51:35.5±0.4, 35°.4N±0°.9×14°.2E±°, h61km, MV3.2/25, FAR E OFF CENTRAL HONSHU*
*IDC **06** 15:51:36.3±3.5, 34°.91N×141°.90E, h0km, mb3.5/3, mbtmp3.3/4, ML2.0/1, Error ellipse: s-maj=110.3km s-min=29.3km az=55.0*
ISC 06 15:51:39.3±1.5, 35°.38N±0°.08×142°.3E±0°.1, h35km, n13, σ1§78/16, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.33**	**237**	*eP*	**Pn**	**15 51 59.1**	**-1.7**
JIHU	**Itakohorinouch**	**1.58**	**292**	*eS*	**Sn**	**15 52 24.5**	**+0.4**
BSO3	**Boso 3**	**1.60**	**249**	*eP*	**Pn**	**15 52 04.0**	**-0.8**
KTR	**Katsuura**	**1.67**	**263**	*eS*	**Sn**	**15 52 27.3**	**+1.2**
JHYU	**Hitachinakayam**	**1.71**	**305**	*eP*	**Pn**	**15 52 04.6**	**-2.0**
JHYU				*eS*	**Sn**	**15 52 25.3**	**-2.0**
JAG	**Ashikaga**	**2.56**	**295**	P	**Pn**	**15 52 16.6**	**-1.7**
JOD2	**Odawara 2**	**2.66**	**268**	*eP*	**Pn**	**15 52 18.0**	**-1.6**
JOD2				*eS*	**Sn**	**15 52 49.5**	**-1.1**
JOTO	**OTAMA OYAMA**	**2.71**	**324**	*eP*	**Pn**	**15 52 18.6**	**-1.7**
JRY	**Ryogami san**	**2.86**	**284**	*eP*	**Pn**	**15 52 21.7**	**-0.7**
MJAR	**Matsushiro Arr**	**3.54**	**290**	Pn	**Pn**	**15 52 30.3**	**-1.5**
	0.1nm,0.3s,baz=136,slow=8.5,SNR=11						
MJAR				Sn	**Sn**	**15 53 13.4**	**+1.0**
	0.2nm,0.3s,baz=93,slow=23,SNR=2.3						
	0.5nm,0.3s						
SONM	**Songino Array**	**29.34**	**306**	P	**P**	**15 57 39.4**	**+0.6**
	0.4nm,0.4s,baz=98,slow=8.9,SNR=1.8						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**47.61**	**309**	P	**P**	**16 00 15.1**	**+3.5**
	0.5nm,0.7s,baz=83,slow=8.6,SNR=3.4						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**55.54**	**189**	P	**P**	**16 01 09.6**	**-1.5**
	0.3nm,0.9s,baz=6.7,slow=7.3,SNR=1.8						
	0.3nm,0.9s						

---

*IGIL **06** 16:03:22.8, 35°.43N×3°.65W, h0km*
*CNRM **06** 16:03:22.5, 35°.52N×3°.63W, h26km, ml2.8*
*MDD **06** 16:03:23.0±0.5, 35°.43N×3°.65W, h8km±3km, mb_Lg2.9/21, Error ellipse: s-maj=3.9km s-min=2.2km az=161.0*
*INMG **06** 16:03:23.5±1.1, 35°.45N×3°.69W, h8km, ML2.5, Error ellipse: s-maj=2.9km s-min=2.3km az=125.0*
*SFS **06** 16:03:23.0, 35°.40N×3°.64W, h43km, ML3.0/7, ML3.2/7, MLv2.9/7*
ISC 06 16:03:23.0±1.0, 35°.44N±0°.02×3°.64W±0°.02, h25km±10km, n68, σ1§17/113, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.33**	**227**	P	**Pb**	**16 03 30.8**	**+0.3**
PALE				S	**Sb**	**16 03 35.9**	**+0.3**
PALE	**Palemas**	**0.33**	**227**	P	**Pb**	**16 03 31.0**	**+0.5**
GOG	**Mont Gurugu**	**0.57**	**112**	P	**Pb**	**16 03 34.0**	**-0.5**
GOG				S	**Sb**	**16 03 41.1**	**-1.2**
GOG	**Mont Gurugu**	**0.57**	**112**	P	**Pb**	**16 03 34.0**	**-0.5**
WMELI	**Melilla**	**0.58**	**102**	Pn	**Pb**	**16 03 34.0**	**-0.5**
WMELI				Sn	**Sb**	**16 03 41.4**	**-1.0**
PVLZ	**Peæn de**	**0.60**	**244**	Pn	**Pn**	**16 03 35.7**	**-0.2**
PVLZ				Sn	**Sb**	**16 03 43.3**	**+0.3**
EALB	**Alboran**	**0.70**	**45**	Pg	**Pb**	**16 03 36.4**	**-0.2**
EALB				Sg	**Sn**	**16 03 46.6**	**-0.8**
EALB				*i* Vmb_Lg		16 03 50.5	
EALB	**Alboran**	**0.70**	**45**	Sn	**Sb**	**16 03 46.3**	**+0.4**
EALB				Pn	**Pb**	**16 03 36.6**	**0.0**
CHAS	**Isla Isabel II**	**1.02**	**104**	Sn	**Sb**	**16 03 52.9**	**-2.2**
CHAS				Pg	**Pn**	**16 03 40.2**	**-1.6**
TAF	**Taforalt**	**1.19**	**122**	P	**Pn**	**16 03 44.0**	**-0.1**
TAF	**Taforalt**	**1.19**	**122**	P	**Pn**	**16 03 43.6**	**-0.5**
TAF				S	**Sn**	**16 03 58.7**	**-0.7**
TAF	**Taforalt**	**1.19**	**122**	P	**Pn**	**16 03 44.0**	**-0.1**
JBK	**JBK**	**1.42**	**141**	P	**Pb**	**16 03 51.0**	**+2.1**
JBK	**JBK**	**1.42**	**141**	P	**Pn**	**16 03 46.9**	**-0.5**
JBK				S	**Sn**	**16 04 05.2**	**-0.1**
JBK	**JBK**	**1.42**	**141**	P	**Pn**	**16 03 47.0**	**-0.4**
ELGU	**Los Guajares,**	**1.42**	**1**	Pn	**Pn**	**16 03 47.4**	**+0.1**
ELGU				Sn	**Sb**	**16 04 06.7**	**0.0**
ELGU				*i* Vmb_Lg		16 04 10.4	
ELGU	**Los Guajares,**	**1.42**	**1**	Pn	**Pn**	**16 03 46.7**	**-0.7**
ELGU				Sn	**Sn**	**16 04 03.4**	**-2.0**
CHEFC	**Chefchaouen**	**1.43**	**257**	P	**Pn**	**16 03 47.0**	**-0.5**
CHEFC				S	**Sn**	**16 04 05.3**	**-0.2**
SMIR	**Smir Dam**	**1.44**	**280**	P	**Pn**	**16 03 46.7**	**-0.7**
SMIR				S	**Sn**	**16 04 05.0**	**-0.5**
SMIR	**Smir Dam**	**1.44**	**280**	P	**Pn**	**16 03 47.0**	**-0.5**
EMIJ	**Mijas**	**1.45**	**321**	Pn	**Pn**	**16 03 47.2**	**-0.4**
EMIJ				Sn	**Sn**	**16 04 05.4**	**-0.5**
EMIJ				*i* Vmb_Lg		16 04 09.5	
EMAL	**Malaga-Limoner**	**1.46**	**334**	Pn	**Pn**	**16 03 47.6**	**-0.2**
EMAL				Sn	**Sn**	**16 04 04.1**	**-2.1**
CEU	**Ceuta**	**1.48**	**288**	Sn	**Sn**	**16 04 02.8**	**-3.8**
CEU				Pn	**Pn**	**16 03 46.1**	**-2.0**
ECEU	**Ceuta**	**1.48**	**288**	Pn	**Pn**	**16 03 47.3**	**-0.8**
ECEU				Sn	**Sn**	**16 04 04.8**	**-1.9**
ECEU				*i* Vmb_Lg		16 04 07.3	
EBER	**Berja**	**1.58**	**23**	Pn	**Pn**	**16 03 49.2**	**-0.4**
EBER				Sn	**Sn**	**16 04 09.4**	**+0.2**
EBER				*i* Vmb_Lg		16 04 21.4	
EGOR	**Sierra Gorda,**	**1.71**	**347**	Pn	**Pn**	**16 03 50.6**	**-0.7**
EGOR				Sn	**Sn**	**16 04 13.3**	**+0.8**
EGOR				*i* Vmb_Lg		16 04 20.0	
EQUE	**Quentar**	**1.77**	**5**	Pn	**Pn**	**16 03 52.8**	**+0.7**
EQUE				Sn	**Sn**	**16 04 13.2**	**-0.7**
EQUE				*i* Vmb_Lg		16 04 18.8	
EQTA	**Presa de Quent**	**1.77**	**5**	Sn	**Sn**	**16 04 13.0**	**-0.9**
ENIJ	**Nijar**	**1.92**	**37**	Pn	**Pn**	**16 03 53.7**	**-0.4**
ENIJ				Sn	**Sn**	**16 04 17.2**	**-0.3**
ENIJ				*i* Vmb_Lg		16 04 23.5	
SICH	**Sidi Chahed**	**1.92**	**226**	P	Pb	16 04 04.0	+6.7
SICH	**Sidi Chahed**	**1.92**	**226**	P	Pb	16 04 04.0	+6.7
LCRM	**LCR**	**2.02**	**210**	P	Pb	16 04 05.1	+6.0
EQES	**Quesada**	**2.40**	**11**	Pn	**Pn**	**16 04 02.5**	**+1.6**
EQES				Sn	**Sn**	**16 04 31.3**	**+1.8**
EQES				*i* Vmb_Lg		16 04 34.7	
CZD	**Col de Zad**	**2.67**	**206**	P	**Pn**	**16 04 04.1**	**-0.6**
CZD				S	**Sn**	**16 04 37.1**	**+0.7**
TLOR	**Lorca, Murcia**	**2.71**	**35**	Pn	**Pn**	**16 04 04.7**	**-0.3**
TLOR				Sn	**Sn**	**16 04 38.5**	**+1.4**
MD31	**MD31**	**2.73**	**200**	P	**Pn**	**16 04 05.6**	**+0.2**
MD31				S	**Sn**	**16 04 38.8**	**+1.2**
MDT	**Midelt**	**2.74**	**197**	P	Pb	16 04 19.2	+7.8
MDT	**Midelt**	**2.74**	**197**	P	**Pn**	**16 04 05.3**	**-0.2**
MDT				S	**Sn**	**16 04 39.9**	**+2.0**
TDRA	**Tendrara**	**2.74**	**150**	P	**Pn**	**16 04 05.8**	**+0.1**
TDRA				S	**Sn**	**16 04 37.7**	**-0.4**
EADA	**Adamuz**	**2.82**	**345**	Pn	**Pn**	**16 04 08.6**	**+2.1**
EADA				Sn	**Sn**	**16 04 39.7**	**-0.1**
EADA				*i* Vmb_Lg		16 04 48.6	
EZAR	**Zarzadilla de**	**2.89**	**32**	Pn	**Pn**	**16 04 08.6**	**+1.0**
EZAR				Sn	**Sn**	**16 04 41.1**	**-0.5**
EZAR				*i* Vmb_Lg		16 04 51.9	
ECAB	**El Cabril**	**2.99**	**332**	Pn	**Pn**	**16 04 09.0**	**+0.1**
ECAB				Sn	**Sn**	**16 04 42.5**	**-1.5**
ECAB				*i* Vmb_Lg		16 04 55.4	
EMIN	**Mina Concepcio**	**3.37**	**314**	Pn	**Pn**	**16 04 14.2**	**+0.2**
EMIN				Sn	**Sn**	**16 04 52.9**	**-0.3**
EMIN				*i* Vmb_Lg		16 05 03.7	
ETOB	**Tobarra**	**3.61**	**27**	Pn	**Pn**	**16 04 18.9**	**+1.4**
ETOB				Sn	**Sn**	**16 05 00.8**	**+1.5**
ETOB				*i* Vmb_Lg		16 05 13.2	
EGRO	**El Granado**	**3.73**	**305**	Pn	**Pn**	**16 04 19.2**	**+0.1**
EGRO				Sn	**Sn**	**16 05 00.7**	**-1.5**
PVAQ	**Vaqueiros**	**3.82**	**302**	*e*Pn	**Pn**	**16 04 21.0**	**+0.7**
PVAQ				*e*Sn	**Sn**	**16 05 03.8**	**-0.7**
PVAQ				A	A	16 05 16.1	
	5.4nm,0.6s						
PVAQ	**Vaqueiros**	**3.82**	**302**	P	**Pn**	**16 04 21.9**	**+1.6**
PVAQ	**Vaqueiros**	**3.82**	**302**	P	**Pn**	**16 04 21.9**	**+1.6**
FIGM	**Figuig**	**3.85**	**148**	P	**Pn**	**16 04 20.0**	**-0.8**
FIGM				S	**Sn**	**16 05 05.3**	**0.0**
PBAR	**Barrancos**	**3.85**	**316**	*e*Pn	**Pn**	**16 04 21.6**	**+0.9**
PBAR				*e*Sn	**Sn**	**16 05 05.3**	**+0.1**
PBAR				A	A	16 05 13.4	
	4.1nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.90**	**299**	*e*Pn	**Pn**	**16 04 22.6**	**+1.2**
PBDV				*e*Sn	**Sn**	**16 05 06.7**	**+0.3**
PBDV				A	A	16 05 14.7	
	5.0nm,0.8s						
PAB	**San Pablo**	**4.13**	**352**	Pn	**Pn**	**16 04 26.1**	**+1.4**
PAB				Sn	**Sn**	**16 05 12.0**	**-0.3**
PAB				*i* Vmb_Lg		16 05 31.2	
PCVE	**Castro Verde**	**4.16**	**303**	*e*Pn	**Pn**	**16 04 25.9**	**+1.0**
PCVE				*e*Sn	**Sn**	**16 05 12.5**	**-0.3**
PCVE				A	A	16 05 18.6	
	5.6nm,0.5s						
EBAD	**Badajoz**	**4.26**	**322**	Pn	**Pn**	**16 04 27.1**	**+0.8**
EBAD				Sn	**Sn**	**16 05 13.2**	**-2.2**
EBAD				*i* Vmb_Lg		16 05 23.2	
EVIV	**Cofrentes, Val**	**4.32**	**27**	Pn	**Pn**	**16 04 28.3**	**+1.2**
EVIV				Sn	**Sn**	**16 05 17.0**	**+0.3**
MESJ	**Messejana**	**4.39**	**304**	*e*Pn	**Pn**	**16 04 29.6**	**+1.5**
MESJ				*e*Sn	**Sn**	**16 05 18.1**	**-0.3**
MESJ				A	A	16 05 22.2	
	5.1nm,0.6s						
MESJ	**Messejana**	**4.39**	**304**	*e*Pn	**Pn**	**16 04 28.7**	**+0.7**
PFVI	**Vila Bisbo**	**4.51**	**293**	*e*Sn	**Sn**	**16 05 21.2**	**-0.3**
PFVI	**Vila Bisbo**	**4.51**	**293**	P	**Pn**	**16 04 27.4**	**-2.3**
PESTR	**Estremoz**	**4.65**	**318**	P	**Pn**	**16 04 29.5**	**-2.2**
EVO	**Evora**	**4.66**	**313**	*e*Pn	**Pn**	**16 04 33.6**	**+1.8**
EVO				*e*Sn	**Sn**	**16 05 24.8**	**-0.4**
PNCL	**Nicolau / Gran**	**4.74**	**306**	*e*Pn	**Pn**	**16 04 34.1**	**+1.2**
PMRV	**Marv??o**	**4.97**	**324**	*e*Pn	**Pn**	**16 04 37.6**	**+1.5**
PMRV				*e*Sn	**Sn**	**16 05 31.5**	**-1.3**
PMRV				A	A	16 06 00.5	
	7.0nm,0.7s						
EPLA	**Plasencia**	**5.00**	**338**	Pn	**Pn**	**16 04 38.2**	**+1.6**
EPLA				Sn	**Sn**	**16 05 33.6**	**0.0**
PMTG	**Montargil**	**5.14**	**316**	*e*Pn	**Pn**	**16 04 40.5**	**+2.1**
PMTG				*e*Sn	**Sn**	**16 05 36.3**	**-0.7**
PMTG				A	A	16 06 15.7	
	3.2nm,0.5s						
GUD	**Guadarrama**	**5.21**	**356**	Pn	**Pn**	**16 04 40.8**	**+1.4**
GUD				Sn	**Sn**	**16 05 36.7**	**-2.1**
MVO	**Moncorvo**	**6.30**	**336**	*e*Pn	**Pn**	**16 04 56.6**	**+2.2**
MVO				*e*Sn	**Sn**	**16 06 05.0**	**-0.6**
MVO				A	A	16 06 53.6	
	4.0nm,0.6s						
POLO	**Lamas de Olo**	**6.76**	**332**	*e*Pn	**Pn**	**16 05 02.7**	**+2.0**
POLO				*e*Sn	**Sn**	**16 06 16.0**	**-0.9**
POLO				A	A	16 06 20.3	
	1.1nm,0.6s						

---

*NEIC **06** 16:04:14.8±1.6, 18°.8S±0°.1×175°.13W±0°.04, h10km±1km, mb4.7/16, Error ellipse: s-maj=22.6km s-min=5.7km az=357.0*
*IDC **06** 16:04:19.9±3.4, 18°.92S×174°.91W, h62km±33km, mb3.8/9, mbtmp4.2/11, ML3.8/2, Error ellipse: s-maj=30.0km s-min=20.4km az=122.0*
ISC 06 16:04:16.8±0.5, 18°.79S±0°.08×175°.05W±0°.07, h35km, n40, σ1§91/36, mb4.5/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.85**	**94**		**Pn**	**16 05 28.0**	**+0.6**
AFI	**Afiamalu**	**5.78**	**33**	Pn	**Pn**	**16 05 38.2**	**-2.1**
AFI	**Afiamalu**	**5.78**	**33**	P	Pn	16 05 44.1	+3.8
	6.2nm,0.3s,baz=207,slow=16,SNR=9.8						
AFI				S	**Sn**	**16 06 42.8**	**-2.6**
	32nm,0.3s,baz=95,slow=23,SNR=2.4						
	21nm,0.3s						
MSVF	**Nonsavu**	**6.64**	**278**	Pn	**Pn**	**16 05 49.9**	**-2.2**
RAR	**Rarotonga**	**14.56**	**102**	P	**Pn**	**16 07 41.0**	**+0.6**
	1.6nm,0.3s,baz=264,slow=7.7,SNR=7.5						
RAR				S	Sn	16 10 06.4	-14
	14nm,0.8s,baz=342,slow=20,SNR=1.9						
	10nm,0.5s						
DZM	**Mont Dzumac**	**17.65**	**256**	P	P	16 08 29.7	+8.9
	4.5nm,0.6s,baz=82,slow=19,SNR=6.7						
URZ	**Urewera**	**20.56**	**198**	P	**P**	**16 08 52.0**	**-0.5**
	5.9nm,0.8s,baz=56,slow=4.6,SNR=3.1						
URZ				S	**S**	**16 12 31.6**	**-9.0**
	4.5nm,0.8s,baz=50,slow=17,SNR=2.6						
	5.9nm,0.8s						
TOZ	**Tahuroa Road**	**20.60**	**202**	P	**P**	**16 08 52.4**	**-0.5**
LTZ	**Lake Taylor**	**26.21**	**201**	P	**P**	**16 09 49.7**	**+1.3**
CTAO	**Charters Tower**	**36.46**	**261**	P	**P**	**16 11 20.6**	**+1.9**
CTAO				IAmb	IAmb	16 11 22.1	
	comp=Z,7.7nm,0.7s						
COEN	**Coen**	**40.30**	**270**	P	**P**	**16 11 51.2**	**+0.1**
COEN				IAmb	IAmb	16 12 16.2	
	comp=Z,30nm,1.4s						
STKA	**Stephens Creek**	**41.04**	**243**	P	**P**	**16 11 56.7**	**-0.3**
STKA	**Stephens Creek**	**41.04**	**243**	P	**P**	**16 11 59.3**	**+2.3**
	comp=Z,0.8nm,0.4s,baz=103,slow=14,SNR=2.1						
	comp=Z,0.8nm,0.4s						
BBOO	**Buckleboo**	**45.80**	**242**	P	**P**	**16 12 35.2**	**-0.2**
WR0	**Warramunga Arr**	**47.43**	**260**	P	**P**	**16 12 48.5**	**+0.2**
WR0				IAmb	IAmb	16 12 51.2	
	comp=Z,2.9nm,0.5s						
WB0	**Warramunga Arr**	**47.59**	**260**	P	**P**	**16 12 50.1**	**+0.5**
WB0				IAmb	IAmb	16 12 52.0	
	comp=Z,3.5nm,0.5s						
WB2	**Warramunga Arr**	**47.60**	**260**	P	**P**	**16 12 50.1**	**+0.4**
WB2				IAmb	IAmb	16 12 55.5	
	comp=Z,3.9nm,0.8s						
WRAB	**Tennant Creek**	**47.61**	**260**	P	**P**	**16 12 50.3**	**+0.6**
WRAB				IAmb	IAmb	16 12 54.5	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**47.62**	**260**	P	**P**	**16 12 49.4**	**-0.5**
WRA	**Warramunga Arr**	**47.62**	**260**	P	**P**	**16 12 50.0**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=97,slow=6.9,SNR=98						
WRA				PcP	**PcP**	**16 14 19.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=104,slow=2.7,SNR=1.8						
	comp=Z,2.5nm,0.5s						
AS31	**Alice Springs**	**47.63**	**255**	P	**P**	**16 12 50.7**	**+0.8**
ASAR	**Alice Springs**	**47.63**	**255**	P	**P**	**16 12 50.0**	**0.0**
ASAR	**Alice Springs**	**47.63**	**255**	P	**P**	**16 12 50.3**	**+0.4**
	comp=Z,6.6nm,0.7s,baz=88,slow=8.3,SNR=77						
ASAR				PcP	**PcP**	**16 14 20.2**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=99,slow=4.3,SNR=1.5						
	comp=Z,6.6nm,0.7s						
MTN	**Manton Dam**	**51.96**	**268**	P	**P**	**16 13 23.2**	**+0.3**
MTN				IAmb	IAmb	16 13 25.9	
	comp=Z,8.6nm,0.7s						
KNRA	**Kununurra**	**53.58**	**264**	P	**P**	**16 13 34.8**	**0.0**
SIJI	**Sorong**	**55.54**	**282**	P	**P**	**16 13 50.5**	**+1.3**
	comp=Z,3.1nm,0.6s,baz=188,slow=5.3,SNR=2.2						
	comp=Z,3.1nm,0.6s						
SOEI	**Soe**	**59.26**	**270**	P	**P**	**16 14 16.6**	**+1.1**
MJAR	**Matsushiro Arr**	**70.55**	**322**	P	**P**	**16 15 30.0**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=162,slow=5.1,SNR=2.0						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**71.27**	**180**	P	**P**	**16 15 31.8**	**-0.7**
QSPA	**South Pole Qui**	**71.27**	**180**	P	**P**	**16 15 31.6**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=0.8,slow=0.9,SNR=1.6						
	comp=Z,0.6nm,0.8s						
PETK	**Petropavlovsk-**	**75.39**	**343**	P	**P**	**16 15 57.2**	**+0.5**
	comp=Z,4.7nm,1.0s,baz=132,slow=8.6,SNR=1.8						
	comp=Z,4.7nm,1.0s						
H03S2	**Juan Fernandez**	**84.64**	**124**	T	T	17 49 37.5	
	baz=249,slow=75,SNR=74						
H03S1	**Juan Fernandez**	**84.65**	**124**	T	T	17 49 38.5	
	baz=249,slow=75,SNR=64						
H03S3	**Juan Fernandez**	**84.66**	**124**	T	T	17 49 36.6	
	baz=249,slow=75,SNR=82						
H03N2	**Juan Fernandez**	**84.76**	**123**	T	T	17 49 42.6	
	baz=257,slow=72						
H03N3	**Juan Fernandez**	**84.77**	**123**	T	T	17 49 43.9	
	baz=257,slow=72						
H03N1	**Juan Fernandez**	**84.78**	**123**	T	T	17 49 43.3	
	baz=257,slow=72						
ILAR	**Eielson Array**	**86.07**	**12**	P	**P**	**16 16 53.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=230,slow=7.0,SNR=5.3						
	comp=Z,0.3nm,0.7s						
SNAA	**Sanae**	**89.61**	**178**	P	**P**	**16 17 12.1**	**+1.4**
SNAA				IAmb	IAmb	16 17 13.0	
	comp=Z,6.2nm,1.4s						
MMAI	**Mount Meron Ar**	**149.30**	**303**	PKPbc	**PKPbc**	**16 24 02.4**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=45,slow=4.7,SNR=4.6						

---

*TRN **06** 16:15:16.1, 11°.45N×61°.88W, h133km, MD3.6*
*FUNV **06** 16:15:17.7, 11°.57N×62°.09W, h18km, MW3.9*
ISC 06 16:15:15.1±1.6, 11°.46N±0°.05×62°.02W±0°.07, h133km±12km, n20, σ1§44/34, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	**Grenville**	**0.76**	**28**	*eP*	**Pn**	**16 15 36.8**	**+0.5**
GRGR				*eS*	**Sn**	**16 15 52.4**	**0.0**
GRW	**Mount Saint Ca**	**0.78**	**27**	*eP*	**Pn**	**16 15 36.9**	**+0.4**
GRW				*eS*	**Sn**	**16 15 53.2**	**+0.4**
GRHS	**Sauteurs**	**0.85**	**26**	*eP*	**Pn**	**16 15 37.1**	**+0.2**
GRHS				*eS*	**Sn**	**16 15 52.8**	**-0.7**
GRSS	**Sisters**	**0.93**	**26**	*eP*	**Pn**	**16 15 39.0**	**+1.4**
GRSS				*eS*	**Sn**	**16 15 55.3**	**+0.5**
TRN	**Trinidad (W)**	**1.01**	**143**	*eP*	**Pn**	**16 15 38.6**	**+0.2**
TRN				*eS*	**Sn**	**16 15 54.1**	**-1.9**
GCMP	**Grenada, Carri**	**1.18**	**30**	*eP*	**Pn**	**16 15 40.0**	**0.0**
GCMP				*eS*	**Sn**	**16 15 57.9**	**-1.0**
TPP	**Pointe-a-Pierr**	**1.26**	**154**	*eP*	**Pn**	**16 15 42.0**	**+1.2**
TPP				*eS*	**Sn**	**16 16 00.2**	**-0.3**
CRUV	**Carupano**	**1.42**	**237**	*eP*	**Pn**	**16 15 43.9**	**+1.4**
CRUV				*eS*	**Sn**	**16 16 01.4**	**-2.1**
SVB	**Belmont**	**1.95**	**23**	*eP*	**Pn**	**16 15 49.0**	**+0.3**
SVB				*eS*	**Sn**	**16 16 13.9**	**-0.5**
SVV	**Soufriere Volc**	**2.01**	**23**	*eP*	**Pn**	**16 15 50.6**	**+1.2**
SSV	**Crater Summit**	**2.03**	**23**	*eP*	**Pn**	**16 15 49.7**	**0.0**
MCLT	**Moule a Chique**	**2.48**	**25**	*eP*	**Pn**	**16 15 55.6**	**+0.5**
MCLT				*eS*	**Sn**	**16 16 24.6**	**-1.3**
SLCP	**Castries, St.**	**2.73**	**22**	*eP*	**Pn**	**16 15 58.9**	**+0.5**
SLBI	**Saint Lucia, B**	**2.75**	**22**	*eP*	**Pn**	**16 15 58.8**	**+0.3**
SLBI				*eS*	**Sn**	**16 16 31.3**	**-0.8**
PCRV	**Puerto La Cruz**	**2.87**	**244**	*eP*	**Pn**	**16 16 01.4**	**+1.3**
PCRV				*eS*	**Sn**	**16 16 33.5**	**-1.4**
MERV	**Las Mercedes**	**4.74**	**243**	*eP*	**Pn**	**16 16 26.9**	**+2.1**
MERV				*eS*	**Sn**	**16 17 18.1**	**-0.9**
BENV	**Beln**	**5.68**	**255**	*eP*	**Pn**	**16 16 39.2**	**+1.8**
CACV	**CAICARA DEL OR**	**5.90**	**229**	*eP*	Pn	16 16 35.8	-4.5
CACV				*eS*	Sn	16 17 37.8	-9.0
BAUV	**El Baul**	**6.43**	**248**	*eP*	**Pn**	**16 16 49.1**	**+1.6**
BAUV				*eS*	**Sn**	**16 17 56.2**	**-3.4**
MAPV	**Macapo**	**6.53**	**256**	*eP*	**Pn**	**16 16 51.1**	**+2.3**
MAPV				*eS*	**Sn**	**16 17 58.9**	**-3.1**

---

*IDC **06** 16:45:57.9±1.1, 13°.65S×167°.36E, h0km, mb4.0/9, mbtmp4.0/10, ML4.1/1, MS3.7/9, Error ellipse: s-maj=36.2km s-min=20.4km az=126.0*
*NOU **06** 16:46:17.2, 15°.08S×167°.43E, h0km, MLv4.2/7, Vanuatu Islands*
ISC 06 16:46:15.6±0.9, 14°.7S±0°.1×167°.5E±0°.2, h170km, n19, σ1§21/13, mb3.7/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**6.62**	**207**	P	**Pn**	**16 47 50.1**	**-0.5**
YATNC	**Mamie plateau,**	**7.38**	**185**	P	**Pn**	**16 48 00.4**	**-0.4**
DZM	**Mont Dzumac**	**7.44**	**188**	P	**Pn**	**16 48 01.1**	**-0.5**
DZM	**Mont Dzumac**	**7.44**	**188**	Pn	**Pn**	**16 48 00.6**	**-1.0**
	2.1nm,0.3s,baz=36,slow=18,SNR=22						
DZM				Sn	Sn	16 49 36.6	+11
	0.2nm,0.3s,baz=287,slow=19,SNR=1.4						
DZM				LR	LR	16 50 59.5	
	comp=Z,146nm,19.7s,baz=344,slow=36						
	20nm,0.7s						
HNR	**Honiara**	**9.05**	**304**	LR	LR	16 51 10.9	
	comp=Z,2μm,20.9s,baz=41,slow=37						
CTA	**Charters Tower**	**20.99**	**252**	P	**P**	**16 50 46.6**	**+0.8**
	3.6nm,0.9s,baz=70,slow=12,SNR=2.5						
CTA				LR	LR	16 57

comp=E,4.0nm,3.2s,comp=N,6.0nm,3.4s
JOM Ohasama 2.96 315 P **Pn 17 08 47.5 -1.9**
JOM S **Sn 17 09 20.1 -3.5**
JYK Kaneyama 3.24 299 *e*P **Pn 17 08 51.5 -1.6**
JANG Nango 3.55 328 P **Pn 17 08 55.8 -1.6**
JANG S **Sn 17 09 34.2 -3.9**
JAG Ashikaga 3.75 257 P **Pn 17 08 58.1 -2.1**
JAG *e*S **Sn 17 09 39.2 -3.9**
JTM Tenmabayashi 4.08 327 Pn **Pn 17 09 03.8 -0.8**
JTM Sn **Sn 17 09 47.5 -3.7**
JTM Tenmabayashi 4.08 327 P **Pn 17 09 04.2 -0.5**
JRY Ryogami san 4.30 253 *e*P **Pn 17 09 05.8 -2.0**
JRY S **Sn 17 09 51.5 -5.3**
JSD Sado 4.58 280 **Pn 17 09 10.0 -1.5**
JSD Sado 4.58 280 P **Pn 17 09 11.2 -0.4**
JOT Ohata 4.59 331 *e*P **Pn 17 09 10.3 -1.3**
JOT *e*S **Sn 17 09 57.6 -6.1**
ERM Erimo 4.67 352 **Pn 17 09 10.1 -2.6**
ERM Erimo 4.67 352 P **Pn 17 09 10.2 -2.5**
ERM Erimo 4.67 352 *i* P **Pn 17 09 11.4 -1.3**
JEM Erimo 4.67 352 P **Pn 17 09 10.3 -2.4**
MJA0 Matsu Arr-Jizo 4.67 261 *e*P **Pn 17 09 12.4 -0.4**
MJA0 pmax pmax
comp=Z,3.0nm,0.3s
MJAR Matsushiro Arr 4.70 261 Pn **Pn 17 09 11.6 -1.6**
comp=Z,2.8nm,0.3s,baz=91,slow=15,SNR=80
MJAR Sn **Sn 17 10 03.9 -2.6**
comp=Z,0.5nm,0.3s,baz=89,slow=26,SNR=7.3
MJAR LR LR 17 11 21.4
comp=Z,756nm,18.5s,baz=80,slow=44
comp=Z,41nm,0.6s
MAJO Matsushiro 4.70 261 Pn **Pn 17 09 12.3 -0.9**
MAJO Matsushiro 4.70 261 P **Pn 17 09 13.0 -0.2**
MAJO Matsushiro 4.70 261 *i* P **Pn 17 09 13.3 +0.1**
MJB9 Matsu-Tunnel 4.70 261 **Pn 17 09 13.0 -0.2**
JCH Churui 5.24 355 *e*P **Pn 17 09 18.0 -2.7**
JCH *e*S **Sn 17 10 14.1 -5.7**
JHJ2 Mitsune 5.46 220 Pn **Pn 17 09 20.9 -2.7**
JHJ Hachijo jima 2 5.47 220 Pn **Pn 17 09 21.8 -2.0**
comp=Z,16nm,0.3s,baz=60,slow=17,SNR=2.0
JHJ Sn **Sn 17 10 17.9 -7.5**
comp=Z,31nm,0.3s,baz=54,slow=19,SNR=1.9
comp=Z,82nm,0.5s
INU Inuyama 5.97 252 **Pn 17 09 30.3 -0.4**
NMR Nemuro--Hokkai 6.12 12 *e*P **Pn 17 09 29.0 -3.7**
NMR *e*S **Sn 17 10 32.6 -8.8**
RUSJ Misakicho 6.78 8 *e*P **Pn 17 09 41.4 -0.3**
RUSJ *e*S **Sn 17 10 54.0 -3.6**
YUK Yuzh-Kuril'sk 6.79 12 *d i* P **Pn 17 09 39.3 -2.6**
YUK *e*S **Sn 17 10 50.0 -7.9**
YUK pmax pmax
comp=Z,68nm,0.3s
JKA Kamikawa-asahi 6.80 352 Pn **Pn 17 09 40.5 -1.5**
ASAJ Asahikawa 6.80 352 P **Pn 17 09 40.5 -1.6**
ASAJ Asahikawa 6.80 352 Pn **Pn 17 09 40.1 -1.9**
comp=Z,2.7nm,0.3s,baz=209,slow=15,SNR=30
ASAJ Sn **Sn 17 10 52.7 -5.5**
baz=240,slow=20
comp=Z,27nm,0.7s
SHO Shikotan 6.83 18 *e*P **Pn 17 09 39.2 -3.2**
SHO *e*S **Sn 17 10 50.5 -8.3**
SHO pmax pmax
comp=Z,9.0nm,0.2s
KUR Kuril'sk 8.37 19 P **Pn 17 10 02.9 -0.5**
KUR S **Sn 17 11 32.2 -4.4**
JMN Monobe 9.00 249 Pn **Pn 17 10 10.8 -1.5**
YSS Yuzh-Sakhalins 9.60 355 Pn **Pn 17 10 19.4 -1.0**
YSS Yuzh-Sakhalins 9.60 355 *ce*P **Pn 17 10 21.2 +0.8**
YSS pmax pmax
comp=Z,25nm,1.7s
JCJ Chichijima 10.37 189 Pn Pn 17 10 20.6 -10
comp=Z,4.3nm,0.3s,baz=345,slow=17,SNR=1.8
JCJ Sn Sn 17 12 08.7 -17
comp=Z,6.4nm,0.3s,baz=318,slow=21,SNR=1.3
USA0B Ussuriysk Arra 11.35 311 **Pn 17 10 41.1 -3.2**
USA0B Ussuriysk Arra 11.35 311 *i* P **Pn 17 10 45.2 +0.9**
USRK Ussuriysk Ar. 11.35 311 Pn **Pn 17 10 40.6 -3.7**
USRK Ussuriysk Ar. 11.35 311 Pn **Pn 17 10 43.2 -1.1**
comp=Z,0.4nm,0.3s,baz=118,slow=14,SNR=11
USRK LR LR 17 14 47.9
comp=Z,184nm,20.8s,baz=158,slow=36
comp=Z,5.5nm,0.6s
JNU Nakatsue 11.52 252 Pn **Pn 17 10 44.7 -2.2**
JNU Nakatsue 11.52 252 Pn **Pn 17 10 43.9 -3.0**
comp=Z,0.2nm,0.3s,baz=66,slow=10.0,SNR=4.6
comp=Z,9.5nm,1.0s
KSRS Korea Array 12.77 275 *e*P **Pn 17 11 05.6 +1.8**
KSRS Korea Array 12.77 275 Pn **Pn 17 11 04.6 +0.8**
comp=Z,0.2nm,0.3s,baz=87,slow=14,SNR=14
KSRS LR LR 17 15 50.0
comp=Z,247nm,18.3s,baz=75,slow=37
MDJ Mudanjiang 13.04 308 P **Pn 17 11 06.0 -1.4**
MDJ pP P 17 11 10.3 -7.0
MDJ sP 17 11 21.0
MDJ S **Sn 17 13 29.4 -1.7**
MDJ SS **SnSn 17 13 42.8 -0.5**
MDJ PcS **PcS 17 20 10.6 -2.4**
MDJ pmax pmax
comp=Z,12nm,1.5s
MDJ pmax pmax
comp=Z,180nm,5.9s
MDJ LR LR
comp=N,300nm,15.2s
MDJ LR LR
comp=E,350nm,17.1s
MDJ LR LR
comp=Z,380nm,16.5s
KLR Kul'dur 14.79 327 *i* P **Pn 17 11 28.1 -3.1**
KLR Kul'dur 14.79 327 Pn **Pn 17 11 28.7 -2.5**
comp=Z,0.1nm,0.3s,baz=145,slow=15,SNR=4.5
KLR LR LR 17 17 34.0
comp=Z,109nm,19.9s,baz=120,slow=39
comp=Z,1.3nm,0.6s
JOW Kunigami 16.94 236 LR LR 17 18 33.0
comp=Z,43nm,18.4s,baz=84,slow=38
HEH HeiHe 17.51 323 *e*P **Pn 17 12 02.7 -3.2**
HEH pmax pmax
comp=Z,5.0nm,0.9s
HEH LR LR
comp=N,210nm,18.0s
HEH LR LR
comp=E,210nm,16.1s
HEH LR LR
comp=Z,340nm,14.8s
ZEA Zeya 20.03 330 *e*P **P 17 12 34.2 -0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=Z,100nm,15.0s
NJ2 Nanjing 21.30 263 *e*P **P 17 12 47.4 -1.0**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,140nm,3.5s
BJI Beijing 21.82 286 P **P 17 12 52.9 -1.0**
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI pmax pmax
comp=Z,38nm,4.1s
BJI LR LR
comp=N,39nm,17.0s
BJI LR LR
comp=E,54nm,12.8s
BJI LR LR
comp=Z,98nm,14.4s
XLT XiLinHaoTe 22.08 296 *e*P **P 17 12 54.2 -2.6**
XLT sP pP 17 13 01.3 -2.7
XLT PP **PnPn 17 13 17.9 -1.4**
XLT PcP **PcP 17 16 54.9 +1.4**
XLT pmax pmax
comp=Z,16nm,0.8s
XLT pmax pmax
comp=Z,120nm,4.2s
XLT LR LR
comp=N,16nm,10.6s
XLT LR LR
comp=E,230nm,11.9s
XLT LR LR
comp=Z,190nm,12.3s
TPUB Ta-pu 24.48 242 P **P 17 13 18.3 -2.4**
HHC Hu-ho-hao-te 25.31 288 *e*P **P 17 13 27.8 -0.4**
HHC *e*S **S 17 17 47.0 -4.9**
HHC pmax pmax
comp=Z,32nm,0.8s
HHC pmax pmax
comp=Z,260nm,5.3s
HHC LR LR
comp=N,220nm,15.7s
HHC LR LR
comp=E,380nm,15.3s
HHC LR LR
comp=Z,550nm,16.2s
SHEM Shemya Is, Ala 25.98 44 LR LR 17 23 39.9
comp=Z,28nm,18.2s,baz=173,slow=36
SEY Seymchan 26.09 9 *ce*P **P 17 13 35.9 +1.1**
SEY pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 26.22 345 P **P 17 13 35.1 -0.9**
YAK IAmb IAmb 17 13 48.0
comp=Z,18nm,0.8s
YAK Yakutsk 26.22 345 *e*P **P 17 13 36.1 +0.1**
YAK *e**PP **sP 17 13 46.1 -1.3**
YAK *e* 17 14 17.1
YAK *e*S **S 17 18 07.3 +1.7**
YAK *e**SS **sS 17 18 22.9 +4.1**
YAK *e*SS **SnSn 17 19 10.2 +3.8**
YAK pmax pmax
comp=Z,15nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.6s
YAK pmax pmax
comp=Z,111nm,5.9s
YAK pmax pmax
comp=N,98nm,5.1s
YAK pmax pmax
comp=E,140nm,5.8s
YAK smax smax
comp=N,120nm,5.8s
YAK smax smax
comp=E,43nm,4.1s
BTO Baotou 26.49 288 *e*P **P 17 13 41.0 +2.1**
BTO pP **PnPn 17 14 21.6 +2.0**
BTO sP **PP 17 14 43.2 +4.1**
BTO S **SnSn 17 19 22.6 +9.0**
BTO sS **ScP 17 20 32.1 -8.2**
BTO SS 17 22 13.2
BTO pmax pmax
comp=Z,23nm,1.1s
BTO pmax pmax
comp=Z,150nm,6.0s
BTO LR LR
comp=N,250nm,13.9s
BTO LR LR
comp=E,460nm,13.5s
BTO LR LR
comp=Z,560nm,13.7s
BOD Bodaibo 28.36 326 *e*P **P 17 13 55.1 -0.2**
BOD pmax pmax
comp=Z,14nm,1.6s
XAN Xi'an 28.56 274 P **P 17 14 00.7 +3.3**
XAN pP pwP 17 14 11.5 -3.2
XAN S S 17 18 53.7 +10
XAN pmax pmax
comp=Z,18nm,1.1s
XAN LR LR
comp=N,200nm,14.3s
XAN LR LR
comp=E,180nm,18.2s
XAN LR LR
comp=Z,290nm,15.1s
ULN Ulaanbaatar 28.86 303 **P 17 13 59.8 -0.3**
ULN IAmb IAmb 17 14 06.0
comp=Z,8.5nm,1.2s
ULN Ulaanbaatar 28.86 303 *ce*P **P 17 14 01.2 +1.1**
ULN pmax pmax
comp=Z,9.0nm,1.3s
SONM Songino Array 29.30 303 P **P 17 14 02.6 -1.3**
SONM Songino Array 29.30 303 *e*P **P 17 14 05.2 +1.3**
SONM pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 29.30 303 P **P 17 14 04.4 +0.4**
comp=Z,1.9nm,0.9s,baz=106,slow=9.3,SNR=10
SONM LR LR 17 26 03.8
comp=Z,108nm,18.1s,baz=78,slow=37
comp=Z,1.9nm,0.9s
ENH Enshi 29.40 266 P **P 17 14 05.0 +0.1**
GTA Gaotai 34.42 287 *e*P **P 17 14 49.6 +0.7**
GTA pP pP 17 14 53.5 -3.3
GTA PcP pwP 17 15 18.9 +12
GTA pmax pmax
comp=Z,3.0nm,0.9s
PZH PanZhiHua 37.17 265 P **P 17 15 12.7 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.8s
GOMU GeErMu 39.03 284 P **P 17 15 29.5 +1.0**
GOMU pP pP 17 15 33.0 -3.5
GOMU sP sP 17 15 34.7 -5.1
GOMU pmax pmax
comp=Z,5.0nm,1.5s
CRAI Chiangrai 41.46 258 P **P 17 15 48.7 +0.4**
DGZ Jazzator, Alta 41.85 306 *i* P **P 17 15 52.7 +1.3**
DGZ pmax pmax
comp=Z,9.0nm,1.0s
WMQ Urumqi 42.51 297 *e*P **P 17 15 57.3 +0.6**
WMQ LR LR
comp=Z,130nm,29.2s
ZAA0 Zalesovo Array 43.19 312 P **P 17 16 01.6 -0.4**
ZALV Zalesovo Beam 43.19 312 P **P 17 16 01.3 -0.8**
ZALV Zalesovo Beam 43.19 312 *e*P **P 17 16 02.6 +0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 43.19 312 P **P 17 16 02.0 -0.1**
comp=Z,2.6nm,0.9s,baz=86,slow=7.6,SNR=9.0
ZALV PcP **PcP 17 17 51.0 0.0**
comp=Z,1.7nm,0.7s,baz=98,slow=4.5,SNR=4.3
comp=Z,2.6nm,0.9s
CHTO Chiang Mai 43.37 257 P **P 17 16 04.0 +0.1**
CHTO Chiang Mai 43.37 257 P **P 17 16 04.0 +0.1**
CM31 Chiang Mai Arr 43.57 257 P **P 17 16 05.2 -0.3**
CMAR Chiang Mai Arr 43.57 257 P **P 17 16 05.8 +0.3**
CMAR Chiang Mai Arr 43.57 257 *e*P **P 17 16 06.6 +1.1**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 43.57 257 P **P 17 16 06.3 +0.7**
comp=Z,2.1nm,0.8s,baz=43,slow=6.7,SNR=24
CMAR LR LR 17 36 40.3
comp=Z,47nm,18.3s,baz=205,slow=40
comp=Z,2.1nm,0.8s
NRIK Noril'sk 43.81 335 P **P 17 16 06.4 -0.4**
NRIK Noril'sk 43.81 335 *ce*P **P 17 16 06.8 0.0**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
NRIK Noril'sk 43.81 335 P **P 17 16 07.2 +0.4**
comp=Z,1.2nm,0.4s,baz=113,slow=11,SNR=2.7
comp=Z,1.2nm,0.4s
L19K White Mountain 44.42 36 P **P 17 16 12.9 +1.1**
L19K IAmb IAmb 17 16 16.6
comp=Z,18nm,1.3s
K20K Telida 44.88 34 P **P 17 16 15.9 +0.4**
K20K IAmb IAmb 17 16 16.0
comp=Z,9.0nm,1.4s
KDAK Kodiak Island 45.46 42 P **P 17 16 21.9 +1.8**
KDAK Kodiak Island 45.46 42 P **P 17 16 21.9 +1.8**
KDAK pmax pmax
comp=Z,93nm,1.5s
MK31 Makanchi Array 45.66 302 P **P 17 16 20.2 -1.7**
MK31 Makanchi Array 45.66 302 *i* P **P 17 16 22.2 +0.2**
MKAR Makanchi Array 45.66 302 P **P 17 16 20.4 -1.6**
MKAR Makanchi Array 45.66 302 *e*P **P 17 16 22.1 +0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 45.66 302 P **P 17 16 21.2 -0.7**
comp=Z,1.9nm,0.9s,baz=87,slow=9.0,SNR=11
comp=Z,1.9nm,0.9s
MAKZ Makanchi 45.87 302 P **P 17 16 23.3 -0.3**
MAKZ IAmb IAmb 17 16 44.5
comp=Z,4.2nm,1.1s
MAKZ Makanchi 45.87 302 P **P 17 16 23.3 -0.3**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
MLY Manley 46.46 32 P **P 17 16 27.7 -0.3**
MLY IAmb IAmb 17 16 42.1
comp=Z,5.4nm,1.0s
BWN Browne 46.97 33 P **P 17 16 32.4 +0.4**
H23K Yukon River 47.01 31 P **P 17 16 31.8 -0.4**
H23K IAmb IAmb 17 16 48.0
comp=Z,11nm,1.2s
NEA2 Nenana 47.16 33 P **P 17 16 33.8 +0.4**
NEA2 IAmb IAmb 17 16 37.9
comp=Z,8.7nm,1.1s
GHO Glory Hole Cre 47.21 37 P **P 17 16 33.8 -0.1**
KURK Kurchatov 47.33 308 P **P 17 16 33.9 -0.9**
KURK Kurchatov 47.33 308 *ce*P **P 17 16 34.9 +0.1**
KURK pmax pmax
comp=Z,13nm,1.7s
KURBB Kurchatov Arra 47.40 308 P **P 17 16 35.1 -0.3**
comp=Z,2.2nm,0.7s,baz=82,slow=8.2,SNR=18
comp=Z,2.2nm,0.7s
MDM Murphy Dome 47.52 32 P **P 17 16 37.4 +1.1**
MDM IAmb IAmb 17 16 40.6
comp=Z,8.1nm,1.0s
HDA Harding Lake 48.07 33 P **P 17 16 41.4 +0.9**
HDA IAmb IAmb 17 16 52.7
comp=Z,6.6nm,1.0s
IL31 48.10 33 P **P 17 16 40.9 +0.3**
IL31 IAmb IAmb 17 17 04.0
comp=Z,11nm,1.4s
ILAR Eielson Array 48.10 33 P **P 17 16 40.5 -0.1**
ILAR Eielson Array 48.10 33 P **P 17 16 41.6 +1.0**
comp=Z,2.6nm,0.9s,baz=266,slow=6.1,SNR=18
comp=Z,2.6nm,0.9s
BMAR Burnt Mountain 49.03 29 P **P 17 16 48.5 +0.6**
SCRK Sand Creek 49.38 34 P **P 17 16 51.5 +0.8**
SCRK IAmb IAmb 17 16 53.1
comp=Z,10nm,1.4s
I28M Miner Creek 51.00 31 P **P 17 17 04.6 +1.7**
I28M IAmb IAmb 17 17 42.8
comp=Z,8.2nm,1.5s
G29M Pine Creek 51.62 29 P **P 17 17 07.2 -0.2**
G29M IAmb IAmb 17 17 21.6
comp=Z,8.0nm,0.8s
BVAR Borovoye Array 51.85 313 P **P 17 17 09.0 -0.3**
BVAR Borovoye Array 51.85 313 P **P 17 17 09.0 -0.3**
comp=Z,2.9nm,0.8s,baz=77,slow=6.4,SNR=6.6
comp=Z,2.9nm,0.8s
BRVK Borovoye 51.90 313 *ce*P **P 17 17 10.3 +0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
I30M Mount Dempster 52.51 31 P **P 17 17 14.8 +0.6**
I30M IAmb IAmb 17 17 19.1
comp=Z,11nm,1.1s
H31M Peel River 53.24 31 P **P 17 17 20.9 +1.5**
SVE Sverdlovsk 56.23 319 *e*P **P 17 17 42.6 +1.4**
SVE pmax pmax
comp=Z,11nm,0.9s
ARU Arti 57.45 319 P **P 17 17 48.6 -1.2**
ARU IAmb IAmb 17 17 51.4
comp=Z,9.3nm,1.1s
ARU Arti 57.45 319 *d i* P **P 17 17 50.3 +0.5**
ARU 17 18 38.2
ARU 17 20 00.4
ARU S **S 17 25 48.4 +4.2**
ARU SS **SS 17 29 35.2 +1.6**
ARU pmax pmax
comp=Z,9.0nm,1.0s
WB0 Warramunga Arr 57.56 191 P **P 17 17 49.8 -1.2**
WR0 Warramunga Arr 57.73 191 P **P 17 17 50.8 -1.3**
WR0 IAmb IAmb 17 18 02.8
comp=Z,6.0nm,0.7s
WRAB Tennant Creek 57.73 191 P **P 17 17 50.8 -1.3**
WRAB IAmb IAmb 17 18 02.9
comp=Z,6.3nm,0.7s
WRAB Tennant Creek 57.73 191 *ce*P **P 17 17 51.4 -0.7**
WRAB pmax pmax
comp=Z,6.0nm,0.8s
WB2 Warramunga Arr 57.74 191 P **P 17 17 50.5 -1.7**
WRA Warramunga Arr 57.74 191 P **P 17 17 50.4 -1.8**
WRA Warramunga Arr 57.74 191 P **P 17 17 51.2 -1.0**
comp=Z,2.0nm,0.7s,baz=9.6,slow=7.2,SNR=23
comp=Z,2.0nm,0.7s
ABKAR Akbulak array 59.27 311 P **P 17 18 01.9 -0.7**
ABKAR IAmb IAmb 17 18 15.7
comp=Z,2.0nm,0.7s
ABKAR Akbulak array 59.27 311 P **P 17 18 01.4 -1.2**
AS31 Alice Springs 61.46 191 P **P 17 18 16.9 -0.9**
ASAR Alice Springs 61.47 191 P **P 17 18 16.4 -1.4**
ASAR Alice Springs 61.47 191 P **P 17 18 17.3 -0.5**
comp=Z,2.1nm,0.9s,baz=5.4,slow=6.6,SNR=19
comp=Z,2.1nm,0.9s
ARCES ARCESS Array B 64.38 340 P **P 17 18 38.2 +1.5**
comp=Z,1.7nm,0.9s,baz=45,slow=5.6,SNR=2.1
comp=Z,1.7nm,0.9s
KLMR Klimovskoe 64.54 328 *e*P **P 17 18 37.2 -0.6**
KLMR AMP 17 18 39.3
comp=Z,19nm,1.5s
KLMR Klimovskoe 64.54 328 *e*P **P 17 18 37.1 -0.7**
KLMR pmax pmax
comp=Z,19nm,1.5s
GEYT Alibeck 65.45 300 P **P 17 18 44.2 0.0**
comp=Z,1.3nm,0.7s,baz=93,slow=7.2,SNR=2.4
comp=Z,1.3nm,0.7s
FINES FINESS Array B 69.44 333 P **P 17 19 08.6 -0.4**
comp=Z,3.0nm,1.0s,baz=87,slow=10,SNR=4.1
comp=Z,3.0nm,1.0s
SUMG Summit 70.32 1 P **P 17 19 15.2 +0.5**
SUMG IAmb IAmb 17 19 18.2
comp=Z,9.5nm,1.1s
SUMG Summit 70.32 1 P **P 17 19 15.2 +0.5**
SUMG pmax pmax
comp=Z,10.0nm,1.1s
SUMG Summit 70.32 1 *i* P **P 17 19 15.0 +0.3**
KIV Kislovodsk 72.21 312 *e*P **P 17 19 28.4 +2.2**
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 72.21 312 *i* P **P 17 19 27.4 +1.3**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 72.21 312 P **P 17 19 26.4 +0.3**
comp=Z,3.3nm,0.9s,baz=63,slow=2.3,SNR=4.3
comp=Z,3.3nm,0.9s
NVAR Mina Array Bea 73.13 54 P **P 17 19 33.5 +1.5**
comp=Z,1.1nm,0.8s,baz=288,slow=6.1,SNR=4.7
comp=Z,1.1nm,0.8s
SOC Sochi 74.17 313 *e*P **P 17 19 38.1 +0.4**
SOC *e*PPP PPP 17 24 06.6
SOC *e*S **S 17 29 13.3 +4.8**
SOC *e*SS **SS 17 33 59.4 +6.1**
SOC pmax pmax
comp=Z,19nm,0.7s
HFS Hagfors 74.59 337 P **P 17 19 40.5 +0.6**
comp=Z,1.1nm,0.6s,baz=19,slow=9.2,SNR=1.6
comp=Z,1.1nm,0.6s
NB2 NORSAR Subarra 74.64 338 P **P 17 19 40.8 +0.7**
comp=Z,25nm,2.0s,baz=40,slow=6.2
NOA NORSAR Array B 74.64 338 P **P 17 19 40.1 -0.1**
comp=Z,1.4nm,0.9s,baz=40,slow=5.8,SNR=3.4
comp=Z,1.4nm,0.9s
AKASG Malin Array Be 75.25 323 *e*P **P 17 19 44.3 +0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 75.25 323 P **P 17 19 43.9 +0.1**
comp=Z,0.3nm,0.2s,baz=40,slow=4.4,SNR=9.0
comp=Z,0.3nm,0.2s
AKBB Malin Array Si 75.25 323 *ce*P **P 17 19 45.0 +1.2**
PDAR Pinedale Array 75.94 47 P **P 17 19 50.5 +2.2**
comp=Z,0.4nm,0.8s,baz=302,slow=5.2,SNR=1.9
comp=Z,0.4nm,0.8s
KOLS Kolonicke sedl 79.72 325 *e*P **P 17 20 12.1 +3.2**
KOLS Kolonicke sedl 79.72 325 *e*P **P 17 20 12.1 +3.2**
BRTR Keskin Array B 80.13 313 P **P 17 20 13.2 +1.7**
comp=Z,0.6nm,0.8s,baz=104,slow=6.1,SNR=3.9
comp=Z,0.6nm,0.8s
DPC Dobruska-Polom 81.23 329 *e*P **P 17 20 18.6 +1.6**
DPC Dobruska-Polom 81.23 329 *e*P **P 17 20 18.6 +1.6**
VYHS Vyhne 81.58 327 *e*P **P 17 20 20.6 +1.8**
VYHS Vyhne 81.58 327 *e*P **P 17 20 20.6 +1.8**
CLL Collm 81.79 331 *e*P **P 17 20 20.0 +0.2**
KHC Kasperske Hory 83.29 330 *e*P **P 17 20 28.6 +0.8**
KHC *e* 17 20 39.9
KHC Kasperske Hory 83.29 330 *e*P **P 17 20 28.6 +0.8**
KHC *ex* x 17 20 39.9
TXAR Lajitas Array 88.27 54 P **P 17 20 53.9 +1.0**
comp=Z,0.3nm,0.5s,baz=325,slow=4.6,SNR=2.5
comp=Z,0.3nm,0.5s
QSPA South Pole Qui 127.13 180 PKP **PKPdf 17 27 03.0 -1.3**
comp=Z,1.5nm,1.0s,baz=53,slow=4.1,SNR=2.4
ELIB Princess Elisa 134.51 202 *d*PKPdf **PKPdf 17 27 18.2 0.0**
SNAA Sanae 141.67 196 PKP **PKPdf 17 27 32.4 +1.1**
comp=Z,0.7nm,0.9s,baz=185,slow=12,SNR=2.3

IDC 06 17:25:10.3±4.6, 16°.01S×178°.52W, h436km±30km,

mb3.1/3, mbtmp3.8/4, Error ellipse: s-maj=246.4km s-min=31.3km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.71**	**242**	P	P	17 26 22.4	+0.3
	10nm,0.7s,baz=95,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**44.90**	**258**	P	P	17 32 43.8	-1.0
	0.3nm,0.3s,baz=94,slow=7.9,SNR=19						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**45.23**	**252**	P	P	17 32 47.6	+0.3
	3.1nm,0.4s,baz=84,slow=8.6,SNR=182						
	3.1nm,0.4s						
ILAR	**Eielson Array**	**84.07**	**13**	P	P	17 36 52.5	-1.0
	0.3nm,0.8s,baz=226,slow=6.2,SNR=4.2						
	0.3nm,0.8s						
MMAI	**Mount Meron Ar**	**145.00**	**305**	PKPbc	PKPab	17 43 58.2	-0.3
	2.2nm,0.7s,baz=72,slow=4.7,SNR=5.1						

*SJA **06** 17:25:43.9±1.1, 21°.28S×68°.85W, h122km±11km, ML3.3, MW3.5*
*GUC **06** 17:25:45.8±0.7, 21°.28S×68°.71W, h110km±4km, ML3.6*
ISC 06 17:25:45.8±1.5, 21°.28S±0°.03×68°.85W±0°.06, h116km±12km, n34, σ0°66/47, 7C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.63**	**215**	⇑*i*P	**Pn**	**17 26 04.3**	**-0.1**
PB09				*e*S	**Sn**	**17 26 18.7**	**+0.3**
PB09				IAML		17 26 20.4	
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**0.63**	**215**	*i* P	**Pn**	**17 26 03.7**	**-0.7**
PB09				IAML		17 26 19.6	
	comp=Z,1μm,0.4s						
PB01	**IPOC Station P**	**0.64**	**291**	⇑*i*P	**Pn**	**17 26 04.0**	**-0.4**
PB01				*e*S	**Sn**	**17 26 17.9**	**-0.4**
PB01				IAML		17 26 19.9	
	comp=N,1μm,0.1s						
PB01	**IPOC Station P**	**0.64**	**291**	*i* P	**Pn**	**17 26 03.2**	**-1.1**
PB01				IAML		17 26 20.1	
	comp=Z,839nm,0.2s						
PB02	**IPOC Station P**	**0.98**	**267**	⇑*i*P	**Pn**	**17 26 07.5**	**+0.2**
PB02				*e*S	**Sn**	**17 26 24.8**	**+1.2**
PB02				IAML		17 26 26.0	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**0.98**	**267**	*i* P	**Pn**	**17 26 06.8**	**-0.5**
PB02				IAML		17 26 26.5	
	comp=Z,2μm,0.2s						
PB07	**IPOC Station P**	**1.06**	**245**	⇑*i*P	**Pn**	**17 26 08.4**	**+0.1**
PB07				*e*S	**Sn**	**17 26 26.2**	**+0.9**
PB07				IAML		17 26 27.3	
	comp=N,1μm,0.3s						
PB07	**IPOC Station P**	**1.06**	**245**	*i* P	**Pn**	**17 26 07.7**	**-0.6**
PB07				IAML		17 26 28.0	
	comp=Z,1μm,0.3s						
PB08	**IPOC Station P**	**1.17**	**346**	⇓*i*P	**Pn**	**17 26 09.7**	**+0.1**
PB08				*e*S	**Sn**	**17 26 27.9**	**+0.3**
PB08				IAML		17 26 29.3	
	comp=E,1μm,0.3s						
PB08	**IPOC Station P**	**1.17**	**346**	*i* P	**Pn**	**17 26 09.0**	**-0.6**
PB08				IAML		17 26 29.1	
	comp=Z,571nm,0.5s						
PATCX	**Punta Patache**	**1.30**	**290**	*i* P	**Pn**	**17 26 11.2**	**+0.5**
PATCX				*e*S	**Sn**	**17 26 30.8**	**+1.2**
PATCX				IAML		17 26 32.8	
	comp=E,1μm,0.2s						
PATCX	**Punta Patache**	**1.30**	**290**	*i* P	**Pn**	**17 26 10.7**	**0.0**
PATCX				IAML		17 26 33.9	
	comp=Z,456nm,0.4s						
LVC	**Limon Verde**	**1.32**	**182**	*i* P	**Pn**	**17 26 10.3**	**-1.0**
LVC				IAML		17 26 36.0	
	comp=Z,89nm,0.2s						
HMBC	**Humberstone**	**1.39**	**316**	⇑*i*P	**Pn**	**17 26 11.7**	**-0.1**
HMBC				*e*S	**Sn**	**17 26 31.4**	**-0.2**
HMBC				IAML		17 26 32.5	
	comp=N,2μm,0.3s						
HMBC	**Humberstone**	**1.39**	**316**	*i* P	**Pn**	**17 26 11.0**	**-0.9**
HMBC				IAML		17 26 35.1	
	comp=Z,731nm,0.4s						
TA01	**Diego Aracena**	**1.43**	**299**	⇑*i*P	**Pn**	**17 26 12.3**	**+0.1**
TA01				*e*S	**Sn**	**17 26 32.5**	**+0.3**
TA01	**Diego Aracena**	**1.43**	**299**	*i* P	**Pn**	**17 26 11.6**	**-0.5**
TA01				IAML		17 26 33.8	
	comp=Z,372nm,0.3s						
TA02	**Huaiquique**	**1.56**	**310**	*e*P	**Pn**	**17 26 13.7**	**0.0**
TA02				*e*S	**Sn**	**17 26 35.0**	**0.0**
TA02	**Huaiquique**	**1.56**	**310**	*i* P	**Pn**	**17 26 13.2**	**-0.5**
TA02				IAML		17 26 38.8	
	comp=Z,786nm,0.1s						
PB06	**IPOC Station P**	**1.57**	**205**	*i* P	**Pn**	**17 26 13.9**	**0.0**
PB06				*e*S	**Sn**	**17 26 35.8**	**+0.4**
PB06				IAML		17 26 36.9	
	comp=E,881nm,0.5s						
PB06	**IPOC Station P**	**1.57**	**205**	*i* P	**Pn**	**17 26 13.3**	**-0.7**
PB06				IAML		17 26 37.5	
	comp=Z,453nm,0.2s						
PB04	**IPOC Station P**	**1.60**	**229**	⇑*i*P	**Pn**	**17 26 14.3**	**0.0**
PB04				*e*S	**Sn**	**17 26 37.0**	**+1.0**
PB04				IAML		17 26 39.5	
	comp=E,669nm,0.4s						
PB04	**IPOC Station P**	**1.60**	**229**	*i* P	**Pn**	**17 26 14.1**	**-0.2**
PB04				IAML		17 26 41.0	
	comp=Z,362nm,0.1s						
GO01	**Chusmiza**	**1.64**	**349**	⇓*i*P	**Pn**	**17 26 14.8**	**-0.3**
GO01				*e*S	**Sn**	**17 26 37.8**	**+0.5**
GO01				IAML		17 26 41.7	
	comp=N,1μm,0.1s						
GO01	**Chusmiza**	**1.64**	**349**	*i* P	**Pn**	**17 26 14.2**	**-0.9**
GO01				IAML		17 26 40.0	
	comp=Z,291nm,0.2s						
PB15	**IPOC Station P**	**2.00**	**197**	*e*P	**Pn**	**17 26 19.0**	**-0.4**
PB15				*e*S	**Sn**	**17 26 45.2**	**+0.3**
PB15	**IPOC Station P**	**2.00**	**197**	*i* P	**Pn**	**17 26 18.9**	**-0.4**
PB15				IAML		17 26 52.2	
	comp=Z,1μm,0.2s						
PB12	**IPOC Station P**	**2.99**	**332**	*i* P	**Pn**	**17 26 30.6**	**-1.4**
PB12				IAML		17 27 21.6	
	comp=Z,59nm,0.2s						
PB16	**IPOC Station P**	**2.99**	**348**	⇓*e*P	**Pn**	**17 26 32.9**	**+0.4**
PB16	**IPOC Station P**	**2.99**	**348**	*i* P	**Pn**	**17 26 32.5**	**0.0**
PB16				IAML		17 27 10.5	
	comp=Z,29nm,0.7s						
YJA	**Yavi**	**3.23**	**107**	*i* P	**Pn**	**17 26 35.1**	**-0.3**
YJA				IAML		17 27 56.9	
	comp=Z,1.7nm,0.7s						
PB14	**IPOC Station P**	**3.63**	**203**	*i* P	**Pn**	**17 26 40.0**	**-0.5**
PB14				IAML		17 27 38.4	
	comp=Z,32nm,0.4s						
HJA	**Humahuaca**	**3.72**	**122**	*i* P	**Pn**	**17 26 42.7**	**+0.8**
HJA				IAML		17 27 28.8	
	comp=Z,2.7nm,0.6s						
GO02	**Mina Guanaco**	**3.92**	**190**	*i* P	**Pn**	**17 26 43.0**	**-1.5**
GO02				IAML		17 27 30.1	
	comp=Z,58nm,0.1s						

*SOME **06** 17:40:54.9, 39°.08N×70°.90E, h0km*
*IDC **06** 17:40:55.8±1.1, 38°.73N×70°.59E, h0km, mb3.6/9, mbtmp3.7/17, ML3.1/8, MS3.0/2, Error ellipse: s-maj=16.2km s-min=12.3km az=158.0*
*NNC **06** 17:40:55.5±7.3, 38°.32N×71°.06E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=71.2km s-min=39.2km az=154.0*
*KRNET **06** 17:40:56.3±0.1, 39°.02N×70°.16E, mb3.8*
ISC 06 17:40:57.7±1.7, 39°.04N±0°.06×70°.34E±0°.04, h1km±11km, n54, σ2°14/73, mb3.4/9, 26C-8D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.08**	**20**	⇑*i*P	**Pg**	**17 41 18.2**	**-0.3**
BTK				⇑*i*S	**Sn**	**17 41 34.1**	**-1.7**
	baz=26						
DRK	**Karamyk**	**1.21**	**68**	⇓*e*P	**Pg**	**17 41 22.1**	**+1.1**
DRK				⇓*e*S	**Sn**	**17 41 40.8**	**+1.5**
	baz=70						
OHH	**Osh**	**2.40**	**51**	⇓*e*P	**Pb**	**17 41 40.4**	**-1.3**
OHH				⇓*e*S	**Sb**	**17 42 12.5**	**+0.7**
	baz=53						
TRKS	**Terek-Say**	**2.56**	**13**	⇑*e*P	**Pn**	**17 41 41.2**	**+0.7**
TRKS				⇑*e*S	**Sn**	**17 42 13.6**	**+1.1**
	baz=17						
SFK	**Sufi-Kurgan**	**2.63**	**67**	⇑*i*P	**Pb**	**17 41 43.7**	**-2.1**
SFK				⇑*i*S	**Sb**	**17 42 18.6**	**-0.1**
	baz=68						
ARK	**Arkit**	**3.02**	**24**	⇑*e*P	**Pn**	**17 41 48.6**	**+1.8**
ARK				⇑*i*S	**Sb**	**17 42 26.8**	**-3.0**
	baz=26						
IUG	**Iuzhnay**	**3.12**	**356**	*e*Pg	**Pb**	**17 41 53.8**	**-0.2**
IUG				*e*Lg	Lg	17 42 36.5	
	99nm,0.6s						
CHM	**Chimkent**	**3.33**	**350**	*e*Pg	**Pb**	**17 41 58.9**	**+1.4**
CHM				*e*Lg	Lg	17 42 44.9	
	33nm,0.1s						
MNAS	**Manas**	**3.82**	**25**	⇑*e*P	**Pn**	**17 41 59.6**	**+1.9**
MNAS				⇑*i*S	**Sn**	**17 42 45.8**	**+2.5**
	baz=26						
DZA	**Taraz**	**3.92**	**11**	*e*Pg	**Pb**	**17 42 04.8**	**-2.9**
DZA				*e*Lg	Lg	17 42 54.8	
	81nm,0.1s						
AML	**Almayashu**	**4.01**	**38**	P	**Pn**	**17 42 03.0**	**+2.4**
AML				⇓*i*P	**Pn**	**17 42 02.7**	**+2.1**
	SNR=15						
AML	**Almayashu**	**4.01**	**38**	⇓*e*S	**Sn**	**17 42 51.3**	**+2.9**
AML							
	baz=40						
KKAR	**Karatay Array**	**4.07**	**2**	⇑*e*P	**Pn**	**17 42 02.2**	**+1.2**
KKAR				⇑*i*S	**Sn**	**17 42 50.4**	**+1.1**
	baz=4.0						
ARLS	**Aral**	**4.14**	**46**	⇑*e*P	**Pn**	**17 42 04.6**	**+2.3**
ARLS				⇑*e*S	**Sn**	**17 42 54.4**	**+3.0**
	baz=47						
MRKS	**Merke**	**4.30**	**30**	*e*Pg	Pb	17 42 09.3	-4.9
MRKS				*e*Lg	Lg	17 43 03.0	
	23nm,0.5s						
EKS2	**Erkin-Say**	**4.46**	**35**	P	**Pn**	**17 42 09.3**	**+2.7**
EKS2				⇑*e*P	**Pn**	**17 42 08.7**	**+2.1**
	SNR=7.1						
EKS2	**Erkin-Say**	**4.46**	**35**	⇑*e*S	**Sn**	**17 43 01.5**	**+2.4**
EKS2							
	baz=36						
UCH	**Uchtor**	**4.50**	**44**	P	**Pn**	**17 42 10.1**	**+2.7**
UCH	**Uchtor**	**4.50**	**44**	⇑*e*P	**Pn**	**17 42 09.6**	**+2.2**
UCH				⇑*i*S	**Sn**	**17 43 03.1**	**+2.6**
	SNR=35						
	baz=45						
AAK	**Ala-Archa**	**4.78**	**40**	P	**Pn**	**17 42 13.8**	**+2.8**
AAK				⇑*e*P	**Pn**	**17 42 13.2**	**+2.2**
	SNR=36						
AAK	**Ala-Archa**	**4.78**	**40**	⇑*i*S	**Sn**	**17 43 09.5**	**+2.4**
AAK							
	baz=41						
AAK	**Ala-Archa**	**4.78**	**40**	Pn	**Pn**	**17 42 13.6**	**+2.6**
	4.8nm,0.3s,baz=220,slow=9.2,SNR=79						
AAK				Sn	**Sn**	**17 43 10.9**	**+3.8**
	1.8nm,0.3s,baz=343,slow=20,SNR=1.4						
	29nm,0.6s						
NRN	**Naryn**	**4.95**	**59**	⇑*e*P	**Pn**	**17 42 15.8**	**+2.4**
NRN				⇑*e*S	**Sn**	**17 43 13.4**	**+2.0**
	baz=60						
KBK	**Karagaybulak**	**5.03**	**43**	P	**Pn**	**17 42 17.4**	**+3.0**
	SNR=64						
KBK	**Karagaybulak**	**5.03**	**43**	⇑*i*P	**Pn**	**17 42 16.6**	**+2.2**
KBK				⇑*i*S	**Sn**	**17 43 15.4**	**+2.2**
	baz=43						
CHMS	**Chumysh**	**5.17**	**39**	P	**Pn**	**17 42 18.8**	**+2.5**
	SNR=29						
CHMS	**Chumysh**	**5.17**	**39**	⇑*i*P	**Pn**	**17 42 18.5**	**+2.2**
CHMS				⇑*i*S	**Sn**	**17 43 18.5**	**+1.9**
	baz=40						
USP	**Ospenovka**	**5.26**	**35**	P	**Pn**	**17 42 20.2**	**+2.7**
	SNR=18						
TKM2	**Tokmak 2**	**5.55**	**44**	P	**Pn**	**17 42 24.6**	**+2.9**
	SNR=8.7						
TKM2	**Tokmak 2**	**5.55**	**44**	⇓*e*P	**Pn**	**17 42 24.0**	**+2.3**
TKM2				⇓*i*S	**Sn**	**17 43 28.0**	**+1.8**
	baz=45						
KST	**Kastek**	**5.84**	**45**	*e*Pg	**Pb**	**17 42 37.7**	**-2.6**
KST				*e*Lg	Lg	17 43 52.0	
	8.8nm,0.5s						
KRBS	**Karabastau**	**6.14**	**39**	*e*Pg	**Pb**	**17 42 42.0**	**-3.5**
KRBS				*e*Lg	Lg	17 43 59.0	
	24nm,0.8s						
MTBS	**Maitube**	**6.15**	**46**	*e*Pg	**Pb**	**17 42 44.9**	**-0.8**
MTBS				*e*Lg	Lg	17 44 03.8	
	5.2nm,0.3s						
IZV	**Izvestkoviy**	**6.20**	**48**	*e*Pg	**Pb**	**17 42 46.6**	**+0.1**
IZV				*e*Lg	Lg	17 44 07.1	
	9.6nm,0.4s						
TNSS	**Tian-Shan**	**6.39**	**49**	*e*Pg	**Pb**	**17 42 47.9**	**-2.1**
TNSS				*e*Lg	Lg	17 44 09.3	
	3.2nm,0.6s						
KTBS	**Karatobe**	**6.67**	**44**	*e*Pg	**Pb**	**17 42 52.6**	**-1.9**
KTBS				*e*Lg	Lg	17 44 17.3	
	7.8nm,0.7s						
GEYT	**Alibeck**	**9.65**	**267**	Pn	**Pn**	**17 43 16.3**	**-1.4**
GEYT				Sn	**Sn**	**17 45 05.8**	**-1.0**
	8.5nm,0.4s						
	0.4nm,0.3s,baz=110,slow=12,SNR=2.3						
	0.2nm,0.3s,baz=64,slow=20,SNR=2.9						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**11.69**	**45**	Pn	**Pn**	**17 43 46.7**	**+1.1**
MKAR				Lg	Lg	17 46 56.1	
	0.1nm,0.3s,baz=235,slow=13,SNR=23						
	0.1nm,0.3s,baz=226,slow=27,SNR=1.8						
	3.2nm,0.8s						
KURBB	**Kurchatov Arra**	**12.95**	**24**	Pn	**Pn**	**17 44 00.1**	**-2.7**
KURBB				Lg	Lg	17 47 44.4	
	0.1nm,0.3s,baz=212,slow=12,SNR=6.3						
	baz=220,slow=28,SNR=5.4						
	1.0nm,0.7s						
BVAR	**Borovoye Array**	**13.99**	**0**	Pn	**Pn**	**17 44 16.6**	**-0.4**
BVAR				Sn	**Sn**	**17 46 50.1**	**-2.8**
	baz=173,slow=13,SNR=8.4						
	baz=176,slow=26,SNR=2.4						
	1.0nm,0.5s						
AKTO	**Aktyubinsk**	**14.35**	**327**	Pn	**Pn**	**17 44 23.9**	**+2.0**
AKTO				Sn	**Sn**	**17 47 00.4**	**-1.2**
	0.2nm,0.3s,baz=134,slow=12,SNR=5.6						
	0.1nm,0.3s,baz=146,slow=23,SNR=3.5						
	1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**17.88**	**29**	P	**P**	**17 45 07.0**	**-1.3**
ZALV				LR	LR	17 53 12.8	
	0.3nm,0.3s,baz=226,slow=11,SNR=11						
	comp=Z,48nm,20.3s,baz=250,slow=41						
	4.5nm,0.7s						
ARU	**Arti**	**19.07**	**340**	P	**Pn**	**17 45 22.7**	**+0.7**
	0.2nm,0.3s,baz=190,slow=4.9,SNR=3.4						
	1.0nm,0.2s						
GNI	**Garni**	**19.75**	**281**	LR	LR	17 54 48.5	
	comp=Z,41nm,18.8s,baz=42,slow=42						
SONM	**Songino Array**	**27.41**	**59**	P	**P**	**17 46 44.2**	**-0.6**
	0.3nm,0.4s,baz=278,slow=9.8,SNR=2.6						
	0.3nm,0.4s						
BRTR	**Keskin Array B**	**28.26**	**283**	P	**P**	**17 46 54.7**	**+2.2**
	0.3nm,0.5s,baz=86,slow=5.2,SNR=2.0						
	0.3nm,0.5s						
AKASG	**Malin Array Be**	**31.00**	**306**	P	**P**	**17 47 17.7**	**+1.2**
	0.1nm,0.3s,baz=108,slow=8.9,SNR=3.3						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**35.11**	**324**	P	**P**	**17 47 52.4**	**+0.2**
	1.8nm,0.9s,baz=139,slow=10,SNR=3.8						
	1.8nm,0.9s						
ARCES	**ARCESS Array B**	**38.61**	**337**	P	**P**	**17 48 22.4**	**+0.4**
	0.5nm,0.7s,baz=18,slow=5.2,SNR=1.3						
	0.5nm,0.7s						
HFS	**Hagfors**	**40.77**	**320**	P	**P**	**17 48 40.5**	**+0.5**
	1.4nm,0.4s,baz=103,slow=11,SNR=9.9						
	1.4nm,0.4s						
NB2	**NORSAR Subarra**	**42.06**	**321**	P	**P**	**17 48 53.0**	**+2.3**
	comp=Z,6.5nm,1.1s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**42.06**	**321**	P	**P**	**17 48 50.7**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=93,slow=7.9,SNR=4.0						
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**83.77**	**122**	P	**P**	**17 53 25.4**	**-3.3**
	comp=Z,0.4nm,0.9s,baz=325,slow=4.7,SNR=2.9						
	comp=Z,0.4nm,0.9s						
ASAR	**Alice Springs**	**86.12**	**125**	P	**P**	**17 53 37.4**	**-3.2**
	comp=Z,0.3nm,1.0s,baz=330,slow=5.4,SNR=1.7						
	comp=Z,0.3nm,1.0s						

*MOS **06** 17:41:22.4±1.6, 35°.30S×15°.72W, h10km, mb5.2/15, MS5.0/12, Error ellipse: s-maj=13.3km s-min=10.5km az=136.4*
*IDC **06** 17:41:22.2±0.5, 35°.23S×15°.61W, h0km, mb4.5/12, mbtmp4.5/12, MS5.0/54, Error ellipse: s-maj=19.2km s-min=17.3km az=97.0*
*NEIC **06** 17:41:23.4, 35°.35S×15°.58W, h10km*
*NEIC **06** 17:41:23.1±1.2, 35°.31S±0°.08×15°.55W±0°.09, h10km±1km, mb5.3/95, Ms_20 5.2/541, Mwb5.5/20, Mww5.6/19, Error ellipse: s-maj=15.7km s-min=10.4km az=221.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.53; $M_{\theta\theta}$-1.45; $M_{\phi\phi}$0.93; $M_{r\theta}$0.54; $M_{\theta\phi}$1.93; $M_{\phi r}$-0.42; Fault plane solution: $M_0$2.41000×10^{17} NP1: ϕ_s344.53000°, δ84.63000°, λ-168.46000°. NP2: ϕ_s253.43000°, δ78.51000°, λ-5.48000°. Principal axes: T 2.0092, Plg4.0000°, Azm119.0000°; N 0.6616, Plg77.0000°, Azm9.0000°; P -2.6707, Plg12.0000°, Azm209.0000°;*
*NEIC **06** 17:41:23.1, 35°.31S×15°.54W, h20km*
*NEIC **06** 17:41:23.1, 35°.31S×15°.66W, h20km, Moment Tensor Solution. Duration: 3s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.85; $M_{\theta\theta}$-1.23; $M_{\phi\phi}$2.09; $M_{r\theta}$-0.53; $M_{\theta\phi}$3.14; $M_{\phi r}$0.88; Fault plane solution: $M_0$3.73000×10^{17} NP1:ϕ_s74.74000°, δ72.15000°, λ-10.05000°. NP2:ϕ_s167.84000°, δ80.44000°, λ-161.89000°. Principal axes: T 4.0227, Plg6.0000°, Azm300.0000°; N -0.5796, Plg70.0000°, Azm195.0000°; P -3.4431, Plg20.0000°, Azm32.0000°;*
*GCMT **06** 17:41:30.1±0.1, 35°.27S±0°.01×15°.47W±0°.01, h21km, MW5.7/161, Moment Tensor Solution. s143, c253; s161, c328; Duration: 1s8 Moment tensor: Scale 10^{17} Nm; M_{rr}0.12±.05; $M_{\theta\theta}$-2.29±.05; $M_{\phi\phi}$2.17±.05; $M_{r\theta}$-0.18±.09; $M_{\theta\phi}$4.27±.04; $M_{\phi r}$0.64±.09; Best double couple: $M_0$4.86200×10^{17} NP1:ϕ_s346.00000°, δ90.00000°, λ172.00000°. NP2:ϕ_s76.00000°, δ82.00000°, λ0.00000°. Principal axes: T 4.8010, Plg6.0000°, Azm301.0000°; N 0.1200, Plg82.0000°, Azm166.0000°; P -4.9240, Plg6.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 17:41:23.6±0.3, 35°.41S±0°.05×15°.69W±0°.06, h10km, n524, σ2°35/228, mb5.2/77, MS5.2/342, 2D, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H09N1	**TRISTAN DA CUN**	**3.19**	**122**	Pn	Pn	17 42 07.7	-6.1
H09N1				T	T	17 45 30.4	
	SNR=66						
TRIS	**Tristan da Cun**	**3.19**	**122**		Pn	17 42 08.2	-5.6
TRIS				Sn	Sn	17 42 41.3	-11
H09W1	**TRISTAN DA CUN**	**3.19**	**123**	Pn	Pn	17 42 08.6	-5.2
H09W1				T	T	17 45 32.0	
	SNR=302						
SHEL	**Horse Pasture**	**21.32**	**27**	P	**P**	**17 46 06.9**	**-3.8**
SHEL	**Horse Pasture**	**21.32**	**27**	P	**P**	**17 46 06.9**	**-3.8**
SHEL				pmax	pmax		
	comp=Z,773nm,1.7s						
SHEL				MLR	MLR		
	comp=Z,7μm,20.0s						
HOPE	**Hope Point**	**23.79**	**211**	P	**P**	**17 46 36.0**	**-0.2**
HOPE				IAmb	IAmb	17 46 49.3	
	comp=Z,116nm,1.4s						
HOPE	**Hope Point**	**23.79**	**211**	P	**P**	**17 46 36.0**	**-0.2**
HOPE				pmax	pmax		
	comp=Z,116nm,1.5s						
HOPE				MLR	MLR		
	comp=Z,7μm,20.0s						
H10S2	**ASCENSION HYDR**	**26.34**	**2**	T	T	18 14 25.8	
	baz=39,slow=74,SNR=504						
H10S3	**ASCENSION HYDR**	**26.35**	**2**	T	T	18 14 20.9	
	baz=181,slow=74,SNR=1474						
H10N1	**ASCENSION HYDR**	**27.46**	**3**	T	T	18 15 48.8	
	baz=180,slow=73,SNR=376						
H10N3	**ASCENSION HYDR**	**27.46**	**3**	T	T	18 15 43.2	
	baz=180,slow=73,SNR=1076						
H10N2	**ASCENSION HYDR**	**27.47**	**3**	T	T	18 15 46.7	
	baz=180,slow=73,SNR=394						
SUR	**Sutherland**	**30.34**	**95**	P	**P**	**17 47 33.7**	**-1.9**
SUR				IAmb	IAmb	17 48 15.6	
	comp=Z,75nm,1.6s						
SUR	**Sutherland**	**30.34**	**95**	LR	LR	17 56 47.9	
	comp=Z,4μm,20.4s,baz=249,slow=31						
WIN	**Windhoek**	**31.26**	**75**	P	**P**	**17 47 41.7**	**-2.1**
WIN	**Windhoek**	**31.26**	**75**	P	**P**	**17 47 41.7**	**-2.1**
WIN				pmax	pmax		
	comp=Z,23nm,1.1s						
WIN				MLR	MLR		
	comp=Z,2μm,19.0s						
PLTB	**Pedras Altas**	**31.67**	**266**	P	**P**	**17 47 47.6**	**+0.4**
PLTB				IAmb	IAmb	17 48 13.7	
	comp=Z,48nm,1.6s						
TSUM	**Tsumeb**	**33.49**	**70**	P	**P**	**17 48 00.9**	**-2.4**
TSUM				IAmb	IAmb	17 48 15.3	
	comp=Z,75nm,1.9s						
TSUM	**Tsumeb**	**33.49**	**70**	LR	LR	17 58 29.4	
	comp=Z,1μm,21.7s,baz=226,slow=31						
EFI	**East Falkland**	**34.20**	**228**	IAMs_20	IAMs_20	17 58 38.9	
	comp=Z,5μm,21.0s						
GRHM	**Grahamstown, E**	**34.61**	**99**	P	**P**	**17 48 10.8**	**-2.1**
GRHM				IAmb	IAmb	17 48 14.7	
	comp=Z,36nm,1.1s						
ITQB	**Itaqui**	**34.80**	**268**	P	**P**	**17 48 14.4**	**-0.1**
RCBR	**Riachuelo**	**34.83**	**323**	IAMs_20	IAMs_20	17 58 42.2	
	comp=Z,4μm,21.0s						
RCBR	**Riachuelo**	**34.83**	**323**	LR	LR	17 59 32.6	
	comp=Z,3μm,18.8s,baz=140,slow=31						
BDFB	**Brasilia**	**34.96**	**296**	P	**P**	**17 48 14.8**	**-1.3**
BDFB				IAmb	IAmb	17 49 34.1	
	comp=Z,42nm,0.6s						
BDFB	**Brasilia**	**34.96**	**296**	P	**P**	**17 48 15.8**	**-0.3**
	comp=Z,6.4nm,0.6s,baz=118,slow=9.7,SNR=7.2						
BDFB				LR	LR	17 59 59.7	
	comp=Z,6μm,20.3s,baz=128,slow=32						
	comp=Z,6.4nm,0.6s						
BOSA	**Boshof**	**35.19**	**91**	P	**P**	**17 48 16.1**	**-1.9**
BOSA				IAmb	IAmb	17 48 19.7	
	comp=Z,47nm,1.2s						
BOSA				IAMs_20	IAMs_20	17 59 30.0	
	comp=Z,4μm,19.0s						
BOSA	**Boshof**	**35.19**	**91**	P	**P**	**17 48 16.4**	**-1.6**
	comp=Z,20nm,1.0s,baz=253,slow=7.6,SNR=16						
BOSA				LR	LR	17 59 40.3	
	comp=Z,4μm,20.6s,baz=250,slow=31						
	comp=Z,20nm,1.0s						
CPUP	**Villa Florida**	**36.65**	**273**	P	**P**	**17 48 30.0**	**-0.4**
CPUP	**Villa Florida**	**36.65**	**

SNAA LR LR 18 00 37.5
comp=Z,2µm,18.2s,baz=344,slow=31
comp=Z,1.4nm,0.8s
AQDB Aquidauana 38.08 282 P **P 17 48 43.2 +0.7**
NVL N'lazarevskaya 38.34 166 *e*P **P 17 48 47.2 +3.0**
NVL *e*S **S 17 54 37.1 -1.2**
NVL pmax pmax
comp=Z,11nm,1.0s
NVL smax smax
comp=E,1µm,14.9s
NVL MLR MLR
comp=Z,2µm,21.0s
MG01 Puerto William 40.39 225 P **P 17 49 01.2 -0.2**
MG01 IAmb IAmb 17 49 10.6
comp=Z,120nm,1.2s
USHA Ushuaia 40.84 225 LR LR 18 03 46.9
comp=Z,2µm,20.6s,baz=87,slow=33
POGA Pongola 40.94 92 P **P 17 49 02.8 -3.6**
PMSA Palmer Station 41.08 209 P **P 17 49 07.7 +0.7**
PMSA IAmb IAmb 17 49 13.8
comp=Z,138nm,1.9s
PMSA Palmer Station 41.08 209 LR LR 18 02 37.1
comp=Z,2µm,19.8s,baz=43,slow=31
MATP Matopo 41.45 81 LR LR 18 03 38.1
comp=Z,608nm,20.4s,baz=240,slow=32
ELIB Princess Elisa 41.76 163 *d*P **P 17 49 13.5 +0.7**
comp=Z,23nm,1.3s
ELIB *d*S **S 17 55 32.6 +2.8**
MG04 Isla Riesco 42.56 228 P **P 17 49 20.6 +1.3**
PLCA Paso Flores 42.93 246 P **P 17 49 23.0 +0.4**
PLCA IAmb IAmb 17 49 28.9
comp=Z,68nm,1.6s
PLCA IAMs_20 IAMs_20 18 03 42.2
comp=Z,4µm,21.0s
PLCA Paso Flores 42.93 246 *e*P P 17 49 28.0 +5.4
PLCA pmax pmax
comp=Z,13nm,1.2s
PLCA Paso Flores 42.93 246 P **P 17 49 23.7 +1.1**
comp=Z,14nm,1.2s,baz=143,slow=4.4,SNR=4.1
PLCA LR LR 18 04 15.7
comp=Z,2µm,20.7s,baz=99,slow=32
comp=Z,14nm,1.2s
DBIC Dimbokro 43.08 16 P **P 17 49 22.4 -1.4**
DBIC Dimbokro 43.08 16 P **P 17 49 22.4 -1.4**
COYC Coyhaique 43.27 239 P **P 17 49 26.2 +1.0**
COYC IAmb IAmb 17 49 40.5
comp=Z,148nm,1.6s
BELA Belgrano 2 43.35 186 P **P 17 49 26.1 +0.6**
BELA IAmb IAmb 17 49 33.2
comp=Z,58nm,1.8s
BELA IAMs_20 IAMs_20 18 02 46.7
comp=Z,3µm,21.0s
LL02 Futaleuf 43.44 242 P **P 17 49 27.1 +0.5**
LL02 IAmb IAmb 17 49 32.2
comp=Z,146nm,1.6s
SMAI San Martin Ant 43.48 205 P **P 17 49 27.9 +1.4**
SMAI IAmb IAmb 17 49 36.5
comp=Z,70nm,1.6s
PTLB Pontes e Lacer 43.56 286 P **P 17 49 27.5 -0.4**
AY01 Puyuhuapi 43.82 240 P **P 17 49 29.5 -0.2**
GO06 Curarrehue 43.86 247 P **P 17 49 29.8 -0.4**
GO06 IAMs_20 IAMs_20 18 03 51.8
comp=Z,3µm,19.0s
ZON Zonda 43.93 259 P **P 17 49 30.4 -0.4**
ZON IAmb IAmb 17 49 37.2
comp=Z,66nm,1.7s
ZON Zonda 43.93 259 P **P 17 49 30.4 -0.4**
ZON pmax pmax
comp=Z,66nm,1.7s
LL01 San Ignacio de 43.99 243 P **P 17 49 31.2 +0.2**
LL01 IAmb IAmb 17 49 53.1
comp=Z,92nm,1.6s
LSZ Lusaka 44.00 74 P **P 17 49 30.0 -1.6**
LSZ IAMs_20 IAMs_20 18 04 23.6
comp=Z,3µm,18.0s
LSZ Lusaka 44.00 74 P **P 17 49 30.0 -1.6**
LSZ pmax pmax
comp=Z,27nm,1.1s
LSZ MLR MLR
comp=Z,3µm,18.0s
LSZ Lusaka 44.00 74 LR LR 18 05 05.8
comp=Z,1µm,18.9s,baz=242,slow=32
MT08 Bocatoma Ro 44.38 256 P **P 17 49 34.1 -0.5**
MT08 IAmb IAmb 17 49 40.3
comp=Z,64nm,1.4s
MT08 IAMs_20 IAMs_20 18 05 33.8
comp=Z,3µm,19.0s
LMEL Las Melosas 44.40 256 P **P 17 49 34.5 -0.1**
LMEL IAmb IAmb 17 49 40.2
comp=Z,60nm,1.4s
LMEL IAMs_20 IAMs_20 18 05 35.4
comp=Z,3µm,18.0s
MT13 San Alfonso 44.50 256 P **P 17 49 34.9 -0.5**
MT13 IAmb IAmb 17 49 50.7
comp=Z,94nm,1.7s
BO02 Sierra Bellavi 44.57 254 P **P 17 49 34.1 -1.8**
BO02 IAMs_20 IAMs_20 18 04 01.8
comp=Z,3µm,21.0s
BO04 La Punta 44.68 255 P **P 17 49 36.8 +0.1**
BO04 IAmb IAmb 17 49 41.6
comp=Z,78nm,1.5s
MT03 Universidad Ad 44.76 256 P **P 17 49 37.7 +0.2**
SIV San Ignacio 44.79 284 LR LR 18 06 33.6
comp=Z,4µm,19.0s,baz=128,slow=34
ML02 Panimavida 44.79 253 IAMs_20 IAMs_20 18 04 02.5
comp=Z,3µm,21.0s
BO01 Tunca 44.93 255 P **P 17 49 38.4 -0.3**
BO01 IAmb IAmb 17 49 43.3
comp=Z,59nm,1.3s
BO01 IAMs_20 IAMs_20 18 05 16.3
comp=Z,3µm,20.0s
MT05 Renca 44.97 256 P **P 17 49 39.2 +0.2**
PEL Peldehue 45.01 256 P **P 17 49 38.5 -0.9**
PEL Peldehue 45.01 256 P **P 17 49 38.5 -0.9**
PEL pmax pmax
comp=Z,224nm,2.0s
MT09 Talagante 45.05 255 P **P 17 49 39.4 -0.4**
MT09 IAmb IAmb 17 49 44.5
comp=Z,78nm,1.4s
MT01 Popeta 45.23 255 P **P 17 49 41.2 +0.1**
MT01 IAmb IAmb 17 49 45.6
comp=Z,96nm,1.6s
MT01 IAMs_20 IAMs_20 18 04 47.1
comp=Z,3µm,22.0s
GO05 Huala 45.41 253 P **P 17 49 42.4 -0.1**
GO05 IAmb IAmb 17 49 53.9
comp=Z,72nm,1.6s
GO05 IAMs_20 IAMs_20 18 04 21.9
comp=Z,3µm,22.0s
CO01 Juntas del Tor 45.63 261 P **P 17 49 44.1 -0.4**
CO01 IAmb IAmb 17 49 48.6
comp=Z,76nm,1.6s
CO03 El Pedregal 45.79 259 P **P 17 49 45.7 0.0**
CO03 IAmb IAmb 17 49 57.5
comp=Z,42nm,1.4s
VILB Vilhena 45.86 288 P **P 17 49 45.7 -0.6**
VILB IAmb IAmb 17 50 19.9
comp=Z,61nm,1.4s
GO04 Tololo Observa 46.12 260 P **P 17 49 48.4 0.0**
GO02 Mina Guanaco 47.15 267 P **P 17 49 55.5 -1.1**
AC01 Pan de Azucar 47.55 265 P **P 17 49 59.2 -0.3**
LVC Limon Verde 47.74 271 P **P 17 50 00.1 -1.3**
LVC Limon Verde 47.74 271 *e*P **P 17 50 00.1 -1.3**
LVC Limon Verde 47.74 271 LR LR 18 07 59.5
comp=Z,2µm,21.3s,baz=134,slow=33
PB15 IPOC Station P 47.93 269 P **P 17 50 01.6 -0.9**
PB15 IAmb IAmb 17 50 03.9
comp=Z,30nm,0.7s
PB14 IPOC Station P 48.05 267 P **P 17 50 03.2 -0.4**
PB14 IAmb IAmb 17 50 22.0
comp=Z,68nm,1.5s
PB06 IPOC Station P 48.24 270 P **P 17 50 04.1 -0.9**
PB06 PcP **PcP 17 51 30.5 -1.5**
PB09 IPOC Station P 48.40 271 P **P 17 50 05.4 -0.8**
PB09 IAmb IAmb 17 50 33.7
comp=Z,40nm,1.2s
PB04 IPOC Station P 48.88 270 P **P 17 50 08.9 -1.0**
PB07 IPOC Station P 48.96 271 P **P 17 50 10.0 -0.5**
PB01 IPOC Station P 48.96 272 P **P 17 50 09.7 -0.7**
PB01 IAmb IAmb 17 50 12.4
comp=Z,26nm,0.7s
PB08 IPOC Station P 49.13 273 P **P 17 50 11.4 -0.6**
PB08 PcP **PcP 17 51 36.5 +0.9**
PB02 IPOC Station P 49.16 271 P **P 17 50 11.2 -0.8**
GO01 Chusmiza 49.40 274 P **P 17 50 13.6 -0.7**

PATCX Punta Patache 49.61 272 P **P 17 50 15.0 -0.4**
TA01 Diego Aracena 49.76 272 P **P 17 50 15.8 -0.6**
TA01 IAmb IAmb 17 50 18.3
comp=Z,38nm,0.8s
TA02 Huaiquique 49.86 273 P **P 17 50 16.4 -0.8**
TA02 IAmb IAmb 17 50 30.0
comp=Z,70nm,1.3s
PB16 IPOC Station P 50.33 275 P **P 17 50 20.4 -1.0**
PB16 IAmb IAmb 17 50 23.1
comp=Z,38nm,1.1s
PB16 IAMs_20 IAMs_20 18 10 32.2
comp=Z,2µm,20.0s
SAML Samuel 50.62 290 P **P 17 50 22.3 -0.7**
SAML Samuel 50.62 290 P **P 17 50 22.3 -0.7**
SAML pmax pmax
comp=Z,11nm,0.9s
SAML MLR MLR
comp=Z,5µm,20.0s
SACV Santiago Islan 50.66 350 P **P 17 50 22.9 -0.2**
SACV IAmb IAmb 17 51 14.8
comp=Z,34nm,0.9s
PB18 Visviri 50.69 276 P **P 17 50 23.2 -0.9**
PB18 IAmb IAmb 17 51 02.3
comp=Z,77nm,1.5s
PB18 IAMs_20 IAMs_20 18 10 38.8
comp=Z,2µm,19.0s
KOWA Kowa 50.85 15 P **P 17 50 22.9 -1.6**
KOWA IAmb IAmb 17 50 33.0
comp=Z,28nm,1.2s
KOWA Kowa 50.85 15 LR LR 18 07 15.4
comp=Z,2µm,21.4s,baz=195,slow=31
PB12 IPOC Station P 50.85 274 P **P 17 50 24.2 -0.6**
PB12 IAmb IAmb 17 50 54.5
comp=Z,39nm,1.2s
TOA0 Torodi Ar. Sit 51.02 22 P **P 17 50 24.0 -1.9**
TORD Torodi Ar. Bea 51.02 22 P **P 17 50 21.3 -4.6**
TORD Torodi Ar. Bea 51.02 22 P **P 17 50 23.6 -2.3**
comp=Z,3.7nm,0.9s,baz=188,slow=5.6,SNR=12
TORD LR LR 18 07 23.2
comp=Z,4µm,20.9s,baz=186,slow=31
comp=Z,3.7nm,0.9s
ETMB Extrema 52.44 286 P **P 17 50 35.8 -0.8**
ETMB IAmb IAmb 17 50 38.4
comp=Z,20nm,0.9s
MACA Manacapuru-AM 52.53 297 P **P 17 50 35.9 -1.3**
MACA IAmb IAmb 17 50 39.3
comp=Z,19nm,0.8s
MACA IAMs_20 IAMs_20 18 10 21.1
comp=Z,3µm,22.0s
MDP Montagnes des 53.18 312 LR LR 18 11 55.6
comp=Z,3µm,18.3s,baz=141,slow=34
MAW Mawson 53.50 152 P **P 17 50 44.5 +0.8**
MAW Mawson 53.50 152 P **P 17 50 44.5 +0.8**
MAW pmax pmax
comp=Z,11nm,1.7s
MAW MLR MLR
comp=Z,400nm,20.0s
MAW Mawson 53.50 152 P **P 17 50 43.9 +0.3**
comp=Z,7.0nm,0.9s,baz=274,slow=10,SNR=6.8
MAW LR LR 18 08 56.4
comp=Z,2µm,20.8s,baz=277,slow=31
comp=Z,7.0nm,0.9s
QSPA South Pole Qui 54.84 180 P **P 17 50 55.2 +1.5**
comp=Z,6.0nm,0.8s,baz=216,slow=2.9,SNR=27
QSPA LR LR 18 11 59.6
comp=Z,1µm,18.0s,baz=198,slow=33
comp=Z,6.0nm,0.8s
MBAR Mbarara 55.32 62 P **P 17 50 56.1 -1.8**
MBAR Mbarara 55.32 62 *i* P **P 17 50 59.3 +1.4**
MBAR pmax pmax
comp=Z,38nm,1.2s
MBAR Mbarara 55.32 62 LR LR 18 11 39.0
comp=Z,1µm,20.6s,baz=204,slow=33
BOAV Boa Vista 56.30 302 P **P 17 51 04.1 -0.6**
BOAV IAmb IAmb 17 51 33.6
comp=Z,41nm,1.7s
ABPO Ambohimpanom 57.41 91 IAMs_20 IAMs_20 18 11 18.7
comp=Z,2µm,21.0s
CZSB Cruzeiro do Su 58.81 284 P **P 17 51 21.8 -0.7**
CZSB IAmb IAmb 17 51 37.0
comp=Z,40nm,1.2s
KIBK Kibwezi 59.59 69 P **P 17 51 26.9 -1.0**
KIBK IAmb IAmb 17 51 36.2
comp=Z,53nm,1.8s
KIBK IAMs_20 IAMs_20 18 12 16.3
comp=Z,2µm,22.0s
NNA Nana 59.69 277 P **P 17 51 28.5 -0.1**
NNA IAmb IAmb 17 53 22.1
comp=Z,47nm,1.3s
NNA Nana 59.69 277 IAMs_20 IAMs_20 18 15 22.4
comp=Z,2µm,22.0s
NNA Nana 59.69 277 P **P 17 51 28.5 -0.1**
NNA pmax pmax
comp=Z,47nm,1.3s
NNA MLR MLR
comp=Z,2µm,22.0s
NNA Nana 59.69 277 LR LR 18 17 23.2
comp=Z,1µm,18.1s,baz=142,slow=36
KMBO Kilima Mbogo 59.77 67 IAMs_20 IAMs_20 18 14 12.5
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 59.77 67 *i* P **P 17 51 29.4 0.0**
KMBO Kilima Mbogo 59.77 67 LR LR 18 14 24.9
comp=Z,2µm,20.5s,baz=224,slow=33
TAM Tamanrasset 61.28 22 P **P 17 51 37.3 -1.9**
TAM IAMs_20 IAMs_20 18 13 27.1
comp=Z,2µm,20.0s
TAM Tamanrasset 61.28 22 P **P 17 51 37.3 -1.9**
TAM pmax pmax
comp=Z,8.0nm,1.1s
TAM MLR MLR
comp=Z,2µm,20.0s
LODK Lodwar 61.42 62 P **P 17 51 38.6 -1.8**
BBGH Gun Hill 63.68 311 IAMs_20 IAMs_20 18 18 03.3
comp=Z,2µm,21.0s
ATAH Atahualpa 63.71 280 LR LR 18 19 23.2
comp=Z,3µm,21.4s,baz=156,slow=36
GRGR Grenville 64.22 309 P **P 17 51 58.9 -0.1**
PCRV Puerto La Cruz 64.73 305 LR LR 18 17 58.8
comp=Z,5µm,21.0s,slow=34
BOSC San Juan Bosco 66.16 284 P **P 17 52 11.0 -0.8**
MCRA Macar, Loja 66.59 282 P **P 17 52 13.6 -0.8**
COHC Cochancay 67.17 284 P **P 17 52 17.3 -0.8**
VNDA Vanda 67.33 179 LR LR 18 19 21.1
comp=Z,530nm,19.5s,baz=178,slow=34
SLOR San Lorenzo - 67.63 286 IAMs_20 IAMs_20 18 20 47.7
comp=Z,2µm,19.0s
PMOZ Porto Moniz, M 67.89 359 *e*LR LR 18 14 17.7
comp=Z,309nm,20.0s
ROSC El Rosal 67.95 293 LR LR 18 21 02.0
comp=Z,6µm,18.0s,baz=176,slow=35
SDV Santo Domingo 67.97 299 P **P 17 52 22.4 -0.9**
SDV IAmb IAmb 17 52 24.9
comp=Z,51nm,1.6s
SDV Santo Domingo 67.97 299 LR LR 18 20 59.0
comp=Z,3µm,18.4s,baz=135,slow=35
OTAV Otavalo 68.19 287 P **P 17 52 24.9 -0.2**
OTAV IAmb IAmb 17 54 36.8
comp=Z,21nm,1.0s
OTAV Otavalo 68.19 287 P **P 17 52 24.9 -0.2**
OTAV pmax pmax
comp=Z,21nm,1.0s
OTAV MLR MLR
comp=Z,5µm,22.0s
MDT Midelt 68.66 10 LR LR 18 18 39.6
comp=Z,808nm,20.6s,baz=204,slow=33
CASY Casey 70.60 160 P **P 17 52 39.5 +1.0**
CASY IAmb IAmb 17 53 04.1
comp=Z,16nm,1.1s
CASY Casey 70.60 160 IAMs_20 IAMs_20 18 18 56.7
comp=Z,1µm,21.0s
TEND Ethiopian Broa 71.21 60 *e*P P 17 52 52.2 +9.1
baz=65
TEND Ethiopian Broa 71.21 60 *e*S S 18 01 49.5 -11
baz=65
SJG San Juan 71.56 309 LR LR 18 22 40.0
comp=Z,561nm,21.2s,baz=126,slow=35
ATD Arta Tunnel 72.34 61 LR LR 18 21 17.8
comp=Z,41nm,20.4s,baz=212,slow=33
PFVI Vila Bisbo 72.46 6 *e*S **S 18 02 15.8 +1.9**
MORF Marmelete 72.64 6 *e*S **S 18 02 18.8 +2.7**
PBDV Barranco-do-Ve 72.64 6 *e*S **S 18 02 17.1 +1.0**
PBDV *e*SS **SS 18 07 01.6 +5.4**
PVAQ Vaqueiros 72.82 7 *e*S **S 18 02 17.3 -0.7**
PVAQ *e*SS **SS 18 07 02.1 +3.2**
PVAQ *e*LR LR 18 16 49.8
comp=Z,734nm,20.0s

PCVE Castro Verde 73.02 6 *e*S **S 18 02 22.7 +2.4**
PCVE *e*SS **SS 18 07 05.6 +3.7**
PNCL Nicolau / Gran 73.45 6 *e*S **S 18 02 24.9 -0.2**
PNCL *e*SS **SS 18 07 13.9 +5.5**
PBAR Barrancos 73.65 7 *e*S **S 18 02 28.6 +1.2**
PBAR *e*SS **SS 18 07 14.3 +2.8**
CART Cartagena 73.90 12 IAMs_20 IAMs_20 18 21 56.7
comp=Z,1µm,19.0s
PMAFR Mafra 74.23 5 *e*S **S 18 02 37.2 +3.3**
PMAFR *e*SS **SS 18 07 29.0 +8.7**
PESTR Estremoz 74.29 7 *e*S **S 18 02 35.3 +0.7**
PESTR *e*SS **SS 18 07 24.5 +3.3**
PMTG Montargil 74.43 6 *e*S **S 18 02 39.8 +3.7**
PMTG *e*SS **SS 18 07 29.8 +6.5**
KEST Kesra 74.53 21 P **P 17 53 01.6 -0.8**
KEST IAmb IAmb 17 53 15.5
comp=Z,21nm,1.1s
KEST Kesra 74.53 21 P **P 17 53 02.6 +0.3**
comp=Z,9.5nm,1.0s,baz=268,slow=11,SNR=4.0
KEST LR LR 18 22 33.7
comp=Z,3µm,20.7s,baz=154,slow=33
comp=Z,9.5nm,1.0s
PMRV Marv??o 74.86 7 *e*S **S 18 02 44.2 +3.2**
PMRV Marv??o 74.86 7 *e*LR LR 18 17 40.4
comp=Z,578nm,20.0s
PCAS Casmilo, Conde 75.38 6 *e*S **S 18 02 47.5 +0.8**
PCAS *e*SS **SS 18 07 39.2 +1.4**
ESDC Sonseca Array 75.49 9 P **P 17 53 07.1 -0.7**
ESDC Sonseca Array 75.49 9 P **P 17 53 06.8 -1.0**
comp=Z,1.5nm,1.0s,baz=191,slow=5.6,SNR=8.7
ESDC LR LR 18 23 41.3
comp=Z,504nm,18.9s,baz=180,slow=34
comp=Z,1.5nm,1.0s
SDDR Presa de Saban 75.51 306 IAMs_20 IAMs_20 18 23 18.9
comp=Z,1µm,21.0s
MTE Manteigas 75.81 6 *e*S **S 18 02 52.8 +1.2**
MTE *e*SS **SS 18 07 48.8 +4.4**
MTE Manteigas 75.81 6 *e*LR LR 18 18 16.5
comp=Z,694nm,18.0s
MVO Moncorvo 76.62 7 *e*S **S 18 03 02.0 +1.6**
MVO *e*SS **SS 18 08 00.5 +3.9**
MVO Moncorvo 76.62 7 *e*LR LR 18 18 31.1
comp=Z,450nm,20.0s
POLO Lamas de Olo 76.75 6 *e*S **S 18 03 04.2 +2.2**
POLO *e*SS **SS 18 08 02.3 +3.5**
PGAV Gavieira, Arco 77.30 6 *e*S **S 18 03 16.0 +8.1**
PGAV *e*SS **SS 18 08 09.7 +2.7**
PGAV Gavieira, Arco 77.30 6 *e*LR LR 18 18 23.7
comp=Z,611nm,22.0s
RPN Rapa Nui 77.56 246 LR LR 18 20 08.5
comp=Z,798nm,21.9s,baz=115,slow=30
SRBA San Rafael, Bu 77.62 291 IAMs_20 IAMs_20 18 25 40.3
comp=Z,2µm,20.0s
VAE Valguarnera 77.72 24 LR LR 18 24 37.1
comp=Z,799nm,19.8s,baz=168,slow=34
BATAN Batan 78.17 291 IAMs_20 IAMs_20 18 27 47.1
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 78.72 304 IAMs_20 IAMs_20 18 26 28.1
comp=Z,1µm,20.0s
IDI Anoyia 79.87 33 LR LR 18 26 01.8
comp=Z,343nm,21.6s,baz=198,slow=34
EIL Elat 80.40 43 LR LR 18 26 56.5
comp=Z,1µm,19.3s,baz=228,slow=34
GHAJ Ghor Haditha 81.99 42 IAMs_20 IAMs_20 18 29 11.2
comp=Z,1µm,18.0s
MMAI Mount Meron Ar 83.21 41 LR LR 18 30 32.5
comp=Z,689nm,18.1s,baz=184,slow=36
ASF Jabal al Asfar 83.38 43 LR LR 18 28 59.5
comp=Z,692nm,19.5s,baz=234,slow=34
TUE Stuetta 84.57 17 IAMs_20 IAMs_20 18 27 06.9
comp=Z,1µm,22.0s
FUORN Ofenpass-Fuorn 84.93 18 IAMs_20 IAMs_20 18 27 51.5
comp=Z,956nm,22.0s
DAVOX Davos/Dischmat 84.99 17 LR LR 18 29 09.8
comp=Z,689nm,19.1s,baz=241,slow=34
RDO Rodhopi 85.07 30 P **P 17 53 57.6 -1.7**
MTO3 Montecristo 85.41 291 IAMs_20 IAMs_20 18 33 01.8
comp=Z,1µm,19.0s
FETA Feichten 85.42 18 *e*pP pP 17 54 05.3 +2.1
comp=Z,8.6nm,1.1s
DAVA Damuels 85.46 17 *e*PcP **PcP 17 54 04.9 +0.6**
comp=Z,11nm,1.0s
ABTA Abfaltersbach 85.63 19 *e*PcP **PcP 17 54 05.4 +0.5**
comp=Z,12nm,1.1s
SQTA Sankt Quirin 85.73 18 *e*pP pP 17 54 07.0 +2.3
comp=Z,9.5nm,1.2s
RETA Reutte 85.86 18 *i* PcP **PcP 17 54 05.6 -0.3**
comp=Z,7.7nm,1.3s
WTTA Wattenberg 85.88 18 *i* PcP **PcP 17 54 05.7 -0.4**
comp=Z,10nm,1.1s
WATA Walderalm 85.93 18 *e*PcP **PcP 17 54 05.9 -0.4**
comp=Z,12nm,1.2s
SOR Soroa 86.07 301 IAMs_20 IAMs_20 18 29 44.0
comp=Z,2µm,22.0s
BFO Black Forest 86.08 16 P **P 17 54 04.2 0.0**
BFO IAMs_20 IAMs_20 18 27 09.0
comp=Z,1µm,22.0s
BFO Black Forest 86.08 16 P **P 17 54 04.2 0.0**
BFO pmax pmax
comp=Z,9.0nm,1.1s
BFO MLR MLR
comp=Z,1µm,22.0s
SOKA Soboth 86.26 21 *e*P **P 17 54 04.8 -0.4**
comp=Z,8.5nm,1.4s
LESA Schwarzleotal 86.30 19 *e*P **P 17 54 05.7 +0.4**
comp=Z,8.1nm,1.1s
060A Indiantown 87.08 306 IAMs_20 IAMs_20 18 30 12.5
comp=Z,1µm,20.0s
BR131 Keskin Array S 87.51 36 *i* P **P 17 54 14.1 +2.6**
BRTR Keskin Array B 87.51 36 P **P 17 54 10.2 -1.3**
BRTR Keskin Array B 87.51 36 P **P 17 54 10.2 -1.3**
BRTR Keskin Array B 87.51 36 P **P 17 54 13.3 +1.8**
comp=Z,1.8nm,1.1s,baz=192,slow=6.0,SNR=3.1
BRTR PP **PP 17 57 41.5 +4.6**
comp=Z,0.6nm,0.8s,baz=210,slow=8.3,SNR=1.8
BRTR LR LR 18 31 43.3
comp=Z,331nm,20.8s,baz=206,slow=35
CONA Conrad Observa 87.63 21 *e*P **P 17 54 11.7 -0.1**
comp=Z,8.4nm,1.4s
GERES GERESS Array B 87.87 19 LR LR 18 30 07.0
comp=Z,840nm,21.9s,baz=222,slow=33
CKRC Cesky Krumlov 88.01 19 *e*P **P 17 54 18.0 +4.5**
CKRC MLR MLR
comp=Z,800nm,19.1s
CKRC Cesky Krumlov 88.01 19 *e*P **P 17 54 18.0 +4.5**
CKRC AMS AMS 18 30 10.0
comp=Z,800nm,19.1s
KHC Kasperske Hory 88.10 19 *i* P **P 17 54 14.2 +0.2**
KHC pmax pmax
comp=Z,12nm,1.7s
KHC Kasperske Hory 88.10 19 *e*P **P 17 54 11.5 -2.5**
KHC AMS AMS 18 30 50.0
comp=Z,900nm,16.8s
TEIG Tepich 88.20 296 LR LR 18 33 37.3
comp=Z,7µm,19.8s,baz=230,slow=36
DWPF Disney Wildern 88.50 306 IAMs_20 IAMs_20 18 31 47.2
comp=Z,941nm,20.0s
ZVC Zvikov 88.55 19 AMS AMS 18 29 40.0
comp=Z,1µm,18.9s
TREC Trest 88.77 20 AMS AMS 18 29 50.0
comp=Z,900nm,18.2s
NKC Novy Kostel 88.83 18 AMS AMS 18 31 20.0
comp=Z,700nm,17.2s
MLR Muntele Rosu 88.89 28 LR LR 18 32 20.6
comp=Z,376nm,20.8s,baz=208,slow=34
VYHS Vyhne 89.03 22 *e*P **P 17 54 20.6 +2.3**
VRAC Vranov 89.09 20 LR LR 18 31 25.7
comp=Z,1µm,20.5s,baz=215,slow=34
GOPC GO Pecny, Ondr 89.14 19 AMS AMS 18 29 50.0
comp=Z,1µm,20.1s
PRU Pruhonice 89.14 19 AMS AMS 18 30 20.0
comp=Z,1µm,17.4s
PRA Prague 89.19 19 AMS AMS 18 30 00.0
comp=Z,1µm,24.5s
PVCC Panska Ves 89.64 19 AMS AMS 18 30 50.0
comp=Z,700nm,15.5s
DPC Dobruska-Polom 89.95 20 AMS AMS 18 31 10.0
comp=Z,800nm,18.2s
CLL Collm 89.96 18 *e*P **P 17 54 22.0 -0.6**
CLL *e*SKSac **S 18 05 06.0 -8.9**
CLL *e*S **ScS 18 05 29.0 +10**
CLL AMS AMS 18 32 00.0
comp=Z,500nm,18.4s
CLL Collm 89.96 18 *e*SS SS 18 11 14.0 +0.1
UPC Upice 90.01 20 AMS AMS 18 30 30.0
comp=Z,1µm,19.4s

OKC Ostrava-Krasne 90.02 21 AMS AMS 18 32 10.0
comp=Z,700nm,19.8s
656A Willston 90.06 307 IAMs_20 IAMs_20 18 35 34.4
comp=Z,1μm,19.0s
OSTC Ostas 90.11 20 AMS AMS 18 30 30.0
comp=Z,1μm,19.2s
SIRT Sirnak 90.38 42 P **P** **17 54 24.6 -0.4**
UOSS Minazif 90.66 60 IAMs_20 IAMs_20 18 32 32.9
comp=Z,1μm,21.0s
HAL Halifax 90.74 328 IAMs_20 IAMs_20 18 27 10.0
comp=Z,929nm,20.0s
GURO Guroymak-BITLI 90.91 42 P **P** **17 54 25.6 -2.0**
EKA Eskdalemuir Ar 91.02 7 P **P** **17 54 27.5 +0.1**
comp=Z,3.6nm,0.9s,baz=187,slow=4.1,SNR=4.1
comp=Z,3.6nm,0.9s
NHSC New Hope 91.05 311 IAMs_20 IAMs_20 18 24 31.2
comp=Z,769nm,20.0s
CNNC Cliffs of the 91.12 314 IAMs_20 IAMs_20 18 28 10.9
comp=Z,954nm,21.0s
WSAR Wadi Sarin 91.33 62 LR LR 18 34 38.9
comp=Z,606nm,18.1s,baz=228,slow=35
W59A Clinton 91.39 313 IAMs_20 IAMs_20 18 28 08.3
comp=Z,805nm,20.0s
255A Hazlehurst 91.71 309 IAMs_20 IAMs_20 18 29 09.8
comp=Z,1μm,20.0s
U59A Littleton 91.83 314 IAMs_20 IAMs_20 18 34 27.7
comp=Z,845nm,20.0s
L64A Middleborough 92.05 322 IAMs_20 IAMs_20 18 30 40.0
comp=Z,781nm,20.0s
TIGA Tifton 92.10 308 IAMs_20 IAMs_20 18 34 30.4
comp=Z,812nm,20.0s
T59A Double "B" Far 92.12 315 IAMs_20 IAMs_20 18 31 25.3
comp=Z,835nm,21.0s
V58A Windy Hill, Pi 92.22 313 IAMs_20 IAMs_20 18 28 43.2
comp=Z,789nm,21.0s
LMN Caledonia Moun 92.23 328 IAMs_20 IAMs_20 18 25 59.4
comp=Z,1μm,22.0s
M63A Gales Ferry 92.27 321 IAMs_20 IAMs_20 18 29 46.9
comp=Z,938nm,22.0s
W57A Gilead 92.31 312 IAMs_20 IAMs_20 18 39 24.7
comp=Z,780nm,20.0s
BRYW Bryant College 92.39 322 IAMs_20 IAMs_20 18 29 40.0
comp=Z,971nm,22.0s
P61A Hammonton 92.47 318 IAMs_20 IAMs_20 18 32 07.3
comp=Z,879nm,21.0s
154A Montrose 92.56 309 IAMs_20 IAMs_20 18 33 30.4
comp=Z,945nm,21.0s
UCCT U. Connecticut 92.65 321 IAMs_20 IAMs_20 18 29 55.9
comp=Z,838nm,21.0s
WSPT Westport, CT 92.76 320 IAMs_20 IAMs_20 18 30 22.0
comp=Z,812nm,20.0s
G65A Princeton 92.94 326 IAMs_20 IAMs_20 18 30 54.4
comp=Z,876nm,20.0s
PAL Palisades 92.95 320 IAMs_20 IAMs_20 18 31 28.9
comp=Z,824nm,21.0s
R58B Mineral 92.99 316 IAMs_20 IAMs_20 18 31 42.3
comp=Z,856nm,21.0s
352A Blakely 93.00 307 IAMs_20 IAMs_20 18 38 18.2
comp=Z,1μm,19.0s
T57A Hurt 93.12 314 IAMs_20 IAMs_20 18 35 44.0
comp=Z,767nm,19.0s
TRNY Table Rock, Ra 93.21 320 IAMs_20 IAMs_20 18 35 16.0
comp=Z,880nm,21.0s
KSCT Kent School, K 93.24 321 IAMs_20 IAMs_20 18 30 36.8
comp=Z,831nm,20.0s
K62A Royalston 93.29 322 IAMs_20 IAMs_20 18 30 07.8
comp=Z,915nm,21.0s
GOGA Godfrey 93.31 309 IAMs_20 IAMs_20 18 33 42.2
comp=Z,939nm,21.0s
U56A King 93.35 313 IAMs_20 IAMs_20 18 28 47.1
comp=Z,777nm,20.0s
L61B Northampton 93.36 322 IAMs_20 IAMs_20 18 30 19.6
comp=Z,864nm,21.0s
ODNJ Ogdensburg 93.37 320 IAMs_20 IAMs_20 18 35 40.2
comp=Z,737nm,20.0s
SOC Sochi 93.40 37 *e*P **P** **17 54 38.0 -0.7**
SOC *e* 17 58 24.2
SOC *e*PPP PPP 18 00 22.2
SOC *e*S **SKSac** **18 05 11.9 -0.9**
SOC *e*SS **SS** **18 12 05.5 +1.8**
SOC *e*SSS SSS 18 15 38.4
SOC MLR MLR
comp=Z,192nm,16.0s
WVL Waterville 93.44 325 IAMs_20 IAMs_20 18 30 16.6
comp=Z,975nm,21.0s
LUPA Lehigh Univers 93.44 319 IAMs_20 IAMs_20 18 30 37.0
comp=Z,920nm,22.0s
I63A Otisfield 93.49 324 IAMs_20 IAMs_20 18 30 36.1
comp=Z,762nm,20.0s
GNI Garni 93.53 42 LR LR 18 34 55.2
comp=Z,400nm,19.7s,baz=218,slow=34
MVL Millersville 93.55 318 IAMs_20 IAMs_20 18 33 08.9
comp=Z,785nm,21.0s
I62A Tamworth 93.73 323 IAMs_20 IAMs_20 18 30 53.4
comp=Z,832nm,20.0s
F64A Sherman 93.81 326 IAMs_20 IAMs_20 18 26 31.3
comp=Z,667nm,18.0s
BLA Blacksburg 93.95 314 IAMs_20 IAMs_20 18 29 24.0
comp=Z,778nm,21.0s
Y52A Lilburn 93.98 309 IAMs_20 IAMs_20 18 34 01.0
comp=Z,968nm,22.0s
BG3 Lake Jocassee 94.01 311 IAMs_20 IAMs_20 18 33 05.6
comp=Z,1μm,22.0s
TRY Troy 94.06 321 IAMs_20 IAMs_20 18 30 40.4
comp=Z,987nm,22.0s
P57A Homestead Farm 94.11 317 IAMs_20 IAMs_20 18 34 44.9
comp=Z,750nm,19.0s
250A Grady 94.20 307 IAMs_20 IAMs_20 18 37 55.9
comp=Z,938nm,19.0s
PQI Presque Isle 94.27 327 IAMs_20 IAMs_20 18 28 13.5
comp=Z,884nm,21.0s
KSPA Keystone Colle 94.32 319 IAMs_20 IAMs_20 18 32 54.4
comp=Z,1μm,22.0s
U54A Nelsons Funny 94.33 312 IAMs_20 IAMs_20 18 30 14.1
comp=Z,762nm,21.0s
G62A West of Eustis 94.34 325 IAMs_20 IAMs_20 18 30 53.4
comp=Z,797nm,20.0s
Z51A Franklin 94.34 308 IAMs_20 IAMs_20 18 35 14.5
comp=Z,790nm,20.0s
AKASG Malin Array Be 94.43 27 P **P** **17 54 43.5 +0.2**
comp=Z,0.2nm,0.3s,baz=222,slow=4.5,SNR=1.8
AKASG LR LR 18 37 45.1
comp=Z,155nm,18.0s,baz=206,slow=36
comp=Z,0.2nm,0.3s
AKBB Malin Array Si 94.43 27 *i*P **P** **17 54 44.1 +0.8**
F62A Pittston Farm, 94.58 325 IAMs_20 IAMs_20 18 30 50.7
comp=Z,852nm,21.0s
W52A Murphy 94.69 310 IAMs_20 IAMs_20 18 34 00.8
comp=Z,1μm,22.0s
KLNR Kaliningrad 94.83 20 *i*P **P** **17 54 46.5 +1.5**
KLNR pmax pmax
comp=Z,128nm,1.1s
S54A Dingess, Beckl 94.87 314 IAMs_20 IAMs_20 18 34 24.4
comp=Z,902nm,21.0s
X51A Calhoun 94.94 309 IAMs_20 IAMs_20 18 34 30.3
comp=Z,846nm,21.0s
J59A Piesco 95.02 321 IAMs_20 IAMs_20 18 31 20.6
comp=Z,993nm,22.0s
KBZ Khabaz 95.09 38 *i*P **P** **17 54 47.2 +0.7**
KBZ Khabaz 95.09 38 LR LR 18 38 37.7
comp=Z,356nm,18.4s,baz=212,slow=36
KIV Kislovodsk 95.14 38 *e*P **P** **17 54 49.5 +2.6**
KIV pmax pmax
comp=Z,9.0nm,1.0s
KVAR Kislovodsk Arr 95.15 38 LR LR 18 38 20.5
comp=Z,215nm,18.5s,baz=71,slow=36
MCWV Mont Chateau 95.27 316 IAMs_20 IAMs_20 18 35 52.6
comp=Z,754nm,20.0s
CPCT Cooper Cave 95.29 310 IAMs_20 IAMs_20 18 34 07.7
comp=Z,1μm,22.0s
LRAL Lakeview Retre 95.34 307 IAMs_20 IAMs_20 18 37 28.2
comp=Z,838nm,18.0s
J58A Remsen 95.34 321 IAMs_20 IAMs_20 18 36 36.3
comp=Z,851nm,21.0s
Y49A Blount Mountai 95.48 308 IAMs_20 IAMs_20 18 31 27.7
comp=Z,846nm,22.0s
K57A Scipio Center 95.54 320 IAMs_20 IAMs_20 18 32 18.7
comp=Z,931nm,21.0s
R53A Hurricane 95.60 314 IAMs_20 IAMs_20 18 34 45.7
comp=Z,932nm,20.0s
W50A Signal Mountai 95.63 310 IAMs_20 IAMs_20 18 34 41.6
comp=Z,856nm,21.0s
L56A Greenwood 95.69 319 IAMs_20 IAMs_20 18 34 06.5
comp=Z,861nm,21.0s
J57A Williamstown 95.75 320 IAMs_20 IAMs_20 18 32 04.0
comp=Z,922nm,22.0s
H01W2 Cape Leeuwin H 95.82 141 T T 19 42 20.9
baz=219,slow=75,SNR=58
H01W3 Cape Leeuwin H 95.84 141 T T 19 42 21.8
baz=219,slow=75,SNR=53
H01W1 Cape Leeuwin H 95.84 141 T T 19 42 27.3
baz=219,slow=75,SNR=58
O54A Avella 95.92 316 IAMs_20 IAMs_20 18 33 33.9
comp=Z,950nm,21.0s
SWET Sewanee 96.03 309 IAMs_20 IAMs_20 18 39 25.2
comp=Z,908nm,21.0s
P53A Whipple 96.04 315 IAMs_20 IAMs_20 18 43 00.1
comp=Z,752nm,20.0s
S51A Beattyville 96.13 312 IAMs_20 IAMs_20 18 39 27.8
comp=Z,846nm,20.0s
Z47A Carrollton 96.14 307 IAMs_20 IAMs_20 18 39 24.5
comp=Z,952nm,19.0s
X48A Hartselle 96.26 308 IAMs_20 IAMs_20 18 30 39.4
comp=Z,869nm,22.0s
MMNY Mt. Morris Dam 96.28 319 IAMs_20 IAMs_20 18 32 52.3
comp=Z,985nm,22.0s
O53A New Philadelph 96.44 315 IAMs_20 IAMs_20 18 36 40.7
comp=Z,856nm,21.0s
146A Union 96.45 306 IAMs_20 IAMs_20 18 36 06.6
comp=Z,1μm,22.0s
T50A Nancy 96.49 311 IAMs_20 IAMs_20 18 38 50.4
comp=Z,811nm,21.0s
P52A Corning 96.57 315 IAMs_20 IAMs_20 18 37 13.1
comp=Z,721nm,20.0s
N53A Lisbon 96.60 316 IAMs_20 IAMs_20 18 33 53.8
comp=Z,832nm,21.0s
J55A Hilton 96.60 319 IAMs_20 IAMs_20 18 33 01.7
comp=Z,824nm,21.0s
PECO Prince Edward 96.63 320 IAMs_20 IAMs_20 18 32 43.4
comp=Z,854nm,22.0s
O52A Adamsville 96.71 315 IAMs_20 IAMs_20 18 37 08.9
comp=Z,724nm,20.0s
U49A Red Boiling Sp 96.75 310 IAMs_20 IAMs_20 18 34 52.4
comp=Z,897nm,22.0s
CLTN Cedars of Leba 96.83 310 IAMs_20 IAMs_20 18 35 25.5
comp=Z,866nm,22.0s
344A Westbrook Farm 96.85 304 IAMs_20 IAMs_20 18 38 49.4
comp=Z,881nm,20.0s
V48A Smith Brothers 96.92 309 IAMs_20 IAMs_20 18 39 59.9
comp=Z,868nm,19.0s
M53A WI Miller and 96.93 317 IAMs_20 IAMs_20 18 33 42.5
comp=Z,771nm,22.0s
R50A Paris 96.99 312 IAMs_20 IAMs_20 18 31 45.5
comp=Z,810nm,22.0s
TRQ Mont Tremblant 97.00 323 IAMs_20 IAMs_20 18 33 12.9
comp=Z,744nm,20.0s
DELO Deloro Mine 97.36 320 IAMs_20 IAMs_20 18 33 02.6
comp=Z,1μm,22.0s
M52A Chesterland 97.38 316 IAMs_20 IAMs_20 18 34 07.5
comp=Z,736nm,21.0s
Y45A Yeager Farm, C 97.52 306 IAMs_20 IAMs_20 18 40 27.0
comp=Z,1μm,19.0s
N51A Ashland 97.55 315 IAMs_20 IAMs_20 18 37 23.0
comp=Z,691nm,20.0s
WVT Waverly 97.81 309 IAMs_20 IAMs_20 18 37 35.3
comp=Z,819nm,21.0s
OXF Oxford 97.83 307 IAMs_20 IAMs_20 18 34 21.1
comp=Z,1μm,22.0s
T47A Sharon Grove 97.88 310 IAMs_20 IAMs_20 18 35 38.2
comp=Z,928nm,21.0s
P49A Miami Univ. Ec 98.02 313 IAMs_20 IAMs_20 18 32 01.8
comp=Z,858nm,22.0s
143A Socs Landing, 98.06 304 IAMs_20 IAMs_20 18 37 42.3
comp=Z,1μm,21.0s
WCI Wyandotte Cave 98.15 311 IAMs_20 IAMs_20 18 35 00.3
comp=Z,883nm,21.0s
HFS Hagfors 98.23 14 LR LR 18 36 44.1
comp=Z,259nm,19.5s,baz=208,slow=34
M50A Fremont 98.25 315 IAMs_20 IAMs_20 18 37 43.5
comp=Z,846nm,20.0s
SADO Sadowa 98.33 320 IAMs_20 IAMs_20 18 33 19.3
comp=Z,693nm,19.0s
P48A Milroy 98.40 313 IAMs_20 IAMs_20 18 32 17.8
comp=Z,736nm,19.0s
MET Memphis--Engin 98.54 307 IAMs_20 IAMs_20 18 34 01.9
comp=Z,997nm,21.0s
NOA NORSAR Array B 98.59 13 LR LR 18 38 51.2
comp=Z,307nm,18.9s,baz=185,slow=35
UTMT University of 98.59 309 IAMs_20 IAMs_20 18 36 36.3
comp=Z,794nm,21.0s
N49A Columbus Grove 98.59 315 IAMs_20 IAMs_20 18 38 43.8
comp=Z,677nm,18.0s
GLAT Glass 98.82 308 IAMs_20 IAMs_20 18 36 54.2
comp=Z,767nm,22.0s
USIN University of 98.84 310 IAMs_20 IAMs_20 18 40 24.5
comp=Z,744nm,19.0s
LNXT Lenox 98.85 308 IAMs_20 IAMs_20 18 37 17.0
comp=Z,821nm,21.0s
BLO Bloomington 98.88 312 IAMs_20 IAMs_20 18 35 21.6
comp=Z,856nm,22.0s
K50A Casco 98.90 317 IAMs_20 IAMs_20 18 36 55.6
comp=Z,739nm,22.0s
NWAO Narrogin (SRO) 98.96 141 LR LR 18 30 01.7
comp=Z,1μm,21.8s,baz=220,slow=30
PEBM Pemiscott Bayo 99.09 308 IAMs_20 IAMs_20 18 37 34.5
comp=Z,932nm,22.0s
PVMO Portageville 99.17 308 IAMs_20 IAMs_20 18 37 15.5
comp=Z,857nm,22.0s
AAM Ann Arbor 99.17 316 IAMs_20 IAMs_20 18 37 55.1
comp=Z,726nm,20.0s
PARMO Parma 99.36 308 IAMs_20 IAMs_20 18 37 10.4
comp=Z,785nm,21.0s
L48A N Adams 99.39 315 IAMs_20 IAMs_20 18 38 29.8
comp=Z,777nm,19.0s
HKT Hockley 99.51 300 IAMs_20 IAMs_20 18 42 09.2
comp=Z,819nm,20.0s
HKT Hockley 99.51 300 *i*P **Pdif** **17 55 07.6 +0.9**
P46A Rosedale 99.57 312 IAMs_20 IAMs_20 18 32 36.9
comp=Z,869nm,20.0s
OLIL Olney 99.58 311 IAMs_20 IAMs_20 18 36 18.0
comp=Z,853nm,22.0s
SIUC Southern Illin 99.65 310 IAMs_20 IAMs_20 18 38 23.2
comp=Z,880nm,21.0s
S44A Carbondale 99.66 309 IAMs_20 IAMs_20 18 38 23.5
comp=Z,890nm,21.0s
VLDQ Val d'Or 99.74 323 IAMs_20 IAMs_20 18 34 59.7
comp=Z,832nm,19.0s
BORG Borgarnes 99.92 358 LR LR 18 34 21.6
comp=Z,203nm,18.3s,baz=169,slow=32
GEYT Alibeck 99.96 50 PP **PP** **17 59 15.9 +1.7**
comp=Z,4.0nm,1.1s,baz=224,slow=4.1,SNR=3.9
GEYT LR LR 18 41 09.5
comp=Z,767nm,18.5s,baz=252,slow=36
SFIN Lafayette 99.98 313 IAMs_20 IAMs_20 18 41 05.5
comp=Z,828nm,20.0s
SCHQ Schefferville 100.02 333 IAMs_20 IAMs_20 18 35 25.1
comp=Z,878nm,20.0s
SCHQ Schefferville 100.02 333 LR LR 18 35 43.5
comp=Z,525nm,18.2s,baz=140,slow=33
WHAR Wooly Hollow 100.19 306 IAMs_20 IAMs_20 18 42 08.6
comp=Z,785nm,18.0s
FCAR Ozark Folk Cen 100.43 307 IAMs_20 IAMs_20 18 33 11.0
comp=Z,714nm,21.0s
J47A Sunmer 100.43 316 IAMs_20 IAMs_20 18 38 32.3
comp=Z,843nm,20.0s
L46A Eue Claire 100.52 314 IAMs_20 IAMs_20 18 32 20.6
comp=Z,656nm,20.0s
FVM French Village 100.58 309 IAMs_20 IAMs_20 18 37 23.7
comp=Z,956nm,22.0s
MIAR Mount Ida 100.61 305 IAMs_20 IAMs_20 18 38 35.8
comp=Z,1μm,22.0s
O44A Mansfield 100.67 312 IAMs_20 IAMs_20 18 33 41.9
comp=Z,763nm,21.0s
Z38A Mt. Pleasant 100.82 303 IAMs_20 IAMs_20 18 40 09.5
comp=Z,837nm,20.0s
P43A Skaggs, Pawnee 101.00 311 IAMs_20 IAMs_20 18 38 01.8
comp=Z,770nm,20.0s
MGMO Mountain Grove 101.27 308 IAMs_20 IAMs_20 18 38 35.1
comp=Z,724nm,18.0s
HDIL Hopedale 101.42 312 IAMs_20 IAMs_20 18 32 13.6
comp=Z,699nm,21.0s
L44A Lake County Fo 101.56 314 IAMs_20 IAMs_20 18 38 30.5
comp=Z,760nm,21.0s
I45A Fountain 101.73 316 IAMs_20 IAMs_20 18 39 09.7
comp=Z,744nm,20.0s
X37A Clayton 101.84 304 IAMs_20 IAMs_20 18 40 11.5
comp=Z,1μm,22.0s
HHAR Hobbs 101.86 306 IAMs_20 IAMs_20 18 40 33.7
comp=Z,865nm,21.0s
R40A Maddies Statio 101.93 309 IAMs_20 IAMs_20 18 38 48.6
comp=Z,637nm,20.0s
G45A Suttons Bay 102.03 317 IAMs_20 IAMs_20 18 38 29.5
comp=Z,723nm,21.0s
E46A Sault Ste Mari 102.12 319 IAMs_20 IAMs_20 18 36 43.7
comp=Z,706nm,20.0s
K43A Burlington 102.13 314 IAMs_20 IAMs_20 18 32 02.4
comp=Z,714nm,22.0s
U38A Gravette 102.24 306 IAMs_20 IAMs_20 18 40 44.9
comp=Z,908nm,22.0s
S39A Bolivar 102.26 308 IAMs_20 IAMs_20 18 42 19.4
comp=Z,673nm,20.0s
N41A Harden Midland 102.46 311 IAMs_20 IAMs_20 18 33 01.3
comp=Z,872nm,22.0s
P40A Paris 102.51 310 IAMs_20 IAMs_20 18 38 34.9
comp=Z,823nm,20.0s
H43A Windswept, Lux 102.87 316 IAMs_20 IAMs_20 18 40 35.9
comp=Z,835nm,21.0s
I42A Draeger Farm, 103.18 315 IAMs_20 IAMs_20 18 32 28.2
comp=Z,779nm,21.0s
JFWS Jewell Farm 103.39 313 IAMs_20 IAMs_20 18 42 36.8
comp=Z,703nm,20.0s
L40A Anamosa 103.48 312 IAMs_20 IAMs_20 18 38 40.2
comp=Z,829nm,21.0s
E43A Lone Tree Farm 103.59 318 IAMs_20 IAMs_20 18 38 00.8
comp=Z,708nm,21.0s
OK033 Mehan 103.72 304 IAMs_20 IAMs_20 18 41 31.2
comp=Z,1μm,19.0s
T35A Sooner Cattle 103.92 305 IAMs_20 IAMs_20 18 42 45.4
comp=Z,945nm,20.0s
N38A Joes South For 103.98 310 IAMs_20 IAMs_20 18 39 06.7
comp=Z,869nm,22.0s
I40A Norwalk 104.18 314 IAMs_20 IAMs_20 18 45 07.6
comp=Z,709nm,19.0s
WMOK Wichita Mounta 104.26 302 IAMs_20 IAMs_20 18 41 55.5
comp=Z,905nm,22.0s
SCIA State Center 104.60 311 IAMs_20 IAMs_20 18 36 39.1
comp=Z,786nm,21.0s
G40A Rib Lake 104.74 315 IAMs_20 IAMs_20 18 34 19.3
comp=Z,611nm,20.0s
TXAR Lajitas Array 104.83 295 PP **PKiKP** **17 59 51.8 +5.8**
comp=Z,0.4nm,0.8s,baz=126,slow=13,SNR=3.8
R32A Long Quarter, 106.20 306 IAMs_20 IAMs_20 18 37 29.8
comp=Z,916nm,21.0s
SPMN Marine on St. 106.22 314 IAMs_20 IAMs_20 18 41 59.7
comp=Z,741nm,20.0s
L34A Svendsen Farm, 106.60 310 IAMs_20 IAMs_20 18 36 13.0
comp=Z,797nm,21.0s
TBI Tubuai 106.98 224 *e*S **Sdif** **18 07 32.3 -10**
TBI *e*SS **SS** **18 15 17.5 +5.6**
comp=Z,1μm,30.2s
comp=Z,3μm,28.5s
TBI Tubuai 106.98 224 *e*LR LR 18 30 59.2
comp=Z,15μm,25.0s
TBI *e*LR LR 18 31 12.0
comp=Z,4μm,27.2s
F36A Milaca 107.00 314 IAMs_20 IAMs_20 18 40 28.1
comp=Z,708nm,21.0s
EYMN Ely 107.00 317 IAMs_20 IAMs_20 18 46 13.0
comp=Z,638nm,20.0s
CBKS Cedar Bluff 107.09 306 IAMs_20 IAMs_20 18 42 17.3
comp=Z,1μm,22.0s
BGNE Belgrade 107.42 309 IAMs_20 IAMs_20 18 37 59.9
comp=Z,912nm,20.0s
EPT El Paso 108.19 296 IAMs_20 IAMs_20 18 36 55.0
comp=Z,561nm,19.0s
F33A 5 Mile Ranch, 108.62 313 IAMs_20 IAMs_20 18 44 11.1
comp=Z,658nm,19.0s
PSA00 Pilbara Seismi 109.38 136 IAMs_20 IAMs_20 18 36 48.3
comp=Z,932nm,20.0s
PSAA2 Pilbara Seismi 109.39 136 IAMs_20 IAMs_20 18 35 40.5
comp=Z,949nm,20.0s
PSAD1 Pilbara Seismi 109.46 136 IAMs_20 IAMs_20 18 39 12.5
comp=Z,896nm,20.0s
SUSD Miller 109.50 311 IAMs_20 IAMs_20 18 36 07.8
comp=Z,765nm,22.0s
MBWA Marble Bar 109.64 136 IAMs_20 IAMs_20 18 34 19.8
comp=Z,906nm,21.0s
OGNE Ogallala 109.70 307 IAMs_20 IAMs_20 18 46 37.3
comp=Z,765nm,18.0s
D32A Dogwood Acres, 109.72 314 IAMs_20 IAMs_20 18 44 13.1
comp=Z,837nm,20.0s
SDCO Great Sand Dun 110.46 302 IAMs_20 IAMs_20 18 45 54.7
comp=Z,894nm,19.0s
ULM Lac du Bonnet 110.66 317 IAMs_20 IAMs_20 18 41 55.9
comp=Z,673nm,20.0s
RPSI Rantau Prapat 111.52 103 IAMs_20 IAMs_20 18 41 57.5
comp=Z,822nm,21.0s
PPT2 Papeete2 111.52 228 *e*S Sdif 18 07 52.9 -28
PPT2 *e*SS **SS** **18 16 05.6 -7.9**
comp=Z,326nm,25.2s
comp=Z,804nm,26.0s
PPT2 Papeete2 111.52 228 *e*LR LR 18 33 08.3
comp=Z,2μm,31.2s
PPT2 *e*LR LR 18 33 25.3
comp=Z,1μm,33.0s
ISCO Idaho Springs 111.53 304 IAMs_20 IAMs_20 18 47 18.8
comp=Z,858nm,20.0s
MDND Maddock 111.59 314 IAMs_20 IAMs_20 18 37 52.8
comp=Z,634nm,22.0s
TAOE Nuku Hiva Isla 111.63 241 *e*LR LR 18 33 17.2
comp=Z,779nm,28.2s
PHWY Pilot Hill 112.14 306 IAMs_20 IAMs_20 18 43 20.8
comp=Z,764nm,21.0s
SMCO Snowmass 112.16 303 IAMs_20 IAMs_20 18 44 04.6
comp=Z,851nm,20.0s
N23A Red Feather La 112.27 305 IAMs_20 IAMs_20 18 45 20.4
comp=Z,815nm,20.0s
PMBI Palembang 112.60 111 IAMs_20 IAMs_20 18 36 00.9
comp=Z,730nm,22.0s
K22A Casper 113.46 306 IAMs_20 IAMs_20 18 42 02.9
comp=Z,756nm,20.0s
WUAZ Wupatki 113.55 298 IAMs_20 IAMs_20 18 40 07.0
comp=Z,569nm,20.0s
KULM Kulim 114.44 101 IAMs_20 IAMs_20 18 44 09.0
comp=Z,796nm,19.0s
ASAR Alice Springs 114.56 149 PKP **PKiKP** **18 00 03.9 -0.6**
comp=Z,0.4nm,0.9s,baz=217,slow=0.7,SNR=2.5
SRU San Rafael Swe 114.58 302 IAMs_20 IAMs_20 18 46 51.9
comp=Z,914nm,22.0s
U15A North Rim 114.63 298 IAMs_20 IAMs_20 18 47 54.5
comp=Z,723nm,18.0s
GUVIX Guadalupe Vict 114.81 293 IAMs_20 IAMs_20 18 51 57.5
comp=Z,838nm,22.0s
MYKOM Kota Tinggi 114.86 107 IAMs_20 IAMs_20 18 38 35.0
comp=Z,603nm,21.0s
ESJX Sierra Juarez 115.33 292 IAMs_20 IAMs_20 18 48 19.3
comp=Z,578nm,18.0s
BSUT Blindstream Ca 115.37 303 IAMs_20 IAMs_20 18 47 43.7
comp=Z,793nm,21.0s
BW06 Boulder Array 115.52 305 IAMs_20 IAMs_20 18 48 24.4
comp=Z,842nm,20.0s
MPU Maple Canyon 115.75 302 IAMs_20 IAMs_20 18 46 09.7
comp=Z,878nm,20.0s
NLU North Lily Min 116.03 302 IAMs_20 IAMs_20 18 45 44.1
comp=Z,884nm,21.0s
AHID Auburn Hatcher 116.55 305 IAMs_20 IAMs_20 18 50 31.7
comp=Z,777nm,19.0s
TPAW Teton Pass 116.75 306 IAMs_20 IAMs_20 18 44 23.0
comp=Z,826nm,20.0s
FLWY Flagg Ranch 116.83 306 IAMs_20 IAMs_20 18 42 55.9
comp=Z,773nm,19.0s
FXWY Fox Creek 116.86 306 IAMs_20 IAMs_20 18 45 09.9
comp=Z,728nm,19.0s
PRN Pahroc Range 117.05 298 IAMs_20 IAMs_20 18 45 56.4
comp=Z,856nm,21.0s
SPR3 Spring Creek 3 117.20 300 IAMs_20 IAMs_20 18 50 00.4
comp=Z,769nm,18.0s
YHL Hebgen Lake 117.46 307 IAMs_20 IAMs_20 18 49 07.6
comp=Z,737nm,19.0s
TPNV Topopah Spring 117.72 297 IAMs_20 IAMs_20 18 46 04.3
comp=Z,698nm,20.0s
WC4 Warramunga Arr 118.03 148 IAMs_20 IAMs_20 18 46 30.0
comp=Z,822nm,20.0s
WC3 Warramunga Arr 118.04 148 IAMs_20 IAMs_20 18 40 24.4
comp=Z,948nm,22.0s
WR1 Warramunga Arr 118.04 148 IAMs_20 IAMs_20 18 46 29.4
comp=Z,798nm,20.0s
WRA Warramunga Arr 118.04 148 PKP **PKPdf** **18 00 09.6 -1.6**
comp=Z,1.0nm,1.1s,baz=223,slow=2.0,SNR=3.8
SHL Shillong 118.06 77 IAMs_20 IAMs_20 18 44 12.3
comp=Z,936nm,22.0s
WR3 Warramunga Arr 118.06 148 IAMs_20 IAMs_20 18 46 40.8
comp=Z,816nm,20.0s
WB7 Warramunga Arr 118.15 148 IAMs_20 IAMs_20 18 45 53.2
comp=Z,720nm,19.0s
WB0 Warramunga Arr 118.22 148 IAMs_20 IAMs_20 18 44 53.1
comp=Z,741nm,20.0s
DLMT Dillon 118.58 307 IAMs_20 IAMs_20 18 49 54.2
comp=Z,794nm,20.0s
KURBB Kurchatov Arra 118.88 47 PKP **PKiKP** **18 00 11.9 +0.1**
comp=Z,0.2nm,0.2s,baz=245,slow=1.9,SNR=1.6
KURBB PP **PP** **18 01 33.2 +2.0**
comp=Z,0.7nm,0.6s,baz=260,slow=6.4,SNR=4.7
KURBB PKKPbc **PKKPbc** **18 10 28.5 +1.3**
comp=Z,0.2nm,0.3s,baz=77,slow=3.9,SNR=1.5

KURK	Kurchatov	118.97	46	PKIKP	PKiKP	18 00 11.9	0.0		
LSA	Lhasa	119.36	73	IAMs_20	IAMs_20	18 45 14.5			
	comp=Z,746nm,22.0s								
KSM	Kuching	119.65	111	IAMs_20	IAMs_20	18 40 14.7			
	comp=Z,551nm,22.0s								
MKAR	Makanchi Array	119.80	52	PKP	PKPdf	18 00 12.2	-1.5		
	comp=Z,0.1nm,0.4s,baz=270,slow=1.4,SNR=3.4								
CMAR	Chiang Mai Arr	120.31	88	PKP	PKPdf	18 00 15.5	0.0		
	comp=Z,0.1nm,0.3s,baz=238,slow=2.9,SNR=3.4								
PLID	Pearl Lake	120.71	306	IAMs_20	IAMs_20	18 47 10.7			
	comp=Z,871nm,22.0s								
BMO	Blue Mountains	121.50	305	IAMs_20	IAMs_20	18 47 49.6			
	comp=Z,762nm,20.0s								
WMQ	Urumqi	122.33	56	*e*PKPdf	PKPdf	18 00 18.4	-0.3		
WMQ				LR	LR				
	comp=Z,360nm,17.7s								
WMQ				LR	LR				
	comp=Z,440nm,25.3s								
WMQ				LR	LR				
	comp=Z,480nm,27.9s								
BKB	Balikpapan	122.69	119	IAMs_20	IAMs_20	18 46 05.8			
	comp=Z,630nm,19.0s								
G08A	Pilot Rock	122.75	305	IAMs_20	IAMs_20	18 53 52.7			
	comp=Z,686nm,20.0s								
DZM	Mont Dzumac	122.80	182	*e*LR	LR	18 38 22.9			
	comp=Z,1μm,23.1s								
ZALV	Zalesovo Beam	123.60	44	PP	PP	18 02 07.5	+4.2		
	comp=Z,0.5nm,0.5s,baz=260,slow=8.6,SNR=2.1								
YBH	Yreka Blue Hor	124.16	300	IAMs_20	IAMs_20	18 48 22.5			
	comp=Z,721nm,20.0s								
YKAW1	Yellowknife Wh	124.67	326	IAMs_20	IAMs_20	18 46 35.4			
	comp=Z,924nm,21.0s								
YKA	Yellowknife Ar	124.73	326	PKP	PKiKP	18 00 24.2	+1.3		
	comp=Z,0.2nm,0.5s,baz=92,slow=1.9,SNR=0.9								
PZH	PanZhiHua	126.39	81	PKP	PKPdf	18 00 26.2	-0.9		
KKM	Kota Kinabalu	127.08	112	IAMs_20	IAMs_20	18 47 24.6			
	comp=Z,635nm,22.0s								
TOLI2	Tolitoli	127.10	120	PKPdf	PKPdf	18 00 26.7	-2.0		
MYLDM	Lahad Datu	128.23	115	IAMs_20	IAMs_20	18 47 06.9			
	comp=Z,818nm,22.0s								
A36M	Sachs Harbour	129.29	338	IAMs_20	IAMs_20	18 48 48.4			
	comp=Z,711nm,21.0s								
QIZ	Qiongzhong	129.50	94	PKP	PKPdf	18 00 29.9	-3.1		
QIZ				PP	PP	18 02 44.3	+1.2		
QIZ				SS	SS	18 20 06.5	+0.6		
QIZ				LR	LR				
	comp=Z,260nm,19.4s								
QIZ				LR	LR				
	comp=Z,400nm,22.7s								
QIZ				LR	LR				
	comp=Z,360nm,22.7s								
CD2	Chengdu	129.79	77	PKP	PKPdf	18 00 32.2	-1.1		
XAN	Xi'an	134.97	75	*e*PKP	PKiKP	18 00 44.2	-0.3		
XAN				PP	PP	18 03 22.3	+4.1		
XAN				SS	SS	18 21 11.5	-0.9		
XAN				LR	LR				
	comp=Z,460nm,21.0s								
XAN				LR	LR				
	comp=Z,310nm,17.3s								
XAN				LR	LR				
	comp=Z,700nm,20.8s								
F28M	Old Crow	135.12	333	IAMs_20	IAMs_20	18 52 31.9			
	comp=Z,633nm,19.0s								
SONM	Songino Array	135.94	55	PKP	PKiKP	18 00 46.3	+0.1		
	comp=Z,0.6nm,0.8s,baz=204,slow=3.2,SNR=2.0								
ULN	Ulaanbaatar	136.38	55	IAMs_20	IAMs_20	19 00 43.1			
	comp=Z,440nm,21.0s								
HHC	Hu-ho-hao-te	138.67	66	*e*PKP	PKPdf	18 00 46.1	-3.6		
HHC				LR	LR				
	comp=Z,550nm,21.3s								
HHC				LR	LR				
	comp=Z,490nm,20.4s								
HHC				LR	LR				
	comp=Z,650nm,21.3s								
ILAR	Eielson Array	138.74	331	PKhKP	PKPpre	18 00 44.6			
	comp=Z,0.7nm,0.8s,baz=33,slow=3.5,SNR=4.7								
NJ2	Nanjing	142.30	82	*e*PKP	PKPdf	18 00 55.4	-1.0		
XLT	XiLinHaoTe	142.37	62	*e*PKP	PKPdf	18 00 57.6	+1.3		
XLT				LR	LR				
	comp=Z,45nm,23.8s								
XLT				LR	LR				
	comp=Z,150nm,24.7s								
XLT				LR	LR				
	comp=Z,480nm,22.5s								
HIA	Hailar	144.79	53	IAMs_20	IAMs_20	19 07 20.3			
	comp=Z,477nm,21.0s								
YAK	Yakutsk	145.65	28	PKPdf	PKPdf	18 01 00.3	-1.0		
YAK				IAMs_20	IAMs_20	19 05 38.5			
	comp=Z,418nm,21.0s								
YAK	Yakutsk	145.65	28	*e*PKIKP	PKPab	18 01 02.5	+0.6		
YAK				*e*		18 04 23.5			
YAK				*e*SS	SS	18 23 14.6	-0.6		
YAK				pmax	pmax				
	comp=Z,37nm,1.1s								
YAK				pmax	pmax				
	comp=E,6.0nm,1.8s								
YAK				pmax	pmax				
	comp=N,7.0nm,1.8s								
YAK				pmax	pmax				
	comp=Z,142nm,5.4s								
YAK				pmax	pmax				
	comp=N,105nm,5.4s								
YAK				pmax	pmax				
	comp=E,64nm,4.8s								
ZEA	Zeya	148.35	43	*e*PKP2	PKPbc	18 01 10.2	+0.6		
ZEA				pmax	pmax				
	comp=Z,10.0nm,2.3s								
ZEA				pmax	pmax				
	comp=Z,100nm,6.8s								
ZEA				MLR	MLR				
	comp=E,200nm,24.0s								
ZEA				MLR	MLR				
	comp=N,200nm,17.0s								
ZEA				MLR	MLR				
	comp=Z,300nm,20.0s								
HEH	HeiHe	149.50	49	*e*PKPbc	PKPbc	18 01 11.9	-0.7		
KSRS	Korea Array	150.76	75	PKPbc	PKPbc	18 01 15.9	-0.1		
	comp=Z,5.3nm,1.0s,baz=271,slow=1.4,SNR=7.7								
MDJ	Mudanjiang	152.04	60	PKPbc	PKPdf	18 01 10.8	-1.4		
MDJ				pPKP	pPKPdf	18 01 14.5	+0.2		
MDJ				PP	PP	18 05 00.1	-0.5		
MDJ				SS	SS	18 24 23.5	-5.0		
MDJ				AMB	AMB				
	comp=Z,140nm,4.6s								
MDJ				LR	LR				
	comp=Z,310nm,24.7s								
MDJ				LR	LR				
	comp=Z,320nm,21.1s								
MDJ				LR	LR				
	comp=Z,620nm,22.8s								
JNU	Nakatsue	152.35	85	PKPbc	PKiKP	18 01 20.5	+0.3		
	comp=Z,6.2nm,1.1s,baz=228,slow=12,SNR=1.4								
KLR	Kul'dur	152.49	50	PKPbc	PKiKP	18 01 20.1	+0.2		
	comp=Z,4.4nm,0.8s,baz=311,slow=3.7,SNR=7.0								
USA0B	Ussuriysk Arra	153.80	61	IAMs_20	IAMs_20	19 08 02.0			
	comp=Z,384nm,22.0s								
MA2	Magadan	154.25	16	IAMs_20	IAMs_20	19 17 41.7			
	comp=Z,531nm,21.0s								
MJAR	Matsushiro Arr	158.86	79	PKPab	PKPab	18 01 57.9	+0.1		
	comp=Z,0.7nm,0.5s,baz=285,slow=2.1,SNR=2.6								

*DMN **06** 17:44:20.7±1.0, 30.°53N×87.°08E, h10km, Error ellipse: s-maj=23.9km s-min=4.5km az=24.0*
*IDC **06** 17:44:21.2±0.7, 30.°06N×86.°96E, h0km, mb4.1/20, mbtmp4.1/21, ML3.7/1, Error ellipse: s-maj=21.5km s-min=14.0km az=48.0*
*NEIC **06** 17:44:22.2±1.6, 30.°02N±0.°10×86.°77E±0.°04, h10km±1km, mb4.4/47, Error ellipse: s-maj=17.0km s-min=3.3km az=18.0*
*NDI **06** 17:44:24.3±2.8, 30.°61N×87.°17E, h10km, ML3.6, mb4.4(NEIC)*

ISC 06 17:44:22.4±0.4, 29.°99N±0.°04×86.°74E±0.°04, h10km, n120, σ1§61/129, mb4.3/42, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUN	Gumba	2.20	200	*e*P	Pg	17 45 07.3	+2.6
	367nm,0.6s						
JIRN	Jiri	2.37	192	*e*P	Pg	17 45 09.4	+1.5
	122nm,0.4s						
KKN	Kakani	2.54	211	*e*P	Pg	17 45 11.7	+0.6
	73nm,0.3s						
PKI	Pulchoki	2.68	206	*e*P	Pg	17 45 13.8	0.0
	124nm,0.5s						
PKIN	Phulchoki	2.68	207	*e*P	Pg	17 45 14.0	+0.2
	239nm,0.6s						
GKN	Gorkha	2.70	224	*e*P	Pg	17 45 13.8	-0.5
TAPN	Taplejung	2.76	162	*e*P	Pb	17 45 13.0	+0.9
	175nm,0.8s						
DMN	Daman	2.77	212	*e*P	Pg	17 45 15.3	-0.3
RAMN	Ramite	3.03	182	*e*P	Pb	17 45 17.7	+1.1
	116nm,0.6s						
DANN	Dangsing	3.08	239	*e*P	Pb	17 45 18.8	+1.3
	104nm,0.5s						
GTK	Tadong	3.12	148	*e*P	Pb	17 45 17.8	-0.3
GTK				*e*S	Sg	17 46 01.2	-1.5
ODAN	Odare	3.17	169	*e*P	Pb	17 45 19.1	+0.1
	275nm,1.0s						
KOLN	Koldanda	3.53	232	*e*P	Pb	17 45 25.6	+0.4
	114nm,0.9s						
PYUN	Piuthan	3.79	241	*e*P	Pb	17 45 27.9	-1.6
	144nm,0.7s						
LSA	Lhasa	3.84	93	Pn	Pn	17 45 24.2	+2.1
LSA				Sn	Sn	17 46 06.3	-1.2
LSA	Lhasa	3.84	93	Pn	Pn	17 45 24.9	+2.9
LSA	Lhasa	3.84	93	Sn	Sn	17 46 10.9	+3.4
DHUB	DHUBRI	4.89	143	*e*P	Pn	17 45 41.1	+5.1
SHL	Shillong	6.33	133	Pn	Pn	17 45 55.3	-0.8
SHL				Sn	Sn	17 47 07.7	-1.0
SHL	Shillong	6.33	133	*e*P	Pn	17 45 57.4	+1.3
MOKO	MOKOCHONG	7.77	116	*e*P	Pn	17 46 16.8	+1.0
MOKO				*e*S	Sn	17 47 40.4	-3.6
MOKO				IAML		17 47 46.9	
	comp=E,67nm,0.7s						
KOHI	KOHIMA	7.78	121	*e*P	Pn	17 46 18.3	+2.4
KOHI				*e*S	Sn	17 47 40.6	-3.6
KOHI				IAML		17 47 51.0	
	comp=N,55nm,0.9s						
AZL	Aizawl	8.18	138	*e*P	Pn	17 46 24.9	+3.6
AZL				*e*S	Sn	17 47 55.0	+1.1
IMP	Imphal	8.21	127	*e*P	Pn	17 46 24.5	+2.8
SMLA	Simla	8.34	280	*e*P	Pn	17 46 29.2	+5.9
SMLA				*e*S	Sn	17 47 58.4	+0.9
SMLA				IAML		17 48 09.7	
	comp=N,22nm,0.6s						
SMLA				IAML		17 48 09.8	
	comp=E,24nm,0.8s						
GOMU	GeErMu	9.17	45	P	Pn	17 46 43.2	+8.0
GOMU				S	Sn	17 48 23.6	+4.9
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GOMU				LR	LR		
	comp=E,140nm,7.2s						
GOMU				LR	LR		
	comp=Z,140nm,10.4s						
DHRM	DHARAMSHALA	9.23	287	*e*P	Pn	17 46 41.7	+5.8
DHRM				*e*S	Sn	17 48 18.0	-1.9
TNCH	TengChong	11.56	112	*e*P	Pn	17 47 08.3	+0.6
TNCH				pP		17 47 17.6	
TNCH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MND	Mandalay	11.57	131	Pn	Pn	17 47 06.5	-1.3
NIL	Nilore	12.04	291	Pn	Pn	17 47 14.7	+0.6
KSH	Kashi	12.98	320	P	Pn	17 47 29.7	+2.6
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSH				LR	LR		
	comp=N,160nm,7.0s						
KSH				LR	LR		
	comp=E,230nm,11.3s						
KSH				LR	LR		
	comp=Z,190nm,10.7s						
PZH	PanZhiHua	13.67	101	P	Pn	17 47 38.2	+1.7
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
WMQ	Urumqi	13.83	3	*e*P	P	17 47 48.2	+1.2
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BOOM	Boomskoye usch	15.20	328	Pn	Pn	17 47 56.2	-1.1
BOOM				IAmb	IAmb	17 48 23.2	
	comp=Z,24nm,1.4s						
CRAI	Chiangrai	15.70	125	P	P	17 48 06.0	-1.9
CHTO	Chiang Mai	15.71	132	P	Pn	17 48 05.8	+1.8
CMAR	Chiang Mai Arr	15.97	133	P	Pn	17 48 08.6	+1.2
CMAR	Chiang Mai Arr	15.97	133	Pn	P	17 48 10.4	-0.5
	comp=Z,0.1nm,0.3s,baz=310,slow=11,SNR=13						
BTK	Batken	16.44	312	Pn	Pn	17 48 11.9	-1.4
BTK				IAmb	IAmb	17 48 19.7	
	comp=Z,11nm,0.7s						
MK31	Makanchi Array	17.13	350		Pn	17 48 22.0	0.0
MKAR	Makanchi Array	17.13	350	P	P	17 48 22.9	-0.7
MKAR	Makanchi Array	17.13	350	P	Pn	17 48 21.4	-0.6
	comp=Z,0.2nm,0.3s,baz=172,slow=13,SNR=5.5						
	comp=Z,1.1nm,0.7s						
MAKZ	Makanchi	17.20	349	P	P	17 48 23.4	-1.0
KK31	Karatay Array	18.43	320		P	17 48 36.5	-1.5
KKAR	Karatay Array	18.43	320		P	17 48 36.5	-1.5
KURBB	Kurchatov Arra	21.52	346	P	P	17 49 10.7	-0.7
	comp=Z,3.7nm,0.8s,baz=170,slow=9.5,SNR=8.2						
	comp=Z,3.7nm,0.8s						
KURK	Kurchatov	21.58	346	P	P	17 49 10.8	-1.4
KURK				IAmb	IAmb	17 49 19.2	
	comp=Z,9.1nm,1.0s						
HHC	Hu-ho-hao-te	22.87	55	*e*P	P	17 49 25.3	-0.9
HHC				pmax	pmax		
	comp=Z,25nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,5.5s						
SONM	Songino Array	23.37	35	P	P	17 49 30.1	-1.1
SONM	Songino Array	23.37	35	P	P	17 49 29.9	-1.4
	comp=Z,2.7nm,0.8s,baz=222,slow=11,SNR=12						
SONM				PcP	PcP	17 53 18.0	+0.2
	comp=Z,0.4nm,0.4s,baz=255,slow=2.6,SNR=2.5						
	comp=Z,2.7nm,0.8s						
ULN	Ulaanbaatar	23.72	36	P	P	17 49 33.2	-1.5
ULN				IAmb	IAmb	17 49 40.2	
	comp=Z,9.4nm,1.2s						
ZAA0	Zalesovo Array	23.98	357	P	P	17 49 35.9	-1.1
ZALV	Zalesovo Beam	23.98	357	P	P	17 49 35.9	-1.1
ZALV	Zalesovo Beam	23.98	357	P	P	17 49 36.4	-0.6
	comp=Z,1.0nm,0.6s,baz=200,slow=7.1,SNR=4.5						
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	25.95	337	P	P	17 49 56.1	+1.2
	comp=Z,0.8nm,0.6s,baz=142,slow=8.9,SNR=2.1						
	comp=Z,0.8nm,0.6s						
XLT	XiLinHaoTe	27.08	51	*e*P	P	17 50 06.3	+1.0
XLT				PP	PnPn	17 50 52.9	+4.9
XLT				PcP	PcP	17 53 33.2	+7.0
XLT				ScP	ScP	17 57 10.7	+4.1
XLT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,78nm,4.3s						
NJ2	Nanjing	27.55	77	*e*P	P	17 50 08.9	-0.6
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ABKAR	Akbulak array	27.98	321	P	P	17 50 13.2	0.0
ABKAR				IAmb	IAmb	17 50 20.6	
	comp=Z,4.2nm,1.2s						
ABKAR	Akbulak array	27.98	321	P	P	17 50 13.2	0.0
AKTO	Aktyubinsk	29.67	322	P	P	17 50 30.0	+1.7
	comp=Z,1.0nm,0.5s,baz=104,slow=10,SNR=1.9						
	comp=Z,1.0nm,0.5s						
ARU	Arti	33.03	331	P	P	17 50 58.6	+0.9
	comp=Z,2.0nm,0.5s,baz=102,slow=14,SNR=3.9						
	comp=Z,2.0nm,0.5s						
KSRS	Korea Array	34.84	67	P	P	17 51 12.0	-1.6
	comp=Z,1.3nm,0.7s,baz=259,slow=8.7,SNR=4.7						
	comp=Z,1.3nm,0.7s						
MDJ	Mudanjiang	36.65	54	P	P	17 51 26.1	-3.0
MDJ				pP	pP	17 51 29.1	-4.8
MDJ				S	S	17 57 10.1	-2.0
MDJ				sS	pS	17 57 17.4	0.0
MDJ				SS	SnSn	17 59 42.0	+0.1
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.3s						
MDJ				pmax	pmax		
	comp=Z,87nm,4.8s						
USRK	Ussuriysk Ar.	38.29	56	P	P	17 51 42.0	-1.1
	comp=Z,1.9nm,0.8s,baz=286,slow=7.3,SNR=2.0						
	comp=Z,1.9nm,0.8s						
TOLI2	Tolitoli	43.25	125	P	P	17 52 24.4	+0.2
TOLI2				IAmb	IAmb	17 52 28.8	
	comp=Z,4.5nm,0.8s						
AKASG	Malin Array Be	47.15	313	P	P	17 52 55.2	+0.4
	comp=Z,0.4nm,0.3s,baz=80,slow=6.9,SNR=8.2						
	comp=Z,0.4nm,0.3s						
BURAR	Bucovina Array	49.76	309	P	P	17 53 15.6	+0.5
FINES	FINESS Array B	50.18	327	P	P	17 53 18.5	+0.5
FINES	FINESS Array B	50.18	327	P	P	17 53 18.9	+0.9
	comp=Z,2.5nm,0.5s,baz=105,slow=8.4,SNR=28						
	comp=Z,2.5nm,0.5s						
KEV	Kevo	51.80	338	P	P	17 53 29.9	-0.2
KEV				IAmb	IAmb	17 53 44.2	
	comp=Z,16nm,1.5s						
ARCES	ARCESS Array B	52.24	337	P	P	17 53 33.0	-0.4
ARCES				IAmb	IAmb	17 53 35.2	
	comp=Z,5.9nm,1.1s						
ARCES	ARCESS Array B	52.24	337	P	P	17 53 34.0	+0.7
	comp=Z,2.4nm,0.8s,baz=109,slow=7.2,SNR=7.1						
ARCES				PcP	PcP	17 54 45.3	+0.6
	comp=Z,1.3nm,0.9s,baz=111,slow=4.9,SNR=1.9						
	comp=Z,2.4nm,0.8s						
FAKI	Fak Fak	54.40	119	P	P	17 53 48.4	-1.6
HFS	Hagfors	56.14	325	P	P	17 54 02.4	+0.5
	comp=Z,9.1nm,0.6s,baz=93,slow=8.9,SNR=23						
	comp=Z,9.1nm,0.6s						
BRG	Berggiesshubel	56.82	314	*e*P	P	17 54 08.6	+1.6
BRG				Amp		17 54 10.4	
	comp=Z,2.7nm,0.7s						
BRG	Berggiesshubel	56.82	314	*e*P	P	17 54 08.5	+1.6
BRG	Berggiesshubel	56.82	314	pmax	pmax		
	comp=Z,3.0nm,0.7s						
BRG	Berggiesshubel	56.82	314	MLR	MLR		
	comp=N,448nm,16.3s						
BRG	Berggiesshubel	56.82	314	MLR	MLR		
	comp=E,382nm,16.6s						
NC405	NORSAR Array S	57.07	326	P	P	17 54 08.9	+0.3
NC405				IAmb	IAmb	17 54 09.4	
	comp=Z,7.6nm,0.8s						
NC303	NORSAR Array S	57.23	326	P	P	17 54 08.5	-1.2
GERES	GERESS Array B	57.28	311	P	P	17 54 11.4	+1.0
GERES	GERESS Array B	57.28	311	P	P	17 54 11.4	+1.0
	comp=Z,1.4nm,0.7s,baz=69,slow=5.4,SNR=4.2						
	comp=Z,1.4nm,0.7s						
NB201	NORSAR Array S	57.28	326	P	P	17 54 09.5	-0.5
NB2	NORSAR Subarra	57.32	326	P	P	17 54 10.2	-0.1
	comp=Z,5.7nm,0.8s,baz=85,slow=7.4						
NOA	NORSAR Array B	57.32	326	P	P	17 54 10.4	0.0
	comp=Z,3.1nm,0.7s,baz=86,slow=7.1,SNR=16						
	comp=Z,3.1nm,0.7s						
NAO01	NORSAR Array S	57.49	326	P	P	17 54 11.5	0.0
NC204	NORSAR Array S	57.52	326	P	P	17 54 11.1	-0.7
WB0	Warramunga Arr	67.47	131	P	P	17 55 18.3	-0.4
WB0				IAmb	IAmb	17 55 30.8	
	comp=Z,5.2nm,1.4s						
WRA	Warramunga Arr	67.56	131	P	P	17 55 18.4	-0.9
WRA	Warramunga Arr	67.56	131	P	P	17 55 19.2	0.0
	comp=Z,1.1nm,0.9s,baz=326,slow=6.6,SNR=6.9						
	comp=Z,1.1nm,0.9s						
WB2	Warramunga Arr	67.56	131	P	P	17 55 18.9	-0.4
ASAR	Alice Springs	69.98	134	P	P	17 55 33.5	-0.9
ASAR	Alice Springs	69.98	134	P	P	17 55 34.7	+0.3
	comp=Z,1.6nm,0.8s,baz=314,slow=7.1,SNR=12						
	comp=Z,1.6nm,0.8s						
EUNU	Eureka	70.12	359	P	P	17 55 33.4	-1.1
EUNU				IAmb	IAmb	17 55 42.1	
	comp=Z,6.5nm,1.3s						
K20K	Telida	75.34	24	P	P	17 56 06.3	+0.6
K20K				IAmb	IAmb	17 56 15.4	
	comp=Z,6.8nm,1.1s						
BMAR	Burnt Mountain	75.56	18	P	P	17 56 07.1	+0.2
L19K	White Mountain	75.78	25	P	P	17 56 08.2	-0.1
CTAO	Charters Tower	75.88	123	P	P	17 56 08.4	-1.0
CAST	Castle Rocks	75.99	23	P	P	17 56 08.7	-0.8
CAST				IAmb	IAmb	17 56 51.7	
	comp=Z,4.0nm,1.2s						
NEA2	Nenana	76.21	22	P	P	17 56 09.9	-0.7
NEA2				IAmb	IAmb	17 56 11.1	
	comp=Z,2.2nm,0.7s						
N18K	Kilae Creek	76.31	27	P	P	17 56 11.9	+0.5
ILAR	Eielson Array	76.77	21	P	P	17 56 12.9	-0.9
	comp=Z,0.5nm,0.8s,baz=290,slow=4.7,SNR=5.3						
	comp=Z,0.5nm,0.8s						
RND	Reindeer	77.09	22	P	P	17 56 15.2	-0.5
RND				IAmb	IAmb	17 56 56.6	
	comp=Z,7.4nm,1.3s						
SKT	Skwentna	77.12	24	P	P	17 56 14.2	-1.6
SUA	Susitna One	77.74	24	P	P	17 56 18.6	-0.9
J26L	Joseph Creek	77.97	20	P	P	17 56 20.1	-0.6
J26L				IAmb	IAmb	17 56 59.8	
	comp=Z,6.2nm,1.4s						
SCRK	Sand Creek	78.23	20	P	P	17 56 21.5	-0.6
SCRK				IAmb	IAmb	17 56 22.8	
	comp=Z,1.5nm,0.8s						
SML	Sawmill	78.36	23	P	P	17 56 21.8	-1.1
SCM	Sheep Creek Mo	78.69	23	P	P	17 56 23.8	-0.9
TORD	Torodi Ar. Bea	79.32	279	P	P	17 56 28.8	-0.1
TORD				IAmb	IAmb	17 56 39.0	
	comp=Z,4.2nm,1.5s						
TORD	Torodi Ar. Bea	79.32	279	P	P	17 56 29.9	+1.1
	comp=Z,1.4nm,0.7s,baz=39,slow=5.9,SNR=5.7						
	comp=Z,1.4nm,0.7s						
I30M	Mount Dempster	79.39	17	P	P	17 56 27.4	-1.1
I30M				IAmb	IAmb	17 57 06.9	
	comp=Z,10nm,1.5s						
H31M	Peel River	79.42	16	P	P	17 56 27.4	-1.2
H31M				IAmb	IAmb	17 56 37.7	
	comp=Z,13nm,1.4s						
BCAR	Beaver Creek A	79.57	20	P	P	17 56 29.5	+0.1
K29M	Barlow Dome	80.19	18	P	P	17 56 31.4	-1.4
K29M				IAmb	IAmb	17 56 42.8	
	comp=Z,7.3nm,1.4s						
STKA	Stephens Creek	80.59	135	P	P	17 56 34.2	-1.0
	comp=Z,3.4nm,1.1s,baz=329,slow=5.9,SNR=2.4						
	comp=Z,3.4nm,1.1s						
BOSA	Boshof	82.69	231	P	P	17 56 45.2	-1.4
BOSA				IAmb	IAmb	17 57 29.3	
	comp=Z,9.9nm,1.4s						
BOSA	Boshof	82.69	231	P	P	17 56 48.5	+1.9
	comp=Z,3.0nm,0.7s,baz=315,slow=1.4,SNR=4.6						
	comp=Z,3.0nm,0.7s						
TXAR	Lajitas Array	120.18	11	PKP	PKPdf	18 03 14.0	-0.3
	comp=Z,0.1nm,0.4s,baz=48,slow=1.3,SNR=2.1						

*IDC **06** 18:00:10.2±1.9, 8.°01S×124.°12E, h0km, mb3.5/1, mbtmp3.8/4, ML3.6/3, MS3.1/4, Error ellipse: s-maj=66.9km s-min=27.7km az=72.0*
*DJA **06** 18:00:12.7±2.5, 8.°S±3.°×12.°4E±.°, h16km±24km, M4.1/7, mb4.4/7, MLv3.9/6*

**ISC 06 18:00:11.1±0.9, 8.°24S±

0.4nm,0.7s,baz=132,slow=7.0,SNR=3.1
0.4nm,0.7s

*IDC **06** 18:05:18.9±1.3,54°.56N×157°.06W,h0km,mb3.8/13, mbtmp3.8/16,ML3.6/3,MS4.1/6,Error ellipse: s-maj=31.0km s-min=19.6km az=154.0*
*NEIC **06** 18:05:20.3±1.9,54°.68N±0°.07×156°.92W±0°.07,h10km±2km, mb4.0/3,ML3.6/28,ML3.5(AEIC),Error ellipse: s-maj=12.9km s-min=6.1km az=159.0*
*AEIC **06** 18:05:23.3±2.0,54°.5N±0°.1×156°.76W±0°.09,h12km±7km, Error ellipse: s-maj=15.1km s-min=6.8km az=169.0*
ISC 06 18:05:20.9±0.8,54°.80N±0°.08×156°.93W±0°.05,h10km, n140,σ1°19/139,mb4.0/13,MS4.4/5,South of Alaska

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**1.27**	**35**		**Pn**	**18 05 44.8**	**+0.2**
CHIR	**Chirikof Islan**	**1.27**	**35**		**Sb**	**18 06 02.8**	**+1.6**
CNBA	**Chernabura Isl**	**1.54**	**272**		**Pn**	**18 05 47.0**	**-1.3**
CNBA					**Sn**	**18 06 06.0**	**-2.4**
CHGN	**Chignik**	**1.73**	**331**		**Pb**	**18 05 52.5**	**-0.2**
VNKR	**Veniaminof 5**	**1.86**	**313**		**Pb**	**18 05 54.7**	**-0.3**
VNWF	**Veniaminof 8**	**2.02**	**313**		**Pb**	**18 05 57.1**	**-0.7**
VNFG	**Fog Glacier, M**	**2.11**	**316**		**Pb**	**18 05 58.6**	**-0.6**
VNFG	**Fog Glacier, M**	**2.11**	**316**	IAML		18 06 58.9	
	comp=E,731nm,1.2s						
SDPT	**Sand Point**	**2.12**	**287**		**Pn**	**18 05 55.3**	**-1.0**
SDPT				IAML		18 07 13.1	
	comp=N,234nm,1.7s						
SDPT	**Sand Point**	**2.12**	**287**		**Sn**	**18 06 21.7**	**-0.9**
ANPK	**Aniakchak Peak**	**2.16**	**342**		**Pb**	**18 05 59.2**	**-0.9**
SII	**Sitkinak Islan**	**2.35**	**40**	Pn	**Pn**	**18 05 59.9**	**+0.4**
SII				IAML		18 06 19.4	
	comp=N,216nm,1.7s						
SII				IAML		18 06 52.2	
	comp=E,247nm,1.6s						
PS1A	**Pavlof South-1**	**2.84**	**285**		**Pn**	**18 06 06.3**	**+0.1**
PS1A					**Sn**	**18 06 41.1**	**+0.8**
PVV	**Pavlof Volcano**	**2.85**	**284**		**Pn**	**18 06 06.3**	**-0.1**
PVV					**Sn**	**18 06 39.9**	**-0.9**
PS4A	**Pavlof South-4**	**2.89**	**283**		**Pn**	**18 06 06.2**	**-0.7**
HAG	**Hague Volcano**	**2.91**	**282**		**Pn**	**18 06 07.4**	**+0.1**
HAG					**Sn**	**18 06 43.0**	**+0.7**
R18K	**Karluk**	**3.10**	**25**		**Pn**	**18 06 11.0**	**+1.2**
R18K				IAML		18 06 49.0	
	comp=N,123nm,0.6s						
R18K				IAML		18 06 55.7	
	comp=E,138nm,0.5s						
CNTC	**Contact Creek**	**3.52**	**9**		**Pn**	**18 06 17.7**	**+2.0**
FALS	**False Pass**	**3.75**	**274**		**Pn**	**18 06 18.7**	**-0.1**
KDAK	**Kodiak Island**	**3.85**	**37**	Pn	**Pn**	**18 06 20.4**	**+0.4**
KDAK				IAML		18 07 05.9	
	comp=E,63nm,2.8s						
KDAK				IAML		18 08 37.3	
	comp=E,65nm,3.7s						
KDAK	**Kodiak Island**	**3.85**	**37**	Pn	**Pn**	**18 06 20.5**	**+0.4**
	comp=E,3.0nm,0.3s,baz=234,slow=9.6,SNR=21						
KDAK				Sn	**Sn**	**18 07 03.6**	**-1.6**
	comp=E,2.5nm,0.3s,baz=284,slow=23,SNR=5.9						
	comp=E,7.3nm,0.3s						
ISLZ	**Isanotski Laza**	**3.93**	**272**		**Pn**	**18 06 20.9**	**-0.4**
SSLS	**Shishaldin Sou**	**4.10**	**272**		**Pn**	**18 06 23.7**	**+0.1**
Q19K	**Cape Douglas,**	**4.51**	**22**	Pn	**Pn**	**18 06 30.8**	**+1.5**
SYI	**Shuyak Island**	**4.56**	**31**	Pn	**Pn**	**18 06 30.8**	**+0.9**
SYI				IAML		18 08 14.7	
	comp=N,63nm,2.6s						
SYI				IAML		18 09 23.4	
	comp=E,70nm,2.2s						
WECS	**Westdahl Cape**	**4.57**	**270**		**Pn**	**18 06 29.9**	**-0.1**
P18K	**Big Mountain,**	**4.70**	**11**	Pn	**Pn**	**18 06 34.0**	**+2.2**
P18K				IAML		18 08 27.3	
	comp=E,41nm,3.4s						
P18K				IAML		18 08 37.5	
	comp=N,34nm,3.3s						
O18K	**Koktuh Hills**	**5.15**	**10**	Pn	**Pn**	**18 06 40.6**	**+2.6**
O18K				IAML		18 08 00.0	
	comp=E,45nm,3.2s						
O18K				IAML		18 09 33.7	
	comp=N,41nm,3.5s						
AKSA	**Akutan Strait**	**5.16**	**266**		**Pn**	**18 06 37.9**	**-0.2**
AKUT	**Akutan**	**5.20**	**266**	Pn	**Pn**	**18 06 38.2**	**-0.4**
P19K	**Oil Pt**	**5.26**	**21**	Pn	**Pn**	**18 06 41.6**	**+2.0**
ILSW	**Iliamna Southw**	**5.59**	**20**	Pn	**Pn**	**18 06 46.0**	**+1.9**
CNPM	**China Poot**	**5.66**	**31**	Pn	**Pn**	**18 06 46.1**	**+1.2**
UNV	**Unalaska Valle**	**5.69**	**264**	Pn	**Pn**	**18 06 44.6**	**-0.7**
MSW	**Makushin Switc**	**5.83**	**265**		**Pn**	**18 06 46.6**	**-0.7**
N18K	**Kilae Creek**	**5.92**	**5**	Pn	**Pn**	**18 06 50.8**	**+2.2**
BRLK	**Bradley Lake**	**5.96**	**31**	Pn	**Pn**	**18 06 49.2**	**+0.2**
RSO	**Redoubt South**	**6.10**	**20**	Pn	**Pn**	**18 06 53.5**	**+2.3**
N19K	**Bonanza Creek**	**6.17**	**11**	Pn	**Pn**	**18 06 54.5**	**+2.4**
SVW2	**Sparrevohn**	**6.36**	**6**	Pn	**Pn**	**18 06 56.3**	**+1.8**
SEW	**Seward**	**6.67**	**34**	Pn	**Pn**	**18 06 59.6**	**+0.9**
M19K	**Big River Lodg**	**7.25**	**10**	Pn	**Pn**	**18 07 08.9**	**+2.2**
RC01	**Rabbit Creek A**	**7.37**	**28**	Pn	**Pn**	**18 07 09.8**	**+1.3**
M20K	**Styx River**	**7.38**	**14**	Pn	**Pn**	**18 07 08.7**	**+0.1**
SUA	**Susitna One**	**7.44**	**24**		**Pn**	**18 07 10.2**	**+0.7**
L19K	**White Mountain**	**7.48**	**7**	Pn	**Pn**	**18 07 12.0**	**+2.0**
PWL	**Port Wells**	**7.61**	**34**		**Pn**	**18 07 11.9**	**+0.2**
SKT	**Skwentna**	**7.74**	**19**	Pn	**Pn**	**18 07 14.6**	**+1.2**
HIN	**Hinchinbrook I**	**7.92**	**41**	Pn	**Pn**	**18 07 17.1**	**+1.1**
CLES	**Cleveland East**	**7.93**	**261**	Pn	Pn	18 07 20.5	+4.4
PMR	**Palmer**	**7.96**	**28**	Pn	**Pn**	**18 07 17.6**	**+1.2**
KNK	**Knik Glacier**	**8.00**	**31**	Pn	**Pn**	**18 07 18.5**	**+1.5**
GLI	**Glacier Island**	**8.04**	**37**	Pn	**Pn**	**18 07 17.9**	**+0.4**
GHO	**Glory Hole Cre**	**8.16**	**28**	Pn	**Pn**	**18 07 19.4**	**+0.1**
FID	**Port Fidalgo**	**8.16**	**39**	Pn	**Pn**	**18 07 17.3**	**-2.0**
TTA	**Tatalina**	**8.17**	**3**	Pn	**Pn**	**18 07 20.3**	**+0.9**
EYAK	**Cordova Ski Ar**	**8.30**	**42**	Pn	**Pn**	**18 07 21.7**	**+0.5**
SML	**Sawmill**	**8.35**	**29**	Pn	**Pn**	**18 07 23.5**	**+1.6**
PPLA	**Purkeypile**	**8.48**	**15**	Pn	**Pn**	**18 07 24.4**	**+0.6**
KAIM	**Kayak Island**	**8.48**	**48**	Pn	**Pn**	**18 07 24.1**	**+0.4**
RAGM	**Ragged Mountai**	**8.63**	**45**	Pn	**Pn**	**18 07 25.7**	**-0.1**
SCM	**Sheep Creek Mo**	**8.67**	**32**	Pn	**Pn**	**18 07 26.9**	**+0.6**
DIV	**Divide**	**8.68**	**38**	Pn	**Pn**	**18 07 27.3**	**+0.9**
K20K	**Telida**	**8.71**	**9**	Pn	**Pn**	**18 07 28.6**	**+1.9**
HMT	**Hamilton**	**8.77**	**46**	Pn	**Pn**	**18 07 28.3**	**+0.7**
SUCK	**Suckling Hills**	**8.84**	**48**	Pn	**Pn**	**18 07 28.7**	**+0.2**
KLU	**Klutina**	**8.87**	**36**	Pn	**Pn**	**18 07 28.7**	**-0.3**
CAST	**Castle Rocks**	**8.99**	**14**	Pn	**Pn**	**18 07 31.9**	**+1.2**
BMRM	**Bremner River**	**9.01**	**42**	Pn	**Pn**	**18 07 30.6**	**-0.3**
BERG	**Berg Lake**	**9.04**	**46**	Pn	**Pn**	**18 07 32.6**	**+1.4**
M24K	**Tolsona, Glenn**	**9.23**	**33**	Pn	**Pn**	**18 07 34.4**	**+0.5**
SNH	**Sunshine Point**	**9.30**	**49**	Pn	**Pn**	**18 07 35.5**	**+0.7**
KTH	**Kantishna Hill**	**9.30**	**17**	Pn	**Pn**	**18 07 36.1**	**+1.1**
TRF	**Thorofare Moun**	**9.32**	**19**	Pn	**Pn**	**18 07 35.4**	**+0.2**
N25K	**Chitina, Valde**	**9.42**	**39**	Pn	**Pn**	**18 07 36.4**	**-0.1**
CRQM	**Cirque**	**9.47**	**45**	Pn	**Pn**	**18 07 38.9**	**+1.6**
J20K	**Nowinta River**	**9.51**	**7**	Pn	**Pn**	**18 07 39.7**	**+1.9**
RND	**Reindeer**	**9.57**	**22**	Pn	**Pn**	**18 07 39.0**	**+0.4**
TGL	**Tana Glacier**	**9.60**	**46**	Pn	**Pn**	**18 07 39.6**	**+0.6**
GLB	**Gilahina Butte**	**9.60**	**41**	Pn	**Pn**	**18 07 39.4**	**+0.3**
VRDI	**Verde Repeater**	**9.61**	**42**	Pn	**Pn**	**18 07 40.6**	**+1.3**
MESA	**MESA**	**9.69**	**50**	Pn	**Pn**	**18 07 40.4**	**+0.1**
BPAW	**Bear Paw Mtn.**	**9.80**	**15**	Pn	**Pn**	**18 07 42.5**	**+0.8**
MCK	**McKinley**	**9.84**	**21**	Pn	**Pn**	**18 07 42.4**	**+0.2**
YAH	**Yahtse**	**9.86**	**49**	Pn	**Pn**	**18 07 42.1**	**-0.6**
MCARA	**McCarthy VSAT**	**9.87**	**42**	Pn	**Pn**	**18 07 41.8**	**-0.8**
GRNC	**Granite Creek**	**10.04**	**48**	Pn	**Pn**	**18 07 44.4**	**-0.7**
PAX	**Paxson**	**10.10**	**31**	Pn	**Pn**	**18 07 46.5**	**+0.7**
BARN	**Barnard Glacie**	**10.24**	**46**	Pn	**Pn**	**18 07 47.3**	**-0.7**
LOGN	**Logan Glacier**	**10.40**	**48**	Pn	**Pn**	**18 07 51.0**	**+0.9**
PCA	**Pinnacle**	**10.42**	**53**	Pn	**Pn**	**18 07 50.6**	**+0.4**
M26K	**Nabesna, AK**	**10.51**	**38**	Pn	**Pn**	**18 07 51.1**	**-0.4**
NEA2	**Nenana**	**10.59**	**19**	Pn	**Pn**	**18 07 51.7**	**-0.7**
ATKA	**Atka Island**	**10.61**	**263**	Pn	**Pn**	**18 07 50.9**	**-1.8**
MLY	**Manley**	**10.72**	**14**	Pn	**Pn**	**18 07 53.6**	**-0.7**
HDA	**Harding Lake**	**10.87**	**24**	Pn	**Pn**	**18 07 55.6**	**-0.7**
RIDG	**Independent Ri**	**10.87**	**30**	Pn	**Pn**	**18 07 56.0**	**-0.4**
CCB	**Clear Creek Bu**	**10.88**	**21**	Pn	**Pn**	**18 07 56.9**	**+0.5**
M27K	**Edge Creek, AK**	**10.89**	**40**	Pn	**Pn**	**18 07 56.3**	**-0.4**
MDM	**Murphy Dome**	**11.07**	**20**	Pn	**Pn**	**18 07 58.4**	**-0.7**
H21K	**Melozitna Rive**	**11.08**	**9**	Pn	**Pn**	**18 08 00.6**	**+1.3**
IL31		**11.19**	**23**	Pn	**Pn**	**18 07 59.5**	**-1.1**
ILAR	**Eielson Array**	**11.19**	**23**	Pn	**Pn**	**18 08 00.2**	**-0.5**
ILAR	**Eielson Array**	**11.19**	**23**	Pn	**Pn**	**18 07 58.8**	**-1.9**
	comp=N,0.4nm,0.3s,baz=214,slow=13,SNR=15						
ILAR				Sn	**Sn**	**18 10 00.2**	**-5.5**
	baz=190,slow=26,SNR=2.5						
ILAR				LR	LR	18 13 10.7	
	comp=N,104nm,18.1s,baz=246,slow=41						
	comp=N,0.6nm,0.4s						
IL03	**Eielson Array**	**11.20**	**23**	Pn	**Pn**	**18 08 00.0**	**-0.8**
O29M	**Mount Kennedy**	**11.27**	**53**	Pn	**Pn**	**18 08 03.2**	**+1.3**
SCRK	**Sand Creek**	**11.30**	**30**	Pn	**Pn**	**18 08 01.9**	**-0.4**
IMAR	**Indian Mountai**	**11.33**	**7**	Pn	**Pn**	**18 08 04.4**	**+1.8**
J25K	**Salcha River,**	**11.42**	**26**	Pn	**Pn**	**18 08 04.9**	**+1.0**
P29M	**Windy Craggy**	**11.46**	**57**	Pn	**Pn**	**18 08 04.7**	**+0.4**
S31K	**Pelican**	**11.89**	**66**	Pn	**Pn**	**18 08 09.1**	**-1.1**
H24K	**Noodor Dome**	**11.93**	**18**	Pn	**Pn**	**18 08 09.8**	**-1.1**
ADK	**Adak**	**12.16**	**264**	Pn	**Pn**	**18 08 12.5**	**-1.4**
I26K	**Coal Creek Min**	**12.54**	**27**	Pn	**Pn**	**18 08 19.2**	**0.0**
S32K	**Kilisnoo**	**12.73**	**69**	Pn	**Pn**	**18 08 21.4**	**-0.4**
K29M	**Barlow Dome**	**13.37**	**40**	Pn	**Pn**	**18 08 31.8**	**+1.3**
J30M	**Hart River**	**14.21**	**38**	Pn	**Pn**	**18 08 44.1**	**+2.1**
H29M	**Whitestone**	**14.57**	**31**	Pn	**Pn**	**18 08 46.5**	**-0.3**
G29M	**Pine Creek**	**15.15**	**29**	Pn	**Pn**	**18 08 54.8**	**+0.2**
G29M				IAmb	IAmb	18 09 29.9	
	comp=Z,14nm,1.4s						
F28M	**Old Crow**	**15.17**	**25**	Pn	**Pn**	**18 08 56.2**	**+1.3**
F28M				IAmb	IAmb	18 09 05.0	
	comp=Z,5.9nm,0.8s						
INK	**Inuvik**	**17.36**	**30**		**Pn**	**18 09 21.6**	**-1.3**
INK				IAmb	IAmb	18 09 40.3	
	comp=Z,5.5nm,0.9s						
INK	**Inuvik**	**17.36**	**30**	Pn	**Pn**	**18 09 22.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=320,slow=6.2,SNR=1.9						
	comp=Z,1.9nm,0.7s						
PETK	**Petropavlovsk-**	**26.40**	**285**	P	**P**	**18 10 57.2**	**0.0**
	comp=Z,4.5nm,0.7s,baz=73,slow=12,SNR=7.9						
	comp=Z,4.5nm,0.7s						
TXAR	**Lajitas Array**	**45.59**	**102**	P	**P**	**18 13 41.5**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=297,slow=6.0,SNR=3.6						
	comp=Z,0.5nm,0.9s						
SFJD	**Kangerlussuaq**	**46.70**	**31**	LR	LR	18 33 31.8	
	comp=Z,478nm,21.8s,baz=164,slow=36						
JMIC	**Jan Mayen**	**52.51**	**12**	LR	LR	18 38 35.7	
	comp=Z,163nm,19.5s,baz=245,slow=38						
ARCES	**ARCESS Array B**	**55.96**	**359**	P	**P**	**18 14 59.9**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=20,slow=7.9,SNR=14						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**56.15**	**306**	P	**P**	**18 15 01.6**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=58,slow=6.8,SNR=4.0						
	comp=Z,0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**60.29**	**323**	P	**P**	**18 15 31.3**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=38,slow=7.3,SNR=1.9						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**64.08**	**358**	P	**P**	**18 15 54.8**	**+0.5**
	comp=Z,2.6nm,1.0s,baz=344,slow=6.3,SNR=3.8						
	comp=Z,2.6nm,1.0s						
NOA	**NORSAR Array B**	**64.12**	**6**	P	**P**	**18 15 54.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=344,slow=7.0,SNR=1.7						
	comp=Z,0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**65.21**	**325**	P	**P**	**18 16 02.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=18,slow=6.0,SNR=5.3						
	comp=Z,0.4nm,0.3s						
ARU	**Arti**	**65.42**	**339**	LR	LR	18 47 06.2	
	comp=Z,321nm,21.1s,baz=219,slow=38						
BVAR	**Borovoye Array**	**65.63**	**331**	P	**P**	**18 16 05.3**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=31,slow=6.9,SNR=6.9						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**67.12**	**320**	P	**P**	**18 16 14.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=46,slow=7.0,SNR=5.0						
	comp=Z,0.6nm,0.6s						
AKASG	**Malin Array Be**	**74.75**	**356**	P	**P**	**18 17 00.8**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=11,slow=6.1,SNR=1.9						
	comp=Z,0.3nm,0.4s						
MSVF	**Nonsavu**	**75.33**	**205**	LR	LR	18 44 25.4	
	comp=Z,274nm,21.2s,baz=170,slow=31						
SIJI	**Sorong**	**80.30**	**255**	LR	LR	18 47 43.4	
	comp=Z,185nm,21.5s,baz=194,slow=32						
CMAR	**Chiang Mai Arr**	**82.97**	**292**	P	**P**	**18 17 45.7**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=8.4,slow=5.3,SNR=4.9						
	comp=Z,0.6nm,0.6s						
ESDC	**Sonseca Array**	**83.09**	**21**	P	**P**	**18 17 47.4**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=337,slow=4.1,SNR=7.3						
	comp=Z,1.2nm,0.8s						

*JMA **06** 18:05:31.8±0.2,25°.N±1°.×122°.4E±0°.5,h48km±4km, MV2.2/10,TAIWAN REGION*
*TAP **06** 18:05:31.0,24°.82N×122°.34E,h21km,ML2.8,C*
ISC 06 18:05:30.8±1.0,24°.82N±0°.03×122°.38E±0°.02,h24km±10km, n89,σ0°85/129,2C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.40**	**298**	⇑*i*P	**Pb**	**18 05 39.2**	**-0.1**
	baz=301						
TWB1				S	**Sb**	**18 05 44.3**	**-0.9**
	baz=301						
EGS		**0.41**	**273**	*e*P	**Pb**	**18 05 39.2**	**-0.2**
	baz=269						
EOS2	**EOS2**	**0.42**	**198**	*e*P	**Pb**	**18 05 39.5**	**-0.2**
	baz=206						
EOS2				*e*S	**Sb**	**18 05 45.9**	**+0.3**
	baz=206						
TWC	**Suao**	**0.53**	**246**	P	**Pb**	**18 05 40.6**	**-0.8**
	baz=248						
TWC				*e*S	**Sb**	**18 05 48.6**	**0.0**
	baz=248						
SXI1	**Grass Mountain**	**0.53**	**301**	⇑P	**Pb**	**18 05 42.1**	**+0.5**
	baz=303						
SXI1				S	**Sb**	**18 05 49.4**	**+0.5**
	baz=303						
EOS3	**EOS3**	**0.54**	**186**	P	**Pb**	**18 05 41.6**	**+0.1**
	baz=185						
EOS3				*e*S	**Sb**	**18 05 50.1**	**+1.3**
	baz=185						
NWF	**Wu-fen Shan**	**0.59**	**295**	*e*P	**Pn**	**18 05 43.3**	**-0.6**
	baz=296						
NWF				S	**Sb**	**18 05 50.9**	**+0.1**
	baz=296						
WFSB	**Wu-fen Shan**	**0.59**	**295**	P	**Pn**	**18 05 43.5**	**-0.3**
	baz=296						
WFSB				*e*S	**Sb**	**18 05 50.7**	**0.0**
	baz=296						
NDS	**Dongshan**	**0.63**	**253**	*e*P	**Pb**	**18 05 42.8**	**-0.4**
	baz=247						
NDS				*e*S	**Sn**	**18 05 52.6**	**-1.0**
	baz=247						
JYNG	**Yonagunijimaku**	**0.64**	**125**	*i* P	**Pb**	**18 05 43.5**	**+0.2**
JYNG				S	**Sb**	**18 05 52.6**	**+0.8**
TNOU	**National Taiwa**	**0.64**	**301**	*e*P	**Pn**	**18 05 43.9**	**-0.5**
	baz=302						
TNOU				*e*S	**Sb**	**18 05 51.6**	**-0.3**
	baz=302						
EWUT	**Wuta**	**0.66**	**236**	P	**Pb**	**18 05 43.5**	**-0.2**
	baz=234						
EWUT				*e*S	**Sb**	**18 05 52.7**	**+0.2**
	baz=234						
YOJ	**Yonaguni jima**	**0.68**	**122**	P	**Pb**	**18 05 44.6**	**+0.5**
YOJ				S	**Sb**	**18 05 53.6**	**+0.6**
YOJ	**Yonaguni jima**	**0.68**	**122**	P	**Pb**	**18 05 44.2**	**+0.2**
	baz=120						
YOJ				*e*S	**Sb**	**18 05 53.0**	**-0.1**
	baz=120						
ENA	**Nanau**	**0.70**	**236**	*e*P	**Pb**	**18 05 44.0**	**-0.4**
	baz=234						
ENA				*e*S	**Sn**	**18 05 54.1**	**-1.2**
	baz=234						
EOS4	**EOS4**	**0.70**	**184**	*e*P	**Pb**	**18 05 44.6**	**+0.4**
	baz=171						
EOS4				*e*S	**Sn**	**18 05 54.4**	**-0.4**
	baz=171						
FUSB	**Fushanzhiwuyua**	**0.72**	**265**	P	**Pb**	**18 05 44.6**	**-0.2**
	baz=277						
FUSB				S	**Sb**	**18 05 54.5**	**+0.2**
	baz=277						
ENTT	**Nioudou**	**0.76**	**256**	*e*P	**Pb**	**18 05 45.3**	**-0.1**
	baz=244						
ENTT				*e*S	**Sn**	**18 05 55.8**	**-1.0**
	baz=244						
NHDH	**Xindian Distri**	**0.79**	**280**	*e*P	**Pn**	**18 05 46.7**	**+0.3**
	baz=281						
NWLT	**Wulai**	**0.80**	**267**	*e*P	**Pb**	**18 05 46.0**	**0.0**
	baz=267						
NWLT				*e*S	**Sb**	**18 05 56.5**	**+0.1**
	baz=267						
YM01	**YM01**	**0.80**	**294**	*e*P	**Pn**	**18 05 46.8**	**+0.1**
	baz=295						
YM01				*e*S	**Sn**	**18 05 57.7**	**-0.2**
	baz=295						
YM08	**YM08**	**0.80**	**297**	*e*P	**Pb**	**18 05 45.6**	**-0.5**
	baz=298						
NDT	**Datong Townshi**	**0.82**	**255**	*e*P	**Pn**	**18 05 46.6**	**-0.3**
	baz=244						
NDT				*e*S	**Sn**	**18 05 57.3**	**-0.9**
	baz=244						
TATO	**Taipei**	**0.82**	**281**	*e*P	**Pn**	**18 05 47.0**	**+0.1**
	baz=282						
TATO				*e*S	**Sn**	**18 05 57.5**	**-0.8**
	baz=282						
LATG	**Datong**	**0.82**	**250**	P	**Pb**	**18 05 46.5**	**-0.1**
	baz=237						
LATG				S	**Sb**	**18 05 57.4**	**+0.1**
	baz=237						
TWY	**Chenhua**	**0.84**	**303**	*e*P	**Pn**	**18 05 47.6**	**+0.4**
	baz=304						
TWY				*e*S	**Sn**	**18 05 58.9**	**+0.2**
	baz=304						
PCYT	**Pengchaiyu**	**0.85**	**341**	*e*P	**Pn**	**18 05 48.0**	**+0.6**
	baz=343						
ANP	**Anpu**	**0.86**	**295**	*e*P	**Pb**	**18 05 47.0**	**-0.2**
	baz=296						
NTST	**Danshui**	**0.91**	**292**	*e*P	**Pn**	**18 05 48.6**	**+0.5**
	baz=293						
TWS1	**Kuangyinshan**	**0.91**	**288**	*e*P	**Pn**	**18 05 50.0**	**+1.8**
	baz=289						
YHNB	**Yeheng**	**0.92**	**261**	P	**Pn**	**18 05 48.3**	**-0.1**
	baz=261						
YHNB				*e*S	**Sb**	**18 05 59.3**	**-0.9**
	baz=261						
NSK	**Sanguang**	**0.94**	**261**	*e*P	**Pb**	**18 05 47.9**	**-0.6**
	baz=269						
ETL	**Fush Village**	**0.95**	**226**	*e*P	**Pn**	**18 05 48.9**	**+0.1**
	baz=235						
ETL				*e*S	**Sn**	**18 06 02.2**	**+0.6**
	baz=235						
NACB	**Ninganchiao**	**0.96**	**228**	P	**Pb**	**18 05 48.1**	**-0.7**
	baz=235						
NACB				S	**Sb**	**18 06 00.2**	**-1.0**
	baz=235						
NNSB	**Datong**	**0.99**	**247**	P	**Pn**	**18 05 49.2**	**-0.2**
	baz=237						
NNSB				*e*S	**Sn**	**18 06 02.7**	**+0.1**
	baz=237						
NNSH	**Datong**	**0.99**	**247**	*e*P	**Pb**	**18 05 49.0**	**-0.4**
	baz=246						
NNS	**Nan Shan**	**0.99**	**248**	*e*P	**Pn**	**18 05 49.4**	**0.0**
	baz=238						
NNS				*e*S	**Sn**	**18 06 02.0**	**-0.6**
	baz=238						
ETLH	**Xiulin Townshi**	**1.02**	**233**	*e*P	**Pn**	**18 05 49.9**	**+0.1**
	baz=232						
ETLH				*e*S	**Sb**	**18 06 02.5**	**-0.4**
	baz=232						
TWD	**Chiawan**	**1.03**	**224**	*e*P	**Pn**	**18 05 50.8**	**+1.1**
	baz=230						
TWD				*e*S	**Sb**	**18 06 02.5**	**-0.5**
	baz=230						
NFF	**Wufeng Townshi**	**1.16**	**261**	*e*P	**Pb**	**18 05 52.2**	**0.0**
	baz=261						
ETM	**Tongmen**	**1.17**	**224**	*e*P	**Pb**	**18 05 52.5**	**0.0**
	baz=206						
ETM				*e*S	**Sn**	**18 06 09.5**	**+2.5**
	baz=206						
NJD	**Zhudong**	**1.18**	**266**	*e*P	**Pb**	**18 05 54.7**	**+2.2**
	baz=266						
FUSS	**Fushou**	**1.18**	**241**	*e*P	**Pb**	**18 05 53.0**	**+0.3**
	baz=241						
FUSS				*e*S	**Sn**	**18 06 08.0**	**+0.4**
	baz=241						
LXIB	**Xiulin Townshi**	**1.19**	**228**	P	**Pb**	**18 05 52.6**	**-0.1**
	baz=235						
LXIB				S	**Sn**	**18 06 09.2**	**+1.6**
	baz=235						
WHF	**Hehuan Shan**	**1.22**	**237**	*e*P	**Pb**	**18 05 53.5**	**0.0**
	baz=236						
WHF				S	**Sn**	**18 06 08.7**	**-0.1**
	baz=236						
TWT	**Tachien**	**1.23**	**243**	*e*P	**Pb**	**18 05 54.0**	**+0.4**
	baz=235						
LIOB	**Emei**	**1.25**	**262**	*e*P	**Pb**	**18 05 55.2**	**+1.5**
	baz=263						
NSTT	**Nanjuang**	**1.27**	**262**	*e*P	**Pb**	**18 05 55.4**	**+1.4**
	baz=262						
IRIF	**Iriomote-Funau**	**1.32**	**111**	P	**Pn**	**18 05 53.4**	**-0.4**
IRIF				*e*S	**Sn**	**18 06 10.3**	**-0.4**
CHGB	**Renai**	**1.33**	**236**	*e*P	**Pb**	**18 05 55.3**	**0.0**
	baz=235						
CHGB				*e*S	**Sb**	**18 06 12.4**	**+0.3**
	baz=235						
OWD	**Renai**

*TAP **06** 18:34:20.2, 24°.78N×122°.30E, h14km, ML3.4, C*
*JMA **06** 18:34:20.3±0.1, 24°.8N±0°.8×122°.4E±0°.3, h44km±2km, MV2.7/13, NW OFF ISHIGAKIJIMA IS*
ISC 06 18:34:19.7±1.0, **24°.79N**±0°.02×**122°.40E**±0°.02, **h19**km±3km, **n125**, g0°.83/183, **6C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS2	**EOS2** baz=192	**0.40**	**202**	⇑*i*P		**Pg**		**18 34 28.3**	**+0.3**
EOS2	baz=192			*i* S		**Sb**		**18 34 34.7**	**+0.8**
EGS	baz=280	**0.42**	**277**	*e*P		**Pg**		**18 34 27.7**	**-0.7**
EGS	baz=280			*e*S		**Sg**		**18 34 33.4**	**-1.0**
TWB1	**Santiao Chiao** baz=309	**0.43**	**300**	⇑*i*P		**Pg**		**18 34 28.0**	**-0.5**
TWB1	baz=309			*i* S		**Sg**		**18 34 33.0**	**-1.4**
EOS3	**EOS3** baz=186	**0.51**	**188**	*e*P		**Pg**		**18 34 30.4**	**+0.4**
TWC	**Suao** baz=253	**0.53**	**250**	P		**Pb**		**18 34 29.3**	**-1.0**
TWC	baz=253			*e*S		**Sb**		**18 34 35.2**	**-2.3**
SXI1	**Grass Mountain** baz=309	**0.56**	**303**	⇑*i*P		**Pb**		**18 34 30.8**	**0.0**
SXI1	baz=309			*i* S		**Sb**		**18 34 37.7**	**-0.7**
JYNG	**Yonagunijimaku**	**0.60**	**124**	P		**Pg**		**18 34 32.2**	**+0.5**
JYNG				S		**Sg**		**18 34 41.4**	**+1.5**
NWF	**Wu-fen Shan** baz=301	**0.62**	**297**	P		**Pb**		**18 34 32.3**	**+0.4**
NWF	baz=301			S		**Sb**		**18 34 40.4**	**+0.1**
WFSB	**Wu-fen Shan** baz=301	**0.62**	**297**	P		**Pg**		**18 34 32.4**	**+0.3**
WFSB	baz=301			S		**Sg**		**18 34 40.5**	**+0.1**
NDS	**Dongshan** baz=249	**0.64**	**256**	*e*P		**Pb**		**18 34 31.6**	**-0.5**
NDS	baz=249			*e*S		**Sb**		**18 34 39.4**	**-1.2**
YOJ	**Yonaguni jima**	**0.65**	**120**	P		**Pg**		**18 34 33.2**	**+0.6**
YOJ	**Yonaguni jima**	**0.65**	**120**	P		**Pg**		**18 34 33.0**	**+0.5**
YOJ				*e*S		**Sb**		**18 34 41.6**	**+0.6**
YOJ	**Yonaguni jima** baz=115	**0.65**	**120**	*e*P		**Pg**		**18 34 33.1**	**+0.5**
EWUT	**Wuta** baz=234	**0.66**	**238**	*e*P		**Pb**		**18 34 31.9**	**-0.6**
EWUT	baz=234			*e*S		**Sb**		**18 34 41.2**	**0.0**
TNOU	**National Taiwa** baz=307	**0.67**	**302**	⇑P		**Pb**		**18 34 32.7**	**0.0**
TNOU	baz=307			*e*S		**Sb**		**18 34 40.9**	**-0.5**
EOS4	**EOS4** baz=173	**0.67**	**186**	*e*P		**Pg**		**18 34 33.1**	**+0.3**
ENA	**Nanau** baz=234	**0.70**	**239**	*e*P		**Pb**		**18 34 32.3**	**-0.8**
ENA	baz=234			*e*S		**Sb**		**18 34 41.4**	**-1.0**
FUSB	**Fushanzhiwuyua** baz=268	**0.73**	**268**	P		**Pb**		**18 34 33.3**	**-0.6**
FUSB	baz=268			S		**Sb**		**18 34 43.1**	**-0.5**
TWA	**Mucha** baz=276	**0.76**	**284**	P		**Pb**		**18 34 34.6**	**+0.3**
TWA	baz=276			S		**Sb**		**18 34 44.1**	**-0.2**
ENTT	**Nioudou** baz=257	**0.77**	**259**	*e*P		**Pb**		**18 34 33.9**	**-0.5**
ENTT	baz=257			S		**Sb**		**18 34 44.3**	**-0.2**
NHY	**Taipei** baz=291	**0.79**	**288**	*e*P		**Pn**		**18 34 35.9**	**+0.2**
NHY	baz=291			S		**Sg**		**18 34 45.8**	**+0.1**
NHDH	**Xindian Distri** baz=276	**0.81**	**282**	⇓P		**Pg**		**18 34 35.6**	**+0.1**
NHDH	baz=276			*e*S		**Sb**		**18 34 46.1**	**+0.5**
NWLT	**Wulai** baz=269	**0.81**	**269**	*e*P		**Pb**		**18 34 35.3**	**+0.1**
NWLT	baz=269			*e*S		**Sb**		**18 34 44.7**	**-1.0**
NDT	**Datong Townshi** baz=264	**0.82**	**257**	*e*P		**Pb**		**18 34 35.2**	**-0.1**
NDT	baz=264			S		**Sb**		**18 34 46.0**	**-0.1**
YM01	**YM01** baz=299	**0.83**	**295**	P		**Pb**		**18 34 35.6**	**+0.2**
YM01	baz=299			S		**Sb**		**18 34 46.2**	**0.0**
YM08	**YM08** baz=302	**0.83**	**298**	*e*P		**Pb**		**18 34 35.3**	**-0.1**
YM08	baz=302			S		**Sb**		**18 34 45.7**	**-0.6**
LATG	**Datong** baz=244	**0.83**	**252**	*e*P		**Pb**		**18 34 35.1**	**-0.4**
LATG	baz=244			*e*S		**Sb**		**18 34 46.4**	**0.0**
TAP	**Taipei** baz=289	**0.84**	**287**	*e*P		**Pn**		**18 34 37.4**	**+0.9**
TAP	baz=289			*e*S		**Sb**		**18 34 46.9**	**+0.2**
TATO	**Taipei**	**0.84**	**283**	P		**Pg**		**18 34 36.6**	**+0.4**
TATO	**Taipei** baz=275	**0.84**	**283**	P		**Pg**		**18 34 36.3**	**+0.1**
TATO	baz=275			S		**Sb**		**18 34 46.8**	**+0.1**
TWY	**Chenhua** baz=308	**0.87**	**304**	*e*P		**Pb**		**18 34 36.5**	**+0.4**
TWY	baz=308			S		**Sb**		**18 34 47.9**	**+0.6**
PCYT	**Pengchaiyu** baz=347	**0.88**	**341**	*e*P		**Pb**		**18 34 36.8**	**+0.4**
ANP	**Anpu** baz=300	**0.89**	**296**	*e*P		**Pb**		**18 34 36.9**	**+0.4**
NTST	**Danshui** baz=307	**0.94**	**294**	*e*P		**Pg**		**18 34 39.0**	**+1.1**
NTST	baz=307			*e*S		**Sg**		**18 34 50.1**	**-0.1**
YHNB	**Yeheng**	**0.94**	**263**	P		**Pb**		**18 34 37.0**	**-0.3**
YHNB	**Yeheng** baz=262	**0.94**	**263**	*e*P		**Pb**		**18 34 37.0**	**-0.3**
YHNB	baz=262			*e*S		**Sb**		**18 34 48.5**	**-0.9**
TWS1	**Kuangyinshan** baz=291	**0.94**	**289**	*e*P		**Pg**		**18 34 39.2**	**+1.2**
TWS1	baz=291			S		**Sb**		**18 34 50.0**	**+0.6**
ETL	**Fush Village** baz=234	**0.94**	**228**	*e*P		**Pb**		**18 34 37.5**	**0.0**
ETL	baz=234			*e*S		**Sb**		**18 34 50.0**	**+0.4**
NSK	**Sanguang** baz=273	**0.95**	**263**	*e*P		**Pb**		**18 34 36.7**	**-0.8**
NACB	**Ninganchiao**	**0.95**	**230**	P		**Pb**		**18 34 37.1**	**-0.5**
NACB	**Ninganchiao** baz=236	**0.95**	**230**	⇑P		**Pb**		**18 34 36.9**	**-0.7**
NACB	baz=236			S		**Sb**		**18 34 48.5**	**-1.4**
NNSB	**Datong** baz=247	**0.99**	**249**	P		**Pb**		**18 34 37.8**	**-0.5**
NNSB	baz=247			S		**Sb**		**18 34 50.3**	**-0.7**
NNSH	**Datong** baz=237	**0.99**	**249**	*e*P		**Pb**		**18 34 38.2**	**0.0**
NNSH	baz=237			*e*S		**Sb**		**18 34 51.1**	**+0.1**
NNS	**Nan Shan** baz=236	**0.99**	**250**	*e*P		**Pb**		**18 34 38.4**	**0.0**
NNS	baz=236			*e*S		**Sb**		**18 34 51.1**	**0.0**
ETLH	**Xiulin Townshi** baz=232	**1.02**	**235**	*e*P		**Pb**		**18 34 38.2**	**-0.5**
ETLH	baz=232			*e*S		**Sb**		**18 34 50.7**	**-1.0**
TWD	**Chiawan** baz=230	**1.02**	**226**	*e*P		**Pb**		**18 34 38.6**	**-0.1**
TWD	baz=230			*e*S		**Sb**		**18 34 51.0**	**-0.7**
HWA	**Hwalien** baz=224	**1.09**	**222**	*e*P		**Pg**		**18 34 41.2**	**+0.5**
NCUH	**Zhongli** baz=281	**1.11**	**279**	*e*P		**Pg**		**18 34 42.3**	**+1.0**
ETM	**Tongmen** baz=203	**1.16**	**225**	*e*P		**Pn**		**18 34 41.2**	**+0.2**
NFF	**Wufeng Townshi** baz=262	**1.17**	**262**	*e*P		**Pg**		**18 34 43.6**	**+1.1**
LXIB	**Xiulin Townshi** baz=236	**1.18**	**230**	⇓*e*P		**Pn**		**18 34 41.0**	**-0.3**
LXIB	baz=236			*e*S		**Sg**		**18 34 57.9**	**-0.2**
FUSS	**Fushou** baz=241	**1.18**	**243**	*e*P		**Pn**		**18 34 41.7**	**+0.4**
FUSS	baz=241			*e*S		**Sb**		**18 34 56.6**	**0.0**
NJD	**Zhudong** baz=268	**1.19**	**268**	*e*P		**Pg**		**18 34 43.3**	**+0.6**
NJD	baz=268			*e*S		**Sg**		**18 34 58.8**	**+0.5**
WHF	**Hehuan Shan** baz=235	**1.22**	**238**	*e*P		**Pb**		**18 34 42.5**	**+0.2**
TWT	**Tachien** baz=242	**1.23**	**244**	*e*P		**Pb**		**18 34 43.2**	**+0.7**
TDCB	**Techi** baz=243	**1.25**	**245**	*e*P		**Pb**		**18 34 43.1**	**+0.4**
TDCB	baz=243			S		**Sn**		**18 34 58.9**	**+0.3**
HSN1	**Hsinchu** baz=289	**1.25**	**270**	*e*P		**Pg**		**18 34 44.6**	**+0.7**
LIOB	**Emei** baz=254	**1.26**	**264**	*e*P		**Pg**		**18 34 44.5**	**+0.4**
LIOB	baz=254			*e*S		**Sg**		**18 35 00.7**	**0.0**
NSTT	**Nanjuang** baz=263	**1.28**	**263**	*e*P		**Pg**		**18 34 44.2**	**-0.2**
NSTT	baz=263			*e*S		**Sb**		**18 35 00.2**	**+1.1**
SBCB	**Hsinchu** baz=289	**1.28**	**270**	*e*P		**Pg**		**18 34 44.3**	**-0.2**
IRIF	**Iriomote-Funau**	**1.30**	**110**	P		**Pn**		**18 34 42.0**	**-0.7**
IRIF				*e*S		**Sn**		**18 34 57.9**	**-1.7**
CHGB	**Renai** baz=235	**1.33**	**237**	⇓P		**Pb**		**18 34 44.6**	**+0.4**
CHGB	baz=235			S		**Sb**		**18 35 01.3**	**+0.4**
TEGC	**Jichi Village** baz=194	**1.33**	**216**	*e*P		**Pg**		**18 34 46.6**	**+1.2**
OWD	**Renai** baz=230	**1.39**	**233**	*e*P		**Pb**		**18 34 45.4**	**+0.3**
WARBT	**Fenglin Townsh** baz=200	**1.41**	**221**	*e*P		**Pb**		**18 34 45.6**	**+0.2**
WARBT	baz=200			*e*S		**Sb**		**18 35 03.5**	**+0.4**
WUSB	**Renai** baz=242	**1.41**	**236**	P		**Pb**		**18 34 45.6**	**+0.2**
WUSB	baz=242			S		**Sb**		**18 35 03.0**	**-0.1**
WHP	**Taichung City** baz=248	**1.42**	**249**	*e*P		**Pb**		**18 34 46.4**	**+0.8**
WHP	baz=248			*e*S		**Sb**		**18 35 03.1**	**-0.1**
HATJ	**Hateruma jima**	**1.48**	**119**	*e*S		**Sn**		**18 35 02.8**	**-1.3**
NMLH	**Miaoli** baz=277	**1.48**	**260**	*e*P		**Pg**		**18 34 48.0**	**-0.2**
WPL	**Puli Township** baz=238	**1.52**	**240**	*e*P		**Pg**		**18 34 48.5**	**-0.6**
WPL	baz=238			*e*S		**Sb**		**18 35 06.7**	**+0.4**
NSY	**Sanyi** baz=256	**1.53**	**256**	*e*P		**Pg**		**18 34 50.0**	**+0.7**
NSY	baz=256			*e*S		**Sg**		**18 35 10.1**	**+0.8**
DPDB	**Guoxing** baz=238	**1.54**	**241**	*e*P		**Pb**		**18 34 48.6**	**+1.0**
WCS	**Beigang Elemen** baz=239	**1.54**	**242**	*e*P		**Pg**		**18 34 49.0**	**-0.3**
TWQ1	**Liyutan** baz=251	**1.54**	**254**	*e*P		**Pg**		**18 34 50.0**	**+0.6**
VWDT	**VWDT** baz=231	**1.54**	**228**	*e*P		**Pb**		**18 34 48.3**	**+0.6**
HGSD	**Ruisui** baz=197	**1.57**	**215**	*e*P		**Pb**		**18 34 48.0**	**-0.1**
JKRS	**Kuro-shima**	**1.57**	**110**	P		**Pn**		**18 34 46.4**	**-0.1**
EHY	**Hungye** baz=213	**1.61**	**218**	*e*P		**Pn**		**18 34 46.4**	**-0.8**
SMLT	**Sun Moon Lake** baz=242	**1.64**	**237**	*e*P		**Pb**		**18 34 49.8**	**+0.5**
SMLT	baz=242			*e*S		**Sb**		**18 35 10.9**	**+1.3**
JIJ	**Ishigaki jima**	**1.65**	**105**	P		**Pn**		**18 34 47.3**	**-0.3**
JIJ				*e*S		**Sn**		**18 35 07.7**	**-0.5**
SSLB	**Suanglung**	**1.65**	**233**	P		**Pb**		**18 34 49.8**	**+0.3**
SSLB	**Suanglung** baz=238	**1.65**	**233**	P		**Pb**		**18 34 49.9**	**+0.4**
SSLB	baz=238			*e*S		**Sb**		**18 35 09.7**	**-0.3**
TYC	**Yuchr** baz=235	**1.66**	**238**	*e*P		**Pb**		**18 34 50.4**	**+0.8**
TCU	**Taichung** baz=238	**1.69**	**248**	*e*P		**Pg**		**18 34 53.6**	**+1.3**
YULB	**Yu-li**	**1.72**	**216**	P		**Pn**		**18 34 49.1**	**+0.5**
YULB	**Yu-li** baz=212	**1.72**	**216**	*e*P		**Pn**		**18 34 49.0**	**+0.4**
EYUL	**Yuli** baz=198	**1.74**	**215**	*e*P		**Pn**		**18 34 50.1**	**+1.2**
TWF1	**Yuli** baz=211	**1.75**	**215**	*e*P		**Pb**		**18 34 50.5**	**-0.7**
JISG	**Ishigakijimahi**	**1.75**	**96**	P		**Pn**		**18 34 49.2**	**+0.2**
WJS	**Zhushan** baz=224	**1.80**	**238**	*e*P		**Pb**		**18 34 53.4**	**+1.3**
WNT	**Mingjian** baz=237	**1.81**	**240**	*e*P		**Pb**		**18 34 52.7**	**+0.6**
WCHH	**Zhanghua** baz=245	**1.82**	**247**	*e*P		**Pg**		**18 34 54.0**	**-0.7**
FULB	**Fuli** baz=194	**1.88**	**213**	*e*P		**Pn**		**18 34 51.8**	**+1.0**
ALS	**Alishan** baz=209	**1.93**	**229**	*e*P		**Pb**		**18 34 54.3**	**-0.2**
ALS	baz=209			*e*S		**Sb**		**18 35 19.1**	**+0.7**
EHD	**Haiduan** baz=210	**1.96**	**214**	*e*P		**Pn**		**18 34 52.5**	**+0.6**
CHN5	**Tsauling** baz=232	**1.97**	**233**	⇑P		**Pb**		**18 34 55.2**	**+0.3**
CHN5	baz=232			*e*S		**Sg**		**18 35 22.0**	**-1.2**
WGK	**Gukeng** baz=233	**2.00**	**237**	*e*P		**Pb**		**18 34 55.9**	**+0.5**
ELDTW	**Lidau** baz=202	**2.03**	**219**	*e*P		**Pn**		**18 34 54.2**	**+1.2**
RLNB	**Erlin** baz=242	**2.06**	**245**	*e*P		**Pb**		**18 34 56.1**	**-0.3**
EDH	**Donghe** baz=193	**2.07**	**209**	*e*P		**Pn**		**18 34 53.5**	**+0.1**
WCKO	**Fanlu** baz=227	**2.12**	**231**	*e*P		**Pb**		**18 34 57.9**	**+0.4**
WTK	**Tuku** baz=236	**2.14**	**239**	*e*P		**Pb**		**18 34 57.4**	**-0.3**
CHN2	**Minshiung** baz=250	**2.16**	**235**	*e*P		**Pb**		**18 34 58.7**	**+0.6**
CHN4	**Tsaushan** baz=210	**2.19**	**229**	*e*P		**Pb**		**18 34 58.5**	**-0.1**
CHN4	baz=210			*e*S		**Sb**		**18 35 26.8**	**+1.5**
STYH	**Taoyuan** baz=203	**2.19**	**223**	*e*P		**Pb**		**18 34 57.6**	**-1.1**
TPUB	**Ta-pu** baz=208	**2.19**	**228**	P		**Pb**		**18 34 58.0**	**-0.8**
TPUB	**Ta-pu** baz=209	**2.19**	**228**	*e*P		**Pb**		**18 34 58.1**	**-0.6**
TPUB	baz=209			*e*S		**Sb**		**18 35 27.4**	**+1.9**
LONT	**Longtian** baz=208	**2.21**	**212**	*e*P		**Pn**		**18 34 57.2**	**+1.9**
WTP	**Ta-pu** baz=208	**2.24**	**227**	*e*P		**Pb**		**18 34 58.5**	**-1.1**
LDUT	**Ludao** baz=199	**2.27**	**202**	*e*P		**Pn**		**18 34 56.2**	**+0.1**
WSF	**Szhu** baz=237	**2.29**	**240**	*e*P		**Pb**		**18 34 59.3**	**-1.1**
TWGBT	**Beinan** baz=208	**2.31**	**212**	*e*P		**Pn**		**18 34 57.9**	**+1.3**
TWG	**Pinlang** baz=208	**2.31**	**212**	*e*P		**Pb**		**18 34 59.2**	**-1.5**
SNST	**Tainan City** baz=225	**2.34**	**228**	*e*P		**Pn**		**18 34 58.3**	**+1.2**
CHN1	**Nanshi** baz=224	**2.34**	**227**	*e*P		**Pb**		**18 35 00.7**	**-0.5**
SGST	**Jiashian** baz=206	**2.38**	**225**	*e*P		**Pn**		**18 34 60.0**	**+2.3**
SLGT	**Liugui** baz=204	**2.40**	**222**	*e*P		**Pb**		**18 35 01.0**	**-1.3**
ECL	**Taimali** baz=208	**2.55**	**211**	*e*P		**Pn**		**18 35 01.4**	**+1.3**
MATB	**Ma-tsu** baz=302	**2.59**	**302**	*e*P		**Pn**		**18 35 00.0**	**-0.6**
SSD	**Sandimen** baz=200	**2.60**	**219**	*e*P		**Pb**		**18 35 04.3**	**-1.4**
SSD	baz=200			*e*S		**Sb**		**18 35 36.9**	**-0.4**
TSMG	**Majia** baz=201	**2.62**	**218**	*e*P		**Pb**		**18 35 04.3**	**-1.8**
MASBT	**Mashibuluo** baz=200	**2.71**	**217**	*e*P		**Pn**		**18 35 04.4**	**+2.2**
MASBT	baz=200			*e*S		**Sb**		**18 35 38.5**	**-1.8**
EAST	**Anshuo** baz=207	**2.79**	**211**	*e*P		**Pn**		**18 35 05.8**	**+2.6**
TAWH	**Dawu Township** baz=207	**2.81**	**210**	*e*P		**Pn**		**18 35 05.8**	**+2.2**
AXDP	**Jialang** baz=271	**4.02**	**272**	*e*P		**Pn**		**18 35 20.6**	**+0.3**

*IDC **06** 18:40:37.8±3.5, 22°.32N×122°.04E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=288.9km s-min=24.6km az=63.0*
*TAP **06** 18:40:53.8, 22°.29N×121°.64E, h120km, ML4.0, C*
ISC 06 18:40:53.0±1.0, **22°.27N**±0°.04×**121°.61E**±0°.05, **h131**km±6km, **n143**, g0°.92/228, **mb3.4**/4, **57D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAY	**Lan-yu** baz=206	**0.23**	**193**	⇓*i*P		**Pn**		**18 41 10.8**	**-0.3**
LAY	baz=206			*i* S		**Sn**		**18 41 23.2**	**-1.5**
LYUB	**Lan-yu** baz=199	**0.26**	**185**	⇓*i*P		**Pn**		**18 41 10.6**	**-0.5**
LYUB	baz=199			*i* S		**Sn**		**18 41 22.9**	**-1.8**
LDUT	**Ludao** baz=344	**0.42**	**343**	⇓P		**Pn**		**18 41 11.6**	**-0.2**
LDUT	baz=344			S		**Sn**		**18 41 25.3**	**-0.6**
TTN	**Taitung** baz=310	**0.65**	**319**	⇓P		**Pn**		**18 41 13.7**	**+0.7**
TTN	baz=310			*e*S		**Sn**		**18 41 28.5**	**+0.3**
TAW	**Tawu** baz=270	**0.67**	**278**	P		**Pn**		**18 41 13.2**	**+0.1**
TAW	baz=270			S		**Sn**		**18 41 27.4**	**-1.1**
TAWH	**Dawu Township** baz=269	**0.67**	**276**	⇓P		**Pn**		**18 41 13.2**	**0.0**
TAWH	baz=269			*e*S		**Sn**		**18 41 27.5**	**-1.0**
ECL	**Taimali** baz=295	**0.69**	**299**	⇓*i*P		**Pn**		**18 41 13.2**	**-0.1**
ECL	baz=295			S		**Sn**		**18 41 27.3**	**-1.5**
EAST	**Anshuo** baz=274	**0.71**	**280**	⇓*i*P		**Pn**		**18 41 13.7**	**+0.2**
EAST	baz=274			*e*S		**Sn**		**18 41 28.5**	**-0.7**
TWGBT	**Beinan**	**0.73**	**318**	P		**Pn**		**18 41 13.5**	**-0.2**
TWGBT	**Beinan** baz=311	**0.73**	**318**	⇓*i*P		**Pn**		**18 41 13.6**	**-0.2**
TWGBT	baz=311			*i* S		**Sn**		**18 41 27.6**	**-1.8**
TWG	**Pinlang** baz=311	**0.74**	**318**	⇓*i*P		**Pn**		**18 41 13.6**	**-0.2**
TWG	baz=311			*i* S		**Sn**		**18 41 27.6**	**-2.0**
TSEB	**Hengchuen, Pin** baz=240	**0.75**	**241**	⇓*i*P		**Pn**		**18 41 15.0**	**+1.2**
TSEB	baz=240			*i* S		**Sn**		**18 41 30.6**	**+1.1**
SLIU	**Shizi** baz=263	**0.75**	**266**	P		**Pn**		**18 41 14.1**	**+0.2**
SLIU	baz=263			S		**Sn**		**18 41 29.2**	**-0.4**
SMST	**Manzhou Townsh** baz=248	**0.76**	**251**	⇓*i*P		**Pn**		**18 41 14.4**	**+0.6**
SMST	baz=248			*e*S		**Sn**		**18 41 29.6**	**-0.1**
EDH	**Donghe** baz=332	**0.76**	**338**	⇓P		**Pn**		**18 41 13.9**	**+0.1**
EDH	baz=332			*e*S		**Sn**		**18 41 29.3**	**-0.4**
LONT	**Longtian** baz=316	**0.78**	**325**	⇓*i*P		**Pn**		**18 41 14.1**	**0.0**
LONT	baz=316			*e*S		**Sn**		**18 41 29.0**	**-1.0**
TWKBT	**Hengchun** baz=244	**0.81**	**246**	⇓*i*P		**Pn**		**18 41 15.0**	**+0.8**
TWKBT	baz=244			S		**Sn**		**18 41 30.4**	**+0.1**
HEN	**Hengchun** baz=258	**0.85**	**252**	⇓P		**Pn**		**18 41 15.3**	**+0.7**
HEN	baz=258			S		**Sn**		**18 41 31.1**	**+0.2**
CHKT	**Chengkung** baz=343	**0.86**	**345**	⇓*i*P		**Pn**		**18 41 14.9**	**+0.2**
CHKT	baz=343			S		**Sn**		**18 41 30.9**	**-0.3**
ECS	**Chishang** baz=327	**0.90**	**337**	P		**Pn**		**18 41 15.6**	**+0.5**
ECS	baz=327			S		**Sn**		**18 41 32.4**	**+0.5**
SCZT	**Fangliau** baz=268	**0.92**	**277**	⇓*i*P		**Pn**		**18 41 15.5**	**+0.3**
SCZT	baz=268			S		**Sn**		**18 41 31.2**	**-0.9**
EHD	**Haiduan** baz=335	**0.95**	**337**	⇓P		**Pn**		**18 41 15.4**	**-0.2**
EHD	baz=335			S		**Sn**		**18 41 31.6**	**-1.1**
MASBT	**Mashibuluo** baz=281	**0.96**	**291**	⇓*i*P		**Pn**		**18 41 16.1**	**+0.5**
MASBT	baz=281			S		**Sn**		**18 41 31.8**	**-1.0**
FULB	**Fuli** baz=335	**0.97**	**343**	⇓P		**Pn**		**18 41 16.5**	**+0.7**
FULB	baz=335			S		**Sn**		**18 41 33.5**	**+0.4**
TSMG	**Majia** baz=285	**0.99**	**296**	⇓P		**Pn**		**18 41 16.4**	**+0.6**
TSMG	baz=285			*e*S		**Sn**		**18 41 33.4**	**+0.2**
SSD	**Sandimen** baz=287	**1.02**	**298**	⇓*i*P		**Pn**		**18 41 16.8**	**+0.6**
SSD	baz=287			*e*S		**Sn**		**18 41 32.9**	**-0.8**
ECBN	**Changbin** baz=352	**1.06**	**352**	*e*P		**Pn**		**18 41 17.1**	**+0.6**
ELDTW	**Lidau** baz=328	**1.07**	**329**	⇓P		**Pn**		**18 41 17.0**	**+0.2**
ELDTW	baz=328			S		**Sn**		**18 41 34.4**	**-0.4**
TSPT	**Pingtung City** baz=285	**1.11**	**292**	P		**Pn**		**18 41 18.2**	**+1.2**
TSPT	baz=285			S		**Sn**		**18 41 36.5**	**+1.3**
EYUL	**Yuli** baz=337	**1.11**	**346**	*e*P		**Pn**		**18 41 17.5**	**+0.5**
TWF1	**Yuli** baz=338	**1.12**	**345**	*e*P		**Pn**		**18 41 17.1**	**-0.1**
SGLT	**Jiouru** baz=292	**1.13**	**294**	P		**Pn**		**18 41 18.5**	**+1.3**
SGLT	baz=292			*e*S		**Sn**		**18 41 36.5**	**+1.0**
SLGT	**Liugui** baz=298	**1.15**	**309**	⇓P		**Pn**		**18 41 18.6**	**+1.2**
SLGT	baz=298			*e*S		**Sn**		**18 41 36.5**	**+0.6**
TWP	**Hsiaoliuchiu** baz=267	**1.16**	**274**	*e*P		**Pn**		**18 41 19.0**	**+1.5**
TWP	baz=267			*e*S		**Sn**		**18 41 38.6**	**+2.6**
YULB	**Yu-li**	**1.16**	**346**	P		**Pn**		**18 41 17.5**	**0.0**
YULB	**Yu-li** baz=337	**1.16**	**346**	⇓P		**Pn**		**18 41 17.4**	**-0.2**
YULB	baz=337			*e*S		**Sn**		**18 41 34.5**	**-1.7**
STYH	**Taoyuan** baz=318	**1.18**	**320**	⇓*i*P		**Pn**		**18 41 18.5**	**+0.8**
STYH	baz=318			*e*S		**Sn**		**18 41 36.6**	**0.0**
HGSD	**Ruisui**	**1.23**	**352**	P		**Pn**		**18 41 19.1**	**+0.9**

	baz=344						
HGSD				S	Sn	18 41 38.4	+0.8
	baz=344						
KAU	**Kaohsiung**	**1.24**	**284**	*e*P	Pn	18 41 19.6	+1.3
	baz=281						
SGST	**Jiashian**	**1.25**	**311**	⇓*e*P	Pn	18 41 18.2	-0.3
	baz=309						
SGST				*e*S	Sn	18 41 36.3	-1.4
	baz=309						
EHY	**Hungye**	**1.26**	**348**	⇓P	Pn	18 41 18.4	-0.1
	baz=341						
EHY				*e*S	Sn	18 41 36.8	-1.3
	baz=341						
SNJT	**Kaohsiung City**	**1.27**	**293**	*e*P	Pn	18 41 19.7	+1.1
	baz=290						
WSSB	**Gushan**	**1.30**	**287**	*e*P	Pn	18 41 20.1	+1.2
	baz=284						
WTP	**Ta-pu**	**1.34**	**317**	⇓*i*P	Pn	18 41 20.0	+0.6
	baz=315						
WTP				S	Sn	18 41 38.8	-0.8
	baz=315						
CHN1	**Nanshi**	**1.35**	**313**	⇓*i*P	Pn	18 41 20.1	+0.5
	baz=319						
CHN1				S	Sn	18 41 39.4	-0.4
	baz=319						
TPUB	**Ta-pu**	**1.37**	**319**	P	Pn	18 41 20.2	+0.4
TPUB	**Ta-pu**	**1.37**	**319**	⇓P	Pn	18 41 20.1	+0.4
	baz=317						
TPUB				*e*S	Sn	18 41 39.1	-1.0
	baz=317						
SHHT	**Tainan City**	**1.39**	**303**	⇓*e*P	Pn	18 41 21.2	+1.3
	baz=301						
SNST	**Tainan City**	**1.40**	**313**	⇓*i*P	Pn	18 41 20.4	+0.4
	baz=319						
SNST				*e*S	Sn	18 41 40.7	+0.1
	baz=319						
CHN3	**Shinhua**	**1.40**	**305**	⇓P	Pn	18 41 21.4	+1.3
	baz=303						
CHN4	**Tsaushan**	**1.43**	**319**	⇓P	Pn	18 41 20.8	+0.4
	baz=318						
CHN4				S	Sn	18 41 41.1	-0.1
	baz=318						
TWK	**Hsinying**	**1.44**	**314**	⇓P	Pn	18 41 20.9	+0.4
	baz=312						
TEGC	**Jichi Village**	**1.44**	**358**	*e*P	Pn	18 41 21.1	+0.6
	baz=1.0						
ALS	**Alishan**	**1.44**	**329**	⇓*i*P	Pn	18 41 21.3	+0.5
	baz=319						
ALS				S	Sn	18 41 41.8	-0.3
	baz=319						
WARBT	**Fenglin Townsh**	**1.46**	**352**	⇓P	Pn	18 41 20.5	-0.2
	baz=347						
WARBT				*e*S	Sn	18 41 39.4	-2.5
	baz=347						
TAI1	**Yung-k'ang**	**1.49**	**301**	*e*P	Pn	18 41 21.8	+0.8
	baz=299						
WCKO	**Fanlu**	**1.49**	**322**	*e*P	Pn	18 41 21.2	+0.1
	baz=320						
WCKO				*e*S	Sn	18 41 42.4	-0.1
	baz=320						
TAI	**Tainan**	**1.49**	**299**	P	Pn	18 41 21.8	+0.8
	baz=298						
TAI				S	Sn	18 41 42.6	+0.2
	baz=298						
SSHA	**Shanhua**	**1.50**	**306**	P	Pn	18 41 22.1	+1.1
	baz=304						
SSHA				S	Sn	18 41 43.5	+1.0
	baz=304						
VWDT	**VWDT**	**1.54**	**344**	⇓*i*P	Pn	18 41 22.9	+1.3
	baz=345						
VWDT				S	Sn	18 41 43.3	-0.1
	baz=345						
CHN5	**Tsauling**	**1.58**	**327**	⇓*i*P	Pn	18 41 22.4	+0.3
	baz=318						
CHN5				S	Sn	18 41 44.4	0.0
	baz=318						
WHYT	**Xinyi Township**	**1.58**	**334**	⇓*i*P	Pn	18 41 22.5	+0.4
	baz=324						
WHYT				*e*S	Sn	18 41 43.8	-0.6
	baz=324						
SCLT	**Jiali**	**1.59**	**305**	P	Pn	18 41 22.8	+0.7
	baz=303						
SCLT				S	Sn	18 41 44.3	0.0
	baz=303						
SSLB	**Suanglung**	**1.63**	**338**	P	Pn	18 41 23.1	+0.4
SSLB	**Suanglung**	**1.63**	**338**	⇓P	Pn	18 41 23.0	+0.4
	baz=328						
SSLB				S	Sn	18 41 44.4	-0.9
	baz=328						
CHN2	**Minshiung**	**1.64**	**321**	*e*P	Pn	18 41 23.1	+0.4
	baz=319						
ICHU	**Yijhu**	**1.64**	**312**	⇓*e*P	Pn	18 41 23.1	+0.4
	baz=310						
ICHU				*e*S	Sn	18 41 44.4	-1.1
	baz=310						
CHY	**Chiayi**	**1.64**	**319**	*e*P	Pn	18 41 22.9	+0.2
	baz=317						
CHY				*e*S	Sn	18 41 45.5	+0.1
	baz=317						
TSCK	**Chigu Township**	**1.66**	**302**	⇓*e*P	Pn	18 41 23.6	+0.7
	baz=308						
TSCK				*e*S	Sn	18 41 45.8	0.0
	baz=308						
CHN8	**Yiju**	**1.68**	**310**	⇓P	Pn	18 41 23.5	+0.3
	baz=315						
CHN8				*e*S	Sn	18 41 46.1	-0.1
	baz=315						
ETM	**Tongmen**	**1.69**	**356**	*e*P	Pn	18 41 23.5	+0.1
	baz=349						
HWA	**Hwalien**	**1.70**	**360**	*e*P	Pn	18 41 24.6	+1.1
	baz=4.0						
WGK	**Gukeng**	**1.71**	**326**	⇓P	Pn	18 41 24.0	+0.5
	baz=317						
WGK				*e*S	Sn	18 41 46.3	-0.7
	baz=317						
WDLH	**Douliu**	**1.73**	**325**	*e*P	Pn	18 41 24.1	+0.4
	baz=316						
OWD	**Renai**	**1.73**	**347**	*e*P	Pn	18 41 24.9	+1.0
	baz=346						
SMLT	**Sun Moon Lake**	**1.74**	**338**	⇓*i*P	Pn	18 41 24.4	+0.4
	baz=328						
SMLT				S	Sn	18 41 47.9	+0.2
	baz=328						
WJS	**Zhushan**	**1.75**	**333**	*e*P	Pn	18 41 24.6	+0.6
	baz=323						
WJS				*e*S	Sn	18 41 47.6	-0.1
	baz=323						
LXIB	**Xiulin Townshi**	**1.76**	**354**	⇓*e*P	Pn	18 41 24.2	0.0
	baz=354						
LXIB				*e*S	Sn	18 41 46.9	-1.3
	baz=354						
TYC	**Yuchr**	**1.77**	**337**	⇓P	Pn	18 41 24.6	+0.4
	baz=328						
TYC				*e*S	Sn	18 41 48.2	0.0
	baz=328						
WUSB	**Renai**	**1.78**	**345**	⇓P	Pn	18 41 25.5	+1.1
	baz=335						
WUSB				S	Sn	18 41 48.4	-0.1
	baz=335						
WSL	**Shuilin Townsh**	**1.78**	**315**	*e*P	Pn	18 41 24.6	+0.2
	baz=319						
WSL				*e*S	Sn	18 41 48.2	-0.2
	baz=319						
TWD	**Chiawan**	**1.81**	**360**	*e*P	Pn	18 41 25.2	+0.5
	baz=5.0						
WTK	**Tuku**	**1.81**	**322**	*e*P	Pn	18 41 24.8	+0.1
	baz=321						
WTK				*e*S	Sn	18 41 48.5	-0.5
	baz=321						
WNT	**Mingjian**	**1.82**	**332**	⇓*e*P	Pn	18 41 25.4	+0.6
	baz=324						
WNT				*e*S	Sn	18 41 49.1	0.0
	baz=324						
CHGB	**Renai**	**1.83**	**347**	P	Pn	18 41 26.4	+1.2
	baz=347						
CHGB				*e*S	Sn	18 41 49.5	-0.3
	baz=347						
WPL	**Puli Township**	**1.84**	**341**	*e*P	Pn	18 41 26.1	+1.0
	baz=332						
WPL				*e*S	Sn	18 41 50.6	+1.0
	baz=332						
WNT1	**Nantou City**	**1.84**	**333**	*e*P	Pn	18 41 25.9	+0.8
	baz=325						
WNT1				*e*S	Sn	18 41 49.5	-0.2
	baz=325						
DPDB	**Guoxing**	**1.87**	**341**	*e*P	Pn	18 41 25.9	+0.5
	baz=331						
WSF	**Szhu**	**1.87**	**317**	⇓*e*P	Pn	18 41 25.4	-0.1
	baz=316						
WSF				S	Sn	18 41 49.4	-0.8
	baz=316						
WCS	**Beigang Elemen**	**1.90**	**340**	*e*P	Pn	18 41 26.7	+1.0
	baz=331						
WHF	**Hehuan Shan**	**1.90**	**351**	*e*P	Pn	18 41 27.1	+0.9
	baz=355						
NACB	**Ninganchiao**	**1.90**	**360**	P	Pn	18 41 26.2	+0.4
NACB	**Ninganchiao**	**1.90**	**360**	*e*P	Pn	18 41 25.9	+0.1
	baz=352						
WYL	**Yuanlin Townsh**	**1.94**	**331**	*e*P	Pn	18 41 26.2	0.0
	baz=324						
WYL				*e*S	Sn	18 41 51.1	-0.5
	baz=324						
ETLH	**Xiulin Townshi**	**1.94**	**357**	*e*P	Pn	18 41 26.5	+0.2
	baz=356						
EOS4	**EOS4**	**1.96**	**19**	*e*P	Pn	18 41 26.8	+0.7
	baz=14						
RLNB	**Erlin**	**1.98**	**325**	*e*P	Pn	18 41 27.0	+0.2
	baz=319						
RLNB				*e*S	Sn	18 41 52.0	-0.7
	baz=319						
WMLT	**Mailiao**	**1.99**	**320**	*e*P	Pn	18 41 27.4	+0.5
	baz=324						
FUSS	**Fushou**	**2.00**	**350**	*e*P	Pn	18 41 28.6	+1.3
	baz=355						
WTCT	**Ta-ch'eng**	**2.01**	**323**	*e*P	Pn	18 41 27.5	+0.5
	baz=322						
WTCT				*e*S	Sn	18 41 52.9	-0.3
	baz=322						
TWT	**Tachien**	**2.02**	**349**	*e*P	Pn	18 41 29.0	+1.6
	baz=348						
TDCB	**Techi**	**2.02**	**348**	*e*P	Pn	18 41 28.5	+1.1
	baz=348						
WCHH	**Zhanghua**	**2.05**	**332**	⇓*e*P	Pn	18 41 28.0	+0.5
	baz=325						
WCHH				S	Sn	18 41 54.3	+0.2
	baz=325						
WDGT	**Dungji**	**2.05**	**299**	⇓*i*P	Pn	18 41 27.4	-0.2
	baz=298						
WDGT				S	Sn	18 41 52.0	-2.1
	baz=298						
TCU	**Taichung**	**2.06**	**336**	*e*P	Pn	18 41 28.5	+0.7
	baz=327						
TCU				*e*S	Sn	18 41 54.9	+0.5
	baz=327						
WHP	**Taichung City**	**2.09**	**343**	*e*P	Pn	18 41 28.9	+0.7
	baz=334						
WHP				*e*S	Sn	18 41 55.7	+0.4
	baz=334						
EOS3	**EOS3**	**2.12**	**18**	*e*P	Pn	18 41 28.5	+0.3
	baz=16						
NNSB	**Datong**	**2.16**	**355**	*e*P	Pn	18 41 30.0	+0.9
	baz=359						
NNSB				*e*S	Sn	18 41 56.5	-0.3
	baz=359						
NNS	**Nan Shan**	**2.17**	**354**	*e*P	Pn	18 41 30.2	+0.9
	baz=358						
NNS				*e*S	Sn	18 41 57.1	-0.1
	baz=358						
TWQ1	**Liyutan**	**2.21**	**340**	*e*P	Pn	18 41 29.9	+0.3
	baz=339						
TWQ1				*e*S	Sn	18 41 58.1	+0.3
	baz=339						
VCHM	**Qimei**	**2.22**	**295**	⇓*e*P	Pn	18 41 29.5	-0.2
	baz=299						
VCHM				*e*S	Sn	18 41 56.0	-1.9
	baz=299						
PHUB	**P'eng-hu**	**2.25**	**304**	⇓P	Pn	18 41 29.8	-0.3
	baz=302						
PHUB				*e*S	Sn	18 41 56.0	-2.5
	baz=302						
WDJ	**Dajia District**	**2.25**	**337**	*e*P	Pn	18 41 31.3	+1.1
	baz=328						
LATG	**Datong**	**2.26**	**358**	P	Pn	18 41 31.1	+0.7
	baz=4.0						
NSY	**Sanyi**	**2.28**	**340**	*e*P	Pn	18 41 31.0	+0.5
	baz=340						
PNG	**Penghu**	**2.29**	**305**	⇓P	Pn	18 41 30.4	-0.2
	baz=303						
PNG				*e*S	Sn	18 41 57.2	-2.2
	baz=303						
NDT	**Datong Townshi**	**2.33**	**358**	*e*P	Pn	18 41 32.1	+1.1
	baz=3.0						
ENTT	**Nioudou**	**2.36**	**359**	*e*P	Pn	18 41 32.4	+0.9
	baz=359						
NFF	**Wufeng Townshi**	**2.40**	**349**	*e*P	Pn	18 41 33.6	+1.6
	baz=338						
YHNB	**Yeheng**	**2.40**	**355**	*e*P	Pn	18 41 33.5	+1.4
	baz=355						
YHNB				*e*S	Sn	18 42 02.5	+0.4
	baz=355						
NSK	**Sanguang**	**2.41**	**355**	*e*P	Pn	18 41 32.8	+0.6
	baz=354						
NSTT	**Nanjuang**	**2.42**	**347**	*e*P	Pn	18 41 33.4	+1.2
	baz=347						
LIOB	**Emei**	**2.43**	**347**	*e*P	Pn	18 41 32.9	+0.5
	baz=337						
FUSB	**Fushanzhiwuyua**	**2.48**	**360**	*e*P	Pn	18 41 34.3	+1.2
	baz=360						
FUSB				*e*S	Sn	18 42 03.5	-0.4
	baz=360						
NWLT	**Wulai**	**2.50**	**358**	*e*P	Pn	18 41 34.3	+1.0
	baz=4.0						
TATO	**Taipei**	**2.70**	**358**	P	Pn	18 41 38.6	+2.8
TATO	**Taipei**	**2.70**	**358**	*e*P	Pn	18 41 37.2	+1.5
	baz=358						
SXI1	**Grass Mountain**	**2.83**	**5**	*e*P	Pn	18 41 37.8	+0.3
	baz=354						
YM01	**YM01**	**2.87**	**359**	*e*P	Pn	18 41 38.4	+0.4
	baz=360						
PTMZ	**Houxiangcun**	**3.58**	**321**	*e*P	Pn	18 41 46.9	-0.4
	baz=320						
PTMZ				*e*S	Sn	18 42 26.6	-2.6
	baz=320						
KNM	**Kinmen**	**3.62**	**307**	*e*P	Pn	18 41 49.7	+2.0
	baz=304						
KNMB	**Chin-men Tao**	**3.68**	**307**	*e*P	Pn	18 41 47.9	-0.6
	baz=305						
ZPLA	**Ao Xicun**	**3.92**	**296**	*e*P	Pn	18 41 50.5	-1.2
	baz=295						
ZPLA				*e*S	Sn	18 42 34.6	-2.6
	baz=295						
DSXP	**Dongshan**	**4.11**	**291**	*e*P	Pn	18 41 54.3	0.0
	baz=289						
MATB	**Ma-tsu**	**4.16**	**339**	*e*P	Pn	18 41 53.8	-1.0
	baz=339						
MATB				*e*S	Sn	18 42 39.8	-3.0
	baz=339						
AXDP	**Jialang**	**4.24**	**309**	*e*P	Pn	18 41 56.3	+0.3
	baz=307						
MHZQ	**Yeshan**	**4.48**	**329**	*e*P	Pn	18 41 58.5	-0.7
	baz=328						
LYJJ	**Jianjiangzhen**	**4.59**	**339**	*e*P	Pn	18 41 59.5	-1.0
	baz=339						
SXFK	**Yanhouchang**	**5.48**	**319**	*e*P	Pn	18 42 13.3	+0.8
	baz=318						
MKAR	**Makanchi Array**	**39.99**	**317**	P	P	18 48 16.3	+1.4
	0.5nm,0.5s,baz=103,slow=9.1,SNR=6.5						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**42.07**	**328**	P	P	18 48 32.3	+0.7
	1.1nm,0.5s,baz=127,slow=7.7,SNR=5.5						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**43.83**	**321**	P	P	18 48 46.7	+0.8
	0.4nm,0.8s,baz=117,slow=7.7,SNR=4.3						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**47.20**	**165**	P	P	18 49 12.0	-0.7
	0.2nm,0.5s,baz=345,slow=7.2,SNR=11						
	0.2nm,0.5s						

JMA 06 18:41:25.6±0.1, 24°N±3°×122°.7E±0°.7, h69km±2km, MV1.5/9, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.31**	**40**	P	Pn	18 41 36.8	0.0
JYNG				*e*S	Sn	18 41 45.2	+0.2
IRIF	**Iriomote-Funau**	**0.93**	**82**	*e*S	Sn	18 41 56.7	+0.6
JKRS	**Kuro-shima**	**1.17**	**88**	*e*S	Sn	18 42 02.1	+0.4
JIJ	**Ishigaki jima**	**1.30**	**83**	S	Sn	18 42 04.4	-0.3
JISG	**Ishigakijimahi**	**1.49**	**75**	P	Pn	18 41 50.8	+0.3

TAP 06 18:41:31.6, 24°.33N×121°.73E, h8km±1km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.10**	**9**	*i*P	Pg	18 41 34.2	+0.2
	baz=8.0						
ENA				S	Sg	18 41 36.1	+0.5
	baz=8.0						
EWUT	**Wuta**	**0.12**	**23**	P	Pg	18 41 34.6	+0.3
	baz=27						
EWUT				S	Sg	18 41 36.7	+0.4
	baz=27						
ETL	**Fush Village**	**0.19**	**209**	P	Pg	18 41 35.7	+0.1
	baz=212						
ETL				S	Sg	18 41 39.2	+0.9
	baz=212						
NACB	**Ninganchiao**	**0.20**	**217**	P	Pg	18 41 35.7	+0.2
	baz=209						
NACB				S	Sg	18 41 39.2	+0.9
	baz=209						
ETLH	**Xiulin Townshi**	**0.25**	**241**	P	Pg	18 41 37.2	+0.6
	baz=243						
ETLH				S	Sb	18 41 41.6	-1.4
	baz=243						
TWD	**Chiawan**	**0.28**	**205**	P	Pg	18 41 37.1	+0.1
	baz=206						
TWC	**Suao**	**0.30**	**22**	P	Pb	18 41 38.8	-0.4
	baz=17						
NNSB	**Datong**	**0.33**	**288**	*e*P	Pg	18 41 38.7	+0.7
	baz=288						

DJA 06 18:42:02.9±1.5, 8°S±5°×12°4E±°, h14km±16km, M3.7/7, mb4.1/1, MLv3.5/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.44**	**248**	P	Pn	18 42 27.5	-1.1
SOEI	**Soe**	**1.78**	**158**	P	Pn	18 42 33.4	+0.1
BATI	**Baumata**	**2.09**	**178**	P	Pn	18 42 39.0	+1.4
BASI	**Baing, Sumba**	**3.64**	**234**	P	Pn	18 42 58.8	-0.1
BKSI	**Bulukumba**	**4.41**	**308**	P	Pn	18 43 09.3	-0.2
PLAI	**Plampang**	**5.80**	**262**	P	Pn	18 43 29.0	+0.5

*IDC **06** 18:43:41.5±0.6, 49°.12S×68°.82E, h0km, mb4.4/11, mbtmp4.4/12, ML4.6/1, MS4.0/23, Error ellipse: s-maj=25.4km s-min=17.0km az=129.0*
*NEIC **06** 18:43:44.1±1.0, 49°.25±0°.1×68°.95E±0°.07, h14km±1km, mb4.7/35, Error ellipse: s-maj=16.8km s-min=6.0km az=188.0*

ISC 06 18:43:43.1±0.4, 49°.22S±0°.07×68°.88E±0°.06, h10km, n105, σ1°.02/84, mb4.7/32, MS4.1/24, 4C-2D, Kerguelen Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAF	**Port-aux-Franc**	**0.88**	**99**		**Pg**	**18 43 58.5**	**-1.6**
PAF				Sg	**Sg**	**18 44 11.3**	**-0.2**
H04S1	**CROZET ISLANDS**	**11.61**	**275**	T	T	18 57 41.2	
	baz=108,slow=76,SNR=145						
H04S2	**CROZET ISLANDS**	**11.62**	**275**	T	T	18 57 43.4	
	baz=108,slow=76,SNR=42						
H04S3	**CROZET ISLANDS**	**11.63**	**275**	T	T	18 57 42.0	
	baz=108,slow=76,SNR=153						
H04N2	**CROZET ISLANDS**	**11.91**	**278**	T	T	18 58 09.3	
	baz=106,slow=75,SNR=70						
H04N3	**CROZET ISLANDS**	**11.92**	**278**	T	T	18 58 07.6	
	baz=106,slow=75,SNR=72						
H04N1	**CROZET ISLANDS**	**11.93**	**278**	T	T	18 58 13.6	
	baz=106,slow=75,SNR=39						
MAW	**Mawson**	**18.69**	**187**	P	**P**	**18 48 01.6**	**+0.5**
MAW	**Mawson**	**18.69**	**187**	P	**Pn**	**18 48 02.6**	**+1.1**
	2.0nm,0.3s,baz=11,slow=13,SNR=23						
MAW				S	Sn	18 51 16.9	-13
	3.3nm,0.5s,baz=82,slow=23,SNR=3.2						
MAW				LR	LR	18 54 02.5	
	comp=Z,350nm,18.4s,baz=9.0,slow=33						
	4.9nm,0.3s						
CASY	**Casey**	**27.29**	**144**	P	**P**	**18 49 27.0**	**-0.4**
ELIB	**Princess Elisa**	**30.62**	**206**	*d*P	**P**	**18 49 56.9**	**-0.2**
	comp=Z,12nm,0.9s						
ELIB				*d*PP	**PP**	**18 51 05.2**	**-0.7**
H01W2	**Cape Leeuwin H**	**35.96**	**84**	T	T	19 27 52.3	
	baz=233,slow=74,SNR=30						
H01W3	**Cape Leeuwin H**	**35.97**	**84**	T	T	19 27 54.1	
	baz=233,slow=74,SNR=42						
H01W1	**Cape Leeuwin H**	**35.97**	**84**	T	T	19 27 53.5	
	baz=233,slow=74,SNR=35						
TROLL	**Troll, Antarti**	**36.93**	**208**	⇑P	**P**	**18 50 52.2**	**+0.3**
	comp=Z,127nm,0.8s						
SNAA	**Sanae**	**38.62**	**209**	P	**P**	**18 51 05.8**	**-0.2**
SNAA	**Sanae**	**38.62**	**209**	⇑P	**P**	**18 51 06.4**	**+0.3**
	comp=Z,32nm,0.7s						
SNAA	**Sanae**	**38.62**	**209**	P	**P**	**18 51 06.0**	**0.0**
	comp=Z,1.9nm,1.0s,baz=154,slow=10.0,SNR=5.9						
SNAA				LR	LR	19 05 15.1	
	comp=Z,171nm,19.3s,baz=78,slow=33						
	comp=Z,1.9nm,1.0s						
BOSA	**Boshof**	**39.01**	**285**	P	**P**	**18 51 09.0**	**-0.9**
BOSA	**Boshof**	**39.01**	**285**	LR	LR	19 04 20.2	
	comp=Z,250nm,18.1s,baz=147,slow=32						
NWAO	**Narrogin (SRO)**	**39.20**	**84**	LR	LR	19 03 13.2	
	comp=Z,214nm,19.6s,baz=48,slow=30						
SUR	**Sutherland**	**39.37**	**277**	LR	LR	19 03 54.3	
	comp=Z,343nm,19.0s,baz=168,slow=31						
VNA2	**Neumayer--Watz**	**40.17**	**210**	⇑P	**P**	**18 51 19.6**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=89,slow=8.0						
VNA3	**Neumayer Olymp**	**40.84**	**209**	⇑P	**P**	**18 51 25.0**	**+0.6**
	comp=Z,5.8nm,0.7s						
QSPA	**South Pole Qui**	**40.96**	**180**	P	**P**	**18 51 25.1**	**-0.5**
QSPA				IAmb	IAmb	18 51 28.2	
	comp=Z,12nm,0.9s						
QSPA	**South Pole Qui**	**40.96**	**180**	P	**P**	**18 51 26.7**	**+1.0**
	comp=Z,9.1nm,0.9s,baz=280,slow=2.0,SNR=20						
	comp=Z,9.1nm,0.9s						
LBTB	**Lobatse**	**41.36**	**290**	P	**P**	**18 51 28.2**	**-1.2**
H08S1	**Diego Carcia H**	**41.54**	**5**	T	T	19 34 33.4	
	baz=185,slow=75,SNR=5.9						
H08S2	**Diego Garcia H**	**41.54**	**5**	T	T	19 34 32.6	
	baz=185,slow=75,SNR=7.6						
H08S3	**Diego Garcia H**	**41.56**	**5**	T	T	19 34 37.0	
	baz=185,slow=75,SNR=16						
BELA	**Belgrano 2**	**45.12**	**197**	P	**P**	**18 51 58.7**	**-0.4**
LSZ	**Lusaka**	**47.35**	**301**	P	**P**	**18 52 17.4**	**0.0**
LSZ				IAmb	IAmb	18 52 19.7	
	comp=Z,8.9nm,1.0s						
LSZ	**Lusaka**	**47.35**	**301**	LR	LR	19 08 57.1	
	comp=Z,343nm,20.4s,baz=146,slow=32						
WIN	**Windhoek**	**48.47**	**284**	P	**P**	**18 52 26.2**	**+0.1**
TSUM	**Tsumeb**	**50.63**	**287**	LR	LR	19 10 42.1	
	comp=Z,198nm,21.2s,baz=152,slow=32						
BBOO	**Buckleboo**	**51.58**	**98**	P	**P**	**18 52 49.9**	**+0.5**
LEM	**Lembang**	**53.34**	**51**	LR	LR	19 11 12.2	
	comp=Z,107nm,20.2s,baz=326,slow=31						
KMBO	**Kilima Mbogo**	**55.04**	**320**	P	**P**	**18 53 15.4**	**+0.1**
KMBO				IAmb	IAmb	18 53 17.8	
	comp=Z,5.2nm,1.2s						
KMBO	**Kilima Mbogo**	**55.04**	**320**	LR	LR	19 15 01.5	
	comp=Z,84nm,18.4s,baz=91,slow=34						
STKA	**Stephens Creek**	**55.77**	**101**	P	**P**	**18 53 20.2**	**+0.1**
STKA	**Stephens Creek**	**55.77**	**101**	P	**P**	**18 53 20.8**	**+0.7**
	comp=Z,7.4nm,0.8s,baz=225,slow=6.4,SNR=13						
STKA				LR	LR	19 12 02.9	
	comp=Z,223nm,21.4s,baz=216,slow=30						
	comp=Z,7.4nm,0.8s						
ASAR	**Alice Springs**	**56.27**	**88**	P	**P**	**18 53 23.2**	**-0.6**
ASAR				PcP	**PcP**	**18 54 20.2**	**-1.1**
ASAR	**Alice Springs**	**56.27**	**88**	P	**P**	**18 53 24.0**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=222,slow=6.2,SNR=24						
ASAR				PcP	**PcP**	**18 54 20.8**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=214,slow=4.3,SNR=4.2						
	comp=Z,2.9nm,0.8s						
AS31	**Alice Springs**	**56.27**	**88**	P	**P**	**18 53 23.1**	**-0.8**
MBAR	**Mbarara**	**58.43**	**314**	P	**P**	**18 53 39.5**	**+0.2**
MBAR				IAmb	IAmb	18 53 43.0	
	comp=Z,9.9nm,1.3s						
MBAR	**Mbarara**	**58.43**	**314**	LR	LR	19 15 59.1	
	comp=Z,143nm,21.7s,baz=154,slow=33

comp=Z,3.6nm,0.8s
WR0 Warramunga Arr 59.31 85 P P 18 53 44.8 -0.4
WR0 IAmb IAmb 18 53 55.5
comp=Z,7.7nm,1.4s
WB0 Warramunga Arr 59.35 85 P P 18 53 45.2 -0.3
WB0 IAmb IAmb 18 53 46.3
comp=Z,5.7nm,0.8s
PMSA Palmer Station 60.61 201 LR LR 19 16 53.2
comp=Z,109nm,21.9s,baz=156,slow=33
KAPI Kappang 61.46 62 LR LR 19 16 10.2
comp=Z,76nm,21.1s,baz=238,slow=32
KSM Kuching 61.82 49 P P 18 54 01.5 -0.8
SBUM Sibu 63.61 50 P P 18 54 13.9 -0.4
SBUM IAmb IAmb 18 54 16.7
comp=Z,3.7nm,0.9s
RPZ Rata Peaks 65.19 129 LR LR 19 17 50.0
comp=Z,297nm,18.3s,baz=221,slow=31
TOLI2 Tolitoli 67.05 59 P P 18 54 36.1 -0.4
TOLI2 IAmb IAmb 18 54 37.2
comp=Z,8.8nm,1.0s
MYLDM Lahad Datu 69.18 54 P P 18 54 50.7 +0.8
URZ Urewera 72.30 128 LR LR 19 21 51.7
comp=Z,215nm,19.4s,baz=32,slow=32
CM31 Chiang Mai Arr 72.48 30 P P 18 55 09.6 -0.2
CM31 IAmb IAmb 18 55 15.7
comp=Z,5.1nm,1.0s
CMAR Chiang Mai Arr 72.48 30 P P 18 55 09.1 -0.7
CMAR Chiang Mai Arr 72.48 30 P P 18 55 09.9 +0.2
comp=Z,1.9nm,0.7s,baz=218,slow=6.1,SNR=14
CMAR LR LR 19 22 09.3
comp=Z,65nm,19.4s,baz=75,slow=32
comp=Z,1.9nm,0.7s
CRAI Chiangrai 74.60 31 P P 18 55 21.9 -0.4
CRAI IAmb IAmb 18 55 26.4
comp=Z,4.4nm,1.1s
RAMN Ramite 77.46 16 eP P 18 55 39.7 +1.0
comp=Z,15nm,1.0s
ODAN Odare 77.52 17 eP P 18 55 39.7 +0.7
comp=Z,44nm,1.7s
KOLN Koldanda 77.76 13 eP P 18 55 40.0 -0.3
comp=Z,73nm,2.1s
DMN Daman 77.84 15 eP P 18 55 41.2 +0.4
comp=Z,7.2nm,0.5s
PKI Pulchoki 77.85 15 eP P 18 55 40.9 -0.1
comp=Z,11nm,1.0s
PYUN Piuthan 77.99 13 eP P 18 55 41.6 0.0
comp=Z,27nm,1.1s
KKN Kakani 78.05 15 eP P 18 55 41.6 -0.3
comp=Z,40nm,2.0s
TAPN Taplejung 78.05 17 eP P 18 55 42.6 +0.5
comp=Z,40nm,1.5s
JIRN Jiri 78.08 16 eP P 18 55 42.0 -0.3
comp=Z,31nm,1.3s
GKN Gorkha 78.15 14 eP P 18 55 42.3 -0.1
comp=Z,29nm,1.2s
GUN Gumba 78.27 15 eP P 18 55 43.8 +0.5
comp=Z,41nm,1.0s
DANN Dangsing 78.35 13 eP P 18 55 43.3 -0.4
comp=Z,15nm,0.8s
PZH PanZhiHua 80.88 30 P P 18 56 00.3 +3.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
LSA Lhasa 81.04 19 P P 18 55 58.6 +0.2
LSA IAmb IAmb 18 56 00.4
comp=Z,8.4nm,1.0s
TRQA Tornquist 82.83 217 P P 18 56 08.1 +0.5
TRQA IAmb IAmb 18 56 09.4
comp=Z,13nm,1.4s
KBL Kabul 83.39 0 P P 18 56 11.2 +0.8
HRA Herat 83.44 354 P P 18 56 10.7 0.0
HRA IAmb IAmb 18 56 12.5
comp=Z,9.4nm,1.1s
PLCA Paso Flores 83.56 210 P P 18 56 12.5 +1.2
PLCA IAmb IAmb 18 56 13.2
comp=Z,8.1nm,1.1s
PLCA Paso Flores 83.56 210 P P 18 56 11.8 +0.4
comp=Z,2.6nm,0.8s,baz=164,slow=5.4,SNR=6.1
PLCA LR LR 19 29 24.0
comp=Z,27nm,21.5s,baz=127,slow=33
comp=Z,2.6nm,0.8s
HNR Honiara 83.63 97 LR LR 19 29 01.0
comp=Z,2μm,20.1s,baz=91,slow=32
TORD Torodi Ar. Bea 85.58 296 P P 18 56 22.1 +0.4
TORD IAmb IAmb 18 56 23.8
comp=Z,5.6nm,1.1s
TORD Torodi Ar. Bea 85.58 296 P P 18 56 21.9 +0.3
comp=Z,2.0nm,0.9s,baz=103,slow=4.4,SNR=8.2
TORD PP **PP 18 59 36.9 -3.8**
comp=Z,1.2nm,0.9s,baz=106,slow=7.7,SNR=4.4
TORD LR LR 19 33 02.1
comp=Z,87nm,19.4s,baz=132,slow=35
comp=Z,2.0nm,0.9s
ENH Enshi 87.02 34 P P 18 56 28.4 -0.1
KSH Kashi 88.58 5 P P 18 56 33.8 -2.0
KSH pmax pmax
comp=Z,3.0nm,0.9s
KOWA Kowa 90.06 292 LR LR 19 36 09.4
comp=Z,67nm,18.1s,baz=132,slow=35
XAN Xi'an 90.22 32 P P 18 56 43.8 +0.3
XAN pP sP 18 56 48.0 -0.1
XAN pmax pmax
comp=Z,8.0nm,1.3s
CPUP Villa Florida 90.83 226 P P 18 56 46.1 -0.7
comp=Z,3.1nm,0.8s,baz=176,slow=6.3,SNR=4.5
CPUP LR LR 19 32 00.5
comp=Z,45nm,19.0s,baz=66,slow=32
comp=Z,3.1nm,0.8s
KKAR Karatay Array 91.95 1 P P 18 56 51.0 -0.2
NJ2 Nanjing 92.33 41 eP P 18 56 55.8 +2.5
NJ2 Nanjing 92.33 41 eP P 18 56 56.2 +2.9
NJ2 pP **sP 18 56 59.2 +1.3**
NJ2 pP **pP 18 56 59.5 +2.8**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,160nm,3.6s
WMQ Urumqi 94.11 14 eP P 18 57 03.5 +2.2
WMQ LR LR
comp=Z,120nm,22.7s
BDFB Brasilia 94.79 240 LR LR 19 33 24.7
comp=Z,91nm,18.2s,baz=128,slow=32
RCBR Riachuelo 95.18 255 LR LR 19 33 42.0
comp=Z,53nm,18.1s,baz=176,slow=32
MKAR Makanchi Array 96.33 9 P P 18 57 10.6 -0.8
comp=Z,1.0nm,0.9s,baz=168,slow=6.2,SNR=5.7
comp=Z,1.0nm,0.9s
HHC Hu-ho-hao-te 97.25 31 eP Pdif 18 57 18.6 +2.8
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,270nm,6.5s
LVC Limon Verde 99.22 219 LR LR 19 36 09.3
comp=Z,45nm,21.7s,baz=235,slow=32
KURBB Kurchatov Arra 99.80 6 P Pdif 18 57 25.9 -0.8
comp=Z,1.4nm,1.0s,baz=198,slow=4.0,SNR=10
comp=Z,1.4nm,1.0s
ILAR Eielson Array 155.53 37 PKPab **PKPab 19 04 00.5 -1.2**
comp=Z,0.8nm,0.7s,baz=281,slow=4.7,SNR=5.5
TXAR Lajitas Array 159.34 199 PKPab **PKPab 19 04 19.3 +0.2**
comp=Z,1.0nm,1.0s,baz=141,slow=8.1,SNR=5.8
NVAR Mina Array Bea 168.04 152 PKP **PKPdf 19 03 49.9 +0.3**
comp=Z,0.2nm,0.5s,baz=175,slow=4.1,SNR=4.2
PDAR Pinedale Array 173.46 190 PKP **PKPdf 19 03 51.9 -0.5**
comp=Z,0.5nm,0.8s,baz=193,slow=3.1,SNR=2.8
PDAR PKPab **PKPab 19 05 20.8 -0.3**
comp=Z,0.8nm,1.0s,baz=175,slow=5.5,SNR=4.0

---

*KRNET **06** 18:45:28.0±0.1, 40.°03N×75.°54E, mb3.2*
*SOME **06** 18:45:27.6, 39.°98N×75.°67E, h15km*
*NNC **06** 18:45:29.4±1.4, 40.°08N×75.°55E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=10.1km s-min=6.0km az=161.0
ISC 06 18:45:29.0±2.1, 39.°93N±0.°08×75.°67E±0.°05, h4km±15km, n61, σ1§02/78, 21C-19D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.52**	**10**	⇓*iP*	**Pn**	**18 45 54.9**	**-2.3**
NRN	baz=13			⇓*iS*	**Sn**	**18 46 14.6**	**-3.0**
SFK	**Sufi-Kurgan**	**1.66**	**273**	⇑*iP*	**Pn**	**18 45 57.5**	**-1.6**
SFK	baz=70			⇑*iS*	**Sn**	**18 46 19.0**	**-2.0**
ARLS	**Aral**	**2.18**	**333**	⇓*iP*	**Pn**	**18 46 05.6**	**-0.5**
ARLS	baz=34			⇓*iS*	**Sn**	**18 46 33.1**	**-0.5**
OHH	**Osh**	**2.28**	**286**	⇑*eP*	**Pn**	**18 46 07.6**	**+0.1**
OHH	baz=84			⇑*eS*	**Sn**	**18 46 36.5**	**+0.4**
ULHL	**Ulahol**	**2.35**	**10**	P	**Pn**	**18 46 10.1**	**+1.5**
ULHL	SNR=12 **Ulahol** baz=13	**2.35**	**10**	⇑*iP*	**Pn**	**18 46 08.9**	**+0.3**
ULHL				⇑*iS*	**Sn**	**18 46 38.8**	**+0.8**
UCH	**Uchtor**	**2.45**	**340**	P	**Pn**	**18 46 09.9**	**-0.2**
UCH	SNR=16 **Uchtor** baz=41	**2.45**	**340**	⇓*iP*	**Pn**	**18 46 09.9**	**-0.2**
UCH				⇓*iS*	**Sn**	**18 46 40.4**	**-0.4**
BOOM	**Boomskoye usch** baz=7.0	**2.56**	**5**	⇓*iP*	**Pn**	**18 46 11.7**	**+0.3**
BOOM				⇓*iS*	**Sn**	**18 46 43.6**	**+0.5**
AML	**Almayashu**	**2.66**	**326**	P	**Pb**	**18 46 15.8**	**-1.5**
AML	SNR=38 **Almayashu** 2.4nm,0.5s	**2.66**	**326**	⇑Pg	**Pn**	**18 46 14.6**	**+1.7**
AML				⇑Lg	Lg	18 46 50.0	
AML	6.3nm,0.6s **Almayashu** baz=27	**2.66**	**326**	⇑*eP*	**Pn**	**18 46 12.5**	**-0.4**
AML				⇑*iS*	**Sn**	**18 46 44.9**	**-0.8**
KBK	**Karagaybulak**	**2.77**	**349**	P	**Pn**	**18 46 14.8**	**+0.5**
KBK	SNR=22 **Karagaybulak** baz=50	**2.77**	**349**	⇓*iP*	**Pn**	**18 46 14.3**	**0.0**
KBK				⇓*iS*	**Sn**	**18 46 48.1**	**-0.2**
AAK	**Ala-Archa**	**2.84**	**342**	P	**Pn**	**18 46 16.0**	**+0.8**
AAK	SNR=13 **Ala-Archa** baz=43	**2.84**	**342**	⇓*iP*	**Pn**	**18 46 15.0**	**-0.3**
AAK				⇓*iS*	**Sn**	**18 46 49.4**	**-0.6**
FRU1	**Bishkek**	**2.98**	**345**	⇑*eP*	**Pn**	**18 46 17.5**	**+0.5**
FRU1	baz=46			⇑*eS*	**Sn**	**18 46 53.2**	**0.0**
TKM2	**Tokmak 2**	**2.99**	**359**	P	**Sb**	**18 47 00.3**	**+0.6**
TKM2	SNR=8.1 **Tokmak 2** 3.9nm,0.3s	**2.99**	**359**	⇓Pg	**Pb**	**18 46 20.9**	**-2.0**
TKM2				⇓Lg	Lg	18 46 60.0	
TKM2	20nm,0.4s **Tokmak 2** baz=1.0	**2.99**	**359**	⇑*iP*	**Pn**	**18 46 17.5**	**+0.2**
TKM2				⇑*iS*	**Sn**	**18 46 53.5**	**-0.1**
EKS2	**Erkin-Say**	**3.08**	**333**	P	**Sb**	**18 47 03.6**	**+1.4**
EKS2	SNR=5.2 **Erkin-Say** baz=34	**3.08**	**333**	⇓*iP*	**Pn**	**18 46 18.2**	**-0.2**
EKS2				⇓*iS*	**Sn**	**18 46 54.8**	**-0.9**
KST	**Kastek**	**3.12**	**4**	Pg	**Pb**	**18 46 23.8**	**-1.2**
KST	7.8nm,0.1s			Lg	Lg	18 47 04.2	
KST	46nm,0.4s **Kastek** 7.8nm,0.1s	**3.12**	**4**	*e*Pg	**Pb**	**18 46 23.8**	**-1.2**
KST				*e*Lg	Lg	18 47 04.2	
CHMS	**Chumysh**	**3.14**	**348**	⇑*iP*	**Pn**	**18 46 19.1**	**-0.1**
CHMS	baz=49			⇑*iS*	**Sn**	**18 46 56.6**	**-0.5**
IZV	**Izvestkoviy**	**3.18**	**13**	Pg	**Pb**	**18 46 25.7**	**-0.5**
IZV	7.5nm,0.3s			Lg	Lg	18 47 07.4	
IZV	23nm,0.5s **Izvestkoviy** 7.5nm,0.3s	**3.18**	**13**	*e*Pg	**Pb**	**18 46 25.7**	**-0.5**
IZV				*e*Lg	Lg	18 47 07.4	
MTBS	**Maitube**	**3.25**	**10**	Pg	**Pb**	**18 46 25.9**	**-1.3**
MTBS	5.0nm,0.2s			Lg	Lg	18 47 07.7	
MTBS	16nm,0.3s **Maitube** 5.0nm,0.2s	**3.25**	**10**	*e*Pg	**Pb**	**18 46 25.9**	**-1.3**
MTBS				*e*Lg	Lg	18 47 07.7	
TNSS	**Tian-Shan**	**3.25**	**17**	Pg	**Pb**	**18 46 26.8**	**-0.6**
TNSS	6.9nm,0.7s			Lg	Lg	18 47 09.1	
TNSS	10nm,0.6s **Tian-Shan** 6.9nm,0.7s	**3.25**	**17**	*e*Pg	**Pb**	**18 46 26.8**	**-0.6**
TNSS				*e*Lg	Lg	18 47 09.1	
DGS	**Degeres**	**3.31**	**1**	Pg	**Pb**	**18 46 27.4**	**-0.8**
DGS	5.5nm,0.3s			Lg	Lg	18 47 10.3	
DGS	29nm,0.6s **Degeres** 5.5nm,0.3s	**3.31**	**1**	*e*Pg	**Pb**	**18 46 27.4**	**-0.8**
DGS				*e*Lg	Lg	18 47 10.3	
MRKS	**Merke**	**3.36**	**328**	Pg	**Pb**	**18 46 27.9**	**-1.2**
MRKS	11nm,0.4s			Lg	Lg	18 47 11.2	
MRKS	31nm,0.3s **Merke** 11nm,0.4s	**3.36**	**328**	*e*Pg	**Pb**	**18 46 27.9**	**-1.2**
MRKS				*e*Lg	Lg	18 47 11.2	
ARK	**Arkit**	**3.37**	**305**	⇓*eP*	**Pn**	**18 46 21.9**	**-0.6**
ARK	baz=4.0			⇓*eS*	**Sn**	**18 47 01.7**	**-1.2**
AAA	**Alma-Ata**	**3.40**	**16**	Pg	**Pb**	**18 46 30.0**	**+0.1**
AAA	14nm,0.1s			Lg	Lg	18 47 14.6	
AAA	42nm,0.4s **Alma-Ata** 14nm,0.1s	**3.40**	**16**	*e*Pg	**Pb**	**18 46 30.0**	**+0.1**
AAA				*e*Lg	Lg	18 47 14.6	
KNDC	**Almaty**	**3.42**	**16**	⇑Pg	**Pg**	**18 46 34.2**	**-0.3**
KNDC	8.2nm,0.3s			⇑Lg	Lg	18 47 14.5	
KOTS	55nm,0.6s **Kotyrbulak**	**3.47**	**18**	Pg	**Pb**	**18 46 29.9**	**-1.2**
KOTS	5.6nm,0.3s			Lg	Lg	18 47 14.6	
KOTS	41nm,0.5s **Kotyrbulak** 5.6nm,0.3s	**3.47**	**18**	*e*Pg	**Pb**	**18 46 29.9**	**-1.2**
KOTS				*e*Lg	Lg	18 47 14.6	
BTK	**Batken**	**3.73**	**273**	⇑*eP*	**Pn**	**18 46 27.7**	**+0.4**
BTK	baz=72			⇑*eS*	**Sn**	**18 47 11.2**	**-0.5**
SATY	**Saty**	**3.74**	**32**	Pg	**Pb**	**18 46 35.6**	**-0.1**
SATY	2.4nm,0.3s			Lg	Lg	18 47 24.4	
SATY	15nm,0.3s **Saty** 2.4nm,0.3s	**3.74**	**32**	*e*Pg	**Pb**	**18 46 35.6**	**-0.1**
SATY				*e*Lg	Lg	18 47 24.4	
KRBS	**Karabastau**	**3.76**	**0**	Pg	**Pb**	**18 46 35.5**	**-0.5**
KRBS	5.9nm,0.2s			Lg	Lg	18 47 24.4	
KRBS	12nm,0.5s **Karabastau**	**3.76**	**0**	*e*Pg	**Pb**	**18 46 35.5**	**-0.5**
KRBS	5.9nm,0.2s			*e*Lg	Lg	18 47 24.4	
KTBS	12nm,0.5s **Karatobe**	**3.85**	**11**	Pg	**Pb**	**18 46 37.1**	**-0.4**
KTBS	6.0nm,0.2s			Lg	Lg	18 47 27.1	
KTBS	38nm,0.4s **Karatobe** 6.0nm,0.2s	**3.85**	**11**	*e*Pg	**Pb**	**18 46 37.1**	**-0.4**
KTBS				*e*Lg	Lg	18 47 27.1	
KUU	38nm,0.4s **Kurty**	**3.99**	**7**	Pg	**Pb**	**18 46 39.0**	**-0.8**
KUU	2.3nm,0.6s			Lg	Lg	18 47 30.2	
KUU	26nm,0.5s **Kurty** 2.3nm,0.6s	**3.99**	**7**	*e*Pg	**Pb**	**18 46 39.0**	**-0.8**
KUU				*e*Lg	Lg	18 47 30.2	
CHKK	26nm,0.5s **Chushkaly**	**4.04**	**14**	Pg	**Pb**	**18 46 40.7**	**0.0**
CHKK				Lg	Lg	18 47 33.0	
CHKK	2.2nm,0.3s **Chushkaly**	**4.04**	**14**	*e*P	**Pb**	**18 46 40.7**	**0.0**
CHKK				*e*S	**Sb**	**18 47 33.0**	**+3.2**
UZB	2.2nm,0.3s **Uzynbulak**	**4.08**	**37**	Pg	**Pb**	**18 46 41.8**	**+0.3**
UZB	3.4nm,0.2s			Lg	Lg	18 47 34.9	
UZB	8.1nm,0.4s **Uzynbulak**	**4.08**	**37**	*e*Pg	**Pb**	**18 46 41.8**	**+0.3**
UZB	3.4nm,0.2s			*e*Lg	Lg	18 47 34.9	
KPKS	8.1nm,0.4s **Kokpek**	**4.19**	**32**	*e*Pg	**Pb**	**18 46 42.9**	**-0.4**
KPKS	1.7nm,0.2s			*e*Lg	Lg	18 47 36.8	
DZA	21nm,0.3s **Taraz**	**4.40**	**314**	Pg	**Pb**	**18 46 48.1**	**+1.3**
DZA	68nm,0.1s			Lg	Lg	18 47 45.9	
DZA	46nm,0.2s **Taraz**	**4.40**	**314**	*e*Pg	**Pb**	**18 46 48.1**	**+1.3**
DZA	68nm,0.1s			*e*Lg	Lg	18 47 45.9	
ARXS	46nm,0.2s **Arharly**	**4.57**	**20**	*e*Pg	**Pb**	**18 46 49.8**	**0.0**
ARXS	5.7nm,0.4s			*e*Lg	Lg	18 47 48.5	
IUG	6.6nm,0.3s **Iuzhnay**	**4.80**	**299**	Pg	**Pb**	**18 46 54.9**	**+1.2**
IUG	3.7nm,0.3s			Lg	Lg	18 47 57.7	
IUG	12nm,0.5s **Iuzhnay**	**4.80**	**299**	*e*Pg	**Pb**	**18 46 54.9**	**+1.2**
IUG	3.7nm,0.3s			*e*Lg	Lg	18 47 57.7	
KK31	12nm,0.5s **Karatay Array**	**5.00**	**311**	⇓Pg	**Pb**	**18 46 57.3**	**+0.3**
KK31	0.6nm,0.4s,baz=124,slow=16,SNR=7.9 1.6nm,0.5s,baz=129,slow=28,SNR=6.2			⇑Lg	Lg	18 48 03.4	

---

*ISN **06** 19:01:45.4±0.5, 33.°12N×46.°05E, h17km±7km, ML2.8*
*TEH **06** 19:01:47.3, 33.°15N×46.°12E, h10km±529km, ML2.8*
ISC 06 19:01:45.4±1.0, 33.°10N±0.°04×46.°00E±0.°05, h10km, n8, σ1§44/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.56**	**18**	Pg	**Pg**	**19 01 53.4**	**-2.8**
ILBA				Sg	**Sg**	**19 02 04.3**	**+0.7**
IGHG	**Ghaleghazi**	**1.32**	**21**	Pg	**Pn**	**19 02 11.4**	**+1.2**
BHD	**Baghdad**	**1.37**	**278**	*e*Pg	**Pn**	**19 02 11.0**	**+0.4**
BHD				*e*Sg	**Sg**	**19 02 30.0**	**+0.5**
BHD				AML	AML	19 02 34.6	
RAFI	comp=E,219nm,0.5s **Al-Rafai**	**1.37**	**176**	*e*Pg	**Pb**	**19 02 11.0**	**-0.2**
RAFI				*e*Sg	**Sg**	**19 02 30.0**	**+0.4**
RAFI				AML	AML	19 02 33.9	
RAFI	comp=N,114nm,0.4s			AML	AML	19 02 52.8	
IKFM	comp=E,158nm,0.2s **Kafar-mosalman**	**1.60**	**74**	Pg	**Pn**	**19 02 15.2**	**+1.4**
IDHR	**Dehrash**	**1.63**	**11**	Pg	**Pn**	**19 02 15.9**	**+1.5**
IKOM	**Komasi**	**1.66**	**49**	Pg	**Pn**	**19 02 15.8**	**+1.1**
IKRK	**Kirkuk**	**2.68**	**330**	*e*Pn	**Pn**	**19 02 30.0**	**+1.4**
IKRK				*e*Sn	**Sn**	**19 03 02.0**	**+0.9**

---

*IDC **06** 19:04:42.5±1.1, 10.°96N×141.°67E, h0km, mb3.9/8,*
mbtmp3.9/9, ML3.7/1, MS3.6/4, Error ellipse: s-maj=44.4km
s-min=20.6km az=91.0
ISC 06 19:04:47.5±1.0, 11.°0N±0.°1×141.°8E±0.°1, h35km, n12, σ0§58/10, mb4.0/8, MS3.7/4, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.99**	**49**	Pn	**Pn**	**19 05 46.6**	**+0.3**
GUMO	5.3nm,0.3s,baz=162,slow=16,SNR=6.1			Sn	**Sn**	**19 06 31.5**	**-0.4**
KSRS	2.8nm,0.3s,baz=179,slow=18,SNR=1.5 68nm,0.8s **Korea Array**	**29.18**	**337**	LR	LR	19 20 19.5	
WRA	comp=Z,129nm,20.6s,baz=40,slow=32 **Warramunga Arr**	**31.57**	**193**	P	**P**	**19 11 06.7**	**-0.2**
USRK	0.9nm,1.0s,baz=15,slow=9.8,SNR=5.8 0.9nm,1.0s **Ussuriysk Ar.**	**34.19**	**347**	P	**P**	**19 11 29.7**	**+0.1**
ASAR	1.9nm,0.7s,baz=137,slow=7.3,SNR=2.3 1.9nm,0.7s **Alice Springs**	**35.26**	**193**	P	**P**	**19 11 39.2**	**+0.1**
MKAR	0.2nm,0.6s,baz=13,slow=12,SNR=6.2 0.2nm,0.6s **Makanchi Array**	**61.34**	**318**	P	**P**	**19 14 59.1**	**-0.8**
MKAR	0.2nm,0.5s,baz=123,slow=10,SNR=2.4			LR	LR	19 42 40.8	
KURBB	comp=Z,42nm,20.3s,baz=50,slow=37 0.2nm,0.5s **Kurchatov Arra**	**64.72**	**321**	P	**P**	**19 15 22.1**	**0.0**
BVAR	1.0nm,0.7s,baz=106,slow=6.1,SNR=8.5 1.0nm,0.7s **Borovoye Array**	**70.14**	**323**	P	**P**	**19 15 57.5**	**+1.0**
GNI	0.6nm,0.4s,baz=99,slow=7.4,SNR=7.4 0.6nm,0.4s **Garni**	**88.34**	**310**	LR	LR	20 02 12.3	
ARCES	comp=Z,32nm,20.1s,baz=38,slow=39 **ARCESS Array B**	**88.64**	**342**	P	**P**	**19 17 36.7**	**0.0**
FINES	1.3nm,0.5s,baz=70,slow=7.0,SNR=19 1.3nm,0.5s **FINESS Array B**	**92.24**	**334**	P	**P**	**19 17 53.0**	**-0.6**
	3.5nm,0.7s,baz=68,slow=5.8,SNR=22 3.5nm,0.7s						
EIL	**Elat**	**98.89**	**303**	LR	LR	20 07 07.0	
	comp=Z,28nm,22.0s,baz=62,slow=38						

---

*IDC **06** 19:10:02.9±1.4, 54.°44N×157.°09W, h0km, mb3.8/11,*
mbtmp3.8/14, ML3.4/3, Error ellipse: s-maj=35.0km
s-min=20.7km az=166.0
*NEIC **06** 19:10:05.1±2.5, 54.°64N±0.°08×156.°85W±0.°09, h10km±2km,*
mb4.0/3, ML3.5/22, ML3.5(AEIC), Error ellipse:
s-maj=13.9km s-min=8.0km az=166.0
*AEIC **06** 19:10:08.9±2.2, 54.°5N±0.°1×156.°76W±0.°09, h10km±8km,*
Error ellipse: s-maj=15.2km s-min=7.5km az=170.0
ISC 06 19:10:05.2±0.8, 54.°70N±0.°10×156.°87W±0.°05, h10km, n90, σ1§06/96, mb3.9/11, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**1.33**	**32**		**Pn**	**19 10 29.8**	**-0.1**
CNBA	**Chernabura Isl**	**1.58**	**276**	Pn	**Pn**	**19 10 32.0**	**-1.1**
CHGN	**Chignik**	**1.83**	**332**		**Pn**	**19 10 37.2**	**+0.6**
CHGN				IAML		19 11 37.8	
CHGN	comp=E,358nm,0.1s			IAML		19 11 39.8	
VNKR	comp=N,264nm,0.1s **Veniaminof 5**	**1.95**	**314**		**Pn**	**19 10 39.3**	**+0.9**
VNKR					**Sn**	**19 11 03.0**	**0.0**
VNHG	**Veniaminof 1**	**2.01**	**320**		**Pn**	**19 10 40.6**	**+1.4**
VNWF	**Veniaminof 8**	**2.12**	**315**		**Pn**	**19 10 42.2**	**+1.6**
SDPT	**Sand Point**	**2.18**	**289**	Pn	**Pn**	**19 10 41.2**	**-0.2**
SDPT				IAML		19 11 08.1	
VNFG	comp=E,184nm,2.6s **Fog Glacier, M**	**2.21**	**317**		**Pn**	**19 10 43.6**	**+1.7**
ANPK	**Aniakchak Peak**	**2.26**	**342**		**Pn**	**19 10 43.8**	**+1.0**
SII	**Sitkinak Islan**	**2.41**	**38**	Pn	**Pn**	**19 10 45.0**	**+0.3**
SII				IAML		19 11 46.5	
SII	comp=E,246nm,1.3s			IAML		19 11 47.3	
PVV	comp=N,246nm,1.9s **Pavlof Volcano**	**2.91**	**285**		**Pn**	**19 10 51.6**	**+0.1**
PVV					**Sn**	**19 11 25.9**	**-0.6**

HAG	Hague Volcano	2.96	284			Pn	19 10 52.1	-0.1
HAG						Sn	19 11 28.6	+0.7
PN7A	Pavlof North-7	3.04	286			Pn	19 10 53.5	+0.2
PN7A						Sn	19 11 29.2	-0.6
FALS	False Pass	3.79	275			Pn	19 11 03.1	-0.5
KDAK	Kodiak Island	3.91	36	Pn		Pn	19 11 05.4	+0.2
KDAK				IAML			19 12 55.4	
	comp=N,56nm,2.2s							
KDAK				IAML			19 13 20.3	
	comp=N,51nm,2.2s							
KDAK	Kodiak Island	3.91	36	Pn		Pn	19 11 05.1	-0.1
	comp=N,2.0nm,0.3s,baz=218,slow=10,SNR=14							
KDAK				Sn		Sn	19 11 48.8	-2.3
	comp=N,1.9nm,0.3s,baz=271,slow=8.3,SNR=3.9							
	comp=N,6.7nm,0.4s							
ISLZ	Isanotski Laza	3.97	273			Pn	19 11 06.1	0.0
ISNN	Isanotski Nort	4.00	275			Pn	19 11 07.1	+0.6
ISNN						Sn	19 11 52.5	-0.9
SSLS	Shishaldin Sou	4.13	273			Pn	19 11 07.9	-0.5
Q19K	Cape Douglas,	4.60	21	Pn		Pn	19 11 16.1	+1.4
WECS	Westdahl Cape	4.60	271			Pn	19 11 14.1	-0.6
SYI	Shuyak Island	4.64	30	Pn		Pn	19 11 15.5	+0.4
SYI				IAML			19 13 17.3	
	comp=N,74nm,3.1s							
P18K	Big Mountain,	4.79	10	Pn		Pn	19 11 16.9	-0.5
P18K				IAML			19 12 18.4	
	comp=E,37nm,3.8s							
P18K				IAML			19 13 40.0	
	comp=N,28nm,2.3s							
AKUT	Akutan	5.23	267	Pn		Pn	19 11 22.4	-0.9
O18K	Koktuh Hills	5.25	9	Pn		Pn	19 11 23.2	-0.4
O18K				IAML			19 12 15.2	
	comp=N,41nm,4.3s							
O18K				IAML			19 14 27.6	
	comp=E,34nm,3.1s							
CNPM	China Poot	5.73	30	Pn		Pn	19 11 30.9	+0.6
N18K	Kilae Creek	6.02	5	Pn		Pn	19 11 35.4	+1.2
BRLK	Bradley Lake	6.03	30	Pn		Pn	19 11 33.5	-0.9
RSO	Redoubt South	6.19	19	Pn		Pn	19 11 38.3	+1.6
N19K	Bonanza Creek	6.26	11	Pn		Pn	19 11 39.1	+1.5
SVW2	Sparrevohn	6.46	6	Pn		Pn	19 11 40.5	+0.3
M19K	Big River Lodg	7.34	9	Pn		Pn	19 11 53.9	+1.5
FIS	Fire Island	7.37	26	Pn		Pn	19 11 52.9	+0.2
RC01	Rabbit Creek A	7.45	28	Pn		Pn	19 11 54.4	+0.6
M20K	Styx River	7.47	14	Pn		Pn	19 11 55.6	+1.5
SUA	Susitna One	7.52	23	Pn		Pn	19 11 55.2	+0.3
L19K	White Mountain	7.58	7	Pn		Pn	19 11 57.3	+1.7
PWL	Port Wells	7.67	33	Pn		Pn	19 11 58.4	+1.5
SKT	Skwentna	7.82	19	Pn		Pn	19 12 00.7	+1.8
KNK	Knik Glacier	8.07	30	Pn		Pn	19 12 02.9	+0.5
GLI	Glacier Island	8.10	36	Pn		Pn	19 12 02.1	-0.6
FID	Port Fidalgo	8.22	38	Pn		Pn	19 12 02.7	-1.8
GHO	Glory Hole Cre	8.23	27	Pn		Pn	19 12 03.8	-0.8
SML	Sawmill	8.43	29	Pn		Pn	19 12 07.9	+0.7
KAIM	Kayak Island	8.53	47	Pn		Pn	19 12 09.9	+1.3
RAGM	Ragged Mountai	8.68	44	Pn		Pn	19 12 11.7	+1.0
SCM	Sheep Creek Mo	8.74	31	Pn		Pn	19 12 11.4	-0.1
K20K	Telida	8.80	8	Pn		Pn	19 12 13.1	+0.7
HMT	Hamilton	8.82	45	Pn		Pn	19 12 14.2	+1.6
SUCK	Suckling Hills	8.88	47	Pn		Pn	19 12 13.8	+0.4
KLU	Klutina	8.94	36	Pn		Pn	19 12 13.4	-0.9
BERG	Berg Lake	9.09	46	Pn		Pn	19 12 18.3	+2.1
CAST	Castle Rocks	9.09	14	Pn		Pn	19 12 17.0	+0.8
M24K	Tolsona, Glenn	9.30	33	Pn		Pn	19 12 20.7	+1.5
KTH	Kantishna Hill	9.39	17	Pn		Pn	19 12 21.0	+0.6
TRF	Thorofare Moun	9.40	18	Pn		Pn	19 12 20.4	-0.3
N25K	Chitina, Valde	9.48	38	Pn		Pn	19 12 21.9	+0.3
CRQM	Cirque	9.52	45	Pn		Pn	19 12 23.6	+1.3
J20K	Nowinta River	9.61	7	Pn		Pn	19 12 25.2	+1.8
GLB	Gilahina Butte	9.66	40	Pn		Pn	19 12 24.9	+0.8
VRDI	Verde Repeater	9.66	42	Pn		Pn	19 12 25.7	+1.4
BPAW	Bear Paw Mtn.	9.89	15	Pn		Pn	19 12 27.0	-0.2
YAH	Yahtse	9.91	49	Pn		Pn	19 12 27.9	+0.2
ATKA	Atka Island	10.63	264	Pn		Pn	19 12 35.9	-1.4
MDM	Murphy Dome	11.16	19	Pn		Pn	19 12 43.1	-1.5
ILAR	Eielson Array	11.27	22	Pn		Pn	19 12 44.1	-2.0
	comp=E,0.2nm,0.3s,baz=211,slow=14,SNR=7.5							
	comp=E,0.5nm,0.4s							
Q29M	Mount Kennedy	11.31	53	Pn		Pn	19 12 49.2	+2.5
IMAR	Indian Mountai	11.43	6	Pn		Pn	19 12 49.2	+1.0
BCAR	Beaver Creek A	11.43	37	Pn		Pn	19 12 50.0	+1.7
J26L	Joseph Creek	11.89	29	Pn		Pn	19 12 55.5	+0.9
ADK	Adak	12.18	265	Pn		Pn	19 12 58.6	+0.1
PRP	Porcupine Dome	12.21	23	Pn		Pn	19 12 59.2	+0.2
M29M	Somme Creek	12.31	44	Pn		Pn	19 13 01.6	+1.2
I30M	Mount Dempster	14.63	36	Pn		Pn	19 13 30.9	-1.2
H29M	Whitestone	14.64	31	Pn		Pn	19 13 31.4	-0.7
G29M	Pine Creek	15.22	29	Pn		Pn	19 13 38.8	-1.0
G29M				IAmb		IAmb	19 13 53.0	
	comp=Z,9.5nm,1.2s							
F28M	Old Crow	15.25	25	Pn		Pn	19 13 39.5	-0.7
F28M				IAmb		IAmb	19 13 49.9	
	comp=Z,5.2nm,1.0s							
H31M	Peel River	15.66	36	Pn		Pn	19 13 44.3	-1.4
H31M				IAmb		IAmb	19 13 49.7	
	comp=Z,19nm,1.4s							
INK	Inuvik	17.44	29	P		P	19 14 09.4	+0.1
	comp=Z,0.1nm,0.3s,baz=150,slow=18,SNR=1.7							
	comp=Z,3.0nm,0.9s							
PETK	Petropavlovsk-	26.46	285	P		P	19 15 39.9	-2.1
	comp=Z,3.7nm,0.7s,baz=81,slow=13,SNR=5.8							
	comp=Z,3.7nm,0.7s							
TXAR	Lajitas Array	45.53	102	P		P	19 18 25.6	+0.6
	comp=Z,0.1nm,0.5s,baz=302,slow=4.1,SNR=2.2							
	comp=Z,0.1nm,0.5s							
SCHQ	Schefferville	48.40	51	P		P	19 18 46.6	-0.3
	comp=Z,2.8nm,0.7s,baz=237,slow=8.9,SNR=2.2							
	comp=Z,2.8nm,0.7s							
ARCES	ARCESS Array B	56.06	359	P		P	19 19 44.5	+0.9
	comp=Z,0.7nm,0.6s,baz=27,slow=8.3,SNR=7.9							
	comp=Z,0.7nm,0.6s							
SONM	Songino Array	56.23	306	P		P	19 19 45.2	-0.1
	comp=Z,0.5nm,0.6s,baz=43,slow=6.7,SNR=3.6							
	comp=Z,0.5nm,0.6s							
FINES	FINESS Array B	64.18	358	P		P	19 20 40.3	+1.0
	comp=Z,1.2nm,0.9s,baz=24,slow=11,SNR=1.5							
	comp=Z,1.2nm,0.9s							
KURBB	Kurchatov Arra	65.31	325	P		P	19 20 46.8	-0.1
	comp=Z,0.3nm,0.6s,baz=29,slow=5.9,SNR=4.3							
	comp=Z,0.3nm,0.6s							
BVAR	Borovoye Array	65.73	331	P		P	19 20 50.9	+1.3
	comp=Z,1.0nm,0.8s,baz=48,slow=8.8,SNR=4.9							
	comp=Z,1.0nm,0.8s							
MKAR	Makanchi Array	67.22	320	P		P	19 20 59.3	0.0
	comp=Z,0.5nm,0.6s,baz=46,slow=6.9,SNR=4.9							
	comp=Z,0.5nm,0.6s							
CMAR	Chiang Mai Arr	83.04	292	P		P	19 22 31.1	+0.3
	comp=Z,0.6nm,0.7s,baz=17,slow=4.9,SNR=5.1							
	comp=Z,0.6nm,0.7s							
ESDC	Sonseca Array	83.17	21	P		P	19 22 31.6	+0.4
	comp=Z,0.6nm,0.7s,baz=340,slow=7.5,SNR=5.2							
	comp=Z,0.6nm,0.7s							

*MEX **06** 19:39:29.0±0.6, 14°.97N×94°.20W, h25km±19km, MD4.2*
*GCG **06** 19:39:33.2±1.1, 15°.22N×93°.85W, h34km±999km, MD3.8*

ISC 06 19:39:24.0±1.6, 15°.01N±0°.05×94°.17W±0°.03, h13km±11km, n27, σ2§21/52, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.15	53	*i* P	Pg	19 39 47.3	+1.2
PCIG				*i* S	Sn	19 40 01.6	+0.2
CARR	Arriaga	1.25	11	*i* P	Pg	19 39 48.8	+0.6
CARR				*e*S	Sg	19 40 03.4	-1.2
NILT	Santiago Nilte	1.60	344	*i* P	Pb	19 39 53.3	-0.2
NILT				*e*S	Sn	19 40 11.3	-1.4
THIG		1.84	93	*e*P	Pn	19 39 56.3	+0.9
THIG				*e*S	Sn	19 40 18.4	-0.2
PATR	El Naranjo	1.87	87	*i* P	Pb	19 39 57.8	-0.4
PATR				*i* S	Sn	19 40 19.3	-0.4
PAVE	Pavencul	1.93	84	*i* P	Pb	19 39 59.1	-0.2
PAVE				*i* S	Sb	19 40 21.8	-1.6
CHUJ	Union Juarez	1.99	87	*i* P	Pb	19 39 59.8	-0.5
CHUJ				*i* S	Sn	19 40 22.3	-0.3
HUIG	Huatulco	2.02	292	*e*P	Pn	19 39 59.1	+1.3
HUIG				*e*S	Sn	19 40 20.0	-2.9
TGIG		2.02	30	*i* P	Pb	19 40 00.6	-0.2
TGIG				*e*S	Sb	19 40 24.9	-1.0
TGBT	Tuxtla Gutierr	2.04	30	*e*P	Pg	19 40 01.7	-1.5
TGBT				*e*S	Sb	19 40 25.4	-0.9
CCIG	Comitan	2.33	57	*e*P	Pb	19 40 06.2	+0.2
STG3	Santiaguito 3,	2.53	96	*e*P	Pb	19 40 08.4	-1.1
STG3				*e*S	Sn	19 40 36.7	+0.9
SULM	Suchitepequez,	2.62	105	*e*P	Pb	19 40 10.6	-0.2
SULM				*e*S	Sn	19 40 38.3	+0.6
TUIG	Tuzandepetl	3.02	355	*e*P	Pb	19 40 18.0	+0.4
TUIG				*e*S	Sn	19 40 49.7	+2.1
PEIG	Puerto Escondi	3.03	289	*e*P	Pn	19 40 13.6	+1.8
PEIG				*e*S	Sn	19 40 43.8	-4.2
NEUV	Arroyo Zacate	3.11	330	*e*P	Pn	19 40 14.3	+1.5
NEUV				*e*S	Sn	19 40 52.1	+2.2
OXLC	Oaxaca	3.18	310	*e*P	Pn	19 40 15.1	+1.1
OXLC				*e*S	Sn	19 40 51.1	-0.8
VHO	Vista Hermosa	3.21	310	*e*P	Pn	19 40 16.8	+2.4
VHO				*e*S	Sn	19 40 52.5	0.0
FUG	Fuego 3	3.27	99	*e*P	Pb	19 40 19.3	-2.8
FUG				*e*S	Sn	19 40 55.7	+1.7
YOIG	Yosondua	3.73	300	*e*P	Pn	19 40 25.9	+4.3
YOIG				*e*S	Sn	19 41 05.2	-0.4
PNIG	Pinotepa	4.05	290	*e*P	Pn	19 40 28.4	+2.6
TOIG	Toxpalan	4.14	318	*e*P	Pn	19 40 31.8	+4.7
TOIG				*e*S	Sn	19 41 16.3	+0.8
HLIG	Huajuapan de L	4.47	309	*e*P	Pn	19 40 35.7	+3.9
HLIG				*e*S	Sn	19 41 22.3	-1.6
TPIG	Tehuac#an	4.56	318	*e*P	Pn	19 40 34.2	+1.2
TPIG				*e*S	Sn	19 41 30.5	+4.4
FTIG	Fresnillo de T	4.77	308	*e*P	Pn	19 40 40.5	+4.7
FTIG				*e*S	Sn	19 41 28.9	-2.2
JAUV	Jalcomulco	5.01	330	*e*P	Pn	19 40 38.4	-0.6
JAUV				*e*S	Sn	19 41 32.9	-4.0
CXUV	Coxquihui	6.08	328	*e*P	Pn	19 40 54.6	+0.8
CXUV				*e*S	Sn	19 41 58.2	-5.0

*IDC **06** 20:11:20.8±2.5, 53°.21N×168°.78W, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=73.9km s-min=34.1km az=14.0*
*AEIC **06** 20:11:20.9±1.8, 52°.00N±0°.04×168°.63W±0°.07, h31km±7km, Error ellipse: s-maj=6.6km s-min=5.0km az=96.0*
*NEIC **06** 20:11:21.3±1.4, 51°.96N±0°.08×168°.71W±0°.07, h36km±37km, ML2.7(AEIC), Error ellipse: s-maj=11.1km s-min=6.5km az=174.0*

ISC 06 20:11:22.5±2.5, 52°.1N±0°.2×168°.75W±0°.09, h63km±20km, n24, σ1§03/27, mb4.0/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	Nikolski High	0.91	356		Pn	20 11 38.2	-1.2
NIKH					Sn	20 11 51.5	-0.4
CLCO	Concord Point,	0.93	321		Pn	20 11 39.1	-0.6
CLCO					Sn	20 11 53.0	+0.5
CLES	Cleveland East	1.03	318		Pn	20 11 39.2	-1.8
CLES	Cleveland East	1.03	318		Sn	20 11 56.8	+2.1
OKSP	Okmok Steeple	1.22	13		Pn	20 11 42.4	-1.0
OKCE	Okmok Cone E	1.41	14		Pn	20 11 45.3	-0.6
OKCE					Sn	20 12 05.1	+1.5
OKFG	Magazine Ridge	1.44	20		Pn	20 11 45.9	-0.5
OKFG					Sn	20 12 05.3	+1.0
OKER	Okmok East Rim	1.45	17		Pn	20 11 46.2	-0.4
MAPS	Pakushin South	2.06	31		Pn	20 11 54.6	-0.1
MGOD	Makushin Gods	2.07	33		Pn	20 11 55.1	+0.2
MSW	Makushin Switc	2.20	32		Pn	20 11 56.9	+0.3
MSW					Sn	20 12 23.0	+0.3
MNAT	Makushin Natee	2.21	34		Pn	20 11 56.7	0.0
UNV	Unalaska Valle	2.24	36		Pn	20 11 56.3	-0.8
UNV	Unalaska Valle	2.24	36		Sn	20 12 23.6	-0.1
AKUT	Akutan	2.74	40	Pn	Pn	20 12 04.0	0.0
ATKA	Atka Island	3.36	274	Pn	Pn	20 12 11.6	-0.8
ADK	Adak	4.91	271	Pn	Pn	20 12 33.7	+0.1
KIWB	Kanaga Island	5.20	271	Pn	Pn	20 12 36.7	-0.9
CHGN	Chignik	7.40	51	Pn	Pn	20 13 09.6	+2.0
AMKA	Amchitka	7.46	269	Pn	Pn	20 13 08.8	+0.4
PETK	Petropavlovsk-	20.31	286	P	P	20 15 54.9	+1.9
	1.5nm,0.5s,baz=89,slow=14,SNR=7.3						
	1.5nm,0.5s						
TXAR	Lajitas Array	52.37	89	P	P	20 20 34.7	+6.6
	0.5nm,0.9s,baz=327,slow=6.5,SNR=1.5						
	0.5nm,0.9s						
ARCES	ARCESS Array B	58.26	354	P	P	20 21 09.3	-0.5
	1.5nm,0.9s,baz=0.6,slow=9.0,SNR=2.3						
	1.5nm,0.9s						
FINES	FINESS Array B	66.22	352	P	P	20 22 01.4	-1.6
	1.7nm,0.9s,baz=11,slow=6.1,SNR=1.7						
	1.7nm,0.9s						

*IDC **06** 20:32:18.3±0.9, 44°.04N×148°.17E, h0km, mb3.9/16, mbtmp3.8/19, ML3.0/3, MS3.1/11, Error ellipse: s-maj=25.5km s-min=19.2km az=157.0*
*MOS **06** 20:32:21.8±1.4, 43°.96N×148°.33E, h41km, mb4.2/9, Error ellipse: s-maj=9.1km s-min=7.7km az=85.8*
*JMA **06** 20:32:22.4±0.6, 44°.N'×.°14'8E±.', h0km, MV4.3/31, SE OFF ETOROFU*
*SKHL **06** 20:32:22.8±0.9, 44°.00N×148°.40E, h45km±2km, mb4.6/4*
*NIED **06** 20:32:22.4, 43°.80N×148°.05E, h0km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr4.26; Mθθ-2.06; Mφφ-2.20; Mrθ5.27; Mθφ-1.47; Mφr3.82; Fault plane solution: M0 7.60000×10^14 NP1:φs52.00000°, δ75.00000°, λ94.00000°. NP2:φs219.00000°, δ16.00000°, λ77.00000°.*
*NEIC **06** 20:32:26.4±1.4, 44°.09N±0°.09×148°.2E±0°.1, h50km±8km, mb4.4/38 Error ellipse: s-maj=14.5km s-min=10.9km az=136.0*

ISC 06 20:32:25.1±0.6, 44°.00N±0°.06×148°.29E±0°.06, h50km, n132, σ1§43/138, mb4.1/42, MS3.4/7, 1C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	1.06	263	‖ *i* PN	Pn	20 32 40.8	-2.8
SHO				*i* S	Sn	20 32 54.8	-2.5
SHO				pmax	pmax		
	comp=E,56nm,0.3s						
SHO				pmax	pmax		
	comp=Z,107nm,0.3s						
SHO				pmax	pmax		
	comp=N,66nm,0.2s						
SHO				smax	smax		
	comp=N,823nm,0.2s						
SHO				smax	smax		
	comp=E,2μm,0.2s						
SHO	Shikotan	1.06	263	*i* P	Pn	20 32 40.8	-2.8
SHO				AMB	AMB	20 32 42.7	
	comp=E,50nm,0.3s						
SHO				*i* S	Sn	20 32 54.8	-2.5
SHO				A	A	20 33 00.2	
	comp=E,2μm,0.3s						
SHO				A	A	20 33 00.2	
	comp=E,890nm,0.3s						
KUR	Kuril'sk	1.27	346	‖ *i* PN	Pn	20 32 44.8	-1.6
KUR				*e*S	Sn	20 32 59.6	-2.8
KUR				pmax	pmax		
	comp=Z,401nm,0.3s						
KUR				pmax	pmax		
	comp=N,107nm,0.4s						
KUR				pmax	pmax		
	comp=E,123nm,0.4s						
KUR				smax	smax		
	comp=N,267nm,0.5s						
KUR				smax	smax		
	comp=E,637nm,0.5s						
KUR	Kuril'sk	1.27	346	*i* P	Pn	20 32 44.8	-1.6
KUR				AMB	AMB	20 32 45.3	
	comp=E,400nm,0.3s						
KUR				*e*S	Sn	20 32 59.6	-2.8
KUR				A	A	20 33 07.4	
	comp=E,270nm,0.5s						
KUR				A	A	20 33 07.4	
	comp=E,640nm,0.5s						
YUK	Yuzh-Kuril'sk	1.75	272	*c* PN	Pn	20 32 51.5	-1.5
YUK				*i* S	Sn	20 33 12.5	-1.6
YUK				pmax	pmax		
	comp=Z,516nm,0.4s						
YUK				pmax	pmax		
	comp=N,131nm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.4s						
YUK	Yuzh-Kuril'sk	1.75	272	*i* P	Pn	20 32 51.5	-1.5
YUK				AMB	AMB	20 32 52.9	
	comp=E,500nm,0.4s						
YUK				*i* S	Sn	20 33 12.5	-1.6
YUK				A	A	20 33 18.5	
	comp=E,1μm,0.5s						
YUK				A	A	20 33 18.5	
	comp=E,2μm,0.5s						
NEM2	Nemuro 2	1.95	252	*e*P	Pn	20 32 54.2	-1.6
NEM2				*e*S	Sn	20 33 16.8	-2.3
NMR	Nemuro--Hokkai	1.96	252	*e*PN	Pn	20 32 52.8	-3.1
NMR				*e*S	Sn	20 33 18.9	-0.4
NMR	Nemuro--Hokkai	1.96	252	*e*P	Pn	20 32 53.9	-2.0
NMR				*e*S	Sn	20 33 17.8	-1.5
RUSJ	Misakicho	2.20	274	*e*PN	Pn	20 32 57.8	-1.3
RUSJ				*e*S	Sn	20 33 25.3	+0.3
JRA	Rausu	2.29	270	*e*P	Pn	20 32 59.9	-0.5
JNSB	Nemuroshibetsu	2.38	266	*e*P	Pn	20 33 01.4	-0.3
JNSB				*e*S	Sn	20 33 29.8	+0.1
JKHN	Kushirohamanak	2.45	249	*e*P	Pn	20 33 01.6	-1.0
JNK	Nakash	2.62	262	*e*P	Pn	20 33 03.2	-1.7
AKK	Akkeshi	2.69	250	*e*P	Pn	20 33 04.9	-1.0
AKK				*e*S	Sn	20 33 36.0	-1.3
JAK	Akkeshi	2.80	250	*e*P	Pn	20 33 05.5	-1.8
JTKR	Abashiri--Toko	3.16	271	*e*P	Pn	20 33 12.1	-0.2
JAR	Ashorobuto	3.35	259	*e*P	Pn	20 33 15.5	+0.5
JAR				*e*S	Sn	20 33 55.0	+1.5
JOB	Onbets	3.42	253	*e*P	Pn	20 33 14.6	-1.3
JMP	Maruseppu	3.56	272	*e*P	Pn	20 33 17.6	-0.2
JCH	Churui	3.85	251	*e*P	Pn	20 33 21.5	-0.4
JKA	Kamikawa-asahi	4.10	274		Pn	20 33 26.1	+0.9
ASAJ	Asahikawa	4.11	274	PN	Pn	20 33 26.1	+0.8
ASAJ	Asahikawa	4.11	274	Pn	Pn	20 33 26.2	+0.9
	comp=E,1.3nm,0.3s,baz=69,slow=17,SNR=13						
ASAJ				Sn	Sn	20 34 17.7	+5.7
	comp=E,1.8nm,0.3s,baz=135,slow=32,SNR=1.3						
ERM	Erimo	4.25	244		Pn	20 33 28.1	+0.8
ERM					Sn	20 34 31.9	+16
ERM	Erimo	4.25	244	PN	Pn	20 33 28.1	+0.8
JNBK	Urakawa-nobuka	4.40	249	*e*P	Pn	20 33 28.8	-0.5
JNBK				*e*S	Sn	20 34 18.9	-0.4
YSS	Yuzh-Sakhalins	4.89	309		Pn	20 33 35.9	-0.1
YSS	Yuzh-Sakhalins	4.89	309	*e*PN	Pn	20 33 35.9	-0.1
YSS				pmax	pmax		
	comp=Z,30nm,0.4s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
YSS	Yuzh-Sakhalins	4.89	309	*e*P	Pn	20 33 36.1	+0.1
JOT	Ohata	5.94	246	*e*P	Pn	20 33 49.4	-1.1
JTM	Tenmabayashi	6.24	241		Pn	20 33 53.0	-1.5
JMM	Marumori	8.35	225	Pn	Pn	20 34 20.2	-3.2
JSD	Sado	9.64	235	Pn	Pn	20 34 38.1	-3.0
MJA0	Matsu Arr-Jizo	10.69	229	*e*PN	Pn	20 34 54.3	-1.2
MJAR	Matsushiro Arr	10.71	229	Pn	Pn	20 34 52.6	-3.2
	comp=Z,0.1nm,0.3s,baz=27,slow=15,SNR=4.8						
MJAR				LR	LR	20 38 35.6	
	comp=Z,19nm,21.4s,baz=324,slow=35						
	comp=Z,0.6nm,0.4s						
PEA0B	Petropavlovsk-	11.03	31	Pn	Pn	20 34 59.0	-1.1
PEA0B	Petropavlovsk-	11.03	31	PN	Pn	20 34 59.0	-1.1
PETK	Petropavlovsk-	11.03	31	Pn	Pn	20 34 59.0	-1.1
PETK	Petropavlovsk-	11.03	31	PN	Pn	20 34 59.0	-1.1
PETK	Petropavlovsk-	11.03	31	Pn	Pn	20 34 57.0	-3.1
	comp=Z,0.3nm,0.3s,baz=205,slow=11,SNR=5.9						
PETK				LR	LR	20 40 04.6	
	comp=Z,22nm,19.4s,baz=246,slow=42						
	comp=Z,1.6nm,0.5s						
KLR	Kul'dur	12.51	301	LR	LR	20 40 03.4	
	comp=Z,46nm,19.8s,baz=84,slow=37						
MA2	Magadan	15.67	5	LR	LR	20 41 42.1	
	comp=Z,22nm,19.9s,baz=216,slow=36						
SEY	Seymchan	19.12	6	P	P	20 36 41.5	-2.1
	comp=Z,0.2nm,0.3s,baz=176,slow=13,SNR=5.3						
SEY				LR	LR	20 44 14.4	
	comp=Z,40nm,19.5s,baz=189,slow=38						
	comp=Z,1.5nm,0.6s						
YAK	Yakutsk	21.11	335	*i* P	P	20 37 02.6	-2.5
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SONM	Songino Array	29.14	292	LR	LR	20 51 04.3	
	comp=Z,37nm,19.1s,baz=128,slow=39						
J20K	Nowinta River	37.64	37	P	P	20 39 36.0	+1.2
J20K				IAmb	IAmb	20 40 06.9	
	comp=Z,9.4nm,1.4s						
IMAR	Indian Mountai	37.97	34	P	P	20 39 38.6	+1.0
M20K	Styx River	38.01	41	P	P	20 39 40.0	+1.9
H21K	Melozitna Rive	38.33	35	P	P	20 39 41.4	+0.7
H21K				IAmb	IAmb	20 39 42.3	
	comp=Z,6.7nm,1.4s						
CAST	Castle Rocks	38.52	39	P	P	20 39 43.4	+1.2
MLY	Manley	39.16	36	P	P	20 39 49.2	+1.6
MLY				IAmb	IAmb	20 40 02.8	
	comp=Z,9.7nm,1.5s						
COLD	Coldfoot	39.50	33	P	P	20 39 51.1	+0.8
COLD				IAmb	IAmb	20 40 15.7	
	comp=Z,8.2nm,1.5s						
H23K	Yukon River	39.69	35	P	P	20 39 52.8	+0.9
H23K				IAmb	IAmb	20 39 55.8	
	comp=Z,2.4nm,0.8s						
I23K	Minto, Yukon-K	39.74	36	P	P	20 39 52.9	+0.5
SML	Sawmill	40.29	41	P	P	20 39 57.8	+0.7
SML				IAmb	IAmb	20 40 32.4	
	comp=Z,12nm,1.2s						
IL31		40.80	36	P	P	20 40 02.

KK31 Karatay Array 54.32 298 P **P** **20 41 46.4 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 54.32 298 P **P** **20 41 46.5 +0.1**
KKAR Karatay Array 54.32 298 P **P** **20 41 46.2 -0.1**
KKAR IAmb IAmb 20 41 47.2
comp=Z,3.0nm,0.9s
KKAR Karatay Array 54.32 298 P **P** **20 41 46.2 -0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 55.13 34 P **P** **20 41 52.7 +0.8**
comp=Z,0.6nm,0.6s,baz=299,slow=6.9,SNR=2.7
comp=Z,0.6nm,0.6s
ABKAR Akbulak array 57.55 309 P **P** **20 42 09.5 +0.2**
ABKAR IAmb IAmb 20 42 10.5
comp=Z,3.3nm,1.2s
ABKAR Akbulak array 57.55 309 P **P** **20 42 09.3 0.0**
COEN Coen 57.86 186 P **P** **20 42 12.9 +1.2**
ARCES ARCESS Array B 59.30 340 P **P** **20 42 20.3 -0.9**
comp=Z,1.0nm,0.8s,baz=46,slow=6.9,SNR=5.2
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 64.90 195 P **P** **20 42 58.5 -0.7**
comp=Z,0.2nm,0.6s,baz=12,slow=6.9,SNR=1.6
comp=Z,0.2nm,0.6s
FINES FINESS Array B 65.02 333 *i* P **P** **20 42 59.5 0.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 65.02 333 P **P** **20 42 58.3 -1.3**
comp=Z,0.8nm,0.6s,baz=50,slow=6.0,SNR=6.0
comp=Z,0.8nm,0.6s
LHV Little Huntoon 66.73 59 P **P** **20 43 11.8 +0.8**
LHV IAmb IAmb 20 43 29.1
comp=Z,4.9nm,1.4s
NVAR Mina Array Bea 66.75 59 P **P** **20 43 12.6 +1.2**
comp=Z,0.4nm,0.5s,baz=285,slow=6.3,SNR=5.5
comp=Z,0.4nm,0.5s
SFJD Kangerlussuaq 68.39 8 LR LR 21 13 27.3
comp=Z,34nm,18.3s,baz=37,slow=36
PDAR Pinedale Array 69.12 50 P **P** **20 43 26.5 +0.3**
PDAR Pinedale Array 69.12 50 P **P** **20 43 25.9 -0.2**
comp=Z,0.4nm,0.7s,baz=212,slow=1.9,SNR=4.2
comp=Z,0.4nm,0.7s
NC405 NORSAR Array S 69.47 339 P **P** **20 43 27.2 -0.6**
NC204 NORSAR Array S 69.58 340 P **P** **20 43 27.5 -1.0**
NB201 NORSAR Array S 69.64 339 P **P** **20 43 29.0 +0.3**
NOA NORSAR Array B 69.66 339 P **P** **20 43 28.8 -0.2**
comp=Z,0.5nm,0.6s,baz=32,slow=6.6,SNR=5.6
NOA LR LR 21 17 14.4
comp=Z,14nm,19.4s,baz=350,slow=39
comp=Z,0.5nm,0.6s
HFS Hagfors 69.78 338 P **P** **20 43 28.9 -0.7**
comp=Z,0.6nm,0.3s,baz=50,slow=2.5,SNR=8.0
comp=Z,0.6nm,0.3s
KIV Kislovodsk 70.21 312 *e*P **P** **20 43 30.1 -2.6**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,20nm,18.0s
KBZ Khabaz 70.25 312 P **P** **20 43 33.6 +0.9**
comp=Z,1.5nm,0.8s,baz=51,slow=13,SNR=4.0
KBZ LR LR 21 18 53.3
comp=Z,26nm,18.8s,baz=31,slow=40
comp=Z,1.5nm,0.8s
BORG Borgarnes 71.29 355 *i* P **P** **20 43 40.5 +1.8**
AKASG Malin Array Be 71.86 324 *e*P **P** **20 43 42.3 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.86 324 P **P** **20 43 41.9 -0.5**
comp=Z,0.6nm,0.4s,baz=38,slow=6.1,SNR=6.3
comp=Z,0.6nm,0.4s
BUR08 Bucovina Ar. S 75.90 324 P **P** **20 44 07.0 +0.7**
BUR08 IAmb IAmb 20 44 08.6
comp=Z,7.6nm,1.4s
BURAR Bucovina Array 75.92 324 P **P** **20 44 07.1 +0.8**
SBM South Baldy 76.43 56 P **P** **20 44 09.4 -0.4**
OSTC Ostas 77.02 331 *e*P P 20 44 20.9 +8.5
CLL Collm 77.47 333 *i* P **P** **20 44 15.6 +0.7**
comp=Z,9.0nm,1.1s
BRTR Keskin Array B 77.96 314 P **P** **20 44 18.9 +0.9**
BRTR Keskin Array B 77.96 314 P **P** **20 44 18.9 +0.9**
EKA Eskdalemuir Ar 78.12 344 P **P** **20 44 17.9 -0.5**
comp=Z,4.2nm,0.9s,baz=24,slow=4.7,SNR=3.8
comp=Z,4.2nm,0.9s
KHC Kasperske Hory 79.14 332 P **P** **20 44 24.8 +0.6**
KHC IAmb IAmb 20 44 25.8
comp=Z,2.0nm,0.7s
KHC Kasperske Hory 79.14 332 *e*P **P** **20 44 25.1 +0.9**
KHC Kasperske Hory 79.14 332 *e*P **P** **20 44 25.1 +0.9**
GERES GERESS Array B 79.34 331 P **P** **20 44 25.4 0.0**
comp=Z,0.4nm,0.6s,baz=34,slow=7.2,SNR=1.5
comp=Z,0.4nm,0.6s
TX32 Lajitas Array 81.82 57 P **P** **20 44 40.1 +1.0**
TXAR Lajitas Array 81.82 57 P **P** **20 44 40.0 +1.0**
comp=Z,1.0nm,0.5s,baz=300,slow=4.6,SNR=13
comp=Z,1.0nm,0.5s
MMAI Mount Meron Ar 81.98 309 P **P** **20 44 40.7 +1.0**
comp=Z,1.7nm,0.7s,baz=38,slow=7.3,SNR=2.7
comp=Z,1.7nm,0.7s
H03N2 Juan Fernandez 142.14 90 T T 23 30 56.5
baz=304,slow=77,SNR=22
H03N3 Juan Fernandez 142.15 90 T T 23 30 56.0
baz=304,slow=77,SNR=30
H03N1 Juan Fernandez 142.16 90 T T 23 30 56.5
baz=304,slow=77,SNR=23

IDC 06 20:57:13.7±23.0, 12°.55N×142°.80E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=644.2km s-min=54.4km az=176.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**60.84**	**317**	P	P	21 07 28.1	+0.1
	0.4nm,0.5s,baz=101,slow=7.5,SNR=4.8						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**61.30**	**325**	P	P	21 07 30.7	-0.2
	0.6nm,0.6s,baz=126,slow=6.8,SNR=1.9						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**64.12**	**320**	P	P	21 07 49.8	0.0
	1.4nm,0.4s,baz=105,slow=6.8,SNR=6.7						
	1.4nm,0.4s						
BVAR	**Borovoye Array**	**69.49**	**322**	P	P	21 08 24.1	0.0
	1.7nm,0.6s,baz=103,slow=8.0,SNR=9.5						
	1.7nm,0.6s						
ILAR	**Eielson Array**	**70.36**	**25**	P	P	21 08 29.2	0.0
	0.4nm,0.7s,baz=242,slow=5.7,SNR=4.4						
	0.4nm,0.7s						

*IDC **06** 20:58:58.8±0.9, 11°.89N×95°.71E, h0km, mb3.9/9, mbtmp3.8/10, ML3.7/1, MS3.0/7, Error ellipse: s-maj=33.1km s-min=16.4km az=61.0*
*NEIC **06** 20:59:02.5±2.4, 11°.0N±0°.1×94°.77E±0°.06, h38km±11km, mb4.1/8, Error ellipse: s-maj=16.6km s-min=7.0km az=200.0*

ISC 06 20:59:01.1±0.7, 11°.4N±0°.1×95°.0E±0°.1, h24km, n27, σ1§34/21, mb4.0/12, MS3.1/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.26**	**277**		**Pn**	20 59 35.1	**-2.0**
SRIT	**Nakonsritamara**	**5.28**	**121**		**Pn**	21 00 16.8	**-1.7**
CMAR	**Chiang Mai Arr**	**7.99**	**28**	Pn	Pn	21 00 46.0	-10
	0.3nm,0.3s,baz=218,slow=15,SNR=7.6						
CMAR				Lg	Lg	21 02 47.5	
	0.1nm,0.3s,baz=204,slow=32,SNR=1.9						
CMAR				LR	LR	21 03 33.7	
	comp=Z,51nm,20.8s,baz=180,slow=38						
	0.7nm,0.6s						
KULM	**Kulim**	**8.21**	**137**	Pn	**Pn**	**21 00 58.4**	**-0.4**
KKM	**Kota Kinabalu**	**21.59**	**102**	P	**P**	**21 03 48.6**	**-0.9**
KKM				IAmb	IAmb	21 03 55.7	
	comp=Z,12nm,1.0s						
KAPI	**Kappang**	**29.50**	**122**	LR	LR	21 16 48.3	
	comp=Z,28nm,19.8s,baz=302,slow=37						
AAK	**Ala-Archa**	**35.92**	**334**	LR	LR	21 23 12.6	
	comp=Z,33nm,18.5s,baz=120,slow=41						
MK31	**Makanchi Array**	**36.92**	**345**	P	**P**	**21 06 07.8**	**-0.2**
MK31				IAmb	IAmb	21 06 11.3	
	comp=Z,2.4nm,1.1s						
MKAR	**Makanchi Array**	**36.92**	**345**	P	**P**	**21 06 08.8**	**+0.7**
MKAR	**Makanchi Array**	**36.92**	**345**	P	**P**	**21 06 07.7**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=171,slow=11,SNR=7.0						
MKAR				LR	LR	21 22 25.3	
	comp=Z,24nm,20.4s,baz=176,slow=38						
	comp=Z,1.3nm,0.9s						
KSRS	**Korea Array**	**39.29**	**43**	LR	LR	21 24 02.5	
	comp=Z,12nm,18.4s,baz=295,slow=39						
GEYT	**Alibeck**	**42.28**	**315**	P	**P**	**21 06 51.2**	**-1.7**
GEYT	**Alibeck**	**42.28**	**315**	P	**P**	**21 06 54.4**	**+1.5**
	comp=Z,1.7nm,0.6s,baz=134,slow=8.5,SNR=6.9						
	comp=Z,1.7nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**42.28**	**315**	P	**P**	**21 06 53.0**	**+0.1**
GYA0B				IAmb	IAmb	21 06 57.0	
	comp=Z,2.7nm,0.7s						
ZALV	**Zalesovo Beam**	**43.24**	**351**	P	**P**	**21 06 58.5**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=162,slow=9.8,SNR=2.3						
	comp=Z,0.5nm,0.5s						
BVAR	**Borovoye Array**	**46.01**	**340**	P	**P**	**21 07 21.5**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=126,slow=9.1,SNR=3.0						
	comp=Z,0.3nm,0.4s						
ABKAR	**Akbulak array**	**47.64**	**329**	P	**P**	**21 07 35.5**	**+0.1**
WB0	**Warramunga Arr**	**49.59**	**128**	P	**P**	**21 07 49.9**	**-0.9**
WRA	**Warramunga Arr**	**49.65**	**129**	P	**P**	**21 07 50.2**	**-1.0**
WRA	**Warramunga Arr**	**49.65**	**129**	P	**P**	**21 07 50.2**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=311,slow=8.6,SNR=9.7						
	comp=Z,1.2nm,0.8s						
WB2	**Warramunga Arr**	**49.66**	**129**	P	**P**	**21 07 50.6**	**-0.7**
ASAR	**Alice Springs**	**51.55**	**133**	P	**P**	**21 08 05.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=312,slow=6.9,SNR=8.8						
	comp=Z,1.1nm,0.8s						
KIRV	**Kirov**	**58.25**	**334**	LR	LR	21 36 07.6	
	comp=Z,25nm,18.2s,baz=18,slow=38						
STKA	**Stephens Creek**	**61.92**	**136**	P	**P**	**21 09 21.8**	**+2.7**
	comp=Z,1.1nm,0.6s,baz=300,slow=12,SNR=3.8						
	comp=Z,1.1nm,0.6s						
MLR	**Muntele Rosu**	**67.33**	**315**	LR	LR	21 43 07.5	
	comp=Z,25nm,21.2s,baz=225,slow=39						
FINES	**FINESS Array B**	**70.06**	**332**	P	**P**	**21 10 11.3**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=119,slow=11,SNR=1.5						
	comp=Z,2.1nm,0.9s						
GERES	**GERESS Array B**	**75.83**	**318**	P	**P**	**21 10 47.5**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=90,slow=6.9,SNR=3.2						
	comp=Z,1.0nm,0.8s						

*IDC **06** 21:25:42.9±2.1, 17°.78N×145°.71E, h192km±21km, mb3.6/13, mbtmp4.2/15, Error ellipse: s-maj=19.0km s-min=11.4km az=90.0*
*NEIC **06** 21:25:44.4±1.0, 17°.75N±0°.08×145°.7E±0°.2, h196km±8km, mb4.5/93, Error ellipse: s-maj=23.6km s-min=11.8km az=93.0*

ISC 06 21:25:44.1±0.5, 17°.68N±0°.06×145°.7E±0°.1, h200km, n124, σ0§78/128, mb4.4/61, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.15**	**191**		**Pn**	**21 26 48.4**	**+0.7**
GUMO				Sn	**Sn**	**21 27 38.1**	**+0.3**
GUMO	**Guam**	**4.15**	**191**	P	**Pn**	**21 26 48.6**	**+0.8**
	95nm,0.3s,baz=112,slow=2.5,SNR=20						
GUMO				S	**Sn**	**21 27 34.8**	**-3.1**
	199nm,0.3s,baz=1.2,slow=21,SNR=12						
JCJ	**Chichijima**	**9.91**	**342**	Pn	**Pn**	**21 28 02.3**	**+0.1**
JCJ	**Chichijima**	**9.91**	**342**	P	Pn	21 27 58.5	-3.7
	51nm,0.7s,baz=182,slow=18,SNR=1.3						
JCJ				S	Sn	21 29 45.0	-8.0
	43nm,0.6s,baz=131,slow=19,SNR=1.5						
MAJO	**Matsushiro**	**19.92**	**342**	P	**P**	**21 30 00.7**	**+0.2**
MAJO				IAmb	IAmb	21 30 39.0	
	comp=Z,13nm,1.1s						
MJB9	**Matsu-Tunnel**	**19.92**	**342**	P	**P**	**21 30 01.6**	**+1.0**
MJB9				IAmb	IAmb	21 30 40.0	
	comp=Z,13nm,1.1s						
JAY	**Jayapura**	**20.66**	**194**	P	**P**	**21 30 08.5**	**-0.2**
	comp=Z,10nm,0.8s,baz=33,slow=6.4,SNR=4.4						
	comp=Z,10nm,0.8s						
NJ2	**Nanjing**	**28.14**	**306**	*e*P	**P**	**21 31 17.8**	**+0.1**
NJ2				pP	**pP**	**21 31 57.2**	**+0.2**
NJ2				sP	**sP**	**21 32 18.9**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,110nm,4.1s						
MDJ	**Mudanjiang**	**30.06**	**337**	P	**P**	**21 31 35.6**	**+1.1**
MDJ				pmax	pmax		
	comp=Z,9.0nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,100nm,5.3s						
KKM	**Kota Kinabalu**	**31.02**	**252**	P	**P**	**21 31 44.4**	**+1.0**
KKM				IAmb	IAmb	21 31 45.5	
	comp=Z,7.7nm,0.7s						
XLT	**XiLinHaoTe**	**36.12**	**323**	*e*P	**P**	**21 32 27.7**	**+0.6**
XLT				pP	pP	21 33 08.2	+0.7
XLT				sP	sP	21 33 26.1	-3.9
XLT				PcP	**PcP**	**21 34 44.7**	**-3.7**
XLT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,86nm,4.4s						
WB0	**Warramunga Arr**	**38.84**	**197**	P	**P**	**21 32 50.2**	**+0.2**
WB0				IAmb	IAmb	21 32 52.1	
	comp=Z,10nm,1.1s						
WR0	**Warramunga Arr**	**38.98**	**197**	P	**P**	**21 32 51.9**	**+0.8**
WRAB	**Tennant Creek**	**39.01**	**197**	P	**P**	**21 32 52.1**	**+0.8**
WRAB				IAmb	IAmb	21 32 53.7	
	comp=Z,8.1nm,0.8s						
WB2	**Warramunga Arr**	**39.01**	**197**	P	**P**	**21 32 51.8**	**+0.3**
WB2				IAmb	IAmb	21 32 54.1	
	comp=Z,7.5nm,0.8s						
WRA	**Warramunga Arr**	**39.02**	**197**	P	**P**	**21 32 51.6**	**+0.1**
WRA	**Warramunga Arr**	**39.02**	**197**	P	**P**	**21 32 51.5**	**+0.1**
	comp=Z,3.6nm,0.4s,baz=16,slow=9.0,SNR=46						
	comp=Z,3.6nm,0.4s						
PZH	**PanZhiHua**	**41.49**	**290**	P	**P**	**21 33 12.6**	**+0.6**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
AS31	**Alice Springs**	**42.68**	**196**	P	**P**	**21 33 21.5**	**+0.2**
ASAR	**Alice Springs**	**42.68**	**196**	P	**P**	**21 33 20.7**	**-0.7**
ASAR	**Alice Springs**	**42.68**	**196**	P	**P**	**21 33 21.2**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=16,slow=7.3,SNR=42						
	comp=Z,2.4nm,0.5s						
SONM	**Songino Array**	**43.93**	**322**	P	**P**	**21 33 30.9**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=2.1						
	comp=Z,0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**44.35**	**279**	P	**P**	**21 33 35.1**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=74,slow=6.7,SNR=2.3						
	comp=Z,0.7nm,0.8s						
STKA	**Stephens Creek**	**49.43**	**185**	P	**P**	**21 34 13.9**	**0.0**
	comp=Z,1.3nm,0.3s,baz=357,slow=9.9,SNR=4.8						
	comp=Z,1.3nm,0.3s						
WMQ	**Urumqi**	**54.97**	**311**	*e*P	**P**	**21 34 56.3**	**+1.6**
MKAR	**Makanchi Array**	**59.16**	**314**	P	**P**	**21 35 23.3**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=88,slow=9.1,SNR=5.3						
	comp=Z,0.2nm,0.5s						
CAST	**Castle Rocks**	**62.00**	**27**	P	**P**	**21 35 43.3**	**+0.5**
CAST				IAmb	IAmb	21 35 43.9	
	comp=Z,8.4nm,0.7s						
KURK	**Kurchatov**	**62.02**	**318**	P	**P**	**21 35 42.6**	**-0.5**
SUA	**Susitna One**	**62.05**	**29**	P	**P**	**21 35 43.1**	**-0.3**
SUA				IAmb	IAmb	21 35 44.7	
	comp=Z,6.3nm,0.8s						
KURBB	**Kurchatov Arra**	**62.07**	**318**	P	**P**	**21 35 42.9**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=98,slow=7.0,SNR=13						
	comp=Z,1.4nm,0.7s						
IMAR	**Indian Mountai**	**62.15**	**24**	P	**P**	**21 35 44.6**	**+0.9**
H21K	**Melozitna Rive**	**62.40**	**24**	P	**P**	**21 35 45.9**	**+0.5**
H21K				IAmb	IAmb	21 35 46.4	
	comp=Z,3.8nm,0.7s						
RC01	**Rabbit Creek A**	**62.44**	**30**	P	**P**	**21 35 45.3**	**-0.4**
KTH	**Kantishna Hill**	**62.54**	**27**	P	**P**	**21 35 46.4**	**-0.1**
KTH				IAmb	IAmb	21 35 47.2	
	comp=Z,8.6nm,1.0s						
BPAW	**Bear Paw Mtn.**	**62.66**	**26**	P	**P**	**21 35 47.3**	**+0.1**
BPAW				IAmb	IAmb	21 36 27.3	
	comp=Z,9.4nm,1.5s						
TRF	**Thorofare Moun**	**62.78**	**27**	P	**P**	**21 35 47.5**	**-0.7**
TRF				IAmb	IAmb	21 36 23.1	
	comp=Z,9.3nm,1.4s						
GHO	**Glory Hole Cre**	**62.98**	**29**	P	**P**	**21 35 48.9**	**-0.5**
GHO				IAmb	IAmb	21 35 49.7	
	comp=Z,8.1nm,0.8s						
MLY	**Manley**	**63.03**	**25**	P	**P**	**21 35 49.9**	**+0.3**
MLY				IAmb	IAmb	21 35 50.3	
	comp=Z,4.7nm,0.5s						
PWL	**Port Wells**	**63.05**	**30**	P	**P**	**21 35 49.6**	**-0.1**
KNK	**Knik Glacier**	**63.11**	**29**	P	**P**	**21 35 49.7**	**-0.5**
SML	**Sawmill**	**63.26**	**29**	P	**P**	**21 35 50.9**	**-0.3**
A21K	**Barrow**	**63.26**	**18**	P	**P**	**21 35 51.3**	**+0.3**
I23K	**Minto, Yukon-K**	**63.63**	**25**	P	**P**	**21 35 53.8**	**+0.4**
I23K				IAmb	IAmb	21 35 54.7	
	comp=Z,3.8nm,0.7s						
GLI	**Glacier Island**	**63.65**	**30**	P	**P**	**21 35 53.3**	**-0.4**
SCM	**Sheep Creek Mo**	**63.73**	**29**	P	**P**	**21 35 54.2**	**-0.1**
H23K	**Yukon River**	**63.74**	**25**	P	**P**	**21 35 54.4**	**+0.2**
H23K				IAmb	IAmb	21 35 55.6	
	comp=Z,5.7nm,0.9s						
MRNZ	**Matariki Terra**	**63.91**	**158**	P	**P**	**21 35 56.7**	**+1.1**
FID	**Port Fidalgo**	**63.92**	**30**	P	**P**	**21 35 55.4**	**-0.1**
NNZ	**Nelson**	**63.98**	**157**	P	**P**	**21 35 57.6**	**+1.5**
MDM	**Murphy Dome**	**64.04**	**26**	P	**P**	**21 35 56.8**	**+0.5**
MDM				IAmb	IAmb	21 35 57.5	
	comp=Z,5.4nm,0.7s						
CCB	**Clear Creek Bu**	**64.14**	**26**	P	**P**	**21 35 55.8**	**-1.0**
M24K	**Tolsona, Glenn**	**64.32**	**29**	P	**P**	**21 35 58.1**	**0.0**
KLU	**Klutina**	**64.32**	**30**	P	**P**	**21 35 58.8**	**+0.6**
KLU				IAmb	IAmb	21 36 15.1	
	comp=Z,7.6nm,1.0s						
H24K	**Noodor Dome**	**64.40**	**25**	P	**P**	**21 35 58.7**	**+0.1**
TOLK	**Toolik Lake Re**	**64.53**	**22**	P	**P**	**21 35 59.9**	**+0.5**
TOLK				IAmb	IAmb	21 36 20.7	
	comp=Z,14nm,1.5s						
IL31		**64.56**	**26**	P	**P**	**21 35 58.3**	**-1.2**
ILAR	**Eielson Array**	**64.56**	**26**	P	**P**	**21 35 58.0**	**-1.5**
	comp=Z,1.6nm,0.4s,baz=252,slow=6.0,SNR=31						
	comp=Z,1.6nm,0.4s						
HMT	**Hamilton**	**64.93**	**31**	P	**P**	**21 36 02.0**	**-0.1**
N25K	**Chitina, Valde**	**64.96**	**30**	P	**P**	**21 36 02.8**	**+0.4**
N25K				IAmb	IAmb	21 36 17.4	
	comp=Z,10nm,1.2s						
J25K	**Salcha River,**	**65.16**	**26**	P	**P**	**21 36 02.4**	**-1.1**
PRP	**Porcupine Dome**	**65.28**	**25**	P	**P**	**21 36 04.3**	**-0.1**
GLB	**Gilahina Butte**	**65.31**	**30**	P	**P**	**21 36 04.5**	**0.0**
CRQM	**Cirque**	**65.54**	**31**	P	**P**	**21 36 05.8**	**-0.3**
SCRK	**Sand Creek**	**65.64**	**27**	P	**P**	**21 36 06.2**	**-0.5**
SCRK				IAmb	IAmb	21 36 06.7	
	comp=Z,5.9nm,1.0s						
MCARA	**McCarthy VSAT**	**65.68**	**30**	P	**P**	**21 36 06.6**	**-0.3**
TGL	**Tana Glacier**	**65.69**	**31**	P	**P**	**21 36 07.0**	**-0.1**
J26L	**Joseph Creek**	**65.91**	**27**	P	**P**	**21 36 08.1**	**-0.3**
J26L				IAmb	IAmb	21 36 08.4	
	comp=Z,3.8nm,0.6s						
BMAR	**Burnt Mountain**	**66.05**	**23**	P	**P**	**21 36 10.1**	**+0.9**
GRNC	**Granite Creek**	**66.21**	**31**	P	**P**	**21 36 10.7**	**+0.2**
GRNC				IAmb	IAmb	21 36 11.6	
	comp=Z,12nm,0.8s						
M27K	**Edge Creek, AK**	**66.34**	**29**	P	**P**	**21 36 11.4**	**+0.2**
M27K				IAmb	IAmb	21 36 22.1	
	comp=Z,13nm,1.4s						
CTGM	**Chitina Glacie**	**66.44**	**31**	P	**P**	**21 36 12.1**	**+0.2**
L27K	**Beaver Creek,**	**66.45**	**28**	P	**P**	**21 36 11.8**	**0.0**
BCAR	**Beaver Creek A**	**66.47**	**28**	P	**P**	**21 36 11.9**	**0.0**
LOGN	**Logan Glacier**	**66.59**	**31**	P	**P**	**21 36 13.2**	**+0.4**
BVAR	**Borovoye Array**	**67.25**	**321**	P	**P**	**21 36 15.6**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=99,slow=7.5,SNR=14						
	comp=Z,1.6nm,0.5s						
I28M	**Miner Creek**	**67.57**	**26**	P	**P**	**21 36 18.6**	**-0.3**
O29M	**Mount Kennedy**	**67.74**	**31**	P	**P**	**21 36 20.1**	**0.0**
O29M				IAmb	IAmb	21 36 28.2	
	comp=Z,22nm,1.4s						
M29M	**Somme Creek**	**67.93**	**29**	P	**P**	**21 36 22.0**	**+0.8**
M29M				IAmb	IAmb	21 36 22.7	
	comp=Z,6.4nm,0.7s						
P29M	**Windy Craggy**	**68.13**	**32**	P	**P**	**21 36 23.3**	**+0.9**
H29M	**Whitestone**	**68.29**	**25**	P	**P**	**21 36 23.4**	**+0.1**
H29M				IAmb	IAmb	21 37 03.8	
	comp=Z,14nm,1.5s						
HYT	**Haines Junctio**	**68.30**	**31**	P	**P**	**21 36 24.6**	**+1.2**
HYT				IAmb	IAmb	21 36 25.2	
	comp=Z,9.0nm,0.6s						
K29M	**Barlow Dome**	**68.46**	**28**	P	**P**	**21 36 25.1**	**+0.7**
G29M	**Pine Creek**	**68.50**	**24**	P	**P**	**21 36 25.1**	**+0.6**
G29M				IAmb	IAmb	21 36 58.1	
	comp=Z,14nm,1.5s						
N30M	**Aishikik Lake**	**68.53**	**30**	P	**P**	**21 36 25.2**	**+0.3**
N30M				IAmb	IAmb	21 36 26.0	
	comp=Z,21nm,1.4s						
M30M	**Minto, Yukon**	**68.72**	**29**	P	**P**	**21 36 26.4**	**+0.5**
M30M				IAmb	IAmb	21 36 27.4	
	comp=Z,9.5nm,1.3s						
S31K	**Pelican**	**68.88**	**34**	P	**P**	**21 36 27.3**	**+0.5**
O30N	**Mendenhall**	**68.99**	**31**	P	**P**	**21 36 28.0**	**+0.3**
O30N				IAmb	IAmb	21 36 56.5	
	comp=Z,22nm,1.5s						
J30M	**Hart River**	**69.02**	**27**	P	**P**	**21 36 28.1**	**+0.2**
I30M	**Mount Dempster**	**69.04**	**26**	P	**P**	**21 36 27.6**	**-0.3**
N31M	**Braeburn, Yuko**	**69.16**	**30**	P	**P**	**21 36 29.1**	**+0.4**
G30M	**tAoh Zraii Nji**	**69.21**	**24**	P	**P**	**21 36 28.7**	**-0.2**
G30M				IAmb	IAmb	21 36 50.2	
	comp=Z,10nm,1.4s						
M31M	**Drury Creek, Y**	**69.83**	**29**	P	**P**	**21 36 33.0**	**+0.3**
M31M				IAmb	IAmb	21 36 57.1	
	comp=Z,12nm,1.5s						
H31M	**Peel River**	**69.91**	**26**	P	**P**	**21 36 33.8**	**+0.6**
H31M				IAmb	IAmb	21 36 49.4	
	comp=Z,14nm,1.4s						
P32M	**Atlin**	**70.17**	**32**	P	**P**	**21 36 35.3**	**+0.4**
P32M				IAmb	IAmb	21 36 44.9	
	comp=Z,21nm,1.4s						
INK	**Inuvik**	**70.31**	**23**	P	**P**	**21 36 35.7**	**+0.2**
INK				IAmb	IAmb	21 36 35.8	
	comp=Z,10nm,0.9s						
P33M	**Teslin, Yukon**	**70.61**	**32**	P	**P**	**21 36 37.7**	**+0.1**
P33M				IAmb	IAmb	21 36 58.3	
	comp=Z,14nm,1.4s						
Q32M	**Nakina River**	**70.94**	**33**	P	**P**	**21 36 40.4**	**+0.6**
MMPY	**Sheldon Lake,**	**71.27**	**29**	P	**P**	**21 36 42.5**	**+1.0**
MMPY				IAmb	IAmb	21 37 18.1	
	comp=Z,21nm,1.5s						
R33M	**Jennings River**	**71.58**	**32**	P	**P**	**21 36 44.0**	**+0.5**
R33M				IAmb	IAmb	21 36 52.1	
	comp=Z,14nm,1.4s						
S34M	**Telegraph Cree**	**71.59**	**34**	P	**P**	**21 36 44.3**	**+0.9**
S34M				IAmb	IAmb	21 37 06.2	
	comp=Z,14nm,1.2s						
DLBC	**Dease Lake**	**72.14**	**33**	P	**P**	**21 36 47.7**	**+0.9**
DLBC				IAmb	IAmb	21 36 48.0	
	comp=Z,4.5nm,0.7s						

mb3.2/6, mbtmp3.8/7, Error ellipse: s-maj=92.1km s-min=28.6km az=159.0

ISC 06 21:35:45.0±0.09, 11°.63S±0°.09×166°.6E±0°.2, h250km, n23, σ0§94/23, mb3.8/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**9.11**	**176**	Pn	**Pn**	**21 37 51.4**	**-1.0**
DZM	**Mont Dzumac**	**10.38**	**181**		**Pn**	**21 38 08.0**	**-0.5**
DZM	**Mont Dzumac**	**10.38**	**181**	P	**Pn**	**21 38 09.2**	**+0.7**
	3.6nm,0.8s,baz=17,slow=17,SNR=6.7						
DZM				S	**S**	**21 40 05.5**	**+0.3**
	4.8nm,1.0s,baz=87,slow=20,SNR=1.1						
EIDS	**Eidsvold**	**20.07**	**225**	P	**P**	**21 40 00.9**	**+1.0**
EIDS				IAmb	IAmb	21 40 01.7	
	comp=Z,8.3nm,0.6s						
CTA	**Charters Tower**	**21.31**	**244**	P	**P**	**21 40 13.1**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=71,slow=12,SNR=1.9						
	comp=Z,3.3nm,0.9s						
CTAO	**Charters Tower**	**21.31**	**244**	P	**P**	**21 40 13.2**	**+0.4**
CTAO				IAmb	IAmb	21 40 23.5	
	comp=Z,4.6nm,0.9s						
BKZ	**Black Stump Fm**	**28.79**	**164**	P	**P**	**21 41 20.0**	**0.0**
BKZ				IAmb	IAmb	21 41 27.5	
	comp=Z,3.5nm,1.1s						
WB0	**Warramunga Arr**	**32.02**	**251**	P	**P**	**21 41 48.1**	**-0.5**
WB0				IAmb	IAmb	21 41 49.8	
	comp=Z,1.8nm,0.8s						
WB2	**Warramunga Arr**	**32.09**	**251**	P	**P**	**21 41 46.9**	**-2.3**
WB2				IAmb	IAmb	21 41 51.3	
	comp=Z,2.8nm,1.1s						
WRA	**Warramunga Arr**	**32.10**	**251**	P	**P**	**21 41 48.9**	**-0.4**
WRA	**Warramunga Arr**	**32.10**	**251**	P	**P**	**21 41 49.3**	**0.0**
	comp=Z,0.6nm,0.6s,baz=85,slow=9.2,SNR=9.2						
	comp=Z,0.6nm,0.6s						
ASAR	**Alice Springs**	**33.31**	**244**	P	**P**	**21 41 59.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=72,slow=10,SNR=9.2						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**73.14**	**293**	P	**P**	**21 46 49.3**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=125,slow=4.5,SNR=2.2						
	comp=Z,0.2nm,0.4s						
M20K	**Styx River**	**79.75**	**18**	P	**P**	**21 47 26.2**	**+1.1**
PWL	**Port Wells**	**80.55**	**21**	P	**P**	**21 47 29.1**	**-0.1**
PMR	**Palmer**	**80.81**	**20**	P	**P**	**21 47 29.2**	**-1.4**
PMR				IAmb	IAmb	21 47 35.2	
	comp=Z,4.4nm,0.6s						
KNK	**Knik Glacier**	**80.91**	**20**	P	P	21 47 23.4	-7.8
GLI	**Glacier Island**	**81.00**	**21**	P	**P**	**21 47 31.1**	**-0.5**
SML	**Sawmill**	**81.23**	**20**	P	**P**	**21 47 35.0**	**+2.1**
SML				IAmb	IAmb	21 47 52.0	
	comp=Z,11nm,1.2s						
J20K	**Nowinta River**	**81.24**	**16**	P	**P**	**21 47 33.5**	**+0.7**
CAST	**Castle Rocks**	**81.24**	**17**	P	**P**	**21 47 32.9**	**0.0**
ILAR	**Eielson Array**	**83.79**	**18**	P	**P**	**21 47 46.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=224,slow=8.0,SNR=6.9						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**94.54**	**317**	P	**P**	**21 48 36.7**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=96,slow=6.3,SNR=4.2						
	comp=Z,0.6nm,0.7s						

IDC 06 22:00:30.6±8.6, 30°.79S×179°.14W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=356.4km s-min=64.6km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.11**	**268**	P	P	22 08 24.4	-0.4
	0.4nm,0.6s,baz=103,slow=6.8,SNR=5.4						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**43.14**	**273**	P	P	22 08 33.2	+0.1
	0.3nm,0.3s,baz=114,slow=8.1,SNR=5.0						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**145.16**	**339**	PKPbc	PKPbc	22 20 08.1	-0.8
	1.3nm,0.9s,baz=44,slow=4.2,SNR=1.5						

IDC 06 22:00:56.5±3.2, 31°.12S×178°.73W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=159.7km s-min=50.6km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.45**	**268**	P	P	22 08 53.4	0.0
	0.6nm,0.5s,baz=108,slow=7.4,SNR=9.1						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**43.50**	**273**	P	P	22 09 01.7	-0.3
	0.7nm,0.3s,baz=114,slow=8.0,SNR=7.5						
	0.7nm,0.3s						
FINES	**FINESS Array B**	**145.59**	**339**	PKPbc	PKPdf	22 20 36.0	0.0
	2.1nm,0.7s,baz=45,slow=2.2,SNR=8.5						
MMAI	**Mount Meron Ar**	**151.08**	**283**	PKPbc	PKPbc	22 20 51.0	-0.8
	0.8nm,0.5s,baz=90,slow=5.9,SNR=6.7						

*IDC **06** 22:01:52.3±2.1, 50°.37N×18°.77E, h0km, mbtmp3.6/2, ML2.4/3, Error ellipse: s-maj=41.1km s-min=9.0km az=130.0*

*PRU **06** 22:01:53.2, 50°.30N×18°.91E, h0km*

ISC 06 22:01:52.6±0.8, 50°.23N±0°.04×18°.92E±0°.02, h0km, n28, σ0§88/43, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.57**	**90**	*e*Pg	**Pg**	**22 02 03.6**	**+0.2**
OJC				*e*Sg	**Sg**	**22 02 10.8**	**0.0**
OKC	**Ostrava-Krasne**	**0.63**	**232**	*e*PG	**Pb**	**22 02 06.2**	**-0.3**
MORC	**Moravsky Berou**	**0.99**	**244**	*e*PG	**Pb**	**22 02 12.7**	**0.0**
MORC				*e*SG	**Sb**	**22 02 26.4**	**0.0**
MAUC	**Maruska**	**1.11**	**220**	*e*PG	**Pb**	**22 02 14.9**	**+0.1**
MAUC				*e*SG	**Sn**	**22 02 30.7**	**-0.9**
LANS	**Liptovska Anna**	**1.13**	**161**	*e*PG	**Pg**	**22 02 14.7**	**+0.4**
LANS				*e*SG	**Sg**	**22 02 28.9**	**-0.1**
LANS				*e*LG	Lg	22 02 34.9	
NIE	**Niedzica**	**1.21**	**132**	*e*Pg	**Pb**	**22 02 16.7**	**+0.4**
NIE				*e*Sg	**Sn**	**22 02 34.1**	**+0.3**
JAVC	**Velka Javorina**	**1.59**	**211**	*e*PN	**Pg**	**22 02 24.3**	**+1.2**
DPC	**Dobruska-Polom**	**1.67**	**275**	*e*PG	**Pn**	**22 02 23.9**	**+0.7**
DPC				*e*SG	**Sg**	**22 02 46.5**	**+0.3**
	comp=Z,16nm,0.5s						
STHS	**Stebnicka Huta**	**1.71**	**117**	*e*PN	**Pn**	**22 02 24.3**	**+0.6**
STHS				*e*SN	**Sn**	**22 02 47.1**	**+0.8**
STHS				*e*LG	Lg	22 02 57.7	
VYHS	**Vyhne**	**1.73**	**182**	*e*PN	**Pn**	**22 02 23.8**	**-0.2**
VYHS				*e*SN	**Sb**	**22 02 47.6**	**0.0**
OSTC	**Ostas**	**1.76**	**282**	*e*PG	**Pn**	**22 02 24.9**	**+0.5**
VRAC	**Vranov**	**1.76**	**240**	*e*PN	**Pb**	**22 02 25.6**	**-0.3**
VRAC				*e*SG	**Sg**	**22 02 50.3**	**+1.0**
VRAC	**Vranov**	**1.76**	**240**	Pg	**Pn**	**22 02 25.0**	**+0.5**
	2.5nm,0.3s,baz=57,slow=13,SNR=22						
VRAC				Lg	Lg	22 02 49.2	
	2.3nm,0.3s,baz=146,slow=21,SNR=13						
KSP	**Ksiaz**	**1.79**	**291**	*e*Pg	**Pg**	**22 02 27.9**	**+1.1**
KSP				*e*Sg	**Sg**	**22 02 52.3**	**+2.4**
CHVC	**Chvalec**	**1.87**	**282**	*e*PG	**Pn**	**22 02 25.6**	**-0.3**
UPC	**Upice**	**1.88**	**280**	*e*PG	**Pn**	**22 02 26.2**	**+0.1**
KRUC	**Moravsky**	**2.01**	**236**	*e*PN	**Pn**	**22 02 28.4**	**+0.6**
KRUC				*e*SG	**Sg**	**22 02 57.1**	**-0.1**
KECS	**Kecovo**	**2.02**	**149**	*e*SN	**Sn**	**22 02 54.4**	**+0.5**
KECS				*e*LG	Lg	22 03 03.8	
CRVS	**Cervenica-Dubn**	**2.12**	**128**	*e*PG	**Pb**	**22 02 32.5**	**+0.6**
KOLS	**Kolonicke sedl**	**2.54**	**119**	*e*PN	**Pn**	**22 02 35.9**	**+0.8**
KOLS				*e*SN	**Sn**	**22 03 06.0**	**-0.7**
KOLS				*e*LG	Lg	22 03 17.1	
GOPC	**GO Pecny, Ondr**	**2.68**	**265**	*e*SG	**Sg**	**22 03 18.4**	**-0.3**
	comp=Z,5.7nm,0.7s						
PRU	**Pruhonice**	**2.83**	**267**	*e*SG	**Sg**	**22 03 22.5**	**-0.9**
CKRC	**Cesky Krumlov**	**3.31**	**247**	*e*PG	**Pb**	**22 02 53.1**	**+0.8**
CKRC				*e*SG	**Sg**	**22 03 38.5**	**-0.6**
KHC	**Kasperske Hory**	**3.64**	**255**	*e*PN	**Pn**	**22 02 51.0**	**+0.8**
KHC				*e*PG	**Pb**	**22 02 57.9**	**+0.1**
KHC				*e*SG	**Sg**	**22 03 47.8**	**-1.6**
	comp=Z,3.2nm,0.5s						
GERES	**GERESS Array B**	**3.67**	**250**	Pn	**Pn**	**22 02 50.7**	**0.0**
	0.2nm,0.3s,baz=61,slow=18,SNR=1.7						
GERES				Pg	**Pb**	**22 02 58.3**	**0.0**
	0.3nm,0.3s,baz=66,slow=18,SNR=4.7						
GERES				Lg	Lg	22 03 47.6	
	0.9nm,0.3s,baz=58,slow=27,SNR=7.5						
CLL	**Collm**	**3.91**	**288**	*i* Sg	**Sg**	**22 03 58.7**	**+0.6**
FINES	**FINESS Array B**	**11.93**	**17**	Pn	Pn	22 04 37.4	-6.4
	0.1nm,0.3s,baz=199,slow=12,SNR=4.2						
FINES				Sn	Sn	22 06 42.4	-15
	baz=198,slow=22,SNR=1.4						
	3.6nm,1.0s						
ARCES	**ARCESS Array B**	**19.63**	**7**	P	**P**	**22 06 19.1**	**-3.3**
	baz=192,slow=11,SNR=4.3						
	1.0nm,0.8s						

*IDC **06** 22:04:14.6±1.9, 0°.88S×122°.90E, h0km, mb3.3/3, mbtmp3.4/3, MS2.4/1, Error ellipse: s-maj=372.3km s-min=28.3km az=61.0*

*DJA **06** 22:04:15.5±0.3, 1°.5S±3°×12°.3E±°, h10km, M3.8/9, mb4.0/1, MLv3.7/9*

ISC 06 22:04:14.8±1.1, 0°.54S±0°.08×123°.35E±0°.06, h10km, n10, σ1§50/10, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.77**	**230**	P	**Pg**	**22 04 29.7**	**+0.1**
LUWI				S	**Sg**	**22 04 38.7**	**-0.9**
MRSI	**Marisa**	**1.74**	**306**	P	**Pn**	**22 04 45.4**	**+0.4**
SANI	**Sanana**	**3.03**	**120**	P	**Pn**	**22 05 01.3**	**-1.5**
MPSI	**Mapaga**	**3.56**	**284**	P	**Pb**	**22 05 15.5**	**-2.5**
TTSI	**Tana Toraja**	**4.32**	**235**	P	**Pn**	**22 05 21.8**	**+1.2**
NLAI	**Namlea**	**4.60**	**126**	P	**Pn**	**22 05 25.4**	**+0.9**
DAV	**Davao City (W)**	**7.88**	**16**	LR	LR	22 09 46.7	
	comp=Z,25nm,20.6s,baz=332,slow=40						
WRA	**Warramunga Arr**	**22.08**	**152**	P	**P**	**22 09 11.1**	**+0.9**
	0.7nm,0.6s,baz=323,slow=11,SNR=5.9						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**25.16**	**157**	P	**P**	**22 09 40.4**	**-0.1**
	0.5nm,0.5s,baz=336,slow=7.9,SNR=7.1						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.26**	**328**	P	**P**	**22 14 18.4**	**+1.8**
	0.2nm,0.4s,baz=132,slow=8.3,SNR=1.5						
	0.2nm,0.4s						

*NEIC **06** 22:25:56.9±2.6, 14°.92N±0°.06×94°.16W±0°.04, h27km±7km, mb4.0/9, Md4.1/29(MEX), Error ellipse: s-maj=8.3km s-min=5.7km az=183.0*

*MEX **06** 22:25:58.6±0.6, 15°.00N×94°.24W, h17km±9km, MD4.3*

*IDC **06** 22:25:59.8±4.2, 15°.00N×93°.96W, h54km±36km, mb3.6/8, mbtmp3.8/9, ML4.3/2, MS3.2/3, Error ellipse: s-maj=25.9km s-min=23.4km az=23.0*

ISC 06 22:25:55.3±1.9, 14°.94N±0°.04×94°.27W±0°.02, h24km±14km, n80, σ2§45/114, mb4.0/13, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.27**	**53**		**Pn**	**22 26 17.4**	**-0.2**
PCIG					**Sn**	**22 26 32.1**	**-1.7**
PCIG		**1.27**	**53**	*e*P	**Pn**	**22 26 17.3**	**-0.2**
PCIG				*e*S	**Sn**	**22 26 31.8**	**-2.0**
CARR	**Arriaga**	**1.34**	**15**	*e*P	**Pn**	**22 26 18.7**	**+0.1**
CARR				*e*S	**Sn**	**22 26 33.5**	**-2.2**
NILT	**Santiago Nilte**	**1.65**	**348**	*e*P	**Pn**	**22 26 23.1**	**+0.3**
NILT				*e*S	**Sn**	**22 26 41.8**	**-1.5**
THIG		**1.94**	**91**		**Sn**	**22 26 48.6**	**-1.7**
THIG		**1.94**	**91**	*e*P	**Pn**	**22 26 26.6**	**-0.2**
THIG				*i* S	**Sn**	**22 26 48.6**	**-1.7**
HUIG	**Huatulco**	**1.96**	**295**		**Pn**	**22 26 27.8**	**+0.8**
HUIG					**Sn**	**22 26 48.4**	**-2.4**
HUIG	**Huatulco**	**1.96**	**295**	*e*P	**Pn**	**22 26 27.8**	**+0.8**
HUIG				*e*S	**Sn**	**22 26 48.2**	**-2.6**
PATR	**El Naranjo**	**1.97**	**85**	*e*P	**Pn**	**22 26 27.5**	**0.0**
PATR				*i* S	**Sn**	**22 26 49.8**	**-1.8**
PAVE	**Pavencul**	**2.04**	**83**	*e*P	**Pn**	**22 26 28.9**	**+0.5**
PAVE				*i* S	**Sn**	**22 26 52.1**	**-1.0**
CHUJ	**Union Juarez**	**2.09**	**86**	*e*P	**Pn**	**22 26 29.6**	**+0.5**
CHUJ				*i* S	**Sn**	**22 26 54.4**	**-0.2**
TGIG		**2.13**	**31**		**Pn**	**22 26 30.9**	**+1.3**
TGIG					**Sn**	**22 26 55.6**	**+0.2**
TGIG		**2.13**	**31**	*e*P	**Pn**	**22 26 30.8**	**+1.2**
TGIG				*e*S	**Sn**	**22 26 54.5**	**-0.8**
TGBT	**Tuxtla Gutierr**	**2.15**	**32**		**Pn**	**22 26 31.1**	**+1.5**
TGBT					**Sn**	**22 26 56.0**	**+0.4**
TGBT	**Tuxtla Gutierr**	**2.15**	**32**	*i* P	**Pb**	**22 26 32.5**	**-1.1**
TGBT				*e*S	**Sn**	**22 26 55.9**	**+0.4**
PANG	**Puerto Angel**	**2.25**	**289**	*e*P	**Pn**	**22 26 29.1**	**-1.9**
PANG				*e*S	**Sn**	**22 26 54.3**	**-3.7**
CCIG	**Comitan**	**2.45**	**57**	Pn	**Pn**	**22 26 34.3**	**+0.3**
CCIG	**Comitan**	**2.45**	**57**	*e*P	**Pn**	**22 26 36.2**	**+2.2**
CCIG				*e*S	**Sn**	**22 27 05.1**	**+1.9**
RTAL	**Retalhuleu**	**2.52**	**99**	Pn	**Pn**	**22 26 34.8**	**-0.1**
HUEH	**Huehuetenango**	**2.70**	**82**	Pn	**Pn**	**22 26 36.2**	**-1.2**
PEIG	**Puerto Escondi**	**2.97**	**291**	*e*P	**Pn**	**22 26 42.4**	**+1.5**
PEIG				*e*S	**Sn**	**22 27 12.4**	**-3.4**
TUIG	**Tuzandepetl**	**3.08**	**357**	*e*P	**Pn**	**22 26 45.7**	**+3.2**
TUIG				*e*S	**Sn**	**22 27 19.9**	**+1.3**
NEUV	**Arroyo Zacate**	**3.12**	**332**	*e*P	**Pn**	**22 26 44.0**	**+0.9**
NEUV				*e*S	**Sn**	**22 27 18.3**	**-1.3**
OXIG	**Oaxaca**	**3.18**	**312**		**Pn**	**22 26 43.9**	**-0.2**
OXIG					**Sn**	**22 27 20.4**	**-0.9**
VHO	**Vista Hermosa**	**3.18**	**312**	*e*P	**Pn**	**22 26 43.9**	**-0.2**
VHO				*e*S	**Sn**	**22 27 20.4**	**-0.9**
PMUV	**Sontecomapan**	**3.68**	**347**	*e*P	Pn	22 26 56.7	+5.9
PMUV				*e*S	**Sn**	**22 27 32.6**	**-0.8**
YOIG	**Yosondua**	**3.68**	**302**		**Pn**	**22 26 55.0**	**+4.0**
YOIG	**Yosondua**	**3.68**	**302**	*e*P	**Pn**	**22 26 55.0**	**+4.0**
YOIG				*e*S	**Sn**	**22 27 33.7**	**-0.1**
PNIG	**Pinotepa**	**3.99**	**292**		**Pn**	**22 26 56.9**	**+1.9**
PNIG					**Sn**	**22 27 36.6**	**-4.4**
PNIG	**Pinotepa**	**3.99**	**292**	*e*P	**Pn**	**22 26 56.9**	**+1.9**
PNIG				*e*S	**Sn**	**22 27 36.6**	**-4.4**
TXIG	**Tlaxiaco**	**4.07**	**305**	*e*P	**Pn**	**22 26 59.6**	**+3.2**
TXIG				*e*S	**Sn**	**22 27 44.1**	**+0.6**
TOIG	**Toxpalan**	**4.13**	**320**		**Pn**	**22 27 01.7**	**+4.7**
TOIG	**Toxpalan**	**4.13**	**320**	*e*P	**Pn**	**22 27 01.7**	**+4.7**
TOIG				*e*S	**Sn**	**22 27 47.5**	**+2.9**
HLIG	**Huajuapan de L**	**4.45**	**311**		**Pn**	**22 27 03.8**	**+2.4**
HLIG	**Huajuapan de L**	**4.45**	**311**	*e*P	**Pn**	**22 27 03.8**	**+2.4**
HLIG				*e*S	**Sn**	**22 27 52.5**	**0.0**
TPIG	**Tehuac#an**	**4.56**	**320**	*e*S	**Sn**	**22 27 50.1**	**-5.1**
PETF	**Flores**	**4.67**	**65**	Pn	**Pn**	**22 27 04.1**	**-0.2**
FTIG	**Fresnillo de T**	**4.74**	**309**		**Pn**	**22 27 09.9**	**+4.5**
FTIG	**Fresnillo de T**	**4.74**	**309**	*e*P	**Pn**	**22 27 04.0**	**-1.4**
FTIG				*e*S	**Sn**	**22 28 01.6**	**+1.9**
MTO3	**Montecristo**	**4.78**	**96**	Pn	**Pn**	**22 27 02.9**	**-3.2**
TLIG	**Tlapa**	**4.88**	**303**	*e*P	**Pn**	**22 27 09.8**	**+2.5**
TLIG				*e*S	**Sn**	**22 28 08.8**	**+5.6**
SCIG	**Sabancuy**	**4.97**	**36**	*e*P	**Pn**	**22 27 08.2**	**-0.4**
SCIG				*e*S	**Sn**	**22 28 00.2**	**-5.1**
JAUV	**Jalcomulco**	**5.02**	**332**	*e*P	**Pn**	**22 27 10.9**	**+1.7**
JAUV				*e*S	**Sn**	**22 28 04.3**	**-2.3**
LVIG	**Laguna Verde**	**5.18**	**337**	*e*P	**Pn**	**22 27 10.2**	**-1.2**
LVIG				*e*S	**Sn**	**22 28 06.7**	**-3.7**
DAIG	**Los Arroyos**	**5.57**	**293**	*e*P	**Pn**	**22 27 18.3**	**+1.5**
DAIG				*e*S	**Sn**	**22 28 15.6**	**-4.5**
PPM	**Popocatepetl**	**5.85**	**315**	*e*P	Pn	22 27 27.4	+6.4
PPM				*e*S	**Sn**	**22 28 34.0**	**+6.4**
MEIG	**Mezcala**	**5.93**	**301**	*e*P	**Pn**	**22 27 24.7**	**+3.0**
MEIG				*e*S	**Sn**	**22 28 29.7**	**+0.6**
YAIG	**Yautepec**	**6.03**	**311**	*e*P	**Pn**	**22 27 27.1**	**+4.0**
YAIG				*e*S	**Sn**	**22 28 29.3**	**-2.1**
PLIG	**Platanillo**	**6.08**	**305**	*e*P	**Pn**	**22 27 24.1**	**+0.3**
PLIG				*e*S	**Sn**	**22 28 31.7**	**-1.0**
CXUV	**Coxquihui**	**6.09**	**329**	*e*P	**Pn**	**22 27 23.3**	**-0.6**
CXUV				*e*S	**Sn**	**22 28 28.8**	**-4.1**
ARIG	**Puente Sto Nin**	**6.71**	**301**	*e*P	Pn	22 27 30.1	-2.3
ARIG				*e*S	**Sn**	**22 28 45.4**	**-2.7**
MYIG	**Mrida**	**7.38**	**35**	*e*P	Pn	22 27 46.6	+5.1
MYIG				*e*S	**Sn**	**22 29 02.9**	**-1.6**
TEIG	**Tepich**	**7.76**	**47**	P	**Pn**	**22 27 47.3**	**+0.4**
	37nm,0.3s,baz=152,slow=0.8,SNR=29						
TEIG				S	**Sn**	**22 29 09.8**	**-4.2**
	355nm,0.5s,baz=204,slow=21,SNR=10						
TEIG				LR	LR	22 31 13.4	
	comp=Z,1μm,20.3s,baz=357,slow=42						
ORTG	**Ortega, Santa**	**9.73**	**117**	Pn	**Pn**	**22 28 13.2**	**-0.7**
JACO	**JACO, Garabito**	**10.75**	**118**	Pn	**Pn**	**22 28 24.0**	**-3.9**
833A	**Chaparral WMA,**	**14.14**	**341**		**P**	**22 29 20.5**	**-1.0**
TXAR	**Lajitas Array**	**16.75**	**330**		**P**	**22 29 54.7**	**+4.1**
TXAR	**Lajitas Array**	**16.75**	**330**	P	**P**	**22 29 53.5**	**+2.9**
	0.1nm,0.3s,baz=150,slow=10,SNR=4.3						
	0.5nm,0.8s						
BRDY	**Brady**	**16.84**	**346**	P	**P**	**22 29 56.4**	**+4.9**
BRDY				IAmb	IAmb	22 30 12.4	
	comp=Z,2.7nm,0.8s						
MIAR	**Mount Ida**	**19.53**	**2**	P	**P**	**22 30 21.1**	**0.0**
FCAR	**Ozark Folk Cen**	**20.95**	**5**	P	Pn	22 30 39.3	+0.1
FCAR				IAmb	IAmb	22 30 40.3	
	comp=Z,3.7nm,0.7s						
121A	**Cookes Peak, D**	**21.40**	**327**	P	**P**	**22 30 45.9**	**+4.3**
121A				IAmb	IAmb	22 30 46.5	
	comp=Z,5.8nm,0.8s						
CGM3	**Cape Girardeau**	**22.64**	**10**	P	**P**	**22 30 56.6**	**+2.0**
CGM3				IAmb	IAmb	22 30 59.7	
	comp=Z,5.8nm,0.6s						
S39A	**Bolivar**	**22.68**	**2**	P	**P**	**22 30 55.2**	**+0.1**
S39A				IAmb	IAmb	22 30 56.2	
	comp=Z,4.2nm,0.8s						
TKL	**Tuckaleechee C**	**22.68**	**23**	LR	LR	22 40 01.7	
	comp=Z,11nm,19.3s,baz=148,slow=37						
U49A	**Red Boiling Sp**	**22.78**	**18**	P	**P**	**22 30 55.9**	**-0.2**
U49A				IAmb	IAmb	22 30 56.8	
	comp=Z,3.8nm,0.8s						
N38A	**Joes South For**	**25.77**	**2**	P	**P**	**22 31 24.1**	**-0.1**
SJG	**San Juan**	**27.13**	**79**	LR	LR	22 42 39.5	
	comp=Z,44nm,19.0s,baz=250,slow=37						
PDAR	**Pinedale Array**	**30.69**	**338**	P	**P**	**22 32 09.9**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=137,slow=7.0,SNR=2.4						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**31.58**	**322**	P	**P**	**22 32 19.5**	**+3.2**
	comp=Z,1.5nm,1.0s,baz=139,slow=8.4,SNR=7.3						
	comp=Z,1.5nm,1.0s						
EMB	**Emerald Bay**	**33.00**	**321**	P	**P**	**22 32 31.6**	**+2.8**
CHMT	**Chamberlain Mo**	**35.60**	**337**	P	P	22 32 56.3	+5.1
LPAZ	**La Paz**	**40.36**	**139**	P	**P**	**22 33 31.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=333,slow=2.3,SNR=2.1						
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**61.12**	**337**	P	**P**	**22 36 07.2**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=139,slow=4.0,SNR=6.0						
	comp=Z,0.7nm,0.9s						
PPT	**Papeete**	**63.39**	**241**	P	**P**	**22 36 25.8**	**+2.6**
	comp=Z,24nm,0.4s,baz=82,slow=16,SNR=2.2						
EKA	**Eskdalemuir Ar**	**78.49**	**36**	P	**P**	**22 37 53.7**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=294,slow=6.3,SNR=3.6						
	comp=Z,0.6nm,0.5s						
NOA	**NORSAR Array B**	**84.36**	**28**	P	**P**	**22 38 25.8**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=299,slow=12,SNR=0.9						
	comp=Z,0.9nm,0.9s						
HFS	**Hagfors**	**85.84**	**29**	P	**P**	**22 38 33.6**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=307,slow=18,SNR=2.6						
	comp=Z,2.2nm,0.8s						
ARCES	**ARCESS Array B**	**85.93**	**18**	P	**P**	**22 38 33.5**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=289,slow=3.7,SNR=4.1						
	comp=Z,1.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**144.35**	**338**	PKP	**PKPab**	**22 45 29.3**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=356,slow=2.6,SNR=4.7						

*JMA **06** 22:28:58.7±0.3, 37°.4N±0°.9×14°.4E±°, h33km, MV3.9/37, FAR E OFF NORTH HONSHU*

*NIED **06** 22:28:58.7, 37°.39N×143°.71E, h33km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-1.69; $M_{\theta\theta}$0.20; $M_{\phi\phi}$1.50; $M_{r\theta}$0.79; $M_{\theta\phi}$0.94; $M_{\phi r}$0.04; Fault plane solution: $M_0$2.02000×10^{14} NP1: ϕ_s228.00000°, δ55.00000°, λ-64.00000°. NP2:ϕ_s7.00000°, δ43.00000°, λ-122.00000°.*

*IDC **06** 22:28:59.1±7.7, 36°.46N×143°.66E, h0km, mb3.7/2, mbtmp3.6/3, ML2.7/1, MS2.2/1 Error ellipse: s-maj=164.0km s-min=35.4km az=26.0*

ISC 06 22:28:58.1±1.9, 37°.4N±0°.1×143°.9E±0°.1, h35km, n15, σ1§10/24, mb4.2/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.29**	**299**	P	**Pn**	**22 29 33.3**	**0.0**
JIO				S	**Sn**	**22 29 58.9**	**-1.4**
JFK	**Kawauchi**	**2.41**	**271**	P	**Pn**	**22 29 34.9**	**-0.2**
JFK				S	**Sn**	**22 30 01.9**	**-1.4**
ONAJ	**Iwakimizuishiy**	**2.49**	**265**	*e*P	**Pn**	**22 29 36.4**	**+0.2**
ONAJ				*e*S	**Sn**	**22 30 03.8**	**-1.6**
JMM	**Marumori**	**2.51**	**282**	P	**Pn**	**22 29 36.2**	**-0.3**
JMM				S	**Sn**	**22 30 04.6**	**-1.2**
JFFD	**Fukushimafurud**	**2.68

comp=Z,50nm,0.4s
TEY *e*S **S** **22 31 41.0 -2.1**
JTM Tenmabayashi 2.73 145 Pn **Pn** **22 31 08.4 +0.2**
JRBN Rebuntou 2.82 31 *e*P **Pn** **22 31 09.6 +0.5**
ASAJ Asahikawa 2.84 66 P **Pn** **22 31 10.1 +0.7**
comp=Z,38nm,0.4s,baz=256,slow=11,SNR=31
ASAJ S **S** **22 31 48.5 +1.3**
comp=Z,95nm,0.8s,baz=119,slow=24,SNR=24
JKA Kamikawa-asahi 2.84 66 Pn **Pn** **22 31 09.8 +0.4**
JKA Sn **S** **22 31 48.3 +0.9**
JKA Kamikawa-asahi 2.84 66 *e*P **Pn** **22 31 10.1 +0.7**
JKK2 Kamakawa 2 2.87 72 *e*P **Pn** **22 31 10.6 +0.9**
JKK2 *e*S **S** **22 31 48.4 +0.6**
JNBK Urakawa-nobuka 2.88 104 *e*P **Pn** **22 31 10.2 +0.3**
JWK2 Keihoku 3.10 42 *e*P **Pn** **22 31 14.2 +1.9**
JSE Soyaes 3.24 52 *e*P **Pn** **22 31 14.9 +1.0**
ERM Erimo 3.25 107 Pn **Pn** **22 31 14.9 +0.8**
ERM Sn **S** **22 31 55.7 -0.1**
ERM Erimo 3.25 107 *i* P **Pn** **22 31 14.4 +0.3**
JCH Churui 3.25 96 *e*P **Pn** **22 31 14.5 +0.4**
JCH *e*S **S** **22 31 53.5 -2.3**
JANG Nango 3.27 144 *e*P **Pn** **22 31 14.7 +0.4**
JANG *e*S **S** **22 31 54.2 -1.9**
JAR Ashorobuto 3.52 84 *e*P **Pn** **22 31 17.2 0.0**
JAR *e*S **S** **22 32 00.5 -0.8**
JTKR Abashiri--Toko 3.71 74 *e*P **Pn** **22 31 20.3 +0.9**
JTKR *e*S **S** **22 32 06.3 +0.9**
AKK Akkeshi 4.30 88⇓ *i*P **Pn** **22 31 25.8 -0.9**
AKK AMB AMB 22 31 25.9
comp=Z,170nm,0.2s
YSS Yuzh-Sakhalins 4.75 33 Pn **Pn** **22 31 33.2 +1.0**
YSS Yuzh-Sakhalins 4.75 33 *i* P **Pn** **22 31 32.0 -0.2**
YSS Yuzh-Sakhalins 4.75 33 *e*P **Pn** **22 31 32.2 0.0**
YSS AMB AMB 22 31 33.8
comp=Z,130nm,0.5s
YSS *e*S **S** **22 32 28.9 +0.3**
YSS A A 22 32 30.5
comp=Z,40nm,0.8s
YSS A A 22 32 30.5
comp=Z,30nm,0.8s
NMR Nemuro--Hokkai 4.95 84 *e*P **Pn** **22 31 33.4 -1.3**
NMR *e*S **S** **22 32 27.8 -5.3**
JSD Sado 5.02 186 **Pn** **22 31 36.4 +0.6**
YUK Yuzh-Kuril'sk 5.10 76*d* *i*P **Pn** **22 31 38.7 +2.0**
YUK *i* S **S** **22 32 36.8 +0.1**
YUK pmax pmax
comp=Z,192nm,0.3s
YUK pmax pmax
comp=N,39nm,0.1s
YUK smax smax
comp=E,533nm,0.5s
YUK smax smax
comp=N,393nm,0.4s
YUK Yuzh-Kuril'sk 5.10 76 *i* P **Pn** **22 31 36.5 -0.2**
YUK AMB AMB 22 31 39.5
comp=N,190nm,0.4s
YUK *i* S **S** **22 32 37.6 +0.9**
YUK A A 22 32 38.5
comp=N,610nm,0.7s
YUK A A 22 32 38.5
comp=N,600nm,0.7s
USA0B Ussuriysk Arra 5.21 285 **Pn** **22 31 38.2 +0.2**
USA0B Ussuriysk Arra 5.21 285 P **Pn** **22 31 38.2 +0.2**
USRK Ussuriysk Ar. 5.21 285 Pn **Pn** **22 31 37.5 -0.5**
USRK Ussuriysk Ar. 5.21 285 P **Pn** **22 31 37.7 -0.3**
comp=N,3.9nm,0.5s,baz=98,slow=12,SNR=22
USRK S **S** **22 32 37.2 -1.8**
comp=N,2.0nm,0.6s,baz=79,slow=26,SNR=4.1
JMM Marumori 5.34 164 **Pn** **22 31 39.6 -0.3**
SHO Shikotan 5.78 79⇓ *i*P **Pn** **22 31 44.0 -1.2**
SHO *e*S **S** **22 32 45.4 -6.8**
SHO pmax pmax
comp=E,16nm,0.3s
SHO pmax pmax
comp=Z,50nm,0.3s
SHO pmax pmax
comp=N,19nm,0.2s
SHO smax smax
comp=N,322nm,0.3s
SHO smax smax
comp=E,145nm,0.1s
SHO Shikotan 5.78 79 *i* P **Pn** **22 31 44.0 -1.2**
SHO AMB AMB 22 31 47.4
comp=E,50nm,0.5s
SHO *e*S **S** **22 32 45.4 -6.8**
SHO A A 22 32 48.0
comp=E,320nm,0.3s
SHO A A 22 32 48.0
comp=E,430nm,0.3s
MJB9 Matsu-Tunnel 6.51 186 Pn **Pn** **22 31 55.4 +0.6**
MAJO Matsushiro 6.51 185 Pn **Pn** **22 31 54.4 -0.4**
MAJO Matsushiro 6.51 185 P **Pn** **22 31 54.4 -0.4**
MJAR Matsushiro Arr 6.51 185 P **Pn** **22 31 55.7 +0.9**
comp=E,4.2nm,0.5s,baz=3.0,slow=13,SNR=5.8
JGF Kuroka 7.53 190 Pn **Pn** **22 32 07.9 0.0**
INU Inuyama 7.82 192 Pn **Pn** **22 32 11.9 +0.2**
KLR Kul'dur 7.97 324 *i* P **Pn** **22 32 12.9 -0.5**
KLR Kul'dur 7.97 324 *e*P **Pn** **22 32 12.9 -0.5**
KLR Kul'dur 7.97 324 P **Pn** **22 32 12.7 -0.7**
comp=E,6.5nm,0.7s,baz=133,slow=12,SNR=15
JWT Wachi 8.22 201 Pn **Pn** **22 32 15.7 -1.1**
JMN Monobe 10.11 205 Pn **Pn** **22 32 42.1 +0.9**
KSRS Korea Array 10.12 240 P **Pn** **22 32 42.2 +1.1**
comp=E,2.7nm,0.9s,baz=61,slow=12,SNR=6.6
HEH HeiHe 10.73 316 *e*P **Pn** **22 32 48.4 -0.4**
HEH pmax pmax
comp=Z,11nm,0.9s
ZEA Zeya 13.22 328 *e*P **Pn** **22 33 20.8 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA Zeya 13.22 328 *e*P **Pn** **22 33 20.8 +0.7**
PETK Petropavlovsk- 16.02 45 P **P** **22 33 53.3 -0.1**
PETK Petropavlovsk- 16.02 45 P **Pn** **22 33 55.0 +0.8**
comp=Z,2.0nm,0.6s,baz=235,slow=9.8,SNR=4.2
BJT Baijiatuau 17.33 268 **P** **22 34 08.3 +0.3**
BJT Baijiatuau 17.33 268 P **P** **22 34 08.3 +0.3**
BJT pmax pmax
comp=Z,13nm,0.5s
MA2 Magadan 18.08 20 P **P** **22 34 16.0 +0.1**
MA2 IAmb IAmb 22 34 53.7
comp=Z,14nm,1.1s
MA2 Magadan 18.08 20 P **P** **22 34 16.0 +0.1**
MA2 pmax pmax
comp=Z,14nm,1.1s
MA2 Magadan 18.08 20 *e*P **P** **22 34 16.0 +0.1**
MA2 Magadan 18.08 20 P **P** **22 34 14.7 -1.2**
comp=Z,4.0nm,0.4s,baz=180,slow=16,SNR=2.4
YAK Yakutsk 19.81 347 *e*P **P** **22 34 32.2 -2.2**
YAK *e*S **S** **22 38 03.9 -1.4**
YAK pmax pmax
comp=Z,33nm,1.2s
YAK pmax pmax
comp=N,16nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.7s
YAK smax smax
comp=E,120nm,5.7s
YAK smax smax
comp=N,69nm,3.7s
YAK Yakutsk 19.81 347 *e*P **P** **22 34 32.2 -2.2**
ULN Ulaanbaatar 22.81 293 P **P** **22 35 03.8 -1.0**
ULN IAmb IAmb 22 35 05.2
comp=Z,9.7nm,1.4s
ULN Ulaanbaatar 22.81 293*ce*P **P** **22 35 02.9 -1.9**
ULN pmax pmax
comp=Z,9.0nm,1.5s
ULN Ulaanbaatar 22.81 293 P **P** **22 35 02.9 -1.9**
SONM Songino Array 23.26 293 P **P** **22 35 08.0 -0.8**
SONM IAmb IAmb 22 35 09.4
comp=Z,7.3nm,1.2s
SONM Songino Array 23.26 293 P **P** **22 35 08.0 -0.8**
SONM pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 23.26 293 P **P** **22 35 07.9 -0.9**
comp=Z,1.9nm,0.5s,baz=90,slow=8.2,SNR=16
comp=Z,1.9nm,0.5s
TIXI Tiksi 29.12 353 P **P** **22 35 59.1 -1.7**
TIXI Tiksi 29.12 353 P **P** **22 35 59.1 -1.7**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
GTA Gaotai 29.50 276 *e*P **P** **22 36 04.9 +0.2**
GTA pmax pmax
comp=Z,2.0nm,0.7s
ATKA Atka Island 32.36 57 P **P** **22 36 29.1 -0.3**

PZH PanZhiHua 34.42 254 P **P** **22 36 49.2 +1.5**
PZH pmax pmax
comp=Z,6.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.6s
DGZ Jazzator, Alta 35.59 299 *i* P **P** **22 36 58.0 +0.6**
DGZ pmax pmax
comp=Z,11nm,0.9s
ZAA0 Zalesovo Array 36.65 307 P **P** **22 37 06.5 +0.3**
ZALV Zalesovo Beam 36.65 307 P **P** **22 37 06.3 +0.2**
ZALV Zalesovo Beam 36.65 307 P **P** **22 37 06.0 -0.1**
comp=Z,18nm,0.4s,baz=90,slow=9.3,SNR=76
ZALV PcP **PcP** **22 39 23.8 -0.2**
comp=Z,1.8nm,0.6s,baz=64,slow=3.4,SNR=5.1
ZALV ScP **ScP** **22 42 49.6 0.0**
comp=Z,1.0nm,0.6s,baz=90,slow=3.0,SNR=4.9
WMQ Urumqi 36.76 289 *e*P **P** **22 37 09.4 +2.1**
WMQ pmax pmax
comp=Z,14nm,0.9s
UNV Unalaska Valle 36.88 54 P **P** **22 37 08.7 +0.7**
NRIK Noril'sk 37.06 333 P **P** **22 37 08.6 -0.8**
NRIK IAmb IAmb 22 37 09.1
comp=Z,4.4nm,0.6s
NRIK Noril'sk 37.06 333 *i* P **P** **22 37 08.0 -1.4**
NRIK pmax pmax
comp=Z,3.0nm,0.6s
NRIK Noril'sk 37.06 333 P **P** **22 37 08.4 -1.0**
comp=Z,4.1nm,0.5s,baz=131,slow=8.1,SNR=6.5
comp=Z,4.1nm,0.5s
AKUT Akutan 37.28 53 P **P** **22 37 14.3 +3.0**
ANM Nome 37.63 36 P **P** **22 37 12.1 -2.1**
ANM Nome 37.63 36 P **P** **22 37 12.1 -2.1**
ANM pmax pmax
comp=Z,26nm,1.1s
CRAI Chiangrai 39.48 247 P **P** **22 37 31.0 +0.8**
MK31 Makanchi Array 39.58 296 P **P** **22 37 30.9 +0.2**
MK31 IAmb IAmb 22 37 31.4
comp=Z,5.6nm,0.7s
MK31 Makanchi Array 39.58 296 *i* P **P** **22 37 30.1 -0.6**
MKAR Makanchi Array 39.58 296 P **P** **22 37 30.9 +0.2**
MKAR Makanchi Array 39.58 296*ce*P **P** **22 37 30.7 0.0**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 39.58 296 *e*P **P** **22 37 30.7 0.0**
MKAR Makanchi Array 39.58 296 P **P** **22 37 30.5 -0.2**
comp=Z,3.7nm,0.5s,baz=83,slow=10,SNR=46
MKAR PcP **PcP** **22 39 32.1 -1.2**
comp=Z,0.3nm,0.4s,baz=76,slow=3.9,SNR=2.1
comp=Z,3.7nm,0.5s
MAKZ Makanchi 39.78 296 P **P** **22 37 32.5 +0.2**
MAKZ IAmb IAmb 22 37 33.2
comp=Z,9.1nm,0.8s
MAKZ Makanchi 39.78 296 P **P** **22 37 32.5 +0.2**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
SDPT Sand Point 40.17 50 P **P** **22 37 34.8 -0.6**
KURK Kurchatov 40.94 303 P **P** **22 37 41.3 -0.4**
KURK IAmb IAmb 22 37 42.4
comp=Z,17nm,0.8s
KURK Kurchatov 40.94 303*ce*P **P** **22 37 41.5 -0.2**
KURK pmax pmax
comp=Z,24nm,1.0s
KURK Kurchatov 40.94 303 P **P** **22 37 41.5 -0.2**
KURBB Kurchatov Arra 41.01 302 P **P** **22 37 42.1 -0.2**
comp=Z,16nm,0.8s,baz=78,slow=8.8,SNR=71
KURBB PcP **PcP** **22 39 37.8 0.0**
comp=Z,0.7nm,0.6s,baz=92,slow=3.3,SNR=3.4
comp=Z,16nm,0.8s
CHTO Chiang Mai 41.43 247 P **P** **22 37 46.3 +0.2**
CHTO Chiang Mai 41.43 247 P **P** **22 37 46.3 +0.2**
CMAR Chiang Mai Arr 41.68 247 P **P** **22 37 48.5 +0.4**
comp=Z,0.6nm,0.6s,baz=40,slow=7.1,SNR=2.7
comp=Z,0.6nm,0.6s
TTA Tatalina 41.72 39 P **P** **22 37 49.4 +1.3**
TTA IAmb IAmb 22 37 54.9
comp=Z,9.9nm,1.5s
TTA Tatalina 41.72 39 P **P** **22 37 49.4 +1.3**
TTA pmax pmax
comp=Z,10.0nm,1.5s
N18K Kilae Creek 41.95 42 P **P** **22 37 50.9 +1.1**
N18K IAmb IAmb 22 37 53.1
comp=Z,31nm,1.5s
SVW2 Sparrevohn 42.06 41 P **P** **22 37 52.5 +1.8**
SVW2 IAmb IAmb 22 38 06.8
comp=Z,19nm,1.4s
J20K Nowinta River 42.49 37 P **P** **22 37 55.1 +1.0**
K20K Telida 42.58 38 P **P** **22 37 56.2 +1.3**
K20K IAmb IAmb 22 38 25.1
comp=Z,18nm,1.5s
IMAR Indian Mountai 42.58 34 P **P** **22 37 54.9 +0.2**
N19K Bonanza Creek 42.63 42 P **P** **22 37 56.9 +1.5**
N19K IAmb IAmb 22 38 14.4
comp=Z,29nm,1.5s
Q19K Cape Douglas, 43.31 44 P **P** **22 38 01.5 +0.8**
CAST Castle Rocks 43.46 38 P **P** **22 38 03.2 +1.3**
SKT Skwentna 43.89 40 P **P** **22 38 06.7 +1.4**
SKT IAmb IAmb 22 38 20.8
comp=Z,11nm,1.3s
SYI Shuyak Island 44.01 45 P **P** **22 38 07.0 +0.7**
TAPN Taplejung 44.04 266 *e*P **P** **22 38 07.2 -0.2**
comp=Z,9.3nm,0.3s
KDAK Kodiak Island 44.07 46 P **P** **22 38 07.6 +0.9**
KDAK Kodiak Island 44.07 46 P **P** **22 38 07.6 +0.9**
KDAK pmax pmax
comp=Z,106nm,1.4s
TOLK Toolik Lake Re 44.10 30 P **P** **22 38 05.2 -1.7**
CNPM China Poot 44.42 43 P **P** **22 38 10.0 +0.4**
I23K Minto, Yukon-K 44.46 35 P **P** **22 38 11.0 +1.3**
BRLK Bradley Lake 44.56 43 P **P** **22 38 11.5 +0.8**
BRLK IAmb IAmb 22 38 18.2
comp=Z,19nm,1.1s
JIRN Jiri 44.98 268 *e*P **P** **22 38 14.9 +0.1**
comp=Z,7.2nm,0.4s
H24K Noodor Dome 44.99 34 P **P** **22 38 15.8 +1.8**
GUN Gumba 45.07 268 *e*P **P** **22 38 15.6 +0.1**
comp=Z,12nm,0.4s
RAMN Ramite 45.08 267 *e*P **P** **22 38 15.5 0.0**
comp=Z,17nm,0.7s
GHO Glory Hole Cre 45.14 40 P **P** **22 38 16.5 +1.3**
GHO IAmb IAmb 22 38 41.4
comp=Z,22nm,1.4s
CCB Clear Creek Bu 45.18 36 P **P** **22 38 16.5 +1.1**
SEW Seward 45.20 42 P **P** **22 38 15.1 -0.5**
SEW IAmb IAmb 22 38 36.8
comp=Z,33nm,1.4s
BVAR Borovoye Array 45.28 308 P **P** **22 38 16.8 +0.4**
comp=Z,5.6nm,0.3s,baz=74,slow=9.4,SNR=92
BVAR PcP **PcP** **22 39 52.2 0.0**
comp=Z,1.0nm,0.4s,baz=51,slow=5.7,SNR=3.6
BVAR ScP **ScP** **22 43 24.0 +0.1**
comp=Z,0.8nm,0.8s,baz=72,slow=4.8,SNR=3.9
comp=Z,5.6nm,0.3s
BOOM Boomskoye usch 45.29 292 P **P** **22 38 17.8 +0.9**
BOOM Boomskoye usch 45.29 292 P **P** **22 38 17.8 +0.9**
BOOM pmax pmax
comp=Z,38nm,1.1s
BRVK Borovoye 45.34 308 P **P** **22 38 17.3 +0.4**
BRVK Borovoye 45.34 308*ce*P **P** **22 38 17.2 +0.4**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 45.34 308 P **P** **22 38 17.2 +0.4**
SML Sawmill 45.41 40 P **P** **22 38 18.6 +1.3**
SML IAmb IAmb 22 38 46.7
comp=Z,37nm,1.5s
KNK Knik Glacier 45.42 40 P **P** **22 38 18.2 +0.7**
KNK IAmb IAmb 22 38 46.5
comp=Z,28nm,1.4s
IL31 45.55 35 P **P** **22 38 18.9 +0.7**
ILAR Eielson Array 45.55 35 P **P** **22 38 17.2 -1.1**
ILAR Eielson Array 45.55 35 P **P** **22 38 17.2 -1.1**
ILAR Eielson Array 45.55 35 P **P** **22 38 19.2 +0.9**
comp=Z,1.8nm,0.8s,baz=283,slow=7.5,SNR=15
ILAR PcP **PcP** **22 39 51.8 -1.1**
comp=Z,0.2nm,0.5s,baz=292,slow=5.7,SNR=1.7
comp=Z,1.8nm,0.8s
IL03 Eielson Array 45.57 35 P **P** **22 38 20.1 +1.6**
KKN Kakani 45.58 269 *e*P **P** **22 38 19.5 +0.2**
comp=Z,12nm,0.4s
HDA Harding Lake 45.58 36 P **P** **22 38 19.2 +0.6**
PWL Port Wells 45.59 41 P **P** **22 38 19.9 +1.1**
PKI Pulchoki 45.60 268 *e*P **P** **22 38 19.2 -0.5**
comp=Z,6.7nm,0.4s
PKIN Phulchoki 45.61 268 *e*P **P** **22 38 19.3 -0.4**
comp=Z,5.1nm,0.3s
DHY Denali Highway 45.62 38 P **P** **22 38 19.9 +0.8**

NRN Naryn 45.67 291 P **P** **22 38 20.5 +0.5**
NRN Naryn 45.67 291 P **P** **22 38 20.5 +0.5**
NRN pmax pmax
comp=Z,6.0nm,1.4s
DMN Daman 45.80 269 *e*P **P** **22 38 21.0 -0.2**
comp=Z,7.0nm,0.4s
SCM Sheep Creek Mo 45.87 39 P **P** **22 38 22.7 +1.7**
SCM IAmb IAmb 22 38 25.2
comp=Z,19nm,1.3s
SCM Sheep Creek Mo 45.87 39 P **P** **22 38 22.7 +1.7**
SCM pmax pmax
comp=Z,19nm,1.3s
GKN Gorkha 45.93 269 *e*P **P** **22 38 21.7 -0.3**
comp=Z,12nm,0.4s
PRP Porcupine Dome 46.00 34 P **P** **22 38 23.3 +1.3**
BMAR Burnt Mountain 46.08 31 P **P** **22 38 24.2 +1.7**
FAKI Fak Fak 46.15 189 P **P** **22 38 20.0 -3.5**
FAKI IAmb IAmb 22 38 24.2
comp=Z,11nm,0.6s
GLI Glacier Island 46.18 41 P **P** **22 38 23.9 +0.5**
GLI IAmb IAmb 22 38 46.4
comp=Z,26nm,1.4s
AAK Ala-Archa 46.21 293 P **P** **22 38 24.4 +0.4**
AAK Ala-Archa 46.21 293 P **P** **22 38 24.4 +0.4**
AAK pmax pmax
comp=Z,3.0nm,0.5s
AAK Ala-Archa 46.21 293 *e*P **P** **22 38 24.4 +0.4**
J25K Salcha River, 46.22 35 P **P** **22 38 24.4 +0.8**
M24K Tolsona, Glenn 46.35 39 P **P** **22 38 26.6 +1.8**
M24K IAmb IAmb 22 39 04.0
comp=Z,24nm,1.1s
DANN Dangsing 46.38 270 *e*P **P** **22 38 26.1 +0.4**
comp=Z,65nm,0.5s
KSH Kashi 46.50 288 P **P** **22 38 30.8 +4.6**
KSH pmax pmax
comp=Z,5.0nm,0.7s
FID Port Fidalgo 46.50 41 P **P** **22 38 26.4 +0.6**
FID IAmb IAmb 22 39 04.1
comp=Z,14nm,1.0s
KLU Klutina 46.60 40 P **P** **22 38 27.8 +1.1**
KLU IAmb IAmb 22 39 09.9
comp=Z,17nm,1.3s
KOLN Koldanda 46.82 270 *e*P **P** **22 38 28.2 -0.8**
comp=Z,30nm,1.1s
EYAK Cordova Ski Ar 46.90 41 P **P** **22 38 30.4 +1.5**
EYAK IAmb IAmb 22 38 36.3
comp=Z,17nm,1.2s
SCRK Sand Creek 46.94 36 P **P** **22 38 29.7 +0.4**
J26L Joseph Creek 47.01 35 P **P** **22 38 30.7 +0.9**
I26K Coal Creek Min 47.02 34 P **P** **22 38 30.2 +0.5**
PYUN Piuthan 47.08 271 *e*P **P** **22 38 31.2 +0.2**
comp=Z,12nm,0.3s
N25K Chitina, Valde 47.19 39 P **P** **22 38 32.6 +1.4**
MENT Mentasta 47.28 37 P **P** **22 38 33.5 +1.7**
MENT IAmb IAmb 22 39 04.1
comp=Z,14nm,1.3s
BMRM Bremner River 47.34 40 P **P** **22 38 33.4 +1.1**
BMRM IAmb IAmb 22 38 37.1
comp=Z,25nm,1.4s
L26K Log Cabin Wild 47.43 37 P **P** **22 38 34.7 +1.8**
RAGM Ragged Mountai 47.46 41 P **P** **22 38 35.0 +1.8**
GLB Gilahina Butte 47.60 39 P **P** **22 38 35.5 +1.2**
GLB IAmb IAmb 22 39 02.0
comp=Z,15nm,1.4s
HMT Hamilton 47.67 41 P **P** **22 38 36.1 +1.3**
KAIM Kayak Island 47.70 41 P **P** **22 38 34.9 -0.1**
M26K Nabesna, AK 47.73 38 P **P** **22 38 37.0 +1.7**
M26K IAmb IAmb 22 38 48.8
comp=Z,11nm,1.4s
K27K Chicken 47.74 36 P **P** **22 38 36.9 +1.5**
K27K IAmb IAmb 22 38 37.1
comp=Z,4.6nm,0.5s
VRDI Verde Repeater 47.82 40 P **P** **22 38 37.7 +1.5**
VRDI IAmb IAmb 22 38 56.3
comp=Z,20nm,1.2s
F28M Old Crow 47.83 31 P **P** **22 38 38.0 +2.0**
MCARA McCarthy VSAT 47.98 39 P **P** **22 38 39.0 +1.8**
MCARA IAmb IAmb 22 38 48.8
comp=Z,26nm,1.3s
L27K Beaver Creek, 48.09 37 P **P** **22 38 39.8 +1.7**
BCAR Beaver Creek A 48.11 37 P **P** **22 38 40.0 +1.8**
M27K Edge Creek, AK 48.25 38 P **P** **22 38 41.1 +1.7**
I28M Miner Creek 48.30 34 P **P** **22 38 41.6 +2.0**
I28M IAmb IAmb 22 38 41.8
comp=Z,5.0nm,0.6s
G29M Pine Creek 48.69 31 P **P** **22 38 44.5 +2.0**
G29M IAmb IAmb 22 38 59.7
comp=Z,12nm,1.4s
KK31 Karatay Array 48.69 295 P **P** **22 38 43.1 +0.2**
KK31 IAmb IAmb 22 38 43.7
comp=Z,5.9nm,0.7s
KK31 Karatay Array 48.69 295 P **P** **22 38 43.1 +0.2**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 48.69 295 P **P** **22 38 43.1 +0.2**
KKAR IAmb IAmb 22 38 43.7
comp=Z,5.9nm,0.7s
KKAR Karatay Array 48.69 295 P **P** **22 38 43.0 +0.1**
KKAR Karatay Array 48.69 295 P **P** **22 38 43.0 +0.1**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
BARN Barnard Glacie 48.70 40 P **P** **22 38 44.4 +1.4**
BARN IAmb IAmb 22 38 45.7
comp=Z,34nm,1.5s
H29M Whitestone 48.73 32 P **P** **22 38 44.5 +1.7**
GRNC Granite Creek 48.75 40 P **P** **22 38 44.7 +1.3**
GRNC IAmb IAmb 22 38 45.7
comp=Z,31nm,1.4s
CTGM Chitina Glacie 48.88 40 P **P** **22 38 45.7 +1.5**
CTGM IAmb IAmb 22 38 47.5
comp=Z,17nm,1.2s
G30M tAoh Zraii Nji 49.36 31 P **P** **22 38 49.0 +1.3**
SVE Sverdlovsk 49.50 315 *e*P **P** **22 38 49.2 +0.4**
SVE pmax pmax
comp=Z,22nm,0.6s
K29M Barlow Dome 49.73 35 P **P** **22 38 52.5 +1.9**
K29M IAmb IAmb 22 38 53.2
comp=Z,8.2nm,1.1s
M29M Somme Creek 49.75 37 P **P** **22 38 53.2 +2.4**
M29M IAmb IAmb 22 39 37.1
comp=Z,16nm,1.5s
I30M Mount Dempster 49.80 33 P **P** **22 38 52.7 +1.7**
BTK Batken 49.82 291 P **P** **22 38 52.1 +0.5**
BTK Batken 49.82 291 P **P** **22 38 52.1 +0.5**
BTK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 49.97 29 P **P** **22 38 53.4 +1.3**
INK IAmb IAmb 22 38 54.4
comp=Z,11nm,1.3s
INK Inuvik 49.97 29 P **P** **22 38 53.4 +1.3**
INK pmax pmax
comp=Z,11nm,1.3s
J30M Hart River 50.01 34 P **P** **22 38 54.5 +1.8**
YKU2 Yakutat 50.12 41 P **P** **22 38 56.0 +2.6**
O29M Mount Kennedy 50.38 40 P **P** **22 38 56.9 +1.4**
H31M Peel River 50.43 32 P **P** **22 38 57.1 +1.4**
H31M IAmb IAmb 22 39 02.9
comp=Z,15nm,1.4s
M30M Minto, Yukon 50.44 37 P **P** **22 38 58.0 +2.2**
M30M IAmb IAmb 22 39 32.9
comp=Z,8.9nm,1.4s
KULM Kulim 50.58 233 P **P** **22 38 57.6 +0.3**
KULM IAmb IAmb 22 39 08.1
comp=Z,10nm,1.2s
HYT Haines Junctio 50.70 39 P **P** **22 39 00.2 +2.3**
HYT IAmb IAmb 22 39 02.5
comp=Z,6.4nm,0.9s
ARU Arti 50.71 315 P **P** **22 38 58.3 +0.4**
ARU IAmb IAmb 22 39 00.4
comp=Z,7.4nm,0.5s
ARU Arti 50.71 315*d* *i*P **P** **22 38 58.1 +0.2**
ARU *PP **pP** **22 39 43.1 -1.3**
ARU 22 40 08.7
ARU 22 40 55.6
ARU S **S** **22 45 57.8 +2.0**
ARU SS **SS** **22 49 28.5 -4.0**
ARU pmax pmax
comp=Z,5.0nm,0.5s
ARU Arti 50.71 315 P **P** **22 38 58.0 +0.2**
NIL Nilore 51.21 283 P **P** **22 39 02.9 +0.9**
NIL IAmb IAmb 22 39 03.7
comp=Z,14nm,1.0s
NIL Nilore 51.21 283 P **P** **22 39 02.9 +0.9**
NIL pmax pmax

comp=Z,14nm,1.0s
N31M Braeburn, Yuko 51.26 38 P **P 22 39 03.0 +1.1**
N31M IAmb IAmb 22 39 05.1
comp=Z,11nm,0.9s
M31M Drury Creek, Y 51.62 37 P **P 22 39 05.3 +0.7**
WHY Whitehorse 51.97 39 P **P 22 39 07.6 +0.3**
ABKAR Akbulak array 52.77 306 P **P 22 39 13.5 +0.4**
ABKAR IAmb IAmb 22 39 14.2
comp=Z,10nm,1.1s
ABKAR Akbulak array 52.77 306 P **P 22 39 13.7 +0.5**
MMPY Sheldon Lake, 52.82 35 P **P 22 39 15.3 +1.9**
MMPY IAmb IAmb 22 39 49.2
comp=Z,10nm,1.3s
C36M Paulatuk 52.82 26 P **P 22 39 14.2 +0.9**
P33M Teslin, Yukon 53.09 39 P **P 22 39 17.4 +2.0**
P33M IAmb IAmb 22 39 17.9
comp=Z,6.8nm,0.9s
Q32M Nakina River 53.85 40 P **P 22 39 21.3 +0.1**
Q32M IAmb IAmb 22 39 37.8
comp=Z,20nm,1.3s
SPB2 Spitsbergen Ar 54.27 348 P **P 22 39 24.5 +0.9**
SPITS Spitsbergen Ar 54.27 348 P **P 22 39 24.0 +0.3**
SPITS Spitsbergen Ar 54.27 348 P **P 22 39 24.0 +0.3**
comp=Z,4.4nm,0.7s,baz=123,slow=10,SNR=1.8
comp=Z,4.4nm,0.7s
R33M Jennings River 54.28 39 P **P 22 39 26.1 +2.0**
R33M IAmb IAmb 22 39 53.9
comp=Z,15nm,1.4s
KIRV Kirov 54.40 320 *c*eP **P 22 39 24.2 -0.6**
EUNU Eureka 54.54 9 P **P 22 39 26.0 +0.4**
EUNU IAmb IAmb 22 39 32.3
comp=Z,6.3nm,1.2s
PRGR Permogore 54.76 324 *e*P **P 22 39 26.1 -1.2**
PRGR pmax pmax
comp=Z,8.0nm,0.7s
LVZ Lovozero 55.89 334 P **P 22 39 35.6 +0.3**
LVZ IAmb IAmb 22 40 18.8
comp=Z,18nm,1.3s
LVZ Lovozero 55.89 334 *i* P **P 22 39 35.8 +0.4**
VADS Vadso 56.31 337 *e*P **P 22 39 38.2 0.0**
KEV Kevo 57.18 337 P **P 22 39 45.2 +0.9**
KEV IAmb IAmb 22 39 46.4
comp=Z,5.3nm,0.7s
KEV Kevo 57.18 337 P **P 22 39 45.3 +0.9**
KEV pmax pmax
comp=Z,5.0nm,0.7s
HAMF Hammerfest 57.55 339 *e*P **P 22 39 47.5 +0.6**
ARA0 ARCESS Array S 57.73 338 *e*P **P 22 39 49.8 +1.5**
ARCES ARCESS Array B 57.73 338 P **P 22 39 49.4 +1.2**
ARCES ARCESS Array B 57.73 338 P **P 22 39 49.5 +1.2**
comp=Z,1.7nm,0.5s,baz=61,slow=8.5,SNR=26
comp=Z,1.7nm,0.5s
HRA Herat 58.57 289 P **P 22 39 55.3 +0.4**
KTK1 Kautokeino 58.70 338 *e*P **P 22 39 55.5 +0.6**
HPAH Hawaii Prepara 58.71 91 P **P 22 39 55.2 -0.6**
JETT Jettan, Norway 59.11 339 *e*P **P 22 39 58.1 +0.4**
HATHI Halema'uma'u T 59.41 91 P **P 22 40 01.2 +0.5**
TRO Tromso 59.44 339 *e*P **P 22 40 00.7 +0.8**
GEYT Alibeck 59.45 295 P **P 22 40 00.9 +0.3**
GEYT IAmb IAmb 22 40 01.1
comp=Z,3.2nm,0.6s
GEYT Alibeck 59.45 295 P **P 22 40 00.9 +0.3**
GEYT pmax pmax
comp=Z,3.0nm,0.6s
GEYT Alibeck 59.45 295 P **P 22 40 00.5 -0.1**
comp=Z,5.5nm,1.0s,baz=70,slow=15,SNR=6.0
comp=Z,5.5nm,1.0s
GYA0 ALIBECK ARRAY 59.45 295 P **P 22 40 00.1 -0.5**
GYA0B ALIBECK ARRAY 59.45 295 P **P 22 40 00.1 -0.5**
GYA0B IAmb IAmb 22 40 01.1
comp=Z,3.8nm,0.6s
YKA Yellowknife Ar 59.60 31 P **P 22 40 01.3 +0.1**
comp=Z,0.8nm,0.6s,baz=305,slow=6.5,SNR=2.9
comp=Z,0.8nm,0.6s
STEI Steigen 61.60 339 *e*P **P 22 40 14.9 +0.4**
FAUS Fauske 61.98 339 *e*P **P 22 40 17.2 +0.1**
WB0 Warramunga Arr 62.63 185 P **P 22 40 20.7 -1.3**
WB0 IAmb IAmb 22 40 46.5
comp=Z,6.4nm,1.3s
FINES FINESS Array B 62.66 330 P **P 22 40 21.8 +0.1**
FINES FINESS Array B 62.66 330 P **P 22 40 21.5 -0.2**
comp=Z,5.5nm,0.5s,baz=59,slow=7.6,SNR=69
comp=Z,5.5nm,0.5s
WRA Warramunga Arr 62.81 185 P **P 22 40 23.2 0.0**
comp=Z,0.2nm,0.4s,baz=2.0,slow=7.0,SNR=2.1
comp=Z,0.2nm,0.4s
MOR8 Moi Rana 63.10 338 *e*P **P 22 40 22.6 -2.0**
KONS Konsvik 63.21 339 *e*P **P 22 40 26.1 +0.9**
SUMG Summit 64.68 359 P **P 22 40 36.5 +1.3**
SUMG IAmb IAmb 22 41 01.6
comp=Z,6.7nm,1.3s
SUMG Summit 64.68 359 P **P 22 40 36.5 +1.3**
SUMG pmax pmax
comp=Z,7.0nm,1.3s
RADR Rader Ridge 64.71 49 P **P 22 40 35.7 +0.3**
KIV Kislovodsk 65.65 308 P **P 22 40 43.0 +1.5**
KIV IAmb IAmb 22 40 49.5
comp=Z,9.4nm,1.1s
KIV Kislovodsk 65.65 308 *e*P **P 22 40 42.5 +1.0**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 65.65 308 P **P 22 40 42.5 +1.0**
KBZ Khabaz 65.66 308 P **P 22 40 42.1 +0.7**
comp=Z,2.4nm,0.7s,baz=21,slow=8.4,SNR=4.7
comp=Z,2.4nm,0.7s
ASAR Alice Springs 66.53 185 P **P 22 40 47.8 +0.7**
ASAR Alice Springs 66.53 185 P **P 22 40 47.8 +0.7**
ASAR Alice Springs 66.53 185 P **P 22 40 48.6 +1.4**
comp=Z,0.3nm,0.7s,baz=355,slow=4.5,SNR=4.3
comp=Z,0.3nm,0.7s
NC405 NORSAR Array S 67.74 335 P **P 22 40 54.3 0.0**
NC405 IAmb IAmb 22 40 58.2
comp=Z,16nm,1.2s
NC303 NORSAR Array S 67.75 336 P **P 22 40 54.5 +0.1**
HFS Hagfors 67.87 334 P **P 22 40 55.0 -0.1**
HFS Hagfors 67.87 334 P **P 22 40 55.0 -0.1**
comp=Z,2.5nm,0.4s,baz=38,slow=5.6,SNR=24
comp=Z,2.5nm,0.4s
NC204 NORSAR Array S 67.90 336 P **P 22 40 55.5 +0.1**
NB201 NORSAR Array S 67.91 335 P **P 22 40 55.4 0.0**
NB2 NORSAR Subarra 67.95 335 P **P 22 40 55.5 -0.2**
comp=Z,1.0nm,0.4s,baz=37,slow=6.5
NB2 NORSAR Subarra 67.95 335 P **P 22 40 55.5 -0.2**
baz=37,slow=6.5
NOA NORSAR Array B 67.95 335 P **P 22 40 55.4 -0.2**
comp=Z,2.5nm,0.7s,baz=43,slow=4.5,SNR=10
comp=Z,2.5nm,0.7s
NC602 NORSAR Array S 68.08 335 *e*P **P 22 40 56.4 0.0**
NBO00 NORSAR Array S 68.09 336 P **P 22 40 56.1 -0.3**
NAO01 NORSAR Array S 68.20 335 P **P 22 40 57.0 -0.2**
AKASG Malin Array Be 68.46 320 P **P 22 40 58.3 -0.6**
AKASG Malin Array Be 68.46 320 P **P 22 40 58.3 -0.6**
AKASG pmax pmax
comp=Z,4.0nm,1.5s
AKASG Malin Array Be 68.46 320 P **P 22 40 58.7 -0.2**
comp=Z,2.2nm,0.4s,baz=43,slow=7.2,SNR=14
comp=Z,2.2nm,0.4s
AKBB Malin Array Si 68.46 320 P **P 22 40 59.0 +0.1**
AKBB IAmb IAmb 22 40 59.5
comp=Z,4.8nm,0.8s
AKBB Malin Array Si 68.46 320 P **P 22 40 59.0 +0.1**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
KMRM Mail Ridge 68.54 55 P **P 22 41 01.4 +1.7**
GURO Guroymak-BITLI 69.36 304 P **P 22 41 05.7 +0.8**
NVAR Mina Array Bea 72.89 53 P **P 22 41 27.7 +1.5**
comp=Z,1.0nm,0.8s,baz=292,slow=5.5,SNR=7.9
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 73.55 309 P **P 22 41 29.9 0.0**
comp=Z,0.5nm,0.7s,baz=54,slow=3.6,SNR=2.8
comp=Z,0.5nm,0.7s
PD31 Pinedale Array 74.78 45 P **P 22 41 37.8 +0.7**
PDAR Pinedale Array 74.78 45 P **P 22 41 38.3 +1.2**
PDAR Pinedale Array 74.78 45 P **P 22 41 38.0 +1.0**
comp=Z,2.6nm,0.7s,baz=298,slow=1.9,SNR=27
comp=Z,2.6nm,0.7s
CLL Collm 74.99 328 *i* P **P 22 41 38.1 +0.3**
comp=Z,4.0nm,0.8s
ULM Lac du Bonnet 75.50 33 P **P 22 41 41.2 +0.5**
ULM IAmb IAmb 22 42 25.1
comp=Z,10nm,1.2s
ULM Lac du Bonnet 75.50 33 P **P 22 41 40.8 +0.1**
comp=Z,4.4nm,0.6s,baz=315,slow=5.1,SNR=5.9
comp=Z,4.4nm,0.6s
NRS Narsarsuaq 76.10 2 P **P 22 41 46.9 +3.0**
NRS Narsarsuaq 76.10 2 P **P 22 41 46.9 +3.0**
NRS pmax pmax
comp=Z,25nm,0.8s
CCUT Cedar City 76.36 51 P **P 22 41 46.6 +0.5**
CCUT IAmb IAmb 22 41 47.0
comp=Z,3.5nm,0.3s
SZCU Shurtz Canyon 76.48 51 P **P 22 41 44.7 -2.1**
SZCU IAmb IAmb 22 41 44.8
comp=Z,6.6nm,0.5s
RSSD Black Hills 76.58 41 P **P 22 41 48.2 +1.0**
RSSD IAmb IAmb 22 41 49.7
comp=Z,2.5nm,0.6s
RSSD Black Hills 76.58 41 P **P 22 41 48.2 +1.0**
RSSD pmax pmax
comp=Z,3.0nm,0.6s
GERES GERESS Array B 76.66 326 P **P 22 41 47.8 +0.4**
GERES GERESS Array B 76.66 326 P **P 22 41 47.8 +0.4**
GERES GERESS Array B 76.66 326 P **P 22 41 47.5 +0.1**
comp=Z,0.7nm,0.6s,baz=30,slow=7.0,SNR=5.1
comp=Z,0.7nm,0.6s
EKA Eskdalemuir Ar 76.86 339 P **P 22 41 48.2 -0.1**
comp=Z,0.2nm,0.3s,baz=23,slow=5.7,SNR=4.4
comp=Z,0.2nm,0.3s
MMAI Mount Meron Ar 77.05 303 P **P 22 41 50.5 +0.6**
comp=Z,1.8nm,0.6s,baz=26,slow=3.7,SNR=7.9
comp=Z,1.8nm,0.6s
U15A North Rim 77.75 51 P **P 22 41 50.5 -3.5**
U15A IAmb IAmb 22 41 52.9
comp=Z,4.8nm,0.6s
B35A Bob, Littlefor 77.86 33 P **P 22 41 54.1 +0.2**
B35A IAmb IAmb 22 42 01.2
comp=Z,11nm,1.4s
GHAJ Ghor Haditha 78.11 302 P **P 22 41 56.1 +0.5**
GHAJ IAmb IAmb 22 42 07.5
comp=Z,13nm,1.1s
PV02 Paradox Valley 78.47 48 P **P 22 41 55.8 -2.0**
PV02 IAmb IAmb 22 42 12.1
comp=Z,5.2nm,0.9s
CTI Castel Tesino 79.73 326 P **P 22 42 03.7 -0.6**
CTI IAmb IAmb 22 42 15.2
comp=Z,5.1nm,1.0s
CTI Castel Tesino 79.73 326 P **P 22 42 03.7 -0.6**
KBN Korca 79.78 317 P **P 22 42 04.4 -0.2**
KBN Korca 79.78 317 P **P 22 42 04.4 -0.2**
KBN pmax pmax
comp=Z,19nm,1.4s
FUORN Ofenpass-Fuorn 79.83 327 P **P 22 42 05.8 +0.8**
FUORN IAmb IAmb 22 42 17.2
comp=Z,12nm,1.5s
FDMO Fiordimonte 81.53 323 P **P 22 42 14.7 +0.9**
NRCA Norcia 81.68 323 P **P 22 42 15.4 +0.7**
L34A Svendsen Farm, 81.83 38 P **P 22 42 14.9 -0.5**
CASP Castiglione de 82.70 324 P **P 22 42 17.9 -1.9**
CBKS Cedar Bluff 82.70 42 P **P 22 42 19.2 -0.8**
CBKS Cedar Bluff 82.70 42 P **P 22 42 19.2 -0.8**
CBKS pmax pmax
comp=Z,19nm,0.5s
TXAR Lajitas Array 87.87 51 P **P 22 42 46.1 +0.4**
comp=Z,0.3nm,0.7s,baz=290,slow=4.5,SNR=4.1
comp=Z,0.3nm,0.7s
SNAA Sanae 145.83 200 PKP2 **PKPab 22 49 35.0 +1.1**
SNAA Sanae 145.83 200 PKPbc **PKPab 22 49 35.0 +1.1**
comp=Z,0.5nm,0.4s,baz=188,slow=7.1,SNR=7.3

*IDC **06** 22:58:48.5±1.0, 43.°84N×105.°72W, h0km, mbtmp3.1/5, ML3.2/5, Error ellipse: s-maj=21.4km s-min=8.7km az=149.0*
*NEIC **06** 22:58:49.4±1.1, 43.°65N±0.°06×105.°31W±0.°09, h0km±2km, ML3.5/90, Error ellipse: s-maj=11.7km s-min=8.2km az=52.0*
ISC 06 22:58:49.2±0.9,**43.°69N**±0.°05×**105.°33W**±0.°04,**h0**km,**n37**, σ**1**º**02/26**,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
RSSD	**Black Hills**	**1.03**	**65**		**Pg**	**22 59 08.1**		**-0.9**
K22A	**Casper**	**1.36**	**221**	Pg	**Pg**	**22 59 13.8**		**-1.4**
K22A				IAML		22 59 36.1		
comp=E,830nm,0.7s								
K22A				IAML		22 59 39.3		
comp=N,819nm,0.3s								
PHWY	**Pilot Hill**	**2.39**	**182**		**Pn**	**22 59 29.1**		**-0.8**
PHWY				IAML		23 00 05.8		
comp=N,157nm,0.3s								
PHWY				IAML		23 00 06.4		
comp=N,159nm,0.4s								
RWWY	**Rawlins**	**2.43**	**215**		**Pn**	**22 59 30.0**		**-0.5**
RWWY				IAML		23 00 08.3		
comp=N,319nm,1.2s								
N23A	**Red Feather La**	**2.83**	**190**		**Pn**	**22 59 35.8**		**-0.2**
N23A				IAML		23 00 19.0		
comp=N,119nm,0.4s								
N23A				IAML		23 00 32.0		
comp=E,128nm,0.9s								
LAO	**LASA Array**	**3.07**	**348**	Pn	**Pn**	**22 59 39.5**		**+0.5**
RLMT	**Red Lodge**	**3.17**	**298**	Pn	**Pn**	**22 59 41.0**		**+0.5**
BRIGG	**Briggsdale**	**3.19**	**166**	Pg	**Pb**	**22 59 47.7**		**+0.7**
BW06	**Boulder Array**	**3.23**	**255**	Pg	**Pb**	**22 59 47.7**		**+0.2**
PD31	**Pinedale Array**	**3.23**	**255**	Pn	**Pn**	**22 59 41.4**		**0.0**
PDAR	**Pinedale Array**	**3.23**	**255**	Pn	**Pn**	**22 59 41.5**		**+0.1**
PDAR	**Pinedale Array**	**3.23**	**255**	Pn	**Pn**	**22 59 39.9**		**-1.5**
comp=E,2.6nm,0.3s,baz=74,slow=17,SNR=8.1								
PDAR				Lg	Lg	23 00 21.8		
comp=E,11nm,0.3s,baz=72,slow=30,SNR=4.5								
comp=E,2.9nm,0.3s								
YMP	**Mirror Lake Pl**	**3.63**	**289**		**Pn**	**22 59 46.7**		**-0.2**
YMP				IAML		23 00 59.1		
comp=N,102nm,1.1s								
OGNE	**Ogallala**	**3.67**	**137**	Pn	**Pn**	**22 59 47.0**		**-0.3**
OGNE				Pg	**Pg**	**22 59 58.3**		**-1.3**
LOHW	**Long Hollow**	**3.83**	**271**	Pn	**Pn**	**22 59 49.5**		**-0.2**
H17A	**Grant Village**	**3.85**	**282**		**Pn**	**22 59 49.9**		**-0.1**
H17A				IAML		23 00 53.5		
comp=E,46nm,1.2s								
H17A				IAML		23 00 54.1		
comp=N,45nm,0.9s								
FLWY	**Flagg Ranch**	**3.90**	**278**	Pn	**Pn**	**22 59 51.1**		**+0.5**
FLWY				IAML		23 01 00.5		
comp=N,72nm,1.8s								
FLWY				IAML		23 01 05.8		
comp=N,85nm,1.9s								
MOOW	**Moose Ponds**	**3.93**	**273**	Pn	**Pn**	**22 59 51.1**		**+0.1**
SNOW	**Snow King Moun**	**3.95**	**269**	Pn	**Pn**	**22 59 51.4**		**0.0**
SNOW				IAML		23 01 06.9		
comp=N,73nm,1.2s								
SNOW				IAML		23 01 12.4		
comp=N,82nm,1.2s								
YNR	**Norris Junctio**	**3.98**	**287**	Pn	**Pn**	**22 59 52.0**		**+0.2**
YNR				IAML		23 01 04.9		
comp=E,70nm,0.3s								
REDW	**Red Top Meadow**	**4.03**	**267**	Pg	**Pg**	**23 00 05.4**		**-1.0**
TPAW	**Teton Pass**	**4.09**	**269**	IAML		23 01 12.2		
comp=E,40nm,1.0s								
TPAW				IAML		23 01 20.9		
comp=E,50nm,1.1s								
O20A	**White River Ci**	**4.16**	**212**	IAML		23 01 32.1		
comp=E,74nm,1.1s								
ID10	**Lander Cutoff**	**4.24**	**256**	IAML		23 01 13.3		
comp=E,68nm,0.9s								
AHID	**Auburn Hatcher**	**4.32**	**260**	IAML		23 01 14.6		
comp=E,64nm,1.3s								
AHID				IAML		23 01 17.9		
comp=E,59nm,0.9s								
YHL	**Hebgen Lake**	**4.36**	**287**	IAML		23 01 18.5		
comp=E,52nm,1.3s								
YHL				IAML		23 01 29.6		
comp=N,61nm,1.4s								
RDMU	**Red Mountain**	**4.43**	**227**	IAML		23 01 13.0		
comp=N,60nm,1.1s								
RDMU				IAML		23 01 16.2		
comp=E,61nm,1.0s								
ID09	**Alton**	**4.54**	**253**	IAML		23 01 16.1		
comp=E,42nm,1.7s								
SMCO	**Snowmass**	**4.67**	**196**	IAML		23 01 24.1		
comp=E,47nm,1.2s								
HWUT	**Hardware Ranch**	**5.05**	**248**	IAML		23 01 35.1		
comp=E,40nm,1.0s								
ID07	**Smith Canyon R**	**5.08**	**259**	IAML		23 01 38.0		
comp=E,26nm,2.4s								
ID07				IAML		23 02 28.4		
comp=E,26nm,4.2s								
ELK	**Elko**	**7.92**	**252**	Pn	**Pn**	**23 00 44.7**		**-1.1**
comp=E,0.1nm,0.3s,baz=58,slow=9.5,SNR=1.7								
ELK				Lg	Lg	23 02 53.3		
comp=E,0.1nm,0.3s,baz=356,slow=23,SNR=2.0								
comp=E,0.4nm,0.5s								
I10CA	**LAC DU BONNET**	**9.10**	**41**	I	I	23 50 25.0		
comp=E,0.2nm,1.4s,baz=223,slow=311,SNR=32								
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**23 01 01.2**		**-2.0**
comp=E,1.0nm,0.3s,baz=228,slow=11,SNR=9.9								
ULM				Lg	Lg	23 03 37.7		
comp=E,0.3nm,0.3s,baz=122,slow=14,SNR=2.2								
comp=E,2.0nm,0.3s								
NEW	**Newport**	**9.40**	**303**	Lg	Lg	23 03 37.6		
comp=E,0.1nm,0.3s,baz=138,slow=22,SNR=1.5								
NVAR	**Mina Array Bea**	**11.11**	**246**	Pn	**Pn**	**23 01 29.5**		**-0.1**
comp=E,0.1nm,0.3s,baz=59,slow=15,SNR=2.0								
comp=E,0.2nm,0.5s								
TXAR	**Lajitas Array**	**14.39**	**174**	Pn	**Pn**	**23 02 17.2**		**+2.9**
baz=359,slow=9.0,SNR=1.8								
TXAR				Pg	Pg	23 03 15.4		
comp=E,0.1nm,0.3s,baz=355,slow=26,SNR=3.0								
TXAR				Lg	Lg	23 06 23.7		
baz=54,slow=47,SNR=4.3								
comp=E,0.1nm,0.6s								

*KRNET **06** 23:04:45.2±0.1, 39.°42N×73.°72E, mb3.4*
*NEIC **06** 23:04:51.2±1.9, 39.°61N±0.°07×73.°35E±0.°06, h10km±2km, mb4.2/4, Error ellipse: s-maj=11.1km s-min=8.2km az=188.0*
*SOME **06** 23:04:52.0, 39.°78N×73.°15E, h10km*
*NNC **06** 23:04:54.3±2.2, 39.°84N×73.°33E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=16.4km s-min=8.7km az=170.0*
ISC 06 23:04:51.0±1.4,**39.°73N**±0.°05×**73.°42E**±0.°03,**h10**km±8km, **n80**, σ**1**º**75**/100,**mb4.5**/4,**28C-17D**,**Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
SFK	**Sufi-Kurgan**	**0.28**	**13**	⇑*e*P	**Pg**	**23 04 57.3**		**+0.4**
baz=44								
SFK				⇑*e*S	**Sg**	**23 05 05.7**		**+4.9**
baz=44								
OHH	**Osh**	**0.93**	**328**	⇓*e*P	**Pb**	**23 05 09.6**		**+0.4**
baz=27								
OHH				⇓*e*S	**Sn**	**23 05 27.5**		**+3.9**
baz=27								
BTK	**Batken**	**2.03**	**280**	⇓*e*P	**Pn**	**23 05 26.1**		**+0.8**
baz=87								
BTK				⇓*e*S	**Sg**	**23 05 56.0**		**-0.2**
baz=87								
BTK	**Batken**	**2.03**	**280**	Pn	**Pn**	**23 05 25.4**		**+0.1**
ARLS	**Aral**	**2.23**	**18**	⇓*e*P	**Pn**	**23 05 28.1**		**0.0**
baz=11								
ARLS				⇓*e*S	**Sb**	**23 05 59.5**		**+0.3**
baz=11								
ARK	**Arkit**	**2.34**	**332**	⇑*e*P	**Pb**	**23 05 32.0**		**-1.3**
baz=31								
ARK				⇑*e*S	**Sg**	**23 06 05.6**		**-0.6**
baz=31								
AML	**Almayashu**	**2.40**	**5**	P	**Pb**	**23 05 34.1**		**-0.4**
SNR=48								
AML	**Almayashu**	**2.40**	**5**	⇑Pg	**Pb**	**23 05 34.4**		**-0.1**
0.4nm,0.3s								
AML				⇑Lg	Lg	23 06 11.9		
7.0nm,0.5s								
AML	**Almayashu**	**2.40**	**5**	⇑*e*P	**Pn**	**23 05 31.5**		**+0.8**
baz=60								
AML				⇑*e*S	**Sg**	**23 06 05.6**		**-2.6**
baz=60								
TRKS	**Terek-Say**	**2.50**	**317**	⇓*e*P	**Pn**	**23 05 33.0**		**+1.2**
baz=17								
TRKS				⇓*e*S	**Sb**	**23 06 07.9**		**+1.1**
baz=17								
NRN	**Naryn**	**2.59**	**48**	⇑*e*P	**Pn**	**23 05 30.7**		**-2.6**
baz=40								
NRN				⇑*e*S	**Sn**	**23 06 03.3**		**-1.7**
baz=40								
NRN	**Naryn**	**2.59**	**48**	Pn	**Pn**	**23 05 35.1**		**+1.9**
UCH	**Uchtor**	**2.62**	**18**	P	**Pb**	**23 05 38.0**		**-0.3**
SNR=16								
UCH	**Uchtor**	**2.62**	**18**	⇑*e*P	**Pn**	**23 05 33.7**		**-0.1**
baz=12								
UCH				⇑*e*S	**Sb**	**23 06 09.3**		**-1.5**
baz=12								
MNAS	**Manas**	**2.84**	**346**	⇑*e*P	**Pn**	**23 05 38.1**		**+1.7**
baz=44								
MNAS				⇑*e*S	**Sb**	**23 06 17.0**		**+0.4**
baz=44								
EKS2	**Erkin-Say**	**2.94**	**5**	P	**Pb**	**23 05 41.8**		**-1.6**
SNR=10								
EKS2	**Erkin-Say**	**2.94**	**5**	⇓*e*P	**Pn**	**23 05 38.7**		**+0.9**
baz=1.0								
EKS2				⇓*e*S	**Sb**	**23 06 17.8**		**-1.7**
baz=1.0								
AAK	**Ala-Archa**	**3.01**	**15**	P	**Pb**	**23 05 43.6**		**-1.2**
SNR=9.6								
AAK	**Ala-Archa**	**3.01**	**15**	⇑*e*P	**Pn**	**23 05 39.1**		**+0.2**
baz=10.0								
AAK				⇑*e*S	**Sb**	**23 06 18.4**		**-3.2**
baz=10.0								
AAK	**Ala-Archa**	**3.01**	**15**	Pn	**Pb**	**23 05 43.0**		**-1.7**
MRKS	**Merke**	**3.01**	**357**	Pg	**Pb**	**23 05 46.5**		**+1.7**
6.1nm,0.4s								
MRKS				Lg	Lg	23 06 25.1		
31nm,0.4s								
MRKS	**Merke**	**3.01**	**357**	*e*Pg	**Pb**	**23 05 46.5**		**+1.7**
6.1nm,0.4s								
MRKS				*e*Lg	Lg	23 06 25.1		
31nm,0.4s								
KBK	**Karagaybulak**	**3.14**	**21**	P	**Pb**	**23 05 45.9**		**-1.1**
SNR=6.3								
KBK	**Karagaybulak**	**3.14**	**21**	⇑*e*P	**Pn**	**23 05 40.4**		**-0.2**
baz=16								
KBK				⇑*e*S	**Sn**	**23 06 20.8**		**+2.6**
baz=16								
FRU1	**Bishkek**	**3.21**	**16**		**Pn**	**23 05 43.8**		**+2.3**
ULHL	**Ulahol**	**3.29**	**39**	⇑*e*P	**Pn**	**23 05 41.2**		**-1.6**
baz=33								
ULHL				⇑*e*S	**Sn**	**23 06 21.9**		**-0.2**
baz=33								
BOOM	**Boomskoye usch**	**3.35**	**34**	⇓*e*P	**Pn**	**23 05 42.3**		**-1.2**
baz=28								
BOOM				⇓*e*S	**Sn**	**23 06 23.9**		**+0.6**
baz=28								
CHMS	**Chumysh**	**3.41**	**17**	⇓*e*P	**Pn**	**23 05 44.4**		**+0.2**
baz=12								
CHMS				⇓*e*S	**Sn**	**23 06 27.7**		**+2.9**
baz=12								
IUG	**Iuzhnay**	**3.52**	**314**	Pg	**Pb**	**23 05 54.2**		**+0.7**
12nm,0.3s								
IUG				Lg	Lg	23 06 38.7		
29nm,1.0s								
IUG	**Iuzhnay**	**3.52**	**314**	*e*Pg	**Pb**	**23 05 54.2**		**+0.7**
12nm,0.3s								
IUG				*e*Lg	Lg	23 06 38.7		
64nm,0.3s								
DZA	**Taraz**	**3.53**	**334**	Pg	**Pb**	**23 05 54.2**		**+0.7**
21nm,0.1s								
DZA				Lg	Lg	23 06 38.4		
53nm,0.6s								
DZA	**Taraz**	**3.53**	**334**	*e*Pg	**Pb**	**23 05 54.2**		**+0.7**
21nm,0.1s								
DZA				*e*Lg	Lg	23 06 38.4		
53nm,0.6s								
TKM2	**Tokmak 2**	**3.58**	**27**	⇑Pg	**Pg**	**23 05 58.0**		**-1.5**
5.0nm,0.7s								
TKM2				⇑Lg	Lg	23 06 47.3		
16nm,0.6s								
TKM2	**Tokmak 2**	**3.58**	**27**	⇓*e*P	**Pn**	**23 05 46.2**		**-0.5**
baz=21								
TKM2				⇓*e*S	**Sn**	**23 06 30.7**		**+1.5**
baz=21								
USP	**Ospenovka**	**3.62**	**13**	⇑*e*P	**Pn**	**23 05 47.6**		**+0.5**
baz=8.0								
USP				⇑*e*S	**Sn**	**23 06 33.3**		**+3.4**
baz=8.0								
KST	**Kastek**	**3.82**	**29**	Pg	**Pg**	**23 06 03.8**		**-0.3**
4.3nm,0.4s								
KST				Lg	Lg	23 06 55.3		
29nm,0.9s								
KST	**Kastek**	**3.82**	**29**	*e*Pg	**Pg**	**23 06 03.8**		**-0.3**
4.3nm,0.4s								
KST				*e*Lg	Lg	23 06 55.3		
29nm,0.9s								
SGDS	**Sogindy**	**3.82**	**13**	Pg	**Pg**	**23 06 02.4**		**-1.8**
3.0nm,0.4s								
SGDS				Lg	Lg	23 06 52.5		
12nm,0.5s								
CHM	**Chimkent**	**3.87**	**313**	*e*Pg	**Pb**	**23 05 58.7**		**-0.6**
20nm,0.2s								

CHM *e*Lg Lg 23 06 46.1
71nm,0.2s
DGS Degeres 3.92 26 Pg **Pg 23 06 05.2 -0.9**
8.1nm,0.5s
DGS Lg Lg 23 06 57.4
19nm,0.6s
DGS Degeres 3.92 26 *e*Pg **Pg 23 06 05.2 -0.9**
8.1nm,0.5s
DGS *e*Lg Lg 23 06 57.4
19nm,0.6s
KK31 Karatay Array 4.01 328 ⇑Pn **Pb 23 05 57.4 -4.4**
0.4nm,0.2s,baz=130,slow=13,SNR=28
KK31 Pg **Pg 23 06 06.9 -1.0**
1.9nm,0.3s,baz=136,slow=16,SNR=10.0
KK31 ⇓Sn **Sb 23 06 47.2 -3.2**
2.1nm,0.3s,baz=170,slow=29,SNR=4.1
KK31 ⇑Lg Lg 23 07 02.6
7.8nm,0.5s,baz=134,slow=29
KK31 Karatay Array 4.01 328 Pn **Pn 23 05 54.3 +1.8**
KKAR Karatay Array 4.01 328⇑*e*P **Pn 23 05 54.8 +2.3**
baz=28
KKAR ⇑*e*S **Sb 23 06 45.8 -4.6**
baz=28
KKAR Karatay Array 4.01 328 Pn **Pn 23 05 54.0 +1.5**
KKAR Karatay Array 4.01 328 **Pn 23 05 53.0 +0.5**
MTBS Maitube 4.08 33 Pg **Pg 23 06 08.2 -0.8**
4.1nm,0.1s
MTBS Lg Lg 23 07 02.6
12nm,0.4s
MTBS Maitube 4.08 33 *e*Pg **Pg 23 06 08.2 -0.8**
4.1nm,0.1s
MTBS *e*Lg Lg 23 07 02.6
12nm,0.4s
IZV Izvestkoviy 4.08 35 Pg **Pg 23 06 07.6 -1.5**
2.7nm,0.4s
IZV Lg Lg 23 07 01.7
23nm,0.8s
IZV Izvestkoviy 4.08 35 *e*Pg **Pg 23 06 07.7 -1.5**
2.7nm,0.4s
IZV *e*Lg Lg 23 07 01.7
23nm,0.8s
TNSS Tian-Shan 4.23 38 Pg **Pg 23 06 11.1 -1.0**
4.2nm,0.0s
TNSS Lg Lg 23 07 07.3
8.3nm,0.5s
TNSS Tian-Shan 4.23 38 *e*Pg **Pg 23 06 11.1 -1.0**
4.2nm,0.0s
TNSS *e*Lg Lg 23 07 07.3
8.3nm,0.5s
KRBS Karabastau 4.30 22 Pg **Pg 23 06 11.4 -2.0**
5.8nm,0.5s
KRBS Lg Lg 23 07 08.0
12nm,0.5s
KRBS Karabastau 4.30 22 *e*Pg **Pg 23 06 11.4 -2.0**
5.8nm,0.5s
KRBS *e*Lg Lg 23 07 08.0
12nm,0.5s
AAA Alma-Ata 4.35 36 Pg **Pg 23 06 13.6 -0.7**
14nm,0.4s
AAA Lg Lg 23 07 11.9
37nm,0.6s
AAA Alma-Ata 4.35 36 *e*Pg **Pg 23 06 13.7 -0.7**
14nm,0.4s
AAA *e*Lg Lg 23 07 11.9
37nm,0.6s
KOTS Kotyrbulak 4.46 37 Pg **Pg 23 06 15.2 -1.2**
4.6nm,0.5s
KOTS Lg Lg 23 07 14.6
24nm,0.4s
KOTS Kotyrbulak 4.46 37 *e*Pg **Pg 23 06 15.2 -1.2**
4.6nm,0.5s
KOTS *e*Lg Lg 23 07 14.6
24nm,0.4s
KTBS Karatobe 4.66 30 Pg **Pg 23 06 18.9 -1.3**
2.1nm,0.3s
KTBS Lg Lg 23 07 21.2
15nm,0.4s
KTBS Karatobe 4.66 30 *e*Pg **Pg 23 06 18.9 -1.3**
2.1nm,0.3s
KTBS *e*Lg Lg 23 07 21.2
15nm,0.4s
KUU Kurty 4.69 27 Pg **Pg 23 06 19.0 -1.8**
2.7nm,0.4s
KUU Lg Lg 23 07 20.9
19nm,1.1s
KUU Kurty 4.69 27 *e*Pg **Pg 23 06 19.0 -1.8**
2.7nm,0.4s
KUU *e*Lg Lg 23 07 20.9
19nm,1.1s
BTLS Baital 5.32 5 Pg **Pg 23 06 29.4 -3.5**
2.1nm,0.4s
BTLS Lg Lg 23 07 38.9
4.8nm,0.5s
BTLS Baital 5.32 5 *e*Pg **Pg 23 06 29.4 -3.5**
2.1nm,0.4s
BTLS *e*Lg Lg 23 07 38.9
4.8nm,0.5s
DHRM DHARAMSHALA 7.82 162 *e*P Pn 23 06 41.6 -3.4
DHRM *e*S Sn 23 08 05.2 -8.5
SMLA Simla 9.11 159 *e*P **Pn 23 07 01.5 -0.9**
SMLA *e*S Sn 23 08 30.2 -15
MAKZ Makanchi 9.43 39 Pn **Pn 23 07 08.6 +1.8**
MK31 Makanchi Array 9.57 40 Pn **Pn 23 07 09.9 +1.2**
MKAR Makanchi Array 9.57 40 Pn **Pn 23 07 08.7 0.0**
WMQ Urumqi 11.41 64 *e*P **Pn 23 07 37.7 +3.7**
WMQ pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 13.50 352 Pn **Pn 23 08 03.2 +0.8**
ABKAR Abkulak array 13.51 319 **Pn 23 08 02.5 -0.1**
ABKAR Abkulak array 13.51 319 Pn **Pn 23 08 02.8 +0.2**
ZAA0 Zalesovo Array 16.18 25 Pn **Pn 23 08 37.5 -0.7**
GNI Garni 21.96 280 P **P 23 09 45.4 +0.4**
GNI IAmb IAmb 23 10 00.1
comp=Z,6.0nm,1.1s
AKH Akhalkalaki 22.75 284 P **P 23 09 52.8 -0.6**
AKH IAmb IAmb 23 09 52.8
comp=Z,17nm,1.4s
PZH PanZhiHua 27.02 111 P **P 23 10 35.3 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.6s
XLT XiLinHaoTe 31.80 68 *e*P **P 23 11 17.3 +1.7**
XLT pP sP 23 11 22.4 +0.9
XLT sP pP 23 11 24.8 +5.0
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT pmax pmax
comp=Z,50nm,3.8s
MDUB Mudurnu 32.08 285 P **P 23 11 17.0 -1.2**
CLL Collm 42.73 306 *i* P **P 23 12 48.1 +0.1**

---

*IDC **06** 23:05:02.2±0.8, 10°.16S×152°.23E, h0km, mb4.2/11, mbtmp4.2/15, ML4.1/3, MS3.8/44, Error ellipse: s-maj=24.6km s-min=17.0km az=106.0*
*NEIC **06** 23:05:02.2±1.4, 9°.98S±0°.06×152°.4E±0°.1, h10km±1km, mb4.4/28, Error ellipse: s-maj=20.5km s-min=3.2km az=61.0*
ISC 06 23:05:03.4±0.5, 10°.17S±0°.06×152°.22E±0°.08, h10km, n102, σ1§66/72, mb4.5/23, MS3.8/40, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**278**	Pn	**Pn**	**23 06 17.3**	**-1.9**
PMG	**Port Moresby**	**5.04**	**278**	Pn	**Pn**	**23 06 20.7**	**+1.6**
	5.0nm,0.3s,baz=110,slow=15,SNR=1.8						
PMG				Sn	**Sn**	**23 07 18.0**	**+0.5**
	2.0nm,0.3s,baz=220,slow=18,SNR=1.2						
PMG				LR	LR	23 08 33.8	
	comp=Z,725nm,20.8s,baz=102,slow=42						
KRVT	**Keravat (AS076**	**5.83**	**358**	Pn	**Pn**	**23 06 31.4**	**+1.5**
	5.5nm,0.3s,baz=289,slow=23,SNR=2.0						
KRVT				Sn	**Sn**	**23 07 34.8**	**-2.1**
	13nm,0.3s,baz=110,slow=23,SNR=2.7						
	38nm,0.5s						
COEN	**Coen**	**9.61**	**246**	Pn	**Pn**	**23 07 23.0**	**+1.0**
CTA	**Charters Tower**	**11.42**	**210**	Pn	**Pn**	**23 07 48.6**	**+1.9**
	0.8nm,0.3s,baz=31,slow=15,SNR=6.0						
CTA				LR	LR	23 12 12.6	
	comp=Z,1μm,18.5s,baz=54,slow=38						
	2.4nm,0.4s						
CTAO	**Charters Tower**	**11.42**	**210**	Pn	**Pn**	**23 07 48.5**	**+1.8**
EIDS	**Eidsvold**	**15.16**	**184**	Pn	**Pn**	**23 08 39.3**	**+1.5**
DZM	**Mont Dzumac**	**18.06**	**133**	LR	LR	23 15 15.1	
	comp=Z,621nm,18.7s,baz=342,slow=34						
OUENC	**Ouen Island, N**	**18.57**	**133**	P	**P**	**23 09 18.4**	**-2.2**
WR0	**Warramunga Arr**	**19.63**	**238**	P	**Pn**	**23 09 33.6**	**-0.2**
WR0				IAmb	IAmb	23 09 37.4	
	comp=Z,17nm,0.8s						
WB0	**Warramunga Arr**	**19.67**	**239**	P	**P**	**23 09 32.8**	**0.0**
WB0				IAmb	IAmb	23 09 39.4	
	comp=Z,16nm,1.0s						
WRAB	**Tennant Creek**	**19.78**	**239**	P	**P**	**23 09 34.0**	**0.0**
WRAB				IAmb	IAmb	23 09 38.8	
	comp=Z,15nm,0.7s						
WB2	**Warramunga Arr**	**19.78**	**239**		**P**	**23 09 34.0**	**0.0**
WB2				IAmb	IAmb	23 09 38.9	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**19.79**	**239**	P	**Pn**	**23 09 35.5**	**-0.2**
WRA	**Warramunga Arr**	**19.79**	**239**	P	**P**	**23 09 33.5**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=62,slow=10,SNR=20						
WRA				LR	LR	23 17 02.8	
	comp=Z,513nm,18.2s,baz=80,slow=36						
	comp=Z,9.1nm,0.9s						
ARMA	**Armidale**	**20.16**	**181**	P	**P**	**23 09 38.2**	**+0.1**
ARMA				IAmb	IAmb	23 09 49.4	
	comp=Z,22nm,1.1s						
MTN	**Manton Dam**	**20.83**	**261**	P	**P**	**23 09 45.1**	**-0.3**
MTN				IAmb	IAmb	23 09 56.0	
	comp=Z,21nm,0.8s						
FAKI	**Fak Fak**	**21.09**	**289**	P	**P**	**23 09 46.4**	**-1.9**
FAKI				IAmb	IAmb	23 09 59.1	
	comp=Z,25nm,1.0s						
AS31	**Alice Springs**	**22.03**	**230**	P	**P**	**23 09 58.4**	**0.0**
ASAR	**Alice Springs**	**22.03**	**230**		**P**	**23 09 58.8**	**+0.4**
ASAR	**Alice Springs**	**22.03**	**230**	P	**P**	**23 09 57.9**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=63,slow=9.2,SNR=19						
ASAR				LR	LR	23 18 23.3	
	comp=Z,480nm,19.9s,baz=56,slow=36						
	comp=Z,3.3nm,0.7s						
KNRA	**Kununurra**	**23.50**	**254**	P	**P**	**23 10 14.7**	**+1.0**
KNRA				IAmb	IAmb	23 10 17.1	
	comp=Z,17nm,0.9s						
STKA	**Stephens Creek**	**23.74**	**203**	P	**P**	**23 10 16.1**	**+0.1**
STKA	**Stephens Creek**	**23.74**	**203**	P	**P**	**23 10 17.1**	**+1.2**
	comp=Z,3.6nm,0.6s,baz=32,slow=13,SNR=10						
STKA				LR	LR	23 20 01.6	
	comp=Z,569nm,18.8s,baz=21,slow=38						
	comp=Z,3.6nm,0.6s						
GUMO	**Guam**	**24.70**	**343**	LR	LR	23 18 06.9	
	comp=Z,106nm,21.4s,baz=152,slow=32						
MSVF	**Nonsavu**	**26.15**	**110**	LR	LR	23 19 12.7	
	comp=Z,123nm,21.5s,baz=177,slow=32						
BBOO	**Buckleboo**	**27.01**	**211**	P	**P**	**23 10 46.6**	**+0.8**
BBOO				IAmb	IAmb	23 11 01.8	
	comp=Z,4.9nm,0.8s						
SOEI	**Soe**	**27.53**	**268**	P	**P**	**23 10 50.2**	**-0.6**
BATI	**Baumata**	**28.10**	**267**	LR	LR	23 24 01.9	
	comp=Z,457nm,19.2s,baz=113,slow=40						
FORT	**Forrest**	**30.41**	**224**	P	**P**	**23 11 16.2**	**+0.1**
KAPI	**Kappang**	**32.57**	**277**	P	**P**	**23 11 34.0**	**-1.2**
KAPI	**Kappang**	**32.57**	**277**	LR	LR	23 26 27.2	
	comp=Z,45nm,18.5s,baz=114,slow=39						
TAU	**Tasmania Unive**	**32.90**	**187**	P	**P**	**23 11 36.1**	**-1.6**
AFI	**Afiamalu**	**35.39**	**100**	LR	LR	23 25 11.8	
	comp=Z,101nm,19.4s,baz=85,slow=34						
URZ	**Urewera**	**35.79**	**145**	LR	LR	23 25 30.1	
	comp=Z,268nm,18.8s,baz=31,slow=34						
RPZ	**Rata Peaks**	**37.21**	**157**	LR	LR	23 25 23.0	
	comp=Z,520nm,21.0s,baz=322,slow=33						
JCJ	**Chichijima**	**38.30**	**345**	LR	LR	23 25 25.3	
	comp=Z,212nm,21.7s,baz=106,slow=32						
NWAO	**Narrogin (SRO)**	**39.35**	**230**	LR	LR	23 28 54.7	
	comp=Z,364nm,18.8s,baz=166,slow=36						
SBUM	**Sibu**	**41.75**	**285**	P	**P**	**23 12 51.3**	**-1.9**
KSM	**Kuching**	**43.28**	**283**	P	**P**	**23 13 02.6**	**-3.1**
JOW	**Kunigami**	**43.51**	**328**	LR	LR	23 29 11.3	
	comp=Z,108nm,18.9s,baz=92,slow=33						
LEM	**Lembang**	**44.21**	**271**	LR	LR	23 35 48.2	
	comp=Z,110nm,18.2s,baz=38,slow=42						
JHJ	**Hachijo jima 2**	**44.65**	**345**	LR	LR	23 30 38.2	
	comp=Z,47nm,19.4s,baz=154,slow=34						
RAR	**Rarotonga**	**47.34**	**109**	LR	LR	23 30 50.4	
	comp=Z,56nm,18.9s,baz=61,slow=33						
JNU	**Nakatsue**	**47.61**	**336**	LR	LR	23 31 37.4	
	comp=Z,28nm,21.0s,baz=172,slow=34						
MJAR	**Matsushiro Arr**	**48.29**	**345**	LR	LR	23 33 48.5	
	comp=Z,51nm,18.1s,baz=168,slow=36						
KSRS	**Korea Array**	**52.56**	**336**	LR	LR	23 34 56.8	
	comp=Z,33nm,20.8s,baz=150,slow=34						
ASAJ	**Asahikawa**	**54.73**	**352**	LR	LR	23 35 53.4	
	comp=Z,33nm,21.3s,baz=206,slow=34						
USRK	**Ussuriysk Ar.**	**57.14**	**343**	P	**P**	**23 14 50.0**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=135,slow=5.3,SNR=3.5						
USRK				LR	LR	23 35 45.6	
	comp=Z,46nm,20.5s,baz=164,slow=32						
	comp=Z,1.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**59.76**	**298**	P	**P**	**23 15 07.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**59.76**	**298**	P	**P**	**23 15 09.8**	**+0.7**
	comp=Z,3.6nm,1.1s,baz=125,slow=4.8,SNR=13						
	comp=Z,3.6nm,1.1s						
CHTO	**Chiang Mai**	**59.90**	**299**	P	**P**	**23 15 05.9**	**-4.2**
XAN	**Xi'an**	**60.18**	**319**	P	**P**	**23 15 12.1**	**+0.4**
XAN				pmax	pmax		
	comp=Z,23nm,1.1s						
PZH	**PanZhiHua**	**61.08**	**308**	P	**P**	**23 15 20.1**	**+2.0**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,5.3s						
KLR	**Kul'dur**	**61.82**	**345**	LR	LR	23 40 58.7	
	comp=Z,28nm,18.9s,baz=214,slow=35						
XLT	**XiLinHaoTe**	**63.03**	**331**	*e*P	**P**	**23 15 31.7**	**+0.9**
XLT				pP	sP	23 15 35.6	+1.4
XLT				pmax	pmax		
	comp=Z,12nm,0.9s						
PETK	**Petropavlovsk-**	**63.20**	**4**	LR	LR	23 36 59.9	
	comp=Z,97nm,21.8s,baz=174,slow=30						
BTO	**Baotou**	**63.79**	**325**	*e*P	**P**	**23 15 38.7**	**+2.7**
BTO				pP	**pwP**	**23 15 43.4**	**+1.7**
BTO				sP	**sP**	**23 15 45.6**	**+6.2**
BTO				pmax	pmax		
	comp=Z,17nm,1.0s						
BTO				pmax	pmax		
	comp=Z,170nm,4.6s						
LZH	**Lanzhou**	**64.73**	**318**	*e*P	**P**	**23 15 44.1**	**+1.8**
LZH				pP	pwP	23 15 48.8	+0.7
LZH				sP	sP	23 15 51.4	+5.7
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
SHEM	**Shemya Is, Ala**	**65.39**	**14**	LR	LR	23 38 26.6	
	comp=Z,129nm,21.7s,baz=274,slow=31						
MA2	**Magadan**	**69.52**	**359**	LR	LR	23 46 41.4	
	comp=Z,33nm,19.3s,baz=140,slow=36						
SONM	**Songino Array**	**70.57**	**329**	P	**P**	**23 16 16.7**	**-2.2**
SONM				IAmb	IAmb	23 16 22.0	
	comp=Z,5.3nm,1.1s						
SONM	**Songino Array**	**70.57**	**329**	P	**P**	**23 16 20.3**	**+1.4**
	comp=Z,4.0nm,1.0s,baz=146,slow=5.5,SNR=13						
SONM				LR	LR	23 47 10.0	
	comp=Z,57nm,20.9s,baz=89,slow=36						
	comp=Z,4.0nm,1.0s						
LSA	**Lhasa**	**70.85**	**306**	P	**P**	**23 16 19.4**	**-2.1**
LSA				IAmb	IAmb	23 16 36.5	
	comp=Z,4.9nm,1.0s						
GOMU	**GeErMu**	**70.98**	**314**	P	P	23 16 30.7	+8.7
AIS	**Amsterdam Isla**	**71.73**	**234**	P	**P**	**23 16 25.8**	**-0.3**
TAPN	**Taplejung**	**72.74**	**303**	*e*P	**P**	**23 16 34.8**	**+2.2**
	comp=Z,18nm,0.5s						
SEY	**Seymchan**	**72.88**	**0**	LR	LR	23 51 39.2	
	comp=Z,18nm,18.0s,baz=166,slow=38						
RAMN	**Ramite**	**73.52**	**302**	*e*P	**P**	**23 16 38.2**	**+1.0**
	comp=Z,12nm,1.2s						
JIRN	**Jiri**	**74.11**	**303**	*e*P	**P**	**23 16 42.4**	**+1.6**
	comp=Z,12nm,1.0s						
GUN	**Gumba**	**74.45**	**303**	*e*P	**P**	**23 16 44.3**	**+1.5**
	comp=Z,15nm,0.8s						
PKI	**Pulchoki**	**74.72**	**302**	*e*P	**P**	**23 16 45.1**	**+0.7**
GKN	**Gorkha**	**75.52**	**302**	*e*P	**P**	**23 16 49.4**	**+0.7**
	comp=Z,24nm,1.1s						
KOLN	**Koldanda**	**76.30**	**302**	*e*P	**P**	**23 16 53.5**	**+0.2**
	comp=Z,23nm,0.9s						
DANN	**Dangsing**	**76.36**	**302**	*e*P	**P**	**23 16 54.5**	**+0.8**
	comp=Z,18nm,0.9s						
PYUN	**Piuthan**	**76.92**	**302**	*e*P	**P**	**23 16 57.0**	**+0.3**
	comp=Z,21nm,0.9s						
WMQ	**Urumqi**	**79.31**	**318**	*e*P	**P**	**23 17 10.3**	**+0.8**
QSPA	**South Pole Qui**	**79.83**	**180**	P	**P**	**23 17 11.8**	**-0.3**
QSPA				IAmb	IAmb	23 17 26.6	
	comp=Z,3.2nm,0.8s						
QSPA	**South Pole Qui**	**79.83**	**180**	P	**P**	**23 17 12.4**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=328,slow=1.6,SNR=5.1						
	comp=Z,2.4nm,0.9s						
MAW	**Mawson**	**80.43**	**203**	LR	LR	23 49 27.9	
	comp=Z,165nm,21.8s,baz=109,slow=33						
MK31	**Makanchi Array**	**83.99**	**320**	P	**P**	**23 17 30.5**	**-3.6**
MK31				IAmb	IAmb	23 17 36.1	
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**83.99**	**320**	P	**P**	**23 17 31.2**	**-2.9**
MKAR	**Makanchi Array**	**83.99**	**320**	P	**P**	**23 17 34.9**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=95,slow=5.8,SNR=12						
MKAR				LR	LR	23 55 43.4	
	comp=Z,15nm,19.6s,baz=83,slow=36						
	comp=Z,1.7nm,0.7s						
MAKZ	**Makanchi**	**84.19**	**319**	P	**P**	**23 17 33.2**	**-1.9**
ZAA0	**Zalesovo Array**	**85.28**	**327**	P	**P**	**23 17 39.2**	**-1.2**
ZAA0				IAmb	IAmb	23 17 41.5	
	comp=Z,5.0nm,1.1s						
ZALV	**Zalesovo Beam**	**85.28**	**327**	P	**P**	**23 17 38.8**	**-1.6**
ZALV	**Zalesovo Beam**	**85.28**	**327**	P	**P**	**23 17 39.9**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=120,slow=5.8,SNR=14						
ZALV				LR	LR	23 56 03.6	
	comp=Z,24nm,19.6s,baz=74,slow=36						
	comp=Z,3.3nm,0.8s						
KSH	**Kashi**	**85.99**	**311**	P	**P**	**23 17 46.3**	**+1.8**
KSH				pP	pwP	23 17 52.6	+2.3
KSH				sP	sP	23 17 56.2	+8.4
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**87.32**	**22**	P	**P**	**23 17 50.1**	**-0.1**
	comp=Z,2.4nm,1.1s,baz=260,slow=4.8,SNR=10						
ILAR				LR	LR	23 52 34.3	
	comp=Z,75nm,19.4s,baz=230,slow=33						
	comp=Z,2.4nm,1.1s						
KURBB	**Kurchatov Arra**	**87.65**	**322**	P	**P**	**23 17 51.4**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=122,slow=2.4,SNR=4.5						
	comp=Z,0.6nm,0.9s						
BBB	**Bella Bella**	**91.69**	**37**	LR	LR	23 52 42.4	
	comp=Z,70nm,20.5s,baz=226,slow=31						
YBH	**Yreka Blue Hor**	**93.04**	**48**	LR	LR	23 52 28.9	
	comp=Z,125nm,21.6s,baz=235,slow=31						
BVAR	**Borovoye Array**	**93.17**	**323**	LR	LR	00 01 09.0	
	comp=Z,15nm,19.3s,baz=75,slow=36						
INK	**Inuvik**	**93.64**	**21**	LR	LR	23 55 38.3	
	comp=Z,77nm,20.2s,baz=196,slow=32						
NVAR	**Mina Array Bea**	**95.83**	**52**	P	**P**	**23 18 31.0**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=237,slow=5.2,SNR=5.2						
NVAR				LR	LR	23 59 21.5	
	comp=Z,47nm,18.1s,baz=274,slow=34						
	comp=Z,0.7nm,0.8s						
PFO	**Pinyon Flats O**	**96.64**	**57**	LR	LR	23 56 45.2	
	comp=Z,71nm,18.8s,baz=250,slow=32						
SNAA	**Sanae**	**96.66**	**188**	LR	LR	00 00 33.1	
	comp=Z,144nm,21.4s,baz=134,slow=34						
NEW	**Newport**	**97.94**	**42**	LR	LR	23 55 25.2	
	comp=Z,147nm,21.2s,baz=242,slow=31						
ELK	**Elko**	**98.47**	**50**	LR	LR	23 56 03.7	
	comp=Z,57nm,20.4s,baz=249,slow=31						
GEYT	**Alibeck**	**99.38**	**307**	LR	LR	00 09 14.3	
	comp=Z,14nm,18.1s,baz=261,slow=39						
BDFB	**Brasilia**	**147.46**	**142**	PKPbc	**PKPbc**	**23 24 49.0**	**+0.1**
	comp=Z,5.1nm,1.1s,baz=220,slow=7.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.99**	**279**	PKPbc	**PKPbc**	**23 24 58.1**	**+0.5**
	comp=Z,3.4nm,1.1s,baz=87,slow=1.9,SNR=8.5						

IDC 06 23:10:17.5±3.1, 10°.21S×152°.92E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=118.9km s-min=30.1km az=129.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.36**	**239**	P	P	23 14 55.8	0.0
	1.3nm,0.9s,baz=61,slow=10,SNR=5.0						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**22.54**	**231**	P	P	23 15 19.3	0.0
	0.7nm,0.8s,baz=62,slow=10,SNR=5.4						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**84.46**	**319**	P	P	23 22 52.5	+0.3
	0.4nm,0.8s,baz=92,slow=5.0,SNR=2.4						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**85.69**	**327**	P	P	23 22 57.5	-0.6
	0.3nm,0.3s,baz=108,slow=4.7,SNR=2.2						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**87.10**	**22**	P	P	23 23 05.2	+0.3
	0.4nm,0.8s,baz=245,slow=5.8,SNR=4.7						
	0.4nm,0.8s						

---

*HEL **06** 23:29:03.1±0.2, 67°.79N×20°.11E, h0km, ML1.6, Suspected explosion*
*UPP **06** 23:29:03.3±0.0, 67°.82N×20°.22E, h0km, ML2.1, Suspected explosion*
*IDC **06** 23:29:05.7±1.2, 67°.77N×21°.10E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=18.7km s-min=7.1km az=117.0*
ISC 06 23:29:03.7±0.8, 67°.82N±0°.02×20°.28E±0°.03, h0km, n35, σ1§23/56, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**10**	P	**Pg**	**23 29 06.3**	**0.0**
KUA				S	**Sg**	**23 29 08.4**	**+0.3**
RATU	**Laukkuluspa**	**0.26**	**272**	P	**Pg**	**23 29 08.0**	**-0.6**
KOVU	**Salmi**	**0.41**	**354**	P	**Pg**	**23 29 11.1**	**-0.4**
LANU	**Lannavaara**	**0.69**	**70**	P	**Pg**	**23 29 16.7**	**-0.2**
LANU	**Lannavaara**	**0.69**	**70**	PG	**Pg**	**23 29 16.7**	**-0.2**
LANU				SG	**Sg**	**23 29 26.0**	**+0.2**
DUNU	**Dundret**	**0.71**	**171**	P	**Pg**	**23 29 16.7**	**-0.5**
SALU	**Saltoluokta**	**0.81**	**238**	P	**Pg**	**23 29 18.1**	**-1.0**
KIF	**Kilpisjarvi**	**1.21**	**9**	*e*P	**Pg**	**23 29 26.4**	**-0.4**
KIF	**Kilpisjarvi**	**1.21**	**9**	PG	**Pg**	**23 29 26.2**	**-0.6**
KIF				MSG		23 29 42.0	
	comp=Z,9.7nm,0.2s						
KIF				SB	**Sb**	**23 29 43.0**	**-0.5**
PAJU	**Pajala**	**1.35**	**125**	P	**Pg**	**23 29 28.6**	**-1.0**
PAJU	**Pajala**	**1.35**	**125**	PG	**Pg**	**23 29 28.1**	**-1.5**
	baz=303						
PAJU				SN	**Sg**	**23 29 47.1**	**0.0**
HEF	**Hetta**	**1.40**	**63**	*e*P	**Pn**	**23 29 29.0**	**-1.5**
HEF	**Hetta**	**1.40**	**63**	PG	**Pn**	**23 29 29.2**	**-1.3**
HEF				MSG		23 29 47.4	
	comp=Z,5.2nm,0.2s						
HEF				SG	**Sg**	**23 29 48.4**	**-0.2**
ERTU	**Ertsjaerv**	**1.47**	**149**	P	**Pn**	**23 29 30.4**	**-1.0**
ERTU	**Ertsjaerv**	**1.47**	**149**	PN	**Pn**	**23 29 30.1**	**-1.3**
ERTU				SN	**Sg**	**23 29 51.1**	**+0.2**
KLF	**Kolari**	**1.53**	**111**	PG	**Pn**	**23 29 31.6**	**-0.7**
KLF				MSG		23 29 50.5	
	comp=Z,5.8nm,0.2s						
KLF				SN	**Sg**	**23 29 53.4**	**+0.5**
KTK1	**Kautokeino**	**1.62**	**41**	PG	**Pn**	**23 29 33.3**	**-0.3**
KTK1				SN	**Sg**	**23 29 56.1**	**+0.3**
HARU	**Harads**	**1.68**	**170**	P	**Pn**	**23 29 33.8**	**-0.5**
TRO	**Tromso**	**1.89**	**346**	PG	**Pn**	**23 29 37.1**	**-0.1**
TRO				SG	**Sb**	**23 30 02.9**	**-0.2**
KALU	**Kalix**	**2.31**	**147**	PG	**Pn**	**23 29 43.7**	**+0.8**
	baz=325						
KALU				SG	**Sb**	**23 30 14.8**	**-0.5**
TOF	**Tornio**	**2.36**	**136**	PB	**Pn**	**23 29 44.8**	**+1.1**
	baz=322						
TOF				MSG		23 30 13.8	
	comp=Z,1.9nm,0.2s						
TOF				SG	**Sb**	**23 30 16.3**	**-0.4**
SGF	**Sodankyl**	**2.42**	**96**	PB	**Pn**	**23 29 45.4**	**+1.0**
SGF				SG	**Sb**	**23 30 18.2**	**-0.2**
RNF	**Rovaniemi**	**2.54**	**116**	PB	**Pn**	**23 29 47.7**	**+1.6

MSF	**Maaselka**	**3.95 115**	PN	**Pn**	**23 30 06.8**	**+1.3**
UMAU	**Umeaa**	**3.96 177**	PN	**Pn**	**23 30 06.5**	**+1.0**
	baz=1.0					
KU6	**Riekki**	**4.19 111**	PN	**Pn**	**23 30 09.9**	**+1.1**
	baz=296					
KU6			SG	**Sg**	**23 31 14.6**	**-3.6**
FINES	**FINESS Array B**	**6.87 156**	Pn	**Pn**	**23 30 45.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=4.1					
FINES			Sn	**Sn**	**23 32 01.5**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=348,slow=26,SNR=1.8					
FINES			Lg	Lg	23 32 34.9	
	comp=Z,0.3nm,0.3s,baz=346,slow=24,SNR=3.5					
	comp=Z,0.4nm,0.4s					
NOA	**NORSAR Array B**	**7.84 214**	Pn	**Pn**	**23 31 01.1**	**+2.2**
	baz=28,slow=11,SNR=1.9					
NOA			Sn	**Sn**	**23 32 28.5**	**+0.2**
	baz=34,slow=21,SNR=2.2					
NOA			Lg	Lg	23 33 08.4	
	baz=287,slow=17,SNR=1.6					
	comp=Z,0.7nm,0.8s					

*IDC **06** 23:36:40.1±3.4, 0.°20N×98.°01E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=151.8km s-min=20.6km az=56.0*

ISC 06 23:36:44.5±3.6, 0.°2N±0.°6×98.°0E±0.°9, h30km, n18, σ0.9 19/6, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**26.62**	**252**	T	T	00 09 30.0	
	baz=74,slow=75,SNR=1749						
H08S3	**Diego Garcia H**	**26.62**	**252**	T	T	00 09 31.3	
	baz=74,slow=75,SNR=2634						
H08S1	**Diego Carcia H**	**26.64**	**252**	T	T	00 09 31.3	
	baz=74,slow=75,SNR=1375						
H01W3	**Cape Leeuwin H**	**38.01**	**158**	T	T	00 24 02.9	
	baz=334,slow=76,SNR=9.2						
H01W2	**Cape Leeuwin H**	**38.02**	**158**	T	T	00 24 04.1	
	baz=334,slow=76,SNR=10						
H01W1	**Cape Leeuwin H**	**38.03**	**158**	T	T	00 24 06.9	
	baz=334,slow=76,SNR=12						
WRA	**Warramunga Arr**	**40.81**	**122**	P	**P**	**23 44 23.5**	**-0.2**
	0.5nm,0.7s,baz=300,slow=9.2,SNR=7.1						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**42.14**	**127**	P	**P**	**23 44 34.7**	**+0.2**
	0.8nm,0.8s,baz=296,slow=8.0,SNR=8.3						
	0.8nm,0.8s						
SONM	**Songino Array**	**48.01**	**8**	P	**P**	**23 45 21.0**	**+0.1**
	0.5nm,0.4s,baz=188,slow=8.7,SNR=2.9						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**48.41**	**346**	P	**P**	**23 45 24.0**	**+0.1**
	1.5nm,0.7s,baz=158,slow=8.3,SNR=13						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**52.91**	**345**	P	**P**	**23 45 57.6**	**-0.2**
	0.4nm,0.6s,baz=165,slow=7.4,SNR=4.0						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**54.68**	**350**	P	**P**	**23 46 10.6**	**0.0**
	1.2nm,0.4s,baz=166,slow=5.9,SNR=7.8						
	1.2nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.42**	**215**	T	T	00 53 10.8	
	baz=55,slow=75,SNR=125						
H04N1	**CROZET ISLANDS**	**61.43**	**215**	T	T	00 53 14.9	
	baz=55,slow=75,SNR=158						
H04N3	**CROZET ISLANDS**	**61.43**	**215**	T	T	00 53 02.7	
	baz=55,slow=75,SNR=182						
H04S1	**CROZET ISLANDS**	**61.74**	**214**	T	T	00 53 30.7	
	baz=54,slow=75,SNR=29						
H04S3	**CROZET ISLANDS**	**61.75**	**214**	T	T	00 53 38.2	
	baz=54,slow=75,SNR=49						
H04S2	**CROZET ISLANDS**	**61.76**	**214**	T	T	00 53 39.6	
	baz=54,slow=75,SNR=21						

IDC 06 23:45:01.3±3.7, 6.°47S×148.°90E, h0km, mb3.0/1, mbtmp3.2/3, ML3.2/1, MS3.4/1, Error ellipse: s-maj=139.2km s-min=34.8km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.39**	**211**	Pn	Pn	23 45 57.6	+2.2
	15nm,0.5s,baz=31,slow=9.4,SNR=10						
PMG				Sn	Sn	23 46 37.1	+0.7
	10.0nm,0.3s,baz=144,slow=23,SNR=6.7						
WRA	**Warramunga Arr**	**19.48**	**225**	P	P	23 49 29.4	-0.6
	0.1nm,0.3s,baz=52,slow=11,SNR=1.8						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**22.36**	**219**	P	P	23 50 00.4	-0.8
	0.5nm,0.7s,baz=52,slow=9.0,SNR=6.7						
	0.5nm,0.7s						
JCJ	**Chichijima**	**34.00**	**349**	LR	LR	00 03 25.3	
	comp=Z,57nm,19.7s,baz=124,slow=32						
TORD	**Torodi Ar. Bea**	**147.04**	**284**	PKPbc	PKPbc	00 04 46.5	-0.7
	0.7nm,0.7s,baz=88,slow=2.9,SNR=10						

*NOU **07** 00:16:19.1, 33.°40S×176.°45W, h8km, mb5.2/23, South of Kermadec Islands*
*WEL **07** 00:16:26.7±1.4, 33.°S±6.°×17.°7W±1.°9, h33km, M5.4/31, mB5.7/10, ML5.4/11, MLv5.5/31, Mw(mB)5.3/10, Error ellipse: s-maj=0.0km s-min=0.0km az=104.3, confirmed*
*IDC **07** 00:16:28.8±0.4, 32.°96S×178.°31W, h0km, mb4.7/15, mbtmp4.7/18, ML4.9/3, MS5.0/39, Error ellipse: s-maj=18.0km s-min=15.5km az=94.0*
*BJI **07** 00:16:28.8±0.0, 32.°56S×177.°61W, h11km, mb5.2/19, mB5.6/21, Ms5.2/23, Ms7 4.9/24*
*NEIC **07** 00:16:30.9±1.9, 32.°99S±0.°07×178.°3W±0.°1, h10km±1km, mb5.2/110, Ms_20 5.4/244, Mww5.4/19, Error ellipse: s-maj=15.5km s-min=10.4km az=109.0*
*MOS **07** 00:16:31.5±1.1, 32.°89S×178.°49W, h22km, mb5.3/23, MS5.2/12, Error ellipse: s-maj=10.9km s-min=8.9km az=89.3*
*NEIC **07** 00:16:31.3, 33.°02S×178.°32W, h16km*
*NEIC **07** 00:16:31.3, 33.°22S×177.°60W, h16km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.94; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-0.93; $M_{r\theta}$0.19; $M_{\theta\phi}$-0.28; $M_{\phi r}$0.98; Fault plane solution: $M_0$1.39000×10^{17} NP1: ϕ_s199.80000°, δ22.22000°, λ97.15000°. NP2: ϕ_s12.08000°, δ67.96000°, λ87.09000°. Principal axes: T 1.3629, Plg67.0000°, Azm277.0000°; N 0.0633, Plg3.0000°, Azm13.0000°; P -1.4262, Plg23.0000°, Azm104.0000°;*
*GCMT **07** 00:16:32.9±0.1, 33.°06S±0.°01×177.°85W±0.°01, h12km, MW5.4/140, Moment Tensor Solution. s95,c159; s140,c240; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.85±.01; $M_{\theta\theta}$0.00±.01; $M_{\phi\phi}$-0.85±.01; $M_{r\theta}$0.09±.04; $M_{\theta\phi}$-0.25±.01; $M_{\phi r}$1.05±.03; Best double couple: $M_0$1.37900×10^{17} NP1: ϕ_s7.00000°, δ70.00000°, λ84.00000°. NP2: ϕ_s204.00000°, δ21.00000°, λ106.00000°. Principal axes: T 1.3540, Plg64.0000°, Azm267.0000°; N 0.0500, Plg6.0000°, Azm9.0000°; P -1.4040, Plg25.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 00:16:31.2±0.5, 33.°09S±0.°04×178.°15W±0.°05, h19km±2km, n597, σ1.9 68/510, mb5.1/85, MS5.3/175, 22C-9D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.82**	**3**	P	**Pn**	**00 17 24.9**	**-4.0**
GLKZ				S	**Sn**	**00 18 08.4**	**-4.9**
RAO	**Raoul Island**	**3.83**	**3**		**Pn**	**00 17 26.0**	**-3.1**
RAO	**Raoul Island**	**3.83**	**3**	P	**Pn**	**00 17 26.0**	**-3.1**
RAO	**Raoul Island**	**3.83**	**3**	Pn	**Pn**	**00 17 25.8**	**-3.2**
	78nm,0.3s,baz=192,slow=19,SNR=7.0						
RAO				Sn	**Sn**	**00 18 08.4**	**-5.2**
	104nm,0.3s,baz=238,slow=19,SNR=4.0						
	250nm,0.4s						
MXZ	**Matakaoa Point**	**5.32**	**212**	Pn	**Pn**	**00 17 49.4**	**-0.2**
MXZ	**Matakaoa Point**	**5.32**	**212**	P	**Pn**	**00 17 48.1**	**-1.5**
MXZ	**Matakaoa Point**	**5.32**	**212**	P	**Pn**	**00 17 47.9**	**-1.7**
MXZ				S	**Sn**	**00 18 51.5**	**+1.1**
WMGZ	**Waiomatatini S**	**5.49**	**210**	P	**Pn**	**00 17 51.6**	**-0.4**
WMGZ				S	**Sn**	**00 18 56.2**	**+1.6**
PKGZ	**Pakihiroa**	**5.69**	**212**	P	**Pn**	**00 17 53.3**	**-1.5**
PKGZ				S	**Sn**	**00 19 00.5**	**+0.9**
HAZ	**Te Kaha**	**5.72**	**214**	P	**Pn**	**00 17 54.2**	**-0.9**
HAZ				S	**Sn**	**00 19 02.7**	**+2.5**
PUZ	**Puketiti**	**5.77**	**209**	P	**Pn**	**00 17 53.6**	**-2.2**
PUZ				S	**Sn**	**00 19 01.4**	**-0.1**
RUGZ	**Raukumara Rang**	**5.94**	**214**	P	**Pn**	**00 17 56.9**	**-1.4**
GRZ	**Great Barrier**	**6.14**	**237**	P	**Pn**	**00 18 05.5**	**+4.6**
CNGZ	**Carnagh Statio**	**6.14**	**208**	P	**Pn**	**00 17 59.5**	**-1.4**
CNGZ				S	**Sn**	**00 19 12.0**	**+1.3**
WHRZ	**Whale Island**	**6.20**	**219**	P	**Pn**	**00 18 03.3**	**+1.6**
KUZ	**Kuaotunu**	**6.22**	**232**	P	**Pn**	**00 18 03.4**	**+1.5**
TKGZ	**Te Karaka**	**6.25**	**210**	P	**Pn**	**00 18 01.2**	**-1.2**
TKGZ				S	**Sn**	**00 19 12.1**	**-1.3**
MWZ	**Matawai**	**6.31**	**213**	P	**Pn**	**00 18 01.3**	**-1.9**
MWZ				S	**Sn**	**00 19 14.6**	**-0.2**
OPRZ	**Ohinepanea**	**6.42**	**221**	P	**Pn**	**00 18 06.7**	**+2.1**
URZ	**Urewera**	**6.44**	**215**	P	**Pn**	**00 18 04.1**	**-0.9**
URZ	**Urewera**	**6.44**	**215**	P	**Pn**	**00 18 03.5**	**-1.5**
URZ	**Urewera**	**6.44**	**215**	Pn	**Pn**	**00 18 02.4**	**-2.6**
	13nm,0.3s,baz=12,slow=14,SNR=61						
URZ				Sn	**Sn**	**00 19 15.8**	**-2.2**
	24nm,0.3s,baz=90,slow=20,SNR=16						
RAGZ	**Rawiri**	**6.49**	**212**	P	**Pn**	**00 18 04.4**	**-1.4**
EDRZ	**Edgecumbe**	**6.51**	**218**	P	**Pn**	**00 18 07.2**	**+1.1**
RIGZ	**Rimuhau**	**6.51**	**209**	P	**Pn**	**00 18 04.5**	**-1.5**
PRGZ	**Paritu Road**	**6.65**	**208**	P	**Pn**	**00 18 05.4**	**-2.6**
KARZ	**Kaharoa**	**6.71**	**221**	P	**Pn**	**00 18 11.2**	**+2.4**
TARZ	**Mount Tarawera**	**6.73**	**219**	P	**Pn**	**00 18 11.3**	**+2.2**
SNGZ	**Shannon Statio**	**6.76**	**211**	P	**Pn**	**00 18 09.2**	**-0.1**
MUGZ	**Murupara**	**6.78**	**216**	P	**Pn**	**00 18 09.5**	**-0.1**
RTZ	**Ruatahuna**	**6.79**	**214**	Pn	**Pn**	**00 18 08.8**	**-1.0**
RTZ	**Ruatahuna**	**6.79**	**214**	P	**Pn**	**00 18 10.7**	**+0.9**
WCZ	**Waipu Caves**	**6.82**	**243**	P	**Pn**	**00 18 12.7**	**+2.6**
KNZ	**Kokohu**	**6.82**	**209**	P	**Pn**	**00 18 08.1**	**-2.1**
MHGZ	**Mahia Peninsul**	**6.84**	**207**	P	**Pn**	**00 18 08.5**	**-2.0**
TOZ	**Tahuroa Road**	**6.95**	**226**	Pn	**Pn**	**00 18 12.8**	**+0.8**
TOZ	**Tahuroa Road**	**6.95**	**226**	P	**Pn**	**00 18 13.4**	**+1.5**
RAHZ	**Arahi**	**6.98**	**212**	P	**Pn**	**00 18 13.7**	**+1.2**
MTHZ	**Maungataniwha**	**7.04**	**214**	P	**Pn**	**00 18 11.7**	**-1.6**
WHHZ	**Waihua**	**7.05**	**211**	P	**Pn**	**00 18 13.5**	**+0.1**
OUZ	**Omahuta**	**7.16**	**250**	P	**Pn**	**00 18 18.4**	**+3.5**
MRHZ	**Matea Rd**	**7.23**	**216**	P	**Pn**	**00 18 15.3**	**-0.6**
NMHZ	**Naumai**	**7.25**	**213**	P	**Pn**	**00 18 16.7**	**+0.5**
ARHZ	**Aropaoanui**	**7.31**	**211**	P	**Pn**	**00 18 16.0**	**-0.8**
BKZ	**Black Stump Fm**	**7.45**	**214**	Pn	**Pn**	**00 18 18.1**	**-0.9**
BKZ	**Black Stump Fm**	**7.45**	**214**	P	**Pn**	**00 18 16.9**	**-2.1**
BKZ	**Black Stump Fm**	**7.45**	**214**	P	**Pn**	**00 18 17.0**	**-1.9**
RATZ	**Rangitukua**	**7.58**	**219**	P	**Pn**	**00 18 20.8**	**+0.1**
RATZ				P	**Pn**	**00 18 21.0**	**+0.2**
MCHZ	**McNeill Hill**	**7.59**	**212**	P	**Pn**	**00 18 19.1**	**-1.6**
CKHZ	**Cape Kidnapper**	**7.60**	**209**	P	**Pn**	**00 18 17.0**	**-4.0**
KWHZ	**Kaweka Forest**	**7.69**	**213**	P	**Pn**	**00 18 20.8**	**-1.5**
KAHZ	**Kahuranaki**	**7.80**	**209**	P	**Pn**	**00 18 19.5**	**-4.2**
TMVZ	**Te Maari**	**7.80**	**218**	P	**Pn**	**00 18 23.2**	**-0.7**
ETVZ	**East Tongariro**	**7.82**	**218**	P	**Pn**	**00 18 24.1**	**+0.1**
KRVZ	**Karewarewa**	**7.82**	**218**	P	**Pn**	**00 18 26.7**	**+2.7**
HIZ	**Hauiti**	**7.85**	**224**	Pn	**Pn**	**00 18 25.1**	**+0.8**
HIZ	**Hauiti**	**7.85**	**224**	P	**Pn**	**00 18 27.1**	**+2.8**
HIZ	**Hauiti**	**7.85**	**224**	P	**Pn**	**00 18 26.8**	**+2.5**
NNVZ	**North Ngauruho**	**7.86**	**218**	P	**Pn**	**00 18 26.5**	**+1.9**
WTVZ	**West Tongariro**	**7.86**	**218**	P	**Pn**	**00 18 25.4**	**+0.7**
SNVZ	**South Ngauruho**	**7.89**	**218**	P	**Pn**	**00 18 25.3**	**+0.3**
KRHZ	**Kereru**	**7.89**	**212**	P	**Pn**	**00 18 22.2**	**-2.7**
NGZ	**Ngauruhoe**	**7.90**	**218**	P	**Pn**	**00 18 25.7**	**+0.5**
BHHZ	**Black Hill Sta**	**7.91**	**215**	P	**Pn**	**00 18 24.0**	**-1.2**
MOVZ	**Moawhango**	**8.00**	**216**	P	**Pn**	**00 18 26.0**	**-0.4**
WNVZ	**Wahianoa**	**8.02**	**217**	P	**Pn**	**00 18 26.3**	**-0.5**
PNHZ	**Pukenui**	**8.19**	**212**	P	**Pn**	**00 18 26.7**	**-2.4**
WPHZ	**Waipukurau**	**8.21**	**210**	P	**Pn**	**00 18 25.4**	**-3.9**
PRHZ	**Porangahau**	**8.30**	**209**	P	**Pn**	**00 18 27.8**	**-2.7**
VRZ	**Vera Road**	**8.32**	**222**	P	**Pn**	**00 18 33.6**	**+2.8**
TSZ	**Takapari Road**	**8.41**	**213**	P	**Pn**	**00 18 30.0**	**-2.2**
DVHZ	**Dannevirke**	**8.52**	**211**	P	**Pn**	**00 18 32.2**	**-1.3**
WAZ	**Wanganui**	**8.65**	**218**	P	**Pn**	**00 18 36.5**	**+1.2**
BFZ	**Birch Farm**	**8.81**	**209**		**Pn**	**00 18 34.8**	**-2.7**
BFZ	**Birch Farm**	**8.81**	**209**	P	**Pn**	**00 18 33.0**	**-4.5**
MRZ	**Mangatainoka R**	**9.07**	**212**	Pn	**Pn**	**00 18 39.1**	**-2.0**
MRZ	**Mangatainoka R**	**9.07**	**212**	P	**Pn**	**00 18 36.6**	**-4.5**
HOWZ	**Holdsworth Sta**	**9.29**	**211**	P	**Pn**	**00 18 41.3**	**-2.9**
TMWZ	**Te Maipa**	**9.31**	**209**	P	**Pn**	**00 18 40.3**	**-4.1**
KIW	**Kapiti Island**	**9.54**	**214**	P	**Pn**	**00 18 44.6**	**-2.9**
BHW	**Baring Head**	**9.99**	**212**	P	**Pn**	**00 18 54.7**	**+1.0**
KHZ	**Kahutara**	**11.39**	**213**		**Pn**	**00 19 11.8**	**-1.1**
GVZ	**Greta Valley S**	**12.06**	**213**	Pn	**Pn**	**00 19 19.1**	**-2.8**
LTZ	**Lake Taylor**	**12.27**	**215**	Pn	**Pn**	**00 19 22.1**	**-2.8**
RPZ	**Rata Peaks**	**13.56**	**215**	P	**Pn**	**00 19 39.2**	**-3.3**
RPZ	**Rata Peaks**	**13.56**	**215**	Pn	**Pn**	**00 19 39.4**	**-3.1**
	2.5nm,0.3s,baz=52,slow=5.6,SNR=11						
RPZ				Sn	Sn	00 21 58.2	-14
	1.5nm,0.3s,baz=86,slow=23,SNR=3.0						
LBZ	**Lake Benmore**	**14.48**	**215**	P	**P**	**00 20 02.0**	**+0.3**
ODZ	**Otahua Downs**	**14.76**	**213**	Pn	**Pn**	**00 19 54.6**	**-4.2**
ODZ	**Otahua Downs**	**14.76**	**213**	P	**Pn**	**00 19 54.4**	**-4.4**
JCZ	**Jackson Bay**	**14.97**	**219**	P	**Pn**	**00 19 58.0**	**-3.8**
WKZ	**Wanaka**	**15.37**	**217**	Pn	**Pn**	**00 20 06.3**	**-0.7**
WKZ				IAmb	IAmb	00 20 27.8	
	comp=Z,92nm,1.2s						
MSVF	**Nonsavu**	**15.66**	**346**	Pn	**Pn**	**00 20 08.7**	**-2.3**
MSVF				IAmb	IAmb	00 20 36.8	
	comp=Z,126nm,1.4s						
MSVF	**Nonsavu**	**15.66**	**346**	P	**Pn**	**00 20 09.9**	**-1.1**
MSVF	**Nonsavu**	**15.66**	**346**	*i* P	**Pn**	**00 20 09.6**	**-1.4**
MSVF	**Nonsavu**	**15.66**	**346**	Pn	**Pn**	**00 20 09.1**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=162,slow=9.2,SNR=5.1						
	comp=Z,29nm,1.1s						
NIUE	**Niue**	**15.78**	**30**		**Pn**	**00 20 11.2**	**-1.2**
NIUE				IAmb	IAmb	00 20 21.4	
	comp=Z,338nm,1.4s						
MLZ	**Mavora Lakes**	**16.21**	**217**		**Pn**	**00 20 18.3**	**+0.5**
PINNC	**Pines Island,**	**16.45**	**306**	P	**P**	**00 20 23.0**	**-0.6**
PINNC				IAmb	IAmb	00 20 48.0	
	comp=Z,383nm,1.5s						
SYZ	**Scrubby Hill**	**16.58**	**212**	P	**Pn**	**00 20 20.0**	**-2.5**
WHZ	**Wether Hill Ro**	**16.66**	**216**		**Pn**	**00 20 22.1**	**-1.4**
DCZ	**Deep Cove**	**16.77**	**218**	P	**P**	**00 20 27.2**	**+0.3**
OUENC	**Ouen Island, N**	**16.99**	**305**	P	**Pn**	**00 20 28.5**	**+0.7**
YATNC	**Mamie plateau,**	**17.20**	**306**	P	**P**	**00 20 35.8**	**+3.9**
ONTNC	**Ouen Toro**	**17.33**	**304**		**Pn**	**00 20 32.5**	**+0.4**
DZM	**Mont Dzumac**	**17.50**	**305**	*e*Pn	**P**	**00 20 35.0**	**-0.3**
	comp=Z,424nm,1.4s						
DZM				*e*LR	LR	00 24 47.8	
	comp=Z,9μm,25.1s						
DZM	**Mont Dzumac**	**17.50**	**305**	Pn	**Pn**	**00 20 31.7**	**-2.6**
DZM				IAmb	IAmb	00 20 41.8	
	comp=Z,181nm,1.1s						
DZM	**Mont Dzumac**	**17.50**	**305**	P	**P**	**00 20 39.6**	**+4.3**
DZM	**Mont Dzumac**	**17.50**	**305**	P	**P**	**00 20 37.4**	**+2.1**
	comp=Z,85nm,0.9s,baz=113,slow=16,SNR=20						
DZM				LR	LR	00 26 14.1	
	comp=Z,9μm,18.5s,baz=136,slow=34						
NOUC	**Port Laguerre**	**17.57**	**305**	P	**P**	**00 20 40.0**	**+3.9**
LIFNC	**LIFOU**	**17.86**	**310**	P	**Pn**	**00 20 37.5**	**-1.2**
AFI	**Afiamalu**	**19.95**	**18**	P	**P**	**00 21 01.2**	**-1.1**
AFI				IAmb	IAmb	00 21 04.8	
	comp=Z,178nm,1.1s						
AFI	**Afiamalu**	**19.95**	**18**	P	**P**	**00 21 02.2**	**-0.2**
	comp=Z,2.8nm,0.3s,baz=207,slow=7.9,SNR=5.1						
	comp=Z,102nm,1.0s						
KOUNC	**Koumac, New Ca**	**20.00**	**304**		**P**	**00 21 02.1**	**-0.7**
KOUNC				IAmb	IAmb	00 21 07.0	
	comp=Z,173nm,1.2s						
RAR	**Rarotonga**	**20.15**	**59**	P	**P**	**00 21 04.1**	**-0.2**
RAR				IAmb	IAmb	00 21 17.9	
	comp=Z,144nm,1.3s						
RAR	**Rarotonga**	**20.15**	**59**	P	**P**	**00 21 05.2**	**+0.9**
	comp=Z,45nm,0.9s,baz=191,slow=5.2,SNR=4.8						
RAR				LR	LR	00 28 20.8	
	comp=Z,4μm,19.2s,baz=226,slow=35						
	comp=Z,45nm,0.9s						
ARMA	**Armidale**	**25.79**	**268**	P	**P**	**00 22 00.3**	**-0.9**
MCQ	**Macquarie Isla**	**26.82**	**210**	P	**P**	**00 22 09.9**	**-0.2**
MCQ	**Macquarie Isla**	**26.82**	**210**	P	**P**	**00 22 09.9**	**-0.2**
MCQ				pmax	pmax		
	comp=Z,273nm,1.4s						
TBI	**Tubuai**	**27.00**	**76**	*e*P	P	00 22 21.3	+9.3
	comp=Z,780nm,23.2s						
TBI				*e*LQ	LQ	00 27 43.8	
	comp=Z,15μm,13.8s						
TBI				*e*LR	LR	00 28 45.0	
	comp=Z,10μm,21.2s						
TBI				*e*LR	LR	00 29 02.6	
	comp=Z,66μm,20.8s						
CAN	**Canberra**	**27.19**	**256**	P	**P**	**00 22 13.0**	**-0.7**
CAN				IAmb	IAmb	00 22 27.3	
	comp=Z,57nm,1.5s						
CAN				IAMs_20	IAMs_20	00 32 57.8	
	comp=Z,8μm,18.0s						
CAN	**Canberra**	**27.19**	**256**	P	**P**	**00 22 13.0**	**-0.7**
CAN				pmax	pmax		
	comp=Z,57nm,1.5s						
CAN				MLR	MLR		
	comp=Z,8μm,18.0s						
EIDS	**Eidsvold**	**27.86**	**278**	P	**P**	**00 22 18.9**	**-0.8**
EIDS				IAmb	IAmb	00 22 35.8	
	comp=Z,28nm,0.9s						
TAU	**Tasmania Unive**	**28.75**	**240**	P	**P**	**00 22 26.8**	**-0.7**
TAU				IAmb	IAmb	00 22 40.7	
	comp=Z,50nm,1.1s						
TAU	**Tasmania Unive**	**28.75**	**240**	P	**P**	**00 22 26.8**	**-0.7**
TAU				pmax	pmax		
	comp=Z,49nm,1.1s						
TAU				MLR	MLR		
	comp=Z,4μm,18.0s						
MOO	**Moorlands**	**28.78**	**241**	P	**P**	**00 22 28.0**	**+0.2**
RMQ	**Roma**	**29.38**	**274**	P	**P**	**00 22 35.9**	**+2.6**
TOO	**Toolangi**	**29.88**	**251**	P	**P**	**00 22 36.6**	**-1.0**
TOO	**Toolangi**	**29.88**	**251**	P	**P**	**00 22 36.6**	**-1.0**
TOO				pmax	pmax		
	comp=Z,14nm,0.9s						
PPT2	**Papeete2**	**29.96**	**66**	*e*P	**P**	**00 22 41.6**	**+3.1**
	comp=Z,220nm,23.2s						
PPT2				*e*S	S	00 27 23.5	-12
	comp=Z,483nm,24.0s						
PPT2				*e*LQ	LQ	00 28 52.8	
	comp=Z,4μm,14.5s						
PPT2				*e*LR	LR	00 30 11.1	
	comp=Z,3μm,20.8s						
PPT2				*e*LR	LR	00 30 31.5	
	comp=Z,3μm,20.8s						
PPT	**Papeete**	**29.97**	**66**	LR	LR	00 32 46.2	
	comp=Z,3μm,18.7s,baz=233,slow=33						
CMSA	**Cobar Meteorol**	**30.51**	**263**	P	**P**	**00 22 46.8**	**+3.6**
HNR	**Honiara**	**31.02**	**314**		**P**	**00 22 46.7**	**-1.1**
HNR	**Honiara**	**31.02**	**314**	P	**P**	**00 22 46.7**	**-1.1**
HNR				pmax	pmax		
	comp=Z,206nm,1.3s						
HNR				MLR	MLR		
	comp=Z,1μm,19.0s						
ARPS	**Mount Arapiles**	**32.84**	**252**	P	**P**	**00 23 05.0**	**+1.3**
STKA	**Stephens Creek**	**33.84**	**261**	P	**P**	**00 23 12.6**	**+0.2**
STKA	**Stephens Creek**	**33.84**	**261**	*i* P	**P**	**00 23 12.2**	**-0.2**
STKA	**Stephens Creek**	**33.84**	**261**	P	**P**	**00 23 13.1**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=111,slow=14,SNR=4.8						
STKA				LR	LR	00 36 08.6	
	comp=Z,2μm,18.5s,baz=92,slow=35						
	comp=Z,3.2nm,0.8s						
CTA	**Charters Tower**	**34.19**	**283**	P	**P**	**00 23 16.8**	**+1.2**
CTA	**Charters Tower**	**34.19**	**283**	S	**S**	**00 28 40.2**	**-1.1**
	comp=Z,4.6nm,1.0s,baz=344,slow=17,SNR=2.8						
CTA				LR	LR	00 36 55.1	
	comp=Z,2μm,18.0s,baz=105,slow=36						
CTAO	**Charters Tower**	**34.19**	**283**	P	**P**	**00 23 14.9**	**-0.7**
CTAO	**Charters Tower**	**34.19**	**283**	P	**P**	**00 23 16.8**	**+1.2**
CTAO	**Charters Tower**	**34.19**	**283**	P	**P**	**00 23 14.9**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,52nm,0.9s						
CTAO				MLR	MLR		
	comp=Z,2μm,18.0s						
INKA	**Innaminka**	**35.68**	**267**	P	**P**	**00 23 30.1**	**+1.7**
HTT	**Hallett**	**35.71**	**257**	P	**P**	**00 23 29.3**	**+0.7**
LCRK	**Leigh Creek**	**36.99**	**262**	P	**P**	**00 23 40.3**	**+0.7**
BBOO	**Buckleboo**	**38.19**	**258**	P	**P**	**00 23 49.1**	**-0.6**
BBOO				IAmb	IAmb	00 23 56.8	
	comp=Z,46nm,1.5s						
BBOO	**Buckleboo**	**38.19**	**258**	P	**P**	**00 23 48.9**	**-0.8**
PMG	**Port Moresby**	**39.70**	**298**	P	**P**	**00 24 00.8**	**-1.7**
PMG	**Port Moresby**	**39.70**	**298**	P	**P**	**00 24 00.8**	**-1.7**
PMG				pmax	pmax		
	comp=Z,28nm,1.1s						
PMG	**Port Moresby**	**39.70**	**298**	LR	LR	00 38 41.8	
	comp=Z,808nm,18.0s,baz=114,slow=34						
COEN	**Coen**	**39.95**	**289**	P	**P**	**00 24 04.0**	**-0.6**
COEN				IAmb	IAmb	00 24 17.4	
	comp=Z,32nm,1.0s						
TAOE	**Nuku Hiva Isla**	**42.54**	**64**	*e*S	S	00 30 36.9

comp=Z,1μm,18.1s,baz=122,slow=38
DAV Davao City (W) 66.66 296 LR LR 00 55 55.2
comp=Z,337nm,19.5s,baz=134,slow=36
TOLI2 Tolitoli 66.70 288 P **P** **00 27 18.9 -2.3**
JAGI Jajag, Banyuwa 66.75 275 P **P** **00 27 19.8 -1.8**
BELA Belgrano 2 67.15 172 P **P** **00 27 25.3 +2.1**
BELA IAmb IAmb 00 27 50.2
comp=Z,13nm,0.9s
BKB Balikpapan 68.46 283 IAMs_20 IAMs_20 00 59 59.3
comp=Z,2μm,18.0s
MAW Mawson 69.76 201 P **P** **00 27 41.5 +1.9**
MAW Mawson 69.76 201 P **P** **00 27 41.5 +1.9**
MAW pmax pmax
comp=Z,6.0nm,1.3s
MAW Mawson 69.76 201 P **P** **00 27 40.8 +1.3**
comp=Z,7.2nm,0.8s,baz=124,slow=9.8,SNR=9.5
MAW LR LR 00 56 50.6
comp=Z,2μm,20.5s,baz=116,slow=35
comp=Z,7.2nm,0.8s
PMSA Palmer Station 69.88 155 LR LR 00 54 39.3
comp=Z,1μm,18.3s,baz=232,slow=33
LEM Lembang 73.10 273 LR LR 01 02 39.3
comp=Z,822nm,18.3s,baz=146,slow=38
KKM Kota Kinabalu 73.28 289 P **P** **00 28 00.5 -1.3**
KKM IAmb IAmb 00 28 14.3
comp=Z,24nm,1.2s
ELIB Princess Elisa 74.17 187 *d*P **P** **00 28 06.9 +0.7**
SBUM Sibu 74.40 283 P **P** **00 28 07.2 -1.0**
TROLL Troll, Antarti 75.19 180 ⇑P **P** **00 28 13.4 +1.2**
comp=Z,181nm,1.1s
SNAA Sanae 75.48 178 P **P** **00 28 14.8 +1.1**
SNAA IAMs_20 IAMs_20 01 00 42.6
comp=Z,1μm,18.0s
SNAA Sanae 75.48 178*ce*P **P** **00 28 14.2 +0.5**
SNAA pmax pmax
comp=Z,23nm,2.5s
SNAA Sanae 75.48 178 ⇑P **P** **00 28 14.5 +0.8**
comp=Z,80nm,0.9s
SNAA ⇓PcP **pwP** **00 28 26.1 -0.1**
comp=Z,382nm,1.2s
SNAA Sanae 75.48 178 P **P** **00 28 13.7 0.0**
comp=Z,5.3nm,1.1s,baz=205,slow=7.8,SNR=13
SNAA LR LR 01 00 54.4
comp=Z,1μm,18.3s,baz=218,slow=35
comp=Z,5.3nm,1.1s
VNA3 Neumayer Olymp 75.64 176 ⇑P **P** **00 28 15.1 +0.6**
comp=Z,7.9nm,0.6s
VNA3 ⇓PcP **PcP** **00 28 27.5 +0.1**
comp=Z,33nm,1.0s
VNA2 Neumayer--Watz 76.07 177 ⇑P **P** **00 28 18.1 +1.0**
comp=Z,5.9nm,0.7s,baz=184,slow=5.0
VNA2 ⇓PcP **PcP** **00 28 30.2 +1.0**
comp=Z,34nm,0.7s,baz=178,slow=5.0
NVL N'lazarevskaya 76.19 183 *e*P **P** **00 28 14.9 -2.8**
NVL *e*S **S** **00 37 58.1 -2.4**
NVL pmax pmax
comp=Z,15nm,1.4s
NVL smax smax
comp=E,495nm,11.0s
VNA1 Neumayer--Stat 76.30 177 ⇑P **P** **00 28 20.0 +1.7**
comp=Z,9.3nm,1.0s
VNA1 ⇓PcP **pwP** **00 28 31.4 +0.7**
comp=Z,33nm,0.9s
JHJ Hachijo jima 2 76.84 325 LR LR 00 56 10.7
comp=Z,356nm,21.3s,baz=134,slow=31
LL02 Futaleuf 78.57 134 P **P** **00 28 32.8 +1.3**
LL02 IAmb IAmb 00 28 51.3
comp=Z,19nm,1.1s
VA04 Juan Fernndez 79.27 123 P **P** **00 28 37.1 +1.6**
COCO West Island 79.32 262 P **P** **00 28 35.9 -0.1**
COCO West Island 79.32 262 P **P** **00 28 35.9 -0.1**
COCO pmax pmax
comp=Z,165nm,1.1s
MJAR Matsushiro Arr 80.38 326 P **P** **00 28 40.4 -0.8**
comp=Z,1.0nm,0.3s,baz=160,slow=5.4,SNR=4.3
MJAR LR LR 00 58 42.7
comp=Z,374nm,20.7s,baz=128,slow=32
comp=Z,1.0nm,0.3s
PLCA Paso Flores 80.78 133 P **P** **00 28 45.5 +1.9**
PLCA IAmb IAmb 00 28 48.0
comp=Z,28nm,1.2s
PLCA Paso Flores 80.78 133 P **P** **00 28 45.5 +1.9**
comp=Z,7.1nm,0.9s,baz=252,slow=8.2,SNR=9.2
PLCA LR LR 00 58 38.4
comp=Z,961nm,18.7s,baz=234,slow=31
comp=Z,7.1nm,0.9s
GO06 Curarrehue 80.87 131 P **P** **00 28 46.0 +1.8**
GO06 IAmb IAmb 00 29 15.4
comp=Z,22nm,1.4s
DLV T Lat 82.90 289 P **P** **00 28 53.4 -1.9**
DLV IAmb IAmb 00 29 07.6
comp=Z,29nm,1.5s
ML02 Panimavida 83.14 128 P **P** **00 28 57.2 +1.2**
GO05 Huala 83.23 127 P **P** **00 28 58.1 +1.5**
QZH Quanzhou 83.39 305 ⇓*i*P P 00 29 03.7 +6.4
QZH SKS **SKSac** **00 39 21.3 +2.5**
QZH S **SKKSac** **00 39 25.8 +2.5**
BO02 Sierra Bellavi 84.13 128 P **P** **00 29 03.1 +1.9**
ADK Adak 84.62 1 P **P** **00 29 04.6 +1.8**
ADK Adak 84.62 1 P **P** **00 29 04.6 +1.8**
ADK pmax pmax
comp=Z,43nm,1.2s
LMEL Las Melosas 85.07 127 P **P** **00 29 08.0 +1.9**
LMEL IAmb IAmb 00 29 16.8
comp=Z,24nm,1.1s
SHEM Shemya Is, Ala 85.72 355 LR LR 01 03 49.8
comp=Z,1μm,18.5s,baz=154,slow=33
SSE Sheshan 85.78 311 P **P** **00 29 10.7 +1.5**
SSE S **S** **00 39 39.8 -1.4**
SSE pmax pmax
comp=Z,7.0nm,0.8s
SSE pmax pmax
comp=Z,90nm,4.0s
SSE LR LR
comp=Z,85nm,18.7s
SSE LR LR
comp=Z,130nm,18.2s
QIZ Qiongzhong 86.03 296 P **P** **00 29 09.3 -1.5**
QIZ PP **PP** **00 32 33.0 +1.7**
QIZ SKS **SKSac** **00 39 30.9 -5.1**
QIZ S **SKKSac** **00 39 41.9 -1.5**
QIZ SS **SS** **00 45 29.3 +6.4**
QIZ pmax pmax
comp=Z,24nm,1.5s
QIZ pmax pmax
comp=Z,350nm,6.5s
QIZ LR LR
comp=Z,320nm,13.5s
QIZ LR LR
comp=Z,300nm,18.5s
QIZ LR LR
comp=Z,330nm,19.1s
KSRS Korea Array 86.31 320 P **P** **00 29 12.3 +0.6**
comp=Z,2.0nm,0.8s,baz=147,slow=5.4,SNR=7.2
comp=Z,2.0nm,0.8s
KSAR Wonju Array Be 86.32 320 P **P** **00 29 10.6 -1.2**
KSAR Wonju Array Be 86.32 320 P **P** **00 29 10.6 -1.2**
SKR Severo-Kuril's 86.45 344 *e*P **P** **00 29 11.1 -0.9**
SKR *e*S **S** **00 39 45.1 -1.7**
SKR pmax pmax
comp=Z,185nm,1.1s
SKR MLR MLR
comp=Z,2μm,17.0s
YSS Yuzh-Sakhalins 87.10 334*c i*P **P** **00 29 16.5 +1.2**
YSS *e* 00 32 35.5
YSS *e* 00 39 39.9
YSS *e*S **S** **00 39 55.5 +2.1**
YSS *e*PS **PnS** **00 41 02.0 +7.1**
YSS pmax pmax
comp=Z,500nm,3.4s
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=E,500nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s
CFA Coronel Fontan 87.74 127 LR LR 01 00 59.1
comp=Z,966nm,19.4s,baz=282,slow=30
NJ2 Nanjing 87.89 311 *e*P **P** **00 29 20.3 +0.8**
NJ2 pP **sP** **00 29 26.2 +1.1**
NJ2 sP **pwP** **00 29 29.0 -2.4**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,290nm,4.2s
TEY Ternei 87.94 330*ce*P **P** **00 29 18.3 -1.1**
TEY pmax pmax
comp=Z,100nm,4.4s
PET Petropavlovsk 88.10 346 *e*P **P** **00 29 20.3 +0.4**
PET *e* 00 39 48.5
PET *e*S **S** **00 40 03.8 +1.2**
PET *e*PS **PS** **00 41 08.5 +0.5**
PET pmax pmax
comp=Z,300nm,10.1s
PET MLR MLR
comp=Z,1μm,21.0s
PET MLR MLR
comp=Z,800nm,17.0s
PFO Pinyon Flats O 88.12 47 LR LR 01 01 55.8
comp=Z,2μm,19.6s,baz=248,slow=31
ISA Isabella, Lake 88.29 45 P **P** **00 29 23.0 +1.5**
ISA Isabella, Lake 88.29 45 P **P** **00 29 23.0 +1.5**
ISA pmax pmax
comp=Z,32nm,1.4s
PEA0B Petropavlovsk- 88.37 346 P **P** **00 29 22.0 +0.7**
PEA0B Petropavlovsk- 88.37 346*ce*P **P** **00 29 21.9 +0.7**
PETK Petropavlovsk- 88.37 346 P **P** **00 29 21.6 +0.3**
PETK Petropavlovsk- 88.37 346 P **P** **00 29 21.6 +0.3**
PETK Petropavlovsk- 88.37 346 P **P** **00 29 21.8 +0.5**
comp=Z,25nm,1.1s,baz=121,slow=5.6,SNR=9.2
PETK LR LR 01 01 57.3
comp=Z,546nm,21.5s,baz=149,slow=31
comp=Z,25nm,1.1s
CMB Columbia Colle 88.84 42 P **P** **00 29 25.0 +1.1**
CMB IAmb IAmb 00 29 28.3
comp=Z,18nm,1.4s
CMB IAMs_20 IAMs_20 01 06 07.4
comp=Z,1μm,18.0s
CMB Columbia Colle 88.84 42 P **P** **00 29 25.0 +1.1**
CMB pmax pmax
comp=Z,18nm,1.4s
AFDM Forest Hills D 89.16 41 P **P** **00 29 26.9 +1.6**
AFDM IAmb IAmb 00 29 34.4
comp=Z,12nm,1.4s
MDPB Devils Postpil 89.30 43 P **P** **00 29 27.1 +0.7**
MDPB IAmb IAmb 00 29 56.1
comp=Z,16nm,1.5s
ORV Oroville 89.30 40 IAMs_20 IAMs_20 01 03 34.4
comp=Z,1μm,20.0s
USA0B Ussuriysk Arra 89.32 327 P **P** **00 29 26.3 +0.3**
USA0B IAmb IAmb 00 29 28.8
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 89.32 327 *i*P **P** **00 29 26.1 +0.1**
USRK Ussuriysk Ar. 89.32 327 P **P** **00 29 25.9 -0.1**
USRK Ussuriysk Ar. 89.32 327 P **P** **00 29 25.9 -0.1**
USRK Ussuriysk Ar. 89.32 327 P **P** **00 29 26.3 +0.4**
comp=Z,7.6nm,0.9s,baz=145,slow=5.3,SNR=9.3
USRK LR LR 01 09 09.5
comp=Z,303nm,18.2s,baz=148,slow=36
comp=Z,7.6nm,0.9s
BLYC Blythe 89.41 48 P **P** **00 29 28.4 +1.8**
QSM Queen of Sheba 89.45 45 P **P** **00 29 28.7 +1.9**
QSM IAmb IAmb 00 29 56.6
comp=Z,14nm,1.2s
WAKR Walker 89.70 42 P **P** **00 29 29.5 +1.3**
WAKR IAmb IAmb 00 29 57.2
comp=Z,30nm,1.5s
GWY Greenwater Val 89.72 45 P **P** **00 29 29.1 +0.8**
GWY IAmb IAmb 00 29 39.0
comp=Z,16nm,1.4s
GRAC Grapevine Rang 89.86 44 P **P** **00 29 30.2 +1.5**
GRAC IAmb IAmb 00 29 58.7
comp=Z,23nm,1.4s
WHN Wuhan 89.86 307 ⇑P **P** **00 29 29.6 +0.8**
WHN LR LR
comp=Z,920nm,17.7s
MPK Martis Peak 89.92 41 P **P** **00 29 30.8 +1.5**
MPK IAmb IAmb 00 29 58.7
comp=Z,31nm,1.3s
PNTR Pine Nut 90.02 42 P **P** **00 29 31.4 +1.7**
PNTR IAmb IAmb 00 29 34.0
comp=Z,18nm,1.4s
LHV Little Huntoon 90.06 43 P **P** **00 29 31.4 +1.9**
LHV IAmb IAmb 00 29 59.3
comp=Z,20nm,1.3s
GMN Gold Mountain 90.12 44 P **P** **00 29 31.6 +1.4**
YERR Yerington 90.15 42 P **P** **00 29 31.6 +1.3**
YERR IAmb IAmb 00 29 33.6
comp=Z,12nm,1.3s
WCT Wildcat Mounta 90.16 45 P **P** **00 29 31.1 +0.9**
YBH Yreka Blue Hor 90.22 38 P **P** **00 29 31.6 +1.2**
YBH IAmb IAmb 00 29 56.1
comp=Z,10nm,1.2s
YBH IAMs_20 IAMs_20 01 05 18.8
comp=Z,1μm,18.0s
YBH Yreka Blue Hor 90.22 38 P **P** **00 29 31.6 +1.2**
YBH pmax pmax
comp=Z,10.0nm,1.3s
YBH Yreka Blue Hor 90.22 38 LR LR 01 04 42.8
comp=Z,858nm,19.0s,baz=230,slow=32
NVAR Mina Array Bea 90.29 43 P **P** **00 29 30.7 -0.3**
NVAR Mina Array Bea 90.29 43 P **P** **00 29 32.3 +1.3**
comp=Z,2.4nm,1.0s,baz=224,slow=7.5,SNR=13
comp=Z,2.4nm,1.0s
TPNV Topopah Spring 90.48 45 P **P** **00 29 33.2 +1.4**
TPNV IAmb IAmb 00 30 01.1
comp=Z,17nm,1.4s
TPNV IAMs_20 IAMs_20 01 05 34.1
comp=Z,1μm,20.0s
TPNV Topopah Spring 90.48 45 P **P** **00 29 33.2 +1.4**
TPNV pmax pmax
comp=Z,17nm,1.5s
V12A Nelson 90.51 47 P **P** **00 29 33.5 +1.6**
V12A IAmb IAmb 00 29 36.2
comp=Z,12nm,1.5s
PAHR Pah Rah Range 90.57 41 IAmb IAmb 00 30 00.6
comp=Z,11nm,1.3s
TPH Tonopah 90.67 44 P **P** **00 29 34.2 +1.5**
TPH Tonopah 90.67 44 P **P** **00 29 34.2 +1.5**
TPH pmax pmax
comp=Z,60nm,1.4s
W13A Hualapai Mount 90.69 48 P **P** **00 29 33.9 +1.0**
MDJ Mudanjiang 90.76 326 P **P** **00 29 34.1 +1.4**
MDJ pP PcP 00 29 35.2 +1.5
MDJ sP sP 00 29 38.0 -0.3
MDJ SKS **SKSac** **00 40 05.1 +1.9**
MDJ S **ScS** **00 40 34.0 +2.7**
MDJ sS sS 00 40 40.4 +6.1
MDJ SS **SS** **00 46 34.6 +3.4**
MDJ pmax pmax
comp=Z,14nm,1.7s
MDJ pmax pmax
comp=Z,400nm,7.6s
MDJ LR LR
comp=Z,340nm,17.8s
MDJ LR LR
comp=Z,370nm,19.1s
MDJ LR LR
comp=Z,670nm,18.1s
KVN Kaiserville 90.83 42 P **P** **00 29 34.8 +1.3**
KVN IAmb IAmb 00 30 01.9
comp=Z,13nm,1.3s
KVN Kaiserville 90.83 42 P **P** **00 29 34.8 +1.3**
KVN pmax pmax
comp=Z,13nm,1.3s
SHPR Sheep Range 90.84 46 P **P** **00 29 34.4 +0.9**
TUC Tucson 90.88 51 P **P** **00 29 34.9 +1.2**
TUC IAmb IAmb 00 29 39.2
comp=Z,17nm,1.4s
TUC Tucson 90.88 51 P **P** **00 29 34.9 +1.2**
TUC pmax pmax
comp=Z,17nm,1.5s
DBO Dodson Butte 90.95 37 **P** **00 29 34.4 +0.7**
DBO IAmb IAmb 00 30 00.3
comp=Z,25nm,1.4s
I03D Drain, OR 91.32 36 P **P** **00 29 36.5 +1.2**
I03D IAmb IAmb 00 30 01.6
comp=Z,25nm,1.4s
PRN Pahroc Range 91.50 45 P **P** **00 29 37.2 +0.7**
PRN IAmb IAmb 00 30 06.2
comp=Z,14nm,1.3s
X16A Lo Mia Camp, P 91.79 49 P **P** **00 29 37.9 -0.1**
X16A IAmb IAmb 00 29 43.3
comp=Z,11nm,1.4s
R11B Troy Canyon, C 91.81 44 IAMs_20 IAMs_20 01 13 59.2
comp=Z,1μm,18.0s
I04A Tendick Farm, 91.86 37 P **P** **00 29 37.3 -0.6**
J05D Fort Rock, OR 92.09 38 P **P** **00 29 39.7 +0.6**
CN2 Changchun 92.20 323 *e*P **P** **00 29 38.8 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
WUAZ Wupatki 92.53 49 IAMs_20 IAMs_20 01 07 33.7
comp=Z,1μm,20.0s
U15A North Rim 92.54 47 P **P** **00 29 40.9 -0.6**
PINE Pine Mountain 92.60 38 P **P** **00 29 42.6 +1.1**
PINE IAmb IAmb 00 30 08.0
comp=Z,20nm,1.4s
H04A Detroit Lake 92.61 36 P **P** **00 29 41.9 +0.5**
H04A IAmb IAmb 00 30 09.9
comp=Z,13nm,1.2s
LVC Limon Verde 92.75 119 LR LR 01 02 57.3
comp=Z,579nm,20.8s,baz=235,slow=30
GYA Guiyang 92.77 300 ⇓P **P** **00 29 46.2 +3.6**
GYA SKS **SKSac** **00 40 17.3 +1.6**
GYA S **S** **00 40 41.9 -5.3**
GYA SS **SS** **00 47 05.7 +4.7**
GYA pmax pmax
comp=Z,12nm,0.7s
GYA LR LR
comp=Z,250nm,11.0s
GYA LR LR
comp=Z,200nm,13.0s
GYA LR LR
comp=Z,220nm,15.0s
NNA Nana 92.81 106 IAMs_20 IAMs_20 01 05 19.1
comp=Z,1μm,20.0s
NNA Nana 92.81 106 LR LR 01 03 24.1
comp=Z,1μm,19.4s,baz=236,slow=30
KLR Kul'dur 93.28 330 *i*P **P** **00 29 43.7 -0.5**
KLR pmax pmax
comp=Z,10.0nm,1.3s
J08A Circle Bar Ran 93.59 39 P **P** **00 29 47.7 +1.7**
J08A IAmb IAmb 00 30 11.9
comp=Z,12nm,1.3s
LYN LuoYang 93.59 309 ⇑P P 00 29 52.3 +6.2
LYN pP pwP 00 29 55.6 -2.4
LYN S **S** **00 41 00.9 +7.1**
LYN pmax pmax
comp=Z,8.0nm,0.7s
LYN pmax pmax
comp=Z,180nm,3.7s
LYN LR LR
comp=Z,300nm,23.0s
LYN LR LR
comp=Z,220nm,22.0s
LYN LR LR
comp=Z,430nm,22.3s
NLWA Neilton Lookou 93.76 34 IAMs_20 IAMs_20 01 05 17.2
comp=Z,1μm,19.0s
TX31 Lajitas Ar. Si 93.94 57 P **P** **00 29 49.4 +1.5**
TX31 IAmb IAmb 00 29 51.7
comp=Z,20nm,1.4s
TX32 Lajitas Array 93.94 57 P **P** **00 29 49.0 +1.0**
TXAR Lajitas Array 93.94 57 P **P** **00 29 49.7 +1.8**
comp=Z,1.2nm,1.1s,baz=245,slow=5.8,SNR=6.8
TXAR LR LR 01 05 18.8
comp=Z,1μm,18.6s,baz=232,slow=31
comp=Z,1.2nm,1.1s
HNS HongShan 93.95 313 ⇑P **P** **00 29 48.0 +0.4**
HNS SKS **SKSac** **00 40 21.2 -0.1**
HNS S **ScS** **00 40 59.4 +1.3**
HNS LR LR
comp=Z,180nm,15.4s
HNS LR LR
comp=Z,300nm,17.3s
HNS LR LR
comp=Z,430nm,19.2s
MNTX Cornudas Mount 94.14 55 P **P** **00 29 48.7 0.0**
CMAR Chiang Mai Arr 94.16 289 PP **PP** **00 33 35.1 -0.9**
comp=Z,0.7nm,0.3s,baz=134,slow=6.4,SNR=11
CMAR LR LR 01 17 01.5
comp=Z,170nm,18.3s,baz=145,slow=39
ATAH Atahualpa 94.25 101 LR LR 01 05 43.2
comp=Z,657nm,18.3s,baz=252,slow=31
G08A Pilot Rock 94.66 37 P **P** **00 29 51.7 +0.8**
KMI Kunming 94.91 297 ⇓P **P** **00 29 54.2 +1.6**
KMI PP **PP** **00 33 39.4 -2.7**
KMI SKS **SKSac** **00 40 28.3 +0.6**
KMI sS sS 00 41 12.8 -0.1
KMI pmax pmax
comp=Z,3.0nm,0.6s
KMI pmax pmax
comp=Z,150nm,8.5s
KMI LR LR
comp=Z,310nm,18.3s
KMI LR LR
comp=Z,340nm,16.5s
KMI LR LR
comp=Z,370nm,18.2s
HAWA Hanford 95.14 36 IAMs_20 IAMs_20 01 06 11.8
comp=Z,1μm,20.0s
BRLK Bradley Lake 95.22 13 IAMs_20 IAMs_20 01 10 06.5
comp=Z,1μm,20.0s
ANMO Albuquerque 95.35 52 IAMs_20 IAMs_20 01 06 18.5
comp=Z,1μm,19.0s
ANMO Albuquerque 95.35 52 *i*P **P** **00 29 54.3 -0.1**
ANMO pmax pmax
comp=Z,8.0nm,2.8s
ANMO Albuquerque 95.35 52 LR LR 01 06 47.0
comp=Z,1μm,18.9s,baz=324,slow=32
MVCO Mesa Verde 95.40 49 IAMs_20 IAMs_20 01 14 25.6
comp=Z,1μm,20.0s
XAN Xi'an 95.63 307 P **P** **00 29 55.4 -0.1**
XAN SKS **SKSac** **00 40 29.8 -0.9**
XAN S **ScS** **00 41 12.4 -0.1**
XAN SS **SS** **00 47 45.6 +4.2**
XAN pmax pmax
comp=Z,290nm,6.5s
XAN LR LR
comp=Z,250nm,14.7s
XAN LR LR
comp=Z,320nm,15.9s
XAN LR LR
comp=Z,350nm,17.3s
HLID Hailey 95.92 41 IAMs_20 IAMs_20 01 10 50.5
comp=Z,1μm,18.0s
PLID Pearl Lake 96.06 39 P **P** **00 29 58.0 +0.5**
PLID IAmb IAmb 00 30 21.7
comp=Z,9.8nm,1.4s
PZH PanZhiHua 96.42 297 P **P** **00 29 59.7 +0.3**
PZH PP **PP** **00 33 53.6 -0.1**
PZH SKS **SKSac** **00 40 35.4 0.0**
PZH S **ScS** **00 41 22.2 +2.6**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,60nm,4.0s
PZH LR LR
comp=Z,360nm,17.8s
PZH LR LR
comp=Z,200nm,19.2s
PZH LR LR
comp=Z,390nm,16.5s
PWL Port Wells 96.73 14 IAMs_20 IAMs_20 01 19 53.0
comp=Z,989nm,18.0s
M20K Styx River 96.78 12 IAMs_20 IAMs_20 01 17 15.1
comp=Z,1μm,19.0s
L19K White Mountain 96.78 11 IAMs_20 IAMs_20 01 17 03.1
comp=Z,943nm,20.0s
SUA Susitna One 96.82 13 IAMs_20 IAMs_20 01 07 22.1
comp=Z,1μm,22.0s
GLI Glacier Island 97.01 15 IAMs_20 IAMs_20 01 07 31.4
comp=Z,1μm,20.0s
FID Port Fidalgo 97.03 15 IAMs_20 IAMs_20 01 06 59.7
comp=Z,1μm,19.0s
SKT Skwentna 97.15 12 IAMs_20 IAMs_20 01 17 24.9
comp=Z,1μm,20.0s
LPAZ La Paz 97.16 115 P Pdif 00 30 04.7 +1.0
comp=Z,0.4nm,0.4s,baz=263,slow=3.6,SNR=3.6
comp=Z,0.4nm,0.4s
M22K Willow 97.20 13 IAMs_20 IAMs_20 01 07 24.3
comp=Z,915nm,20.0s
KNK Knik Glacier 97.21 14 IAMs_20 IAMs_20 01 08 05.7
comp=Z,1μm,18.0s
AHID Auburn Hatcher 97.27 43 IAMs_20 IAMs_20 01 21 10.6
comp=Z,1μm,18.0s
JCT Junction City 97.34 58 IAMs_20 IAMs_20 01 07 26.0
comp=Z,1μm,20.0s
CD2 Chengdu 97.40 302 P Pdif 00 30 05.0 +1.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GHO Glory Hole Cre 97.45 14 IAMs_20 IAMs_20 01 18 24.9
comp=Z,1μm,19.0s
SMCO Snowmass 97.55 48 IAMs_20 IAMs_20 01 07 18.4
comp=Z,935nm,19.0s
NEW Newport 97.61 36 LR LR 01 07 45.2

comp=Z,2µm,19.7s,baz=220,slow=32
SDCO Great Sand Dun 97.63 50 IAMs_20 IAMs_20 01 16 06.7
comp=Z,990nm,18.0s
PETF Flores 97.65 75 P **P 00 30 04.8 -0.1**
CUT Chulitna 97.77 13 IAMs_20 IAMs_20 01 17 35.5
comp=Z,1µm,20.0s
TPAW Teton Pass 97.81 43 IAMs_20 IAMs_20 01 17 47.7
comp=Z,1µm,18.0s
FXWY Fox Creek 97.86 42 IAMs_20 IAMs_20 01 17 40.0
comp=Z,1µm,18.0s
735A Kenedy 97.89 61 Pdif 00 30 06.8 +0.9
IMW Indian Meadow 98.07 42 IAMs_20 IAMs_20 01 12 22.5
comp=Z,889nm,19.0s
DLMT Dillon 98.07 40 IAMs_20 IAMs_20 01 21 18.5
comp=Z,1µm,18.0s
LOHW Long Hollow 98.08 43 IAMs_20 IAMs_20 01 18 04.0
comp=Z,1µm,18.0s
MOOW Moose Ponds 98.08 43 IAMs_20 IAMs_20 01 17 55.1
comp=Z,1µm,18.0s
VRDI Verde Repeater 98.14 16 IAMs_20 IAMs_20 01 11 11.3
comp=Z,1µm,21.0s
PDAR Pinedale Array 98.16 44 LR LR 01 08 43.5
comp=Z,763nm,19.5s,baz=244,slow=32
FLWY Flagg Ranch 98.32 42 IAMs_20 IAMs_20 01 21 20.2
comp=Z,1µm,18.0s
MCARA McCarthy VSAT 98.38 16 IAMs_20 IAMs_20 01 17 13.6
comp=Z,944nm,18.0s
CPUP Villa Florida 98.42 129 LR LR 01 09 18.0
comp=Z,1µm,18.8s,baz=230,slow=32
CTGM Chitina Glacie 98.42 17 IAMs_20 IAMs_20 01 11 06.8
comp=Z,1µm,20.0s
BARN Barnard Glacie 98.42 17 IAMs_20 IAMs_20 01 10 38.8
comp=Z,1µm,21.0s
AMTX Amarillo 98.50 54 IAMs_20 IAMs_20 01 08 20.3
comp=Z,1µm,19.0s
SEY Seymchan 98.56 347 LR LR 01 12 33.0
comp=Z,652nm,19.1s,baz=152,slow=34
KTH Kantishna Hill 98.72 12 IAMs_20 IAMs_20 01 18 46.3
comp=Z,1µm,20.0s
TRF Thorofare Moun 98.73 12 IAMs_20 IAMs_20 01 18 36.7
comp=Z,1µm,20.0s
BOZ Bozeman (W) 98.75 41 IAMs_20 IAMs_20 01 21 58.4
comp=Z,915nm,18.0s
ISCO Idaho Springs 98.76 48 P Pdif 00 30 10.7 +0.9
ISCO IAmb IAmb 00 30 19.4
comp=Z,4.4nm,0.8s
ISCO IAMs_20 IAMs_20 01 07 58.6
comp=Z,1µm,19.0s
ISCO Idaho Springs 98.76 48 P Pdif 00 30 10.7 +0.8
ISCO pmax pmax
comp=Z,4.0nm,0.8s
RWWY Rawlins 98.90 46 IAMs_20 IAMs_20 01 10 28.9
comp=Z,1µm,20.0s
RND Reindeer 98.95 13 IAMs_20 IAMs_20 01 21 09.6
comp=Z,941nm,19.0s
435B Jarrell 99.11 59 IAMs_20 IAMs_20 01 21 41.7
comp=Z,1µm,18.0s
BPAW Bear Paw Mtn. 99.21 12 IAMs_20 IAMs_20 01 18 41.3
comp=Z,1µm,20.0s
M27K Edge Creek, AK 99.49 16 IAMs_20 IAMs_20 01 17 43.2
comp=Z,984nm,19.0s
BWN Browne 99.54 12 IAMs_20 IAMs_20 01 18 52.0
comp=Z,1µm,19.0s
DLBC Dease Lake 99.63 23 LR LR 01 10 19.1
comp=Z,270nm,19.5s,baz=258,slow=32
L26K Log Cabin Wild 99.74 15 IAMs_20 IAMs_20 01 12 07.6
comp=Z,1µm,20.0s
RLMT Red Lodge 99.76 42 IAMs_20 IAMs_20 01 17 34.5
comp=Z,913nm,20.0s
HKT Hockley 99.93 61 *i* P **Pdif 00 30 16.1 +1.3**
BRIGG Briggsdale 100.02 48 IAMs_20 IAMs_20 01 08 19.9
comp=Z,919nm,19.0s
RIDG Independent Ri 100.05 14 IAMs_20 IAMs_20 01 08 59.7
comp=Z,1µm,20.0s
WRH Wood River Hil 100.07 13 IAMs_20 IAMs_20 01 13 13.0
comp=Z,1µm,20.0s
L27K Beaver Creek, 100.11 16 IAMs_20 IAMs_20 01 11 57.6
comp=Z,1µm,19.0s
CCB Clear Creek Bu 100.28 13 IAMs_20 IAMs_20 01 12 59.6
comp=Z,1µm,20.0s
M29M Somme Creek 100.40 18 IAMs_20 IAMs_20 01 11 54.3
comp=Z,1µm,20.0s
I23K Minto, Yukon-K 100.46 12 IAMs_20 IAMs_20 01 19 39.3
comp=Z,1µm,19.0s
COLA College 100.48 13 IAMs_20 IAMs_20 01 13 05.8
comp=Z,1µm,20.0s
MDM Murphy Dome 100.48 12 IAMs_20 IAMs_20 01 19 20.1
comp=Z,950nm,20.0s
J25K Salcha River, 100.72 14 IAMs_20 IAMs_20 01 20 43.3
comp=Z,948nm,19.0s
POKR Poker Plat Res 100.77 13 IAMs_20 IAMs_20 01 13 14.7
comp=Z,1µm,20.0s
K27K Chicken 100.90 15 IAMs_20 IAMs_20 01 13 03.2
comp=Z,975nm,19.0s
H23K Yukon River 101.05 12 IAMs_20 IAMs_20 01 19 38.8
comp=Z,1µm,20.0s
OK038 West end E0370 101.38 54 IAMs_20 IAMs_20 01 08 57.3
comp=Z,1µm,22.0s
OK035 E0210 Rd and N 101.52 54 IAMs_20 IAMs_20 01 09 58.2
comp=Z,1µm,19.0s
NATX Nacogdoches 101.74 60 IAMs_20 IAMs_20 01 12 42.6
comp=Z,824nm,19.0s
K29M Barlow Dome 101.81 17 IAMs_20 IAMs_20 01 12 49.4
comp=Z,1µm,20.0s
OK029 Liberty Lake 101.89 55 IAMs_20 IAMs_20 01 09 59.1
comp=Z,1µm,22.0s
CBKS Cedar Bluff 101.97 51 IAMs_20 IAMs_20 01 22 40.9
comp=Z,986nm,18.0s
OK033 Mehan 102.38 55 IAMs_20 IAMs_20 01 10 28.0
comp=Z,1µm,19.0s
OK031 S. Brethren Rd 102.40 55 IAMs_20 IAMs_20 01 24 25.5
comp=Z,1µm,21.0s
OK052 Battle Ridge R 102.44 55 IAMs_20 IAMs_20 01 10 09.7
comp=Z,942nm,18.0s
I28M Miner Creek 102.59 15 IAMs_20 IAMs_20 01 13 45.0
comp=Z,1µm,20.0s
J30M Hart River 102.71 17 IAMs_20 IAMs_20 01 14 07.2
comp=Z,1µm,20.0s
I30M Mount Dempster 103.23 17 IAMs_20 IAMs_20 01 22 34.0
comp=Z,928nm,20.0s
MIAR Mount Ida 103.96 58 IAMs_20 IAMs_20 01 15 21.0
comp=Z,920nm,18.0s
KSU1 Kansas State U 104.19 53 IAMs_20 IAMs_20 01 23 33.8
comp=Z,989nm,18.0s
H31M Peel River 104.20 17 IAMs_20 IAMs_20 01 14 53.7
comp=Z,941nm,20.0s
F28M Old Crow 104.44 14 IAMs_20 IAMs_20 01 15 16.9
comp=Z,1µm,20.0s
SAML Samuel 105.44 112 IAMs_20 IAMs_20 01 14 25.5
comp=Z,999nm,19.0s
F31M Tsiigehtchic 105.66 16 IAMs_20 IAMs_20 01 15 19.0
comp=Z,843nm,19.0s
OXF Oxford 106.93 60 IAMs_20 IAMs_20 01 18 18.9
comp=Z,738nm,19.0s
CCM Cathedral Cave 107.32 56 IAMs_20 IAMs_20 01 13 41.9
comp=Z,918nm,18.0s
SCIA State Center 107.83 51 IAMs_20 IAMs_20 01 13 23.0
comp=Z,942nm,19.0s
WVT Waverly 108.83 59 IAMs_20 IAMs_20 01 21 40.1
comp=Z,829nm,18.0s
SDV Santo Domingo 109.46 92 IAMs_20 IAMs_20 01 14 57.3
comp=Z,907nm,20.0s
C36M Paulatuk 109.47 18 IAMs_20 IAMs_20 01 21 17.9
comp=Z,903nm,19.0s
JFWS Jewell Farm 110.25 51 IAMs_20 IAMs_20 01 19 44.9
comp=Z,904nm,18.0s
HQIL Hanson Quary C 111.35 53 IAMs_20 IAMs_20 01 27 54.3
comp=Z,854nm,19.0s
EYMN Ely 111.67 46 IAMs_20 IAMs_20 01 18 09.0
comp=Z,999nm,18.0s
COWI Conover 112.34 49 IAMs_20 IAMs_20 01 16 54.1
comp=Z,1µm,20.0s
ABPO Ambohimpanom 112.45 227 IAMs_20 IAMs_20 01 15 31.5
comp=Z,992nm,19.0s
AAM Ann Arbor 114.40 54 IAMs_20 IAMs_20 01 17 35.1
comp=Z,781nm,19.0s
P52A Corning 114.40 57 IAMs_20 IAMs_20 01 17 10.5
comp=Z,970nm,20.0s
BLA Blacksburg 114.67 61 IAMs_20 IAMs_20 01 20 52.8
comp=Z,1µm,19.0s
GLMI Grayling 114.74 51 IAMs_20 IAMs_20 01 20 59.8
comp=Z,743nm,20.0s
WMQ Urumqi 114.77 307 *e*PKP **PKiKP 00 35 11.6 +1.3**
WMQ LR LR
comp=Z,250nm,12.7s
WMQ LR LR
comp=Z,310nm,19.9s
WMQ LR LR
comp=Z,150nm,22.9s
MCWV Mont Chateau 116.04 58 IAMs_20 IAMs_20 01 21 17.9
comp=Z,1µm,20.0s
MSEY Mahe Island 116.89 244 IAMs_20 IAMs_20 01 25 28.6
comp=Z,718nm,19.0s
DGZ Jazzator, Alta 117.08 313 *i* PKIKP **PKPdf 00 35 13.9 -0.8**
SSPA Standing Stone 117.80 58 IAMs_20 IAMs_20 01 18 38.3
comp=Z,1µm,21.0s
SADO Sadowa 118.36 53 PKP **PKPdf 00 35 17.1 +0.1**
comp=Z,0.7nm,0.4s,baz=330,slow=8.1,SNR=3.3
MK31 Makanchi Array 119.38 309 PKPdf **PKPdf 00 35 18.1 -0.9**
MK31 Makanchi Array 119.38 309 PKIKP **PKPdf 00 35 18.1 -0.9**
MKAR Makanchi Array 119.38 309*c i* PKIKP **PKiKP 00 35 19.2 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 119.38 309 PKP **PKPdf 00 35 18.4 -0.6**
comp=Z,3.5nm,1.0s,baz=86,slow=1.9,SNR=12
MAKZ Makanchi 119.59 309 PKPdf **PKiKP 00 35 19.7 +0.2**
MAKZ Makanchi 119.59 309 PKIKP **PKiKP 00 35 19.7 +0.2**
ZALV Zalesovo Beam 119.93 317 PKP **PKPdf 00 35 18.9 -0.9**
comp=Z,1.5nm,0.7s,baz=153,slow=1.7,SNR=6.8
WSPT Westport, CT 121.23 59 IAMs_20 IAMs_20 01 27 00.3
comp=Z,881nm,18.0s
KSH Kashi 121.47 299 PKP **PKiKP 00 35 24.8 +1.3**
YLE Yale 121.55 59 IAMs_20 IAMs_20 01 24 28.2
comp=Z,815nm,19.0s
NRIK Noril'sk 122.02 335 PKPdf **PKiKP 00 35 24.3 +0.8**
NRIK Noril'sk 122.02 335 PKP **PKiKP 00 35 23.8 +0.3**
comp=Z,5.5nm,1.0s,baz=66,slow=5.9,SNR=5.2
NRN Naryn 122.04 301 **PKPdf 00 35 23.6 -1.1**
NRN Naryn 122.04 301 PKIKP **PKPdf 00 35 23.6 -1.1**
VT1 Waterbury 122.57 55 IAMs_20 IAMs_20 01 22 21.4
comp=Z,962nm,20.0s
HNH Hanover 122.72 56 IAMs_20 IAMs_20 01 22 28.4
comp=Z,960nm,20.0s
BRYW Bryant College 122.73 58 IAMs_20 IAMs_20 01 25 32.1
comp=Z,954nm,20.0s
KURK Kurchatov 122.79 313 PKPdf **PKPdf 00 35 25.2 -0.2**
KURK Kurchatov 122.79 313*c i* PKIKP **PKPdf 00 35 25.2 -0.2**
KURK pmax pmax
comp=Z,11nm,1.0s
KURBB Kurchatov Arra 122.82 312 PKP **PKPdf 00 35 25.0 -0.4**
comp=Z,2.5nm,0.5s,baz=84,slow=2.0,SNR=31
AAK Ala-Archa 123.47 302 PKP **PKiKP 00 35 28.1 +0.7**
comp=Z,0.4nm,0.3s,baz=199,slow=5.0,SNR=3.6
PQI Presque Isle 126.37 53 IAMs_20 IAMs_20 01 25 16.6
comp=Z,812nm,20.0s
RCBR Riachuelo 127.27 130 IAMs_20 IAMs_20 01 30 07.0
comp=Z,831nm,19.0s
BVAR Borovoye Array 128.21 314 PKP **PKPdf 00 35 35.0 -0.7**
comp=Z,5.2nm,0.7s,baz=94,slow=2.0,SNR=23
BRVK Borovoye 128.28 314 PKPdf **PKiKP 00 35 36.7 +0.3**
BRVK Borovoye 128.28 314*c i* PKIKP **PKiKP 00 35 36.2 -0.2**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
HRA Herat 130.42 289 PKPdf **PKiKP 00 35 41.6 -0.1**
KIBK Kibwezi 130.91 231 IAMs_20 IAMs_20 01 28 46.5
comp=Z,561nm,18.0s
KMBO Kilima Mbogo 132.34 232 *e*P PKiKP 00 35 56.5 +10
KMBO Kilima Mbogo 132.34 232 *e*P PKiKP 00 35 56.5 +10
baz=93
ABKAR Akbulak array 134.52 309 PKPdf **PKiKP 00 35 48.8 -0.4**
GEYT Alibeck 134.53 293 PKP **PKiKP 00 35 49.1 -0.5**
comp=Z,1.3nm,0.8s,baz=48,slow=54,SNR=2.3
ARU Arti 135.05 319 PKPdf **PKPdf 00 35 48.8 +0.3**
ARU Arti 135.05 319 *i* PKIKP **PKPdf 00 35 49.0 +0.5**
ARU 00 38 20.1
ARU Arti 135.05 319 PKP **PKPdf 00 35 49.1 +0.5**
comp=Z,4.7nm,0.5s,baz=340,slow=1.3,SNR=10
AKTO Aktyubinsk 135.78 310 PKP **PKPdf 00 35 49.9 -0.2**
comp=Z,2.8nm,0.8s,baz=104,slow=1.0,SNR=5.5
ATD Arta Tunnel 136.79 250 IAMs_20 IAMs_20 01 31 33.3
comp=Z,564nm,20.0s
MBAR Mbarara 136.83 225 IAMs_20 IAMs_20 01 30 39.5
comp=Z,771nm,20.0s
LODK Lodwar 136.97 234 *e*P **PKPdf 00 35 50.4 -3.1**
LODK Lodwar 136.97 234 *e*P **PKPdf 00 35 50.4 -3.1**
baz=95
FURI Furi 138.37 243 IAMs_20 IAMs_20 01 33 01.9
comp=Z,558nm,18.0s
FURI Furi 138.37 243 *e*P **PKiKP 00 35 59.1 +0.6**
FURI IAMs_20 IAMs_20 01 51 33.4
comp=Z,484nm,21.3s
FURI Furi 138.37 243 *e*P **PKiKP 00 35 59.1 +0.6**
baz=82
FURI IAMs_20 IAMs_20 01 51 33.4
comp=Z,484nm,21.3s,baz=82
TEND Ethiopian Broa 138.40 249 *e*P PKiKP 00 36 10.3 +12
baz=79
WLRA Wolmera 138.49 243 *e*P **PKiKP 00 36 01.6 +2.8**
baz=82
KIRV Kirov 139.42 324*c i* PKIKP **PKiKP 00 35 57.7 -1.1**
PRGR Permogore 140.07 329 *e*PKIKP **PKiKP 00 35 59.4 -0.6**
PRGR pmax pmax
comp=Z,11nm,0.9s
APA Apatity 140.92 341 ||*i* PKHKP PKPpre 00 35 54.1
APA pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 141.17 347 PKhKP PKPpre 00 35 55.2
comp=Z,3.0nm,1.0s,baz=78,slow=2.0,SNR=9.0
KLMR Klimovskoe 143.04 330 *e*PKPdf PKPab 00 35 57.5 -0.8
KLMR AMP 00 36 13.5
comp=Z,49nm,1.4s
KLMR *e*SKP 00 39 29.9
KLMR Klimovskoe 143.04 330 *e*PKHKP PKPpre 00 35 57.4
KLMR pmax pmax
comp=Z,49nm,1.4s
MAK Makhachkala 143.10 299 *e*P **Pdif 00 33 23.4 -3.1**
MAK *e* 00 36 00.6
MAK *e* 00 39 11.2
MAK *e* 00 43 13.4
MAK *e*SS SS 00 57 46.3 -6.7
MAK *e*SSS SSS 01 03 07.1
MAK pmax pmax
comp=Z,408nm,1.5s
GNI Garni 145.12 294 **PKPbc 00 36 06.8 -0.2**
GNI Garni 145.12 294 PKIKP **PKPbc 00 36 06.8 -0.2**
ZEI Tsey 145.75 299 *e*PKP2 **PKPdf 00 36 07.6 -1.0**
ZEI pmax pmax
comp=Z,22nm,1.5s
VRH Novokhopyorsk 145.86 314 *e*PKP2 **PKPdf 00 36 06.2 -1.9**
VRH pmax pmax
comp=Z,50nm,1.0s
NCK Nalchik 145.94 300 *i* PKIKP **PKPbc 00 36 09.1 -0.2**
AKH Akhalkalaki 146.09 296 PKPdf **PKPbc 00 36 10.3 +0.3**
AKH Akhalkalaki 146.09 296 PKP2 **PKPbc 00 36 10.4 +0.3**
GOF Gofitskoye 146.20 303*ce* PKP2 **PKPbc 00 36 10.3 +0.2**
KARS Kars 146.40 295 **PKPbc 00 36 11.2 +0.2**
KARS Kars 146.40 295 PKP2 **PKPbc 00 36 11.2 +0.2**
KBZ Khabaz 146.43 301*c i* PKP2 **PKPbc 00 36 11.1 +0.4**
KBZ Khabaz 146.43 301 PKPbc **PKPbc 00 36 10.6 -0.1**
comp=Z,13nm,1.0s,baz=143,slow=5.1,SNR=11
MOS Moscow 146.44 323 *i* PKIKP **PKPdf 00 36 08.6 -0.4**
MOS pmax pmax
comp=Z,240nm,1.4s
KIV Kislovodsk 146.56 301 **PKPbc 00 36 11.2 -0.1**
KIV Kislovodsk 146.56 301 *i* PKP2 **PKiKP 00 36 13.8 -0.3**
KIV pmax pmax
comp=Z,16nm,1.0s
SIRT Sirnak 146.76 289 **PKPbc 00 36 11.3 -0.7**
LPSR Galich'ya Gora 147.04 317 *e*PKP2 **PKPdf 00 36 10.9 +0.8**
LPSR pmax pmax
comp=Z,110nm,1.2s
VORR Voronezh 147.21 316 *e*PKIKP **PKPdf 00 36 10.9 +0.5**
VORR pmax pmax
comp=Z,120nm,1.2s
OBN Obninsk 147.26 323 **PKPbc 00 36 13.3 +0.6**
OBN Obninsk 147.26 323 *i* PKP2 **PKPbc 00 36 11.9 -0.8**
OBN pmax pmax
comp=Z,63nm,1.1s
PUL Pulkovo 147.35 333*c i* PKP2 **PKPab 00 36 14.8 +0.1**
PUL pmax pmax
comp=Z,110nm,1.0s
VSR Storozhevoye 147.39 315 *e*PKP2 **PKPbc 00 36 12.2 -1.0**
VSR pmax pmax
comp=Z,60nm,1.2s
VORD Divnogorie 147.39 314 *e*PKIKP **PKPdf 00 36 11.1 +0.4**
VORD pmax pmax
comp=Z,30nm,0.6s
FINES FINESS Array B 147.60 338 PKPdf **PKPdf 00 36 11.7 +0.9**
FINES FINESS Array B 147.60 338 PKPbc **PKPbc 00 36 13.4 0.0**
comp=Z,32nm,0.6s,baz=48,slow=3.6,SNR=172
SOC Sochi 148.74 301 *e*PKHKP PKPpre 00 36 12.1
SOC *i* 00 36 17.6
SOC *e* 00 39 47.1
SOC *e*PPP PPP 00 43 06.8
SOC *e*SS SS 00 58 58.5 +1.4
SOC *e*SSS SSS 01 04 32.8
SOC pmax pmax
comp=Z,22nm,0.9s
SOC pmax pmax
comp=Z,29nm,1.1s
MEF Metsahovi 149.08 338 *e*P **PKiKP 00 36 18.0 -0.6**
RAF Rauma 149.19 341 *e*P **PKPbc 00 36 17.9 +0.3**
VSU Vasula 149.60 334 *e*P **PKiKP 00 36 19.5 -0.3**
AAL Aland 150.38 342 *e*P **PKiKP 00 36 21.2 -0.1**
MTSE Matsula 150.43 337 *e*P **PKiKP 00 36 21.8 +0.4**
UPP Uppsala 151.26 343 *e*P **PKPbc 00 36 22.8 +0.2**
NB2 NORSAR Subarra 151.38 350 PKP **PKiKP 00 36 23.6 +0.2**
comp=Z,2.9nm,0.7s,baz=15,slow=2.6
NOA NORSAR Array B 151.38 350 PKPbc **PKiKP 00 36 23.3 -0.1**
comp=Z,7.0nm,0.9s,baz=13,slow=4.1,SNR=11
GHAJ Ghor Haditha 151.48 276 IAMs_20 IAMs_20 01 47 35.0
comp=Z,516nm,19.0s
MNK Minsk 151.80 327 *i* PKP **PKPdf 00 36 17.3 -0.4**
comp=E,6.0nm,1.3s
MNK *i* PKP **PKPdf 00 36 17.3 -0.4**
comp=N,12nm,1.3s
MNK *i* PKP **PKPdf 00 36 17.3 -0.4**
comp=Z,44nm,1.0s,baz=51
MNK *i* PP **PP 00 40 04.2 -0.3**
MNK *i* SKS **SKSdf 00 43 22.1 -1.8**
MNK *i* PPP PPP 00 43 31.9
MNK *i* SKKS **SKKSdf 00 52 11.7 -0.5**
MNK *i* SS **SS 00 59 31.2 +1.6**
MNK *i* SSS SSS 01 05 14.5
MNK *i* LQ LQ 01 36 43.7
MNK *i* LR LR 01 45 43.1
MNK Minsk 151.80 327 *i* PKIKP **PKPdf 00 36 17.2 -0.4**
MNK *i* 00 40 04.2
MNK *i* 00 43 22.0
MNK *i* PPP PPP 00 43 31.9
MNK *i* SS SS 00 59 31.2 +1.5
MNK *i* SSS SSS 01 05 14.5
MNK pmax pmax
comp=Z,44nm,1.0s
MNK pmax pmax
comp=N,12nm,1.3s
MNK pmax pmax
comp=E,6.0nm,1.3s
HFS Hagfors 151.84 347 PKPbc **PKiKP 00 36 24.4 +0.1**
comp=E,10nm,0.9s,baz=112,slow=1.6,SNR=11
ISAL Salakas 151.87 330 *e*P **PKiKP 00 36 27.1 +2.6**
MMAI Mount Meron Ar 151.94 279 PKPbc **PKiKP 00 36 26.1 +0.5**
comp=E,12nm,0.7s,baz=76,slow=3.5,SNR=22
IIGN Ignalina 151.97 330 *e*P **PKiKP 00 36 26.4 +1.7**
NACGM Naroch 152.03 329 *e*PKiKP **PKiKP 00 36 24.9 0.0**
VSVD Vaisvydziai 152.45 333 *e*P **PKiKP 00 36 27.1 +1.4**
SIM Simferopol' 152.45 305 *i* PKIKP **PKiKP 00 36 26.4 +0.3**
SIM pmax pmax
comp=Z,4.0nm,0.9s
PABE Paberze 152.78 332 **PKiKP 00 36 26.4 0.0**
PABE Paberze 152.78 332 *e*P **PKiKP 00 36 27.4 +1.0**
AKASG Malin Array Be 153.30 319*c i* PKIKP **PKiKP 00 36 28.1 +0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 153.30 319 PKPbc **PKPbc 00 36 27.1 -0.4**
comp=Z,1.1nm,0.4s,baz=59,slow=2.1,SNR=14
AKBB Malin Array Si 153.30 319*c i* PKIKP **PKiKP 00 36 28.1 +0.5**
BR131 Keskin Array S 153.66 294 **PKiKP 00 36 29.1 +0.1**
BR131 PKPab **PKPab 00 36 41.1 -0.5**
BR131 Keskin Array S 153.66 294 PKIKP **PKiKP 00 36 29.1 +0.1**
BR131 00 36 41.1
BRTR Keskin Array B 153.66 294 PKPab **PKPab 00 36 41.7 0.0**
BRTR Keskin Array B 153.66 294*c i* PKIKP **PKPdf 00 36 24.2 +3.1**
BRTR pmax pmax
comp=Z,1.0nm,1.0s
BRTR Keskin Array B 153.66 294 PKPbc **PKiKP 00 36 29.0 0.0**
comp=Z,2.6nm,0.7s,baz=133,slow=2.5,SNR=14
BRTR PKPab **PKPab 00 36 41.4 -0.3**
comp=Z,5.3nm,0.9s,baz=127,slow=3.8,SNR=11
CSS Mathiatis 153.89 283 PKPdf **PKPdf 00 36 21.7 +0.3**
CSS IAMs_20 IAMs_20 01 47 16.5
comp=Z,471nm,20.0s
SUW Suwalki 154.18 330 *e*PKP **PKiKP 00 36 30.3 +1.0**
SUW Suwalki 154.18 330 PKPdf **PKPdf 00 36 21.8 +0.7**
SUW Suwalki 154.18 330 PKIKP **PKPdf 00 36 21.8 +0.7**
SUW Suwalki 154.18 330 *e*P **PKiKP 00 36 30.6 +1.2**
KWP Kalwaria Pacla 157.35 323 PKPdf **PKPdf 00 36 26.9 +1.4**
KWP Kalwaria Pacla 157.35 323 PKIKP **PKPdf 00 36 26.9 +1.4**
OJC Ojcow 158.35 328 *e*PKP PKPdf 00 36 39.6 +13
CRVS Cervenica-Dubn 158.45 323 *e*PKP2 **PKPab 00 37 03.3 +1.6**
KARP Karpathos 158.96 284 IAMs_20 IAMs_20 02 02 16.7
comp=Z,512nm,20.0s
OSTC Ostas 159.59 333 *e*PKP2 **PKPab 00 37 06.4 -0.1**
OSTC Ostas 159.59 333 *e*PKPAB **PKPab 00 37 06.4 -0.1**
MORC Moravsky Berou 159.66 330 *e*PKP **PKPdf 00 36 28.5 +0.1**
UPC Upice 159.70 333 *e*PKP2 **PKPab 00 37 07.6 +0.6**
UPC MLR MLR
comp=Z,500nm,16.5s
UPC Upice 159.70 333 *e*PKPAB **PKPab 00 37 07.6 +0.6**
UPC AMS AMS 01 57 40.0
comp=Z,500nm,16.5s
DPC Dobruska-Polom 159.71 333 *e*PKP2 **PKPab 00 37 07.3 +0.2**
DPC MLR MLR
comp=Z,400nm,17.1s
DPC Dobruska-Polom 159.71 333 *e*PKPAB **PKPab 00 37 07.3 +0.2**
DPC AMS AMS 01 54 40.0
comp=Z,400nm,17.1s
VYHS Vyhne 160.01 325 *e*PKP2 **PKPab 00 37 09.1 +0.6**
CLL Collm 160.04 339 PKPdf **PKPdf 00 36 31.3 +2.7**
CLL Collm 160.04 339 *i* PKP2 **PKPab 00 37 07.9 -0.5**
CLL pmax pmax
comp=Z,38nm,1.3s
CLL MLR MLR
comp=Z,400nm,21.5s
CLL Collm 160.04 339 *i* PKPdf **PKPdf 00 36 29.7 +1.0**
CLL *i* PKPab **PKPab 00 37 07.9 -0.5**
comp=Z,38nm,1.3s
CLL L L 01 48 00.0
comp=Z,400nm,21.5s
BRG Berggiesshubel 160.13 337 P PKPab 00 37 21.4 +13
BRG Amp 00 37 22.7
comp=Z,59nm,1.9s
BRG Berggiesshubel 160.13 337 *i* PKP2 **PKPab 00 37 10.1 +1.3**
BRG pmax pmax
comp=Z,40nm,1.6s
BRG pmax pmax
comp=Z,59nm,1.9s
TORD Torodi Ar. Bea 160.15 180 PKP **PKPdf 00 36 31.9 +2.0**
comp=Z,0.6nm,0.8s,baz=221,slow=0.5,SNR=3.9
TORD PKPab **PKPab 00 37 11.0 +1.2**
comp=Z,5.3nm,1.1s,baz=154,slow=2.8,SNR=7.8
PVCC Panska Ves 160.21 335 *e*PKP2 **PKPab 00 37 09.5 +0.3**
PVCC MLR MLR
comp=Z,400nm,15.8s
PVCC Panska Ves 160.21 335 *e*PKPAB **PKPab 00 37 09.5 +0.3**
PVCC AMS AMS 01 54 40.0
comp=Z,400nm,15.8s
JAVC Velka Javorina 160.29 328 *e*PKP **PKPdf 00 36 30.0 +0.9**
RICC Richard 160.36 336 *e*PKPAB **PKPab 00 37 10.3 +0.5**
VRAC Vranov 160.42 330 *e*PKP **PKPdf 00 36 29.7 +0.5**
HSKC Hora Svate Kat 160.52 337 *e*PKPAB **PKPab 00 37 10.6 0.0**
HSKC AMS AMS 01 55 40.0
comp=Z,500nm,17.2s
PRA Prague 160.64 335 *e*PKP2 **PKPab 00 37 11.7 +0.6**
PRA Prague 160.64 335 *e*PKPAB **PKPab 00 37 11.7 +0.6**
GOPC GO Pecny, Ondr 160.64 334 AMS AMS 02 02 20.0
comp=Z,600nm,18.6s
PRU Pruhonice 160.67 335 *e*PKP2 **PKPab 00 37 11.2 0.0**
PRU MLR MLR
comp=Z,600nm,19.2s
PRU Pruhonice 160.67 335 *e*PKPAB **PKPab 00 37 11.2 0.0**
PRU AMS AMS 02 02 40.0
comp=Z,600nm,19.2s
KRUC Moravsky 160.69 330 *e*PKP **PKPdf 00 36 29.8 +0.3**
MODS Modra-Piesok 160.82 327 *e*PKP2 **PKPab 00 37 13.0 +1.0**
NKC Novy Kostel 161.16 339 *e*PKP2 **PKPab 00 37 13.5 +0.1**
NKC Novy Kostel 161.16 339 *e*PKPAB **PKPab 00 37 13.5 +0.1**
ZVC Zvikov 161.25 334 *e*PKPAB **PKPab 00 37 14.0 +0.2**
ZVC *ex* x 00 47 57.8
CKRC Cesky Krumlov 161.72 333 *e*PKIKP **PKPdf 00 36 30.5 -0.1**
CKRC *e* 00 37 15.6
CKRC Cesky Krumlov 161.72 333 *e*PKPDF **PKPdf 00 36 30.5 -0.1**
CKRC *e*PKPAB **PKPab 00 37 15.6 -0.3**
CKRC *ex* x 00 47 59.1
KHC Kasperske Hory 161.73 335 *e*PKIKP **PKPdf 00 36 31.3 +0.7**
KHC *e* 00 37 16.1
KHC MLR MLR

comp=Z,500nm,16.7s
KHC Kasperske Hory 161.73 335 *e*PKPDF **PKPdf 00 36 31.3 +0.7**
KHC *e*PKPAB **PKPab 00 37 16.1 +0.2**
KHC *ex* x 00 37 27.6
KHC *ex* x 00 47 59.2
KHC AMS AMS 02 03 20.0
comp=Z,500nm,16.7s
RONA Rosalia, Austr 161.76 327 *i* PKP **PKPab 00 37 16.6 +0.5**
comp=Z,9.0nm,0.9s
CONA Conrad Observa 161.79 329 *i* PKP **PKPab 00 37 16.1 -0.2**
comp=Z,10nm,1.1s
GERES GERESS Array B 161.93 334 PKPab **PKPab 00 37 16.9 0.0**
comp=Z,2.4nm,0.9s,baz=31,slow=4.6,SNR=7.3
GRFO Grafenberg 162.01 340 **PKPab 00 37 18.6 +1.5**
GRFO Grafenberg 162.01 340 PKP2 **PKPab 00 37 18.6 +1.5**
ARSA Arzberg 162.45 328 *i* pPKP **pPKPdf 00 36 35.3 -0.5**
comp=Z,3.1nm,0.8s
ARSA *e*PKP **PKPab 00 37 18.2 -0.9**
comp=Z,9.5nm,1.1s
BIOA Bad Ischl, Aus 162.90 332 *i* PKP **PKPab 00 37 21.6 +0.5**
comp=Z,18nm,1.5s
SOKA Soboth 163.10 327 *e*pPKP pPKPdf 00 36 38.0 +1.4
comp=Z,7.8nm,1.3s
LESA Schwarzleotal 163.49 333 *e*PKP **PKPab 00 37 24.1 +0.4**
comp=Z,13nm,1.3s
WATA Walderalm 163.96 335 *i* pPKP **pPKPdf 00 36 39.1 +1.7**
comp=Z,2.0nm,0.5s
WATA *e*PKP **PKPab 00 37 26.2 +0.3**
comp=Z,8.3nm,1.3s
WTTA Wattenberg 164.00 335 *i* pPKP **pPKPdf 00 36 39.1 +1.6**
comp=Z,13nm,1.4s
WTTA *i* PKP **PKPab 00 37 26.7 +0.6**
comp=Z,11nm,1.4s
BFO Black Forest 164.01 344 **PKPab 00 37 26.4 +0.5**
BFO Black Forest 164.01 344 PKP2 **PKPab 00 37 26.4 +0.5**
RETA Reutte 164.11 337 *i* PKP **PKPab 00 37 27.4 +0.9**
comp=Z,17nm,1.3s
ABTA Abfaltersbach 164.11 332 *e*PKP **PKPab 00 37 25.9 -0.6**
comp=Z,10nm,1.3s
MOTA Moosalm 164.12 336 *e*pPKP **pPKPdf 00 36 36.0 -1.5**
comp=Z,9.1nm,1.7s
MOTA *i* PKP **PKPab 00 37 25.8 -0.8**
comp=Z,14nm,1.6s
SQTA Sankt Quirin 164.19 336 *e*pPKP **pPKPdf 00 36 39.0 +1.5**
comp=Z,7.3nm,1.9s
SQTA *i* PKP **PKPab 00 37 27.5 +0.6**
comp=Z,12nm,1.2s
FETA Feichten 164.53 337 *e*pPKP **pPKPdf 00 36 40.0 +2.0**
comp=Z,6.6nm,1.2s
FETA *i* PKP **PKPab 00 37 29.0 +0.6**
comp=Z,12nm,1.3s
DAVA Damuels 164.56 339 *i* pPKP **pPKPdf 00 36 39.7 +1.7**
comp=Z,10nm,1.8s
DAVA *e*PKP **PKPab 00 37 29.5 +0.9**
comp=Z,15nm,1.1s
ESDC Sonseca Array 171.93 34 PKP **PKPdf 00 36 39.7 +1.1**
comp=Z,1.1nm,1.1s,baz=53,slow=0.6,SNR=5.1
ESDC PP **PP 00 41 52.0 0.0**
comp=Z,0.8nm,1.1s,baz=352,slow=7.8,SNR=4.3

ROM 07 00:20:05.7±0.2, 43°.065N±0°.004×13°.052E±0°.006, h7km±1km, ML1.0/2, 2C-1D, Error ellipse: s-maj=0.6km s-min=0.1km az=60.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.04**	**137**	P	Pg	00 20 07.3	+0.1
FDMO				S	Sg	00 20 08.2	0.0
CSP1	**Cessapalombo**	**0.12**	**76**	⇑P	Pg	00 20 08.7	+0.4
CSP1				S	Sg	00 20 10.9	+0.8
CESI	**CESI - Serrava**	**0.12**	**241**	P	Pg	00 20 08.9	+0.6
CESI				S	Sg	00 20 11.4	+1.2
MC2	**Monte Cornacci**	**0.18**	**146**	P	Pg	00 20 09.2	-0.2
MC2				S	Sg	00 20 13.5	+1.5
SNTG	**Esanatoglia**	**0.21**	**337**	P	Pg	00 20 10.4	+0.6
SNTG				S	Sg	00 20 14.1	+1.4
SNTG				AML	AML		
comp=N,69μm,1.6s							
SNTG				AML	AML		
comp=E,65μm,1.5s							
T1221	**Campello sul C**	**0.25**	**216**	⇑P	Pg	00 20 11.4	+0.7
T1221				S	Sb	00 20 15.7	-1.6
MMO1	**Montemonaco**	**0.26**	**129**	P	Pb	00 20 12.0	-0.8
MMO1				S	Sg	00 20 15.6	+1.3
EL6	**Elcito**	**0.27**	**8**	⇓P	Pg	00 20 11.6	+0.6
EL6				S	Sg	00 20 16.1	+1.5
MF5	**Montefalcone A**	**0.31**	**104**	P	Pb	00 20 12.7	-0.9
MF5				S	Sb	00 20 18.4	-0.5

ROM 07 00:20:18.6±0.1, 41°.876N±0°.003×13°.828E±0°.004, h18km, ML2.2/42, 13C-3D, Error ellipse: s-maj=0.4km s-min=0.1km az=56.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTR	**Introdacqua**	**0.15**	**23**	⇓P	Pg	00 20 23.0	+0.1
INTR				S	Sg	00 20 26.1	+0.3
INTR				AML	AML		
comp=E,1μm,0.6s							
INTR				AML	AML		
comp=N,1μm,0.6s							
INTR				AML	AML		
comp=N,2015μm,0.5s							
INTR				AML	AML		
comp=N,1μm,1.4s							
INTR				AML	AML		
comp=N,2015μm,1.5s							
INTR				AML	AML		
comp=E,1250μm,0.6s							
VVLD	**Villa Vallelon**	**0.15**	**268**	⇑P	Pg	00 20 23.2	+0.2
VVLD				S	Sg	00 20 26.3	+0.3
VVLD				AML	AML		
comp=E,1920μm,0.5s							
VVLD				AML	AML		
comp=N,2665μm,0.1s							
POFI	**Posta Fibreno**	**0.18**	**209**	⇑P	Pg	00 20 23.4	+0.1
POFI				S	Sg	00 20 26.9	+0.3
POFI				AML	AML		
comp=E,1011μm,0.5s							
POFI				AML	AML		
comp=N,526μm,0.2s							
POFI				AML	AML		
comp=N,579μm,0.2s							
POFI				AML	AML		
comp=E,1012μm,0.5s							
POFI				AML	AML		
comp=E,1042μm,0.5s							
POFI				AML	AML		
comp=E,1042μm,1.5s							
POFI				AML	AML		
comp=E,1012μm,1.5s							
POFI				AML	AML		
comp=N,526μm,0.2s							
LRP	**Arpino**	**0.29**	**218**	⇑P	Pg	00 20 25.1	+0.1
LRP				S	Sb	00 20 30.1	+0.3
LRP				AML	AML		
comp=E,806μm,1.4s							
LRP				AML	AML		
comp=N,574μm,0.2s							
RNI2	**Rionero Sannit**	**0.30**	**125**	⇑P	Pb	00 20 25.4	0.0
RNI2				S	Sb	00 20 30.4	+0.3
RNI2				AML	AML		
comp=N,996μm,0.2s							
RNI2				AML	AML		
comp=E,1365μm,0.1s							
RNI2				AML	AML		
comp=E,1260μm,0.1s							
RNI2				AML	AML		
comp=N,1028μm,0.2s							
CERA	**Filignano**	**0.31**	**153**	⇑P	Pg	00 20 25.3	-0.1
CERA				S	Sb	00 20 30.4	-0.1
CERA				AML	AML		
comp=E,479μm,0.4s							
CERA				AML	AML		
comp=E,500μm,0.4s							
CERA				AML	AML		
comp=N,704μm,0.2s							
CERA				AML	AML		
comp=E,479μm,1.6s							
CERA				AML	AML		
comp=E,500μm,1.6s							
CERA				AML	AML		
comp=N,666μm,0.2s							
LPEL	**Lama dei Pelig**	**0.32**	**57**	⇑P	Pg	00 20 25.3	-0.1
LPEL				S	Sb	00 20 30.5	-0.1
LPEL				AML	AML		
comp=E,1505μm,0.1s							
LPEL				AML	AML		
comp=N,1080μm,0.2s							
LPEL				AML	AML		
comp=E,1505μm,1.9s							
PTQR	**Pietraquaria**	**0.35**	**295**	⇑P	Pg	00 20 26.2	+0.1
PTQR				S	Sb	00 20 32.1	+0.4
PTQR				AML	AML		
comp=N,204μm,0.6s							
PTQR				AML	AML		
comp=E,294μm,1.2s							
PTQR				AML	AML		
comp=E,294μm,0.8s							
T0110	**Collepietro**	**0.35**	**354**	⇓P	Pb	00 20 26.3	-0.2
T0110				S	Sb	00 20 32.2	+0.5
T0110				AML	AML		
comp=N,1420μm,0.2s							
T0110				AML	AML		
comp=E,1346μm,0.5s							
T0110				AML	AML		
comp=E,1346μm,1.5s							
T0110				AML	AML		
comp=N,1420μm,1.8s							
MCI	**Monte Cassino**	**0.39**	**181**	P	Pb	00 20 26.9	-0.1
MCI				S	Sb	00 20 32.9	+0.1
GUAR	**Guarcino**	**0.39**	**258**	⇑P	Pg	00 20 26.7	-0.1
GUAR				S	Sb	00 20 33.2	+0.3
GUAR				AML	AML		
comp=E,294μm,0.9s							
GUAR				AML	AML		
comp=E,294μm,1.1s							
GUAR				AML	AML		
comp=N,314μm,0.4s							
MIDA	**Miranda**	**0.40**	**126**	⇑P	Pg	00 20 26.5	-0.3
MIDA				S	Sb	00 20 32.8	-0.2
MIDA				AML	AML		
comp=E,579μm,0.1s							
MIDA				AML	AML		
comp=N,484μm,0.9s							
MIDA				AML	AML		
comp=N,326μm,0.2s							
MIDA				AML	AML		
comp=E,502μm,0.1s							
LIK	**San Giovanni I**	**0.42**	**209**	P	Pb	00 20 27.6	0.0
LIK				S	Sb	00 20 34.3	+0.7
LIK				AML	AML		
comp=E,240μm,0.0s							
LIK				AML	AML		
comp=N,286μm,0.4s							
FAGN	**Fagnano**	**0.43**	**335**	P	Pg	00 20 27.4	-0.1
FAGN				S	Sb	00 20 34.5	+0.5
FAGN				AML	AML		
comp=E,582μm,0.5s							
FAGN				AML	AML		
comp=N,706μm,0.3s							
FAGN				AML	AML		
comp=E,582μm,1.5s							
VCEL	**Villa Celiera**	**0.52**	**1**	⇓P	Pg	00 20 29.1	0.0
VCEL				S	Sb	00 20 37.2	+0.7
VCEL				AML	AML		
comp=E,637μm,1.4s							
VCEL				AML	AML		
comp=N,516μm,1.6s							
GIUL	**Giuliano Di Ro**	**0.53**	**234**	⇑P	Pg	00 20 29.0	-0.3
GIUL				S	Sb	00 20 37.5	+0.7
GIUL				AML	AML		
comp=N,91μm,0.2s							
GIUL				AML	AML		
comp=E,84μm,0.0s							
TRIV	**Trivento**	**0.55**	**101**	⇑P	Pg	00 20 29.4	-0.2
VAGA	**Valle Agricola**	**0.55**	**146**	P	Pb	00 20 30.2	+0.4
VAGA				S	Sb	00 20 38.0	+0.7
AQU	**L'Aquila**	**0.57**	**327**	P	Pg	00 20 29.7	-0.4
AQU				S	Sb	00 20 38.5	+0.5
GIGS	**Gran Sasso**	**0.60**	**342**	⇑P	Pg	00 20 30.2	-0.5
GIGS				S	Sb	00 20 39.4	+0.4
GIGS				AML	AML		
comp=E,41μm,0.3s							
GIGS				AML	AML		
comp=N,46μm,0.0s							
CERT	**Cerreto**	**0.64**	**277**	⇑P	Pb	00 20 30.5	-0.7
CERT				AML	AML		
comp=E,175μm,0.6s							
CERT				AML	AML		
comp=N,114μm,0.4s							
CERT				AML	AML		
comp=E,175μm,1.4s							
SGG	**Gregorio Mates**	**0.64**	**140**	P	Pg	00 20 31.5	+0.2
PIGN	**Pignataro Magg**	**0.72**	**159**	P	Pg	00 20 33.0	+0.1
LATB	**Latina**	**0.75**	**240**	P	Pb	00 20 32.2	-1.0
TERO	**Teramo**	**0.76**	**348**	P	Pb	00 20 32.6	-0.8
TERO				S	Sg	00 20 44.0	+0.2
RM33	**Pellescritta (**	**0.78**	**324**	P	Pb	00 20 33.5	-0.2
MCRV	**Calabrutti - M**	**1.49**	**137**	P	Pn	00 20 42.1	-2.5
MCRV				AML	AML		
comp=E,82μm,1.6s							
MCRV				AML	AML		
comp=N,83μm,1.6s							
MCRV				AML	AML		
comp=N,83μm,0.4s							
MCRV				AML	AML		
comp=E,82μm,0.4s							
ATFO	**Monte Foce - G**	**1.75**	**329**	S	Sn	00 21 09.5	-0.7
LTRZ	**Laterza**	**2.59**	**118**	P	Pn	00 21 01.8	+2.2
SEI	**Scarperia**	**2.83**	**321**	P	Pb	00 21 08.8	+0.1
ZCCA	**Zocca**	**3.24**	**321**	P	Pn	00 21 08.6	+0.1

IDC 07 00:26:12.2±2.9, 33°.02S×178°.13W, h0km, mb3.9/3, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=65.5km s-min=44.4km az=127.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.51**	**215**	Pn	Pn	00 27 48.9	-0.3
1.5nm,0.3s,baz=10,slow=3.4,SNR=10							
URZ				Sn	Sn	00 28 59.6	-4.6
4.8nm,0.3s,baz=13,slow=2.3,SNR=11							
4.5nm,0.3s							
CTA	**Charters Tower**	**34.20**	**283**	P	P	00 33 00.9	+1.4
4.0nm,0.9s,baz=98,slow=11,SNR=2.6							
4.0nm,0.9s							
ASAR	**Alice Springs**	**42.92**	**270**	P	P	00 34 12.6	-0.4
0.4nm,0.5s,baz=111,slow=7.7,SNR=10							
0.4nm,0.5s							
WRA	**Warramunga Arr**	**44.15**	**275**	P	P	00 34 22.1	-0.6
0.5nm,0.4s,baz=115,slow=7.8,SNR=13							
0.5nm,0.4s							
FINES	**FINESS Array B**	**147.55**	**338**	PKPbc	PKPbc	00 45 56.8	-0.7
1.3nm,0.6s,baz=52,slow=2.3,SNR=8.2							

*FUNV **07** 00:27:39.1, 9°.23N×70°.19W, h2km, MW3.2*
ISC 07 00:27:38.8±1.2, 9°.21N±0°.03×70°.14W±0°.03, h1km±10km, n22, σ19°60/38, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANV	**Sanarito**	**0.66**	**64**	*e*P	**Pg**	**00 27 52.6**	**+1.1**
SANV				*e*S	**Sg**	**00 28 02.4**	**+2.3**
CURV	**Curarigua**	**0.81**	**13**	*e*P	**Pg**	**00 27 53.9**	**-0.5**
CURV				*e*S	**Sg**	**00 28 06.1**	**+1.1**
SOCV	**Socops**	**1.16**	**217**	*e*P	**Pg**	**00 28 00.5**	**-0.6**
SOCV				*e*S	**Sg**	**00 28 16.2**	**0.0**
TEPV	**Terepaima**	**1.20**	**51**	*e*P	**Pg**	**00 28 02.0**	**+0.2**
TEPV				*e*S	**Sg**	**00 28 18.9**	**+1.6**
SIQV	**Siquisique**	**1.46**	**13**	*e*P	**Pn**	**00 28 06.7**	**+0.3**
SIQV				*e*S	**Sn**	**00 28 26.4**	**+0.1**
BAUV	**El Baul**	**2.09**	**97**	*e*P	**Pn**	**00 28 15.0**	**0.0**
BAUV				*e*S	**Sn**	**00 28 42.2**	**+0.5**
JACV	**Jacura**	**2.27**	**35**	*e*P	**Pn**	**00 28 16.6**	**-0.8**
JACV				*e*S	**Sn**	**00 28 45.0**	**-1.0**
CAPV	**Capacho**	**2.53**	**238**	*e*P	**Pn**	**00 28 20.9**	**-0.4**
CAPV				*e*S	**Sn**	**00 28 50.2**	**-2.7**
TURV	**Turiamo**	**2.58**	**61**	*e*P	**Pn**	**00 28 22.4**	**+0.7**
TURV				*e*S	**Sn**	**00 28 53.3**	**-0.4**
BENV	**Beln**	**2.62**	**73**	*e*P	**Pn**	**00 28 23.2**	**+0.9**
BENV				*e*S	**Sn**	**00 28 54.4**	**-0.3**
URIC	**Uribia, Colomb**	**3.07**	**324**	*e*P	**Pn**	**00 28 27.4**	**-1.0**
URIC				*e*S	**Sb**	**00 29 11.1**	**-1.1**
URIC				*i*		00 29 16.6	
comp=Z,12nm,0.2s							
PAMC	**Pamplona, Colo**	**3.14**	**234**	*e*P	Pn	00 28 24.8	-5.1
TACV	**Tcata**	**3.21**	**73**	*e*P	**Pn**	**00 28 31.1**	**+0.7**
TACV				*e*S	**Sn**	**00 29 07.9**	**-1.3**
TAMC	**Tame, Arauca**	**3.21**	**211**	*e*P	**Pb**	**00 28 37.0**	**+0.4**
TAMC				*e*S	**Sg**	**00 29 19.5**	**-2.4**
TAMC				*i*		00 29 23.1	
comp=Z,19nm,0.4s							
CRJC	**Cerrejon, Guaj**	**3.24**	**304**	*e*P	**Pn**	**00 28 29.3**	**-1.6**
CRJC				*e*S	**Sb**	**00 29 17.3**	**+0.1**
CRJC				*i*		00 29 20.7	
comp=Z,23nm,0.4s							
CACV	**CAICARA DEL OR**	**3.92**	**114**	*e*P	**Pb**	**00 28 46.6**	**-2.1**
CACV				*e*S	**Sb**	**00 29 36.4**	**-0.4**
BARC	**Barichara**	**3.98**	**229**	*e*P	**Pn**	**00 28 44.9**	**+3.7**
BARC				*i*		00 30 01.8	
comp=Z,10nm,0.5s							
RUSC	**La Rusia**	**4.40**	**222**	*e*P	**Pn**	**00 28 48.7**	**+1.4**
ZARC	**Zaragoza, Cauc**	**4.97**	**250**	*e*P	**Pn**	**00 28 56.1**	**+1.5**
ZARC				*e*S	**Sn**	**00 29 57.1**	**+4.3**
ZARC				*i*		00 30 00.6	
comp=Z,3.4nm,0.3s							
SJCC	**San Jacinto, C**	**5.02**	**278**	*e*P	**Pn**	**00 28 56.9**	**+1.6**
SJCC				*e*S	**Sn**	**00 29 55.6**	**+1.6**
SJCC				*i*		00 29 59.1	
comp=Z,2.4nm,0.5s							
PTGC	**Puerto Gaitan,**	**5.36**	**202**	*e*P	**Pg**	**00 29 20.4**	**-1.2**
CHIC	**Chingaza**	**5.78**	**218**	*e*P	**Pn**	**00 29 08.3**	**+2.2**

*IDC **07** 00:28:20.2±0.6, 15°.09S×177°.35W, h0km, mb4.1/11, mbtmp4.1/13, ML5.5/1, MS4.4/10, Error ellipse: s-maj=32.4km s-min=14.8km az=141.0*
*NEIC **07** 00:28:22.1±1.5, 15°.2S±0°.1×177°.26W±0°.09, h10km±1km, mb4.7/104, Error ellipse: s-maj=24.0km s-min=12.6km az=154.0*
*GCMT **07** 00:28:27.1±0.3, 14°.99S±0°.02×177°.20W±0°.01, h23km±1km, MW5.0/102, Moment Tensor Solution. s21,c25; s102,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.43±.20; $M_{\theta\theta}$0.39±.17; $M_{\phi\phi}$0.04±.14; $M_{r\theta}$0.20±.23; $M_{\theta\phi}$4.05±.13; $M_{\phi r}$0.62±.20; Best double couple: M_o4.10200×10^{16} NP1:ϕ_s1.00000°, δ89.00000°, λ171.00000°. NP2:ϕ_s91.00000°, δ81.00000°, λ1.00000°. Principal axes: T 4.3360, Plg7.0000°, Azm316.0000°; N -0.4680, Plg81.0000°, Azm173.0000°; P -3.8680, Plg5.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 00:28:21.7±0.5, 15°.2S±0°.1×177°.31W±0°.08, h10km, n157, σ0°85/145, mb4.7/59, MS4.4/8, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.14**	**239**	Pn	**Pn**	**00 29 39.3**	**+0.5**
MSVF	**Nonsavu**	**5.14**	**239**	Pn	**Pn**	**00 29 39.0**	**+0.2**
5.8nm,0.3s,baz=212,slow=23,SNR=21							
MSVF				Sn	**Sn**	**00 30 37.4**	**-0.9**
1.0nm,0.3s,baz=279,slow=23,SNR=1.4							
MSVF				LR	LR	00 31 03.3	
comp=Z,931nm,19.4s,baz=78,slow=32							
5.9nm,0.3s							
AFI	**Afiamalu**	**5.50**	**78**	Pn	**Pn**	**00 29 41.2**	**-2.5**
AFI	**Afiamalu**	**5.50**	**78**	Pn	**Pn**	**00 29 41.9**	**-1.9**
34nm,0.7s,baz=252,slow=20,SNR=2.7							
LIFNC	**LIFOU**	**15.72**	**247**	Pn	**Pn**	**00 32 03.7**	**+0.3**
PINNC	**Pines Island,**	**16.21**	**240**	Pn	**Pn**	**00 32 09.9**	**+0.2**
PINNC				IAmb	IAmb	00 32 24.4	
comp=Z,184nm,1.5s							
OUENC	**Ouen Island, N**	**16.65**	**242**	Pn	**Pn**	**00 32 14.1**	**-1.2**
OUENC				IAmb	IAmb	00 32 33.9	
comp=Z,49nm,1.3s							
DZM	**Mont Dzumac**	**16.86**	**243**	Pn	**Pn**	**00 32 15.8**	**-2.2**
DZM	**Mont Dzumac**	**16.86**	**243**	LR	LR	00 37 49.1	
comp=Z,1μm,18.6s,baz=70,slow=34							
ONTNC	**Ouen Toro**	**16.93**	**243**	Pn	Pn	00 32 14.0	-4.9
KOUNC	**Koumac, New Ca**	**18.32**	**250**		**P**	**00 32 34.5**	**-1.7**
KOUNC				IAmb	IAmb	00 32 46.5	
comp=Z,48nm,1.4s							
URZ	**Urewera**	**23.54**	**191**	P	**P**	**00 33 34.2**	**+2.1**
comp=Z,9.0nm,0.8s,baz=7.0,slow=5.4,SNR=4.7							
URZ				LR	LR	00 42 30.5	
comp=Z,1μm,18.2s,baz=149,slow=36							
comp=Z,9.0nm,0.8s							
RTZ	**Ruatahuna**	**23.91**	**191**	P	**P**	**00 33 36.8**	**+0.9**
PPT	**Papeete**	**26.71**	**99**	LR	LR	00 41 23.2	
comp=Z,752nm,20.6s,baz=236,slow=29							
KRVT	**Keravat (AS076**	**32.04**	**287**	LR	LR	00 45 59.3	
comp=Z,701nm,19.8s,baz=235,slow=33							
TOO	**Toolangi**	**39.74**	**229**	P	**P**	**00 35 54.0**	**-0.7**
TOO				IAmb	IAmb	00 35 57.0	
comp=Z,17nm,1.1s							
STKA	**Stephens Creek**	**40.92**	**239**	P	**P**	**00 36 04.8**	**+0.3**
STKA	**Stephens Creek**	**40.92**	**239**	P	**P**	**00 36 04.5**	**0.0**
comp=Z,15nm,1.0s,baz=55,slow=6.2,SNR=14							
STKA				LR	LR	00 52 04.6	
comp=Z,632nm,18.3s,baz=67,slow=35							
comp=Z,15nm,1.0s							
BBOO	**Buckleboo**	**45.69**	**239**	P	**P**	**00 36 43.6**	**+0.6**
WR0	**Warramunga Arr**	**46.03**	**257**	P	P	00 36 42.6	-3.3
WR0				IAmb	IAmb	00 36 59.6	
comp=Z,12nm,1.4s							
WB0	**Warramunga Arr**	**46.18**	**257**	P	**P**	**00 36 44.8**	**-2.3**
WRA	**Warramunga Arr**	**46.23**	**257**	P	**P**	**00 36 46.1**	**-1.3**
comp=Z,1.2nm,1.0s,baz=92,slow=7.9,SNR=4.8							
WRA				PcP	**PcP**	**00 38 23.2**	**0.0**
comp=Z,1.0nm,0.9s,baz=89,slow=3.4,SNR=5.2							
comp=Z,1.2nm,1.0s							
ASAR	**Alice Springs**	**46.60**	**252**	P	**P**	**00 36 49.4**	**-1.0**
ASAR	**Alice Springs**	**46.60**	**252**	P	**P**	**00 36 49.5**	**-0.9**
comp=Z,1.6nm,0.7s,baz=85,slow=8.3,SNR=17							
ASAR				PcP	**PcP**	**00 38 24.4**	**0.0**
comp=Z,0.8nm,0.9s,baz=95,slow=3.9,SNR=1.7							
comp=Z,1.6nm,0.7s							
YULB	**Yu-li**	**71.20**	**302**	P	**P**	**00 39 43.3**	**+2.0**
QSPA	**South Pole Qui**	**74.89**	**180**	P	**P**	**00 40 04.8**	**+2.2**
QSPA	**South Pole Qui**	**74.89**	**180**	P	**P**	**00 40 02.3**	**-0.3**
comp=Z,3.6nm,1.0s,baz=70,slow=2.6,SNR=6.4							
comp=Z,3.6nm,1.0s							
YBH	**Yreka Blue Hor**	**75.73**	**39**	P	**P**	**00 40 08.3**	**+0.6**
YBH				IAmb	IAmb	00 40 12.1	
comp=Z,5.7nm,1.1s							
YBH	**Yreka Blue Hor**	**75.73**	**39**	P	**P**	**00 40 08.2**	**+0.4**
comp=Z,3.2nm,0.9s,baz=215,slow=3.7,SNR=7.4							
comp=Z,3.2nm,0.9s							
DSP	**Deep Springs**	**76.39**	**45**	P	**P**	**00 40 11.4**	**0.0**
DSP				IAmb	IAmb	00 40 15.5	
comp=Z,7.6nm,1.5s							
YERR	**Yerington**	**76.39**	**43**	P	**P**	**00 40 11.0**	**-0.7**
YERR				IAmb	IAmb	00 40 15.2	
comp=Z,7.1nm,1.3s							
QSM	**Queen of Sheba**	**76.43**	**47**	P	**P**	**00 40 11.1**	**-0.6**
QSM				IAmb	IAmb	00 40 28.3	
comp=Z,8.0nm,1.4s							
MDJ	**Mudanjiang**	**76.57**	**324**	P	**P**	**00 40 12.9**	**+0.6**
MDJ				IAmb	IAmb	00 40 21.4	
comp=Z,8.5nm,1.1s							
GRAC	**Grapevine Rang**	**76.61**	**45**	P	**P**	**00 40 12.4**	**-0.4**
GWY	**Greenwater Val**	**76.68**	**46**	P	**P**	**00 40 13.0**	**-0.4**
GWY				IAmb	IAmb	00 40 16.8	
comp=Z,7.1nm,1.5s							
NVAR	**Mina Array Bea**	**76.72**	**44**	P	**P**	**00 40 13.6**	**0.0**
NVAR	**Mina Array Bea**	**76.72**	**44**	P	**P**	**00 40 14.0**	**+0.4**
comp=Z,1.8nm,0.9s,baz=230,slow=9.1,SNR=9.0							
comp=Z,1.8nm,0.9s							
HKPS	**Hong Kong Po S**	**76.75**	**298**	P	**P**	**00 40 12.8**	**-1.0**
NV11	**Mina Array Sit**	**76.82**	**44**	P	**P**	**00 40 14.2**	**+0.1**
NV11				IAmb	IAmb	00 40 17.4	
comp=Z,9.2nm,1.5s							
GMN	**Gold Mountain**	**76.84**	**45**	P	**P**	**00 40 14.0**	**-0.3**
I04A	**Tendick Farm,**	**77.12**	**37**	P	**P**	**00 40 15.4**	**-0.1**
113A	**Mohawk Valley,**	**77.14**	**51**	P	**P**	**00 40 15.9**	**+0.1**
KVN	**Kaiserville**	**77.18**	**43**	P	**P**	**00 40 16.7**	**+0.5**
TPH	**Tonopah**	**77.26**	**45**	P	**P**	**00 40 16.7**	**+0.1**
TPNV	**Topopah Spring**	**77.36**	**46**	P	**P**	**00 40 18.1**	**+0.9**
ILSW	**Iliamna Southw**	**77.38**	**12**	P	**P**	**00 40 14.8**	**-1.9**
J05D	**Fort Rock, OR**	**77.52**	**38**	P	**P**	**00 40 18.3**	**+0.4**
H04A	**Detroit Lake**	**77.77**	**37**	P	**P**	**00 40 19.5**	**+0.4**
H04A				IAmb	IAmb	00 40 24.9	
comp=Z,4.2nm,0.9s							
N19K	**Bonanza

R11B	Troy Canyon, C	78.51	45	P	P	00 40 22.8	-0.8	
WVOR	Wild Horse Val	78.64	40	P	P	00 40 23.8	-0.3	
G06A	Carlson Farm,	78.99	37	P	P	00 40 25.8	0.0	
G06A				IAmb	IAmb	00 40 29.1		
comp=Z,6.9nm,1.4s								
I07A	Izee	79.01	38	P	P	00 40 26.6	+0.6	
J08A	Circle Bar Ran	79.23	39	P	P	00 40 27.6	+0.3	
D05A	Enumclaw	79.35	35	P	P	00 40 28.2	+0.5	
BBB	Bella Bella	79.41	28	LR	LR	01 08 24.4		
comp=Z,686nm,19.2s,baz=220,slow=30								
TTA	Tatalina	79.59	10	P	P	00 40 29.1	+0.3	
TTA				IAmb	IAmb	00 40 33.5		
comp=Z,19nm,1.3s								
M22K	Willow	79.62	13	P	P	00 40 28.8	0.0	
PSUT	Pine Spring	79.79	45	P	P	00 40 30.4	-0.2	
SZCU	Shurtz Canyon	79.88	47	P	P	00 40 30.4	-0.7	
ELK	Elko	79.94	43	P	P	00 40 31.0	-0.4	
comp=Z,0.8nm,0.9s,baz=231,slow=11,SNR=2.5								
comp=Z,0.8nm,0.9s								
BERG	Berg Lake	79.99	16	P	P	00 40 32.3	+1.4	
G08A	Pilot Rock	80.00	38	P	P	00 40 32.1	+0.7	
G08A				IAmb	IAmb	00 40 36.7		
comp=Z,11nm,1.4s								
WUAZ	Wupatki	80.16	49	P	P	00 40 32.2	-0.4	
E07A	Sunnyside	80.19	36	P	P	00 40 31.8	-0.6	
E07A				IAmb	IAmb	00 40 36.0		
comp=Z,16nm,1.3s								
HAWA	Hanford	80.28	36	P	P	00 40 32.7	-0.1	
HAWA				IAmb	IAmb	00 40 35.1		
comp=Z,8.0nm,1.1s								
KLU	Klutina	80.35	15	P	P	00 40 32.0	-0.9	
KLU				IAmb	IAmb	00 40 50.6		
comp=Z,12nm,1.3s								
E08A	Dider Farm, El	80.60	37	P	P	00 40 35.0	+0.5	
E08A				IAmb	IAmb	00 40 39.8		
comp=Z,12nm,1.3s								
N25K	Chitina, Valde	80.78	15	P	P	00 40 35.7	+0.5	
D08A	Wollman Farm,	81.00	36	P	P	00 40 37.0	+0.4	
D08A				IAmb	IAmb	00 40 40.3		
comp=Z,10nm,1.3s								
J20K	Nowinta River	81.06	10	P	P	00 40 36.9	+0.3	
J20K				IAmb	IAmb	00 40 40.2		
comp=Z,6.3nm,1.1s								
BARN	Barnard Glacie	81.10	17	P	P	00 40 37.3	+0.2	
DUG	Dugway, Tooele	81.29	44	P	P	00 40 37.9	-0.6	
RND	Reindeer	81.36	13	P	P	00 40 39.0	+0.7	
RND				IAmb	IAmb	00 40 46.9		
comp=Z,9.4nm,1.1s								
O29M	Mount Kennedy	81.38	18	P	P	00 40 38.8	+0.2	
O29M				IAmb	IAmb	00 40 45.6		
comp=Z,16nm,1.2s								
F10A	Beach Ranch, E	81.39	38	P	P	00 40 39.4	+0.5	
F10A				IAmb	IAmb	00 40 49.9		
comp=Z,6.8nm,1.2s								
PLID	Pearl Lake	81.66	39	P	P	00 40 40.3	-0.2	
PLID				IAmb	IAmb	00 40 43.6		
comp=Z,8.1nm,1.4s								
SKAG	Skagway	81.76	20	P	P	00 40 41.6	+1.2	
M26K	Nabesna, AK	81.86	15	P	P	00 40 42.3	+1.4	
HLID	Hailey	81.87	41	P	P	00 40 42.3	+0.7	
HVU	Hansel Valley	82.06	43	P	P	00 40 42.6	0.0	
HVU				IAmb	IAmb	00 40 55.8		
comp=Z,8.5nm,1.4s								
M27K	Edge Creek, AK	82.11	16	P	P	00 40 41.5	-0.9	
M27K				IAmb	IAmb	00 40 44.1		
comp=Z,7.8nm,1.0s								
MENT	Mentasta	82.13	15	P	P	00 40 42.7	+0.4	
MENT				IAmb	IAmb	00 40 46.2		
comp=Z,9.1nm,1.2s								
MLY	Manley	82.45	11	P	P	00 40 43.4	-0.5	
MLY				IAmb	IAmb	00 40 43.9		
comp=Z,4.8nm,1.0s								
WRH	Wood River Hil	82.47	12	P	P	00 40 43.5	-0.5	
O30N	Mendenhall	82.52	19	P	P	00 40 44.6	+0.2	
O30N				IAmb	IAmb	00 40 58.8		
comp=Z,14nm,1.4s								
HDA	Harding Lake	82.65	13	P	P	00 40 45.2	+0.2	
HDA				IAmb	IAmb	00 40 50.6		
comp=Z,5.0nm,0.9s								
TCUT	Toone Canyon	82.66	44	P	P	00 40 45.4	-0.5	
TCUT				IAmb	IAmb	00 40 50.4		
comp=Z,9.9nm,1.2s								
NEW	Newport	82.67	36	P	P	00 40 44.2	-1.3	
NEW				IAmb	IAmb	00 40 47.0		
comp=Z,10nm,1.5s								
CCB	Clear Creek Bu	82.68	12	P	P	00 40 43.6	-1.4	
CCB				IAmb	IAmb	00 40 47.7		
comp=Z,9.7nm,1.1s								
BCAR	Beaver Creek A	82.72	15	P	P	00 40 46.3	+0.9	
IMAR	Indian Mountai	82.80	9	P	P	00 40 45.7	0.0	
I23K	Minto, Yukon-K	82.81	12	P	P	00 40 46.7	+1.0	
I23K				IAmb	IAmb	00 40 49.1		
comp=Z,11nm,1.2s								
MDM	Murphy Dome	82.87	12	P	P	00 40 46.3	+0.2	
COLA	College	82.87	12	P	P	00 40 46.6	+0.6	
ID07	Smith Canyon R	82.87	43	P	P	00 40 46.4	-0.5	
ID07				IAmb	IAmb	00 40 58.0		
comp=Z,4.6nm,1.4s								
DLBC	Dease Lake	82.90	23	P	P	00 40 47.4	+1.0	
DLBC				IAmb	IAmb	00 41 01.5		
comp=Z,7.4nm,1.3s								
MVCO	Mesa Verde	82.98	49	P	P	00 40 45.6	-2.0	
IL31		82.98	13	P	P	00 40 46.4	-0.2	
ILAR	Eielson Array	82.98	13	P	P	00 40 46.5	-0.1	
ILAR	Eielson Array	82.98	13	P	P	00 40 45.6	-1.0	
comp=Z,2.1nm,1.0s,baz=221,slow=7.0,SNR=12								
comp=Z,2.1nm,1.0s								
425A	Indio Mountain	83.11	56	P	P	00 40 47.7	-0.6	
POKR	Poker Plat Res	83.17	12	P	P	00 40 47.3	-0.3	
POKR				IAmb	IAmb	00 40 52.0		
comp=Z,11nm,1.1s								
P33M	Teslin, Yukon	83.17	21	P	P	00 40 48.6	+0.7	
P33M				IAmb	IAmb	00 40 59.0		
comp=Z,8.8nm,1.2s								
J25K	Salcha River,	83.17	13	P	P	00 40 47.9	+0.2	
J25K				IAmb	IAmb	00 40 50.8		
comp=Z,7.0nm,1.1s								
SMAI	San Martin Ant	83.35	159	P	P	00 40 49.6	+1.0	
J26L	Joseph Creek	83.49	14	P	P	00 40 49.9	+0.5	
J26L				IAmb	IAmb	00 40 57.9		
comp=Z,10nm,1.4s								
TXAR	Lajitas Array	83.64	57	P	P	00 40 51.8	+0.8	
comp=Z,1.0nm,1.0s,baz=239,slow=8.1,SNR=5.4								
comp=Z,1.0nm,1.0s								
DLMT	Dillon	83.88	40	P	P	00 40 53.3	+1.4	
DLMT				IAmb	IAmb	00 41 11.9		
comp=Z,14nm,1.4s								
PRP	Porcupine Dome	83.92	13	P	P	00 40 51.8	+0.1	
REDW	Red Top Meadow	84.06	42	P	P	00 40 53.9	+0.9	
FXWY	Fox Creek	84.07	42	P	P	00 40 53.7	+0.6	
FXWY				IAmb	IAmb	00 40 57.8		
comp=Z,6.2nm,1.4s								
M31M	Drury Creek, Y	84.14	19	P	P	00 40 54.8	+2.1	
M31M				IAmb	IAmb	00 41 14.2		
comp=Z,4.9nm,1.2s								
DAWY	Dawson	84.16	16	P	P	00 40 53.0	+0.2	
DAWY				IAmb	IAmb	00 40 56.1		
comp=Z,11nm,1.4s								
CHMT	Chamberlain Mo	84.23	38	P	P	00 40 54.5	+0.7	
IMW	Indian Meadow	84.24	42	P	P	00 40 55.3	+1.3	
IMW				IAmb	IAmb	00 40 59.3		
comp=Z,6.2nm,1.2s								
I26K	Coal Creek Min	84.26	14	P	P	00 40 53.5	+0.3	
K29M	Barlow Dome	84.49	17	P	P	00 40 55.3	+0.7	
K29M				IAmb	IAmb	00 40 58.2		
comp=Z,9.7nm,1.2s								
WTLY	Watson Lake, Y	84.52	22	P	P	00 40 56.0	+1.3	
PDAR	Pinedale Array	84.64	43	P	P	00 40 56.8	+0.8	
PDAR	Pinedale Array	84.64	43	P	P	00 40 55.9	-0.1	
comp=Z,0.4nm,0.6s,baz=183,slow=1.8,SNR=5.0								
comp=Z,0.4nm,0.6s								
RPSI	Rantau Prapat	84.69	274	P	P	00 40 56.2	-0.4	
YHH	Holmes Hill	84.71	41	P	P	00 40 56.5	+0.2	
BELA	Belgrano 2	84.75	173	P	P	00 40 55.4	-0.3	
BELA				IAmb	IAmb	00 40 59.9		
comp=Z,8.8nm,1.2s								
H03S2	Juan Fernandez	88.47	125	T	T	02 19 00.9		
baz=251,slow=75,SNR=7.5								
H03S1	Juan Fernandez	88.48	125	T	T	02 19 01.8		
baz=251,slow=75,SNR=7.9								
H03S3	Juan Fernandez	88.48	125	T	T	02 19 01.5		
baz=251,slow=75,SNR=8.4								
H03N2	Juan Fernandez	88.58	124	T	T	02 19 02.7		
baz=253,slow=74,SNR=5.3								
H03N3	Juan Fernandez	88.58	124	T	T	02 19 07.5		
baz=253								
H03N1	Juan Fernandez	88.59	124	T	T	02 19 03.4		
baz=253,slow=74,SNR=6.6								
YKA	Yellowknife Ar	91.40	24	LR	LR	01 17 08.0		
comp=Z,605nm,18.7s,baz=228,slow=32								
PLCA	Paso Flores	92.45	133	LR	LR	01 15 17.8		
comp=Z,133nm,18.8s,baz=218,slow=30								
TROLL	Troll, Antarti	93.05	180	⇑P	P	00 41 35.1	-0.4	
comp=Z,194nm,1.1s								
SNAA	Sanae	93.31	178	⇑P	P	00 41 36.0	-0.6	
comp=Z,18nm,0.9s								
VNA2	Neumayer--Watz	93.86	177	⇑P	P	00 41 39.0	0.0	
comp=Z,2.1nm,0.8s,baz=190,slow=3.0								
VNA1	Neumayer--Stat	94.08	176	P	P	00 41 40.5	+0.5	
comp=Z,3.6nm,1.0s								
CFA	Coronel Fontan	97.69	126	LR	LR	01 18 22.7		
comp=Z,90nm,18.7s,baz=300,slow=31								
GERES	GERESS Array B	145.20	347	PKPbc	PKPbc	00 47 59.4	+0.1	
comp=Z,1.5nm,0.8s,baz=46,slow=5.6,SNR=6.6								
MMAI	Mount Meron Ar	145.44	307	PKPbc	PKPbc	00 48 01.3	+0.7	
comp=Z,5.4nm,0.9s,baz=93,slow=7.2,SNR=8.8								
CONA	Conrad Observa	145.55	344	*e*PKP	PKPdf	00 48 01.7	+1.3	
comp=Z,25nm,1.6s								
RONA	Rosalia, Austr	145.64	344	*e*PKP	PKPab	00 48 02.0	+1.0	
comp=Z,20nm,1.4s								
MOA	Molln	146.02	346	*e*PKP	PKPab	00 48 02.7	+0.3	
comp=Z,19nm,1.4s								
ARSA	Arzberg	146.26	344	*e*PKP	PKPbc	00 48 03.2	+0.6	
comp=Z,1.4nm,0.6s								
BIOA	Bad Ischl, Aus	146.31	347	*i* PKP	PKPab	00 48 04.3	+0.7	
comp=Z,5.4nm,1.0s								
LESA	Schwarzleotal	146.77	348	*i* PKP	PKPbc	00 48 04.5	+0.3	
comp=Z,5.2nm,1.2s								
SOKA	Soboth	146.92	344	*e*PKP	PKPbc	00 48 04.8	+0.2	
comp=Z,7.7nm,1.6s								
RETA	Reute	147.07	350	*i* PKP	PKPbc	00 48 05.5	+0.5	
comp=Z,9.4nm,1.3s								
WATA	Walderalm	147.07	349	*i* PKP	PKPbc	00 48 05.3	+0.2	
comp=Z,11nm,1.5s								
WTTA	Wattenberg	147.13	349	*i* PKP	PKPbc	00 48 05.9	+0.6	
comp=Z,16nm,1.6s								
MOTA	Moosalm	147.15	349	*e*PKP	PKPbc	00 48 05.8	+0.4	
comp=Z,19nm,1.3s								
SQTA	Sankt Quirin	147.25	349	*i* PKP	PKPbc	00 48 06.1	+0.4	
comp=Z,8.5nm,1.1s								
DAVA	Damuels	147.41	351	*i* PKP	PKPbc	00 48 06.7	+0.6	
comp=Z,23nm,1.5s								
ABTA	Abfaltersbach	147.45	347	*i* PKP	PKPbc	00 48 06.0	-0.1	
comp=Z,6.3nm,1.3s								
FETA	Feichten	147.53	350	*i* PKP	PKPbc	00 48 06.1	-0.3	
comp=Z,4.8nm,1.0s								

*IDC **07** 00:45:27.7±1.4, 15°.20S×177°.35W, h0^{km}, mb3.8/7, mbtmp3.7/8, ML4.9/1, MS4.1/7, Error ellipse: s-maj=95.1km s-min=18.9km az=146.0*

ISC 07 00:45:29.3±1.3, 15°.1S±0°.5×177°.4W±0°.4, h10^{km}, n17, σ0°55/11, mb3.9/7, MS4.2/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.05	239	Pn	Pn	00 46 45.1	-0.2
1.4nm,0.3s,baz=311,slow=23,SNR=6.3							
1.7nm,0.3s							
KRVT	Keravat (AS076	31.92	287	LR	LR	01 03 06.5	
comp=Z,268nm,20.1s,baz=338,slow=33							
STKA	Stephens Creek	40.83	239	P	P	00 53 11.7	+0.3
5.9nm,1.0s,baz=79,slow=5.2,SNR=5.5							
STKA				LR	LR	01 07 36.1	
comp=Z,302nm,21.1s,baz=41,slow=32							
5.9nm,1.0s							
WRA	Warramunga Arr	46.12	257	P	P	00 53 54.2	-0.1
0.7nm,1.0s,baz=91,slow=7.0,SNR=3.9							
WRA				PcP	PcP	00 55 31.6	+1.1
0.5nm,0.9s,baz=95,slow=3.5,SNR=2.5							
0.7nm,1.0s							
ASAR	Alice Springs	46.50	252	P	P	00 53 56.9	-0.3
1.0nm,0.7s,baz=88,slow=8.3,SNR=12							
ASAR				LR	LR	01 11 15.0	
comp=Z,221nm,19.1s,baz=70,slow=33							
1.0nm,0.7s							
JNU	Nakatsue	68.81	315	LR	LR	01 24 00.6	
comp=Z,149nm,18.3s,baz=104,slow=34							
NVAR	Mina Array Bea	76.78	44	P	P	00 57 21.2	-0.3
0.9nm,0.8s,baz=225,slow=8.9,SNR=8.1							
0.9nm,0.8s							
ILAR	Eielson Array	82.98	13	P	P	00 57 54.7	+0.4
0.7nm,0.7s,baz=222,slow=5.7,SNR=9.0							
0.7nm,0.7s							
TXAR	Lajitas Array	83.72	58	P	P	00 57 59.1	+0.1
0.4nm,0.9s,baz=231,slow=5.7,SNR=2.9							
TXAR				LR	LR	01 27 19.9	
comp=Z,146nm,19.8s,baz=243,slow=30							
0.4nm,0.9s							
PDAR	Pinedale Array	84.69	43	P	P	00 58 03.4	-0.5
0.3nm,0.8s,baz=232,slow=4.4,SNR=3.6							
0.3nm,0.8s							
H03S2	Juan Fernandez	88.58	125	T	T	02 36 08.6	
baz=251,slow=75,SNR=6.9							
H03S1	Juan Fernandez	88.59	125	T	T	02 36 09.7	
baz=251,slow=75,SNR=5.7							
H03S3	Juan Fernandez	88.59	125	T	T	02 36 06.5	
baz=251,slow=75,SNR=5.5							
ATAH	Atahualpa	96.81	99	LR	LR	01 32 53.2	
comp=Z,92nm,18.9s,baz=283,slow=29							
CFA	Coronel Fontan	97.80	126	LR	LR	01 33 54.3	
comp=Z,89nm,21.6s,baz=310,slow=30							
GERES	GERESS Array B	145.15	347	PKPbc	PKPdf	01 05 07.2	-0.2
0.9nm,0.6s,baz=64,slow=2.3,SNR=3.7							
MMAI	Mount Meron Ar	145.33	307	PKPbc	PKPbc	01 05 07.4	-0.5
1.9nm,0.7s,baz=44,slow=4.4,SNR=4.1							

ROM 07 00:48:01.5±0.1, 39°.934N±0°.005×16°.38E±0°.01, h20^{km}±1^{km}, ML2.5/34, 8C-9D, Error ellipse: s-maj=0.8km s-min=0.2km az=274.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALB	San Lorenzo Be	0.06	202	P	Pb	00 48 05.3	-0.1
SALB				S	Sb	00 48 08.3	+0.3
SALB				AML	AML		
comp=N,3150μm,1.4s							
SALB				AML	AML		
comp=E,8315μm,0.3s							
SALB				AML	AML		
comp=N,3150μm,0.6s							
SALB				AML	AML		
comp=N,2982μm,0.3s							
SALB				AML	AML		
comp=E,8312μm,0.3s							
SALB	San Lorenzo Be	0.06	202	AML	AML		
comp=E,8315μm,0.3s							
SALB				AML	AML		
comp=E,8315μm,0.3s							
SALB				AML	AML		
comp=N,3150μm,1.4s							
SALB				AML	AML		
comp=N,3150μm,1.4s							
ORI	Oriolo Calabro	0.14	24	⇑P	Pb	00 48 05.8	-1.4
ORI				S	Sb	00 48 09.3	-1.9
ORI				AML	AML		
comp=E,12540μm,0.3s							
ORI				AML	AML		
comp=N,6545μm,0.3s							
ORI				AML	AML		
comp=N,6545μm,0.3s							
ORI				AML	AML		
comp=E,12554μm,0.3s							
ORI	Oriolo Calabro	0.14	24	S	Sb	00 48 05.9	-5.3
ORI				AML	AML		
comp=E,12540μm,0.3s							
ORI				AML	AML		
comp=N,6545μm,0.3s							
ORI				AML	AML		
comp=E,12540μm,0.3s							
ORI				AML	AML		
comp=N,6545μm,0.3s							
TDS	Terranova Siba	0.28	186	⇑P	Pb	00 48 07.8	-0.1
TDS				S	Sb	00 48 12.8	+0.5
TDS				AML	AML		
comp=N,241μm,0.6s							
TDS				AML	AML		
comp=E,202μm,0.4s							
TDS				AML	AML		
comp=E,202μm,1.6s							
TDS				AML	AML		
comp=E,201μm,0.4s							
TDS	Terranova Siba	0.28	186	AML	AML		
comp=N,241μm,0.6s							
TDS				AML	AML		
comp=E,202μm,0.4s							
TDS				AML	AML		
comp=E,202μm,0.4s							
TDS				AML	AML		
comp=E,241μm,0.6s							
MMN	Mormanno	0.30	262	P	Pb	00 48 09.2	+1.0
CRAC	Craco	0.43	6	P	Pb	00 48 10.5	0.0
CRAC				S	Sb	00 48 18.2	+1.7
CRAC				AML	AML		
comp=E,1074μm,0.2s							
CRAC				AML	AML		
comp=N,910μm,0.4s							
CRAC				AML	AML		
comp=E,1073μm,0.2s							
CRAC	Craco	0.43	6	⇓P	Pb	00 48 10.6	+0.1
CRAC				AML	AML		
comp=E,1074μm,0.2s							
CRAC				AML	AML		
comp=N,910μm,0.4s							
CUC	Castrocucco	0.43	278	P	Pb	00 48 11.1	+0.7
CUC				AML	AML		
comp=N,231μm,0.6s							
CUC				AML	AML		
comp=E,226μm,1.6s							
CUC				AML	AML		
comp=E,290μm,1.6s							
CUC				AML	AML		
comp=N,272μm,0.6s							
CUC				AML	AML		
comp=E,226μm,0.4s							
CUC				AML	AML		
comp=E,290μm,0.4s							
CUC				AML	AML		
comp=N,230μm,0.6s							
CUC				AML	AML		
comp=E,250μm,0.4s							
CUC				AML	AML		
comp=E,219μm,0.4s							
CUC				AML	AML		
comp=N,272μm,0.6s							
CUC	Castrocucco	0.43	278	⇓P	Pb	00 48 11.0	+0.5
CUC				AML	AML		
comp=E,226μm,1.6s							
CUC				AML	AML		
comp=N,231μm,0.6s							
CUC				AML	AML		
comp=E,290μm,1.6s							
CUC				AML	AML		
comp=N,272μm,0.6s							
CUC				AML	AML		
comp=E,226μm,1.6s							
CUC				AML	AML		
comp=N,230μm,0.6s							
CUC				AML	AML		
comp=E,290μm,1.6s							
CUC				AML	AML		
comp=N,272μm,0.6s							
SIRI	Monte Sirino -	0.46	303	P	Pb	00 48 10.6	-0.3
SIRI				S	Sb	00 48 18.3	+0.9
SIRI				AML	AML		
comp=E,634μm,1.6s							
SIRI				AML	AML		
comp=E,598μm,1.5s							
SIRI				AML	AML		
comp=N,698μm,0.4s							
SIRI				AML	AML		
comp=N,706μm,0.4s							
SIRI				AML	AML		
comp=E,600μm,0.3s							
SIRI				AML	AML		
comp=N,698μm,0.4s							
SIRI				AML	AML		
comp=E,591μm,0.3s							
SIRI				AML	AML		
comp=N,707μm,0.4s							
SIRI	Monte Sirino -	0.46	303	⇑P	Pb	00 48 10.7	-0.3
SIRI				AML	AML		
comp=E,598μm,1.5s							
SIRI				AML	AML		
comp=N,698μm,0.4s							
SIRI				AML	AML		
comp=E,634μm,1.6s							
SIRI				AML	AML		
comp=N,706μm,0.4s							
CET2	Cetraro	0.52	219	P	Pn	00 48 13.0	-0.8
CET2				AML	AML		
comp=E,963μm,0.5s							
CET2				AML	AML		
comp=N,1525μm,0.7s							
CET2				AML	AML		
comp=E,964μm,0.5s							
CET2				AML	AML		
comp=N,1472μm,0.5s							
CET2	Cetraro	0.52	219	P	Pn	00 48 12.9	-0.9
CET2				AML	AML		
comp=E,963μm,0.5s							
CET2				AML	AML		
comp=N,1525μm,0.7s							
CET2				AML	AML		
comp=E,963μm,0.5s							
CET2				AML	AML		
comp=N,1525μm,0.7s							
CELI	Celico	0.54	169	P	Pb	00 48 12.0	-0.4
CELI				AML	AML		
comp=E,275μm,0.5s							
CELI				AML	AML		
comp=N,286μm,1.0s							
CELI	Celico	0.54	169	⇑P	Pb	00 48 12.1	-0.4
CELI				AML	AML		
comp=E,275μm,0.5s							
CELI				AML	AML		
comp=N,286μm,1.0s							
CELI				AML	AML		
comp=E,275μm,0.5s							
CELI				AML	AML		
comp=N,286μm,1.0s							
PIPA	Pietrapaola	0.56	143	P	Pb	00 48 12.9	+0.2
PIPA				AML	AML		
comp=N,279μm,0.2s							
PIPA				AML	AML		
comp=E,354μm,0.2s							
PIPA				AML	AML		
comp=N,279μm,0.2s							
PIPA				AML	AML		
comp=N,361μm,0.4s							
PIPA	Pietrapaola	0.56	143	⇓P	Pb	00 48 12.7	0.0
PIPA				AML	AML		
comp=E,354μm,0.2s							
PIPA				AML	AML		
comp=N,279μm,0.2s							
MTSN	Montesano sull	0.58	305	P	Pb	00 48 12.7	-0.5
MTSN				AML	AML		
comp=E,322μm,0.4s							
MTSN				AML	AML		
comp=N,304μm,1.3s							
MTSN				AML	AML		
comp=E,322μm,1.6s							
MTSN				AML	AML		
comp=N,291μm,0.4s							
MTSN	Montesano sull	0.58	305	⇓P	Pb	00 48 12.7	-0.5
MTSN				AML	AML		
comp=E,322μm,0.4s							
MTSN				AML	AML		
comp=N,304μm,1.3s							
MTSN				AML	AML		
comp=E,322μm,0.4s							
MTSN				AML	AML		
comp=N,304μm,1.3s							
MCEL	Monticello	0.59	312	P	Pb	00 48 12.6	-0.7
MCEL				S	Sb	00 48 22.1	+0.8
MCEL				AML	AML		
comp=N,606μm,0.3s							
MCEL				AML	AML		
comp=E,354μm,0.3s							
MCEL				AML	AML		
comp=E,336μm,0.2s							
MCEL				AML	AML		
comp=N,607μm,0.3s							
MCEL				AML	AML		
comp=E,355μm,0.3s							
MCEL				AML	AML		
comp=N,590μm,0.3s							
MCEL	Monticello	0.59	312	⇑P	Pb	00 48 12.6	-0.7
MCEL				AML	AML		

comp=E,354μm,0.3s
MCEL AML AML
comp=N,606μm,0.3s
PTRP Pietrapertosa 0.63 338 P Pb 00 48 13.6 -0.5
SPS2 Spezzano della 0.64 183 P Pb 00 48 14.0 -0.1
SPS2 AML AML
comp=E,110μm,0.9s
SPS2 AML AML
comp=E,110μm,1.1s
SPS2 AML AML
comp=N,100μm,0.7s
SPS2 AML AML
comp=E,106μm,0.3s
SPS2 AML AML
comp=N,100μm,0.7s
SPS2 Spezzano della 0.64 183 ⇓P Pb 00 48 14.0 -0.1
SPS2 AML AML
comp=E,110μm,0.9s
SPS2 AML AML
comp=N,100μm,0.7s
MGR Morigerati 0.66 288 P Pb 00 48 14.2 -0.2
MGR AML AML
comp=E,178μm,0.5s
MGR AML AML
comp=N,197μm,1.6s
MGR AML AML
comp=N,197μm,0.4s
MGR AML AML
comp=N,159μm,0.3s
MGR Morigerati 0.66 288 ⇓P Pn 00 48 16.9 +1.2
MGR AML AML
comp=E,178μm,0.5s
MGR AML AML
comp=N,197μm,1.6s
MIGL Miglionico 0.67 4 P Pb 00 48 13.5 -1.1
MIGL AML AML
comp=E,900μm,0.4s
MIGL Miglionico 0.67 4 ⇑P Pb 00 48 13.5 -1.1
CAR1 CAROLEI 0.69 191 P Pb 00 48 15.1 +0.2
CAR1 AML AML
comp=E,356μm,0.4s
CAR1 AML AML
comp=N,246μm,0.9s
CAR1 AML AML
comp=N,331μm,0.3s
CAR1 AML AML
comp=E,356μm,0.4s
CAR1 AML AML
comp=N,238μm,0.6s
CAR1 AML AML
comp=E,336μm,0.4s
CAR1 CAROLEI 0.69 191 ⇓P Pb 00 48 15.2 +0.3
CAR1 AML AML
comp=E,356μm,0.4s
CAR1 AML AML
comp=N,246μm,0.9s
LTRZ Laterza 0.75 27 P Pn 00 48 16.8 -0.1
LTRZ AML AML
comp=N,387μm,0.4s
LTRZ AML AML
comp=E,446μm,0.2s
LTRZ AML AML
comp=E,410μm,0.3s
LTRZ Laterza 0.75 27 ⇑P Pb 00 48 14.3 -1.6
MATE Matera 0.76 19 P Pb 00 48 15.1 -0.9
MATE AML AML
comp=N,380μm,0.4s
MATE AML AML
comp=E,568μm,0.3s
MATE AML AML
comp=E,567μm,0.3s
MATE AML AML
comp=N,380μm,0.4s
MATE Matera 0.76 19 P Pb 00 48 14.4 -1.6
MATE S Sb 00 48 25.1 -0.8
MATE AML AML
comp=E,568μm,0.3s
MATE AML AML
comp=N,380μm,0.4s
BULG Bulgheria - Ca 0.78 281 P Pb 00 48 16.6 +0.2
TIP Timpagrande 0.81 158 P Pb 00 48 16.4 -0.6
TIP AML AML
comp=E,48μm,0.7s
TIP AML AML
comp=N,56μm,1.2s
TIP Timpagrande 0.81 158 ⇓P Pb 00 48 16.4 -0.5
TIP AML AML
comp=E,48μm,0.7s
TIP AML AML
comp=N,56μm,1.2s
CMPR Campora 0.91 295 P Pb 00 48 18.4 -0.1
TAR1 Taranto 0.91 49 P Pn 00 48 19.1 -0.1
TAR1 S Sn 00 48 31.2 -0.5
TAR1 AML AML
comp=E,611μm,1.1s
TAR1 AML AML
comp=N,368μm,0.6s
TAR1 AML AML
comp=E,611μm,0.9s
TAR1 AML AML
comp=N,368μm,1.4s
TAR1 AML AML
comp=E,562μm,0.4s
TAR1 AML AML
comp=N,333μm,0.3s
TAR1 Taranto 0.91 49 ⇓P Pn 00 48 19.1 0.0
TAR1 S Sn 00 48 31.6 -0.2
TAR1 AML AML
comp=E,611μm,1.1s
TAR1 AML AML
comp=N,368μm,0.6s
SERS Sersale 0.93 165 P Pb 00 48 18.8 -0.2
AMUR Altamura 0.99 10 P Pb 00 48 19.6 -0.3
NOCI Noci 1.00 31 P Pb 00 48 20.0 -0.2
NOCI S Sn 00 48 34.6 +0.6
NOCI AML AML
comp=N,540μm,0.5s
NOCI AML AML
comp=E,738μm,0.4s
NOCI AML AML
comp=N,444μm,0.2s
NOCI AML AML
comp=E,738μm,0.4s
NOCI Noci 1.00 31 ⇑P Pb 00 48 19.5 -0.7
NOCI AML AML
comp=E,738μm,0.4s
NOCI AML AML
comp=N,540μm,0.5s
MRVN Minervino Murg 1.13 353 P Pb 00 48 22.5 +0.1
VVLD Villa Vallelon 2.85 314 AML AML
comp=N,248μm,0.2s
VVLD AML AML
comp=E,189μm,0.6s
VVLD AML AML
comp=E,189μm,1.4s

ROM 07 00:49:14.0±0.1, 41°.870N±0°.005×13°.838E±0°.009, h17km±1km, ML1.6/4, Error ellipse: s-maj=0.8km s-min=0.2km az=123.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VVLD	**Villa Vallelon**	**0.16**	**271**	P	Pg	00 49 18.5	+0.1
VVLD				S	Sb	00 49 21.7	0.0
VVLD				AML	AML		
	comp=E,189μm,0.6s						
VVLD				AML	AML		
	comp=N,248μm,0.2s						
VVLD				AML	AML		
	comp=E,208μm,2.1s						
VVLD				AML	AML		
	comp=E,208μm,0.1s						
VVLD				AML	AML		
	comp=N,248μm,0.2s						
LRP	**Arpino**	**0.29**	**220**	P	Pg	00 49 20.4	+0.1
LRP				S	Sb	00 49 25.5	+0.2
CERA	**Filignano**	**0.30**	**154**	P	Pb	00 49 20.8	-0.2
CERA				S	Sb	00 49 25.9	+0.2
LPEL	**Lama dei Pelig**	**0.31**	**55**	P	Pg	00 49 20.7	-0.1
LPEL				S	Sb	00 49 25.9	-0.1
T0110	**Collepietro**	**0.36**	**353**	P	Pg	00 49 21.6	0.0
T0110				S	Sb	00 49 27.9	+0.5
T0110				AML	AML		
	comp=N,146μm,1.5s						
T0110				AML	AML		
	comp=E,171μm,3.9s						
T0110				AML	AML		
	comp=E,171μm,0.1s						

*IDC **07** 00:50:58.1±1.5, 33°.01S×178°.31W, h0km, mb4.2/2, mbtmp4.2/3, ML3.8/1, MS3.6/2, Error ellipse: s-maj=60.4km s-min=33.3km az=147.0*
*NEIC **07** 00:51:00.3±2.1, 33°.16S±0°.09×178°.4W±0°.1, h10km±2km, mb4.5/11, Error ellipse: s-maj=22.2km s-min=4.8km az=130.0*

ISC 07 00:51:02.4±0.9, 33°.11S±0°.09×178°.4W±0°.1, h32km, n28, σ1§06/27, mb4.3/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.21**	**211**	Pn	**Pn**	**00 52 17.5**	**-0.6**
URZ	**Urewera**	**6.32**	**214**	Pn	**Pn**	**00 52 33.2**	**-0.2**
	2.0nm,0.3s,baz=332,slow=3.0,SNR=12						
URZ				Sn	**Sn**	**00 53 45.8**	**+1.3**
	9.5nm,0.3s,baz=266,slow=22,SNR=14						
	8.2nm,0.4s						
RTZ	**Ruatahuna**	**6.67**	**213**		**Pn**	**00 52 37.9**	**-0.3**
BKZ	**Black Stump Fm**	**7.34**	**213**	Pn	**Pn**	**00 52 47.5**	**+0.2**
GVZ	**Greta Valley S**	**11.94**	**212**	Pn	**Pn**	**00 53 48.8**	**-1.7**
PINNC	**Pines Island,**	**16.32**	**306**	Pn	**Pn**	**00 54 48.7**	**-0.5**
PINNC				IAmb	IAmb	00 54 55.3	
	comp=Z,52nm,1.1s						
AFI	**Afiamalu**	**20.03**	**19**	P	**P**	**00 55 32.9**	**0.0**
AFI				IAmb	IAmb	00 55 47.5	
	comp=Z,61nm,1.5s						
AFI	**Afiamalu**	**20.03**	**19**	LR	LR	01 02 17.2	
	comp=Z,96nm,21.8s,baz=191,slow=34						
EIDS	**Eidsvold**	**27.69**	**278**	P	**P**	**00 56 47.5**	**-0.2**
EIDS				IAmb	IAmb	00 56 53.1	
	comp=Z,6.0nm,1.1s						
CTAO	**Charters Tower**	**34.03**	**283**	P	**P**	**00 57 45.0**	**+1.3**
PMG	**Port Moresby**	**39.56**	**299**	P	**P**	**00 58 29.2**	**-1.6**
AS31	**Alice Springs**	**42.73**	**270**	P	**P**	**00 58 57.4**	**+0.6**
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**00 58 55.3**	**-1.5**
ASAR	**Alice Springs**	**42.73**	**270**	P	**P**	**00 58 57.7**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=107,slow=7.8,SNR=37						
	comp=Z,1.6nm,0.5s						
WR0	**Warramunga Arr**	**43.79**	**275**	P	**P**	**00 59 05.5**	**+0.2**
WR0				IAmb	IAmb	00 59 06.3	
	comp=Z,4.5nm,1.1s						
WB2	**Warramunga Arr**	**43.95**	**275**	P	**P**	**00 59 07.6**	**+0.9**
WB2				IAmb	IAmb	00 59 08.6	
	comp=Z,8.5nm,1.3s						
WRA	**Warramunga Arr**	**43.96**	**275**	P	**P**	**00 59 07.5**	**+0.7**
WRA	**Warramunga Arr**	**43.96**	**275**	P	**P**	**00 59 07.2**	**+0.3**
	comp=Z,2.4nm,0.4s,baz=116,slow=7.7,SNR=47						
	comp=Z,2.4nm,0.4s						
WB0	**Warramunga Arr**	**44.00**	**275**	P	**P**	**00 59 08.0**	**+0.9**
WB0				IAmb	IAmb	00 59 08.2	
	comp=Z,4.4nm,0.4s						
VNDA	**Vanda**	**45.38**	**186**	P	**P**	**00 59 14.9**	**-2.4**
QSPA	**South Pole Qui**	**57.01**	**180**	P	**P**	**01 00 46.6**	**+1.8**
QSPA				IAmb	IAmb	01 01 01.0	
	comp=Z,4.8nm,0.9s						
LVC	**Limon Verde**	**92.89**	**119**	LR	LR	01 34 30.1	
	comp=Z,56nm,21.0s,baz=255,slow=28						
KURBB	**Kurchatov Arra**	**122.71**	**312**	PKP	**PKPdf**	**01 09 54.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=130,slow=2.5,SNR=4.3						
FINES	**FINESS Array B**	**147.56**	**338**	PKPbc	**PKPbc**	**01 10 43.0**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=56,slow=3.5,SNR=22						
NOA	**NORSAR Array B**	**151.37**	**350**	PKPbc	**PKPbc**	**01 10 52.7**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=16,slow=4.1,SNR=3.4						
MMAI	**Mount Meron Ar**	**151.77**	**279**	PKPbc	**PKiKP**	**01 10 55.7**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=74,slow=6.2,SNR=2.1						
HFS	**Hagfors**	**151.82**	**347**	PKPbc	**PKPbc**	**01 10 52.8**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=15,slow=6.0,SNR=1.8						
BRTR	**Keskin Array B**	**153.51**	**294**	PKPbc	**PKiKP**	**01 10 58.9**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=130,slow=5.8,SNR=2.2						

*DNK **07** 00:54:33.3±1.5, 51°.45N×15°.79E, h29km±40km, ML2.3*
*IPEC **07** 00:54:34.6±0.2, 51°.64N×16°.07E, h0km, ML2.5/4, Error ellipse: s-maj=2.0km s-min=1.2km az=34.0*
*PRU **07** 00:54:37.7, 51°.52N×15°.96E, h0km*
*VIE **07** 00:54:37.5±0.8, 51°.42N×15°.80E, h0km, mb2.5/3, ml2.8/3, Error ellipse: s-maj=7.9km s-min=4.8km az=51.0 85 km NE of Liberec Suspected Mining induced.*

ISC 07 00:54:33.3±0.8, 51°.70N±0°.03×15°.98E±0°.02, h0km, n41, σ1§23/84, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.88**	**167**	*i* Pg	**Pg**	**00 54 50.4**	**+0.3**
KSP				*i* Sg	**Sg**	**00 55 00.9**	**-0.6**
CHVC	**Chvalec**	**1.11**	**177**	*e*PG	**Pg**	**00 54 54.8**	**+0.2**
CHVC				*e*SG	**Sg**	**00 55 08.3**	**-0.7**
	comp=Z,68nm,0.6s						
OSTC	**Ostas**	**1.15**	**172**	*e*PG	**Pg**	**00 54 55.7**	**+0.3**
OSTC				*e*SG	**Sg**	**00 55 09.8**	**-0.5**
	comp=Z,56nm,0.7s						
UPC	**Upice**	**1.19**	**179**	*e*PG	**Pg**	**00 54 56.3**	**+0.2**
UPC				*e*SG	**Sg**	**00 55 09.3**	**-2.3**
	comp=Z,112nm,0.7s						
DPC	**Dobruska-Polom**	**1.37**	**171**	*e*PG	**Pg**	**00 54 59.1**	**-0.4**
DPC				*e*SG	**Sg**	**00 55 16.3**	**-0.9**
	comp=Z,37nm,0.6s						
PVCC	**Panska Ves**	**1.47**	**218**	*e*PG	**Pb**	**00 55 02.0**	**+0.5**
PVCC				*e*SG	**Sg**	**00 55 20.6**	**+0.1**
BRG	**Berggiesshubel**	**1.52**	**238**	Pg	**Pg**	**00 55 03.9**	**+1.4**
BRG				Sg	**Sn**	**00 55 23.9**	**+1.6**
BRG				Amp		00 55 26.0	
	comp=Z,73nm,0.5s						
RICC	**Richard**	**1.65**	**226**	*e*SG	**Sb**	**00 55 26.1**	**+0.1**
	comp=Z,49nm,0.7s						
CLL	**Collm**	**1.90**	**259**	*i* Pn	**Pn**	**00 55 07.7**	**+0.7**
CLL				*i* Pg	**Pg**	**00 55 10.8**	**+1.1**
CLL				*i* x	x	00 55 14.7	
CLL				*e*Sg	**Sg**	**00 55 36.0**	**+1.7**
	comp=Z,18nm,0.7s						
PRA	**Prague**	**1.90**	**212**	*e*PN	**Pn**	**00 55 07.5**	**+0.5**
PRA				*e*PG	**Pg**	**00 55 09.6**	**-0.1**
PRA				*e*SG	**Sb**	**00 55 33.4**	**+0.3**
PRU	**Pruhonice**	**1.94**	**209**	*e*PG	**Pb**	**00 55 09.6**	**+0.1**
PRU				*e*SG	**Sb**	**00 55 33.8**	**-0.4**
	comp=Z,38nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.94**	**203**	*e*PN	**Pn**	**00 55 07.8**	**+0.3**
GOPC				*e*PG	**Pb**	**00 55 10.0**	**+0.5**
GOPC				*e*SG	**Sb**	**00 55 33.8**	**-0.4**
	comp=Z,27nm,0.7s						
HSKC	**Hora Svate Kat**	**1.94**	**237**	*e*PG	**Pg**	**00 55 10.3**	**-0.2**
HSKC				*e*SG	**Sb**	**00 55 34.5**	**+0.2**
	comp=Z,39nm,0.6s						
MORC	**Moravsky Berou**	**2.16**	**152**	*e*Pn	**Pn**	**00 55 10.6**	**-0.1**
	baz=334						
MORC				*e*Sg	**Sb**	**00 55 39.9**	**-0.8**
	comp=Z,27nm,0.4s,baz=334						
MORC	**Moravsky Berou**	**2.16**	**152**	*e*PN	**Pn**	**00 55 10.7**	**0.0**
MORC				*e*SG	**Sb**	**00 55 40.0**	**-0.8**
OKC	**Ostrava-Krasne**	**2.32**	**143**	*e*PG	**Pb**	**00 55 16.8**	**+0.8**
OKC				*e*SG	**Sb**	**00 55 45.8**	**+0.7**
	comp=Z,36nm,0.7s						
VRAC	**Vranov**	**2.42**	**170**	*e*Pn	**Pn**	**00 55 14.3**	**+0.1**
	baz=352						
VRAC				*e*Sg	**Sb**	**00 55 48.1**	**-0.1**
	comp=Z,23nm,0.6s,baz=352						
TREC	**Trest**	**2.42**	**188**	*e*SG	**Sb**	**00 55 49.4**	**+1.1**
	comp=Z,24nm,0.7s						
ZVC	**Zvikov**	**2.53**	**207**	*e*PN	**Pn**	**00 55 15.5**	**-0.2**
ZVC				*e*SG	**Sb**	**00 55 52.9**	**+1.6**
KRUC	**Moravsky**	**2.65**	**174**	*e*Pn	**Pn**	**00 55 17.7**	**+0.4**
	baz=356						
KRUC				*e*Sg	**Sb**	**00 55 56.0**	**+1.3**
	comp=Z,18nm,0.6s,baz=356						
KRUC	**Moravsky**	**2.65**	**174**	*e*PN	**Pn**	**00 55 17.8**	**+0.4**
KRUC				*e*SG	**Sb**	**00 55 56.1**	**+1.3**
NKC	**Novy Kostel**	**2.67**	**238**	*e*PG	**Pg**	**00 55 24.5**	**0.0**
NKC				*e*SG	**Sg**	**00 55 58.0**	**-1.0**
	comp=Z,57nm,0.5s						
OJC	**Ojcow**	**2.83**	**120**	*e*Pg	**Pg**	**00 55 28.0**	**+0.4**
OJC				*e*SG	**Sg**	**00 56 03.4**	**-0.9**
KHC	**Kasperske Hory**	**2.99**	**212**	*e*PN	**Pn**	**00 55 22.3**	**+0.3**
KHC				*e*PG	**Pb**	**00 55 28.4**	**+0.9**
KHC				*e*SN	**Sn**	**00 55 56.4**	**-2.2**
KHC				*e*SG	**Sb**	**00 56 07.1**	**+2.5**
	comp=Z,10.0nm,0.4s						
JAVC	**Velka Javorina**	**3.04**	**158**	*e*Pn	**Pn**	**00 55 23.0**	**+0.3**
	baz=340						
JAVC	**Velka Javorina**	**3.04**	**158**	*e*PN	**Pn**	**00 55 23.1**	**+0.3**
CKRC	**Cesky Krumlov**	**3.07**	**201**	*e*PN	**Pn**	**00 55 24.2**	**+1.1**
CKRC				*e*PG	**Pb**	**00 55 29.9**	**+1.0**
CKRC				*e*SG	**Sg**	**00 56 10.0**	**-2.0**
	comp=Z,16nm,0.4s						
LANS	**Liptovska Anna**	**3.39**	**137**	*e*PN	**Pn**	**00 55 28.3**	**+0.8**
LANS				*e*PG	**Pg**	**00 55 37.7**	**-0.5**
LANS				*e*SG	**Sg**	**00 56 22.7**	**+0.6**
MODS	**Modra-Piesok**	**3.43**	**165**	*e*SG	**Sg**	**00 56 23.0**	**-0.5**
BSD	**Bornholm Skovb**	**3.48**	**350**	*i* P	**Pn**	**00 55 28.0**	**-0.7**
BSD				*i* S	**Sn**	**00 56 09.8**	**-0.8**
BSD				IAML		00 56 16.5	
	comp=Z,1.3nm,0.2s						
NIE	**Niedzica**	**3.58**	**128**	*e*P	**Pg**	**00 55 42.0**	**+0.1**
NIE				*e*S	**Sg**	**00 56 28.9**	**+0.7**
VYHS	**Vyhne**	**3.70**	**149**	*e*PN	**Pn**	**00 55 32.7**	**+1.0**
VYHS				*e*PG	**Pg**	**00 55 45.4**	**+1.2**
VYHS				*e*SG	**Sg**	**00 56 31.5**	**-0.5**
CONA	**Conrad Observa**	**3.77**	**181**	*i* Pn	**Pn**	**00 55 33.9**	**+1.0**
	comp=Z,0.8nm,0.3s						
CONA				Sg	**Sg**	**00 56 31.3**	**-3.2**
	comp=Z,8.4nm,0.4s						
MOA	**Molln**	**4.01**	**197**	*i* Pn	**Pn**	**00 55 36.6**	**+0.6**
	comp=Z,2.6nm,0.3s						
MOA				Sg	**Sg**	**00 56 40.2**	**-1.8**
	comp=Z,13nm,0.5s						
STHS	**Stebnicka Huta**	**4.06**	**122**	*e*PN	**Pn**	**00 55 37.4**	**+0.7**
STHS				*e*PG	**Pg**	**00 55 52.8**	**+1.7**
STHS				*e*SG	**Sg**	**00 56 43.1**	**-0.6**
LUNU	**Lund**	**4.22**	**340**	*i* P	**Pn**	**00 55 40.0**	**+1.2**
LUNU				*i* S	**Sn**	**00 56 27.6**	**-1.2**
ARSA	**Arzberg**	**4.46**	**184**	*e*Sg	**Sg**	**00 56 55.1**	**-1.4**
	comp=Z,10nm,0.8s						
BLEU	**Blekinge**	**4.62**	**359**	*i* P	**Pn**	**00 55 46.0**	**+1.7**
BLEU				*i* S	**Sn**	**00 56 38.0**	**-0.5**
BJUU	**Bjuv**	**4.72**	**339**	*i* P	**Pn**	**00 55 45.5**	**-0.2**
BJUU				*i* S	**Sn**	**00 56 39.2**	**-1.9**
DEL	**Delary**	**4.94**	**346**	*i* P	**Pn**	**00 55 49.0**	**+0.3**
DEL				*i* S	**Sn**	**00 56 43.9**	**-2.7**
SSRD	**Sdr. Stenderup**	**5.35**	**318**	*i* S	**Sn**	**00 56 51.2**	**-5.5**
SSRD				IAML		00 57 02.3	
	comp=Z,4.8nm,0.3s						

*NEIC **07** 01:30:54.0±0.6, 51°.40N±0°.06×173°.9W±0°.1, h10km±2km, ML2.9(AEIC), Error ellipse: s-maj=13.7km s-min=4.6km az=129.0*
*AEIC **07** 01:30:55.9±2.5, 51°.44N±0°.04×174°.2W±0°.1, h4km±7km, Error ellipse: s-maj=13.1km s-min=5.3km az=79.0*
*IDC **07** 01:31:00.7±2.1, 53°.03N×175°.64W, h0km, mb3.5/5, mbtmp3.5/7, ML3.9/2, MS4.2/2, Error ellipse: s-maj=57.3km s-min=27.0km az=10.0*

ISC 07 01:30:52.9±1.4, 51°.4N±0°.1×173°.90W±0°.07, h10km, n23, σ1§39/21, mb3.5/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.85**	**348**		**Pn**	**01 31 11.3**	**+0.4**
ATKA	**Atka Island**	**0.85**	**348**		**Sn**	**01 31 23.9**	**+0.5**
KOFP	**Korovin Flat P**	**0.91**	**353**		**Pn**	**01 31 12.7**	**+0.9**
KOKL	**Mount Kliuchef**	**0.97**	**349**		**Pn**	**01 31 13.7**	**+1.1**
KOSE	**Korovin Southe**	**0.98**	**355**		**Pn**	**01 31 14.2**	**+1.5**
GSMY	**Great Sitkin M**	**1.50**	**297**		**Pn**	**01 31 20.4**	**+0.6**
GSMY					**Sb**	**01 31 40.5**	**+0.6**
GSTR	**Great Sitkin T**	**1.52**	**299**		**Pn**	**01 31 20.2**	**+0.1**
GSCK	**Great Sitkin C**	**1.54**	**295**		**Pn**	**01 31 21.3**	**+0.9**
ADK	**Adak**	**1.81**	**288**		**Pn**	**01 31 25.0**	**+0.9**
KIWB	**Kanaga Island**	**2.08**	**285**		**Pn**	**01 31 28.9**	**+1.1**
KIWB					**Sn**	**01 31 53.3**	**-0.5**
KIMD	**Kanaga Island**	**2.12**	**282**		**Pn**	**01 31 29.6**	**+1.3**
TAPA	**Tanaga Point A**	**2.48**	**282**		**Pn**	**01 31 34.3**	**+1.0**
TAFP	**Tanaga Falls P**	**2.60**	**283**		**Pn**	**01 31 36.9**	**+2.0**
TAFP					**Sn**	**01 32 07.7**	**+1.2**
AMKA	**Amchitka**	**4.26**	**273**	Pn	**Pn**	**01 31 59.0**	**+1.3**
KDAK	**Kodiak Island**	**13.89**	**54**	Pn	**P**	**01 34 20.1**	**+2.2**
	0.9nm,0.3s,baz=276,slow=10,SNR=6.2						
	13nm,0.9s						
ILAR	**Eielson Array**	**19.39**	**36**	P	**P**	**01 35 18.6**	**+0.1**
	0.2nm,0.3s,baz=248,slow=9.6,SNR=13						
	0.2nm,0.4s						
NVAR	**Mina Array Bea**	**40.50**	**86**	P	P	01 38 48.2	+16
	0.2nm,0.6s,baz=317,slow=7.6,SNR=2.0						
	0.2nm,0.6s						
PDAR	**Pinedale Array**	**43.37**	**75**	P	P	01 39 10.2	+15
	0.5nm,0.6s,baz=328,slow=4.3,SNR=6.0						
	0.5nm,0.6s						
NRIK	**Noril'sk**	**45.94**	**331**	LR	LR	01 59 14.3	
	comp=Z,118nm,18.9s,baz=128,slow=38						
TXAR	**Lajitas Array**	**55.61**	**85**	P	P	01 40 44.7	+16
	0.3nm,0.9s,baz=312,slow=5.8,SNR=3.6						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**62.40**	**311**	P	**P**	**01 41 12.3**	**-3.2**
	0.1nm,0.3s,baz=36,slow=6.9,SNR=2.3						
	0.1nm,0.3s						
HFS	**Hagfors**	**68.68**	**356**	P	**P**	**01 41 54.7**	**-1.2**
	2.0nm,0.9s,baz=347,slow=5.9,SNR=2.0						
	2.0nm,0.9s						
DZM	**Mont Dzumac**	**75.14**	**199**	LR	LR	02 09 31.2	
	comp=Z,296nm,21.4s,baz=283,slow=30						

*WEL **07** 01:39:22.7±1.5, 33°.S±7°×17°.8W±2°.2, h33km, M5.1/17, mB5.1/3, ML4.9/8, MLv5.1/17, Mw(mB)4.4/3, Error ellipse: s-maj=0.0km s-min=0.0km az=104.9, confirmed*
*IDC **07** 01:39:24.2±0.8, 32°.82S×178°.38W, h0km, mb4.2/8, mbtmp4.2/9, ML4.3/1, Error ellipse: s-maj=29.6km s-min=20.4km az=67.0*
*NOU **07** 01:39:25.5, 33°.28S×177°.43W, h163km, mb4.4/6, South of Kermadec Islands*
*NEIC **07** 01:39:29.7±1.4, 33°.19S±0°.08×179°.0W±0°.1, h10km±1km, mb4.6/12, Error ellipse: s-maj=21.2km s-min=12.1km az=286.0*

ISC 07 01:39:25.1±0.5, 32°.96S±0°.05×178°.12W±0°.09, h10km, n84, σ2§22/89, mb4.4/14, 5C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.69**	**3**	P	**Pn**	**01 40 19.1**	**-3.2**
GLKZ				S	**Sn**	**01 41 01.4**	**-4.5**
RAO	**Raoul Island**	**3.71**	**3**	Pn	**Pb**	**01 40 31.1**	**+0.4**
RAO	**Raoul Island**	**3.71**	**3**	Pn	Pn	01 40 17.4	-5.1
	45nm,0.3s,baz=105,slow=20,SNR=1.8						
RAO				Sn	**Sn**	**01 41 01.9**	**-4.2**
	95nm,0.3s,baz=10.0,slow=22,SNR=2.4						
MXZ	**Matakaoa Point**	**5.44**	**212**	Pn	**Pn**	**01 40 42.5**	**-3.8**
MXZ	**Matakaoa Point**	**5.44**	**212**	P	**Pn**	**01 40 46.0**	**-0.3**
MXZ	**Matakaoa Point**	**5.44**	**212**	P	**Pn**	**01 40 44.4**	**-1.9**
MXZ				S	**Sn**	**01 41 45.9**	**-3.0**
WMGZ	**Waiomatatini S**	**5.61**	**209**	P	**Pn**	**01 40 47.5**	**-1.1**
WMGZ				S	**Sn**	**01 41 51.4**	**-1.7**
HAZ	**Te Kaha**	**5.84**	**214**	P	**Pn**	**01 40 50.5**	**-1.2**
HAZ				S	**Sn**	**01 41 57.8**	**-0.9**
PUZ	**Puketiti**	**5.89**	**209**	P	**Pn**	**01 40 49.9**	**-2.6**
PUZ				S	**Sn**	**01 41 57.4**	**-2.6**
RUGZ	**Raukumara Rang**	**6.05**	**213**	P	**Pn**	**01 40 52.9**	**-1.9**
CNGZ	**Carnagh Statio**	**6.27**	**207**	P	**Pn**	**01 40 56.0**	**-1.7**
KUZ	**Kuaotunu**	**6.31**	**232**	P	**Pn**	**01 41 00.4**	**+2.1**
KUZ	**Kuaotunu**	**6.31**	**232**	P	**Pn**	**01 40 58.9**	**+0.6**
MWZ	**Matawai**	**6.42**	**212**	P	**Pn**	**01 40 57.5**	**-2.3**
URZ	**Urewera**	**6.56**	**215**	P	**Pn**	**01 41 00.8**	**-0.8**
URZ	**Urewera**	**6.56**	**215**	P	**Pn**	**01 40 59.9**	**-1.7**
URZ				S	**Sn**	**01 42 12.3**	**-4.1**
URZ	**Urewera**	**6.56**	**215**	Pn	**Pn**	**01 40 59.9**	**-1.7**
	5.7nm,0.3s,baz=337,slow=5.0,SNR=37						
URZ				Sn	**Sn**	**01 42 11.0**	**-5.5**
	22nm,0.3s,baz=244,slow=20,SNR=14						
	16nm,0.3s						
RAGZ	**Rawiri**	**6.61**	**212**	P	**Pn**	**01 41 02.2**	**-0.2**
RIGZ	**Rimuhau**	**6.63**	**209**	P	**Pn**	**01 41 01.8**	**-0.9**
PRGZ	**Paritu Road**	**6.77**	**207**	P	**Pn**	**01 41 01.8**	**-2.8**
OMRZ	**Omania**	**6.82**	**220**	P	**Pn**	**01 41 07.8**	**+2.6**
SNGZ	**Shannon Statio**	**6.88**	**211**	P	**Pn**	**01 41 05.9**	**-0.1**
MKAZ	**Moumakai**	**6.89**	**231**	P	**Pn**	**01 41 08.2**	**+2.1**
RTZ	**Ruatahuna**	**6.90**	**214**	Pn	**Pn**	**01 41 02.6**	**-3.8**
TOZ	**Tahuroa Road**	**7.05**	**226**	Pn	**Pn**	**01 41 03.8**	**-4.7**
MTHZ	**Maungataniwha**	**7.16**	**213**	P	**Pn**	**01 41 08.9**	**-1.0**
OUZ	**Omahuta**	**7.23**	**250**	P	**Pn**	**01 41 14.6**	**+3.7**
OUZ	**Omahuta**	**7.23**	**250**	P	**Pn**	**01 41 13.5**	**+2.6**
NMHZ	**Naumai**	**7.37**	**212**	P	**Pn**	**01 41 12.4**	**-0.4**
ARHZ	**Aropaoanui**	**7.42**	**211**	P	**Pn**	**01 41 12.3**	**-1.2**
BKZ	**Black Stump Fm**	**7.57**	**214**	Pn	**Pn**	**01 41 12.1**	**-3.5**
BKZ	**Black Stump Fm**	**7.57

BKZ	Black Stump Fm	7.57 214	P	Pn	01 41 15.0	-0.6
MCHZ	McNeill Hill	7.70 211	P	Pn	01 41 15.0	-2.3
KWHZ	Kaweka Forest	7.81 213	P	Pn	01 41 16.9	-2.0
TMVZ	Te Maari	7.92 217	P	Pn	01 41 19.7	-0.8
KAHZ	Kahuranaki	7.92 209	P	Pn	01 41 16.5	-3.9
HIZ	Hauiti	7.95 224	Pn	Pn	01 41 17.6	-3.1
OTVZ	Oturere	7.97 217	P	Pn	01 41 20.4	-0.9
BHHZ	Black Hill Sta	8.03 214	P	Pn	01 41 21.1	-0.8
BFZ	Birch Farm	8.93 209	P	Pn	01 41 31.5	-2.6
MRZ	Mangatainoka R	9.19 212	Pn	Pn	01 41 33.4	-4.3
MRZ	Mangatainoka R	9.19 212	P	Pn	01 41 35.1	-2.6
PLWZ	Palliser	10.08 210	Pn	Pn	01 41 47.3	-2.6
TUWZ	Tuamarina	10.55 215	Pn	Pn	01 41 52.1	-4.3
RPZ	Rata Peaks	13.68 215	Pn	Pn	01 42 34.0	-5.1
	0.8nm,0.3s,baz=7.1,slow=11,SNR=1.9					
RPZ			Sn	Sn	01 44 54.6	-16
	0.9nm,0.3s,baz=113,slow=23,SNR=11					
OUENC	Ouen Island, N	16.94 305	Pn	Pn	01 43 20.2	-2.2
OUENC			IAmb	IAmb	01 43 32.8	
	comp=Z,38nm,1.0s					
DZM	Mont Dzumac	17.45 305	*e*Pn	P	01 43 31.8	+1.8
	comp=Z,78nm,1.1s					
DZM	Mont Dzumac	17.45 305		Pn	01 43 28.9	+0.1
KOUNC	Koumac, New Ca	19.96 304	P	P	01 43 59.0	+1.6
KOUNC			IAmb	IAmb	01 44 01.5	
	comp=Z,55nm,1.3s					
TBI	Tubuai	26.95 77	*e*LR	LR	01 51 35.0	
	comp=Z,3μm,21.2s					
TBI			*e*LR	LR	01 51 43.6	
	comp=Z,592nm,23.0s					
PPT2	Papeete2	29.88 66	*e*LR	LR	01 53 09.9	
	comp=Z,154nm,22.2s					
PPT2			*e*LR	LR	01 53 29.6	
	comp=Z,137nm,20.0s					
AS31	Alice Springs	42.93 270	P	P	01 47 22.7	-1.7
ASAR	Alice Springs	42.93 270	P	P	01 47 22.5	-1.9
ASAR	Alice Springs	42.93 270	P	P	01 47 23.3	-1.1
	comp=Z,5.9nm,0.8s,baz=110,slow=7.6,SNR=35					
ASAR			PcP	PcP	01 49 13.9	-1.1
	comp=Z,0.9nm,0.9s,baz=118,slow=4.1,SNR=1.3					
	comp=Z,5.9nm,0.8s					
WB2	Warramunga Arr	44.14 275	P	P	01 47 33.3	-0.8
WB2			IAmb	IAmb	01 47 35.1	
	comp=Z,6.1nm,0.6s					
WRA	Warramunga Arr	44.15 275	P	P	01 47 32.1	-2.1
WRA	Warramunga Arr	44.15 275	P	P	01 47 32.9	-1.4
	comp=Z,3.4nm,0.4s,baz=114,slow=7.9,SNR=54					
	comp=Z,3.4nm,0.4s					
WB0	Warramunga Arr	44.19 275	P	P	01 47 33.6	-0.9
WB0			IAmb	IAmb	01 47 35.4	
	comp=Z,14nm,1.1s					
FORT	Forrest	45.34 258	P	P	01 47 42.4	-1.2
VNDA	Vanda	45.54 186	P	P	01 47 47.3	+2.8
	comp=Z,1.0nm,0.8s,baz=20,slow=6.0					
	comp=Z,1.0nm,0.8s					
KNRA	Kununurra	50.84 276	P	P	01 48 25.3	-1.0
CASY	Casey	52.84 209	P	P	01 48 40.7	+0.2
CASY			IAmb	IAmb	01 48 59.3	
	comp=Z,6.4nm,0.8s					
QSPA	South Pole Qui	57.15 180	P	P	01 49 14.6	+2.7
QSPA	South Pole Qui	57.15 180	P	P	01 49 14.4	+2.5
	comp=Z,2.5nm,0.8s,baz=45,slow=6.2,SNR=7.6					
	comp=Z,2.5nm,0.8s					
PLAI	Plampang	63.55 277	P	P	01 49 56.9	+0.7
MAW	Mawson	69.88 201	P	P	01 50 37.0	+1.2
	comp=Z,2.1nm,0.7s,baz=174,slow=9.2,SNR=2.3					
	comp=Z,2.1nm,0.7s					
TROLL	Troll, Antarti	75.32 180	⇑P	P	01 51 09.9	+1.6
	comp=Z,29nm,0.5s					
SNAA	Sanae	75.60 178	P	P	01 51 14.0	+4.2
SNAA			IAmb	IAmb	01 51 21.8	
	comp=Z,7.8nm,1.1s					
SNAA	Sanae	75.60 178	⇑P	P	01 51 11.1	+1.3
	comp=Z,22nm,1.0s					
SNAA	Sanae	75.60 178	P	P	01 51 09.6	-0.2
	comp=Z,1.0nm,0.8s,baz=175,slow=8.3,SNR=6.5					
	comp=Z,1.0nm,0.8s					
VNA3	Neumayer Olymp	75.76 176	⇑P	P	01 51 11.8	+1.1
	comp=Z,4.2nm,0.7s					
VNA2	Neumayer--Watz	76.19 177	⇑P	P	01 51 14.4	+1.3
	comp=Z,2.5nm,0.7s,baz=183,slow=5.0					
VNA1	Neumayer--Stat	76.42 177	⇑P	P	01 51 15.9	+1.5
	comp=Z,3.0nm,0.8s					
PLCA	Paso Flores	80.84 133	P	P	01 51 41.6	+2.2
	comp=Z,2.9nm,0.9s,baz=198,slow=5.0,SNR=4.4					
	comp=Z,2.9nm,0.9s					
KSRS	Korea Array	86.23 320	P	P	01 52 07.3	+0.6
	comp=Z,1.0nm,0.7s,baz=139,slow=5.8,SNR=3.0					
	comp=Z,1.0nm,0.7s					
FINES	FINESS Array B	147.50 338	PKPbc	PKPbc	01 59 08.5	-0.2
	comp=Z,5.5nm,0.7s,baz=42,slow=4.3,SNR=20					
NB2	NORSAR Subarra	151.26 351	PKP	PKiKP	01 59 18.5	-0.2
	comp=Z,0.6nm,0.7s,baz=18,slow=2.6					
NOA	NORSAR Array B	151.26 351	PKPbc	PKiKP	01 59 17.7	-0.9
	comp=Z,1.8nm,0.9s,baz=14,slow=4.1,SNR=4.1					
HFS	Hagfors	151.72 348	PKPbc	PKiKP	01 59 19.1	-0.5
	comp=Z,3.9nm,0.8s,baz=60,slow=3.5,SNR=3.1					
MMAI	Mount Meron Ar	151.95 279	PKPbc	PKiKP	01 59 21.2	+0.2
	comp=Z,2.3nm,0.7s,baz=104,slow=6.1,SNR=6.2					
AKASG	Malin Array Be	153.23 320	PKPbc	PKiKP	01 59 22.3	-0.7
	comp=Z,0.2nm,0.2s,baz=60,slow=2.5,SNR=4.4					
BRTR	Keskin Array B	153.64 294	PKPbc	PKiKP	01 59 24.2	-0.2
	comp=Z,0.6nm,0.6s,baz=143,slow=2.3,SNR=5.3					
BRTR			PKPab	PKPab	01 59 36.4	-0.6
	comp=Z,1.2nm,0.9s,baz=119,slow=5.0,SNR=4.8					
TORD	Torodi Ar. Bea	160.27 179	PKPab	PKPab	02 00 07.4	+1.7
	comp=Z,1.4nm,1.1s,baz=186,slow=3.1,SNR=2.3					

IDC 07 01:43:48.0±27.0, 19°.98N×145°.48E, h477km±266km, mb2.9/4, mbtmp3.7/4, Error ellipse: s-maj=184.9km s-min=39.5km az=178.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	57.44	313	P	P	01 52 50.3	-0.1
	0.2nm,0.5s,baz=94,slow=8.7,SNR=1.6						
	0.2nm,0.5s						
ILAR	Eielson Array	62.60	27	P	P	01 53 24.4	0.0
	0.2nm,0.5s,baz=242,slow=6.4,SNR=5.5						
	0.2nm,0.5s						
NVAR	Mina Array Bea	82.52	52	P	P	01 55 20.5	0.0
	0.5nm,0.6s,baz=260,slow=4.1,SNR=5.3						
	0.5nm,0.6s						
FINES	FINESS Array B	85.64	335	P	P	01 55 35.1	0.0
	1.4nm,0.9s,baz=67,slow=4.7,SNR=6.5						
	1.4nm,0.9s						

*IDC **07** 01:45:42.9±0.5, 1°.25N×132°.77E, h0km, mb4.4/15, mbtmp4.6/20, ML3.9/3, MS4.4/54, Error ellipse: s-maj=21.1km s-min=9.9km az=71.0*

*MOS **07** 01:45:43.6±1.0, 1°.13N×132°.66E, h13km, mb4.9/26, Error ellipse: s-maj=12.6km s-min=6.8km az=116.9*

*BJI **07** 01:45:44.3±0.0, 1°.12N×132°.87E, h17km, mb4.6/41, mB5.0/25, Ms4.7/41, Ms7.4.5/40*

*DJA **07** 01:45:45.1±0.3, 1°N±3°×13°3E±°, h10km, M5.1/46, mb5.0/46, mB5.6/35, MLv5.2/16, Mw5.4/39, Mw(mB)5.1/35, MwMwp5.1/12, Mwp5.3/12*

*NEIC **07** 01:45:45.4±1.5, 1°.12N±0°.06×132°.69E±0°.08, h10km±1km, mb5.0/81, Error ellipse: s-maj=14.5km s-min=9.8km az=76.0*

*GCMT **07** 01:45:46.4±0.1, 1°.33N±0°.01×132°.75E±0°.01, h17km, MW5.3/138, Moment Tensor Solution. s102,c149; s138,c240; Duration: 1s1 Moment tensor: Scale 10^17 Nm; M_{rr}-0.17±.02; $M_{\theta\theta}$-1.01±.02; $M_{\phi\phi}$1.18±.02; $M_{r\theta}$-0.02±.04; $M_{\theta\phi}$-0.17±.01; $M_{\phi r}$0.19±.04; Best double couple: $M_0$1.12100×10^17 NP1:ϕ_s310.00000°, δ85.00000°, λ174.00000°. NP2:ϕ_s41.00000°, δ84.00000°, λ5.00000°. Principal axes: T 1.2180, Plg8.0000°, Azm266.0000°; N -0.1970, Plg82.0000°, Azm88.0000°; P -1.0230, Plg0.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 01:45:48.8±0.3, 1°.09N±0°.04×132°.66E±0°.04, h35km, n379, σ1°72/345, mb4.9/92, MS4.5/69, 7C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	2.39	216	P	Pn	01 46 25.0	-0.4
SIJI	Sorong	2.39	216	Pn	Pn	01 46 24.8	-0.7
	61nm,0.3s,baz=192,slow=12,SNR=90						
SIJI				Sn	Sn	01 46 49.8	-3.8
	50nm,0.3s,baz=1.0,slow=17,SNR=10.0						
	174nm,0.3s						
RKPI	Ransiki, Papua	3.00	149	P	Pn	01 46 32.0	-1.8
FAKI	Fak Fak	4.00	186	Pn	Pn	01 46 48.0	+0.4
FAKI	Fak Fak	4.00	186	P	Pn	01 46 49.3	+1.6
FAKI	Fak Fak	4.00	186	P	Pn	01 46 48.2	+0.5
SRPI	Serui, Papua	4.63	129	P	Pn	01 46 55.7	-0.6
KMPI	Kaimana, Papua	4.83	167	P	Pn	01 46 59.5	+0.4
TNTI	Ternate	5.30	267	Pn	Pn	01 47 04.6	-0.9
TNTI	Ternate	5.30	267	P	Pn	01 47 06.4	+0.9
TNTI	Ternate	5.30	267	P	Pn	01 47 05.5	0.0
	394nm,1.4s,6μm14μm1.5nm						
LBMI	Labuha	5.43	252	P	Pn	01 47 07.6	+0.3
	341nm,1.0s,8μm2.0nm						
BNDI	Bandanaira	6.21	206	P	Pn	01 47 20.3	+2.2
BNDI	Bandanaira	6.21	206	P	Pn	01 47 19.7	+1.6
	2μm,0.9s,24μm6μm9.4nm						
SMPI	Sarmi	6.78	117	P	Pn	01 47 24.0	-1.9
	72nm,1.0s,7μm0.5nm						
NLAI	Namlea	7.02	232	P	Pn	01 47 30.3	+1.1
	45nm,0.4s,0.3nm						
SANI	Sanana	7.36	245	P	Pn	01 47 34.2	+0.4
SANI	Sanana	7.36	245	P	Pn	01 47 33.9	+0.1
	132nm,0.9s,2μm7μm0.5nm						
GENI	Genyem	8.35	116	P	Pn	01 47 46.2	-1.3
JAY	Jayapura	8.81	114	P	Pn	01 47 52.5	-1.2
	11nm,1.0s,660nm						
JAY	Jayapura	8.81	114	LR	LR	01 50 57.9	
	comp=Z,4μm,21.2s,baz=276,slow=36						
SAUI	Saumlaki	9.11	189		Pn	01 47 57.7	-0.2
SAUI	Saumlaki	9.11	189	P	Pn	01 47 59.2	+1.3
	364nm,0.6s						
DAV	Davao City (W)	9.22	310	Pn	Pn	01 48 00.3	+0.9
DAV	Davao City (W)	9.22	310	Pn	Pn	01 47 57.3	-2.1
	149nm,0.3s,baz=151,slow=10,SNR=2.0						
DAV				Sn	Sn	01 49 33.6	-8.4
	60nm,0.3s,baz=45,slow=16,SNR=1.5						
GTOI	Gorontalo	9.65	267	P	Pn	01 48 07.9	+2.6
	43nm,1.5s,1μm						
LUWI	Luwuk	10.11	258	Pn	Pn	01 48 10.6	-0.9
LUWI	Luwuk	10.11	258	P	Pn	01 48 11.4	-0.1
	234nm,1.6s,11μm4μm						
MRSI	Marisa	10.73	267	P	Pn	01 48 19.3	-0.8
	71nm,2.3s,2μm						
TOLI2	Tolitoli	11.87	270	Pn	Pn	01 48 35.1	-0.6
MPSI	Mapaga	12.78	267	P	Pn	01 48 47.1	-1.0
	110nm,2.1s,2μm4μm						
TTSI	Tana Toraja	13.47	252	P	Pn	01 48 58.7	+1.1
	105nm,1.8s						
SOEI	Soe	13.63	218	P	Pn	01 49 01.1	+1.2
SOEI	Soe	13.63	218	P	Pn	01 49 00.8	+0.9
	89nm,0.7s,1μm						
KDU	Kakadu	13.69	181	P	Pn	01 48 59.1	-1.4
	baz=14,SNR=17						
KDU	Kakadu	13.69	181	P	Pn	01 49 00.0	-0.5
MTN	Manton Dam	13.92	186	P	Pn	01 49 02.1	-1.6
	baz=14,SNR=11						
MTN	Manton Dam	13.92	186	Pn	Pn	01 49 01.6	-2.2
BKSI	Bulukumba	14.04	243	P	Pn	01 49 07.3	+1.9
	83nm,1.6s,2μm3μm						
MMRI	Maumere	14.18	227	Pn	Pn	01 49 05.8	-1.5
MMRI	Maumere	14.18	227	P	Pn	01 49 09.4	+2.1
	73nm,0.5s						
KAPI	Kappang	14.24	245	Pn	Pn	01 49 09.3	+1.2
	3.0nm,0.3s,baz=60,slow=14,SNR=15						
KAPI				LR	LR	01 55 04.0	
	comp=Z,3μm,20.6s,baz=74,slow=39						
	11nm,0.3s						
BATI	Baumata	14.35	218	P	Pn	01 49 11.8	+2.2
	106nm,1.1s,2μm						
BATI	Baumata	14.35	218	Pn	Pn	01 49 11.4	+1.8
	41nm,0.5s,baz=107,slow=5.2,SNR=6.4						
BATI				LR	LR	01 55 44.1	
	comp=Z,958nm,18.0s,baz=62,slow=41						
MYLDM	Lahad Datu	14.71	286		Pn	01 49 13.6	-0.8
BKB	Balikpapan	15.93	262	Pn	Pn	01 49 28.7	-1.7
BKB				IAmb	IAmb	01 49 32.8	
	comp=Z,211nm,1.1s						
BKB	Balikpapan	15.93	262	P	Pn	01 49 31.2	+0.8
KNRA	Kununurra	17.10	193	P	Pn	01 49 42.6	-2.6
	baz=17,SNR=43						
KNRA	Kununurra	17.10	193	Pn	Pn	01 49 43.9	-1.2
KNRA	Kununurra	17.10	193	P	Pn	01 49 44.2	-1.0
KKM	Kota Kinabalu	17.13	287	Pn	Pn	01 49 44.7	-1.0
KKM				IAmb	IAmb	01 49 49.1	
	comp=Z,192nm,1.5s						
GUMO	Guam	17.33	44	LR	LR	01 55 53.1	
	comp=Z,549nm,19.3s,baz=218,slow=36						
TGY	Tagaytay City	17.36	319	P	Pn	01 49 46.5	-2.0
	comp=Z,141nm,0.3s,baz=238,slow=13,SNR=3.9						
TGY				S	Sn	01 52 59.6	-1.3
	comp=Z,188nm,0.3s,baz=209,slow=19,SNR=2.2						
TGY				LR	LR	01 57 40.1	
	comp=Z,917nm,20.0s,baz=128,slow=41						
PLAI	Plampang	17.80	236	P	P	01 49 54.3	-0.1
	comp=Z,126nm,2.2s,comp=Z,3μmcomp=Z,3μm						
PMG	Port Moresby	17.82	126		P	01 49 54.4	-0.1
PMG				IAmb	IAmb	01 49 59.7	
	comp=Z,139nm,1.5s						
PMG	Port Moresby	17.82	126	*i* P	Pn	01 49 53.0	-1.1
PMG	Port Moresby	17.82	126	P	Pn	01 49 52.5	-1.6
	comp=Z,1.7nm,0.3s,baz=334,slow=13,SNR=7.2						
PMG				S	Sn	01 53 09.4	-2.4
	comp=Z,10.0nm,0.3s,baz=315,slow=20,SNR=1.4						
PMG				LR	LR	01 58 10.7	
	comp=Z,2μm,20.3s,baz=281,slow=42						
	comp=Z,8.8nm,0.5s						
COEN	Coen	18.22	145	P	P	01 49 58.8	-0.2
BBKI	Banjar Baru	18.37	256	P	Pn	01 50 02.7	+1.8
	comp=Z,261nm,1.5s,comp=Z,14μm						
TWSI	Taliwang, Sumb	18.50	238	P	Pn	01 50 03.0	+0.5
	comp=Z,220nm,1.3s,comp=Z,3μm						
SRBI	Singaraja	19.64	242	P	Pn	01 50 17.3	+1.2
	comp=Z,226nm,1.6s,comp=Z,4μmcomp=Z,3μm						
KRVT	Keravat (AS076	20.08	106	P	P	01 50 19.4	-0.1
	comp=Z,34nm,0.6s,baz=326,slow=0.1,SNR=1.3						
KRVT				LR	LR	01 56 28.4	
	comp=Z,4μm,19.5s,baz=96,slow=32						
	comp=Z,34nm,0.6s						
ABJI	Asem Bagus	20.38	244	P	Pn	01 50 24.3	-0.6
	comp=Z,291nm,1.7s,comp=Z,6μm						
SBUM	Sibu	20.47	274	P	P	01 50 24.1	+0.4
JAGI	Jajag, Banyuwa	20.75	242	P	Pn	01 50 28.5	-0.7
JAGI	Jajag, Banyuwa	20.75	242	P	Pn	01 50 28.4	-0.8
	comp=Z,176nm,2.1s,comp=Z,3μm						
BLJI	Banyuglugur	20.94	245	P	P	01 50 29.3	+0.6
	comp=Z,89nm,1.9s,comp=Z,3μm						
WRAB	Tennant Creek	20.96	176	P	P	01 50 28.2	-0.7
WRAB	Tennant Creek	20.96	176	P	P	01 50 29.6	+0.7
WRAB	Tennant Creek	20.96	176	*ce*P	P	01 50 29.7	+0.8
WRAB				pmax	pmax		
	comp=Z,354nm,1.7s						
WRA	Warramunga Arr	20.97	176	*i* P	P	01 50 27.2	-1.8
WRA				pmax	pmax		
	comp=Z,95nm,0.6s						
WRA	Warramunga Arr	20.97	176	P	P	01 50 29.6	+0.6
	comp=Z,95nm,0.6s,baz=353,slow=11,SNR=73						
WRA				S	S	01 54 16.2	-4.7
	comp=Z,3.2nm,0.9s,baz=349,slow=22,SNR=3.5						
WRA				LR	LR	01 59 42.6	
	comp=Z,3μm,18.8s,baz=358,slow=40						
STKI	Sintang	21.20	267	P	P	01 50 33.4	+1.8
	comp=Z,69nm,0.5s,comp=Z,4μm						
GMJI	Gumukmas	21.29	244	P	P	01 50 34.8	+2.3
	comp=Z,108nm,1.6s						
MTSU	Mount Surprise	22.28	150	P	P	01 50 44.0	+0.8
	baz=22,SNR=8.5						
KSM	Kuching	22.34	271	P	P	01 50 43.9	0.0
KSM				IAmb	IAmb	01 50 53.0	
	comp=Z,68nm,1.2s						
QIS	Mount Isa	22.56	163	P	P	01 50 46.3	+0.2
	baz=23,SNR=18						
QIS	Mount Isa	22.56	163	P	P	01 50 46.2	0.0
NGJI	Ngawi	22.75	248	P	P	01 50 50.4	+2.2
	comp=Z,151nm,1.3s						
WOJI	Wonogiri, Jawa	23.42	247	P	P	01 50 55.9	+1.0
	comp=Z,139nm,1.5s						
SMRI	Semarang	23.59	250	P	P	01 50 58.2	+1.5
	comp=Z,145nm,1.7s						
AS31	Alice Springs	24.64	177	P	P	01 51 06.6	+0.4
AS31				IAmb	IAmb	01 51 09.3	
	comp=Z,40nm,0.9s						
ASAR	Alice Springs	24.64	177	P	P	01 51 06.7	+0.5
	comp=Z,166nm,0.8s,baz=358,slow=12,SNR=353						
ASAR				S	S	01 55 32.2	+6.7
	comp=Z,2.3nm,1.0s,baz=3.9,slow=19,SNR=4.1						
ASAR				LR	LR	02 01 49.0	
	comp=Z,2μm,19.0s,baz=10.0,slow=39						
CTA	Charters Tower	24.91 148		LR	LR	02 02 24.1	
	comp=Z,3μm,18.5s,baz=327,slow=40						
CTAO	Charters Tower	24.91 148		P	P	01 51 09.5	+0.8
CTAO				IAmb	IAmb	01 51 33.7	
	comp=Z,30nm,1.1s						
CTAO	Charters Tower	24.91 148		P	P	01 51 09.5	+0.8
CTAO				pmax	pmax		
	comp=Z,31nm,1.2s						
KPJI	Karang Pucung	25.10 250		P	P	01 51 11.4	+0.9
	comp=Z,100nm,1.8s,comp=Z,2μm						
MBWA	Marble Bar	25.47 209		P	P	01 51 14.7	+0.9
PSA00	Pilbara Seismi	25.77 208		P	P	01 51 13.6	-2.8
PSA00				IAmb	IAmb	01 51 23.9	
	comp=Z,62nm,1.2s						
JOW	Kunigami	25.94 351		LR	LR	01 59 20.9	
	comp=Z,2μm,21.7s,baz=134,slow=32						
LEM	Lembang	26.20 252		P	P	01 51 22.7	+2.1
	comp=Z,49nm,2.0s,comp=Z,2μm						
LEM	Lembang	26.20 252		LR	LR	02 03 47.9	
	comp=Z,364nm,18.3s,baz=62,slow=41						
WRKA	Warakurna	26.31 189		P	P	01 51 22.6	+1.2
	baz=26,SNR=10						
BBJI	Bungbulang	26.35 251		P	P	01 51 24.8	+2.9
PPBI	Pangkal Pinang	26.71 263		P	P	01 51 26.5	+1.4
CNJI	Cibinong	26.80 251		P	P	01 51 27.4	+1.5
	comp=Z,39nm,1.2s						
JCJ	Chichijima	27.43 19		LR	LR	01 59 43.2	
	comp=Z,895nm,19.9s,baz=216,slow=31						
QIZ	Qiongzhong	28.60 310		P	P	01 51 42.9	+0.9
QIZ				S	S	01 56 29.3	+1.0
QIZ				pmax	pmax		
	comp=Z,36nm,1.5s						
QIZ				LR	LR		
	comp=Z,1μm,24.4s						
QIZ				LR	LR		
	comp=Z,1μm,21.9s						
QIZ				LR	LR		
	comp=Z,850nm,16.0s						
HNR	Honiara	29.12 112		LR	LR	02 02 46.2	
	comp=Z,17μm,21.0s,baz=288,slow=35						
SSE	Sheshan	31.76 341		P	P	01 52 10.1	+0.4
SSE				S	S	01 57 20.7	+3.2
SSE				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SSE				pmax	pmax		
	comp=Z,120nm,3.5s						
SSE				LR	LR		
	comp=Z,190nm,17.1s						
SSE				LR	LR		
	comp=Z,480nm,17.8s						
JNU	Nakatsue	31.91 357		LR	LR	02 03 24.7	
	comp=Z,827nm,20.8s,baz=152,slow=33						
FORT	Forrest	31.99 187		P	P	01 52 13.4	+1.6
	baz=32,SNR=40						
KULM	Kulim	32.22 278		P	P	01 52 12.8	-1.2
KULM				IAmb	IAmb	01 52 14.5	
	comp=Z,29nm,1.2s						
JHJ	Hachijo jima 2	32.56 11		LR	LR	02 02 58.3	
	comp=Z,1μm,18.1s,baz=184,slow=32						
NJ2	Nanjing	33.44 338	*e*P	P	P	01 52 26.8	+2.4
NJ2			pP	sP	P	01 52 37.3	0.0
NJ2			PP	PP	P	01 53 37.5	-3.0
NJ2			pmax	pmax			
	comp=Z,8.0nm,0.5s						
NJ2			pmax	pmax			
	comp=Z,240nm,5.2s						
NJ2			LR	LR			
	comp=Z,1μm,14.2s						
NJ2			LR	LR			
	comp=Z,690nm,10.4s						
NJ2			LR	LR			
	comp=Z,1μm,17.5s						
RPSI	Rantau Prapat	33.75 273		P	P	01 52 26.4	-1.0
RPSI				IAmb	IAmb	01 52 31.6	
	comp=Z,26nm,1.3s						
PSI	Prapat	33.75 273		P	P	01 52 26.4	-1.2
PSI				pmax	pmax		
	comp=Z,26nm,1.3s						
STKA	Stephens Creek	33.86 166		P	P	01 52 28.0	-0.2
	baz=34,SNR=9.0						
STKA	Stephens Creek	33.86 166		P	P	01 52 27.9	-0.2
STKA	Stephens Creek	33.86 166	*i* P		P	01 52 27.4	-0.7
STKA	Stephens Creek	33.86 166	P		P	01 52 27.9	-0.3
	comp=Z,5.1nm,0.7s,baz=337,slow=10,SNR=10						
STKA				LR	LR	02 07 47.9	
	comp=Z,2μm,18.8s,baz=342,slow=39						
	comp=Z,5.1nm,0.7s						
MJAR	Matsushiro Arr	35.65 8		LR	LR	02 04 25.2	
	comp=Z,598nm,21.0s,baz=179,slow=32						
MAJO	Matsushiro	35.65 8		P	P	01 52 44.6	+1.1
MAJO				IAmb	IAmb	01 52 54.9	
	comp=Z,48nm,1.8s						
MAJO	Matsushiro	35.65 8		P	P	01 52 44.7	+1.1
MAJO				pmax	pmax		
	comp=Z,48nm,1.8s						
ARMA	Armidale	36.17 152		P	P	01 52 49.7	+1.5
	baz=36,SNR=5.1						
ARMA	Armidale	36.17 152		P	P	01 52 48.7	+0.5
ARMA				IAmb	IAmb	01 52 50.0	
	comp=Z,26nm,1.1s						
KSRS	Korea Array	36.45 354		LR	LR	02 05 24.4	
	comp=Z,670nm,21.6s,baz=175,slow=33						
NWAO	Narrogin (SRO)	36.83 202		LR	LR	02 11 35.3	
	comp=Z,334nm,19.3s,baz=146,slow=42						
CRAI	Chiangrai	36.84 303		P	P	01 52 53.7	-0.3
CM31	Chiang Mai Arr	37.31 300		P	P	01 52 57.4	-0.6
CMAR	Chiang Mai Arr	37.31 300	*i* P		P	01 52 58.4	+0.4
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	37.31 300		P	P	01 52 58.0	0.0
	comp=Z,1.0nm,0.3s,baz=120,slow=7.3,SNR=12						
CMAR				LR	LR	02 08 43.7	
	comp=Z,291nm,18.7s,baz=115,slow=37						
	comp=Z,1.0nm,0.3s						
CHTO	Chiang Mai	37.45 300		P	P	01 52 58.9	-0.3
CHTO

XAN LR LR
comp=Z,1μm,15.5s
DZM Mont Dzumac 40.21 127 *e*S **S 01 59 27.5 +0.2**
comp=Z,293nm,31.6s
DZM *e*LR LR 02 04 19.4
comp=Z,2μm,29.1s
BJI Beijing 41.57 341 P **P 01 53 32.2 -0.9**
BJI S **S 01 59 46.9 0.0**
BJI SS **SS 02 02 48.7 -4.0**
BJI pmax pmax
comp=Z,3.0nm,0.7s
BJI pmax pmax
comp=Z,87nm,4.0s
BJI LR LR
comp=Z,260nm,19.5s
BJI LR LR
comp=Z,240nm,13.8s
BJI LR LR
comp=Z,340nm,18.7s
USRK Ussuriysk Ar. 42.93 359 P **P 01 53 42.7 -1.4**
comp=Z,1.9nm,0.7s,baz=170,slow=8.8,SNR=3.5
USRK LR LR 02 09 39.6
comp=Z,338nm,21.1s,baz=163,slow=34
comp=Z,1.9nm,0.7s
CN2 Changchun 43.01 352 *e*P **P 01 53 46.9 +2.1**
CN2 *e*S **S 02 00 05.9 -2.1**
CN2 LR LR
comp=Z,380nm,18.0s
CN2 LR LR
comp=Z,680nm,18.0s
CN2 LR LR
comp=Z,320nm,20.0s
MDJ Mudanjiang 43.43 357 P **P 01 53 49.8 +1.6**
MDJ pP pP 01 53 51.9 -5.5
MDJ sP sP 01 53 54.4 -6.7
MDJ PcP **PcP 01 55 37.6 +1.5**
MDJ S **S 02 00 20.4 +6.3**
MDJ pmax pmax
comp=Z,11nm,1.1s
MDJ pmax pmax
comp=Z,200nm,5.2s
MDJ LR LR
comp=Z,410nm,18.5s
MDJ LR LR
comp=Z,570nm,18.8s
MDJ LR LR
comp=Z,410nm,19.8s
ASAJ Asahikawa 43.75 10 LR LR 02 11 59.8
comp=Z,442nm,19.4s,baz=192,slow=36
LZH Lanzhou 43.89 326 *e*P **P 01 53 53.4 +1.1**
LZH pP pP 01 53 58.6 -2.8
LZH sP sP 01 54 00.3 -4.8
LZH pmax pmax
comp=Z,29nm,1.3s
BTO Baotou 44.37 335 *e*P **P 01 54 00.4 +4.4**
BTO pP **pP 01 54 05.0 0.0**
BTO sP **sP 01 54 07.3 -1.4**
BTO pmax pmax
comp=Z,22nm,0.6s
BTO pmax pmax
comp=Z,440nm,8.9s
BTO LR LR
comp=Z,880nm,19.8s
BTO LR LR
comp=Z,1μm,19.5s
BTO LR LR
comp=Z,730nm,15.0s
BNX BinXian 44.70 355 ⇑P **P 01 53 59.1 +0.7**
BNX S **S 02 00 35.4 +2.7**
BNX sS **sS 02 00 42.0 -5.9**
BNX pmax pmax
comp=Z,8.0nm,1.3s
BNX pmax pmax
comp=Z,130nm,6.1s
BNX LR LR
comp=Z,470nm,16.1s
BNX LR LR
comp=Z,360nm,17.1s
BNX LR LR
comp=Z,650nm,17.8s
SHL Shillong 46.21 305 P **P 01 54 09.8 -1.1**
SHL IAmb IAmb 01 54 10.4
comp=Z,16nm,0.9s
SHL Shillong 46.21 305 P **P 01 54 09.8 -1.1**
SHL pmax pmax
comp=Z,16nm,0.9s
YSS Yuzh-Sakhalins 46.52 10 P **P 01 54 12.6 -0.1**
YSS Yuzh-Sakhalins 46.52 10 *e*P **P 01 54 12.0 -0.7**
YSS *e* 01 55 50.0
YSS *e*S **S 02 00 59.4 +0.6**
YSS *e*SSS SSS 02 04 06.5
YSS pmax pmax
comp=Z,20nm,0.8s
KLR Kul'dur 47.96 359 *i* P **P 01 54 24.5 +0.5**
KLR pmax pmax
comp=Z,2.0nm,1.1s
KLR Kul'dur 47.96 359 LR LR 02 12 48.8
comp=Z,384nm,21.4s,baz=180,slow=34
MSVF Nonsavu 48.44 115 LR LR 02 12 00.6
comp=Z,707nm,21.9s,baz=308,slow=33
HEH HeiHe 49.19 356 *e*P **P 01 54 34.9 +1.6**
HEH pP **pP 01 54 36.7 -5.9**
HEH S **S 02 01 33.7 -2.8**
HEH pmax pmax
comp=Z,12nm,0.9s
HEH pmax pmax
comp=Z,140nm,4.6s
HEH LR LR
comp=Z,220nm,18.3s
HEH LR LR
comp=Z,430nm,18.6s
HEH LR LR
comp=Z,560nm,18.5s
GOMU GeErMu 49.48 319 P **P 01 54 37.8 +1.5**
GOMU pP pP 01 54 42.2 -3.3
GOMU pmax pmax
comp=Z,2.0nm,0.6s
GOMU pmax pmax
comp=Z,100nm,6.1s
GOMU LR LR
comp=Z,210nm,16.9s
GOMU LR LR
comp=Z,280nm,20.2s
GOMU LR LR
comp=Z,600nm,19.3s
ULN Ulaanbaatar 51.60 338 P **P 01 54 51.7 -0.1**
ULN Ulaanbaatar 51.60 338 *ce*P **P 01 54 52.8 +0.9**
ULN pmax pmax
comp=Z,18nm,2.3s
SONM Songino Array 51.83 338 P **P 01 54 54.2 +0.7**
SONM Songino Array 51.83 338 P **P 01 54 54.2 +0.7**
SONM pmax pmax
comp=Z,12nm,1.4s
SONM Songino Array 51.83 338 P **P 01 54 52.5 -1.0**
comp=Z,1.4nm,1.0s,baz=144,slow=7.7,SNR=7.9
SONM LR LR 02 16 55.9
comp=Z,474nm,20.0s,baz=150,slow=36
comp=Z,1.4nm,1.0s
ZEA Zeya 52.66 356 *e*P **P 01 55 03.0 +3.6**
ZEA MLR MLR
comp=N,300nm,21.0s
ZEA MLR MLR
comp=Z,200nm,21.0s
ZAK Zakamensk 55.09 337 *e*P **P 01 55 18.5 +1.1**
ZAK pmax pmax
comp=Z,6.0nm,2.0s
HYB Hyderabad 55.58 290 *e*P **P 01 55 21.7 +0.3**
PETK Petropavlovsk- 55.86 18 LR LR 02 15 26.8
comp=Z,347nm,21.8s,baz=201,slow=32
RAO Raoul Island 56.01 127 LR LR 02 16 55.3
comp=Z,362nm,21.2s,baz=84,slow=33
RPZ Rata Peaks 56.28 147 LR LR 02 19 00.0
comp=Z,808nm,20.8s,baz=308,slow=35
URZ Urewera 56.62 139 LR LR 02 19 59.4
comp=Z,790nm,20.4s,baz=32,slow=36
RTZ Ruatahuna 56.73 139 P **P 01 55 29.0 -0.3**
RTZ IAmb IAmb 01 55 55.5
comp=Z,12nm,1.0s
AFI Afiamalu 57.01 107 LR LR 02 14 45.6
comp=Z,161nm,20.2s,baz=290,slow=31
WMQ Urumqi 58.33 323 *e*P **P 01 55 44.3 +3.8**
WMQ pP pP 01 55 46.6 -3.2
WMQ sP sP 01 55 50.5 -2.9
WMQ pmax pmax
comp=Z,11nm,0.6s
WMQ LR LR
comp=Z,660nm,17.5s
WMQ LR LR
comp=Z,430nm,14.5s
WMQ LR LR
comp=Z,330nm,23.3s
BOD Bodaibo 58.47 348 *e*P **P 01 55 41.5 +0.4**
BOD pmax pmax
comp=Z,13nm,2.1s
MA2 Magadan 60.01 11 LR LR 02 22 27.0
comp=Z,165nm,18.6s,baz=187,slow=37
DGZ Jazzator, Alta 61.86 328 *i* P **P 01 56 04.4 -0.3**
DGZ pmax pmax
comp=Z,7.0nm,1.7s
SHEM Shemya Is, Ala 61.91 27 LR LR 02 18 49.1
comp=Z,238nm,20.3s,baz=206,slow=32
MK31 Makanchi Array 63.13 324 P **P 01 56 12.0 -1.1**
MK31 Makanchi Array 63.13 324 *i* P **P 01 56 12.3 -0.8**
MKAR Makanchi Array 63.13 324 *i* P **P 01 56 12.6 -0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 63.13 324 P **P 01 56 11.9 -1.2**
comp=Z,2.7nm,0.7s,baz=112,slow=8.6,SNR=20
comp=Z,2.7nm,0.7s
MAKZ Makanchi 63.33 324 P **P 01 56 14.1 -0.3**
MAKZ IAmb IAmb 01 56 20.9
comp=Z,9.2nm,1.1s
MAKZ Makanchi 63.33 324 P **P 01 56 14.1 -0.3**
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
SEY Seymchan 63.43 10 *ce*P **P 01 56 15.9 +1.2**
SEY pmax pmax
comp=Z,17nm,1.1s
SEY Seymchan 63.43 10 LR LR 02 20 56.7
comp=Z,316nm,21.6s,baz=194,slow=33
KSH Kashi 64.10 314 P **P 01 56 21.1 +1.3**
KSH pP pP 01 56 28.8 -0.4
KSH pmax pmax
comp=Z,5.0nm,1.2s
ZAA0 Zalesovo Array 65.67 331 P **P 01 56 28.9 -0.6**
ZALV Zalesovo Beam 65.67 331 P **P 01 56 28.7 -0.8**
comp=Z,2.0nm,0.7s,baz=76,slow=6.1,SNR=6.0
comp=Z,2.0nm,0.7s
KURK Kurchatov 67.18 326 P **P 01 56 38.7 -0.5**
KURK IAmb IAmb 01 56 56.5
comp=Z,15nm,0.9s
KURK Kurchatov 67.18 326 P **P 01 56 38.7 -0.5**
KURK pmax pmax
comp=Z,15nm,1.0s
KURBB Kurchatov Arra 67.19 326 P **P 01 56 38.9 -0.3**
comp=Z,6.5nm,0.8s,baz=120,slow=5.8,SNR=12
comp=Z,6.5nm,0.8s
KBL Kabul 67.82 307 P **P 01 56 42.6 -1.3**
KBL IAmb IAmb 01 57 06.6
comp=Z,19nm,1.5s
KBL Kabul 67.82 307 P **P 01 56 42.6 -1.3**
KBL pmax pmax
comp=Z,19nm,1.5s
CASY Casey 69.06 189 P **P 01 56 51.5 +0.9**
CASY IAmb IAmb 01 57 00.4
comp=Z,24nm,1.8s
KK31 Karatay Array 69.21 316 P **P 01 56 52.1 0.0**
KK31 Karatay Array 69.21 316 P **P 01 56 52.2 0.0**
KK31 pmax pmax
comp=Z,9.0nm,1.3s
KKAR Karatay Array 69.21 316 P **P 01 56 52.1 0.0**
KKAR Karatay Array 69.21 316 P **P 01 56 52.2 0.0**
KKAR pmax pmax
comp=Z,9.0nm,1.3s
RAR Rarotonga 69.56 113 LR LR 02 27 15.1
comp=Z,92nm,18.0s,baz=310,slow=36
BVAR Borovoye Array 72.78 326 P **P 01 57 12.7 -0.9**
comp=Z,6.8nm,0.8s,baz=111,slow=7.9,SNR=22
BVAR LR LR 02 31 49.0
comp=Z,114nm,20.3s,baz=121,slow=38
comp=Z,6.8nm,0.8s
BRVK Borovoye 72.85 326 P **P 01 57 14.2 +0.2**
BRVK IAmb IAmb 01 57 27.3
comp=Z,31nm,1.4s
BRVK Borovoye 72.85 326 *ce*P **P 01 57 13.3 -0.7**
BRVK pmax pmax
comp=Z,13nm,1.0s
HRA Herat 73.27 306 P **P 01 57 15.6 -1.5**
HRA IAmb IAmb 01 57 30.3
comp=Z,17nm,1.4s
NRIK Noril'sk 74.45 345 IAmb IAmb 01 57 36.9
comp=Z,42nm,1.9s
NRIK Noril'sk 74.45 345 *i* P **P 01 57 22.0 -1.0**
NRIK pmax pmax
comp=Z,11nm,1.4s
NRIK Noril'sk 74.45 345 P **P 01 57 22.1 -1.0**
comp=Z,3.8nm,0.7s,baz=128,slow=3.9,SNR=2.7
NRIK LR LR 02 32 10.0
comp=Z,716nm,18.6s,baz=136,slow=38
comp=Z,3.8nm,0.7s
K13K Kusilvak Mount 76.49 26 P **P 01 57 36.4 +1.6**
baz=246
S14K Fog Glacier 76.91 32 P **P 01 57 37.1 -0.4**
baz=252
L14K Kuka Creek 77.13 27 P **P 01 57 38.4 -0.1**
baz=248
GEYT Alibeck 77.15 309 P **P 01 57 39.1 -0.2**
GEYT Alibeck 77.15 309 P **P 01 57 39.1 -0.2**
GEYT pmax pmax
comp=Z,9.0nm,1.0s
GEYT Alibeck 77.15 309 P **P 01 57 38.7 -0.5**
comp=Z,3.3nm,0.7s,baz=61,slow=12,SNR=4.9
GEYT LR LR 02 34 25.7
comp=Z,248nm,20.9s,baz=98,slow=38
comp=Z,3.3nm,0.7s
GYA0 ALIBECK ARRAY 77.15 309 P **P 01 57 38.8 -0.4**
GYA0B ALIBECK ARRAY 77.15 309 P **P 01 57 38.8 -0.4**
ABKAR Akbulak array 77.94 320 P **P 01 57 42.5 -0.8**
H16K Elim 78.56 23 P **P 01 57 46.7 +0.3**
baz=248
O16K Kokwok River B 78.67 29 P **P 01 57 48.0 +0.9**
baz=252
PPT Papeete 78.67 108 LR LR 02 29 22.3
comp=Z,279nm,19.6s,baz=322,slow=33
PPT2 Papeete2 78.67 108 *e*S **S 02 07 48.9 +5.5**
comp=Z,337nm,37.5s
PPT2 *e*SS **SS 02 12 47.8 -0.4**
comp=Z,137nm,28.0s
PPT2 *e*LR LR 02 21 57.8
comp=Z,608nm,27.0s
PPT2 *e*LR LR 02 22 10.9
comp=Z,429nm,31.2s
M16K Timber Creek 78.71 27 P **P 01 57 48.4 +1.1**
baz=251
J16K Anvik River 78.74 25 P **P 01 57 48.0 +0.6**
baz=249
G16K Koyuk River 78.81 23 P **P 01 57 47.9 +0.1**
baz=247
I17K Unalakleet 78.91 24 P **P 01 57 50.3 +1.9**
baz=249
O17K Koliganek Bris 79.21 29 P **P 01 57 50.6 +0.5**
baz=253
SVE Sverdlovsk 79.31 328 *e*P **P 01 57 52.2 +1.5**
TBI Tubuai 79.31 114 *e*LR LR 02 22 20.8
comp=Z,4μm,33.5s
TBI *e*LR LR 02 22 38.2
comp=Z,8μm,28.0s
L17K Donlin 79.36 27 P **P 01 57 51.9 +1.1**
baz=252
J17K VABM Dome 79.42 25 P **P 01 57 51.0 -0.1**
baz=251
G17K Kiwalik Mounta 79.51 23 P **P 01 57 49.1 -2.5**
baz=249
M17K Holitna River 79.52 27 P **P 01 57 50.7 -1.1**
baz=253
K17K Iditarod 79.54 26 P **P 01 57 52.2 +0.4**
baz=252
H17K Granite Mounta 79.60 24 P **P 01 57 51.3 -0.8**
baz=250
F17K Baldwin Pennin 79.62 22 P **P 01 57 51.2 -0.9**
baz=248
E17K Hotham Inlet 79.65 21 P **P 01 57 52.6 +0.3**
baz=248
N18K Kilae Creek 80.04 28 P **P 01 57 53.4 -1.2**
baz=254
L18K Granite Mounta 80.11 27 P **P 01 57 54.7 -0.2**
baz=253
VNDA Vanda 80.13 174 P **P 01 57 54.4 -0.3**
VNDA Vanda 80.13 174 P **P 01 57 54.4 -0.3**
VNDA Vanda 80.13 174 P **P 01 57 54.8 +0.1**
comp=Z,5.2nm,0.8s,baz=314,slow=5.9,SNR=14
VNDA LR LR 02 32 05.7
comp=Z,369nm,21.5s,baz=348,slow=35
comp=Z,5.2nm,0.8s
E18K Tukpahlearik C 80.22 21 P **P 01 57 55.2 -0.3**
baz=249
H18K Honhosa River 80.29 24 P **P 01 57 55.0 -0.9**
baz=251
ARU Arti 80.33 327 P **P 01 57 55.3 -0.9**
ARU Arti 80.33 327 *c i* P **P 01 57 55.0 -1.2**
ARU S **S 02 08 01.8 +2.4**
ARU SS **SS 02 13 15.7 +4.5**
ARU pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 80.33 327 LR LR 02 38 02.0
comp=Z,123nm,18.1s,baz=136,slow=39
J18K Innoko River 80.45 25 P **P 01 57 56.9 +0.2**
baz=253
N19K Bonanza Creek 80.74 28 P **P 01 57 57.9 -0.6**
baz=255
L19K White Mountain 80.92 27 P **P 01 57 58.3 -1.0**
baz=255
KDAK Kodiak Island 80.98 32 LR LR 02 28 52.1
comp=Z,206nm,22.0s,baz=265,slow=32
M19K Big River Lodg 81.06 27 P **P 01 58 00.9 +0.8**
baz=255
J19K Poorman 81.07 25 P **P 01 58 01.5 +1.4**
baz=254
G19K Purcell Mounta 81.11 23 P **P 01 57 59.9 -0.3**
baz=252
H19K Roundabout Mou 81.17 23 P **P 01 58 00.0 -0.5**
baz=253
C19K Lookout Ridge 81.18 20 P **P 01 58 00.3 -0.3**
baz=249
E19K Redstone River 81.46 22 P **P 01 58 02.3 +0.2**
baz=252
D19K Kuna River 81.47 20 P **P 01 58 00.7 -1.4**
baz=251
K20K Telida 81.57 26 P **P 01 58 02.7 -0.1**
baz=255
M20K Styx River 81.63 27 P **P 01 58 02.8 -0.4**
baz=256
J20K Nowinta River 81.75 25 IAmb IAmb 01 58 07.0
comp=Z,14nm,1.2s
J20K Nowinta River 81.75 25 P **P 01 58 04.0 +0.3**
baz=255
H20K Anotleneega Mo 81.79 24 P **P 01 58 03.3 -0.6**
baz=254
F20K Avaraart Lake 81.89 22 P **P 01 58 04.2 -0.1**
baz=253
D20K Etivluk River 82.06 20 P **P 01 58 05.8 +0.6**
baz=252
E20K Nigu River 82.08 21 P **P 01 58 03.7 -1.7**
baz=253
IMAR Indian Mountai 82.37 23 P **P 01 58 07.0 +0.2**
SKT Skwentna 82.39 28 P **P 01 58 06.0 -1.0**
baz=258
CAST Castle Rocks 82.45 26 P **P 01 58 06.9 -0.5**
baz=257
H21K Melozitna Rive 82.67 24 P **P 01 58 07.5 -1.0**
baz=256
E21K Killik River 82.92 21 P **P 01 58 07.5 -2.2**
baz=255
B21K Ikpikpuk River 83.01 20 P **P 01 58 11.3 +1.2**
baz=254
SEW Seward 83.03 30 P **P 01 58 09.1 -1.2**
baz=260
RC01 Rabbit Creek A 83.06 29 P **P 01 58 08.8 -1.8**
baz=260
TRF Thorofare Moun 83.25 26 IAmb IAmb 01 58 13.5
comp=Z,11nm,1.0s
TRF Thorofare Moun 83.25 26 P **P 01 58 11.4 -0.3**
baz=259
H22K Ishtalitna Cre 83.29 24 P **P 01 58 11.4 -0.3**
baz=258
F22K John River 83.34 22 P **P 01 58 12.2 +0.3**
baz=257
MLY Manley 83.37 25 IAmb IAmb 01 58 15.5
comp=Z,11nm,1.0s
MLY Manley 83.37 25 P **P 01 58 10.9 -1.2**
baz=258
MAW Mawson 83.40 201 P **P 01 58 12.7 +0.6**
comp=Z,3.1nm,0.8s,baz=48,slow=15,SNR=2.3
comp=Z,3.1nm,0.8s
PMR Palmer 83.44 28 P **P 01 58 11.6 -0.8**
PMR IAmb IAmb 01 58 14.4
comp=Z,15nm,1.0s
PMR Palmer 83.44 28 P **P 01 58 11.6 -0.8**
PMR pmax pmax
comp=Z,15nm,1.0s
PMR Palmer 83.44 28 P **P 01 58 10.9 -1.6**
baz=260
KNK Knik Glacier 83.73 28 P **P 01 58 12.2 -1.8**
baz=261
SML Sawmill 83.85 28 P **P 01 58 12.3 -2.4**
baz=261
RND Reindeer 83.88 26 P **P 01 58 14.2 -0.6**
RND IAmb IAmb 01 58 16.1
comp=Z,7.3nm,0.9s
RND Reindeer 83.88 26 P **P 01 58 14.2 -0.6**
RND pmax pmax
comp=Z,7.0nm,0.9s
MCK McKinley 83.90 26 P **P 01 58 12.5 -2.3**
baz=260
WAT1 Susitna Watana 83.92 27 P **P 01 58 12.4 -2.5**
baz=260
I23K Minto, Yukon-K 83.97 25 P **P 01 58 14.0 -1.1**
baz=260
NEA2 Nenana 83.99 25 IAmb IAmb 01 59 15.3
comp=Z,21nm,1.8s
NEA2 Nenana 83.99 25 P **P 01 58 14.3 -1.0**
baz=260
G23K Bananza Creek 84.00 23 P **P 01 58 15.0 -0.3**
baz=259
H23K Yukon River 84.02 24 IAmb IAmb 01 58 29.6
comp=Z,18nm,1.4s
H23K Yukon River 84.02 24 P **P 01 58 13.8 -1.6**
baz=259
P23K Montague Islan 84.03 30 P **P 01 58 14.8 -0.7**
baz=262
COLD Coldfoot 84.03 22 P **P 01 58 15.0 -0.4**
baz=258
M23K Glacier View 84.13 28 P **P 01 58 14.4 -1.6**
baz=261
D23K Nanushuk River 84.21 21 P **P 01 58 16.1 -0.2**
baz=258
WAT6 Susitna Watana 84.25 27 P **P 01 58 17.2 +0.4**
baz=261
GLI Glacier Island 84.30 29 P **P 01 58 16.9 0.0**
baz=262
SCM Sheep Creek Mo 84.33 28 P **P 01 58 16.7 -0.5**
baz=262
WRH Wood River Hil 84.39 25 IAmb IAmb 01 58 18.7
comp=Z,12nm,1.0s
MDM Murphy Dome 84.41 25 IAmb IAmb 01 58 19.0
comp=Z,7.2nm,0.9s
E23K Chandalar 84.41 22 P **P 01 58 18.0 +0.6**
baz=259
C23K Itkillik River 84.42 20 P **P 01 58 16.6 -0.7**
baz=258
DHY Denali Highway 84.49 27 IAmb IAmb 01 58 21.5
comp=Z,9.9nm,1.0s
DHY Denali Highway 84.49 27 P **P 01 58 16.7 -1.3**
baz=262
CCB Clear Creek Bu 84.54 25 IAmb IAmb 01 58 19.6
comp=Z,11nm,1.0s
H24K Noodor Dome 84.70 24 IAmb IAmb 01 58 22.0
comp=Z,12nm,1.0s
H24K Noodor Dome 84.70 24 P **P 01 58 18.3 -0.5**
baz=261
HDA Harding Lake 84.87 25 IAmb IAmb 01 58 20.6
comp=Z,9.2nm,0.9s
HDA Harding Lake 84.87 25 P **P 01 58 19.2 -0.5**
baz=262
KLU Klutina 84.94 28 P **P 01 58 19.2 -1.0**
baz=263
IL31 84.95 25 IAmb IAmb 01 58 21.6
comp=Z,9.2nm,1.0s
ILAR Eielson Array 84.95 25 P **P 01 58 19.0 -1.1**
ILAR Eielson Array 84.95 25 P **P 01 58 19.0 -1.1**
ILAR Eielson Array 84.95 25 P **P 01 58 17.6 -2.4**
comp=Z,5.2nm,0.8s,baz=249,slow=4.7,SNR=28
ILAR LR LR 02 32 11.2
comp=Z,125nm,21.0s,baz=256,slow=33
comp=Z,5.2nm,0.8s
F24K Squaw Lake 84.96 22 P **P 01 58 19.0 -1.2**
baz=261
G24K Hadweenzic Riv 84.99 23 P **P 01 58 18.9 -1.4**
baz=261
K24K Donnelly Dome 85.30 26 P **P 01 58 20.1 -1.8**
baz=263

PAX	Paxson	85.33	27	P	P	01 58 22.2	+0.1
	baz=263						
HARP	HAARP	85.41	28	P	P	01 58 21.7	-0.8
	baz=264						
BMRM	Bremner River	85.52	29	P	P	01 58 21.9	-1.2
	baz=264						
KIRV	Kirov	85.54	329	LR	LR	02 38 24.2	
	comp=Z,194nm,21.6s,baz=82,slow=37						
G25K	Bearman Lake	85.54	23	P	P	01 58 22.6	-0.4
	baz=262						
J25K	Salcha River,	85.57	25	P	P	01 58 22.3	-1.0
	baz=263						
N25K	Chitina, Valde	85.59	28	P	P	01 58 22.8	-0.7
	baz=264						
H25L	Birch Creek	85.59	24	P	P	01 58 22.6	-0.6
	baz=263						
PRP	Porcupine Dome	85.62	24	P	P	01 58 22.4	-1.2
	baz=263						
RIDG	Independent Ri	85.70	26	IAmb	IAmb	01 58 25.9	
	comp=Z,12nm,1.0s						
RIDG	Independent Ri	85.70	26	P	P	01 58 22.6	-1.3
	baz=264						
E25K	Arctic Village	85.92	22	P	P	01 58 27.3	+2.4
	baz=263						
GLB	Gilahina Butte	85.95	29	IAmb	IAmb	01 58 27.6	
	comp=Z,10nm,0.9s						
BELG	Belogornoye	86.10	322	*i* P	P	01 58 25.6	-0.4
BELG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SCRK	Sand Creek	86.10	26	P	P	01 58 25.8	-0.2
SCRK				IAmb	IAmb	01 58 38.6	
	comp=Z,21nm,1.8s						
SCRK	Sand Creek	86.10	26	P	P	01 58 25.7	-0.4
	baz=264						
L26K	Log Cabin Wild	86.30	27	IAmb	IAmb	01 58 30.0	
	comp=Z,21nm,1.6s						
L26K	Log Cabin Wild	86.30	27	P	P	01 58 26.1	-0.8
	baz=265						
MCARA	McCarthy VSAT	86.32	29	P	P	01 58 28.0	+1.0
	baz=266						
J26L	Joseph Creek	86.34	26	P	P	01 58 25.9	-1.2
	baz=265						
M26K	Nabesna, AK	86.41	28	P	P	01 58 25.7	-1.8
	baz=266						
G26K	Porcupine Rive	86.47	23	P	P	01 58 27.5	-0.1
	baz=264						
K27K	Chicken	86.95	26	IAmb	IAmb	01 58 34.0	
	comp=Z,15nm,1.0s						
K27K	Chicken	86.95	26	P	P	01 58 29.4	-0.6
	baz=266						
L27K	Beaver Creek,	87.00	27	P	P	01 58 29.5	-0.8
	baz=266						
CTG	Chitna Glacier	87.11	29	P	P	01 58 30.7	-0.3
	baz=267						
I27K	Kandik River	87.24	24	P	P	01 58 30.9	-0.6
	baz=266						
H27K	Steamboat Moun	87.32	24	P	P	01 58 31.4	-0.4
	baz=267						
TAOE	Nuku Hiva Isla	87.39	99	*e*LR	LR	02 26 06.5	
	comp=Z,542nm,23.6s						
YUK3	Moose Creek	87.57	28	P	P	01 58 33.0	-0.4
	baz=268						
I28M	Miner Creek	87.94	25	P	P	01 58 34.9	0.0
	baz=268						
F28M	Old Crow	88.03	23	P	P	01 58 36.3	+1.1
	baz=268						
DAWY	Dawson	88.13	26	IAmb	IAmb	01 58 39.9	
	comp=Z,19nm,1.5s						
DAWY	Dawson	88.13	26	P	P	01 58 35.2	-0.5
	baz=269						
ZEI	Tsey	88.35	313	*e*P	P	01 58 40.7	+3.2
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AKH	Akhalkalaki	88.66	311	P	P	01 58 38.7	-0.2
AKH	Akhalkalaki	88.66	311	P	P	01 58 38.7	-0.2
AKH				pmax	pmax		
	comp=Z,34nm,1.4s						
L29M	L29M	88.68	27	P	P	01 58 38.4	0.0
	baz=270						
G29M	Pine Creek	88.74	23	P	P	01 58 39.6	+1.0
	baz=270						
K29M	Barlow Dome	88.95	26	IAmb	IAmb	01 58 44.3	
	comp=Z,14nm,1.4s						
K29M	Barlow Dome	88.95	26	P	P	01 58 39.8	+0.1
	baz=270						
M30M	Minto, Yukon	89.30	28	P	P	01 58 41.8	+0.5
	baz=271						
O30N	Mendenhall	89.67	29	P	P	01 58 42.9	-0.2
GURO	Guroymak-BITLI	89.82	308	P	P	01 58 45.0	+0.6
KLMR	Klimovskoe	90.59	331	*e*P	P	01 58 52.8	+5.6
KLMR				AMP		01 58 59.4	
	comp=Z,13nm,1.3s						
KLMR	Klimovskoe	90.59	331	*e*P	P	01 58 52.8	+5.6
KLMR				pmax	pmax		
	comp=Z,13nm,1.3s						
QSPA	South Pole Qui	91.01	180	P	P	01 58 49.7	+0.4
QSPA	South Pole Qui	91.01	180	P	P	01 58 49.7	+0.4
	comp=Z,1.7nm,0.9s,baz=20,slow=7.4,SNR=5.4						
QSPA				LR	LR	02 40 33.8	
	comp=Z,453nm,18.8s,baz=358,slow=36						
	comp=Z,1.7nm,0.9s						
SPITS	Spitsbergen Ar	94.18	349	LR	LR	02 44 22.7	
	comp=Z,183nm,20.3s,baz=36,slow=37						
BBB	Bella Bella	94.81	38	LR	LR	02 41 40.0	
	comp=Z,119nm,18.1s,baz=258,slow=36						
ARCES	ARCESS Array B	94.94	340	LR	LR	02 48 31.8	
	comp=Z,160nm,18.5s,baz=80,slow=40						
KMBO	Kilima Mbogo	95.42	269	LR	LR	02 42 54.2	
	comp=Z,89nm,18.2s,baz=101,slow=36						
MMAI	Mount Meron Ar	95.50	303	LR	LR	02 49 54.8	
	comp=Z,56nm,18.2s,baz=57,slow=40						
FINES	FINESS Array B	96.92	332	LR	LR	02 45 39.6	
	comp=Z,304nm,21.0s,baz=74,slow=37						
AKASG	Malin Array Be	97.65	321	LR	LR	02 48 34.7	
	comp=Z,106nm,18.4s,baz=63,slow=39						
RES	Resolute Bay	99.27	11	LR	LR	02 43 06.8	
	comp=Z,81nm,21.3s,baz=37,slow=35						
YKA	Yellowknife Ar	99.36	26	LR	LR	02 42 29.1	
	comp=Z,171nm,19.7s,baz=259,slow=34						
YBH	Yreka Blue Hor	100.17	47	LR	LR	02 37 59.8	
	comp=Z,289nm,20.4s,baz=294,slow=31						
VYHS	Vyhne	104.74	321	*e*PDIFF	Pdif	02 00 02.2	+11
BRG	Berggiesshubel	106.84	325	*e*P	Pdif	02 00 04.7	+3.8
BRG				Amp		02 00 06.5	
	comp=Z,6.0nm,1.3s						
BRG	Berggiesshubel	106.84	325	*e*P	Pdif	02 00 04.6	+3.8
BRG				pmax	pmax		
	comp=Z,6.0nm,1.3s						
OK032	Salt Plains WL	119.68	46		PKPdf	02 04 34.7	-1.0
TORD	Torodi Ar. Bea	129.36	288	PKP	PKPdf	02 04 54.0	-0.7
	comp=Z,1.3nm,0.9s,baz=34,slow=2.5,SNR=4.3						
PLCA	Paso Flores	135.28	155	PKP	PKPdf	02 05 04.1	-1.2
	comp=Z,3.4nm,1.1s,baz=194,slow=9.5,SNR=3.2						
AC02	Maricunga	146.93	143		PKPdf	02 05 24.6	-2.5
MCRA	Macar, Loja	147.27	96	PKPbc	PKPdf	02 05 26.5	-0.9
CHSH	Refugio Sur-Vo	148.48	91		PKPdf	02 05 26.9	-3.2
PB06	IPOC Station P	149.53	136	PKPbc	PKPdf	02 05 31.3	+0.2
CPUP	Villa Florida	153.13	160	PKPbc	PKPbc	02 05 43.6	0.0
	comp=Z,4.9nm,0.8s,baz=245,slow=2.4,SNR=9.4						
LPAZ	La Paz	154.55	128	PKIKP	PKiKP	02 05 48.0	+0.3
LPAZ	La Paz	154.55	128	PKPbc	PKiKP	02 05 48.0	+0.3
	comp=Z,1.5nm,0.9s,baz=326,slow=2.8,SNR=1.2						

IDC 07 01:53:35.4±4.5, 6°.39S×128°.65E, h390km±55km, mb2.7/1, mbtmp3.8/3, Error ellipse: s-maj=97.1km s-min=18.0km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.56	158	P	P	01 56 43.4	-0.2
	1.1nm,0.4s,baz=338,slow=11,SNR=12						
WRA				S	S	01 59 18.2	-1.3
	1.5nm,0.9s,baz=333,slow=20,SNR=3.2						
ASAR	Alice Springs	17.91	164	P	P	01 57 19.6	+0.2
	1.6nm,0.3s,baz=346,slow=11,SNR=17						
ASAR				S	S	02 00 26.1	+1.0
	1.9nm,0.9s,baz=342,slow=19,SNR=7.2						
MKAR	Makanchi Array	66.98	327	P	P	02 03 47.6	0.0
	0.2nm,0.4s,baz=119,slow=7.6,SNR=2.5						
	0.2nm,0.4s						

IDC 07 02:12:40.7±9.2, 32°.30S×178°.62W, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=425.1km s-min=67.0km az=160.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.51	269	P	P	02 20 37.6	-0.5
	0.5nm,1.0s,baz=104,slow=7.7,SNR=1.9						
	0.5nm,1.0s						
WRA	Warramunga Arr	43.67	274	P	P	02 20 47.7	+0.3
	0.1nm,0.3s,baz=116,slow=8.1,SNR=1.6						
	0.1nm,0.3s						
FINES	FINESS Array B	146.72	339	PKPbc	PKPbc	02 32 22.9	-0.8
	3.3nm,1.1s,baz=98,slow=18,SNR=2.3						

IDC 07 02:12:59.4±7.2, 31°.16S×179°.63W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=291.4km s-min=61.5km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	41.68	269	P	P	02 20 49.2	-0.9
	0.4nm,0.6s,baz=108,slow=7.6,SNR=4.6						
	0.4nm,0.6s						
WRA	Warramunga Arr	42.74	274	P	P	02 20 59.2	+0.5
	0.3nm,0.5s,baz=114,slow=7.7,SNR=6.9						
	0.3nm,0.5s						
FINES	FINESS Array B	145.36	338	PKPbc	PKPbc	02 32 37.5	-0.8
	2.1nm,1.1s,baz=20,slow=4.4,SNR=4.4						

IDC 07 02:24:11.3±2.5, 5°.16S×146°.69E, h0km, mb3.2/2, mbtmp3.3/3, ML3.5/1, MS3.7/1, Error ellipse: s-maj=321.9km s-min=32.8km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.99	218	P	P	02 28 33.8	-0.8
	0.1nm,0.3s,baz=42,slow=11,SNR=7.3						
WRA				LR	LR	02 37 10.3	
	comp=Z,239nm,21.0s,baz=86,slow=41						
	0.3nm,0.4s						
ASAR	Alice Springs	22.15	213	P	P	02 29 09.6	+0.6
	0.4nm,0.8s,baz=47,slow=8.4,SNR=2.6						
	0.4nm,0.8s						
ILAR	Eielson Array	84.83	23	P	P	02 36 47.6	+0.1
	0.4nm,1.0s,baz=234,slow=5.5,SNR=2.4						
	0.4nm,1.0s						

*IDC **07** 02:24:32.2±0.4, 23°.87S×69°.56E, h0km, mb4.3/25, mbtmp4.3/25, Error ellipse: s-maj=15.6km s-min=13.2km az=60.0*

*NEIC **07** 02:24:34.8±1.5, 23°.9S±0°.1×69°.5E±0°.1, h10km±1km, mb4.7/29, Error ellipse: s-maj=23.0km s-min=20.0km az=190.0*

ISC 07 02:24:33.9±0.4, 23°.89S±0°.09×69°.53E±0°.09, h10km, n112, σ0°.89/101, mb4.6/55, 7C-6D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	16.39	10	T	T	02 45 13.5	
	baz=191,slow=76,SNR=167						
H08S2	Diego Garcia H	16.40	10	T	T	02 45 06.7	
	baz=191,slow=76,SNR=176						
H08S3	Diego Garcia H	16.41	10	T	T	02 45 15.0	
	baz=191,slow=76,SNR=264						
OPO	Ambohidratompo	21.47	280	P	P	02 29 23.4	+0.4
	3.8nm,0.9s,baz=112,slow=18,SNR=1.9						
	3.8nm,0.9s						
H04N2	CROZET ISLANDS	26.43	208	T	T	02 58 01.6	
	baz=40,slow=74,SNR=754						
H04N1	CROZET ISLANDS	26.44	208	T	T	02 58 09.4	
	baz=40,slow=74,SNR=1004						
H04N3	CROZET ISLANDS	26.45	208	T	T	02 57 51.8	
	baz=40,slow=74,SNR=930						
KMBO	Kilima Mbogo	38.59	301	P	P	02 31 57.8	+0.2
KMBO	Kilima Mbogo	38.59	301	P	P	02 31 57.9	+0.2
	3.1nm,0.9s,baz=86,slow=8.8,SNR=4.8						
	3.1nm,0.9s						
LSZ	Lusaka	39.76	275	P	P	02 32 07.3	-0.1
BOSA	Boshof	39.81	253	P	P	02 32 07.3	-0.4
	1.9nm,0.6s,baz=100,slow=8.4,SNR=6.2						
	1.9nm,0.6s						
H01W2	Cape Leeuwin H	40.10	116	T	T	03 14 52.2	
	baz=273,slow=75,SNR=34						
H01W3	Cape Leeuwin H	40.10	116	T	T	03 14 44.7	
	baz=273,slow=75,SNR=28						
H01W1	Cape Leeuwin H	40.11	116	T	T	03 14 53.5	
	baz=273,slow=75,SNR=36						
MAW	Mawson	43.92	184	P	P	02 32 40.5	-0.1
	1.9nm,0.6s,baz=345,slow=19,SNR=2.2						
	1.9nm,0.6s						
CMAR	Chiang Mai Arr	50.94	37	P	P	02 33 37.2	+1.4
CMAR	Chiang Mai Arr	50.94	37	P	P	02 33 35.2	-0.6
	0.7nm,0.3s,baz=234,slow=6.6,SNR=8.3						
	0.7nm,0.3s						
CHTO	Chiang Mai	51.23	37	P	P	02 33 38.6	+0.6
SHL	Shillong	53.72	25	P	P	02 33 56.7	+0.2
SHL				IAmb	IAmb	02 33 59.6	
	comp=Z,14nm,1.3s						
TOLI2	Tolitoli	55.60	71	P	P	02 34 11.2	+1.0
TOLI2				IAmb	IAmb	02 34 22.6	
	comp=Z,9.0nm,1.2s						
MYLDM	Lahad Datu	55.78	65	P	P	02 34 11.8	+0.2
NIL	Nilore	57.33	4	P	P	02 34 21.8	-0.3
NIL				IAmb	IAmb	02 34 37.2	
	comp=Z,11nm,1.4s						
KBL	Kabul	58.11	360	P	P	02 34 28.6	+0.8
KBL				IAmb	IAmb	02 34 31.3	
	comp=Z,5.5nm,0.8s						
ASAR	Alice Springs	58.42	104	P	P	02 34 29.3	-0.9
ASAR	Alice Springs	58.42	104	P	P	02 34 30.2	-0.1
	comp=Z,4.7nm,0.6s,baz=251,slow=6.3,SNR=78						
ASAR				PcP	PcP	02 35 20.7	-0.3
	comp=Z,1.6nm,0.8s,baz=254,slow=3.5,SNR=5.9						
	comp=Z,4.7nm,0.6s						
AS31	Alice Springs	58.42	104	P	P	02 34 30.1	-0.1
WRA	Warramunga Arr	59.80	100		P	02 34 39.4	-0.4
WRA	Warramunga Arr	59.80	100	P	P	02 34 39.7	-0.1
	comp=Z,8.3nm,0.9s,baz=254,slow=7.0,SNR=28						
	comp=Z,8.3nm,0.9s						
WB2	Warramunga Arr	59.81	100		P	02 34 39.8	-0.1
WRAB	Tennant Creek	59.81	100	P	P	02 34 40.6	+0.7
WR0	Warramunga Arr	59.98	100	P	P	02 34 41.2	+0.2
WR0				IAmb	IAmb	02 34 41.9	
	comp=Z,5.5nm,0.8s						
SNAA	Sanae	61.98	200	⇑P	P	02 34 54.4	+0.5
	comp=Z,35nm,0.8s						
SNAA	Sanae	61.98	200	P	P	02 34 54.2	+0.3
	comp=Z,1.5nm,0.8s,baz=128,slow=8.4,SNR=8.4						
	comp=Z,1.5nm,0.8s						
STKA	Stephens Creek	63.17	115	P	P	02 35 01.4	-1.0
	comp=Z,2.9nm,0.9s,baz=313,slow=11,SNR=3.8						
	comp=Z,2.9nm,0.9s						
VNA2	Neumayer--Watz	63.36	201	⇑P	P	02 35 03.6	+0.6
	comp=Z,1.1nm,0.6s,baz=86,slow=5.0						
BTK	Batken	63.62	1	P	P	02 35 05.6	+0.5
BTK				IAmb	IAmb	02 35 06.4	
	comp=Z,9.3nm,1.2s						
VNA1	Neumayer--Stat	63.63	201	P	P	02 35 06.1	+1.4
	comp=Z,4.2nm,1.0s						
SIJI	Sorong	63.93	79	P	P	02 35 07.2	-0.5
	comp=Z,7.3nm,0.5s,baz=225,slow=19,SNR=4.1						
	comp=Z,7.3nm,0.5s						
VNA3	Neumayer Olymp	64.12	201	⇑P	P	02 35 08.5	+0.5
	comp=Z,2.7nm,0.8s						
MMAI	Mount Meron Ar	65.27	329	P	P	02 35 17.1	+1.0
	comp=Z,2.4nm,0.8s,baz=169,slow=4.8,SNR=4.9						
	comp=Z,2.4nm,0.8s						
ENH	Enshi	66.11	37	P	P	02 35 22.5	+1.0
QSPA	South Pole Qui	66.24	180	P	P	02 35 22.5	+0.5
QSPA				IAmb	IAmb	02 35 34.0	
	comp=Z,8.0nm,1.1s						
QSPA	South Pole Qui	66.24	180	P	P	02 35 22.0	0.0
	comp=Z,3.9nm,1.0s,baz=263,slow=2.8,SNR=8.0						
	comp=Z,3.9nm,1.0s						
KK31	Karatay Array	66.66	1	P	P	02 35 25.3	+0.6
KK31				IAmb	IAmb	02 35 26.5	
	comp=Z,6.7nm,1.1s						
KKAR	Karatay Array	66.66	1		P	02 35 26.1	+1.3
KKAR				IAmb	IAmb	02 35 26.5	
	comp=Z,6.7nm,1.1s						
GURO	Guroymak-BITLI	67.25	337	P	P	02 35 29.8	+1.1
GURO				IAmb	IAmb	02 35 31.6	
	comp=Z,5.5nm,1.1s						
VNDA	Vanda	67.36	166	P	P	02 35 29.0	+0.2
	baz=306,slow=6.1						
MK31	Makanchi Array	71.29	9	IAmb	IAmb	02 35 54.2	
	comp=Z,5.0nm,1.1s						
MKAR	Makanchi Array	71.29	9	P	P	02 35 52.9	-0.5
MKAR	Makanchi Array	71.29	9	P	P	02 35 52.8	-0.6
	comp=Z,3.2nm,0.8s,baz=190,slow=6.0,SNR=18						
	comp=Z,3.2nm,0.8s						
KBZ	Khabaz	71.59	340	P	P	02 35 54.8	-0.4
	comp=Z,4.1nm,1.0s,baz=174,slow=8.3,SNR=3.6						
	comp=Z,4.1nm,1.0s						
BR131	Keskin Array S	71.60	332	P	P	02 35 55.9	+0.3
BR131				IAmb	IAmb	02 36 16.3	
	comp=Z,5.6nm,1.1s						
BRTR	Keskin Array B	71.60	332	P	P	02 35 55.8	+0.1
	comp=Z,1.9nm,0.8s,baz=162,slow=6.4,SNR=12						
	comp=Z,1.9nm,0.8s						
ABKAR	Akbulak array	73.31	353	P	P	02 36 05.4	0.0
KURBB	Kurchatov Arra	74.61	6	P	P	02 36 13.1	+0.2
	comp=Z,0.6nm,0.3s,baz=202,slow=6.6,SNR=8.8						
	comp=Z,0.6nm,0.3s						
KURK	Kurchatov	74.71	6	P	P	02 36 14.1	+0.6
KURK				IAmb	IAmb	02 36 14.9	
	comp=Z,5.8nm,1.1s						
TORD	Torodi Ar. Bea	75.79	291	P	P	02 36 20.2	-0.4
	comp=Z,1.1nm,1.1s,baz=83,slow=4.6,SNR=3.6						
	comp=Z,1.1nm,1.1s						
BVAR	Borovoye Array	76.59	1	P	P	02 36 24.3	0.0
	comp=Z,1.9nm,0.7s,baz=139,slow=7.5,SNR=6.8						
	comp=Z,1.9nm,0.7s						
ZALV	Zalesovo Beam	78.63	9	P	P	02 36 35.3	-0.3
	comp=Z,2.6nm,0.7s,baz=197,slow=4.6,SNR=11						
	comp=Z,2.6nm,0.7s						
SONM	Songino Array	78.71	24	P	P	02 36 36.5	+0.1
SONM	Songino Array	78.71	24	P	P	02 36 36.7	+0.3
	comp=Z,1.8nm,0.9s,baz=224,slow=5.3,SNR=7.7						
	comp=Z,1.8nm,0.9s						
ULN	Ulaanbaatar	78.98	25	P	P	02 36 37.7	-0.2
VRI	Vrincioaia	79.56	331	⇑P	P	02 36 42.2	+1.2
PLOR	Plostina	79.58	331	⇓P	P	02 36 42.2	+1.1
MLR	Muntele Rosu	79.62	330	⇓P	P	02 36 41.8	+0.3
MLR	Muntele Rosu	79.62	330	IAmb	IAmb	02 36 42.8	
	comp=Z,14nm,1.2s						
COVR	Voineasa-Covas	79.77	331	⇓P	P	02 36 42.5	+0.4
VOIR		79.98	330	⇓P	P	02 36 42.5	-0.9
ARR	Arges	80.12	330	⇓P	P	02 36 42.3	-1.8
DOPR	Dopca	80.23	330	⇑P	P	02 36 43.3	-1.3
SURR	Surduc	81.59	329	⇑P	P	02 36 49.5	-2.3
MARR	Marisel-Cluj	81.80	330	⇓P	P	02 36 48.9	-4.2
KSRS	Korea Array	82.07	43	P	P	02 36 54.2	-0.4
	comp=Z,1.2nm,0.7s,baz=254,slow=6.2,SNR=3.9						
	comp=Z,1.2nm,0.7s						
AKASG	Malin Array Be	82.35	335	P	P	02 36 55.4	-0.3
	comp=Z,2.8nm,0.7s,baz=136,slow=4.5,SNR=10						
	comp=Z,2.8nm,0.7s						
AKBB	Malin Array Si	82.35	335	P	P	02 36 55.1	-0.6
AKBB				IAmb	IAmb	02 36 56.4	
	comp=Z,7.4nm,0.8s						
TRPA	Tarpa	83.14	330	⇑P	P	02 36 58.7	-1.1
RONA	Rosalia, Austr	85.80	327	*e*P	P	02 37 14.3	+0.8
	comp=Z,13nm,1.6s						
ARSA	Arzberg	85.89	326	*i* P	P	02 37 14.6	+0.7
	comp=Z,4.8nm,1.1s						
CONA	Conrad Observa	86.17	327	*i* P	P	02 37 15.9	+0.6
	comp=Z,5.4nm,1.1s						
MOA	Molln	86.92	326	*e*P	P	02 37 19.5	+0.6
	comp=Z,7.1nm,1.0s						
ABTA	Abfaltersbach	87.11	325	*e*P	P	02 37 20.7	+0.7
	comp=Z,6.2nm,1.0s						
BIOA	Bad Ischl, Aus	87.14	326	*i* P	P	02 37 20.2	+0.2
	comp=Z,5.4nm,1.2s						
LESA	Schwarzleotal	87.46	325	*i* P	P	02 37 21.6	-0.1
	comp=Z,4.2nm,0.7s						
OSTC	Ostas	87.78	329	*e*P	P	02 37 24.0	+1.0
UPC	Upice	87.84	329	*e*P	P	02 37 25.0	+1.7
GERES	GERESS Array B	87.86	327	P	P	02 37 22.7	-0.9
GERES	GERESS Array B	87.86	327	P	P	02 37 22.2	-1.3
	comp=Z,1.2nm,0.8s,baz=147,slow=12,SNR=3.7						
	comp=Z,1.2nm,0.8s						
CHVC	Chvalec	87.88	329	*e*P	P	02 37 24.3	+0.8
KLMR	Klimovskoe	87.88	346	*e*P	P	02 37 20.8	-2.4
KLMR				AMP		02 37 24.1	
	comp=Z,15nm,1.0s						
WTTA	Wattenberg	87.91	325	*i* P	P	02 37 24.0	+0.1
	comp=Z,10nm,1.2s						
WATA	Walderalm	87.98	325	*i* P	P	02 37 24.2	0.0
	comp=Z,5.9nm,1.0s						
SQTA	Sankt Quirin	88.10	325	*i* P	P	02 37 25.1	+0.4
	comp=Z,5.8nm,1.1s						
KHC	Kasperske Hory	88.11	327	*e*P	P	02 37 23.3	-1.3
PRU	Pruhonice	88.19	328	*e*P	P	02 37 25.7	+0.7
FETA	Feichten	88.23	324	*i* P	P	02 37 25.9	+0.4
	comp=Z,10nm,1.1s						
MOTA	Moosalm	88.24	325	*e*P	P	02 37 25.6	+0.1
	comp=Z,4.3nm,0.8s						
RETA	Reutte	88.51	325	*i* P	P	02 37 27.1	+0.5
	comp=Z,3.9nm,0.9s						
DAVA	Damuels	88.86	324	*e*P	P	02 37 29.0	+0.6
	comp=Z,8.7nm,0.7s						
CLL	Collm	89.80	328	*e*P	P	02 37 34.0	+1.5
FINES	FINESS Array B	91.94	341	P	P	02 37 41.6	-0.5
	comp=Z,3.7nm,1.1s,baz=134,slow=5.5,SNR=5.0						
	comp=Z,3.7nm,1.1s						
ESDC	Sonseca Array	93.17	312	P	P	02 37 48.5	0.0
	comp=Z,1.2nm,1.0s,baz=113,slow=2.5,SNR=5.7						
	comp=Z,1.2nm,1.0s						
WSPT	Westport, CT	144.58	308	PKPdf	PKPbc	02 44 09.8	+0.3
N62A	Caumsett State	144.75	308	PKPdf	PKPab	02 44 10.1	+0.1
J58A	Remsen	145.19	313	PKPbc	PKPbc	02 44 09.9	-1.6
J57A	Williamstown	145.65	313		PKPdf	02 44 12.4	-0.2
PECO	Prince Edward	146.10	314	PKPbc	PKPdf	02 44 13.7	+0.4
KSPA	Keystone Colle	146.19	310	PKPbc	PKPbc	02 44 14.4	-0.3
MVL	Millersville	147.13	307	PKPbc	PKPdf	02 44 16.2	+1.0
ULM	Lac du Bonnet	151.33	340	PKPbc	PKPbc	02 44 26.6	-1.0
	comp=Z,4.6nm,0.6s,baz=352,slow=1.2,SNR=8.8						
PDAR	Pinedale Array	161.15	358	PKPab	PKPab	02 45 18.4	+0.1
	comp=Z,0.4nm,0.6s,baz=49,slow=4.5,SNR=4.0						
NVAR	Mina Array Bea	164.04	23	PKPab	PKPab	02 45 31.0	-0.1
	comp=Z,0.2nm,0.3s,baz=305,slow=3.2,SNR=7.2						
TXAR	Lajitas Array	171.84	313	PKPab	PKPab

GRG				*i* Sg		**Sb**	**02 27 07.0**	**+0.3**
VAY	**Valandovo**	**1.18**	**83**	*e*Pg		**Pn**	**02 26 54.7**	**+0.3**
VAY				*e*Sg		**Sn**	**02 27 10.3**	**-0.4**
VAY	**Valandovo**	**1.18**	**83**	*i* Pg		**Pn**	**02 26 54.7**	**+0.3**
VAY				*i* Sg		**Sn**	**02 27 10.1**	**-0.6**
VAY				*e*Lg		Lg	02 27 11.4	
	comp=E,13nm,0.3s							
VAY				*e*Lg		Lg	02 27 11.4	
	comp=N,11nm,0.5s							
KPRO	**Kipourio**	**1.27**	**168**	P		**Pn**	**02 26 55.0**	**-0.7**
KPRO				S		**Sn**	**02 27 15.0**	**+2.0**
	comp=N,148nm,0.5s							
PRVS	**Prvonek**	**1.53**	**31**	*e*Pg		**Pg**	**02 27 01.0**	**+0.2**
PRVS				*e*Sg		**Sg**	**02 27 21.0**	**+0.4**
KKB	**Krupnik**	**1.71**	**67**	*e*Pn		**Pg**	**02 27 04.6**	**+0.3**
KKB				*e*Sg		**Sg**	**02 27 26.6**	**+0.1**
BARS	**Barje**	**1.72**	**20**	*e*Pg		**Pb**	**02 27 02.8**	**-0.7**
BARS				*e*Sg		**Sg**	**02 27 27.0**	**+0.2**
BARS	**Barje**	**1.72**	**20**	*i* Pn		**Pg**	**02 27 04.1**	**-0.3**
BARS				*e*Sg		**Sg**	**02 27 28.5**	**+1.7**
IGT	**Igoumenitsa**	**1.74**	**198**	P		**Pg**	**02 27 05.2**	**+0.4**
	baz=199							
IGT				S		**Sg**	**02 27 28.5**	**+1.1**
	baz=199							
SOH	**Sokhos**	**1.81**	**101**	*e*Pn		**Pg**	**02 27 06.0**	**-0.1**
SOH				*e*Sg		**Sg**	**02 27 31.6**	**+2.0**
BEY	**Berane**	**1.87**	**334**	*i* Pn		**Pb**	**02 27 06.3**	**+0.4**
MMB	**Musomishta**	**2.09**	**79**	*e*Pn		**Pg**	**02 27 10.8**	**-0.6**
VTS	**Vitosha**	**2.18**	**49**	*e*Pg		**Pb**	**02 27 11.2**	**-0.1**
VTS				*e*Sg		**Sg**	**02 27 40.6**	**-1.0**
SJES	**Sjenica**	**2.20**	**340**	*e*Pg		**Pb**	**02 27 10.4**	**-1.3**
SJES				*e*Sg		**Sg**	**02 27 43.1**	**+0.9**

*SJA **07** 02:28:43.8±0.6, 24°.59S×69°.31W, h92km±4km, ML3.9, MW3.9*

*GUC **07** 02:28:45.1±0.8, 24°.59S×69°.38W, h93km±4km, ML4.0*

ISC 07 02:28:45.8±1.3, **24°.56S**±0°.03×**69°.47W**±0°.06, **h91**km±10km, **n35**, σ2s**09**/54, **3C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.61**	**191**	*e*P	**Pn**	**02 29 00.8**	**-1.2**
GO02				*i* S	**Sn**	**02 29 13.4**	**-0.6**
GO02				IAML		02 29 13.9	
	comp=N,6μm,0.1s						
GO02	**Mina Guanaco**	**0.61**	**191**	*e*P	**Pn**	**02 29 00.9**	**-1.1**
GO02				*e*S	**Sn**	**02 29 13.5**	**-0.6**
PB14	**IPOC Station P**	**0.86**	**265**	⇑*i*P	**Pn**	**02 29 04.8**	**+0.5**
PB14				*i* S	**Sn**	**02 29 19.5**	**+1.3**
PB14	**IPOC Station P**	**0.86**	**265**	*e*P	**Pn**	**02 29 04.8**	**+0.5**
PB14				*e*S	**Sn**	**02 29 20.7**	**+2.4**
PB14				IAML		02 29 24.4	
	comp=Z,1μm,0.1s						
PB15	**IPOC Station P**	**1.34**	**360**	⇓*i*P	**Pn**	**02 29 09.6**	**-0.3**
PB15				*i* S	**Sn**	**02 29 28.8**	**+0.7**
PB15	**IPOC Station P**	**1.34**	**360**	*e*P	**Pn**	**02 29 09.4**	**-0.5**
PB15				*e*S	**Sn**	**02 29 28.4**	**+0.4**
PB15				IAML		02 29 34.8	
	comp=Z,7μm,0.1s						
PB06	**IPOC Station P**	**1.85**	**357**	*e*P	**Pn**	**02 29 16.2**	**-0.1**
PB06				*i* S	**Sn**	**02 29 40.0**	**+0.7**
PB06				IAML		02 29 45.2	
	comp=E,1μm,0.2s						
PB06	**IPOC Station P**	**1.85**	**357**	*e*P	**Pn**	**02 29 16.2**	**-0.1**
PB06				*e*S	**Sn**	**02 29 37.8**	**-1.5**
PB06				IAML		02 29 43.8	
	comp=Z,834nm,0.1s						
AC01	**Pan de Azucar**	**1.89**	**213**	*e*P	**Pn**	**02 29 16.1**	**-0.6**
AC01				*i* S	**Sn**	**02 29 40.5**	**+0.5**
AC01				IAML		02 29 46.8	
	comp=E,1μm,0.1s						
AC01	**Pan de Azucar**	**1.89**	**213**	*e*P	**Pn**	**02 29 16.6**	**0.0**
AC01				*e*S	**Sn**	**02 29 40.9**	**+0.9**
AC01				IAML		02 29 45.9	
	comp=Z,402nm,0.1s						
AF01	**San Pedro de A**	**1.99**	**37**	⇑*i*P	**Pn**	**02 29 17.6**	**-0.5**
AF01				*i* S	**Sn**	**02 29 42.5**	**-0.3**
AF01				IAML		02 29 44.5	
	comp=E,3μm,0.4s						
LVC	**Limon Verde**	**2.00**	**15**	*e*P	**Pn**	**02 29 17.8**	**-0.7**
LVC				*i* S	**Sn**	**02 29 43.5**	**+0.1**
LVC	**Limon Verde**	**2.00**	**15**	*e*P	**Pn**	**02 29 17.7**	**-0.8**
LVC				*e*S	**Sn**	**02 29 43.0**	**-0.3**
LVC				IAML		02 29 46.8	
	comp=Z,499nm,0.3s						
AC02	**Maricunga**	**2.29**	**172**	⇑*e*P	**Pn**	**02 29 21.8**	**-0.6**
AC02				*i* S	**Sn**	**02 29 51.4**	**+1.2**
AC02				IAML		02 29 59.5	
	comp=E,1μm,0.2s						
AC02	**Maricunga**	**2.29**	**172**	*e*P	**Pn**	**02 29 21.9**	**-0.4**
AC02				*e*S	**Sn**	**02 29 55.7**	**+5.5**
AC02				IAML		02 30 01.6	
	comp=Z,289nm,0.3s						
PB04	**IPOC Station P**	**2.30**	**344**	*e*P	**Pn**	**02 29 21.6**	**-0.6**
PB04				IAML		02 29 60.0	
	comp=E,601nm,0.2s						
PB04	**IPOC Station P**	**2.30**	**344**	*e*P	**Pn**	**02 29 21.6**	**-0.6**
PB04				*e*S	**Sn**	**02 29 45.3**	**-4.8**
PB04				IAML		02 30 00.6	
	comp=Z,458nm,0.1s						
PB09	**IPOC Station P**	**2.76**	**4**	*e*P	**Pn**	**02 29 28.1**	**-0.2**
PB09				IAML		02 30 12.3	
	comp=N,413nm,0.0s						
PB09	**IPOC Station P**	**2.76**	**4**	*e*P	**Pn**	**02 29 28.1**	**-0.2**
PB09				*e*S	**Sn**	**02 30 06.8**	**+5.9**
PB09				IAML		02 30 14.3	
	comp=Z,573nm,0.5s						
PB07	**IPOC Station P**	**2.84**	**352**	*e*P	**Pn**	**02 29 28.5**	**-1.0**
PB07				*e*S	**Sn**	**02 30 10.1**	**+7.1**
PB07				IAML		02 30 15.6	
	comp=Z,380nm,0.3s						
GO03	**Copiap**	**3.10**	**193**	*e*P	**Pn**	**02 29 30.8**	**-2.0**
GO03	**Copiap**	**3.10**	**193**	*e*P	**Pn**	**02 29 31.2**	**-1.6**
GO03				*e*S	**Sn**	**02 30 11.6**	**+2.6**
PB02	**IPOC Station P**	**3.25**	**353**	*e*P	**Pn**	**02 29 33.6**	**-1.2**
PB02	**IPOC Station P**	**3.25**	**353**	*e*P	**Pn**	**02 29 33.7**	**-1.2**
PB02				*e*S	Sn	02 30 24.8	+12
PB02				IAML		02 30 26.7	
	comp=Z,884nm,0.4s						
PB01	**IPOC Station P**	**3.50**	**360**	*e*P	**Pn**	**02 29 36.8**	**-1.5**
PB01				*e*S	Sn	02 30 27.8	+9.1
PB01				IAML		02 30 31.5	
	comp=Z,323nm,0.2s						
PATCX	**Punta Patache**	**3.77**	**350**	*e*P	**Pn**	**02 29 39.9**	**-2.0**
PATCX				*e*S	Sn	02 30 39.7	+14
AC04	**Llanos de Chal**	**3.91**	**201**	*e*P	**Pn**	**02 29 40.5**	**-3.1**
AC04				*e*S	Sn	02 30 43.6	+15
AC04				IAML		02 30 45.8	
	comp=Z,139nm,0.5s						
TA01	**Diego Aracena**	**4.03**	**350**	*e*P	**Pn**	**02 29 46.0**	**+0.8**
TA01				IAML		02 30 54.6	
	comp=Z,124nm,0.5s						
HMBC	**Humberstone**	**4.28**	**355**	*e*P	**Pn**	**02 29 46.7**	**-2.1**
HMBC				*e*S	Sn	02 30 52.4	+15
VCA	**Vinchina**	**4.31**	**165**	*e*P	**Pn**	**02 29 48.6**	**-0.6**
AC05	**El Transito**	**4.32**	**189**	*e*P	**Pn**	**02 29 48.1**	**-1.2**
AC05				*e*S	Sn	02 30 48.0	+9.4
YJA	**Yavi**	**4.34**	**58**	*e*P	**Pn**	**02 29 49.7**	**-0.1**
PB08	**IPOC Station P**	**4.41**	**4**	*e*P	**Pn**	**02 29 49.0**	**-1.8**
PB08				IAML		02 31 01.9	
	comp=Z,66nm,0.6s						
LCO	**Las Campanas**	**4.57**	**194**	*e*P	**Pn**	**02 29 49.7**	**-3.2**
LCO				*e*S	Sn	02 30 55.9	+11
LCO				IAML		02 30 59.1	
	comp=Z,220nm,0.4s						
GO01	**Chusmiza**	**4.87**	**3**	*e*P	**Pn**	**02 29 54.7**	**-2.5**

*IDC **07** 02:29:15.7±4.6, 23°.60S×68°.77E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=140.1km s-min=30.5km az=54.0*

ISC 07 02:29:17.7±4.4, **23°.6S**±0°.5×**68°.9E**±0°.7, **h10**km, **n16**, σ0s**76/7**, **mb3.6**/7, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.20**	**13**	T	T	02 50 02.9	
	baz=191,slow=76,SNR=67						
H08S2	**Diego Garcia H**	**16.20**	**13**	T	T	02 50 04.2	
	baz=191,slow=76,SNR=63						
H08S3	**Diego Garcia H**	**16.22**	**13**	T	T	02 50 06.7	
	baz=191,slow=76,SNR=64						
H04N2	**CROZET ISLANDS**	**26.43**	**207**	T	T	03 02 45.5	
	baz=40,slow=74,SNR=185						
H04N1	**CROZET ISLANDS**	**26.44**	**207**	T	T	03 02 46.4	
	baz=40,slow=74,SNR=183						
H04N3	**CROZET ISLANDS**	**26.45**	**207**	T	T	03 02 47.4	
	baz=40,slow=74,SNR=168						
H01W2	**Cape Leeuwin H**	**40.80**	**117**	T	T	03 19 33.7	
	baz=273,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**40.80**	**117**	T	T	03 19 32.7	
	baz=273,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**40.81**	**117**	T	T	03 19 33.8	
	baz=273,slow=75,SNR=12						
CMAR	**Chiang Mai Arr**	**51.06**	**38**	P	**P**	**02 38 20.2**	**-0.3**
	1.3nm,0.3s,baz=245,slow=5.9,SNR=1.4						
	1.3nm,0.3s						
ASAR	**Alice Springs**	**59.10**	**104**	P	**P**	**02 39 18.2**	**-0.6**
	0.9nm,0.6s,baz=252,slow=6.4,SNR=16						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**60.47**	**100**	P	**P**	**02 39 28.8**	**+0.5**
	1.9nm,0.9s,baz=255,slow=6.8,SNR=7.4						
	1.9nm,0.9s						
MKAR	**Makanchi Array**	**71.07**	**10**	P	**P**	**02 40 35.8**	**-0.1**
	0.3nm,0.5s,baz=205,slow=6.4,SNR=2.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**74.34**	**6**	P	**P**	**02 40 54.3**	**-1.0**
	0.2nm,0.3s,baz=203,slow=6.5,SNR=1.6						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**78.41**	**10**	P	**P**	**02 41 18.7**	**+0.5**
	0.2nm,0.3s,baz=187,slow=10,SNR=2.1						
	0.2nm,0.3s						
SONM	**Songino Array**	**78.67**	**25**	P	**P**	**02 41 20.7**	**+0.7**
	0.2nm,0.4s,baz=190,slow=4.2,SNR=1.7						
	0.2nm,0.4s						

*IDC **07** 02:38:01.5±0.5, 23°.82S×69°.85E, h0km, mb4.1/21, mbtmp4.1/21, MS4.2/52, Error ellipse: s-maj=17.2km s-min=15.7km az=55.0*

*MOS **07** 02:38:05.8±0.8, 23°.49S×69°.28E, h6km, mb5.0/44, Error ellipse: s-maj=12.2km s-min=7.4km az=94.9*

*BJI **07** 02:38:07.7±0.0, 23°.60S×69°.67E, h5km, mb4.8/35, mB5.2/15, Ms4.8/25, Ms7 4.5/26*

*GCMT **07** 02:38:07.2±0.2, 23°.81S±0°.02×69°.50E±0°.01, h12km, MW5.0/122, Moment Tensor Solution. s49,c57; s122,c184; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-4.04±.08; $M_{\theta\theta}$1.33±.07; $M_{\phi\phi}$2.70±.07; $M_{r\theta}$0.02±.30; $M_{\theta\phi}$-1.48±.06; $M_{r\phi}$2.22±.29; Best double couple: M_0=4.41600×10^16^ NP1:ϕ_s162.00000°, δ59.00000°, λ-76.00000°. NP2:ϕ_s316.00000°, δ33.00000°, λ-112.00000°. Principal axes: T 4.0930, Plg13.0000°, Azm242.0000°; N 0.6370, Plg12.0000°, Azm335.0000°; P -4.7390, Plg72.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **07** 02:38:07.2±2.3, 23°.9S±0°.1×69°.2E±0°.1, h10km±1km, mb5.0/58 Error ellipse: s-maj=18.5km s-min=15.4km az=206.0*

ISC 07 02:38:06.3±0.4, **23°.84S**±0°.07×**69°.21E**±0°.06, **h10**km, **n267**, σ1s**82**/219, **mb4.9**/103, **MS4.4**/63, **17C-2D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**6.78**	**306**	Pn	**Pn**	**02 39 45.2**	**-0.7**
H08S1	**Diego Carcia H**	**16.40**	**12**	T	T	02 58 45.0	
	baz=191,slow=76,SNR=608						
H08S2	**Diego Garcia H**	**16.41**	**12**	T	T	02 58 42.3	
	baz=191,slow=76,SNR=445						
H08S3	**Diego Garcia H**	**16.42**	**12**	T	T	02 58 43.7	
	baz=191,slow=76,SNR=868						
VOI	**Vohitsoka**	**20.74**	**271**	P	**P**	**02 42 48.3**	**+0.9**
VOI				IAmb	IAmb	02 43 05.2	
	comp=Z,96nm,1.7s						
OPO	**Ambohidratompo**	**21.18**	**280**	P	**P**	**02 42 55.3**	**+3.1**
	comp=Z,3.7nm,0.9s,baz=84,slow=8.7,SNR=4.2						
	comp=Z,3.7nm,0.9s						
H04N2	**CROZET ISLANDS**	**26.34**	**208**	T	T	03 11 39.5	
	baz=40,slow=74,SNR=2346						
H04N1	**CROZET ISLANDS**	**26.34**	**208**	T	T	03 11 32.5	
	baz=40,slow=74,SNR=3213						
H04N3	**CROZET ISLANDS**	**26.35**	**208**	T	T	03 11 32.0	
	baz=40,slow=74,SNR=1740						
KIBK	**Kibwezi**	**36.95**	**301**	P	**P**	**02 45 17.1**	**+1.1**
MATP	**Matopo**	**37.77**	**267**	LR	LR	02 58 18.5	
	comp=Z,474nm,21.4s,baz=64,slow=32						
KMBO	**Kilima Mbogo**	**38.31**	**301**	P	**P**	**02 45 28.8**	**+1.0**
KMBO	**Kilima Mbogo**	**38.31**	**301**	*e*P	**P**	**02 45 28.9**	**+1.2**
KMBO	**Kilima Mbogo**	**38.31**	**301**	P	**P**	**02 45 29.6**	**+1.9**
	comp=Z,3.5nm,1.0s,baz=101,slow=10,SNR=7.3						
KMBO				LR	LR	02 58 19.7	
	comp=Z,168nm,19.0s,baz=124,slow=31						
	comp=Z,3.5nm,1.0s						
RPSI	**Rantau Prapat**	**39.14**	**52**	P	**P**	**02 45 35.9**	**+1.6**
PSI	**Prapat**	**39.21**	**52**	P	**P**	**02 45 35.9**	**+0.8**
PSI				pmax	pmax		
	comp=Z,28nm,1.4s						
LSZ	**Lusaka**	**39.47**	**275**	P	**P**	**02 45 39.7**	**+2.4**
LSZ	**Lusaka**	**39.47**	**275**	P	**P**	**02 45 39.7**	**+2.4**
LSZ				pmax	pmax		
	comp=Z,24nm,1.4s						
LSZ	**Lusaka**	**39.47**	**275**	LR	LR	03 00 20.3	
	comp=Z,586nm,18.9s,baz=130,slow=33						
BOSA	**Boshof**	**39.55**	**253**	P	**P**	**02 45 40.6**	**+2.7**
BOSA				IAmb	IAmb	02 45 46.7	
	comp=Z,60nm,1.8s						
BOSA	**Boshof**	**39.55**	**253**	P	**P**	**02 45 40.6**	**+2.7**
BOSA				pmax	pmax		
	comp=Z,60nm,1.8s						
BOSA	**Boshof**	**39.55**	**253**	P	**P**	**02 45 38.9**	**+1.0**
	comp=Z,1.7nm,0.6s,baz=98,slow=6.8,SNR=6.9						
BOSA				LR	LR	02 59 46.4	
	comp=Z,889nm,18.2s,baz=92,slow=32						
	comp=Z,1.7nm,0.6s						
H01W2	**Cape Leeuwin H**	**40.38**	**116**	T	T	03 28 16.3	
	baz=273,slow=75,SNR=97						
H01W3	**Cape Leeuwin H**	**40.38**	**116**	T	T	03 28 13.4	
	baz=273,slow=75,SNR=91						
H01W1	**Cape Leeuwin H**	**40.39**	**116**	T	T	03 28 14.5	
	baz=273,slow=75,SNR=93						
LEM	**Lembang**	**40.54**	**72**	LR	LR	02 58 41.5	
	comp=Z,366nm,21.1s,baz=206,slow=31						
HYB	**Hyderabad**	**42.01**	**13**	*e*P	**P**	**02 45 59.3**	**+1.3**
NWAO	**Narrogin (SRO)**	**42.91**	**113**	LR	LR	03 00 37.2	
	comp=Z,378nm,18.9s,baz=236,slow=32						
SUR	**Sutherland**	**43.23**	**247**	LR	LR	03 01 08.2	
	comp=Z,682nm,19.7s,baz=102,slow=32						
MBAR	**Mbarara**	**43.86**	**296**	P	**P**	**02 46 14.6**	**+1.3**
MBAR	**Mbarara**	**43.86**	**296**	P	**P**	**02 46 14.6**	**+1.3**
MBAR				pmax	pmax		
	comp=Z,8.0nm,1.3s						
MBAR	**Mbarara**	**43.86**	**296**	LR	LR	03 02 43.9	
	comp=Z,141nm,18.2s,baz=104,slow=33						
MAW	**Mawson**	**43.95**	**183**	P	**P**	**02 46 10.7**	**-2.4**
	comp=Z,2.0nm,0.5s,baz=10,slow=0.3,SNR=2.3						
MAW				LR	LR	03 00 18.7	
	comp=Z,340nm,20.8s,baz=0.5,slow=30						
	comp=Z,2.0nm,0.5s						
WSAR	**Wadi Sarin**	**47.91**	**347**	LR	LR	03 02 25.8	
	comp=Z,334nm,20.5s,baz=196,slow=30						
TSUM	**Tsumeb**	**48.04**	**265**	LR	LR	03 04 15.9	
	comp=Z,514nm,21.5s,baz=97,slow=32						
SBUM	**Sibu**	**49.31**	**64**	P	**P**	**02 46 56.0**	**+0.1**
SBUM				IAmb	IAmb	02 46 57.1	
	comp=Z,28nm,1.9s						
CASY	**Casey**	**49.78**	**160**	P	**P**	**02 46 58.0**	**-0.8**
CASY				IAmb	IAmb	02 46 59.0	
	comp=Z,20nm,1.6s						
CM31	**Chiang Mai Arr**	**51.08**	**37**	P	**P**	**02 47 10.6**	**+1.4**
CM31				IAmb	IAmb	02 47 20.2	
	comp=Z,29nm,1.6s						
CMAR	**Chiang Mai Arr**	**51.08**	**37**	P	**P**	**02 47 09.2**	**0.0**
CMAR	**Chiang Mai Arr**	**51.08**	**37**	*ce*P	**P**	**02 47 09.5**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**51.08**	**37**	P	P	02 47 01.6	-7.5
	comp=Z,0.6nm,0.3s,baz=240,slow=5.1,SNR=0.9						
CMAR				LR	LR	03 06 20.5	
	comp=Z,323nm,19.0s,baz=215,slow=34						
	comp=Z,0.6nm,0.3s						
BRDH	**Bariadhala**	**51.12**	**27**	LR	LR	03 07 15.6	
	comp=Z,696nm,19.5s,baz=236,slow=34						
CHTO	**Chiang Mai**	**51.37**	**37**	P	**P**	**02 47 11.2**	**-0.2**
CHTO	**Chiang Mai**	**51.37**	**37**	P	**P**	**02 47 11.2**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,1.0nm,1.5s						
KAPI	**Kappang**	**52.08**	**77**	LR	LR	03 05 37.9	
	comp=Z,126nm,21.7s,baz=267,slow=32						
BATI	**Baumata**	**53.50**	**85**	LR	LR	03 07 21.2	
	comp=Z,159nm,21.1s,baz=256,slow=33						
SHL	**Shillong**	**53.80**	**26**	P	**P**	**02 47 30.3**	**+0.9**
SHL	**Shillong**	**53.80**	**26**	P	**P**	**02 47 30.3**	**+0.9**
SHL				pmax	pmax		
	comp=Z,59nm,1.7s						
KKM	**Kota Kinabalu**	**54.62**	**63**	P	**P**	**02 47 36.6**	**+1.0**
KKM				IAmb	IAmb	02 47 40.0	
	comp=Z,18nm,1.2s						
TOLI2	**Tolitoli**	**55.85**	**71**	P	**P**	**02 47 44.9**	**+0.4**
TOLI2				IAmb	IAmb	02 47 49.5	
	comp=Z,28nm,1.5s						
MYLDM	**Lahad Datu**	**56.03**	**66**	P	**P**	**02 47 46.3**	**+0.7**
NVL	**N'lazarevskaya**	**57.13**	**199**	*e*P	**P**	**02 47 49.0**	**-3.7**
NVL				pmax	pmax		
	comp=Z,19nm,1.8s						
LSA	**Lhasa**	**57.25**	**23**	P	**P**	**02 47 55.2**	**+0.6**
LSA				IAmb	IAmb	02 48 07.0	
	comp=Z,14nm,1.2s						
LSA	**Lhasa**	**57.25**	**23**	P	**P**	**02 47 55.2**	**+0.6**
LSA				pmax	pmax		
	comp=Z,14nm,1.2s						
KBL	**Kabul**	**58.06**	**360**	P	**P**	**02 47 60.0**	**+0.1**
KBL				IAmb	IAmb	02 48 07.9	
	comp=Z,43nm,1.9s						
KBL	**Kabul**	**58.06**	**360**	P	**P**	**02 48 00.0**	**+0.1**
KBL				pmax	pmax		
	comp=Z,43nm,1.9s						
QIZ	**Qiongzhong**	**58.19**	**46**	P	**P**	**02 48 00.3**	**-0.5**
QIZ				S	**S**	**02 56 05.8**	**+3.1**
QIZ				LR	LR		
	comp=Z,400nm,16.2s						
QIZ				LR	LR		
	comp=Z,350nm,18.1s						
QIZ				LR	LR		
	comp=Z,460nm,16.8s						
KMI	**Kunming**	**58.52**	**36**	⇑P	**P**	**02 48 03.7**	**+0.4**
KMI				pP	sP	02 48 07.0	+0.4
KMI				S	**S**	**02 56 01.6**	**-5.6**
KMI				pmax	pmax		
	comp=Z,13nm,0.4s						
KMI				LR	LR		
	comp=Z,260nm,23.0s						
KMI				LR	LR		
	comp=Z,340nm,19.6s						
KMI				LR	LR		
	comp=Z,390nm,21.0s						
ASAR	**Alice Springs**	**58.72**	**104**	P	**P**	**02 48 06.3**	**+1.6**
ASAR	**Alice Springs**	**58.72**	**104**	P	**P**	**02 48 06.3**	**+1.6**
ASAR	**Alice Springs**	**58.72**	**104**	P	P	02 47 57.8	-6.8
	comp=Z,1.5nm,0.7s,baz=253,slow=6.0,SNR=16						
ASAR				PcP	**PcP**	**02 48 50.7**	**-3.8**
	comp=Z,1.2nm,0.9s,baz=260,slow=2.8,SNR=2.3						
ASAR				LR	LR	03 09 39.8	
	comp=Z,428nm,21.7s,baz=281,slow=33						
	comp=Z,1.5nm,0.7s						
PZH	**PanZhiHua**	**59.11**	**34**	P	**P**	**02 48 11.5**	**+4.2**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,80nm,3.6s						
WRA	**Warramunga Arr**	**60.09**	**100**	P	**P**	**02 48 18.0**	**+3.8**
WRA	**Warramunga Arr**	**60.09**	**100**	P	**P**	**02 48 18.0**	**+3.8**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
WRA	**Warramunga Arr**	**60.09**	**100**	P	P	02 48 07.7	-6.5
	comp=Z,2.4nm,0.8s,baz=254,slow=6.9,SNR=12						
	comp=Z,2.4nm,0.8s						
WB2	**Warramunga Arr**	**60.11**	**100**	P	**P**	**02 48 16.5**	**+2.2**
WB2				IAmb	IAmb	02 48 23.7	
	comp=Z,16nm,1.1s						
WRAB	**Tennant Creek**	**60.11**	**100**	*i* P	**P**	**02 48 10.6**	**-3.7**
WRAB				pmax	pmax		
	comp=Z,23nm,1.4s						
WB0	**Warramunga Arr**	**60.19**	**100**	P	**P**	**02 48 12.9**	**-2.0**
WB0				IAmb	IAmb	02 48 24.3	
	comp=Z,31nm,1.5s						
WR0	**Warramunga Arr**	**60.27**	**100**	IAmb	IAmb	02 48 20.0	
	comp=Z,15nm,1.2s						
GYA	**Guiyang**	**61.73**	**38**	⇓P	P	02 48 33.9	+8.7
GYA				S	S	02 56 59.1	+11
GYA				pmax	pmax		
	comp=Z,21nm,0.9s						
GYA				pmax	pmax		
	comp=Z,140nm,7.4s						
GYA				LR	LR		
	comp=N,510nm,22.4s						
GYA				LR	LR		
	comp=E,330nm,22.4s						
GYA				LR	LR		
	comp=Z,380nm,17.2s						
SNAA	**Sanae**	**61.93**	**200**	P	**P**	**02 48 26.0**	**0.0**
SNAA				IAmb	IAmb	02 48 33.5	
	comp=Z,29nm,2.0s						
SNAA	**Sanae**	**61.93**	**200**	*ce*P	**P**	**02 48 24.7**	**-1.2**
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SNAA	**Sanae**	**61.93**	**200**	⇑P	**P**	**02 48 25.8**	**-0.1**
	comp=Z,35nm,0.7s						
SNAA	**Sanae**	**61.93**	**200**	P	**P**	**02 48 22.2**	**-3.7**
	comp=Z,1.5nm,0.8s,baz=121,slow=7.9,SNR=13						
SNAA				LR	LR	03 10 34.5	
	comp=Z,124nm,20.1s,baz=35,slow=31						
	comp=Z,1.5nm,0.8s						
GEYT	**Alibeck**	**62.32**	**350**	P	**P**	**02 48 27.6**	**-1.2**
GEYT	**Alibeck**	**62.32**	**350**	P	**P**	**02 48 27.6**	**-1.2**
GEYT				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GEYT	**Alibeck**	**62.32**	**350**	LR	LR	03 12 18.1	
	comp=Z,179nm,20.6s,baz=172,slow=33						
GYA0	**ALIBECK ARRAY**	**62.32**	**350**	P	**P**	**02 48 27.9**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**62.32**	**350**	P	**P**	**02 48 27.9**	**-0

ENH Enshi 66.25 38 P **P 02 48 56.3 +1.5**
QSPA South Pole Qui 66.29 180 P **P 02 48 53.1 -1.6**
QSPA IAmb IAmb 02 49 01.3
comp=Z,17nm,1.2s
QSPA South Pole Qui 66.29 180 P **P 02 48 51.6 -3.1**
comp=Z,3.6nm,0.9s,baz=286,slow=2.4,SNR=2.7
QSPA LR LR 03 13 32.6
comp=Z,198nm,21.6s,baz=278,slow=32
comp=Z,3.6nm,0.9s
AAK Ala-Archa 66.32 4 P **P 02 48 54.6 -0.5**
AAK IAmb IAmb 02 49 02.8
comp=Z,26nm,1.6s
AAK Ala-Archa 66.32 4 *ce*P **P 02 48 55.7 +0.6**
AAK pmax pmax
comp=Z,19nm,1.5s
MARD Mardin 66.46 336 P **P 02 48 56.3 +0.3**
KK31 Karatay Array 66.62 1 P **P 02 48 56.5 -0.3**
KK31 Karatay Array 66.62 1 P **P 02 48 56.5 -0.3**
KK31 pmax pmax
comp=Z,32nm,1.6s
KKAR Karatay Array 66.62 1 P **P 02 48 56.7 -0.1**
KKAR Karatay Array 66.62 1 IAmb IAmb 02 49 04.6
comp=Z,32nm,1.6s
KKAR Karatay Array 66.62 1 P **P 02 48 56.7 -0.1**
GURO Guroymak-BITLI 67.09 337 IAmb IAmb 02 49 03.4
comp=Z,14nm,1.4s
GNI Garni 67.62 340 P **P 02 49 04.6 +1.2**
GNI Garni 67.62 340 P **P 02 49 04.6 +1.2**
GNI pmax pmax
comp=Z,43nm,1.7s
GNI Garni 67.62 340 LR LR 03 16 45.8
comp=Z,105nm,18.1s,baz=142,slow=34
CSS Mathiatis 67.66 329 IAmb IAmb 02 49 07.1
comp=Z,18nm,1.3s
XAN Xi'an 68.84 35 P **P 02 49 10.4 -0.7**
XAN pmax pmax
comp=Z,9.0nm,1.4s
XAN LR LR
comp=Z,300nm,19.2s
XAN LR LR
comp=Z,470nm,18.6s
XAN LR LR
comp=Z,490nm,19.0s
AKH Akhalkalaki 69.16 340 P **P 02 49 13.7 +0.6**
AKH Akhalkalaki 69.16 340 P **P 02 49 13.7 +0.6**
AKH pmax pmax
comp=Z,38nm,1.4s
WHN Wuhan 69.27 41 P P 02 49 19.1 +5.4
WMQ Urumqi 69.43 14 *e*P **P 02 49 17.4 +2.8**
WMQ pP pwP 02 49 21.9 +1.6
WMQ PcP **PcP 02 49 43.2 +5.4**
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ LR LR
comp=Z,170nm,15.5s
WMQ LR LR
comp=Z,150nm,14.3s
WMQ LR LR
comp=Z,210nm,18.7s
H09N1 TRISTAN DA CUN 69.56 238 T T 04 04 56.8
SNR=5.2
H09W1 TRISTAN DA CUN 69.57 238 T T 04 06 20.9
SNR=12
CTA Charters Tower 70.72 104 LR LR 03 17 57.8
comp=Z,618nm,19.4s,baz=264,slow=34
CTAO Charters Tower 70.72 104 P **P 02 49 24.8 +1.7**
CTAO Charters Tower 70.72 104 P **P 02 49 24.8 +1.7**
CTAO pmax pmax
comp=Z,50nm,1.9s
LYN LuoYang 71.12 37 ⇑P **P 02 49 26.4 +1.4**
LYN S **S 02 58 42.6 +0.8**
LYN pmax pmax
comp=Z,12nm,0.9s
LYN pmax pmax
comp=Z,200nm,6.7s
LYN LR LR
comp=Z,310nm,22.0s
LYN LR LR
comp=Z,410nm,23.0s
LYN LR LR
comp=Z,650nm,23.0s
MAKZ Makanchi 71.25 9 P **P 02 49 25.7 +0.1**
MAKZ Makanchi 71.25 9 P **P 02 49 25.7 +0.1**
MAKZ pmax pmax
comp=Z,10.0nm,1.5s
MK31 Makanchi Array 71.29 9 P **P 02 49 26.1 +0.3**
MK31 IAmb IAmb 02 49 32.3
comp=Z,23nm,1.8s
MK31 Makanchi Array 71.29 9 *i* P **P 02 49 25.8 0.0**
MKAR Makanchi Array 71.29 9 *e*P **P 02 49 25.6 -0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 71.29 9 P **P 02 49 21.7 -4.1**
comp=Z,2.6nm,0.7s,baz=191,slow=5.9,SNR=13
MKAR LR LR 03 19 34.7
comp=Z,221nm,19.2s,baz=205,slow=35
comp=Z,2.6nm,0.7s
BRTR Keskin Array B 71.42 332 P **P 02 49 28.0 +1.1**
BRTR Keskin Array B 71.42 332 *e*P **P 02 49 28.4 +1.5**
BRTR pmax pmax
comp=Z,4.0nm,1.2s
BRTR Keskin Array B 71.42 332 P **P 02 49 24.5 -2.4**
comp=Z,2.0nm,1.0s,baz=166,slow=6.4,SNR=11
BRTR LR LR 03 17 52.9
comp=Z,148nm,21.7s,baz=130,slow=33
comp=Z,2.0nm,1.0s
BR131 Keskin Array S 71.42 332 *i* P **P 02 49 28.4 +1.5**
KBZ Khabaz 71.44 340 *ce*P **P 02 49 27.8 +1.1**
KBZ pmax pmax
comp=Z,15nm,1.6s
KBZ Khabaz 71.44 340 P **P 02 49 25.8 -1.0**
comp=Z,4.3nm,1.1s,baz=234,slow=8.7,SNR=5.0
KBZ LR LR 03 19 31.6
comp=Z,115nm,18.7s,baz=150,slow=35
comp=Z,4.3nm,1.1s
KVAR Kislovodsk Arr 71.71 340 LR LR 03 18 54.2
comp=Z,86nm,18.8s,baz=51,slow=34
KIV Kislovodsk 71.71 340 *e*P **P 02 49 26.1 -2.4**
KIV pmax pmax
comp=Z,9.0nm,1.0s
JAY Jayapura 72.07 85 LR LR 03 18 59.5
comp=Z,143nm,20.7s,baz=332,slow=34
GOF Gofitskoye 72.60 341 *ce*P **P 02 49 35.5 +1.8**
NJ2 Nanjing 73.07 43 *e*P **P 02 49 40.0 +3.3**
NJ2 pP **pwP 02 49 42.8 +0.4**
NJ2 sP **sP 02 49 44.6 +4.5**
NJ2 pmax pmax
comp=Z,8.0nm,1.0s
NJ2 pmax pmax
comp=Z,250nm,7.1s
NJ2 LR LR
comp=Z,810nm,21.3s
NJ2 LR LR
comp=Z,960nm,24.2s
NJ2 LR LR
comp=Z,590nm,22.7s
ABKAR Akbulak array 73.23 354 P **P 02 49 36.8 -0.5**
BTO Baotou 74.51 31 *e*P P 02 49 50.7 +5.6
BTO pP **PcP 02 49 55.3 -4.3**
BTO sP pwP 02 49 57.7 +6.9
BTO S **S 02 59 27.0 +6.6**
BTO pmax pmax
comp=Z,27nm,0.4s
BTO pmax pmax
comp=Z,350nm,7.3s
BTO LR LR
comp=Z,310nm,13.3s
BTO LR LR
comp=Z,390nm,14.0s
BTO LR LR
comp=Z,230nm,10.4s
KURBB Kurchatov Arra 74.59 6 P P 02 49 40.2 -5.0
comp=Z,0.9nm,0.9s,baz=198,slow=5.4,SNR=4.0
KURBB LR LR 03 21 30.5
comp=Z,221nm,18.0s,baz=157,slow=35
comp=Z,0.9nm,0.9s
KURK Kurchatov 74.69 6 P **P 02 49 45.6 -0.2**
KURK IAmb IAmb 02 49 53.0
comp=Z,35nm,1.8s
KURK Kurchatov 74.69 6 *ce*P **P 02 49 45.7 -0.1**
KURK pmax pmax
comp=Z,27nm,2.5s
DGZ Jazzator, Alta 74.98 12 *i* P **P 02 49 47.6 -0.1**
DGZ pmax pmax
comp=Z,17nm,2.0s
PMG Port Moresby 75.29 94 LR LR 03 22 02.6
comp=Z,202nm,19.0s,baz=251,slow=35
TORD Torodi Ar. Bea 75.50 292 P **P 02 49 51.4 +0.1**
TORD IAmb IAmb 02 49 54.5
comp=Z,15nm,1.7s
TORD Torodi Ar. Bea 75.50 292 P **P 02 49 51.5 +0.1**
comp=Z,2.9nm,1.2s,baz=102,slow=4.9,SNR=8.3
TORD LR LR 03 22 38.1
comp=Z,314nm,18.0s,baz=134,slow=35
comp=Z,2.9nm,1.2s
BVAR Borovoye Array 76.54 1 P **P 02 49 51.9 -4.5**
comp=Z,1.1nm,0.6s,baz=197,slow=4.5,SNR=2.5
BVAR LR LR 03 22 42.9
comp=Z,103nm,20.7s,baz=172,slow=35
comp=Z,1.1nm,0.6s
BRVK Borovoye 76.57 1 *i* P **P 02 49 56.2 -0.4**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BJT Baijiatuau 77.14 35 P **P 02 50 01.2 +1.1**
BJT Baijiatuau 77.14 35 P **P 02 50 01.2 +1.1**
BJT pmax pmax
comp=Z,4.0nm,0.7s
TAM Tamanrasset 77.30 302 P **P 02 50 02.3 +0.8**
TAM IAmb IAmb 02 50 05.6
comp=Z,19nm,1.9s
TAM Tamanrasset 77.30 302 P **P 02 50 02.3 +0.8**
TAM pmax pmax
comp=Z,19nm,1.9s
BELG Belogornoye 78.22 347 *i* P **P 02 50 05.8 +0.1**
BELG pmax pmax
comp=Z,4.0nm,1.1s
BELG Belogornoye 78.22 347 LR LR 03 24 12.1
comp=Z,105nm,20.8s,baz=13,slow=35
VRH Novokhopyorsk 78.54 343 P **P 02 50 07.3 -0.3**
VRH pmax pmax
comp=Z,24nm,1.8s
ZAA0 Zalesovo Array 78.63 9 P **P 02 50 07.6 -0.4**
ZAA0 IAmb IAmb 02 50 14.8
comp=Z,24nm,1.8s
ZALV Zalesovo Beam 78.63 9 *e*P **P 02 50 08.3 +0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 78.63 9 P P 02 50 02.4 -5.6
comp=Z,0.8nm,0.6s,baz=204,slow=6.3,SNR=2.4
ZALV LR LR 03 23 18.3
comp=Z,91nm,19.5s,baz=212,slow=35
comp=Z,0.8nm,0.6s
SONM Songino Array 78.78 25 P **P 02 50 09.6 +0.4**
SONM IAmb IAmb 02 50 16.0
comp=Z,22nm,1.6s
SONM Songino Array 78.78 25 P **P 02 50 09.6 +0.4**
SONM pmax pmax
comp=Z,22nm,1.6s
SONM Songino Array 78.78 25 P **P 02 50 04.6 -4.6**
comp=Z,0.3nm,0.4s,baz=220,slow=5.6,SNR=2.3
SONM LR LR 03 25 26.7
comp=Z,235nm,19.4s,baz=216,slow=36
comp=Z,0.3nm,0.4s
ULN Ulaanbaatar 79.06 25 P **P 02 50 10.3 -0.4**
ULN IAmb IAmb 02 50 17.2
comp=Z,16nm,1.4s
ULN Ulaanbaatar 79.06 25 *ce*P **P 02 50 09.9 -0.8**
ULN pmax pmax
comp=Z,7.0nm,1.3s
MLR Muntele Rosu 79.43 331 IAmb IAmb 02 50 15.9
comp=Z,36nm,1.5s
VORR Voronezh 79.67 342 P **P 02 50 14.2 +0.5**
VORR pmax pmax
comp=Z,31nm,1.9s
XLT XiLinHaoTe 79.93 32 *e*P **P 02 50 15.9 +0.4**
XLT sP pwP 02 50 21.9 +0.7
XLT PP **PP 02 53 16.3 -1.2**
XLT sS sS 03 00 24.8 +1.6
XLT pmax pmax
comp=Z,6.0nm,0.9s
XLT pmax pmax
comp=Z,110nm,4.5s
XLT LR LR
comp=Z,190nm,16.1s
XLT LR LR
comp=Z,140nm,17.8s
ARU Arti 80.46 354 P **P 02 50 17.6 -0.2**
ARU IAmb IAmb 02 50 20.2
comp=Z,14nm,1.2s
ARU Arti 80.46 354 *d i*P **P 02 50 17.7 -0.2**
ARU 02 53 20.6
ARU S **S 03 00 23.7 -0.3**
ARU SS **SS 03 05 29.8 -6.8**
ARU pmax pmax
comp=Z,25nm,1.8s
SVE Sverdlovsk 80.67 355 *e*P **P 02 50 19.1 +0.1**
SVE pmax pmax
comp=Z,26nm,1.8s
KOWA Kowa 81.03 290 LR LR 03 26 04.7
comp=Z,268nm,18.1s,baz=108,slow=35
TJN Taejon 81.22 44 *ce*P **P 02 50 21.9 -0.6**
BURAR Bucovina Array 81.39 332 P **P 02 50 23.7 +0.4**
KRVT Keravat (AS076 81.71 91 LR LR 03 25 09.9
comp=Z,81nm,20.8s,baz=57,slow=35
KEST Kesra 81.93 315 LR LR 03 26 04.1
comp=Z,179nm,19.5s,baz=166,slow=35
AKASG Malin Array Be 82.18 336 P **P 02 50 27.6 +0.4**
AKASG Malin Array Be 82.18 336 *e*P **P 02 50 27.1 -0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 82.18 336 P **P 02 50 23.4 -3.8**
comp=Z,0.4nm,0.5s,baz=154,slow=3.5,SNR=1.5
AKASG LR LR 03 26 50.7
comp=Z,48nm,19.6s,baz=150,slow=36
comp=Z,0.4nm,0.5s
AKBB Malin Array Si 82.18 336 IAmb IAmb 02 50 28.4
comp=Z,21nm,1.4s
AKBB Malin Array Si 82.18 336 *ce*P **P 02 50 26.9 -0.3**
AKBB pmax pmax
comp=Z,21nm,1.8s
KSAR Wonju Array Be 82.20 43 P **P 02 50 27.1 -0.6**
KSAR Wonju Array Be 82.20 43 P **P 02 50 27.1 -0.6**
KSRS Korea Array 82.24 43 LR LR 03 25 58.1
comp=Z,71nm,20.1s,baz=245,slow=35
GUMO Guam 82.72 72 LR LR 03 23 42.8
comp=Z,54nm,21.1s,baz=352,slow=33
OBN Obninsk 83.45 342 P **P 02 50 34.0 +0.3**
OBN Obninsk 83.45 342 *e*P **P 02 50 34.8 +1.2**
OBN pmax pmax
comp=Z,10.0nm,1.3s
LVV L'vov 83.57 332 *e*P **P 02 50 31.3 -3.2**
MOS Moscow 83.70 343 *e*P **P 02 50 34.3 -0.6**
KIRV Kirov 83.74 350 *ce*P **P 02 50 34.7 -0.4**
CRVS Cervenica-Dubn 84.01 331 *e*P **P 02 50 37.8 +1.0**
CRVS pmax pmax
comp=Z,50nm,1.7s
CRVS Cervenica-Dubn 84.01 331 *e*P **P 02 50 37.8 +1.0**
PMSA Palmer Station 84.60 198 LR LR 03 21 47.5
comp=Z,136nm,18.8s,baz=178,slow=31
NIE Niedzica 84.91 330 *e*P **P 02 50 43.6 +2.3**
VYHS Vyhne 84.93 329 *e*P **P 02 50 42.0 +0.6**
VYHS pmax pmax
comp=Z,16nm,1.6s
VYHS Vyhne 84.93 329 *e*P **P 02 50 42.0 +0.6**
LANS Liptovska Anna 85.10 330 *e*P **P 02 50 43.5 +1.2**
LANS pmax pmax
comp=Z,5.0nm,1.5s
LANS Liptovska Anna 85.10 330 *e*P **P 02 50 43.5 +1.2**
SOKA Soboth 85.55 326 *i* P **P 02 50 46.9 +2.2**
comp=Z,7.0nm,1.4s
RONA Rosalia, Austr 85.60 327 *i* P **P 02 50 45.8 +0.9**
comp=Z,3.4nm,0.7s
ARSA Arzberg 85.69 327 *e*P **P 02 50 46.4 +1.2**
comp=Z,5.6nm,1.2s
OBKA Obir 85.69 326 *i* P **P 02 50 47.7 +2.3**
comp=Z,16nm,1.5s
OJC Ojcow 85.71 331 *e*P **P 02 50 45.8 +0.5**
OJC Ojcow 85.71 331 P **P 02 50 45.1 -0.2**
OJC Ojcow 85.71 331 P **P 02 50 45.1 -0.2**
OJC pmax pmax
comp=Z,7.0nm,1.1s
JAVC Velka Javorina 85.73 329 *e*P **P 02 50 47.4 +1.9**
CONA Conrad Observa 85.97 327 *i* P **P 02 50 47.4 +0.7**
comp=Z,12nm,1.6s
NACGM Naroch 86.43 337 *e*P **P 02 50 48.4 -0.3**
comp=Z,33nm,1.1s,baz=142
MORC Moravsky Berou 86.43 329 *e*P **P 02 50 47.7 -1.2**
KRUC Moravsky 86.48 328 *e*P **P 02 50 49.4 +0.3**
VRAC Vranov 86.56 329 *e*P **P 02 50 50.2 +0.7**
MOA Molln 86.72 326 *e*P **P 02 50 51.0 +0.7**
comp=Z,12nm,1.3s
JCJ Chichijima 86.73 59 LR LR 03 28 23.4
comp=Z,56nm,18.2s,baz=112,slow=35
ABTA Abfaltersbach 86.91 325 *e*P **P 02 50 52.3 +1.0**
comp=Z,18nm,1.7s
HNR Honiara 86.92 99 LR LR 03 28 29.3
comp=Z,1μm,19.1s,baz=298,slow=35
BIOA Bad Ischl, Aus 86.93 326 *i* P **P 02 50 51.7 +0.3**
comp=Z,9.4nm,1.8s
SUW Suwalki 87.09 335 *e*P **P 02 50 53.2 +1.3**
LESA Schwarzleotal 87.26 325 *i* P **P 02 50 53.3 +0.3**
comp=Z,11nm,1.5s
DZM Mont Dzumac 87.53 113 LR LR 03 25 42.1
comp=Z,197nm,21.8s,baz=220,slow=33
OSTC Ostas 87.59 329 *e*P **P 02 50 55.6 +1.1**
OSTC Ostas 87.59 329 *e*P **P 02 50 55.6 +1.1**
GERES GERESS Array B 87.66 327 P **P 02 50 54.1 -0.8**
GERES GERESS Array B 87.66 327 P **P 02 50 54.1 -0.8**
CHVC Chvalec 87.69 329 *e*P **P 02 50 55.8 +0.9**
CHVC Chvalec 87.69 329 *e*P **P 02 50 55.8 +0.9**
WTTA Wattenberg 87.70 325 *e*P **P 02 50 55.7 +0.4**
comp=Z,11nm,1.5s
KSP Ksiaz 87.75 330 *e*P **P 02 50 56.4 +1.2**
KLMR Klimovskoe 87.77 346 *e*P **P 02 50 51.0 -4.1**
KLMR AMP 02 50 57.3
comp=Z,69nm,1.5s
KLMR Klimovskoe 87.77 346 *e*P **P 02 50 50.9 -4.1**
KLMR pmax pmax
comp=Z,69nm,1.5s
WATA Walderalm 87.78 325 *i* P **P 02 50 57.2 +1.6**
comp=Z,15nm,1.5s
JHJ Hachijo jima 2 87.88 52 LR LR 03 25 53.3
comp=Z,50nm,21.1s,baz=302,slow=33
KHC Kasperske Hory 87.91 327 *e*P **P 02 50 54.0 -2.1**
KHC Kasperske Hory 87.91 327 *e*P **P 02 50 54.0 -2.1**
FETA Feichten 88.03 324 *i* P **P 02 50 57.8 +1.0**
comp=Z,13nm,1.3s
MOTA Moosalm 88.03 325 *i* P **P 02 50 57.2 +0.3**
comp=Z,10nm,1.6s
RETA Reutte 88.30 325 *e*P **P 02 50 58.6 +0.6**
comp=Z,15nm,1.4s
MJAR Matsushiro Arr 88.51 49 LR LR 03 31 10.9
comp=Z,148nm,18.2s,baz=245,slow=36
DAVA Damuels 88.64 324 *e*P **P 02 51 00.6 +0.8**
comp=Z,11nm,1.0s
USA0B Ussuriysk Arra 88.73 40 P **P 02 51 00.4 +0.4**
USA0B IAmb IAmb 02 51 04.8
comp=Z,15nm,1.4s
USA0B Ussuriysk Arra 88.73 40 P **P 02 51 00.4 +0.4**
USA0B pmax pmax
comp=Z,15nm,1.5s
BRG Berggiesshubel 88.87 329 *e*P **P 02 51 01.9 +1.4**
BRG Amp 02 51 03.6
comp=Z,6.2nm,1.1s
BRG Berggiesshubel 88.87 329 P P 02 51 08.0 +7.5
BRG Amp 02 51 09.9
comp=Z,11nm,1.5s
BRG Amp 02 55 44.0
comp=Z,0.3nm,16.8s
BRG Berggiesshubel 88.87 329 *e*P **P 02 51 01.9 +1.4**
BRG 02 51 08.0
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG pmax pmax
comp=Z,11nm,1.5s
KLR Kul'dur 91.53 36 *ce*P **P 02 51 12.0 -1.0**
KLR pmax pmax
comp=Z,10.0nm,2.5s
FINES FINESS Array B 91.80 341 *e*P **P 02 51 13.7 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 91.80 341 P **P 02 51 13.0 -0.9**
comp=Z,3.2nm,1.0s,baz=182,slow=11,SNR=3.4
comp=Z,3.2nm,1.0s
ESDC Sonseca Array 92.92 312 P **P 02 51 19.3 -0.4**
comp=Z,0.9nm,0.9s,baz=120,slow=3.9,SNR=5.5
ESDC LR LR 03 32 33.7
comp=Z,78nm,20.0s,baz=108,slow=35
comp=Z,0.9nm,0.9s
NRIK Noril'sk 93.86 6 LR LR 03 34 26.6
comp=Z,128nm,18.8s,baz=180,slow=36
ASAJ Asahikawa 95.18 44 LR LR 03 33 23.2
comp=Z,134nm,19.0s,baz=328,slow=35
ARCES ARCESS Array B 98.24 346 LR LR 03 35 28.9
comp=Z,94nm,21.3s,baz=138,slow=35
MSVF Nonsavu 99.22 114 LR LR 03 33 35.7
comp=Z,203nm,19.2s,baz=113,slow=34
VLDQ Val d'Or 144.19 321 **PKPdf 02 57 41.7 -0.5**
KSCT Kent School, K 144.26 309 **PKPab 02 57 40.5 0.0**
WSPT Westport, CT 144.32 308 PKPbc 02 57 41.4 +0.4
J58A Remsen 144.95 312 PKPdf **PKPab 02 57 42.8 -0.2**
L59A Walton 145.20 310 **PKPbc 02 57 43.3 -0.6**
ODNJ Ogdensburg 145.26 308 PKPbc **PKPbc 02 57 42.5 -1.7**
J57A Williamstown 145.41 313 PKPbc **PKPbc 02 57 44.2 -0.2**
PECO Prince Edward 145.85 314 PKPbc **PKPdf 02 57 45.4 +0.1**
K57A Scipio Center 146.02 312 PKPbc **PKPdf 02 57 46.0 +0.3**
MVL Millersville 146.87 307 PKPbc **PKPbc 02 57 49.2 +0.2**
SSPA Standing Stone 147.76 309 PKPbc **PKPbc 02 57 51.3 -0.2**
ALLY Alegheny Colle 148.92 312 PKPbc **PKPbc 02 57 53.3 -1.2**
EDM Edmonton 150.59 3 **PKPbc 02 57 56.7 -1.6**
EDM Edmonton 150.59 3 PKIKP **PKPbc 02 57 56.7 -1.6**
ULM Lac du Bonnet 151.18 340 PKPbc **PKPbc 02 57 57.2 -2.4**
comp=Z,2.9nm,0.6s,baz=47,slow=4.0,SNR=4.5
ULM PKPab **sPKPbc 02 58 04.6 +1.4**
comp=Z,2.4nm,0.6s,baz=20,slow=3.5,SNR=3.0
PDAR Pinedale Array 161.09 357 PKP **PKPdf 02 58 05.4 -2.0**
comp=Z,0.1nm,0.3s,baz=218,slow=1.7,SNR=4.7
PDAR PKPab **PKPab 02 58 47.6 -2.7**
comp=Z,0.1nm,0.3s,baz=82,slow=12,SNR=2.2
NVAR Mina Array Bea 164.10 22 PKPab **PKPab 02 58 59.8 -3.9**
comp=Z,0.2nm,0.7s,baz=327,slow=4.8,SNR=1.4
TXAR Lajitas Array 171.60 312 PKPab **PKPab 02 59 37.3 +0.3**
comp=Z,0.3nm,0.6s,baz=87,slow=2.8,SNR=6.4

IDC 07 02:52:33.5±2.9,33°.02S×178°.36W,h0km,mb3.6/2,
mbtmp3.6/3,ML3.5/1,Error ellipse: s-maj=73.9km
s-min=44.6km az=127.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.40**	**214**	Pn	Pn	02 54 08.4	-0.7
	1.0nm,0.3s,baz=119,slow=23,SNR=8.6						
URZ				Sn	Sn	02 55 19.4	-3.4
	3.6nm,0.3s,baz=121,slow=22,SNR=12						
	2.2nm,0.3s						
ASAR	**Alice Springs**	**42.73**	**270**	P	P	03 00 32.8	+0.1
	0.5nm,0.5s,baz=109,slow=7.6,SNR=10						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**43.95**	**275**	P	P	03 00 42.3	-0.3
	0.5nm,0.5s,baz=113,slow=7.7,SNR=4.6						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**147.47**	**338**	PKPbc	PKPbc	03 12 18.0	-0.7
	1.0nm,0.5s,baz=61,slow=3.5,SNR=9.6						

---

*IDC **07** 02:56:12.3±1.3,7°.17S×155°.05E,h0km,mb3.7/8,*
mbtmp3.7/9,ML3.9/1,MS3.7/2,Error ellipse: s-maj=41.9km
s-min=25.5km az=129.0
ISC 07 02:56:13.9±1.0,7°.2S±0°.2×155°.0E±0°.2,h10km,n12,
σ1°.24/12,mb3.7/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.14**	**313**	Pn	**Pn**	**02 57 15.1**	**-2.1**
	7.5nm,0.3s,baz=94,slow=24,SNR=2.5						
KRVT				Sn	**Sn**	**02 58 07.1**	**+1.5**
	6.7nm,0.3s,baz=274,slow=24,SNR=2.5						
	38nm,0.7s						
WRA	**Warramunga Arr**	**23.75**	**236**	P	**P**	**03 01 26.3**	**-0.4**
	2.6nm,0.8s,baz=60,slow=9.7,SNR=9.5						
	2.6nm,0.8s						
SIJI	**Sorong**	**24.52**	**284**	LR	LR	03 12 43.8	
	comp=Z,110nm,21.5s,baz=242,slow=40						
ASAR	**Alice Springs**	**26.09**	**229**	P	**P**	**03 01 48.0**	**0.0**
	0.6nm,0.8s,baz=65,slow=9.9,SNR=4.6						
	0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.90**	**296**	P	**P**	**03 06 29.3**	**+1.9**
	0.8nm,0.3s,baz=116,slow=7.1,SNR=1.4						
	0.8nm,0.3s						
SONM	**Songino Array**	**69.51**	**327**	P	**P**	**03 07 22.9**	**0.0**
	0.3nm,0.4s,baz=120,slow=8.7,SNR=1.7						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**83.53**	**21**	P	**P**	**03 08 41.4**	**-0.4**
	0.2nm,0.5s,baz=247,slow=5.2,SNR=8.2						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**83.57**	**319**	P	**P**	**03 08 43.2**	**+0.8**
	0.3nm,0.6s,baz=123,slow=5.3,SNR=2.4						
	0.3nm,0.6s						

KURBB **Kurchatov Arra** 87.03 322 P **P** 03 08 59.4 -0.2
0.3nm,0.9s,baz=108,slow=5.9,SNR=2.5
0.3nm,0.9s
RPN **Rapa Nui** 91.74 117 LR LR 03 48 39.3
comp=Z,51nm,18.6s,baz=148,slow=34
NVAR **Mina Array Bea** 91.80 52 P **P** 03 09 23.1 +0.5
0.3nm,0.7s,baz=285,slow=3.5,SNR=2.4
0.3nm,0.7s
TORD **Torodi Ar. Bea** 153.12 285 PKPbc **PKPbc** 03 16 13.0 0.0
0.5nm,0.7s,baz=88,slow=2.6,SNR=2.7
TORD PKPab **PKPab** 03 16 23.0 -1.5
0.6nm,0.7s,baz=99,slow=1.9,SNR=3.4

NOU 07 03:00:59.6, 17.62S×168.37E, h37km, MLv3.1/5, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	0.18	163	P	Pn	03 01 07.7	-1.9

IDC 07 03:10:44.7±1.7, 32.99S×178.34W, h0km, mb3.9/3, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=42.3km s-min=36.8km az=74.0

ISC 07 03:10:49.9±1.6, 33.15S±0.2×178.5W±0.3, h32km, n6, σ0.84/7, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.28	214	Pn	Pn	03 12 19.9	-0.4
	3.5nm,0.3s,baz=345,slow=4.7,SNR=24						
URZ				Sn	Sn	03 13 30.7	-0.2
	4.2nm,0.3s,baz=107,slow=19,SNR=6.9						
	7.7nm,0.3s						
ASAR	Alice Springs	42.62	270	P	P	03 18 44.2	+0.7
	1.1nm,0.6s,baz=109,slow=7.6,SNR=13						
	1.1nm,0.6s						
WRA	Warramunga Arr	43.86	275	P	P	03 18 53.8	+0.4
	1.4nm,0.4s,baz=116,slow=7.7,SNR=16						
	1.4nm,0.4s						
QSPA	South Pole Qui	57.03	180	P	P	03 20 33.2	+0.7
	0.7nm,0.8s,baz=90,slow=3.0,SNR=3.0						
	0.7nm,0.8s						
FINES	FINESS Array B	147.50	338	PKPbc	PKPbc	03 30 29.4	-0.5
	1.4nm,0.5s,baz=34,slow=3.1,SNR=16						
BRTR	Keskin Array B	153.41	294	PKPbc	PKPbc	03 30 44.0	-1.1
	0.1nm,0.3s,baz=148,slow=3.3,SNR=2.0						

TIR 07 03:38:19.9, 40.14N×19.83E, h3km, Md2.9, Ml2.4
THE 07 03:38:21.4, 40.14N×19.84E, h12km±3km, ML2.2/4, Error ellipse: s-maj=3.6km s-min=1.0km az=256.0
ATH 07 03:38:24.2, 40.17N×20.09E, h55km±3km, ML2.5/4, Manual Solution by K.Orfanogiannaki First location: 2019/05/29 15:10:03, This location: 2019/06/04 10:44:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km

ISC 07 03:38:21.4±1.1, 40.15N±0.02×19.89E±0.03, h14km±9km, n27, σ1.41/44, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.44	190	P	Pg	03 38 29.0	-1.1
KEK				S	Sb	03 38 36.6	-0.7
	405nm,0.3s						
VLO	Vlora	0.44	317	P	Pg	03 38 29.4	-0.8
VLO				S	Sb	03 38 36.4	-1.1
	1μm,0.5s						
VLO	Vlora	0.44	317	P	Pg	03 38 29.5	-0.7
	baz=323						
VLO				S	Sb	03 38 36.3	-1.1
	baz=323						
VLO				AMP			
	comp=N,3.0nm,0.5s,baz=323						
IGT	Igoumenitsa	0.70	151	P	Pg	03 38 34.3	-0.7
IGT				S	Sb	03 38 46.1	+1.2
	comp=N,135nm,0.2s						
IGT	Igoumenitsa	0.70	151	P	Pg	03 38 34.7	-0.3
	baz=147						
IGT				S	Sb	03 38 46.4	+1.6
	baz=147						
KBN	Korca	0.83	55	P	Pg	03 38 37.2	-0.3
KBN				S	Sn	03 38 51.3	+0.4
	comp=N,112nm,0.9s						
KBN	Korca	0.83	55	P	Pg	03 38 37.0	-0.5
	baz=56						
KBN				S	Sn	03 38 52.1	+1.1
	baz=56						
KBN				AMP			
	comp=N,0.4nm,0.5s,baz=56						
JAN	Janina	0.88	123	P	Pg	03 38 38.6	+0.1
JAN	Janina	0.88	123	P	Pb	03 38 39.4	+0.9
JAN				S	Sg	03 38 50.2	+0.1
NEST	Nestorio	0.92	73	P	Pg	03 38 39.4	+0.2
NEST	Nestorio	0.92	73	P	Pg	03 38 39.5	+0.2
NEST				S	Sg	03 38 50.4	-1.0
PRGA	Parga	0.94	155	P	Pn	03 38 40.9	+0.7
PRGA				S	Sb	03 38 53.2	+1.3
PENT	Pentalofos	0.95	87	P	Pg	03 38 39.4	-0.5
PENT	Pentalofos	0.95	87	P	Pg	03 38 39.8	-0.1
PENT				S	Sg	03 38 51.2	-1.2
KPRO	Kipourio	1.14	99	P	Pb	03 38 43.7	+0.7
KPRO	Kipourio	1.14	99	P	Pb	03 38 43.5	+0.5
KPRO				S	Sb	03 38 55.9	-1.9
TIR	Tirane	1.20	359	P	Pg	03 38 44.7	+0.2
	baz=1.0						
TIR				S	Sn	03 39 01.8	+1.9
	baz=1.0						
TIR	Tirane	1.20	359	P	Pg	03 38 44.6	+0.1
TIR				S	Sb	03 38 59.9	+0.5
FNA	Florina	1.30	60	P	Pn	03 38 46.2	+1.0
	baz=61						
FNA				S	Sg	03 39 08.0	+4.7
	baz=61						
FNA	Florina	1.30	60	P	Pn	03 38 44.1	-1.0
FNA				S	Sb	03 38 59.1	-3.1
TSLK	Tsoukalades, L	1.45	156	P	Pb	03 38 48.0	0.0
TSLK				S	Sn	03 39 05.1	-0.8
DRAG	Dragano-Lefkad	1.55	160	P	Pn	03 38 49.2	+0.6
NYDR	Nydri-Lefkada	1.56	156	P	Pn	03 38 49.3	+0.6
NASA	Naoussa	1.73	73	S	Sn	03 39 08.8	-4.2
THL	Klokotos Trika	1.73	109	P	Pn	03 38 50.1	-0.9
EVR	Evrytania	1.92	129	P	Pn	03 38 53.3	-0.5
PVO	Paravola	1.98	140	P	Pn	03 38 54.4	-0.1

VAO 07 03:44:22.2±0.3, 16.73S×69.37W, h170km, mb5.0
NEIC 07 03:44:22.5±2.5, 16.81S±0.06×69.51W±0.08, h187km±6km, mb4.7/169, Error ellipse: s-maj=11.1km s-min=8.9km az=102.0
IDC 07 03:44:24.9±0.5, 16.66S×69.21W, h196km±4km, mb4.3/19, mbtmp4.8/20, Error ellipse: s-maj=14.9km s-min=9.9km az=63.0

ISC 07 03:44:22.0±0.4, 16.79S±0.04×69.50W±0.05, h181km±4km, n312, σ1.57/281, mb4.7/108, 3C-5D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	Visviri	0.79	179	Pn	Pn	03 44 50.5	+1.5
PB18	Visviri	0.79	179	eP	Pn	03 44 50.5	+1.5
PB18				i S	Sn	03 45 11.9	+1.9
LPAZ	La Paz	1.40	69	Pn	Pn	03 44 54.8	+1.0
PB16	IPOC Station P	1.53	180	Pn	Pn	03 44 56.4	+1.4
PB16	IPOC Station P	1.53	180	eP	Pn	03 44 56.3	+1.4
PB16				i S	Sn	03 45 21.1	+0.5
AP01	Chacalluta	1.76	207		Pn	03 44 56.2	-0.4
AP01	Chacalluta	1.76	207	eP	Pn	03 44 56.2	-0.4
AP01				i S	Sn	03 45 21.6	-2.0
PB12	IPOC Station P	1.98	203	Pn	Pn	03 44 58.1	-0.8
PB12	IPOC Station P	1.98	203	eP	Pn	03 44 58.2	-0.8
PB12				i S	Sn	03 45 25.0	-2.7
PB12				IAML		03 45 27.3	
	comp=N,8μm,0.5s						
GO01	Chusmiza	2.87	174		Pn	03 45 10.3	+0.7
GO01	Chusmiza	2.87	174	eP	Pn	03 45 09.9	+0.2
GO01				i S	Sn	03 45 45.0	-1.9
PB08	IPOC Station P	3.35	174		Pn	03 45 15.8	+0.5
PB08	IPOC Station P	3.35	174	eP	Pn	03 45 15.4	+0.1
PB08				i S	Sn	03 45 54.2	-2.8
PB08				IAML		03 45 58.0	
	comp=N,4μm,0.7s						
HMBC	Humberstone	3.49	186	eP	Pn	03 45 15.8	-0.9
HMBC				i S	Sn	03 45 55.1	-4.6
TA02	Huaiquique	3.51	190		Pn	03 45 15.7	-1.3
TA02	Huaiquique	3.51	190	eP	Pn	03 45 15.6	-1.3
TA02				i S	Sn	03 45 54.8	-5.2
TA01	Diego Aracena	3.81	190	Pn	Pn	03 45 19.3	-1.4
TA01	Diego Aracena	3.81	190	eP	Pn	03 45 19.1	-1.5
TA01				i S	Sn	03 46 00.8	-5.9
PATCX	Punta Patache	4.05	189	Pn	Pn	03 45 23.0	-0.9
PATCX	Punta Patache	4.05	189	eP	Pn	03 45 22.6	-1.2
PATCX				i S	Sn	03 46 06.9	-5.6
PB01	IPOC Station P	4.23	180		Pn	03 45 25.4	-0.7
PB02	IPOC Station P	4.52	185		Pn	03 45 29.3	-0.5
PB07	IPOC Station P	4.92	184		Pn	03 45 34.4	-0.7
PB09	IPOC Station P	4.98	177		Pn	03 45 35.5	-0.3
PB04	IPOC Station P	5.54	186	Pn	Pn	03 45 41.7	-1.5
LVC	Limon Verde	5.81	175	Pn	Pn	03 45 46.5	-0.4
LVC	Limon Verde	5.81	175	eP	Pn	03 45 46.3	-0.6
LVC	Limon Verde	5.81	175	P	Pn	03 45 46.6	-0.2
	comp=N,389nm,0.3s,baz=19,slow=8.3,SNR=222						
LVC				S	Sn	03 46 48.1	-5.6
	comp=N,537nm,0.4s,baz=90,slow=20,SNR=22						
PB06	IPOC Station P	5.88	181		Pn	03 45 46.3	-1.3
AF01	San Pedro de A	6.25	169		Pn	03 45 52.8	+0.3
ETMB	Extrema	7.63	25	Pn	Pn	03 46 10.0	-0.5
ETMB	Extrema	7.63	25	eP	Pn	03 46 10.2	-0.3
SIV	San Ignacio	8.13	86	P	Pn	03 46 14.7	-2.3
	comp=N,319nm,0.4s,baz=271,slow=9.9,SNR=442						
SIV				S	Sn	03 47 42.0	-6.2
	comp=N,104nm,0.9s,baz=305,slow=18,SNR=4.4						
BBSD	Serra de San D	8.51	94	eP	Pn	03 46 20.1	-2.0
BBSD				eS	Sn	03 47 54.9	-2.5
NNA	Nana	8.57	303	P	Pn	03 46 22.6	-0.2
	comp=N,99nm,0.4s,baz=135,slow=11,SNR=68						
NNA				S	Sn	03 47 52.1	-6.8
	comp=N,180nm,0.6s,baz=198,slow=20,SNR=12						
BBRB	Robore, Bolivi	9.36	101	eP	Pn	03 46 30.2	-3.0
CZSB	Cruzeiro do Su	9.54	340		Pn	03 46 32.3	-3.2
CZSB	Cruzeiro do Su	9.54	340	eP	Pn	03 46 33.3	-2.2
VILB	Vilhena	9.77	68		Pn	03 46 36.5	-2.0
VILB	Vilhena	9.77	68	eP	Pn	03 46 36.7	-1.9
SAML	Samuel	9.93	39		Pn	03 46 38.6	-2.1
SAML	Samuel	9.93	39	eP	Pn	03 46 38.8	-1.9
AC02	Maricunga	10.00	178	Pn	Pn	03 46 40.4	-1.5
PTLB	Pontes e Lacer	10.05	84	Pn	Pn	03 46 39.9	-2.3
PTLB	Pontes e Lacer	10.05	84	eP	Pn	03 46 40.0	-2.1
AC06	Mina Casimiro	10.54	184		Pn	03 46 46.0	-2.6
AC04	Llanos de Chal	11.45	187		Pn	03 46 56.5	-3.7
LCO	Las Campanas	12.21	185		Pn	03 47 07.5	-2.8
TBTG	Tabatinga, AM	12.54	358		Pn	03 47 14.2	0.0
TBTG	Tabatinga, AM	12.54	358	eP	Pn	03 47 13.5	-0.8
TICA	Tres Isletas	12.76	140	eP	Pn	03 47 16.9	-0.2
ATAH	Atahualpa	12.95	317	P	Pn	03 47 20.3	+0.3
	comp=N,23nm,0.8s,baz=136,slow=7.9,SNR=18						
ESFA	Espinillo Form	13.10	130	eP	Pn	03 47 21.2	-0.2
SALV	Santo Antonio	13.28	88	eP	Pn	03 47 22.8	-0.9
AQDB	Aquidauana	13.58	108		Pn	03 47 26.5	-0.9
AQDB	Aquidauana	13.58	108	eP	Pn	03 47 27.6	+0.1
PP1B	Ponte de Pedra	13.99	95	eP	Pn	03 47 31.2	-1.4
TEFE	Tefe	14.04	20	eP	Pn	03 47 33.2	0.0
CLDB	Colider	14.54	68	eP	Pn	03 47 38.3	-1.2
SCCA	San Cayetano,	14.69	139	eP	Pn	03 47 41.9	+0.7
CPUP	Villa Florida	14.76	132	Pn	Pn	03 47 40.5	-1.5
CPUP	Villa Florida	14.76	132	P	Pn	03 47 40.0	-2.0
	comp=N,16nm,0.9s,baz=309,slow=12,SNR=6.3						
CFA	Coronel Fontan	14.79	176	P	Pn	03 47 41.5	-0.9
	comp=N,31nm,0.3s,baz=18,slow=15,SNR=102						
CFA				S	Sn	03 50 15.7	-12
	comp=N,6.0nm,0.3s,baz=65,slow=8.7,SNR=2.5						
AMBA	Amambai (Brazi	14.94	116	eP	Pn	03 47 44.6	+0.2
RPRD	Ribas do Rio P	15.41	106	eP	P	03 47 51.6	+0.9
C2SB	Chapadao do Su	15.99	100	eP	Pn	03 47 57.5	+0.4
MCRA	Macar, Loja	16.05	319	P	Pn	03 47 56.6	-1.4
MCRA	Macar, Loja	16.05	319	eP	P	03 48 12.1	+14
BOSC	San Juan Bosco	16.18	326		Pn	03 47 58.6	-1.1
BOSC				IAmb	IAmb	03 48 05.0	
	comp=Z,27nm,0.6s						
MECA	Mercedes	16.22	142	eP	P	03 47 59.7	+0.2
MCR1	Marechal Candi	16.35	120	eP	Pn	03 48 01.8	+0.3
MT05	Renca	16.57	184	P	Pn	03 48 04.5	+0.5
SGCB	SCo Gabriel d	16.74	9	eP	Pn	03 48 06.0	-0.3
NPGB	Novo Progresso	16.88	57	eP	P	03 48 06.7	-0.2
VA05	Santo Domingo	16.90	186	IAmb	IAmb	03 48 10.4	
	comp=Z,64nm,0.8s						
TRCB	Terra Rica	16.95	113	P	P	03 48 06.5	-1.2
TRCB				IAmb	IAmb	03 48 11.1	
	comp=Z,70nm,1.0s						
ARAG	Araguaiana, MT	17.02	89	eP	P	03 48 08.7	+0.3
COHC	Cochancay	17.17	325	P	Pn	03 48 13.8	+2.4
COHC				IAmb	IAmb	03 48 15.6	
	comp=Z,23nm,0.5s						
COHC	Cochancay	17.17	325	eP	Pn	03 48 13.9	+2.6
ITQB	Itaqui	17.42	140	P	P	03 48 13.2	+0.5
ITQB	Itaqui	17.42	140	eP	P	03 48 13.6	+0.9
PTLC	Puerto Leguiza	17.65	342	eP	Pn	03 48 20.3	+3.3
FRBT	Francisco Belt	17.81	124	eP	P	03 48 17.5	+0.4
CRSM	Crissiumal (Br	17.82	129	eP	P	03 48 17.4	+0.2
PIAT	Ana Tenorio	17.91	330	eP	Pn	03 48 22.2	+1.7
UNIS	Unistalda (Bra	18.03	135	eP	P	03 48 20.2	+0.8
PTGB	Pitanga	18.10	119	eP	P	03 48 21.2	+0.9
SNDB	Serra Nova Dou	18.27	77	eP	P	03 48 22.3	+0.2
GO05	Huala	18.27	186	IAmb	IAmb	03 48 30.6	
	comp=Z,46nm,0.8s						
ITTB	Itaituba	18.30	49	eP	P	03 48 22.6	+0.1
ITRB	Iturama	18.41	102	eP	P	03 48 24.6	+0.9
LDASE	Londrina, Braz	18.46	114	eP	P	03 48 25.0	+0.8
VA04	Juan Fernndez	18.76	205	P	P	03 48 27.3	0.0
RODS	Rosario do Sul	18.78	138	eP	P	03 48 28.2	+0.6
OTAV	Otavalo	19.09	332	P	Pn	03 48 33.5	-0.9
OTAV				IAmb	IAmb	03 48 47.1	
	comp=Z,15nm,0.8s						
OTAV	Otavalo	19.09	332	eP	Pn	03 48 34.7	+0.3
OTAV	Otavalo	19.09	332	eP	Pn	03 48 33.5	-0.9
ITAB	Concordia	19.14	126	P	P	03 48 32.1	+0.7
ITAB				IAmb	IAmb	03 48 34.0	
	comp=Z,35nm,0.8s						
ITAB	Concordia	19.14	126	eP	P	03 48 31.9	+0.4
FLOC	Florencia	19.24	341	eP	P	03 48 20.0	-13
ALGR	Alto Alegre (B	19.29	131	eP	P	03 48 32.7	-0.5
MACC	Macarena, Meta	19.30	347	eP	P	03 48 33.7	+0.4
CMBC	Cumbal	19.44	334	eP	Pn	03 48 41.7	+3.2
GCUV	Volcan Galeras	19.51	336	eP	Pn	03 48 40.1	-1.3
CRUC	La Cruz	19.67	337	eP	Pn	03 48 41.1	-0.1
GARC	Garzon, Huila	19.77	342	eP	P	03 48 37.5	-1.1
FRTB	Fartura	19.82	112	eP	P	03 48 38.6	-0.2
CPSB	Cacapava Do Su	19.97	136	eP	P	03 48 39.9	-0.5
BBAC	Balboa, Cauca	20.20	337	eP	P	03 48 42.5	-0.7
BB19B	Bebedouro	20.28	105	eP	P	03 48 43.7	-0.2
IPMB	Ipameri, GO	20.35	96	eP	P	03 48 43.4	-1.2
POPC	Popayan, Colom	20.48	339	eP	P	03 48 46.2	+0.1
BDFB	Brasilia	20.66	90	P	P	03 48 47.6	-0.4
BDFB	Brasilia	20.66	90	P	P	03 48 47.4	-0.6
	comp=Z,52nm,0.4s,baz=265,slow=11,SNR=86						
	comp=Z,52nm,0.4s						
PLTB	Pedras Altas	20.75	139	P	P	03 48 47.2	-1.4
PLTB				IAmb	IAmb	03 48 49.6	
	comp=Z,36nm,0.6s						
PLTB	Pedras Altas	20.75	139	eP	P	03 48 47.6	-1.0
BOAV	Boa Vista	21.02	26	P	P	03 48 52.3	+0.6
BOAV				IAmb	IAmb	03 48 55.0	
	comp=Z,31nm,0.7s						
BOAV	Boa Vista	21.02	26	eP	P	03 48 50.7	-1.0
BOAV	Boa Vista	21.02	26	eP	P	03 48 52.1	+0.4
MALB	Monte Alegre	21.10	47	eP	P	03 48 51.6	-0.9
JAMC	Jamundi, Valle	21.11	340	eP	P	03 48 53.1	+0.3
CNLB	Canela	21.17	129	eP	P	03 48 53.8	+0.6
RCLB	Rio Claro- Sao	21.43	109	eP	P	03 48 55.6	-0.4
YOTC	Yotoco, Valle	21.73	341	eP	P	03 48 57.3	-1.9
PRPB	Parauapebas	21.96	64	eP	P	03 49 00.4	-1.1
ROSC	El Rosal	22.02	347	P	P	03 49 03.2	+0.8
ROSC				IAmb	IAmb	03 49 12.4	
	comp=Z,8.4nm,0.6s						
ROSC	El Rosal	22.02	347	P	P	03 49 02.0	-0.4
	comp=Z,5.7nm,0.4s,baz=114,slow=20,SNR=2.5						
	comp=Z,5.7nm,0.4s						
PMNB	Patos De Minas	22.04	98	eP	P	03 49 01.6	-0.8
VAO	Valinhos	22.05	110	eP	P	03 49 01.6	-0.9
PET01	Itanhaem-SP	22.09	113	eP	P	03 49 02.4	-0.2
TRQA	Tornquist	22.19	164	P	P	03 49 04.0	+0.5
PLMC	San Jos del P	22.58	342	eP	P	03 49 05.6	-1.8
GUY2C	Guyana, Caldas	22.63	345	eP	P	03 49 07.9	-0.4
SMTB	Santa Maria do	22.75	72	eP	P	03 49 08.9	-0.1
GO06	Curarrehue	22.77	184	P	P	03 49 09.3	+0.3
RUSC	La Rusia	22.82	351	eP	P	03 49 10.0	0.0
PARB	Paraibuna	23.34	110	eP	P	03 49 14.5	+0.3
BARC	Barichara	23.52	351	eP	P	03 49 15.2	-0.9
MCPB	Macapa, AP	23.70	48	eP	P	03 49 17.6	0.0
BSCB	Bom Sucesso	23.75	104	eP	P	03 49 18.6	+0.5
PLCA	Paso Flores	23.87	182	eP	P	03 49 20.4	+1.5
PLCA	Paso Flores	23.87	182	P	P	03 49 20.4	+1.5
	comp=Z,91nm,0.8s,baz=2.4,slow=10,SNR=151						
	comp=Z,91nm,0.8s						
SDBA	SAO DESIDERIO	24.19	83	eP	P	03 49 21.0	-1.1
JANB	Januaria	24.28	89	eP	P	03 49 22.2	-0.6
ESAR	Angra dos Reis	24.34	109	eP	P	03 49 25.2	+1.9
DIAM	Diamantina, MG	24.66	97	eP	P	03 49 25.5	-1.0
ZARC	Zaragoza, Cauc	24.71	347	eP	P	03 49 24.2	-2.4
VAS01	Vassouras-RJ	25.14	107	eP	P	03 49 31.1	+0.6
TMAB	Tom-Au,PA,Br	25.46	58	eP	P	03 49 33.8	+0.3
SDV	Santo Domingo	25.54	357	P	P	03 49 33.6	-0.8
SDV				IAmb	IAmb	03 49 35.9	
	comp=Z,13nm,1.0s						
SDV	Santo Domingo	25.54	357	eP	P	03 49 35.2	+0.8
BAUV	El Baul	25.61	3	P	P	03 49 34.4	-0.4
LL01	San Ignacio de	25.62	185	P	P	03 49 34.4	-0.2
LL01				IAmb	IAmb	03 49 39.8	
	comp=Z,21nm,0.8s						
SJMB	Sao Joao De Ma	27.02	98	eP	P	03 49 48.5	+1.1
RIB01	Linhares ES	27.77	100	eP	P	03 49 52.9	-1.2
GUA01	Guaratinga, BA	28.43	94	eP	P	03 50 00.1	+0.1
ROSB	Rosrio	28.50	64	eP	P	03 50 00.5	-0.1
RCBR	Riachuelo	34.64	76	eP	P	03 50 54.6	+0.3
SJG	San Juan	34.84	6	P	P	03 50 54.5	-1.3
PMSA	Palmer Station	48.08	177	eP	P	03 52 45.6	+2.8
SMAI	San Martin Ant	51.33	179	P	P	03 53 07.1	-0.2
SMAI				IAmb	IAmb	03 53 10.7	
	comp=Z,29nm,0.8s						
LRAL	Lakeview Retre	52.30	341	P	P	03 53 13.8	-1.2
NATX	Nacogdoches	53.98	333	P	P	03 53 26.3	-1.0
NATX				IAmb	IAmb	03 53 29.9	
	comp=Z,14nm,0.7s						
HNDO	Hondo	54.29	328	IAmb	IAmb	03 53 32.1	
	comp=Z,18nm,0.7s						
DRIO	Del Rio	54.90	327	P	P	03 53 33.7	-0.2
DRIO				IAmb	IAmb	03 53 36.5	
	comp=Z,7.5nm,0.9s						
JCT	Junction City	55.32	328	P	P	03 53 36.8	-0.3
JCT				IAmb	IAmb	03 53 40.1	
	comp=Z,8.8nm,0.8s						
BRDY	Brady	55.57	329	P	P	03 53 38.5	-0.3
BRDY				IAmb	IAmb	03 53 40.6	
	comp=Z,4.7nm,0.9s						
SAND	Sanderson	56.12	326	IAmb	IAmb	03 53 46.6	
	comp=Z,5.7nm,1.2s						
OZNA	Ozona	56.35	327	IAmb	IAmb	03 53 47.4	
	comp=Z,7.6nm,0.9s						
TXAR	Lajitas Array	56.49	324	P	P	03 53 46.7	+1.3
	comp=Z,0.9nm,0.6s,baz=153,slow=8.7,SNR=15						
TXAR				pP	pP	03 54 32.4	+4.2
	comp=Z,1.3nm,0.8s,baz=146,slow=7.3,SNR=5.3						
TXAR				PcP	PcP	03 54 41.9	+1.8
	comp=Z,0.4nm,0.5s,baz=143,slow=6.2,SNR=4.5						
	comp=Z,0.9nm,0.6s						
TX31	Lajitas Ar. Si	56.49	324	IAmb	IAmb	03 53 52.4	
	comp=Z,9.7nm,1.4s						
X37A	Clayton	56.72	334	IAmb	IAmb	03 54 03.0	
	comp=Z,13nm,1.2s						
PBMO	Poplar Bluff	56.83	340	IAmb	IAmb	03 53 47.2	
	comp=Z,8.2nm,0.4s						
ABTX	Abilene, Hawle	56.98	330	IAmb	IAmb	03 53 50.9	
	comp=Z,12nm,0.8s						
CGM3	Cape Girardeau	57.06	341	IAmb	IAmb	03 53 49.7	
	comp=Z,7.0nm,1.0s						
S44A	Carbondale	57.30	341	IAmb	IAmb	03 53 50.6	
	comp=Z,9.1nm,0.5s						
SIUC	Southern Illin	57.30	341	IAmb	IAmb	03 53 50.6	
	comp=Z,8.5nm,0.6s						
APMT	Aspermont	57.78	330	IAmb	IAmb	03 53 56.5	
	comp=Z,19nm,0.7s						
SN01	Snyder 1	57.78	329	P	P	03 53 54.3	-0.1
SN01				IAmb	IAmb	03 53 57.3	
	comp=Z,20nm,1.0s						
FVM	French Village	57.93	341	IAmb	IAmb	03 53 55.3	
	comp=Z,7.1nm,0.8s						
WMOK	Wichita Mounta	58.32	332	IAmb	IAmb	03 54 16.6	
	comp=Z,5.2nm,0.8s						
425A	Indio Mountain	58.33	324	IAmb	IAmb	03 54 00.4	
	comp=Z,4.6nm,0.6s						
S39A	Bolivar	58.65	338	IAmb	IAmb	03 54 00.2	
	comp=Z,7.9nm,0.6s						
R40A	Maddies Statio	58.81	339	IAmb	IAmb	03 54 01.1	
	comp=Z,6.6nm,0.6s						
L59A	Walton	58.91	355	IAmb	IAmb	03 54 02.7	
	comp=Z,24nm,1.4s						
BINY	Binghamton	59.00	354	IAmb	IAmb	03 54 02.9	
	comp=Z,9.1nm,0.8s						
TRY	Troy	59.35	356	IAmb	IAmb	03 54 05.3	
	comp=Z,9.4nm,0.8s						
MSTX	Muleshoe	59.61	328	P	P	03 54 07.4	+0.3
MSTX				IAmb	IAmb	03 54 09.4	
	comp=Z,14nm,0.8s						
J59A	Piesco	60.14	356	IAmb	IAmb	03 54 10.7	
	comp=Z,11nm,0.9s						
LBNH	Lisbon	60.78	358	P	P	03 54 13.8	-0.8
LBNH				IAmb	IAmb	03 54 15.3	
	comp=Z,11nm,0.9s						
KSU1	Kansas State U	61.11	336	I

comp=Z,492nm,0.7s
SNAA Sanae 66.89 162 P **P 03 54 55.6 +1.3**
comp=Z,18nm,0.7s,baz=280,slow=6.9,SNR=173
comp=Z,18nm,0.7s
F33A 5 Mile Ranch, 66.90 340 IAmb IAmb 03 54 55.5
comp=Z,8.4nm,0.6s
O20A White River Ci 67.14 329 IAmb IAmb 03 54 60.0
comp=Z,7.3nm,0.9s
LIC Lamto 67.70 76⇑ *e*P **P 03 54 59.7 -0.6**
comp=Z,117nm,0.8s
TIC Toumodi 67.85 75⇑ *e*P **P 03 55 00.5 -0.8**
comp=Z,39nm,0.9s
KIC Kosan Boka 68.01 76⇑ *e*P **P 03 55 01.9 -0.3**
comp=Z,87nm,0.5s
DBIC Dimbokro 68.01 75 P **P 03 55 01.9 -0.3**
TMUT Trail Mountain 68.05 326 P **P 03 55 02.3 0.0**
RDMU Red Mountain 68.14 328 IAmb IAmb 03 55 05.5
comp=Z,8.3nm,0.9s
K22A Casper 68.26 331 IAmb IAmb 03 55 06.0
comp=Z,8.2nm,0.7s
RSSD Black Hills 68.34 334 P **P 03 55 04.4 +0.4**
RSSD IAmb IAmb 03 55 06.5
comp=Z,8.8nm,0.6s
B35A Bob, Littlefor 68.37 343 IAmb IAmb 03 55 03.9
comp=Z,6.4nm,0.5s
TROLL Troll, Antarti 68.61 161 ⇓P **P 03 55 07.2 +2.1**
comp=Z,503nm,0.6s
BSUT Blindstream Ca 68.72 327 IAmb IAmb 03 55 10.3
comp=Z,10nm,1.2s
TPNV Topopah Spring 69.27 321 P **P 03 55 09.7 0.0**
TPNV IAmb IAmb 03 55 14.2
comp=Z,10.0nm,1.1s
PDAR Pinedale Array 69.78 330 P **P 03 55 14.0 +1.2**
comp=Z,1.5nm,0.6s,baz=125,slow=9.0,SNR=21
comp=Z,1.5nm,0.6s
ID10 Lander Cutoff 70.25 329 IAmb IAmb 03 55 18.2
comp=Z,13nm,1.4s
PMAR Madeira 70.36 45 *e*P **P 03 55 17.6 +1.1**
AHID Auburn Hatcher 70.54 329 IAmb IAmb 03 55 19.9
comp=Z,6.4nm,0.8s
ULM Lac du Bonnet 70.69 342 P **P 03 55 16.7 -1.1**
ULM Lac du Bonnet 70.69 342 P **P 03 55 17.4 -0.4**
comp=Z,16nm,0.5s,baz=152,slow=6.4,SNR=58
comp=Z,16nm,0.5s
IMW Indian Meadow 71.30 330 IAmb IAmb 03 55 25.0
comp=Z,5.1nm,0.7s
FLWY Flagg Ranch 71.32 330 IAmb IAmb 03 55 25.5
comp=Z,14nm,0.8s
LAO LASA Array 71.32 334 IAmb IAmb 03 55 25.0
comp=Z,15nm,1.1s
SCHQ Schefferville 71.37 2 P **P 03 55 20.9 -1.0**
comp=Z,7.6nm,0.8s,baz=168,slow=9.3,SNR=5.6
comp=Z,7.6nm,0.8s
RLMT Red Lodge 71.43 331 IAmb IAmb 03 55 25.6
comp=Z,7.5nm,0.8s
NVAR Mina Array Bea 71.47 321 P **P 03 55 23.7 +0.6**
NVAR Mina Array Bea 71.47 321 P **P 03 55 25.7 +2.5**
comp=Z,1.7nm,0.7s,baz=149,slow=6.2,SNR=16
comp=Z,1.7nm,0.7s
DGMT Dagmar 71.95 337 IAmb IAmb 03 55 28.3
comp=Z,22nm,1.1s
PAHR Pah Rah Range 72.94 322 P **P 03 55 33.2 +1.5**
PAHR IAmb IAmb 03 55 35.6
comp=Z,8.3nm,0.8s
QSPA South Pole Qui 73.37 180 P **P 03 55 34.7 +0.9**
QSPA IAmb IAmb 03 55 36.6
comp=Z,8.3nm,0.8s
QSPA South Pole Qui 73.37 180 P **P 03 55 35.7 +1.8**
comp=Z,7.0nm,0.8s,baz=190,slow=0.9,SNR=27
comp=Z,7.0nm,0.8s
MFID Camas Ranch 73.42 327 IAmb IAmb 03 55 39.2
comp=Z,8.6nm,0.9s
EGMT Eagleton 73.86 333 IAmb IAmb 03 55 39.3
comp=Z,16nm,0.7s
PLID Pearl Lake 74.67 328 IAmb IAmb 03 55 45.2
comp=Z,7.0nm,0.9s
BMO Blue Mountains 75.18 327 IAmb IAmb 03 55 47.6
comp=Z,15nm,1.5s
TOA0 Torodi Ar. Sit 76.35 72 P **P 03 55 51.5 -0.2**
TORD Torodi Ar. Bea 76.35 72 P **P 03 55 51.4 -0.3**
TORD Torodi Ar. Bea 76.35 72 P **P 03 55 51.1 -0.6**
comp=Z,28nm,0.5s,baz=262,slow=5.3,SNR=369
comp=Z,28nm,0.5s
AVE Averroes 77.37 49 P **P 03 55 56.7 -0.3**
PFVI Vila Bisbo 78.32 45 *e*P **P 03 56 03.0 +0.8**
MORF Marmelete 78.53 45 *e*P **P 03 56 04.6 +1.2**
MORF Marmelete 78.53 45 *e*P **P 03 56 04.5 +1.2**
MORF IAmb IAmb 03 56 05.2
comp=Z,12nm,0.8s
PTEO Sao Teotonio 78.61 45 *e*P **P 03 56 04.7 +1.0**
PBDV Barranco-do-Ve 78.99 46 *e*P **P 03 56 07.1 +1.2**
comp=Z,34nm,1.8s
PNCL Nicolau / Gran 79.04 45 *e*P **P 03 56 07.4 +1.4**
MESJ Messejana 79.10 45 *e*P **P 03 56 07.6 +1.2**
MESJ Messejana 79.10 45 *e*P **P 03 56 07.4 +1.0**
MESJ IAmb IAmb 03 56 07.8
comp=Z,6.7nm,0.8s
PCVE Castro Verde 79.12 45 *e*P **P 03 56 07.4 +0.9**
PVAQ Vaqueiros 79.22 46 *e*P **P 03 56 08.4 +1.3**
comp=Z,16nm,1.8s
PBEJ Beja 79.44 45 *e*P **P 03 56 09.3 +1.1**
EVO Evora 79.60 44 *e*P **P 03 56 10.2 +1.1**
PMTG Montargil 79.74 44 *e*P **P 03 56 10.3 +0.5**
comp=Z,17nm,1.6s
PESTR Estremoz 80.06 44 *e*P **P 03 56 12.6 +1.0**
comp=Z,16nm,1.8s
PCAS Casmilo, Conde 80.07 43 *e*P **P 03 56 12.3 +0.7**
PBAR Barrancos 80.08 45 *e*P **P 03 56 12.2 +0.6**
comp=Z,15nm,1.7s
PCBR Castelo Branco 80.63 44 *e*P **P 03 56 15.4 +0.8**
comp=Z,15nm,1.7s
MTE Manteigas 80.88 43 *e*P **P 03 56 16.8 +0.8**
MVO Moncorvo 81.60 43 *e*P **P 03 56 20.5 +0.7**
PAB San Pablo 82.58 45 P **P 03 56 24.3 -0.6**
PAB IAmb IAmb 03 56 27.6
comp=Z,11nm,0.6s
ESDC Sonseca Array 82.90 45 P **P 03 56 26.8 +0.3**
comp=Z,4.2nm,0.7s,baz=251,slow=5.3,SNR=46
comp=Z,4.2nm,0.7s
TAM Tamanrasset 83.23 64 P **P 03 56 29.1 +0.3**
TAM IAmb IAmb 03 56 31.0
comp=Z,8.6nm,1.1s
DY2G Dye2 84.82 9 *i* P **P 03 56 34.1 -1.7**
DY2G IAmb IAmb 03 56 36.8
comp=Z,16nm,0.5s
BOSA Boshof 86.16 119 P **P 03 56 44.1 +0.8**
comp=Z,1.3nm,0.4s,baz=267,slow=2.3,SNR=6.5
comp=Z,1.3nm,0.4s
YKA Yellowknife Ar 86.58 341 P **P 03 56 45.4 +1.1**
comp=Z,6.7nm,0.6s,baz=133,slow=4.8,SNR=34
YKA pP **pP 03 57 34.7 +4.2**
comp=Z,1.1nm,0.7s,baz=127,slow=4.4,SNR=1.6
comp=Z,6.7nm,0.6s
ICESG Greenland Ices 88.27 10 *i* P **P 03 56 51.4 -1.3**
ICESG IAmb IAmb 03 56 54.2
comp=Z,25nm,0.8s
MAW Mawson 88.98 164 P **P 03 56 57.4 +1.7**
comp=Z,5.2nm,0.6s,baz=191,slow=4.1,SNR=14
comp=Z,5.2nm,0.6s
EKA Eskdalemuir Ar 90.92 32 P **P 03 57 04.2 -0.7**
comp=Z,2.2nm,0.8s,baz=227,slow=5.5,SNR=4.7
comp=Z,2.2nm,0.8s
KEST Kesra 90.93 53 P **P 03 57 03.9 -1.6**
comp=Z,7.2nm,0.8s,baz=265,slow=12,SNR=1.8
comp=Z,7.2nm,0.8s
KULLO Kullorsuaq 91.50 3 *i* P **P 03 57 06.9 -0.3**
KULLO IAmb IAmb 03 57 23.9
comp=Z,15nm,0.9s
SUMG Summit 91.52 9 P **P 03 57 07.0 -0.8**
SUMG IAmb IAmb 03 57 10.0
comp=Z,11nm,0.8s
SUMG Summit 91.52 9 *i* P **P 03 57 08.0 +0.2**
SUMG IAmb IAmb 03 57 10.1
comp=Z,9.6nm,0.7s
NEEM North Greenlan 94.67 4 *i* P **P 03 57 22.1 0.0**
NEEM IAmb IAmb 03 57 25.1
comp=Z,5.5nm,0.4s
GERES GERESS Array B 98.08 41 P **P 03 57 37.5 -0.5**
comp=Z,1.7nm,0.8s,baz=208,slow=2.6,SNR=6.4
comp=Z,1.7nm,0.8s
ILAR Eielson Array 99.78 335 P **Pdif 03 57 46.7 +1.7**
comp=Z,0.3nm,0.6s,baz=106,slow=2.9,SNR=2.8
comp=Z,0.3nm,0.6s
KBZ Khabaz 117.54 49 PKP **PKiKP 04 02 47.0 +0.6**
comp=Z,3.7nm,1.1s,baz=218,slow=5.6,SNR=3.9
STKA Stephens Creek 123.16 212 PKP **PKiKP 04 02 58.6 +0.8**
comp=Z,0.8nm,0.4s,baz=69,slow=3.8,SNR=3.8

BVAR Borovoye Array 132.17 32 PKP **PKiKP 04 03 15.3 +0.2**
comp=Z,1.3nm,0.7s,baz=276,slow=2.8,SNR=3.5
BVAR SKP 04 06 27.4
comp=Z,1.3nm,0.6s,baz=300,slow=3.3,SNR=6.9
ASAR Alice Springs 133.74 210 PKP **PKiKP 04 03 19.0 -0.3**
comp=Z,0.9nm,0.6s,baz=128,slow=1.9,SNR=17
ASAR SKP 04 06 31.2
comp=Z,0.8nm,0.8s,baz=148,slow=5.2,SNR=4.9
WRA Warramunga Arr 136.63 214 PKP **PKiKP 04 03 24.6 -0.7**
comp=Z,1.5nm,0.5s,baz=147,slow=1.8,SNR=15
WRA pPKP **pPKPdf 04 04 16.2 +3.9**
comp=Z,1.0nm,0.8s,baz=166,slow=1.7,SNR=3.0
WRA SKPbc **SKPbc 04 06 40.8 +1.7**
comp=Z,1.0nm,0.7s,baz=148,slow=2.3,SNR=5.4
KURBB Kurchatov Arra 137.64 30 PKhKP PKPpre 04 03 17.2
comp=Z,0.3nm,0.5s,baz=309,slow=2.3,SNR=2.2
KURBB PKP **PKPdf 04 03 24.0 -0.3**
comp=Z,1.1nm,0.5s,baz=321,slow=2.0,SNR=13
KURBB SKPbc **SKPbc 04 06 42.9 +1.9**
comp=Z,1.0nm,0.5s,baz=309,slow=3.1,SNR=12
ZALV Zalesovo Beam 137.89 22 PKhKP PKPpre 04 03 21.3
comp=Z,0.9nm,0.3s,baz=351,slow=1.9,SNR=5.2
ZALV PKP **PKiKP 04 03 26.4 -0.3**
comp=Z,7.5nm,0.6s,baz=285,slow=2.5,SNR=25
ZALV SKPbc **SKPbc 04 06 44.0 +2.4**
comp=Z,3.0nm,0.7s,baz=306,slow=3.5,SNR=10.0
MK31 Makanchi Array 142.05 32 PKPdf **PKPdf 04 03 29.9 -2.6**
MKAR Makanchi Array 142.05 32 PKPdf **PKPdf 04 03 29.1 -3.4**
MKAR Makanchi Array 142.05 32 PKhKP PKPpre 04 03 27.8
comp=Z,2.1nm,0.6s,baz=311,slow=3.8,SNR=16
MKAR SKPbc **SKiKP 04 06 55.0 +0.4**
comp=Z,2.6nm,0.7s,baz=328,slow=2.1,SNR=12
HEH HeiHe 143.95 342 *e*P **PKPdf 04 03 35.3 -0.4**
HEH pmax pmax
comp=Z,17nm,0.6s
WMQ Urumqi 146.85 31 *e*P **PKPdf 04 03 41.0 0.0**
USRK Ussuriysk Ar. 147.20 331 PKPbc **PKiKP 04 03 46.2 +0.1**
comp=Z,4.3nm,0.7s,baz=75,slow=3.1,SNR=5.7
USRK pPKPbc **pPKPab 04 04 35.0 +1.7**
comp=Z,3.9nm,0.8s,baz=17,slow=1.5,SNR=2.9
MJAR Matsushiro Arr 148.56 314 PKPbc **PKiKP 04 03 49.7 +0.5**
comp=Z,2.5nm,0.9s,baz=64,slow=2.7,SNR=4.3
MJAR pPKPbc **pPKPab 04 04 38.7 -0.4**
comp=Z,7.1nm,0.7s,baz=21,slow=0.7,SNR=7.7
SONM Songino Array 148.86 5 PKPbc **PKiKP 04 03 50.0 +0.4**
comp=Z,17nm,0.7s,baz=322,slow=1.8,SNR=60
SONM pPKPbc **pPKPab 04 04 38.6 -1.3**
comp=Z,1.8nm,0.7s,baz=336,slow=1.6,SNR=1.6
LZH Lanzhou 159.89 16 *e*PKP **PKPdf 04 04 02.2 +2.3**
LZH pPKP PKPab 04 04 42.8 +2.9
LZH sPKP 04 05 00.4
NJ2 Nanjing 163.03 335 *e*P **PKPdf 04 04 03.1 +0.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
PZH PanZhiHua 167.37 39 PKP **PKPdf 04 04 08.1 +1.1**
CMAR Chiang Mai Arr 168.85 80 PKPab **PKPab 04 05 20.8 +0.8**
comp=Z,1.0nm,0.3s,baz=277,slow=6.1,SNR=7.7

---

*IDC **07** 04:20:15.9±0.7, 31°.33S×68°.52W, h105km±3km, mb3.9/5, mbtmp4.1/9, MS2.9/1, Error ellipse: s-maj=24.5km s-min=12.9km az=80.0*
*NEIC **07** 04:20:15.4±2.2, 31°.32S±0°.06×68°.73W±0°.09, h115km±6km, mb4.2/7, Error ellipse: s-maj=11.0km s-min=8.3km az=94.0*
*SJA **07** 04:20:15.3±0.8, 31°.34S×68°.72W, h104km±2km, ML4.1, MW4.2*
ISC 07 04:20:14.9±0.5,**31°.29S**±0°.03×**68°.68W**±0°.03,**h106**km±4km, **n118**,σ1$59/173,**mb4.2**/11,**4C**,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.18**	**104**	*e*P	**Pn**	**04 20 30.2**	**+0.3**
RTLL				*e*S	**Sn**	**04 20 41.8**	**+0.6**
RTLL				IAML		04 20 44.5	
comp=Z,8μm,0.3s							
ZON	**Zonda**	**0.26**	**180**	Pn	**Pn**	**04 20 31.0**	**+0.8**
ZON	**Zonda**	**0.26**	**180**	*e*P	**Pn**	**04 20 30.8**	**+0.6**
ZON				*e*S	**Sn**	**04 20 41.8**	**+0.1**
ZON				IAML		04 20 43.1	
comp=Z,4μm,0.3s							
SJA	**San Juan**	**0.26**	**158**	*e*P	**Pn**	**04 20 31.3**	**+1.1**
SJA				*e*S	**Sn**	**04 20 42.4**	**+0.8**
SJA				IAML		04 20 44.1	
comp=Z,3μm,0.3s							
DOCA	**Reserva Natura**	**0.48**	**314**	*e*P	**Pn**	**04 20 32.4**	**+0.6**
DOCA				*e*S	Sn	04 20 54.3	+10
CFA	**Coronel Fontan**	**0.49**	**130**	P	**Pn**	**04 20 31.9**	**+0.5**
comp=Z,1μm,0.3s,baz=283,slow=5.5							
CFA				LR	LR	04 20 32.9	
comp=Z,54nm,19.7s,baz=142,slow=46							
CFA				S	**Sn**	**04 20 44.9**	**+1.1**
comp=Z,7μm,0.3s,baz=143,slow=19,SNR=66							
CFA	**Coronel Fontan**	**0.49**	**130**	*e*P	**Pn**	**04 20 32.4**	**+1.0**
CFA				*e*S	**Sn**	**04 20 44.0**	**+0.2**
CFA				IAML		04 20 45.4	
comp=Z,8μm,0.5s							
RTLS	**Leoncito**	**0.73**	**226**	*e*P	Pn	04 20 20.9	-13
RTLS				*e*S	Sn	04 20 34.2	-13
RTLS				IAML		04 20 49.6	
comp=Z,4μm,0.4s							
ACCO	**Cerro Coronel**	**0.77**	**334**	*e*P	**Pn**	**04 20 35.4**	**+1.4**
ACDV	**Cuesta del Vie**	**1.18**	**341**	*e*P	**Pn**	**04 20 39.5**	**+1.5**
ACDV				*e*S	**Sn**	**04 20 57.6**	**+2.3**
ACDV				IAML		04 20 58.2	
comp=Z,2μm,0.5s							
AVFE	**Valle Fertil**	**1.22**	**59**	*e*P	**Pn**	**04 20 40.2**	**+1.8**
AVFE				*e*S	**Sn**	**04 20 58.6**	**+2.5**
AVFE				IAML		04 20 59.3	
comp=Z,4μm,0.3s							
ASAL	**Salagasta**	**1.31**	**186**	*e*P	**Pn**	**04 20 40.3**	**+0.9**
ASAL				*e*S	**Sn**	**04 20 59.8**	**+2.0**
AROD	**Rodeo**	**1.31**	**328**	*e*P	**Pn**	**04 20 41.3**	**+1.6**
AROD				*e*S	**Sn**	**04 21 00.3**	**+2.0**
ARCO	**CERRO ARCO**	**1.56**	**188**	*e*P	**Pn**	**04 20 43.5**	**+0.9**
ARCO				*e*S	**Sn**	**04 21 05.1**	**+1.6**
ARCO				IAML		04 21 06.3	
comp=Z,3μm,0.6s							
ACHE	**Chepes**	**1.73**	**86**	*e*P	**Pn**	**04 20 46.3**	**+1.8**
CO03	**El Pedregal**	**1.78**	**284**	Pn	**Pn**	**04 20 46.2**	**+1.1**
CO03	**El Pedregal**	**1.78**	**284**	*e*P	**Pn**	**04 20 46.0**	**+0.9**
CO03				*i* S	**Sn**	**04 21 09.1**	**+0.9**
CO03	**El Pedregal**	**1.78**	**284**	*e*P	**Pn**	**04 20 46.2**	**+1.1**
CO03				*e*S	**Sn**	**04 21 09.4**	**+1.3**
CO03				IAML		04 21 10.2	
comp=Z,2μm,0.7s							
CO01	**Juntas del Tor**	**1.79**	**317**		**Pn**	**04 20 47.5**	**+2.1**
CO01	**Juntas del Tor**	**1.79**	**317**	*e*P	**Pn**	**04 20 47.4**	**+2.1**
CO01				*i* S	**Sn**	**04 21 10.9**	**+2.4**
CO01	**Juntas del Tor**	**1.79**	**317**	*e*P	**Pn**	**04 20 47.5**	**+2.1**
CO01				*e*S	**Sn**	**04 21 11.4**	**+2.9**
CO01				IAML		04 21 15.0	
comp=Z,766nm,0.5s							
AAGR	**Agrelo**	**1.80**	**184**	*e*P	**Pn**	**04 20 46.2**	**+0.9**
AAGR				*e*S	**Sn**	**04 21 09.1**	**+0.6**
AAGR				IAML		04 21 11.9	
comp=Z,756nm,0.3s							
CO02	**Combarbal**	**1.99**	**272**	Pn	**Pn**	**04 20 48.3**	**+0.5**
CO02	**Combarbal**	**1.99**	**272**	*e*P	**Pn**	**04 20 48.3**	**+0.5**
CO02				*i* S	**Sn**	**04 21 12.7**	**-0.2**
CO02	**Combarbal**	**1.99**	**272**	*e*P	**Pn**	**04 20 48.2**	**+0.5**
CO02				*e*S	**Sn**	**04 21 13.3**	**+0.5**
CO02				IAML		04 21 16.4	
comp=Z,2μm,0.3s							
APLL	**PUNTA DE LOS L**	**2.05**	**65**	*e*P	**Pn**	**04 20 50.6**	**+2.1**
GO04	**Tololo Observa**	**2.14**	**301**		**Pn**	**04 20 50.3**	**+0.5**
GO04	**Tololo Observa**	**2.14**	**301**	*e*P	**Pn**	**04 20 50.3**	**+0.5**
GO04				*i* S	**Sn**	**04 21 16.6**	**+0.2**
GO04	**Tololo Observa**	**2.14**	**301**	*e*P	**Pn**	**04 20 50.4**	**+0.5**
GO04				*e*S	**Sn**	**04 21 17.9**	**+1.4**
VA03	**San Esteban**	**2.17**	**227**		**Pn**	**04 20 50.6**	**+0.5**
VA03	**San Esteban**	**2.17**	**227**	*e*P	**Pn**	**04 20 50.8**	**+0.8**
VA03				*i* S	**Sn**	**04 21 17.6**	**+0.8**
VA03				IAML		04 21 21.5	
comp=N,1μm,0.7s							
VA03	**San Esteban**	**2.17**	**227**	*e*P	**Pn**	**04 20 50.7**	**+0.6**
VA03				*e*S	**Sn**	**04 21 21.9**	**+5.0**
AVIZ	**Vizcacheras**	**2.18**	**176**	*e*P	**Pn**	**04 20 51.3**	**+1.1**
AVIZ				*e*S	**Sn**	**04 21 17.5**	**+0.3**
ACLC	**CERRO LA CRUZ**	**2.38**	**39**	*e*P	**Pn**	**04 20 50.6**	**-2.3**
ACLC				IAML		04 21 26.3	
comp=Z,1μm,0.6s							
MT08	**Bocatoma Ro**	**2.43**	**207**		**Pn**	**04 20 55.0**	**+1.5**
MT08	**Bocatoma Ro**	**2.43**	**207**	*e*P	**Pn**	**04 20 55.1**	**+1.5**
MT08				*i* S	**Sn**	**04 21 26.3**	**+3.1**
MT08				IAML		04 21 28.6	
comp=N,1μm,0.4s							
MT04	**Ro Olivares**	**2.45**	**210**	*e*P	**Pn**	**04 20 55.5**	**+1.7**
MT04				*i* S	**Sn**	**04 21 26.3**	**+2.8**
FCH	**Farellones**	**2.45**	**213**	*e*P	**Pn**	**04 20 55.4**	**+1.4**
FCH				*i* S	**Sn**	**04 21 25.7**	**+1.9**
PEL	**Peldehue**	**2.52**	**222**		**Pn**	**04 20 54.7**	**+0.2**
PEL	**Peldehue**	**2.52**	**222**	*e*P	**Pn**	**04 20 54.7**	**+0.2**
PEL				*i* S	**Sn**	**04 21 24.5**	**-0.3**
PEL				IAML		04 21 26.8	
comp=E,670nm,0.2s							
PEL	**Peldehue**	**2.52**	**222**	*e*P	**Pn**	**04 20 54.9**	**+0.4**
PEL				*e*S	**Sn**	**04 21 26.2**	**+1.4**
VCA	**Vinchina**	**2.58**	**9**	*e*P	**Pn**	**04 20 57.9**	**+2.5**
VCA				*e*S	**Sn**	**04 21 29.3**	**+2.9**
VCA				IAML		04 21 33.1	
comp=Z,2μm,0.4s							
CO05	**La Serena**	**2.60**	**301**		**Pn**	**04 20 55.2**	**-0.3**
CO05	**La Serena**	**2.60**	**301**	*e*P	**Pn**	**04 20 55.0**	**-0.5**
CO05				*i* S	**Sn**	**04 21 25.1**	**-1.6**
ROC1	**El Roble**	**2.60**	**229**		**Pn**	**04 20 55.3**	**-0.6**
ROC1	**El Roble**	**2.60**	**229**	*e*P	**Pn**	**04 20 55.4**	**-0.5**
ROC1				*e*S	**Sn**	**04 21 26.1**	**-1.1**
CO06	**Fray Jorge**	**2.61**	**283**		**Pn**	**04 20 54.6**	**-1.2**
MT14	**Cerro Cal¡n**	**2.63**	**216**	*e*P	**Pn**	**04 20 56.8**	**+0.9**
MT14				*i* S	**Sn**	**04 21 28.2**	**+0.7**
MT14				IAML		04 21 38.0	
comp=E,1μm,0.7s							
MT03	**Universidad Ad**	**2.69**	**215**		**Pn**	**04 20 57.8**	**+0.9**
MT03	**Universidad Ad**	**2.69**	**215**	*e*P	**Pn**	**04 20 57.7**	**+0.8**
MT03				*i* S	**Sn**	**04 21 30.6**	**+1.5**
MT03	**Universidad Ad**	**2.69**	**215**	*e*P	**Pn**	**04 20 57.9**	**+0.9**
MT03				*e*S	**Sn**	**04 21 31.1**	**+2.0**
MT03				IAML		04 21 33.7	
comp=Z,541nm,0.2s							
MT05	**Renca**	**2.73**	**219**		**Pn**	**04 20 57.4**	**0.0**
MT05	**Renca**	**2.73**	**219**	*e*P	**Pn**	**04 20 57.8**	**+0.4**
MT05				*i* S	**Sn**	**04 21 30.0**	**+0.1**
MT05	**Renca**	**2.73**	**219**	*e*P	**Pn**	**04 20 57.1**	**-0.3**
MT05				IAML		04 21 31.1	
comp=Z,310nm,0.2s							
MT13	**San Alfonso**	**2.80**	**209**	Pn	**Pn**	**04 20 59.4**	**+1.1**
MT13	**San Alfonso**	**2.80**	**209**	*e*P	**Pn**	**04 20 59.5**	**+1.1**
MT13				*i* S	**Sn**	**04 21 33.8**	**+2.1**
AC05	**El Transito**	**2.81**	**330**	Pn	**Pn**	**04 21 00.5**	**+2.0**
AC05	**El Transito**	**2.81**	**330**	*e*P	**Pn**	**04 21 00.9**	**+2.4**
AC05				IAML		04 21 39.7	
comp=Z,429nm,0.7s							
LMEL	**Las Melosas**	**2.86**	**206**		**Pn**	**04 21 00.0**	**+0.9**
MT02	**Curacav**	**2.87**	**226**		**Pn**	**04 20 58.5**	**-0.6**
MT02	**Curacav**	**2.87**	**226**	*e*P	**Pn**	**04 20 58.5**	**-0.6**
MT02				*i* S	**Sn**	**04 21 32.1**	**-0.9**
MT02	**Curacav**	**2.87**	**226**	*e*P	**Pn**	**04 20 58.2**	**-0.9**
MT02				*e*S	**Sn**	**04 21 31.5**	**-1.5**
LCO	**Las Campanas**	**2.87**	**322**	Pn	**Pn**	**04 20 59.9**	**+0.6**
LCO	**Las Campanas**	**2.87**	**322**	*e*P	**Pn**	**04 21 00.0**	**+0.6**
LCO				*i* S	**Sn**	**04 21 34.1**	**+0.7**
LCO	**Las Campanas**	**2.87**	**322**	*e*P	**Pn**	**04 21 00.1**	**+0.8**
LCO				*e*S	**Sn**	**04 21 34.5**	**+1.0**
MT12	**Pirque**	**2.91**	**212**	*e*P	**Pn**	**04 21 00.5**	**+0.8**
MT12				*i* S	**Sn**	**04 21 35.1**	**+1.0**
VA01	**Torpederas**	**3.06**	**235**	*e*P	**Pn**	**04 21 01.2**	**-0.4**
BO04	**La Punta**	**3.15**	**211**		**Pn**	**04 21 03.2**	**+0.3**
BO04	**La Punta**	**3.15**	**211**	*e*P	**Pn**	**04 21 03.2**	**+0.3**
BO04				*i* S	**Sn**	**04 21 40.2**	**+0.4**
MT09	**Talagante**	**3.16**	**218**	Pn	**Pn**	**04 21 02.5**	**-0.6**
MT09	**Talagante**	**3.16**	**218**	*e*P	**Pn**	**04 21 02.7**	**-0.4**
MT09				*i* S	**Sn**	**04 21 39.2**	**-1.0**
TINO	**Tinogasta**	**3.35**	**17**	*e*P	**Pn**	**04 21 08.8**	**+3.1**
TINO				*e*S	**Sn**	**04 21 47.7**	**+2.8**
MT01	**Popeta**	**3.37**	**220**		**Pn**	**04 21 04.3**	**-1.4**
MT01	**Popeta**	**3.37**	**220**	*e*P	**Pn**	**04 21 03.7**	**-2.0**
MT01				*e*S	**Sn**	**04 21 43.0**	**-1.9**
VA05	**Santo Domingo**	**3.43**	**226**		**Pn**	**04 21 05.2**	**-1.3**
RFA	**San Rafael**	**3.48**	**177**	*e*P	**Pn**	**04 21 06.9**	**-0.4**
RFA				IAML		04 22 07.8	
comp=Z,311nm,0.4s							
TCA	**Tanti**	**3.49**	**92**	*e*P	**Pn**	**04 21 08.8**	**+1.3**
TCA				*e*S	**Sn**	**04 21 44.8**	**-3.4**
TCA				IAML		04 22 06.3	
comp=Z,449nm,0.8s							
BO01	**Tunca**	**3.70**	**213**	Pn	**Pn**	**04 21 08.9**	**-1.2**
BO01	**Tunca**	**3.70**	**213**	*e*P	**Pn**	**04 21 09.0**	**-1.2**
BO01				*e*S	**Sn**	**04 21 51.8**	**-1.2**
AC04	**Llanos de Chal**	**3.71**	**325**	Pn	**Pn**	**04 21 10.4**	**0.0**
AC04	**Llanos de Chal**	**3.71**	**325**	*e*P	**Pn**	**04 21 10.2**	**-0.2**
AC04				IAML		04 22 01.1	
comp=Z,205nm,0.8s							
CYA	**Choya**	**3.78**	**42**	*e*P	**Pn**	**04 21 12.0**	**+0.7**
CYA				*e*S	**Sn**	**04 21 55.9**	**+1.0**
CYA				IAML		04 21 56.8	
comp=Z,220nm,0.3s							
BO02	**Sierra Bellavi**	**3.92**	**206**	Pn	**Pn**	**04 21 13.0**	**-0.2**
BO02	**Sierra Bellavi**	**3.92**	**206**	*e*P	**Pn**	**04 21 13.2**	**+0.1**
BO02				*e*S	**Sn**	**04 22 00.2**	**+2.0**
BO02				IAML		04 22 11.8	
comp=Z,129nm,0.2s							
GO03	**Copiap**	**3.92**	**339**	*e*P	**Pn**	**04 21 14.1**	**+0.8**
GO03				*e*S	**Sn**	**04 21 59.0**	**+0.6**
AC06	**Mina Casimiro**	**4.18**	**339**	Pn	**Pn**	**04 21 17.1**	**+0.4**
AC02	**Maricunga**	**4.45**	**355**		**Pn**	**04 21 22.9**	**+2.1**
AC02	**Maricunga**	**4.45**	**355**	*e*P	**Pn**	**04 21 22.9**	**+2.1**
AC02				*e*S	**Sn**	**04 22 16.1**	**+4.2**
AC02				IAML		04 22 17.3	
comp=Z,135nm,1.1s							
GO06	**Curarrehue**	**8.59**	**195**		**Pn**	**04 22 14.9**	**-1.5**
LVC	**Limon Verde**	**8.64**	**359**	P	**Pn**	**04 22 16.3**	**-1.3**
comp=Z,8.7nm,0.3s,baz=177,slow=10,SNR=28							
LVC				S	**Sn**	**04 23 47.4**	**-6.1**
comp=Z,5.1nm,0.4s,baz=170,slow=10.0,SNR=1.7							
TRQA	**Tornquist**	**8.72**	**143**	Pn	**Pn**	**04 22 17.7**	**-0.4**
PLCA	**Paso Flores**	**9.55**	**189**	P	**Pn**	**04 22 28.4**	**-1.0**
comp=Z,0.9nm,0.4s,baz=358,slow=11,SNR=9.9							
CPUP	**Villa Florida**	**11.11**	**66**	P	**Pn**	**04 22 48.8**	**-1.8**
comp=Z,0.8nm,0.5s,baz=246,slow=10,SNR=5.6							
CPUP				S	**Sn**	**04 24 45.8**	**-7.0**
comp=Z,3.2nm,0.6s,baz=221,slow=14,SNR=1.2							
PB16	**IPOC Station P**	**12.92**	**356**	Pn	**Pn**	**04 23 13.5**	**-1.7**
LPAZ	**La Paz**	**14.94**	**2**	Pn	**Pn**	**04 23 40.3**	**-1.0**
**LPA

MAW	**Mawson**	**74.94**	**163**	P		**P**	**04 31 44.8**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=269,slow=7.7,SNR=2.4							
	comp=Z,2.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**80.60**	**68**	P		**P**	**04 32 17.0**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=287,slow=6.5,SNR=15							
TORD				pP		**pP**	**04 32 42.1**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=267,slow=2.9,SNR=2.0							
	comp=Z,1.3nm,0.7s							
PDAR	**Pinedale Array**	**82.70**	**331**	pP		pP	04 32 54.8	-0.1
	comp=Z,0.3nm,0.5s,baz=98,slow=6.5,SNR=2.7							
WRA	**Warramunga Arr**	**124.48**	**206**	PKP		**PKPdf**	**04 39 01.5**	**-0.8**
	comp=Z,1.4nm,1.0s,baz=177,slow=1.9,SNR=8.1							
KURBB	**Kurchatov Arra**	**148.96**	**42**	PKPbc		**PKPbc**	**04 39 51.2**	**+1.2**
	comp=Z,0.5nm,0.2s,baz=302,slow=3.0,SNR=4.7							
ZALV	**Zalesovo Beam**	**150.42**	**32**	PKPbc		**PKPbc**	**04 39 54.0**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=338,slow=6.0,SNR=7.1							
ZALV				pPKPbc		**pPKPbc**	**04 40 23.7**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=270,slow=0.9,SNR=5.0							
MKAR	**Makanchi Array**	**152.85**	**47**	PKPbc		**PKPbc**	**04 39 59.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=31,slow=2.8,SNR=4.0							
MKAR				PKPab		**PKPab**	**04 40 11.7**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=308,slow=5.3,SNR=2.7							
MKAR				pPKPbc		**pPKPbc**	**04 40 30.6**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=333,slow=1.3,SNR=3.0							

*DNK **07** 04:46:52.5±1.5, 51°.36N×15°.88E, h16km±90km, ML1.8*
*IPEC **07** 04:46:53.9±0.2, 51°.53N×16°.21E, h0km, ML2.5/5, Error ellipse: s-maj=2.0km s-min=1.1km az=37.0*
*IDC **07** 04:46:55.7±0.8, 51°.45N×16°.05E, h0km, mbtmp3.2/7, ML2.8/7, Error ellipse: s-maj=15.4km s-min=7.6km az=113.0*
*PRU **07** 04:46:56.8, 51°.41N×16°.07E, h0km*
*VIE **07** 04:46:57.8±0.5, 51°.27N×15°.95E, h0km, mb2.7/8, ml2.6/7, ms3.5/1, Error ellipse: s-maj=4.2km s-min=3.2km az=53.0*
76 km WNW of Wroclaw Suspected Mining induced.

ISC 07 04:46:53.2±0.7, 51°.57N±0°.03×16°.12E±0°.02, h0km, n45, σ1§06/91, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**171**	*i* Pg	**Pg**	**04 47 07.4**	**+0.2**
KSP				*e*Sg	**Sg**	**04 47 15.8**	**-0.8**
CHVC	**Chvalec**	**0.98**	**182**	*e*PG	**Pg**	**04 47 12.2**	**+0.3**
CHVC				*e*SG	**Sg**	**04 47 23.9**	**-0.7**
OSTC	**Ostas**	**1.01**	**176**	*e*PG	**Pg**	**04 47 12.8**	**+0.3**
OSTC				*e*SG	**Sg**	**04 47 25.0**	**-0.6**
	comp=Z,43nm,0.3s						
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**04 47 13.7**	**+0.2**
UPC				*e*SG	**Sg**	**04 47 26.2**	**-1.0**
DPC	**Dobruska-Polom**	**1.22**	**174**	*e*PG	**Pg**	**04 47 16.3**	**-0.3**
DPC				*e*SG	**Sg**	**04 47 30.9**	**-1.5**
	comp=Z,46nm,0.6s						
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pb**	**04 47 20.7**	**+0.1**
PVCC				*e*SG	**Sg**	**04 47 38.5**	**-0.4**
	comp=Z,178nm,0.3s						
BRG	**Berggiesshubel**	**1.53**	**244**	Pn	**Pn**	**04 47 22.1**	**+0.4**
BRG				Pg	**Pg**	**04 47 23.6**	**+1.0**
BRG				Sg	**Sg**	**04 47 43.7**	**+1.3**
BRG				Amp		04 47 44.6	
	comp=Z,63nm,0.3s						
PRA	**Prague**	**1.84**	**216**	*e*PN	**Pn**	**04 47 25.9**	**-0.1**
GOPC	**GO Pecny, Ondr**	**1.86**	**208**	*e*PG	**Pb**	**04 47 27.6**	**-0.4**
PRU	**Pruhonice**	**1.87**	**213**	*e*PN	**Pn**	**04 47 26.1**	**-0.3**
PRU				*e*PG	**Pb**	**04 47 27.7**	**-0.5**
PRU				*e*SG	**Sn**	**04 47 51.1**	**+0.4**
	comp=Z,28nm,0.6s						
HSKC	**Hora Svate Kat**	**1.95**	**242**	*e*PG	**Pb**	**04 47 28.9**	**-0.6**
HSKC				*e*SG	**Sb**	**04 47 54.6**	**+0.3**
	comp=Z,24nm,0.3s						
CLL	**Collm**	**1.97**	**264**	*i* Pn	**Pn**	**04 47 28.1**	**+0.4**
CLL				*i* Pg	**Pg**	**04 47 32.0**	**+1.2**
CLL				*i* x	x	04 47 35.0	
CLL				*i* Sg	**Sg**	**04 47 57.7**	**+1.4**
	comp=Z,28nm,0.3s						
MORC	**Moravsky Berou**	**2.01**	**153**	*e*Pn	**Pn**	**04 47 28.2**	**-0.1**
	baz=335						
MORC				*e*Sg	**Sn**	**04 47 54.9**	**+0.8**
	comp=Z,39nm,0.6s,baz=335						
MORC	**Moravsky Berou**	**2.01**	**153**	*e*PN	**Pn**	**04 47 28.3**	**-0.1**
MORC				*e*SG	**Sn**	**04 47 55.0**	**+0.8**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PG	**Pb**	**04 47 33.7**	**+0.6**
OKC				*e*SG	**Sb**	**04 48 00.2**	**-0.2**
	comp=Z,46nm,0.7s						
VRAC	**Vranov**	**2.28**	**172**	*e*Pn	**Pn**	**04 47 32.2**	**+0.1**
	baz=354						
VRAC				*e*Sg	**Sb**	**04 48 03.9**	**0.0**
	comp=Z,19nm,0.5s,baz=354						
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**04 47 33.1**	**+1.0**
	comp=Z,3.3nm,0.3s,baz=346,slow=16,SNR=11						
VRAC				Lg	Lg	04 48 04.2	
	comp=Z,5.0nm,0.3s,baz=74,slow=23,SNR=10.0						
	comp=Z,7.2nm,0.3s						
TREC	**Trest**	**2.31**	**190**	*e*PG	**Pb**	**04 47 36.0**	**+0.3**
TREC				*e*SG	**Sb**	**04 48 04.8**	**+0.1**
	comp=Z,25nm,0.4s						
KRUC	**Moravsky**	**2.51**	**176**	*e*Pn	**Pn**	**04 47 35.4**	**+0.2**
	baz=357						
KRUC				*e*Sg	**Sb**	**04 48 11.2**	**+0.6**
	comp=Z,17nm,0.5s,baz=357						
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**04 47 38.0**	**+0.2**
OJC				*e*Pg	**Pg**	**04 47 46.3**	**+1.6**
OJC				*e*Sg	**Sg**	**04 48 21.1**	**+1.4**
JAVC	**Velka Javorina**	**2.89**	**159**	*e*Pn	**Pn**	**04 47 40.1**	**-0.3**
	baz=341						
JAVC				*e*Sg	**Sb**	**04 48 22.6**	**+1.2**
	comp=Z,23nm,0.7s,baz=341						
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**04 47 41.5**	**+0.5**
KHC				*e*PG	**Pb**	**04 47 46.9**	**+0.6**
KHC				*e*SN	**Sn**	**04 48 15.6**	**-1.3**
KHC				*e*SG	**Sb**	**04 48 25.0**	**+2.4**
	comp=Z,11nm,0.5s						
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*PN	**Pn**	**04 47 42.4**	**+0.7**
CKRC				*e*PG	**Pb**	**04 47 47.7**	**+0.5**
CKRC				*e*SG	**Sb**	**04 48 25.4**	**+1.2**
	comp=Z,14nm,0.4s						
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**04 47 44.7**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=25,slow=13,SNR=17						
GERES				Pg	**Pb**	**04 47 50.9**	**+1.1**
	comp=Z,3.6nm,0.3s,baz=30,slow=17,SNR=36						
GERES				Sn	**Sn**	**04 48 21.5**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=29,slow=26,SNR=5.5						
GERES				Lg	Lg	04 48 29.3	
	comp=Z,2.8nm,0.3s,baz=31,slow=34,SNR=4.3						
	comp=Z,1.8nm,0.4s						
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PN	**Pn**	**04 47 45.7**	**+0.5**
LANS				*e*PG	**Pg**	**04 47 55.2**	**+0.1**
LANS				*e*SG	**Sg**	**04 48 36.5**	**-0.4**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*PN	**Pn**	**04 47 46.8**	**+1.0**
MODS				*e*PG	**Pg**	**04 47 56.5**	**+0.5**
MODS				*e*SG	**Sb**	**04 48 35.2**	**+2.5**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN	**Pn**	**04 47 49.5**	**+0.1**
VYHS				*e*PG	**Pg**	**04 47 59.2**	**-1.8**
VYHS				*e*SG	**Sg**	**04 48 45.4**	**-1.4**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**04 47 50.0**	**-0.5**
BSD				*i* S	**Sn**	**04 48 33.6**	**-0.4**
BSD				IAML		04 48 54.9	
	comp=Z,1.0nm,0.3s						
CONA	**Conrad Observa**	**3.64**	**183**	*e*Pn	**Pn**	**04 47 51.6**	**+0.7**
	comp=Z,0.6nm,0.1s,SNR=5.8						
CONA				*e*Sg	**Sg**	**04 48 48.1**	**-2.1**
	comp=Z,6.1nm,0.3s						
MOA	**Molln**	**3.91**	**199**	*i* Pn	**Pn**	**04 47 54.9**	**+0.5**
	comp=Z,1.7nm,0.2s						
MOA				*e*Sg	**Sg**	**04 48 57.0**	**-1.6**
	comp=Z,16nm,0.7s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN	**Pn**	**04 47 54.6**	**0.0**
STHS				*e*PG	**Pg**	**04 48 08.8**	**+0.6**
STHS				*e*SG	**Sg**	**04 49 01.5**	**+2.6**
BIOA	**Bad Ischl, Aus**	**4.20**	**204**	*i* Pn	**Pn**	**04 47 58.8**	**+0.4**
	comp=Z,4.1nm,0.3s						
BIOA				*e*Sg	**Sg**	**04 49 05.8**	**-2.2**
	comp=Z,10nm,0.5s						
ARSA	**Arzberg**	**4.34**	**185**	*i* Pn	**Pn**	**04 48 01.6**	**+1.3**
	comp=Z,1.3nm,0.2s						
ARSA				*e*Sg	**Sg**	**04 49 11.0**	**-1.4**
	comp=Z,10nm,0.7s						
BLEU	**Blekinge**	**4.75**	**358**	*i* P	**Pn**	**04 48 07.8**	**+1.9**
BLEU				*i* S	**Sn**	**04 49 00.5**	**-1.2**
BJUU	**Bjuv**	**4.88**	**339**	*i* P	**Pn**	**04 48 07.2**	**-0.5**
BJUU				*i* S	**Sn**	**04 49 03.0**	**-1.8**
DEL	**Delary**	**5.09**	**346**	*i* P	**Pn**	**04 48 11.0**	**+0.4**
DEL				*i* S	**Sn**	**04 49 07.6**	**-2.5**
WTTA	**Wattenberg**	**5.20**	**216**	*i* Pn	**Pn**	**04 48 14.2**	**+1.8**
	comp=Z,1.1nm,0.2s						
MOTA	**Moosalm**	**5.34**	**220**	*i* Pn	**Pn**	**04 48 14.3**	**+0.1**
	comp=Z,0.4nm,0.1s						
MOTA				*e*Sg	**Sg**	**04 49 45.3**	**+0.7**
	comp=Z,1.9nm,0.3s						
SQTA	**Sankt Quirin**	**5.40**	**218**	*e*Pn	**Pn**	**04 48 16.3**	**+1.3**
	comp=Z,0.9nm,0.1s						
DAVA	**Damuels**	**5.91**	**226**	*i* Pn	**Pn**	**04 48 21.9**	**-0.1**
	comp=Z,1.0nm,0.2s						
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**04 48 28.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=360,slow=20,SNR=1.9						
DAVOX				Lg	Lg	04 50 12.6	
	comp=Z,0.3nm,0.3s,baz=169,slow=22,SNR=2.7						
	comp=Z,0.6nm,0.3s						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**04 48 53.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=282,slow=12,SNR=2.5						
	comp=Z,0.2nm,0.3s						
HFS	**Hagfors**	**8.70**	**352**	Pn	**Pn**	**04 49 01.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=172,slow=23,SNR=1.9						
	comp=Z,2.9nm,1.0s						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**04 49 36.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=7.2						
	comp=Z,0.8nm,0.5s						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**P**	**04 51 08.8**	**-2.5**
	baz=193,slow=12,SNR=1.8						
	comp=Z,0.5nm,0.5s						

*SJA **07** 04:54:51.2±0.7, 24°.14S×67°.00W, h209km±5km, ML3.5, MW3.7*
*GUC **07** 04:54:53.8±0.5, 24°.08S×67°.42W, h231km±8km, ML3.8*
*IDC **07** 04:54:59.7±11.0, 23°.38S×66°.31W, h216km±83km, mb3.1/1, mbtmp3.5/2, Error ellipse: s-maj=139.9km s-min=85.1km az=49.0*

ISC 07 04:54:52.0±1.0, 24°.12S±0°.04×67°.05W±0°.04, h201km±9km, n39, σ1§39/70, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.53**	**113**	*e*P	**Pn**	**04 55 26.3**	**+0.1**
SLA				*e*S	**S**	**04 55 52.2**	**-0.2**
HJA	**Humahuaca**	**1.75**	**59**	*e*P	**Pn**	**04 55 28.9**	**+0.3**
AZAP	**Zapla**	**1.81**	**94**	*e*P	**Pn**	**04 55 28.5**	**-0.4**
FSA	**Cafayete**	**2.21**	**154**	*e*P	**Pn**	**04 55 30.0**	**-2.9**
LVC	**Limon Verde**	**2.28**	**311**	*e*P	**Pn**	**04 55 34.8**	**+0.8**
LVC				*i* S	**S**	**04 56 05.6**	**-0.3**
LVC				IAML		04 56 07.8	
	348nm,0.3s						
LVC	**Limon Verde**	**2.28**	**311**	*e*P	**Pn**	**04 55 35.0**	**+1.0**
LVC				*e*S	**S**	**04 56 07.3**	**+1.4**
YJA	**Yavi**	**2.39**	**36**	*e*P	**Pn**	**04 55 36.4**	**+1.1**
PB15	**IPOC Station P**	**2.40**	**292**	⇑*i*P	**Pn**	**04 55 36.1**	**+1.0**
PB15				*i* S	**S**	**04 56 07.9**	**-0.1**
PB15	**IPOC Station P**	**2.40**	**292**	*e*P	**Pn**	**04 55 36.1**	**+1.0**
PB15				*e*S	**S**	**04 56 08.5**	**+0.5**
GO02	**Mina Guanaco**	**2.54**	**245**	⇑*i*P	**Pn**	**04 55 37.4**	**+0.6**
GO02				*i* S	**S**	**04 56 10.9**	**+0.1**
GO02				IAML		04 56 12.6	
	comp=E,455nm,0.2s						
GO02	**Mina Guanaco**	**2.54**	**245**	*e*P	**Pn**	**04 55 37.3**	**+0.6**
GO02				*e*S	**S**	**04 56 11.6**	**+0.7**
PB06	**IPOC Station P**	**2.71**	**301**	⇑*e*P	**Pn**	**04 55 39.3**	**+0.8**
PB06				*i* S	**S**	**04 56 13.5**	**-0.7**
PB06				IAML		04 56 16.3	
	comp=E,204nm,0.3s						
PB06	**IPOC Station P**	**2.71**	**301**	*e*P	**Pn**	**04 55 39.4**	**+0.8**
PB06				*e*S	**S**	**04 56 14.4**	**+0.2**
PB06				IAML		04 56 16.5	
	comp=Z,136nm,0.1s						
AHML	**Horco Molle**	**3.07**	**150**	*e*P	**Pn**	**04 55 42.6**	**+0.1**
AHML				*e*S	**S**	**04 56 20.1**	**-1.5**
PB09	**IPOC Station P**	**3.07**	**318**	⇑*i*P	**Pn**	**04 55 44.0**	**+1.2**
PB09				*i* S	**S**	**04 56 21.6**	**-0.2**
PB09				IAML		04 56 24.0	
	comp=N,68nm,0.4s						
PB09	**IPOC Station P**	**3.07**	**318**	*e*P	**Pn**	**04 55 44.1**	**+1.3**
PB09				*e*S	**S**	**04 56 22.8**	**+1.0**
PB09				IAML		04 56 29.3	
	comp=Z,67nm,0.6s						
PB14	**IPOC Station P**	**3.10**	**260**	*e*P	**Pn**	**04 55 43.5**	**+0.2**
PB14				*i* S	**S**	**04 56 20.8**	**-1.8**
PB14				IAML		04 56 22.1	
	comp=E,102nm,0.4s						
PB14	**IPOC Station P**	**3.10**	**260**	*e*P	**Pn**	**04 55 43.5**	**+0.2**
PB14				*e*S	**S**	**04 56 21.3**	**-1.3**
PB14				IAML		04 56 25.0	
	comp=Z,77nm,0.4s						
AC02	**Maricunga**	**3.30**	**214**	*e*P	**Pn**	**04 55 46.5**	**+0.8**
AC02	**Maricunga**	**3.30**	**214**	*e*P	**Pn**	**04 55 46.5**	**+0.8**
AC02				*e*S	**S**	**04 56 31.2**	**+4.1**
PB04	**IPOC Station P**	**3.36**	**301**	*e*P	**Pn**	**04 55 46.1**	**-0.1**
PB04				*i* S	**S**	**04 56 25.6**	**-2.4**
PB04	**IPOC Station P**	**3.36**	**301**	*e*P	**Pn**	**04 55 46.8**	**+0.6**
PB04				*e*S	**S**	**04 56 28.3**	**+0.3**
PB04				IAML		04 56 31.7	
	comp=Z,85nm,0.3s						
PB07	**IPOC Station P**	**3.54**	**312**	*e*P	**Pn**	**04 55 48.8**	**+0.4**
PB07				*i* S	**S**	**04 56 30.3**	**-1.5**
PB07	**IPOC Station P**	**3.54**	**312**	*e*P	**Pn**	**04 55 48.6**	**+0.2**
PB07				*e*S	**S**	**04 56 30.6**	**-1.3**
PB07				IAML		04 56 32.5	
	comp=Z,71nm,0.1s						
AC01	**Pan de Azucar**	**3.80**	**237**	*e*P	**Pn**	**04 55 50.6**	**-0.8**
AC01				*i* S	**S**	**04 56 34.8**	**-2.5**
AC01	**Pan de Azucar**	**3.80**	**237**	*e*P	**Pn**	**04 55 50.7**	**-0.7**
AC01				*e*S	**S**	**04 56 35.1**	**-2.3**
AC01				IAML		04 56 39.1	
	comp=Z,78nm,0.2s						
PB01	**IPOC Station P**	**3.80**	**323**	*e*P	**Pn**	**04 55 51.6**	**+0.1**
PB01				*i* S	**S**	**04 56 36.4**	**-1.2**
PB01	**IPOC Station P**	**3.80**	**323**	*e*P	**Pn**	**04 55 51.8**	**+0.2**
PB01				*e*S	**S**	**04 56 37.0**	**-0.6**
PB01				IAML		04 56 41.8	
	comp=Z,26nm,0.3s						
PB02	**IPOC Station P**	**3.83**	**316**	*e*P	**Pn**	**04 55 52.0**	**+0.1**
PB02				*i* S	**S**	**04 56 36.4**	**-1.9**
PB02	**IPOC Station P**	**3.83**	**316**	*e*P	**Pn**	**04 55 52.0**	**+0.1**
PB02				*e*S	**S**	**04 56 38.1**	**-0.2**
PB02				IAML		04 56 45.9	
	comp=Z,101nm,0.3s						
PATCX	**Punta Patache**	**4.36**	**318**	*e*P	**Pn**	**04 55 59.1**	**+0.6**
PB08	**IPOC Station P**	**4.42**	**333**	*e*P	**Pn**	**04 56 00.7**	**+1.2**
PB08				*e*S	**S**	**04 56 52.4**	**+0.5**
PB08				IAML		04 56 56.3	
	comp=Z,28nm,0.6s						
GO03	**Copiap**	**4.50**	**219**	*e*P	**Pn**	**04 55 59.5**	**-0.6**
GO03				*e*S	**S**	**04 56 51.3**	**-1.9**
HMBC	**Humberstone**	**4.64**	**325**	*e*P	**Pn**	**04 56 01.0**	**-1.1**
HMBC				*e*S	**S**	**04 56 54.0**	**-2.7**
GO01	**Chusmiza**	**4.86**	**335**	*e*P	**Pn**	**04 56 05.8**	**+0.6**
GO01				*e*S	**S**	**04 57 03.3**	**+1.1**
AC04	**Llanos de Chal**	**5.45**	**221**	*e*P	**Pn**	**04 56 10.9**	**-1.2**
AC04				*e*S	**S**	**04 57 13.2**	**-1.8**
AC04				IAML		04 57 41.6	
	comp=Z,25nm,2.1s						
LPAZ	**La Paz**	**7.86**	**352**	P	**Pn**	**04 56 44.1**	**0.0**
	comp=Z,0.8nm,0.4s,baz=163,slow=6.3,SNR=4.4						
LPAZ				S	**S**	**04 58 07.8**	**-5.3**
	comp=Z,0.4nm,0.3s,baz=195,slow=2.3,SNR=1.7						
TORD	**Torodi Ar. Bea**	**76.65**	**69**	P	**P**	**05 06 22.2**	**+1.1**
	comp=Z,0.6nm,1.0s,baz=249,slow=4.5,SNR=1.9						
	comp=Z,0.6nm,1.0s						
MKAR	**Makanchi Array**	**146.64**	**40**	PKPbc	**PKiKP**	**05 14 12.1**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=300,slow=2.4,SNR=5.0						

*IDC **07** 05:00:32.1±0.8, 8°.50N×127°.27E, h0km, mb4.1/8, mbtmp4.1/9, ML4.5/1, MS2.9/2, Error ellipse: s-maj=42.8km s-min=16.5km az=72.0*
*NEIC **07** 05:00:34.4±1.4, 8°.38N±0°.08×126°.9E±0°.1, h10km±1km, mb4.2/15, Error ellipse: s-maj=21.7km s-min=11.7km az=109.0*

ISC 07 05:00:38.0±0.7, 8°.36N±0°.07×126°.9E±0°.1, h39km, n33, σ1§02/37, mb4.1/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.85**	**226**	Pn	**Pn**	**05 01 08.4**	**+1.3**
DAV				Sn	**Sn**	**05 01 29.2**	**-0.1**
DAV	**Davao City (W)**	**1.85**	**226**	Pn	**Pn**	**05 01 10.0**	**+2.9**
	135nm,0.3s,baz=262,slow=7.8,SNR=16						
DAV				Sn	**Sn**	**05 01 28.6**	**-0.7**
	115nm,0.3s,baz=109,slow=20,SNR=16						
DAV				LR	LR	05 02 08.1	
	comp=Z,123nm,21.8s,baz=170,slow=44						
	326nm,0.3s						
TOLI2	**Tolitoli**	**9.45**	**221**	Pn	**Pn**	**05 02 48.6**	**-3.0**
SBUM	**Sibu**	**15.76**	**249**	Pn	**Pn**	**05 04 17.6**	**+0.3**
SSLB	**Suanglung**	**16.37**	**340**	Pn	**Pn**	**05 04 23.1**	**-1.9**
SSLB				IAmb	IAmb	05 04 28.2	
	comp=Z,24nm,1.2s						
MTN	**Manton Dam**	**21.48**	**169**	P	**P**	**05 05 23.1**	**-0.3**
MTN				IAmb	IAmb	05 05 26.3	
	comp=Z,21nm,1.4s						
KNRA	**Kununurra**	**23.95**	**176**	P	**P**	**05 05 48.8**	**+0.1**
KNRA				IAmb	IAmb	05 06 04.5	
	comp=Z,22nm,1.4s						
WB0	**Warramunga Arr**	**28.91**	**165**	P	**P**	**05 06 31.5**	**-1.9**
WB0				IAmb	IAmb	05 06 45.7	
	comp=Z,5.7nm,1.2s						
WRA	**Warramunga Arr**	**29.06**	**166**	P	**P**	**05 06 34.0**	**-0.8**
WRA	**Warramunga Arr**	**29.06**	**166**	P	**P**	**05 06 34.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=344,slow=7.9,SNR=6.2						
WRA				PcP	**PcP**	**05 09 43.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=342,slow=2.6,SNR=2.3						
WRA				S	S	05 11 12.9	-11
	comp=Z,0.6nm,0.8s,baz=344,slow=13,SNR=3.8						
	comp=Z,0.6nm,0.6s						
AS31	**Alice Springs**	**32.56**	**168**	P	**P**	**05 07 05.0**	**-0.7**
ASAR	**Alice Springs**	**32.56**	**168**	P	**P**	**05 07 05.0**	**-0.7**
ASAR	**Alice Springs**	**32.56**	**168**	P	**P**	**05 07 05.3**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=344,slow=7.1,SNR=23						
ASAR				PcP	**PcP**	**05 09 52.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=352,slow=2.4,SNR=4.1						
	comp=Z,0.8nm,0.4s						
FORT	**Forrest**	**38.93**	**178**	P	**P**	**05 08 00.1**	**-0.1**
BBOO	**Buckleboo**	**41.86**	**168**	P	**P**	**05 08 24.2**	**-0.2**
BBOO				IAmb	IAmb	05 08 25.5	
	comp=Z,35nm,1.2s						
STKA	**Stephens Creek**	**42.40**	**161**	P	**P**	**05 08 29.1**	**+0.3**
STKA				IAmb	IAmb	05 08 36.6	
	comp=Z,2.4nm,1.4s						
STKA	**Stephens Creek**	**42.40**	**161**	P	**P**	**05 08 29.6**	**+0.8**
	comp=Z,2.2nm,0.4s,baz=338,slow=9.1,SNR=5.2						
	comp=Z,2.2nm,0.4s						
MK31	**Makanchi Array**	**53.93**	**323**	P	**P**	**05 09 57.9**	**+0.2**
MK31				IAmb	IAmb	05 09 59.2	
	comp=Z,0.7nm,0.7s						
MKAR	**Makanchi Array**	**53.93**	**323**	P	**P**	**05 09 58.0**	**+0.3**
MKAR	**Makanchi Array**	**53.93**	**323**	P	**P**	**05 09 58.9**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=117,slow=7.4,SNR=14						
MKAR				PcP	**PcP**	**05 11 04.0**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=119,slow=3.7,SNR=3.5						
	comp=Z,0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**58.00**	**326**	P	**P**	**05 10 27.2**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=128,slow=6.3,SNR=5.7						
	comp=Z,0.7nm,0.4s						
KK31	**Karatay Array**	**60.04**	**315**	P	**P**	**05 10 41.1**	**+0.1**
KK31				IAmb	IAmb	05 10 42.6	
	comp=Z,1.8nm,1.0s						
KKAR	**Karatay Array**	**60.04**	**315**	P	**P**	**05 10 41.0**	**-0.1**
BVAR	**Borovoye Array**	**63.59**	**326**	P	**P**	**05 11 04.6**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=119,slow=7.5,SNR=3.1						
	comp=Z,0.7nm,0.4s						
ABKAR	**Akbulak array**	**68.73**	**320**	P	**P**	**05 11 37.5**	**-0.3**
CASY	**Casey**	**75.41**	**187**	P	**P**	**05 12 16.9**	**-0.3**
CASY				IAmb	IAmb	05 12 35.6	
	comp=Z,3.4nm,1.4s						
KVAR	**Kislovodsk Arr**	**80.11**	**313**	LR	LR	05 53 06.2	
	comp=Z,19nm,19.0s,baz=306,slow=39						
ARCES	**ARCESS Array B**	**86.19**	**340**	P	**P**	**05 13 15.3**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=63,slow=5.6,SNR=5.7						
	comp=Z,1.0nm,0.7s						
FIA1	**FINESS Array S**	**87.86**	**332**	P	**P**	**05 13 22.9**	**-0.2**
FINES	**FINESS Array B**	**87.86**	**332**	P	**P**	**05 13 22.2**	**-0.9**
FINES	**FINESS Array B**	**87.86**	**332**	P	**P**	**05 13 22.8**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=64,slow=4.4,SNR=22						
	comp=Z,1.0nm,0.4s						
SBA	**Scott Base**	**88.87**	**172**	P	**P**	**05 13 28.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**121.56**	**291**	PKP	**PKPdf**	**05 19 28.0**	**-0.4**
	comp=Z,0.2nm,0.

PCIG			*e*S	Sn	05 42 27.8	-5.8
HUIG	**Huatulco**	**1.49 292**	*e*S	Sn	05 42 28.4	-5.4
TGIG		**2.16 43**	*e*P	Pn	05 42 22.2	-1.7
TGIG			*e*S	Sn	05 42 45.8	-4.5
PATR	**El Naranjo**	**2.35 92**	*e*	Pn	05 42 23.6	-3.2
PATR			*e*		05 42 50.2	
PATR	**El Naranjo**	**2.35 92**	*i* P	Pn	05 42 23.5	-3.2
PATR			*e*S	Sn	05 42 49.7	-5.8
PAVE	**Pavencul**	**2.41 90**	*e*	Pn	05 42 24.9	-2.6
PAVE			*e*		05 42 51.5	
PAVE	**Pavencul**	**2.41 90**	*i* P	Pn	05 42 24.8	-2.6
PAVE			*e*S	Sn	05 42 51.6	-5.1
CHUJ	**Union Juarez**	**2.48 92**	*e*	Pn	05 42 24.9	-3.5
CHUJ			*e*		05 42 52.6	
CHUJ	**Union Juarez**	**2.48 92**	*i* P	Pn	05 42 25.6	-2.8
CHUJ			*e*S	Sn	05 42 52.9	-5.6
CCIG	**Comitan**	**2.66 66**	*e*P	Pn	05 42 30.1	-0.9
CCIG			*e*S	Sn	05 42 59.1	-3.9

*IDC **07** 05:44:49.4±3.4, 61°.94S×156°.63E, h0km, mb3.9/5, mbtmp3.9/5, MS3.8/26, Error ellipse: s-maj=175.2km s-min=22.0km az=77.0*

ISC 07 05:44:50.9±3.0, 61°.9S±0°.3×15°7E±°, h10km, n42, σ0§52/11, mb4.1/7, MS3.8/25, 4C, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.79 176**		LR	LR	05 53 44.2	
	comp=Z,646nm,21.8s,baz=360,slow=34						
RPZ	**Rata Peaks**	**20.11 32**		LR	LR	05 56 05.3	
	comp=Z,586nm,19.7s,baz=187,slow=34						
URZ	**Urewera**	**26.84 38**		LR	LR	06 01 36.7	
	comp=Z,308nm,18.1s,baz=214,slow=38						
QSPA	**South Pole Qui**	**28.19 180**		P	**P**	**05 50 43.0**	**-0.4**
	4.7nm,0.9s,baz=349,slow=4.7,SNR=11						
QSPA				LR	LR	06 01 56.5	
	comp=Z,210nm,19.1s,baz=18,slow=36 4.7nm,0.9s						
STKA	**Stephens Creek**	**31.58 335**		LR	LR	06 00 50.7	
	comp=Z,121nm,19.4s,baz=171,slow=30						
MAW	**Mawson**	**36.71 220**		LR	LR	06 06 47.5	
	comp=Z,358nm,19.2s,baz=118,slow=36						
H01W1	**Cape Leeuwin H**	**37.94 295**		T	T	06 31 51.6	
	baz=149,slow=76,SNR=156						
H01W2	**Cape Leeuwin H**	**37.94 295**		T	T	06 31 51.9	
	baz=149,slow=76,SNR=89						
H01W3	**Cape Leeuwin H**	**37.95 295**		T	T	06 31 52.8	
	baz=149,slow=76,SNR=95						
NWAO	**Narrogin (SRO)**	**38.35 301**		LR	LR	06 03 46.6	
	comp=Z,257nm,22.0s,baz=232,slow=30						
DZM	**Mont Dzumac**	**40.38 14**		LR	LR	06 05 35.4	
	comp=Z,215nm,20.7s,baz=204,slow=31						
ASAR	**Alice Springs**	**41.24 328**		P	**P**	**05 52 36.2**	**+0.3**
	0.8nm,0.8s,baz=162,slow=8.9,SNR=6.8						
ASAR				LR	LR	06 07 09.4	
	comp=Z,131nm,18.9s,baz=168,slow=32 0.8nm,0.8s						
CTA	**Charters Tower**	**42.40 345**		LR	LR	06 08 32.4	
	comp=Z,97nm,18.5s,baz=99,slow=34						
WRA	**Warramunga Arr**	**44.70 330**		P	**P**	**05 53 03.9**	**0.0**
	0.8nm,0.7s,baz=164,slow=7.1,SNR=5.5 0.8nm,0.7s						
TROLL	**Troll, Antarti**	**45.18 191**	⇑	P	**P**	**05 53 07.7**	**+0.3**
	comp=Z,152nm,0.8s						
SNAA	**Sanae**	**45.95 189**	⇑	P	**P**	**05 53 13.5**	**+0.2**
	comp=Z,29nm,0.9s						
SNAA	**Sanae**	**45.95 189**		P	**P**	**05 53 13.2**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=144,slow=5.1,SNR=5.2						
SNAA				LR	LR	06 12 55.0	
	comp=Z,660nm,18.1s,baz=138,slow=37 comp=Z,1.1nm,0.9s						
VNA3	**Neumayer Olymp**	**46.79 186**	⇑	P	**P**	**05 53 20.6**	**+0.6**
	comp=Z,5.2nm,0.9s						
VNA1	**Neumayer--Stat**	**47.30 187**	⇑	P	**P**	**05 53 24.9**	**+1.1**
	comp=Z,5.4nm,0.8s						
PMSA	**Palmer Station**	**50.06 159**		LR	LR	06 13 36.4	
	comp=Z,69nm,19.0s,baz=212,slow=34						
PMG	**Port Moresby**	**52.85 348**		LR	LR	06 13 40.2	
	comp=Z,110nm,18.5s,baz=168,slow=33						
AFI	**Afiamalu**	**52.99 40**		LR	LR	06 14 26.0	
	comp=Z,46nm,20.8s,baz=188,slow=34						
BATI	**Baumata**	**56.90 320**		LR	LR	06 16 37.7	
	comp=Z,111nm,21.6s,baz=190,slow=34						
PPT	**Papeete**	**57.93 65**		LR	LR	06 17 37.0	
	comp=Z,57nm,18.4s,baz=276,slow=34						
KAPI	**Kappang**	**63.01 318**		LR	LR	06 20 03.7	
	comp=Z,75nm,20.1s,baz=160,slow=34						
LEM	**Lembang**	**65.64 305**		LR	LR	06 18 59.5	
	comp=Z,65nm,21.8s,baz=152,slow=31						
RPN	**Rapa Nui**	**68.30 107**		LR	LR	06 19 43.6	
	comp=Z,25nm,18.2s,baz=238,slow=31						
PLCA	**Paso Flores**	**70.86 144**		LR	LR	06 21 03.0	
	comp=Z,40nm,20.6s,baz=204,slow=31						
H03S2	**Juan Fernandez**	**74.62 135**		T	T	07 19 27.1	
	baz=201,slow=74,SNR=41						
H03S1	**Juan Fernandez**	**74.62 135**		T	T	07 19 27.4	
	baz=201,slow=74,SNR=39						
H03S3	**Juan Fernandez**	**74.63 135**		T	T	07 19 26.8	
	baz=201,slow=74,SNR=37						
SUR	**Sutherland**	**79.50 217**		LR	LR	06 29 11.8	
	comp=Z,64nm,21.3s,baz=154,slow=34						
H08S2	**Diego Garcia H**	**80.54 272**		T	T	07 25 02.6	
	baz=151,slow=76,SNR=6.0						
H08S1	**Diego Garcia H**	**80.55 272**		T	T	07 25 03.4	
	baz=151,slow=76,SNR=4.5						
H08S3	**Diego Garcia H**	**80.56 272**		T	T	07 25 02.9	
	baz=151,slow=76,SNR=12						
BOSA	**Boshof**	**81.69 222**		P	**P**	**05 57 09.3**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=157,slow=22,SNR=1.9						
BOSA				LR	LR	06 32 18.3	
	comp=Z,35nm,18.8s,baz=196,slow=35 comp=Z,1.7nm,0.9s						
CPUP	**Villa Florida**	**87.93 150**		LR	LR	06 35 31.8	
	comp=Z,19nm,18.7s,baz=218,slow=35						
CMAR	**Chiang Mai Arr**	**92.11 307**		LR	LR	06 38 58.9	
	comp=Z,16nm,18.1s,baz=195,slow=35						
TSUM	**Tsumeb**	**92.86 218**		LR	LR	06 37 51.1	
	comp=Z,72nm,20.0s,baz=156,slow=34						
NNA	**Nana**	**95.39 128**		LR	LR	06 32 06.9	
	comp=Z,61nm,20.7s,baz=214,slow=30						
AKASG	**Malin Array Be**	**149.62 273**		PKPbc	**PKPbc**	**06 04 38.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=108,slow=2.6,SNR=1.8						
ESDC	**Sonseca Array**	**154.79 217**		PKPbc	**PKiKP**	**06 04 51.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=174,slow=2.6,SNR=1.6						

*IDC **07** 05:52:45.0±3.1, 42°.25N×84°.80E, h0km, mb3.6/2, mbtmp3.4/4, ML2.6/2, MS1.5/1, Error ellipse: s-maj=72.6km s-min=26.9km az=86.0*

*SOME **07** 05:52:55.9, 42°.65N×84°.42E, h5km*

*NNC **07** 05:52:57.6±1.7, 42°.68N×84°.43E, h31km±15km, mb4.0, mpv3.7, Error ellipse: s-maj=13.3km s-min=7.0km az=141.0*

ISC 07 05:52:47.5±2.0, 42°3N±0°.1×84°8E±0°.1, h10km, n40, σ1§70/38, 8C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.45 290**		Pg	**Pg**	**05 53 53.4**	**-0.1**
	5.4nm,0.3s						
KTMS				Lg	Lg	05 54 35.3	
	28nm,0.3s						
KTMS	**Ketmen**	**3.45 290**		*e*Pg	**Pg**	**05 53 53.4**	**-0.1**
	5.4nm,0.3s						
KTMS				*e*Lg	Lg	05 54 35.3	
	28nm,0.3s						
SHLS	**Shalkode**	**4.01 284**		Pg	**Pg**	**05 54 00.6**	**-3.7**
	34nm,0.4s						
SHLS				Lg	Lg	05 54 46.7	
	145nm,0.4s						
SHLS	**Shalkode**	**4.01 284**		*e*Pg	**Pb**	**05 53 58.3**	**0.0**
	34nm,0.4s						
SHLS				*e*Lg	Lg	05 54 43.2	
	145nm,0.4s						
PDGK	**Podgornoye**	**4.03 286**		Pg	**Pg**	**05 54 04.7**	**+0.1**
	3.0nm,0.3s						
PDGK				Lg	Lg	05 54 53.7	
	27nm,0.3s						
PDGK	**Podgornoye**	**4.03 286**		⇓Pn	**Pn**	**05 53 51.5**	**+2.2**
	1.3nm,0.8s						
PDGK				⇑Pg	**Pg**	**05 54 03.2**	**-1.4**
	8.8nm,0.7s						
PDGK				⇑Lg	Lg	05 54 54.6	
	47nm,0.6s						
DJR	**Jarkent**	**4.16 300**		Pg	**Pg**	**05 54 06.0**	**-1.2**
	9.5nm,0.3s						
DJR				Lg	Lg	05 54 56.8	
	21nm,0.3s						
DJR	**Jarkent**	**4.16 300**		*e*Pg	**Pg**	**05 54 06.0**	**-1.2**
	9.5nm,0.3s						
DJR				*e*Lg	Lg	05 54 56.8	
	21nm,0.3s						
UZB	**Uzynbulak**	**4.33 283**		Pg	**Pg**	**05 54 11.0**	**+0.6**
	8.6nm,0.4s						
UZB				Lg	Lg	05 55 04.3	
	18nm,0.4s						
UZB	**Uzynbulak**	**4.33 283**		*e*Pg	**Pg**	**05 54 11.0**	**+0.6**
	8.6nm,0.4s						
UZB				*e*Lg	Lg	05 55 04.3	
	18nm,0.4s						
KNOS	**Konyrlen**	**4.57 298**		Pg	**Pg**	**05 54 15.3**	**+0.3**
	6.8nm,0.3s						
KNOS				Lg	Lg	05 55 12.7	
	31nm,0.5s						
KPKS	**Kokpek**	**4.63 286**		Pg	**Pg**	**05 54 16.8**	**+0.7**
	6.4nm,0.2s						
KPKS				Lg	Lg	05 55 14.9	
	63nm,0.5s						
KPKS	**Kokpek**	**4.63 286**		*e*Pg	**Pg**	**05 54 16.8**	**+0.7**
	6.4nm,0.2s						
KPKS				*e*Lg	Lg	05 55 14.9	
	63nm,0.5s						
ZHN	**Zhinishke**	**4.76 282**		Pg	**Pg**	**05 54 18.9**	**+0.4**
	8.5nm,0.1s						
ZHN				Lg	Lg	05 55 18.0	
	27nm,0.2s						
ZHN	**Zhinishke**	**4.76 282**		*e*Pg	**Pg**	**05 54 18.9**	**+0.4**
	8.5nm,0.1s						
ZHN				*e*Lg	Lg	05 55 18.0	
	27nm,0.2s						
SATY	**Saty**	**4.76 281**		Pg	**Pg**	**05 54 20.7**	**+1.9**
	5.7nm,0.4s						
SATY				Lg	Lg	05 55 21.1	
	20nm,0.3s						
SATY	**Saty**	**4.76 281**		*e*Pg	**Pg**	**05 54 19.5**	**+0.8**
	5.7nm,0.4s						
SATY				*e*Lg	Lg	05 55 19.3	
	20nm,0.3s						
MK31	**Makanchi Array**	**4.80 339**		⇑Pn	**Pn**	**05 54 02.9**	**+3.0**
	0.2nm,0.4s,baz=151,slow=14,SNR=14						
MK31				⇑Pg	**Pg**	**05 54 16.3**	**-3.2**
	8.0nm,0.7s,baz=154,slow=17,SNR=15						
MK31				Lg	Lg	05 55 17.2	
	13nm,0.5s,baz=153,slow=31,SNR=11						
MKAR	**Makanchi Array**	**4.80 339**		Pn	**Pn**	**05 54 03.5**	**+3.7**
	0.3nm,0.3s,baz=155,slow=13,SNR=8.0						
MKAR				Pg	**Pb**	**05 54 14.0**	**+2.3**
	1.9nm,0.3s,baz=158,slow=16,SNR=21						
MKAR				Lg	Lg	05 55 17.0	
	5.4nm,0.3s,baz=155,slow=29,SNR=15						
MKAR				LR	LR	05 55 47.0	
	comp=Z,5.4nm,21.1s,baz=258,slow=37 0.5nm,0.4s						
MAKZ	**Makanchi**	**4.90 337**		⇑Pg	**Pg**	**05 54 17.9**	**-3.4**
	4.1nm,0.4s						
MAKZ				⇓Lg	Lg	05 55 21.1	
	9.6nm,0.6s						
BLB	**Baldybastay**	**4.94 293**		Pg	**Pg**	**05 54 20.7**	**-1.4**
	2.2nm,0.1s						
BLB				Lg	Lg	05 55 21.5	
	26nm,0.4s						
ZSN	**Zaisan**	**5.11 1**		Pg	**Pg**	**05 54 25.7**	**+0.3**
	7.3nm,0.3s						
ZSN				Lg	Lg	05 55 30.2	
	16nm,0.6s						
ZSN	**Zaisan**	**5.11 1**		*e*Pg	**Pg**	**05 54 25.7**	**+0.3**
	7.3nm,0.3s						
ZSN				*e*Lg	Lg	05 55 30.2	
	16nm,0.6s						
TDK	**Taldyqorghan**	**5.35 302**		Pg	**Pg**	**05 54 30.9**	**+1.1**
	40nm,0.3s						
TDK				Lg	Lg	05 55 38.7	
	50nm,0.1s						
ARXS	**Arharly**	**5.42 293**		Pg	**Pg**	**05 54 29.3**	**-1.9**
	2.3nm,0.3s						
ARXS				Lg	Lg	05 55 36.5	
	13nm,0.4s						
ARXS	**Arharly**	**5.42 293**		*e*Pg	**Pg**	**05 54 29.3**	**-1.9**
	2.3nm,0.3s						
ARXS				*e*Lg	Lg	05 55 36.5	
	13nm,0.4s						
KTBS	**Karatobe**	**6.11 286**		Pg	**Pg**	**05 54 44.0**	**-0.3**
	1.5nm,0.3s						
KTBS				Lg	Lg	05 56 01.2	
	10nm,0.5s						
KTBS	**Karatobe**	**6.11 286**		*e*Pg	**Pg**	**05 54 44.0**	**-0.3**
	1.5nm,0.3s						
KTBS				*e*Lg	Lg	05 56 01.2	
	10nm,0.5s						
KUU	**Kurty**	**6.38 287**		Pg	**Pg**	**05 54 48.1**	**-1.5**
	1.5nm,0.2s						
KUU				Lg	Lg	05 56 08.3	
	8.2nm,0.3s						
KUU	**Kurty**	**6.38 287**		*e*Pg	**Pg**	**05 54 48.1**	**-1.5**
	1.5nm,0.2s						
KUU				*e*Lg	Lg	05 56 08.3	
	8.2nm,0.3s						
TKM2	**Tokmak 2**	**6.81 278**		⇑Lg	Lg	05 56 23.8	
	9.6nm,0.8s						
KRBS	**Karabastau**	**6.82 285**		Pg	**Pg**	**05 54 57.0**	**-1.1**
	1.2nm,0.3s						
KRBS				Lg	Lg	05 56 23.7	
	3.1nm,0.6s						
KRBS	**Karabastau**	**6.82 285**		*e*Pg	**Pg**	**05 54 57.0**	**-1.1**
	1.2nm,0.3s						
KRBS				*e*Lg	Lg	05 56 23.7	
	3.1nm,0.6s						
AAK	**Ala-Archa**	**7.62 276**		Lg	Lg	05 56 45.7	
	0.3nm,0.3s,baz=232,slow=14,SNR=1.2						
AML	**Almayashu**	**8.24 272**		⇑Lg	Lg	05 57 10.2	
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**9.34 335**		Lg	Lg	05 57 40.5	
	0.1nm,0.3s,baz=154,slow=31,SNR=4.2						
KURK	**Kurchatov**	**9.40 335**		⇑Lg	Lg	05 57 43.6	
	7.8nm,0.8s						
ZALV	**Zalesovo Beam**	**11.62 0**		Pn	**Pn**	**05 55 32.9**	**-0.3**
	0.2nm,0.3s,baz=180,slow=14,SNR=2.1 0.3nm,0.2s						
ARCES	**ARCESS Array B**	**40.42 332**		P	**P**	**06 00 24.1**	**-1.3**
	0.8nm,0.8s,baz=84,slow=9.2,SNR=3.6 0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.21 275**		P	**P**	**06 04 35.3**	**-1.0**
	0.7nm,1.0s,baz=50,slow=4.5,SNR=2.3 0.7nm,1.0s						

*IDC **07** 06:04:41.3±0.8, 37°.19N×69°.80E, h0km, mb3.9/16, mbtmp4.0/23, ML3.7/7, MS3.0/11, Error ellipse: s-maj=15.3km s-min=13.2km az=173.0*

*NNC **07** 06:04:46.9±2.3, 37°.54N×69°.42E, h21km±19km, mb4.3, mpv3.9, Error ellipse: s-maj=17.7km s-min=8.6km az=160.0*

ISC 07 06:04:45.6±0.5, 37°36N±0°.05×69°64E±0°.05, h27km, n66, σ2§41/62, mb3.8/15, MS3.2/8, 12C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.99 152**		P	**Pn**	**06 05 49.2**	**+4.1**
CEP				S	**Sb**	**06 06 40.0**	**-3.1**
CHCP	**Chirah Chowk**	**4.73 140**		P	**Pn**	**06 05 58.1**	**+2.9**
THW	**Thamme Wali**	**4.88 159**		P	**Pn**	**06 06 00.7**	**+3.5**
AML	**Almayashu**	**5.70 32**		P	**Pn**	**06 06 10.9**	**+2.2**
	SNR=29						
AML	**Almayashu**	**5.70 32**		⇑Pn	**Pn**	**06 06 10.6**	**+1.9**
	1.3nm,0.5s						
AML				⇓Sn	**Sn**	**06 07 16.0**	**+2.6**
	3.6nm,0.6s						
KK31	**Karatay Array**	**5.77 6**		⇑Pn	**Pn**	**06 06 10.7**	**+1.2**
	1.5nm,0.3s,baz=202,slow=15,SNR=62						
KK31				⇑Sn	**Sn**	**06 07 15.0**	**+0.2**
	5.1nm,0.3s,baz=32,slow=56,SNR=4.2						
KK31				⇑Lg	Lg	06 07 42.8	
	13nm,0.5s,baz=190,slow=29,SNR=3.9						
UCH	**Uchtor**	**6.14 36**		P	**Pn**	**06 06 16.9**	**+2.0**
	SNR=42						
EKS2	**Erkin-Say**	**6.17 30**		P	**Pn**	**06 06 18.0**	**+3.0**
	SNR=22						
AAK	**Ala-Archa**	**6.45 34**		P	**Pn**	**06 06 21.8**	**+2.8**
	SNR=22						
AAK	**Ala-Archa**	**6.45 34**		Pn	**Pn**	**06 06 21.5**	**+2.6**
	7.1nm,0.3s,baz=215,slow=7.0,SNR=38						
AAK				Sn	**Sn**	**06 07 31.6**	**-0.1**
	baz=49,slow=22						
AAK				Lg	Lg	06 08 02.9	
	baz=5.2,slow=18						
AAK				LR	LR	06 09 26.4	
	comp=Z,28nm,21.3s,baz=151,slow=44 13nm,0.3s						
KBK	**Karagaybulak**	**6.67 36**		P	**Pn**	**06 06 25.2**	**+3.2**
	SNR=7.3						
CHMS	**Chumysh**	**6.86 33**		P	**Pn**	**06 06 26.6**	**+2.3**
	SNR=15						
CHMS	**Chumysh**	**6.86 33**		⇑Pn	**Pn**	**06 06 25.9**	**+1.5**
	36nm,0.8s						
CHMS				⇓Sn	**Sn**	**06 07 41.4**	**0.0**
	11nm,0.6s						
USP	**Ospenovka**	**6.97 31**		P	**Pn**	**06 06 27.9**	**+2.0**
	SNR=14						
TKM2	**Tokmak 2**	**7.18 38**		P	**Pn**	**06 06 30.7**	**+1.6**
	SNR=23						
TKM2	**Tokmak 2**	**7.18 38**		⇑Pn	**Pn**	**06 06 30.2**	**+1.2**
	18nm,0.7s						
DGS	**Degeres**	**7.51 37**		Pg	**Pn**	**06 06 35.1**	**+1.7**
DGS				Lg	Lg	06 07 58.8	
	9.1nm,0.6s						
TNSS	**Tian-Shan**	**7.96 42**		P	**Pn**	**06 06 41.6**	**+1.8**
KOTS	**Kotyrbulak**	**8.18 42**		P	**Pn**	**06 06 45.1**	**+2.4**
KUU	**Kurty**	**8.27 36**		P	**Pn**	**06 06 44.3**	**+0.5**
KTBS	**Karatobe**	**8.30 38**		P	**Pn**	**06 06 45.1**	**+0.9**
GEYT	**Alibeck**	**9.16 277**		Pn	**Pn**	**06 06 55.7**	**-0.2**
	4.6nm,0.3s,baz=81,slow=10.0,SNR=16						
GEYT				Sn	**Sn**	**06 08 37.5**	**-0.6**
	3.2nm,0.3s,baz=121,slow=16,SNR=6.9						
GEYT				Lg	Lg	06 09 37.2	
	baz=114,slow=41 6.6nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**9.16 277**		⇑Pn	**Pn**	**06 06 55.5**	**-0.4**
GYA0B				⇑Sn	**Sn**	**06 08 35.9**	**-2.2**
MAKZ	**Makanchi**	**13.14 40**		⇓P	**Pn**	**06 07 50.0**	**-0.4**
	3.7nm,0.8s						
MK31	**Makanchi Array**	**13.29 41**		⇑P	**Pn**	**06 07 51.9**	**-0.5**
	6.4nm,0.8s,baz=196,slow=40,SNR=34						
MKAR	**Makanchi Array**	**13.29 41**		Pn	**Pn**	**06 07 51.8**	**-0.7**
	0.3nm,0.3s,baz=229,slow=14,SNR=33						
MKAR				Lg	Lg	06 11 38.2	
	0.1nm,0.3s,baz=234,slow=26,SNR=1.7 4.1nm,0.7s						
AB31	**Akbulak array**	**13.81 332**		Pn	**Pn**	**06 07 58.1**	**-1.3**
	2.1nm,0.5s,baz=156,slow=12,SNR=70						
AB31				⇑Sn	**Sn**	**06 10 26.7**	**-5.1**
	1.5nm,0.4s,baz=249,slow=32,SNR=5.2						
PYUN	**Piuthan**	**14.53 126**		*e*P	**Pn**	**06 08 06.1**	**-3.6**
	19nm,0.5s						
KURBB	**Kurchatov Arra**	**14.70 23**		Pn	**Pn**	**06 08 07.9**	**-3.7**
	0.1nm,0.3s,baz=211,slow=12,SNR=4.3						
KURBB				Lg	Lg	06 12 31.3	
	baz=218,slow=32,SNR=2.8 0.4nm,0.3s						
DANN	**Dangsing**	**14.87 123**		*e*P	Pn	06 08 09.0	-5.3
	43nm,0.9s						
AKTO	**Aktyubinsk**	**15.49 331**		⇑Pn	**Pn**	**06 08 20.8**	**-1.3**
	8.0nm,0.7s						
AKTO				⇑Sn	**Sn**	**06 11 07.8**	**-5.0**
	5.2nm,1.1s						
AKTO	**Aktyubinsk**	**15.49 331**		Pn	**Pn**	**06 08 21.5**	**-0.6**
	0.5nm,0.3s,baz=142,slow=14,SNR=7.6						
AKTO				Sn	**Sn**	**06 11 06.5**	**-6.3**
	0.1nm,0.3s,baz=34,slow=5.6,SNR=2.2						
AKTO				Lg	Lg	06 12 50.5	
	0.1nm,0.3s,baz=109,slow=20,SNR=1.1 3.7nm,0.6s						
BVA0	**Borovoye Array**	**15.67 2**		P	**Pn**	**06 08 26.0**	**+1.6**
	2.4nm,0.6s,baz=207,slow=35,SNR=6.2						
BVAR	**Borovoye Array**	**15.67 2**		Pn	**Pn**	**06 08 21.3**	**-3.0**
	baz=163,slow=10,SNR=5.1						
BVAR				Lg	Lg	06 12 58.7	
	baz=168,slow=25 1.2nm,0.6s						
GKN	**Gorkha**	**15.69 122**		*e*P	Pn	06 08 15.6	-9.3
	38nm,0.6s						
DMN	**Daman**	**16.26 122**		*e*P	Pn	06 08 21.4	-11
	4.8nm,0.5s						
PKIN	**Phulchoki**	**16.48 122**		*e*P	Pn	06 08 25.4	-10
	18nm,0.5s						
PKI	**Pulchoki**	**16.49 122**		*e*P	Pn	06 08 25.6	-10
	26nm,0.6s						
JIRN	**Jiri**	**16.96 120**		*e*P	**Pn**	**06 08 35.2**	**-6.2**
	25nm,0.4s						
WSAR	**Wadi Sarin**	**16.96 217**		LR	LR	06 16 41.4	
	comp=Z,36nm,20.8s,baz=26,slow=43						
RAMN	**Ramite**	**17.70 121**		*e*P	Pn	06 08 42.0	-8.4
	20nm,0.9s						
TAPN	**Taplejung**	**18.21 118**		*e*P	**Pn**	**06 08 55.3**	**-1.5**
	19nm,0.6s						
GNI	**Garni**	**19.60 286**		LR	LR	06 20 35.3	
	comp=Z,33nm,19.3s,baz=62,slow=48						
ZALV	**Zalesovo Beam**	**19.62 27**		P	**P**	**06 09 10.4**	**-1.3**
	0.9nm,0.3s,baz=214,slow=9.5,SNR=14 4.6nm,0.6s						
ARU	**Arti**	**20.47 342**		P	**P**	**06 09 22.0**	**+1.1**
	3.1nm,0.3s,baz=292,slow=22,SNR=2.3 3.1nm,0.3s						
KBZ	**Khabaz**	**21.24 296**		LR	LR	06 20 24.5	
	comp=Z,34nm,18.5s,baz=104,slow=44						
BELG	**Belogornoye**	**21.53 321**		P	**P**	**06 09 33.9**	**+1.5**
	26nm,0.6s,baz=328,slow=0.8,SNR=11 26nm,0.6s						
BRTR	**Keskin Array B**	**28.14 286**		P	**P**	**06 10 37.7**	**+2.2**
	0.5nm,0.5s,baz=99,slow=8.0,SNR=1.7 0.5nm,0.5s						
SONM	**Songino Array**	**28.76 57**		P	**P**	**06 10 40.5**	**-0.5**
	0.8nm,0.6s,baz=241,slow=7.9,SNR=2.1 0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.82 118**		P	**P**	**06 11 07.5**	**-0.6**
	0.7nm,0.3s,baz=305,slow=9.0,SNR=6.9 0.7nm,0.3s						
MLR	**Muntele Rosu**	**33.41 298**		LR	LR	06 29 07.8	
	comp=Z,25nm,21.2s,baz=275,slow=44						
NRIK	**Noril'sk**	**33.49 11**		P	**P**	**06 11 24.2**	**+2.0**
	1.7nm,0.4s,baz=195,slow=4.0,SNR=4.0 1.7nm,0.4s						
FINES	**FINESS Array B**	**36.16 326**		P	**P**	**06 11 46.6**	**+1.4**
	2.4nm,1.0s,baz=118,slow=11,SNR=2.6 2.4nm,1.0s						
ARCES	**ARCESS Array B**	**39.93 338**		P	**P**	**06 12 18.5**	**+1.5**
	1.9nm,0.9s,baz=108,slow=7.8,SNR=5.4 1.9nm,0.9s						
HFS	**Hagfors**	**41.71 321**		P	**P**	**06 12 33.8**	**+2.0**
	2.0nm,0.7s,baz=92,slow=13,SNR=4.3 2.0nm,0.7s						
NOA	**NORSAR Array B**	**43.03 323**		P	**P**	**06 12 44.3**

mbtmp4.5/22, MS3.1/1, Error ellipse: s-maj=16.2km s-min=10.3km az=73.0
*DJA **07** 06:19:41.6±0.2, 6°S±2°×13°0E±°, h155km±3km, M4.8/25, mB5.2/15, mb4.8/25, MLv5.3/13, Mw(mB)4.6/15*
ISC 07 06:19:39.7±0.4, **6°42S**±0°05×**130°16E**±0°05, **h146**km, **n112**, σ1°**58**/115, **mb4.4**/35, **1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.92**	**144**	Pn	**Pn**	**06 20 16.1**	**+2.4**
SAUI	**Saumlaki**	**1.92**	**144**	P	**Pn**	**06 20 17.1**	**+3.4**
FAKI	**Fak Fak**	**4.05**	**31**	Pn	**Pn**	**06 20 40.8**	**+0.2**
FAKI	**Fak Fak**	**4.05**	**31**	P	**Pn**	**06 20 40.8**	**+0.2**
NLAI	**Namlea**	**4.39**	**316**	P	**Pn**	**06 20 49.1**	**+4.1**
KMPI	**Kaimana, Papua**	**4.47**	**52**	P	**Pn**	**06 20 46.3**	**+0.2**
SIJI	**Sorong**	**5.62**	**11**	P	**Pn**	**06 21 01.8**	**+0.4**
	39nm,0.2s,baz=54,slow=2.8,SNR=36						
SIJI				S	**Sn**	**06 21 59.9**	**-5.3**
	131nm,0.2s,baz=76,slow=23,SNR=28						
SWI	**Sorong**	**5.62**	**11**	P	**Pn**	**06 21 01.8**	**+0.4**
SANI	**Sanana**	**6.01**	**316**	P	**Pn**	**06 21 09.1**	**+2.5**
	77nm,0.6s,1μm0.3nm						
RKPI	**Ransiki, Papua**	**6.31**	**40**	P	**Pn**	**06 21 12.6**	**+2.0**
MTN	**Manton Dam**	**6.46**	**172**	Pn	**Pn**	**06 21 13.2**	**+0.6**
SOEI	**Soe**	**6.71**	**240**	Pn	**Pn**	**06 21 17.6**	**+1.5**
SOEI	**Soe**	**6.71**	**240**	P	**Pn**	**06 21 17.9**	**+1.8**
	171nm,0.8s,2μm2.2nm						
BATI	**Baumata**	**7.45**	**239**	P	**Pn**	**06 21 27.4**	**+1.5**
	235nm,0.6s,3μm2.1nm						
BATI	**Baumata**	**7.45**	**239**	P	**Pn**	**06 21 27.9**	**+2.0**
	206nm,0.5s,baz=126,slow=1.4,SNR=16						
BATI				S	**Sn**	**06 22 46.4**	**-2.7**
	400nm,0.5s,baz=184,slow=17,SNR=11						
KNRA	**Kununurra**	**9.30**	**188**	Pn	**Pn**	**06 21 49.8**	**-0.8**
BKSI	**Bulukumba**	**10.04**	**276**	P	Pn	06 22 15.8	+15
KAPI	**Kappang**	**10.45**	**277**	P	Pn	06 22 14.2	+8.3
	4.5nm,0.5s,baz=70,slow=9.5,SNR=2.3						
MRSI	**Marisa**	**10.69**	**310**	P	**Pn**	**06 22 11.8**	**+2.8**
	198nm,0.9s,2μm						
TTSI	**Tana Toraja**	**10.84**	**288**	P	Pn	06 22 28.1	+17
JAY	**Jayapura**	**11.20**	**70**	P	**Pn**	**06 22 17.0**	**+1.2**
	6.5nm,0.8s,baz=36,slow=14,SNR=1.2						
MPSI	**Mapaga**	**12.24**	**303**	P	**Pn**	**06 22 33.1**	**+3.7**
	17nm,0.6s,2μm						
WB0	**Warramunga Arr**	**13.89**	**163**		**Pn**	**06 22 48.6**	**-1.9**
WRA	**Warramunga Arr**	**14.04**	**164**	Pn	**Pn**	**06 22 52.0**	**-0.5**
WRA	**Warramunga Arr**	**14.04**	**164**	P	**Pn**	**06 22 50.9**	**-1.6**
	6.6nm,0.5s,baz=350,slow=13,SNR=43						
WRA				S	Sn	06 25 17.9	-10
	16nm,0.6s,baz=348,slow=22,SNR=12						
COEN	**Coen**	**14.83**	**121**		**Pn**	**06 23 03.1**	**+0.7**
BBKI	**Banjar Baru**	**15.54**	**280**	P	**P**	**06 23 14.3**	**+2.0**
	406nm,1.0s,10μm						
JAGI	**Jajag, Banyuwa**	**16.00**	**262**	P	**Pn**	**06 23 14.8**	**-2.0**
JAGI				IAmb	IAmb	06 23 18.7	
	comp=Z,31nm,0.9s						
MYLDM	**Lahad Datu**	**16.38**	**314**	P	**P**	**06 23 22.6**	**+1.0**
MYLDM				IAmb	IAmb	06 23 53.6	
	comp=Z,27nm,1.0s						
BLJI	**Banyuglugur**	**16.49**	**264**	P	**P**	**06 23 25.6**	**+2.8**
	comp=Z,110nm,0.8s						
PMG	**Port Moresby**	**17.10**	**101**	Pn	**Pn**	**06 23 31.6**	**+1.4**
PMG	**Port Moresby**	**17.10**	**101**	P	**P**	**06 23 29.7**	**+0.2**
	comp=Z,48nm,0.7s,baz=290,slow=6.8,SNR=8.8						
AS31	**Alice Springs**	**17.52**	**169**		**P**	**06 23 35.2**	**+1.0**
ASAR	**Alice Springs**	**17.52**	**169**		**P**	**06 23 35.2**	**+1.0**
ASAR	**Alice Springs**	**17.52**	**169**	P	**P**	**06 23 35.8**	**+1.6**
	comp=Z,6.6nm,0.7s,baz=347,slow=10,SNR=114						
ASAR				S	**S**	**06 26 43.6**	**-5.6**
	comp=Z,7.9nm,0.7s,baz=353,slow=27,SNR=7.3						
ASAR				LR	LR	06 30 17.2	
	comp=Z,65nm,19.7s,baz=347,slow=36						
ASAR				ScP	**ScP**	**06 31 25.6**	**-3.1**
	comp=Z,2.8nm,0.6s,baz=338,slow=2.0,SNR=4.5						
PSA00	**Pilbara Seismi**	**18.07**	**212**	P	**P**	**06 23 40.3**	**+0.2**
KKM	**Kota Kinabalu**	**18.63**	**311**	P	**P**	**06 23 46.0**	**-0.3**
KKM				IAmb	IAmb	06 23 47.9	
	comp=Z,21nm,0.8s						
SBUM	**Sibu**	**19.96**	**296**	P	**P**	**06 24 02.3**	**+1.6**
SBUM				IAmb	IAmb	06 24 03.1	
	comp=Z,27nm,1.4s						
CTA	**Charters Tower**	**20.71**	**133**	P	**P**	**06 24 10.4**	**+1.7**
	comp=Z,15nm,0.7s,baz=315,slow=12,SNR=19						
	comp=Z,15nm,0.7s						
KPJI	**Karang Pucung**	**21.10**	**266**	P	**P**	**06 24 13.9**	**+1.0**
	comp=Z,54nm,0.8s						
LEM	**Lembang**	**22.40**	**268**	P	**P**	**06 24 27.2**	**+0.6**
	comp=Z,29nm,0.5s,baz=32,slow=9.3,SNR=4.0						
	comp=Z,29nm,0.5s						
CNJI	**Cibinong**	**22.88**	**266**	P	**P**	**06 24 30.3**	**-0.7**
	comp=Z,99nm,0.9s						
STKA	**Stephens Creek**	**27.49**	**159**	P	**P**	**06 25 12.6**	**+0.1**
STKA	**Stephens Creek**	**27.49**	**159**	P	**P**	**06 25 13.1**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=332,slow=10,SNR=5.7						
	comp=Z,1.6nm,0.4s						
RPSI	**Rantau Prapat**	**32.47**	**285**	P	**P**	**06 25 53.6**	**-3.0**
RPSI				IAmb	IAmb	06 25 59.8	
	comp=Z,12nm,0.8s						
CAN	**Canberra**	**33.59**	**151**	P	**P**	**06 26 07.0**	**+0.9**
CAN				IAmb	IAmb	06 26 14.6	
	comp=Z,17nm,1.2s						
CM31	**Chiang Mai Arr**	**39.48**	**309**	P	**P**	**06 26 56.5**	**+0.3**
CM31				IAmb	IAmb	06 26 57.3	
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**39.48**	**309**	P	**P**	**06 26 55.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**39.48**	**309**	P	**P**	**06 26 56.4**	**+0.2**
	comp=Z,4.1nm,0.6s,baz=137,slow=7.4,SNR=28						
	comp=Z,4.1nm,0.6s						
CRAI	**Chiangrai**	**39.48**	**313**	P	**P**	**06 26 55.8**	**-0.4**
CHTO	**Chiang Mai**	**39.69**	**310**	P	**P**	**06 26 57.4**	**-0.5**
NJ2	**Nanjing**	**39.74**	**345**	*eP*	**P**	**06 27 00.2**	**+2.1**
NJ2				pP	**pwP**	**06 27 33.1**	**-1.5**
NJ2				sP	**sP**	**06 27 50.1**	**+5.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,230nm,6.2s						
PZH	**PanZhiHua**	**42.78**	**321**	P	**P**	**06 27 25.7**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,80nm,3.5s						
MJAR	**Matsushiro Arr**	**43.39**	**9**	P	**P**	**06 27 27.1**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=192,slow=10,SNR=4.5						
	comp=Z,2.3nm,0.8s						
KSRS	**Korea Array**	**43.69**	**357**	P	**P**	**06 27 30.3**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=175,slow=8.8,SNR=8.2						
	comp=Z,1.4nm,0.6s						
XAN	**Xi'an**	**44.98**	**335**	*eP*	**P**	**06 27 39.6**	**-1.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HNS	**HongShan**	**45.92**	**343**	⇓P	**P**	**06 27 47.6**	**-0.2**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SHL	**Shillong**	**48.93**	**312**	P	**P**	**06 28 10.1**	**-1.5**
LZH	**Lanzhou**	**48.97**	**332**	*eP*	**P**	**06 28 12.4**	**+0.8**
LZH				pP	pwP	06 28 48.4	-0.5
LZH				sP	sP	06 29 07.3	+7.7
LZH				pmax	pmax		
	comp=Z,11nm,1.4s						
CN2	**Changchun**	**50.16**	**356**	*eP*	**P**	**06 28 21.5**	**+1.2**
CN2				*es*P	sP	06 29 09.7	+1.2
USRK	**Ussuriysk Ar.**	**50.41**	**2**	P	**P**	**06 28 21.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**50.41**	**2**	P	**P**	**06 28 21.4**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=190,slow=7.4,SNR=5.2						
	comp=Z,1.6nm,0.5s						
WHZ	**Wether Hill Ro**	**51.10**	**147**	P	**P**	**06 28 27.7**	**+0.3**
LBZ	**Lake Benmore**	**51.46**	**144**	P	**P**	**06 28 31.2**	**+1.1**
XLT	**XiLinHaoTe**	**51.68**	**347**	*eP*	**P**	**06 28 31.9**	**+0.2**
XLT				pmax	pmax		
	comp=Z,13nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,4.8s						
TUWZ	**Tuamarina**	**52.21**	**139**	P	**P**	**06 28 35.6**	**-0.2**
BKZ	**Black Stump Fm**	**52.89**	**135**	P	**P**	**06 28 40.6**	**-0.3**
TAPN	**Taplejung**	**53.02**	**311**	*eP*	**P**	**06 28 42.0**	**-0.2**
	comp=Z,43nm,0.5s						
RAMN	**Ramite**	**53.64**	**310**	*eP*	**P**	**06 28 46.9**	**+0.2**
	comp=Z,121nm,0.5s						
JIRN	**Jiri**	**54.33**	**311**	*eP*	**P**	**06 28 51.4**	**-0.4**
	comp=Z,48nm,0.6s						
GUN	**Gumba**	**54.69**	**311**	*eP*	**P**	**06 28 54.1**	**-0.3**
	comp=Z,90nm,0.6s						
PKI	**Pulchoki**	**54.87**	**310**	*eP*	**P**	**06 28 55.0**	**-0.7**
	comp=Z,29nm,0.6s						
PKIN	**Phulchoki**	**54.88**	**310**	*eP*	**P**	**06 28 54.9**	**-0.8**
	comp=Z,32nm,0.6s						
GKN	**Gorkha**	**55.68**	**310**	*eP*	**P**	**06 29 00.9**	**-0.4**
	comp=Z,78nm,0.6s						
DANN	**Dangsing**	**56.52**	**310**	*eP*	**P**	**06 29 06.9**	**-0.5**
	comp=Z,53nm,0.9s						
PYUN	**Piuthan**	**56.99**	**309**	*eP*	**P**	**06 29 10.3**	**-0.3**
	comp=Z,86nm,0.8s						
ULN	**Ulaanbaatar**	**57.76**	**342**	P	**P**	**06 29 15.8**	**+0.2**
SONM	**Songino Array**	**57.94**	**341**	P	**P**	**06 29 16.9**	**+0.1**
SONM				IAmb	IAmb	06 29 18.2	
	comp=Z,10nm,1.4s						
SONM	**Songino Array**	**57.94**	**341**	P	**P**	**06 29 17.3**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=159,slow=6.5,SNR=7.5						
	comp=Z,3.5nm,0.7s						
CASY	**Casey**	**61.30**	**189**	P	**P**	**06 29 39.5**	**+0.2**
WMQ	**Urumqi**	**63.00**	**327**	*eP*	**P**	**06 29 52.7**	**+1.6**
KSH	**Kashi**	**67.70**	**317**	P	**P**	**06 30 23.0**	**+1.4**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MK31	**Makanchi Array**	**67.83**	**327**	P	**P**	**06 30 22.4**	**+0.2**
MK31				IAmb	IAmb	06 30 23.2	
	comp=Z,11nm,0.8s						
MKAR	**Makanchi Array**	**67.83**	**327**	P	**P**	**06 30 22.1**	**-0.1**
MKAR	**Makanchi Array**	**67.83**	**327**	P	**P**	**06 30 22.4**	**+0.3**
	comp=Z,17nm,0.6s,baz=120,slow=8.1,SNR=125						
	comp=Z,17nm,0.6s						
MAKZ	**Makanchi**	**68.01**	**326**	P	**P**	**06 30 22.5**	**-0.7**
TKM2	**Tokmak 2**	**69.64**	**320**	P	**P**	**06 30 34.2**	**+0.5**
	SNR=7.8						
UCH	**Uchtor**	**69.99**	**319**	P	**P**	**06 30 37.0**	**+0.9**
	SNR=12						
AAK	**Ala-Archa**	**70.20**	**320**	P	**P**	**06 30 36.7**	**-0.3**
AAK				IAmb	IAmb	06 30 38.7	
	comp=Z,8.3nm,0.8s						
AML	**Almayashu**	**70.48**	**319**	P	**P**	**06 30 39.7**	**+0.7**
	SNR=14						
USP	**Ospenovka**	**70.51**	**320**	P	**P**	**06 30 39.0**	**+0.3**
	SNR=6.9						
KBL	**Kabul**	**70.51**	**310**	P	**P**	**06 30 38.4**	**-0.8**
KBL				IAmb	IAmb	06 30 39.9	
	comp=Z,12nm,1.1s						
EKS2	**Erkin-Say**	**70.68**	**319**	P	**P**	**06 30 40.8**	**+1.0**
	SNR=8.9						
ZAA0	**Zalesovo Array**	**71.13**	**334**	P	**P**	**06 30 41.1**	**-1.1**
ZALV	**Zalesovo Beam**	**71.13**	**334**	P	**P**	**06 30 40.9**	**-1.3**
ZALV	**Zalesovo Beam**	**71.13**	**334**	P	**P**	**06 30 41.1**	**-1.1**
	comp=Z,3.3nm,0.5s,baz=126,slow=5.5,SNR=16						
	comp=Z,3.3nm,0.5s						
KURBB	**Kurchatov Arra**	**72.10**	**328**	P	**P**	**06 30 47.8**	**-0.2**
	comp=Z,4.7nm,0.6s,baz=130,slow=5.0,SNR=58						
	comp=Z,4.7nm,0.6s						
KURK	**Kurchatov**	**72.11**	**328**	P	**P**	**06 30 47.3**	**-0.7**
KURK				IAmb	IAmb	06 30 48.3	
	comp=Z,4.8nm,0.6s						
KK31	**Karatay Array**	**73.01**	**319**	P	**P**	**06 30 53.1**	**-0.5**
KK31				IAmb	IAmb	06 30 54.7	
	comp=Z,6.9nm,1.1s						
KKAR	**Karatay Array**	**73.01**	**319**	P	**P**	**06 30 52.9**	**-0.8**
KKAR	**Karatay Array**	**73.01**	**319**		**P**	**06 30 52.8**	**-0.8**
KKAR				IAmb	IAmb	06 30 54.7	
	comp=Z,6.9nm,1.1s						
MAW	**Mawson**	**75.55**	**201**	P	**P**	**06 31 08.1**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=63,slow=5.9,SNR=4.4						
	comp=Z,3.1nm,0.7s						
HRA	**Herat**	**75.72**	**308**	P	**P**	**06 31 09.3**	**-0.5**
HRA				IAmb	IAmb	06 31 11.4	
	comp=Z,8.9nm,1.2s						
BVAR	**Borovoye Array**	**77.66**	**328**	P	**P**	**06 31 19.5**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=132,slow=8.2,SNR=12						
	comp=Z,2.5nm,0.5s						
BRVK	**Borovoye**	**77.73**	**328**	P	**P**	**06 31 19.4**	**-1.0**
GEYT	**Alibeck**	**79.96**	**310**	P	**P**	**06 31 33.6**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=119,slow=5.6,SNR=4.0						
	comp=Z,1.2nm,0.3s						
ABKAR	**Akbulak array**	**82.15**	**322**	P	**P**	**06 31 43.7**	**-0.5**
QSPA	**South Pole Qui**	**83.56**	**180**	P	**P**	**06 31 50.8**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=294,slow=1.4,SNR=21						
	comp=Z,1.9nm,0.6s						
ILAR	**Eielson Array**	**92.75**	**25**	P	**P**	**06 32 33.4**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=262,slow=3.7,SNR=5.3						
	comp=Z,0.3nm,0.7s						
SNAA	**Sanae**	**96.26**	**193**	P	**P**	**06 32 51.1**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=170,slow=4.0,SNR=11						
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**128.85**	**282**	PKP	**PKPdf**	**06 38 30.2**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=140,slow=4.4,SNR=4.4						

*IDC **07** 06:37:16.5±1.3, 32°60S×178°87W, h0km, mb4.1/3, mbtmp4.1/4, ML3.9/1, MS3.1/2, Error ellipse: s-maj=35.8km s-min=30.8km az=81.0*
*WEL **07** 06:37:19.0±1.0, 33°S±6°×17°8W±1°, h33km, M4.5/11, mB5.1/5, ML4.5/11, MLv4.5/11, Mw(mB)4.4/5, Error ellipse: s-maj=0.0km s-min=0.0km az=107.0, confirmed*
*NEIC **07** 06:37:18.6±2.5, 32°95±0°1×178°8W±0°2, h10km±1km, mb4.3/8, Error ellipse: s-maj=26.9km s-min=20.4km az=90.0*
ISC 07 06:37:20.6±0.8, **32°94S**±0°06×**178°5W**±0°1, **h32**km, **n60**, σ1°**54**/57, **mb4.2**/8, **3D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.70**	**8**	P	**Pn**	**06 38 16.6**	**+1.1**
GLKZ				S	**Sn**	**06 38 55.8**	**-2.1**
MXZ	**Matakaoa Point**	**5.30**	**209**	Pn	**Pn**	**06 38 35.9**	**-1.6**
MXZ	**Matakaoa Point**	**5.30**	**209**	P	**Pn**	**06 38 36.8**	**-0.7**
WMGZ	**Waiomatatini S**	**5.48**	**206**	P	**Pn**	**06 38 40.8**	**+0.8**
PKGZ	**Pakihiroa**	**5.67**	**208**	P	**Pn**	**06 38 41.6**	**-1.0**
PKGZ				S	**Sn**	**06 39 45.8**	**-0.9**
HAZ	**Te Kaha**	**5.68**	**211**	P	**Pn**	**06 38 42.4**	**-0.3**
HAZ				S	**Sn**	**06 39 47.9**	**+1.1**
PUZ	**Puketiti**	**5.76**	**206**	P	**Pn**	**06 38 42.9**	**-1.0**
PUZ				S	**Sn**	**06 39 48.5**	**-0.4**
RUGZ	**Raukumara Rang**	**5.90**	**211**	P	**Pn**	**06 38 44.8**	**-1.1**
KUZ	**Kuaotunu**	**6.08**	**230**	P	**Pn**	**06 38 50.3**	**+2.2**
CNGZ	**Carnagh Statio**	**6.14**	**205**	P	**Pn**	**06 38 48.9**	**-0.2**
MWZ	**Matawai**	**6.28**	**210**	P	**Pn**	**06 38 50.9**	**0.0**
URZ	**Urewera**	**6.39**	**213**	P	**Pn**	**06 38 51.1**	**-1.4**
URZ	**Urewera**	**6.39**	**213**	Pn	**Pn**	**06 38 51.8**	**-0.7**
	2.7nm,0.3s,baz=1.4,slow=2.6,SNR=21						
URZ				Sn	**Sn**	**06 39 60.0**	**-4.4**
	1.7nm,0.3s,baz=36,slow=13,SNR=1.5						
	5.2nm,0.3s						
RIGZ	**Rimuhau**	**6.50**	**207**	P	**Pn**	**06 38 53.7**	**-0.3**
WCZ	**Waipu Caves**	**6.62**	**241**	P	**Pn**	**06 38 57.9**	**+2.4**
PRGZ	**Paritu Road**	**6.65**	**205**	P	**Pn**	**06 38 56.9**	**+0.8**
MUGZ	**Murupara**	**6.73**	**213**	P	**Pn**	**06 38 56.5**	**-0.6**
SNGZ	**Shannon Statio**	**6.73**	**209**	P	**Pn**	**06 38 58.6**	**+1.4**
RTZ	**Ruatahuna**	**6.75**	**212**		**Pn**	**06 38 56.6**	**-0.9**
OUZ	**Omahuta**	**6.93**	**249**	P	**Pn**	**06 39 02.2**	**+2.3**
RAHZ	**Arahi**	**6.95**	**210**	P	**Pn**	**06 39 00.7**	**+0.5**
MTHZ	**Maungataniwha**	**7.00**	**211**	P	**Pn**	**06 39 00.8**	**-0.1**
WHHZ	**Waihua**	**7.03**	**208**	P	**Pn**	**06 39 00.9**	**-0.3**
NMHZ	**Naumai**	**7.22**	**210**	P	**Pn**	**06 39 03.7**	**-0.3**
ARHZ	**Aropaoanui**	**7.28**	**209**	P	**Pn**	**06 39 03.9**	**-0.8**
BKZ	**Black Stump Fm**	**7.42**	**212**	Pn	**Pn**	**06 39 04.9**	**-1.7**
BKZ	**Black Stump Fm**	**7.42**	**212**	P	**Pn**	**06 39 05.8**	**-0.7**
MCHZ	**McNeill Hill**	**7.56**	**209**	P	**Pn**	**06 39 07.5**	**-1.0**
KWHZ	**Kaweka Forest**	**7.66**	**211**	P	**Pn**	**06 39 08.3**	**-1.6**
HIZ	**Hauiti**	**7.75**	**222**	Pn	**Pn**	**06 39 10.8**	**-0.3**
KAHZ	**Kaharunaki**	**7.79**	**207**	P	**Pn**	**06 39 11.1**	**-0.5**
OTVZ	**Oturere**	**7.80**	**216**	P	**Pn**	**06 39 12.0**	**+0.1**
BHHZ	**Black Hill Sta**	**7.87**	**212**	P	**Pn**	**06 39 11.7**	**-1.1**
DZM	**Mont Dzumac**	**17.16**	**305**	LR	LR	06 46 31.9	
	comp=Z,64nm,21.1s,baz=214,slow=33						
CTAO	**Charters Tower**	**33.86**	**283**	P	**P**	**06 43 59.7**	**-0.7**
AS31	**Alice Springs**	**42.60**	**270**	P	**P**	**06 45 12.2**	**-1.7**
ASAR	**Alice Springs**	**42.60**	**270**	P	**P**	**06 45 12.1**	**-1.8**
ASAR	**Alice Springs**	**42.60**	**270**	P	**P**	**06 45 12.4**	**-1.5**
	2.1nm,0.7s,baz=110,slow=7.5,SNR=21						
	2.1nm,0.7s						
WB2	**Warramunga Arr**	**43.81**	**275**	P	**P**	**06 45 21.1**	**-2.6**
WB2				IAmb	IAmb	06 45 22.7	
	comp=Z,2.7nm,0.7s						
WRA	**Warramunga Arr**	**43.82**	**275**	P	**P**	**06 45 21.6**	**-2.1**
WRA	**Warramunga Arr**	**43.82**	**275**	P	**P**	**06 45 21.8**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=114,slow=7.6,SNR=38						
	comp=Z,1.6nm,0.3s						
CASY	**Casey**	**52.70**	**209**	P	**P**	**06 46 30.9**	**-0.7**
CASY				IAmb	IAmb	06 46 32.3	
	comp=Z,6.5nm,1.4s						
QSPA	**South Pole Qui**	**57.18**	**180**	P	**P**	**06 47 07.0**	**+2.8**
QSPA				IAmb	IAmb	06 47 08.4	
	comp=Z,1.8nm,0.8s						
QSPA	**South Pole Qui**	**57.18**	**180**	P	**P**	**06 47 08.0**	**+3.8**
	comp=Z,1.2nm,0.6s,baz=3.5,slow=0.9,SNR=10						
	comp=Z,1.2nm,0.6s						
MYLDM	**Lahad Datu**	**70.62**	**290**	P	**P**	**06 48 33.5**	**+0.4**
SNAA	**Sanae**	**75.64**	**179**	P	**P**	**06 49 03.3**	**+1.2**
SNAA				IAmb	IAmb	06 49 32.2	
	comp=Z,5.0nm,1.5s						
SNAA	**Sanae**	**75.64**	**179**	⇓P	**P**	**06 49 04.1**	**+2.0**
	comp=Z,1.0nm,0.2s						
VNA3	**Neumayer Olymp**	**75.81**	**176**	⇓P	**P**	**06 49 05.0**	**+2.0**
	comp=Z,1.0nm,0.6s						
VNA2	**Neumayer--Watz**	**76.24**	**177**	⇓P	**P**	**06 49 07.8**	**+2.4**
	comp=Z,1.6nm,0.8s,baz=191,slow=4.0						
H03S2	**Juan Fernandez**	**79.44**	**123**	T	T	08 17 53.4	
	baz=235,slow=74,SNR=6.7						
H03S1	**Juan Fernandez**	**79.45**	**123**	T	T	08 17 51.0	
	baz=235,slow=74,SNR=5.6						
H03S3	**Juan Fernandez**	**79.45**	**123**	T	T	08 17 52.1	
	baz=235,slow=74,SNR=6.7						
H03N3	**Juan Fernandez**	**79.64**	**123**	T	T	08 17 59.3	
	baz=240,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**79.64**	**123**	T	T	08 17 57.6	
	baz=240,slow=72,SNR=10						
H03N1	**Juan Fernandez**	**79.66**	**123**	T	T	08 17 55.5	
	baz=240,slow=72,SNR=20						
MA2	**Magadan**	**95.62**	**345**	LR	LR	07 27 17.8	
	comp=Z,8.1nm,21.7s,baz=316,slow=32						
FINES	**FINESS Array B**	**147.35**	**338**	PKPbc	**PKPbc**	**06 56 59.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=46,slow=4.0,SNR=7.8						
NB2	**NORSAR Subarra**	**151.18**	**350**	PKP	**PKiKP**	**06 57 10.1**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**151.18**	**350**	PKPbc	**PKPbc**	**06 57 09.9**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=14,slow=4.1,SNR=5.6						
HFS	**Hagfors**	**151.62**	**347**	PKPbc	**PKPbc**	**06 57 09.9**	**-0.9**
	comp=Z,5.6nm,1.1s,baz=11,slow=1.5,SNR=2.4						

*IDC **07** 06:43:15.7±0.8, 14°14N×146°72E, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=25.1km s-min=17.1km az=116.0*
ISC 07 06:43:21.2±0.9, **14°1N**±0°2×**146°7E**±0°1, **h37**km, **n13**, σ0°**76**/15, **mb4.3**/11, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.88**	**254**	Pn	**Pn**	**06 43 50.4**	**-0.3**
	60nm,0.3s,baz=106,slow=6.3,SNR=30						
GUMO				Sn	**Sn**	**06 44 14.0**	**+0.9**
	52nm,0.3s,baz=75,slow=22,SNR=9.4						
WRA	**Warramunga Arr**	**35.96**	**200**	P	**P**	**06 50 18.2**	**-0.4**
	3.6nm,0.8s,baz=23,slow=9.4,SNR=27						
WRA				PcP	**PcP**	**06 52 45.2**	**+0.3**
	0.8nm,1.0s,baz=12,slow=3.4,SNR=4.2						
	3.6nm,0.8s						
ASAR	**Alice Springs**	**39.58**	**199**	P	**P**	**06 50 48.8**	**-0.3**
	0.9nm,0.8s,baz=17,slow=9.4,SNR=9.9						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**62.26**	**324**	P	**P**	**06 53 38.9**	**-0.4**
	0.7nm,0.5s,baz=98,slow=8.9,SNR=2.2						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**62.38**	**316**	P	**P**	**06 53 40.9**	**+0.7**
	0.3nm,0.3s,baz=88,slow=8.4,SNR=4.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**65.40**	**319**	P	**P**	**06 53 59.7**	**-0.3**
	2.7nm,0.7s,baz=99,slow=6.8,SNR=25						
	2.7nm,0.7s						
ILAR	**Eielson Array**	**67.33**	**25**	P	**P**	**06 54 11.7**	**-0.5**
	0.5nm,0.5s,baz=252,slow=5.9,SNR=14						
	0.5nm,0.5s				

STKA	**Stephens Creek**	**37.71**	**158**	P	**P**	**06 57 58.1**	**+0.3**
STKA				IAmb	IAmb	06 58 08.7	
comp=Z,2.9nm,0.8s							
STKA	**Stephens Creek**	**37.71**	**158**	P	**P**	**06 57 58.0**	**+0.3**
comp=Z,5.0nm,0.7s,baz=339,slow=9.8,SNR=13							
comp=Z,5.0nm,0.7s							
ARMA	**Armidale**	**41.27**	**145**	P	**P**	**06 58 28.6**	**+1.1**
ARMA				IAmb	IAmb	06 58 39.1	
comp=Z,19nm,1.2s							
MKAR	**Makanchi Array**	**57.75**	**326**	P	**P**	**07 00 32.8**	**+0.3**
comp=Z,0.3nm,0.4s,baz=116,slow=7.4,SNR=2.5							
comp=Z,0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**61.97**	**328**	P	**P**	**07 01 01.3**	**0.0**
comp=Z,0.2nm,0.5s,baz=129,slow=6.2,SNR=5.1							
comp=Z,0.2nm,0.5s							
CASY	**Casey**	**70.00**	**187**	P	**P**	**07 01 54.5**	**+1.9**
ILAR	**Eielson Array**	**86.08**	**25**	P	**P**	**07 03 21.4**	**-0.3**
comp=Z,0.1nm,0.5s,baz=248,slow=4.8,SNR=1.7							
comp=Z,0.1nm,0.5s							
BMAR	**Burnt Mountain**	**87.03**	**23**	P	**P**	**07 03 27.5**	**+1.2**
K27K	**Chicken**	**88.18**	**26**	P	**P**	**07 03 32.9**	**+1.1**
K27K				IAmb	IAmb	07 03 52.6	
comp=Z,4.9nm,1.4s							
BCAR	**Beaver Creek A**	**88.36**	**27**	P	**P**	**07 03 33.7**	**+1.0**
G29M	**Pine Creek**	**89.62**	**23**	P	**P**	**07 03 38.6**	**+0.1**
ARCES	**ARCESS Array B**	**90.88**	**340**	P	**P**	**07 03 44.5**	**+0.1**
comp=Z,4.2nm,1.2s,baz=72,slow=5.9,SNR=1.6							
comp=Z,4.2nm,1.2s							
FARO	**Faro, Yukon**	**92.33**	**27**	P	**P**	**07 03 51.9**	**+0.7**
QSPA	**South Pole Qui**	**92.91**	**180**	P	**P**	**07 03 54.6**	**+0.7**
QSPA				IAmb	IAmb	07 04 07.0	
comp=Z,1.2nm,0.9s							
QSPA	**South Pole Qui**	**92.91**	**180**	P	**P**	**07 03 55.3**	**+1.4**
comp=Z,0.7nm,0.8s,baz=251,slow=15,SNR=1.9							
comp=Z,0.7nm,0.8s							

IDC 07 06:54:45.4±8.6, 14°.03N×94°.60W, h0km, mb3.3/2, mbtmp3.2/3, ML3.2/1, MS3.1/2, Error ellipse: s-maj=514.5km s-min=143.3km az=60.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**17.39**	**333**	Pn	Pn	06 58 48.8	-0.9
baz=146,slow=13,SNR=1.5							
TXAR				LR	LR	07 05 33.4	
comp=Z,46nm,20.1s,baz=173,slow=37							
0.3nm,0.9s							
ANMO	**Albuquerque**	**23.42**	**335**	LR	LR	07 08 16.5	
comp=Z,64nm,19.4s,baz=260,slow=35							
PDAR	**Pinedale Array**	**31.41**	**339**	P	P	07 01 10.1	+1.5
0.2nm,0.5s,baz=142,slow=8.4,SNR=2.1							
0.2nm,0.5s							
ILAR	**Eielson Array**	**61.83**	**337**	P	P	07 05 05.5	-0.6
0.4nm,0.7s,baz=157,slow=5.0,SNR=7.1							
0.4nm,0.7s							

IDC 07 07:11:20.9±1.9, 2°.19N×126°.01E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=195.9km s-min=22.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.46**	**160**	P	P	07 16 31.9	-0.3
0.6nm,0.5s,baz=339,slow=11,SNR=8.2							
0.6nm,0.5s							
ASAR	**Alice Springs**	**26.82**	**164**	P	P	07 17 03.5	+0.4
0.2nm,0.6s,baz=343,slow=9.0,SNR=1.9							
0.2nm,0.6s							
MKAR	**Makanchi Array**	**58.42**	**326**	P	P	07 21 18.6	+0.1
0.3nm,0.5s,baz=116,slow=8.5,SNR=3.5							
0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**62.65**	**328**	P	P	07 21 47.0	-0.2
0.3nm,0.5s,baz=130,slow=6.0,SNR=5.6							
0.3nm,0.5s							

NNC 07 07:11:31.2±3.7, 37°.60N×69°.88E, h0km, mb3.8, mpv3.5, 2C-3D, Error ellipse: s-maj=34.2km s-min=29.6km az=74.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.39**	**32**	⇓P	Pn	07 12 53.1	-0.1
0.7nm,0.7s							
AML				⇓S	Sn	07 13 55.8	-0.4
2.1nm,0.8s							
KK31	**Karatay Array**	**5.52**	**5**	⇑P	Pn	07 12 53.6	-1.0
2.4nm,0.3s,baz=189,slow=15,SNR=20							
KK31				⇓S	Sn	07 14 00.7	+1.9
4.7nm,0.4s,baz=188,slow=28,SNR=8.6							
TKM2	**Tokmak 2**	**6.88**	**38**	⇑P	Pn	07 13 14.9	+1.4
6.1nm,0.5s							
AB31	**Akbulak array**	**13.69**	**331**	P	Pn	07 14 46.4	-0.1
0.6nm,0.3s,baz=174,slow=21,SNR=20							

NNC 07 07:19:54.4±12.0, 37°.74N×70°.06E, h0km, mb3.5, mpv3.3, 2C, Error ellipse: s-maj=149.7km s-min=100.1km az=76.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.37**	**4**	⇑P	Pn	07 21 18.8	+3.0
0.7nm,0.3s,baz=184,slow=22,SNR=4.0							
KK31				S	Sn	07 22 19.1	+0.7
1.3nm,0.3s,baz=169,slow=19,SNR=4.9							
TKM2	**Tokmak 2**	**6.69**	**38**	⇑P	Pn	07 21 32.4	-1.6
1.8nm,0.5s							
AB31	**Akbulak array**	**13.64**	**331**	P	Pn	07 23 05.3	-3.7
0.3nm,0.6s,baz=144,slow=11,SNR=4.2							

*ATH **07** 07:20:57.3±0.2, 37°.82N×21°.08E, h5km±1km, ML3.0/18, Manual Solution by N.Liadopoulou This location: 2019/12/22 07:59:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **07** 07:20:57.3, 37°.77N×21°.11E, h0km±4km, ML3.0/9, Error ellipse: s-maj=4.2km s-min=1.0km az=139.0*
*IDC **07** 07:21:00.2±4.2, 37°.84N×21°.12E, h59km±46km, mb3.3/7, mbtmp3.5/8, ML2.2/1, MS2.7/1, Error ellipse: s-maj=29.7km s-min=25.6km az=109.0*

ISC 07 07:20:56.5±0.8, 37°.75N±0°.03×21°.08E±0°.03, h26km±6km, n77, σ1°.12/90, mb3.4/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.20**	**258**	P	**Pb**	**07 21 02.2**	**0.0**
LTHK				S	**Sb**	**07 21 06.2**	**+0.1**
7μm,0.3s							
LTHK	**Lithakia**	**0.20**	**258**	P	**Pb**	**07 21 02.2**	**0.0**
LTHK				S	**Sb**	**07 21 06.2**	**+0.1**
KRI1	**kERI**	**0.23**	**247**	P	**Pb**	**07 21 02.6**	**0.0**
KRI1				S	**Sb**	**07 21 07.1**	**+0.4**
7μm,0.6s							
RLS	**Riolos of Patr**	**0.43**	**45**	P	**Pn**	**07 21 05.8**	**-1.3**
RLS				S	**Sn**	**07 21 12.8**	**-1.4**
2μm,0.4s							
RLS	**Riolos of Patr**	**0.43**	**45**	P	**Pn**	**07 21 05.8**	**-1.3**
RLS				S	**Sb**	**07 21 11.0**	**-0.9**
PSDA	**Pessada-Kefalo**	**0.53**	**313**	P	**Pb**	**07 21 07.0**	**-0.3**
PSDA				S	**Sb**	**07 21 15.7**	**+1.0**
2μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.53**	**313**	P	**Pb**	**07 21 07.2**	**-0.2**
VLS	**Valsamata**	**0.58**	**318**	P	**Pb**	**07 21 07.6**	**-0.4**
VLS				S	**Sb**	**07 21 16.5**	**+0.6**
775nm,0.4s							
VLS	**Valsamata**	**0.58**	**318**	P	**Pb**	**07 21 07.7**	**-0.4**
VLS				S	**Sb**	**07 21 15.5**	**-0.4**
KEF4	**Livadi, Kephal**	**0.72**	**315**	P	**Pb**	**07 21 10.4**	**-0.1**
KEF4				S	**Sn**	**07 21 22.0**	**+0.7**
7μm,0.3s							
KEF4	**Livadi, Kephal**	**0.72**	**315**	P	**Pb**	**07 21 10.2**	**-0.3**
KEF3	**Kipouria, Keph**	**0.73**	**308**	P	**Pb**	**07 21 10.2**	**-0.5**
KEF3	**Kipouria, Keph**	**0.73**	**308**	P	**Pb**	**07 21 10.5**	**-0.1**
DMLN	**Damoulianata-K**	**0.74**	**311**	P	**Pb**	**07 21 10.7**	**-0.1**
DMLN	**Damoulianata-K**	**0.74**	**311**	P	**Pn**	**07 21 11.5**	**+0.2**
FSK	**Fiskardo**	**0.82**	**330**	P	**Pn**	**07 21 12.1**	**-0.2**
FSK				S	**Sn**	**07 21 26.5**	**+2.9**
1μm,0.5s							
FSK	**Fiskardo**	**0.82**	**330**	P	**Pn**	**07 21 12.1**	**-0.2**
LAKA	**Lakka**	**0.86**	**55**	P	**Pn**	**07 21 12.8**	**-0.2**
LAKA	**Lakka**	**0.86**	**55**	P	**Pn**	**07 21 12.8**	**-0.2**
KLV	**Kalavryta, Ach**	**0.90**	**71**	P	**Pn**	**07 21 13.4**	**-0.1**
KLV	**Kalavryta, Ach**	**0.90**	**71**	P	**Pn**	**07 21 13.4**	**-0.1**
EVGI	**Lefkada island**	**0.93**	**339**	P	**Pn**	**07 21 13.8**	**-0.1**
EVGI	**Lefkada island**	**0.93**	**339**	P	**Pn**	**07 21 13.9**	**-0.1**
PVO	**Paravola**	**0.94**	**22**	P	**Pn**	**07 21 13.4**	**-0.6**
PVO				S	**Sn**	**07 21 28.9**	**+2.4**
3μm,0.3s							
PVO	**Paravola**	**0.94**	**22**	P	**Pn**	**07 21 13.6**	**-0.3**
EFP	**Efpalio**	**0.94**	**44**	P	**Pn**	**07 21 14.0**	**0.0**
EFP	**Efpalio**	**0.94**	**44**	P	**Pn**	**07 21 14.3**	**+0.3**
ALIK	**Aliki, Aigiali**	**0.96**	**58**	P	**Pn**	**07 21 14.7**	**+0.4**
TRIZ	**Trizonia**	**1.00**	**52**	P	**Pn**	**07 21 14.9**	**+0.1**
PYL	**PYLOS**	**1.00**	**148**	P	**Pb**	**07 21 15.8**	**+0.6**
PYL	**PYLOS**	**1.00**	**148**	P	**Pb**	**07 21 16.2**	**+1.0**
NYDR	**Nydri-Lefkada**	**1.01**	**343**	P	**Pn**	**07 21 14.9**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.01**	**343**	P	**Pn**	**07 21 15.0**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.01**	**337**	P	**Pn**	**07 21 15.1**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.01**	**337**	P	**Pn**	**07 21 15.2**	**+0.1**
GUR	**Goura**	**1.02**	**79**	P	**Pn**	**07 21 15.4**	**+0.2**
GUR	**Goura**	**1.02**	**79**	P	**Pn**	**07 21 16.1**	**+0.9**
KALE	**Kalithea**	**1.05**	**52**	P	**Pn**	**07 21 15.9**	**+0.2**
KALE	**Kalithea**	**1.05**	**52**	P	**Pn**	**07 21 15.9**	**+0.2**
ANX	**Ano Chora**	**1.07**	**38**	P	**Pn**	**07 21 16.4**	**+0.4**
ANX	**Ano Chora**	**1.07**	**38**	P	**Pn**	**07 21 16.6**	**+0.7**
TSLK	**Tsoukalades, L**	**1.12**	**343**	P	**Pb**	**07 21 17.5**	**+0.2**
TSLK				S	**Sn**	**07 21 36.4**	**+5.2**
1μm,0.5s							
TSLK	**Tsoukalades, L**	**1.12**	**343**	P	**Pb**	**07 21 17.1**	**-0.2**
THAL	**Thalero**	**1.29**	**77**	P	**Pb**	**07 21 21.8**	**+1.8**
EVR	**Evrytania**	**1.30**	**26**	P	**Pb**	**07 21 21.6**	**+1.3**
MAKR	**Makrakomi, Fth**	**1.51**	**33**	P	**Pb**	**07 21 24.9**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.51**	**33**	P	**Pb**	**07 21 24.5**	**+0.6**
LOUT	**Loutraki**	**1.52**	**80**	P	**Pb**	**07 21 25.3**	**+1.3**
AXAR	**Agios Charalam**	**1.61**	**50**	P	**Pb**	**07 21 25.1**	**-0.4**
AXAR	**Agios Charalam**	**1.61**	**50**	P	**Pb**	**07 21 25.1**	**-0.4**
EPID	**Epidavros**	**1.62**	**94**	P	**Pb**	**07 21 26.7**	**+0.9**
KRND	**KRANIDI**	**1.69**	**102**	P	**Pb**	**07 21 28.2**	**+1.4**
VIL2	**Platees**	**1.79**	**74**	P	**Pb**	**07 21 29.5**	**+0.9**
VILL	**Villia**	**1.81**	**76**	P	**Pb**	**07 21 29.7**	**+0.7**
THL	**Klokotos Trika**	**1.96**	**22**	P	**Pb**	**07 21 31.9**	**+0.5**
ATHU	**Athens Univers**	**2.15**	**83**	P	**Pb**	**07 21 34.4**	**-0.4**
VLY	**Voula,Athens**	**2.15**	**86**	P	**Pb**	**07 21 33.7**	**-1.1**
DION	**Dionisos Attik**	**2.28**	**81**	P	**Pb**	**07 21 36.9**	**-0.1**
DION	**Dionisos Attik**	**2.28**	**81**	P	**Pb**	**07 21 36.1**	**-0.9**
NEO	**Neokhori**	**2.29**	**47**	P	**Pb**	**07 21 35.6**	**-1.6**
IDI	**Anoyia**	**3.93**	**128**	P	**Pn**	**07 21 58.5**	**+3.3**
0.2nm,0.3s,baz=337,slow=21,SNR=1.5							
IDI				S	**Sn**	**07 22 38.5**	**-2.0**
3.1nm,0.3s,baz=353,slow=17,SNR=2.0							
3.2nm,0.5s							
STON	**Ston**	**5.73**	**334**	*e*Pn	**Pn**	**07 22 19.7**	**-0.2**
LSTV	**Lastovo**	**5.95**	**329**	*e*Pn	**Pn**	**07 22 22.6**	**-0.3**
RICI	**Ricice**	**6.47**	**334**	*e*Pn	**Pn**	**07 22 30.1**	**0.0**
KIJV	**Kijevo**	**7.18**	**332**	*e*Pn	**Pn**	**07 22 40.4**	**+0.6**
ZIRJ	**Zirje**	**7.20**	**327**	*e*Pn	**Pn**	**07 22 40.1**	**+0.1**
ZIRJ				Sn	**Sn**	**07 23 57.1**	**-3.8**
MORI	**Morici**	**7.34**	**328**	*e*Pn	**Pn**	**07 22 42.8**	**+0.8**
DUGI	**Dugi Otok**	**7.72**	**326**	*e*Pn	**Pn**	**07 22 48.0**	**+0.8**
PLIT	**Plitvice**	**8.22**	**332**	*e*Pn	**Pn**	**07 22 55.2**	**+1.2**
AKASG	**Malin Array Be**	**14.19**	**22**	LR	LR	07 30 59.7	
comp=Z,36nm,21.3s,baz=258,slow=42							
HFS	**Hagfors**	**22.89**	**350**	P	**P**	**07 25 57.7**	**-0.2**
5.0nm,1.2s,baz=152,slow=9.6,SNR=5.6							
5.0nm,1.2s							
FINES	**FINESS Array B**	**23.92**	**6**	P	**P**	**07 26 07.6**	**-0.5**
0.9nm,0.7s,baz=181,slow=9.7,SNR=4.0							
0.9nm,0.7s							
NOA	**NORSAR Array B**	**24.12**	**348**	P	**P**	**07 26 09.6**	**-0.4**
0.5nm,0.7s,baz=160,slow=8.6,SNR=1.9							
0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**29.98**	**220**	P	**P**	**07 27 04.0**	**+1.1**
0.3nm,0.5s,baz=46,slow=9.2,SNR=1.5							
0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**42.13**	**53**	P	**P**	**07 28 46.0**	**-0.4**
0.3nm,0.4s,baz=286,slow=8.8,SNR=4.7							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**45.15**	**58**	P	**P**	**07 29 10.2**	**-0.6**
0.2nm,0.3s,baz=282,slow=6.6,SNR=2.6							
0.2nm,0.3s							
ZALV	**Zalesovo Beam**	**45.65**	**48**	P	**P**	**07 29 13.5**	**-1.1**
1.2nm,0.4s,baz=280,slow=8.6,SNR=4.2							
1.2nm,0.4s							

*NNC **07** 07:28:59.4±0.3, 50°.11N×79°.03E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=10.0km s-min=1.8km az=60.0, Suspected Mining explosion.*
*IDC **07** 07:28:59.8±1.0, 50°.04N×78°.70E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=9.4km s-min=6.2km az=62.0*

ISC 07 07:28:59.7±1.4, 50°.00N±0°.05×78°.6E±0°.2, h0km, n16, σ0°.71/29, 15C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**353**	⇑P	**Pg**	**07 29 10.5**	**-0.5**
KUR07				⇓S	**Sg**	**07 29 19.6**	**+1.0**
KUR06	**Kurchatov Arra**	**0.61**	**353**	⇑P	**Pg**	**07 29 10.9**	**-0.5**
KUR06				⇓S	**Sg**	**07 29 20.1**	**+0.8**
KUR14	**Kurchatov Arra**	**0.62**	**358**	⇑P	**Pg**	**07 29 10.9**	**-0.6**
KUR14				⇓S	**Sg**	**07 29 19.6**	**+0.1**
KUR15	**Kurchatov Arra**	**0.62**	**356**	⇑P	**Pg**	**07 29 10.9**	**-0.7**
KUR15				⇓S	**Sg**	**07 29 19.7**	**+0.1**
KURBB	**Kurchatov Arra**	**0.63**	**354**	⇑P	**Pg**	**07 29 11.2**	**-0.5**
9.2nm,0.3s							
KURBB				⇓S	**Sg**	**07 29 20.2**	**+0.3**
18nm,0.4s							
KURBB	**Kurchatov Arra**	**0.63**	**354**	Pg	**Pg**	**07 29 11.3**	**-0.4**
1.4nm,0.3s,baz=165,slow=18,SNR=34							
KURBB				Lg	Lg	07 29 19.8	
1.4nm,0.3s,baz=172,slow=34,SNR=10							
KUR16	**Kurchatov Arra**	**0.64**	**352**	⇑P	**Pg**	**07 29 11.3**	**-0.5**
KUR16				⇑S	**Sg**	**07 29 20.2**	**+0.2**
KUR17	**Kurchatov Arra**	**0.64**	**351**	⇑P	**Pg**	**07 29 11.7**	**-0.3**
KUR17				⇑S	**Sg**	**07 29 21.1**	**+0.8**
KUR05	**Kurchatov Arra**	**0.65**	**355**	⇑P	**Pg**	**07 29 11.5**	**-0.5**
KUR05				⇑S	**Sg**	**07 29 20.2**	**-0.2**
KUR04	**Kurchatov Arra**	**0.67**	**355**	⇓P	**Pg**	**07 29 11.7**	**-0.8**
KUR04				⇑S	**Sg**	**07 29 20.6**	**-0.5**
KURK	**Kurchatov**	**0.72**	**359**	⇓P	**Pg**	**07 29 12.4**	**-1.1**
3.7nm,0.3s							
KURK				⇓S	**Sg**	**07 29 21.8**	**-0.9**
27nm,0.8s							
MAKZ	**Makanchi**	**3.89**	**144**	⇓Lg	Lg	07 30 59.8	
3.2nm,0.6s							
MK31	**Makanchi Array**	**4.03**	**141**	⇑Pn	**Pn**	**07 30 03.4**	**+0.8**
baz=320,slow=10,SNR=13							
MK31				⇑Pg	**Pb**	**07 30 11.5**	**0.0**
0.4nm,0.3s,baz=324,slow=15,SNR=7.8							
MK31				⇑Sn	**Sn**	**07 30 50.4**	**-0.1**
0.2nm,0.3s,baz=324,slow=23,SNR=4.8							
MK31				⇓Lg	Lg	07 31 04.6	
2.0nm,0.5s,baz=336,slow=27,SNR=12							
MKAR	**Makanchi Array**	**4.03**	**141**	Pn	**Pn**	**07 30 03.6**	**+1.0**
0.3nm,0.3s,baz=320,slow=10,SNR=11							
MKAR				Pg	**Pb**	**07 30 09.9**	**-1.6**
0.5nm,0.3s,baz=321,slow=14,SNR=10							
MKAR				Sn	**Sn**	**07 30 51.1**	**+0.6**
0.1nm,0.3s,baz=326,slow=14,SNR=1.9							
MKAR				Lg	Lg	07 31 04.5	
1.0nm,0.3s,baz=330,slow=33,SNR=12							
0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**5.50**	**42**	Pn	**Pn**	**07 30 23.7**	**+0.9**
0.5nm,0.3s,baz=229,slow=14,SNR=4.3							
ZALV				Sn	**Sn**	**07 31 27.1**	**+0.4**
0.2nm,0.3s,baz=215,slow=18,SNR=1.3							
ZALV				Lg	Lg	07 31 50.2	
baz=222,slow=23							
1.0nm,0.3s							
I46RU	**ZALESOVO INFRA**	**5.50**	**42**	I	I	08 01 00.0	
baz=225,slow=331,SNR=3.4							

*IDC **07** 07:30:39.0±0.8, 5°.60S×153°.05E, h0km, mb4.0/13, mbtmp4.0/14, ML1.9/1, MS3.1/5, Error ellipse: s-maj=21.4km s-min=15.6km az=84.0*

ISC 07 07:30:44.4±0.7, 5°.63S±0°.07×153°.0E±0°.1, h37km, n21, σ0°.79/21, mb4.1/12, MS3.2/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.66**	**322**	Pn	**Pn**	**07 31 09.6**	**-1.4**
55nm,0.3s,baz=152,slow=0.1,SNR=27							
KRVT				Sn	**Sn**	**07 31 31.7**	**+0.7**
142nm,0.3s,baz=202,slow=0.2,SNR=8.1							
KRVT				LR	LR	07 31 52.8	
comp=Z,458nm,20.8s,baz=237,slow=45							
PMG	**Port Moresby**	**6.94**	**237**	Pn	**Pn**	**07 32 22.7**	**-0.9**
1.3nm,0.3s,baz=282,slow=12,SNR=1.9							
PMG				Sn	**Sn**	**07 33 41.5**	**+0.3**
3.1nm,0.3s,baz=93,slow=21,SNR=8.6							
8.2nm,0.5s							
CTA	**Charters Tower**	**15.82**	**204**	LR	LR	07 38 42.9	
comp=Z,33nm,20.7s,baz=348,slow=30							
GUMO	**Guam**	**20.74**	**337**	LR	LR	07 42 21.2	
comp=Z,18nm,19.1s,baz=108,slow=34							
DZM	**Mont Dzumac**	**20.86**	**143**	P	**P**	**07 35 23.5**	**+0.1**
4.4nm,0.8s,baz=57,slow=15,SNR=1.8							
DZM				LR	LR	07 42 17.1	
comp=Z,50nm,20.9s,baz=236,slow=33							
4.4nm,0.8s							
SIJI	**Sorong**	**22.24**	**281**	P	**P**	**07 35 38.8**	**+0.5**
4.2nm,0.4s,baz=234,slow=22,SNR=1.9							
4.2nm,0.4s							
WRA	**Warramunga Arr**	**23.09**	**230**	P	**P**	**07 35 47.1**	**0.0**
5.8nm,1.0s,baz=54,slow=10.0,SNR=24							
WRA				PcP	**PcP**	**07 39 36.6**	**+1.1**
0.6nm,0.8s,baz=62,slow=2.0,SNR=4.1							
5.8nm,1.0s							
ASAR	**Alice Springs**	**25.72**	**224**	P	**P**	**07 36 10.9**	**-0.5**
2.0nm,0.8s,baz=57,slow=8.5,SNR=19							
ASAR				PcP	**PcP**	**07 39 42.5**	**+1.3**
0.3nm,0.6s,baz=64,slow=2.2,SNR=2.7							
2.0nm,0.8s							
STKA	**Stephens Creek**	**28.23**	**201**	P	**P**	**07 36 32.8**	**-1.2**
5.3nm,1.1s,baz=32,slow=19,SNR=2.9							
5.3nm,1.1s							
RPZ	**Rata Peaks**	**41.12**	**160**	LR	LR	07 55 38.3	
comp=Z,57nm,18.1s,baz=300,slow=36							
CMAR	**Chiang Mai Arr**	**58.45**	**296**	P	**P**	**07 40 38.2**	**+1.2**
1.1nm,0.3s,baz=116,slow=4.7,SNR=4.9							
1.1nm,0.3s							
PETK	**Petropavlovsk-**	**58.65**	**3**	P	**P**	**07 40 37.8**	**+0.1**
2.3nm,0.6s,baz=152,slow=6.4,SNR=4.9							
2.3nm,0.6s							
KDAK	**Kodiak Island**	**76.80**	**27**	LR	LR	08 09 21.3	
comp=Z,54nm,21.3s,baz=228,slow=30							
MKAR	**Makanchi Array**	**81.10**	**319**	P	**P**	**07 42 55.9**	**-0.1**
0.4nm,0.8s,baz=93,slow=5.7,SNR=2.6							
0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**81.97**	**326**	P	**P**	**07 43 00.3**	**-0.1**
0.4nm,0.4s,baz=114,slow=6.5,SNR=1.9							
0.4nm,0.4s							
ILAR	**Eielson Array**	**82.83**	**22**	P	**P**	**07 43 03.8**	**-0.8**
0.2nm,0.7s,baz=238,slow=5.0,SNR=4.3							
0.2nm,0.7s							
QSPA	**South Pole Qui**	**84.34**	**180**	P	**P**	**07 43 13.4**	**+0.9**
1.3nm,0.7s,baz=317,slow=0.8,SNR=9.0							
1.3nm,0.7s							
KURBB	**Kurchatov Arra**	**84.59**	**322**	P	**P**	**07 43 13.6**	**-0.3**
0.5nm,0.8s,baz=106,slow=4.1,SNR=4.4							
0.5nm,0.8s							
BVAR	**Borovoye Array**	**90.04**	**323**	P	**P**	**07 43 39.8**	**-0.5**
0.5nm,0.4s,baz=101,slow=6.2,SNR=3.6							
0.5nm,0.4s							
BDFB	**Brasilia**	**150.31**	**136**	PKPbc	**PKiKP**	**07 50 34.1**	**+0.4**
4.9nm,1.0s,baz=63,slow=5.7,SNR=4.4							
TORD	**Torodi Ar. Bea**	**150.78**	**287**	PKPbc	**PKiKP**	**07 50 34.4**	**-0.2**
1.3nm,0.7s,baz=74,slow=3.5,SNR=5.1							

IDC 07 07:35:17.0±6.2, 39°.02N×110°.52E, h0km, mb3.3/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=131.7km s-min=29.9km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.31**	**343**	Pn	Pn	07 37 32.5	0.0
0.5nm,0.3s,baz=165,slow=12,SNR=3.6							
0.7nm,0.4s							
MKAR	**Makanchi Array**	**22.01**	**300**	P	P	07 40 12.8	0.0
1.1nm,0.9s,baz=96,slow=13,SNR=5.7							
1.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**22.82**	**209**	P	P	07 40 21.6	0.0
1.1nm,0.3s,baz=15,slow=10,SNR=8.6							
1.1nm,0.3s							
KURBB	**Kurchatov Arra**	**25.29**	**308**	P	P	07 40 44.8	0.0
0.2nm,0.7s,baz=104,slow=8.5,SNR=1.9							
0.2nm,0.7s							

*IDC **07** 08:23:54.6±1.8, 10°.04S×152°.51E, h0km, mb3.7/6, mbtmp3.8/6, MS3.2/3, Error ellipse: s-maj=71.4km s-min=25.5km az=120.0*

ISC 07 08:23:59.8±1.6, 10°.1S±0°.3×152°.5E±0°.4, h35km, n10, σ0°.50/7, mb3.8/5, D'Entrecasteaux Islands region

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

KARP	Karpathos	0.86	88	P		Pb	08 31 23.2	-0.6
KARP	Karpathos	0.86	88	P		Pn	08 31 23.5	-0.7
KARP				AML	AML		08 31 37.1	
	comp=N,9520μm,0.5s							
KARP				AML	AML		08 31 37.6	
	comp=E,10600μm,0.6s							
KSTL	Kastelli Herak	0.88	256	P		Pb	08 31 21.9	-2.2
SANT	Santorini	1.00	328	P		Pb	08 31 25.2	-1.1
SANT				S		Sb	08 31 37.7	-1.4
	comp=E,4μm,0.4s							
SANT	Santorini	1.00	328	P		Pb	08 31 25.4	-0.9
SANT				AML	AML		08 31 39.5	
	comp=E,8827μm,0.5s							
SANT				AML	AML		08 31 40.4	
	comp=N,6426μm,0.3s							
THR6	Thira Island,	1.02	326	P		Pb	08 31 25.7	-0.8
THR6	Thira Island,	1.02	326	P		Pb	08 31 26.1	-0.4
IDI	Anoyia	1.02	257	P		Pn	08 31 26.0	-0.5
IDI				S		Sn	08 31 39.7	-0.5
	comp=N,1μm,0.3s							
IDI	Anoyia	1.02	257	P		Pn	08 31 26.3	-0.2
IDI	Anoyia	1.02	257	P		Pn	08 31 26.4	-0.2
IDI				AML	AML		08 31 43.3	
	comp=E,2816μm,0.5s							
IDI				AML	AML		08 31 44.0	
	comp=N,2244μm,0.3s							
THR8	Santorini-Mono	1.02	330	P		Pb	08 31 25.6	-1.0
THR8	Santorini-Mono	1.02	330	P		Pb	08 31 25.8	-0.8
THR9	Santorini-Faro	1.04	324	P		Pb	08 31 25.6	-1.2
THR9	Santorini-Faro	1.04	324	P		Pb	08 31 26.2	-0.6
THR3	Thira Island,	1.06	327	P		Pn	08 31 26.6	-0.4
THR3	Thira Island,	1.06	327	P		Pn	08 31 26.8	-0.2
CMBO	Columbo, Santo	1.11	329	P		Pn	08 31 27.4	-0.3
CMBO				S		Sb	08 31 41.2	-0.9
	comp=N,7μm,0.5s							
CMBO	Columbo, Santo	1.11	329	P		Pb	08 31 27.9	-0.2
CMBO				AML	AML		08 31 43.5	
	comp=E,15178μm,0.4s							
CMBO				AML	AML		08 31 45.4	
	comp=N,18340μm,0.4s							
TMBK	Timbaki Herakl	1.19	248	P		Pb	08 31 29.4	+0.1
TMBK				S		Sn	08 31 45.6	+1.5
	comp=N,928nm,0.7s							
TMBK	Timbaki Herakl	1.19	248	P		Pb	08 31 28.7	-0.6
TMBK				AML	AML		08 31 49.0	
	comp=E,6597μm,0.5s							
TMBK				AML	AML		08 31 49.4	
	comp=N,4681μm,0.4s							
PRNS	Prines Rethymn	1.32	264	P		Pn	08 31 30.4	-0.2
PRNS				S		Sb	08 31 51.4	+3.2
	comp=N,585nm,0.4s							
NISR	Nisiros	1.37	37	P		Pb	08 31 32.7	+0.2
NISR	Nisiros	1.37	37	P		Pb	08 31 32.1	-0.4
NISR				AML	AML		08 31 56.5	
	comp=E,6826μm,0.4s							
NISR				AML	AML		08 31 57.5	
	comp=N,6946μm,0.3s							
KLNA	Kalymnos	1.60	26	P		Pn	08 31 35.1	+0.8
APE	Apeiranthos	1.62	343	P		Pn	08 31 34.0	-0.7
APE	Apeiranthos	1.62	343	P		Pn	08 31 34.1	-0.7
APE				AML	AML		08 31 60.0	
	comp=E,1163μm,0.5s							
APE				AML	AML		08 32 04.5	
	comp=N,1238μm,0.7s							
IMMV	Iera Moni Meta	1.74	269	P		Pn	08 31 36.1	-0.2
IMMV	Iera Moni Meta	1.74	269	P		Pn	08 31 36.4	0.0
IMMV				AML	AML		08 32 08.2	
	comp=N,1244μm,0.6s							
IMMV				AML	AML		08 32 13.9	
	comp=E,1564μm,0.9s							
ARG	Arkhangelos	1.78	66	P		Pn	08 31 37.0	+0.1
ARG				S		Sn	08 31 57.0	-1.8
	comp=E,850nm,0.8s							
ARG	Arkhangelos	1.78	66	P		Pn	08 31 37.1	+0.1
ARG				AML	AML		08 32 06.8	
	comp=N,1607μm,0.9s							
ARG				AML	AML		08 32 06.9	
	comp=E,1455μm,0.4s							
GVD	Gavdhos	1.79	248	P		Pb	08 31 38.5	-1.1
RODP	Rodopos	1.92	272	P		Pn	08 31 39.3	+0.5
DDIM	Aydin, Didim	2.14	25	P		Pb	08 31 45.6	0.0
DDIM				S		Sb	08 32 10.5	-1.2
DDIM				*i* AML	AML		08 32 20.0	
	comp=E,253nm,0.7s							
DDIM				*i* AML	AML		08 32 31.0	
	comp=E,233nm,1.2s							
SMG	Samos	2.26	15	P		Pn	08 31 42.8	-0.8
SMG	Samos	2.26	15	P		Pn	08 31 42.8	-0.8
ANKY	Antikythira Is	2.31	279	P		Pn	08 31 43.9	-0.3
ANKY	Antikythira Is	2.31	279	P		Pn	08 31 44.0	-0.3
MULA	Mugla, Merkez-	2.49	45	P		Pn	08 31 48.2	+1.5
MULA				S		Sn	08 32 16.4	0.0
MULA				*i* AML	AML		08 32 41.0	
	comp=E,61nm,0.7s							
MULA				*i* AML	AML		08 32 48.0	
	comp=E,52nm,0.7s							
KTHA	Kythira Island	2.58	287	P		Pn	08 31 47.7	-0.3
KTHA	Kythira Island	2.58	287	P		Pn	08 31 47.9	-0.1
ZEYE	Izmir, Urla-Ze	2.73	6	S		Sb	08 32 30.8	+2.0
VLI	Veliai	2.83	296	P		Pn	08 31 51.5	+0.1
TAVA	DENIZLI_Tavas	2.98	48	P		Pn	08 31 55.4	+1.9
TAVA				S		Sn	08 32 30.2	+1.6
TAVA				*i* AML	AML		08 32 52.0	
	comp=E,41nm,0.5s							
IZMR	zmir-demi	3.00	29	S		Sb	08 32 36.7	+0.2
DNIZ	Denizli-Tavas-	3.16	47	P		Pn	08 31 58.7	+2.7
DNIZ				S		Sn	08 32 35.4	+2.4
DNIZ				*i* AML	AML		08 32 50.0	
	comp=E,80nm,0.4s							
DNIZ				*i* AML	AML		08 32 59.0	
	comp=E,61nm,0.5s							
AKUM	Antalya-Kumluc	3.53	76	P		Pn	08 32 03.3	+2.4
AKUM				S		Sn	08 32 38.0	-3.9
AKUM				*i* AML	AML		08 32 54.0	
	comp=E,20nm,0.5s							
CSS	Mathiatis	5.93	93	P		Pn	08 32 36.8	+2.8
BRTR	Keskin Array B	7.30	53	Pn		Pn	08 32 55.0	+2.0
	comp=E,0.2nm,0.3s,baz=217,slow=14,SNR=6.6							
	comp=E,1.1nm,0.6s							
MDBI	Mazsada	8.79	116	P		Pn	08 33 13.5	+0.3
WALJ	Wala	9.01	113	P		Pn	08 33 16.1	0.0
PRNI	Paran	9.07	122	P		Pn	08 33 20.2	+3.0
MBRI	Mt Berech	9.36	125	P		Pn	08 33 24.1	+3.0
EIL	Elat	9.46	126	P		Pn	08 33 27.3	+4.9
AKASG	Malin Array Be	15.34	8	Pn		P	08 34 46.2	-0.8
	comp=E,0.7nm,0.3s,baz=201,slow=11,SNR=4.5							
	comp=E,0.3nm,0.3s							
TORD	Torodi Ar. Bea	31.32	231	P		P	08 37 26.9	+0.7
	comp=E,0.2nm,0.3s,baz=33,slow=8.9,SNR=2.1							
	comp=E,0.2nm,0.3s							
MKAR	Makanchi Array	42.93	57	P		P	08 39 04.4	0.0
	comp=E,1.0nm,0.4s,baz=267,slow=8.5,SNR=14							
	comp=E,1.0nm,0.4s							
ZALV	Zalesovo Beam	44.20	46	P		P	08 39 13.3	-1.2
	comp=E,0.8nm,0.5s,baz=271,slow=9.1,SNR=3.5							
	comp=E,0.8nm,0.5s							

WEL ***07*** *08:38:08.4±1.3, 33°S±6°×17°8W±1°8, h33km, M5.0/19, mB5.3/7, ML4.9/9, MLv5.2/19, Mw(mB)4.7/7, Error ellipse: s-maj=0.0km s-min=0.0km az=105.7, confirmed*

NEIC ***07*** *08:38:09.5±2.7, 32°91S±0°07×178°0W±0°1, h10km±1km, mb5.0/19, Error ellipse: s-maj=20.5km s-min=11.7km az=100.0*

IDC ***07*** *08:38:09.4±0.5, 32°92S×178°39W, h0km, mb4.4/12, mbtmp4.4/14, ML4.6/2, MS4.0/24, Error ellipse: s-maj=21.3km s-min=17.4km az=91.0*

MOS ***07*** *08:38:10.3±0.9, 33°01S×178°49W, h10km, mb5.2/4, Error ellipse: s-maj=17.6km s-min=12.2km az=106.7*

GCMT ***07*** *08:38:14.5±0.5, 32°98S±0°03×177°73W±0°04, h23km±1km, MW4.9/55, Moment Tensor Solution. s34,c39; s55,c73; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.78±.21; Mθθ -0.64±.13; Mφφ -2.14±.14; Mrθ 0.04±.19; Mrφ -0.47±.08; Mθφ 1.98±.18; Best double couple: M0 3.20500×10^16 NP1: φs 201.00000°, δ 27.00000°, λ 102.00000°. Principal axes: T 3.4810, Plg 70.0000°, Azm 265.0000°; N -0.5490, Plg 5.0000°, Azm 10.0000°; P -2.9290, Plg 19.0000°, Azm 102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***07*** *08:38:16.4, 33°43S×177°96W, h68km, mb4.9/25, South of Kermadec Islands*

ISC 07 08:38:14.0±0.8, 33°07S±0°06×178°12W±0°08, h35km±3km, n219, σ1.9 32/200, mb4.9/26, MS4.1/27, 15C-12D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.80	3	P	Pn	08 39 04.7	-5.4
GLKZ				S	Sn	08 39 46.6	-7.0
RAO	Raoul Island	3.81	3	Pn	Pn	08 39 05.0	-5.3
RAO	Raoul Island	3.81	3	Pn	Pn	08 39 08.8	-1.4
	81nm,0.3s,baz=55,slow=12,SNR=4.5						
RAO				Sn	Sn	08 39 48.3	-5.5
	88nm,0.3s,baz=248,slow=22,SNR=3.5						
	335nm,0.4s						
MXZ	Matakaoa Point	5.35	212	Pn	Pn	08 39 29.8	-1.5
MXZ	Matakaoa Point	5.35	212	P	Pn	08 39 30.5	-0.8
MXZ	Matakaoa Point	5.35	212	P	Pn	08 39 29.4	-1.9
MXZ				S	Sn	08 40 32.4	+0.8
WMGZ	Waiomatatini S	5.52	210	P	Pn	08 39 32.8	-0.8
PKGZ	Pakihiroa	5.72	212	P	Pn	08 39 34.7	-1.8
PKGZ				S	Sn	08 40 40.4	-0.6
HAZ	Te Kaha	5.75	214	P	Pn	08 39 36.1	-0.7
HAZ				S	Sn	08 40 44.0	+2.5
PUZ	Puketiti	5.79	210	P	Pn	08 39 34.9	-2.6
RUGZ	Raukumara Rang	5.96	214	P	Pn	08 39 38.7	-1.2
CNGZ	Carnagh Statio	6.17	208	P	Pn	08 39 40.9	-1.7
KUZ	Kuaotunu	6.25	232	P	Pn	08 39 44.8	+1.1
KUZ	Kuaotunu	6.25	232	P	Pn	08 39 43.9	+0.2
MWZ	Matawai	6.33	213	P	Pn	08 39 42.8	-2.1
URZ	Urewera	6.47	216	P	Pn	08 39 45.8	-0.9
URZ	Urewera	6.47	216	P	Pn	08 39 45.1	-1.6
URZ	Urewera	6.47	216	Pn	Pn	08 39 45.6	-1.1
	7.8nm,0.3s,baz=140,slow=4.6,SNR=27						
URZ				Sn	Sn	08 40 58.1	-1.1
	24nm,0.3s,baz=254,slow=20,SNR=20						
	39nm,0.5s						
RAGZ	Rawiri	6.51	213	P	Pn	08 39 47.8	+0.4
RIGZ	Rimuhau	6.54	210	P	Pn	08 39 45.0	-2.7
PRGZ	Paritu Road	6.67	208	P	Pn	08 39 46.3	-3.3
SNGZ	Shannon Statio	6.78	212	P	Pn	08 39 50.1	-0.9
MUGZ	Murupara	6.80	216	P	Pn	08 39 51.1	-0.3
RTZ	Ruatahuna	6.81	214	Pn	Pn	08 39 50.3	-1.2
WCZ	Waipu Caves	6.84	243	P	Pn	08 39 53.1	+1.2
MHGZ	Mahia Peninsul	6.87	207	P	Pn	08 39 49.4	-2.8
TOZ	Tahuroa Road	6.98	226	Pn	Pn	08 39 53.8	+0.1
RAHZ	Arahi	7.01	212	P	Pn	08 39 54.3	+0.2
MTHZ	Maungataniwha	7.07	214	P	Pn	08 39 53.7	-1.3
OUZ	Omahuta	7.19	250	P	Pn	08 39 59.3	+2.6
OUZ	Omahuta	7.19	250	P	Pn	08 39 59.0	+2.3
NMHZ	Naumai	7.28	213	P	Pn	08 39 57.4	-0.5
ARHZ	Aropaoanui	7.33	211	P	Pn	08 39 56.2	-2.4
BKZ	Black Stump Fm	7.48	214	Pn	Pn	08 39 58.8	-1.9
BKZ	Black Stump Fm	7.48	214	P	Pn	08 39 59.0	-1.7
BKZ	Black Stump Fm	7.48	214	P	Pn	08 39 59.0	-1.7
MCHZ	McNeill Hill	7.61	212	P	Pn	08 40 01.2	-1.2
KWHZ	Kaweka Forest	7.72	213	P	Pn	08 40 01.8	-2.2
KAHZ	Kaharunaki	7.83	210	P	Pn	08 40 02.5	-2.9
TMVZ	Te Maari	7.83	218	P	Pn	08 40 04.9	-0.6
HIZ	Hauiti	7.87	224	Pn	Pn	08 40 06.0	0.0
HIZ	Hauiti	7.87	224	P	Pn	08 40 06.6	+0.6
HIZ	Hauiti	7.87	224	P	Pn	08 40 11.1	+5.1
KRHZ	Kereru	7.92	213	P	Pn	08 40 04.5	-2.2
BHHZ	Black Hill Sta	7.94	215	P	Pn	08 40 05.6	-1.4
WNVZ	Wahianoa	8.04	217	P	Pn	08 40 08.6	+0.1
WAZ	Wanganui	8.68	218	P	Pn	08 40 17.5	+0.4
BFZ	Birch Farm	8.83	209	P	Pn	08 40 16.5	-2.7
MRZ	Mangatainoka R	9.10	212	P	Pn	08 40 18.5	-4.3
SNZO	South Karori	10.01	213	Pn	Pn	08 40 33.7	-1.6
CTZ	Chatham Island	10.71	174	Pn	Pn	08 40 42.6	-2.2
CTZ	Chatham Island	10.71	174	P	Pn	08 40 42.7	-2.2
THZ	Tophouse	11.22	217	Pn	Pn	08 40 51.0	-1.0
THZ	Tophouse	11.22	217	P	Pn	08 40 50.0	-1.9
KHZ	Kahutara	11.42	213	P	Pn	08 40 53.3	-1.3
INZ	Inchbonnie	12.67	217	Pn	Pn	08 41 10.7	-0.9
OXZ	Oxford	12.82	214	P	Pn	08 41 10.9	-2.8
RPZ	Rata Peaks	13.59	215	Pn	Pn	08 41 19.8	-4.4
	1.2nm,0.3s,baz=38,slow=14,SNR=2.0						
RPZ				Sn	Sn	08 43 39.8	-14
	0.8nm,0.3s,baz=308,slow=21,SNR=3.6						
ODZ	Otahua Downs	14.78	213	P	Pn	08 41 38.7	-1.7
JCZ	Jackson Bay	15.00	219	P	Pn	08 41 41.3	-2.1
MSVF	Nonsavu	15.66	346	P	Pn	08 41 52.5	+0.3
MSVF				IAmb	IAmb	08 41 55.9	
	comp=Z,131nm,1.9s						
MSVF	Nonsavu	15.66	346	P	Pn	08 41 52.5	+0.3
MSVF				pmax	pmax		
	comp=Z,131nm,1.9s						
MSVF	Nonsavu	15.66	346	Pn	Pn	08 41 51.2	-1.0
	comp=Z,0.4nm,0.3s,baz=209,slow=18,SNR=2.1						
OUENC	Ouen Island, N	17.00	305	P	Pn	08 42 08.0	-1.1
OUENC				IAmb	IAmb	08 42 14.3	
	comp=Z,121nm,1.2s						
OUENC	Ouen Island, N	17.00	305	P	P	08 42 13.1	+2.4
DZM	Mont Dzumac	17.51	305	*e*Pn	Pn	08 42 13.3	-2.2
	comp=Z,124nm,1.1s						
DZM				*e*LR	LR	08 46 26.6	
	comp=Z,1μm,24.8s						
DZM	Mont Dzumac	17.51	305	P	Pn	08 42 15.5	0.0
DZM	Mont Dzumac	17.51	305	P	P	08 42 20.0	+3.6
DZM	Mont Dzumac	17.51	305	P	P	08 42 17.2	+0.8
	comp=Z,45nm,0.9s,baz=115,slow=15,SNR=18						
DZM				LR	LR	08 47 43.2	
	comp=Z,1μm,18.2s,baz=122,slow=33						
KOUNC	Koumac, New Ca	20.02	304	P	P	08 42 41.8	-2.1
KOUNC				IAmb	IAmb	08 42 46.5	
	comp=Z,58nm,1.0s						
TBI	Tubuai	26.98	76	*e*LQ	LQ	08 49 00.0	
	comp=Z,2μm,26.8s						
TBI				*e*LR	LR	08 50 15.7	
	comp=Z,10μm,21.5s						
TBI				*e*LR	LR	08 50 24.9	
	comp=Z,1μm,21.5s						
EIDS	Eidsvold	27.88	278	P	P	08 44 00.9	+0.2
PPT2	Papeete2	29.93	66	*e*S	S	08 49 02.5	-12
	comp=Z,73nm,24.2s						
PPT2				*e*LQ	LQ	08 50 06.5	
	comp=Z,411nm,24.0s						
PPT2				*e*LR	LR	08 51 43.0	
	comp=Z,433nm,20.8s						
PPT2				*e*LR	LR	08 51 50.5	
	comp=Z,373nm,21.0s						
CMSA	Cobar Meteorol	30.53	263	P	P	08 44 26.1	+2.0
ARPS	Mount Arapiles	32.87	252	P	P	08 44 45.0	+0.3
STKA	Stephens Creek	33.86	261	P	P	08 44 52.4	-1.0
	comp=Z,2.2nm,0.8s,baz=62,slow=9.6,SNR=4.7						
STKA				LR	LR	08 58 05.9	
	comp=Z,621nm,18.4s,baz=76,slow=36						
	comp=Z,2.2nm,0.8s						
CTA	Charters Tower	34.22	283	P	P	08 44 56.7	+0.2
CTA	Charters Tower	34.22	283	LR	LR	08 58 15.0	
	comp=Z,263nm,18.7s,baz=88,slow=36						
CTAO	Charters Tower	34.22	283	P	P	08 44 56.5	0.0
CTAO	Charters Tower	34.22	283	P	P	08 44 56.5	0.0
CTAO				pmax	pmax		
	comp=Z,85nm,1.9s						
INKA	Innaminka	35.71	267	P	P	08 45 10.6	+1.3
HTT	Hallett	35.74	257	P	P	08 45 09.6	0.0
LCRK	Leigh Creek	37.02	262	P	P	08 45 20.5	0.0
QIS	Mount Isa	39.48	278	P	P	08 45 41.5	+0.1
OOD	Oodnadatta	39.93	265	P	P	08 45 44.9	0.0
COEN	Coen	39.98	289	P	P	08 45 45.0	-0.5
COEN				IAmb	IAmb	08 46 14.2	
	comp=Z,45nm,1.6s						
MULG	Mulgathing	40.52	261	P	P	08 45 48.5	-1.3
TAOE	Nuku Hiva Isla	42.51	64	*e*LR	LR	08 57 33.3	
	comp=Z,284nm,21.4s						
AS31	Alice Springs	42.93	270	P	P	08 46 08.2	-1.5
ASAR	Alice Springs	42.93	270	P	P	08 46 07.5	-2.2
ASAR	Alice Springs	42.93	270	P	P	08 46 08.5	-1.1
	comp=Z,13nm,0.8s,baz=110,slow=7.9,SNR=138						
ASAR				PcP	PcP	08 47 59.2	-0.8
	comp=Z,1.2nm,0.8s,baz=108,slow=3.2,SNR=1.4						
ASAR				LR	LR	09 04 32.1	
	comp=Z,269nm,18.1s,baz=124,slow=37						
	comp=Z,13nm,0.8s						
WRAB	Tennant Creek	44.16	275	P	P	08 46 18.1	-1.4
WRAB				IAmb	IAmb	08 46 19.1	
	comp=Z,40nm,1.2s						
WRAB	Tennant Creek	44.16	275	P	P	08 46 18.2	-1.4
WRAB	Tennant Creek	44.16	275	*c i*P	P	08 46 17.7	-1.8
WRAB				pmax	pmax		
	comp=Z,36nm,1.3s						
WRA	Warramunga Arr	44.16	275	P	P	08 46 18.1	-1.5
	comp=Z,10nm,0.5s,baz=116,slow=7.7,SNR=72						
	comp=Z,10nm,0.5s						
WB0	Warramunga Arr	44.19	275	P	P	08 46 18.4	-1.5
WB0				IAmb	IAmb	08 46 19.3	
	comp=Z,49nm,1.2s						
FORT	Forrest	45.32	258	P	P	08 46 27.2	-1.5
FORT	Forrest	45.32	258	P	P	08 46 27.2	-1.5
WRKA	Warakurna	47.10	265	P	P	08 46 41.0	-1.8
JAY	Jayapura	49.07	299	LR	LR	09 04 59.6	
	comp=Z,136nm,21.1s,baz=156,slow=33						
MTN	Manton Dam	50.35	281	P	P	08 47 06.2	-1.6
MTN				IAmb	IAmb	08 47 35.2	
	comp=Z,26nm,1.4s						
KNRA	Kununurra	50.85	277	P	P	08 47 10.5	-1.1
KNRA				IAmb	IAmb	08 47 11.3	
	comp=Z,20nm,1.0s						
KNRA	Kununurra	50.85	277	P	P	08 47 10.8	-0.8
CASY	Casey	52.74	209	P	P	08 47 25.1	0.0
CASY				IAmb	IAmb	08 47 48.9	
	comp=Z,14nm,1.0s						
NWAO	Narrogin (SRO)	53.40	251	LR	LR	09 10 28.5	
	comp=Z,305nm,18.1s,baz=103,slow=36						
QSPA	South Pole Qui	57.05	180	P	P	08 47 58.8	+2.5
QSPA				IAmb	IAmb	08 48 10.9	
	comp=Z,15nm,0.8s						
QSPA	South Pole Qui	57.05	180	P	P	08 47 59.1	+2.8
	comp=Z,3.3nm,0.6s,baz=33,slow=0.8,SNR=28						
	comp=Z,3.3nm,0.6s						
SIJI	Sorong	57.25	293	LR	LR	09 12 08.3	
	comp=Z,185nm,19.4s,baz=121,slow=36						
SOEI	Soe	57.67	280	P	P	08 48 01.2	-0.3
BATI	Baumata	57.93	279	LR	LR	09 13 55.5	
	comp=Z,122nm,18.1s,baz=116,slow=37						
GUMO	Guam	58.32	317	LR	LR	09 11 07.9	
	comp=Z,44nm,18.3s,baz=94,slow=34						
RPN	Rapa Nui	58.86	104	LR	LR	09 10 08.3	
	comp=Z,263nm,18.0s,baz=244,slow=32						
MMRI	Maumere	59.96	280	P	P	08 48 15.3	-1.9
KAPI	Kappang	64.01	282	LR	LR	09 17 19.7	
	comp=Z,176nm,18.9s,baz=117,slow=37						
DAV	Davao City (W)	66.67	296	LR	LR	09 17 34.6	
	comp=Z,59nm,20.2s,baz=152,slow=36						
MAW	Mawson	69.78	201	P	P	08 49 21.8	+1.5
MAW	Mawson	69.78	201	P	P	08 49 21.8	+1.5
MAW				pmax	pmax		
	comp=Z,5.0nm,1.5s						
MAW	Mawson	69.78	201	P	P	08 49 21.6	+1.3
	comp=Z,3.4nm,0.7s,baz=150,slow=8.1,SNR=5.3						
	comp=Z,3.4nm,0.7s						
PMSA	Palmer Station	69.88	155	LR	LR	09 16 11.8	
	comp=Z,176nm,18.0s,baz=159,slow=33						
LEM	Lembang	73.12	273	LR	LR	09 24 00.5	
	comp=Z,132nm,18.5s,baz=170,slow=38						
ELIB	Princess Elisa	74.19	187	*d*P	P	08 49 47.9	+1.1
	comp=Z,7.8nm,0.9s						
TROLL	Troll, Antarti	75.21	180	⇑P	P	08 49 54.1	+1.4
	comp=Z,156nm,0.7s						
TROLL				⇓PcP	sP	08 50 04.4	-0.5
	comp=Z,7.2nm,0.2s						
SNAA	Sanae	75.50	178	P	P	08 49 55.1	+0.9
SNAA				IAmb	IAmb	08 50 07.6	
	comp=Z,9.7nm,1.0s						
SNAA	Sanae	75.50	178	⇓*e*P	P	08 49 55.3	+1.0
SNAA				pmax	pmax		
	comp=Z,12nm,1.1s						
SNAA	Sanae	75.50	178	⇑P	P	08 49 55.5	+1.2
	comp=Z,50nm,1.0s						
SNAA				⇓PcP	sP	08 50 06.3	-0.1
	comp=Z,127nm,0.8s						
SNAA	Sanae	75.50	178	P	P	08 49 55.4	+1.1
	comp=Z,1.6nm,0.8s,baz=186,slow=12,SNR=15						
SNAA				LR	LR	09 22 37.4	
	comp=Z,223nm,18.4s,baz=218,slow=35						
	comp=Z,1.6nm,0.8s						
VNA3	Neumayer Olymp	75.65	176	⇑P	P	08 49 56.1	+1.0
	comp=Z,6.8nm,0.6s						
VNA3				⇓PcP	sP	08 50 07.7	+0.4
	comp=Z,23nm,0.8s						
VNA2	Neumayer--Watz	76.08	177	⇑P	P	08 49 58.9	+1.3
	comp=Z,5.7nm,0.7s,baz=179,slow=5.0						
VNA2				⇓PcP	sP	08 50 10.5	+0.8
	comp=Z,14nm,0.6s,baz=179,slow=3.0						
VNA1	Neumayer--Stat	76.32	177	⇑P	P	08 50 00.3	+1.5
	comp=Z,4.8nm,1.0s						
VNA1				⇓PcP	sP	08 50 11.2	+0.2
	comp=Z,20nm,1.2s						
JHJ	Hachijo jima 2	76.85	325	LR	LR	09 17 47.7	
	comp=Z,74nm,21.2s,baz=118,slow=31						
MJAR	Matsushiro Arr	80.38	326	LR	LR	09 25 37.9	
	comp=Z,21nm,18.8s,baz=140,slow=36						
PLCA	Paso Flores	80.77	133	P	P	08 50 26.5	+2.4
	comp=Z,3.2nm,0.9s,baz=264,slow=5.0,SNR=7.3						
	comp=Z,3.2nm,0.9s						
JNU	Nakatsue	81.49	319	LR	LR	09 23 34.0	
	comp=Z,37nm,19.9s,baz=55,slow=34						
KSRS	Korea Array	86.31	320	P	P	08 50 52.3	+0.2
	comp=Z,2.0nm,0.9s,baz=149,slow=5.9,SNR=7.8						
KSRS				LR	LR	09 27 34.6	
	comp=Z,53nm,18.8s,baz=145,slow=34						
	comp=Z,2.0nm,0.9s						
BFSC	Mount Baldy Ra	87.78	46	P	P	08 50 59.7	+0.1
	baz=227						
NJ2	Nanjing	87.90	311	*e*P	P	08 50 57.9	-2.1
NJ2				pP	PcP	08 51 03.1	+1.3
NJ2				sP	pP	08 51 04.2

HHC	Hu-ho-hao-te	98.01 314	*e*P	P	08 51 45.1	-1.5
HHC	Hu-ho-hao-te	98.01 314	S	S	09 03 11.8	+0.9
HHC			pmax	pmax		
	comp=Z,26nm,0.6s					
HHC			pmax	pmax		
	comp=Z,130nm,3.7s					
HHC			LR	LR		
	comp=N,220nm,16.2s					
HHC			LR	LR		
	comp=E,200nm,17.0s					
HHC			LR	LR		
	comp=Z,200nm,17.9s					
WMQ	Urumqi	114.78 307	*e*P	PKPdf	08 56 49.4	-1.3
DGZ	Jazzator, Alta	117.09 313 ⇑	*i*PKIKP	PKPdf	08 56 54.4	-0.7
MK31	Makanchi Array	119.39 309	*d*iPKIKP	PKPdf	08 56 58.7	-0.7
MKAR	Makanchi Array	119.39 309	PKPdf	PKPdf	08 56 58.0	-1.5
MKAR	Makanchi Array	119.39 309	PKP	PKPdf	08 56 58.6	-0.8
	comp=Z,1.7nm,0.8s,baz=86,slow=1.7,SNR=12					
ZALV	Zalesovo Beam	119.94 317	PKP	PKPdf	08 56 59.6	-0.6
	comp=Z,0.3nm,0.4s,baz=15,slow=1.7,SNR=3.6					
KSH	Kashi	121.48 299	P	PKiKP	08 57 04.2	+0.2
NRIK	Noril'sk	122.02 335 ⇑	*i*PKIKP	PKiKP	08 57 04.2	+0.3
KURK	Kurchatov	122.80 313	*c*iPKIKP	PKPdf	08 57 04.8	-1.0
KURBB	Kurchatov Arra	122.83 312	PKP	PKPdf	08 57 05.2	-0.7
	comp=Z,3.8nm,0.8s,baz=108,slow=2.0,SNR=36					
AAK	Ala-Archa	123.48 302 ⇑	*i*PKIKP	PKiKP	08 57 09.2	+1.3
BVAR	Borovoye Array	128.22 314	PKP	PKPdf	08 57 16.5	+0.4
	comp=Z,3.4nm,0.8s,baz=103,slow=3.2,SNR=15					
BRVK	Borovoye	128.28 314	*ce*PKIKP	PKPdf	08 57 15.1	-1.1
ARU	Arti	135.06 319	*i*PKIKP	PKPdf	08 57 28.5	-0.4
ARU					09 00 03.0	
ARU			SS	SS	09 17 52.4	-4.0
KIRV	Kirov	139.43 324	||*i*PKIKP	PKiKP	08 57 38.2	-1.0
ARCES	ARCESS Array B	141.17 347	PKhKP	PKPpre	08 57 35.2	
	comp=Z,1.4nm,0.7s,baz=300,slow=2.7,SNR=4.6					
BELG	Belogornoye	142.02 314	||*i*PKIKP	PKPdf	08 57 42.8	+1.0
KLMR	Klimovskoe	143.04 330	*e*P	PKPab	08 57 36.3	-2.4
KLMR			AMP		08 57 40.2	
	comp=Z,25nm,1.6s					
KLMR	Klimovskoe	143.04 330	*e*PKHKP	PKPpre	08 57 36.2	
KLMR			pmax	pmax		
	comp=Z,25nm,1.6s					
VRH	Novokhopyorsk	145.87 314	*e*PKP2	PKPdf	08 57 47.7	-0.8
VRH			pmax	pmax		
	comp=Z,20nm,0.2s					
MOS	Moscow	146.44 323	*i*PKP2	PKPdf	08 57 49.9	+0.5
MOS			pmax	pmax		
	comp=Z,61nm,0.8s					
KBZ	Khabaz	146.45 301	*c*iPKP2	PKPdf	08 57 50.4	+0.6
KBZ	Khabaz	146.45 301	PKPbc	PKPbc	08 57 51.0	-0.2
	comp=Z,7.4nm,1.0s,baz=77,slow=1.8,SNR=6.8					
KIV	Kislovodsk	146.58 301	*i*PKP2	PKPbc	08 57 51.3	-0.4
KIV			pmax	pmax		
	comp=Z,10.0nm,1.1s					
LPSR	Galich'ya Gora	147.05 317	*e*PKP2	PKPbc	08 57 51.8	-0.8
LPSR			pmax	pmax		
	comp=Z,40nm,1.0s					
VORR	Voronezh	147.22 316	*e*PKIKP	PKPdf	08 57 51.7	+0.9
VORR			pmax	pmax		
	comp=Z,50nm,0.4s					
OBN	Obninsk	147.27 323	*i*PKIKP	PKPdf	08 57 50.1	-0.7
OBN			pmax	pmax		
	comp=Z,19nm,1.0s					
VSR	Storozhevoye	147.40 315	*e*PKIKP	PKPdf	08 57 51.7	+0.6
VSR			pmax	pmax		
	comp=Z,30nm,1.4s					
VORD	Divnogorie	147.40 315	*e*PKIKP	PKPdf	08 57 51.2	+0.1
VORD			pmax	pmax		
	comp=Z,20nm,1.3s					
FINES	FINESS Array B	147.60 338	PKPbc	PKPbc	08 57 53.1	-0.8
FINES	FINESS Array B	147.60 338	PKPbc	PKPbc	08 57 53.6	-0.2
	comp=Z,20nm,0.8s,baz=54,slow=3.4,SNR=62					
MEF	Metsahovi	149.07 338	*e*P	PKPbc	08 57 56.4	-1.4
VSU	Vasula	149.60 334	*c*iPKP2	PKPbc	08 57 59.0	-0.1
VSU	Vasula	149.60 334	*e*P	PKPbc	08 57 59.7	+0.6
MTSE	Matsula	150.43 337	*e*P	PKPbc	08 57 58.9	-2.2
NB2	NORSAR Subarra	151.37 351	PKP	PKPbc	08 58 03.2	-0.1
	comp=Z,1.7nm,0.7s,baz=16,slow=4.3					
NOA	NORSAR Array B	151.37 351	PKPbc	PKPbc	08 58 02.9	-0.4
	comp=Z,2.8nm,0.9s,baz=14,slow=4.1,SNR=8.2					
HFS	Hagfors	151.83 347	PKPbc	PKPbc	08 58 04.4	+0.1
	comp=Z,3.4nm,0.6s,baz=66,slow=3.7,SNR=6.7					
ISAL	Salakas	151.87 330	*e*P	PKiKP	08 58 05.5	+0.6
MMAI	Mount Meron Ar	151.96 279	PKPbc	PKPbc	08 58 05.8	+0.2
	comp=Z,6.9nm,0.8s,baz=60,slow=6.8,SNR=14					
IIGN	Ignalina	151.98 330	*e*P	PKiKP	08 58 06.0	+0.8
NACGM	Naroch	152.03 329 ⇑	*i*PKIKP	PKPdf	08 58 00.2	+1.9
	comp=Z,47nm,1.0s,baz=48					
PABE	Paberze	152.78 332	*e*P	PKPbc	08 58 04.8	-1.7
AKASG	Malin Array Be	153.31 319	PKPbc	PKPbc	08 58 07.6	-0.3
	comp=Z,3.7nm,0.8s,baz=62,slow=1.9,SNR=9.4					
BRTR	Keskin Array B	153.68 294	PKPbc	PKiKP	08 58 09.9	+0.5
	comp=Z,2.1nm,0.9s,baz=106,slow=4.0,SNR=6.1					
UPC	Upice	159.70 333	*e*PKP2	PKPab	08 58 46.8	-0.7
UPC	Upice	159.70 333	*e*PKPAB	PKPab	08 58 46.8	-0.7
DPC	Dobruska-Polom	159.71 333	*e*PKP2	PKPab	08 58 46.9	-0.7
DPC	Dobruska-Polom	159.71 333	*e*PKPAB	PKPab	08 58 46.9	-0.7
VYHS	Vyhne	160.01 325	*e*PKP2	PKPab	08 58 48.8	-0.1
CLL	Collm	160.04 339	*i*PKP2	PKPab	08 58 47.6	-1.3
CLL			pmax	pmax		
	comp=Z,10.0nm,1.2s					
CLL	Collm	160.04 339	*i*PKPab	PKPab	08 58 47.6	-1.3
	comp=Z,10.0nm,1.2s					
TORD	Torodi Ar. Bea	160.16 179	PKPab	PKPab	08 58 51.2	+1.0
	comp=Z,1.7nm,0.8s,baz=155,slow=2.0,SNR=3.8					
KHC	Kasperske Hory	161.73 335	*e*PKP2	PKPab	08 58 55.7	-0.7
KHC	Kasperske Hory	161.73 335	*e*PKPAB	PKPab	08 58 55.7	-0.7

*WEL **07** 08:56:16.2±1.3, 33°S±6°×17°8W±1°8, h33km, M5.0/21, mB5.2/4, ML5.1/9, MLv5.2/21, Mw(mB)4.6/4, Error ellipse: s-maj=0.0km s-min=0.0km az=105.9, confirmed*
*IDC **07** 08:56:17.4±0.6, 32°89S×178°35W, h0km, mb4.4/9, mbtmp4.4/12, ML4.9/3, MS3.7/6, Error ellipse: s-maj=23.5km s-min=20.1km az=103.0*
*NEIC **07** 08:56:17.6±2.3, 32°78S±0°08×178°2W±0°2, h10km±1km, mb4.7/18, Error ellipse: s-maj=23.0km s-min=10.5km az=111.0*
ISC 07 08:56:21.6±0.5, **32°93S**±0°05×**178°16W**±0°09, **h35**km, **n105**, σ2°**06**/100, **mb4.7**/20, **MS3.5**/5, **2C-5D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.66	3	P	Pn	08 57 12.7	-3.1
GLKZ				S	Sn	08 57 53.3	-4.4
RAO	Raoul Island	3.67	3	Pn	Pn	08 57 11.3	-4.6
RAO	Raoul Island	3.67	3	Pn	Pn	08 57 14.1	-1.8
	61nm,0.3s,baz=217,slow=20,SNR=2.2						
RAO				Sn	Sn	08 57 54.6	-3.4
	136nm,0.3s,baz=101,slow=23,SNR=7.3						
	176nm,0.4s						
MXZ	Matakaoa Point	5.45 211		Pn	Pn	08 57 38.7	-1.7
MXZ	Matakaoa Point	5.45 211		P	Pn	08 57 37.1	-3.2
MXZ				S	Sn	08 58 39.2	-2.6
WMGZ	Waiomatatini S	5.62 209		P	Pn	08 57 40.8	-1.9
PKGZ	Pakihiroa	5.82 211		P	Pn	08 57 42.6	-2.9
PKGZ				S	Sn	08 58 49.5	-1.6
HAZ	Te Kaha	5.85 213		P	Pn	08 57 43.4	-2.4
HAZ				S	Sn	08 58 51.0	-0.5
PUZ	Puketiti	5.90 209		P	Pn	08 57 43.1	-3.5
PUZ				S	Sn	08 58 50.5	-2.5
RUGZ	Raukumara Rang	6.07 213		P	Pn	08 57 46.8	-2.1
CNGZ	Carnagh Statio	6.28 207		P	Pn	08 57 49.0	-2.7
WHRZ	Whale Island	6.32 218		P	Pn	08 57 53.1	+0.8
TKGZ	Te Karaka	6.38 209		P	Pn	08 57 52.5	-0.6
MWZ	Matawai	6.43 212		P	Pn	08 57 50.8	-3.1
URZ	Urewera	6.57 215		P	Pn	08 57 52.7	-2.9
URZ	Urewera	6.57 215		Pn	Pn	08 57 53.3	-2.4
	10.0nm,0.3s,baz=75,slow=3.6,SNR=46						
URZ				Sn	Sn	08 59 06.2	-3.1
	32nm,0.3s,baz=243,slow=19,SNR=13						
	51nm,0.6s						
TGRZ	Tauranga	6.61 222		P	Pn	08 57 57.4	+1.1
RAGZ	Rawiri	6.62 212		P	Pn	08 57 53.0	-3.4
RIGZ	Rimuhau	6.65 209		P	Pn	08 57 54.0	-2.8
PRGZ	Paritu Road	6.79 207		P	Pn	08 57 55.0	-3.7
MKAZ	Moumakai	6.88 231		P	Pn	08 58 01.9	+1.9
WCZ	Waipu Caves	6.88 242		P	Pn	08 58 02.0	+2.0
SNGZ	Shannon Statio	6.89 211		P	Pn	08 57 58.9	-1.2
MUGZ	Murupara	6.90 215		P	Pn	08 57 57.7	-2.6
RTZ	Ruatahuna	6.91 213		Pn	Pn	08 57 58.2	-2.3
RRRZ	Republican Roa	6.92 217		P	Pn	08 58 00.5	-0.1

KNZ	Kokohu	6.95 208	P	Pn	08 57 57.0	-3.9
MHGZ	Mahia Peninsul	6.98 206	P	Pn	08 57 57.9	-3.4
TOZ	Tahuroa Road	7.05 225		Pn	08 58 01.0	-1.4
TOZ	Tahuroa Road	7.05 225	P	Pn	08 58 03.5	+1.2
RAHZ	Arahi	7.11 212	P	Pn	08 58 01.9	-1.3
MTHZ	Maungataniwha	7.17 213	P	Pn	08 58 01.8	-2.1
ALRZ	Allen Road	7.18 217	P	Pn	08 58 02.8	-1.2
WHHZ	Waihua	7.18 210	P	Pn	08 58 03.4	-0.6
OUZ	Omahuta	7.21 249	P	Pn	08 58 07.3	+2.8
NMHZ	Naumai	7.38 212	P	Pn	08 58 05.1	-1.8
ARHZ	Aropaoanui	7.44 210	P	Pn	08 58 06.3	-1.3
BKZ	Black Stump Fm	7.58 213	Pn	Pn	08 58 07.5	-2.1
BKZ	Black Stump Fm	7.58 213	P	Pn	08 58 07.0	-2.6
MCHZ	McNeill Hill	7.72 211	P	Pn	08 58 07.8	-3.6
KWHZ	Kaweka Forest	7.82 213	P	Pn	08 58 09.8	-3.1
TMVZ	Te Maari	7.92 217	P	Pn	08 58 12.2	-2.1
KAHZ	Kahuranaki	7.93 209	P	Pn	08 58 08.7	-5.8
HIZ	Hauiti	7.95 224	Pn	Pn	08 58 13.4	-1.2
KRHZ	Kereru	8.02 212	P	Pn	08 58 12.5	-3.2
BFZ	Birch Farm	8.94 208	Pn	Pn	08 58 25.4	-2.9
RPZ	Rata Peaks	13.68 215	Pn	Pn	08 59 25.3	-7.7
	1.3nm,0.3s,baz=38,slow=17,SNR=1.9					
RPZ			Sn	Sn	09 01 47.9	-16
	1.4nm,0.3s,baz=104,slow=22,SNR=8.2					
MSVF	Nonsavu	15.51 346	Pn	Pn	08 59 56.9	-0.9
	0.5nm,0.3s,baz=51,slow=23,SNR=2.4					
	6.1nm,0.7s					
DZM	Mont Dzumac	17.40 305	P	P	09 00 24.9	+2.1
	20nm,0.8s,baz=102,slow=10,SNR=9.4					
DZM			LR	LR	09 05 28.6	
	comp=Z,279nm,21.9s,baz=114,slow=32					
KOUNC	Koumac, New Ca	19.91 304	P	P	09 00 46.9	-3.4
KOUNC			IAmb	IAmb	09 00 54.1	
	comp=Z,31nm,0.9s					
RAR	Rarotonga	20.07 59	LR	LR	09 08 37.8	
	comp=Z,94nm,18.3s,baz=192,slow=37					
EIDS	Eidsvold	27.83 278	P	P	09 02 06.3	-1.5
EIDS			IAmb	IAmb	09 02 14.8	
	comp=Z,23nm,1.4s					
PPT	Papeete	29.91 66	LR	LR	09 15 33.4	
	comp=Z,82nm,18.0s,baz=238,slow=38					
STKA	Stephens Creek	33.85 261	P	P	09 03 01.2	+0.4
STKA	Stephens Creek	33.85 261	P	P	09 03 00.8	0.0
	comp=Z,1.3nm,0.6s,baz=99,slow=14,SNR=5.2					
STKA			LR	LR	09 16 20.7	
	comp=Z,239nm,18.5s,baz=38,slow=36					
	comp=Z,1.3nm,0.6s					
CTAO	Charters Tower	34.15 283	P	P	09 03 02.4	-1.1
CTAO			IAmb	IAmb	09 03 06.2	
	comp=Z,8.8nm,0.7s					
BBOO	Buckleboo	38.22 257	P	P	09 03 36.9	-1.3
BBOO			IAmb	IAmb	09 04 00.3	
	comp=Z,19nm,1.4s					
COEN	Coen	39.90 289	P	P	09 03 52.0	-0.4
COEN			IAmb	IAmb	09 04 20.4	
	comp=Z,16nm,1.1s					
AS31	Alice Springs	42.90 270	P	P	09 04 15.6	-1.4
ASAR	Alice Springs	42.90 270	P	P	09 04 15.5	-1.5
ASAR	Alice Springs	42.90 270	P	P	09 04 16.6	-0.4
	comp=Z,7.5nm,0.6s,baz=107,slow=7.4,SNR=119					
	comp=Z,7.5nm,0.6s					
WR0	Warramunga Arr	43.94 275	P	P	09 04 24.4	-1.0
WR0			IAmb	IAmb	09 04 25.3	
	comp=Z,8.5nm,0.6s					
WRAB	Tennant Creek	44.11 275	P	P	09 04 25.6	-1.1
WRAB			IAmb	IAmb	09 04 28.0	
	comp=Z,12nm,0.7s					
WRA	Warramunga Arr	44.12 275	P	P	09 04 26.2	-0.6
	comp=Z,12nm,0.5s,baz=114,slow=7.8,SNR=183					
	comp=Z,12nm,0.5s					
FORT	Forrest	45.32 258	P	P	09 04 34.3	-1.9
MTN	Manton Dam	50.29 281	P	P	09 05 13.7	-1.2
KNRA	Kununurra	50.81 276	P	P	09 05 17.7	-1.1
KNRA			IAmb	IAmb	09 05 23.2	
	comp=Z,8.3nm,0.8s					
CASY	Casey	52.85 209	P	P	09 05 33.7	+0.3
CASY			IAmb	IAmb	09 05 35.0	
	comp=Z,5.8nm,0.7s					
PSA00	Pilbara Seismi	55.58 265	P	P	09 05 52.3	-1.6
QSPA	South Pole Qui	57.19 180	P	P	09 06 06.7	+1.8
BELA	Belgrano 2	67.30 172	P	P	09 07 13.3	+1.0
MAW	Mawson	69.90 201	P	P	09 07 30.3	+1.7
MAW	Mawson	69.90 201	P	P	09 07 30.2	+1.7
	comp=Z,2.9nm,0.8s,baz=111,slow=3.0,SNR=2.4					
	comp=Z,2.9nm,0.8s					
TROLL	Troll, Antarti	75.35 180	P	P	09 08 02.8	+1.7
	comp=Z,27nm,0.5s					
TROLL	Troll, Antarti	75.35 180	⇓P	P	09 08 12.3	+11
	comp=Z,95nm,0.5s					
SNAA	Sanae	75.64 178	P	P	09 08 03.5	+0.8
SNAA			IAmb	IAmb	09 08 19.6	
	comp=Z,5.7nm,1.0s					
SNAA	Sanae	75.64 178	P	P	09 08 03.7	+1.0
	comp=Z,17nm,0.6s					
SNAA	Sanae	75.64 178	||P	P	09 08 14.3	+12
SNAA	Sanae	75.64 178	P	P	09 08 04.0	+1.4
	comp=Z,1.0nm,0.8s,baz=191,slow=13,SNR=7.0					
	comp=Z,1.0nm,0.8s					
VNA3	Neumayer Olymp	75.80 176	⇑P	P	09 08 04.7	+1.1
	comp=Z,4.4nm,0.7s					
VNA3	Neumayer Olymp	75.80 176	⇓P	P	09 08 15.8	+12
	comp=Z,15nm,0.6s					
VNA2	Neumayer--Watz	76.23 177	⇑P	P	09 08 07.4	+1.5
	comp=Z,2.2nm,0.7s,baz=177,slow=5.0					
VNA2	Neumayer--Watz	76.23 177	⇓P	P	09 08 18.3	+12
	comp=Z,19nm,0.6s,baz=178,slow=5.0					
VNA1	Neumayer--Stat	76.46 177	P	P	09 08 08.9	+1.7
	comp=Z,3.1nm,1.0s					
VNA1	Neumayer--Stat	76.46 177	⇓P	P	09 08 19.7	+13
	comp=Z,14nm,0.9s					
PLCA	Paso Flores	80.89 133	P	P	09 08 34.6	+2.3
	comp=Z,2.8nm,0.9s,baz=188,slow=2.7,SNR=5.0					
	comp=Z,2.8nm,0.9s					
JNU	Nakatsue	81.36 319	LR	LR	09 41 52.5	
	comp=Z,20nm,21.0s,baz=50,slow=34					
KSRS	Korea Array	86.19 320	P	P	09 09 00.0	+0.9
	comp=Z,1.4nm,0.8s,baz=148,slow=6.4,SNR=6.6					
	comp=Z,1.4nm,0.8s					
CFA	Coronel Fontan	87.84 127	LR	LR	09 40 42.8	
	comp=Z,148nm,21.3s,baz=136,slow=30					
PETK	Petropavlovsk-	88.22 346	P	P	09 09 10.1	+1.5
	comp=Z,4.5nm,1.0s,baz=101,slow=6.8,SNR=4.1					
	comp=Z,4.5nm,1.0s					
NVAR	Mina Array Bea	90.18 43	P	P	09 09 20.6	+2.1
	comp=Z,0.8nm,0.9s,baz=214,slow=6.9,SNR=4.5					
	comp=Z,0.8nm,0.9s					
MKAR	Makanchi Array	119.28 309	PKP	PKiKP	09 15 07.0	+0.2
	comp=Z,0.7nm,0.7s,baz=64,slow=2.8,SNR=3.8					
KURBB	Kurchatov Arra	122.71 313	PKP	PKiKP	09 15 13.5	+0.2
	comp=Z,1.6nm,0.7s,baz=104,slow=2.0,SNR=9.1					
BVAR	Borovoye Array	128.10 314	PKP	PKiKP	09 15 24.8	+0.8
	comp=Z,1.4nm,0.5s,baz=64,slow=3.4,SNR=7.4					
ARU	Arti	134.93 319	PKP	PKiKP	09 15 38.0	+0.3
	comp=Z,1.9nm,0.4s,baz=284,slow=3.8,SNR=4.5					
ARCES	ARCESS Array B	141.02 347	PKhKP	PKPpre	09 15 42.9	
	comp=Z,1.1nm,0.6s,baz=45,slow=2.4,SNR=7.7					
KBZ	Khabaz	146.35 301	PKPbc	PKPbc	09 15 58.7	+0.2
	comp=Z,3.6nm,0.9s,baz=159,slow=3.2,SNR=5.2					
FINES	FINESS Array B	147.46 338	PKPbc	PKPbc	09 16 01.7	+0.7
	comp=Z,12nm,0.6s,baz=38,slow=3.7,SNR=85					
NB2	NORSAR Subarra	151.22 351	PKP	PKiKP	09 16 11.3	+0.2
	comp=Z,10nm,1.1s,baz=17,slow=4.1					
NOA	NORSAR Array B	151.22 351	PKPbc	PKiKP	09 16 11.6	+0.6
	comp=Z,2.8nm,0.8s,baz=17,slow=4.2,SNR=7.8					
HFS	Hagfors	151.68 347	PKPbc	PKPbc	09 16 11.7	+0.1
	comp=Z,5.9nm,0.8s,baz=99,slow=4.9,SNR=7.3					
MMAI	Mount Meron Ar	151.91 279	PKPbc	PKiKP	09 16 14.3	+0.9
	comp=Z,3.5nm,0.5s,baz=79,slow=5.2,SNR=10					
AKASG	Malin Array Be	153.18 320	PKPbc	PKiKP	09 16 16.1	+0.8
	comp=Z,0.5nm,0.3s,baz=58,slow=2.2,SNR=6.6					
BRTR	Keskin Array B	153.59 294	PKPbc	PKiKP	09 16 17.5	+0.7
	comp=Z,1.2nm,0.5s,baz=141,slow=5.1,SNR=5.2					
TORD	Torodi Ar. Bea	160.31 180	PKPab	PKPab	09 16 59.8	+1.4
	comp=Z,0.9nm,0.9s,baz=164,slow=2.3,SNR=2.5					

*IDC **07** 09:01:23.1±1.2, 32°84S×178°27W, h0km, mb4.1/4, mbtmp4.1/6, ML3.8/2, Error ellipse: s-maj=35.3km s-min=27.7km az=68.0*
*NEIC **07** 09:01:31.9±0.6, 33°16S±0°10×178°7W±0°2, h35km±2km, mb4.4/9, Error ellipse: s-maj=29.0km s-min=3.0km az=125.0*
ISC 07 09:01:28.8±1.1, **33°1S**±0°1×**178°3W**±0°2, **h32**km, **n29**, σ1°**10**/25, **mb4.4**/8, **5C, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.37 214		Pn	Pn	09 03 00.2	-0.3
	2.4nm,0.3s,baz=214,slow=3.3,SNR=6.8						
URZ				Sn	Sn	09 04 11.9	-0.2
	5.9nm,0.3s,baz=191,slow=17,SNR=8.8						
	12nm,0.5s						
RTZ	Ruatahuna	6.72 213		Pn	Pn	09 03 04.8	-0.6
TOZ	Tahuroa Road	6.86 225		Pn	Pn	09 03 06.3	-0.8
BKZ	Black Stump Fm	7.39 213		Pn	Pn	09 03 14.1	-0.4
BFZ	Birch Farm	8.75 208		Pn	Pn	09 03 31.1	-2.1
MRZ	Mangatainoka R	9.01 211		Pn	Pn	09 03 35.5	-1.2
RPZ	Rata Peaks	13.49 215		Pn	Pn	09 04 39.0	+1.0
	0.4nm,0.3s,baz=276,slow=23,SNR=1.3						
RPZ				Sn	Sn	09 06 53.4	-13
	0.3nm,0.3s,baz=45,slow=21,SNR=1.4						
	5.2nm,0.8s						
DZM	Mont Dzumac	17.36 305		P	P	09 05 31.8	+1.9
	9.7nm,0.9s,baz=101,slow=19,SNR=3.4						
CTAO	Charters Tower	34.04 283		P	P	09 08 10.1	0.0
CTAO				IAmb	IAmb	09 08 16.2	
	comp=Z,5.5nm,0.8s						
AS31	Alice Springs	42.75 270		P	P	09 09 23.3	-0.1
ASAR	Alice Springs	42.75 270		P	P	09 09 22.9	-0.5
	comp=Z,2.8nm,0.7s,baz=109,slow=7.9,SNR=19						
	comp=Z,2.8nm,0.7s						
WR0	Warramunga Arr	43.80 275		P	P	09 09 31.3	-0.6
WB2	Warramunga Arr	43.97 275		P	P	09 09 32.8	-0.5
WB2				IAmb	IAmb	09 09 40.9	
	comp=Z,3.7nm,0.6s						
WRA	Warramunga Arr	43.98 275		P	P	09 09 32.5	-0.9
	comp=Z,3.5nm,0.5s,baz=115,slow=7.7,SNR=44						
	comp=Z,3.5nm,0.5s						
WB0	Warramunga Arr	44.01 275		P	P	09 09 33.1	-0.5
WB0				IAmb	IAmb	09 09 46.8	
	comp=Z,6.1nm,0.8s						
MTN	Manton Dam	50.17 281		P	P	09 10 21.4	-0.3
KNRA	Kununurra	50.67 277		P	P	09 10 25.5	0.0
CASY	Casey	52.67 209		P	P	09 10 40.2	+0.6
CASY				IAmb	IAmb	09 11 02.8	
	comp=Z,3.9nm,0.8s						
QSPA	South Pole Qui	57.05 180		P	P	09 11 13.8	+2.1
QSPA				IAmb	IAmb	09 11 36.9	
	comp=Z,6.0nm,1.1s						
QSPA	South Pole Qui	57.05 180		P	P	09 11 13.3	+1.7
	comp=Z,1.1nm,0.6s,baz=19,slow=1.0,SNR=7.6						
	comp=Z,1.1nm,0.6s						
TROLL	Troll, Antarti	75.22 180	⇑P	P	09 13 19.0	+11	
	comp=Z,12nm,0.2s						
SNAA	Sanae	75.51 179	⇑P	P	09 13 20.9	+11	
SNAA	Sanae	75.51 179	P	P	09 13 09.2	-0.3	
	comp=Z,0.3nm,0.5s,baz=193,slow=16,SNR=5.8						
	comp=Z,0.3nm,0.5s						
VNA3	Neumayer Olymp	75.67 176	⇑P	P	09 13 21.7	+11	
VNA2	Neumayer--Watz	76.10 177	⇑P	P	09 13 24.9	+12	
	baz=176,slow=4.0						
VNA1	Neumayer--Stat	76.34 177	⇑P	P	09 13 26.4	+12	
MKAR	Makanchi Array	119.24 309	PKP	PKPdf	09 20 13.1	-1.3	
	comp=Z,0.3nm,0.7s,baz=96,slow=1.4,SNR=3.3						
KURBB	Kurchatov Arra	122.69 313	PKP	PKPdf	09 20 19.4	-1.4	
	comp=Z,1.1nm,0.8s,baz=107,slow=1.8,SNR=10						
FINES	FINESS Array B	147.53 338	PKPbc	PKPbc	09 21 07.8	-1.1	
	comp=Z,4.0nm,0.6s,baz=34,slow=2.6,SNR=17						

*MEX **07** 09:05:23.5±0.4, 15°09N×93°62W, h46km±21km, MD4.3*
*GCG **07** 09:05:26.7±3.0, 15°30N×93°29W, h50km±345km, MD3.9*
ISC 07 09:05:22.1±1.6, **15°20N**±0°04×**93°57W**±0°03, **h29**km±15km, **n28**, σ1°**82**/55, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.61	34	*i*P	Pn	09 05 35.8	+1.0
PCIG				*i*S	Sn	09 05 45.6	+2.0
CARR	Arriaga	1.09	343	*i*P	Pb	09 05 42.6	+0.2
CARR				*e*S	Sn	09 05 57.3	+1.7
PATR	El Naranjo	1.29	93	*e*P	Pn	09 05 43.7	-0.7
PATR				*e*S	Sn	09 05 59.3	-1.5
THIG		1.29	103	*i*P	Pn	09 05 43.9	-0.3
THIG				*e*S	Sn	09 05 59.3	-1.2
PAVE	Pavencul	1.34	90	*e*P	Pn	09 05 45.1	0.0
PAVE				*e*S	Sn	09 06 01.6	-0.5
CHUJ	Union Juarez	1.42	94	*e*P	Pn	09 05 45.5	-0.6
CHUJ				*e*S	Sn	09 06 03.0	-0.9
TGIG		1.63	15	*i*P	Pn	09 05 50.1	+1.2
TGIG				*e*S	Sn	09 06 08.1	-0.8

ARTR	**Artybash**	**4.43 275**	Pg	**Pg**	**09 10 29.1**	**-1.7**
ARTR			Sg	**Sg**	**09 11 27.2**	**-1.0**
AKAR	**Aktash**	**4.49 255**	Pn	**Pn**	**09 10 17.6**	**+3.4**
AKAR			Pg	**Pg**	**09 10 29.0**	**-3.0**
AKAR			Sg	**Sg**	**09 11 30.4**	**+0.3**
CHBI	**Chibit, Altay**	**4.56 256**	Pn	**Pn**	**09 10 19.3**	**+4.1**
CHBI			Pg	**Pg**	**09 10 33.1**	**-0.3**
CHBI			Sg	**Sg**	**09 11 33.0**	**+0.6**
GZLN	**Zheleznogorsk**	**4.75 356**	Sg	**Sg**	**09 11 40.6**	**+2.3**
DGZ	**Jazzator, Alta**	**4.85 249**	Pn	**Pn**	**09 10 22.6**	**+3.5**
DGZ			Sg	**Sg**	**09 11 42.9**	**+1.4**
ELDR	**Elanda**	**5.22 268**	Pn	**Pn**	**09 10 28.0**	**+3.8**
ELDR			Pg	**Pg**	**09 10 45.2**	**-0.8**
ELDR			Sg	**Sg**	**09 11 55.1**	**+1.6**
ELT	**Eltsovka**	**5.24 291**	Sg	**Sg**	**09 11 53.6**	**-0.7**
BRCR	**Berchikul'**	**5.38 320**	Sg	**Sg**	**09 12 00.8**	**+2.0**
ZALV	**Zalesovo Beam**	**6.25 295**	Pn	**Pb**	**09 10 55.3**	**+0.5**
	0.1nm,0.3s,baz=113,slow=11,SNR=2.2					
ZALV			Sn	**Sg**	**09 12 20.2**	**-6.3**
	0.6nm,0.3s,baz=104,slow=25,SNR=3.7					
	1.2nm,0.6s					
SONM	**Songino Array**	**8.66 112**	Pn	**Pn**	**09 11 10.8**	**-0.6**
	0.2nm,0.3s,baz=246,slow=11,SNR=2.4					
SONM			Pg	Pg	09 11 38.4	-13
	0.1nm,0.3s,baz=296,slow=20,SNR=3.0					
SONM			Lg	Lg	09 13 27.4	
	0.2nm,0.3s,baz=315,slow=28,SNR=3.9					
	0.2nm,0.3s					
MKAR	**Makanchi Array**	**9.30 243**	Pn	**Pn**	**09 11 23.6**	**+3.5**
	0.1nm,0.3s,baz=61,slow=13,SNR=6.3					
MKAR			Sn	**Sn**	**09 13 03.1**	**-1.5**
	0.1nm,0.3s,baz=55,slow=14,SNR=2.4					
MKAR			Lg	Lg	09 13 59.7	
	0.1nm,0.3s,baz=54,slow=25,SNR=2.3					
	0.7nm,0.7s					
KURBB	**Kurchatov Arra**	**10.03 270**	Pn	Pn	09 11 41.4	+11
	baz=77,slow=16,SNR=2.1					
	0.1nm,0.3s					

NEIC ***07*** *09:17:48.9±1.7,21°.68S±0°.09×177°.9W±0°.1,h410km±12km, mb4.0/17, Error ellipse: s-maj=19.5km s-min=11.7km az=109.0*

IDC ***07*** *09:17:49.6±3.1,21°.88S×178°.16W,h404km±33km, mb3.4/8, mbtmp4.1/9, Error ellipse: s-maj=26.9km s-min=18.5km az=137.0*

ISC 07 09:17:48.2±0.6,21°.89S±0°.09×178°.0W±0°.1,h400km,n32, σ1§**40**/32,**mb3.9**/17,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.58**	**317**	Pn	**Pn**	**09 19 16.6**	**+0.1**
MSVF	**Nonsavu**	**5.58**	**317**	P	**Pn**	**09 19 16.3**	**-0.2**
	4.9nm,0.6s,baz=85,slow=16,SNR=2.1						
NIUE	**Niue**	**8.04**	**71**		**P**	**09 19 43.4**	**-0.8**
AFI	**Afiamalu**	**9.88**	**38**		**P**	**09 20 01.4**	**-3.3**
AFI	**Afiamalu**	**9.88**	**38**	P	**P**	**09 20 01.5**	**-3.2**
	11nm,0.3s,baz=207,slow=7.7,SNR=5.9						
AFI				S	S	09 21 43.8	-13
	12nm,0.4s,baz=229,slow=21,SNR=1.4						
URZ	**Urewera**	**16.86**	**193**	P	**P**	**09 21 17.3**	**-3.2**
	2.7nm,0.3s,baz=43,slow=6.9,SNR=2.3						
URZ				S	**S**	**09 24 13.9**	**-2.2**
	4.1nm,0.6s,baz=110,slow=15,SNR=1.5						
ARMA	**Armidale**	**28.51**	**246**	P	**P**	**09 23 10.3**	**+1.2**
ARMA				IAmb	IAmb	09 23 13.7	
	comp=Z,6.3nm,1.1s						
EIDS	**Eidsvold**	**28.53**	**257**	P	**P**	**09 23 09.9**	**+0.6**
EIDS				IAmb	IAmb	09 23 14.4	
	comp=Z,4.8nm,0.9s						
CAN	**Canberra**	**31.78**	**238**	P	**P**	**09 23 37.6**	**+0.1**
CAN				IAmb	IAmb	09 23 46.1	
	comp=Z,7.8nm,1.1s						
CTAO	**Charters Tower**	**33.41**	**266**	P	**P**	**09 23 52.4**	**+0.8**
TOO	**Toolangi**	**35.12**	**235**	P	**P**	**09 24 06.0**	**0.0**
TOO				IAmb	IAmb	09 24 35.0	
	comp=Z,8.8nm,1.1s						
STKA	**Stephens Creek**	**37.23**	**246**	P	**P**	**09 24 23.9**	**+0.4**
STKA	**Stephens Creek**	**37.23**	**246**	P	**P**	**09 24 24.0**	**+0.4**
	comp=Z,3.0nm,0.5s,baz=82,slow=8.3,SNR=9.3						
	comp=Z,3.0nm,0.5s						
BBOO	**Buckleboo**	**41.97**	**245**	P	**P**	**09 25 01.7**	**-0.5**
BBOO				IAmb	IAmb	09 25 22.5	
	comp=Z,7.8nm,1.1s						
AS31	**Alice Springs**	**44.24**	**258**	P	**P**	**09 25 20.4**	**+0.1**
ASAR	**Alice Springs**	**44.24**	**258**	P	**P**	**09 25 19.9**	**-0.4**
ASAR	**Alice Springs**	**44.24**	**258**	P	**P**	**09 25 20.1**	**-0.2**
	comp=Z,8.1nm,0.8s,baz=94,slow=8.7,SNR=78						
	comp=Z,8.1nm,0.8s						
WR0	**Warramunga Arr**	**44.26**	**263**	P	**P**	**09 25 19.9**	**-0.5**
WB0	**Warramunga Arr**	**44.44**	**264**	P	**P**	**09 25 21.3**	**-0.5**
WB0				IAmb	IAmb	09 25 21.9	
	comp=Z,4.9nm,0.7s						
WB2	**Warramunga Arr**	**44.44**	**263**	P	**P**	**09 25 21.3**	**-0.5**
WB2				IAmb	IAmb	09 25 22.5	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**44.45**	**263**	P	**P**	**09 25 21.1**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=96,slow=8.3,SNR=77						
	comp=Z,3.5nm,0.7s						
FORT	**Forrest**	**48.78**	**248**	P	**P**	**09 25 54.1**	**-0.8**
MTN	**Manton Dam**	**49.22**	**272**	P	**P**	**09 25 58.1**	**-0.3**
KNRA	**Kununurra**	**50.61**	**267**	P	**P**	**09 26 08.9**	**+0.3**
KNRA				IAmb	IAmb	09 26 10.3	
	comp=Z,5.9nm,0.7s						
SBA	**Scott Base**	**56.49**	**184**	P	P	09 26 53.1	+3.3
QSPA	**South Pole Qui**	**68.19**	**180**	P	**P**	**09 28 08.3**	**+1.6**
QSPA	**South Pole Qui**	**68.19**	**180**	P	**P**	**09 28 08.1**	**+1.4**
	comp=Z,3.3nm,0.9s,baz=61,slow=2.1,SNR=17						
	comp=Z,3.3nm,0.9s						
BELA	**Belgrano 2**	**78.19**	**173**	P	**P**	**09 29 05.0**	**+0.8**
BELA				IAmb	IAmb	09 29 05.4	
	comp=Z,1.8nm,0.8s						
NVAR	**Mina Array Bea**	**82.01**	**43**	P	**P**	**09 29 27.3**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=221,slow=9.6,SNR=3.7						
	comp=Z,0.3nm,0.7s						
SNAA	**Sanae**	**86.63**	**178**	P	**P**	**09 29 47.3**	**-0.1**
	comp=Z,1.3nm,1.1s,baz=205,slow=8.2,SNR=6.7						
	comp=Z,1.3nm,1.1s						
ILAR	**Eielson Array**	**89.66**	**13**	P	**P**	**09 30 02.1**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=216,slow=5.2,SNR=8.8						
	comp=Z,0.2nm,0.4s						
PDAR	**Pinedale Array**	**89.95**	**43**	P	**P**	**09 30 05.7**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=227,slow=3.6,SNR=3.7						
	comp=Z,0.3nm,0.5s						

IDC ***07*** *09:19:22.2±1.3,38°.37N×143°.51E,h0km, mb3.4/4, mbtmp3.4/5, ML2.5/1, Error ellipse: s-maj=36.1km s-min=25.6km az=123.0*

JMA ***07*** *09:19:22.4±0.2,37°.5N±0°.7×14°.4E±°,h53km, MV3.9/29, FAR E OFF NORTH HONSHU*

ISC 07 09:19:21.8±1.5,37°.57N±0°.08×144°.00E±0°.08,h35km,n21, σ1§**64**/33,**mb3.5**/4,**Off east of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.14**	**291**	*i* P	**Pn**	**09 19 55.2**	**+0.3**
JIKH				S	**Sn**	**09 20 19.2**	**-1.0**
JIO	**Ouri**	**2.27**	**294**	P	**Pn**	**09 19 57.1**	**+0.3**
JIO				S	**Sn**	**09 20 23.0**	**-0.6**
JKMT	**Kesennumamotoy**	**2.35**	**303**	P	**Pn**	**09 19 58.2**	**+0.4**
JKMT				S	**Sn**	**09 20 24.7**	**-0.7**
OFUJ	**Ofunato**	**2.38**	**310**	P	**Pn**	**09 19 58.8**	**+0.6**
OFUJ				*eS*	**Sn**	**09 20 25.2**	**-0.8**
JMST	**Minamisoumatoc**	**2.48**	**274**	P	**Pn**	**09 19 59.0**	**-0.6**
JMST				S	**Sn**	**09 20 26.9**	**-1.7**
JFK	**Kawauchi**	**2.50**	**266**	P	**Pn**	**09 19 59.4**	**-0.5**
JFK				S	**Sn**	**09 20 26.9**	**-2.3**
JMK	**Ichinoseki**	**2.59**	**303**	P	**Pn**	**09 20 02.1**	**+1.0**
JMK				S	**Sn**	**09 20 31.3**	**-0.1**
JOM	**Ohasama**	**2.85**	**313**	P	**Pn**	**09 20 06.0**	**+1.2**
JOM				S	**Sn**	**09 20 37.9**	**+0.1**
JOTO	**OTAMA OYAMA**	**2.92**	**271**	P	**Pn**	**09 20 06.3**	**+0.6**
JOTO				S	**Sn**	**09 20 39.2**	**-0.3**
JYK	**Kaneyama**	**3.17**	**296**	P	**Pn**	**09 20 10.4**	**+1.3**
JANG	**Nango**	**3.41**	**326**	P	**Pn**	**09 20 14.4**	**+2.1**
JRY	**Ryogami san**	**4.38**	**251**	P	**Pn**	**09 20 25.1**	**-0.7**
JRY				S	**Sn**	**09 21 11.2**	**-4.4**
JOT	**Ohata**	**4.44**	**330**	P	**Pn**	**09 20 28.8**	**+2.2**
MJAR	**Matsushiro Arr**	**4.75**	**259**	Pn	**Pn**	**09 20 32.1**	**+1.3**
	0.2nm,0.3s,baz=90,slow=15,SNR=12						
MJAR				Sn	**Sn**	**09 21 25.6**	**+1.0**
	0.1nm,0.3s,baz=11,slow=23,SNR=2.5						
	1.5nm,0.4s						

JCH	**Churui**	**5.06**	**355**	P	**Pn**	**09 20 35.5**	**+0.4**
JCH				*eS*	**Sn**	**09 21 30.5**	**-1.8**
NEM2	**Nemuro 2**	**5.94**	**12**	P	**Pn**	**09 20 45.9**	**-1.2**
NEM2				S	**Sn**	**09 21 49.5**	**-4.4**
JTKR	**Abashiri--Toko**	**6.39**	**359**	P	**Pn**	**09 20 53.7**	**+0.3**
JTKR				*eS*	**Sn**	**09 22 02.7**	**-2.4**
KURBB	**Kurchatov Arra**	**147.30**	**308**	P	**P**	**09 27 51.5**	**-0.1**
	0.2nm,0.3s,baz=82,slow=8.3,SNR=1.8						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**47.93**	**33**	P	**P**	**09 27 57.8**	**+1.5**
	0.4nm,0.8s,baz=262,slow=5.6,SNR=5.4						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**57.92**	**191**	P	P	09 29 21.1	+11
	0.5nm,0.4s,baz=8.2,slow=7.0,SNR=7.7						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**61.65**	**191**	P	P	09 29 46.9	+11
	0.1nm,0.4s,baz=0.8,slow=6.5,SNR=1.5						
	0.1nm,0.4s						

WEL ***07*** *09:23:25.7±1.3,33°.S±7°×17°.8W±2°.1,h33km, M4.1/4, mB4.4/1, ML4.5/8, MLv4.1/4, Mw(mB)3.5/1, Error ellipse: s-maj=0.0km s-min=0.0km az=105.7, confirmed*

IDC ***07*** *09:23:26.0±2.9,32°.73S×178°.49W,h0km, mb3.8/2, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=69.2km s-min=44.1km az=123.0*

ISC 07 09:23:27.6±2.0,32°.9S±0°.1×178°.1W±0°.3,h34km,n19, σ1§**14**/23,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.62**	**2**	P	**Pn**	**09 24 21.9**	**+0.6**
GLKZ				S	**Sn**	**09 25 00.6**	**-2.3**
WMGZ	**Waiomatatini S**	**5.68**	**209**	P	**Pn**	**09 24 49.7**	**+0.1**
PKGZ	**Pakihiroa**	**5.88**	**211**	P	**Pn**	**09 24 51.3**	**-1.0**
HAZ	**Te Kaha**	**5.91**	**214**	P	**Pn**	**09 24 53.3**	**+0.7**
HAZ				S	**Sn**	**09 25 59.7**	**+0.6**
PUZ	**Puketiti**	**5.96**	**209**	P	**Pn**	**09 24 53.2**	**-0.3**
PUZ				S	**Sn**	**09 25 58.7**	**-1.8**
RUGZ	**Raukumara Rang**	**6.12**	**213**	P	**Pn**	**09 24 56.4**	**+0.6**
CNGZ	**Carnagh Statio**	**6.34**	**207**	P	**Pn**	**09 24 58.5**	**-0.1**
MWZ	**Matawai**	**6.49**	**212**	P	**Pn**	**09 25 01.3**	**+0.5**
MWZ				S	**Sn**	**09 26 11.9**	**-1.7**
URZ	**Urewera**	**6.62**	**215**	P	**Pn**	**09 25 03.0**	**+0.5**
URZ	**Urewera**	**6.62**	**215**	Pn	**Pn**	**09 25 02.9**	**+0.5**
	2.5nm,0.3s,baz=356,slow=5.2,SNR=17						
URZ				Sn	**Sn**	**09 26 14.9**	**-1.9**
	3.6nm,0.3s,baz=205,slow=23,SNR=9.3						
	5.7nm,0.3s						
RAGZ	**Rawiri**	**6.67**	**212**	P	**Pn**	**09 25 05.1**	**+1.8**
RIGZ	**Rimuhau**	**6.70**	**209**	P	**Pn**	**09 25 04.5**	**+0.9**
SNGZ	**Shannon Statio**	**6.95**	**211**	P	**Pn**	**09 25 07.6**	**+0.6**
MUGZ	**Murupara**	**6.96**	**215**	P	**Pn**	**09 25 07.5**	**+0.4**
MTHZ	**Maungataniwha**	**7.23**	**213**	P	**Pn**	**09 25 12.0**	**+1.2**
OUZ	**Omahuta**	**7.27**	**249**	P	Pn	09 25 18.9	+7.5
ASAR	**Alice Springs**	**42.95**	**270**	P	**P**	**09 31 24.6**	**+1.1**
	0.6nm,0.7s,baz=110,slow=7.4,SNR=8.2						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**44.16**	**275**	P	**P**	**09 31 33.7**	**+0.4**
	0.9nm,0.4s,baz=114,slow=8.0,SNR=25						
	0.9nm,0.4s						
FINES	**FINESS Array B**	**147.44**	**339**	PKPbc	**PKiKP**	**09 43 09.6**	**+0.3**
	1.7nm,0.7s,baz=48,slow=4.1,SNR=9.4						

MOS ***07*** *09:26:11.4±0.9,1°.66S×78°.02W,h143km, mb5.2/25, Error ellipse: s-maj=11.2km s-min=5.8km az=101.9*

IGQ ***07*** *09:26:12±0.3,2°.S±2°×7°.8W±°,h159km*

IDC ***07*** *09:26:13.6±0.5,1°.60S×77°.91W,h154km±4km, mb4.6/27, mbtmp5.1/33, MS3.9/20, Error ellipse: s-maj=12.7km s-min=7.5km az=68.0*

VAO ***07*** *09:26:13.9±0.2,1°.63S×77°.85W,h147km, mb5.2*

NEIC ***07*** *09:26:13.7,1°.67S×78°.03W,h140km, Moment Tensor Solution. Duration: 1ŝ9 Moment tensor: Scale 10^16 Nm; Mrr-5.15; Mθθ7.82; Mφφ-2.68; Mrθ1.61; Mθφ-2.72; Mφr-4.31; Fault plane solution: M0 8.70000×10^16 NP1:φs71.67000°, δ45.68000°, λ-143.73000°. NP2:φs314.53000°, δ64.96000°, λ-50.46000°. Principal axes: T 9.0023, Plg11.0000°, Azm17.0000°; N -0.6034, Plg35.0000°, Azm115.0000°; P -8.3989, Plg52.0000°, Azm272.0000°;*

NEIC ***07*** *09:26:13.7,1°.67S×77°.93W,h140km*

NEIC ***07*** *09:26:13.1±2.2,1°.70S±0°.05×77°.91W±0°.07,h138km±4km, mb5.2/619, Mww5.2/38, Error ellipse: s-maj=10.2km s-min=7.6km az=97.0*

GCMT ***07*** *09:26:16.1±0.1,1°.73S±0°.01×78°.14W±0°.01,h162km, MW5.3/135, Moment Tensor Solution. s104,c138; s135,c233; Duration: 1ŝ0 Moment tensor: Scale 10^17 Nm; Mrr-0.87±.01; Mθθ0.67±.01; Mφφ0.20±.02; Mrθ0.08±.01; Mθφ-0.50±.01; Mφr-0.28±.01; Best double couple: M0 0.97800×10^17 NP1:φs315.00000°, δ53.00000°, λ-74.00000°. NP2:φs110.00000°, δ40.00000°, λ-110.00000°. Principal axes: T 1.0140, Plg7.0000°, Azm34.0000°; N -0.0730, Plg13.0000°, Azm125.0000°; P -0.9420, Plg76.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

UPA ***07*** *09:26:17.3±2.1,1°.03S×77°.86W,h0km±877km, MW5.3*

ISC 07 09:26:13.5±0.3,1°.69S±0°.03×78°.05W±0°.04,h155km±2km, **h156km:pP-P,n1546,**σ1§**26**/1458,**mb5.1**/386,**13C-38D, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**0.20**	**6**	P	**Pn**	**09 26 34.0**	**-0.6**
BULB	**Ulba Tungurahu**	**0.44**	**304**	P	**Pn**	**09 26 34.0**	**-1.7**
ARRY	**Arrayan**	**0.45**	**294**	P	**Pn**	**09 26 35.0**	**-0.7**
ARRY				S	**Sn**	**09 26 51.0**	**-1.5**
RETU	**Refugio**	**0.47**	**300**	P	**Pn**	**09 26 35.0**	**-1.0**
BRUN	**Tungurahua Vol**	**0.47**	**305**	P	**Pn**	**09 26 34.0**	**-1.7**
BMAS	**Trigal station**	**0.47**	**293**	P	**Pn**	**09 26 34.0**	**-1.8**
TUYU	**Q. Yuibug Volc**	**0.47**	**295**	P	**Pn**	**09 26 34.0**	**-1.9**
POND	**Pondoa**	**0.49**	**303**	P	**Pn**	**09 26 34.0**	**-1.8**
JUI6	**Juive**	**0.50**	**302**	P	**Pn**	**09 26 34.0**	**-1.8**
BBIL	**Ulba Tungurahu**	**0.50**	**298**	P	**Pn**	**09 26 35.0**	**-0.9**
IGUA	**Igualata**	**0.62**	**288**	P	**Pn**	**09 26 36.0**	**-0.8**
ARIO	**Riobamba**	**0.65**	**273**	P	**Pn**	**09 26 36.0**	**-0.7**
PIS1	**Pisayambo**	**0.71**	**331**	P	**Pn**	**09 26 36.0**	**-1.3**
PIS1				S	**Sn**	**09 26 56.0**	**+0.6**
PIAT	**Ana Tenorio**	**0.72**	**342**	P	**Pn**	**09 26 36.0**	**-1.2**
PIAT				S	**Sn**	**09 26 54.0**	**-1.3**
PIAT	**Ana Tenorio**	**0.72**	**342**	*eP*	**Pn**	**09 26 37.0**	**-0.2**
PIAT				*eS*	**Sn**	**09 26 55.2**	**-0.1**
ARDO	**Archidona, Ten**	**0.73**	**20**	P	**Pn**	**09 26 36.0**	**-0.9**
ARDO				S	**Sn**	**09 26 54.0**	**-0.8**
TAMH	**Tambohuasha Ch**	**0.75**	**281**	P	**Pn**	**09 26 36.0**	**-1.5**
PORT	**Chimborazo Vol**	**0.76**	**287**	P	**Pn**	**09 26 37.0**	**-0.7**
PORT				S	**Sn**	**09 26 56.0**	**0.0**
CHSH	**Refugio Sur-Vo**	**0.85**	**283**		**Pn**	**09 26 37.7**	**-0.5**
CHSH	**Refugio Sur-Vo**	**0.85**	**283**	P	**Pn**	**09 26 37.0**	**-1.3**
TAIS	**Taisha**	**0.88**	**142**	P	**Pn**	**09 26 38.0**	**+0.1**
TAIS				S	**Sn**	**09 26 57.0**	**+0.5**
VCES	**Cotopaxi**	**0.95**	**338**	P	**Pn**	**09 26 38.0**	**-1.0**
VCES				S	**Sn**	**09 26 58.0**	**-0.5**
ALAT	**Latacunga**	**0.95**	**323**	P	**Pn**	**09 26 39.0**	**+0.2**
BRRN	**Barrancas-Volc**	**1.00**	**334**	P	**Pn**	**09 26 38.0**	**-1.3**
BMOR	**Cotopaxi Volca**	**1.04**	**336**	P	**Pn**	**09 26 39.0**	**-0.8**
TAMB	**Tambo**	**1.04**	**342**	P	**Pn**	**09 26 39.0**	**-0.8**
SLOR	**San Lorenzo -**	**1.05**	**335**	Pn	**Pn**	**09 26 39.2**	**-0.5**
SLOR	**San Lorenzo -**	**1.05**	**335**	P	**Pn**	**09 26 39.0**	**-0.8**
BTAM	**Cotopaxi Volca**	**1.06**	**341**	P	**Pn**	**09 26 39.0**	**-1.0**
SRAM	**San Ramn-Vol**	**1.07**	**331**	P	**Pn**	**09 26 39.0**	**-0.8**
BREF	**Cotopaxi Volca**	**1.09**	**339**	P	**Pn**	**09 26 40.0**	**-0.3**
BVC2	**Cotopaxi Volca**	**1.09**	**340**	P	**Pn**	**09 26 40.0**	**-0.2**
VC1	**Cotopaxi 1**	**1.10**	**341**	P	**Pn**	**09 26 40.0**	**-0.3**
BNAS	**Cotopaxi Volca**	**1.10**	**337**	P	**Pn**	**09 26 41.0**	**+0.8**
CAMI	**Rancho Maria**	**1.10**	**335**	P	**Pn**	**09 26 39.0**	**-1.2**
SUCR	**Mariscal Sucre**	**1.13**	**337**	P	**Pn**	**09 26 40.0**	**-0.5**
PAST	**Pastocalle**	**1.15**	**329**	P	**Pn**	**09 26 40.0**	**-0.6**
ANTM	**Antisana-La Mi**	**1.16**	**351**	P	**Pn**	**09 26 40.0**	**-0.8**
ILLI	**Illinizas Sur**	**1.18**	**325**	P	**Pn**	**09 26 41.0**	**0.0**
PITA	**Cotopaxi Volc**	**1.19**	**341**	P	**Pn**	**09 26 41.0**	**0.0**
ANTS	**Antisana-Sarah**	**1.19**	**354**	P	**Pn**	**09 26 41.0**	**-0.1**
ANTS				S	**Sn**	**09 27 03.0**	**+0.7**
ANTG	**Antisana-Guama**	**1.20**	**350**	P	**Pn**	**09 26 41.0**	**-0.1**
ANTI	**Antisana**	**1.24**	**355**	P	**Pn**	**09 26 41.0**	**-0.6**
TOMA	**Boca Toma-Volc**	**1.24**	**342**	P	**Pn**	**09 26 41.0**	**-0.4**
APS4	**Papallacta**	**1.31**	**357**	P	**Pn**	**09 26 41.0**	**-1.0**
AZOG	**Ecuador-Azogue**	**1.33**	**217**	P	**Pn**	**09 26 41.0**	**-1.1**

COHC	**Cochancay**	**1.44**	**237**		**Pn**	**09 26 41.5**	**-1.3**
COHC				Sn	**Sn**	**09 27 04.0**	**-1.3**
COHC	**Cochancay**	**1.44**	**237**	P	**Pn**	**09 26 40.0**	**-2.8**
COHC	**Cochancay**	**1.44**	**237**	*eP*	**Pn**	**09 26 41.2**	**-1.6**
TING	**Casa Alexandra**	**1.45**	**344**	P	**Pn**	**09 26 44.0**	**+0.6**
AV05	**Acelerografo,**	**1.52**	**14**	P	**Pn**	**09 26 44.0**	**+0.1**
ACUE	**Ecuador-Cuenca**	**1.52**	**217**	P	**Pn**	**09 26 43.0**	**-1.0**
BOSC	**San Juan Bosco**	**1.52**	**197**	Pn	**Pn**	**09 26 43.5**	**-0.4**
BOSC	**San Juan Bosco**	**1.52**	**197**	P	**Pn**	**09 26 43.0**	**-0.9**
EPNL	**EPN Laboratori**	**1.53**	**343**	P	**Pn**	**09 26 45.0**	**+0.8**
GGPT	**Toaza - Volcan**	**1.56**	**338**	P	**Pn**	**09 26 44.0**	**-0.6**
JUA2	**San Juan 2**	**1.57**	**339**	P	**Pn**	**09 26 44.0**	**-0.7**
AQUE	**Quevedo**	**1.58**	**294**	P	**Pn**	**09 26 43.0**	**-1.3**
AQUE				S	**Sn**	**09 27 06.0**	**-1.9**
FENV	**Casa Vinicio C**	**1.59**	**344**	P	**Pn**	**09 26 45.0**	**+0.2**
GGPC	**Guagua Pichinc**	**1.60**	**340**	P	**Pn**	**09 26 44.0**	**-1.1**
TERV	**Terraza Guagua**	**1.60**	**340**	P	**Pn**	**09 26 44.0**	**-1.2**
AMIL	**Milagro (Trans**	**1.61**	**254**	P	**Pn**	**09 26 41.0**	**-3.6**
MILO	**Milagro-Astudi**	**1.62**	**249**	P	**Pn**	**09 26 41.0**	**-3.7**
PINO	**Pino**	**1.62**	**340**	P	**Pn**	**09 26 44.0**	**-1.4**
REVS	**Reventador Sur**	**1.63**	**15**	P	**Pn**	**09 26 45.0**	**-0.1**
LAV4	**Lava4-Reventad**	**1.64**	**15**	P	**Pn**	**09 26 45.0**	**-0.3**
GBMB	**Ecuador-Guayll**	**1.64**	**349**	P	**Pn**	**09 26 46.0**	**+0.7**
CAYR	**Refugio Cayamb**	**1.69**	**1**	P	**Pn**	**09 26 47.0**	**+0.8**
ANGU	**Angureal**	**1.72**	**1**	P	**Pn**	**09 26 47.0**	**+0.5**
APR1	**Acelerografo,**	**1.73**	**341**	P	**Pn**	**09 26 47.0**	**+0.7**
CAYA	**Cayambe**	**1.75**	**2**	P	**Pn**	**09 26 47.0**	**+0.3**
PULU	**Pululahua**	**1.76**	**345**		**Pn**	**09 26 46.2**	**-0.5**
PULU	**Pululahua**	**1.76**	**345**	P	**Pn**	**09 26 46.0**	**-0.7**
ASDO	**Santo Domingo**	**1.78**	**323**	P	**Pn**	**09 26 44.0**	**-2.6**
AV03	**Acelerografo,**	**1.87**	**23**	P	**Pn**	**09 26 47.0**	**-0.6**
GYE3	**Ecuador-Guayaq**	**1.91**	**256**	P	**Pn**	**09 26 44.0**	**-3.9**
AGUAY	**Guayaquil**	**1.94**	**259**	P	**Pn**	**09 26 45.0**	**-3.3**
CASC	**Dorado de Casc**	**1.94**	**21**	P	**Pn**	**09 26 48.0**	**-0.5**
OTAV	**Otavalo**	**1.96**	**348**	Pn	**Pn**	**09 26 48.7**	**-0.2**
OTAV	**Otavalo**	**1.96**	**348**	P	**Pn**	**09 26 48.0**	**-0.9**
OTAV	**Otavalo**	**1.96**	**348**	P	**Pn**	**09 26 48.7**	**-0.2**
OTAV	**Otavalo**	**1.96**	**348**	⇑*iP*	**Pn**	**09 26 48.8**	**-0.1**
OTAV				*eS*	**Sn**	**09 27 16.3**	**+0.1**
OTAV	**Otavalo**	**1.96**	**348**	*eP*	**Pn**	**09 26 48.9**	**-0.1**
IMBA	**Imbabura, San**	**1.96**	**355**		**Pn**	**09 26 49.8**	**+0.8**
IMBA	**Imbabura, San**	**1.96**	**355**	P	**Pn**	**09 26 50.0**	**+1.1**
APR2	**Miler**	**1.98**	**332**	P	**Pn**	**09 26 49.0**	**+0.2**
ACOT	**Cotacachi (Cas**	**1.98**	**353**	P	**Pn**	**09 26 50.0**	**+0.9**
CUSW	**Cuicocha Oeste**	**1.98**	**351**	P	**Pn**	**09 26 49.0**	**-0.2**
CUIC	**Cuicocha-Domo**	**2.00**	**351**	P	**Pn**	**09 26 49.0**	**-0.4**
AIB2	**Ibarra (Univer**	**2.02**	**358**	P	**Pn**	**09 26 51.0**	**+1.5**
COTA	**Cotacachi**	**2.03**	**352**	P	**Pn**	**09 26 50.0**	**+0.1**
YAHU	**Yahuarcocha**	**2.04**	**359**	P	**Pn**	**09 26 51.0**	**+1.1**
PAC1	**Pacto, Paraso**	**2.08**	**339**	P	**Pn**	**09 26 49.0**	**-1.1**
PAC1	**Pacto, Paraso**	**2.08**	**339**	*eP*	**Pn**	**09 26 49.9**	**-0.1**
PAC1				*eS*	**Sn**	**09 27 19.8**	**+1.6**
PAC1				*i*		09 27 27.8	
	comp=Z,7μm,0.3s						
URCU	**Urcuqui**	**2.12**	**354**	P	**Pn**	**09 26 50.0**	**-0.8**
BV15	**Pu

BARC Barichara 9.55 31 *eP* **Pn 09 28 26.4 -1.4**
APAC Apartado, Choc 9.63 9 *eP* **Pn 09 28 28.7 0.0**
ZARC Zaragoza, Cauc 9.66 19 *eP* **Pn 09 28 24.7 -4.3**
AZU Azuero 9.68 347 *eP* **Pn 09 28 30.4 +1.2**
AZU *eS* **Sn 09 30 14.1 -2.5**
AZU Azuero 9.68 347 *eP* **Pn 09 28 30.1 +0.9**
UREC San Jos de Ur 9.71 15 *eP* **Pn 09 28 27.3 -2.3**
CHIT3 Chitre 9.87 346 *eP* **Pn 09 28 33.1 +1.3**
CHIT3 *eS* **Sn 09 30 18.6 -2.6**
GMAL Guarumal, Vera 9.91 341 *eP* **Pn 09 28 33.9 +1.5**
UPD2 Meteti 10.17 0 *eP* **Pn 09 28 35.7 0.0**
UPD2 *eS* **Sn 09 30 24.1 -4.3**
UPD2 Meteti 10.17 0 *eP* **Pn 09 28 35.7 0.0**
TAMC Tame, Arauca 10.28 38 *eP* **Pn 09 28 35.4 -0.9**
NNA Nana 10.30 173 Pn **Pn 09 28 36.2 -1.3**
NNA Nana 10.30 173 *c/P* **Pn 09 28 36.2 -1.3**
NNA Nana 10.30 173 *eP* **Pn 09 28 36.3 -1.2**
NNA Nana 10.30 173 P **Pn 09 28 37.0 -0.5**
comp=Z,308nm,0.4s,baz=339,slow=12,SNR=44
NNA S Sn 09 30 20.9 -11
comp=Z,161nm,0.3s,baz=304,slow=22,SNR=5.9
PNME Penonome 10.36 347 *eP* **Pn 09 28 39.0 +0.8**
PNME Penonome 10.36 347 *eP* **Pn 09 28 38.6 +0.4**
PAMC Pamplona, Colo 10.43 31 *eP* **Pn 09 28 40.3 +0.6**
TOTI Torti 10.55 359 *eP* **Pn 09 28 40.4 -0.3**
TOTI *eS* **Sn 09 30 35.3 -2.4**
LCBC Los crdobas, 10.61 9 *eP* **Pn 09 28 40.6 -0.9**
UPA Univ. de Panam 10.70 352 *eP* **Pn 09 28 43.0 +0.3**
UPA ||*eS* **Sn 09 30 38.3 -3.0**
UPA Univ. de Panam 10.70 352 *eP* **Pn 09 28 42.6 -0.2**
CHPO Chepo, Panama 10.84 354 *eP* **Pn 09 28 45.2 +0.7**
BCIP Isla Barro Col 10.93 351 Pn **Pn 09 28 45.6 -0.1**
BCIP Isla Barro Col 10.93 351 *eP* **Pn 09 28 46.5 +0.8**
BCIP *eS* **Sn 09 30 43.9 -2.9**
BCIP Isla Barro Col 10.93 351 P **Pn 09 28 45.6 -0.1**
BCIP Isla Barro Col 10.93 351 *eP* **Pn 09 28 45.3 -0.4**
SGCB S£o Gabriel d 11.12 82 *eP* **Pn 09 28 45.1 -3.2**
CDITO Canoas 11.27 335 Pn **Pn 09 28 51.4 +1.1**
BRU2 Volcan 11.40 336 Pn **Pn 09 28 53.2 +1.2**
SJCC San Jacinto, C 11.86 14 *eP* **Pn 09 28 56.3 -1.6**
DRK0 Durika 12.05 335 Pn 09 29 01.9 +1.3
ARGC Ariguani, Magd 12.08 18 *eP* **Pn 09 28 59.6 -1.1**
RGM0 Gandoca 12.09 338 Pn 09 29 02.8 +1.9
PAYG Puerto Ayora 12.28 275 Pn 09 29 03.1 -0.2
RIMA Rio Macho 12.77 333 Pn 09 29 10.6 +0.7
SDV Santo Domingo 12.84 35 Pn **Pn 09 29 09.7 -1.1**
SDV Santo Domingo 12.84 35 *eP* **Pn 09 29 12.0 +1.2**
SDV Santo Domingo 12.84 35 *eP* **Pn 09 29 08.6 -2.2**
SDV Santo Domingo 12.84 35 P **Pn 09 29 09.9 -0.8**
comp=Z,91nm,0.7s,baz=235,slow=11,SNR=21
SDV LR LR 09 34 16.4
comp=Z,584nm,21.8s,baz=236,slow=38
BATAN Batan 12.86 336 Pn 09 29 11.8 +1.1
HDC Heredia 13.09 333 Pn 09 29 14.6 +0.7
HDC Heredia 13.09 333 *eP* **Pn 09 29 15.3 +1.5**
SMRC Santa Marta, M 13.32 16 *eP* **Pn 09 29 15.7 -1.0**
TEFE Tefe 13.52 98 *eP* **Pn 09 29 15.8 -3.5**
CRJC Cerrejon, Guaj 13.63 22 *eP* **Pn 09 29 18.0 -2.7**
SOCE Pocosol 13.66 332 Pn 09 29 22.6 +1.5
COVE Coope Vega, Sa 13.85 333 Pn 09 29 24.8 +1.4
ETMB Extrema 14.27 125 Pn 09 29 25.5 -3.2
BAUV El Baul 14.52 43 Pn 09 29 29.5 -2.3
BAUV El Baul 14.52 43 *e* P 09 29 40.7 +6.6
URIC Uribia, Colomb 14.60 24 *eP* **Pn 09 29 30.0 -2.8**
ESPN Las Esperanzas 15.13 336 P **Pn 09 29 38.9 -0.4**
ACON Acoyapa 15.30 333 Pn 09 29 41.6 +0.1
ACON Acoyapa 15.30 333 *eP* **P 09 29 42.7 -0.1**
PRVC Isla de Provid 15.32 348 *eP* **Pn 09 29 41.6 -0.1**
SAML Samuel 16.45 117 P **P 09 29 53.2 -2.3**
SAML Samuel 16.45 117 P **P 09 29 53.2 -2.3**
SAML Samuel 16.45 117 *eP* **P 09 29 52.9 -2.6**
SAML Samuel 16.45 117 *eP* **P 09 29 53.4 -2.2**
HATO Hato, Curacao 16.47 33 P 09 29 52.9 -2.8
MATN Matagalpa 16.50 332 P **P 09 29 55.9 -0.2**
LPAZ La Paz 17.49 147 P **P 09 30 07.8 +0.2**
LPAZ La Paz 17.49 147 *eP* **Pn 09 30 08.9 +0.3**
LPAZ La Paz 17.49 147 *eP* **Pn 09 30 08.8 +0.1**
LPAZ La Paz 17.49 147 P **Pn 09 30 09.0 +0.3**
comp=Z,76nm,0.6s,baz=333,slow=13,SNR=112
LPAZ S **S 09 33 23.0 +0.9**
comp=Z,66nm,0.8s,baz=134,slow=15,SNR=5.8
PCRV Puerto La Cruz 17.81 48 P **P 09 30 11.0 +0.5**
comp=Z,105nm,1.0s,baz=254,slow=6.7,SNR=19
BOAV Boa Vista 17.98 77 P **P 09 30 10.4 -2.0**
BOAV Boa Vista 17.98 77 *eP* **P 09 30 10.4 -2.0**
BOAV Boa Vista 17.98 77 *eP* **P 09 30 11.1 -1.3**
TGUH Tegucigalpa,Un 18.12 330 P **P 09 30 14.6 +0.6**
PB12 IPOC Station P 18.45 156 P **P 09 30 18.2 +0.8**
ESQI Esquipulas 19.64 326 P **P 09 30 31.7 +1.3**
MTDJ Mount Denham 19.80 1 P **P 09 30 32.4 +0.3**
MTDJ Mount Denham 19.80 1 *eP* **Pn 09 30 33.9 -1.4**
TA02 Huaiquique 20.02 158 P **P 09 30 35.5 +1.2**
TA01 Diego Aracena 20.27 158 P **P 09 30 38.3 +1.2**
PATCX Punta Patache 20.52 159 P **P 09 30 40.2 +0.4**
TRN Trinidad (W) 20.60 53 *eP* **P 09 30 39.5 -1.2**
TRN Trinidad (W) 20.60 53 *eP* **P 09 30 42.6 +2.0**
VILB Vilhena 20.92 123 P **P 09 30 44.3 +0.3**
VILB Vilhena 20.92 123 *eP* **P 09 30 44.4 +0.3**
GRGR Grenville 21.30 49 *e* P 09 30 39.5 -8.7
GRGR Grenville 21.30 49 *e* **P 09 30 43.8 -4.4**
GRW Mount Saint Ca 21.31 49 *e* **P 09 30 49.6 +1.3**
GRW Mount Saint Ca 21.31 49 *eP* P 09 30 59.3 +11
HUEH Huehuetenango 21.51 322 P **P 09 30 51.7 +1.1**
SDDR Presa de Saban 21.59 18 P **P 09 30 51.8 +0.6**
SDDR Presa de Saban 21.59 18 *eP* P 09 31 01.4 +10
GTBY Guantanamo Bay 21.67 7 P **P 09 30 52.6 +0.6**
GTBY Guantanamo Bay 21.67 7 *eP* **P 09 30 53.6 +1.6**
GCMP Grenada, Carri 21.69 49 *eP* P 09 30 41.3 -11
GCMP Grenada, Carri 21.69 49 *e* **P 09 30 49.7 -2.6**
PB04 IPOC Station P 21.91 160 P **P 09 30 55.0 +0.3**
SIV San Ignacio 21.95 131 P **P 09 30 55.0 0.0**
comp=Z,90nm,0.8s,baz=304,slow=11,SNR=126
comp=Z,90nm,0.8s
ITTB Itaituba 22.44 97 *eP* **P 09 30 59.0 -0.8**
PB06 IPOC Station P 22.46 159 IAmb IAmb 09 31 02.0
comp=Z,63nm,0.7s
LVC Limon Verde 22.61 158 P **P 09 31 02.2 +0.5**
LVC IAmb IAmb 09 31 05.6
comp=Z,99nm,0.9s
LVC Limon Verde 22.61 158 P **P 09 31 02.2 +0.5**
LVC pmax pmax
comp=Z,99nm,1.0s
LVC Limon Verde 22.61 158 *eP* **P 09 31 02.9 +1.2**
SJG San Juan 22.90 30 P **P 09 31 03.2 -0.7**
SJG IAmb IAmb 09 31 15.3
comp=Z,251nm,1.9s
SJG San Juan 22.90 30 P **P 09 31 03.2 -0.7**
SJG pmax pmax
comp=Z,251nm,2.0s
PB15 IPOC Station P 22.95 159 IAmb IAmb 09 31 39.0
comp=Z,98nm,1.0s
BBSD Serra de San D 23.05 133 *eP* **P 09 31 05.6 +0.2**
PTLB Pontes e Lacer 23.13 127 P **P 09 31 06.5 +0.3**
PTLB IAmb IAmb 09 31 08.2
comp=Z,134nm,0.9s
PTLB Pontes e Lacer 23.13 127 *eP* **P 09 31 06.4 +0.3**
NPGB Novo Progresso 23.23 104 *eP* **P 09 31 05.8 -1.4**
PDRB Porto dos Gac 23.33 116 *eP* **P 09 31 08.7 +0.6**
MALB Monte Alegre 23.77 91 *eP* **P 09 31 11.7 -0.3**
CLDB Colider 23.90 113 *eP* **P 09 31 12.8 -0.5**
PB14 IPOC Station P 23.97 163 IAmb IAmb 09 31 18.0
comp=Z,119nm,1.1s
BBRB Robore, Bolivi 24.33 134 *eP* **P 09 31 17.1 0.0**
GO02 Mina Guanaco 24.72 161 IAmb IAmb 09 31 25.7
comp=Z,101nm,0.8s
MCPB Macapa, AP 26.02 87 *eP* **P 09 31 30.9 -1.5**
SALV Santo Antonio 26.17 124 *eP* **P 09 31 34.4 +0.7**
MDP Montagnes des 26.26 75 LR LR 09 43 04.7
comp=Z,424nm,21.7s,baz=192,slow=39
AC02 Maricunga 26.43 162 IAmb IAmb 09 31 39.7
comp=Z,80nm,1.2s
AC06 Mina Casimiro 26.57 165 IAmb IAmb 09 31 39.3
comp=Z,44nm,0.8s
061Z Ochoppi 27.53 354 S **S 09 36 15.5 +0.1**
baz=174
PP1B Ponte de Pedra 27.71 126 *eP* **P 09 31 47.9 +0.4**
LCO Las Campanas 28.06 166 P **P 09 31 51.6 +0.8**
LCO IAmb IAmb 09 31 54.2
comp=Z,41nm,1.0s
LCO Las Campanas 28.06 166 P **P 09 31 51.6 +0.8**
LCO pmax pmax
comp=Z,41nm,1.0s

MURT Porto Murtinho 28.11 136 *eP* **P 09 31 50.4 -0.5**
SNDB Serra Nova Dou 28.42 112 *eP* **P 09 31 54.1 +0.2**
PRPB Paraupebas 28.51 100 *eP* **P 09 31 53.7 -0.9**
AQDB Aquidauana 28.72 132 P **P 09 31 56.3 -0.1**
AQDB Aquidauana 28.72 132 *eP* **P 09 31 56.6 +0.2**
CO01 Juntas del Tor 29.13 166 P **P 09 32 00.7 +0.4**
CO01 IAmb IAmb 09 32 03.0
comp=Z,43nm,1.2s
ARAG Araguaiana, MT 29.37 120 *eP* **P 09 32 02.5 +0.3**
ANTJ Antonio Joao (29.45 135 *eP* **P 09 32 03.1 +0.2**
DWPF Disney Wildern 29.80 354 P **P 09 32 06.1 +0.2**
baz=173
CO03 El Pedregal 29.82 167 IAmb IAmb 09 32 08.6
comp=Z,64nm,1.1s
TICA Tres Isletas 29.86 147 *eP* **P 09 32 08.1 +1.7**
ESFA Espinillo Form 29.86 142 *eP* **P 09 32 07.1 +0.6**
TMAB Tom-Au,PA,Br 29.94 92 *eP* **P 09 32 08.1 +0.8**
C2SB Chapadao do Su 29.98 126 *eP* **P 09 32 08.9 +1.4**
RPRD Ribas do Rio P 30.23 130 *eP* **P 09 32 10.6 +0.8**
ZON Zonda 30.99 164 IAmb IAmb 09 32 18.9
comp=Z,29nm,0.9s
SMTB Santa Maria do 31.13 104 *eP* **P 09 32 18.6 +0.7**
656A Willston 31.18 352 S **S 09 37 14.3 +1.7**
baz=171
CPUP Villa Florida 31.57 143 P **P 09 32 21.1 -0.4**
CPUP Villa Florida 31.57 143 P **P 09 32 21.1 -0.4**
CPUP pmax pmax
comp=Z,15nm,0.9s
CPUP Villa Florida 31.57 143 *eP* **P 09 32 21.2 -0.2**
CPUP Villa Florida 31.57 143 P **P 09 32 20.8 -0.7**
comp=Z,12nm,0.8s,baz=321,slow=8.9,SNR=28
CPUP PcP **PcP 09 35 10.6 +0.2**
comp=Z,12nm,1.0s,baz=270,slow=2.1,SNR=5.0
comp=Z,12nm,0.8s
CPUP Villa Florida 31.57 143 P **P 09 32 20.8 -0.7**
CPUP pP **pP 09 32 55.2 +0.7**
CPUP PcP **PcP 09 35 10.7 +0.3**
SCCA San Cayetano, 31.75 146 *eP* **P 09 32 24.1 +1.2**
MT02 Curacav 32.07 169 IAmb IAmb 09 32 37.9
comp=Z,64nm,1.2s
TRCB Terra Rica 32.39 132 *eP* **P 09 32 28.9 +0.1**
MCR1 Marechal Candi 32.42 136 *eP* **P 09 32 29.1 +0.1**
ITRB Iturama 32.46 125 *eP* **P 09 32 29.9 +0.5**
MT09 Talagante 32.60 169 IAmb IAmb 09 32 32.8
comp=Z,56nm,0.8s
MT01 Popeta 32.64 169 IAmb IAmb 09 32 31.9
comp=Z,68nm,1.4s
BDFB Brasilia 32.69 117 P **P 09 32 31.5 -0.1**
BDFB IAmb IAmb 09 33 05.3
comp=Z,84nm,1.4s
BDFB Brasilia 32.69 117 P **P 09 32 31.6 +0.1**
comp=Z,21nm,0.5s,baz=286,slow=10,SNR=32
BDFB PcP **PcP 09 35 13.8 0.0**
comp=Z,12nm,0.9s,baz=250,slow=7.1,SNR=3.3
comp=Z,21nm,0.5s
BO01 Tunca 33.18 169 IAmb IAmb 09 32 37.7
comp=Z,63nm,1.4s
MECA Mercedes 33.34 147 *eP* **P 09 32 37.1 +0.2**
TIGA Tifton 33.36 351 P **P 09 32 37.5 +0.5**
baz=170
IPMB Ipameri, GO 33.46 121 *eP* **P 09 32 37.7 -0.5**
257A Škidaway Islan 33.60 355 S **S 09 37 53.8 +3.7**
baz=174
BO02 Sierra Bellavi 33.62 169 IAmb IAmb 09 32 45.1
comp=Z,35nm,0.9s
255A Hazlehurst 33.69 353 S **S 09 37 53.6 +2.1**
baz=172
BRAL Brewton 33.78 346 P **P 09 32 40.3 -0.3**
baz=164
LDASE Londrina, Braz 33.87 132 *eP* **P 09 32 40.6 -1.0**
ROSB Rosrio 33.91 93 *eP* **P 09 32 41.6 -0.4**
PTGB Pitanga 33.97 135 *eP* **P 09 32 42.0 -0.4**
FRBT Francisco Belt 34.07 137 *eP* **P 09 32 45.1 +1.8**
250A Grady 34.38 348 IAmb IAmb 09 32 50.2
comp=Z,45nm,1.2s
250A Grady 34.38 348 P **P 09 32 45.1 -0.6**
baz=165
154A Monroe 34.45 352 P **P 09 32 46.8 +0.4**
baz=171
154A S **S 09 38 02.1 -1.1**
baz=171
CRSM Crissiumal (Br 34.45 140 *eP* **P 09 32 45.5 -1.0**
ITQB Itaqui 34.49 146 P **P 09 32 46.7 0.0**
ITQB Itaqui 34.49 146 *eP* **P 09 32 46.8 0.0**
SDBA SAO DESIDERIO 34.52 110 *eP* **P 09 32 47.2 -0.2**
BB19B Bebedouro 34.63 126 *eP* **P 09 32 48.0 -0.2**
346A Big Creek Wild 34.64 343 P **P 09 32 48.6 +0.6**
baz=160
NHSC New Hope 34.67 357 P **P 09 32 49.0 +0.8**
baz=176
152A Waverly Hall 34.75 350 P **P 09 32 48.7 -0.3**
baz=168,SNR=5.5
HBVL Hebbronville 34.82 327 IAmb IAmb 09 32 52.5
comp=Z,83nm,1.2s
UNIS Unistalda (Bra 34.94 143 *eP* **P 09 32 50.2 -0.4**
FRTB Fartura 35.01 130 *eP* **P 09 32 50.9 -0.5**
HAW Hawthorne Fire 35.02 355 P **P 09 32 51.8 +0.5**
baz=174
HAW S **S 09 38 13.6 +1.7**
baz=174
344A Westbrook Farm 35.09 341 IAmb IAmb 09 32 53.5
comp=Z,28nm,0.8s
PMNB Patos De Minas 35.22 120 *eP* **P 09 32 53.5 +0.2**
GOGA Godfrey 35.28 352 P **P 09 32 52.8 -0.7**
baz=170
GOGA Godfrey 35.28 352 P **P 09 32 53.4 -0.1**
baz=170
Y60A Bolivia 35.50 360 S **S 09 38 21.0 +1.7**
baz=180
Y60A S **S 09 38 21.0 +1.7**
baz=180
ITAB Concordia 35.53 138 P **P 09 32 55.5 -0.3**
ITAB Concordia 35.53 138 *eP* **P 09 32 55.2 -0.5**
LRAL Lakeview Retre 35.56 347 P **P 09 32 55.4 -0.4**
LRAL Lakeview Retre 35.56 347 P **P 09 32 55.5 -0.4**
baz=164,SNR=8.5
LRAL Lakeview Retre 35.56 347 P **P 09 32 55.4 -0.4**
baz=164,SNR=8.5
Y57A Sumter 35.58 357 S **S 09 38 22.6 +2.1**
baz=176
Y57A S **S 09 38 22.6 +2.1**
baz=176
VBMS Vicksburg 35.73 342 P **P 09 32 56.7 -0.6**
baz=158
735A Kenedy 35.79 330 P **P 09 32 59.5 +1.6**
baz=145
RODS Rosario do Sul 35.81 145 *eP* **P 09 32 57.6 -0.4**
JANB Januaria 35.84 114 *eP* **P 09 32 57.9 -0.8**
JSC Jenkinsville 35.91 355 P **P 09 32 59.1 +0.3**
baz=174
Z47A Carrollton 35.97 346 IAmb IAmb 09 32 59.6
comp=Z,24nm,0.8s
Z47A Carrollton 35.97 346 P **P 09 32 58.8 -0.5**
baz=163,SNR=7.2
ALGR Alto Alegre (B 36.00 141 *eP* **P 09 32 58.5 -1.3**
BBSR BB Station 36.16 19 P **P 09 33 02.6 +1.7**
baz=203
833A Chaparral WMA, 36.20 327 IAmb IAmb 09 33 03.6
comp=Z,62nm,1.0s
833A Chaparral WMA, 36.20 327 P **P 09 33 02.0 +0.6**
baz=142,SNR=13
833A Chaparral WMA, 36.20 327 P **P 09 33 02.4 +1.0**
baz=142,SNR=13
BIRD Birdtown, Kers 36.21 357 IAmb IAmb 09 34 25.1
comp=Z,66nm,1.9s
BIRD Birdtown, Kers 36.21 357 S **S 09 38 30.3 +0.3**
baz=176
W59A Clinton 36.66 359 S **S 09 38 37.9 +1.0**
baz=179
W57A Gilead 36.69 357 P **P 09 33 05.8 +0.3**
baz=176
W57A P **P 09 33 05.8 +0.3**
baz=176
CNNC Cliffs of the 36.73 0 P **P 09 33 06.3 +0.5**
baz=180
KMSC Kings Mountain 36.77 355 P **P 09 33 05.6 -0.5**
baz=174
CASEE Lake Jocassee 36.77 353 P **P 09 33 06.6 +0.4**
baz=172
NATX Nacogdoches 36.81 336 IAmb IAmb 09 33 07.7
comp=Z,34nm,1.0s
NATX Nacogdoches 36.81 336 P **P 09 33 06.5 0.0**
baz=151
NATX Nacogdoches 36.81 336 P **P 09 33 07.0 +0.4**
baz=151
VAO Valinhos 36.85 128 *eP* **P 09 33 07.1 0.0**

CPSB Cacapava Do Su 36.88 143 *eP* **P 09 33 06.9 -0.3**
X48A Hartselle 36.93 348 P **P 09 33 06.5 -1.0**
baz=165
Y45A Yeager Farm, C 36.98 344 P **P 09 33 08.0 0.0**
Y45A Yeager Farm, C 36.98 344 P **P 09 33 08.0 0.0**
baz=160,SNR=10
HNDO Hondo 37.09 328 P **P 09 33 09.7 +0.7**
HNDO IAmb IAmb 09 33 11.1
comp=Z,86nm,0.9s
435B Jarrell 37.27 332 IAmb IAmb 09 33 12.1
comp=Z,148nm,2.0s
435B Jarrell 37.27 332 P **P 09 33 10.8 +0.3**
baz=146
435B Jarrell 37.27 332 P **P 09 33 11.6 +1.2**
baz=146
V58A Windy Hill, Pi 37.30 359 IAmb IAmb 09 33 12.2
comp=Z,30nm,0.8s
V58A Windy Hill, Pi 37.30 359 P **P 09 33 11.1 +0.5**
baz=178,SNR=7.9
V58A P **P 09 33 11.1 +0.5**
baz=178,SNR=7.9
V61A Roper 37.31 2 P **P 09 33 11.8 +1.1**
baz=182
V61A P **P 09 33 11.8 +1.1**
baz=182
W50A Signal Mountai 37.32 350 P **P 09 33 10.5 -0.4**
baz=168
237A Washetta, Mont 37.50 335 IAmb IAmb 09 33 13.8
comp=Z,54nm,0.8s
237A Washetta, Mont 37.50 335 P **P 09 33 13.0 +0.6**
baz=150,SNR=8.1
TKL Tuckaleechee C 37.54 352 S **S 09 38 45.8 -4.4**
baz=170
DIAM Diamantina, MG 37.54 118 *eP* **P 09 33 13.1 0.0**
BSCB Bom Sucesso 37.69 123 *eP* **P 09 33 14.1 -0.1**
V52A Sevierville 37.69 353 P **P 09 33 13.6 -0.3**
baz=171
DRIO Del Rio 37.73 327 IAmb IAmb 09 33 16.3
comp=Z,123nm,0.9s
CNLB Canela 37.75 139 *eP* **P 09 33 15.3 +0.8**
V51A Loudon 37.76 352 P **P 09 33 14.4 -0.1**
V51A Loudon 37.76 352 S **S 09 38 54.7 +1.2**
baz=170
PLTB Pedras Altas 37.77 145 P **P 09 33 13.5 -1.2**
PLTB IAmb IAmb 09 33 15.2
comp=Z,50nm,1.0s
PLTB Pedras Altas 37.77 145 *eP* **P 09 33 13.7 -1.0**
U59A Littleton 37.85 0 P **P 09 33 15.9 +0.7**
baz=180
U59A P **P 09 33 15.9 +0.7**
baz=180
U56A King 37.90 357 P **P 09 33 16.4 +0.7**
baz=176,SNR=7.7
U56A P **P 09 33 16.4 +0.7**
baz=176,SNR=7.7
WLAR White Oak Lake 37.94 339 IAmb IAmb 09 33 53.7
comp=Z,44nm,1.2s
PARB Paraibuna 38.09 127 *eP* **P 09 33 17.4 -0.1**
JCT Junction City 38.12 329 P **P 09 33 18.6 +0.9**
JCT Junction City 38.12 329 P **P 09 33 18.6 +0.9**
JCT pmax pmax
comp=Z,135nm,1.6s
JCT Junction City 38.12 329 P **P 09 33 18.3 +0.6**
baz=143,SNR=29
JCT Junction City 38.12 329 P **P 09 33 18.8 +1.1**
baz=143,SNR=29
LR03 Panguipulli 38.12 173 IAmb IAmb 09 33 19.1
comp=Z,35nm,0.9s
V48A Smith Brothers 38.13 348 IAmb IAmb 09 33 17.8
comp=Z,41nm,0.8s
V48A Smith Brothers 38.13 348 P **P 09 33 16.7 -0.9**
baz=166,SNR=19
U54A Nelsons Funny 38.18 355 P **P 09 33 18.0 -0.1**
baz=174
U54A P **P 09 33 18.0 -0.1**
baz=174
WHTX Lake Whitney, 38.22 333 IAmb IAmb 09 33 55.6
comp=Z,60nm,1.4s
WHTX Lake Whitney, 38.22 333 P **P 09 33 18.2 -0.2**
baz=148,SNR=5.3
WHTX Lake Whitney, 38.22 333 P **P 09 33 18.9 +0.5**
baz=148,SNR=5.3
Z38A Mt. Pleasant 38.26 337 IAmb IAmb 09 33 19.9
comp=Z,31nm,0.9s
Z38A Mt. Pleasant 38.26 337 P **P 09 33 19.1 +0.4**
baz=152
BRDY Brady 38.37 330 IAmb IAmb 09 33 21.1
comp=Z,33nm,1.0s
TZTN Tazewell 38.38 353 P **P 09 33 18.7 -0.9**
baz=171
TZTN Tazewell 38.38 353 S **S 09 39 03.2 +0.4**
baz=171
T59A Double "B" Far 38.47 1 IAmb IAmb 09 33 22.2
comp=Z,75nm,1.6s
T59A Double "B" Far 38.47 1 P **P 09 33 20.8 +0.4**
baz=181,SNR=9.1
T59A P **P 09 33 20.8 +0.4**
baz=181,SNR=9.1
T59A S **S 09 39 07.7 +3.6**
baz=181
T59A S **S 09 39 07.7 +3.6**
baz=181
T57A Hurt 38.51 358 IAmb IAmb 09 33 22.2
comp=Z,38nm,0.8s
T57A Hurt 38.51 358 P **P 09 33 20.9 +0.2**
baz=178
T57A P **P 09 33 20.9 +0.2**
baz=178
FW13 Cleburne 38.51 333 IAmb IAmb 09 33 22.0
comp=Z,20nm,0.7s
T60A Surry 38.65 2 S **S 09 39 10.2 +3.3**
baz=182
T60A S **S 09 39 10.2 +3.3**
baz=182
UALR University of 38.67 341 P **P 09 33 21.5 -0.6**
U49A Red Boiling Sp 38.68 350 IAmb IAmb 09 33 22.1
comp=Z,68nm,1.9s
U49A Red Boiling Sp 38.68 350 P **P 09 33 21.2 -1.0**
baz=167
WVT Waverly 38.71 347 P **P 09 33 20.7 -1.7**
WVT Waverly 38.71 347 P **P 09 33 20.7 -1.7**
WVT pmax pmax
comp=Z,12nm,0.7s
WVT Waverly 38.71 347 P **P 09 33 20.7 -1.7**
baz=164
WVT Waverly 38.71 347 P **P 09 33 20.5 -1.9**
baz=164,SNR=10
WVT Waverly 38.71 347 P **P 09 33 20.5 -1.9**
WVT PcP **PcP 09 35 30.7 -0.4**
BLA Blacksburg 38.77 357 P **P 09 33 22.4 -0.5**
baz=176
BLA Blacksburg 38.77 357 S **S 09 39 11.2 +2.5**
baz=176
MIAR Mount Ida 38.88 339 P **P 09 33 23.3 -0.6**
MIAR Mount Ida 38.88 339 P **P 09 33 23.3 -0.6**
MIAR pmax pmax
comp=Z,18nm,1.4s
MIAR Mount Ida 38.88 339 P **P 09 33 22.4 -1.4**
baz=155
ESAR Angra dos Reis 38.89 126 *eP* **P 09 33 24.8 +0.7**
FW07 Weatherford 38.97 333 IAmb IAmb 09 33 26.4
comp=Z,21nm,0.8s
SAND Sanderson 38.97 326 IAmb IAmb 09 33 27.2
comp=Z,20nm,0.7s
TRQA Tornquist 39.09 160 P **P 09 33 25.5 -0.1**
TRQA IAmb IAmb 09 33 26.8
comp=Z,48nm,0.9s
TRQA Tornquist 39.09 160 P **P 09 33 25.5 -0.1**
TRQA pmax pmax
comp=Z,48nm,1.0s
FW06 Azle 39.09 334 IAmb IAmb 09 33 27.2
comp=Z,26nm,0.8s
OZNA Ozona 39.17 328 IAmb IAmb 09 34 07.1
comp=Z,29nm,1.0s
S57A Dark Hollow, R 39.26 359 P **P 09 33 27.6 +0.6**
baz=178,SNR=6.8
S57A P **P 09 33 27.6 +0.6**
baz=178,SNR=6.8
S57A S **S 09 39 19.0 +3.0**
baz=178
S57A S **S 09 39 19.0 +3.0**
baz=178
Z35A Perchaven, San 39.26 334 IAmb IAmb 09 33 28.6
comp=Z,41nm,0.8s
Z35A Perchaven, San 39.26 334 P **P 09 33 27.5 +0.5**
baz=149,SNR=7.2
FW03 Perrin-Whitt E 39.38 333 IAmb IAmb 09 33 29.6

	comp=Z,36nm,0.7s					
T47A	Sharon Grove	39.39	349	IAmb	IAmb	09 33 27.6
	comp=Z,27nm,0.8s					
T47A	Sharon Grove	39.39	349	P	P	09 33 26.7 -1.4
	baz=166,SNR=8.7					
TXAR	Lajitas Array	39.40	323	P	P	09 33 29.4 +0.9
	comp=Z,15nm,0.9s,baz=146,slow=8.8,SNR=102					
TXAR				PcP	PcP	09 35 34.4 +0.8
	comp=Z,10nm,0.8s,baz=146,slow=6.4,SNR=16					
TXAR				LR	LR	09 51 52.8
	comp=Z,97nm,18.2s,baz=130,slow=39					
	comp=Z,15nm,0.9s					
TX31	Lajitas Ar. Si	39.40	323	IAmb	IAmb	09 33 30.5
	comp=Z,98nm,1.2s					
TX31	Lajitas Ar. Si	39.40	323	P	P	09 33 29.2 +0.8
	baz=137,SNR=43					
S54A	Dingess, Beckl	39.41	356	S	S	09 39 19.3 +1.0
	baz=175					
S54A				S	S	09 39 19.3 +1.0
	baz=175					
R58B	Mineral	39.45	0	IAmb	IAmb	09 34 09.2
	comp=Z,58nm,1.8s					
R58B	Mineral	39.45	0	S	S	09 39 21.1 +2.2
	baz=180					
R58B				S	S	09 39 21.1 +2.2
	baz=180					
PLCA	Paso Flores	39.45	171	P	P	09 33 29.6 +0.9
PLCA	Paso Flores	39.45	171	eP	P	09 33 29.7 +1.1
PLCA	Paso Flores	39.45	171	P	P	09 33 29.8 +1.1
	comp=Z,56nm,0.7s,baz=346,slow=9.4,SNR=172					
PLCA				PcP	PcP	09 35 34.1 +0.7
	comp=Z,25nm,0.9s,baz=348,slow=4.1,SNR=9.3					
	comp=Z,56nm,0.7s					
PLCA	Paso Flores	39.45	171	P	P	09 33 29.6 +0.9
PLCA				pP	pP	09 34 04.1 +1.4
PLCA				PcP	PcP	09 35 34.1 +0.7
S51A	Beattyville	39.47	353	P	P	09 33 28.1 -0.6
	baz=171,SNR=6.1					
S51A				P	P	09 33 28.1 -0.6
	baz=171,SNR=6.1					
LCAR	Lake Charles	39.50	343	IAmb	IAmb	09 33 28.8
	comp=Z,32nm,0.9s					
CBN	Corbin Frederi	39.70	1	IAmb	IAmb	09 33 32.1
	comp=Z,19nm,0.5s					
CBN	Corbin Frederi	39.70	1	P	P	09 33 30.4 -0.1
	baz=181					
T45B	Paducah	39.75	347	P	P	09 33 29.4 -1.6
	baz=163,SNR=6.9					
ABTX	Abilene, Hawle	39.77	331	P	P	09 33 31.5 +0.1
ABTX				IAmb	IAmb	09 33 33.3
	comp=Z,86nm,1.1s					
ABTX	Abilene, Hawle	39.77	331	P	P	09 33 31.9 +0.5
	baz=145,SNR=25					
ABTX	Abilene, Hawle	39.77	331	P	P	09 33 32.1 +0.7
	baz=145,SNR=25					
LOOK	Love County	39.80	335	IAmb	IAmb	09 33 33.2
	comp=Z,34nm,0.8s					
R55A	Marlinton	39.82	357	P	P	09 33 32.3 +0.6
	baz=177,SNR=8.7					
R55A				P	P	09 33 32.3 +0.6
	baz=177,SNR=8.7					
SJMB	Sao Joao De Ma	39.88	118	eP	P	09 33 32.0 -0.4
SGCY	Sterling City	39.95	329	IAmb	IAmb	09 33 34.6
	comp=Z,124nm,0.9s					
PBMO	Poplar Bluff	39.97	344	IAmb	IAmb	09 33 32.5
	comp=Z,27nm,0.8s					
PBMO	Poplar Bluff	39.97	344	P	P	09 33 31.5 -1.3
	baz=160,SNR=14					
SLBS	Sierra La Lagu	39.98	311	P	P	09 33 35.3 +2.1
SLBS				IAmb	IAmb	09 33 36.0
	comp=Z,80nm,1.1s					
SLBS	Sierra La Lagu	39.98	311	P	P	09 33 35.1 +1.9
SLBS				pP	pP	09 34 11.3 +3.0
R53A	Hurricane	39.98	355	S	S	09 39 26.0 -0.8
	baz=174					
R53A				S	S	09 39 26.0 -0.8
	baz=174					
ALPN	Alpine	40.15	325	IAmb	IAmb	09 33 36.8
	comp=Z,91nm,1.0s					
WTFS	Witchita Falls	40.17	333	IAmb	IAmb	09 33 37.1
	comp=Z,154nm,1.8s					
DUB01	Friburgo-RJ	40.17	123	eP	P	09 33 35.1 +0.2
R50A	Paris	40.19	352	P	P	09 33 33.7 -1.0
	baz=170,SNR=7.0					
R50A				P	P	09 33 33.7 -1.0
	baz=170,SNR=7.0					
U40A	Yellville	40.29	341	P	P	09 33 34.7 -0.8
	baz=157,SNR=20					
U40A				P	P	09 33 34.7 -0.8
	baz=157,SNR=20					
R49A	Shelbyville	40.32	351	P	P	09 33 34.9 -0.8
	baz=169					
R49A				P	P	09 33 34.9 -0.8
	baz=169					
T42A	Van Buren	40.38	344	P	P	09 33 34.4 -1.8
	baz=160					
GUA01	Guaratinga, BA	40.44	114	eP	P	09 33 36.9 -0.1
WCI	Wyandotte Cave	40.44	350	P	P	09 33 35.2 -1.5
WCI	Wyandotte Cave	40.44	350	P	P	09 33 35.2 -1.5
WCI				pmax	pmax	
	comp=Z,17nm,1.0s					
WCI	Wyandotte Cave	40.44	350	P	P	09 33 34.6 -2.1
	baz=167					
WCI	Wyandotte Cave	40.44	350	P	P	09 33 35.1 -1.7
	baz=167					
WCI	Wyandotte Cave	40.44	350	P	P	09 33 35.0 -1.7
WCI				PcP	PcP	09 35 35.9 -0.7
USIN	University of	40.45	348	P	P	09 33 35.7 -1.1
USIN				IAmb	IAmb	09 33 36.2
	comp=Z,48nm,0.8s					
S44A	Carbondale	40.54	346	P	P	09 33 36.4 -1.1
S44A				IAmb	IAmb	09 33 37.0
	comp=Z,30nm,0.8s					
S44A	Carbondale	40.54	346	P	P	09 33 35.7 -1.8
	baz=162,SNR=8.6					
Q56A	Snyder Ridge,	40.54	359	P	P	09 33 38.6 +1.1
	baz=178,SNR=6.6					
Q56A				P	P	09 33 38.6 +1.1
	baz=178,SNR=6.6					
SIUC	Southern Illin	40.55	346	IAmb	IAmb	09 33 37.1
	comp=Z,41nm,0.8s					
Q54A	Coxs Mills	40.55	357	P	P	09 33 37.4 -0.2
	baz=176					
Q54A				P	P	09 33 37.4 -0.2
	baz=176					
APMT	Aspermont	40.58	331	IAmb	IAmb	09 33 40.0
	comp=Z,219nm,1.6s					
SN01	Snyder 1	40.58	330	IAmb	IAmb	09 33 40.1
	comp=Z,65nm,1.0s					
Q52A	Bidwell	40.64	355	P	P	09 33 38.1 -0.2
	baz=173					
Q52A				P	P	09 33 38.1 -0.2
	baz=173					
RIB01	Linhares ES	40.80	118	eP	P	09 33 39.2 -0.8
LL01	San Ignacio de	40.83	174	IAmb	IAmb	09 33 41.1
	comp=Z,52nm,0.7s					
MGMO	Mountain Grove	40.84	343	IAmb	IAmb	09 33 40.0
	comp=Z,43nm,0.8s					
RLO	Rose Lookout	40.85	339	IAmb	IAmb	09 33 40.7
	comp=Z,20nm,0.9s					
ODSA	Odessa	40.86	327	IAmb	IAmb	09 33 41.7
	comp=Z,60nm,1.0s					
U38A	Gravette	40.87	340	P	P	09 33 39.2 -1.1
	baz=154,SNR=11					
TUL3	Leonard	40.91	338	IAmb	IAmb	09 34 17.4
	comp=Z,97nm,1.1s					
TUL3	Leonard	40.91	338	P	P	09 33 39.7 -0.9
	baz=152					
ALF01	Guarapari-ES	40.99	120	eP	P	09 33 41.2 -0.2
PECS	Pecos	41.02	325	IAmb	IAmb	09 33 44.0
	comp=Z,122nm,1.4s					
POST	Post	41.05	329	IAmb	IAmb	09 33 43.7
	comp=Z,55nm,1.0s					
P53A	Whipple	41.09	356	P	P	09 33 41.9 -0.1
	baz=175					
P53A				P	P	09 33 41.9 -0.1
	baz=175					
FVM	French Village	41.10	345	IAmb	IAmb	09 33 41.8
	comp=Z,39nm,0.8s					
FVM	French Village	41.10	345	P	P	09 33 41.4 -0.8
	baz=161,SNR=12					
DEOK	Depew	41.12	337	IAmb	IAmb	09 33 43.0
	comp=Z,93nm,1.5s					
WMOK	Wichita Mounta	41.12	334	P	P	09 33 41.6 -0.8
	baz=147,SNR=26					
WMOK	Wichita Mounta	41.12	334	P	P	09 33 41.8 -0.6
	baz=147,SNR=26					
MCWV	Mont Chateau	41.18	358	P	P	09 33 42.3 -0.5
	baz=177					
425A	Indio Mountain	41.24	324	IAmb	IAmb	09 33 45.6
	comp=Z,78nm,1.0s					
DKNS	Dickens	41.24	331	IAmb	IAmb	09 33 45.6
	comp=Z,87nm,0.9s					
P61A	Hammonton	41.27	4	S	S	09 39 51.1 +5.3
	baz=185					
P61A				S	S	09 39 51.1 +5.3
	baz=185					
OLIL	Olney	41.28	348	IAmb	IAmb	09 33 42.8
	comp=Z,36nm,0.8s					
OLIL	Olney	41.28	348	P	P	09 33 41.9 -1.6
	baz=164,SNR=7.9					
P52A	Corning	41.29	355	P	P	09 33 42.3 -1.3
	baz=174					
OK031	S. Brethren Rd	41.35	337	IAmb	IAmb	09 34 21.5
	comp=Z,60nm,1.0s					
OK052	Battle Ridge R	41.37	337	IAmb	IAmb	09 33 45.8
	comp=Z,78nm,1.2s					
CCM	Cathedral Cave	41.39	344	P	P	09 33 43.1 -1.4
CCM	Cathedral Cave	41.39	344	P	P	09 33 43.1 -1.4
CCM				pmax	pmax	
	comp=Z,21nm,0.7s					
CCM	Cathedral Cave	41.39	344	P	P	09 33 42.5 -1.9
	baz=160					
CCM	Cathedral Cave	41.39	344	P	P	09 33 42.8 -1.6
	baz=160,SNR=19					
CCM	Cathedral Cave	41.39	344	P	P	09 33 42.8 -1.6
CCM				pP	pP	09 34 18.9 -0.8
CCM				PcP	PcP	09 35 39.4 -0.3
OK029	Liberty Lake	41.46	336	IAmb	IAmb	09 33 45.8
	comp=Z,63nm,1.1s					
OK033	Mehan	41.47	337	IAmb	IAmb	09 33 46.0
	comp=Z,97nm,1.4s					
P49A	Miami Univ. Ec	41.48	352	P	P	09 33 42.8 -2.4
	baz=170					
P49A	Miami Univ. Ec	41.48	352	P	P	09 33 43.3 -1.8
	baz=170					
QUOK	Quay	41.49	337	IAmb	IAmb	09 33 47.0
	comp=Z,68nm,1.3s					
Q44A	Meyer Farm, Va	41.64	347	IAmb	IAmb	09 33 45.6
	comp=Z,43nm,0.8s					
S39A	Bolivar	41.66	342	P	P	09 33 45.3 -1.3
	baz=157,SNR=10					
LL02	Futaleuf	41.69	173	P	P	09 33 47.1 +0.2
LL02				IAmb	IAmb	09 33 48.5
	comp=Z,66nm,1.1s					
PAGS	Pennsylvania G	41.73	2	IAmb	IAmb	09 33 49.2
	comp=Z,107nm,1.9s					
PABK	Blue Knob Stat	41.76	359	P	P	09 33 48.4 +0.9
	baz=179					
OK048	Pawnee Station	41.80	337	IAmb	IAmb	09 33 48.8
	comp=Z,101nm,1.7s					
O53A	New Philadelph	41.84	356	P	P	09 33 46.4 -1.7
	baz=175					
ABR01	Abrolhos, BA	41.87	115	eP	P	09 33 49.9 +1.2
R40A	Maddies Statio	41.89	343	P	P	09 33 46.8 -1.8
	baz=158,SNR=10					
ACSO	Alum Creek Sta	41.96	354	P	P	09 33 49.1 0.0
	baz=172,SNR=5.2					
ACSO	Alum Creek Sta	41.96	354	P	P	09 33 48.9 -0.2
	baz=172,SNR=5.2					
PANJ	Princeton	41.98	4	P	P	09 33 50.8 +1.6
	baz=185,SNR=12					
T35B	Sooner Cattle	42.07	338	P	P	09 33 49.9 -0.2
	baz=152					
O49A	Covington	42.07	353	P	P	09 33 48.8 -1.2
	baz=170					
O49A				P	P	09 33 48.8 -1.2
	baz=170					
SSPA	Standing Stone	42.12	0	P	P	09 33 50.7 +0.3
SSPA	Standing Stone	42.12	0	P	P	09 33 48.8 -1.6
	baz=180					
SSPA	Standing Stone	42.12	0	P	P	09 33 51.0 +0.6
	baz=180,SNR=12					
SSPA	Standing Stone	42.12	0	P	P	09 33 51.0 +0.6
SSPA				pP	pP	09 34 26.0 +0.6
SSPA				PcP	PcP	09 35 41.9 -0.2
MNTX	Cornudas Mount	42.13	324	IAmb	IAmb	09 33 52.4
	comp=Z,49nm,1.0s					
MNTX	Cornudas Mount	42.13	324	P	P	09 33 51.1 +0.4
	baz=137,SNR=68					
MNTX	Cornudas Mount	42.13	324	P	P	09 33 51.2 +0.5
	baz=137,SNR=68					
LUPA	Lehigh Univers	42.16	3	P	P	09 33 51.6 +1.0
LUPA				IAmb	IAmb	09 33 53.1
	comp=Z,31nm,0.8s					
BLOK	Blackwell	42.20	337	IAmb	IAmb	09 33 52.2
	comp=Z,132nm,1.6s					
RCBR	Riachuelo	42.24	97	eP	P	09 33 51.7 -0.1
RCBR	Riachuelo	42.24	97	LR	LR	09 52 25.4
	comp=Z,254nm,20.0s,baz=254,slow=37					
O48B	Farmland	42.25	352	P	P	09 33 49.6 -1.8
	baz=169,SNR=7.3					
O48B	Farmland	42.25	352	P	P	09 33 49.9 -1.5
	baz=169,SNR=7.3					
CROK	Carrier	42.29	336	IAmb	IAmb	09 33 52.6
	comp=Z,60nm,1.0s					
N53A	Lisbon	42.37	357	P	P	09 33 51.8 -0.6
	baz=176					
N53A				P	P	09 33 51.8 -0.6
	baz=176					
MSTX	Muleshoe	42.41	329	P	P	09 33 53.8 +0.8
	baz=142,SNR=49					
MSTX	Muleshoe	42.41	329	P	P	09 33 53.5 +0.5
	baz=142,SNR=49					
P43A	Skaggs, Pawnee	42.45	347	IAmb	IAmb	09 33 52.4
	comp=Z,38nm,0.9s					
P43A	Skaggs, Pawnee	42.45	347	P	P	09 33 51.5 -1.6
	baz=163,SNR=7.6					
PAMR	Moraine State	42.47	358	P	P	09 33 53.0 -0.1
	baz=177					
FOR	Fordham	42.52	5	P	P	09 33 54.3 +0.7
	baz=186					
OK038	West end E0370	42.58	335	IAmb	IAmb	09 33 55.2
	comp=Z,25nm,0.7s					
AMTX	Amarillo	42.59	331	P	P	09 33 54.9 +0.5
AMTX				IAmb	IAmb	09 33 56.0
	comp=Z,65nm,0.9s					
AMTX	Amarillo	42.59	331	P	P	09 33 54.6 +0.1
	baz=144					
AMTX	Amarillo	42.59	331	P	P	09 33 55.1 +0.7
	baz=144,SNR=27					
U32A	Winter Ranch,	42.61	335	IAmb	IAmb	09 33 55.8
	comp=Z,86nm,1.1s					
U32A	Winter Ranch,	42.61	335	P	P	09 33 54.8 +0.4
	baz=148,SNR=11					
PSDB	Penn State Uni	42.62	359	P	P	09 33 54.9 +0.5
	baz=179					
OK032	Salt Plains WL	42.64	336	IAmb	IAmb	09 33 55.6
	comp=Z,52nm,1.1s					
PAL	Palisades	42.66	5	P	P	09 33 54.0 -0.7
	baz=186,SNR=5.4					
PAL	Palisades	42.66	5	P	P	09 33 53.4 -1.3
	baz=186,SNR=5.4					
PAL				S	S	09 40 04.7 -1.5
	baz=186					
KAN17	Caldwell West	42.67	337	IAmb	IAmb	09 33 55.9
	comp=Z,64nm,0.9s					
KAN14	Manchester OK	42.67	336	IAmb	IAmb	09 33 55.8
	comp=Z,64nm,1.2s					
SFIN	Lafayette	42.67	350	P	P	09 33 54.4 -0.4
	baz=166					
ODNJ	Ogdensburg	42.68	4	P	P	09 33 55.5 +0.6
	baz=185					
OK035	E0210 Rd and N	42.76	335	IAmb	IAmb	09 33 56.8
	comp=Z,35nm,0.9s					
TRNY	Table Rock, Ra	42.77	4	IAmb	IAmb	09 33 57.6
	comp=Z,32nm,0.8s					
N49A	Columbus Grove	42.77	353	P	P	09 33 54.4 -1.2
	baz=171,SNR=7.3					
N49A				P	P	09 33 54.4 -1.2
	baz=171,SNR=7.3					
NOKA	Waynoka	42.79	335	IAmb	IAmb	09 33 57.4
	comp=Z,75nm,0.9s					
AY01	Puyuhuapi	42.82	174	P	P	09 33 56.3 +0.3
AY01				IAmb	IAmb	09 33 57.6
	comp=Z,63nm,0.9s					
M57A	Sunshine Farm,	42.83	1	IAmb	IAmb	09 33 57.9
	comp=Z,29nm,0.8s					
M57A	Sunshine Farm,	42.83	1	P	P	09 33 57.0 +0.9
	baz=181,SNR=13					
M57A				P	P	09 33 57.0 +0.9
	baz=181,SNR=13					
WSPT	Westport, CT	42.87	5	IAmb	IAmb	09 33 58.1
	comp=Z,34nm,0.8s					
KAN06	Argonia West S	42.88	337	IAmb	IAmb	09 33 57.8
	comp=Z,129nm,1.5s					
KAN08	Anthony NE Sta	42.91	336	IAmb	IAmb	09 33 57.9
	comp=Z,58nm,1.0s					
N47A	Urbana	42.94	351	P	P	09 33 55.1 -1.9
	baz=169					
N47A				P	P	09 33 55.1 -1.9
	baz=169					
KAN12	Harper NE Stat	42.98	336	IAmb	IAmb	09 33 58.5
	comp=Z,95nm,1.1s					
P40A	Paris	42.98	344	P	P	09 33 55.3 -2.0
	baz=159,SNR=5.8					
M53A	WI Miller and	42.99	357	P	P	09 33 57.9 +0.5
	baz=176					
BRNY	Black Rk. Fore	43.06	4	P	P	09 33 58.8 +0.9
	baz=186					
KSPA	Keystone Colle	43.09	3	P	P	09 33 59.2 +1.0
	baz=183,SNR=6.3					
ALLY	Alegheny Colle	43.18	358	P	P	09 33 58.5 -0.4
	baz=177					
M63A	Gales Ferry	43.23	7	IAmb	IAmb	09 34 01.4
	comp=Z,44nm,1.0s					
M63A	Gales Ferry	43.23	7	P	P	09 34 00.5 +1.2
	baz=189,SNR=6.6					
M63A				P	P	09 34 00.5 +1.2
	baz=189,SNR=6.6					
HDIL	Hopedale	43.28	347	P	P	09 33 57.6 -2.1
	baz=163,SNR=15					
HDIL	Hopedale	43.28	347	P	P	09 33 57.7 -2.1
	baz=163,SNR=15					
NPNY	Mohonk Preserv	43.38	4	P	P	09 34 01.4 +0.9
	baz=186,SNR=5.1					
NPNY				S	S	09 40 20.9 +4.2
	baz=186					
UCCT	U. Connecticut	43.60	6	IAmb	IAmb	09 34 03.0
	comp=Z,30nm,0.8s					
L56A	Greenwood	43.62	1	P	P	09 34 02.9 +0.4
	baz=180,SNR=9.0					
L56A				P	P	09 34 02.9 +0.4
	baz=180,SNR=9.0					
ERPA	Erie	43.64	358	P	P	09 34 02.7 +0.1
	baz=177					
BINY	Binghamton	43.72	2	IAmb	IAmb	09 34 05.5
	comp=Z,33nm,0.8s					
BINY	Binghamton	43.72	2	P	P	09 34 04.0 +0.8
	baz=183,SNR=15					
BINY	Binghamton	43.72	2	P	P	09 34 04.4 +1.2
	baz=183,SNR=15					
L59A	Walton	43.76	3	P	P	09 34 04.5 +0.9
	baz=184,SNR=6.8					
L59A				P	P	09 34 04.5 +0.9
	baz=184,SNR=6.8					
L59A				S	S	09 40 26.7 +4.4
	baz=184					
L59A				S	S	09 40 26.7 +4.4
	baz=184					
L64A	Middleborough	43.91	8	P	P	09 34 05.5 +0.8
	baz=190,SNR=6.6					
L64A				P	P	09 34 05.5 +0.8
	baz=190,SNR=6.6					
COYC	Coyhaique	44.02	174	P	P	09 34 06.1 +0.5
COYC				IAmb	IAmb	09 34 07.6
	comp=Z,76nm,0.9s					
COYC	Coyhaique	44.02	174	P	P	09 34 06.7 +1.1
COYC				pP	pP	09 34 41.4 +1.0
COYC				sP	sP	09 35 01.0 +3.0
COYC				PcP	PcP	09 35 48.6 +0.2
KSU1	Kansas State U	44.03	339	IAmb	IAmb	09 34 06.0
	comp=Z,34nm,0.8s					
KSU1	Kansas State U	44.03	339	P	P	09 34 05.5 -0.3
	baz=153,SNR=9.4					
KSU1	Kansas State U	44.03	339	P	P	09 34 05.1 -0.7
	baz=153,SNR=9.4					
QUA2	Belchertown	44.07	6	P	P	09 34 06.7 +0.7
	baz=188					
AAM	Ann Arbor	44.08	354	P	P	09 34 06.8 +0.8
	baz=172					
121A	Cookes Peak, D	44.15	323	IAmb	IAmb	09 34 10.1
	comp=Z,102nm,1.1s					
121A	Cookes Peak, D	44.15	323	P	P	09 34 08.4 +1.3
	baz=135,SNR=48					
121A	Cookes Peak, D	44.15	323	P	P	09 34 08.8 +1.8
	baz=135,SNR=48					
L61B	Northampton	44.20	6	P	P	09 34 08.2 +1.2
	baz=188					
L61B	Northampton	44.20	6	S	S	09 40 32.1 +3.5
	baz=188					
R32A	Long Quarter,	44.23	337	IAmb	IAmb	09 34 08.8
	comp=Z,53nm,1.1s					
R32A	Long Quarter,	44.23	337	P	P	09 34 07.8 +0.4
	baz=150,SNR=11					
K57A	Scipio Center	44.24	2	IAmb	IAmb	09 34 09.0
	comp=Z,51nm,0.8s					
K57A	Scipio Center	44.24	2	P	P	09 34 07.6 +0.3
	baz=182,SNR=12					
K57A				S	S	09 40 27.7 -1.4
	baz=182					
HCNY	Howe Caverns	44.30	4	P	P	09 34 08.7 +0.9
	baz=185,SNR=6.4					
HCNY				S	S	09 40 30.6 +0.5
	baz=185					
HRV	Adam Dziewonsk	44.38	7	P	P	09 34 09.6 +1.1
TRY	Troy	44.39	5	P	P	09 34 10.6 +2.1
	baz=186,SNR=6.0					
TRY				S	S	09 40 34.6 +3.3
	baz=186					
K62A	Royalston	44.46	6	P	P	09 34 10.0 +0.9
	baz=188,SNR=5.9					
K62A				P	P	09 34 10.0 +0.9
	baz=188,SNR=5.9					
N38A	Joes South For	44.49	344	IAmb	IAmb	09 34 08.8
	comp=Z,51nm,0.8s					
N38A	Joes South For	44.49	344	P	P	09 34 07.9 -1.5
	baz=158,SNR=7.6					
Y22A	Socorro	44.67	325	P	P	09 34 12.8 +1.6
	baz=137,SNR=15					
L42A	Oliver, Polo	44.75	348	IAmb	IAmb	09 35 52.0
	comp=Z,36nm,0.8s					
L42A	Oliver, Polo	44.75	348	P	P	09 34 09.1 -2.2
	baz=163,SNR=5.5					
Y22D	IRIS PASSCAL I	44.75	325	IAmb	IAmb	09 35 53.4
	comp=Z,46nm,1.0s					
Y22D	IRIS PASSCAL I	44.75	325	P	P	09 34 12.3 +0.6
	baz=137					
Y22D	IRIS PASSCAL I	44.75	325	P	P	09 34 13.7 +2.0
	baz=137					
Y22F	Passcal Instru	44.75	325	P	P	09 34 12.2 +0.5
	baz=137					
J54A	Appleton	44.76	359	IAmb	IAmb	09 34 12.1
	comp=Z,29nm,0.8s					
J56A	Wolcott	44.77	1	IAmb	IAmb	09 34 12.4
	comp=Z,57nm,0.7s					
J56A	Wolcott	44.77	1	P	P	09 34 11.5 0.0
	baz=182,SNR=14					
J56A				P	P	09 34 11.5 0.0
	baz=182,SNR=14					
J58A	Remsen	44.91	3	P	P	09 34 13.0 +0.3
	baz=184,SNR=7.2					
J58A				P	P	09 34 13.0 +0.3
	baz=184,SNR=7.2					
J58A				S	S	09 40 39.2 +0.3
	baz=184					
J58A				S	S	09 40 39.2 +0.3
	baz=184					
J57A	Williamstown	44.93	2	P	P	09 34 13.2 +0.4
	baz=183					
J57A				P	P	09 34 13.2 +0.4
	baz=183					
J57A				S	S	09 40 39.4 +0.3
	baz=183					
J57A				S	S	09 40 39.4 +0.3
	baz=183					
CBKS	Cedar Bluff	44.98	336	IAmb	IAmb	09 34 15.1
	comp=Z,64nm,0.8s					
CBKS	Cedar Bluff	44.98	336	P	P	09 34 13.9 +0.5
	baz=148,SNR=8.2					
CBKS	Cedar Bluff	44.98	336	P	P	09 34 13.9 +0.5
	baz=148,SNR=8.2					
ACCN	Adirondack Com	45.04	5	P	P	09 34 14.3 +0.6
	baz=186,SNR=7.7					
UNH	University of	45.04	7	P	P	09 34 14.1 +0.4
	baz=190,SNR=8.8					
UNH				S	S	09 40 44.4 +3.7
	baz=190					
J59A	Piesco	45.06	4	IAmb	IAmb	09 34 15.8
	comp=Z,38nm,0.9s					
J59A	Piesco	45.06	4	P	P	09 34 14.6 +0.7
	baz=185,SNR=19					
J59A				P	P	09 34 14.6 +0.7

	baz=185,SNR=19						
J59A				S	S	09 40 44.6	+3.6
	baz=185						
J59A				S	S	09 40 44.6	+3.6
	baz=185						
J61A	**Chester**	**45.10**	**6**	P	P	09 34 15.4	+1.3
	baz=188,SNR=5.2						
J61A				P	P	09 34 15.4	+1.3
	baz=188,SNR=5.2						
J61A				S	S	09 40 42.5	+1.0
	baz=188						
J61A				S	S	09 40 42.5	+1.0
	baz=188						
ANMO	**Albuquerque**	**45.13**	**327**	P	P	09 34 15.6	+0.8
ANMO	**Albuquerque**	**45.13**	**327** *d*	iP	P	09 34 15.7	+1.0
ANMO				pmax	pmax		
	comp=Z,140nm,1.3s						
ANMO	**Albuquerque**	**45.13**	**327**	P	P	09 34 15.5	+0.7
	baz=138						
ANMO	**Albuquerque**	**45.13**	**327**	P	P	09 34 15.8	+1.0
	baz=138,SNR=187						
ANMO	**Albuquerque**	**45.13**	**327**	P	P	09 34 15.9	+1.1
ANMO				pP	pP	09 34 52.6	+2.1
J47A	**Sunmer**	**45.14**	**353**	IAmb	IAmb	09 34 14.1	
	comp=Z,54nm,0.8s						
J47A	**Sunmer**	**45.14**	**353**	P	P	09 34 13.4	-1.1
	baz=170,SNR=6.2						
J47A				P	P	09 34 13.4	-1.1
	baz=170,SNR=6.2						
K43A	**Burlington**	**45.15**	**349**	P	P	09 34 12.7	-1.9
	baz=165						
L40A	**Anamosa**	**45.15**	**346**	IAmb	IAmb	09 34 14.4	
	comp=Z,56nm,1.1s						
L40A	**Anamosa**	**45.15**	**346**	P	P	09 34 12.8	-1.8
	baz=161,SNR=10						
N35A	**Tabor**	**45.28**	**341**	IAmb	IAmb	09 34 15.2	
	comp=Z,43nm,0.8s						
N35A	**Tabor**	**45.28**	**341**	P	P	09 34 14.2	-1.5
	baz=155,SNR=10						
FFD	**Franklin Falls**	**45.32**	**7**	IAmb	IAmb	09 34 18.0	
	comp=Z,42nm,1.2s						
PECO	**Prince Edward**	**45.43**	**1**	IAmb	IAmb	09 34 17.3	
	comp=Z,38nm,0.7s						
WCNY	**West Carthage**	**45.52**	**2**	P	P	09 34 17.8	+0.4
	baz=183						
WCNY				S	S	09 40 46.3	-1.2
	baz=183						
SCIA	**State Center**	**45.52**	**344**	IAmb	IAmb	09 34 16.9	
	comp=Z,49nm,0.8s						
SCIA	**State Center**	**45.52**	**344**	P	P	09 34 15.7	-1.8
	baz=158,SNR=6.1						
SCIA	**State Center**	**45.52**	**344**	P	P	09 34 16.3	-1.2
	baz=158,SNR=6.1						
MCVT	**Middlebury Col**	**45.66**	**5**	P	P	09 34 19.9	+1.3
	baz=187						
T25A	**Trinidad**	**45.73**	**330**	IAmb	IAmb	09 34 22.2	
	comp=Z,95nm,1.1s						
T25A	**Trinidad**	**45.73**	**330**	P	P	09 34 20.6	+1.1
	baz=142,SNR=52						
JFWS	**Jewell Farm**	**45.74**	**347**	IAmb	IAmb	09 34 18.3	
	comp=Z,46nm,0.7s						
JFWS	**Jewell Farm**	**45.74**	**347**	P	P	09 34 17.4	-1.8
	baz=163,SNR=11						
JFWS	**Jewell Farm**	**45.74**	**347**	P	P	09 34 17.5	-1.8
	baz=163,SNR=11						
I62A	**Tamworth**	**45.76**	**7**	P	P	09 34 20.2	+0.9
	baz=189						
I62A				P	P	09 34 20.2	+0.9
	baz=189						
I62A				S	S	09 40 55.2	+4.3
	baz=189						
I62A				S	S	09 40 55.2	+4.3
	baz=189						
N33A	**J Bar K, Exete**	**45.78**	**339**	IAmb	IAmb	09 34 20.0	
	comp=Z,65nm,0.9s						
TUC	**Tucson**	**45.86**	**320**	P	P	09 34 21.1	+0.6
TUC				IAmb	IAmb	09 34 22.6	
	comp=Z,72nm,0.9s						
TUC	**Tucson**	**45.86**	**320**	P	P	09 34 21.1	+0.6
TUC				pmax	pmax		
	comp=Z,72nm,1.0s						
TUC	**Tucson**	**45.86**	**320**	P	P	09 34 21.0	+0.6
	baz=131						
TUC	**Tucson**	**45.86**	**320**	P	P	09 34 21.2	+0.7
TUC				pP	pP	09 34 58.3	+2.2
TUC				sP	sP	09 35 16.9	+3.0
TUC				PcP	PcP	09 35 55.1	0.0
I63A	**Otisfield**	**46.02**	**7**	P	P	09 34 22.3	+0.9
	baz=190,SNR=12						
I63A				P	P	09 34 22.3	+0.9
	baz=190,SNR=12						
LBNH	**Lisbon**	**46.05**	**6**	IAmb	IAmb	09 34 23.8	
	comp=Z,31nm,0.8s						
LBNH	**Lisbon**	**46.05**	**6**	P	P	09 34 22.7	+1.1
	baz=188,SNR=12						
LBNH	**Lisbon**	**46.05**	**6**	P	P	09 34 22.9	+1.3
	baz=188,SNR=12						
LBNH				S	S	09 41 00.4	+5.2
	baz=188						
VT1	**Waterbury**	**46.06**	**5**	P	P	09 34 22.3	+0.6
	baz=187,SNR=5.6						
VT1				S	S	09 40 57.5	+2.2
	baz=187						
LONY	**Lake Ozonia**	**46.21**	**3**	IAmb	IAmb	09 34 24.8	
	comp=Z,112nm,1.9s						
LONY	**Lake Ozonia**	**46.21**	**3**	P	P	09 34 23.2	+0.4
	baz=185,SNR=10						
KSCO	**Kaye Shedlock'**	**46.38**	**333**	IAmb	IAmb	09 34 26.6	
	comp=Z,94nm,1.3s						
KSCO	**Kaye Shedlock'**	**46.38**	**333**	P	P	09 34 25.0	+0.5
	baz=145,SNR=9.3						
KSCO	**Kaye Shedlock'**	**46.38**	**333**	P	P	09 34 25.6	+1.2
	baz=145,SNR=9.3						
I42A	**Draeger Farm,**	**46.41**	**349**	IAmb	IAmb	09 34 24.0	
	comp=Z,54nm,1.1s						
I42A	**Draeger Farm,**	**46.41**	**349**	P	P	09 34 22.9	-1.5
	baz=165,SNR=6.2						
BMNY	**Brushton-Moira**	**46.43**	**3**	P	P	09 34 25.1	+0.6
	baz=185,SNR=11						
BMNY				S	S	09 41 02.4	+1.9
	baz=185						
H62A	**Milan**	**46.47**	**7**	P	P	09 34 25.2	+0.4
	baz=189,SNR=6.0						
H62A				P	P	09 34 25.2	+0.4
	baz=189,SNR=6.0						
FRNY	**Flat Rock**	**46.49**	**4**	IAmb	IAmb	09 34 27.0	
	comp=Z,32nm,0.8s						
FRNY	**Flat Rock**	**46.49**	**4**	P	P	09 34 25.8	+0.8
	baz=186,SNR=22						
L34A	**Svendsen Farm,**	**46.52**	**341**	IAmb	IAmb	09 34 24.6	
	comp=Z,35nm,0.7s						
L34A	**Svendsen Farm,**	**46.52**	**341**	P	P	09 34 23.9	-1.4
	baz=154,SNR=5.9						
BGNE	**Belgrade**	**46.62**	**339**	IAmb	IAmb	09 34 26.6	
	comp=Z,58nm,0.8s						
BGNE	**Belgrade**	**46.62**	**339**	P	P	09 34 25.1	-1.1
	baz=152						
BGNE	**Belgrade**	**46.62**	**339**	P	P	09 34 25.9	-0.3
	baz=152						
WVL	**Waterville**	**46.65**	**8**	P	P	09 34 27.3	+1.1
	baz=191,SNR=12						
GLMI	**Grayling**	**46.68**	**354**	P	P	09 34 26.3	-0.2
	baz=171						
SDCO	**Great Sand Dun**	**46.74**	**330**	P	P	09 34 28.6	+1.0
SDCO				IAmb	IAmb	09 34 29.8	
	comp=Z,91nm,1.1s						
SDCO	**Great Sand Dun**	**46.74**	**330**	P	P	09 34 28.5	+1.0
	baz=141,SNR=137						
SDCO	**Great Sand Dun**	**46.74**	**330**	P	P	09 34 28.7	+1.2
	baz=141,SNR=137						
I40A	**Norwalk**	**46.75**	**348**	P	P	09 34 25.8	-1.4
	baz=162						
214A	**Organ Pipe Nat**	**46.95**	**318**	P	P	09 34 30.1	+1.2
	baz=129,SNR=50						
G45A	**Suttons Bay**	**47.02**	**353**	IAmb	IAmb	09 34 28.5	
	comp=Z,60nm,0.7s						
W18A	**Petrified Fore**	**47.12**	**324**	P	P	09 34 31.2	+0.9
	baz=134						
EMMW	**East Machias**	**47.15**	**10**	IAmb	IAmb	09 34 31.8	
	comp=Z,56nm,1.4s						
EMMW	**East Machias**	**47.15**	**10**	P	P	09 34 30.9	+0.8
	baz=194,SNR=5.7						
MNTQ	**Montreal, Queb**	**47.15**	**4**	IAmb	IAmb	09 34 31.9	
	comp=Z,36nm,1.0s						
G62A	**West of Eustis**	**47.18**	**7**	IAmb	IAmb	09 34 32.8	
	comp=Z,52nm,0.8s						
G62A	**West of Eustis**	**47.18**	**7**	P	P	09 34 31.8	+1.4
	baz=190,SNR=26						
G62A				P	P	09 34 31.8	+1.4
	baz=190,SNR=26						
PKME	**Peaks-Kenny Pk**	**47.39**	**8**	P	P	09 34 32.9	+1.0
	baz=192,SNR=14						
PKME	**Peaks-Kenny Pk**	**47.39**	**8**	P	P	09 34 33.0	+1.0
	baz=192,SNR=14						
S22A	**4UR Ranch, Cre**	**47.42**	**329**	IAmb	IAmb	09 34 35.1	
	comp=Z,42nm,1.1s						
S22A	**4UR Ranch, Cre**	**47.42**	**329**	P	P	09 34 33.7	+1.0
	baz=139,SNR=44						
Q24A	**Divide**	**47.52**	**331**	IAmb	IAmb	09 34 35.5	
	comp=Z,90nm,1.6s						
Q24A	**Divide**	**47.52**	**331**	P	P	09 34 34.2	+0.7
	baz=142,SNR=13						
I37A	**Lemond, Waseca**	**47.53**	**345**	IAmb	IAmb	09 36 01.9	
	comp=Z,47nm,1.2s						
I37B	**Waseca**	**47.53**	**345**	P	P	09 34 31.2	-1.9
	baz=159						
G65A	**Princeton**	**47.61**	**10**	IAmb	IAmb	09 34 35.5	
	comp=Z,33nm,0.9s						
G65A	**Princeton**	**47.61**	**10**	P	P	09 34 34.5	+0.9
	baz=194,SNR=10						
G65A				P	P	09 34 34.5	+0.9
	baz=194,SNR=10						
GGN	**Saint George**	**47.66**	**11**	IAmb	IAmb	09 34 35.9	
	comp=Z,41nm,1.0s						
X16A	**Lo Mia Camp, P**	**47.67**	**322**	IAmb	IAmb	09 34 37.1	
	comp=Z,36nm,0.8s						
OGNE	**Ogallala**	**47.73**	**335**	IAmb	IAmb	09 34 36.5	
	comp=Z,53nm,1.1s						
OGNE	**Ogallala**	**47.73**	**335**	P	P	09 34 35.3	+0.5
	baz=147						
OGNE	**Ogallala**	**47.73**	**335**	P	P	09 34 35.7	+0.9
	baz=147						
SFX	**San Felipe**	**47.78**	**316**	IAmb	IAmb	09 34 37.5	
	comp=Z,79nm,1.2s						
F63A	**Nakanta, Br**	**47.85**	**8**	P	P	09 34 36.3	+0.7
	baz=192,SNR=8.5						
F63A				P	P	09 34 36.3	+0.7
	baz=192,SNR=8.5						
MVCO	**Mesa Verde**	**47.91**	**327**	P	P	09 34 36.9	+0.5
	baz=137,SNR=28						
F62A	**Pittston Farm,**	**47.92**	**8**	P	P	09 34 36.8	+0.7
	baz=191,SNR=8.2						
F62A				P	P	09 34 36.8	+0.7
	baz=191,SNR=8.2						
F62A				S	S	09 41 21.9	+0.3
	baz=191						
F62A				S	S	09 41 21.9	+0.3
	baz=191						
F42A	**Maple Grove Fa**	**48.08**	**351**	P	P	09 34 36.3	-1.0
	baz=166						
113A	**Mohawk Valley,**	**48.09**	**319**	IAmb	IAmb	09 34 39.8	
	comp=Z,47nm,1.1s						
F64A	**Sherman**	**48.12**	**9**	P	P	09 34 38.3	+0.7
F64A				IAmb	IAmb	09 34 39.4	
	comp=Z,35nm,0.8s						
F64A	**Sherman**	**48.12**	**9**	P	P	09 34 38.5	+0.9
	baz=193,SNR=17						
F64A				P	P	09 34 38.5	+0.9
	baz=193,SNR=17						
F64A				S	S	09 41 29.1	+4.7
	baz=193						
F64A				S	S	09 41 29.1	+4.7
	baz=193						
ECSD	**EROS Data Cent**	**48.19**	**342**	P	P	09 34 36.2	-1.9
	baz=155,SNR=17						
ECSD	**EROS Data Cent**	**48.19**	**342**	P	P	09 34 36.6	-1.6
	baz=155,SNR=17						
WUAZ	**Wupatki**	**48.36**	**323**	P	P	09 34 41.1	+1.2
	baz=133,SNR=89						
ISCO	**Idaho Springs**	**48.40**	**332**	IAmb	IAmb	09 34 42.1	
	comp=Z,44nm,1.4s						
ISCO	**Idaho Springs**	**48.40**	**332**	P	P	09 34 40.9	+0.7
	baz=142,SNR=16						
ISCO	**Idaho Springs**	**48.40**	**332**	P	P	09 34 41.1	+0.9
	baz=142,SNR=16						
SPMN	**Marine on St.**	**48.52**	**346**	P	P	09 34 38.4	-2.2
	baz=160,SNR=5.5						
SPMN	**Marine on St.**	**48.52**	**346**	P	P	09 34 38.6	-2.1
	baz=160,SNR=5.5						
SMCO	**Snowmass**	**48.58**	**330**	IAmb	IAmb	09 34 44.1	
	comp=Z,33nm,1.1s						
COWI	**Conover**	**48.59**	**350**	P	P	09 34 39.7	-1.5
	baz=165						
VTX	**Valle De La Tr**	**48.64**	**316**	IAmb	IAmb	09 34 44.2	
	comp=Z,43nm,1.1s						
E63A	**Oxbow**	**48.65**	**9**	P	P	09 34 42.6	+0.9
	baz=193						
E63A				P	P	09 34 42.6	+0.9
	baz=193						
E62A	**Clayton Lake**	**48.69**	**8**	P	P	09 34 43.2	+1.3
E62A	**Clayton Lake**	**48.69**	**8**	P	P	09 34 43.3	+1.4
	baz=191,SNR=24						
E62A				P	P	09 34 43.3	+1.4
	baz=191,SNR=24						
E62A				S	S	09 41 36.7	+4.3
	baz=191						
E62A				S	S	09 41 36.7	+4.3
	baz=191						
LMN	**Caledonia Moun**	**48.77**	**12**	IAmb	IAmb	09 34 43.8	
	comp=Z,32nm,0.7s						
PQI	**Presque Isle**	**48.96**	**9**	IAmb	IAmb	09 34 45.8	
	comp=Z,30nm,1.0s						
GLA	**Glamis**	**48.97**	**318**	IAmb	IAmb	09 34 46.6	
	comp=Z,56nm,1.0s						
GLA	**Glamis**	**48.97**	**318**	P	P	09 34 44.8	+0.5
	baz=128						
LATQ	**La Tuque**	**49.09**	**5**	IAmb	IAmb	09 34 46.7	
	comp=Z,53nm,0.8s						
ESJX	**Sierra Juarez**	**49.11**	**316**	IAmb	IAmb	09 34 48.0	
	comp=Z,32nm,1.0s						
BLYC	**Blythe**	**49.20**	**319**	P	P	09 34 46.5	+0.5
BLYC				IAmb	IAmb	09 34 48.5	
	comp=Z,62nm,1.4s						
D62A	**Allapoint, All**	**49.20**	**8**	P	P	09 34 46.6	+0.8
D62A				IAmb	IAmb	09 34 48.0	
	comp=Z,50nm,0.8s						
D62A	**Allapoint, All**	**49.20**	**8**	P	P	09 34 47.0	+1.2
	baz=192,SNR=24						
D62A				P	P	09 34 47.0	+1.2
	baz=192,SNR=24						
D62A				S	S	09 41 44.0	+4.4
	baz=192						
D62A				S	S	09 41 44.0	+4.4
	baz=192						
F36A	**Milaca**	**49.29**	**346**	P	P	09 34 45.3	-1.3
	baz=159,SNR=7.2						
PDMCI	**Parker Dam,Lak**	**49.29**	**320**	P	P	09 34 47.3	+0.6
	baz=129,SNR=9.8						
N23A	**Red Feather La**	**49.41**	**332**	IAmb	IAmb	09 34 49.7	
	comp=Z,42nm,1.1s						
N23A	**Red Feather La**	**49.41**	**332**	P	P	09 34 47.9	0.0
	baz=142,SNR=17						
YUH	**Yuha Desert**	**49.47**	**317**	IAmb	IAmb	09 34 50.5	
	comp=Z,55nm,1.0s						
PHWY	**Pilot Hill**	**49.51**	**333**	IAmb	IAmb	09 34 50.3	
	comp=Z,83nm,1.6s						
CCX	**Cicese**	**49.52**	**316**	IAmb	IAmb	09 34 50.9	
	comp=Z,57nm,1.4s						
U15A	**North Rim**	**49.53**	**323**	IAmb	IAmb	09 34 51.5	
	comp=Z,34nm,0.9s						
SWSC	**Sam W. Stewart**	**49.56**	**317**	P	P	09 34 49.5	+0.7
	baz=126,SNR=20						
SUSD	**Miller**	**49.58**	**340**	P	P	09 34 47.4	-1.4
	baz=152,SNR=7.6						
SUSD	**Miller**	**49.58**	**340**	P	P	09 34 47.7	-1.1
	baz=152,SNR=7.6						
IKP	**In-Ko-Pah, Jac**	**49.59**	**317**	P	P	09 34 49.9	+0.7
	baz=126,SNR=22						
W13A	**Hualapai Mount**	**49.63**	**321**	IAmb	IAmb	09 34 52.2	
	comp=Z,56nm,0.8s						
BC3	**Big Chuckawall**	**49.75**	**318**	P	P	09 34 50.6	+0.2
	baz=127,SNR=7.2						
CBX	**Cerro Bola**	**49.78**	**316**	IAmb	IAmb	09 34 53.3	
	comp=Z,41nm,1.1s						
IRM	**Iron Mountain**	**49.85**	**319**	P	P	09 34 51.8	+0.7
	baz=128,SNR=29						
TKX	**Tecate**	**49.89**	**317**	IAmb	IAmb	09 34 53.6	
	comp=Z,60nm,1.1s						
NEE2	**Needles Airpor**	**49.89**	**320**	P	P	09 34 52.2	+0.9
	baz=129						
O20A	**White River Ci**	**49.94**	**330**	P	P	09 34 52.1	+0.2
	baz=139,SNR=13						
MONP2	**Monument Peak**	**49.95**	**317**	P	P	09 34 52.8	+0.8
	baz=126,SNR=20						
BAR	**Barrett**	**50.00**	**317**	IAmb	IAmb	09 34 54.3	
	comp=Z,42nm,1.0s						
F33A	**5 Mile Ranch,**	**50.01**	**343**	P	P	09 34 50.2	-1.8
	baz=156,SNR=5.1						
KNB	**Kanab**	**50.24**	**324**	IAmb	IAmb	09 34 56.7	
	comp=Z,38nm,1.0s						
BELC	**Belle Mtn. Jos**	**50.32**	**318**	P	P	09 34 56.0	+1.3
	baz=127,SNR=19						
PMD	**Palm Desert**	**50.36**	**318**	IAmb	IAmb	09 34 57.2	
	comp=Z,66nm,1.4s						
TPFO	**Pinon Flats**	**50.39**	**318**	P	P	09 34 56.1	+0.9
	baz=126,SNR=17						
PFO	**Pinyon Flats O**	**50.40**	**318**	P	P	09 34 56.4	+1.1
PFO				IAmb	IAmb	09 34 57.7	
	comp=Z,46nm,1.1s						
PFO	**Pinyon Flats O**	**50.40**	**318** *d*	iP	P	09 34 55.6	+0.3
PFO				pmax	pmax		
	comp=Z,77nm,1.1s						
PFO	**Pinyon Flats O**	**50.40**	**318**	P	P	09 34 56.2	+0.9
	baz=126,SNR=14						
PFO	**Pinyon Flats O**	**50.40**	**318**	P	P	09 34 56.4	+1.1
PFO				pP	pP	09 35 33.6	+2.1
PFO				sP	sP	09 35 50.0	+0.9
PFO				PcP	PcP	09 36 11.8	+0.2
109C	**Camp Elliot, M**	**50.41**	**317**	P	P	09 34 55.9	+0.6
	baz=125,SNR=14						
LCMT	**Little Creek M**	**50.48**	**323**	IAmb	IAmb	09 34 58.4	
	comp=Z,44nm,1.1s						
GMRC	**Granite Mounta**	**50.57**	**319**	P	P	09 34 58.0	+1.4
	baz=128,SNR=42						
V12A	**Nelson**	**50.64**	**321**	IAmb	IAmb	09 34 59.3	
	comp=Z,55nm,0.8s						
SZCU	**Shurtz Canyon**	**50.78**	**324**	IAmb	IAmb	09 35 00.4	
	comp=Z,24nm,0.8s						
EYMN	**Ely**	**50.81**	**348**	P	P	09 34 56.3	-1.6
	baz=162,SNR=5.9						
EYMN	**Ely**	**50.81**	**348**	P	P	09 34 56.1	-1.8
	baz=162,SNR=5.9						
MURC	**Murrieta**	**50.89**	**317**	P	P	09 34 59.7	+0.9
	baz=126,SNR=24						
TMUT	**Trail Mountain**	**50.89**	**327**	IAmb	IAmb	09 35 01.0	
	comp=Z,47nm,1.3s						
CCUT	**Cedar City**	**50.91**	**324**	IAmb	IAmb	09 35 02.0	
	comp=Z,40nm,1.2s						
HEC	**Hector,Ludlow**	**51.04**	**319**	P	P	09 35 01.3	+1.2
	baz=127,SNR=56						
K22A	**Casper**	**51.06**	**333**	IAmb	IAmb	09 35 01.8	
	comp=Z,55nm,1.3s						
K22A	**Casper**	**51.06**	**333**	P	P	09 35 00.9	+0.7
	baz=142,SNR=14						
K22A	**Casper**	**51.06**	**333**	P	P	09 35 00.7	+0.5
	baz=142,SNR=14						
ELS	**Elsinore Mount**	**51.07**	**317**	IAmb	IAmb	09 35 02.5	
	comp=Z,47nm,0.9s						
BBRC	**Big Bear Solar**	**51.09**	**318**	P	P	09 35 02.4	+1.8
	baz=126,SNR=44						
TCRU	**Three Creeks R**	**51.10**	**325**	IAmb	IAmb	09 35 02.9	
	comp=Z,39nm,1.0s						
TUQ	**Turquoise Moun**	**51.14**	**320**	P	P	09 35 01.9	+1.1
	baz=128,SNR=35						
RSSD	**Black Hills**	**51.19**	**336**	P	P	09 35 02.4	+1.3
RSSD				IAmb	IAmb	09 35 03.0	
	comp=Z,22nm,0.8s						
RSSD	**Black Hills**	**51.19**	**336**	P	P	09 35 02.4	+1.3
RSSD				pmax	pmax		
	comp=Z,22nm,0.8s						
RSSD	**Black Hills**	**51.19**	**336**	P	P	09 35 01.9	+0.8
	baz=146						
RSSD	**Black Hills**	**51.19**	**336**	P	P	09 35 02.3	+1.1
	baz=146,SNR=17						
RSSD	**Black Hills**	**51.19**	**336**	P	P	09 35 02.1	+1.0
RSSD				pP	pP	09 35 38.9	+1.1
RSSD				PcP	PcP	09 36 14.2	-0.2
SHPR	**Sheep Range**	**51.33**	**321**	IAmb	IAmb	09 35 04.8	
	comp=Z,35nm,1.2s						
SCI2	**San Clemente I**	**51.46**	**316**	P	P	09 35 03.9	+0.8
	baz=124						
RRX	**Edison Barstow**	**51.50**	**319**	P	P	09 35 04.5	+1.1
	baz=127						
BSUT	**Blindstream Ca**	**51.54**	**328**	IAmb	IAmb	09 35 06.1	
	comp=Z,68nm,1.1s						
BFSC	**Mount Baldy Ra**	**51.57**	**318**	P	P	09 35 04.8	+0.8
	baz=126,SNR=24						
CIS	**Catalina Islan**	**51.61**	**316**	P	P	09 35 05.1	+0.9
	baz=124,SNR=5.1						
GSC	**Goldstone, Bar**	**51.63**	**319**	IAmb	IAmb	09 35 06.9	
	comp=Z,66nm,1.0s						
GSC	**Goldstone, Bar**	**51.63**	**319**	P	P	09 35 05.4	+1.0
	baz=127,SNR=53						
B35A	**Bob, Littlefor**	**51.68**	**347**	IAmb	IAmb	09 35 03.7	
	comp=Z,19nm,0.7s						
B35A	**Bob, Littlefor**	**51.68**	**347**	P	P	09 35 02.7	-1.7
	baz=160,SNR=9.7						
FMP	**Fort Macarthur**	**51.70**	**317**	P	P	09 35 05.8	+0.9
	baz=125						
NLU	**North Lily Min**	**51.83**	**327**	IAmb	IAmb	09 35 08.1	
	comp=Z,42nm,1.3s						
PSUT	**Pine Spring**	**51.86**	**324**	IAmb	IAmb	09 35 08.6	
	comp=Z,36nm,1.1s						
E28A	**Huff**	**52.03**	**340**	P	P	09 35 07.1	0.0
	baz=151,SNR=26						
DECC	**Green Verdugo**	**52.04**	**317**	P	P	09 35 08.3	+0.9
	baz=125,SNR=14						
GWY	**Greenwater Val**	**52.08**	**320**	IAmb	IAmb	09 35 09.8	
	comp=Z,31nm,1.0s						
EDW2	**Edwards Air Fo**	**52.17**	**318**	P	P	09 35 08.9	+0.6
	baz=126,SNR=80						
CTU	**Camp Tracy**	**52.17**	**328**	IAmb	IAmb	09 35 10.4	
	comp=Z,39nm,1.0s						
TPNV	**Topopah Spring**	**52.28**	**321**	P	P	09 35 10.6	+1.3
	baz=129,SNR=75						
SNCC	**San Nicolas Is**	**52.30**	**315**	P	P	09 35 10.2	+0.9
	baz=123						
LRMC	**Laurel Mtn Rad**	**52.31**	**319**	P	P	09 35 10.8	+1.3
	baz=126,SNR=55						
FURC	**Furnace Creek,**	**52.38**	**320**	P	P	09 35 10.6	+0.8
	baz=128,SNR=49						
DUG	**Dugway, Tooele**	**52.40**	**327**	P	P	09 35 11.4	+1.3
	baz=134,SNR=66						
S11A	**Rachel**	**52.41**	**322**	IAmb	IAmb	09 35 13.1	
	comp=Z,62nm,1.0s						
WCT	**Wildcat Mounta**	**52.42**	**321**	IAmb	IAmb	09 35 13.0	
	comp=Z,67nm,1.1s						
SPR3	**Spring Creek 3**	**52.45**	**324**	IAmb	IAmb	09 35 12.5	
	comp=Z,53nm,1.0s						
OSI	**Osito Audit: C**	**52.51**	**317**	P	P	09 35 11.5	+0.6
	baz=125						
MPMC	**Manual Prospec**	**52.53**	**320**	P	P	09 35 11.7	+0.5
	baz=127,SNR=26						
EFI	**East Falkland**	**52.57**	**164** *de*	P	P	09 35 11.8	+0.9
EFI				pmax	pmax		
	comp=Z,108nm,2.5s						
EFI	**East Falkland**	**52.57**	**164**	P	P	09 35 11.8	+0.9
EFI				PcP	PcP	09 36 19.1	+0.1
BW06	**Boulder Array**	**52.57**	**331**	IAmb	IAmb	09 35 12.6	
	comp=Z,41nm,1.4s						
BW06	**Boulder Array**	**52.57**	**331**	P	P	09 35 11.2	-0.3
	baz=139,SNR=20						
PD31	**Pinedale Array**	**52.57**	**331**	IAmb	IAmb	09 35 12.6	
	comp=Z,37nm,1.4s						
PDAR	**Pinedale Array**	**52.57**	**331**	P	P	09 35 11.4	0.0
	comp=Z,13nm,1.0s,baz=138,slow=9.0,SNR=64						
PDAR				pP	pP	09 35 48.2	0.

baz=126,SNR=30
ID09 Alton 53.00 329 IAmb IAmb 09 35 15.9
comp=Z,62nm,1.1s
GRAC Grapevine Rang 53.02 321 IAmb IAmb 09 35 17.4
comp=Z,69nm,1.2s
GRAC Grapevine Rang 53.02 321 P **P** **09 35 15.8 +1.2**
baz=128,SNR=12
BGU Big Grassy Mou 53.02 327 IAmb IAmb 09 35 16.6
comp=Z,61nm,1.1s
SBC Santa Barbara 53.08 317 P **P** **09 35 15.5 +0.5**
baz=124
GMN Gold Mountain 53.14 321 IAmb IAmb 09 35 18.0
comp=Z,59nm,1.1s
CWC Cottonwood Cre 53.14 320 P **P** **09 35 16.7 +1.0**
baz=126
AHID Auburn Hatcher 53.33 330 IAmb IAmb 09 35 18.1
comp=Z,36nm,0.8s
PKM Mcpherson Peak 53.40 317 P **P** **09 35 18.4 +0.8**
baz=124,SNR=21
VES Vestal, Richgr 53.45 318 P **P** **09 35 19.0 +1.3**
baz=125,SNR=66
HVU Hansel Valley 53.49 328 IAmb IAmb 09 35 19.6
comp=Z,31nm,1.0s
TIN Tinemaha, Big 53.60 320 P **P** **09 35 20.3 +1.3**
baz=127
DSP Deep Springs 53.63 321 IAmb IAmb 09 35 21.6
comp=Z,56nm,1.2s
SNOW Snow King Moun 53.68 331 IAmb IAmb 09 35 21.2
comp=Z,83nm,1.4s
LOHW Long Hollow 53.71 331 IAmb IAmb 09 35 21.2
comp=Z,28nm,0.9s
SMMC Simmler 53.76 317 P **P** **09 35 21.4 +1.4**
baz=124,SNR=23
VOG Valley Oaks Go 53.92 319 P **P** **09 35 21.2 +0.1**
baz=125
ULM Lac du Bonnet 53.95 346 P **P** **09 35 19.6 -1.5**
comp=Z,18nm,0.5s,baz=159,slow=7.6,SNR=34
ULM PcP **PcP** **09 36 23.6 -0.8**
comp=Z,12nm,0.6s,baz=128,slow=2.0,SNR=5.7
comp=Z,18nm,0.5s
IMW Indian Meadow 54.09 331 IAmb IAmb 09 35 25.1
comp=Z,28nm,0.8s
ELK Elko 54.13 325 LR LR 09 59 50.3
comp=Z,94nm,19.6s,baz=143,slow=37
LAO LASA Array 54.17 336 P **P** **09 35 22.8 -0.1**
baz=144
LAO LASA Array 54.17 336 P **P** **09 35 22.7 -0.1**
baz=144
RLMT Red Lodge 54.23 333 P **P** **09 35 23.2 -0.3**
baz=140
H17A Grant Village 54.29 332 IAmb IAmb 09 35 28.0
comp=Z,34nm,1.3s
H17A Grant Village 54.29 332 P **P** **09 35 25.2 +1.3**
baz=138
MLAC Mammoth, Mammo 54.34 320 P **P** **09 35 25.6 +1.2**
baz=126
NVAR Mina Array Bea 54.48 321 P **P** **09 35 26.5 +1.1**
comp=Z,13nm,0.6s,baz=122,slow=6.2,SNR=153
NVAR pP **pP** **09 36 02.2 -0.1**
comp=Z,21nm,1.1s,baz=139,slow=7.3,SNR=4.3
NVAR PcP **PcP** **09 36 27.0 0.0**
comp=Z,8.1nm,0.7s,baz=141,slow=3.9,SNR=8.3
comp=Z,13nm,0.6s
MDPB Devils Postpil 54.49 320 IAmb IAmb 09 35 27.7
comp=Z,58nm,1.1s
YNR Norris Junctio 54.57 332 IAmb IAmb 09 35 28.0
comp=Z,22nm,0.9s
KVN Kaiserville 54.73 322 IAmb IAmb 09 35 29.1
comp=Z,51nm,1.3s
DGMT Dagmar 54.88 339 IAmb IAmb 09 35 29.4
comp=Z,49nm,1.4s
DGMT Dagmar 54.88 339 P **P** **09 35 28.0 +0.1**
baz=147
DGMT Dagmar 54.88 339 P **P** **09 35 28.2 +0.4**
baz=147
BBGB Big Mountain B 55.17 318 IAmb IAmb 09 35 36.1
comp=Z,53nm,1.0s
WAKR Walker 55.23 321 IAmb IAmb 09 35 33.3
comp=Z,73nm,1.4s
YERR Yerington 55.40 321 IAmb IAmb 09 35 34.2
comp=Z,75nm,1.4s
HLID Hailey 55.60 329 IAmb IAmb 09 35 35.1
comp=Z,24nm,0.9s
HLID Hailey 55.60 329 P **P** **09 35 33.8 +0.5**
baz=134,SNR=41
BOZ Bozeman (W) 55.68 332 P **P** **09 35 34.0 +0.2**
baz=138,SNR=62
PNTR Pine Nut 55.68 321 IAmb IAmb 09 35 36.4
comp=Z,31nm,0.9s
DLMT Dillon 55.97 331 IAmb IAmb 09 35 37.6
comp=Z,44nm,1.2s
AFDM Forest Hills D 56.47 320 IAmb IAmb 09 35 41.0
comp=Z,38nm,1.1s
EGMT Eagleton 56.69 335 IAmb IAmb 09 35 42.0
comp=Z,45nm,1.2s
EGMT Eagleton 56.69 335 P **P** **09 35 41.2 +0.4**
baz=141,SNR=14
SCHQ Schefferville 57.08 8 P **P** **09 35 43.2 -0.2**
comp=Z,11nm,0.7s,baz=236,slow=4.5,SNR=8.9
comp=Z,11nm,0.7s
PLID Pearl Lake 57.47 329 IAmb IAmb 09 35 47.5
comp=Z,22nm,0.9s
GDXM Geysers 57.56 319 IAmb IAmb 09 35 49.8
comp=Z,28nm,1.1s
MSO Missoula 57.67 332 P **P** **09 35 48.3 +0.5**
baz=136,SNR=36
HOPS Hopland Field 57.85 319 IAmb IAmb 09 35 53.0
comp=Z,55nm,1.1s
BMO Blue Mountains 58.00 328 IAmb IAmb 09 35 50.9
comp=Z,27nm,1.2s
F10A Beach Ranch, E 58.71 329 IAmb IAmb 09 35 59.8
comp=Z,35nm,0.8s
YBH Yreka Blue Hor 59.16 322 IAmb IAmb 09 35 58.5
comp=Z,31nm,0.8s
YBH Yreka Blue Hor 59.16 322 LR LR 10 01 16.6
comp=Z,90nm,18.8s,baz=130,slow=36
FFC Flin Flon 59.59 344 P **P** **09 36 00.6 -0.1**
FFC IAmb IAmb 09 36 01.3
comp=Z,31nm,1.1s
FFC Flin Flon 59.59 344 P **P** **09 36 00.6 -0.1**
FFC pmax pmax
comp=Z,31nm,1.1s
FFC Flin Flon 59.59 344 P **P** **09 36 00.4 -0.3**
FFC pP **pP** **09 36 37.9 -0.4**
L02F Cave Junction 59.90 322 IAmb IAmb 09 36 04.7
comp=Z,33nm,0.9s
E08A Dider Farm, El 60.00 328 IAmb IAmb 09 36 04.8
comp=Z,17nm,0.9s
F07A Phinny Hill Vi 60.08 327 IAmb IAmb 09 36 06.6
comp=Z,28nm,0.8s
HAWA Hanford 60.19 328 IAmb IAmb 09 36 06.4
comp=Z,23nm,0.8s
NEW Newport 60.22 331 P **P** **09 36 04.9 -0.3**
baz=133,SNR=21
NEW Newport 60.22 331 LR LR 10 06 04.1
comp=Z,64nm,18.4s,baz=136,slow=40
DBO Dodson Butte 60.28 323 IAmb IAmb 09 36 06.6
comp=Z,18nm,0.8s
D08A Wollman Farm, 60.30 329 IAmb IAmb 09 36 06.9
comp=Z,16nm,0.8s
E07A Sunnyside 60.47 328 IAmb IAmb 09 36 08.9
comp=Z,42nm,0.9s
C09A Chrisman Ranch 60.47 330 IAmb IAmb 09 36 51.3
comp=Z,24nm,0.9s
H04A Detroit Lake 60.58 325 P **P** **09 36 08.4 +0.7**
H04A IAmb IAmb 09 36 09.1
comp=Z,54nm,1.1s
I03D Drain, OR 60.67 324 IAmb IAmb 09 36 10.7
comp=Z,41nm,1.1s
COR Corvallis 61.16 325 P **P** **09 36 12.2 +0.6**
COR Corvallis 61.16 325 P **P** **09 36 12.2 +0.6**
COR pmax pmax
comp=Z,122nm,1.2s
COR Corvallis 61.16 325 P **P** **09 36 12.5 +0.9**
LTY Liberty 61.34 328 IAmb IAmb 09 36 14.7
comp=Z,50nm,1.1s
F04A Amboy 61.47 326 IAmb IAmb 09 36 14.6
comp=Z,36nm,0.8s
LON Longmire 61.63 327 IAmb IAmb 09 36 16.2
comp=Z,39nm,0.8s
HOPE Hope Point 62.47 154 P **P** **09 36 21.3 +1.2**
HOPE Hope Point 62.47 154 P **P** **09 36 21.3 +1.2**
HOPE pmax pmax
comp=Z,128nm,0.9s
HOPE Hope Point 62.47 154 P **P** **09 36 21.1 +1.0**
E03A Lebam 62.47 326 P **P** **09 36 21.6 +1.3**
GNW Green Mountain 62.68 328 P **P** **09 36 22.0 +0.3**
PMSA Palmer Station 63.76 173 P **P** **09 36 30.0 +1.5**
PMSA IAmb IAmb 09 36 30.7
comp=Z,41nm,0.8s
PMSA Palmer Station 63.76 173 *e*P **P** **09 36 30.3 +1.8**
PMSA Palmer Station 63.76 173 P **P** **09 36 29.7 +1.2**
IVI Ivigtut 66.79 15 *i* P **P** **09 36 46.8 -1.1**
IVI IAmb IAmb 09 36 49.1
comp=Z,84nm,1.3s
NRS Narsarsuaq 67.51 16 *i* P **P** **09 36 51.3 -1.2**
NRS IAmb IAmb 09 36 53.5
comp=Z,27nm,0.7s
BBB Bella Bella 68.16 329 P **P** **09 36 56.7 -0.1**
comp=Z,24nm,0.7s,baz=114,slow=6.3,SNR=6.6
BBB LR LR 10 10 42.0
comp=Z,54nm,20.7s,baz=136,slow=39
comp=Z,24nm,0.7s
NUUK Nuuk 68.53 12 *i* P **P** **09 36 56.6 -2.2**
NUUK IAmb IAmb 09 36 58.8
comp=Z,57nm,1.2s
YKA Yellowknife Ar 69.70 343 P **P** **09 37 05.3 -0.8**
comp=Z,9.3nm,0.7s,baz=139,slow=5.7,SNR=18
YKA LR LR 10 09 29.0
comp=Z,70nm,18.4s,baz=128,slow=37
comp=Z,9.3nm,0.7s
FLDN Fort Liard 71.06 338 IAmb IAmb 09 37 16.0
comp=Z,56nm,1.1s
FLDN Fort Liard 71.06 338 P **P** **09 37 14.7 +0.3**
baz=131,SNR=5.5
KOTAN Kotaneelee Air 71.20 338 P **P** **09 37 15.9 +0.6**
baz=130,SNR=10
SFJD Kangerlussuaq 71.23 11 P **P** **09 37 14.8 -0.4**
SFJD IAmb IAmb 09 37 16.0
comp=Z,35nm,0.8s
SFJD Kangerlussuaq 71.23 11 P **P** **09 37 14.9 -0.4**
SFJD pmax pmax
comp=Z,35nm,0.9s
SFJD Kangerlussuaq 71.23 11 *i* P **P** **09 37 13.5 -1.7**
SFJD IAmb IAmb 09 37 15.3
comp=Z,30nm,0.7s
SFJD Kangerlussuaq 71.23 11 P **P** **09 37 14.7 -0.5**
SFJD pP **pP** **09 37 54.3 +1.0**
LIRD Liard River Hi 71.54 336 P **P** **09 37 17.2 -0.1**
baz=128,SNR=8.8
V35K Ketchikan 71.63 331 P **P** **09 37 18.2 +0.3**
baz=122
DY2G Dye2 71.68 13 *i* P **P** **09 37 16.7 -1.6**
DY2G IAmb IAmb 09 37 18.5
comp=Z,40nm,0.7s
T35M Bob Quinn 71.89 333 IAmb IAmb 09 37 21.7
comp=Z,41nm,1.0s
T35M Bob Quinn 71.89 333 P **P** **09 37 20.2 +0.7**
baz=124,SNR=6.6
PPT Papeete 71.89 252 LR LR 10 03 56.8
comp=Z,72nm,18.2s,baz=80,slow=31
CRAG Craig 72.44 331 P **P** **09 37 22.9 +0.3**
baz=121
DLBC Dease Lake 72.61 334 IAmb IAmb 09 37 25.7
comp=Z,33nm,1.0s
DLBC Dease Lake 72.61 334 P **P** **09 37 24.5 +0.8**
baz=124,SNR=12
DLBC Dease Lake 72.61 334 P **P** **09 37 24.3 +0.5**
comp=Z,21nm,0.9s,baz=133,slow=5.2,SNR=25
comp=Z,21nm,0.9s
ISOG Isortoq, Green 72.76 16 *i* P **P** **09 37 23.4 -1.0**
ISOG IAmb IAmb 09 37 26.7
comp=Z,128nm,1.3s
S34M Telegraph Cree 72.80 333 P **P** **09 37 25.6 +0.7**
baz=123,SNR=8.4
WRGLY Wrigley 73.04 340 P **P** **09 37 26.6 +0.5**
baz=132
T33K Petersburg 73.05 332 P **P** **09 37 27.1 +0.9**
baz=121
WTLY Watson Lake, Y 73.06 336 P **P** **09 37 26.9 +0.5**
baz=126
ILULI Ilulissat 73.09 10 *i* P **P** **09 37 25.1 -1.2**
ILULI IAmb IAmb 09 37 26.5
comp=Z,59nm,1.0s
LIC Lamto 73.31 83⇑ *i* P **P** **09 37 28.2 -0.6**
comp=Z,44nm,0.6s
TIC Toumodi 73.35 83⇑ *i* P **P** **09 37 28.4 -0.6**
comp=Z,24nm,0.7s
R33M Jennings River 73.55 335 P **P** **09 37 29.9 +0.6**
baz=124,SNR=6.6
KIC Kosan Boka 73.61 83⇑ *i* P **P** **09 37 30.1 -0.4**
comp=Z,64nm,0.6s
TGTN Hyland Airport 73.69 337 P **P** **09 37 31.0 +0.9**
baz=127,SNR=12
Q32M Nakina River 73.87 334 P **P** **09 37 32.3 +0.9**
baz=122
S32K Killisnoo 74.14 332 IAmb IAmb 09 37 34.6
comp=Z,53nm,1.0s
S32K Killisnoo 74.14 332 P **P** **09 37 34.0 +1.4**
baz=120,SNR=5.3
SIT Sitka 74.29 331 P **P** **09 37 34.6 +1.1**
baz=119
R32K Eaglecrest 74.52 333 P **P** **09 37 35.9 +1.0**
baz=120
PFVI Vila Bisbo 74.58 51 *e*P **P** **09 37 36.7 +1.0**
PFVI *ep*P **pP** **09 38 15.5 +1.7**
MORF Marmelete 74.76 51 *e*P **P** **09 37 37.7 +0.9**
comp=Z,70nm,1.5s
MORF *ep*P **pP** **09 38 15.4 +0.5**
PTEO Sao Teotonio 74.76 50 *e*P **P** **09 37 37.6 +0.9**
comp=Z,43nm,1.8s
PTEO *es*P **sP** **09 38 29.3 -2.2**
P33M Teslin, Yukon 74.78 335 IAmb IAmb 09 37 38.3
comp=Z,48nm,1.4s
P33M Teslin, Yukon 74.78 335 P **P** **09 37 36.9 +0.5**
baz=122,SNR=7.9
P32M Atlin 74.83 334 P **P** **09 37 38.1 +1.4**
baz=120
KOWA Kowa 74.98 75 LR LR 10 13 05.5
comp=Z,122nm,18.1s,baz=262,slow=38
PNCL Nicolau / Gran 75.05 50 *e*P **P** **09 37 38.3 0.0**
comp=Z,29nm,1.6s
PNCL *ep*P **pP** **09 38 17.0 +0.5**
ICESG Greenland Ices 75.29 13 *i* P **P** **09 37 36.7 -2.8**
ICESG IAmb IAmb 09 37 40.4
comp=Z,113nm,1.0s
PBDV Barranco-do-Ve 75.30 51 *e*P **P** **09 37 40.7 +0.8**
comp=Z,44nm,1.9s
PBDV *ep*P **pP** **09 38 19.9 +1.9**
PCVE Castro Verde 75.31 50 *e*P **P** **09 37 40.5 +0.6**
comp=Z,30nm,1.9s
PCVE *ep*P **pP** **09 38 18.5 +0.5**
N32M Quiet Lake 75.39 336 P **P** **09 37 40.4 +0.5**
baz=122
SKAG Skagway 75.48 334 IAmb IAmb 09 37 42.1
comp=Z,52nm,1.4s
SKAG Skagway 75.48 334 P **P** **09 37 41.5 +1.2**
baz=120
PVAQ Vaqueiros 75.51 51 *e*P **P** **09 37 43.4 +2.4**
comp=Z,26nm,1.7s
PVAQ *ep*P **pP** **09 38 19.4 +0.2**
PMTG Montargil 75.52 49 *e*P **P** **09 37 40.9 -0.1**
comp=Z,17nm,1.7s
PMTG *ep*P **pP** **09 38 18.5 -0.7**
PBEJ Beja 75.54 50 *e*P **P** **09 37 42.1 +1.0**
comp=Z,22nm,1.8s
WHY Whitehorse 75.89 335 P **P** **09 37 42.7 0.0**
baz=120
PLBC Pleasant Camp 75.94 333 P **P** **09 37 44.2 +1.2**
baz=119
PESTR Estremoz 75.95 49 *e*P **P** **09 37 43.2 -0.3**
comp=Z,30nm,1.8s
PESTR *ep*P **pP** **09 38 20.1 -1.6**
FARO Faro, Yukon 76.07 337 IAmb IAmb 09 37 45.5
comp=Z,37nm,1.1s
FARO Faro, Yukon 76.07 337 P **P** **09 37 44.1 +0.4**
baz=122,SNR=18
PVIS Viseu 76.17 47 *e*P **P** **09 37 44.3 -0.5**
PVIS *ep*P **pP** **09 38 23.7 +0.6**
PBAR Barrancos 76.21 50 *e*P **P** **09 37 45.2 +0.3**
comp=Z,17nm,1.5s
PBAR *ep*P **pP** **09 38 22.5 -0.7**
PMRV Marv??o 76.23 49 *e*P **P** **09 37 44.3 -0.8**
comp=Z,18nm,1.7s
PMRV *ep*P **pP** **09 38 23.3 -0.1**
PCBR Castelo Branco 76.27 48 *e*P **P** **09 37 45.1 -0.1**
comp=Z,19nm,1.8s
PCBR *ep*P **pP** **09 38 23.7 +0.1**
MTE Manteigas 76.35 48 *e*P **P** **09 37 45.9 +0.1**
comp=Z,18nm,1.7s
MTE *ep*P **pP** **09 38 25.1 +0.9**
O30N Mendenhall 76.46 335 IAmb IAmb 09 37 47.9
comp=Z,35nm,1.1s
O30N Mendenhall 76.46 335 P **P** **09 37 46.4 +0.5**
baz=119,SNR=7.9
M31M Drury Creek, Y 76.48 336 P **P** **09 37 47.0 +1.0**
baz=121,SNR=10
P30M Million Dollar 76.52 334 P **P** **09 37 47.2 +0.9**
baz=118
P29M Windy Craggy 76.64 333 IAmb IAmb 09 37 48.8
comp=Z,37nm,0.9s
P29M Windy Craggy 76.64 333 P **P** **09 37 47.3 +0.4**
baz=117,SNR=6.2
N31M Braeburn, Yuko 76.68 335 IAmb IAmb 09 37 48.9
comp=Z,42nm,0.9s
N31M Braeburn, Yuko 76.68 335 P **P** **09 37 47.9 +0.7**
baz=120,SNR=6.8
MVO Moncorvo 76.92 47 *e*P **P** **09 37 48.5 -0.5**
comp=Z,26nm,1.5s
MVO *ep*P **pP** **09 38 28.1 +0.7**
RES Resolute Bay 76.94 355 P **P** **09 37 47.3 -0.9**
comp=Z,8.1nm,0.9s,baz=131,slow=5.3,SNR=4.2
comp=Z,8.1nm,0.9s
HYT Haines Junctio 77.09 334 P **P** **09 37 50.3 +0.7**
baz=118
N30M Aishikik Lake 77.22 335 IAmb IAmb 09 37 52.4
comp=Z,56nm,1.1s
N30M Aishikik Lake 77.22 335 P **P** **09 37 50.9 +0.7**
baz=118,SNR=19
PBRG Braganca 77.28 47 *e*P **P** **09 37 50.9 -0.1**
comp=Z,22nm,1.6s
PBRG *ep*P **pP** **09 38 30.6 +1.2**
O29M Mount Kennedy 77.32 334 P **P** **09 37 51.8 +0.9**
baz=117
PNL Peninsula 77.41 333 P **P** **09 37 51.7 +0.5**
baz=116
YUK6 Outpost Mounta 77.52 334 P **P** **09 37 52.7 +0.6**
baz=117,SNR=6.5
M30M Minto, Yukon 77.63 336 IAmb IAmb 09 37 53.9
comp=Z,32nm,0.9s
M30M Minto, Yukon 77.63 336 P **P** **09 37 52.9 +0.5**
baz=119,SNR=24
MAYO Mayo, Yukon 77.78 337 IAmb IAmb 09 37 55.7
comp=Z,82nm,1.4s
MAYO Mayo, Yukon 77.78 337 P **P** **09 37 54.2 +1.0**
baz=120,SNR=8.6
YUK4 Talbot Arm 77.83 335 P **P** **09 37 54.4 +0.7**
baz=117,SNR=8.2
PINM Pinnacle 77.98 333 P **P** **09 37 55.9 +1.4**
baz=115
SUMG Summit 78.22 11 P **P** **09 37 56.2 +0.3**
SUMG IAmb IAmb 09 37 57.0
comp=Z,48nm,1.0s
SUMG Summit 78.22 11 P **P** **09 37 56.2 +0.3**
SUMG pmax pmax
comp=Z,48nm,1.0s
SUMG Summit 78.22 11 *i* P **P** **09 37 55.0 -0.9**
SUMG IAmb IAmb 09 37 56.7
comp=Z,44nm,0.9s
O28M Mount Upton 78.25 334 P **P** **09 37 57.1 +0.9**
baz=115
M29M Somme Creek 78.25 336 IAmb IAmb 09 37 57.8
comp=Z,52nm,1.0s
M29M Somme Creek 78.25 336 P **P** **09 37 57.0 +1.0**
baz=117,SNR=30
YUK8 Steele Glacier 78.28 334 P **P** **09 37 56.6 +0.3**
baz=116,SNR=5.6
H31M Peel River 78.35 340 IAmb IAmb 09 37 58.0
comp=Z,80nm,1.1s
H31M Peel River 78.35 340 P **P** **09 37 56.6 +0.3**
baz=122,SNR=21
L29M L29M 78.43 336 P **P** **09 37 57.2 +0.3**
baz=118,SNR=36
J30M Hart River 78.44 338 P **P** **09 37 57.3 +0.4**
baz=120,SNR=18
K29M Barlow Dome 78.53 337 IAmb IAmb 09 37 58.9
comp=Z,42nm,0.9s
K29M Barlow Dome 78.53 337 P **P** **09 37 57.5 0.0**
baz=118,SNR=28
I30M Mount Dempster 78.78 339 IAmb IAmb 09 38 00.5
comp=Z,51nm,0.8s
I30M Mount Dempster 78.78 339 P **P** **09 37 59.1 +0.3**
baz=120,SNR=45
MESA MESA 78.79 333 P **P** **09 37 59.5 +0.4**
baz=114
YUK3 Moose Creek 78.80 335 P **P** **09 37 59.2 +0.1**
baz=115,SNR=9.5
CTG Chitna Glacier 78.84 334 P **P** **09 38 00.1 +0.9**
baz=114
ESDC Sonseca Array 78.87 49 P **P** **09 37 59.1 -0.7**
comp=Z,2.9nm,0.9s,baz=268,slow=5.9,SNR=14
ESDC pP **pP** **09 38 37.5 -0.8**
comp=Z,2.6nm,1.0s,baz=261,slow=5.5,SNR=3.4
ESDC LR LR 10 12 53.8
comp=Z,96nm,18.9s,baz=300,slow=36
comp=Z,2.9nm,0.9s
G31M Satah River 78.92 340 P **P** **09 37 59.9 +0.5**
baz=122,SNR=40
BARN Barnard Glacie 79.02 334 IAmb IAmb 09 38 02.2
comp=Z,55nm,1.6s
F31M Tsiigehtchic 79.03 341 P **P** **09 38 00.5 +0.6**
baz=123,SNR=14
J29N Klondike Camp 79.09 337 P **P** **09 38 01.2 +0.8**
baz=118
DAWY Dawson 79.37 337 P **P** **09 38 02.2 +0.2**
baz=117,SNR=15
TGL Tana Glacier 79.42 333 IAmb IAmb 09 38 04.0
comp=Z,49nm,1.2s
A36M Sachs Harbour 79.43 347 P **P** **09 38 01.4 -0.6**
baz=132,SNR=6.6
INK Inuvik 79.43 342 P **P** **09 38 02.7 +0.7**
baz=123,SNR=31
INK Inuvik 79.43 342 P **P** **09 38 02.1 +0.1**
comp=Z,63nm,0.9s,baz=108,slow=4.7,SNR=53
INK LR LR 10 16 34.9
comp=Z,100nm,18.6s,baz=32,slow=38
comp=Z,63nm,0.9s
EPYK Eagle Plains 79.47 339 IAmb IAmb 09 38 03.9
comp=Z,64nm,0.9s
EPYK Eagle Plains 79.47 339 P **P** **09 38 02.6 +0.2**
baz=120,SNR=20
BELA Belgrano 2 79.51 172 P **P** **09 38 03.0 +0.6**
BELA IAmb IAmb 09 38 04.0
comp=Z,55nm,0.9s
CRQE Cirque 79.54 333 P **P** **09 38 03.5 +0.5**
baz=113
I29M Ogilvie Camp, 79.55 338 P **P** **09 38 03.3 +0.5**
I29M IAmb IAmb 09 38 04.4
comp=Z,138nm,1.8s
I29M Ogilvie Camp, 79.55 338 P **P** **09 38 03.4 +0.5**
baz=118,SNR=25
G30M tAoh Zraii Nji 79.61 340 P **P** **09 38 02.7 -0.4**
baz=120,SNR=7.9
M27K Edge Creek, AK 79.65 335 IAmb IAmb 09 38 05.4
comp=Z,32nm,1.1s
M27K Edge Creek, AK 79.65 335 P **P** **09 38 03.8 +0.2**
baz=114,SNR=6.6
MCARA McCarthy VSAT 79.75 334 IAmb IAmb 09 38 06.1
comp=Z,91nm,1.4s
MCARA McCarthy VSAT 79.75 334 P **P** **09 38 04.4 +0.4**
baz=113,SNR=7.5
F30M Barrier River 79.78 341 P **P** **09 38 04.1 +0.1**
baz=121,SNR=26
KAIM Kayak Island 79.83 332 P **P** **09 38 05.3 +0.9**
baz=111
VRDI Verde Repeater 79.88 333 IAmb IAmb 09 38 06.5
comp=Z,57nm,1.2s
BCAR Beaver Creek A 79.90 335 P **P** **09 38 05.6 +0.7**
HMT Hamilton 79.91 332 IAmb IAmb 09 38 06.7
comp=Z,86nm,1.1s
L27K Beaver Creek, 79.92 335 IAmb IAmb 09 38 06.9
comp=Z,78nm,1.6s
L27K Beaver Creek, 79.92 335 P **P** **09 38 05.2 +0.3**
baz=114,SNR=15
H29M Whitestone 79.98 339 IAmb IAmb 09 38 06.8
comp=Z,66nm,0.9s
H29M Whitestone 79.98 339 P **P** **09 38 05.4 +0.3**
baz=118,SNR=30
GLB Gilahina Butte 80.12 334 IAmb IAmb 09 38 07.7
comp=Z,36nm,1.2s
M26K Nabesna, AK 80.14 335 P **P** **09 38 06.8 +0.6**
baz=113,SNR=7.1
G29M Pine Creek 80.19 340 P **P** **09 38 06.7 +0.4**
baz=118,SNR=42
I28M Miner Creek 80.20 338 IAmb IAmb 09 38 07.9
comp=Z,42nm,0.8s
I28M Miner Creek 80.20 338 P **P** **09 38 07.0 +0.5**
baz=116,SNR=32
BMRM Bremner River 80.30 333 P **P** **09 38 07.6 +0.6**
baz=111,SNR=7.2
TOA0 Torodi Ar. Sit 80.40 76 P **P** **09 38 07.4 -1.0**
TOA0 IAmb IAmb 09 38 46.9
comp=Z,110nm,1.9s

TORD	Torodi Ar. Bea	80.40	76	P	P	09 38 07.3 -1.1
TORD				IAmb	IAmb	09 38 46.9
	comp=Z,95nm,1.9s					
TORD	Torodi Ar. Bea	80.40	76	P	P	09 38 07.3 -1.1
	comp=Z,5.7nm,0.4s,baz=286,slow=5.6,SNR=102					
TORD				pP	pP	09 38 45.5 -1.6
	comp=Z,15nm,0.9s,baz=308,slow=6.9,SNR=11					
TORD				PKKPbc	PKKPbc	09 56 49.1 -0.1
	comp=Z,1.1nm,0.6s,baz=45,slow=2.8,SNR=8.4					
	comp=Z,5.7nm,0.4s					
K27K	Chicken	80.42	336	P	P	09 38 08.3 +0.8
	baz=114					
NEEM	North Greenlan	80.42	6	*i* P	P	09 38 06.4 -1.3
NEEM				IAmb	IAmb	09 38 08.9
	comp=Z,42nm,0.8s					
L26K	Log Cabin Wild	80.54	335	IAmb	IAmb	09 38 09.7
	comp=Z,52nm,1.6s					
L26K	Log Cabin Wild	80.54	335	P	P	09 38 08.7 +0.4
	baz=113,SNR=10					
N25K	Chitina, Valde	80.54	334	IAmb	IAmb	09 38 09.9
	comp=Z,71nm,1.8s					
N25K	Chitina, Valde	80.54	334	P	P	09 38 08.2 -0.1
	baz=112					
Q23K	Middleton Isla	80.58	331	P	P	09 38 09.4 +1.0
	baz=110					
E29M	Blow River	80.86	341	P	P	09 38 09.9 +0.1
	baz=119,SNR=34					
I27K	Kandik River	80.90	338	P	P	09 38 10.6 +0.4
	baz=115,SNR=23					
HARP	HAARP	81.07	334	P	P	09 38 11.3 +0.3
	baz=111					
KLU	Klutina	81.09	333	IAmb	IAmb	09 38 12.4
	comp=Z,29nm,0.9s					
KLU	Klutina	81.09	333	P	P	09 38 11.2 -0.1
	baz=110,SNR=8.1					
H27K	Steamboat Moun	81.13	338	P	P	09 38 11.1 -0.3
	baz=115,SNR=17					
F28M	Old Crow	81.16	340	IAmb	IAmb	09 38 12.3
	comp=Z,30nm,0.8s					
F28M	Old Crow	81.16	340	P	P	09 38 11.5 +0.1
	baz=117,SNR=18					
SCRK	Sand Creek	81.17	336	IAmb	IAmb	09 38 12.9
	comp=Z,26nm,0.8s					
SCRK	Sand Creek	81.17	336	P	P	09 38 12.1 +0.4
	baz=112,SNR=24					
J26L	Joseph Creek	81.20	337	P	P	09 38 12.0 +0.2
	baz=113,SNR=77					
P23K	Montague Islan	81.27	332	P	P	09 38 12.9 +0.8
	baz=109					
I26K	Coal Creek Min	81.36	337	P	P	09 38 12.5 0.0
	baz=113					
GLI	Glacier Island	81.41	332	P	P	09 38 12.2 -0.7
	baz=109					
M24K	Tolsona, Glenn	81.41	334	P	P	09 38 13.3 +0.4
	baz=110,SNR=8.0					
PAX	Paxson	81.41	335	P	P	09 38 13.1 +0.2
	baz=111,SNR=22					
G27K	Doyon Strip	81.42	339	P	P	09 38 12.0 -0.8
	baz=115,SNR=26					
RIDG	Independent Ri	81.43	336	IAmb	IAmb	09 38 14.3
	comp=Z,47nm,1.0s					
RIDG	Independent Ri	81.43	336	P	P	09 38 13.1 +0.1
	baz=112,SNR=10.0					
E28M	Babbage River	81.50	341	P	P	09 38 13.0 -0.2
	baz=117,SNR=13					
VNA3	Neumayer Olymp	81.56	162	⇓P	P	09 38 14.0 +0.6
	comp=Z,78nm,0.8s					
D28M	Stokes Point	81.58	342	P	P	09 38 14.0 +0.5
	baz=118					
RAR	Rarotonga	81.68	249	LR	LR	10 04 25.1
	comp=Z,53nm,21.0s,baz=168,slow=28					
VNA1	Neumayer--Stat	81.80	162	⇓P	P	09 38 15.5 +0.9
	comp=Z,65nm,0.9s					
SCM	Sheep Creek Mo	81.83	333	IAmb	IAmb	09 38 16.2
	comp=Z,60nm,1.0s					
SCM	Sheep Creek Mo	81.83	333	P	P	09 38 15.0 -0.2
	baz=109,SNR=6.6					
K24K	Donnelly Dome	81.84	335	P	P	09 38 14.9 -0.2
	baz=111,SNR=11					
J25K	Salcha River,	81.97	336	IAmb	IAmb	09 38 16.9
	comp=Z,38nm,0.7s					
J25K	Salcha River,	81.97	336	P	P	09 38 15.6 -0.2
	baz=111,SNR=43					
PWL	Port Wells	81.98	332	P	P	09 38 15.5 -0.4
	baz=108					
E27K	Coleen River	81.99	340	P	P	09 38 16.3 +0.5
	baz=115,SNR=16					
M23K	Glacier View	82.00	333	P	P	09 38 15.6 -0.3
	baz=109,SNR=6.5					
VNA2	Neumayer--Watz	82.16	162	⇓P	P	09 38 16.9 +0.4
	comp=Z,42nm,0.7s,baz=300,slow=6.0					
KNK	Knik Glacier	82.21	333	P	P	09 38 17.3 +0.2
	baz=108					
D27M	Malcolm River	82.25	341	P	P	09 38 17.0 -0.2
	baz=116,SNR=14					
G26K	Porcupine Rive	82.25	339	P	P	09 38 17.0 -0.1
	baz=113,SNR=17					
WAT6	Susitna Watana	82.26	334	P	P	09 38 17.2 -0.3
	baz=109,SNR=20					
DHY	Denali Highway	82.27	335	P	P	09 38 17.1 -0.4
	baz=109					
SML	Sawmill	82.28	333	IAmb	IAmb	09 38 18.3
	comp=Z,40nm,0.7s					
SML	Sawmill	82.28	333	P	P	09 38 17.1 -0.3
	baz=108,SNR=9.6					
SEW	Seward	82.28	331	P	P	09 38 16.6 -0.8
	baz=107					
PRP	Porcupine Dome	82.36	337	P	P	09 38 17.7 -0.2
	baz=111,SNR=13					
O22K	Cooper Landing	82.52	332	P	P	09 38 17.8 -0.8
	baz=107					
GHO	Glory Hole Cre	82.53	333	IAmb	IAmb	09 38 19.6
	comp=Z,45nm,0.8s					
HDA	Harding Lake	82.54	336	P	P	09 38 18.2 -0.4
	baz=110,SNR=36					
PMR	Palmer	82.57	333	P	P	09 38 18.7 -0.2
	baz=107					
IL31		82.63	336	IAmb	IAmb	09 38 19.9
	comp=Z,29nm,0.7s					
ILAR	Eielson Array	82.63	336	P	P	09 38 18.6 -0.6
	comp=Z,22nm,0.9s,baz=148,slow=4.4,SNR=158					
ILAR				PP	PP	09 41 31.3 +0.3
	comp=Z,1.0nm,0.8s,baz=117,slow=7.8,SNR=4.0					
ILAR				PKKPbc	PKKPbc	09 56 41.9 -4.5
	comp=Z,0.8nm,0.7s,baz=285,slow=3.8,SNR=8.2					
ILAR				LR	LR	10 18 03.4
	comp=Z,84nm,18.4s,baz=118,slow=38					
	comp=Z,22nm,0.9s					
FYU	Fort Yukon	82.64	338	IAmb	IAmb	09 38 20.7
	comp=Z,43nm,0.8s					
F26K	Sheenjek River	82.67	339	P	P	09 38 19.6 +0.3
	baz=113,SNR=29					
WAT1	Susitna Watana	82.69	334	P	P	09 38 19.2 -0.4
	baz=108					
RC01	Rabbit Creek A	82.70	332	IAmb	IAmb	09 38 20.1
	comp=Z,31nm,0.6s					
RC01	Rabbit Creek A	82.70	332	P	P	09 38 19.4 -0.1
	baz=107,SNR=7.8					
H25L	Birch Creek	82.75	338	P	P	09 38 20.6 +0.9
	baz=111					
BRSE	Bradley Lake S	82.80	331	P	P	09 38 19.8 -0.3
	baz=106					
EKA	Eskdalemuir Ar	82.82	34	P	P	09 38 19.6 -0.7
	comp=Z,4.4nm,0.6s,baz=254,slow=4.6,SNR=18					
	comp=Z,4.4nm,0.6s					
BRLK	Bradley Lake	82.88	331	IAmb	IAmb	09 38 21.3
	comp=Z,44nm,0.8s					
POKR	Poker Plat Res	82.97	336	P	P	09 38 20.6 -0.3
	baz=109					
RND	Reindeer	83.01	335	IAmb	IAmb	09 38 22.5
	comp=Z,36nm,0.8s					
G25K	Bearman Lake	83.03	338	P	P	09 38 22.1 +0.9
	baz=111,SNR=24					
COLA	College	83.06	336	P	P	09 38 21.0 -0.2
	baz=109					
M22K	Willow	83.07	333	P	P	09 38 21.1 -0.3
	baz=107,SNR=6.9					
MCK	McKinley	83.14	335	P	P	09 38 21.6 -0.2
	baz=108,SNR=18					
F25K	Christian Rive	83.16	339	P	P	09 38 22.4 +0.5
	baz=111,SNR=12					
KDAK	Kodiak Island	83.22	329	P	P	09 38 23.0 +0.7
	baz=104					
KDAK	Kodiak Island	83.22	329	LR	LR	10 17 30.3
	comp=Z,78nm,18.4s,baz=164,slow=37					
SUA	Susitna One	83.28	333	P	P	09 38 22.5 -0.2
	baz=106					
CUT	Chulitna	83.33	333	P	P	09 38 22.4 -0.3
	baz=106,SNR=10					
E25K	Arctic Village	83.33	340	P	P	09 38 23.5 +0.8
	baz=112,SNR=15					
H24K	Noodor Dome	83.39	337	IAmb	IAmb	09 38 24.5
	comp=Z,38nm,0.9s					
H24K	Noodor Dome	83.39	337	P	P	09 38 23.1 0.0
	baz=109,SNR=25					
NEA2	Nenana	83.46	336	P	P	09 38 23.4 0.0
	baz=108,SNR=52					
G24K	Hadweenzic Riv	83.52	338	P	P	09 38 23.9 +0.3
	baz=110,SNR=11					
TRF	Thorofare Moun	83.64	334	P	P	09 38 24.2 -0.4
	baz=107					
I23K	Minto, Yukon-K	83.75	336	P	P	09 38 24.9 +0.1
	baz=108,SNR=38					
SNAA	Sanae	83.77	162	P	P	09 38 25.5 +0.6
SNAA				IAmb	IAmb	09 38 26.3
	comp=Z,50nm,1.0s					
SNAA	Sanae	83.77	162	*d i* P	P	09 38 24.8 -0.2
SNAA				pmax	pmax	
	comp=Z,92nm,1.7s					
SNAA	Sanae	83.77	162	⇓P	P	09 38 25.3 +0.3
	comp=Z,635nm,0.7s					
SNAA	Sanae	83.77	162	P	P	09 38 25.0 +0.1
	comp=Z,38nm,0.9s,baz=270,slow=5.1,SNR=190					
	comp=Z,38nm,0.9s					
SKT	Skwentna	83.78	333	P	P	09 38 25.2 +0.2
	baz=105,SNR=27					
C26K	Camden Bay	83.79	341	P	P	09 38 25.5 +0.6
	baz=112					
O20K	Slope Mountain	83.80	331	P	P	09 38 24.9 -0.5
	baz=104					
N20K	Mount Spurr	83.89	332	P	P	09 38 25.3 -0.5
	baz=105,SNR=5.5					
SPCR	Spurr Chakacha	83.89	332	P	P	09 38 25.3 -0.5
	baz=105					
F24K	Squaw Lake	83.95	339	P	P	09 38 26.2 +0.3
	baz=109,SNR=11					
RSO	Redoubt South	83.96	331	P	P	09 38 26.3 0.0
P19K	Oil Pt	84.00	330	P	P	09 38 25.6 -0.7
	baz=104					
H23K	Yukon River	84.03	337	IAmb	IAmb	09 38 27.4
	comp=Z,32nm,1.2s					
H23K	Yukon River	84.03	337	P	P	09 38 26.4 +0.1
	baz=108,SNR=10					
D25K	Kavik River	84.04	341	P	P	09 38 26.6 +0.2
	baz=111,SNR=14					
BPAW	Bear Paw Mtn.	84.12	335	P	P	09 38 26.8 0.0
	baz=106,SNR=51					
R18K	Karluk	84.15	328	P	P	09 38 26.7 -0.3
	baz=102					
MLY	Manley	84.28	336	IAmb	IAmb	09 38 28.5
	comp=Z,39nm,0.8s					
MLY	Manley	84.28	336	P	P	09 38 27.5 -0.1
	baz=106,SNR=42					
PPLA	Purkeypile	84.31	334	P	P	09 38 27.8 -0.2
	baz=105,SNR=24					
E24K	Your Creek	84.34	339	P	P	09 38 28.2 +0.4
	baz=109,SNR=8.6					
CAST	Castle Rocks	84.40	334	P	P	09 38 28.0 -0.3
	baz=105,SNR=48					
G23K	Bananza Creek	84.48	338	P	P	09 38 29.5 +0.9
	baz=107,SNR=22					
M20K	Styx River	84.48	333	P	P	09 38 28.4 -0.4
	baz=104					
CHUM	Lake Minchumin	84.62	335	P	P	09 38 29.1 -0.2
	baz=105,SNR=20					
O19K	Port Alsworth	84.66	331	P	P	09 38 28.4 -1.1
	baz=103					
COLD	Coldfoot	84.70	338	P	P	09 38 30.2 +0.6
	baz=107,SNR=17					
E23K	Chandalar	84.74	339	P	P	09 38 30.2 +0.3
	baz=108,SNR=10.0					
CLF	Chambon-Foret	84.76	42	IAmb	IAmb	09 38 31.8
	comp=Z,48nm,0.9s					
H22K	Ishtalitna Cre	84.77	337	P	P	09 38 29.7 -0.3
	baz=106,SNR=6.1					
D24K	Happy Valley	84.81	340	P	P	09 38 30.0 -0.1
	baz=108					
I21K	Tanana	84.82	336	P	P	09 38 29.8 -0.5
	baz=105					
N19K	Bonanza Creek	84.87	331	P	P	09 38 30.3 -0.4
	baz=103					
TOLK	Toolik Lake Re	84.91	340	IAmb	IAmb	09 41 00.6
	comp=Z,87nm,1.9s					
TOLK	Toolik Lake Re	84.91	340	P	P	09 38 30.8 +0.1
	baz=108					
DAG	Danmarks Havn	84.91	11	*i* P	P	09 38 30.0 -0.5
DAG				IAmb	IAmb	09 38 30.8
	comp=Z,32nm,1.2s					
P18K	Big Mountain,	84.93	330	P	P	09 38 29.5 -1.4
	baz=102					
C24K	Franklin Bluff	84.95	341	P	P	09 38 30.5 -0.2
	baz=109					
O18K	Koktuh Hills	85.02	330	P	P	09 38 30.7 -0.6
	baz=102					
Q17K	Contact Creek	85.04	329	P	P	09 38 31.4 -0.2
	baz=101					
M19K	Big River Lodg	85.07	332	P	P	09 38 31.3 -0.3
	baz=103					
G22K	Bettles	85.11	338	P	P	09 38 32.0 +0.4
	baz=106					
R17K	Ugashik Creek	85.18	328	P	P	09 38 32.0 -0.2
	baz=101					
K20K	Telida	85.25	334	IAmb	IAmb	09 38 33.1
	comp=Z,47nm,1.1s					
K20K	Telida	85.25	334	P	P	09 38 31.9 -0.6
	baz=103,SNR=16					
H21K	Melozitna Rive	85.28	336	P	P	09 38 32.0 -0.5
	baz=104,SNR=8.6					
L19K	White Mountain	85.34	333	IAmb	IAmb	09 38 33.4
	comp=Z,25nm,1.0s					
L19K	White Mountain	85.34	333	P	P	09 38 32.2 -0.7
	baz=102,SNR=8.2					
D23K	Nanushuk River	85.39	340	P	P	09 38 33.8 +0.8
	baz=107,SNR=11					
J20K	Nowinta River	85.48	335	IAmb	IAmb	09 38 34.1
	comp=Z,23nm,0.7s					
J20K	Nowinta River	85.48	335	P	P	09 38 33.3 -0.2
	baz=103,SNR=17					
TROLL	Troll, Antarti	85.49	162	⇓P	P	09 38 34.3 +0.6
	comp=Z,4μm,0.8s					
P17K	Kvichak River	85.50	330	P	P	09 38 33.2 -0.5
	baz=101					
Q16K	King Salmon	85.52	329	P	P	09 38 34.5 +0.7
	baz=100					
F22K	John River	85.52	338	P	P	09 38 34.6 +0.9
	baz=105,SNR=18					
N18K	Kilae Creek	85.52	331	IAmb	IAmb	09 38 34.4
	comp=Z,49nm,1.3s					
N18K	Kilae Creek	85.52	331	P	P	09 38 33.6 -0.3
	baz=101,SNR=5.6					
C23K	Itkillik River	85.62	341	P	P	09 38 34.6 +0.5
	baz=107,SNR=10					
I20K	Naaghedeneel	85.76	335	P	P	09 38 35.0 +0.1
	baz=103,SNR=7.2					
G21K	Allakaket	85.77	337	P	P	09 38 35.1 +0.2
	baz=104					
R16K	Pilot Point	85.80	328	P	P	09 38 35.7 +0.5
	baz=100					
F21K	Alatna River	85.93	338	P	P	09 38 36.3 +0.5
	baz=104,SNR=17					
O17K	Koliganek Bris	85.94	330	P	P	09 38 35.1 -0.8
	baz=100,SNR=5.3					
TTA	Tatalina	86.03	333	IAmb	IAmb	09 38 37.1
	comp=Z,70nm,2.0s					
TTA	Tatalina	86.03	333	P	P	09 38 35.6 -0.8
	baz=101					
CHGN	Chignik	86.05	327	P	P	09 38 36.3 -0.1
	baz=99					
D22K	Ayikyak River	86.06	339	P	P	09 38 36.5 +0.2
	baz=105					
J19K	Poorman	86.07	334	P	P	09 38 36.0 -0.5
	baz=102,SNR=6.8					
H20K	Anotleneega Mo	86.08	336	P	P	09 38 36.1 -0.4
	baz=103,SNR=18					
N17K	Nushagak Hills	86.12	331	P	P	09 38 35.9 -0.9
	baz=100					
L18K	Granite Mounta	86.19	333	P	P	09 38 36.9 -0.2
	baz=101					
M17K	Holitna River	86.39	332	P	P	09 38 37.7 -0.4
	baz=100					
O16K	Kokwok River B	86.41	330	P	P	09 38 37.3 -0.9
	baz=99					
E21K	Killik River	86.41	339	P	P	09 38 38.4 +0.3
	baz=104,SNR=14					
J18K	Innoko River	86.44	334	P	P	09 38 37.8 -0.5
	baz=101,SNR=8.5					
DOU	Dourbes	86.56	40	*d* P	P	09 38 39.8 +0.7
	comp=Z,9.8nm,1.0s					
S14K	Fog Glacier	86.67	326	P	P	09 38 39.4 -0.3
	baz=98					
B22K	Teshekpuk Lake	86.68	341	P	P	09 38 39.7 +0.4
	baz=104,SNR=7.8					
BMRD	Maredsous	86.69	40	*d* P	P	09 38 40.4 +0.6
	comp=Z,8.5nm,1.2s					
H19K	Roundabout Mou	86.73	336	P	P	09 38 39.2 -0.4
	baz=101,SNR=16					
F20K	Avaraart Lake	86.75	337	P	P	09 38 39.2 -0.5
	baz=102,SNR=8.0					
GCSA	Galena City Sc	86.75	335	P	P	09 38 39.6 -0.1
	baz=101,SNR=12					
C21K	Knifeblade Rid	86.86	340	P	P	09 38 41.4 +1.1
	baz=103					
N16K	Nishlik Lake	86.88	331	P	P	09 38 40.0 -0.5
	baz=99					
BGES	Gesves	86.90	40	*d* P	P	09 38 42.0 +1.2
	comp=Z,13nm,1.0s					
BGES				*dp* P	pP	09 39 20.7 +0.6
B21K	Ikpikpuk River	86.91	340	P	P	09 38 40.5 +0.1
	baz=103,SNR=14					
L17K	Donlin	86.92	332	P	P	09 38 40.7 +0.1
	baz=99					
K17K	Iditarod	87.02	333	P	P	09 38 41.0 -0.1
	baz=99,SNR=5.8					
M16K	Timber Creek	87.06	331	P	P	09 38 41.5 +0.2
	baz=99					
SDPT	Sand Point	87.07	325	P	P	09 38 41.3 -0.1
	baz=97					
G19K	Purcell Mounta	87.10	336	P	P	09 38 41.7 +0.3
	baz=101,SNR=14					
E20K	Nigu River	87.17	339	P	P	09 38 42.7 +0.8
	baz=102					
O15K	Ungalikthiuk R	87.22	329	P	P	09 38 42.7 +0.6
	baz=98					
BSTI	Sart Tilman	87.23	39	*d* P	P	09 38 43.4 +1.0
	comp=Z,4.5nm,0.9s					
A22K	Sinclair Lake	87.34	341	P	P	09 38 43.0 +0.6
	baz=103					
E19K	Redstone River	87.40	338	P	P	09 38 43.1 +0.2
	baz=100					
L16K	Owhat River	87.41	332	P	P	09 38 43.7 +0.8
	baz=98,SNR=6.8					
D20K	Etivluk River	87.41	339	P	P	09 38 43.5 +0.6
	baz=101					
H18K	Honhosa River	87.45	335	P	P	09 38 44.2 +1.1
	baz=99					
J17K	VABM Dome	87.48	334	P	P	09 38 44.0 +0.7
	baz=99,SNR=6.3					
N15K	Kwethluk River	87.49	330	P	P	09 38 44.0 +0.6
	baz=98					
F19K	Shaleruckik Mo	87.50	337	P	P	09 38 43.6 +0.3
	baz=100,SNR=14					
MEM	Membach	87.51	39	*d* P	P	09 38 44.4 +0.7
	comp=Z,8.0nm,1.1s					
WLF	Walferdange	87.51	40	P	P	09 38 44.3 +0.6
WLF				IAmb	IAmb	09 38 45.6
	comp=Z,37nm,1.0s					
WLF	Walferdange	87.51	40	P	P	09 38 44.3 +0.6
WLF				pmax	pmax	
	comp=Z,37nm,1.0s					
WLF	Walferdange	87.51	40	*d* P	P	09 38 44.6 +0.9
	comp=Z,22nm,1.0s					
BTNL	Ternell	87.58	39	*d* P	P	09 38 45.0 +0.8
G18K	Tagagawik	87.69	336	P	P	09 38 44.8 +0.5
	baz=99,SNR=40					
M15K	Kasigluk River	87.85	331	P	P	09 38 45.4 +0.3
	baz=97					
B20K	Meade River	87.85	340	P	P	09 38 46.0 +1.1
	baz=101,SNR=5.0					
D19K	Kuna River	87.92	339	P	P	09 38 46.1 +0.8
	baz=100					
A21K	Barrow	87.93	342	P	P	09 38 46.4 +1.2
	baz=101					
O14K	Tigyukauivet M	87.96	329	P	P	09 38 45.5 -0.2
	baz=97					
ECH	Echery	88.04	42	IAmb	IAmb	09 38 48.1
	comp=Z,57nm,1.8s					
H17K	Granite Mounta	88.06	335	P	P	09 38 46.7 +0.7
	baz=98,SNR=15					
J16K	Anvik River	88.14	333	P	P	09 38 47.6 +1.2
	baz=97,SNR=7.0					
N14K	Kuskokwak Cree	88.25	330	P	P	09 38 47.9 +0.9
	baz=96,SNR=6.5					
I17K	Unalakleet	88.26	334	P	P	09 38 47.8 +0.9
	baz=97					
QSPA	South Pole Qui	88.38	180	P	P	09 38 48.7 +1.1
	comp=Z,95nm,1.0s,baz=155,slow=1.6,SNR=231					
QSPA				pP	pP	09 39 27.7 +0.5
	comp=Z,58nm,1.0s,baz=159,slow=2.5,SNR=7.3					
	comp=Z,95nm,1.0s					
NVL	N'lazarevskaya	88.38	161	*e* P	P	09 38 43.2 -4.2
NVL				pmax	pmax	
	comp=Z,41nm,1.3s					
K15K	Wolf Creek Mou	88.44	332	P	P	09 38 49.1 +1.2
	baz=96,SNR=5.2					
G17K	Kiwalik Mounta	88.45	336	P	P	09 38 48.9 +1.1
	baz=97,SNR=18					
M14K	Bethel	88.48	331	P	P	09 38 48.7 +0.7
	baz=96,SNR=7.5					
C19K	Lookout Ridge	88.54	339	P	P	09 38 49.3 +1.0
	baz=98,SNR=6.0					
E18K	Tukpahlearik C	88.68	337	P	P	09 38 49.1 +0.3
	baz=97					
FALS	False Pass	88.70	325	P	P	09 38 49.1 -0.1
	baz=95					
F17K	Baldwin Pennin	88.81	336	P	P	09 38 50.5 +1.1
	baz=97,SNR=15					
KEST	Kesra	88.85	54	P	P	09 38 49.8 -0.7
	comp=Z,10nm,0.7s,baz=272,slow=3.3,SNR=6.4					
	comp=Z,10nm,0.7s					
L14K	Kuka Creek	88.89	331	P	P	09 38 50.1 +0.2
	baz=95					
H16K	Elim	89.02	335	P	P	09 38 51.4 +0.9
	baz=96,SNR=5.6					
C18K	Utukok River	89.06	339	P	P	09 38 50.6 -0.1
	baz=97					
E17K	Hotham Inlet	89.11	337	P	P	09 38 51.2 +0.3
	baz=96,SNR=20					
M13K	Dall Lake	89.13	330	P	P	09 38 52.0 +1.0
	baz=95,SNR=5.2					
G16K	Koyuk River	89.14	335	P	P	09 38 52.2 +1.1
	baz=96,SNR=8.1					
A19K	Wainwright	89.21	340	P	P	09 38 51.9 +0.7
	baz=97					
B18K	Kokolik River	89.36	339	P	P	09 38 53.2 +1.1
	baz=96					
J14K	Nanvaranak Lak	89.42	333	P	P	09 38 53.6 +1.2
	baz=95,SNR=14					
D17K	Noatak River	89.66	338	P	P	09 38 54.2 +0.8
	baz=95					
C17K	DeLong Mountai	89.76	338	P	P	09 38 54.3 +0.3
	baz=95					
DAVA	Damuels	89.82	43	*e* P	P	09 38 55.3 +0.5
	comp=Z,13nm,0.9s,SNR=4.7					
G15K	Niukluk	89.82	335	P	P	09 38 55.1 +0.9
	baz=94,SNR=6.9					
K13K	Kusilvak Mount	89.88	332	P	P	09 38 55.3 +0.8
	baz=94,SNR=9.1					
FUORN	Ofenpass-Fuorn	90.05	44	P	P	09 38 56.5 +0.5
FUORN				IAmb	IAmb	09 39 00.9
	comp=Z,36nm,2.0s					
F15K	North Star Dit	90.12	336	P	P	09 38 56.5 +0.9
	baz=94,SNR=6.7					
ANM	Nome	90.36	334	P	P	09 38 57.4 +0.6
	baz=93					
FETA	Feichten	90.38	43	*i* P	P	09 38 58.5 +1.0
	comp=Z,17nm,1.0s					
RETA	Reutte	90.42	43	*i* P	P	09 38 58.3 +0.8
	comp=Z,9.1nm,1.2s					
UNV	Unalaska Valle	90.44	324	P	P	09 38 57.4 +0.1
	baz=92					
ZCCA	Zocca	90.47	46	IAmb	IAmb	09 38 59.0
	comp=Z,22nm,0.7s					
MOTA	Moosalm	90.65	43	*e* P	P	09 38 59.3 +0.6
	comp=Z,17nm,1.1s,SNR=5.4					
SQTA	Sankt Quirin	90.72	43	*i* P	P	09 38 59.3 +0.3
	comp=Z,10.0nm,0.5s,SNR=7.2					
WATA	Walderalm	90.97	43	*e* P	P	09 39 00.7 +0.5
	comp=Z,6.1nm,0.7s					
TEOL	Teolo	90.99	45	IAmb	IAmb	09 39 01.5
	comp=Z,23nm,0.8s					
CTI	Castel Tesino	90.99	44	IAmb	IAmb	09 39 01.4
	comp=Z,15nm,0.8s					
WTTA	Wattenberg	91.01	43	*i* P	P	09 39 00.6 +0.2
	comp=Z,14nm,0.9s					
NB2	NORSAR Subarra	91.10	29	P	P	09 39 00.2 -0.2

comp=Z,1.4nm,0.7s,baz=270,slow=4.6
NOA NORSAR Array B 91.10 29 *eP* **P 09 39 00.9 +0.5**
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 91.10 29 P P 09 39 00.2 -0.2
comp=Z,2.6nm,0.7s,baz=269,slow=4.7,SNR=9.2
comp=Z,2.6nm,0.7s
ABTA Abfaltersbach 91.60 43 *iP* **P 09 39 03.8 +0.8**
comp=Z,14nm,1.2s
LESA Schwarzleotal 91.72 43 *iP* **P 09 39 04.4 +0.8**
comp=Z,11nm,1.2s
NIKH Nikolski High 91.83 323 P P 09 39 04.1 +0.3
baz=90
CLUD Cludinico 91.85 44 IAmb IAmb 09 39 06.6
comp=Z,20nm,0.8s
ELIB Princess Elisa 91.94 162 *dP* **P 09 39 04.5 +0.4**
comp=Z,47nm,0.9s
ELIB *dpP* **pP 09 39 43.2 -0.6**
ELIB *dPP* **PP 09 42 46.2 +0.9**
CLL Collm 91.96 39 *iP* **P 09 39 05.1 +0.6**
comp=Z,5.0nm,0.8s
CLL Collm 91.96 39 *iP* **P 09 39 05.2 +0.7**
comp=Z,5.0nm,0.8s
HSKC Hora Svate Kat 92.23 40 *eP* **P 09 39 06.0 +0.2**
HFS Hagfors 92.32 30 P **P 09 39 05.5 -0.5**
comp=Z,3.7nm,0.9s,baz=297,slow=6.3,SNR=3.1
comp=Z,3.7nm,0.9s
PRED Cave del Predi 92.32 44 IAmb IAmb 09 39 07.8
comp=Z,12nm,1.0s
KHC Kasperske Hory 92.33 41⇑ *eP* **P 09 39 07.4 +1.1**
KHC pmax pmax
comp=Z,12nm,1.5s
KHC Kasperske Hory 92.33 41 *eP* **P 09 39 07.3 +1.0**
KHC *ex* x 09 41 27.0
BIOA Bad Ischl, Aus 92.37 43 *iP* **P 09 39 07.3 +0.8**
comp=Z,5.2nm,0.8s
MYKA Terra Mystica 92.38 44 *iP* **P 09 39 07.2 +0.6**
comp=Z,7.2nm,0.7s
GERES GERESS Array B 92.41 41 P **P 09 39 06.7 -0.1**
comp=Z,1.2nm,0.5s,baz=284,slow=4.0,SNR=1.5
comp=Z,1.2nm,0.5s
SPITS Spitsbergen Ar 92.55 12 P **P 09 39 06.8 +0.1**
comp=Z,12nm,1.0s,baz=207,slow=5.1,SNR=4.9
comp=Z,12nm,1.0s
BRG Berggiesshubel 92.56 39 *eP* **P 09 39 09.3 +2.0**
BRG Amp 09 39 10.1
comp=Z,9.2nm,1.0s
BRG Berggiesshubel 92.56 39 *eP* **P 09 39 09.2 +2.0**
BRG pmax pmax
comp=Z,9.0nm,1.0s
SPIA Saint Paul Isl 92.61 327 P **P 09 39 07.8 +0.5**
baz=89
RICC Richard 92.66 40 *eP* **P 09 39 09.7 +2.0**
ZVC Zvikov 92.73 41 *eP* **P 09 39 09.2 +1.1**
MOA Molln 92.80 42 *iP* **P 09 39 09.2 +0.7**
comp=Z,7.5nm,1.0s
PRU Pruhonice 92.95 40 *eP* **P 09 39 10.3 +1.2**
PRU Pruhonice 92.95 40 *eP* **P 09 39 10.3 +1.2**
PVCC Panska Ves 92.96 40 *eP* **P 09 39 10.0 +0.9**
PVCC Panska Ves 92.96 40 *eP* **P 09 39 10.0 +0.9**
GAMB Gambell 93.13 334 P **P 09 39 10.0 +0.4**
baz=87
SBA Scott Base 93.53 191 P **P 09 39 12.7 +1.5**
SBA Scott Base 93.53 191 P **P 09 39 12.7 +1.5**
SBA pmax pmax
comp=Z,71nm,2.0s
ARSA Arzberg 93.66 43 *iP* **P 09 39 12.6 +0.1**
comp=Z,3.9nm,0.7s
CONA Conrad Observa 93.87 42 *iP* **P 09 39 13.6 +0.1**
comp=Z,6.1nm,0.8s
UPC Upice 93.88 40 *eP* **P 09 39 14.8 +1.4**
UPC Upice 93.88 40 *eP* **P 09 39 14.8 +1.4**
CHVC Chvalec 93.90 40 *eP* **P 09 39 14.5 +1.0**
CHVC Chvalec 93.90 40 *eP* **P 09 39 14.5 +1.0**
OSTC Ostas 94.01 40 *eP* **P 09 39 14.8 +0.8**
OSTC Ostas 94.01 40 *eP* **P 09 39 14.8 +0.8**
KSP Ksiaz 94.05 39 *eP* **P 09 39 15.7 +1.6**
DPC Dobruska-Polom 94.08 40 *eP* **P 09 39 15.3 +0.9**
DPC Dobruska-Polom 94.08 40 *eP* **P 09 39 15.3 +0.9**
RONA Rosalia, Austr 94.17 42 *iP* **P 09 39 15.2 +0.4**
comp=Z,8.2nm,0.9s
KRUC Moravsky 94.18 41 *eP* **P 09 39 15.5 +0.7**
VRAC Vranov 94.30 41 *eP* **P 09 39 16.4 +1.1**
VNDA Vanda 94.62 191 LR LR 10 17 08.3
comp=Z,34nm,19.7s,baz=128,slow=32
TSUM Tsumeb 94.77 109 LR LR 10 20 57.7
comp=Z,76nm,19.3s,baz=350,slow=35
MODS Modra-Piesok 94.80 42 *eP* **P 09 39 18.8 +1.2**
MODS Modra-Piesok 94.80 42 *eP* **P 09 39 18.8 +1.2**
MORC Moravsky Berou 94.90 40 *eP* **P 09 39 19.0 +0.9**
VYHS Vyhne 95.83 42 *eP* **P 09 39 22.6 +0.3**
VYHS Vyhne 95.83 42 *eP* **P 09 39 22.6 +0.3**
ARCES ARCESS Array B 96.30 20 P **P 09 39 23.3 -0.7**
comp=Z,3.2nm,0.8s,baz=286,slow=4.3,SNR=10.0
comp=Z,3.2nm,0.8s
SUR Sutherland 96.58 123 LR LR 10 19 31.3
comp=Z,40nm,21.1s,baz=227,slow=33
FINES FINESS Array B 98.21 28 P **P 09 39 32.1 -0.6**
comp=Z,3.3nm,0.7s,baz=259,slow=4.9,SNR=9.6
comp=Z,3.3nm,0.7s
MNK Minsk 100.59 35 *iP* **Pdif 09 39 43.5 0.0**
comp=E,9.0nm,1.2s
MNK *iP* **Pdif 09 39 43.5 0.0**
comp=N,23nm,1.0s
MNK *iP* **Pdif 09 39 43.5 0.0**
comp=Z,13nm,0.9s,baz=282
MNK *i*pP **pPdif 09 40 21.2 -1.9**
MNK *i*PP **PP 09 43 51.9 -0.4**
MNK *i*PPP PPP 09 46 01.0
MNK *i*S **SKSac 09 50 07.9 +0.2**
MNK *i*sS **sSKSac 09 51 18.0 -1.9**
MNK *i*SS **SS 09 58 08.3 +1.9**
MNK *i*SSS SSS 10 01 59.4
MNK *i*LRM MLR 10 26 51.7
comp=Z,38nm,8.4s
MNK *i*LRM MLR 10 26 53.9
comp=E,26nm,11.6s
MNK *i*LRM MLR 10 27 09.4
comp=N,25nm,9.3s
MNK Minsk 100.59 35 *iP* **Pdif 09 39 43.5 0.0**
MNK *i* 09 43 51.8
MNK *i*PPP PPP 09 46 00.9
MNK *i*S **SKSac 09 50 07.9 +0.2**
MNK *i*SS **SS 09 58 08.3 +1.9**
MNK *i*SSS SSS 10 01 59.3
MNK pmax pmax
comp=N,23nm,1.0s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK pmax pmax
comp=E,9.0nm,1.2s
MNK MLR MLR
comp=Z,38nm,8.0s
MNK MLR MLR
comp=E,26nm,12.0s
MNK MLR MLR
comp=N,25nm,9.0s
BOSA Boshof 100.85 119 PKKPbc PKKPbc 09 55 57.9 -0.4
comp=N,2.0nm,0.7s,baz=112,slow=1.2,SNR=4.0
BRTR Keskin Array B 107.67 49 PKKPbc PKKPbc 09 55 36.8 -1.5
comp=N,0.5nm,0.8s,baz=165,slow=5.1,SNR=4.4
MMAI Mount Meron Ar 110.49 55 PKKPbc PKKPbc 09 55 29.4 +0.4
comp=N,0.8nm,0.5s,baz=105,slow=9.8,SNR=3.7
KIV Kislovodsk 112.90 42 *iP*IKP **PKiKP 09 44 32.1 -0.3**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 113.12 43 ⇓*i*PKIKP **PKiKP 09 44 33.5 +0.8**
KBZ Khabaz 113.12 43 PKiKP **PKiKP 09 44 32.9 +0.2**
comp=Z,3.6nm,0.8s,baz=28,slow=2.9,SNR=5.2
KBZ PKKPbc **PKKPbc 09 55 19.9 -0.6**
comp=Z,1.6nm,0.7s,baz=160,slow=2.3,SNR=4.0
ARU Arti 115.33 25 ⇑*i*PKIKP **PKiKP 09 44 36.3 -0.2**
YAK Yakutsk 116.29 346 ⇓*i*PKIKP **PKPdf 09 44 38.0 -0.2**
ABKAR Abkulak array 120.58 31 PKiKP 09 44 47.5 +0.5
BRVK Borovoye 122.47 22 PKiKP 09 44 50.6 0.0
BRVK Borovoye 122.47 22 *c iP*KIKP **PKiKP 09 44 50.8 +0.2**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 122.53 22 PKP **PKPdf 09 44 50.3 -0.2**
comp=Z,4.1nm,0.7s,baz=318,slow=2.0,SNR=18
BVAR PKKPbc **PKKPab 09 54 44.1 -2.1**
comp=Z,0.4nm,0.4s,baz=134,slow=6.4,SNR=3.8
ZEA Zeya 124.08 342 *e*PKIKP **PKPdf 09 44 52.8 -0.7**
GEYT Alibeck 126.02 43 PKP **PKPdf 09 44 57.8 +0.1**
comp=Z,7.9nm,0.6s,baz=262,slow=3.0,SNR=12
GYA0B ALIBECK ARRAY 126.02 43 PKiKP 09 44 58.1 0.0

ZALV Zalesovo Beam 126.03 12 PKP **PKPdf 09 44 56.8 -0.4**
comp=Z,16nm,0.8s,baz=273,slow=2.5,SNR=56
ZALV pPKP **pPKPdf 09 45 37.6 -1.0**
comp=Z,10nm,1.1s,baz=294,slow=1.5,SNR=3.2
KLR Kul'dur 126.21 336 *d iP*KIKP **PKPdf 09 44 56.9 -0.8**
HEH HeiHe 127.00 340 *e*PKP **PKPdf 09 44 57.3 -1.8**
KURK Kurchatov 127.31 18 PKPdf **PKPdf 09 44 59.8 0.0**
KURK Kurchatov 127.31 18 *d iP*KIKP **PKPdf 09 44 59.7 0.0**
KURBB Kurchatov Arra 127.36 19 PKP **PKPdf 09 44 59.9 0.0**
comp=Z,13nm,0.7s,baz=324,slow=2.3,SNR=111
KURBB pPKP **pPKPdf 09 45 39.7 -1.5**
comp=Z,4.7nm,0.8s,baz=323,slow=2.4,SNR=5.2
SEM Semipalatinsk 128.08 17 *iP*KP **PKPdf 09 44 59.4 -2.1**
baz=17
SEM Semipalatinsk 128.08 17 *i*PKIKP **PKPdf 09 44 59.4 -2.1**
STKA Stephens Creek 129.75 225 PKPdf **PKPdf 09 45 05.1 +0.1**
STKA Stephens Creek 129.75 225 *d iP*KIKP **PKPdf 09 45 04.7 -0.3**
STKA pmax pmax
comp=Z,19nm,0.8s
STKA Stephens Creek 129.75 225 PKP **PKPdf 09 45 04.9 -0.1**
comp=Z,18nm,0.8s,baz=89,slow=2.5,SNR=27
USA0B Ussuriysk Arra 130.00 332 PKPdf **PKPdf 09 45 05.3 +0.3**
USA0B Ussuriysk Arra 130.00 332 *d iP*KIKP **PKPdf 09 45 04.5 -0.5**
USRK Ussuriysk Ar. 130.00 332 PKP **PKPdf 09 45 05.0 0.0**
comp=Z,17nm,0.9s,baz=356,slow=0.7,SNR=22
KKAR Karatay Array 130.13 30 PKPdf 09 45 05.8 +0.4
KKAR Karatay Array 130.13 30 PKIKP **PKPdf 09 45 05.8 +0.4**
MOY Mondy 130.19 1 *e*PKIKP **PKiKP 09 45 06.1 -0.1**
MOY pmax pmax
comp=Z,30nm,2.1s
UOSS Minazif 130.20 58 PKPdf **PKPdf 09 45 05.3 -0.7**
DGZ Jazzator, Alta 130.58 12 *d iP*KIKP **PKPdf 09 45 06.2 0.0**
MDJ Mudanjiang 130.76 334 PKP **PKPdf 09 45 06.3 -0.2**
MDJ AMB AMB
comp=Z,76nm,4.3s
BNX BinXian 130.77 337 PKP **PKPdf 09 45 05.6 -0.9**
ZAK Zakamensk 131.47 359 *e*PKIKP **PKPdf 09 45 07.4 -0.4**
ZAK pmax pmax
comp=Z,8.0nm,1.6s
CTA Charters Tower 131.49 241 PKP **PKPdf 09 45 08.6 0.0**
comp=Z,15nm,0.8s,baz=133,slow=4.7,SNR=20
CTAO Charters Tower 131.49 241 PKPdf **PKPdf 09 45 08.8 +0.2**
CTAO Charters Tower 131.49 241 PKIKP **PKPdf 09 45 08.8 +0.2**
MSHR Mys Shultsa 131.62 331 ⇓*e*PKIKP **PKPdf 09 45 07.4 -0.8**
MJA0 Matsu Arr-Jizo 131.77 320 *e*PKIKP **PKPdf 09 45 08.5 -0.2**
MJA0 pmax pmax
comp=Z,5.0nm,0.7s
MJAR Matsushiro Arr 131.80 320 PKP **PKPdf 09 45 08.5 -0.2**
comp=Z,5.0nm,0.7s,baz=94,slow=1.2,SNR=10
MJAR SKPbc **SKPbc 09 48 19.9 -0.4**
comp=Z,3.0nm,1.0s,baz=52,slow=3.2,SNR=4.9
MAJO Matsushiro 131.80 320 PKPdf 09 45 08.6 -0.1
MAJO Matsushiro 131.80 320 ⇑*e*PKIKP **PKPdf 09 45 07.3 -1.4**
MAKZ Makanchi 131.80 18 PKPdf 09 45 07.9 -0.6
MAKZ Makanchi 131.80 18 PKIKP **PKPdf 09 45 07.9 -0.6**
SGDS Sogindy 131.82 27 *e*PKP **PKPdf 09 45 07.6 -1.0**
baz=26
SGDS Sogindy 131.82 27 *e*PKIKP **PKPdf 09 45 07.6 -1.0**
USP Ospenovka 131.90 27 P **PKiKP 09 45 09.5 -0.4**
SNR=7.7
MK31 Makanchi Array 131.91 18 PKPdf 09 45 08.4 -0.2
MK31 Makanchi Array 131.91 18 *d iP*KIKP **PKPdf 09 45 08.0 -0.7**
MKAR Makanchi Array 131.91 18 PKPdf 09 45 08.4 -0.2
MKAR Makanchi Array 131.91 18 PKIKP **PKPdf 09 45 08.5 -0.2**
MKAR Makanchi Array 131.91 18 PKP **PKPdf 09 45 08.2 -0.4**
comp=Z,4.5nm,0.7s,baz=313,slow=2.1,SNR=29
MKAR pPKP **pPKPdf 09 45 47.8 -2.3**
comp=Z,4.5nm,0.9s,baz=338,slow=1.3,SNR=4.6
MKAR SKPbc **SKPbc 09 48 19.7 -0.7**
comp=Z,2.2nm,0.8s,baz=355,slow=3.0,SNR=7.2
EKS2 Erkin-Say 132.04 28 P **PKiKP 09 45 10.7 +0.5**
SNR=9.8
KUU Kurty 132.21 25 *e*PKP **PKPdf 09 45 07.6 -1.8**
baz=25
KUU Kurty 132.21 25 *e*PKIKP **PKPdf 09 45 07.5 -1.8**
AAK Ala-Archa 132.40 27 P **PKiKP 09 45 11.3 +0.3**
SNR=6.2
AAK Ala-Archa 132.40 27 PKiKP 09 45 11.2 +0.2
AAK Ala-Archa 132.40 27 *d iP*KIKP **PKiKP 09 45 11.0 0.0**
AML Almayashu 132.41 28 P **PKiKP 09 45 11.7 +0.3**
SNR=5.7
CHKK Chushkaly 132.51 24 *e*PKP **PKPdf 09 45 08.2 -1.7**
baz=24
CHKK Chushkaly 132.51 24 *e*PKIKP **PKPdf 09 45 08.2 -1.7**
TKM2 Tokmak 2 132.67 26 P **PKiKP 09 45 11.4 -0.2**
SNR=5.8
UCH Uchtor 132.72 28 P **PKiKP 09 45 12.6 +0.6**
SNR=17
TNSS Tian-Shan 133.16 25 *e*PKP **PKPdf 09 45 10.7 -1.0**
baz=25
TNSS Tian-Shan 133.16 25 *e*PKIKP **PKPdf 09 45 10.6 -1.0**
INU Inuyama 133.29 320 PKPdf 09 45 11.7 +0.2
KPKS Kokpek 133.52 23 *e*PKP **PKPdf 09 45 10.9 -1.0**
baz=23
KPKS Kokpek 133.52 23 *e*PKIKP **PKPdf 09 45 10.9 -1.0**
SATY Saty 133.75 24 *e*PKP **PKPdf 09 45 10.7 -1.8**
baz=24
SATY Saty 133.75 24 *e*PKIKP **PKPdf 09 45 10.6 -1.8**
ULN Ulaanbaatar 133.79 355 PKPdf 09 45 12.9 +0.5
ULN Ulaanbaatar 133.79 355 ⇓*i*PKIKP **PKPdf 09 45 11.3 -1.0**
SONM Songino Array 133.87 356 PKPdf 09 45 12.6 +0.1
SONM Songino Array 133.87 356 PKIKP **PKPdf 09 45 12.6 +0.1**
SONM Songino Array 133.87 356 PKP **PKPdf 09 45 12.4 0.0**
comp=Z,4.3nm,0.7s,baz=322,slow=1.3,SNR=22
SONM SKPbc **SKPbc 09 48 26.9 -0.3**
comp=Z,1.4nm,0.8s,baz=344,slow=2.1,SNR=4.7
UZB Uzynbulak 133.92 23 *e*PKP **PKPdf 09 45 11.4 -1.3**
baz=23
UZB Uzynbulak 133.92 23 *e*PKIKP **PKPdf 09 45 11.4 -1.3**
SHLS Shalkode 134.09 23 *e*PKP **PKPdf 09 45 12.3 -0.7**
baz=22
SHLS Shalkode 134.09 23 *e*PKIKP **PKPdf 09 45 12.3 -0.7**
KSH Kashi 135.53 29 PKP **PKiKP 09 45 17.3 -0.1**
XLT XiLinHaoTe 136.13 345 *e*PKP **PKPdf 09 45 16.9 +0.2**
WMQ Urumqi 136.17 15 *e*PKP **PKiKP 09 45 17.7 -0.8**
COEN Coen 136.30 248 PKPdf **PKPdf 09 45 17.5 -0.2**
KSRS Korea Array 137.13 329 PKP **PKPdf 09 45 18.7 0.0**
comp=Z,32nm,1.0s,baz=16,slow=1.3,SNR=63
KSRS pPKP **pPKPdf 09 45 58.7 -1.4**
comp=Z,4.6nm,0.8s,baz=5.1,slow=1.5,SNR=3.0
KSAR Wonju Array Be 137.16 329 PKPdf 09 45 19.2 +0.5
KSAR Wonju Array Be 137.16 329 PKIKP **PKPdf 09 45 19.2 +0.5**
TJN Taejon 138.24 329 ⇓*e*PKIKP **PKPdf 09 45 20.0 -0.7**
BJI Beijing 139.70 343 PKP **PKPdf 09 45 23.6 +0.3**
ASAR Alice Springs 140.00 229 PKhKP PKPpre 09 45 14.9
comp=Z,7.6nm,0.8s,baz=121,slow=3.8,SNR=53
ASAR PKP **PKPdf 09 45 24.0 -0.3**
comp=Z,20nm,0.9s,baz=113,slow=1.8,SNR=28
ASAR SKKPbc SKKPbc 09 57 18.5 +0.2
comp=Z,0.6nm,0.9s,baz=328,slow=3.8,SNR=4.6
HHC Hu-ho-hao-te 140.06 349 *e*PKP **PKPdf 09 45 25.1 +1.0**
BTO Baotou 140.58 350 *e*PKP **PKPdf 09 45 25.5 +0.5**
BTO PP **PP 09 48 27.9 +3.5**
BTO SS SS 10 06 33.8 -2.5
BTO AMB AMB
comp=Z,200nm,8.6s
WRA Warramunga Arr 141.65 234 PKhKP PKPpre 09 45 21.0
comp=Z,13nm,0.7s,baz=123,slow=3.1,SNR=139
GTA Gaotai 142.40 3 *e*PKP **PKPdf 09 45 26.1 -2.3**
HNS HongShan 142.57 343 PKP **PKPdf 09 45 24.9 -3.6**
NWAO Narrogin (SRO) 142.67 201 PKhKP PKPpre 09 45 23.6
comp=Z,12nm,1.0s,baz=123,slow=2.0,SNR=2.1
TIA Tai'an 142.88 339 PKP **PKPdf 09 45 29.3 +0.2**
JOW Kunigami 144.46 317 PKPdf **PKPab 09 45 31.0 +0.2**
GOMU GeErMu 145.03 10 PKP **PKPab 09 45 33.2 +0.1**
LZH Lanzhou 145.73 357 ⇓PKPbc **PKPab 09 45 35.7 +0.3**
LZH pPKP pPKPab 09 46 16.5 +0.6
NJ2 Nanjing 145.85 334 PKPbc **PKPdf 09 45 33.5 -0.9**
NJ2 pPKP **pPKPdf 09 46 13.2 -2.8**
NJ2 sPKP 09 46 25.5
NJ2 PP **PP 09 48 57.6 +1.3**
NJ2 AMB AMB
comp=Z,190nm,6.6s
LYN LuoYang 145.86 344 ⇓PKPbc **PKPdf 09 45 34.6 +0.3**
LYN pPKP pPKPbc 09 46 16.2 -0.1
MORW Morawa 146.57 203 PKPdf **PKPdf 09 45 34.5 -1.3**
XAN Xi'an 147.16 349 PKPbc **PKPdf 09 45 36.8 +0.2**
XAN pPKP pPKPdf 09 46 18.9 +0.8
PYUN Piuthan 148.08 33 *eP* **PKPdf 09 45 38.6 +0.1**
comp=Z,47nm,1.1s
DANN Dangsing 148.30 32 *eP* **PKPdf 09 45 39.3 +0.3**
comp=Z,40nm,0.8s
KNRA Kununurra 148.38 236 PKPdf **PKPdf 09 45 39.0 0.0**
KNRA PKPbc **PKPbc 09 45 42.8 +0.2**

WHN Wuhan 148.99 339 ⇑PKPbc **PKPdf 09 45 39.7 +0.1**
GKN Gorkha 149.03 31 *eP* **PKPdf 09 45 40.2 +0.2**
FAKI Fak Fak 149.37 261 PKPdf **PKPdf 09 45 41.3 +0.6**
FAKI PKPbc **PKiKP 09 45 45.9 -0.4**
DMN Daman 149.59 31 *eP* **PKPdf 09 45 40.9 -0.1**
comp=Z,9.3nm,0.3s
GUN Gumba 149.73 29 *eP* **PKPdf 09 45 41.6 +0.2**
PKIN Phulchoki 149.76 30 *eP* **PKPdf 09 45 40.9 -0.4**
PKI Pulchoki 149.78 30 *eP* **PKPdf 09 45 41.0 -0.4**
JIRN Jiri 150.09 29 *eP* **PKPdf 09 45 41.0 -1.0**
SIJI Sorong 150.58 265 PKP **PKPdf 09 45 42.7 +0.1**
comp=Z,12nm,0.8s,baz=94,slow=3.5,SNR=8.3
SIJI PKPbc **PKPbc 09 45 48.1 -0.1**
comp=Z,31nm,0.7s,baz=33,slow=3.9,SNR=12
RAMN Ramite 150.88 29 *eP* **PKPdf 09 45 43.4 +0.4**
comp=Z,90nm,0.8s
CD2 Chengdu 150.88 357 PKPbc **PKPdf 09 45 42.3 -0.4**
TAPN Taplejung 151.06 27 *eP* **PKPdf 09 45 43.6 +0.2**
SSLB Suanglung 151.34 322 PKPbc **PKPbc 09 45 49.5 -0.2**
MBWA Marble Bar 151.40 217 PKPbc 09 45 49.4 -0.4
HYB Hyderabad 152.19 54 *e*PKPdf **PKPdf 09 45 45.0 0.0**
SHL Shillong 154.35 21 PKPdf **PKPdf 09 45 48.1 0.0**
SHL **PKPbc 09 45 56.0 -0.5**
SHL PKPab **PKPab 09 46 10.7 -0.3**
SHL Shillong 154.35 21 PKIKP **PKPdf 09 45 48.1 0.0**
SHL 09 46 10.7
PZH PanZhiHua 155.32 0 PKP **PKPdf 09 45 49.2 -0.1**
BATI Baumata 155.37 241 PKPab **PKPab 09 46 16.8 +1.2**
comp=Z,62nm,0.9s,baz=243,slow=2.3,SNR=4.0
TNCH TengChong 156.56 8 PKP **PKPdf 09 45 54.2 +3.1**
TNCH PKPab **PKPab 09 46 18.8 -1.6**
KMI Kunming 156.69 358 ⇓PKP **PKPdf 09 45 51.4 +0.1**
KAPI Kappang 161.01 249 PKP **PKPdf 09 45 56.5 +0.1**
comp=Z,13nm,1.0s,baz=189,slow=1.4,SNR=3.6
KAPI PKPab **PKPab 09 46 41.2 +1.1**
comp=Z,11nm,1.0s,baz=214,slow=4.9,SNR=3.7
CHTO Chiang Mai 162.73 10 PKPdf **PKPdf 09 45 58.0 0.0**
CHTO PKPab **PKPab 09 46 46.3 -0.8**
CHTO Chiang Mai 162.73 10 PKIKP **PKPdf 09 45 58.0 0.0**
CHTO 09 46 46.3
CMAR Chiang Mai Arr 163.07 10 PKP **PKPdf 09 45 58.5 +0.1**
comp=Z,4.9nm,0.7s,baz=300,slow=2.0,SNR=20
CMAR PKPab **PKPab 09 46 48.1 -0.5**
comp=Z,10nm,0.8s,baz=329,slow=5.3,SNR=20
LEM Lembang 169.83 214 PKP **PKPdf 09 46 04.3 +0.4**
comp=Z,26nm,0.6s,baz=132,slow=18,SNR=4.3
LEM PKPab **PKPab 09 47 19.9 +1.0**
comp=Z,40nm,0.7s,baz=148,slow=3.6,SNR=5.4
PSI Prapat 176.78 70 PKIKP **PKPdf 09 46 05.4 -1.1**
RPSI Rantau Prapat 176.81 72 PKPdf 09 46 05.4 -1.0

CNRM 07 09:44:45.4±35.2°29N×13.5°75W, h25km, ml3.8,
Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMAR	**Madeira**	**3.67**	**227**		P	Pn	09 45 40.8	0.0
PMAR					S	Sn	09 46 23.6	+0.3
PMOZ	**Porto Moniz, M**	**3.77**	**230**		P	Pn	09 45 41.8	-0.4
PMOZ					S	Sn	09 46 26.5	+0.7
PFVI	**Vila Bisbo**	**4.38**	**64**		P	Pn	09 45 50.1	-0.3
PESTR	**Estremoz**	**6.08**	**52**		P	Pn	09 46 13.9	+0.1
OUK	**Oukaimeden**	**6.40**	**128**		P	Pn	09 46 18.1	-0.3
OUZM	**OUZ**	**7.32**	**125**		P	Pn	09 46 30.4	-0.5
MD31	**MD31**	**7.84**	**105**		P	Pn	09 46 37.4	-0.6
MDT	**Midelt**	**7.98**	**105**		P	Pn	09 46 40.8	+0.8
JBK	**JBK**	**9.25**	**93**		P	Pn	09 46 55.4	-2.0

KRSC 07 09:46:48.3±1.7, 49.75N×157.84E, h49km±24km, Ml3.8,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.45**	**311**	*e*P		Pn	09 47 12.8	+0.8
SKR				*e*S		Sn	09 47 30.7	+0.9
PAU	**Pauzhetka**	**1.84**	**339**	*e*P		Pn	09 47 21.2	+3.8
PAU				*e*S		Sn	09 47 43.8	+4.4
KDTR	**Khodutka, Kamc**	**2.07**	**4**	*e*P		Pn	09 47 23.0	+2.5
KDTR				*e*S		Sn	09 47 47.3	+2.3
ASAK	**Asacha**	**2.64**	**1**	*e*P		Pn	09 47 31.5	+3.1
ASAK				*e*S		Sn	09 48 03.6	+4.5
MTVR	**Mutnovka**	**2.74**	**4**	*e*P		Pn	09 47 33.0	+3.1
MTVR				*e*S		Sn	09 48 05.2	+3.3
GRL	**Gorelyy**	**2.81**	**3**	*e*P		Pn	09 47 34.2	+3.4
GRL				*e*S		Sn	09 48 06.7	+3.3
KRMR	**Karymshinskiy**	**3.09**	**3**	*e*P		Pn	09 47 37.3	+2.8
KRMR				*e*S		Sn	09 48 13.8	+3.7
PET	**Petropavlovsk**	**3.32**	**9**	*e*P		Pn	09 47 40.5	+2.9
PET				*e*S		Sn	09 48 19.7	+4.0
DALK	**Dalny**	**3.33**	**10**	*e*P		Pn	09 47 41.0	+3.2
DALK				*e*S		Sn	09 48 19.9	+3.8
AVH	**Avacha**	**3.56**	**9**	*e*P		Pn	09 47 45.3	+4.2
SMAR	**Somma**	**3.57**	**9**	*e*P		Pn	09 47 45.4	+4.1
KOK	**Koryaka**	**3.58**	**8**	*e*P		Pn	09 47 46.3	+5.0
SDLR	**Sedlovina**	**3.59**	**10**	*e*P		Pn	09 47 45.5	+4.0
KRER	**Koryakskii**	**3.60**	**9**	*e*P		Pn	09 47 46.5	+4.8
SPN	**Mys Shipunski**	**3.62**	**21**	*e*S		Sn	09 48 27.3	+4.2
KRX	**Arik**	**3.65**	**8**	*e*P		Pn	09 47 46.3	+4.0
GNL	**Ganaly**	**3.95**	**1**	*e*P		Pn	09 47 50.4	+3.9
MKZ	**Mys Kozlova**	**5.37**	**25**	*e*P		Pn	09 48 08.6	+2.8
KZV	**Kizimen**	**5.58**	**15**	*e*P		Pn	09 48 13.2	+4.4
TUMD	**Tumrok D**	**5.68**	**15**	*e*P		Pn	09 48 14.3	+4.3
TUMD				*e*S		Sn	09 49 17.2	+3.3
TUMR	**Tumrok**	**5.72**	**13**	*e*P		Pn	09 48 15.9	+5.3
KMNR	**Kamenistaya**	**6.19**	**13**	*e*P		Pn	09 48 21.4	+4.4

KRSC 07 09:49:07.3±1.4, 54.43N×168.09E, h59km±29km, Ml3.9,
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BKI	**Bering**	**1.45**	**303**	*e*P		Pn	09 49 31.9	+0.7
BKI				*e*S		Sn	09 49 50.2	+1.0
MKZ	**Mys Kozlova**	**3.71**	**275**	*e*P		Pn	09 50 05.4	+3.4
MKZ				*e*S		Sn	09 50 46.6	+2.2
BZGR	**Bezymyannyi-Gr**	**4.50**	**293**	*e*P		Pn	09 50 15.2	+2.3
TUMD	**Tumrok D**	**4.52**	**283**	*e*P		Pn	09 50 17.3	+4.3
KZV	**Kizimen**	**4.57**	**282**	*e*P		Pn	09 50 17.9	+4.0
KZV				*e*S		Sn	09 51 08.0	+2.4
TUMR	**Tumrok**	**4.67**	**284**	*e*P		Pn	09 50 19.8	+4.5
KMNR	**Kamenistaya**	**4.70**	**290**	*e*P		Pn	09 50 20.2	+4.5
SRDR	**Sredinnyy**	**5.14**	**295**	*e*P		Pn	09 50 24.9	+3.3
NLC	**Nalytchevo**	**5.34**	**260**	*e*S		Sn	09 51 26.2	+1.9
SDLR	**Sedlovina**	**5.57**	**262**	*e*P		Pn	09 50 31.2	+3.6
SMAR	**Somma**	**5.62**	**262**	*e*P		Pn	09 50 33.0	+4.6
KRER	**Koryakskii**	**5.64**	**262**	*e*P		Pn	09 50 33.3	+4.6
AVH	**Avacha**	**5.66**	**262**	*e*P		Pn	09 50 33.4	+4.6
KRX	**Arik**	**5.69**	**263**	*e*P		Pn	09 50 33.6	+4.4
KOK	**Koryaka**	**5.71**	**262**	*e*P		Pn	09 50 34.1	+4.6
DALK	**Dalny**	**5.72**	**260**	*e*P		Pn	09 50 33.2	+3.8
DALK				*e*S		Sn	09 51 37.1	+3.4
PET	**Petropavlovsk**	**5.78**	**260**	*e*P		Pn	09 50 34.8	+4.5
GNL	**Ganaly**	**6.02**	**267**	*e*P		Pn	09 50 39.1	+5.4
KRMR	**Karymshinskiy**	**6.14**	**259**	*e*P		Pn	09 50 39.3	+4.1
KRMR				*e*S		Sn	09 51 47.5	+3.5
MTVR	**Mutnovka**	**6.23**	**256**	*e*P		Pn	09 50 41.7	+5.0
MTVR				*e*S		Sn	09 51 49.1	+2.5
GRL	**Gorelyy**	**6.27**	**257**	*e*P		Pn	09 50 42.5	+5.4
ASAK	**Asacha**	**6.43**	**256**	*e*P		Pn	09 50 44.2	+4.9
KDTR	**Khodutka, Kamc**	**6.58**	**251**

LEPH	**Lephalale, Lim**	**2.29 356**	*e*P		**Pb**	**10 08 06.2 +0.4**
LEPH			*e*S		**Sg**	**10 08 37.1 -1.2**
LEPH			IAML			10 08 44.8
	comp=Z,5.5nm,0.2s					
LBTB	**Lobatse**	**2.43 297**	*i* P		**Pb**	**10 08 09.4 +1.1**
LBTB			*i* S		**Sn**	**10 08 35.2 +1.4**
LBTB	**Lobatse**	**2.43 297**	*e*P		**Pn**	**10 08 06.7 +2.6**
LBTB			*e*S		**Sn**	**10 08 35.7 +2.0**
LBTB			IAML			10 08 40.3
	comp=Z,23nm,0.3s					
LBTB	**Lobatse**	**2.43 297**	*i* P		**Pb**	**10 08 09.4 +1.1**
	baz=298					
LBTB			*i* S		**Sn**	**10 08 35.2 +1.4**
	baz=298					
SWZ	**Schweizer**	**2.58 246**	*e*P		**Pn**	**10 08 07.2 +1.0**
SWZ			*e*S		**Sn**	**10 08 36.9 -0.6**
SWZ			IAML			10 08 42.3
	comp=Z,9.1nm,0.2s					
BOSA	**Boshof**	**3.44 224**	*i* P		**Pb**	**10 08 26.5 +0.9**
BOSA			*i* S		**Sb**	**10 09 04.7 -2.7**
BOSA	**Boshof**	**3.44 224**	*e*P		**Pn**	**10 08 17.6 -0.5**
BOSA			*e*S		**Sn**	**10 08 56.7 -2.0**
BOSA			IAML			10 09 14.0
	comp=Z,2.5nm,0.5s					
BOSA	**Boshof**	**3.44 224**	*i* P		**Pb**	**10 08 26.5 +0.9**
	baz=219					
BOSA			*i* S		**Sb**	**10 09 04.7 -2.7**
	baz=219					
MOPA	**Mopani**	**4.07 51**	*i* P		**Pb**	**10 08 38.0 +2.0**
MOPA			*i* S		**Sb**	**10 09 24.8 -0.3**
MOPA	**Mopani**	**4.07 51**	*i* P		**Pb**	**10 08 38.0 +2.0**
	baz=55					
MOPA			*i* S		**Sb**	**10 09 24.8 -0.3**
	baz=55					
MUSN	**Musina, Limpop**	**4.21 24**	*i* P		**Pb**	**10 08 38.2 -0.5**
MUSN			*i* S		**Sb**	**10 09 24.8 -4.6**
MUSN	**Musina, Limpop**	**4.21 24**	*i* P		**Pb**	**10 08 38.2 -0.5**
	baz=29					
MUSN			*i* S		**Sb**	**10 09 24.8 -4.6**
	baz=29					

*IDC **07** 10:15:08.2±1.2, 34°.26N×25°.93E, h0km, mb3.5/6, mbtmp3.6/8, ML3.7/2, MS3.4/2, Error ellipse: s-maj=22.7km s-min=13.3km az=30.0*
*AFAD **07** 10:15:11.3±0.0, 34°.30N×26°.41E, h6km±4km, ML3.2*
*ISK **07** 10:15:11.7, 34°.43N×25°.76E, h24km, ML3.2/16*
*THE **07** 10:15:12.4, 34°.40N×25°.75E, h5km±6km, ML3.2/2, Error ellipse: s-maj=6.8km s-min=1.9km az=73.0*
*ATH **07** 10:15:13.2, 34°.42N×25°.68E, h15km±2km, ML3.4/11, Error ellipse: s-maj=2.9km s-min=1.2km az=49.0*
*GII **07** 10:15:15.8±0.0, 34°.05N×26°.42E, h1km, Mm3.5/3*
ISC 07 10:15:09.4±1.6**, 34°.34N**±0°.05×**25°.90E**±0°.03**, h15**km±10km**, n88**, σ2.8**s04**/119**, mb3.5**/7**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.69**	**348**	P	**Pn**	**10 15 24.7**	**+0.1**
FRMA	**Ierapetra Chan**	**0.69**	**348**	P	**Pn**	**10 15 25.0**	**+0.4**
FRMA				S	**Sn**	**10 15 33.3**	**-1.6**
FRMA				AML	AML	10 15 46.5	
	comp=N,5952μm,0.5s						
FRMA				AML	AML	10 15 46.8	
	comp=E,6884μm,0.6s						
ZKR	**Zakros**	**0.82**	**18**	Pg	**Pn**	**10 15 27.8**	**+1.5**
ZKR				Sg	**Sn**	**10 15 39.1**	**+0.9**
ZKR	**Zakros**	**0.82**	**18**	P	**Pn**	**10 15 28.7**	**+2.4**
ZKR				S	**Sn**	**10 15 39.0**	**+0.9**
	comp=E,2μm,0.7s						
ZKR	**Zakros**	**0.82**	**18**	P	**Pn**	**10 15 28.7**	**+2.4**
ZKR				S	**Sn**	**10 15 39.6**	**+1.4**
ZKR				AML	AML	10 15 45.0	
	comp=E,6338μm,0.6s						
ZKR				AML	AML	10 15 46.5	
	comp=N,3044μm,0.8s						
HRKL	**Herakleio**	**1.18**	**326**	P	**Pn**	**10 15 31.8**	**+0.5**
HRKL				S	**Sb**	**10 15 45.1**	**-1.3**
HRKL				AML	AML	10 15 57.3	
	comp=N,16645μm,1.3s						
HRKL				AML	AML	10 16 03.0	
	comp=E,27227μm,0.8s						
KSTL	**Kastelli Herak**	**1.18**	**325**	P	**Pb**	**10 15 29.3**	**-2.2**
KSTL	**Kastelli Herak**	**1.18**	**325**	P	**Pb**	**10 15 28.9**	**-2.6**
KSTL				S	**Sb**	**10 15 40.6**	**-6.0**
KSTL				AML	AML	10 15 49.5	
	comp=N,5256μm,0.5s						
KSTL				AML	AML	10 15 49.8	
	comp=E,1897μm,0.6s						
TMBK	**Timbaki Herakl**	**1.19**	**308**	P	**Pn**	**10 15 31.9**	**+0.5**
TMBK	**Timbaki Herakl**	**1.19**	**308**	P	**Pn**	**10 15 32.0**	**+0.5**
TMBK				S	**Sb**	**10 15 44.8**	**-2.0**
TMBK				AML	AML	10 15 56.6	
	comp=E,6390μm,0.8s						
TMBK				AML	AML	10 16 00.7	
	comp=N,6897μm,0.8s						
IDI	**Anoyia**	**1.26**	**319**	Pn	**Pn**	**10 15 32.3**	**-0.2**
IDI				Sn	**Sb**	**10 15 46.9**	**-2.1**
IDI	**Anoyia**	**1.26**	**319**	P	**Pb**	**10 15 33.0**	**+0.1**
IDI				S	**Sn**	**10 15 50.2**	**+1.0**
	comp=N,715nm,0.5s						
IDI	**Anoyia**	**1.26**	**319**	Pg	**Pg**	**10 15 34.0**	**+0.2**
	comp=N,15nm,0.3s,baz=144,slow=15,SNR=64						
IDI				Lg	Lg	10 15 51.4	
	comp=N,58nm,0.3s,baz=94,slow=18,SNR=13						
IDI	**Anoyia**	**1.26**	**319**	P	**Pb**	**10 15 33.0**	**+0.1**
IDI				S	**Sb**	**10 15 47.2**	**-1.8**
IDI				AML	AML	10 15 55.0	
	comp=E,1547μm,0.5s						
IDI				AML	AML	10 15 59.3	
	comp=N,1304μm,0.6s						
PRNS	**Prines Rethymn**	**1.54**	**312**	P	**Pb**	**10 15 37.3**	**-0.3**
GVD	**Gavdhos**	**1.58**	**289**	Pn	**Pn**	**10 15 36.6**	**-0.2**
GVD				Sn	**Sn**	**10 15 55.4**	**-1.5**
GVD	**Gavdhos**	**1.58**	**289**	P	**Pn**	**10 15 36.6**	**-0.2**
GVD	**Gavdhos**	**1.58**	**289**	P	**Pn**	**10 15 36.8**	**0.0**
GVD				S	**Sn**	**10 15 55.1**	**-1.9**
GVD				AML	AML	10 16 11.4	
	comp=E,2610μm,0.5s						
GVD				AML	AML	10 16 15.8	
	comp=N,2382μm,0.5s						
KARP	**Karpathos**	**1.59**	**40**	Pn	**Pg**	**10 15 39.6**	**-0.3**
KARP	**Karpathos**	**1.59**	**40**	P	**Pg**	**10 15 41.4**	**+1.5**
KARP	**Karpathos**	**1.59**	**40**	P	**Pg**	**10 15 41.1**	**+1.2**
KARP				AML	AML	10 16 19.5	
	comp=E,1508μm,0.7s						
KARP				AML	AML	10 16 28.7	
	comp=N,1288μm,0.7s						
CHAN	**Chania**	**1.93**	**308**	P	**Pn**	**10 15 42.7**	**+1.1**
CHAN				AML	AML	10 16 20.6	
	comp=N,1230μm,1.0s						
CHAN				AML	AML	10 16 29.1	
	comp=E,1685μm,0.6s						
IMMV	**Iera Moni Meta**	**1.94**	**306**	Pn	**Pn**	**10 15 42.1**	**+0.4**
IMMV	**Iera Moni Meta**	**1.94**	**306**	P	**Pn**	**10 15 42.1**	**+0.4**
IMMV	**Iera Moni Meta**	**1.94**	**306**	P	**Pn**	**10 15 42.3**	**+0.6**
IMMV				AML	AML	10 16 20.9	
	comp=N,1631μm,0.5s						
IMMV				AML	AML	10 16 24.1	
	comp=E,1504μm,0.7s						
KNDR	**Palaiochora Ch**	**2.03**	**297**	P	**Pn**	**10 15 43.6**	**+0.6**
SANT	**Santorini**	**2.06**	**350**	Pn	**Pn**	**10 15 44.1**	**+0.6**
SANT				Sn	**Sn**	**10 16 07.9**	**-1.0**
RODP	**Rodopos**	**2.14**	**305**	Pn	**Pn**	**10 15 45.3**	**+0.7**
RODP	**Rodopos**	**2.14**	**305**	P	**Pn**	**10 15 45.0**	**+0.4**
ARG	**Arkhangelos**	**2.61**	**43**	P	**Pb**	**10 15 55.2**	**-0.7**
ANKY	**Antikythira Is**	**2.62**	**306**	P	**Pn**	**10 15 51.8**	**+0.7**
MHLO	**Agia Marina, M**	**2.65**	**333**	P	**Pn**	**10 15 53.0**	**+1.5**
MHLO				AML	AML	10 16 42.8	
	comp=N,1449μm,0.7s						
MHLO				AML	AML	10 16 46.8	
	comp=E,1805μm,0.8s						
APE	**Apeiranthos**	**2.74**	**354**	Pn	**Pn**	**10 15 53.6**	**+0.8**
APE				Sn	**Sn**	**10 16 24.9**	**-0.8**
DAT	**Datca**	**2.75**	**29**	Pn	**Pb**	**10 15 55.5**	**-2.8**
RFTC	**Emecik-Datca**	**2.89**	**32**	Pn	**Pn**	**10 15 57.1**	**+2.3**
KTHA	**Kythira Island**	**3.01**	**310**	Pn	**Pn**	**10 15 57.2**	**+0.7**
KTHA	**Kythira Island**	**3.01**	**310**	P	**Pn**	**10 15 56.2**	**-0.3**
RFTAA	**Mazikoy-Bodrum**	**3.05**	**29**	Pn	**Pn**	**10 15 59.3**	**+2.3**
TURN	**Turunc**	**3.09**	**37**	Pn	**Pn**	**10 16 00.4**	**+2.8**
DALY	**Dalyan (Mula)**	**3.34**	**41**	Pn	**Pn**	**10 16 04.2**	**+3.2**
VLI	**Velíai**	**3.39**	**315**	P	**Pn**	**10 16 02.3**	**+0.6**
YER	**Yerkesik**	**3.40**	**34**	Pn	**Pn**	**10 16 04.7**	**+2.9**
IZZE	**Mula-Seydike**	**3.43**	**51**	P	**Pb**	**10 16 06.0**	**-3.8**
IZZE				S	**Sn**	**10 16 40.3**	**-2.3**
FETY	**Fethiye**	**3.46**	**48**	Pn	**Pb**	**10 16 06.5**	**-3.9**
AKAS	**Kas**	**3.57**	**57**	Pn	**Pn**	**10 16 07.7**	**+3.4**
AKAS	**Kas**	**3.57**	**57**	P	**Pn**	**10 16 06.8**	**+2.5**
AKAS				S	**Sn**	**10 16 46.0**	**-0.3**
AKAS				*i* AML	AML	10 16 51.0	
	comp=E,78nm,0.6s						
AKAS				*i* AML	AML	10 17 00.0	
	comp=E,125nm,0.5s						
TAVA	**DENIZLI_Tavas**	**3.96**	**37**	P	**Pn**	**10 16 12.6**	**+2.9**
TAVA				S	**Sn**	**10 16 59.0**	**+3.1**
AKUM	**Antalya-Kumluc**	**4.13**	**60**	P	**Pn**	**10 16 16.6**	**+4.7**
AKUM				S	**Sn**	**10 17 00.6**	**+0.7**
GOLH	**Golhisar**	**4.15**	**45**	P	**Pn**	**10 16 14.2**	**+2.0**
GOLH				S	**Sn**	**10 17 00.6**	**+0.2**
GOLH				*i* AML	AML	10 17 21.0	
	comp=E,25nm,0.5s						
GOLH				*i* AML	AML	10 18 02.0	
	comp=E,36nm,1.4s						
SUTC	**Sutluce-Ispart**	**5.19**	**51**	S	**Sn**	**10 17 30.0**	**+3.9**
KEPZ	**Antalya-Kepez**	**5.30**	**60**	P	**Pn**	**10 16 30.5**	**+2.5**
KEPZ				S	**Sn**	**10 17 28.4**	**-0.4**
KEPZ				*i* AML	AML	10 17 31.0	
	comp=E,20nm,0.5s						
KEPZ				*i* AML	AML	10 17 33.0	
	comp=E,24nm,0.6s						
GAZI	**Gazipasa**	**5.58**	**68**	P	**Pn**	**10 16 32.1**	**+0.4**
GAZI				S	**Sn**	**10 17 31.6**	**-3.9**
GAZI				*i* AML	AML	10 17 41.0	
	comp=E,37nm,0.5s						
GAZI				*i* AML	AML	10 17 46.0	
	comp=E,28nm,0.5s						
CSS	**Mathiatis**	**6.15**	**82**	Pn	**Pn**	**10 16 43.8**	**+4.1**
CSS				Sn	**Sn**	**10 17 50.4**	**+0.6**
KKBE	**Karaman, Kazim**	**6.40**	**61**	P	**Pn**	**10 16 45.2**	**+2.0**
KKBE				S	**Sn**	**10 17 55.3**	**-0.8**
KKBE				*i* AML	AML	10 17 57.0	
	comp=E,13nm,1.0s						
KKBE				*i* AML	AML	10 18 20.0	
	comp=E,9.4nm,0.8s						
GULN	**MERSIN_Gulnar**	**6.52**	**71**	P	**Pn**	**10 16 45.2**	**+0.5**
GULN				S	**Sn**	**10 17 54.5**	**-4.2**
GULN				*i* AML	AML	10 18 11.0	
	comp=E,12nm,0.5s						
GULN				*i* AML	AML	10 18 13.0	
	comp=E,7.1nm,0.5s						
KIZK	**Mersin**	**7.06**	**70**	S	**Sn**	**10 18 10.8**	**-1.3**
KERG	**Konya-Eregli**	**7.35**	**63**	P	**Pn**	**10 16 59.0**	**+2.8**
KERG				S	**Sn**	**10 18 15.6**	**-3.7**
KERG				*i* AML	AML	10 18 21.0	
	comp=E,9.4nm,0.4s						
KERG				*i* AML	AML	10 18 22.0	
	comp=E,7.5nm,0.4s						
SLTI	**Sal'it**	**7.93**	**103**	P	**Pn**	**10 17 06.3**	**+2.2**
KZIT	**Kziot**	**7.94**	**113**	Pn	**Pn**	**10 17 05.7**	**+1.5**
KZIT				Sn	**Sn**	**10 18 30.9**	**-2.8**
MMAI	**Mount Meron Ar**	**8.03**	**97**	Pn	**Pn**	**10 17 06.4**	**+0.9**
	comp=E,1.6nm,0.3s,baz=281,slow=12,SNR=6.7						
MMAI				Sn	**Sn**	**10 18 37.8**	**+1.8**
	comp=E,3.6nm,0.3s,baz=295,slow=24,SNR=6.5						
	comp=E,0.6nm,0.3s						
MMA0B	**Mount Meron ar**	**8.03**	**97**	Pn	**Pn**	**10 17 08.6**	**+3.1**
MMA0B				Sn	**Sn**	**10 18 34.9**	**-1.1**
AMAZ	**Amatzia**	**8.07**	**108**	Pn	**Pn**	**10 17 07.5**	**+1.4**
AMAZ				Sn	**Sn**	**10 18 35.2**	**-1.9**
GEM	**Giv'at Ha'Em**	**8.20**	**95**	Pn	**Pn**	**10 17 09.7**	**+1.9**
GEM				Sn	**Sn**	**10 18 39.9**	**-0.3**
GEM	**Giv'at Ha'Em**	**8.20**	**95**	P	**Pn**	**10 17 09.0**	**+1.2**
YTIR	**Yattir**	**8.30**	**108**	Pn	**Pn**	**10 17 10.4**	**+1.2**
YTIR	**Yattir**	**8.30**	**108**	P	**Pn**	**10 17 10.5**	**+1.2**
HMDT	**Nahal Hemdat**	**8.32**	**102**	Pn	**Pn**	**10 17 11.3**	**+1.9**
UJAP	**Al Uja**	**8.36**	**104**	Pn	**Pn**	**10 17 12.1**	**+2.1**
MDBI	**Mazsada**	**8.51**	**108**	P	**Pn**	**10 17 14.1**	**+2.1**
MSBI	**Mazada**	**8.51**	**108**	Pn	**Pn**	**10 17 13.1**	**+1.1**
KRMI	**Paran Flat**	**8.57**	**117**	Pn	**Pn**	**10 17 14.7**	**+1.8**
KRMI				Sn	**Sn**	**10 18 46.4**	**-3.0**
PRNI	**Paran**	**8.66**	**115**	Pn	**Pn**	**10 17 16.3**	**+2.1**
PRNI	**Paran**	**8.66**	**115**	P	**Pn**	**10 17 15.5**	**+1.3**
WALJ	**Wala**	**8.77**	**106**	P	**Pn**	**10 17 18.4**	**+2.8**
MBRI	**Mt Berech**	**8.88**	**118**	Pn	**Pn**	**10 17 19.4**	**+2.1**
MBRI	**Mt Berech**	**8.88**	**118**	P	**Pn**	**10 17 19.0**	**+1.7**
EIL	**Elat**	**8.98**	**119**	Pn	**Pn**	**10 17 20.4**	**+1.9**
EIL				Sn	**Sn**	**10 18 57.5**	**-1.8**
EIL	**Elat**	**8.98**	**119**	Pn	**Pn**	**10 17 19.6**	**+1.2**
	comp=E,0.6nm,0.3s,baz=205,slow=4.6,SNR=13						
EIL				Sn	**Sn**	**10 18 55.1**	**-4.2**
	comp=E,1.2nm,0.3s,baz=31,slow=18,SNR=2.6						
	comp=E,1.6nm,0.3s						
ASF	**Jabal al Asfar**	**9.46**	**100**	Sn	**Sn**	**10 19 13.5**	**+2.3**
	comp=E,0.5nm,0.3s,baz=190,slow=19,SNR=1.9						
ESDC	**Sonseca Array**	**24.38**	**291**	P	**P**	**10 20 28.9**	**+2.0**
	comp=E,0.2nm,0.4s,baz=95,slow=9.1,SNR=1.7						
	comp=E,0.2nm,0.4s						
FINES	**FINESS Array B**	**27.12**	**0**	P	**P**	**10 20 52.8**	**+1.4**
	comp=E,0.8nm,0.7s,baz=153,slow=11,SNR=1.2						
	comp=E,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**30.45**	**232**	P	**P**	**10 21 22.2**	**+0.7**
	comp=E,0.3nm,0.5s,baz=31,slow=9.4,SNR=5.2						
	comp=E,0.3nm,0.5s						
ARU	**Arti**	**31.36**	**35**	LR	LR	10 35 27.2	
	comp=E,95nm,18.4s,baz=200,slow=39						
ARCES	**ARCESS Array B**	**35.25**	**360**	P	**P**	**10 22 01.4**	**-1.5**
	comp=E,2.8nm,1.0s,baz=183,slow=8.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**41.17**	**50**	P	**P**	**10 22 53.6**	**+0.6**
	comp=E,0.3nm,0.4s,baz=279,slow=13,SNR=4.1						
	comp=E,0.3nm,0.4s						
MKAR	**Makanchi Array**	**43.72**	**56**	P	**P**	**10 23 15.4**	**+1.6**
	comp=E,0.5nm,0.5s,baz=275,slow=8.0,SNR=5.9						
	comp=E,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**45.14**	**46**	P	**P**	**10 23 26.4**	**+1.5**
	comp=E,0.4nm,0.3s,baz=277,slow=12,SNR=1.9						
	comp=E,0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**66.06**	**83**	LR	LR	10 59 49.9	
	comp=E,22nm,20.1s,baz=35,slow=41						

*IDC **07** 10:32:12.4±1.7, 11°.39S×166°.06E, h0km, mb3.8/5, mbtmp3.8/6, ML3.6/1, MS3.4/4, Error ellipse: s-maj=48.5km s-min=29.2km az=122.0*
ISC 07 10:32:17.5±1.3**, 11°.6S**±0°.1×**166°.1E**±0°.3**, h37**km**, n9, σ1.9**65**/7, mb3.8**/5**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.43**	**178**	Pn	**Pn**	**10 34 46.6**	**+2.0**
	0.4nm,0.3s,baz=323,slow=19,SNR=7.1						
DZM				Sn	**Sn**	**10 36 37.8**	**-2.4**
	0.2nm,0.3s,baz=71,slow=5.4,SNR=2.4						
DZM				LR	LR	10 37 58.0	
	comp=Z,111nm,19.1s,baz=120,slow=32						
	1.1nm,0.3s						
MSVF	**Nonsavu**	**13.04**	**119**	LR	LR	10 39 13.1	
	comp=Z,150nm,18.6s,baz=283,slow=32						
CTA	**Charters Tower**	**20.90**	**244**	LR	LR	10 43 50.0	
	comp=Z,83nm,18.8s,baz=83,slow=33						
WRA	**Warramunga Arr**	**31.67**	**251**	P	**P**	**10 38 37.8**	**+0.2**
	0.5nm,0.5s,baz=85,slow=9.4,SNR=14						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**32.90**	**244**	P	**P**	**10 38 48.5**	**0.0**
	0.7nm,0.6s,baz=67,slow=9.8,SNR=19						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**72.69**	**294**	P	**P**	**10 43 42.3**	**+0.2**
	0.9nm,0.3s,baz=130,slow=5.9,SNR=5.4						
	0.9nm,0.3s						
KDAK	**Kodiak Island**	**76.94**	**21**	LR	LR	11 12 31.7	
	comp=Z,44nm,19.9s,baz=238,slow=32						
ILAR	**Eielson Array**	**83.90**	**18**	P	**P**	**10 44 42.9**	**-0.2**
	0.2nm,0.5s,baz=250,slow=5.3,SNR=6.0						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**94.18**	**317**	P	**P**	**10 45 31.8**	**-0.8**
	0.5nm,0.5s,baz=94,slow=5.6,SNR=4.8						
	0.5nm,0.5s						

*SJA **07** 10:37:21.4±0.8, 32°.49S×72°.03W, h11km, ML4.0, MW3.8*
*NEIC **07** 10:37:24.5±1.8, 32°.49S±0°.03×71°.88W±0°.07, h20km±6km, mb4.1/5, ML4.0(GUC), Error ellipse: s-maj=9.1km s-min=4.1km az=80.0*
*GUC **07** 10:37:26.8±0.8, 32°.47S×71°.76W, h15km±4km, ML4.0*
*IDC **07** 10:37:29.6±2.9, 32°.63S×71°.75W, h66km±23km, mb3.8/3, mbtmp3.9/7, MS3.3/5, Error ellipse: s-maj=29.2km s-min=17.6km az=115.0*
ISC 07 10:37:25.3±1.1**, 32°.50S**±0°.02×**71°.79W**±0°.04**, h28**km±8km**, n105, σ1.9**72**/135, mb4.1**/6**, MS3.3**/3**, 6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.53**	**168**	Pg	**Pb**	**10 37 36.0**	**-0.2**
VA01	**Torpederas**	**0.53**	**168**	*e*P	**Pb**	**10 37 36.1**	**-0.2**
VA01				*e*S	**Sb**	**10 37 43.6**	**0.0**
VA01				IAML		10 37 46.5	
	comp=N,13μm,0.1s						
VA01	**Torpederas**	**0.53**	**168**	*e*P	**Pb**	**10 37 36.2**	**-0.1**
ROC1	**El Roble**	**0.80**	**126**		**Pb**	**10 37 40.2**	**-0.7**
ROC1				Sg	**Sn**	**10 37 51.1**	**-1.1**
ROC1	**El Roble**	**0.80**	**126**	*e*P	**Pb**	**10 37 40.0**	**-0.9**
ROC1				*e*S	**Sn**	**10 37 51.4**	**-0.8**
ROCH	**El Roble**	**0.80**	**126**	⇓*i*P	**Pb**	**10 37 40.3**	**-0.6**
ROCH				*e*S	**Sn**	**10 37 51.1**	**-1.0**
ROCH				IAML		10 37 53.7	
	comp=E,5μm,0.2s						
MT02	**Curacav**	**0.93**	**144**		**Pb**	**10 37 42.1**	**-0.8**
MT02				Sg	**Sb**	**10 37 54.2**	**-0.7**
MT02	**Curacav**	**0.93**	**144**	⇓*i*P	**Pb**	**10 37 42.2**	**-0.7**
MT02				*e*S	**Sb**	**10 37 54.0**	**-1.0**
MT02				IAML		10 37 56.9	
	comp=E,5μm,0.3s						
MT02	**Curacav**	**0.93**	**144**	*e*P	**Pb**	**10 37 42.2**	**-0.7**
MT02				*e*S	**Sn**	**10 37 54.6**	**-0.4**
MT02				IAML		10 37 56.7	
	comp=Z,2μm,0.4s						
VA03	**San Esteban**	**1.07**	**105**		**Pn**	**10 37 44.4**	**-0.2**
VA03				Sg	**Sn**	**10 37 58.3**	**-0.3**
VA03	**San Esteban**	**1.07**	**105**	⇓*i*P	**Pn**	**10 37 44.1**	**-0.5**
VA03				*e*S	**Sn**	**10 37 58.0**	**-0.6**
VA03				IAML		10 37 59.1	
	comp=N,18μm,0.2s						
VA03	**San Esteban**	**1.07**	**105**	*e*S	**Sn**	**10 37 58.9**	**+0.2**
VA03				IAML		10 37 59.1	
	comp=Z,4μm,0.2s						
PEL	**Peldehue**	**1.13**	**125**		**Pn**	**10 37 45.3**	**0.0**
PEL	**Peldehue**	**1.13**	**125**	*e*P	**Pn**	**10 37 45.1**	**-0.2**
PEL				*e*S	**Sn**	**10 38 00.2**	**+0.3**
PEL				IAML		10 38 02.2	
	comp=E,8μm,0.3s						
PEL	**Peldehue**	**1.13**	**125**	*e*P	**Pb**	**10 37 45.5**	**-0.8**
PEL				*e*S	**Sn**	**10 38 00.8**	**+1.0**
VA05	**Santo Domingo**	**1.16**	**173**		**Pn**	**10 37 45.7**	**-0.1**
VA05	**Santo Domingo**	**1.16**	**173**	*e*P	**Pn**	**10 37 45.8**	**0.0**
VA05				*e*S	**Sn**	**10 38 01.1**	**+0.5**
MT05	**Renca**	**1.25**	**136**		**Pn**	**10 37 47.3**	**+0.4**
MT05	**Renca**	**1.25**	**136**	*e*P	**Pn**	**10 37 47.4**	**+0.4**
MT05				*e*S	**Sb**	**10 38 03.3**	**-0.8**
MT05	**Renca**	**1.25**	**136**	*e*P	**Pn**	**10 37 47.4**	**+0.4**
MT05				*e*S	**Sb**	**10 38 04.8**	**+0.7**
MT05				IAML		10 38 06.8	
	comp=Z,3μm,0.8s						
MT14	**Cerro Calın**	**1.38**	**131**	*e*P	**Pn**	**10 37 49.2**	**+0.4**
MT14				*e*S	**Sb**	**10 38 06.5**	**-1.3**
MT14				IAML		10 38 17.2	
	comp=E,4μm,0.6s						
MT01	**Popeta**	**1.43**	**162**		**Pn**	**10 37 50.1**	**+0.6**
MT01	**Popeta**	**1.43**	**162**	*e*P	**Pn**	**10 37 50.2**	**+0.7**
MT01				*e*S	**Sb**	**10 38 08.2**	**-1.0**
MT01				IAML		10 38 12.0	
	comp=Z,2μm,0.2s						
MT09	**Talagante**	**1.44**	**153**	Pn	**Pb**	**10 37 50.5**	**-1.0**
MT09	**Talagante**	**1.44**	**153**	*e*P	**Pb**	**10 37 50.5**	**-1.0**
MT09				*e*S	**Sb**	**10 38 08.6**	**-0.9**
MT09				IAML		10 38 14.1	
	comp=N,4μm,0.4s						
CO02	**Combarbal**	**1.46**	**28**	Pn	**Pn**	**10 37 50.0**	**+0.1**
CO02	**Combarbal**	**1.46**	**28**	⇓*i*P	**Pn**	**10 37 50.1**	**+0.3**
CO02				*e*S	**Sn**	**10 38 07.9**	**-0.1**
CO02	**Combarbal**	**1.46**	**28**	*e*P	**Pn**	**10 37 50.2**	**+0.3**
CO02				*e*S	**Sb**	**10 38 09.5**	**-0.5**
CO02				IAML		10 38 11.8	
	comp=Z,4μm,0.3s						
MT03	**Universidad Ad**	**1.46**	**133**		**Pn**	**10 37 50.5**	**+0.6**
MT03	**Universidad Ad**	**1.46**	**133**	*e*P	**Pn**	**10 37 50.5**	**+0.6**
MT03				*e*S	**Sb**	**10 38 08.8**	**-1.2**
MT03				IAML		10 38 14.4	
	comp=N,6μm,0.2s						
MT03	**Universidad Ad**	**1.46**	**133**	*e*P	**Pn**	**10 37 50.5**	**+0.6**
MT03				*e*S	**Sb**	**10 38 11.8**	**+1.7**
MT03				IAML		10 38 14.5	
	comp=Z,3μm,0.1s						
FCH	**Farellones**	**1.50**	**124**	⇓*i*P	**Pn**	**10 37 51.0**	**+0.3**
FCH				*e*S	**Sb**	**10 38 10.7**	**-0.8**
FCH				IAML		10 38 11.5	
	comp=E,3μm,0.2s						
MT12	**Pirque**	**1.61**	**140**	*e*P	**Pn**	**10 37 52.8**	**+0.9**
MT12				*e*S	**Sb**	**10 38 12.8**	**-1.5**
MT12				IAML		10 38 17.9	
	comp=E,6μm,0.3s						
MT04	**Ro Olivares**	**1.65**	**124**	⇓*i*P	**Pn**	**10 37 53.3**	**+0.6**
MT04				*e*S	**Sb**	**10 38 14.5**	**-1.3**

comp=Z,331nm,19.4s,baz=306,slow=42
CFA Coronel Fontan 3.14 74 *e*P **Pn 10 38 15.7 +2.7**
CFA *e*S **Sb 10 38 56.8 -1.6**
CFA IAML 10 39 10.2
comp=Z,268nm,0.6s
ACDV Cuesta del Vie 3.25 45 *e*P **Pn 10 38 18.0 +3.3**
ACDV *e*S **Sb 10 39 05.9 +4.1**
ACDV IAML 10 39 07.9
comp=Z,239nm,0.5s
ML02 Panimavida 3.27 175 Pn 10 38 15.9 +1.2
LCO Las Campanas 3.60 15 Pn 10 38 19.5 0.0
LCO Las Campanas 3.60 15 *e*P **Pn 10 38 19.9 +0.4**
LCO *e*S **Sb 10 39 11.7 -0.1**
LCO IAML 10 39 24.0
comp=Z,1μm,0.4s
AC05 El Transito 3.88 20 *e*P **Pn 10 38 25.0 +1.8**
AC04 Llanos de Chal 4.33 8 Pn **Pn 10 38 28.1 -1.2**
AC04 Llanos de Chal 4.33 8 IAML 10 39 39.5
comp=Z,228nm,0.6s
ACHE Chepes 4.56 74 *e*S **Sb 10 39 31.4 -7.8**
VCA Vinchina 4.86 40 *e*P **Pn 10 38 39.7 +3.0**
GO03 Copiap 5.07 16 Pn 10 38 39.6 +0.1
GO03 Copiap 5.07 16 *e*P **Pn 10 38 39.6 +0.1**
AC06 Mina Casimiro 5.27 14 Pn **Pn 10 38 41.3 -1.0**
H03N1 Juan Fernandez 6.06 259 T T 10 45 25.6
baz=88,slow=73,SNR=5945
H03N3 Juan Fernandez 6.08 259 T T 10 45 24.6
baz=88,slow=73,SNR=4932
H03N2 Juan Fernandez 6.08 259 T T 10 45 26.5
baz=88,slow=73,SNR=5135
AC02 Maricunga 6.10 23 Pn 10 38 54.1 0.0
H03S1 Juan Fernandez 6.12 255 T T 10 45 23.3
baz=87,slow=74,SNR=90
H03S3 Juan Fernandez 6.12 256 T T 10 45 23.7
baz=87,slow=74,SNR=116
H03S2 Juan Fernandez 6.13 256 T T 10 45 22.4
baz=87,slow=74,SNR=188
PLCA Paso Flores 8.28 173 Pn **Pn 10 39 24.1 +0.6**
PLCA Paso Flores 8.28 173 P **Pn 10 39 24.7 +1.2**
comp=Z,1.2nm,0.3s,baz=335,slow=12,SNR=17
TRQA Tornquist 9.74 127 Pn **Pn 10 39 44.7 +1.1**
LVC Limon Verde 10.18 15 P Pn 10 39 55.5 +5.7
comp=Z,1.7nm,0.4s,baz=194,slow=12,SNR=2.0
LVC S **Sn 10 41 49.9 +6.6**
comp=Z,4.8nm,0.7s,baz=72,slow=20,SNR=2.0
LVC LR LR 10 44 42.6
comp=Z,83nm,19.9s,baz=207,slow=42
CPUP Villa Florida 14.01 68 P **Pn 10 40 44.9 +2.9**
comp=Z,0.7nm,0.5s,baz=247,slow=15,SNR=1.2
CPUP S **Sn 10 43 17.8 +1.2**
comp=Z,3.1nm,0.7s,baz=190,slow=12,SNR=3.3
LPAZ La Paz 16.48 12 Pn **Pn 10 41 13.7 -1.5**
SIV San Ignacio 19.10 33 P **Pn 10 41 47.5 +0.6**
comp=Z,1.3nm,0.7s,baz=212,slow=11,SNR=4.6
ETMB Extrema 23.15 14 P **P 10 42 30.5 +1.0**
ETMB IAmb IAmb 10 42 31.9
comp=Z,6.6nm,1.0s
BDFB Brasilia 27.34 58 LR LR 10 54 56.8
comp=Z,87nm,19.6s,baz=121,slow=38
BOAV Boa Vista 36.31 19 P **P 10 44 26.4 -0.3**
MDP Montagnes des 41.59 29 LR LR 11 02 19.2
comp=Z,31nm,21.5s,baz=161,slow=36
BELA Belgrano 2 48.32 170 P **P 10 46 04.5 +0.8**
BELA IAmb IAmb 10 46 10.9
comp=Z,2.9nm,1.4s
SNAA Sanae 52.89 158 P **P 10 46 37.6 -0.7**
SNAA IAmb IAmb 10 46 39.8
comp=Z,3.1nm,1.2s
QSPA South Pole Qui 57.73 180 P **P 10 47 13.0 -0.4**
comp=Z,1.8nm,1.0s,baz=137,slow=2.5,SNR=5.3
QSPA LR LR 11 12 59.1
comp=Z,81nm,18.4s,baz=38,slow=37
comp=Z,1.8nm,1.0s
BOSA Boshof 80.58 118 P **P 10 49 34.8 -0.8**
comp=Z,1.9nm,0.7s,baz=259,slow=4.2,SNR=3.0
comp=Z,1.9nm,0.7s
TORD Torodi Ar. Bea 83.50 70 P **P 10 49 50.6 -0.3**
comp=Z,1.8nm,0.8s,baz=285,slow=3.7,SNR=8.5
comp=Z,1.8nm,0.8s
WRA Warramunga Arr 122.17 209 PKP **PKPdf 10 56 16.3 -1.7**
comp=Z,0.2nm,0.2s,baz=146,slow=1.7,SNR=14
BVAR Borovoye Array 146.03 42 PKPbc **PKPdf 10 57 00.3 -0.9**
comp=Z,1.0nm,0.3s,baz=286,slow=1.6,SNR=6.7
KURBB Kurchatov Arra 151.62 42 PKPbc **PKPbc 10 57 16.7 +0.3**
comp=Z,1.6nm,0.2s,baz=306,slow=2.9,SNR=4.3
ZALV Zalesovo Beam 152.84 31 PKPbc **PKPbc 10 57 18.7 -0.4**
comp=Z,1.2nm,0.5s,baz=302,slow=1.9,SNR=6.6
MKAR Makanchi Array 155.60 47 PKPab **PKPab 10 57 41.5 -0.8**
comp=Z,0.5nm,0.7s,baz=266,slow=4.9,SNR=3.8
PZH PanZhiHua 171.78 135 PKP **PKPdf 10 57 31.4 -0.4**

*WEL **07** 10:38:40.6±1.7, 33°S±8°×17°7W±2°6, h33km, M4.5/4, mB4.6/2, ML4.8/7, MLv4.5/4, Mw(mB)3.8/2, Error ellipse: s-maj=0.0km s-min=0.0km az=104.5, confirmed*
*IDC **07** 10:38:41.5±2.7, 33.01S×178.29W, h0km, mb4.1/3, mbtmp4.1/4, ML3.8/1, Error ellipse: s-maj=61.1km s-min=34.9km az=119.0*
ISC 07 10:38:41.4±2.3, 33.0S±0.1×177.8W±0.3, h26km, n14, σ1§29/18, mb4.2/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.77**	**358**	P	**Pn**	**10 39 37.6**	**-0.2**
GLKZ				S	**Sn**	**10 40 19.8**	**-1.5**
MXZ	**Matakaoa Point**	**5.55**	**214**	P	**Pn**	**10 40 02.0**	**-0.2**
MXZ				S	**Sn**	**10 41 04.3**	**-0.8**
PKGZ	**Pakihiroa**	**5.92**	**214**	P	**Pn**	**10 40 07.8**	**+0.4**
HAZ	**Te Kaha**	**5.96**	**217**	P	**Pn**	**10 40 08.9**	**+1.1**
PUZ	**Puketiti**	**5.99**	**212**	P	**Pn**	**10 40 08.4**	**+0.1**
PUZ				S	**Sn**	**10 41 16.1**	**+0.2**
RUGZ	**Raukumara Rang**	**6.17**	**216**	P	**Pn**	**10 40 11.4**	**+0.5**
URZ	**Urewera**	**6.68**	**217**	P	**Pn**	**10 40 18.4**	**+0.6**
URZ				S	**Sn**	**10 41 30.0**	**-3.1**
URZ	**Urewera**	**6.68**	**217**	Pn	**Pn**	**10 40 17.9**	**+0.1**
2.2nm,0.3s,baz=121,slow=12,SNR=14							
URZ				Sn	**Sn**	**10 41 30.7**	**-2.4**
1.6nm,0.3s,baz=246,slow=21,SNR=8.5							
6.6nm,0.4s							
WCZ	**Waipu Caves**	**7.14**	**244**	P	Pn	10 40 29.5	+5.4
TOZ	**Tahuroa Road**	**7.23**	**228**	P	**Pn**	**10 40 27.2**	**+1.9**
CTA	**Charters Tower**	**34.51**	**283**	P	**P**	**10 45 28.6**	**+1.1**
2.9nm,0.7s,baz=107,slow=10,SNR=2.9							
2.9nm,0.7s							
ASAR	**Alice Springs**	**43.24**	**270**	P	**P**	**10 46 40.8**	**+0.1**
1.5nm,0.8s,baz=108,slow=7.4,SNR=22							
1.5nm,0.8s							
WRA	**Warramunga Arr**	**44.47**	**275**	P	**P**	**10 46 50.7**	**+0.1**
1.4nm,0.4s,baz=115,slow=7.8,SNR=30							
1.4nm,0.4s							
FINES	**FINESS Array B**	**147.68**	**339**	PKPbc	**PKPab**	**10 58 25.9**	**+0.8**
2.6nm,0.6s,baz=54,slow=2.5,SNR=15							

*IDC **07** 10:40:03.8±1.0, 32.98S×178.24W, h0km, mb4.3/5, mbtmp4.3/6, ML3.8/1, MS3.7/5, Error ellipse: s-maj=42.6km s-min=24.7km az=25.0*
*WEL **07** 10:40:06.6±1.5, 33°S±14°×17°8W±4°2, h33km, M4.7/5, mB4.9/1, ML4.9/7, MLv4.7/5, Mw(mB)4.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=108.2, confirmed*
*NEIC **07** 10:40:09.9±1.1, 33.35S±0.02×178.4W±0.2, h35km±2km, mb4.4/11, Error ellipse: s-maj=21.9km s-min=3.1km az=88.0*
ISC 07 10:40:07.9±0.7, 32.96S±0.06×178.2W±0.1, h34km, n58, σ2§40/56, mb4.3/11, MS3.7/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.69**	**4**	P	**Pn**	**10 40 59.4**	**-3.1**
GLKZ				S	**Sn**	**10 41 41.3**	**-3.6**
RAO	**Raoul Island**	**3.70**	**4**	Pn	**Pb**	**10 41 10.0**	**-2.6**
MXZ	**Matakaoa Point**	**5.40**	**211**	P	**Pn**	**10 41 25.8**	**-0.3**
PKGZ	**Pakihiroa**	**5.78**	**211**	P	**Pn**	**10 41 29.0**	**-2.2**
HAZ	**Te Kaha**	**5.80**	**213**	P	**Pn**	**10 41 31.7**	**+0.2**
HAZ				S	**Sn**	**10 42 37.8**	**+1.1**
PUZ	**Puketiti**	**5.86**	**208**	P	**Pn**	**10 41 33.0**	**+0.7**
PUZ				S	**Sn**	**10 42 36.3**	**-2.0**
RUGZ	**Raukumara Rang**	**6.01**	**213**	P	**Pn**	**10 41 33.2**	**-1.4**
URZ	**Urewera**	**6.51**	**214**	P	Pn	10 41 34.1	-7.3
URZ	**Urewera**	**6.51**	**214**	Sn	**Sn**	**10 42 52.5**	**-1.9**
5.7nm,0.3s,baz=248,slow=16,SNR=13							
RTZ	**Ruatahuna**	**6.86**	**213**	Pn	Pn	10 41 40.9	-5.3
MHGZ	**Mahia Peninsul**	**6.93**	**206**	P	**Sn**	**10 43 08.4**	**+3.6**
TOZ	**Tahuroa Road**	**7.00**	**225**	Pn	**Pn**	**10 41 45.4**	**-2.6**
TOZ	**Tahuroa Road**	**7.00**	**225**	P	**Pn**	**10 41 46.1**	**-1.9**
RAHZ	**Arahi**	**7.06**	**211**	P	**Pn**	**10 41 45.0**	**-3.9**
RAHZ				P	**Sn**	**10 43 07.5**	**-0.4**
MTHZ	**Maungataniwha**	**7.12**	**213**	P	**Pn**	**10 41 46.5**	**-3.2**
MTHZ				P	**Sn**	**10 43 08.2**	**-1.1**
WHHZ	**Waihua**	**7.13**	**210**	P	**Pn**	**10 41 46.7**	**-3.1**
WHHZ				P	**Sn**	**10 43 07.7**	**-1.9**
NMHZ	**Naumai**	**7.33**	**212**	P	**Pn**	**10 41 51.0**	**-1.7**
NMHZ				P	**Sn**	**10 43 12.9**	**-1.8**
ARHZ	**Aropaoanui**	**7.39**	**210**	P	**Sn**	**10 43 14.4**	**-1.5**
MCHZ	**McNeill Hill**	**7.67**	**211**	P	**Pn**	**10 41 56.1**	**-1.1**
MCHZ				P	**Sn**	**10 43 20.2**	**-2.6**
KWHZ	**Kaweka Forest**	**7.77**	**212**	P	**Sn**	**10 43 22.0**	**-3.5**
KAHZ	**Kahuranaki**	**7.88**	**209**	P	**Sn**	**10 43 22.9**	**-5.4**
KRHZ	**Kereru**	**7.97**	**212**	P	**Sn**	**10 43 25.2**	**-5.2**
WNVZ	**Wahianoa**	**8.09**	**216**	P	**Sn**	**10 43 29.4**	**-3.9**
PXZ	**Pawanui**	**8.09**	**208**	P	Sn	10 43 24.5	-8.8
PNHZ	**Pukenui**	**8.27**	**211**	P	**Sn**	**10 43 32.8**	**-4.9**
PRHZ	**Porangahau**	**8.38**	**208**	P	Sn	10 43 31.6	-8.8
BFZ	**Birch Farm**	**8.89**	**208**	Pn	**Pn**	**10 42 10.3**	**-3.7**
CTZ	**Chatham Island**	**10.84**	**174**	Pn	**Pn**	**10 42 37.1**	**-3.5**
DZM	**Mont Dzumac**	**17.37**	**305**	*e*S	Sn	10 46 58.2	-22
151nm,26.1s							
DZM				*e*LR	LR	10 48 04.8	
comp=Z,355nm,24.6s							
DZM	**Mont Dzumac**	**17.37**	**305**	P	**P**	**10 44 11.2**	**+2.3**
DZM	**Mont Dzumac**	**17.37**	**305**	P	**P**	**10 44 09.1**	**+0.2**
0.4nm,0.3s,baz=135,slow=19,SNR=3.3							
DZM				LR	LR	10 48 53.1	
comp=Z,210nm,21.3s,baz=185,slow=30							
6.6nm,0.8s							
RAR	**Rarotonga**	**20.13**	**59**	LR	LR	10 51 55.0	
comp=Z,146nm,19.1s,baz=222,slow=35							
TBI	**Tubuai**	**27.03**	**77**	*e*LR	LR	10 52 17.9	
comp=Z,585nm,23.2s							
TBI				*e*LR	LR	10 52 33.6	
comp=Z,3μm,23.2s							
PPT2	**Papeete2**	**29.96**	**66**	*e*LR	LR	10 53 46.9	
comp=Z,111nm,22.8s							
PPT2				*e*LR	LR	10 54 10.5	
comp=Z,135nm,21.2s							
STKA	**Stephens Creek**	**33.80**	**261**	LR	LR	11 00 00.6	
comp=Z,153nm,18.0s,baz=32,slow=35							
CTA	**Charters Tower**	**34.11**	**283**	P	**P**	**10 46 51.4**	**+1.8**
4.2nm,0.6s,baz=116,slow=8.0,SNR=9.0							
CTA				LR	LR	11 00 09.6	
comp=Z,115nm,18.0s,baz=85,slow=35							
4.2nm,0.6s							
CTAO	**Charters Tower**	**34.11**	**283**	P	**P**	**10 46 51.8**	**+2.3**
CTAO				IAmb	IAmb	10 47 12.1	
comp=Z,6.1nm,0.9s							
COEN	**Coen**	**39.86**	**289**	P	**P**	**10 47 40.1**	**+1.6**
COEN				IAmb	IAmb	10 47 53.8	
comp=Z,10nm,1.1s							
AS31	**Alice Springs**	**42.85**	**270**	P	**P**	**10 48 03.6**	**+0.5**
ASAR	**Alice Springs**	**42.85**	**270**	P	**P**	**10 48 03.6**	**+0.5**
ASAR	**Alice Springs**	**42.85**	**270**	P	**P**	**10 48 03.1**	**+0.1**
comp=Z,1.8nm,0.5s,baz=112,slow=8.1,SNR=12							
comp=Z,1.8nm,0.5s							
WR0	**Warramunga Arr**	**43.89**	**275**	P	**P**	**10 48 11.7**	**+0.3**
WR0				IAmb	IAmb	10 48 30.3	
comp=Z,4.0nm,0.8s							
WB2	**Warramunga Arr**	**44.05**	**275**	P	**P**	**10 48 13.1**	**+0.3**
WB2				IAmb	IAmb	10 48 14.2	
comp=Z,6.3nm,1.1s							
WRAB	**Tennant Creek**	**44.06**	**275**	P	**P**	**10 48 12.9**	**+0.1**
WRAB				IAmb	IAmb	10 48 13.5	
comp=Z,6.0nm,1.1s							
WRA	**Warramunga Arr**	**44.06**	**275**	P	**P**	**10 48 12.8**	**0.0**
comp=Z,3.1nm,0.4s,baz=115,slow=7.7,SNR=18							
comp=Z,3.1nm,0.4s							
WB0	**Warramunga Arr**	**44.10**	**275**	P	**P**	**10 48 13.3**	**+0.2**
WB0				IAmb	IAmb	10 48 17.9	
comp=Z,4.9nm,0.6s							
MTN	**Manton Dam**	**50.24**	**281**	P	**P**	**10 49 01.3**	**+0.3**
KNRA	**Kununurra**	**50.76**	**277**	P	**P**	**10 49 05.0**	**+0.1**
CASY	**Casey**	**52.81**	**209**	P	**P**	**10 49 21.3**	**+1.8**
CASY				IAmb	IAmb	10 49 40.5	
comp=Z,3.8nm,0.9s							
QSPA	**South Pole Qui**	**57.16**	**180**	P	**P**	**10 49 52.1**	**+0.9**
comp=Z,0.6nm,0.7s,baz=30,slow=6.4,SNR=1.2							
comp=Z,0.6nm,0.7s							
PLCA	**Paso Flores**	**80.91**	**133**	P	**P**	**10 52 20.2**	**+1.4**
comp=Z,3.3nm,1.1s,baz=243,slow=6.8,SNR=3.8							
comp=Z,3.3nm,1.1s							
YBH	**Yreka Blue Hor**	**90.16**	**38**	LR	LR	11 28 05.5	
comp=Z,48nm,19.1s,baz=232,slow=32							
KURBB	**Kurchatov Arra**	**122.69**	**313**	PKP	**PKiKP**	**10 59 00.3**	**+0.5**
comp=Z,0.5nm,0.4s,baz=105,slow=1.9,SNR=1.8							
FINES	**FINESS Array B**	**147.46**	**338**	PKPbc	**PKPbc**	**10 59 48.1**	**+0.6**
comp=Z,4.6nm,0.7s,baz=28,slow=3.8,SNR=11							
NOA	**NORSAR Array B**	**151.24**	**350**	PKPbc	**PKiKP**	**10 59 58.4**	**+0.8**
comp=Z,1.2nm,0.9s,baz=12,slow=4.1,SNR=2.6							
HFS	**Hagfors**	**151.70**	**347**	PKPbc	**PKiKP**	**10 59 60.0**	**+1.5**
comp=Z,1.4nm,0.6s,baz=123,slow=5.3,SNR=1.9							
MMAI	**Mount Meron Ar**	**151.86**	**279**	PKPbc	**PKiKP**	**11 00 00.5**	**+0.7**
comp=Z,0.7nm,0.5s,baz=45,slow=3.7,SNR=3.5							
CLL	**Collm**	**159.90**	**339**	*i* PKPab	**PKPab**	**11 00 46.7**	**+4.4**

*NNC **07** 10:54:47.2±3.0, 37.65N×69.55E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=25.9km s-min=19.6km az=163.0*
ISC 07 10:54:46.3±3.3, 37.4N±0.2×69.5E±0.1, h27km, n14, σ1§05/18, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.77**	**33**	P	**Pn**	**10 56 11.1**	**+0.5**
SNR=55							
AML	**Almayashu**	**5.77**	**33**	⇓Pn	**Pn**	**10 56 11.3**	**+0.7**
0.4nm,0.3s							
AML				⇓Sn	**Sn**	**10 57 14.3**	**-1.8**
1.2nm,0.5s							
KK31	**Karatay Array**	**5.79**	**8**	Pn	**Pn**	**10 56 11.9**	**+1.5**
0.9nm,0.2s,baz=198,slow=16,SNR=42							
KK31				⇓Sn	**Sn**	**10 57 16.8**	**+0.9**
2.7nm,0.3s,baz=349,slow=35,SNR=5.2							
UCH	**Uchtor**	**6.22**	**37**	P	**Pn**	**10 56 17.8**	**+0.9**
SNR=26							
EKS2	**Erkin-Say**	**6.24**	**31**	P	**Pn**	**10 56 18.5**	**+1.7**
SNR=14							
AAK	**Ala-Archa**	**6.53**	**35**	P	**Pn**	**10 56 22.0**	**+1.2**
SNR=17							
CHMS	**Chumysh**	**6.94**	**34**	P	**Pn**	**10 56 27.4**	**+1.2**
SNR=9.8							
CHMS	**Chumysh**	**6.94**	**34**	⇑Pn	**Pn**	**10 56 26.7**	**+0.5**
19nm,0.7s							
CHMS				⇑Sn	**Sn**	**10 57 43.9**	**-0.3**
5.5nm,0.5s							
USP	**Ospenovka**	**7.04**	**32**	P	**Pn**	**10 56 28.4**	**+0.8**
SNR=6.4							
TKM2	**Tokmak 2**	**7.27**	**38**	P	**Pn**	**10 56 31.6**	**+0.6**
SNR=12							
TKM2	**Tokmak 2**	**7.27**	**38**	⇑Pn	**Pn**	**10 56 31.2**	**+0.2**
6.3nm,0.7s							
AB31	**Akbulak array**	**13.73**	**333**	Pn	**Pn**	**10 57 58.2**	**-1.0**
0.8nm,0.3s,baz=158,slow=12,SNR=52							
AB31				⇓Sn	**Sn**	**11 00 30.1**	**-0.6**
0.8nm,0.5s,baz=152,slow=24,SNR=3.1							
AKTO	**Aktyubinsk**	**15.42**	**332**	⇓Pn	**Pn**	**10 58 21.2**	**-0.6**
5.5nm,1.0s							
BVA0	**Borovoye Array**	**15.67**	**2**	Pn	**Pn**	**10 58 24.9**	**-0.2**
1.6nm,0.7s,baz=175,slow=12,SNR=4.1							

*IDC **07** 11:11:01.2±2.3, 0.74N×127.18E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=172.4km s-min=28.4km az=66.0*
*DJA **07** 11:11:01.2±0.5, 1.N±4°×12°7E±°, h10km±3km, M3.2/6, MLv3.2/6*
ISC 07 11:11:02.9±1.5, 0.7N±0.1×127.1E±0.1, h10km, n5, σ0§42/5, mb3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.26**	**81**	P	Pg	11 11 07.3	-0.9
TNTI				S	**Sg**	**11 11 11.8**	**0.0**
LBMI	**Labuha**	**1.42**	**164**	P	**Pb**	**11 11 29.7**	**+0.3**
WRA	**Warramunga Arr**	**21.73**	**161**	P	**P**	**11 15 54.1**	**-0.5**
0.9nm,0.7s,baz=340,slow=11,SNR=7.8							
0.9nm,0.7s							
ASAR	**Alice Springs**	**25.13**	**165**	P	**P**	**11 16 28.2**	**-0.2**
1.0nm,0.8s,baz=345,slow=12,SNR=10							
1.0nm,0.8s							
MKAR	**Makanchi Array**	**60.23**	**326**	P	**P**	**11 21 11.5**	**+0.1**
0.3nm,0.6s,baz=108,slow=9.3,SNR=2.4							
0.3nm,0.6s							

*NEIC **07** 11:23:12.1±1.8, 21.4S±0.1×174.4W±0.1, h35km±2km, mb4.5/13, Error ellipse: s-maj=23.0km s-min=18.9km az=110.0*
*IDC **07** 11:23:25.2±4.2, 21.63S×174.98W, h116km±35km, mb3.8/10, mbtmp4.2/11, MS3.4/9, Error ellipse: s-maj=25.6km s-min=17.3km az=106.0*
ISC 07 11:23:15.4±0.6, 21.65±0.1×174.9W±0.2, h35km, n49, σ1§19/37, mb4.4/16, MS3.4/8, 1C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.24**	**63**	P	**Pn**	**11 24 21.4**	**-10**
MSVF	**Nonsavu**	**7.68**	**298**	Pn	Pn	11 25 15.7	+11
MSVF	**Nonsavu**	**7.68**	**298**	P	Pn	11 25 14.8	+10
22nm,0.9s,baz=130,slow=16,SNR=7.3							
MSVF				LR	LR	11 28 00.1	
comp=Z,302nm,20.9s,baz=81,slow=36							
AFI	**Afiamalu**	**8.14**	**22**	Pn	Pn	11 25 02.2	-9.0
RAR	**Rarotonga**	**14.06**	**91**	Pn	Pn	11 26 20.0	-12
BKZ	**Black Stump Fm**	**19.06**	**201**	P	**P**	**11 27 34.6**	**-0.1**
LTZ	**Lake Taylor**	**23.75**	**204**	P	**P**	**11 28 28.9**	**+4.4**
LTZ				IAmb	IAmb	11 29 12.9	
comp=Z,20nm,1.1s							
RPZ	**Rata Peaks**	**25.01**	**205**	P	**P**	**11 28 38.8**	**+2.7**
comp=Z,8.7nm,0.8s,baz=216,slow=14,SNR=1.8							
RPZ				LR	LR	11 37 27.0	
comp=Z,116nm,18.2s,baz=14,slow=34							
comp=Z,8.7nm,0.8s							
HNR	**Honiara**	**27.05**	**293**	LR	LR	11 38 19.8	
comp=Z,741nm,18.6s,baz=352,slow=33							
TOO	**Toolangi**	**37.70**	**236**	P	**P**	**11 30 27.5**	**-0.1**
STKA	**Stephens Creek**	**40.00**	**246**	P	**P**	**11 30 46.7**	**-0.3**
STKA	**Stephens Creek**	**40.00**	**246**	P	**P**	**11 30 48.2**	**+1.2**
comp=Z,2.0nm,0.7s,baz=45,slow=11,SNR=4.0							
comp=Z,2.0nm,0.7s							
AS31	**Alice Springs**	**47.14**	**257**	P	**P**	**11 31 44.3**	**-0.4**
ASAR	**Alice Springs**	**47.14**	**257**	P	**P**	**11 31 44.9**	**+0.3**
ASAR	**Alice Springs**	**47.14**	**257**	P	**P**	**11 31 44.4**	**-0.3**
comp=Z,1.1nm,0.7s,baz=91,slow=7.7,SNR=16							
ASAR				PcP	**PcP**	**11 33 14.3**	**-1.8**
comp=Z,0.6nm,0.8s,baz=108,slow=4.2,SNR=2.8							
comp=Z,1.1nm,0.7s							
WR0	**Warramunga Arr**	**47.17**	**262**	P	**P**	**11 31 43.5**	**-1.4**
WR0				IAmb	IAmb	11 31 56.2	
comp=Z,4.3nm,1.2s							
WB0	**Warramunga Arr**	**47.35**	**263**	P	**P**	**11 31 45.5**	**-0.7**
WB0				IAmb	IAmb	11 31 47.7	
comp=Z,3.9nm,0.8s							
WB2	**Warramunga Arr**	**47.35**	**262**	P	**P**	**11 31 45.3**	**-0.9**
WB2				IAmb	IAmb	11 31 48.4	
comp=Z,7.5nm,1.2s							
WRA	**Warramunga Arr**	**47.36**	**262**	P	**P**	**11 31 45.5**	**-0.9**
comp=Z,0.5nm,0.4s,baz=91,slow=5.7,SNR=26							
WRA				PcP	**PcP**	**11 33 17.7**	**+0.9**
comp=Z,0.6nm,0.8s,baz=102,slow=3.1,SNR=3.1							
comp=Z,0.5nm,0.4s							
FORT	**Forrest**	**51.58**	**247**	P	**P**	**11 32 17.3**	**-1.1**
GUMO	**Guam**	**52.74**	**308**	LR	LR	11 52 14.4	
comp=Z,15nm,20.9s,baz=78,slow=33							
CASY	**Casey**	**64.28**	**206**	P	**P**	**11 33 46.5**	**-0.4**
CASY				IAmb	IAmb	11 33 47.7	
comp=Z,1.7nm,0.8s							
QSPA	**South Pole Qui**	**68.53**	**180**	P	**P**	**11 34 14.8**	**+0.6**
QSPA				IAmb	IAmb	11 34 17.5	
comp=Z,8.3nm,0.9s							
QSPA	**South Pole Qui**	**68.53**	**180**	P	**P**	**11 34 14.5**	**+0.3**
comp=Z,6.3nm,0.8s,baz=42,slow=1.7,SNR=22							
comp=Z,6.3nm,0.8s							
SHEM	**Shemya Is, Ala**	**74.58**	**353**	LR	LR	12 02 26.8	
comp=Z,38nm,21.9s,baz=336,slow=31							
ASAJ	**Asahikawa**	**76.07**	**330**	LR	LR	12 04 18.0	
comp=Z,24nm,19.0s,baz=98,slow=32							
PEA0B	**Petropavlovsk-**	**78.07**	**344**	P	**P**	**11 35 10.8**	**+0.5**
PETK	**Petropavlovsk-**	**78.07**	**344**	P	**P**	**11 35 10.3**	**+0.1**
PETK	**Petropavlovsk-**	**78.07**	**344**	P	**P**	**11 35 10.9**	**+0.7**
comp=Z,2.7nm,0.6s,baz=105,slow=8.0,SNR=14							
comp=Z,2.7nm,0.6s							
KSRS	**Korea Array**	**79.63**	**317**	LR	LR	12 09 01.5	
comp=Z,9.8nm,18.4s,baz=110,slow=34							
NVAR	**Mina Array Bea**	**79.81**	**42**	P	**P**	**11 35 20.9**	**+0.4**
comp=Z,0.9nm,0.7s,baz=222,slow=8.4,SNR=9.3							
comp=Z,0.9nm,0.7s							
H03S2	**Juan Fernandez**	**82.98**	**123**	T	T	13 07 53.3	
baz=247,slow=75,SNR=5.0							
H03S1	**Juan Fernandez**	**82.99**	**123**	T	T	13 07 46.2	
baz=247,slow=75,SNR=5.4							
H03S3	**Juan Fernandez**	**82.99**	**123**	T	T	13 07 42.8	
baz=247,slow=75,SNR=8.5							
KLR	**Kul'dur**	**84.94**	**328**	LR	LR	12 10 10.5	
comp=Z,19nm,20.7s,baz=134,slow=33							
ELIB	**Princess Elisa**	**85.92**	**186**	*d*P	**P**	**11 35 51.4**	**-0.2**
comp=Z,5.6nm,0.8s							
ELIB				*d*PP	**PP**	**11 39 08.3**	**-2.5**
SNAA	**Sanae**	**86.86**	**177**	P	P	11 35 50.6	-5.5
SNAA				IAmb	IAmb	11 35 56.3	
comp=Z,2.7nm,0.9s							
SNAA	**Sanae**	**86.86**	**177**	P	**P**	**11 35 55.1**	**-1.0**
comp=Z,2.4nm,1.0s,baz=180,slow=4.7,SNR=4.4							
comp=Z,2.4nm,1.0s							
ILAR	**Eielson Array**	**88.71**	**12**	P	**P**	**11 36 05.0**	**+0.2**
comp=Z,0.5nm,0.8s,baz=218,slow=5.8,SNR=9.3							
comp=Z,0.5nm,0.8s							

URZ			Sn	Sn	11 30 38.8	-2.7
	3.2nm,0.3s,baz=259,slow=21,SNR=1.9					
	9.3nm,0.3s					
RAGZ	**Rawiri**	**5.44 212**	P	**Pn**	**11 29 42.9**	**+1.4**
RIGZ	**Rimuhau**	**5.48 208**	P	**Pn**	**11 29 41.7**	**-0.3**
PRGZ	**Paritu Road**	**5.62 206**	P	**Pn**	**11 29 43.7**	**-0.2**
SNGZ	**Shannon Static**	**5.71 211**	P	**Pn**	**11 29 45.4**	**+0.2**
MUGZ	**Murupara**	**5.73 216**	P	**Pn**	**11 29 45.7**	**+0.2**
RTZ	**Ruatahuna**	**5.74 214**		**Pn**	**11 29 45.5**	**-0.1**
WCZ	**Waipu Caves**	**5.88 248**	P	**Pn**	**11 29 48.4**	**+0.9**
MTHZ	**Maungataniwha**	**5.99 213**	P	**Pn**	**11 29 49.4**	**+0.3**
NMHZ	**Naumai**	**6.21 212**	P	**Pn**	**11 29 52.3**	**+0.2**
OUZ	**Omahuta**	**6.30 256**	P	**Pn**	**11 29 53.1**	**-0.1**
OUZ	**Omahuta**	**6.30 256**	P	**Pn**	**11 29 53.1**	**-0.1**
BKZ	**Black Stump Fm**	**6.41 214**	Pn	**Pn**	**11 29 54.2**	**-0.5**
BKZ	**Black Stump Fm**	**6.41 214**	P	**Pn**	**11 29 54.2**	**-0.5**
BKZ	**Black Stump Fm**	**6.41 214**	P	**Pn**	**11 29 55.1**	**+0.4**
MCHZ	**McNeill Hill**	**6.54 211**	P	**Pn**	**11 29 57.5**	**+0.9**
KWHZ	**Kaweka Forest**	**6.65 213**	P	**Pn**	**11 29 58.0**	**-0.1**
KAHZ	**Kahuranaki**	**6.76 209**	P	**Pn**	**11 29 58.5**	**-1.1**
HIZ	**Hauiti**	**6.80 226**	P	**Pn**	**11 30 02.3**	**+2.2**
BHHZ	**Black Hill Sta**	**6.87 214**	P	**Pn**	**11 30 01.1**	**+0.1**
PKVZ	**Pokaka**	**7.07 219**	P	Pn	11 29 58.4	-5.4
BFZ	**Birch Farm**	**7.77 208**	Pn	**Pn**	**11 30 10.2**	**-3.2**
BFZ	**Birch Farm**	**7.77 208**	P	**Pn**	**11 30 11.8**	**-1.6**
MRZ	**Mangatainoka R**	**8.03 211**	Pn	**Pn**	**11 30 13.1**	**-3.9**
DZM	**Mont Dzumac**	**17.46 309**	LR	LR	11 36 55.9	
	comp=Z,91nm,18.2s,baz=166,slow=30					
ASAR	**Alice Springs B**	**42.26 271**	P	**P**	**11 36 09.9**	**-1.7**
ASAR	**Alice Springs**	**42.26 271**	P	**P**	**11 36 10.4**	**-1.2**
	0.6nm,0.6s,baz=109,slow=7.6,SNR=14					
	0.6nm,0.6s					
WB2	**Warramunga Arr**	**43.55 276**	P	**P**	**11 36 20.0**	**-2.1**
WB2			IAmb	IAmb	11 36 48.5	
	comp=Z,8.0nm,1.4s					
WRAB	**Tennant Creek**	**43.56 276**	P	**P**	**11 36 20.0**	**-2.2**
WRAB			IAmb	IAmb	11 37 01.7	
	comp=Z,7.4nm,1.4s					
WRA	**Warramunga Arr**	**43.56 276**	P	**P**	**11 36 20.8**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=117,slow=7.7,SNR=14					
	comp=Z,0.7nm,0.6s					
WB0	**Warramunga Arr**	**43.60 277**	P	**P**	**11 36 20.8**	**-1.7**
WB0			IAmb	IAmb	11 36 35.7	
	comp=Z,6.1nm,1.3s					
CASY	**Casey**	**51.68 209**	P	**P**	**11 37 25.2**	**+0.8**
QSPA	**South Pole Qui**	**56.21 180**	P	**P**	**11 38 01.5**	**+3.8**
ARCES	**ARCESS Array B**	**141.82 346**	PKhKP	PKPpre	11 47 45.4	
	comp=Z,1.2nm,0.9s,baz=106,slow=2.0,SNR=1.6					
FINES	**FINESS Array B**	**148.12 337**	PKPbc	**PKPbc**	**11 48 02.8**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=29,slow=3.2,SNR=15					
MMAI	**Mount Meron Ar**	**151.41 278**	PKPbc	**PKiKP**	**11 48 12.4**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=101,slow=4.7,SNR=2.4					
NB2	**NORSAR Subarra**	**152.07 349**	PKP	**PKiKP**	**11 48 13.4**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=15,slow=2.6					
NOA	**NORSAR Array B**	**152.07 349**	PKPbc	**PKiKP**	**11 48 13.6**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=14,slow=4.1,SNR=3.7					

IDC 07 11:31:00.4±4.0, 54°.15S×145°.69W, h0km, mb3.7/3, mbtmp3.7/3, MS3.3/2, Error ellipse: s-maj=118.1km s-min=39.1km az=54.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**36.01**	**180**	P	P	11 38 02.9	0.0
	1.1nm,0.6s,baz=87,slow=1.0,SNR=9.0						
QSPA				LR	LR	11 51 17.8	
	comp=Z,37nm,18.6s,baz=43,slow=34						
	1.1nm,0.6s						
H03S2	**Juan Fernandez**	**50.10**	**95**	T	T	12 33 05.1	
	baz=221,slow=74,SNR=9.6						
H03S1	**Juan Fernandez**	**50.11**	**95**	T	T	12 33 06.8	
	baz=221,slow=74,SNR=8.3						
H03S3	**Juan Fernandez**	**50.12**	**95**	T	T	12 33 04.2	
	baz=221,slow=74,SNR=9.8						
H03N3	**Juan Fernandez**	**50.38**	**94**	T	T	12 33 24.6	
	baz=224,slow=72,SNR=25						
H03N2	**Juan Fernandez**	**50.38**	**94**	T	T	12 33 20.0	
	baz=224,slow=72,SNR=19						
H03N1	**Juan Fernandez**	**50.39**	**94**	T	T	12 33 23.7	
	baz=224,slow=72,SNR=29						
ASAR	**Alice Springs**	**65.63**	**263**	P	P	11 41 46.0	-0.2
	0.7nm,0.7s,baz=136,slow=6.2,SNR=13						
	0.7nm,0.7s						
H01W1	**Cape Leeuwin H**	**67.96**	**241**	T	T	12 56 30.7	
	baz=143,slow=76,SNR=17						
H01W2	**Cape Leeuwin H**	**67.97**	**241**	T	T	12 56 27.4	
	baz=143,slow=76,SNR=18						
H01W3	**Cape Leeuwin H**	**67.98**	**241**	T	T	12 56 31.9	
	baz=143,slow=76,SNR=11						
WRA	**Warramunga Arr**	**68.25**	**266**	P	P	11 42 03.3	+0.3
	0.5nm,1.0s,baz=152,slow=5.4,SNR=2.3						
	0.5nm,1.0s						
JAY	**Jayapura**	**78.40**	**282**	LR	LR	12 17 41.3	
	comp=Z,22nm,18.3s,baz=178,slow=36						
MKAR	**Makanchi Array**	**149.11**	**276**	PKPbc	PKPbc	11 50 49.3	-0.4
	0.7nm,0.8s,baz=131,slow=3.4,SNR=4.3						

*SJA **07** 11:38:38.4±0.7, 19°.99S×69°.17W, h103km±3km, ML3.5, MW3.6*
*GUC **07** 11:38:39.9±0.7, 19°.99S×69°.11W, h98km±3km, ML3.4*
ISC 07 11:38:41.6±1.3, 20°.00S±0°.03×69°.23W±0°.05, h88km±7km, n31, σ1°.90/56, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.16**	**152**	*eP*	**Pn**	**11 38 54.0**	**-0.8**
PB08				*i* S	**Sn**	**11 39 04.9**	**+0.4**
PB08				IAML		11 39 06.9	
	comp=N,3μm,0.2s						
PB08	**IPOC Station P**	**0.16**	**152**	*eP*	**Pn**	**11 38 53.9**	**-0.9**
PB08				*eS*	**Sn**	**11 39 05.4**	**+0.9**
PB08				IAML		11 39 06.0	
	comp=Z,1μm,0.5s						
GO01	**Chusmiza**	**0.33**	**6**	*eP*	**Pn**	**11 38 54.8**	**-0.9**
GO01				*i* S	**Sn**	**11 39 06.4**	**+0.4**
GO01	**Chusmiza**	**0.33**	**6**	*eP*	**Pn**	**11 38 54.1**	**-1.5**
GO01				*eS*	**Sn**	**11 39 07.1**	**+1.1**
HMBC	**Humberstone**	**0.67**	**246**	*eP*	**Pn**	**11 38 57.1**	**-0.8**
HMBC				*i* S	**Sn**	**11 39 11.3**	**+1.3**
HMBC	**Humberstone**	**0.67**	**246**	*eP*	**Pn**	**11 38 57.1**	**-0.8**
HMBC				*eS*	**Sn**	**11 39 11.6**	**+1.6**
TA02	**Huaiquique**	**0.89**	**252**	*eP*	**Pn**	**11 38 59.2**	**-0.7**
TA02				*i* S	**Sn**	**11 39 14.9**	**+1.3**
TA02	**Huaiquique**	**0.89**	**252**	*eP*	**Pn**	**11 38 59.4**	**-0.6**
TA02				IAML		11 39 16.4	
	comp=Z,1μm,0.3s						
TA01	**Diego Aracena**	**1.05**	**238**	*eP*	**Pn**	**11 39 00.8**	**-1.0**
TA01				*i* S	**Sn**	**11 39 17.2**	**+0.3**
TA01				IAML		11 39 17.9	
	comp=N,606nm,0.3s						
TA01	**Diego Aracena**	**1.05**	**238**	*eP*	**Pn**	**11 39 00.2**	**-1.6**
TA01				*eS*	Sn	11 39 00.8	-16
TA01				IAML		11 39 01.1	
	comp=Z,408nm,0.2s						
PB01	**IPOC Station P**	**1.06**	**193**	*eP*	**Pn**	**11 39 01.0**	**-1.1**
PB01				*i* S	**Sn**	**11 39 17.3**	**-0.1**
PB01				IAML		11 39 18.9	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**1.06**	**193**	*eP*	**Pn**	**11 39 00.9**	**-1.2**
PB01				*eS*	**Sn**	**11 39 17.7**	**+0.3**
PB01				IAML		11 39 18.9	
	comp=Z,898nm,0.2s						
PATCX	**Punta Patache**	**1.19**	**226**	*eP*	**Pn**	**11 39 02.4**	**-1.1**
PATCX				*i* S	**Sn**	**11 39 20.1**	**+0.1**
PATCX				IAML		11 39 22.0	
	comp=E,661nm,0.6s						
PATCX	**Punta Patache**	**1.19**	**226**	*eP*	**Pn**	**11 39 02.7**	**-0.8**
PATCX				*eS*	**Sn**	**11 39 22.6**	**+2.6**
PB02	**IPOC Station P**	**1.45**	**205**	*eP*	**Pn**	**11 39 05.8**	**-1.1**
PB02				*i* S	**Sn**	**11 39 26.0**	**+0.2**
PB02	**IPOC Station P**	**1.45**	**205**	*eP*	**Pn**	**11 39 05.7**	**-1.1**
PB02				*eS*	**Sn**	**11 39 32.4**	**+6.6**
PB02				IAML		11 39 33.4	
	comp=Z,899nm,0.3s						
PB16	**IPOC Station P**	**1.68**	**351**	*eP*	**Pn**	**11 39 09.2**	**-0.9**
PB16				*i* S	**Sn**	**11 39 32.3**	**+0.6**
PB16	**IPOC Station P**	**1.68**	**351**	*eP*	**Pn**	**11 39 09.5**	**-0.6**
PB16				*eS*	**Sn**	**11 39 32.9**	**+1.3**
PB12	**IPOC Station P**	**1.72**	**323**	*eP*	**Pn**	**11 39 08.8**	**-1.5**
PB12				*i* S	**Sn**	**11 39 32.4**	**+0.4**
PB12				IAML		11 39 36.2	
	comp=N,451nm,0.3s						
PB12	**IPOC Station P**	**1.72**	**323**	*eP*	**Pn**	**11 39 08.8**	**-1.5**
PB12				*eS*	**Sn**	**11 39 34.8**	**+2.8**
PB12				IAML		11 39 39.4	
	comp=Z,242nm,0.4s						
PB09	**IPOC Station P**	**1.79**	**180**	*eP*	**Pn**	**11 39 10.1**	**-1.1**
PB09				*i* S	**Sn**	**11 39 33.7**	**+0.1**
PB09				IAML		11 39 37.6	
	comp=N,426nm,0.5s						
PB09	**IPOC Station P**	**1.79**	**180**	*eP*	**Pn**	**11 39 10.1**	**-1.1**
PB09				*eS*	**Sn**	**11 39 34.5**	**+0.9**
PB09				IAML		11 39 39.6	
	comp=Z,318nm,0.5s						
PB07	**IPOC Station P**	**1.82**	**199**	*eP*	**Pn**	**11 39 10.1**	**-1.6**
PB07				*i* S	**Sn**	**11 39 33.7**	**-0.7**
PB07				IAML		11 39 37.2	
	comp=E,397nm,0.2s						
PB07	**IPOC Station P**	**1.82**	**199**	*eP*	**Pn**	**11 39 10.3**	**-1.4**
PB07				*eS*	**Sn**	**11 39 34.6**	**+0.1**
PB07				IAML		11 39 45.8	
	comp=Z,336nm,0.5s						
AP01	**Chacalluta**	**1.93**	**327**	*eP*	**Pn**	**11 39 11.9**	**-1.0**
AP01				IAML		11 40 23.0	
	comp=Z,468nm,0.3s						
PB04	**IPOC Station P**	**2.47**	**200**	*eP*	**Pn**	**11 39 19.9**	**-0.4**
PB04				IAML		11 39 59.7	
	comp=Z,166nm,0.4s						
LVC	**Limon Verde**	**2.61**	**173**	*eP*	**Pn**	**11 39 21.6**	**-0.7**
LVC				*eS*	**Sn**	**11 40 00.1**	**+6.7**
LVC				IAML		11 40 01.5	
	comp=Z,80nm,0.4s						
PB06	**IPOC Station P**	**2.71**	**187**	*eP*	**Pn**	**11 39 22.3**	**-1.1**
PB06				*eS*	**Sn**	**11 39 49.4**	**-6.1**
PB06				IAML		11 40 06.3	
	comp=Z,122nm,0.4s						
PB15	**IPOC Station P**	**3.20**	**184**	*eP*	**Pn**	**11 39 29.9**	**-0.1**
PB15				*eS*	**Sn**	**11 40 08.8**	**+1.5**
PB15				IAML		11 40 14.5	
	comp=Z,313nm,0.2s						
YJA	**Yavi**	**4.09**	**123**	*eP*	**Pn**	**11 39 41.8**	**-0.5**
HJA	**Humahuaca**	**4.78**	**133**	*eP*	**Pn**	**11 39 51.0**	**-0.6**

IDC 07 11:40:28.7±3.0, 32°.95S×178°.40W, h0km, mb3.7/2, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=69.8km s-min=36.1km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.44**	**213**	Pn	Pn	11 42 04.9	+0.2
	1.3nm,0.3s,baz=342,slow=4.9,SNR=9.6						
URZ				Sn	Sn	11 43 17.4	-1.6
	1.2nm,0.3s,baz=241,slow=21,SNR=6.2						
	3.3nm,0.3s						
ASAR	**Alice Springs**	**42.70**	**270**	P	P	11 48 27.6	+0.1
	0.4nm,0.5s,baz=101,slow=7.3,SNR=10						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**43.91**	**275**	P	P	11 48 37.3	-0.1
	0.6nm,0.4s,baz=115,slow=7.7,SNR=30						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**147.39**	**338**	PKPbc	PKPbc	12 00 12.7	-0.9
	4.7nm,1.1s,baz=35,slow=5.1,SNR=6.8						

*NEIC **07** 11:52:20.7±0.8, 19°.335N±0°.008×155°.318W±0°.007, h7km±1km, Error ellipse: s-maj=1.2km s-min=0.8km az=204.0*
HVO 07 11:52:20.6±0.6, 19°.339N±0°.006×155°.320W±0°.008, h4km±1km, ML2.7/24, ML2.5/48(NEIC), Error ellipse: s-maj=1.1km s-min=0.9km az=114.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.04**	**165**		Pg	11 52 22.1	+0.3
HLP				IAML		11 52 23.3	
	comp=N,3μm,0.2s						
HLP				Sg	Sg	11 52 23.8	+1.1
SDHHI	**Sand Hill**	**0.06**	**26**		Pg	11 52 22.4	+0.4
SDHHI				Sg	Sg	11 52 23.5	+0.4
WRMHI	**West Rim**	**0.07**	**16**		Pg	11 52 22.6	+0.4
WRMHI				Sg	Sg	11 52 24.4	+1.0
WRMHI				IAML		11 52 24.6	
	comp=N,5μm,0.7s						
RIM	**Rim**	**0.07**	**38**		Pg	11 52 22.7	+0.4
RIM				Sg	Sg	11 52 24.4	+1.0
RIM				IAML		11 52 24.6	
	comp=N,2μm,0.5s						
KKO	**Keanakako`i**	**0.08**	**41**		Pg	11 52 22.9	+0.5
KKO				IAML		11 52 24.9	
	comp=N,2μm,0.4s						
NPH	**North Pit**	**0.08**	**27**		Pg	11 52 22.8	+0.3
NPH				IAML		11 52 25.1	
	comp=N,3μm,0.6s						
OBL	**Observatory Le**	**0.09**	**24**		Pg	11 52 22.9	+0.4
OBL				IAML		11 52 25.3	
	comp=E,2μm,0.4s						
OBL				IAML		11 52 25.4	
	comp=N,4μm,0.6s						
UWE	**Uwekahuna**	**0.09**	**17**		Pg	11 52 22.9	+0.4
UWE				IAML		11 52 24.8	
	comp=N,2μm,0.5s						
UWE				IAML		11 52 25.1	
	comp=E,3μm,0.5s						
BYL	**Byron's Ledge**	**0.09**	**38**		Pg	11 52 23.0	+0.4
BYL				IAML		11 52 25.4	
	comp=N,3μm,0.6s						
BYL				IAML		11 52 25.5	
	comp=E,4μm,0.6s						
UWB	**Uwekahuna B**	**0.09**	**25**		Pg	11 52 23.1	+0.4
UWB				IAML		11 52 25.2	
	comp=N,2μm,0.8s						
HATHI	**Halema'uma'u T**	**0.10**	**34**		Pg	11 52 23.1	+0.3
HATHI				IAML		11 52 26.1	
	comp=N,4μm,0.6s						
HATHI				IAML		11 52 26.0	
	comp=E,2μm,0.6s						
SBLHI	**Steaming Bluff**	**0.10**	**29**		Pg	11 52 23.1	+0.3
SBLHI				IAML		11 52 25.5	
	comp=N,3μm,0.7s						
SBLHI				IAML		11 52 25.8	
	comp=E,3μm,0.8s						
PUH	**Pauahi**	**0.10**	**70**		Pg	11 52 23.2	+0.4
HTC	**Hot Caves**	**0.12**	**216**		Pg	11 52 23.7	+0.6
RSD	**Rainshed**	**0.13**	**18**		Pg	11 52 23.6	+0.3
RSD				IAML		11 52 26.4	
	comp=N,1μm,1.0s						
AIN	**Ainahou**	**0.13**	**284**		Pg	11 52 24.1	+0.7
KNHH	**Kane Nui o Ham**	**0.15**	**74**		Pg	11 52 23.9	+0.3
MLH	**Mauna Loa**	**0.17**	**338**		Pg	11 52 24.7	+0.7
MLH				IAML		11 52 29.6	
	comp=E,1μm,0.4s						
STCH	**Steam Cracks**	**0.19**	**76**		Pg	11 52 24.5	+0.2
NPOC	**North of Pu'u**	**0.21**	**75**	Pg	Pg	11 52 24.4	-0.2
JCUZ	**Jacuzzi**	**0.21**	**78**		Pg	11 52 25.0	+0.3
JCUZ	**Jacuzzi**	**0.21**	**78**	IAML		11 52 29.7	
	comp=E,278nm,0.9s						
JCUZ				IAML		11 52 29.7	
	comp=N,303nm,1.0s						
KHU	**Kahuku**	**0.29**	**252**		Pg	11 52 26.7	+0.3
KHU				IAML		11 52 35.2	
	comp=E,530nm,2.2s						
MWH	**Moku'aweowe**	**0.30**	**299**		Pg	11 52 27.0	+0.4
MWH				IAML		11 52 36.5	
	comp=E,979nm,0.3s						
HMH	**Humu'ula Sheep**	**0.30**	**330**		Pg	11 52 26.6	-0.1
HMH				IAML		11 52 32.6	
	comp=E,572nm,0.4s						
HMH				IAML		11 52 35.9	
	comp=N,577nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.31**	**309**		Pg	11 52 26.5	-0.3
MLOA				IAML		11 52 36.5	
	comp=E,794nm,0.4s						
MLOA				IAML		11 52 36.7	
	comp=N,651nm,0.3s						
JOKA	**Jonika Flow**	**0.31**	**72**		Pg	11 52 26.4	-0.3
ALEP	**Alea Permanent**	**0.37**	**303**		Pg	11 52 27.6	-0.1
ALEP					Sg	11 52 31.9	-0.8
POHA	**Pohakuloa**	**0.46**	**334**		Pg	11 52 29.5	-0.1
CPH	**Captain Cook**	**0.58**	**285**		Pg	11 52 31.2	-0.6
HUH	**Hualalai**	**0.60**	**305**		Pg	11 52 32.5	+0.4
KHLU	**Kahalu`u**	**0.60**	**295**		Pg	11 52 31.9	-0.2
KHLU	**Kahalu`u**	**0.60**	**295**		Sg	11 52 40.8	+1.0
HPAH	**Hawaii Prepara**	**0.77**	**333**		Pg	11 52 33.8	-1.7
MHA	**Mahukona**	**1.01**	**327**	Pg	Pg	11 52 37.3	-2.6

*IDC **07** 12:03:15.1±2.7, 17°.11N×121°.08E, h92km±28km, mb3.2/5, mbtmp3.5/5, MS3.2/1, Error ellipse: s-maj=49.8km s-min=17.2km az=76.0*
ISC 07 12:03:15.5±1.1, 17°.08N±0°.09×121°.1E±0°.3, h100km, n7, σ0°.68/7, mb3.5/5, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.97**	**183**	P	**Pn**	**12 04 00.0**	**-0.9**
	139nm,0.3s,baz=283,slow=18,SNR=4.5						
TGY				S	**Sn**	**12 04 36.5**	**+0.6**
	152nm,0.3s,baz=28,slow=16,SNR=1.6						
KSRS	**Korea Array**	**21.17**	**15**	P	**P**	**12 07 52.5**	**-0.2**
	1.2nm,0.9s,baz=204,slow=11,SNR=4.3						
	1.2nm,0.9s						
WRA	**Warramunga Arr**	**39.03**	**160**	P	**P**	**12 10 33.0**	**+0.4**
	0.4nm,0.5s,baz=339,slow=9.1,SNR=7.0						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**42.39**	**162**	P	**P**	**12 11 00.7**	**+0.4**
	0.5nm,0.5s,baz=339,slow=7.1,SNR=12						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**43.59**	**321**	P	**P**	**12 11 10.2**	**+0.5**
	0.2nm,0.6s,baz=119,slow=8.9,SNR=2.1						
	0.2nm,0.6s						
AAK	**Ala-Archa**	**46.99**	**313**	LR	LR	12 31 45.3	
	comp=Z,28nm,19.7s,baz=200,slow=36						
KURBB	**Kurchatov Arra**	**47.63**	**324**	P	**P**	**12 11 41.3**	**-0.2**
	0.3nm,0.3s,baz=118,slow=7.9,SNR=1.5						
	0.3nm,0.3s						

*IDC **07** 12:23:36.0±1.2, 55°.50S×29°.12W, h0km, mb3.9/2, mbtmp4.0/3, ML4.2/1, MS3.0/6, Error ellipse: s-maj=69.0km s-min=28.9km az=88.0*
ISC 07 12:23:39.8±1.4, 55°.5S±0°.2×29°.1W±0°.5, h24km, n17, σ0°.74/9, MS2.9/5, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.87**	**159**	⇑P	**P**	**12 27 47.7**	**+0.8**
	comp=Z,5.6nm,0.8s						
VNA2	**Neumayer--Watz**	**18.11**	**157**	⇑P	**P**	**12 27 49.6**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=317,slow=13						
SNAA	**Sanae**	**19.68**	**155**	⇑P	**P**	**12 28 06.6**	**-0.2**
	comp=Z,94nm,0.5s						
SNAA	**Sanae**	**19.68**	**155**	P	**P**	**12 28 06.5**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=316,slow=12,SNR=33						
SNAA				LR	LR	12 34 36.8	
	comp=Z,38nm,18.5s,baz=350,slow=34						
	comp=Z,3.1nm,0.4s						
TROLL	**Troll, Antarti**	**21.21**	**153**	⇑P	**P**	**12 28 22.8**	**-0.7**
	comp=Z,362nm,0.7s						
PLCA	**Paso Flores**	**30.84**	**281**	LR	LR	12 42 22.8	
	comp=Z,16nm,18.1s,baz=171,slow=36						
QSPA	**South Pole Qui**	**34.74**	**180**	P	**P**	**12 30 28.1**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=231,slow=2.3,SNR=4.0						
	comp=Z,1.5nm,0.8s						
CPUP	**Villa Florida**	**35.65**	**313**	LR	LR	12 43 16.1	
	comp=Z,21nm,20.5s,baz=210,slow=33						
CFA	**Coronel Fontan**	**36.35**	**295**	LR	LR	12 45 38.2	
	comp=Z,22nm,20.9s,baz=146,slow=36						
LVC	**Limon Verde**	**44.10**	**302**	LR	LR	12 51 28.5	
	comp=Z,12nm,20.1s,baz=212,slow=38						
H10N1	**ASCENSION HYDR**	**48.94**	**19**	T	T	13 25 16.2	
	baz=190						
H10N3	**ASCENSION HYDR**	**48.94**	**19**	T	T	13 25 17.3	
	baz=190,slow=74,SNR=5.1						
H10N2	**ASCENSION HYDR**	**48.95**	**19**	T	T	13 25 17.5	
	baz=190,slow=74,SNR=3.7						
SDV	**Santo Domingo**	**72.87**	**317**	LR	LR	13 10 35.0	
	comp=Z,14nm,18.0s,baz=82,slow=39						
TORD	**Torodi Ar. Bea**	**73.14**	**31**	P	**P**	**12 35 08.8**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=200,slow=6.3,SNR=6.3						
	comp=Z,0.8nm,0.6s						
ILAR	**Eielson Array**	**148.95**	**313**	PKPbc	**PKPbc**	**12 43 23.6**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=126,slow=1.8,SNR=30						
SONM	**Songino Array**	**151.77**	**87**	PKPbc	**PKPbc**	**12 43 30.4**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=236,slow=2.6,SNR=3.8						

*UUSS **07** 13:33:20.9±0.7, 38°.035N±0°.010×113°.14W±0°.02, h8km±8km, ML3.1/15, ML3.1/72(NEIC), Error ellipse: s-maj=2.1km s-min=1.4km az=100.0*
*ANF **07** 13:33:20.8±0.5, 38°.05N×113°.13W, h10km, ML3.6/10, Error ellipse: s-maj=5.4km s-min=4.8km az=13.0*
*NEIC **07** 13:33:20.8±0.6, 38°.047N±0°.010×113°.17W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=182.0*
ISC 07 13:33:20.9±1.0, 38°.05N±0°.02×113°.15W±0°.02, h7km±11km, n58, σ1°.21/65, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWU	**Dry Willow Pea**	**0.13**	**65**		**Pg**	**13 33 24.6**	**+0.8**
ARUT	**Antelope Range**	**0.35**	**221**		**Pg**	**13 33 28.3**	**+0.6**
SZCU	**Shurtz Canyon**	**0.46**	**174**		**Pg**	**13 33 29.6**	**-0.2**
SZCU	**Shurtz Canyon**	**0.46**	**174**		**Sg**	**13 33 36.0**	**+0.3**
NMUT	**North Mineral**	**0.52**	**27**		**Pg**	**13 33 31.4**	**+0.3**
CCUT	**Cedar City**	**0.53**	**199**		**Pg**	**13 33 31.0**	**0.0**
CCUT	**Cedar City**	**0.53**	**199**		**Sg**	**13 33 38.5**	**+0.5**
IMU	**Iron Mountain**	**0.58**	**360**		**Pg**	**13 33 32.8**	**+0.6**
ZNPU	**Zion National**	**0.69**	**178**		**Pg**	**13 33 34.1**	**-0.1**
PSUT	**Pine Spring**	**0.73**	**311**		**Pb**	**13 33 35.7**	**-0.5**
PSUT				IAML		13 33 46.6	
	comp=N,575nm,0.4s						
PSUT				IAML		13 33 47.4	
	comp=E,393nm,0.2s						
PSUT	**Pine Spring**	**0.73**	**311**		**Sb**	**13 33 46.1**	**-0.4**
MTPU	**Mount Pierson**	**0.76**	**90**	Pg	**Pb**	**13 33 36.0**	**-0.

P17A	**Butcher Ranch,**	**2.36**	**52**		**Pn**	**13 34 00.9 +0.6**
P17A				IAML		13 34 36.2
comp=N,89nm,0.8s						
V12A	**Nelson**	**2.69**	**211**		**Pn**	**13 34 03.2 -1.4**
V12A				IAML		13 34 46.2
comp=E,53nm,0.7s						
TPNV	**Topopah Spring**	**2.70**	**247**		**Pn**	**13 34 04.4 -0.5**
TPNV				IAML		13 34 51.1
comp=E,120nm,0.5s						
TPNV	**Topopah Spring**	**2.70**	**247**	P	**Pn**	**13 34 04.8 -0.1**
baz=65,SNR=14						
TPNV				Sb	**Sg**	**13 34 46.2 -1.4**
baz=65						
BGU	**Big Grassy Mou**	**2.87**	**2**		**Pn**	**13 34 07.2 -0.1**
BGU				IAML		13 34 59.1
comp=E,46nm,0.4s						
WUAZ	**Wupatki**	**2.90**	**150**	P	**Pn**	**13 34 07.8 +0.1**
baz=331,SNR=67						
WUAZ				Sb	**Sb**	**13 34 50.2 +1.4**
baz=331						
ELK	**Elko**	**3.14**	**330**	Pn	**Pn**	**13 34 11.3 +0.3**
TPH	**Tonopah**	**3.21**	**272**		**Pn**	**13 34 12.1 +0.1**
SPUT	**South Promonto**	**3.30**	**9**		**Pn**	**13 34 13.1 -0.1**
SPUT				IAML		13 35 13.1
comp=N,30nm,0.9s						
GMN	**Gold Mountain**	**3.34**	**258**		**Pn**	**13 34 13.8 0.0**
GMN				IAML		13 35 14.2
comp=N,41nm,0.6s						
GMN				IAML		13 35 15.6
comp=E,22nm,0.7s						
TUQ	**Turquoise Moun**	**3.43**	**221**	P	**Pn**	**13 34 15.1 +0.2**
baz=40						
TUQ				Sb	**Sb**	**13 35 06.2 +2.2**
baz=40						
NEE2	**Needles Airpor**	**3.48**	**200**	Sb	**Sb**	**13 35 08.5 +3.1**
baz=20						
MVCO	**Mesa Verde**	**3.79**	**101**	Pn	**Pn**	**13 34 19.5 -0.4**
MVCO				IAML		13 35 26.6
comp=E,45nm,0.8s						
MVCO	**Mesa Verde**	**3.79**	**101**	Pg	**Pg**	**13 34 31.3 -2.1**
baz=284						
MVCO				Sb	**Sb**	**13 35 17.5 +3.1**
baz=284						
GMRC	**Granite Mounta**	**3.83**	**213**	Sb	**Sg**	**13 35 20.6 -3.5**
baz=31						
X16A	**Lo Mia Camp, P**	**3.88**	**159**	Pn	**Pn**	**13 34 19.7 -1.4**
X16A				IAML		13 35 25.7
comp=E,33nm,0.5s						
X16A				IAML		13 35 28.1
comp=N,24nm,0.5s						
MPMC	**Manual Prospec**	**4.00**	**242**	Pg	**Pg**	**13 34 36.0 -1.4**
baz=59						
MPMC				Sb	**Sb**	**13 35 23.9 +3.5**
baz=59						
KVN	**Kaiserville**	**4.01**	**286**		**Pn**	**13 34 23.4 +0.5**
KVN				IAML		13 35 29.8
comp=N,34nm,0.5s						
KVN				IAML		13 35 30.8
comp=E,35nm,0.5s						
W18A	**Petrified Fore**	**4.01**	**136**	Sb	**Sb**	**13 35 24.2 +3.3**
baz=318						
O20A	**White River Ci**	**4.35**	**60**	Pg	**Pg**	**13 34 42.9 -1.3**
baz=243						
X18A	**Snowflake**	**4.36**	**143**		**Pn**	**13 34 27.8 0.0**
S22A	**4UR Ranch, Cre**	**5.01**	**92**	Pn	**Pn**	**13 34 34.8 -2.0**

*IDC **07** 13:41:58.5±1.1, 55°.56S×144°.65W, h0km, mb3.9/4, mbtmp3.9/4, MS3.9/13, Error ellipse: s-maj=41.9km s-min=29.0km az=44.0*

ISC 07 13:41:59.4±1.3, 55°.5S±0°.3×144°.4W±0°.3, h10km, n40, σ0.56/10, mb4.1/4, MS4.0/17, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**32.33**	**351**	*e*LR	LR	13 56 47.2	
comp=Z,3μm,27.5s							
TBI				*e*LR	LR	13 57 04.5	
comp=Z,8μm,23.5s							
TBI	**Tubuai**	**32.33**	**351**	*e*T	T	14 22 39.8	
62nm,0.3s							
QSPA	**South Pole Qui**	**34.65**	**180**	P	**P**	**13 48 49.2 +0.6**	
3.0nm,1.1s,baz=69,slow=1.9,SNR=8.2							
QSPA				LR	LR	14 01 03.8	
comp=Z,286nm,18.2s,baz=64,slow=33							
3.0nm,1.1s							
RAR	**Rarotonga**	**36.13**	**335**	LR	LR	13 59 16.2	
comp=Z,356nm,19.3s,baz=174,slow=29							
TVO	**Taravao**	**37.83**	**352**	*e*T	T	14 29 30.1	
0.7nm,0.2s							
RPN	**Rapa Nui**	**38.01**	**56**	LR	LR	14 00 53.6	
comp=Z,104nm,20.9s,baz=204,slow=30							
PPT2	**Papeete2**	**38.05**	**352**	*e*LR	LR	13 59 30.1	
comp=Z,436nm,26.8s							
PPT2				*e*LR	LR	13 59 49.7	
comp=Z,323nm,22.5s							
PPT	**Papeete**	**38.07**	**352**	LR	LR	14 00 21.5	
comp=Z,267nm,20.1s,baz=170,slow=29							
PMSA	**Palmer Station**	**38.39**	**137**	LR	LR	14 00 46.7	
comp=Z,74nm,21.5s,baz=238,slow=29							
PMOR	**Pomariorio Ree**	**40.51**	**355**	*e*T	T	14 32 51.9	
5.7nm,0.3s							
TAOE	**Nuku Hiva Isla**	**46.65**	**6**	*e*LR	LR	14 03 58.1	
comp=Z,275nm,23.2s							
DZM	**Mont Dzumac**	**49.27**	**292**	*e*LR	LR	14 05 06.1	
comp=Z,186nm,23.8s							
H03S2	**Juan Fernandez**	**49.29**	**92**	T	T	14 44 05.6	
baz=220,slow=74							
H03S1	**Juan Fernandez**	**49.29**	**92**	T	T	14 44 04.8	
baz=220,slow=74							
H03S3	**Juan Fernandez**	**49.30**	**92**	T	T	14 44 03.7	
baz=220,slow=74							
H03N3	**Juan Fernandez**	**49.57**	**92**	T	T	14 44 26.4	
baz=224,slow=72							
H03N2	**Juan Fernandez**	**49.57**	**92**	T	T	14 44 24.4	
baz=224,slow=72							
H03N1	**Juan Fernandez**	**49.58**	**92**	T	T	14 44 23.6	
baz=224,slow=72							
SNAA	**Sanae**	**50.27**	**165**	P	**P**	**13 50 54.7 -0.6**	
0.5nm,0.6s,baz=212,slow=11,SNR=2.3							
SNAA				LR	LR	14 11 04.2	
comp=Z,80nm,18.8s,baz=212,slow=35							
0.5nm,0.6s							
MAW	**Mawson**	**55.54**	**192**	LR	LR	14 12 47.4	
comp=Z,132nm,19.3s,baz=152,slow=33							
LVC	**Limon Verde**	**63.52**	**92**	LR	LR	14 13 52.6	
comp=Z,70nm,20.6s,baz=223,slow=30							
ASAR	**Alice Springs**	**66.19**	**263**	P	**P**	**13 52 47.0 -0.3**	
1.4nm,0.6s,baz=139,slow=6.4,SNR=31							
1.4nm,0.6s							
NNA	**Nana**	**67.54**	**78**	LR	LR	14 16 01.8	
comp=Z,91nm,18.4s,baz=210,slow=30							
H01W1	**Cape Leeuwin H**	**67.94**	**240**	T	T	15 07 25.7	
baz=143,slow=76,SNR=186							
H01W2	**Cape Leeuwin H**	**67.94**	**240**	T	T	15 07 33.4	
baz=143,slow=76,SNR=201							
H01W3	**Cape Leeuwin H**	**67.95**	**240**	T	T	15 07 25.2	
baz=143,slow=76,SNR=132							
WRA	**Warramunga Arr**	**68.88**	**265**	P	**P**	**13 53 04.1 -0.1**	
1.1nm,0.8s,baz=147,slow=5.6,SNR=12							
1.1nm,0.8s							
SUR	**Sutherland**	**91.56**	**168**	LR	LR	14 32 43.6	
comp=Z,87nm,18.9s,baz=170,slow=33							
PCRV	**Puerto La Cruz**	**92.58**	**76**	LR	LR	14 31 02.4	
comp=Z,49nm,20.8s,slow=32							
MDP	**Montagnes des**	**95.17**	**89**	LR	LR	14 33 46.4	
comp=Z,52nm,18.2s,baz=172,slow=33							
BOSA	**Boshof**	**95.76**	**171**	LR	LR	14 35 51.2	
comp=Z,63nm,18.6s,baz=184,slow=34							
H10N3	**ASCENSION HYDR**	**104.49**	**128**	T	T	15 53 34.0	
baz=206,slow=74,SNR=7.1							
H10N1	**ASCENSION HYDR**	**104.50**	**128**	T	T	15 53 42.0	
baz=206,slow=74,SNR=8.2							
H10N2	**ASCENSION HYDR**	**104.51**	**128**	T	T	15 53 42.1	
baz=206,slow=74,SNR=7.9							
ILAR	**Eielson Array**	**119.96**	**359**	PKP	**PKiKP**	**14 00 49.3 +0.7**	
0.6nm,0.9s,baz=206,slow=1.1,SNR=5.4							
ESDC	**Sonseca Array**	**149.49**	**105**	PKPbc	**PKiKP**	**14 01 49.1 -0.1**	
2.0nm,0.9s,baz=244,slow=1.9,SNR=11							
MKAR	**Makanchi Array**	**149.95**	**273**	PKPbc	**PKiKP**	**14 01 49.5 -0.4**	
4.0nm,1.0s,baz=119,slow=4.6,SNR=16							
ZALV	**Zalesovo Beam**	**152.00**	**288**	PKPbc	**PKPbc**	**14 01 52.9 -0.6**	
2.0nm,0.8s,baz=147,slow=3.0,SNR=6.2							
KURBB	**Kurchatov Arra**	**154.06**	**277**	PKPbc	**PKiKP**	**14 01 58.3 +0.1**	
1.0nm,0.8s,baz=116,slow=2.1,SNR=8.1							
BVAR	**Borovoye Array**	**159.65**	**278**	PKPab	**PKPab**	**14 02 36.5 +0.6**	
1.0nm,0.8s,baz=123,slow=4.3,SNR=3.7							

*IDC **07** 13:51:30.5±2.9, 30°.55S×177°.58W, h0km, mb4.0/3, mbtmp4.0/4, ML3.1/1, MS3.9/4, Error ellipse: s-maj=64.0km s-min=25.4km az=110.0*

*NEIC **07** 13:51:32.4±2.6, 30°.52S±0°.07×177°.7W±0°.2, h10km±2km, mb4.3/14, Error ellipse: s-maj=27.6km s-min=12.3km az=96.0*

ISC 07 13:51:32.2±1.4, 30°.48S±0°.07×177°.7W±0°.2, h10km, n27, σ1.15/23, mb4.2/11, MS4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.24**	**352**	Pn	**Pb**	**13 51 56.2 +0.5**	
RAO	**Raoul Island**	**1.24**	**352**	Pn	**Pb**	**13 51 56.4 +0.8**	
200nm,0.3s,baz=12,slow=21,SNR=17							
RAO				Sn	**Sb**	**13 52 09.8 -1.8**	
228nm,0.3s,baz=33,slow=23,SNR=7.3							
URZ	**Urewera**	**8.85**	**207**	Pn	**Pn**	**13 53 39.1 -1.0**	
0.2nm,0.3s,baz=12,slow=19,SNR=1.5							
URZ				Sn	Sn	13 55 11.7 -8.3	
19nm,0.3s,baz=203,slow=22,SNR=7.4							
4.9nm,0.9s							
HIZ	**Hauiti**	**10.08**	**215**	Pn	**Pn**	**13 53 56.5 -0.4**	
BFZ	**Birch Farm**	**11.29**	**204**	Pn	**Pn**	**13 54 12.1 -1.5**	
RPZ	**Rata Peaks**	**15.93**	**211**	Sn	Sn	13 57 54.8 -18	
0.5nm,0.3s,baz=199,slow=23,SNR=2.4							
EIDS	**Eidsvold**	**27.97**	**273**	P	**P**	**13 57 24.6 +1.4**	
EIDS				IAmb	IAmb	13 57 36.9	
comp=Z,9.0nm,1.4s							
CTA	**Charters Tower**	**34.04**	**279**	LR	LR	14 11 13.5	
comp=Z,84nm,18.1s,baz=103,slow=35							
CTAO	**Charters Tower**	**34.04**	**279**	P	**P**	**13 58 18.2 +1.5**	
CTAO				IAmb	IAmb	13 58 27.7	
comp=Z,6.7nm,1.1s							
STKA	**Stephens Creek**	**34.69**	**257**	P	**P**	**13 58 22.5 +0.3**	
STKA	**Stephens Creek**	**34.69**	**257**	P	**P**	**13 58 24.1 +1.9**	
comp=Z,2.7nm,0.7s,baz=84,slow=11,SNR=6.6							
STKA				LR	LR	14 12 44.7	
comp=Z,272nm,18.0s,baz=138,slow=37							
comp=Z,2.7nm,0.7s							
BBOO	**Buckleboo**	**39.17**	**254**	P	**P**	**13 58 59.5 -0.9**	
BBOO				IAmb	IAmb	13 59 04.8	
comp=Z,9.1nm,1.1s							
COEN	**Coen**	**39.52**	**286**	P	P	13 59 01.1 -2.3	
AS31	**Alice Springs**	**43.34**	**267**	P	**P**	**13 59 33.2 -1.6**	
ASAR	**Alice Springs**	**43.34**	**267**	P	P	13 59 32.6 -2.2	
ASAR	**Alice Springs**	**43.34**	**267**	P	**P**	**13 59 35.0 +0.2**	
comp=Z,0.7nm,0.6s,baz=106,slow=7.2,SNR=7.7							
ASAR				LR	LR	14 17 45.0	
comp=Z,162nm,18.1s,baz=128,slow=36							
comp=Z,0.7nm,0.6s							
WR0	**Warramunga Arr**	**44.16**	**272**	P	**P**	**13 59 41.5 +0.2**	
WR0				IAmb	IAmb	13 59 44.5	
comp=Z,8.4nm,1.4s							
WB2	**Warramunga Arr**	**44.33**	**272**	P	**P**	**13 59 42.2 -0.5**	
WB2				IAmb	IAmb	13 59 57.5	
comp=Z,4.0nm,1.1s							
WRAB	**Tennant Creek**	**44.33**	**272**	P	**P**	**13 59 42.5 -0.2**	
WRAB				IAmb	IAmb	13 59 58.6	
comp=Z,7.5nm,1.4s							
WRA	**Warramunga Arr**	**44.34**	**272**	P	**P**	**13 59 41.4 -1.4**	
WRA	**Warramunga Arr**	**44.34**	**272**	P	**P**	**13 59 43.0 +0.3**	
comp=Z,1.2nm,0.4s,baz=110,slow=8.0,SNR=28							
comp=Z,1.2nm,0.4s							
WB0	**Warramunga Arr**	**44.36**	**272**	P	**P**	**13 59 42.9 -0.1**	
WB0				IAmb	IAmb	13 59 44.9	
comp=Z,3.9nm,1.1s							
FORT	**Forrest**	**46.25**	**255**	P	**P**	**13 59 56.3 -1.6**	
CASY	**Casey**	**55.18**	**208**	P	**P**	**14 01 04.2 -0.4**	
CASY				IAmb	IAmb	14 01 06.1	
comp=Z,1.5nm,0.7s							
QSPA	**South Pole Qui**	**59.63**	**180**	P	**P**	**14 01 37.6 +1.4**	
ILAR	**Eielson Array**	**97.95**	**13**	LR	LR	14 42 43.6	
comp=Z,78nm,19.2s,baz=178,slow=31							
FINES	**FINESS Array B**	**145.30**	**340**	PKPbc	**PKPbc**	**14 11 08.8 -0.5**	
comp=Z,1.4nm,0.4s,baz=56,slow=3.5,SNR=14							

*WEL **07** 13:52:20.9±1.4, 33°S±6°×17°7W±2°0, h33km, M4.7/6, mB4.9/4, ML5.0/9, MLvv4.8/6, Mw(mB)4.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=103.5, confirmed*

*NEIC **07** 13:52:38.2±1.5, 33°.40S±0°.08×179°.8E±0°.2, h32km±5km, mb4.5/17, Error ellipse: s-maj=21.3km s-min=11.1km az=100.0*

*IDC **07** 13:52:59.3±6.8, 32°.33S×179°.45W, h296km±60km, mb3.7/6, mbtmp4.4/7, Error ellipse: s-maj=36.0km s-min=16.9km az=64.0*

ISC 07 13:52:22.3±0.8, 32°.82S±0°.07×178°.3W±0°.1, h10km, n68, σ1.50/55, mb4.6/15, 4D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.56**	**5**	P	**Pn**	**13 53 17.3 -0.3**	
GLKZ				S	**Sn**	**13 53 57.0 -2.7**	
RAO	**Raoul Island**	**3.57**	**5**	Pn	Pg	13 53 44.7 +14	
MXZ	**Matakaoa Point**	**5.50**	**210**	Pn	**Pn**	**13 53 40.7 -3.4**	
MXZ	**Matakaoa Point**	**5.50**	**210**	P	**Pn**	**13 53 42.7 -1.4**	
MXZ				S	**Sn**	**13 54 46.2 -1.2**	
HAZ	**Te Kaha**	**5.88**	**212**	P	**Pn**	**13 53 50.6 +1.1**	
PUZ	**Puketiti**	**5.95**	**207**	P	**Pn**	**13 53 49.5 -1.0**	
PUZ				S	**Sn**	**13 54 56.8 -1.9**	
RUGZ	**Raukumara Rang**	**6.10**	**212**	P	**Pn**	**13 53 52.5 -0.2**	
CNGZ	**Carnagh Statio**	**6.33**	**206**	P	**Pn**	**13 53 54.0 -1.7**	
TKGZ	**Te Karaka**	**6.43**	**208**	P	**Pn**	**13 53 57.1 0.0**	
MWZ	**Matawai**	**6.48**	**211**	P	**Pn**	**13 53 58.1 +0.4**	
OPRZ	**Ohinepanea**	**6.55**	**219**	P	**Pn**	**13 54 00.6 +2.0**	
URZ	**Urewera**	**6.60**	**213**	P	**Pn**	**13 53 58.8 -0.5**	
RAGZ	**Rawiri**	**6.66**	**211**	P	**Pn**	**13 54 01.0 +0.8**	
RIGZ	**Rimuhau**	**6.70**	**208**	P	**Pn**	**13 53 60.0 -0.7**	
WCZ	**Waipu Caves**	**6.85**	**241**	P	Pn	13 54 10.1 +7.4	
SNGZ	**Shannon Statio**	**6.93**	**210**	P	**Pn**	**13 54 04.6 +0.7**	
RTZ	**Ruatahuna**	**6.95**	**212**		**Pn**	**13 54 02.7 -1.5**	
TOZ	**Tahuroa Road**	**7.06**	**224**	Pn	Pn	13 54 00.2 -5.5	
OUZ	**Omahuta**	**7.16**	**248**	P	Pn	13 54 12.1 +5.1	
BKZ	**Black Stump Fm**	**7.62**	**212**		**Pn**	**13 54 11.8 -1.5**	
BFZ	**Birch Farm**	**8.99**	**208**	Pn	**Pn**	**13 54 30.0 -2.2**	
MRZ	**Mangatainoka R**	**9.25**	**210**	Pn	**Pn**	**13 54 33.7 -1.9**	
OUENC	**Ouen Island, N**	**16.75**	**304**	Pn	**P**	**13 56 18.2 -1.2**	
OUENC				IAmb	IAmb	13 56 25.8	
comp=Z,39nm,0.9s							
DZM	**Mont Dzumac**	**17.26**	**305**		**P**	**13 56 27.7 +2.6**	
DZM	**Mont Dzumac**	**17.26**	**305**	P	**P**	**13 56 29.2 +4.2**	
comp=Z,26nm,1.0s,baz=111,slow=16,SNR=7.7							
KOUNC	**Koumac, New Ca**	**19.77**	**304**	P	**Pn**	**13 56 53.1 -0.9**	
KOUNC				IAmb	IAmb	13 56 58.0	
comp=Z,22nm,0.9s							
EIDS	**Eidsvold**	**27.72**	**278**	P	**P**	**13 58 11.2 +0.4**	
CTAO	**Charters Tower**	**34.03**	**283**	P	**P**	**13 59 06.3 -0.4**	
COEN	**Coen**	**39.77**	**289**	P	**P**	**13 59 56.6 +1.1**	
COEN				IAmb	IAmb	14 00 25.8	
comp=Z,13nm,1.1s							
AS31	**Alice Springs**	**42.80**	**270**	P	**P**	**14 00 20.2 -0.2**	
ASAR	**Alice Springs**	**42.80**	**270**	P	**P**	**14 00 20.1 -0.4**	
ASAR	**Alice Springs**	**42.80**	**270**	P	**P**	**14 00 20.5 +0.1**	
comp=Z,5.9nm,0.9s,baz=112,slow=7.5,SNR=26							
comp=Z,5.9nm,0.9s							
WR0	**Warramunga Arr**	**43.83**	**275**	P	**P**	**14 00 28.5 -0.2**	
WR0				IAmb	IAmb	14 00 45.2	
comp=Z,4.7nm,0.7s							
WB2	**Warramunga Arr**	**44.00**	**275**	P	**P**	**14 00 30.3 +0.2**	
WB2				IAmb	IAmb	14 00 30.6	
comp=Z,7.8nm,0.6s							
WRAB	**Tennant Creek**	**44.00**	**275**	P	**P**	**14 00 29.5 -0.6**	
WRAB				IAmb	IAmb	14 00 31.7	
comp=Z,7.1nm,0.8s							
WRA	**Warramunga Arr**	**44.01**	**275**	P	**P**	**14 00 30.2 +0.1**	
WRA	**Warramunga Arr**	**44.01**	**275**	P	**P**	**14 00 30.1 -0.1**	
comp=Z,6.0nm,0.6s,baz=115,slow=7.6,SNR=46							
comp=Z,6.0nm,0.6s							
WB0	**Warramunga Arr**	**44.04**	**275**	P	**P**	**14 00 29.9 -0.5**	
WB0				IAmb	IAmb	14 00 30.9	
comp=Z,8.6nm,0.6s							
MTN	**Manton Dam**	**50.17**	**281**	P	**P**	**14 01 19.2 +0.8**	
KNRA	**Kununurra**	**50.70**	**276**	P	**P**	**14 01 21.9 -0.4**	
CASY	**Casey**	**52.90**	**209**	P	**P**	**14 01 38.9 +0.8**	
CASY				IAmb	IAmb	14 01 50.9	
comp=Z,3.7nm,0.8s							
QSPA	**South Pole Qui**	**57.30**	**180**	P	P	14 02 20.6 +11	
QSPA	**South Pole Qui**	**57.30**	**180**	P	P	14 02 20.7 +11	
comp=Z,9.6nm,0.7s,baz=16,slow=1.9,SNR=21							
comp=Z,9.6nm,0.7s							
MAW	**Mawson**	**69.97**	**201**	P	P	14 03 38.0 +4.6	
comp=Z,1.7nm,0.8s,baz=146,slow=7.3,SNR=1.9							
comp=Z,1.7nm,0.8s							
SNAA	**Sanae**	**75.75**	**179**	P	P	14 04 17.3 +10	
SNAA				IAmb	IAmb	14 04 19.6	
comp=Z,6.6nm,1.1s							
SNAA	**Sanae**	**75.75**	**179**	⇓P	P	14 04 18.4 +11	
comp=Z,83nm,0.9s							
SNAA	**Sanae**	**75.75**	**179**	P	P	14 04 14.6 +6.8	
comp=Z,3.4nm,0.9s,baz=207,slow=11,SNR=6.4							
comp=Z,3.4nm,0.9s							
VNA3	**Neumayer Olymp**	**75.91**	**176**	⇓P	P	14 04 19.9 +11	
comp=Z,12nm,0.7s							
VNA2	**Neumayer--Watz**	**76.34**	**177**	⇓P	P	14 04 22.4 +11	
comp=Z,12nm,0.6s,baz=177,slow=5.0							
VNA1	**Neumayer--Stat**	**76.58**	**177**	⇓P	P	14 04 23.8 +11	
comp=Z,8.5nm,0.8s							
H03S2	**Juan Fernandez**	**79.33**	**123**	T	T	15 32 55.5	
baz=238,slow=74,SNR=24							
H03S1	**Juan Fernandez**	**79.34**	**123**	T	T	15 32 54.4	
baz=238,slow=74,SNR=18							
H03S3	**Juan Fernandez**	**79.35**	**123**	T	T	15 32 55.6	
baz=238,slow=74,SNR=24							
NVAR	**Mina Array Bea**	**90.17**	**43**	P	**P**	**14 05 26.4 +3.4**	
comp=Z,0.4nm,0.8s,baz=216,slow=4.5,SNR=2.2							
comp=Z,0.4nm,0.8s							
MKAR	**Makanchi Array**	**119.13**	**309**	PKP	**PKPdf**	**14 11 09.8 -1.4**	
comp=Z,0.4nm,0.6s,baz=80,slow=1.6,SNR=2.9							
ZALV	**Zalesovo Beam**	**119.67**	**318**	PKP	**PKPdf**	**14 11 10.2 -1.7**	
comp=Z,0.2nm,0.3s,baz=50,slow=4.5,SNR=1.6							
KURBB	**Kurchatov Arra**	**122.56**	**313**	PKP	**PKPdf**	**14 11 17.3 -0.3**	
comp=Z,0.7nm,0.3s,baz=98,slow=1.9,SNR=9.3							
BVAR	**Borovoye Array**	**127.95**	**314**	PKP	**PKiKP**	**14 11 28.4 0.0**	
comp=Z,0.9nm,0.6s,baz=94,slow=2.0,SNR=3.8							
ARCES	**ARCESS Array B**	**140.89**	**347**	PKP	**PKPdf**	**14 11 51.3 -0.3**	
comp=Z,1.9nm,0.8s,baz=3.8,slow=3.6,SNR=3.6							
KBZ	**Khabaz**	**146.21**	**301**	PKPbc	**PKPbc**	**14 12 02.2 -0.4**	
comp=Z,1.6nm,0.8s,baz=197,slow=2.3,SNR=2.5							
FINES	**FINESS Array B**	**147.32**	**338**	PKPbc	**PKPbc**	**14 12 05.4 +0.1**	
comp=Z,4.7nm,0.5s,baz=48,slow=3.6,SNR=15							
NB2	**NORSAR Subarra**	**151.10**	**350**	PKP	**PKiKP**	**14 12 16.1 +0.6**	
comp=Z,1.1nm,0.9s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**151.10**	**350**	PKPbc	**PKPbc**	**14 12 13.7 -1.2**	
comp=Z,1.0nm,0.7s,baz=15,slow=4.6,SNR=6.2							
HFS	**Hagfors**	**151.56**	**347**	PKPbc	**PKiKP**	**14 12 16.6 +0.2**	
comp=Z,3.9nm,0.9s,baz=340,slow=3.4,SNR=2.7							
MMAI	**Mount Meron Ar**	**151.79**	**280**	PKPbc	**PKPbc**	**14 12 15.0 -2.5**	
comp=Z,3.1nm,0.8s,baz=277,slow=1.3,SNR=7.9							
AKASG	**Malin Array Be**	**153.03**	**320**	PKPbc	**PKiKP**	**14 12 19.7 0.0**	
comp=Z,0.3nm,0.3s,baz=40,slow=2.6,SNR=1.7							
BRTR	**Keskin Array B**	**153.46**	**294**	PKPbc	**PKiKP**	**14 12 21.0 -0.2**	
comp=Z,0.9nm,0.7s,baz=93,slow=4.9,SNR=4.5							
TORD	**Torodi Ar. Bea**	**160.42**	**180**	PKPab	**PKPab**	**14 13 06.9 +3.4**	
comp=Z,0.5nm,0.7s,baz=145,slow=5.3,SNR=2.0							

*IDC **07** 14:13:25.1±0.5, 30°.33S×177°.22W, h0km, mb4.6/15, mbtmp4.5/16, ML4.8/1, MS4.0/38, Error ellipse: s-maj=20.7km s-min=15.3km az=73.0*

*NEIC **07** 14:13:26.5±2.2, 30°.45S±0°.07×177°.3W±0°.1, h10km±1km, mb4.9/47, Error ellipse: s-maj=18.5km s-min=11.4km az=90.0*

*NOU **07** 14:13:27.4, 30°.89S×176°.65W, h26km, mb4.8/30, Kermadec Islands Region*

*GCMT **07** 14:13:29.5±0.4, 30°.42S±0°.04×176°.85W±0°.03, h22km±1km, MW4.8/68, Moment Tensor Solution. s22,c24; s68,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.20±.18; $M_{\theta\theta}$-0.92±.12; $M_{\phi\phi}$-1.28±.11; $M_{r\theta}$-0.44±.20; $M_{\phi\theta}$1.01±.07; $M_{\phi r}$0.85±.16; Best double couple: $M_0$2.36700×10^{16} NP1:ϕ_s325.00000°, δ57.00000°, λ95.00000°. NP2: ϕ_s135.00000°, δ33.00000°, λ82.00000°. Principal axes: T 2.4120, Plg77.0000°, Azm252.0000°; N -0.0900, Plg4.0000°, Azm142.0000°; P -2.3220, Plg12.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 14:13:28.3±0.4, 30°.86S±0°.07×176°.89W±0°.08, h35km, n244, σ2.22/187, mb4.9/50, MS4.1/37, 5C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.83**	**330**	P	Pn	14 13 50.3 -6.9	
GLKZ				S	Sn	14 14 06.3 -13	
RAO	**Raoul Island**	**1.83**	**331**	Pn	Pn	14 13 49.9 -7.4	
RAO	**Raoul Island**	**1.83**	**331**	Pn	Pn	14 13 50.2 -7.1	
1μm,0.3s,baz=132,slow=12,SNR=66							
RAO				Sn	Sn	14 14 01.5 -18	
2μm,0.3s,baz=257,slow=23,SNR=12							
RAO				LR	LR	14 14 16.3	
comp=Z,906nm,20.1s,baz=192,slow=42							
MXZ	**Matakaoa Point**	**7.78**	**209**	Pn	**Pn**	**14 15 19.8 +0.9**	
MXZ	**Matakaoa Point**	**7.78**	**209**	P	**Pn**	**14 15 20.3 +1.4**	
WMGZ	**Waiomatatini S**	**7.95**	**208**	P	**Pn**	**14 15 22

MQZ McQueen's Vall 15.27 210 P **Pn 14 16 58.4 -2.7**
MHCZ Mount Hutt 15.62 213 P **Pn 14 17 06.2 +0.5**
WVZ Waitaha Valley 15.67 216 P **P 14 17 08.5 -1.6**
RPZ Rata Peaks 16.00 213 Pn **Pn 14 17 10.8 +0.3**
RPZ Rata Peaks 16.00 213 P **Pn 14 17 10.3 -0.2**
53nm,2.2s
RPZ Rata Peaks 16.00 213 P **Pn 14 17 10.5 -0.1**
RPZ Rata Peaks 16.00 213 Pn **Pn 14 17 10.8 +0.3**
2.7nm,0.3s,baz=63,slow=6.8,SNR=11
RPZ Sn **Sn 14 19 58.0 -8.7**
1.5nm,0.3s,baz=147,slow=23,SNR=7.3
ARCZ Arundel 16.12 213 P **Pn 14 17 11.2 -0.9**
FOZ Fox Glacier 16.47 216 P **P 14 17 18.8 -0.1**
LBZ Lake Benmore 16.91 213 Pn **Pn 14 17 20.5 -1.6**
ODZ Otahua Downs 17.20 211 **Pn 14 17 21.2 -4.5**
ODZ Otahua Downs 17.20 211 P **P 14 17 26.6 -0.4**
46nm,0.7s
DZM Mont Dzumac 17.28 296 *e*Pn Pn 14 17 16.5 -10
97nm,1.4s
DZM *e*LR LR 14 21 07.4
comp=Z,688nm,23.3s
DZM Mont Dzumac 17.28 296 P **P 14 17 29.7 +1.5**
DZM Mont Dzumac 17.28 296 Pn **P 14 17 28.2 0.0**
0.7nm,0.3s,baz=120,slow=17,SNR=9.3
DZM LR LR 14 22 51.3
comp=Z,810nm,18.2s,baz=110,slow=34
AFI Afiamalu 17.52 17 P **P 14 17 30.2 -0.5**
64nm,1.3s
AFI Afiamalu 17.52 17 P Pn 14 17 18.3 -12
12nm,0.5s,baz=309,slow=22,SNR=1.1
AFI S Sn 14 20 18.9 -25
25nm,0.8s,baz=189,slow=5.8,SNR=5.3
WKZ Wanaka 17.80 215 Pn **Pn 14 17 31.2 -2.0**
WKZ IAmb IAmb 14 17 39.1
comp=Z,196nm,1.6s
WKZ Wanaka 17.80 215 P **P 14 17 33.8 +0.1**
RAR Rarotonga 18.12 62 Pn **Pn 14 17 33.0 -4.1**
RAR IAmb IAmb 14 17 34.7
comp=Z,78nm,1.1s
RAR Rarotonga 18.12 62 P **Pn 14 17 34.8 -2.3**
RAR Rarotonga 18.12 62 P **Pn 14 17 32.8 -4.4**
comp=Z,36nm,0.9s,baz=275,slow=5.7,SNR=7.7
RAR LR LR 14 23 29.3
comp=Z,419nm,19.6s,baz=188,slow=33
TUZ Tuapeka 18.36 211 P **Pn 14 17 46.2 +6.2**
SYZ Scrubby Hill 19.03 211 P **Pn 14 17 49.5 +1.5**
SYZ Scrubby Hill 19.03 211 P **Pn 14 17 53.8 +5.8**
DCZ Deep Cove 19.18 216 P **Pn 14 17 51.4 +1.5**
APZ The Paps 19.77 212 P **Pn 14 18 01.3 +4.4**
KOUNC Koumac, New Ca 19.80 297 P P 14 17 47.3 -8.4
KOUNC Koumac, New Ca 19.80 297 P **Pn 14 17 56.3 -1.1**
TBI Tubuai 25.49 80 *e*LQ LQ 14 23 59.0
comp=Z,2μm,24.0s
TBI *e*LR LR 14 24 53.2
comp=Z,8μm,21.8s
TBI *e*LR LR 14 25 03.6
comp=Z,2μm,23.0s
TBI Tubuai 25.49 80 *e*T T 14 46 15.4
comp=Z,5.8nm,0.3s
ARMA Armidale 27.05 263 P **P 14 19 04.8 -2.7**
ARMA Armidale 27.05 263 P **P 14 19 10.9 +3.4**
comp=Z,15nm,2.9s
MGCD Mangrove Creek 27.17 257 P **P 14 19 12.7 +4.2**
comp=Z,13nm,0.7s
PPT2 Papeete2 28.11 68 *e*LQ LQ 14 24 56.2
comp=Z,273nm,23.5s
PPT2 *e*LR LR 14 25 39.9
comp=Z,374nm,29.8s
PPT2 *e*LR LR 14 26 07.2
comp=Z,374nm,22.0s
PPT Papeete 28.12 68 LR LR 14 28 10.5
comp=Z,261nm,20.2s,baz=248,slow=31
EIDS Eidsvold 28.71 273 P **P 14 19 18.1 -4.2**
EIDS IAmb IAmb 14 19 25.9
comp=Z,13nm,0.8s
EIDS Eidsvold 28.71 273 P **P 14 19 25.5 +3.2**
MILA Mila 28.73 248 P **P 14 19 24.3 +1.9**
CAN Canberra 28.84 252 P **P 14 19 19.2 -4.2**
RK1H Rockhampton Ha 29.89 276 P **P 14 19 33.4 +0.7**
comp=Z,13nm,0.7s
HNR Honiara 30.33 310 P P 14 19 28.4 -8.3
HNR Honiara 30.33 310 LR LR 14 30 29.6
comp=Z,2μm,18.6s,baz=176,slow=34
RMQ Roma 30.38 270 P **P 14 19 39.3 +2.2**
TOO Toolangi 31.66 248 P **P 14 19 50.9 +2.6**
CMSA Cobar Meteorol 31.91 259 P **P 14 19 53.6 +3.1**
CTA Charters Tower 34.81 279 LR LR 14 33 26.7
comp=Z,614nm,18.2s,baz=104,slow=35
CTAO Charters Tower 34.81 279 P **P 14 20 12.5 -3.5**
CTAO IAmb IAmb 14 20 32.6
comp=Z,14nm,0.9s
STKA Stephens Creek 35.31 257 P **P 14 20 16.9 -3.2**
STKA Stephens Creek 35.31 257 P **P 14 20 22.6 +2.5**
STKA Stephens Creek 35.31 257 P **P 14 20 21.3 +1.2**
comp=Z,3.5nm,0.3s,baz=105,slow=11,SNR=17
STKA LR LR 14 34 09.7
comp=Z,488nm,18.5s,baz=51,slow=35
comp=Z,3.5nm,0.3s
INKA Innaminka 36.92 264 P **P 14 20 36.7 +2.9**
HTT Hallett 37.29 254 P **P 14 20 39.5 +2.4**
LCRK Leigh Creek 38.42 259 P **P 14 20 48.2 +1.6**
BBOO Buckleboo 39.77 255 P **P 14 20 58.2 +0.5**
BBOO IAmb IAmb 14 20 60.0
comp=Z,36nm,0.8s
BBOO Buckleboo 39.77 255 P **P 14 20 58.4 +0.6**
QIS Mount Isa 40.30 274 P **P 14 21 02.6 +0.2**
comp=Z,6.3nm,1.8s
COEN Coen 40.32 286 P **P 14 21 00.3 -2.2**
COEN Coen 40.32 286 P **P 14 21 03.8 +1.3**
comp=Z,27nm,1.7s
TAOE Nuku Hiva Isla 40.62 65 *e*LR LR 14 31 53.0
comp=Z,301nm,22.2s
TAOE Nuku Hiva Isla 40.62 65 P **P 14 21 06.0 +0.9**
OOD Oodnadatta 41.22 262 P **P 14 21 10.3 +0.5**
MULG Mulgathing 41.96 258 P **P 14 21 16.5 +0.6**
AS31 Alice Springs 44.04 267 P **P 14 21 29.4 -3.5**
ASAR Alice Springs 44.04 267 P P 14 21 27.4 -5.4
ASAR Alice Springs 44.04 267 P **P 14 21 32.7 -0.2**
comp=Z,11nm,1.0s,baz=103,slow=7.2,SNR=58
ASAR PcP **PcP 14 23 18.9 +0.9**
comp=Z,0.7nm,0.3s,baz=124,slow=4.0,SNR=3.2
ASAR LR LR 14 39 52.5
comp=Z,694nm,18.1s,baz=114,slow=36
comp=Z,11nm,1.0s
WR0 Warramunga Arr 44.89 272 P **P 14 21 38.2 -1.4**
WR0 IAmb IAmb 14 21 41.7
comp=Z,17nm,0.9s
WB2 Warramunga Arr 45.06 272 P **P 14 21 39.0 -2.0**
WRAB Tennant Creek 45.06 272 P **P 14 21 39.8 -1.2**
WRAB IAmb IAmb 14 21 42.0
comp=Z,20nm,0.8s
WRA Warramunga Arr 45.07 272 P **P 14 21 40.2 -0.9**
WRA Warramunga Arr 45.07 272 P **P 14 21 40.3 -0.8**
comp=Z,14nm,0.7s,baz=111,slow=8.0,SNR=226
comp=Z,14nm,0.7s
WB0 Warramunga Arr 45.09 272 P **P 14 21 40.4 -0.9**
FORT Forrest 46.85 255 P **P 14 21 50.9 -4.1**
SBA Scott Base 47.65 185 P P 14 22 05.5 +4.9
MTN Manton Dam 51.00 279 P **P 14 22 24.4 -2.5**
MTN IAmb IAmb 14 23 47.6
comp=Z,22nm,1.3s
KNRA Kununurra 51.69 274 P **P 14 22 30.7 -1.4**
KNRA IAmb IAmb 14 22 45.8
comp=Z,36nm,1.6s
RKPI Ransiki, Papua 54.68 293 P **P 14 22 58.1 +3.9**
CASY Casey 55.18 208 P **P 14 23 01.1 +4.1**
CASY IAmb IAmb 14 23 03.9
comp=Z,12nm,0.9s
PSA00 Pilbara Seismi 56.86 263 P **P 14 23 07.4 -2.3**
PSA00 IAmb IAmb 14 23 12.0
comp=Z,15nm,1.5s
MBWA Marble Bar 57.12 263 P **P 14 23 09.7 -1.9**
MBWA IAmb IAmb 14 24 21.3
comp=Z,22nm,1.1s
MORW Morawa 57.31 253 P **P 14 23 12.2 -0.6**
SIJI Sorong 57.39 291 LR LR 14 46 00.3
comp=Z,70nm,21.0s,baz=100,slow=34
GUMO Guam 57.48 314 LR LR 14 44 40.8
comp=Z,64nm,20.1s,baz=132,slow=33
RPN Rapa Nui 58.39 105 LR LR 14 45 16.5
comp=Z,66nm,18.2s,baz=248,slow=32
BATI Baumata 58.66 277 LR LR 14 48 58.2
comp=Z,563nm,18.9s,baz=140,slow=37
QSPA South Pole Qui 59.25 180 P P 14 23 31.5 +5.5
QSPA South Pole Qui 59.25 180 P P 14 23 32.7 +6.7
comp=Z,8.6nm,0.7s,baz=352,slow=2.7,SNR=59
QSPA LR LR 14 46 42.6
comp=Z,142nm,19.9s,baz=42,slow=33
comp=Z,8.6nm,0.7s
NLAI Namlea 59.43 286 P **P 14 23 30.7 +3.0**
comp=Z,5.9nm,0.4s
KAPI Kappang 64.63 280 LR LR 14 53 24.0
comp=Z,60nm,18.2s,baz=120,slow=37
DAV Davao City (W) 66.69 294 LR LR 14 54 13.0
comp=Z,23nm,18.2s,baz=220,slow=37
SMAI San Martin Ant 68.64 158 P P 14 24 32.5 +5.1
SMAI IAmb IAmb 14 27 05.1
comp=Z,8.2nm,0.6s
MAW Mawson 72.21 200 P **P 14 24 52.0 +2.7**
MAW Mawson 72.21 200 P P 14 24 55.0 +5.7
comp=Z,11nm,1.1s,baz=128,slow=10,SNR=8.6
MAW LR LR 14 57 02.0
comp=Z,193nm,18.3s,baz=112,slow=36
comp=Z,11nm,1.1s
ELIB Princess Elisa 76.50 186 *d*P P 14 25 19.4 +5.0
comp=Z,17nm,0.8s
TROLL Troll, Antarti 77.41 180 ⇑P P 14 25 24.5 +5.0
comp=Z,429nm,1.1s
SNAA Sanae 77.67 178 P P 14 25 25.9 +5.1
SNAA IAmb IAmb 14 25 26.9
comp=Z,8.5nm,1.1s
SNAA Sanae 77.67 178 P P 14 25 25.7 +4.9
comp=Z,95nm,1.0s
SNAA Sanae 77.67 178 P P 14 25 25.2 +4.4
comp=Z,6.7nm,1.1s,baz=204,slow=6.5,SNR=14
comp=Z,6.7nm,1.1s
VNA3 Neumayer Olymp 77.78 176 ⇑P P 14 25 25.9 +4.5
comp=Z,10nm,0.9s
VNA2 Neumayer--Watz 78.22 176 ⇑P P 14 25 28.7 +4.9
comp=Z,6.9nm,0.6s,baz=192,slow=4.0
VNA1 Neumayer--Stat 78.45 176 ⇑P P 14 25 30.0 +5.0
comp=Z,11nm,1.1s
MJAR Matsushiro Arr 79.17 325 P **P 14 25 27.7 -1.7**
comp=Z,2.7nm,0.8s,baz=175,slow=4.8,SNR=5.5
MJAR LR LR 14 59 41.7
comp=Z,35nm,19.1s,baz=142,slow=35
comp=Z,2.7nm,0.8s
H03S2 Juan Fernandez 79.41 123 T T 15 55 07.8
baz=238,slow=74,SNR=4.5
H03S1 Juan Fernandez 79.42 123 T T 15 55 11.7
baz=238,slow=74,SNR=4.4
H03S3 Juan Fernandez 79.43 123 T T 15 55 10.0
baz=238,slow=74,SNR=4.6
H03N3 Juan Fernandez 79.61 123 T T 15 55 19.0
baz=240,slow=72,SNR=4.1
H03N2 Juan Fernandez 79.61 123 T T 15 55 23.0
baz=240,slow=72,SNR=4.1
H03N1 Juan Fernandez 79.62 123 T T 15 55 22.7
baz=240,slow=72,SNR=4.6
JNU Nakatsue 80.54 318 LR LR 14 56 27.0
comp=Z,20nm,20.1s,baz=52,slow=32
PLCA Paso Flores 81.49 132 P P 14 25 47.2 +5.0
comp=Z,5.0nm,1.1s,baz=222,slow=9.4,SNR=5.0
PLCA LR LR 14 56 56.8
comp=Z,74nm,18.1s,baz=238,slow=32
comp=Z,5.0nm,1.1s
SHEM Shemya Is, Ala 83.61 355 LR LR 14 58 14.3
comp=Z,133nm,19.7s,baz=160,slow=32
KSRS Korea Array 85.32 319 P **P 14 26 02.0 +0.5**
comp=Z,2.1nm,0.8s,baz=140,slow=5.7,SNR=9.3
comp=Z,2.1nm,0.8s
PFO Pinyon Flats O 85.82 47 LR LR 15 00 26.8
comp=Z,107nm,18.1s,baz=256,slow=33
ISA Isabella, Lake 85.96 44 P **P 14 26 06.0 +1.1**
ISA IAmb IAmb 14 26 13.2
comp=Z,10nm,1.2s
CMB Columbia Colle 86.47 41 P **P 14 26 08.2 +0.9**
CMB IAmb IAmb 14 26 15.6
comp=Z,7.3nm,1.2s
PETK Petropavlovsk- 86.50 345 P **P 14 26 07.2 +0.2**
comp=Z,4.9nm,0.7s,baz=109,slow=7.8,SNR=13
comp=Z,4.9nm,0.7s
NJ2 Nanjing 87.27 310 *e*P **P 14 26 12.2 +0.9**
NJ2 pP **PcP 14 26 15.3 +2.0**
NJ2 sP **pP 14 26 16.8 -3.0**
NJ2 pmax pmax
comp=Z,11nm,0.8s
NJ2 pmax pmax
comp=Z,290nm,4.7s
GWY Greenwater Val 87.39 45 P **P 14 26 12.6 +0.6**
GWY IAmb IAmb 14 26 19.4
comp=Z,8.8nm,1.2s
YBH Yreka Blue Hor 87.81 37 LR LR 15 00 42.1
comp=Z,73nm,18.8s,baz=225,slow=32
NVAR Mina Array Bea 87.93 42 P **P 14 26 16.5 +1.9**
NVAR Mina Array Bea 87.93 42 P **P 14 26 17.5 +2.9**
comp=Z,7.9nm,1.2s,baz=216,slow=7.6,SNR=13
NVAR LR LR 15 04 39.0
comp=Z,77nm,18.0s,baz=256,slow=35
comp=Z,7.9nm,1.2s
USRK Ussuriysk Ar. 88.07 326 P **P 14 26 15.0 +0.2**
comp=Z,7.1nm,1.1s,baz=134,slow=5.5,SNR=6.0
comp=Z,7.1nm,1.1s
TPNV Topopah Spring 88.15 44 P **P 14 26 17.7 +2.1**
TPNV IAmb IAmb 14 26 23.9
comp=Z,6.7nm,1.2s
KVN Kaiserville 88.47 42 P **P 14 26 19.3 +2.2**
X16A Lo Mia Camp, P 89.53 49 P **P 14 26 24.5 +2.3**
X16A IAmb IAmb 14 26 31.2
comp=Z,8.5nm,1.4s
LCMT Little Creek M 90.02 46 P **P 14 26 23.9 -0.4**
LCMT IAmb IAmb 14 26 33.0
comp=Z,7.1nm,1.1s
U15A North Rim 90.25 47 P **P 14 26 27.9 +2.3**
U15A IAmb IAmb 14 26 34.5
comp=Z,11nm,1.1s
WUAZ Wupatki 90.26 48 P **P 14 26 26.1 +0.6**
WUAZ IAmb IAmb 14 26 42.8
comp=Z,8.1nm,1.1s
KDAK Kodiak Island 90.64 13 LR LR 15 06 11.8
comp=Z,74nm,18.3s,baz=218,slow=35
CN2 Changchun 91.09 322 *e*P **P 14 26 28.0 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
ELK Elko 91.24 42 LR LR 15 05 51.3
comp=Z,86nm,18.0s,baz=246,slow=35
BNX BinXian 91.43 325 ⇑P **P 14 26 30.4 -0.1**
BNX pmax pmax
comp=Z,7.0nm,0.9s
BNX pmax pmax
comp=Z,79nm,4.3s
TXAR Lajitas Array 91.84 57 P **P 14 26 35.8 +2.9**
comp=Z,0.8nm,1.0s,baz=195,slow=6.5,SNR=3.4
TXAR LR LR 15 03 53.4
comp=Z,80nm,18.1s,baz=244,slow=33
comp=Z,0.8nm,1.0s
KLR Kul'dur 91.92 329 LR LR 15 04 45.4
comp=Z,57nm,19.3s,baz=77,slow=34
MFID Camas Ranch 92.66 40 P **P 14 26 38.8 +2.3**
MFID IAmb IAmb 14 26 44.6
comp=Z,4.0nm,0.9s
LVC Limon Verde 92.88 118 LR LR 15 01 18.4
comp=Z,64nm,19.6s,baz=210,slow=31
BBB Bella Bella 93.06 28 LR LR 15 04 20.1
comp=Z,91nm,18.1s,baz=244,slow=33
ANMO Albuquerque 93.12 51 LR LR 15 02 28.5
comp=Z,63nm,19.2s,baz=334,slow=32
HLID Hailey 93.53 40 P **P 14 26 42.8 +2.3**
HLID IAmb IAmb 14 27 14.6
comp=Z,12nm,1.9s
ATAH Atahualpa 93.62 100 LR LR 15 00 25.2
comp=Z,36nm,18.3s,baz=233,slow=30
PLID Pearl Lake 93.67 38 P **P 14 26 42.0 +0.9**
PLID IAmb IAmb 14 26 47.8
comp=Z,11nm,1.5s
MA2 Magadan 93.99 344 LR LR 15 04 25.7
comp=Z,42nm,20.2s,baz=140,slow=33
CMAR Chiang Mai Arr 94.45 289 P **P 14 26 44.4 -0.7**
CMAR Chiang Mai Arr 94.45 289 P **P 14 26 46.6 +1.5**
comp=Z,0.7nm,0.8s,baz=131,slow=3.0,SNR=6.0
comp=Z,0.7nm,0.8s
NEW Newport 95.19 35 LR LR 15 02 48.6
comp=Z,100nm,20.3s,baz=256,slow=31
PDAR Pinedale Array 95.81 43 LR LR 15 07 31.1
comp=Z,51nm,18.3s,baz=270,slow=34
PZH PanZhiHua 96.37 297 P **P 14 26 55.9 +2.1**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
SEY Seymchan 96.65 346 LR LR 15 05 40.6
comp=Z,56nm,19.8s,baz=180,slow=33
ILAR Eielson Array 98.17 13 P Pdif 14 27 02.1 +1.3
comp=Z,0.2nm,0.6s,baz=202,slow=6.5,SNR=1.9
ILAR LR LR 15 05 45.9
comp=Z,47nm,20.3s,baz=208,slow=32
comp=Z,0.2nm,0.6s
TEIG Tepich 98.97 72 LR LR 15 03 20.0
comp=Z,285nm,21.8s,baz=347,slow=30
WMQ Urumqi 114.26 308 *e*P **PKiKP 14 32 05.9 +1.9**
MKAR Makanchi Array 118.80 310 PKP **PKiKP 14 32 11.9 -0.7**
comp=Z,0.3nm,0.5s,baz=189,slow=2.3,SNR=5.4
ZALV Zalesovo Beam 119.01 318 PKP **PKiKP 14 32 11.9 -0.8**
comp=Z,0.3nm,0.3s,baz=29,slow=3.3,SNR=1.8
KURBB Kurchatov Arra 122.10 313 PKP **PKiKP 14 32 18.5 -0.3**
comp=Z,1.5nm,0.2s,baz=113,slow=2.0,SNR=5.3
BVAR Borovoye Array 127.40 315 PKP **PKiKP 14 32 29.5 +0.1**
comp=Z,1.7nm,0.6s,baz=113,slow=3.4,SNR=7.3
ARCES ARCESS Array B 139.24 348 PKhKP PKPpre 14 32 43.8
comp=Z,2.7nm,1.0s,baz=20,slow=3.9,SNR=4.2
ARCES PKP **PKiKP 14 32 51.9 -1.0**
comp=Z,2.0nm,0.8s,baz=70,slow=1.4,SNR=4.5
FINES FINESS Array B 145.90 340 PKPbc **PKPbc 14 33 02.6 -0.7**
comp=Z,17nm,0.4s,baz=50,slow=3.9,SNR=234
KBZ Khabaz 146.16 304 PKPbc **PKPab 14 33 05.5 +0.2**
comp=Z,6.0nm,1.0s,baz=79,slow=5.2,SNR=5.6
MEF Metsahovi 147.38 340 *e*P **PKPdf 14 33 04.7 -0.4**
RAF Rauma 147.41 343 *e*P **PKPdf 14 33 03.5 -1.6**
VSU Vasula 148.03 337 *e*P **PKPbc 14 33 09.3 -0.1**
AAL Aland 148.58 344 *e*P **PKPbc 14 33 08.9 -1.8**
MTSE Matsula 148.78 339 *e*P **PKPbc 14 33 10.9 -0.4**
NB2 NORSAR Subarra 149.34 352 PKP **PKPbc 14 33 12.4 -0.4**
comp=Z,7.2nm,0.8s,baz=13,slow=4.3
NOA NORSAR Array B 149.34 352 PKPbc **PKiKP 14 33 13.2 -0.7**
comp=Z,3.7nm,0.7s,baz=14,slow=4.2,SNR=13
HFS Hagfors 149.88 349 PKPbc **PKiKP 14 33 14.1 -0.9**
comp=Z,7.1nm,0.8s,baz=49,slow=4.9,SNR=14
ISAL Salakas 150.42 333 *e*P **PKPab 14 33 20.2 -1.8**
IIGN Ignalina 150.54 333 *e*P **PKPab 14 33 20.6 -1.9**
AKASG Malin Array Be 152.24 323 PKPbc **PKiKP 14 33 19.8 -0.4**
comp=Z,1.3nm,0.3s,baz=47,slow=2.6,SNR=13
MMAI Mount Meron Ar 152.57 283 PKPbc **PKiKP 14 33 23.4 +1.9**
comp=Z,17nm,0.9s,baz=77,slow=3.8,SNR=24
BRTR Keskin Array B 153.66 298 PKPbc **PKiKP 14 33 23.7 +0.1**
comp=Z,1.3nm,0.6s,baz=122,slow=1.9,SNR=6.6
DPC Dobruska-Polom 158.16 337 *e*PKPAB **PKPab 14 33 55.2 +0.1**
CLL Collm 158.29 343 *e*PKPab **PKPab 14 33 55.0 -0.5**
KHC Kasperske Hory 160.10 339 *e*PKPAB **PKPab 14 34 02.5 -1.0**
CKRC Cesky Krumlov 160.15 338 *e*PKPAB **PKPab 14 34 03.1 -0.6**
TORD Torodi Ar. Bea 162.32 175 PKP **PKPdf 14 33 29.5 +2.7**
comp=Z,1.1nm,1.1s,baz=164,slow=1.0,SNR=5.3
TORD PKPab **pPKPab 14 34 18.4 -3.8**
comp=Z,1.1nm,0.6s,baz=170,slow=3.4,SNR=8.6

IDC 07 14:34:45.8±6.8, 6°.67S×127°.01E, h409km±50km,
mbtmp3.7/3, Error ellipse: s-maj=96.0km s-min=38.9km
az=27.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.83**	**223**	P	P	14 36 08.2	+1.9
	43nm,0.4s,baz=99,slow=6.4,SNR=7.3						
BATI				S	S	14 37 11.2	-1.0
	12nm,0.4s,baz=87,slow=22,SNR=1.5						
WRA	**Warramunga Arr**	**14.99**	**152**	P	P	14 37 57.2	-0.8
	0.3nm,0.4s,baz=333,slow=11,SNR=17						
ASAR	**Alice Springs**	**18.15**	**159**	P	P	14 38 32.1	+0.4
	0.4nm,0.4s,baz=344,slow=12,SNR=11						
CPUP	**Villa Florida**	**146.93**	**173**	PKPbc	PKPbc	14 53 41.0	-0.9
	4.0nm,0.8s,baz=207,slow=6.8,SNR=8.6						

---

*IDC **07** 14:48:45.4±1.6, 44°.11S×73°.93W, h0km, mb3.7/3,*
mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=49.9km
s-min=31.4km az=99.0
*GUC **07** 14:48:50.8±0.6, 43°.34S×74°.39W, h29km±18km, ML4.1*
ISC 07 14:48:51.3±1.9, 43°.32S±0°.05×74°.18W±0°.10, h22km±12km,
n18, σ1°.37/24, mb3.8/6, 5C-6D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.43**	**61**	⇓*i*P	**Pn**	**14 49 01.6**	**-0.5**
GO07				*i* S	**Sn**	**14 49 07.9**	**-1.3**
GO07				IAML		14 49 16.4	
	comp=E,25μm,0.4s						
LL07	**Hotel Espejo d**	**0.71**	**46**	⇑*i*P	**Pn**	**14 49 06.5**	**+0.5**
LL07				*i* S	**Sn**	**14 49 17.4**	**+1.3**
LL07				IAML		14 49 19.2	
	comp=N,11μm,0.4s						
LL06	**Loncomilla**	**1.18**	**20**	⇑*i*P	**Pn**	**14 49 12.3**	**-0.2**
LL06				*i* S	**Sn**	**14 49 28.2**	**+0.5**
LL06				IAML		14 49 31.1	
	comp=E,5μm,0.5s						
AY01	**Puyuhuapi**	**1.56**	**135**	⇑*i*P	**Pb**	**14 49 18.2**	**-1.3**
AY01				*i* S	**Sb**	**14 49 40.1**	**+1.4**
AY01				IAML		14 49 44.0	
	comp=N,7μm,0.3s						
LL01	**San Ignacio de**	**1.60**	**55**	⇑*i*P	**Pb**	**14 49 19.1**	**-1.1**
LL01				*i* S	**Sb**	**14 49 41.3**	**+1.4**
LL02	**Futaleuf**	**1.71**	**86**	⇑*i*P	**Pb**	**14 49 21.4**	**-0.6**
LL02				*i* S	**Sb**	**14 49 45.1**	**+2.1**
LL05	**Los Muermos**	**1.98**	**15**	*i* S	**Sb**	**14 49 52.9**	**+1.9**
LL05				IAML		14 50 06.5	
	comp=N,1μm,0.5s						
LL03	**Petrohue**	**2.55**	**32**	*i* S	**Sb**	**14 50 05.5**	**-1.7**
LL03				IAML		14 50 09.7	
	comp=E,1μm,0.4s						
PLCA	**Paso Flores**	**3.74**	**47**	Pn	**Pn**	**14 49 50.1**	**+2.4**
	comp=E,1.1nm,0.3s,baz=232,slow=11,SNR=28						
PLCA				Sn	**Sb**	**14 50 40.3**	**-1.3**
	comp=E,1.9nm,0.3s,baz=49,slow=19,SNR=1.8						
	comp=E,8.3nm,0.7s						
VNA3	**Neumayer Olymp**	**41.54**	**154**	⇓P	**P**	**14 56 37.3**	**+0.7**
	comp=Z,1.4nm,0.8s						
VNA1	**Neumayer--Stat**	**41.94**	**153**	⇓P	**P**	**14 56 40.1**	**+0.3**
	comp=Z,2.9nm,1.3s						
VNA2	**Neumayer--Watz**	**42.25**	**153**	⇓P	**P**	**14 56 42.0**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=277,slow=7.0						
SNAA	**Sanae**	**43.74**	**154**	⇓P	**P**	**14 56 54.1**	**-0.4**
	comp=Z,36nm,0.9s						
SNAA	**Sanae**	**43.74**	**154**	P	P	14 56 44.8	-10
	comp=Z,0.8nm,1.0s,baz=216,slow=18,SNR=2.0						
	comp=Z,0.8nm,1.0s						
TROLL	**Troll, Antarti**	**45.41**	**155**	⇓P	**P**	**14 57 07.7**	**-0.2**
	comp=Z,66nm,0.8s						
TXAR	**Lajitas Array**	**77.20**	**334**	P	**P**	**15 00 45.2**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=155,slow=6.6,SNR=1.9						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**88.91**	**71**	P	**P**	**15 01 42.6**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=212,slow=5.1,SNR=3.6						
	comp=Z,0.8nm,0.9s						
MKAR	**Makanchi Array**	**163.03**	**70**	PKPab	**PKPab**	**15 09 39.8**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=278,slow=4.6,SNR=6.0						

---

*SJA **07** 14:59:33.8±0.7, 25°.44S×69°.22W, h98km±4km, ML3.3,*
MW3.5
*GUC **07** 14:59:34.0±0.7, 25°.43S×69°.24W, h99km±4km, ML3.3*
ISC 07 14:59:34.6±1.3, 25°.39S±0°.03×69°.28W±0°.06,
h104km±10km, n33, σ1°.98/51, 2C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.37**	**309**	⇓*i*P	**Pn**	**14 59 50.1**	**-0.3**
GO02				*i* S	**Sn**	**15 00 02.0**	**-0.1**
GO02	**Mina Guanaco**	**0.37**	**309**	*e*P	**Pn**	**14 59 49.9**	**-0.4**
GO02				*e*S	**Sn**	**15 00 02.0**	**-0.1**
PB14	**IPOC Station P**	**1.28**	**306**	⇑*i*P	**Pn**	**14 59 59.2**	**+0.5**
PB14				*i* S	**Sn**	**15 00 17.8**	**+0.8**
PB14	**IPOC Station P**	**1.28**	**306**	*e*P	**Pn**	**14 59 59.2**	**+0.5**
PB14				*e*S	**Sn**	**15 00 18.6**	**+1.6**
PB14				IAML		15 00 19.9	
	comp=Z,214nm,0.2s						
AC01	**Pan de Azucar**	**1.41**	**238**	⇑*i*P	**Pn**	**15 00 00.0**	**+0.1**
AC01				*i* S	**Sn**	**15 00 19.5**	**+0.2**
AC01				IAML		15 00 20.3	
	comp=E,635nm,0.4s						
AC01	**Pan de Azucar**	**1.41**	**238**	*e*P	**Pn**	**15 00 00.1**	**+0.1**
AC01				*e*S	**Sn**	**15 00 19.9**	**+0.6**
AC01				IAML		15 00 23.5	
	comp=Z,212nm,0.2s						
AC02	**Maricunga**	**1.44**	**175**	⇓*i*P	**Pn**	**15 00 00.8**	**-0.1**
AC02				*i* S	**Sn**	**15 00 20.5**	**-0.2**
AC02	**Maricunga**	**1.44**	**175**	*e*P	**Pn**	**15 00 00.5**	**-0.4**
AC02				*e*S	**Sn**	**15 00 21.1**	**+0.4**
AC06	**Mina Casimiro**	**2.18**	**206**	⇓*i*P	**Pn**	**15 00 09.5**	**-0.2**
AC06				*i* S	**Sn**	**15 00 35.8**	**-0.8**

AC06 IAML 15 00 49.2
comp=E,144nm,0.5s
PB15 IPOC Station P 2.18 355 ⇓*i*P **Pn 15 00 10.7 +0.8**
PB15 *i* S **Sn 15 00 38.1 +1.3**
PB15 IPOC Station P 2.18 355 *e*P **Pn 15 00 11.3 +1.4**
PB15 *e*S **Sn 15 00 38.8 +1.9**
PB15 IAML 15 00 45.3
comp=Z,650nm,0.2s
GO03 Copiap 2.35 201 ⇓*i*P **Pn 15 00 11.6 -0.4**
GO03 *i* S **Sn 15 00 40.4 -0.2**
GO03 IAML 15 00 44.8
comp=N,145nm,0.3s
GO03 Copiap 2.35 201 *e*P **Pn 15 00 11.7 -0.2**
GO03 *e*S **Sn 15 00 40.1 -0.5**
PB06 IPOC Station P 2.69 354 *e*P **Pn 15 00 17.9 +1.4**
PB06 *i* S **Sn 15 00 49.3 +0.6**
PB06 IAML 15 00 55.8
comp=E,99nm,0.3s
PB06 IPOC Station P 2.69 354 *e*P **Pn 15 00 17.8 +1.4**
PB06 *e*S **Sn 15 00 44.7 -4.0**
PB06 IAML 15 00 56.0
comp=Z,60nm,0.7s
LVC Limon Verde 2.79 7 *e*P **Pn 15 00 18.7 +0.6**
LVC *i* S **Sn 15 00 46.7 -4.7**
LVC Limon Verde 2.79 7 *e*P **Pn 15 00 18.7 +0.6**
LVC *e*S **Sn 15 00 49.8 -1.6**
LVC IAML 15 01 15.2
comp=Z,48nm,3.6s
FSA Cafayete 3.06 104 *e*P **Pn 15 00 21.2 -0.1**
PB04 IPOC Station P 3.15 345 *e*P **Pn 15 00 22.2 -0.5**
PB04 IPOC Station P 3.15 345 *e*S **Sn 15 00 52.5 -7.1**
PB04 IAML 15 01 24.1
comp=Z,62nm,0.4s
AC04 Llanos de Chal 3.23 209 *e*P Pn 15 00 13.5 -10
AC04 IAML 15 01 13.8
comp=Z,89nm,0.7s
VCA Vinchina 3.46 164 *e*P **Pn 15 00 28.4 +1.6**
SLA San Lorenzo 3.48 80 *e*P Pn 15 00 15.6 -11
PB09 IPOC Station P 3.58 0 ⇓*e*P **Pn 15 00 29.5 +1.1**
PB09 IPOC Station P 3.58 0 *e*P **Pn 15 00 29.4 +1.0**
PB09 *e*S **Sn 15 01 16.9 +7.0**
PB09 IAML 15 01 41.3
comp=Z,59nm,0.6s
PB07 IPOC Station P 3.69 351 *e*P **Pn 15 00 29.1 -0.8**
PB07 *i* S **Sn 15 01 16.2 +3.6**
PB07 IPOC Station P 3.69 351 *e*P **Pn 15 00 29.2 -0.7**
PB07 *e*S Sn 15 01 23.9 +11
PB07 IAML 15 01 25.8
comp=Z,57nm,0.8s
LCO Las Campanas 3.82 199 *e*P Pn 15 00 36.1 +4.5
LCO *e*S Sn 15 01 06.1 -10
PB02 IPOC Station P 4.09 352 ⇓*i*P **Pn 15 00 34.4 -0.8**
PB02 *i* S **Sn 15 01 20.2 -2.1**
PB02 IPOC Station P 4.09 352 *e*P **Pn 15 00 34.5 -0.8**
PB02 IAML 15 01 47.5
comp=Z,90nm,0.4s
PB01 IPOC Station P 4.33 357 *e*P **Pn 15 00 37.6 -0.9**
PB01 *e*S **Sn 15 01 26.9 -1.1**
PB01 IPOC Station P 4.33 357 *e*P **Pn 15 00 37.8 -0.7**
PB01 *e*S Sn 15 01 12.9 -15
PB01 IAML 15 01 55.1
comp=Z,30nm,0.4s
ACCO Cerro Coronel 5.18 178 *e*P **Pn 15 00 50.6 +0.5**

*EAF **07** 15:11:52.9, 26.°86S×27.°00E, h4km, MC3.5*
*PRE **07** 15:11:52.9±1.0, 26.°92S×26.°74E, h2km, ML2.3*
*BUL **07** 15:11:55.2±0.8, 26.°86S×26.°99E, h10km±9km, MD3.7*
ISC 07 15:11:52.9±0.8, 26.°89S±0.°03×26.°74E±0.°04, h10km, n21, σ2°33/40, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**1.04**	**8**	*e*P		**Pn**	**Pn**	**15 12 14.5**	**+0.9**
KSR				*e*S		**Sb**	**Sb**	**15 12 28.4**	**+1.6**
KSR				IAML				15 12 34.3	
comp=Z,290nm,0.2s									
SWZ	**Schweizer**	**1.29**	**256**	*e*P		**Pg**	**Pg**	**15 12 18.0**	**+0.3**
SWZ				*e*S		**Sn**	**Sn**	**15 12 35.3**	**+0.8**
SWZ				IAML				15 12 40.4	
comp=Z,122nm,0.3s									
SNKL	**Senekal, Frees**	**1.66**	**147**	*e*P		**Pb**	**Pb**	**15 12 23.3**	**-0.4**
SNKL				*e*S		**Sg**	**Sg**	**15 12 45.7**	**-0.6**
SNKL				IAML				15 12 50.5	
comp=Z,84nm,0.4s									
SLR	**Silverton**	**1.80**	**51**	*e*P		**Pb**	**Pb**	**15 12 26.5**	**+0.5**
SLR				*e*S		**Sb**	**Sb**	**15 12 50.0**	**+1.4**
SLR				IAML				15 12 52.3	
comp=Z,120nm,0.3s									
LBTB	**Lobatse**	**2.13**	**331**	*i* P		**Pb**	**Pb**	**15 12 30.9**	**-0.6**
LBTB				*i* S		**Sn**	**Sn**	**15 12 56.6**	**+1.5**
LBTB	**Lobatse**	**2.13**	**331**	*e*P		**Pb**	**Pb**	**15 12 31.0**	**-0.6**
LBTB				*e*S		**Sn**	**Sn**	**15 12 57.5**	**+2.3**
LBTB				IAML				15 13 02.4	
comp=Z,72nm,0.4s									
LBTB	**Lobatse**	**2.13**	**331**	*i* P		**Pb**	**Pb**	**15 12 30.9**	**-0.6**
baz=325									
LBTB				*i* S		**Sn**	**Sn**	**15 12 56.6**	**+1.5**
baz=325									
BOSA	**Boshof**	**2.17**	**217**	*i* P		**Pb**	**Pb**	**15 12 32.5**	**+0.2**
BOSA				*i* S		**Sb**	**Sb**	**15 12 58.9**	**-0.4**
BOSA	**Boshof**	**2.17**	**217**	*i* P		**Pb**	**Pb**	**15 12 32.5**	**+0.2**
baz=221									
BOSA				*i* S		**Sb**	**Sb**	**15 12 58.9**	**-0.4**
baz=221									
LEPH	**Lephalale, Lim**	**3.16**	**18**	*e*P		**Pn**	**Pn**	**15 12 45.7**	**+2.9**
LEPH				*e*S		**Sn**	**Sn**	**15 13 23.3**	**+2.6**
LEPH				IAML				15 13 37.4	
comp=Z,15nm,0.4s									
PILG	**Pilgrimsrest,**	**4.07**	**62**	*e*P		**Pn**	**Pn**	**15 12 57.5**	**+2.1**
PILG				*e*S		**Sn**	**Sn**	**15 13 43.7**	**+0.5**
PILG				IAML				15 13 46.4	
comp=Z,13nm,0.4s									
KSTD	**Kokstad**	**4.35**	**149**	*e*P		**Pn**	**Pn**	**15 13 01.2**	**+2.0**
KSTD				*e*S		**Sn**	**Sn**	**15 13 50.0**	**0.0**
KSTD				IAML				15 14 17.3	
comp=Z,5.4nm,0.3s									
UPI	**Upington**	**5.09**	**252**	*e*P		**Pn**	**Pn**	**15 13 11.0**	**+1.8**
UPI				*e*S		**Sn**	**Sn**	**15 14 08.0**	**-0.1**
UPI				IAML				15 14 22.0	
comp=Z,1.8nm,0.3s									
MUSN	**Musina, Limpop**	**5.39**	**32**	*i* P		**Pn**	**Pn**	**15 13 11.1**	**-2.2**
MUSN				*i* S		**Sn**	**Sn**	**15 14 07.9**	**-7.6**
MUSN	**Musina, Limpop**	**5.39**	**32**	*i* P		**Pn**	**Pn**	**15 13 11.1**	**-2.2**
baz=30									
MUSN				*i* S		**Sn**	**Sn**	**15 14 07.9**	**-7.6**
baz=30									
MOPA	**Mopani**	**5.39**	**53**	*i* P		**Pn**	**Pn**	**15 13 10.8**	**-2.5**
MOPA				*i* S		Sn	Sn	15 14 06.3	-9.2
MOPA	**Mopani**	**5.39**	**53**	*i* P		**Pn**	**Pn**	**15 13 10.8**	**-2.5**
baz=51									
MOPA				*i* S		Sn	Sn	15 14 06.3	-9.2
baz=51									
GRAF	**Camdeboo Natio**	**5.72**	**199**	*e*P		**Pn**	**Pn**	**15 13 19.4**	**+1.5**
GRAF				*e*S		**Sn**	**Sn**	**15 14 23.2**	**-0.6**
GRAF				IAML				15 14 27.8	
comp=Z,1.8nm,0.2s									
BRAK	**Brakfontein**	**5.92**	**214**	*e*P		**Pn**	**Pn**	**15 13 22.4**	**+1.7**
BRAK				*e*S		**Sn**	**Sn**	**15 14 27.1**	**-1.5**
BRAK				IAML				15 15 02.8	
comp=Z,3.8nm,0.3s									
ROOI	**Rooidraai Farm**	**6.24**	**206**	*e*P		**Pn**	**Pn**	**15 13 25.9**	**+0.8**
ROOI				*e*S		**Sn**	**Sn**	**15 14 35.5**	**-1.1**
ROOI				IAML				15 15 12.3	
comp=Z,3.7nm,0.5s									
FRAZ	**Fraserburg**	**6.85**	**222**	*e*P		**Pn**	**Pn**	**15 13 35.0**	**+1.5**
FRAZ				*e*S		**Sn**	**Sn**	**15 14 49.1**	**-2.4**
FRAZ				IAML				15 15 27.7	
comp=Z,2.8nm,0.4s									

IDC 07 15:32:50.9±1.5, 5.°98N×121.°82E, h0km, mb3.8/4, mbtmp3.8/4, MS2.8/1, Error ellipse: s-maj=214.0km s-min=21.4km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.55**	**155**	P		P	P	15 38 48.0	-0.7
0.7nm,0.6s,baz=331,slow=11,SNR=25									
0.7nm,0.6s									
JCJ	**Chichijima**	**28.58**	**40**	LR		LR	LR	15 51 42.8	
comp=Z,19nm,19.0s,baz=106,slow=40									
ASAR	**Alice Springs**	**31.74**	**159**	P		P	P	15 39 17.7	+0.8
0.4nm,0.3s,baz=338,slow=7.5,SNR=41									
0.4nm,0.3s									
MKAR	**Makanchi Array**	**52.97**	**327**	P		P	P	15 42 10.3	+1.0
0.5nm,0.5s,baz=120,slow=7.5,SNR=8.0									
0.5nm,0.5s									
KURBB	**Kurchatov Arra**	**57.25**	**329**	P		P	P	15 42 38.5	-1.7
0.4nm,0.4s,baz=126,slow=6.2,SNR=2.6									
0.4nm,0.4s									

IDC 07 15:37:11.5±3.3, 9.°84S×113.°24E, h0km, mb3.4/5, mbtmp3.4/5, MS3.0/1, Error ellipse: s-maj=161.9km s-min=21.4km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**20.02**	**65**	LR		LR	LR	15 51 33.3	
comp=Z,42nm,18.3s,baz=116,slow=43									
WRA	**Warramunga Arr**	**22.70**	**119**	P		P	P	15 42 15.6	+0.5
0.6nm,0.7s,baz=295,slow=13,SNR=7.9									
0.6nm,0.7s									
ASAR	**Alice Springs**	**24.05**	**127**	P		P	P	15 42 28.0	-0.5
0.4nm,0.9s,baz=299,slow=8.0,SNR=5.2									
0.4nm,0.9s									
CMAR	**Chiang Mai Arr**	**31.46**	**333**	P		P	P	15 43 35.9	+0.9
0.9nm,0.8s,baz=170,slow=8.2,SNR=7.4									
0.9nm,0.8s									
SONM	**Songino Array**	**57.74**	**355**	P		P	P	15 47 03.2	-1.0
0.5nm,0.7s,baz=170,slow=8.8,SNR=2.0									
0.5nm,0.7s									
MKAR	**Makanchi Array**	**62.78**	**337**	P		P	P	15 47 38.7	-0.1
0.3nm,0.5s,baz=156,slow=7.4,SNR=4.1									
0.3nm,0.5s									

IDC 07 15:37:11.0±2.8, 32.°89S×178.°40W, h0km, mb3.9/2, mbtmp4.0/3, ML3.8/1, MS3.5/3, Error ellipse: s-maj=69.1km s-min=43.5km az=127.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.48**	**213**	Pn		Pn	Pn	15 38 46.8	-0.9
2.2nm,0.3s,baz=343,slow=16,SNR=15									
URZ				Sn		Sn	Sn	15 39 51.7	-11
1.9nm,0.3s,baz=256,slow=15,SNR=2.7									
4.3nm,0.3s									
MSVF	**Nonsavu**	**15.43**	**347**	LR		LR	LR	15 45 42.9	
comp=Z,61nm,21.3s,baz=189,slow=33									
ASAR	**Alice Springs**	**42.70**	**270**	P		P	P	15 45 09.9	0.0
0.9nm,0.6s,baz=108,slow=7.5,SNR=20									
0.9nm,0.6s									
WRA	**Warramunga Arr**	**43.91**	**275**	P		P	P	15 45 19.7	-0.1
1.1nm,0.4s,baz=114,slow=7.7,SNR=35									
1.1nm,0.4s									
ELK	**Elko**	**93.60**	**43**	LR		LR	LR	16 34 28.5	
comp=Z,45nm,18.1s,baz=198,slow=37									
PDAR	**Pinedale Array**	**98.17**	**44**	LR		LR	LR	16 27 05.7	
comp=Z,39nm,19.4s,baz=143,slow=30									
FINES	**FINESS Array B**	**147.34**	**338**	PKPbc		PKPbc	PKPbc	15 56 55.1	-0.7
1.8nm,0.6s,baz=52,slow=3.0,SNR=12									

*SJA **07** 15:55:19.7±0.7, 23.°97S×66.°94W, h214km±6km, ML3.6, MW3.6*
ISC 07 15:55:18.6±1.7, 23.°94S±0.°03×66.°99W±0.°05, h225km±14km, n39, σ1°56/68, 10C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.56**	**120**	*e*P		**Pn**	**15 55 55.9**	**+0.6**
HJA	**Humahuaca**	**1.62**	**64**	*e*P		**Pn**	**15 55 56.8**	**+0.7**
AZAP	**Zapla**	**1.78**	**100**	*e*P		**Pn**	**15 55 57.4**	**+0.1**
LVC	**Limon Verde**	**2.21**	**306**	⇑*i*P		**Pn**	**15 56 02.9**	**+1.3**
LVC				*i* S		**S**	**15 56 34.0**	**-0.9**
LVC				IAML			15 56 35.5	
430nm,0.4s								
LVC	**Limon Verde**	**2.21**	**306**	*e*P		**Pn**	**15 56 02.9**	**+1.3**
LVC				*e*S		**S**	**15 56 34.9**	**0.0**
YJA	**Yavi**	**2.22**	**38**	*e*P		**Pn**	**15 56 02.8**	**+1.1**
FSA	**Cafayete**	**2.35**	**157**	*e*P		**Pn**	**15 56 03.3**	**+0.5**
FSA				*e*S		**S**	**15 56 35.0**	**-2.3**
PB15	**IPOC Station P**	**2.39**	**287**	⇑*i*P		**Pn**	**15 56 04.8**	**+1.5**
PB15				*i* S		**S**	**15 56 36.8**	**-1.3**
PB15	**IPOC Station P**	**2.39**	**287**	*e*P		**Pn**	**15 56 04.8**	**+1.5**
PB15				*e*S		**S**	**15 56 36.9**	**-1.1**
GO02	**Mina Guanaco**	**2.67**	**242**	⇓*i*P		**Pn**	**15 56 07.6**	**+1.3**
GO02				*i* S		**S**	**15 56 42.6**	**-0.9**
GO02				IAML			15 56 43.5	
comp=N,607nm,0.2s								
GO02	**Mina Guanaco**	**2.67**	**242**	*e*P		**Pn**	**15 56 07.6**	**+1.3**
GO02				*e*S		**S**	**15 56 43.1**	**-0.4**
PB06	**IPOC Station P**	**2.67**	**297**	⇑*i*P		**Pn**	**15 56 07.7**	**+1.5**
PB06				*i* S		**S**	**15 56 41.8**	**-1.6**
PB06				IAML			15 56 43.9	
comp=N,502nm,0.7s								
PB06	**IPOC Station P**	**2.67**	**297**	*e*P		**Pn**	**15 56 07.7**	**+1.5**
PB06				*e*S		**S**	**15 56 42.2**	**-1.2**
PB06				IAML			15 56 42.9	
comp=Z,248nm,0.5s								
ALOL	**LOMAS DE OLMED**	**2.75**	**88**	*e*P		**Pn**	**15 56 07.7**	**+0.7**
PB09	**IPOC Station P**	**2.98**	**315**	⇑*e*P		**Pn**	**15 56 11.5**	**+1.8**
PB09				*i* S		**S**	**15 56 49.1**	**-0.3**
PB09	**IPOC Station P**	**2.98**	**315**	*e*P		**Pn**	**15 56 11.5**	**+1.8**
PB09				*e*S		**S**	**15 56 50.2**	**+0.7**
PB09				IAML			15 56 55.2	
comp=Z,54nm,0.4s								
PB14	**IPOC Station P**	**3.19**	**257**	⇓*i*P		**Pn**	**15 56 13.2**	**+1.1**
PB14				*i* S		**S**	**15 56 51.5**	**-2.5**
PB14				IAML			15 56 53.9	
comp=E,138nm,0.3s								
PB14	**IPOC Station P**	**3.19**	**257**	*e*P		**Pn**	**15 56 13.1**	**+0.9**
PB14				*e*S		**S**	**15 56 52.2**	**-1.9**
PB14				IAML			15 56 53.9	
comp=Z,111nm,0.3s								
AHML	**Horco Molle**	**3.21**	**153**	*e*P		**Pn**	**15 56 12.8**	**+0.8**
AHML				*e*S		**S**	**15 56 53.1**	**-0.9**
PB04	**IPOC Station P**	**3.32**	**298**	⇑*i*P		**Pn**	**15 56 14.8**	**+1.2**
PB04				*i* S		**S**	**15 56 54.7**	**-1.8**
PB04				IAML			15 56 56.9	
comp=N,376nm,0.4s								
PB04	**IPOC Station P**	**3.32**	**298**	*e*P		**Pn**	**15 56 14.8**	**+1.2**
PB04				*e*S		**S**	**15 56 55.2**	**-1.3**
PB04				IAML			15 56 58.2	
comp=Z,188nm,0.5s								
PB07	**IPOC Station P**	**3.46**	**309**	⇑*i*P		**Pn**	**15 56 16.4**	**+1.2**
PB07				*i* S		**S**	**15 56 57.4**	**-2.1**
PB07	**IPOC Station P**	**3.46**	**309**	*e*P		**Pn**	**15 56 16.4**	**+1.2**
PB07				*e*S		**S**	**15 56 58.0**	**-1.6**
PB07				IAML			15 57 01.1	
comp=Z,145nm,0.3s								
AC02	**Maricunga**	**3.48**	**213**	⇓*i*P		**Pn**	**15 56 17.2**	**+1.6**
AC02				*i* S		**S**	**15 57 04.3**	**+3.9**
AC02	**Maricunga**	**3.48**	**213**	*e*P		**Pn**	**15 56 16.5**	**+0.9**
PB01	**IPOC Station P**	**3.69**	**321**	⇑*i*P		**Pn**	**15 56 18.9**	**+1.0**
PB01				*i* S		**S**	**15 57 03.0**	**-1.3**
PB01	**IPOC Station P**	**3.69**	**321**	*e*P		**Pn**	**15 56 18.9**	**+1.0**
PB01				*e*S		**S**	**15 57 03.9**	**-0.5**
PB01				IAML			15 57 06.8	
comp=Z,59nm,0.2s								
PB02	**IPOC Station P**	**3.74**	**314**	⇑*i*P		**Pn**	**15 56 19.4**	**+0.9**
PB02				*i* S		**S**	**15 57 03.2**	**-2.2**
PB02	**IPOC Station P**	**3.74**	**314**	*e*P		**Pn**	**15 56 19.5**	**+1.0**
PB02				*e*S		**S**	**15 57 04.2**	**-1.2**
PB02				IAML			15 57 11.8	
comp=Z,94nm,0.2s								
AC01	**Pan de Azucar**	**3.95**	**235**	*e*P		**Pn**	**15 56 21.0**	**+0.3**
AC01				*e*S		**S**	**15 57 06.1**	**-3.5**
AC01				IAML			15 57 08.6	
comp=Z,42nm,0.7s								
PATCX	**Punta Patache**	**4.27**	**316**	*e*P		**Pn**	**15 56 25.6**	**+0.8**
PB08	**IPOC Station P**	**4.28**	**332**	⇑*i*P		**Pn**	**15 56 27.1**	**+1.9**
PB08				*i* S		**S**	**15 57 17.3**	**-0.3**
PB08	**IPOC Station P**	**4.28**	**332**	*e*P		**Pn**	**15 56 27.2**	**+2.0**
PB08				*e*S		**S**	**15 57 17.9**	**+0.3**
PB08				IAML			15 57 24.1	
comp=Z,28nm,0.5s								
TA01	**Diego Aracena**	**4.47**	**318**	*e*P		**Pn**	**15 56 27.9**	**+0.7**
TA01				IAML			15 57 57.0	
comp=Z,23nm,1.3s								
HMBC	**Humberstone**	**4.53**	**323**	⇑*i*P		**Pn**	**15 56 28.0**	**0.0**
HMBC				*i* S		**S**	**15 57 19.9**	**-2.8**
HMBC	**Humberstone**	**4.53**	**323**	*e*P		**Pn**	**15 56 28.1**	**0.0**
HMBC				*e*S		**S**	**15 57 20.3**	**-2.4**
GO03	**Copiap**	**4.67**	**218**	*e*P		**Pn**	**15 56 29.9**	**+0.2**
GO03				*e*S		**S**	**15 57 24.2**	**-1.6**
GO01	**Chusmiza**	**4.72**	**334**	*e*P		**Pn**	**15 56 32.9**	**+2.2**
VCA	**Vinchina**	**4.90**	**193**	*e*P		**Pn**	**15 56 35.9**	**+3.3**

*NEIC **07** 16:04:40.9±2.8, 16.°48N±0.°04×95.°23W±0.°05, h10km±2km, mb4.3/31, Md4.8/12(MEX), Error ellipse: s-maj=8.9km s-min=7.3km az=70.0*
*IDC **07** 16:04:40.4±2.1, 16.°58N×95.°00W, h0km, mb3.9/5, mbtmp3.9/6, ML4.7/2, MS3.5/27, Error ellipse: s-maj=45.3km s-min=34.0km az=22.0*
*MEX **07** 16:04:44.4±1.6, 16.°51N×95.°17W, h51km±30km, MD4.7*
ISC 07 16:04:40.6±1.1, 16.°49N±0.°03×95.°14W±0.°02, h11km±7km, n144, σ2°05/179, mb4.0/5, MS3.5/26, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.51**	**81**	*i* P		**Pg**	**Pg**	**16 04 49.5**	**-1.1**
NILT				*e*S		**Sg**	**Sg**	**16 04 56.5**	**-0.9**
HUIG	**Huatulco**	**1.17**	**233**			**Pb**	**Pb**	**16 05 01.8**	**-1.1**
HUIG						**Sg**	**Sg**	**16 05 18.0**	**-0.3**
HUIG	**Huatulco**	**1.17**	**233**	*i* P		**Pb**	**Pb**	**16 05 01.8**	**-1.1**
HUIG				*e*S		**Sg**	**Sg**	**16 05 17.4**	**-0.9**
CARR	**Arriaga**	**1.21**	**101**	*e*P		**Pb**	**Pb**	**16 05 02.1**	**-1.4**
CARR				*e*S		**Sb**	**Sb**	**16 05 18.2**	**-0.9**
NEUV	**Arroyo Zacate**	**1.37**	**333**	*e*P		**Pn**	**Pn**	**16 05 05.3**	**-0.5**
NEUV				*e*S		**Sg**	**Sg**	**16 05 24.5**	**-0.3**
PANG	**Puerto Angel**	**1.52**	**238**	*e*P		**Pn**	**Pn**	**16 05 07.2**	**-0.5**
PANG				*e*S		**Sb**	**Sb**	**16 05 28.1**	**+0.1**
MIHL	**Minatitlan**	**1.60**	**21**	*e*P		**Pg**	**Pg**	**16 05 12.8**	**+1.5**
MIHL				*e*S		**Sg**	**Sg**	**16 05 32.5**	**+0.4**
OXLC	**Oaxaca**	**1.60**	**291**	*e*P		**Pb**	**Pb**	**16 05 09.9**	**-0.4**
OXLC				*e*S		**Sg**	**Sg**	**16 05 31.5**	**-0.6**
OXBJ	**Oaxaca**	**1.62**	**291**	*e*P		**Pb**	**Pb**	**16 05 10.1**	**-0.6**
OXBJ				*e*S		**Sg**	**Sg**	**16 05 32.0**	**-0.8**
VHO	**Vista Hermosa**	**1.63**	**291**	*i* P		**Pb**	**Pb**	**16 05 10.2**	**-0.6**
VHO				*e*S		**Sb**	**Sb**	**16 05 32.1**	**+0.6**
TUIG	**Tuzandepetl**	**1.69**	**24**	*e*P		**Pn**	**Pn**	**16 05 10.4**	**+0.3**
TUIG				*e*S		**Sb**	**Sb**	**16 05 33.6**	**+0.7**
TGIG		**1.96**	**81**	*e*P		**Pn**	**Pn**	**16 05 14.9**	**+1.0**
TGIG				*e*S		**Sn**	**Sn**	**16 05 37.7**	**-0.9**
PEIG	**Puerto Escondi**	**1.98**	**256**			**Pn**	**Pn**	**16 05 14.1**	**-0.1**
PEIG						**Sb**	**Sb**	**16 05 41.0**	**-0.6**
PEIG	**Puerto Escondi**	**1.98**	**256**	*e*P		**Pn**	**Pn**	**16 05 14.1**	**-0.1**
PEIG				*e*S		**Sb**	**Sb**	**16 05 41.0**	**-0.6**
TGBT	**Tuxtla Gutierr**	**1.99**	**81**	*e*P		**Pn**	**Pn**	**16 05 15.0**	**+0.8**
TGBT				*e*S		**Sb**	**Sb**	**16 05 41.2**	**-0.5**
PCIG		**2.01**	**113**	*e*P		**Pn**	**Pn**	**16 05 13.9**	**-0.5**
PCIG				*e*S		**Sn**	**Sn**	**16 05 39.3**	**-0.3**
PMUV	**Sontecomapan**	**2.05**	**1**	*e*P		**Pn**	**Pn**	**16 05 14.8**	**-0.3**
YOIG	**Yosondua**	**2.33**	**279**	*e*P		**Pn**	**Pn**	**16 05 20.9**	**+1.7**
YOIG				*e*S		**Sn**	**Sn**	**16 05 49.4**	**+1.4**
TOIG	**Toxpalan**	**2.44**	**311**	*e*P		**Pn**	**Pn**	**16 05 22.5**	**+2.0**
TOIG				*e*S		**Sn**	**Sn**	**16 05 46.8**	**-3.5**
TXIG	**Tlaxiaco**	**2.62**	**287**	*e*P		**Pn**	**Pn**	**16 05 25.5**	**+2.2**
TXIG				*e*S		**Sn**	**Sn**	**16 05 56.7**	**+1.4**
TPIG	**Tehuac#an**	**2.86**	**313**	*e*P		**Pn**	**Pn**	**16 05 27.9**	**+1.5**
TPIG				*e*S		**Sn**	**Sn**	**16 05 57.3**	**-3.6**
PNIG	**Pinotepa**	**2.86**	**269**	*e*P		**Pn**	**Pn**	**16 05 26.3**	**0.0**
PNIG				*e*S		**Sn**	**Sn**	**16 06 00.6**	**-0.2**
HLIG	**Huajuapan de L**	**2.87**	**298**	*e*P		**Pb**	**Pb**	**16 05 29.7**	**-2.4**
HLIG				*e*S		**Sn**	**Sn**	**16 06 00.1**	**-1.2**
CCIG	**Comitan**	**2.89**	**94**	*e*P		**Pn**	**Pn**	**16 05 28.8**	**+2.0**
CCIG				*e*S		**Sb**	**Sb**	**16 06 06.6**	**-1.3**
OZST	**Orizaba**	**3.00**	**322**	*e*P		**Pn**	**Pn**	**16 05 29.8**	**+1.5**
OZST				*e*S		**Sn**	**Sn**	**16 06 05.1**	**+0.6**
PATR	**El Naranjo**	**3.12**	**116**	*e*P		**Pn**	**Pn**	**16 05 30.4**	**+0.5**
PATR				*e*S		**Sn**	**Sn**	**16 06 06.5**	**-0.8**
PAVE	**Pavencul**	**3.13**	**114**	*e*P		**Pn**	**Pn**	**16 05 31.7**	**+1.5**
PAVE				*e*S		**Sn**	**Sn**	**16 06 10.0**	**+2.3**
THIG		**3.19**	**119**	*e*P		**Pn**	**Pn**	**16 05 27.9**	**-2.8**
THIG				*e*S		**Sn**	**Sn**	**16 06 06.8**	**-1.9**
FTIG	**Fresnillo de T**	**3.19**	**297**	*e*P		**Pn**	**Pn**	**16 05 33.8**	**+3.0**
FTIG				*e*S		**Sn**	**Sn**	**16 06 06.3**	**-2.6**
CHUJ	**Union Juarez**	**3.23**	**115**	*e*P		**Pn**	**Pn**	**16 05 32.0**	**+0.4**
CHUJ				*e*S		**Sn**	**Sn**	**16 06 10.2**	**0.0**
JAUV	**Jalcomulco**	**3.27**	**331**	*e*P		**Pn**	**Pn**	**16 05 30.5**	**-1.4**
JAUV				*e*S		**Sn**	**Sn**	**16 06 08.9**	**-2.0**
LVIG	**Laguna Verde**	**3.44**	**340**	*e*P		**Pn**	**Pn**	**16 05 32.6**	**-1.6**
LVIG				*e*S		**Sn**	**Sn**	**16 06 15.9**	**+0.9**
TLIG	**Tlapa**	**3.44**	**289**	*e*P		**Pn**	**Pn**	**16 05 37.1**	**+2.7**
TLIG				*e*S		**Sn**	**Sn**	**16 06 12.9**	**-2.4**
HMTT	**Tlapaneco**	**3.52**	**292**	*e*P		**Pn**	**Pn**	**16 05 38.3**	**+3.0**
HMTT				*e*S		**Sn**	**Sn**	**16 06 19.1**	**+2.1**
**HU

BRDY	**Brady**	**15.15 347**		**Pn**	**16 08 16.4**	**+1.8**
BRDY			IAmb	IAmb	16 08 37.6	
comp=Z,6.7nm,0.6s						
OZNA	**Ozona**	**15.37 340**		**P**	**16 08 21.0**	**-1.3**
OZNA			IAmb	IAmb	16 08 26.5	
comp=Z,14nm,0.8s						
WHTX	**Lake Whitney,**	**15.58 353**	Pn	**Pn**	**16 08 22.2**	**+1.9**
ALPN	**Alpine**	**15.86 332**		**P**	**16 08 26.4**	**-1.4**
ALPN			IAmb	IAmb	16 08 32.1	
comp=Z,18nm,0.7s						
FW13	**Cleburne**	**15.93 353**		**Pn**	**16 08 26.2**	**+1.3**
FW13			IAmb	IAmb	16 08 28.5	
comp=Z,44nm,0.6s						
FW07	**Weatherford**	**16.32 352**		**Pn**	**16 08 30.1**	**+0.3**
FW07			IAmb	IAmb	16 08 42.4	
comp=Z,44nm,0.6s						
FW06	**Azle**	**16.56 353**	Pn	**Pn**	**16 08 33.0**	**+0.1**
FW06			IAmb	IAmb	16 08 47.9	
comp=Z,20nm,0.6s						
ABTX	**Abilene, Hawle**	**16.58 347**		**P**	**16 08 34.6**	**-1.0**
ABTX			IAmb	IAmb	16 08 47.2	
comp=Z,13nm,0.6s						
FW03	**Perrin-Whitt E**	**16.69 351**	P	**P**	**16 08 36.3**	**-0.6**
FW03			IAmb	IAmb	16 08 47.9	
comp=Z,19nm,0.9s						
PECS	**Pecos**	**16.81 333**	P	**Pn**	**16 08 37.2**	**+1.0**
PECS			IAmb	IAmb	16 08 43.2	
comp=Z,15nm,0.7s						
425A	**Indio Mountain**	**16.84 329**		**P**	**16 08 37.7**	**-0.9**
APMT	**Aspermont**	**17.36 346**	P	**Pn**	**16 08 43.7**	**+0.7**
APMT			IAmb	IAmb	16 09 00.4	
comp=Z,9.2nm,0.7s						
POST	**Post**	**17.48 342**	P	**P**	**16 08 45.3**	**-0.4**
POST			IAmb	IAmb	16 09 00.5	
comp=Z,8.2nm,0.7s						
LOOK	**Love County**	**17.53 354**		**P**	**16 08 46.9**	**+0.8**
X37A	**Clayton**	**18.03 359**		**P**	**16 08 53.8**	**+2.2**
X37A			IAmb	IAmb	16 09 03.0	
comp=Z,17nm,0.8s						
MIAR	**Mount Ida**	**18.04 4**		**P**	**16 08 51.8**	**0.0**
X34A	**Smith Ranch, M**	**18.20 353**		**P**	**16 08 55.4**	**+1.8**
W35A	**Tecumseh**	**18.65 356**	P	**Pn**	**16 08 59.1**	**+0.2**
W35A			IAmb	IAmb	16 09 15.6	
comp=Z,13nm,0.7s						
MSTX	**Muleshoe**	**18.71 340**		**Pn**	**16 08 59.9**	**+0.2**
AMTX	**Amarillo**	**19.23 343**	P	**Pn**	**16 09 05.9**	**-0.1**
OK052	**Battle Ridge R**	**19.48 356**	P	**P**	**16 09 06.4**	**-1.2**
OK052			IAmb	IAmb	16 09 16.8	
comp=Z,15nm,0.8s						
FCAR	**Ozark Folk Cen**	**19.51 7**		**P**	**16 09 06.2**	**-1.7**
FCAR			IAmb	IAmb	16 09 11.8	
comp=Z,8.1nm,0.9s						
121A	**Cookes Peak, D**	**19.66 327**		**P**	**16 09 10.5**	**+0.8**
121A			IAmb	IAmb	16 09 18.7	
comp=Z,7.4nm,0.7s						
QUOK	**Quay**	**19.66 356**		**P**	**16 09 07.9**	**-1.6**
QUOK			IAmb	IAmb	16 09 27.4	
comp=Z,14nm,0.7s						
T35A	**Sooner Cattle**	**20.39 357**		**P**	**16 09 16.4**	**-1.1**
T35A			IAmb	IAmb	16 09 24.5	
comp=Z,16nm,0.7s						
KAN13	**South Haven SW**	**20.55 355**		**P**	**16 09 18.4**	**-0.9**
KAN13			IAmb	IAmb	16 09 39.7	
comp=Z,12nm,0.5s						
ANMO	**Albuquerque**	**20.99 333**	P	**P**	**16 09 24.2**	**0.0**
ANMO	**Albuquerque**	**20.99 333**	P	**P**	**16 09 25.4**	**+1.1**
comp=Z,1.4nm,0.6s,baz=185,slow=12,SNR=3.8						
ANMO			LR	LR	16 19 10.5	
comp=Z,50nm,21.6s,baz=244,slow=42						
comp=Z,1.4nm,0.6s						
S39A	**Bolivar**	**21.18 4**	P	**P**	**16 09 26.2**	**+0.1**
TKL	**Tuckaleechee C**	**21.62 26**	LR	LR	16 19 41.3	
comp=Z,65nm,18.6s,baz=164,slow=42						
R40A	**Maddies Statio**	**21.87 6**	P	**P**	**16 09 32.5**	**-1.0**
R40A			IAmb	IAmb	16 09 37.8	
comp=Z,8.2nm,0.6s						
GUY2C	**Guyana, Caldas**	**22.39 118**	*e*P	**P**	**16 09 42.4**	**+2.7**
BBAC	**Balboa, Cauca**	**22.74 127**	*e*P	**P**	**16 09 46.4**	**+3.2**
ORTC	**Ortega, Tolima**	**23.20 120**	*e*P	**P**	**16 09 51.0**	**+3.2**
ROSC	**El Rosal**	**23.48 117**	LR	LR	16 21 11.6	
comp=Z,91nm,18.3s,baz=216,slow=42						
N38A	**Joes South For**	**24.28 4**	P	**P**	**16 09 57.3**	**-0.6**
SDV	**Santo Domingo**	**25.06 105**	LR	LR	16 20 26.7	
comp=Z,109nm,19.0s,baz=358,slow=38						
OGNE	**Ogallala**	**25.09 348**	P	**P**	**16 10 03.9**	**-1.5**
ATAH	**Atahualpa**	**28.73 143**	LR	LR	16 20 25.0	
comp=Z,78nm,19.2s,baz=313,slow=33						
PDAR	**Pinedale Array**	**28.95 338**	P	**P**	**16 10 42.1**	**+1.8**
comp=Z,0.4nm,0.6s,baz=157,slow=9.5,SNR=3.7						
comp=Z,0.4nm,0.6s						
ELK	**Elko**	**29.78 328**	LR	LR	16 25 17.7	
comp=Z,157nm,19.8s,baz=178,slow=42						
NVAR	**Mina Array Bea**	**29.84 322**	P	**P**	**16 10 50.0**	**+1.7**
comp=Z,1.8nm,0.8s,baz=137,slow=9.3,SNR=15						
comp=Z,1.8nm,0.8s						
SADO	**Sadowa**	**31.25 22**	LR	LR	16 25 25.6	
comp=Z,90nm,19.2s,baz=160,slow=40						
ULM	**Lac du Bonnet**	**33.68 359**	P	**P**	**16 11 21.2**	**-0.4**
comp=Z,3.2nm,0.6s,baz=206,slow=8.0,SNR=2.4						
comp=Z,3.2nm,0.6s						
YBH	**Yreka Blue Hor**	**34.55 322**	LR	LR	16 25 06.3	
comp=Z,103nm,21.2s,baz=152,slow=36						
LVC	**Limon Verde**	**46.57 146**	LR	LR	16 31 34.8	
comp=Z,49nm,19.2s,baz=288,slow=35						
SIV	**San Ignacio**	**46.60 132**	LR	LR	16 32 37.0	
comp=Z,53nm,18.2s,baz=105,slow=36						
CPUP	**Villa Florida**	**56.24 139**	LR	LR	16 38 30.6	
comp=Z,42nm,18.9s,baz=34,slow=36						
BDFB	**Brasilia**	**56.41 122**	LR	LR	16 40 38.6	
comp=Z,62nm,19.1s,baz=4.3,slow=38						
SFJD	**Kangerlussuaq**	**58.12 19**	LR	LR	16 41 18.1	
comp=Z,38nm,18.2s,baz=220,slow=38						
RES	**Resolute Bay**	**58.21 0**	LR	LR	16 44 10.9	
comp=Z,18nm,18.9s,baz=3.0,slow=41						
ILAR	**Eielson Array**	**59.38 337**	LR	LR	16 43 09.9	
comp=Z,91nm,18.4s,baz=76,slow=39						
PLCA	**Paso Flores**	**61.34 159**	LR	LR	16 36 17.0	
comp=Z,39nm,18.2s,baz=348,slow=31						
BORG	**Borgarnes**	**68.32 26**	LR	LR	16 44 50.0	
comp=Z,33nm,21.8s,baz=250,slow=35						
SHEM	**Shemya Is, Ala**	**77.52 321**	LR	LR	16 48 41.0	
comp=Z,18nm,20.4s,baz=358,slow=34						
ESDC	**Sonseca Array**	**80.56 51**	LR	LR	16 49 34.5	
comp=Z,31nm,18.1s,baz=310,slow=34						
MDT	**Midelt**	**81.69 58**	LR	LR	16 52 17.0	
comp=Z,20nm,19.5s,baz=337,slow=35						
NOA	**NORSAR Array B**	**83.40 28**	P	**P**	**16 17 08.9**	**+1.0**
comp=Z,0.9nm,0.8s,baz=291,slow=5.3,SNR=3.4						
NOA			LR	LR	16 53 37.9	
comp=Z,23nm,21.9s,baz=275,slow=35						
comp=Z,0.9nm,0.8s						
HFS	**Hagfors**	**84.89 28**	LR	LR	16 53 03.0	
comp=Z,96nm,21.9s,baz=288,slow=34						
DAVOX	**Davos/Dischmat**	**88.05 42**	LR	LR	16 58 35.2	
comp=Z,16nm,18.4s,baz=270,slow=37						
FINES	**FINESS Array B**	**89.52 24**	LR	LR	16 56 55.1	
comp=Z,21nm,21.8s,baz=306,slow=35						
VRAC	**Vranov**	**91.11 37**	LR	LR	17 00 00.6	
comp=Z,22nm,18.1s,baz=305,slow=36						
KEST	**Kesra**	**91.80 52**	LR	LR	16 58 44.1	
comp=Z,29nm,18.1s,baz=294,slow=35						
LZH	**Lanzhou**	**124.71 341**	*e*PKP	**PKPdf**	**16 23 40.2**	**-1.0**
LZH	**Lanzhou**	**124.71 341**	sPKP		16 23 54.3	
WRA	**Warramunga Arr**	**133.00 258**	PKP	**PKiKP**	**16 23 58.4**	**+0.2**
comp=Z,0.1nm,0.5s,baz=88,slow=1.9,SNR=4.6						
ASAR	**Alice Springs**	**133.56 253**	PKP	**PKiKP**	**16 23 59.6**	**+0.2**
comp=Z,0.4nm,1.0s,baz=95,slow=3.1,SNR=2.1						
PZH	**PanZhiHua**	**134.22 339**	PKP	**PKPdf**	**16 23 55.2**	**-4.2**

MOS ***07*** *16:07:12.6±1.2, 63°.08N×151°.56W, h10km, mb4.5/17, Error ellipse: s-maj=17.1km s-min=8.1km az=91.8*
IDC ***07*** *16:07:13.7±0.5, 63°.23N×151°.61W, h0km, mb4.2/22, mbtmp4.1/27, ML3.8/5, MS3.3/8, Error ellipse: s-maj=10.7km s-min=9.8km az=177.0*
AEIC ***07*** *16:07:14.5±2.1, 63°.11N±0°.02×151°.49W±0°.05, h9km±4km, ML4.2, mb4.5/11(NEIC), ML4.3/170(NEIC), Mwr4.0/145(NEIC), Error ellipse: s-maj=3.7km s-min=2.5km az=91.0*
ANF ***07*** *16:07:15.2±0.3, 63°.13N×151°.49W, h8km±2km, ML4.6/129, ML4.6/128, Error ellipse: s-maj=1.1km s-min=1.0km az=109.0*
NEIC ***07*** *16:07:15.2±2.3, 63°.12N±0°.02×151°.49W±0°.04, h14km±3km, Error ellipse: s-maj=3.4km s-min=2.5km az=218.0,*

Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.73; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-1.00; $M_{r\theta}$0.71; $M_{\theta\phi}$-0.36; $M_{\phi r}$0.07; Fault plane solution: $M_0$1.20000×10^{15} NP1: ϕ_s164.32000°, δ47.65000°, λ37.95000°. NP2:ϕ_s46.60000°, δ62.97000°, λ130.86000°. Principal axes: T 1.2554, Plg53.0000°, Azm7.0000°; N -0.1234, Plg36.0000°, Azm205.0000°; P -1.1320, Plg9.0000°, Azm109.0000°;
NEIC ***07*** *16:07:15.2, 63°.13N×151°.46W, h15km*
ISC 07 16:07:15.2±0.9, 63°.10N±0°.02×151°.48W±0°.02, h13km±5km, **n632,** σ1$**05/651, mb4.4/41, MS3.4/6, 8C-11D, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.38**	**238**		**Pg**	**16 07 22.2**	**-0.7**
PPLA					**Sg**	**16 07 27.1**	**-1.1**
PPLA	**Purkeypile**	**0.38**	**238**	P	**Pg**	**16 07 22.2**	**-0.7**
baz=56,SNR=1000							
PPLA				S	**Sg**	**16 07 27.3**	**-0.8**
baz=56							
CAST	**Castle Rocks**	**0.42**	**320**		**Pg**	**16 07 23.0**	**-0.6**
CAST	**Castle Rocks**	**0.42**	**320**		**Sg**	**16 07 28.3**	**-0.9**
CAST	**Castle Rocks**	**0.42**	**320**	P	**Pg**	**16 07 23.1**	**-0.4**
baz=136,SNR=1000							
CAST				S	**Sg**	**16 07 28.4**	**-0.9**
baz=136							
KTH	**Kantishna Hill**	**0.52**	**29**		**Pg**	**16 07 25.0**	**-0.4**
KTH	**Kantishna Hill**	**0.52**	**29**		**Sg**	**16 07 32.1**	**-0.2**
TRF	**Thorofare Moun**	**0.64**	**56**		**Pg**	**16 07 27.1**	**-0.7**
TRF	**Thorofare Moun**	**0.64**	**56**		**Sg**	**16 07 36.1**	**-0.1**
TRF	**Thorofare Moun**	**0.64**	**56**	P	**Pg**	**16 07 27.3**	**-0.4**
baz=238,SNR=764							
TRF				S	**Sg**	**16 07 36.5**	**+0.3**
baz=238							
CHUM	**Lake Minchumin**	**0.87**	**335**		**Pg**	**16 07 31.7**	**-0.3**
CHUM					**Sg**	**16 07 43.0**	**-0.4**
CHUM	**Lake Minchumin**	**0.87**	**335**	P	**Pg**	**16 07 31.6**	**-0.3**
baz=153,SNR=1000							
CHUM				S	**Sg**	**16 07 43.0**	**-0.4**
baz=153							
CUT	**Chulitna**	**0.89**	**141**		**Pg**	**16 07 32.0**	**-0.5**
CUT					**Sg**	**16 07 43.7**	**-0.4**
CUT	**Chulitna**	**0.89**	**141**	P	**Pg**	**16 07 31.9**	**-0.5**
baz=323,SNR=1000							
CUT				S	**Sg**	**16 07 43.7**	**-0.4**
baz=323							
BPAW	**Bear Paw Mtn.**	**1.03**	**12**		**Pb**	**16 07 34.1**	**-0.7**
BPAW					**Sb**	**16 07 47.6**	**-0.6**
BPAW	**Bear Paw Mtn.**	**1.03**	**12**	IAML		16 07 50.0	
comp=E,8μm,0.6s							
BPAW				IAML		16 07 50.7	
comp=N,7μm,0.7s							
BPAW	**Bear Paw Mtn.**	**1.03**	**12**	P	**Pb**	**16 07 34.1**	**-0.7**
baz=192,SNR=1000							
SKT	**Skwentna**	**1.13**	**181**		**Pb**	**16 07 36.0**	**-0.5**
SKT					**Sb**	**16 07 50.2**	**-0.9**
SKT	**Skwentna**	**1.13**	**181**	IAML		16 07 50.9	
comp=E,5μm,0.3s							
SKT				IAML		16 07 51.3	
comp=N,7μm,0.3s							
SKT	**Skwentna**	**1.13**	**181**	P	**Pb**	**16 07 36.0**	**-0.5**
baz=1.8,SNR=564							
SKT				S	**Sb**	**16 07 50.2**	**-0.9**
baz=1.8							
K20K	**Telida**	**1.20**	**284**		**Pn**	**16 07 37.3**	**-0.4**
K20K					**Sb**	**16 07 53.0**	**-0.2**
K20K	**Telida**	**1.20**	**284**	IAML		16 07 55.1	
comp=E,9μm,0.6s							
K20K	**Telida**	**1.20**	**284**	S	**Sb**	**16 07 53.2**	**0.0**
baz=100							
RND	**Reindeer**	**1.23**	**74**		**Pn**	**16 07 37.5**	**-0.6**
RND	**Reindeer**	**1.23**	**74**	IAML		16 07 58.6	
comp=N,4μm,0.8s							
RND	**Reindeer**	**1.23**	**74**	P	**Pn**	**16 07 37.5**	**-0.6**
WAT7	**Susitna Watana**	**1.23**	**101**		**Pn**	**16 07 37.8**	**-0.4**
WAT7					**Sb**	**16 07 53.5**	**-0.7**
MCK	**McKinley**	**1.31**	**60**		**Pn**	**16 07 39.1**	**-0.1**
MCK					**Sn**	**16 07 56.5**	**0.0**
MCK	**McKinley**	**1.31**	**60**	P	**Pn**	**16 07 39.1**	**-0.1**
MCK						16 07 56.5	
MCK	**McKinley**	**1.31**	**60**	P	**Pn**	**16 07 39.1**	**-0.1**
baz=243,SNR=1000							
MCK				S	**Sn**	**16 07 56.7**	**+0.1**
baz=243							
WAT1	**Susitna Watana**	**1.37**	**100**		**Pn**	**16 07 40.1**	**+0.1**
WAT1	**Susitna Watana**	**1.37**	**100**	P	**Pn**	**16 07 39.9**	**0.0**
baz=284							
WAT1				S	**Sn**	**16 07 58.1**	**+0.1**
baz=284							
BWN	**Browne**	**1.40**	**39**		**Pn**	**16 07 40.4**	**-0.1**
M20K	**Styx River**	**1.44**	**213**		**Pn**	**16 07 40.5**	**-0.6**
M20K	**Styx River**	**1.44**	**213**	IAML		16 08 00.5	
comp=N,5μm,0.5s							
M20K				IAML		16 08 01.1	
comp=E,5μm,0.5s							
M20K	**Styx River**	**1.44**	**213**	P	**Pn**	**16 07 40.5**	**-0.6**
baz=31							
M20K				S	**Sn**	**16 07 59.5**	**-0.4**
baz=31							
M22K	**Willow**	**1.49**	**154**		**Pn**	**16 07 41.1**	**-0.6**
M22K					**Sn**	**16 08 01.4**	**+0.5**
M22K	**Willow**	**1.49**	**154**	P	**Pn**	**16 07 41.3**	**-0.4**
baz=336,SNR=414							
M22K				S	**Sb**	**16 08 01.5**	**0.0**
baz=336							
J20K	**Nowinta River**	**1.61**	**313**		**Pn**	**16 07 43.0**	**-0.3**
J20K	**Nowinta River**	**1.61**	**313**	P	**Pn**	**16 07 43.0**	**-0.3**
baz=130,SNR=1000							
J20K				Sb	**Sg**	**16 08 06.0**	**-0.9**
baz=130							
STLK	**Strandline Lak**	**1.62**	**186**		**Pn**	**16 07 43.7**	**+0.2**
SUA	**Susitna One**	**1.68**	**168**		**Pn**	**16 07 44.7**	**+0.3**
SUA				IAML		16 08 09.5	
comp=E,4μm,0.6s							
SUA	**Susitna One**	**1.68**	**168**	P	**Pn**	**16 07 44.8**	**+0.4**
baz=349,SNR=437							
SUA				S	**Sb**	**16 08 07.7**	**+0.6**
baz=349							
GHO	**Glory Hole Cre**	**1.79**	**137**		**Pn**	**16 07 45.9**	**+0.1**
GHO	**Glory Hole Cre**	**1.79**	**137**	IAML		16 08 15.6	
comp=N,5μm,0.5s							
WAT6	**Susitna Watana**	**1.79**	**105**		**Pn**	**16 07 45.0**	**-0.9**
WAT6	**Susitna Watana**	**1.79**	**105**	P	**Pn**	**16 07 45.1**	**-0.9**
baz=289,SNR=758							
WAT6				S	**Sn**	**16 08 08.8**	**+0.1**
baz=289							
M19K	**Big River Lodg**	**1.81**	**230**		**Pn**	**16 07 46.1**	**+0.1**
M19K	**Big River Lodg**	**1.81**	**230**	IAML		16 08 13.0	
comp=E,3μm,0.4s							
M19K				IAML		16 08 13.5	
comp=N,4μm,0.5s							
M19K	**Big River Lodg**	**1.81**	**230**	P	**Pn**	**16 07 46.2**	**+0.1**
baz=47,SNR=841							
M19K				S	**Sb**	**16 08 11.5**	**+0.8**
baz=47							
L19K	**White Mountain**	**1.81**	**241**		**Pn**	**16 07 45.3**	**-0.8**
L19K	**White Mountain**	**1.81**	**241**	IAML		16 08 13.6	
comp=E,4μm,0.6s							
L19K				IAML		16 08 15.9	
comp=N,4μm,0.8s							
L19K	**White Mountain**	**1.81**	**241**	P	**Pn**	**16 07 45.9**	**-0.2**
baz=58,SNR=798							
L19K				S	**Sb**	**16 08 11.0**	**+0.2**
baz=58							
SPCG	**Spurr Capps Gl**	**1.83**	**188**		**Pn**	**16 07 47.1**	**+0.6**
NEA2	**Nenana**	**1.84**	**34**		**Pn**	**16 07 45.1**	**-1.4**
NEA2	**Nenana**	**1.84**	**34**	P	**Pn**	**16 07 45.1**	**-1.4**
baz=217,SNR=478							
NEA2				Sb	**Sg**	**16 08 12.8**	**-1.5**
baz=217							
DHY	**Denali Highway**	**1.87**	**89**		**Pn**	**16 07 47.1**	**+0.1**
DHY				IAML		16 08 14.7	
comp=E,3μm,0.9s							
DHY	**Denali Highway**	**1.87**	**89**	P	**Pn**	**16 07 47.1**	**+0.1**
baz=273,SNR=628							
DHY				S	**Sb**	**16 08 11.9**	**-0.6**
baz=273							
PMR	**Palmer**	**1.87**	**143**		**Pn**	**16 07 46.9**	**+0.1**
PMR				IAML		16 08 14.8	
comp=N,4μm,0.6s							
PMR				IAML		16 08 15.4	
comp=E,4μm,0.7s							
PMR	**Palmer**	**1.87**	**143**	P	**Pn**	**16 07 47.2**	**+0.4**
PMR	**Palmer**	**1.87**	**143**	P	**Pn**	**16 07 46.9**	**+0.1**
PMR	**Palmer**	**1.87**	**143**	P	**Pn**	**16 07 47.1**	**+0.2**
baz=326,SNR=516							
PMR				S	**Sb**	**16 08 12.0**	**-0.4**
baz=326							
SPCP	**Crater Peak Br**	**1.87**	**190**		**Pn**	**16 07 47.4**	**+0.4**
SPBG	**Spurr Blockage**	**1.90**	**193**		**Pn**	**16 07 48.0**	**+0.7**
N20K	**Mount Spurr**	**1.94**	**190**	P	**Pn**	**16 07 48.1**	**+0.2**
baz=10,SNR=261							
N20K				S	**Sb**	**16 08 14.5**	**+0.1**
baz=10							
SPCR	**Spurr Chakacha**	**1.94**	**190**		**Pn**	**16 07 48.2**	**+0.3**
SPCR	**Spurr Chakacha**	**1.94**	**190**	P	**Pn**	**16 07 48.4**	**+0.5**
baz=10,SNR=180							
SPCR				S	**Sb**	**16 08 14.5**	**0.0**
baz=10							
CKL	**Chakachamna La**	**1.95**	**192**		**Pn**	**16 07 49.1**	**+1.0**
SML	**Sawmill**	**1.96**	**130**		**Pn**	**16 07 48.0**	**-0.1**
SML	**Sawmill**	**1.96**	**130**	P	**Pn**	**16 07 48.0**	**-0.1**
baz=314,SNR=466							
SML				S	**Sb**	**16 08 14.7**	**-0.2**
baz=314							
MLY	**Manley**	**1.96**	**9**	Pn	**Pn**	**16 07 47.7**	**-0.5**
MLY	**Manley**	**1.96**	**9**	P	**Pn**	**16 07 47.7**	**-0.5**
baz=190,SNR=605							
MLY				Sb	**Sg**	**16 08 16.8**	**-1.5**
baz=190							
WRH	**Wood River Hil**	**2.04**	**46**		**Pn**	**16 07 48.1**	**-1.1**
FIS	**Fire Island**	**2.05**	**163**		**Pn**	**16 07 50.7**	**+1.4**
J19K	**Poorman**	**2.06**	**298**		**Pn**	**16 07 49.3**	**-0.2**
J19K	**Poorman**	**2.06**	**298**	P	**Pn**	**16 07 49.0**	**-0.4**
baz=113,SNR=488							
J19K				Sb	**Sb**	**16 08 19.3**	**+1.4**
baz=113							
TTA	**Tatalina**	**2.07**	**267**		**Pn**	**16 07 49.0**	**-0.8**
TTA	**Tatalina**	**2.07**	**267**	IAML		16 08 24.3	
comp=N,2μm,0.5s							
TTA				IAML		16 08 24.3	
comp=E,2μm,0.5s							
TTA	**Tatalina**	**2.07**	**267**	P	**Pn**	**16 07 49.8**	**+0.1**
TTA	**Tatalina**	**2.07**	**267**	P	**Pn**	**16 07 49.0**	**-0.8**
TTA	**Tatalina**	**2.07**	**267**	P	**Pn**	**16 07 48.7**	**-1.0**
baz=83,SNR=639							
TTA				Sb	**Sb**	**16 08 19.5**	**+1.1**
baz=83							
I20K	**Naaghedeneel**	**2.16**	**323**		**Pn**	**16 07 50.9**	**+0.1**
I20K	**Naaghedeneel**	**2.16**	**323**	P	**Pn**	**16 07 50.7**	**0.0**
baz=140,SNR=120							
RC01	**Rabbit Creek A**	**2.18**	**157**		**Pn**	**16 07 51.4**	**+0.2**
RC01				IAML		16 08 25.7	
comp=N,2μm,0.4s							
RC01				IAML		16 08 27.4	
comp=E,1μm,0.5s							
RC01	**Rabbit Creek A**	**2.18**	**157**	P	**Pn**	**16 07 52.2**	**+1.1**
baz=339,SNR=129							
M23K	**Glacier View**	**2.18**	**125**		**Pn**	**16 07 51.1**	**-0.1**
M23K	**Glacier View**	**2.18**	**125**	P	**Pn**	**16 07 51.0**	**-0.1**
baz=309,SNR=500							
KNK	**Knik Glacier**	**2.21**	**139**		**Pn**	**16 07 52.4**	**+0.9**
KNK				IAML		16 08 26.6	
comp=N,2μm,0.4s							
KNK				IAML		16 08 29.4	
comp=E,3μm,0.6s							
KNK	**Knik Glacier**	**2.21**	**139**	P	**Pn**	**16 07 52.6**	**+1.1**
baz=322,SNR=381							
KNK				S	**Sb**	**16 08 20.9**	**-1.2**
baz=322							
CCB	**Clear Creek Bu**	**2.25**	**45**		**Pn**	**16 07 50.9**	**-1.1**
CCB				IAML		16 08 25.5	
comp=E,2μm,0.6s							
CCB				IAML		16 08 26.8	
comp=N,2μm,0.5s							
I23K	**Minto, Yukon-K**	**2.26**	**23**		**Pn**	**16 07 51.6**	**-0.6**
I23K				IAML		16 08 26.8	
comp=N,2μm,0.6s							
I23K				IAML		16 08 27.7	
comp=E,2μm,0.5s							
I23K	**Minto, Yukon-K**	**2.26**	**23**	P	**Pn**	**16 07 51.5**	**-0.6**
baz=205,SNR=115							
I23K				Sb	**Sb**	**16 08 25.1**	**+1.6**
baz=205							
SCM	**Sheep Creek Mo**	**2.31**	**122**		**Pn**	**16 07 53.0**	**0.0**
SCM				IAML		16 08 27.9	
comp=N,2μm,0.8s							
SCM				IAML		16 08 28.4	
comp=E,2μm,1.0s							
SCM	**Sheep Creek Mo**	**2.31**	**122**	P	**Pn**	**16 07 53.0**	**0.0**
SCM	**Sheep Creek Mo**	**2.31**	**122**	P	**Pn**	**16 07 52.8**	**-0.2**
baz=306,SNR=215							
SCM				Sb	**Sb**	**16 08 27.0**	**+1.8**
baz=306							
CAPN	**Captain Cook N**	**2.35**	**176**		**Pb**	**16 07 56.3**	**-1.0**
CAPN	**Captain Cook N**	**2.35**	**176**	P	**Pn**	**16 07 55.1**	**+1.7**
baz=357							
MDM	**Murphy Dome**	**2.35**	**36**		**Pn**	**16 07 52.4**	**-1.1**
I53US	**FAIRBANKS INFR**	**2.39**	**40**	I	I	16 22 10.0	
baz=217,slow=323,SNR=2.2							
COLA	**College**	**2.39**	**40**		**Pn**	**16 07 53.0**	**-1.0**
COLA	**College**	**2.39**	**40**	P	**Pn**	**16 07 53.2**	**-0.8**
COLA	**College**	**2.39**	**40**	*d*P	**Pn**	**16 07 54.3**	**+0.3**
COLA	**College**	**2.39**	**40**	P	**Pn**	**16 07 53.0**	**-1.0**
baz=224							
J18K	**Innoko River**	**2.39**	**281**		**Pn**	**16 07 53.8**	**-0.3**
J18K	**Innoko River**	**2.39**	**281**	P	**Pn**	**16 07 53.9**	**-0.2**
baz=96,SNR=950							
HDA	**Harding Lake**	**2.40**	**55**		**Pn**	**16 07 53.3**	**-0.9**
HDA				IAML		16 08 31.6	
comp=E,2μm,0.5s							
HDA	**Harding Lake**	**2.40**	**55**	P	**Pn**	**16 07 53.4**	**-0.8**
baz=239,SNR=245							
HDA				Sb	**Sg**	**16 08 30.0**	**-2.3**
baz=239							
HDA				Sb	**Sg**	**16 08 30.0**	**-2.3**
baz=239							
L18K	**Granite Mounta**	**2.56**	**252**		**Pn**	**16 07 55.3**	**-1.1**
L18K	**Granite Mounta**	**2.56

baz=276,SNR=522
O22K Cooper Landing 2.76 162 Pn 16 08 01.0 +1.9
O22K Cooper Landing 2.76 162 P Pn 16 08 01.0 +1.9
baz=344,SNR=101
RED Redoubt Volcan 2.76 193 Pn 16 08 00.1 +0.9
SVW2 Sparrevohn 2.79 226 Pn Pn 16 07 59.5 0.0
SVW2 IAML 16 08 48.6
comp=N,2µm,1.0s
SVW2 IAML 16 08 48.9
comp=E,2µm,0.8s
SVW2 Sparrevohn 2.79 226 P Pn 16 08 00.0 +0.5
H22K Ishtalitna Cre 2.81 1 Pn 16 07 59.8 +0.1
H22K Ishtalitna Cre 2.81 1 P Pn 16 07 59.7 -0.1
baz=181
H20K Anotleneega Mo 2.82 330 P Pn 16 07 59.9 -0.1
baz=146,SNR=41
H23K Yukon River 2.86 16 Pn 16 08 00.4 -0.2
H23K Yukon River 2.86 16 P Pn 16 08 00.3 -0.2
baz=198
GCSA Galena City Sc 2.90 307 Pn 16 08 01.2 +0.3
GCSA Galena City Sc 2.90 307 P Pn 16 08 00.9 -0.1
baz=122
HARP HAARP 2.99 101 P Pn 16 08 03.5 +1.2
baz=287,SNR=139
GLI Glacier Island 3.04 135 Pn 16 08 04.1 +1.2
GLI IAML 16 08 53.7
comp=E,2µm,0.6s
GLI IAML 16 08 59.7
comp=N,1µm,0.8s
GLI Glacier Island 3.04 135 P Pn 16 08 04.1 +1.2
baz=320,SNR=47
RIDG Independent Ri 3.05 75 Pn 16 08 03.7 +0.6
RIDG IAML 16 09 01.1
comp=N,1µm,1.1s
RIDG Independent Ri 3.05 75 P Pn 16 08 03.6 +0.4
baz=261,SNR=137
IMAR Indian Mountai 3.06 342 Pn Pn 16 08 03.1 0.0
KLU Klutina 3.06 119 Pn 16 08 03.7 +0.4
KLU IAML 16 08 47.5
comp=E,611nm,0.5s
KLU IAML 16 08 51.4
comp=N,869nm,0.8s
KLU Klutina 3.06 119 P Pn 16 08 04.6 +1.4
baz=305,SNR=91
O20K Slope Mountain 3.08 191 Pn 16 08 04.1 +0.5
O20K Slope Mountain 3.08 191 P Pn 16 08 04.6 +1.0
baz=9.9,SNR=8.8
J25K Salcha River, 3.10 58 Pn Pn 16 08 03.5 -0.4
J25K IAML 16 08 52.9
comp=E,704nm,0.7s
J25K IAML 16 08 54.5
comp=N,764nm,0.6s
J25K Salcha River, 3.10 58 P Pn 16 08 03.4 -0.5
baz=244,SNR=82
K17K Iditarod 3.15 266 Pn 16 08 03.8 -0.6
K17K Iditarod 3.15 266 P Pn 16 08 04.1 -0.3
baz=80,SNR=67
H24K Noodor Dome 3.16 28 Pn Pn 16 08 03.6 -1.0
H24K Noodor Dome 3.16 28 P Pn 16 08 03.7 -0.9
baz=211,SNR=27
SEW Seward 3.16 161 Pn 16 08 06.1 +1.6
SEW Seward 3.16 161 P Pn 16 08 07.9 +3.3
baz=343,SNR=16
IVE Iliamna Volcan 3.18 194 Pn 16 08 06.2 +1.2
N18K Kilae Creek 3.20 223 Pn Pn 16 08 05.2 0.0
N18K IAML 16 08 58.7
comp=N,958nm,0.4s
N18K IAML 16 09 02.2
comp=E,1µm,0.7s
N18K Kilae Creek 3.20 223 P Pn 16 08 05.4 +0.2
baz=39,SNR=50
O19K Port Alsworth 3.21 206 Pn 16 08 06.2 +0.8
O19K Port Alsworth 3.21 206 P Pn 16 08 06.1 +0.8
baz=24,SNR=16
ILSW Iliamna Southw 3.23 195 Pn 16 08 07.6 +2.0
H19K Roundabout Mou 3.26 321 P Pn 16 08 06.0 +0.1
baz=136,SNR=86
M17K Holitna River 3.27 241 Pn 16 08 05.8 -0.3
M17K Holitna River 3.27 241 P Pn 16 08 06.3 +0.2
baz=56,SNR=68
L17K Donlin 3.30 256 Pn 16 08 05.3 -1.1
L17K Donlin 3.30 256 P Pn 16 08 05.9 -0.6
baz=70,SNR=35
FID Port Fidalgo 3.34 133 Pn 16 08 08.2 +1.1
FID IAML 16 09 02.7
comp=E,788nm,1.1s
FID IAML 16 09 04.2
comp=N,706nm,0.9s
BRLK Bradley Lake 3.36 175 Pn 16 08 09.3 +1.9
BRLK IAML 16 09 07.8
comp=E,479nm,0.5s
BRSE Bradley Lake S 3.39 174 Pn 16 08 09.2 +1.4
BRSE Bradley Lake S 3.39 174 P Pn 16 08 09.6 +1.8
baz=355,SNR=20
J17K VABM Dome 3.45 278 Pn 16 08 08.1 -0.5
J17K VABM Dome 3.45 278 P Pn 16 08 08.6 0.0
baz=91,SNR=74
SCRK Sand Creek 3.47 72 Pn Pn 16 08 09.1 +0.1
SCRK IAML 16 09 09.3
comp=N,498nm,0.8s
SCRK IAML 16 09 11.4
comp=E,512nm,0.9s
SCRK Sand Creek 3.47 72 P Pn 16 08 08.4 -0.5
baz=259,SNR=45
WACK Wrangell Chich 3.50 105 Pn 16 08 11.0 +1.6
G21K Allakaket 3.54 347 Pn 16 08 10.1 +0.3
G21K Allakaket 3.54 347 P Pn 16 08 09.8 +0.1
baz=165,SNR=102
MENT Mentasta 3.54 89 Pn 16 08 11.9 +2.1
MENT Mentasta 3.54 89 IAML 16 09 15.3
comp=N,1µm,0.6s
MENT Mentasta 3.54 89 P Pn 16 08 12.0 +2.1
N25K Chitina, Valde 3.54 112 Pn Pn 16 08 11.3 +1.4
N25K Chitina, Valde 3.54 112 P Pn 16 08 11.7 +1.7
baz=298,SNR=133
WAZA Wrangell Mount 3.54 104 Pn 16 08 12.0 +1.9
PRP Porcupine Dome 3.55 44 Pn 16 08 09.7 -0.4
PRP Porcupine Dome 3.55 44 IAML 16 09 09.8
comp=N,569nm,0.5s
PRP IAML 16 09 11.1
comp=E,541nm,0.7s
PRP Porcupine Dome 3.55 44 P Pn 16 08 09.7 -0.4
baz=230,SNR=96
P19K Oil Pt 3.56 194 Pn 16 08 11.8 +1.6
P19K IAML 16 09 15.3
comp=N,514nm,0.8s
P19K IAML 16 09 16.1
comp=E,492nm,0.6s
P19K Oil Pt 3.56 194 P Pn 16 08 13.3 +3.1
baz=13,SNR=11
WASW Wrangell South 3.59 106 Pn 16 08 12.7 +2.0
CNPM China Poot 3.59 178 Pn 16 08 11.5 +1.0
HIN Hinchinbrook I 3.60 137 Pn 16 08 11.9 +1.2
H18K Honhosa River 3.65 307 Pn 16 08 11.8 +0.4
H18K Honhosa River 3.65 307 P Pn 16 08 12.5 +1.1
baz=121,SNR=109
P23K Montague Islan 3.67 146 Pn 16 08 11.3 -0.3
P23K Montague Islan 3.67 146 P Pn 16 08 14.8 +3.2
baz=330
G23K Bananza Creek 3.68 9 Pn 16 08 11.6 -0.1
G23K Bananza Creek 3.68 9 P Pn 16 08 11.7 -0.1
baz=190,SNR=121
L26K Log Cabin Wild 3.70 88 Pn 16 08 14.3 +2.3
L26K Log Cabin Wild 3.70 88 IAML 16 09 24.9
comp=E,908nm,0.4s
L26K Log Cabin Wild 3.70 88 P Pn 16 08 14.4 +2.3
baz=275,SNR=240
O18K Koktuh Hills 3.72 210 Pn 16 08 13.1 +0.8
O18K Koktuh Hills 3.72 210 IAML 16 09 16.6
comp=N,611nm,0.9s
O18K IAML 16 09 19.4
comp=E,642nm,0.9s
O18K Koktuh Hills 3.72 210 P Pn 16 08 13.4 +1.1
baz=27,SNR=11
EYAK Cordova Ski Ar 3.73 131 Pn 16 08 13.1 +0.6
EYAK Cordova Ski Ar 3.73 131 P Pn 16 08 14.3 +1.9
EYAK Cordova Ski Ar 3.73 131 P Pn 16 08 13.9 +1.4
baz=316,SNR=34
N17K Nushagak Hills 3.74 229 Pn 16 08 12.2 -0.4
N17K Nushagak Hills 3.74 229 P Pn 16 08 13.1 +0.5
baz=44,SNR=51
J26L Joseph Creek 3.78 65 Pn 16 08 13.6 +0.3
J26L Joseph Creek 3.78 65 IAML 16 09 17.8
comp=E,443nm,0.6s
J26L IAML 16 09 19.9
comp=N,577nm,0.7s
J26L Joseph Creek 3.78 65 P Pn 16 08 13.4 +0.2
baz=252,SNR=141
G22K Bettles 3.84 360 P Pn 16 08 14.2 +0.3
baz=180
BMRM Bremner River 3.88 120 Pn 16 08 14.8 +0.3
BMRM Bremner River 3.88 120 P Pn 16 08 15.3 +0.8
baz=307,SNR=16
G19K Purcell Mounta 3.89 324 P Pn 16 08 14.7 +0.1
baz=139,SNR=70
GLB Gilahina Butte 3.95 111 Pn Pn 16 08 16.9 +1.3
M26K Nabesna, AK 3.96 96 Pn 16 08 17.2 +1.5
M26K Nabesna, AK 3.96 96 IAML 16 09 19.4
comp=E,444nm,0.6s
M26K IAML 16 09 20.4
comp=N,570nm,0.5s
M26K Nabesna, AK 3.96 96 P Pn 16 08 16.9 +1.2
baz=284,SNR=46
L16K Owhat River 3.97 253 Pn 16 08 14.8 -1.0
L16K Owhat River 3.97 253 P Pn 16 08 15.2 -0.6
baz=66,SNR=27
G24K Hadweenzic Riv 4.00 23 Pn 16 08 15.4 -0.6
G24K Hadweenzic Riv 4.00 23 P Pn 16 08 15.4 -0.6
baz=207,SNR=18
H25L Birch Creek 4.00 35 P Pn 16 08 15.7 -0.4
baz=220,SNR=13
M16K Timber Creek 4.09 243 Pn 16 08 16.4 -1.0
M16K Timber Creek 4.09 243 P Pn 16 08 17.1 -0.3
baz=56,SNR=18
J16K Anvik River 4.14 277 Pn 16 08 17.3 -0.7
J16K Anvik River 4.14 277 P Pn 16 08 17.7 -0.3
baz=88,SNR=18
P18K Big Mountain, 4.14 208 Pn 16 08 18.8 +0.7
P18K IAML 16 09 27.8
comp=E,306nm,0.8s
P18K Big Mountain, 4.14 208 P Pn 16 08 18.8 +0.7
baz=24,SNR=8.1
H17K Granite Mounta 4.14 300 Pn 16 08 18.6 +0.5
H17K Granite Mounta 4.14 300 P Pn 16 08 18.8 +0.7
baz=112,SNR=146
COLD Coldfoot 4.18 7 Pn 16 08 18.7 +0.1
COLD Coldfoot 4.18 7 P Pn 16 08 18.9 +0.4
baz=188,SNR=46
G18K Tagagawik 4.18 315 Pn 16 08 19.2 +0.6
G18K Tagagawik 4.18 315 P Pn 16 08 19.2 +0.6
baz=128,SNR=78
I17K Unalakleet 4.21 285 Pn 16 08 19.4 +0.5
I17K Unalakleet 4.21 285 P Pn 16 08 19.3 +0.4
baz=96
VRDI Verde Repeater 4.21 113 Pn 16 08 20.4 +1.3
VRDI IAML 16 09 28.2
comp=N,259nm,1.1s
F21K Alatna River 4.22 349 Pn 16 08 19.8 +0.6
F21K Alatna River 4.22 349 P Pn 16 08 19.9 +0.6
baz=167,SNR=115
RAGM Ragged Mountai 4.23 127 Pn 16 08 21.1 +1.8
I26K Coal Creek Min 4.26 55 Pn 16 08 19.6 -0.1
O17K Koliganek Bris 4.29 221 Pn 16 08 19.8 -0.3
O17K Koliganek Bris 4.29 221 P Pn 16 08 20.2 +0.1
baz=36,SNR=16
K27K Chicken 4.31 73 Pn 16 08 20.6 +0.2
K27K Chicken 4.31 73 IAML 16 09 34.5
comp=N,357nm,1.4s
K27K IAML 16 09 40.4
comp=E,264nm,1.2s
K27K Chicken 4.31 73 P Pn 16 08 20.2 -0.1
baz=262
MCARA McCarthy VSAT 4.31 110 Pn 16 08 21.8 +1.4
MCARA McCarthy VSAT 4.31 110 IAML 16 09 39.6
comp=E,489nm,0.8s
MCARA IAML 16 09 41.9
comp=N,572nm,0.8s
MCARA McCarthy VSAT 4.31 110 P Pn 16 08 22.1 +1.7
baz=298,SNR=18
Q19K Cape Douglas, 4.32 195 Pn 16 08 22.1 +1.5
Q19K Cape Douglas, 4.32 195 P Pn 16 08 22.5 +2.0
baz=13
G25K Bearman Lake 4.33 29 Pn 16 08 19.6 -1.1
G25K Bearman Lake 4.33 29 P Pn 16 08 19.9 -0.8
baz=214,SNR=12
N16K Nishlik Lake 4.35 236 Pn 16 08 20.5 -0.5
N16K Nishlik Lake 4.35 236 P Pn 16 08 21.4 +0.5
baz=49
F20K Avaraart Lake 4.35 338 P Pn 16 08 21.4 +0.5
baz=153,SNR=114
FYU Fort Yukon 4.38 35 Pn Pn 16 08 20.9 -0.4
FYU IAML 16 10 20.0
comp=N,546nm,0.1s
L27K Beaver Creek, 4.39 86 IAML 16 09 37.2
comp=N,232nm,0.7s
L27K Beaver Creek, 4.39 86 P Pn 16 08 22.7 +1.2
baz=275,SNR=177
HMT Hamilton 4.41 126 Pn 16 08 22.8 +0.9
F22K John River 4.44 357 P Pn 16 08 22.9 +0.8
baz=76,SNR=45
MID Middleton Isla 4.44 144 P Pn 16 08 24.3 +2.1
M27K Edge Creek, AK 4.48 95 Pn 16 08 23.2 +0.4
M27K Edge Creek, AK 4.48 95 IAML 16 09 40.1
comp=E,261nm,0.8s
M27K IAML 16 09 40.2
comp=N,366nm,1.0s
M27K Edge Creek, AK 4.48 95 P Pn 16 08 25.4 +2.5
baz=284,SNR=58
Q20K Shuyak Island 4.53 186 P Pn 16 08 25.4 +2.0
baz=5.4
SYI Shuyak Island 4.53 186 Pn 16 08 25.1 +1.7
BERG Berg Lake 4.59 123 Pn 16 08 25.1 +0.9
CRQM Cirque 4.59 117 Pn 16 08 25.5 +1.1
CRQM Cirque 4.59 117 IAML 16 09 42.8
comp=N,388nm,1.3s
CRQM IAML 16 09 45.4
comp=E,392nm,1.0s
NICHA Nichawak Mount 4.59 125 Pn 16 08 25.3 +1.0
P17K Kvichak River 4.60 214 P Pn 16 08 25.4 +1.1
baz=29,SNR=22
F19K Shaleruckik Mo 4.60 327 P Pn 16 08 24.8 +0.5
baz=141,SNR=42
CRQE Cirque 4.61 117 P Pn 16 08 25.9 +1.2
baz=305,SNR=12
G17K Kiwalik Mounta 4.66 305 P Pn 16 08 25.8 +0.6
baz=117,SNR=31
F24K Squaw Lake 4.69 17 P Pn 16 08 25.6 0.0
baz=200,SNR=22
K15K Wolf Creek Mou 4.70 265 Pn 16 08 25.4 -0.3
K15K Wolf Creek Mou 4.70 265 P Pn 16 08 25.5 -0.3
baz=75,SNR=27
TGL Tana Glacier 4.71 116 Pn 16 08 26.9 +0.8
TGL Tana Glacier 4.71 116 IAML 16 09 53.0
comp=E,230nm,0.9s
TGL IAML 16 09 53.4
comp=N,239nm,0.7s
O16K Kokwok River B 4.74 225 Pn 16 08 25.6 -0.7
O16K Kokwok River B 4.74 225 P Pn 16 08 26.5 +0.2
baz=39
SUCK Suckling Hills 4.77 126 Pn 16 08 28.9 +2.2
SUCK IAML 16 09 38.0
comp=N,229nm,0.5s
SUCK IAML 16 09 47.0
comp=E,233nm,1.5s
KAHC Katmai Hardscr 4.79 203 Pn 16 08 28.1 +1.1
KAHC Katmai Hardscr 4.79 203 Pn 16 08 28.2 +1.1
Q18K Katmai Hardscr 4.79 203 P Pn 16 08 28.3 +1.3
baz=20,SNR=7.7
KIAG Kiagna River 4.82 113 Pn 16 08 27.9 +0.4
KAHG Katmai Hook Gl 4.86 199 Pn 16 08 30.0 +2.0
BVCY Beaver Creek 4.93 93 P Pn 16 08 29.4 +0.5
baz=283
I27K Kandik River 4.97 55 Pn 16 08 29.5 +0.1
I27K Kandik River 4.97 55 P Pn 16 08 30.3 +0.8
baz=244,SNR=20
M15K Kasigluk River 4.98 245 Pn 16 08 29.2 -0.4
M15K Kasigluk River 4.98 245 P Pn 16 08 30.6 +1.1
baz=57,SNR=6.1
E19K Redstone River 5.00 334 P Pn 16 08 30.1 +0.3
baz=148,SNR=84
H16K Elim 5.00 293 Pn 16 08 30.4 +0.6
H16K Elim 5.00 293 P Pn 16 08 30.2 +0.3
baz=103
E23K Chandalar 5.04 8 P Pn 16 08 31.1 +0.6
baz=190,SNR=57
BARN Barnard Glacie 5.05 110 Pn 16 08 31.9 +1.1
N15K Kwethluk River 5.05 238 Pn 16 08 30.2 -0.3
N15K Kwethluk River 5.05 238 P Pn 16 08 30.8 +0.2
baz=50
G26K Porcupine Rive 5.05 37 Pn 16 08 29.8 -0.7
G26K Porcupine Rive 5.05 37 P Pn 16 08 29.9 -0.7
baz=224,SNR=12
BARK Barkley Ridge 5.05 118 Pn 16 08 31.7 +1.0
SNH Sunshine Point 5.05 122 Pn 16 08 31.9 +1.2
SNH IAML 16 09 52.4
comp=E,154nm,1.2s
SNH IAML 16 10 03.3
comp=N,169nm,1.1s
Q16K King Salmon 5.11 212 Pn 16 08 32.2 +1.0
Q16K King Salmon 5.11 212 P Pn 16 08 32.3 +1.0
baz=27,SNR=7.1
YUK2 White River 5.11 100 Pn 16 08 33.4 +1.9
F25K Christian Rive 5.13 26 Pn 16 08 31.0 -0.6
F25K Christian Rive 5.13 26 P Pn 16 08 31.3 -0.3
baz=211,SNR=11
KAKN Katmai Knife C 5.13 202 Pn 16 08 33.0 +1.3
E24K Your Creek 5.15 13 P Pn 16 08 32.4 +0.5
baz=195,SNR=52
P16K Nushagak River 5.16 221 Pn 16 08 32.5 +0.4
P16K Nushagak River 5.16 221 P Pn 16 08 32.4 +0.4
baz=35
GRNC Granite Creek 5.17 113 Pn 16 08 33.0 +0.6
GRNC Granite Creek 5.17 113 IAML 16 09 47.7
comp=N,160nm,0.8s
KABU Katmai Buttres 5.19 203 Pn 16 08 34.3 +1.7
KCE Katmai Mt Cerb 5.20 202 Pn 16 08 34.9 +2.2
BMAR Burnt Mountain 5.22 31 Pn Pn 16 08 32.3 -0.6
CTG Chitna Glacier 5.23 110 P Pn 16 08 34.8 +1.7
baz=299
CTGM Chitina Glacie 5.24 110 Pn 16 08 34.5 +1.3
ACHA Angle Creek He 5.26 203 Pn 16 08 34.9 +1.5
G16K Koyuk River 5.27 301 Pn 16 08 33.8 +0.3
G16K Koyuk River 5.27 301 P Pn 16 08 34.0 +0.5
baz=111,SNR=14
YUK3 Moose Creek 5.29 100 Pn 16 08 36.1 +2.1
YUK3 Moose Creek 5.29 100 P Pn 16 08 36.3 +2.2
baz=290,SNR=80
ANCK Angle Creek 5.30 204 Pn 16 08 35.9 +1.9
H27K Steamboat Moun 5.30 49 Pn 16 08 33.4 -0.6
H27K Steamboat Moun 5.30 49 P Pn 16 08 33.6 -0.4
baz=238,SNR=22
CNTC Contact Creek 5.31 206 Pn 16 08 35.5 +1.3
Q17K Contact Creek 5.31 206 P Pn 16 08 35.6 +1.4
baz=22
F17K Baldwin Pennin 5.36 313 P Pn 16 08 35.6 +0.9
baz=124,SNR=18
KDAK Kodiak Island 5.36 186 Pn Pn 16 08 35.5 +0.6
KDAK Kodiak Island 5.36 186 P Pn 16 08 36.3 +1.5
baz=5.5
KDAK Kodiak Island 5.36 186 Pn Pn 16 08 35.1 +0.3
comp=N,1.9nm,0.3s,baz=5.2,slow=11,SNR=21
KDAK Sn Sn 16 09 36.5 +0.2
comp=N,3.7nm,0.3s,baz=342,slow=17,SNR=1.3
KDAK Lg Lg 16 10 01.6
comp=N,3.6nm,0.3s,baz=253,slow=15,SNR=2.0
KDAK LR LR 16 10 49.2
comp=N,223nm,20.4s,baz=45,slow=39
comp=N,5.4nm,0.3s
YAH Yahtse 5.38 116 Pn 16 08 36.5 +1.3
YAH Yahtse 5.38 116 IAML 16 10 09.1
comp=N,162nm,0.9s
MESA MESA 5.41 119 Pn 16 08 36.5 +0.9
MESA MESA 5.41 119 P Pn 16 08 36.7 +1.1
baz=307
LOGN Logan Glacier 5.44 110 Pn 16 08 37.0 +0.9
E21K Killik River 5.46 350 Pn 16 08 37.5 +1.3
E21K Killik River 5.46 350 P Pn 16 08 36.5 +0.3
baz=168
M14K Bethel 5.48 249 Pn 16 08 36.9 +0.5
M14K Bethel 5.48 249 P Pn 16 08 36.9 +0.5
baz=60,SNR=10
DAWY Dawson 5.49 74 Pn 16 08 36.6 +0.1
DAWY Dawson 5.49 74 P Pn 16 08 36.9 +0.4
baz=266,SNR=35
J14K Nanvaranak Lak 5.53 272 Pn 16 08 36.9 -0.2
J14K Nanvaranak Lak 5.53 272 P Pn 16 08 37.1 +0.1
baz=81,SNR=8.9
L14K Kuka Creek 5.53 256 Pn 16 08 37.0 -0.1
L14K Kuka Creek 5.53 256 P Pn 16 08 38.0 +1.0
baz=66,SNR=21
E20K Nigu River 5.53 341 P Pn 16 08 38.8 +1.6
baz=157,SNR=35
F26K Sheenjek River 5.53 30 Pn 16 08 36.3 -0.9
F26K Sheenjek River 5.53 30 P Pn 16 08 36.5 -0.7
baz=217,SNR=8.8
I28M Miner Creek 5.55 60 Pn Pn 16 08 38.4 +0.9
I28M Miner Creek 5.55 60 P Pn 16 08 38.4 +0.9
baz=250,SNR=65
G27K Doyon Strip 5.59 44 P Pn 16 08 37.4 -0.5
baz=233,SNR=13
E25K Arctic Village 5.60 23 Pn 16 08 38.0 -0.2
E25K Arctic Village 5.60 23 P Pn 16 08 37.7 -0.4
baz=209,SNR=8.4
TOLK Toolik Lake Re 5.62 7 Pn Pn 16 08 39.6 +1.2
TOLK Toolik Lake Re 5.62 7 P Pn 16 08 39.9 +1.5
baz=189,SNR=25
O15K Ungalikthiuk R 5.64 230 Pn 16 08 39.1 +0.5
O15K Ungalikthiuk R 5.64 230 P Pn 16 08 39.1 +0.5
baz=42
R18K Karluk 5.75 196 P Pn 16 08 41.3 +1.2
baz=14
YUK8 Steele Glacier 5.78 103 P Pn 16 08 42.6 +1.8
baz=294,SNR=20
E18K Tukpahlearik C 5.78 323 P Pn 16 08 41.8 +1.2
baz=134,SNR=34
O28M Mount Upton 5.82 109 Pn 16 08 42.5 +1.2
O28M Mount Upton 5.82 109 P Pn 16 08 42.9 +1.6
baz=299,SNR=9.4
D22K Ayikyak River 5.83 356 Pn 16 08 42.3 +1.1
D22K Ayikyak River 5.83 356 P Pn 16 08 42.1 +1.0
baz=174
N14K Kuskokwak Cree 5.83 241 Pn 16 08 42.1 +0.9
G15K Niukluk 5.83 295 Pn 16 08 41.9 +0.7
G15K Niukluk 5.83 295 P Pn 16 08 41.7 +0.4
baz=103
D23K Nanushuk River 5.90 3 Pn 16 08 43.8 +1.6
D23K Nanushuk River 5.90 3 P Pn 16 08 43.7 +1.6
baz=183,SNR=10.0
SAMH Samovar Hills 5.91 115 Pn 16 08 44.2 +1.8
E17K Hotham Inlet 5.92 317 P Pn 16 08 43.3 +0.9
baz=127,SNR=36
R17K Ugashik Creek 5.99 206 Pn 16 08 45.5 +2.0
R17K Ugashik Creek 5.99 206 P Pn 16 08 46.0 +2.5
baz=22,SNR=6.3
D20K Etivluk River 6.01 342 Pn 16 08 44.9 +1.1
D20K Etivluk River 6.01 342 P Pn 16 08 44.5 +0.7
baz=157,SNR=25
M29M Somme Creek 6.01 90 Pn 16 08 45.4 +1.5
M29M Somme Creek 6.01 90 P Pn 16 08 45.3 +1.5
baz=282,SNR=31
J29N Klondike Camp 6.04 71 P Pn 16 08 46.0 +1.9
baz=263
D19K Kuna River 6.06 336 Pn 16 08 45.6 +1.2
D19K Kuna River 6.06 336 P Pn 16 08 45.2 +0.8
baz=150,SNR=8.5
L29M L29M 6.06 84 P Pn 16 08 46.0 +1.6
baz=276,SNR=27
O14K Tigyukauivet M 6.10 235 Pn 16 08 45.8 +0.9
PINM Pinnacle 6.15 114 P Pn 16 08 46.8 +1.2
baz=304,SNR=7.4
D24K Happy Valley 6.17 9 P Pn 16 08 46.2 +0.3
baz=191
I29M Ogilvie Camp, 6.17 63 Pn 16 08 46.2 +0.2
I29M Ogilvie Camp, 6.17 63 P Pn 16 08 46.4 +0.4
baz=255,SNR=94
K13K Kusilvak Mount 6.21 265 Pn 16 08 45.9 -0.6
K13K Kusilvak Mount 6.21 265 P Pn 16 08 46.2 -0.3
baz=73
C21K Knifeblade Rid 6.23 349 Pn 16 08 47.9 +1.2
C21K Knifeblade Rid 6.23 349 P Pn 16 08 47.7 +1.0
baz=166,SNR=22
M13K Dall Lake 6.25 250 Pn 16 08 47.7 +0.8
M13K Dall Lake 6.25 250 P Pn 16 08 47.7 +0.8
baz=59
YUK4 Talbot Arm 6.25 101 P Pn 16 08 48.7 +1.5
baz=291,SNR=8.9
F15K North Star Dit 6.28 300 Pn 16 08 48.0 +0.7
F15K North Star Dit 6.28 300 P Pn 16 08 47.8 +0.5
baz=108,SNR=10
K29M Barlow Dome 6.30 77 Pn 16 08 48.0 +0.2
K29M Barlow Dome 6.30 77 P Pn 16 08 48.1 +0.3
baz=270,SNR=19
H29M Whitestone 6.43 55 Pn 16 08 50.1 +0.5
H29M Whitestone 6.43 55 P Pn 16 08 50.5 +0.9
baz=247,SNR=12
BCPM Bancas Point 6.48 114 Pn 16 08 51.4 +1.2
E27K Coleen River 6.53 34 Pn 16 08 50.2 -0.7

E27K **Coleen River** 6.53 34 P Pn 16 08 50.1 -0.7
baz=223
YUK6 **Outpost Mounta** 6.54 103 P Pn 16 08 53.1 +1.9
baz=295
D25K **Kavik River** 6.58 16 Pn 16 08 52.4 +0.9
D25K **Kavik River** 6.58 16 P Pn 16 08 52.1 +0.5
baz=201,SNR=25
F28M **Old Crow** 6.63 42 Pn 16 08 51.5 -0.7
F28M **Old Crow** 6.63 42 P Pn 16 08 51.5 -0.7
baz=232
B21K **Ikpikpuk River** 6.67 351 Pn 16 08 53.2 +0.5
B21K **Ikpikpuk River** 6.67 351 P Pn 16 08 53.4 +0.7
baz=168
D17K **Noatak River** 6.68 319 Pn 16 08 54.0 +1.1
D17K **Noatak River** 6.68 319 P Pn 16 08 52.7 -0.2
baz=128
SII **Sitkinak Islan** 6.70 193 P Pn 16 08 54.7 +1.5
C24K **Franklin Bluff** 6.74 8 Pn 16 08 54.8 +1.1
C24K **Franklin Bluff** 6.74 8 P Pn 16 08 54.2 +0.5
baz=191
O29M **Mount Kennedy** 6.75 109 Pn 16 08 55.2 +1.2
O29M **Mount Kennedy** 6.75 109 P Pn 16 08 55.2 +1.2
baz=300
PNL **Peninsula** 6.75 115 Pn 16 08 55.1 +1.3
PNL **Peninsula** 6.75 115 P Pn 16 08 55.5 +1.7
PNL **Peninsula** 6.75 115 P Pn 16 08 55.1 +1.3
baz=306
M30M **Minto, Yukon** 6.75 88 Pn 16 08 54.8 +0.9
M30M **Minto, Yukon** 6.75 88 P Pn 16 08 54.9 +1.1
baz=281,SNR=12
C23K **Itkillik River** 6.78 3 Pn 16 08 54.9 +0.7
C23K **Itkillik River** 6.78 3 P Pn 16 08 55.1 +1.0
baz=183
YUK7 **Dusty Glacier** 6.82 106 Pn 16 08 56.2 +1.2
C18K **Utukok River** 6.84 329 Pn 16 08 55.6 +0.5
C18K **Utukok River** 6.84 329 P Pn 16 08 55.3 +0.2
baz=140
G29M **Pine Creek** 6.86 50 Pn 16 08 55.3 0.0
G29M **Pine Creek** 6.86 50 P Pn 16 08 55.3 0.0
baz=242,SNR=8.5
J30M **Hart River** 6.86 71 Pn Pn 16 08 56.1 +0.7
J30M **Hart River** 6.86 71 P Pn 16 08 56.2 +0.7
baz=265,SNR=14
C19K **Lookout Ridge** 6.86 335 Pn 16 08 56.2 +0.7
C19K **Lookout Ridge** 6.86 335 P Pn 16 08 55.2 -0.2
baz=147
F14K **Arctic Creek** 6.88 297 Pn 16 08 56.4 +0.8
F14K **Arctic Creek** 6.88 297 P Pn 16 08 55.4 -0.2
baz=103
N30M **Aishikik Lake** 6.91 97 Pn 16 08 57.5 +1.4
N30M **Aishikik Lake** 6.91 97 P Pn 16 08 57.6 +1.4
baz=290,SNR=9.3
I30M **Mount Dempster** 6.93 65 Pn 16 08 56.9 +0.4
I30M **Mount Dempster** 6.93 65 P Pn 16 08 56.9 +0.4
baz=259,SNR=14
HYT **Haines Junctio** 6.97 103 Pn Pn 16 08 58.2 +1.2
HYT **Haines Junctio** 6.97 103 P Pn 16 08 58.1 +1.1
baz=295,SNR=9.8
MAYO **Mayo, Yukon** 7.03 79 Pn 16 08 57.8 +0.1
MAYO **Mayo, Yukon** 7.03 79 P Pn 16 08 58.5 +0.8
baz=273
EPYK **Eagle Plains** 7.11 56 Pn 16 08 58.5 -0.3
EPYK **Eagle Plains** 7.11 56 P Pn 16 08 58.7 -0.1
baz=250,SNR=18
C17K **DeLong Mountai** 7.22 323 P Pn 16 09 01.5 +1.3
baz=133
B20K **Meade River** 7.29 344 Pn 16 09 01.0 -0.2
B20K **Meade River** 7.29 344 P Pn 16 09 00.7 -0.6
baz=159
B22K **Teshekpuk Lake** 7.31 355 Pn 16 09 01.5 0.0
E28M **Babbage River** 7.37 36 Pn 16 09 01.4 -1.0
E28M **Babbage River** 7.37 36 P Pn 16 09 01.3 -1.1
baz=227
P29M **Windy Craggy** 7.46 112 Pn 16 09 05.2 +1.5
P29M **Windy Craggy** 7.46 112 P Pn 16 09 04.8 +1.2
baz=304
D27M **Malcolm River** 7.48 30 P Pn 16 09 04.3 +0.4
baz=220
N31M **Braeburn, Yuko** 7.50 95 Pn Pn 16 09 05.8 +1.7
N31M **Braeburn, Yuko** 7.50 95 P Pn 16 09 05.4 +1.3
baz=290,SNR=7.0
M11K **Mekoryuk** 7.50 255 P Pn 16 09 04.8 +0.7
baz=62
G30M **tAoh Zraii Nji** 7.53 52 Pn Pn 16 09 03.1 -1.4
G30M **tAoh Zraii Nji** 7.53 52 P Pn 16 09 03.7 -0.8
baz=246,SNR=7.3
B18K **Kokolik River** 7.53 331 P Pn 16 09 04.6 0.0
baz=141
P30M **Million Dollar** 7.54 107 P Pn 16 09 06.1 +1.4
baz=300
TNA **Tin City** 7.55 296 P Pn 16 09 05.3 +0.6
baz=101
O30N **Mendenhall** 7.62 101 Pn 16 09 06.4 +0.5
O30N **Mendenhall** 7.62 101 P Pn 16 09 06.6 +0.7
baz=295,SNR=10
CHGN **Chignik** 7.67 210 Pn Pn 16 09 07.2 +0.8
E29M **Blow River** 7.70 41 P Pn 16 09 06.3 -0.5
baz=233,SNR=7.7
H31M **Peel River** 7.88 62 Pn Pn 16 09 09.9 +0.6
H31M **Peel River** 7.88 62 P Pn 16 09 09.9 +0.6
baz=258,SNR=15
M31M **Drury Creek, Y** 7.92 89 Pn 16 09 11.4 +1.5
F30M **Barrier River** 7.95 48 P Pn 16 09 10.7 +0.4
baz=243
S14K **Fog Glacier** 7.96 214 P Pn 16 09 12.3 +1.8
baz=27
PLBC **Pleasant Camp** 8.14 110 P Pn 16 09 13.9 +1.0
baz=303
WHY **Whitehorse** 8.21 100 Pn 16 09 15.3 +1.3
WHY **Whitehorse** 8.21 100 P Pn 16 09 15.1 +1.1
baz=295
G31M **Satah River** 8.22 55 P Pn 16 09 14.3 +0.4
baz=250,SNR=7.3
FARO **Faro, Yukon** 8.39 88 Pn 16 09 17.6 +1.3
FARO **Faro, Yukon** 8.39 88 P Pn 16 09 17.8 +1.4
baz=284,SNR=8.3
SKAG **Skagway** 8.58 108 Pn 16 09 19.9 +0.9
SKAG **Skagway** 8.58 108 P Pn 16 09 20.0 +1.0
SKAG **Skagway** 8.58 108 P Pn 16 09 20.1 +1.2
baz=302
F31M **Tsiigehtchic** 8.60 52 P Pn 16 09 18.5 -0.6
baz=248
N32M **Quiet Lake** 8.83 95 P Pn 16 09 24.2 +1.8
baz=291
INK **Inuvik** 9.03 47 Pn Pn 16 09 25.2 +0.1
INK **Inuvik** 9.03 47 P Pn 16 09 25.2 +0.1
INK **Inuvik** 9.03 47 P Pn 16 09 25.1 +0.1
baz=243
INK **Inuvik** 9.03 47 Pn Pn 16 09 25.0 0.0
comp=N,1.0nm,0.3s,baz=231,slow=15,SNR=14
INK Lg Lg 16 11 51.1
comp=N,0.4nm,0.3s,baz=39,slow=18,SNR=2.3
comp=N,9.4nm,0.7s
S31K **Pelican** 9.10 118 P Pn 16 09 26.3 +0.3
baz=311
P32M **Atlin** 9.22 104 Pn Pn 16 09 28.3 +0.5
P32M **Atlin** 9.22 104 P Pn 16 09 28.4 +0.6
baz=300
CHNA **Chernabura Isl** 9.28 210 P Pn 16 09 29.3 +0.8
baz=23
P33M **Teslin, Yukon** 9.33 100 Pn Pn 16 09 30.7 +1.4
P33M **Teslin, Yukon** 9.33 100 P Pn 16 09 30.0 +0.7
baz=296
R32K **Eaglecrest** 9.61 113 P Pn 16 09 33.8 +0.7
baz=308
SIT **Sitka** 10.07 120 Pn Pn 16 09 39.0 -0.2
SIT **Sitka** 10.07 120 P Pn 16 09 40.3 +1.0
SIT **Sitka** 10.07 120 P Pn 16 09 39.1 -0.2
SIT **Sitka** 10.07 120 P Pn 16 09 40.8 +1.5
baz=314
S32K **Killisnoo** 10.09 116 Pn Pn 16 09 40.7 +1.1
S32K **Killisnoo** 10.09 116 P Pn 16 09 40.2 +0.6
baz=311
Q32M **Nakina River** 10.18 105 Pn Pn 16 09 41.0 -0.1
Q32M **Nakina River** 10.18 105 P Pn 16 09 41.8 +0.7
baz=302
FALS **False Pass** 10.29 222 P Pn 16 09 43.7 +1.4
baz=32
R33M **Jennings River** 10.54 101 P Pn 16 09 47.5 +1.7
baz=300
S34M **Telegraph Cree** 11.27 108 Pn Pn 16 09 56.5 +0.7
S34M **Telegraph Cree** 11.27 108 P Pn 16 09 56.4 +0.7
baz=306
DLBC **Dease Lake** 11.45 104 P Pn 16 09 59.0 +0.7
baz=303
DLBC **Dease Lake** 11.45 104 Pn Pn 16 09 59.4 +1.0
comp=N,0.3nm,0.3s,baz=331,slow=10,SNR=5.2
DLBC Lg Lg 16 13 18.8
comp=N,0.2nm,0.3s,baz=98,slow=23,SNR=2.7
comp=N,1.5nm,0.5s
T35M **Bob Quinn** 12.21 110 Pn Pn 16 10 09.0 +0.3
T35M **Bob Quinn** 12.21 110 P Pn 16 10 10.2 +1.5
baz=309
C36M **Paulatuk** 12.61 48 Pn Pn 16 10 14.3 +0.4
V35K **Ketchikan** 12.76 118 P Pn 16 10 16.8 +0.6
baz=316
BBB **Bella Bella** 16.50 121 LR LR 16 17 22.9
comp=N,126nm,20.1s,baz=72,slow=37
YKA **Yellowknife Ar** 16.73 75 Pn Pn 16 11 09.3 +0.4
comp=N,0.5nm,0.3s,baz=291,slow=10,SNR=6.8
comp=N,1.9nm,0.7s
CLRS **Cowichan Lake** 20.72 121 P P 16 11 54.0 -0.9
CLRS IAmb IAmb 16 12 14.7
comp=Z,24nm,1.5s
EUNU **Eureka** 24.45 22 P P 16 12 33.2 0.0
SEY **Seymchan** 24.79 295⇓ *e*P P 16 12 36.5 +0.2
SEY pmax pmax
comp=Z,5.0nm,0.8s
LYMT **Lyon Mountain** 27.08 108 P P 16 12 55.0 -2.5
MA2 **Magadan** 27.11 289 LR LR 16 24 08.5
comp=Z,25nm,18.1s,baz=138,slow=38
EGMT **Eagleton** 27.38 104 P P 16 13 00.4 +0.5
baz=319
PETK **Petropavlovsk-** 27.90 273 P P 16 13 04.4 -0.1
comp=Z,3.4nm,0.9s,baz=65,slow=11,SNR=2.0
comp=Z,3.4nm,0.9s
BOZ **Bozeman (W)** 28.44 109 P P 16 13 10.4 +0.8
baz=322
TIXI **Tiksi** 29.47 321⇓ *e*P P 16 13 20.6 +2.4
TIXI pmax pmax
comp=Z,11nm,1.1s
GDXM **Geysers** 29.82 131 P P 16 13 22.5 +0.8
H17A **Grant Village** 29.85 109 P P 16 13 23.8 +1.6
baz=323
LAO **LASA Array** 29.96 102 P P 16 13 23.5 +0.6
baz=320
BW06 **Boulder Array** 31.60 110 P P 16 13 37.3 -0.3
baz=325
PDAR **Pinedale Array** 31.60 110 P P 16 13 39.0 +1.4
comp=Z,2.1nm,1.1s,baz=335,slow=6.6,SNR=7.2
PDAR PcP PcP 16 16 29.6 0.0
comp=Z,0.9nm,1.0s,baz=151,slow=2.1,SNR=2.6
comp=Z,2.1nm,1.1s
NVAR **Mina Array Bea** 31.76 125 P P 16 13 40.3 +1.3
comp=Z,0.4nm,0.6s,baz=314,slow=8.3,SNR=4.4
NVAR PcP PcP 16 16 30.9 +0.8
comp=Z,0.9nm,0.7s,baz=281,slow=2.7,SNR=8.5
comp=Z,0.4nm,0.6s
ULM **Lac du Bonnet** 32.03 87 LR LR 16 26 54.9
comp=Z,74nm,19.9s,baz=102,slow=37
DUG **Dugway, Tooele** 32.38 117 P P 16 13 44.6 +0.2
baz=329
R11B **Troy Canyon, C** 32.86 122 P P 16 13 49.8 +1.2
baz=331
RSSD **Black Hills** 32.92 103 P P 16 13 50.4 +1.2
baz=322
PFO **Pinyon Flats O** 36.72 127 *i* P P 16 14 19.0 -2.9
S22A **4UR Ranch, Cre** 36.93 112 P P 16 14 25.1 +1.3
baz=328
WUAZ **Wupatki** 36.98 119 P P 16 14 25.2 +1.1
baz=331
MONP2 **Monument Peak** 37.38 127 P P 16 14 28.5 +0.9
baz=335
YSS **Yuzh-Sakhalins** 39.04 277 *e*P P 16 14 39.9 -1.3
YSS pmax pmax
comp=Z,10.0nm,1.4s
ANMO **Albuquerque** 39.47 114 P P 16 14 45.9 +0.8
baz=330
214A **Organ Pipe Nat** 39.56 123 P P 16 14 46.5 +0.8
baz=334
JFWS **Jewell Farm** 40.09 91 P P 16 14 49.9 -0.1
baz=322
121A **Cookes Peak, D** 41.02 117 P P 16 14 58.5 +0.4
baz=332
SCHQ **Schefferville** 41.33 61 LR LR 16 32 40.8
comp=Z,73nm,20.3s,baz=268,slow=37
NRIK **Noril'sk** 41.45 333 P P 16 14 58.3 -2.6
NRIK IAmb IAmb 16 15 02.4
comp=Z,7.7nm,0.7s
NRIK **Noril'sk** 41.45 333 *c i*P P 16 15 01.4 +0.5
NRIK pmax pmax
comp=Z,8.0nm,0.8s
NRIK **Noril'sk** 41.45 333 P P 16 15 01.4 +0.5
comp=Z,6.0nm,0.6s,baz=42,slow=5.4,SNR=11
comp=Z,6.0nm,0.6s
AMTX **Amarillo** 41.55 109 P P 16 15 03.6 +1.3
baz=329
MSTX **Muleshoe** 41.86 111 P P 16 15 05.6 +0.8
baz=329
KLR **Kul'dur** 42.20 288⇓ *i*P P 16 15 07.4 +0.1
KLR pmax pmax
comp=Z,11nm,1.8s
WMOK **Wichita Mounta** 42.93 106 P P 16 15 14.0 +0.6
baz=328
TUL3 **Leonard** 43.27 102 P P 16 15 17.6 +1.6
baz=327
HEH **HeiHe** 43.28 292 *e*P P 16 15 15.3 -0.7
HEH pmax pmax
comp=Z,4.0nm,1.1s
HEH pmax pmax
comp=Z,100nm,4.6s
SFIN **Lafayette** 43.54 90 P P 16 15 18.4 +0.2
baz=324
O48B **Farmland** 44.52 88 P P 16 15 26.4 +0.4
baz=324
P49A **Miami Univ. Ec** 45.30 89 P P 16 15 31.7 -0.6
baz=324
MIAR **Mount Ida** 45.40 101 P P 16 15 33.2 +0.1
baz=327
TX31 **Lajitas Ar. Si** 45.51 115 P P 16 15 31.8 -2.4
TX31 IAmb IAmb 16 15 45.4
comp=Z,8.1nm,1.1s
TXAR **Lajitas Array** 45.51 115 P P 16 15 35.5 +1.3
comp=Z,1.2nm,0.6s,baz=329,slow=5.6,SNR=16
TXAR PcP PcP 16 17 12.9 +0.1
comp=Z,0.5nm,0.5s,baz=358,slow=1.2,SNR=6.2
comp=Z,1.2nm,0.6s
M53A **Wt Miller and** 45.60 84 P P 16 15 34.8 +0.1
baz=323
LONY **Lake Ozonia** 45.81 76 P P 16 15 35.8 -0.5
baz=322
WHTX **Lake Whitney,** 45.85 107 P P 16 15 36.7 -0.1
baz=329
USRK **Ussuriysk Ar.** 45.98 283 P P 16 15 37.0 -0.6
comp=Z,0.6nm,0.5s,baz=38,slow=7.5,SNR=3.0
comp=Z,0.6nm,0.5s
JCT **Junction City** 46.13 110 P P 16 15 40.4 +1.4
baz=330
O53A **New Philadelph** 46.31 85 P P 16 15 39.9 -0.5
baz=324
BINY **Binghamton** 47.10 79 P P 16 15 46.2 -0.3
baz=323
LBNH **Lisbon** 47.28 74 P P 16 15 47.9 0.0
baz=323
OXF **Oxford** 47.30 97 P P 16 15 49.1 +1.0
baz=327
SSPA **Standing Stone** 47.51 82 P P 16 15 50.2 +0.6
baz=324
PKME **Peaks-Kenny Pk** 47.61 71 P P 16 15 49.8 -0.5
baz=322
ARCES **ARCESS Array B** 47.63 1 P P 16 15 51.2 +1.0
comp=Z,7.8nm,1.2s,baz=356,slow=7.3,SNR=4.6
comp=Z,7.8nm,1.2s
L61B **Northampton** 48.37 76 P P 16 15 55.5 -0.8
baz=324
GGN **Saint George** 48.78 70 P P 16 15 57.7 -1.6
PAL **Palisades** 48.99 78 P P 16 16 01.0 0.0
baz=324
BLA **Blacksburg** 49.15 87 P P 16 16 02.3 -0.1
baz=326
CN2 **Changchun** 49.16 288 *e*P P 16 16 02.0 -0.3
CN2 *es*P sP 16 16 12.8 +4.3
CN2 *e*S S 16 22 58.8 -8.2
CN2 *es*S pS 16 23 11.3 -0.9
CN2 pmax pmax
comp=Z,10.0nm,0.7s
LRAL **Lakeview Retre** 49.62 96 P P 16 16 05.0 -1.0
baz=328
KMSC **Kings Mountain** 50.44 89 P P 16 16 12.1 0.0
baz=326
TIGA **Tifton** 52.51 94 P P 16 16 26.9 -0.8
baz=328
KSRS **Korea Array** 53.24 281 P P 16 16 34.1 +1.1
comp=Z,2.7nm,0.8s,baz=27,slow=7.0,SNR=14
comp=Z,2.7nm,0.8s
ULN **Ulaanbaatar** 53.31 305 *c i*P P 16 16 34.1 +0.5
ULN pmax pmax
comp=Z,3.0nm,1.0s
SONM **Songino Array** 53.58 305 P P 16 16 36.2 +0.6
comp=Z,3.8nm,0.9s,baz=30,slow=6.8,SNR=8.3
comp=Z,3.8nm,0.9s
TJN **Taejon** 54.38 281⇓ *e*P P 16 16 41.9 +0.5
ZAA0 **Zalesovo Array** 55.31 323 P P 16 16 45.6 -2.3
ZAA0 IAmb IAmb 16 16 48.1
comp=Z,3.9nm,0.6s
ZALV **Zalesovo Beam** 55.31 323 P P 16 16 45.8 -2.0
ZALV **Zalesovo Beam** 55.31 323 P P 16 16 45.8 -2.0
ZALV **Zalesovo Beam** 55.31 323 P P 16 16 47.3 -0.5
comp=Z,3.3nm,0.5s,baz=27,slow=7.3,SNR=16
ZALV LR LR 16 43 57.3
comp=Z,20nm,18.8s,baz=64,slow=40
comp=Z,3.3nm,0.5s
NOA **NORSAR Array B** 55.48 10 P P 16 16 49.0 -0.1
comp=Z,0.8nm,0.7s,baz=350,slow=7.2,SNR=3.3
comp=Z,0.8nm,0.7s
FINES **FINESS Array B** 55.76 1 *i* P P 16 16 52.4 +1.4
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES **FINESS Array B** 55.76 1 P P 16 16 50.9 -0.1
comp=Z,1.2nm,0.7s,baz=7.1,slow=7.7,SNR=4.6
comp=Z,1.2nm,0.7s
DGZ **Jazzator, Alta** 58.34 319⇓ *e*P P 16 17 10.5 +0.8
DGZ pmax pmax
comp=Z,4.0nm,1.3s
ARU **Arti** 58.55 341 *d i*P P 16 17 10.3 -0.5
ARU 16 19 20.3
ARU S S 16 25 16.1 +2.4
ARU SS SS 16 29 06.4 +1.2
ARU pmax pmax
comp=Z,7.0nm,1.3s
EKA **Eskdalemuir Ar** 59.36 20 P P 16 17 15.9 -0.5
comp=Z,3.8nm,0.6s,baz=334,slow=5.4,SNR=14
comp=Z,3.8nm,0.6s
BRVK **Borovoye** 59.65 332⇓ *e*P P 16 17 17.8 -0.7
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BVAR **Borovoye Array** 59.66 332 P P 16 17 17.9 -0.6
comp=Z,2.8nm,0.6s,baz=45,slow=7.5,SNR=7.0
BVAR LR LR 16 45 55.8
comp=Z,33nm,18.3s,baz=19,slow=39
comp=Z,2.8nm,0.6s
KURK **Kurchatov** 59.87 326 P P 16 17 18.0 -2.0
KURK IAmb IAmb 16 17 19.7
comp=Z,2.6nm,0.6s
KURK **Kurchatov** 59.87 326 *c i*P P 16 17 19.1 -0.9
KURK pmax pmax
comp=Z,2.0nm,0.6s
KURBB **Kurchatov Arra** 59.98 326 P P 16 17 20.2 -0.5
comp=Z,1.9nm,0.5s,baz=29,slow=7.3,SNR=13
comp=Z,1.9nm,0.5s
NACGM **Naroch** 62.32 1 *e*P P 16 17 36.5 -0.1
comp=E,2μm,0.8s
KLNR **Kaliningrad** 62.45 5⇓ *e*P P 16 17 38.4 +1.0
MK31 **Makanchi Array** 62.46 321⇑ *e*P P 16 17 36.4 -1.3
MKAR **Makanchi Array** 62.46 321 P P 16 17 36.7 -1.0
comp=E,1.6nm,0.6s,baz=48,slow=7.0,SNR=15
comp=E,1.6nm,0.6s
WMQ **Urumqi** 63.53 316 *e*P P 16 17 46.1 +1.3
WMQ sP sP 16 17 53.1 +2.0
WMQ PcP PcP 16 18 23.5 +2.2
WMQ pmax pmax
comp=Z,9.0nm,0.7s
BELG **Belogornoye** 63.87 347⇓ *e*P P 16 17 46.8 0.0
BELG pmax pmax
comp=Z,2.0nm,1.4s
LZH **Lanzhou** 64.60 300 *e*P P 16 17 53.0 +0.9
LZH pP pP 16 17 57.1 +0.3
LZH sP sP 16 18 00.4 +2.0
LZH pmax pmax
comp=Z,12nm,1.3s
ABKAR **Akbulak array** 65.26 338 P P 16 17 52.8 -3.2
ABKAR IAmb IAmb 16 17 56.2
comp=Z,1.7nm,0.8s
CLL **Collm** 65.28 11 *e*P P 16 17 56.0 -0.1
AKASG **Malin Array Be** 66.54 360 P P 16 18 04.0 -0.1
comp=Z,1.4nm,0.5s,baz=0.6,slow=6.1,SNR=7.8
comp=Z,1.4nm,0.5s
AAK **Ala-Archa** 68.42 325 *de*P P 16 18 16.5 0.0
AAK pmax pmax
comp=Z,5.0nm,1.7s
KBZ **Khabaz** 72.90 349 *ce*P P 16 18 43.0 -0.5
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ **Khabaz** 72.90 349 P P 16 18 43.2 -0.3
comp=Z,3.1nm,0.9s,baz=241,slow=7.5,SNR=4.0
comp=Z,3.1nm,0.9s
PZH **PanZhiHua** 73.88 297 P P 16 18 50.1 +0.4
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,5.1s
ESDC **Sonseca Array** 74.33 25 P P 16 18 50.2 -1.8
ESDC **Sonseca Array** 74.33 25 P P 16 18 51.4 -0.7
comp=Z,2.1nm,0.8s,baz=343,slow=6.0,SNR=17
comp=Z,2.1nm,0.8s
BR131 **Keskin Array S** 77.44 356⇑ *e*P P 16 19 10.5 +0.6
BRTR **Keskin Array B** 77.44 356 *ce*P P 16 19 10.1 +0.2
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR **Keskin Array B** 77.44 356 P P 16 19 08.8 -1.0
comp=Z,0.8nm,0.7s,baz=39,slow=4.9,SNR=5.0
comp=Z,0.8nm,0.7s
KEST **Kesra** 80.31 16 P P 16 19 25.1 -0.6
comp=Z,5.9nm,0.8s,baz=31,slow=5.9,SNR=3.8
comp=Z,5.9nm,0.8s
CMAR **Chiang Mai Arr** 82.21 295 *ce*P P 16 19 36.9 +1.1
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR **Chiang Mai Arr** 82.21 295 P P 16 19 35.5 -0.4
comp=Z,1.1nm,0.8s,baz=11,slow=4.9,SNR=8.8
CMAR LR LR 16 59 32.6
comp=Z,22nm,18.4s,baz=75,slow=38
comp=Z,1.1nm,0.8s
BOSA **Boshof** 145.44 5 PKPbc PKPbc 16 26 51.6 -0.8
comp=Z,4.1nm,0.8s,baz=332,slow=3.6,SNR=7.0
QSPA **South Pole Qui** 152.91 180 PKPbc PKPbc 16 27 09.3 -1.0
comp=Z,1.0nm,0.5s,baz=232,slow=0.7,SNR=17

IDC ***07*** *16:40:57.3±1.1,5°.26S×153°.55E,h51km±7km,mb3.6/9, mbtmp3.8/10,MS2.8/6,Error ellipse: s-maj=24.8km s-min=9.3km az=44.0*

ISC 07 16:40:56.5±0.9,5°.36S±0°.09×153°.5E±0°.1,h43km,n17, σ1§16/17,mb3.8/8,MS2.7/5,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.83**	**305**	P		**Pn**	**16 41 26.9**	**+1.4**
	232nm,0.5s,baz=278,slow=23,SNR=22						
KRVT				S		**Sn**	**16 41 47.3**	**-0.3**
	358nm,0.6s,baz=121,slow=1.6,SNR=7.4						
KRVT				LR		LR	16 42 24.9	
	comp=Z,270nm,19.2s,baz=233,slow=49						
PMG	**Port Moresby**	**7.50**	**237**	P		**Pn**	**16 42 44.6**	**+1.3**
	7.0nm,0.7s,baz=75,slow=19,SNR=1.4						
PMG				S		**Sn**	**16 44 05.8**	**-1.3**
	16nm,0.9s,baz=328,slow=7.8,SNR=2.3						
HNR	**Honiara**	**7.53**	**123**	LR		LR	16 45 41.7	
	comp=Z,1μm,20.9s,baz=284,slow=38						
JAY	**Jayapura**	**13.11**	**282**	LR		LR	16 48 31.9	
	comp=Z,39nm,18.6s,baz=32,slow=35						
GUMO	**Guam**	**20.70**	**335**	LR		LR	16 51 56.3	
	comp=Z,13nm,21.3s,baz=98,slow=32						
DZM	**Mont Dzumac**	**20.79**	**144**	P		**P**	**16 45 35.5**	**+1.3**
	3.0nm,0.3s,baz=325,slow=16,SNR=22						
DZM				LR		LR	16 51 58.8	
	comp=Z,50nm,21.8s,baz=294,slow=32						
	3.0nm,0.3s						
SIJI	**Sorong**	**22.68**	**281**	P		**P**	**16 45 55.0**	**+0.4**
	4.7nm,0.7s,baz=129,slow=14,SNR=2.6						
SIJI				LR		LR	16 55 34.3	
	comp=Z,26nm,20.5s,baz=124,slow=39						
	4.7nm,0.7s						
WRA	**Warramunga Arr**	**23.65**	**230**	P		**P**	**16 46 04.7**	**+0.6**
	1.1nm,0.7s,baz=54,slow=9.9,SNR=5.1						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**26.25**	**224**	P		**P**	**16 46 28.3**	**+0.4**
	0.3nm,0.5s,baz=56,slow=8.9,SNR=15						
ASAR				pP		**pwP**	**16 46 41.7**	**-1.5**
	0.8nm,0.6s,baz=56,slow=8.8,SNR=7.4						
	0.3nm,0.5s						

KAPI Kappang 33.65 269 LR LR 17 03 24.1
comp=Z,14nm,18.6s,baz=128,slow=40
RPZ Rata Peaks 41.20 161 LR LR 17 05 28.3
comp=Z,20nm,20.7s,baz=340,slow=36
CMAR Chiang Mai Arr 58.78 295 P **P 16 50 52.0 +1.1**
1.7nm,0.8s,baz=119,slow=5.5,SNR=15
1.7nm,0.8s
MKAR Makanchi Array 81.23 319 P **P 16 53 07.1 -0.9**
0.7nm,0.7s,baz=97,slow=5.0,SNR=4.7
MKAR pP **sP 16 53 22.4 -1.3**
0.5nm,0.7s,baz=87,slow=7.5,SNR=2.8
0.7nm,0.7s
ZALV Zalesovo Beam 82.02 326 P **P 16 53 10.6 -1.3**
0.5nm,0.4s,baz=117,slow=8.3,SNR=2.3
0.5nm,0.4s
QSPA South Pole Qui 84.61 180 P **P 16 53 25.9 +0.6**
0.3nm,0.5s,baz=204,slow=1.6,SNR=9.1
QSPA pP **sP 16 53 40.1 -1.0**
0.9nm,0.6s,baz=218,slow=1.0,SNR=3.5
0.3nm,0.5s
KURBB Kurchatov Arra 84.69 322 P **P 16 53 24.8 -1.0**
0.4nm,0.7s,baz=99,slow=4.9,SNR=3.4
0.4nm,0.7s
TORD Torodi Ar. Bea 151.18 288 PKPbc **PKPbc 17 00 45.3 -0.9**
0.7nm,0.5s,baz=71,slow=3.6,SNR=7.5

*JMA **07** 16:50:18.7±0.3, 43°N±1°×14°7E±°, h38km±3km, MV2.6/25, E OFF HOKKAIDO*
*SKHL **07** 16:50:20.0±0.7, 43°40N×146°80E, h33km±2km, mb4.2/2*
ISC 07 16:50:20.0±2.1, 43°4N±0°1×146°81E±0°08, h31km±12km, n11, σ0°71/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.47**	**2**	*i P*	**Pb**	**16 50 30.1**	**0.0**
SHO				AMB	AMB	16 50 30.5	
	200nm,0.5s						
SHO				*e*S	**Sb**	**16 50 37.1**	**+0.1**
SHO				A	A	16 50 38.4	
	470nm,0.7s						
SHO				A	A	16 50 38.4	
	470nm,0.7s						
NEM2	**Nemuro 2**	**0.78**	**268**	*e*P	**Pn**	**16 50 34.2**	**-0.6**
NEM2				*e*S	**Sb**	**16 50 45.5**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.79**	**269**	*i P*	**Pn**	**16 50 34.2**	**-0.8**
NMR				*e*S	**Sn**	**16 50 45.3**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**0.94**	**313**	*i P*	**Pn**	**16 50 36.7**	**-0.4**
YUK				AMB	AMB	16 50 37.3	
	170nm,0.3s						
YUK				*e*S	**Sn**	**16 50 48.9**	**-0.5**
YUK				A	A	16 50 50.4	
	420nm,0.4s						
YUK				A	A	16 50 50.4	
	380nm,0.4s						
JRA	**Rausu**	**1.34**	**294**	*e*P	**Pn**	**16 50 43.2**	**+0.6**
JRA				*e*S	**Sb**	**16 51 01.3**	**0.0**
JNSB	**Nemuroshibetsu**	**1.37**	**287**	*e*P	**Pn**	**16 50 43.1**	**+0.2**
JNSB				*e*S	**Sb**	**16 51 01.3**	**-0.7**
JNK	**Nakash**	**1.53**	**278**	*e*P	**Pn**	**16 50 45.4**	**+0.2**
JAK	**Akkeshi**	**1.60**	**256**	*e*P	**Pn**	**16 50 45.9**	**-0.2**
JAK				*e*S	**Sn**	**16 51 05.3**	**-0.3**
KUR	**Kuril'sk**	**1.99**	**22**	*e*P	**Pn**	**16 50 52.1**	**+0.6**
KUR				*e*S	**Sn**	**16 51 14.4**	**-0.9**
KUR				A	A	16 51 17.7	
	60nm,0.2s						
KUR				A	A	16 51 17.7	
	30nm,0.2s						
JTKR	**Abashiri--Toko**	**2.18**	**286**	*e*P	**Pn**	**16 50 55.4**	**+1.3**
JAR	**Ashorobuto**	**2.22**	**269**	*e*P	**Pn**	**16 50 55.5**	**+0.8**
JAR				*e*S	**Sn**	**16 51 22.4**	**+1.3**

*MEX **07** 17:02:38.4±0.3, 16°41N×95°12W, h99km±7km, MD4.6*
*NEIC **07** 17:02:39.3±2.1, 16°52N±0°08×95°19W±0°04, h14km±5km, mb4.3/87, Md4.8/18(MEX), Error ellipse: s-maj=11.6km s-min=6.0km az=171.0*
*IDC **07** 17:02:46.4±4.4, 16°77N×94°80W, h73km±38km, mb3.6/10, mbtmp3.9/11, ML3.5/1, MS3.3/12, Error ellipse: s-maj=30.6km s-min=17.2km az=39.0*
ISC 07 17:02:39.5±0.5, 16°52N±0°03×95°14W±0°02, h21km±3km, n192, σ2°00/238, mb4.2/24, MS3.2/12, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.50**	**85**	*e*P	**Pb**	**17 02 47.2**	**-2.4**
NILT				*e*S	**Sb**	**17 02 55.0**	**-1.5**
HUIG	**Huatulco**	**1.19**	**232**		**Pn**	**17 02 59.3**	**-1.7**
HUIG					**Sn**	**17 03 15.1**	**-1.5**
HUIG	**Huatulco**	**1.19**	**232**	*e*P	**Pn**	**17 02 59.3**	**-1.7**
HUIG				*e*S	**Sn**	**17 03 15.1**	**-1.5**
CARR	**Arriaga**	**1.21**	**103**	*e*P	**Pn**	**17 03 00.2**	**-0.9**
CARR				*i* S	**Sn**	**17 03 16.8**	**-0.1**
UXUV	**UXUV**	**1.24**	**50**	*e*P	**Pn**	**17 03 00.8**	**-0.8**
UXUV				*e*S	**Sb**	**17 03 18.6**	**+0.8**
NEUV	**Arroyo Zacate**	**1.35**	**332**	*e*P	**Pn**	**17 03 02.7**	**-0.4**
NEUV				*e*S	**Sb**	**17 03 21.9**	**+1.0**
PANG	**Puerto Angel**	**1.54**	**237**	*e*P	**Pn**	**17 03 04.8**	**-0.9**
PANG				*e*S	**Sn**	**17 03 25.1**	**+0.1**
MIHL	**Minatitlan**	**1.57**	**21**	*e*P	**Pb**	**17 03 09.2**	**+1.4**
MIHL				*e*S	**Sb**	**17 03 30.7**	**+3.4**
OXLC	**Oaxaca**	**1.59**	**290**	*i P*	**Pn**	**17 03 07.1**	**+0.4**
OXLC				*e*S	**Sn**	**17 03 27.9**	**+1.1**
OXBJ	**Oaxaca**	**1.61**	**290**	*i P*	**Pn**	**17 03 07.3**	**+0.3**
OXBJ				*e*S	**Sn**	**17 03 29.0**	**+1.7**
VHO	**Vista Hermosa**	**1.62**	**290**	*i P*	**Pn**	**17 03 07.5**	**+0.4**
VHO				*e*S	**Sn**	**17 03 29.2**	**+1.7**
TUIG	**Tuzandepetl**	**1.66**	**24**	*e*P	**Pn**	**17 03 08.0**	**+0.6**
TUIG				*e*S	**Sb**	**17 03 32.1**	**+2.3**
TGIG		**1.95**	**82**	*e*P	**Pn**	**17 03 12.8**	**+1.3**
TGIG				*e*S	**Sb**	**17 03 39.0**	**+0.7**
TGBT	**Tuxtla Gutierr**	**1.98**	**82**	*e*P	**Pn**	**17 03 13.7**	**+1.9**
TGBT				*e*S	**Sb**	**17 03 39.5**	**+0.4**
PEIG	**Puerto Escondi**	**2.00**	**255**		**Pn**	**17 03 11.0**	**-1.1**
PEIG					**Sn**	**17 03 38.7**	**+2.2**
PEIG	**Puerto Escondi**	**2.00**	**255**	*e*P	**Pn**	**17 03 11.0**	**-1.1**
PEIG				*e*S	**Sn**	**17 03 38.7**	**+2.2**
PCIG		**2.01**	**113**	*e*P	**Pn**	**17 03 12.3**	**+0.1**
PCIG				*e*S	**Sn**	**17 03 38.4**	**+1.6**
PMUV	**Sontecomapan**	**2.02**	**0**	*e*P	**Pn**	**17 03 12.6**	**+0.2**
PMUV				*e*S	**Sb**	**17 03 39.7**	**-0.5**
YOIG	**Yosondua**	**2.33**	**279**		**Pn**	**17 03 17.9**	**+1.0**
YOIG					**Sb**	**17 03 48.8**	**-0.7**
YOIG	**Yosondua**	**2.33**	**279**	*e*P	**Pn**	**17 03 17.9**	**+1.0**
YOIG				*e*S	**Sb**	**17 03 48.8**	**-0.7**
TOIG	**Toxpalan**	**2.42**	**311**	*e*P	**Pn**	**17 03 19.5**	**+1.5**
TOIG				*e*S	**Sn**	**17 03 49.7**	**+2.7**
TXIG	**Tlaxiaco**	**2.62**	**287**	*e*P	**Pn**	**17 03 22.6**	**+1.7**
TXIG				*e*S	**Sn**	**17 03 54.1**	**+1.9**
TPIG	**Tehuac#an**	**2.84**	**312**	*e*P	**Pn**	**17 03 25.9**	**+2.0**
TPIG				*e*S	**Sn**	**17 03 59.2**	**+1.6**
HLIG	**Huajuapan de L**	**2.86**	**298**	*e*P	**Pn**	**17 03 25.8**	**+1.7**
HLIG				*e*S	**Sn**	**17 03 58.9**	**+0.8**
PNIG	**Pinotepa**	**2.87**	**268**	*i P*	**Pn**	**17 03 23.6**	**-0.5**
PNIG				*e*S	**Sn**	**17 03 58.1**	**+0.1**
CCIG	**Comitan**	**2.89**	**94**	*e*P	**Pn**	**17 03 25.8**	**+1.3**
CCIG				*e*S	**Sn**	**17 04 00.2**	**+1.5**
OZST	**Orizaba**	**2.98**	**322**	*e*P	**Pn**	**17 03 27.4**	**+1.6**
OZST				*e*S	**Sn**	**17 04 04.2**	**+3.2**
PATR	**El Naranjo**	**3.12**	**116**	*e*P	**Pn**	**17 03 28.5**	**+0.7**
PATR				*e*S	**Sn**	**17 04 04.8**	**+0.2**
PAVE	**Pavencul**	**3.14**	**114**	*e*P	**Pn**	**17 03 29.9**	**+1.9**
PAVE				*e*S	**Sn**	**17 04 06.3**	**+1.4**
FTIG	**Fresnillo de T**	**3.18**	**296**	*e*P	**Pn**	**17 03 30.5**	**+2.1**
FTIG				*e*S	**Sn**	**17 04 08.7**	**+2.9**
THIG		**3.20**	**120**	*e*P	**Pn**	**17 03 29.0**	**+0.4**
THIG				*e*S	**Sn**	**17 04 04.5**	**-1.5**
CHUJ	**Union Juarez**	**3.24**	**115**	*e*P	**Pn**	**17 03 30.3**	**+0.9**
CHUJ				*e*S	**Sn**	**17 04 07.5**	**0.0**
JAUV	**Jalcomulco**	**3.25**	**331**	*e*P	**Pn**	**17 03 27.8**	**-1.5**
JAUV				*e*S	**Sn**	**17 04 04.3**	**-3.1**
LVIG	**Laguna Verde**	**3.41**	**339**	*e*P	**Pn**	**17 03 30.6**	**-1.0**
LVIG				*e*S	**Sn**	**17 04 10.3**	**-1.1**
TLIG	**Tlapa**	**3.44**	**288**	*e*P	**Pn**	**17 03 34.8**	**+2.7**
TLIG				*e*S	**Sn**	**17 04 14.2**	**+1.9**
HMTT	**Tlapaneco**	**3.51**	**292**	*e*P	**Pn**	**17 03 33.8**	**+0.8**
HMTT				*e*S	**Sn**	**17 04 13.8**	**-0.1**
HUEH	**Huehuetenango**	**3.69**	**108**		**Pn**	**17 03 36.7**	**+1.1**
RTAL	**Retalhuleu**	**3.87**	**120**		**Pn**	**17 03 39.4**	**+1.6**
PPM	**Popocatepetl**	**4.18**	**308**	*e*P	**Pn**	**17 03 45.5**	**+2.9**
PPM				*e*S	**Sn**	**17 04 34.4**	**+3.3**
CXUV	**Coxquihui**	**4.32**	**328**	*e*P	**Pn**	**17 03 43.6**	**-0.4**
CXUV				*e*S	**Sn**	**17 04 33.4**	**-0.4**
AMVM	**AMECAMECA**	**4.34**	**307**	*e*P	**Pn**	**17 03 46.0**	**+1.5**
AMVM				*e*S	**Sn**	**17 04 28.4**	**-6.2**
DAIG	**Los Arroyos**	**4.35**	**277**	*e*P	**Pn**	**17 03 44.4**	**0.0**
DAIG				*e*S	**Sn**	**17 04 28.1**	**-6.5**
YAIG	**Yautepec**	**4.41**	**302**	*e*P	**Pn**	**17 03 47.7**	**+2.3**
YAIG				*e*S	**Sn**	**17 04 39.1**	**+2.8**
SCIG	**Sabancuy**	**4.49**	**57**	*e*P	**Pn**	**17 03 45.9**	**-0.4**
SCIG				*e*S	**Sn**	**17 04 34.2**	**-3.6**
MEIG	**Mezcala**	**4.51**	**289**	*e*P	**Pn**	**17 03 48.4**	**+1.8**
MEIG				*e*S	**Sn**	**17 04 39.7**	**+1.2**
PLIG	**Platanillo**	**4.56**	**295**	*e*P	**Pn**	**17 03 50.1**	**+2.6**
PLIG				*e*S	**Sn**	**17 04 42.8**	**+2.9**
TXVM	**Universitario**	**4.62**	**309**	*e*		17 04 48.8	
VTVM	**Tizayuca**	**4.74**	**314**	*e*P	**Pn**	**17 03 53.9**	**+3.9**
VTVM				*e*S	**Sn**	**17 04 41.4**	**-3.1**
PBVM	**Pinon**	**4.75**	**308**	*e*P	**Pn**	**17 03 47.1**	**-2.8**
PBVM				*e*S	**Sn**	**17 04 36.8**	**-7.5**
PTVM	**Pico Tres Padr**	**4.86**	**310**	*e*P	**Pn**	**17 03 52.9**	**+1.2**
PTVM				*e*S	**Sn**	**17 04 46.2**	**-1.4**
INVM	**La Marquesa**	**4.89**	**305**	*e*P	**Pn**	**17 03 52.7**	**+0.5**
INVM				*e*S	**Sn**	**17 04 42.4**	**-6.1**
CAIG	**El Cayaco**	**4.94**	**277**	*i* P	**Pn**	**17 03 52.5**	**-0.1**
CAIG				*e*S	**Sn**	**17 04 44.6**	**-4.5**
AZVM	**Cuida Lopez Ma**	**4.99**	**308**	*e*S	**Sn**	**17 04 53.0**	**+2.3**
ZUVM	**ZUMPANGO**	**4.99**	**312**	*e*P	**Pn**	**17 03 54.3**	**+0.9**
ZUVM				*e*S	**Sn**	**17 04 48.2**	**-2.4**
PETF	**Flores**	**5.07**	**85**		**Pn**	**17 03 55.5**	**+1.3**
TOVM	**TOLUCA**	**5.12**	**303**	*e*P	**Pn**	**17 03 58.9**	**+3.5**
TOVM				*e*S	**Sn**	**17 04 47.5**	**-6.6**
ARIG	**Puente Sto Nin**	**5.27**	**290**	*e*P	**Pn**	**17 03 59.5**	**+2.3**
ARIG				*e*S	**Sn**	**17 04 50.0**	**-7.4**
DEIG	**Demacu**	**5.28**	**316**	*e*P	**Pn**	**17 04 00.3**	**+2.9**
DEIG				*e*S	**Sn**	**17 04 56.4**	**-1.4**
ATVM	**ATLACOMULCO**	**5.51**	**307**	*e*S	**Sn**	**17 05 05.7**	**+2.0**
ACIG	**Acambay**	**5.67**	**308**	*e*P	Pn	17 03 58.3	-4.5
ACIG				*e*S	**Sn**	**17 05 01.6**	**-5.7**
MTO3	**Montecristo**	**5.96**	**110**		**Pn**	**17 04 07.0**	**+0.3**
ZIIG	**Zihuatanejo**	**6.15**	**281**	*e*P	**Pn**	**17 04 09.9**	**+0.8**
ZIIG				*e*S	**Sn**	**17 05 20.2**	**+1.4**
MYIG	**Mrida**	**6.76**	**48**	*e*P	**Pn**	**17 04 15.4**	**-2.1**
MYIG				*e*S	**Sn**	**17 05 29.2**	**-4.7**
TEIG	**Tepich**	**7.49**	**59**		**Pn**	**17 04 26.8**	**-0.7**
TEIG	**Tepich**	**7.49**	**59**	*e*P	**Pn**	**17 04 26.2**	**-1.3**
TEIG	**Tepich**	**7.49**	**59**	P	**Pn**	**17 04 27.1**	**-0.4**
	604nm,0.5s,baz=40,slow=0.6,SNR=68						
TEIG				S	**Sn**	**17 05 47.7**	**-4.1**
	952nm,0.5s,baz=314,slow=22,SNR=9.4						
TEIG				LR	LR	17 07 51.1	
	comp=Z,3μm,18.4s,baz=6.5,slow=43						
LNIG	**Linares**	**9.27**	**335**	*e*P	**Pn**	**17 04 53.3**	**+1.3**
LNIG				*e*S	**Sn**	**17 06 27.7**	**-8.0**
MATN	**Matagalpa**	**9.60**	**111**		**Pn**	**17 04 57.6**	**+1.0**
ORTG	**Ortega, Santa**	**11.22**	**122**		**Pn**	**17 05 20.4**	**+1.5**
ESPN	**Las Esperanzas**	**11.35**	**111**		**Pn**	**17 05 20.9**	**+0.5**
833A	**Chaparral WMA,**	**12.39**	**342**		**Pn**	**17 05 35.8**	**+1.1**
RIMA	**Rio Macho**	**12.86**	**120**		**Pn**	**17 05 41.8**	**+0.4**
HNDO	**Hondo**	**13.50**	**344**		**Pn**	**17 05 49.6**	**-0.3**
DRIO	**Del Rio**	**13.80**	**340**		**Pn**	**17 05 54.3**	**+0.4**
435B	**Jarrell**	**14.38**	**351**	Pn	**Pn**	**17 06 01.7**	**-0.1**
JCT	**Junction City**	**14.54**	**344**	Pn	**Pn**	**17 06 06.0**	**+1.9**
SAND	**Sanderson**	**14.83**	**336**	Pn	**Pn**	**17 06 08.0**	**-0.1**
TX32	**Lajitas Array**	**14.97**	**330**		**Pn**	**17 06 09.4**	**-0.6**
TXAR	**Lajitas Array**	**14.97**	**330**	Pn	**Pn**	**17 06 12.0**	**+1.9**
TXAR	**Lajitas Array**	**14.97**	**330**	P	**Pn**	**17 06 12.3**	**+2.2**
	baz=152,slow=11,SNR=10						
	0.7nm,0.7s						
TX31	**Lajitas Ar. Si**	**14.97**	**330**		**Pn**	**17 06 10.7**	**+0.6**
BRDY	**Brady**	**15.12**	**347**		**Pn**	**17 06 10.6**	**-1.3**
BRDY				IAmb	IAmb	17 06 24.1	
	comp=Z,13nm,0.8s						
OZNA	**Ozona**	**15.35**	**340**		**P**	**17 06 20.1**	**+0.5**
OZNA				IAmb	IAmb	17 06 22.7	
	comp=Z,22nm,0.8s						
WHTX	**Lake Whitney,**	**15.55**	**353**	Pn	**Pn**	**17 06 19.1**	**+1.6**
ALPN	**Alpine**	**15.84**	**332**		**P**	**17 06 23.8**	**-1.2**
ALPN				IAmb	IAmb	17 06 28.8	
	comp=Z,17nm,0.8s						
FW13	**Cleburne**	**15.90**	**353**		**Pn**	**17 06 22.1**	**0.0**
FW13				IAmb	IAmb	17 06 26.4	
	comp=Z,41nm,0.7s						
FW14	**Alvarado**	**15.92**	**354**	P	**P**	**17 06 25.1**	**-0.7**
FW14				IAmb	IAmb	17 06 41.4	
	comp=Z,60nm,1.1s						
SGCY	**Sterling City**	**16.27**	**342**		**Pn**	**17 06 28.7**	**+1.8**
SGCY				IAmb	IAmb	17 06 34.5	
	comp=Z,9.3nm,0.8s						
FW07	**Weatherford**	**16.29**	**352**	P	**P**	**17 06 29.7**	**-0.3**
FW07				IAmb	IAmb	17 06 40.3	
	comp=Z,46nm,0.6s						
ABTX	**Abilene, Hawle**	**16.55**	**347**	P	**Pn**	**17 06 31.3**	**+0.9**
ABTX				IAmb	IAmb	17 06 47.4	
	comp=Z,40nm,1.4s						
FW03	**Perrin-Whitt E**	**16.66**	**351**		**Pn**	**17 06 30.0**	**-1.8**
FW03				IAmb	IAmb	17 06 57.5	
	comp=Z,17nm,0.6s						
PECS	**Pecos**	**16.79**	**333**	P	**P**	**17 06 36.4**	**+0.8**
PECS				IAmb	IAmb	17 06 39.5	
	comp=Z,18nm,0.8s						
425A	**Indio Mountain**	**16.81**	**329**		**P**	**17 06 36.8**	**+0.9**
SN01	**Snyder 1**	**17.09**	**343**		**P**	**17 06 39.0**	**+0.2**
SN01				IAmb	IAmb	17 06 42.1	
	comp=Z,20nm,0.8s						
APMT	**Aspermont**	**17.33**	**346**		**Pn**	**17 06 40.5**	**+0.4**
APMT				IAmb	IAmb	17 06 57.2	
	comp=Z,8.9nm,0.8s						
WTFS	**Witchita Falls**	**17.43**	**351**	P	**P**	**17 06 43.6**	**+1.0**
WTFS				IAmb	IAmb	17 06 47.1	
	comp=Z,16nm,0.8s						
POST	**Post**	**17.45**	**342**	P	**P**	**17 06 43.1**	**+0.3**
POST				IAmb	IAmb	17 07 15.6	
	comp=Z,9.6nm,0.9s						
LOOK	**Love County**	**17.50**	**354**	P	**P**	**17 06 43.9**	**+0.6**
LOOK				IAmb	IAmb	17 07 02.2	
	comp=Z,29nm,0.7s						
MNTX	**Cornudas Mount**	**17.75**	**330**		**Pn**	**17 06 46.1**	**+0.7**
DKNS	**Dickens**	**17.85**	**344**		**Pn**	**17 06 46.5**	**-0.2**
DKNS				IAmb	IAmb	17 07 03.6	
	comp=Z,11nm,0.9s						
X37A	**Clayton**	**18.00**	**359**		**Pn**	**17 06 48.6**	**+0.2**
X37A				IAmb	IAmb	17 07 04.1	
	comp=Z,14nm,0.7s						
MIAR	**Mount Ida**	**18.01**	**4**	P	**Pn**	**17 06 48.2**	**-0.3**
X34A	**Smith Ranch, M**	**18.17**	**353**	P	**Pn**	**17 06 50.3**	**-0.2**
WMOK	**Wichita Mounta**	**18.44**	**350**	P	**P**	**17 06 53.6**	**-0.1**
W35A	**Tecumseh**	**18.62**	**356**		**P**	**17 06 55.1**	**-0.6**
W35A				IAmb	IAmb	17 07 10.9	
	comp=Z,15nm,0.8s						
MSTX	**Muleshoe**	**18.69**	**340**	P	**Pn**	**17 06 57.2**	**+0.3**
OK031	**S. Brethren Rd**	**19.42**	**356**		**P**	**17 07 04.6**	**+0.2**
OK031				IAmb	IAmb	17 07 16.3	
	comp=Z,16nm,0.9s						
OK052	**Battle Ridge R**	**19.45**	**356**	P	**P**	**17 07 05.4**	**+0.6**
OK052				IAmb	IAmb	17 07 17.1	
	comp=Z,46nm,1.4s						
FCAR	**Ozark Folk Cen**	**19.48**	**7**		**P**	**17 07 05.2**	**+0.1**
FCAR				IAmb	IAmb	17 07 43.0	
	comp=Z,18nm,1.1s						
319A	**Douglas**	**19.61**	**321**	P	**P**	**17 07 07.4**	**+0.7**
319A				IAmb	IAmb	17 07 11.8	
	comp=Z,11nm,0.9s						
QUOK	**Quay**	**19.62**	**356**		**P**	**17 07 06.7**	**+0.1**
QUOK				IAmb	IAmb	17 07 19.4	
	comp=Z,14nm,0.7s						
121A	**Cookes Peak, D**	**19.63**	**327**	P	**P**	**17 07 07.4**	**+0.4**
121A				IAmb	IAmb	17 07 38.0	
	comp=Z,13nm,0.9s						
HHAR	**Hobbs**	**19.71**	**3**		**P**	**17 07 07.6**	**-0.1**
U38A	**Gravette**	**19.85**	**2**		**P**	**17 07 08.6**	**-0.6**
T35A	**Sooner Cattle**	**20.36**	**357**	P	**P**	**17 07 14.7**	**+0.1**
T35A				IAmb	IAmb	17 07 27.3	
	comp=Z,23nm,0.9s						
DUN6	**Lazy B Ranch**	**20.36**	**324**	P	**P**	**17 07 16.2**	**+1.3**
OK032	**Salt Plains WL**	**20.39**	**353**		**P**	**17 07 15.4**	**+0.4**
OK032				IAmb	IAmb	17 07 51.4	
	comp=Z,12nm,0.9s						
KAN17	**Caldwell West**	**20.58**	**354**		**P**	**17 07 17.1**	**+0.1**
KAN17				IAmb	IAmb	17 07 47.6	
	comp=Z,11nm,0.8s						
KAN05	**Bluff City Nor**	**20.65**	**354**	P	**P**	**17 07 18.9**	**+1.0**
KAN05				IAmb	IAmb	17 07 23.8	
	comp=Z,16nm,0.7s						
KAN09	**Caldwell North**	**20.66**	**354**	P	**P**	**17 07 18.2**	**+0.3**
KAN09				IAmb	IAmb	17 07 22.7	
	comp=Z,12nm,0.8s						
KAN01	**Argonia South**	**20.69**	**354**		**P**	**17 07 18.5**	**+0.3**
KAN01				IAmb	IAmb	17 07 24.1	
	comp=Z,10nm,0.7s						
MGMO	**Mountain Grove**	**20.71**	**6**	P	**P**	**17 07 18.7**	**+0.2**
MGMO				IAmb	IAmb	17 07 24.9	
	comp=Z,7.9nm,0.8s						
KAN08	**Anthony NE Sta**	**20.78**	**354**		**P**	**17 07 19.3**	**+0.1**
KAN08				IAmb	IAmb	17 07 24.2	
	comp=Z,15nm,0.7s						
KAN06	**Argonia West S**	**20.79**	**354**	P	**P**	**17 07 19.4**	**+0.1**
KAN06				IAmb	IAmb	17 07 25.2	
	comp=Z,10nm,0.7s						
KAN12	**Harper NE Stat**	**20.85**	**354**		**P**	**17 07 20.2**	**+0.2**
ANMO	**Albuquerque**	**20.96**	**333**	P	**P**	**17 07 21.4**	**-0.1**
ANMO	**Albuquerque**	**20.96**	**333**	P	**P**	**17 07 22.7**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=252,slow=9.0,SNR=4.6						
	comp=Z,1.6nm,0.5s						
S39A	**Bolivar**	**21.15**	**4**	P	**P**	**17 07 23.3**	**+0.1**
TUC	**Tucson**	**21.18**	**321**	P	**P**	**17 07 22.3**	**-1.4**
TKL	**Tuckaleechee C**	**21.59**	**26**	P	**P**	**17 07 25.1**	**-2.9**
	comp=Z,4.5nm,0.9s,baz=32,slow=3.5,SNR=2.8						
TKL				LR	LR	17 17 42.1	
	comp=Z,57nm,18.1s,baz=218,slow=42						
	comp=Z,4.5nm,0.9s						
T47A	**Sharon Grove**	**21.60**	**18**	P	**P**	**17 07 26.6**	**-1.4**
T47A				IAmb	IAmb	17 07 31.9	
	comp=Z,14nm,0.8s						
R40A	**Maddies Statio**	**21.84**	**6**	P	**P**	**17 07 29.9**	**-0.6**
R40A				IAmb	IAmb	17 07 36.1	
	comp=Z,7.8nm,0.7s						
T25A	**Trinidad**	**22.12**	**340**	P	**P**	**17 07 34.0**	**+0.1**
T25A				IAmb	IAmb	17 07 44.0	
	comp=Z,10nm,1.0s						
YOTC	**Yotoco, Valle**	**22.26**	**122**	*e*P	**P**	**17 07 39.6**	**+4.1**
X18A	**Snowflake**	**22.32**	**326**	P	**P**	**17 07 37.3**	**+1.3**
GUY2C	**Guyana, Caldas**	**22.40**	**118**	*e*P	**P**	**17 07 35.8**	**-1.6**
JAMC	**Jamundi, Valle**	**22.45**	**124**	*e*P	**P**	**17 07 39.6**	**+2.0**
KSU1	**Kansas State U**	**22.54**	**357**	P	**P**	**17 07 39.1**	**+1.1**
KSU1				IAmb	IAmb	17 07 41.5	
	comp=Z,18nm,0.9s						
BBAC	**Balboa, Cauca**	**22.75**	**127**	*e*P	**P**	**17 07 44.4**	**+3.6**
POPC	**Popayan, Colom**	**22.86**	**125**	*e*P	**P**	**17 07 43.4**	**+1.4**
WCI	**Wyandotte Cave**	**22.98**	**18**	P	**P**	**17 07 41.2**	**-1.6**
WCI				IAmb	IAmb	17 07 44.9	
	comp=Z,12nm,0.8s						
SDCO	**Great Sand Dun**	**23.04**	**339**	P	**P**	**17 07 44.5**	**+0.8**
X16A	**Lo Mia Camp, P**	**23.06**	**324**	P	**P**	**17 07 45.3**	**+1.4**
P38A	**Dawn**	**23.07**	**3**	P	**P**	**17 07 42.2**	**-1.4**
P38A				IAmb	IAmb	17 07 45.6	
	comp=Z,8.6nm,0.9s						
P40A	**Paris**	**23.09**	**6**	P	**P**	**17 07 42.5**	**-1.3**
P40A				IAmb	IAmb	17 07 45.6	
	comp=Z,15nm,0.9s						
ORTC	**Ortega, Tolima**	**23.21**	**121**	*e*P	**P**	**17 07 46.8**	**+1.5**
MVCO	**Mesa Verde**	**23.76**	**333**	P	**P**	**17 07 51.0**	**+0.3**
MVCO				IAmb	IAmb	17 08 00.6	
	comp=Z,6.2nm,0.8s						
WUAZ	**Wupatki**	**23.83**	**326**	P	**P**	**17 07 52.3**	**+0.9**
WUAZ				IAmb	IAmb	17 08 00.4	
	comp=Z,5.5nm,0.8s						
N38A	**Joes South For**	**24.25**	**4**	P	**P**	**17 07 53.8**	**-1.2**
N41A	**Harden Midland**	**24.39**	**8**	P	**P**	**17 07 54.4**	**-1.9**
SMCO	**Snowmass**	**24.84**	**338**	P	**P**	**17 08 01.6**	**+0.7**
SMCO				IAmb	IAmb	17 08 10.2	
	comp=Z,8.6nm,1.1s						
ISCO	**Idaho Springs**	**24.93**	**341**	P	**P**	**17 08 00.7**	**-0.9**
SDV	**Santo Domingo**	**25.06**	**105**	LR	LR	17 18 22.3	
	comp=Z,68nm,18.2s,baz=37,slow=38						
OGNE	**Ogallala**	**25.06**	**348**	P	**P**	**17 08 02.8**	**+0.2**
O48B	**Farmland**	**25.20**	**18**	P	**P**	**17 08 01.4**	**-2.2**
MACC	**Macarena, Meta**	**25.36**	**122**	*e*P	**P**	**17 08 10.0**	**+4.6**
O49A	**Covington**	**25.39**	**20**	P	**P**	**17 08 03.9**	**-1.5**
BOSC	**San Ju

mbtmp3.3/2, Error ellipse: s-maj=331.1km s-min=58.5km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.76**	**267**	P	P	17 25 37.0	-1.0
	0.2nm,0.4s,baz=106,slow=7.6,SNR=8.1 0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.75**	**272**	P	P	17 25 46.8	+0.8
	0.2nm,0.3s,baz=111,slow=7.9,SNR=8.4 0.2nm,0.3s						
FINES	**FINESS Array B**	**145.02**	**340**	PKPbc	PKPbc	17 37 15.6	-0.8
	2.0nm,1.0s,baz=90,slow=4.2,SNR=5.5						

*IDC **07** 17:22:23.8±0.6, 17.°87S×176.°55W, h0km, mb4.1/13, mbtmp4.1/14, ML5.1/1, MS3.8/37, Error ellipse: s-maj=21.1km s-min=19.0km az=118.0*
*NEIC **07** 17:22:25.6±2.4, 18.°07S±0.°08×176.°7W±0.°1, h10km±2km, mb4.7/17, Error ellipse: s-maj=22.6km s-min=9.9km az=62.0*

ISC 07 17:22:28.9±0.5, 17.°9S±0.°1×176.°66W±0.°09, h35km, n96, σ1=9.07/62, mb4.6/23, MS3.9/36, 5C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.04**	**271**		**Pn**	**17 23 43.2**	**+1.1**
MSVF	**Nonsavu**	**5.04**	**271**	Pn	**Pn**	**17 23 43.7**	**+1.6**
	2.5nm,0.3s,baz=199,slow=22,SNR=14						
MSVF				LR	LR	17 25 34.4	
	comp=Z,4μm,18.2s,baz=111,slow=37 15nm,0.6s						
AFI	**Afiamalu**	**6.14**	**51**	LR	LR	17 25 29.5	
	comp=Z,251nm,18.9s,baz=193,slow=31						
RAO	**Raoul Island**	**11.38**	**186**	LR	LR	17 28 55.4	
	comp=Z,1μm,20.2s,baz=14,slow=34						
OUENC	**Ouen Island, N**	**16.13**	**251**	P	**Pn**	**17 26 12.3**	**-0.8**
OUENC				IAmb	IAmb	17 26 26.3	
	comp=Z,26nm,1.1s						
RAR	**Rarotonga**	**16.26**	**104**	LR	LR	17 30 57.4	
	comp=Z,286nm,19.7s,baz=326,slow=32						
DZM	**Mont Dzumac**	**16.42**	**253**	eLR	LR	17 30 20.6	
	comp=Z,857nm,23.9s						
DZM	**Mont Dzumac**	**16.42**	**253**	P	**Pn**	**17 26 16.7**	**-0.1**
DZM	**Mont Dzumac**	**16.42**	**253**	Pn	**P**	**17 26 21.8**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=102,slow=13,SNR=4.1						
DZM				LR	LR	17 31 36.8	
	comp=Z,734nm,19.3s,baz=84,slow=34						
HNR	**Honiara**	**24.21**	**287**	LR	LR	17 35 45.6	
	comp=Z,4μm,19.5s,baz=160,slow=33						
PPT2	**Papeete2**	**25.79**	**94**	eLR	LR	17 33 54.4	
	comp=Z,737nm,27.2s						
PPT2				eLR	LR	17 33 58.8	
	comp=Z,497nm,31.5s						
TBI	**Tubuai**	**26.01**	**107**	eLR	LR	17 34 04.3	
	comp=Z,3μm,28.8s						
TBI				eLR	LR	17 34 23.7	
	comp=Z,8μm,25.8s						
KRVT	**Keravat (AS076**	**33.48**	**290**	LR	LR	17 41 48.7	
	comp=Z,320nm,18.8s,baz=3.6,slow=35						
CTA	**Charters Tower**	**35.09**	**260**	LR	LR	17 41 45.2	
	comp=Z,120nm,21.1s,baz=82,slow=33						
CTAO	**Charters Tower**	**35.09**	**260**	P	**P**	**17 29 18.7**	**-0.4**
PMG	**Port Moresby**	**36.10**	**279**	LR	LR	17 42 30.8	
	comp=Z,185nm,18.3s,baz=92,slow=33						
TAOE	**Nuku Hiva Isla**	**36.58**	**81**	eLR	LR	17 38 42.2	
	comp=Z,232nm,25.6s						
COEN	**Coen**	**38.77**	**270**	P	**P**	**17 29 49.9**	**-0.5**
COEN				IAmb	IAmb	17 30 16.7	
	comp=Z,35nm,1.5s						
STKA	**Stephens Creek**	**40.10**	**242**	P	**P**	**17 29 58.7**	**-2.6**
STKA	**Stephens Creek**	**40.10**	**242**	P	**P**	**17 30 02.1**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=90,slow=12,SNR=3.7 comp=Z,1.8nm,0.8s						
JAY	**Jayapura**	**44.50**	**285**	LR	LR	17 49 33.4	
	comp=Z,112nm,18.1s,baz=214,slow=36						
WB0	**Warramunga Arr**	**46.24**	**260**	P	**P**	**17 30 49.1**	**-2.0**
WB0				IAmb	IAmb	17 30 56.0	
	comp=Z,15nm,1.2s						
WB2	**Warramunga Arr**	**46.26**	**259**	P	**P**	**17 30 48.4**	**-2.8**
WB2				IAmb	IAmb	17 30 53.1	
	comp=Z,12nm,1.3s						
WRAB	**Tennant Creek**	**46.26**	**259**	P	**P**	**17 30 48.9**	**-2.3**
WRAB				IAmb	IAmb	17 30 53.1	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**46.27**	**259**	P	**P**	**17 30 50.0**	**-1.3**
WRA	**Warramunga Arr**	**46.27**	**259**	P	**P**	**17 30 50.8**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=95,slow=6.5,SNR=20 comp=Z,3.2nm,0.9s						
AS31	**Alice Springs**	**46.40**	**254**	P	**P**	**17 30 52.0**	**-0.3**
AS31				IAmb	IAmb	17 30 57.5	
	comp=Z,4.0nm,0.8s						
ASAR	**Alice Springs**	**46.40**	**254**	P	**P**	**17 30 51.8**	**-0.5**
ASAR	**Alice Springs**	**46.40**	**254**	P	**P**	**17 30 52.1**	**-0.2**
	comp=Z,11nm,0.7s,baz=88,slow=8.4,SNR=217						
ASAR				LR	LR	17 50 21.7	
	comp=Z,77nm,18.1s,baz=96,slow=36 comp=Z,11nm,0.7s						
MTN	**Manton Dam**	**50.46**	**268**	P	**P**	**17 31 22.6**	**-1.1**
MTN				IAmb	IAmb	17 31 31.3	
	comp=Z,12nm,0.9s						
SIJI	**Sorong**	**53.85**	**282**	LR	LR	17 53 26.1	
	comp=Z,102nm,21.7s,baz=126,slow=34						
SOEI	**Soe**	**57.73**	**270**	P	**P**	**17 32 15.2**	**-1.7**
TNTI	**Ternate**	**58.08**	**282**	P	**P**	**17 32 18.1**	**-1.1**
BATI	**Baumata**	**58.19**	**269**	LR	LR	17 56 33.9	
	comp=Z,87nm,18.7s,baz=240,slow=35						
PSA00	**Pilbara Seismi**	**59.52**	**255**	P	**P**	**17 32 27.6**	**-1.6**
VNDA	**Vanda**	**60.62**	**185**	P	**P**	**17 32 35.7**	**0.0**
VNDA	**Vanda**	**60.62**	**185**	P	**P**	**17 32 37.4**	**+1.7**
	baz=18,slow=7.3						
DAV	**Davao City (W)**	**62.17**	**288**	LR	LR	17 59 09.3	
	comp=Z,22nm,18.2s,baz=138,slow=35						
RPN	**Rapa Nui**	**62.25**	**112**	LR	LR	17 53 07.1	
	comp=Z,92nm,20.3s,baz=254,slow=30						
KAPI	**Kappang**	**63.35**	**273**	LR	LR	17 59 06.5	
	comp=Z,30nm,18.4s,baz=94,slow=35						
MJAR	**Matsushiro Arr**	**68.89**	**322**	P	**P**	**17 33 30.8**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=134,slow=5.2,SNR=5.6 comp=Z,1.5nm,0.9s						
SHEM	**Shemya Is, Ala**	**70.77**	**354**	LR	LR	17 57 41.0	
	comp=Z,67nm,21.8s,baz=166,slow=30						
JNU	**Nakatsue**	**71.28**	**315**	P	**P**	**17 33 45.8**	**+0.8**
	comp=Z,8.1nm,0.8s,baz=137,slow=9.5,SNR=4.3 comp=Z,8.1nm,0.8s						
ASAJ	**Asahikawa**	**72.06**	**330**	LR	LR	18 01 53.4	
	comp=Z,36nm,18.7s,baz=154,slow=33						
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**17 33 49.7**	**-0.3**
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**17 33 50.5**	**+0.5**
	comp=Z,10nm,1.0s,baz=24,slow=2.4,SNR=19						
QSPA				LR	LR	18 03 23.6	
	comp=Z,34nm,19.0s,baz=35,slow=34 comp=Z,10nm,1.0s						
KSRS	**Korea Array**	**75.80**	**317**	P	**P**	**17 34 13.1**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=133,slow=7.3,SNR=5.9 comp=Z,1.0nm,0.8s						
KSAR	**Wonju Array Be**	**75.81**	**317**	P	**P**	**17 34 11.0**	**-0.4**
PFO	**Pinyon Flats O**	**76.89**	**48**	LR	LR	18 01 05.6	
	comp=Z,101nm,20.8s,baz=242,slow=30						
YBH	**Yreka Blue Hor**	**77.47**	**38**	LR	LR	17 59 30.8	
	comp=Z,107nm,20.2s,baz=239,slow=29						
NVAR	**Mina Array Bea**	**78.26**	**43**	P	**P**	**17 34 25.4**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=224,slow=7.6,SNR=3.4						
NVAR				LR	LR	18 02 57.7	
	comp=Z,88nm,20.0s,baz=270,slow=31 comp=Z,0.1nm,0.4s						
KLR	**Kul'dur**	**80.94**	**329**	LR	LR	18 05 15.0	
	comp=Z,39nm,19.2s,baz=121,slow=32						
ELK	**Elko**	**81.51**	**42**	LR	LR	18 04 27.1	
	comp=Z,43nm,18.7s,baz=268,slow=31						
BBB	**Bella Bella**	**81.51**	**28**	LR	LR	18 00 58.1	
	comp=Z,58nm,21.8s,baz=225,slow=28						
BELA	**Belgrano 2**	**81.98**	**172**	P	**P**	**17 34 44.7**	**0.0**
BELA				IAmb	IAmb	17 35 27.5	
	comp=Z,5.4nm,1.3s						
MAW	**Mawson**	**84.44**	**199**	LR	LR	18 10 30.8	
	comp=Z,64nm,19.4s,baz=111,slow=34						
NEW	**Newport**	**84.52**	**35**	LR	LR	18 07 01.9	
	comp=Z,53nm,18.3s,baz=260,slow=32						
TXAR	**Lajitas Array**	**84.58**	**57**	P	**P**	**17 34 58.4**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=221,slow=6.8,SNR=2.1 comp=Z,0.2nm,0.6s						
ANMO	**Albuquerque**	**84.78**	**51**	LR	LR	18 05 36.7	
	comp=Z,44nm,18.1s,baz=342,slow=31						
DLBC	**Dease Lake**	**85.16**	**23**	LR	LR	18 04 46.2	
	comp=Z,137nm,21.5s,baz=203,slow=30						
ILAR	**Eielson Array**	**85.50**	**12**	P	**P**	**17 35 02.2**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=225,slow=6.2,SNR=5.1						
	comp=Z,0.8nm,0.9s						
PDAR	**Pinedale Array**	**86.20**	**43**	P	**P**	**17 35 06.6**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=269,slow=5.4,SNR=3.7						
PDAR				LR	LR	18 08 48.0	
	comp=Z,39nm,18.4s,baz=286,slow=32 comp=Z,0.8nm,1.0s						
PLCA	**Paso Flores**	**90.14**	**133**	LR	LR	18 08 16.7	
	comp=Z,21nm,19.9s,baz=192,slow=31						
TROLL	**Troll, Antarti**	**90.33**	**180**	⇑P	**P**	**17 35 26.6**	**+0.5**
	comp=Z,130nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.44**	**289**	P	**P**	**17 35 29.2**	**+1.8**
	comp=Z,1.2nm,0.9s,baz=108,slow=2.8,SNR=8.2						
CMAR				LR	LR	18 12 20.3	
	comp=Z,12nm,21.9s,baz=220,slow=33 comp=Z,1.2nm,0.9s						
SNAA	**Sanae**	**90.57**	**178**	P	**P**	**17 35 26.6**	**-0.5**
SNAA				IAmb	IAmb	17 35 36.1	
	comp=Z,4.7nm,1.1s						
SNAA	**Sanae**	**90.57**	**178**	⇑P	**P**	**17 35 27.6**	**+0.4**
	comp=Z,25nm,0.7s						
SNAA	**Sanae**	**90.57**	**178**	P	**P**	**17 35 26.9**	**-0.2**
	comp=Z,2.5nm,1.0s,baz=162,slow=9.0,SNR=5.6						
SNAA				LR	LR	18 14 36.7	
	comp=Z,33nm,18.2s,baz=206,slow=35 comp=Z,2.5nm,1.0s						
VNA3	**Neumayer Olymp**	**90.65**	**176**	⇑P	**P**	**17 35 28.1**	**+0.6**
	comp=Z,6.5nm,0.7s						
VNA2	**Neumayer--Watz**	**91.11**	**176**	⇑P	**P**	**17 35 30.5**	**+0.9**
	comp=Z,3.5nm,0.7s,baz=194,slow=2.0						
VNA1	**Neumayer--Stat**	**91.33**	**176**	⇑P	**P**	**17 35 31.8**	**+1.2**
	comp=Z,4.4nm,0.8s						
YKA	**Yellowknife Ar**	**93.62**	**24**	LR	LR	18 09 05.3	
	comp=Z,60nm,20.9s,baz=298,slow=30						
NNA	**Nana**	**95.50**	**104**	LR	LR	18 08 32.5	
	comp=Z,30nm,21.5s,baz=209,slow=29						
ATAH	**Atahualpa**	**95.64**	**99**	LR	LR	18 10 31.3	
	comp=Z,41nm,20.2s,baz=241,slow=30						
ULM	**Lac du Bonnet**	**97.82**	**40**	LR	LR	18 13 47.9	
	comp=Z,85nm,19.5s,baz=298,slow=32						
LVC	**Limon Verde**	**98.72**	**117**	LR	LR	18 11 10.2	
	comp=Z,39nm,21.1s,baz=244,slow=30						
BVAR	**Borovoye Array**	**117.87**	**321**	PKP	**PKiKP**	**17 41 11.7**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=234,slow=1.3,SNR=5.3						
CLL	**Collm**	**145.78**	**349**	*e*PKPbc	**PKPab**	**17 42 05.0**	**+0.5**
OSTC	**Ostas**	**145.81**	**345**	*e*PKP	**PKPab**	**17 42 05.5**	**+0.8**
UPC	**Upice**	**145.91**	**346**	*e*PKP	**PKPab**	**17 42 05.8**	**+0.8**
BRTR	**Keskin Array B**	**145.93**	**316**	PKPbc	**PKPab**	**17 42 05.8**	**0.0**
	comp=Z,5.5nm,0.9s,baz=123,slow=2.2,SNR=23						
DPC	**Dobruska-Polom**	**145.98**	**345**	*e*PKP	**PKPbc**	**17 42 04.9**	**+0.1**
MMAI	**Mount Meron Ar**	**147.52**	**304**	PKPbc	**PKiKP**	**17 42 11.2**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=40,slow=1.4,SNR=8.7						
KHC	**Kasperske Hory**	**147.74**	**347**	*e*PKP	**PKPdf**	**17 42 08.1**	**+1.0**
KHC				*ex*	x	17 42 14.6	
CKRC	**Cesky Krumlov**	**147.88**	**346**	*e*PKP	**PKPbc**	**17 42 11.0**	**+0.7**
CKRC				*ex*	x	17 42 18.1	
GERES	**GERESS Array B**	**147.99**	**347**	PKPbc	**PKPbc**	**17 42 11.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=35,slow=3.6,SNR=2.3						
CONA	**Conrad Observa**	**148.33**	**344**	*e*PKP	**PKiKP**	**17 42 13.0**	**-0.2**
	comp=Z,2.8nm,0.9s						
RONA	**Rosalia, Austr**	**148.42**	**343**	*e*PKP	**PKiKP**	**17 42 13.1**	**-0.2**
	comp=Z,5.2nm,1.1s						
SOKA	**Soboth**	**149.70**	**344**	*e*PKP	**PKiKP**	**17 42 15.6**	**-0.5**
	comp=Z,2.7nm,1.0s						
RETA	**Reutte**	**149.85**	**350**	*e*PKP	**PKiKP**	**17 42 16.3**	**-0.1**
	comp=Z,7.4nm,1.8s						
WTTA	**Wattenberg**	**149.91**	**349**	*e*PKP	**PKiKP**	**17 42 16.5**	**-0.1**
	comp=Z,5.0nm,1.3s						
MOTA	**Moosalm**	**149.93**	**349**	*e*PKP	**PKiKP**	**17 42 16.4**	**-0.3**
	comp=Z,8.8nm,1.6s						
DAVA	**Damuels**	**150.19**	**351**	*e*PKP	**PKiKP**	**17 42 17.3**	**+0.2**
	comp=Z,4.0nm,0.9s						
ABTA	**Abfaltersbach**	**150.23**	**347**	*e*PKP	**PKiKP**	**17 42 16.6**	**-0.6**
	comp=Z,3.8nm,0.8s						
FETA	**Feichten**	**150.31**	**350**	*e*PKP	**PKiKP**	**17 42 18.7**	**+1.2**
	comp=Z,5.7nm,1.2s						
TORD	**Torodi Ar. Bea**	**175.03**	**161**	PKPab	**PKPab**	**17 44 10.7**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=199,slow=3.1,SNR=2.3						

*TAP **07** 17:23:02.7, 24.°75N×122.°81E, h24km±1km, ML2.6, D*
*JMA **07** 17:23:03.4±0.1, 25.°N±1.°×122.°8E±0.°5, h18km±2km, MV1.6/9, NW OFF ISHIGAKIJIMA IS*

ISC 07 17:23:02.7±1.3, 24.°73N±0.°04×122.°77E±0.°03, h15km±10km, n51, σ0=65/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.32**	**149**	P	**Pb**	**17 23 09.9**	**-0.1**
JYNG				S	**Sb**	**17 23 14.3**	**-0.7**
YOJ	**Yonaguni jima**	**0.34**	**140**	P	**Pb**	**17 23 10.3**	**-0.2**
YOJ				*e*S	**Sb**	**17 23 15.1**	**-0.6**
YOJ	**Yonaguni jima**	**0.34**	**140**	P	**Pb**	**17 23 11.3**	**+0.8**
	baz=143						
YOJ				*i* S	**Sb**	**17 23 15.6**	**-0.2**
	baz=143						
EOS2	**EOS2**	**0.57**	**238**	P	**Pn**	**17 23 15.6**	**-0.5**
	baz=241						
EOS2				S	**Sn**	**17 23 24.8**	**-0.4**
	baz=241						
EOS3	**EOS3**	**0.60**	**223**	*i* P	**Pg**	**17 23 14.6**	**+0.2**
	baz=222						
EOS3				*i* S	**Sn**	**17 23 25.2**	**-0.6**
	baz=222						
EOS4	**EOS4**	**0.73**	**214**	*i* P	**Pb**	**17 23 16.7**	**-0.1**
	baz=215						
EOS4				*i* S	**Sn**	**17 23 27.9**	**-0.8**
	baz=215						
TWB1	**Santiao Chiao**	**0.76**	**292**	*i* P	**Pb**	**17 23 17.3**	**-0.3**
	baz=288						
TWB1				S	**Sb**	**17 23 28.3**	**+0.6**
	baz=288						
EGS		**0.77**	**279**	*i* P	**Pb**	**17 23 18.0**	**+0.3**
	baz=276						
TWC	**Suao**	**0.84**	**262**	*i* P	**Pb**	**17 23 18.5**	**-0.4**
	baz=260						
TWC				*i* S	**Sb**	**17 23 30.4**	**+0.3**
	baz=260						
SXI1	**Grass Mountain**	**0.89**	**295**	P	**Pb**	**17 23 19.4**	**-0.4**
	baz=291						
SXI1				*e*S	**Sb**	**17 23 30.6**	**-0.9**
	baz=291						
IRIF	**Iriomote-Funau**	**0.96**	**114**	*e*P	**Pg**	**17 23 21.4**	**+0.2**
IRIF				*e*S	**Sn**	**17 23 34.7**	**-0.3**
NDS	**Dongshan**	**0.96**	**265**	P	**Pb**	**17 23 20.8**	**-0.1**
	baz=263						
NDS				S	**Sb**	**17 23 33.3**	**-0.2**
	baz=263						
ENA	**Nanau**	**0.98**	**253**	*i* P	**Pb**	**17 23 20.9**	**-0.4**
	baz=251						
ENA				S	**Sb**	**17 23 33.3**	**-0.8**
	baz=251						
FUSB	**Fushanzhiwuyua**	**1.07**	**272**	*i* P	**Pb**	**17 23 22.6**	**-0.4**
	baz=281						
FUSB				S	**Sb**	**17 23 37.1**	**+0.4**
	baz=281						
ENTT	**Nioudou**	**1.09**	**266**	*i* P	**Pb**	**17 23 23.4**	**+0.1**
	baz=264						
ENTT				S	**Sb**	**17 23 37.4**	**0.0**
	baz=264						
LATG	**Datong**	**1.14**	**261**	P	**Pn**	**17 23 24.0**	**-0.2**
	baz=259						
LATG				S	**Sb**	**17 23 39.4**	**+0.5**
	baz=259						
NDT	**Datong Townshi**	**1.15**	**264**	P	**Pn**	**17 23 24.2**	**+0.1**
	baz=262						
NDT				S	**Sb**	**17 23 39.2**	**+0.3**
	baz=262						
NWLT	**Wulai**	**1.15**	**273**	*e*P	**Pn**	**17 23 24.4**	**+0.2**
	baz=257						
NWLT				*e*S	**Sb**	**17 23 38.3**	**-0.7**
	baz=257						
NHDH	**Xindian Distri**	**1.15**	**282**	*e*P	**Pn**	**17 23 24.4**	**+0.2**
	baz=279						
NHDH				S	**Sb**	**17 23 39.4**	**+0.4**
	baz=279						
YM01	**YM01**	**1.16**	**291**	P	**Pn**	**17 23 23.6**	**-0.8**
	baz=288						
YM01				S	**Sb**	**17 23 39.5**	**+0.1**
	baz=288						
NACB	**Ninganchiao**	**1.20**	**243**	*i* P	**Pn**	**17 23 25.0**	**+0.2**
	baz=243						
NACB				*i* S	**Sb**	**17 23 40.5**	**+0.1**
	baz=243						
JKRS	**Kuro-shima**	**1.23**	**113**	*e*S	**Sn**	**17 23 41.7**	**0.0**
YHNB	**Yeheng**	**1.27**	**268**	P	**Pn**	**17 23 25.9**	**+0.1**
	baz=266						
YHNB				S	**Sb**	**17 23 42.8**	**+0.4**
	baz=266						
ETLH	**Xiulin Townshi**	**1.28**	**246**	P	**Pb**	**17 23 26.9**	**+0.4**
	baz=246						
ETLH				S	**Sn**	**17 23 43.2**	**+0.2**
	baz=246						
NSK	**Sanguang**	**1.28**	**268**	*e*P	**Pn**	**17 23 26.5**	**+0.5**
	baz=266						
NSK				S	**Sb**	**17 23 43.1**	**+0.3**
	baz=266						
NNSB	**Datong**	**1.29**	**257**	P	**Pn**	**17 23 26.4**	**+0.2**
	baz=256						
NNSB				S	**Sb**	**17 23 43.1**	**-0.1**
	baz=256						
NNS	**Nan Shan**	**1.30**	**258**	*i* P	**Pb**	**17 23 27.0**	**+0.2**
	baz=256						
NNS				*i* S	**Sb**	**17 23 43.7**	**+0.3**
	baz=256						
LXIB	**Xiulin Townshi**	**1.42**	**241**	P	**Pb**	**17 23 28.9**	**0.0**
	baz=240						
LXIB				S	**Sg**	**17 23 48.4**	**-0.1**
	baz=240						
NFF	**Wufeng Townshi**	**1.50**	**267**	*e*P	**Pn**	**17 23 29.4**	**+0.3**
	baz=265						
NFF				*e*S	**Sn**	**17 23 48.2**	**-0.2**
	baz=265						
TWT	**Tachien**	**1.52**	**252**	P	**Pg**	**17 23 32.5**	**+0.5**
	baz=251						
TWT				S	**Sb**	**17 23 50.9**	**+1.0**
	baz=251						
LIOB	**Emei**	**1.59**	**267**	*e*P	**Pn**	**17 23 31.4**	**+1.0**
	baz=266						
CHGB	**Renai**	**1.60**	**246**	*e*P	**Pn**	**17 23 30.9**	**+0.3**
	baz=231						
NSTT	**Nanjuang**	**1.61**	**267**	*e*P	**Pn**	**17 23 31.6**	**+1.1**
	baz=265						
NSTT				*e*S	**Sn**	**17 23 50.5**	**-0.5**
	baz=265						
WARBT	**Fenglin Townsh**	**1.61**	**232**	*e*P	**Pn**	**17 23 31.2**	**+0.6**
	baz=231						
WARBT				*e*S	**Sn**	**17 23 50.3**	**-0.7**
	baz=231						
EGFH	**Guangfu**	**1.61**	**230**	*e*P	**Pn**	**17 23 30.2**	**-0.3**
	baz=229						
WUSB	**Renai**	**1.67**	**244**	P	**Pb**	**17 23 33.1**	**-0.1**
	baz=229						
WUSB				S	**Sb**	**17 23 54.9**	**+0.8**
	baz=229						
WHP	**Taichung City**	**1.72**	**255**	*e*P	**Pb**	**17 23 34.2**	**+0.3**
	baz=254						
WHP				*e*S	**Sg**	**17 23 57.2**	**-0.8**
	baz=254						
HGSD	**Ruisui**	**1.73**	**225**	*e*P	**Pb**	**17 23 33.4**	**-0.9**
	baz=213						
HGSD				*e*S	**Sn**	**17 23 53.7**	**-0.4**
	baz=213						
WCS	**Beigang Elemen**	**1.82**	**249**	*e*P	**Pn**	**17 23 34.1**	**+0.7**
	baz=235						
YULB	**Yu-li**	**1.89**	**226**	*e*P	**Pn**	**17 23 34.8**	**+0.4**
	baz=240						
YULB				*e*S	**Sn**	**17 23 58.6**	**+0.7**
	baz=240						
SMLT	**Sun Moon Lake**	**1.90**	**244**	*e*P	**Pn**	**17 23 35.1**	**+0.5**
	baz=231						
SSLB	**Suanglung**	**1.90**	**241**	*e*P	**Pn**	**17 23 34.9**	**+0.3**
	baz=226						
EYUL	**Yuli**	**1.91**	**224**	*e*P	**Pn**	**17 23 35.8**	**+1.2**
	baz=212						
TYC	**Yuchr**	**1.92**	**245**	*e*P	**Pn**	**17 23 35.7**	**+0.9**
	baz=230						
WHYT	**Xinyi Township**	**2.02**	**240**	*e*P	**Pb**	**17 23 38.5**	**-0.7**
	baz=227						
EHD	**Haiduan**	**2.12**	**223**	*e*P	**Pn**	**17 23 37.9**	**+0.3**
	baz=235						
ALS	**Alishan**	**2.16**	**236**	P	**Pb**	**17 23 40.4**	**-1.3**
	baz=235						
CHN5	**Tsauling**	**2.21**	**240**	P	**Pb**	**17 23 41.6**	**-0.8**
	baz=238						
CHN4	**Tsaushan**	**2.41**	**236**	*e*P	**Pn**	**17 23 43.6**	**+2.1**
	baz=234						
TPUB	**Ta-pu**	**2.41**	**234**	*e*P	**Pb**	**17 23 44.2**	**-1.6**
	baz=234						
WTP	**Ta-pu**	**2.46**	**234**	*e*P	**Pn**	**17 23 44.5**	**+2.3**
	baz=232						

*IDC **07** 17:31:09.7±2.3, 23.°21N×142.°46E, h0km, mb3.5/3, mbtmp3.7/6, ML3.7/3, MS3.3/1, Error ellipse: s-maj=97.7km s-min=20.3km az=81.0*
*JMA **07** 17:31:23.2±0.2, 23.°8N±1.0×14.°2E±.°, h150km±2km, MV4.5/25, IOTO ISLANDS REGION*

ISC 07 17:31:21.3±1.9, 23.°9N±0.°1×143.°6E±0.°5, h150km, n15, σ2=15/17, mb3.4/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.00**	**336**	*e*P	**Pn**	**17 32 08.8**	**+0.1**
JHH2				*e*S	**Sn**	**17 32 44.2**	**-1.1**
CBIJ	**Chichi jima**	**3.42**	**339**	P	**Pn**	**17 32 14.8**	**+0.9**
CBIJ				S	**Sn**	**17 32 54.2**	**-0.7**
JCJ	**Chichijima**	**3.42**	**339**	Pn	**Pn**	**17 32 10.9**	**-3.0**
	57nm,0.3s,baz=7.0,slow=8.9,SNR=110						
JCJ				Sn	**Sn**	**17 32 50.4**	**-4.5**
	70nm,0.3s,baz=291,slow=23,SNR=21 132nm,0.3s						
BSO3	**Boso 3**	**11.19**	**347**	*e*P	**Pn**	**17 33 57.5**	**+0.9**
BSO4	**Boso 4**	**11.40**	**347**	*e*P	**Pn**	**17 34 01.1**	**+1.5**
JHU	**Hanno**	**12.47**	**344**	*e*P	**Pn**	**17 34 13.0**	**-0.7**
JYT	**Yasato**	**12.63**	**348**	*e*P	**Pn**	**17 34 17.0**	**+1.4**
JHO	**Hitachi**	**12.93**	**349**	*e*P	**Pn**	**17 34 20.5**	**+1.0**
JAG	**Ashikaga**	**12.98**	**345**	*e*P	**Pn**	**17 34 18.9**	**-1.3**
MJAR	**Matsushiro Arr**	**13.42**	**341**	Pn	**Pn**	**17 34 24.7**	**-

comp=Z,15nm,1.0s
SIJI Sorong 22.77 280 P **P 17 45 44.6 +0.1**
comp=Z,4.1nm,0.6s,baz=314,slow=23,SNR=3.1
comp=Z,4.1nm,0.6s
MTN Manton Dam 23.46 250 P **P 17 45 51.0 -0.4**
WB0 Warramunga Arr 23.65 231 P **P 17 45 51.3 -1.9**
WB0 IAmb IAmb 17 46 29.1
comp=Z,5.4nm,1.3s
WRAB Tennant Creek 23.78 230 P **P 17 45 53.9 -0.5**
WRAB Tennant Creek 23.78 230 P **P 17 45 54.5 +0.1**
WB2 Warramunga Arr 23.78 230 P **P 17 45 53.8 -0.6**
WB2 IAmb IAmb 17 45 54.4
comp=Z,13nm,1.5s
WRA Warramunga Arr 23.79 230 P **P 17 45 54.2 -0.3**
comp=Z,1.2nm,0.7s,baz=54,slow=10.0,SNR=10.0
comp=Z,1.2nm,0.7s
ASAR Alice Springs 26.40 224 P **P 17 46 18.1 -0.1**
comp=Z,0.3nm,0.6s,baz=56,slow=8.9,SNR=15
comp=Z,0.3nm,0.6s
KNRA Kununurra 26.54 245 P **P 17 46 21.8 +2.3**
CMAR Chiang Mai Arr 58.84 295 P **P 17 50 39.6 -0.5**
comp=Z,0.9nm,0.4s,baz=128,slow=4.8,SNR=12
comp=Z,0.9nm,0.4s
MKAR Makanchi Array 81.22 319 P **P 17 52 57.2 +0.4**
comp=Z,0.4nm,0.6s,baz=98,slow=5.7,SNR=2.3
comp=Z,0.4nm,0.6s
KURBB Kurchatov Arra 84.68 322 P **P 17 53 12.7 -1.9**
comp=Z,0.2nm,0.3s,baz=87,slow=5.3,SNR=2.0
comp=Z,0.2nm,0.3s
QSPA South Pole Qui 84.71 180 P **P 17 53 14.8 +0.2**
comp=Z,1.3nm,0.9s,baz=314,slow=1.0,SNR=8.1
comp=Z,1.3nm,0.9s
BVAR Borovoye Array 90.11 323 P **P 17 53 40.2 -0.6**
comp=Z,1.0nm,0.8s,baz=77,slow=6.2,SNR=3.0
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 151.25 288 PKPbc **PKPbc 18 00 33.1 -2.0**
comp=Z,0.4nm,0.4s,baz=84,slow=2.6,SNR=6.2

IDC 07 17:45:19.7±3.4, 31°.58N×142°.68E, h0km, mb3.6/3, mbtmp3.6/5, ML3.0/2, Error ellipse: s-maj=104.7km s-min=19.7km az=61.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.89**	**303**	Pn	Pn	17 46 06.2	-0.8
	7.9nm,0.3s,baz=72,slow=20,SNR=1.9						
JHJ				Sn	Sn	17 46 43.5	+1.0
	8.9nm,0.3s,baz=37,slow=5.1,SNR=8.3						
	228nm,0.9s						
MJAR	**Matsushiro Arr**	**6.18**	**324**	Pn	Pn	17 46 51.6	-0.7
	0.3nm,0.3s,baz=157,slow=11,SNR=25						
MJAR				Sn	Sn	17 48 03.0	-0.8
	baz=199,slow=14,SNR=1.3						
	1.2nm,0.3s						
MKAR	**Makanchi Array**	**48.06**	**307**	P	P	17 54 01.1	+0.3
	0.4nm,0.4s,baz=81,slow=9.0,SNR=5.3						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**51.84**	**190**	P	P	17 54 29.6	-0.1
	0.7nm,0.5s,baz=8.2,slow=7.6,SNR=14						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**55.57**	**190**	P	P	17 54 56.9	-0.2
	0.2nm,0.8s,baz=9.0,slow=7.6,SNR=7.2						
	0.2nm,0.8s						

---

*NEIC **07** 17:54:37.6±1.6, 19°.00S±0°.09×175°.73W±0°.10, h188km±3km, mb4.6/114, Error ellipse: s-maj=14.1km s-min=12.6km az=124.0*
*NOU **07** 17:54:42.3, 18°.82S×175°.35W, h254km, MLv4.9/9, Tonga Islands*
*IDC **07** 17:54:47.2±1.9, 19°.12S×175°.90W, h278km±16km, mb3.8/14, mbtmp4.4/16, Error ellipse: s-maj=15.0km s-min=11.0km az=148.0*
ISC 07 17:54:46.9±0.8, 19°.20S±0°.07×175°.90W±0°.08, h277km±6km, n215, σt§10/221, mb4.5/72, 1C-6D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**4.55**	**302**	P	**Pn**	**17 55 56.6**	**-1.8**
DGTI	**Dogotuki**	**5.06**	**304**	P	**Pn**	**17 56 02.5**	**-1.9**
NIUE	**Niue**	**5.64**	**90**		Pn	17 55 59.1	-12
NIUE				Sn	S	17 56 58.4	-21
NIUE	**Niue**	**5.64**	**90**	P	Pn	17 55 59.9	-11
MSVF	**Nonsavu**	**5.93**	**283**		**Pn**	**17 56 14.7**	**-0.2**
MSVF	**Nonsavu**	**5.93**	**283**	P	**Pn**	**17 56 14.9**	**0.0**
MSVF	**Nonsavu**	**5.93**	**283**	P	**Pn**	**17 56 14.9**	**0.0**
	68nm,0.4s,baz=119,slow=10,SNR=177						
AFI	**Afiamalu**	**6.58**	**38**	Pn	Pn	17 56 09.7	-13
AFI				Sn	S	17 57 16.4	-24
AFI	**Afiamalu**	**6.58**	**38**	P	Pn	17 56 10.1	-13
YSA	**Yasawairara**	**6.69**	**291**	P	**Pn**	**17 56 22.9**	**-1.3**
PINNC	**Pines Island,**	**15.93**	**255**	P	**P**	**17 58 13.7**	**-1.8**
PINNC	**Pines Island,**	**15.93**	**255**	P	**Pn**	**17 58 18.8**	**+1.7**
OUENC	**Ouen Island, N**	**16.45**	**256**	P	**P**	**17 58 21.0**	**-0.1**
OUENC				IAmb	IAmb	17 58 43.0
	comp=Z,27nm,1.2s						
DZM	**Mont Dzumac**	**16.77**	**257**	P	**P**	**17 58 24.8**	**0.0**
DZM				IAmb	IAmb	17 58 56.3
	comp=Z,21nm,1.4s						
DZM	**Mont Dzumac**	**16.77**	**257**	P	**Pn**	**17 58 26.9**	**-0.2**
	comp=Z,6.1nm,0.7s,baz=74,slow=20,SNR=7.3						
KOUNC	**Koumac, New Ca**	**18.69**	**263**	P	**P**	**17 58 44.8**	**-0.5**
KOUNC				IAmb	IAmb	17 58 51.5
	comp=Z,40nm,1.2s						
MXZ	**Matakaoa Point**	**18.98**	**194**	P	**P**	**17 58 48.3**	**0.0**
TOZ	**Tahuroa Road**	**19.93**	**200**	P	**P**	**17 58 58.8**	**+0.4**
TOZ				IAmb	IAmb	17 59 03.5
	comp=Z,50nm,1.5s						
URZ	**Urewera**	**19.94**	**196**	P	**P**	**17 58 56.6**	**-1.8**
	comp=Z,10.0nm,0.3s,baz=50,slow=1.6,SNR=28						
URZ				S	**S**	**18 02 23.0**	**-4.1**
	comp=Z,2.2nm,0.4s,baz=21,slow=23,SNR=0.9						
RTZ	**Ruatahuna**	**20.31**	**196**	P	**P**	**17 59 00.3**	**-2.2**
RTZ				IAmb	IAmb	17 59 13.6
	comp=Z,12nm,1.1s						
HIZ	**Hauiti**	**20.86**	**201**	P	**P**	**17 59 08.5**	**+0.5**
BKZ	**Black Stump Fm**	**20.96**	**197**	P	**P**	**17 59 05.5**	**-3.5**
BKZ				IAmb	IAmb	17 59 16.3
	comp=Z,33nm,1.5s						
BFZ	**Birch Farm**	**22.45**	**196**	P	**P**	**17 59 21.5**	**-1.1**
BFZ				IAmb	IAmb	17 59 23.4
	comp=Z,20nm,1.0s						
MRZ	**Mangatainoka R**	**22.60**	**197**	P	**P**	**17 59 22.2**	**-1.9**
MRZ				IAmb	IAmb	17 59 28.0
	comp=Z,28nm,1.2s						
TCW	**Tory Channel**	**23.49**	**199**	P	**P**	**17 59 28.2**	**-3.9**
BHW	**Baring Head**	**23.50**	**198**	P	**P**	**17 59 29.5**	**-2.7**
PLWZ	**Palliser**	**23.54**	**197**	P	**P**	**17 59 30.2**	**-2.5**
QRZ	**Quartz Range**	**23.73**	**202**	P	**P**	**17 59 33.5**	**-0.8**
TKNZ	**Takaka Hill**	**23.76**	**201**	P	**P**	**17 59 32.4**	**-2.2**
NNZ	**Nelson**	**23.78**	**200**	P	**P**	**17 59 32.2**	**-2.5**
TUWZ	**Tuamarina**	**23.79**	**199**	P	**P**	**17 59 31.6**	**-3.2**
BSWZ	**Blackbirch Sta**	**24.07**	**199**	P	**P**	**17 59 34.4**	**-3.1**
MRNZ	**Matariki Terra**	**24.15**	**201**	P	**P**	**17 59 36.9**	**-1.3**
THZ	**Tophouse**	**24.43**	**201**	P	**P**	**17 59 38.7**	**-2.0**
THZ				IAmb	IAmb	18 00 08.9
	comp=Z,15nm,0.9s						
KHZ	**Kahutara**	**24.82**	**199**	P	**P**	**17 59 42.5**	**-1.6**
GVZ	**Greta Valley S**	**25.47**	**199**	P	**P**	**17 59 49.2**	**-0.8**
LTZ	**Lake Taylor**	**25.55**	**200**	P	**P**	**17 59 48.9**	**-1.9**
LTZ				IAmb	IAmb	18 00 07.2
	comp=Z,10.0nm,0.8s						
INZ	**Inchbonnie**	**25.78**	**202**	P	**P**	**17 59 50.1**	**-2.6**
OXZ	**Oxford**	**26.11**	**200**	P	**P**	**17 59 55.7**	**-0.1**
OXZ				IAmb	IAmb	18 00 09.6
	comp=Z,14nm,0.7s						
RPZ	**Rata Peaks**	**26.79**	**201**	P	**P**	**17 59 59.8**	**-1.9**
FOZ	**Fox Glacier**	**27.07**	**203**	P	**P**	**18 00 02.6**	**-1.6**
LBZ	**Lake Benmore**	**27.68**	**202**	P	**P**	**18 00 06.5**	**-3.1**
WKZ	**Wanaka**	**28.48**	**203**	P	**P**	**18 00 14.8**	**-1.9**
DCZ	**Deep Cove**	**29.72**	**204**	P	**P**	**18 00 25.6**	**-2.0**
WHZ	**Wether Hill Ro**	**29.78**	**203**	P	**P**	**18 00 26.8**	**-1.4**
EIDS	**Eidsvold**	**31.11**	**253**	P	**P**	**18 00 40.0**	**-0.1**
EIDS				IAmb	IAmb	18 01 07.3
	comp=Z,16nm,1.2s						
ARMA	**Armidale**	**31.42**	**243**	P	**P**	**18 00 42.7**	**-0.1**
ARMA				IAmb	IAmb	18 01 14.9
	comp=Z,21nm,1.5s						
CTAO	**Charters Tower**	**35.61**	**262**	P	**P**	**18 01 18.7**	**-0.2**
CTAO				IAmb	IAmb	18 01 20.4
	comp=Z,17nm,1.0s						
TOO	**Toolangi**	**38.26**	**233**	P	**P**	**18 01 41.2**	**+0.3**
TOO				IAmb	IAmb	18 01 58.4
	comp=Z,21nm,1.2s						
COEN	**Coen**	**39.51**	**271**	P	**P**	**18 01 51.8**	**+0.3**
COEN				IAmb	IAmb	18 02 29.6
	comp=Z,15nm,1.2s						
STKA	**Stephens Creek**	**40.14**	**243**	P	**P**	**18 01 56.9**	**+0.5**
STKA	**Stephens Creek**	**40.14**	**243**	P	**P**	**18 01 56.8**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=64,slow=12,SNR=7.7						
STKA				PcP	**PcP**	**18 03 55.5**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=75,slow=4.3,SNR=3.7						
	comp=Z,1.6nm,0.4s						
BBOO	**Buckleboo**	**44.90**	**243**	P	**P**	**18 02 34.2**	**-0.3**
BBOO				IAmb	IAmb	18 03 11.1
	comp=Z,30nm,1.4s						
WR0	**Warramunga Arr**	**46.56**	**260**	P	**P**	**18 02 47.4**	**-0.3**
WR0				PcP	**PcP**	**18 04 17.8**	**+0.7**
WB0	**Warramunga Arr**	**46.73**	**261**	P	**P**	**18 02 48.1**	**-0.9**
WB2	**Warramunga Arr**	**46.74**	**260**	P	**P**	**18 02 48.7**	**-0.4**
WB2				PcP	**PcP**	**18 04 17.9**	**+0.3**
WRAB	**Tennant Creek**	**46.75**	**260**	P	**P**	**18 02 48.2**	**-0.9**
AS31	**Alice Springs**	**46.75**	**255**	P	**P**	**18 02 48.9**	**-0.3**
ASAR	**Alice Springs**	**46.75**	**255**	P	**P**	**18 02 48.7**	**-0.5**
ASAR				PcP	**sP**	**18 04 17.6**	**+0.5**
ASAR	**Alice Springs**	**46.75**	**255**	P	**P**	**18 02 49.1**	**-0.1**
	comp=Z,14nm,0.7s,baz=92,slow=8.2,SNR=191						
ASAR				PcP	**PcP**	**18 04 18.3**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=98,slow=4.2,SNR=6.5						
ASAR				S	**S**	**18 09 18.9**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=92,slow=17,SNR=5.4						
	comp=Z,1.4nm,0.7s						
WRA	**Warramunga Arr**	**46.76**	**260**	P	**P**	**18 02 48.1**	**-1.1**
WRA				PcP	**PcP**	**18 04 18.0**	**+0.3**
WRA	**Warramunga Arr**	**46.76**	**260**	P	**P**	**18 02 48.5**	**-0.6**
	comp=Z,2.6nm,0.3s,baz=96,slow=7.5,SNR=143						
WRA				PcP	**PcP**	**18 04 18.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=92,slow=3.2,SNR=3.4						
WRA				S	**S**	**18 09 17.1**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=94,slow=14,SNR=2.6						
	comp=Z,2.6nm,0.3s						
MTN	**Manton Dam**	**51.15**	**269**	P	**P**	**18 03 21.8**	**-0.6**
MTN				IAmb	IAmb	18 03 23.4
	comp=Z,16nm,0.8s						
FORT	**Forrest**	**51.63**	**246**	P	**P**	**18 03 25.5**	**-0.3**
KNRA	**Kununurra**	**52.74**	**265**		**P**	**18 03 34.1**	**+0.1**
KNRA				IAmb	IAmb	18 03 35.0
	comp=Z,16nm,0.7s						
SOEI	**Soe**	**58.46**	**270**	P	**P**	**18 04 15.8**	**+1.1**
SBA	**Scott Base**	**59.30**	**184**	P	**P**	**18 04 21.2**	**+1.9**
PSA00	**Pilbara Seismi**	**59.90**	**256**	P	**P**	**18 04 24.1**	**-0.2**
PSA00				IAmb	IAmb	18 04 45.7
	comp=Z,10nm,1.4s						
PSA00	**Pilbara Seismi**	**59.90**	**256**	P	**P**	**18 04 23.8**	**-0.6**
PSA00				IAmb	IAmb	18 04 25.8
	comp=Z,12nm,0.9s						
MBWA	**Marble Bar**	**60.08**	**256**	P	**P**	**18 04 25.2**	**-0.4**
MBWA				IAmb	IAmb	18 04 45.5
	comp=Z,28nm,1.4s						
MMRI	**Maumere**	**60.70**	**271**	P	**P**	**18 04 29.4**	**-0.5**
MORW	**Morawa**	**62.15**	**247**	P	**P**	**18 04 39.1**	**-0.3**
MORW				IAmb	IAmb	18 05 08.5
	comp=Z,18nm,1.2s						
GIRL	**Giralia**	**64.81**	**253**	P	**P**	**18 04 57.9**	**+1.1**
TOLI2	**Tolitoli**	**65.30**	**280**	P	**P**	**18 05 00.2**	**+0.2**
TOLI2				IAmb	IAmb	18 05 00.9
	comp=Z,4.4nm,0.7s						
CASY	**Casey**	**65.98**	**205**	P	**P**	**18 05 04.1**	**+0.7**
CASY				IAmb	IAmb	18 05 25.6
	comp=Z,6.5nm,0.6s						
INU	**Inuyama**	**70.26**	**320**	P	**P**	**18 05 31.0**	**+0.6**
INU				IAmb	IAmb	18 05 37.2
	comp=Z,12nm,1.4s						
MJAR	**Matsushiro Arr**	**70.37**	**322**	P	**P**	**18 05 30.1**	**-0.9**
	comp=Z,7.3nm,0.7s,baz=158,slow=5.9,SNR=34						
	comp=Z,7.3nm,0.7s						
MAJO	**Matsushiro**	**70.38**	**322**	P	**P**	**18 05 31.1**	**0.0**
MAJO				IAmb	IAmb	18 05 32.5
	comp=Z,11nm,0.8s						
MJB9	**Matsu-Tunnel**	**70.38**	**322**	P	**P**	**18 05 31.3**	**+0.2**
MJB9				IAmb	IAmb	18 05 32.5
	comp=Z,11nm,0.9s						
ADK	**Adak**	**70.78**	**359**	P	**P**	**18 05 32.6**	**-0.5**
QSPA	**South Pole Qui**	**70.86**	**180**	P	**P**	**18 05 34.5**	**+0.8**
QSPA				IAmb	IAmb	18 05 35.6
	comp=Z,11nm,0.8s						
QSPA	**South Pole Qui**	**70.86**	**180**	P	**P**	**18 05 34.3**	**+0.6**
	comp=Z,8.4nm,0.7s,baz=26,slow=1.2,SNR=75						
	comp=Z,8.4nm,0.7s						
ATKA	**Atka Island**	**71.11**	**1**	P	**P**	**18 05 33.9**	**-1.2**
KKM	**Kota Kinabalu**	**71.36**	**284**	P	**P**	**18 05 37.5**	**-0.1**
KKM				IAmb	IAmb	18 06 03.6
	comp=Z,16nm,1.1s						
JSD	**Sado**	**71.38**	**323**	P	**P**	**18 05 37.2**	**+0.1**
UGM	**Wanagama**	**71.98**	**268**	P	**P**	**18 05 41.1**	**-0.1**
JNU	**Nakatsue**	**72.72**	**315**	P	**P**	**18 05 45.4**	**+0.2**
JNU				IAmb	IAmb	18 06 04.0
	comp=Z,8.8nm,1.0s						
JKA	**Kamikawa-asahi**	**73.56**	**330**	P	**P**	**18 05 48.8**	**-0.9**
JKA				IAmb	IAmb	18 06 20.3
	comp=Z,11nm,1.2s						
YULB	**Yu-li**	**74.47**	**302**	P	**P**	**18 05 54.7**	**-0.8**
SSLB	**Suanglung**	**74.94**	**302**	P	**P**	**18 05 56.6**	**-1.5**
SSLB				IAmb	IAmb	18 06 09.2
	comp=Z,24nm,1.2s						
TPUB	**Ta-pu**	**74.96**	**302**	P	**P**	**18 05 57.8**	**-0.5**
PET	**Petropavlovsk**	**75.23**	**344**	P	**P**	**18 05 58.7**	**-0.3**
PEA0B	**Petropavlovsk-**	**75.55**	**344**	P	**P**	**18 06 00.7**	**-0.2**
PETK	**Petropavlovsk-**	**75.55**	**344**	P	**P**	**18 06 00.1**	**-0.8**
	comp=Z,4.5nm,0.7s,baz=136,slow=7.6,SNR=11						
	comp=Z,4.5nm,0.7s						
KSRS	**Korea Array**	**77.25**	**317**	P	**P**	**18 06 12.1**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=126,slow=5.5,SNR=11						
	comp=Z,1.4nm,0.6s						
NVAR	**Mina Array Bea**	**78.73**	**43**	P	**P**	**18 06 17.8**	**-1.3**
NVAR	**Mina Array Bea**	**78.73**	**43**	P	**P**	**18 06 18.8**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=223,slow=9.1,SNR=15						
	comp=Z,1.4nm,0.7s						
GMN	**Gold Mountain**	**78.76**	**44**	P	**P**	**18 06 18.5**	**-0.9**
KDAK	**Kodiak Island**	**79.11**	**12**	P	**P**	**18 06 18.6**	**-1.9**
KVN	**Kaiserville**	**79.22**	**42**	P	**P**	**18 06 21.3**	**-0.4**
TPNV	**Topopah Spring**	**79.23**	**45**	P	**P**	**18 06 21.4**	**-0.4**
K05A	**Summer Lake**	**79.72**	**38**	P	**P**	**18 06 24.3**	**-0.1**
K05A				IAmb	IAmb	18 06 47.8
	comp=Z,11nm,1.3s						
P18K	**Big Mountain,**	**80.12**	**11**	P	**P**	**18 06 24.8**	**-1.1**
P18K				IAmb	IAmb	18 06 39.4
	comp=Z,30nm,1.4s						
O18K	**Koktuh Hills**	**80.56**	**10**	P	**P**	**18 06 27.8**	**-0.4**
O18K				IAmb	IAmb	18 07 10.5
	comp=Z,17nm,1.2s						
BELA	**Belgrano 2**	**80.58**	**172**	P	**P**	**18 06 28.2**	**0.0**
NJ2	**Nanjing**	**80.60**	**309**	*e*P	**P**	**18 06 30.4**	**+1.4**
NJ2				pP	pP	18 07 16.0	-17
NJ2				sP	**pwP**	**18 07 37.8**	**+1.3**
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.6s						
NJ2				pmax	pmax	
	comp=Z,240nm,4.7s						
BNX	**BinXian**	**82.53**	**324**	⇑P	**P**	**18 06 40.0**	**+1.2**
BNX				pmax	pmax	
	comp=Z,11nm,0.8s						
BNX				pmax	pmax	
	comp=Z,100nm,5.2s						
M19K	**Big River Lodg**	**82.63**	**10**	P	**P**	**18 06 37.8**	**-1.1**
M19K				IAmb	IAmb	18 07 17.7
	comp=Z,16nm,1.5s						
L19K	**White Mountain**	**82.81**	**10**	P	**P**	**18 06 39.4**	**-0.5**
L19K				IAmb	IAmb	18 07 16.6
	comp=Z,13nm,1.5s						
SUA	**Susitna One**	**82.88**	**12**	P	**P**	**18 06 39.5**	**-0.8**
SUA				IAmb	IAmb	18 07 06.1
	comp=Z,19nm,1.5s						
GLI	**Glacier Island**	**83.11**	**14**	P	**P**	**18 06 39.9**	**-1.5**
GLI				IAmb	IAmb	18 06 45.2
	comp=Z,11nm,1.0s						
SKT	**Skwentna**	**83.20**	**11**	P	**P**	**18 06 40.6**	**-1.2**
SKT				IAmb	IAmb	18 06 42.6
	comp=Z,16nm,1.5s						
TTA	**Tatalina**	**83.34**	**9**	P	**P**	**18 06 42.3**	**-0.3**
MAW	**Mawson**	**83.44**	**199**	P	**P**	**18 06 44.0**	**+0.9**
MAW	**Mawson**	**83.44**	**199**	P	**P**	**18 06 44.3**	**+1.1**
	comp=Z,3.4nm,0.6s,baz=156,slow=5.6,SNR=12						
	comp=Z,3.4nm,0.6s						
GHO	**Glory Hole Cre**	**83.52**	**13**	P	**P**	**18 06 42.8**	**-0.7**
GHO				IAmb	IAmb	18 07 07.5
	comp=Z,16nm,1.3s						
SCM	**Sheep Creek Mo**	**83.91**	**13**	P	**P**	**18 06 44.9**	**-0.6**
SCM				IAmb	IAmb	18 07 13.4
	comp=Z,19nm,1.4s						
PLID	**Pearl Lake**	**83.97**	**38**	P	**P**	**18 06 45.2**	**-1.2**
K20K	**Telida**	**84.05**	**10**	P	**P**	**18 06 45.4**	**-0.7**
VRDI	**Verde Repeater**	**84.28**	**15**	P	**P**	**18 06 46.5**	**-1.0**
VRDI				IAmb	IAmb	18 06 50.1
	comp=Z,9.7nm,1.2s						
N25K	**Chitina, Valde**	**84.33**	**14**	P	**P**	**18 06 47.0**	**-0.6**
N25K				IAmb	IAmb	18 07 01.2
	comp=Z,13nm,1.4s						
GLB	**Gilahina Butte**	**84.37**	**15**	P	**P**	**18 06 47.2**	**-0.6**
GLB				IAmb	IAmb	18 07 21.4
	comp=Z,10nm,1.4s						
MNTX	**Cornudas Mount**	**84.39**	**54**	P	**P**	**18 06 48.4**	**-0.1**
M24K	**Tolsona, Glenn**	**84.41**	**14**	P	**P**	**18 06 48.5**	**+0.5**
M24K				IAmb	IAmb	18 07 05.0
	comp=Z,27nm,1.4s						
CAST	**Castle Rocks**	**84.43**	**11**	P	**P**	**18 06 46.5**	**-1.5**
LOGN	**Logan Glacier**	**84.56**	**16**	P	**P**	**18 06 48.8**	**-0.1**
LOGN				IAmb	IAmb	18 07 31.2
	comp=Z,13nm,1.2s						
TXAR	**Lajitas Array**	**84.69**	**57**	P	**P**	**18 06 50.4**	**+0.2**
TXAR	**Lajitas Array**	**84.69**	**57**	P	**P**	**18 06 50.8**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=216,slow=7.6,SNR=7.6						
	comp=Z,0.9nm,0.9s						
KTH	**Kantishna Hill**	**84.76**	**11**	P	**P**	**18 06 48.9**	**-0.8**
KTH				IAmb	IAmb	18 07 18.5
	comp=Z,10nm,1.5s						
TRF	**Thorofare Moun**	**84.78**	**11**	P	**P**	**18 06 48.7**	**-1.2**
TRF				IAmb	IAmb	18 06 49.7
	comp=Z,8.7nm,1.0s						
J20K	**Nowinta River**	**84.81**	**9**	P	**P**	**18 06 48.0**	**-1.8**
J20K				IAmb	IAmb	18 06 50.6
	comp=Z,10nm,1.4s						
DHY	**Denali Highway**	**85.01**	**13**	P	**P**	**18 06 50.3**	**-0.8**
RND	**Reindeer**	**85.01**	**12**	P	**P**	**18 06 50.8**	**-0.2**
RND				IAmb	IAmb	18 06 51.4
	comp=Z,5.2nm,0.7s						
M27K	**Edge Creek, AK**	**85.63**	**15**	P	**P**	**18 06 54.1**	**0.0**
M27K				IAmb	IAmb	18 07 30.3
	comp=Z,8.3nm,1.4s						
MLY	**Manley**	**86.15**	**10**	P	**P**	**18 06 55.1**	**-1.4**
WHY	**Whitehorse**	**86.18**	**19**	P	**P**	**18 06 56.7**	**-0.1**
L27K	**Beaver Creek,**	**86.24**	**15**	P	**P**	**18 06 57.0**	**+0.1**
L27K				IAmb	IAmb	18 07 01.0
	comp=Z,7.3nm,1.4s						
BCAR	**Beaver Creek A**	**86.26**	**15**	P	**P**	**18 06 56.9**	**-0.1**
HDA	**Harding Lake**	**86.29**	**12**	P	**P**	**18 06 55.9**	**-1.2**
CCB	**Clear Creek Bu**	**86.34**	**12**	P	**P**	**18 06 55.5**	**-1.8**
H21K	**Melozitna Rive**	**86.40**	**9**	P	**P**	**18 06 57.9**	**+0.2**
I23K	**Minto, Yukon-K**	**86.50**	**11**	P	**P**	**18 06 57.4**	**-0.7**
I23K				IAmb	IAmb	18 07 27.4
	comp=Z,9.9nm,1.5s						
IMAR	**Indian Mountai**	**86.56**	**9**	P	**P**	**18 06 57.9**	**-0.5**
M29M	**Somme Creek**	**86.58**	**16**	P	**P**	**18 06 58.4**	**-0.3**
M29M				IAmb	IAmb	18 07 24.9
	comp=Z,7.6nm,1.4s						
ILAR	**Eielson Array**	**86.63**	**12**	P	**P**	**18 06 57.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=236,slow=5.3,SNR=5.3						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**86.67**	**43**	P	**P**	**18 06 58.5**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=198,slow=5.7,SNR=3.0						
	comp=Z,0.3nm,0.6s						
J26L	**Joseph Creek**	**87.08**	**13**	P	**P**	**18 07 02.0**	**+1.0**
M30M	**Minto, Yukon**	**87.15**	**17**	P	**P**	**18 07 01.1**	**-0.2**
ELIB	**Princess Elisa**	**88.14**	**186**	*d*P	**P**	**18 07 05.9**	**-0.3**
	comp=Z,6.4nm,0.5s						
I28M	**Miner Creek**	**88.70**	**14**	P	**P**	**18 07 07.6**	**-1.1**
MMPY	**Sheldon Lake,**	**88.79**	**19**	P	**P**	**18 07 09.4**	**+0.3**
MMPY				IAmb	IAmb	18 07 46.2
	comp=Z,12nm,1.5s						
XAN	**Xi'an**	**88.94**	**307**	P	**P**	**18 07 12.9**	**+2.4**
XAN				pmax	pmax	
	comp=Z,10.0nm,1.2s						
TROLL	**Troll, Antarti**	**89.02**	**180**	⇓P	**P**	**18 07 10.4**	**+0.1**
	comp=Z,184nm,0.4s						
SNAA	**Sanae**	**89.24**	**178**	P	**P**	**18 07 10.9**	**-0.3**
SNAA				IAmb	IAmb	18 07 12.0
	comp=Z,3.1nm,0.8s						
SNAA	**Sanae**	**89.24**	**178**	⇓P	**P**	**18 07 11.1**	**-0.1**
	comp=Z,61nm,0.6s						
SNAA	**Sanae**	**89.24**	**178**	P	**P**	**18 07 11.2**	**0.0**
	comp=Z,2.5nm,0.7s,baz=206,slow=6.6,SNR=19						
	comp=Z,2.5nm,0.7s						
VNA3	**Neumayer Olymp**	**89.29**	**176**	⇓P	**P**	**18 07 11.4**	**-0.1**
	comp=Z,11nm,0.8s						
H29M	**Whitestone**	**89.71**	**14**	P	**P**	**18 07 12.9**	**-0.3**
VNA2	**Neumayer--Watz**	**89.75**	**176**	⇓P	**P**	**18 07 13.9**	**+0.3**
	comp=Z,7.8nm,0.6s,baz=189,slow=4.0						
HHC	**Hu-ho-hao-te**	**89.88**	**314**	*e*P	**P**	**18 07 17.3**	**+2.5**
HHC				pmax	pmax	
	comp=Z,34nm,0.6s						
HHC				pmax	pmax	
	comp=Z,85nm,4.8s						
VNA1	**Neumayer--Stat**	**89.97**

LESA	Schwarzleotal	150.99	348	*i* PKiKP	PKiKP	18 14 07.7 +0.2
	comp=Z,1.3nm,0.4s					
SOKA	Soboth	151.16	344	*i* PKP	PKPbc	18 14 07.2 -0.2
	comp=Z,5.6nm,1.1s,SNR=4.8					
KBA	Koelnbreinsper	151.18	347	*i* PKP	PKPbc	18 14 07.6 0.0
	comp=Z,3.5nm,0.5s					
RETA	Reutte	151.27	351	*i* PKP	PKPbc	18 14 07.9 +0.2
	comp=Z,3.2nm,0.9s					
WATA	Walderalm	151.28	349	*i* PKP	PKPbc	18 14 07.9 +0.1
	comp=Z,4.9nm,0.5s,SNR=5.8					
WTTA	Wattenberg	151.34	349	*i* PKP	PKiKP	18 14 08.3 -0.1
	comp=Z,11nm,0.5s,SNR=19					
MOTA	Moosalm	151.35	350	*i* PKP	PKPbc	18 14 08.1 +0.1
	comp=Z,7.7nm,1.1s					
SQTA	Sankt Quirin	151.45	350	*i* PKP	PKPbc	18 14 08.4 +0.2
	comp=Z,5.2nm,0.7s					
MYKA	Terra Mystica	151.54	346	*i* PKP	PKPbc	18 14 07.8 -0.5
	comp=Z,5.6nm,0.6s					
DAVA	Damuels	151.59	352	*i* PKiKP	PKiKP	18 14 09.1 +0.3
	comp=Z,7.8nm,1.0s					
ABTA	Abfaltersbach	151.67	348	*i* PKP	PKPbc	18 14 08.3 -0.3
	comp=Z,6.8nm,0.5s,SNR=11					
FETA	Feichten	151.72	350	*i* PKiKP	PKiKP	18 14 09.2 +0.1
	comp=Z,4.9nm,0.7s					
VNDS	Vrh nad Dolski	151.78	344	*i* PKPbc	PKPbc	18 14 08.9 +0.1
CRNS	Crni Vrh	151.91	345	*i* PKPbc	PKPbc	18 14 08.8 -0.3
ESDC	Sonseca Array	158.44	17	PKPab	PKPab	18 14 47.3 -0.2
	comp=Z,0.4nm,0.7s,baz=344,slow=4.1,SNR=2.9					
TORD	Torodi Ar. Bea	173.55	159	PKP	PKPdf	18 14 22.6 -1.4
	comp=Z,0.6nm,0.8s,baz=255,slow=4.3,SNR=2.7					
TORD				PKPab	PKPab	18 15 55.5 +1.0
	comp=Z,0.4nm,0.6s,baz=196,slow=2.7,SNR=2.4					

*IDC **07** 18:09:12.2±3.5, 10°.75S×118°.73E, h0km, mb3.7/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=262.8km s-min=27.9km az=48.0*

ISC 07 18:09:15.4±0.9, 11°.44S±0°.09×118°.1E±0°.1, h36km, n16, σ0°80/16, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	2.62	353	P	Pn	18 09 55.4	+0.3
JAGI	Jajag, Banyuwa	4.89	307	P	Pn	18 10 25.4	-1.0
UGM	Wanagama	8.26	294	P	Pn	18 11 13.2	+0.5
MBWA	Marble Bar	9.79	171	P	Pn	18 11 33.2	-0.5
PSA00	Pilbara Seismi	10.21	171	P	Pn	18 11 38.8	-0.7
KNRA	Kununurra	11.18	113	P	Pn	18 11 51.9	-0.9
GIRL	Giralia	11.74	198	P	Pn	18 12 00.8	+0.4
MEEK	Meekatharra	15.13	178	P	Pn	18 12 45.8	-0.7
WRKA	Warakurna	16.61	146	P	Pn	18 13 05.3	-0.4
MORW	Morawa	17.64	186	P	Pn	18 13 18.6	+0.2
WRA	Warramunga Arr	17.75	120	P	Pn	18 13 18.2	-1.7
	0.1nm,0.3s,baz=296,slow=13,SNR=6.1					
WRA				S	Sn	18 16 23.2	-14
	0.5nm,0.8s,baz=288,slow=24,SNR=3.3					
	0.4nm,0.6s					
BLDU	Ballidu	19.12	184	P	Pn	18 13 36.3	-0.1
ASAR	Alice Springs	19.33	131	P	Pn	18 13 39.9	+0.9
	0.1nm,0.3s,baz=306,slow=10,SNR=19					
ASAR				S	S	18 17 02.6	-12
	0.6nm,0.6s,baz=312,slow=25,SNR=8.1					
	0.3nm,0.4s					
KLBR	Kellerberrin	20.06	181	P	P	18 13 45.7	+0.1
OOD	Oodnadatta	23.16	137	P	P	18 14 19.8	+1.0
MKAR	Makanchi Array	66.23	334	P	P	18 19 59.8	+0.1
	0.3nm,0.3s,baz=152,slow=6.6,SNR=8.9					
	0.3nm,0.3s					

*THE **07** 18:18:39.8, 37°.26N×22°.57E, h0km±3km, ML1.7/4, Error ellipse: s-maj=3.9km s-min=1.0km az=163.0*

ATH 07 18:18:39.9, 37°.27N×22°.56E, h10km±2km, ML2.1/4, Error ellipse: s-maj=2.1km s-min=0.8km az=260.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRND	KRANIDI	0.48	76	P	Pg	18 18 48.8	-0.6
EPID	Epidavros	0.56	52	P	Pg	18 18 50.8	-0.1
EPID				S	Sb	18 18 59.9	-0.1
	100nm,0.5s						
EPID	Epidavros	0.56	52	P	Pg	18 18 50.7	-0.2
VLI	Veliai	0.62	151	P	Pg	18 18 51.7	-0.3
VLI				S	Sg	18 18 59.9	-0.3
	105nm,0.5s						
VLI	Veliai	0.62	151	P	Pg	18 18 51.7	-0.3
VLI				S	Sg	18 19 00.8	+0.6
VLI				AML	AML	18 19 02.4	
	comp=N,183μm,0.4s						
VLI				AML	AML	18 19 03.5	
	comp=E,203μm,0.4s						
GUR	Goura	0.69	345	P	Pg	18 18 52.7	-0.6
GUR				S	Sb	18 19 03.3	-0.5
	comp=E,75nm,0.6s						
GUR	Goura	0.69	345	P	Pg	18 18 52.6	-0.7
GUR				S	Sg	18 19 03.1	+0.7
GUR				AML	AML	18 19 06.4	
	comp=E,212μm,0.5s						
GUR				AML	AML	18 19 06.6	
	comp=N,324μm,0.4s						
PYL	PYLOS	0.75	241	P	Pg	18 18 54.4	-0.1
PYL				S	Sb	18 19 06.0	+0.6
PYL	PYLOS	0.75	241	P	Pg	18 18 54.2	-0.3
PYL				S	Sg	18 19 04.7	+0.4
THAL	Thalero	0.77	6	P	Pg	18 18 54.9	0.0
THAL				S	Sg	18 19 04.5	-0.4
THAL				AML	AML	18 19 11.5	
	comp=N,528μm,0.7s						
THAL				AML	AML	18 19 17.7	
	comp=E,702μm,0.7s						
KLV	Kalavryta, Ach	0.84	337	P	Pg	18 18 55.4	-0.8
KLV				S	Sg	18 19 07.4	+0.2
	comp=E,68nm,1.4s						
KLV	Kalavryta, Ach	0.84	337	P	Pg	18 18 55.4	-0.8
KLV				S	Sb	18 19 07.7	-0.3
DRO	Drossia	0.96	316	P	Pg	18 18 58.0	-0.4
DRO				S	Sg	18 19 11.1	+0.1
DRO				AML	AML	18 19 17.9	
	comp=N,238μm,0.4s						
DRO				AML	AML	18 19 24.4	
	comp=E,408μm,0.6s						
LAKA	Lakka	1.08	335	P	Pg	18 18 59.4	-1.2
LAKA				S	Sg	18 19 14.1	-0.5
KTHA	Kythira Island	1.08	158	P	Pb	18 19 00.2	-0.6
KTHA				S	Sg	18 19 14.4	-0.5
VIL2	Platees	1.10	30	P	Pb	18 19 00.3	-0.7
VLY	Voula,Athens	1.14	59	P	Pb	18 19 00.4	-1.3
RLS	Riolos of Patr	1.18	313	P	Pb	18 19 01.6	-0.7
EFP	Efpalio	1.27	336	P	Pn	18 19 03.0	-0.7
DION	Dionisos Attik	1.36	53	P	Pb	18 19 05.3	-0.1
DION				S	Sb	18 19 21.7	-1.1
ANX	Ano Chora	1.42	339	P	Pn	18 19 05.5	-0.4

ATH 07 18:19:10.5, 36°.70N×25°.88E, h16km±6km, ML1.7/2, Error ellipse: s-maj=8.4km s-min=1.2km az=270.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR8	Santorini-Mono	0.43	227	P	Pg	18 19 19.0	-0.3
THR2	Thira island,	0.43	234	P	Pg	18 19 19.4	0.0
APE	Apeiranthos	0.46	323	P	Pg	18 19 19.3	-0.5
APE				S	Sb	18 19 26.8	-0.1
APE				AML	AML	18 19 29.9	
	comp=N,307μm,0.2s						
APE				AML	AML	18 19 30.2	
	comp=E,257μm,0.2s						
SANT	Santorini	0.47	226	P	Pg	18 19 19.6	-0.4
SANT				S	Sg	18 19 26.6	+0.3
SANT				AML	AML	18 19 28.0	
	comp=E,259μm,0.2s						
SANT				AML	AML	18 19 28.9	
	comp=N,101μm,0.1s						
THR3	Thira Island,	0.48	233	P	Pg	18 19 20.1	0.0
THR3	Thira Island,	0.48	233	P	Pg	18 19 20.2	0.0
THR5	Thira Island,	0.51	236	P	Pg	18 19 20.0	-0.7
THR6	Thira Island,	0.52	228	P	Pb	18 19 21.0	-0.2
THR6	Thira Island,	0.52	228	P	Pb	18 19 21.0	-0.2
THR9	Santorini-Faro	0.54	231	P	Pg	18 19 20.7	-0.6
IKRA	Agios-Kirikos-	0.97	20	P	Pb	18 19 28.5	-0.4
TNSA	Tinos	1.01	326	P	Pb	18 19 29.0	-0.7
SMG	Samos	1.27	37	P	Pn	18 19 32.9	-0.7

*IDC **07** 18:26:38.2±2.2, 23°.4N±0°.1×142°.7E±0°.5, h102km, n8, σ0°78/8, mb4.0/4, Volcano Islands region*
s-maj=136.8km s-min=22.4km az=77.0

ISC 07 18:26:38.8±2.2, 23°.4N±0°.1×142°.7E±0°.5, h102km, n8, σ0°78/8, mb4.0/4, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.70	352	P	Pn	18 27 34.8	+0.8
	6.3nm,0.3s,baz=302,slow=23,SNR=36						
JCJ				S	Sn	18 28 16.6	0.0
	100nm,0.4s,baz=315,slow=23,SNR=17						
	24nm,0.2s						
MJAR	Matsushiro Arr	13.65	344	P	Pn	18 29 46.7	-1.4
	baz=149,slow=12,SNR=1.5						
	0.4nm,0.7s						
KSRS	Korea Array	18.91	321	P	P	18 30 51.6	+0.2
	baz=132,slow=12,SNR=1.7						
	1.3nm,0.8s						
WRA	Warramunga Arr	43.87	191	P	P	18 34 35.0	-0.2
	0.2nm,0.4s,baz=7.6,slow=7.8,SNR=6.8						
	0.2nm,0.4s						
MKAR	Makanchi Array	53.24	312	P	P	18 35 46.8	0.0
	0.4nm,0.9s,baz=81,slow=8.6,SNR=1.5						
	0.4nm,0.9s						
KURBB	Kurchatov Arra	55.99	316	P	P	18 36 06.8	+0.2
	2.1nm,0.2s,baz=93,slow=7.7,SNR=13						
	2.1nm,0.2s						
NRIK	Noril'sk	56.25	339	LR	LR	19 00 04.9	
	comp=Z,24nm,21.9s,baz=18,slow=36						
BVAR	Borovoye Array	61.10	319	P	P	18 36 42.6	+0.5
	1.9nm,0.4s,baz=91,slow=7.7,SNR=18						
	1.9nm,0.4s						

*TEH **07** 18:31:26.2, 34°.65N×46°.10E, h10km±124km, ML2.5*
*ISN **07** 18:31:26.4±1.3, 34°.62N×46°.09E, h18km±33km, ML2.5*

ISC 07 18:31:26.3±1.0, 34°.65N±0°.05×46°.07E±0°.04, h10km, n8, σ0°36/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.27	79	Pg	Pg	18 31 31.7	-0.1
IDHR				Sg	Sg	18 31 35.1	-0.4
IGHG	Ghaleghazi	0.52	128	Pg	Pg	18 31 36.9	+0.4
ILIN	Lien	0.78	70	Pg	Pg	18 31 41.2	-0.2
KCHF	Cheshme Sefid,	0.89	115	Sg	Sb	18 31 55.7	-0.1
ILBA	Ilam Banvizeh	1.03	173	Pg	Pg	18 31 45.4	-0.7
IKOM	Komasi	1.28	111	Pg	Pb	18 31 50.8	+0.2
IBDR	Badra	1.54	184	*e*Pn	Pn	18 31 54.0	+0.2
	baz=5.0						
IBDR				*e*Sn	Sg	18 32 16.0	+0.2
IKRK	Kirkuk	1.60	298	*e*Pg	Pb	18 31 56.0	0.0
IKRK				*e*Sg	Sg	18 32 18.0	+0.2

*AFAD **07** 18:32:52.7±0.0, 35°.55N×34°.46E, h40km, ML1.8*
*ISK **07** 18:32:53.9, 35°.61N×34°.41E, h16km, ML2.4/12*
*NIC **07** 18:32:53.6, 35°.46N×34°.55E, h20km±1km, Ml1.5/5*
*GRAL **07** 18:32:54.8±0.4, 35°.24N×34°.88E, h19km±5km, MD3.1*
*GII **07** 18:32:54.0±0.0, 35°.24N×34°.59E, h30km, Mm2.2/3*

ISC 07 18:32:50.4±1.1, 35°.47N±0°.02×34°.76E±0°.03, h31km±12km, n47, σ1°20/76, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	Paralimni	0.76	231	P	Pn	18 33 05.9	+1.0
PARAL				S	Sn	18 33 16.0	+0.6
PARAL				AML	AML	18 33 17.6	
	0.3nm,0.5s						
PARAL				AML	AML	18 33 23.4	
	0.1nm,0.4s						
LFK	Lefkose	1.02	260	Pg	Pb	18 33 09.1	-0.5
LFK				Sg	Sn	18 33 21.4	-0.6
MVOU	Mavrovouni	1.03	244	P	Pb	18 33 09.5	-0.2
MVOU				S	Sb	18 33 23.4	+0.6
MVOU				AML	AML	18 33 25.5	
MVOU				AML	AML	18 33 26.8	
TISA	Tisan-Mersin	1.11	309	Pg	Pb	18 33 11.0	-0.1
TISA				Sg	Sn	18 33 21.9	-2.3
KARG	Kargicak-Mersi	1.12	311	Pg	Pn	18 33 10.3	+0.3
KIZK	Mersin	1.12	334	Pg	Pb	18 33 11.7	+0.4
KIZK				Sg	Sn	18 33 24.3	-0.2
KIZK	Mersin	1.12	334	P	Pb	18 33 10.9	-0.4
KIZK				S	Sb	18 33 25.2	-0.3
YESI	Yesilovacik-Me	1.16	309	Pg	Pb	18 33 11.2	-0.7
YESI				Sg	Sn	18 33 23.4	-1.9
IKL	Isikli	1.16	312	Pg	Pb	18 33 11.7	-0.2
IKL				Sg	Sn	18 33 23.7	-1.6
AKKU	Akkuyu-Mersin	1.20	305	Pg	Pb	18 33 11.9	-0.6
AKKU				Sg	Sn	18 33 24.3	-2.0
GULN	MERSIN_Gulnar	1.22	306	P	Pn	18 33 11.7	+0.4
GULN				S	Sn	18 33 25.6	-1.1
GULN				*i* AML	AML	18 33 27.0	
	comp=N,28nm,0.3s						
GULN				*i* AML	AML	18 33 27.0	
	comp=E,29nm,0.2s						
CSS	Mathiatis	1.27	247	Pn	Pb	18 33 14.8	+1.0
CSS	Mathiatis	1.27	247	Pg	Pn	18 33 12.5	+0.4
CSS	Mathiatis	1.27	247	P	Pn	18 33 12.7	+0.6
CSS				S	Sb	18 33 30.0	+0.2
CSS				AML	AML	18 33 32.6	
CSS				AML	AML	18 33 37.3	
KEBE	Keben-Mersin	1.29	319	Pg	Pb	18 33 13.6	-0.6
KEBE				Sg	Sn	18 33 28.1	-0.6
ASGA	Asgata	1.41	242	P	Pb	18 33 15.7	-0.5
ASGA				S	Sb	18 33 33.2	-0.6
ASGA				AML	AML	18 33 34.1	
ASGA				AML	AML	18 33 35.6	
TEVE	Tevekalti-Mers	1.44	312	Pn	Pb	18 33 16.2	-0.4
TEVE				Sn	Sn	18 33 31.6	-0.7
BEIL	Beino	1.49	128	*e*P	Pb	18 33 16.7	-0.9
BEIL				*e*S	Sn	18 33 32.7	-1.0
TEKE	Tekeli-Mersin	1.49	297	Pn	Pn	18 33 16.1	+1.0
TEKE				Sn	Sn	18 33 32.9	-0.7
BERE	Bereket-Mersin	1.52	306	Pn	Pb	18 33 17.5	-0.6
YURE	YUREGIR	1.53	27	P	Pb	18 33 18.0	-0.1
HWQ	Hawqa	1.54	140	*e*P	Pb	18 33 17.1	-1.3
HWQ				*e*S	Sn	18 33 33.4	-1.5
TROD	Troodos	1.63	252	P	Pb	18 33 18.6	-1.5
TROD				AML	AML	18 33 35.5	
TROD				AML	AML	18 33 36.7	
TROD				S	Sn	18 33 38.1	+0.8
BHL	Bhannes	1.73	154	*e*P	Pn	18 33 19.2	+0.7
ALFC	Alefka	1.79	261	P	Pb	18 33 21.7	-1.0
ZAHL	Zahle	1.86	150	*e*P	Pn	18 33 21.2	+1.0
NATA	Nata	1.92	250	P	Pn	18 33 22.7	+1.7
KERG	Konya-Eregli	2.01	345	P	Pb	18 33 24.8	-1.6
KERG				*i* AML	AML	18 33 42.0	
	comp=N,6.7nm,0.6s						
KERG				S	Sn	18 33 48.3	+1.9
KERG				*i* AML	AML	18 33 52.0	
	comp=E,7.8nm,0.5s						
AKMS	Akamas	2.03	258	P	Pb	18 33 25.2	-1.5
GAZI	Gazipasa	2.12	292	Pn	Pb	18 33 25.6	+1.8
GAZI				Sn	Sn	18 33 48.2	-1.0
GAZI	Gazipasa	2.12	292	P	Pn	18 33 25.1	+1.3
GAZI				S	Sn	18 33 47.2	-2.0
GAZI				*i* AML	AML	18 33 50.0	
	comp=N,24nm,1.0s						
RCY	Rachaya	2.16	155	*e*P	Pn	18 33 25.5	+1.1
RCY				*e*S	Sn	18 33 48.3	-2.0
SHBL	Chebaa	2.27	159	*e*P	Pn	18 33 26.9	+0.9
KKBE	Karaman, Kazim	2.28	320	P	Pn	18 33 28.0	+2.0
KKBE				S	Sn	18 33 53.8	+0.7
NATI	Neve Ativ	2.35	160	Pn	Pn	18 33 28.1	+1.2
NATI				Sn	Sn	18 33 54.2	-0.4
NATI	Neve Ativ	2.35	160	P	Pn	18 33 28.2	+1.3
GEM	Giv'at Ha'Em	2.38	161	Pn	Pn	18 33 28.7	+1.5
GEM				Sn	Sn	18 33 54.7	-0.7
GEM	Giv'at Ha'Em	2.38	161	P	Pn	18 33 28.8	+1.5
HNTI	Hanita	2.41	172	Pn	Pn	18 33 29.1	+1.4
HNTI				Sn	Sn	18 33 54.9	-1.2
MMC7	Mount Meron ar	2.50	168	Pn	Pn	18 33 29.9	+0.9
MMA0B	Mount Meron ar	2.51	167	Pn	Pn	18 33 29.9	+0.7
MMA0B				Sn	Sn	18 33 57.9	-0.8
KSHT	Keshet	2.63	160	Pn	Pn	18 33 33.0	+2.1
KSHT				Sn	Sn	18 34 02.7	+0.9
OFRI	`Ofer	2.85	176	P	Pn	18 33 34.3	+0.5
MMLI	Mount Malkishu	3.08	169	Pn	Pn	18 33 38.6	+1.7
MMLI				Sn	Sn	18 34 11.9	-0.8
HMDT	Nahal Hemdat	3.27	169	Pn	Pn	18 33 41.4	+1.8
HMDT	Nahal Hemdat	3.27	169	P	Pn	18 33 41.5	+1.8
YTIR	Yattir	4.11	176	P	Pn	18 33 53.5	+2.3

*NEIC **07** 18:44:02.0±1.1, 25°.8N±0°.1×141°.2E±0°.3, h39km±8km, mb4.7/9, Error ellipse: s-maj=38.0km s-min=11.4km az=109.0*
*IDC **07** 18:44:01.8±2.6, 25°.81N×141°.98E, h51km±23km, mb3.6/8, mbtmp3.8/8, MS2.3/1, Error ellipse: s-maj=41.4km s-min=17.9km az=89.0*

ISC 07 18:44:00.7±0.8, 25°.7N±0°.1×141°.5E±0°.2, h35km, n22, σ1°39/24, mb4.3/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.51	23	Pn	Pn	18 44 27.4	+2.1
JCJ				Sn	Sn	18 44 45.9	+2.1
JCJ	Chichijima	1.51	23	P	Pn	18 44 23.3	-2.0
	80nm,0.3s,baz=303,slow=24,SNR=27						
JCJ				S	Sn	18 44 45.5	+1.7
	322nm,0.4s,baz=289,slow=22,SNR=6.7						
KSRS	Korea Array	16.46	319	LR	LR	18 53 32.2	
	comp=Z,9.9nm,20.0s,baz=140,slow=34						
COEN	Coen	39.45	177	P	P	18 51 29.1	+1.5
COEN				IAmb	IAmb	18 52 08.4	
	comp=Z,21nm,1.3s						
MTN	Manton Dam	39.62	196	P	P	18 51 29.7	+0.6
MTN				IAmb	IAmb	18 51 30.6	
	comp=Z,9.8nm,0.9s						
KNRA	Kununurra	42.96	198	P	P	18 51 56.1	-0.4
KNRA				IAmb	IAmb	18 52 36.5	
	comp=Z,21nm,1.4s						
WB0	Warramunga Arr	45.72	189	P	P	18 52 19.1	+0.5
WB0				IAmb	IAmb	18 52 20.1	
	comp=Z,11nm,0.8s						
WR0	Warramunga Arr	45.89	189	P	P	18 52 20.4	+0.6
WR0				IAmb	IAmb	18 52 21.9	
	comp=Z,5.3nm,0.5s						
WR0				PcP	PcP	18 53 57.2	+0.6
WRAB	Tennant Creek	45.89	189	P	P	18 52 20.4	+0.6
WB2	Warramunga Arr	45.90	189	P	P	18 52 20.2	+0.2
WRA	Warramunga Arr	45.90	189	P	P	18 52 19.8	-0.2
WRA	Warramunga Arr	45.90	189	P	P	18 52 20.9	+0.9
	comp=Z,8.1nm,0.5s,baz=9.4,slow=8.7,SNR=106						
AS31	Alice Springs	49.62	189	P	P	18 52 49.5	+0.7
ASAR	Alice Springs	49.62	189	P	P	18 52 49.0	+0.2
ASAR	Alice Springs	49.62	189	P	P	18 52 49.2	+0.4
	comp=Z,0.5nm,0.5s,baz=3.8,slow=7.4,SNR=12						
	comp=Z,0.5nm,0.5s						
BVAR	Borovoye Array	58.68	318	P	P	18 53 54.9	+0.4
	comp=Z,0.7nm,0.4s,baz=86,slow=7.3,SNR=9.0						
	comp=Z,0.7nm,0.4s						
ARCES	ARCESS Array B	74.66	341	P	P	18 55 36.2	+0.1
	comp=Z,3.2nm,0.9s,baz=60,slow=5.3,SNR=3.8						
	comp=Z,3.2nm,0.9s						
FINES	FINESS Array B	78.94	334	P	P	18 55 59.8	-0.5
	comp=Z,0.8nm,0.5s,baz=72,slow=6.0,SNR=14						
	comp=Z,0.8nm,0.5s						
NVAR	Mina Array Bea	81.85	51	P	P	18 56 14.7	-2.1
	comp=Z,0.1nm,0.3s,baz=281,slow=5.4,SNR=2.1						
	comp=Z,0.1nm,0.3s						
HFS	Hagfors	84.47	337	P	P	18 56 29.3	-0.3
	comp=Z,1.3nm,0.6s,baz=90,slow=8.9,SNR=4.2						
	comp=Z,1.3nm,0.6s						
NOA	NORSAR Array B	84.69	338	P	P	18 56 30.1	-0.6
	comp=Z,0.2nm,0.4s,baz=38,slow=5.0,SNR=1.3						
	comp=Z,0.2nm,0.4s						
PDAR	Pinedale Array	85.62	44	P	P	18 56 32.3	-3.7
	comp=Z,0.2nm,0.6s,baz=294,slow=4.8,SNR=2.2						
	comp=Z,0.2nm,0.6s						

*IDC **07** 19:08:40.3±0.9, 1°.22N×132°.77E, h0km, mb4.2/8, mbtmp4.2/8, ML3.1/1, Error ellipse: s-maj=43.4km s-min=17.5km az=82.0*
*NEIC **07** 19:08:42.8±1.2, 1°.17N±0°.06×132°.8E±0°.1, h10km±1km, mb4.6/15, Error ellipse: s-maj=23.0km s-min=6.2km az=69.0*
*DJA **07** 19:08:45.1±1.1, 1°.N±6°×13°.3E±°, h17km±13km, M4.3/13, mb4.3/7, mB5.0/4, MLv4.3/13, Mw(mB)4.3/4*

ISC 07 19:08:46.0±0.7, 1°.05N±0°.07×132°.69E±0°.07, h35km, n43, σ0°93/47, mb4.4/12, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	2.38	217	P	Pn	19 09 21.6	-1.0
SWI				S	Sn	19 09 50.6	0.0
SIJI	Sorong	2.38	217	Pn	Pn	19 09 21.6	-1.1
	3.6nm,0.3s,baz=77,slow=0.9,SNR=47						
SIJI				Sn	Sn	19 09 50.1	-0.6
	8.1nm,0.3s,baz=171,slow=22,SNR=14						
RKPI	Ransiki, Papua	2.95	150	P	Pn	19 09 30.9	+0.5
RKPI				S	Sn	19 10 04.5	-0.1
FAKI	Fak Fak	3.97	186	Pn	Pn	19 09 45.2	+0.7
FAKI	Fak Fak	3.97	186	P	Pn	19 09 44.0	-0.5
FAKI				S	Sn	19 10 28.8	-1.1
SRPI	Serui, Papua	4.58	129	P	Pn	19 09 52.8	-0.1
KMPI	Kaimana, Papua	4.79	168	P	Pn	19 09 55.1	-0.7
TNTI	Ternate	5.33	267		Pn	19 10 03.0	-0.2
TNTI	Ternate	5.33	267	P	Pn	19 10 04.2	+1.0
	35nm,0.8s,555nm0.3nm						
LBMI	Labuha	5.46	252	P	Pn	19 10 05.1	+0.2
	30nm,0.8s,1μm0.3nm						
BNDI	Bandanaira	6.20	207	P	Pn	19 10 13.9	-1.2
	118nm,1.2s,3μm0.9nm						
GTOI	Gorontalo	9.69	268	P	Pn	19 11 05.3	+2.2
TOLI2	Tolitoli	11.91	270	Pn	Pn	19 11 33.6	+0.2
MTN	Manton Dam	13.89	186	Pn	Pn	19 12 00.1	-0.5
KNRA	Kununurra	17.07	193	Pn	Pn	19 12 40.2	-1.9
KNRA				IAmb	IAmb	19 12 48.0	
	comp=Z,23nm,0.9s						
KKM	Kota Kinabalu	17.17	287		P	19 12 43.9	-1.0
SBUM	Sibu	20.51	274	P	P	19 13 21.4	0.0
SBUM				IAmb	IAmb	19 13 38.2	
	comp=Z,16nm,1.5s						
WB0	Warramunga Arr	20.76	175	P	P	19 13 25.1	+1.1
WB0				IAmb	IAmb	19 13 26.4	
	comp=Z,38nm,1.2s						
WRA	Warramunga Arr	20.93	176	P	P	19 13 26.2	+0.4
WRA	Warramunga Arr	20.93	176	P	P	19 13 26.9	+1.1
	comp=Z,10nm,0.8s,baz=354,slow=11,SNR=37						
	comp=Z,10nm,0.8s						
AS31	Alice Springs	24.60	177	P

QSPA	**South Pole Qui**	**90.98 180**	P	**P**	**19 21 46.8**	**+0.5**
QSPA			IAmb	IAmb	19 21 48.2	
	comp=Z,7.5nm,1.4s					
QSPA	**South Pole Qui**	**90.98 180**	P	**P**	**19 21 46.3**	**-0.1**
	comp=Z,2.3nm,1.1s,baz=340,slow=3.1,SNR=4.8					
	comp=Z,2.3nm,1.1s					
TORD	**Torodi Ar. Bea**	**129.41 288**	PKP	**PKPdf**	**19 27 51.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=121,slow=35,SNR=2.0					
CPUP	**Villa Florida**	**153.08 160**	PKPbc	**PKiKP**	**19 28 41.0**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=296,slow=1.0,SNR=7.8					

*IDC **07** 19:09:18.2±0.7, 1°.30N×132°.95E, h0km, mb4.1/14, mbtmp4.2/15, ML4.1/1, MS3.2/2, Error ellipse: s-maj=40.9km s-min=14.5km az=80.0*
*NEIC **07** 19:09:20.6±1.3, 1°.23N±0°.09×132°.8E±0°.1, h10km±1km, mb4.7/17, Error ellipse: s-maj=21.9km s-min=13.5km az=66.0*
ISC 07 19:09:23.5±0.5, 1°.16N±0°.06×132°.73E±0°.09, h35km, n53, σ0=91/48, mb4.4/21, MS4.0/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.49**	**216**	Sn	**Sn**	**19 10 28.6**	**-2.2**
	7.6nm,0.3s,baz=115,slow=9.7,SNR=3.8						
FAKI	**Fak Fak**	**4.08**	**187**	Pn	**Pn**	**19 10 23.4**	**-0.1**
TNTI	**Ternate**	**5.38**	**266**	Pn	**Pn**	**19 10 40.9**	**-0.4**
SAUI	**Saumlaki**	**9.19**	**189**	Pn	**Pn**	**19 11 33.3**	**-0.4**
TOLI2	**Tolitoli**	**11.95**	**270**	Pn	**Pn**	**19 12 11.5**	**0.0**
MTN	**Manton Dam**	**14.00**	**186**	Pn	**Pn**	**19 12 38.4**	**-1.1**
BATI	**Baumata**	**14.45**	**218**	Pn	**Pn**	**19 12 46.2**	**+0.5**
	0.8nm,0.3s,baz=158,slow=22,SNR=1.3						
	4.7nm,0.5s						
KNRA	**Kununurra**	**17.18**	**193**		**Pn**	**19 13 18.5**	**-2.5**
KNRA				IAmb	IAmb	19 13 25.4	
	comp=Z,40nm,1.0s						
GUMO	**Guam**	**17.23**	**44**	LR	LR	19 19 20.2	
	comp=Z,66nm,19.0s,baz=216,slow=36						
COEN	**Coen**	**18.24**	**146**	P	**P**	**19 13 33.9**	**-0.2**
SBUM	**Sibu**	**20.54**	**274**	P	**P**	**19 13 59.9**	**+0.7**
WB0	**Warramunga Arr**	**20.86**	**176**	P	**P**	**19 14 02.8**	**+0.2**
WB0				IAmb	IAmb	19 14 04.3	
	comp=Z,107nm,1.4s						
WRA	**Warramunga Arr**	**21.03**	**176**	P	**P**	**19 14 05.0**	**+0.6**
WRA	**Warramunga Arr**	**21.03**	**176**	P	**P**	**19 14 05.0**	**+0.6**
	comp=Z,16nm,0.5s,baz=354,slow=11,SNR=40						
	comp=Z,16nm,0.5s						
AS31	**Alice Springs**	**24.70**	**177**	P	**P**	**19 14 42.0**	**+0.5**
AS31				IAmb	IAmb	19 14 44.9	
	comp=Z,19nm,1.1s						
ASAR	**Alice Springs**	**24.70**	**177**	P	**P**	**19 14 42.5**	**+0.9**
ASAR	**Alice Springs**	**24.70**	**177**	P	**P**	**19 14 43.1**	**+1.6**
	comp=Z,53nm,0.9s,baz=358,slow=9.1,SNR=23						
CTAO	**Charters Tower**	**24.93**	**149**	P	**P**	**19 14 44.0**	**+0.4**
CTAO				IAmb	IAmb	19 14 46.4	
	comp=Z,24nm,1.5s						
JOW	**Kunigami**	**25.89**	**351**	LR	LR	19 23 51.7	
	comp=Z,51nm,20.7s,baz=104,slow=34						
FORT	**Forrest**	**32.07**	**188**	P	**P**	**19 15 48.4**	**+1.2**
STKA	**Stephens Creek**	**33.91**	**166**	P	**P**	**19 16 03.4**	**0.0**
	comp=Z,2.0nm,0.9s,baz=320,slow=11,SNR=2.9						
	comp=Z,2.0nm,0.9s						
MJAR	**Matsushiro Arr**	**35.57**	**8**	P	**P**	**19 16 15.3**	**-2.4**
	comp=Z,1.0nm,0.8s,baz=187,slow=9.5,SNR=4.2						
	comp=Z,1.0nm,0.8s						
KSRS	**Korea Array**	**36.39**	**354**	P	**P**	**19 16 24.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=170,slow=10,SNR=3.3						
	comp=Z,0.5nm,0.7s						
DZM	**Mont Dzumac**	**40.19**	**127**	*e*LR	LR	19 27 54.0	
	comp=Z,294nm,35.6s						
SONM	**Songino Array**	**51.79**	**338**	P	**P**	**19 18 26.4**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=132,slow=6.0,SNR=3.9						
	comp=Z,0.5nm,0.4s						
MK31	**Makanchi Array**	**63.12**	**324**	P	**P**	**19 19 48.6**	**+0.8**
MK31				IAmb	IAmb	19 19 51.3	
	comp=Z,4.3nm,1.2s						
MKAR	**Makanchi Array**	**63.12**	**324**	P	**P**	**19 19 48.6**	**+0.8**
MKAR	**Makanchi Array**	**63.12**	**324**	P	**P**	**19 19 48.2**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=106,slow=9.0,SNR=8.6						
	comp=Z,0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**65.65**	**331**	P	**P**	**19 20 03.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=90,slow=5.0,SNR=3.6						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**67.17**	**326**	P	**P**	**19 20 14.1**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=117,slow=5.8,SNR=6.8						
	comp=Z,0.9nm,0.3s						
BVAR	**Borovoye Array**	**72.76**	**326**	P	**P**	**19 20 48.4**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=120,slow=5.8,SNR=8.6						
	comp=Z,3.0nm,0.9s						
NRIK	**Noril'sk**	**74.40**	**345**	P	**P**	**19 20 57.6**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=139,slow=7.0,SNR=3.7						
	comp=Z,1.6nm,0.4s						
GEYT	**Alibeck**	**77.17**	**309**	P	**P**	**19 21 15.1**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=88,slow=15,SNR=3.5						
	comp=Z,1.5nm,0.8s						
ABKAR	**Akbulak array**	**77.94**	**320**	P	**P**	**19 21 18.0**	**0.0**
ABKAR	**Akbulak array**	**77.94**	**320**	P	**P**	**19 21 18.2**	**+0.2**
ABKAR				IAmb	IAmb	19 21 47.9	
	comp=Z,2.5nm,1.1s						
PPT2	**Papeete2**	**78.63**	**108**	*e*LR	LR	19 45 26.9	
	comp=Z,127nm,29.0s						
TBI	**Tubuai**	**79.27**	**114**	*e*LR	LR	19 45 55.3	
	comp=Z,1μm,36.2s						
TBI				*e*LR	LR	19 46 04.3	
	comp=Z,860nm,38.8s						
VNDA	**Vanda**	**80.19**	**174**	P	**P**	**19 21 30.2**	**+0.4**
SBA	**Scott Base**	**81.03**	**173**	P	**P**	**19 21 35.7**	**+1.4**
SBA				IAmb	IAmb	19 21 37.3	
	comp=Z,6.9nm,1.1s						
J20K	**Nowinta River**	**81.66**	**25**	P	**P**	**19 21 38.9**	**+1.1**
J20K				IAmb	IAmb	19 21 40.5	
	comp=Z,3.4nm,0.8s						
IMAR	**Indian Mountai**	**82.28**	**23**	P	**P**	**19 21 41.2**	**+0.1**
MLY	**Manley**	**83.28**	**25**	P	**P**	**19 21 46.9**	**+0.4**
MLY				IAmb	IAmb	19 21 48.5	
	comp=Z,7.6nm,1.1s						
SML	**Sawmill**	**83.76**	**28**	P	**P**	**19 21 48.8**	**-0.2**
I23K	**Minto, Yukon-K**	**83.88**	**25**	P	**P**	**19 21 49.4**	**0.0**
SCM	**Sheep Creek Mo**	**84.23**	**28**	P	**P**	**19 21 51.9**	**+0.5**
ILAR	**Eielson Array**	**84.85**	**25**	P	**P**	**19 21 53.2**	**-1.2**
ILAR	**Eielson Array**	**84.85**	**25**	P	**P**	**19 21 53.1**	**-1.3**
	comp=Z,3.2nm,1.0s,baz=257,slow=5.0,SNR=14						
	comp=Z,3.2nm,1.0s						
QSPA	**South Pole Qui**	**91.08**	**180**	P	**P**	**19 22 24.2**	**-0.1**
QSPA				IAmb	IAmb	19 22 25.6	
	comp=Z,7.5nm,1.4s						
QSPA	**South Pole Qui**	**91.08**	**180**	P	**P**	**19 22 24.6**	**+0.3**
	comp=Z,2.8nm,1.1s,baz=336,slow=6.3,SNR=3.7						
	comp=Z,2.8nm,1.1s						
ARCES	**ARCESS Array B**	**94.90**	**340**	P	**P**	**19 22 42.0**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=27,slow=5.9,SNR=3.5						
	comp=Z,1.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**129.41**	**288**	PKP	**PKPdf**	**19 28 29.4**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=43,slow=2.3,SNR=4.0						
PLCA	**Paso Flores**	**135.31**	**155**	PKP	**PKiKP**	**19 28 41.5**	**-0.2**
	comp=Z,3.5nm,1.1s,baz=256,slow=2.6,SNR=3.5						
CPUP	**Villa Florida**	**153.16**	**160**	PKPbc	**PKiKP**	**19 29 19.3**	**+0.7**
	comp=Z,5.8nm,0.8s,baz=226,slow=3.5,SNR=7.8						

IDC 07 19:10:06.1±3.0, 1°.30N×132°.93E, h0km, mb4.3/3, mbtmp4.3/3, MS3.7/2, Error ellipse: s-maj=149.5km s-min=30.0km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**2.73**	**218**	Sn	Sn	19 11 16.4	-8.5
	2.9nm,0.3s,baz=190,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**21.16**	**176**	P	P	19 14 52.9	-0.1
	5.9nm,0.6s,baz=355,slow=11,SNR=7.9						
WRA				LR	LR	19 24 40.1	
	comp=Z,2μm,20.4s,baz=180,slow=41						
	5.9nm,0.6s						
ASAR	**Alice Springs**	**24.84**	**178**	P	P	19 15 30.5	+0.1
	21nm,0.9s,baz=357,slow=10,SNR=5.1						
	21nm,0.9s						
MKAR	**Makanchi Array**	**63.13**	**323**	P	P	19 20 35.7	-0.1
	1.3nm,1.1s,baz=101,slow=7.9,SNR=1.0						
	1.3nm,1.1s						
KDAK	**Kodiak Island**	**80.66**	**32**	LR	LR	19 52 14.9	
	comp=Z,47nm,20.6s,baz=235,slow=31						
YBH	**Yreka Blue Hor**	**99.82**	**47**	LR	LR	20 10 52.3	
	comp=Z,29nm,18.0s,baz=338,slow=36						

*IDC **07** 19:27:19.2±0.8, 55°.50N×110°.27E, h0km, mb3.8/13, mbtmp3.9/18, ML3.6/5, MS3.3/7, Error ellipse: s-maj=22.6km s-min=17.7km az=43.0*
*MOS **07** 19:27:19.5±1.1, 55°.51N×110°.19E, h9km, mb4.2/4, Error ellipse: s-maj=8.4km s-min=5.5km az=75.9*
*NEIC **07** 19:27:20.2±2.4, 55°.66N±0°.08×110°.38E±0°.09, h10km±1km, mb4.1/13, Error ellipse: s-maj=14.6km s-min=7.4km az=155.0*
*BYKL **07** 19:27:21.2±0.1, 55°.45N×110°.22E, h8km±10km*
ISC 07 19:27:19.8±0.4, 55°.53N±0°.02×110°.30E±0°.02, h10km, n128, σ2=40/220, mb3.9/16, MS3.3/7, 21C-8D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZB	**Nizh Angarsk**	**0.49**	**300**	⇑*i*Pg	**Pb**	**19 27 30.6**	**0.0**
NIZB				Pmax		19 27 31.1	
	1μm,0.3s						
NIZB				*e*Sg	**Sb**	**19 27 37.3**	**-0.6**
NIZB				Smax		19 27 38.5	
	11μm,0.3s						
NIZB	**Nizh Angarsk**	**0.49**	**300**	⇑*i*PG	**Pb**	**19 27 30.7**	**+0.1**
NIZB				*e*		19 27 36.7	
NIZB				pmax	pmax		
	comp=Z,1μm,0.2s						
NIZB				smax	smax		
	comp=N,8μm,0.2s						
KMO	**Kumora**	**0.62**	**55**	⇑*i*Pg	**Pn**	**19 27 33.8**	**-0.9**
	comp=N,276nm,0.4s						
KMO				⇑*i*Pg	**Pn**	**19 27 33.8**	**-0.9**
	comp=N,405nm,0.4s						
KMO				⇑*i*Pg	**Pn**	**19 27 33.8**	**-0.9**
	comp=N,3μm,0.4s						
KMO				Pmax		19 27 34.0	
	comp=N,3μm,0.3s						
KMO				*e*Sg	**Sn**	**19 27 43.2**	**-1.6**
KMO				Smax		19 27 47.8	
	comp=N,7μm,1.1s						
KMO	**Kumora**	**0.62**	**55**	⇑*i*PG	**Pn**	**19 27 33.8**	**-0.9**
KMO				*e*		19 27 43.3	
KMO				pmax	pmax		
	comp=Z,3μm,0.2s						
KMO				smax	smax		
	comp=N,7μm,1.0s						
YLYR	**Ulyunkhan**	**0.82**	**143**	⇑*i*Pg	**Pb**	**19 27 35.8**	**-0.4**
YLYR				Pmax		19 27 40.1	
	comp=N,1μm,0.5s						
YLYR				*e*Sg	**Sg**	**19 27 46.4**	**+0.1**
YLYR				*e*Sb	**Sn**	**19 27 52.9**	**+3.2**
YLYR				max		19 27 55.3	
	comp=N,4μm,0.3s						
YLYR	**Ulyunkhan**	**0.82**	**143**	⇑*i*PG	**Pb**	**19 27 35.8**	**-0.4**
YLYR				*e*		19 27 46.6	
YLYR				pmax	pmax		
	comp=Z,1μm,0.5s						
YLYR				smax	smax		
	comp=E,4μm,0.3s						
YOA	**Uoyan**	**1.00**	**52**	⇑*i*Pg	**Pn**	**19 27 40.9**	**+0.9**
YOA				Pmax		19 27 41.9	
	comp=E,3μm,0.2s						
YOA				*e*Pb	**Pb**	**19 27 42.4**	**+3.1**
YOA				*e*		19 27 43.9	
YOA				*e*Sg	**Sn**	**19 27 56.6**	**+2.4**
YOA				*e*		19 28 01.8	
YOA				max		19 28 04.3	
	comp=E,13μm,0.2s						
YOA	**Uoyan**	**1.00**	**52**	⇑*i*PG	**Pn**	**19 27 40.8**	**+0.8**
YOA				*e*		19 27 55.2	
YOA				pmax	pmax		
	comp=Z,3μm,0.2s						
YOA				smax	smax		
	comp=N,3μm,0.2s						
SYVR	**Suvo**	**1.89**	**186**	⇑*i*Pg	**Pb**	**19 27 54.1**	**-0.3**
SYVR				*e*		19 27 57.1	
SYVR				max		19 27 58.8	
	comp=N,445nm,0.3s						
SYVR				*e*Sg	**Sb**	**19 28 18.2**	**+0.3**
SYVR				*e*		19 28 25.9	
SYVR				max		19 28 30.4	
	comp=N,2μm,1.3s						
SYVR	**Suvo**	**1.89**	**186**	⇑*i*PN	**Pb**	**19 27 54.0**	**-0.3**
SYVR				*e*		19 28 19.3	
SYVR				pmax	pmax		
	comp=Z,456nm,0.4s						
SYVR				smax	smax		
	comp=N,2μm,0.5s						
UKT	**Uakit**	**1.89**	**90**	⇑*i*Pg	**Pg**	**19 27 55.7**	**-0.4**
UKT				Pmax		19 27 56.7	
	comp=N,3μm,0.9s						
UKT				*e*Sg	**Sg**	**19 28 21.6**	**+1.0**
UKT				Smax		19 28 23.8	
	comp=N,3μm,0.5s						
UKT	**Uakit**	**1.89**	**90**	⇑*i*PN	**Pg**	**19 27 55.7**	**-0.4**
UKT				*e*		19 28 21.1	
UKT				pmax	pmax		
	comp=Z,2μm,0.3s						
UKT				smax	smax		
	comp=N,3μm,0.2s						
SVKR	**Severomuysk**	**1.93**	**71**	*e*Pn	**Pg**	**19 27 56.4**	**-0.4**
SVKR				*e*Pg	**Pb**	**19 27 57.4**	**+2.3**
SVKR				*e*		19 27 58.5	
SVKR				max		19 27 59.0	
	comp=N,2μm,0.4s						
SVKR				*e*Sn	**Sg**	**19 28 20.6**	**-1.2**
SVKR				*e*Sg	**Sb**	**19 28 24.0**	**+4.8**
SVKR				Smax		19 28 26.1	
	comp=N,6μm,0.4s						
SVKR	**Severomuysk**	**1.93**	**71**	⇑*i*PN	**Pg**	**19 27 56.4**	**-0.4**
SVKR				*e*		19 28 23.2	
SVKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SVKR				smax	smax		
	comp=E,6μm,0.4s						
MXMB	**Maximikha**	**2.45**	**202**	*e*Pn	**Pn**	**19 27 59.7**	**-0.1**
MXMB				*e*		19 28 01.6	
MXMB				*e*Pg	**Pb**	**19 28 03.9**	**0.0**
MXMB				*e*PgPg	**PbPb**	**19 28 08.3**	**+1.2**
MXMB				*e*Sg	**Sb**	**19 28 35.4**	**+1.3**
OGRR	**Ongureny**	**2.46**	**221**	*e*	**Pn**	**19 28 01.4**	**+1.4**
OGRR				*e*Pg	**Pb**	**19 28 04.2**	**+0.1**
OGRR				Pmax		19 28 07.6	
	comp=E,248nm,0.4s						
OGRR				*e*		19 28 31.9	
OGRR				*e*Sg	**Sb**	**19 28 34.4**	**-0.1**
OGRR				Smax		19 28 35.9	
	comp=E,2μm,0.3s						
OGRR	**Ongureny**	**2.46**	**221**	*e*PN	**Pb**	**19 28 01.6**	**-2.5**
OGRR				*e*		19 28 04.6	
OGRR				*e*		19 28 34.6	
OGRR				pmax	pmax		
	comp=Z,248nm,0.4s						
OGRR				smax	smax		
	comp=E,2μm,0.4s						
KELR	**Kotokel**	**3.07**	**206**	*e*Pn	**Pn**	**19 28 09.3**	**+0.9**
KELR				*e*Pg	**Pb**	**19 28 15.2**	**+0.7**
KELR				*e*PgPg	**Pg**	**19 28 19.3**	**+0.7**
KELR				*e*Sn	**Sn**	**19 28 44.7**	**-0.4**
KELR				*e*Sg	**Sb**	**19 28 53.5**	**+1.5**
BOD	**Bodaibo**	**3.07**	**40**	⇓*i*Pn	**Pb**	**19 28 11.7**	**-2.8**
BOD				*e*Pg	**Pg**	**19 28 16.4**	**-2.2**
BOD				Pmax		19 28 17.6	
	comp=E,180nm,0.4s						
BOD				*e*Sg	**Sg**	**19 28 58.2**	**-0.2**
BOD				Smax		19 28 58.8	
	comp=E,1μm,0.6s						
BOD	**Bodaibo**	**3.07**	**40**	*e*PN	**Pb**	**19 28 11.7**	**-2.8**
BOD				*e*		19 28 16.0	
BOD				*e*		19 28 57.3	
BOD				pmax	pmax		
	comp=Z,181nm,0.4s						
BOD				smax	smax		
	comp=N,1μm,0.6s						
NLYR	**Nelyaty**	**3.18**	**70**	⇑*i*Pn	**Pb**	**19 28 13.0**	**-3.4**
NLYR				*e*Pg	**Pg**	**19 28 19.3**	**-1.4**
NLYR				*e*PgPg	**PbPb**	**19 28 21.6**	**+2.0**
NLYR				max		19 28 22.9	
	comp=N,373nm,0.6s						
NLYR				*e*Sn	**Sn**	**19 28 51.0**	**+3.1**
NLYR				*e*Sg	**Sg**	**19 29 01.8**	**-0.1**
NLYR				Smax		19 29 06.5	
	comp=N,1μm,1.1s						
NLYR				*e*		19 29 22.5	
ZRHB	**Zarechye**	**3.51**	**213**	*e*Pg	**Pb**	**19 28 22.3**	**+0.2**
ZRHB				*e*PgPg	**PbPb**	**19 28 25.1**	**-0.1**
ZRHB				max		19 28 33.2	
	comp=N,480nm,0.9s						
ZRHB				*e*Sn	**Sn**	**19 28 55.3**	**-0.8**
ZRHB				*e*Sg	**Sb**	**19 29 06.5**	**+1.7**
ZRHB				Smax		19 29 18.6	
	comp=N,2μm,0.8s						
ZRHB				*e*		19 29 29.3	
TRG	**Tyrgan**	**3.62**	**222**	⇑*i*Pn	**Pn**	**19 28 17.5**	**+1.5**
TRG				*e*Pg	**Pb**	**19 28 24.5**	**+0.6**
TRG				Pmax		19 28 32.0	
	comp=N,98nm,0.3s						
TRG				*e*Sn	**Sn**	**19 28 58.7**	**-0.1**
TRG				*e*Sg	**Sb**	**19 29 10.6**	**+2.7**
TRG				Smax		19 29 14.9	
	comp=N,993nm,1.0s						
TRG	**Tyrgan**	**3.62**	**222**	*e*PN	**Pn**	**19 28 17.2**	**+1.2**
TRG				*e*		19 28 25.1	
TRG				*e*S	**Sn**	**19 28 58.5**	**-0.3**
TRG				*e*		19 29 10.2	
TRG				pmax	pmax		
	comp=Z,99nm,0.3s						
TRG				smax	smax		
	comp=N,774nm,0.4s						
UUDB	**Ulan-Yde**	**3.99**	**204**	*e*Pn	**Pn**	**19 28 22.4**	**+1.3**
UUDB				*e*Pg	**Pb**	**19 28 31.8**	**+1.6**
UUDB				Pmax		19 28 41.5	
	comp=N,75nm,0.4s						
UUDB				*e*Sn	**Sn**	**19 29 06.1**	**-1.8**
UUDB				*e*Sg	**Sb**	**19 29 22.4**	**+3.9**
UUDB				Smax		19 29 25.4	
	comp=N,357nm,0.5s						
UUDB				*e*		19 29 32.4	
CIT	**Chita**	**4.01**	**150**	*e*Pn	**Pn**	**19 28 22.3**	**+1.0**
CIT				*e*Pg	**Pb**	**19 28 32.7**	**+2.2**
CIT				Pmax		19 28 33.4	
	comp=N,237nm,0.4s						
CIT				*e*Sn	**Sn**	**19 29 08.6**	**+0.2**
CIT				*e*Sg	**Sg**	**19 29 23.9**	**-4.6**
CIT				Smax		19 29 26.5	
	comp=N,1μm,0.3s						
CIT				*e*SgSg	**SbSb**	**19 29 28.0**	**+3.8**
CIT	**Chita**	**4.01**	**150**	*e*PN	**Pn**	**19 28 21.9**	**+0.6**
CIT				*e*		19 28 32.4	
CIT				*e*S	**Sn**	**19 29 08.0**	**-0.4**
CIT				*e*		19 29 23.4	
CIT				pmax	pmax		
	comp=Z,124nm,0.7s						
CIT				smax	smax		
	comp=E,565nm,1.1s						
FFNB	**Fofonovo**	**4.07**	**212**	*e*Pn	**Pn**	**19 28 23.1**	**+0.9**
FFNB				*e*		19 28 26.3	
FFNB				*e*Pg	**Pb**	**19 28 33.2**	**+1.6**
FFNB				*e*Sn	**Sn**	**19 29 08.8**	**-1.1**
FFNB				*e*Sg	**Sb**	**19 29 24.6**	**+3.8**
STDB	**Stepnoy Dvoret**	**4.10**	**216**	*e*	**Pb**	**19 28 28.1**	**-3.9**
STDB				*e*		19 28 35.8	
STDB				*e*Sg	**Sb**	**19 29 24.6**	**+3.1**
KAB	**Kabansk**	**4.10**	**213**	*e*Pn	**Pn**	**19 28 22.7**	**+0.1**
KAB				*e*Pg	**Pb**	**19 28 33.3**	**+1.2**
KAB				Pmax		19 28 45.7	
	comp=E,274nm,1.5s						
KAB				*e*Sn	**Sn**	**19 29 09.3**	**-1.3**
KAB				*e*Sg	**Sg**	**19 29 26.3**	**-5.2**
KAB				*e*		19 29 39.4	
KAB				max		19 29 43.8	
	comp=E,1μm,0.6s						
VTMR	**Vitim**	**4.10**	**16**	*e*Pn	**Pn**	**19 28 25.1**	**+2.6**
VTMR				*e*		19 28 34.7	
VTMR				*e*Pg	**Pg**	**19 28 37.4**	**-1.0**
VTMR				*e*		19 28 42.1	
VTMR				*e*Sn	**Sn**	**19 29 12.8**	**+2.3**
VTMR				*e*Sg	**Sg**	**19 29 32.0**	**+0.5**
VTMR				*e*		19 29 43.3	
HRMR	**Khuramsha**	**4.39**	**208**	*e*Pn	**Pn**	**19 28 27.8**	**+1.3**
HRMR				*e*Pg	**Pb**	**19 28 38.5**	**+1.5**
HRMR				Pmax		19 28 41.7	
	comp=E,120nm,0.4s						
HRMR				*e*Sn	**Sn**	**19 29 16.5**	**-1.2**
HRMR				*e*Sg	**Sb**	**19 29 33.7**	**+3.7**
HRMR				Smax		19 29 49.7	
	comp=E,1μm,0.8s						
BGT	**Bolshoye Golou**	**4.54**	**222**	*e*Pn	**Pn**	**19 28 30.2**	**+1.6**
BGT				*e*Pg	**Pb**	**19 28 39.9**	**+0.3**
BGT				Pmax		19 28 51.5	
	comp=E,96nm,0.6s						
BGT				*e*Sn	**Sn**	**19 29 20.4**	**-1.0**
BGT				*e*Sg	**Sb**	**19 29 38.6**	**+4.3**
BGT				Smax		19 29 44.0	
	comp=E,685nm,0.8s						
CRS	**Chara**	**4.65**	**70**	*e*Pn	**Pn**	**19 28 33.3**	**+3.1**
CRS				*e*Pg	**Pg**	**19 28 46.5**	**-2.4**
CRS				Pmax		19 28 48.7	
	comp=E,381nm,0.8s						
CRS				*e*Sn	**Sn**	**19 29 26.0**	**+1.8**
CRS				*e*Sg	**Sg**	**19 29 47.6**	**-1.5**
CRS				Smax		19 29 54.2	
	comp=E,539nm,1.5s						
CRS	**Chara**	**4.65**	**70**	*e*PN	**Pn**	**19 28 33.1**	**+2.9**
CRS				*e*		19 28 45.7	
CRS				*e*		19 29 45.6	
CRS				pmax	pmax		
	comp=Z,381nm,0.7s						
CRS				smax	smax		
	comp=E,492nm,0.8s						
IRK	**Irkutsk**	**4.86**	**230**	*e*Pn	**Pn**	**19 28 33.4**	**+0.5**
IRK				*e*		19 28 38.4	
IRK				*e*Pg	**Pb**	**19 28 46.4**	**+1.5**
IRK				Pmax		19 28 51.4	
	comp=E,209nm,0.7s						
IRK				*e*Sn	**Sn**	**19 29 26.4**	**-2.7**
IRK				*e*Sg	**Sb**	**19 29 47.8**	**+4.5**
IRK				Smax		19 29 52.7	
	comp=E,2μm,0.3s						
IRK	**Irkutsk**	**4.86**	**230**	*e*PN	**Pn**	**19 28 33.6**	**+0.7**
IRK				*e*		19 28 48.3	
IRK				*e*S	**Sn**	**19 29 26.3**	**-2.8**
IRK				*e*		19 29 49.1	
IRK				pmax	pmax		
	comp=Z,99nm,0.2s						
IRK				smax	smax		
	comp=E,2μm,0.6s						
LSTR	**Listvyanka**	**4.90**	**224**	*e*Pn	**Pn**	**19 28 34.3**	**+0.8**
LSTR				*e*Pg	**Pb**	**19 28 47.9**	**+2.2**
LSTR				Pmax		19 28 50.5	
	comp=E,45nm,0.6s						
LSTR				*e*Sn	**Sn**	**19 29 28.5**	**-1.8**
LSTR				*e*Sg	**Sb**	**19 29 49.4**	**+4.7**
LSTR				Smax		19 29 54.3	
	comp=E,568nm,1.0s						
LSTR				*e*		19 30 01.6	
IVK	**Ivanovka**	**5.12**	**226**	*e*Pn	**Pn**	**19 28 37.8**	**+1.3**
IVK				*e*Pg	**Pb**	**19 28 51.7**	**+2.3**
IVK				Pmax		19 28 59.2	
	comp=E,

TUP Pmax 19 29 12.5
comp=E,78nm,0.6s
TUP eSn **Sn** **19 29 49.5 +0.3**
TUP eSg **Sg** **19 30 17.5 -4.1**
TUP Smax 19 30 23.5
comp=E,780nm,0.9s
TUP Tupik 5.67 97 ePN **Pn** **19 28 46.0 +1.9**
TUP e 19 29 01.8
TUP eS **Sn** **19 29 49.3 +0.1**
TUP e 19 30 18.1
TUP pmax pmax
comp=Z,78nm,0.7s
TUP smax smax
comp=N,784nm,0.9s
ARS Arshan 5.91 236 ePn **Pn** **19 28 48.3 +0.8**
ARS e 19 29 04.0
ARS max 19 29 14.6
comp=N,143nm,0.7s
ARS eSn **Sn** **19 29 52.7 -2.5**
ARS eSg **Sg** **19 30 21.4 -8.0**
ARS Smax 19 30 28.3
comp=N,2μm,0.7s
KPC Khapcheranga 5.97 167 e **Pn** **19 28 48.5 +0.3**
KPC e 19 29 07.7
KPC max 19 29 13.4
comp=N,28nm,0.6s
KPC eSn **Sn** **19 29 53.2 -3.5**
KPC eSg **Sg** **19 30 25.0 -6.4**
KPC Smax 19 30 42.3
comp=N,290nm,1.3s
KPC Khapcheranga 5.97 167 ePN **Pn** **19 28 48.6 +0.3**
KPC e 19 29 07.3
KPC eS **Sn** **19 29 53.0 -3.7**
KPC e 19 30 22.6
KPC pmax pmax
comp=Z,28nm,0.7s
KPC smax smax
comp=E,289nm,1.5s
YKLR Yuktali 6.45 76 ePn **Pn** **19 28 57.3 +2.6**
YKLR ePg Pg 19 29 18.0 -5.2
YKLR eSn **Sn** **19 30 08.3 0.0**
YKLR eSg **Sg** **19 30 42.7 -3.9**
ZAK Zakamensk 6.67 222 ePn **Pn** **19 28 59.6 +1.6**
ZAK e 19 29 02.3
ZAK ePg Pb 19 29 20.3 +4.3
ZAK Pmax 19 29 31.2
comp=E,24nm,0.5s
ZAK eSn **Sn** **19 30 11.5 -2.5**
ZAK eSg **Sg** **19 30 45.1 -8.9**
ZAK Smax 19 30 51.7
comp=E,299nm,1.3s
ZAK e 19 31 03.9
ZAK Zakamensk 6.67 222 ePN **Pn** **19 28 59.6 +1.6**
ZAK e 19 29 21.6
ZAK eS **Sn** **19 30 11.6 -2.5**
ZAK e 19 30 44.7
ZAK pmax pmax
comp=Z,25nm,0.6s
ZAK smax smax
comp=N,300nm,1.1s
MOY Mondy 6.76 239 ePn **Pn** **19 29 01.4 +2.3**
MOY e 19 29 04.4
MOY max 19 29 06.5
comp=N,169nm,0.8s
MOY e 19 29 13.0
MOY eSn **Sn** **19 30 13.8 -2.3**
MOY eSg **Sg** **19 30 47.9 -8.7**
MOY Smax 19 30 50.6
comp=N,384nm,1.5s
MOY e 19 31 03.1
MOY Mondy 6.76 239 ePN **Pn** **19 29 01.4 +2.3**
MOY eS **Sn** **19 30 14.9 -1.2**
MOY i 19 30 50.0
ORL Orlik 6.87 248⇓ iPn **Pn** **19 29 02.5 +1.9**
ORL max 19 29 07.6
comp=N,125nm,1.1s
ORL eSn **Sn** **19 30 16.6 -2.2**
ORL eSg **Sg** **19 30 51.4 -8.7**
ORL Smax 19 30 56.3
comp=N,630nm,1.4s
ORL Orlik 6.87 248⇑ iPN **Pn** **19 29 02.7 +2.1**
ORL e 19 29 24.4
ORL e 19 30 51.6
ORL pmax pmax
comp=Z,152nm,1.0s
ORL smax smax
comp=N,627nm,1.4s
ULN Ulaanbaatar 7.94 196 Pn **Pn** **19 29 16.4 +1.1**
ULN Ulaanbaatar 7.94 196⇑ ePN **Pn** **19 29 17.4 +2.1**
SONM Songino Array 8.08 199 Pn **Pn** **19 29 18.3 +1.1**
comp=N,0.6nm,0.3s,baz=24,slow=12,SNR=7.0
SONM Lg Lg 19 31 29.2
comp=N,5.2nm,0.3s,baz=8.8,slow=30,SNR=11
comp=N,1.2nm,0.4s
CLNS Chul'man 8.25 75 ePn **Pn** **19 29 22.7 +3.3**
CLNS ePg Pg 19 29 50.8 -6.7
CLNS e 19 30 58.5
CLNS eSg **Sg** **19 31 37.9 -6.3**
HIA Hailar 8.52 134 Pn **Pn** **19 29 22.8 -0.4**
HIA Hailar 8.52 134⇓ ePN **Pn** **19 29 24.7 +1.5**
ZEA Zeya 9.99 93 ePN **Pn** **19 29 45.6 +2.3**
ZEA e 19 31 32.0
ZEA pmax pmax
comp=Z,10.0nm,0.6s
HEH HeiHe 11.60 110 ePN **Pn** **19 30 06.5 +1.3**
HEH S **Sn** **19 32 18.8 +4.2**
HEH smax smax
comp=N,180nm,0.8s
HEH smax smax
comp=E,120nm,0.8s
YAK Yakutsk 11.95 49 Pn **Pn** **19 30 07.2 -2.8**
YAK Yakutsk 11.95 49 ePn **Pn** **19 30 07.4 -2.5**
YAK eSS Sn 19 32 35.7 +13
YAK pmax pmax
comp=Z,3.0nm,0.9s
YAK pmax pmax
comp=Z,3.0nm,0.6s
YAK MLR MLR
comp=Z,74nm,12.0s
YAK MLR MLR
comp=N,14nm,8.0s
YAK MLR MLR
comp=E,34nm,11.0s
KLR Kul'dur 14.50 107 dePN **Pn** **19 30 47.8 +2.8**
KLR Kul'dur 14.50 107 Pn **Pn** **19 30 46.9 +1.9**
comp=E,0.7nm,0.3s,baz=307,slow=15,SNR=11
KLR Lg Lg 19 34 49.9
comp=E,0.2nm,0.3s,baz=200,slow=14,SNR=4.0
comp=E,1.7nm,0.3s
ZAA0 Zalesovo Array 14.78 274 **Pn** **19 30 47.5 -1.2**
ZALV Zalesovo Beam 14.78 274 **Pn** **19 30 48.5 -0.2**
ZALV Zalesovo Beam 14.78 274 ePn **Pn** **19 30 50.3 +1.6**
ZALV Zalesovo Beam 14.78 274 Pn **Pn** **19 30 49.3 +0.7**
comp=E,0.3nm,0.3s,baz=79,slow=9.2,SNR=15
ZALV Lg Lg 19 34 57.5
comp=E,0.1nm,0.3s,baz=88,slow=20,SNR=1.8
comp=E,2.9nm,0.7s
DGZ Jazzator, Alta 15.03 257⇓ eP **P** **19 30 54.7 -3.0**
NRIK Noril'sk 17.22 332 **Pn** **19 31 17.9 -2.2**
NRIK Noril'sk 17.22 332⇓ eP **Pn** **19 31 19.9 -0.2**
NRIK Noril'sk 17.22 332 P **Pn** **19 31 17.2 -2.9**
comp=E,3.3nm,0.4s,baz=124,slow=10,SNR=5.3
NRIK S Sn 19 34 20.1 -11
comp=E,5.4nm,0.8s,baz=156,slow=14,SNR=2.6
NRIK Lg Lg 19 36 15.3
comp=E,0.1nm,0.3s,baz=252,slow=20,SNR=1.7
TIXI Tiksi 18.01 19 **Pn** **19 31 27.9 -1.9**
TIXI IAmb IAmb 19 31 38.5
comp=Z,16nm,1.3s
TIXI Tiksi 18.01 19⇓ eP **P** **19 31 32.9 +2.6**
TIXI pmax pmax
comp=Z,14nm,1.4s
MK31 Makanchi Array 19.51 255 P **Pn** **19 31 47.9 -0.3**
MK31 IAmb IAmb 19 31 55.4
comp=Z,4.6nm,0.6s
MK31 Makanchi Array 19.51 255 ceP **Pn** **19 31 48.1 -0.1**
MKAR Makanchi Array 19.51 255 P **Pn** **19 31 47.6 -0.7**
MKAR Makanchi Array 19.51 255 eP **Pn** **19 31 48.2 0.0**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 19.51 255 P **Pn** **19 31 47.8 -0.4**
comp=Z,0.5nm,0.3s,baz=49,slow=9.9,SNR=14
MKAR Lg Lg 19 37 32.8
baz=47,slow=50
comp=Z,1.3nm,0.4s
KURK Kurchatov 19.51 269 P **P** **19 31 46.4 -0.6**
KURK IAmb IAmb 19 31 55.8
comp=Z,6.4nm,0.8s
KURK Kurchatov 19.51 269 ceP **Pn** **19 31 48.2 0.0**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURBB Kurchatov Arra 19.60 269 P **Pn** **19 31 48.8 -0.5**
comp=Z,0.3nm,0.3s,baz=66,slow=12,SNR=32
KURBB Lg Lg 19 37 34.2
baz=63,slow=31
comp=Z,3.4nm,0.5s
MAKZ Makanchi 19.67 256 P **Pn** **19 31 49.4 -0.8**
MAKZ IAmb IAmb 19 31 56.6
comp=Z,6.6nm,0.8s
MAKZ Makanchi 19.67 256 P **Pn** **19 31 49.4 -0.8**
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
KSRS Korea Array 21.66 139 LR LR 19 41 44.3
comp=Z,27nm,20.2s,baz=185,slow=40
BVAR Borovoye Array 23.22 281 P **P** **19 32 27.3 +0.6**
comp=Z,2.0nm,0.5s,baz=62,slow=13,SNR=17
comp=Z,2.0nm,0.5s
BRVK Borovoye 23.26 281 P **P** **19 32 27.6 +0.4**
BRVK IAmb IAmb 19 32 37.1
comp=Z,8.7nm,0.8s
BRVK Borovoye 23.26 281⇓ eP **P** **19 32 30.7 +3.5**
BRVK pmax pmax
comp=Z,9.0nm,0.8s
BOOM Boomskoye usch 25.74 254 P **P** **19 32 51.4 +0.9**
BOOM IAmb IAmb 19 33 11.7
comp=Z,10.0nm,1.3s
BOOM Boomskoye usch 25.74 254 P **P** **19 32 51.4 +0.9**
BOOM pmax pmax
comp=Z,10.0nm,1.3s
PETK Petropavlovsk- 27.33 75 LR LR 19 44 33.7
comp=Z,45nm,19.5s,baz=240,slow=38
ABKAR Akbulak array 30.78 280 P **P** **19 33 35.4 +0.2**
ABKAR Akbulak array 30.78 280 P **P** **19 33 35.4 +0.2**
KIRV Kirov 32.26 301 LR LR 19 48 12.3
comp=Z,41nm,18.2s,baz=34,slow=39
ARCES ARCESS Array B 37.98 325 eP **P** **19 34 37.1 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 37.98 325 P **P** **19 34 37.6 +0.3**
comp=Z,3.3nm,1.0s,baz=66,slow=7.7,SNR=6.8
comp=Z,3.3nm,1.0s
FINES FINESS Array B 41.50 314 P **P** **19 35 06.1 -0.5**
FINES FINESS Array B 41.50 314 eP **P** **19 35 07.6 +1.0**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 41.50 314 P **P** **19 35 07.4 +0.8**
comp=Z,1.5nm,0.4s,baz=58,slow=8.2,SNR=28
comp=Z,1.5nm,0.4s
NACGM Naroch 44.88 306 eP **P** **19 35 37.3 +3.4**
comp=E,3μm,0.9s
BMAR Burnt Mountain 45.44 32 P **P** **19 35 39.3 +0.9**
AKASG Malin Array Be 46.29 300 P **P** **19 35 45.1 -0.1**
comp=E,0.5nm,0.4s,baz=46,slow=8.8,SNR=5.8
AKASG LR LR 19 56 29.8
comp=E,32nm,19.4s,baz=5.5,slow=38
comp=E,0.5nm,0.4s
ILAR Eielson Array 46.43 35 eP **P** **19 35 50.0 +3.9**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 46.43 35 P **P** **19 35 47.8 +1.7**
comp=Z,0.6nm,0.8s,baz=296,slow=6.5,SNR=6.0
comp=Z,0.6nm,0.8s
HFS Hagfors 47.20 317 P **P** **19 35 52.9 +0.7**
comp=Z,1.0nm,0.3s,baz=64,slow=10,SNR=13
comp=Z,1.0nm,0.3s
NB2 NORSAR Subarra 47.55 319 P **P** **19 35 56.1 +1.1**
comp=Z,1.5nm,0.6s,baz=51,slow=7.9
NOA NORSAR Array B 47.55 319 eP **P** **19 35 56.1 +1.1**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 47.55 319 P **P** **19 35 55.9 +0.9**
comp=Z,1.8nm,0.9s,baz=47,slow=7.2,SNR=6.2
comp=Z,1.8nm,0.9s
NAO01 NORSAR Array S 47.80 319 P **P** **19 35 57.3 +0.4**
L27K Beaver Creek, 49.24 35 P **P** **19 36 08.4 +0.4**
BCAR Beaver Creek A 49.25 35 P **P** **19 36 08.5 +0.5**
BUR08 Bucovina Ar. S 50.29 299 **P** **19 36 16.4 +0.2**
BURAR Bucovina Array 50.30 299 P **P** **19 36 16.5 +0.2**
BURAR IAmb IAmb 19 36 18.9
comp=Z,1.7nm,1.1s
MMAI Mount Meron Ar 55.21 279 P **P** **19 36 54.5 +1.7**
comp=Z,0.7nm,0.6s,baz=57,slow=8.8,SNR=1.9
MMAI LR LR 20 03 35.0
comp=Z,26nm,19.9s,baz=358,slow=39
comp=Z,0.7nm,0.6s
EKA Eskdalemuir Ar 56.92 321 P **P** **19 37 05.5 +0.9**
comp=Z,0.4nm,0.4s,baz=46,slow=6.4,SNR=4.7
comp=Z,0.4nm,0.4s
EIL Elat 57.98 277 LR LR 20 03 59.4
comp=Z,26nm,18.2s,baz=79,slow=38
ESDC Sonseca Array 69.95 311 P **P** **19 38 33.0 +1.9**
comp=Z,0.4nm,0.6s,baz=31,slow=5.5,SNR=6.1
comp=Z,0.4nm,0.6s
WRA Warramunga Arr 77.90 157 P **P** **19 39 19.2 +1.6**
WRA Warramunga Arr 77.90 157 P **P** **19 39 19.2 +1.6**
WRA Warramunga Arr 77.90 157 P **P** **19 39 18.2 +0.6**
comp=Z,0.4nm,0.7s,baz=347,slow=6.0,SNR=2.8
comp=Z,0.4nm,0.7s
ASAR Alice Springs 81.41 158 P **P** **19 39 37.6 +1.0**
ASAR Alice Springs 81.41 158 P **P** **19 39 37.6 +1.0**
ASAR Alice Springs 81.41 158 P **P** **19 39 36.2 -0.4**
comp=Z,0.3nm,0.8s,baz=357,slow=5.6,SNR=1.6
comp=Z,0.3nm,0.8s
TKL Tuckaleechee C 88.38 11 LR LR 20 24 04.7
comp=Z,86nm,18.1s,baz=199,slow=38
TORD Torodi Ar. Bea 89.47 293 P **P** **19 40 18.0 +0.9**
comp=Z,0.8nm,0.6s,baz=31,slow=5.5,SNR=4.6
comp=Z,0.8nm,0.6s
QSPA South Pole Qui 145.29 180 PKPbc **PKPab** **19 46 56.4 +0.1**
comp=Z,0.8nm,0.7s,baz=286,slow=2.1,SNR=6.6

IDC 07 19:47:07.9±2.5, 1°.58N×132°.21E, h0km, mb3.4/3, mbtmp3.4/4, ML2.4/1, MS2.6/1, Error ellipse: s-maj=101.6km s-min=27.8km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**		**2.61 201**	Pn	Pn	19 47 51.5	+0.1
	0.7nm,0.3s,baz=206,slow=24,SNR=2.4						
SIJI				Sn	Sn	19 48 20.1	-3.6
	1.3nm,0.3s,baz=152,slow=23,SNR=7.7						
	1.8nm,0.3s						
WRA	**Warramunga Arr**		**21.49 175**	P	P	19 51 57.8	-0.6
	0.9nm,0.5s,baz=354,slow=11,SNR=14						
	0.9nm,0.5s						
ASAR	**Alice Springs**		**25.15 176**	P	P	19 52 35.4	+0.4
	0.5nm,0.7s,baz=359,slow=12,SNR=6.3						
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**		**36.68 299**	LR	LR	20 12 25.9	
	comp=Z,8.1nm,18.1s,baz=210,slow=41						
MKAR	**Makanchi Array**		**62.48 324**	P	P	19 57 33.2	-0.1
	0.5nm,0.7s,baz=126,slow=7.3,SNR=2.5						
	0.5nm,0.7s						

*NEIC **07** 19:57:58.0±0.5, 19°.39N±0°.02×155°.04W±0°.03, h5km±1km, Error ellipse: s-maj=5.2km s-min=2.6km az=300.0*

HVO 07 19:57:58.4±0.5, 19°.37N±0°.02×155°.08W±0°.03, h2km±3km, ML2.6/9, MLZ.5/46(NEIC), Error ellipse: s-maj=4.2km s-min=1.9km az=123.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**		**0.02 295**		Pg	19 57 59.4	+0.4
JCUZ				Sg	Sg	19 58 00.1	+0.5
NPOC	**North of Pu'u**		**0.04 303**		Pg	19 57 59.6	+0.4
NPOC				IAML		19 58 00.5	
	comp=E,6μm,0.4s						
STCH	**Steam Cracks**		**0.04 284**		Pg	19 57 59.8	+0.4
STCH				Sg	Sg	19 58 00.5	+0.5
STCH				IAML		19 58 00.8	
	comp=N,7μm,0.3s						
KNHH	**Kane Nui o Ham**		**0.09 274**		Pg	19 58 00.7	+0.6
PUH	**Pauahi**		**0.13 270**		Pg	19 58 01.4	+0.5
BYL	**Byron's Ledge**		**0.17 282**	Pg	Pg	19 58 02.2	+0.5
BYL				IAML		19 58 06.8	
	comp=E,860nm,1.4s						
BYL				IAML		19 58 07.9	
	comp=N,2μm,0.5s						
KKO	**Keanakako`i**		**0.18 278**	Pg	Pg	19 58 02.4	+0.5
KKO				IAML		19 58 05.7	
	comp=N,2μm,0.7s						
KKO				IAML		19 58 06.0	
	comp=E,1μm,0.5s						
HATHI	**Halema'uma'u T**		**0.18 286**		Pg	19 58 02.2	+0.4
HATHI				IAML		19 58 05.8	
	comp=N,900nm,0.5s						
RIM	**Rim**		**0.19 277**	Pg	Pg	19 58 02.4	+0.4
RIM				IAML		19 58 06.1	
	comp=E,1μm,0.5s						
SBLHI	**Steaming Bluff**		**0.19 286**		Pg	19 58 02.2	+0.2
SBLHI				IAML		19 58 08.3	
	comp=N,869nm,0.3s						
SBLHI				IAML		19 58 08.6	
	comp=E,733nm,0.7s						
UWB	**Uwekahuna B**		**0.20 285**		Pg	19 58 02.5	+0.3
SDHHI	**Sand Hill**		**0.20 274**		Pg	19 58 02.6	+0.3
SDHHI				IAML		19 58 06.8	
	comp=E,1μm,1.3s						
SDHHI				IAML		19 58 08.4	
	comp=N,1μm,0.5s						
RSD	**Rainshed**		**0.21 295**		Pg	19 58 02.9	+0.5
RSD				IAML		19 58 09.2	
	comp=N,1μm,0.5s						
RSD				IAML		19 58 09.4	
	comp=E,1μm,0.5s						
WRMHI	**West Rim**		**0.21 279**	Pg	Pg	19 58 02.8	+0.3
WRMHI				IAML		19 58 07.2	
	comp=E,1μm,0.5s						
WRMHI				IAML		19 58 08.9	
	comp=N,1μm,1.7s						
HLP	**Hilina Pali**		**0.23 250**		Pg	19 58 03.4	+0.6
MLH	**Mauna Loa**		**0.31 292**		Pg	19 58 04.8	+0.3
HTC	**Hot Caves**		**0.33 246**		Pg	19 58 05.8	+1.1
AIN	**Ainahou**		**0.36 270**		Pg	19 58 05.5	+0.3
HMH	**Humu'ula Sheep**		**0.44 301**		Pg	19 58 07.2	+0.3
HMH	**Humu'ula Sheep**		**0.44 301**		Sb	19 58 14.8	-1.5
HMH	**Humu'ula Sheep**		**0.44 301**	IAML		19 58 15.1	
	comp=N,605nm,0.3s						
HMH				IAML		19 58 15.2	
	comp=E,381nm,0.5s						
MLOA	**Mauna Loa Obse**		**0.50 289**		Pg	19 58 08.2	+0.3
MLOA	**Mauna Loa Obse**		**0.50 289**		Sg	19 58 15.8	+1.4
MLOA	**Mauna Loa Obse**		**0.50 289**	IAML		19 58 16.2	
	comp=N,796nm,0.5s						
MLOA				IAML		19 58 16.4	
	comp=E,487nm,0.3s						
MWH	**Moku'aweowe**		**0.50 283**		Pg	19 58 08.3	+0.3
MWH				IAML		19 58 19.8	
	comp=E,437nm,0.4s						
KHU	**Kahuku**		**0.52 256**		Pg	19 58 08.4	0.0
KHU					Sg	19 58 16.3	+1.1
KHU				IAML		19 58 19.7	
	comp=E,278nm,2.5s						
KHU				IAML		19 58 23.9	
	comp=N,302nm,3.7s						
ALEP	**Alea Permanent**		**0.56 287**		Pg	19 58 08.9	-0.3
ALEP					Sg	19 58 17.4	+1.0
POHA	**Pohakuloa**		**0.57 312**		Pg	19 58 09.2	-0.2
POHA				IAML		19 58 23.2	
	comp=N,282nm,0.5s						
POHA				IAML		19 58 25.9	
	comp=N,243nm,0.5s						
HUH	**Hualalai**		**0.78 294**		Pg	19 58 12.9	-0.4
KHLU	**Kahalu`u**		**0.80 286**		Pg	19 58 12.8	-0.9
KHLU				IAML		19 58 25.5	
	comp=E,189nm,3.4s						
KHLU				IAML		19 58 30.2	
	comp=N,210nm,3.4s						

*IDC **07** 20:03:45.1±1.7, 37°.35N×144°.30E, h0km, mb3.5/7, mbtmp3.5/10, ML3.6/3, MS2.6/3, Error ellipse: s-maj=43.9km s-min=21.2km az=71.0*
*JMA **07** 20:03:49.9±0.3, 37°.5N±0°.8×14°.4E±°, h62km, MV3.7/30, FAR E OFF NORTH HONSHU*
*NIED **07** 20:03:49.9, 37°.50N×143°.85E, h62km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.36; $M_{\theta\theta}$0.74; $M_{\phi\phi}$1.62; $M_{r\theta}$0.94; $M_{\theta\phi}$1.08; $M_{\phi r}$1.26; Fault plane solution: $M_0$2.83000×10^{14} NP1: ϕ_s=216.00000°, δ62.00000°, λ-88.00000°. NP2:ϕ_s=32.00000°, δ28.00000°, λ-93.00000°.*

ISC 07 20:03:50.6±1.1, 37°.59N±0°.06×143°.98E±0°.08, h35km, n29, σ2°05/41, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**		**2.11 291**	P	**Pn**	**20 04 23.0**	**-0.4**
JIKH				eS	**Sn**	**20 04 47.4**	**-1.1**
JIO	**Ouri**		**2.25 293**	P	**Pn**	**20 04 25.0**	**-0.3**
JIO				S	**Sn**	**20 04 50.9**	**-0.9**
JKMT	**Kesennumamotoy**		**2.32 302**	P	**Pn**	**20 04 26.1**	**-0.2**
JKMT				S	**Sn**	**20 04 52.4**	**-1.2**
OFUJ	**Ofunato**		**2.35 310**	*i* P	**Pn**	**20 04 26.5**	**-0.2**
JMST	**Minamisoumatoc**		**2.46 274**	P	**Pn**	**20 04 27.0**	**-1.2**
JMST				eS	**Sn**	**20 04 54.6**	**-2.4**
JMK	**Ichinoseki**		**2.56 303**	P	**Pn**	**20 04 29.7**	**+0.1**
JOM	**Ohasama**		**2.82 313**	P	**Pn**	**20 04 33.8**	**+0.5**
JOTO	**OTAMA OYAMA**		**2.90 270**	P	**Pn**	**20 04 34.2**	**-0.1**
JOTO				S	**Sn**	**20 05 06.9**	**-1.0**
JYK	**Kaneyama**		**3.14 296**	P	**Pn**	**20 04 38.0**	**+0.4**
JANG	**Nango**		**3.38 326**	eP	**Pn**	**20 04 40.7**	**-0.2**
JANG				eS	**Sn**	**20 05 18.3**	**-1.4**
BSO1	**Boso 1**		**3.81 221**	eP	**Pn**	**20 04 44.1**	**-2.2**
BSO1				eS	**Sn**	**20 05 26.3**	**-3.3**
JRY	**Ryogami san**		**4.37 250**	P	**Pn**	**20 04 53.1**	**-1.4**
JRY				S	**Sn**	**20 05 39.7**	**-4.5**
JOT	**Ohata**		**4.41 330**	P	**Pn**	**20 04 56.5**	**+1.4**
JOT				eS	**Sn**	**20 05 42.7**	**-2.5**
MJAR	**Matsushiro Arr**		**4.73 259**	Pn	**Pn**	**20 04 59.1**	**-0.4**
	0.5nm,0.3s,baz=90,slow=15,SNR=67						
MJAR				Sn	**Sn**	**20 05 53.3**	**+0.2**
	0.2nm,0.3s,baz=74,slow=24,SNR=6.5						
	2.7nm,0.4s						
JCH	**Churui**		**5.04 355**	P	**Pn**	**20 05 03.5**	**-0.2**
JCH				S	**Sn**	**20 05 58.3**	**-2.3**
JOSM	**Okushiri--Mats**		**5.67 324**	eP	**Pn**	**20 05 13.5**	**+1.2**
NEM2	**Nemuro 2**		**5.92 13**	P	**Pn**	**20 05 14.0**	**-1.7**
NEM2				S	**Sn**	**20 06 17.6**	**-4.7**
JTKR	**Abashiri--Toko**		**6.37 360**	P	**Pn**	**20 05 21.6**	**-0.3**
JTKR				eS	**Sn**	**20 06 30.2**	**-3.2**
ASAJ	**Asahikawa**		**6.60 351**	Pn	**Pn**	**20 05 26.0**	**+0.9**
	3.8nm,0.3s,baz=196,slow=12,SNR=54						
ASAJ				Sn	**Sn**	**20 06 35.3**	**-3.8**
	baz=350,slow=33						
	7.8nm,0.3s						
KSRS	**Korea Array**		**12.75 274**	Pn	**Pn**	**20 06 50.2**	**+0.9**
	0.1nm,0.3s,baz=84,slow=14,SNR=2.8						
	1.0nm,0.9s						
KLR	**Kul'dur**		**14.62 327**	LR	LR	20 12 22.0	
	comp=Z,16nm,19.8s,baz=144,slow=34						
SONM	**Songino Array**		**29.19 303**	LR	LR	20 23 51.3	
	comp=Z,15nm,18.6s,baz=56,slow=41						
ZALV	**Zalesovo Beam**		**43.06 312**	P	**P**	**20 11 49.5**	**+2.8**
	0.4nm,0.5s,baz=92,slow=8.8,SNR=1.3						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**		**43.62 257**	P	**P**	**20 11 53.4**	**+1.6**
	0.3nm,0.6s,baz=46,slow=7.7,SNR=1.7						
CMAR				LR	LR	20 32 36.1	
	comp=Z,8.9nm,21.2s,baz=165,slow=40						
	0.3nm,0.6s						
MKAR	**Makanchi Array**		**45.56 302**	P	**P**	**20 12 10.5**	**+3.6**
	0.5nm,0.8s,baz=93,slow=12,SNR=2.8						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**		**47.27 308**	P	**P**	**20 12 23.7**	**+3.4**
	0.3nm,0.5s,baz=83,slow=9.0,SNR=2.6						
	0.3nm,0.5s						
BVAR	**Borovoye Array**		**51.71 312**	P	**P**	**20 12 54.6**	**+0.5**
	0.2nm,0.4s,baz=70,slow=8.3,SNR=1.4						
	0.2nm,0.4s						
WRA	**Warramunga Arr**		**57.94 191**	P	**P**	**20 13 37.3**	**-2.2**
	0.6nm,0.6s,baz=8.8,slow=7.3,SNR=10						
	0.6nm,0.6s						
ASAR	**Alice Springs**		**61.67 190**	P	**P**	**20 14 03.8**	**-1.2**
	0.4nm,0.7s,baz=5.4,slow=7.8,SNR=6.5						
	0.4nm,0.7s						

*IDC **07** 20:08:17.6±1.7, 43°.95N×105°.60W, h0km, mb4.0/1, mbtmp3.9/3, ML3.5/2, Error ellipse: s-maj=52.9km s-min=8.6km az=148.0*
*NEIC **07** 20:08:18.6±1.0, 43°.68N±0°.04×105°.30W±0°.06, h0km±1km,*

ML2.9/30, Error ellipse: s-maj=9.5km s-min=5.3km az=315.0

ISC 07 20:08:17.1±0.9, 43°.71N±0°.06×105°.28W±0°.06, h0km, n25, σ1°40/24, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**65**	Pg	**Pb**	**20 08 37.7**	**+0.4**
K22A	**Casper**	**1.40**	**221**	Pn	**Pg**	**20 08 43.4**	**-0.5**
K22A				IAML		20 09 06.3	
	comp=E,308nm,0.3s						
PHWY	**Pilot Hill**	**2.41**	**183**		**Pn**	**20 08 59.7**	**+1.6**
PHWY				IAML		20 09 34.6	
	comp=E,60nm,0.7s						
RWWY	**Rawlins**	**2.47**	**216**		**Pn**	**20 08 59.8**	**+0.9**
N23A	**Red Feather La**	**2.86**	**190**	Pn	**Pn**	**20 09 05.0**	**+0.8**
N23A				IAML		20 09 47.4	
	comp=E,58nm,0.8s						
N23A				IAML		20 09 48.4	
	comp=N,53nm,0.4s						
LAO	**LASA Array**	**3.05**	**348**		**Pn**	**20 09 08.2**	**+1.5**
RLMT	**Red Lodge**	**3.19**	**298**		**Pn**	**20 09 10.6**	**+1.9**
RLMT				IAML		20 10 00.4	
	comp=N,40nm,0.3s						
RLMT				IAML		20 10 13.3	
	comp=N,38nm,1.2s						
BRIGG	**Briggsdale**	**3.21**	**167**		**Pn**	**20 09 09.5**	**+0.6**
PD31	**Pinedale Array**	**3.27**	**255**		**Pn**	**20 09 11.2**	**+1.3**
PDAR	**Pinedale Array**	**3.27**	**255**		**Pn**	**20 09 10.6**	**+0.7**
PDAR	**Pinedale Array**	**3.27**	**255**	Pn	**Pn**	**20 09 11.3**	**+1.5**
	comp=N,3.0nm,0.3s,baz=70,slow=17,SNR=40						
PDAR				Lg	Lg	20 09 55.2	
	comp=N,10nm,0.3s,baz=70,slow=34,SNR=7.5						
	comp=N,3.6nm,0.3s						
OGNE	**Ogallala**	**3.66**	**138**	Pn	**Pn**	**20 09 16.3**	**+1.2**
LOHW	**Long Hollow**	**3.87**	**270**	Pn	**Pn**	**20 09 18.8**	**+0.7**
LOHW				IAML		20 10 23.8	
	comp=N,11nm,1.0s						
LOHW				IAML		20 10 39.4	
	comp=N,15nm,1.2s						
ISCO	**Idaho Springs**	**3.91**	**184**	Pn	**Pn**	**20 09 19.3**	**+0.5**
DGMT	**Dagmar**	**4.82**	**9**		**Pn**	**20 09 32.9**	**+1.9**
BOZ	**Bozeman (W)**	**4.91**	**295**		**Pn**	**20 09 33.1**	**+0.8**
BOZ				IAML		20 10 54.8	
	comp=N,11nm,1.2s						
BOZ				IAML		20 10 55.5	
	comp=N,9.6nm,1.2s						
BSUT	**Blindstream Ca**	**5.17**	**234**	Pn	**Pn**	**20 09 35.6**	**-0.4**
SRU	**San Rafael Swe**	**6.05**	**222**		**Pn**	**20 09 49.0**	**+0.9**
S22A	**4UR Ranch, Cre**	**6.07**	**192**	Pn	**Pn**	**20 09 47.6**	**-0.8**
ECSD	**EROS Data Cent**	**6.28**	**87**	Pn	**Pn**	**20 09 53.4**	**+2.5**
DUG	**Dugway, Tooele**	**6.62**	**241**	Pn	**Pn**	**20 09 57.4**	**+1.5**
MVU	**Marysvale**	**7.38**	**228**	Pn	**Pn**	**20 10 08.3**	**+2.0**
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**20 10 28.6**	**-2.0**
	comp=N,2.2nm,0.3s,baz=230,slow=12,SNR=16						
ULM				Lg	Lg	20 13 00.2	
	comp=N,0.2nm,0.3s,baz=293,slow=14,SNR=1.3						
	comp=N,3.3nm,0.3s						
TXAR	**Lajitas Array**	**14.40**	**174**	Lg	Lg	20 15 48.5	
	baz=354,slow=25,SNR=2.4						
ARCES	**ARCESS Array B**	**61.45**	**18**	P	**P**	**20 18 33.7**	**-1.1**
	comp=N,1.6nm,0.8s,baz=341,slow=8.0,SNR=1.5						
	comp=N,1.6nm,0.8s						

*NEIC **07** 20:29:01.4±2.8, 16°.67N±0°.04×95°.19W±0°.05, h101km±11km, mb4.1/24, Md4.6/25(MEX), Error ellipse: s-maj=7.8km s-min=5.2km az=58.0*
*MEX **07** 20:29:02.2±1.1, 16°.70N×95°.21W, h92km±12km, MD4.6*
*IDC **07** 20:29:09.4±1.8, 16°.51N×94°.69W, h0km, mb3.8/3, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=207.5km s-min=28.0km az=63.0*

ISC 07 20:29:00.6±0.7, 16°.72N±0°.04×95°.19W±0°.02, h92km±8km, n90, σ1°86/135, mb4.1/8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.57**	**106**	*e*P	**Pn**	**20 29 16.5**	**+0.5**
NILT				*e*S	**Sn**	**20 29 27.8**	**+0.2**
NEUV	**Arroyo Zacate**	**1.15**	**329**	*i* P	**Pn**	**20 29 22.7**	**+0.5**
NEUV				*e*S	**Sn**	**20 29 39.1**	**+0.6**
UXUV	**UXUV**	**1.16**	**59**	*e*P	**Pn**	**20 29 23.1**	**+0.8**
UXUV				*e*S	**Sn**	**20 29 38.6**	**0.0**
HUIG	**Huatulco**	**1.30**	**223**		**Pn**	**20 29 23.2**	**-0.8**
HUIG					**Sn**	**20 29 41.2**	**-0.4**
HUIG	**Huatulco**	**1.30**	**223**	*i* P	**Pn**	**20 29 23.2**	**-0.8**
HUIG				*e*S	**Sn**	**20 29 41.0**	**-0.5**
CARR	**Arriaga**	**1.31**	**111**	*i* P	**Pn**	**20 29 24.6**	**+0.6**
CARR				*i* S	**Sn**	**20 29 41.5**	**-0.3**
OXLC	**Oaxaca**	**1.49**	**284**	*e*P	**Pn**	**20 29 28.6**	**+2.0**
OXLC				*e*S	**Sn**	**20 29 48.5**	**+2.2**
TUIG	**Tuzandepetl**	**1.50**	**29**	*e*P	**Pn**	**20 29 27.2**	**+0.8**
TUIG				*e*S	**Sn**	**20 29 46.5**	**+0.6**
OXBJ	**Oaxaca**	**1.51**	**283**	*e*P	**Pn**	**20 29 28.6**	**+1.7**
OXBJ				*e*S	**Sn**	**20 29 48.4**	**+1.7**
PANG	**Puerto Angel**	**1.62**	**230**	*e*P	**Pn**	**20 29 26.9**	**-1.1**
PANG				*e*S	**Sn**	**20 29 48.1**	**-0.6**
PMUV	**Sontecomapan**	**1.82**	**2**	*e*P	**Pn**	**20 29 30.6**	**-0.1**
PMUV				*e*S	**Sn**	**20 29 51.3**	**-2.1**
TGIG		**1.98**	**88**		**Pn**	**20 29 33.4**	**+0.7**
TGIG					**Sn**	**20 29 56.4**	**-0.7**
TGIG		**1.98**	**88**	*e*P	**Pn**	**20 29 33.4**	**+0.7**
TGIG				*e*S	**Sn**	**20 29 56.4**	**-0.7**
TGBT	**Tuxtla Gutierr**	**2.01**	**88**	*e*P	**Pn**	**20 29 34.1**	**+1.1**
TGBT				*e*S	**Sn**	**20 29 56.9**	**-0.8**
PEIG	**Puerto Escondi**	**2.02**	**249**		**Pn**	**20 29 32.2**	**-0.9**
PEIG	**Puerto Escondi**	**2.02**	**249**	*e*P	**Pn**	**20 29 32.2**	**-0.9**
PEIG				*e*S	**Sn**	**20 29 58.0**	**0.0**
PCIG		**2.14**	**118**	*e*P	**Pn**	**20 29 35.9**	**+1.2**
PCIG				*e*S	**Sn**	**20 30 01.7**	**+0.9**
TOIG	**Toxpalan**	**2.26**	**308**		**Pn**	**20 29 38.6**	**+2.2**
TOIG	**Toxpalan**	**2.26**	**308**	*i* P	**Pn**	**20 29 38.5**	**+2.2**
TOIG				*e*S	**Sn**	**20 30 06.0**	**+2.2**
YOIG	**Yosondua**	**2.27**	**274**	*e*P	**Pn**	**20 29 37.6**	**+1.0**
YOIG				*e*S	**Sn**	**20 30 02.8**	**-1.4**
TXIG	**Tlaxiaco**	**2.53**	**282**		**Pn**	**20 29 42.0**	**+1.9**
TXIG	**Tlaxiaco**	**2.53**	**282**	*e*P	**Pn**	**20 29 42.0**	**+1.9**
TXIG				*e*S	**Sn**	**20 30 05.6**	**-4.8**
HLIG	**Huajuapan de L**	**2.73**	**294**	*i* P	**Pn**	**20 29 45.2**	**+2.4**
HLIG				*e*S	**Sn**	**20 30 15.2**	**-0.1**
PNIG	**Pinotepa**	**2.84**	**264**		**Pn**	**20 29 44.0**	**-0.1**
PNIG	**Pinotepa**	**2.84**	**264**	*e*P	**Pn**	**20 29 44.0**	**-0.1**
CCIG	**Comitan**	**2.96**	**98**	Pn	**Pn**	**20 29 46.7**	**+0.9**
CCIG	**Comitan**	**2.96**	**98**	*e*P	**Pn**	**20 29 46.8**	**+1.0**
CCIG				*e*S	**Sn**	**20 30 21.6**	**+1.1**
JAUV	**Jalcomulco**	**3.05**	**330**	*e*P	**Pn**	**20 29 46.6**	**-0.3**
JAUV				*e*S	**Sn**	**20 30 20.5**	**-2.1**
LVIG	**Laguna Verde**	**3.21**	**339**	*e*P	**Pn**	**20 29 48.0**	**-1.0**
LVIG				*e*S	**Sn**	**20 30 21.8**	**-4.5**
PATR	**El Naranjo**	**3.25**	**119**	*e*P	**Pn**	**20 29 51.4**	**+1.5**
PATR				*e*S	**Sn**	**20 30 30.0**	**+2.1**
PAVE	**Pavencul**	**3.27**	**117**	*e*P	**Pn**	**20 29 51.8**	**+1.8**
PAVE				*e*S	**Sn**	**20 30 29.2**	**+1.1**
THIG		**3.34**	**122**	*e*P	**Pn**	**20 29 53.0**	**+2.3**
THIG				*e*S	**Sn**	**20 30 29.2**	**-0.2**
TLIG	**Tlapa**	**3.34**	**285**	Pn	**Pn**	**20 29 52.9**	**+2.0**
TLIG				Sn	**Sn**	**20 30 28.9**	**-0.8**
TLIG	**Tlapa**	**3.34**	**285**	*i* P	**Pn**	**20 29 53.0**	**+2.1**
TLIG				*e*S	**Sn**	**20 30 29.6**	**-0.1**
CHUJ	**Union Juarez**	**3.37**	**118**	*e*P	**Pn**	**20 29 53.1**	**+1.7**
CHUJ				*e*S	**Sn**	**20 30 32.4**	**+1.8**
HUEH	**Huehuetenango**	**3.81**	**111**		**Pn**	**20 29 58.3**	**+1.0**
HUEH				Sn	**Sn**	**20 30 40.6**	**-0.6**
RTAL	**Retalhuleu**	**4.01**	**123**	Pn	**Pn**	**20 30 01.6**	**+1.8**
RTAL				Sn	**Sn**	**20 30 45.4**	**-0.4**
PPM	**Popocatepetl**	**4.02**	**306**	*e*P	**Pn**	**20 30 04.9**	**+4.4**
PPM				*e*S	**Sn**	**20 30 50.6**	**+3.8**
CXUV	**Coxquihui**	**4.12**	**327**	*e*P	**Pn**	**20 30 02.2**	**+0.7**
CXUV				*e*S	**Sn**	**20 30 48.0**	**-0.6**
YAIG	**Yautepec**	**4.27**	**301**	*e*P	**Pn**	**20 30 06.9**	**+3.4**
YAIG				*e*S	**Sn**	**20 30 51.4**	**-0.9**
DAIG	**Los Arroyos**	**4.29**	**275**	*e*P	**Pn**	**20 30 04.1**	**+0.5**
DAIG				*e*S	**Sn**	**20 30 49.7**	**-2.8**
MEIG	**Mezcala**	**4.40**	**286**	*e*P	**Pn**	**20 30 07.6**	**+2.3**
MEIG				*e*S	**Sn**	**20 30 54.3**	**-1.2**
SCIG	**Sabancuy**	**4.42**	**59**	*i* P	**Pn**	**20 30 04.6**	**-0.7**
SCIG				*e*S	**Sn**	**20 30 51.4**	**-4.2**
PLIG	**Platanillo**	**4.44**	**293**	*e*P	**Pn**	**20 30 08.7**	**+2.9**
PLIG				*e*S	**Sn**	**20 30 54.9**	**-1.5**
CAIG	**El Cayaco**	**4.88**	**275**	*i* P	**Pn**	**20 30 12.2**	**+0.6**
CAIG				*e*S	**Sn**	**20 31 02.8**	**-4.0**
PETF	**Flores**	**5.10**	**87**	Pn	**Pn**	**20 30 14.6**	**0.0**
PETF				Sn	**Sn**	**20 31 09.2**	**-3.0**
DEIG	**Demacu**	**5.10**	**315**	*e*P	**Pn**	**20 30 18.7**	**+3.8**
DEIG				*e*S	**Sn**	**20 31 19.3**	**+6.6**
ARIG	**Puente Sto Nin**	**5.17**	**288**	*i* P	**Pn**	**20 30 18.4**	**+2.9**
ARIG				*e*S	**Sn**	**20 31 10.5**	**-3.5**
MTO3	**Montecristo**	**6.07**	**112**	Pn	**Pn**	**20 30 27.4**	**-0.6**
ZIIG	**Zihuatanejo**	**6.07**	**279**	*e*P	**Pn**	**20 30 29.5**	**+1.7**
ZIIG				*e*S	**Sn**	**20 31 34.8**	**-1.1**
MYIG	**Mrida**	**6.66**	**50**	*e*P	**Pn**	**20 30 34.5**	**-1.3**
MYIG				*e*S	**Sn**	**20 31 47.2**	**-3.1**
GTIG	**Gomez Farias**	**7.34**	**330**	*e*P	**Pn**	**20 30 45.8**	**+0.6**
GTIG				*e*S	**Sn**	**20 32 06.5**	**-0.5**
TEIG	**Tepich**	**7.42**	**61**	Pn	**Pn**	**20 30 44.8**	**-1.5**
LNIG	**Linares**	**9.07**	**335**	*e*P	**Pn**	**20 31 11.8**	**+3.1**
LNIG				*e*S	**Sn**	**20 32 46.0**	**-3.0**
ORTG	**Ortega, Santa**	**11.37**	**123**	Pn	**Pn**	**20 31 41.1**	**+1.0**
DUNO	**Dulce Nombre,**	**11.51**	**124**	Pn	**Pn**	**20 31 43.2**	**+1.3**
833A	**Chaparral WMA,**	**12.19**	**342**	Pn	**Pn**	**20 31 53.3**	**+2.3**
SOR	**Soroa**	**12.95**	**60**	Pn	**Pn**	**20 32 00.5**	**-0.8**
RIMA	**Rio Macho**	**13.00**	**121**	Pn	**Pn**	**20 32 02.0**	**-0.2**
DRIO	**Del Rio**	**13.59**	**339**	Pn	**Pn**	**20 32 11.2**	**+1.6**
435B	**Jarrell**	**14.17**	**352**		**P**	**20 32 20.7**	**-1.0**
JCT	**Junction City**	**14.33**	**344**		**P**	**20 32 23.1**	**-0.5**
TXAR	**Lajitas Array**	**14.78**	**330**	Pn	P	20 32 48.1	+20
	0.1nm,0.3s,baz=145,slow=14,SNR=8.3						
	0.7nm,0.6s						
BRDY	**Brady**	**14.91**	**347**		**P**	**20 32 31.0**	**+1.0**
WHTX	**Lake Whitney,**	**15.34**	**353**		**P**	**20 32 35.2**	**+0.5**
FW13	**Cleburne**	**15.70**	**353**	P	**P**	**20 32 40.7**	**+2.0**
FW13				IAmb	IAmb	20 32 44.2	
	comp=Z,27nm,0.7s						
ABTX	**Abilene, Hawle**	**16.34**	**347**		**P**	**20 32 47.1**	**+1.3**
Z38A	**Mt. Pleasant**	**16.47**	**1**		**P**	**20 32 47.6**	**+0.4**
X37A	**Clayton**	**17.80**	**359**		**Pn**	**20 33 03.3**	**+1.0**
MIAR	**Mount Ida**	**17.81**	**4**		**Pn**	**20 33 02.8**	**+0.3**
MIAR				IAmb	IAmb	20 33 03.9	
	comp=Z,9.1nm,1.0s						
LRAL	**Lakeview Retre**	**17.85**	**23**		**P**	**20 33 02.8**	**+0.3**
WMOK	**Wichita Mounta**	**18.23**	**350**		**Pn**	**20 33 07.6**	**0.0**
W35A	**Tecumseh**	**18.42**	**356**	P	**Pn**	**20 33 09.3**	**-0.5**
W35A				IAmb	IAmb	20 33 21.5	
	comp=Z,12nm,0.7s						
WHAR	**Wooly Hollow**	**18.68**	**7**	P	**P**	**20 33 11.9**	**+0.5**
Y49A	**Blount Mountai**	**18.80**	**23**	P	**P**	**20 33 11.4**	**-1.5**
Y49A				IAmb	IAmb	20 33 34.2	
	comp=Z,12nm,1.1s						
FCAR	**Ozark Folk Cen**	**19.29**	**8**	P	**P**	**20 33 18.2**	**+0.1**
FCAR				IAmb	IAmb	20 33 20.1	
	comp=Z,9.4nm,0.8s						
LCAR	**Lake Charles**	**19.60**	**10**	P	**P**	**20 33 21.7**	**+0.2**
LCAR				IAmb	IAmb	20 33 23.0	
	comp=Z,8.0nm,1.0s						
FPAL	**Fort Paine**	**19.71**	**24**	P	**P**	**20 33 21.9**	**-1.0**
FPAL				IAmb	IAmb	20 33 42.4	
	comp=Z,12nm,1.3s						
T35A	**Sooner Cattle**	**20.15**	**357**	P	**P**	**20 33 28.1**	**+0.5**
T35A				IAmb	IAmb	20 33 43.8	
	comp=Z,14nm,0.8s						
WVT	**Waverly**	**20.41**	**17**	P	**P**	**20 33 29.5**	**-0.8**
MGMO	**Mountain Grove**	**20.52**	**7**	P	**P**	**20 33 32.4**	**+0.9**
CPCT	**Cooper Cave**	**20.94**	**25**	P	**P**	**20 33 34.2**	**-1.8**
BG3	**Lake Jocassee**	**21.24**	**29**	P	**P**	**20 33 37.8**	**-1.5**
BG3				IAmb	IAmb	20 33 55.5	
	comp=Z,12nm,1.0s						
TKL	**Tuckaleechee C**	**21.43**	**26**	P	**P**	**20 33 39.3**	**-1.9**
TKL				IAmb	IAmb	20 33 48.2	
	comp=Z,13nm,1.2s						
CCM	**Cathedral Cave**	**21.54**	**8**	P	**P**	**20 33 41.6**	**-0.8**
CCM				IAmb	IAmb	20 33 43.3	
	comp=Z,4.1nm,0.5s						
R40A	**Maddies Statio**	**21.64**	**6**	P	**P**	**20 33 42.8**	**-0.7**
R40A				IAmb	IAmb	20 33 45.8	
	comp=Z,6.6nm,0.7s						
V52A	**Sevierville**	**21.66**	**26**	P	**P**	**20 33 43.5**	**-0.2**
V52A				IAmb	IAmb	20 34 09.3	
	comp=Z,17nm,1.5s						
NVAR	**Mina Array Bea**	**29.64**	**321**	P	**pP**	**20 35 20.9**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=135,slow=9.9,SNR=4.6						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**59.15**	**337**	P	**pP**	**20 39 14.5**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=117,slow=5.2,SNR=4.5						
	comp=Z,0.5nm,0.8s						
PLCA	**Paso Flores**	**61.57**	**159**	P	**pP**	**20 39 26.1**	**-5.3**
	comp=Z,4.2nm,1.0s,baz=270,slow=9.1,SNR=4.0						
	comp=Z,4.2nm,1.0s						

IDC 07 20:31:23.8±2.0, 32°.75S×178°.58W, h0km, mb3.8/3, mbtmp3.9/4, ML4.0/1, MS3.2/1, Error ellipse: s-maj=46.5km s-min=36.6km az=68.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.53**	**211**	Pn	Pn	20 32 58.9	-2.1
	3.5nm,0.3s,baz=343,slow=3.3,SNR=18						
URZ				Sn	Sn	20 34 11.6	-4.6
	3.6nm,0.3s,baz=269,slow=16,SNR=7.4						
	5.7nm,0.3s						
DZM	**Mont Dzumac**	**17.01**	**305**	LR	LR	20 41 10.7	
	comp=Z,68nm,18.4s,baz=96,slow=34						
ASAR	**Alice Springs**	**42.55**	**270**	P	P	20 39 21.4	0.0
	0.7nm,0.7s,baz=108,slow=7.5,SNR=8.4						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**43.75**	**275**	P	P	20 39 31.4	+0.3
	1.2nm,0.5s,baz=114,slow=7.7,SNR=19						
	1.2nm,0.5s						
QSPA	**South Pole Qui**	**57.37**	**180**	P	P	20 41 14.3	+0.6
	1.5nm,1.1s,baz=316,slow=3.8,SNR=2.4						
	1.5nm,1.1s						
FINES	**FINESS Array B**	**147.16**	**338**	PKPbc	PKPdf	20 51 06.8	+0.9
	7.0nm,1.2s,baz=48,slow=2.8,SNR=9.8						

IDC 07 21:12:18.1±2.3, 12°.54N×91°.64E, h0km, mb3.5/4, mbtmp3.4/5, ML3.1/1, MS3.4/1, Error ellipse: s-maj=68.5km s-min=25.7km az=71.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.17**	**49**	Pn	Pn	21 14 31.9	+0.2
	0.1nm,0.3s,baz=236,slow=14,SNR=2.9						
	0.3nm,0.5s						
H08S3	**Diego Garcia H**	**27.64**	**225**	T	T	21 47 36.2	
	baz=44,slow=76,SNR=36						
H08S2	**Diego Garcia H**	**27.65**	**224**	T	T	21 47 38.1	
	baz=44,slow=76,SNR=28						
H08S1	**Diego Carcia H**	**27.66**	**225**	T	T	21 47 36.2	
	baz=44,slow=76,SNR=25						
MKAR	**Makanchi Array**	**35.04**	**349**	P	P	21 19 13.0	+0.4
	0.4nm,0.8s,baz=163,slow=10,SNR=1.6						
	0.4nm,0.8s						
SONM	**Songino Array**	**37.28**	**16**	P	P	21 19 31.0	-0.9
	0.2nm,0.3s,baz=202,slow=7.3,SNR=1.6						
	0.2nm,0.3s						
KLR	**Kul'dur**	**49.27**	**34**	LR	LR	21 43 27.7	
	comp=Z,36nm,20.0s,baz=356,slow=38						
WRA	**Warramunga Arr**	**52.99**	**127**	P	P	21 21 36.7	-0.3
	0.4nm,0.7s,baz=300,slow=10.0,SNR=4.8						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**54.80**	**131**	P	P	21 21 50.5	+0.2
	0.7nm,0.7s,baz=308,slow=6.8,SNR=12						
	0.7nm,0.7s						
H04N2	**CROZET ISLANDS**	**68.54**	**209**	T	T	22 38 41.9	
	baz=43,slow=75,SNR=26						
H04N1	**CROZET ISLANDS**	**68.54**	**209**	T	T	22 38 47.7	
	baz=43,slow=75,SNR=23						
H04N3	**CROZET ISLANDS**	**68.56**	**209**	T	T	22 38 42.8	
	baz=43,slow=75,SNR=25						

*SNET **07** 21:24:07.9±2.4, 13°.54N×90°.46W, h13km, ML4.3*
*NEIC **07** 21:24:08.8±2.4, 13°.53N±0°.08×90°.54W±0°.05, h58km±13km, mb4.1/16, Error ellipse: s-maj=11.6km s-min=6.1km az=201.0*
*GCG **07** 21:24:09.1±0.3, 13°.71N×90°.47W, h76km±12km, MD4.1*
*IDC **07** 21:24:10.6±8.7, 13°.80N×90°.01W, h75km±63km, mb3.4/5, mbtmp3.7/7, ML4.4/2, MS3.6/6, Error ellipse: s-maj=59.9km s-min=31.8km az=4.0*

ISC 07 21:24:08.7±1.0, 13°.57N±0°.06×90°.49W±0°.04, h62km±9km, n80, σ1°12/87, mb4.1/10, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.83**	**352**	*i* P	**Pn**	**21 24 25.2**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.83**	**56**	*e*P	**Pn**	**21 24 24.1**	**-0.6**
SLOZ				*e*S	**Sn**	**21 24 36.4**	**-0.2**
CEVE	**Cerro Verde**	**0.89**	**73**	*e*P	**Pn**	**21 24 24.9**	**-0.7**
CEVE				*e*S	**Sn**	**21 24 38.0**	**-0.1**
RTR	**El Retiro**	**0.89**	**68**	*i*/*e*P	**Pn**	**21 24 25.2**	**-0.4**
SNJE	**San Jose**	**0.91**	**71**	*i* P	**Pn**	**21 24 25.3**	**-0.6**
SNJE				*e*P		21 24 25.4	
FUG	**Fuego 3**	**0.94**	**339**	*i* P	**Pn**	**21 24 26.4**	**+0.1**
JAYA	**Jayaque - finc**	**1.02**	**85**	*e*P	**Pn**	**21 24 26.2**	**-1.1**
JAYA				*e*S	**Sn**	**21 24 39.8**	**-1.3**
NBG	**Las Nubes**	**1.03**	**8**	*i* P	**Pn**	**21 24 29.2**	**+1.7**
NBG				*i* S	**Sn**	**21 24 41.8**	**+0.5**
CEDA	**San Andres**	**1.09**	**77**	*e*P	**Pn**	**21 24 27.4**	**-0.7**
LALI	**Alcaldia de L**	**1.14**	**94**	*e*P	**Pn**	**21 24 28.1**	**-0.7**
BOQS	**Boqueron**	**1.19**	**82**	*e*P	**Pn**	**21 24 29.3**	**-0.3**
UEES	**Universidad Ev**	**1.23**	**83**	*e*P	**Pn**	**21 24 29.7**	**-0.3**
UEES				*e*S	**Sn**	**21 24 46.0**	**+0.2**
SNET	**Serv Nac Est T**	**1.23**	**84**	Pn	**Pn**	**21 24 29.4**	**-0.6**
SNET				Sn	**Sn**	**21 24 45.8**	**-0.1**
SNET	**Serv Nac Est T**	**1.23**	**84**	*e*P	**Pn**	**21 24 29.4**	**-0.6**
SNET				*e*S	**Sn**	**21 24 45.7**	**-0.1**
SULM	**Suchitepequez,**	**1.27**	**305**	*i* P	**Pn**	**21 24 30.6**	**+0.2**
SULM				*i* S	**Sn**	**21 24 47.3**	**+0.6**
LFU	**La Fuente**	**1.35**	**82**	*e*P	**Pn**	**21 24 31.8**	**+0.2**
MTO3	**Montecristo**	**1.38**	**53**		**Pn**	**21 24 32.2**	**+0.1**
MTO3				Sn	**Sn**	**21 24 51.2**	**+1.7**
MTO3	**Montecristo**	**1.38**	**53**	*e*P	**Pn**	**21 24 32.2**	**+0.1**
LFRS	**El Faro**	**1.39**	**87**	*e*P	**Pn**	**21 24 32.3**	**+0.1**
SJTE	**Alcalda de S**	**1.45**	**88**	*e*P	**Pn**	**21 24 33.1**	**+0.2**
ESQI	**Esquipulas**	**1.49**	**48**		**Pn**	**21 24 34.0**	**+0.5**
ESQI	**Esquipulas**	**1.49**	**48**	*e*P	**Pn**	**21 24 34.0**	**+0.5**
RTAL	**Retalhuleu**	**1.51**	**309**		**Pn**	**21 24 32.6**	**-1.0**
RTAL				Sn	**Sn**	**21 24 50.9**	**-1.3**
RTAL	**Retalhuleu**	**1.51**	**309**	*e*P	**Pn**	**21 24 33.0**	**-0.6**
RTAL				*e*S	**Sn**	**21 24 51.0**	**-1.3**
PAVA	**Las Pavas**	**1.52**	**84**	*e*P	**Pn**	**21 24 34.0**	**+0.1**
STG3	**Santiaguito 3,**	**1.54**	**318**	*i* P	**Pn**	**21 24 34.4**	**+0.1**
COEG	**Centro de Oper**	**1.57**	**88**	*e*P	**Pn**	**21 24 34.6**	**+0.1**
TECO	**Alcaldia de Te**	**1.67**	**91**	*e*P	**Pn**	**21 24 35.7**	**-0.1**
TECA	**Tecapa**	**1.94**	**92**	*e*P	**Pn**	**21 24 39.6**	**0.0**
HUEH	**Huehuetenango**	**2.00**	**331**	Pn	**Pn**	**21 24 41.2**	**+0.8**
PACA	**Pacayal**	**2.11**	**92**	*e*P	**Pn**	**21 24 42.7**	**+0.8**
LCND	**La Caada**	**2.55**	**95**	*e*P	**Pn**	**21 24 47.3**	**-0.4**
LCND				*e*S	**Sn**	**21 25 19.3**	**+1.7**
CNCH	**Conchagua**	**2.60**	**96**	*e*P	**Pn**	**21 24 49.0**	**+0.4**
TGUH	**Tegucigalpa,Un**	**3.17**	**81**	Pn	**Pn**	**21 24 55.9**	**-0.4**
PETF	**Flores**	**3.39**	**10**		**Pn**	**21 25 00.8**	**+1.6**
CRIN	**San Cristobal**	**3.46**	**104**	Pn	**Pn**	**21 25 00.6**	**+0.3**
CNGN	**Cerro Negro**	**3.85**	**106**	Pn	**Pn**	**21 25 04.0**	**-1.5**
MATN	**Matagalpa**	**4.49**	**98**		**Pn**	**21 25 12.3**	**-2.1**
BOAB	**BOACO BROADBAN**	**4.83**	**103**	Pn	**Pn**	**21 25 17.3**	**-1.7**
ACON	**Acoyapa**	**5.43**	**106**	Pn	**Pn**	**21 25 26.3**	**-0.8**
ORTG	**Ortega, Santa**	**5.87**	**122**	Pn	**Pn**	**21 25 33.6**	**+0.4**
DUNO	**Dulce Nombre,**	**6.00**	**125**	Pn	**Pn**	**21 25 35.5**	**+0.5**
ARE1	**Arenal 1**	**6.44**	**118**	Pn	**Pn**	**21 25 41.5**	**+0.5**
TEIG	**Tepich**	**6.96**	**17**	Pn	**Pn**	**21 25 45.8**	**-2.3**
TEIG	**Tepich**	**6.96**	**17**	P	**Pn**	**21 25 44.3**	**-3.7**
	11nm,0.3s,baz=190,slow=17,SNR=2.1						
TEIG				S	**Sn**	**21 27 00.8**	**-5.0**
	101nm,0.5s,baz=187,slow=22,SNR=0.8						
TEIG				LR	LR	21 28

1.4nm,0.8s
QSPA **South Pole Qui** 68.28 180 P P 21 48 01.2 0.0
1.2nm,0.7s,baz=281,slow=4.1,SNR=4.1
1.2nm,0.7s
MKAR **Makanchi Array** 69.36 10 P P 21 48 08.3 +0.4
0.8nm,0.9s,baz=221,slow=11,SNR=3.8
0.8nm,0.9s
BRTR **Keskin Array B** 69.58 332 P P 21 48 10.0 +0.4
0.5nm,0.7s,baz=150,slow=6.1,SNR=2.9
0.5nm,0.7s
KURBB **Kurchatov Arra** 72.63 6 P P 21 48 27.1 -0.5
0.8nm,0.2s,baz=162,slow=16,SNR=6.0
0.8nm,0.2s
BVAR **Borovoye Array** 74.56 1 P P 21 48 39.4 +0.5
0.4nm,0.7s,baz=184,slow=5.5,SNR=2.5
0.4nm,0.7s
TORD **Torodi Ar. Bea** 74.60 291 P P 21 48 39.8 -0.2
0.6nm,1.0s,baz=206,slow=16,SNR=2.1
0.6nm,1.0s
ZALV **Zalesovo Beam** 76.70 10 P P 21 48 50.3 -0.8
1.0nm,0.7s,baz=178,slow=4.5,SNR=3.8
1.0nm,0.7s
MJAR **Matsushiro Arr** 87.34 49 LR LR 22 26 18.8
comp=Z,16nm,21.1s,baz=228,slow=34
KLR **Kul'dur** 90.02 36 LR LR 22 30 29.6
comp=Z,18nm,19.2s,baz=68,slow=36

---

*IDC **07** 21:53:27.8±3.0,27°.88N×139°.84E,h510km±39km,mb3.0/5, mbtmp3.8/6,Error ellipse: s-maj=78.2km s-min=18.2km az=76.0*
*JMA **07** 21:53:28.7±0.3,28°N±2°×14°0E±°,h510km,MV3.6/17,W OFF OGASAWARA*
ISC 07 21:53:27.3±1.0,27°.8N±0°.1×139°.9E±0°.2,h500km,n13, σ1§50/14,mb3.3/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	2.17	109	P	P	21 54 34.5	+1.2
CBIJ				S	S	21 55 26.6	-0.4
JIE	**Ise**	7.10	338	eP	P	21 55 16.9	+2.5
JKN2	**Miekihoku**	7.11	335	eP	P	21 55 16.7	+2.2
JNY	**Yasuok**	7.72	348	P	P	21 55 23.5	+2.8
JHU	**Hanno**	8.03	357	P	P	21 55 24.0	+0.1
JAG	**Ashikaga**	8.60	358	P	P	21 55 29.3	-0.5
JHO	**Hitachi**	8.79	4	P	P	21 55 32.6	+0.8
MJAR	**Matsushiro Arr**	8.82	351	P	P	21 55 31.7	-0.4
	0.5nm,0.3s,baz=168,slow=9.5,SNR=4.8						
WRA	**Warramunga Arr**	47.77	187	P	P	22 01 18.9	+0.1
	0.3nm,0.5s,baz=4.1,slow=7.7,SNR=11						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	48.44	309	P	P	22 01 22.2	-1.3
	1.4nm,1.2s,baz=90,slow=9.3,SNR=1.6						
	1.4nm,1.2s						
KURBB	**Kurchatov Arra**	51.07	314	P	P	22 01 42.1	-0.7
	0.5nm,0.4s,baz=89,slow=7.6,SNR=5.5						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	56.12	317	P	P	22 02 18.1	-0.6
	1.0nm,0.4s,baz=82,slow=7.1,SNR=10.0						
	1.0nm,0.4s						
FINES	**FINESS Array B**	76.39	333	P	P	22 04 23.5	-0.9
	2.5nm,1.0s,baz=67,slow=4.4,SNR=9.3						
	2.5nm,1.0s						

---

*IDC **07** 21:56:43.9±1.8,1°.75N×126°.69E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=162.4km s-min=22.3km az=66.0*
*DJA **07** 21:56:49.8±0.4,2°N±5°×12°6E±°,h10km,M3.2/6,MLv3.2/6*
ISC 07 21:56:51.0±1.3,1°.8N±0°.2×126°.4E±0°.1,h47km,n7,σ1§78/8, mb3.5/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	1.36	137	P	Pn	21 57 13.2	-0.4
TNTI				S	Sn	21 57 32.4	+2.0
LBMI	**Labuha**	2.62	156	P	Pn	21 57 31.8	+0.9
GTOI	**Gorontalo**	3.61	252	P	Pn	21 57 44.8	+0.4
WRA	**Warramunga Arr**	22.93	161	P	P	22 01 48.4	-2.9
	0.8nm,0.4s,baz=340,slow=11,SNR=29						
	0.8nm,0.4s						
ASAR	**Alice Springs**	26.31	164	P	P	22 02 21.0	-1.4
	0.3nm,0.5s,baz=346,slow=7.9,SNR=9.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	59.00	326	P	P	22 06 46.6	+0.7
	0.2nm,0.5s,baz=131,slow=7.9,SNR=4.1						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	63.23	328	P	P	22 07 14.8	+0.4
	0.3nm,0.3s,baz=124,slow=5.5,SNR=2.1						
	0.3nm,0.3s						

HEL 07 22:05:11.0±0.3,67°.18N×20°.65E,h0km,ML1.3, Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	0.87	135	PG	Pg	22 05 26.4	-1.3
ERTU				SB	Sg	22 05 38.7	-0.2
PAJU	**Pajala**	0.97	98	PG	Pg	22 05 28.6	-1.1
PAJU				SB	Sg	22 05 41.7	-0.6
KLF	**Kolari**	1.29	86	PG	Pg	22 05 33.9	-1.8
KLF				MSG		22 05 50.1	
	comp=Z,1.4nm,0.2s						
KLF				SB	Sg	22 05 51.2	-1.2
HEF	**Hetta**	1.69	41	eP	Pn	22 05 40.6	-1.0
HEF	**Hetta**	1.69	41	PG	Pn	22 05 41.2	-0.5
	baz=229						
HEF				MSG		22 06 01.3	
	comp=Z,1.9nm,0.2s						
HEF				SG	Sn	22 06 02.8	-1.1
KALU	**Kalix**	1.71	139	PG	Pn	22 05 41.7	-0.2
	baz=320						
KALU				SN	Sb	22 06 05.0	-0.2
TOF	**Tornio**	1.83	125	PG	Pn	22 05 44.0	+0.3
TOF				MSG		22 06 05.7	
	comp=Z,1.5nm,0.2s						
TOF				SG	Sb	22 06 08.2	-0.6
KIF	**Kilpisjarvi**	1.84	2	eP	Pn	22 05 44.3	+0.6
KIF	**Kilpisjarvi**	1.84	2	PG	Pn	22 05 44.3	+0.6
KIF				MSG		22 06 07.0	
	comp=Z,2.4nm,0.2s						
KIF				SG	Sg	22 06 09.5	-0.5
KTK1	**Kautokeino**	2.08	27	PG	Pn	22 05 48.3	+1.1
KTK1				SG	Sb	22 06 15.9	-0.2
RNF	**Rovaniemi**	2.19	103	PG	Pn	22 05 49.3	+0.7
RNF				SG	Sb	22 06 18.4	-0.6
SGF	**Sodankyl**	2.29	81	PG	Pn	22 05 51.4	+1.3
SGF				SG	Sb	22 06 21.0	-1.0
ARA0	**ARCESS Array S**	2.98	35	PN	Pn	22 05 59.7	+0.3
ARA0				SG	Sb	22 06 40.5	-1.2
KEV	**Kevo**	3.49	39	SN	Sn	22 06 48.0	-0.4
VRF	**Varrio**	3.50	76	SG	Sb	22 06 56.8	+0.1

HEL 07 22:06:37.7±0.1,61°.13N×21°.45E,h0km,ML0.7, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	0.18	124	eP	Pg	22 06 40.5	-0.7
RAF				eS	Sg	22 06 43.3	-0.2
KPF	**Kankaanpaa**	0.77	22	eP	Pg	22 06 51.3	-1.2
KPF				eS	Sg	22 07 00.9	-1.5
AAL	**Aland**	1.19	218	eS	Sg	22 07 14.4	-1.5
NUR	**Nurmijrvi**	1.69	110	ePN	Pn	22 07 08.5	+0.2
NUR				MSG		22 07 35.1	
	comp=Z,0.5nm,0.1s						
MEF	**Metsahovi**	1.71	121	ePN	Pn	22 07 08.7	-0.1
MEF				eS	Sn	22 07 31.0	-0.3
MEF				MSG		22 07 35.1	
	comp=Z,0.3nm,0.1s						
KEF	**Keuruu**	1.94	56	eSG	Sb	22 07 37.8	-0.8
VAF	**Ylistaro**	2.01	16	eSG	Sb	22 07 40.4	-0.1
VAF				MSG		22 07 43.3	
	comp=Z,0.3nm,0.1s						
NRTU	**Norrtaelje**	2.02	225	ePB	Pn	22 07 13.0	0.0
NRTU				eSG	Sn	22 07 39.7	+0.9
ARNU	**Arnoeviken**	2.04	288	ePB	Pn	22 07 13.3	+0.1
ARNU				eSB	Sn	22 07 39.6	+0.3
HEMU	**Hemsoen**	2.24	315	SN	Pn	22 07 16.9	+0.8
HEMU	**Hemsoen**	2.24	315	ePB	Pn	22 07 16.9	+0.8
HEMU				eSG	Sb	22 07 46.7	-0.6
FIA0	**FINESS Array S**	2.26	80	ePG	Pb	22 07 17.9	-1.4
FIA0				eSG	Sb	22 07 47.5	-0.2
FIA0				MSG		22 07 49.5	
	comp=Z,0.2nm,0.1s						

---

*IDC **07** 22:20:34.3±2.8,8°.31S×118°.65E,h166km±26km,mb3.5/5, mbtmp3.9/7,Error ellipse: s-maj=39.8km s-min=13.4km az=50.0*
*DJA **07** 22:20:34.9±0.4,8°S±5°×11°9E±°,h155km±5km,M4.0/11, mb4.0/2,mB4.6/2,MLv4.0/11,Mw(mB)3.8/2*
ISC 07 22:20:34.0±0.7,8°.28S±0°.07×118°.65E±0°.04,h152km,n28, σ1§52/33,mb3.9/5,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	1.02	238	P	Pn	22 21 01.1	+2.0
PLAI	**Plampang**	1.02	238	P	Pn	22 21 01.2	+2.1
PLAI				S	Sn	22 21 20.0	+1.8
TWSI	**Taliwang, Sumb**	1.80	255	P	Pn	22 21 08.0	+1.0
TWSI				S	Sn	22 21 34.1	+1.8
BASI	**Baing, Sumba**	2.71	135	P	Pn	22 21 18.7	+1.0
BASI				S	Sn	22 21 53.5	+1.9
BKSI	**Bulukumba**	3.29	27	P	Pn	22 21 27.4	+2.3
SRBI	**Singaraja**	3.41	273	P	Pn	22 21 27.9	+1.3
DNP	**Denpasar**	3.42	263	P	Pn	22 21 26.6	-0.2
IGBI	**Denpasar**	3.50	261	P	Pn	22 21 29.5	+1.7
MMRI	**Maumere**	3.57	96	P	Pn	22 21 30.5	+1.8
JAGI	**Jajag, Banyuwa**	4.45	267	P	Pn	22 21 40.1	-0.1
BATI	**Baumata**	5.31	111	P	Pn	22 21 52.3	+0.8
	28nm,0.8s,1μm0.2nm						
BATI	**Baumata**	5.31	111	P	Pn	22 21 52.6	+1.0
	19nm,0.3s,baz=277,slow=19,SNR=7.7						
BATI				S	Sn	22 22 52.1	0.0
	46nm,0.4s,baz=236,slow=24,SNR=16						
SOEI	**Soe**	5.74	105	P	Pn	22 22 00.1	+2.7
SOEI	**Soe**	5.74	105	P	Pn	22 21 59.3	+1.9
KNRA	**Kununurra**	12.32	128	P	Pn	22 23 26.2	+1.8
MTN	**Manton Dam**	13.08	111	P	Pn	22 23 35.3	+1.1
FAKI	**Fak Fak**	14.54	69	P	P	22 23 54.4	-0.7
MEEK	**Meekatharra**	18.25	180	P	Pn	22 24 38.0	+0.3
WRKA	**Warakurna**	19.04	152	P	Pn	22 24 46.4	-0.5
WRA	**Warramunga Arr**	19.11	129	P	P	22 24 45.1	-0.2
	0.4nm,0.3s,baz=302,slow=12,SNR=21						
WRA				S	S	22 28 12.6	-1.5
	0.4nm,0.5s,baz=6.0,slow=9.1,SNR=2.1						
ASAR	**Alice Springs**	21.16	138	P	P	22 25 07.6	+0.3
	1.5nm,0.5s,baz=315,slow=8.9,SNR=24						
	1.5nm,0.5s						
QIS	**Mount Isa**	23.64	123	P	P	22 25 33.6	+2.0
OOD	**Oodnadatta**	25.22	142	P	P	22 25 46.8	+1.0
MKAR	**Makanchi Array**	63.66	333	P	P	22 30 48.0	-1.0
	0.7nm,0.7s,baz=154,slow=6.1,SNR=7.2						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	68.18	334	P	P	22 31 17.0	-0.7
	0.4nm,0.2s,baz=137,slow=5.6,SNR=2.2						
	0.4nm,0.2s						
ZALV	**Zalesovo Beam**	68.25	339	P	P	22 31 16.5	-1.6
	0.9nm,0.4s,baz=114,slow=6.7,SNR=5.4						
	0.9nm,0.4s						
MAW	**Mawson**	69.79	200	P	P	22 31 24.9	-2.4
	2.6nm,0.9s,baz=10,slow=5.8,SNR=3.6						
	2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	117.99	280	PKP	PKPdf	22 39 02.9	-0.8
	0.3nm,0.5s,baz=10,slow=1.4,SNR=6.5						

---

*IDC **07** 22:29:07.3±1.0,13°.65N×125°.99E,h0km,mb3.7/7, mbtmp3.7/7,ML4.6/1,MS2.7/4,Error ellipse: s-maj=59.2km s-min=17.3km az=62.0*
ISC 07 22:29:11.3±1.1,13°.6N±0°.2×126°.0E±0°.2,h27km,n13, σ1§03/11,mb3.7/7,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	4.92	276	Pn	Pn	22 30 23.4	-0.1
	26nm,0.3s,baz=49,slow=20,SNR=7.5						
DAV	**Davao City (W)**	6.49	183	LR	LR	22 33 45.6	
	comp=Z,176nm,18.7s,baz=344,slow=42						
KAPI	**Kappang**	19.49	199	LR	LR	22 41 09.9	
	comp=Z,30nm,20.0s,baz=291,slow=37						
KSRS	**Korea Array**	23.83	4	LR	LR	22 45 20.0	
	comp=Z,7.9nm,18.2s,baz=0.0,slow=41						
CMAR	**Chiang Mai Arr**	26.41	284	LR	LR	22 46 09.1	
	comp=Z,7.1nm,18.1s,baz=205,slow=39						
WRA	**Warramunga Arr**	34.33	166	P	P	22 35 55.9	0.0
	0.3nm,0.6s,baz=349,slow=7.7,SNR=12						
WRA				PcP	PcP	22 38 33.3	+1.5
	0.5nm,0.5s,baz=342,slow=2.9,SNR=8.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	37.84	168	P	P	22 36 25.9	0.0
	1.7nm,0.7s,baz=351,slow=7.2,SNR=32						
ASAR				PcP	PcP	22 38 43.0	+0.8
	0.5nm,0.5s,baz=346,slow=2.9,SNR=7.6						
	1.7nm,0.7s						
STKA	**Stephens Creek**	47.63	162	P	P	22 37 44.2	-1.0
	1.7nm,0.7s,baz=6.0,slow=15,SNR=3.6						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	49.24	321	P	P	22 37 58.5	+0.9
	0.4nm,0.8s,baz=132,slow=6.0,SNR=2.3						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	51.60	330	P	P	22 38 14.0	-1.2
	0.3nm,0.5s,baz=100,slow=16,SNR=1.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	53.21	324	P	P	22 38 26.4	-0.8
	0.3nm,0.2s,baz=122,slow=8.4,SNR=2.8						
	0.3nm,0.2s						
BVAR	**Borovoye Array**	58.80	324	P	P	22 39 06.1	-1.1
	0.3nm,0.4s,baz=81,slow=4.5,SNR=2.5						
	0.3nm,0.4s						
PLCA	**Paso Flores**	149.34	155	PKPbc	PKiKP	22 48 59.9	+0.6
	2.8nm,1.0s,baz=248,slow=1.3,SNR=3.7						

---

*MEX **07** 22:35:57.8±0.7,15°.07N×93°.80W,h18km±453km,MD4.3*
*GCG **07** 22:36:00.7±2.5,14°.91N×93°.62W,h34km±999km,MD4.0*
ISC 07 22:35:53.2±1.4,15°.06N±0°.04×93°.74W±0°.03,h20km±6km, n30,σ2§17/52,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.81	38	iP	Pn	22 36 11.2	+1.6
PCIG				iS	Sn	22 36 21.6	+0.5
CARR	**Arriaga**	1.20	352	eP	Pg	22 36 15.8	-0.6
CARR				eS	Sb	22 36 29.7	-0.6
THIG		1.43	96	iP	Pg	22 36 20.9	+0.1
PATR	**El Naranjo**	1.45	87	iP	Pg	22 36 20.7	-0.5
PATR				iS	Sb	22 36 38.6	+0.8
PAVE	**Pavencul**	1.51	85	iP	Pg	22 36 22.1	-0.3
PAVE				iS	Sg	22 36 40.8	-1.4
CHUJ	**Union Juarez**	1.57	88	iP	Pb	22 36 22.6	+0.8
CHUJ				iS	Sb	22 36 41.7	+0.3
NILT	**Santiago Nilte**	1.72	331	eP	Pn	22 36 23.1	+1.0
NILT				eS	Sn	22 36 42.5	-1.1
TGIG		1.81	19	iP	Pb	22 36 25.4	-0.3
TGIG				iS	Sn	22 36 45.7	-0.1
TGBT	**Tuxtla Gutierr**	1.82	20	eP	Pb	22 36 26.3	+0.5
TGBT				eS	Sn	22 36 44.2	-1.7
CCIG	**Comitan**	1.96	51	eP	Pb	22 36 29.1	+0.7
CCIG				eS	Sb	22 36 52.3	-0.2
STG3	**Santiaguito 3,**	2.12	99	iP	Pb	22 36 31.7	+0.6
STG3				iS	Sb	22 36 56.5	-0.6
SULM	**Suchitepequez,**	2.23	109	iP	Pb	22 36 32.0	-0.8
UXUV	**UXUV**	2.28	350	iP	Pb	22 36 32.8	-0.9
UXUV				iS	Sn	22 36 58.6	+1.3
HUIG	**Huatulco**	2.40	287	eP	Pn	22 36 32.3	+1.0
HUIG				eS	Sn	22 36 58.3	-1.8
FUG	**Fuego 3**	2.86	102	iP	Pb	22 36 44.3	+0.5
FUG				iS	Sb	22 37 16.6	-1.9
NEUV	**Arroyo Zacate**	3.30	323	eP	Pn	22 36 44.0	+0.2
NEUV				eS	Sn	22 37 24.2	+1.6
NBG	**Las Nubes**	3.31	98	iP	Pb	22 36 50.2	-1.2
PEIG	**Puerto Escondi**	3.42	286	eP	Pn	22 36 46.6	+1.1
PMUV	**Sontecomapan**	3.71	339	eS	Sn	22 37 28.1	-4.7
YOIG	**Yosondua**	4.08	297	eP	Pn	22 36 58.8	+4.0
YOIG				eS	Sn	22 37 41.3	-0.8
TOIG	**Toxpalan**	4.40	314	eP	Pn	22 37 02.2	+3.2
TOIG				eS	Sn	22 37 45.1	-4.5
PNIG	**Pinotepa**	4.43	288	eP	Pn	22 37 00.7	+1.3
PNIG				eS	Sn	22 37 46.5	-4.0
TXIG	**Tlaxiaco**	4.45	300	eP	Pn	22 37 03.3	+3.4
TXIG				eS	Sn	22 37 50.6	-0.6
SCIG	**Sabancuy**	4.59	32	eS	Sn	22 37 51.7	-2.6
HLIG	**Huajuapan de L**	4.78	306	eP	Pn	22 37 07.9	+3.6
HLIG				eS	Sn	22 38 00.4	+1.1
TPIG	**Tehuac#an**	4.82	314	eS	Sn	22 38 01.7	+1.4
FTIG	**Fresnillo de T**	5.08	305	eP	Pn	22 37 13.0	+4.5
FTIG				eS	Sn	22 38 06.9	+0.3
JAUV	**Jalcomulco**	5.19	326	eP	Pn	22 37 10.2	+0.4
JAUV				eS	Sn	22 38 05.0	-4.3
TLIG	**Tlapa**	5.27	299	eS	Sn	22 38 07.0	-4.2
CXUV	**Coxquihui**	6.28	325	eP	Pn	22 37 27.0	+2.3
CXUV				eS	Sn	22 38 39.2	+3.3

---

*IDC **07** 22:52:04.6±0.8,2°.60S×138°.94E,h0km,mb4.0/7, mbtmp4.1/9,ML4.0/2,MS3.3/1,Error ellipse: s-maj=21.5km s-min=20.2km az=44.0*
ISC 07 22:52:09.8±0.8,2°.7S±0°.1×138°.96E±0°.09,h37km,n12, σ0§85/12,mb4.1/7,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	1.75	84	Pn	Pn	22 52 36.8	-0.9
	14nm,0.3s,baz=236,slow=10,SNR=39						
JAY				Sn	Sn	22 52 59.4	+0.6
	30nm,0.3s,baz=157,slow=23,SNR=9.1						
BATI	**Baumata**	16.92	243	Pn	P	22 56 05.4	-0.2
	3.4nm,0.3s,baz=76,slow=8.3,SNR=5.7						
	16nm,0.4s						
WRA	**Warramunga Arr**	17.71	194	P	Pn	22 56 12.9	-0.9
	0.3nm,0.3s,baz=5.5,slow=13,SNR=18						
	1.2nm,0.5s						
ASAR	**Alice Springs**	21.40	193	P	P	22 56 54.3	-0.2
	0.7nm,0.6s,baz=16,slow=11,SNR=15						
	0.7nm,0.6s						
KLR	**Kul'dur**	52.11	354	LR	LR	23 22 54.3	
	comp=Z,25nm,18.1s,baz=69,slow=36						
MKAR	**Makanchi Array**	69.94	322	P	P	23 03 16.9	-0.5
	1.3nm,0.6s,baz=98,slow=8.9,SNR=15						
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	72.06	330	P	P	23 03 29.4	-0.6
	0.3nm,0.4s,baz=81,slow=9.5,SNR=1.7						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	73.87	325	P	P	23 03 41.0	+0.1
	2.3nm,0.2s,baz=117,slow=5.5,SNR=4.0						
	2.3nm,0.2s						
BVAR	**Borovoye Array**	79.45	325	P	P	23 04 12.5	+0.2
	1.6nm,0.5s,baz=112,slow=7.4,SNR=15						
	1.6nm,0.5s						
ILAR	**Eielson Array**	85.73	24	P	P	23 04 45.1	+0.3
	0.5nm,0.8s,baz=280,slow=6.6,SNR=5.4						
	0.5nm,0.8s						
QSPA	**South Pole Qui**	87.24	180	P	P	23 04 54.2	+1.9
	1.6nm,0.7s,baz=275,slow=0.9,SNR=6.1						
	1.6nm,0.7s						
CPUP	**Villa Florida**	147.11	152	PKPbc	PKPab	23 11 50.8	-0.5
	2.6nm,1.0s,baz=193,slow=2.9,SNR=3.0						

---

*IDC **07** 23:10:49.1±1.9,1°.14N×97°.08E,h0km,mb3.9/7, mbtmp3.9/8,ML4.4/1,MS3.4/1,Error ellipse: s-maj=70.2km s-min=20.6km az=56.0*
*NEIC **07** 23:10:55.4±0.8,1°.3N±0°.1×97°.20E±0°.07,h35km±8km, mb4.2/6,Error ellipse: s-maj=18.0km s-min=6.0km az=206.0*
ISC 07 23:10:53.0±1.2,1°.2N±0°.1×97°.1E±0°.1,h25km,n32, σ0§62/20,mb4.1/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	0.49	79		Pn	23 11 04.3	-0.2
GSI					Sn	23 11 13.3	+1.1
RPSI	**Rantau Prapat**	2.35	51		Pn	23 11 29.3	-0.8
KULM	**Kulim**	5.39	41		Pn	23 12 11.5	-0.4
CMAR	**Chiang Mai Arr**	17.24	6	Pn	Pn	23 14 51.8	-0.4
	0.5nm,0.3s,baz=196,slow=13,SNR=1.6						
	0.8nm,0.3s						
CRAI	**Chiangrai**	19.18	9	P	P	23 15 14.5	-0.5
CRAI				IAmb	IAmb	23 15 18.1	
	comp=Z,4.8nm,1.1s						
SHL	**Shillong**	24.73	349	P	P	23 16 12.6	-0.2
H08S2	**Diego Garcia H**	26.07	250	T	T	23 43 19.6	
	baz=71,slow=75,SNR=1242						
H08S3	**Diego Garcia H**	26.07	250	T	T	23 43 18.1	
	baz=71,slow=75,SNR=1210						
H08S1	**Diego Carcia H**	26.08	250	T	T	23 43 18.2	
	baz=71,slow=75,SNR=1422						
H01W3	**Cape Leeuwin H**	39.29	158	T	T	23 59 53.3	
	baz=333,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	39.30	158	T	T	23 59 57.6	
	baz=333,slow=76,SNR=18						
H01W1	**Cape Leeuwin H**	39.31	158	T	T	23 59 55.4	
	baz=333,slow=76,SNR=21						
WB0	**Warramunga Arr**	42.10	122	P	P	23 18 43.1	-0.4
WB0				IAmb	IAmb	23 19 02.6	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	42.13	122	P	P	23 18 43.2	-0.5
WRA	**Warramunga Arr**	42.13	122	P	P	23 18 43.1	-0.5
	comp=Z,0.5nm,0.7s,baz=301,slow=9.1,SNR=6.9						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	43.48	127	P	P	23 18 54.3	-0.4
	comp=Z,0.4nm,0.8s,baz=330,slow=7.2,SNR=4.2						
	comp=Z,0.4nm,0.8s						
KSRS	**Korea Array**	45.90	35	P	P	23 19 13.8	+0.2
	comp=Z,1.1nm,0.7s,baz=218,slow=9.4,SNR=6.3						
	comp=Z,1.1nm,0.7s						
MK31	**Makanchi Array**	47.21	346	P	P	23 19 24.4	+0.5
MK31				IAmb	IAmb	23 19 29.1	
	comp=Z,3.3nm,1.1s						
MKAR	**Makanchi Array**	47.21	346	P	P	23 19 24.2	+0.3
MKAR	**Makanchi Array**	47.21	346	P	P	23 19 24.9	+1.1
	comp=Z,0.8nm,0.5s,baz=160,slow=8.8,SNR=15						
	comp=Z,0.8nm,0.5s						
KKAR	**Karatay Array**	48.00	334	P	P	23 19 30.9	+0.8
KURBB	**Kurchatov Arra**	51.70	345	P	P	23 19 58.8	+0.9
	comp=Z,0.8nm,0.2s,baz=155,slow=7.1,SNR=2.3						
	comp=Z,0.8nm,0.2s						
CTA	**Charters Tower**	52.60	116	LR	LR	23 46 37.0	
	comp=Z,38nm,19.9s,baz=262,slow=41						
ZALV	**Zalesovo Beam**	53.53	351	P	P	23 20 11.3	-0.2
	comp=Z,1.9nm,0.6s,baz=180,slow=8.6,SNR=7.3						
	comp=Z,1.9nm,0.6s						
BVAR	**Borovoye Array**	56.21	341	P	P	23 20 30.7	-0.2
	comp=Z,0.8nm,0.5s,baz=142,slow=8.4,SNR=6.3						
	comp=Z,0.8nm,0.5s						
ABKAR	**Akbulak array**	57.46	332	P	P	23 20 39.5	-0.3
ABKAR				IAmb	IAmb	23 20 40.2	
	comp=Z,5.1nm,1.5s						
H04N2	**CROZET ISLANDS**	61.72	214	T	T	00

EIDS	**Eidsvold**	**28.86 249**	P	**P**	**23 55 02.6**	**+0.4**
EIDS			IAmb	IAmb	23 55 03.4	
comp=Z,10.0nm,1.2s						
ARMA	**Armidale**	**29.61 239**	P	**P**	**23 55 10.1**	**+1.4**
ARMA			IAmb	IAmb	23 55 11.2	
comp=Z,6.6nm,0.8s						
CTA	**Charters Tower**	**32.98 260**	P	**P**	**23 55 37.6**	**0.0**
comp=Z,3.5nm,0.5s,baz=69,slow=8.9,SNR=3.4						
comp=Z,3.5nm,0.5s						
CTAO	**Charters Tower**	**32.98 260**	P	**P**	**23 55 37.1**	**-0.5**
CTAO			IAmb	IAmb	23 55 58.5	
comp=Z,17nm,1.4s						
CAN	**Canberra**	**33.44 232**	P	**P**	**23 55 42.0**	**+0.7**
CAN			IAmb	IAmb	23 56 03.0	
comp=Z,23nm,1.4s						
TOO	**Toolangi**	**36.92 230**	P	**P**	**23 56 11.2**	**+1.0**
TOO			IAmb	IAmb	23 56 12.2	
comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**38.29 241**	P	**P**	**23 56 22.6**	**+1.1**
STKA	**Stephens Creek**	**38.29 241**	P	**P**	**23 56 22.8**	**+1.3**
comp=Z,6.3nm,0.4s,baz=91,slow=10,SNR=19						
comp=Z,6.3nm,0.4s						
BBOO	**Buckleboo**	**43.07 241**	P	**P**	**23 56 59.9**	**+0.4**
BBOO			IAmb	IAmb	23 57 25.7	
comp=Z,20nm,1.4s						
WB0	**Warramunga Arr**	**44.13 260**	P	**P**	**23 57 06.8**	**-1.1**
WRA	**Warramunga Arr**	**44.17 259**	P	**P**	**23 57 07.3**	**-0.9**
WRA	**Warramunga Arr**	**44.17 259**	P	**P**	**23 57 07.8**	**-0.4**
comp=Z,1.5nm,0.5s,baz=97,slow=7.4,SNR=40						
comp=Z,1.5nm,0.5s						
AS31	**Alice Springs**	**44.36 254**		**P**	**23 57 10.1**	**+0.4**
AS31			IAmb	IAmb	23 57 10.7	
comp=Z,8.6nm,0.5s						
ASAR	**Alice Springs**	**44.36 254**	P	**P**	**23 57 10.1**	**+0.4**
comp=Z,23nm,0.5s,baz=90,slow=7.9,SNR=586						
ASAR			PcP	**PcP**	**23 58 42.9**	**+0.9**
comp=Z,0.3nm,0.4s,baz=95,slow=3.8,SNR=1.5						
ASAR			ScP	**ScP**	**00 01 46.4**	**+3.5**
comp=Z,0.5nm,0.7s,baz=97,slow=4.2,SNR=5.8						
ASAR			S	**S**	**00 03 04.2**	**-1.0**
comp=Z,1.4nm,0.9s,baz=84,slow=17,SNR=8.0						
comp=Z,23nm,0.5s						
MTN	**Manton Dam**	**48.29 268**	P	**P**	**23 57 39.2**	**-0.3**
MTN			IAmb	IAmb	23 58 03.3	
comp=Z,20nm,1.5s						
FORT	**Forrest**	**49.64 244**	P	**P**	**23 57 49.4**	**0.0**
KNRA	**Kununurra**	**50.00 264**	P	**P**	**23 57 51.9**	**-0.3**
KNRA			IAmb	IAmb	23 58 12.8	
comp=Z,10nm,1.3s						
MBWA	**Marble Bar**	**57.63 256**	P	**P**	**23 58 45.5**	**-0.5**
MBWA			IAmb	IAmb	23 59 11.1	
comp=Z,16nm,1.2s						
MMRI	**Maumere**	**57.78 271**	P	**P**	**23 58 47.0**	**-0.2**
MJAR	**Matsushiro Arr**	**67.42 324**	P	**P**	**23 59 48.4**	**-0.5**
comp=Z,1.9nm,0.6s,baz=158,slow=6.0,SNR=7.8						
comp=Z,1.9nm,0.6s						
MAJO	**Matsushiro**	**67.42 324**	P	**P**	**23 59 49.0**	**0.0**
MAJO			IAmb	IAmb	00 00 04.2	
comp=Z,3.1nm,0.8s						
ATKA	**Atka Island**	**69.71 3**	P	**P**	**00 00 01.6**	**-0.7**
JKA	**Kamikawa-asahi**	**70.83 332**	P	**P**	**00 00 10.2**	**+1.0**
JKA			IAmb	IAmb	00 00 11.9	
comp=Z,17nm,1.2s						
QSPA	**South Pole Qui**	**72.37 180**	P	**P**	**00 00 19.3**	**+1.2**
comp=Z,0.5nm,0.3s,baz=22,slow=4.4,SNR=1.7						
comp=Z,0.5nm,0.3s						
PEA0B	**Petropavlovsk-**	**73.33 346**	P	**P**	**00 00 24.1**	**+0.6**
PETK	**Petropavlovsk-**	**73.33 346**	P	**P**	**00 00 24.2**	**+0.6**
PETK	**Petropavlovsk-**	**73.33 346**	P	**P**	**00 00 22.9**	**-0.6**
comp=Z,5.2nm,0.8s,baz=128,slow=9.0,SNR=5.3						
comp=Z,5.2nm,0.8s						
KDAK	**Kodiak Island**	**78.31 14**	P	**P**	**00 00 50.8**	**-0.1**
KDAK			IAmb	IAmb	00 00 56.9	
comp=Z,25nm,1.2s						
YBH	**Yreka Blue Hor**	**78.67 39**	P	**P**	**00 00 54.1**	**+0.7**
WAKR	**Walker**	**78.91 44**	P	**P**	**00 00 55.0**	**+0.1**
NVAR	**Mina Array Bea**	**79.62 44**	P	**P**	**00 00 59.2**	**+0.5**
comp=Z,1.8nm,0.8s,baz=227,slow=9.2,SNR=15						
comp=Z,1.8nm,0.8s						
SUA	**Susitna One**	**82.03 13**	P	**P**	**00 01 09.9**	**-0.6**
SUA			IAmb	IAmb	00 01 11.0	
comp=Z,13nm,1.1s						
PSUT	**Pine Spring**	**82.67 46**	P	**P**	**00 01 14.8**	**+0.5**
TRF	**Thorofare Moun**	**83.90 13**	P	**P**	**00 01 18.8**	**-1.0**
TRF			IAmb	IAmb	00 01 19.7	
comp=Z,13nm,1.0s						
CCB	**Clear Creek Bu**	**85.48 13**	P	**P**	**00 01 26.3**	**-0.9**
CCB			IAmb	IAmb	00 01 27.0	
comp=Z,2.9nm,0.9s						
IMAR	**Indian Mountai**	**85.55 10**	P	**P**	**00 01 26.9**	**-0.7**
BCAR	**Beaver Creek A**	**85.57 16**	P	**P**	**00 01 27.7**	**-0.1**
ILAR	**Eielson Array**	**85.78 13**	P	**P**	**00 01 28.1**	**-0.7**
ILAR	**Eielson Array**	**85.78 13**	P	**P**	**00 01 27.7**	**-1.1**
comp=Z,1.2nm,0.4s,baz=225,slow=5.3,SNR=26						
comp=Z,1.2nm,0.4s						
TX31	**Lajitas Ar. Si**	**86.31 58**	P	**P**	**00 01 32.7**	**+0.4**
TX31			IAmb	IAmb	00 01 34.6	
comp=Z,5.4nm,0.8s						
TXAR	**Lajitas Array**	**86.31 58**	P	**P**	**00 01 33.5**	**+1.3**
comp=Z,1.7nm,0.8s,baz=215,slow=6.4,SNR=20						
comp=Z,1.7nm,0.8s						
PD31	**Pinedale Array**	**87.54 44**	P	**P**	**00 01 38.0**	**+0.2**
PDAR	**Pinedale Array**	**87.54 44**	P	**P**	**00 01 38.1**	**+0.2**
comp=Z,1.1nm,0.5s,baz=208,slow=3.4,SNR=14						
comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**108.61 314**	PKiKP	**PKiKP**	**00 07 13.9**	**-0.6**
comp=Z,0.3nm,0.5s,baz=151,slow=1.5,SNR=2.0						
BVAR	**Borovoye Array**	**116.35 321**	PKP	**PKPdf**	**00 07 28.8**	**-0.3**
comp=Z,0.6nm,0.3s,baz=110,slow=2.4,SNR=7.3						
ARCES	**ARCESS Array B**	**126.00 350**	PKP	**PKPdf**	**00 07 46.6**	**-0.6**
comp=Z,2.6nm,0.8s,baz=22,slow=1.0,SNR=2.0						
EKA	**Eskdalemuir Ar**	**142.28 4**	PKhKP	PKPpre	00 08 13.8	
comp=Z,1.1nm,0.7s,baz=1.7,slow=2.8,SNR=3.8						
BNN	**Bunyan**	**143.12 312**		**PKPdf**	**00 08 19.0**	**-1.0**
KWP	**Kalwaria Pacla**	**143.66 336**		**PKPdf**	**00 08 19.9**	**-0.5**
BUR08	**Bucovina Ar. S**	**144.16 332**	PKPbc	**PKPdf**	**00 08 22.1**	**+0.5**
BURAR	**Bucovina Array**	**144.17 332**	PKPbc	**PKPdf**	**00 08 22.1**	**+0.6**
BRTR	**Keskin Array B**	**144.26 315**	PKPbc	**PKPdf**	**00 08 21.8**	**-0.2**
BRTR	**Keskin Array B**	**144.26 315**	PKP	**PKPdf**	**00 08 21.9**	**-0.1**
comp=Z,0.8nm,0.4s,baz=108,slow=2.7,SNR=12						
UPC	**Upice**	**145.13 343**	*e*PKP	**PKPab**	**00 08 24.7**	**-0.1**
CLL	**Collm**	**145.13 347**	PKPbc	**PKPab**	**00 08 24.1**	**-0.7**
CLL	**Collm**	**145.13 347**	*i* PKPbc	**PKPab**	**00 08 24.1**	**-0.7**
comp=Z,8.0nm,0.9s						
DPC	**Dobruska-Polom**	**145.18 343**	*e*PKP	**PKPab**	**00 08 24.5**	**-0.6**
PVCC	**Panska Ves**	**145.49 345**	*e*PKP	**PKPab**	**00 08 25.7**	**-0.5**
MMAI	**Mount Meron Ar**	**145.59 303**	PKPbc	**PKPbc**	**00 08 26.0**	**+0.2**
comp=Z,1.4nm,0.4s,baz=60,slow=5.1,SNR=9.1						
PRU	**Pruhonice**	**145.99 344**	*e*PKP	**PKPbc**	**00 08 26.7**	**+0.4**
ZVC	**Zvikov**	**146.59 344**	*e*PKP	**PKPbc**	**00 08 28.8**	**+0.8**
KHC	**Kasperske Hory**	**147.03 345**	*e*PKP	**PKPbc**	**00 08 29.2**	**0.0**
KHC			*ex*	x	00 08 33.0	
CKRC	**Cesky Krumlov**	**147.12 344**	*e*PKP	**PKPdf**	**00 08 23.8**	**-2.6**
CKRC			*ex*	x	00 08 30.1	
GEC2	**GERESS Array S**	**147.26 344**	PKPbc	**PKPbc**	**00 08 30.4**	**+0.4**
GERES	**GERESS Array B**	**147.26 344**	PKPbc	**PKPbc**	**00 08 30.1**	**+0.2**
GERES	**GERESS Array B**	**147.26 344**	PKPbc	**PKPbc**	**00 08 30.3**	**+0.4**
comp=Z,2.3nm,0.7s,baz=20,slow=3.1,SNR=3.2						
CONA	**Conrad Observa**	**147.49 341**	*e*PKiKP	**PKPbc**	**00 08 31.1**	**+0.6**
comp=Z,2.0nm,0.8s						
RONA	**Rosalia, Austr**	**147.56 341**	*e*PKiKP	**PKPbc**	**00 08 31.2**	**+0.6**
comp=Z,3.0nm,0.8s						
LESA	**Schwarzleotal**	**148.84 345**	*i* PKiKP	**PKPbc**	**00 08 34.1**	**+0.2**
comp=Z,1.7nm,0.5s						
ECH	**Echery**	**149.14 352**	PKPbc	**PKPbc**	**00 08 34.9**	**+0.3**
WATA	**Walderalm**	**149.18 346**	*i* PKP	**PKPbc**	**00 08 34.8**	**-0.1**
comp=Z,1.8nm,0.5s						
RETA	**Reutte**	**149.22 347**	*i* PKiKP	**PKPbc**	**00 08 35.1**	**+0.2**
comp=Z,1.3nm,0.6s						
WTTA	**Wattenberg**	**149.24 346**	*e*PKiKP	**PKPbc**	**00 08 35.3**	**+0.3**
comp=Z,2.5nm,0.4s						
MOTA	**Moosalm**	**149.28 347**	*e*PKiKP	**PKPbc**	**00 08 35.1**	**0.0**
comp=Z,0.8nm,0.4s						
SQTA	**Sankt Quirin**	**149.38 346**	*i* PKiKP	**PKPbc**	**00 08 35.5**	**+0.2**
comp=Z,2.2nm,0.6s						
PRED	**Cave del Predi**	**149.50 343**	PKPbc	**PKPbc**	**00 08 35.3**	**-0.3**
ABTA	**Abfaltersbach**	**149.51 344**	*e*PKP	**PKPbc**	**00 08 35.2**	**-0.4**
comp=Z,2.2nm,0.7s						
STAL	**STALIGIAL**	**149.91 344**	PKPbc	**PKPbc**	**00 08 36.1**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**150.15 347**		**PKiKP**	**00 08 37.9**	**0.0**
FNA	**Florina**	**151.08 327**	PKPbc	**PKPbc**	**00 08 39.3**	**-0.1**
ESDC	**Sonseca Array**	**157.66 10**	PKPab	**PKPab**	**00 09 17.0**	**-0.6**
comp=Z,0.3nm,0.5s,baz=341,slow=4.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**175.45 188**	PP	**PP**	**00 14 30.9**	**+2.7**
comp=Z,0.9nm,1.1s,baz=228,slow=1.8,SNR=4.1						

2017 OCT

*BGR **07** 23:58:37.8,20°.44S×176°.86W,h33km*
*NOU **07** 23:59:43.7,20°.29S×178°.32W,h623km,mb4.8/57,Fiji Islands Region*
*IDC **07** 23:59:43.6±0.8,20°.24S×178°.47W,h619km±7km,mb4.0/19,mbtmp5.0/22,Error ellipse: s-maj=11.5km s-min=9.3km az=133.0*
*NEIC **07** 23:59:44.4±1.7,20°.28S±0°.10×178°.4W±0°.1,h616km±6km,mb4.7/122,Error ellipse: s-maj=15.4km s-min=13.6km az=122.0*

ISC 07 23:59:43.6±0.3,20°.28S±0°.05×178°.41W±0°.05,h616km,n738,σ0999/786,mb4.6/101,48C-35D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.20**	**306**	P	**P**	**00 01 13.1**	**+1.3**
MSVF	**Nonsavu**	**4.20**	**306**	P	**P**	**00 01 13.3**	**+1.5**
MSVF	**Nonsavu**	**4.20**	**306**	P	**P**	**00 01 11.9**	**+0.1**
210nm,0.9s,baz=165,slow=4.4,SNR=56							
MSVF				S	**S**	**00 02 22.7**	**-0.9**
10nm,0.6s,baz=177,slow=20,SNR=0.6							
FUTU	**Fugatoga**	**5.95**	**3**	P	**P**	**00 01 26.2**	**+1.0**
NIUE	**Niue**	**8.08**	**83**	P	**P**	**00 01 44.4**	**+0.2**
RAO	**Raoul Island**	**8.94**	**177**	S	**S**	**00 03 34.2**	**-3.7**
165nm,0.4s,baz=79,slow=24,SNR=1.8							
GLKZ	**Green Lake**	**8.95**	**177**	P	**P**	**00 01 51.6**	**-0.8**
AFI	**Afiamalu**	**8.96**	**46**	P	**P**	**00 01 51.5**	**-1.3**
AFI	**Afiamalu**	**8.96**	**46**	P	**P**	**00 01 51.5**	**-1.3**
201nm,0.6s,baz=281,slow=3.4,SNR=52							
AFI				S	**S**	**00 03 33.1**	**-5.5**
59nm,0.7s,baz=114,slow=20,SNR=2.4							
MARNC	**Mare, Loyalty**	**12.74**	**262**	P	**P**	**00 02 28.6**	**-0.9**
PINNC	**Pines Island,**	**13.38**	**257**	P	**P**	**00 02 35.7**	**-0.1**
LIFNC	**LIFOU**	**13.46**	**265**	P	**P**	**00 02 35.4**	**-1.3**
YATNC	**Mamie plateau,**	**13.83**	**260**	P	**P**	**00 02 40.3**	**0.0**
OUENC	**Ouen Island, N**	**13.91**	**259**	P	**P**	**00 02 40.9**	**-0.2**
DZM	**Mont Dzumac**	**14.25**	**260**	P	**P**	**00 02 44.4**	**0.0**
DZM	**Mont Dzumac**	**14.25**	**260**	P	**P**	**00 02 44.8**	**+0.4**
DZM	**Mont Dzumac**	**14.25**	**260**	P	**P**	**00 02 44.2**	**-0.1**
7.7nm,0.3s,baz=110,slow=9.3,SNR=36							
DZM				S	**S**	**00 05 09.4**	**-2.6**
4.6nm,1.0s,baz=99,slow=20,SNR=1.5							
ONTNC	**Ouen Toro**	**14.26**	**259**	P	**P**	**00 02 44.4**	**+0.1**
NFK	**Norfolk Island**	**15.16**	**232**	P	**P**	**00 02 54.5**	**+2.0**
baz=15,SNR=3.7							
KOUNC	**Koumac, New Ca**	**16.23**	**266**	P	**P**	**00 03 03.8**	**+1.4**
KOUNC				IAmb	IAmb	00 03 07.6	
comp=Z,40nm,1.2s							
OUZ	**Omahuta**	**16.47**	**204**	P	**P**	**00 03 07.3**	**+3.0**
OUZ	**Omahuta**	**16.47**	**204**	P	**P**	**00 03 07.3**	**+3.0**
GRZ	**Great Barrier**	**16.80**	**197**	P	**P**	**00 03 09.3**	**+2.0**
WCZ	**Waipu Caves**	**16.85**	**201**	P	**P**	**00 03 10.5**	**+2.7**
KUZ	**Kuaotunu**	**17.19**	**196**	P	**P**	**00 03 13.3**	**+2.4**
KUZ	**Kuaotunu**	**17.19**	**196**	P	**P**	**00 03 12.6**	**+1.7**
MXZ	**Matakaoa Point**	**17.46**	**189**	P	**P**	**00 03 12.6**	**-0.7**
MXZ	**Matakaoa Point**	**17.46**	**189**	P	**P**	**00 03 12.7**	**-0.6**
WMGZ	**Waiomatatini S**	**17.70**	**188**	P	**P**	**00 03 15.0**	**-0.4**
HAZ	**Te Kaha**	**17.73**	**190**	P	**P**	**00 03 14.1**	**-1.7**
PKGZ	**Pakihiroa**	**17.81**	**189**	P	**P**	**00 03 15.9**	**-0.7**
RUGZ	**Raukumara Rang**	**17.95**	**190**	P	**P**	**00 03 16.4**	**-1.5**
PUZ	**Puketiti**	**17.96**	**189**	P	**P**	**00 03 17.6**	**-0.3**
TGRZ	**Tauranga**	**18.00**	**194**	P	**P**	**00 03 20.3**	**+2.1**
OPRZ	**Ohinepanea**	**18.04**	**193**	P	**P**	**00 03 19.2**	**+0.5**
TOZ	**Tahuroa Road**	**18.18**	**196**	P	**P**	**00 03 21.0**	**+1.1**
TOZ	**Tahuroa Road**	**18.18**	**196**	P	**P**	**00 03 21.6**	**+1.8**
MWZ	**Matawai**	**18.33**	**190**	P	**P**	**00 03 19.8**	**-1.6**
URZ	**Urewera**	**18.33**	**191**	P	**P**	**00 03 19.4**	**-1.9**
URZ	**Urewera**	**18.33**	**191**	P	**P**	**00 03 18.9**	**-2.4**
URZ	**Urewera**	**18.33**	**191**	P	**P**	**00 03 18.8**	**-2.4**
comp=Z,74nm,0.3s,baz=28,slow=2.3,SNR=95							
URZ				S	**S**	**00 06 14.2**	**-3.6**
comp=Z,6.4nm,0.8s,baz=79,slow=21,SNR=1.4							
CNGZ	**Carnagh Statio**	**18.38**	**188**	P	**P**	**00 03 21.8**	**+0.1**
TLZ	**Tolley Road**	**18.74**	**195**	P	**P**	**00 03 26.8**	**+1.8**
HIZ	**Hauiti**	**19.08**	**196**	P	**P**	**00 03 30.1**	**+2.0**
BKZ	**Black Stump Fm**	**19.33**	**192**	P	**P**	**00 03 29.1**	**-1.3**
BFZ	**Birch Farm**	**20.84**	**191**	P	**P**	**00 03 42.7**	**-1.2**
BFZ	**Birch Farm**	**20.84**	**191**	P	**P**	**00 03 43.8**	**-0.1**
SNZO	**South Karori**	**21.77**	**194**	P	**P**	**00 03 51.4**	**-0.7**
QRZ	**Quartz Range**	**21.89**	**199**	P	**P**	**00 03 53.6**	**+0.3**
KHZ	**Kahutara**	**23.09**	**195**	P	**P**	**00 04 03.2**	**-0.7**
LHI	**Lord Howe Isla**	**23.11**	**237**	P	**P**	**00 04 04.4**	**+0.2**
TARA	**Tarawa**	**23.12**	**337**	P	**P**	**00 04 04.3**	**-0.2**
RPZ	**Rata Peaks**	**24.98**	**198**	P	**P**	**00 04 22.3**	**+1.8**
RPZ	**Rata Peaks**	**24.98**	**198**	P	**P**	**00 04 19.8**	**-0.8**
comp=Z,28nm,0.5s,baz=38,slow=3.3,SNR=24							
comp=Z,28nm,0.5s							
JCZ	**Jackson Bay**	**26.02**	**201**	P	**P**	**00 04 30.4**	**+0.6**
ODZ	**Otahua Downs**	**26.31**	**198**	P	**P**	**00 04 32.1**	**-0.1**
SYZ	**Scrubby Hill**	**28.11**	**198**	P	**P**	**00 04 48.4**	**+0.6**
EIDS	**Eidsvold**	**28.54**	**254**	P	**P**	**00 04 50.9**	**-1.0**
ARMA	**Armidale**	**28.82**	**244**	P	**P**	**00 04 55.4**	**+1.0**
baz=29,SNR=44							
ARMA	**Armidale**	**28.82**	**244**	P	**P**	**00 04 55.0**	**+0.6**
ARMA	**Armidale**	**28.82**	**244**	P	**P**	**00 04 55.4**	**+1.0**
MGCD	**Mangrove Creek**	**30.00**	**238**	P	**P**	**00 05 05.5**	**+1.1**
baz=30,SNR=12							
MGCD	**Mangrove Creek**	**30.00**	**238**	P	**P**	**00 05 05.6**	**+1.2**
SYDH	**Sydney Hard Ro**	**30.46**	**237**	P	**P**	**00 05 09.0**	**+0.7**
comp=Z,69nm,0.8s							
CNB	**Canberra Magne**	**32.04**	**235**	P	**P**	**00 05 22.5**	**+0.7**
baz=32,SNR=27							
CNB	**Canberra Magne**	**32.04**	**235**	P	**P**	**00 05 22.5**	**+0.7**
CAN	**Canberra**	**32.32**	**235**	P	**P**	**00 05 24.0**	**-0.1**
CAN				IAmb	IAmb	00 05 25.7	
comp=Z,25nm,0.9s							
CAN	**Canberra**	**32.32**	**235**	P	**P**	**00 05 24.9**	**+0.8**
YNG	**Young**	**32.48**	**238**	P	**P**	**00 05 27.3**	**+1.8**
comp=Z,10nm,1.1s							
CTA	**Charters Tower**	**33.13**	**264**	P	**P**	**00 05 31.6**	**+0.5**
CTA	**Charters Tower**	**33.13**	**264**	P	**P**	**00 05 31.3**	**+0.1**
comp=Z,8.1nm,0.3s,baz=88,slow=10.0,SNR=30							
comp=Z,8.1nm,0.3s							
CTAO	**Charters Tower**	**33.13**	**264**	P	**P**	**00 05 31.4**	**+0.3**
CTAO	**Charters Tower**	**33.13**	**264**	P	**P**	**00 05 31.5**	**+0.3**
CMSA	**Cobar Meteorol**	**34.04**	**243**	P	**P**	**00 05 38.8**	**+0.2**
baz=34,SNR=79							
CMSA	**Cobar Meteorol**	**34.04**	**243**	P	**P**	**00 05 39.1**	**+0.5**
QLP	**Quilpie**	**34.76**	**252**	P	**P**	**00 05 44.8**	**+0.2**
baz=35,SNR=6.9							
QLP	**Quilpie**	**34.76**	**252**	P	**P**	**00 05 45.3**	**+0.7**
PMG	**Port Moresby**	**34.92**	**283**	P	**P**	**00 05 46.0**	**0.0**
PMG	**Port Moresby**	**34.92**	**283**	P	**P**	**00 05 46.3**	**+0.2**
comp=Z,41nm,0.8s,baz=93,slow=7.0,SNR=6.6							
comp=Z,41nm,0.8s							
GLAD	**Gladstone**	**35.20**	**227**	P	**P**	**00 05 48.3**	**+0.3**
comp=Z,19nm,1.0s							
MTSU	**Mount Surprise**	**35.22**	**267**	P	**P**	**00 05 48.7**	**+0.1**
baz=35,SNR=13							
PATS	**Pohnpei**	**35.36**	**317**	P	**P**	**00 05 49.9**	**+0.3**
baz=36							
PATS	**Pohnpei**	**35.36**	**317**	P	**P**	**00 05 49.4**	**-0.2**
TOO	**Toolangi**	**35.72**	**233**	P	**P**	**00 05 52.9**	**+0.5**
baz=36,SNR=23							
TOO	**Toolangi**	**35.72**	**233**	P	**P**	**00 05 52.7**	**+0.3**
TOO	**Toolangi**	**35.72**	**233**	P	**P**	**00 05 53.3**	**+0.9**
TAU	**Tasmania Unive**	**36.52**	**224**	P	**P**	**00 05 59.0**	**+0.2**
TAU	**Tasmania Unive**	**36.52**	**224**	P	**P**	**00 06 00.0**	**+1.2**
comp=Z,48nm,2.3s							
COEN	**Coen**	**37.19**	**274**	P	**P**	**00 06 05.1**	**+0.4**
baz=37							
COEN	**Coen**	**37.19**	**274**	P	**P**	**00 06 05.0**	**+0.4**
COEN				IAmb	IAmb	00 06 05.9	
comp=Z,16nm,0.9s							
COEN	**Coen**	**37.19**	**274**	P	**P**	**00 06 05.2**	**+0.5**
STKA	**Stephens Creek**	**37.54**	**244**	P	**P**	**00 06 08.0**	**+0.7**
baz=38,SNR=19							
STKA	**Stephens Creek**	**37.54**	**244**	P	**P**	**00 06 07.7**	**+0.4**
STKA	**Stephens Creek**	**37.54**	**244**	P	**P**	**00 06 07.4**	**+0.1**
comp=Z,27nm,0.7s,baz=86,slow=9.4,SNR=42							
comp=Z,27nm,0.7s							
ARPS	**Mount Arapiles**	**38.29**	**236**	P	**P**	**00 06 13.3**	**0.0**
baz=38,SNR=12							
QIS	**Mount Isa**	**39.27**	**262**	P	**P**	**00 06 21.1**	**-0.4**
baz=39,SNR=5.8							
QIS	**Mount Isa**	**39.27**	**262**	P	**P**	**00 06 21.3**	**-0.1**
HTT	**Hallett**	**39.99**	**242**	P	**P**	**00 06 27.4**	**+0.3**
baz=40,SNR=23							
LCRK	**Leigh Creek**	**40.27**	**247**	P	**P**	**00 06 29.9**	**+0.7**
BBOO	**Buckleboo**	**42.30**	**243**	P	**P**	**00 06 45.2**	**+0.1**
baz=42,SNR=104							
BBOO	**Buckleboo**	**42.30**	**243**	P	**P**	**00 06 45.2**	**+0.1**
BBOO	**Buckleboo**	**42.30**	**243**	P	**P**	**00 06 45.3**	**+0.1**
OOD	**Oodnadatta**	**42.40**	**251**	P	**P**	**00 06 46.9**	**+1.0**
JAY	**Jayapura**	**43.61**	**289**	P	**P**	**00 06 50.1**	**-5.5**
comp=Z,659nmcomp=Z,70nm,0.9s							
JAY	**Jayapura**	**43.61**	**289**	P	**P**	**00 06 55.2**	**-0.4**
comp=Z,52nm,0.7s,baz=133,slow=4.1,SNR=37							
comp=Z,52nm,0.7s							
MULG	**Mulgathing**	**43.85**	**247**	P	**P**	**00 06 57.1**	**-0.1**
WR0	**Warramunga Arr**	**44.06**	**262**	P	**P**	**00 06 58.3**	**-0.7**
AS31	**Alice Springs**	**44.20**	**257**	P	**P**	**00 06 59.8**	**-0.2**
ASAR	**Alice Springs**	**44.20**	**257**	P	**P**	**00 07 00.0**	**0.0**
ASAR	**Alice Springs**	**44.20**	**257**	P	**P**	**00 06 60.0**	**0.0**
comp=Z,14nm,0.7s,baz=87,slow=9.1,SNR=265							
ASAR			pP	**pP**	**00 08 47.5**	**+0.8**
comp=Z,1.1nm,0.4s,baz=90,slow=7.6,SNR=1.8							
ASAR			ScP	**ScP**	**00 11 22.7**	**-2.2**
comp=Z,1.1nm,0.6s,baz=115,slow=6.1,SNR=2.0							
ASAR			S	**S**	**00 12 48.0**	**-2.2**
comp=Z,13nm,0.7s,baz=93,slow=16,SNR=44							
comp=Z,14nm,0.7s							
WB2	**Warramunga Arr**	**44.24**	**262**	P	**P**	**00 06 59.8**	**-0.6**
baz=44							
WRAB	**Tennant Creek**	**44.25**	**262**	P	**P**	**00 06 59.8**	**-0.6**
WRA	**Warramunga Arr**	**44.25**	**262**	P	**P**	**00 06 59.4**	**-1.0**
WRA	**Warramunga Arr**	**44.25**	**262**	P	**P**	**00 06 59.8**	**-0.6**
comp=Z,3.5nm,0.3s,baz=97,slow=6.9,SNR=360							
WRA			sP	**sP**	**00 09 58.9**	**+3.7**
comp=Z,1.5nm,0.6s,baz=78,slow=7.7,SNR=5.2							
WRA			ScP	**ScP**	**00 11 23.1**	**-2.1**
comp=Z,1.3nm,0.9s,baz=68,slow=7.7,SNR=2.3							
WRA			S	**S**	**00 12 47.3**	**-3.7**
comp=Z,2.9nm,0.7s,baz=93,slow=14,SNR=8.8							
comp=Z,3.5nm,0.3s							
MLH	**Mauna Loa**	**45.51 31**	P	**P**	**00 07 11.0**	**+0.9**
KDU	**Kakadu**	**47.56 271**	P	**P**	**00 07 24.9**	**-0.6**
baz=48,SNR=14							
KDU	**Kakadu**	**47.56 271**	P	**P**	**00 07 25.4**	**-0.1**
MTN	**Manton Dam**	**48.78 271**	P	**P**	**00 07 33.8**	**-0.7**
baz=49,SNR=10							
MTN	**Manton Dam**	**48.78 271**	P	**P**	**00 07 34.0**	**-0.5**
MTN			IAmb	IAmb	00 07 35.0	
comp=Z,18nm,0.6s							
FORT	**Forrest**	**49.03 246**	P	**P**	**00 07 35.6**	**-0.5**
baz=49,SNR=15							
FORT	**Forrest**	**49.03 246**	P	**P**	**00 07 35.6**	**-0.5**
FORT	**Forrest**	**49.03 246**	P	**P**	**00 07 36.0**	**-0.1**
WRKA	**Warakurna**	**49.16 254**	P	**P**	**00 07 37.0**	**-0.2**
baz=49,SNR=54							
WRKA	**Warakurna**	**49.16 254**	P	**P**	**00 07 36.9**	**-0.2**
GUMO	**Guam**	**49.37 310**	P	**P**	**00 07 39.0**	**+0.2**
KNRA	**Kununurra

USRK **Ussuriysk Ar.** 78.57 326 P P 00 10 41.7 -0.9
comp=Z,10nm,0.7s,baz=126,slow=2.5,SNR=20
comp=Z,10nm,0.7s
OSI **Osito Audit: C** 78.70 47 P P 00 10 46.4 +2.7
baz=236
DECC **Green Verdugo** 78.76 47 P P 00 10 47.0 +3.1
baz=236
KMRM **Mail Ridge** 78.83 40 P P 00 10 45.5 +1.3
109C **Camp Elliot, M** 78.87 49 P P 00 10 46.9 +2.4
baz=237
ARVC **Arvin** 78.91 46 P P 00 10 46.7 +2.0
baz=236
SMAI **San Martin Ant** 78.95 159 P P 00 10 45.6 +1.3
SMAI IAmb IAmb 00 10 47.0
comp=Z,20nm,0.8s
TKX **Tecate** 79.05 49 P P 00 10 46.8 +1.2
TKX IAmb IAmb 00 10 47.3
comp=Z,18nm,0.4s
VES **Vestal, Richgr** 79.14 45 P P 00 10 46.9 +1.1
baz=235
MURC **Murrieta** 79.19 48 P P 00 10 47.6 +1.3
baz=237
BFSC **Mount Baldy Ra** 79.22 47 P P 00 10 48.0 +1.5
baz=236
EDW2 **Edwards Air Fo** 79.34 47 P P 00 10 48.2 +1.1
baz=236,SNR=6.2
MONP2 **Monument Peak** 79.35 49 P P 00 10 48.2 +0.8
baz=237,SNR=7.1
IKP **In-Ko-Pah, Jac** 79.44 49 P P 00 10 48.4 +0.8
baz=238
NJ2 **Nanjing** 79.45 310 eP P 00 10 50.1 +2.6
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
ISA **Isabella, Lake** 79.45 46 P P 00 10 49.0 +1.4
ISA **Isabella, Lake** 79.45 46 P P 00 10 49.3 +1.6
baz=236
CMB **Columbia Colle** 79.56 43 P P 00 10 48.9 +0.8
YUH **Yuha Desert** 79.58 50 P P 00 10 49.6 +1.3
PFO **Pinyon Flats O** 79.71 48 P P 00 10 50.4 +1.3
baz=237
TPFO **Pinon Flats** 79.71 48 P P 00 10 50.1 +1.0
baz=237
AFDM **Forest Hills D** 79.73 42 P P 00 10 50.0 +1.1
SLBS **Sierra La Lagu** 79.73 60 P P 00 10 50.2 +0.9
SLBS IAmb IAmb 00 10 56.8
comp=Z,36nm,1.4s
R17K **Ugashik Creek** 79.77 12 P P 00 10 51.2 +2.6
baz=201
SWSC **Sam W. Stewart** 79.82 49 P P 00 10 50.9 +1.4
baz=238
BELA **Belgrano 2** 79.82 173 P P 00 10 49.0 +0.3
BELA IAmb IAmb 00 10 49.9
comp=Z,12nm,0.7s
R18K **Karluk** 80.09 13 P P 00 10 50.7 +0.5
baz=203
CWC **Cottonwood Cre** 80.15 45 P P 00 10 53.4 +2.1
baz=236
MDPB **Devils Postpil** 80.17 44 P P 00 10 52.6 +1.1
MDPB IAmb IAmb 00 10 54.2
comp=Z,15nm,1.0s
BELC **Belle Mtn. Jos** 80.24 48 P P 00 10 53.2 +1.4
baz=238,SNR=5.8
MPMC **Manual Prospec** 80.34 46 P P 00 10 53.9 +1.5
baz=236,SNR=9.7
YBH **Yreka Blue Hor** 80.36 39 P P 00 10 53.6 +1.4
YBH IAmb IAmb 00 10 55.3
comp=Z,30nm,1.2s
GSC **Goldstone, Bar** 80.39 47 P P 00 10 53.5 +1.0
baz=237,SNR=6.3
WAKR **Walker** 80.44 43 P P 00 10 54.1 +1.2
WAKR IAmb IAmb 00 10 55.9
comp=Z,30nm,1.2s
BC3 **Big Chuckawall** 80.44 49 P P 00 10 54.1 +1.2
baz=238,SNR=5.2
Q17K **Contact Creek** 80.45 12 P P 00 10 54.2 +1.9
baz=201
HEC **Hector,Ludlow** 80.45 47 P P 00 10 54.4 +1.5
baz=237
GLA **Glamis** 80.57 50 P P 00 10 55.0 +1.6
baz=238
KDAK **Kodiak Island** 80.69 14 P P 00 10 55.5 +2.1
baz=204
Q16K **King Salmon** 80.69 11 P P 00 10 54.6 +1.2
baz=201
QSM **Queen of Sheba** 80.71 46 P P 00 10 55.0 +1.0
L04D **Klamath Falls** 80.89 39 P P 00 10 56.4 +1.4
GMRC **Granite Mounta** 80.90 48 P P 00 10 56.9 +1.7
baz=238,SNR=5.8
IRM **Iron Mountain** 80.93 49 P P 00 10 56.3 +1.1
baz=238,SNR=8.5
GRAC **Grapevine Rang** 80.94 45 P P 00 10 56.5 +1.3
GRAC IAmb IAmb 00 10 58.3
comp=Z,30nm,1.4s
GRAC **Grapevine Rang** 80.94 45 P P 00 10 57.2 +2.0
baz=236,SNR=5.9
Q18K **Katmai Hardscr** 80.98 12 P P 00 10 55.0 0.0
baz=202,SNR=5.2
TUQ **Turquoise Moun** 81.06 47 P P 00 10 57.1 +1.1
baz=237,SNR=5.5
N14K **Kuskokwak Cree** 81.07 8 P P 00 10 56.2 +0.9
baz=196
NVAR **Mina Array Bea** 81.13 44 P P 00 10 57.4 +1.0
NVAR **Mina Array Bea** 81.13 44 P P 00 10 57.0 +0.6
comp=Z,4.3nm,0.7s,baz=225,slow=7.9,SNR=44
comp=Z,4.3nm,0.7s
113A **Mohawk Valley,** 81.19 50 P P 00 10 57.8 +1.2
P17K **Kvichak River** 81.22 11 P P 00 10 55.9 -0.2
baz=201,SNR=6.4
NV11 **Mina Array Sit** 81.22 44 P P 00 10 57.9 +1.1
NV11 IAmb IAmb 00 10 59.5
comp=Z,23nm,1.2s
O16K **Kokwok River B** 81.31 10 P P 00 10 56.0 -0.5
baz=199
214A **Organ Pipe Nat** 81.47 52 P P 00 10 59.5 +1.4
214A **Organ Pipe Nat** 81.47 52 P P 00 11 00.1 +2.0
baz=240
Q20K **Shuyak Island** 81.49 13 P P 00 10 58.6 +1.2
baz=205
Q19K **Cape Douglas,** 81.52 13 P P 00 10 59.7 +2.0
baz=203
N15K **Kwethluk River** 81.54 9 P P 00 10 59.7 +2.0
baz=197
NEE2 **Needles Airpor** 81.62 48 P P 00 11 00.1 +1.4
baz=238
TPH **Tonopah** 81.63 44 P P 00 11 00.1 +1.2
PMSA **Palmer Station** 81.64 157 P P 00 10 59.2 +1.0
PMSA IAmb IAmb 00 11 01.6
comp=Z,16nm,1.2s
MAW **Mawson** 81.64 200 P P 00 10 58.2 -0.1
baz=82
MAW **Mawson** 81.64 200 P P 00 10 58.5 +0.3
MAW **Mawson** 81.64 200 P P 00 10 58.6 +0.3
comp=Z,2.2nm,0.5s,baz=137,slow=7.5,SNR=12
comp=Z,2.2nm,0.5s
O17K **Koliganek Bris** 81.65 11 P P 00 10 58.8 +0.6
baz=200
TPNV **Topopah Spring** 81.66 46 P P 00 11 00.1 +1.0
TPNV IAmb IAmb 00 11 01.7
comp=Z,14nm,1.0s
TPNV **Topopah Spring** 81.66 46 P P 00 11 00.3 +1.2
baz=237,SNR=14
PDMCI **Parker Dam,Lak** 81.71 49 P P 00 11 01.5 +2.3
baz=239,SNR=6.1
M14K **Bethel** 81.83 8 P P 00 10 59.8 +0.7
baz=196
M15K **Kasigluk River** 81.95 9 P P 00 11 00.4 +0.6
baz=197,SNR=5.9
V12A **Nelson** 81.96 47 P P 00 11 01.4 +0.9
BNX **BinXian** 82.03 325 ⇓P P 00 11 00.4 -0.1
BNX pmax pmax
comp=Z,16nm,0.8s
BNX pmax pmax
comp=Z,89nm,4.8s
N16K **Nishlik Lake** 82.03 10 P P 00 11 01.4 +1.2
baz=199,SNR=6.3
O18K **Koktuh Hills** 82.06 12 P P 00 11 00.5 +0.2
O18K **Koktuh Hills** 82.06 12 P P 00 11 00.6 +0.2
baz=202,SNR=6.3
SHPR **Sheep Range** 82.16 47 P P 00 11 03.0 +1.4
P19K **Oil Pt** 82.27 13 P P 00 11 02.2 +0.8
baz=204
L14K **Kuka Creek** 82.31 8 P P 00 11 02.5 +1.0
baz=195
H04A **Detroit Lake** 82.48 37 P P 00 11 03.8 +0.9
H04A IAmb IAmb 00 11 04.5
comp=Z,9.5nm,0.7s
M16K **Timber Creek** 82.52 9 P P 00 11 04.1 +1.5
baz=198,SNR=7.0
O19K **Port Alsworth** 82.55 12 P P 00 11 02.9 +0.2
baz=203
N18K **Kilae Creek** 82.71 11 P P 00 11 03.5 -0.1
baz=201
L15K **Ungalak Mounta** 82.79 8 P P 00 11 04.7 +0.8
baz=196
R11B **Troy Canyon, C** 82.86 45 P P 00 11 05.3 +0.2
baz=237,SNR=5.1
BRSE **Bradley Lake S** 82.88 14 P P 00 11 04.9 +0.4
baz=206
N19K **Bonanza Creek** 83.09 12 P P 00 11 05.1 -0.5
baz=203
L16K **Owhat River** 83.10 9 P P 00 11 06.6 +1.1
baz=198
M17K **Holitna River** 83.12 10 P P 00 11 06.3 +0.7
baz=200
TUC **Tucson** 83.14 52 P P 00 11 07.8 +1.3
TUC IAmb IAmb 00 11 10.0
comp=Z,16nm,1.1s
TUC **Tucson** 83.14 52 P P 00 11 07.9 +1.3
baz=241
SVW2 **Sparrevohn** 83.16 11 P P 00 11 07.2 +1.4
WVOR **Wild Horse Val** 83.21 40 P P 00 11 07.8 +1.1
WVOR IAmb IAmb 00 11 09.4
comp=Z,17nm,1.1s
KULM **Kulim** 83.36 278 P P 00 11 07.9 -0.1
KULM IAmb IAmb 00 11 09.5
comp=Z,12nm,0.7s
K15K **Wolf Creek Mou** 83.38 8 P P 00 11 08.4 +1.5
baz=196
SEW **Seward** 83.50 14 P P 00 11 07.7 +0.2
baz=207
J14K **Nanvaranak Lak** 83.58 7 P P 00 11 08.7 +0.9
baz=194
I07A **Izee** 83.65 38 P P 00 11 09.8 +1.0
I07A IAmb IAmb 00 11 11.6
comp=Z,16nm,1.2s
Q23K **Middleton Isla** 83.65 16 P P 00 11 08.4 +0.1
baz=210
L17K **Donlin** 83.68 9 P P 00 11 09.3 +1.0
baz=199
CAPN **Captain Cook N** 83.72 13 P P 00 11 09.3 +0.8
baz=206
O22K **Cooper Landing** 83.77 14 P P 00 11 09.1 +0.3
baz=207
P23K **Montague Islan** 83.89 15 P P 00 11 09.5 +0.1
baz=209
N20K **Mount Spurr** 83.89 12 P P 00 11 09.5 0.0
baz=205
SPCR **Spurr Chakacha** 83.89 12 P P 00 11 09.1 -0.5
baz=205
GAMB **Gambell** 83.94 3 P P 00 11 10.3 +0.7
baz=186
L18K **Granite Mounta** 84.02 10 P P 00 11 10.7 +0.7
baz=200
M19K **Big River Lodg** 84.12 11 P P 00 11 10.7 +0.2
M19K IAmb IAmb 00 11 51.0
comp=Z,29nm,1.4s
M19K **Big River Lodg** 84.12 11 P P 00 11 11.4 +0.8
baz=203
SZCU **Shurtz Canyon** 84.14 47 P P 00 11 12.6 +1.1
K17K **Iditarod** 84.23 9 P P 00 11 11.2 +0.1
baz=199
WUAZ **Wupatki** 84.29 49 P P 00 11 13.3 +1.1
WUAZ **Wupatki** 84.29 49 P P 00 11 11.7 -0.5
baz=240
L19K **White Mountain** 84.29 11 P P 00 11 11.9 +0.5
baz=202
RC01 **Rabbit Creek A** 84.31 14 P P 00 11 11.3 -0.2
baz=207
M20K **Styx River** 84.33 12 P P 00 11 10.3 -1.4
baz=204
PWL **Port Wells** 84.42 14 P P 00 11 12.2 +0.2
PWL **Port Wells** 84.42 14 P P 00 11 11.9 -0.2
baz=208,SNR=5.3
SUA **Susitna One** 84.43 13 P P 00 11 12.0 -0.3
SUA IAmb IAmb 00 11 12.9
comp=Z,16nm,0.7s
SUA **Susitna One** 84.43 13 P P 00 11 11.9 -0.3
baz=206,SNR=6.1
J16K **Anvik River** 84.45 8 P P 00 11 11.7 -0.4
baz=197
KAIM **Kayak Island** 84.59 16 P P 00 11 12.6 -0.2
baz=212
CRAG **Craig** 84.67 24 P P 00 11 13.1 -0.2
baz=222
GLI **Glacier Island** 84.73 15 P P 00 11 13.5 0.0
baz=209,SNR=11
SKT **Skwentna** 84.74 12 P P 00 11 12.8 -0.8
baz=205
J17K **VABM Dome** 84.77 9 P P 00 11 12.9 -0.8
baz=198
EYAK **Cordova Ski Ar** 84.78 16 P P 00 11 13.1 -0.6
baz=211
TTA **Tatalina** 84.80 10 P P 00 11 13.7 -0.2
baz=201
KNK **Knik Glacier** 84.89 14 P P 00 11 14.5 +0.2
KNK IAmb IAmb 00 11 14.9
comp=Z,13nm,0.8s
KNK **Knik Glacier** 84.89 14 P P 00 11 14.6 +0.2
baz=208,SNR=5.5
PMR **Palmer** 84.89 14 P P 00 11 14.1 -0.2
PMR IAmb IAmb 00 11 16.1
comp=Z,26nm,1.3s
PMR **Palmer** 84.89 14 P P 00 11 14.1 -0.2
baz=207
HEH **HeiHe** 84.92 328 eP P 00 11 14.9 +0.2
HEH pmax pmax
comp=Z,15nm,1.1s
HAWA **Hanford** 85.00 36 P P 00 11 16.3 +1.1
HAWA IAmb IAmb 00 11 17.8
comp=Z,24nm,1.1s
I17K **Unalakleet** 85.02 8 P P 00 11 15.3 +0.5
baz=197
GHO **Glory Hole Cre** 85.10 14 P P 00 11 15.5 +0.1
J18K **Innoko River** 85.19 10 P P 00 11 15.7 0.0
baz=200,SNR=6.1
W18A **Petrified Fore** 85.26 50 P P 00 11 16.0 -1.0
baz=241
SML **Sawmill** 85.26 14 P P 00 11 16.3 +0.2
baz=208
LYN **LuoYang** 85.32 309 ⇑P P 00 11 18.3 +1.3
LYN pmax pmax
comp=Z,33nm,0.6s
CUT **Chulitna** 85.38 13 P P 00 11 16.2 -0.4
baz=206
M23K **Glacier View** 85.39 14 P P 00 11 16.4 -0.3
baz=209
BMRM **Bremner River** 85.43 16 P P 00 11 16.8 -0.2
baz=212,SNR=5.2
BJT **Baijiatuan** 85.46 316 P P 00 11 17.6 0.0
BJT IAmb IAmb 00 11 18.5
comp=Z,7.7nm,0.8s
BJI **Beijing** 85.47 316 P P 00 11 18.1 +0.6
BJI PcP PcP 00 11 20.2 +0.8
BJI PP PP 00 14 46.7 -1.5
BJI ScS S 00 21 04.4 +5.7
BJI pmax pmax
comp=Z,5.0nm,0.7s
MESA **MESA** 85.47 17 P P 00 11 16.9 -0.4
baz=214
121A **Cookes Peak, D** 85.48 53 P P 00 11 19.1 +1.0
121A IAmb IAmb 00 11 21.4
comp=Z,15nm,1.3s
121A **Cookes Peak, D** 85.48 53 P P 00 11 16.5 -1.6
baz=243
SCM **Sheep Creek Mo** 85.51 14 P P 00 11 17.5 +0.1
SCM **Sheep Creek Mo** 85.51 14 P P 00 11 17.2 -0.2
baz=209,SNR=6.2
SRIT **Nakonsritamara** 85.52 281 P P 00 11 19.0 +0.7
SRIT IAmb IAmb 00 11 21.0
comp=Z,22nm,0.9s
K20K **Telida** 85.52 11 P P 00 11 16.8 -0.5
baz=203
KLU **Klutina** 85.55 15 P P 00 11 17.7 +0.1
baz=210
ENH **Enshi** 85.60 304 P P 00 11 19.0 +0.5
ENH IAmb IAmb 00 11 19.7
comp=Z,17nm,0.9s
CRQE **Cirque** 85.64 17 P P 00 11 18.3 +0.2
baz=213
DUG **Dugway, Tooele** 85.66 44 P P 00 11 18.3 -0.4
baz=239
PNL **Peninsula** 85.79 19 P P 00 11 19.2 +0.5
baz=216
J19K **Poorman** 85.85 10 P P 00 11 19.8 +0.9
baz=201
CAST **Castle Rocks** 85.94 12 P P 00 11 18.9 -0.4
baz=205,SNR=10
VRDI **Verde Repeater** 85.94 16 P P 00 11 19.5 -0.1
VRDI IAmb IAmb 00 11 21.1
comp=Z,12nm,1.0s
N25K **Chitina, Valde** 85.97 15 P P 00 11 19.3 -0.3
baz=212,SNR=6.8
F14K **Arctic Creek** 85.98 5 P P 00 11 20.0 +0.6
baz=191
GRNC **Granite Creek** 85.98 17 P P 00 11 20.1 +0.3
GRNC IAmb IAmb 00 11 21.4
comp=Z,32nm,1.4s
M24K **Tolsona, Glenn** 86.02 15 P P 00 11 19.7 0.0
baz=210
GLB **Gilahina Butte** 86.03 16 P P 00 11 20.2 +0.4
GLB IAmb IAmb 00 11 20.6
comp=Z,10nm,0.8s
WAT6 **Susitna Watana** 86.08 14 P P 00 11 19.9 -0.2
baz=209,SNR=8.1
WAT1 **Susitna Watana** 86.12 13 P P 00 11 19.5 -0.6
baz=208
H17K **Granite Mounta** 86.13 8 P P 00 11 20.7 +0.5
baz=197
MCARA **McCarthy VSAT** 86.19 16 P P 00 11 20.6 +0.1
baz=213
J20K **Nowinta River** 86.27 10 P P 00 11 20.6 -0.2
baz=203
P29M **Windy Craggy** 86.27 19 P P 00 11 21.2 +0.3
baz=218
G16K **Koyuk River** 86.28 7 P P 00 11 21.0 +0.2
baz=195
CTG **Chitna Glacier** 86.29 17 P P 00 11 20.7 -0.5
baz=214
LLLB **Lillooet** 86.31 32 P P 00 11 22.2 +0.8
LLLB IAmb IAmb 00 11 26.6
comp=Z,17nm,1.4s
TRF **Thorofare Moun** 86.31 12 P P 00 11 20.7 -0.5
baz=206,SNR=8.0
CHUM **Lake Minchumin** 86.32 11 P P 00 11 20.6 -0.4
baz=204,SNR=5.1
F15K **North Star Dit** 86.36 6 P P 00 11 20.8 -0.3
baz=193
GCSA **Galena City Sc** 86.37 9 P P 00 11 21.0 -0.2
baz=200
HLID **Hailey** 86.41 41 P P 00 11 23.4 +1.2
HLID IAmb IAmb 00 11 24.9
comp=Z,12nm,1.0s
HLID **Hailey** 86.41 41 P P 00 11 21.0 -1.1
baz=238,SNR=13
O28M **Mount Upton** 86.46 18 P P 00 11 21.6 -0.5
baz=216,SNR=5.7
HARP **HAARP** 86.52 15 P P 00 11 22.5 +0.5
baz=211
H18K **Honhosa River** 86.54 8 P P 00 11 22.2 +0.1
baz=199
O29M **Mount Kennedy** 86.55 19 P P 00 11 22.5 +0.2
baz=217
PLBC **Pleasant Camp** 86.57 20 P P 00 11 22.3 0.0
baz=219
RND **Reindeer** 86.57 13 P P 00 11 22.3 0.0
G17K **Kiwalik Mounta** 86.58 7 P P 00 11 21.9 -0.3
baz=197
DHY **Denali Highway** 86.59 14 P P 00 11 22.4 -0.1
baz=209
BPAW **Bear Paw Mtn.** 86.77 12 P P 00 11 22.5 -0.6
baz=206
I20K **Naaghedeneel** 86.79 10 P P 00 11 23.0 -0.2
baz=202
ELIB **Princess Elisa** 86.82 187 dP P 00 11 23.6 0.0
ELIB dpP pP 00 13 39.8 +5.0
comp=Z,32nm,0.7s
MCK **McKinley** 86.84 13 P P 00 11 23.0 -0.5
baz=208,SNR=8.2
T35M **Bob Quinn** 86.87 24 P P 00 11 23.4 -0.4
baz=224
P30M **Million Dollar** 86.90 19 P P 00 11 23.6 -0.3
baz=218
SKAG **Skagway** 86.91 20 P P 00 11 24.3 +0.5
baz=220
MNTX **Cornudas Mount** 86.93 55 P P 00 11 25.3 +0.6
MNTX IAmb IAmb 00 11 27.6
comp=Z,15nm,1.2s
MNTX **Cornudas Mount** 86.93 55 P P 00 11 23.4 -1.3
baz=244
PAX **Paxson** 86.93 14 P P 00 11 23.9 -0.2
baz=211
YUK8 **Steele Glacier** 87.00 18 P P 00 11 24.4 -0.2
baz=216
M26K **Nabesna, AK** 87.05 16 P P 00 11 24.5 0.0
baz=213,SNR=6.2
YUK6 **Outpost Mounta** 87.13 18 P P 00 11 25.7 +0.5
baz=217
MVCO **Mesa Verde** 87.13 49 P P 00 11 25.3 -0.5
baz=242
H19K **Roundabout Mou** 87.17 9 P P 00 11 25.5 +0.6
baz=201
YUK3 **Moose Creek** 87.20 17 P P 00 11 25.9 +0.4
baz=215
S34M **Telegraph Cree** 87.21 23 P P 00 11 26.1 +0.8
baz=224
TX32 **Lajitas Array** 87.26 57 P P 00 11 27.7 +1.3
TX32 IAmb IAmb 00 11 29.6
comp=Z,14nm,1.1s
TXAR **Lajitas Array** 87.26 57 P P 00 11 27.1 +0.7
comp=Z,7.6nm,0.9s,baz=224,slow=5.2,SNR=58
comp=Z,7.6nm,0.9s
HYT **Haines Junctio** 87.29 19 P P 00 11 26.6 +0.8
HYT IAmb IAmb 00 11 27.8
comp=Z,17nm,1.3s
HYT **Haines Junctio** 87.29 19 P P 00 11 26.3 +0.5
baz=218
M27K **Edge Creek, AK** 87.30 16 P P 00 11 26.9 +1.0
baz=214,SNR=14
YUK4 **Talbot Arm** 87.36 18 P P 00 11 27.4 +1.1
baz=217
H20K **Anotleneega Mo** 87.37 10 P P 00 11 26.4 +0.5
baz=202,SNR=7.5
NEW **Newport** 87.42 36 P P 00 11 27.1 +0.5
baz=235
L26K **Log Cabin Wild** 87.49 15 P P 00 11 27.2 +0.6
baz=213
P32M **Attlin** 87.54 21 P P 00 11 27.8 +0.9
baz=221
ANMO **Albuquerque** 87.56 51 P P 00 11 28.3 +0.5
ANMO IAmb IAmb 00 11 30.3
comp=Z,9.6nm,1.2s
ANMO **Albuquerque** 87.56 51 P P 00 11 27.6 -0.3
baz=243
I21K **Tanana** 87.56 11 P P 00 11 27.1 +0.2
baz=205
Q32M **Nakina River** 87.57 22 P P 00 11 28.0 +0.7
baz=223
NEA2 **Nenana** 87.58 12 P P 00 11 26.1 -0.8
baz=207,SNR=7.5
K24K **Donnelly Dome** 87.58 14 P P 00 11 26.9 -0.1
baz=210,SNR=8.5
MLY **Manley** 87.65 11 P P 00 11 26.5 -0.8
baz=206,SNR=17
G19K **Purcell Mounta** 87.66 9 P P 00 11 27.2 -0.1
baz=200,SNR=5.2
WRH **Wood River Hil** 87.67 13 P P 00 11 27.0 -0.4
O30N **Mendenhall** 87.68 19 P P 00 11 27.8 +0.3
baz=219,SNR=6.5
XAN **Xi'an** 87.70 308 ⇓P P 00 11 29.1 +0.8
XAN pmax pmax
comp=Z,27nm,1.4s
RIDG **Independent Ri** 87.74 14 P P 00 11 27.8 0.0
baz=211
HDA **Harding Lake** 87.86 13 P P 00 11 28.0 -0.2
HDA **Harding Lake** 87.86 13 P P 00 11 28.2 0.0
baz=209,SNR=14
H21K **Melozitna Rive** 87.86 10 P P 00 11 28.6 +0.4
baz=204,SNR=7.9
L27K **Beaver Creek,** 87.90 16 P P 00 11 28.6 +0.1
baz=214,SNR=7.2
N30M **Aishikik Lake** 87.91 18 P P 00 11 29.6 +0.9
baz=218
BCAR **Beaver Creek A** 87.92 16 P P 00 11 28.8 +0.2
TROLL **Troll, Antarti** 87.95 180 ⇑P P 00 11 29.2 +0.3
comp=Z,272nm,0.5s
WHY **Whitehorse** 87.97 20 P P 00 11 28.9 -0.1
baz=220
E17K **Hotham Inlet** 87.97 6 P P 00 11 28.8 +0.1
baz=196
DLBC **Dease Lake** 88.00 23 P P 00 11 29.5 +0.3
baz=225
IMAR **Indian Mountai** 88.00 10 P P 00 11 28.7 -0.2

I23K Minto, Yukon-K 88.02 12 P P 00 11 28.6 -0.4
baz=207,SNR=8.2
MDM Murphy Dome 88.07 12 P P 00 11 28.6 -0.6
MDM IAmb IAmb 00 11 29.6
comp=Z,17nm,0.8s
COLA College 88.08 13 P P 00 11 29.3 +0.1
baz=208
SCRK Sand Creek 88.14 14 P P 00 11 30.1 +0.4
SCRK Sand Creek 88.14 14 P P 00 11 30.1 +0.4
baz=212,SNR=5.5
IL31 88.19 13 P P 00 11 29.1 -0.6
IL31 IAmb IAmb 00 11 30.4
comp=Z,29nm,1.5s
ILAR Eielson Array 88.19 13 P P 00 11 29.1 -0.6
comp=Z,5.0nm,0.6s,baz=221,slow=5.7,SNR=71
comp=Z,5.0nm,0.6s
F19K Shaleruckik Mo 88.22 8 P P 00 11 29.7 -0.1
baz=199
SNAA Sanae 88.24 179 P P 00 11 29.9 -0.4
SNAA Sanae 88.24 179 ⇑P P 00 11 29.8 -0.4
comp=Z,56nm,1.0s
SNAA Sanae 88.24 179 P P 00 11 29.4 -0.7
comp=Z,1.7nm,0.7s,baz=173,slow=4.5,SNR=12
comp=Z,1.7nm,0.7s
M29M Somme Creek 88.30 17 P P 00 11 31.4 +0.9
baz=217,SNR=12
P33M Teslin, Yukon 88.31 21 P P 00 11 31.3 +0.8
baz=222
H22K Ishtalitna Cre 88.32 11 P P 00 11 30.6 +0.2
baz=205
N31M Braeburn, Yuko 88.33 19 P P 00 11 31.8 +1.3
baz=220
R33M Jennings River 88.35 22 P P 00 11 31.2 +0.4
baz=224
J25K Salcha River, 88.38 14 P P 00 11 30.3 -0.5
baz=211,SNR=10
POKR Poker Plat Res 88.38 13 P P 00 11 29.7 -0.9
POKR IAmb IAmb 00 11 30.8
comp=Z,26nm,1.4s
POKR Poker Plat Res 88.38 13 P P 00 11 30.0 -0.6
baz=209
VNA3 Neumayer Olymp 88.39 176 ⇑P P 00 11 30.6 -0.3
comp=Z,23nm,0.6s
MSO Missoula 88.43 38 P P 00 11 31.3 -0.2
baz=238
E18K Tukpahlearik C 88.44 7 P P 00 11 31.2 +0.3
baz=197
D17K Noatak River 88.45 6 P P 00 11 31.3 +0.4
baz=194
TPAW Teton Pass 88.53 42 P P 00 11 32.6 +0.4
TPAW IAmb IAmb 00 11 35.6
comp=Z,13nm,1.2s
G21K Allakaket 88.53 10 P P 00 11 31.7 +0.4
baz=203,SNR=7.3
S22A 4UR Ranch, Cre 88.56 49 P P 00 11 32.5 -0.1
baz=243
H23K Yukon River 88.59 11 P P 00 11 31.4 -0.2
baz=207
K27K Chicken 88.65 15 P P 00 11 33.2 +1.3
baz=214
O20A White River Ci 88.68 46 P P 00 11 32.5 -0.4
baz=242
J26L Joseph Creek 88.69 14 P P 00 11 32.4 +0.1
baz=212
F20K Avaraart Lake 88.70 9 P P 00 11 32.6 +0.6
baz=201
C16K Lisburne Hills 88.81 5 P P 00 11 33.1 +0.5
baz=192
VNA2 Neumayer--Watz 88.82 177 ⇑P P 00 11 32.8 -0.1
comp=Z,18nm,0.6s,baz=190,slow=3.0
E19K Redstone River 88.88 8 P P 00 11 33.0 +0.1
baz=200
M30M Minto, Yukon 88.88 18 P P 00 11 33.6 +0.6
M30M Minto, Yukon 88.88 18 P P 00 11 33.8 +0.7
baz=219,SNR=11
KMI Kunming 88.91 297 ⇓P P 00 11 35.8 +1.4
KMI pmax pmax
comp=Z,12nm,1.3s
L29M L29M 88.92 17 P P 00 11 33.5 +0.2
baz=217,SNR=14
HHC Hu-ho-hao-te 88.93 315 eP P 00 11 36.7 +2.8
HHC pmax pmax
comp=Z,26nm,0.5s
HHC pmax pmax
comp=Z,150nm,4.1s
VNA1 Neumayer--Stat 89.05 177 ⇑P P 00 11 34.0 +0.2
comp=Z,15nm,0.9s
BW06 Boulder Array 89.06 43 P P 00 11 35.1 +0.4
BW06 IAmb IAmb 00 11 36.4
comp=Z,14nm,1.2s
BW06 Boulder Array 89.06 43 P P 00 11 33.6 -1.0
baz=241
PDAR Pinedale Array 89.06 43 P P 00 11 35.3 +0.6
comp=Z,4.5nm,0.7s,baz=210,slow=3.7,SNR=37
comp=Z,4.5nm,0.7s
CRAI Chiangrai 89.08 292 P P 00 11 35.6 +0.7
PRP Porcupine Dome 89.12 13 P P 00 11 34.2 -0.1
baz=211,SNR=9.0
BOZ Bozeman (W) 89.17 40 P P 00 11 35.6 +0.6
BOZ IAmb IAmb 00 11 37.5
comp=Z,9.2nm,1.1s
BOZ Bozeman (W) 89.17 40 P P 00 11 35.3 +0.3
baz=240,SNR=7.0
F21K Alatna River 89.19 9 P P 00 11 34.4 -0.1
baz=203
G22K Bettles 89.23 10 P P 00 11 35.0 +0.4
baz=205
G23K Bananza Creek 89.30 11 P P 00 11 34.7 -0.3
baz=206
M31M Drury Creek, Y 89.30 19 P P 00 11 35.5 +0.5
baz=221
DAWY Dawson 89.35 16 P P 00 11 35.5 +0.3
baz=216
I26K Coal Creek Min 89.46 14 P P 00 11 35.7 0.0
baz=213
SDCO Great Sand Dun 89.50 49 P P 00 11 37.5 +0.6
SDCO Great Sand Dun 89.50 49 P P 00 11 35.6 -1.3
baz=244
C18K Utukok River 89.56 6 P P 00 11 36.4 +0.3
baz=196
FARO Faro, Yukon 89.65 19 P P 00 11 36.7 0.0
baz=222
F22K John River 89.66 10 P P 00 11 37.3 +0.7
baz=204
K29M Barlow Dome 89.67 17 P P 00 11 36.7 -0.1
baz=218,SNR=10
CM31 Chiang Mai Arr 89.68 290 P 00 11 38.4 +0.6
CM31 IAmb IAmb 00 11 40.2
comp=Z,23nm,1.5s
CMAR Chiang Mai Arr 89.68 290 P P 00 11 38.8 +1.0
CMAR Chiang Mai Arr 89.68 290 P P 00 11 38.1 +0.3
comp=Z,6.0nm,0.8s,baz=122,slow=2.9,SNR=33
comp=Z,6.0nm,0.8s
H25L Birch Creek 89.71 13 P P 00 11 37.3 +0.5
baz=210
COLD Coldfoot 89.73 11 P P 00 11 36.8 0.0
baz=206
D19K Kuna River 89.75 7 P P 00 11 37.3 +0.4
baz=199
G24K Hadweenzic Riv 89.76 12 P P 00 11 37.0 0.0
baz=209
E20K Nigu River 89.77 8 P P 00 11 36.9 -0.2
baz=201
CHTO Chiang Mai 89.81 290 P P 00 11 39.1 +0.7
BTO Baotou 89.86 314 eP P 00 11 39.9 +1.7
BTO pP pP 00 13 50.7 +1.0
BTO pmax pmax
comp=Z,13nm,0.4s
BTO pmax pmax
comp=Z,140nm,3.9s
MSTX Muleshoe 89.89 54 P P 00 11 38.6 +0.1
baz=245
MAYO Mayo, Yukon 89.93 18 P P 00 11 38.6 +0.7
baz=219
J29N Klondike Camp 89.97 16 P P 00 11 39.0 +0.9
baz=217
T25A Trinidad 90.02 50 P P 00 11 38.9 -0.3
baz=244
I27K Kandik River 90.07 14 P P 00 11 38.3 -0.2
baz=214
D20K Etivluk River 90.14 8 P P 00 11 39.3 +0.5
baz=200
LIRD Liard River Hi 90.14 24 P P 00 11 39.0 +0.1
baz=228
C19K Lookout Ridge 90.16 7 P P 00 11 39.7 +0.8
baz=198
E21K Killik River 90.25 9 P P 00 11 39.0 -0.2
baz=203

PZH PanZhiHua 90.27 298 P P 00 11 42.4 +1.9
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,120nm,4.7s
833A Chaparral WMA, 90.28 60 P P 00 11 39.5 -0.8
baz=247
ISCO Idaho Springs 90.33 47 P P 00 11 40.6 -0.1
baz=244
I28M Miner Creek 90.34 15 P P 00 11 40.0 +0.2
baz=216,SNR=5.5
RLMT Red Lodge 90.38 41 P P 00 11 40.5 -0.2
baz=241
F24K Squaw Lake 90.40 11 P P 00 11 39.8 -0.3
baz=208
J30M Hart River 90.57 17 P P 00 11 41.9 +0.9
baz=219
E23K Chandalar 90.58 10 P P 00 11 41.8 +0.9
baz=207
N23A Red Feather La 90.59 46 P P 00 11 41.3 -0.5
baz=244
MMPY Sheldon Lake, 90.59 20 P P 00 11 42.4 +1.4
baz=224
H27K Steamboat Moun 90.61 14 P P 00 11 42.1 +1.1
baz=214
I29M Ogilvie Camp, 90.67 16 P P 00 11 41.9 +0.6
baz=217
G26K Porcupine Rive 90.72 13 P P 00 11 42.1 +0.7
baz=212,SNR=5.6
C21K Knifeblade Rid 90.80 8 P P 00 11 42.7 +0.9
baz=202
TGTN Hyland Airport 90.80 22 P P 00 11 42.2 +0.2
baz=226
HNDO Hondo 90.84 59 P P 00 11 44.3 +1.4
HNDO IAmb IAmb 00 11 45.4
comp=Z,13nm,1.0s
D22K Ayikyak River 90.84 9 P P 00 11 42.3 +0.3
baz=204
F25K Christian Rive 90.89 12 P P 00 11 42.9 +0.6
baz=210
G27K Doyon Strip 91.06 14 P P 00 11 43.5 +0.5
baz=214
I30M Mount Dempster 91.07 16 P P 00 11 43.5 +0.3
baz=219,SNR=6.0
AMTX Amarillo 91.08 53 P P 00 11 43.8 -0.2
baz=246
TOLK Toolik Lake Re 91.11 10 P P 00 11 43.8 +0.6
baz=207
D23K Nanushuk River 91.22 10 P P 00 11 44.5 +0.8
baz=206
B21K Ikpikpuk River 91.25 8 P P 00 11 45.0 +1.2
baz=202
F26K Sheenjek River 91.28 12 P P 00 11 44.6 +0.6
baz=212
H29M Whitestone 91.35 15 P P 00 11 45.1 +0.7
baz=217,SNR=6.3
KOTAN Kotaneelee Air 91.40 24 P P 00 11 45.1 +0.3
baz=230
D24K Happy Valley 91.69 10 P P 00 11 46.3 +0.4
baz=208
ABTX Abilene, Hawle 91.75 56 P P 00 11 46.4 -0.7
baz=247
EPYK Eagle Plains 91.88 16 P P 00 11 46.6 -0.2
baz=219
G29M Pine Creek 91.98 15 P P 00 11 47.4 +0.1
baz=218
C23K Itkillik River 92.02 9 P P 00 11 48.0 +0.7
baz=206
B22K Teshekpuk Lake 92.08 8 P P 00 11 47.7 +0.1
baz=203
C24K Franklin Bluff 92.21 10 P P 00 11 48.8 +0.6
baz=208
D25K Kavik River 92.26 11 P P 00 11 49.0 +0.5
baz=210
G30M tAoh Zraii Nji 92.48 15 P P 00 11 49.7 +0.1
baz=219
G31M Satah River 92.93 16 P P 00 11 51.9 +0.4
baz=221
E28M Babbage River 93.00 13 P P 00 11 52.4 +0.5
baz=216
D27M Malcolm River 93.22 13 P P 00 11 53.7 +0.8
baz=215
F31M Tsiigehtchic 93.45 16 P P 00 11 54.6 +0.7
baz=221
INK Inuvik 94.16 15 P P 00 11 57.2 0.0
baz=222
ULN Ulaanbaatar 94.95 319 P P 00 12 01.5 +0.1
DGMT Dagmar 95.00 40 P P 00 12 01.9 +0.4
baz=245
TUL3 Leonard 95.92 54 P P 00 12 05.0 -0.9
baz=249
LRAL Lakeview Retre 101.91 59 P Pdif 00 12 32.0 -0.6
baz=254
WVT Waverly 102.12 56 P Pdif 00 12 32.8 -0.7
baz=254
JFWS Jewell Farm 102.22 49 P Pdif 00 12 33.1 -0.7
baz=254
HDIL Hopedale 102.24 51 P Pdif 00 12 33.4 -0.5
baz=254
EYMN Ely 102.77 44 P Pdif 00 12 35.4 -0.7
baz=254
ZALV Zalesovo Beam 110.08 321 PKiKP PKiKP 00 17 04.8 -1.2
comp=Z,1.9nm,0.6s,baz=178,slow=1.2,SNR=9.5
MKAR Makanchi Array 110.77 314 PKiKP PKiKP 00 17 06.6 -1.0
comp=Z,1.2nm,0.6s,baz=154,slow=1.0,SNR=13
KURBB Kurchatov Arra 113.63 317 PKiKP PKiKP 00 17 11.8 -1.0
comp=Z,2.0nm,0.6s,baz=101,slow=1.8,SNR=27
KURBB PP PP 00 18 13.7 -3.9
comp=Z,0.3nm,0.7s,baz=95,slow=7.7,SNR=4.2
KURBB SKP 00 19 50.8
comp=Z,0.6nm,0.8s,baz=80,slow=2.0,SNR=4.9
BVAR Borovoye Array 118.67 320 PKP PKPdf 00 17 21.9 -0.7
comp=Z,5.4nm,0.5s,baz=149,slow=1.0,SNR=27
KK31 Karatay Array 118.81 309 PKPdf PKPdf 00 17 22.2 -0.9
KKAR Karatay Array 118.81 309 PKPdf PKPdf 00 17 22.3 -0.9
KBL Kabul 119.45 299 PKPdf PKPdf 00 17 24.2 -0.7
SPITS Spitsbergen Ar 121.62 356 PKP PKPdf 00 17 26.9 -0.7
comp=Z,8.0nm,0.9s,baz=78,slow=7.8,SNR=4.7
ARU Arti 124.81 325 PKPdf PKPdf 00 17 33.7 -0.4
ABKAR Abkulak array 125.67 317 PKPdf PKPdf 00 17 35.3 -0.7
ABKAR Abkulak array 125.67 317 PKPdf PKPdf 00 17 35.1 -1.0
GEYT Alibeck 128.34 303 PKP PKPdf 00 17 41.5 -0.1
comp=Z,2.9nm,0.7s,baz=77,slow=4.4,SNR=5.3
ARCES ARCESS Array B 128.64 349 PKP PKPdf 00 17 40.1 -1.0
comp=Z,2.6nm,0.5s,baz=20,slow=1.1,SNR=23
ARCES SKPbc SKPbc 00 20 03.6
comp=Z,2.1nm,0.8s,baz=0.6,slow=11,SNR=1.7
BELG Belogornoye 132.20 323 PKP PKPdf 00 17 48.1 -0.2
comp=Z,13nm,0.7s,baz=349,slow=1.3,SNR=8.4
BELG SKPbc SKPbc 00 20 18.3 0.0
comp=Z,19nm,0.9s,baz=318,slow=4.5,SNR=14
FINES FINESS Array B 135.46 344 PKhKP PKPpre 00 17 41.5
comp=Z,3.9nm,1.0s,baz=28,slow=5.2,SNR=5.4
FINES PKP PKPdf 00 17 53.3 -0.8
comp=Z,3.1nm,0.7s,baz=48,slow=2.8,SNR=3.2
FINES SKPbc SKPbc 00 20 27.5 -1.0
comp=Z,1.6nm,0.6s,baz=33,slow=4.5,SNR=3.7
NB2 NORSAR Subarra 138.72 353 PKP PKPpre 00 17 50.5
comp=Z,1.4nm,0.6s,baz=14,slow=3.3
NOA NORSAR Array B 138.72 353 PKhKP PKPpre 00 17 50.0
comp=Z,0.9nm,0.5s,baz=49,slow=1.8,SNR=9.4
NOA SKPbc SKPbc 00 20 37.8 -0.3
comp=Z,3.4nm,1.1s,baz=14,slow=4.4,SNR=3.6
HFS Hagfors 139.26 351 PKhKP PKPpre 00 17 51.2
comp=Z,3.9nm,0.4s,baz=83,slow=3.6,SNR=33
SUW Suwalki 142.50 339 ePKPdf PKPdf 00 18 04.5 -2.6
AKASG Malin Array Be 142.64 331 PKP PKPdf 00 18 04.2 -3.3
comp=Z,18nm,0.5s,baz=43,slow=4.3,SNR=82
AKASG SKPbc SKPbc 00 20 47.7 -0.7
comp=Z,0.3nm,0.3s,baz=38,slow=2.4,SNR=1.9
LODK Lodvar 143.08 247 PKPab 00 18 08.2 +0.7
GAZ Gaziantep 144.77 306 PKPdf 00 18 12.4 +0.6
EKA Eskdalemuir Ar 144.82 5 PKP PKPdf 00 18 10.2 -1.0
comp=Z,2.8nm,0.5s,baz=320,slow=3.1,SNR=22
EKA SKPbc SKPbc 00 20 51.8 -1.5
comp=Z,1.0nm,0.7s,baz=328,slow=2.5,SNR=1.9
SORM Soroca 144.82 328 ⇓P PKPdf 00 18 11.2 -0.1
GKP Gorka Klasztor 144.93 344 ePKPbc PKPdf 00 18 12.2 +0.8
PURM Purcari 145.09 325 ⇓P PKPdf 00 18 12.8 +0.9
BEL Belsk 145.12 339 ePKPbc PKPdf 00 18 13.0 +1.2
BNN Bunyan 145.20 310 PKPdf 00 18 13.3 +0.8
BSEG Bad Segeberg 145.74 351 ePKPbc PKPbc 00 18 14.7 +0.2
baz=15,slow=2.6
LEOM Leova 145.99 326 ⇓P PKPbc 00 18 15.5 0.0
VASR Vaslui 146.11 327 ⇑P PKPbc 00 18 16.5 +0.6
KWP Kalwaria Pacla 146.22 335 ePKPbc PKPbc 00 18 16.1 0.0
KWP Kalwaria Pacla 146.22 335 PKPbc 00 18 15.9 -0.2

BR131 Keskin Array S 146.41 312 PKPbc 00 18 16.7 -0.4
BRTR Keskin Array B 146.41 312 PKPbc 00 18 16.7 -0.4
BRTR Keskin Array B 146.41 312 PKPbc PKPdf 00 18 14.6 0.0
comp=Z,6.0nm,0.6s,baz=85,slow=1.3,SNR=41
BRTR SKPbc SKPbc 00 20 56.0 -1.6
comp=Z,0.2nm,0.6s,baz=33,slow=1.8,SNR=3.8
BRTR PP PP 00 21 50.2 +3.5
comp=Z,1.8nm,0.6s,baz=62,slow=14,SNR=14
TLCR 146.51 324 ⇑P PKPbc 00 18 17.0 0.0
BUR08 Bucovina Ar. S 146.67 330 PKPbc 00 18 18.3 +0.8
BURAR Bucovina Array 146.68 330 ⇑P PKPbc 00 18 18.6 +1.0
BURAR Bucovina Array 146.68 330 PKPbc 00 18 18.1 +0.6
GHRR 146.69 326 ⇑P PKPbc 00 18 18.3 +0.8
TESR Tescani 146.78 328 ⇑P PKPbc 00 18 17.2 -0.5
OJC Ojcow 146.82 338 ePKPbc PKPbc 00 18 17.5 -0.2
OJC Ojcow 146.82 338 PKPbc 00 18 17.3 -0.4
ANTO Ankara 146.93 313 ⇓P PKPbc 00 18 18.4 -0.1
ANTO Ankara 146.93 313 PKPbc 00 18 18.5 +0.1
TPGR Topolog 146.93 324 ⇑P PKPbc 00 18 18.7 +0.5
KOLS Kolonicke sedl 146.95 335 ePKP PKiKP 00 18 18.7 -1.2
PANC Panciu 146.96 326 ⇑P PKPbc 00 18 18.8 +0.7
STHS Stebnicka Huta 146.96 336 ePKP PKiKP 00 18 17.8 -2.1
FLTG Flechtingen 147.14 349 ePKPbc PKPbc 00 18 18.4 0.0
baz=15,slow=2.6
NRDL Niedersach Rie 147.17 350 ePKPbc PKPbc 00 18 18.6 +0.2
baz=15,slow=2.6
VRI Vrincioaia 147.18 327 ⇑P PKPbc 00 18 19.0 +0.2
PLOR Plostina 147.23 327 ⇓P PKPbc 00 18 18.5 -0.4
CRVS Cervenica-Dubn 147.30 335 ePKP PKiKP 00 18 19.7 -0.9
NIE Niedzica 147.31 337 ePKPbc PKPbc 00 18 20.2 +1.1
KSP Ksiaz 147.37 343 ePKPbc PKPbc 00 18 19.5 +0.4
MMAI Mount Meron Ar 147.38 300 PKPbc PKPbc 00 18 19.1 -0.7
comp=Z,14nm,0.6s,baz=68,slow=5.5,SNR=72
BMR Baia Mare 147.42 332 ⇑P PKPbc 00 18 19.8 +0.4
COVR Voineasa-Covas 147.46 327 ⇑P PKPbc 00 18 19.4 -0.1
TRPA Tarpa 147.47 334 ⇑P PKPbc 00 18 19.9 +0.4
TSMN Mangalia Port- 147.49 322 ⇓P PKPab 00 18 39.0 +15
GHAJ Ghor Haditha 147.62 297 PKPbc 00 18 20.2 -0.1
OSTC Ostas 147.65 342 ⇑ePKP PKPbc 00 18 20.6 +0.7
CHVC Chvalec 147.66 343 ⇑ePKP PKPbc 00 18 20.2 +0.3
IBBN Ibbenburen 147.68 353 ePKPbc PKPbc 00 18 19.9 +0.1
baz=15,slow=2.6
MDUB Mudurnu 147.72 315 PKPbc 00 18 19.4 -1.1
UPC Upice 147.75 343 ⇑ePKP PKPbc 00 18 20.4 +0.3
CLL Collm 147.76 347 PKPbc 00 18 20.0 -0.1
CLL Collm 147.76 347 ePKPbc PKPbc 00 18 20.2 +0.2
baz=15,slow=2.6
CLL Collm 147.76 347 ⇓ iPKPbc PKPbc 00 18 20.2 +0.2
comp=Z,36nm,0.7s
CLL i PKPab PKPab 00 18 24.7 -0.1
comp=Z,16nm,0.6s
DOPR Dopca 147.78 328 ⇓P PKPbc 00 18 21.0 +0.6
DPC Dobruska-Polom 147.80 342 ⇑ePKP PKPbc 00 18 20.7 +0.4
DPC ePKPAB PKPab 00 18 25.7 +0.6
MLR Muntele Rosu 147.83 327 ⇓P PKPbc 00 18 21.2 +0.6
MLR Muntele Rosu 147.83 327 PKPbc 00 18 20.1 -0.6
LANS Liptovska Anna 147.84 338 ePKP PKPbc 00 18 21.6 +1.2
MORC Moravsky Berou 147.94 340 ⇓P PKPbc 00 18 21.0 +0.4
MORC Moravsky Berou 147.94 340 PKPbc 00 18 20.3 -0.4
MORC Moravsky Berou 147.94 340 ePKP PKPbc 00 18 20.7 0.0
BRG Berggiesshubel 147.95 345 ⇓ ePKPf PKPdf 00 18 16.4 -0.2
BRG Amp 00 18 17.8
comp=Z,5.6nm,1.2s
BRG PKPab PKPbc 00 18 21.4 +0.9
BRG Amp 00 18 22.0
comp=Z,18nm,0.7s
BRG ⇑PKP PKPab 00 18 26.3 +0.7
BRG Amp 00 18 27.1
comp=Z,12nm,0.7s
BRG Berggiesshubel 147.95 345 ePKPbc PKPbc 00 18 21.3 +0.7
baz=15,slow=2.6
FBE Freiberg 148.04 346 ePKPbc PKPbc 00 18 21.3 +0.5
baz=15,slow=2.6
CJR Cluj-Napoca 148.09 331 ⇑P PKPbc 00 18 21.6 +0.5
GTTG Gottingen 148.11 350 ePKPbc PKPbc 00 18 21.3 +0.3
baz=15,slow=2.6
PVCC Panska Ves 148.12 344 ⇑ePKP PKPbc 00 18 21.4 +0.4
MDB Medias 148.15 329 ⇑P PKPbc 00 18 22.2 +1.0
MAUC Maruska 148.21 340 ⇑ePKP PKPbc 00 18 22.0 +0.7
HSKC Hora Svate Kat 148.32 346 ⇑ePKP PKPbc 00 18 21.6 +0.1
VOIR 148.32 328 ⇓P PKPbc 00 18 22.2 +0.4
LTVH Ltavrtes, Hu 148.33 333 ⇓P PKPbc 00 18 22.9 +1.3
MARR Marisel-Cluj 148.34 331 ⇑P PKPbc 00 18 22.1 +0.2
CSS Mathiatis 148.46 304 PKPbc 00 18 21.4 -1.0
ARR Arges 148.58 328 ⇑P PKPbc 00 18 23.0 +0.6
VYHS Vyhne 148.61 338 ePKP PKPbc 00 18 22.7 +0.4
PRU Pruhonice 148.62 344 ⇑ePKP PKPbc 00 18 22.4 +0.2
PRU ePKPAB PKPab 00 18 28.3 0.0
GOPC GO Pecny, Ondr 148.62 344 ⇑ePKP PKPbc 00 18 22.6 +0.3
VRAC Vranov 148.65 341 ⇑P PKPbc 00 18 23.0 +0.6
VRAC Vranov 148.65 341 ePKP PKPbc 00 18 22.8 +0.4
VRAC e 00 18 29.2
KASTN Kahler Asten 148.68 352 ePKPbc PKPbc 00 18 22.6 +0.2
baz=15,slow=2.6
MOX Moxa 148.68 348 ePKPbc PKPbc 00 18 22.6 +0.2
baz=15,slow=2.6
JAVC Velka Javorina 148.70 339 ePKP PKPbc 00 18 23.8 +1.2
PSZ Piszkesteto 148.70 336 ⇑P PKPbc 00 18 23.1 +0.4
PSZ Piszkesteto 148.70 336 PKPbc 00 18 22.1 -0.5
PLN Plauen 148.72 347 ePKPbc PKPbc 00 18 22.8 +0.3
baz=15,slow=2.6
TANN Tannenbergstha 148.72 347 ePKPbc PKPbc 00 18 22.9 +0.3
baz=15,slow=2.6
WERD Werda 148.72 347 ePKPbc PKPbc 00 18 22.9 +0.4
baz=15,slow=2.6
GUNZ Gunzen 148.80 347 ePKPbc PKPbc 00 18 23.2 +0.5
baz=15,slow=2.6
WERN Wernitzgruen 148.86 347 ePKPbc PKPbc 00 18 23.5 +0.7
baz=15,slow=2.6
LOZB Loznitsa 148.89 323 ⇑P PKPdf 00 18 20.9 +2.6
KRUC Moravsky 148.93 341 ePKP PKPbc 00 18 23.1 +0.1
KRUC e 00 18 30.1
LOT Lotru 148.95 329 ⇓P PKPbc 00 18 22.6 -0.8
TREC Trest 148.99 342 ⇑ePKP PKPbc 00 18 23.2 0.0
HUMR Humele 148.99 327 ⇑P PKPbc 00 18 22.9 -0.4
DEV Deva 149.03 330 ⇑P PKPbc 00 18 23.6 +0.2
COPA Copaceanca 149.14 326 ⇑P PKPbc 00 18 23.4 -0.3
MANZ Manzenberg 149.20 347 ePKPbc PKPbc 00 18 24.1 +0.4
baz=15,slow=2.6
ZVC Zvikov 149.21 344 ⇑ePKP PKPbc 00 18 23.9 +0.2
ZVC ePKPAB PKPab 00 18 31.4 +0.6
MODS Modra-Piesok 149.25 339 ePKP 00 18 24.8
SIRR Siria 149.30 332 ⇑P PKPbc 00 18 24.4 +0.4
ROTZ Rotzenmuhle 149.38 346 ePKPbc PKPbc 00 18 24.3 +0.2
baz=15,slow=2.6
GZR Gura Zlata 149.46 330 ⇑P PKPbc 00 18 24.4 -0.2
SURR Surduc 149.49 331 ⇓P PKPbc 00 18 24.4 -0.1
MEM Membach 149.53 354 dPKP PKPbc 00 18 24.2 -0.2
BTNL Ternell 149.54 354 dPKP PKPbc 00 18 24.8 +0.3
BSTI Sart Tilman 149.60 355 dPKP PKPbc 00 18 24.7 +0.2
BSTI dPKPab PKPab 00 18 32.5 +0.2
KHC Kasperske Hory 149.65 344 PKPbc 00 18 24.6 -0.2
KHC Kasperske Hory 149.65 344 ePKPDF PKPdf 00 18 19.8 +0.4
KHC ⇑ePKP PKPbc 00 18 25.1 +0.3
KHC ePKPAB PKPab 00 18 33.2 +0.5
CKRC Cesky Krumlov 149.75 343 ⇑ePKP PKPbc 00 18 25.1 +0.1
CKRC ePKPAB PKPab 00 18 33.4 +0.3
BCLA Clavier 149.78 355 dPKP PKiKP 00 18 27.2 +1.6
BCLA dPKPab PKPab 00 18 32.8 -0.3
BZS Buzias 149.82 331 ⇑P PKPbc 00 18 25.1 -0.2
BGES Gesves 149.83 356 dPKP PKPbc 00 18 25.1 0.0
BGES dPKPab PKPab 00 18 33.0 -0.3
GEC2 GERESS Array S 149.89 344 PKPbc 00 18 24.8 -0.6
GEC2 GERESS Array S 149.89 344 ePKPbc PKPbc 00 18 25.4 -0.1
baz=15,slow=2.6
GERES GERESS Array B 149.89 344 PKPbc PKPbc 00 18 25.0 -0.5
comp=Z,5.8nm,0.7s,baz=22,slow=3.4,SNR=7.8
BMRD Maredsous 149.94 356 dPKP PKPbc 00 18 25.5 +0.1
BMRD dPKPab PKPab 00 18 33.0 -0.7
HERR Herculane 150.01 330 ⇑P PKPbc 00 18 25.4 -0.4
RCHB Rochefort 150.05 355 dPKP PKPbc 00 18 25.5 -0.1
CONA Conrad Observa 150.10 341 i PKP PKPbc 00 18 26.1 +0.1
comp=Z,7.1nm,0.6s,SNR=7.7
CONA ePKP PKPab 00 18 35.3 +0.6
comp=Z,3.5nm,0.6s
DJES Djerdap 150.12 329 ⇓P PKPbc 00 18 25.8 -0.2
DJES Djerdap 150.12 329 PKPbc 00 18 25.4 -0.6
DOU Dourbes 150.15 356 dPKP PKPbc 00 18 25.8 -0.1
RONA Rosalia, Austr 150.16 340 ePKP PKPbc 00 18 26.2 +0.1
comp=Z,13nm,0.5s,SNR=9.0
RONA i PKP PKPab 00 18 35.5 +0.6
comp=Z,6.0nm,0.8s
MDVR Moldovita 150.42 330 ⇑P PKPbc 00 18 26.7 -0.1

WLF	Walferdange	150.46	354	dPKP	PKPbc	00 18 27.1	+0.5
WLF				dPKPab	PKPab	00 18 35.0	-1.0
MORH	Mrgy, Hungar	150.59	336	⇑P	PKPbc	00 18 27.0	0.0
MOA	Molln	150.64	342	i PKP	PKPbc	00 18 27.0	-0.1
	comp=Z,4.0nm,0.5s						
ARSA	Arzberg	150.81	340	ePKP	PKPbc	00 18 28.3	+0.8
	comp=Z,1.4nm,0.5s						
BIOA	Bad Ischl, Aus	150.96	343	i PKP	PKPbc	00 18 27.3	-0.6
	comp=Z,5.2nm,0.7s						
BIOA				ePKP	PKPab	00 18 38.6	+0.3
	comp=Z,4.8nm,0.6s						
BOVS	Bovan	151.28	329	⇑P	PKPbc	00 18 28.0	-0.7
LESA	Schwarzleotal	151.46	344	ePKP	PKPbc	00 18 28.4	-0.7
	comp=Z,3.7nm,0.4s						
LESA				ePKP	PKPab	00 18 40.3	-0.1
	comp=Z,9.6nm,0.8s						
SOKA	Soboth	151.47	340	i PKP	PKPbc	00 18 28.6	-0.5
	comp=Z,8.7nm,1.1s						
SOKA				i PKP	PKPab	00 18 40.4	-0.1
	comp=Z,12nm,1.4s						
PERS	Pernice	151.48	340	i PKPbc	PKPbc	00 18 28.3	-0.8
BFO	Black Forest	151.49	351		PKPbc	00 18 28.6	-0.4
OBKA	Obir	151.77	341	i PKP	PKPbc	00 18 28.8	-1.0
	comp=Z,1.8nm,0.6s						
WATA	Walderalm	151.81	346	i PKP	PKPbc	00 18 29.3	-0.6
	comp=Z,6.1nm,0.6s						
WATA				ePKP	PKPab	00 18 42.1	+0.1
	comp=Z,16nm,1.2s						
RETA	Reutte	151.85	347	i PKP	PKPbc	00 18 29.5	-0.4
	comp=Z,3.5nm,0.6s						
RETA				ePKP	PKPab	00 18 41.9	-0.2
	comp=Z,5.4nm,0.9s						
WTTA	Wattenberg	151.87	345	ePKP	PKPbc	00 18 29.7	-0.4
	comp=Z,11nm,0.5s,SNR=6.2						
WTTA				ePKP	PKPab	00 18 42.3	0.0
	comp=Z,11nm,0.6s						
MOTA	Moosalm	151.91	346	i PKP	PKPbc	00 18 29.6	-0.6
	comp=Z,9.4nm,0.9s						
MOTA				ePKP	PKPab	00 18 42.1	-0.4
	comp=Z,9.1nm,1.0s						
MYKA	Terra Mystica	151.93	342	ePKP	PKPbc	00 18 29.3	-0.8
	comp=Z,5.6nm,0.5s						
SQTA	Sankt Quirin	152.01	346	ePKP	PKPbc	00 18 29.9	-0.5
	comp=Z,7.2nm,0.6s						
PRED	Cave del Predi	152.12	342	PKPbc	PKPbc	00 18 29.4	-1.2
PRED					PKPab	00 18 42.6	-0.6
ABTA	Abfaltersbach	152.13	344	i PKP	PKPbc	00 18 29.6	-0.9
	comp=Z,12nm,0.6s,SNR=6.5						
ABTA				ePKP	PKPab	00 18 42.8	-0.5
	comp=Z,7.8nm,0.8s						
LJU	Ljubljana	152.19	340	i PKPbc	PKPbc	00 18 30.2	-0.4
DAVA	Damuels	152.23	348	ePKP	PKPbc	00 18 31.1	+0.2
	comp=Z,4.7nm,0.6s						
CRNS	Crni Vrh	152.24	341	i PKPbc	PKPbc	00 18 29.9	-0.8
FETA	Feichten	152.30	346	ePKP	PKPbc	00 18 30.8	-0.3
	comp=Z,3.0nm,0.6s						
FETA				ePKP	PKPab	00 18 43.9	-0.2
	comp=Z,7.6nm,1.0s						
STAL	STALIGIAL	152.53	343		PKPbc	00 18 30.2	-1.2
STAL				PKPab	PKPab	00 18 44.4	-0.6
CTI	Castel Tesino	153.00	344	PKPbc	PKPbc	00 18 31.9	-0.6
CTI					PKPab	00 18 46.2	-0.9
TUE	Stuetta	153.11	348		PKPbc	00 18 32.7	-0.2
TEOL	Teolo	153.64	344	PKPbc	PKPbc	00 18 33.6	-0.1
TEOL				PKPab	PKPab	00 18 49.4	-0.2
PBRG	Braganca	157.41	16	ePKPab	PKPab	00 19 06.6	+0.5
POLO	Lamas de Olo	157.51	19	ePKPab	PKPab	00 19 07.4	+0.8
MVO	Moncorvo	157.93	18	ePKPab	PKPab	00 19 08.8	+0.4
PCAS	Casmilo, Conde	158.48	22	ePKPab	PKPab	00 19 10.9	+0.1
PMTG	Montargil	159.45	22	ePKPab	PKPab	00 19 15.0	0.0
PESTR	Estremoz	159.85	21	ePKPab	PKPab	00 19 17.4	+0.6
EVO	Evora	160.00	23	ePKPab	PKPab	00 19 17.8	+0.4
ESBB	Sonseca Array	160.09	13		PKPab	00 19 18.1	+0.3
ESDC	Sonseca Array	160.09	13		PKPab	00 19 17.8	-0.1
ESDC	Sonseca Array	160.09	13	PKP	PKPdf	00 18 32.9	-0.8
	comp=Z,0.4nm,1.0s,baz=318,slow=1.7,SNR=2.8						
ESDC				PKPab	PKPab	00 19 17.1	-0.7
	comp=Z,5.3nm,1.1s,baz=340,slow=4.3,SNR=18						
ESDC				PP	PP	00 23 00.5	-0.9
	comp=Z,0.1nm,0.4s,baz=77,slow=1.7,SNR=3.4						
PNCL	Nicolau / Gran	160.18	24	ePKPab	PKPab	00 19 18.7	+0.5
PBAR	Barrancos	160.66	21	ePKPdf	PKPdf	00 18 35.3	+1.0
PCVE	Castro Verde	160.79	24	ePKPab	PKPab	00 19 20.4	-0.5
KEST	Kesra	163.16	338	PKPab	PKPab	00 19 30.8	-0.7
	comp=Z,3.3nm,0.8s,baz=283,slow=3.3,SNR=5.4						
TORD	Torodi Ar. Bea	172.91	181	PKP	PKPdf	00 18 42.4	-1.5
	comp=Z,0.5nm,0.8s,baz=156,slow=2.3,SNR=4.9						
TORD				PKPab	PKPab	00 20 14.3	-0.6
	comp=Z,1.2nm,0.8s,baz=168,slow=3.5,SNR=6.7						
TORD				PP	PP	00 24 04.0	-1.8
	comp=Z,0.9nm,1.0s,baz=228,slow=2.4,SNR=2.7						

*SJA **08** 00:01:58.9±0.6,33°.01S×72°.24W,h23km±5km,ML3.6, MW3.8*
*GUC **08** 00:02:02.0±0.9,33°.04S×72°.12W,h21km±11km,ML3.2*
ISC 08 00:02:00.9±1.6,33°.02S±0°.04×72°.17W±0°.06,h19km±4km, n37,σ0°77/51,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.44	91	i P	Pg	00 02 10.2	+0.2
VA01				IAML		00 02 10.7	
	comp=E,2μm,0.2s						
VA01				eS	Sg	00 02 15.9	-0.2
VA01	Torpederas	0.44	91	eP	Pg	00 02 09.5	-0.4
VA05	Santo Domingo	0.79	144	i P	Pg	00 02 16.1	-0.3
VA05				eS	Sb	00 02 26.5	+0.2
VA05				IAML		00 02 28.8	
	comp=N,2μm,0.3s						
ROC1	El Roble	0.97	88	eP	Pb	00 02 18.9	-0.3
ROCH	El Roble	0.98	88	i P	Pb	00 02 18.9	-0.4
ROCH				eS	Sb	00 02 31.0	-0.8
ROCH				IAML		00 02 34.5	
	comp=N,1μm,0.5s						
MT01	Popeta	1.14	138	i P	Pn	00 02 21.5	-0.3
MT01				eS	Sb	00 02 35.8	-0.6
MT01				IAML		00 02 37.4	
	comp=E,1μm,0.5s						
MT01	Popeta	1.14	138	eP	Pn	00 02 21.6	-0.2
MT01				IAML		00 02 41.6	
	comp=Z,629nm,0.7s						
MT09	Talagante	1.25	128	i P	Pn	00 02 23.4	+0.1
MT09				eS	Sb	00 02 39.3	-0.2
MT09				IAML		00 02 40.7	
	comp=E,1μm,0.4s						
PEL	Peldehue	1.25	96	i P	Pn	00 02 23.7	+0.4
PEL				eS	Sb	00 02 39.4	-0.3
PEL				IAML		00 02 44.7	
	comp=E,739nm,0.4s						
PEL	Peldehue	1.25	96	eP	Pn	00 02 23.8	+0.4
MT05	Renca	1.26	108	i P	Pn	00 02 23.4	0.0
MT05				eS	Sb	00 02 40.0	+0.2
MT05				IAML		00 02 46.4	
	comp=E,1μm,0.1s						
MT05	Renca	1.26	108	eP	Pn	00 02 23.7	+0.3
MT05				IAML		00 02 48.5	
	comp=Z,507nm,0.6s						
VA03	San Esteban	1.39	80	i P	Pn	00 02 25.4	+0.2
VA03				eS	Sn	00 02 43.4	+0.3
VA03				IAML		00 02 48.3	
	comp=E,1μm,0.4s						
VA03	San Esteban	1.39	80	eP	Pn	00 02 25.4	+0.2
VA03				IAML		00 02 51.1	
	comp=Z,918nm,0.6s						
MT14	Cerro Calıın	1.42	106	i P	Pn	00 02 26.4	+0.7
MT14				eS	Sn	00 02 44.0	+0.1
MT03	Universidad Ad	1.47	109	eP	Pn	00 02 27.2	+0.8
MT03				IAML		00 02 54.3	
	comp=Z,902nm,0.7s						
BO03	Pichilemu	1.48	173	i P	Pn	00 02 26.8	+0.3
BO03				eS	Sn	00 02 44.2	-1.1
BO03				IAML		00 02 45.7	
	comp=N,504nm,0.5s						
FCH	Farellones	1.61	102	i P	Pn	00 02 29.4	+0.9
FCH				eS	Sb	00 02 50.6	+0.5
FCH				IAML		00 02 57.6	
	comp=E,521nm,0.7s						
BO01	Tunca	1.64	147	i P	Pn	00 02 28.9	+0.2
BO01				eS	Sn	00 02 50.0	+0.7
BO01				IAML		00 02 58.8	
	comp=E,196nm,0.6s						
BO01	Tunca	1.64	147	eP	Pn	00 02 28.9	+0.2
MT04	Ro Olivares	1.75	103	i P	Pn	00 02 31.5	+1.1
MT04				eS	Sb	00 02 54.0	-0.1
MT04				IAML		00 02 58.1	
	comp=E,631nm,0.4s						
LMEL	Las Melosas	1.84	117	i P	Pb	00 02 33.0	-1.0
GO05	Huala	2.00	174	eP	Pn	00 02 33.8	+0.2
CO02	Combarbal	2.06	29	eP	Pn	00 02 35.3	+0.7
CO02				IAML		00 03 14.5	
	comp=Z,385nm,0.8s						
BO02	Sierra Bellavi	2.11	147	i P	Pn	00 02 36.4	+1.1
BO02				eS	Sn	00 03 02.0	+1.0
BO02				IAML		00 03 16.4	
	comp=E,540nm,0.5s						
BO02	Sierra Bellavi	2.11	147	eP	Pn	00 02 36.5	+1.3
BO02				IAML		00 03 12.7	
	comp=Z,294nm,0.5s						
CO03	El Pedregal	2.51	31	eP	Pn	00 02 41.1	+0.4
CO03				IAML		00 04 15.2	
	comp=Z,240nm,0.4s						
ARCO	CERRO ARCO	2.73	87	eP	Pb	00 02 48.1	-1.0
ARCO				IAML		00 04 24.6	
	comp=Z,408nm,0.5s						
AAGR	Agrelo	2.81	92	eP	Pb	00 02 49.5	-0.9
AAGR				IAML		00 04 25.0	
	comp=Z,618nm,0.6s						
ASAL	Salagasta	2.84	82	eP	Pb	00 02 51.7	+0.7
ASAL				IAML		00 04 23.1	
	comp=Z,101nm,0.6s						
GO04	Tololo Observa	3.07	23	eP	Pn	00 02 48.6	+0.1
AVIZ	Vizcacheras	3.10	99	eP	Pb	00 02 57.1	+1.8
ZON	Zonda	3.30	65	eP	Pb	00 02 58.0	-0.8
ZON				IAML		00 04 38.1	
	comp=Z,166nm,0.5s						
DOCA	Reserva Natura	3.34	53	eP	Pn	00 02 50.4	-2.0
CO01	Juntas del Tor	3.51	31	eP	Pn	00 02 56.7	+2.1
CO01				IAML		00 03 51.3	
	comp=Z,90nm,0.7s						
LCO	Las Campanas	4.19	18	eP	Pn	00 03 04.5	+0.6
LCO				IAML		00 04 34.2	
	comp=Z,145nm,0.2s						
AC04	Llanos de Chal	4.89	11	eP	Pn	00 03 13.4	+0.1
AC04				IAML		00 04 58.6	
	comp=Z,48nm,0.9s						

*NEIC **08** 00:03:30.2±1.7,32°.99S±0°.03×72°.12W±0°.07,h16km±4km, mb4.5/15,Mwr4.0/59,ML3.9(GUC),Error ellipse: s-maj=8.7km s-min=3.8km az=71.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.88; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-1.02; $M_{r\theta}$0.31; $M_{\theta\phi}$-0.43; $M_{\phi r}$-0.98; Fault plane solution: $M_0$1.47000×10^{15} NP1:ϕ_s173.09000°, δ69.47000°,λ66.61000°. NP2:ϕ_s44.05000°,δ30.74000°, λ136.66000°. Principal axes: T 1.4559, Plg59.0000°, Azm50.0000°; N 0.0286, Plg22.0000°, Azm182.0000°; P -1.4844, Plg21.0000°, Azm281.0000°;*
*NEIC **08** 00:03:30.3,32°.99S×72°.12W,h16km*
*GUC **08** 00:03:32.1±0.8,33°.08S×72°.02W,h19km±3km,ML3.9*
*IDC **08** 00:03:38.3±4.3,32°.97S×71°.76W,h73km±34km,mb3.6/6, mbtmp4.0/9,ML4.1/3,MS3.4/9,Error ellipse: s-maj=31.4km s-min=26.5km az=55.0*
ISC 08 00:03:27.4±1.5,32°.97S±0°.03×72°.08W±0°.04,h2km±9km, n96,σ1°23/110,mb4.3/12,MS3.5/4,6C-2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.37	99		Pn	00 03 39.0	-0.7
VA01	Torpederas	0.37	99	⇑eP	Pn	00 03 38.7	-1.0
VA01				eS	Sb	00 03 44.0	+1.2
VA05	Santo Domingo	0.79	151		Pb	00 03 44.9	+1.1
VA05					Sb	00 03 55.2	+0.2
VA05	Santo Domingo	0.79	151	⇑eP	Pb	00 03 44.3	+0.4
VA05				eS	Sb	00 03 54.3	-0.7
VA05				IAML		00 04 00.2	
	comp=E,7μm,0.5s						
ROC1	El Roble	0.89	91		Pn	00 03 47.5	+0.3
ROC1				Sn	Sn	00 03 58.9	-2.0
MT01	Popeta	1.13	142	Pn	Pn	00 03 50.7	+0.5
MT01	Popeta	1.13	142	⇑eP	Pn	00 03 50.5	+0.2
MT01				eS	Sb	00 04 04.5	-0.3
MT01				IAML		00 04 06.2	
	comp=E,4μm,0.5s						
PEL	Peldehue	1.18	99	Pn	Pn	00 03 52.5	+1.4
PEL	Peldehue	1.18	99	eP	Pn	00 03 52.4	+1.4
PEL				eS	Sn	00 04 07.6	-0.2
PEL				IAML		00 04 14.1	
	comp=N,4μm,0.2s						
MT05	Renca	1.20	111	Pn	Pn	00 03 52.4	+1.1
MT05	Renca	1.20	111	⇑eP	Pn	00 03 52.2	+0.9
MT05				eS	Sn	00 04 06.9	-1.3
MT05				IAML		00 04 15.1	
	comp=E,8μm,0.5s						
MT09	Talagante	1.22	132	Pn	Pn	00 03 52.2	+0.6
MT09	Talagante	1.22	132	eP	Pn	00 03 52.3	+0.6
MT09				eS	Sb	00 04 07.0	-0.5
MT09				IAML		00 04 09.8	
	comp=N,4μm,0.8s						
VA03	San Esteban	1.30	81	Pn	Pn	00 03 54.3	+1.6
VA03	San Esteban	1.30	81	eP	Pn	00 03 54.5	+1.7
VA03				eS	Sn	00 04 11.8	+1.1
VA03				IAML		00 04 18.6	
	comp=N,7μm,0.4s						
MT14	Cerro Calıın	1.36	109	⇑eP	Pb	00 03 54.4	+0.7
MT14				eS	Sn	00 04 12.2	0.0
MT14				IAML		00 04 25.1	
	comp=N,5μm,0.2s						
MT03	Universidad Ad	1.41	112	Pn	Pg	00 03 55.7	+1.2
MT03	Universidad Ad	1.41	112	i P	Pg	00 03 55.6	+1.0
MT03				i S	Sn	00 04 13.2	-0.4
MT03				IAML		00 04 22.2	
	comp=E,8μm,0.4s						
MT12	Pirque	1.49	121	⇓eP	Pg	00 03 56.3	+0.3
MT12				eS	Sg	00 04 14.7	-0.6
MT12				IAML		00 04 27.8	
	comp=E,6μm,0.3s						
BO03	Pichilemu	1.53	176	eP	Pn	00 03 55.4	-0.3
BO03				eS	Sn	00 04 13.3	-2.9
BO03				IAML		00 04 25.0	
	comp=N,932nm,0.6s						
FCH	Farellones	1.54	104	eP	Pg	00 03 58.0	+1.0
FCH				eS	Sg	00 04 17.8	+0.9
FCH				IAML		00 04 26.4	
	comp=E,3μm,0.5s						
BO04	La Punta	1.59	130	Pn	Pb	00 03 57.9	+0.3
BO04	La Punta	1.59	130	eP	Pb	00 03 57.7	+0.1
BO04				eS	Sn	00 04 17.0	-0.9
BO04				IAML		00 04 26.2	
	comp=N,3μm,0.5s						
BO01	Tunca	1.64	150	Pn	Pn	00 03 58.0	+0.6
BO01	Tunca	1.64	150	eP	Pn	00 03 57.8	+0.4
BO01				eS	Sn	00 04 18.4	-0.6
BO01				IAML		00 04 29.0	
	comp=N,729nm,0.3s						
MT04	Ro Olivares	1.69	105	eP	Pg	00 03 59.8	+0.1
MT04				eS	Sg	00 04 21.0	-0.6
MT04				IAML		00 04 28.3	
	comp=N,3μm,0.4s						
MT13	San Alfonso	1.69	118	Pn	Pg	00 03 60.0	+0.2
MT13	San Alfonso	1.69	118	⇑eP	Pg	00 04 00.0	+0.2
MT13				eS	Sb	00 04 20.2	-0.8
MT13				IAML		00 04 27.7	
	comp=E,7μm,0.5s						
LMEL	Las Melosas	1.80	120	Pn	Pg	00 04 02.2	+0.4
LMEL	Las Melosas	1.80	120	eP	Pb	00 04 01.2	0.0
LMEL				eS	Sb	00 04 23.4	-0.8
LMEL				IAML		00 04 31.6	
	comp=N,5μm,0.4s						
CO02	Combarbal	1.98	28	Pn	Pb	00 04 04.2	-0.1
CO02	Combarbal	1.98	28	eP	Pn	00 04 03.5	+1.4
CO02				eS	Sn	00 04 28.2	+0.6
GO05	Huala	2.04	177	Pn	Pn	00 04 02.8	0.0
GO05	Huala	2.04	177	eP	Pn	00 04 02.9	0.0
GO05				eS	Sn	00 04 25.5	-3.4
GO05				IAML		00 04 36.5	
	comp=E,743nm,0.5s						
GO05				IAML		00 04 41.1	
	comp=N,661nm,0.7s						
BO02	Sierra Bellavi	2.11	150	Pn	Pn	00 04 05.5	+1.6
CO06	Fray Jorge	2.32	9	Pn	Pn	00 04 07.7	+1.1
CO06	Fray Jorge	2.32	9	IAML		00 04 51.2	
	comp=N,895nm,0.3s						
CO03	El Pedregal	2.43	29	Pn	Pb	00 04 10.6	-1.3
CO03	El Pedregal	2.43	29	eP	Pn	00 04 10.3	+2.1
CO03				eS	Sb	00 04 40.4	-2.0
CO03				IAML		00 04 52.1	
	comp=E,1μm,0.5s						
GO04	Tololo Observa	2.99	22	Pn	Pn	00 04 17.8	+1.7
CO05	La Serena	3.12	13	Pn	Pn	00 04 19.8	+2.1
CO01	Juntas del Tor	3.43	30	Pn	Pn	00 04 24.6	+2.5
CFA	Coronel Fontan	3.53	68	P	Pb	00 04 28.6	-2.0
	comp=E,30nm,0.3s,baz=233,slow=11,SNR=19						
CFA				S	Sb	00 05 13.2	-0.7
	comp=E,114nm,0.5s,baz=198,slow=20,SNR=1.7						
CFA				LR	LR	00 06 11.9	
	comp=E,375nm,18.8s,baz=300,slow=47						
	comp=E,73nm,0.3s						
LCO	Las Campanas	4.12	17	Pn	Pn	00 04 32.9	+1.2
AC05	El Transito	4.40	21	Pn	Pn	00 04 38.1	+2.7
AC04	Llanos de Chal	4.83	11	Pn	Pn	00 04 41.7	+0.5
GO03	Copiap	5.59	17	Pn	Pn	00 04 53.0	+1.3
H03N1	Juan Fernandez	5.75	263	T	T	00 11 51.1	
	baz=88,slow=73						
H03N3	Juan Fernandez	5.76	263	T	T	00 11 42.2	
	baz=88,slow=73						
H03N2	Juan Fernandez	5.76	263	T	T	00 11 41.6	
	baz=88,slow=73						
H03S1	Juan Fernandez	5.78	259	T	T	00 11 10.8	
	baz=82,slow=75						
H03S3	Juan Fernandez	5.78	260	T	T	00 11 15.4	
	baz=82,slow=75						
AC06	Mina Casimiro	5.79	15		Pn	00 04 53.7	-0.7
H03S2	Juan Fernandez	5.79	260	T	T	00 11 13.2	
	baz=82,slow=75						
AC02	Maricunga	6.63	23		Pn	00 05 07.1	+0.8
PLCA	Paso Flores	7.84	171	Pn	Pn	00 05 23.5	+0.8
PLCA	Paso Flores	7.84	171	P	Pn	00 05 23.6	+1.0
	comp=E,1.9nm,0.4s,baz=334,slow=11,SNR=9.9						
PLCA				LR	LR	00 08 42.6	
	comp=E,168nm,20.2s,baz=350,slow=39						
GO02	Mina Guanaco	8.08	16	Pn	Pn	00 05 25.4	-0.6
TRQA	Tornquist	9.67	124	Pn	Pn	00 05 48.8	+1.2
LVC	Limon Verde	10.69	16	P	Pn	00 05 59.0	-3.0
	comp=E,1.0nm,0.3s,baz=229,slow=12,SNR=1.6						
LVC				LR	LR	00 10 09.7	
	comp=E,169nm,19.4s,baz=208,slow=37						
ITQB	Itaqui	13.61	80	Pn	Pn	00 06 40.1	-1.5
CPUP	Villa Florida	14.42	67	Pn	P	00 06 56.6	-3.1
CPUP	Villa Florida	14.42	67	P	P	00 06 57.2	-2.5
	comp=E,0.4nm,0.3s,baz=244,slow=12,SNR=8.3						
CPUP				S	Sn	00 09 30.9	-2.3
	comp=E,5.5nm,1.1s,baz=276,slow=19,SNR=2.2						
CPUP				LR	LR	00 12 51.1	
	comp=E,178nm,18.3s,baz=242,slow=39						
	comp=E,1.7nm,0.5s						
PB16	IPOC Station P	14.76	10	Pn	Pn	00 06 58.8	+1.1
LPAZ	La Paz	16.99	13		Pn	00 07 27.4	+0.5
SIV	San Ignacio	19.62	33	P	P	00 07 58.0	+0.7
	baz=212,slow=10,SNR=12						
SIV				LR	LR	00 16 50.0	
	comp=E,74nm,20.0s,baz=280,slow=41						
	comp=E,3.4nm,0.9s						
ETMB	Extrema	23.67	15	P	P	00 08 41.5	+1.1
SAML	Samuel	25.28	21		P	00 08 54.9	-0.3
SAML				IAmb	IAmb	00 08 58.9	
	comp=Z,5.6nm,0.8s						
BDFB	Brasilia	27.80	57	P	P	00 09 17.6	-0.5
BDFB				IAmb	IAmb	00 09 33.9	
	comp=Z,9.3nm,1.4s						
BDFB	Brasilia	27.80	57	P	P	00 09 18.0	-0.1
	comp=Z,4.0nm,0.8s,baz=232,slow=6.5,SNR=5.7						
BDFB				LR	LR	00 21 05.5	
	comp=Z,82nm,20.1s,baz=149,slow=38						
	comp=Z,4.0nm,0.8s						
RPN	Rapa Nui	32.65	270	LR	LR	00 20 01.1	
	comp=Z,63nm,18.6s,baz=77,slow=30						
BOAV	Boa Vista	36.83	20	P	P	00 10 37.2	+0.1
BOAV				IAmb	IAmb	00 10 46.8	
	comp=Z,7.4nm,1.4s						
MDP	Montagnes des	42.12	30	LR	LR	00 31 06.1	
	comp=Z,71nm,18.4s,baz=151,slow=39						
JACO	JACO, Garabito	44.06	342	P	P	00 11 36.2	-0.7
SNAA	Sanae	52.55	158	P	P	00 12 42.4	+0.5
SNAA	Sanae	52.55	158	P	P	00 12 42.1	+0.2
	comp=Z,1.4nm,0.8s,baz=286,slow=8.6,SNR=4.0						
	comp=Z,1.4nm,0.8s						
TXAR	Lajitas Array	68.82	331	P	P	00 14 34.8	+1.5
TXAR	Lajitas Array	68.82	331	P	P	00 14 35.1	+1.8
	comp=Z,0.4nm,0.7s,baz=158,slow=8.8,SNR=2.4						
	comp=Z,0.4nm,0.7s						
TX31	Lajitas Ar. Si	68.82	331	P	P	00 14 34.8	+1.5
WVT	Waverly	70.30	347	P	P	00 14 42.6	+0.4
WVT				IAmb	IAmb	00 15 07.3	
	comp=Z,10nm,1.4s						
TRNY	Table Rock, Ra	73.78	358	P	P	00 15 02.2	-0.7
ECSD	EROS Data Cent	79.56	342	P	P	00 15 36.3	+0.7
ECSD				IAmb	IAmb	00 15 46.9	
	comp=Z,2.1nm,0.7s						
KOWA	Kowa	80.24	66	P	P	00 15 40.7	+0.7
KOWA				IAmb	IAmb	00 15 41.6	
	comp=Z,2.7nm,0.8s						
KOWA	Kowa	80.24	66	LR	LR	00 50 56.6	
	comp=Z,53nm,18.2s,baz=118,slow=36						
BOSA	Boshof	80.58	118	P	P	00 15 41.8	-0.1
BOSA				IAmb	IAmb	00 15 51.5	
	comp=Z,15nm,1.5s						
BOSA	Boshof	80.58	118	P	P	00 15 41.7	-0.1
	comp=Z,2.0nm,0.8s,baz=315,slow=11,SNR=3.6						
	comp=Z,2.0nm,0.8s						
NVAR	Mina Array Bea	83.02	325	P	P	00 15 55.7	+1.3
	comp=Z,0.3nm,0.7s,baz=156,slow=4.9,SNR=1.7						
	comp=Z,0.3nm,0.7s						
TOA0	Torodi Ar. Sit	83.89	70	P	P	00 15 59.2	0.0
TOA0				IAmb	IAmb	00 16 11.7	
	comp=Z,10nm,1.3s						
TORD	Torodi Ar. Bea	83.89	70	P	P	00 15 59.4	+0.3
TORD				IAmb	IAmb	00 16 11.7	
	comp=Z,5.4nm,1.2s						
TORD	Torodi Ar. Bea	83.89	70	P	P	00 15 59.4	+0.3
	comp=Z,1.6nm,0.8s,baz=292,slow=4.5,SNR=11						
	comp=Z,1.6nm,0.8s						
B

MKAR Makanchi Array 44.10 300 P **P 00 12 15.7 +0.9**
0.5nm,0.8s,baz=83,slow=8.0,SNR=1.7
0.5nm,0.8s
KURBB Kurchatov Arra 45.58 306 P **P 00 12 26.9 +0.4**
0.5nm,0.5s,baz=80,slow=8.7,SNR=5.6
0.5nm,0.5s
WRA Warramunga Arr 60.64 190 P P 00 14 25.9 +8.2
0.5nm,1.0s,baz=6.1,slow=6.0,SNR=1.3
0.5nm,1.0s

---

*NEIC **08** 00:30:27.2±1.4, 12.°08N±0.°07×87.°67W±0.°06, h50km±12km, mb4.2/20, Error ellipse: s-maj=10.5km s-min=7.7km az=215.0*
*SNET **08** 00:30:27.3±2.2, 12.°22N×87.°77W, h16km, ML4.0*
*IDC **08** 00:30:37.7±9.2, 12.°64N×87.°60W, h128km±61km, mb3.6/6, mbtmp4.1/7, MS3.1/2, Error ellipse: s-maj=73.8km s-min=38.7km az=167.0*
ISC 08 00:30:26.7±0.7, 12.°08N±0.°07×87.°68W±0.°06, h48km, n66, σ1§08/66, mb4.2/13, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.87**	**45**	Pn	**Pn**	**00 30 43.1**	**+0.4**
CRIN				Sn	**Sn**	**00 30 53.8**	**-0.6**
CNGN	**Cerro Negro**	**1.05**	**66**		**Pn**	**00 30 44.5**	**-0.6**
CNCH	**Conchagua**	**1.20**	**353**	*eP*	**Pn**	**00 30 46.7**	**-0.5**
CNCH				*eS*	**Sn**	**00 31 04.1**	**+1.7**
VSM	**San Miguel**	**1.46**	**337**	*eP*	**Pn**	**00 30 50.5**	**-0.3**
LCY	**Lacayo**	**1.46**	**336**	*eP*	**Pn**	**00 30 50.3**	**-0.5**
PACA	**Pacayal**	**1.51**	**336**	*eP*	**Pn**	**00 30 51.1**	**-0.4**
PACA				*eS*	**Sn**	**00 31 10.4**	**+0.2**
TECA	**Tecapa**	**1.62**	**330**	*eP*	**Pn**	**00 30 52.3**	**-0.7**
MATN	**Matagalpa**	**1.91**	**64**		**Pn**	**00 30 56.6**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.00**	**11**		**Pn**	**00 30 58.9**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.00**	**11**	*eP*	**Pn**	**00 30 59.2**	**+1.0**
BOAB	**BOACO BROADBAN**	**2.01**	**79**	Pn	**Pn**	**00 30 58.0**	**-0.1**
LFRS	**El Faro**	**2.04**	**319**	*eP*	**Pn**	**00 30 58.4**	**-0.3**
SNET	**Serv Nac Est T**	**2.20**	**317**		**Pn**	**00 31 01.1**	**+0.3**
BOQS	**Boqueron**	**2.26**	**317**	*eP*	**Pn**	**00 31 02.1**	**+0.2**
HZTE	**Horizontes, Gu**	**2.46**	**123**	Pn	**Pn**	**00 31 04.2**	**-0.2**
ACON	**Acoyapa**	**2.46**	**92**	Pn	**Pn**	**00 31 03.9**	**-0.5**
ORTG	**Ortega, Santa**	**2.77**	**128**	Pn	**Pn**	**00 31 08.3**	**-0.4**
MTO3	**Montecristo**	**2.82**	**325**	Pn	**Pn**	**00 31 09.2**	**-0.3**
MTO3	**Montecristo**	**2.82**	**325**	*eP*	**Pn**	**00 31 09.0**	**-0.5**
DUNO	**Dulce Nombre,**	**2.93**	**133**	Pn	**Pn**	**00 31 09.6**	**-1.2**
ESQI	**Esquipulas**	**2.95**	**327**		**Pn**	**00 31 11.2**	**+0.1**
ESPN	**Las Esperanzas**	**3.31**	**88**	Pn	**Pn**	**00 31 16.4**	**+0.4**
ARE1	**Arenal 1**	**3.32**	**119**		**Pn**	**00 31 16.1**	**-0.2**
JACO	**JACO, Garabito**	**3.82**	**129**	Pn	**Pn**	**00 31 23.5**	**+0.5**
RIMA	**Rio Macho**	**4.40**	**121**		**Pn**	**00 31 32.4**	**+1.2**
DRK0	**Durika**	**5.18**	**122**	Pn	**Pn**	**00 31 43.6**	**+1.6**
TEIG	**Tepich**	**8.12**	**356**	Pn	**Pn**	**00 32 22.9**	**+0.9**
TEIG	**Tepich**	**8.12**	**356**	P	**Pn**	**00 32 25.3**	**+3.3**
43nm,0.8s,baz=225,slow=4.1,SNR=1.7
BCIP Isla Barro Col 8.24 110 Pn **Pn 00 32 25.4 +1.8**
GUY2C Guyana, Caldas 13.95 118 *eP* **P 00 33 47.4 -1.8**
POPC Popayan, Colum 14.45 130 *eP* **Pn 00 33 52.6 +3.9**
ORTC Ortega, Tolima 14.74 122 *eP* **P 00 33 59.2 +1.6**
CHIC Chingaza 15.66 117 *eP* **Pn 00 34 04.5 -0.1**
RUSC La Rusia 15.67 112 *eP* **P 00 34 08.7 +0.4**
833A Chaparral WMA, 19.52 328 P **Pn 00 34 50.9 -0.9**
BAUV El Baul 19.56 97 P **P 00 34 50.0 -0.7**
BAUV IAmb IAmb 00 34 54.0
comp=Z,14nm,1.3s
HNDO Hondo 20.44 330 P **P 00 34 59.9 -0.2**
HNDO IAmb IAmb 00 35 03.0
comp=Z,5.8nm,0.7s
152A Waverly Hall 20.67 7 P Pn 00 35 03.9 -1.4
152A IAmb IAmb 00 35 06.0
comp=Z,23nm,1.4s
ATAH Atahualpa 21.21 154 LR LR 00 41 47.5
comp=Z,42nm,18.4s,baz=357,slow=31
GOGA Godfrey 21.58 10 P **P 00 35 14.4 +2.1**
GOGA IAmb IAmb 00 35 16.1
comp=Z,8.4nm,0.8s
TXAR Lajitas Array 22.72 321 P **P 00 35 25.5 +0.8**
comp=Z,4.4nm,0.6s,baz=134,slow=10.0,SNR=59
comp=Z,4.4nm,0.6s
TX32 Lajitas Array 22.72 321 P **P 00 35 25.1 +0.4**
MIAR Mount Ida 23.00 347 P **P 00 35 27.6 +0.2**
MIAR IAmb IAmb 00 35 30.1
comp=Z,5.4nm,0.7s
BG3 Lake Jocassee 23.21 10 P **P 00 35 30.2 +0.6**
SGCY Sterling City 23.30 330 P **P 00 35 30.5 0.0**
SGCY IAmb IAmb 00 35 32.0
comp=Z,6.3nm,1.0s
CPCT Cooper Cave 23.44 6 P **P 00 35 32.9 +1.2**
CPCT IAmb IAmb 00 35 44.9
comp=Z,20nm,1.5s
LOOK Love County 23.47 340 P **P 00 35 33.0 +0.9**
TKL Tuckaleechee C 23.74 8 P **P 00 35 34.6 0.0**
TKL IAmb IAmb 00 35 36.5
comp=Z,6.0nm,0.8s
TKL Tuckaleechee C 23.74 8 P **P 00 35 34.0 -0.6**
comp=Z,7.9nm,1.0s,baz=172,slow=9.5,SNR=5.2
comp=Z,7.9nm,1.0s
SN01 Snyder 1 23.97 332 P **P 00 35 36.6 -0.1**
SN01 IAmb IAmb 00 35 38.9
comp=Z,8.2nm,0.9s
FCAR Ozark Folk Cen 24.04 351 P **P 00 35 37.0 -0.3**
WMOK Wichita Mounta 24.71 338 P **P 00 35 43.0 -0.5**
WMOK IAmb IAmb 00 35 45.6
comp=Z,7.8nm,1.4s
OK048 Pawnee Station 25.63 343 P **P 00 35 51.8 +0.1**
MSTX Muleshoe 25.77 330 P **P 00 35 52.9 -0.4**
CCM Cathedral Cave 26.06 354 P **P 00 35 55.1 -0.6**
SAML Samuel 32.09 130 P **P 00 36 48.5 -1.0**
SAML IAmb IAmb 00 36 50.6
comp=Z,3.1nm,1.0s
ECSD EROS Data Cent 32.47 348 P **P 00 36 51.0 -1.5**
ECSD IAmb IAmb 00 36 53.8
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 35.99 332 P **P 00 37 22.9 -0.4**
comp=Z,0.9nm,0.8s,baz=124,slow=7.4,SNR=6.1
comp=Z,0.9nm,0.8s
NVAR Mina Array Bea 37.83 319 P **P 00 37 38.7 -0.3**
comp=Z,0.2nm,0.6s,baz=146,slow=8.2,SNR=1.8
comp=Z,0.2nm,0.6s
ULM Lac du Bonnet 38.65 352 P **P 00 37 43.5 -1.9**
comp=Z,4.5nm,0.7s,baz=171,slow=8.0,SNR=6.7
comp=Z,4.5nm,0.7s
SCHQ Schefferville 45.70 17 P **P 00 38 41.0 -1.8**
comp=Z,3.5nm,0.8s,baz=219,slow=5.4,SNR=6.2
comp=Z,3.5nm,0.8s
MDT Midelt 77.79 59 LR LR 01 11 22.2
comp=Z,12nm,19.0s,baz=198,slow=32
XLT XiLinHaoTe 120.23 340 *e*PKP **PKiKP 00 49 14.8 +1.8**
XLT sPKP 00 49 33.4
ASAR Alice Springs 138.92 248 PKP **PKiKP 00 49 50.8 -0.1**
comp=Z,0.2nm,0.8s,baz=131,slow=2.8,SNR=1.7
WRA Warramunga Arr 138.95 254 PKP **PKPdf 00 49 49.6 +0.8**
comp=Z,0.2nm,0.6s,baz=85,slow=1.8,SNR=1.2
CMAR Chiang Mai Arr 148.96 348 PKPbc **PKPbc 00 50 09.6 -0.7**
comp=Z,0.9nm,0.3s,baz=342,slow=3.8,SNR=5.0

---

*NEIC **08** 00:41:50.0±0.8, 48.°3N±0.°2×153.°6E±0.°3, h148km±11km, mb4.1/11, Error ellipse: s-maj=33.4km s-min=12.3km az=134.0*
*MOS **08** 00:41:50.3±0.7, 48.°48N×153.°38E, h176km, mb4.1/1, Error ellipse: s-maj=29.4km s-min=5.4km az=63.0*
*KRSC **08** 00:41:51.5±2.3, 48.°42N×154.°11E, h214km±28km, Ml4.5*
*SKHL **08** 00:41:51.1±0.2, 48.°50N×153.°40E, h150km±8km, mb5.0/4, msha4.8/3*
*IDC **08** 00:41:54.3±2.1, 48.°98N×152.°75E, h204km±22km, mb3.0/6, mbtmp3.8/10, MS3.5/1, Error ellipse: s-maj=37.5km s-min=13.0km az=142.0*
ISC 08 00:41:49.8±0.7, 48.°3N±0.°1×153.°7E±0.°1, h150km, n80, σ1§55/92, mb3.8/10, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.88**	**32**	*e*PN	**Pn**	**00 42 38.2**	**+2.7**
SKR				*eS*	**Sn**	**00 43 13.7**	**+2.7**
SKR				pmax	pmax		
comp=Z,102nm,0.5s
SKR smax smax
comp=E,45nm,0.6s
SKR smax smax
comp=N,24nm,0.3s
SKR Severo-Kuril's 2.88 32 *e*P **Pn 00 42 38.3 +2.8**
SKR Severo-Kuril's 2.88 32 *e*P **Pn 00 42 38.2 +2.7**
SKR AMB AMB 00 42 38.5
comp=N,100nm,0.5s
SKR *e*S **Sn 00 43 13.7 +2.7**
SKR A A 00 43 16.7
comp=N,20nm,0.4s
SKR A A 00 43 16.7
comp=N,40nm,0.4s
PAU Pauzhetka 3.78 31 PN **Pn 00 42 49.7 +2.7**
PAU S **Sn 00 43 34.2 +2.7**
PAU Pauzhetka 3.78 31 *e*P **Pn 00 42 49.7 +2.7**
PAU *e*S **Sn 00 43 34.2 +2.7**
PAU Pauzhetka 3.78 31 *e*P **Pn 00 42 49.7 +2.7**
PAU *e*S **Sn 00 43 34.2 +2.7**
KDTR Khodutka, Kamc 4.53 37 PN **Pn 00 42 57.0 +0.2**
KDTR S **Sn 00 43 46.7 -2.4**
KDTR Khodutka, Kamc 4.53 37 *e*P **Pn 00 42 57.0 +0.2**
KDTR *e*S **Sn 00 43 46.6 -2.4**
GRL Gorelyy 5.11 31 PN **Pn 00 43 06.2 +1.5**
GRL Gorelyy 5.11 31 *e*P **Pn 00 43 06.2 +1.5**
APC Apacha 5.15 24 PN **Pn 00 43 04.7 -0.4**
APC Apacha 5.15 24 *e*P **Pn 00 43 04.7 -0.4**
PEA0B Petropavlovsk- 5.47 26 Pn **Pn 00 43 09.2 -0.1**
PEA0B Petropavlovsk- 5.47 26 PN **Pn 00 43 09.2 -0.1**
PETK Petropavlovsk- 5.47 26 Pn **Pn 00 43 09.2 -0.1**
PETK Petropavlovsk- 5.47 26 P **Pn 00 43 09.7 +0.4**
comp=N,8.0nm,0.4s,baz=204,slow=11,SNR=46
PET Petropavlovsk 5.70 32 Pn **Pn 00 43 12.5 +0.1**
PET Sn **Sn 00 44 16.4 -0.5**
PET Petropavlovsk 5.70 32 PN **Pn 00 43 13.6 +1.2**
PET Petropavlovsk 5.70 32 *e*P **Pn 00 43 13.6 +1.2**
PET Petropavlovsk 5.70 32 *e*P **Pn 00 43 12.9 +0.5**
PET *e*S **Sn 00 44 17.3 +0.3**
DALK Dalny 5.75 32 PN **Pn 00 43 14.2 +1.2**
DALK Dalny 5.75 32 *e*P **Pn 00 43 14.2 +1.2**
UGLR Uglovaya 5.91 31 PN **Pn 00 43 16.7 +1.4**
UGLR Uglovaya 5.91 31 *e*P **Pn 00 43 16.7 +1.4**
KOK Koryaka 5.92 30 PN **Pn 00 43 16.6 +1.2**
KOK Koryaka 5.92 30 *e*P **Pn 00 43 16.6 +1.2**
KOK Koryaka 5.92 30 *e*P **Pn 00 43 16.6 +1.2**
AVH Avacha 5.93 31 PN **Pn 00 43 17.0 +1.5**
AVH Avacha 5.93 31 *e*P **Pn 00 43 17.0 +1.5**
AVH Avacha 5.93 31 *e*P **Pn 00 43 17.0 +1.5**
SMAR Somma 5.95 31 PN **Pn 00 43 17.7 +1.8**
SMAR Somma 5.95 31 *e*P **Pn 00 43 17.7 +1.8**
KRX Arik 5.98 30 PN **Pn 00 43 17.4 +1.2**
KRX Arik 5.98 30 *e*P **Pn 00 43 17.4 +1.2**
GNL Ganaly 6.05 25 PN **Pn 00 43 17.5 +0.3**
GNL Ganaly 6.05 25 *e*P **Pn 00 43 17.5 +0.3**
NLC Nalytchevo 6.07 34 PN **Pn 00 43 17.3 0.0**
NLC S **Sn 00 44 22.1 -3.7**
NLC Nalytchevo 6.07 34 *e*P **Pn 00 43 17.3 0.0**
NLC *e*S **Sn 00 44 22.1 -3.7**
NLC Nalytchevo 6.07 34 *e*P **Pn 00 43 17.3 0.0**
SPN Mys Shipunski 6.28 37 PN **Pn 00 43 19.9 -0.2**
SPN Mys Shipunski 6.28 37 *e*P **Pn 00 43 19.9 -0.2**
SPN Mys Shipunski 6.28 37 *e*P **Pn 00 43 19.9 -0.2**
SHO Shikotan 6.50 230 μ/PN **Pn 00 43 23.6 +0.5**
SHO *e*S **Sn 00 44 34.9 -1.2**
SHO pmax pmax
comp=Z,55nm,0.4s
SHO pmax pmax
comp=N,10.0nm,0.2s
SHO pmax pmax
comp=E,18nm,0.2s
SHO Shikotan 6.50 230 *e*P **Pn 00 43 23.6 +0.5**
SHO AMB AMB 00 43 25.1
comp=E,40nm,0.5s
SHO *e*S **Sn 00 44 36.5 +0.4**
SHO A A 00 44 41.0
comp=E,40nm,0.5s
SHO A A 00 44 41.0
comp=E,30nm,0.5s
YUK Yuzh-Kuril'sk 6.90 235 *e*P **Pn 00 43 31.5 +3.1**
YUK AMB AMB 00 43 32.5
comp=E,160nm,0.4s
YUK *e*S **Sn 00 44 48.3 +2.6**
KZV Kizimen 7.98 28 PN **Pn 00 43 42.9 0.0**
KZV Kizimen 7.98 28 *e*P **Pn 00 43 42.9 0.0**
TUMR Tumrok 8.07 27 PN **Pn 00 43 45.1 +1.0**
TUMR Tumrok 8.07 27 *e*P **Pn 00 43 44.6 +0.5**
TUMD Tumrok D 8.09 28 *e*P **Pn 00 43 45.1 +1.0**
JKA Kamikawa-asahi 8.75 246 **Pn 00 43 53.9 +0.8**
JKA Kamikawa-asahi 8.75 246 *e*P **Pn 00 43 54.7 +1.6**
ASAJ Asahikawa 8.75 246 P **Pn 00 43 54.7 +1.6**
comp=E,32nm,0.7s,baz=77,slow=14,SNR=30
ERM Erimo 9.72 234 Pn **Pn 00 44 05.1 -1.0**
ERM Erimo 9.72 234 PN **Pn 00 44 05.1 -1.0**
KLR Kul'dur 14.51 282 P **Pn 00 45 06.2 -1.7**
comp=E,1.4nm,0.4s,baz=81,slow=9.3,SNR=9.1
JSD Sado 15.19 233 **P 00 45 17.4 -0.6**
USRK Ussuriysk Ar. 15.55 263 P **Pn 00 45 18.0 -2.9**
USRK Ussuriysk Ar. 15.55 263 P **Pn 00 45 18.0 -2.9**
comp=E,2.0nm,0.5s,baz=62,slow=14,SNR=4.4
MJB9 Matsu-Tunnel 16.34 230 P **P 00 45 31.0 +0.2**
MJB9 IAmb IAmb 00 45 33.5
comp=Z,5.5nm,0.6s
MAJO Matsushiro 16.34 230 P **Pn 00 45 30.5 -0.1**
MAJO IAmb IAmb 00 45 33.5
comp=Z,5.7nm,0.7s
MAJO Matsushiro 16.34 230 P **Pn 00 45 30.5 -0.1**
MAJO pmax pmax
comp=Z,6.0nm,0.7s
MJAR Matsushiro Arr 16.34 230 P **P 00 45 31.7 +0.9**
comp=Z,1.9nm,0.6s,baz=21,slow=11,SNR=13
INU Inuyama 17.88 230 P **P 00 45 47.4 -0.2**
INU IAmb IAmb 00 45 51.7
comp=Z,8.0nm,1.0s
KSRS Korea Array 21.67 250 P **P 00 46 26.3 -2.1**
comp=Z,1.6nm,0.5s,baz=50,slow=10,SNR=9.7
comp=Z,1.6nm,0.5s
JNU Nakatsue 22.87 237 P **P 00 46 39.5 -0.7**
JNU IAmb IAmb 00 47 03.6
comp=Z,8.5nm,1.0s
SML Sawmill 34.60 45 P **P 00 48 23.3 -0.7**
SML IAmb IAmb 00 48 34.4
comp=Z,11nm,1.3s
CCB Clear Creek Bu 34.72 40 P **P 00 48 23.5 -1.5**
CCB IAmb IAmb 00 48 25.8
comp=Z,5.1nm,1.4s
ILAR Eielson Array 35.12 40 P **P 00 48 27.4 -0.9**
comp=Z,0.2nm,0.5s,baz=243,slow=5.0,SNR=5.0
comp=Z,0.2nm,0.5s
K27K Chicken 37.25 41 P **P 00 48 45.6 -0.9**
K27K IAmb IAmb 00 48 56.8
comp=Z,4.4nm,1.2s
I30M Mount Dempster 39.52 38 P **P 00 49 04.7 -0.8**
INK Inuvik 40.15 33 LR LR 01 09 39.9
comp=Z,55nm,18.4s,baz=2.0,slow=42
H31M Peel River 40.25 37 P **P 00 49 10.6 -0.8**
ABKAR Akbulak array 57.76 309 P **P 00 51 24.3 -0.4**
NVAR Mina Array Bea 61.38 63 P **P 00 51 50.5 +0.5**
comp=Z,0.5nm,0.8s,baz=291,slow=9.3,SNR=3.1
comp=Z,0.5nm,0.8s
FINES FINESS Array B 62.83 335 P P 00 51 50.5 -8.5
comp=Z,0.6nm,0.5s,baz=42,slow=6.4,SNR=1.3
comp=Z,0.6nm,0.5s
WRA Warramunga Arr 70.08 199 P **P 00 52 45.6 +0.1**
comp=Z,0.3nm,0.8s,baz=11,slow=6.4,SNR=2.1
comp=Z,0.3nm,0.8s
TXAR Lajitas Array 76.40 61 P **P 00 53 23.0 +0.2**
TXAR Lajitas Array 76.40 61 P **P 00 53 23.0 +0.2**
TXAR Lajitas Array 76.40 61 P **P 00 53 23.3 +0.5**
comp=Z,0.5nm,0.6s,baz=303,slow=5.6,SNR=5.7
comp=Z,0.5nm,0.6s

ISK 08 00:55:50.9, 36.°87N×27.°36E, h18km±2km, ML1.0/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTB	**Kemer-Bodrum**	**0.11**	**324**	Pg	Pg	00 55 55.3	+0.5
RFTB Sg Sg 00 55 58.2 +0.8
BODT Bodrum 0.19 349 Pg Pg 00 55 56.0 +0.2
BODT Sg Sg 00 55 59.8 +0.6
RFTD Palamutbuku-Ka 0.22 149 Pg Pg 00 55 56.4 +0.2
RFTD Sg Sg 00 56 00.5 +0.7
DAT Datca 0.23 128 Pg Pg 00 55 57.2 +0.8
RFTAA Mazikoy-Bodrum 0.34 68 Pg Pb 00 55 58.5 +0.1
RFTC Emecik-Datca 0.38 104 Pg Pb 00 55 59.4 +0.2

IDC 08 00:56:18.2±6.6, 20.°83S×147.°87E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=55.4km s-min=33.3km az=57.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**1.68**	**296**	Pg	Pn	00 56 47.5	-1.4
4.0nm,0.3s,baz=119,slow=17,SNR=70
CTA Lg Lg 00 57 12.3
6.7nm,0.3s,baz=38,slow=19,SNR=8.9
WRA Warramunga Arr 12.72 272 Pn Pn 00 59 20.6 +0.2
baz=94,slow=12,SNR=1.1
WRA Sn Sn 01 01 45.0 +2.2
baz=102,slow=23,SNR=2.4
WRA Lg Lg 01 02 52.9
baz=90,slow=27,SNR=2.7
0.4nm,0.8s
ASAR Alice Springs 13.23 255 Pn Pn 00 59 29.4 +1.9
baz=78,slow=13,SNR=1.7
ASAR Sn Sn 01 01 57.6 +2.2
baz=76,slow=27,SNR=4.3
ASAR Lg Lg 01 03 08.2
baz=65,slow=33,SNR=4.3
0.1nm,0.6s
I22FR PORTLAGUERRE I17.71 98 I I 02 44 50.0
baz=269,slow=311,SNR=2.7

---

*ATH **08** 00:56:39.4, 36.°60N×25.°67E, h7km±16km, ML2.1/2, Manual Solution by K.Orfanogiannaki First location: 2019/05/29 15:37:35, This location: 2019/11/22 09:11:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE 08 00:56:39.6, 36.°60N×25.°67E, h7km±16km, ML2.1/2, Error ellipse: s-maj=16.8km s-min=0.6km az=255.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR8	**Santorini-Mono**	**0.25**	**218**	P	Pg	00 56 44.7	+0.2
THR8 S Sg 00 56 48.5 +0.7
CMBO Columbo, Santo 0.25 238 P Pg 00 56 45.3 +0.8
CMBO S Sg 00 56 48.9 +1.0
CMBO Columbo, Santo 0.25 238 P Pg 00 56 45.0 +0.5
CMBO S Sg 00 56 48.7 +0.8
THT2 Imerovigli 0.26 230 P Pg 00 56 44.7 0.0
THT2 S Sg 00 56 49.4 +1.2
SANT Santorini 0.29 216 P Pg 00 56 45.4 +0.1
SANT S Sg 00 56 49.8 +0.7
550nm,0.1s
SANT Santorini 0.29 216 P Pg 00 56 45.2 0.0
SANT S Sg 00 56 49.6 +0.5
THR3 Thira Island, 0.29 228 P Pg 00 56 45.7 +0.4
THR3 S Sg 00 56 49.5 +0.3
THR3 Thira Island, 0.29 228 P Pg 00 56 45.4 +0.1
AMGA Amorgos Island 0.29 38 P Pg 00 56 45.7 +0.3
AMGA S Sg 00 56 50.0 +0.7
SNT5 Nea Kammeni, S 0.30 228 P Pg 00 56 45.7 +0.2
SNT5 S Sg 00 56 49.8 +0.5
THR6 Thira Island, 0.33 222 P Pg 00 56 46.5 +0.5
THR6 Thira Island, 0.33 222 P Pg 00 56 46.2 +0.2
APE Apeiranthos 0.48 347 P Pg 00 56 48.9 0.0
APE S Sg 00 56 56.4 +1.2
335nm,0.2s
APE Apeiranthos 0.48 347 P Pg 00 56 48.9 0.0
APE S Sg 00 56 56.3 +1.1

---

*IDC **08** 00:59:32.8±5.2, 12.°80N×91.°43W, h0km, mb3.0/2, mbtmp3.1/2, Error ellipse: s-maj=497.4km s-min=74.6km az=48.0*
*GCG **08** 00:59:51.0±0.9, 14.°29N×91.°19W, h93km±10km, MD3.8*
ISC 08 00:59:50.0±2.1, 14.°0N±0.°2×91.°31W±0.°08, h88km±9km, n8, σ1§19/13, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.41**	**323**	*i* P	**Pn**	**01 00 05.3**	**+1.5**
SULM *i* S **Sn 01 00 12.8 -1.3**
FUG Fuego 3 0.65 44 *i* P **Pn 01 00 05.7 -0.4**
FUG *i* S **Sn 01 00 17.6 -0.5**
STG3 Santiaguito 3, 0.77 341 *i* P **Pn 01 00 06.7 -0.6**
STG3 *i* S **Sn 01 00 20.0 -0.2**
PCG Pacaya 0.80 59 *i* P **Pn 01 00 07.4 -0.2**
PCG *i* S **Sn 01 00 20.1 -0.6**
NBG Las Nubes 1.12 57 *i* P **Pn 01 00 11.3 +0.1**
NBG *i* S **Sn 01 00 29.0 +1.9**
TXAR Lajitas Array 19.09 325 P **P 01 04 06.9 +1.0**
0.2nm,0.6s,baz=151,slow=11,SNR=2.6
0.2nm,0.6s
NVAR Mina Array Bea 34.11 321 P **P 01 06 27.0 +0.4**
0.4nm,0.6s,baz=134,slow=8.9,SNR=4.7
0.4nm,0.6s
CMAR Chiang Mai Arr 146.22 342 PKPbc **PKPdf 01 19 18.4 -1.7**
0.9nm,0.3s,baz=1.8,slow=2.8,SNR=1.4

---

*ANF **08** 01:10:45.9±1.7, 41.°89N×119.°64W, h10km, ML3.7/4, Error ellipse: s-maj=19.3km s-min=8.6km az=108.0*
*REN **08** 01:10:45.6±1.3, 41.°89N±0.°02×119.°66W±0.°04, h14km±6km, ML3.5/8, ML3.2/92(NEIC), Mwr3.4/4(SLM), Error ellipse: s-maj=5.1km s-min=1.2km az=113.0*
*NEIC **08** 01:10:45.8±1.6, 41.°91N±0.°03×119.°61W±0.°04, h14km±5km, Error ellipse: s-maj=4.4km s-min=3.8km az=106.0*
*NEIC **08** 01:10:45, 41.°89N×119.°65W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.16; $M_{\theta\theta}$-1.48; $M_{\phi\phi}$1.32; $M_{r\theta}$-0.71; $M_{\theta\phi}$0.72; $M_{\phi r}$-0.57; Fault plane solution: $M_0$1.82000×10^{14} NP1:φs147.00000°, δ60.00000°, λ174.00000°. NP2:φs240.00000°, δ85.00000°, λ30.00000°. Principal axes: T 1.8203, Plg24.0000°, Azm108.0000°; N 0.0004, Plg60.0000°, Azm249.0000°; P -1.8207, Plg17.0000°, Azm10.0000°;*
ISC 08 01:10:45.5±0.8, 41.°92N±0.°03×119.°65W±0.°03, h10km, n83, σ1§08/92, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKVW	**Lakeview**	**0.61**	**300**		**Pb**	**01 10 58.2**	**-0.2**
WVOR Wild Horse Val 0.91 55 | **Pn 01 11 03.6 -0.9**
WVOR | **Sn 01 11 16.6 -1.1**
WVOR Wild Horse Val 0.91 55 IAML 01 11 19.6
1μm,0.5s
PLTX Planet X, Gerl 1.22 174 **Pb 01 11 07.8 -1.0**
PLTX **Sn 01 11 24.3 -1.1**
K05A Summer Lake 1.23 311 **Pg 01 11 09.5 +0.5**
K05A **Sn 01 11 25.5 -0.1**
LASM Arnica Sink 1.48 258 **Pn 01 11 12.4 +0.1**
LTIM Timbered Crate 1.57 242 **Pb 01 11 13.8 -0.9**
J08A Circle Bar Ran 1.68 31 **Pb 01 11 15.7 -0.7**
LBCM Butte Creek Ri 1.68 230 **Pn 01 11 15.1 0.0**
K04D Chiloquin, OR 1.71 295 Pg **Pb 01 11 17.7 +0.5**
J05D Fort Rock, OR 1.80 320 Pg **Pg 01 11 19.5 -0.5**
BMRR Black Mountain 1.88 195 **Pn 01 11 17.7 -0.1**
L04D Klamath Falls 2.00 279 Pn **Pn 01 11 20.0 +0.5**
PINE Pine Mountain 2.10 333 Pg **Pg 01 11 25.2 -0.5**
PINE IAML 01 11 56.7
comp=E,255nm,0.6s
PINE IAML 01 12 05.2
comp=N,189nm,0.9s
BEKR Beckworth 2.12 195 **Pn 01 11 21.9 +0.6**
I07A Izee 2.16 3 Pg **Pg 01 11 26.1 -0.8**
PAHR Pah Rah Range 2.22 175 **Pn 01 11 22.7 +0.1**
PAHR Pah Rah Range 2.22 175 IAML 01 11 55.4
comp=E,116nm,0.7s
PAHR IAML 01 11 59.1
comp=N,99nm,0.5s
LCMM Colby Mountain 2.27 219 **Pn 01 11 23.8 +0.5**
YBH Yreka Blue Hor 2.30 266 Pn **Pn 01 11 23.6 0.0**
LOY Loyalton 2.31 191 **Pb 01 11 26.8 -0.5**
PEAR Peavine Mounta 2.33 186 **Pn 01 11 24.3 +0.2**
MPK Martis Peak 2.64 186 Pg **Pb 01 11 33.2 +0.2**
MPK IAML 01 12 14.4
comp=N,156nm,0.7s
MPK IAML 01 12 19.9
comp=E,117nm,0.7s
I05D Terrebonne, OR 2.71 333 Pn **Pn 01 11 29.3 0.0**
I05D IAML 01 12 15.3
comp=N,68nm,1.1s
I05D IAML 01 12 31.1
comp=E,103nm,0.9s
ORV Oroville 2.75 211 Pn **Pn 01 11 28.8 -0.9**
I04A Tendick Farm, 2.76 314 Pn **Pn 01 11 30.5 +0.6**

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res	ISC
PNTR	Pine Nut	2.83	179	Pn	Pn	01 11 30.1	-0.9	
DBO	Dodson Butte	2.92	295	Pn	Pn	01 11 31.9	-0.1	
DBO	comp=N,85nm,0.9s			IAML		01 12 20.8		
DBO	comp=E,54nm,2.0s			IAML		01 12 31.9		
L02F	Cave Junction	2.93	275		Pn	01 11 30.6	-1.6	
L02F	comp=N,97nm,0.5s			IAML		01 12 20.9		
L02F	comp=E,62nm,0.9s			IAML		01 12 25.8		
YERR	Yerington	2.95	174		Pn	01 11 31.9	-0.7	
EMB	Emerald Bay	2.97	187	Pn	Pn	01 11 31.3	-1.6	
EMB	comp=E,60nm,0.7s			IAML		01 12 23.5		
K02D	Willamette Mer	3.08	286		Pn	01 11 33.8	-0.5	
KVN	Kaiserville	3.10	157		Pn	01 11 33.7	-0.9	
KVN	comp=E,86nm,0.5s			IAML		01 12 25.4		
KVN	comp=N,64nm,0.6s			IAML		01 12 25.8		
AFDM	Forest Hills D	3.14	199	Pn	Pn	01 11 34.1	-0.9	
KSXB	Camp Six Broad	3.16	270	Pn	Pn	01 11 34.9	-0.5	
KSXB	comp=N,48nm,0.6s			IAML		01 12 26.3		
KSXB	comp=E,47nm,1.9s			IAML		01 12 35.4		
MFID	Camas Ranch	3.19	61		Pn	01 11 35.9	+0.1	
KRMB	Red Mountain	3.21	264	Pn	Pn	01 11 34.8	-1.3	
I03D	Drain, OR	3.25	304	Pn	Pn	01 11 37.2	+0.7	
I03D	comp=N,45nm,1.2s			IAML		01 12 38.1		
H04A	Detroit Lake	3.33	327	Pn	Pn	01 11 37.5	-0.1	
BUCK	Buck Mountain	3.34	314	Pn	Pn	01 11 37.2	-0.7	
BUCK	comp=E,59nm,3.2s			IAML		01 12 37.4		
BUCK	comp=N,48nm,2.0s			IAML		01 12 53.4		
BMO	Blue Mountains	3.39	29	Pn	Pn	01 11 37.2	-1.3	
J01E	Myrtle Point	3.40	293	Pn	Pn	01 11 38.0	-0.6	
J01E	comp=N,55nm,0.8s			IAML		01 12 47.1		
J01E	comp=E,51nm,1.4s			IAML		01 12 50.2		
G08A	Pilot Rock	3.40	8	Pn	Pn	01 11 38.0	-0.7	
WAKR	Walker	3.42	177	Pn	Pn	01 11 38.7	-0.3	
WAKR	comp=N,46nm,0.7s			IAML		01 12 38.2		
WAKR	comp=E,35nm,0.9s			IAML		01 12 45.5		
H04D	Lebanon	3.44	320	Pn	Pn	01 11 39.7	+0.5	
KMRM	Mail Ridge	3.51	242	Pn	Pn	01 11 41.8	+1.6	
KMRM	comp=N,64nm,2.4s			IAML		01 12 41.6		
KMRM	comp=E,50nm,1.2s			IAML		01 12 46.6		
ELK	Elko	3.52	108		Pn	01 11 39.9	-0.6	
ELK	comp=E,36nm,0.3s			IAML		01 12 37.9		
Q09A	Carvers	3.61	148	Pn	Pn	01 11 40.4	-1.3	
NV09	Mina Array Sit	3.62	163		Pn	01 11 43.9	+2.0	
NVAR	Mina Array Bea	3.64	163		Pn	01 11 40.7	-1.4	
NV08	Mina Array Sit	3.66	163		Pn	01 11 43.4	+1.1	
NV11	Mina Array Sit	3.67	161	Pn	Pn	01 11 42.1	-0.3	
NV11	comp=N,32nm,0.6s			IAML		01 12 42.7		
NV11	comp=E,32nm,0.6s			IAML		01 12 44.4		
PLID	Pearl Lake	4.13	39		Pn	01 11 49.0	+0.2	
HLID	Hailey	4.19	65		Pn	01 11 49.7	+0.1	
HLID	comp=E,45nm,0.6s			IAML		01 13 00.3		
HLID	Hailey baz=248	4.19	65	P	Pn	01 11 50.5	+0.9	
HLID	baz=248			S	Sn	01 12 40.4	+1.8	
DSP	Deep Springs	4.73	164	Pn	Pn	01 11 55.1	-1.7	
R11B	Troy Canyon, C	4.74	138	Pn	Pn	01 11 56.9	-0.2	
R11B	comp=E,23nm,0.8s			IAML		01 13 18.4		
R11B	comp=N,20nm,0.7s			IAML		01 13 21.5		
R11B	Troy Canyon, C baz=320	4.74	138	P	Pn	01 11 57.8	+0.7	
R11B	baz=320			S	Sn	01 12 53.2	+1.0	
GMN	Gold Mountain	4.97	157	Pn	Pn	01 12 01.6	+1.2	
GMN	comp=E,12nm,0.8s			IAML		01 13 23.5		
GMN	comp=N,22nm,0.7s			IAML		01 13 25.4		
TIN	Tinemaha, Big baz=348	4.98	167	P	Pn	01 11 59.6	-0.8	
SPR3	Spring Creek 3	5.00	124		Pn	01 12 02.7	+1.9	
BGU	Big Grassy Mou	5.07	99	Pn	Pn	01 12 02.9	+1.1	
BGU	comp=E,20nm,1.0s			IAML		01 13 34.3		
BGU	comp=N,13nm,0.9s			IAML		01 13 35.5		
HVU	Hansel Valley	5.13	89	Pn	Pn	01 12 00.9	-1.6	
GRAC	Grapevine Rang baz=341	5.23	160	P	Pn	01 12 04.7	+1.0	
GRAC	baz=341			S	Sn	01 13 03.6	-0.5	
SGV	South Grapevin	5.33	157		Pn	01 12 08.5	+3.2	
DUG	Dugway, Tooele	5.45	106	Pn	Pn	01 12 07.5	+0.7	
DUG	Dugway, Tooele baz=290	5.45	106	P	Pn	01 12 07.5	+0.7	
DUG	baz=290			S	Sn	01 13 09.9	+0.3	
PSUT	Pine Spring	5.58	125	Pn	Pn	01 12 11.2	+2.5	
CWC	Cottonwood Cre baz=348	5.61	167	P	Pn	01 12 09.0	-0.1	
TPNV	Topopah Spring	5.62	151	Pn	Pn	01 12 08.0	-1.3	
TPNV	Topopah Spring baz=333	5.62	151	P	Pn	01 12 08.5	-0.7	
PRN	Pahroc Range	5.74	140	Pn	Pn	01 12 13.7	+2.9	
FURC	Furnace Creek, baz=339	5.86	157	P	Pn	01 12 11.6	-0.7	
FURC	baz=339			S	Sn	01 13 21.0	+1.4	
HWUT	Hardware Ranch	6.05	90	Pn	Pn	01 12 15.1	-0.1	
AMDNV	Amargosa	6.05	153		Pn	01 12 18.7	+3.6	
NLU	North Lily Min	6.06	106	Pn	Pn	01 12 14.8	-0.5	
VES	Vestal, Richgr baz=356	6.09	176	P	Pn	01 12 15.1	-0.4	
VES	baz=356			S	Sn	01 13 24.9	-0.4	
MPMC	Manual Prospec baz=345	6.09	163	P	Pn	01 12 16.1	+0.3	
MSO	Missoula baz=222	6.38	38	P	Pn	01 12 20.1	+0.4	
MSO	baz=222			S	Sn	01 13 34.7	+2.1	
CCUT	Cedar City	6.52	130	Pn	Pn	01 12 22.0	+0.4	
NEW	Newport baz=197	6.59	15	P	Pn	01 12 23.0	+0.6	
BOZ	Bozeman (W) baz=240	6.87	55	P	Pn	01 12 25.9	-0.4	
GSC	Goldstone, Bar baz=342	6.97	161	P	Pn	01 12 28.1	+0.3	
GSC	baz=342			S	Sn	01 13 46.9	-0.3	
OXBJ				*i* S	Sn	01 21 28.0	+0.1	
OXLC	Oaxaca	0.40	74	*e*P	Pn	01 21 20.3	+0.2	
OXLC				*i* S	Sn	01 21 28.4	+0.3	
YOIG	Yosondua	0.43	257		Pn	01 21 20.8	+0.4	
YOIG					Sn	01 21 29.4	+0.6	
YOIG	Yosondua	0.43	257	*i* P	Pn	01 21 20.9	+0.4	
YOIG				*i* S	Sn	01 21 29.4	+0.6	
TXIG	Tlaxiaco	0.70	295		Pn	01 21 23.8	+0.4	
TXIG					Sn	01 21 33.8	-0.2	
TXIG	Tlaxiaco	0.70	295	*e*P	Pn	01 21 23.8	+0.4	
TXIG				*i* S	Sn	01 21 33.7	-0.2	
PEIG	Puerto Escondi	0.95	182		Pn	01 21 26.6	+0.2	
PEIG					Sn	01 21 39.8	+0.5	
PEIG	Puerto Escondi	0.95	182	*i* P	Pn	01 21 26.6	+0.2	
PEIG				*e*S	Sn	01 21 39.8	+0.5	
HLIG	Huajuapan de L	1.09	323		Pn	01 21 28.7	+0.2	
HLIG					Sn	01 21 42.6	-0.2	
HLIG	Huajuapan de L	1.09	323	*e*P	Pn	01 21 28.7	+0.2	
HLIG				*i* S	Sn	01 21 42.6	-0.2	
PNIG	Pinotepa	1.13	240		Pn	01 21 27.9	-0.8	
PNIG					Sn	01 21 44.6	+1.2	
PNIG	Pinotepa	1.13	240	*i* P	Pn	01 21 27.9	-0.8	
PNIG				*e*S	Sn	01 21 44.4	+1.1	
TOIG	Toxpalan	1.13	2		Pn	01 21 29.1	+0.2	
TOIG					Sn	01 21 43.5	-0.1	
TOIG	Toxpalan	1.13	2	*i* P	Pn	01 21 29.1	+0.2	
TOIG				*e*S	Sn	01 21 43.6	-0.1	
FTIG	Fresnillo de T	1.36	314		Pn	01 21 32.5	+0.6	
FTIG					Sn	01 21 49.6	+0.6	
FTIG	Fresnillo de T	1.36	314	*i* P	Pn	01 21 32.5	+0.6	
FTIG				*i* S	Sn	01 21 49.6	+0.6	
PANG	Puerto Angel	1.42	155		Pn	01 21 33.1	+0.5	
PANG					Sn	01 21 48.4	-1.9	
PANG	Puerto Angel	1.42	155	*e*P	Pn	01 21 33.2	+0.6	
PANG				*e*S	Sn	01 21 48.2	-2.1	
NEUV	Arroyo Zacate	1.46	59	*i* P	Pn	01 21 33.5	+0.4	
NEUV				*i* S	Sn	01 21 52.5	+1.3	
TPIG	Tehuac#an	1.47	351		Pn	01 21 34.2	+0.7	
TPIG					Sn	01 21 52.2	+0.3	
TPIG	Tehuac#an	1.47	351	*i* P	Pn	01 21 34.2	+0.7	
TPIG				*e*S	Sn	01 21 52.2	+0.3	
TLIG	Tlapa	1.52	294	Pn	Pn	01 21 34.9	+0.8	
TLIG	Tlapa	1.52	294	*i* P	Pn	01 21 34.7	+0.6	
TLIG				*i* S	Sn	01 21 50.6	-2.3	
HUIG	Huatulco	1.52	141		Pn	01 21 34.6	+0.6	
HUIG					Sn	01 21 52.7	-0.1	
HUIG	Huatulco	1.52	141	*i* P	Pn	01 21 34.6	+0.6	
HUIG				*e*S	Sn	01 21 52.7	-0.1	
HMTT	Tlapaneco	1.62	301		Pn	01 21 36.2	+0.9	
HMTT					Sn	01 21 54.8	-0.5	
HMTT	Tlapaneco	1.62	301	*e*P	Pn	01 21 36.2	+0.9	
HMTT				*e*S	Sn	01 21 54.8	-0.5	
OZST	Orizaba	1.89	0	*e*P	Pn	01 21 38.9	-0.2	
OZST				*e*S	Sn	01 22 00.4	-1.6	
PHPU	Puebla	2.31	334		Pn	01 21 46.4	+1.5	
PHPU	Puebla	2.31	334	*e*P	Pn	01 21 46.4	+1.5	
PHPU				*e*S	Sn	01 22 10.6	-1.7	
JAUV	Jalcomulco	2.41	7	*e*P	Pn	01 21 45.2	-0.9	
JAUV				*e*S	Sn	01 22 12.3	-2.3	
NILT	Santiago Nilte	2.42	99	*e*P	Pn	01 21 46.5	+0.4	
NILT				*e*S	Sn	01 22 13.7	-0.9	
DAIG	Los Arroyos	2.44	272		Pn	01 21 46.0	-0.4	
DAIG					Sn	01 22 11.9	-3.2	
DAIG	Los Arroyos	2.44	272	*i* P	Pn	01 21 46.0	-0.4	
DAIG				*i* S	Sn	01 22 11.9	-3.2	
PMUV	Sontecomapan	2.46	50	*i* P	Pn	01 21 45.8	-1.1	
PMUV				*e*S	Sn	01 22 17.5	+1.6	
XALA	Xalapa	2.57	4	*e*P	Pn	01 21 48.7	+0.3	
XALA				*e*S	Sn	01 22 16.7	-1.7	
MEIG	Mezcala	2.58	292		Pn	01 21 50.0	+1.4	
MEIG					Sn	01 22 18.1	-0.8	
MEIG	Mezcala	2.58	292	*i* P	Pn	01 21 50.0	+1.4	
MEIG				*e*S	Sn	01 22 18.1	-0.8	
MIHL	Minatitlan	2.65	67	*e*P	Pn	01 21 49.1	-0.3	
MIHL				*e*S	Sn	01 22 18.9	-1.4	
YAIG	Yautepec	2.66	316		Pn	01 21 51.1	+1.5	
YAIG					Sn	01 22 18.9	-1.8	
YAIG	Yautepec	2.66	316	*e*P	Pn	01 21 51.1	+1.5	
YAIG				*e*S	Sn	01 22 18.9	-1.8	
ACP2	Acapulco	2.66	269		Pn	01 21 48.9	-0.6	
ACP2					Sn	01 22 17.0	-3.6	
ACP2	Acapulco	2.66	269	*i* P	Pn	01 21 48.9	-0.6	
ACP2				*e*S	Sn	01 22 17.0	-3.6	
AMVM	AMECAMECA	2.69	324		Pn	01 21 52.6	+2.4	
AMVM	AMECAMECA	2.69	324	*e*P	Pn	01 21 52.6	+2.4	
AMVM				*i* S	Sn	01 22 21.6	-0.1	
PLIG	Platanillo	2.69	302		Pn	01 21 51.6	+1.6	
PLIG					Sn	01 22 21.3	-0.2	
PLIG	Platanillo	2.69	302	*e*P	Pn	01 21 51.6	+1.6	
PLIG				*e*S	Sn	01 22 21.3	-0.2	
TUIG	Tuzandepetl	2.78	67	*i* P	Pn	01 21 51.1	+0.1	
TUIG				*e*S	Sn	01 22 22.1	-1.3	
LVIG	Laguna Verde	2.83	13	*i* P	Pn	01 21 49.9	-1.9	
LVIG				*e*S	Sn	01 22 20.5	-4.1	
UXUV	UXUV	2.85	82	*i* P	Pn	01 21 52.0	-0.1	
UXUV				*e*S	Sn	01 22 23.7	-1.6	
MPVM	San Francisco	2.88	321	*e*P	Pn	01 21 55.0	+2.4	
MPVM				*e*S	Sn	01 22 26.9	+0.7	
THVM	De Xico	2.94	323	*e*P	Pn	01 21 53.3	-0.2	
THVM				*e*S	Sn	01 22 26.6	-1.2	
TLVM	San Miguel Top	2.97	319	*e*P	Pn	01 21 54.6	+0.6	
TLVM				*e*S	Sn	01 22 28.9	+0.3	
TXVM	Universitario	3.00	325	*e*P	Pn	01 21 55.3	+0.9	
TXVM				*e*S	Sn	01 22 29.6	+0.9	
CAIG	El Cayaco	3.03	272		Pn	01 21 54.0	-0.5	
CAIG					Sn	01 22 24.9	-4.6	
CAIG	El Cayaco	3.03	272	*i* P	Pn	01 21 54.0	-0.5	
CAIG				*e*S	Sn	01 22 24.9	-4.6	
CNCY	Coyoacan	3.06	320	*e*P	Pn	01 21 56.3	+1.1	
CNCY				*e*S	Sn	01 22 30.7	0.0	
UNM	Universidad Na	3.07	320	Pn	Pn	01 21 56.7	+1.3	
UNM	Universidad Na	3.07	320	*e*P	Pn	01 22 00.1	+4.7	
CUP5	Mexico City	3.08	320	*e*P	Pn	01 21 55.2	-0.2	
CUP5				*e*S	Sn	01 22 29.7	-1.4	
COVM	Coyoacan	3.08	321	*e*P	Pn	01 21 52.1	-3.3	
COVM				*e*S	Sn	01 22 31.9	+0.7	
BJVM	Benito Juarez	3.10	321	*e*P	Pn	01 21 57.7	+1.9	
BJVM				*e*S	Sn	01 22 27.8	-4.0	
PBVM	Pinon	3.10	323		Pn	01 21 48.7	-6.8	
PBVM	Pinon	3.10	323	*e*P	Pn	01 21 54.1	-1.5	
PBVM				*e*S	Sn	01 22 32.9	+1.5	
AOVM	Tlapan	3.12	318	*e*P	Pn	01 21 57.6	+1.4	
AOVM				*e*S	Sn	01 22 34.7	+2.3	
CARR	Arriaga	3.14	103	*e*P	Pn	01 21 57.0	+0.9	
CARR				*e*S	Sn	01 22 31.7	-0.7	
CJVM	Cuajimalpa	3.16	319	*e*P	Pn	01 21 58.2	+1.6	
CJVM				*e*S	Sn	01 22 28.0	-5.3	
INVM	La Marquesa	3.17	317	*e*P	Pn	01 21 59.2	+2.4	
INVM				*e*S	Sn	01 22 34.2	+0.5	
ATYC	Atoyac	3.19	275	*e*P	Pn	01 21 56.4	-0.3	
ATYC				*e*S	Sn	01 22 28.9	-4.6	
VTVM	Tizayuca	3.21	331		Pn	01 21 53.9	-3.4	
VTVM	Tizayuca	3.21	331	*e*P	Pn	01 21 53.9	-3.4	
VTVM				*e*S	Sn	01 22 38.0	+3.5	
CXUV	Coxquihui	3.23	352	*e*P	Pn	01 21 57.7	+0.4	
CXUV				*i* S	Sn	01 22 35.4	+0.8	
PTVM	Pico Tres Padr	3.24	324		Pn	01 21 59.3	+1.6	
PTVM	Pico Tres Padr	3.24	324	*e*P	Pn	01 21 59.3	+1.6	
PTVM				*i* S	Sn	01 22 37.7	+2.5	
ARIG	Puente Sto Nin	3.36	294		Pn	01 22 00.8	+1.8	
ARIG					Sn	01 22 35.8	-2.0	
ARIG	Puente Sto Nin	3.36	294	*i* P	Pn	01 22 00.8	+1.8	
ARIG				*e*S	Sn	01 22 35.8	-2.0	
TOVM	TOLUCA	3.37	314		Pn	01 22 01.9	+2.5	
TOVM	TOLUCA	3.37	314	*e*P	Pn	01 22 01.9	+2.5	
TOVM				*e*S	Sn	01 22 38.0	-0.3	
ZUVM	ZUMPANGO	3.41	327		Pn	01 22 05.2	+5.2	
ZUVM	ZUMPANGO	3.41	327	*e*P	Pn	01 22 04.6	+4.6	
ZUVM				*e*S	Sn	01 22 45.6	+6.2	
TEJU	Tejupilco	3.49	304	*e*P	Pn	01 22 02.0	+1.0	
TEJU				*e*S	Sn	01 22 40.3	-0.9	
DHIG	Demacu	3.79	331		Pn	01 22 06.5	+1.2	
DEIG	Demacu	3.80	331	*e*P	Pn	01 22 06.5	+1.2	
DEIG				*e*S	Sn	01 22 53.5	+4.8	
ATVM	ATLACOMULCO	3.81	317		Pn	01 22 04.0	-1.5	
ATVM	ATLACOMULCO	3.81	317	*e*P	Pn	01 22 04.0	-1.5	
ATVM				*i* S	Sn	01 22 47.7	-1.6	
TGIG		3.82	92		Pn	01 22 07.2	+1.8	
TGIG		3.82	92	*i* P	Pn	01 22 07.2	+1.8	
TGIG				*e*S	Sn	01 22 48.8	-0.3	
TGBT	Tuxtla Gutierr	3.85	92	*e*S	Sn	01 22 49.1	-0.6	
PCIG		3.94	108		Pn	01 22 08.7	+1.8	
PCIG					Sn	01 22 51.7	-0.1	
PCIG		3.94	108	*i* P	Pn	01 22 08.7	+1.8	
PCIG				*e*S	Sn	01 22 51.7	-0.1	
ACIG	Acambay	4.00	319	*e*P	Pn	01 22 13.1	+5.2	
ACIG				*e*S	Sn	01 22 57.1	+3.5	
PET2	Petatlan	4.01	279	*e*P	Pn	01 22 07.2	-0.8	
PET2				*e*S	Sn	01 22 49.0	-4.7	
ZIIG	Zihuatanejo	4.21	279	*e*P	Pn	01 22 11.1	+0.4	
ZIIG				*e*S	Sn	01 22 55.3	-3.4	
CTUV	Llano Grande	4.64	345	*e*P	Pn	01 22 16.5	-0.1	
CCIG	Comitan	4.81	97	Pn	Pn	01 22 19.4	+0.3	
CCIG	Comitan	4.81	97	*e*P	Pn	01 22 20.4	+1.4	
CCIG				*e*S	Sn	01 23 14.4	+0.7	
JRQG	Juriquilla Cam	4.89	320	*e*P	Pn	01 22 22.3	+2.1	
JRQG				*e*S	Sn	01 23 17.1	+1.5	
PATR	El Naranjo	5.03	111	*e*P	Pn	01 22 24.7	+2.6	
PATR				*e*S	Sn	01 23 19.3	+0.2	
PAVE	Pavencul	5.05	110	*e*P	Pn	01 22 25.1	+2.6	
PAVE				*e*S	Sn	01 23 21.2	+1.5	
THIG		5.08	113	*e*P	Pn	01 22 29.4	+6.7	
THIG				*e*S	Sn	01 23 16.7	-3.4	
CHUJ	Union Juarez	5.15	110	*e*P	Pn	01 22 26.3	+2.5	
CHUJ				*e*S	Sn	01 23 22.2	+0.1	
IGIG	Irapuato, Guan	5.50	314	*e*	Pn	01 22 45.7	+17	
IGIG				*e*		01 24 04.4		
RPIG	Rio Verde	5.60	331	*e*P	Pn	01 22 26.6	-3.3	
RPIG				*e*S	Sn	01 23 39.9	+6.9	
HUEH	Huehuetenango	5.63	106	Pn	Pn	01 22 31.4	+1.1	
RTAL	Retalhuleu	5.74	114	Pn	Pn	01 22 33.5	+1.8	
SCIG	Sabancuy	5.98	70	*e*P	Pn	01 22 33.2	-1.7	
SCIG				*e*S	Sn	01 23 35.8	-6.3	
MMIG	Aquila	6.09	283		Pn	01 22 37.1	+0.6	
MMIG	Aquila	6.09	283	*e*P	Pn	01 22 37.1	+0.6	
MMIG				*e*S	Sn	01 23 39.8	-5.2	
GTIG	Gomez Farias	6.38	343	*e*P	Pn	01 22 41.5	+1.1	
GTIG				*e*S	Sn	01 23 51.4	-0.5	
PETF	Flores	6.93	89		Pn	01 22 47.6	-0.4	
CIHU	Emiliano Zapat	7.61	289	*e*P	Pn	01 22 59.3	+2.0	
CIHU				*e*S	Sn	01 24 20.9	-1.2	
ZAIG	Zacatecas	7.73	319	Pn	Pn	01 23 03.2	+4.0	
ZAIG	Zacatecas	7.73	319	*e*P	Pn	01 23 00.1	+0.8	
ZAIG				*e*S	Sn	01 24 20.7	-4.8	
CJM	Chamela	7.96	290	*e*P	Pn	01 23 05.0	+3.0	
CJM				*e*S	Sn	01 24 29.0	-1.6	
MYIG	Mrida	8.03	59	*e*P	Pn	01 23 02.2	-0.8	
MYIG				*e*S	Sn	01 24 30.0	-2.3	
ANIG	Ahuacatlan	8.11	301	*e*P	Pn	01 23 11.1	+6.9	
LNIG	Linares	8.20	345	*e*P	Pn	01 23 06.3	+0.9	
TEIG	Tepich	8.98	67	Pn	Pn	01 23 13.5	-2.5	
TEIG	Tepich	8.98	67	Pn	Pn	01 23 12.1	-4.0	
TEIG	216nm,0.3s,baz=333,slow=9.8,SNR=53			Sn	Sn	01 24 47.6	-8.2	
TEIG	336nm,0.3s,baz=142,slow=22,SNR=9.7			LR	LR	01 27 21.4		
TEIG	comp=Z,1μm,20.7s,baz=356,slow=42							
TEIG	Tepich	8.98	67	*e*P	Pn	01 23 12.6	-3.5	
TEIG				*e*S	Sn	01 24 47.9	-7.9	
833A	Chaparral WMA,	11.51	350	Pn	Pn	01 23 48.6	-2.0	
833A	Chaparral WMA, baz=168,SNR=8.7	11.51	350	P	Pn	01 23 49.3	-1.2	
HNDO	Hondo	12.67	351		Pn	01 24 05.5	-1.0	
HZTE	Horizontes, Gu	12.78	118	Pn	Pn	01 24 10.5	+2.5	
DRIO	Del Rio	12.82	346	Pn	Pn	01 24 07.3	-1.1	
ORTG	Ortega, Santa	13.08	119	Pn	Pn	01 24 13.1	+0.9	
DUNO	Dulce Nombre,	13.20	120	Pn	P	01 24 17.8	-4.0	
ARE1	Arenal 1	13.65	117		Pn	01 24 20.7	+0.8	
JCT	Junction City	13.69	350	Pn	Pn	01 24 18.8	-1.5	
JCT	Junction City baz=168,SNR=12	13.69	350	P	Pn	01 24 19.8	-0.5	
JCT	Junction City	13.69	350	*e*P	Pn	01 24 17.2	-3.1	
TX31	Lajitas Ar. Si	13.71	335		Pn	01 24 20.7	0.0	
TX32	Lajitas Array	13.71	335		Pn	01 24 21.4	+0.7	
TXAR	Lajitas Array	13.71	335		Pn	01 24 21.7	+1.0	
TXAR	Lajitas Array 0.1nm,0.3s,baz=151,slow=13,SNR=19	13.71	335	Pn	Pn	01 24 21.5	+0.8	
TXAR	comp=Z,118nm,20.8s,baz=144,slow=40 1.9nm,0.8s			LR	LR	01 30 15.6		
SAND	Sanderson	13.73	341	Pn	Pn	01 24 21.6	+0.8	
435B	Jarrell	13.77	358		Pn	01 24 22.8	+1.5	
435B	Jarrell baz=177	13.77	358	P	Pn	01 24 20.6	-0.8	
SOCE	Pocosol	13.78	117	Pn	Pn	01 24 24.1	+2.5	
HNVL	Huntsville, TX	13.82	6		Pn	01 24 19.6	-2.4	
441A	DeRidder	14.19	14		Pn	01 24 24.9	-2.0	
BRDY	Brady	14.37	353	Pn	Pn	01 24 28.6	-0.7	
OZNA	Ozona	14.38	346	Pn	Pn	01 24 29.0	-0.5	
ALPN	Alpine	14.63	337	Pn	Pn	01 24 32.2	-0.6	
NATX	Nacogdoches	14.90	8	Pn	Pn	01 24 34.3	-2.0	
NATX	Nacogdoches baz=188	14.90	8	P	Pn	01 24 35.0	-1.2	
WHTX	Lake Whitney,	14.97	359		Pn	01 24 36.3	-0.9	
WHTX	Lake Whitney, baz=178,SNR=8.6	14.97	359	P	Pn	01 24 36.4	-0.7	
237A	Washetta, Mont	15.03	4	P	P	01 24 40.7	-1.3	
SGCY	Sterling City	15.33	347	Pn	Pn	01 24 41.6	-0.2	
SGCY	comp=Z,45nm,0.7s			IAmb	IAmb	01 24 47.4		
FW16	Waxahatchie	15.46	1	P	P	01 24 46.1	-0.7	
FW16	comp=Z,67nm,0.6s			IAmb	IAmb	01 24 48.0		
425A	Indio Mountain	15.53	334	P	Pn	01 24 46.1	+1.6	
344A	Westbrook Farm	15.55	21		Pn	01 24 42.9	-1.7	
344A	comp=Z,52nm,1.0s			IAmb	IAmb	01 24 50.0		
PECS	Pecos	15.61	338	P	P	01 24 49.9	+1.3	
PECS	comp=Z,60nm,1.2s			IAmb	IAmb	01 25 05.4		
FW07	Weatherford	15.69	358		Pn	01 24 45.3	-1.1	
FW07	comp=Z,55nm,0.7s			IAmb	IAmb	01 24 59.9		
ABTX	Abilene, Hawle	15.77	352		Pn	01 24 46.5	-0.8	
ABTX	comp=Z,71nm,0.9s			IAmb	IAmb	01 24 52.8		
ABTX	Abilene, Hawle baz=170,SNR=40	15.77	352	P	Pn	01 24 46.7	-0.7	
ODSA	Odessa	15.88	343	P	Pn	01 24 49.0	+0.1	
ODSA	comp=Z,123nm,0.7s			IAmb	IAmb	01 24 54.3		
FW06	Azle	15.95	359	P	P	01 24 52.3	0.0	
FW06	comp=Z,62nm,0.7s		

comp=Z,43nm,0.7s
DKNS Dickens 16.99 349 Pn 01 25 01.6 -1.2
DKNS IAmb IAmb 01 25 05.2
comp=Z,41nm,0.6s
WLAR White Oak Lake 17.04 11 Pn 01 25 01.0 -2.3
CPRX Cap Rock 17.13 340 P **P 01 25 05.6 +0.2**
146A Union 17.23 24 Pn 01 25 02.9 -2.7
146A IAmb IAmb 01 25 07.5
comp=Z,55nm,1.0s
CCAR Cane Creek 17.56 15 P **Pn 01 25 07.8 -1.8**
X34A Smith Ranch, M 17.58 358 Pn 01 25 08.1 -1.9
X34A IAmb IAmb 01 25 26.4
comp=Z,36nm,0.6s
X37A Clayton 17.63 5 Pn 01 25 08.8 -1.7
MSTX Muleshoe 17.69 344 P **Pn 01 25 10.3 -1.1**
MSTX IAmb IAmb 01 25 12.6
comp=Z,46nm,0.9s
MSTX Muleshoe 17.69 344 P **Pn 01 25 10.8 -0.6**
baz=161,SNR=18
WMOK Wichita Mounta 17.77 355 Pn 01 25 10.6 -1.7
WMOK Wichita Mounta 17.77 355 P **Pn 01 25 11.4 -0.9**
baz=174,SNR=6.4
MIAR Mount Ida 17.80 10 Pn 01 25 11.1 -1.5
MIAR Mount Ida 17.80 10 P **Pn 01 25 10.7 -1.9**
baz=191,SNR=48
X40A Basin Creek Fa 17.87 12 P **P 01 25 13.1 -0.4**
250A Grady 17.89 31 P **P 01 25 13.3 -0.5**
250A IAmb IAmb 01 25 24.9
comp=Z,103nm,1.5s
Z47A Carrollton 18.11 25 P **P 01 25 14.8 -1.3**
319A Douglas 18.13 325 P **P 01 25 16.8 +0.4**
Y45A Yeager Farm, C 18.16 21 P **P 01 25 15.6 -1.1**
Y45A IAmb IAmb 01 25 20.0
comp=Z,62nm,0.8s
656A Willston 18.20 45 P 01 25 15.7 -1.4
656A IAmb IAmb 01 25 21.0
comp=Z,58nm,1.1s
352A Blakely 18.21 35 P 01 25 15.2 -2.0
352A IAmb IAmb 01 25 30.2
comp=Z,135nm,1.4s
UALR University of 18.25 13 P **P 01 25 17.2 -0.4**
UALR IAmb IAmb 01 25 18.9
comp=Z,53nm,0.8s
121A Cookes Peak, D 18.27 330 P **Pn 01 25 18.9 +0.3**
121A Cookes Peak, D 18.27 330 P **Pn 01 25 18.8 +0.3**
baz=145,SNR=10.0
121A Cookes Peak, D 18.27 330 *e*P **Pn 01 25 19.2 +0.7**
AMTX Amarillo 18.32 348 P **P 01 25 17.2 -1.3**
AMTX Amarillo 18.32 348 P **P 01 25 18.2 -0.3**
baz=165
OKCSW OKLAHOMA CITY 18.38 359 P 01 25 18.3 -0.7
OKCSW IAmb IAmb 01 25 21.3
comp=Z,77nm,1.0s
LRAL Lakeview Retre 18.43 28 P **P 01 25 17.5 -2.1**
LRAL Lakeview Retre 18.43 28 P **P 01 25 18.5 -1.0**
baz=212
CSTR Hydro, Custer 18.67 356 P 01 25 21.7 -0.6
WHAR Wooly Hollow 18.76 12 P 01 25 21.1 -2.1
OK029 Liberty Lake 18.77 359 P 01 25 22.5 -0.8
OXF Oxford 18.79 20 P 01 25 21.8 -1.8
OXF Oxford 18.79 20 P **P 01 25 22.3 -1.3**
baz=203,SNR=14
DEOK Depew 18.82 2 P 01 25 22.8 -1.1
DEOK IAmb IAmb 01 25 25.0
comp=Z,45nm,1.0s
TUL3 Leonard 18.91 3 P **P 01 25 24.0 -0.9**
TUL3 Leonard 18.91 3 P **P 01 25 24.5 -0.4**
baz=183,SNR=25
OK031 S. Brethren Rd 18.92 1 P 01 25 24.2 -0.8
OK031 IAmb IAmb 01 25 28.2
comp=Z,27nm,0.7s
DUN6 Lazy B Ranch 18.94 327 P **Pn 01 25 26.9 +0.3**
DUN6 IAmb IAmb 01 25 44.1
comp=Z,44nm,1.3s
TIGA Tifton 18.94 38 P **P 01 25 24.8 -0.5**
baz=223
OK052 Battle Ridge R 18.96 1 P **P 01 25 24.8 -0.7**
OK052 IAmb IAmb 01 25 28.3
comp=Z,30nm,0.6s
OK033 Mehan 19.01 0 P 01 25 24.7 -1.3
OK033 IAmb IAmb 01 25 26.8
comp=Z,47nm,1.0s
QUOK Quay 19.14 1 P 01 25 26.3 -1.1
QUOK IAmb IAmb 01 25 29.5
comp=Z,38nm,0.9s
ELIS Ellis County 19.14 354 P **P 01 25 27.0 -0.4**
Y22D IRIS PASSCAL I 19.19 334 P **P 01 25 28.9 +0.8**
Y22D IAmb IAmb 01 25 44.8
comp=Z,25nm,0.9s
RLO Rose Lookout 19.22 5 P 01 25 26.9 -1.4
RLO IAmb IAmb 01 25 29.7
comp=Z,57nm,0.6s
152A Waverly Hall 19.24 33 P **P 01 25 27.3 -1.2**
FCAR Ozark Folk Cen 19.37 12 P **P 01 25 28.7 -1.2**
Y49A Blount Mountai 19.38 28 P **P 01 25 28.1 -2.0**
Y49A IAmb IAmb 01 25 31.0
comp=Z,61nm,1.2s
OK048 Pawnee Station 19.38 0 P 01 25 29.0 -1.0
OK048 IAmb IAmb 01 25 32.8
comp=Z,60nm,0.9s
HBAR Harrisburg 19.39 16 P **P 01 25 29.4 -0.8**
U32A Winter Ranch, 19.42 355 P 01 25 30.0 -0.5
U32A IAmb IAmb 01 25 34.0
comp=Z,41nm,0.9s
HHAR Hobbs 19.45 8 P **P 01 25 29.7 -1.2**
HHAR IAmb IAmb 01 25 31.1
comp=Z,27nm,0.9s
OK051 E0350 and S346 19.47 1 P **P 01 25 29.7 -1.3**
OK051 IAmb IAmb 01 25 33.9
comp=Z,53nm,1.0s
CROK Carrier 19.49 358 P 01 25 30.3 -0.9
CROK IAmb IAmb 01 25 34.1
comp=Z,62nm,0.7s
Z51A Franklin 19.52 31 P **P 01 25 29.4 -2.2**
Z51A IAmb IAmb 01 25 31.8
comp=Z,30nm,0.5s
U38A Gravette 19.55 7 P **P 01 25 30.3 -1.7**
X48A Hartselle 19.62 25 P **P 01 25 30.1 -2.5**
NOKA Waynoka 19.67 356 P 01 25 32.8 -0.4
NOKA IAmb IAmb 01 25 35.5
comp=Z,17nm,0.7s
TUC Tucson 19.67 323 P **P 01 25 34.0 +0.6**
TUC Tucson 19.67 323 Pn 01 25 36.6 +1.4
TUC IAmb IAmb 01 25 50.1
comp=Z,28nm,0.9s
TUC Tucson 19.67 323 P **Pn 01 25 35.1 -0.2**
baz=137
TUC Tucson 19.67 323 *e*P **Pn 01 25 35.5 +0.3**
PLAL Pickwick Lake 19.68 22 P **P 01 25 32.0 -1.3**
PLAL IAmb IAmb 01 25 33.3
comp=Z,61nm,0.8s
BLOK Blackwell 19.73 360 P 01 25 31.9 -1.9
LCAR Lake Charles 19.76 14 P **P 01 25 32.6 -1.6**
LCAR IAmb IAmb 01 25 34.5
comp=Z,39nm,1.2s
ANMO Albuquerque 19.77 337 P **P 01 25 34.9 +0.4**
ANMO Albuquerque 19.77 337 P **Pn 01 25 36.1 -0.4**
baz=152
ANMO Albuquerque 19.77 337 P **P 01 25 35.6 +1.1**
comp=Z,0.2nm,0.3s,baz=238,slow=13,SNR=12
ANMO LR LR 01 34 23.3
comp=Z,82nm,19.9s,baz=252,slow=40
comp=Z,8.3nm,1.0s
OK032 Salt Plains WL 19.79 357 P 01 25 34.2 -0.3
OK032 IAmb IAmb 01 25 36.8
comp=Z,110nm,1.4s
GC02 Grant County # 19.83 358 P **P 01 25 34.4 -0.5**
T35A Sooner Cattle 19.89 1 P **P 01 25 34.5 -1.1**
KAN14 Manchester OK 19.94 358 P **P 01 25 35.5 -0.6**
KAN14 IAmb IAmb 01 25 38.9
comp=Z,50nm,1.4s
255A Hazlehurst 19.95 39 P **P 01 25 34.4 -1.9**
GNAR Gosnell 19.95 17 P **P 01 25 35.4 -0.8**
KAN13 South Haven SW 19.98 359 P 01 25 35.3 -1.3
KAN13 IAmb IAmb 01 25 38.9
comp=Z,42nm,0.9s
KAN17 Caldwell West 20.02 358 P 01 25 36.2 -0.8
KAN17 IAmb IAmb 01 25 39.8
comp=Z,31nm,0.8s
154A Montrose 20.08 36 P **P 01 25 35.3 -2.4**
154A IAmb IAmb 01 25 38.6
comp=Z,44nm,0.7s
KAN05 Bluff City Nor 20.09 358 P **P 01 25 36.1 -1.6**
KAN05 IAmb IAmb 01 25 44.7
comp=Z,28nm,0.6s

HALT Halls 20.10 19 P **P 01 25 36.3 -1.6**
KAN09 Caldwell North 20.11 359 P **P 01 25 36.4 -1.5**
KAN09 IAmb IAmb 01 25 40.8
comp=Z,35nm,0.9s
KAN01 Argonia South 20.13 358 P 01 25 36.8 -1.4
KAN01 IAmb IAmb 01 25 41.0
comp=Z,30nm,0.8s
PEBM Pemiscott Bayo 20.14 17 P **P 01 25 36.3 -1.9**
KS20 Mayfield South 20.20 359 P **P 01 25 38.2 -0.7**
KS20 IAmb IAmb 01 25 41.9
comp=Z,30nm,1.1s
KAN08 Anthony NE Sta 20.21 358 P **P 01 25 37.4 -1.6**
KAN06 Argonia West S 20.22 358 P **P 01 25 38.0 -1.2**
KAN06 IAmb IAmb 01 25 42.2
comp=Z,37nm,0.5s
LNXT Lenox 20.23 18 P **P 01 25 37.6 -1.7**
FPAL Fort Paine 20.31 28 P **P 01 25 38.3 -1.9**
GLAT Glass 20.45 18 P **P 01 25 40.2 -1.4**
PVMO Portageville 20.46 17 P **P 01 25 41.1 -0.7**
GOGA Godfrey 20.48 34 P **P 01 25 39.9 -2.0**
GOGA Godfrey 20.48 34 P **P 01 25 40.3 -1.7**
baz=220,SNR=23
Y52A Lilburn 20.51 32 P **P 01 25 40.3 -2.1**
Y52A IAmb IAmb 01 25 42.1
comp=Z,44nm,0.8s
MGMO Mountain Grove 20.57 11 P **P 01 25 42.3 -0.6**
MGMO IAmb IAmb 01 25 47.3
comp=Z,48nm,0.9s
PBMO Poplar Bluff 20.61 15 P **P 01 25 42.5 -0.9**
214A Organ Pipe Nat 20.63 319 P **P 01 25 44.9 +1.1**
214A Organ Pipe Nat 20.63 319 P Pn 01 25 45.6 -0.9
baz=132
UTMT University of 20.65 19 P **P 01 25 42.4 -1.4**
X51A Calhoun 20.68 30 P **P 01 25 42.2 -2.0**
T42A Van Buren 20.69 14 P **P 01 25 43.2 -1.0**
T42A IAmb IAmb 01 25 45.2
comp=Z,52nm,0.8s
HICK Hickman 20.72 18 P **P 01 25 43.3 -1.3**
SWET Sewanee 20.74 27 P **P 01 25 43.0 -1.8**
WVT Waverly 20.80 22 P **P 01 25 43.8 -1.7**
WVT Waverly 20.80 22 P **P 01 25 44.0 -1.4**
baz=205
V48A Smith Brothers 20.83 24 P **P 01 25 44.3 -1.4**
S39A Bolivar 20.92 8 P **P 01 25 45.4 -1.3**
S39A IAmb IAmb 01 25 47.6
comp=Z,44nm,0.7s
X18A Snowflake 20.94 329 P **P 01 25 48.5 +1.3**
W50A Signal Mountai 21.00 28 P **P 01 25 45.2 -2.4**
GTBY Guantanamo Bay 21.07 79 P **P 01 25 48.2 -0.3**
GTBY IAmb IAmb 01 25 52.8
comp=Z,31nm,0.8s
GTBY Guantanamo Bay 21.07 79 *e*P **P 01 25 48.8 +0.3**
T25A Trinidad 21.11 344 P **P 01 25 49.5 +0.4**
T25A IAmb IAmb 01 25 54.3
comp=Z,21nm,0.8s
T25A Trinidad 21.11 344 P **P 01 25 50.1 +1.1**
baz=160,SNR=18
CGM3 Cape Girardeau 21.30 17 P **P 01 25 48.8 -2.0**
CGM3 IAmb IAmb 01 25 53.2
comp=Z,33nm,1.0s
CLTN Cedars of Leba 21.33 25 P **P 01 25 49.1 -2.0**
CLTN IAmb IAmb 01 25 50.7
comp=Z,26nm,0.7s
SFX San Felipe 21.39 314 P **P 01 25 51.7 0.0**
R32A Long Quarter, 21.43 357 P **P 01 25 51.0 -1.2**
R32A IAmb IAmb 01 25 56.2
comp=Z,28nm,0.7s
W52A Murphy 21.56 31 P **P 01 25 51.3 -2.3**
W52A IAmb IAmb 01 25 53.8
comp=Z,26nm,0.8s
CPCT Cooper Cave 21.57 29 P **P 01 25 50.9 -2.8**
CPCT IAmb IAmb 01 25 56.1
comp=Z,59nm,0.9s
X16A Lo Mia Camp, P 21.62 326 P **P 01 25 54.7 +0.3**
CCM Cathedral Cave 21.64 13 P **P 01 25 53.3 -1.1**
CCM IAmb IAmb 01 25 59.6
comp=Z,20nm,0.6s
CCM Cathedral Cave 21.64 13 P **P 01 25 53.9 -0.5**
baz=195
R40A Maddies Statio 21.67 10 P **P 01 25 53.1 -1.6**
R40A IAmb IAmb 01 25 57.0
comp=Z,29nm,0.7s
FVM French Village 21.75 14 P **P 01 25 53.3 -2.4**
FVM IAmb IAmb 01 25 55.3
comp=Z,22nm,0.6s
113A Mohawk Valley, 21.78 319 P **P 01 25 58.7 +2.8**
S44A Carbondale 21.78 17 P **P 01 25 55.2 -0.7**
S44A IAmb IAmb 01 25 58.3
comp=Z,38nm,0.8s
SIUC Southern Illin 21.81 17 P **P 01 25 54.7 -1.6**
SIUC IAmb IAmb 01 25 58.5
comp=Z,44nm,0.8s
T47A Sharon Grove 21.82 22 P **P 01 25 54.2 -2.2**
T47A IAmb IAmb 01 25 56.6
comp=Z,54nm,0.9s
CBKS Cedar Bluff 21.90 354 P **P 01 25 56.7 -0.5**
CBKS IAmb IAmb 01 26 02.4
comp=Z,25nm,0.6s
CBKS Cedar Bluff 21.90 354 P **P 01 25 57.4 +0.2**
baz=173
U49A Red Boiling Sp 21.91 25 P **P 01 25 55.5 -1.8**
U49A IAmb IAmb 01 25 59.0
comp=Z,38nm,0.8s
V51A Loudon 21.93 29 P **P 01 25 54.4 -3.2**
BG3 Lake Jocassee 21.98 32 P **P 01 25 55.5 -2.6**
BG3 IAmb IAmb 01 25 60.0
comp=Z,37nm,0.6s
SDCO Great Sand Dun 21.99 342 P **P 01 25 58.4 -0.1**
SDCO Great Sand Dun 21.99 342 P **P 01 25 58.2 -0.3**
baz=158,SNR=17
KSU1 Kansas State U 22.07 1 P **P 01 25 57.8 -1.2**
KSU1 IAmb IAmb 01 26 03.3
comp=Z,30nm,0.8s
KSU1 Kansas State U 22.07 1 P **P 01 25 58.1 -0.9**
baz=181,SNR=6.3
TKL Tuckaleechee C 22.09 30 P **P 01 25 56.1 -3.1**
TKL IAmb IAmb 01 26 01.3
comp=Z,45nm,0.8s
TKL Tuckaleechee C 22.09 30 LR LR 01 37 01.3
comp=Z,48nm,18.3s,baz=214,slow=44
NHSC New Hope 22.17 40 P **P 01 25 58.7 -1.4**
baz=228
V52A Sevierville 22.32 30 P **P 01 25 59.6 -2.2**
V52A IAmb IAmb 01 26 02.9
comp=Z,32nm,0.7s
JSC Jenkinsville 22.35 36 P **P 01 25 58.4 -3.6**
JSC IAmb IAmb 01 26 01.7
comp=Z,16nm,0.6s
S22A 4UR Ranch, Cre 22.41 339 P **P 01 26 03.9 +0.8**
S22A 4UR Ranch, Cre 22.41 339 P **P 01 26 03.3 +0.2**
baz=154,SNR=7.4
SLM Saint Louis 22.42 14 P **P 01 26 00.9 -1.8**
SLM IAmb IAmb 01 26 03.5
comp=Z,46nm,1.3s
WUAZ Wupatki 22.43 328 P **P 01 26 04.5 +1.3**
WUAZ IAmb IAmb 01 26 20.7
comp=Z,16nm,0.9s
WUAZ Wupatki 22.43 328 P **P 01 26 04.8 +1.6**
baz=141,SNR=11
SJCC San Jacinto, C 22.44 105 *e*P **P 01 26 05.6 +2.3**
KSCO Kaye Shedlock' 22.50 349 P **P 01 26 03.4 -0.4**
KSCO IAmb IAmb 01 26 12.3
comp=Z,14nm,0.8s
USIN University of 22.51 20 P **P 01 26 02.2 -1.6**
MVCO Mesa Verde 22.54 336 P **P 01 26 04.2 -0.2**
MVCO IAmb IAmb 01 26 08.4
comp=Z,20nm,0.9s
MVCO Mesa Verde 22.54 336 P **P 01 26 05.2 +0.8**
baz=150,SNR=14
V53A Saluda 22.57 32 P **P 01 26 01.9 -2.5**
V53A IAmb IAmb 01 26 06.1
comp=Z,42nm,1.3s
GLA Glamis 22.63 318 P **P 01 26 06.4 +1.3**
GLA Glamis 22.63 318 P **P 01 26 06.6 +1.5**
baz=130,SNR=5.9
T50A Nancy 22.74 26 P **P 01 26 03.7 -2.5**
T50A IAmb IAmb 01 26 07.3
comp=Z,30nm,1.1s
P38A Dawn 22.80 7 P **P 01 26 04.3 -2.5**
P38A IAmb IAmb 01 26 07.7
comp=Z,31nm,0.8s
TZTN Tazewell 22.91 29 P **P 01 26 05.3 -2.7**
TZTN IAmb IAmb 01 26 08.6
comp=Z,37nm,0.9s
TZTN Tazewell 22.91 29 P **P 01 26 06.8 -1.2**

baz=215,SNR=8.8
P40A Paris 22.92 10 P **P 01 26 05.8 -2.2**
P40A IAmb IAmb 01 26 15.7
comp=Z,18nm,0.9s
KMSC Kings Mountain 22.94 35 P **P 01 26 05.4 -2.9**
KMSC IAmb IAmb 01 26 09.2
comp=Z,25nm,0.8s
KMSC Kings Mountain 22.94 35 P **P 01 26 06.4 -1.9**
baz=222,SNR=8.8
Q44A Meyer Farm, Va 22.98 16 P **P 01 26 06.4 -2.3**
Y58A Scranton 23.02 40 P **P 01 26 07.0 -2.1**
Y58A IAmb IAmb 01 26 08.6
comp=Z,35nm,0.7s
BIRD Birdtown, Kers 23.07 37 P **P 01 26 06.8 -2.8**
BIRD IAmb IAmb 01 26 08.8
comp=Z,14nm,0.8s
OLIL Olney 23.08 18 P **P 01 26 07.4 -2.3**
OLIL IAmb IAmb 01 26 09.2
comp=Z,34nm,0.9s
CCX Cicese 23.13 314 P **P 01 26 10.7 +0.5**
WCI Wyandotte Cave 23.22 22 P **P 01 26 08.3 -2.7**
WCI Wyandotte Cave 23.22 22 P **P 01 26 09.5 -1.5**
baz=207
BC3 Big Chuckawall 23.42 319 P **P 01 26 14.1 +1.0**
baz=130,SNR=7.1
W13A Hualapai Mount 23.47 324 P **P 01 26 14.3 +0.6**
P43A Skaggs, Pawnee 23.55 15 P **P 01 26 12.2 -1.8**
P43A IAmb IAmb 01 26 15.9
comp=Z,20nm,0.7s
IRM Iron Mountain 23.56 320 P **P 01 26 15.7 +1.3**
baz=132,SNR=7.3
MONP2 Monument Peak 23.57 316 P **P 01 26 16.0 +1.4**
baz=127
U15A North Rim 23.61 328 P **P 01 26 15.8 +0.8**
ZARC Zaragoza, Cauc 23.67 111 *e*P **P 01 26 15.7 +0.3**
R49A Shelbyville 23.70 24 P **P 01 26 13.5 -1.9**
R49A IAmb IAmb 01 26 14.4
comp=Z,17nm,0.8s
W57A Gilead 23.70 37 P **P 01 26 12.8 -2.7**
W57A IAmb IAmb 01 26 16.8
comp=Z,16nm,0.8s
U54A Nelsons Funny 23.73 32 P **P 01 26 14.1 -1.8**
SMCO Snowmass 23.76 341 P **P 01 26 16.8 +0.4**
S51A Beattyville 23.79 27 P **P 01 26 14.9 -1.5**
S51A IAmb IAmb 01 26 16.5
comp=Z,30nm,0.8s
N35A Tabor 23.85 3 P **P 01 26 16.1 -0.7**
ISCO Idaho Springs 23.93 344 P **P 01 26 18.0 0.0**
ISCO Idaho Springs 23.93 344 P **P 01 26 18.8 +0.8**
baz=159,SNR=12
BLO Bloomington 23.98 21 P **P 01 26 16.9 -1.1**
BLO IAmb IAmb 01 26 18.2
comp=Z,37nm,0.7s
N38A Joes South For 23.99 7 P **P 01 26 17.1 -1.0**
BELC Belle Mtn. Jos 23.99 319 P **P 01 26 19.5 +1.2**
baz=130,SNR=5.1
R50A Paris 24.02 25 P **P 01 26 16.5 -2.0**
R50A IAmb IAmb 01 26 19.2
comp=Z,17nm,0.7s
PFO Pinyon Flats O 24.04 317 LR LR 01 36 30.7
comp=Z,54nm,21.2s,baz=125,slow=39
YOTC Yotoco, Valle 24.11 120 *e*P **P 01 26 17.6 -1.9**
P46A Rosedale 24.17 19 P **P 01 26 18.4 -1.4**
P46A IAmb IAmb 01 26 20.2
comp=Z,43nm,0.9s
JAMC Jamundi, Valle 24.27 122 *e*P **P 01 26 24.9 +3.8**
N41A Harden Midland 24.28 12 P **P 01 26 20.1 -0.6**
N41A IAmb IAmb 01 26 21.7
comp=Z,47nm,1.2s
GUY2C Guyana, Caldas 24.28 116 *e*P **P 01 26 27.2 +5.7**
OGNE Ogallala 24.28 351 P **P 01 26 20.7 -0.1**
OGNE IAmb IAmb 01 26 24.1
comp=Z,15nm,0.9s
OGNE Ogallala 24.28 351 P **P 01 26 20.8 -0.1**
baz=168
O44A Mansfield 24.30 16 P **P 01 26 19.6 -1.3**
O44A IAmb IAmb 01 26 21.0
comp=Z,38nm,1.2s
KNB Kanab 24.33 328 P **P 01 26 23.0 +1.5**
KNB IAmb IAmb 01 26 40.0
comp=Z,19nm,0.9s
U56A King 24.35 34 P **P 01 26 20.1 -1.4**
BRIGG Briggsdale 24.36 347 P **P 01 26 22.5 +0.9**
BRIGG IAmb IAmb 01 26 24.1
comp=Z,23nm,0.9s
BGNE Belgrade 24.38 358 P **P 01 26 21.1 -0.6**
BGNE IAmb IAmb 01 26 37.9
comp=Z,18nm,0.8s
PKCU Pink Cliffs 24.42 330 P **P 01 26 22.3 -0.1**
PPLP Puerto Lpez 24.45 137 *e*P P 01 26 31.2 +8.7
V12A Nelson 24.47 323 P **P 01 26 22.9 +0.3**
HDIL Hopedale 24.47 14 P **P 01 26 20.7 -1.8**
HDIL IAmb IAmb 01 26 25.8
comp=Z,16nm,0.8s
HDIL Hopedale 24.47 14 P **P 01 26 21.2 -1.2**
baz=198
LCMT Little Creek M 24.54 328 P **P 01 26 24.8 +1.4**
W59A Clinton 24.62 39 P **P 01 26 21.6 -2.2**
P48A Milroy 24.62 22 P **P 01 26 22.2 -1.7**
SDDR Presa de Saban 24.64 81 P **P 01 26 24.1 -0.2**
SDDR IAmb IAmb 01 26 26.3
comp=Z,12nm,0.8s
V58A Windy Hill, Pi 24.66 37 P **P 01 26 22.6 -1.7**
V58A IAmb IAmb 01 26 25.5
comp=Z,28nm,1.1s
OTAV Otavalo 24.77 130 P **P 01 26 25.1 -0.9**
URIC Uribia, Colomb 24.88 99 *e*P **P 01 26 26.7 +0.2**
WTNK Soaring Height 24.89 324 P **P 01 26 28.5 +2.1**
SFIN Lafayette 24.90 18 P **P 01 26 24.5 -1.9**
SFIN IAmb IAmb 01 26 27.0
comp=Z,17nm,0.7s
SFIN Lafayette 24.90 18 P **P 01 26 24.9 -1.5**
baz=203
SZCU Shurtz Canyon 24.92 329 P **P 01 26 28.5 +1.7**
IMBA Imbabura, San 24.93 130 P **P 01 26 29.2 +1.8**
IMBA IAmb IAmb 01 26 48.6
comp=Z,23nm,0.5s
L34A Svendsen Farm, 24.93 1 P **P 01 26 26.0 -0.7**
L34A IAmb IAmb 01 26 27.4
comp=Z,18nm,0.6s
TULM Tulcn-Chalpat 24.95 128 P **P 01 26 29.4 +1.8**
P49A Miami Univ. Ec 24.95 23 P **P 01 26 24.3 -2.6**
P49A Miami Univ. Ec 24.95 23 P **P 01 26 24.8 -2.1**
baz=209,SNR=41
BLA Blacksburg 24.98 33 P **P 01 26 25.4 -1.8**
BLA IAmb IAmb 01 26 28.5
comp=Z,35nm,0.8s
BLA Blacksburg 24.98 33 P **P 01 26 26.1 -1.1**
baz=220,SNR=7.9
S54A Dingess, Beckl 24.98 31 P **P 01 26 25.3 -2.0**
S54A IAmb IAmb 01 26 28.3
comp=Z,37nm,1.2s
CNNC Cliffs of the 25.00 40 P **P 01 26 25.9 -1.5**
baz=228
CCUT Cedar City 25.02 328 P **P 01 26 29.3 +1.6**
O20A White River Ci 25.04 340 P **P 01 26 27.3 -0.6**
O20A IAmb IAmb 01 26 31.1
comp=Z,15nm,0.9s
O20A White River Ci 25.04 340 P **P 01 26 28.5 +0.6**
baz=154,SNR=9.1
N23A Red Feather La 25.05 344 P **P 01 26 29.2 +1.2**
N23A IAmb IAmb 01 26 45.2
comp=Z,23nm,1.2s
Q51A Peebles 25.06 26 P **P 01 26 26.5 -1.4**
Q51A IAmb IAmb 01 26 28.4
comp=Z,40nm,0.8s
ORTC Ortega, Tolima 25.06 119 *e*P **P 01 26 32.3 +4.1**
SCIA State Center 25.09 7 P **P 01 26 26.7 -1.4**
SCIA State Center 25.09 7 P **P 01 26 27.6 -0.4**
baz=188
Q16A Castle Valley 25.10 333 P **P 01 26 28.7 +0.3**
R53A Hurricane 25.10 29 P **P 01 26 27.6 -0.6**
SHPR Sheep Range 25.20 324 P **P 01 26 30.8 +1.5**
MSU Marysvale 25.21 331 P **P 01 26 30.7 +1.2**
MVU Marysvale 25.22 331 P **P 01 26 30.2 +0.6**
MVU IAmb IAmb 01 26 48.1
comp=Z,20nm,1.1s
P18A Preston Nutter 25.32 336 P **P 01 26 30.3 -0.3**
P18A IAmb IAmb 01 26 48.8
comp=Z,16nm,0.9s
GSC Goldstone, Bar 25.34 320 P **P 01 26 31.2 +0.6**
ROSC El Rosal 25.37 116 *e*P **P 01 26 36.8 +5.4**
P17A Butcher Ranch, 25.39 335 P **P 01 26 30.7 -0.3**
O48B Farmland 25.43 22 P **P 01 26 29.5 -1.7**

O48B	Farmland	25.43	22	P	P	01 26 29.9	-1.3
	baz=207,SNR=18						
TMUT	Trail Mountain	25.43	334	P	P	01 26 32.8	+1.2
PRAC	Prado	25.47	119	eP	P	01 26 31.7	-0.1
Q52A	Bidwell	25.47	28	P	P	01 26 30.5	-1.1
L40A	Anamosa	25.52	10	P	P	01 26 30.4	-1.6
L40A				IAmb	IAmb	01 26 33.0	
	comp=Z,35nm,1.0s						
BARC	Barichara	25.55	111	eP	P	01 26 36.9	+4.1
P51A	Williamsport	25.56	26	P	P	01 26 31.2	-1.2
M44A	Midewin, Midew	25.57	16	P	P	01 26 31.0	-1.4
M44A				IAmb	IAmb	01 26 33.9	
	comp=Z,34nm,0.9s						
PAMC	Pamplona, Colo	25.67	109	eP	P	01 26 36.3	+2.1
CHSH	Refugio Sur-Vo	25.69	134	P	P	01 26 33.5	-0.9
CHSH				IAmb	IAmb	01 26 39.2	
	comp=Z,11nm,0.8s						
L42A	Oliver, Polo	25.77	13	P	P	01 26 32.8	-1.4
L42A				IAmb	IAmb	01 26 36.1	
	comp=Z,40nm,1.0s						
PRN	Pahroc Range	25.79	326	P	P	01 26 34.4	-0.3
N47A	Urbana	25.80	20	P	P	01 26 31.4	-3.1
U59A	Littleton	25.81	38	P	P	01 26 32.5	-2.2
QSM	Queen of Sheba	25.82	321	P	P	01 26 34.6	-0.2
EDW2	Edwards Air Fo	25.82	318	P	P	01 26 35.5	+0.6
	baz=128						
GWY	Greenwater Val	25.85	322	P	P	01 26 37.9	+2.7
K38A	Parkersburg	25.87	7	P	P	01 26 33.7	-1.5
RDMU	Red Mountain	25.89	338	P	P	01 26 37.0	+1.3
R55A	Marlinton	25.95	32	P	P	01 26 34.6	-1.4
RUSC	La Rusia	25.95	112	eP	P	01 26 38.6	+1.9
HQIL	Hanson Quary C	26.00	16	P	P	01 26 35.3	-1.1
PSUT	Pine Spring	26.02	329	P	P	01 26 38.4	+1.5
P52A	Corning	26.08	27	P	P	01 26 35.0	-2.1
P52A	Corning	26.08	27	P	P	01 26 36.5	-0.6
	baz=214,SNR=9.3						
TPNV	Topopah Spring	26.13	323	P	P	01 26 36.1	-1.7
Q54A	Coxs Mills	26.15	30	P	P	01 26 36.3	-1.4
S57A	Dark Hollow, R	26.16	34	P	P	01 26 36.7	-1.2
MPU	Maple Canyon	26.21	334	P	P	01 26 39.1	+0.5
ACSO	Alum Creek Sta	26.23	25	P	P	01 26 36.8	-1.6
ACSO				IAmb	IAmb	01 26 38.4	
	comp=Z,36nm,0.8s						
ACSO	Alum Creek Sta	26.23	25	P	P	01 26 37.6	-0.9
	baz=212,SNR=8.5						
WCT	Wildcat Mounta	26.24	323	P	P	01 26 40.4	+1.8
P53A	Whipple	26.29	28	P	P	01 26 37.3	-1.7
BSUT	Blindstream Ca	26.30	336	P	P	01 26 41.0	+1.5
L44A	Lake County Fo	26.34	16	P	P	01 26 39.1	-0.3
	baz=200						
NLU	North Lily Min	26.35	333	P	P	01 26 41.0	+1.3
N49A	Columbus Grove	26.36	22	P	P	01 26 38.4	-1.2
N49A				IAmb	IAmb	01 26 42.0	
	comp=Z,10nm,0.7s						
T59A	Double "B" Far	26.38	37	P	P	01 26 37.5	-2.3
T59A				IAmb	IAmb	01 26 41.1	
	comp=Z,17nm,1.1s						
ARVC	Arvin	26.51	317	P	P	01 26 42.8	+1.7
	baz=127						
JFWS	Jewell Farm	26.52	11	P	P	01 26 40.0	-1.1
JFWS	Jewell Farm	26.52	11	P	P	01 26 40.2	-0.9
	baz=194,SNR=9.5						
O52A	Adamsville	26.61	27	P	P	01 26 40.0	-1.9
O52A				IAmb	IAmb	01 26 44.0	
	comp=Z,29nm,1.1s						
ISA	Isabella, Lake	26.62	319	P	P	01 26 40.6	-1.5
SPR3	Spring Creek 3	26.62	329	P	P	01 26 43.5	+1.2
L46A	Eue Claire	26.64	18	P	P	01 26 41.6	-0.5
L46A				IAmb	IAmb	01 26 45.0	
	comp=Z,31nm,1.1s						
ECSD	EROS Data Cent	26.70	1	P	P	01 26 41.6	-1.0
ECSD				IAmb	IAmb	01 26 43.0	
	comp=Z,10nm,0.8s						
ECSD	EROS Data Cent	26.70	1	P	P	01 26 42.5	-0.1
	baz=181						
R11B	Troy Canyon, C	26.77	326	P	P	01 26 45.8	+2.2
K22A	Casper	26.84	344	P	P	01 26 44.8	+0.6
K22A				IAmb	IAmb	01 26 56.9	
	comp=Z,27nm,1.1s						
DUG	Dugway, Tooele	26.87	333	P	P	01 26 45.6	+1.3
DUG	Dugway, Tooele	26.87	333	P	P	01 26 45.5	+1.2
	baz=144						
R58B	Mineral	26.89	35	P	P	01 26 42.5	-1.9
R58B				IAmb	IAmb	01 26 43.9	
	comp=Z,8.7nm,0.7s						
GMN	Gold Mountain	26.95	323	P	P	01 26 47.9	+2.6
O53A	New Philadelph	26.99	28	P	P	01 26 44.6	-0.7
O53A	New Philadelph	26.99	28	P	P	01 26 44.3	-1.0
	baz=215,SNR=8.4						
SDV	Santo Domingo	27.00	104	P	P	01 26 47.2	+1.4
SDV				IAmb	IAmb	01 26 52.5	
	comp=Z,13nm,0.9s						
SDV	Santo Domingo	27.00	104	LR	LR	01 36 58.8	
	comp=Z,44nm,18.4s,baz=234,slow=36						
Q56A	Snyder Ridge,	27.00	32	P	P	01 26 44.9	-0.5
Q56A				IAmb	IAmb	01 26 46.3	
	comp=Z,28nm,0.8s						
TCUT	Toone Canyon	27.05	336	P	P	01 26 47.7	+1.5
TCUT				IAmb	IAmb	01 26 49.8	
	comp=Z,19nm,1.0s						
BOSC	San Juan Bosco	27.15	136	P	P	01 26 45.6	-1.5
MCWV	Mont Chateau	27.15	30	P	P	01 26 45.6	-1.2
MCWV	Mont Chateau	27.15	30	P	P	01 26 45.6	-1.2
	baz=218,SNR=10						
I37A	Lemond, Waseca	27.15	6	P	P	01 26 45.7	-1.0
I37A				IAmb	IAmb	01 26 48.9	
	comp=Z,21nm,0.7s						
L48A	N Adams	27.17	21	P	P	01 26 45.0	-2.0
M50A	Fremont	27.20	24	P	P	01 26 45.8	-1.4
O54A	Avella	27.32	29	P	P	01 26 46.7	-1.5
CBN	Corbin Frederi	27.35	35	P	P	01 26 47.8	-0.7
CBN				IAmb	IAmb	01 26 52.2	
	comp=Z,12nm,0.6s						
I40A	Norwalk	27.41	10	P	P	01 26 48.0	-1.0
HWUT	Hardware Ranch	27.53	336	P	P	01 26 51.0	+0.6
BGU	Big Grassy Mou	27.56	333	P	P	01 26 51.9	+1.3
N53A	Lisbon	27.61	27	P	P	01 26 49.5	-1.4
N53A				IAmb	IAmb	01 26 51.9	
	comp=Z,38nm,0.9s						
SPUT	South Promonto	27.63	335	P	P	01 26 53.0	+1.7
RSSD	Black Hills	27.71	349	P	P	01 26 52.2	+0.2
	baz=165						
AAM	Ann Arbor	27.76	22	P	P	01 26 50.2	-1.9
AAM				IAmb	IAmb	01 26 51.8	
	comp=Z,30nm,0.9s						
AAM	Ann Arbor	27.76	22	P	P	01 26 51.3	-0.8
	baz=208						
BW06	Boulder Array	27.83	340	P	P	01 26 53.7	+0.6
	baz=153						
PD31	Pinedale Array	27.83	340	P	P	01 26 53.7	+0.6
PDAR	Pinedale Array	27.83	340	P	P	01 26 54.8	+1.7
PDAR	Pinedale Array	27.83	340	P	P	01 26 54.0	+0.9
	comp=Z,0.8nm,0.6s,baz=140,slow=12,SNR=8.9						
PDAR				LR	LR	01 39 53.5	
	comp=Z,77nm,21.5s,baz=148,slow=41						
	comp=Z,0.8nm,0.6s						
P57A	Homestead Farm	27.93	33	P	P	01 26 52.5	-1.2
P57A				IAmb	IAmb	01 26 54.6	
	comp=Z,19nm,0.7s						
ID09	Alton	27.94	337	P	P	01 26 54.2	+0.2
M52A	Chesterland	27.99	26	P	P	01 26 52.6	-1.6
M52A				IAmb	IAmb	01 26 53.8	
	comp=Z,26nm,0.9s						
ID10	Lander Cutoff	28.07	338	P	P	01 26 55.5	+0.3
HVU	Hansel Valley	28.16	335	P	P	01 26 57.5	+1.6
M53A	WI Miller and	28.20	27	P	P	01 26 54.9	-1.2
	baz=215						
NVAR	Mina Array Bea	28.33	323	P	P	01 26 56.9	-0.7
NVAR	Mina Array Bea	28.33	323	P	P	01 26 59.5	+2.0
	comp=Z,0.8nm,0.6s,baz=132,slow=8.7,SNR=2.0						
NVAR				PcP	PcP	01 30 10.3	+1.0
	comp=Z,0.4nm,0.6s,baz=102,slow=3.8,SNR=2.7						
	comp=Z,0.8nm,0.6s						
ID06	Fossil Canyon	28.33	337	P	P	01 26 58.3	+0.8
SPMN	Marine on St.	28.41	6	P	P	01 26 57.0	-1.0
SPMN				IAmb	IAmb	01 27 03.0	
	comp=Z,10.0nm,0.7s						
SPMN	Marine on St.	28.41	6	P	P	01 26 57.8	-0.1
	baz=188						
ELK	Elko	28.42	330	P	P	01 27 00.4	+2.1
ELK	Elko	28.42	330	LR	LR	01 39 33.4	
	comp=Z,62nm,19.7s,baz=137,slow=39						
ID07	Smith Canyon R	28.52	336	P	P	01 27 00.9	+1.7
ALLY	Alegheny Colle	28.60	27	P	P	01 26 58.2	-1.5
ALLY				IAmb	IAmb	01 27 00.2	
	comp=Z,20nm,0.7s						
ECR	Eagle Creek	28.71	338	P	P	01 27 01.3	+0.5
REDW	Red Top Meadow	28.80	339	P	P	01 27 02.2	+0.5
SNOW	Snow King Moun	28.85	339	P	P	01 27 02.5	+0.3
SSPA	Standing Stone	28.86	31	P	P	01 27 00.4	-1.5
SSPA				IAmb	IAmb	01 27 02.5	
	comp=Z,21nm,0.8s						
SSPA	Standing Stone	28.86	31	P	P	01 27 00.5	-1.5
	baz=221						
LOHW	Long Hollow	28.93	339	P	P	01 27 04.2	+1.4
TPAW	Teton Pass	28.94	339	P	P	01 27 04.6	+1.6
F36A	Milaca	28.97	5	P	P	01 27 02.0	-0.9
ERPA	Erie	29.05	27	P	P	01 27 02.3	-1.3
ERPA				IAmb	IAmb	01 27 04.6	
	comp=Z,38nm,0.9s						
ERPA	Erie	29.05	27	P	P	01 27 02.5	-1.2
	baz=215						
MVL	Millersville	29.18	34	P	P	01 27 04.0	-0.8
MVL				IAmb	IAmb	01 27 05.4	
	comp=Z,12nm,0.8s						
BAUV	El Baul	29.39	102	P	P	01 27 08.1	+1.1
BAUV				IAmb	IAmb	01 27 09.6	
	comp=Z,9.1nm,0.7s						
SJG	San Juan	29.52	83	P	P	01 27 08.1	0.0
SJG				IAmb	IAmb	01 27 08.8	
	comp=Z,9.5nm,0.8s						
H17A	Grant Village	29.62	340	P	P	01 27 09.5	+0.5
	baz=153						
E28A	Huff	29.68	355	P	P	01 27 09.5	+0.3
E28A				IAmb	IAmb	01 27 11.0	
	comp=Z,12nm,0.7s						
GLMI	Grayling	29.70	18	P	P	01 27 08.5	-0.9
	baz=204						
M57A	Sunshine Farm,	29.77	31	P	P	01 27 09.3	-0.7
M57A				IAmb	IAmb	01 27 11.0	
	comp=Z,28nm,1.3s						
COWI	Conover	29.81	11	P	P	01 27 10.1	-0.2
RLMT	Red Lodge	29.88	343	P	P	01 27 12.1	+0.9
RLMT				IAmb	IAmb	01 27 13.5	
	comp=Z,16nm,1.5s						
RLMT	Red Lodge	29.88	343	P	P	01 27 11.9	+0.7
	baz=156,SNR=5.4						
LUPA	Lehigh Univers	30.14	34	P	P	01 27 12.3	-1.0
LUPA				IAmb	IAmb	01 27 14.1	
	comp=Z,16nm,0.9s						
L56A	Greenwood	30.16	30	P	P	01 27 12.1	-1.5
L56A				IAmb	IAmb	01 27 14.2	
	comp=Z,18nm,0.8s						
ATAH	Atahualpa	30.26	141	LR	LR	01 36 34.8	
	comp=Z,53nm,21.5s,baz=338,slow=31						
HLID	Hailey	30.31	335	P	P	01 27 15.9	+0.9
HLID	Hailey	30.31	335	P	P	01 27 16.6	+1.5
	baz=145						
MMNY	Mt. Morris Dam	30.47	29	P	P	01 27 15.0	-1.1
MCMT	McKenzie Canyo	30.78	338	P	P	01 27 21.1	+1.9
D41A	Chassel	30.84	11	P	P	01 27 18.6	-0.8
D41A				IAmb	IAmb	01 27 20.4	
	comp=Z,24nm,0.9s						
MDND	Maddock	30.88	357	P	P	01 27 19.8	+0.1
MDND				IAmb	IAmb	01 27 21.2	
	comp=Z,26nm,0.8s						
MDND	Maddock	30.88	357	P	P	01 27 19.7	0.0
	baz=175						
J55A	Hilton	30.93	28	P	P	01 27 18.9	-1.3
J55A				IAmb	IAmb	01 27 21.5	
	comp=Z,20nm,0.9s						
BINY	Binghamton	30.98	31	P	P	01 27 19.9	-0.8
BINY				IAmb	IAmb	01 27 21.2	
	comp=Z,25nm,0.8s						
BINY	Binghamton	30.98	31	P	P	01 27 19.8	-1.0
	baz=222,SNR=8.7						
BOZ	Bozeman (W)	31.03	340	P	P	01 27 22.0	+0.7
	baz=152						
K57A	Scipio Center	31.12	30	P	P	01 27 21.1	-0.8
K57A				IAmb	IAmb	01 27 22.1	
	comp=Z,25nm,0.9s						
TRNY	Table Rock, Ra	31.14	35	P	P	01 27 21.0	-1.1
DLMT	Dillon	31.15	339	P	P	01 27 23.9	+1.5
PAL	Palisades	31.21	35	P	P	01 27 21.5	-1.3
	baz=226						
J56A	Wolcott	31.37	29	P	P	01 27 23.3	-0.9
L59A	Walton	31.45	32	P	P	01 27 23.6	-1.3
L59A				IAmb	IAmb	01 27 25.6	
	comp=Z,23nm,0.9s						
SADO	Sadowa	31.58	25	P	P	01 27 23.3	-2.6
SADO				IAmb	IAmb	01 27 25.2	
	comp=Z,19nm,0.7s						
PECO	Prince Edward	31.82	28	P	P	01 27 26.7	-1.4
J57A	Williamstown	31.88	30	P	P	01 27 27.4	-1.2
KSCT	Kent School, K	31.94	35	P	P	01 27 28.2	-0.9
YLE	Yale	31.96	36	P	P	01 27 27.5	-1.8
DELO	Deloro Mine	32.01	27	P	P	01 27 28.2	-1.5
J58A	Remsen	32.19	31	P	P	01 27 29.9	-1.4
PLID	Pearl Lake	32.22	335	P	P	01 27 32.4	+0.6
PCRV	Puerto La Cruz	32.24	98	LR	LR	01 42 02.1	
	comp=Z,44nm,18.1s,slow=39						
J59A	Piesco	32.65	31	P	P	01 27 34.2	-1.1
EGMT	Eagleton	32.68	344	P	P	01 27 36.1	+0.4
	baz=157						
UCCT	U. Connecticut	32.68	36	P	P	01 27 34.0	-1.7
L61B	Northampton	32.87	34	P	P	01 27 35.8	-1.5
L61B				IAmb	IAmb	01 27 38.8	
	comp=Z,8.2nm,0.7s						
L61B	Northampton	32.87	34	P	P	01 27 36.5	-0.8
	baz=227						
MSO	Missoula	32.89	339	P	P	01 27 37.9	+0.3
	baz=149						
QUA2	Belchertown	32.94	35	P	P	01 27 36.2	-1.7
ACCN	Adirondack Com	33.01	32	P	P	01 27 37.2	-1.3
ACCN				IAmb	IAmb	01 27 39.5	
	comp=Z,17nm,1.0s						
ULM	Lac du Bonnet	33.23	1	P	P	01 27 38.7	-1.6
ULM				IAmb	IAmb	01 27 41.0	
	comp=Z,29nm,1.4s						
ULM	Lac du Bonnet	33.23	1	P	P	01 27 39.5	-0.7
	comp=Z,11nm,0.9s,baz=180,slow=9.2,SNR=8.8						
	comp=Z,11nm,0.9s						
F10A	Beach Ranch, E	33.44	334	P	P	01 27 42.9	+0.5
F10A				IAmb	IAmb	01 27 45.4	
	comp=Z,5.3nm,0.7s						
LONY	Lake Ozonia	33.46	30	P	P	01 27 41.2	-1.2
LONY	Lake Ozonia	33.46	30	P	P	01 27 41.8	-0.6
	baz=222,SNR=10						
L64A	Middleborough	33.56	37	P	P	01 27 41.7	-1.5
J61A	Chester	33.56	33	P	P	01 27 42.0	-1.3
J61A				IAmb	IAmb	01 27 44.4	
	comp=Z,18nm,0.8s						
FRNY	Flat Rock	34.10	30	P	P	01 27 45.3	-2.7
FRNY				IAmb	IAmb	01 27 48.4	
	comp=Z,12nm,1.0s						
FFD	Franklin Falls	34.12	34	P	P	01 27 46.3	-1.8
FFD				IAmb	IAmb	01 27 50.2	
	comp=Z,14nm,0.9s						
LBNH	Lisbon	34.51	33	P	P	01 27 51.0	-0.5
LBNH				IAmb	IAmb	01 27 53.3	
	comp=Z,20nm,1.1s						
LBNH	Lisbon	34.51	33	P	P	01 27 51.0	-0.5
	baz=226,SNR=5.5						
I62A	Tamworth	34.56	34	P	P	01 27 51.3	-0.7
MNTQ	Montreal, Queb	34.57	30	P	P	01 27 51.4	-0.7
TRQ	Mont Tremblant	34.69	28	P	P	01 27 52.0	-1.1
NNA	Nana	35.05	144	LR	LR	01 39 14.4	
	comp=Z,27nm,21.9s,baz=318,slow=31						
I63A	Otisfield	35.09	34	P	P	01 27 54.9	-1.6
H62A	Milan	35.14	33	P	P	01 27 56.0	-0.9
G62A	West of Eustis	35.90	33	P	P	01 28 02.5	-1.0
LATQ	La Tuque	36.36	28	P	P	01 28 07.3	0.0
PKME	Peaks-Kenny Pk	36.58	34	P	P	01 28 08.5	-0.7
PKME				IAmb	IAmb	01 28 10.9	
	comp=Z,11nm,0.7s						
PKME	Peaks-Kenny Pk	36.58	34	P	P	01 28 08.6	-0.7
	baz=228						
F62A	Pittston Farm,	36.65	32	P	P	01 28 09.5	-0.4
F63A	Nahmakanta, Br	36.97	33	P	P	01 28 12.1	-0.5
F63A				IAmb	IAmb	01 28 14.1	
	comp=Z,13nm,0.9s						
E62A	Clayton Lake	37.37	32	P	P	01 28 15.4	-0.6
E62A				IAmb	IAmb	01 28 17.7	
	comp=Z,14nm,0.8s						
F64A	Sherman	37.47	34	P	P	01 28 15.3	-1.5
LMQ	La Malbaie	37.62	30	P	P	01 28 17.7	-0.4
D62A	Allapoint, All	37.92	32	P	P	01 28 20.1	-0.5
PQI	Presque Isle	38.18	33	P	P	01 28 22.2	-0.5
EDM	Edmonton	38.36	344	P	P	01 28 24.7	+0.4
EDM				IAmb	IAmb	01 28 25.5	
	comp=Z,12nm,0.8s						
SAML	Samuel	42.28	125	P	P	01 28 56.2	-0.9
LPAZ	La Paz	43.67	138	P	P	01 29 09.6	+0.6
SCHQ	Schefferville	44.39	25	P	P	01 29 13.5	-0.1
SCHQ				IAmb	IAmb	01 29 15.2	
	comp=Z,14nm,0.8s						
SCHQ	Schefferville	44.39	25	P	P	01 29 13.5	-0.1
	comp=Z,15nm,0.6s,baz=227,slow=7.4,SNR=22						
SCHQ				LR	LR	01 52 03.4	
	comp=Z,21nm,18.6s,baz=250,slow=42						
	comp=Z,15nm,0.6s						
MDP	Montagnes des	45.09	100	LR	LR	01 48 58.7	
	comp=Z,27nm,18.6s,baz=355,slow=37						
YKA	Yellowknife Ar	47.12	349	P	P	01 29 34.8	-0.1
	comp=Z,2.1nm,0.7s,baz=189,slow=15,SNR=4.5						
YKA				LR	LR	01 51 15.2	
	comp=Z,58nm,20.0s,baz=112,slow=38						
	comp=Z,2.1nm,0.7s						
MMPY	Sheldon Lake,	51.45	341	P	P	01 30 09.4	+1.3
	baz=136						
O30N	Mendenhall	51.85	337	P	P	01 30 12.0	+0.9
	baz=130						
O29M	Mount Kennedy	52.52	335	P	P	01 30 16.5	+0.3
	baz=127						
L29M	L29M	54.09	338	P	P	01 30 29.3	+1.7
	baz=129						
J30M	Hart River	54.44	340	P	P	01 30 30.7	+0.5
	baz=132						
M27K	Edge Creek, AK	55.02	336	P	P	01 30 34.7	+0.3
	baz=124						
BMRM	Bremner River	55.36	334	P	P	01 30 37.5	+0.7
	baz=121						
G31M	Satah River	55.45	343	P	P	01 30 37.5	+0.2
	baz=135						
CFA	Coronel Fontan	55.67	150	LR	LR	01 51 02.1	
	comp=Z,29nm,19.5s,baz=42,slow=32						
INK	Inuvik	56.26	345	P	P	01 30 42.3	-0.7
	baz=137						
F30M	Barrier River	56.36	343	P	P	01 30 43.0	-0.8
	baz=134						
GLI	Glacier Island	56.37	333	P	P	01 30 43.6	-0.4
	baz=118						
M24K	Tolsona, Glenn	56.59	335	P	P	01 30 46.0	+0.4
	baz=120						
SCRK	Sand Creek	56.72	337	P	P	01 30 47.5	+0.9
	baz=123						
PAX	Paxson	56.74	336	P	P	01 30 47.1	+0.4
	baz=121						
J26L	Joseph Creek	56.86	338	P	P	01 30 48.8	+1.3
J26L				IAmb	IAmb	01 31 06.7	
	comp=Z,7.8nm,0.9s						
J26L	Joseph Creek	56.86	338	P	P	01 30 47.8	+0.3
	baz=124						
RIDG	Independent Ri	56.91	337	P	P	01 30 48.4	+0.6
RIDG				IAmb	IAmb	01 31 07.0	
	comp=Z,13nm,1.0s						
RIDG	Independent Ri	56.91	337	P	P	01 30 48.2	+0.4
	baz=122						
SCM	Sheep Creek Mo	56.93	334	P	P	01 30 50.4	+2.4
	baz=118						
H27K	Steamboat Moun	57.18	340	P	P	01 30 51.7	+2.0
	baz=127						
KNK	Knik Glacier	57.21	333	P	P	01 30 50.6	+0.7
	baz=117						
K24K	Donnelly Dome	57.30	337	P	P	01 30 51.4	+0.9
	baz=121						
DHY	Denali Highway	57.55	335	P	P	01 30 53.7	+1.2
	baz=119						
G27K	Doyon Strip	57.57	341	P	P	01 30 52.7	+0.4
	baz=127						
J25K	Salcha River,	57.57	338	P	P	01 30 53.9	+1.4
	baz=122						
CPUP	Villa Florida	57.84	137	LR	LR	01 54 55.7	
	comp=Z,17nm,19.5s,baz=12,slow=35						
ILAR	Eielson Array	58.21	337	P	P	01 30 58.3	+1.4
ILAR	Eielson Array	58.21	337	P	P	01 30 58.5	+1.6
	comp=Z,0.8nm,0.9s,baz=141,slow=5.7,SNR=6.1						
	comp=Z,0.8nm,0.9s						
BDFB	Brasilia	58.26	121	P	P	01 30 58.9	+0.9
	comp=Z,3.8nm,0.8s,baz=14,slow=4.2,SNR=4.6						
	comp=Z,3.8nm,0.8s						
SFJD	Kangerlussuaq	58.30	20	LR	LR	01 58 35.0	
	comp=Z,24nm,18.1s,baz=270,slow=39						
TRF	Thorofare Moun	58.89	335	P	P	01 31 01.4	-0.4
	baz=116						
NEA2	Nenana	58.94	337	P	P	01 31 04.7	+2.7
	baz=118						
H24K	Noodor Dome	59.12	338	P	P	01 31 04.4	+1.2
	baz=120						
I23K	Minto, Yukon-K	59.32	337	P	P	01 31 05.7	+1.1
I23K	Minto, Yukon-K	59.32	337	P	P	01 31 05.6	+1.1
	baz=118						
CAST	Castle Rocks	59.60	335	P	P	01 31 07.4	+0.8
	baz=114						
H23K	Yukon River	59.71	338	P	P	01 31 07.8	+0.5
	baz=118						
MLY	Manley	59.78	337	P	P	01 31 08.1	+0.3
MLY				IAmb	IAmb	01 31 26.3	
	comp=Z,8.3nm,0.8s						
MLY	Manley	59.78	337	P	P	01 31 07.6	-0.1
	baz=117						
K20K	Telida	60.40	334	P	P	01 31 13.1	+1.0
	baz=112						
H22K	Ishtalitna Cre	60.41	337	P	P	01 31 11.8	-0.2
	baz=116						
J20K	Nowinta River	60.75	335	P	P	01 31 15.4	+1.1
	baz=113						
H21K	Melozitna Rive	60.83	337	P	P	01 31 16.3	+1.3
	baz=115						
J19K	Poorman	61.28	335	P	P	01 31 18.8	+0.8
	baz=111						
F22K	John River	61.42	339	P	P	01 31 20.3	+1.4
	baz=116						
H20K	Anotleneega Mo	61.55	336	P	P	01 31 21.6	+1.8
	baz=113						
F21K	Alatna River	61.75	338	P	P	01 31 22.4	+1.3
	baz=115						
D22K	Ayikyak River	62.21	340	P	P	01 31 25.9	+1.7
	baz=116						
PLCA	Paso Flores	62.47	157	P	P	01 31 27.6	+1.3
	comp=Z,6.0nm,0.7s,baz=331,slow=8.1,SNR=18						
PLCA				LR	LR	01 52 55.3	
	comp=Z,28nm,18.7s,baz=333,slow=31						
	comp=Z,6.0nm,0.7s						
G19K	Purcell Mounta	62.64	337	P	P	01 31 27.4	+0.4
	baz=111						
B21K	Ikpikpuk River	63.15	341	P	P	01 31 31.4	+1.0
	baz=115						
BORG	Borgarnes	68.73	26	LR	LR	02 03 01.6	
	comp=Z,12nm,18.3s,baz=286,slow=37						
SPITS	Spitsbergen Ar	78.17	11	LR	LR	02 11 06.4	
	comp=Z

PCG	**Pacaya**	**1.06**	**5**	*i* P		**Pn**	**01 23 20.3**	**+0.5**
PCG				*i* S		**Sn**	**01 23 35.0**	**+0.8**
FUG	**Fuego 3**	**1.12**	**353**	*i* P		**Pn**	**01 23 21.1**	**+0.5**
FUG				*i* S		**Sb**	**01 23 35.7**	**+0.9**
SLOZ	**Alcaldia de Sa**	**1.13**	**52**	*eP*		**Pg**	**01 23 21.4**	**-0.3**
SLOZ				*eS*		**Sb**	**01 23 35.1**	**0.0**
CEVE	**Cerro Verde**	**1.16**	**65**	*eP*		**Pg**	**01 23 22.6**	**+0.3**
CEVE				*eS*		**Sb**	**01 23 36.3**	**+0.1**
SNJE	**San Jose**	**1.20**	**63**	*eP*		**Pg**	**01 23 22.9**	**0.0**
SNJE				*eS*		**Sb**	**01 23 37.2**	**+0.1**
JAYA	**Jayaque - finc**	**1.27**	**75**	*eP*		**Pg**	**01 23 24.3**	**0.0**
SULM	**Suchitepequez,**	**1.28**	**319**	*i* P		**Pg**	**01 23 25.1**	**+0.6**
NBG	**Las Nubes**	**1.30**	**16**	*i* P		**Pg**	**01 23 24.4**	**-0.5**
NBG				*i* S		**Sb**	**01 23 39.7**	**-0.3**
CEDA	**San Andres**	**1.36**	**70**	*eS*		**Sn**	**01 23 41.5**	**+0.2**
STG3	**Santiaguito 3,**	**1.61**	**329**	*i* P		**Pb**	**01 23 28.6**	**-0.3**
STG3				*i* S		**Sn**	**01 23 45.1**	**-2.5**
SJTE	**Alcalda de S**	**1.68**	**80**	*eP*		**Pg**	**01 23 31.0**	**-1.1**
SJTE				*eS*		**Sb**	**01 23 50.8**	**0.0**
TECO	**Alcaldia de Te**	**1.89**	**84**	*eP*		**Pb**	**01 23 33.9**	**+0.4**

*SOME **08** 01:34:47.3, 40°.78N×79°.48E, h15km*
*KRNET **08** 01:34:48.9±0.1, 40°.79N×79°.29E, mb3.2*
*NNC **08** 01:34:50.1±1.5, 40°.85N×79°.18E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=10.6km s-min=8.0km az=162.0
ISC 08 01:34:49.3±3.4, 40.7N±0.2×79.4E±0.08, h0km±25km, n54, σ2=05/49, 15C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.58**	**309**	⇑*eP*	Pn	01 35 16.7	-2.2
TARG	baz=10.0			⇑*i*S	**Sn**	**01 35 36.9**	**-3.3**
PRZ	**Przheval'sk**	**1.91**	**336**	⇑*eP*	**Pn**	**01 35 23.1**	**-0.1**
PRZ	baz=39			⇑*e*S	**Sn**	**01 35 48.4**	**+0.4**
SHLS	**Shalkode**	**2.41**	**0**	Pg	**Pn**	**01 35 32.7**	**+2.6**
SHLS	48nm,0.9s			Lg	Lg	01 36 06.0	
SHLS	**Shalkode**	**2.41**	**0**	*e*Pg	**Pn**	**01 35 30.6**	**+0.5**
SHLS	3.6nm,0.2s			*e*Lg	Lg	01 36 01.9	
UZB	**Uzynbulak**	**2.42**	**353**	Pg	**Pn**	**01 35 31.9**	**+1.6**
UZB	15nm,0.4s			Lg	Lg	01 36 04.4	
UZB	**Uzynbulak**	**2.42**	**353**	*e*Pg	**Pn**	**01 35 31.0**	**+0.8**
UZB	9.7nm,0.4s			*e*Lg	Lg	01 36 02.5	
ANVS	**Anan'yevo**	**2.43**	**328**	⇑*i*P	**Pn**	**01 35 31.1**	**+0.7**
ANVS	baz=29			⇑*i*S	**Sn**	**01 36 01.3**	**+0.3**
SATY	**Saty**	**2.44**	**342**	Pg	**Pn**	**01 35 32.6**	**+2.1**
SATY	27nm,0.6s			Lg	Lg	01 36 05.5	
SATY	**Saty**	**2.44**	**342**	*e*Pg	**Pn**	**01 35 31.6**	**+1.1**
SATY	4.2nm,0.7s			*e*Lg	Lg	01 36 03.5	
ZHN	**Zhinishke**	**2.54**	**343**	Pg	**Pn**	**01 35 33.5**	**+1.7**
ZHN	25nm,0.6s			Lg	Lg	01 36 07.4	
ZHN	**Zhinishke**	**2.54**	**343**	*e*Pg	**Pn**	**01 35 33.5**	**+1.7**
ZHN	25nm,0.6s			*e*Lg	Lg	01 36 06.7	
PDGK	**Podgornoye**	**2.58**	**1**	Pg	**Pn**	**01 35 34.7**	**+2.2**
PDGK	11nm,0.5s			Lg	Lg	01 36 08.7	
PDGK	**Podgornoye**	**2.58**	**1**	⇑Pn	**Pn**	**01 35 34.4**	**+2.0**
PDGK	11nm,0.4s			⇓Lg	Lg	01 36 07.8	
NRN	**Naryn**	**2.69**	**286**	⇓*eP*	**Pn**	**01 35 34.6**	**+0.5**
NRN	baz=85			⇓*i*S	**Sn**	**01 36 07.3**	**-0.2**
KPKS	**Kokpek**	**2.78**	**349**	Pg	**Pn**	**01 35 37.2**	**+2.1**
KPKS	35nm,1.0s			Lg	Lg	01 36 13.6	
KPKS	**Kokpek**	**2.78**	**349**	*e*Pg	**Pn**	**01 35 37.2**	**+2.1**
KPKS	35nm,1.0s			*e*Lg	Lg	01 36 13.0	
KTMS	**Ketmen**	**2.79**	**14**	Pg	**Pn**	**01 35 37.0**	**+1.7**
KTMS	17nm,0.5s			Lg	Lg	01 36 12.8	
KTMS	**Ketmen**	**2.79**	**14**	*e*Pg	**Pn**	**01 35 37.0**	**+1.7**
KTMS	17nm,0.5s			*e*Lg	Lg	01 36 12.8	
ULHL	**Ulahol**	**2.83**	**303**	⇑*eP*	**Pn**	**01 35 36.2**	**+0.3**
ULHL	baz=3.0			⇑*i*S	**Sn**	**01 36 10.3**	**-0.6**
KURS	**Kuram**	**2.90**	**341**	Pg	**Pn**	**01 35 40.1**	**+3.4**
KURS	15nm,0.7s			Lg	Lg	01 36 18.9	
KURS	**Kuram**	**2.90**	**341**	*e*Pg	**Pn**	**01 35 40.1**	**+3.4**
KURS	15nm,0.7s			*e*Lg	Lg	01 36 18.1	
TNSS	**Tian-Shan**	**2.95**	**322**	Pg	**Pn**	**01 35 40.0**	**+2.3**
TNSS	6.6nm,0.7s			Lg	Lg	01 36 18.4	
TNSS	**Tian-Shan**	**2.95**	**322**	*e*Pg	**Pn**	**01 35 40.8**	**+3.1**
TNSS	7.4nm,0.4s			*e*Lg	Lg	01 36 19.3	
KOTS	**Kotyrbulak**	**3.03**	**326**	Pg	**Pn**	**01 35 42.4**	**+3.7**
KOTS	10nm,0.6s			Lg	Lg	01 36 22.6	
KOTS	**Kotyrbulak**	**3.03**	**326**	*e*Pg	**Pn**	**01 35 42.4**	**+3.7**
KOTS	10nm,0.6s			*e*Lg	Lg	01 36 21.9	
IZV	**Izvestkoviy**	**3.11**	**318**	Pg	**Pn**	**01 35 43.7**	**+3.9**
IZV	4.3nm,0.5s			Lg	Lg	01 36 24.9	
IZV	**Izvestkoviy**	**3.11**	**318**	*e*Pg	**Pn**	**01 35 43.6**	**+3.9**
IZV	4.3nm,0.5s			*e*Lg	Lg	01 36 24.5	
BOOM	**Boomskoye usch**	**3.15**	**305**	⇓*eP*	**Pn**	**01 35 40.6**	**+0.3**
BOOM	baz=5.0			⇓*i*S	**Sn**	**01 36 17.9**	**-0.8**
MTBS	**Maitube**	**3.28**	**318**	Pg	**Pn**	**01 35 43.5**	**+1.6**
MTBS	1.8nm,0.2s			Lg	Lg	01 36 24.2	
MTBS	**Maitube**	**3.28**	**318**	*e*Pg	**Pn**	**01 35 45.2**	**+3.3**
MTBS	1.9nm,0.2s			*e*Lg	Lg	01 36 26.9	
BLB	**Baldybastay**	**3.43**	**348**	Pg	Pn	01 35 49.3	+5.3
BLB	11nm,0.9s			Lg	Lg	01 36 34.1	
KST	**Kastek**	**3.47**	**313**	Pg	**Pb**	**01 35 50.2**	**-1.4**
KST	4.0nm,0.5s			Lg	Lg	01 36 35.5	
KST	**Kastek**	**3.47**	**313**	*e*Pg	**Pb**	**01 35 50.2**	**-1.4**
KST	4.0nm,0.5s			*e*Lg	Lg	01 36 35.5	
DJR	**Jarkent**	**3.60**	**4**	Pg	**Pb**	**01 35 52.3**	**-1.5**
DJR	2.4nm,0.6s			Lg	Lg	01 36 39.5	
DJR	**Jarkent**	**3.60**	**4**	*e*Pg	Pn	01 35 52.0	+5.7
DJR	1.7nm,0.2s			*e*Lg	Lg	01 36 38.3	
CHKK	**Chushkaly**	**3.60**	**330**	Pg	Pn	01 35 51.4	+5.1
CHKK	1.1nm,0.4s			Lg	Lg	01 36 37.8	
CHKK	**Chushkaly**	**3.60**	**330**	*e*Pg	Pn	01 35 51.4	+5.1
CHKK	1.1nm,0.4s			*e*Lg	Lg	01 36 37.8	
TKM2	**Tokmak 2**	**3.60**	**308**	⇓Pg	**Pn**	**01 35 47.6**	**+1.1**
TKM2	1.2nm,0.3s			⇑Lg	Lg	01 36 32.3	
KTBS	**Karatobe**	**3.60**	**326**	Pg	Pn	01 35 51.9	+5.5
KTBS	3.2nm,0.7s			Lg	Lg	01 36 38.4	
KTBS	**Karatobe**	**3.60**	**326**	*e*Pg	Pn	01 35 51.9	+5.5
KTBS	3.2nm,0.7s			*e*Lg	Lg	01 36 38.4	
KNOS	**Konyrlen**	**3.62**	**357**	Pg	**Pb**	**01 35 53.2**	**-1.0**
KNOS	8.7nm,0.8s			Lg	Lg	01 36 40.9	
DGS	**Degeres**	**3.70**	**314**	Pg	**Pn**	**01 35 49.7**	**+1.9**
DGS	8.0nm,0.7s			Lg	Lg	01 36 34.8	
DGS	**Degeres**	**3.70**	**314**	*e*Pg	Pn	01 35 53.6	+5.8
DGS	4.8nm,0.5s			*e*Lg	Lg	01 36 41.2	
KUU	**Kurty**	**3.90**	**325**	Pg	Pn	01 35 56.6	+6.2
KUU	1.4nm,1.2s			Lg	Lg	01 36 46.8	
KUU	**Kurty**	**3.90**	**325**	*e*Pg	**Pb**	**01 35 57.3**	**-1.6**
KUU	0.7nm,0.2s			*e*Lg	Lg	01 36 47.6	
KRBS	**Karabastau**	**4.06**	**318**	Pg	**Pb**	**01 36 00.5**	**-1.2**
KRBS	2.2nm,0.8s			Lg	Lg	01 36 53.5	
KRBS	**Karabastau**	**4.06**	**318**	*e*Pg	**Pb**	**01 36 00.5**	**-1.2**
KRBS	2.2nm,0.8s			*e*Lg	Lg	01 36 53.5	
TDK	**Taldyqorghan**	**4.32**	**350**	Pg	Pb	01 36 06.0	-0.2
TDK	18nm,0.5s			Lg	Lg	01 37 03.0	
TDK	**Taldyqorghan**	**4.32**	**350**	*e*Pg	Pb	01 36 06.0	-0.2
TDK	18nm,0.5s			*e*Lg	Lg	01 37 03.0	
AML	**Almayashu**	**4.54**	**290**	⇑Pg	**Pb**	**01 36 10.4**	**+0.5**
AML	1.0nm,0.7s			⇓Lg	Lg	01 37 06.4	
MAKZ	**Makanchi**	**6.33**	**16**	⇑Pn	**Pn**	**01 36 23.8**	**0.0**
MAKZ	0.3nm,0.5s			⇓Sn	**Sn**	**01 37 35.8**	**-1.1**
MK31	**Makanchi Array**	**6.39**	**18**	⇑Pn	**Pn**	**01 36 26.4**	**+1.8**
MK31	0.3nm,0.3s,baz=198,slow=13,SNR=8.4			⇑Sn	**Sn**	**01 37 37.5**	**-0.8**
KURBB	**Kurchatov Arra**	**9.90**	**357**	⇑Lg	Lg	01 39 56.0	
KURK	**Kurchatov**	**9.99**	**357**	⇓Lg	Lg	01 39 56.2	

*BJI **08** 01:38:14.1±0.0, 42°.12N×141°.45E, h119km, mb4.9/61, mB4.8/34*
*SKHL **08** 01:38:16.8±0.1, 42°.20N×141°.50E, h121km±7km, mb5.5/9, mbv4.9/3, msha5.9/5*
*IDC **08** 01:38:16.6±0.8, 42°.28N×141°.37E, h109km±6km, mb4.2/38, mbtmp4.5/47, MS3.0/10, Error ellipse: s-maj=9.5km s-min=6.7km az=108.0*
*MOS **08** 01:38:16.3±0.9, 42°.30N×141°.37E, h124km, mb4.7/55, Error ellipse: s-maj=5.4km s-min=4.2km az=113.0*
*NIED **08** 01:38:17.8, 42°.28N×141°.37E, h115km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.07; $M_{\theta\theta}$5.59; $M_{\phi\phi}$-5.66; $M_{r\theta}$-3.34; $M_{\theta\phi}$3.54; $M_{\phi r}$-3.58; Fault plane solution: $M_0$8.20000×10^{15} NP1: ϕ_s209.00000°, δ86.00000°, λ145.00000°. NP2: ϕ_s301.00000°, δ55.00000°, λ5.00000°.*
*NEIC **08** 01:38:17.6, 42°.29N×141°.32E, h118km*
*JMA **08** 01:38:17.8±0.1, 42°.3N±0°.3×141°.4E±0°.5, h115km, MD4.4/40, MW4.6/40, S OFF TOMAKOMAI*
JMA Felt II J1 at S OFF TOMAKOMAI .
*NEIC **08** 01:38:17.7±1.6, 42°.29N±0°.05×141°.32E±0°.08, h118km±5km, mb4.6/151, Mwr4.5/13, Error ellipse: s-maj=9.4km s-min=6.4km az=109.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.76; $M_{\theta\theta}$6.25; $M_{\phi\phi}$-5.49; $M_{r\theta}$-1.82; $M_{\theta\phi}$2.53; $M_{\phi r}$-3.97; Fault plane solution: $M_0$7.77000×10^{15} NP1: ϕ_s35.07000°, δ84.27000°, λ-145.82000°. NP2: ϕ_s301.19000°, δ56.01000°, λ-6.92000°. Principal axes: T 7.6605, Plg19.0000°, Azm163.0000°; N 0.2140, Plg55.0000°, Azm43.0000°; P -7.8745, Plg28.0000°, Azm264.0000°;*
ISC 08 01:38:17.0±0.4, 42.29N±0.03×141.40E±0.03, h117km±2km, h117km:pP-P, n633, σ1=18/653, mb4.6/179, 24C-41D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.32**	**303**	*eP*	**Pn**	**01 38 34.1**	**+0.5**
JNB				*eS*	**Sn**	**01 38 46.5**	**+0.4**
JNB	**Noboribetsu**	**0.32**	**303**	A	A	01 38 34.1	
	comp=E,18nm,0.7s,comp=N,17nm,1.6s						
JKB	**Kayabe**	**0.49**	**214**	*eP*	**Pn**	**01 38 35.1**	**+0.6**
JKB				*eS*	**Sn**	**01 38 48.1**	**+0.5**
JIAM	**Iburiatsuma**	**0.51**	**49**	P	**Pn**	**01 38 35.8**	**+1.2**
JIAM				*eS*	**Sn**	**01 38 49.6**	**+1.8**
JIAM	**Iburiatsuma**	**0.51**	**49**	A	A	01 38 35.8	
	comp=E,211nm,0.5s,comp=N,130nm,0.5s						
JEW	**Eniwo**	**0.55**	**4**	*eP*	**Pn**	**01 38 35.9**	**+1.1**
JEW				*eS*	**Sn**	**01 38 49.4**	**+1.0**
JEW	**Eniwo**	**0.55**	**4**	A	A	01 38 35.9	
	comp=E,80nm,1.1s,comp=N,58nm,0.9s						
JYM2	**Yakumo 2**	**0.79**	**258**	*eP*	**Pn**	**01 38 37.5**	**+0.8**
JYM2				*eS*	**Sn**	**01 38 52.0**	**+0.4**
JYM2	**Yakumo 2**	**0.79**	**258**	A	A	01 38 37.5	
	comp=E,6.0nm,0.7s,comp=N,10.0nm,2.5s						
JSHD	**Hidakashinhida**	**0.80**	**81**	A	A	01 38 37.9	
	comp=E,115nm,0.8s,comp=N,28nm,1.8s						
JBT2	**Biratori 2**	**0.86**	**55**	⇓*eP*	**Pn**	**01 38 38.4**	**+1.0**
JBT2	**Biratori 2**	**0.86**	**55**	A	A	01 38 38.4	
	comp=E,26nm,0.9s,comp=N,19nm,0.7s						
JOT	**Ohata**	**0.95**	**196**	*eP*	**Pn**	**01 38 38.9**	**+0.7**
JOT				*eS*	**Sn**	**01 38 54.7**	**+0.6**
JOT	**Ohata**	**0.95**	**196**	A	A	01 38 38.9	
	comp=E,9.0nm,0.6s,comp=N,8.0nm,1.0s						
JISS	**Ishikarishitsu**	**0.98**	**1**	*eP*	**Pn**	**01 38 39.7**	**+1.2**
JISS				*eS*	**Sn**	**01 38 56.4**	**+1.6**
JISS	**Ishikarishitsu**	**0.98**	**1**	A	A	01 38 39.7	
	comp=E,44nm,2.3s,comp=N,37nm,0.6s						
JNBK	**Urakawa-nobuka**	**1.00**	**90**	⇓*eP*	**Pn**	**01 38 39.7**	**+1.0**
JNBK				⇓*eS*	**Sn**	**01 38 57.3**	**+2.2**
JNBK	**Urakawa-nobuka**	**1.00**	**90**	A	A	01 38 39.7	
	comp=E,28nm,1.2s,comp=N,11nm,0.5s						
JAHD	**Aomorihigashid**	**1.03**	**183**	A	A	01 38 39.8	
	comp=E,36nm,0.4s,comp=N,37nm,0.4s						
JSR	**Shiriuchi**	**1.06**	**224**	⇓*eP*	**Pn**	**01 38 40.2**	**+0.9**
JSR				⇓*eS*	**Sn**	**01 38 56.6**	**+0.5**
JSR	**Shiriuchi**	**1.06**	**224**	A	A	01 38 40.2	
	comp=E,8.0nm,2.2s,comp=N,4.0nm,4.0s						
JSH	**Shimam**	**1.06**	**290**	*eP*	**Pn**	**01 38 40.1**	**+0.8**
JSH				*eS*	**Sn**	**01 38 57.3**	**+1.1**
JSH	**Shimam**	**1.06**	**290**	A	A	01 38 40.1	
	comp=E,8.0nm,1.5s,comp=N,13nm,1.5s						
JHST	**Hiyamasetana**	**1.14**	**277**	*eP*	**Pn**	**01 38 41.0**	**+1.0**
JHST				*eS*	**Sn**	**01 38 57.8**	**+0.2**
JHST	**Hiyamasetana**	**1.14**	**277**	A	A	01 38 41.0	
	comp=E,16nm,1.6s,comp=N,21nm,2.1s						
JFR	**Furan**	**1.24**	**45**	A	A	01 38 42.4	
	comp=E,16nm,1.1s,comp=N,18nm,0.8s						
JSK	**Shakotan**	**1.26**	**328**	A	A	01 38 42.4	
	comp=E,8.0nm,3.3s,comp=N,6.0nm,1.6s						
JARK	**Aomorirokkasho**	**1.28**	**181**	A	A	01 38 42.5	
	comp=E,19nm,0.9s,comp=N,17nm,1.7s						
JOMM	**Oshimamatsumae**	**1.29**	**234**	⇓*eP*	**Pn**	**01 38 42.8**	**+1.0**
JOMM				⇓*eS*	**Sn**	**01 39 01.4**	**+0.8**
JOMM	**Oshimamatsumae**	**1.29**	**234**	A	A	01 38 42.8	
	comp=E,10.0nm,2.9s,comp=N,5.0nm,2.1s						
ERM	**Erimo**	**1.33**	**101**	Pn	**Pn**	**01 38 43.7**	**+1.5**
ERM				Sn	**Sn**	**01 39 02.7**	**+1.3**
ERM	**Erimo**	**1.33**	**101**	P	**Pn**	**01 38 43.6**	**+1.4**
ERM	**Erimo**	**1.33**	**101**	*d* PN	**Pn**	**01 38 43.6**	**+1.4**
ERM				pmax	pmax		
	comp=Z,4μm,0.5s						
JEM	**Erimo**	**1.33**	**101**	P	**Pn**	**01 38 43.9**	**+1.7**
JEM	**Erimo**	**1.33**	**101**	A	A	01 38 43.4	
	comp=E,6.0nm,0.9s,comp=N,8.0nm,4.4s						
JAB	**Ashibetsu**	**1.35**	**26**	A	A	01 38 43.7	
	comp=E,42nm,1.2s,comp=N,22nm,1.6s						
JTHR	**Tokachihiroo**	**1.41**	**89**	A	A	01 38 44.4	
	comp=E,29nm,0.9s,comp=N,11nm,0.5s						
JSI2	**Shiura 2**	**1.44**	**211**	A	A	01 38 44.2	
	comp=E,18nm,1.9s,comp=N,17nm,2.3s						
JOSM	**Okushiri--Mats**	**1.45**	**262**	⇓*eP*	**Pn**	**01 38 44.1**	**+0.6**
JOSM				⇓*eS*	**Sn**	**01 39 04.2**	**+0.5**
JOSM	**Okushiri--Mats**	**1.45**	**262**	A	A	01 38 44.1	
	comp=E,11nm,1.8s,comp=N,8.0nm,3.3s						
JHR	**Hokuryu**	**1.47**	**9**	*eP*	**Pn**	**01 38 45.4**	**+1.6**
JHR	**Hokuryu**	**1.47**	**9**	A	A	01 38 45.4	
	comp=E,23nm,1.8s,comp=N,17nm,1.2s						
JCH	**Churui**	**1.49**	**77**	⇓*eP*	**Pn**	**01 38 45.2**	**+1.2**
JCH				⇓*eS*	**Sn**	**01 39 05.8**	**+1.3**
JCH	**Churui**	**1.49**	**77**	A	A	01 38 45.2	
	comp=E,9.0nm,1.2s,comp=N,10.0nm,0.6s						
JTM	**Tenmabayashi**	**1.52**	**190**	Pn	**Pn**	**01 38 45.1**	**+0.6**
JTM				Sn	**Sn**	**01 39 05.2**	**-0.1**
JTM	**Tenmabayashi**	**1.52**	**190**	P	**Pn**	**01 38 45.0**	**+0.6**
JTM	**Tenmabayashi**	**1.52**	**190**	A	A	01 38 45.3	
	comp=E,9.0nm,0.8s,comp=N,9.0nm,1.2s						
JHHS	**Hirosakihyakuz**	**1.82**	**206**	A	A	01 38 48.8	
	comp=E,15nm,3.6s,comp=N,11nm,3.4s						
JKK2	**Kamakawa 2**	**1.86**	**31**	⇓*eP*	**Pn**	**01 38 49.5**	**+0.9**
JKK2				⇓*eS*	**Sn**	**01 39 12.7**	**0.0**
JKK2	**Kamakawa 2**	**1.86**	**31**	A	A	01 38 49.5	
	comp=E,6.0nm,4.0s,comp=N,7.0nm,2.1s						
JOB	**Onbets**	**1.90**	**70**	A	A	01 38 50.4	
	comp=E,12nm,1.0s,comp=N,23nm,0.7s						
JANG	**Nango**	**1.92**	**177**	*eP*	**Pn**	**01 38 48.8**	**-0.5**
JANG				*eS*	**Sn**	**01 39 12.4**	**-1.5**
JANG	**Nango**	**1.92**	**177**	A	A	01 38 48.8	
	comp=E,3.0nm,0.3s,comp=N,6.0nm,1.2s						
JIW	**Iwasaki**	**2.00**	**212**	A	A	01 38 51.1	
	comp=E,5.0nm,0.7s,comp=N,8.0nm,1.3s						
JAR	**Ashorobuto**	**2.01**	**59**	⇓*eP*	**Pn**	**01 38 50.7**	**+0.3**
JAR				⇓*eS*	**Sn**	**01 39 15.3**	**-0.6**
JAR	**Ashorobuto**	**2.01**	**59**	A	A	01 38 50.7	
	comp=E,11nm,0.5s,comp=N,9.0nm,0.7s						
ASAJ	**Asahikawa**	**2.02**	**25**	A	A	01 38 52.0	
	comp=E,6.0nm,4.4s,comp=N,6.0nm,2.2s						
ASAJ	**Asahikawa**	**2.02**	**25**	P	**Pn**	**01 38 51.6**	**+1.1**
	comp=N,309nm,0.4s,baz=226,slow=12,SNR=360						
ASAJ				S	**Sn**	**01 39 15.9**	**-0.3**
	comp=N,844nm,0.5s,baz=318,slow=31,SNR=24						
ASAJ				LR	LR	01 40 05.9	
	comp=N,214nm,18.9s,baz=138,slow=54						
JKA	**Kamikawa-asahi**	**2.02**	**25**	Pn	**Pn**	**01 38 51.7**	**+1.2**
JKA				Sn	**Sn**	**01 39 16.1**	**0.0**
JKA	**Kamikawa-asahi**	**2.02**	**25**	*eP*	**Pn**	**01 38 51.7**	**+1.2**
JKEN	**Kujiedanarisaw**	**2.10**	**174**	A	A	01 38 52.6	
	comp=E,19nm,0.5s,comp=N,23nm,0.8s						
JSS	**Shosan**	**2.13**	**9**	*eP*	**Pn**	**01 38 53.7**	**+1.9**
JSS	**Shosan**	**2.13**	**9**	A	A	01 38 53.7	
	comp=E,9.0nm,5.6s,comp=N,10.0nm,1.6s						
JAH	**Hinai**	**2.18**	**196**	A	A	01 38 53.5	
	comp=E,4.0nm,1.3s,comp=N,11nm,1.9s						
JNTW	**Noshirotokiwa**	**2.22**	**205**	A	A	01 38 54.1	
	comp=E,12nm,1.3s,comp=N,10.0nm,2.8s						
JKZ	**Kuzumaki**	**2.31**	**181**	A	A	01 38 55.2	
	comp=E,6.0nm,0.4s,comp=N,5.0nm,0.9s						
JTKR	**Abashiri--Toko**	**2.49**	**47**	A	A	01 38 58.1	
	comp=E,2.0nm,3.1s,comp=N,4.0nm,0.6s						
JAK	**Akkeshi**	**2.53**	**73**	A	A	01 38 58.6	
	comp=E,7.0nm,0.4s,comp=N,6.0nm,0.4s						
JSZI	**Iwateshizukuis**	**2.57**	**188**	A	A	01 38 58.7	
	comp=E,9.0nm,3.6s,comp=N,7.0nm,5.4s						
AKK	**Akkeshi**	**2.64**	**73**	*eP*	**Pn**	**01 38 58.2**	**-0.2**
AKK				*eS*	**Sn**	**01 39 28.2**	**-2.0**
JNK	**Nakash**	**2.76**	**61**	A	A	01 39 01.7	
	comp=E,5.0nm,1.0s,comp=N,4.0nm,3.6s						
JSE	**Soyaes**	**2.80**	**17**	A	A	01 39 02.2	
	comp=E,5.0nm,2.2s,comp=N,3.0nm,1.3s						
JOM	**Ohasama**	**2.82**	**182**	A	A	01 39 01.9	
	comp=E,9.0nm,1.1s,comp=N,7.0nm,0.9s						
JKHN	**Kushirohamanak**	**2.88**	**73**	A	A	01 39 03.3	
	comp=E,5.0nm,1.0s,comp=N,6.0nm,6.6s						
JYW	**Yuwa**	**2.89**	**199**	A	A	01 39 02.9	
	comp=E,7.0nm,1.3s,comp=N,9.0nm,1.2s						
JOG3	**Oga3**	**2.95**	**217**	A	A	01 38 59.8	
	comp=E,4.0nm,3.9s,comp=N,4.0nm,4.5s						
JRG	**Rokugo**	**2.95**	**192**	A	A	01 39 03.7	
	comp=E,4.0nm,1.2s,comp=N,5.0nm,0.8s						
JNSB	**Nemuroshibetsu**	**3.03**	**59**	A	A	01 39 05.3	
	comp=E,6.0nm,6.2s,comp=N,10.0nm,2.1s						
JWK2	**Keihoku**	**3.04**	**7**	A	A	01 39 05.4	
	comp=E,3.0nm,2.0s,comp=N,4.0nm,2.7s						
OFUJ	**Ofunato**	**3.21**	**176**	A	A	01 39 07.3	
	comp=E,4.0nm,1.8s,comp=N,2.0nm,3.3s						
RUSJ	**Misakicho**	**3.34**	**56**	⇓*i* PN	**Pn**	**01 39 08.8**	**+1.2**
RUSJ				*eS*	**Sn**	**01 39 48.0**	**+1.2**
NMR	**Nemuro--Hokkai**	**3.36**	**70**	⇓*i* PN	**Pn**	**01 39 07.0**	**-0.8**
NMR				*eS*	**Sn**	**01 39 43.7**	**-3.4**
NMR	**Nemuro--Hokkai**	**3.36**	**70**	*i* P	**Pn**	**01 39 07.0**	**-0.8**
NMR				*eS*	**Sn**	**01 39 43.7**	**-3.4**
YUK	**Yuzh-Kuril'sk**	**3.70**	**60**	*d* PN	**Pn**	**01 39 13.1**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**3.70**	**60**	*i* P	**Pn**	**01 39 13.1**	**+0.8**
YUK				AMB	AMB	01 39 14.4	
	comp=N,4μm,0.4s						
YUK				*eS*	**Sn**	**01 39 55.3**	**+0.1**
YUK				A	A	01 39 56.1	
	comp=N,770nm,0.8s						
YUK				A	A	01 39 56.1	
	comp=N,4μm,0.8s						
SHO	**Shikotan**	**4.28**	**67**	⇓*i* PN	**Pn**	**01 39 19.4**	**-0.7**
SHO				*eS*	**Sn**	**01 40 05.5**	**-3.6**
SHO				pmax	pmax		
	comp=Z,1μm,0.4s						
SHO				pmax	pmax		
	comp=E,806nm,0.5s						
SHO				pmax	pmax		
	comp=N,505nm,0.4s						
SHO				smax	smax		
	comp=N,1μm,0.5s						
SHO				smax	smax		
	comp=E,1μm,0.5s						
SHO	**Shikotan**	**4.28**	**67**	*i* P	**Pn**	**01 39 19.7**	**-0.4**
SHO				AMB	AMB	01 39 20.4	
	comp=E,1μm,0.4s						
SHO				*eS*	**Sn**	**01 40 05.8**	**-3.3**
SHO				A	A	01 40 06.7	
	comp=E,1μm,0.5s						
SHO				A	A	01 40 06.7	
	comp=E,1μm,0.5s						
TEY	**Ternei**	**4.43**	**310**	⇑*eP*	**Pn**	**01 39 22.9**	**+0.8**
TEY				*e*		01 40 12.4	
TEY				pmax	pmax		
	comp=E,100nm,2.7s						
TEY				pmax	pmax		
	comp=Z,100nm,2.7s						
TEY				pmax	pmax		
	comp=N,90nm,0.6s						
TEY				pm

YSS eS Sn 01 40 20.5 -0.2
YSS pmax pmax
comp=Z,130nm,0.8s
YSS pmax pmax
comp=Z,200nm,2.3s
YSS smax smax
comp=N,30nm,0.7s
YSS smax smax
comp=E,90nm,0.7s
YSS smax smax
comp=N,300nm,3.7s
YSS smax smax
comp=E,300nm,3.2s
YSS MLR MLR
comp=Z,400nm,15.0s
YSS Yuzh-Sakhalins 4.76 11 eP **Pn 01 39 27.9 +1.4**
YSS AMB AMB 01 39 29.7
comp=Z,130nm,0.8s
YSS AMB AMB 01 39 39.0
comp=Z,200nm,2.0s
YSS eS **Sn 01 40 20.5 -0.2**
YSS A A 01 40 22.2
comp=Z,30nm,0.7s
YSS A A 01 40 22.2
comp=Z,90nm,0.7s
JSD Sado 4.88 211 Pn **Pn 01 39 28.6 +0.3**
JSD Sado 4.88 211 P **Pn 01 39 29.6 +1.3**
KUR Kuril'sk 5.53 56⇑ *i*PN **Pn 01 39 37.9 +1.0**
KUR eS **Sn 01 40 41.8 +2.6**
KUR pmax pmax
comp=N,96nm,0.6s
KUR pmax pmax
comp=E,105nm,0.6s
KUR pmax pmax
comp=Z,544nm,0.6s
KUR smax smax
comp=N,280nm,0.6s
KUR smax smax
comp=E,99nm,0.5s
KUR Kuril'sk 5.53 56 eP **Pn 01 39 38.1 +1.2**
KUR AMB AMB 01 39 38.8
comp=E,540nm,0.6s
KUR eS **Sn 01 40 41.8 +2.6**
KUR A A 01 40 56.6
comp=E,280nm,0.6s
KUR A A 01 40 56.6
comp=E,100nm,0.6s
MJB9 Matsu-Tunnel 6.25 204 Pn 01 39 47.1 +0.4
MAJO Matsushiro 6.25 204 Pn **Pn 01 39 47.0 +0.2**
MAJO Matsushiro 6.25 204 P **Pn 01 39 47.6 +0.8**
MAJO Matsushiro 6.25 204*c i*PN **Pn 01 39 47.4 +0.6**
MAJO pmax pmax
comp=Z,74nm,0.5s
MJAR Matsushiro Arr 6.25 204 P **Pn 01 39 46.9 +0.1**
comp=Z,24nm,0.4s,baz=26,slow=13,SNR=112
MJAR S **Sn 01 40 58.1 +1.2**
comp=Z,10nm,0.5s,baz=12,slow=24,SNR=4.4
UGL Uglegorsk 6.80 4 ePN **Pn 01 39 54.9 +0.8**
UGL Uglegorsk 6.80 4 eP **Pn 01 39 54.9 +0.8**
VLA Vladivostok 7.06 280*d i*PN **Pn 01 39 59.0 +1.4**
VLA Vladivostok 7.06 280 eP **Pn 01 39 59.6 +2.0**
VLA AMB AMB 01 40 00.4
comp=Z,320nm,0.6s
USA0B Ussuriysk Arra 7.13 289 Pn 01 39 58.1 -0.5
USA0B Ussuriysk Arra 7.13 289*d i*PN **Pn 01 39 59.4 +0.8**
USRK Ussuriysk Ar. 7.13 289 Pn **Pn 01 39 58.4 -0.2**
USRK Ussuriysk Ar. 7.13 289 P **Pn 01 39 59.4 +0.7**
comp=Z,49nm,0.6s,baz=91,slow=14,SNR=74
USRK S **Sn 01 41 20.8 +2.7**
comp=Z,25nm,0.9s,baz=94,slow=24,SNR=4.7
INU Inuyama 7.73 208 Pn **Pn 01 40 06.5 -0.3**
INU Inuyama 7.73 208 P **Pn 01 40 07.2 +0.5**
JSG Sagara 8.01 199 Pn 01 40 09.4 -1.2
JSG Sagara 8.01 199 P **Pn 01 40 10.1 -0.5**
TYV Tymovskoe 8.62 5 ePN **Pn 01 40 19.9 +1.3**
TYV pmax pmax
comp=Z,28nm,0.6s
TYV pmax pmax
comp=Z,300nm,3.1s
TYV Tymovskoe 8.62 5 eP **Pn 01 40 19.9 +1.3**
TYV AMB AMB 01 40 21.0
comp=Z,30nm,0.6s
TYV AMB AMB 01 40 22.7
comp=Z,300nm,3.0s
MDJ Mudanjiang 8.90 289 P **Pn 01 40 23.1 +0.6**
MDJ sP 01 40 51.9
MDJ S **Sn 01 42 05.2 +4.3**
MDJ pmax pmax
comp=Z,22nm,1.0s
MDJ pmax pmax
comp=Z,180nm,3.6s
MDJ Mudanjiang 8.90 289 Pn **Pn 01 40 21.1 -1.4**
GRNR Gornyy 9.15 340⇓ *i*PN **Pn 01 40 26.9 +1.1**
GRNR pmax pmax
comp=E,5.0nm,0.8s
GRNR pmax pmax
comp=N,10.0nm,0.7s
GRNR pmax pmax
comp=Z,7.0nm,0.8s
GRNR MLR MLR
comp=E,380nm,17.0s
GRNR MLR MLR
comp=N,160nm,14.0s
GRNR MLR MLR
comp=Z,170nm,15.0s
GRNR Gornyy 9.15 340 eP **Pn 01 40 26.9 +1.1**
JHJ Hachijo jima 2 9.24 188 P **Pn 01 40 23.7 -3.6**
comp=Z,533nm,0.3s,baz=343,slow=20,SNR=45
JHJ S Sn 01 41 59.1 -10
comp=Z,170nm,0.3s,baz=289,slow=22,SNR=3.2
KLR Kul'dur 9.67 319*d i*PN **Pn 01 40 34.4 +1.5**
KLR pmax pmax
comp=Z,13nm,0.9s
KLR Kul'dur 9.67 319 eP **Pn 01 40 34.4 +1.5**
KLR Kul'dur 9.67 319 P **Pn 01 40 33.6 +0.7**
comp=Z,15nm,1.0s,baz=129,slow=14,SNR=15
JMN Monobe 10.40 217 Pn **Pn 01 40 42.5 -0.5**
JMN Monobe 10.40 217 P **Pn 01 40 42.7 -0.2**
BNX BinXian 10.65 294⇓ P **Pn 01 40 45.9 -0.3**
BNX pmax pmax
comp=Z,36nm,0.8s
BNX pmax pmax
comp=Z,140nm,6.1s
NKL Nikolayevsk 10.88 358 eP **Pn 01 40 49.1 0.0**
NKL AMB AMB 01 40 50.0
comp=Z,20nm,0.8s
KSRS Korea Array 11.43 249 P **Pn 01 40 57.2 +0.7**
comp=Z,13nm,0.8s,baz=60,slow=12,SNR=52
KSRS LR LR 01 45 00.4
comp=Z,54nm,19.3s,baz=40,slow=35
KS19 Wonju Array Si 11.44 250 Pn 01 40 56.8 0.0
KSAR Wonju Array Be 11.46 249 Pn **Pn 01 40 56.4 -0.6**
KSAR Wonju Array Be 11.46 249 PN **Pn 01 40 56.4 -0.6**
CN2 Changchun 11.78 283 eP **Pn 01 41 01.9 +0.8**
CN2 *es*P P 01 41 36.8 +27
CN2 eS **Sn 01 43 10.1 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,4.0s
JTU Tsushima 12.19 234 Pn **Pn 01 41 06.2 -0.4**
JTU Tsushima 12.19 234 P **Pn 01 41 08.7 +2.1**
INCN Inchon 12.32 252 P P 01 41 29.7 +14
TJN Taejon 12.36 246 Pn **Pn 01 41 09.3 +0.4**
TJN Taejon 12.36 246⇑ *i*PN **Pn 01 41 09.8 +0.9**
JNU Nakatsue 12.37 226 Pn **Pn 01 41 08.8 -0.2**
JNU Nakatsue 12.37 226 P **Pn 01 41 09.4 +0.3**
JNU Nakatsue 12.37 226 P **Pn 01 41 09.0 -0.1**
comp=Z,4.5nm,0.5s,baz=77,slow=19,SNR=6.4
JNU LR LR 01 45 27.0
comp=Z,42nm,19.0s,baz=36,slow=35
HEH HeiHe 12.52 314 eP **Pn 01 41 12.4 +1.6**
HEH pmax pmax
comp=Z,15nm,0.7s
HEH pmax pmax
comp=Z,130nm,5.3s
SKR Severo-Kuril's 13.14 45⇓ *e*PN **Pn 01 41 19.8 +0.9**
SNY Shenyang 13.26 274⇑ P **Pn 01 41 19.6 -0.9**
SNY pmax pmax
comp=Z,25nm,0.8s
ZEA Zeya 14.83 325 eP **P 01 41 42.2 -1.1**
ZEA pmax pmax
comp=Z,30nm,0.8s
ZEA Zeya 14.83 325 eP **Pn 01 41 40.2 -0.3**
JCJ Chichijima 15.17 177 P Pn 01 41 37.0 -8.1
comp=Z,122nm,0.4s,baz=6.7,slow=4.3,SNR=23
JCJ S Sn 01 44 14.5 -18
comp=Z,27nm,0.4s,baz=261,slow=21,SNR=1.6
PEA0B Petropavlovsk- 15.37 40 Pn **Pn 01 41 46.1 -1.3**
PEA0B IAmb IAmb 01 41 52.5
comp=Z,28nm,1.1s
PEA0B Petropavlovsk- 15.37 40⇑ eP **Pn 01 41 46.0 -1.3**
PETK Petropavlovsk- 15.37 40 Pn **Pn 01 41 46.0 -1.3**
PETK Petropavlovsk- 15.37 40 P **Pn 01 41 46.0 -1.3**
PETK Petropavlovsk- 15.37 40 P **Pn 01 41 45.6 -1.7**
comp=Z,4.4nm,0.6s,baz=220,slow=10,SNR=13
HIA Hailar 16.61 302 Pn **Pn 01 42 01.2 -1.5**
HIA IAmb IAmb 01 42 02.8
comp=Z,16nm,0.7s
HIA Hailar 16.61 302 P **Pn 01 42 01.2 -1.5**
HIA pmax pmax
comp=Z,16nm,0.7s
MA2 Magadan 18.25 15 P **P 01 42 20.0 -1.1**
MA2 IAmb IAmb 01 42 23.6
comp=Z,27nm,0.9s
MA2 Magadan 18.25 15*c e*P **P 01 42 21.4 +0.3**
MA2 pmax pmax
comp=Z,46nm,1.7s
MA2 Magadan 18.25 15 eP **P 01 42 21.4 +0.3**
MA2 Magadan 18.25 15 P **P 01 42 20.6 -0.5**
comp=Z,23nm,0.8s,baz=200,slow=14,SNR=5.8
JMZ Minamidaito 2 18.45 210 P **P 01 42 22.4 -1.1**
XLT XiLinHaoTe 18.55 284 eP **P 01 42 22.9 -1.6**
XLT pmax pmax
comp=Z,26nm,1.5s
XLT pmax pmax
comp=Z,82nm,4.0s
JOW Kunigami 18.80 219 **P 01 42 26.0 -1.2**
JOW IAmb IAmb 01 42 30.9
comp=Z,79nm,1.3s
JOW Kunigami 18.80 219 P **P 01 42 26.1 -1.2**
comp=Z,18nm,0.7s,baz=6.3,slow=9.2,SNR=1.3
BJI Beijing 19.11 272 P **P 01 42 29.2 -1.4**
BJI pP **pP 01 42 49.9 -1.9**
BJI sP **sP 01 43 06.8 +0.4**
BJI pmax pmax
comp=Z,16nm,1.1s
BJT Baijiatuau 19.12 272 P **P 01 42 29.4 -1.3**
BJT IAmb IAmb 01 42 30.0
comp=Z,51nm,1.3s
BJT Baijiatuau 19.12 272 P **P 01 42 29.9 -0.8**
BJT Baijiatuau 19.12 272 P **P 01 42 29.4 -1.3**
BJT pmax pmax
comp=Z,51nm,1.3s
TIA Tai'an 19.73 260 P **P 01 42 35.5 -1.8**
TIA pmax pmax
comp=Z,52nm,0.5s
NJ2 Nanjing 20.61 248 eP **P 01 42 46.8 -0.1**
NJ2 pP **pP 01 43 06.6 -1.5**
NJ2 sP **sP 01 43 22.0 -0.5**
NJ2 pmax pmax
comp=Z,35nm,0.7s
NJ2 pmax pmax
comp=Z,210nm,4.3s
YAK Yakutsk 20.97 344 eP **P 01 42 48.0 -2.4**
YAK *e*S **S 01 46 35.3 -2.0**
YAK *e* 01 46 50.2
YAK *e**SS **sS 01 47 11.1 -2.2**
YAK *e* 01 53 59.2
YAK pmax pmax
comp=Z,48nm,0.9s
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK smax smax
comp=N,99nm,1.5s
YAK smax smax
comp=E,76nm,1.9s
HNS HongShan 21.03 265⇓ P **P 01 42 48.4 -2.9**
HNS pmax pmax
comp=E,15nm,1.0s
SEY Seymchan 21.66 14 P **P 01 42 56.5 -1.3**
comp=E,23nm,0.6s,baz=194,slow=8.1,SNR=74
comp=E,23nm,0.6s
BOD Bodaibo 23.24 321 eP **P 01 43 11.6 -2.0**
BOD pmax pmax
comp=Z,8.0nm,1.1s
BOD Bodaibo 23.24 321 eP **P 01 43 11.6 -2.0**
BTO Baotou 23.52 277 eP **P 01 43 15.2 -1.3**
BTO pP **pP 01 43 39.9 -0.1**
BTO PP **sP 01 43 52.8 -1.7**
BTO sP sP 01 43 59.7 +5.2
BTO S **S 01 47 22.4 +0.8**
BTO SS **SnSn 01 48 09.8 -1.8**
BTO pmax pmax
comp=Z,47nm,0.9s
BTO pmax pmax
comp=Z,180nm,3.5s
BTO LR LR
comp=Z,500nm,21.0s
BTO LR LR
comp=Z,260nm,17.8s
BTO LR LR
comp=Z,140nm,10.6s
TATO Taipei 23.84 230 P **P 01 43 18.5 -0.9**
YHNB Yeheng 24.15 230 P **P 01 43 21.6 -0.6**
SHEM Shemya Is, Ala 24.23 53 LR LR 01 55 05.4
comp=Z,15nm,18.6s,baz=114,slow=42
SMY Shemya 24.23 53 P **P 01 43 21.7 -0.9**
SMY Shemya 24.23 53 P **P 01 43 21.7 -0.9**
SMY pmax pmax
comp=Z,70nm,1.2s
NACB Ninganchiao 24.41 228 P **P 01 43 22.8 -1.8**
NACB IAmb IAmb 01 43 27.6
comp=Z,60nm,1.5s
NACB Ninganchiao 24.41 228 P **P 01 43 23.3 -1.3**
WHN Wuhan 24.62 250⇓ P **P 01 43 26.7 +0.3**
WHN pmax pmax
comp=Z,74nm,0.6s
ULN Ulaanbaatar 24.75 295 P **P 01 43 26.4 -1.3**
ULN IAmb IAmb 01 43 29.2
comp=Z,15nm,0.7s
ULN Ulaanbaatar 24.75 295*c i*P **P 01 43 27.2 -0.4**
ULN pmax pmax
comp=Z,14nm,0.7s
ULN Ulaanbaatar 24.75 295 eP **P 01 43 27.2 -0.4**
SSLB Suanglung 25.08 229 P **P 01 43 30.2 -0.5**
SSLB IAmb IAmb 01 43 40.7
comp=Z,42nm,1.4s
SSLB Suanglung 25.08 229 P **P 01 43 31.8 +1.2**
SONM Songino Array 25.19 295 P **P 01 43 31.1 -0.5**
SONM Songino Array 25.19 295 P **P 01 43 31.3 -0.3**
comp=Z,6.7nm,0.5s,baz=78,slow=8.2,SNR=13
comp=Z,6.7nm,0.5s
YULB Yu-li 25.20 228 P **P 01 43 31.0 -0.7**
TPUB Ta-pu 25.64 229 P **P 01 43 36.0 +0.2**
TWG Pinlang 25.78 227 P **P 01 43 37.3 +0.4**
XAN Xi'an 26.71 263⇑ P **P 01 43 45.4 +0.1**
XAN pP pP 01 44 06.8 -3.8
XAN pmax pmax
comp=Z,42nm,0.6s
ZAK Zakamensk 27.29 300 eP **P 01 43 49.5 -0.9**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
ENH Enshi 28.22 255 P **P 01 43 56.4 -2.4**
ENH Enshi 28.22 255 P **P 01 43 59.1 +0.3**
LZH Lanzhou 29.59 271 eP **P 01 44 11.3 +0.3**
LZH pmax pmax
comp=Z,30nm,1.1s
TIXI Tiksi 30.08 352 P **P 01 44 13.4 -1.4**
TIXI IAmb IAmb 01 44 17.0
comp=Z,13nm,1.4s
TIXI Tiksi 30.08 352 P **P 01 44 13.4 -1.4**
TIXI pmax pmax
comp=Z,13nm,1.4s
GTA Gaotai 31.37 279 eP **P 01 44 28.7 +2.1**
GTA pmax pmax
comp=Z,16nm,0.8s
PZH PanZhiHua 35.96 257 P **P 01 45 07.0 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,4.8s
GOMU GeErMu 36.23 276 P **P 01 45 08.5 -0.5**
GOMU pmax pmax
comp=Z,9.0nm,0.8s
GOMU pmax pmax
comp=Z,68nm,4.9s
DGZ Jazzator, Alta 37.51 300*d i*P **P 01 45 20.0 +0.6**
DGZ pmax pmax
comp=Z,23nm,0.8s
ZALV Zalesovo Beam 38.53 308 P **P 01 45 28.3 +0.6**
ZALV Zalesovo Beam 38.53 308 P **P 01 45 27.8 +0.1**
comp=Z,63nm,0.6s,baz=89,slow=8.4,SNR=127
ZALV PcP **PcP 01 47 37.7 -0.3**
comp=Z,1.4nm,0.4s,baz=107,slow=2.6,SNR=3.8
ZALV ScP **ScP 01 51 14.6 -0.5**
comp=Z,1.7nm,0.6s,baz=100,slow=4.6,SNR=5.8
ZALV LR LR 02 02 25.1
comp=Z,19nm,21.1s,baz=354,slow=38
NRIK Noril'sk 38.54 333 P **P 01 45 27.5 -0.1**
NRIK IAmb IAmb 01 45 29.3
comp=Z,4.0nm,0.6s
NRIK Noril'sk 38.54 333*ce*P **P 01 45 28.0 +0.3**
NRIK pmax pmax
comp=Z,12nm,1.9s
NRIK Noril'sk 38.54 333 P **P 01 45 27.6 0.0**
comp=Z,3.4nm,0.4s,baz=106,slow=6.6,SNR=5.7
comp=Z,3.4nm,0.4s
WMQ Urumqi 38.70 291 eP **P 01 45 29.6 +0.2**
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ LR LR
comp=Z,160nm,10.9s
WMQ LR LR
comp=Z,31nm,13.5s
ZSN Zaisan 39.64 297 eP **P 01 45 37.4 +0.3**
comp=Z,6.6nm,0.4s,baz=297
ZSN Zaisan 39.64 297 eP **P 01 45 37.4 +0.3**
ZSN pmax pmax
comp=Z,7.0nm,0.4s
MK31 Makanchi Array 41.51 297 P **P 01 45 52.4 -0.2**
MK31 Makanchi Array 41.51 297*d i*P **P 01 45 52.2 -0.3**
MKAR Makanchi Array 41.51 297*ce*P **P 01 45 52.2 -0.3**
MKAR pmax pmax
comp=Z,18nm,0.5s
MKAR Makanchi Array 41.51 297 eP **P 01 45 52.2 -0.3**
MKAR Makanchi Array 41.51 297 P **P 01 45 52.5 -0.1**
comp=Z,17nm,0.5s,baz=83,slow=9.8,SNR=65
MKAR PcP **PcP 01 47 48.1 +0.4**
comp=Z,0.7nm,0.4s,baz=60,slow=3.6,SNR=1.6
comp=Z,17nm,0.5s
MAKZ Makanchi 41.71 297 P **P 01 45 54.0 -0.2**
MAKZ Makanchi 41.71 297 P **P 01 45 54.0 -0.2**
MAKZ pmax pmax
comp=Z,22nm,0.6s
L19K White Mountain 41.75 39 P **P 01 45 55.4 +1.1**
L19K IAmb IAmb 01 46 00.6
comp=Z,9.7nm,1.4s
SEM Semipalatinsk 41.90 303 eP **P 01 45 56.6 +0.7**
comp=Z,7.2nm,0.7s,baz=303
SEM Semipalatinsk 41.90 303 eP **P 01 45 56.5 +0.7**
SEM pmax pmax
comp=Z,7.0nm,0.7s
LSA Lhasa 41.99 269 P **P 01 45 56.7 -0.4**
LSA IAmb IAmb 01 45 59.2
comp=Z,16nm,0.8s
LSA Lhasa 41.99 269 P **P 01 45 56.7 -0.4**
LSA pmax pmax
comp=Z,16nm,0.8s
J20K Nowinta River 42.02 36 P **P 01 45 58.2 +1.8**
J20K IAmb IAmb 01 46 02.9
comp=Z,6.3nm,0.8s
IMAR Indian Mountai 42.20 33 P **P 01 45 59.0 +1.1**
H21K Melozitna Rive 42.59 34 P **P 01 46 02.4 +1.4**
H21K IAmb IAmb 01 46 14.4
comp=Z,12nm,1.5s
Q19K Cape Douglas, 42.60 44 P **P 01 46 00.1 -1.0**
MND Mandalay 42.75 256 P **P 01 46 04.6 +1.8**
CHTO Chiang Mai 42.83 250 P **P 01 46 04.2 +0.7**
CHTO IAmb IAmb 01 46 05.9
comp=Z,14nm,0.7s
CHTO Chiang Mai 42.83 250 P **P 01 46 04.2 +0.7**
CHTO pmax pmax
comp=Z,14nm,0.7s
KURK Kurchatov 42.84 304 P **P 01 46 02.8 -0.3**
KURK Kurchatov 42.84 304*d i*P **P 01 46 02.5 -0.7**
KURK pmax pmax
comp=Z,49nm,0.7s
KURK Kurchatov 42.84 304 P **P 01 46 03.0 -0.2**
KURK Kurchatov 42.84 304 eP **P 01 46 02.5 -0.7**
KURBB Kurchatov Arra 42.92 304 P **P 01 46 03.5 -0.3**
KURBB Kurchatov Arra 42.92 304 P **P 01 46 03.9 +0.1**
comp=Z,60nm,0.6s,baz=77,slow=8.9,SNR=154
KURBB S **S 01 52 22.6 +2.9**
comp=Z,0.7nm,0.8s,baz=78,slow=15,SNR=4.2
CAST Castle Rocks 42.96 37 P **P 01 46 06.0 +1.9**
CAST IAmb IAmb 01 46 11.3
comp=Z,7.7nm,0.8s
CMAR Chiang Mai Arr 43.07 250 P **P 01 46 04.7 -0.7**
CMAR Chiang Mai Arr 43.07 250*ce*P **P 01 46 04.9 -0.5**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
CMAR Chiang Mai Arr 43.07 250 P **P 01 46 05.3 0.0**
comp=Z,6.4nm,0.8s,baz=43,slow=6.8,SNR=30
CMAR ScP **ScP 01 51 33.8 +0.2**
comp=Z,0.6nm,0.3s,baz=22,slow=3.4,SNR=4.5
CMAR LR LR 02 05 29.5
comp=Z,20nm,18.2s,baz=170,slow=38
comp=Z,6.4nm,0.8s
BPAW Bear Paw Mtn. 43.41 36 P **P 01 46 11.8 +4.2**
MLY Manley 43.47 35 P **P 01 46 10.2 +2.0**
KTH Kantishna Hill 43.48 37 P **P 01 46 09.6 +1.4**
KTH IAmb IAmb 01 46 15.7
comp=Z,8.1nm,0.8s
COLD Coldfoot 43.62 32 P **P 01 46 10.8 +1.5**
SHL Shillong 43.71 264 P **P 01 46 10.8 +0.1**
SHL Shillong 43.71 264 P **P 01 46 10.8 +0.1**
SHL pmax pmax
comp=Z,17nm,0.4s
SUA Susitna One 43.75 40 P **P 01 46 11.4 +1.0**
SUA IAmb IAmb 01 46 13.3
comp=Z,13nm,1.2s
CNPM China Poot 43.75 43 P **P 01 46 12.4 +2.0**
TRF Thorofare Moun 43.77 37 P **P 01 46 13.0 +2.3**
TOLK Toolik Lake Re 43.85 30 P **P 01 46 12.4 +1.3**
TOLK IAmb IAmb 01 46 32.2
comp=Z,17nm,1.4s
SWI Sorong 43.92 195 P **P 01 46 12.7 +0.5**
comp=Z,48nm,1.0s
SIJI Sorong 43.93 195 P **P 01 46 12.7 +0.5**
comp=Z,32nm,0.6s,baz=12,slow=16,SNR=6.7
comp=Z,32nm,0.6s
H23K Yukon River 43.93 34 P **P 01 46 12.6 +0.8**
H23K IAmb IAmb 01 46 18.0
comp=Z,17nm,1.5s
I23K Minto, Yukon-K 44.05 35 P **P 01 46 14.3 +1.7**
I23K IAmb IAmb 01 46 23.0
comp=Z,9.2nm,1.4s
SMPI Sarmi 44.14 184 P **P 01 46 15.5 +1.6**
comp=Z,47nm,1.0s
NEA2 Nenana 44.21 35 P **P 01 46 15.0 +1.0**
NEA2 IAmb IAmb 01 46 20.6
comp=Z,7.2nm,0.8s
RC01 Rabbit Creek A 44.28 40 P **P 01 46 16.1 +1.6**
RC01 IAmb IAmb 01 46 19.2
comp=Z,14nm,1.0s
PDGK Podgornoye 44.49 293 P **P 01 46 15.3 -1.4**
MDM Murphy Dome 44.54 35 P **P 01 46 17.4 +0.8**
MDM IAmb IAmb 01 46 22.3
comp=Z,9.3nm,1.2s
GHO Glory Hole Cre 44.57 39 P **P 01 46 18.2 +1.2**
GHO IAmb IAmb 01 46 25.3
comp=Z,8.9nm,0.8s
SHLS Shalkode 44.58 293 eP **P 01 46 14.7 -2.6**
comp=Z,4.3nm,0.3s,baz=293
SHLS Shalkode 44.58 293 eP **P 01 46 14.7 -2.6**
SHLS pmax pmax
comp=Z,4.0nm,0.3s
JAY Jayapura 44.60 181 P **P 01 46 16.6 -1.0**
comp=Z,12nm,0.9s
JAY Jayapura 44.60 181 P **P 01 46 18.2 +0.6**
comp=Z,4.0nm,0.4s,baz=309,slow=20,SNR=4.8
comp=Z,4.0nm,0.4s
H24K Noodor Dome 44.62 34 P **P 01 46 17.7 +0.4**
TDK Taldyqorghan 44.64 296 eP **P 01 46 18.1 +0.3**
baz=296
TDK Taldyqorghan 44.64 296 eP **P 01 46 18.0 +0.3**
GENI Genyem 44.69 182 P **P 01 46 17.6 -0.7**
comp=Z,56nm,0.7s
CCB Clear Creek Bu 44.75 35 P **P 01 46 20.8 +2.5**
KNK Knik Glacier 44.84 40 P **P 01 46 19.1 0.0**
KNK IAmb IAmb 01 46 24.8
comp=Z,21nm,1.4s
SML Sawmill 44.85 39 P **P 01 46 20.7 +1.5**

SML IAmb IAmb 01 46 26.8
comp=Z,22nm,1.4s
UZB Uzynbulak 44.88 293 *e*P **P 01 46 19.4 -0.4**
baz=293
UZB Uzynbulak 44.88 293 *e*P **P 01 46 19.3 -0.4**
PWL Port Wells 44.99 41 P **P 01 46 21.3 +1.1**
PWL IAmb IAmb 01 46 22.3
comp=Z,11nm,1.1s
KPKS Kokpek 44.99 294 *e*P **P 01 46 20.4 -0.2**
baz=294
KPKS Kokpek 44.99 294 *e*P **P 01 46 20.4 -0.2**
DHY Denali Highway 45.12 37 P **P 01 46 23.3 +1.9**
DHY IAmb IAmb 01 46 25.5
comp=Z,5.8nm,0.8s
IL31 45.13 35 P **P 01 46 21.5 +0.3**
IL31 IAmb IAmb 01 46 27.4
comp=Z,9.4nm,1.1s
ILAR Eielson Array 45.13 35 P **P 01 46 20.9 -0.3**
ILAR Eielson Array 45.13 35 P **P 01 46 22.4 +1.1**
comp=Z,2.8nm,0.9s,baz=279,slow=7.0,SNR=22
comp=Z,2.8nm,0.9s
HDA Harding Lake 45.14 36 P **P 01 46 21.5 +0.1**
HDA IAmb IAmb 01 46 25.7
comp=Z,3.5nm,0.6s
IL03 Eielson Array 45.14 35 P **P 01 46 23.2 +1.9**
MRSI Marisa 45.16 208 P **P 01 46 22.6 +0.6**
comp=Z,23nm,0.9s
SCM Sheep Creek Mo 45.32 39 P **P 01 46 24.3 +1.4**
SCM IAmb IAmb 01 46 29.9
comp=Z,17nm,1.1s
SCM Sheep Creek Mo 45.32 39 P **P 01 46 24.3 +1.4**
SCM pmax pmax
comp=Z,17nm,1.1s
SATY Saty 45.33 293 *i* P **P 01 46 23.3 -0.1**
baz=293
SATY Saty 45.33 293 *i* P **P 01 46 23.2 -0.1**
GLI Glacier Island 45.58 41 P **P 01 46 25.3 +0.4**
GLI IAmb IAmb 01 46 36.9
comp=Z,19nm,1.1s
PRP Porcupine Dome 45.62 34 P **P 01 46 27.2 +1.9**
PRP IAmb IAmb 01 46 31.7
comp=Z,8.7nm,0.6s
FAKI Fak Fak 45.76 193 P **P 01 46 27.3 +0.5**
FAKI Fak Fak 45.76 193 P **P 01 46 27.3 +0.5**
FAKI Fak Fak 45.76 193 P **P 01 46 24.3 -2.4**
comp=Z,94nm,1.3s
BMAR Burnt Mountain 45.79 31 P **P 01 46 28.7 +2.3**
J25K Salcha River, 45.80 35 P **P 01 46 27.5 +0.9**
TAPN Taplejung 45.80 269 *e*P **P 01 46 28.2 +0.8**
comp=Z,30nm,0.3s
FID Port Fidalgo 45.90 41 P **P 01 46 26.7 -0.7**
FID IAmb IAmb 01 46 42.8
comp=Z,16nm,1.0s
CHKK Chushkaly 46.00 295 *e*P **P 01 46 28.2 -0.3**
baz=295
CHKK Chushkaly 46.00 295 *e*P **P 01 46 28.1 -0.3**
MPSI Mapaga 46.03 211 P **P 01 46 27.2 -1.7**
comp=Z,3.6nm,0.8s
KLU Klutina 46.03 40 P **P 01 46 29.5 +1.0**
KLU IAmb IAmb 01 46 42.1
comp=Z,12nm,1.2s
TARG Taragay, Kyrgy 46.25 292 P **P 01 46 31.1 +0.2**
TARG Taragay, Kyrgy 46.25 292 P **P 01 46 31.1 +0.2**
TARG pmax pmax
comp=Z,19nm,0.7s
SANI Sanana 46.29 202 P **P 01 46 30.2 -0.7**
comp=Z,23nm,0.7s
LUWI Luwuk 46.30 206 P **P 01 46 32.2 +1.2**
comp=Z,108nm,1.2s
TNSS Tian-Shan 46.33 294 *e*P **P 01 46 32.2 +0.6**
baz=294
TNSS Tian-Shan 46.33 294 *e*P **P 01 46 32.1 +0.6**
KUU Kurty 46.42 295 *e*P **P 01 46 31.2 -0.6**
comp=Z,9.4nm,0.6s,baz=295
KUU Kurty 46.42 295 *e*P **P 01 46 31.1 -0.6**
KUU pmax pmax
comp=Z,9.0nm,0.6s
SCRK Sand Creek 46.49 36 P **P 01 46 32.8 +0.7**
SCRK IAmb IAmb 01 46 36.2
comp=Z,6.1nm,0.4s
BRZS Berezniki 46.70 304 *e*P **P 01 46 33.7 -0.2**
comp=Z,6.8nm,0.4s,baz=304
BRZS Berezniki 46.70 304 *e*P **P 01 46 33.6 -0.2**
BRZS pmax pmax
comp=Z,7.0nm,0.4s
JIRN Jiri 46.76 270 *e*P **P 01 46 35.6 +0.6**
comp=Z,41nm,0.3s
RAMN Ramite 46.84 269 *e*P **P 01 46 36.2 +0.7**
comp=Z,120nm,0.7s
GUN Gumba 46.85 271 *e*P **P 01 46 36.2 +0.5**
comp=Z,234nm,0.4s
BVA0 Borovoye Array 47.15 309 P **P 01 46 36.5 -0.7**
BVAR Borovoye Array 47.15 309 P **P 01 46 37.5 +0.2**
comp=Z,22nm,0.4s,baz=74,slow=9.0,SNR=160
BVAR S **S 01 53 24.0 +3.4**
comp=Z,3.7nm,1.0s,baz=74,slow=16,SNR=8.8
comp=Z,22nm,0.4s
BRVK Borovoye 47.20 309 P **P 01 46 37.9 +0.3**
BRVK Borovoye 47.20 309 *d i* P **P 01 46 37.8 +0.2**
BRVK pmax pmax
comp=Z,16nm,1.0s
BRVK Borovoye 47.20 309 P **P 01 46 37.2 -0.4**
BRVK Borovoye 47.20 309 *e*P **P 01 46 37.8 +0.2**
M26K Nabesna, AK 47.22 38 P **P 01 46 38.4 +0.7**
M26K IAmb IAmb 01 46 48.5
comp=Z,6.9nm,1.1s
BOOM Boomskoye usch 47.23 294 P **P 01 46 38.4 +0.2**
BOOM Boomskoye usch 47.23 294 P **P 01 46 38.4 +0.2**
TKM2 Tokmak 2 47.29 294 P **P 01 46 39.3 +0.6**
SNR=48
TKM2 Tokmak 2 47.29 294 P **P 01 46 38.7 -0.1**
K27K Chicken 47.31 36 P **P 01 46 39.7 +1.4**
K27K IAmb IAmb 01 46 43.2
comp=Z,6.1nm,0.5s
PKI Pulchoki 47.39 271 *e*P **P 01 46 40.0 +0.2**
comp=Z,46nm,0.5s
PKIN Phulchoki 47.39 271 *e*P **P 01 46 40.0 +0.2**
comp=Z,47nm,0.5s
OTUK Ortayu 47.48 302 P **P 01 46 39.0 -0.9**
BTLS Baital 47.52 297 *e*P **P 01 46 39.7 -0.6**
baz=297
BTLS Baital 47.52 297 *e*P **P 01 46 39.6 -0.6**
DMN Daman 47.59 271 *e*P **P 01 46 41.8 +0.5**
comp=Z,48nm,0.5s
NRN Naryn 47.61 292 P **P 01 46 41.0 -0.4**
NRN IAmb IAmb 01 46 49.1
comp=Z,5.0nm,0.6s
NRN Naryn 47.61 292 P **P 01 46 41.0 -0.4**
NRN pmax pmax
comp=Z,5.0nm,0.6s
L27K Beaver Creek, 47.61 37 P **P 01 46 42.7 +2.0**
L27K IAmb IAmb 01 46 47.1
comp=Z,9.1nm,1.0s
BCAR Beaver Creek A 47.63 37 P **P 01 46 43.0 +2.1**
GKN Gorkha 47.72 272 *e*P **P 01 46 42.4 +0.2**
comp=Z,35nm,0.3s
SGDS Sogindy 47.74 295 *e*P **P 01 46 41.9 -0.2**
baz=295
SGDS Sogindy 47.74 295 *e*P **P 01 46 41.8 -0.2**
M27K Edge Creek, AK 47.74 38 P **P 01 46 43.0 +1.1**
M27K IAmb IAmb 01 46 53.9
comp=Z,6.4nm,1.0s
KBK Karagaybulak 47.83 294 P **P 01 46 43.3 +0.4**
SNR=15
USP Ospenovka 47.90 295 P **P 01 46 43.3 0.0**
SNR=12
I28M Miner Creek 47.93 33 P **P 01 46 45.2 +2.0**
I28M IAmb IAmb 01 46 48.4
comp=Z,6.5nm,0.5s
AAK Ala-Archa 48.15 294 P **P 01 46 45.3 0.0**
SNR=14
AAK Ala-Archa 48.15 294 P **P 01 46 44.4 -1.0**
AAK IAmb IAmb 01 46 48.5
comp=Z,9.7nm,0.5s
AAK Ala-Archa 48.15 294 *d i* P **P 01 46 45.0 -0.3**
AAK pmax pmax
comp=Z,7.0nm,0.6s
AAK Ala-Archa 48.15 294 P **P 01 46 45.2 -0.1**
AAK Ala-Archa 48.15 294 *e*P **P 01 46 45.0 -0.3**
DANN Dangsing 48.19 273 *e*P **P 01 46 46.8 +0.9**
comp=Z,256nm,0.4s
H29M Whitestone 48.40 32 P **P 01 46 48.2 +1.5**
H29M IAmb IAmb 01 47 03.4
comp=Z,4.8nm,0.8s
KSH Kashi 48.43 290 P **P 01 46 51.4 +3.9**
KSH pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 48.62 295 P **P 01 46 48.9 -0.1**
SNR=16
PYUN Piuthan 48.89 273 *e*P **P 01 46 51.8 +0.6**
comp=Z,58nm,0.4s
AML Almayashu 48.90 294 P **P 01 46 51.8 +0.5**
SNR=20
AML Almayashu 48.90 294 P **P 01 46 51.4 +0.1**
EPYK Eagle Plains 49.02 32 P **P 01 46 53.5 +2.1**
EPYK IAmb IAmb 01 46 57.0
comp=Z,10.0nm,0.8s
M29M Somme Creek 49.26 37 P **P 01 46 56.5 +3.1**
K29M Barlow Dome 49.31 35 P **P 01 46 55.5 +1.7**
K29M IAmb IAmb 01 46 58.0
comp=Z,4.2nm,0.8s
I30M Mount Dempster 49.44 33 P **P 01 46 56.5 +1.7**
I30M IAmb IAmb 01 46 59.8
comp=Z,6.9nm,0.7s
J30M Hart River 49.62 34 **P 01 46 58.7 +2.6**
INK Inuvik 49.76 29 P **P 01 46 57.6 +0.7**
INK IAmb IAmb 01 47 00.8
comp=Z,9.7nm,1.1s
INK Inuvik 49.76 29 P **P 01 46 57.6 +0.7**
INK pmax pmax
comp=Z,10.0nm,1.2s
F31M Tsiigehtchic 49.90 30 P **P 01 46 58.9 +0.9**
F31M IAmb IAmb 01 47 12.2
comp=Z,4.0nm,0.8s
M30M Minto, Yukon 49.97 37 P **P 01 46 59.0 +0.3**
M30M IAmb IAmb 01 47 04.2
comp=Z,7.2nm,1.4s
H31M Peel River 50.10 32 P **P 01 47 01.1 +1.5**
H31M IAmb IAmb 01 47 11.7
comp=Z,14nm,1.2s
HYT Haines Junctio 50.16 39 P **P 01 47 02.2 +2.0**
HYT IAmb IAmb 01 47 10.5
comp=Z,5.5nm,0.9s
DZA Taraz 50.17 296 *e*P **P 01 47 00.4 -0.1**
baz=296
DZA Taraz 50.17 296 *e*P **P 01 47 00.4 -0.1**
P29M Windy Craggy 50.41 41 P **P 01 47 05.9 +3.8**
P29M IAmb IAmb 01 47 14.5
comp=Z,6.9nm,0.7s
KK31 Karatay Array 50.63 296 P **P 01 47 03.6 -0.4**
KK31 Karatay Array 50.63 296 P **P 01 47 03.6 -0.4**
KK31 pmax pmax
comp=Z,15nm,0.6s
KKAR Karatay Array 50.63 296 P **P 01 47 03.6 -0.4**
KKAR Karatay Array 50.63 296 P **P 01 47 03.6 -0.4**
KKAR Karatay Array 50.63 296 P **P 01 47 03.6 -0.4**
KKAR pmax pmax
comp=Z,15nm,0.6s
SVE Sverdlovsk 51.28 316 *ce*P **P 01 47 09.2 +0.6**
SVE *e*S **S 01 54 20.4 +2.1**
SVE pmax pmax
comp=Z,33nm,0.8s
BTK Batken 51.75 293 P **P 01 47 12.0 -0.5**
BTK Batken 51.75 293 P **P 01 47 12.0 -0.5**
BTK pmax pmax
comp=Z,7.0nm,0.5s
MMPY Sheldon Lake, 52.38 36 P **P 01 47 19.0 +2.2**
ARU Arti 52.50 316 P **P 01 47 17.6 0.0**
ARU Arti 52.50 316 *c i* P **P 01 47 17.4 -0.1**
ARU *PP **pP 01 47 43.7 -1.5**
ARU S **S 01 54 36.9 +2.0**
ARU SS **SS 01 58 12.0 -1.8**
ARU pmax pmax
comp=Z,19nm,0.9s
ARU Arti 52.50 316 *e*P **P 01 47 17.5 -0.1**
ARU Arti 52.50 316 LR LR 02 12 49.5
comp=Z,36nm,18.3s,baz=108,slow=40
AB31 Akbulak array 54.64 307 *i* P **P 01 47 33.4 0.0**
EUNU Eureka 55.00 9 P **P 01 47 36.4 +0.8**
EUNU IAmb IAmb 01 47 39.6
comp=Z,6.0nm,0.6s
KDU Kakadu 55.32 191 P **P 01 47 38.8 +0.3**
SPA0 Spitsbergen Ar 55.38 348 *e*P **P 01 47 39.0 +0.8**
SPITS Spitsbergen Ar 55.38 348 P **P 01 47 38.7 +0.5**
comp=Z,0.7nm,0.3s,baz=68,slow=9.1,SNR=9.1
comp=Z,0.7nm,0.3s
KBL Kabul 55.67 288 P **P 01 47 40.5 -0.7**
KBL Kabul 55.67 288 P **P 01 47 40.5 -0.7**
KBL pmax pmax
comp=Z,14nm,0.7s
KBL Kabul 55.67 288 P **P 01 47 44.5 +3.2**
SNR=6.1
MTN Manton Dam 55.67 192 P **P 01 47 41.2 +0.2**
NOR Nord 55.81 356 *i* P **P 01 47 39.9 -1.4**
NOR IAmb IAmb 01 47 41.8
comp=Z,1.2nm,1.1s
SDSI Sungai Dareh 56.10 231 P **P 01 47 45.2 +1.0**
KIRV Kirov 56.11 321 *ce*P **P 01 47 43.1 -0.6**
PRGR Permogore 56.40 325 *e*P **P 01 47 45.4 -0.3**
PRGR pmax pmax
comp=Z,10.0nm,0.7s
VADS Vadso 57.67 338 *e*P **P 01 47 55.5 +1.0**
KNRA Kununurra 58.84 194 P **P 01 48 02.9 -0.4**
KNRA Kununurra 58.84 194 P **P 01 48 03.8 +0.5**
HAMF Hammerfest 58.87 340 *e*P **P 01 48 02.9 0.0**
ARA0 ARCESS Array S 59.09 338 *e*P **P 01 48 05.3 +0.9**
ARCES ARCESS Array B 59.09 338 P **P 01 48 05.1 +0.7**
comp=Z,1.7nm,0.5s,baz=51,slow=8.1,SNR=22
comp=Z,1.7nm,0.5s
YKA Yellowknife Ar 59.30 32 P **P 01 48 07.2 +1.2**
comp=Z,1.8nm,0.7s,baz=255,slow=5.6,SNR=4.5
comp=Z,1.8nm,0.7s
KLMR Klimovskoe 59.35 326 *e*P **P 01 48 05.2 -1.1**
KLMR AMP 01 48 17.0
comp=Z,21nm,1.8s
KLMR Klimovskoe 59.35 326 *e*P **P 01 48 05.1 -1.2**
KLMR pmax pmax
comp=Z,21nm,1.8s
BELG Belogornoye 60.01 315 *d i* P **P 01 48 10.9 -0.1**
BELG pmax pmax
comp=Z,4.0nm,0.8s
BELG Belogornoye 60.01 315 LR LR 02 16 45.4
comp=Z,34nm,20.2s,baz=131,slow=38
KTK1 Kautokeino 60.05 338 *e*P **P 01 48 10.8 -0.2**
NEEM North Greenlan 60.28 3 *i* P **P 01 48 12.7 -0.2**
NEEM IAmb IAmb 01 48 15.1
comp=Z,6.0nm,0.7s
JETT Jettan, Norway 60.43 340 *e*P **P 01 48 14.1 +0.4**
HRA Herat 60.51 291 P **P 01 48 14.8 -0.2**
DAG Danmarks Havn 60.54 355 *i* P **P 01 48 13.4 -0.9**
DAG IAmb IAmb 01 48 16.2
comp=Z,6.7nm,0.9s
TRO Tromso 60.76 340 *e*P **P 01 48 15.2 -0.5**
GEYT Alibeck 61.38 297 P **P 01 48 19.3 -1.3**
GEYT Alibeck 61.38 297 P **P 01 48 20.4 -0.2**
comp=Z,9.5nm,0.8s,baz=58,slow=3.9,SNR=11
comp=Z,9.5nm,0.8s
GYA0B ALIBECK ARRAY 61.38 297 P **P 01 48 19.4 -1.2**
GYA0B IAmb IAmb 01 48 21.2
comp=Z,8.9nm,0.9s
WB0 Warramunga Arr 62.08 187 P **P 01 48 23.6 -1.7**
CTAO Charters Tower 62.23 175 P **P 01 48 26.8 +0.6**
WRAB Tennant Creek 62.25 188 P **P 01 48 25.7 -0.8**
WRAB IAmb IAmb 01 48 26.6
comp=Z,9.7nm,1.0s
WRAB Tennant Creek 62.25 188 P **P 01 48 25.9 -0.5**
WRAB Tennant Creek 62.25 188 ⇑ *i* P **P 01 48 25.6 -0.8**
WRAB pmax pmax
comp=Z,10.0nm,1.3s
WR0 Warramunga Arr 62.26 187 P **P 01 48 26.0 -0.4**
WB2 Warramunga Arr 62.26 187 P **P 01 48 25.9 -0.5**
WB2 IAmb IAmb 01 48 26.7
comp=Z,10nm,0.9s
WRA Warramunga Arr 62.26 188 P **P 01 48 25.3 -1.1**
WRA Warramunga Arr 62.26 188 *i* P **P 01 48 25.7 -0.8**
WRA pmax pmax
comp=Z,6.0nm,0.5s
WRA Warramunga Arr 62.26 188 P **P 01 48 25.8 -0.6**
comp=Z,6.3nm,0.5s,baz=5.6,slow=6.9,SNR=180
comp=Z,6.3nm,0.5s
QIS Mount Isa 62.55 182 P **P 01 48 28.2 -0.2**
STEI Steigen 62.92 340 *e*P **P 01 48 30.4 +0.1**
FAUS Fauske 63.31 340 *e*P **P 01 48 33.2 +0.3**
VRH Novokhopyorsk 63.73 316 *e*P **P 01 48 33.5 -2.4**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 63.92 322 ⇓ *e*P **P 01 48 37.3 +0.2**
OBN *e**PP **pP 01 49 06.9 +1.2**
OBN *e*PPP PPP 01 52 35.0
OBN *e*S **S 01 57 01.3 -1.9**
OBN *e*SS **SS 02 01 16.6 +3.8**
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN Obninsk 63.92 322 *e*P **P 01 48 37.3 +0.2**
FINES FINESS Array B 64.19 331 P **P 01 48 38.5 -0.2**
comp=Z,9.1nm,0.7s,baz=52,slow=7.1,SNR=85
comp=Z,9.1nm,0.7s
LPSR Galich'ya Gora 64.31 319 *e*P **P 01 48 36.5 -3.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MOR8 Moi Rana 64.45 339 *e*P **P 01 48 38.6 -1.8**
VORR Voronezh 64.72 318 *e*P **P 01 48 39.4 -3.0**
VORR pmax pmax
comp=Z,30nm,0.4s
VSR Storozhevoye 65.02 317 *e*P **P 01 48 42.1 -2.2**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 65.11 317 *e*P **P 01 48 42.4 -2.4**
VORD pmax pmax
comp=Z,7.0nm,0.5s
SUMG Summit 65.43 360 P **P 01 48 48.2 +1.1**
SUMG IAmb IAmb 01 48 51.5
comp=Z,7.6nm,0.7s
SUMG Summit 65.43 360 P **P 01 48 48.2 +1.1**
SUMG pmax pmax
comp=Z,8.0nm,0.7s
SUMG Summit 65.43 360 *i* P **P 01 48 47.6 +0.5**
SUMG IAmb IAmb 01 48 51.4
comp=Z,6.6nm,0.7s
VSU Vasula 65.95 328 *de*P **P 01 48 50.0 -0.1**
AS31 Alice Springs 65.99 188 P **P 01 48 50.6 -0.2**
ASAR Alice Springs 65.99 188 P **P 01 48 50.9 +0.1**
comp=Z,5.3nm,0.7s,baz=11,slow=9.6,SNR=56
comp=Z,5.3nm,0.7s
NSS Namsos 66.38 339 *e*P **P 01 48 53.0 +0.2**
NCK Nalchik 67.27 309 ⇓ *e*P **P 01 48 58.7 -0.1**
NCK pmax pmax
comp=Z,6.0nm,0.5s
KVAR Kislovodsk Arr 67.51 309 P **P 01 49 01.7 +1.2**
comp=Z,5.8nm,0.9s,baz=90,slow=20,SNR=4.5
comp=Z,5.8nm,0.9s
KIV Kislovodsk 67.51 309 P **P 01 49 00.0 -0.4**
KIV Kislovodsk 67.51 309 *e*P **P 01 49 01.5 +1.0**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,20nm,17.0s
KIV Kislovodsk 67.51 309 P **P 01 48 59.4 -1.1**
KIV Kislovodsk 67.51 309 *e*P **P 01 49 01.5 +1.0**
ZEI Tsey 67.51 308 *e*P **P 01 48 59.3 -1.3**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 67.53 309 *de*P **P 01 49 01.0 +0.6**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 67.53 309 *e*P **P 01 49 01.0 +0.6**
KBZ Khabaz 67.53 309 P **P 01 49 01.1 +0.8**
comp=Z,5.7nm,0.8s,baz=51,slow=5.8,SNR=13
comp=Z,5.7nm,0.8s
EIDS Eidsvold 67.91 171 P **P 01 49 03.0 +0.2**
EIDS IAmb IAmb 01 49 04.6
comp=Z,7.7nm,0.8s
WRKA Warakurna 68.08 193 P **P 01 49 04.3 +0.3**
DZM Mont Dzumac 68.09 155 P **P 01 49 03.3 -0.9**
MNK Minsk 68.17 325 *i* P **P 01 49 03.7 -0.5**
comp=E,7.0nm,1.1s
MNK *i* P **P 01 49 03.7 -0.5**
comp=N,11nm,1.0s
MNK *i* P **P 01 49 03.7 -0.5**
comp=Z,7.0nm,0.8s,baz=227
MNK *i* pP **pP 01 49 33.3 0.0**
MNK *i* PP **PP 01 51 35.3 -0.2**
MNK *i* PPP PPP 01 53 15.2
MNK *i* S **S 01 57 54.6 -0.2**
MNK *i* sS **SKiKP 01 58 46.1 -1.0**
MNK *i* SS **SS 02 02 20.4 +1.8**
MNK *i* SSS SSS 02 05 30.0
MNK *i* LRM MLR 02 22 15.1
comp=N,187nm,23.2s
MNK *i* LRM MLR 02 22 47.0
comp=Z,64nm,20.0s
MNK *i* LRM MLR 02 23 17.9
comp=E,93nm,21.9s
MNK Minsk 68.17 325 *i* P **P 01 49 03.7 -0.5**
MNK *i* *PP **pP 01 49 33.2 0.0**
MNK *i* 01 51 35.3
MNK *i* PPP PPP 01 53 15.2
MNK *i* S **S 01 57 54.5 -0.2**
MNK *i* *SS **SKiKP 01 58 46.0 -1.0**
MNK *i* SS **SS 02 02 20.4 +1.8**
MNK pmax pmax
comp=N,11nm,1.0s
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,7.0nm,1.1s
MNK MLR MLR
comp=N,187nm,23.0s
MNK MLR MLR
comp=Z,64nm,20.0s
MNK MLR MLR
comp=E,93nm,22.0s
ONTNC Ouen Toro 68.32 155 P **P 01 49 07.9 +2.5**
NACGM Naroch 68.36 326 *e*P P 01 48 59.6 -5.8
comp=E,3μm,1.1s
GNI Garni 68.62 305 ⇓ *e*P **P 01 49 08.6 +1.1**
GNI pmax pmax
comp=Z,8.0nm,0.9s
GNI Garni 68.62 305 P **P 01 49 08.7 +1.1**
comp=Z,4.6nm,0.7s,baz=102,slow=2.8,SNR=2.6
comp=Z,4.6nm,0.7s
RMQ Roma 68.77 173 P **P 01 49 09.6 +1.4**
DOMB Dombas 69.16 338 *e*P **P 01 49 10.2 -0.1**
NC204 NORSAR Array S 69.30 337 P **P 01 49 11.4 +0.2**
NC204 IAmb IAmb 01 49 12.7
comp=Z,7.0nm,0.8s
HFS Hagfors 69.31 335 P **P 01 49 11.5 +0.2**
comp=Z,3.2nm,0.3s,baz=31,slow=4.8,SNR=38
comp=Z,3.2nm,0.3s
NB201 NORSAR Array S 69.32 337 P **P 01 49 11.7 +0.3**
KARS Kars 69.32 306 P **P 01 49 12.4 +0.5**
KARS Kars 69.32 306 P **P 01 49 12.4 +0.5**
KARS pmax pmax
comp=Z,24nm,0.8s
NB2 NORSAR Subarra 69.35 337 P **P 01 49 11.6 +0.1**
comp=Z,1.2nm,0.5s,baz=36,slow=6.5
NB2 NORSAR Subarra 69.35 337 P **P 01 49 11.6 +0.1**
baz=36,slow=6.5
NOA NORSAR Array B 69.35 337 P **P 01 49 11.4 -0.1**
comp=Z,3.1nm,0.8s,baz=53,slow=7.7,SNR=17
NOA LR LR 02 23 25.7
comp=Z,6.5nm,18.9s,baz=295,slow=39
comp=Z,3.1nm,0.8s
SOC Sochi 69.43 311 *e*P **P 01 49 12.0 -0.3**
SOC *e* 01 51 45.7
SOC *e*PPP PPP 01 53 28.5
SOC *e*S **S 01 58 10.5 +0.5**
SOC *e*SS **SS 02 02 35.0 -3.6**
SOC Sochi 69.43 311 *e*P **P 01 49 12.0 -0.3**
NC602 NORSAR Array S 69.50 336 *e*P **P 01 49 12.1 -0.2**
SHME Shamm 69.64 287 P **P 01 49 13.7 -0.1**
SNR=5.6
OOD Oodnadatta 69.94 185 P **P 01 49 17.0 +1.7**
MASF Masafi 70.04 286 P **P 01 49 16.3 0.0**
AKASG Malin Array Be 70.17 321 P **P 01 49 16.2 -0.4**
comp=Z,3.3nm,0.4s,baz=44,slow=6.7,SNR=33
comp=Z,3.3nm,0.4s
UOSS Minazif 70.27 286 P **P 01 49 17.4 -0.4**
UOSS IAmb IAmb 01 49 18.1
comp=Z,10nm,0.7s
UOSS Minazif 70.27 286 P **P 01 49 17.6 -0.1**
UMQ Umm Al-Quwin 70.30 287 P **P 01 49 17.4 -0.4**
OSL Oslo 70.38 336 *e*P **P 01 49 18.4 +0.6**
HATD Hatta, Dubai 70.40 286 P **P 01 49 19.0 +0.5**
SNR=5.8
SKAR Skarslia 70.48 338 *e*P **P 01 49 18.7 +0.2**
ASHO Ashiyiah 70.54 286 P **P 01 49 19.5 +0.1**
NAZ Nazwa, Dubai 70.63 286 P **P 01 49 19.7 -0.2**
HYA Hoyanger 70.67 339 *e*P **P 01 49 19.9 +0.4**
PNTR Pine Nut 70.69 55 P **P 01 49 20.7 +0.3**
PNTR IAmb IAmb 01 49 27.8
comp=Z,7.0nm,1.1s
FAQ Al Faqa, Dubai 70.83 286 P **P 01 49 20.7 -0.4**
BSY Bisya 70.92 284 P **P 01 49 21.9 +0.1**
BOZ Bozeman (W) 71.01 45 P **P 01 49 23.5 +1.4**

BOZ Bozeman (W) 71.01 45 P **P 01 49 23.5 +1.4**
BOZ pmax pmax
comp=Z,3.0nm,0.9s
ARQ Araqi 71.04 285 P **P 01 49 22.6 +0.2**
ASUD Al Ashush, Dub 71.09 286 P **P 01 49 23.0 +0.3**
ALNE Al Ain 71.14 286 P **P 01 49 23.0 -0.1**
GURO Guroymak-BITLI 71.25 305 P **P 01 49 24.0 +0.3**
GURO IAmb IAmb 01 49 25.5
comp=Z,9.1nm,0.7s
MHTO MHTO 71.46 282 P **P 01 49 25.2 +0.3**
SNR=11
KVN Kaiserville 71.61 54 P **P 01 49 27.6 +1.8**
KVN Kaiserville 71.61 54 P **P 01 49 27.7 +1.8**
KVN pmax pmax
comp=Z,3.0nm,0.8s
SIRT Sirnak 71.67 304 P **P 01 49 25.4 -0.7**
MEEK Meekatharra 71.74 201 P **P 01 49 26.2 -0.1**
NVAR Mina Array Bea 71.89 54 P **P 01 49 28.8 +1.2**
NVAR Mina Array Bea 71.89 54 P **P 01 49 29.2 +1.6**
comp=Z,1.8nm,0.8s,baz=287,slow=5.6,SNR=12
comp=Z,1.8nm,0.8s
LCRK Leigh Creek 72.44 183 P **P 01 49 31.9 +1.5**
MULG Mulgathing 72.53 187 P **P 01 49 31.7 +0.8**
MZR Muzera 73.42 286 P **P 01 49 36.1 -0.5**
FORT Forrest 73.74 192 P **P 01 49 38.9 +0.9**
STKA Stephens Creek 73.80 180 P **P 01 49 39.5 +1.2**
STKA Stephens Creek 73.80 180||*eP* **P 01 49 39.6 +1.2**
STKA Stephens Creek 73.80 180 P **P 01 49 39.0 +0.6**
comp=Z,1.6nm,0.4s,baz=348,slow=9.3,SNR=5.1
comp=Z,1.6nm,0.4s
SPR3 Spring Creek 3 73.88 52 P **P 01 49 39.9 +0.4**
S11A Rachel 73.93 54 P **P 01 49 40.8 +1.2**
S11A IAmb IAmb 01 49 47.1
comp=Z,20nm,1.5s
DUG Dugway, Tooele 73.95 50 P **P 01 49 40.2 +0.6**
DUG IAmb IAmb 01 49 47.9
comp=Z,9.4nm,1.4s
DUG Dugway, Tooele 73.95 50 P **P 01 49 40.2 +0.6**
DUG pmax pmax
comp=Z,9.0nm,1.5s
WCT Wildcat Mounta 73.96 55 P **P 01 49 40.6 +1.0**
BW06 Boulder Array 74.02 46 P **P 01 49 41.2 +1.1**
PD31 Pinedale Array 74.02 46 P **P 01 49 40.5 +0.4**
PDAR Pinedale Array 74.02 46 P **P 01 49 40.4 +0.3**
PDAR Pinedale Array 74.02 46 P **P 01 49 41.0 +1.0**
comp=Z,1.9nm,0.8s,baz=249,slow=2.5,SNR=10
comp=Z,1.9nm,0.8s
BUR08 Bucovina Ar. S 74.19 321 P **P 01 49 40.9 0.0**
BUR08 IAmb IAmb 01 49 48.0
comp=Z,9.8nm,1.1s
BURAR Bucovina Array 74.21 321 P **P 01 49 41.0 +0.1**
GWY Greenwater Val 74.33 55 P **P 01 49 43.1 +1.2**
QSM Queen of Sheba 74.36 56 P **P 01 49 43.5 +1.6**
PSUT Pine Spring 74.46 52 P **P 01 49 44.1 +1.4**
PRN Pahroc Range 74.51 53 P **P 01 49 44.1 +1.2**
KOLS Kolonicke sedl 74.58 323 *eP* **P 01 49 44.2 +1.3**
KOLS Kolonicke sedl 74.58 323 *eP* **P 01 49 44.2 +1.3**
STHS Stebnicka Huta 74.68 324 *eP* **P 01 49 43.8 +0.3**
STHS Stebnicka Huta 74.68 324 *eP* **P 01 49 43.8 +0.3**
OJC Ojcow 74.69 325 P **P 01 49 43.5 0.0**
OJC IAmb IAmb 01 49 44.9
comp=Z,9.8nm,1.0s
OJC Ojcow 74.69 325 P **P 01 49 43.5 0.0**
OJC pmax pmax
comp=Z,10.0nm,1.0s
BNN Bunyan 74.72 309 P **P 01 49 44.2 +0.1**
MORW Morawa 74.76 203 P **P 01 49 44.3 +0.3**
BBOO Buckleboo 74.90 185 P **P 01 49 44.8 +0.1**
SHAO Shalim 75.04 281 P **P 01 49 45.5 -0.5**
GAZ Gaziantep 75.05 307 P **P 01 49 46.0 +0.1**
GAZ IAmb IAmb 01 49 47.9
comp=Z,8.7nm,0.9s
ULM Lac du Bonnet 75.14 34 P **P 01 49 47.0 +0.9**
ULM Lac du Bonnet 75.14 34 P **P 01 49 47.0 +0.9**
comp=Z,4.2nm,0.8s,baz=308,slow=9.4,SNR=3.1
comp=Z,4.2nm,0.8s
BR131 Keskin Array S 75.39 311 P **P 01 49 47.6 -0.3**
BR131 Keskin Array S 75.39 311 *ceP* **P 01 49 47.7 -0.2**
BRTR Keskin Array B 75.39 311 P **P 01 49 47.7 -0.2**
BRTR Keskin Array B 75.39 311 P **P 01 49 48.0 +0.1**
comp=Z,1.7nm,0.7s,baz=78,slow=3.6,SNR=14
comp=Z,1.7nm,0.7s
RDMU Red Mountain 75.52 48 P **P 01 49 50.0 +1.3**
LANS Liptovska Anna 75.64 325 *eP* **P 01 49 50.5 +1.5**
LANS Liptovska Anna 75.64 325 *eP* **P 01 49 50.5 +1.5**
DMTO DMTO 75.73 281 P **P 01 49 49.4 -0.6**
DOK Doka 75.75 282 P **P 01 49 49.4 -0.6**
P18A Preston Nutter 75.79 49 P **P 01 49 51.3 +0.9**
RSSD Black Hills 75.94 42 P **P 01 49 50.8 -0.3**
RSSD Black Hills 75.94 42 P **P 01 49 50.8 -0.3**
RSSD pmax pmax
comp=Z,3.0nm,0.9s
CHVC Chvalec 75.94 328 *eP* **P 01 49 46.6 -4.1**
CHVC Chvalec 75.94 328 *eP* **P 01 49 46.6 -4.1**
MORC Moravsky Berou 75.97 326 P **P 01 49 51.4 +0.5**
MORC Moravsky Berou 75.97 326 P **P 01 49 51.4 +0.5**
MORC pmax pmax
comp=Z,8.0nm,1.4s
DPC Dobruska-Polom 76.02 327 *eP* **P 01 49 50.1 -1.1**
DPC Dobruska-Polom 76.02 327 *eP* **P 01 49 50.1 -1.1**
UPC Upice 76.02 328 *eP* **P 01 49 51.8 +0.7**
UPC Upice 76.02 328 *eP* **P 01 49 51.8 +0.7**
BLDU Ballidu 76.03 202 P **P 01 49 51.5 +0.3**
VYHS Vyhne 76.41 325 *eP* **P 01 49 54.2 +0.8**
VYHS Vyhne 76.41 325 *eP* **P 01 49 54.2 +0.8**
WHFO Wadi Hawf 76.45 282 P **P 01 49 53.0 -1.1**
CLL Collm 76.55 330 *i P* P 01 50 00.5 +6.4
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 76.55 330 *i P* **P 01 49 53.9 -0.2**
comp=Z,6.0nm,0.7s
CLL *epP* **pP 01 50 25.0 +1.3**
CLL *esP* **sP 01 50 39.0 +2.7**
PVCC Panska Ves 76.57 328 *eP* **P 01 49 54.7 +0.5**
PVCC Panska Ves 76.57 328 *eP* **P 01 49 54.7 +0.5**
VRAC Vranov 76.72 326 P **P 01 49 56.0 +0.9**
comp=Z,2.2nm,0.8s,baz=311,slow=1.6,SNR=3.8
comp=Z,2.2nm,0.8s
HSKC Hora Svate Kat 76.95 329 *eP* **P 01 49 56.1 -0.3**
PRU Pruhonice 77.01 328 *eP* **P 01 49 57.3 +0.6**
PRU Pruhonice 77.01 328 *eP* **P 01 49 57.3 +0.6**
ZVC Zvikov 77.59 328 *eP* **P 01 49 59.9 0.0**
CKRC Cesky Krumlov 78.03 327 *eP* **P 01 49 58.0 -4.4**
CKRC Cesky Krumlov 78.03 327 *eP* **P 01 49 58.0 -4.4**
VTX Valle De La Tr 78.07 58 P **P 01 50 03.5 +0.5**
VTX IAmb IAmb 01 50 08.6
comp=Z,8.7nm,1.2s
KHC Kasperske Hory 78.07 328 P **P 01 50 02.7 0.0**
KHC IAmb IAmb 01 50 13.2
comp=Z,9.9nm,1.5s
KHC Kasperske Hory 78.07 328||*eP* **P 01 50 03.3 +0.6**
KHC pmax pmax
comp=Z,13nm,1.5s
KHC Kasperske Hory 78.07 328 *eP* **P 01 50 02.6 0.0**
KHC *ePCP* **PcP 01 50 09.9 -2.0**
NWAO Narrogin (SRO) 78.08 201 P **P 01 50 03.2 +0.6**
RONA Rosalia, Austr 78.11 326 *eP* **P 01 50 04.0 +1.1**
comp=Z,3.1nm,0.6s
CONA Conrad Observa 78.11 326 *eP* **P 01 50 04.1 +1.1**
comp=Z,1.9nm,0.6s
EKA Eskdalemuir Ar 78.18 340 P **P 01 50 03.3 +0.2**
comp=Z,1.0nm,0.6s,baz=22,slow=4.6,SNR=11
comp=Z,1.0nm,0.6s
GERES GERESS Array B 78.25 328 P **P 01 50 03.8 +0.1**
comp=Z,0.6nm,0.4s,baz=37,slow=6.4,SNR=2.1
comp=Z,0.6nm,0.4s
ASF Jabal al Asfar 78.60 303 P **P 01 50 06.7 +0.7**
comp=Z,1.5nm,0.6s,baz=61,slow=8.1,SNR=5.9
comp=Z,1.5nm,0.6s
X16A Lo Mia Camp, P 78.68 54 P **P 01 50 06.9 +0.5**
MMAI Mount Meron Ar 78.95 305 P **P 01 50 08.5 +0.7**
comp=Z,6.0nm,0.7s,baz=27,slow=5.6,SNR=20
comp=Z,6.0nm,0.7s
SOKA Soboth 79.44 326 *eP* **P 01 50 08.8 -1.4**
comp=Z,1.4nm,0.4s
LESA Schwarzleotal 79.81 327 *eP* **P 01 50 13.0 +0.8**
comp=Z,1.2nm,0.5s
WATA Walderalm 80.31 328 *eP* **P 01 50 15.3 +0.3**
comp=Z,1.3nm,0.5s,SNR=5.6
WTTA Wattenberg 80.35 328 *eP* **P 01 50 15.7 +0.4**
comp=Z,1.9nm,0.6s,SNR=4.3
MOTA Moosalm 80.49 328 *eP* **P 01 50 16.5 +0.5**
comp=Z,3.8nm,0.6s
RETA Reutte 80.51 329 *eP* **P 01 50 16.2 +0.2**
comp=Z,2.5nm,0.8s
SQTA Sankt Quirin 80.55 328 *eP* **P 01 50 16.3 0.0**
comp=Z,1.8nm,0.4s
STAL STALIGIAL 80.73 327 P **P 01 50 15.6 -1.5**
STAL IAmb IAmb 01 50 17.1
comp=Z,6.5nm,1.1s
KIJV Kijevo 80.96 323 *i P* **P 01 50 18.3 -0.1**
DAVA Damuels 81.01 329 *eP* **P 01 50 19.2 +0.4**
comp=Z,2.5nm,0.5s
RICI Ricice 81.04 322 *i P* **P 01 50 18.0 -0.8**
ANMO Albuquerque 81.22 50||*eP* **P 01 50 21.1 +0.9**
ANMO pmax pmax
comp=Z,6.0nm,2.2s
STON Ston 81.27 322 *i P* **P 01 50 19.2 -0.7**
CTI Castel Tesino 81.34 327 P **P 01 50 19.3 -1.1**
CTI IAmb IAmb 01 50 21.3
comp=Z,3.4nm,0.6s
CTI Castel Tesino 81.34 327 P **P 01 50 19.3 -1.1**
CTI pmax pmax
comp=Z,3.0nm,0.6s
FUORN Ofenpass-Fuorn 81.42 328 P **P 01 50 20.7 -0.4**
FUORN IAmb IAmb 01 50 22.3
comp=Z,5.2nm,0.6s
DAVOX Davos/Dischmat 81.43 329 P **P 01 50 21.4 +0.4**
comp=Z,1.6nm,0.4s,baz=350,slow=6.3,SNR=8.4
comp=Z,1.6nm,0.4s
EIL Elat 81.53 302 P **P 01 50 22.2 +0.6**
comp=Z,2.1nm,0.5s,baz=4.5,slow=16,SNR=4.7
EIL LR LR 02 32 57.1
comp=Z,9.6nm,18.6s,baz=20,slow=40
comp=Z,2.1nm,0.5s
DUGI Dugi Otok 81.57 324 *i P* **P 01 50 20.9 -0.6**
LSTV Lastovo 81.72 322 *i P* **P 01 50 21.4 -0.9**
RAR Rarotonga 83.27 126 P **P 01 50 30.8 +0.3**
RAR Rarotonga 83.27 126 P **P 01 50 30.8 +0.3**
RAR pmax pmax
comp=Z,61nm,1.3s
NRCA Norcia 83.34 324 P **P 01 50 31.0 +0.1**
NRCA IAmb IAmb 01 50 32.2
comp=Z,12nm,0.8s
IDI Anoyia 83.42 313 P **P 01 50 30.6 -0.8**
comp=Z,12nm,0.4s,baz=38,slow=8.0,SNR=19
comp=Z,12nm,0.4s
425A Indio Mountain 85.08 52 P **P 01 50 40.9 +0.9**
X34A Smith Ranch, M 86.22 45 P **P 01 50 45.8 +0.4**
TXAR Lajitas Array 86.92 52 P **P 01 50 48.9 -0.1**
TXAR Lajitas Array 86.92 52 P **P 01 50 48.9 -0.1**
TXAR Lajitas Array 86.92 52 P **P 01 50 50.0 +1.0**
comp=Z,0.6nm,0.6s,baz=296,slow=2.3,SNR=11
comp=Z,0.6nm,0.6s
KEST Kesra 90.84 323 P **P 01 51 06.9 -0.4**
comp=Z,1.5nm,0.5s,baz=348,slow=4.4,SNR=6.3
comp=Z,1.5nm,0.5s
ESDC Sonseca Array 92.57 334 P **P 01 51 15.4 +0.2**
comp=Z,0.5nm,0.6s,baz=18,slow=4.2,SNR=6.9
comp=Z,0.5nm,0.6s
TORD Torodi Ar. Bea 113.56 317 PP **PP 01 57 33.0 -1.4**
comp=Z,1.3nm,0.9s,baz=15,slow=6.2,SNR=4.3
QSPA South Pole Qui 132.03 180 PKP **PKiKP 01 57 16.9 +0.3**
comp=Z,0.8nm,0.6s,baz=353,slow=0.1,SNR=2.3
QSPA PP **PP 01 59 39.9 +0.8**
comp=Z,1.2nm,0.8s,baz=26,slow=4.5,SNR=3.3
TROLL Troll, Antarti 144.19 200 P **PKPdf 01 57 37.1 -0.7**
comp=Z,364nm,0.7s
BELA Belgrano 2 144.27 181 PKPdf **PKPdf 01 57 36.5 -1.1**
VILB Vilhena 145.27 39 PKPbc **PKPab 01 57 41.0 -0.3**
SNAA Sanae 145.74 199 **PKPab 01 57 41.2 -0.5**
SNAA Sanae 145.74 199 PKP2 **PKPab 01 57 41.2 -0.5**
SNAA Sanae 145.74 199 ⇑P **PKPab 01 57 41.0 -0.6**
comp=Z,137nm,0.8s
SNAA Sanae 145.74 199 PKPbc **PKPbc 01 57 40.8 -0.3**
comp=Z,5.3nm,0.9s,baz=209,slow=1.0,SNR=31
VNA2 Neumayer--Watz 147.33 198 ⇑P **PKPbc 01 57 45.7 +0.1**
comp=Z,7.0nm,0.6s,baz=126,slow=2.0
VNA3 Neumayer Olymp 147.61 197 ⇑P **PKPbc 01 57 46.0 -0.3**
comp=Z,3.5nm,0.7s
VNA1 Neumayer--Stat 147.73 198 ⇑P **PKPbc 01 57 47.0 +0.4**
comp=Z,5.9nm,1.0s
PLCA Paso Flores 156.09 97 PKPab **PKPab 01 58 26.8 +1.3**
comp=Z,1.4nm,0.6s,baz=286,slow=4.8,SNR=4.6

IDC 08 01:44:34.6±1.3, 30°.66S×178°.83W, h218km±13km, mb3.0/2, mbtmp3.8/3, Error ellipse: s-maj=47.5km s-min=17.2km az=116.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.61**	**30**	P	Pn	01 45 11.9	+1.0
	198nm,0.3s,baz=295,slow=17,SNR=2.7						
RAO				S	S	01 45 39.0	0.0
	184nm,0.5s,baz=285,slow=20,SNR=1.7						
URZ	**Urewera**	**8.29**	**203**	P	Pn	01 46 31.6	+0.3
	27nm,1.2s,baz=327,slow=17,SNR=6.7						
URZ				S	S	01 48 04.6	-0.4
	15nm,1.0s,baz=120,slow=20,SNR=2.0						
ASAR	**Alice Springs**	**42.38**	**268**	P	P	01 52 08.0	+0.2
	0.2nm,0.4s,baz=108,slow=6.7,SNR=2.3						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.39**	**273**	P	P	01 52 15.7	-0.3
	0.5nm,0.3s,baz=110,slow=8.2,SNR=12						
	0.5nm,0.3s						
FINES	**FINESS Array B**	**145.14**	**339**	PKPbc	PKPdf	02 03 44.3	-0.9
	2.5nm,0.7s,baz=28,slow=3.3,SNR=10						

*NAO **08** 01:49:07.8, 43°.06N×25°.72E, h33km, mb2.9*
*SOF **08** 01:49:36.3, 45°.85N×26°.59E, h144km, MD3.9*
*NEIC **08** 01:49:38.6±1.6, 45°.70N±0°.05×26°.58E±0°.06, h141km±5km, mb4.0/7, ML4.1/1(BUC), Error ellipse: s-maj=7.3km s-min=6.2km az=144.0*
*SIGU **08** 01:49:38.4, 45°.71N×26°.68E, h138km, mb3.6*
*MOS **08** 01:49:38.1±0.8, 45°.75N×26°.59E, h136km, mb4.2/5, Error ellipse: s-maj=7.9km s-min=6.0km az=80.8*
*IDC **08** 01:49:39.2±0.5, 45°.79N×26°.43E, h131km±6km, mb3.5/9, mbtmp4.0/16, Error ellipse: s-maj=18.2km s-min=12.1km az=143.0*
*BUC **08** 01:49:39.4±0.2, 45°.69N×26°.64E, h132km±1km, ml4.2/75, Error ellipse: s-maj=1.4km s-min=1.2km az=173.0*
ISC 08 01:49:38.9±0.5, 45°.71N±0°.02×26°.63E±0°.02, h138km±4km, n198, g94/285, mb3.9/16, 80C-73D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.15**	**6**	⇑P	**Pn**	**01 49 57.6**	**-0.1**
PLOR				⇓S	**Sn**	01 50 11.5	-0.5
PLOR	**Plostina**	**0.15**	**6**	P	**Pn**	**01 49 57.6**	**-0.1**
VRI	**Vrincioaia**	**0.17**	**23**	⇑P	**Pn**	**01 49 57.8**	**+0.1**
VRI				⇑S	**Sn**	01 50 11.1	-0.9
VRI	**Vrincioaia**	**0.17**	**23**	P	**Pn**	**01 49 57.8**	**+0.1**
ODBI	**Odobesti**	**0.30**	**79**	⇑P	**Pn**	**01 49 59.1**	**+1.1**
COVR	**Voineasa-Covas**	**0.33**	**295**	⇑P	**Pn**	**01 49 58.0**	**-0.1**
COVR				⇑S	**Sn**	01 50 12.3	-0.5
COVR	**Voineasa-Covas**	**0.33**	**295**		**Pn**	**01 49 58.0**	**-0.1**
COVR					**Sn**	01 50 12.3	-0.5
NEHR	**Nehoiu**	**0.36**	**220**	⇑P	**Pn**	**01 49 58.7**	**+0.3**
NEHR				⇓S	**Sn**	01 50 13.1	+0.1
PANC	**Panciu**	**0.40**	**65**	⇓P	**Pn**	**01 49 58.7**	**+0.4**
PANC				⇑S	**Sn**	01 50 13.2	0.0
GRER		**0.41**	**143**	⇑P	**Pn**	**01 49 59.6**	**+1.2**
GRER				⇓S	**Sn**	01 50 14.1	+0.9
MLR	**Muntele Rosu**	**0.53**	**246**	⇑P	**Pn**	**01 49 59.3**	**+0.1**
MLR				⇑S	**Sn**	01 50 14.3	-0.3
MLR	**Muntele Rosu**	**0.53**	**246**	P	**Pn**	**01 49 59.3**	**+0.1**
	1μm,0.5s,baz=352,slow=7.3,SNR=1200						
MLR				S	**Sn**	01 50 14.0	-0.5
	333nm,0.4s,baz=141,slow=19,SNR=4.1						
ISR	**Istrita**	**0.59**	**186**	⇓P	**Pn**	**01 50 00.1**	**+0.6**
ISR				⇓S	**Sn**	01 50 15.2	+0.1
GHRR		**0.65**	**57**	⇓P	**Pn**	**01 50 00.3**	**+0.5**
GHRR				⇓S	**Sn**	01 50 15.7	+0.1
OZUR		**0.71**	**304**	⇑P	**Pn**	**01 49 59.9**	**-0.3**
OZUR				⇓S	**Sn**	01 50 15.5	-0.9
TUDR		**0.74**	**98**	⇓P	**Pn**	**01 50 00.4**	**+0.1**
TUDR				⇑S	**Sn**	01 50 16.6	0.0
TESR	**Tescani**	**0.81**	**1**	⇓P	**Pn**	**01 50 00.7**	**-0.3**
TESR				⇓S	**Sn**	01 50 16.6	-1.2
SLCR	**Slobozia Conac**	**0.81**	**98**	⇓P	**Pn**	**01 50 01.1**	**+0.2**
SLCR				⇓S	**Sn**	01 50 17.0	-0.5
IZVR	**Izvoarele**	**0.81**	**101**	⇑P	**Pn**	**01 50 01.0**	**0.0**
IZVR				⇑S	**Sn**	01 50 17.3	-0.3
PGOR	**Pogoanele**	**0.84**	**162**	⇓P	**Pn**	**01 50 01.7**	**+0.5**
PGOR				⇓S	**Sn**	01 50 18.9	+0.9
SCHL	**Schela**	**0.87**	**103**	⇓P	**Pn**	**01 50 01.6**	**+0.3**
SCHL				⇓S	**Sn**	01 50 17.9	-0.5
VARL	**Varlezi**	**0.88**	**77**	⇓P	**Pn**	**01 50 01.7**	**+0.2**
VARL				⇓S	**Sn**	01 50 18.3	-0.2
VARL	**Varlezi**	**0.88**	**77**		**Pn**	**01 50 01.6**	**+0.2**
VARL					**Sn**	01 50 18.3	-0.2
BIR	**Birlad**	**0.89**	**51**	⇓P	**Pn**	**01 50 02.0**	**+0.3**
BIR				⇓S	**Sn**	01 50 18.5	-0.4
BIR	**Birlad**	**0.89**	**51**	P	**Pn**	**01 50 01.9**	**+0.3**
PLAR	**PLOIESTI**	**0.90**	**208**	⇓P	**Pn**	**01 50 02.3**	**+0.6**
DOPR	**Dopca**	**0.91**	**287**	⇑P	**Pn**	**01 50 01.8**	**0.0**
DOPR				⇑S	**Sn**	01 50 18.7	-0.4
SCTR	**Scanteiesti**	**0.96**	**91**	⇓P	**Pn**	**01 50 02.6**	**+0.5**
SCTR				⇑S	**Sn**	01 50 19.5	-0.3
TATR	**Tatarca**	**1.00**	**96**	⇓P	**Pn**	**01 50 03.0**	**+0.5**
TATR				⇑S	**Sn**	01 50 20.1	-0.4
TATR	**Tatarca**	**1.00**	**96**		**Pn**	**01 50 03.0**	**+0.5**
TATR					**Sn**	01 50 20.1	-0.4
VLDR	**Vladesti**	**1.02**	**82**	⇓P	**Pn**	**01 50 03.2**	**+0.5**
VLDR				⇑S	**Sn**	01 50 20.4	-0.5
VLDR	**Vladesti**	**1.02**	**82**		**Sn**	**01 50 20.4**	**-0.5**
GISR	**Galati**	**1.03**	**104**	⇓P	**Pn**	**01 50 02.9**	**+0.1**
GISR				⇓S	**Sn**	01 50 20.7	-0.3
SULR		**1.06**	**195**	⇑P	**Pn**	**01 50 03.6**	**+0.5**
SULR				⇑S	**Sn**	01 50 22.1	+0.7
GIUM	**Giurgiulesti**	**1.13**	**101**	⇑P	**Pn**	**01 50 04.3**	**+0.5**
GIUM				⇑S	**Sn**	01 50 22.6	0.0
VOIR		**1.14**	**257**	⇑P	**Pn**	**01 50 03.7**	**-0.3**
VOIR				⇓S	**Sn**	01 50 21.5	-1.5
VOIR		**1.14**	**257**	P	**Pn**	**01 50 03.7**	**-0.3**
CFR	**Carcaliu**	**1.19**	**116**	⇓P	**Pn**	**01 50 04.3**	**0.0**
CFR				⇑S	**Sn**	01 50 22.6	-1.0
CFR	**Carcaliu**	**1.19**	**116**	P	**Pn**	**01 50 04.4**	**+0.1**
MTUR	**Matau**	**1.20**	**247**	⇑P	**Pn**	**01 50 04.9**	**+0.4**
AMRR	**Amara**	**1.20**	**155**	⇑P	**Pn**	**01 50 04.9**	**+0.5**
AMRR				⇓S	**Sn**	01 50 24.1	+0.2
VASR	**Vaslui**	**1.24**	**40**	⇓P	**Pn**	**01 50 05.2**	**+0.4**
VASR				⇓S	**Sn**	01 50 24.0	-0.6
VASR	**Vaslui**	**1.24**	**40**		**Pn**	**01 50 05.2**	**+0.4**
VASR					**Sn**	01 50 24.0	-0.6
LEHL	**Lehliu**	**1.24**	**174**	⇑P	**Pn**	**01 50 05.2**	**+0.4**
LEHL				⇓S	**Sn**	01 50 24.6	+0.1
GIRR	**Girov**	**1.25**	**356**	⇓P	**Pn**	**01 50 05.4**	**+0.4**
JOSR	**Joseni**	**1.27**	**323**	⇑P	**Pn**	**01 50 05.1**	**0.0**
BIZ	**Bicaz**	**1.29**	**344**	⇑S	**Sn**	**01 50 25.5**	**0.0**
INCR	**INCERC-Sediu C**	**1.31**	**195**	⇑P	**Pn**	**01 50 05.6**	**+0.1**
INCR				⇑S	**Sn**	01 50 25.4	-0.3
LEOM	**Leova**	**1.36**	**55**	⇓P	**Pn**	**01 50 06.5**	**+0.5**
LEOM				⇑S	**Sn**	01 50 26.4	-0.3
LEOM	**Leova**	**1.36**	**55**	P	**Pn**	**01 50 05.8**	**-0.2**
LEOM	**Leova**	**1.36**	**55**	P	**Pn**	**01 50 05.8**	**-0.2**
CIOR	**Ciorogarla**	**1.36**	**203**	⇑P	**Pn**	**01 50 06.2**	**+0.1**
CIOR				⇓S	**Sn**	01 50 27.1	+0.3
HARR	**Harsova**	**1.37**	**137**	⇑P	**Pn**	**01 50 06.4**	**+0.2**
BUC1	**Bucharest**	**1.42**	**198**	⇑P	**Pn**	**01 50 07.0**	**+0.2**
BUC1				⇓S	**Sn**	01 50 27.4	-0.5
BUC1	**Bucharest**	**1.42**	**198**		**Pn**	**01 50 07.0**	**+0.2**
BUC1					**Sn**	01 50 27.4	-0.5
BUC1	**Bucharest**	**1.42**	**198**	P	**Pn**	**01 50 06.9**	**+0.2**
ARR	**Arges**	**1.44**	**257**	⇑P	**Pn**	**01 50 07.0**	**0.0**
ARR				⇑S	**Sn**	01 50 28.7	+0.3
STFAR	**Stefanesti-Arg**	**1.45**	**235**	⇑P	**Pn**	**01 50 07.4**	**+0.4**
STFAR				⇑S	**Sn**	01 50 28.3	-0.1
TPGR	**Topolog**	**1.52**	**123**	⇑P	**Pn**	**01 50 07.8**	**0.0**
TPGR				⇓S	**Sn**	01 50 28.6	-1.3
SGRR	**Singureni**	**1.55**	**198**	⇑P	**Pn**	**01 50 08.2**	**0.0**
SGRR				⇑S	**Sn**	01 50 29.5	-1.0
IAS	**Iasi**	**1.62**	**23**	⇓P	**Pn**	**01 50 08.9**	**0.0**
IAS				⇑S	**Sn**	01 50 30.9	-0.9
IAS	**Iasi**	**1.62**	**23**	P	**Pn**	**01 50 08.5**	**-0.4**
TLCR		**1.62**	**108**	⇓P	**Pn**	**01 50 09.0**	**+0.1**
TLCR				⇑S	**Sn**	01 50 31.0	-0.8
TLCR		**1.62**	**108**		**Pn**	**01 50 09.0**	**+0.1**
TLCR					**Sn**	01 50 31.0	-0.8
TLCR		**1.62**	**108**	P	**Pn**	**01 50 09.0**	**+0.1**
MDB	**Medias**	**1.63**	**286**	⇓P	**Pn**	**01 50 09.4**	**+0.4**
HUMR	**Humele**	**1.66**	**225**	⇑P	**Pn**	**01 50 09.2**	**-0.2**
PRAR	**RASCA**	**1.68**	**351**	⇓P	**Pn**	**01 50 10.2**	**+0.7**
CVDA	**Cernavoda**	**1.70**	**143**	⇑P	**Pn**	**01 50 10.1**	**+0.3**
CVDA				⇓S	**Sn**	01 50 32.1	-1.2
TIRR	**Tirgusor**	**1.77**	**134**	⇑P	**Pn**	**01 50 10.8**	**+0.1**
TIRR				⇓S	**Sn**	01 50 33.2	-1.7
TIRR	**Tirgusor**	**1.77**	**134**	Pn	**Pn**	**01 50 09.8**	**-0.9**
TIRR	**Tirgusor**	**1.77**	**134**	P	**Pn**	**01 50 09.8**	**-0.9**
RMVG	**GOVORA**	**1.78**	**249**	⇑S	**Sn**	**01 50 36.2**	**+1.1**
COPA	**Copaceanca**	**1.86**	**213**	⇑P	**Pn**	**01 50 11.5**	**-0.2**
COPA				⇑S	**Sn**	01 50 35.2	-1.5
MFTR	**Murfatlar**	**1.99**	**140**	⇑P	**Pn**	**01 50 13.4**	**+0.2**
MFTR				⇑S	**Sn**	01 50 38.2	-1.2
MFTR	**Murfatlar**	**1.99**	**140**		**Pn**	**01 50 13.4**	**+0.2**
MFTR					**Sn**	01 50 38.2	-1.2
KIS	**Kishinev**	**1.99**	**49**	⇓*iP*	**Pn**	**01 50 13.4**	**+0.2**
	500nm,0.1s						
KIS				*eS*	**Sn**	**01 50 38.0**	**-1.5**
	300nm,0.2s						
KIS	**Kishinev**	**1.99**	**49**	⇓P	**Pn**	**01 50 13.5**	**+0.2**
KIS				⇑S	**Sn**	01 50 40.3	+0.8
KIS	**Kishinev**	**1.99**	**49**	*d iP*	**Pn**	**01 50 13.4**	**+0.2**
KIS				*eS*	**Sn**	**01 50 38.0**	**-1.5**
KIS				pmax	pmax		
	comp=Z,700nm,0.1s						
KIS				smax	smax		
	comp=N,300nm,0.3s						
KIS				smax	smax		
	comp=E,200nm,0.2s						
KIS	**Kishinev**	**1.99**	**49**	*i P*	**Pn**	**01 50 13.4**	**+0.2**
KIS				Pm		01 50 13.6	
KIS				*eS*	**Sn**	**01 50 38.0**	**-1.5**
KIS				Sm		01 50 38.1	
KIS				m		01 50 38.5	
LOT	**Lotru**	**2.02**	**264**	⇓P	**Pn**	**01 50 13.6**	**-0.1**
LOT				⇑S	**Sn**	01 50 40.5	+0.2
TSCT	**Constanta Port**	**2.11**	**136**	⇑P	**Pn**	**01 50 14.8**	**+0.1**
TSCT				⇓S	**Sn**	01 50 41.7	-0.3
RAZG	**Razgrad**	**2.14**	**182**	⇑P	**Pn**	**01 50 15.1**	**0.0**
BUR01	**Bucovina Ar. S**	**2.14**	**334**	⇓P	**Pn**	**01 50 16.0**	**+0.9**
BUR01				⇓S	**Sn**	01 50 44.9	+1.9
BURAR	**Bucovina Array**	**2.14**	**334**	⇓P	**Pn**	**01 50 16.0**	**+0.9**
BURAR				⇓S	**Sn**	01 50 44.9	+1.9
BURAR	**Bucovina Array**	**2.14**	**334**	Pn	**P

SIRR	Siria	3.51 281	⇑P		Pn	01 50 32.8 +0.4
HORU	Horodok	3.51 358	⇑iP		Pn	01 50 32.4 0.0
HORU			i S		Sn	01 51 12.0 -1.9
MDVR	Moldovita	3.59 257	⇓P		Pn	01 50 33.1 -0.4
MDVR			⇑S		Sn	01 51 15.1 -0.7
PGB	Panagyurishte	3.65 210	P		Pn	01 50 34.4 +0.1
DIM	Dimitrovgrad	3.74 192	P		Pn	01 50 35.7 +0.3
PLD	Plovdiv	3.81 202	P		Pn	01 50 36.6 +0.3
EDRB	Edirne	3.86 179	P		Pn	01 50 37.1 +0.1
PLNA	Plana	3.97 217	P		Pn	01 50 38.8 +0.2
KDZ	Kurdzhali	4.18 193	P		Pn	01 50 40.9 -0.3
RZN	Rozhen	4.24 200	P		Pn	01 50 42.5 +0.3
LVV	L'vov	4.47 338	eP		Pn	01 50 44.8 -0.2
LVV			e			01 51 36.8
KKB	Krupnik	4.62 215	P		Pn	01 50 47.8 +0.7
RDO	Rodhopi	4.63 190	P		Pn	01 50 47.3 +0.2
MMB	Musomishta	4.65 208	P		Pn	01 50 48.6 +1.1
NVR	Nevrokopi	4.80 206	P		Pn	01 50 50.6 +1.2
ALN	Alexandroupoli	4.83 185	P		Pn	01 50 49.6 -0.2
KAVA	Kavala	4.95 199	P		Pn	01 50 52.3 +0.8
DIVS	Divibare	4.98 254			Pn	01 50 50.7 -1.2
SEV	Sevastopol'	5.11 101	eP		Pn	01 50 52.9 -0.7
SEV			eS		Sn	01 51 49.9 -1.8
SEV			pmax	pmax		
	comp=Z,13nm,0.2s					
SEV			smax	smax		
	comp=N,17nm,0.3s					
SEV			smax	smax		
	comp=E,12nm,0.3s					
SEV	Sevastopol'	5.11 101	eP		Pn	01 50 52.9 -0.7
SEV			Pm			01 50 54.3
SEV			eS		Sn	01 51 49.9 -1.8
SEV			Sm			01 51 52.5
STIP	Stip	5.14 220	i Pn		Pn	01 50 51.6 -2.4
STIP			eSg		Sn	01 51 48.3 -4.2
AK05	Malin Array Si	5.21 18	Pn		Pn	01 50 54.4 -0.4
KOKK	Kokkinochori,	5.25 202	P		Pn	01 50 55.4 0.0
VAY	Valandovo	5.28 215	i Pn		Pn	01 50 57.7 +1.8
VAY			eSg		Sn	01 51 51.5 -4.3
THAS	Thassos island	5.28 196	P		Pn	01 50 56.1 +0.2
AKASG	Malin Array Be	5.29 18	P		Pn	01 50 55.0 -0.9
AKASG	Malin Array Be	5.29 18	P		Pn	01 50 55.0 -0.9
	comp=E,2.9nm,0.4s,baz=206,slow=11,SNR=18					
AKASG			S		Sn	01 51 51.7 -4.2
	comp=E,11nm,0.5s,baz=203,slow=21,SNR=5.0					
KNT	Kendrikon	5.29 212	P		Pn	01 50 56.0 0.0
SMTH	Samothraki Isl	5.29 189	P		Pn	01 50 56.1 0.0
SIM	Simferopol'	5.33 95	eP		Pn	01 50 56.3 -0.2
SIM			eS		Sn	01 51 56.1 -0.9
SIM			pmax	pmax		
	comp=Z,15nm,0.3s					
SIM			smax	smax		
	comp=E,70nm,1.2s					
SIM			smax	smax		
	comp=N,87nm,0.9s					
SIM	Simferopol'	5.33 95	eP		Pn	01 50 56.3 -0.2
SIM			Pm			01 50 58.0
SIM			eS		Sn	01 51 56.1 -0.9
SIM			Sm			01 51 58.0
YAL	Yalta	5.46 100	eP		Pn	01 50 58.5 +0.2
YAL			eS		Sn	01 51 59.9 -0.2
YAL			pmax	pmax		
	comp=Z,9.0nm,0.3s					
YAL			smax	smax		
	comp=E,7.0nm,0.3s					
YAL			smax	smax		
	comp=N,4.0nm,0.2s					
YAL	Yalta	5.46 100	eP		Pn	01 50 58.5 +0.2
YAL			Pm			01 50 59.5
YAL			eS		Sn	01 51 59.9 -0.2
YAL			Sm			01 52 02.5
ALU	Alushta	5.59 98	eP		Pn	01 50 59.3 -0.6
ALU			eS		Sn	01 52 02.0 -1.1
ALU			pmax	pmax		
	comp=Z,7.0nm,0.3s					
ALU			smax	smax		
	comp=N,38nm,0.4s					
ALU			smax	smax		
	comp=E,25nm,0.4s					
ALU	Alushta	5.59 98	eP		Pn	01 50 59.3 -0.6
ALU			Pm			01 50 59.7
ALU			eS		Sn	01 52 02.2 -0.9
ALU			Sm			01 52 03.1
OUR	Ouranopolis	5.71 201	P		Pn	01 51 01.8 +0.2
SUDU	Sudak	5.96 95	eP		Pn	01 51 04.6 -0.3
SUDU			eS		Sn	01 52 10.9 -1.1
SUDU			pmax	pmax		
	comp=Z,19nm,0.5s					
SUDU			smax	smax		
	comp=E,16nm,0.4s					
SUDU			smax	smax		
	comp=N,37nm,0.5s					
SUDU	Sudak	5.96 95	eP		Pn	01 51 04.6 -0.3
SUDU			Pm			01 51 06.4
SUDU			eS		Sn	01 52 10.9 -1.1
BRTR	Keskin Array B	7.89 137	P		Pn	01 51 32.9 +1.8
	comp=N,0.8nm,1.0s,baz=320,slow=13,SNR=2.1					
GEC2	GERESS Array S	9.33 294	Pn		Pn	01 51 48.9 -1.3
SOC	Sochi	9.57 98	eP		Pn	01 51 54.7 +1.4
SOC			e			01 53 42.8
KLNR	Kaliningrad	9.81 338	⇓eP		Pn	01 51 55.7 -0.7
OBN	Obninsk	11.34 30	⇑eP		Pn	01 52 15.0 -1.7
OBN			i S		Sn	01 54 12.0 -10
OBN			pmax	pmax		
	comp=Z,6.0nm,1.4s					
VSU	Vasula	12.78 0	⇑eP		Pn	01 52 34.2 -1.2
MAK	Makhachkala	15.19 93	eP		P	01 53 07.6 -0.2
MAK			eS		Sn	01 55 57.4 +3.0
MAK			pmax	pmax		
	comp=Z,199nm,1.1s					
BELG	Belogornoye	15.28 56	⇓eP		P	01 53 09.8 +1.1
BELG			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BELG	Belogornoye	15.28 56	P		P	01 53 09.9 +1.2
	comp=Z,29nm,0.8s,baz=319,slow=2.8,SNR=13					
FINES	FINESS Array B	15.77 359	Pn		Pn	01 53 11.0 -2.1
FINES	FINESS Array B	15.77 359	i P		P	01 53 14.1 -0.1
FINES			pmax	pmax		
	comp=Z,2.0nm,0.3s					
FINES	FINESS Array B	15.77 359	P		Pn	01 53 11.1 -2.1
	comp=Z,1.9nm,0.3s,baz=168,slow=12,SNR=27					
HFS	Hagfors	16.37 337	P		P	01 53 20.3 -0.5
	comp=Z,1.5nm,0.5s,baz=142,slow=12,SNR=1.8					
KEST	Kesra	16.43 239			Pn	01 53 19.6 -1.9
KEST			IAmb		IAmb	01 53 23.5
	comp=Z,14nm,1.2s					
KEST	Kesra	16.43 239	P		P	01 53 22.7 +0.9
	comp=Z,4.0nm,0.9s,baz=111,slow=18,SNR=4.2					
NORES	NORESS Array B	17.48 335	eP		Pn	01 53 33.0 -0.9
NB2	NORSAR Subarra	17.82 335	P		Pn	01 53 37.2 -0.8
	comp=Z,0.4nm,0.5s,baz=148,slow=11					
NOA	NORSAR Array B	17.82 335	P		P	01 53 36.1 -0.8
	comp=Z,0.6nm,0.7s,baz=147,slow=11,SNR=3.5					
NBO00	NORSAR Array S	17.95 334	P		P	01 53 36.1 -2.1
KIRV	Kirov	18.89 39	P		Pn	01 53 49.3 -1.3
	comp=Z,10nm,0.5s,baz=238,slow=9.5,SNR=2.9					
PRGR	Permogore	19.40 28	eP		P	01 53 54.0 +0.1
PRGR			pmax	pmax		
	comp=Z,7.0nm,0.7s					
AKTO	Aktyubinsk	21.41 66	P		P	01 54 17.0 +1.4
AKTO	Aktyubinsk	21.41 66	P		P	01 54 16.9 +1.4
	comp=Z,1.8nm,0.6s,baz=284,slow=10.0,SNR=8.2					
	comp=Z,1.8nm,0.6s					
ARU	Arti	22.55 50	P		P	01 54 26.8 -0.3
ARU			IAmb		IAmb	01 54 51.6
	comp=Z,4.5nm,0.6s					
ARU	Arti	22.55 50	d iP		P	01 54 27.3 +0.2
ARU			*PP		pP	01 54 50.2 -2.5
ARU						01 55 01.0
ARU			S		S	01 58 25.5 +1.7
ARU			pmax	pmax		
	comp=Z,4.0nm,0.6s					
ABKAR	Akbulak array	22.69 69	P		P	01 54 28.6 +0.1
ESDC	Sonseca Array	23.19 266	P		P	01 54 32.2 -1.2
	comp=Z,0.5nm,0.8s,baz=71,slow=9.3,SNR=7.3					
	comp=Z,0.5nm,0.8s					
ARCES	ARCESS Array B	23.90 359	eP		P	01 54 40.1 +0.6
ARCES	ARCESS Array B	23.90 359	P		P	01 54 39.9 +0.3
	comp=Z,1.5nm,0.7s,baz=184,slow=12,SNR=13					
	comp=Z,1.5nm,0.7s					
BRVK	Borovoye	28.98 59	⇑eP		P	01 55 27.3 +2.1
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.6s					
BVAR	Borovoye Array	29.04 59	P		P	01 55 26.8 +1.0
	comp=Z,0.6nm,0.4s,baz=299,slow=7.4,SNR=4.3					
	comp=Z,0.6nm,0.4s					
KK31	Karatay Array	31.17 79	P		P	01 55 45.6 +1.0
KK31			IAmb		IAmb	01 56 13.1
	comp=Z,3.6nm,1.5s					
KK31	Karatay Array	31.17 79	P		P	01 55 45.6 +1.0
KK31			pmax	pmax		
	comp=Z,4.0nm,1.5s					
KKAR	Karatay Array	31.17 79	P		P	01 55 44.8 +0.2
KKAR			IAmb		IAmb	01 56 13.1
	comp=Z,3.6nm,1.5s					
KKAR	Karatay Array	31.17 79	P		P	01 55 44.8 +0.2
KKAR			pmax	pmax		
	comp=Z,4.0nm,1.5s					
SPITS	Spitsbergen Ar	32.83 356	P		P	01 55 59.5 +0.7
	comp=Z,3.3nm,0.9s,baz=141,slow=9.3,SNR=1.4					
	comp=Z,3.3nm,0.9s					
AAK	Ala-Archa	34.07 78	P		P	01 56 09.8 -0.3
AAK			IAmb		IAmb	01 56 29.7
	comp=Z,4.3nm,1.3s					
AAK	Ala-Archa	34.07 78	P		P	01 56 09.8 -0.3
AAK			pmax	pmax		
	comp=Z,4.0nm,1.3s					
KURBB	Kurchatov Arra	34.37 63	P		P	01 56 14.0 +1.6
	comp=Z,0.8nm,0.3s,baz=287,slow=9.5,SNR=9.0					
	comp=Z,0.8nm,0.3s					
KURK	Kurchatov	34.41 62	⇑iP		P	01 56 14.2 +1.5
KURK			pmax	pmax		
	comp=Z,6.0nm,2.9s					
ZALV	Zalesovo Beam	37.46 56	P		P	01 56 38.6 0.0
ZALV	Zalesovo Beam	37.46 56	P		P	01 56 40.3 +1.7
	comp=Z,1.7nm,0.3s,baz=281,slow=8.9,SNR=7.7					
	comp=Z,1.7nm,0.3s					
MK31	Makanchi Array	37.82 68	⇓eP		P	01 56 43.6 +1.8
MKAR	Makanchi Array	37.82 68	P		P	01 56 43.7 +1.9
	comp=Z,0.9nm,0.5s,baz=272,slow=8.4,SNR=16					
	comp=Z,0.9nm,0.5s					
TORD	Torodi Ar. Bea	38.72 221	P		P	01 56 50.2 +0.7
	comp=Z,1.9nm,0.5s,baz=30,slow=9.3,SNR=44					
	comp=Z,1.9nm,0.5s					
DGZ	Jazzator, Alta	40.13 62	⇓iP		P	01 57 03.8 +2.6
DGZ			pmax	pmax		
	comp=Z,3.0nm,0.7s					

WEL ***08*** *02:01:00, 44.°50S×168.°28E, h7km, ML3.9, Mw3.5, Moment Tensor Solution. s5 Moment tensor: Scale 10^14 Nm; Mrr1.50; Mθθ-0.80; Mφφ-0.70; Mrθ-0.50; Mθφ-2.27; Mφr~0.43; Fault plane solution: M0 2.36000×10^14 NP1: φs 23.00000°, δ 41.00000°, λ 58.00000°. NP2: φs 243.00000°, δ 56.00000°, λ 115.00000°. Principal axes: T -31.1100, Plg 68.0000°, Azm 206.0000°; N 15.0100, Plg 21.0000°, Azm 48.0000°; P 16.1000, Plg 8.0000°, Azm 315.0000°;*

WEL 08 02:01:37.3±0.6, 45.°S±4.°×16.°8E±.°, h5km, M4.0/18, ML3.9/6, MLv4.0/18 Error ellipse: s-maj=0.0km s-min=0.0km az=146.0, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	Milford Sound	0.31	238	P	Pg	02 01 44.2	+0.8
MSZ				S	Sg	02 01 48.8	+1.3
JCZ	Jackson Bay	0.56	39	P	Pg	02 01 48.1	0.0
JCZ				S	Sg	02 01 56.6	+1.2
WKZ	Wanaka	0.60	122	P	Pb	02 01 49.8	-0.6
WKZ				S	Sg	02 01 57.5	+0.7
MLZ	Mavora Lakes	0.86	188	P	Pg	02 01 54.1	+0.1
EAZ	Earnscleugh	1.02	135	P	Pg	02 01 56.9	+0.1
DCZ	Deep Cove	1.25	220	P	Pg	02 02 00.1	-1.2
DCZ				S	Sg	02 02 17.2	-0.4
LBZ	Lake Benmore	1.36	85	P	Pg	02 02 03.7	+0.4
LBZ				S	Sb	02 02 20.5	-0.3
WHZ	Wether Hill Ro	1.40	190	P	Pn	02 02 03.3	-0.3
FOZ	Fox Glacier	1.47	49	P	Pn	02 02 03.9	-0.5
TUZ	Tuapeka	1.72	147	P	Pb	02 02 09.4	-0.1
ODZ	Otahua Downs	1.75	109	P	Pb	02 02 09.2	-0.7
GCSZ	Gaunt Creek Bo	1.89	52	P	Pb	02 02 11.5	-0.8
TMZ	Timaru	1.94	87	P	Pn	02 02 11.4	+0.4
TMZ				S	Sg	02 02 39.4	-0.3
PYZ	Puysegur Point	2.01	214	P	Pn	02 02 12.6	+0.7
SYZ	Scrubby Hill	2.11	164	P	Pn	02 02 14.2	+0.9
HHSZ	Highcliff Hill	2.13	131	P	Pb	02 02 15.7	-0.7
RPZ	Rata Peaks	2.14	69	P	Pn	02 02 14.1	+0.4
ARCZ	Arundel	2.15	76	P	Pn	02 02 13.6	-0.2
WVZ	Waitaha Valley	2.28	52	P	Pn	02 02 15.5	0.0
APZ	The Paps	2.33	185	P	Pn	02 02 17.0	+0.6
MHCZ	Mount Hutt	2.55	69	P	Pn	02 02 20.2	+0.7
WACZ	Wakanui South	2.61	79	P	Pn	02 02 21.3	+1.2
INZ	Inchbonnie	2.90	53	P	Pn	02 02 24.5	+0.3
OXZ	Oxford	2.95	68	P	Pn	02 02 24.8	0.0
MQZ	McQueen's Vall	3.24	77	P	Pn	02 02 28.3	-0.5
LTZ	Lake Taylor	3.36	60	P	Pn	02 02 33.8	+3.2
AKCZ	Akaroa Harbour	3.38	81	P	Pn	02 02 31.1	+0.3
OKCZ	Okains Bay	3.52	79	P	Pn	02 02 34.6	+2.0
DSZ	Denniston Nort	3.77	44	P	Pn	02 02 36.2	0.0
THZ	Tophouse	4.35	52	P	Pn	02 02 44.2	+0.1
MRNZ	Matariki Terra	4.51	48	P	Pn	02 02 47.1	+0.7
QRZ	Quartz Range	4.83	42	P	Pn	02 02 50.8	+0.2
TKNZ	Takaka Hill	4.88	46	P	Pn	02 02 52.6	+1.2
NNZ	Nelson	4.98	50	P	Pn	02 02 53.2	+0.5
TCW	Tory Channel	5.49	55	P	Pn	02 03 02.7	+2.9
DUWZ	D'Urville Isla	5.56	50	P	Pn	02 03 01.9	+1.1
HRRZ	Handcock Road	8.56	47	P	Pn	02 03 44.8	+2.9

IDC ***08*** *02:01:44.4±3.2, 17.°24S×174.°28W, h96km±36km, mb3.7/6, mbtmp4.1/7, Error ellipse: s-maj=37.0km s-min=24.9km az=119.0*

ISC 08 02:01:44.3±0.9, 17.°2S±0.°2×174.°2W±0.°2, h100km, n7, σ1°35/8, mb4.0/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.00	36	P	Pn	02 02 45.0	+1.4
	101nm,0.4s,baz=225,slow=2.9,SNR=58						
AFI				S	Sn	02 03 27.1	-2.4
	147nm,0.3s,baz=209,slow=19,SNR=9.1						
URZ	Urewera	22.36	198	P	P	02 06 33.3	-0.8
	6.8nm,0.3s,baz=360,slow=2.8,SNR=13						
	6.8nm,0.3s						
STKA	Stephens Creek	42.49	241	P	P	02 09 29.8	-0.1
	1.7nm,0.6s,baz=61,slow=10,SNR=3.9						
	1.7nm,0.6s						
WRA	Warramunga Arr	48.70	258	P	P	02 10 18.4	-0.6
	1.0nm,0.5s,baz=97,slow=6.9,SNR=30						
	1.0nm,0.5s						
ASAR	Alice Springs	48.84	253	P	P	02 10 19.9	-0.2
	5.0nm,0.6s,baz=89,slow=8.6,SNR=92						
	5.0nm,0.6s						
QSPA	South Pole Qui	72.90	180	P	P	02 13 02.6	+0.2
	1.0nm,0.8s,baz=18,slow=0.7,SNR=2.4						
	1.0nm,0.8s						
ILAR	Eielson Array	84.31	11	P	P	02 14 05.5	+0.8
	0.1nm,0.5s,baz=218,slow=5.7,SNR=1.5						
	0.1nm,0.5s						

SOME ***08*** *02:08:18.0, 42.°25N×83.°03E, h15km*
NNC ***08*** *02:08:19.2±1.6, 42.°29N×83.°04E, h26km±13km, mb3.7, mpv3.3, Error ellipse: s-maj=12.7km s-min=8.5km az=151.0*

ISC 08 02:08:11.6±3.8, 42.°0N±0.°2×83.°4E±0.°2, h10km, n41, σ2°67/44, 8C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.66	305	Pg	Pg	02 09 02.1	-0.5
	12nm,0.2s						
KTMS				Lg	Lg	02 09 34.5	
	55nm,0.3s						
KTMS	Ketmen	2.66	305	ePg	Pg	02 09 02.1	-0.5
	12nm,0.2s						
KTMS				eLg	Lg	02 09 34.0	
	55nm,0.3s						
SHLS	Shalkode	3.11	294	Pg	Pb	02 09 06.7	-0.4
	24nm,0.3s						
SHLS				Lg	Lg	02 09 41.7	
	197nm,0.5s						
SHLS	Shalkode	3.11	294	ePg	Pb	02 09 04.5	-2.6
	22nm,0.2s						
SHLS				eLg	Lg	02 09 37.8	
	225nm,0.4s						
PDGK	Podgornoye	3.16	297	Pg	Pg	02 09 11.2	-0.9
	3.9nm,0.5s						
PDGK				Lg	Lg	02 09 50.1	
	26nm,0.4s						
PDGK	Podgornoye	3.16	297	⇑Pg	Pg	02 09 10.5	-1.6
	3.0nm,0.3s						
PDGK				⇑Lg	Lg	02 09 49.8	
	70nm,0.8s						
UZB	Uzynbulak	3.41	292	Pg	Pg	02 09 16.0	-0.9
	6.9nm,0.4s						
UZB				Lg	Lg	02 09 57.7	
	43nm,0.4s						
UZB	Uzynbulak	3.41	292	ePg	Pg	02 09 16.0	-0.9
	6.9nm,0.4s						
UZB				eLg	Lg	02 09 57.8	
	43nm,0.4s						
DJR	Jarkent	3.52	313	Pg	Pb	02 09 15.3	+1.4
	5.8nm,0.5s						
DJR				Lg	Lg	02 09 57.2	
	20nm,1.1s						
DJR	Jarkent	3.52	313	ePg	Pg	02 09 16.4	-2.6
	4.2nm,0.2s						
DJR				eLg	Lg	02 09 58.2	
	29nm,0.3s						
KPKS	Kokpek	3.75	295	Pg	Pg	02 09 21.0	-2.5
	7.7nm,0.3s						
KPKS				Lg	Lg	02 10 06.9	
	45nm,0.5s						
KPKS	Kokpek	3.75	295	ePg	Pg	02 09 21.0	-2.5
	7.7nm,0.3s						
KPKS				eLg	Lg	02 10 06.9	
	45nm,0.5s						
ZHN	Zhinishke	3.83	290	Pg	Pg	02 09 24.0	-0.9
	6.9nm,0.2s						
ZHN				Lg	Lg	02 10 11.3	
	54nm,0.2s						
ZHN	Zhinishke	3.83	290	ePg	Pg	02 09 22.5	-2.5
	7.5nm,0.3s						
ZHN				eLg	Lg	02 10 08.6	
	57nm,0.2s						
KNOS	Konyrlen	3.88	309	Pg	Pb	02 09 22.1	+2.0
	18nm,0.7s						
KNOS				Lg	Lg	02 10 08.5	
	20nm,0.6s						
KURS	Kuram	4.11	293	Pg	Pg	02 09 29.5	-0.8
	3.5nm,0.6s						
KURS				Lg	Lg	02 10 21.0	
	10nm,1.1s						
KURS	Kuram	4.11	293	ePg	Pg	02 09 27.3	-3.1
	3.2nm,0.3s						
KURS				eLg	Lg	02 10 16.8	
	7.4nm,0.3s						
BLB	Baldybastay	4.16	302	Pg	Pb	02 09 27.3	+2.3
	5.9nm,0.6s						
BLB				Lg	Lg	02 10 17.4	
	20nm,0.8s						
TDK	Taldyqorghan	4.71	312	Pg	Pg	02 09 42.1	+0.4
	8.1nm,0.2s						
TDK				Lg	Lg	02 10 42.5	
	65nm,0.5s						
TDK	Taldyqorghan	4.71	312	ePg	Pg	02 09 38.4	-3.3
	14nm,0.2s						
TDK				eLg	Lg	02 10 35.7	
	24nm,0.2s						
KOTS	Kotyrbulak	4.78	287	Pg	Pb	02 09 38.1	+2.6
	3.1nm,0.5s						
KOTS				Lg	Lg	02 10 35.9	
	25nm,0.9s						
KOTS	Kotyrbulak	4.78	287	ePg	Pg	02 09 39.8	-3.4
	2.6nm,0.2s						
KOTS				eLg	Lg	02 10 38.1	
	22nm,0.2s						
TNSS	Tian-Shan	4.86	285	Pg	Pb	02 09 40.6	+3.5
	3.1nm,0.6s						
TNSS				Lg	Lg	02 10 39.8	
	5.2nm,0.8s						
TNSS	Tian-Shan	4.86	285	ePg	Pg	02 09 41.3	-3.4
	1.1nm,0.1s						
TNSS				eLg	Lg	02 10 40.8	
	6.7nm,0.3s						
MK31	Makanchi Array	4.88	351	⇓Pn	Pn	02 09 26.1	+1.1
	0.2nm,0.3s,baz=173,slow=14,SNR=8.9						
MK31				⇑Pg	Pg	02 09 41.2	-3.8
	2.5nm,0.5s,baz=172,slow=16,SNR=13						
MK31				⇑Lg	Lg	02 10 42.6	
	23nm,0.7s,baz=164,slow=28,SNR=10.0						
MAKZ	Makanchi	4.93	349	⇑Pn	Pn	02 09 27.4	+1.6
	0.9nm,0.4s						
MAKZ				⇓Pg	Pg	02 09 43.7	-2.3
	1.7nm,0.5s						
MAKZ				⇑Lg	Lg	02 10 44.0	
	9.6nm,0.6s						
CHKK	Chushkaly	5.04	294	Pg	Pg	02 09 46.3	-1.8
	1.8nm,0.3s						
CHKK				Lg	Lg	02 10 50.0	
	14nm,0.4s						
CHKK	Chushkaly	5.04	294	ePg	Pg	02 09 45.1	-3.1
	0.8nm,0.1s						
CHKK				eLg	Lg	02 10 47.3	
	11nm,0.2s						
IZV	Izvestkoviy	5.10	284	Pg	Pb	02 09 43.5	+2.5
	1.9nm,1.6s						
IZV				Lg	Lg	02 10 45.2	
	13nm,1.1s						
IZV	Izvestkoviy	5.10	284	ePg	Pg	02 09 45.7	-3.6
	0.9nm,0.1s						
IZV				eLg	Lg	02 10 48.4	
	61nm,0.4s						
KTBS	Karatobe	5.21	292	Pg	Pg	02 09 48.7	-2.6
	1.2nm,0.4s						
KTBS				Lg	Lg	02 10 54.0	
	7.0nm,0.4s						
KTBS	Karatobe	5.21	292	ePg	Pg	02 09 47.4	-4.0
	1.3nm,0.3s						
KTBS				eLg	Lg	02 10 51.1	
	10nm,0.3s						
KUU	Kurty	5.50	293	Pg	Pg	02 09 54.7	-2.2
	2.2nm,0.6s						
KUU				Lg	Lg	02 11 04.6	
	12nm,0.5s						
KUU	Kurty	5.50	293	ePg	Pg	02 09 52.8	-4.1
	1.1nm,0.3s						
KUU				eLg	Lg	02 11 00.5	
	7.5nm,0.3s						
KST	Kastek	5.57	284	Pg	Pg	02 09 55.7	-2.6
	2.5nm,0.4s						
KST				Lg	Lg	02 11 05.8	
	9.4nm,0.7s						
KST	Kastek	5.57	284	ePg	Pg	02 09 55.7	-2.6
	2.5nm,0.4s						
KST				eLg	Lg	02 11 05.8	
	9.4nm,0.7s						
DGS	Degeres	5.74	285	Pg	Pg	02 09 57.4	-4.1
	3.1nm,0.6s						
DGS				Lg	Lg	02 11 09.5	
	11nm,0.9s						
DGS	Degeres	5.74	285	ePg	Pg	02 09 57.4	-4.1
	3.1nm,0.6s						
DGS				eLg	Lg	02 11 09.5	
	11nm,0.9s						
TKM2	Tokmak 2	5.82	282	⇓Pn	Pn	02 09 39.2	+1.1
	0.9nm,0.4s						
TKM2				⇑Pg	Pb	02 09 55.8	+2.5
	1.3nm,0.6s						
TKM2				⇑Lg	Lg	02 11 13.3	
	6.4nm,1.0s						
KRBS	Karabastau	5.91	289	Pg	Pg	02 10 01.1	-3.5
	0.8nm,0.4s						
KRBS				Lg	Lg	02 11 15.9	
	6.3nm,0.5s						
KRBS	Karabastau	5.91	289	ePg	Pg	02 10 01.1	-3.5
	0.8nm,0.4s						
KRBS				eLg	Lg	02 11 15.9	
	6.3nm,0.5s						

WEL ***08*** *02:21:17.9±0.4, 42.°5S±3.°×17.°4E±.°, h9km±3km, M3.4/35, ML3.5/16, MLv3.4/35, Error ellipse: s-maj=0.0km s-min=0.0km az=158.3, confirmed*
NOU ***08*** *02:21:17.5, 41.°87S×174.°34E, h13km, MLv3.9/10, Cook Strait, New Zealand*

ISC 08 02:21:17.8±0.9, 41.°77S±0.°03×174.°21E±0.°03, h17km±5km, n90, σ1°25/98, Cook Strait

TUWZ				S		Sg	02 21 29.7	-1.7
TCW	**Tory Channel**	0.56	5	P		Pg	02 21 28.0	-1.0
TCW				S		Sg	02 21 35.3	-1.2
SNZO	**South Karori**	0.59	39	P		Pb	02 21 29.5	-0.2
BHW	**Baring Head**	0.62	54	P		Pb	02 21 30.3	+0.2
WEL	**Wellington**	0.64	41	P		Pb	02 21 30.5	-0.1
PLWZ	**Palliser**	0.81	76	P		Pn	02 21 34.4	-0.1
KHZ	**Kahutara**	0.81	217	P		Pb	02 21 34.5	+1.0
KHZ	**Kahutara**	0.81	217	P		Pb	02 21 34.5	+1.0
KHZ				S		Sn	02 21 47.4	+1.3
NNZ	**Nelson**	0.83	311	P		Pg	02 21 32.5	-1.5
CAW	**Cannon Point**	0.93	45	P		Pb	02 21 35.4	0.0
CAW				S		Sn	02 21 49.9	+1.0
THZ	**Tophouse**	0.97	270	P		Pg	02 21 35.6	-1.1
DUWZ	**D'Urville Isla**	0.99	347	P		Pg	02 21 35.3	-1.8
DUWZ				S		Sg	02 21 48.2	-1.9
PAWZ	**Paruwai Farm**	0.99	67	P		Pb	02 21 36.9	+0.3
KIW	**Kapiti Island**	1.05	30	P		Pb	02 21 37.0	-0.5
MTW	**Mount Morrison**	1.15	58	P		Pb	02 21 38.8	-0.4
MRNZ	**Matariki Terra**	1.15	288	P		Pb	02 21 38.8	-0.4
MRNZ				S		Sb	02 21 53.8	-0.1
TRWZ	**Traveller**	1.17	72	P		Pb	02 21 39.1	-0.5
TKNZ	**Takaka Hill**	1.19	308	P		Pn	02 21 39.0	-0.7
OGWZ	**Otaki Gorge**	1.20	38	P		Pb	02 21 39.8	-0.2
HOWZ	**Holdsworth Sta**	1.32	49	P		Pn	02 21 41.1	-0.4
TMWZ	**Te Maipa**	1.43	63	P		Pn	02 21 42.5	-0.5
GVZ	**Greta Valley S**	1.48	216	P		Pb	02 21 44.9	+0.1
MRZ	**Mangatainoka R**	1.52	43	P		Pn	02 21 43.9	-0.3
QRZ	**Quartz Range**	1.58	306	P		Pn	02 21 45.6	+0.6
QRZ	**Quartz Range**	1.58	306	P		Pn	02 21 45.5	+0.6
TIWZ	**Tintock**	1.61	52	P		Pn	02 21 45.5	+0.1
CPWZ	**Castlepoint**	1.73	61	P		Pg	02 21 53.1	+2.0
LTZ	**Lake Taylor**	1.76	234	P		Pn	02 21 49.0	+1.5
OHWZ	**Ohakea**	1.77	29	P		Pb	02 21 49.2	-0.6
DSZ	**Denniston Nort**	1.80	270	P		Pn	02 21 49.2	+1.1
PRWZ	**Pori Road**	1.80	48	P		Pn	02 21 48.3	+0.2
POWZ	**Post Office Ro**	1.81	41	P		Pn	02 21 48.2	-0.1
AMCZ	**Amberley**	1.82	219	P		Pg	02 21 52.6	-0.1
BFZ	**Birch Farm**	1.88	55	P		Pn	02 21 48.1	-1.1
BFZ	**Birch Farm**	1.88	55	P		Pn	02 21 48.0	-1.2
DVHZ	**Dannevirke**	2.09	46	P		Pn	02 21 51.0	-1.1
WAZ	**Wanganui**	2.10	17	P		Pn	02 21 54.2	+2.0
OKCZ	**Okains Bay**	2.13	203	P		Pn	02 21 51.5	-1.0
TSZ	**Takapari Road**	2.17	38	P		Pg	02 21 57.9	-1.5
OXZ	**Oxford**	2.23	225	P		Pn	02 21 52.7	-1.3
MQZ	**McQueen's Vall**	2.25	210	P		Pn	02 21 52.4	-1.7
INZ	**Inchbonnie**	2.26	244	P		Pn	02 21 55.2	+0.8
AKCZ	**Akaroa Harbour**	2.31	204	P		Pn	02 21 53.9	-1.2
LREZ	**Lake Rotokare**	2.31	4	P		Pb	02 21 58.3	-0.7
NMEZ	**Namu Road**	2.37	354	P		Pb	02 22 01.1	+1.1
PRHZ	**Porangahau**	2.37	51	P		Pb	02 21 55.4	-0.6
PNHZ	**Pukenui**	2.39	40	P		Pn	02 21 55.4	-0.9
WPHZ	**Waipukurau**	2.40	46	P		Pn	02 21 58.3	+1.9
KHEZ	**Kahui Hut**	2.48	357	P		Pn	02 22 00.1	+2.6
NBEZ	**Newall Road No**	2.51	354	P		Pb	02 22 03.3	+0.8
PKE	**Pukeiti**	2.58	356	P		Pb	02 22 04.3	+0.7
MHCZ	**Mount Hutt**	2.62	227	P		Pn	02 21 58.7	-0.7
MOVZ	**Moawhango**	2.64	27	P		Pn	02 21 59.9	+0.3
WNVZ	**Wahianoa**	2.66	24	P		Pn	02 22 00.9	+0.8
TRVZ	**Turoa**	2.67	23	P		Pn	02 22 01.4	+1.1
VRZ	**Vera Road**	2.68	9	P		Pn	02 22 01.9	+1.8
BHHZ	**Black Hill Sta**	2.68	32	P		Pn	02 22 00.3	0.0
KRHZ	**Kereru**	2.69	38	P		Pn	02 21 58.9	-1.4
WHVZ	**Whangaehu Hut**	2.70	23	P		Pn	02 22 01.8	+1.1
FWVZ	**Far West T-bar**	2.71	23	P		Pn	02 22 02.0	+1.1
TUVZ	**Tukino**	2.73	24	P		Pb	02 22 05.6	-0.7
COVZ	**Chateau Observ**	2.76	22	P		Pb	02 22 07.2	+0.4
WAKZ	**Wakanui South**	2.78	218	P		Pn	02 22 00.6	-0.9
NGZ	**Ngauruhoe**	2.80	23	P		Pb	02 22 07.6	+0.2
KAHZ	**Kahuranaki**	2.83	47	P		Pn	02 22 03.8	+1.5
NNVZ	**North Ngauruho**	2.85	23	P		Pn	02 22 03.6	+1.0
WTVZ	**West Tongariro**	2.85	22	P		Pb	02 22 07.3	-1.0
ETVZ	**East Tongariro**	2.87	24	P		Pb	02 22 08.4	-0.3
WVZ	**Waitaha Valley**	2.88	242	P		Pb	02 22 07.3	-1.4
KWHZ	**Kaweka Forest**	2.89	36	P		Pb	02 22 09.7	+0.8
TMVZ	**Te Maari**	2.89	24	P		Pb	02 22 06.8	-2.1
RPZ	**Rata Peaks**	3.03	229	P		Pn	02 22 04.4	-0.6
RPZ	**Rata Peaks**	3.03	229	P		Pn	02 22 05.0	0.0
RITZ	**Rihia Road**	3.06	25	P		Pb	02 22 12.2	+0.3
ARCZ	**Arundel**	3.11	225	P		Pn	02 22 05.3	-0.9
BKZ	**Black Stump Fm**	3.13	35	P		Pn	02 22 06.8	+0.4
BKZ	**Black Stump Fm**	3.13	35	P		Pb	02 22 12.4	-0.7
GCSZ	**Gaunt Creek Bo**	3.26	240	P		Pn	02 22 11.6	+3.5
HIZ	**Hauiti**	3.29	9	P		Pn	02 22 10.9	+2.3
HIZ	**Hauiti**	3.29	9	P		Pn	02 22 11.1	+2.5
TMZ	**Timaru**	3.51	221	P		Pn	02 22 11.1	-0.5
FOZ	**Fox Glacier**	3.69	240	P		Pn	02 22 15.4	+1.4
LBZ	**Lake Benmore**	3.94	227	P		Pn	02 22 18.9	+1.5
URZ	**Urewera**	4.16	33	P		Pn	02 22 22.0	+1.6
ODZ	**Otahua Downs**	4.18	217	P		Pn	02 22 20.4	-0.3
ODZ	**Otahua Downs**	4.18	217	P		Pn	02 22 19.5	-1.2
JCZ	**Jackson Bay**	4.60	238	P		Pn	02 22 30.0	+3.4
MKAZ	**Moumakai**	4.72	9	P		Pn	02 22 31.5	+3.3

*IDC **08** 02:34:51.5±2.2, 37°.45N×144°.26E, h0km, mb3.5/2, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=56.3km s-min=33.5km az=79.0*
*JMA **08** 02:34:57.4±0.3, 38°N±1°×14°4E±°, h62km, MV3.2/23, FAR E OFF NORTH HONSHU*
ISC 08 02:34:55.7±1.3, **37°.55N**±0°.06×**144°.07E**±0°.09, **h35**km, **n15**, σ1§**18**/25, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.19**	**291**	P	**Pn**	**02 35 30.0**	**+0.3**
JIO	**Ouri**	**2.33**	**294**	P	**Pn**	**02 35 31.9**	**+0.4**
JIO				*e*S	**Sn**	**02 35 58.1**	**-0.9**
JKMT	**Kesennumamotoy**	**2.40**	**303**	P	**Pn**	**02 35 33.0**	**+0.4**
JKMT				*e*S	**Sn**	**02 35 59.5**	**-1.2**
OFUJ	**Ofunato**	**2.43**	**310**	P	**Pn**	**02 35 33.5**	**+0.6**
JMK	**Ichinoseki**	**2.65**	**303**	P	**Pn**	**02 35 37.0**	**+1.1**
JMK				*e*S	**Sn**	**02 36 06.1**	**-0.6**
JOM	**Ohasama**	**2.91**	**312**	P	**Pn**	**02 35 40.5**	**+1.0**
JOM				*e*S	**Sn**	**02 36 13.3**	**+0.1**
JOTO	**OTAMA OYAMA**	**2.97**	**271**	S	**Sn**	**02 36 13.6**	**-1.1**
BSO1	**Boso 1**	**3.82**	**222**	*e*P	**Pn**	**02 35 50.4**	**-1.1**
BSO1				*e*S	**Sn**	**02 36 33.5**	**-1.4**
MJAR	**Matsushiro Arr**	**4.79**	**260**	Pn	**Pn**	**02 36 06.5**	**+1.1**
	0.3nm,0.3s,baz=88,slow=16,SNR=11						
MJAR				Sn	**Sn**	**02 36 58.4**	**-1.4**
	baz=71,slow=23,SNR=1.7						
	1.1nm,0.3s						
JCH	**Churui**	**5.09**	**354**	P	**Pn**	**02 36 10.3**	**+0.8**
JCH				S	**Sn**	**02 37 06.0**	**-1.1**
NEM2	**Nemuro 2**	**5.95**	**12**	P	**Pn**	**02 36 21.2**	**-0.1**
NEM2				*e*S	**Sn**	**02 37 24.7**	**-3.5**
JTKR	**Abashiri--Toko**	**6.42**	**359**	*e*P	**Pn**	**02 36 27.9**	**+0.2**
JTKR				S	**Sn**	**02 37 38.7**	**-1.0**
ASAJ	**Asahikawa**	**6.66**	**351**	Pn	**Pn**	**02 36 32.2**	**+1.2**
	1.3nm,0.3s,baz=210,slow=9.6,SNR=7.5						
ASAJ				Sn	**Sn**	**02 37 46.2**	**+0.6**
	0.3nm,0.3s,baz=198,slow=20,SNR=1.2						
	3.2nm,0.3s						
WRA	**Warramunga Arr**	**57.91**	**191**	P	**P**	**02 44 45.0**	**+0.6**
	0.5nm,0.6s,baz=8.0,slow=7.0,SNR=7.7						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**61.63**	**191**	P	**P**	**02 45 10.5**	**+0.6**
	0.3nm,0.7s,baz=10,slow=7.4,SNR=2.3						
	0.3nm,0.7s						

*IDC **08** 02:42:44.1±3.1, 17°.88S×174°.62W, h82km±27km, mb4.0/10, mbtmp4.3/11, MS3.2/3, Error ellipse: s-maj=28.4km s-min=14.4km az=135.0*
*NEIC **08** 02:42:47.2±1.1, 17°.5S±0°.1×174°.2W±0°.1, h145km±8km, mb4.3/19, Error ellipse: s-maj=17.1km s-min=14.6km az=94.0*
ISC 08 02:42:47.8±0.6, **17°.64S**±0°.07×**174°.14W**±0°.07, **h150**km, **n53**, σ1§**38**/51, **mb4.2**/20, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.25**	**110**	Pn	**Pn**	**02 43 51.9**	**+0.7**
NIUE				Sn	**Sn**	**02 44 38.5**	**-2.1**
AFI	**Afiamalu**	**4.35**	**32**	Pn	**Pn**	**02 43 50.8**	**-1.9**
AFI	**Afiamalu**	**4.35**	**32**	P	**Pn**	**02 43 54.2**	**+1.4**
	57nm,0.4s,baz=214,slow=3.4,SNR=16						
AFI				S	**Sn**	**02 44 42.8**	**-0.5**
	120nm,0.3s,baz=217,slow=20,SNR=9.5						

MSVF	**Nonsavu**	**7.45**	**268**		**Pn**	**02 44 34.2**	**+0.4**
MSVF	**Nonsavu**	**7.45**	**268**	P	**Pn**	**02 44 35.6**	**+1.7**
	54nm,0.8s,baz=130,slow=15,SNR=23						
MSVF				LR	LR	02 46 30.8	
	comp=Z,160nm,20.1s,baz=66,slow=32						
LIFNC	**LIFOU**	**17.86**	**257**	P	**P**	**02 46 44.7**	**-0.8**
DZM	**Mont Dzumac**	**18.78**	**253**		**Pn**	**02 46 56.4**	**-1.6**
DZM				IAmb	IAmb	02 46 60.0	
	comp=Z,32nm,1.4s						
DZM	**Mont Dzumac**	**18.78**	**253**	P	**P**	**02 46 55.8**	**0.0**
	comp=Z,11nm,0.9s,baz=85,slow=18,SNR=9.2						
DZM				LR	LR	02 52 00.9	
	comp=Z,72nm,18.7s,baz=239,slow=30						
HAZ	**Te Kaha**	**21.26**	**198**	P	**P**	**02 47 21.1**	**-0.9**
WIAZ	**Waiheke Island**	**21.30**	**204**	P	**P**	**02 47 22.4**	**-0.2**
PUZ	**Puketiti**	**21.42**	**197**	P	**P**	**02 47 24.5**	**+0.7**
RUGZ	**Raukumara Rang**	**21.48**	**198**	P	**P**	**02 47 24.1**	**-0.6**
MKAZ	**Moumakai**	**21.56**	**204**	P	**P**	**02 47 24.7**	**-0.7**
WTAZ	**Waiatarua**	**21.64**	**205**	P	**P**	**02 47 27.4**	**+1.2**
AWAZ	**Awhitu Peninsu**	**21.73**	**205**	P	**P**	**02 47 26.2**	**-1.0**
MWZ	**Matawai**	**21.87**	**198**	P	**P**	**02 47 27.5**	**-1.2**
URZ	**Urewera**	**21.92**	**199**	P	**P**	**02 47 27.0**	**-2.1**
URZ	**Urewera**	**21.92**	**199**	P	**P**	**02 47 26.8**	**-2.3**
	comp=Z,17nm,0.4s,baz=103,slow=2.5,SNR=30						
	comp=Z,17nm,0.4s						
RAGZ	**Rawiri**	**22.05**	**198**	P	**P**	**02 47 29.8**	**-0.7**
RIGZ	**Rimuhau**	**22.15**	**197**	P	**P**	**02 47 30.6**	**-0.9**
NMHZ	**Naumai**	**22.79**	**198**	P	**P**	**02 47 38.8**	**+1.3**
BKZ	**Black Stump Fm**	**22.95**	**199**	P	**P**	**02 47 37.6**	**-1.4**
ARMA	**Armidale**	**33.62**	**241**	P	**P**	**02 49 12.9**	**-1.2**
ARMA				IAmb	IAmb	02 49 13.2	
	comp=Z,12nm,1.3s						
CTA	**Charters Tower**	**37.50**	**260**	LR	LR	03 02 32.4	
	comp=Z,42nm,20.4s,baz=78,slow=32						
STKA	**Stephens Creek**	**42.33**	**242**	P	**P**	**02 50 26.0**	**-1.1**
STKA	**Stephens Creek**	**42.33**	**242**	P	**P**	**02 50 26.0**	**-1.1**
	comp=Z,3.7nm,0.6s,baz=78,slow=10,SNR=11						
	comp=Z,3.7nm,0.6s						
WR0	**Warramunga Arr**	**48.49**	**259**	P	**P**	**02 51 14.2**	**-1.4**
WR0				IAmb	IAmb	02 51 17.3	
	comp=Z,4.8nm,1.0s						
WRAB	**Tennant Creek**	**48.67**	**259**	P	**P**	**02 51 15.8**	**-1.2**
WRAB				IAmb	IAmb	02 51 19.2	
	comp=Z,8.6nm,0.8s						
WRA	**Warramunga Arr**	**48.68**	**259**	P	**P**	**02 51 15.4**	**-1.7**
WRA	**Warramunga Arr**	**48.68**	**259**	P	**P**	**02 51 16.1**	**-1.0**
	comp=Z,4.4nm,0.4s,baz=98,slow=6.5,SNR=206						
WRA				PcP	**PcP**	**02 52 42.6**	**+2.4**
	comp=Z,0.8nm,0.6s,baz=99,slow=3.3,SNR=3.1						
	comp=Z,4.4nm,0.4s						
AS31	**Alice Springs**	**48.77**	**254**	P	**P**	**02 51 17.2**	**-0.7**
ASAR	**Alice Springs**	**48.77**	**254**	P	**P**	**02 51 16.9**	**-1.0**
	comp=Z,46nm,0.6s,baz=94,slow=7.4,SNR=475						
ASAR				PcP	**PcP**	**02 52 42.5**	**+2.0**
	comp=Z,1.1nm,0.6s,baz=105,slow=4.2,SNR=2.8						
MTN	**Manton Dam**	**52.87**	**267**	P	**P**	**02 51 46.8**	**-1.7**
MTN				IAmb	IAmb	02 51 49.8	
	comp=Z,8.4nm,0.7s						
KNRA	**Kununurra**	**54.56**	**263**	P	**P**	**02 51 59.9**	**-1.0**
CASY	**Casey**	**68.09**	**205**	P	**P**	**02 53 30.6**	**-0.3**
CASY				IAmb	IAmb	02 53 32.3	
	comp=Z,3.8nm,1.1s						
QSPA	**South Pole Qui**	**72.41**	**180**	P	**P**	**02 53 57.8**	**+0.3**
QSPA				IAmb	IAmb	02 54 04.6	
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**72.41**	**180**	P	**P**	**02 53 59.9**	**+2.5**
	comp=Z,2.2nm,0.8s,baz=98,slow=1.0,SNR=8.0						
	comp=Z,2.2nm,0.8s						
KHMM	**Horse Mountain**	**74.67**	**37**	P	**P**	**02 54 09.4**	**-1.5**
DSP	**Deep Springs**	**76.06**	**43**	P	**P**	**02 54 18.1**	**-0.6**
DSP				IAmb	IAmb	02 54 27.1	
	comp=Z,6.3nm,1.2s						
NVAR	**Mina Array Bea**	**76.46**	**42**	P	P	02 54 28.3	+7.0
	comp=Z,3.6nm,0.7s,baz=226,slow=9.3,SNR=34						
	comp=Z,3.6nm,0.7s						
KVN	**Kaiserville**	**76.95**	**42**	P	**P**	**02 54 24.0**	**-0.1**
KVN				IAmb	IAmb	02 54 31.7	
	comp=Z,2.8nm,0.7s						
TPNV	**Topopah Spring**	**76.95**	**44**	P	**P**	**02 54 23.7**	**-0.4**
TPNV				IAmb	IAmb	02 54 32.4	
	comp=Z,5.5nm,0.9s						
SHPR	**Sheep Range**	**77.44**	**45**	P	**P**	**02 54 25.9**	**-0.9**
WVOR	**Wild Horse Val**	**78.62**	**38**	P	**P**	**02 54 33.5**	**+0.4**
WVOR				IAmb	IAmb	02 54 40.8	
	comp=Z,4.8nm,1.1s						
TXAR	**Lajitas Array**	**82.44**	**56**	P	P	02 55 01.0	+7.2
	comp=Z,0.8nm,0.9s,baz=218,slow=7.0,SNR=5.7						
	comp=Z,0.8nm,0.9s						
PDAR	**Pinedale Array**	**84.40**	**42**	P	P	02 55 09.7	+6.0
	comp=Z,0.4nm,0.5s,baz=193,slow=2.3,SNR=4.3						
	comp=Z,0.4nm,0.5s						
ILAR	**Eielson Array**	**84.77**	**11**	P	P	02 55 09.4	+4.7
	comp=Z,0.6nm,0.8s,baz=226,slow=6.1,SNR=7.0						
	comp=Z,0.6nm,0.8s						
MAW	**Mawson**	**85.45**	**199**	P	**P**	**02 55 08.1**	**-0.1**
MAW	**Mawson**	**85.45**	**199**	P	**P**	**02 55 10.1**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=98,slow=3.7,SNR=1.5						
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.64**	**288**	P	P	02 55 47.0	+3.9
	comp=Z,0.8nm,0.3s,baz=103,slow=2.8,SNR=5.4						
	comp=Z,0.8nm,0.3s						
BVAR	**Borovoye Array**	**119.19**	**321**	PKP	**PKiKP**	**03 01 22.1**	**+3.3**
	comp=Z,0.5nm,0.6s,baz=56,slow=3.7,SNR=3.1						
BRTR	**Keskin Array B**	**147.39**	**318**	PKPbc	**PKiKP**	**03 02 17.9**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=151,slow=2.8,SNR=6.3						
MMAI	**Mount Meron Ar**	**149.36**	**306**	PKPbc	**PKPab**	**03 02 23.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=93,slow=2.9,SNR=2.1						

*IDC **08** 03:00:37.0±1.9, 0°.76N×126°.98E, h0km, mb3.6/4, mbtmp3.7/4, MS2.3/1, Error ellipse: s-maj=172.4km s-min=22.9km az=66.0*
*DJA **08** 03:00:37.5±0.9, 1°N±6°×12°7E±1°3, h10km, M3.6/5, MLv3.6/5*
ISC 08 03:00:37.8±1.4, **1°.07N**±0°.09×**127°.5E**±0°.2, **h10**km, **n7**, σ0§**85**/8, **mb3.7**/4, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.35**	**211**	P	**Pg**	**03 00 44.2**	**-0.5**
TNTI				S	**Sg**	**03 00 49.4**	**0.0**
LBMI	**Labuha**	**1.70**	**181**	P	**Pn**	**03 01 07.5**	**-0.1**
LBMI				S	**Sb**	**03 01 31.9**	**+1.3**
DAV	**Davao City (W)**	**6.27**	**342**	LR	LR	03 04 15.5	
	comp=Z,26nm,21.7s,baz=332,slow=34						
WRA	**Warramunga Arr**	**21.92**	**163**	P	**P**	**03 05 31.1**	**-0.5**
	1.4nm,0.7s,baz=340,slow=11,SNR=14						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**25.36**	**166**	P	**P**	**03 06 04.2**	**-1.0**
	0.4nm,0.7s,baz=343,slow=9.7,SNR=6.6						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**60.19**	**326**	P	**P**	**03 10 46.6**	**+0.6**
	0.6nm,0.5s,baz=116,slow=8.2,SNR=4.6						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**64.40**	**328**	P	**P**	**03 11 14.5**	**+0.4**
	0.5nm,0.2s,baz=126,slow=6.2,SNR=2.7						
	0.5nm,0.2s						

*IDC **08** 03:05:32.3±1.1, 32°.44N×130°.53E, h0km, mb3.5/6, mbtmp3.4/8, ML2.7/2, MS2.6/1, Error ellipse: s-maj=24.1km s-min=10.1km az=109.0*
*JMA **08** 03:05:35.5±0.1, 32°.5N±0°.2×130°.7E±0°.2, h10km, MV3.8/20, SOUTHERN KUMAMOTO PREF*
JMA Felt II J1 at SOUTHERN KUMAMOTO PREF .
*NIED **08** 03:05:35.5, 32°.52N×130°.66E, h10km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}-0.23; $M_{\theta\theta}$2.48; $M_{\phi\phi}$-2.25; $M_{r\theta}$-0.89; $M_{\theta\phi}$2.70; $M_{\phi r}$0.59; Fault plane solution: $M_0$3.75000×10¹⁴ NP1: ϕ_s110.00000°, δ86.00000°, λ-16.00000°. NP2: ϕ_s201.00000°, δ74.00000°, λ-175.00000°.*
ISC 08 03:05:34.5±0.7, **32°.45N**±0°.04×**130°.61E**±0°.06, **h11**km, **n13**, σ1§**18**/18, **mb3.4**/6, **2D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.20**	**59**	⇓P	**Pg**	**03 05 38.6**	**-0.2**
JIU3				⇓S	**Sg**	**03 05 40.9**	**-0.8**
JZO	**Okuchi**	**0.31**	**182**	*i* P	**Pb**	**03 05 43.1**	**+1.1**
JZO				S	**Sb**	**03 05 48.3**	**+1.3**
JTA	**Tamana**	**0.52**	**353**	*i* P	**Pg**	**03 05 44.6**	**-0.1**
JTA				S	**Sg**	**03 05 50.7**	**-0.8**
JTZ	**Takazaki**	**0.68**	**143**	*i* P	**Pb**	**03 05 49.7**	**+1.4**
JTZ				S	**Sb**	**03 05 59.1**	**+1.4**

JNU	**Nakatsue**	**0.71**	**19**	Pg	**Pg**	**03 05 47.9**	**-0.4**
	167nm,0.3s,baz=209,slow=7.1,SNR=2756						
JNU				Lg	Lg	03 05 56.2	
	1μm,0.3s,baz=254,slow=19,SNR=91						
KSRS	**Korea Array**	**5.46**	**337**	Pn	**Pn**	**03 06 56.0**	**+0.2**
	0.2nm,0.3s,baz=157,slow=14,SNR=3.1						
KSRS				Pg	**Pb**	**03 07 12.7**	**+2.9**
	0.5nm,0.3s,baz=158,slow=17,SNR=5.7						
KSRS				Lg	Lg	03 08 23.6	
	1.0nm,0.3s,baz=158,slow=30,SNR=7.1						
	0.4nm,0.3s						
MJAR	**Matsushiro Arr**	**7.49**	**55**	Pn	**Pn**	**03 07 24.8**	**+1.1**
	0.1nm,0.3s,baz=254,slow=21,SNR=5.8						
MJAR				LR	LR	03 10 47.8	
	comp=Z,43nm,18.4s,baz=214,slow=42						
	1.2nm,0.4s						
BVAR	**Borovoye Array**	**47.22**	**314**	P	**P**	**03 14 06.3**	**-0.9**
	0.3nm,0.3s,baz=108,slow=9.3,SNR=1.7						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**52.22**	**176**	P	**P**	**03 14 45.2**	**-0.4**
	0.3nm,0.9s,baz=358,slow=10.0,SNR=1.9						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**55.89**	**176**	P	**P**	**03 15 11.4**	**-1.0**
	0.4nm,1.1s,baz=352,slow=5.6,SNR=1.8						
	0.4nm,1.1s						
ILAR	**Eielson Array**	**58.02**	**30**	P	**P**	**03 15 26.2**	**-0.8**
	0.3nm,0.8s,baz=282,slow=7.6,SNR=5.0						
	0.3nm,0.8s						
FINES	**FINESS Array B**	**68.51**	**330**	P	**P**	**03 16 35.9**	**-0.7**
	2.2nm,0.9s,baz=63,slow=6.4,SNR=2.1						
	2.2nm,0.9s						
NVAR	**Mina Array Bea**	**84.75**	**47**	P	**P**	**03 18 08.6**	**-0.5**
	0.2nm,0.7s,baz=288,slow=3.6,SNR=1.6						
	0.2nm,0.7s						

*IDC **08** 03:17:50.1±0.8, 25°.54N×125°.89E, h0km, mb3.7/9, mbtmp3.7/11, ML3.9/1, MS2.7/3, Error ellipse: s-maj=27.4km s-min=17.8km az=70.0*
*NIED **08** 03:17:54.1, 25°.68N×125°.99E, h22km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}-7.88; $M_{\theta\theta}$2.25; $M_{\phi\phi}$5.63; $M_{r\theta}$-2.40; $M_{\theta\phi}$-1.46; $M_{\phi r}$-5.30; Fault plane solution: $M_0$8.93000×10¹⁴ NP1: ϕ_s4.00000°, δ64.00000°, λ-74.00000°. NP2: ϕ_s152.00000°, δ30.00000°, λ-119.00000°.*
*JMA **08** 03:17:54.1±0.2, 26°N±1°×12°6E±°, h22km±3km, MD4.2/16, MV4.2/16, NEAR MIYAKOJIMA ISLAND*
ISC 08 03:17:55.0±2.0, **25°.64N**±0°.08×**126°.01E**±0°.07, **h29**km±15km, **n33**, σ0§**93**/39, **mb3.5**/9, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.97**	**45**	*i* P	**Pn**	**03 18 11.9**	**-0.8**
JKE				S	**Sb**	**03 18 25.5**	**-0.3**
JKE	**Kume jima 2**	**0.97**	**45**	A	A	03 18 11.9	
	comp=E,9.0nm,0.7s,comp=N,6.0nm,0.6s						
JIKM	**Ikemajima**	**0.99**	**224**	P	**Pn**	**03 18 12.7**	**-0.3**
JIKM				S	**Sn**	**03 18 26.3**	**+0.3**
JIKM	**Ikemajima**	**0.99**	**224**	A	A	03 18 12.7	
	comp=E,13nm,0.5s,comp=N,11nm,1.5s						
JOGS	**Gusukube**	**1.03**	**212**	*i

CSDB	Cheongsando	0.72	203	P		Pg	03 18 42.5 -0.3
	SNR=88						
JTU	Tsushima	1.81	99	eP		Pn	03 18 59.4 -0.4
JTU				eS		Sb	03 19 24.2 -0.3
JTSM	Tsushimamitsus	1.84	105	eP		Pn	03 19 00.2 -0.1
JTSM				eS		Sn	03 19 23.9 +0.4
JII	Iki	2.31	116	eP		Pn	03 19 06.8 0.0
JII				eS		Sn	03 19 35.5 +0.4
JFU	Fukue jima 2	2.52	150	eP		Pn	03 19 09.4 -0.2
JFU				eS		Sn	03 19 41.1 +0.9

IDC ***08*** *03:38:41.0±1.1, 12°.39N×87°.26W, h0km, mb4.3/8, mbtmp4.3/10, ML3.1/2, MS4.0/49, Error ellipse: s-maj=42.5km s-min=18.6km az=42.0*
SNET ***08*** *03:38:46.2±0.9, 12°.07N×88°.09W, h18km±12km, ML4.1*
NEIC ***08*** *03:38:47±1.5, 12°.05N±0°.06×87°.77W±0°.06, h42km±7km, mb4.9/332, Error ellipse: s-maj=9.3km s-min=7.4km az=211.0*
GCMT ***08*** *03:38:47.0±0.3, 11°.79N±0°.02×88°.23W±0°.03, h17km±1km, MW4.9/91, Moment Tensor Solution. s27,c35; s91,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.82±.13; $M_{\theta\theta}$-1.37±.08; $M_{\phi\phi}$-0.44±.07; $M_{r\theta}$1.11±.19; $M_{\theta\phi}$0.57±.05; $M_{\phi r}$-1.58±.26; Best double couple: $M_0$2.57600×10^{16} NP1:ϕ_s136.00000°, δ69.00000°, λ102.00000°. NP2: ϕ_s284.00000°, δ24.00000°, λ60.00000°. Principal axes: T 2.7680, Plg63.0000°, Azm66.0000°; N -0.3790, Plg12.0000°, Azm311.0000°; P -2.3830, Plg24.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
UCR ***08*** *03:38:47.4±2.3, 12°.05N×87°.77W, h42km, MB4.9(NEIC)*
ISC 08 03:38:45.8±0.4, 12°.04N±0°.05×87°.79W±0°.05, h35km, n672, σ1§**14**/629, **mb4.8**/157, **MS4.1**/50, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.97	47		Pn	03 39 05.2	+2.1
CRIN	San Cristobal	0.97	47	eP	Pn	03 39 06.0	+2.9
CNGN	Cerro Negro	1.16	67		Pn	03 39 06.4	+0.9
CNGN				Sn	Sn	03 39 20.1	-0.1
CNGN	Cerro Negro	1.16	67	eP	Pn	03 39 06.4	+0.9
CNCH	Conchagua	1.23	358	eP	Pn	03 39 08.0	+1.3
LCND	La Caada	1.27	355	eP	Pn	03 39 08.3	+1.2
VSM	San Miguel	1.46	341	eP	Pn	03 39 10.9	+1.0
LCY	Lacayo	1.46	340	eP	Pn	03 39 10.4	+0.6
ALJI	Alcalda de J	1.49	329	eP	Pn	03 39 09.6	-0.6
PACA	Pacayal	1.52	340	eP	Pn	03 39 11.1	+0.6
TECA	Tecapa	1.61	334	eP	Pn	03 39 11.8	-0.1
TECO	Alcaldia de Te	1.78	327	eP	Pn	03 39 13.7	-0.4
COEG	Centro de Oper	1.90	326	eP	Pn	03 39 15.0	-0.8
COEG				IAML		03 39 46.3	
	comp=Z,2μm,0.3s						
SJTE	Alcalda de S	1.97	323	eP	Pn	03 39 16.1	-0.7
LFRS	El Faro	2.01	322	eP	Pn	03 39 16.3	-1.0
PAVA	Las Pavas	2.01	326	eP	Pn	03 39 17.0	-0.3
MATN	Matagalpa	2.02	64		Pn	03 39 17.7	+0.2
MATN				Sn	Sn	03 39 39.9	-1.7
TGUH	Tegucigalpa,Un	2.07	14		Pn	03 39 19.2	+1.1
TGUH	Tegucigalpa,Un	2.07	14	eP	Pn	03 39 20.7	+2.5
TGUH	Tegucigalpa,Un	2.07	14	eP	Pn	03 39 20.5	+2.3
BOAB	BOACO BROADBAN	2.11	79	Pn	Pn	03 39 19.5	+0.9
SNET	Serv Nac Est T	2.16	319	Pn	Pn	03 39 19.4	0.0
BOQS	Boqueron	2.23	319	eP	Pn	03 39 20.8	+0.3
JAYA	Jayaque - finc	2.28	315	eP	Pn	03 39 19.4	-1.7
HZTE	Horizontes, Gu	2.52	121		Pn	03 39 25.2	+1.0
HZTE	Horizontes, Gu	2.52	121	eP	Pn	03 39 25.1	+0.9
CEVE	Cerro Verde	2.53	315	eP	Pn	03 39 23.7	-0.9
SNJE	San Jose	2.54	316	eP	Pn	03 39 23.4	-1.3
ACON	Acoyapa	2.56	91	Pn	Pn	03 39 25.3	+0.5
ACON	Acoyapa	2.56	91	eP	Pn	03 39 25.3	+0.5
RTR	El Retiro	2.59	316	eP	Pn	03 39 25.0	-0.4
ELI1	Hacienda Flor	2.59	122	eP	Pn	03 39 26.4	+1.2
LAPC	Finca la Perla	2.63	118	eP	Pn	03 39 27.2	+1.4
GBI1A	Borinquen Arri	2.63	117	eP	Pn	03 39 27.8	+1.9
BUEV	Buena Vista	2.64	118	eP	Pn	03 39 27.5	+1.5
GPS2	Hotel Rincn d	2.71	118	eP	Pn	03 39 29.4	+2.6
MTO3	Montecristo	2.80	327	Pn	Pn	03 39 28.4	0.0
MTO3	Montecristo	2.80	327	eP	Pn	03 39 28.6	+0.2
LIM1	Limonal	2.82	118	eP	Pn	03 39 30.1	+1.6
ORTG	Ortega, Santa	2.83	126	Pn	Pn	03 39 28.6	+0.1
ORTG	Ortega, Santa	2.83	126	eP	Pn	03 39 29.3	+0.7
GUAB	Guayabo de Bag	2.83	118	eP	Pn	03 39 31.4	+2.7
CLARA	Aguas Claras	2.85	116	eP	Pn	03 39 30.9	+2.1
MESS	Mesas	2.85	117	eP	Pn	03 39 30.4	+1.6
COLC	Colonia	2.88	118	eP	Pn	03 39 31.0	+1.8
JUD3	Juan Diaz 3	2.88	130	eP	Pn	03 39 28.7	-0.6
VMAR	Armenia, Volca	2.89	115	eP	Pn	03 39 31.1	+1.8
VMAR				eP		03 39 31.2	
BAGA	Bagaces	2.90	121	eP	Pn	03 39 32.5	+3.1
CUI	Cuipilapa	2.91	118	eP	Pn	03 39 31.1	+1.4
PLVR	Palo Verde	2.92	125	eP	Pn	03 39 30.0	+0.1
ESQI	Esquipulas	2.93	329		Pn	03 39 30.2	+0.2
CANAL	Canalete	2.93	114	eP	Pn	03 39 30.9	+1.0
NICO	Nicoya	2.97	129	eP	Pn	03 39 30.0	-0.6
DUNO	Dulce Nombre,	2.98	131		Pn	03 39 30.0	-0.5
DUNO	Dulce Nombre,	2.98	131	eP	Pn	03 39 30.0	-0.5
MOTZ	Rio Naranjo	2.98	117	eP	Pn	03 39 32.7	+2.1
NARJA	Naranjal	3.01	133	eP	Pn	03 39 30.2	-0.8
ACAL	Aguas Claras	3.04	117	eP	Pn	03 39 33.3	+1.8
PTEN	Parque Tenorio	3.04	115	eP	Pn	03 39 33.5	+1.9
VERA	Finca Concepci	3.09	112	eP	Pn	03 39 33.9	+1.8
POPE	POPE, Guanacas	3.16	128	eP	Pn	03 39 32.9	-0.1
COTE	Lago Cote	3.17	117	eP	Pn	03 39 34.8	+1.5
NYURE	Nandayure	3.21	129	eP	Pn	03 39 34.0	+0.3
JTS	Las Juntas de	3.28	122	eP	Pn	03 39 35.1	+0.4
JTS	Las Juntas de	3.28	122	eP	Pn	03 39 37.1	+2.4
JUNT	Juntas	3.28	122	eP	Pn	03 39 36.8	+2.2
CASO	Castillo	3.39	118	eP	Pn	03 39 38.3	+2.0
ARE1	Arenal 1	3.39	117		Pn	03 39 36.0	-0.3
ARE1	Arenal 1	3.39	117	eP	Pn	03 39 38.2	+2.0
CEDE	Laguna Cedeo	3.39	117	eP	Pn	03 39 38.4	+2.1
ESPN	Las Esperanzas	3.41	87		Pn	03 39 37.7	+1.2
VACR	Volcan Arenal	3.42	117	eP	Pn	03 39 38.7	+2.0
SOCE	Pocosol	3.52	118		Pn	03 39 37.5	-0.5
COVE	Coope Vega, Sa	3.57	111		Pn	03 39 39.8	+1.1
JACO	JACO, Garabito	3.87	127	Pn	Pn	03 39 44.4	+1.6
JACO	JACO, Garabito	3.87	127	eP	Pn	03 39 45.2	+2.3
HDC	Heredia	4.13	119		Pn	03 39 46.2	-0.3
ACOS	Acosta	4.20	122	eP	Pn	03 39 50.3	+2.9
RITA	Parrita	4.22	126	eP	Pn	03 39 50.0	+2.4
ABE2	San Pablo	4.34	122	eP	Pn	03 39 52.0	+2.5
VICA	Volcano Irazu	4.37	117	eP	Pn	03 39 55.1	+4.9
VTRT	Volcan Turrial	4.41	117	eP	Pn	03 39 53.6	+3.0
RAFA	San Farael, Vo	4.42	118	eP	Pn	03 39 55.5	+4.9
LLNJ	Naranjito	4.43	125	eP	Pn	03 39 52.1	+1.6
PCAYA	Pacayas	4.43	118	eP	Pn	03 39 55.7	+4.9
VTLO	VTLO	4.45	116	eP	Pn	03 39 54.0	+2.9
RIMA	Rio Macho	4.46	120		Pn	03 39 52.8	+1.6
RTAL	Retalhuleu	4.54	303	Pn	Pn	03 39 52.9	+0.8
BATAN	Batan	4.74	114		Pn	03 39 55.5	+0.8
HUEH	Huehuetenango	4.87	312	Pn	Pn	03 39 58.4	+1.6
DRK0	Durika	5.25	121		Pn	03 40 02.0	0.0
PETF	Flores	5.25	338		Pn	03 40 02.9	+1.0
CDITO	Canoas	5.93	125		Pn	03 40 12.1	+0.9
BRU2	Volcan	5.96	122	Pn	Pn	03 40 12.4	+0.7
TEIG	Tepich	8.16	357	Pn	Pn	03 40 45.5	+3.8
	comp=Z,5.3nm,0.3s,baz=141,slow=19,SNR=4.5						
TEIG				LR	LR	03 44 22.0	
	comp=Z,13μm,18.4s,baz=318,slow=43						
BCIP	Isla Barro Col	8.32	109	Pn	Pn	03 40 45.0	+1.0
BCIP	Isla Barro Col	8.32	109	eP	Pn	03 40 47.1	+3.2
APAC	Apartado, Choc	11.78	109	eP	Pn	03 41 34.3	+2.9
SJCC	San Jacinto, C	12.56	99	eP	Pn	03 41 45.6	+3.4
PLMC	San Jos del P	13.40	121	eP	Pn	03 41 56.5	+2.8
ZARC	Zaragoza, Cauc	13.52	108	eP	P	03 42 05.7	+1.9
YOTC	Yotoco, Valle	13.86	124	eP	Pn	03 42 00.9	+0.9
GUY2C	Guyana, Caldas	14.02	118	eP	P	03 42 12.4	+2.5
JAMC	Jamundi, Valle	14.07	128	eP	P	03 42 13.3	+3.0
BBAC	Balboa, Cauca	14.43	133	eP	P	03 42 15.8	+1.6
POPC	Popayan, Colom	14.50	130	eP	P	03 42 18.3	+3.3
ORTC	Ortega, Tolima	14.80	122	eP	P	03 42 21.6	+3.3
GCUF	Volcan Galeras	14.92	135	eP	P	03 42 27.0	+7.0
OTAV	Otavalo	14.94	141	eP	P	03 42 30.6	+10
CRUC	La Cruz	14.95	133	eP	P	03 42 23.6	+3.4
SPBC	San Pablo de B	14.96	114	eP	P	03 42 22.0	+2.0
TULM	Tulcn-Chalpat	15.00	138	eP	P	03 42 27.9	+7.1
PULU	Pululahua	15.08	142	Pn	Pn	03 42 17.4	+0.6
ROSC	El Rosal	15.11	117	Pn	Pn	03 42 17.8	+0.6
ROSC	El Rosal	15.11	117	eP	P	03 42 21.4	-0.6
ROSC	El Rosal	15.11	117	Pn	Pn	03 42 10.2	-6.9
	comp=Z,1.8nm,0.3s,baz=34,slow=22,SNR=2.8						
ROSC				LR	LR	03 49 15.0	
	comp=Z,524nm,18.1s,baz=336,slow=43						
	comp=Z,3.9nm,0.4s						
PRAC	Prado	15.21	122	eP	P	03 42 21.4	-1.4
BONI	La Bonita	15.37	138	eP	Pn	03 42 22.6	+2.2
BARC	Barichara	15.39	109	eP	P	03 42 27.8	+2.8
PAMC	Pamplona, Colo	15.58	106	eP	P	03 42 26.9	-0.5
SLOR	San Lorenzo -	15.68	143	Pn	Pn	03 42 24.1	-0.6
CHIC	Chingaza	15.72	117	eP	P	03 42 27.5	-1.4
RUSC	La Rusia	15.75	112	eP	Pn	03 42 27.6	+2.1
FLOC	Florencia	15.89	130	eP	P	03 42 32.0	+1.7
VILC	Villavicencio,	16.01	118	eP	P	03 42 32.5	+0.7
CHSH	Refugio Sur-Vo	16.10	146	Pn	Pn	03 42 28.4	-1.8
COHC	Cochancay	16.72	149		Pn	03 42 37.4	-0.1
COHC	Cochancay	16.72	149	eP	P	03 42 43.1	+3.7
MACC	Macarena, Meta	16.95	124	eP	Pn	03 42 34.6	-5.8
SDV	Santo Domingo	17.15	99	Pn	Pn	03 42 41.4	-1.8
SDV	Santo Domingo	17.15	99	eP	Pn	03 42 36.1	-7.1
SDV	Santo Domingo	17.15	99	Pn	Pn	03 42 36.8	-6.3
	comp=Z,0.6nm,0.3s,baz=352,slow=22,SNR=1.2						
SDV				LR	LR	03 51 06.5	
	comp=Z,339nm,19.0s,baz=282,slow=45						
	comp=Z,2.6nm,0.2s						
SDDR	Presa de Saban	17.32	64		Pn	03 42 45.0	-0.1
PTGC	Puerto Gaitan,	17.33	115	eP	Pn	03 42 45.4	+0.3
PTLC	Puerto Leguiza	17.47	132	eP	P	03 42 56.6	+8.8
BOSC	San Juan Bosco	17.69	148	Pn	Pn	03 42 47.2	-2.5
MCRA	Macar, Loja	18.07	154	eP	P	03 43 08.8	+14
KVTX	Kingsville	18.11	330	P	P	03 42 55.8	+1.1
HBVL	Hebbronville	18.11	327	P	P	03 42 55.0	+0.3
HBVL				IAmb	IAmb	03 42 60.0	
	comp=Z,57nm,0.7s						
441A	DeRidder	19.28	346	P	P	03 43 07.0	-0.5
HKT	Hockley	19.33	338		P	03 43 07.9	-0.1
833A	Chaparral WMA,	19.50	328	P	P	03 43 10.4	+0.4
	baz=144,SNR=70						
344A	Westbrook Farm	19.51	352		Pn	03 43 11.5	-0.1
BAUV	El Baul	19.65	97	P	P	03 43 11.0	-0.8
TIGA	Tifton	19.69	11	P	P	03 43 13.1	+1.0
	baz=192						
HNVL	Huntsville, TX	19.94	340	P	P	03 43 15.9	+1.2
HNVL				IAmb	IAmb	03 43 17.8	
	comp=Z,54nm,0.9s						
VBMS	Vicksburg	20.24	353	P	P	03 43 17.4	-0.6
VBMS	Vicksburg	20.24	353	P	P	03 43 19.3	+1.3
	baz=172,SNR=5.7						
HNDO	Hondo	20.43	330	P	P	03 43 19.6	-0.5
HNDO				IAmb	IAmb	03 43 28.5	
	comp=Z,72nm,0.8s						
146A	Union	20.54	357	P	P	03 43 20.3	-0.9
146A				IAmb	IAmb	03 43 34.9	
	comp=Z,60nm,1.0s						
NATX	Nacogdoches	20.63	343		P	03 43 21.2	-1.0
NATX				IAmb	IAmb	03 43 24.9	
	comp=Z,60nm,0.8s						
NATX	Nacogdoches	20.63	343	P	P	03 43 23.2	+1.0
	baz=161,SNR=10						
152A	Waverly Hall	20.73	7	P	P	03 43 23.3	0.0
152A				IAmb	IAmb	03 43 27.1	
	comp=Z,59nm,0.9s						
435B	Jarrell	20.74	336	P	P	03 43 23.2	-0.3
435B				IAmb	IAmb	03 43 28.4	
	comp=Z,43nm,0.8s						
435B	Jarrell	20.74	336	P	P	03 43 24.2	+0.7
	baz=152						
143A	Socs Landing,	20.84	351	P	P	03 43 24.3	-0.1
143A				IAmb	IAmb	03 43 28.1	
	comp=Z,73nm,1.2s						
LRAL	Lakeview Retre	20.91	2		P	03 43 25.8	+0.5
LRAL	Lakeview Retre	20.91	2	P	Pn	03 43 27.1	-0.9
	baz=182,SNR=8.3						
DRIO	Del Rio	21.02	327	P	P	03 43 25.9	-0.6
DRIO				IAmb	IAmb	03 43 47.1	
	comp=Z,27nm,0.9s						
ATAH	Atahualpa	21.21	153	LR	LR	03 50 25.4	
	comp=Z,478nm,19.7s,baz=338,slow=33						
Z51A	Franklin	21.32	6	P	P	03 43 30.3	+0.7
Z51A				IAmb	IAmb	03 43 34.6	
	comp=Z,51nm,1.1s						
JCT	Junction City	21.47	331	P	P	03 43 31.1	-0.3
JCT				IAmb	IAmb	03 43 46.9	
	comp=Z,33nm,0.8s						
JCT	Junction City	21.47	331	P	P	03 43 30.8	-0.6
	baz=146,SNR=17						
Z41A	Richland Creek	21.62	349	P	P	03 43 33.1	+0.3
GOGA	Godfrey	21.64	10	P	P	03 43 34.2	+1.2
GOGA				IAmb	IAmb	03 43 37.0	
	comp=Z,42nm,0.8s						
GOGA	Godfrey	21.64	10	P	P	03 43 34.6	+1.5
	baz=191,SNR=17						
SJG	San Juan	21.74	71	P	P	03 43 35.2	+0.9
Y49A	Blount Mountai	21.76	3		P	03 43 34.8	+0.4
Y49A				IAmb	IAmb	03 43 58.3	
	comp=Z,50nm,1.4s						
WHTX	Lake Whitney,	21.76	337	P	P	03 43 34.7	+0.3
WHTX				IAmb	IAmb	03 43 53.4	
	comp=Z,36nm,1.1s						
WHTX	Lake Whitney,	21.76	337	P	P	03 43 34.5	0.0
	baz=154						
BRDY	Brady	21.78	333	P	P	03 43 33.5	-1.2
BRDY				IAmb	IAmb	03 43 45.0	
	comp=Z,33nm,0.9s						
Y45A	Yeager Farm, C	21.79	356		P	03 43 35.1	+0.5
Y45A				IAmb	IAmb	03 43 50.0	
	comp=Z,55nm,1.1s						
Y52A	Lilburn	21.99	8	P	P	03 43 37.7	+0.8
Y52A				IAmb	IAmb	03 43 41.6	
	comp=Z,49nm,0.9s						
FW16	Waxahatchie	22.00	339	P	P	03 43 38.0	+1.0
FW16				IAmb	IAmb	03 43 40.6	
	comp=Z,72nm,1.0s						
FW14	Alvarado	22.03	338	P	P	03 43 38.6	+1.3
FW14				IAmb	IAmb	03 43 41.2	
	comp=Z,63nm,1.0s						
FW13	Cleburne	22.08	338	P	P	03 43 38.5	+0.7
FW13				IAmb	IAmb	03 43 40.9	
	comp=Z,92nm,1.5s						
CCAR	Cane Creek	22.08	351	P	P	03 43 38.7	+0.9
CCAR				IAmb	IAmb	03 44 05.4	
	comp=Z,66nm,1.1s						
WLAR	White Oak Lake	22.09	348	P	P	03 43 38.4	+0.4
NHSC	New Hope	22.10	17	P	P	03 43 38.3	+0.3
	baz=200						
Z38A	Mt. Pleasant	22.13	344	P	P	03 43 39.3	+1.0
SAND	Sanderson	22.25	325	P	P	03 43 39.1	-0.7
SAND				IAmb	IAmb	03 43 52.0	
	comp=Z,27nm,1.1s						
X48A	Hartselle	22.32	2	P	P	03 43 40.7	+0.3
OXF	Oxford	22.42	356	P	P	03 43 41.3	-0.2
OXF	Oxford	22.42	356	P	P	03 43 42.3	+0.8
	baz=176,SNR=8.7						
OZNA	Ozona	22.48	329	P	P	03 43 41.2	-1.0
OZNA				IAmb	IAmb	03 43 44.9	
	comp=Z,75nm,1.1s						
FPAL	Fort Paine	22.49	5	P	P	03 43 42.6	+0.3
FW07	Weatherford	22.52	338	P	P	03 43 43.2	+0.6
FW07				IAmb	IAmb	03 43 52.0	
	comp=Z,32nm,0.8s						
FW06	Azle	22.68	338	P	P	03 43 45.2	+0.9
FW06				IAmb	IAmb	03 43 46.7	
	comp=Z,65nm,1.3s						
TXAR	Lajitas Array	22.69	322	P	P	03 43 44.3	-0.2
TXAR	Lajitas Array	22.69	322	P	P	03 43 44.6	+0.1
	comp=Z,9.8nm,0.6s,baz=138,slow=9.6,SNR=111						
TXAR				ScP	ScP	03 51 14.3	+2.8
	comp=Z,0.2nm,0.8s,baz=132,slow=6.7,SNR=1.7						
TXAR				LR	LR	03 54 30.9	
	comp=Z,158nm,20.6s,baz=134,slow=42						
	comp=Z,9.8nm,0.6s						
TX31	Lajitas Ar. Si	22.69	322	P	P	03 43 44.8	+0.3
TX32	Lajitas Array	22.69	322	P	P	03 43 44.8	+0.3
TX32				IAmb	IAmb	03 44 00.2	
	comp=Z,28nm,0.8s						
X40A	Basin Creek Fa	22.82	349	P	P	03 43 46.3	+0.7
PLAL	Pickwick Lake	22.84	359	P	P	03 43 45.4	-0.6
Y57A	Sumter	22.90	16	P	P	03 43 45.9	-0.6
Y57A				IAmb	IAmb	03 43 50.5	
	comp=Z,33nm,0.8s						
Z35A	Perchaven, San	22.90	339	P	P	03 43 47.3	+0.8
JSC	Jenkinsville	22.93	14	P	P	03 43 47.8	+1.0
JSC				IAmb	IAmb	03 43 50.0	
	comp=Z,44nm,1.0s						
FW03	Perrin-Whitt E	22.93	337	P	P	03 43 47.1	+0.2
FW03				IAmb	IAmb	03 43 49.0	
	comp=Z,44nm,1.0s						
UALR	University of	23.01	350	P	P	03 43 47.6	-0.1
UALR				IAmb	IAmb	03 43 49.4	
	comp=Z,59nm,1.1s						
MIAR	Mount Ida	23.02	348	P	P	03 43 47.6	-0.1
MIAR	Mount Ida	23.02	348	P	P	03 43 48.3	+0.5
	baz=165,SNR=56						
SWET	Sewanee	23.14	4	P	P	03 43 49.3	+0.3
SWET				IAmb	IAmb	03 43 52.5	
	comp=Z,82nm,2.0s						
W50A	Signal Mountai	23.17	5	P	P	03 43 49.5	+0.2
ABTX	Abilene, Hawle	23.20	334	P	P	03 43 48.6	-1.1
ABTX				IAmb	IAmb	03 43 58.3	
	comp=Z,56nm,0.9s						
ABTX	Abilene, Hawle	23.20	334	P	P	03 43 49.1	-0.6
	baz=149,SNR=26						
W52A	Murphy	23.22	8	P	P	03 43 49.7	-0.1
W52A				IAmb	IAmb	03 43 52.6	
	comp=Z,49nm,1.4s						
BG3	Lake Jocassee	23.27	10	P	P	03 43 50.9	+0.5
BG3				IAmb	IAmb	03 43 53.2	
	comp=Z,53nm,1.0s						
SGCY	Sterling City	23.29	330	P	P	03 43 49.4	-1.2
SGCY				IAmb	IAmb	03 44 00.7	
	comp=Z,58nm,1.0s						
ALPN	Alpine	23.43	324	P	P	03 43 52.1	0.0
ALPN				IAmb	IAmb	03 44 06.7	
	comp=Z,19nm,0.9s						
BIRD	Birdtown, Kers	23.47	15	P	P	03 43 53.1	+0.8
BIRD				IAmb	IAmb	03 43 54.6	
	comp=Z,30nm,1.1s						
LOOK	Love County	23.48	340		P	03 43 52.9	+0.5
X37A	Clayton	23.49	344		P	03 43 52.8	+0.4
X37A				IAmb	IAmb	03 43 56.1	
	comp=Z,52nm,0.9s						
CPCT	Cooper Cave	23.50	7	P	P	03 43 53.2	+0.7
CPCT				IAmb	IAmb	03 43 55.8	
	comp=Z,26nm,0.9s						
WHAR	Wooly Hollow	23.51	351	P	P	03 43 52.6	0.0
WHAR				IAmb	IAmb	03 43 54.0	
	comp=Z,41nm,1.1s						
HBAR	Harrisburg	23.56	354	P	P	03 43 52.9	-0.2
V48A	Smith Brothers	23.61	2	P	P	03 43 53.5	-0.1
X58A	Rowland	23.70	18	P	P	03 43 54.3	-0.1
X58A				IAmb	IAmb	03 43 58.1	
	comp=Z,38nm,1.2s						
WTFS	Witchita Falls	23.73	337	P	P	03 43 55.0	+0.3
WTFS				IAmb	IAmb	03 43 57.1	
	comp=Z,145nm,1.9s						
KMSC	Kings Mountain	23.73	13	P	P	03 43 55.9	+1.1
KMSC				IAmb	IAmb	03 43 57.3	
	comp=Z,21nm,0.8s						
KMSC	Kings Mountain	23.73	13	P	P	03 43 55.1	+0.3
	baz=196,SNR=8.1						
TKL	Tuckaleechee C	23.80	8	P	P	03 43 56.3	+1.0
TKL	Tuckaleechee C	23.80	8	LR	LR	03 54 00.1	
	comp=Z,278nm,18.2s,baz=196,slow=39						
HALT	Halls	23.81	357	P	P	03 43 53.2	-2.2
HALT				IAmb	IAmb	03 43 56.7	
	comp=Z,37nm,0.9s						
V51A	Loudon	23.86	7	P	P	03 43 56.8	+0.8
V51A				IAmb	IAmb	03 43 59.4	
	comp=Z,25nm,0.9s						
GNAR	Gosnell	23.91	356	P	P	03 43 56.0	-0.4
V53A	Saluda	23.95	10	P	P	03 43 57.5	+0.6
V53A				IAmb	IAmb	03 44 00.5	
	comp=Z,34nm,1.0s						
SN01	Snyder 1	23.96	332	P	P	03 43 55.6	-1.4
SN01				IAmb	IAmb	03 44 05.8	
	comp=Z,63nm,0.9s						
CLTN	Cedars of Leba	23.98	3	P	P	03 43 57.2	+0.1
WVT	Waverly	23.99	360	P	P	03 43 56.7	-0.4
WVT	Waverly	23.99	360	P	P	03 43 57.2	+0.1
	baz=180						
TBTG	Tabatinga, AM	24.00	131	P	P	03 43 58.2	+0.8
V52A	Sevierville	24.00	8	P	P	03 43 57.6	+0.4
V52A				IAmb	IAmb	03 44 00.5	
	comp=Z,39nm,1.1s						
LNXT	Lenox	24.01	357	P	P	03 43 56.4	-0.9
APMT	Aspermont	24.01	334	P	P	03 43 56.7	-0.7
APMT				IAmb	IAmb	03 44 06.2	
	comp=Z,60nm,1.1s						
FCAR	Ozark Folk Cen	24.07	351	P	P	03 43 57.0	-0.9
W57A	Gilead	24.07	16	P	P	03 43 58.6	+0.7
LCAR	Lake Charles	24.12	353	P	P	03 43 57.2	-1.2
GLAT	Glass	24.16	357	P	P	03 43 57.9	-0.9
GLAT				IAmb	IAmb	03 44 01.0	
	comp=Z,50nm,1.0

OK052 Battle Ridge R 25.20 343 P **P 03 44 07.5 -0.7**
CGM3 Cape Girardeau 25.21 356 P **P 03 44 07.7 -0.6**
OK029 Liberty Lake 25.22 341 P 03 44 07.6 -0.8
OK033 Mehan 25.29 342 P 03 44 08.1 -0.9
OK033 IAmb IAmb 03 44 11.5
comp=Z,57nm,1.1s
MGMO Mountain Grove 25.33 352 P **P 03 44 08.7 -0.6**
MGMO IAmb IAmb 03 44 13.6
comp=Z,25nm,1.2s
QUOK Quay 25.34 343 P 03 44 08.7 -0.7
MNTX Cornudas Mount 25.41 323 P **P 03 44 10.1 -0.1**
MNTX IAmb IAmb 03 44 12.8
comp=Z,28nm,1.3s
MNTX Cornudas Mount 25.41 323 P **P 03 44 10.2 0.0**
baz=136,SNR=18
CSTR Hydro, Custer 25.49 339 P 03 44 10.5 -0.4
S44A Carbondale 25.58 357 P **P 03 44 11.5 -0.1**
S44A IAmb IAmb 03 44 13.0
comp=Z,48nm,1.3s
SIUC Southern Illin 25.60 357 P **P 03 44 11.5 -0.3**
SIUC IAmb IAmb 03 44 12.6
comp=Z,24nm,0.8s
OK048 Pawnee Station 25.64 343 P 03 44 12.4 +0.2
OK051 E0350 and S346 25.69 343 P **P 03 44 12.2 -0.4**
MSTX Muleshoe 25.76 330 P **P 03 44 13.3 -0.2**
MSTX Muleshoe 25.76 330 P **P 03 44 12.9 -0.6**
baz=144,SNR=18
U59A Littleton 25.83 19 P **P 03 44 13.5 -0.4**
BLA Blacksburg 25.92 14 P **P 03 44 15.7 +0.9**
baz=197
FVM French Village 25.95 355 P **P 03 44 15.1 +0.1**
T35A Sooner Cattle 25.98 344 P **P 03 44 15.0 -0.3**
T35A IAmb IAmb 03 44 26.2
comp=Z,20nm,0.8s
T57A Hurt 26.01 16 P **P 03 44 16.3 +0.7**
T57A IAmb IAmb 03 44 17.7
comp=Z,27nm,1.1s
AMTX Amarillo 26.01 333 P **P 03 44 15.5 -0.2**
AMTX Amarillo 26.01 333 P **P 03 44 15.8 +0.1**
baz=148
S39A Bolivar 26.02 350 P **P 03 44 14.6 -1.0**
CROK Carrier 26.04 341 P 03 44 14.8 -1.0
CROK IAmb IAmb 03 44 17.8
comp=Z,35nm,0.8s
BLOK Blackwell 26.04 343 P 03 44 15.6 -0.2
CCM Cathedral Cave 26.09 354 P **P 03 44 15.2 -1.1**
CCM IAmb IAmb 03 44 17.2
comp=Z,18nm,0.8s
CCM Cathedral Cave 26.09 354 P **P 03 44 15.5 -0.7**
baz=172
WCI Wyandotte Cave 26.12 3 P **P 03 44 15.8 -0.7**
WCI IAmb IAmb 03 44 17.2
comp=Z,29nm,1.1s
WCI Wyandotte Cave 26.12 3 P **P 03 44 17.0 +0.6**
baz=183
ELIS Ellis County 26.13 338 P **P 03 44 16.7 0.0**
NNA Nana 26.23 155 LR LR 03 53 10.2
comp=Z,173nm,20.0s,baz=340,slow=33
U32A Winter Ranch, 26.26 339 P 03 44 17.3 -0.5
GC02 Grant County # 26.32 342 P 03 44 18.7 +0.4
KAN13 South Haven SW 26.35 342 P 03 44 17.4 -1.2
OK032 Salt Plains WL 26.38 341 P 03 44 17.9 -1.0
KAN14 Manchester OK 26.45 341 P **P 03 44 18.9 -0.6**
KAN14 IAmb IAmb 03 44 29.3
comp=Z,41nm,1.1s
R40A Maddies Statio 26.45 352 P **P 03 44 18.6 -0.8**
KAN17 Caldwell West 26.46 342 P 03 44 19.3 -0.3
T59A Double "B" Far 26.48 19 P **P 03 44 19.8 +0.1**
T59A IAmb IAmb 03 44 21.9
comp=Z,31nm,1.3s
KAN09 Caldwell North 26.51 342 P **P 03 44 20.1 +0.1**
KAN05 Bluff City Nor 26.56 342 P **P 03 44 20.3 -0.2**
KAN01 Argonia South 26.57 342 P 03 44 19.9 -0.6
KS20 Mayfield South 26.57 342 P 03 44 19.9 -0.7
SLM Saint Louis 26.58 356 P **P 03 44 19.5 -1.1**
OLIL Olney 26.59 359 P **P 03 44 20.0 -0.7**
OLIL IAmb IAmb 03 44 21.5
comp=Z,15nm,0.8s
KS21 Milan North St 26.66 342 P **P 03 44 22.9 +1.5**
KAN06 Argonia West S 26.68 342 P **P 03 44 20.9 -0.8**
KAN08 Anthony NE Sta 26.70 342 P 03 44 21.3 -0.5
KAN12 Harper NE Stat 26.77 342 P 03 44 22.2 -0.2
Q44A Meyer Farm, Va 26.78 358 P **P 03 44 22.0 -0.4**
Q44A IAmb IAmb 03 44 23.0
comp=Z,26nm,0.9s
R55A Marlinton 27.02 13 P **P 03 44 25.4 +0.7**
Q51A Peebles 27.17 8 P **P 03 44 25.7 -0.3**
Q51A IAmb IAmb 03 44 27.5
comp=Z,19nm,0.8s
121A Cookes Peak, D 27.45 321 P **P 03 44 30.6 +1.9**
121A Cookes Peak, D 27.45 321 P **P 03 44 27.8 -0.9**
baz=134,SNR=7.5
Q54A Coxs Mills 27.54 12 P **P 03 44 28.3 -0.9**
Q54A IAmb IAmb 03 44 31.5
comp=Z,14nm,0.7s
P40A Paris 27.64 353 P **P 03 44 29.2 -1.0**
P53A Whipple 27.92 11 P **P 03 44 32.7 0.0**
P53A IAmb IAmb 03 44 34.7
comp=Z,17nm,0.8s
P52A Corning 27.94 9 P **P 03 44 32.9 +0.1**
baz=192
P38A Dawn 27.94 351 P **P 03 44 31.8 -1.1**
P38A IAmb IAmb 03 44 33.4
comp=Z,30nm,0.9s
Q56A Snyder Ridge, 27.96 14 P **P 03 44 33.6 +0.6**
Q44A Mansfield 28.01 359 P **P 03 44 32.8 -0.7**
R32A Long Quarter, 28.02 342 P **P 03 44 33.0 -0.6**
R32A IAmb IAmb 03 44 45.2
comp=Z,24nm,0.9s
Y22D IRIS PASSCAL I 28.03 325 P **P 03 44 35.1 +1.3**
Y22D IAmb IAmb 03 44 56.9
comp=Z,32nm,0.9s
KSU1 Kansas State U 28.07 345 P **P 03 44 33.4 -0.6**
KSU1 IAmb IAmb 03 44 43.2
comp=Z,23nm,1.1s
KSU1 Kansas State U 28.07 345 P **P 03 44 34.0 0.0**
baz=161
O48B Farmland 28.20 4 P **P 03 44 34.7 -0.5**
O48B IAmb IAmb 03 44 47.9
comp=Z,32nm,1.6s
O48B Farmland 28.20 4 P **P 03 44 35.0 -0.2**
baz=185
SFIN Lafayette 28.24 1 P **P 03 44 35.5 0.0**
baz=181
DUN6 Lazy B Ranch 28.27 320 P 03 44 35.5 -0.6
MCWV Mont Chateau 28.39 13 P **P 03 44 36.5 -0.4**
baz=196
ACSO Alum Creek Sta 28.40 8 P **P 03 44 35.2 -1.8**
ACSO Alum Creek Sta 28.40 8 P **P 03 44 36.2 -0.8**
baz=190
ANMO Albuquerque 28.41 326 P **P 03 44 38.3 +0.9**
HDIL Hopedale 28.44 358 P **P 03 44 35.9 -1.4**
HDIL IAmb IAmb 03 44 37.6
comp=Z,18nm,1.0s
HDIL Hopedale 28.44 358 P **P 03 44 36.3 -1.0**
baz=177
P57A Homestead Farm 28.68 16 P **P 03 44 40.1 +0.8**
P57A IAmb IAmb 03 44 42.0
comp=Z,16nm,0.8s
N41A Harden Midland 28.69 355 P **P 03 44 37.7 -1.8**
N41A IAmb IAmb 03 44 39.4
comp=Z,18nm,0.9s
O53A New Philadelph 28.69 11 P **P 03 44 39.2 -0.4**
O53A IAmb IAmb 03 44 41.1
comp=Z,22nm,0.9s
O53A New Philadelph 28.69 11 P **P 03 44 40.4 +0.9**
baz=193
CBKS Cedar Bluff 28.71 340 P **P 03 44 39.3 -0.5**
CBKS IAmb IAmb 03 44 47.7
comp=Z,18nm,0.8s
CBKS Cedar Bluff 28.71 340 P **P 03 44 39.3 -0.5**
baz=155
O54A Avella 28.79 12 P **P 03 44 41.0 +0.6**
N49A Columbus Grove 28.95 6 P **P 03 44 41.1 -0.7**
N49A IAmb IAmb 03 44 42.5
comp=Z,23nm,1.1s
N38A Joes South For 29.04 351 P **P 03 44 41.8 -0.8**
N38A IAmb IAmb 03 44 43.2
comp=Z,46nm,1.4s
T25A Trinidad 29.11 332 P **P 03 44 43.8 +0.2**
T25A Trinidad 29.11 332 P **P 03 44 44.0 +0.4**
baz=145
TUC Tucson 29.22 317 P **P 03 44 44.2 -0.3**
TUC Tucson 29.22 317 P **P 03 44 44.5 +0.1**
baz=129
N35A Tabor 29.53 348 P **P 03 44 46.3 -0.7**
MVL Millersville 29.63 18 P **P 03 44 48.5 +0.6**
SSPA Standing Stone 29.79 15 P **P 03 44 49.6 +0.3**
SSPA Standing Stone 29.79 15 P **P 03 44 49.6 +0.3**
baz=200
N33A J Bar K, Exete 29.83 345 P **P 03 44 49.2 -0.5**
KSCO Kaye Shedlock' 29.93 336 P **P 03 44 51.3 +0.6**
KSCO IAmb IAmb 03 44 59.2
comp=Z,19nm,0.8s
KSCO Kaye Shedlock' 29.93 336 P **P 03 44 50.7 0.0**
baz=150
L40A Anamosa 30.06 355 P **P 03 44 50.8 -0.8**
L40A IAmb IAmb 03 44 59.7
comp=Z,38nm,1.4s
SDCO Great Sand Dun 30.11 331 P **P 03 44 52.5 0.0**
SDCO Great Sand Dun 30.11 331 P **P 03 44 52.1 -0.4**
baz=144,SNR=5.7
X18A Snowflake 30.13 322 P **P 03 44 52.0 -0.6**
SCIA State Center 30.13 352 P **P 03 44 51.5 -0.8**
SCIA IAmb IAmb 03 44 53.0
comp=Z,19nm,0.9s
M57A Sunshine Farm, 30.65 16 P **P 03 44 56.9 +0.1**
M57A IAmb IAmb 03 44 58.8
comp=Z,16nm,0.9s
ERPA Erie 30.73 11 P **P 03 44 57.0 -0.5**
ERPA IAmb IAmb 03 44 58.8
comp=Z,22nm,0.8s
L34A Svendsen Farm, 30.75 347 P **P 03 44 57.3 -0.4**
L34A IAmb IAmb 03 45 08.8
comp=Z,14nm,0.8s
S22A 4UR Ranch, Cre 30.75 330 P **P 03 44 58.8 +0.6**
S22A 4UR Ranch, Cre 30.75 330 P **P 03 44 58.5 +0.3**
baz=141,SNR=11
K38A Parkersburg 30.80 353 P **P 03 44 57.9 -0.3**
K38A IAmb IAmb 03 45 11.4
comp=Z,32nm,1.2s
Q24A Divide 30.94 333 P **P 03 44 59.7 -0.1**
KSPA Keystone Colle 31.23 18 P **P 03 45 00.5 -1.5**
KSPA IAmb IAmb 03 45 12.5
comp=Z,15nm,1.1s
L56A Greenwood 31.29 15 P **P 03 45 02.4 -0.2**
PAL Palisades 31.32 20 P **P 03 45 03.5 +0.7**
baz=207
OGNE Ogallala 31.40 339 P **P 03 45 04.3 +0.8**
OGNE IAmb IAmb 03 45 31.2
comp=Z,14nm,0.6s
OGNE Ogallala 31.40 339 P **P 03 45 04.4 +0.8**
baz=152
WUAZ Wupatki 31.65 322 P **P 03 45 06.8 +0.8**
I42A Draeger Farm, 31.75 358 P **P 03 45 06.0 -0.5**
BINY Binghamton 31.76 17 P **P 03 45 08.3 +1.6**
baz=202
ISCO Idaho Springs 31.83 333 P **P 03 45 07.8 +0.1**
ISCO Idaho Springs 31.83 333 P **P 03 45 08.5 +0.8**
baz=146
L59A Walton 32.03 18 P **P 03 45 08.0 -1.0**
L59A IAmb IAmb 03 45 11.0
comp=Z,20nm,1.1s
PV15 Paradox Valley 32.04 328 P **P 03 45 10.4 +0.9**
PV15 IAmb IAmb 03 45 24.4
comp=Z,34nm,2.0s
PV13 Radium Mtn., P 32.08 328 P **P 03 45 10.2 +0.3**
PV13 IAmb IAmb 03 45 25.3
comp=Z,14nm,1.1s
K57A Scipio Center 32.11 16 P **P 03 45 08.8 -1.0**
SAML Samuel 32.14 129 P **P 03 45 09.3 -0.9**
SAML IAmb IAmb 03 45 19.7
comp=Z,20nm,1.2s
SAML Samuel 32.14 129 P **P 03 45 09.5 -0.8**
SAML pP **pP 03 45 18.6 -1.7**
PV05 Paradox Valley 32.17 327 P **P 03 45 09.3 -1.2**
PV05 IAmb IAmb 03 45 25.6
comp=Z,11nm,1.1s
PV18 Skein Mesa, Pa 32.19 328 P **P 03 45 12.0 +1.2**
PV18 IAmb IAmb 03 45 25.4
comp=Z,8.9nm,0.7s
PV07 Paradox Valley 32.20 328 P **P 03 45 12.2 +1.4**
I37A Lemond, Waseca 32.23 352 P **P 03 45 09.8 -1.0**
PV16 Nyswonger Mesa 32.24 328 P **P 03 45 11.2 -0.1**
PV19 Morning Glory 32.28 328 P **P 03 45 12.0 +0.5**
PV19 IAmb IAmb 03 45 26.6
comp=Z,9.8nm,0.8s
PV20 West Nyswonger 32.29 328 P **P 03 45 11.7 +0.1**
PV22 Blue Mesa, Par 32.35 328 P **P 03 45 12.6 +0.5**
PV10 Paradox Valley 32.36 328 P **P 03 45 11.9 -0.4**
PV10 IAmb IAmb 03 45 32.8
comp=Z,10nm,0.8s
PV23 Carpenter Ridg 32.40 328 P **P 03 45 12.2 -0.4**
PV23 IAmb IAmb 03 45 19.7
comp=Z,11nm,0.8s
PV21 Cone Mtn., Par 32.46 328 P **P 03 45 13.2 +0.1**
ECSD EROS Data Cent 32.49 348 P **P 03 45 12.2 -0.9**
ECSD IAmb IAmb 03 45 13.0
comp=Z,24nm,1.1s
ECSD EROS Data Cent 32.49 348 P **P 03 45 12.3 -0.8**
baz=164,SNR=16
J56A Wolcott 32.53 15 P **P 03 45 13.4 +0.1**
UCCT U. Connecticut 32.62 22 P **P 03 45 13.2 -1.0**
J57A Williamstown 32.88 16 P **P 03 45 16.1 -0.4**
J57A IAmb IAmb 03 45 17.5
comp=Z,32nm,1.4s
TRY Troy 32.95 19 P **P 03 45 17.1 +0.1**
W13A Hualapai Mount 32.97 318 P **P 03 45 17.5 -0.1**
L61B Northampton 33.03 21 P **P 03 45 19.0 +1.2**
baz=208
IKP In-Ko-Pah, Jac 33.09 313 P **P 03 45 17.9 -0.7**
baz=122
G40A Rib Lake 33.18 357 P **P 03 45 18.4 -0.7**
G40A IAmb IAmb 03 45 19.1
comp=Z,17nm,1.1s
O20A White River Ci 33.30 331 P **P 03 45 21.2 +0.7**
O20A IAmb IAmb 03 45 34.0
comp=Z,23nm,1.1s
O20A White River Ci 33.30 331 P **P 03 45 20.0 -0.5**
baz=142,SNR=12
CBX Cerro Bola 33.32 312 P **P 03 45 20.6 0.0**
SPMN Marine on St. 33.35 354 P **P 03 45 19.3 -1.2**
SPMN Marine on St. 33.35 354 P **P 03 45 20.6 +0.1**
baz=171,SNR=8.2
J59A Piesco 33.35 18 P **P 03 45 20.9 +0.3**
J59A IAmb IAmb 03 45 21.9
comp=Z,13nm,1.0s
SADO Sadowa 33.45 11 LR LR 03 59 30.7
comp=Z,326nm,19.5s,baz=164,slow=38
ACCN Adirondack Com 33.54 19 P **P 03 45 21.6 -0.6**
ACCN IAmb IAmb 03 45 23.8
comp=Z,12nm,1.1s
SUSD Miller 33.69 346 P **P 03 45 23.6 +0.1**
baz=160
BELC Belle Mtn. Jos 33.74 315 P **P 03 45 24.1 -0.2**
baz=124
TPFO Pinon Flats 33.85 314 P **P 03 45 25.2 0.0**
baz=123
PFO Pinyon Flats O 33.85 314 P **P 03 45 24.6 -0.7**
baz=123
PFO Pinyon Flats O 33.85 314 LR LR 04 00 15.1
comp=Z,441nm,19.1s,baz=124,slow=38
J61A Chester 33.87 20 P **P 03 45 25.6 +0.6**
J61A IAmb IAmb 03 45 27.3
comp=Z,17nm,1.1s
P18A Preston Nutter 33.91 328 P **P 03 45 26.2 +0.3**
P17A Butcher Ranch, 34.06 327 P **P 03 45 27.3 +0.3**
P17A IAmb IAmb 03 45 34.6
comp=Z,11nm,1.1s
F36A Milaca 34.06 353 P **P 03 45 25.2 -1.5**
F36A IAmb IAmb 03 45 26.5
comp=Z,15nm,0.9s
MSU Marysvale 34.16 325 P **P 03 45 27.6 -0.3**
MVU Marysvale 34.17 325 P **P 03 45 28.5 +0.4**
CCUT Cedar City 34.20 322 P **P 03 45 27.6 -0.8**
LPAZ La Paz 34.21 145 P **P 03 45 28.9 -0.1**
LPAZ pP **pP 03 45 37.8 -0.9**
LONY Lake Ozonia 34.39 17 P **P 03 45 29.2 -0.4**
LONY IAmb IAmb 03 45 30.8
comp=Z,23nm,1.1s
LONY Lake Ozonia 34.39 17 P **P 03 45 30.0 +0.4**
baz=203,SNR=5.7
F33A 5 Mile Ranch, 34.46 349 P **P 03 45 28.7 -1.4**
K22A Casper 34.58 335 P **P 03 45 31.5 +0.1**
K22A IAmb IAmb 03 45 40.1
comp=Z,10nm,0.9s
K22A Casper 34.58 335 P **P 03 45 31.7 +0.3**
baz=146
E38A The Farm, Brul 34.60 355 P **P 03 45 29.6 -1.8**
E38A IAmb IAmb 03 45 31.2
comp=Z,19nm,0.9s
I62A Tamworth 34.75 21 P **P 03 45 33.3 +0.6**
BSUT Blindstream Ca 34.85 329 P **P 03 45 34.9 +0.8**
BSUT IAmb IAmb 03 45 42.5
comp=Z,29nm,1.7s
LBNH Lisbon 34.87 20 P **P 03 45 33.5 -0.3**
LBNH IAmb IAmb 03 45 45.6
comp=Z,28nm,1.5s
LBNH Lisbon 34.87 20 P **P 03 45 34.2 +0.5**
baz=208
FRNY Flat Rock 34.87 18 P **P 03 45 33.2 -0.5**
FRNY IAmb IAmb 03 45 35.0
comp=Z,16nm,1.1s
RSSD Black Hills 34.90 339 P **P 03 45 34.4 +0.2**
RSSD Black Hills 34.90 339 P **P 03 45 34.6 +0.3**
baz=152
RSSD Black Hills 34.90 339 P **P 03 45 35.0 +0.7**
RSSD pP **pP 03 45 43.2 -1.1**
MPU Maple Canyon 34.93 327 P **P 03 45 34.8 +0.3**
MPU IAmb IAmb 03 45 48.6
comp=Z,30nm,2.0s
GSC Goldstone, Bar 35.02 316 P **P 03 45 35.2 -0.1**
baz=124
BFSC Mount Baldy Ra 35.03 314 P **P 03 45 35.6 +0.2**
baz=122
PSUT Pine Spring 35.14 323 P **P 03 45 36.7 +0.3**
CIS Catalina Islan 35.14 312 P **P 03 45 35.9 -0.3**
baz=120
I63A Otisfield 35.17 22 P **P 03 45 36.2 -0.1**
PASC Pasadena Art C 35.37 314 P **P 03 45 38.9 +0.7**
PASC IAmb IAmb 03 45 42.3
comp=Z,18nm,1.4s
MDP Montagnes des 35.40 98 LR LR 04 02 09.8
comp=Z,147nm,19.7s,baz=329,slow=40
MNTQ Montreal, Queb 35.47 17 P **P 03 45 38.5 -0.3**
CTU Camp Tracy 35.48 328 P **P 03 45 40.0 +0.8**
TCUT Toone Canyon 35.61 329 P **P 03 45 40.2 -0.3**
TCUT IAmb IAmb 03 45 59.7
comp=Z,8.1nm,0.8s
DUG Dugway, Tooele 35.69 326 P **P 03 45 41.8 +0.8**
S11A Rachel 35.71 320 P **P 03 45 41.8 +0.5**
BW06 Boulder Array 35.98 332 P **P 03 45 44.4 +0.8**
BW06 Boulder Array 35.98 332 P **P 03 45 44.2 +0.6**
baz=142,SNR=6.5
PD31 Pinedale Array 35.98 332 P **P 03 45 43.2 -0.4**
PDAR Pinedale Array 35.98 332 P **P 03 45 43.8 +0.1**
PDAR Pinedale Array 35.98 332 P **P 03 45 43.5 -0.1**
comp=Z,2.2nm,0.9s,baz=128,slow=9.6,SNR=12
PDAR PcP **PcP 03 48 10.2 +0.4**
comp=Z,1.9nm,1.0s,baz=156,slow=7.8,SNR=3.8
PDAR LR LR 04 02 38.9
comp=Z,128nm,21.2s,baz=138,slow=40
comp=Z,2.2nm,0.9s
R11B Troy Canyon, C 36.05 321 P **P 03 45 44.4 +0.2**
baz=129
HWUT Hardware Ranch 36.06 329 P **P 03 45 44.0 -0.2**
HWUT IAmb IAmb 03 45 51.5
comp=Z,10nm,0.8s
G62A West of Eustis 36.20 21 P **P 03 45 45.5 +0.3**
SPUT South Promonto 36.29 328 P **P 03 45 46.1 -0.1**
BGU Big Grassy Mou 36.32 327 P **P 03 45 47.0 +0.6**
ID09 Alton 36.35 330 P **P 03 45 46.0 -0.7**
ID09 IAmb IAmb 03 46 06.3
comp=Z,16nm,0.8s
GRAC Grapevine Rang 36.36 318 P **P 03 45 47.8 +1.1**
GRAC IAmb IAmb 03 46 06.1
comp=Z,22nm,1.7s
GRAC Grapevine Rang 36.36 318 P **P 03 45 46.6 -0.1**
baz=126
ID10 Lander Cutoff 36.41 331 P **P 03 45 47.6 +0.3**
B35A Bob, Littlefor 36.55 353 P **P 03 45 46.3 -1.8**
B35A IAmb IAmb 03 45 47.7
comp=Z,21nm,1.2s
PKME Peaks-Kenny Pk 36.69 22 P **P 03 45 49.6 +0.3**
PKME Peaks-Kenny Pk 36.69 22 P **P 03 45 48.8 -0.5**
baz=211
AHID Auburn Hatcher 36.70 331 P **P 03 45 50.4 +0.7**
AHID IAmb IAmb 03 46 08.2
comp=Z,18nm,0.8s
ID06 Fossil Canyon 36.73 330 P **P 03 45 50.6 +0.6**
ID06 IAmb IAmb 03 46 13.1
comp=Z,15nm,0.8s
ID05 Sulphur Canyon 36.78 330 P **P 03 45 50.5 +0.1**
ID05 IAmb IAmb 03 46 11.7
comp=Z,11nm,0.7s
HVU Hansel Valley 36.80 328 P **P 03 45 50.7 +0.2**
F62A Pittston Farm, 36.99 21 P **P 03 45 51.5 -0.4**
F62A IAmb IAmb 03 46 09.1
comp=Z,38nm,1.8s
ID07 Smith Canyon R 37.00 330 P **P 03 45 53.3 +1.0**
MDND Maddock 37.05 347 P **P 03 45 52.0 -0.3**
baz=161,SNR=5.1
ECR Eagle Creek 37.05 331 P **P 03 45 53.4 +0.7**
SNOW Snow King Moun 37.07 332 P **P 03 45 53.0 +0.1**
LOHW Long Hollow 37.12 332 P **P 03 45 53.3 0.0**
LOHW IAmb IAmb 03 46 04.9
comp=Z,9.6nm,0.8s
TPAW Teton Pass 37.18 332 P **P 03 45 54.3 +0.4**
TPAW IAmb IAmb 03 46 02.1
comp=Z,22nm,1.0s
MOOW Moose Ponds 37.29 332 P **P 03 45 54.7 0.0**
MOOW IAmb IAmb 03 46 03.4
comp=Z,13nm,0.8s
G65A Princeton 37.29 24 P **P 03 45 54.7 +0.3**
FXWY Fox Creek 37.33 332 P **P 03 45 54.5 -0.6**
ELK Elko 37.41 325 P **P 03 45 56.3 +0.5**
ELK Elko 37.41 325 LR LR 04 05 02.5
comp=Z,624nm,18.2s,baz=132,slow=42
LATQ La Tuque 37.42 17 P **P 03 45 54.7 -0.8**
LATQ IAmb IAmb 03 45 56.6
comp=Z,16nm,0.8s
FLWY Flagg Ranch 37.53 333 P **P 03 45 56.9 +0.2**
FLWY IAmb IAmb 03 46 03.3
comp=Z,18nm,0.9s
F64A Sherman 37.54 22 P **P 03 45 57.0 +0.5**
F64A IAmb IAmb 03 45 58.3
comp=Z,27nm,1.2s
NV11 Mina Array Sit 37.70 320 P **P 03 45 58.8 +0.6**
NV11 IAmb IAmb 03 46 13.7
comp=Z,20nm,1.9s
RLMT Red Lodge 37.74 335 P **P 03 45 58.5 +0.1**
RLMT IAmb IAmb 03 46 06.8
comp=Z,15nm,1.1s
RLMT Red Lodge 37.74 335 P **P 03 45 57.5 -0.9**
baz=144
E62A Clayton Lake 37.77 21 P **P 03 45 58.6 +0.1**
E62A IAmb IAmb 03 46 00.1
comp=Z,12nm,0.9s
NVAR Mina Array Bea 37.80 319 P **P 03 46 00.2 +1.1**
comp=Z,0.4nm,0.6s,baz=133,slow=7.2,SNR=4.7
NVAR PcP **PcP 03 48 16.9 +1.4**
comp=Z,1.6nm,1.0s,baz=146,slow=4.3,SNR=4.8
NVAR ScP **ScP 03 52 06.3 +5.9**
comp=Z,0.5nm,0.7s,baz=139,slow=4.3,SNR=4.8
comp=Z,0.4nm,0.6s
LHV Little Huntoon 37.82 319 P **P 03 45 58.3 -0.7**
LHV IAmb IAmb 03 46 15.2
comp=Z,9.9nm,1.0s
YFT Old Faithful 37.88 333 P **P 03 45 59.9 +0.2**
LAO LASA Array 37.89 339 P **P 03 45 59.7 +0.2**
LAO IAmb IAmb 03 46 09.5
comp=Z,20nm,1.2s
LAO LASA Array 37.89 339 P **P 03 45 59.5 -0.1**
baz=150
YHH Holmes Hill 38.15 333 P **P 03 46 03.1 +1.0**
LMQ La Malbaie 38.31 19 P **P 03 46 02.6 -0.5**
LMQ IAmb IAmb 03 46 04.0
comp=Z,19nm,1.1s
D62A Allapoint, All 38.33 21 P **P 03 46 03.0 -0.2**
D62A IAmb IAmb 03 46 04.7
comp=Z,25nm,1.0s
YHL Hebgen Lake 38.34 333 P **P 03 46 04.5 +0.8**
YHL IAmb IAmb 03 46 13.2
comp=Z,17nm,1.0s
SIV San Ignacio 38.39 136 LR LR 04 01 38.7
comp=Z,293nm,19.1s,baz=312,slow=36
ULM Lac du Bonnet 38.68 352 P **P 03 46 04.2 -1.9**
ULM IAmb IAmb 03 46 05.5
comp=Z,20nm,0.9s
ULM Lac du Bonnet 38.68 352 P **P 03 46 03.2 -2.8**
comp=Z,14nm,0.8s,baz=165,slow=8.9,SNR=9.9
ULM LR LR 04 04 08.2
comp=Z,123nm,18.5s,baz=162,slow=40
comp=Z,14nm,0.8s

DGMT	Dagmar	38.81 343	P	P	03 46 06.0	-1.3
DGMT	Dagmar	38.81 343	P	P	03 46 08.0	+0.7
	baz=154,SNR=7.4					
HLID	Hailey	38.92 329	P	P	03 46 08.7	+0.3
HLID			IAmb	IAmb	03 46 31.3	
	comp=Z,23nm,1.9s					
HLID	Hailey	38.92 329	P	P	03 46 08.8	+0.3
	baz=136					
BCYI	Bear Canyon	38.97 330	P	P	03 46 09.4	+0.6
BOZ	Bozeman (W)	39.12 333	P	P	03 46 09.9	-0.2
BOZ			IAmb	IAmb	03 46 19.1	
	comp=Z,13nm,0.8s					
BOZ	Bozeman (W)	39.12 333	P	P	03 46 10.8	+0.8
	baz=141					
DLMT	Dillon	39.38 332	P	P	03 46 12.9	+0.7
DLMT			IAmb	IAmb	03 46 34.5	
	comp=Z,19nm,1.1s					
ELMT	Elliston	40.22 333	P	P	03 46 19.2	0.0
EGMT	Eagleton	40.30 337	P	P	03 46 20.0	+0.2
EGMT			IAmb	IAmb	03 46 31.2	
	comp=Z,28nm,1.1s					
EGMT	Eagleton	40.30 337	P	P	03 46 20.7	+1.0
	baz=146					
BEMT	Mount Belmont	40.33 334	P	P	03 46 19.6	-0.5
WVOR	Wild Horse Val	40.44 324	P	P	03 46 20.6	-0.5
LYMT	Lyon Mountain	40.48 334	P	P	03 46 21.6	+0.1
ORV	Oroville	40.49 319	P	P	03 46 21.0	-0.3
BPMT	Black Pine Rid	40.58 333	P	P	03 46 22.0	-0.3
PLID	Pearl Lake	40.80 329	P	P	03 46 24.3	+0.2
CHMT	Chamberlain Mo	40.86 333	P	P	03 46 24.1	-0.4
OVMT	Ovando	40.86 334	P	P	03 46 24.1	-0.3
MSO	Missoula	41.10 333	P	P	03 46 26.2	-0.2
MSO			IAmb	IAmb	03 46 37.5	
	comp=Z,19nm,1.2s					
MSO	Missoula	41.10 333	P	P	03 46 26.6	+0.2
	baz=139					
F10A	Beach Ranch, E	42.04 329	P	P	03 46 33.9	-0.2
YBH	Yreka Blue Hor	42.46 321	LR	LR	04 08 21.5	
	comp=Z,247nm,18.4s,baz=154,slow=42					
D08A	Wollman Farm,	43.64 329	P	P	03 46 47.5	+0.6
RPN	Rapa Nui	44.20 208	LR	LR	04 00 42.1	
	comp=Z,239nm,18.3s,baz=58,slow=30					
SCHQ	Schefferville	45.77 17	P	P	03 47 03.2	-0.6
SCHQ	Schefferville	45.77 17	P	P	03 47 01.1	-2.6
	comp=Z,17nm,1.0s,baz=223,slow=5.4,SNR=7.8					
SCHQ			LR	LR	04 07 46.2	
	comp=Z,623nm,18.4s,baz=212,slow=38					
	comp=Z,17nm,1.0s					
EDM	Edmonton	45.87 339	P	P	03 47 04.2	-0.5
B06A	Marblemount	45.90 329	P	P	03 47 05.2	+0.3
B06A			IAmb	IAmb	03 47 11.2	
	comp=Z,15nm,0.8s					
LLLB	Lillooet	47.48 331	P	P	03 47 17.9	+0.7
LLLB			IAmb	IAmb	03 47 27.9	
	comp=Z,17nm,1.0s					
BDFB	Brasilia	48.02 124	P	P	03 47 22.0	0.0
BDFB	Brasilia	48.02 124	P	P	03 47 20.7	-1.3
	comp=Z,7.7nm,0.9s,baz=289,slow=9.7,SNR=8.5					
BDFB			LR	LR	04 09 29.9	
	comp=Z,234nm,19.9s,baz=315,slow=39					
	comp=Z,7.7nm,0.9s					
CPUP	Villa Florida	48.29 142	LR	LR	04 09 16.5	
	comp=Z,123nm,18.5s,baz=330,slow=38					
BBB	Bella Bella	51.50 329	LR	LR	04 12 20.5	
	comp=Z,110nm,20.6s,baz=147,slow=39					
YKA	Yellowknife Ar	53.92 345	LR	LR	04 14 15.9	
	comp=Z,183nm,19.3s,baz=130,slow=40					
RCBR	Riachuelo	54.56 106	LR	LR	04 12 22.9	
	comp=Z,86nm,18.5s,baz=326,slow=37					
PLCA	Paso Flores	54.88 164	LR	LR	04 07 43.8	
	comp=Z,82nm,18.9s,baz=347,slow=32					
DLBC	Dease Lake	56.14 335	P	P	03 48 20.4	-1.3
DLBC			IAmb	IAmb	03 48 31.2	
	comp=Z,12nm,0.9s					
N32M	Quiet Lake	59.00 336	P	P	03 48 42.4	+0.5
	baz=126					
MMPY	Sheldon Lake,	59.20 338	P	P	03 48 42.8	-0.4
MMPY			IAmb	IAmb	03 48 54.5	
	comp=Z,6.2nm,1.0s					
MMPY	Sheldon Lake,	59.20 338	P	P	03 48 43.4	+0.2
	baz=128					
O30N	Mendenhall	60.01 335	P	P	03 48 49.1	+0.3
	baz=122					
SFJD	Kangerlussuaq	60.20 16	LR	LR	04 16 08.7	
	comp=Z,314nm,18.0s,baz=215,slow=38					
YUK6	Outpost Mounta	61.05 334	P	P	03 48 55.6	-0.5
	baz=120					
M30M	Minto, Yukon	61.26 337	P	P	03 48 57.4	+0.1
	baz=123					
M29M	Somme Creek	61.85 336	P	P	03 49 01.6	+0.2
	baz=121					
L29M	L29M	62.07 337	P	P	03 49 02.5	-0.3
	baz=122					
I30M	Mount Dempster	62.57 339	P	P	03 49 05.6	-0.6
I30M			IAmb	IAmb	03 49 19.9	
	comp=Z,13nm,1.5s					
I30M	Mount Dempster	62.57 339	P	P	03 49 05.6	-0.6
	baz=124					
RES	Resolute Bay	62.76 358	LR	LR	04 19 59.2	
	comp=Z,114nm,18.9s,baz=166,slow=40					
G31M	Satah River	62.87 341	P	P	03 49 08.0	+0.1
	baz=127					
F31M	Tsiigehtchic	63.03 342	P	P	03 49 09.4	+0.4
	baz=128					
I29M	Ogilvie Camp,	63.33 339	P	P	03 49 11.7	+0.7
	baz=122					
EPYK	Eagle Plains	63.34 340	P	P	03 49 10.7	-0.5
	baz=124					
INK	Inuvik	63.50 343	P	P	03 49 11.5	-0.6
	baz=128					
INK	Inuvik	63.50 343	LR	LR	04 21 21.7	
	comp=Z,182nm,18.7s,baz=174,slow=40					
L27K	Beaver Creek,	63.51 336	P	P	03 49 11.3	-1.0
	baz=118					
G30M	tAoh Zraii Nji	63.53 341	P	P	03 49 12.0	-0.4
	baz=125					
F30M	Barrier River	63.76 341	P	P	03 49 14.0	+0.2
	baz=126					
H29M	Whitestone	63.81 340	P	P	03 49 13.7	-0.5
	baz=123					
Q23K	Middleton Isla	63.97 331	P	P	03 49 15.5	+0.2
	baz=112					
N25K	Chitina, Valde	64.03 334	P	P	03 49 15.7	-0.1
	baz=114					
K27K	Chicken	64.06 337	P	P	03 49 15.1	-0.8
	baz=118					
G29M	Pine Creek	64.07 340	P	P	03 49 15.0	-1.0
	baz=123					
GLI	Glacier Island	64.85 332	P	P	03 49 21.1	-0.1
	baz=112					
J26L	Joseph Creek	64.85 337	P	P	03 49 20.3	-0.9
	baz=117					
H27K	Steamboat Moun	64.92 339	P	P	03 49 20.4	-1.1
	baz=119					
PAX	Paxson	64.96 335	P	P	03 49 20.8	-1.1
	baz=114					
RIDG	Independent Ri	65.03 336	P	P	03 49 22.5	+0.2
	baz=115					
F28M	Old Crow	65.06 341	P	P	03 49 22.0	-0.3
F28M			IAmb	IAmb	03 49 31.1	
	comp=Z,19nm,1.2s					
F28M	Old Crow	65.06 341	P	P	03 49 21.0	-1.3
	baz=122					
I26K	Coal Creek Min	65.06 338	P	P	03 49 21.7	-0.7
I26K			IAmb	IAmb	03 49 35.6	
	comp=Z,19nm,1.6s					
I26K	Coal Creek Min	65.06 338	P	P	03 49 21.2	-1.2
	baz=117					
K24K	Donnelly Dome	65.43 336	P	P	03 49 23.7	-1.1
	baz=114					
M23K	Glacier View	65.47 333	P	P	03 49 23.9	-1.3
	baz=112					
E28M	Babbage River	65.48 342	P	P	03 49 23.7	-1.4
	baz=122					
J25K	Salcha River,	65.60 336	P	P	03 49 24.9	-1.1
	baz=115					
D28M	Stokes Point	65.63 342	P	P	03 49 24.9	-1.1
	baz=124					
E27K	Coleen River	65.91 341	P	P	03 49 27.4	-0.5
	baz=120					
PMR	Palmer	66.03 333	P	P	03 49 27.8	-0.9
	baz=110					
PRP	Porcupine Dome	66.05 337	P	P	03 49 27.8	-1.1
	baz=115					
G26K	Porcupine Rive	66.05 339	P	P	03 49 28.1	-0.6
	baz=118					
RC01	Rabbit Creek A	66.13 332	P	P	03 49 28.3	-1.0
	baz=109					
HDA	Harding Lake	66.14 336	P	P	03 49 28.9	-0.5
HDA			IAmb	IAmb	03 49 42.3	
	comp=Z,11nm,1.2s					
HDA	Harding Lake	66.14 336	P	P	03 49 28.6	-0.8
	baz=113					
D27M	Malcolm River	66.26 342	P	P	03 49 29.7	-0.5
	baz=121					
ILAR	Eielson Array	66.26 336	P	P	03 49 28.4	-1.8
ILAR	Eielson Array	66.26 336	P	P	03 49 29.5	-0.7
	comp=Z,2.1nm,1.1s,baz=112,slow=4.3,SNR=13					
ILAR			PP	PP	03 51 54.9	-1.3
	comp=Z,1.0nm,1.0s,baz=105,slow=6.8,SNR=4.3					
	comp=Z,2.1nm,1.1s					
F26K	Sheenjek River	66.52 340	P	P	03 49 31.8	0.0
	baz=117					
KDAK	Kodiak Island	66.54 328	LR	LR	04 21 07.2	
	comp=Z,90nm,18.2s,baz=106,slow=38					
HOM	Homer	66.59 330	P	P	03 49 31.8	-0.5
	baz=107					
POKR	Poker Flat Res	66.61 337	P	P	03 49 32.7	+0.3
	baz=113					
H24K	Noodor Dome	67.07 337	P	P	03 49 35.9	+0.5
	baz=113					
TRF	Thorofare Moun	67.16 334	P	P	03 49 36.1	-0.1
	baz=110					
G24K	Hadweenzic Riv	67.26 338	P	P	03 49 36.1	-0.4
	baz=114					
I23K	Minto, Yukon-K	67.38 336	P	P	03 49 37.0	-0.3
	baz=111					
PPT	Papeete	67.73 245	LR	LR	04 12 16.0	
	comp=Z,192nm,18.3s,baz=84,slow=30					
PPT2	Papeete2	67.74 245	eLR	LR	04 10 05.4	
	comp=Z,76nm,21.0s					
MLY	Manley	67.89 336	P	P	03 49 39.8	-0.7
	baz=110					
CAST	Castle Rocks	67.92 334	P	P	03 49 40.6	-0.1
	baz=108					
G23K	Bananza Creek	68.20 338	P	P	03 49 42.1	-0.3
	baz=111					
N19K	Bonanza Creek	68.27 331	P	P	03 49 42.5	-0.6
	baz=105					
I21K	Tanana	68.43 336	P	P	03 49 43.7	-0.2
	baz=109					
E23K	Chandalar	68.56 339	P	P	03 49 44.9	+0.2
	baz=112					
USHA	Ushuaia	68.59 168	LR	LR	04 13 44.6	
	comp=Z,2μm,19.7s,baz=70,slow=31					
D24K	Happy Valley	68.71 340	P	P	03 49 45.8	+0.2
	baz=113					
K20K	Telida	68.75 334	P	P	03 49 46.0	0.0
	baz=106					
L19K	White Mountain	68.79 332	P	P	03 49 46.3	+0.1
	baz=105					
BORG	Borgarnes	69.22 25	LR	LR	04 20 42.7	
	comp=Z,78nm,18.2s,baz=261,slow=37					
F22K	John River	69.27 338	P	P	03 49 48.4	-0.7
	baz=109					
G21K	Allakaket	69.45 337	P	P	03 49 49.4	-0.8
	baz=108					
F21K	Alatna River	69.66 338	P	P	03 49 51.1	-0.4
	baz=108					
TBI	Tubuai	69.82 240	eLR	LR	04 10 52.5	
	comp=Z,672nm,27.8s					
TBI			eLR	LR	04 11 08.9	
	comp=Z,3μm,22.2s					
D22K	Ayikyak River	69.91 340	P	P	03 49 53.4	+0.4
	baz=109					
H19K	Roundabout Mou	70.33 336	P	P	03 49 55.3	-0.2
	baz=105					
O15K	Ungalikthiuk R	70.55 329	P	P	03 49 57.1	0.0
	baz=99					
E20K	Nigu River	70.95 338	P	P	03 49 59.8	+0.4
	baz=106					
F19K	Shaleruckik Mo	71.17 337	P	P	03 50 01.2	+0.5
	baz=104					
D20K	Etivluk River	71.22 339	P	P	03 50 02.1	+1.1
	baz=106					
M15K	Kasigluk River	71.22 330	P	P	03 50 01.7	+0.6
	baz=99					
J16K	Anvik River	71.61 333	P	P	03 50 02.9	-0.5
	baz=100					
M14K	Bethel	71.85 330	P	P	03 50 05.5	+0.7
	baz=98					
JMIC	Jan Mayen	75.20 19	LR	LR	04 22 28.6	
	comp=Z,83nm,21.5s,baz=247,slow=35					
ESDC	Sonseca Array	77.70 52	P	P	03 50 36.4	-2.9
	comp=Z,0.9nm,1.0s,baz=284,slow=5.4,SNR=4.8					
ESDC			LR	LR	04 22 06.0	
	comp=Z,118nm,19.0s,baz=272,slow=34					
	comp=Z,0.9nm,1.0s					
MDT	Midelt	77.90 59	LR	LR	04 23 26.5	
	comp=Z,104nm,18.5s,baz=288,slow=35					
RAR	Rarotonga	78.01 245	LR	LR	04 17 19.3	
	comp=Z,88nm,21.4s,baz=309,slow=30					
PMSA	Palmer Station	78.67 170	LR	LR	04 20 50.9	
	comp=Z,76nm,18.5s,baz=334,slow=32					
SPITS	Spitsbergen Ar	81.17 12	LR	LR	04 28 04.9	
	comp=Z,197nm,20.9s,baz=269,slow=37					
NOA	NORSAR Array B	83.88 29	LR	LR	04 26 42.6	
	comp=Z,47nm,19.9s,baz=275,slow=35					
HFS	Hagfors	85.30 29	LR	LR	04 23 23.9	
	comp=Z,48nm,20.7s,baz=273,slow=32					
DAVOX	Davos/Dischmat	86.51 43	LR	LR	04 23 54.8	
	comp=Z,107nm,21.9s,baz=270,slow=32					
ARCES	ARCESS Array B	86.68 19	LR	LR	04 28 41.0	
	comp=Z,59nm,20.9s,baz=282,slow=35					
TORD	Torodi Ar. Bea	86.82 77	LR	LR	04 28 05.2	
	comp=Z,60nm,18.3s,baz=314,slow=34					
GERES	GERESS Array B	88.46 40	LR	LR	04 27 14.4	
	comp=Z,100nm,19.3s,baz=252,slow=33					
KEST	Kesra	88.76 54	LR	LR	04 25 14.8	
	comp=Z,52nm,20.7s,baz=292,slow=32					
VRAC	Vranov	90.13 39	LR	LR	04 28 40.1	
	comp=Z,109nm,19.9s,baz=279,slow=34					
FINES	FINESS Array B	90.48 26	LR	LR	04 33 04.3	
	comp=Z,53nm,18.3s,baz=323,slow=36					
SEY	Seymchan	92.20 337	LR	LR	04 40 55.2	
	comp=Z,95nm,18.6s,baz=30,slow=41					
VAE	Valguarnera	92.23 51	LR	LR	04 27 30.5	
	comp=Z,89nm,21.1s,baz=272,slow=32					
PETK	Petropavlovsk-	94.55 327	LR	LR	04 40 03.6	
	comp=Z,26nm,18.2s,baz=72,slow=39					
AKASG	Malin Array Be	97.04 35	LR	LR	04 35 09.1	
	comp=Z,93nm,18.5s,baz=335,slow=35					
NRIK	Noril'sk	98.76 2	LR	LR	04 38 00.4	
	comp=Z,80nm,21.8s,baz=338,slow=36					
SNAA	Sanae	99.75 161	LR	LR	04 35 13.6	
	comp=Z,27nm,19.1s,baz=288,slow=34					
XLT	XiLinHaoTe	120.23 340	ePKP	PKiKP	03 57 35.1	+1.4
KSRS	Korea Array	120.44 327	PKP	PKiKP	03 57 34.7	+0.6
	comp=Z,0.8nm,0.7s,baz=97,slow=3.0,SNR=4.1					
BJI	Beijing	123.61 338	PKP	PKiKP	03 57 41.3	+1.0
BJI			PKS	PKSdf	04 01 16.3	-0.3
BJI			SKS	SKSdf	04 04 50.9	+1.4
CD2	Chengdu	135.88 346	PKP	PKiKP	03 58 07.4	+2.1
ASAR	Alice Springs	138.81 248	PKP	PKPdf	03 58 08.8	-0.4
	comp=Z,0.4nm,0.7s,baz=120,slow=1.9,SNR=4.5					
WRA	Warramunga Arr	138.84 253	PKhKP	PKPpre	03 58 06.3	
	comp=Z,0.5nm,0.8s,baz=90,slow=3.7,SNR=5.7					
PZH	PanZhiHua	140.59 346	PKP	PKPdf	03 58 10.6	-1.9
MND	Mandalay	145.94 354	PKPbc	PKPdf	03 58 21.2	-0.6
CRAI	Chiangrai	146.95 346	PKPbc	PKPdf	03 58 24.0	+0.3
CHTO	Chiang Mai	148.63 348	PKPbc	PKPdf	03 58 28.0	+1.5
MYLDM	Lahad Datu	148.76 302	PKPbc	PKPdf	03 58 27.4	+0.6
CM31	Chiang Mai Arr	148.98 348	PKPbc	PKPdf	03 58 29.1	+2.0
CMAR	Chiang Mai Arr	148.98 348	PKPbc	PKPbc	03 58 30.1	-0.9
CMAR	Chiang Mai Arr	148.98 348	PKPbc	PKiKP	03 58 32.0	-0.3
	comp=Z,5.5nm,0.8s,baz=336,slow=3.4,SNR=25					

*IDC **08** 03:51:03.1±2.0, 38°.75N×24°.36E, h0km, mb3.2/2, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=65.2km s-min=28.8km az=168.0*

*ISK **08** 03:51:03.3, 39°.13N×24°.21E, h15km, ML3.1/28*

*AFAD **08** 03:51:03.0±0.0, 39°.05N×24°.50E, h7km±9km, ML2.9*

*ATH **08** 03:51:04.4, 39°.12N×24°.23E, h11km±1km, ML3.3/14, Error ellipse: s-maj=1.5km s-min=0.7km az=191.0*

*THE **08** 03:51:04.5, 39°.12N×24°.23E, h14km±1km, ML3.5/14, Error ellipse: s-maj=1.6km s-min=0.8km az=103.0*

ISC 08 03:51:03.5±1.0, 39°.12N±0°.02×24°.25E±0°.02, h11km±8km, n130, σ0°65/160, 11C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNA	Alonissos	0.30	275	P	Pb	03 51 10.1	-0.8
ALNA				S	Sg	03 51 13.9	+0.3
ALNA				AML	AML	03 51 14.5	
	comp=E,23232μm,0.4s						
ALNA				AML	AML	03 51 16.0	
	comp=N,17604μm,0.6s						
SKY	Skiros Island	0.34	136	P	Pb	03 51 11.6	0.0
SKY				S	Sg	03 51 15.7	+0.9
	comp=N,15μm,0.2s						
SKY	Skiros Island	0.34	136	P	Pb	03 51 11.4	-0.1
SKY				S	Sg	03 51 15.6	+0.8
SKY				AML	AML	03 51 17.2	
	comp=E,28022μm,0.2s						
SKY				AML	AML	03 51 17.3	
	comp=N,29579μm,0.2s						
KYMI	Kymi, Euboea I	0.50	193	P	Pb	03 51 14.0	-0.3
KYMI	Kymi, Euboea I	0.50	193	P	Pb	03 51 14.0	-0.3
KYMI				AML	AML	03 51 22.1	
	comp=E,3623μm,0.3s						
KYMI				AML	AML	03 51 22.1	
	comp=N,2563μm,0.3s						
EFSA	Agios Efstrati	0.71	54	P	Pb	03 51 18.5	+0.6
EFSA				S	Sb	03 51 28.0	+0.2
EFSA				AML	AML	03 51 28.6	
	comp=N,4243μm,0.4s						
EFSA				AML	AML	03 51 31.2	
	comp=E,8280μm,0.4s						
NEO	Neokhori	0.82	283	P	Pb	03 51 19.2	-0.5
NEO				S	Sb	03 51 31.1	+0.3
	comp=E,4μm,0.5s						
XOR	Xorichti	0.85	287	P	Pn	03 51 20.7	-0.8
XOR				S	Sb	03 51 31.6	-0.3
	comp=E,3μm,0.7s						
XOR	Xorichti	0.85	287	P	Pn	03 51 20.7	-0.8
XOR				S	Sb	03 51 31.6	-0.3
XOR				AML	AML	03 51 34.2	
	comp=E,4781μm,0.5s						
XOR				AML	AML	03 51 34.7	
	comp=N,4566μm,0.3s						
ATAL	Atalanti	1.05	246	P	Pn	03 51 23.6	-0.5
ATAL				S	Sb	03 51 37.2	-0.2
	comp=N,1μm,0.6s						
ATAL	Atalanti	1.05	246	P	Pn	03 51 23.6	-0.5
ATAL				AML	AML	03 51 40.6	
	comp=N,2477μm,0.5s						
ATAL				AML	AML	03 51 41.3	
	comp=E,2368μm,0.6s						
LIA	Limnos Island	1.06	43	P	Pn	03 51 24.4	+0.1
LIA				S	Sn	03 51 38.9	-0.2
	comp=E,4μm,0.3s						
LIA	Limnos Island	1.06	43	P	Pn	03 51 24.4	+0.1
LIA				S	Sn	03 51 38.8	-0.2
LIA				AML	AML	03 51 41.0	
	comp=N,10976μm,0.3s						
LIA				AML	AML	03 51 41.9	
	comp=E,6070μm,0.3s						
DION	Dionisos Attik	1.07	193	P	Pn	03 51 25.0	+0.5
DION				S	Sn	03 51 39.0	-0.3
	comp=E,4μm,0.3s						
DION	Dionisos Attik	1.07	193	P	Pn	03 51 25.1	+0.6
DION				AML	AML	03 51 42.3	
	comp=N,6131μm,0.4s						
DION				AML	AML	03 51 42.3	
	comp=E,4770μm,0.2s						
LKR	Lokris	1.08	245	P	Pg	03 51 24.0	-0.2
LKR				AML	AML	03 51 41.5	
	comp=N,2069μm,0.2s						
LKR				AML	AML	03 51 42.2	
	comp=E,2112μm,0.2s						
PTL	Penteli	1.11	196	P	Pn	03 51 25.6	+0.6
VIL2	Platees	1.19	220	P	Pg	03 51 26.0	-0.3
VIL2				AML	AML	03 51 46.6	
	comp=E,2826μm,0.4s						
VIL2				AML	AML	03 51 46.6	
	comp=N,4445μm,0.6s						
VILL	Villia	1.20	218	P	Pb	03 51 26.0	-0.3
VILL				S	Sg	03 51 41.9	-0.4
	comp=N,2μm,0.5s						
ATHU	Athens Univers	1.21	198	P	Pn	03 51 26.0	-0.4
ATHU				S	Sg	03 51 42.0	-0.4
	comp=N,485nm,0.4s						
ATHU	Athens Univers	1.21	198	P	Pn	03 51 26.1	-0.2
ATH	Athens Observa	1.22	200	P	Pb	03 51 26.4	-0.2
ATH				S	Sb	03 51 42.2	-0.1
	comp=N,2μm,0.3s						
ATH	Athens Observa	1.22	200	P	Pb	03 51 26.4	-0.2
ATH				AML	AML	03 51 45.8	
	comp=N,2318μm,0.3s						
ATH				AML	AML	03 51 45.8	
	comp=E,3623μm,0.2s						
OUR	Ouranopolis	1.23	351	Pn	Pb	03 51 26.6	-0.1
OUR				Sn	Sg	03 51 42.8	-0.3
OUR	Ouranopolis	1.23	351	P	Pb	03 51 26.6	-0.1
OUR				S	Sb	03 51 42.0	-0.6
	comp=E,755nm,0.6s						
OUR	Ouranopolis	1.23	351	P	Pb	03 51 26.6	-0.1
SIGR	SIGRI	1.25	85	Pn	Pb	03 51 27.1	-0.1
SIGR	SIGRI	1.25	85	P	Pb	03 51 27.2	0.0
SIGR	SIGRI	1.25	85	P	Pn	03 51 26.9	-0.1
SIGR				AML	AML	03 51 49.7	
	comp=N,1054μm,0.8s						
SIGR				AML	AML	03 51 50.1	
	comp=E,836μm,0.4s						
AXAR	Agios Charalam	1.29	255	P	Pg	03 51 28.0	-0.2
AXAR				S	Sg	03 51 45.6	+0.6
	comp=E,1μm,0.4s						
AXAR	Agios Charalam	1.29	255	P	Pg	03 51 28.0	-0.2
VLY	Voula,Athens	1.31	196	P	Pn	03 51 27.5	-0.3
VLY				S	Sg	03 51 46.1	+0.3
	comp=E,2μm,0.5s						
VLY	Voula,Athens	1.31	196	P	Pn	03 51 27.8	-0.1
VLY				AML	AML	03 51 49.8	
	comp=E,3252μm,0.3s						
VLY				AML	AML	03 51 49.9	
	comp=N,4194μm,0.5s						
LOUT	Loutraki	1.51	222	P	Pn	03 51 30.4	0.0
LOUT				S	Sn	03 51 50.0	-0.1
	comp=N,1μm,0.4s						
LOUT	Loutraki	1.51	222	P	Pn	03 51 30.5	0.0
KOCA	Canakkale, Ayv	1.52	75	P	Pn	03 51 31.0	+0.4
THAS	Thassos island	1.53	14	P	Pn	03 51 30.1	-0.6
THAS	Thassos island	1.53	14	P	Pn	03 51 30.6	-0.2
THAS				AML	AML	03 51 56.1	
	comp=E,961μm,0.3s						
THAS				AML	AML	03 51 56.7	
	comp=N,506μm,0.3s						
EAG1	Polichnitos, L	1.54	91	P	Pb	03 51 31.6	-0.4
BOZC	Bozcaada	1.57	62	Pn	Pn	03 51 31.5	+0.1
BOZC				Sn	Sb	03 51 52.3	-0.2
BOZC	Bozcaada	1.57	62	P	Pn	03 51 30.6	-0.7
BOZC				S	Sn	03 51 51.1	-0.6
PRK	Paraskevi	1.58	85	P	Pn	03 51 32.0	+0.6
CHOS	Chios island	1.59	117	Pn	Pn	03 51 32.1	+0.4
CHOS	Chios island	1.59	117	P	Pb	03 51 32.3	-0.7
THAL	Thalero	1.65	229	P	Pn	03 51 32.2	-0.2
THAL	Thalero	1.65	229	P	Pn	03 51 32.1	-0.2
GADA	Gvkgeada	1.66	50	Pn	Pn	03 51 32.9	+0.3
GADA				Sn	Sb	03 51 54.9	-0.2
TYRN	Tyrnavos	1.67	291	P	Pn	03 51 33.1	+0.4
GOKA	anakkale-Gk	1.67	50	P	Pn	03 51 32.3	-0.4
GOKA				S	Sg	03 51 56.7	-0.5
GOKA				*i* AML	AML	03 52 03.0	
	comp=N,379nm,0.4s						
GOKA				*i* AML	AML	03 52 06.0	
	comp=N,452nm,0.5s						
SMTH	Samothraki Isl	1.67	36	P	Pn	03 51 32.2	-0.6
SMTH	Samothraki Isl	1.67	36	P	Pn	03 51 32.4	-0.4
KOKK	Kokkinochori,	1.71	354	P	Pn	03 51 33.2	0.0
KOKK	Kokkinochori,	1.71	354	P	Pn	03 51 33.2	0.0
HORT	Hortiatis	1.72	329	Pn	Pn	03 51 33.2	-0.3
HORT	Hortiatis	1.72	329	P	Pn	03 51 33.9	+0.4
HORT	Hortiatis	1.72	329	P	Pn	03 51 34.0	+0.5
TNSA	Tinos	1.73	155	P	Pn	03 51 33.7	+0

BAYC	CANAKKALE_Bayr	1.89	70	P	Pn	03 51 35.8	+0.2
ANX	Ano Chora	1.89	255	P	Pn	03 51 36.6	+0.8
CNKL	anakkale-Mer	1.90	60	P	Pn	03 51 36.0	+0.1
CNKL				P	Pb	03 51 36.6	-1.7
CNKL				*i* AML	AML	03 52 10.0	
	comp=N,96nm,0.5s						
CNKL				*i* AML	AML	03 52 10.0	
	comp=N,91nm,0.5s						
CNKL				*i* AML	AML	03 52 14.0	
	comp=N,111nm,1.0s						
CNKL				*i* AML	AML	03 52 23.0	
	comp=N,127nm,1.1s						
GUR	Goura	1.91	232	P	Pn	03 51 36.0	0.0
GUR				S	Sn	03 51 59.8	-0.3
	comp=N,865nm,0.5s						
GUR	Goura	1.91	232	P	Pn	03 51 36.0	0.0
AYVA	Ayvalik	1.91	84	P	Pn	03 51 36.0	0.0
AYVA				*i* AML	AML	03 52 15.0	
	comp=N,77nm,0.7s						
AYVA				*i* AML	AML	03 52 17.0	
	comp=N,170nm,0.6s						
KRND	KRANIDI	1.94	207	P	Pn	03 51 35.8	-0.6
KRND	KRANIDI	1.94	207	P	Pn	03 51 36.0	-0.3
EFP	Efpalio	1.96	250	P	Pn	03 51 37.3	+0.6
KLV	Kalavryta, Ach	1.96	237	P	Pn	03 51 36.6	-0.2
LAKA	Lakka	1.98	244	P	Pn	03 51 37.6	+0.5
URLA	Izmir	1.99	112	Pn	Pn	03 51 37.9	+0.8
RFT5	Foca	2.01	102	Pn	Pn	03 51 38.3	+1.0
RFT2	Karaagac	2.06	81	Pn	Pn	03 51 38.8	+0.8
SRS	Serrai	2.06	346	P	Pn	03 51 38.1	0.0
DKL	Dikili	2.07	91	Pn	Pn	03 51 38.8	+0.6
RFT7	Candarli	2.09	94	Pn	Pn	03 51 39.0	+0.6
GELI	Tayfur-Gelibol	2.14	53	Pn	Pn	03 51 39.6	+0.5
ENEZ	Enez	2.18	42	Pn	Pn	03 51 40.2	+0.5
PVO	Paravola	2.18	258	P	Pn	03 51 40.4	+0.7
ZEDA	zmir-Bergama	2.21	93	P	Pn	03 51 40.3	+0.2
BUHA	Balikesir, Bur	2.23	79	P	Pn	03 51 39.0	-1.4
BUHA				S	Sb	03 52 10.1	-1.3
ALN	Alexandroupoli	2.25	37	Pn	Pn	03 51 41.2	+0.5
ALN	Alexandroupoli	2.25	37	P	Pn	03 51 40.4	-0.2
ALN	Alexandroupoli	2.25	37	P	Pn	03 51 40.4	-0.2
RDO	Rodhopi	2.25	26	Pn	Pn	03 51 40.9	+0.2
RDO	Rodhopi	2.25	26	P	Pn	03 51 40.5	-0.2
APE	Apeiranthos	2.29	153	⇑P	Pn	03 51 41.6	+0.4
APE				⇓S	Sn	03 52 07.8	-1.6
APE	Apeiranthos	2.29	153	Pn	Pn	03 51 41.5	+0.3
APE	Apeiranthos	2.29	153	P	Pn	03 51 41.5	+0.3
APE	Apeiranthos	2.29	153	P	Pn	03 51 41.5	+0.3
KNT	Kendrikon	2.29	334	Pn	Pn	03 51 41.8	+0.6
KNT	Kendrikon	2.29	334	P	Pn	03 51 42.0	+0.8
LPK	Lapseki	2.31	56	Pn	Pn	03 51 42.2	+0.8
ERIK	Erikli-Kesan	2.33	48	Pn	Pn	03 51 42.2	+0.4
VAY	Valandovo	2.54	330	*e*Pn	Pn	03 51 46.4	+1.7
VLI	Veliai	2.61	204	P	Pn	03 51 45.6	-0.1
KRBG	Karabiga-Canak	2.67	61	Pn	Pn	03 51 47.4	+0.9
BALY	Balya	2.68	76	P	Pg	03 51 54.4	-0.6
BALY				S	Sg	03 52 28.7	-1.0
STEP	BALIKESIR_Sava	2.71	83	P	Pn	03 51 48.8	+1.8
UKOP	Uzunkopru-Edir	2.71	42	Pn	Pn	03 51 47.6	+0.6
FNA	Florina	2.76	308	P	Pn	03 51 48.6	+0.8
SANT	Santorini	2.91	160	⇑P	Pn	03 51 50.3	+0.5
KTHA	Kythira Island	3.01	199	Pn	Pn	03 51 51.1	0.0
STIP	Stip	3.01	329	*i* Pn	Pn	03 51 51.8	+0.7
EDC	Edincik	3.05	65	Pn	Pn	03 51 52.5	+0.9
BODT	Bodrum	3.17	129	Pn	Pn	03 51 54.8	+1.4
DAT	Datca	3.56	131	Pn	Pn	03 52 00.2	+1.5
RFTC	Emecik-Datca	3.66	129	Pn	Pn	03 52 01.7	+1.6
IDI	Anoyia	3.86	172	⇑P	Pn	03 52 03.0	+0.1
BLKB	Belogradchik	4.65	346	⇑S	Sn	03 53 08.3	+0.6
BOVS	Bovan	4.90	338	⇑P	Pn	03 52 17.9	+0.8
ARR	Arges	6.25	3	⇓P	Pn	03 52 36.3	+0.6
LOT	Lotru	6.33	357	⇑P	Pn	03 52 37.6	+0.7
VOIR		6.34	5	⇑P	Pn	03 52 37.4	+0.5
GZR	Gura Zlata	6.36	351	⇑P	Pn	03 52 37.9	+0.6
MLR	Muntele Rosu	6.49	11	⇑P	Pn	03 52 38.9	-0.2
DOPR	Dopca	6.89	7	⇑P	Pn	03 52 44.6	+0.1
BRTR	Keskin Array B	7.30	82	Pn	Pn	03 52 52.4	+2.2
	comp=N,0.2nm,0.3s,baz=260,slow=12,SNR=8.3						
	comp=N,0.8nm,0.5s						
MARR	Marisel-Cluj	7.60	354	⇑P	Pn	03 52 53.9	-0.3
BURAR	Bucovina Array	8.52	4	⇓P	Pn	03 53 07.0	+0.1
ESDC	Sonseca Array	21.78	280	P	P	03 55 57.9	+2.6
	comp=N,0.3nm,0.7s,baz=82,slow=9.2,SNR=2.3						
	comp=N,0.3nm,0.7s						
TORD	Torodi Ar. Bea	32.66	224	P	P	03 57 35.3	-0.4
	comp=N,0.9nm,0.7s,baz=34,slow=9.4,SNR=7.5						
	comp=N,0.9nm,0.7s						

*IDC **08** 04:00:01.1±0.9, 14°.02N×123°.93E, h71km±7km, mb3.8/10, mbtmp4.1/11, MS3.5/3, Error ellipse: s-maj=37.8km s-min=12.6km az=62.0*

ISC 08 04:00:00.8±0.8, 14°.0N±0°.1×124°.0E±0°.2, h71km, n14, σ0°69/17, mb4.1/10, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	2.95	272	P	Pn	04 00 45.5	+0.1
	168nm,0.4s,baz=357,slow=2.3,SNR=8.3						
KAPI	Kappang	19.38	193	LR	LR	04 12 00.7	
	comp=Z,24nm,19.3s,baz=68,slow=37						
CMAR	Chiang Mai Arr	24.42	284	P	P	04 05 12.1	-0.8
	0.9nm,0.4s,baz=96,slow=7.2,SNR=4.3						
	0.9nm,0.4s						
WRA	Warramunga Arr	35.27	163	P	P	04 06 48.7	-0.2
	1.9nm,0.5s,baz=347,slow=8.8,SNR=35						
WRA				PcP	PcP	04 09 18.8	+0.4
	0.5nm,0.7s,baz=340,slow=2.9,SNR=2.9						
	1.9nm,0.5s						
ASAR	Alice Springs	38.71	165	P	P	04 07 18.5	+0.4
	2.0nm,0.4s,baz=341,slow=6.8,SNR=40						
ASAR				pP	pP	04 07 35.4	0.0
	0.8nm,0.5s,baz=346,slow=6.9,SNR=3.6						
ASAR				PcP	PcP	04 09 29.3	+0.5
	0.6nm,0.5s,baz=347,slow=3.1,SNR=5.5						
	2.0nm,0.4s						
MKAR	Makanchi Array	47.69	322	P	P	04 08 30.1	-0.3
	1.1nm,0.9s,baz=119,slow=10,SNR=5.1						
	1.1nm,0.9s						
STKA	Stephens Creek	48.67	160	P	P	04 08 37.6	-0.3
	1.6nm,0.7s,baz=214,slow=7.8,SNR=2.9						
	1.6nm,0.7s						
ZALV	Zalesovo Beam	50.27	331	P	P	04 08 48.8	-1.0
	0.9nm,0.6s,baz=69,slow=9.7,SNR=3.6						
	0.9nm,0.6s						
KURBB	Kurchatov Arra	51.72	325	P	P	04 09 01.9	+1.1
	2.6nm,0.7s,baz=122,slow=7.7,SNR=11						
KURBB				pP	pP	04 09 19.9	+1.1
	1.1nm,0.6s,baz=120,slow=8.3,SNR=3.8						
	2.6nm,0.7s						
BVAR	Borovoye Array	57.31	325	P	P	04 09 41.5	+0.2
	0.6nm,0.5s,baz=108,slow=9.5,SNR=4.6						
BVAR				pP	pP	04 10 00.4	+0.8
	0.7nm,0.4s,baz=104,slow=11,SNR=3.7						
	0.6nm,0.5s						
ARCES	ARCESS Array B	79.90	339	P	P	04 12 01.5	-0.2
	4.0nm,1.0s,baz=91,slow=5.5,SNR=3.7						
	4.0nm,1.0s						
FINES	FINESS Array B	81.53	331	P	P	04 12 10.5	+0.1
	2.5nm,1.0s,baz=62,slow=5.4,SNR=6.0						
FINES				pP	pP	04 12 28.8	-1.0
	2.2nm,0.9s,baz=100,slow=4.5,SNR=1.2						
	2.5nm,1.0s						
KMBO	Kilima Mbogo	87.09	268	LR	LR	04 50 03.9	
	comp=Z,39nm,18.7s,baz=244,slow=34						
BBB	Bella Bella	89.65	36	LR	LR	04 51 12.5	
	comp=Z,56nm,18.3s,baz=50,slow=34						

*DJA **08** 04:11:12.4±0.5, 1°.N±4°.×12°.7E±°., h10km, M3.8/6, MLv3.8/6*
*IDC **08** 04:11:19.4±1.7, 0°.96N×127°.21E, h0km, mb3.9/5, mbtmp4.0/5, Error ellipse: s-maj=169.1km s-min=20.5km az=67.0*

ISC 08 04:11:14.9±2.5, 1°.2N±0°.2×126°.8E±0°.1, h10km, n8, σ3°02/7, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.65	126	P	Pg	04 11 27.5	0.0
TNTI				S	Sg	04 11 33.0	-3.1
LBMI	Labuha	1.90	160	P	Pb	04 11 50.4	+0.6
LBMI				S	Sb	04 12 14.3	+0.7
LUWI	Luwuk	4.62	242	P	Pn	04 12 22.5	-2.3
WRA	Warramunga Arr	22.22	161	P	P	04 16 13.5	+1.6
	6.1nm,1.2s,baz=340,slow=11,SNR=12						
	6.1nm,1.2s						
ASAR	Alice Springs	25.62	165	P	P	04 16 49.0	+4.2
	1.5nm,0.9s,baz=340,slow=9.2,SNR=10						
	1.5nm,0.9s						
MKAR	Makanchi Array	59.73	326	P	P	04 21 28.5	+8.6
	1.0nm,0.6s,baz=126,slow=8.4,SNR=7.8						
	1.0nm,0.6s						
KURBB	Kurchatov Arra	63.96	328	P	P	04 21 57.1	+8.8
	0.9nm,0.2s,baz=120,slow=5.5,SNR=1.1						
	0.9nm,0.2s						
BVAR	Borovoye Array	69.53	327	P	P	04 22 32.0	+8.1
	0.9nm,0.8s,baz=116,slow=6.8,SNR=4.4						
	0.9nm,0.8s						

*IDC **08** 04:13:16.1±1.3, 12°.05N×87°.70W, h0km, mb3.8/8, mbtmp3.9/9, ML4.0/1, MS3.7/29, Error ellipse: s-maj=44.3km s-min=20.9km az=43.0*
*NEIC **08** 04:13:22.7±1.6, 11°.90N±0°.07×87°.83W±0°.07, h45km±12km, mb4.5/103, Error ellipse: s-maj=11.2km s-min=8.2km az=49.0*
*UCR **08** 04:13:23.5±1.4, 11°.90N×87°.83W, h45km, MW4.3, MB4.5(NEIC)*

ISC 08 04:13:21.6±0.6, 11°.94N±0°.07×87°.86W±0°.07, h35km, n215, σ1°22/182, mb4.5/52, MS3.7/26, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.10	46		Pn	04 13 41.2	+0.7
CRIN	San Cristobal	1.10	46	*e*P	Pn	04 13 42.5	+2.0
CNGN	Cerro Negro	1.27	64		Pn	04 13 43.1	+0.2
CNGN	Cerro Negro	1.27	64	*e*P	Pn	04 13 44.2	+1.3
MATN	Matagalpa	2.13	62		Pn	04 13 55.5	+0.7
MATN	Matagalpa	2.13	62	*e*P	Pn	04 13 55.5	+0.7
TGUH	Tegucigalpa,Un	2.18	15	Pn	Pn	04 13 56.8	+1.3
TGUH	Tegucigalpa,Un	2.18	15	*e*P	Pn	04 13 56.9	+1.4
SNET	Segi Nac Est T	2.19	325		Pn	04 13 57.6	+1.9
BOAB	BOACO BROADBAN	2.21	76	Pn	Pn	04 13 56.6	+0.9
HZTE	Horizontes, Gu	2.53	118		Pn	04 14 01.3	+1.1
HZTE	Horizontes, Gu	2.53	118	*e*P	Pn	04 14 01.4	+1.1
ACON	Acoyapa	2.63	89		Pn	04 14 01.8	+0.2
ACON	Acoyapa	2.63	89	*e*P	Pn	04 14 02.1	+0.6
ACON	Acoyapa	2.63	89	*e*P	Pn	04 14 02.1	+0.6
BUEV	Buena Vista	2.66	115	*e*P	Pn	04 14 04.1	+2.1
GP77	Hacienda Santa	2.75	115	*e*P	Pn	04 14 06.6	+3.3
ORTG	Ortega, Santa	2.83	123	Pn	Pn	04 14 04.7	+0.3
LIM1	Limonal	2.84	115	*e*P	Pn	04 14 06.2	+1.7
MTO3	Montecristo	2.85	329	Pn	Pn	04 14 05.3	+0.5
GUAB	Guayabo de Bag	2.86	115	*e*P	Pn	04 14 07.1	+2.4
CLARA	Aguas Claras	2.87	113	*e*P	Pn	04 14 06.8	+1.8
MESS	Mesas	2.87	114	*e*P	Pn	04 14 06.9	+1.9
HORNC	Hornillas	2.90	115	*e*P	Pn	04 14 07.6	+2.3
VMAR	Armenia, Volca	2.92	112	*e*P	Pn	04 14 07.0	+1.5
VMAR				*e*P		04 14 07.2	
PLVR	Palo Verde	2.93	122	*e*P	Pn	04 14 06.4	+0.6
CUI	Cuipilapa	2.94	115	*e*P	Pn	04 14 07.4	+1.6
CANAL	Canalete	2.96	111	*e*P	Pn	04 14 07.5	+1.4
DUNO	Dulce Nombre,	2.97	128		Pn	04 14 06.3	+0.1
ESQI	Esquipulas	2.98	331		Pn	04 14 08.1	+1.6
NARJA	Naranjal	3.00	130	*e*P	Pn	04 14 06.4	-0.3
MOTZ	Rio Naranjo	3.00	114	*e*P	Pn	04 14 08.9	+2.1
ACAL	Aguas Claras	3.06	115	*e*P	Pn	04 14 09.5	+1.9
PTEN	Parque Tenorio	3.07	113	*e*P	Pn	04 14 09.5	+1.8
VERA	Finca Concepci	3.12	110	*e*P	Pn	04 14 09.5	+1.2
POPE	POPE, Guanacas	3.16	126	*e*P	Pn	04 14 09.6	+0.7
COTE	Lago Cote	3.19	115	*e*P	Pn	04 14 11.0	+1.6
JTS	Las Juntas de	3.29	120	*e*P	Pn	04 14 13.0	+2.3
CASO	Castillo	3.41	116	*e*P	Pn	04 14 16.1	+3.7
ARE1	Arenal 1	3.42	115		Pn	04 14 12.8	+0.4
ARE1	Arenal 1	3.42	115	*e*P	Pn	04 14 14.0	+1.6
ESPN	Las Esperanzas	3.49	85		Pn	04 14 13.6	+0.2
SOCE	Pocosol	3.54	116	Pn	Pn	04 14 14.0	-0.1
COVE	Coope Vega, Sa	3.60	109	Pn	Pn	04 14 15.2	+0.2
JACO	JACO, Garabito	3.87	125		Pn	04 14 18.2	-0.5
HDC	Heredia	4.15	117		Pn	04 14 23.6	+1.0
ABE2	San Pablo	4.35	120	*e*P	Pn	04 14 27.7	+2.3
LLNJ	Naranjito	4.43	123	*e*P	Pn	04 14 28.7	+2.3
BUS1	Rivas	4.69	120	*e*P	Pn	04 14 32.6	+2.3
BATAN	Batan	4.77	112		Pn	04 14 31.4	+0.4
DRK0	Durika	5.26	120		Pn	04 14 38.9	+1.0
PETF	Flores	5.32	339	Pn	Pn	04 14 41.3	+2.8
RGM0	Gandoca	5.67	114	Pn	Pn	04 14 42.0	-1.3
CDITO	Canoas	5.94	124		Pn	04 14 48.0	+0.9
BRU2	Volcan	5.97	121	Pn	Pn	04 14 48.0	+0.3
CCIG	Comitan	5.99	317	Pn	Pn	04 14 49.3	+1.4
TEIG	Tepich	8.25	357	Pn	Pn	04 15 17.0	-1.8
	1.8nm,0.3s,baz=139,slow=20,SNR=1.7						
TEIG				LR	LR	04 19 08.1	
	comp=Z,4μm,18.4s,baz=314,slow=43						
	40nm,0.8s						
BCIP	Isla Barro Col	8.36	108	*e*P	Pn	04 15 22.8	+2.6
TLIG	Tlapa	11.77	300	Pn	Pn	04 16 07.5	+0.3
SJCC	San Jacinto, C	12.62	98	*e*P	Pn	04 16 22.5	+3.8
PLMC	San Jos del P	13.41	120	*e*P	P	04 16 49.5	+11
ZARC	Zaragoza, Cauc	13.55	108	*e*P	P	04 16 47.8	+7.7
YOTC	Yotoco, Valle	13.87	124	*e*P	P	04 16 48.5	+4.8
GUY2C	Guyana, Caldas	14.04	117	*e*P	P	04 16 48.5	+2.6
BBAC	Balboa, Cauca	14.41	132	*e*P	P	04 16 54.6	+4.7
POPC	Popayan, Colom	14.49	129	*e*P	P	04 16 54.2	+3.4
ORTC	Ortega, Tolima	14.82	122	*e*P	P	04 16 58.2	+4.0
OTAV	Otavalo	14.91	141	P	P	04 16 54.4	-1.3
OTAV	Otavalo	14.91	141	*e*P	P	04 17 08.2	+13
TULM	Tulcn-Chalpat	14.97	137	*e*P	P	04 17 01.1	+4.8
SPBC	San Pablo de B	14.98	113	*e*P	P	04 17 03.8	+7.8
IMBA	Imbabura, San	15.04	140	P	P	04 16 57.5	+0.5
PULU	Pululahua	15.05	141	P	P	04 16 56.7	-0.4
ROSC	El Rosal	15.13	117	P	P	04 16 57.0	-1.1
ROSC	El Rosal	15.13	117	LR	LR	04 23 53.3	
	comp=Z,182nm,18.5s,baz=78,slow=42						
PRAC	Prado	15.22	121	*e*P	P	04 16 58.8	+0.1
BARC	Barichara	15.43	109	*e*P	P	04 17 09.8	+8.7
SLOR	San Lorenzo -	15.65	143	P	P	04 17 02.9	-1.0
RUSC	La Rusia	15.78	111	*e*P	P	04 17 06.4	+1.1
FLOC	Florencia	15.89	129	*e*P	P	04 17 05.0	-1.0
CHSH	Refugio Sur-Vo	16.06	146	Pn	Pn	04 17 05.5	0.0
COHC	Cochancay	16.67	149		Pn	04 17 12.9	+0.3
SDV	Santo Domingo	17.21	99		Pn	04 17 19.3	-0.3
SDV	Santo Domingo	17.21	99	LR	LR	04 25 11.4	
	comp=Z,108nm,19.6s,baz=279,slow=42						
BOSC	San Juan Bosco	17.65	148		P	04 17 25.5	-0.2
HBVL	Hebbronville	18.15	328		P	04 17 31.6	+0.6
HBVL				IAmb	IAmb	04 17 35.6	
	comp=Z,13nm,0.8s						
KVTX	Kingsville	18.16	330	P	P	04 17 29.9	-1.1
833A	Chaparral WMA,	19.55	328		P	04 17 46.7	+0.4
BAUV	El Baul	19.72	97	P	P	04 17 48.2	-0.1
HNVL	Huntsville, TX	20.01	341	P	P	04 17 51.2	-0.1
HNVL				IAmb	IAmb	04 18 03.1	
	comp=Z,37nm,1.2s						
HNDO	Hondo	20.48	330	P	P	04 17 55.6	-0.8
HNDO				IAmb	IAmb	04 18 09.4	
	comp=Z,17nm,0.8s						
NATX	Nacogdoches	20.70	343	P	P	04 17 58.8	0.0
NATX				IAmb	IAmb	04 18 09.5	
	comp=Z,29nm,1.1s						
435B	Jarrell	20.80	336	P	P	04 17 59.8	-0.2
435B				IAmb	IAmb	04 18 08.0	
	comp=Z,13nm,0.7s						
152A	Waverly Hall	20.84	7	P	P	04 18 01.2	+0.9
152A				IAmb	IAmb	04 18 03.5	
	comp=Z,40nm,1.4s						
DRIO	Del Rio	21.07	328		P	04 18 02.4	-0.4
DRIO				IAmb	IAmb	04 18 12.5	
	comp=Z,11nm,1.1s						
ATAH	Atahualpa	21.16	153	LR	LR	04 25 12.1	
	comp=Z,140nm,19.0s,baz=338,slow=34						
JCT	Junction City	21.52	331		P	04 18 07.3	-0.3
Z41A	Richland Creek	21.70	349	P	P	04 18 10.9	+1.4
GOGA	Godfrey	21.75	10	P	P	04 18 11.1	+1.1
GOGA				IAmb	IAmb	04 18 13.8	
	comp=Z,29nm,1.3s						
WHTX	Lake Whitney,	21.83	338	P	P	04 18 11.2	+0.3
BRDY	Brady	21.83	334		P	04 18 10.6	-0.4
BRDY				IAmb	IAmb	04 18 12.6	
	comp=Z,7.8nm,0.8s						
FW14	Alvarado	22.10	339	P	P	04 18 15.1	+1.2
FW14				IAmb	IAmb	04 18 32.7	
	comp=Z,14nm,1.1s						
WLAR	White Oak Lake	22.18	348		P	04 18 15.4	+0.8
Z38A	Mt. Pleasant	22.20	344	P	P	04 18 14.9	-0.1
Z38A				IAmb	IAmb	04 18 57.2	
	comp=Z,21nm,0.9s						
SAND	Sanderson	22.29	326		P	04 18 15.3	-0.7
SAND				IAmb	IAmb	04 18 33.7	
	comp=Z,5.0nm,1.1s						
OXF	Oxford	22.52	357	P	P	04 18 18.9	+0.6
OZNA	Ozona	22.53	329		P	04 18 18.7	+0.1
OZNA				IAmb	IAmb	04 18 28.5	
	comp=Z,18nm,1.1s						
FW07	Weatherford	22.59	338	P	P	04 18 19.4	+0.3
FW07				IAmb	IAmb	04 18 21.0	
	comp=Z,12nm,1.1s						
FPAL	Fort Paine	22.59	5	P	P	04 18 19.0	-0.1
FPAL				IAmb	IAmb	04 19 01.9	
	comp=Z,17nm,1.3s						
TXAR	Lajitas Array	22.72	322	P	P	04 18 21.5	+0.9
TXAR	Lajitas Array	22.72	322	P	P	04 18 21.1	+0.5
	comp=Z,2.1nm,0.5s,baz=138,slow=9.0,SNR=29						
	comp=Z,2.1nm,0.5s						
TX31	Lajitas Ar. Si	22.72	322	P	P	04 18 21.1	+0.4
TX31				IAmb	IAmb	04 18 36.7	
	comp=Z,21nm,1.0s						
TX32	Lajitas Array	22.72	322	P	P	04 18 21.1	+0.5
FW06	Azle	22.75	339	P	P	04 18 20.5	-0.2
FW06				IAmb	IAmb	04 18 32.9	
	comp=Z,22nm,1.4s						
PCRV	Puerto La Cruz	22.86	92	P	P	04 18 20.0	-2.2
	comp=Z,4.8nm,0.6s,baz=292,slow=5.4,SNR=1.9						
	comp=Z,4.8nm,0.6s						
Z35A	Perchaven, San	22.96	340	P	P	04 18 23.4	+0.4
FW03	Perrin-Whitt E	22.99	338	P	P	04 18 23.6	+0.2
FW03				IAmb	IAmb	04 18 32.7	
	comp=Z,11nm,1.1s						
Y57A	Sumter	23.01	16	P	P	04 18 24.2	+0.7
Y57A				IAmb	IAmb	04 18 34.0	
	comp=Z,15nm,0.9s						
JSC	Jenkinsville	23.04	14	P	P	04 18 24.0	+0.2
JSC				IAmb	IAmb	04 18 26.3	
	comp=Z,17nm,1.1s						
UALR	University of	23.10	351	P	P	04 18 24.9	+0.5
UALR				IAmb	IAmb	04 18 35.0	
	comp=Z,34nm,1.5s						
MIAR	Mount Ida	23.10	348		P	04 18 24.2	-0.2
MIAR				IAmb	IAmb	04 18 26.9	
	comp=Z,19nm,0.9s						
ABTX	Abilene, Hawle	23.26	334	P	P	04 18 25.9	-0.1
ABTX				IAmb	IAmb	04 18 27.3	
	comp=Z,15nm,0.9s						
SGCY	Sterling City	23.34	330	P	P	04 18 26.1	-0.8
SGCY				IAmb	IAmb	04 18 58.9	
	comp=Z,13nm,1.2s						
BG3	Lake Jocassee	23.39	10	P	P	04 18 27.5	+0.3
BG3				IAmb	IAmb	04 18 29.5	
	comp=Z,21nm,1.3s						
LOOK	Love County	23.54	340		P	04 18 29.7	+1.0
X37A	Clayton	23.56	344		P	04 18 29.6	+0.7
X37A				IAmb	IAmb	04 18 32.4	
	comp=Z,14nm,1.1s						
WTFS	Witchita Falls	23.79	338	P	P	04 18 31.3	+0.2
WTFS				IAmb	IAmb	04 18 43.9	
	comp=Z,6.0nm,0.7s						
TKL	Tuckaleechee C	23.90	8	P	P	04 18 32.9	+0.7
TKL				IAmb	IAmb	04 18 34.9	
	comp=Z,16nm,0.9s						
TKL	Tuckaleechee C	23.90	8	LR	LR	04 29 34.2	
	comp=Z,84nm,18.1s,baz=180,slow=41						
SN01	Snyder 1	24.01	332		P	04 18 32.9	-0.3
SN01				IAmb	IAmb	04 18 43.6	
	comp=Z,25nm,1.3s						
APMT	Aspermont	24.07	334		P	04 18 33.4	-0.3
APMT				IAmb	IAmb	04 19 02.7	
	comp=Z,6.2nm,0.9s						
ODSA	Odessa	24.21	328	P	P	04 18 34.5	-0.7
ODSA				IAmb	IAmb	04 18 46.0	
	comp=Z,34nm,1.5s						
X34A	Smith Ranch, M	24.32	340		P	04 18 36.4	+0.4
X34A				IAmb	IAmb	04 18 49.0	
	comp=Z,19nm,1.0s						
PECS	Pecos	24.34	325	P	P	04 18 37.5	+1.1
PECS				IAmb	IAmb	04 18 53.3	
	comp=Z,7.7nm,1.2s						
POST	Post	24.46	331	P	P	04 18 37.0	-0.4
POST				IAmb	IAmb	04 18 38.4	
	comp=Z,14nm,1.0s						
W35A	Tecumseh	24.52	342	P	P	04 18 36.6	-1.2
U49A	Red Boiling Sp	24.54	4	P	P	04 18 37.6	-0.4
W59A	Clinton	24.66	19	P	P	04 18 39.9	+0.9
W59A				IAmb	IAmb	04 19 17.0	
	comp=Z,9.5nm,0.7s						
DKNS	Dickens	24.70	333	P	P	04 18 39.1	-0.5
DKNS				IAmb	IAmb	04 18 50.0	
	comp=

comp=Z,12nm,0.8s
KAN08 **Anthony NE Sta** 26.77 342 P P 04 18 57.6 -0.6
KAN08 IAmb IAmb 04 19 01.2
comp=Z,19nm,1.2s
S61A **Accomac** 27.86 21 P P 04 19 06.2 -1.8
P38A **Dawn** 28.03 351 P P 04 19 08.6 -0.9
SAML **Samuel** 32.13 129 P P 04 19 44.5 -1.5
SAML IAmb IAmb 04 19 56.5
comp=Z,4.7nm,0.9s
SPMN **Marine on St.** 33.44 354 P P 04 19 55.3 -1.8
SADO **Sadowa** 33.56 11 LR LR 04 35 07.4
comp=Z,129nm,18.5s,baz=14,slow=39
PFO **Pinyon Flats O** 33.87 314 LR LR 04 34 52.1
comp=Z,148nm,21.4s,baz=128,slow=38
F33A **5 Mile Ranch,** 34.54 350 P P 04 20 04.9 -1.7
PDAR **Pinedale Array** 36.03 332 P P 04 20 18.6 -1.2
comp=Z,0.4nm,0.8s,baz=139,slow=8.7,SNR=3.6
comp=Z,0.4nm,0.8s
NVAR **Mina Array Bea** 37.83 320 P P 04 20 34.5 -0.6
comp=Z,0.3nm,0.8s,baz=146,slow=6.6,SNR=1.9
NVAR PcP PcP 04 22 50.9 -0.4
comp=Z,0.3nm,0.5s,baz=119,slow=3.2,SNR=2.3
comp=Z,0.3nm,0.8s
SIV **San Ignacio** 38.38 136 LR LR 04 36 15.7
comp=Z,80nm,21.0s,baz=328,slow=36
ULM **Lac du Bonnet** 38.77 352 P P 04 20 40.5 -2.1
comp=Z,2.6nm,0.5s,baz=180,slow=7.7,SNR=7.1
ULM LR LR 04 37 36.1
comp=Z,64nm,18.9s,baz=137,slow=38
comp=Z,2.6nm,0.5s
DGMT **Dagmar** 38.88 343 P P 04 20 43.3 -0.4
BPMT **Black Pine Rid** 40.63 333 P P 04 20 58.2 -0.3
MSO **Missoula** 41.15 333 P P 04 21 02.7 +0.1
MSO IAmb IAmb 04 21 17.7
comp=Z,14nm,1.5s
YBH **Yreka Blue Hor** 42.49 321 LR LR 04 40 46.5
comp=Z,100nm,18.3s,baz=186,slow=39
NEW **Newport** 43.66 332 LR LR 04 44 38.5
comp=Z,79nm,20.2s,baz=104,slow=43
RPN **Rapa Nui** 44.07 208 LR LR 04 34 49.3
comp=Z,91nm,20.0s,baz=38,slow=29
SCHQ **Schefferville** 45.88 17 P P 04 21 39.0 -1.5
comp=Z,3.8nm,0.7s,baz=218,slow=8.1,SNR=5.1
SCHQ LR LR 04 42 22.7
comp=Z,192nm,18.3s,baz=214,slow=38
comp=Z,3.8nm,0.7s
BDFB **Brasília** 48.02 124 P P 04 21 58.1 +0.3
comp=Z,1.6nm,0.6s,baz=12,slow=7.8,SNR=3.8
BDFB LR LR 04 44 07.1
comp=Z,115nm,18.1s,baz=310,slow=39
comp=Z,1.6nm,0.6s
FRB **Frobisher Bay** 53.50 11 LR LR 04 46 17.7
comp=Z,187nm,18.4s,baz=186,slow=37
YKA **Yellowknife Ar** 54.00 345 LR LR 04 49 24.2
comp=Z,56nm,18.3s,baz=129,slow=40
RCBR **Riachuelo** 54.60 106 LR LR 04 50 35.2
comp=Z,29nm,19.2s,baz=54,slow=41
PLCA **Paso Flores** 54.80 164 LR LR 04 41 00.2
comp=Z,43nm,19.1s,baz=47,slow=30
SFJD **Kangerlussuaq** 60.32 16 LR LR 04 50 45.6
comp=Z,93nm,18.2s,baz=222,slow=37
INK **Inuvik** 63.57 343 LR LR 04 56 00.4
comp=Z,78nm,18.0s,baz=128,slow=40
ILAR **Eielson Array** 66.33 336 P P 04 24 07.8 +1.4
comp=Z,0.2nm,0.5s,baz=121,slow=4.5,SNR=2.3
comp=Z,0.2nm,0.5s
JMIC **Jan Mayen** 75.32 19 LR LR 04 57 46.1
comp=Z,32nm,20.2s,baz=246,slow=36
ESDC **Sonseca Array** 77.82 52 LR LR 04 56 03.2
comp=Z,40nm,18.7s,baz=269,slow=33
MDT **Midelt** 78.02 59 LR LR 04 57 54.1
comp=Z,33nm,18.1s,baz=292,slow=34
SPITS **Spitsbergen Ar** 81.29 12 LR LR 05 03 01.5
comp=Z,66nm,19.1s,baz=270,slow=37
NOA **NORSAR Array B** 84.01 29 LR LR 05 01 38.8
comp=Z,23nm,19.7s,baz=290,slow=35
HFS **Hagfors** 85.42 29 LR LR 05 01 58.8
comp=Z,19nm,20.4s,baz=272,slow=34
DAVOX **Davos/Dischmat** 86.63 43 LR LR 04 59 27.2
comp=Z,46nm,20.1s,baz=268,slow=32
VRAC **Vranov** 90.26 39 LR LR 05 03 57.0
comp=Z,38nm,18.2s,baz=285,slow=34
AKASG **Malin Array Be** 97.17 35 LR LR 05 09 55.1
comp=Z,32nm,18.2s,baz=358,slow=35
XLT **XiLinHaoTe** 120.30 340 *e*PKP PKPdf 04 32 01.2 -8.3
ASAR **Alice Springs** 138.71 248 PKP **PKPdf** 04 32 44.6 -0.2
comp=Z,0.4nm,0.8s,baz=66,slow=2.1,SNR=2.5
WRA **Warramunga Arr** 138.74 253 PKP **PKPdf** 04 32 45.4 +0.5
comp=Z,0.2nm,0.8s,baz=96,slow=2.1,SNR=1.6
PZH **PanZhiHua** 140.67 346 PKP **PKPdf** 04 32 48.0 -0.5
CMAR **Chiang Mai Arr** 149.06 347 PKPbc **PKPdf** 04 33 04.7 +1.8
comp=Z,0.6nm,0.3s,baz=334,slow=3.8,SNR=9.7

*IDC **08** 04:27:53.6±1.1, 12°.21N×87°.53W, h0km, mb3.9/8, mbtmp4.0/9, ML3.8/1, MS3.6/19, Error ellipse: s-maj=45.6km s-min=22.3km az=52.0*
*NEIC **08** 04:27:59.6±1.6, 11°.97N±0°.05×87°.84W±0°.07, h46km±8km, mb4.5/145, Error ellipse: s-maj=10.0km s-min=6.9km az=68.0*
*UCR **08** 04:28:00.1±1.8, 11°.97N×87°.84W, h46km, MW4.3, MB4.5(NEIC)*
ISC 08 04:27:58.4±0.5, 12°.00N±0°.06×87°.84W±0°.06, h35km, n229, σ1§13/216, **mb4.5**/69, **MS3.6**/18, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.04	48		Pn	04 28 18.2	+1.7
CNGN	Cerro Negro	1.22	66	Pn	Pn	04 28 19.7	+0.7
MATN	Matagalpa	2.08	64		Pn	04 28 31.6	+0.6
TGUH	Tegucigalpa,Un	2.12	15		Pn	04 28 33.0	+1.6
SNET	Serv Nac Est T	2.16	321	Pn	Pn	04 28 32.5	+0.6
BOAB	BOACO BROADBAN	2.17	78	Pn	Pn	04 28 32.4	+0.3
HZTE	Horizontes, Gu	2.55	120		Pn	04 28 38.0	+0.8
ACON	Acoyapa	2.61	90		Pn	04 28 39.1	+1.0
MTOS	Montecristo	2.81	328	Pn	Pn	04 28 41.4	+0.4
ORTG	Ortega, Santa	2.85	125	Pn	Pn	04 28 42.0	+0.5
ESQI	Esquipulas	2.93	330		Pn	04 28 44.4	+1.7
DUNO	Dulce Nombre,	2.99	129		Pn	04 28 43.2	-0.1
ARE1	Arenal 1	3.42	116		Pn	04 28 49.8	+0.5
ESPN	Las Esperanzas	3.47	86		Pn	04 28 50.8	+0.9
SOCE	Pocosol	3.55	117	Pn	Pn	04 28 50.5	-0.5
COVE	Coope Vega, Sa	3.60	110	Pn	Pn	04 28 53.3	+1.5
JACO	JACO, Garabito	3.89	126	Pn	Pn	04 28 56.9	+1.1
HDC	Heredia	4.16	118	Pn	Pn	04 29 00.8	+1.2
ABE2	San Pablo	4.36	121	*e*P	Pn	04 29 03.5	+1.1
VICA	Volcano Irazu	4.41	117	*e*P	Pn	04 29 06.8	+3.6
RAFA	San Farael, Vo	4.45	117	*e*P	Pn	04 29 07.1	+3.5
REPA	Paraso	4.46	119	*e*P	Pn	04 29 07.3	+3.6
RIMA	Rio Macho	4.49	119		Pn	04 29 05.1	+0.9
VTCV	VTCV, Calle Va	4.51	116	*e*P	Pn	04 29 08.4	+4.0
CDM	Cerro de Muert	4.69	121	*e*P	Pn	04 29 08.6	+1.6
BUS1	Rivas	4.70	121	*e*P	Pn	04 29 08.6	+1.4
BATAN	Batan	4.77	113		Pn	04 29 08.2	+0.3
PETF	Flores	5.27	338	Pn	Pn	04 29 15.6	+1.0
DRK0	Durika	5.27	121		Pn	04 29 14.2	-0.7
DRK0	Durika	5.27	121	*e*P	Pn	04 29 16.9	+2.0
CCIG	Comitan	5.96	316	Pn	Pn	04 29 25.1	+0.9
CDITO	Canoas	5.96	124		Pn	04 29 25.2	+1.1
CCOL	Caracol de Cor	5.97	126	*e*P	Pn	04 29 26.2	+1.9
BRU2	Volcan	5.98	122	Pn	Pn	04 29 26.1	+1.4
ICCO	Coco Island	6.46	173	*e*P	Pn	04 29 28.2	-2.9
TEIG	Tepich	8.19	357	Pn	Pn	04 29 52.0	-2.7
	1.2nm,0.3s,baz=99,slow=23,SNR=0.9						
TEIG				LR	LR	04 33 44.8	
	comp=Z,3μm,20.4s,baz=346,slow=44						
	27nm,0.8s						
TLIG	Tlapa	11.75	299	Pn	Pn	04 30 45.2	+1.4
PLMC	San Jos del P	13.43	121	*e*P	P	04 31 16.4	+0.9
ZARC	Zaragoza, Cauc	13.55	108	*e*P	Pn	04 31 11.8	+3.5
YOTC	Yotoco, Valle	13.89	124	*e*P	P	04 31 21.3	+0.6
GUY2C	Guyana, Caldas	14.05	118	*e*P	Pn	04 31 17.7	+2.3
JAMC	Jamundi, Valle	14.09	127	*e*P	P	04 31 25.0	+1.9
POPC	Popayan, Colom	14.52	129	*e*P	P	04 31 30.3	+2.5
ORTC	Ortega, Tolima	14.83	122	*e*P	P	04 31 32.5	+1.4
OTAV	Otavalo	14.95	141	P	P	04 31 32.5	-0.3
CRUC	La Cruz	14.97	133	*e*P	P	04 31 34.9	+1.9
SPBC	San Pablo de B	14.99	114	*e*P	P	04 31 32.7	-0.2
TULM	Tulcn-Chalpat	15.01	138		Pn	04 31 28.5	0.0
TULM	Tulcn-Chalpat	15.01	138	*e*P	P	04 31 38.8	+5.3
IMBA	Imbabura, San	15.07	140	Pn	Pn	04 31 30.0	+0.6
IMBA				IAmb	IAmb	04 31 55.9	
	comp=Z,37nm,1.1s						
PULU	Pululahua	15.09	141		Pn	04 31 30.1	+0.7
ROSC	El Rosal	15.14	117		Pn	04 31 30.5	+0.3
ROSC	El Rosal	15.14	117	*e*P	P	04 31 33.6	-1.4
ROSC	El Rosal	15.14	117	Pn	Pn	04 31 31.4	+1.2
	comp=Z,0.4nm,0.3s,baz=270,slow=20,SNR=1.1						
PRAC	Prado	15.24	122	*e*P	P	04 31 37.8	+2.2
SLOR	San Lorenzo -	15.69	143	Pn	Pn	04 31 37.2	-0.1
CHIC	Chingaza	15.76	117	*e*P	P	04 31 40.0	-1.8
RUSC	La Rusia	15.79	111	*e*P	P	04 31 42.6	+0.5
FLOC	Florencia	15.91	130	*e*P	P	04 31 46.1	+3.0
CHSH	Refugio Sur-Vo	16.10	146		Pn	04 31 41.5	-1.2
COHC	Cochancay	16.71	149	Pn	Pn	04 31 48.8	-1.2
MACC	Macarena, Meta	16.98	124	*e*P	P	04 31 56.6	+1.6
SDV	Santo Domingo	17.20	99	Pn	Pn	04 31 55.4	-0.9
SDV	Santo Domingo	17.20	99	Pn	Pn	04 31 56.1	-0.2
	comp=Z,1.2nm,0.3s,baz=301,slow=19,SNR=3.0						
PTGC	Puerto Gaitan,	17.36	115	*e*P	P	04 31 59.2	0.0
BOSC	San Juan Bosco	17.69	148		Pn	04 32 01.4	-0.9
HBVL	Hebbronville	18.11	327	P	Pn	04 32 07.4	+0.1
HBVL				IAmb	IAmb	04 32 09.7	
	comp=Z,16nm,0.8s						
441A	DeRidder	19.30	346	P	P	04 32 20.5	+0.1
HKT	Hockley	19.34	339	P	P	04 32 21.2	+0.5
833A	Chaparral WMA,	19.50	328	P	P	04 32 23.0	+0.4
344A	Westbrook Farm	19.54	353	P	Pn	04 32 24.2	-0.2
BAUV	El Baul	19.70	97	P	P	04 32 25.1	+0.1
HNVL	Huntsville, TX	19.95	340	P	Pn	04 32 29.4	+0.1
HNVL				IAmb	IAmb	04 32 31.0	
	comp=Z,16nm,0.9s						
VBMS	Vicksburg	20.27	353	P	P	04 32 32.3	+1.4
VBMS				IAmb	IAmb	04 32 34.7	
	comp=Z,31nm,0.8s						
HNDO	Hondo	20.43	330	P	P	04 32 32.5	-0.3
HNDO				IAmb	IAmb	04 32 33.5	
	comp=Z,19nm,0.7s						
NATX	Nacogdoches	20.64	343		P	04 32 34.3	-0.7
NATX				IAmb	IAmb	04 32 37.3	
	comp=Z,19nm,0.7s						
435B	Jarrell	20.75	336		P	04 32 36.0	-0.2
435B				IAmb	IAmb	04 32 40.8	
	comp=Z,14nm,0.8s						
152A	Waverly Hall	20.77	7	P	P	04 32 37.1	+0.8
143A	Socs Landing,	20.86	352	P	P	04 32 37.0	-0.4
LRAL	Lakeview Retre	20.95	2	P	P	04 32 37.5	-0.8
LRAL				IAmb	IAmb	04 32 50.3	
	comp=Z,28nm,1.3s						
154A	Montrose	20.97	11	P	P	04 32 38.2	-0.3
DRIO	Del Rio	21.02	327	P	P	04 32 38.9	-0.3
DRIO				IAmb	IAmb	04 32 54.5	
	comp=Z,8.6nm,0.8s						
ATAH	Atahualpa	21.20	153	LR	LR	04 39 37.1	
	comp=Z,148nm,18.6s,baz=341,slow=33						
Z51A	Franklin	21.36	6	P	P	04 32 42.9	+0.2
Z51A				IAmb	IAmb	04 32 47.0	
	comp=Z,14nm,0.8s						
JCT	Junction City	21.47	331	P	P	04 32 43.5	-0.5
JCT				IAmb	IAmb	04 32 56.9	
	comp=Z,14nm,0.8s						
Z41A	Richland Creek	21.64	349	P	P	04 32 46.5	+0.9
GOGA	Godfrey	21.68	10	P	P	04 32 46.4	+0.3
GOGA				IAmb	IAmb	04 32 49.0	
	comp=Z,15nm,0.8s						
WHTX	Lake Whitney,	21.78	338	P	P	04 32 47.2	0.0
BRDY	Brady	21.79	333	P	P	04 32 46.1	-1.2
BRDY				IAmb	IAmb	04 33 01.5	
	comp=Z,11nm,0.9s						
FW16	Waxahatchie	22.02	339	P	P	04 32 51.7	+1.9
FW16				IAmb	IAmb	04 33 03.2	
	comp=Z,22nm,0.8s						
Y52A	Lilburn	22.04	8	P	P	04 32 50.4	+0.4
Y52A				IAmb	IAmb	04 32 53.9	
	comp=Z,18nm,0.9s						
FW14	Alvarado	22.05	339	P	P	04 32 49.4	-0.7
FW14				IAmb	IAmb	04 33 02.6	
	comp=Z,18nm,0.8s						
FW13	Cleburne	22.09	338	P	P	04 32 50.9	+0.4
FW13				IAmb	IAmb	04 32 53.4	
	comp=Z,17nm,1.1s						
CCAR	Cane Creek	22.11	351	P	P	04 32 49.8	-0.9
CCAR				IAmb	IAmb	04 33 18.0	
	comp=Z,24nm,1.0s						
WLAR	White Oak Lake	22.12	348	P	P	04 32 51.0	+0.2
Z38A	Mt. Pleasant	22.15	344	P	P	04 32 51.2	0.0
Z38A				IAmb	IAmb	04 33 00.8	
	comp=Z,24nm,1.1s						
SAND	Sanderson	22.25	326		P	04 32 52.2	-0.2
SAND				IAmb	IAmb	04 33 06.8	
	comp=Z,6.6nm,0.9s						
OXF	Oxford	22.45	357	P	P	04 32 53.7	-0.7
OZNA	Ozona	22.49	329	P	P	04 32 54.4	-0.5
OZNA				IAmb	IAmb	04 33 06.3	
	comp=Z,16nm,0.9s						
FPAL	Fort Paine	22.53	5	P	P	04 32 55.6	+0.3
FW07	Weatherford	22.54	338	P	P	04 32 53.3	-2.0
FW07				IAmb	IAmb	04 32 56.8	
	comp=Z,8.3nm,0.8s						
TXAR	Lajitas Array	22.68	322	P	P	04 32 57.5	+0.4
	comp=Z,4.7nm,0.6s,baz=136,slow=9.7,SNR=65						
TXAR				PcP	PcP	04 36 50.0	+1.2
	comp=Z,0.3nm,0.8s,baz=160,slow=5.6,SNR=2.7						
	comp=Z,4.7nm,0.6s						
TX31	Lajitas Ar. Si	22.68	322	P	P	04 32 57.0	-0.1
TX31				IAmb	IAmb	04 33 10.4	
	comp=Z,18nm,0.8s						
TX32	Lajitas Array	22.68	322	P	P	04 32 57.0	-0.1
FW06	Azle	22.70	338	P	P	04 32 57.7	+0.7
FW06				IAmb	IAmb	04 33 06.4	
	comp=Z,16nm,1.2s						
Z35A	Perchaven, San	22.91	339	P	P	04 33 00.1	+0.9
FW03	Perrin-Whitt E	22.94	338	P	P	04 33 00.1	+0.5
FW03				IAmb	IAmb	04 33 02.3	
	comp=Z,9.0nm,0.8s						
Y57A	Sumter	22.95	16	P	P	04 33 00.2	+0.6
Y57A				IAmb	IAmb	04 33 02.5	
	comp=Z,16nm,0.6s						
JSC	Jenkinsville	22.98	14	P	P	04 33 00.3	+0.4
JSC				IAmb	IAmb	04 33 02.4	
	comp=Z,14nm,0.9s						
UALR	University of	23.04	350	P	P	04 33 00.5	0.0
UALR				IAmb	IAmb	04 33 01.8	
	comp=Z,19nm,0.9s						
MIAR	Mount Ida	23.04	348	P	P	04 33 00.6	0.0
ABTX	Abilene, Hawle	23.21	334	P	P	04 33 02.3	0.0
ABTX				IAmb	IAmb	04 33 03.5	
	comp=Z,15nm,0.9s						
SGCY	Sterling City	23.29	330	P	P	04 33 03.4	+0.2
SGCY				IAmb	IAmb	04 33 13.1	
	comp=Z,19nm,1.1s						
BG3	Lake Jocassee	23.32	10	P	P	04 33 04.0	+0.6
BG3				IAmb	IAmb	04 33 05.7	
	comp=Z,19nm,0.9s						
LOOK	Love County	23.49	340		P	04 33 05.5	+0.5
X37A	Clayton	23.51	344		P	04 33 05.0	-0.2
X37A				IAmb	IAmb	04 33 08.6	
	comp=Z,16nm,0.8s						
WHAR	Wooly Hollow	23.53	351	P	P	04 33 05.4	0.0
CPCT	Cooper Cave	23.54	7	P	P	04 33 06.4	+0.9
CPCT				IAmb	IAmb	04 33 07.7	
	comp=Z,13nm,0.9s						
HBAR	Harrisburg	23.59	354	P	P	04 33 06.4	+0.5
WTFS	Witchita Falls	23.74	338	P	P	04 33 07.0	-0.4
WTFS				IAmb	IAmb	04 33 09.5	
	comp=Z,15nm,1.1s						
KMSC	Kings Mountain	23.78	13	P	P	04 33 08.0	+0.2
TKL	Tuckaleechee C	23.84	8	P	P	04 33 08.7	+0.4
TKL				IAmb	IAmb	04 33 11.0	
	comp=Z,22nm,0.9s						
TKL	Tuckaleechee C	23.84	8	LR	LR	04 42 46.9	
	comp=Z,43nm,19.2s,baz=174,slow=38						
V51A	Loudon	23.91	7	P	P	04 33 09.8	+0.8
SN01	Snyder 1	23.97	332	P	P	04 33 09.3	-0.3
SN01				IAmb	IAmb	04 33 20.4	
	comp=Z,18nm,0.9s						
V53A	Saluda	24.00	10	P	P	04 33 09.9	0.0
V53A				IAmb	IAmb	04 33 21.2	
	comp=Z,12nm,1.0s						
APMT	Aspermont	24.02	334	P	P	04 33 08.9	-1.2
APMT				IAmb	IAmb	04 33 20.7	
	comp=Z,11nm,0.9s						
CLTN	Cedars of Leba	24.02	3	P	P	04 33 09.7	-0.4
FCAR	Ozark Folk Cen	24.10	351	P	P	04 33 10.0	-0.7
LCAR	Lake Charles	24.15	353	P	P	04 33 10.0	-1.2
ODSA	Odessa	24.17	328	P	P	04 33 11.3	-0.3
ODSA				IAmb	IAmb	04 33 22.0	
	comp=Z,17nm,0.9s						
X34A	Smith Ranch, M	24.27	340		P	04 33 12.3	0.0
PECS	Pecos	24.30	325	P	P	04 33 13.6	+0.9
PECS				IAmb	IAmb	04 33 20.5	
	comp=Z,4.1nm,0.8s						
POST	Post	24.42	331	P	P	04 33 13.0	-0.8
POST				IAmb	IAmb	04 33 23.8	
	comp=Z,18nm,0.7s						
W35A	Tecumseh	24.46	342	P	P	04 33 13.2	-0.9
W35A				IAmb	IAmb	04 33 15.5	
	comp=Z,9.9nm,0.7s						
DKNS	Dickens	24.66	333	P	P	04 33 16.1	+0.1
DKNS				IAmb	IAmb	04 33 26.9	
	comp=Z,17nm,0.9s						
WMOK	Wichita Mounta	24.72	338		P	04 33 15.1	-1.4
TZTN	Tazewell	24.74	8	P	P	04 33 16.8	+0.2
TZTN				IAmb	IAmb	04 33 22.1	
	comp=Z,21nm,1.1s						
PBMO	Poplar Bluff	24.78	355	P	P	04 33 16.3	-0.6
PBMO				IAmb	IAmb	04 33 17.6	
	comp=Z,19nm,1.2s						
HHAR	Hobbs	24.79	348	P	P	04 33 16.8	-0.3
HHAR				IAmb	IAmb	04 33 19.1	
	comp=Z,10nm,0.8s						
CNNC	Cliffs of the	24.83	20	P	P	04 33 17.3	-0.2
CNNC				IAmb	IAmb	04 33 27.0	
	comp=Z,31nm,1.4s						
T47A	Sharon Grove	24.89	1	P	P	04 33 16.5	-1.4
T47A				IAmb	IAmb	04 33 18.2	
	comp=Z,14nm,0.7s						
RLO	Rose Lookout	24.92	346	P	P	04 33 18.4	+0.2
RLO				IAmb	IAmb	04 33 33.3	
	comp=Z,14nm,1.3s						
V58A	Windy Hill, Pi	24.97	17	P	P	04 33 18.6	0.0
DEOK	Depew	25.00	343	P	P	04 33 17.2	-1.7
DEOK				IAmb	IAmb	04 33 29.3	
	comp=Z,10nm,0.6s						
U54A	Nelsons Funny	25.01	12	P	P	04 33 19.4	+0.2
U38A	Gravette	25.04	347	P	P	04 33 18.3	-1.0
U38A				IAmb	IAmb	04 33 21.3	
	comp=Z,14nm,0.9s						
T42A	Van Buren	25.09	354	P	P	04 33 18.3	-1.5
T42A				IAmb	IAmb	04 33 20.0	
	comp=Z,8.1nm,0.7s						
OK031	S. Brethren Rd	25.20	343	P	P	04 33 19.6	-1.1
OK031				IAmb	IAmb	04 33 28.7	
	comp=Z,12nm,0.8s						
OK052	Battle Ridge R	25.22	343	P	P	04 33 20.6	-0.4
OK052				IAmb	IAmb	04 33 20.8	
	comp=Z,14nm,0.8s						
OK029	Liberty Lake	25.24	341	P	P	04 33 20.3	-0.8
OK029				IAmb	IAmb	04 33 31.6	
	comp=Z,15nm,0.7s						
CGM3	Cape Girardeau	25.24	357	P	P	04 33 20.2	-0.9
QUOK	Quay	25.36	343	P	P	04 33 21.1	-1.1
MNTX	Cornudas Mount	25.41	323	P	P	04 33 23.8	+1.0
CSTR	Hydro, Custer	25.51	339	P	P	04 33 24.0	+0.5
S44A	Carbondale	25.62	357	P	P	04 33 23.7	-0.8
S44A				IAmb	IAmb	04 33 33.4	
	comp=Z,10nm,0.8s						
SIUC	Southern Illin	25.64	357	P	P	04 33 23.8	-0.9
SIUC				IAmb	IAmb	04 33 25.0	
	comp=Z,16nm,1.1s						
OK048	Pawnee Station	25.66	343		P	04 33 25.2	+0.3
OK051	E0350 and S346	25.71	343		P	04 33 25.4	0.0
MSTX	Muleshoe	25.77	330	P	P	04 33 25.0	-1.0
MSTX				IAmb	IAmb	04 33 41.1	
	comp=Z,16nm,0.8s						
AMTX	Amarillo	26.02	333	P	P	04 33 28.1	-0.2
AMTX				IAmb	IAmb	04 33 39.0	
	comp=Z,14nm,0.7s						
S39A	Bolivar	26.05	350	P	P	04 33 27.6	-0.9
CROK	Carrier	26.05	341	P	P	04 33 27.9	-0.7
BLOK	Blackwell	26.06	343	P	P	04 33 28.5	-0.1
BLOK				IAmb	IAmb	04 33 30.7	
	comp=Z,20nm,1.0s						
T57A	Hurt	26.06	16	P	P	04 33 28.4	-0.1
CCM	Cathedral Cave	26.12	354	P	P	04 33 27.6	-1.6
CCM				IAmb	IAmb	04 33 29.1	
	comp=Z,9.7nm,0.8s						
ELIS	Ellis County	26.14	338	P	P	04 33 28.2	-1.1
ELIS				IAmb	IAmb	04 33 42.2	
	comp=Z,16nm,1.0s						
WCI	Wyandotte Cave	26.16	3	P	P	04 33 28.7	-0.7
WCI				IAmb	IAmb	04 33 30.8	
	comp=Z,9.3nm,0.8s						
U32A	Winter Ranch,	26.28	339	P	P	04 33 29.7	-0.9
U32A				IAmb	IAmb	04 33 38.8	
	comp=Z,18nm,0.9s						
OK032	Salt Plains WL	26.40	341	P	P	04 33 31.7	0.0
OK032				IAmb	IAmb	04 33 33.7	
	comp=Z,16nm,0.8s						
KAN17	Caldwell West	26.48	342	P	P	04 33 33.0	+0.7
KAN09	Caldwell North	26.52	342	P	P	04 33 31.1	-1.7
KAN05	Bluff City Nor	26.58	342	P	P	04 33 34.0	+0.7
KAN01	Argonia South	26.58	342	P	P	04 33 32.2	-1.0
KS20	Mayfield South	26.59	342	P	P	04 33 33.6	+0.2
KAN06	Argonia West S	26.70	342	P	P	04 33 33.2	-1.2
KAN08	Anthony NE Sta	26.71	342	P	P	04 33 33.9	-0.6
Q51A	Peebles	27.21	8	P	P	04 33 38.5	-0.4
Q51A				IAmb	IAmb	04 33 39.9	
	comp=Z,8.8nm,0.8s						
Q52A	Bidwell	27.30	10	P	P	04 33 40.2	+0.5
Q52A				IAmb	IAmb	04 33 41.6	
	comp=Z,19nm,1.2s						
P38A	Dawn	27.97	351	P	P	04 33 44.5	-1.2
P38A				IAmb	IAmb	04 33 45.8	
	comp=Z,12nm,0.9s						
P52A	Corning	27.98	9	P	P	04 33 46.1	+0.3
P52A				IAmb	IAmb	04 33 54.1	
	comp=Z,17nm,1.1s						
SMCO	Snowmass	31.95	331	P	P	04 34 20.2	-1.3
SAML	Samuel	32.16	129	P	P	04 34 21.8	-1.2
SAML				IAmb	IAmb	04 34 24.7	
	comp=Z,5.8nm,0.8s						
ECSD	EROS Data Cent	32.51	348	P	P	04 34 24.2	-1.6
ECSD				IAmb	IAmb	04 34 32.6	
	comp=Z,8.0nm,1.1s						
O20A	White River Ci	33.31	331	P	P	04 34 32.7	-0.4
O20A				IAmb	IAmb	04 34 44.4	
	comp=Z,9.0nm,1.1s						
SPMN	Marine on St.	33.38	354	P	P	04 34 31.8	-1.6
SADO	Sadowa	33.49	11	LR	LR	04 48 23.2	
	comp=Z,100nm,18.5s,baz=356,slow=37

BOZ	Bozeman (W)	39.13	333	P	P	04 35 23.7	+1.0
DLMT	Dillon	39.38	332	P	P	04 35 25.4	+0.6
DLMT				IAmb	IAmb	04 35 39.8	
comp=Z,7.8nm,1.1s							
ELMT	Elliston	40.23	334	P	P	04 35 32.5	+0.6
EGMT	Eagleton	40.32	337	P	P	04 35 32.0	-0.5
MSO	Missoula	41.11	333	P	P	04 35 38.8	-0.2
NEW	Newport	43.62	332	LR	LR	04 59 15.3	
comp=Z,71nm,19.6s,baz=97,slow=43							
RPN	Rapa Nui	44.14	208	LR	LR	04 50 20.7	
comp=Z,73nm,18.2s,baz=126,slow=30							
LTY	Liberty	44.66	328	P	P	04 36 07.8	0.0
LTY				IAmb	IAmb	04 36 16.3	
comp=Z,4.6nm,0.8s							
SCHQ	Schefferville	45.81	17	P	P	04 36 14.9	-1.8
comp=Z,6.0nm,0.8s,baz=208,slow=6.3,SNR=5.2							
SCHQ				LR	LR	04 57 25.8	
comp=Z,107nm,18.5s,baz=180,slow=39							
comp=Z,6.0nm,0.8s							
BDFB	Brasília	48.04	124	P	P	04 36 33.7	-1.0
comp=Z,3.1nm,0.7s,baz=264,slow=11,SNR=7.0							
BDFB				LR	LR	04 57 25.7	
comp=Z,59nm,18.6s,baz=315,slow=37							
comp=Z,3.1nm,0.7s							
FRB	Frobisher Bay	53.43	11	LR	LR	05 00 43.3	
comp=Z,133nm,19.0s,baz=185,slow=37							
YKA	Yellowknife Ar	53.94	345	LR	LR	05 00 53.2	
comp=Z,48nm,20.7s,baz=132,slow=37							
SFJD	Kangerlussuaq	60.25	16	LR	LR	05 03 43.1	
comp=Z,47nm,19.1s,baz=222,slow=36							
ILAR	Eielson Array	66.28	336	P	P	04 38 42.6	-0.2
comp=Z,0.3nm,0.7s,baz=164,slow=4.9,SNR=5.5							
comp=Z,0.3nm,0.7s							
BORG	Borgarnes	69.27	25	LR	LR	05 09 54.8	
comp=Z,28nm,18.4s,baz=233,slow=37							
JMIC	Jan Mayen	75.25	19	LR	LR	05 11 41.2	
comp=Z,26nm,20.4s,baz=250,slow=35							
MDT	Midelt	77.97	59	LR	LR	05 12 29.6	
comp=Z,38nm,18.2s,baz=286,slow=34							
NOA	NORSAR Array B	83.94	29	P	P	04 40 25.1	+0.4
comp=Z,0.8nm,0.9s,baz=268,slow=7.4,SNR=1.9							
comp=Z,0.8nm,0.9s							
DAVOX	Davos/Dischmat	86.57	43	LR	LR	05 12 32.6	
comp=Z,39nm,19.9s,baz=270,slow=31							
ASAR	Alice Springs	138.75	248	PKP	PKiKP	04 47 24.1	+0.3
comp=Z,0.4nm,0.6s,baz=90,slow=1.3,SNR=4.2							
WRA	Warramunga Arr	138.78	253	PKP	PKiKP	04 47 24.7	+0.7
comp=Z,0.4nm,0.7s,baz=94,slow=2.1,SNR=2.4							
PZH	PanZhiHua	140.61	346	PKP	PKPdf	04 47 25.8	+0.7
CMAR	Chiang Mai Arr	149.00	347	PKPbc	PKPbc	04 47 42.6	-1.1
comp=Z,2.0nm,0.6s,baz=339,slow=3.3,SNR=12							

*IDC **08** 04:31:29.8±4.3, 2°.52S×100°.41E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/3, Error ellipse: s-maj=216.8km s-min=24.2km az=53.0*
*DJA **08** 04:31:39.1±0.5, 2°S±5°×10°1E±°, h13km±12km, M3.5/6, MLv3.5/6*
ISC 08 04:31:39.0±1.1, 2°.23S±0°.07×100°.85E±0°.09, h50km, n19, σ1°73/11, mb3.7/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	Pulau Pagai	0.99	238	P	Pn	04 31 57.0	+0.3
PPSI				S	Sn	04 32 13.0	+3.3
PDSI	Padang	1.36	343	P	Pn	04 32 02.2	+0.5
PDSI				S	Sn	04 32 19.3	+0.6
SDSI	Sungai Dareh	1.41	24	P	Pn	04 32 04.9	+2.6
SISI	Saibi	1.97	297	P	Pn	04 32 10.1	+0.1
BKNI	Bangkinang	2.54	4	P	Pn	04 32 18.3	+0.4
KAPI	Kappang	19.07	99	LR	LR	04 43 25.1	
comp=Z,34nm,20.6s,baz=182,slow=37							
H08S2	Diego Garcia H	28.75	258	T	T	05 06 32.7	
baz=82,slow=74,SNR=4.5							
H08S3	Diego Garcia H	28.75	258	T	T	05 06 33.8	
baz=82,slow=74,SNR=4.9							
H08S1	Diego Carcia H	28.77	258	T	T	05 06 33.0	
baz=82							
WRA	Warramunga Arr	37.15	121	P	P	04 38 44.0	-1.4
0.4nm,0.9s,baz=294,slow=8.6,SNR=5.3							
0.4nm,0.9s							
ASAR	Alice Springs	38.43	126	P	P	04 38 55.6	-0.6
0.4nm,0.6s,baz=303,slow=7.9,SNR=9.1							
0.4nm,0.6s							
MKAR	Makanchi Array	51.48	344	P	P	04 40 38.9	-0.6
0.5nm,0.4s,baz=150,slow=8.6,SNR=5.5							
0.5nm,0.4s							
ZALV	Zalesovo Beam	57.55	349	P	P	04 41 21.7	-1.6
0.5nm,0.3s,baz=153,slow=7.7,SNR=2.6							
0.5nm,0.3s							
H04N2	CROZET ISLANDS	61.12	217	T	T	05 47 04.6	
baz=58,slow=75,SNR=5.8							
H04N1	CROZET ISLANDS	61.13	217	T	T	05 47 03.3	
baz=58,slow=75,SNR=5.5							
H04N3	CROZET ISLANDS	61.14	217	T	T	05 47 05.8	
baz=58,slow=75,SNR=4.8							
GNI	Garni	66.28	316	LR	LR	05 12 15.9	
comp=Z,21nm,21.0s,baz=350,slow=37							
PETK	Petropavlovsk-	72.62	32	LR	LR	05 17 09.4	
comp=Z,18nm,18.1s,baz=90,slow=38							
TXAR	Lajitas Array	144.36	38	PKP	PKPbc	04 51 09.0	0.0
0.2nm,0.6s,baz=336,slow=2.2,SNR=2.1							

NEIC 08 04:34:45.6±2.9, 12°.03N±0°.07×87°.78W±0°.06, h35km±2km, mb4.2/9, Error ellipse: s-maj=11.8km s-min=8.9km az=209.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.97	47		Pn	04 35 01.1	-1.7
CNGN	Cerro Negro	1.15	66	Pn	Pn	04 35 05.2	-0.1
MATN	Matagalpa	2.02	64		Pn	04 35 18.9	+1.7
TGUH	Tegucigalpa,Un	2.07	14	Pn	Pn	04 35 19.3	+1.3
BOAB	BOACO BROADBAN	2.11	78	Pn	Pn	04 35 19.3	+0.9
HZTE	Horizontes, Gu	2.51	121	Pn	Pn	04 35 25.0	+1.1
ACON	Acoyapa	2.55	91	Pn	Pn	04 35 25.2	+0.8
MTO3	Montecristo	2.81	327	Pn	Pn	04 35 28.5	+0.3
ORTG	Ortega, Santa	2.82	126		Pn	04 35 28.9	+0.7
ESQI	Esquipulas	2.94	329	Pn	Pn	04 35 30.7	+0.8
DUNO	Dulce Nombre,	2.97	131	Pn	Pn	04 35 30.5	+0.3
ARE1	Arenal 1	3.38	117	Pn	Pn	04 35 37.0	+1.0
JACO	JACO, Garabito	3.87	127	Pn	Pn	04 35 44.3	+1.7
HDC	Heredia	4.13	119	Pn	Pn	04 35 45.3	-1.0
RIMA	Rio Macho	4.46	120		Pn	04 35 53.4	+2.5
TULM	Tulcn-Chalpat	14.99	138	Pn	Pn	04 38 13.5	-1.9
CHSH	Refugio Sur-Vo	16.09	146	Pn	Pn	04 38 28.1	-1.8
833A	Chaparral WMA,	19.51	328	P	P	04 39 09.2	-0.7
TX32	Lajitas Array	22.70	322	P	P	04 39 42.9	-1.5
TXAR	Lajitas Array	22.70	322	P	P	04 39 42.9	-1.5
TX31	Lajitas Ar. Si	22.70	322	P	P	04 39 42.9	-1.5
TX31				IAmb	IAmb	04 39 46.2	
comp=Z,4.1nm,0.7s							
MIAR	Mount Ida	23.02	348	P	P	04 39 45.5	-2.1
MIAR				IAmb	IAmb	04 39 50.2	
comp=Z,6.3nm,0.7s							
T57A	Hurt	26.01	16	P	P	04 40 13.1	-2.3
T57A				IAmb	IAmb	04 40 24.4	
comp=Z,12nm,1.3s							
S39A	Bolivar	26.03	350	P	P	04 40 14.3	-1.1
S39A				IAmb	IAmb	04 40 16.7	
comp=Z,3.8nm,0.7s							
KAN17	Caldwell West	26.47	342	P	P	04 40 18.3	-1.2
KAN17				IAmb	IAmb	04 40 19.5	
comp=Z,6.1nm,0.7s							

*NEIC **08** 04:51:44.3±2.4, 16°.2S±0°.1×168°.0E±0°.2, h142km±10km, mb4.3/18, Error ellipse: s-maj=23.2km s-min=16.9km az=89.0*
*IDC **08** 04:51:47.4±2.7, 16°.15S×167°.96E, h184km±19km, mb3.8/7, mbtmp4.3/8, Error ellipse: s-maj=28.4km s-min=19.1km az=69.0*
*NOU **08** 04:51:48.6, 16°.18S×168°.07E, h139km, MLv4.2/14, Vanuatu Islands*
ISC 08 04:51:46.9±0.9, 16°.20S±0°.08×168°.0E±0°.1, h177km, n45, σ1°52/47, mb4.3/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	1.63	166	P	Pn	04 52 19.9	0.0
LIFNC	LIFOU	4.61	189	Pn	Pn	04 52 52.1	-3.6
LIFNC	LIFOU	4.61	189	P	Pn	04 52 55.2	-0.5
MARNC	Mare, Loyalty	5.25	180	Pn	Pn	04 53 02.2	-1.8
MARNC	Mare, Loyalty	5.25	180	P	Pn	04 53 03.6	-0.5
KOUNC	Koumac, New Ca	5.58	219	Pn	Pn	04 53 07.3	-1.1
KOUNC	Koumac, New Ca	5.58	219	P	Pn	04 53 09.5	+1.1
YATNC	Mamie plateau,	5.92	190	P	Pn	04 53 14.7	+1.9
DZM	Mont Dzumac	6.02	194	Pn	Pn	04 53 15.8	+1.6
DZM	Mont Dzumac	6.02	194	P	Pn	04 53 17.2	+3.0
DZM	Mont Dzumac	6.02	194	P	Pn	04 53 15.5	+1.3
16nm,0.4s,baz=72,slow=9.2,SNR=60							
DZM				S	Sn	04 54 24.5	+1.5
16nm,0.7s,baz=310,slow=22,SNR=3.3							
NOUC	Port Laguerre	6.08	195	P	Pn	04 53 18.5	+3.5
ONTNC	Ouen Toro	6.24	193	Pn	Pn	04 53 14.9	-2.3
OUENC	Ouen Island, N	6.28	190	Pn	Pn	04 53 16.5	-1.1
OUENC	Ouen Island, N	6.28	190	P	Pn	04 53 20.1	+2.5
PINNC	Pines Island,	6.40	185	Pn	Pn	04 53 19.0	-0.1
EIDS	Eidsvold	18.24	237	P	P	04 55 45.5	-1.5
EIDS				IAmb	IAmb	04 55 49.8	
comp=Z,6.3nm,0.7s							
ARMA	Armidale	20.61	224	P	P	04 56 11.9	-0.7
CTA	Charters Tower	21.02	256	P	P	04 56 17.1	+0.2
comp=Z,6.4nm,0.7s,baz=81,slow=10,SNR=7.3							
comp=Z,6.4nm,0.7s							
CTAO	Charters Tower	21.02	256	P	P	04 56 16.2	-0.8
CTAO				IAmb	IAmb	04 56 19.7	
comp=Z,8.9nm,0.8s							
PMG	Port Moresby	21.40	286	P	P	04 56 20.6	-0.4
PMG				IAmb	IAmb	04 56 23.0	
comp=Z,20nm,0.9s							
COEN	Coen	24.07	272	P	P	04 56 45.8	-0.4
COEN				IAmb	IAmb	04 56 48.3	
comp=Z,14nm,0.8s							
STKA	Stephens Creek	28.61	232	P	P	04 57 26.1	-0.7
STKA	Stephens Creek	28.61	232	P	P	04 57 27.6	+0.8
comp=Z,1.7nm,0.6s,baz=65,slow=8.0,SNR=4.0							
comp=Z,1.7nm,0.6s							
WR0	Warramunga Arr	31.99	258	P	P	04 57 55.3	-1.5
WB0	Warramunga Arr	32.13	259	P	P	04 57 56.9	-1.0
WB2	Warramunga Arr	32.17	258	P	P	04 57 57.4	-0.9
WB2				IAmb	IAmb	04 57 57.7	
comp=Z,3.9nm,0.8s							
WRA	Warramunga Arr	32.18	258	P	P	04 57 56.9	-1.5
WRA	Warramunga Arr	32.18	258	P	P	04 57 57.0	-1.5
comp=Z,2.9nm,0.7s,baz=88,slow=9.6,SNR=36							
WRA				ScP	ScP	05 04 09.2	-0.9
comp=Z,0.4nm,0.9s,baz=87,slow=3.3,SNR=2.5							
comp=Z,2.9nm,0.7s							
AS31	Alice Springs	32.84	251		P	04 58 04.0	-0.1
ASAR	Alice Springs	32.84	251		P	04 58 03.9	-0.2
ASAR	Alice Springs	32.84	251	P	P	04 58 03.8	-0.4
comp=Z,15nm,0.6s,baz=77,slow=8.9,SNR=233							
ASAR				ScP	ScP	05 04 10.1	-2.3
comp=Z,0.4nm,0.9s,baz=79,slow=2.0,SNR=1.8							
comp=Z,15nm,0.6s							
BBOO	Buckleboo	33.26	234	P	P	04 58 07.7	+0.1
BBOO				IAmb	IAmb	04 58 14.9	
comp=Z,8.2nm,1.0s							
MTN	Manton Dam	35.81	270	P	P	04 58 29.2	-0.5
MJAR	Matsushiro Arr	59.53	332	P	P	05 01 31.0	-0.8
comp=Z,2.4nm,0.9s,baz=152,slow=7.2,SNR=7.9							
comp=Z,2.4nm,0.9s							
KSM	Kuching	59.58	282	P	P	05 01 31.9	-0.7
KSM				IAmb	IAmb	05 01 32.7	
comp=Z,5.1nm,0.7s							
QSPA	South Pole Qui	73.83	180	P	P	05 03 03.7	+1.7
QSPA				IAmb	IAmb	05 03 06.0	
comp=Z,2.2nm,0.7s							
QSPA	South Pole Qui	73.83	180	P	P	05 03 01.9	0.0
comp=Z,3.1nm,0.9s,baz=284,slow=1.2,SNR=11							
comp=Z,3.1nm,0.9s							
XLT	XiLinHaoTe	76.31	324	*e*P	P	05 03 22.0	+5.6
XLT				pP	pwP	05 04 01.2	+0.1
XLT				sP	sP	05 04 18.1	+0.8
XLT				pmax	pmax		
comp=Z,10.0nm,0.8s							
XLT				pmax	pmax		
comp=Z,99nm,4.6s							
PZH	PanZhiHua	77.08	303	P	P	05 03 23.0	+1.8
PZH				pmax	pmax		
comp=Z,10.0nm,0.8s							
PZH				pmax	pmax		
comp=Z,110nm,4.3s							
ULN	Ulaanbaatar	83.73	324	P	P	05 03 58.4	+2.2
SONM	Songino Array	84.09	323	P	P	05 03 59.4	+1.4
SONM				IAmb	IAmb	05 04 11.4	
comp=Z,2.7nm,1.0s							
SHL	Shillong	84.88	298	P	P	05 04 01.3	-1.2
SHL				IAmb	IAmb	05 04 03.5	
comp=Z,5.3nm,0.7s							
SNAA	Sanae	92.12	183	P	P	05 04 35.2	-0.7
comp=Z,1.1nm,1.0s,baz=175,slow=12,SNR=3.5							
comp=Z,1.1nm,1.0s							
WMQ	Urumqi	94.26	314	*e*P	P	05 04 47.7	+1.6

*IDC **08** 04:56:51.5±4.3, 6°.21S×152°.63E, h46km±37km, mb3.2/3, mbtmp3.7/5, ML3.0/2, MS3.5/1, Error ellipse: s-maj=53.5km s-min=12.3km az=109.0*
ISC 08 04:56:50.3±1.4, 6°.23S±0°.08×152°.7E±0°.2, h38km, n8, σ0°76/9, mb3.4/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	2.04	339	P	Pn	04 57 22.0	-0.1
44nm,0.3s,baz=232,slow=20,SNR=8.4							
KRVT				S	Sn	04 57 47.0	+0.6
92nm,0.3s,baz=236,slow=22,SNR=4.7							
PMG	Port Moresby	6.37	240	P	Pn	04 58 22.7	+1.0
6.7nm,0.3s,baz=48,slow=9.5,SNR=13							
PMG				S	Sn	04 59 32.4	-0.8
23nm,1.0s,baz=128,slow=19,SNR=3.1							
33nm,0.5s							
CTA	Charters Tower	15.15	204	P	Pn	05 00 22.0	+0.3
0.1nm,0.3s,baz=34,slow=7.3,SNR=1.0							
1.1nm,0.6s							
WRA	Warramunga Arr	22.48	231	P	P	05 01 45.7	-0.9
0.5nm,0.8s,baz=55,slow=11,SNR=3.0							
0.5nm,0.8s							
ASAR	Alice Springs	25.08	224	P	P	05 02 11.6	+0.1
0.8nm,0.7s,baz=64,slow=8.8,SNR=9.6							
0.8nm,0.7s							
AFI	Afiamalu	35.72	105	LR	LR	05 17 51.9	
comp=Z,62nm,18.3s,baz=110,slow=35							
ILAR	Eielson Array	83.50	22	P	P	05 09 14.0	+0.2
0.8nm,1.0s,baz=240,slow=6.1,SNR=4.0							
0.8nm,1.0s							
TORD	Torodi Ar. Bea	150.67	286	PKPbc	PKiKP	05 16 39.5	-0.7
0.3nm,0.7s,baz=59,slow=3.3,SNR=1.8							

*GCG **08** 05:00:38.2±0.4, 13°.88N×91°.62W, h95km±12km, MD4.2*
*NEIC **08** 05:00:39.7±1.2, 13°.82N±0°.07×91°.51W±0°.08, h18km±8km, mb4.1/26, Error ellipse: s-maj=13.8km s-min=5.9km az=45.0*
*SNET **08** 05:00:41.2±1.3, 13°.65N×91°.36W, h12km±38km, ML3.8*
*IDC **08** 05:00:48.1±5.3, 14°.09N×91°.23W, h98km±45km, mb3.5/4, mbtmp3.9/6, MS3.3/8, Error ellipse: s-maj=43.5km s-min=24.1km az=45.0*
ISC 08 05:00:42.5±0.7, 13°.81N±0°.07×91°.52W±0°.06, h61km, n71, σ1°54/66, mb4.0/12, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.50	355	*i* P	Pn	05 00 52.9	-1.7
RTAL	Retalhuleu	0.73	347		Pn	05 00 54.2	-3.1
STG3	Santiaguito 3,	0.90	357	*i* P	Pn	05 00 57.1	-2.5
FUG	Fuego 3	0.92	46	*i* P	Pn	05 00 58.1	-1.6
PCG	Pacaya	1.06	57	*i* P	Pn	05 01 00.5	-1.2
PCG				*i* S	Sn	05 01 19.3	+3.4
NBG	Las Nubes	1.38	56	*i* P	Pn	05 01 06.0	+0.1
NBG				*i* S	Sn	05 01 24.7	+1.3
HUEH	Huehuetenango	1.50	1		Pn	05 01 05.7	-1.8
SLOZ	Alcaldia de Sa	1.70	82	*e*P	Pn	05 01 09.1	-0.9
CEVE	Cerro Verde	1.84	89	*e*P	Pn	05 01 11.6	-0.6
CEVE				IAML		05 01 41.4	
comp=Z,3μm,0.3s							
SNJE	San Jose	1.86	88	*e*P	Pn	05 01 10.1	-2.3
SNJE				IAML		05 01 41.7	
comp=Z,328nm,0.6s							
JAYA	Jayaque - finc	2.02	94	*e*P	Pn	05 01 11.7	-2.8
JAYA				IAML		05 01 40.9	
comp=Z,2μm,0.3s							
CEDA	San Andres	2.07	90	IAML		05 01 47.3	
comp=Z,1μm,0.4s							
MTO3	Montecristo	2.18	74	Pn	Pn	05 01 15.3	-1.4
SNET	Serv Nac Est T	2.23	93	Pn	Pn	05 01 15.3	-1.9
ESQI	Esquipulas	2.24	70		Pn	05 01 16.5	-1.0
SJTE	Alcalda de S	2.45	94	*e*P	Pn	05 01 18.5	-1.8
SJTE				*e*S	Sn	05 01 47.9	-1.3
PAVA	Las Pavas	2.51	92	*e*P	Pn	05 01 19.7	-1.4
COEG	Centro de Oper	2.57	94	*e*P	Pn	05 01 20.4	-1.6
TECO	Alcaldia de Te	2.68	95	*e*P	Pn	05 01 21.6	-1.7
TECO				IAML		05 02 00.6	
comp=Z,96nm,0.3s							
ALJI	Alcalda de J	2.91	99	*e*P	Pn	05 01 24.6	-1.9
PETF	Flores	3.48	27		Pn	05 01 31.8	-2.5
LCND	La Caada	3.57	98	*e*P	Pn	05 01 34.2	-1.2
LCND				IAML		05 02 25.1	
comp=Z,264nm,0.4s							
TGUH	Tegucigalpa,Un	4.13	86	Pn	Pn	05 01 40.2	-3.1
CRIN	San Cristobal	4.49	104	Pn	Pn	05 01 46.3	-1.9
CNGN	Cerro Negro	4.88	105		Pn	05 01 51.7	-1.7
MATN	Matagalpa	5.52	98		Pn	05 01 59.4	-2.9
BOAB	BOACO BROADBAN	5.86	103		Pn	05 02 05.2	-1.7
ACON	Acoyapa	6.45	106	Pn	Pn	05 02 12.7	-2.3
HZTE	Horizontes, Gu	6.56	117	Pn	Pn	05 02 16.3	-0.1
ORTG	Ortega, Santa	6.85	119	Pn	Pn	05 02 20.1	-0.4
DUNO	Dulce Nombre,	6.96	121		Pn	05 02 21.3	-0.7
TEIG	Tepich	7.10	25	Pn	Pn	05 02 23.9	+0.1
TEIG	Tepich	7.10	25	P	Pn	05 02 23.7	-0.1
comp=Z,188nm,0.3s,baz=341,slow=4.9,SNR=37							
TEIG				S	Sn	05 03 40.9	-2.2
comp=Z,99nm,0.4s,baz=176,slow=22,SNR=0.9							
TEIG				LR	LR	05 05 46.2	
comp=Z,2μm,19.9s,baz=352,slow=44							
ARE1	Arenal 1	7.44	116		Pn	05 02 27.3	-1.2
TLIG	Tlapa	7.74	300	Pn	Pn	05 02 32.6	-0.2
TXAR	Lajitas Array	19.11	326	P	P	05 05 00.7	0.0
TXAR	Lajitas Array	19.11	326	P	Pn	05 05 02.3	+0.2
comp=Z,2.7nm,0.9s,baz=153,slow=11,SNR=18							
ROSC	El Rosal	19.16	116	P	Pn	05 05 01.5	-1.5
ROSC				IAmb	IAmb	05 05 05.1	
comp=Z,7.4nm,0.8s							
ROSC	El Rosal	19.16	116	P	Pn	05 05 02.9	-0.1
comp=Z,3.3nm,0.4s,baz=280,slow=12,SNR=4.3							
FW14	Alvarado	19.22	345	P	P	05 05 01.9	+0.2
FW14				IAmb	IAmb	05 05 16.8	
comp=Z,12nm,0.9s							
ALPN	Alpine	19.92	328	P	Pn	05 05 11.1	-0.5
ALPN				IAmb	IAmb	05 05 16.9	
comp=Z,4.2nm,0.7s							
SGCY	Sterling City	20.06	336	P	P	05 05 10.4	-0.6
SGCY				IAmb	IAmb	05 05 16.4	
comp=Z,6.6nm,0.9s							
ABTX	Abilene, Hawle	20.15	340	P	P	05 05 12.7	+0.8
COHC	Cochancay	20.23	142	P	P	05 05 12.6	-0.3
SN01	Snyder 1	20.81	337	P	P	05 05 19.5	+0.5
SN01				IAmb	IAmb	05 05 25.9	
comp=Z,4.6nm,0.9s							
PECS	Pecos	20.84	329	P	P	05 05 19.8	+0.5
PECS				IAmb	IAmb	05 05 24.9	
comp=Z,6.9nm,0.8s							
APMT	Aspermont	20.95	340		P	05 05 21.4	+0.9
APMT				IAmb	IAmb	05 05 25.3	
comp=Z,6.6nm,0.7s							
425A	Indio Mountain	20.96	326	P	Pn	05 05 23.4	-0.5
425A				IAmb	IAmb	05 05 27.1	
comp=Z,6.0nm,1.0s							
SDV	Santo Domingo	21.05	101	LR	LR	05 14 49.4	
comp=Z,25nm,19.4s,baz=77,slow=40							
MNTX	Cornudas Mount	21.88	327	P	P	05 05 30.7	+0.2
MNTX				IAmb	IAmb	05 05 37.3	
comp=Z,5.6nm,1.0s							
LCAR	Lake Charles	22.17	1	P	P	05 05 32.8	-0.7
LCAR				IAmb	IAmb	05 05 34.7	
comp=Z,4.9nm,0.9s							
TKL	Tuckaleechee C	22.85	16	P	P	05 05 39.9	-0.8
comp=Z,3.0nm,0.8s,baz=296,slow=9.2,SNR=2.3							
TKL				LR	LR	05 14 58.2	
comp=Z,43nm,19.0s,baz=242,slow=38							
comp=Z,3.0nm,0.8s							
PBMO	Poplar Bluff	22.90	2	P	P	05 05 40.8	-0.4
PBMO				IAmb	IAmb	05 05 43.9	
comp=Z,7.0nm,0.8s							
T42A	Van Buren	23.13	1	P	P	05 05 43.0	-0.6
T42A				IAmb	IAmb	05 05 45.7	
comp=Z,5.1nm,1.0s							
121A	Cookes Peak, D	23.84	324	IAmb	IAmb	05 05 57.9	
comp=Z,6.4nm,1.1s							
S44A	Carbondale	23.88	4	P	P	05 05 51.7	+1.2
S44A				IAmb	IAmb	05 05 52.9	
comp=Z,7.7nm,1.1s							
SIUC	Southern Illin	23.90	5	P	P	05 05 51.7	+1.1
ATAH	Atahualpa	24.55	147	LR	LR	05 14 05.5	
comp=Z,50nm,18.4s,baz=292,slow=32							
SJG	San Juan	24.76	77	LR	LR	05 16 37.8	
comp=Z,37nm,20.1s,baz=311,slow=39							
NNA	Nana	29.47	150	LR	LR	05 15 58.9	
comp=Z,35nm,18.2s,baz=356,slow=31							
CCUT	Cedar City	30.61	325	IAmb	IAmb	05 06 55.0	
comp=Z,4.5nm,1.4s							
PDAR	Pinedale Array	32.79	335	P	P	05 07 10.0	-0.2
comp=Z,0.2nm,0.6s,baz=122,slow=12,SNR=2.6							
comp=Z,0.2nm,0.6s							
NVAR	Mina Array Bea	34.11	321	P	P	05 07 24.7	+2.9
comp=Z,2.0nm,0.7s,baz=140,slow=8.3,SNR=16							
NVAR				PcP	PcP	05 10 00.1	+2.0
comp=Z,0.4nm,0.8s,baz=93,slow=4.7,SNR=2.5							
comp=Z,2.0nm,0.7s							
PLID	Pearl Lake	37.47	331	P	P	05 07 52.0	+1.5
PLID				IAmb	IAmb	05 07 55.2	
comp=Z,3.1nm,1.0s							
LVC	Limon Verde	42.43	148	LR	LR	05 25 24.9	
comp=Z,24n

```
YJA                                    eS      S          05 27 42.0 -0.5
HJA   Humahuaca          1.00 117  eP      Pn         05 27 14.2 +0.6
HJA                                    eP                 05 27 14.2
AZAP  Zapla              1.89 141  eS      S          05 27 34.4  -19
LVC   Limon Verde        2.34 273  eP      Pn         05 27 23.7 -0.1
PB09  IPOC Station P     2.82 289  eP      Pn         05 27 28.8 +0.5
PB06  IPOC Station P     2.94 270  eP      Pn         05 27 30.1 +0.4
PB01  IPOC Station P     3.35 300  eP      Pn         05 27 34.1 +0.2
PB01                                   eP                 05 27 34.4
FSA   Cafayete           3.36 174  eP      Pn         05 27 39.5 +5.5
PB07  IPOC Station P     3.41 287  eP      Pn         05 27 34.9 +0.2
PB07                                   IAML               05 28 21.2
      comp=Z,76nm,0.4s
PB04  IPOC Station P     3.51 276  eP      Pn         05 27 36.1 +0.4
PB04                                   IAML               05 28 25.7
      comp=Z,85nm,0.7s
PB02  IPOC Station P     3.56 293  eP      Pn         05 27 36.5 +0.2
PB08  IPOC Station P     3.67 315  eP      Pn         05 27 38.4 +0.6
GO02  Mina Guanaco       3.79 230  eP      Pn         05 27 39.7 +0.7
GO02                                   eS      S          05 28 19.6 -8.8
PATCX Punta Patache      4.00 298  eP      Pn         05 27 41.6 +0.4
GO01  Chusmiza           4.04 319  eP      Pn         05 27 43.0 +0.9
GO01                                   eS      S          05 28 31.0 -3.1
AC01  Pan de Azucar      5.11 228  eP      Pn         05 27 54.5 +0.2
AC01                                   eS      S          05 28 43.6  -13
AC01                                   IAML               05 29 31.8
      comp=Z,31nm,1.5s
PB16  IPOC Station P     5.29 326  eP      Pn         05 27 58.7 +1.7
```

GUC 08 05:27:40.3±0.9, 22°.12S×70°.56W, h44km±6km, ML2.6, 1D, Near coast of northern Chile

```
Code  Station Name       Δ°   AZ°  Phase ID                Time       Res
                                   Op      ISC             h m s      ISC
PB04  IPOC Station P     0.44 120  i P     Pn         05 27 50.1 -0.5
PB04                                   eS      Sn         05 27 57.3 -0.7
PB04                                   IAML               05 27 57.6
      comp=N,992nm,0.1s
PB07  IPOC Station P     0.74  58  i P     Pn         05 27 54.6  0.0
PB07                                   eS      Sn         05 28 05.0 +0.2
PB07                                   IAML               05 28 05.8
      comp=N,493nm,0.2s
PB02  IPOC Station P     1.01  38  i P     Pn         05 27 58.1  0.0
PB02                                   eS      Sn         05 28 11.5 +0.3
PB02                                   IAML               05 28 13.9
      comp=E,499nm,0.3s
PB02  IPOC Station P     1.01  38  eS      Sn         05 28 09.1 -2.1
PB06  IPOC Station P     1.09 123  i P     Pn         05 27 59.4 +0.1
PB06                                   eS      Sn         05 28 13.8 +0.5
PB06  IPOC Station P     1.09 123  eS      Sn         05 28 14.2 +0.9
PB09  IPOC Station P     1.27  76  i P     Pn         05 28 03.0 +1.3
PB09                                   eS      Sn         05 28 20.0 +2.3
PB09                                   IAML               05 28 22.0
      comp=N,107nm,0.2s
PB09  IPOC Station P     1.27  76  eS      Pn         05 28 03.4 +1.7
PATCX Punta Patache      1.34  17  i P     Pn         05 28 02.7  0.0
PB01  IPOC Station P     1.46  43  i P     Pn         05 28 05.5 +1.1
PB01                                   eS      Sn         05 28 23.7 +1.3
PB01                                   IAML               05 28 25.5
      comp=E,136nm,0.3s
LVC   Limon Verde        1.61 108  i P     Pn         05 28 08.2 +1.6
LVC                                    eS      Sn         05 28 27.7 +1.4
LVC                                    IAML               05 28 32.0
      comp=E,121nm,0.2s
GO01  Chusmiza           2.75  28  ⇓i P    Pn         05 28 24.4 +2.1
```

IDC 08 05:39:04.1±2.3, 3°.59N×126°.85E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=164.8km s-min=29.6km az=66.0, Talaud Islands

```
Code  Station Name       Δ°   AZ°  Phase ID                Time       Res
                                   Op      ISC             h m s      ISC
WRA   Warramunga Arr     24.52 163 P       P          05 44 25.8 +0.3
      0.4nm,0.5s,baz=343,slow=11,SNR=8.6
      0.4nm,0.5s
ASAR  Alice Springs      27.95 166 P       P          05 44 56.2 -0.2
      0.1nm,0.6s,baz=342,slow=8.8,SNR=1.5
      0.1nm,0.6s
MKAR  Makanchi Array     57.73 325 P       P          05 48 56.6 -0.2
      0.3nm,0.5s,baz=108,slow=5.8,SNR=2.2
      0.3nm,0.5s
```

*NEIC **08** 05:46:08.7±1.1, 3°.3S±0°.1×100°.8E±0°.1, h35km±8km, mb4.2/11, Error ellipse: s-maj=20.8km s-min=11.9km az=51.0*
*IDC **08** 05:46:09.8±1.2, 2°.91S×101°.15E, h40km±5km, mb3.8/11, mbtmp4.1/11, MS2.9/2, Error ellipse: s-maj=59.6km s-min=12.4km az=53.0*
*DJA **08** 05:46:10.0±0.9, 3°.5±4°.×10°.1E±°, h27km±10km, M4.5/13, mb4.6/7, MLv4.4/13*

ISC 08 05:46:10.1±0.6, 3°.02S±0°.08×101°.02E±0°.07, h46km, n64, σ1§24/56, mb4.3/19, Southern Sumatera

```
Code  Station Name       Δ°   AZ°  Phase ID                Time       Res
                                   Op      ISC             h m s      ISC
PPSI  Pulau Pagai        1.04 284  P       Pn         05 46 29.7 +1.4
KSI   Kapahiang          1.69 112  P       Pn         05 46 39.4 +2.2
SDSI  Sungai Dareh       2.11  11  P       Pn         05 46 44.1 +1.2
PDSI  Padang             2.17 345  P       Pn         05 46 43.8 +0.1
SISI  Saibi              2.56 311  P       Pn         05 46 50.2 +1.1
BKNI  Bangkinang         3.32   0          Pn         05 47 01.3 +1.7
BKNI  Bangkinang         3.32   0  P       Pn         05 47 00.6 +1.0
LWLI  Liwa               3.62 123  P       Pn         05 47 07.6 +3.9
PBSI  Pulau Batu         4.03 317  P       Pn         05 47 08.9 -0.3
KASI  Kota Agung         4.26 126  P       Pn         05 47 14.2 +1.7
DSRI  Dabo               4.36  55  P       Pn         05 47 14.8 +1.0
GSI   Gunungsitoli       5.51 321          Pn         05 47 28.0 -1.6
GSI   Gunungsitoli       5.51 321  P       Pn         05 47 28.0 -1.6
      41nm,0.8s,0.4nm
CGJI  Cibinong           5.86 128  P       Pn         05 47 34.5  0.0
      33nm,0.9s,0.2nm
RPSI  Rantau Prapat      6.05 340  Pn      Pn         05 47 36.5 -0.5
SNSI  Sinabang, Aceh     7.15 319  P       Pn         05 47 53.3 +1.2
      156nm,1.2s,0.7nm
CNJI  Cibinong           7.42 125  P       Pn         05 47 55.4 -0.5
      27nm,1.1s,0.1nm
KULM  Kulim              8.26 357  Pn      Pn         05 48 08.5 +1.1
CMJI  Cimerak            8.78 123  P       Pn         05 48 13.8 -0.6
      40nm,1.5s
SMRI  Semarang          10.20 113  Pn      Pn         05 48 32.6 -1.3
KSM   Kuching           10.30  64  Pn      Pn         05 48 37.5 +2.2
UGM   Wanagama          10.63 118  Pn      Pn         05 48 39.1 -0.8
UGM   Wanagama          10.63 118  P       Pn         05 48 41.1 +1.2
KAPI  Kappang           18.79  97  LR      LR         05 57 25.3
      comp=Z,30nm,19.2s,baz=350,slow=36
CMAR  Chiang Mai Arr    21.44 355  P       P          05 50 52.1 -2.4
      1.2nm,0.3s,baz=188,slow=8.7,SNR=6.6
CMAR                                   LR      LR         06 00 11.4
      comp=Z,44nm,18.8s,baz=175,slow=39
      1.2nm,0.3s
H08S2 Diego Garcia H    28.77 260 T       T          06 21 33.2
      baz=83,slow=76,SNR=27
H08S3 Diego Garcia H    28.77 260 T       T          06 21 33.1
      baz=83,slow=76,SNR=34
H08S1 Diego Garcia H    28.79 260 T       T          06 21 34.6
      baz=83,slow=76,SNR=19
H01W3 Cape Leeuwin H    33.97 160 T       T          06 28 34.9
      baz=337
H01W2 Cape Leeuwin H    33.98 161 T       T          06 28 35.6
      baz=337
H01W1 Cape Leeuwin H    33.98 160 T       T          06 28 34.9
      baz=337
WB0   Warramunga Arr    36.58 120 P       P          05 53 12.8 +0.8
WB0                                    IAmb    IAmb       05 53 25.1
      comp=Z,3.8nm,1.0s
WRA   Warramunga Arr    36.60 120 P       P          05 53 12.1 -0.1
WRA   Warramunga Arr    36.60 120 P       P          05 53 12.1 -0.1
      comp=Z,0.5nm,0.5s,baz=303,slow=9.0,SNR=14
WRA                                    pP      pP         05 53 22.1 -2.2
      comp=Z,1.2nm,0.4s,baz=303,slow=9.1,SNR=8.9
WRA                                    pPcP               05 55 46.2
      comp=Z,0.2nm,0.5s,baz=311,slow=2.3,SNR=2.2
      comp=Z,0.5nm,0.5s
WRAB  Tennant Creek     36.60 120 P       P          05 53 11.8 -0.4
WRAB                                   IAmb    IAmb       05 53 22.9
      comp=Z,2.5nm,0.5s
WB2   Warramunga Arr    36.61 120 P       P          05 53 12.1 -0.2
WB2                                    IAmb    IAmb       05 53 14.9
      comp=Z,5.0nm,1.1s
WR0   Warramunga Arr    36.78 120 P       P          05 53 13.1 -0.6
WR0                                    IAmb    IAmb       05 53 16.9
      comp=Z,2.0nm,0.9s
AS31  Alice Springs     37.83 126 P       P          05 53 22.1 -0.5
ASAR  Alice Springs     37.83 126 P       P          05 53 23.5 +0.9
ASAR  Alice Springs     37.83 126 P       P          05 53 22.9 +0.3
      comp=Z,0.6nm,0.6s,baz=301,slow=7.8,SNR=11
ASAR                                   pP      pP         05 53 31.9 -2.8
      comp=Z,0.8nm,0.4s,baz=300,slow=7.7,SNR=7.5
ASAR                                   pPcP               05 55 50.0
      comp=Z,0.3nm,0.6s,baz=292,slow=2.4,SNR=5.2
      comp=Z,0.6nm,0.6s
STKA  Stephens Creek    47.71 132 P       P          05 54 43.2 +0.7
      comp=Z,1.2nm,0.5s,baz=275,slow=3.8,SNR=3.1
STKA                                   pP      pP         05 54 55.6 +0.5
      comp=Z,3.1nm,0.6s,baz=294,slow=8.0,SNR=4.1
      comp=Z,1.2nm,0.5s
BOOM  Boomskoye usch    50.67 336 P       P          05 55 06.4 +1.3
SONM  Songino Array     50.86   5 P       P          05 55 06.9 +0.5
      comp=Z,1.5nm,0.5s,baz=195,slow=9.0,SNR=3.1
      comp=Z,1.5nm,0.5s
MK31  Makanchi Array    52.28 344 P       P          05 55 17.5 +0.6
MK31                                   IAmb    IAmb       05 55 39.0
      comp=Z,2.0nm,1.0s
MKAR  Makanchi Array    52.28 344 P       P          05 55 17.2 +0.3
      comp=Z,1.2nm,0.6s,baz=157,slow=9.4,SNR=15
MKAR                                   pP      pP         05 55 28.5 -1.0
      comp=Z,0.7nm,0.5s,baz=165,slow=8.3,SNR=4.3
      comp=Z,1.2nm,0.6s
KKAR  Karatay Array     53.52 332 P       P          05 55 27.6 +1.5
USRK  Ussuriysk Ar.     54.58  27 pP      pP         05 55 45.4 -1.1
      comp=Z,1.5nm,0.5s,baz=234,slow=6.8,SNR=2.8
KURBB Kurchatov Arra    56.81 343 P       P          05 55 49.6 -0.1
      comp=Z,1.1nm,0.6s,baz=161,slow=7.3,SNR=9.9
      comp=Z,1.1nm,0.6s
KURK  Kurchatov         56.87 343 P       P          05 55 50.5 +0.4
KURK                                   IAmb    IAmb       05 55 51.0
      comp=Z,2.2nm,0.7s
ZAA0  Zalesovo Array    58.36 349 P       P          05 56 00.6 +0.2
ZALV  Zalesovo Beam     58.36 349 P       P          05 56 00.7 +0.3
ZALV  Zalesovo Beam     58.36 349 P       P          05 56 00.4 -0.1
      comp=Z,8.1nm,0.8s,baz=170,slow=5.1,SNR=25
      comp=Z,8.1nm,0.8s
H04N2 CROZET ISLANDS    60.60 217 T       T          07 01 20.4
      baz=58,SNR=234
H04N1 CROZET ISLANDS    60.61 217 T       T          07 01 22.0
      baz=58,slow=75,SNR=181
H04N3 CROZET ISLANDS    60.62 217 T       T          07 01 20.6
      baz=58,slow=75,SNR=167
H04S1 CROZET ISLANDS    60.87 216 T       T          07 01 38.0
      baz=59,slow=76,SNR=32
H04S3 CROZET ISLANDS    60.88 216 T       T          07 01 38.0
      baz=59,slow=76,SNR=56
H04S2 CROZET ISLANDS    60.89 216 T       T          07 01 39.4
      baz=59,slow=76,SNR=29
BVAR  Borovoye Array    61.49 339 P       P          05 56 20.9 -1.1
      comp=Z,1.6nm,0.5s,baz=141,slow=8.5,SNR=8.6
BVAR                                   pP      pP         05 56 34.7 -0.1
      comp=Z,1.2nm,0.6s,baz=154,slow=6.6,SNR=4.8
      comp=Z,1.6nm,0.5s
BRVK  Borovoye          61.55 339 P       P          05 56 22.7 +0.3
BRVK                                   IAmb    IAmb       05 56 49.1
      comp=Z,1.2nm,0.7s
ABKAR Akbulak array     63.02 331 P       P          05 56 32.1 -0.2
BRTR  Keskin Array B    74.76 312 P       P          05 57 45.7  0.0
      comp=Z,0.9nm,0.7s,baz=147,slow=7.0,SNR=4.1
      comp=Z,0.9nm,0.7s
FINES FINESS Array B    85.48 332 P       P          05 58 43.0 +0.2
      comp=Z,3.3nm,0.9s,baz=159,slow=1.6,SNR=6.5
      comp=Z,3.3nm,0.9s
TXAR  Lajitas Array     144.86  39 PKP    PKPdf      06 05 42.6 -0.3
      comp=Z,0.7nm,0.5s,baz=270,slow=0.6,SNR=15
TXAR                                   pPKP    pPKPdf     06 05 55.4 -1.5
      comp=Z,0.7nm,0.5s,baz=216,slow=0.8,SNR=7.3
```

WEL 08 05:48:47.0±1.5, 33°S±49°.×18°0W±5°0, h439km±63km, M4.3/4, mB4.8/2, ML4.3/7, MLv4.3/4, Mw(mB)4.0/2, Error ellipse: s-maj=0.1km s-min=0.0km az=134.6, confirmed, South of Kermadec Islands

```
Code  Station Name       Δ°   AZ°  Phase ID                Time       Res
                                   Op      ISC             h m s      ISC
MXZ   Matakaoa Point     4.68 199  P       P          05 50 07.6 +0.1
MXZ                                    S       S          05 51 13.6 +0.3
WMGZ  Waiomatatini S     4.89 197  P       P          05 50 09.8 +0.2
HAZ   Te Kaha            5.01 202  P       P          05 50 10.1 -0.6
HAZ                                    S       S          05 51 19.8 +0.7
PKGZ  Pakihiroa          5.04 199  P       P          05 50 12.6 +1.4
PUZ   Puketiti           5.17 197  P       P          05 50 12.6 +0.2
PUZ                                    S       S          05 51 23.1 +0.9
RUGZ  Raukumara Rang     5.24 202  P       P          05 50 11.9 -1.2
CNGZ  Carnagh Statio     5.57 196  P       P          05 50 18.7 +2.4
MWZ   Matawai            5.62 202  P       P          05 50 16.7 -0.2
TKGZ  Te Karaka          5.62 199  P       P          05 50 17.4 +0.5
URZ   Urewera            5.69 205  P       P          05 50 16.2 -1.3
URZ                                    S       S          05 51 31.4 -0.2
RAGZ  Rawiri             5.80 202  P       P          05 50 19.5 +0.8
RIGZ  Rimuhau            5.90 199  P       P          05 50 20.0 +0.4
MUGZ  Murupara           6.01 207  P       P          05 50 20.8  0.0
RTZ   Ruatahuna          6.05 205  P       P          05 50 21.6 +0.3
SNGZ  Shannon Statio     6.09 201  P       P          05 50 22.8 +1.2
HRRZ  Handcock Road      6.13 210  P       P          05 50 22.5 +0.4
KNZ   Kokohu             6.22 198  P       P          05 50 23.9 +1.0
RAHZ  Arahi              6.29 203  P       P          05 50 24.8 +1.0
TLZ   Tolley Road        6.41 215  P       P          05 50 26.7 +1.6
MRHZ  Matea Rd           6.45 207  P       P          05 50 25.5  0.0
ARHZ  Aropaoanui         6.64 202  P       P          05 50 27.6 +0.1
```

*NORS **08** 05:50:01.8±0.0, 44°.06N×46°.70E, h10km, MPVA3.5*
*MOS **08** 05:50:01.4±0.0, 44°.02N×46°.80E, h5km, MPVA3.6*
*DRS **08** 05:50:03.2±0.0, 44°.27N×46°.86E, h22km*

ISC 08 05:50:01.2±2.0, 44°.11N±0°.07×46°.79E±0°.06, h8km±11km, n23, σ1§02/46, Ukraine-Moldova-Southwestern Russia region

```
Code  Station Name       Δ°   AZ°  Phase ID                Time       Res
                                   Op      ISC             h m s      ISC
KANR  Karaman            1.05 151  ePg     Pb         05 50 21.4 -0.2
KANR                                   eSg     Sn         05 50 35.8 -1.1
DLMR  Dylym              1.05 186  ePg     Pn         05 50 22.0 -0.2
DLMR                                   eSg     Sn         05 50 37.1  0.0
DBC   Dubki              1.09 178  ePg     Pn         05 50 22.8  0.0
DBC                                    eSg     Sn         05 50 38.3 +0.1
GROC  Groznyy            1.16 219  ePg     Pn         05 50 24.5 +0.8
GROC                                   eSg     Sn         05 50 41.0 +1.3
DVE   Vedeno             1.25 203  ePg     Pg         05 50 25.6 +0.4
DVE                                    eSg     Sn         05 50 42.7 +0.6
KRNR  Karanay            1.29 176  ePg     Pg         05 50 26.6 +0.7
KRNR                                   eSg     Sn         05 50 44.5 +1.4
UNCR  Uncukul            1.40 180  ePg     Pg         05 50 28.4 +0.4
UNCR                                   eSg     Sg         05 50 48.0 +1.9
BTLR  Botlikh            1.51 196  ePg     Pb         05 50 29.3 -0.1
BTLR                                   eSg     Sg         05 50 49.7 +0.1
ARKR  Arakani            1.52 174  ePg     Pg         05 50 30.1 -0.2
ARKR                                   eSg     Sg         05 50 51.0 +1.0
XNZR  Khunzakh           1.57 182  ePg     Pg         05 50 32.0 +0.6
XNZR                                   i Sg    Sg         05 50 52.0 +0.3
GNBR  Gunib              1.73 176  ePg     Pb         05 50 33.0 -0.2
GNBR                                   eSg     Sg         05 50 56.3 -0.4
SHTL  Shatili            1.88 220  ePg     Pn         05 50 33.3 -0.5
SHTL                                   eSg     Sb         05 50 59.4 -0.2
SHTL  Shatili            1.88 220  P       Pn         05 50 33.3 -0.5
SHTL                                   S       Sb         05 50 59.4 -0.2
KMKR  Kumukh             2.00 173  ePg     Pb         05 50 37.1 -0.7
KMKR                                   eSg     Sg         05 51 04.1 -1.2
STDR  Stavd-Durt         2.11 250  ePg     Pn         05 50 36.8  0.0
STDR                                   eSg     Sg         05 51 07.9 -1.1
LACR  Lac                2.22 236  ePg     Pb         05 50 40.9 -0.7
LACR                                   eSg     Sb         05 51 07.8 -1.6
KORR  Kora               2.23 243  ePg     Pn         05 50 39.0 +0.6
KORR                                   eSg     Sb         05 51 10.5 +1.1
KBTC  Kuba-Taba          2.46 264  ePn     Pb         05 50 44.6 -1.0
KBTC                                   eSn     Sb         05 51 15.1 -1.0
ZEI   Tsey               2.48 239  ePn     Pb         05 50 44.5 -1.6
ZEI                                    eSn     Sb         05 51 15.4 -1.6
KBZ   Khabaz             2.84 264  ePn     Pn         05 50 46.5 -0.3
KBZ                                    eSn     Sn         05 51 21.0 -0.1
BEYR  Belyy Ugol+        2.86 269  ePn     Pb         05 50 53.4 +0.8
BEYR                                   eSn     Sb         05 51 28.3 +0.5
KIV   Kislovodsk         2.96 268  ePn     Pn         05 50 48.1 -0.5
KIV                                    eSn     Sn         05 51 27.8 +3.4
SHA1  Shidzhatmaz        3.01 264  ePn     Pb         05 50 54.7 -0.4
SHA1                                   eSn     Sb         05 51 30.4 -1.7
```

DJA 08 05:52:47.3±0.6, 9°S±9°.×11°8E±°, h114km±5km, M4.0/6, mb4.7/1, MLv3.7/6, Sumbawa region

```
Code  Station Name       Δ°   AZ°  Phase ID                Time       Res
                                   Op      ISC             h m s      ISC
PLAI  Plampang           0.60 253  P       Pn         05 53 06.3 +1.0
PLAI                                   S       Sn         05 53 20.8 +2.0
TWSI  Taliwang, Sumb     1.46 266  P       Pn         05 53 14.1 +0.2
TWSI                                   S       Sn         05 53 35.0 +0.9
BASI  Baing, Sumba       2.69 126  P       Pn         05 53 30.2 +0.9
SRBI  Singaraja          3.16 280  P       Pn         05 53 35.6  0.0
IGBI  Denpasar           3.18 267  P       Pn         05 53 36.7 +0.9
IGBI                                   S       Sn         05 54 14.4 +1.1
JAGI  Jajag, Banyuwa     4.17 272  P       Pn         05 53 47.9 -1.1
BATI  Baumata            5.46 107  P       Pn         05 54 05.8 -0.6
```

*SJA **08** 05:53:58.1±0.7, 23°.99S×66°.90W, h224km±6km, ML3.4, MW3.5*
*GUC **08** 05:54:00.4±0.7, 23°.98S×67°.15W, h229km±6km, ML3.7*

ISC 08 05:53:57.6±1.9, 24°.02S±0°.04×66°.97W±0°.04, h226km±15km, n30, σ1§45/55, 4C, Salta Province

```
Code  Station Name       Δ°   AZ°  Phase ID                Time       Res
                                   Op      ISC             h m s      ISC
SLA   San Lorenzo        1.51 118  eP      Pn         05 54 34.6 +0.7
SLA                                    eS      S          05 55 01.2 -1.0
AF01  San Pedro de A     1.54 313  ⇑i P    Pn         05 54 35.6 +1.3
AF01                                   eS      S          05 55 02.4 -0.5
AF01                                   IAML               05 55 12.6
      comp=N,127nm,0.5s
HJA   Humahuaca          1.64  61  eP      Pn         05 54 35.5 +0.1
AZAP  Zapla              1.75  97  eP      Pn         05 54 36.0 -0.1
FSA   Cafayete           2.27 157  eP      Pn         05 54 41.2 +0.2
LVC   Limon Verde        2.27 308  ⇑i P    Pn         05 54 42.5 +1.2
LVC                                    eS      S          05 55 14.1 -1.1
LVC                                    IAML               05 55 17.5
      comp=N,312nm,0.3s
LVC   Limon Verde        2.27 308  eP      Pn         05 54 42.5 +1.2
LVC                                    eS      S          05 55 15.3 +0.1
LVC                                    IAML               05 55 15.8
      comp=Z,57nm,0.2s
YJA   Yavi               2.27  36  eP      Pn         05 54 42.0 +0.7
GO02  Mina Guanaco       2.65 244  i P     Pn         05 54 46.7 +1.6
GO02                                   eS      S          05 55 21.8 -0.3
GO02                                   IAML               05 55 22.6
      comp=N,398nm,0.2s
GO02  Mina Guanaco       2.65 244  eP      Pn         05 54 46.8 +1.6
GO02                                   eS      S          05 55 22.4 +0.3
PB06  IPOC Station P     2.73 298  ⇑i P    Pn         05 54 47.3 +1.5
PB06                                   eS      S          05 55 21.7 -1.8
PB06                                   IAML               05 55 23.4
      comp=N,226nm,0.2s
PB06  IPOC Station P     2.73 298  eP      Pn         05 54 47.2 +1.4
PB06                                   eS      S          05 55 22.9 -0.6
PB06                                   IAML               05 55 27.2
      comp=Z,131nm,0.2s
ALOL  LOMAS DE OLMED     2.74  86  eP      Pn         05 54 46.4 +0.6
ALOL                                   eS      S          05 55 24.7 +1.2
PB09  IPOC Station P     3.05 316  eP      Pn         05 54 51.2 +1.8
PB09                                   i S     S          05 55 29.6 -0.4
PB09                                   IAML               05 55 31.8
      comp=N,69nm,0.3s
PB09  IPOC Station P     3.05 316  eP      Pn         05 54 51.2 +1.8
PB09                                   eS      S          05 55 30.1 +0.2
PB09                                   IAML               05 55 37.5
      comp=Z,48nm,0.5s
PB14  IPOC Station P     3.19 258  eP      Pn         05 54 53.3 +2.1
PB14                                   eS      S          05 55 31.8 -1.3
PB14                                   IAML               05 55 33.9
      comp=Z,74nm,0.5s
PB04  IPOC Station P     3.37 299  eP      Pn         05 54 54.5 +1.3
PB04                                   eS      S          05 55 34.9 -1.8
PB04  IPOC Station P     3.37 299  eP      Pn         05 54 54.4 +1.3
PB04                                   eS      S          05 55 35.1 -1.5
PB04                                   IAML               05 55 37.3
      comp=Z,89nm,0.1s
PB07  IPOC Station P     3.53 310  ⇑i P    Pn         05 54 56.1 +1.1
PB07                                   eS      S          05 55 37.3 -2.7
PB07  IPOC Station P     3.53 310  eP      Pn         05 54 56.0 +1.1
PB07                                   eS      S          05 55 38.2 -1.7
PB07                                   IAML               05 55 40.8
      comp=Z,96nm,0.3s
PB01  IPOC Station P     3.77 321  eP      Pn         05 54 58.7 +0.9
PB01                                   eS      S          05 55 43.0 -2.0
PB01  IPOC Station P     3.77 321  eP      Pn         05 54 58.9 +1.1
PB01                                   eS      S          05 55 43.5 -1.5
PB01                                   IAML               05 55 46.6
      comp=Z,74nm,0.2s
PB02  IPOC Station P     3.81 314  eP      Pn         05 54 59.2 +0.9
PB02                                   eS      S          05 55 43.2 -2.7
PB02  IPOC Station P     3.81 314  eP      Pn         05 54 59.2 +0.9
PB02                                   eS      S          05 55 44.0 -2.0
AC01  Pan de Azucar      3.92 236  eP      Pn         05 55 00.2 +0.8
AC01                                   eS      S          05 55 46.0 -2.0
AC01  Pan de Azucar      3.92 236  eP      Pn         05 55 00.4 +1.0
AC01                                   eS      S          05 55 45.8 -2.2
AC01                                   IAML               05 55 46.7
      comp=Z,33nm,0.7s
PATCX Punta Patache      4.34 317  i P     Pn         05 55 05.4 +0.8
PATCX                                  eS      S          05 55 54.3 -3.2
PATCX Punta Patache      4.34 317  eP      Pn         05 55 05.8 +1.1
PB08  IPOC Station P     4.36 332  eP      Pn         05 55 06.9 +1.7
PB08                                   eS      S          05 55 57.8 -0.6
PB08  IPOC Station P     4.36 332  eP      Pn         05 55 07.2 +2.0
PB08                                   eS      S          05 55 58.1 -0.3
PB08                                   IAML               05 56 00.6
      comp=Z,18nm,0.2s
```

UCR 08 06:22:12.5±0.8, 9°.75N×83°.94W, h2km±1km, MW3.5, Costa Rica

```
Code  Station Name       Δ°   AZ°  Phase ID                Time       Res
                                   Op      ISC             h m s      ISC
REPA  Paraso             0.11  42  eP      Pg         06 22 16.9 +2.2
RAZU  San Marcos de      0.12 223  eP      Pg         06 22 15.4 +0.6
RAZU                                   eS      Sg         06 22 17.2 +0.7
ABE2  San Pablo          0.12 250  eP      Pg         06 22 15.6 +0.8
ABE2                                   eS      Sg         06 22 17.6 +1.1
TAGO  Cartago            0.12   9  eP      Pg         06 22 16.3 +1.3
TAGO                                   eS      Sg         06 22 18.9 +2.3
TRIO  Tres Rios          0.17 342  eP      Pg         06 22 16.8 +1.0
TRIO                                   eS      Sg         06 22 19.6 +1.6
AMPA  Desamparados       0.19 322  eP      Pg         06 22 17.2 +0.9
AMPA                                   eS      Sg         06 22 20.2 +1.4
PCAYA Pacayas            0.21  37  eP      Pg         06 22 18.0 +1.3
LUJA  Lujan              0.22 325  eP      Pg         06 22 19.0 +2.2
LUJA                                   eS      Sg         06 22 22.6 +2.9
SJS3  Mercedes San J     0.22 331  eP      Pg         06 22 18.1 +1.3
SJS   Escuela Geolog     0.22 330  eP      Pg         06 22 18.0 +1.2
ACOS  Acosta             0.22 283  eP      Pg         06 22 17.8 +1.0
ACOS                                   eS      Sg         06 22 21.4 +1.6
LUPE  Guadalupe          0.23 331  eP      Pg         06 22 18.3 +1.3
CORON Coronado           0.23 345  eP      Pg         06 22 18.6 +1.5
MEXI  Barrio Mexico      0.24 324  eP      Pg         06 22 18.4 +1.2
VINA  Juan Vinas         0.24  52  eP      Pg         06 22 18.5 +1.2
RAFA  San Farael, Vo     0.25  32  eP      Pg         06 22 18.7 +1.3
VICA  Volcano Irazu      0.26  22  eP      Pg         06 22 18.8 +1.3
CDM   Cerro de Muert     0.26 137  eP      Pg         06 22 18.1 +0.6
BUS1  Rivas              0.27 134  eP      Pg         06 22 18.2 +0.4
DOMI  Santo Domingo      0.28 328  eP      Pb         06 22 19.2 -1.1
CVIMO Finca Echandi      0.28 360  eP      Pb         06 22 19.2 -1.2
VTRT  Volcan Turrial     0.29  30  eP      Pg         06 22 19.4 +1.1
TURIB Turrialba          0.30  58  eP      Pb         06 22 20.2 -0.4
HDC   Heredia            0.30 327  eP      Pg         06 22 19.5 +1.1
HDC3  Heredia 3          0.30 327  eP      Pb         06 22 19.7 -1.1
VTLA  Turrialba Volc     0.30  33  eP      Pb         06 22 19.7 -1.1
EDIA  Heredia            0.31 325  eP      Pb         06 22 19.8 -1.1
CVTQ  Turrialba Volc     0.31  34  eP      Pb         06 22 19.9 -1.1
LLNJ  Naranjito          0.31 210  eP      Pb         06 22 19.7 -1.1
VERB  Verbena            0.32  51  eP      Pb         06 22 19.8 -1.1
VTCV  VTCV, Calle Va     0.32  42  eP      Pb         06 22 20.0 -1.1
CVTV  Tajo               0.32  37  eP      Pb         06 22 20.1 -1.0
CVTR  Volcan Turrial     0.33  34  eP      Pb         06 22 20.3 -1.0
BELE  Belen              0.33 314  eP      Pg         06 22 19.8 +0.8
VTLO  VTLO               0.36  36  eP      Pg         06 22 20.7 +1.1
RVSTA Santa Teresita     0.37  52  eP      Pb         06 22 20.9 -1.0
ZELE  Perez Zeledon      0.44 148  eP      Pg         06 22 21.3 +0.4
TCS1  Tacares            0.46 310  eP      Pb         06 22 22.4 -1.0
VPTE  Poasito            0.49 329  eP      Pb         06 22 23.3 -0.7
```

EDDO	Dominical	0.49 171	eP	Pg	06 22 22.7 +0.7
RVLA	Villa Bonita	0.50 44	eP	Pb	06 22 23.4 -0.7
LCOCO	El Coco	0.51 48	eP	Pb	06 22 23.5 -0.6
RIFO	Rio Frio, Sara	0.57 2	eP	Pb	06 22 24.5 -0.7
BATAN	Batan	0.66 58	eP	Pb	06 22 26.3 -0.4
CPMI	Catarata Coope	0.69 321	eP	Pg	06 22 26.4 +0.7
JACO	JACO, Garabito	0.71 263	eP	Pg	06 22 26.4 +0.2
ARZA	Esparza	0.76 289	eP	Pb	06 22 28.2 -0.1
DRK0	Durika	0.84 125	eP	Pg	06 22 28.0 -0.6
EDBA	Buenos Aires	0.88 131	eP	Pg	06 22 28.0 -1.3
TRT1	Tortuguero	0.88 16	eP	Pg	06 22 29.9 +0.5
EDPN	Palmar Norte	0.91 148	eP	Pg	06 22 30.0 -0.1
SOCE	Pocosol	0.92 314	eP	Pg	06 22 30.4 +0.3
FORC	Fortuna	1.01 315	eP	Pg	06 22 31.7 -0.2
ARE1	Arenal 1	1.04 313	eP	Pg	06 22 32.6 0.0
CEDE	Laguna Cedeo	1.05 315	eP	Pg	06 22 32.8 +0.1
JTS	Las Juntas de	1.13 299	eP	Pg	06 22 33.9 -0.3
JUNT	Juntas	1.13 298	eP	Pg	06 22 34.0 -0.3
COTE	Lago Cote	1.26 311	eP	Pg	06 22 35.9 -0.9
EDSV	San Vito	1.33 134	eP	Pg	06 22 37.8 -0.2
EDSV			eP	Pn	06 22 37.8 -0.4
EDAD	Golfito	1.33 145	eP	Pg	06 22 36.6 -1.4
EDAD			eP	Pn	06 22 36.8 -1.3
POPE	POPE, Guanacas	1.34 284	eP	Pn	06 22 36.9 -1.3
ACAL	Aguas Claras	1.39 310	eP	Pn	06 22 39.0 0.0
PTEN	Parque Tenorio	1.41 313	eP	Pn	06 22 38.7 -0.6
VERA	Finca Concepci	1.43 320	eP	Pn	06 22 39.0 -0.4
MOTZ	Rio Naranjo	1.45 310	eP	Pg	06 22 40.6 +0.2
CUI	Cuipilapa	1.51 307	eP	Pn	06 22 40.1 -0.5
PLVR	Palo Verde	1.51 293	eP	Pn	06 22 39.6 -1.1
BAGA	Bagaces	1.51 301	eP	Pg	06 22 41.4 -0.1
CANAL	Canalete	1.54 315	eP	Pn	06 22 40.0 -0.9
COLC	Colonia	1.54 306	eP	Pb	06 22 41.7 -0.1
HORNC	Hornillas	1.55 308	eP	Pn	06 22 41.5 +0.4
VMAR	Armenia, Volca	1.57 313	eP	Pn	06 22 41.2 -0.2
MESS	Mesas	1.58 309	eP	Pn	06 22 41.2 -0.4
GUAB	Guayabo de Bag	1.59 307	eP	Pn	06 22 41.9 +0.2
CLARA	Aguas Claras	1.59 311	eP	Pn	06 22 42.1 +0.3
NARJA	Naranjal	1.59 278	eP	Pn	06 22 41.1 -0.7
LIM1	Limonal	1.60 306	eP	Pn	06 22 42.0 +0.1
ORTG	Ortega, Santa	1.61 292	eP	Pn	06 22 41.2 -0.8
JUD3	Juan Diaz 3	1.63 285	eP	Pn	06 22 41.6 -0.6
BUEV	Buena Vista	1.78 306	eP	Pn	06 22 44.9 +0.5
LAPC	Finca la Perla	1.78 305	eP	Pn	06 22 44.8 +0.4
GB1A	Borinquen Arri	1.79 307	eP	Pb	06 22 45.2 -0.8
HZTE	Horizontes, Gu	1.89 301	eP	Pn	06 22 46.4 +0.6

*LJU **08** 06:33:17.6, 45.'62N×14.'40E, h16km, ML2.4*
*LDG **08** 06:33:18.3±0.1, 45.'64N×14.'37E, h2km, Ml2.6/5, Error ellipse: s-maj=2.7km s-min=2.4km az=163.0*
*PRU **08** 06:33:18.9, 45.'64N×14.'41E, h14km*
*RHSSO **08** 06:33:18.8±0.3, 45.'61N×14.'43E, h3km±2km, ML2.2/7*
*ROM **08** 06:33:19.1±0.2, 45.'599N±0.'008×14.'35E±0.'02, h16km±1km, ML2.8/49, Error ellipse: s-maj=1.5km s-min=0.9km az=87.0*

ISC 08 06:33:17.7±0.8, 45.'60N±0.'01×14.'38E±0.'01, h17km±4km, n125, σ1§28/185, 15C-3D, Northwern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KNDS	Knezji Dol	0.07	177	⇓i	Pg	Pg	06 33 21.2	+0.1
KNDS				i	Sg	Sg	06 33 23.4	0.0
KNDS					IAML		06 33 23.6	
	comp=Z,319nm,0.1s							
CEY	Cerknica	0.15	14	⇑i	Pg	Pg	06 33 21.1	-0.8
CEY				e	Sg	Sg	06 33 23.8	-0.9
CEY	Cerknica	0.15	14	⇑i	Pg	Pg	06 33 21.6	-0.3
CEY				i	Sg	Sg	06 33 24.0	-0.7
CEY					IAML		06 33 24.7	
	comp=Z,555nm,0.1s							
SKDS	Skadanscina	0.26	259	⇑i	Pg	Pg	06 33 23.7	+0.2
SKDS				e	Sg	Sb	06 33 28.2	+0.1
SKDS	Skadanscina	0.26	259	⇑i	Pg	Pg	06 33 23.8	+0.3
SKDS				i			06 33 24.0	
SKDS				i	Sg	Sb	06 33 28.5	+0.4
SKDS					IAML		06 33 28.8	
	comp=Z,569nm,0.1s							
RIY	Rijeka	0.28	164	e	Pg	Pg	06 33 24.0	+0.2
RIY					Sg	Sb	06 33 28.9	+0.2
GBRS	Gornja Briga	0.31	102	⇑i	Pg	Pg	06 33 24.5	+0.1
GBRS				i	Sg	Sg	06 33 29.4	+0.4
GBRS					IAML		06 33 29.7	
	comp=Z,205nm,0.1s							
GBAS	Gorenja Brezov	0.34	8	i	Pg	Pg	06 33 24.7	-0.2
GBAS				i	Sg	Sg	06 33 29.4	-0.5
GBAS					IAML		06 33 30.3	
	comp=Z,101nm,0.1s							
JAVS	Javornik	0.37	324	⇑i	Pg	Pg	06 33 25.2	-0.2
JAVS				i	Sg	Sg	06 33 30.9	+0.2
JAVS					IAML		06 33 32.7	
	comp=Z,347nm,0.2s							
VISS	Visnje	0.39	57	⇑i	Pg	Pg	06 33 25.4	-0.3
VISS				i	Sg	Sg	06 33 30.8	-0.2
VISS					IAML		06 33 33.0	
	comp=Z,94nm,0.1s							
TRI	Trieste	0.44	285	⇑e	Pg	Pg	06 33 26.7	0.0
TRI				e	Sg	Sb	06 33 34.2	+0.8
TRI	Trieste	0.44	285	⇑P		Pg	06 33 26.7	0.0
TRI				S		Sb	06 33 34.2	+0.8
TRI					AML	AML		
	comp=N,490μm,0.9s							
TRI					AML	AML		
	comp=E,1166μm,0.2s							
TRI					AML	AML		
	comp=N,484μm,0.2s							
TRI					AML	AML		
	comp=E,1165μm,0.2s							
LJU	Ljubljana	0.46	13	⇓i	Pg	Pg	06 33 27.0	0.0
LJU				i	Sg	Sg	06 33 33.5	+0.2
LJU					IAML		06 33 38.1	
	comp=Z,87nm,0.2s							
LJU	Ljubljana	0.46	13		AML	AML		
	comp=E,2400μm,0.2s							
LJU					AML	AML		
	comp=N,3415μm,0.2s							
LJU					AML	AML		
	comp=N,3413μm,0.2s							
LJU					AML	AML		
	comp=E,2404μm,0.2s							
CRNS	Crni Vrh	0.49	351	i	Pg	Pg	06 33 27.4	-0.2
CRNS				i	Sg	Sg	06 33 34.6	+0.4
CRNS					IAML		06 33 37.4	
	comp=Z,101nm,0.2s							
A253A	Karojba, Istri	0.50	233	e	Pg	Pg	06 33 27.7	0.0
A253A					Sg	Sb	06 33 35.4	+0.5
VNDS	Vrh nad Dolski	0.55	24	i	Pg	Pg	06 33 28.7	-0.1
VNDS				i	Sg	Sg	06 33 36.2	0.0
VNDS					IAML		06 33 38.6	
	comp=Z,56nm,0.1s							
VOJS	Vojsko	0.56	322	⇑i	Pg	Pg	06 33 28.3	-0.5
VOJS				i	Sg	Sg	06 33 37.0	+0.7
VOJS					IAML		06 33 38.6	
	comp=Z,117nm,0.1s							
SMRN	Sveta Marina	0.58	196	e	Pg	Pg	06 33 29.2	0.0
SMRN					Sg	Sn	06 33 39.0	-1.3
BOJS	Bojanci	0.62	98	⇑i	Pg	Pg	06 33 29.3	-0.7
BOJS				e	Sg	Sg	06 33 37.8	-0.5
BOJS	Bojanci	0.62	98	⇑i	Pg	Pg	06 33 29.7	-0.3
BOJS				i	Sg	Sg	06 33 38.5	+0.2
BOJS					IAML		06 33 42.1	
	comp=Z,27nm,0.1s							
BOJS	Bojanci	0.62	98		AML	AML		
	comp=E,676μm,0.2s							
BOJS					AML	AML		
	comp=N,596μm,1.0s							
BOJS					AML	AML		
	comp=N,497μm,0.5s							
BOJS					AML	AML		
	comp=E,677μm,0.2s							
PDKS	Podkum	0.64	43	i	Pg	Pg	06 33 30.4	+0.1
PDKS				i	Sg	Sg	06 33 38.5	-0.2
PDKS					IAML		06 33 42.9	
	comp=Z,48nm,0.1s							
SABO	M.te Sabotino	0.67	306	e	Pg	Pg	06 33 30.3	-0.5
SABO				e	Sg	Sb	06 33 40.5	+0.7
SABO	M.te Sabotino	0.67	306	P		Pg	06 33 30.5	-0.3
SABO				S		Sg	06 33 40.3	+0.7
SABO					AML	AML		
	comp=E,1975μm,1.5s							
SABO					AML	AML		
	comp=N,1970μm,0.8s							
SABO					AML	AML		
	comp=E,486μm,1.5s							
SABO					AML	AML		
	comp=N,517μm,0.8s							
SABO					AML	AML		
	comp=E,486μm,0.5s							
SABO					AML	AML		
	comp=E,1975μm,0.5s							
SABO					AML	AML		
	comp=N,517μm,1.2s							
SABO					AML	AML		
	comp=N,1970μm,1.2s							
SABO					AML	AML		
	comp=E,447μm,0.3s							
SABO					AML	AML		
	comp=N,484μm,0.5s							
SABO					AML	AML		
	comp=N,1764μm,0.5s							
SABO					AML	AML		
	comp=E,1946μm,0.5s							
MOZS	Mozjanca	0.70	4	i	Pg	Pb	06 33 31.1	-0.4
MOZS				i	Sg	Sg	06 33 42.1	+1.4
MOZS					IAML		06 33 44.3	
	comp=Z,34nm,0.2s							
LEGS	Legarje	0.75	61	i	Pg	Pb	06 33 32.0	-0.2
LEGS				i	Sg	Sb	06 33 41.5	-0.6
OZLJ	Ozalj	0.77	88	e	Pg	Pb	06 33 32.0	-0.5
GORS	Gorjuse	0.77	340	i	Pg	Pb	06 33 32.3	-0.4
GORS				i			06 33 32.9	
GORS				i	Sg	Sb	06 33 43.3	+0.5
GORS					IAML		06 33 45.0	
	comp=Z,63nm,0.1s							
DRE	Drenchia	0.77	319	e	Pg	Pb	06 33 32.2	-0.5
DRE				e	Sg	Sb	06 33 43.7	+0.8
DRE	Drenchia	0.77	319	P		Pb	06 33 32.2	-0.5
DRE				S		Sg	06 33 44.1	+1.1
CADS	Cadrg	0.77	325	i	Pg	Pb	06 33 31.8	-0.9
CADS				i	Sg	Sg	06 33 43.9	+0.8
CADS					IAML		06 33 46.1	
	comp=Z,73nm,0.2s							
CRES	Cresnjev	0.79	73	⇑i	Pg	Pb	06 33 32.8	-0.2
CRES				e	Sg	Sb	06 33 42.9	-0.5
CRES	Cresnjev	0.79	73	⇑i	Pg	Pb	06 33 32.9	-0.2
CRES				i	Sg	Sb	06 33 43.0	-0.4
CRES					IAML		06 33 44.6	
	comp=Z,66nm,0.1s							
BRJN	Brijuni	0.82	213	e	Pg	Pn	06 33 34.5	0.0
BRJN	Brijuni	0.82	213	P		Pn	06 33 34.4	0.0
BRJN				S		Sn	06 33 46.0	-0.2
CESS	Cesta pri Krsk	0.85	63	i	Pg	Pb	06 33 34.1	+0.1
CESS				i			06 33 35.3	
CESS				i	Sg	Sb	06 33 44.8	-0.2
CESS					IAML		06 33 48.4	
	comp=Z,89nm,0.2s							
COLI	Coloredo	0.88	308	e	Pg	Pb	06 33 34.8	+0.3
COLI				e	Sg	Sn	06 33 47.8	+0.2
ROBS	Robic	0.89	317	i	Pg	Pb	06 33 34.6	0.0
ROBS				e	Sg	Sg	06 33 47.5	+0.8
ROBS					IAML		06 33 55.2	
	comp=Z,23nm,0.2s							
RABC	Rab	0.89	161	e	Pg	Pg	06 33 35.2	+0.2
GCIS	Gornji Cirnik	0.92	72	i	Pg	Pb	06 33 35.5	+0.3
GCIS				i	Sg	Sb	06 33 47.1	0.0
GCIS					IAML		06 33 50.8	
	comp=Z,46nm,0.1s							
OBKA	Obir	0.92	7	e	Pg	Pb	06 33 35.5	+0.2
	comp=Z,6.6nm,0.2s,SNR=83							
OBKA	Obir	0.92	7	⇑i	Pg	Pb	06 33 35.4	+0.2
OBKA				e	Sg	Sb	06 33 47.8	+0.5
DOBS	Dobrina	0.94	54	e	Pg	Pb	06 33 35.6	0.0
DOBS				i	Sg	Sb	06 33 48.6	+0.8
DOBS					IAML		06 33 51.4	
	comp=Z,114nm,0.2s							
GOLS	Golise	0.97	64	i	Pg	Pb	06 33 36.1	+0.1
GOLS				i	Sg	Sb	06 33 49.5	+1.1
GOLS					IAML		06 33 52.3	
	comp=Z,89nm,0.2s							
BAD	Bernadia	1.02	309	P		Pb	06 33 37.4	+0.5
PRED	Cave del Predi	1.02	327	P		Pn	06 33 37.9	+0.7
A254A	Petrova Gora	1.04	105	e	Pg	Pb	06 33 37.4	+0.1
PTCC	Patocco-Chiusa	1.08	319	P		Pb	06 33 38.5	+0.6
PTCC					AML	AML		
	comp=E,150μm,0.8s							
PTCC					AML	AML		
	comp=N,180μm,0.6s							
PTCC					AML	AML		
	comp=N,152μm,0.2s							
PTCC					AML	AML		
	comp=E,139μm,0.3s							
NVLJ	Novalja	1.09	161	e	Pg	Pg	06 33 38.8	0.0
GEPF	Gemona	1.10	309	P		Pb	06 33 38.5	+0.3
GEPF					AML	AML		
	comp=E,583μm,0.4s							
GEPF					AML	AML		
	comp=N,422μm,0.4s							
GEPF					AML	AML		
	comp=E,583μm,1.6s							
GEPF					AML	AML		
	comp=E,583μm,0.4s							
GEPF					AML	AML		
	comp=N,421μm,0.4s							
ACOM	Acomizza, Ital	1.13	328	P		Pb	06 33 39.8	+1.0
ACOM					AML	AML		
	comp=N,618μm,0.5s							
ACOM					AML	AML		
	comp=N,622μm,0.4s							
ACOM					AML	AML		
	comp=E,590μm,0.3s							
ACOM					AML	AML		
	comp=E,602μm,0.3s							
ACOM					AML	AML		
	comp=N,623μm,0.4s							
ACOM					AML	AML		
	comp=N,618μm,0.5s							
ACOM					AML	AML		
	comp=E,602μm,0.3s							
ACOM					AML	AML		
	comp=E,590μm,0.3s							
PLIT	Plitvice	1.14	129	e	Pg	Pb	06 33 39.4	+0.6
BOO	Bordano	1.15	310	P		Pb	06 33 40.0	+0.9
ZAG	Zagreb	1.15	78	e	Pg	Pg	06 33 40.4	+0.5
MYKA	Terra Mystica	1.15	334	e	Pn	Pb	06 33 39.9	+0.6
	comp=E,1.6nm,0.2s							
MYKA				e	Sg	Sg	06 33 55.7	+0.6
	comp=E,63nm,0.3s,SNR=19							
PTJ	Puntijarka	1.16	74	e	Pg	Pn	06 33 39.7	+0.5
PERS	Pernice	1.16	26	i	Pg	Pn	06 33 39.1	-0.1
PERS				i			06 33 39.8	
PERS				e	Sg	Sb	06 33 54.0	-0.1
PERS					IAML		06 33 55.2	
	comp=Z,50nm,0.2s							
MPRI	Monte Prat	1.16	304	P		Pb	06 33 40.0	+0.6
MPRI					AML	AML		
	comp=E,358μm,0.4s							
MPRI					AML	AML		
	comp=E,456μm,0.4s							
MPRI					AML	AML		
	comp=N,692μm,0.4s							
MPRI					AML	AML		
	comp=N,900μm,0.4s							
MPRI					AML	AML		
	comp=E,358μm,0.4s							
MPRI					AML	AML		
	comp=N,899μm,0.4s							
MPRI					AML	AML		
	comp=N,692μm,0.4s							
MPRI					AML	AML		
	comp=E,456μm,0.4s							
GROS	Grobnik	1.17	42	i	Pg	Pn	06 33 39.7	+0.4
GROS				i	Sg	Sb	06 33 55.1	+0.8
GROS					IAML		06 33 58.6	
	comp=Z,58nm,0.2s							
SOKA	Soboth	1.18	23	e	Pg	Pn	06 33 39.5	+0.1
	comp=Z,2.4nm,0.1s,SNR=28							
SOKA				e	Sg	Sb	06 33 54.6	+0.1
	comp=Z,6.0nm,0.1s							
FUSE	Fusea	1.26	311	P		Pb	06 33 42.0	+1.0
PLRO	Paularo	1.28	319	P		Pg	06 33 42.8	+0.3
LOBO	Lobor	1.31	64	e	Pg	Pn	06 33 41.7	+0.5
STAL	STALIGIAL	1.34	300	P		Pb	06 33 43.4	+1.1
STAL					AML	AML		
	comp=E,614μm,0.2s							
STAL					AML	AML		
	comp=N,807μm,0.2s							
STAL					AML	AML		
	comp=N,650μm,0.9s							
STAL					AML	AML		
	comp=E,615μm,0.2s							
STAL					AML	AML		
	comp=E,772μm,0.2s							
STAL					AML	AML		
	comp=N,808μm,0.2s							
STAL					AML	AML		
	comp=N,620μm,0.2s							
STAL					AML	AML		
	comp=E,772μm,0.2s							
STAL					AML	AML		
	comp=N,807μm,0.2s							
STAL					AML	AML		
	comp=E,615μm,0.2s							
CLUD	Cludinico	1.35	310	P		Pb	06 33 43.5	+0.9
CLUD					AML	AML		
	comp=N,302μm,0.7s							
CLUD					AML	AML		
	comp=N,302μm,0.7s							
CLUD					AML	AML		
	comp=E,194μm,1.0s							
CLUD					AML	AML		
	comp=N,296μm,0.7s							
CLUD					AML	AML		
	comp=E,176μm,1.0s							
CLUD					AML	AML		
	comp=E,149μm,0.5s							
CLUD					AML	AML		
	comp=E,171μm,0.5s							
CLUD					AML	AML		
	comp=N,296μm,0.7s							
CLUD					AML	AML		
	comp=N,302μm,0.7s							
ZOU	Zoufplan	1.37	315	P		Pb	06 33 44.0	+1.0
ZOU					AML	AML		
	comp=N,218μm,0.3s							
ZOU					AML	AML		
	comp=E,204μm,1.4s							
ZOU					AML	AML		
	comp=N,212μm,0.3s							
ZOU					AML	AML		
	comp=E,208μm,1.4s							
ZOU					AML	AML		
	comp=E,208μm,0.6s							
ZOU					AML	AML		
	comp=E,204μm,0.6s							
ZOU					AML	AML		
	comp=N,212μm,0.3s							
ZOU					AML	AML		
	comp=E,173μm,0.4s							
ZOU					AML	AML		
	comp=N,219μm,0.3s							
ZOU					AML	AML		
	comp=E,189μm,0.4s							
VIRC	Vir	1.39	159	e	Pg	Pg	06 33 44.3	-0.2
UDBI	Udbina	1.45	137	e	Pg	Pg	06 33 45.6	0.0
FVI	Forni Avoltri	1.50	313	P		Pb	06 33 46.2	+1.2
FVI					AML	AML		
	comp=N,358μm,1.6s							
FVI					AML	AML		
	comp=E,299μm,0.2s							
FVI					AML	AML		
	comp=N,358μm,0.4s							
FVI					AML	AML		
	comp=E,299μm,1.8s							
FVI					AML	AML		
	comp=E,299μm,0.2s							
FVI					AML	AML		
	comp=N,279μm,0.2s							
CIMO	Cimolais	1.53	299	P		Pb	06 33 45.6	+0.1
CIMO					AML	AML		
	comp=N,138μm,0.4s							
CIMO					AML	AML		
	comp=E,84μm,0.9s							
CIMO					AML	AML		
	comp=N,149μm,0.4s							
CIMO					AML	AML		
	comp=E,84μm,1.1s							
CIMO					AML	AML		
	comp=E,88μm,0.8s							
CIMO					AML	AML		
	comp=E,78μm,0.4s							
CIMO					AML	AML		
	comp=E,72μm,0.4s							
CIMO					AML	AML		
	comp=N,149μm,0.4s							
CIMO					AML	AML		
	comp=N,138μm,0.4s							
KNYS	Krupa na Uni	1.54	116	e	Pn	Pb	06 33 46.3	+0.5
KNYS				e	Sn	Sg	06 34 07.1	-0.4
KALN	Kalnik	1.55	69	e	Pg	Pb	06 33 46.8	+0.9
KOGS	Kog	1.56	56	i	Pg	Pb	06 33 47.5	+1.5
KOGS				e	Sg	Sb	06 34 06.5	+1.0
KOGS					IAML		06 34 12.3	
	comp=Z,48nm,0.4s							
KOGS	Kog	1.56	56		AML	AML		
	comp=N,826μm,0.4s							
KOGS					AML	AML		
	comp=E,828μm,0.8s							
KOGS					AML	AML		
	comp=N,930μm,1.5s							
KOGS					AML	AML		
	comp=N,930μm,0.5s							
KOGS					AML	AML		
	comp=E,828μm,1.2s							
KOGS					AML	AML		
	comp=E,702μm,1.1s							
VARN	Col Varnada, M	1.64	285	P		Pb	06 33 47.4	-0.1
VARN					AML	AML		
	comp=E,358μm,0.5s							
VARN					AML	AML		
	comp=N,244μm,1.4s							
VARN					AML	AML		
	comp=E,362μm,0.5s							
VARN					AML	AML		
	comp=N,259μm,1.4s							
VARN					AML	AML		
	comp=N,244μm,1.4s							
VARN					AML	AML		
	comp=E,358μm,0.5s							
VARN					AML	AML		
	comp=N,240μm,0.2s							
VARN					AML	AML		
	comp=N,245μm,0.2s							
VARN					AML	AML		
	comp=E,358μm,0.5s							
VARN					AML	AML		
	comp=E,361μm,0.5s							
KBA	Koelnbreinsper	1.65	335	Sn		Sb	06 34 10.2	+2.0
	comp=E,18nm,0.4s							
MOSL	Moslavina	1.67	89	e	Pn	Pb	06 33 48.0	0.0
DUGI	Dugi Otok	1.68	163	e	Pn	Pb	06 33 48.9	+0.8
ABTA	Abfaltersbach	1.73	312	e	Pg	Pb	06 33 49.5	+0.4
	comp=E,4.4nm,0.2s,SNR=27							
ABTA				e	Sg	Sg	06 34 14.2	+0.6
	comp=E,86nm,0.6s							
CGRP	Cima Grappa	1.83	280	P		Pb	06 33 50.1	-0.6
CGRP					AML	AML		
	comp=E,119μm,1.3s							
CGRP					AML	AML		
	comp=N,100μm,0.5s							
CGRP					AML	AML		
	comp=E,138μm,0.6s							
CGRP					AML	AML		
	comp=E,118μm,0.3s							
CGRP					AML	AML		
	comp=N,100μm,0.5s							
ARSA	Arzberg	1.83	25	e	Pn	Pn	06 33 50.1	+1.6
	comp=N,0.5nm,0.2s							
ARSA					Sn	Sb	06 34 13.8	+0.4
	comp=N,1.0nm,0.2s							
ARSA	Arzberg	1.83	25	⇓i	Pn	Pb	06 33 50.9	+0.1
ARSA				e	Sn	Sb	06 34 14.0	+0.5
ARSA	Arzberg	1.83	25		AML	AML		
	comp=E,18μm,1.2s							
ARSA					AML	AML		
	comp=N,14μm,0.4s							
ARSA					AML	AML		
	comp=E,18μm,0.8s							
MORI	Morici	1.97	151	e	Pn	Pb	06 33 53.2	+0.1
ZIRJ	Zirje	2.14	155	e	Pn	Pb	06 33 55.1	-0.8
KIJV	Kijevo	2.15	137	e	Pn	Pb	06 33 57.0	+0.9
BIOA	Bad Ischl, Aus	2.16	347	e	Pn	Pn	06 33 54.6	+1.8
	comp=E,2.1nm,0.2s							
BIOA					Sn	Sg	06 34 26.3	-0.8

comp=E,10nm,0.4s,SNR=4.6
BLY Banja Luka 2.16 112 *e*Pn **Pb 06 33 55.4 -0.9**
BLY *e*Sn **Sb 06 34 21.6 -1.1**
LESA Schwarzleotal 2.17 328 *e*Pn **Pb 06 33 55.8 -0.8**
comp=E,0.7nm,0.1s
LESA *e*Sn **Sb 06 34 24.6 +1.3**
comp=E,6.1nm,0.3s
DOSS Dosso del Somm 2.25 278 P **Pn 06 33 56.0 +1.7**
DOSS AML AML
comp=E,114μm,1.0s
DOSS AML AML
comp=N,111μm,1.2s
DOSS AML AML
comp=N,99μm,1.6s
DOSS AML AML
comp=N,99μm,0.4s
DOSS AML AML
comp=E,85μm,0.4s
DOSS AML AML
comp=E,114μm,1.0s
DOSS AML AML
comp=N,111μm,0.8s
DOSS AML AML
comp=N,91μm,0.3s
DOSS AML AML
comp=N,111μm,0.6s
DOSS AML AML
comp=E,98μm,0.3s
DOSS AML AML
comp=E,81μm,0.2s
MGRS Mrkonjic Grad 2.25 121 *e*Pn **Pn 06 33 56.2 +2.0**
MGRS *e*Sn **Sb 06 34 24.9 -0.6**
MOA Molln 2.26 358 *e*Pn **Pn 06 33 56.3 +2.1**
comp=E,0.6nm,0.1s,SNR=4.3
ROVR Rover Verones 2.32 272 P **Pn 06 33 56.8 +1.6**
ROVR AML AML
comp=N,62μm,1.6s
ROVR AML AML
comp=E,27μm,0.4s
ROVR AML AML
comp=N,62μm,0.4s
ROVR AML AML
comp=E,27μm,0.4s
ARVD Arcevia 2.33 207 AML AML
comp=E,26μm,1.3s
ARVD AML AML
comp=N,29μm,1.5s
ARVD AML AML
comp=N,29μm,0.5s
PIEI Pieia 2.44 213 P **Pn 06 33 58.8 +2.0**
PIEI AML AML
comp=E,37μm,0.3s
PIEI AML AML
comp=N,26μm,1.2s
PIEI AML AML
comp=E,37μm,1.7s
RONA Rosalia, Austr 2.49 31 *e*Pn **Pn 06 33 59.0 +1.6**
comp=E,1.3nm,0.1s,SNR=8.0
SRKY Kupres RS 2.50 127 *e*Pn **Pn 06 34 00.1 +2.4**
SRKY *e*Sn **Sb 06 34 31.2 -1.6**
WTTA Wattenberg 2.52 312 *e*Pn **Pn 06 34 00.1 +2.0**
comp=E,2.4nm,0.2s,SNR=5.9
WTTA Sn **Sb 06 34 33.5 +0.1**
comp=E,13nm,0.3s
CONA Conrad Observa 2.55 23 *e*Pn **Pn 06 33 59.6 +1.4**
comp=E,0.9nm,0.2s
WATA Walderalm 2.60 313 *e*Pn **Pb 06 34 02.7 -1.2**
comp=E,1.0nm,0.2s
WATA Sn **Sb 06 34 35.8 +0.2**
comp=E,5.7nm,0.4s
FDMO Fiordimonte 2.72 200 AML AML
comp=N,38μm,0.1s
FDMO AML AML
comp=E,30μm,0.2s
SQTA Sankt Quirin 2.73 308 *e*Pn **Pb 06 34 04.4 -1.7**
comp=E,0.4nm,0.1s
SQTA Sn **Sb 06 34 39.0 -0.2**
comp=E,4.6nm,0.5s
HVAR Hvar 2.84 148 *e*Pn **Pn 06 34 04.8 +2.6**
MOTA Moosalm 2.86 309 *e*Pn **Pb 06 34 06.1 -2.2**
comp=E,0.3nm,0.1s
MOTA *e*Sn **Sb 06 34 42.4 -0.7**
comp=E,2.6nm,0.3s
RICI Ricice 2.88 136 *e*Pn **Pn 06 34 05.7 +2.9**
FETA Feichten 2.90 301 *e*Pn **Pn 06 34 05.8 +2.6**
comp=E,0.5nm,0.3s,SNR=8.1
MORH Mrgy, Hungar 3.04 77 *e*Pn **Pn 06 34 07.1 +2.1**
MORH *e*Sn **Sn 06 34 43.6 +2.6**
RETA Reutte 3.13 308 *i* Pn **Pn 06 34 09.5 +3.2**
comp=E,0.4nm,0.1s
RETA *e*Sn **Sb 06 34 48.7 -2.1**
comp=E,4.8nm,0.3s
CKRC Cesky Krumlov 3.23 359 *e*SG **Sg 06 35 00.0 -1.3**
LSTV Lastovo 3.36 146 *e*Pn **Pn 06 34 11.6 +2.3**
DAVA Damuels 3.54 300 Pg **Pg 06 34 25.3 -0.2**
comp=E,0.7nm,0.2s
KHC Kasperske Hory 3.58 352 *e*PN **Pn 06 34 13.2 +0.8**
KHC *e*SN **Sn 06 34 54.6 +0.3**
KHC *e*SG **Sg 06 35 11.1 -1.5**
comp=E,4.8nm,0.8s
LPG La Plagne 5.36 272 *e*Pn **Pn 06 34 36.9 -0.2**
LPG La Plagne 5.36 272 *e*P **Pn 06 34 40.6 +3.5**
LPG *e*Sn **Sn 06 35 35.1 -3.4**
comp=E,6.0nm,0.9s
LPL La Plagne 5.37 272 *e*Pn **Pn 06 34 36.5 -0.7**
LPL La Plagne 5.37 272 *e*P **Pn 06 34 40.7 +3.5**
LPL *e*Sn **Sn 06 35 35.4 -3.3**
comp=E,4.6nm,0.9s
MBDF Montbardon 5.45 264 *e*Pn **Pn 06 34 38.2 0.0**
MBDF Montbardon 5.45 264 *e*P **Pn 06 34 41.5 +3.3**
MBDF *e*Sn **Sn 06 35 39.0 -1.5**
comp=E,1.1nm,0.3s
CDF Champ du Feu 5.61 303 *e*Pn **Pn 06 34 39.7 -0.7**
CDF Champ du Feu 5.61 303 *e*P **Pn 06 34 44.5 +4.1**
CDF *e*Sn **Sn 06 35 40.6 -3.9**
HINF Hinteralfeld 5.63 296 *e*Pn **Pn 06 34 40.2 -0.4**
HINF Hinteralfeld 5.63 296 *e*P **Pn 06 34 44.0 +3.4**
HINF *e*Sn **Sn 06 35 41.3 -3.6**
comp=E,0.7nm,0.2s
SMF Signal de Mont 7.40 282 *e*Pn **Pn 06 35 04.3 -0.5**
SMF Signal de Mont 7.40 282 *e*P Pn 06 35 09.3 +4.5
SMF *e*Sn **Sn 06 36 23.7 -4.6**
comp=E,0.2nm,0.2s

*IDC **08** 06:33:16.2±1.6, 7°.87S×126°.34E, h0km, mb4.1/2, mbtmp4.2/4, ML4.2/2, MS3.4/1, Error ellipse: s-maj=258.7km s-min=25.2km az=61.0*
*DJA **08** 06:33:33.0±0.4, 8°.5S±6°.×12°.7E±°, h173km±9km, M4.3/7, mb4.2/5, mB4.6/2, MLv4.3/7, Mw(mB)3.8/2*
ISC 08 06:33:32.7±0.9, 7.7S±0.1×127.45E±0.08, h150km, n25, σ1°.28/24, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.77**	**236**	P	**Pn**	**06 34 31.8**	**+1.7**
SOEI	**Soe**	**3.77**	**236**	P	**Pn**	**06 34 31.7**	**+1.7**
SAUI	**Saumlaki**	**3.82**	**95**	P	**Pn**	**06 34 32.6**	**+1.9**
SAUI	**Saumlaki**	**3.82**	**95**	P	**Pn**	**06 34 31.3**	**+0.6**
BATI	**Baumata**	**4.51**	**236**	P	**Pn**	**06 34 41.2**	**+1.5**
MTN	**Manton Dam**	**6.29**	**145**	P	**Pn**	**06 35 02.7**	**-0.5**
FAKI	**Fak Fak**	**6.71**	**46**	P	**Pn**	**06 35 09.0**	**0.0**
37nm,1.3s,0.1nm							
KDU	**Kakadu**	**7.02**	**136**	P	**Pn**	**06 35 12.4**	**-0.6**
KNRA	**Kununurra**	**8.06**	**171**	P	**Pn**	**06 35 25.4**	**-1.5**
PLAI	**Plampang**	**9.65**	**262**	P	**Pn**	**06 35 48.5**	**+0.4**
PLAI	**Plampang**	**9.65**	**262**	P	**Pn**	**06 35 47.7**	**-0.4**
33nm,0.9s							
WRA	**Warramunga Arr**	**13.90**	**152**	Pn	**Pn**	**06 36 40.6**	**-2.9**
0.8nm,0.3s,baz=323,slow=14,SNR=43							
WRA				Sn	Sn	06 39 06.5	-11
4.0nm,0.3s,baz=321,slow=27,SNR=12							
2.5nm,0.7s							
COEN	**Coen**	**16.65**	**113**	P	**Pn**	**06 37 19.2**	**+1.7**
ASAR	**Alice Springs**	**17.07**	**159**	P	**P**	**06 37 20.9**	**-0.9**
1.9nm,0.3s,baz=341,slow=12,SNR=100							
ASAR				S	S	06 40 17.8	-14
1.0nm,0.7s,baz=333,slow=20,SNR=4.6							
9.2nm,0.6s							
WRKA	**Warakurna**	**17.29**	**177**	P	**P**	**06 37 24.2**	**0.0**
QIS	**Mount Isa**	**17.39**	**139**	P	**Pn**	**06 37 25.9**	**-0.4**
MEEK	**Meekatharra**	**20.65**	**203**	P	**P**	**06 38 01.9**	**+1.2**
OOD	**Oodnadatta**	**21.48**	**160**	P	**P**	**06 38 10.1**	**+0.6**
FORT	**Forrest**	**23.00**	**179**	P	**P**	**06 38 24.6**	**+0.2**
MULG	**Mulgathing**	**23.33**	**165**	P	**P**	**06 38 28.1**	**+0.6**

INKA	**Innaminka**	**23.60**	**149**	P	**P**	**06 38 31.1**	**+1.2**
KRVT	**Keravat (AS076**	**24.66**	**84**	LR	LR	06 49 42.2	
comp=Z,77nm,19.1s,baz=221,slow=38							
BBOO	**Buckleboo**	**26.26**	**163**	P	**P**	**06 38 54.0**	**0.0**
STKA	**Stephens Creek**	**27.45**	**153**	P	**P**	**06 39 06.3**	**+1.6**
1.3nm,0.4s,baz=311,slow=11,SNR=5.3							
1.3nm,0.4s							
MKAR	**Makanchi Array**	**67.43**	**328**	P	**P**	**06 44 11.2**	**-1.0**
0.8nm,0.6s,baz=123,slow=7.7,SNR=7.6							
0.8nm,0.6s							

ROM 08 06:35:45.5±0.2, 42°.79N±0°.01×12°.726E±0°.006, h11km±2km, ML2.4/8, 1C, Error ellipse: s-maj=1.1km s-min=0.5km az=348.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1221	**Campello sul C**	**0.11**	**53**	P	Pg	06 35 49.0	+0.5
T1221				S	Sg	06 35 51.1	+0.4
MOMA	**Monte Martano**	**0.12**	**275**	⇑P	Pg	06 35 48.9	+0.3
MOMA				S	Sg	06 35 51.2	+0.4
MOMA				AML	AML		
comp=E,158μm,0.1s							
MOMA				AML	AML		
comp=N,125μm,0.5s							
MOMA				AML	AML		
comp=N,126μm,0.5s							
MOMA				AML	AML		
comp=N,126μm,1.5s							
ARRO	**Arrone**	**0.22**	**172**	AML	AML		
comp=E,24μm,0.6s							
ARRO				AML	AML		
comp=E,24μm,1.4s							
ARRO				AML	AML		
comp=N,27μm,1.5s							
ASSB	**Assisi San Ben**	**0.25**	**349**	P	Pg	06 35 51.4	+0.6
ASSB				S	Sb	06 35 55.5	-1.1
FDMO	**Fiordimonte**	**0.36**	**47**	P	Pg	06 35 53.2	+0.5
FDMO				S	Sb	06 35 58.7	-0.9
CSP1	**Cessapalombo**	**0.46**	**50**	P	Pg	06 35 54.6	0.0
CSP1				S	Sg	06 36 01.3	+0.5
CSP1				AML	AML		
comp=E,36μm,1.6s							
CSP1				AML	AML		
comp=N,44μm,1.5s							
VIVA	**Pratoni del Vi**	**1.04**	**178**	AML	AML		
comp=E,1400μm,0.1s							
VIVA				AML	AML		
comp=N,854μm,1.5s							

AUST 08 06:55:49.1±2.2, 29°.29S×116°.67E, h0km, Error ellipse: s-maj=22.8km s-min=12.8km az=59.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORW	**Morawa**	**0.59**	**292**	P	Pg	06 56 00.2	-0.2
baz=0.6							
MORW				S	Sg	06 56 08.8	+0.6
baz=0.6							
BLDU	**Ballidu**	**1.32**	**179**	P	Pg	06 56 14.5	+0.1
baz=1.5							
BLDU				S	Sb	06 56 32.0	-0.3
baz=1.5							
KLBR	**Kellerberrin**	**2.48**	**158**	P	Pb	06 56 33.1	-1.4
baz=2.6,SNR=16							
KLBR				S	Sb	06 57 05.6	0.0
baz=2.6							
MUN	**Mundaring**	**2.71**	**188**	P	Pn	06 56 35.3	+1.3
baz=2.9,SNR=4.6							
MUN				S	Sn	06 57 07.0	-0.4
baz=2.9							
MEEK	**Meekatharra**	**3.15**	**33**	P	Pn	06 56 38.2	-1.8
baz=3.0,SNR=6.3							
MEEK				S	Sn	06 57 10.6	-7.8
baz=3.0							

*IDC **08** 07:04:12.9±1.1, 50°.05N×78°.72E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=20.3km s-min=6.8km az=68.0*
*NNC **08** 07:04:12.1±0.8, 50°.03N×78°.82E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=14.7km s-min=4.1km az=74.0, Suspected Mining explosion.*
ISC 08 07:04:13.0±1.0, 50°.05N±0°.05×78°.72E±0°.06, h0km, n11, σ0°.85/14, 9C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.59**	**348**	⇑P	**Pg**	**07 04 24.2**	**-0.1**
KURBB	16nm,0.2s			⇑S	**Sb**	**07 04 33.3**	**-1.7**
90nm,0.9s							
KURBB	**Kurchatov Arra**	**0.59**	**348**	Pg	**Pg**	**07 04 24.5**	**+0.2**
4.6nm,0.3s,baz=167,slow=17,SNR=250							
KURBB				Lg	Lg	07 04 32.6	
4.7nm,0.3s,baz=164,slow=34,SNR=22							
KURK	**Kurchatov**	**0.67**	**355**	⇑P	**Pg**	**07 04 25.5**	**-0.4**
11nm,0.4s							
KURK				⇑S	**Sg**	**07 04 34.9**	**+0.3**
48nm,0.9s							
MAKZ	**Makanchi**	**3.90**	**145**	⇑Pg	**Pb**	**07 05 23.0**	**+0.4**
0.7nm,0.5s							
MAKZ				⇑Lg	Lg	07 06 12.0	
6.2nm,0.9s							
MK31	**Makanchi Array**	**4.03**	**142**	⇑Pn	**Pn**	**07 05 16.3**	**+0.3**
0.2nm,0.2s,baz=322,slow=10,SNR=33							
MK31				⇑Pg	**Pb**	**07 05 25.4**	**+0.6**
0.6nm,0.3s,baz=319,slow=13,SNR=8.1							
MK31				Lg	Lg	07 06 17.5	
5.8nm,0.8s,baz=328,slow=30,SNR=12							
MKAR	**Makanchi Array**	**4.03**	**142**	Pn	**Pn**	**07 05 15.9**	**-0.1**
0.6nm,0.3s,baz=321,slow=10,SNR=39							
MKAR				Pg	**Pb**	**07 05 23.8**	**-1.1**
0.9nm,0.3s,baz=328,slow=18,SNR=8.0							
MKAR				Lg	Lg	07 06 16.0	
2.2nm,0.3s,baz=330,slow=29,SNR=12							
0.5nm,0.3s							
OTUK	**Ortayu**	**4.56**	**249**	⇑Pn	**Pn**	**07 05 22.9**	**-0.3**
1.4nm,0.3s							
OTUK				⇓Pg	**Pb**	**07 05 34.4**	**+0.6**
0.6nm,0.4s							
OTUK				⇓Lg	Lg	07 06 34.0	
5.5nm,1.0s							
ZALV	**Zalesovo Beam**	**5.43**	**42**	Pn	**Pn**	**07 05 36.4**	**+1.3**
1.1nm,0.3s,baz=231,slow=14,SNR=11							
ZALV				Lg	Lg	07 06 59.9	
0.2nm,0.3s,baz=232,slow=27,SNR=1.9							
2.0nm,0.3s							
I46RU	**ZALESOVO INFRA**	**5.43**	**42**	I	I	07 36 30.0	
baz=226,slow=328,SNR=6.9							
BVAR	**Borovoye Array**	**5.99**	**303**	Sn	**Sn**	**07 06 51.2**	**-0.9**
0.1nm,0.3s,baz=112,slow=26,SNR=5.9							
BVAR				Lg	Lg	07 07 16.6	
baz=118,slow=27,SNR=1.7							
AAK	**Ala-Archa**	**7.96**	**203**	Lg	Lg	07 08 20.1	
0.2nm,0.3s,baz=78,slow=20,SNR=1.7							

IDC 08 07:21:43.7±9.9, 2°.90N×123°.14E, h323km±102km, mb2.8/3, mbtmp3.5/3, Error ellipse: s-maj=195.9km s-min=26.8km az=61.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.22**	**155**	P	P	07 26 41.6	+0.3
0.4nm,0.3s,baz=333,slow=10,SNR=26							
WRA				PcP	PcP	07 30 04.8	-0.5
0.4nm,0.9s,baz=339,slow=2.4,SNR=1.7							
0.4nm,0.3s							
ASAR	**Alice Springs**	**28.41**	**159**	P	P	07 27 08.9	-0.6
0.1nm,0.4s,baz=343,slow=7.7,SNR=1.9							
0.1nm,0.4s							
MKAR	**Makanchi Array**	**56.25**	**327**	P	P	07 30 51.3	-0.1
0.4nm,0.5s,baz=127,slow=7.8,SNR=3.3							
0.4nm,0.5s							

*NNC **08** 07:36:01.0±0.8, 42°.28N×74°.72E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=7.4km s-min=2.9km az=148.0*
*KNET **08** 07:36:00.8±0.9, 42°.26N×74°.75E, h12km±8km, ml1.3, Error ellipse: s-maj=6.8km s-min=3.0km az=149.0*
*SOME **08** 07:36:01.9, 42°.28N×74°.73E, h10km*
ISC 08 07:36:01.4±1.0, 42°.32N±0°.05×74°.71E±0°.02, h12km±8km, n28, σ0°.62/50, 14C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**0.17**	**239**	⇑P	**Pg**	**07 36 05.8**	**+0.1**
20nm,0.1s,SNR=157							
UCH				⇑S	**Sg**	**07 36 08.4**	**-0.2**
67nm,0.1s							
AAK	**Ala-Archa**	**0.36**	**333**	⇑P	**Pb**	**07 36 09.7**	**-0.2**
21nm,0.1s,SNR=66							
AAK				⇑S	**Sb**	**07 36 15.6**	**0.0**
170nm,0.3s							
KBK	**Karagaybulak**	**0.38**	**27**	⇑P	**Pb**	**07 36 09.9**	**-0.4**
12nm,0.1s							
KBK				⇓S	**Sb**	**07 36 16.0**	**-0.3**
50nm,0.1s							
CHMS	**Chumysh**	**0.68**	**2**	⇑P	**Pn**	**07 36 17.4**	**+0.4**
0.6nm,0.3s							
CHMS				⇓S	**Sg**	**07 36 24.6**	**+0.9**
4.9nm,0.5s							
EKS2	**Erkin-Say**	**0.77**	**297**	⇑P	**Pb**	**07 36 17.2**	**+0.2**
4.8nm,0.1s,SNR=20							
EKS2				⇑S	**Sb**	**07 36 28.2**	**+0.7**
6.2nm,0.2s							
AML	**Almayashu**	**0.78**	**257**	⇓P	**Pg**	**07 36 16.3**	**-0.3**
4.1nm,0.1s,SNR=22							
AML				⇑S	**Sb**	**07 36 27.2**	**-0.6**
28nm,0.3s							
AML	**Almayashu**	**0.78**	**257**	⇑P	**Pg**	**07 36 16.1**	**-0.5**
0.1nm,0.3s							
AML				⇓S	**Sg**	**07 36 26.7**	**-0.1**
1.0nm,0.6s							
TKM2	**Tokmak 2**	**0.89**	**47**	⇑P	**Pg**	**07 36 18.3**	**-0.4**
2.2nm,0.1s,SNR=11							
TKM2				⇓S	**Sg**	**07 36 30.3**	**-0.1**
10nm,0.1s							
TKM2	**Tokmak 2**	**0.89**	**47**	⇑P	**Pg**	**07 36 18.4**	**-0.3**
0.3nm,0.3s							
TKM2				⇑S	**Sg**	**07 36 30.0**	**-0.4**
2.1nm,0.5s							
KST	**Kastek**	**1.18**	**51**	P	**Pg**	**07 36 23.7**	**-0.4**
1.7nm,0.2s							
KST				S	**Sg**	**07 36 39.4**	**0.0**
4.6nm,0.5s							
KST	**Kastek**	**1.18**	**51**	*e*P	**Pg**	**07 36 23.7**	**-0.4**
1.7nm,0.2s							
KST				*e*S	**Sg**	**07 36 39.4**	**0.0**
4.6nm,0.5s							
MRKS	**Merke**	**1.18**	**292**	P	**Pb**	**07 36 23.9**	**+0.1**
7.6nm,0.2s							
MRKS				S	**Sg**	**07 36 39.9**	**+0.4**
6.0nm,0.5s							
MRKS	**Merke**	**1.18**	**292**	*e*P	**Pb**	**07 36 23.9**	**+0.1**
7.6nm,0.2s							
MRKS				*e*S	**Sg**	**07 36 39.9**	**+0.4**
6.0nm,0.5s							
DGS	**Degeres**	**1.21**	**40**	P	**Pg**	**07 36 24.7**	**-0.1**
2.9nm,0.5s							
DGS				S	**Sn**	**07 36 41.0**	**+0.3**
4.5nm,0.4s							
DGS	**Degeres**	**1.21**	**40**	*e*P	**Pg**	**07 36 24.7**	**-0.1**
2.9nm,0.5s							
DGS				*e*S	**Sn**	**07 36 41.0**	**+0.3**
4.5nm,0.4s							
MTBS	**Maitube**	**1.50**	**57**	P	**Pb**	**07 36 29.5**	**+0.1**
1.6nm,0.2s							
MTBS				S	**Sg**	**07 36 49.1**	**-0.8**
6.7nm,0.2s							
MTBS	**Maitube**	**1.50**	**57**	*e*P	**Pb**	**07 36 29.5**	**+0.1**
1.6nm,0.2s							
MTBS				*e*S	**Sg**	**07 36 49.1**	**-0.8**
6.7nm,0.2s							
KRBS	**Karabastau**	**1.55**	**27**	P	**Pg**	**07 36 30.7**	**-0.5**
1.1nm,0.4s							
KRBS				S	**Sg**	**07 36 51.3**	**-0.1**
3.1nm,0.2s							
KRBS	**Karabastau**	**1.55**	**27**	*e*P	**Pg**	**07 36 30.7**	**-0.5**
1.1nm,0.4s							
KRBS				*e*S	**Sg**	**07 36 51.3**	**-0.1**
3.1nm,0.2s							
TNSS	**Tian-Shan**	**1.80**	**66**	P	**Pg**	**07 36 35.8**	**-0.2**
0.9nm,0.2s							
TNSS				S	**Sg**	**07 36 60.0**	**+0.6**
1.4nm,0.4s							
TNSS	**Tian-Shan**	**1.80**	**66**	*e*P	**Pg**	**07 36 35.8**	**-0.2**
0.9nm,0.2s							
TNSS				*e*S	**Sg**	**07 37 00.0**	**+0.6**
1.4nm,0.4s							
KUU	**Kurty**	**1.98**	**37**	Pg	**Pb**	**07 36 38.2**	**+0.8**
KUU				Lg	Lg	07 37 04.1	
KUU	**Kurty**	**1.98**	**37**	*e*P	**Pb**	**07 36 38.2**	**+0.8**
KUU				*e*S	**Sg**	**07 37 04.1**	**-0.9**
KTBS	**Karatobe**	**2.01**	**45**	Pg	**Pb**	**07 36 38.5**	**+0.6**
0.9nm,0.4s							
KTBS				Lg	Lg	07 37 04.9	
3.0nm,0.4s							
KTBS	**Karatobe**	**2.01**	**45**	*e*Pg	**Pb**	**07 36 38.5**	**+0.6**
0.9nm,0.4s							
KTBS				*e*Lg	Lg	07 37 04.9	
3.0nm,0.4s							
KPKS	**Kokpek**	**3.14**	**67**	Pg	**Pb**	**07 36 58.5**	**+1.3**
1.0nm,0.1s							
KPKS				Lg	Lg	07 37 39.1	
2.0nm,0.5s							
KPKS	**Kokpek**	**3.14**	**67**	*e*Pg	**Pg**	**07 36 59.3**	**-2.2**
1.4nm,0.1s							
KPKS				*e*Lg	Lg	07 37 40.0	
3.5nm,0.3s							
KK31	**Karatay Array**	**3.19**	**286**	⇑Pg	**Pg**	**07 37 01.3**	**-1.4**
0.3nm,0.5s,baz=101,slow=15,SNR=4.7							
KK31				⇓Lg	Lg	07 37 41.3	
0.8nm,0.5s,baz=100,slow=28,SNR=5.4							

RSNC 08 08:39:17.7±1.1, 6°.83N×73°.15W, h150km±4km, ML3.0, Mw3.6, 3C-4D, Fault plane solution: NP1:φ±77.00000°, δ79.00000°, λ-105.00000°., Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**187**	⇓*i*P	Pn	08 39 37.8	-0.6
BARC				*e*S	Sn	08 39 53.1	-1.0
BARC				*i*		08 39 54.1	
comp=Z,479nm,0.3s							
PAMC	**Pamplona, Colo**	**0.68**	**41**	⇑*i*P	Pn	08 39 40.8	+0.2
PAMC				*e*S	Sn	08 39 58.1	-0.1
PAMC				*i*		08 40 00.6	
comp=Z,134nm,0.4s							
RUSC	**La Rusia**	**0.93**	**176**	⇓*i*P	Pn	08 39 41.8	-0.7
RUSC				*e*S	Sn	08 40 00.4	-1.0
RUSC				*i*		08 40 01.8	
comp=Z,166nm,0.3s							
TAMC	**Tame, Arauca**	**1.41**	**106**	⇓*i*P	Pn	08 39 46.3	-0.1
TAMC				*i*		08 40 07.4	
comp=Z,73nm,0.3s							
TAMC				*e*S	Sn	08 40 08.0	-0.3
SPBC	**San Pablo de B**	**1.48**	**218**	*e*P	Pn	08 39 46.7	-0.5
SPBC				*e*S	Sn	08 40 09.1	-0.7
SPBC				*i*		08 40 14.0	
comp=Z,262nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	*e*P	Pn	08 39 50.2	-0.5
ZARC				*e*S	Sn	08 40 15.9	-0.2
ZARC				*i*		08 40 18.4	
comp=Z,57nm,0.2s							
NORC	**Norcasia**	**2.12**	**234**	*e*P	Pn	08 39 53.8	-0.5
NORC				*e*S	Sn	08 40 21.7	-0.7
NORC				*i*		08 40 26.9	
comp=Z,64nm,0.2s							
CHIC	**Chingaza**	**2.26**	**195**	*i* P	Pn	08 39 56.0	-0.3
CHIC				*e*		08 39 56.0	
CHIC				*e*S	Sn	08 40 25.5	-0.5
CHIC				*i*		08 40 27.8	
comp=Z,81nm,0.4s							
ROSC	**El Rosal**	**2.29**	**211**	*e*P	Pn	08 39 57.6	+0.9
ROSC				*e*S	Sn	08 40 28.7	+2.1
ROSC				*i*		08 40 32.6	
comp=Z,136nm,0.3s							
UREC	**San Jos de Ur**	**2.53**	**291**	*e*P	Pn	08 39 57.6	-1.6
UREC				*e*S	Sn	08 40 29.2	-2.1
UREC				*i*		08 40 40.1	
comp=Z,121nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.71**	**234**	*e*P	Pn	08 40 02.0	0.0
GUY2C				*e*S	Sn	08 40 39.3	+3.3
GUY2C				*i*		08 40 44.6	
comp=Z,43nm,0.2s							
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇓*i*P	Pn	08 40 01.0	-1.6
PTGC				*e*S	Sn	08 40 34.5	-2.8

PTGC			*i*		08 40 37.2	
	comp=Z,40nm,0.4s					
LL6C	**La Loma 6 Bece**	**2.89 358**	*eP*	Pn	08 40 03.2	-0.6
LL6C			*eS*	Sn	08 40 38.8	-0.6
LL6C			*i*		08 40 40.8	
	comp=Z,24nm,0.3s					
DBBC	**Dabeiba**	**3.04 274**	*eP*	Pn	08 40 05.8	+0.2
DBBC			*eS*	Sn	08 40 41.5	-1.2
DBBC			*i*		08 40 44.0	
	comp=Z,31nm,0.2s					
ARGC	**Ariguani, Magd**	**3.20 340**	*eP*	Pn	08 40 08.2	+0.5
ARGC			*eS*	Sn	08 40 46.3	-0.1
ARGC			*i*		08 40 52.5	
	comp=Z,11nm,0.4s					
ANIL	**Santa Ana**	**3.22 224**	*eP*	Pn	08 40 09.8	+1.6
ANIL			*eS*	Sn	08 40 48.6	+1.3
ANIL			*i*		08 40 53.6	
	comp=Z,105nm,0.3s					
SDV	**Santo Domingo**	**3.23 50**	*eP*	Pn	08 40 07.4	-0.8
SDV			*eS*	Sn	08 40 45.8	-1.5
SDV			*i*		08 40 47.8	
	comp=Z,15nm,0.3s					
PRAC	**Prado**	**3.54 209**	*eP*	Pn	08 40 11.4	-0.7
PRAC			*eS*	Sn	08 40 53.2	-1.0
PRAC			*i*		08 41 00.4	
	comp=Z,45nm,0.2s					
APAC	**Apartado, Choc**	**3.56 288⇑**	*iP*	Pn	08 40 11.7	-0.6
APAC			*eS*	Sn	08 40 54.0	-0.6
APAC			*i*		08 40 58.2	
	comp=Z,30nm,0.7s					
ORTC	**Ortega, Tolima**	**3.57 216**	*eP*	Pn	08 40 12.1	-0.4
ORTC			*eS*	Sn	08 40 55.4	+0.5
ORTC			*i*		08 41 01.8	
	comp=Z,24nm,0.4s					
SJCC	**San Jacinto, C**	**3.65 327**	*eP*	Pn	08 40 11.7	-1.8
SJCC			*eS*	Sn	08 40 53.1	-3.7
SJCC			*i*		08 40 59.0	
	comp=Z,16nm,0.3s					
PLMC	**San Jos del P**	**3.65 239**	*eP*	Pn	08 40 13.3	-0.2
PLMC			*eS*	Sn	08 40 56.3	-0.5
PLMC			*i*		08 41 01.9	
	comp=Z,15nm,0.4s					
LCBC	**Los crdobas,**	**3.77 303**	*eP*	Pn	08 40 15.0	+0.1
LCBC			*eS*	Sn	08 40 59.8	+0.4
LCBC			*i*		08 41 03.5	
	comp=Z,32nm,0.2s					
YOTC	**Yotoco, Valle**	**4.25 229**	*eP*	Pn	08 40 21.1	-0.3
YOTC			*eS*	Sn	08 41 17.3	+6.4
GUVC	**San Jose del G**	**4.29 173**	*eP*	Pn	08 40 20.8	-1.0
GUVC			*eS*	Sn	08 41 09.9	-1.7
GUVC			*i*		08 41 15.2	
	comp=Z,53nm,0.2s					
SMRC	**Santa Marta, M**	**4.44 346**	*eP*	Pn	08 40 23.2	-0.5
SMRC			*eS*	Sn	08 41 12.0	-3.2
SMRC			*i*		08 41 13.5	
	comp=Z,8.1nm,0.3s					
MACC	**Macarena, Meta**	**4.70 188⇑**	*iP*	Pn	08 40 25.0	-2.3
MACC			*eS*	Sn	08 41 16.1	-5.3
MACC			*i*		08 41 28.2	
	comp=Z,6.5nm,0.6s					
URIC	**Uribia, Colomb**	**4.98 13**	*eP*	Pn	08 40 28.7	-2.2
URIC			*eS*	Sn	08 41 23.7	-4.3
GARC	**Garzon, Huila**	**5.16 207**	*eP*	Pn	08 40 32.0	-1.5
GARC			*eS*	Sn	08 41 29.6	-3.1
GARC			*i*		08 41 34.5	
	comp=Z,11nm,0.2s					
FLOC	**Florencia**	**5.77 206**	*eP*	Pn	08 40 41.0	-0.5
FLOC			*eS*	Sn	08 41 43.7	-3.3
FLOC			*i*		08 41 50.8	
	comp=Z,2.2nm,0.4s					

IDC ***08*** *08:50:42.6±1.5, 53°.71N×170°.63E, h0km, mb3.5/7, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=52.9km s-min=19.0km az=8.0*
NEIC ***08*** *08:50:44.1±0.8, 53°.4N±0°.2×170°.7E±0°.2, h10km±2km, ML3.6/2, Error ellipse: s-maj=36.9km s-min=5.9km az=203.0*
ISC 08 08:50:45.5±0.9, 53°.5N±0°.2×170°.67E±0°.08, h24km, n18, σ0.96/20, mb3.5/6, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**2.22**	**110**	Pn	**Pn**	**08 51 20.2**	**-0.6**
	33nm,0.3s,baz=358,slow=3.9,SNR=7.8						
SHEM				Sn	**Sn**	**08 51 47.9**	**+0.6**
	62nm,0.3s,baz=315,slow=22,SNR=11						
	86nm,0.4s						
SMY	**Shemya**	**2.22**	**110**		**Pn**	**08 51 20.2**	**-0.5**
SMY				IAML		08 51 52.4	
	comp=N,360nm,0.4s						
SMY				IAML		08 51 59.5	
	comp=E,440nm,0.6s						
AMKA	**Amchitka**	**5.70**	**109**	Pn	**Pn**	**08 52 07.2**	**-1.3**
AMKA				Sn	**Sn**	**08 53 12.8**	**-0.4**
PET	**Petropavlovsk**	**7.23**	**271**	Pn	**Pn**	**08 52 30.2**	**+0.6**
KIWB	**Kanaga Island**	**7.59**	**98**	Pn	**Pn**	**08 52 34.0**	**-0.5**
PEA0B	**Petropavlovsk-**	**7.78**	**272**	Pn	**Pn**	**08 52 37.4**	**+0.2**
PETK	**Petropavlovsk-**	**7.78**	**272**	Pn	**Pn**	**08 52 36.8**	**-0.5**
PETK	**Petropavlovsk-**	**7.78**	**272**	Pn	**Pn**	**08 52 38.1**	**+0.9**
	comp=E,1.0nm,0.3s,baz=94,slow=20,SNR=2.8						
	comp=E,3.7nm,0.6s						
ADK	**Adak**	**7.86**	**97**	Pn	**Pn**	**08 52 37.4**	**-0.8**
GSTR	**Great Sitkin T**	**8.17**	**95**	Pn	**Pn**	**08 52 41.5**	**-1.0**
ATKA	**Atka Island**	**9.25**	**92**	Pn	**Pn**	**08 52 57.2**	**-0.1**
KDAK	**Kodiak Island**	**20.98**	**64**	P	**P**	**08 55 26.7**	**0.0**
	comp=E,16nm,1.2s,baz=306,slow=8.7,SNR=1.5						
	comp=E,16nm,1.2s						
ILAR	**Eielson Array**	**23.98**	**45**	P	**P**	**08 55 56.3**	**-1.5**
	comp=E,0.3nm,0.8s,baz=258,slow=7.3,SNR=2.2						
	comp=E,0.3nm,0.8s						
NVAR	**Mina Array Bea**	**49.53**	**78**	P	**P**	**08 59 35.7**	**+1.4**
	comp=E,0.3nm,0.6s,baz=302,slow=7.4,SNR=3.0						
	comp=E,0.3nm,0.6s						
PDAR	**Pinedale Array**	**51.62**	**68**	P	**P**	**08 59 50.4**	**+0.3**
	comp=E,0.2nm,0.3s,baz=340,slow=3.3,SNR=4.2						
	comp=E,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**52.83**	**307**	P	**P**	**08 59 58.6**	**+0.1**
	comp=E,0.8nm,0.7s,baz=50,slow=7.1,SNR=5.0						
	comp=E,0.8nm,0.7s						
MKAR	**Makanchi Array**	**53.52**	**301**	P	**P**	**09 00 02.1**	**-1.7**
	comp=E,0.3nm,0.6s,baz=47,slow=6.7,SNR=2.3						
	comp=E,0.3nm,0.6s						
TXAR	**Lajitas Array**	**64.50**	**75**	P	**P**	**09 01 21.7**	**+1.4**
	comp=E,0.4nm,0.5s,baz=302,slow=5.0,SNR=15						
	comp=E,0.4nm,0.5s						

IDC ***08*** *09:11:55.8±0.9, 18°.83N×107°.63W, h0km, mb4.2/9, mbtmp4.2/12, ML4.5/3, MS4.4/56, Error ellipse: s-maj=30.9km s-min=17.1km az=71.0*
NEIC ***08*** *09:12:00.1±2.1, 18°.88N±0°.08×107°.49W±0°.08, h10km±1km, mb4.9/66, Md4.8/35(MEX), Error ellipse: s-maj=14.9km s-min=11.5km az=211.0*
MEX ***08*** *09:12:00.0±0.7, 19°.00N×107°.49W, h10km, MD4.8*
GCMT ***08*** *09:12:00.2±0.1, 19°.04N±0°.01×107°.64W±0°.01, h23km, MW5.3/131, Moment Tensor Solution. s111,c169; s131,c251; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.00±.01; $M_{\theta\theta}$-0.73±.01; $M_{\phi\phi}$0.72±.01; $M_{r\theta}$0.07±.02; $M_{r\phi}$-0.70±.01; $M_{\theta\phi}$0.14±.02; Best double couple: $M_0$1.02300×10^{17} NP1:ϕ_s203.00000°, δ89.00000°, λ-9.00000°. NP2:ϕ_s293.00000°, δ81.00000°, λ-179.00000°. Principal axes: T 1.0200, Plg6.0000°, Azm248.0000°; N 0.0050, Plg81.0000°, Azm19.0000°; P -1.0250, Plg6.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 08 09:12:00.1±0.5, 18°.92N±0°.05×107°.45W±0°.05, h16km, n524, σ1.74/493, mb4.8/42, MS4.4/60, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**2.35**	**75**	*eP*	**Pn**	**09 12 35.5**	**-2.5**
CJM				*eS*	**Sn**	**09 13 03.8**	**-2.7**
CIHU	**Emiliano Zapat**	**2.59**	**82**	*iP*	**Pn**	**09 12 39.0**	**-2.4**
CIHU				*eS*	**Sn**	**09 13 09.5**	**-3.1**
PUVA	**Puert Vallarta**	**2.70**	**51**		**Pn**	**09 12 41.7**	**-1.2**
PUVA					**Sn**	**09 13 12.8**	**-2.6**
PUVA	**Puert Vallarta**	**2.70**	**51**	*eP*	**Pn**	**09 12 41.7**	**-1.2**
PUVA				*eS*	**Sn**	**09 13 12.8**	**-2.6**
CDAR	**Ciudad de Arme**	**3.26**	**89**	*eP*	**Pn**	**09 12 48.5**	**-2.1**
CDAR				*eS*	**Sn**	**09 13 25.9**	**-3.1**
H06E		**3.29**	**268**	*eP*	Pn	09 12 41.7	-9.3
H06S		**3.33**	**267**	*eP*	Pn	09 12 41.9	-10
H06N	**Isla Socorro**	**3.35**	**270**	*eP*	Pn	09 12 43.0	-8.9
CEGR	**Campo Tres**	**3.43**	**82**	*eP*	**Pn**	**09 12 52.0**	**-1.2**
CEGR				*eS*	**Sn**	**09 13 32.6**	**-1.0**
ANIG	**Ahuacatlan**	**3.48**	**52**		**Pn**	**09 12 53.5**	**-0.3**
ANIG	**Ahuacatlan**	**3.48**	**52**	*eP*	**Pn**	**09 12 53.5**	**-0.3**
ANIG				*eS*	**Sn**	**09 13 34.0**	**-0.7**
COMA	**Comala**	**3.51**	**83**	*eP*	**Pn**	**09 12 53.6**	**-0.6**
COMA				*eS*	**Sn**	**09 13 35.3**	**-0.1**
TEPI	**Tepic**	**3.52**	**42**	*eP*	**Pn**	**09 12 53.9**	**-0.4**
TEPI				*eS*	**Sn**	**09 13 33.9**	**-1.8**
COIG	**Colima**	**3.57**	**85**	*eP*	**Pn**	**09 12 53.5**	**-1.5**
COIG				*eS*	**Sn**	**09 13 34.9**	**-2.0**
MNGA	**Volcan de Coli**	**3.66**	**81**	*i P*	**Pn**	**09 12 56.4**	**0.0**
MNGA				*i S*	**Sn**	**09 13 38.2**	**-1.2**
SOMAC	**Volcano de Col**	**3.66**	**80**	*i P*	**Pn**	**09 12 56.5**	**0.0**
SOMAC				*eS*	**Sn**	**09 13 39.5**	**0.0**
EZ5V		**3.68**	**81**		**Pn**	**09 12 55.9**	**-0.7**
EZ5V		**3.68**	**81**	*i P*	**Pn**	**09 12 56.6**	**0.0**
EZ5V				*eS*	**Sn**	**09 13 41.0**	**+1.1**
INCO	**Volcan de Coli**	**3.69**	**80**	*eP*	**Pn**	**09 12 56.2**	**-0.6**
INCO				*eS*	**Sn**	**09 13 40.5**	**+0.3**
JUBC	**Volcan de Coli**	**3.71**	**80**	*i P*	**Pn**	**09 12 56.9**	**-0.2**
JUBC				*eS*	**Sn**	**09 13 42.1**	**+1.3**
MMIG	**Aquila**	**3.94**	**98**		**Pn**	**09 12 58.6**	**-1.5**
MMIG	**Aquila**	**3.94**	**98**	*eP*	**Pn**	**09 12 58.5**	**-1.5**
MMIG				*eS*	**Sn**	**09 13 40.1**	**-5.8**
MAIG	**Mazatlaan**	**4.36**	**13**		**Pn**	**09 13 04.1**	**-1.6**
MAIG	**Mazatlaan**	**4.36**	**13**	*eP*	**Pn**	**09 13 04.1**	**-1.6**
MAIG				*eS*	**Sn**	**09 13 49.8**	**-6.3**
SLBS	**Sierra La Lagu**	**5.29**	**334**	Pn	**Pn**	**09 13 17.6**	**-0.9**
SLBS	**Sierra La Lagu**	**5.29**	**334**	*eP*	**Pn**	**09 13 18.1**	**-0.5**
SLBS				*eS*	**Sn**	**09 14 20.6**	**+1.4**
AAIG	**Aguscalientes**	**5.64**	**57**	*eP*	**Pn**	**09 13 25.7**	**+2.1**
AAIG				*eS*	**Sn**	**09 14 31.1**	**+2.9**
ZIIG	**Zihuatanejo**	**5.83**	**102**	*eP*	**Pn**	**09 13 25.7**	**-0.3**
SSIG	**Sanalona**	**5.88**	**3**	*eP*	**Pn**	**09 13 25.6**	**-1.0**
ZAIG	**Zacatecas**	**5.96**	**49**	*eP*	**Pn**	**09 13 29.4**	**+1.4**
ZAIG				*eS*	**Sn**	**09 14 31.9**	**-4.3**
IGIG	**Irapuato, Guan**	**6.05**	**71**		**Pn**	**09 13 31.4**	**+2.3**
IGIG	**Irapuato, Guan**	**6.05**	**71**	*eP*	**Pn**	**09 13 31.4**	**+2.3**
IGIG				*eS*	**Sn**	**09 14 41.9**	**+3.7**
PDIG	**Papasquiaro**	**6.39**	**17**	*eP*	**Pn**	**09 13 35.0**	**+1.2**
PDIG				*eS*	**Sn**	**09 14 47.5**	**+1.0**
ARIG	**Puente Sto Nin**	**6.77**	**94**		**Pn**	**09 13 39.9**	**+1.0**
ARIG	**Puente Sto Nin**	**6.77**	**94**	*eP*	**Pn**	**09 13 39.9**	**+1.0**
ARIG				*eS*	**Sn**	**09 14 50.0**	**-5.6**
JRQG	**Juriquilla Cam**	**6.83**	**74**	*eP*	**Pn**	**09 13 41.1**	**+1.2**
JRQG				*eS*	**Sn**	**09 14 54.5**	**-3.0**
CAIG	**El Cayaco**	**7.08**	**104**	*eP*	**Pn**	**09 13 44.8**	**+1.6**
CAIG				*eS*	**Sn**	**09 15 00.1**	**-3.3**
MEIG	**Mezcala**	**7.50**	**96**	*eP*	**Pn**	**09 13 46.4**	**-2.6**
MEIG				*eS*	**Sn**	**09 15 11.3**	**-2.5**
PLIG	**Platanillo**	**7.55**	**93**	*eP*	**Pn**	**09 13 49.1**	**-0.6**
PLIG				*eS*	**Sn**	**09 15 14.0**	**-1.2**
RPIG	**Rio Verde**	**7.60**	**66**	*eP*	**Pn**	**09 13 52.7**	**+2.3**
RPIG				*eS*	**Sn**	**09 15 16.5**	**+0.2**
DAIG	**Los Arroyos**	**7.66**	**103**	*eP*	**Pn**	**09 13 52.6**	**+1.5**
DAIG				*eS*	**Sn**	**09 15 16.5**	**-1.1**
CSIG	**Choix**	**7.92**	**354**	*eP*	**Pn**	**09 13 55.4**	**+0.7**
CSIG				*eS*	**Sn**	**09 15 23.6**	**-0.4**
YAIG	**Yautepec**	**7.94**	**89**	*eP*	**Pn**	**09 13 56.3**	**+1.3**
YAIG				*eS*	**Sn**	**09 15 19.2**	**-5.4**
DEIG	**Demacu**	**8.05**	**79**	*eP*	**Pn**	**09 13 58.6**	**+1.9**
HPIG		**8.15**	**11**	*eP*	**Pn**	**09 13 59.4**	**+1.4**
HPIG				*eS*	**Sn**	**09 15 27.0**	**-3.0**
PPM	**Popocatepetl**	**8.35**	**88**	*eP*	**Pn**	**09 13 59.0**	**-2.0**
TLIG	**Tlapa**	**8.55**	**98**	*i P*	**Pn**	**09 14 05.1**	**+1.7**
TLIG				*eS*	**Sn**	**09 15 39.0**	**-0.6**
GTIG	**Gomez Farias**	**8.77**	**60**	*eP*	**Pn**	**09 14 10.2**	**+3.9**
FTIG	**Fresnillo de T**	**8.90**	**95**	*eP*	**Pn**	**09 14 10.0**	**+1.8**
HLIG	**Huajuapan de L**	**9.22**	**95**	*i P*	**Pn**	**09 14 14.3**	**+1.5**
HLIG				*eS*	**Sn**	**09 15 51.8**	**-4.6**
PNIG	**Pinotepa**	**9.24**	**104**	*eP*	**Pn**	**09 14 15.1**	**+2.4**
TXIG	**Tlaxiaco**	**9.36**	**99**	*i P*	**Pn**	**09 14 16.6**	**+2.0**
TXIG				*eS*	**Sn**	**09 15 57.4**	**-2.3**
MNIG	**Monterrey**	**9.40**	**44**		Pn	09 14 20.1	+5.1
MNIG	**Monterrey**	**9.40**	**44**	*eP*	**Pn**	**09 14 18.7**	**+3.7**
MNIG				*eS*	**Sn**	**09 15 59.6**	**-0.8**
GUYB	**Guaymas**	**9.48**	**341**	*eP*	**Pn**	**09 14 16.7**	**+0.8**
LNIG	**Linares**	**9.51**	**50**	*eP*	**Pn**	**09 14 20.2**	**+3.8**
TPIG	**Tehuac#an**	**9.58**	**91**	*eP*	**Pn**	**09 14 19.9**	**+2.3**
TPIG				*eS*	**Sn**	**09 16 04.5**	**-0.5**
YOIG	**Yosondua**	**9.65**	**101**	*eP*	**Pn**	**09 14 20.9**	**+2.2**
YOIG				*eS*	**Sn**	**09 16 08.9**	**+1.9**
TOIG	**Toxpalan**	**9.89**	**93**	*eP*	**Pn**	**09 14 20.4**	**-1.4**
TOIG				*eS*	**Sn**	**09 16 08.2**	**-4.4**
PEIG	**Puerto Escondi**	**10.25**	**105**	*eP*	**Pn**	**09 14 29.7**	**+3.0**
LVIG	**Laguna Verde**	**10.45**	**84**	*eP*	**Pn**	**09 14 30.8**	**+1.5**
MCIG	**Muzquiz**	**10.46**	**30**	*eP*	**Pn**	**09 14 31.9**	**+2.3**
HSIG		**10.55**	**343**	*i P*	**Pn**	**09 14 32.0**	**+1.3**
TX31	**Lajitas Ar. Si**	**10.93**	**18**	Pn	**Pn**	**09 14 37.8**	**+1.8**
TX32	**Lajitas Array**	**10.93**	**18**		**Pn**	**09 14 37.0**	**+1.0**
TXAR	**Lajitas Array**	**10.93**	**18**		**Pn**	**09 14 37.4**	**+1.4**
TXAR	**Lajitas Array**	**10.93**	**18**	Pn	**Pn**	**09 14 37.8**	**+1.8**
	1.0nm,0.3s,baz=199,slow=13,SNR=47						
TXAR				LR	LR	09 18 43.6	
	comp=Z,2μm,20.4s,baz=198,slow=37						
	6.1nm,0.7s						
HUIG	**Huatulco**	**11.27**	**104**	*eP*	**Pn**	**09 14 43.0**	**+2.3**
CGIG		**11.41**	**358**	*eP*	**Pn**	**09 14 44.9**	**+2.2**
BAHB	**Baha de los**	**11.44**	**332**	*eP*	**Pn**	**09 14 43.0**	**+0.1**
HBVL	**Hebbronville**	**11.45**	**43**	Pn	**Pn**	**09 14 44.3**	**+1.2**
NZIG	**Nacozari, Sono**	**11.57**	**351**		**Pn**	**09 14 48.0**	**+3.2**
NZIG	**Nacozari, Sono**	**11.57**	**351**	*eP*	**Pn**	**09 14 47.5**	**+2.7**
NZIG				*eP*		09 14 48.0	
833A	**Chaparral WMA,**	**11.92**	**37**		**Pn**	**09 14 52.9**	**+3.4**
833A	**Chaparral WMA,**	**11.92**	**37**	P	**Pn**	**09 14 53.6**	**+4.1**
	baz=220,SNR=16						
ALPN	**Alpine**	**11.92**	**16**	Pn	**Pn**	**09 14 52.3**	**+2.7**
SAND	**Sanderson**	**12.01**	**23**	Pn	**Pn**	**09 14 52.5**	**+1.7**
425A	**Indio Mountain**	**12.03**	**10**	Pn	**Pn**	**09 14 53.0**	**+2.0**
DRIO	**Del Rio**	**12.17**	**29**	Pn	**Pn**	**09 14 55.7**	**+2.8**
LAPR	**La Primavera**	**12.35**	**340**	*eP*	**Pn**	**09 14 57.8**	**+2.4**
TUIG	**Tuzandepetl**	**12.39**	**92**	*e*	**Pn**	**09 14 54.2**	**-1.8**
319A	**Douglas**	**12.52**	**353**		**Pn**	**09 15 00.6**	**+2.9**
PECS	**Pecos**	**12.82**	**14**		**Pn**	**09 15 03.9**	**+2.0**
MNTX	**Cornudas Mount**	**12.86**	**8**	Pn	**Pn**	**09 15 03.6**	**+1.2**
MNTX	**Cornudas Mount**	**12.86**	**8**	P	**Pn**	**09 15 05.4**	**+3.0**
	baz=189,SNR=12						
HNDO	**Hondo**	**12.92**	**34**		**Pn**	**09 15 05.5**	**+2.3**
735A	**Kenedy**	**13.25**	**40**		**Pn**	**09 15 10.8**	**+3.2**
OZNA	**Ozona**	**13.25**	**24**	Pn	**Pn**	**09 15 11.6**	**+3.8**
JCT	**Junction City**	**13.44**	**30**	Pn	**Pn**	**09 15 13.4**	**+3.1**
JCT	**Junction City**	**13.44**	**30**	P	**Pn**	**09 15 13.9**	**+3.6**
	baz=213,SNR=26						
121A	**Cookes Peak, D**	**13.56**	**359**		**Pn**	**09 15 14.4**	**+2.3**
121A	**Cookes Peak, D**	**13.56**	**359**	P	**Pn**	**09 15 14.9**	**+2.9**
	baz=179,SNR=9.8						
DUN6	**Lazy B Ranch**	**13.66**	**354**		**Pn**	**09 15 15.3**	**+2.0**
TUC	**Tucson**	**13.67**	**348**	P	**Pn**	**09 15 15.5**	**+2.0**
	baz=167						
TUC	**Tucson**	**13.67**	**348**	*eP*	**Pn**	**09 15 15.5**	**+2.0**
SFX	**San Felipe**	**13.80**	**332**		**Pn**	**09 15 15.5**	**+0.3**
SFX	**San Felipe**	**13.80**	**332**	*eP*	**Pn**	**09 15 14.3**	**-0.9**
TGIG		**13.81**	**97**	*eP*	**Pn**	**09 15 17.1**	**+1.7**
214A	**Organ Pipe Nat**	**13.85**	**341**		**Pn**	**09 15 16.5**	**+0.5**
214A	**Organ Pipe Nat**	**13.85**	**341**	P	**Pn**	**09 15 17.8**	**+1.9**
	baz=159,SNR=17						
ODSA	**Odessa**	**13.87**	**18**	Pn	**Pn**	**09 15 18.3**	**+2.1**
SPIG	**San Pedro Mart**	**14.09**	**331**	*i P*	**Pn**	**09 15 19.4**	**0.0**
SGCY	**Sterling City**	**14.14**	**23**		**Pn**	**09 15 21.9**	**+2.0**
BRDY	**Brady**	**14.49**	**30**		**Pn**	**09 15 26.3**	**+1.6**
VTX	**Valle De La Tr**	**14.52**	**330**		**Pn**	**09 15 25.0**	**-0.2**
435B	**Jarrell**	**14.81**	**35**		**Pn**	**09 15 28.6**	**-0.4**
435B	**Jarrell**	**14.81**	**35**	P	**Pn**	**09 15 28.1**	**-0.9**
	baz=219						
CCIG	**Comitan**	**14.83**	**98**	*eP*	**Pn**	**09 15 30.6**	**+1.1**
113A	**Mohawk Valley,**	**14.91**	**339**		**Pn**	**09 15 31.2**	**+0.8**
POST	**Post**	**15.07**	**20**		**Pn**	**09 15 33.3**	**+0.8**
POST				IAmb	IAmb	09 15 41.1	
	comp=Z,48nm,1.5s						
SN01	**Snyder 1**	**15.08**	**22**		**Pn**	**09 15 32.8**	**+0.1**
SN01				IAmb	IAmb	09 15 39.6	
	comp=Z,41nm,1.4s						
Y22D	**IRIS PASSCAL I**	**15.11**	**2**	P	**P**	**09 15 37.1**	**-1.1**
	baz=182						
Y22F	**Passcal Instru**	**15.11**	**2**	P	**P**	**09 15 36.4**	**-1.9**
	baz=182						
ESJX	**Sierra Juarez**	**15.11**	**331**		**Pn**	**09 15 32.5**	**-0.8**
ESJX				IAmb	IAmb	09 15 40.6	
	comp=Z,70nm,1.5s						
CPBX	**Cerro Prieto**	**15.19**	**334**		**Pn**	**09 15 35.3**	**+1.3**
HKT	**Hockley**	**15.24**	**42**		**Pn**	**09 15 36.0**	**+1.4**
CCX	**Cicese**	**15.34**	**329**	Pn	**Pn**	**09 15 35.7**	**-0.3**
CCX				IAmb	IAmb	09 15 43.0	
	comp=Z,62nm,1.3s						
ABTX	**Abilene, Hawle**	**15.35**	**26**	Pn	**Pn**	**09 15 36.1**	**0.0**
ABTX				IAmb	IAmb	09 15 42.9	
	comp=Z,80nm,1.2s						
ABTX	**Abilene, Hawle**	**15.35**	**26**	P	**Pn**	**09 15 36.4**	**+0.3**
	baz=209,SNR=12						
GLA	**Glamis**	**15.55**	**336**	Pn	**Pn**	**09 15 39.4**	**+0.6**
GLA	**Glamis**	**15.55**	**336**	P	**Pn**	**09 15 39.0**	**+0.2**
	baz=154,SNR=17						
MSTX	**Muleshoe**	**15.56**	**15**	P	**Pn**	**09 15 38.7**	**-0.3**
	baz=197,SNR=15						
CBX	**Cerro Bola**	**15.70**	**330**	*eP*	**Pn**	**09 15 40.4**	**-0.5**
RTAL	**Retalhuleu**	**15.71**	**104**		**P**	**09 15 48.5**	**+3.6**
RTAL				IAmb	IAmb	09 15 49.8	
	comp=Z,121nm,1.5s						
IKP	**In-Ko-Pah, Jac**	**15.73**	**332**	P	**Pn**	**09 15 40.9**	**-0.4**
	baz=149,SNR=14						
TJIG	**Tijuana**	**15.81**	**330**	*eP*	**Pn**	**09 15 41.5**	**-0.6**
WHTX	**Lake Whitney,**	**15.83**	**33**	P	**Pn**	**09 15 43.2**	**+0.8**
	baz=217,SNR=12						
SWSC	**Sam W. Stewart**	**15.85**	**333**	P	**Pn**	**09 15 43.3**	**+0.6**
	baz=150,SNR=33						
ANMO	**Albuquerque**	**15.99**	**3**	P	**Pn**	**09 15 46.1**	**+1.4**
	baz=184						
ANMO	**Albuquerque**	**15.99**	**3**	Pn	**Pn**	**09 15 45.4**	**+0.8**
	comp=Z,2.2nm,1.0s,baz=258,slow=14,SNR=4.5						
MONP2	**Monument Peak**	**16.08**	**332**	P	**Pn**	**09 15 45.2**	**-0.6**
	baz=148,SNR=16						
W18A	**Petrified Fore**	**16.27**	**353**	P	**P**	**09 15 49.3**	**-1.9**
	baz=173						
BC3	**Big Chuckawall**	**16.33**	**336**	P	**Pn**	**09 15 49.7**	**+0.8**
	baz=153,SNR=72						
109C	**Camp Elliot, M**	**16.39**	**330**	P	**Pn**	**09 15 49.2**	**-0.3**
	baz=146						
PDMCI	**Parker Dam,Lak**	**16.44**	**340**	P	**P**	**09 15 51.5**	**-1.4**
	baz=158,SNR=8.7						
IRM	**Iron Mountain**	**16.66**	**337**	P	**P**	**09 15 54.3**	**-1.1**
	baz=154,SNR=28						
TPFO	**Pinon Flats**	**16.70**	**333**	P	**P**	**09 15 54.8**	**-1.1**
	baz=150,SNR=18						
PFO	**Pinyon Flats O**	**16.70**	**333**	P	**P**	**09 15 54.9**	**-1.0**
	baz=150,SNR=17						
PFO	**Pinyon Flats O**	**16.70**	**333**	Pn	**Pn**	**09 15 52.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=146,slow=14,SNR=33						
PFO				LR	LR	09 21 30.5	
	comp=Z,3μm,21.7s,baz=177,slow=34						
	comp=Z,12nm,0.9s						
AMTX	**Amarillo**	**16.71**	**17**	P	**P**	**09 15 57.4**	**+1.5**
	baz=200						
BELC	**Belle Mtn. Jos**	**16.85**	**335**	P	**P**	**09 15 57.2**	**-0.3**
	baz=152,SNR=63						
WUAZ	**Wupatki**	**16.90**	**349**	P	**P**	**09 15 57.6**	**-0.6**
	baz=168,SNR=7.6						
MURC	**Murrieta**	**17.02**	**331**	P	**P**	**09 15 58.7**	**-0.7**
	baz=147,SNR=17						
NEE2	**Needles Airpor**	**17.02**	**339**	P	**P**	**09 15 58.6**	**-0.8**
	baz=157						
SCI2	**San Clemente I**	**17.18**	**327**	P	**P**	**09 16 00.1**	**-0.9**
	baz=142						
NATX	**Nacogdoches**	**17.22**	**40**	P	**Pn**	**09 16 00.9**	**+0.9**
	baz=225,SNR=6.7						

R11B Troy Canyon, C 20.62 342 P **P 09 16 39.2 +0.2**
baz=158,SNR=21
ISCO Idaho Springs 20.87 4 P Pn 09 16 43.1 -1.3
baz=185,SNR=20
R32A Long Quarter, 20.87 20 P **P 09 16 42.0 +0.4**
CBKS Cedar Bluff 20.93 17 P **P 09 16 42.5 +0.3**
baz=201,SNR=5.8
MLAC Mammoth, Mammo 21.14 334 P **P 09 16 45.5 +0.8**
baz=149
O20A White River Ci 21.16 358 P **P 09 16 45.7 +0.9**
baz=178,SNR=17
MDPB Devils Postpil 21.24 334 P **P 09 16 46.1 +0.3**
NVAR Mina Array Bea 21.62 336 P **P 09 16 49.8 0.0**
comp=Z,4.2nm,0.9s,baz=163,slow=12,SNR=26
NVAR LR LR 09 24 51.5
comp=Z,979nm,19.8s,baz=153,slow=36
comp=Z,4.2nm,0.9s
FCAR Ozark Folk Cen 21.65 36 P **P 09 16 49.5 -0.5**
DUG Dugway, Tooele 21.70 349 P **P 09 16 51.1 +0.5**
baz=166,SNR=9.1
N23A Red Feather La 21.94 3 P **P 09 16 54.8 +1.5**
baz=184,SNR=7.9
KVN Kaiserville 22.09 338 P **P 09 16 55.4 +0.6**
KVN IAmb IAmb 09 17 13.1
comp=Z,60nm,1.4s
KSU1 Kansas State U 22.20 23 P **P 09 16 55.4 -0.4**
baz=208,SNR=12
OXF Oxford 22.33 42 P **P 09 16 57.1 -0.1**
baz=230
TCUT Toone Canyon 22.39 352 P **P 09 16 58.2 +0.1**
Z47A Carrollton 22.43 47 P **P 09 16 59.3 +1.1**
Z47A IAmb IAmb 09 17 04.6
comp=Z,57nm,1.1s
OGNE Ogallala 22.44 11 P **P 09 16 58.8 +0.3**
baz=194
ELK Elko 22.76 345 LR LR 09 25 20.2
comp=Z,1µm,18.8s,baz=170,slow=35
LRAL Lakeview Retre 23.09 48 P **P 09 17 05.5 +0.3**
baz=238,SNR=6.7
PBMO Poplar Bluff 23.24 37 P **P 09 17 06.3 -0.4**
PBMO IAmb IAmb 09 17 08.5
comp=Z,64nm,1.8s
PLAL Pickwick Lake 23.48 43 P **P 09 17 09.4 +0.3**
PLAL IAmb IAmb 09 17 09.7
comp=Z,59nm,1.5s
K22A Casper 23.67 2 P **P 09 17 11.4 +0.2**
K22A IAmb IAmb 09 17 34.5
comp=Z,70nm,1.6s
K22A Casper 23.67 2 P **P 09 17 11.9 +0.8**
baz=182,SNR=6.8
CCM Cathedral Cave 23.73 33 P **P 09 17 11.8 +0.2**
CCM IAmb IAmb 09 17 12.9
comp=Z,47nm,1.0s
CCM Cathedral Cave 23.73 33 P **P 09 17 11.3 -0.3**
baz=221
BGNE Belgrade 23.79 18 P **P 09 17 11.8 -0.3**
baz=202
BW06 Boulder Array 23.84 356 P **P 09 17 13.3 +0.5**
baz=175
PD31 Pinedale Array 23.84 356 P **P 09 17 13.6 +0.8**
PDAR Pinedale Array 23.84 356 P **P 09 17 11.9 -1.0**
comp=Z,2.0nm,0.7s,baz=157,slow=8.0,SNR=20
PDAR LR LR 09 26 11.9
comp=Z,1µm,18.2s,baz=187,slow=36
comp=Z,2.0nm,0.7s
WVT Waverly 24.35 41 P **P 09 17 16.9 -0.5**
baz=230
TIGA Tifton 24.87 55 P **P 09 17 22.8 +0.6**
baz=246,SNR=5.8
SWET Sewanee 25.03 45 P **P 09 17 23.2 -0.4**
HLID Hailey 25.26 348 P **P 09 17 25.0 -0.8**
baz=165
RSSD Black Hills 25.29 6 P **P 09 17 25.5 -0.6**
baz=188
DWPF Disney Wildern 25.51 64 P **P 09 17 28.6 +0.7**
baz=255
H17A Grant Village 25.54 355 P **P 09 17 29.7 +1.4**
baz=173
GOGA Godfrey 25.83 51 P **P 09 17 31.2 +0.3**
baz=242
SCIA State Center 25.93 25 P **P 09 17 30.4 -1.2**
baz=212
RLMT Red Lodge 26.18 357 P **P 09 17 33.4 -0.7**
baz=176
YBH Yreka Blue Hor 26.20 333 LR LR 09 27 33.2
comp=Z,967nm,21.6s,baz=160,slow=36
ECSD EROS Data Cent 26.37 18 P **P 09 17 35.6 0.0**
baz=204
HDIL Hopedale 26.61 32 P **P 09 17 37.5 -0.3**
baz=221
WCI Wyandotte Cave 26.64 39 P **P 09 17 37.3 -0.7**
baz=230
TKL Tuckaleechee C 26.74 47 LR LR 09 31 02.1
comp=Z,409nm,19.6s,baz=242,slow=43
T50A Nancy 26.80 43 P **P 09 17 39.5 0.0**
T50A IAmb IAmb 09 17 49.0
comp=Z,17nm,1.0s
BOZ Bozeman (W) 26.83 353 P **P 09 17 39.6 -0.3**
baz=172
TZTN Tazewell 27.38 45 P **P 09 17 44.7 -0.1**
baz=236
SFIN Lafayette 27.63 35 P **P 09 17 47.1 +0.2**
baz=225
LAO LASA Array 27.72 2 P **P 09 17 47.8 0.0**
baz=183
BPMT Black Pine Rid 27.89 351 P **P 09 17 49.7 +0.2**
KMSC Kings Mountain 28.20 50 P **P 09 17 52.0 -0.3**
baz=242
MSO Missoula 28.35 351 P **P 09 17 53.4 0.0**
baz=167
P49A Miami Univ. Ec 28.42 39 P **P 09 17 53.4 -0.6**
baz=230
O48B Farmland 28.63 37 P **P 09 17 56.4 +0.5**
baz=228
SPMN Marine on St. 28.93 22 P **P 09 17 58.2 -0.2**
baz=210
ACSO Alum Creek Sta 29.89 40 P **P 09 18 07.2 +0.1**
baz=232
P52A Corning 30.05 41 P **P 09 18 08.1 -0.4**
baz=234
NEW Newport 30.31 347 P **P 09 18 09.5 -1.3**
baz=162
NEW Newport 30.31 347 LR LR 09 30 10.9
comp=Z,674nm,19.2s,baz=162,slow=36
T57A Hurt 30.57 48 P **P 09 18 13.6 +0.5**
T57A IAmb IAmb 09 18 14.9
comp=Z,32nm,1.3s
R55A Marlinton 30.61 45 P **P 09 18 13.8 +0.2**
R55A IAmb IAmb 09 18 14.9
comp=Z,22nm,1.0s
CNNC Cliffs of the 30.78 52 P **P 09 18 14.8 -0.2**
baz=246
AAM Ann Arbor 30.83 36 P **P 09 18 15.0 -0.4**
baz=228
O53A New Philadelph 30.99 41 P **P 09 18 16.6 -0.2**
baz=234
B35A Bob, Littlefor 31.41 18 P **P 09 18 19.6 -0.9**
B35A IAmb IAmb 09 18 20.4
comp=Z,26nm,1.4s
EYMN Ely 31.74 21 P **P 09 18 22.4 -0.9**
baz=210
APAC Apartado, Choc 31.90 106 *eP* **P 09 18 28.7 +3.5**
GLMI Grayling 32.08 31 P **P 09 18 26.7 +0.3**
baz=224
CBN Corbin Frederi 32.45 47 P **P 09 18 30.1 +0.4**
CBN Corbin Frederi 32.45 47 P **P 09 18 30.5 +0.8**
baz=242
ULM Lac du Bonnet 32.60 14 P **P 09 18 29.2 -1.6**
comp=Z,4.6nm,0.7s,baz=201,slow=8.9,SNR=5.1
ULM LR LR 09 30 52.9
comp=Z,847nm,18.4s,baz=198,slow=35
comp=Z,4.6nm,0.7s
UREC San Jos de Ur 32.92 105 *eP* **P 09 18 36.4 +2.3**
PPLP Puerto Lpez 33.18 125 *eP* P 09 18 28.4 -8.0
SSPA Standing Stone 33.31 43 P **P 09 18 36.7 -0.6**
baz=238
ZARC Zaragoza, Cauc 33.63 105 *eP* **P 09 18 40.7 +0.4**
OTAV Otavalo 33.97 120 P **P 09 18 44.7 +0.9**
OTAV IAmb IAmb 09 19 07.0
comp=Z,22nm,1.2s
OTAV Otavalo 33.97 120 *eP* **P 09 18 46.2 +2.4**
BBAC Balboa, Cauca 34.01 116 *eP* **P 09 18 43.9 +0.1**
GUY2C Guyana, Caldas 34.11 109 *eP* **P 09 18 46.2 +1.2**
ORTC Ortega, Tolima 34.81 111 *eP* **P 09 18 48.5 -2.1**
SPBC San Pablo de B 35.09 108 *eP* **P 09 18 54.3 +1.3**
BARC Barichara 35.51 106 *eP* **P 09 18 57.5 +0.7**
PAMC Pamplona, Colo 35.67 104 *eP* **P 09 18 59.2 +0.7**

CHIC Chingaza 35.84 109 *eP* **P 09 19 02.4 +2.6**
RUSC La Rusia 35.88 107 *eP* **P 09 19 01.7 +1.4**
MACC Macarena, Meta 36.88 113 *eP* **P 09 19 07.9 -0.4**
BBB Bella Bella 36.94 339 LR LR 09 34 06.3
comp=Z,482nm,19.5s,baz=168,slow=36
SDV Santo Domingo 37.03 100 P **P 09 19 10.6 +0.8**
SDV IAmb IAmb 09 19 24.4
comp=Z,17nm,0.7s
SDV Santo Domingo 37.03 100 LR LR 09 36 03.3
comp=Z,272nm,18.2s,baz=292,slow=39
PTGC Puerto Gaitan, 37.45 109 *eP* **P 09 19 12.2 -0.9**
ATAH Atahualpa 38.61 129 LR LR 09 33 04.7
comp=Z,395nm,19.0s,baz=310,slow=33
SJG San Juan 39.11 84 P **P 09 19 27.2 +0.2**
SJG IAmb IAmb 09 19 28.4
comp=Z,32nm,1.1s
SJG San Juan 39.11 84 *eP* **P 09 19 23.6 -3.4**
SJG San Juan 39.11 84 LR LR 09 35 18.5
comp=Z,273nm,21.9s,baz=274,slow=36
BAUV El Baul 39.43 99 P **P 09 19 30.0 +0.3**
BAUV IAmb IAmb 09 19 37.4
comp=Z,44nm,1.2s
T35M Bob Quinn 41.63 341 P **P 09 19 48.8 +1.4**
baz=147
PCRV Puerto La Cruz 42.25 96 LR LR 09 38 59.9
comp=Z,243nm,20.6s,slow=38
TAOE Nuku Hiva Isla 42.44 232 *e*LR LR 09 31 16.9
comp=Z,2µm,25.6s
TAOE Nuku Hiva Isla 42.44 232 *e*T T 10 04 27.1
comp=Z,66nm,0.2s
S34M Telegraph Cree 42.67 342 P **P 09 19 57.2 +1.3**
baz=146
DLBC Dease Lake 42.79 343 P **P 09 19 57.6 +0.7**
DLBC IAmb IAmb 09 20 00.7
comp=Z,46nm,1.9s
DLBC Dease Lake 42.79 343 P **P 09 19 57.7 +0.7**
baz=148
DLBC Dease Lake 42.79 343 LR LR 09 37 29.5
comp=Z,1µm,19.5s,baz=150,slow=36
KOTAN Kotaneelee Air 42.86 348 P **P 09 19 57.6 +0.3**
baz=157
NNA Nana 43.05 133 LR LR 09 34 13.9
comp=Z,258nm,19.6s,baz=314,slow=31
YKA Yellowknife Ar 43.82 355 LR LR 09 38 34.2
comp=Z,1µm,18.5s,baz=166,slow=36
R33M Jennings River 43.86 343 P **P 09 20 07.1 +1.4**
baz=147
WTLY Watson Lake, Y 43.91 345 P **P 09 20 06.7 +0.8**
baz=150
P33M Teslin, Yukon 45.06 342 P **P 09 20 16.2 +1.0**
baz=145
P30M Million Dollar 46.26 340 P **P 09 20 25.8 +1.2**
baz=140
O30N Mendenhall 46.49 341 P **P 09 20 27.5 +1.1**
baz=142
MMPY Sheldon Lake, 46.67 345 P **P 09 20 29.2 +1.4**
baz=148
O29M Mount Kennedy 46.92 339 P **P 09 20 30.1 +0.2**
baz=138
N31M Braeburn, Yuko 46.96 342 P **P 09 20 29.9 -0.1**
baz=142
HYT Haines Junctio 46.97 340 P **P 09 20 31.2 +1.0**
baz=140
M31M Drury Creek, Y 47.13 343 P **P 09 20 32.4 +1.0**
baz=144
SCHQ Schefferville 47.27 31 P **P 09 20 30.9 -1.6**
comp=Z,3.8nm,0.5s,baz=236,slow=5.2,SNR=8.0
comp=Z,3.8nm,0.5s
O28M Mount Upton 47.81 339 P **P 09 20 37.6 +0.6**
baz=136
M30M Minto, Yukon 48.11 342 P **P 09 20 39.3 +0.2**
baz=142
CTG Chitna Glacier 48.34 339 P **P 09 20 42.2 +1.2**
baz=135
M29M Somme Creek 48.50 341 P **P 09 20 42.7 +0.6**
baz=140
YUK3 Moose Creek 48.63 340 P **P 09 20 43.6 +0.3**
baz=137
KAIM Kayak Island 48.75 336 P **P 09 20 44.2 +0.3**
baz=131
L29M L29M 48.91 342 P **P 09 20 46.3 +1.1**
baz=140
MCARA McCarthy VSAT 49.22 338 P **P 09 20 47.8 +0.2**
baz=134
K29M Barlow Dome 49.31 343 P **P 09 20 48.7 +0.4**
baz=142
M27K Edge Creek, AK 49.52 340 P **P 09 20 48.9 -1.0**
baz=136
ETMB Extrema 49.68 122 P **P 09 20 51.0 -0.7**
ETMB IAmb IAmb 09 20 56.0
comp=Z,10nm,1.0s
M26K Nabesna, AK 49.92 339 P **P 09 20 53.3 +0.4**
baz=134
L27K Beaver Creek, 50.01 340 P **P 09 20 54.2 +0.7**
baz=136
DAWY Dawson 50.01 342 P **P 09 20 53.2 -0.3**
baz=139
H31M Peel River 50.09 346 P **P 09 20 53.5 -0.6**
baz=146
I30M Mount Dempster 50.10 345 P **P 09 20 53.6 -0.8**
baz=144
L26K Log Cabin Wild 50.47 340 P **P 09 20 57.9 +0.9**
baz=134
HARP HAARP 50.66 338 P **P 09 20 58.6 +0.2**
baz=132
I29M Ogilvie Camp, 50.71 344 P **P 09 20 58.8 0.0**
baz=141
K27K Chicken 50.78 341 P **P 09 21 00.1 +0.8**
K27K IAmb IAmb 09 21 10.5
comp=Z,8.8nm,0.9s
K27K Chicken 50.78 341 P **P 09 20 59.9 +0.5**
baz=136
KDAK Kodiak Island 50.96 331 LR LR 09 39 50.0
comp=Z,321nm,20.1s,baz=140,slow=33
G31M Satah River 51.01 347 P **P 09 21 02.0 +1.0**
baz=147
PAX Paxson 51.14 339 P **P 09 21 02.9 +0.8**
baz=132
I28M Miner Creek 51.21 343 P **P 09 21 03.8 +1.2**
baz=140
F31M Tsiigehtchic 51.34 347 P **P 09 21 04.2 +0.8**
baz=148
SCRK Sand Creek 51.34 340 P **P 09 21 04.9 +1.2**
baz=134
H29M Whitestone 51.40 345 P **P 09 21 05.0 +1.1**
baz=142
RIDG Independent Ri 51.45 340 P **P 09 21 05.7 +1.3**
baz=133
J26L Joseph Creek 51.57 341 P **P 09 21 06.3 +1.0**
J26L IAmb IAmb 09 21 08.6
comp=Z,29nm,1.6s
J26L Joseph Creek 51.57 341 P **P 09 21 06.7 +1.3**
baz=135,SNR=7.0
SAML Samuel 51.69 118 P **P 09 21 07.5 +0.7**
SAML IAmb IAmb 09 21 10.7
comp=Z,13nm,1.2s
WAT6 Susitna Watana 51.69 338 P **P 09 21 09.0 +2.6**
baz=129
I27K Kandik River 51.80 343 P **P 09 21 07.5 +0.5**
baz=138
K24K Donnelly Dome 51.80 339 P **P 09 21 07.4 +0.4**
baz=132
G29M Pine Creek 51.86 345 P **P 09 21 08.3 +0.9**
baz=142
FRB Frobisher Bay 51.96 21 LR LR 09 42 03.9
comp=Z,333nm,18.5s,baz=228,slow=35
I26K Coal Creek Min 52.02 342 P **P 09 21 08.4 -0.2**
I26K Coal Creek Min 52.02 342 P **P 09 21 09.6 +1.0**
baz=136
INK Inuvik 52.03 348 P **P 09 21 09.8 +1.2**
INK Inuvik 52.03 348 P **P 09 21 09.6 +1.1**
baz=148
INK Inuvik 52.03 348 LR LR 09 42 26.9
comp=Z,397nm,19.1s,baz=177,slow=35
M22K Willow 52.08 336 P **P 09 21 10.0 +1.0**
baz=126
WAT1 Susitna Watana 52.14 338 P **P 09 21 10.3 +0.8**
baz=128
PMOR Pomariorio Ree 52.17 233 *e*T T 10 16 50.5
comp=Z,1.8nm,0.2s
J25K Salcha River, 52.22 340 P **P 09 21 10.5 +0.4**
baz=133
H27K Steamboat Moun 52.24 343 P **P 09 21 10.1 -0.1**
baz=138
CUT Chulitna 52.52 336 P **P 09 21 13.1 +0.8**
baz=126
HDA Harding Lake 52.59 340 P **P 09 21 13.7 +0.9**
baz=131

G27K Doyon Strip 52.70 344 P **P 09 21 14.0 +0.3**
baz=138
SKT Skwentna 52.76 336 P **P 09 21 11.5 -2.6**
baz=124
IL31 52.81 340 P **P 09 21 15.6 +1.2**
IL31 IAmb IAmb 09 21 29.9
comp=Z,11nm,1.1s
ILAR Eielson Array 52.81 340 P **P 09 21 14.6 +0.1**
ILAR Eielson Array 52.81 340 P **P 09 21 13.1 -1.3**
comp=Z,3.5nm,0.9s,baz=148,slow=6.7,SNR=20
ILAR LR LR 09 42 10.7
comp=Z,367nm,20.6s,baz=126,slow=34
comp=Z,3.5nm,0.9s
MCK McKinley 52.83 338 P **P 09 21 15.5 +0.8**
baz=128
F28M Old Crow 52.86 345 P **P 09 21 14.8 0.0**
F28M IAmb IAmb 09 21 31.4
comp=Z,8.6nm,0.8s
F28M Old Crow 52.86 345 P **P 09 21 15.7 +0.8**
baz=141
PRP Porcupine Dome 52.88 341 P **P 09 21 16.1 +1.0**
baz=133
E29M Blow River 53.01 346 P **P 09 21 16.4 +0.5**
baz=143,SNR=5.3
TRF Thorofare Moun 53.14 338 P **P 09 21 18.0 +0.8**
TRF Thorofare Moun 53.14 338 P **P 09 21 16.8 -0.3**
baz=127,SNR=5.4
POKR Poker Plat Res 53.21 340 P **P 09 21 19.4 +2.0**
baz=131
N19K Bonanza Creek 53.34 333 P **P 09 21 19.2 +0.7**
baz=120
M20K Styx River 53.34 335 P **P 09 21 18.4 -0.1**
baz=123
G26K Porcupine Rive 53.38 343 P **P 09 21 20.3 +1.7**
baz=136
NEA2 Nenana 53.41 339 P **P 09 21 19.1 +0.2**
baz=129
H25L Birch Creek 53.48 342 P **P 09 21 20.3 +1.0**
baz=133
PPLA Purkeypile 53.53 336 P **P 09 21 20.9 +1.0**
baz=124
E28M Babbage River 53.55 346 P **P 09 21 19.7 -0.2**
baz=142
E27K Coleen River 53.72 345 P **P 09 21 22.4 +1.2**
baz=139
BPAW Bear Paw Mtn. 53.78 338 P **P 09 21 23.5 +1.9**
baz=126
CAST Castle Rocks 53.78 337 P **P 09 21 21.3 -0.4**
baz=125
H24K Noodor Dome 53.82 341 P **P 09 21 21.7 -0.3**
baz=131
I23K Minto, Yukon-K 53.86 340 P **P 09 21 22.4 +0.2**
baz=129
SDPT Sand Point 53.86 326 P **P 09 21 21.3 -1.0**
baz=111
G25K Bearman Lake 53.91 342 P **P 09 21 23.4 +1.0**
baz=133
O17K Koliganek Bris 53.98 332 P **P 09 21 24.3 +1.2**
baz=117
F26K Sheenjek River 54.01 344 P **P 09 21 22.9 -0.4**
baz=136
L19K White Mountain 54.19 335 P **P 09 21 25.0 +0.4**
baz=121
MLY Manley 54.25 339 P **P 09 21 26.1 +1.0**
baz=127
G24K Hadweenzic Riv 54.27 342 P **P 09 21 24.9 -0.2**
baz=132
H23K Yukon River 54.34 340 P **P 09 21 26.3 +0.6**
H23K IAmb IAmb 09 21 33.5
comp=Z,9.3nm,1.1s
H23K Yukon River 54.34 340 P **P 09 21 27.2 +1.5**
baz=129
F25K Christian Rive 54.35 343 P **P 09 21 27.3 +1.6**
baz=134
O16K Kokwok River B 54.35 331 P **P 09 21 25.5 -0.4**
baz=116
N17K Nushagak Hills 54.36 332 P **P 09 21 26.5 +0.6**
baz=118
D27M Malcolm River 54.38 346 P **P 09 21 27.2 +1.2**
baz=140
K20K Telida 54.49 336 P **P 09 21 27.1 +0.2**
baz=122
M17K Holitna River 54.88 333 P **P 09 21 28.9 -0.8**
baz=118
F24K Squaw Lake 54.93 342 P **P 09 21 29.8 -0.2**
baz=132
L18K Granite Mounta 54.95 334 P **P 09 21 29.7 -0.5**
baz=119
J20K Nowinta River 54.97 337 P **P 09 21 29.7 -0.5**
J20K Nowinta River 54.97 337 P **P 09 21 29.4 -0.8**
baz=123
H22K Ishtalitna Cre 54.98 340 P **P 09 21 30.9 +0.6**
baz=127
PPT Papeete 55.03 231 LR LR 09 38 26.8
comp=Z,427nm,19.4s,baz=39,slow=29
PPT2 Papeete2 55.05 231 *e*S **S 09 29 19.3 +5.7**
comp=Z,365nm,26.5s
PPT2 *e*SS **SS 09 32 56.7 -1.1**
comp=Z,115nm,24.5s
PPT2 *e*LR LR 09 37 08.0
comp=Z,2µm,26.5s
PPT2 *e*LR LR 09 37 15.5
comp=Z,884nm,25.0s
G23K Bananza Creek 55.05 341 P **P 09 21 31.7 +0.8**
baz=129
MDP Montagnes des 55.12 97 LR LR 09 47 34.7
comp=Z,99nm,20.1s,baz=306,slow=39
H21K Melozitna Rive 55.32 339 P **P 09 21 32.3 -0.5**
H21K IAmb IAmb 09 21 44.4
comp=Z,12nm,0.9s
H21K Melozitna Rive 55.32 339 P **P 09 21 32.5 -0.2**
baz=125,SNR=6.4
J19K Poorman 55.42 336 P **P 09 21 33.1 -0.4**
baz=121
I20K Naaghedeneel 55.42 338 P **P 09 21 34.3 +0.8**
baz=123
COLD Coldfoot 55.43 341 P **P 09 21 34.2 +0.7**
baz=129
E24K Your Creek 55.47 343 P **P 09 21 35.4 +1.5**
baz=131
J18K Innoko River 55.57 336 P **P 09 21 36.2 +1.5**
baz=120
G22K Bettles 55.64 341 P **P 09 21 35.5 +0.5**
baz=127
D25K Kavik River 55.75 344 P **P 09 21 36.6 +0.7**
baz=134
E23K Chandalar 55.78 342 P **P 09 21 37.6 +1.5**
baz=130,SNR=6.5
LVC Limon Verde 55.87 136 LR LR 09 40 20.5
comp=Z,256nm,20.3s,baz=302,slow=30
L16K Owhat River 55.89 333 P **P 09 21 37.9 +1.0**
baz=116
H20K Anotleneega Mo 55.95 338 P **P 09 21 38.5 +1.2**
baz=123
G21K Allakaket 56.05 340 P **P 09 21 39.5 +1.5**
baz=125
TOLK Toolik Lake Re 56.15 343 P **P 09 21 39.2 +0.5**
TOLK Toolik Lake Re 56.15 343 P **P 09 21 39.6 +0.9**
baz=130
F22K John River 56.21 341 P **P 09 21 41.1 +1.9**
baz=127
RES Resolute Bay 56.21 4 P **P 09 21 39.4 +0.4**
RES IAmb IAmb 09 22 01.1
comp=Z,12nm,1.3s
RES Resolute Bay 56.21 4 LR LR 09 45 11.4
comp=Z,688nm,20.2s,baz=185,slow=35
D24K Happy Valley 56.28 343 P **P 09 21 41.4 +1.9**
baz=131
F21K Alatna River 56.45 340 P **P 09 21 41.6 +0.8**
baz=125
H19K Roundabout Mou 56.52 338 P **P 09 21 42.5 +1.2**
baz=121
D23K Nanushuk River 56.67 343 P **P 09 21 43.0 +0.7**
baz=129
G19K Purcell Mounta 57.06 338 P **P 09 21 45.1 -0.1**
baz=121
C23K Itkillik River 57.20 344 P **P 09 21 45.1 -1.0**
baz=130
E21K Killik River 57.30 341 P **P 09 21 46.9 -0.1**
baz=126
SIV San Ignacio 57.32 124 LR LR 09 43 28.7
comp=Z,444nm,19.6s,baz=314,slow=33
H17K Granite Mounta 57.51 336 P **P 09 21 48.3 0.0**
baz=117
F19K Shaleruckik Mo 57.65 339 P **P 09 21 49.2 -0.1**
baz=121
E19K Redstone River 57.79 340 P **P 09 21 50.9 +0.6**
baz=122

E20K	Nigu River	57.88	341	P	P	09 21 50.9	-0.1
	baz=123						
C21K	Knifeblade Rid	57.96	342	P	P	09 21 51.7	+0.2
	baz=125						
J14K	Nanvaranak Lak	58.06	333	P	P	09 21 53.0	+0.8
	baz=112						
D20K	Etivluk River	58.26	341	P	P	09 21 54.2	+0.6
	baz=123						
D19K	Kuna River	58.62	340	P	P	09 21 57.8	+1.6
	baz=121						
TBI	Tubuai	58.70	226	eS	S	09 30 14.6	+13
	comp=Z,1μm,42.0s						
TBI				eLR	LR	09 38 49.0	
	comp=Z,18μm,25.0s						
TBI				eLR	LR	09 38 57.9	
	comp=Z,4μm,25.8s						
H03N2	Juan Fernandez	58.75	152	T	T	10 25 43.8	
	baz=330,slow=78,SNR=378						
H03N1	Juan Fernandez	58.76	152	T	T	10 25 45.1	
	baz=330,slow=78,SNR=327						
H03N3	Juan Fernandez	58.77	152	T	T	10 25 45.8	
	baz=330,slow=78,SNR=116						
C19K	Lookout Ridge	59.39	341	P	P	09 22 00.9	-0.6
	baz=120						
CFA	Coronel Fontan	62.76	143	LR	LR	09 44 35.6	
	comp=Z,397nm,19.9s,baz=309,slow=31						
BO01	Tunca	63.31	147	P	P	09 22 30.6	+2.2
LMEL	Las Melosas	63.35	146	P	P	09 22 29.1	+0.2
BO02	Sierra Bellavi	63.78	147	P	P	09 22 31.7	+0.1
ICESG	Greenland Ices	64.59	22	iP	P	09 22 33.4	-3.4
ICESG				IAmb	IAmb	09 22 41.4	
	comp=Z,7.9nm,0.8s						
NEEM	North Greenlan	64.59	12	iP	P	09 22 35.0	-1.7
NEEM				IAML		09 22 40.2	
	comp=Z,7.8nm,1.0s						
NEEM				IAmb	IAmb	09 22 40.2	
	comp=Z,7.8nm,1.0s						
RAR	Rarotonga	64.92	235	LR	LR	09 43 35.0	
	comp=Z,502nm,19.2s,baz=9.5,slow=29						
SUMG	Summit	65.83	18	iP	P	09 22 40.5	-4.3
SUMG				IAmb	IAmb	09 22 56.0	
	comp=Z,3.8nm,1.1s						
CPUP	Villa Florida	66.26	131	P	P	09 22 47.0	-0.9
	comp=Z,3.3nm,1.0s,baz=306,slow=8.6,SNR=3.2						
CPUP				LR	LR	09 50 04.8	
	comp=Z,234nm,20.6s,baz=327,slow=34						
	comp=Z,3.3nm,1.0s						
BDFB	Brasilia	67.83	116	P	P	09 22 58.0	-0.1
	comp=Z,1.2nm,0.7s,baz=301,slow=11,SNR=1.7						
	comp=Z,1.2nm,0.7s						
SHEM	Shemya Is, Ala	68.22	320	LR	LR	09 45 32.2	
	comp=Z,240nm,21.9s,baz=206,slow=30						
PLCA	Paso Flores	68.54	151	P	P	09 23 01.0	-1.1
	comp=Z,4.6nm,1.1s,baz=303,slow=11,SNR=4.2						
PLCA				LR	LR	09 46 38.3	
	comp=Z,748nm,19.7s,baz=328,slow=30						
	comp=Z,4.6nm,1.1s						
AFI	Afiamalu	71.26	248	LR	LR	09 46 23.6	
	comp=Z,321nm,20.0s,baz=60,slow=29						
BORG	Borgarnes	71.43	27	LR	LR	09 54 35.4	
	comp=Z,266nm,18.4s,baz=281,slow=36						
DAG	Danmarks Havn	71.45	14	iP	P	09 23 18.0	-1.3
DAG				IAmb	IAmb	09 23 19.6	
	comp=Z,4.0nm,1.5s						
NOR	Nord	71.53	9	iP	P	09 23 20.8	+1.0
NOR				IAmb	IAmb	09 23 56.7	
	comp=Z,2.0nm,1.0s						
RCBR	Riachuelo	74.60	102	LR	LR	09 57 30.7	
	comp=Z,79nm,20.2s,baz=292,slow=37						
SEY	Seymchan	77.87	333	LR	LR	09 56 18.1	
	comp=Z,154nm,21.0s,baz=78,slow=34						
PETK	Petropavlovsk-	77.95	322	LR	LR	09 51 05.1	
	comp=Z,196nm,22.0s,baz=79,slow=30						
SPITS	Spitsbergen Ar	78.07	10	LR	LR	09 58 11.7	
	comp=Z,645nm,20.1s,baz=282,slow=36						
MA2	Magadan	79.69	330	LR	LR	09 57 16.3	
	comp=Z,86nm,20.2s,baz=68,slow=34						
PMOZ	Porto Moniz, M	80.19	59	eLR	LR	09 50 25.5	
	comp=Z,89nm,18.0s						
MSVF	Nonsavu	81.75	248	LR	LR	09 52 25.5	
	comp=Z,382nm,18.8s,baz=76,slow=30						
RAO	Raoul Island	83.11	236	LR	LR	09 51 42.8	
	comp=Z,241nm,20.7s,baz=118,slow=29						
PGAV	Gavieira, Arco	84.14	48	eS	S	09 35 02.0	+6.6
PGAV	Gavieira, Arco	84.14	48	eLR	LR	09 52 16.0	
	comp=Z,214nm,20.0s						
PMAFR	Mafra	84.44	51	eS	S	09 35 04.6	+6.4
PCAS	Casmilo, Conde	84.64	50	eS	S	09 35 05.9	+5.7
PVRL	Vila Real	84.77	48	eP	P	09 24 33.2	-0.8
	comp=Z,15nm,1.6s						
PVIS	Viseu	84.84	49	eP	P	09 24 36.2	+1.9
PMTG	Montargil	85.17	50	eP	P	09 24 36.6	+0.6
	comp=Z,21nm,1.6s						
PMTG	Montargil	85.17	50	eS	S	09 35 11.4	+5.9
MTE	Manteigas	85.20	49	eP	P	09 24 36.4	+0.2
	comp=Z,19nm,1.5s						
MTE	Manteigas	85.20	49	eLR	LR	09 52 25.7	
	comp=Z,126nm,18.0s						
PBRG	Braganca	85.27	47	eP	P	09 24 37.3	+0.8
PNCL	Nicolau / Gran	85.28	51	eS	S	09 35 10.6	+4.0
MVO	Moncorvo	85.30	48	eP	P	09 24 36.4	-0.2
MVO	Moncorvo	85.30	48	eS	S	09 35 12.8	+6.0
MVO	Moncorvo	85.30	48	eLR	LR	09 52 43.7	
	comp=Z,188nm,18.0s						
PTEO	Sao Teotonio	85.33	52	eP	P	09 24 39.0	+2.2
PMRV	Marv??o	85.65	50	eP	P	09 24 38.6	+0.2
	comp=Z,17nm,2.1s						
PMRV	Marv??o	85.65	50	eLR	LR	09 53 28.3	
	comp=Z,213nm,16.0s						
ARCES	ARCESS Array B	85.71	15	P	P	09 24 35.5	-2.6
	comp=Z,2.2nm,0.8s,baz=335,slow=5.4,SNR=5.6						
	comp=Z,2.2nm,0.8s						
PVAQ	Vaqueiros	86.13	52	eLR	LR	09 53 27.0	
	comp=Z,137nm,20.0s						
PMSA	Palmer Station	89.79	163	LR	LR	09 57 26.1	
	comp=Z,45nm,21.4s,baz=288,slow=30						
ASAJ	Asahikawa	90.52	317	LR	LR	10 00 51.2	
	comp=Z,85nm,19.1s,baz=89,slow=32						
URZ	Urewera	90.65	230	LR	LR	09 56 00.9	
	comp=Z,389nm,21.6s,baz=209,slow=29						
NRIK	Noril'sk	91.33	355	LR	LR	10 08 37.7	
	comp=Z,246nm,18.6s,baz=352,slow=37						
DZM	Mont Dzumac	93.48	248	eLR	LR	09 55 09.2	
	comp=Z,1μm,27.1s						
DZM	Mont Dzumac	93.48	248	LR	LR	09 57 16.5	
	comp=Z,365nm,22.0s,baz=58,slow=29						
DAVOX	Davos/Dischmat	93.70	38	LR	LR	10 05 55.3	
	comp=Z,307nm,20.7s,baz=265,slow=34						
KLR	Kul'dur	94.27	326	LR	LR	10 01 37.4	
	comp=Z,122nm,21.5s,baz=44,slow=32						
GERES	GERESS Array B	94.68	35	LR	LR	10 06 44.7	
	comp=Z,113nm,18.2s,baz=296,slow=35						
HNR	Honiara	95.44	262	LR	LR	09 58 51.4	
	comp=Z,3μm,21.6s,baz=84,slow=30						
VRAC	Vranov	95.93	33	LR	LR	10 07 34.0	
	comp=Z,129nm,20.4s,baz=308,slow=35						
RPZ	Rata Peaks	96.92	226	LR	LR	10 02 35.4	
	comp=Z,195nm,18.3s,baz=84,slow=31						
USRK	Ussuriysk Ar.	97.03	321	LR	LR	10 03 19.4	
	comp=Z,84nm,21.4s,baz=52,slow=32						
MJAR	Matsushiro Arr	97.08	312	LR	LR	10 00 36.4	
	comp=Z,136nm,20.9s,baz=59,slow=30						
JHJ	Hachijo jima 2	97.60	309	LR	LR	10 04 28.7	
	comp=Z,185nm,19.3s,baz=20,slow=32						
JCJ	Chichijima	98.49	302	LR	LR	10 09 22.1	
	comp=Z,55nm,18.1s,baz=114,slow=35						
KEST	Kesra	99.20	47	LR	LR	10 11 06.0	
	comp=Z,86nm,19.1s,baz=314,slow=36						
HHC	Hu-ho-hao-te	110.37	329	eP	PKiKP	09 30 26.7	-5.3
HHC				LR	LR		
	comp=N,400nm,21.3s						
HHC				LR	LR		
	comp=E,280nm,22.4s						
HHC				LR	LR		
	comp=Z,390nm,23.0s						
BTO	Baotou	111.29	330	ePKP	PKiKP	09 30 30.6	-3.2
BTO				sPKP		09 30 44.6	
BTO				PP	PP	09 31 21.1	+8.4
BTO				SKS	SKSdf	09 37 28.6	-17
WMQ	Urumqi	116.05	348	eP	PKPdf	09 30 43.6	+0.9
WMQ				LR	LR		
	comp=N,150nm,16.9s						
WMQ				LR	LR		
	comp=E,280nm,19.3s						
WMQ				LR	LR		
	comp=Z,190nm,22.1s						
LZH	Lanzhou	117.79	332	ePKP	PKPdf	09 30 39.6	-6.8
LZH				sPKP		09 30 55.4	
LZH				LR	LR		
	comp=N,200nm,17.5s						
LZH				LR	LR		
	comp=E,190nm,17.2s						
LZH				LR	LR		
	comp=Z,270nm,18.9s						
KSH	Kashi	121.79	357	PKP	PKiKP	09 31 01.3	+7.2
WRA	Warramunga Arr	122.02	258	PKP	PKPdf	09 30 52.2	-2.5
	comp=Z,1.3nm,0.6s,baz=80,slow=2.5,SNR=19						
CD2	Chengdu	122.09	328	PKP	PKPdf	09 30 54.0	-0.7
ASAR	Alice Springs	123.00	254	PKP	PKPdf	09 30 53.9	-2.6
	comp=Z,0.8nm,0.6s,baz=76,slow=2.1,SNR=9.4						
PZH	PanZhiHua	126.69	327	PKP	PKPdf	09 31 01.3	-2.4

BER ***08*** *09:14:33.6±1.0, 84°.53N×6°.21E, h10km, mb(Pn)3.7, Confirmed Earthquake*
IEPN ***08*** *09:14:33.0, 84°.61N×7°.72E, h10km*
ISC 08 09:14:32.6±2.6, 84°.4N±0°.1×7°.9E±0°.1, h10km, n14, σ19°42/20, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	Nord	4.04	240	eP	Pn	09 15 33.4	-0.9
KBS	Kingsbay	5.49	172	eP	Pn	09 15 54.8	+0.6
KBS				eS	Sn	09 16 56.4	-0.9
KBS	Kingsbay	5.49	172	eP	Pn	09 15 55.0	+0.8
KBS				eS	Sn	09 16 56.7	-0.6
KBS				IAML		09 16 57.1	
	comp=Z,5.5nm,0.6s						
ZFI2	Zemlya Franca-	6.08	104	eP	Pn	09 16 03.3	+1.0
ZFI2				eS	Sn	09 17 08.5	-3.3
	comp=Z,22nm,1.2s						
OMEGA	Omega	6.11	104	eP	Pn	09 16 03.6	+0.9
OMEGA				eS	Sn	09 17 09.8	-2.6
	comp=Z,21nm,1.8s						
SPA0	Spitsbergen Ar	6.33	164	eP	Pn	09 16 07.2	+1.4
SPA0				S	Sn	09 17 17.3	-0.7
SPA0	Spitsbergen Ar	6.33	164	eP	Pn	09 16 07.2	+1.4
SPA0				IAML		09 17 25.9	
	comp=Z,3.3nm,0.7s						
BRBB	Barentsburg B	6.37	168	eP	Pn	09 16 07.1	+0.9
BRBB				eS	Sn	09 17 17.6	-1.2
BRBA	Barentsburg A	6.40	168	eP	Pn	09 16 08.0	+1.3
HSPB	Hornsund (broa	7.49	167	eP	Pn	09 16 23.3	+1.8
HSPB				eS	Sn	09 17 46.6	+0.2
HSPB	Hornsund (broa	7.49	167	eP	Pn	09 16 23.0	+1.5
HSPB				eS	Sn	09 17 42.5	-3.9
HSPB				IAML		09 17 54.9	
	comp=Z,1.8nm,0.7s						
HOPEN	Hopen	8.31	151	eP	Pn	09 16 33.9	+1.0
HOPEN				S	Sn	09 18 02.5	-4.1
HOPEN	Hopen	8.31	151	eP	Pn	09 16 33.7	+0.8
DAG	Danmarks Havn	8.60	223	eP	Pn	09 16 34.3	-2.6

OMAN ***08*** *09:23:43.4±7.5, 10°.66N×58°.79E, h10km, mb4.0/15, ms3.1/4, Error ellipse: s-maj=81.7km s-min=23.3km az=162.0*
IDC ***08*** *09:24:00.9±0.9, 11°.94N×58°.15E, h0km, mb3.9/12, mbtmp3.9/13, ML4.0/1, MS3.4/11, Error ellipse: s-maj=23.2km s-min=20.4km az=135.0*
NEIC ***08*** *09:24:02.6±1.2, 11°.9N±0°.1×58°.3E±0°.2, h10km±2km, mb4.2/11, Error ellipse: s-maj=39.4km s-min=19.5km az=115.0*
ISC 08 09:24:02.0±0.8, 11°.9N±0°.1×58°.2E±0°.1, h10km, n59, σ0°91/49, mb4.1/16, MS3.3/10, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAO	Shalim	6.57	338	P	Pn	09 25 39.9	+1.1
	SNR=9.7						
DMTO	DMTO	6.58	332	P	Pn	09 25 38.5	-0.4
	SNR=6.6						
ABTO	Aybut	7.21	319	P	Pn	09 25 46.6	-1.0
	SNR=10						
WHFO	Wadi Hawf	7.36	325	P	Pn	09 25 50.4	+0.8
	SNR=16						
DOK	Doka	7.74	330	P	Pn	09 25 56.1	+1.2
	SNR=14						
MHTO	MHTO	9.02	358	P	Pn	09 26 10.7	-1.7
	SNR=17						
JLN	Jalan Bani Buh	10.24	6	P	Pn	09 26 27.9	-1.2
	SNR=7.2						
JMDO	Jabal Madar	10.40	359	P	Pn	09 26 30.5	-0.8
	SNR=20						
JMDO				P	Pn	09 26 30.5	-0.8
	SNR=20						
WBK	Wadi Bani Khal	10.66	4	P	Pn	09 26 34.5	-0.4
	SNR=5.9						
WBK				P	Pn	09 26 34.5	-0.4
	SNR=5.9						
BSY	Bisya	10.81	355	P	Pn	09 26 37.1	+0.1
SMDO	Samad	11.08	359	P	Pn	09 26 40.6	-0.2
	SNR=8.6						
SMDO				P	Pn	09 26 40.6	-0.2
	SNR=8.6						
WSAR	Wadi Sarin	11.27	2	P	Pn	09 26 42.6	-0.6
	SNR=11						
WSAR	Wadi Sarin	11.27	2	Pn	Pn	09 26 42.2	-1.0
	1.0nm,0.3s,baz=188,slow=15,SNR=12						
WSAR				LR	LR	09 30 24.1	
	comp=Z,215nm,19.4s,baz=218,slow=34						
	3.9nm,0.4s						
ARQ	Araqi	11.47	352	P	Pn	09 26 46.8	+0.8
BIDO	Bidbid	11.54	360	P	Pn	09 26 45.6	-1.4
HOQ	Hoqain	11.63	356	P	Pn	09 26 46.2	-2.1
SOHO	SOHO	12.26	353	P	Pn	09 26 56.3	-0.4
ASHO	Ashiyiah	12.86	351	P	Pn	09 27 04.4	-0.7
UOSS	Minazif	13.10	352	Pn	Pn	09 27 07.0	-1.3
UOSS	Minazif	13.10	352	P	Pn	09 27 07.5	-0.8
LODK	Lodwar	24.16	251	P	P	09 29 19.0	+0.3
LODK				IAmb	IAmb	09 29 29.7	
	comp=Z,7.3nm,0.9s						
KMBO	Kilima Mbogo	24.53	240	P	P	09 29 22.3	0.0
KMBO				IAmb	IAmb	09 29 36.9	
	comp=Z,5.6nm,1.3s						
KMBO	Kilima Mbogo	24.53	240	P	P	09 29 23.0	+0.6
	comp=Z,2.8nm,0.6s,baz=53,slow=13,SNR=9.7						
	comp=Z,2.8nm,0.6s						
GEYT	Alibeck	25.90	360	P	P	09 29 34.9	+0.6
GEYT				IAmb	IAmb	09 29 41.8	
	comp=Z,8.2nm,1.3s						
GEYT	Alibeck	25.90	360	P	P	09 29 36.1	+1.8
	comp=Z,1.0nm,0.3s,baz=175,slow=12,SNR=5.7						
	comp=Z,1.0nm,0.3s						
GYA0B	ALIBECK ARRAY	25.90	360	P	P	09 29 34.3	0.0
GYA0B				IAmb	IAmb	09 29 41.7	
	comp=Z,5.2nm,0.9s						
EIL	Elat	27.93	313	LR	LR	09 39 34.8	
	comp=Z,56nm,18.5s,baz=235,slow=34						
MMAI	Mount Meron Ar	29.63	319	LR	LR	09 41 35.1	
	comp=Z,29nm,20.6s,baz=134,slow=36						
MBAR	Mbarara	29.99	247	LR	LR	09 41 28.8	
	comp=Z,59nm,18.4s,baz=10,slow=35						
BTK	Batken	30.16	19	P	P	09 30 13.3	+0.9
BTK				IAmb	IAmb	09 30 15.2	
	comp=Z,10nm,1.4s						
GNI	Garni	30.54	339	LR	LR	09 43 06.7	
	comp=Z,34nm,19.1s,baz=162,slow=38						
KKAR	Karatay Array	32.85	17	P	P	09 30 35.9	-0.1
BRTR	Keskin Array B	35.21	326	P	P	09 30 56.3	-0.5
	comp=Z,0.9nm,0.8s,baz=168,slow=7.4,SNR=2.2						
	comp=Z,0.9nm,0.8s						
ABKAR	Akbulak array	37.25	2	P	P	09 31 14.3	+0.5
ABKAR	Akbulak array	37.25	2	P	P	09 31 14.1	+0.3
ABKAR				IAmb	IAmb	09 31 19.1	
	comp=Z,2.9nm,1.1s						
CMAR	Chiang Mai Arr	39.77	75	LR	LR	09 48 47.8	
	comp=Z,12nm,18.5s,baz=190,slow=37						
MK31	Makanchi Array	40.27	26	P	P	09 31 39.3	0.0
MKAR	Makanchi Array	40.27	26	P	P	09 31 39.9	+0.7
MKAR	Makanchi Array	40.27	26	P	P	09 31 40.3	+1.1
	comp=Z,0.8nm,0.6s,baz=213,slow=10.0,SNR=6.1						
	comp=Z,0.8nm,0.6s						
KURBB	Kurchatov Arra	42.03	19	P	P	09 31 54.1	+0.5
	comp=Z,1.2nm,0.5s,baz=216,slow=8.3,SNR=6.5						
	comp=Z,1.2nm,0.5s						
ZAA0	Zalesovo Array	46.94	21	P	P	09 32 32.2	-0.6
ZALV	Zalesovo Beam	46.94	21	P	P	09 32 32.5	-0.4
ZALV	Zalesovo Beam	46.94	21	P	P	09 32 32.7	-0.1
	comp=Z,5.4nm,0.6s,baz=223,slow=7.2,SNR=16						
	comp=Z,5.4nm,0.6s						
LBTB	Lobatse	48.58	221	P	P	09 32 44.8	-1.2
TSUM	Tsumeb	50.59	233	LR	LR	09 56 03.6	
	comp=Z,34nm,18.6s,baz=150,slow=38						
BOSA	Boshof	51.37	218	LR	LR	09 51 43.2	
	comp=Z,37nm,21.3s,baz=22,slow=32						
SONM	Songino Array	53.75	39	P	P	09 33 24.7	0.0
SONM				IAmb	IAmb	09 33 41.9	
	comp=Z,2.9nm,0.7s						
FINES	FINESS Array B	54.68	342	P	P	09 33 31.9	+0.9
	comp=Z,3.6nm,1.0s,baz=121,slow=9.9,SNR=2.0						
	comp=Z,3.6nm,1.0s						
TORD	Torodi Ar. Bea	55.09	278	P	P	09 33 34.7	-0.1
	comp=Z,0.5nm,0.8s,baz=75,slow=10,SNR=3.5						
	comp=Z,0.5nm,0.8s						
NOA	NORSAR Array B	59.73	336	LR	LR	10 03 03.5	
	comp=Z,53nm,18.6s,baz=290,slow=39						
ESDC	Sonseca Array	61.12	309	P	P	09 34 14.8	-2.0
	comp=Z,0.3nm,0.7s,baz=87,slow=5.7,SNR=2.7						
	comp=Z,0.3nm,0.7s						
KSRS	Korea Array	66.77	54	P	P	09 34 53.6	-0.3
	comp=Z,0.9nm,0.7s,baz=267,slow=7.3,SNR=6.1						
	comp=Z,0.9nm,0.7s						
JNU	Nakatsue	69.12	59	LR	LR	10 04 05.4	
	comp=Z,144nm,21.5s,baz=61,slow=35						
H01W3	Cape Leeuwin H	70.48	134	T	T	10 52 44.8	
	baz=301,slow=75,SNR=19						
H01W2	Cape Leeuwin H	70.49	134	T	T	10 52 45.2	
	baz=301,slow=75,SNR=27						
H01W1	Cape Leeuwin H	70.50	134	T	T	10 52 46.1	
	baz=301,slow=75,SNR=24						
WRA	Warramunga Arr	81.30	112	P	P	09 36 20.2	+0.9
	comp=Z,0.3nm,0.7s,baz=294,slow=4.4,SNR=5.1						
	comp=Z,0.3nm,0.7s						
ASAR	Alice Springs	81.95	116	P	P	09 36 23.9	+1.2
	comp=Z,0.4nm,0.8s,baz=284,slow=5.2,SNR=5.1						
	comp=Z,0.4nm,0.8s						
SNAA	Sanae	92.57	196	LR	LR	10 09 42.4	
	comp=Z,76nm,20.1s,baz=283,slow=30						

NEIC ***08*** *10:04:02.9±1.3, 55°.3S±0°.2×148°.2W±0°.2, h10km±1km, mb5.0/13, Error ellipse: s-maj=31.2km s-min=20.7km az=15.0*
IDC ***08*** *10:04:09.8±0.7, 55°.54S×144°.58W, h0km, mb4.2/7, mbtmp4.2/7, MS3.9/26, Error ellipse: s-maj=30.9km s-min=22.5km az=18.0*
ISC 08 10:04:03.0±0.7, 55°.4S±0°.1×148°.1W±0°.1, h10km, n67, σ2°62/20, mb4.7/13, MS3.9/28, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTZ	Chatham Island	21.74	291	P	P	10 08 52.7	-1.5
CTZ				IAmb	IAmb	10 08 56.7	
	comp=Z,109nm,1.5s						
SBA	Scott Base	27.36	199	P	P	10 09 48.2	+0.5
MQZ	McQueen's Vall	27.67	279	P	P	10 09 48.7	-2.1
MQZ				IAmb	IAmb	10 09 59.1	
	comp=Z,40nm,1.3s						
VNDA	Vanda	28.17	201	P	P	10 09 53.3	-1.6
RPZ	Rata Peaks	28.57	277	LR	LR	10 20 27.2	
	comp=Z,129nm,18.5s,baz=125,slow=32						
URZ	Urewera	28.96	292	LR	LR	10 19 56.2	
	comp=Z,150nm,19.8s,baz=357,slow=31						
TBI	Tubuai	32.06	358	eLR	LR	10 18 48.2	
	comp=Z,4μm,24.8s						
TBI				eLR	LR	10 18 58.3	
	comp=Z,1μm,27.5s						
TBI	Tubuai	32.06	358	eT	T	10 44 49.0	
	comp=Z,66nm,0.3s						
QSPA	South Pole Qui	34.72	180	P	P	10 10 53.8	+1.0
QSPA				IAmb	IAmb	10 11 35.1	
	comp=Z,26nm,1.6s						
QSPA	South Pole Qui	34.72	180	P	P	10 11 00.6	+7.8
	comp=Z,3.1nm,0.9s,baz=46,slow=1.8,SNR=12						
QSPA				LR	LR	10 22 45.6	
	comp=Z,164nm,19.2s,baz=66,slow=32						
	comp=Z,3.1nm,0.9s						
RAR	Rarotonga	35.29	341	LR	LR	10 21 49.1	
	comp=Z,193nm,18.8s,baz=164,slow=29						
TVO	Taravao	37.60	358	eT	T	10 51 41.7	
	comp=Z,7.9nm,0.3s						
PAE	Paea	37.72	358	eT	T	10 51 47.7	
	comp=Z,4.4nm,0.3s						
PPT2	Papeete2	37.80	358	eLR	LR	10 21 34.4	
	comp=Z,244nm,24.5s						
PPT2				eLR	LR	10 21 43.1	
	comp=Z,222nm,26.0s						
PPT2	Papeete2	37.80	358	eT	T	10 51 47.8	
	comp=Z,4.5nm,0.3s						
PPT	Papeete	37.82	358	LR	LR	10 22 55.2	
	comp=Z,163nm,18.5s,baz=176,slow=30						
RPN	Rapa Nui	39.74	61	LR	LR	10 23 31.9	
	comp=Z,132nm,19.4s,baz=265,slow=30						
PMSA	Palmer Station	39.83	138	LR	LR	10 25 00.2	
	comp=Z,115nm,19.4s,baz=284,slow=32						
PMOR	Pomariorio Ree	40.35	0	eT	T	10 54 58.3	
	comp=Z,3.8nm,0.3s						
BELA	Belgrano 2	40.95	163	P	P	10 11 45.4	+0.3
AFI	Afiamalu	45.34	327	LR	LR	10 27 27.4	
	comp=Z,76nm,19.5s,baz=178,slow=30						
MSVF	Nonsavu	45.61	312	LR	LR	10 28 02.0	
	comp=Z,120nm,21.9s,baz=152,slow=30						
DZM	Mont Dzumac	47.35	296	eLR	LR	10 27 18.1	
	comp=Z,123nm,24.1s						
DZM	Mont Dzumac	47.35	296	LR	LR	10 31 08.0	
	comp=Z,79nm,18.3s,baz=224,slow=33						
LL02	Futaleuf	48.71	109	P	P	10 12 48.3	+1.0
LL02				IAmb	IAmb	10 13 48.8	
	comp=Z,30nm,1.6s						
SNAA	Sanae	50.84	167	P	P	10 13 04.4	+1.2
SNAA	Sanae	50.84	167	P	P	10 13 06.2	+3.0
	comp=Z,1.0nm,0.6s,baz=219,slow=9.3,SNR=6.7						
	comp=Z,1.0nm,0.6s						
H03S2	Juan Fernandez	51.35	95	T	T	11 06 17.0	
	baz=220						
H03S1	Juan Fernandez	51.36	95	T	T	11 06 15.3	
	baz=220						
H03S3	Juan Fernandez	51.37	95	T	T	11 06 18.9	
	baz=220						
H03N3	Juan Fernandez	51.63	95	T	T	11 06 33.1	
	baz=224,slow=72						
H03N2	Juan Fernandez	51.64	95	T	T	11 06 32.0	
	baz=224,slow=72						
H03N1	Juan Fernandez	51.65	95	T	T	11 06 35.0	
	baz=224,slow=72						
STKA	Stephens Creek	53.50	265	P	P	10 13 46.9	+23
	comp=Z,5.2nm,1.1s,baz=162,slow=6.4,SNR=3.9						
STKA				LR	LR	10 34 02.

BDFB	Brasilia	82.85	107	P	P	10 16 26.5	-1.3
BDFB	Brasilia	82.85	107	LR	LR	10 48 20.8	
	comp=Z,58nm,19.2s,baz=347,slow=33						
ROSC	El Rosal	84.82	74	LR	LR	10 46 26.6	
	comp=Z,51nm,18.8s,baz=184,slow=31						
KAPI	Kappang	87.16	265	LR	LR	10 55 01.0	
	comp=Z,97nm,19.6s,baz=232,slow=34						
SDV	Santo Domingo	90.19	75	LR	LR	10 51 37.1	
	comp=Z,30nm,18.1s,baz=263,slow=32						
SUR	Sutherland	92.02	171	LR	LR	10 55 21.9	
	comp=Z,82nm,18.6s,baz=20,slow=34						
LEM	Lembang	92.47	254	LR	LR	10 53 48.5	
	comp=Z,50nm,21.8s,baz=172,slow=32						
TXAR	Lajitas Array	92.57	38	P	P	10 17 17.5	+3.2
	comp=Z,0.4nm,1.0s,baz=201,slow=9.7,SNR=3.2						
	comp=Z,0.4nm,1.0s						
PCRV	Puerto La Cruz	94.58	79	LR	LR	10 53 43.2	
	comp=Z,65nm,19.2s,slow=32						
BOSA	Boshof	96.09	174	LR	LR	10 55 31.4	
	comp=Z,53nm,20.0s,baz=188,slow=32						
MDP	Montagnes des	97.24	92	LR	LR	10 55 56.5	
	comp=Z,58nm,18.5s,baz=190,slow=33						
SJG	San Juan	100.22	73	LR	LR	10 58 29.4	
	comp=Z,25nm,19.3s,baz=239,slow=33						
ILAR	Eielson Array	119.88	1	PKP	PKiKP	10 22 59.3	+7.3
	comp=Z,0.2nm,0.8s,baz=189,slow=2.4,SNR=2.2						
MKAR	Makanchi Array	147.88	276	PKPbc	PKPab	10 24 01.1	+11
	comp=Z,6.2nm,1.0s,baz=116,slow=2.8,SNR=21						
AAK	Ala-Archa	149.82	263	PKPbc	PKPab	10 24 05.6	+7.5
	comp=Z,0.8nm,0.4s,baz=91,slow=5.1,SNR=2.2						
ZALV	Zalesovo Beam	150.01	289	PKPbc	PKPab	10 24 04.6	+6.3
	comp=Z,1.4nm,0.7s,baz=114,slow=3.6,SNR=4.4						
ESDC	Sonseca Array	151.49	108	PKPbc	PKPab	10 24 01.1	-3.9
	comp=Z,2.7nm,1.0s,baz=245,slow=2.7,SNR=13						
KURBB	Kurchatov Arra	152.00	280	PKPbc	PKPab	10 24 09.8	+3.1
	comp=Z,2.3nm,1.1s,baz=117,slow=2.4,SNR=7.1						
BVAR	Borovoye Array	157.59	280	PKPab	PKPab	10 24 47.5	+17
	comp=Z,1.5nm,0.8s,baz=106,slow=4.8,SNR=6.4						

*IDC **08** 10:16:14.3±5.2, 36.°41N×71.°21E, h180km±49km, mb3.4/5, mbtmp3.8/11, Error ellipse: s-maj=52.8km s-min=38.9km az=121.0*
*NNC **08** 10:16:25.5±5.0, 37.°35N×71.°27E, h283km±157km, mb2.2, mpv3.6, Error ellipse: s-maj=83.2km s-min=41.8km az=178.0*

ISC 08 10:16:26.4±2.2, 37.°3N±0.°2×71.°3E±0.°1, h250km, n22, σ1§24/26, mb3.4/5, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.21	20	P	Pn	10 17 44.2	-0.9
	SNR=97						
AML	Almayashu	5.21	20	⇓P	Pn	10 17 43.8	-1.3
	2.0nm,0.4s						
AML				S	S	10 18 48.0	+0.2
	8.5nm,0.7s						
UCH	Uchtor	5.56	26	P	Pn	10 17 48.6	-0.8
	SNR=77						
EKS2	Erkin-Say	5.73	19	P	Pn	10 17 51.3	+0.1
	SNR=21						
KK31	Karatay Array	5.86	355	⇑P	Pn	10 17 51.8	-0.9
	0.7nm,0.3s,baz=175,slow=12,SNR=16						
KK31				⇑S	S	10 19 01.5	-0.2
	8.6nm,0.6s,baz=170,slow=15,SNR=13						
AAK	Ala-Archa	5.92	24	P	Pn	10 17 53.2	-0.3
	SNR=13						
AAK	Ala-Archa	5.92	24	P	Pn	10 17 52.6	-1.0
	8.4nm,0.4s,baz=191,slow=12,SNR=21						
AAK				S	S	10 19 04.9	+1.6
	3.5nm,0.5s,baz=343,slow=23,SNR=3.9						
ULHL	Ulahol	6.29	36	P	Pn	10 17 57.6	-0.7
	SNR=6.1						
CHMS	Chumysh	6.32	24	⇓P	Pn	10 17 57.3	-1.2
	2.6nm,0.3s						
CHMS				⇑S	S	10 19 08.8	-3.5
	4.0nm,0.6s						
TKM2	Tokmak 2	6.56	29	P	Pn	10 18 01.1	-0.6
	SNR=26						
TKM2	Tokmak 2	6.56	29	⇓P	Pn	10 18 00.4	-1.2
	5.3nm,0.3s						
TKM2				⇑S	S	10 19 19.5	+1.6
	6.7nm,0.8s						
MKAR	Makanchi Array	12.56	37	P	Pn	10 19 15.3	-1.5
	0.9nm,0.7s,baz=220,slow=14,SNR=5.3						
KURBB	Kurchatov Arra	14.34	19	P	Pn	10 19 38.2	-0.2
	0.3nm,0.5s,baz=208,slow=11,SNR=4.0						
BVAR	Borovoye Array	15.77	358	P	Pn	10 19 56.9	+1.3
	0.5nm,0.4s,baz=171,slow=12,SNR=4.1						
AKTO	Aktyubinsk	16.23	328	P	Pn	10 20 00.2	-0.8
	2.2nm,0.5s,baz=137,slow=10,SNR=7.7						
ZALV	Zalesovo Beam	19.14	25	P	P	10 20 32.7	+1.7
	0.4nm,0.3s,baz=216,slow=12,SNR=2.6						
FINES	FINESS Array B	36.96	325	P	P	10 23 11.4	-0.1
	0.7nm,0.4s,baz=120,slow=11,SNR=9.2						
	0.7nm,0.4s						
ARCES	ARCESS Array B	40.52	337	P	P	10 23 41.5	+0.7
	0.8nm,0.5s,baz=106,slow=8.9,SNR=9.2						
	0.8nm,0.5s						
HFS	Hagfors	42.59	321	P	P	10 23 57.6	-0.2
	1.9nm,0.4s,baz=95,slow=11,SNR=12						
	1.9nm,0.4s						
NB2	NORSAR Subarra	43.89	323	P	P	10 24 07.5	-0.6
	comp=Z,0.7nm,0.5s,baz=96,slow=7.9						
NOA	NORSAR Array B	43.89	323	P	P	10 24 07.6	-0.6
	comp=Z,0.8nm,0.5s,baz=102,slow=7.1,SNR=5.9						
	comp=Z,0.8nm,0.5s						
TORD	Torodi Ar. Bea	65.94	268	P	P	10 26 40.4	-5.7
	comp=Z,0.3nm,0.4s,baz=44,slow=6.0,SNR=5.6						
	comp=Z,0.3nm,0.4s						

*IDC **08** 10:37:18.8±1.7, 0.°91N×127.°80E, h0km, mb3.4/5, mbtmp3.4/5, MS2.8/2, Error ellipse: s-maj=158.4km s-min=22.3km az=68.0*
*DJA **08** 10:37:19.0±0.5, 1.°N±4.°×12.°7E±.°, h10km, M3.2/6, MLv3.2/6*

ISC 08 10:37:20.4±1.4, 0.°9N±0.°1×127.°65E±0.°09, h10km, n10, σ0§44/9, mb3.6/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.30	253	P	Pg	10 37 26.0	-0.5
TNTI				S	Sg	10 37 30.9	+0.4
LBMI	Labuha	1.50	186	P	Pg	10 37 49.0	-0.2
SANI	Sanana	3.34	210	P	Pn	10 38 12.9	+0.2
SIJI	Sorong	4.00	115	LR	LR	10 40 12.6	
	comp=Z,50nm,19.1s,baz=5.5,slow=45						
WRA	Warramunga Arr	21.69	163	P	P	10 42 11.1	-0.6
	0.6nm,0.8s,baz=342,slow=11,SNR=5.8						
	0.6nm,0.8s						
ASAR	Alice Springs	25.12	166	P	P	10 42 46.1	+0.3
	0.8nm,0.9s,baz=343,slow=8.7,SNR=5.4						
	0.8nm,0.9s						
ASAJ	Asahikawa	45.08	15	LR	LR	11 01 57.8	
	comp=Z,34nm,21.9s,baz=154,slow=33						
MKAR	Makanchi Array	60.43	326	P	P	10 47 30.7	+0.5
	0.3nm,0.5s,baz=124,slow=9.9,SNR=2.4						
	0.3nm,0.5s						
ZALV	Zalesovo Beam	63.55	333	P	P	10 47 50.9	-0.2
	0.4nm,0.4s,baz=128,slow=6.1,SNR=1.8						
	0.4nm,0.4s						
KURBB	Kurchatov Arra	64.64	328	P	P	10 47 58.4	+0.1
	0.2nm,0.4s,baz=119,slow=5.8,SNR=2.3						
	0.2nm,0.4s						

*TRN **08** 10:44:34.1, 10.°83N×62.°32W, h18km, MD3.4*
*FUNV **08** 10:44:34.6, 10.°69N×62.°31W, h74km, MW3.5*

ISC 08 10:44:32.9±1.5, 10.°72N±0.°06×62.°39W±0.°05, h90km±15km, n17, σ1§48/29, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.83	267	eP	Pn	10 44 51.6	+1.0
CRUV				eS	Sn	10 45 04.0	0.0
TRN	Trinidad (W)	0.98	94	eP	Pn	10 44 52.6	+0.3
TRN				eS	Sn	10 45 04.9	-1.9
TPP	Pointe-a-Pierr	1.01	113	eP	Pn	10 44 54.1	+1.5
TPP				eS	Sn	10 45 06.8	-0.6
GRGR	Grenville	1.58	27	eP	Pn	10 44 59.7	0.0
GRGR				eS	Sn	10 45 19.1	-0.9
GRHS	Sauteurs	1.67	26	eP	Pn	10 45 00.7	0.0
GRHS				eS	Sn	10 45 20.2	-1.7
GRSS	Sisters	1.75	26	eS	Sn	10 45 23.3	-0.5
GCMP	Grenada, Carri	2.00	28	eP	Pn	10 45 05.5	+0.5
GCMP				eS	Sn	10 45 29.0	-0.6
PCRV	Puerto La Cruz	2.27	256	eP	Pn	10 45 10.8	+2.1
PCRV				eS	Sn	10 45 35.5	-0.5
SVB	Belmont	2.77	24	eP	Pn	10 45 16.7	+1.3
SVB				eS	Sn	10 45 48.1	0.0
MCLT	Moule a Chique	3.29	25	eP	Pn	10 45 23.1	+0.7
SLB	Belfond	3.36	23	eP	Pn	10 45 23.8	+0.4
SLBI	Saint Lucia, B	3.57	23	eP	Pn	10 45 28.5	+2.4
SLBI				eS	Sn	10 46 06.5	-0.7
TACV	Tcata	4.59	263	eP	Pn	10 45 41.6	+1.6
TACV				eS	Sn	10 46 30.3	-2.0
CACV	CAICARA DEL OR	5.15	233	eP	Pn	10 45 42.7	-4.9
CACV				eS	Sn	10 46 33.7	-12
BENV	Beln	5.18	262	eP	Pn	10 45 49.4	+1.4
BENV				eS	Sn	10 46 44.1	-2.4
TURV	Turiamo	5.36	268	eP	Pn	10 45 51.6	+1.2
TURV				eS	Sn	10 46 48.7	-2.1
BAUV	El Baul	5.84	253	eP	Pn	10 45 57.9	+1.0
BAUV				eS	Sn	10 46 59.7	-2.8

*VIE **08** 11:18:50.7±0.2, 45.°61N×14.°42E, h10km±2km, mb1.6/2, ml2.1/4, Error ellipse: s-maj=1.9km s-min=0.9km az=157.0*
29 km N of Rijeka

LJU 08 11:18:50.5, 45.°61N×14.°40E, h15km, ML1.8, 1C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	Knezji Dol	0.09	191	⇓iPg	Pg	11 18 53.7	0.0
KNDS				i Sg	Sg	11 18 55.8	+0.1
KNDS				IAML		11 18 56.1	
	comp=Z,75nm,0.1s						
CEY	Cerknica	0.13	7	⇓iPg	Pg	11 18 54.0	-0.1
CEY				i Sg	Sg	11 18 56.5	-0.1
CEY				IAML		11 18 57.1	
	comp=Z,56nm,0.1s						
SKDS	Skadanscina	0.28	257	⇑iPg	Pg	11 18 56.3	-0.1
SKDS				i Sg	Sg	11 19 01.0	+0.5
SKDS				IAML		11 19 01.3	
	comp=Z,116nm,0.1s						
RIY	Rijeka	0.29	169	i Pg	Pg	11 18 56.7	0.0
RIY				Sg	Sb	11 19 01.5	-0.6
GBRS	Gornja Briga	0.30	105	i Pg	Pg	11 18 57.0	+0.3
GBRS				i Sg	Sb	11 19 01.8	-0.5
GBRS				IAML		11 19 02.4	
	comp=Z,149nm,0.1s						
GBAS	Gorenja Brezov	0.33	5	i Pg	Pg	11 18 57.2	0.0
GBAS				i Sg	Sg	11 19 02.2	+0.3
VISS	Visnje	0.36	58	i Pg	Pg	11 18 58.0	+0.1
VISS				i Sg	Sg	11 19 03.3	+0.4
LJU	Ljubljana	0.44	11	i Pg	Pg	11 18 59.7	+0.3
TRI	Trieste	0.46	283	ePg	Pg	11 18 59.2	-0.4
TRI				eSg	Sg	11 19 06.3	+0.5
CRNS	Crni Vrh	0.48	348	i Sg	Sb	11 19 07.8	+0.2
CRNS				IAML		11 19 10.5	
	comp=Z,12nm,0.1s						
A253A	Karojba, Istri	0.52	233	ePg	Pg	11 19 00.2	-0.6
A253A				Sg	Sg	11 19 07.5	-0.2
VOJS	Vojsko	0.56	319	ePg	Pg	11 19 00.9	-0.6
VOJS				i Sg	Sb	11 19 09.9	0.0
VOJS				IAML		11 19 11.1	
	comp=Z,9.2nm,0.1s						
SMRN	Sveta Marina	0.60	197	ePg	Pb	11 19 02.8	+0.1
SMRN				Sg	Sb	11 19 11.9	+0.9
BOJS	Bojanci	0.61	100	i Pg	Pg	11 19 02.6	+0.2
PDKS	Podkum	0.61	43	i Pg	Pb	11 19 03.8	+0.8
SABO	M.te Sabotino	0.67	304	ePg	Pg	11 19 02.9	-0.7
SABO				eSg	Sg	11 19 12.6	+0.1
LEGS	Legarje	0.72	62	i Pg	Pb	11 19 04.8	-0.1
LEGS				i Sg	Sg	11 19 14.0	-0.1
CRES	Cresnjev	0.77	73	i Pg	Pg	11 19 05.4	-0.1
CRES				i Sg	Sg	11 19 15.7	+0.1
CADS	Cadrg	0.77	323	i Sg	Sb	11 19 17.1	+1.0
CADS				IAML		11 19 19.3	
	comp=Z,9.4nm,0.1s						
DRE	Drenchia	0.77	317	ePg	Pb	11 19 05.8	+0.1
DRE				eSg	Sb	11 19 16.2	+0.1
BRJN	Brijuni	0.84	213	ePg	Pb	11 19 06.9	+0.1
COLI	Coloredo	0.89	306	ePg	Pb	11 19 07.1	-0.6
GCIS	Gornji Cirnik	0.90	73	i Pg	Pg	11 19 08.0	+0.2
RABC	Rab	0.90	163	ePg	Pn	11 19 08.9	+0.3
OBKA	Obir	0.90	6	ePg	Pg	11 19 08.4	+0.3
	comp=Z,0.8nm,0.1s,SNR=12						
A254A	Petrova Gora	1.03	106	ePg	Pb	11 19 10.1	0.0
NVLJ	Novalja	1.10	162	ePg	Pg	11 19 11.8	+0.1
MYKA	Terra Mystica	1.15	333	Sg	Sn	11 19 29.2	+1.5
	comp=Z,6.1nm,0.3s,SNR=11						
SOKA	Soboth	1.15	22	ePg	Pg	11 19 12.6	-0.2
	comp=Z,0.3nm,0.2s						
VIRC	Vir	1.40	160	ePg	Pg	11 19 17.2	-0.2
UDBI	Udbina	1.45	138	ePg	Pg	11 19 18.2	-0.2
MOSL	Moslavina	1.65	89	ePn	Pb	11 19 21.1	+0.4
DUGI	Dugi Otok	1.69	164	ePg	Pb	11 19 20.6	-0.6
ABTA	Abfaltersbach	1.74	312	ePn	Pb	11 19 21.8	-0.4
	comp=Z,0.9nm,0.2s						
ABTA				Sn	Sg	11 19 45.4	-1.0
	comp=Z,2.1nm,0.2s,SNR=8.9						

*JMA **08** 11:25:44.2±0.3, 37.°4N±0.°8×14.°4E±.°, h48km, MV3.5/31, FAR E OFF FUKUSHIMA PREF*
*NIED **08** 11:25:44.2, 37.°40N×143.°78E, h48km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.57; $M_{\theta\theta}$=0.61; $M_{\phi\phi}$=1.96; $M_{r\theta}$=0.46; $M_{\theta\phi}$=0.30; $M_{\phi r}$=1.44; Fault plane solution: M_0=2.75000×10^{14} NP1: ϕ_s=195.00000°, δ=62.00000°, λ=-88.00000°. NP2: ϕ_s=10.00000°, δ=28.00000°, λ=-94.00000°.*
*IDC **08** 11:25:46.3±6.7, 36.°36N×143.°54E, h0km, mb3.4/2, mbtmp3.5/4, ML2.8/1, MS2.5/2 Error ellipse: s-maj=144.8km s-min=30.5km az=30.0*

ISC 08 11:25:43.0±1.5, 37.°43N±0.°05×143.°96E±0.°07, h43km±28km, n23, σ1§67/30, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	2.16	295	P	Pn	11 26 17.4	+0.9
JIO	Ouri	2.31	297	P	Pn	11 26 19.4	+1.0
JIO				S	Sn	11 26 45.3	-0.3
JKMT	Kesennumamotoy	2.40	306	eP	Pn	11 26 20.6	+0.9
JKMT				S	Sn	11 26 47.0	-0.8
JFK	Kawauchi	2.46	270	P	Pn	11 26 21.0	+0.4
JFK				S	Sn	11 26 47.3	-2.1
JMST	Minamisoumatoc	2.46	278	P	Pn	11 26 20.7	+0.2
JMST				S	Sn	11 26 48.5	-0.9
JMK	Ichinoseki	2.64	306	P	Pn	11 26 24.4	+1.4
JMK				S	Sn	11 26 53.9	0.0
JOTO	OTAMA OYAMA	2.89	274	P	Pn	11 26 28.2	+1.7
JOTO				eS	Sn	11 27 00.6	+0.7
JOM	Ohasama	2.92	315	P	Pn	11 26 28.5	+1.5
JOM				S	Sn	11 27 01.3	+0.4
JYK	Kaneyama	3.20	299	P	Pn	11 26 32.8	+2.0
JYK				eS	Sn	11 27 09.1	+1.4
JANG	Nango	3.51	328	eP	Pn	11 26 37.0	+2.0
JANG				eS	Sn	11 27 15.1	-0.1
BSO1	Boso 1	3.67	222	eP	Pn	11 26 36.4	-0.4
JAG	Ashikaga	3.75	256	P	Pn	11 26 39.1	+0.8
JAG				S	Sn	11 27 19.5	-1.6
JRY	Ryogami san	4.30	252	P	Pn	11 26 46.4	+0.5
JRY				eS	Sn	11 27 31.1	-3.7
JOT	Ohata	4.55	331	eP	Pn	11 26 51.4	+2.2
JOT				eS	Sn	11 27 39.6	-1.1
MJAR	Matsushiro Arr	4.69	261	Pn	Pn	11 26 52.7	+1.4
	0.5nm,0.3s,baz=91,slow=15,SNR=42						
MJAR				Sn	Sn	11 27 45.5	+1.1
	0.1nm,0.3s,baz=122,slow=11,SNR=5.1						
MJAR				LR	LR	11 28 41.4	
	comp=Z,67nm,18.0s,baz=28,slow=41						
	7.0nm,0.5s						
JCH	Churui	5.20	355	P	Pn	11 26 59.2	+1.0
JCH				eS	Sn	11 27 56.0	-0.9
JHJ2	Mitsune	5.48	219	eP	Pn	11 27 03.4	+1.3
JHJ2				S	Sn	11 28 01.6	-2.1
JOSM	Okushiri--Mats	5.79	325	eP	Pn	11 27 08.7	+2.4
NEM2	Nemuro 2	6.08	12	eP	Pn	11 27 10.2	-0.2
NEM2				eS	Sn	11 28 15.8	-2.8
JTKR	Abashiri--Toko	6.54	360	P	Pn	11 27 17.7	+1.2
JTKR				eS	Sn	11 28 27.0	-2.7
KSRS	Korea Array	12.75	275	Pn	Pn	11 28 46.1	+4.6
	1.4nm,1.0s,baz=90,slow=14,SNR=5.9						
KSRS				LR	LR	11 33 13.8	
	comp=Z,18nm,18.8s,baz=205,slow=36						
WRA	Warramunga Arr	57.78	191	P	P	11 35 32.1	+2.3
	0.6nm,0.6s,baz=12,slow=7.5,SNR=8.4						
	0.6nm,0.6s						
ASAR	Alice Springs	61.50	190	P	P	11 35 56.4	+1.0
	0.2nm,0.7s,baz=1.7,slow=6.9,SNR=1.6						
	0.2nm,0.7s						

*NNC **08** 11:36:34.8±1.4, 40.°74N×79.°35E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=9.7km s-min=7.4km az=157.0*
*SOME **08** 11:36:34.3, 40.°72N×79.°50E, h15km*

ISC 08 11:36:39.4±7.3, 40.°6N±0.°5×79.°7E±0.°2, h10km, n35, σ2§03/35, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	Uzynbulak	2.65	349	Pg	Pn	11 37 19.8	-2.5
	18nm,0.7s						
UZB				Lg	Lg	11 37 52.6	
	17nm,0.8s						
UZB	Uzynbulak	2.65	349	ePg	Pn	11 37 19.1	-3.2
	6.7nm,0.3s						
UZB				eLg	Lg	11 37 51.3	
	18nm,0.5s						
SATY	Saty	2.69	339	Pg	Pn	11 37 20.4	-2.4
	22nm,1.0s						
SATY				Lg	Lg	11 37 53.9	
	50nm,0.9s						
SATY	Saty	2.69	339	ePg	Pn	11 37 20.4	-2.4
	22nm,1.0s						
SATY				eLg	Lg	11 37 53.7	
	50nm,0.9s						
PDGK	Podgornoye	2.79	357	Pg	Pn	11 37 21.7	-2.5
	11nm,0.6s						
PDGK				Lg	Lg	11 37 56.0	
	41nm,0.9s						
PDGK	Podgornoye	2.79	357	⇑Pg	Pn	11 37 21.9	-2.3
	0nm,0.4s						
PDGK				⇑Lg	Lg	11 37 56.3	
	76nm,0.7s						
KTMS	Ketmen	2.94	9	Pg	Pn	11 37 25.9	-0.5
	5.7nm,0.8s						
KTMS				Lg	Lg	11 38 03.0	
	11nm,0.8s						
KTMS	Ketmen	2.94	9	ePg	Pn	11 37 25.9	-0.5
	5.7nm,0.8s						
KTMS				eLg	Lg	11 38 03.0	
	11nm,0.8s						
KPKS	Kokpek	3.01	346	Pg	Pn	11 37 25.9	-1.4
	16nm,0.5s						
KPKS				Lg	Lg	11 38 03.3	
	62nm,0.7s						
KPKS	Kokpek	3.01	346	ePg	Pn	11 37 25.9	-1.4
	16nm,0.5s						
KPKS				eLg	Lg	11 38 02.7	
	62nm,0.7s						
KURS	Kuram	3.15	339	Pg	Pn	11 37 28.1	-1.0
	17nm,0.9s						
KURS				Lg	Lg	11 38 07.4	
	16nm,1.0s						
KURS	Kuram	3.15	339	ePg	Pn	11 37 28.1	-1.0
	17nm,0.9s						
KURS				eLg	Lg	11 38 06.8	
	19nm,0.7s						
TNSS	Tian-Shan	3.23	321	Pg	Pn	11 37 28.7	-1.9
	6.3nm,0.6s						
TNSS				Lg	Lg	11 38 08.3	
	11nm,0.8s						
TNSS	Tian-Shan	3.23	321	ePg	Pn	11 37 28.6	-1.9
	6.3nm,0.6s						
TNSS				eLg	Lg	11 38 07.6	
	11nm,0.8s						
IZV	Izvestkoviy	3.39	318	Pg	Pn	11 37 32.0	-0.5
	2.3nm,0.7s						
IZV				Lg	Lg	11 38 13.7	
	11nm,0.7s						
IZV	Izvestkoviy	3.39	318	ePg	Pn	11 37 32.0	-0.5
	2.3nm,0.7s						
IZV				eLg	Lg	11 38 13.7	
	11nm,0.7s						
MTBS	Maitube	3.55	318	Pg	Pn	11 37 32.5	-2.2
	3.3nm,0.2s						
MTBS				Lg	Lg	11 38 14.3	
	6.4nm,0.4s						
MTBS	Maitube	3.55	318	ePg	Pn	11 37 33.6	-1.0
	1.8nm,0.1s						
MTBS				eLg	Lg	11 38 16.2	
	6.7nm,0.2s						
BLB	Baldybastay	3.66	346	Pg	Pn	11 37 37.1	+0.8
	6.5nm,0.5s						
BLB				Lg	Lg	11 38 22.6	
	12nm,0.5s						
KST	Kastek	3.74	313	Pg	Pn	11 37 37.0	-0.3
	3.7nm,1.1s						
KST				Lg	Lg	11 38 23.9	
	9.4nm,1.7s						
KST	Kastek	3.74	313	ePg	Pn	11 37 38.0	+0.7
	3.7nm,1.1s						
KST				eLg	Lg	11 38 23.9	
	9.4nm,1.7s						
DJR	Jarkent	3.79	1	Pg	Pn	11 37 39.7	+1.8
	1.2nm,0.5s						
DJR				Lg	Lg	11 38 27.4	
	5.4nm,1.0s						
DJR	Jarkent	3.79	1	ePg	Pn	11 37 39.7	+1.8
	1.2nm,0.5s						
DJR				eLg	Lg	11 38 26.9	
	5.4nm,1.0s						
KNOS	Konyrlen	3.83	354	Pg	Pn	11 37 41.3	+2.7
	7.2nm,0.7s						
KNOS				Lg	Lg	11 38 30.1	
	9.6nm,0.8s						
CHKK	Chushkaly	3.87	330	Pg	Pn	11 37 40.5	+1.5
CHKK				Lg	Lg	11 38 28.1	
	12nm,0.7s						
CHKK	Chushkaly	3.87	330	ePg	Pn	11 37 40.5	+1.5
	2.8nm,0.1s						
CHKK				eLg	Lg	11 38 28.1	
	10nm,0.5s						
KTBS	Karatobe	3.88	326	Pg	Pn	11 37 39.8	+0.7
	1.5nm,0.6s						
KTBS				Lg	Lg	11 38 27.3	
	7.0nm,0.8s						
KTBS	Karatobe	3.88	326	ePg	Pn	11 37 39.8	+0.7
	1.5nm,0.6s						
KTBS				eLg	Lg	11 38 27.1	
	7.0nm,0.8s						
TKM2	Tokmak 2	3.88	309	⇑Pg	Pn	11 37 36.0	-3.3
	0.7nm,0.3s						
TKM2				⇓Lg	Lg	11 38 28.7	
	4.4nm,0.6s						
ARXS	Arharly	3.92	340	Pg	Pn	11 37 41.6	+1.9
	1.5nm,0.4s						
ARXS				Lg	Lg	11 38 30.4	
	5.9nm,0.5s						
ARXS	Arharly	3.92	340	ePg	Pn	11 37 41.6	+1.9
	1.5nm,0

11nm,0.8s
ASAR Alice Springs 43.06 270 P P 11 49 27.1 +0.2
0.6nm,0.6s,baz=109,slow=7.7,SNR=14
0.6nm,0.6s
WRA Warramunga Arr 44.33 275 P P 11 49 36.9 -0.3
0.7nm,0.5s,baz=116,slow=7.7,SNR=15
0.7nm,0.5s
FINES FINESS Array B 148.16 338 PKPbc PKPbc 12 01 11.3 -0.8
7.5nm,1.1s,baz=88,slow=4.3,SNR=3.5

---

*NEIC **08** 11:41:42.0±0.5,36°.90N±0°.01×97°.525W±0°.009,h5km±6km, Error ellipse: s-maj=1.9km s-min=0.6km az=209.0*
TUL 08 11:41:42.3±0.6,36°.91N±0°.01×97°.51W±0°.01,h6km±1km, ML2.5,mb_Lg2.1/8(NEIC),ML2.3/46(NEIC),Error ellipse: s-maj=1.9km s-min=1.4km az=215.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN13	**South Haven SW**	**0.11**	**13**		Pg	11 41 45.1	+0.4
KAN13				Sg	Sg	11 41 46.9	+0.7
KAN13				IAML		11 41 47.3	
	comp=N,1μm,0.2s						
KAN09	**Caldwell North**	**0.24**	**339**		Pg	11 41 47.6	+0.5
KAN09				IAML		11 41 54.2	
	comp=E,431nm,0.2s						
KAN09				IAML		11 41 55.0	
	comp=N,552nm,0.2s						
KAN17	**Caldwell West**	**0.25**	**303**		Pg	11 41 47.4	+0.3
KAN17				Sg	Sg	11 41 50.6	+0.2
BLOK	**Blackwell**	**0.28**	**122**		Pg	11 41 48.0	+0.3
GC02	**Grant County #**	**0.29**	**259**	Pg	Pg	11 41 47.5	-0.4
GC02				Sg	Sg	11 41 51.4	-0.3
KAN01	**Argonia South**	**0.32**	**321**		Pg	11 41 48.7	+0.3
KS20	**Mayfield South**	**0.32**	**353**		Pg	11 41 48.4	-0.2
KS20				IAML		11 41 54.0	
	comp=N,336nm,0.2s						
KAN14	**Manchester OK**	**0.37**	**278**		Pg	11 41 49.5	0.0
KAN14				IAML		11 41 55.0	
	comp=N,501nm,0.1s						
KS21	**Milan North St**	**0.40**	**342**	IAML		11 41 57.6	
	comp=N,218nm,0.1s						
KS21	**Milan North St**	**0.40**	**342**	Pg	Pg	11 41 50.4	+0.4
KAN06	**Argonia West S**	**0.44**	**321**	Pg	Pg	11 41 51.1	+0.3
KAN08	**Anthony NE Sta**	**0.49**	**311**	Pg	Pg	11 41 52.0	+0.3
KAN08				IAML		11 42 00.6	
	comp=N,206nm,0.4s						
KAN08				IAML		11 42 00.7	
	comp=E,186nm,0.4s						
KAN12	**Harper NE Stat**	**0.55**	**315**	Pg	Pg	11 41 52.8	-0.2
CROK	**Carrier**	**0.56**	**224**	Pg	Pg	11 41 52.8	-0.1
CROK				IAML		11 42 02.9	
	comp=N,309nm,0.2s						
OK032	**Salt Plains WL**	**0.57**	**260**	Pg	Pg	11 41 53.0	-0.4
OK032				IAML		11 42 06.6	
	comp=N,136nm,0.1s						
OK048	**Pawnee Station**	**0.67**	**137**	Pg	Pg	11 41 54.8	-0.4
OK048				IAML		11 42 06.2	
	comp=N,120nm,0.4s						
OK051	**E0350 and S346**	**0.67**	**126**		Pg	11 41 55.6	+0.3
OK051				IAML		11 42 06.9	
	comp=N,224nm,0.2s						
OK051				IAML		11 42 12.3	
	comp=N,160nm,0.2s						
OK033	**Mehan**	**0.98**	**152**	Pg	Pg	11 42 00.5	-0.6
OK033				IAML		11 42 19.6	
	comp=N,93nm,0.2s						
OK033				IAML		11 42 20.3	
	comp=N,88nm,0.2s						
QUOK	**Quay**	**0.98**	**139**		Pg	11 42 00.3	-0.8
QUOK				IAML		11 42 23.1	
	comp=N,124nm,0.2s						
OK052	**Battle Ridge R**	**1.08**	**148**		Pg	11 42 02.1	-0.8
OK031	**S. Brethren Rd**	**1.10**	**150**	Pg	Pg	11 42 02.5	-0.8
OK031				IAML		11 42 22.6	
	comp=N,94nm,0.1s						
OK029	**Liberty Lake**	**1.11**	**178**	Pg	Pg	11 42 02.6	-1.0
OK029				IAML		11 42 24.5	
	comp=N,48nm,0.4s						
U32A	**Winter Ranch,**	**1.31**	**247**		Pn	11 42 06.4	-0.8
U32A				IAML		11 42 27.2	
	comp=N,48nm,0.1s						
U32A				IAML		11 42 29.4	
	comp=E,54nm,0.1s						
DEOK	**Depew**	**1.34**	**142**		Pn	11 42 07.2	-0.4
DEOK				IAML		11 42 28.5	
	comp=N,79nm,0.3s						
DEOK				IAML		11 42 28.6	
	comp=E,75nm,0.6s						
CSTR	**Hydro, Custer**	**1.58**	**217**		Pn	11 42 10.7	-0.2
TUL3	**Leonard**	**1.71**	**125**		Pn	11 42 13.1	+0.5
TUL3				IAmb_Lg		11 42 36.2	
	comp=Z,11nm,1.0s						
R32A	**Long Quarter,**	**1.79**	**328**		Pn	11 42 14.2	+0.4
W35A	**Tecumseh**	**1.83**	**163**		Pn	11 42 14.1	-0.2
U38A	**Gravette**	**2.55**	**100**	IAmb_Lg		11 43 01.1	
	comp=Z,4.0nm,1.0s						
X37A	**Clayton**	**2.89**	**142**	IAmb_Lg		11 43 17.4	
	comp=Z,5.9nm,0.7s						
JCT	**Junction City**	**6.69**	**197**	IAmb_Lg		11 45 29.0	
	comp=Z,5.0nm,1.1s						

---

*INMG **08** 11:50:03.5±1.1,37°.13N×3°.57W,h0km,ML1.9, Error ellipse: s-maj=1.9km s-min=1.8km az=170.0*
*SFS **08** 11:50:03.2,37°.13N×3°.60W,h0km,ML2.3/10,ML2.3/9, MLv2.2/10*
*CNRM **08** 11:50:19.8,35°.35N×1°.74W,h48km*
MDD 08 11:50:03.3±0.3,37°.14N×3°.60W,h0km,mb_Lg2.3/21,2C, Error ellipse: s-maj=2.4km s-min=1.8km az=149.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQTA	**Presa de Quent**	**0.14**	**60**	P	Pg	11 50 05.4	-0.6
EQTA				S	Sg	11 50 07.4	-0.4
EQUE	**Quentar**	**0.14**	**62**	⇑Pg	Pg	11 50 05.4	-0.7
EQUE				Sg	Sg	11 50 07.1	-0.8
ELGU	**Los Guajares,**	**0.27**	**185**	⇑Pg	Pg	11 50 08.3	-0.2
ELGU				Sg	Sg	11 50 12.3	+0.3
ELGU	**Los Guajares,**	**0.27**	**185**	P	Pg	11 50 08.3	-0.2
ELGU				S	Sg	11 50 12.2	+0.2
EGOR	**Sierra Gorda,**	**0.41**	**266**	Pg	Pg	11 50 10.9	-0.3
EGOR				Sg	Sg	11 50 17.1	+0.5
EGOR				*i* Vmb_Lg		11 50 22.9	
EGOR	**Sierra Gorda,**	**0.41**	**266**	P	Pg	11 50 10.9	-0.3
EBER	**Berja**	**0.61**	**113**	Pg	Pg	11 50 14.4	-0.7
EBER				Sg	Sg	11 50 22.0	-1.0
EBER				*i* Vmb_Lg		11 50 25.9	
EBER	**Berja**	**0.61**	**113**	P	Pg	11 50 14.5	-0.6
EMAL	**Malaga-Limoner**	**0.77**	**241**	P	Pg	11 50 16.8	-1.2
EQES	**Quesada**	**0.78**	**32**	Pg	Pg	11 50 18.4	0.0
EQES				Sg	Sg	11 50 28.8	+0.3
EQES				*i* Vmb_Lg		11 50 33.5	
EMIJ	**Mijas**	**1.10**	**239**	Pg	Pg	11 50 23.4	-1.1
EMIJ				Sg	Sg	11 50 37.4	-1.3
EMIJ	**Mijas**	**1.10**	**239**	P	Pg	11 50 23.2	-1.3
ENIJ	**Nijar**	**1.12**	**98**	Pg	Pg	11 50 23.8	-1.1
ENIJ				Sg	Sg	11 50 35.5	-3.9
ENIJ				*i* Vmb_Lg		11 50 45.5	
ENIJ	**Nijar**	**1.12**	**98**	P	Pg	11 50 24.0	-0.9
EALB	**Alboran**	**1.28**	**159**	Pg	Pg	11 50 25.6	-2.2
EALB				*i* Vmb_Lg		11 50 58.6	
EADA	**Adamuz**	**1.29**	**323**	Pg	Pg	11 50 27.9	-0.2
EADA				Sg	Sb	11 50 45.3	-0.3
EADA				*i* Vmb_Lg		11 50 48.5	
EADA	**Adamuz**	**1.29**	**323**	P	Pg	11 50 27.8	-0.2
EZAR	**Zarzadilla de**	**1.68**	**63**	Pg	Pb	11 50 34.8	-0.4
EZAR				Sg	Sg	11 50 57.5	+0.1
EZAR				*i* Vmb_Lg		11 51 00.7	
ECAB	**El Cabril**	**1.72**	**303**	Pg	Pb	11 50 35.4	-0.5
ECAB				Sg	Sn	11 50 57.5	+0.2
ECAB				*i* Vmb_Lg		11 51 01.4	
ECAB	**El Cabril**	**1.72**	**303**	P	Pb	11 50 35.4	-0.4
GOG	**Mont Gurugu**	**1.97**	**166**	P	Pn	11 50 37.4	-0.7
GOG				S	Sn	11 50 52.5	-11
EMUR	**La Murta**	**2.00**	**69**	Pg	Pb	11 50 40.0	-0.6
EMUR				Sg	Sb	11 51 05.7	-0.4
EMUR				*i* Vmb_Lg		11 51 12.3	
EMUR	**La Murta**	**2.00**	**69**	P	Pn	11 50 39.5	+1.1
ETOB	**Tobarra**	**2.21**	**47**	Pn	Pn	11 50 40.2	-1.2
ETOB				Pg	Pb	11 50 44.0	-0.2
ETOB				Sn	Sn	11 51 07.7	-1.8
ETOB				Sg	Sb	11 51 12.8	+0.6
ETOB				*i* Vmb_Lg		11 51 18.5	
ETOB	**Tobarra**	**2.21**	**47**	P	Pn	11 50 41.8	+0.4
PAB	**San Pablo**	**2.48**	**346**	Pn	Pn	11 50 43.7	-1.4
PAB				Pg	Pb	11 50 48.8	+0.1
PAB				Sn	Sn	11 51 14.2	-1.7
PAB				Sg	Sb	11 51 21.1	+1.2
PAB				*i* Vmb_Lg		11 51 28.2	
TAF	**Taforalt**	**2.51**	**157**	P	Pn	11 50 34.5	-11
TAF				S	Sn	11 50 45.7	-31
ESDC	**Sonseca Array**	**2.55**	**354**	Pn	Pn	11 50 44.6	-1.4
ESDC				Pg	Pb	11 50 49.7	-0.3
ESDC				Sg	Sb	11 51 23.4	+1.4
ESDC				*i* Vmb_Lg		11 51 28.9	-0.3
EVIV	**Cofrentes, Val**	**2.89**	**42**	Pg	Pb	11 50 54.7	-1.0
EVIV				Sn	Sn	11 51 23.8	-2.2
EVIV				Sg	Sb	11 51 32.6	+1.0
EVIV				*i* Vmb_Lg		11 51 42.1	
JBK	**JBK**	**2.92**	**163**	P	Pn	11 50 42.9	-8.3
JBK				S	Sn	11 50 58.9	-28
PBAR	**Barrancos**	**2.92**	**292**	*e*Pn	Pn	11 50 50.1	-0.9
PBAR				*e*Sg	Sg	11 51 37.4	+0.2
PBAR				A	A	11 51 39.7	
	2.3nm,0.7s						
PVAQ	**Vaqueiros**	**3.30**	**276**	*e*Pn	Pn	11 50 55.6	-0.6
PVAQ				*e*Sn	Sn	11 51 34.9	-1.2
PVAQ	**Vaqueiros**	**3.30**	**276**	P	Pn	11 50 55.3	-0.9
PESTR	**Estremoz**	**3.60**	**300**	*e*Pn	Pn	11 51 00.5	+0.2
PESTR				*e*Sg	Sg	11 52 00.6	+1.7
PESTR				A	A	11 52 07.4	
	2.1nm,0.3s						
PMRV	**Marv??o**	**3.76**	**309**	*e*Pn	Pn	11 51 03.2	+0.6
PMRV				*e*Sg	Sg	11 52 03.0	-1.2
PMRV				A	A	11 52 10.6	
	2.0nm,0.5s						
EVO	**Evora**	**3.76**	**293**	*e*Sn	Sn	11 51 45.1	-2.5
PMTG	**Montargil**	**4.13**	**299**	*e*Pn	Pn	11 51 07.0	-0.6
PMTG				*e*Sg	Sg	11 52 16.4	+0.4
PMTG				A	A	11 52 27.1	
	1.8nm,0.9s						

---

*WEL **08** 12:17:01.2±0.2,39°S±4°×17°5E±°,h20km±3km,M3.8/85, ML4.2/36,MLv3.8/85,Error ellipse: s-maj=0.0km s-min=0.0km az=176.1,confirmed*
*NOU **08** 12:17:02.0,39°.20S×174°.65E,h38km,MLv4.0/13,North Island, New Zealand*
ISC 08 12:17:01.7±0.9,39°.26S±0°.03×174°.75E±0°.02,h33km±8km, n157,σ0°95/167,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.13**	**3**	P	**Pn**	**12 17 07.6**	**+0.3**
VRZ				S	**Sb**	**12 17 12.3**	**+0.7**
LREZ	**Lake Rotokare**	**0.34**	**233**	P	**Pn**	**12 17 09.9**	**-0.3**
LREZ				S	**Sn**	**12 17 17.0**	**+1.0**
DREZ	**Durham Road**	**0.43**	**279**	P	**Pb**	**12 17 11.3**	**+0.1**
DREZ				S	**Sn**	**12 17 19.5**	**+1.1**
PKVZ	**Pokaka**	**0.46**	**94**	P	**Pb**	**12 17 11.3**	**-0.4**
PKVZ				S	**Sb**	**12 17 18.4**	**-0.3**
PREZ	**Palmer Road**	**0.47**	**259**	P	**Pn**	**12 17 12.1**	**0.0**
NEZ	**North Egmont**	**0.51**	**268**	P	**Pb**	**12 17 12.4**	**0.0**
WAZ	**Wanganui**	**0.53**	**160**	P	**Pn**	**12 17 12.6**	**-0.3**
TWVZ	**Taurewa**	**0.57**	**71**	P	**Pb**	**12 17 12.6**	**-0.7**
TWVZ				S	**Sb**	**12 17 20.6**	**-0.8**
KHEZ	**Kahui Hut**	**0.57**	**266**	P	**Pn**	**12 17 14.2**	**+0.6**
KHEZ	**Kahui Hut**	**0.57**	**266**	P	**Pn**	**12 17 14.1**	**+0.5**
KHEZ				S	**Sn**	**12 17 23.4**	**+1.5**
PKE	**Pukeiti**	**0.60**	**276**	P	**Pn**	**12 17 14.1**	**+0.2**
PKE				S	**Sn**	**12 17 23.3**	**+0.9**
COVZ	**Chateau Observ**	**0.62**	**85**	P	**Pb**	**12 17 13.5**	**-0.7**
TRVZ	**Turoa**	**0.62**	**94**	P	**Pb**	**12 17 13.8**	**-0.6**
TRVZ				S	**Sb**	**12 17 22.6**	**-0.5**
FWVZ	**Far West T-bar**	**0.62**	**90**	P	**Pb**	**12 17 13.7**	**-0.6**
FWVZ				S	**Sb**	**12 17 22.7**	**-0.4**
WHVZ	**Whangaehu Hut**	**0.65**	**92**	P	**Pb**	**12 17 14.1**	**-0.8**
WNVZ	**Wahianoa**	**0.66**	**96**	P	**Pb**	**12 17 14.5**	**-0.5**
WNVZ				S	**Sb**	**12 17 23.8**	**-0.3**
NGZ	**Ngauruhoe**	**0.67**	**83**	P	**Pb**	**12 17 14.4**	**-0.6**
WTVZ	**West Tongariro**	**0.67**	**78**	P	**Pb**	**12 17 14.3**	**-0.7**
NNVZ	**North Ngauruho**	**0.68**	**80**	P	**Pb**	**12 17 14.7**	**-0.6**
NMEZ	**Namu Road**	**0.69**	**257**	P	**Pb**	**12 17 15.1**	**-0.2**
SNVZ	**South Ngauruho**	**0.69**	**84**	P	**Pb**	**12 17 15.0**	**-0.5**
TUVZ	**Tukino**	**0.70**	**91**	P	**Pb**	**12 17 15.3**	**-0.4**
KRVZ	**Karewarewa**	**0.71**	**77**	P	**Pb**	**12 17 15.1**	**-0.7**
OTVZ	**Oturere**	**0.72**	**83**	P	**Pb**	**12 17 15.4**	**-0.5**
HIZ	**Hauiti**	**0.75**	**6**	P	**Pb**	**12 17 15.6**	**-0.7**
HIZ	**Hauiti**	**0.75**	**6**	P	**Pb**	**12 17 15.5**	**-0.7**
TMVZ	**Te Maari**	**0.76**	**80**	P	**Pb**	**12 17 15.8**	**-0.6**
ETVZ	**East Tongariro**	**0.76**	**81**	P	**Pb**	**12 17 15.8**	**-0.7**
KATZ	**Kakaramea**	**0.79**	**69**	P	**Pb**	**12 17 16.3**	**-0.7**
MOVZ	**Moawhango**	**0.79**	**101**	P	**Pb**	**12 17 16.2**	**-0.9**
RATZ	**Rangitukua**	**0.89**	**64**	P	**Pb**	**12 17 17.8**	**-0.8**
RITZ	**Rihia Road**	**0.91**	**72**	P	**Pb**	**12 17 18.3**	**-0.6**
WATZ	**Wairara**	**0.94**	**55**	P	**Pn**	**12 17 18.5**	**-0.1**
OHWZ	**Ohakea**	**1.04**	**155**	P	**Pb**	**12 17 20.5**	**-0.7**
BHHZ	**Black Hill Sta**	**1.04**	**103**	P	**Pn**	**12 17 19.7**	**-0.3**
HATZ	**Hinemaiaia**	**1.11**	**71**	P	**Pn**	**12 17 20.8**	**-0.1**
WHTZ	**Whakaora**	**1.11**	**58**	P	**Pb**	**12 17 22.1**	**-0.3**
TLZ	**Tolley Road**	**1.11**	**34**	P	**Pn**	**12 17 20.5**	**-0.5**
KUTZ	**Kaahu Road**	**1.14**	**48**	P	**Pn**	**12 17 21.5**	**+0.2**
TSZ	**Takapari Road**	**1.23**	**131**	P	**Pn**	**12 17 22.9**	**+0.2**
PNHZ	**Pukenui**	**1.30**	**121**	P	**Pn**	**12 17 23.8**	**+0.2**
KWHZ	**Kaweka Forest**	**1.31**	**98**	P	**Pn**	**12 17 24.1**	**+0.4**
KRHZ	**Kereru**	**1.31**	**108**	P	**Pn**	**12 17 24.1**	**+0.3**
WPRZ	**Whakapapatarin**	**1.33**	**57**	P	**Pn**	**12 17 23.7**	**-0.2**
BKZ	**Black Stump Fm**	**1.36**	**87**	P	**Pn**	**12 17 25.0**	**+0.6**
BKZ	**Black Stump Fm**	**1.36**	**87**	P	**Pn**	**12 17 24.6**	**+0.3**
MRHZ	**Matea Rd**	**1.37**	**72**	P	**Pn**	**12 17 24.4**	**-0.1**
POWZ	**Post Office Ro**	**1.38**	**146**	P	**Pn**	**12 17 25.4**	**+0.8**
GRRZ	**Galatos Road**	**1.40**	**50**	P	**Pn**	**12 17 25.0**	**+0.1**
ALRZ	**Allen Road**	**1.42**	**61**	P	**Pn**	**12 17 25.6**	**+0.4**
HRRZ	**Handcock Road**	**1.48**	**55**	P	**Pb**	**12 17 28.7**	**+0.1**
HSRZ	**Hossack Road**	**1.50**	**52**	P	**Pb**	**12 17 28.6**	**-0.3**
DVHZ	**Dannevirke**	**1.51**	**134**	P	**Pn**	**12 17 27.7**	**+1.3**
MCHZ	**McNeill Hill**	**1.52**	**98**	P	**Pb**	**12 17 28.5**	**-0.8**
WPHZ	**Waipukurau**	**1.53**	**122**	P	**Pb**	**12 17 28.6**	**-0.9**
MRZ	**Mangatainoka R**	**1.54**	**156**	P	**Pn**	**12 17 27.8**	**+0.9**
UTU	**Utuhina**	**1.56**	**47**	P	**Pb**	**12 17 29.4**	**-0.6**
OGWZ	**Otaki Gorge**	**1.59**	**168**	P	**Pn**	**12 17 28.6**	**+1.0**
PRWZ	**Pori Road**	**1.60**	**144**	P	**Pb**	**12 17 29.6**	**-1.0**
KIW	**Kapiti Island**	**1.61**	**176**	P	**Pn**	**12 17 28.4**	**+0.6**
NMHZ	**Naumai**	**1.61**	**85**	P	**Pb**	**12 17 30.4**	**-0.4**
NGRZ	**Ngongotaha**	**1.61**	**45**	P	**Pn**	**12 17 28.7**	**+0.8**
TOZ	**Tahuroa Road**	**1.63**	**21**	P	**Pn**	**12 17 27.8**	**-0.3**
RRRZ	**Republican Roa**	**1.66**	**57**	P	**Pb**	**12 17 33.4**	**+1.8**
DUWZ	**D'Urville Isla**	**1.67**	**202**	P	**Pn**	**12 17 29.5**	**+0.8**
MTHZ	**Maungataniwha**	**1.68**	**77**	P	**Pn**	**12 17 29.1**	**+0.3**
KARZ	**Kaharoa**	**1.70**	**44**	P	**Pb**	**12 17 31.9**	**-0.4**
OMRZ	**Omania**	**1.71**	**48**	P	**Pb**	**12 17 32.8**	**+0.3**
KAHZ	**Kahuranaki**	**1.73**	**109**	P	**Pb**	**12 17 31.9**	**-1.0**
HOWZ	**Holdsworth Sta**	**1.74**	**161**	P	**Pn**	**12 17 31.2**	**+1.6**
ARHZ	**Aropaoanui**	**1.74**	**91**	P	**Pb**	**12 17 31.8**	**-1.3**
TIWZ	**Tintock**	**1.75**	**150**	P	**Pb**	**12 17 31.5**	**-1.7**
MUGZ	**Murupara**	**1.76**	**64**	P	**Pn**	**12 17 30.3**	**+0.4**
PRHZ	**Porangahau**	**1.77**	**125**	P	**Pb**	**12 17 32.2**	**-1.2**
ANWZ	**Angora Road**	**1.79**	**133**	P	**Pb**	**12 17 32.3**	**-1.5**
PXZ	**Pawanui**	**1.81**	**116**	P	**Pb**	**12 17 32.7**	**-1.4**
BFZ	**Birch Farm**	**1.83**	**142**	P	**Pn**	**12 17 31.9**	**+1.1**
BFZ	**Birch Farm**	**1.83**	**142**	P	**Pn**	**12 17 31.8**	**+1.1**
CKHZ	**Cape Kidnapper**	**1.85**	**103**	P	**Pb**	**12 17 34.6**	**-0.1**
RAHZ	**Arahi**	**1.85**	**80**	P	**Pn**	**12 17 33.3**	**+2.1**
RTZ	**Ruatahuna**	**1.85**	**70**	P	**Pn**	**12 17 32.6**	**+1.4**
CAW	**Cannon Point**	**1.86**	**173**	P	**Pn**	**12 17 32.3**	**+1.0**
TGRZ	**Tauranga**	**1.93**	**38**	P	**Pn**	**12 17 31.9**	**-0.3**
WHHZ	**Waihua**	**1.94**	**85**	P	**Pb**	**12 17 34.8**	**-1.6**
MTW	**Mount Morrison**	**1.98**	**163**	P	**Pb**	**12 17 35.0**	**-2.1**
TCW	**Tory Channel**	**1.98**	**190**	P	**Pn**	**12 17 33.4**	**+0.5**
CPWZ	**Castlepoint**	**1.99**	**146**	P	**Pn**	**12 17 36.7**	**-0.6**
OPRZ	**Ohinepanoa**	**2.00**	**46**	P	**Pn**	**12 17 33.3**	**+0.1**
WEL	**Wellington**	**2.02**	**180**	P	**Pn**	**12 17 34.8**	**+1.3**
TMWZ	**Te Maipa**	**2.04**	**155**	P	**Pn**	**12 17 35.4**	**+1.6**
SNZO	**South Karori**	**2.05**	**181**	P	**Pn**	**12 17 35.0**	**+1.2**
URZ	**Urewera**	**2.10**	**62**	P	**Pn**	**12 17 36.0**	**+1.5**
URZ	**Urewera**	**2.10**	**62**	P	**Pn**	**12 17 36.2**	**+1.7**
BHW	**Baring Head**	**2.15**	**178**	P	**Pn**	**12 17 36.5**	**+1.3**
MKAZ	**Moumakai**	**2.17**	**9**	P	**Pn**	**12 17 35.5**	**0.0**
PAWZ	**Paruwai Farm**	**2.18**	**167**	P	**Pb**	**12 17 38.2**	**-2.3**
AWAZ	**Awhitu Peninsu**	**2.19**	**358**	P	**Pn**	**12 17 35.8**	**0.0**
RAGZ	**Rawiri**	**2.21**	**71**	P	**Pn**	**12 17 37.6**	**+1.4**
NNZ	**Nelson**	**2.22**	**208**	P	**Pn**	**12 17 37.0**	**+0.8**
TKNZ	**Takaka Hill**	**2.24**	**217**	P	**Pn**	**12 17 36.7**	**+0.2**
TRWZ	**Traveller**	**2.26**	**162**	P	**Pb**	**12 17 42.8**	**+1.1**
TUWZ	**Tuamarina**	**2.26**	**196**	P	**Pn**	**12 17 36.7**	**+0.1**
ETAZ	**East Tamaki Re**	**2.30**	**4**	P	**Pn**	**12 17 37.5**	**+0.1**
QRZ	**Quartz Range**	**2.31**	**227**	P	**Pn**	**12 17 37.0**	**-0.5**
QRZ	**Quartz Range**	**2.31**	**227**	P	**Pn**	**12 17 36.9**	**-0.5**
WTAZ	**Waiatarua**	**2.33**	**357**	P	**Pn**	**12 17 37.8**	**+0.1**
PLWZ	**Palliser**	**2.34**	**171**	P	**Pn**	**12 17 39.5**	**+1.6**
MWZ	**Matawai**	**2.36**	**68**	P	**Pn**	**12 17 38.6**	**+0.5**
EPAZ	**Eden Park BICE**	**2.38**	**360**	P	**Pn**	**12 17 38.8**	**+0.5**
HBAZ	**Herne Bay Bore**	**2.40**	**360**	P	**Pn**	**12 17 38.9**	**+0.3**
RIGZ	**Rimuhau**	**2.41**	**78**	P	**Pn**	**12 17 41.4**	**+2.5**
WIAZ	**Waiheke Island**	**2.48**	**7**	P	**Pn**	**12 17 39.9**	**+0.2**
MBAZ	**Motutapu North**	**2.49**	**3**	P	**Pn**	**12 17 39.8**	**0.0**
RVAZ	**Riverhead Bore**	**2.49**	**357**	P	**Pn**	**12 17 39.6**	**-0.2**
CMWZ	**Cape Campbell**	**2.52**	**189**	P	**Pb**	**12 17 45.3**	**-0.9**
BSWZ	**Blackbirch Sta**	**2.54**	**195**	P	**Pn**	**12 17 42.3**	**+1.7**
TKGZ	**Te Karaka**	**2.55**	**72**	P	**Pn**	**12 17 43.7**	**+2.9**
KUZ	**Kuaotunu**	**2.62**	**17**	P	**Pn**	**12 17 41.1**	**-0.6**
KUZ	**Kuaotunu**	**2.62**	**17**	P	**Pn**	**12 17 41.1**	**-0.6**
MRNZ	**Matariki Terra**	**2.63**	**215**	P	**Pn**	**12 17 42.3**	**+0.5**
RUGZ	**Raukumara Rang**	**2.63**	**62**	P	**Pn**	**12 17 42.9**	**+1.0**
HAZ	**Te Kaha**	**2.81**	**59**	P	**Pn**	**12 17 45.6**	**+1.3**
THZ	**Tophouse**	**2.87**	**209**	P	**Pn**	**12 17 46.3**	**+1.1**
PKGZ	**Pakihiroa**	**2.94**	**63**	P	**Pn**	**12 17 49.4**	**+3.2**
GRZ	**Great Barrier**	**3.05**	**11**	P	**Pn**	**12 17 47.3**	**-0.4**
WMGZ	**Waiomatatini S**	**3.21**	**65**	P	**Pn**	**12 17 51.8**	**+2.0**
KHZ	**Kahutara**	**3.29**	**196**	P	**Pn**	**12 17 52.0**	**+1.2**
KHZ	**Kahutara**	**3.29**	**196**	P	**Pn**	**12 17 52.0**	**+1.2**
WCZ	**Waipu Caves**	**3.33**	**354**	P	**Pn**	**12 17 51.1**	**-0.3**
DSZ	**Denniston Nort**	**3.35**	**221**	P	**Pn**	**12 17 51.7**	**-0.1**
LTZ	**Lake Taylor**	**3.99**	**207**	P	**Pn**	**12 18 01.1**	**+0.6**
OUZ	**Omahuta**	**4.13**	**347**	P	**Pn**	**12 18 02.2**	**-0.3**
OUZ	**Omahuta**	**4.13**	**347**	P	**Pn**	**12 18 02.1**	**-0.3**
INZ	**Inchbonnie**	**4.27**	**215**	P	**Pn**	**12 18 04.5**	**+0.1**
OXZ	**Oxford**	**4.55**	**206**	P	**Pn**	**12 18 07.1**	**-1.1**
OKCZ	**Okains Bay**	**4.64**	**195**	P	**Pn**	**12 18 09.0**	**-0.5**
MQZ	**McQueen's Vall**	**4.71**	**199**	P	**Pn**	**12 18 09.0**	**-1.5**
AKCZ	**Akaroa Harbour**	**4.81**	**196**	P	**Pn**	**12 18 11.8**	**-0.1**
WVZ	**Waitaha Valley**	**4.87**	**217**	P	**Pn**	**12 18 12.6**	**0.0**
MHCZ	**Mount Hutt**	**4.89**	**208**	P	**Pn**	**12 18 13.3**	**+0.3**
WACZ	**Wakanui South**	**5.17**	**204**	P	**Pn**	**12 18 16.9**	**+0.2**
RPZ	**Rata Peaks**	**5.25**	**211**	P	**Pn**	**12 18 18.5**	**+0.7**
RPZ	**Rata Peaks**	**5.25**	**211**	P	**Pn**	**12 18 17.2**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**5.25**	**218**	P	**Pn**	**12 18 17.7**	**-0.1**
ARCZ	**Arundel**	**5.40**	**209**	P	**Pn**	**12 18 19.2**	**-0.7**
FOZ	**Fox Glacier**	**5.66**	**219**	P	**Pn**	**12 18 22.9**	**-0.5**
TMZ	**Timaru**	**5.83**	**207**	P	**Pn**	**12 18 24.5**	**-1.4**
LBZ	**Lake Benmore**	**6.15**	**212**	P	**Pn**	**12 18 29.1**	**-1.1**
ODZ	**Otahua Downs**	**6.54**	**206**	P	**Pn**	**12 18 35.1**	**-0.4**
ODZ	**Otahua Downs**	**6.54**	**206**	P	**Pn**	**12 18 34.5**	**-1.0**
JCZ	**Jackson Bay**	**6.56**	**221**	P	**Pn**	**12 18 35.2**	**-0.7**
JCZ	**Jackson Bay**

AS31 **Alice Springs** 27.94 221 P **P** 12 30 37.0 -1.8
ASAR **Alice Springs** 27.95 221 P **P** 12 30 37.0 -1.8
ASAR **Alice Springs** 27.95 221 P **P** 12 30 37.6 -1.3
comp=Z,1.3nm,0.5s,baz=55,slow=8.7,SNR=43
ASAR LR LR 12 42 51.9
comp=Z,53nm,19.7s,baz=53,slow=39
comp=Z,1.3nm,0.5s
MSVF **Nonsavu** 28.27 123 LR LR 12 41 02.5
comp=Z,169nm,18.6s,baz=328,slow=35
CMSA **Cobar Meteorol** 29.36 194 P **P** 12 30 50.8 -0.5
OOD **Oodnadatta** 29.96 213 P **P** 12 30 55.1 -1.6
BATI **Baumata** 30.42 255 LR LR 12 44 45.9
comp=Z,141nm,19.3s,baz=90,slow=39
STKA **Stephens Creek** 30.86 200 P **P** 12 31 03.5 -1.1
STKA **Stephens Creek** 30.86 200 P **P** 12 31 03.2 -1.3
comp=Z,2.3nm,0.7s,baz=34,slow=11,SNR=6.8
comp=Z,2.3nm,0.7s
CAN **Canberra** 32.48 187 P **P** 12 31 18.4 -0.3
WRKA **Warakurna** 32.69 226 P **P** 12 31 18.9 -1.9
MULG **Mulgathing** 32.80 212 P **P** 12 31 20.2 -1.4
TOO **Toolangi** 35.22 191 P **P** 12 31 43.4 +0.7
TOO IAmb IAmb 12 31 56.5
comp=Z,65nm,1.9s
AFI **Afiamalu** 36.04 110 LR LR 12 45 01.3
comp=Z,68nm,20.8s,baz=286,slow=34
FORT **Forrest** 36.62 218 P **P** 12 31 53.4 -1.3
BBKI **Banjar Baru** 38.53 268 P **P** 12 32 14.4 +3.3
NACB **Ninganchiao** 41.05 313 P **P** 12 32 32.3 +0.5
TPUB **Ta-pu** 41.26 311 P **P** 12 32 31.9 -1.7
URZ **Urewera** 41.28 151 LR LR 12 48 10.7
comp=Z,64nm,18.7s,baz=31,slow=34
JNU **Nakatsue** 41.73 331 P **P** 12 32 35.6 -1.7
MJAR **Matsushiro Arr** 41.77 341 P **P** 12 32 34.2 -3.3
comp=Z,2.2nm,1.0s,baz=175,slow=9.9,SNR=5.1
RPZ **Rata Peaks** 43.51 161 LR LR 12 50 25.7
comp=Z,42nm,19.0s,baz=344,slow=36
LEM **Lembang** 45.79 263 LR LR 12 53 21.3
comp=Z,36nm,21.0s,baz=9.0,slow=37
KSRS **Korea Array** 46.65 332 P **P** 12 33 15.4 -1.2
comp=Z,4.1nm,0.9s,baz=152,slow=9.3,SNR=26
KSRS LR LR 12 49 34.5
comp=Z,9.2nm,21.0s,baz=190,slow=32
comp=Z,4.1nm,0.9s
KSAR **Wonju Array Be** 46.66 332 P **P** 12 33 15.2 -1.5
NJ2 **Nanjing** 47.83 319 *e*P **P** 12 33 27.4 +1.5
NJ2 pP **pP** 12 33 35.9 +0.6
NJ2 sP **pwP** 12 33 40.4 +0.7
NJ2 pmax pmax
comp=Z,11nm,0.6s
NJ2 pmax pmax
comp=Z,310nm,3.8s
DSRI **Dabo** 48.89 272 P **P** 12 33 36.8 +2.4
USRK **Ussuriysk Ar.** 50.72 340 P **P** 12 33 47.0 -0.8
USRK **Ussuriysk Ar.** 50.72 340 P **P** 12 33 47.1 -0.6
comp=Z,3.4nm,0.8s,baz=141,slow=9.3,SNR=7.7
comp=Z,3.4nm,0.8s
TIA **Tai'an** 51.62 322 *e*P **P** 12 33 54.2 -0.5
TIA pmax pmax
comp=Z,5.0nm,0.5s
MDJ **Mudanjiang** 51.92 338 P **P** 12 33 55.9 -0.9
MDJ pmax pmax
comp=Z,10.0nm,1.1s
MDJ pmax pmax
comp=Z,96nm,4.1s
BNX **BinXian** 53.70 338 ⇓P **P** 12 34 09.1 -0.8
BNX pmax pmax
comp=Z,25nm,1.1s
BNX pmax pmax
comp=Z,120nm,3.7s
GYA **Guiyang** 53.80 306 ⇓P **P** 12 34 12.3 +1.2
GYA pmax pmax
comp=Z,13nm,0.8s
HNS **HongShan** 53.87 322 ⇑P **P** 12 34 10.9 -0.4
HNS pmax pmax
comp=Z,16nm,1.4s
XAN **Xi'an** 55.74 315 P **P** 12 34 24.6 -0.4
XAN pP pP 12 34 34.0 -0.6
XAN pmax pmax
comp=Z,12nm,1.1s
PETK **Petropavlovsk-** 55.96 3 P **P** 12 34 26.1 0.0
comp=Z,3.9nm,0.6s,baz=175,slow=6.6,SNR=10
comp=Z,3.9nm,0.6s
KMI **Kunming** 56.50 303 ⇑P **P** 12 34 32.9 +2.1
KMI pmax pmax
comp=Z,13nm,1.0s
KMI LR LR
comp=Z,200nm,9.3s
KMI LR LR
comp=Z,160nm,10.7s
CRAI **Chiangrai** 56.90 296 P **P** 12 34 33.8 +0.3
CRAI IAmb IAmb 12 34 35.3
comp=Z,19nm,1.6s
XLT **XiLinHaoTe** 57.41 329 *e*P **P** 12 34 36.6 -0.1
XLT ScP **ScP** 12 39 30.2 +2.5
XLT pmax pmax
comp=Z,14nm,0.6s
XLT pmax pmax
comp=Z,46nm,3.7s
HEH **HeiHe** 57.52 341 *e*P **P** 12 34 36.0 -1.2
HEH pmax pmax
comp=Z,11nm,1.3s
HEH pmax pmax
comp=Z,180nm,5.8s
CMAR **Chiang Mai Arr** 57.68 294 P **P** 12 34 38.9 -0.1
CMAR **Chiang Mai Arr** 57.68 294 P **P** 12 34 39.9 +0.9
comp=Z,2.9nm,0.7s,baz=114,slow=5.5,SNR=19
CMAR LR LR 12 56 04.5
comp=Z,19nm,21.8s,baz=130,slow=32
comp=Z,2.9nm,0.7s
PPT **Papeete** 57.71 109 LR LR 12 55 26.4
comp=Z,32nm,19.2s,baz=332,slow=32
PPT2 **Papeete2** 57.71 109 *e*LR LR 12 51 25.8
comp=Z,42nm,23.0s
CHTO **Chiang Mai** 57.78 294 P **P** 12 34 39.2 -0.5
PZH **PanZhiHua** 57.85 304 P **P** 12 34 40.7 +0.5
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,120nm,4.1s
HHC **Hu-ho-hao-te** 57.93 323 *e*P **P** 12 34 41.8 +1.3
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,110nm,5.1s
CD2 **Chengdu** 58.03 309 *e*P **P** 12 34 40.6 -0.7
BTO **Baotou** 58.71 322 *e*P **P** 12 34 49.3 +3.3
BTO pP **pwP** 12 34 59.9 +0.8
BTO PcP **PcP** 12 35 37.7 +2.1
BTO PP **PP** 12 37 01.8 +5.6
BTO pmax pmax
comp=Z,21nm,0.7s
BTO pmax pmax
comp=Z,200nm,4.1s
BTO LR LR
comp=Z,730nm,15.9s
BTO LR LR
comp=Z,310nm,14.1s
BTO LR LR
comp=Z,140nm,9.9s
TNCH **TengChong** 60.04 301 P **P** 12 34 56.4 +0.9
TNCH pP pP 12 35 05.1 -0.1
TNCH pmax pmax
comp=Z,21nm,0.4s
TNCH pmax pmax
comp=Z,130nm,4.9s
LZH **Lanzhou** 60.36 315 *e*P **P** 12 34 57.9 +0.4
LZH pP pP 12 35 07.3 -0.1
LZH sP pwP 12 35 12.0 +1.4
LZH pmax pmax
comp=Z,14nm,1.2s
GTA **Gaotai** 64.74 316 *e*P **P** 12 35 27.1 +0.4
GTA pP pP 12 35 31.3 -5.3
GTA pmax pmax
comp=Z,7.0nm,1.2s
ULN **Ulaanbaatar** 64.77 327 P **P** 12 35 26.0 -0.7
ULN IAmb IAmb 12 35 28.0
comp=Z,16nm,1.5s
SONM **Songino Array** 65.11 327 P **P** 12 35 28.3 -0.6
SONM IAmb IAmb 12 35 30.1
comp=Z,18nm,1.7s
SONM **Songino Array** 65.11 327 P **P** 12 35 29.0 +0.2
comp=Z,2.2nm,0.7s,baz=133,slow=6.5,SNR=5.7
comp=Z,2.2nm,0.7s
SHL **Shillong** 65.93 300 P **P** 12 35 33.5 -1.2
TAOE **Nuku Hiva Isla** 66.26 98 *e*LR LR 12 55 29.4
comp=Z,844nm,24.2s

RAMN **Ramite** 70.87 300 *e*P **P** 12 36 05.9 +0.3
comp=Z,80nm,1.9s
JIRN **Jiri** 71.39 300 *e*P **P** 12 36 09.6 +0.7
comp=Z,65nm,1.5s
GUN **Gumba** 71.72 301 *e*P **P** 12 36 11.6 +0.7
comp=Z,95nm,1.5s
PKI **Pulchoki** 72.04 300 *e*P **P** 12 36 13.0 +0.2
comp=Z,62nm,1.5s
PKIN **Phulchoki** 72.05 300 *e*P **P** 12 36 12.5 -0.3
comp=Z,34nm,1.1s
DMN **Daman** 72.31 300 *e*P **P** 12 36 14.3 -0.1
comp=Z,115nm,1.3s
GKN **Gorkha** 72.81 300 *e*P **P** 12 36 17.3 +0.1
comp=Z,88nm,1.3s
DANN **Dangsing** 73.64 301 *e*P **P** 12 36 21.7 -0.5
comp=Z,62nm,1.4s
KOLN **Koldanda** 73.65 300 *e*P **P** 12 36 21.1 -1.1
comp=Z,52nm,1.4s
KDAK **Kodiak Island** 74.25 27 LR LR 13 03 33.7
comp=Z,86nm,21.4s,baz=245,slow=31
PYUN **Piuthan** 74.25 300 *e*P **P** 12 36 25.1 -0.6
comp=Z,34nm,1.1s
Q19K **Cape Douglas,** 74.42 25 P **P** 12 36 26.3 +0.5
baz=236
N18K **Kilae Creek** 74.51 23 P **P** 12 36 27.2 +0.9
baz=233
VNDA **Vanda** 74.65 178 P **P** 12 36 25.7 -1.1
WMQ **Urumqi** 74.82 317 *e*P **P** 12 36 30.3 +1.8
WMQ pP pP 12 36 38.3 -0.3
WMQ pmax pmax
comp=Z,10.0nm,1.1s
K17K **Iditarod** 74.87 21 P **P** 12 36 29.0 +0.7
baz=231
H17K **Granite Mounta** 75.77 19 P **P** 12 36 33.6 +0.1
baz=229
J18K **Innoko River** 75.90 21 P **P** 12 36 35.1 +0.9
baz=232
G17K **Kiwalik Mounta** 75.92 18 P **P** 12 36 34.9 +0.7
baz=228
H18K **Honhosa River** 76.41 19 P **P** 12 36 38.1 +1.0
baz=230
J19K **Poorman** 76.61 21 P **P** 12 36 38.7 +0.4
baz=233
E17K **Hotham Inlet** 76.65 16 P **P** 12 36 39.3 +0.9
baz=226
K20K **Telida** 76.79 22 P **P** 12 36 39.9 +0.6
baz=234
G18K **Tagagawik** 76.80 18 P **P** 12 36 39.6 +0.4
baz=230
SKT **Skwentna** 76.98 23 P **P** 12 36 41.4 +1.0
baz=237
SUA **Susitna One** 77.02 24 P **P** 12 36 41.4 +0.7
baz=238
J20K **Nowinta River** 77.24 21 P **P** 12 36 42.6 +0.9
baz=234
C17K **DeLong Mountai** 77.27 15 P **P** 12 36 42.4 +0.6
baz=225
H19K **Roundabout Mou** 77.27 19 P **P** 12 36 43.3 +1.4
baz=232
M22K **Willow** 77.42 24 P **P** 12 36 43.4 +0.6
baz=239
G19K **Purcell Mounta** 77.45 18 P **P** 12 36 43.8 +0.9
baz=231
I20K **Naaghedeneel** 77.49 20 P **P** 12 36 43.6 +0.5
baz=234
CAST **Castle Rocks** 77.56 22 P **P** 12 36 43.9 +0.3
baz=236
F19K **Shaleruckik Mo** 77.68 18 P **P** 12 36 45.6 +1.4
baz=230
CHUM **Lake Minchumin** 77.73 22 P **P** 12 36 45.1 +0.6
baz=236
PMR **Palmer** 77.75 24 P **P** 12 36 45.4 +0.7
baz=240
H20K **Anotleneega Mo** 77.77 20 P **P** 12 36 45.0 +0.3
baz=233
SML **Sawmill** 78.18 24 P **P** 12 36 47.5 +0.4
baz=240
E19K **Redstone River** 78.24 17 P **P** 12 36 48.0 +0.7
baz=231,SNR=9.0
GLI **Glacier Island** 78.25 25 P **P** 12 36 48.7 +1.2
baz=242
BPAW **Bear Paw Mtn.** 78.34 22 P **P** 12 36 47.9 0.0
baz=237
F20K **Avaraart Lake** 78.44 18 P **P** 12 36 49.4 +1.0
baz=232,SNR=5.3
H21K **Melozitna Rive** 78.56 20 P **P** 12 36 49.2 0.0
baz=235
WAT1 **Susitna Watana** 78.61 23 P **P** 12 36 49.9 +0.4
baz=240
C19K **Lookout Ridge** 78.65 16 P **P** 12 36 49.6 0.0
baz=228
G21K **Allakaket** 78.83 19 P **P** 12 36 51.1 +0.6
baz=234
MCK **McKinley** 78.92 23 P **P** 12 36 51.6 +0.5
baz=239
MLY **Manley** 78.94 21 P **P** 12 36 51.5 +0.2
MLY IAmb IAmb 12 36 53.2
comp=Z,14nm,1.4s
MLY **Manley** 78.94 21 P **P** 12 36 51.5 +0.2
baz=237
KLU **Klutina** 79.04 25 P **P** 12 36 52.7 +0.8
baz=242
E20K **Nigu River** 79.05 17 P **P** 12 36 52.1 +0.3
baz=232,SNR=5.4
H22K **Ishtalitna Cre** 79.19 20 P **P** 12 36 53.1 +0.6
baz=237
D20K **Etivluk River** 79.21 17 P **P** 12 36 53.5 +0.8
baz=231
F21K **Alatna River** 79.25 18 P **P** 12 36 53.4 +0.6
baz=234
NEA2 **Nenana** 79.31 22 P **P** 12 36 53.3 +0.1
baz=239
MK31 **Makanchi Array** 79.35 319 P **P** 12 36 52.9 -1.0
MKAR **Makanchi Array** 79.35 319 P **P** 12 36 53.2 -0.7
MKAR **Makanchi Array** 79.35 319 P **P** 12 36 53.6 -0.3
comp=Z,1.9nm,0.9s,baz=101,slow=6.3,SNR=10
comp=Z,1.9nm,0.9s
I23K **Minto, Yukon-K** 79.49 21 P **P** 12 36 55.0 +0.8
baz=239
G22K **Bettles** 79.71 19 P **P** 12 36 55.8 +0.5
baz=236
H23K **Yukon River** 79.78 21 P **P** 12 36 55.3 -0.6
H23K IAmb IAmb 12 36 57.6
comp=Z,30nm,1.6s
H23K **Yukon River** 79.78 21 P **P** 12 36 56.6 +0.7
baz=238
E21K **Killik River** 79.82 17 P **P** 12 36 57.0 +1.0
baz=234,SNR=7.1
F22K **John River** 79.83 19 P **P** 12 36 56.8 +0.8
baz=236
B20K **Meade River** 79.89 15 P **P** 12 36 56.5 +0.3
baz=230
COLA **College** 79.91 22 P **P** 12 36 55.8 -0.6
COLA **College** 79.91 22 P **P** 12 36 56.7 +0.3
baz=240
GLB **Gilahina Butte** 79.93 26 P **P** 12 36 56.0 -0.8
ZAA0 **Zalesovo Array** 79.97 326 P **P** 12 36 56.8 -0.2
ZALV **Zalesovo Beam** 79.97 326 P **P** 12 36 55.5 -1.5
ZALV **Zalesovo Beam** 79.97 326 P **P** 12 36 55.7 -1.3
comp=Z,1.0nm,0.5s,baz=120,slow=5.8,SNR=5.0
comp=Z,1.0nm,0.5s
G23K **Bananza Creek** 80.09 20 P **P** 12 36 57.7 +0.3
baz=238
K24K **Donnelly Dome** 80.18 23 P **P** 12 36 58.1 +0.1
baz=242
ILAR **Eielson Array** 80.21 22 P **P** 12 36 56.9 -1.2
ILAR **Eielson Array** 80.21 22 P **P** 12 36 57.2 -0.9
comp=Z,3.5nm,1.0s,baz=256,slow=5.1,SNR=13
comp=Z,3.5nm,1.0s
COLD **Coldfoot** 80.31 19 P **P** 12 36 59.1 +0.5
baz=238
B21K **Ikpikpuk River** 80.34 16 P **P** 12 36 59.2 +0.5
baz=233
H24K **Noodor Dome** 80.38 21 P **P** 12 36 59.6 +0.6
baz=240
D22K **Ayikyak River** 80.46 17 P **P** 12 36 59.1 -0.3
baz=235
M26K **Nabesna, AK** 80.69 25 P **P** 12 37 00.8 +0.1
baz=245
J25K **Salcha River,** 80.71 23 P **P** 12 36 59.7 -1.2
J25K **Salcha River,** 80.71 23 P **P** 12 37 00.8 -0.1
baz=242,SNR=9.4
L26K **Log Cabin Wild** 80.81 24 P **P** 12 37 02.3 +0.9
baz=245
CTG **Chitna Glacier** 80.82 27 P **P** 12 37 02.1 +0.5
baz=247
E23K **Chandalar** 80.94 19 P **P** 12 37 02.7 +0.6
baz=238,SNR=5.2

G24K **Hadweenzic Riv** 80.95 20 P **P** 12 37 02.2 +0.2
baz=240
D23K **Nanushuk River** 81.11 18 P **P** 12 37 03.2 +0.4
baz=237,SNR=5.2
M27K **Edge Creek, AK** 81.14 25 P **P** 12 37 03.2 -0.1
M27K **Edge Creek, AK** 81.14 25 P **P** 12 37 03.4 0.0
baz=246,SNR=5.5
F24K **Squaw Lake** 81.23 19 P **P** 12 37 04.2 +0.7
baz=240,SNR=7.5
O28M **Mount Upton** 81.26 27 P **P** 12 37 04.2 +0.1
baz=248
TOLK **Toolik Lake Re** 81.27 18 P **P** 12 37 04.2 +0.5
baz=238
E24K **Your Creek** 81.31 19 P **P** 12 37 04.7 +0.7
baz=239
H25L **Birch Creek** 81.32 21 P **P** 12 37 04.5 +0.5
baz=242
J26L **Joseph Creek** 81.36 23 P **P** 12 37 05.2 +0.8
baz=244
L27K **Beaver Creek,** 81.45 25 P **P** 12 37 04.9 +0.1
baz=246
G25K **Bearman Lake** 81.46 20 P **P** 12 37 05.0 +0.3
baz=242
YUK3 **Moose Creek** 81.52 26 P **P** 12 37 05.6 +0.1
baz=248
C23K **Itkillik River** 81.60 17 P **P** 12 37 05.9 +0.4
baz=237
K27K **Chicken** 81.75 24 P **P** 12 37 05.5 -0.8
K27K IAmb IAmb 12 37 09.3
comp=Z,15nm,1.4s
K27K **Chicken** 81.75 24 P **P** 12 37 07.3 +1.0
baz=246
D24K **Happy Valley** 81.77 18 P **P** 12 37 06.3 0.0
baz=239
O29M **Mount Kennedy** 81.83 28 P **P** 12 37 06.9 -0.1
baz=249
I26K **Coal Creek Min** 81.87 22 P **P** 12 37 06.8 -0.1
baz=244
P29M **Windy Craggy** 81.99 29 P **P** 12 37 07.4 -0.4
baz=250
F25K **Christian Rive** 82.01 20 P **P** 12 37 08.1 +0.4
baz=242
C24K **Franklin Bluff** 82.10 17 P **P** 12 37 08.1 +0.1
baz=239
E25K **Arctic Village** 82.29 19 P **P** 12 37 09.2 +0.1
baz=242
BMAR **Burnt Mountain** 82.30 20 P **P** 12 37 10.1 +0.9
G26K **Porcupine Rive** 82.36 21 P **P** 12 37 09.6 +0.2
baz=244,SNR=8.6
HYT **Haines Junctio** 82.51 27 P **P** 12 37 11.3 +0.8
HYT IAmb IAmb 12 37 12.6
comp=Z,16nm,0.9s
HYT **Haines Junctio** 82.51 27 P **P** 12 37 11.2 +0.7
baz=250,SNR=7.3
P30M **Million Dollar** 82.53 28 P **P** 12 37 11.1 +0.5
baz=251
F26K **Sheenjek River** 82.57 20 P **P** 12 37 11.3 +0.8
baz=243
I27K **Kandik River** 82.58 22 P **P** 12 37 10.9 +0.2
baz=246,SNR=7.0
M29M **Somme Creek** 82.64 26 P **P** 12 37 11.4 +0.2
M29M IAmb IAmb 12 37 13.7
comp=Z,10.0nm,1.1s
M29M **Somme Creek** 82.64 26 P **P** 12 37 11.4 +0.2
baz=249
KURBB **Kurchatov Arra** 82.74 322 P **P** 12 37 10.8 -1.0
comp=Z,1.1nm,0.7s,baz=104,slow=5.1,SNR=5.8
comp=Z,1.1nm,0.7s
DAWY **Dawson** 82.85 24 P **P** 12 37 12.9 +0.8
baz=248
H27K **Steamboat Moun** 82.87 22 P **P** 12 37 12.2 0.0
baz=246,SNR=5.0
N30M **Aishikik Lake** 82.91 27 P **P** 12 37 12.6 0.0
baz=251
L29M **L29M** 83.03 25 P **P** 12 37 13.4 +0.3
baz=249
G27K **Doyon Strip** 83.06 21 P **P** 12 37 13.5 +0.4
baz=246
O30N **Mendenhall** 83.15 28 P **P** 12 37 14.2 +0.5
baz=252
I28M **Miner Creek** 83.16 23 P **P** 12 37 14.3 +0.5
baz=248
M30M **Minto, Yukon** 83.42 26 P **P** 12 37 14.8 -0.3
baz=251
N31M **Braeburn, Yuko** 83.52 27 P **P** 12 37 15.1 -0.6
baz=252
E27K **Coleen River** 83.65 20 P **P** 12 37 16.7 +0.5
baz=246
WHY **Whitehorse** 83.68 28 P **P** 12 37 16.6 +0.1
baz=253
I29M **Ogilvie Camp,** 83.76 23 P **P** 12 37 16.7 0.0
I29M IAmb IAmb 12 37 18.1
comp=Z,12nm,1.2s
I29M **Ogilvie Camp,** 83.76 23 P **P** 12 37 16.5 -0.2
baz=249,SNR=6.3
F28M **Old Crow** 84.02 21 P **P** 12 37 18.1 0.0
baz=247
MAYO **Mayo, Yukon** 84.14 25 P **P** 12 37 19.0 +0.3
baz=251
J30M **Hart River** 84.28 24 P **P** 12 37 19.6 +0.1
baz=251
D27M **Malcolm River** 84.30 19 P **P** 12 37 19.8 +0.3
baz=246
NRIK **Noril'sk** 84.42 341 P **P** 12 37 19.9 -0.2
NRIK IAmb IAmb 12 37 21.0
comp=Z,14nm,1.0s
NRIK **Noril'sk** 84.42 341 P **P** 12 37 19.8 -0.2
comp=Z,8.7nm,0.8s,baz=98,slow=4.3,SNR=11
comp=Z,8.7nm,0.8s
G29M **Pine Creek** 84.42 22 P **P** 12 37 20.8 +0.7
baz=249
Q32M **Nakina River** 84.47 30 P **P** 12 37 21.0 +0.2
baz=255
I30M **Mount Dempster** 84.47 23 P **P** 12 37 21.2 +0.7
baz=251
E28M **Babbage River** 84.52 20 P **P** 12 37 20.9 +0.4
baz=248
EPYK **Eagle Plains** 84.72 22 P **P** 12 37 21.4 -0.3
baz=250
S34M **Telegraph Cree** 84.78 31 P **P** 12 37 22.1 0.0
baz=256
T35M **Bob Quinn** 85.03 32 P **P** 12 37 22.5 -0.9
baz=257
R33M **Jennings River** 85.23 30 P **P** 12 37 23.4 -1.0
baz=256
H31M **Peel River** 85.46 23 P **P** 12 37 25.4 0.0
baz=253
DLBC **Dease Lake** 85.48 31 P **P** 12 37 25.3 -0.3
DLBC IAmb IAmb 12 37 27.8
comp=Z,21nm,1.4s
DLBC **Dease Lake** 85.48 31 P **P** 12 37 25.3 -0.3
baz=257
F30M **Barrier River** 85.48 21 P **P** 12 37 25.7 +0.3
baz=251
G31M **Satah River** 85.82 22 P **P** 12 37 26.8 -0.2
baz=253
MMPY **Sheldon Lake,** 85.88 27 P **P** 12 37 27.4 -0.1
baz=256
F31M **Tsiigehtchic** 86.17 22 P **P** 12 37 29.2 +0.5
baz=253
WTLY **Watson Lake, Y** 86.46 29 P **P** 12 37 30.2 -0.2
WTLY **Watson Lake, Y** 86.46 29 P **P** 12 37 30.6 +0.1
baz=258
INK **Inuvik** 86.51 21 P **P** 12 37 30.6 +0.2
INK IAmb IAmb 12 37 31.3
comp=Z,20nm,1.4s
INK **Inuvik** 86.51 21 P **P** 12 37 30.5 +0.2
baz=253
TGTN **Hyland Airport** 87.00 28 P **P** 12 37 34.0 +0.9
baz=256
QSPA **South Pole Qui** 87.00 180 P **P** 12 37 31.6 -1.5
QSPA IAmb IAmb 12 37 38.2
comp=Z,5.3nm,0.9s
QSPA **South Pole Qui** 87.00 180 P **P** 12 37 31.8 -1.3
comp=Z,2.9nm,0.9s,baz=358,slow=1.1,SNR=13
comp=Z,2.9nm,0.9s
YBH **Yreka Blue Hor** 87.36 48 LR LR 13 12 02.3
comp=Z,33nm,18.4s,baz=18,slow=32
MAW **Mawson** 87.51 203 P **P** 12 37 34.2 -1.2
comp=Z,2.3nm,0.9s,baz=62,slow=8.7,SNR=3.0
comp=Z,2.3nm,0.9s
LIRD **Liard River Hi** 87.67 30 P **P** 12 37 36.6 +0.3
baz=260
BVAR **Borovoye Array** 88.14 323 P **P** 12 37 37.1 -1.6
comp=Z,2.2nm,0.8s,baz=104,slow=6.3,SNR=9.7
BVAR LR LR 13 19 09.0
comp=Z,11nm,19.1s,baz=1.7,slow=37
comp=Z,2.2nm,0.8s

BRVK	**Borovoye**	88.21	323	P	P	12 37 37.3	-1.7
BRVK				IAmb	IAmb	12 37 38.8	
	comp=Z,6.3nm,1.4s						
J05D	**Fort Rock, OR**	88.60	47	P	P	12 37 40.9	-0.4
KOTAN	**Kotaneelee Air**	88.80	30	P	P	12 37 41.8	+0.2
	baz=262						
SMMC	**Simmler**	88.89	55	P	P	12 37 43.0	+0.4
	baz=266						
CIS	**Catalina Islan**	90.06	57	P	P	12 37 48.2	0.0
	baz=267						
NVAR	**Mina Array Bea**	90.45	52	P	P	12 37 51.0	+0.8
	comp=Z,0.8nm,0.7s,baz=259,slow=5.2,SNR=6.2						
NVAR				LR	LR	13 14 16.6	
	comp=Z,26nm,18.0s,baz=301,slow=33						
	comp=Z,0.8nm,0.7s						
MPMC	**Manual Prospec**	90.97	54	P	P	12 37 52.3	-0.2
	baz=267						
MZP	**Montezuma Peak**	91.14	52	P	P	12 37 53.4	0.0
MZP				IAmb	IAmb	12 37 56.2	
	comp=Z,3.7nm,1.3s						
FURC	**Furnace Creek,**	91.49	54	P	P	12 37 54.8	+0.1
	baz=268						
PFO	**Pinyon Flats O**	91.70	57	LR	LR	13 11 47.7	
	comp=Z,50nm,19.6s,baz=216,slow=31						
TPNV	**Topopah Spring**	92.01	53	P	P	12 37 57.4	+0.1
	baz=268						
GMRC	**Granite Mounta**	92.41	55	P	P	12 37 58.5	-0.7
	baz=268						
BC3	**Big Chuckawall**	92.54	57	P	P	12 37 59.3	-0.5
	baz=268						
R11B	**Troy Canyon, C**	92.58	52	P	P	12 37 59.6	-0.3
	baz=268						
IRM	**Iron Mountain**	92.81	56	P	P	12 38 00.9	0.0
	baz=268						
ARU	**Arti**	95.14	326	LR	LR	13 19 53.6	
	comp=Z,11nm,21.6s,baz=178,slow=35						
BOZ	**Bozeman (W)**	95.55	45	P	P	12 38 13.2	-0.1
	baz=272						
PDAR	**Pinedale Array**	97.14	47	P	P	12 38 19.5	-1.3
	comp=Z,0.3nm,0.7s,baz=273,slow=3.5,SNR=2.8						
PDAR				LR	LR	13 16 21.3	
	comp=Z,19nm,18.4s,baz=294,slow=32						
	comp=Z,0.3nm,0.7s						
ELIB	**Princess Elisa**	98.74	194	*d*P	P	12 38 25.8	-1.4
	comp=Z,2.1nm,1.7s						
ANMO	**Albuquerque**	99.97	55	LR	LR	13 16 02.8	
	comp=Z,27nm,20.1s,baz=20,slow=31						
SDCO	**Great Sand Dun**	100.55	52	P	Pdif	12 38 35.2	-1.0
	baz=275						
SSPA	**Standing Stone**	120.54	44	P	PKPdf	12 43 38.9	-0.9
	baz=295						
LONY	**Lake Ozonia**	120.85	38	P	PKPdf	12 43 39.6	-0.8
	baz=300						
MEM	**Membach**	125.14	335	*d*PKP	PKiKP	12 43 49.0	+0.3
WLF	**Walferdange**	125.78	334	*d*PKP	PKPdf	12 43 48.4	-1.2
BMRD	**Maredsous**	125.88	336	*d*PKP	PKiKP	12 43 50.5	+0.3
TORD	**Torodi Ar. Bea**	150.27	292	PKPbc	PKPbc	12 44 38.9	-1.2
	comp=Z,7.7nm,1.3s,baz=48,slow=3.7,SNR=12						

*SJA **08** 12:36:27.7±1.2,20°.34S×68°.84W,h100km,ML3.8,MW3.9*
*NEIC **08** 12:36:29.8±0.8,20°.43S±0°.05×68°.94W±0°.09,h102km±5km, mb4.2/3,ML4.0(GUC),Error ellipse: s-maj=12.8km s-min=7.5km az=104.0*
*GUC **08** 12:36:29.9±0.7,20°.40S×68°.89W,h104km±3km,ML4.0*
ISC 08 12:36:29.5±0.8,20°.40S±0°.03×69°.00W±0°.05,h107km±6km, n51,σ1s01/79,7C-5D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	0.29	330		Pn	12 36 45.2	-0.3
PB08	**IPOC Station P**	0.29	330	⇓*i*P	Pn	12 36 45.2	-0.3
PB08				*i* S	Sn	12 36 57.2	-0.1
PB08				IAML		12 36 57.9	
	comp=E,7μm,0.3s						
PB08	**IPOC Station P**	0.29	330	*e*P	Pn	12 36 45.1	-0.3
PB08				*e*S	Sn	12 36 57.3	-0.1
PB08				IAML		12 36 59.5	
	comp=Z,1μm,0.4s						
GO01	**Chusmiza**	0.75	346		Pn	12 36 48.5	-0.2
GO01	**Chusmiza**	0.75	346	⇓*i*P	Pn	12 36 48.6	0.0
GO01				IAML		12 37 07.1	
	comp=E,6μm,0.1s						
GO01	**Chusmiza**	0.75	346	*e*P	Pn	12 36 48.6	0.0
GO01				*e*S	Sn	12 37 03.2	+0.3
GO01				IAML		12 37 06.7	
	comp=Z,1μm,0.1s						
PB01	**IPOC Station P**	0.79	215		Pn	12 36 48.4	-0.2
PB01	**IPOC Station P**	0.79	215	⇑*i*P	Pn	12 36 48.5	0.0
PB01				*i* S	Sn	12 37 03.2	+0.4
PB01				IAML		12 37 04.7	
	comp=E,8μm,0.2s						
PB01	**IPOC Station P**	0.79	215	*e*P	Pn	12 36 48.5	0.0
PB01				*e*S	Sn	12 37 03.8	+1.0
PB01				IAML		12 37 04.4	
	comp=Z,3μm,0.2s						
TA02	**Huaiquique**	1.07	277		Pn	12 36 51.7	+0.5
TA02	**Huaiquique**	1.07	277	*e*P	Pn	12 36 51.8	+0.5
TA02				*i* S	Sn	12 37 08.7	+1.0
TA02				IAML		12 37 12.4	
	comp=N,5μm,0.1s						
TA02	**Huaiquique**	1.07	277	*e*P	Pn	12 36 51.2	-0.1
TA02				*e*S	Sn	12 37 09.0	+1.4
TA02				IAML		12 37 09.2	
	comp=Z,2μm,0.2s						
TA01	**Diego Aracena**	1.12	261		Pn	12 36 52.0	+0.2
TA01	**Diego Aracena**	1.12	261	⇑*i*P	Pn	12 36 51.9	+0.2
TA01				*i* S	Sn	12 37 09.1	+0.5
TA01	**Diego Aracena**	1.12	261	*e*P	Pn	12 36 51.9	+0.2
TA01				*e*S	Sn	12 36 57.1	-11
TA01				IAML		12 37 14.7	
	comp=Z,769nm,0.5s						
PATCX	**Punta Patache**	1.16	249	Pn	Pn	12 36 52.3	0.0
PATCX	**Punta Patache**	1.16	249	⇑*i*P	Pn	12 36 52.6	+0.3
PATCX				*i* S	Sn	12 37 10.7	+1.1
PATCX				IAML		12 37 15.4	
	comp=N,2μm,0.3s						
PATCX	**Punta Patache**	1.16	249	*e*P	Pn	12 36 52.6	+0.3
PATCX				*e*S	Sn	12 37 11.7	+2.2
PATCX				IAML		12 37 14.0	
	comp=Z,943nm,0.8s						
PB02	**IPOC Station P**	1.24	222	⇑*i*P	Pn	12 36 53.6	+0.3
PB02				*i* S	Sn	12 37 12.4	+1.2
PB02				IAML		12 37 15.1	
	comp=E,4μm,0.5s						
PB02	**IPOC Station P**	1.24	222	*e*P	Pn	12 36 53.5	+0.3
PB02				*e*S	Sn	12 37 13.1	+1.9
PB02				IAML		12 37 13.4	
	comp=Z,3μm,0.4s						
PB09	**IPOC Station P**	1.41	189	⇑*i*P	Pn	12 36 55.6	+0.3
PB09				*i* S	Sn	12 37 16.0	+1.2
PB09	**IPOC Station P**	1.41	189	*e*P	Pn	12 36 55.6	+0.3
PB09				*e*S	Sn	12 37 17.0	+2.2
PB09				IAML		12 37 17.2	
	comp=Z,779nm,0.7s						
PB07	**IPOC Station P**	1.56	212		Pn	12 36 57.1	0.0
PB07	**IPOC Station P**	1.56	212	⇑*i*P	Pn	12 36 57.0	0.0
PB07				*e*S	Sn	12 37 18.6	+0.6
PB07				IAML		12 37 21.9	
	comp=N,1μm,0.2s						
PB07	**IPOC Station P**	1.56	212	*e*P	Pn	12 36 57.1	0.0
PB07				*e*P		12 36 57.1	
PB07				*e*S	Sn	12 37 19.8	+1.8
PB07				IAML		12 37 25.3	
	comp=Z,700nm,0.5s						
PB16	**IPOC Station P**	2.11	347	⇓*i*P	Pn	12 37 05.6	+1.2
PB16				*i* S	Sn	12 37 32.8	+1.9
PB16	**IPOC Station P**	2.11	347	*e*P	Pn	12 37 05.0	+0.6
PB16				*e*S	Sn	12 37 30.1	-0.8
PB12	**IPOC Station P**	2.17	325	⇓*i*P	Pn	12 37 04.8	0.0
PB12				*e*S	Sn	12 37 32.7	+1.0
PB12				IAML		12 37 38.7	
	comp=E,854nm,0.4s						
PB12	**IPOC Station P**	2.17	325	*e*P	Pn	12 37 04.3	-0.5
PB12				*e*S	Sn	12 37 33.1	+1.5
PB12				IAML		12 37 41.5	
	comp=Z,360nm,0.5s						
LVC	**Limon Verde**	2.20	178		Pn	12 37 06.7	+1.4
LVC	**Limon Verde**	2.20	178	⇓*e*P	Pn	12 37 06.0	+0.7
LVC				*e*S	Sn	12 37 33.4	+0.7
LVC				IAML		12 37 40.6	
	comp=Z,2μm,0.2s						
LVC	**Limon Verde**	2.20	178	*e*P	Pn	12 37 05.5	+0.2
LVC				*e*S	Sn	12 37 23.6	-9.1
LVC				*e*S		12 37 30.1	
LVC				*e*S		12 37 35.1	
LVC				IAML		12 37 39.1	
	comp=Z,270nm,0.4s						
PB04	**IPOC Station P**	2.20	209	⇓*e*P	Pn	12 37 05.4	+0.2
PB04				IAML		12 37 43.8	
	comp=N,677nm,0.3s						
PB04	**IPOC Station P**	2.20	209	*e*P	Pn	12 37 05.3	+0.2
PB04				*e*S	Sn	12 37 31.6	-0.8
PB04				IAML		12 37 39.6	
	comp=Z,535nm,0.2s						
PB06	**IPOC Station P**	2.36	193	*e*P	Pn	12 37 07.3	+0.2
PB06				*e*S	Sn	12 37 35.2	-0.8
PB06				IAML		12 37 42.4	
	comp=N,722nm,0.3s						
PB06	**IPOC Station P**	2.36	193	*e*P	Pn	12 37 07.4	+0.2
PB06				*e*S	Sn	12 37 38.9	+2.9
PB06				IAML		12 37 46.4	
	comp=Z,461nm,0.4s						
PB15	**IPOC Station P**	2.83	189	*e*P	Pn	12 37 14.1	+0.7
PB15				*e*S	Sn	12 37 47.7	+0.6
PB15	**IPOC Station P**	2.83	189	*e*P	Pn	12 37 14.1	+0.7
PB15				*e*S	Sn	12 37 48.9	+1.7
PB15				IAML		12 37 59.1	
	comp=Z,1μm,0.2s						
YJA	**Yavi**	3.70	119	*e*P	Pn	12 37 26.6	+1.4
LPAZ	**La Paz**	4.17	12	Pn	Pn	12 37 34.0	+2.2
LPAZ	**La Paz**	4.17	12	*e*P	Pn	12 37 33.9	+2.2
HJA	**Humahuaca**	4.35	131	*e*P	Pn	12 37 35.1	+1.2
GO02	**Mina Guanaco**	4.77	186	Pn	Pn	12 37 39.6	+0.1
GO02	**Mina Guanaco**	4.77	186	*e*P	Pn	12 37 38.7	-0.8
GO02				*e*S	Sn	12 38 32.1	-1.8
GO02	**Mina Guanaco**	4.77	186	*e*P	Pn	12 37 38.9	-0.6
GO02				*e*P		12 37 39.1	
GO02				*e*S	Sn	12 38 32.7	-1.2
GO02				IAML		12 38 56.8	
	comp=Z,114nm,0.5s						
AC02	**Maricunga**	6.41	181	Pn	Pn	12 38 01.0	-0.8
LCO	**Las Campanas**	8.71	190	Pn	Pn	12 38 33.2	+0.3
VILB	**Vilhena**	11.22	50	Pn	Pn	12 39 05.3	-1.4
TRQA	**Tornquist**	18.62	162	P	P	12 40 37.6	-1.0
TRQA				IAmb	IAmb	12 40 58.5	
	comp=Z,20nm,1.5s						
QSPA	**South Pole Qui**	69.79	180	P	P	12 47 28.9	+0.9
QSPA				IAmb	IAmb	12 47 30.0	
	comp=Z,2.2nm,1.2s						
TOA0	**Torodi Ar. Sit**	77.07	71	P	P	12 48 10.9	-0.5
TOA0				IAmb	IAmb	12 48 21.0	
	comp=Z,8.6nm,1.4s						

*IDC **08** 12:39:35.8±2.9,34°.84N×26°.15E,h0km,mb3.7/5, mbtmp3.6/7,ML3.3/2,MS2.5/1,Error ellipse: s-maj=65.6km s-min=25.6km az=177.0*
*ISK **08** 12:39:41.3,35°.56N×26°.13E,h3km,ML3.2/21*
*THE **08** 12:39:42.8,35°.53N×26°.12E,h22km±4km,ML3.3/6,Error ellipse: s-maj=4.7km s-min=0.9km az=149.0*
*AFAD **08** 12:39:45.6±0.0,35°.42N×26°.47E,h6km±5km,ML3.1*
ISC 08 12:39:39.2±1.3,35°.50N±0°.03×26°.15E±0°.02,h2km±10km, n49,σ1s24/61,mb3.7/5,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	0.39	171	Pg	Pn	12 39 51.0	-1.0
ZKR				Sg	Sb	12 39 58.2	+2.8
ZKR	**Zakros**	0.39	171	P	Pn	12 39 50.9	-1.0
ZKR				S	Sb	12 39 57.6	+2.2
	2μm,0.5s						
FRMA	**Ierapetra Chan**	0.59	215	P	Pn	12 39 53.4	-1.3
FRMA				S	Sb	12 40 01.5	+0.4
	770nm,0.6s						
KARP	**Karpathos**	0.83	87	Pg	Pn	12 39 58.4	+0.4
KARP				Sg	Sn	12 40 10.3	-0.6
KARP	**Karpathos**	0.83	87	P	Pn	12 39 57.7	-0.3
KARP				S	Sn	12 40 10.5	-0.4
	3μm,0.6s						
HRKL	**Herakleio**	0.87	258	Pg	Pn	12 39 58.8	+0.2
HRKL	**Herakleio**	0.87	258	P	Pn	12 39 58.5	-0.1
KSTL	**Kastelli Herak**	0.90	258	P	Pg	12 39 56.9	+0.4
KSTL				S	Sg	12 40 06.2	-1.9
SANT	**Santorini**	1.03	328	Pg	Pn	12 40 01.2	+0.4
SANT	**Santorini**	1.03	328	P	Pn	12 40 00.3	-0.5
SANT				S	Sg	12 40 12.6	+0.3
	3μm,0.5s						
THR6	**Thira Island,**	1.05	325	P	Pn	12 40 00.4	-0.6
IDI	**Anoyia**	1.05	259	Pg	Pn	12 40 01.2	+0.2
IDI	**Anoyia**	1.05	259	P	Pn	12 40 00.9	-0.1
IDI				S	Sb	12 40 14.6	+0.2
	855nm,0.5s						
THR8	**Santorini-Mono**	1.05	329	P	Pb	12 40 00.3	+0.1
THR3	**Thira Island,**	1.09	327	P	Pn	12 40 01.3	-0.2
CMBO	**Columbo, Santo**	1.14	328	P	Pn	12 40 02.5	+0.3
CMBO				S	Sg	12 40 15.6	-0.2
	6μm,0.6s						
KOSK	**Kos Island**	1.42	28	Pn	Pg	12 40 08.3	+1.9
RFTD	**Palamutbuku-Ka**	1.61	43	Pn	Pg	12 40 11.4	+1.3
DAT	**Datca**	1.69	43	Pn	Pg	12 40 12.4	+0.8
RFTB	**Kemer-Bodrum**	1.72	32	Pn	Pg	12 40 12.1	-0.1
ARG	**Arkhangelos**	1.76	66	Pn	Pg	12 40 13.1	+0.1
IMMV	**Iera Moni Meta**	1.77	269	Pn	Pg	12 40 13.3	+0.2
GVD	**Gavdhos**	1.81	249	Pn	Pg	12 40 15.4	+1.5
BODT	**Bodrum**	1.82	31	Pn	Pg	12 40 14.1	0.0
RFTC	**Emecik-Datca**	1.86	46	Pn	Pg	12 40 14.9	+0.1
BDRM	**Kayabasi**	1.88	34	P	Pg	12 40 16.0	+0.7
BDRM				S	Sg	12 40 41.8	+2.1
RODP	**Rodopos**	1.95	272	Pn	Pg	12 40 16.3	-0.3
RFTAA	**Mazikoy-Bodrum**	1.98	40	Pn	Pg	12 40 16.7	-0.4
KNDR	**Palaiochora Ch**	2.03	263	Pn	Pg	12 40 17.9	-0.2
TURN	**Turunc**	2.12	53	Pn	Pb	12 40 16.6	-1.8
TURN	**Turunc**	2.12	53	P	Pn	12 40 15.8	0.0
TURN				S	Sb	12 40 43.7	-1.5
MLSB	**Milas**	2.22	36	Pn	Pb	12 40 19.3	-0.9
YER	**Yerkesik**	2.37	46	Pn	Pb	12 40 21.9	-0.9
DALY	**Dalyan (Mula)**	2.42	56	Pn	Pb	12 40 22.8	-0.7
MULA	**Mugla, Merkez-**	2.48	44	P	Pn	12 40 21.6	+0.8
MULA				S	Sb	12 40 54.6	-1.1
AYDN	**Tasoluk**	2.57	32	P	Pg	12 40 27.7	-0.7
AYDN				*i* AML	AML	12 41 16.0	
	comp=E,61nm,0.9s						
IZZE	**Mula-Seydike**	2.67	69	P	Pb	12 40 26.8	-0.9
IZZE				*i* AML	AML	12 41 10.0	
	comp=E,106nm,0.5s						
IZZE				*i* AML	AML	12 41 12.0	
	comp=N,141nm,0.5s						
AKAS	**Kas**	2.90	74	P	Pb	12 40 29.2	-2.6
AKAS				*i* AML	AML	12 41 30.0	
	comp=N,124nm,0.8s						
AKAS				*i* AML	AML	12 41 40.0	
	comp=E,88nm,1.5s						
TAVA	**DENIZLI_Tavas**	2.97	48	P	Pb	12 40 30.6	-2.3
TAVA				S	Sb	12 41 06.2	-3.5
CAEL	**Denizli, Camel**	3.03	57	P	Pb	12 40 33.5	-0.5
CAEL				*i* AML	AML	12 41 35.0	
	comp=N,144nm,1.1s						
CAEL				*i* AML	AML	12 41 38.0	
	comp=E,181nm,1.5s						
GOLH	**Golhisar**	3.26	57	P	Pn	12 40 33.9	+2.4
GOLH				*i* AML	AML	12 41 28.0	
	comp=N,69nm,1.3s						
GOLH				*i* AML	AML	12 41 49.0	
	comp=E,66nm,1.5s						
BRTR	**Keskin Array B**	7.29	52	Pn	Pn	12 41 29.2	+2.3
	0.1nm,0.3s,baz=229,slow=13,SNR=4.7						
	1.0nm,0.6s						
AKASG	**Malin Array Be**	15.36	7	Pn	P	12 43 22.5	+0.8
	0.6nm,0.3s,baz=200,slow=11,SNR=3.4						
	0.2nm,0.2s						
ESDC	**Sonseca Array**	24.16	289	P	P	12 44 55.6	-1.3
	0.4nm,0.8s,baz=93,slow=11,SNR=2.5						
	0.4nm,0.8s						
KIRV	**Kirov**	27.74	26	LR	LR	12 58 20.5	
	comp=Z,8.5nm,18.5s,baz=345,slow=40						
EKA	**Eskdalemuir Ar**	28.23	324	P	P	12 45 34.7	+1.3
	0.8nm,0.8s,baz=128,slow=9.1,SNR=1.9						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	40.28	51	P	P	12 47 17.8	+0.2
	0.8nm,0.4s,baz=273,slow=8.7,SNR=8.3						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	42.91	57	P	P	12 47 39.9	+0.6
	0.8nm,0.5s,baz=265,slow=9.0,SNR=9.4						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	44.19	46	P	P	12 47 48.8	-0.6
	0.9nm,0.5s,baz=271,slow=9.7,SNR=3.7						
	0.9nm,0.5s						

*IDC **08** 12:42:32.9±0.8,11°.23N×122°.81E,h0km,mb3.7/8, mbtmp3.8/9,ML4.5/1,MS2.8/1,Error ellipse: s-maj=35.4km s-min=16.5km az=71.0*
*NEIC **08** 12:42:38.1±1.3,11°.3N±0°.1×122°.5E±0°.2,h31km±6km, mb4.5/16,Error ellipse: s-maj=26.5km s-min=15.0km az=107.0*
ISC 08 12:42:38.4±0.6,11°.17N±0°.06×122°.6E±0°.1,h39km,n41, σ2s12/47,mb4.5/23,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	3.33	331	Pn	Pn	12 43 25.9	-2.1
	42nm,0.3s,baz=314,slow=7.5,SNR=8.7						
	181nm,0.3s						
MYLDM	**Lahad Datu**	7.19	214	Pn	Pn	12 44 21.5	+0.5
KKM	**Kota Kinabalu**	8.09	232	Pn	Pn	12 44 33.3	-0.2
TOLI2	**Tolitoli**	10.15	190	Pn	Pn	12 45 02.6	+0.9
NJ2	**Nanjing**	21.07	351	*e*P	P	12 47 21.2	+2.0
NJ2				pP	pP	12 47 27.1	-2.1
NJ2				sP	sP	12 47 29.8	-3.9
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,240nm,4.2s						
GUMO	**Guam**	21.90	81	LR	LR	12 54 34.0	
	comp=Z,26nm,21.9s,baz=158,slow=33						
CMAR	**Chiang Mai Arr**	23.95	290	P	P	12 47 51.0	+1.7
	comp=Z,0.5nm,0.3s,baz=100,slow=8.5,SNR=7.1						
	comp=Z,0.5nm,0.3s						
PZH	**PanZhiHua**	24.87	311	P	P	12 47 56.1	-1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
KSRS	**Korea Array**	26.61	10	P	P	12 48 11.5	-1.7
	comp=Z,0.8nm,0.8s,baz=185,slow=11,SNR=4.6						
	comp=Z,0.8nm,0.8s						
TNCH	**TengChong**	26.64	304	P	P	12 48 14.9	+1.1
TNCH				sP	pP	12 48 24.0	-0.7
TNCH				PP	PnPn	12 48 56.4	+0.7
TNCH				S	S	12 52 43.0	-3.5
TNCH				pmax	pmax		
	comp=Z,19nm,0.8s						
KNRA	**Kununurra**	27.36	167	P	P	12 48 20.8	+0.7
KNRA				IAmb	IAmb	12 48 49.8	
	comp=Z,16nm,1.4s						
LZH	**Lanzhou**	30.05	329	*e*P	P	12 48 45.3	+1.2
LZH				pP	pP	12 48 54.7	-0.3
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
HHC	**Hu-ho-hao-te**	31.12	344	*e*P	P	12 48 56.0	+2.6
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				pmax	pmax		
	comp=Z,86nm,4.0s						
BTO	**Baotou**	31.35	341	*e*P	P	12 49 01.0	+5.6
BTO				pP	pP	12 49 08.8	+2.5
BTO				sP	sP	12 49 11.3	+0.3
BTO				PP	PP	12 50 04.0	-2.7
BTO				S	S	12 54 11.8	+12
BTO				SS	SnSn	12 55 56.7	+11
BTO				pmax	pmax		
	comp=Z,28nm,0.7s						
BTO				pmax	pmax		
	comp=Z,160nm,4.2s						
BTO				LR	LR		
	comp=N,630nm,19.0s						
BTO				LR	LR		
	comp=E,680nm,15.1s						
BTO				LR	LR		
	comp=Z,220nm,10.5s						
WB0	**Warramunga Arr**	32.87	159	P	P	12 49 07.8	-1.0
WRAB	**Tennant Creek**	33.01	159	P	P	12 49 08.8	-1.3
WRA	**Warramunga Arr**	33.01	159	P	P	12 49 09.3	-0.8
WRA	**Warramunga Arr**	33.01	159	P	P	12 49 09.3	-0.8
	comp=Z,0.6nm,0.5s,baz=332,slow=11,SNR=17						
WRA				PcP	PcP	12 51 53.0	-0.4
	comp=Z,0.5nm,0.8s,baz=341,slow=2.9,SNR=2.2						
	comp=Z,0.6nm,0.5s						
WB2	**Warramunga Arr**	33.02	159	P	P	12 49 09.3	-0.7
WB2				IAmb	IAmb	12 49 20.6	
	comp=Z,5.5nm,1.4s						
WR0	**Warramunga Arr**	33.10	159	P	P	12 49 10.1	-0.7
WR0				IAmb	IAmb	12 49 26.1	
	comp=Z,11nm,1.5s						
USRK	**Ussuriysk Ar.**	33.90	12	P	P	12 49 17.2	-0.3
	comp=Z,3.0nm,0.8s,baz=211,slow=6.9,SNR=5.2						
	comp=Z,3.0nm,0.8s						
AS31	**Alice Springs**	36.35	162	P	P	12 49 38.7	-0.2
ASAR	**Alice Springs**	36.35	162	P	P	12 49 39.2	+0.3
ASAR	**Alice Springs**	36.35	162	P	P	12 49 39.5	+0.6
	comp=Z,0.8nm,0.5s,baz=341,slow=6.9,SNR=36						
ASAR				PcP	PcP	12 52 03.0	-0.1
	comp=Z,0.2nm,0.7s,baz=335,slow=2.5,SNR=1.8						
	comp=Z,0.8nm,0.5s						
FORT	**Forrest**	42.04	173	P	P	12 50 26.0	-0.2
NWAO	**Narrogin (SRO)**	44.14	186	P	P	12 50 43.3	+0.1
WMQ	**Urumqi**	44.32	324	*e*P	P	12 50 44.3	-0.4
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
BBOO	**Buckleboo**	45.59	164	P	P	12 50 55.0	+0.2
MKAR	**Makanchi Array**	49.15	324	P	P	12 51 23.7	+1.3
	comp=Z,0.3nm,0.7s,baz=128,slow=8.3,SNR=2.2						
	comp=Z,0.3nm,0.7s						
PETK	**Petropavlovsk-**	50.40	27	P	P	12 51 31.5	-0.2
KURBB	**Kurchatov Arra**	53.30	326	P	P	12 51 54.0	+0.6
	comp=Z,0.2nm,0.3s,baz=131,slow=7.7,SNR=1.5						
	comp=Z,0.2nm,0.3s						
J20K	**Nowinta River**	77.10	27	P	P	12 54 27.8	+0.4
J20K				IAmb	IAmb	12 54 36.1	
	comp=Z,9.7nm,1.3s						
IMAR	**Indian Mountai**	77.30	25	P	P	12 54 29.1	+0.5
CAST	**Castle Rocks**	78.01	27	P	P	12 54 33.2	+0.6
CAST				IAmb	IAmb	12 54 33.6	
	comp=Z,6.9nm,1.1s						
H23K	**Yukon River**	79.03	25	P	P	12 54 39.1	+0.9
H23K				IAmb	IAmb	12 54 45.4	
	comp=Z,8.9nm,1.5s		

comp=Z,16nm,1.7s
WB2 Warramunga Arr 31.64 195 P **P 13 17 33.1 -1.1**
ASAR Alice Springs 35.33 194 P **P 13 18 06.5 +0.2**
CMAR Chiang Mai Arr 42.69 285 P **P 13 19 08.7 +0.6**
comp=Z,0.8nm,0.6s,baz=89,slow=6.7,SNR=7.4
comp=Z,0.8nm,0.6s
TOO Toolangi 48.27 177 P **P 13 19 51.8 0.0**
TOO IAmb IAmb 13 20 31.0
comp=Z,51nm,1.8s
ADK Adak 52.59 31 P **P 13 20 23.7 -0.6**
MKAR Makanchi Array 61.85 317 P **P 13 21 30.3 +0.4**
MKAR Makanchi Array 61.85 317 P **P 13 21 30.1 +0.2**
comp=Z,0.8nm,0.8s,baz=95,slow=8.0,SNR=5.9
comp=Z,0.8nm,0.8s
KURK Kurchatov 65.18 321 P **P 13 21 50.9 -0.8**
KURK IAmb IAmb 13 21 52.5
comp=Z,6.4nm,0.8s
KURBB Kurchatov Arra 65.21 321 P **P 13 21 51.6 -0.3**
comp=Z,2.3nm,0.2s,baz=103,slow=6.6,SNR=22
comp=Z,2.3nm,0.2s
BVAR Borovoye Array 70.62 322 P **P 13 22 26.2 +0.2**
comp=Z,2.7nm,0.6s,baz=101,slow=7.9,SNR=11
comp=Z,2.7nm,0.6s
BRVK Borovoye 70.69 322 P **P 13 22 24.4 -1.9**
BRVK IAmb IAmb 13 22 27.9
comp=Z,3.4nm,0.7s
ILAR Eielson Array 72.02 25 P **P 13 22 33.3 -0.9**
comp=Z,0.5nm,0.6s,baz=250,slow=6.2,SNR=5.2
comp=Z,0.5nm,0.6s
BMAR Burnt Mountain 73.50 23 P **P 13 22 44.6 +1.6**

---

*TEH **08** 13:27:15.8, 38°.56N×44°.22E, h5km±70km, ML2.6*
*AFAD **08** 13:27:15.4±0.0, 38°.56N×44°.23E, h2km±1km, ML2.6*
ISC 08 13:27:16.6±1.1, 38°.61N±0°.05×44°.23E±0°.03, h8km±10km, n12, σ1§16/21, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.20**	**286**	P	**Pg**	**13 27 20.4**	**-0.3**
OZAP				S	**Sg**	**13 27 23.6**	**+0.1**
OZAP				*i* AML	AML	13 27 25.0	
	comp=E,2μm,0.3s						
OZAP				*i* AML	AML	13 27 26.0	
	comp=N,1μm,0.6s						
VMUR	**Van-Muradiye**	**0.64**	**307**	P	**Pg**	**13 27 28.6**	**-0.5**
VMUR				S	**Sg**	**13 27 39.0**	**+1.5**
TVAN	**Van**	**0.65**	**263**	P	**Pg**	**13 27 28.3**	**-1.0**
TVAN				S	**Sg**	**13 27 37.9**	**+0.1**
TVAN				*i* AML	AML	13 27 46.0	
	comp=E,182nm,0.4s						
MAKU	**Maku**	**0.82**	**25**	Pg	**Pg**	**13 27 32.3**	**-0.2**
MAKU				Sg	**Sb**	**13 27 44.7**	**-0.1**
GEVA	**Gevas**	**0.97**	**253**	P	**Pb**	**13 27 34.2**	**-1.6**
GEVA				*i* AML	AML	13 27 48.0	
	comp=N,177nm,0.3s						
GEVA				S	**Sb**	**13 27 48.6**	**-0.3**
GEVA				*i* AML	AML	13 27 51.0	
	comp=E,130nm,0.5s						
DYDN	**Diyadin**	**1.03**	**336**	P	**Pg**	**13 27 37.6**	**+1.2**
DYDN				S	**Sb**	**13 27 49.0**	**-1.6**
ISHB	**Shabestar**	**1.13**	**106**	Pg	**Pb**	**13 27 37.1**	**-1.6**
ISHB				Sg	**Sb**	**13 27 53.5**	**-0.2**
ADCV	**BITLIS_Adilcev**	**1.20**	**280**	P	**Pn**	**13 27 39.2**	**-0.8**
ADCV				S	**Sn**	**13 27 57.0**	**+0.5**
ADCV				*i* AML	AML	13 28 00.0	
	comp=N,88nm,0.6s						
PERV	**Siirt/Pervari-**	**1.49**	**244**	P	**Pb**	**13 27 46.3**	**+1.6**
PERV				S	**Sg**	**13 28 06.4**	**+1.9**
PERV				*i* AML	AML	13 28 10.0	
	comp=E,227nm,0.5s						
PERV				*i* AML	AML	13 28 12.0	
	comp=N,158nm,0.5s						
ITBZ	**Tabriz**	**1.55**	**103**	Pg	**Pn**	**13 27 44.5**	**-0.3**
IAZR	**Azarshahr**	**1.66**	**123**	Pg	**Pn**	**13 27 47.0**	**+0.6**
IHRS	**Heris**	**2.22**	**97**	Pn	**Pn**	**13 27 55.5**	**+1.4**

---

*NEIC **08** 13:50:34.5±1.8, 0°.23N±0°.09×123°.68E±0°.05, h132km±11km, mb4.1/12, Error ellipse: s-maj=13.1km s-min=7.0km az=196.0*
*DJA **08** 13:50:37.8±0.4, 0°.S±3°×12°.3E±°, h140km±5km, M4.0/11, MLv4.0/11*
*IDC **08** 13:50:51.5±9.8, 0°.04N×123°.56E, h323km±114km, mb3.1/7, mbtmp3.8/7, Error ellipse: s-maj=34.5km s-min=15.5km az=64.0*
ISC 08 13:50:36.7±0.6, 0°.01S±0°.06×123°.32E±0°.08, h157km, n39, σ1§21/41, mb3.9/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.71**	**334**	P	**Pn**	**13 51 01.5**	**+1.5**
GTOI				S	**Sn**	**13 51 20.1**	**+2.2**
LUWI	**Luwuk**	**1.16**	**208**	Pn	**Pn**	**13 51 03.1**	**-0.5**
LUWI	**Luwuk**	**1.16**	**208**	P	**Pn**	**13 51 03.0**	**-0.6**
LUWI				S	**Sn**	**13 51 22.7**	**-1.5**
MRSI	**Marisa**	**1.46**	**289**	P	**Pn**	**13 51 05.6**	**-0.8**
MRSI				S	**Sn**	**13 51 27.3**	**-1.8**
TOLI2	**Tolitoli**	**2.77**	**294**	Pn	**Pn**	**13 51 20.9**	**-0.5**
SANI	**Sanana**	**3.36**	**127**	P	**Pn**	**13 51 27.6**	**-1.3**
MPSI	**Mapaga**	**3.43**	**276**	P	**Pn**	**13 51 30.6**	**+0.7**
TNTI	**Ternate**	**4.12**	**79**	Pn	Pn	13 51 30.2	-8.6
LBMI	**Labuha**	**4.23**	**99**	P	**Pn**	**13 51 40.6**	**+0.4**
TTSI	**Tana Toraja**	**4.62**	**229**	P	**Pn**	**13 51 46.1**	**+0.8**
NLAI	**Namlea**	**4.96**	**130**	P	**Pn**	**13 51 51.2**	**+1.4**
MYLDM	**Lahad Datu**	**7.05**	**317**	Pn	**Pn**	**13 52 17.6**	**+0.2**
MTN	**Manton Dam**	**14.93**	**149**	P	**P**	**13 54 01.5**	**-0.3**
UGM	**Wanagama**	**14.98**	**238**	Pn	**Pn**	**13 54 03.8**	**+3.1**
KNRA	**Kununurra**	**16.48**	**161**	P	**Pn**	**13 54 19.5**	**+0.5**
KNRA				IAmb	IAmb	13 54 38.3	
	comp=Z,21nm,1.4s						
WB0	**Warramunga Arr**	**22.44**	**152**	P	**P**	**13 55 22.1**	**-0.8**
WB0				IAmb	IAmb	13 55 23.5	
	comp=Z,4.6nm,0.5s						
WRAB	**Tennant Creek**	**22.56**	**152**	P	**P**	**13 55 23.7**	**-0.3**
WRAB				IAmb	IAmb	13 55 24.7	
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**22.57**	**152**	P	**P**	**13 55 23.8**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=328,slow=11,SNR=69						
	comp=Z,2.4nm,0.6s						
WB2	**Warramunga Arr**	**22.57**	**152**	P	**P**	**13 55 23.8**	**-0.3**
WB2				IAmb	IAmb	13 55 24.8	
	comp=Z,4.3nm,0.6s						
WR0	**Warramunga Arr**	**22.68**	**152**	P	**P**	**13 55 24.5**	**-0.5**
WR0				IAmb	IAmb	13 55 26.4	
	comp=Z,5.5nm,0.7s						
AS31	**Alice Springs**	**25.67**	**157**	P	**P**	**13 55 52.3**	**+0.1**
ASAR	**Alice Springs**	**25.67**	**157**	P	**P**	**13 55 52.8**	**+0.5**
ASAR	**Alice Springs**	**25.67**	**157**	P	**P**	**13 55 52.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=328,slow=8.7,SNR=21						
	comp=Z,0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.17**	**309**	P	**P**	**13 56 34.2**	**+1.9**
	comp=Z,0.9nm,0.7s,baz=137,slow=6.9,SNR=9.6						
	comp=Z,0.9nm,0.7s						
CHTO	**Chiang Mai**	**30.37**	**309**	P	**P**	**13 56 36.2**	**+2.1**
FORT	**Forrest**	**30.93**	**172**	P	**P**	**13 56 38.5**	**-0.4**
STKA	**Stephens Creek**	**36.11**	**153**	P	**P**	**13 57 24.2**	**+0.5**
STKA	**Stephens Creek**	**36.11**	**153**	P	**P**	**13 57 24.1**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=345,slow=9.0,SNR=6.3						
	comp=Z,1.6nm,0.5s						
MJAR	**Matsushiro Arr**	**38.90**	**19**	P	**P**	**13 57 45.7**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=193,slow=9.2,SNR=7.9						
	comp=Z,1.6nm,0.7s						
CAN	**Canberra**	**42.52**	**148**	P	**P**	**13 58 17.9**	**+1.0**
RAMN	**Ramite**	**44.32**	**310**	*e*P	**P**	**13 58 32.5**	**+0.9**
	comp=Z,9.9nm,0.5s						
JIRN	**Jiri**	**44.99**	**311**	*e*P	**P**	**13 58 37.5**	**+0.4**
	comp=Z,6.6nm,0.4s						
GUN	**Gumba**	**45.36**	**311**	*e*P	**P**	**13 58 40.3**	**+0.3**
	comp=Z,12nm,0.5s						
DANN	**Dangsing**	**47.19**	**310**	*e*P	**P**	**13 58 54.4**	**+0.2**
PYUN	**Piuthan**	**47.66**	**309**	*e*P	**P**	**13 58 57.6**	**-0.2**
	comp=Z,1.8nm,0.6s						
MK31	**Makanchi Array**	**58.78**	**328**	P	**P**	**14 00 17.7**	**-0.8**
MK31				IAmb	IAmb	14 00 18.8	
	comp=Z,2.3nm,1.1s						
MKAR	**Makanchi Array**	**58.78**	**328**	P	**P**	**14 00 17.4**	**-1.1**
MKAR	**Makanchi Array**	**58.78**	**328**	P	**P**	**14 00 17.5**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=124,slow=8.7,SNR=7.9						
	comp=Z,0.6nm,0.5s						
BVAR	**Borovoye Array**	**68.65**	**329**	P	**P**	**14 01 19.7**	**-3.2**
	comp=Z,0.2nm,0.4s,baz=115,slow=6.8,SNR=1.7						
	comp=Z,0.2nm,0.4s						

---

*JMA **08** 13:57:47.5±0.3, 37°.5N±0°.8×14°4E±°, h57km, MV4.0/31, FAR E OFF NORTH HONSHU*
*NIED **08** 13:57:47.5, 37°.48N×143°.83E, h57km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.28; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$3.22; $M_{r\theta}$0.35; $M_{\theta\phi}$1.40; $M_{\phi r}$1.63; Fault plane solution: $M_0$3.40000×10^{14} NP1: ϕ_s192.00000°, δ60.00000°, λ-96.00000°. NP2:ϕ_s24.00000°, δ31.00000°, λ-80.00000°.*
ISC 08 13:57:46.6±1.2, 37°.54N±0°.04×144°.06E±0°.07, h65km±46km, n27, σ1§73/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**2.19**	**291**	*i* P	**Pn**	13 58 20.6	0.0
JIKH				S	**Sn**	**13 58 44.7**	**-2.0**
JIO	**Ouri**	**2.33**	**294**	P	Pn	13 58 22.6	+0.1
JKMT	**Kesennumamotoy**	**2.40**	**303**	P	Pn	13 58 23.7	+0.2
JKMT				S	**Sn**	**13 58 50.2**	**-1.6**
OFUJ	**Ofunato**	**2.43**	**310**	P	Pn	13 58 24.2	+0.3
OFUJ				S	**Sn**	**13 58 51.0**	**-1.5**
JMST	**Minamisoumatoc**	**2.52**	**275**	P	Pn	13 58 24.4	-0.8
JMST				S	Sn	13 58 52.1	-2.7
JFK	**Kawauchi**	**2.54**	**267**	*e*P	Pn	13 58 24.8	-0.7
JFK				*e*S	Sn	13 58 52.0	-3.3
JMM	**Marumori**	**2.61**	**278**	P	Pn	13 58 26.0	-0.4
JMK	**Ichinoseki**	**2.64**	**303**	P	Pn	13 58 27.4	+0.6
JMK				*e*S	**Sn**	**13 58 57.3**	**-0.4**
JOM	**Ohasama**	**2.90**	**312**	P	Pn	13 58 31.4	+1.0
JOM				S	**Sn**	**13 59 04.0**	**-0.2**
JOTO	**OTAMA OYAMA**	**2.96**	**271**	P	Pn	13 58 31.6	+0.4
JOTO				S	**Sn**	**13 59 04.6**	**-1.0**
JYK	**Kaneyama**	**3.22**	**296**	P	**Pn**	**13 58 35.8**	**+1.1**
JYK				*e*S	**Sn**	**13 59 12.1**	**+0.2**
JANG	**Nango**	**3.45**	**326**	*e*P	**Pn**	**13 58 39.0**	**+1.1**
BSO1	**Boso 1**	**3.81**	**222**	*e*P	Pn	13 58 41.4	-0.9
BSO1				S	**Sn**	**13 59 23.4**	**-2.2**
JTM	**Tenmabayashi**	**3.99**	**325**	P	**Pn**	**13 58 48.0**	**+2.8**
JRY	**Ryogami san**	**4.41**	**251**	*i* P	Pn	13 58 50.5	-0.5
JRY				S	Sn	13 59 36.5	-4.6
JOT	**Ohata**	**4.49**	**330**	P	**Pn**	**13 58 53.9**	**+1.9**
JOT				*e*S	**Sn**	**13 59 40.8**	**-2.0**
ERM	**Erimo**	**4.52**	**351**	P	**Pn**	**13 58 53.5**	**+1.1**
JEM	**Erimo**	**4.52**	**351**	P	**Pn**	**13 58 55.2**	**+2.7**
JOD2	**Odawara 2**	**4.61**	**242**	*e*P	Pn	13 58 52.8	-0.9
JOD2				*e*S	Sn	13 59 41.1	-4.8
JSD	**Sado**	**4.62**	**278**	P	**Pn**	**13 58 55.5**	**+1.7**
MAJO	**Matsushiro**	**4.79**	**260**	P	**Pn**	**13 58 57.9**	**+1.8**
JCH	**Churui**	**5.09**	**354**	P	**Pn**	**13 59 01.3**	**+1.0**
JCH				S	**Sn**	**13 59 56.2**	**-1.6**
JOSM	**Okushiri--Mats**	**5.75**	**324**	*e*S	**Sn**	**14 00 12.0**	**-1.7**
NEM2	**Nemuro 2**	**5.96**	**12**	P	Pn	13 59 11.6	-0.5
INU	**Inuyama**	**6.08**	**251**	P	**Pn**	**13 59 15.5**	**+1.6**
JTKR	**Abashiri--Toko**	**6.42**	**359**	P	**Pn**	**13 59 19.4**	**+1.0**
JTKR				*e*S	**Sn**	**14 00 28.8**	**-1.5**
JMN	**Monobe**	**9.12**	**248**	P	**Pn**	**13 59 55.5**	**+0.1**

---

*IDC **08** 14:01:51.2±2.3, 5°.58S×147°.33E, h152km±17km, mb3.7/6, mbtmp4.2/9, Error ellipse: s-maj=29.2km s-min=14.8km az=122.0*
*NEIC **08** 14:01:54.9±0.7, 5°.64S±0°.08×147°.32E±0°.08, h174km±7km, mb4.3/17, Error ellipse: s-maj=13.2km s-min=9.6km az=145.0*
ISC 08 14:01:53.9±0.7, 5°.67S±0°.08×147°.29E±0°.08, h170km, n51, σ0§96/53, mb4.2/10, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.61**	**1**		**Pn**	**14 02 50.0**	**+0.2**
PMG	**Port Moresby**	**3.71**	**182**		**Pn**	**14 02 50.2**	**-0.8**
PMG	**Port Moresby**	**3.71**	**182**	P	**Pn**	**14 02 50.5**	**-0.6**
PMG	**Port Moresby**	**3.71**	**182**	P	**Pn**	**14 02 50.5**	**-0.6**
	161nm,0.3s,baz=351,slow=5.7,SNR=280						
PMG				S	**Sn**	**14 03 32.7**	**-2.9**
	83nm,0.5s,baz=220,slow=22,SNR=4.4						
KRVT	**Keravat (AS076**	**4.91**	**74**	P	**Pn**	**14 03 06.9**	**+0.3**
	13nm,0.5s,baz=48,slow=24,SNR=5.7						
COEN	**Coen**	**9.17**	**206**	Pn	**Pn**	**14 04 04.1**	**+1.3**
COEN	**Coen**	**9.17**	**206**	P	**Pn**	**14 04 04.5**	**+1.7**
HNR	**Honiara**	**13.09**	**107**	P	**P**	**14 04 58.4**	**+0.7**
HNR	**Honiara**	**13.09**	**107**	P	**P**	**14 04 57.9**	**+0.2**
	865nm,0.7s,baz=10,slow=2.9,SNR=3.8						
CTA	**Charters Tower**	**14.36**	**184**	P	**Pn**	**14 05 09.1**	**-0.5**
	2.0nm,0.8s,baz=353,slow=13,SNR=2.4						
CTAO	**Charters Tower**	**14.36**	**184**	Pn	**Pn**	**14 05 10.4**	**+0.7**
KDU	**Kakadu**	**16.19**	**243**	P	**P**	**14 05 31.6**	**-0.4**
QIS	**Mount Isa**	**16.57**	**206**	P	**Pn**	**14 05 37.6**	**+0.9**
MTN	**Manton Dam**	**17.45**	**245**	P	**P**	**14 05 46.5**	**+0.6**
MTN				IAmb	IAmb	14 06 27.6	
	comp=Z,25nm,1.4s						
WB0	**Warramunga Arr**	**18.80**	**221**	P	**P**	**14 06 01.1**	**+0.5**
WB0				IAmb	IAmb	14 06 04.2	
	comp=Z,7.1nm,0.8s						
WR0	**Warramunga Arr**	**18.85**	**220**	P	**P**	**14 06 01.8**	**+0.7**
WR0				IAmb	IAmb	14 06 02.6	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**18.95**	**220**	P	**P**	**14 06 02.7**	**+0.5**
WRAB	**Tennant Creek**	**18.95**	**220**	P	**P**	**14 06 02.7**	**+0.5**
WB2	**Warramunga Arr**	**18.96**	**220**	P	**P**	**14 06 03.1**	**+0.7**
WRA	**Warramunga Arr**	**18.97**	**220**	P	**P**	**14 06 02.9**	**+0.4**
	comp=Z,9.8nm,0.5s,baz=32,slow=11,SNR=137						
WRA				S	**S**	**14 09 27.8**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=40,slow=21,SNR=4.4						
EIDS	**Eidsvold**	**19.92**	**170**	P	**P**	**14 06 11.9**	**-0.7**
KNRA	**Kununurra**	**20.72**	**240**	P	**P**	**14 06 20.4**	**-0.9**
KNRA				IAmb	IAmb	14 06 23.5	
	comp=Z,10.0nm,1.0s						
KNRA	**Kununurra**	**20.72**	**240**	P	**P**	**14 06 20.6**	**-0.6**
AS31	**Alice Springs**	**22.05**	**214**	P	**P**	**14 06 35.7**	**+0.5**
ASAR	**Alice Springs**	**22.05**	**214**	P	**P**	**14 06 35.7**	**+0.5**
ASAR	**Alice Springs**	**22.05**	**214**	P	**P**	**14 06 35.5**	**+0.4**
	comp=Z,13nm,0.8s,baz=47,slow=8.1,SNR=73						
ASAR				S	**S**	**14 10 28.7**	**+2.4**
	comp=Z,5.9nm,0.9s,baz=31,slow=23,SNR=24						
	comp=Z,13nm,0.8s						
INKA	**Innaminka**	**22.81**	**195**	P	**P**	**14 06 43.7**	**+1.5**
OOD	**Oodnadatta**	**24.61**	**205**	P	**P**	**14 06 59.6**	**+1.1**
DZM	**Mont Dzumac**	**24.68**	**133**	P	**P**	**14 06 58.8**	**-0.5**
DZM				IAmb	IAmb	14 07 39.5	
	comp=Z,10nm,1.2s						
DZM	**Mont Dzumac**	**24.68**	**133**	P	**P**	**14 06 59.8**	**+0.4**
DZM	**Mont Dzumac**	**24.68**	**133**	P	**P**	**14 06 59.2**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=5.3,slow=2.8,SNR=12						
	comp=Z,3.4nm,0.8s						
ARMA	**Armidale**	**24.95**	**171**	P	**P**	**14 07 03.0**	**+1.2**
ARMA				IAmb	IAmb	14 07 32.5	
	comp=Z,13nm,1.5s						
ARMA	**Armidale**	**24.95**	**171**	P	**P**	**14 07 03.4**	**+1.6**
PINNC	**Pines Island,**	**25.74**	**133**	P	**P**	**14 07 08.6**	**-0.2**
WRKA	**Warakurna**	**26.50**	**221**	P	**P**	**14 07 16.2**	**+0.5**
STKA	**Stephens Creek**	**26.61**	**191**	P	**P**	**14 07 17.0**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=350,slow=12,SNR=1.4						
	comp=Z,1.0nm,0.6s						
MULG	**Mulgathing**	**27.47**	**205**	P	**P**	**14 07 24.7**	**+0.5**
OUZ	**Omahuta**	**38.11**	**144**	⇑P	P	14 09 01.6	+5.1
MLZ	**Mavora Lakes**	**43.50**	**159**	P	**P**	**14 09 41.2**	**+0.8**
CASY	**Casey**	**65.64**	**195**	P	**P**	**14 12 19.1**	**-0.4**
CASY				IAmb	IAmb	14 12 30.7	
	comp=Z,5.6nm,1.4s						
VNDA	**Vanda**	**72.22**	**177**	P	**P**	**14 13 00.4**	**+0.5**
MAW	**Mawson**	**82.66**	**203**	P	**P**	**14 13 57.4**	**-0.5**
MAW	**Mawson**	**82.66**	**203**	P	**P**	**14 13 57.3**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=21,slow=8.6,SNR=1.8						
	comp=Z,0.9nm,0.8s						
QSPA	**South Pole Qui**	**84.29**	**180**	P	**P**	**14 14 06.0**	**-0.4**
QSPA	**South Pole Qui**	**84.29**	**180**	P	**P**	**14 14 06.1**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=324,slow=0.7,SNR=19						
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**85.07**	**23**	P	**P**	**14 14 08.4**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=255,slow=4.9,SNR=9.1						
	comp=Z,0.8nm,0.6s						
M27K	**Edge Creek, AK**	**86.25**	**26**	P	**P**	**14 14 16.4**	**+0.2**
BCAR	**Beaver Creek A**	**86.52**	**26**	P	**P**	**14 14 17.9**	**+0.4**
K27K	**Chicken**	**86.73**	**25**	P	**P**	**14 14 19.0**	**+0.6**
K27K				IAmb	IAmb	14 14 44.9	
	comp=Z,6.2nm,1.4s						
G29M	**Pine Creek**	**89.23**	**22**	P	**P**	**14 14 29.9**	**-0.3**
G29M				IAmb	IAmb	14 14 41.7	
	comp=Z,9.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**145.28**	**285**	PKPbc	**PKPdf**	**14 21 10.8**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=70,slow=3.3,SNR=6.4						

---

*NEIC **08** 14:04:38.8, 18°.98S×175°.62W, h12km*
*NEIC **08** 14:04:38.6, 19°.00S×175°.57W, h10km*
*NEIC **08** 14:04:38.5±1.8, 18°.99S±0°.09×175°.57W±0°.08, h10km±1km, mb5.4/132, Ms_20 5.9/906, Mwb6.0/91, Mww6.1/32, Error ellipse: s-maj=14.9km s-min=12.2km az=165.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.05; $M_{\theta\theta}$-0.68; $M_{\phi\phi}$0.73; $M_{r\theta}$0.01; $M_{\theta\phi}$-0.82; $M_{\phi r}$0.23; Fault plane solution: $M_0$1.11000×10^{18} NP1:ϕ_s20.53000°, δ87.48000°, λ11.43000°. NP2:ϕ_s290.02000°, δ78.58000°, λ177.43000°. Principal axes: T 1.1432, Plg10.0000°, Azm246.0000°; N -0.0744, Plg78.0000°, Azm33.0000°; P -1.0688, Plg6.0000°, Azm155.0000°;*
*NEIC **08** 14:04:38.8, 18°.98S×175°.62W, h12km, Moment Tensor Solution. Duration: 5s5 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.29; $M_{\theta\theta}$-0.71; $M_{\phi\phi}$1.00; $M_{r\theta}$-0.52; $M_{\theta\phi}$-1.02; $M_{\phi r}$-0.47; Fault plane solution: $M_0$1.52000×10^{18} NP1: ϕ_s16.67000°, δ75.74000°, λ-26.00000°. NP2:ϕ_s113.52000°, δ64.86000°, λ-164.21000°. Principal axes: T 1.4979, Plg7.0000°, Azm67.0000°; N 0.0403, Plg61.0000°, Azm170.0000°; P -1.5382, Plg28.0000°, Azm333.0000°;*
*MOS **08** 14:04:39.3±1.5, 19°.06S×175°.91W, h13km, mb5.4/30, MS5.9/31 Error ellipse: s-maj=10.9km s-min=9.3km az=28.4*
*IDC **08** 14:04:39.0±0.5, 19°.06S×175°.94W, h0km, mb4.9/19, mbtmp4.9/20, ML4.0/1, MS5.7/57, Error ellipse: s-maj=18.2km s-min=14.0km az=159.0*
*BJI **08** 14:04:40.0±0.0, 19°.00S×175°.80W, h10km, mb5.0/48, mB5.7/50, Ms5.8/66, Ms7 5.7/63*
*NOU **08** 14:04:42.6, 18°.91S×175°.65W, h24km, ML5.6/47, Tonga Islands*
*GCMT **08** 14:04:46.5±0.1, 19°.03S×175°.82W, h13km, MW6.0/161, Moment Tensor Solution. s155,c354; s161,c579; Duration: 2s6 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.10±.01; $M_{\theta\theta}$-0.94±.01; $M_{\phi\phi}$1.04±.01; $M_{r\theta}$-0.11±.02; $M_{\theta\phi}$-1.13±.01; $M_{\phi r}$0.16±.02; Best double couple: $M_0$1.51300×10^{18} NP1:ϕ_s290.00000°, δ86.00000°, λ174.00000°. NP2:ϕ_s21.00000°, δ84.00000°, λ4.00000°. Principal axes: T 1.5750, Plg7.0000°, Azm246.0000°; N -0.1270, Plg83.0000°, Azm78.0000°; P -1.4520, Plg1.0000°, Azm336.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BGR **08** 14:04:47.6, 18°.16S×174°.65W, h33km, Ms5.9*
ISC 08 14:04:39.7±0.4, 19°.08S±0°.05×175°.62W±0°.04, h9km±2km, h9km:pP-P, n1313, σ1§86/819, mb5.4/142, MS5.9/548, 65C-26D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**4.71**	**299**	P	**Pn**	**14 05 51.6**	**+0.6**
DGTI	**Dogotuki**	**5.21**	**301**	P	**Pn**	**14 05 57.7**	**-0.2**
FUTU	**Fugatoga**	**5.31**	**333**	P	**Pn**	**14 05 56.0**	**-3.3**
NIUE	**Niue**	**5.39**	**91**	P	**Pn**	**14 06 01.2**	**+0.9**
	baz=5.5,SNR=16						
NIUE				S	**Sn**	**14 06 59.9**	**-2.6**
	baz=5.5						
NIUE	**Niue**	**5.39**	**91**	Pn	**Pn**	**14 05 56.8**	**-3.5**
NIUE	**Niue**	**5.39**	**91**	P	**Pn**	**14 06 01.3**	**+1.0**
NIUE	**Niue**	**5.39**	**91**	⇓P	**Pn**	**14 06 01.2**	**+1.0**
MSVF	**Nonsavu**	**6.15**	**282**	Pn	**Pn**	**14 06 09.2**	**-1.8**
MSVF	**Nonsavu**	**6.15**	**282**	P	**Pn**	**14 06 10.8**	**-0.1**
MSVF	**Nonsavu**	**6.15**	**282**	*i* P	**Pn**	**14 06 09.1**	**-1.8**
MSVF	**Nonsavu**	**6.15**	**282**	⇑P	**Pn**	**14 06 07.5**	**-3.4**
MSVF	**Nonsavu**	**6.15**	**282**	Pn	**Pn**	**14 06 07.6**	**-3.3**
	0.1nm,0.3s,baz=166,slow=22,SNR=8.5						
MSVF				LR	LR	14 08 16.1	
	comp=Z,112μm,20.5s,baz=92,slow=37						
	54nm,1.1s						
AFI	**Afiamalu**	**6.33**	**36**	Pn	**Pn**	**14 06 09.7**	**-3.6**
AFI	**Afiamalu**	**6.33**	**36**	P	**Pn**	**14 06 11.2**	**-2.1**
AFI	**Afiamalu**	**6.33**	**36**	P	**Pn**	**14 06 09.7**	**-3.6**
AFI	**Afiamalu**	**6.33**	**36**	⇑P	**Pn**	**14 06 10.9**	**-2.4**
AFI	**Afiamalu**	**6.33**	**36**	Pn	**Pn**	**14 06 11.3**	**-2.0**
	9.5nm,0.3s,baz=256,slow=1.3,SNR=18						
YSA	**Yasawairara**	**6.89**	**289**	P	**Pn**	**14 06 20.1**	**-0.9**
RAO	**Raoul Island**	**10.34**	**191**	LR	LR	14 10 41.7	
	comp=Z,72μm,20.2s,baz=12,slow=35						
FUNA	**Funafuti**	**11.63**	**334**		**Pn**	**14 07 22.1**	**-3.9**
RAR	**Rarotonga**	**15.04**	**101**	Pn	**Pn**	**14 08 08.8**	**-3.7**
RAR	**Rarotonga**	**15.04**	**101**	P	**P**	**14 08 16.1**	**-1.8**
RAR	**Rarotonga**	**15.04**	**101**	P	**Pn**	**14 08 08.8**	**-3.7**
RAR	**Rarotonga**	**15.04**	**101**

comp=Z,145µm,24.5s
TBI Tubuai 24.74 104 *e*T T 14 35 53.0
comp=Z,16nm,0.3s
PAE Paea 24.75 91 *e*P **P 14 10 01.3 -0.5**
comp=Z,92nm,1.4s
PAE Paea 24.75 91 *e*T T 14 35 58.8
comp=Z,7.3nm,0.3s
PPT2 Papeete2 24.76 91 *e*P **P 14 10 00.5 -1.5**
comp=Z,288nm,1.3s
PPT2 *e*LQ LQ 14 14 59.3
comp=Z,119µm,26.2s
PPT2 *e*LR LR 14 15 44.1
comp=Z,79µm,26.2s
PPT2 *e*LR LR 14 15 59.1
comp=Z,53µm,29.0s
PPT2 Papeete2 24.76 91 *e*T T 14 35 58.7
comp=Z,4.5nm,0.3s
PPT Papeete 24.77 91 P **P 14 10 05.2 +3.2**
comp=Z,189nm,1.1s,baz=243,slow=9.2,SNR=10
PPT LR LR 14 17 16.3
comp=Z,24µm,20.1s,baz=260,slow=30
comp=Z,189nm,1.1s
PPTF Pamatai, Papee 24.77 91 P **P 14 10 03.8 +1.7**
TIAR Tiarei 24.99 91 *e*P **P 14 10 02.0 -2.0**
comp=Z,14nm,1.0s
DSZ Denniston Nort 25.00 203 IAMs_20 IAMs_20 14 18 04.9
comp=Z,32µm,22.0s
KHZ Kahutara 25.01 199 IAMs_20 IAMs_20 14 21 09.1
comp=Z,38µm,22.0s
TVO Taravao 25.05 91 *e*P **P 14 10 05.8 +1.2**
comp=Z,119nm,1.3s
HNR Honiara 25.51 289 LR LR 14 19 28.9
comp=Z,150µm,18.3s,baz=126,slow=35
GVZ Greta Valley S 25.67 199 IAMs_20 IAMs_20 14 21 04.5
comp=Z,34µm,20.0s
LTZ Lake Taylor 25.75 201 P **P 14 10 07.3 -3.4**
LTZ IAMs_20 IAMs_20 14 21 24.7
comp=Z,36µm,21.0s
LHI Lord Howe Isla 25.95 237 IAMs_20 IAMs_20 14 18 23.3
comp=Z,34µm,19.0s
INZ Inchbonnie 25.99 202 P **P 14 10 10.2 -2.5**
INZ IAmb IAmb 14 10 31.9
comp=Z,63nm,0.9s
INZ IAMs_20 IAMs_20 14 20 46.0
comp=Z,35µm,18.0s
OXZ Oxford 26.32 201 P **P 14 10 11.6 -4.1**
OXZ IAmb IAmb 14 10 18.5
comp=Z,73nm,0.9s
OXZ IAMs_20 IAMs_20 14 21 50.6
comp=Z,33µm,20.0s
MQZ McQueen's Vall 26.46 199 IAMs_20 IAMs_20 14 19 17.3
comp=Z,38µm,20.0s
PMOR Pomariorio Ree 26.81 86 *e*P **P 14 10 17.8 -2.6**
comp=Z,237nm,1.2s
PMOR Pomariorio Ree 26.81 86 *e*T T 14 38 31.6
comp=Z,4.0nm,0.3s
RPZ Rata Peaks 26.99 202 IAMs_20 IAMs_20 14 20 19.6
comp=Z,34µm,21.0s
RPZ Rata Peaks 26.99 202 LR LR 14 20 30.3
comp=Z,32µm,21.0s,baz=18,slow=35
FOZ Fox Glacier 27.28 204 IAMs_20 IAMs_20 14 20 48.2
comp=Z,42µm,20.0s
XMAS Kiritimati 27.57 42 P **P 14 10 23.1 -4.2**
XMAS Kiritimati 27.57 42 P **P 14 10 27.7 +0.4**
LBZ Lake Benmore 27.89 202 IAMs_20 IAMs_20 14 19 56.0
comp=Z,39µm,21.0s
ODZ Otahua Downs 28.30 201 IAMs_20 IAMs_20 14 22 28.1
comp=Z,32µm,18.0s
WKZ Wanaka 28.69 203 IAMs_20 IAMs_20 14 21 42.3
comp=Z,33µm,19.0s
MLZ Mavora Lakes 29.48 204 IAMs_20 IAMs_20 14 22 07.4
comp=Z,29µm,20.0s
GC1S Gold Coast 1 S 29.62 246 P **P 14 10 47.3 +1.8**
DCZ Deep Cove 29.94 205 IAMs_20 IAMs_20 14 24 31.4
comp=Z,22µm,19.0s
WHZ Wether Hill Ro 29.99 203 IAMs_20 IAMs_20 14 22 43.8
comp=Z,26µm,20.0s
PYZ Puysegur Point 30.70 204 IAMs_20 IAMs_20 14 22 54.7
comp=Z,25µm,21.0s
EIDS Eidsvold 31.39 252 P **P 14 11 00.4 -0.8**
baz=31,SNR=12
EIDS Eidsvold 31.39 252 P **P 14 10 58.6 -2.6**
EIDS IAmb IAmb 14 11 07.3
comp=Z,56nm,1.2s
EIDS Eidsvold 31.39 252 P **P 14 11 00.4 -0.8**
EIDS Eidsvold 31.39 252 ⇓P **P 14 11 00.5 -0.8**
ARMA Armidale 31.70 243 P **P 14 11 04.2 +0.3**
baz=32,SNR=21
ARMA Armidale 31.70 243 P **P 14 11 03.9 -0.1**
ARMA IAMs_20 IAMs_20 14 20 38.5
comp=Z,25µm,22.0s
ARMA Armidale 31.70 243 P **P 14 11 03.6 -0.4**
ARMA Armidale 31.70 243 ⇑P **P 14 11 04.1 +0.1**
RK1H Rockhampton Ha 31.83 256 P **P 14 11 04.2 -0.8**
MGCD Mangrove Creek 32.85 238 P **P 14 11 14.2 +0.3**
baz=33,SNR=5.5
MGCD Mangrove Creek 32.85 238 P **P 14 11 14.8 +0.9**
SYDH Sydney Hard Ro 33.31 237 P **P 14 11 18.5 +0.6**
WOLH Wollongong Har 33.41 236 P **P 14 11 19.0 +0.3**
RMQ Roma 33.58 251 P **P 14 11 20.3 0.0**
baz=34,SNR=14
RMQ Roma 33.58 251 P **P 14 11 21.8 +1.5**
KRVT Keravat (AS076 34.82 291 LR LR 14 24 08.0
comp=Z,8µm,19.1s,baz=278,slow=34
CNB Canberra Magne 34.87 235 P **P 14 11 31.8 +0.3**
baz=35,SNR=18
CNB Canberra Magne 34.87 235 P **P 14 11 31.7 +0.2**
CAN Canberra 35.16 235 IAMs_20 IAMs_20 14 25 16.2
comp=Z,30µm,18.0s
CAN Canberra 35.16 235 P **P 14 11 33.9 -0.1**
CAN Canberra 35.16 235 ⇓P **P 14 11 34.0 +0.1**
YNG Young 35.33 237 P **P 14 11 35.9 +0.4**
TV1H Townsville Har 35.45 263 P **P 14 11 38.6 +2.0**
TAOE Nuku Hiva Isla 35.83 78 *e*P **P 14 11 38.5 -1.5**
comp=Z,770nm,24.5s
TAOE *e*S **S 14 17 21.2 +3.2**
comp=Z,3µm,26.0s
TAOE *e*LR LR 14 20 50.3
comp=Z,45µm,27.2s
TAOE Nuku Hiva Isla 35.83 78 *e*T T 14 49 39.6
comp=Z,100nm,0.3s
CTA Charters Tower 35.88 262 P **P 14 11 40.0 -0.3**
CTA Charters Tower 35.88 262 P **P 14 11 38.5 -1.8**
comp=Z,27nm,0.9s,baz=92,slow=9.6,SNR=19
CTA LR LR 14 24 13.2
comp=Z,41µm,22.0s,baz=87,slow=33
comp=Z,27nm,0.9s
CTAO Charters Tower 35.88 262 P **P 14 11 38.9 -1.5**
CTAO IAmb IAmb 14 11 48.9
comp=Z,58nm,0.9s
CTAO Charters Tower 35.88 262 P **P 14 11 40.0 -0.3**
CTAO Charters Tower 35.88 262 P **P 14 11 38.9 -1.5**
CTAO pmax pmax
comp=Z,58nm,1.0s
CTAO Charters Tower 35.88 262 ⇓P **P 14 11 39.3 -1.0**
PATS Pohnpei 36.37 313 IAMs_20 IAMs_20 14 22 45.8
comp=Z,18µm,21.0s
CMSA Cobar Meteorol 36.92 243 P **P 14 11 48.7 -0.4**
baz=37,SNR=79
PMG Port Moresby 37.26 280 P **P 14 11 50.2 -1.9**
PMG Port Moresby 37.26 280 IAMs_20 IAMs_20 14 25 35.8
comp=Z,20µm,18.0s
PMG Port Moresby 37.26 280 P **P 14 11 54.0 +1.9**
PMG Port Moresby 37.26 280 P **P 14 11 54.1 +1.9**
PMG Port Moresby 37.26 280 *i* P **P 14 11 49.7 -2.4**
PMG pmax pmax
comp=Z,101nm,1.0s
PMG MLR MLR
comp=Z,18µm,17.0s
PMG Port Moresby 37.26 280 ⇑P **P 14 11 50.7 -1.5**
PMG Port Moresby 37.26 280 LR LR 14 24 51.1
comp=Z,18µm,19.5s,baz=104,slow=33
QLP Quilpie 37.62 251 P **P 14 11 54.4 -0.7**
baz=38,SNR=16
QLP Quilpie 37.62 251 ⇑P **P 14 11 53.5 -1.6**
MTSU Mount Surprise 37.92 265 P **P 14 11 55.8 -2.0**
baz=38,SNR=5.3
MTSU Mount Surprise 37.92 265 P **P 14 11 58.1 +0.3**
TOO Toolangi 38.53 233 P **P 14 12 02.5 -0.1**
baz=39,SNR=16
TOO Toolangi 38.53 233 IAmb IAmb 14 12 07.7
comp=Z,88nm,1.1s
TOO IAMs_20 IAMs_20 14 24 30.8
comp=Z,25µm,21.0s
TOO Toolangi 38.53 233 ⇑P **P 14 12 02.6 -0.1**
TAU Tasmania Unive 39.20 224 IAMs_20 IAMs_20 14 25 00.5
comp=Z,28µm,21.0s

BRAT Ballarat 39.72 234 P **P 14 12 13.3 +0.8**
COEN Coen 39.76 271 P **P 14 12 11.9 -1.3**
COEN Coen 39.76 271 ⇑P **P 14 12 11.4 -1.8**
MANU Manus Island 39.98 291 P **P 14 12 12.3 -2.8**
MANU IAmb IAmb 14 12 22.2
comp=Z,75nm,0.9s
MANU Manus Island 39.98 291 P **P 14 12 15.8 +0.8**
STKA Stephens Creek 40.42 243 P **P 14 12 18.0 -0.5**
baz=40,SNR=11
STKA Stephens Creek 40.42 243 P **P 14 12 17.2 -1.2**
STKA Stephens Creek 40.42 243 *c i* P **P 14 12 17.5 -1.0**
STKA Stephens Creek 40.42 243 P **P 14 12 17.9 -0.6**
comp=Z,35nm,1.0s,baz=76,slow=8.9,SNR=32
STKA LR LR 14 27 28.6
comp=Z,27µm,18.0s,baz=94,slow=34
comp=Z,35nm,1.0s
ARPS Mount Arapiles 41.13 236 P **P 14 12 23.8 -0.4**
baz=41,SNR=12
WAKE Wake Island 41.90 334 IAMs_20 IAMs_20 14 26 18.7
comp=Z,17µm,20.0s
QIS Mount Isa 42.05 260 P **P 14 12 31.8 -0.2**
baz=42,SNR=3.3
HTT Hallett 42.87 241 P **P 14 12 37.7 -0.8**
baz=43,SNR=16
HTT Hallett 42.87 241 ⇑P **P 14 12 37.8 -0.8**
KIP Kipapa 43.79 24 *ce*P **P 14 12 46.6 +0.7**
KIP pmax pmax
comp=Z,158nm,1.7s
BBOO Buckleboo 45.18 242 P **P 14 12 56.3 -0.8**
baz=45,SNR=19
BBOO Buckleboo 45.18 242 P **P 14 12 55.3 -1.8**
JAY Jayapura 45.77 286 P P 14 13 09.1 +7.1
JAY Jayapura 45.77 286 LR LR 14 30 58.6
comp=Z,7µm,19.8s,baz=120,slow=35
GENI Genyem 46.22 285 P **P 14 13 06.5 +0.9**
comp=Z,240nm,1.3s,comp=Z,4µmcomp=Z,3µm
WR0 Warramunga Arr 46.84 260 P **P 14 13 07.6 -2.8**
WR0 IAmb IAmb 14 13 17.9
comp=Z,31nm,1.1s
WB0 Warramunga Arr 47.00 260 P **P 14 13 08.0 -3.7**
WB0 IAmb IAmb 14 13 18.4
comp=Z,41nm,1.1s
WB2 Warramunga Arr 47.02 260 IAmb IAmb 14 13 18.6
comp=Z,46nm,1.1s
WRAB Tennant Creek 47.02 260 P **P 14 13 08.9 -2.9**
WRAB IAmb IAmb 14 13 18.6
comp=Z,41nm,1.1s
WRAB Tennant Creek 47.02 260 *ce*P **P 14 13 08.4 -3.4**
WRAB pmax pmax
comp=Z,45nm,1.7s
WRAB Tennant Creek 47.02 260 ⇑P **P 14 13 09.5 -2.3**
WRA Warramunga Arr 47.03 260 P **P 14 13 09.1 -2.7**
WRA Warramunga Arr 47.03 260 P **P 14 13 09.5 -2.4**
comp=Z,15nm,1.0s,baz=96,slow=7.6,SNR=31
WRA LR LR 14 31 51.7
comp=Z,38µm,19.6s,baz=96,slow=35
comp=Z,15nm,1.0s
ASAR Alice Springs 47.03 255 P **P 14 13 09.6 -2.3**
comp=Z,54nm,0.8s,baz=88,slow=8.2,SNR=172
ASAR LR LR 14 31 51.4
comp=Z,17µm,20.2s,baz=92,slow=35
comp=Z,54nm,0.8s
SMPI Sarmi 47.80 285 P P 14 13 26.2 +8.3
KDU Kakadu 50.18 269 P **P 14 13 33.8 -2.3**
baz=50,SNR=3.2
GUMO Guam 50.68 307 LR LR 14 31 35.8
comp=Z,3µm,21.2s,baz=138,slow=32
MTN Manton Dam 51.41 269 P **P 14 13 43.8 -1.6**
baz=51,SNR=3.7
FORT Forrest 51.91 245 ⇑P **P 14 13 48.5 -0.5**
WRKA Warakurna 52.01 253 P **P 14 13 48.6 -1.3**
baz=52,SNR=48
WRKA Warakurna 52.01 253 ⇑P **P 14 13 47.5 -2.4**
KNRA Kununurra 53.00 264 P **P 14 13 56.0 -1.3**
baz=53,SNR=6.9
KNRA Kununurra 53.00 264 IAmb IAmb 14 14 06.2
comp=Z,54nm,1.1s
FAKI Fak Fak 53.40 281 P **P 14 13 58.4 -1.8**
FAKI IAmb IAmb 14 14 02.9
comp=Z,34nm,1.1s
FAKI IAMs_20 IAMs_20 14 33 54.4
comp=Z,15µm,22.0s
FAKI Fak Fak 53.40 281 P **P 14 14 00.7 +0.5**
comp=Z,29nm,1.0s,comp=Z,2µmcomp=Z,2µm
SIJI Sorong 55.07 283 P **P 14 14 10.2 -2.2**
comp=Z,32nm,0.8s,baz=75,slow=6.1,SNR=16
SIJI LR LR 14 35 50.8
comp=Z,10µm,22.0s,baz=103,slow=34
comp=Z,32nm,0.8s
SWI Sorong 55.08 283 P **P 14 14 12.5 0.0**
comp=Z,90nm,0.9s,comp=Z,1µm
KMBL Kambalda 57.19 245 P **P 14 14 27.5 +0.2**
baz=57,SNR=6.2
LBMI Labuha 58.64 281 P **P 14 14 40.4 +2.6**
comp=Z,71nm,0.8s,comp=Z,2µm
SOEI Soe 58.72 270 P **P 14 14 40.5 +2.0**
comp=Z,198nm,0.8s,comp=Z,2µm
SOEI Soe 58.72 270 ⇓P **P 14 14 39.8 +1.3**
BATI Baumata 59.16 269 LR LR 14 41 27.5
comp=Z,16µm,18.4s,baz=126,slow=38
VNDA Vanda 59.52 186 P **P 14 14 42.2 -0.7**
VNDA Vanda 59.52 186 P **P 14 14 42.2 -0.7**
SANI Sanana 59.54 279 P **P 14 14 44.0 0.0**
comp=Z,41nm,1.4s,comp=Z,2µmcomp=Z,2µm
SANI Sanana 59.54 279 ⇑P **P 14 14 40.6 -3.4**
PSA00 Pilbara Seismi 60.18 256 P **P 14 14 45.9 -2.4**
PSA00 Pilbara Seismi 60.18 256 P **P 14 14 46.2 -2.2**
PSA00 IAmb IAmb 14 14 49.8
comp=Z,131nm,1.2s
MBWA Marble Bar 60.35 256 P **P 14 14 47.8 -1.7**
MBWA Marble Bar 60.35 256 ⇑P **P 14 14 48.4 -1.2**
MEEK Meekatharra 60.50 250 P **P 14 14 48.2 -2.3**
baz=60,SNR=6.9
KLBR Kellerberrin 60.68 244 P **P 14 14 50.0 -1.6**
baz=61,SNR=11
RPN Rapa Nui 60.90 111 LR LR 14 37 01.9
comp=Z,3µm,18.3s,baz=264,slow=32
NWAO Narrogin (SRO) 61.00 242 IAMs_20 IAMs_20 14 39 17.4
comp=Z,13µm,19.0s
NWAO Narrogin (SRO) 61.00 242 LR LR 14 39 48.2
comp=Z,11µm,18.4s,baz=94,slow=35
JCJ Chichijima 61.48 317 LR LR 14 38 05.0
comp=Z,8µm,20.2s,baz=144,slow=33
BLDU Ballidu 61.67 245 P **P 14 14 56.8 -1.6**
baz=62,SNR=8.5
MORW Morawa 62.44 247 P **P 14 15 03.6 0.0**
baz=62,SNR=4.4
MORW Morawa 62.44 247 P **P 14 15 01.5 -2.1**
LUWI Luwuk 62.90 279 P **P 14 15 07.6 +0.8**
DAV Davao City (W) 63.48 288 P **P 14 15 15.0 +4.4**
DAV Davao City (W) 63.48 288 LR LR 14 41 37.3
comp=Z,3µm,19.8s,baz=108,slow=35
MRSI Marisa 64.22 280 P P 14 15 21.8 +6.3
KAPI Kappang 64.41 274 *i* P **P 14 15 16.5 -0.3**
KAPI pmax pmax
comp=Z,63nm,2.7s
KAPI MLR MLR
comp=Z,3µm,20.0s
TOLI2 Tolitoli 65.53 280 P **P 14 15 23.2 -0.9**
TOLI2 IAmb IAmb 14 15 52.1
comp=Z,45nm,1.3s
TWSI Taliwang, Sumb 65.99 269 P **P 14 15 27.7 +0.6**
comp=Z,67nm,1.0s,comp=Z,1µmcomp=Z,2µm
MPSI Mapaga 66.07 279 P **P 14 15 27.9 +0.3**
comp=Z,48nm,1.1s,comp=Z,966nm
CASY Casey 66.19 205 P **P 14 15 27.2 -0.3**
CASY Casey 66.19 205 ⇑P **P 14 15 27.1 -0.3**
JHJ Hachijo jima 2 67.14 320 LR LR 14 43 26.6
comp=Z,3µm,18.2s,baz=151,slow=35
JAGI Jajag, Banyuwa 68.65 268 P P 14 15 51.2 +7.3
MYLDM Lahad Datu 69.16 283 ⇑P **P 14 15 49.4 +2.4**
BBKI Banjar Baru 69.54 273 P **P 14 15 51.4 +1.9**
comp=Z,90nm,0.9s,comp=Z,5µm
MTKI Muara Teweh, K 70.32 276 P P 14 16 01.9 +7.6
MJAR Matsushiro Arr 70.44 322 P **P 14 15 53.3 -1.2**
comp=Z,3.4nm,0.9s,baz=157,slow=6.0,SNR=12
MJAR LR LR 14 47 18.5
comp=Z,2µm,18.0s,baz=130,slow=36
comp=Z,3.4nm,0.9s
MAJO Matsushiro 70.44 322 P **P 14 15 54.0 -0.5**
MAJO Matsushiro 70.44 322 *i* P **P 14 15 53.7 -0.8**
MAJO pmax pmax
comp=Z,13nm,1.0s
MAJO MLR MLR
comp=Z,4µm,19.0s
QSPA South Pole Qui 70.98 180 P **P 14 15 57.2 -0.4**

QSPA South Pole Qui 70.98 180 IAMs_20 IAMs_20 14 41 24.3
comp=Z,8µm,22.0s
QSPA South Pole Qui 70.98 180 P **P 14 15 58.5 +0.9**
comp=Z,45nm,1.1s,baz=37,slow=2.7,SNR=30
QSPA LR LR 14 41 56.6
comp=Z,7µm,21.6s,baz=38,slow=32
comp=Z,45nm,1.1s
JOW Kunigami 71.01 308 LR LR 14 41 01.7
comp=Z,3µm,21.9s,baz=140,slow=31
WOJI Wonogiri, Jawa 71.89 268 P **P 14 16 05.9 +2.1**
comp=Z,95nm,1.4s,comp=Z,2µm
NIKH Nikolski High 71.99 4 P **P 14 16 03.2 -0.2**
baz=187
YUK Yuzh-Kuril'sk 72.02 332 *e*P **P 14 16 05.1 +1.3**
YUK *e*S **S 14 25 27.3 +1.8**
YUK MLR MLR
comp=N,3µm,18.0s
YUK MLR MLR
comp=Z,4µm,18.0s
SHEM Shemya Is, Ala 72.06 353 LR LR 14 41 39.6
comp=Z,5µm,21.1s,baz=153,slow=31
SMRI Semarang 72.58 268 IAMs_20 IAMs_20 14 48 02.1
comp=Z,6µm,20.0s
JNU Nakatsue 72.82 315 LR LR 14 45 06.0
comp=Z,1µm,19.3s,baz=116,slow=33
UNV Unalaska Valle 73.05 6 P **P 14 16 10.5 +0.8**
baz=189
ASAJ Asahikawa 73.59 330 LR LR 14 42 07.9
comp=Z,15µm,21.9s,baz=172,slow=31
STKI Sintang 73.88 276 P **P 14 16 18.0 +2.4**
comp=Z,39nm,1.5s,comp=Z,10µmcomp=Z,2µm
KPJI Karang Pucung 73.92 268 P **P 14 16 17.6 +1.8**
comp=Z,70nm,1.9s,comp=Z,2µm
SNCC San Nicolas Is 74.65 46 IAMs_20 IAMs_20 14 41 44.6
comp=Z,7µm,19.0s
SNCC San Nicolas Is 74.65 46 P **P 14 16 18.7 -1.0**
baz=234
CHNA Chernabura Isl 74.88 10 P **P 14 16 20.6 +0.2**
baz=196
SCZ2 Santa Cruz Isl 75.01 45 P **P 14 16 21.2 -0.5**
baz=234
PET Petropavlovsk 75.18 344 *e*P **P 14 16 20.5 -1.7**
PET *e*S **SKiKP 14 25 52.3 +6.3**
PET *e*PS **PnS 14 26 43.8 +7.5**
PET *e*PPS PPS 14 26 57.2
PET pmax pmax
comp=Z,600nm,13.1s
PET MLR MLR
comp=Z,4µm,18.0s
PET MLR MLR
comp=Z,3µm,19.0s
TATO Taipei 75.24 303 IAMs_20 IAMs_20 14 46 21.1
comp=Z,5µm,20.0s
LEM Lembang 75.32 268 LR LR 14 48 12.7
comp=Z,6µm,21.8s,baz=130,slow=35
PKM Mcpherson Peak 75.41 45 P **P 14 16 24.6 +0.3**
baz=234
MCCM Marconi Confer 75.43 40 IAMs_20 IAMs_20 14 42 38.9
comp=Z,9µm,20.0s
KSM Kuching 75.45 277 ⇓P **P 14 16 25.2 +0.5**
CIS Catalina Islan 75.50 47 P **P 14 16 25.4 +0.8**
baz=235
PEA0B Petropavlovsk- 75.51 344 IAMs_20 IAMs_20 14 48 09.5
comp=Z,5µm,19.0s
PETK Petropavlovsk- 75.51 344 P **P 14 16 24.8 +0.6**
comp=Z,4.6nm,0.9s,baz=126,slow=7.3,SNR=3.2
PETK LR LR 14 47 43.9
comp=Z,3µm,19.0s,baz=157,slow=34
comp=Z,4.6nm,0.9s
SMMC Simmler 75.54 44 P **P 14 16 25.3 +0.5**
baz=234
YSS Yuzh-Sakhalins 75.66 332 *de*P **P 14 16 26.0 +0.9**
YSS *e*S **S 14 26 07.3 +0.8**
YSS *e*PS **PnS 14 26 32.0 -11**
YSS *e*PPS PPS 14 26 46.0
YSS pmax pmax
comp=Z,20nm,1.4s
YSS pmax pmax
comp=Z,500nm,3.5s
YSS smax smax
comp=N,600nm,6.6s
YSS MLR MLR
comp=Z,3µm,18.0s
TJX Tijuana 75.94 48 IAMs_20 IAMs_20 14 41 48.9
comp=Z,5µm,21.0s
OSI Osito Audit: C 75.98 45 P **P 14 16 28.5 +1.1**
baz=235
DECC Green Verdugo 76.04 46 P **P 14 16 28.5 +0.9**
baz=235
PASC Pasadena Art C 76.09 46 IAMs_20 IAMs_20 14 41 34.8
comp=Z,8µm,22.0s
109C Camp Elliot, M 76.12 48 IAMs_20 IAMs_20 14 41 33.5
comp=Z,6µm,22.0s
109C Camp Elliot, M 76.12 48 P **P 14 16 27.7 -0.4**
baz=236
CBJI Citeko 76.17 268 P **P 14 16 31.8 +3.0**
ARVC Arvin 76.21 45 P **P 14 16 29.3 +0.8**
baz=234,SNR=6.1
VTX Valle De La Tr 76.24 50 IAMs_20 IAMs_20 14 41 27.8
comp=Z,5µm,22.0s
TKX Tecate 76.29 48 IAMs_20 IAMs_20 14 41 31.1
comp=Z,5µm,22.0s
BAR Barrett 76.31 48 IAMs_20 IAMs_20 14 41 39.5
comp=Z,5µm,21.0s
ELS Elsinore Mount 76.32 47 IAMs_20 IAMs_20 14 42 00.8
comp=Z,6µm,21.0s
MURC Murrieta 76.45 47 P **P 14 16 31.3 +1.3**
baz=236
VES Vestal, Richgr 76.45 44 P **P 14 16 30.6 +0.7**
baz=234,SNR=8.2
BFSC Mount Baldy Ra 76.49 46 P **P 14 16 31.3 +1.0**
baz=235
VOG Valley Oaks Go 76.54 44 P **P 14 16 30.9 +0.6**
baz=234
EDW2 Edwards Air Fo 76.63 46 P **P 14 16 32.0 +1.0**
baz=235,SNR=12
RMX La Rumorosa 76.68 48 IAMs_20 IAMs_20 14 41 51.8
comp=Z,6µm,22.0s
IKP In-Ko-Pah, Jac 76.69 48 P P **14 16 32.4 +1.0**
baz=237
SFX San Felipe 76.72 50 IAMs_20 IAMs_20 14 42 14.8
comp=Z,6µm,21.0s
ISA Isabella, Lake 76.75 45 **pP 14 16 32.9 -1.1**
ISA IAMs_20 IAMs_20 14 42 18.2
comp=Z,10µm,21.0s
ISA Isabella, Lake 76.75 45 P **P 14 16 33.3 +1.6**
baz=235,SNR=15
CCAC Calif City Air 76.77 45 IAMs_20 IAMs_20 14 42 08.6
comp=Z,8µm,21.0s
YUH Yuha Desert 76.82 48 IAMs_20 IAMs_20 14 41 32.1
comp=Z,6µm,22.0s
SLBS Sierra La Lagu 76.86 59 IAMs_20 IAMs_20 14 41 32.5
comp=Z,6µm,21.0s
CMB Columbia Colle 76.91 42 P **P 14 16 30.5 -2.0**
CMB IAMs_20 IAMs_20 14 42 14.2
comp=Z,10µm,21.0s
CMB Columbia Colle 76.91 42 P **P 14 16 30.5 -2.0**
CMB pmax pmax
comp=Z,29nm,1.3s
PFO Pinyon Flats O 76.97 47 **P 14 16 31.6 -1.5**
PFO Pinyon Flats O 76.97 47 IAMs_20 IAMs_20 14 42 30.1
comp=Z,6µm,20.0s
PFO Pinyon Flats O 76.97 47 *i* P **P 14 16 33.1 0.0**
PFO pmax pmax
comp=Z,54nm,1.8s
PFO MLR MLR
comp=Z,3µm,17.0s
PFO Pinyon Flats O 76.97 47 P **P 14 16 34.0 +1.0**
baz=236
PFO Pinyon Flats O 76.97 47 LR LR 14 42 21.3
comp=Z,6µm,21.6s,baz=247,slow=29
TPFO Pinon Flats 76.97 47 P **P 14 16 34.5 +1.4**
baz=236
KRMB Red Mountain 76.97 37 IAMs_20 IAMs_20 14 44 16.5
comp=Z,9µm,19.0s
BBRC Big Bear Solar 77.01 47 P **P 14 16 34.2 +0.8**
baz=236
PMD Palm Desert 77.04 47 **P 14 16 32.0 -1.4**
PMD IAMs_20 IAMs_20 14 42 02.1
comp=Z,6µm,21.0s
SWSC Sam W. Stewart 77.06 48 P **P 14 16 34.6 +1.1**
baz=237
AFDM Forest Hills D 77.10 41 IAMs_20 IAMs_20 14 43 21.1
comp=Z,9µm,20.0s
ORV Oroville 77.15 40 **P 14 16 32.8 -1.0**
ORV IAMs_20 IAMs_20 14 42 32.4
comp=Z,7µm,22.0s

UABX	**UABC, Campus M**	77.15	49	IAMs_20	IAMs_20	14 41 55.9
	comp=Z,5μm,22.0s					
LRMC	**Laurel Mtn Rad**	77.18	45	P	P	14 16 35.9 +1.7
	baz=235,SNR=12					
KSXB	**Camp Six Broad**	77.19	37	IAMs_20	IAMs_20	14 43 25.2
	comp=Z,9μm,20.0s					
TEY	**Ternei**	77.20	327	*de*P	P	14 16 31.3 -2.6
TEY				*e*		14 26 19.4
TEY				pmax	pmax	
	comp=Z,100nm,5.1s					
TEY				MLR	MLR	
	comp=E,100nm,19.0s					
TEY				MLR	MLR	
	comp=Z,100nm,19.0s					
RRX	**Edison Barstow**	77.30	46	P	P	14 16 36.7 +1.9
	baz=236					
KSRS	**Korea Array**	77.34	317	P	P	14 16 35.4 +0.5
	comp=Z,2.3nm,0.8s,baz=132,slow=6.9,SNR=14					
KSRS				LR	LR	14 45 39.7
	comp=Z,3μm,21.3s,baz=135,slow=32					
	comp=Z,2.3nm,0.8s					
KSAR	**Wonju Array Be**	77.36	317	P	P	14 16 33.5 -1.5
KSAR	**Wonju Array Be**	77.36	317	P	P	14 16 33.5 -1.5
CWC	**Cottonwood Cre**	77.46	44	P	P	14 16 37.4 +1.6
	baz=235					
BELC	**Belle Mtn. Jos**	77.50	47	P	P	14 16 37.6 +1.5
	baz=237,SNR=7.7					
L02F	**Cave Junction**	77.55	37	IAMs_20	IAMs_20	14 43 46.8
	comp=Z,9μm,20.0s					
UGL	**Uglegorsk**	77.58	333	*e*P	P	14 16 37.5 +1.6
UGL				*e*S	S	14 26 32.4 +5.0
UGL				pmax	pmax	
	comp=Z,930nm,4.0s					
UGL				smax	smax	
	comp=N,2μm,9.0s					
UGL				smax	smax	
	comp=E,2μm,9.0s					
UGL				MLR	MLR	
	comp=E,2μm,17.0s					
UGL				MLR	MLR	
	comp=N,2μm,20.0s					
UGL				MLR	MLR	
	comp=Z,4μm,16.0s					
KEBM	**Edson Butte**	77.61	36	IAMs_20	IAMs_20	14 45 12.3
	comp=Z,7μm,19.0s					
MPMC	**Manual Prospec**	77.63	45	P	P	14 16 39.0 +2.1
	baz=235,SNR=25					
MLAC	**Mammoth, Mammo**	77.66	43	P	P	14 16 38.7 +1.7
	baz=234					
GSC	**Goldstone, Bar**	77.67	46	IAMs_20	IAMs_20	14 42 45.5
	comp=Z,8μm,22.0s					
GSC	**Goldstone, Bar**	77.67	46	P	P	14 16 39.1 +2.2
	baz=236,SNR=10					
BC3	**Big Chuckawall**	77.69	48	P	P	14 16 39.3 +2.2
	baz=237,SNR=9.4					
TIN	**Tinemaha, Big**	77.72	44	P	P	14 16 38.0 +0.8
	baz=234					
HEC	**Hector,Ludlow**	77.72	46	P	P	14 16 39.1 +1.8
	baz=236,SNR=7.6					
YBH	**Yreka Blue Hor**	77.80	38	IAMs_20	IAMs_20	14 43 15.3
	comp=Z,8μm,20.0s					
YBH	**Yreka Blue Hor**	77.80	38	LR	LR	14 43 16.2
	comp=Z,9μm,21.9s,baz=236,slow=30					
GLA	**Glamis**	77.81	49	IAMs_20	IAMs_20	14 42 25.4
	comp=Z,5μm,22.0s					
GLA	**Glamis**	77.81	49	P	P	14 16 39.1 +1.4
	baz=238					
QSM	**Queen of Sheba**	78.00	45	IAMs_20	IAMs_20	14 42 47.1
	comp=Z,8μm,21.0s					
J01E	**Myrtle Point**	78.02	36	IAMs_20	IAMs_20	14 43 41.2
	comp=Z,8μm,21.0s					
R17K	**Ugashik Creek**	78.09	10	P	P	14 16 42.1 +3.5
	baz=198					
GMRC	**Granite Mounta**	78.16	47	P	P	14 16 41.9 +2.1
	baz=237,SNR=8.5					
IRM	**Iron Mountain**	78.18	47	P	P	14 16 41.8 +2.1
	baz=237,SNR=18					
LHV	**Little Huntoon**	78.23	42		P	14 16 40.4 +0.5
GRAC	**Grapevine Rang**	78.25	44	P	P	14 16 42.6 +2.6
	baz=235					
FURC	**Furnace Creek,**	78.28	45	P	P	14 16 42.6 +2.4
	baz=236,SNR=8.8					
TUQ	**Turquoise Moun**	78.34	46	P	P	14 16 41.4 +0.7
	baz=236					
R18K	**Karluk**	78.37	11	P	P	14 16 42.7 +2.6
	baz=200					
DBO	**Dodson Butte**	78.38	36	IAMs_20	IAMs_20	14 44 03.7
	comp=Z,7μm,21.0s					
BLYC	**Blythe**	78.40	48	IAMs_20	IAMs_20	14 42 19.9
	comp=Z,5μm,21.0s					
113A	**Mohawk Valley,**	78.42	49	IAMs_20	IAMs_20	14 42 44.5
	comp=Z,6μm,22.0s					
NVAR	**Mina Array Bea**	78.47	42		pP	14 16 43.2 -0.5
NVAR	**Mina Array Bea**	78.47	42	P	P	14 16 43.3 +1.9
	comp=Z,14nm,1.1s,baz=227,slow=7.8,SNR=37					
NVAR				LR	LR	14 43 29.1
	comp=Z,12μm,21.9s,baz=236,slow=30					
	comp=Z,14nm,1.1s					
MSHR	**Mys Shultsa**	78.51	323	*i* P	P	14 16 42.1 +0.8
MSHR				pmax	pmax	
	comp=Z,16nm,1.0s					
SSE	**Sheshan**	78.53	309	P	P	14 16 41.9 +0.3
SSE				S	S	14 26 40.5 +2.2
SSE				pmax	pmax	
	comp=Z,13nm,0.8s					
SSE				pmax	pmax	
	comp=Z,180nm,5.7s					
SSE				LR	LR	
	comp=Z,780nm,21.1s					
SSE				LR	LR	
	comp=Z,930nm,21.2s					
PAHR	**Pah Rah Range**	78.54	41	IAmb	IAmb	14 16 45.6
	comp=Z,38nm,1.1s					
PAHR				IAMs_20	IAMs_20	14 45 07.3
	comp=Z,9μm,20.0s					
MZP	**Montezuma Peak**	78.64	43	IAMs_20	IAMs_20	14 43 39.0
	comp=Z,6μm,20.0s					
KASI	**Kota Agung**	78.67	268	P	P	14 16 47.0 +4.2
214A	**Organ Pipe Nat**	78.69	50	IAMs_20	IAMs_20	14 43 43.8
	comp=Z,6μm,20.0s					
214A	**Organ Pipe Nat**	78.69	50	P	P	14 16 44.6 +2.1
	baz=239					
I03D	**Drain, OR**	78.69	36	IAMs_20	IAMs_20	14 43 10.0
	comp=Z,6μm,22.0s					
TYV	**Tymovskoe**	78.70	335	*e*P	P	14 16 54.4 +12
TYV				*e*S	S	14 27 05.5 +26
TYV				pmax	pmax	
	comp=Z,28nm,1.3s					
TYV				pmax	pmax	
	comp=Z,500nm,2.9s					
TYV				smax	smax	
	comp=N,700nm,5.4s					
TYV				smax	smax	
	comp=E,500nm,5.4s					
Q17K	**Contact Creek**	78.77	10	P	P	14 16 45.7 +3.2
	baz=199					
NEE2	**Needles Airpor**	78.87	47	P	P	14 16 45.4 +1.9
	baz=237					
K04D	**Chiloquin, OR**	78.91	37	IAMs_20	IAMs_20	14 44 33.8
	comp=Z,8μm,20.0s					
KDAK	**Kodiak Island**	78.94	12	LR	LR	14 48 55.1
	comp=Z,2μm,18.0s,baz=222,slow=34					
PDMCI	**Parker Dam,Lak**	78.96	48	P	P	14 16 45.5 +1.6
	baz=238					
TPNV	**Topopah Spring**	78.96	45	P	P	14 16 43.5 -0.6
TPNV	**Topopah Spring**	78.96	45	P	P	14 16 43.6 -0.6
TPNV				pmax	pmax	
	comp=Z,37nm,1.5s					
TPNV	**Topopah Spring**	78.96	45	P	P	14 16 46.2 +2.1
	baz=236,SNR=16					
O15K	**Ungalikthiuk R**	79.04	8	P	P	14 16 47.7 +3.9
	baz=195					
HHU	**Hamhung**	79.05	319	P	P	14 16 47.9 +3.6
USA0B	**Ussuriysk Arra**	79.08	325	*i* P	P	14 16 45.0 +0.6
USRK	**Ussuriysk Ar.**	79.08	325	P	P	14 16 44.6 +0.2
	comp=Z,3.4nm,0.9s,baz=208,slow=2.8,SNR=3.0					
USRK				LR	LR	14 45 36.3
	comp=Z,4μm,21.9s,baz=130,slow=31					
	comp=Z,3.4nm,0.9s					
BUCK	**Buck Mountain**	79.22	36	IAMs_20	IAMs_20	14 44 29.8
	comp=Z,6μm,21.0s					
PMBI	**Palembang**	79.23	271	IAMs_20	IAMs_20	14 51 05.3
	comp=Z,6μm,22.0s					
V12A	**Nelson**	79.23	46	IAMs_20	IAMs_20	14 43 32.9
	comp=Z,7μm,21.0s					
Q18K	**Katmai Hardscr**	79.29	11	P	P	14 16 46.9 +1.6
	baz=200					
COR	**Corvallis**	79.30	35	IAMs_20	IAMs_20	14 44 58.8
	comp=Z,6μm,20.0s					
N14K	**Kuskokwak Cree**	79.54	7	P	P	14 16 48.8 +2.3
	baz=193					
M11K	**Mekoryuk**	79.55	5	P	P	14 16 48.1 +1.6
	baz=189					
W13A	**Hualapai Mount**	79.56	47	IAMs_20	IAMs_20	14 43 41.7
	comp=Z,5μm,21.0s					
O16K	**Kokwok River B**	79.69	9	P	P	14 16 49.7 +2.4
	baz=197					
Q20K	**Shuyak Island**	79.75	12	P	P	14 16 50.1 +2.4
	baz=202					
Q19K	**Cape Douglas,**	79.80	11	P	P	14 16 49.1 +1.1
	baz=201					
P18K	**Big Mountain,**	79.95	10	P	P	14 16 48.3 -0.6
	baz=200					
H04A	**Detroit Lake**	79.97	36	IAMs_20	IAMs_20	14 45 01.7
	comp=Z,6μm,20.0s					
PINE	**Pine Mountain**	80.10	37	IAMs_20	IAMs_20	14 45 22.3
	comp=Z,8μm,20.0s					
R11B	**Troy Canyon, C**	80.18	44	P	P	14 16 51.9 +1.1
	baz=236,SNR=10					
DSRI	**Dabo**	80.20	273	P	P	14 16 53.2 +2.0
	comp=Z,33nm,2.2s,comp=Z,2μm					
I05D	**Terrebonne, OR**	80.22	36	IAMs_20	IAMs_20	14 45 02.4
	comp=Z,6μm,20.0s					
RADR	**Rader Ridge**	80.23	33	IAMs_20	IAMs_20	14 45 20.4
	comp=Z,5μm,21.0s					
M14K	**Bethel**	80.31	7	P	P	14 16 52.8 +2.2
	baz=193					
TUC	**Tucson**	80.35	51	IAMs_20	IAMs_20	14 44 53.8
	comp=Z,6μm,20.0s					
TUC	**Tucson**	80.35	51	P	P	14 16 53.2 +1.5
	baz=240					
M15K	**Kasigluk River**	80.41	7	P	P	14 16 52.8 +1.6
	baz=194					
E03A	**Lebam**	80.43	34	IAMs_20	IAMs_20	14 45 27.8
	comp=Z,5μm,20.0s					
BELA	**Belgrano 2**	80.67	172	P	P	14 16 52.8 +0.2
HOOD	**Mount Hood Mea**	80.67	35	IAMs_20	IAMs_20	14 45 44.1
	comp=Z,6μm,20.0s					
MDJ	**Mudanjiang**	80.67	324	P	P	14 16 53.9 +0.9
MDJ				pP	sP	14 16 57.1 +1.0
MDJ				sP	pwP	14 16 58.7 +0.2
MDJ				S	S	14 27 03.8 +3.2
MDJ				pmax	pmax	
	comp=Z,13nm,1.3s					
MDJ				pmax	pmax	
	comp=Z,580nm,8.0s					
MDJ				LR	LR	
	comp=Z,2μm,21.0s					
MDJ				LR	LR	
	comp=Z,3μm,19.4s					
MDJ				LR	LR	
	comp=Z,6μm,22.0s					
MDJ	**Mudanjiang**	80.67	324	IAMs_20	IAMs_20	14 48 54.8
	comp=Z,5μm,20.0s					
N17K	**Nushagak Hills**	80.72	9	P	P	14 16 54.7 +1.9
	baz=198					
NJ2	**Nanjing**	80.73	308	*e*P	P	14 16 53.0 -0.6
NJ2				pP	sP	14 16 57.0 +0.3
NJ2				sP	PcP	14 17 00.2 -0.1
NJ2				PP	PP	14 19 56.1 -1.7
NJ2				S	S	14 27 05.2 +3.6
NJ2				sS	SKKSac	14 27 16.5 +1.8
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,570nm,5.7s					
NJ2				LR	LR	
	comp=Z,1μm,22.1s					
NJ2				LR	LR	
	comp=Z,3μm,24.5s					
NJ2				LR	LR	
	comp=Z,3μm,21.1s					
G05A	**Wamic**	80.80	36	IAMs_20	IAMs_20	14 46 28.7
	comp=Z,7μm,20.0s					
CNPM	**China Poot**	80.82	12	IAMs_20	IAMs_20	14 52 03.1
	comp=Z,5μm,20.0s					
NLWA	**Neilton Lookou**	80.83	33	IAMs_20	IAMs_20	14 44 16.4
	comp=Z,5μm,22.0s					
HOM	**Homer**	80.86	12	P	P	14 16 55.5 +1.8
	baz=203					
O19K	**Port Alsworth**	80.87	11	IAmb	IAmb	14 16 56.1
	comp=Z,78nm,1.3s					
O19K	**Port Alsworth**	80.87	11	P	P	14 16 54.5 +0.8
	baz=200					
ILSW	**Iliamna Southw**	80.88	11	IAmb	IAmb	14 17 02.2
	comp=Z,55nm,1.0s					
X16A	**Lo Mia Camp, P**	80.93	49	IAMs_20	IAMs_20	14 44 11.0
	comp=Z,5μm,22.0s					
M16K	**Timber Creek**	80.94	8	P	P	14 16 55.2 +1.1
	baz=196					
LCMT	**Little Creek M**	81.01	46	IAMs_20	IAMs_20	14 44 41.1
	comp=Z,6μm,21.0s					
N18K	**Kilae Creek**	81.06	10	P	P	14 16 56.1 +1.4
	baz=199					
BRSE	**Bradley Lake S**	81.12	12	P	P	14 16 55.7 +0.6
	baz=204					
G06A	**Carlson Farm,**	81.17	36	IAMs_20	IAMs_20	14 46 30.5
	comp=Z,6μm,20.0s					
K13K	**Kusilvak Mount**	81.21	5	P	P	14 16 57.5 +2.0
	baz=190					
CCUT	**Cedar City**	81.22	45	IAMs_20	IAMs_20	14 44 27.4
	comp=Z,6μm,22.0s					
KNB	**Kanab**	81.30	46	IAMs_20	IAMs_20	14 45 30.7
	comp=Z,5μm,20.0s					
GRNR	**Gornyy**	81.30	332	*e*P	P	14 16 55.8 -0.5
U15A	**North Rim**	81.36	47	IAMs_20	IAMs_20	14 45 00.3
	comp=Z,5μm,21.0s					
N19K	**Bonanza Creek**	81.42	10	P	P	14 16 57.9 +1.1
	baz=200					
SZCU	**Shurtz Canyon**	81.43	45	IAMs_20	IAMs_20	14 44 58.0
	comp=Z,5μm,21.0s					
M17K	**Holitna River**	81.52	9	P	P	14 16 59.2 +2.0
	baz=197					
WUAZ	**Wupatki**	81.53	48	P	P	14 17 00.5 +2.4
	baz=239					
L16K	**Owhat River**	81.54	8	P	P	14 16 58.7 +1.4
	baz=195,SNR=5.3					
MYKOM	**Kota Tinggi**	81.63	275	⇓P	P	14 17 02.1 +3.2
MYKOM				⇓P	pwP	14 17 04.5 +0.1
PMSA	**Palmer Station**	81.69	156	IAMs_20	IAMs_20	14 44 33.9
	comp=Z,5μm,22.0s					
PMSA	**Palmer Station**	81.69	156	LR	LR	14 45 19.2
	comp=Z,4μm,21.8s,baz=238,slow=30					
ELK	**Elko**	81.73	42	LR	LR	14 45 30.1
	comp=Z,10μm,21.9s,baz=229,slow=30					
K15K	**Wolf Creek Mou**	81.87	7	P	P	14 17 00.7 +1.8
	baz=193,SNR=9.4					
PKCU	**Pink Cliffs**	81.87	46	IAMs_20	IAMs_20	14 46 09.8
	comp=Z,5μm,20.0s					
F07A	**Phinny Hill Vi**	81.97	36	IAMs_20	IAMs_20	14 46 55.6
	comp=Z,6μm,20.0s					
X18A	**Snowflake**	82.05	49	IAMs_20	IAMs_20	14 44 46.8
	comp=Z,5μm,22.0s					
L17K	**Donlin**	82.10	8	P	P	14 17 02.6 +2.4
	baz=196					
BBB	**Bella Bella**	82.11	27	LR	LR	14 45 23.0
	comp=Z,3μm,21.5s,baz=232,slow=30					
G08A	**Pilot Rock**	82.14	37	P	P	14 16 59.2 -1.7
G08A				IAmb	IAmb	14 17 04.5
	comp=Z,39nm,1.2s					
G08A				IAMs_20	IAMs_20	14 46 25.2
	comp=Z,6μm,20.0s					
N20K	**Mount Spurr**	82.19	11	P	P	14 17 01.8 +1.0
	baz=202					
DL2	**Dalian**	82.26	316	P	P	14 17 05.4 +3.9
DL2				pmax	pmax	
	comp=Z,42nm,1.1s					
DL2				pmax	pmax	
	comp=Z,390nm,10.8s					
DL2				LR	LR	
	comp=Z,1μm,18.7s					
DL2				LR	LR	
	comp=Z,2μm,18.9s					
DL2				LR	LR	
	comp=Z,3μm,19.4s					
MTPU	**Mount Pierson**	82.27	45	IAMs_20	IAMs_20	14 45 13.3
	comp=Z,7μm,21.0s					
QIZ	**Qiongzhong**	82.34	293	P	P	14 17 01.4 -1.0
QIZ				PP	PP	14 20 07.9 -3.5
QIZ				S	S	14 27 16.4 -2.5
QIZ				pmax	pmax	
	comp=Z,24nm,1.6s					
QIZ				LR	LR	
	comp=Z,1μm,23.5s					
QIZ				LR	LR	
	comp=Z,1μm,18.6s					
QIZ				LR	LR	
	comp=Z,2μm,19.3s					
L18K	**Granite Mounta**	82.41	9	P	P	14 17 03.4 +1.6
	baz=198					
E07A	**Sunnyside**	82.42	35	IAMs_20	IAMs_20	14 46 48.5
	comp=Z,5μm,20.0s					
M19K	**Big River Lodg**	82.47	10	P	P	14 17 03.5 +1.4
	baz=200					
KLR	**Kul'dur**	82.47	328	*i* P	P	14 17 03.7 +1.3
KLR				pmax	pmax	
	comp=Z,26nm,2.3s					
KLR	**Kul'dur**	82.47	328	LR	LR	14 47 50.2
	comp=Z,11μm,21.7s,baz=130,slow=32					
HAWA	**Hanford**	82.49	35	IAMs_20	IAMs_20	14 46 59.5
	comp=Z,5μm,19.0s					
W18A	**Petrified Fore**	82.49	49	IAMs_20	IAMs_20	14 45 11.5
	comp=Z,5μm,22.0s					
W18A	**Petrified Fore**	82.49	49	P	P	14 17 04.0 +0.9
	baz=240					
CRAG	**Craig**	82.53	23	P	P	14 17 04.0 +1.4
	baz=220					
RC01	**Rabbit Creek A**	82.56	12	P	P	14 17 05.2 +2.6
	baz=204					
CN2	**Changchun**	82.57	321	*e*P	P	14 17 03.7 +0.6
CN2				*es*P	pwP	14 17 10.5 +1.9
CN2				*e*S	S	14 27 17.6 -2.6
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
CN2				pmax	pmax	
	comp=Z,200nm,6.0s					
CN2				LR	LR	
	comp=Z,2μm,20.0s					
CN2				LR	LR	
	comp=Z,2μm,20.0s					
CN2				LR	LR	
	comp=Z,1μm,21.0s					
BNX	**BinXian**	82.58	324	⇑P	P	14 17 03.7 +0.6
BNX				pP	sP	14 17 06.4 +0.2
BNX				sP	pwP	14 17 08.9 +0.3
BNX				S	SKSac	14 27 24.1 -0.3
BNX				SS	SS	14 32 45.2 +2.7
BNX				pmax	pmax	
	comp=Z,11nm,1.1s					
BNX				pmax	pmax	
	comp=Z,470nm,7.5s					
BNX				LR	LR	
	comp=Z,2μm,20.6s					
BNX				LR	LR	
	comp=Z,3μm,22.0s					
BNX				LR	LR	
	comp=Z,5μm,23.4s					
SNY	**Shenyang**	82.59	319	⇑P	P	14 17 02.9 -0.3
SNY				S	S	14 27 27.8 +7.3
SNY				pmax	pmax	
	comp=Z,7.0nm,0.8s					
SNY				pmax	pmax	
	comp=Z,280nm,9.6s					
SNY				LR	LR	
	comp=Z,1μm,21.1s					
SNY				LR	LR	
	comp=Z,2μm,21.1s					
SNY				LR	LR	
	comp=Z,2μm,21.6s					
L19K	**White Mountain**	82.65	10	P	P	14 17 04.1 +1.0
	baz=200					
M20K	**Styx River**	82.66	11	P	P	14 17 03.6 +0.4
	baz=201					
K17K	**Iditarod**	82.66	8	P	P	14 17 04.0 +0.9
	baz=196					
121A	**Cookes Peak, D**	82.68	52	P	P	14 17 04.2 +0.1
	baz=242					
121A	**Cookes Peak, D**	82.68	52	P	P	14 17 07.8 +3.6
	baz=242					
E08A	**Dider Farm, El**	82.81	36	IAMs_20	IAMs_20	14 47 11.9
	comp=Z,6μm,20.0s					
BMO	**Blue Mountains**	82.82	38	IAmb	IAmb	14 17 07.9
	comp=Z,42nm,1.6s					
BMO				IAMs_20	IAMs_20	14 47 21.4
	comp=Z,6μm,20.0s					
MFID	**Camas Ranch**	82.87	39	IAMs_20	IAMs_20	14 46 06.6
	comp=Z,6μm,21.0s					
J16K	**Anvik River**	82.93	7	P	P	14 17 05.7 +1.2
	baz=194					
EYAK	**Cordova Ski Ar**	82.95	14	P	P	14 17 05.3 +0.7
	baz=208					
DUG	**Dugway, Tooele**	82.98	43	IAMs_20	IAMs_20	14 46 10.9
	comp=Z,8μm,22.0s					
DUG	**Dugway, Tooele**	82.98	43	P	P	14 17 05.4 -0.1
	baz=238					
V35K	**Ketchikan**	82.99	24	P	P	14 17 05.4 +0.5
	baz=221					
SKT	**Skwentna**	83.03	11	P	P	14 17 05.2 +0.1
	baz=203					
MA2	**Magadan**	83.04	344	IAMs_20	IAMs_20	14 50 30.7
	comp=Z,5μm,20.0s					
MA2	**Magadan**	83.04	344	LR	LR	14 50 32.1
	comp=Z,5μm,19.7s,baz=157,slow=33					
RAGM	**Ragged Mountai**	83.06	15	IAMs_20	IAMs_20	14 54 03.3
	comp=Z,6μm,18.0s					
M22K	**Willow**	83.09	12	P	P	14 17 06.1 +0.8
	baz=204					
HMT	**Hamilton**	83.12	15	IAMs_20	IAMs_20	14 52 42.8
	comp=Z,6μm,19.0s					
KNK	**Knik Glacier**	83.12	13	P	P	14 17 06.3 +0.8
	baz=206					
PMR	**Palmer**	83.14	12	P	P	14 17 06.2 +0.6
	baz=205					
BGLC	**Bering Glacier**	83.18	16	P	P	14 17 06.2 +0.5
	baz=211					
TTA	**Tatalina**	83.19	9	P	P	14 17 06.9 +1.0
	baz=199					
D08A	**Wollman Farm,**	83.23	35	IAMs_20	IAMs_20	14 46 55.0
	comp=Z,4μm,20.0s					
EPT	**El Paso**	83.29	53	IAMs_20	IAMs_20	14 46 07.4
	comp=Z,8μm,21.0s					
BERG	**Berg Lake**	83.31	15	IAMs_20	IAMs_20	14 52 21.9
	comp=Z,5μm,19.0s					
E09A	**Wood Farm, Sta**	83.33	36	IAMs_20	IAMs_20	14 49 29.6
	comp=Z,4μm,20.0s					
SNH	**Sunshine Point**	83.34	16	IAMs_20	IAMs_20	14 53 58.8
	comp=Z,7μm,20.0s					
GHO	**Glory Hole Cre**	83.35	12	IAMs_20	IAMs_20	14 58 05.8
	comp=Z,4μm,19.0s					
S31K	**Pelican**	83.41	20	P	P	14 17 06.8 -0.2
	baz=217					
WHN	**Wuhan**	83.43	305	P	P	14 17 08.9 +1.1
WHN				S	S	14 27 32.6 +3.1
WHN				SS	SS	14 32 57.5 +1.9
WHN				LR	LR	
	comp=Z,8μm,20.1s					
WHN				LR	LR	
	comp=Z,4μm,15.9s					
WHN				LR	LR	
	comp=Z,9μm,19.1s					
CNSH	**ChangSha**	83.51	303	⇓P	P	14 17 10.6 +2.3
CNSH				S	S	14 27 37.4 +7.0
CNSH				LR	LR	
	comp=Z,920nm,16.6s					
CNSH				LR	LR	
	comp=Z,2μm,18.8s					
CNSH				LR	LR	
	comp=Z,2μm,19.8s					
F10A	**Beach Ranch, E**	83.53	37	IAmb	IAmb	14 17 11.2
	comp=Z,32nm,1.1s					
F10A				IAMs_20	IAMs_20	14 47 09.8
	comp=Z,6μm,20.0s					
S32K	**Killisnoo**	83.57	21	P	P	14 17 07.6 -0.2
	baz=219					
MESA	**MESA**	83.57	16	IAMs_20	IAMs_20	14 52 08.9
	comp=Z,5μm,18.0s					
J18K	**Innoko River**	83.59	8	P	P	14 17 08.6 +0.6
	baz=198,SNR=7.3					
MAW	**Mawson**	83.64	199	P	P	14 17 08.6 +0.3
	comp=Z,13nm,1.0s,baz=117,slow=6.9,SNR=16					
MAW				LR	LR	14 54 34.1
	comp=Z,6μm,18.1s,baz=115,slow=36					
	comp=Z,13nm,1.0s					
CUT	**Chulitna**	83.66	12	IAMs_20	IAMs_20	14 53 12.1
	comp=Z,4μm,19.0s					
MPU	**Maple Canyon**	83.66	44	IAMs_20	IAMs_20	14 46 44.0
	comp=Z,8μm,21.0s					
PLID	**Pearl Lake**	83.72	38	P	P	14 17 08.3 -0.9
PLID				IAmb	IAmb	14 17 12.6
	comp=Z,68nm,1.8s					
ANM	**Nome**	83.75	4	P	P	14 17 08.8 +0.1
	baz=190					
CRQM	**Cirque**	83.76	15	IAMs_20	IAMs_20	14 53 04.1

	comp=Z,5μm,19.0s						
PPLA	Purkeypile	83.76	11	P	P	14 17 08.9	-0.1
	baz=202						
YAH	Yahtse	83.78	16	IAMs_20	IAMs_20	14 46 07.2	
	comp=Z,4μm,22.0s						
HLID	Hailey	83.80	40	IAMs_20	IAMs_20	14 47 09.3	
	comp=Z,6μm,21.0s						
HLID	Hailey	83.80	40	P	P	14 17 09.4	-0.3
	baz=236,SNR=19						
BKNI	Bangkinang	83.81	272	IAMs_20	IAMs_20	14 53 07.6	
	comp=Z,5μm,21.0s						
COCO	West Island	83.81	259	IAMs_20	IAMs_20	14 54 39.0	
	comp=Z,7μm,20.0s						
TGL	Tana Glacier	83.84	16	IAMs_20	IAMs_20	14 52 46.9	
	comp=Z,5μm,19.0s						
PNL	Peninsula	83.84	18	P	P	14 17 08.7	-0.6
	baz=214						
HVU	Hansel Valley	83.85	42	IAmb	IAmb	14 17 13.7	
	comp=Z,62nm,1.6s						
K20K	Telida	83.88	10	P	P	14 17 10.1	+0.7
	baz=200						
LLLB	Lillooet	83.92	31	IAmb	IAmb	14 17 25.0	
	comp=Z,37nm,1.5s						
CTU	Camp Tracy	83.94	43	IAMs_20	IAMs_20	14 47 03.2	
	comp=Z,8μm,21.0s						
Y22A	Socorro	83.94	51	P	P	14 17 12.9	+2.2
	baz=242						
PINM	Pinnacle	83.96	17	P	P	14 17 11.6	+1.6
	baz=213						
TIA	Tai'an	83.99	311	P	P	14 17 12.3	+1.7
TIA				S	S	14 27 37.2	+2.2
TIA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TIA				pmax	pmax		
	comp=Z,170nm,5.5s						
TIA				LR	LR		
	comp=Z,1μm,18.0s						
TIA				LR	LR		
	comp=Z,1μm,18.0s						
TIA				LR	LR		
	comp=Z,2μm,18.0s						
C09A	Chrisman Ranch	84.03	35	IAmb	IAmb	14 17 13.8	
	comp=Z,41nm,1.5s						
Y22D	IRIS PASSCAL I	84.03	51	IAMs_20	IAMs_20	14 45 59.4	
	comp=Z,6μm,22.0s						
Y22D	IRIS PASSCAL I	84.03	51	P	P	14 17 10.9	-0.2
	baz=242						
Y22F	Passcal Instru	84.03	51	P	P	14 17 11.5	+0.5
	baz=242						
USHA	Ushuaia	84.07	146	LR	LR	14 45 51.7	
	comp=Z,2μm,21.1s,baz=250,slow=29						
H16K	Elim	84.09	6	P	P	14 17 10.0	-0.4
	baz=193						
MNTX	Cornudas Mount	84.11	54	IAMs_20	IAMs_20	14 46 33.2	
	comp=Z,6μm,22.0s						
MNTX	Cornudas Mount	84.11	54	P	P	14 17 12.1	+0.8
	baz=243						
MNTX	Cornudas Mount	84.11	54	P	P	14 17 13.7	+2.3
	baz=243						
UNM	Universidad Na	84.12	67	IAMs_20	IAMs_20	14 45 45.5	
	comp=Z,6μm,21.0s						
N25K	Chitina, Valde	84.15	14	P	P	14 17 10.5	-0.4
	baz=209						
J19K	Poorman	84.25	9	P	P	14 17 11.9	+0.6
	baz=199						
CAST	Castle Rocks	84.27	10	IAmb	IAmb	14 17 38.4	
	comp=Z,25nm,1.3s						
CAST				IAMs_20	IAMs_20	14 53 50.9	
	comp=Z,4μm,19.0s						
CAST	Castle Rocks	84.27	10	P	P	14 17 11.6	+0.2
	baz=202						
G15K	Niukluk	84.28	5	P	P	14 17 12.1	+0.7
	baz=191						
P29M	Windy Craggy	84.30	18	P	P	14 17 12.2	+0.6
	baz=216						
WAT6	Susitna Watana	84.32	13	P	P	14 17 11.9	0.0
	baz=206						
MCARA	McCarthy VSAT	84.33	15	IAMs_20	IAMs_20	14 53 05.9	
	comp=Z,3μm,18.0s						
MCARA	McCarthy VSAT	84.33	15	P	P	14 17 11.9	+0.2
	baz=211						
WAT1	Susitna Watana	84.38	12	P	P	14 17 12.0	0.0
	baz=206						
MVCO	Mesa Verde	84.39	48	IAMs_20	IAMs_20	14 46 03.1	
	comp=Z,6μm,22.0s						
MVCO	Mesa Verde	84.39	48	P	P	14 17 12.2	-0.7
	baz=241						
TX31	Lajitas Ar. Si	84.41	57	P	P	14 17 15.5	+2.5
	baz=245						
TXAR	Lajitas Array	84.41	57	P	P	14 17 15.6	+2.5
	comp=Z,36nm,1.2s,baz=215,slow=4.1,SNR=70						
	comp=Z,36nm,1.2s						
BSUT	Blindstream Ca	84.50	44	IAMs_20	IAMs_20	14 47 11.2	
	comp=Z,8μm,22.0s						
O28M	Mount Upton	84.54	17	P	P	14 17 12.9	-0.2
	baz=213						
PLBC	Pleasant Camp	84.57	19	P	P	14 17 12.4	-0.6
	baz=217						
TNA	Tin City	84.58	3	P	P	14 17 12.7	-0.2
	baz=187						
F14K	Arctic Creek	84.59	4	P	P	14 17 12.9	0.0
	baz=189						
TRF	Thorofare Moun	84.61	11	P	P	14 17 14.3	+0.9
	baz=204						
H17K	Granite Mounta	84.62	7	P	P	14 17 14.2	+1.1
	baz=195						
J20K	Nowinta River	84.64	9	IAmb	IAmb	14 17 22.3	
	comp=Z,22nm,0.9s						
J20K	Nowinta River	84.64	9	P	P	14 17 13.2	-0.1
	baz=200,SNR=7.9						
CHUM	Lake Minchumin	84.66	10	P	P	14 17 13.3	-0.1
	baz=202,SNR=6.8						
ID07	Smith Canyon R	84.69	42	IAMs_20	IAMs_20	14 48 43.9	
	comp=Z,7μm,20.0s						
HARP	HAARP	84.71	14	P	P	14 17 13.9	+0.3
	baz=209						
T35M	Bob Quinn	84.73	23	P	P	14 17 14.5	+0.6
	baz=222						
ANMO	Albuquerque	84.78	50	P	P	14 17 12.3	-2.6
ANMO				IAmb	IAmb	14 17 19.4	
	comp=Z,68nm,1.6s						
ANMO	Albuquerque	84.78	50	IAMs_20	IAMs_20	14 47 48.0	
	comp=Z,5μm,20.0s						
ANMO	Albuquerque	84.78	50	*ce*P	P	14 17 16.3	+1.4
ANMO				pmax	pmax		
	comp=Z,45nm,1.7s						
ANMO	Albuquerque	84.78	50	P	P	14 17 13.7	-1.2
	baz=242						
ANMO	Albuquerque	84.78	50	P	P	14 17 16.8	+2.0
	baz=242						
GCSA	Galena City Sc	84.80	8	P	P	14 17 15.4	+1.4
	baz=198						
G16K	Koyuk River	84.82	6	P	P	14 17 14.5	+0.5
	baz=192						
RND	Reindeer	84.84	12	IAmb	IAmb	14 17 23.6	
	comp=Z,41nm,1.0s						
P30M	Million Dollar	84.92	18	P	P	14 17 14.7	-0.1
	baz=216						
NEW	Newport	84.93	35	IAmb	IAmb	14 17 17.1	
	comp=Z,33nm,1.7s						
NEW	Newport	84.93	35	IAMs_20	IAMs_20	14 48 23.9	
	comp=Z,4μm,20.0s						
NEW	Newport	84.93	35	P	P	14 17 14.7	-0.4
	baz=234,SNR=6.0						
NEW	Newport	84.93	35	LR	LR	14 48 45.8	
	comp=Z,4μm,20.1s,baz=232,slow=31						
F15K	North Star Dit	84.94	5	P	P	14 17 15.5	+0.8
	baz=190						
H18K	Honhosa River	85.00	7	P	P	14 17 15.2	+0.2
	baz=196						
H03N2	Juan Fernandez	85.06	124	T	T	15 51 19.8	
	baz=253						
H03N3	Juan Fernandez	85.06	124	T	T	15 51 20.9	
	baz=253						
H03N1	Juan Fernandez	85.08	124	T	T	15 51 27.3	
	baz=253						
G17K	Kiwalik Mounta	85.09	6	P	P	14 17 15.4	0.0
	baz=194						
S34M	Telegraph Cree	85.10	22	P	P	14 17 15.3	-0.4
	baz=222						
ID06	Fossil Canyon	85.11	42	IAMs_20	IAMs_20	14 49 46.1	
	comp=Z,7μm,19.0s						
MCK	McKinley	85.12	12	P	P	14 17 16.1	+0.4
	baz=205,SNR=8.7						
ID05	Sulphur Canyon	85.14	42	IAMs_20	IAMs_20	14 49 27.7	
	comp=Z,7μm,20.0s						
PAX	Paxson	85.15	13	P	P	14 17 16.6	+0.6
	baz=208						
I20K	Naaghedeneel	85.18	9	P	P	14 17 16.5	+0.7
	baz=200						
M26K	Nabesna, AK	85.22	15	IAmb	IAmb	14 17 24.9	
	comp=Z,32nm,1.1s						
M26K	Nabesna, AK	85.22	15	P	P	14 17 16.7	+0.4
	baz=211,SNR=7.3						
HEH	HeiHe	85.31	327	*e*P	P	14 17 18.9	+2.0
HEH				pP	pwP	14 17 22.9	+0.5
HEH				SKS	SKSac	14 27 42.0	+0.1
HEH				S	SKKSac	14 27 52.3	+3.9
HEH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
HEH				pmax	pmax		
	comp=Z,470nm,6.2s						
HEH				LR	LR		
	comp=Z,3μm,20.3s						
HEH				LR	LR		
	comp=Z,5μm,22.3s						
HEH				LR	LR		
	comp=Z,7μm,24.2s						
YUK3	Moose Creek	85.31	16	P	P	14 17 17.1	+0.2
	baz=213						
HYT	Haines Junctio	85.34	18	P	P	14 17 17.6	+0.6
	baz=216						
BWN	Browne	85.42	11	IAMs_20	IAMs_20	14 56 05.6	
	comp=Z,4μm,18.0s						
AHID	Auburn Hatcher	85.43	42	IAMs_20	IAMs_20	14 47 37.4	
	comp=Z,7μm,21.0s						
M27K	Edge Creek, AK	85.45	15	IAmb	IAmb	14 17 27.2	
	comp=Z,33nm,1.0s						
M27K				IAMs_20	IAMs_20	14 53 52.5	
	comp=Z,4μm,18.0s						
M27K	Edge Creek, AK	85.45	15	P	P	14 17 18.4	+0.9
	baz=212						
Q32M	Nakina River	85.50	21	P	P	14 17 18.7	+0.8
	baz=221						
SEY	Seymchan	85.53	346	*ce*P	P	14 17 18.0	+0.3
SEY				pmax	pmax		
	comp=Z,18nm,1.3s						
SEY				MLR	MLR		
	comp=Z,4μm,19.0s						
SEY	Seymchan	85.53	346	LR	LR	14 54 42.8	
	comp=Z,3μm,18.7s,baz=148,slow=35						
H19K	Roundabout Mou	85.60	8	P	P	14 17 18.4	+0.4
	baz=198,SNR=6.2						
COYC	Coyhaique	85.66	137	IAMs_20	IAMs_20	14 45 55.5	
	comp=Z,5μm,22.0s						
L26K	Log Cabin Wild	85.67	14	P	P	14 17 19.6	+1.1
	baz=210						
G18K	Tagagawik	85.68	7	P	P	14 17 19.6	+1.2
	baz=196						
O30N	Mendenhall	85.70	18	IAmb	IAmb	14 17 43.8	
	comp=Z,57nm,1.6s						
O30N				IAMs_20	IAMs_20	14 49 44.9	
	comp=Z,4μm,20.0s						
O30N	Mendenhall	85.70	18	P	P	14 17 19.8	+1.1
	baz=217						
H20K	Anotleneega Mo	85.78	9	P	P	14 17 19.8	+0.9
	baz=200						
S22A	4UR Ranch, Cre	85.81	48	IAMs_20	IAMs_20	14 47 23.1	
	comp=Z,5μm,22.0s						
S22A	4UR Ranch, Cre	85.81	48	P	P	14 17 19.3	-0.7
	baz=242						
K24K	Donnelly Dome	85.82	13	P	P	14 17 19.3	+0.1
	baz=208						
NEA2	Nenana	85.88	11	IAMs_20	IAMs_20	14 54 42.8	
	comp=Z,4μm,19.0s						
NEA2	Nenana	85.88	11	P	P	14 17 20.3	+0.9
	baz=205						
MSO	Missoula	85.88	37	IAmb	IAmb	14 17 23.0	
	comp=Z,43nm,1.7s						
MSO				IAMs_20	IAMs_20	14 48 05.3	
	comp=Z,8μm,21.0s						
MSO	Missoula	85.88	37	P	P	14 17 20.3	+0.3
	baz=236,SNR=9.1						
DLBC	Dease Lake	85.89	22	IAmb	IAmb	14 17 25.2	
	comp=Z,55nm,1.8s						
DLBC				IAMs_20	IAMs_20	14 47 08.4	
	comp=Z,4μm,21.0s						
DLBC	Dease Lake	85.89	22	P	P	14 17 20.2	+0.5
	baz=223						
DLBC	Dease Lake	85.89	22	LR	LR	14 48 03.1	
	comp=Z,2μm,21.1s,baz=230,slow=30						
TPAW	Teton Pass	85.89	41	IAmb	IAmb	14 17 24.2	
	comp=Z,43nm,1.6s						
TPAW				IAMs_20	IAMs_20	14 49 24.8	
	comp=Z,5μm,20.0s						
I21K	Tanana	85.92	10	IAmb	IAmb	14 17 28.3	
	comp=Z,21nm,0.9s						
I21K	Tanana	85.92	10	P	P	14 17 20.3	+0.7
	baz=202						
FXWY	Fox Creek	85.92	41	IAMs_20	IAMs_20	14 47 10.6	
	comp=Z,6μm,22.0s						
F17K	Baldwin Pennin	85.94	6	P	P	14 17 19.2	-0.4
	baz=194						
RIDG	Independent Ri	85.96	13	IAmb	IAmb	14 17 29.3	
	comp=Z,33nm,1.2s						
RIDG	Independent Ri	85.96	13	P	P	14 17 19.1	-0.8
	baz=209						
N30M	Aishikik Lake	85.97	17	P	P	14 17 18.2	-1.8
	baz=216						
O20A	White River Ci	85.97	45	IAMs_20	IAMs_20	14 48 08.3	
	comp=Z,6μm,22.0s						
O20A	White River Ci	85.97	45	P	P	14 17 20.1	-0.6
	baz=241						
WHY	Whitehorse	85.98	19	IAmb	IAmb	14 17 47.2	
	comp=Z,63nm,1.9s						
WHY				IAMs_20	IAMs_20	14 49 53.7	
	comp=Z,4μm,20.0s						
WHY	Whitehorse	85.98	19	P	P	14 17 19.9	-0.3
	baz=218						
MLY	Manley	85.99	10	IAmb	IAmb	14 17 29.0	
	comp=Z,22nm,1.1s						
MLY	Manley	85.99	10	P	P	14 17 19.8	-0.2
	baz=203,SNR=8.4						
SNOW	Snow King Moun	86.00	41	IAMs_20	IAMs_20	14 50 15.7	
	comp=Z,6μm,19.0s						
L27K	Beaver Creek,	86.06	15	IAMs_20	IAMs_20	14 54 40.7	
	comp=Z,4μm,19.0s						
L27K	Beaver Creek,	86.06	15	P	P	14 17 19.7	-0.7
	baz=212						
G19K	Purcell Mounta	86.11	7	P	P	14 17 20.0	-0.5
	baz=198,SNR=7.9						
IMW	Indian Meadow	86.11	41	IAMs_20	IAMs_20	14 47 40.4	
	comp=Z,5μm,22.0s						
HDA	Harding Lake	86.12	12	IAmb	IAmb	14 17 29.5	
	comp=Z,30nm,0.8s						
HDA	Harding Lake	86.12	12	P	P	14 17 20.0	-0.6
	baz=207						
MOOW	Moose Ponds	86.15	41	IAMs_20	IAMs_20	14 49 23.8	
	comp=Z,4μm,20.0s						
CCB	Clear Creek Bu	86.17	12	IAmb	IAmb	14 17 29.1	
	comp=Z,36nm,0.8s						
LOHW	Long Hollow	86.17	41	IAmb	IAmb	14 17 25.4	
	comp=Z,44nm,1.9s						
LOHW				IAMs_20	IAMs_20	14 49 33.2	
	comp=Z,5μm,20.0s						
H21K	Melozitna Rive	86.24	9	P	P	14 17 20.9	-0.2
	baz=202,SNR=7.7						
HNS	HongShan	86.26	312	⇓P	P	14 17 24.0	+2.1
HNS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HNS				LR	LR		
	comp=Z,720nm,20.4s						
HNS				LR	LR		
	comp=Z,2μm,22.7s						
HNS				LR	LR		
	comp=Z,2μm,21.2s						
R33M	Jennings River	86.27	21	IAmb	IAmb	14 17 27.3	
	comp=Z,44nm,1.4s						
R33M	Jennings River	86.27	21	P	P	14 17 20.6	-1.1
	baz=222,SNR=8.3						
P33M	Teslin, Yukon	86.28	20	P	P	14 17 20.7	-0.9
	baz=220						
I23K	Minto, Yukon-K	86.33	11	IAmb	IAmb	14 17 48.4	
	comp=Z,60nm,1.5s						
I23K				IAMs_20	IAMs_20	14 55 24.7	
	comp=Z,5μm,19.0s						
I23K	Minto, Yukon-K	86.33	11	P	P	14 17 21.4	-0.2
	baz=205						
FLWY	Flagg Ranch	86.35	41	IAMs_20	IAMs_20	14 47 48.0	
	comp=Z,6μm,22.0s						
SCRK	Sand Creek	86.36	13	IAmb	IAmb	14 17 49.3	
	comp=Z,63nm,1.8s						
SCRK	Sand Creek	86.36	13	P	P	14 17 21.9	-0.1
	baz=210						
COLA	College	86.36	11	P	P	14 17 21.0	-0.8
COLA	College	86.36	11	P	P	14 17 21.0	-0.8
COLA				pmax	pmax		
	comp=Z,60nm,0.8s						
COLA	College	86.36	11	P	P	14 17 21.4	-0.3
	baz=206						
N31M	Braeburn, Yuko	86.37	18	P	P	14 17 21.5	-0.5
	baz=217						
MDM	Murphy Dome	86.37	11	IAmb	IAmb	14 17 37.6	
	comp=Z,38nm,1.1s						
SMCO	Snowmass	86.38	46	IAMs_20	IAMs_20	14 48 22.1	
	comp=Z,5μm,22.0s						
M29M	Somme Creek	86.39	16	P	P	14 17 21.9	-0.2
	baz=215						
IMAR	Indian Mountai	86.40	9	P	P	14 17 20.2	-1.8
BW06	Boulder Array	86.41	42	P	P	14 17 21.6	-1.2
	baz=240						
PDAR	Pinedale Array	86.41	42	P	P	14 17 20.8	-2.1
PDAR	Pinedale Array	86.41	42	P	P	14 17 23.6	+0.7
	comp=Z,2.3nm,0.8s,baz=218,slow=3.6,SNR=11						
PDAR				PP	PP	14 20 43.8	-0.7
	comp=Z,0.9nm,1.0s,baz=265,slow=8.9,SNR=4.8						
	comp=Z,2.3nm,0.8s						
YHL	Hebgen Lake	86.45	40	IAMs_20	IAMs_20	14 47 41.6	
	comp=Z,6μm,22.0s						
IL31		86.45	12	IAmb	IAmb	14 17 31.2	
	comp=Z,34nm,1.1s						
ILAR	Eielson Array	86.45	12	P	P	14 17 22.0	-0.3
	comp=Z,6.9nm,1.0s,baz=225,slow=6.5,SNR=30						
ILAR				LR	LR	14 52 26.3	
	comp=Z,1μm,19.1s,baz=205,slow=33						
	comp=Z,6.9nm,1.0s						
BJI	Beijing	86.48	314	P	P	14 17 22.4	-0.5
BJI				pP	pwP	14 17 27.5	-0.9
BJI				PP	PP	14 20 46.7	+1.9
BJI				SKS	SKSac	14 27 51.2	+1.5
BJI				SS	SS	14 33 41.3	+1.1
BJI				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BJI				pmax	pmax		
	comp=Z,150nm,5.9s						
BJI				LR	LR		
	comp=Z,670nm,19.2s						
BJI				LR	LR		
	comp=Z,850nm,21.1s						
BJI				LR	LR		
	comp=Z,1μm,21.8s						
E17K	Hotham Inlet	86.52	5	P	P	14 17 22.1	-0.4
	baz=193						
BOZ	Bozeman (W)	86.57	39	IAmb	IAmb	14 17 27.4	
	comp=Z,55nm,1.6s						
BOZ				IAMs_20	IAMs_20	14 49 51.7	
	comp=Z,7μm,20.0s						
BOZ	Bozeman (W)	86.57	39	P	P	14 17 22.9	-0.6
	baz=238,SNR=15						
RPSI	Rantau Prapat	86.58	274	IAmb	IAmb	14 17 37.5	
	comp=Z,32nm,1.4s						
RPSI				IAMs_20	IAMs_20	15 00 23.0	
	comp=Z,4μm,20.0s						
H17A	Grant Village	86.59	41	P	P	14 17 23.2	-0.6
	baz=239						
J25K	Salcha River,	86.62	13	IAmb	IAmb	14 17 32.0	
	comp=Z,17nm,0.8s						
J25K	Salcha River,	86.62	13	P	P	14 17 23.3	+0.1
	baz=208,SNR=14						
LYN	LuoYang	86.62	308	⇑P	P	14 17 29.4	+5.6
LYN				pP	pwP	14 17 34.4	+5.1
LYN				sP	sP	14 17 36.6	+10
LYN				S	S	14 28 02.8	+1.8
LYN				sS	ScS	14 28 10.4	+1.2
LYN				pmax	pmax		
	comp=Z,16nm,1.1s						
LYN				pmax	pmax		
	comp=Z,670nm,6.2s						
LYN				LR	LR		
	comp=Z,3μm,18.6s						
LYN				LR	LR		
	comp=Z,3μm,19.2s						
LYN				LR	LR		
	comp=Z,6μm,21.6s						
POKR	Poker Plat Res	86.66	12	P	P	14 17 23.1	-0.2
	baz=206						
H22K	Ishtalitna Cre	86.68	10	P	P	14 17 23.7	+0.3
	baz=203						
YNM	Yellowstone No	86.68	40	IAMs_20	IAMs_20	14 47 37.6	
	comp=Z,5μm,22.0s						
F19K	Shaleruckih Mo	86.69	7	P	P	14 17 23.5	+0.1
	baz=197						
YNR	Norris Junctio	86.69	40	IAMs_20	IAMs_20	14 48 00.9	
	comp=Z,4μm,21.0s						
LL02	Futaleuf	86.74	135	⇓P	P	14 17 29.5	+5.1
SDCO	Great Sand Dun	86.74	48	P	P	14 17 23.5	-1.2
	baz=243						
SDCO	Great Sand Dun	86.74	48	P	P	14 17 27.0	+2.3
	baz=243						
K27K	Chicken	86.83	14	IAmb	IAmb	14 17 49.0	
	comp=Z,26nm,1.3s						
K27K				IAMs_20	IAMs_20	14 54 52.6	
	comp=Z,4μm,19.0s						
K27K	Chicken	86.83	14	P	P	14 17 23.5	-0.6
	baz=212						
J26L	Joseph Creek	86.90	13	IAmb	IAmb	14 17 34.7	
	comp=Z,26nm,1.0s						
J26L	Joseph Creek	86.90	13	P	P	14 17 23.9	-0.6
	baz=210,SNR=13						
N32M	Quiet Lake	86.92	19	P	P	14 17 24.4	-0.2
	baz=220						
H23K	Yukon River	86.92	10	IAMs_20	IAMs_20	14 56 30.9	
	comp=Z,4μm,19.0s						
H23K	Yukon River	86.92	10	P	P	14 17 24.5	0.0
	baz=204						
G21K	Allakaket	86.94	9	P	P	14 17 25.3	+0.7
	baz=201						
M30M	Minto, Yukon	86.95	17	IAmb	IAmb	14 17 59.3	
	comp=Z,66nm,1.9s						
M30M				IAMs_20	IAMs_20	14 47 48.4	
	comp=Z,4μm,22.0s						
M30M	Minto, Yukon	86.95	17	P	P	14 17 25.3	+0.4
	baz=216						
E18K	Tukpahlearik C	86.96	6	P	P	14 17 24.2	-0.5
	baz=194						
D17K	Noatak River	87.02	5	P	P	14 17 25.4	+0.4
	baz=192						
YMP	Mirror Lake Pl	87.02	40	IAMs_20	IAMs_20	14 48 11.7	
	comp=Z,6μm,22.0s						
L29M	L29M	87.03	16	P	P	14 17 24.6	-0.6
	baz=215,SNR=9.2						
MSTX	Muleshoe	87.08	53	P	P	14 17 25.2	-0.9
	baz=245						
MSTX	Muleshoe	87.08	53	P	P	14 17 29.2	+3.0
	baz=245						
F20K	Avaraart Lake	87.14	8	P	P	14 17 25.2	-0.3
	baz=199						
H24K	Noodor Dome	87.22	11	IAMs_20	IAMs_20	14 55 51.3	
	comp=Z,4μm,19.0s						
H24K	Noodor Dome	87.22	11	P	P	14 17 25.2	-0.9
	baz=206						
T25A	Trinidad	87.25	49	IAMs_20	IAMs_20	14 48 39.3	
	comp=Z,4μm,21.0s						
M31M	Drury Creek, Y	87.34	18	IAMs_20	IAMs_20	14 51 27.6	
	comp=Z,4μm,19.0s						
E19K	Redstone River	87.35	7	P	P	14 17 26.6	+0.1
	baz=197						
PRP	Porcupine Dome	87.39	12	IAmb	IAmb	14 17 43.8	
	comp=Z,21nm,1.2s						
PRP	Porcupine Dome	87.39	12	P	P	14 17 27.2	+0.2
	baz=208						
833A	Chaparral WMA,	87.42	59	IAMs_20	IAMs_20	14 49 36.6	
	comp=Z,4μm,20.0s						
833A	Chaparral WMA,	87.42	59	P	P	14 17 26.3	-1.5
	baz=247						
833A	Chaparral WMA,	87.42	59	P	P	14 17 30.9	+3.1
	baz=247						
C16K	Lisburne Hills	87.43	4	P	P	14 17 26.3	-0.6
	baz=190						
DAWY	Dawson	87.50	15	P	P	14 17 27.3	-0.2
	baz=214						
ZEA	Zeya	87.50	330	*e*P	P	14 17 29.0	+1.4
ZEA				*e*S	S	14 28 13.6	+4.9
ZEA				*e*		14 29 06.9	
ZEA				pmax	pmax		
	comp=Z,200nm,5.2s						
ZEA				pmax	pmax		
	comp=N,10.0nm,1.5s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.2s						
ZEA				smax	smax		
	comp=N,500nm,12.1s						
Q24A	Divide	87.54	47	P	P	14 17 26.8	-1.8
	baz=243						

ISCO	Idaho Springs	87.60	46	IAMs_20	IAMs_20	14 49 55.1		
	comp=Z,4µm,20.0s							
F21K	Alatna River	87.60	8	P	P	14 17 27.6	-0.2	
	baz=201							
G22K	Bettles	87.61	9	P	P	14 17 26.6	-1.2	
	baz=203							
G23K	Bananza Creek	87.65	10	P	P	14 17 27.6	-0.5	
	baz=204							
FARO	Faro, Yukon	87.67	18	IAMs_20	IAMs_20	14 50 58.3		
	comp=Z,5µm,20.0s							
I26K	Coal Creek Min	87.69	13	P	P	14 17 28.2	0.0	
	baz=210							
RLMT	Red Lodge	87.76	40	IAMs_20	IAMs_20	14 48 36.2		
	comp=Z,5µm,22.0s							
RLMT	Red Lodge	87.76	40	P	P	14 17 28.7	-0.6	
	baz=240							
K29M	Barlow Dome	87.79	16	IAmb	IAmb	14 17 53.7		
	comp=Z,40nm,1.4s							
K29M				IAMs_20	IAMs_20	14 55 04.0		
	comp=Z,3µm,19.0s							
K29M	Barlow Dome	87.79	16	P	P	14 17 29.2	+0.3	
	baz=216							
N23A	Red Feather La	87.88	45	IAMs_20	IAMs_20	14 49 08.6		
	comp=Z,5µm,22.0s							
N23A	Red Feather La	87.88	45	P	P	14 17 28.1	-2.0	
	baz=242							
GYA	Guiyang	87.91	299	⇑P	P	14 17 30.1	-0.3	
GYA				SKS	SKSac	14 27 54.3	-5.1	
GYA				S	SKKSac	14 28 11.6	+2.3	
GYA				SS	SS	14 34 00.7	-1.3	
GYA				pmax	pmax			
	comp=Z,10.0nm,1.6s							
GYA				pmax	pmax			
	comp=Z,260nm,10.2s							
GYA				LR	LR			
	comp=Z,2µm,23.7s							
GYA				LR	LR			
	comp=Z,2µm,21.0s							
GYA				LR	LR			
	comp=Z,3µm,22.7s							
JCT	Junction City	87.94	57	P	P	14 17 29.5	-0.8	
	baz=246							
JCT	Junction City	87.94	57	P	P	14 17 32.3	+2.0	
	baz=246							
TIY	Taiyuan	88.02	311	*e*P	P	14 17 37.4	+6.8	
TIY				PP	PP	14 21 12.9	+16	
MAYO	Mayo, Yukon	88.02	17	IAMs_20	IAMs_20	14 48 31.5		
	comp=Z,4µm,22.0s							
SN01	Snyder 1	88.05	54	IAMs_20	IAMs_20	14 49 21.9		
	comp=Z,5µm,20.0s							
F22K	John River	88.06	9	P	P	14 17 29.5	-0.5	
	baz=202							
G24K	Hadweenzic Riv	88.07	11	P	P	14 17 29.3	-0.7	
	baz=206							
COLD	Coldfoot	88.10	10	P	P	14 17 29.4	-0.7	
	baz=204							
BRLDA	Berland Lookou	88.23	30	IAMs_20	IAMs_20	14 53 38.9		
	comp=Z,4µm,19.0s							
E20K	Nigu River	88.24	7	P	P	14 17 30.5	-0.4	
	baz=198							
D19K	Kuna River	88.25	6	P	P	14 17 30.9	0.0	
	baz=196							
AMTX	Amarillo	88.28	52	IAMs_20	IAMs_20	14 48 56.4		
	comp=Z,7µm,21.0s							
AMTX	Amarillo	88.28	52	P	P	14 17 30.7	-1.2	
	baz=245							
I27K	Kandik River	88.28	13	P	P	14 17 31.6	+0.4	
	baz=212							
ELIB	Princess Elisa	88.29	186	*d*P	P	14 17 32.0	+0.6	
	comp=Z,26nm,1.1s							
KVTX	Kingsville	88.34	60	IAMs_20	IAMs_20	14 50 27.5		
	comp=Z,4µm,19.0s							
XLT	XiLinHaoTe	88.38	318	*e*P	P	14 17 33.0	+0.9	
XLT				SKS	SKSac	14 28 03.0	+1.7	
XLT				S	ScS	14 28 20.9	-2.7	
XLT				SS	SS	14 34 04.1	-3.9	
XLT				pmax	pmax			
	comp=Z,10.0nm,1.4s							
XLT				pmax	pmax			
	comp=Z,180nm,8.2s							
XLT				LR	LR			
	comp=Z,2µm,20.0s							
XLT				LR	LR			
	comp=Z,3µm,20.6s							
I28M	Miner Creek	88.53	14	IAmb	IAmb	14 17 52.9		
	comp=Z,44nm,1.8s							
I28M				IAMs_20	IAMs_20	14 56 02.4		
	comp=Z,4µm,18.0s							
I28M	Miner Creek	88.53	14	P	P	14 17 32.7	+0.4	
	baz=213							
MMPY	Sheldon Lake,	88.60	19	IAMs_20	IAMs_20	14 51 55.8		
	comp=Z,4µm,20.0s							
MMPY	Sheldon Lake,	88.60	19	P	P	14 17 33.1	+0.4	
	baz=221							
D20K	Etivluk River	88.62	7	P	P	14 17 33.9	+1.2	
	baz=198							
E21K	Killik River	88.68	8	P	P	14 17 34.3	+1.4	
	baz=200							
J30M	Hart River	88.69	16	IAMs_20	IAMs_20	14 55 33.8		
	comp=Z,4µm,19.0s							
J30M	Hart River	88.69	16	P	P	14 17 34.1	+0.9	
	baz=217							
F24K	Squaw Lake	88.74	10	P	P	14 17 35.5	+2.3	
	baz=206							
TGTN	Hyland Airport	88.75	21	P	P	14 17 34.9	+1.5	
	baz=224							
HIA	Hailar	88.86	324	IAMs_20	IAMs_20	14 54 39.4		
	comp=Z,5µm,20.0s							
ABTX	Abilene, Hawle	88.91	55	IAMs_20	IAMs_20	14 49 05.9		
	comp=Z,7µm,22.0s							
ABTX	Abilene, Hawle	88.91	55	P	P	14 17 35.8	+0.9	
	baz=246							
ABTX	Abilene, Hawle	88.91	55	P	P	14 17 37.5	+2.6	
	baz=246							
EGMT	Eagleton	88.93	38	IAMs_20	IAMs_20	14 51 03.9		
	comp=Z,7µm,20.0s							
EGMT	Eagleton	88.93	38	P	P	14 17 35.2	+0.6	
	baz=240							
E23K	Chandalar	88.95	9	P	P	14 17 35.8	+1.6	
	baz=204							
XAN	Xi'an	89.07	306	P	P	14 17 37.5	+1.9	
XAN				pP	pwP	14 17 42.0	+0.9	
XAN				SKS	SKSac	14 28 07.4	+1.6	
XAN				S	ScS	14 28 30.7	+1.0	
XAN				pmax	pmax			
	comp=Z,19nm,1.4s							
XAN				pmax	pmax			
	comp=Z,810nm,6.1s							
XAN				LR	LR			
	comp=Z,2µm,22.0s							
XAN				LR	LR			
	comp=Z,3µm,22.7s							
XAN				LR	LR			
	comp=Z,6µm,24.4s							
TROLL	Troll, Antarti	89.14	179	⇑P	P	14 17 36.8	+1.4	
	comp=Z,352nm,0.7s							
E24K	Your Creek	89.14	10	P	P	14 17 35.8	+0.7	
	baz=206							
I30M	Mount Dempster	89.20	15	IAMs_20	IAMs_20	14 56 10.3		
	comp=Z,4µm,19.0s							
I30M	Mount Dempster	89.20	15	P	P	14 17 35.8	+0.3	
	baz=217							
F25K	Christian Rive	89.20	11	P	P	14 17 35.3	-0.1	
	baz=208							
C21K	Knifeblade Rid	89.26	7	P	P	14 17 36.2	+0.6	
	baz=200							
KOTAN	Kotaneelee Air	89.26	23	P	P	14 17 36.1	+0.3	
	baz=228							
LHMI	Lhok Sumawe	89.26	276	IAMs_20	IAMs_20	15 00 08.2		
	comp=Z,4µm,19.0s							
D22K	Ayikyak River	89.27	8	P	P	14 17 35.5	-0.1	
	baz=202							
G27K	Doyon Strip	89.30	13	P	P	14 17 36.1	+0.3	
	baz=212							
KSCO	Kaye Shedlock'	89.33	48	P	P	14 17 36.4	-0.4	
	baz=245							
SNAA	Sanae	89.35	178	P	P	14 17 35.3	-1.0	
SNAA	Sanae	89.35	178	*ce*P	P	14 17 36.1	-0.3	
SNAA				pmax	pmax			
	comp=Z,20nm,1.3s							
SNAA				MLR	MLR			
	comp=Z,8µm,18.0s							
SNAA	Sanae	89.35	178	⇑P	P	14 17 37.4	+1.1	
	comp=Z,231nm,0.9s							
SNAA	Sanae	89.35	178	⇑P	P	14 17 37.4	+1.1	
SNAA				⇑P	PcP	14 17 37.6	-0.2	
SNAA				⇑P	sP	14 17 39.6	+0.1	
SNAA				⇑P	pwP	14 17 43.5	+1.7	
SNAA	Sanae	89.35	178	P	P	14 17 36.0	-0.3	
	comp=Z,6.3nm,0.9s,baz=196,slow=3.2,SNR=17							
SNAA				LR	LR	14 55 05.4		
	comp=Z,5µm,19.1s,baz=196,slow=34							
	comp=Z,6.3nm,0.9s							
VNA3	Neumayer Olymp	89.39	175	⇑P	P	14 17 37.7	+1.3	
	comp=Z,21nm,0.8s							
TOLK	Toolik Lake Re	89.49	9	P	P	14 17 35.3	-1.5	
	baz=204							
H29M	Whitestone	89.53	14	P	P	14 17 36.4	-0.5	
	baz=215							
FLDN	Fort Liard	89.55	23	IAMs_20	IAMs_20	14 49 15.2		
	comp=Z,4µm,21.0s							
F26K	Sheenjek River	89.57	11	P	P	14 17 37.1	0.0	
	baz=210							
D23K	Nanushuk River	89.62	9	P	P	14 17 37.0	-0.3	
	baz=203							
E25K	Arctic Village	89.68	11	P	P	14 17 37.9	+0.3	
	baz=208							
B20K	Meade River	89.80	6	P	P	14 17 36.7	-1.3	
	baz=197							
435B	Jarrell	89.82	57	IAMs_20	IAMs_20	14 49 32.0		
	comp=Z,5µm,21.0s							
435B	Jarrell	89.82	57	P	P	14 17 37.7	-1.4	
	baz=248							
VNA2	Neumayer--Watz	89.86	176	⇑P	P	14 17 40.1	+1.5	
	comp=Z,23nm,0.9s,baz=186,slow=3.0							
HHC	Hu-ho-hao-te	89.98	314	*e*P	P	14 17 40.4	+0.6	
HHC				SKS	SKSac	14 28 09.1	-1.9	
HHC				S	S	14 28 32.9	-0.1	
HHC				SS	SS	14 34 34.8	+3.2	
HHC				pmax	pmax			
	comp=Z,51nm,0.8s							
HHC				pmax	pmax			
	comp=Z,400nm,5.8s							
HHC				LR	LR			
	comp=Z,1µm,23.0s							
HHC				LR	LR			
	comp=Z,6µm,23.8s							
HHC				LR	LR			
	comp=Z,8µm,23.8s							
EPYK	Eagle Plains	90.04	15	P	P	14 17 38.5	-0.9	
	baz=216							
D24K	Happy Valley	90.07	9	P	P	14 17 38.1	-1.3	
	baz=205							
VNA1	Neumayer--Stat	90.07	176	⇑P	P	14 17 41.3	+1.7	
	comp=Z,36nm,0.8s							
H31M	Peel River	90.18	16	IAMs_20	IAMs_20	14 56 39.2		
	comp=Z,3µm,19.0s							
H31M	Peel River	90.18	16	P	P	14 17 39.4	-0.6	
	baz=219							
NVL	N'lazarevskaya	90.24	182	*e*P	P	14 17 42.0	+1.6	
NVL				*e*S	SKSac	14 28 09.7	-1.8	
NVL				pmax	pmax			
	comp=Z,27nm,1.3s							
NVL				smax	smax			
	comp=N,956nm,14.1s							
NVL				MLR	MLR			
	comp=Z,4µm,18.0s							
WTFS	Witchita Falls	90.27	54	IAmb	IAmb	14 17 45.2		
	comp=Z,85nm,1.6s							
FW03	Perrin-Whitt E	90.30	55	IAMs_20	IAMs_20	14 50 16.6		
	comp=Z,4µm,21.0s							
F28M	Old Crow	90.35	13	IAMs_20	IAMs_20	14 58 45.7		
	comp=Z,4µm,18.0s							
F28M	Old Crow	90.35	13	P	P	14 17 40.1	-0.6	
	baz=214							
WHTX	Lake Whitney,	90.37	56	P	P	14 17 39.7	-2.0	
	baz=248							
LAO	LASA Array	90.38	40	IAMs_20	IAMs_20	14 50 29.4		
	comp=Z,4µm,21.0s							
LAO	LASA Array	90.38	40	P	P	14 17 40.2	-1.3	
	baz=242							
LAO	LASA Array	90.38	40	P	P	14 17 44.0	+2.6	
	baz=242							
FW07	Weatherford	90.39	56	IAMs_20	IAMs_20	14 50 02.9		
	comp=Z,7µm,22.0s							
WMOK	Wichita Mounta	90.40	53	IAMs_20	IAMs_20	14 51 25.8		
	comp=Z,6µm,20.0s							
WMOK	Wichita Mounta	90.40	53	P	P	14 17 39.4	-2.4	
	baz=247							
WMOK	Wichita Mounta	90.40	53	P	P	14 17 44.7	+2.9	
	baz=247							
C23K	Itkillik River	90.43	8	P	P	14 17 40.4	-0.6	
	baz=204							
E27K	Coleen River	90.48	12	P	P	14 17 40.7	-0.6	
	baz=212							
RSSD	Black Hills	90.59	43	P	P	14 17 40.9	-1.8	
RSSD	Black Hills	90.59	43	IAMs_20	IAMs_20	14 51 19.3		
	comp=Z,4µm,21.0s							
RSSD	Black Hills	90.59	43	P	P	14 17 40.9	-1.8	
RSSD				pmax	pmax			
	comp=Z,18nm,1.3s							
RSSD	Black Hills	90.59	43	P	P	14 17 40.9	-1.8	
	baz=244							
RSSD	Black Hills	90.59	43	P	P	14 17 44.7	+2.0	
	baz=244							
G30M	tAoh Zraii Nji	90.65	14	P	P	14 17 41.2	-1.0	
	baz=217							
FW06	Azle	90.67	55	IAMs_20	IAMs_20	14 49 59.4		
	comp=Z,7µm,22.0s							
KMI	Kunming	90.72	296	⇑P	P	14 17 42.1	-1.6	
KMI				PP	PP	14 21 14.6	-4.8	
KMI				S	S	14 28 41.6	+1.0	
KMI				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KMI				pmax	pmax			
	comp=Z,350nm,7.5s							
KMI				LR	LR			
	comp=Z,810nm,25.3s							
KMI				LR	LR			
	comp=Z,3µm,24.3s							
KMI				LR	LR			
	comp=Z,3µm,21.0s							
U32A	Winter Ranch,	90.88	52	P	P	14 17 47.2	+3.2	
	baz=247							
HKT	Hockley	90.91	59	IAMs_20	IAMs_20	14 56 01.2		
	comp=Z,4µm,19.0s							
HKT	Hockley	90.91	59	*i*P	P	14 17 44.8	+0.7	
HKT				pmax	pmax			
	comp=Z,25nm,1.7s							
HKT	Hockley	90.91	59	P	P	14 17 48.2	+4.0	
	baz=248							
BTO	Baotou	90.94	313	*e*P	P	14 17 46.5	+2.2	
BTO				pP	pwP	14 17 50.0	+0.2	
BTO				sP	sP	14 17 53.7	+6.3	
BTO				PP	PP	14 21 26.3	+5.6	
BTO				SKS	SKSac	14 28 13.0	-3.6	
BTO				S	ScS	14 28 44.9	-0.2	
BTO				SS	SS	14 34 44.9	-0.6	
BTO				pmax	pmax			
	comp=Z,21nm,0.6s							
BTO				pmax	pmax			
	comp=Z,430nm,6.0s							
BTO				LR	LR			
	comp=Z,2µm,18.1s							
BTO				LR	LR			
	comp=Z,3µm,19.2s							
BTO				LR	LR			
	comp=Z,4µm,18.0s							
A22K	Sinclair Lake	90.98	7	P	P	14 17 41.8	-1.8	
	baz=199							
NOKA	Waynoka	91.03	52	IAMs_20	IAMs_20	14 51 08.6		
	comp=Z,7µm,21.0s							
Z35A	Perchaven, San	91.04	55	IAMs_20	IAMs_20	14 50 45.2		
	comp=Z,7µm,22.0s							
Z35A	Perchaven, San	91.04	55	P	P	14 17 48.3	+3.6	
	baz=248							
EFI	East Falkland	91.05	146	IAMs_20	IAMs_20	14 49 08.7		
	comp=Z,5µm,22.0s							
SNET	Serv Nac Est T	91.06	76	IAMs_20	IAMs_20	14 48 19.7		
	comp=Z,5µm,22.0s							
G31M	Satah River	91.08	15	P	P	14 17 42.8	-1.3	
	baz=219							
OK035	E0210 Rd and N	91.22	52	IAMs_20	IAMs_20	14 50 30.7		
	comp=Z,7µm,22.0s							
E28M	Babbage River	91.25	12	P	P	14 17 44.2	-0.7	
	baz=214							
F30M	Barrier River	91.26	14	P	P	14 17 45.4	+0.4	
	baz=217							
CBKS	Cedar Bluff	91.30	49	IAMs_20	IAMs_20	14 50 36.3		
	comp=Z,4µm,22.0s							
CBKS	Cedar Bluff	91.30	49	P	P	14 17 44.6	-1.3	
	baz=246							
LOOK	Love County	91.34	55	IAMs_20	IAMs_20	14 50 56.2		
	comp=Z,6µm,20.0s							
C26K	Camden Bay	91.38	10	P	P	14 17 45.3	-0.1	
	baz=209							
WRGLY	Wrigley	91.55	21	P	P	14 17 46.0	-0.4	
	baz=228							
F31M	Tsiigehtchic	91.61	15	IAmb	IAmb	14 18 06.6		
	comp=Z,33nm,1.1s							
F31M				IAMs_20	IAMs_20	14 57 45.0		
	comp=Z,4µm,19.0s							
F31M	Tsiigehtchic	91.61	15	P	P	14 17 46.4	-0.1	
	baz=219							
OK032	Salt Plains WL	91.63	52	IAMs_20	IAMs_20	14 51 46.5		
	comp=Z,7µm,20.0s							
YAK	Yakutsk	91.65	337	*e*P	P	14 17 46.7	-0.2	
YAK				*e*		14 21 23.3		
YAK				*e*PPP	PPP	14 23 26.1		
YAK				*e*S	SKSac	14 28 18.8	-0.5	
YAK				*e*SS	SS	14 34 55.1	+0.7	
YAK				*e*SSS	SSS	14 38 27.5		
YAK				pmax	pmax			
	comp=N,5.0nm,1.3s							
YAK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,2.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,299nm,3.8s							
YAK				pmax	pmax			
	comp=N,160nm,3.3s							
YAK				pmax	pmax			
	comp=E,188nm,4.3s							
YAK				smax	smax			
	comp=E,204nm,3.6s							
YAK				smax	smax			
	comp=N,189nm,4.4s							
YAK				MLR	MLR			
	comp=Z,3µm,22.0s							
YAK				MLR	MLR			
	comp=N,1µm,20.0s							
YAK				MLR	MLR			
	comp=E,2µm,19.0s							
237A	Washetta, Mont	91.68	57	IAMs_20	IAMs_20	14 50 54.3		
	comp=Z,5µm,22.0s							
237A	Washetta, Mont	91.68	57	P	P	14 17 51.0	+3.3	
	baz=249							
CROK	Carrier	91.68	52	IAMs_20	IAMs_20	14 51 58.0		
	comp=Z,7µm,21.0s							
CMAR	Chiang Mai Arr	91.76	289	P	P	14 17 48.0	-0.4	
	comp=Z,2.9nm,1.1s,baz=103,slow=2.4,SNR=2.8							
CMAR				LR	LR	14 58 42.4		
	comp=Z,1µm,20.2s,baz=110,slow=36							
	comp=Z,2.9nm,1.1s							
OK029	Liberty Lake	91.81	53	IAMs_20	IAMs_20	14 51 19.4		
	comp=Z,6µm,21.0s							
R32A	Long Quarter,	91.89	50	IAMs_20	IAMs_20	14 51 05.2		
	comp=Z,6µm,22.0s							
R32A	Long Quarter,	91.89	50	P	P	14 17 51.0	+2.4	
	baz=247							
CD2	Chengdu	91.92	302	P	P	14 17 47.4	-1.6	
CD2				S	S	14 28 51.7	+0.7	
CD2				pmax	pmax			
	comp=Z,340nm,7.0s							
CD2				LR	LR			
	comp=Z,2µm,21.7s							
CD2				LR	LR			
	comp=Z,2µm,26.5s							
W35A	Tecumseh	92.01	54	IAMs_20	IAMs_20	14 51 36.7		
	comp=Z,6µm,21.0s							
D28M	Stokes Point	92.01	12	P	P	14 17 48.3	-0.1	
	baz=215							
PZH	PanZhiHua	92.04	297	P	P	14 17 49.6	-0.1	
PZH				S	S	14 28 53.7	+1.3	
PZH				SS	SS	14 35 03.7	+1.9	
PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,310nm,7.7s							
PZH				LR	LR			
	comp=Z,1µm,24.3s							
PZH				LR	LR			
	comp=Z,2µm,24.3s							
PZH				LR	LR			
	comp=Z,2µm,24.9s							
OK033	Mehan	92.29	53	IAMs_20	IAMs_20	14 52 46.2		
	comp=Z,6µm,20.0s							
OK031	S. Brethren Rd	92.33	53	IAMs_20	IAMs_20	14 51 45.2		
	comp=Z,6µm,21.0s							
INK	Inuvik	92.33	14	IAmb	IAmb	14 18 10.7		
	comp=Z,34nm,1.6s							
INK				IAMs_20	IAMs_20	14 58 44.4		
	comp=Z,3µm,18.0s							
INK	Inuvik	92.33	14	P	P	14 17 49.2	-0.6	
	baz=219							
INK	Inuvik	92.33	14	LR	LR	14 57 35.9		
	comp=Z,2µm,18.1s,baz=198,slow=34							
OK052	Battle Ridge R	92.37	53	IAMs_20	IAMs_20	14 52 48.4		
	comp=Z,5µm,20.0s							
DGMT	Dagmar	92.41	39	P	P	14 17 49.3	-1.5	
	baz=244							
DGMT	Dagmar	92.41	39	P	P	14 17 53.5	+2.8	
	baz=244							
OK048	Pawnee Station	92.42	52	IAMs_20	IAMs_20	14 52 29.7		
	comp=Z,7µm,21.0s							
NATX	Nacogdoches	92.50	57	IAMs_20	IAMs_20	14 51 47.6		
	comp=Z,4µm,21.0s							
OK051	E0350 and S346	92.54	52	IAMs_20	IAMs_20	14 52 34.7		
	comp=Z,7µm,20.0s							
DEOK	Depew	92.55	53	IAMs_20	IAMs_20	14 47 34.0		
	comp=Z,5µm,22.0s							
Z38A	Mt. Pleasant	92.78	56	IAMs_20	IAMs_20	14 51 07.3		
	comp=Z,5µm,22.0s							
T35B	Sooner Cattle	92.93	52	P	P	14 17 56.1	+2.6	
	baz=248							
X37A	Clayton	92.95	55	IAMs_20	IAMs_20	14 51 11.8		
	comp=Z,7µm,22.0s							
X37A	Clayton	92.95	55	P	P	14 17 56.2	+2.6	
	baz=249							
TGUH	Tegucigalpa,Un	92.98	76	IAMs_20	IAMs_20	14 49 18.2		
	comp=Z,4µm,22.0s							
TUL3	Leonard	93.11	53	P	P	14 17 52.9	-1.4	
	baz=249							
TUL3	Leonard	93.11	53	P	P	14 17 57.0	+2.7	
	baz=249							
LCO	Las Campanas	93.24	122	IAMs_20	IAMs_20	14 50 34.2		
	comp=Z,4µm,20.0s							
BGNE	Belgrade	93.43	47	IAMs_20	IAMs_20	14 53 09.8		
	comp=Z,6µm,21.0s							
BGNE	Belgrade	93.43	47	P	P	14 17 55.6	-0.1	
	baz=248							
KSU1	Kansas State U	93.66	50	IAMs_20	IAMs_20	14 52 19.8		
	comp=Z,6µm,21.0s							
KSU1	Kansas State U	93.66	50	P	P	14 17 55.3	-1.5	
	baz=248							
N33A	J Bar K, Exete	93.67	48	IAMs_20	IAMs_20	14 52 14.1		
	comp=Z,5µm,22.0s							
LZH	Lanzhou	93.70	307	*e*P	P	14 17 54.6	-2.6	
LZH				sP	pwP	14 18 03.5	+0.8	
LZH				S	S	14 29 06.1	-0.7	
LZH				SS	SS	14 35 21.5	-3.9	
LZH				pmax	pmax			
	comp=Z,20nm,1.1s							
LZH				pmax	pmax			
	comp=Z,290nm,6.0s							
LZH				LR	LR			
	comp=Z,1µm,18.6s							
LZH				LR	LR			
	comp=Z,1µm,20.6s							
LZH				LR	LR			
	comp=Z,5µm,22.0s							
JTS	Las Juntas de	93.93	81	IAMs_20	IAMs_20	14 49 54.9		
	comp=Z,5µm,21.0s							
SUSD	Miller	94.04	44	P	P	14 17 58.2	-0.2	
	baz=247							
TEIG	Tepich	94.05	70	IAMs_20	IAMs_20	14 51 29.2		
	comp=Z,5µm,22.0s							
TEIG	Tepich	94.05	70	LR	LR	14 51 51.5		
	comp=Z,45µm,21.9s,baz=26,slow=30							
CFA	Coronel Fontan	94.11	125	LR	LR	14 50 33.2		
	comp=Z,1µm,21.5s,slow=29							
NNA	Nana	94.26	104	LR	LR	14 50 28.2		
	comp=Z,2µm,19.1s,baz=246,slow=29							
TNCH	TengChong	94.28	295	P	P	14 17 58.1	-2.1	
TNCH				sP	pwP	14 18 08.1	+2.4	
TNCH				S	S	14 29 01.3	-11	
TNCH				sS	sS	14 29 15.9	-0.4	
TNCH				SS	SS	14 35 27.5	-6.7	
TNCH				pmax	pmax			
	comp=Z,25nm,0.7s							

TNCH				pmax	pmax			
	comp=Z,220nm,7.4s							
TNCH				LR	LR			
	comp=Z,740nm,20.7s							
TNCH				LR	LR			
	comp=Z,970nm,24.0s							
TNCH				LR	LR			
	comp=Z,3μm,25.2s							
YKA	**Yellowknife Ar**	**94.30**	**24**	P	**P**	**14 17 59.7**	**+0.6**	
	comp=Z,3.0nm,1.0s,baz=238,slow=5.8,SNR=5.3							
	comp=Z,3.0nm,1.0s							
MIAR	**Mount Ida**	**94.33**	**55**	P	**P**	**14 17 58.4**	**-1.5**	
	baz=250							
YKAW3	**Yellowknife Wh**	**94.34**	**24**	IAMs_20	IAMs_20	14 51 34.9		
	comp=Z,3μm,22.0s							
YKAW1	**Yellowknife Wh**	**94.34**	**24**	IAMs_20	IAMs_20	14 51 59.1		
	comp=Z,3μm,22.0s							
U38A	**Gravette**	**94.36**	**53**	IAMs_20	IAMs_20	14 53 29.9		
	comp=Z,5μm,21.0s							
U38A	**Gravette**	**94.36**	**53**	P	**P**	**14 18 02.3**	**+2.3**	
	baz=250							
WLAR	**White Oak Lake**	**94.39**	**56**	IAMs_20	IAMs_20	14 52 18.1		
	comp=Z,6μm,22.0s							
ATAH	**Atahualpa**	**94.47**	**99**	LR	LR	14 51 22.0		
	comp=Z,4μm,20.3s,baz=255,slow=30							
HDC	**Heredia**	**94.62**	**81**	IAMs_20	IAMs_20	14 50 09.3		
	comp=Z,5μm,22.0s							
HHAR	**Hobbs**	**94.64**	**53**	IAmb	IAmb	14 18 04.9		
	comp=Z,26nm,1.5s							
HHAR				IAMs_20	IAMs_20	14 53 49.4		
	comp=Z,5μm,20.0s							
MDND	**Maddock**	**94.95**	**41**	IAMs_20	IAMs_20	14 53 33.4		
	comp=Z,6μm,21.0s							
N35A	**Tabor**	**94.99**	**49**	IAMs_20	IAMs_20	14 54 50.2		
	comp=Z,3μm,20.0s							
ECSD	**EROS Data Cent**	**95.34**	**46**	P	**P**	**14 18 02.4**	**-2.0**	
	baz=249							
ECSD	**EROS Data Cent**	**95.34**	**46**	P	**P**	**14 18 06.2**	**+1.9**	
	baz=249							
143A	**Socs Landing,**	**95.42**	**57**	IAMs_20	IAMs_20	14 56 59.4		
	comp=Z,4μm,21.0s							
C36M	**Paulatuk**	**95.46**	**16**	P	**P**	**14 18 02.8**	**-1.4**	
	baz=228							
U40A	**Yellville**	**95.49**	**54**	P	**P**	**14 18 07.7**	**+2.5**	
	baz=250							
U40A				P	**P**	**14 18 07.7**	**+2.5**	
	baz=250							
CCAR	**Cane Creek**	**95.52**	**56**	IAMs_20	IAMs_20	14 53 14.0		
	comp=Z,7μm,22.0s							
344A	**Westbrook Farm**	**95.55**	**59**	IAMs_20	IAMs_20	14 58 38.0		
	comp=Z,3μm,20.0s							
WHAR	**Wooly Hollow**	**95.57**	**55**	IAMs_20	IAMs_20	14 54 21.2		
	comp=Z,6μm,20.0s							
S39A	**Bolivar**	**95.58**	**52**	IAMs_20	IAMs_20	14 54 19.3		
	comp=Z,6μm,20.0s							
S39A	**Bolivar**	**95.58**	**52**	P	**P**	**14 18 07.8**	**+2.2**	
	baz=250							
TRQA	**Tornquist**	**95.74**	**133**	IAMs_20	IAMs_20	14 53 25.4		
	comp=Z,4μm,20.0s							
ULN	**Ulaanbaatar**	**95.77**	**319**	P	**P**	**14 18 04.8**	**-1.6**	
ULN	**Ulaanbaatar**	**95.77**	**319**	*ce*P	**P**	**14 18 05.7**	**-0.7**	
ULN				pmax	pmax			
	comp=Z,5.0nm,1.1s							
ULN				MLR	MLR			
	comp=Z,2μm,19.0s							
P38A	**Dawn**	**96.08**	**50**	IAMs_20	IAMs_20	14 54 07.2		
	comp=Z,7μm,21.0s							
SONM	**Songino Array**	**96.17**	**318**	LR	LR	14 57 36.9		
	comp=Z,3μm,21.4s,baz=112,slow=33							
MGMO	**Mountain Grove**	**96.20**	**53**	IAMs_20	IAMs_20	14 54 37.6		
	comp=Z,6μm,21.0s							
F33A	**5 Mile Ranch,**	**96.31**	**44**	IAmb	IAmb	14 18 11.5		
	comp=Z,23nm,1.3s							
FFC	**Flin Flon**	**96.33**	**34**	IAMs_20	IAMs_20	14 56 15.3		
	comp=Z,3μm,19.0s							
R40A	**Maddies Statio**	**96.57**	**52**	IAmb	IAmb	14 18 13.4		
	comp=Z,26nm,1.4s							
N38A	**Joes South For**	**96.68**	**49**	IAMs_20	IAMs_20	14 55 15.1		
	comp=Z,5μm,21.0s							
HBAR	**Harrisburg**	**96.92**	**55**	IAMs_20	IAMs_20	14 54 52.8		
	comp=Z,5μm,20.0s							
SCIA	**State Center**	**97.06**	**48**	IAMs_20	IAMs_20	14 54 43.7		
	comp=Z,5μm,22.0s							
SCIA	**State Center**	**97.06**	**48**	P	**P**	**14 18 09.2**	**-3.0**	
	baz=251							
CCM	**Cathedral Cave**	**97.26**	**52**	P	**P**	**14 18 11.5**	**-1.7**	
	baz=252							
Y45A	**Yeager Farm, C**	**97.26**	**57**	IAMs_20	IAMs_20	14 54 17.2		
	comp=Z,5μm,22.0s							
LVC	**Limon Verde**	**97.30**	**117**	LR	LR	14 51 52.5		
	comp=Z,3μm,21.7s,baz=254,slow=29							
MET	**Memphis--Engin**	**97.34**	**56**	IAMs_20	IAMs_20	14 54 45.2		
	comp=Z,4μm,21.0s							
GNAR	**Gosnell**	**97.54**	**55**	IAMs_20	IAMs_20	14 54 26.3		
	comp=Z,6μm,22.0s							
OXF	**Oxford**	**97.57**	**56**	IAMs_20	IAMs_20	14 54 24.6		
	comp=Z,5μm,22.0s							
K38A	**Parkersburg**	**97.61**	**48**	IAMs_20	IAMs_20	14 54 51.6		
	comp=Z,5μm,21.0s							
I37A	**Lemond, Waseca**	**97.62**	**46**	IAMs_20	IAMs_20	14 55 38.7		
	comp=Z,4μm,21.0s							
PEBM	**Pemiscott Bayo**	**97.70**	**55**	IAMs_20	IAMs_20	14 54 31.7		
	comp=Z,6μm,22.0s							
FVM	**French Village**	**97.85**	**53**	IAMs_20	IAMs_20	14 55 58.3		
	comp=Z,6μm,20.0s							
PVMO	**Portageville**	**97.92**	**54**	IAMs_20	IAMs_20	14 55 10.4		
	comp=Z,6μm,21.0s							
PARMO	**Parma**	**97.96**	**54**	IAMs_20	IAMs_20	14 55 11.3		
	comp=Z,6μm,21.0s							
TIXI	**Tiksi**	**97.96**	**345**	IAMs_20	IAMs_20	15 01 43.9		
	comp=Z,3μm,20.0s							
HALT	**Halls**	**98.05**	**55**	IAMs_20	IAMs_20	14 54 41.7		
	comp=Z,6μm,22.0s							
ULM	**Lac du Bonnet**	**98.11**	**40**	LR	LR	14 55 42.0		
	comp=Z,9μm,21.9s,baz=255,slow=31							
GLAT	**Glass**	**98.19**	**55**	IAMs_20	IAMs_20	14 55 18.6		
	comp=Z,5μm,21.0s							
CGM3	**Cape Girardeau**	**98.22**	**53**	IAMs_20	IAMs_20	14 54 49.2		
	comp=Z,5μm,22.0s							
Z47A	**Carrollton**	**98.23**	**58**	IAMs_20	IAMs_20	14 58 58.0		
	comp=Z,4μm,21.0s							
HICK	**Hickman**	**98.32**	**54**	IAMs_20	IAMs_20	14 56 04.0		
	comp=Z,5μm,20.0s							
N41A	**Harden Midland**	**98.37**	**50**	IAMs_20	IAMs_20	14 56 17.8		
	comp=Z,6μm,21.0s							
BRAL	**Brewton**	**98.46**	**60**	IAMs_20	IAMs_20	14 59 02.2		
	comp=Z,3μm,18.0s							
L40A	**Anamosa**	**98.52**	**49**	IAMs_20	IAMs_20	14 55 48.7		
	comp=Z,4μm,21.0s							
UTMT	**University of**	**98.54**	**55**	IAMs_20	IAMs_20	14 55 07.9		
	comp=Z,6μm,22.0s							
S44A	**Carbondale**	**98.65**	**53**	IAMs_20	IAMs_20	14 55 12.4		
	comp=Z,5μm,22.0s							
SIUC	**Southern Illin**	**98.68**	**53**	IAMs_20	IAMs_20	14 55 24.3		
	comp=Z,5μm,22.0s							
T45A	**Paducah**	**98.91**	**54**	IAMs_20	IAMs_20	14 55 08.5		
	comp=Z,5μm,22.0s							
HOPE	**Hope Point**	**98.98**	**157**	IAMs_20	IAMs_20	14 54 29.2		
	comp=Z,7μm,22.0s							
P43A	**Skaggs, Pawnee**	**99.02**	**51**	IAMs_20	IAMs_20	14 57 06.2		
	comp=Z,5μm,20.0s							
LRAL	**Lakeview Retre**	**99.05**	**58**	IAMs_20	IAMs_20	14 57 29.0		
	comp=Z,4μm,22.0s							
WVT	**Waverly**	**99.28**	**55**	IAMs_20	IAMs_20	14 55 18.4		
	comp=Z,7μm,22.0s							
X48A	**Hartselle**	**99.42**	**57**	IAMs_20	IAMs_20	14 56 25.2		
	comp=Z,4μm,21.0s							
JFWS	**Jewell Farm**	**99.46**	**48**	IAMs_20	IAMs_20	14 55 58.3		
	comp=Z,5μm,21.0s							
I40A	**Norwalk**	**99.50**	**47**	IAMs_20	IAMs_20	14 56 50.3		
	comp=Z,5μm,21.0s							
Y49A	**Blount Mountai**	**99.75**	**58**	IAMs_20	IAMs_20	14 57 31.1		
	comp=Z,4μm,22.0s							
OLIL	**Olney**	**99.82**	**52**	IAMs_20	IAMs_20	14 57 49.4		
	comp=Z,6μm,20.0s							
USIN	**University of**	**99.93**	**53**	IAMs_20	IAMs_20	14 56 02.4		
	comp=Z,6μm,22.0s							
O44A	**Mansfield**	**99.95**	**51**	IAMs_20	IAMs_20	14 56 14.7		
	comp=Z,6μm,22.0s							
V48A	**Smith Brothers**	**99.95**	**56**	IAMs_20	IAMs_20	14 56 14.3		
	comp=Z,5μm,21.0s							
T47A	**Sharon Grove**	**100.08**	**54**	IAMs_20	IAMs_20	14 55 43.6		
	comp=Z,5μm,22.0s							
EYMN	**Ely**	**100.11**	**43**	IAMs_20	IAMs_20	14 56 52.9		
	comp=Z,5μm,21.0s							
G40A	**Rib Lake**	**100.18**	**46**	IAMs_20	IAMs_20	14 56 27.7		
	comp=Z,6μm,22.0s							
SWET	**Sewanee**	**100.51**	**56**	IAMs_20	IAMs_20	15 00 51.0		
	comp=Z,3μm,20.0s							
FPAL	**Fort Paine**	**100.58**	**57**	IAMs_20	IAMs_20	14 57 20.9		
	comp=Z,5μm,22.0s							
M44A	**Midewin, Midew**	**100.60**	**50**	IAMs_20	IAMs_20	14 57 15.9		
	comp=Z,6μm,21.0s							
I42A	**Draeger Farm,**	**100.67**	**47**	IAMs_20	IAMs_20	14 57 37.6		
	comp=Z,6μm,20.0s							
K43A	**Burlington**	**100.76**	**49**	IAMs_20	IAMs_20	15 00 28.8		
	comp=Z,3μm,19.0s							
HQIL	**Hanson Quary C**	**100.85**	**50**	IAMs_20	IAMs_20	14 56 55.4		
	comp=Z,4μm,22.0s							
SFIN	**Lafayette**	**101.02**	**51**	P	**Pdif**	**14 18 27.4**	**-2.5**	
	baz=254							
WCI	**Wyandotte Cave**	**101.04**	**53**	IAMs_20	IAMs_20	14 57 28.9		
	comp=Z,6μm,20.0s							
BLO	**Bloomington**	**101.12**	**52**	IAMs_20	IAMs_20	14 58 01.9		
	comp=Z,5μm,20.0s							
X51A	**Calhoun**	**101.18**	**57**	IAMs_20	IAMs_20	14 58 02.0		
	comp=Z,4μm,22.0s							
TIGA	**Tifton**	**101.38**	**61**	IAMs_20	IAMs_20	15 00 40.6		
	comp=Z,3μm,21.0s							
H43A	**Windswept, Lux**	**101.62**	**47**	IAMs_20	IAMs_20	14 58 14.6		
	comp=Z,5μm,20.0s							
T50A	**Nancy**	**101.84**	**55**	IAMs_20	IAMs_20	14 56 49.1		
	comp=Z,6μm,22.0s							
V51A	**Loudon**	**101.91**	**56**	IAMs_20	IAMs_20	14 56 28.0		
	comp=Z,4μm,22.0s							
R49A	**Shelbyville**	**101.91**	**54**	IAMs_20	IAMs_20	14 57 12.9		
	comp=Z,6μm,22.0s							
CRZF	**Crozet Islands**	**101.97**	**211**	IAMs_20	IAMs_20	14 57 03.9		
	comp=Z,3μm,20.0s							
P48A	**Milroy**	**102.02**	**52**	IAMs_20	IAMs_20	14 58 38.6		
	comp=Z,4μm,20.0s							
L46A	**Eue Claire**	**102.03**	**50**	IAMs_20	IAMs_20	14 57 50.6		
	comp=Z,5μm,21.0s							
154A	**Montrose**	**102.08**	**60**	IAMs_20	IAMs_20	14 58 35.1		
	comp=Z,3μm,22.0s							
O48B	**Farmland**	**102.42**	**52**	IAMs_20	IAMs_20	14 59 38.8		
	comp=Z,5μm,20.0s							
V52A	**Sevierville**	**102.51**	**56**	IAMs_20	IAMs_20	14 57 10.0		
	comp=Z,4μm,22.0s							
R50A	**Paris**	**102.55**	**54**	IAMs_20	IAMs_20	14 57 33.9		
	comp=Z,6μm,22.0s							
P49A	**Miami Univ. Ec**	**102.57**	**52**	IAMs_20	IAMs_20	14 59 06.1		
	comp=Z,4μm,20.0s							
BG3	**Lake Jocassee**	**102.83**	**57**	IAMs_20	IAMs_20	15 00 57.5		
	comp=Z,3μm,20.0s							
S51A	**Beattyville**	**102.95**	**54**	IAMs_20	IAMs_20	14 58 18.6		
	comp=Z,5μm,21.0s							
060A	**Indiantown**	**102.96**	**66**	IAMs_20	IAMs_20	14 58 27.9		
	comp=Z,6μm,21.0s							
V53A	**Saluda**	**103.08**	**57**	IAMs_20	IAMs_20	15 01 38.3		
	comp=Z,3μm,21.0s							
MTDJ	**Mount Denham**	**103.15**	**75**	IAMs_20	IAMs_20	14 55 33.6		
	comp=Z,3μm,22.0s							
G45A	**Suttons Bay**	**103.22**	**47**	IAMs_20	IAMs_20	14 59 41.9		
	comp=Z,5μm,20.0s							
L48A	**N Adams**	**103.36**	**50**	IAMs_20	IAMs_20	14 59 48.8		
	comp=Z,5μm,20.0s							
J47A	**Sunmer**	**103.38**	**49**	IAMs_20	IAMs_20	14 58 26.4		
	comp=Z,4μm,22.0s							
Q51A	**Peebles**	**103.48**	**53**	IAMs_20	IAMs_20	14 58 55.3		
	comp=Z,5μm,21.0s							
P51A	**Williamsport**	**103.80**	**53**	IAMs_20	IAMs_20	14 59 34.8		
	comp=Z,5μm,20.0s							
JSC	**Jenkinsville**	**103.99**	**58**	IAMs_20	IAMs_20	15 01 21.4		
	comp=Z,4μm,20.0s							
AAM	**Ann Arbor**	**104.00**	**50**	IAMs_20	IAMs_20	14 58 49.5		
	comp=Z,4μm,21.0s							
ACSO	**Alum Creek Sta**	**104.03**	**52**	IAMs_20	IAMs_20	15 00 48.4		
	comp=Z,4μm,19.0s							
U54A	**Nelsons Funny**	**104.07**	**56**	IAMs_20	IAMs_20	14 59 14.2		
	comp=Z,4μm,22.0s							
KMSC	**Kings Mountain**	**104.13**	**57**	IAMs_20	IAMs_20	15 01 56.1		
	comp=Z,4μm,20.0s							
Q52A	**Bidwell**	**104.28**	**53**	IAMs_20	IAMs_20	14 59 20.6		
	comp=Z,5μm,21.0s							
Y57A	**Sumter**	**104.63**	**59**	IAMs_20	IAMs_20	15 00 04.4		
	comp=Z,5μm,22.0s							
BIRD	**Birdtown, Kers**	**104.72**	**58**	IAMs_20	IAMs_20	15 01 21.6		
	comp=Z,4μm,20.0s							
K50A	**Casco**	**104.85**	**50**	IAMs_20	IAMs_20	15 02 19.3		
	comp=Z,3μm,20.0s							
O52A	**Adamsville**	**104.86**	**52**	IAMs_20	IAMs_20	14 59 17.8		
	comp=Z,5μm,21.0s							
P53A	**Whipple**	**105.06**	**53**	IAMs_20	IAMs_20	15 00 24.2		
	comp=Z,5μm,20.0s							
U56A	**King**	**105.16**	**56**	IAMs_20	IAMs_20	15 00 40.1		
	comp=Z,4μm,22.0s							
W57A	**Gilead**	**105.21**	**58**	IAMs_20	IAMs_20	15 00 55.5		
	comp=Z,5μm,22.0s							
BLA	**Blacksburg**	**105.32**	**56**	IAMs_20	IAMs_20	14 59 40.7		
	comp=Z,6μm,22.0s							
O53A	**New Philadelph**	**105.35**	**52**	IAMs_20	IAMs_20	14 59 20.9		
	comp=Z,6μm,22.0s							
N53A	**Lisbon**	**105.75**	**52**	IAMs_20	IAMs_20	15 00 15.3		
	comp=Z,5μm,22.0s							
O54A	**Avella**	**105.97**	**53**	IAMs_20	IAMs_20	15 01 11.1		
	comp=Z,5μm,20.0s							
V58A	**Windy Hill, Pi**	**106.04**	**57**	IAMs_20	IAMs_20	15 01 11.7		
	comp=Z,3μm,22.0s							
T57A	**Hurt**	**106.18**	**56**	IAMs_20	IAMs_20	15 00 50.2		
	comp=Z,5μm,22.0s							
MCWV	**Mont Chateau**	**106.26**	**53**	IAMs_20	IAMs_20	15 01 01.6		
	comp=Z,5μm,21.0s							
Y60A	**Bolivia**	**106.39**	**59**	IAMs_20	IAMs_20	15 02 27.0		
	comp=Z,3μm,20.0s							
W59A	**Clinton**	**106.45**	**58**	IAMs_20	IAMs_20	15 00 35.5		
	comp=Z,4μm,22.0s							
S57A	**Dark Hollow, R**	**106.57**	**55**	IAMs_20	IAMs_20	15 00 41.4		
	comp=Z,5μm,22.0s							
Q56A	**Snyder Ridge,**	**106.64**	**54**	IAMs_20	IAMs_20	15 00 55.2		
	comp=Z,6μm,22.0s							
CNNC	**Cliffs of the**	**106.91**	**58**	IAMs_20	IAMs_20	15 00 37.0		
	comp=Z,4μm,22.0s							
SDV	**Santo Domingo**	**106.95**	**86**	IAMs_20	IAMs_20	14 57 55.8		
	comp=Z,3μm,21.0s							
R58B	**Mineral**	**107.44**	**55**	IAMs_20	IAMs_20	15 01 17.6		
	comp=Z,4μm,21.0s							
T59A	**Double "B" Far**	**107.51**	**56**	IAMs_20	IAMs_20	15 02 12.4		
	comp=Z,4μm,21.0s							
WMQ	**Urumqi**	**107.69**	**311**	Pdif	**Pdif**	**14 18 58.7**	**-0.9**	
WMQ				PP	**PP**	**14 23 26.3**	**-1.9**	
WMQ				SS	SS	14 38 37.7	-1.9	
WMQ				AMB	AMB			
	comp=Z,190nm,5.1s							
WMQ				LR	LR			
	comp=Z,2μm,25.3s							
WMQ				LR	LR			
	comp=Z,2μm,27.5s							
WMQ				LR	LR			
	comp=Z,2μm,27.5s							
J54A	**Appleton**	**107.81**	**50**	IAMs_20	IAMs_20	15 01 39.7		
	comp=Z,4μm,20.0s							
CBN	**Corbin Frederi**	**107.88**	**55**	IAMs_20	IAMs_20	15 01 11.6		
	comp=Z,6μm,21.0s							
SSPA	**Standing Stone**	**107.92**	**52**	IAMs_20	IAMs_20	15 01 12.4		
	comp=Z,4μm,21.0s							
V61A	**Roper**	**108.06**	**58**	IAMs_20	IAMs_20	15 01 11.2		
	comp=Z,3μm,22.0s							
T60A	**Surry**	**108.19**	**56**	IAMs_20	IAMs_20	15 02 31.3		
	comp=Z,5μm,21.0s							
J55A	**Hilton**	**108.41**	**50**	IAMs_20	IAMs_20	15 01 56.4		
	comp=Z,5μm,21.0s							
MVL	**Millersville**	**108.97**	**53**	IAMs_20	IAMs_20	15 01 02.8		
	comp=Z,5μm,22.0s							
PECO	**Prince Edward**	**109.10**	**49**	IAMs_20	IAMs_20	15 01 42.6		
	comp=Z,5μm,22.0s							
S61A	**Accomac**	**109.11**	**56**	IAMs_20	IAMs_20	15 02 37.8		
	comp=Z,6μm,22.0s							
WUPA	**West Chester U**	**109.53**	**53**	IAMs_20	IAMs_20	15 01 52.5		
	comp=Z,4μm,22.0s							
J57A	**Williamstown**	**109.74**	**50**	IAMs_20	IAMs_20	15 03 17.7		
	comp=Z,5μm,21.0s							
LUPA	**Lehigh Univers**	**109.80**	**53**	IAMs_20	IAMs_20	15 04 18.7		
	comp=Z,4μm,20.0s							
J59A	**Pisco**	**110.83**	**50**	IAMs_20	IAMs_20	15 04 30.4		
	comp=Z,5μm,20.0s							
ACCN	**Adirondack Com**	**111.42**	**50**	IAMs_20	IAMs_20	15 04 27.2		
	comp=Z,5μm,20.0s							
YLE	**Yale**	**111.73**	**52**	IAMs_20	IAMs_20	15 04 11.9		
	comp=Z,5μm,21.0s							
MKAR	**Makanchi Array**	**111.85**	**314**	PKiKP	**PKiKP**	**14 23 17.1**	**+1.9**	
	comp=Z,0.4nm,0.7s,baz=44,slow=2.0,SNR=2.5							
HMDM	**Hanimaadhoo**	**112.19**	**270**	IAMs_20	IAMs_20	15 13 31.8		
	comp=Z,2μm,18.0s							
J61A	**Chester**	**112.23**	**50**	IAMs_20	IAMs_20	15 05 22.5		
	comp=Z,4μm,20.0s							
UCCT	**U. Connecticut**	**112.31**	**52**	IAMs_20	IAMs_20	15 05 35.9		
	comp=Z,5μm,21.0s							
HNH	**Hanover**	**112.45**	**50**	IAMs_20	IAMs_20	15 06 33.5		
	comp=Z,4μm,20.0s							
LBNH	**Lisbon**	**112.76**	**49**	IAMs_20	IAMs_20	15 04 15.2		
	comp=Z,4μm,22.0s							
BRYW	**Bryant College**	**112.83**	**52**	IAMs_20	IAMs_20	15 06 00.8		
	comp=Z,5μm,20.0s							
FFD	**Franklin Falls**	**112.89**	**50**	IAMs_20	IAMs_20	15 07 16.1		
	comp=Z,4μm,19.0s							
I62A	**Tamworth**	**113.15**	**50**	IAMs_20	IAMs_20	15 05 31.0		
	comp=Z,3μm,20.0s							
I63A	**Otisfield**	**113.71**	**50**	IAMs_20	IAMs_20	15 06 06.7		
	comp=Z,4μm,22.0s							
F62A	**Pittston Farm,**	**114.26**	**48**	IAMs_20	IAMs_20	15 05 56.9		
	comp=Z,5μm,20.0s							
KURK	**Kurchatov**	**114.46**	**318**	IAMs_20	IAMs_20	15 11 45.1		
	comp=Z,3μm,19.0s							
KURK	**Kurchatov**	**114.46**	**318**	*i* PKIKP	**PKiKP**	**14 23 21.0**	**+1.1**	
KURBB	**Kurchatov Arra**	**114.52**	**318**	PKiKP	**PKiKP**	**14 23 21.0**	**+0.9**	
	comp=Z,0.8nm,0.3s,baz=101,slow=1.9,SNR=4.2							
KURBB				PP	**PP**	**14 24 15.8**	**-1.2**	
	comp=Z,1.9nm,0.3s,baz=98,slow=5.8,SNR=4.4							
E62A	**Clayton Lake**	**114.59**	**47**	IAMs_20	IAMs_20	15 07 52.8		
	comp=Z,3μm,20.0s							
F63A	**Nahmakanta, Br**	**114.85**	**48**	IAMs_20	IAMs_20	15 05 56.7		
	comp=Z,4μm,21.0s							
F64A	**Sherman**	**115.38**	**48**	IAMs_20	IAMs_20	15 06 10.8		
	comp=Z,5μm,22.0s							
PQI	**Presque Isle**	**115.63**	**47**	IAMs_20	IAMs_20	15 06 48.2		
	comp=Z,5μm,22.0s							
KSH	**Kashi**	**115.90**	**305**	PKP	**PKPdf**	**14 23 22.3**	**-1.0**	
KSH				LR	LR			
	comp=Z,1μm,23.0s							
KSH				LR	LR			
	comp=Z,2μm,19.9s							
KSH				LR	LR			
	comp=Z,2μm,21.6s							
UPNV	**Upernavik**	**116.67**	**17**	IAmb	IAmb	14 24 38.1		
	comp=Z,21nm,1.1s							
UPNV	**Upernavik**	**116.67**	**17**	*i* P		14 24 31.5		
BDFB	**Brasilia**	**117.97**	**120**	pmax	pmax			
	comp=Z,12nm,1.0s							
BBGH	**Gun Hill**	**118.57**	**85**	IAMs_20	IAMs_20	15 05 57.6		
	comp=Z,3μm,22.0s							
BVAR	**Borovoye Array**	**119.42**	**321**	PKP	**PKPdf**	**14 23 28.9**	**-0.6**	
	comp=Z,1.6nm,0.7s,baz=64,slow=3.4,SNR=5.8							
BRVK	**Borovoye**	**119.48**	**321**	IAMs_20	IAMs_20	15 14 55.5		
	comp=Z,3μm,19.0s							
ILULI	**Ilulissat**	**119.66**	**20**	IAMs_20	IAMs_20	15 12 26.8		
	comp=Z,2μm,20.0s							
KKAR	**Karatay Array**	**120.10**	**309**	PKPdf	**PKPdf**	**14 23 28.5**	**-2.6**	
KKAR	**Karatay Array**	**120.10**	**309**	PKiKP	**PKPdf**	**14 23 28.5**	**-2.6**	
SFJD	**Kangerlussuaq**	**120.80**	**22**	IAMs_20	IAMs_20	15 08 00.0		
	comp=Z,3μm,20.0s							
SUMG	**Summit**	**121.25**	**14**	IAmb	IAmb	14 24 44.3		
	comp=Z,11nm,0.9s							
VOI	**Vohitsoka**	**121.86**	**228**	IAMs_20	IAMs_20	15 07 30.6		
	comp=Z,4μm,20.0s							
SVE	**Sverdlovsk**	**124.07**	**327**	*i* PKIKP	**PKiKP**	**14 23 39.9**	**+1.4**	
SVE				pmax	pmax			
	comp=Z,13nm,1.3s							
SVE				MLR	MLR			
	comp=Z,6μm,22.0s							
IVI	**Ivigtut**	**124.25**	**28**	IAMs_20	IAMs_20	15 15 04.7		
	comp=Z,4μm,18.0s							
ARU	**Arti**	**125.28**	**327**	*i* PKIKP	**PKPdf**	**14 23 37.8**	**-2.8**	
ARU						14 25 27.5		
ARU						14 30 49.2		
ARU				SP	SP	14 35 26.8	-2.6	
ARU	**Arti**	**125.28**	**327**	PKP	**PKiKP**	**14 23 40.8**	**-0.1**	
	comp=Z,2.3nm,0.5s,baz=124,slow=2.9,SNR=7.3							
ANGG	**Ammassalik, Gr**	**125.97**	**20**	IAMs_20	IAMs_20	15 21 26.5		
	comp=Z,3μm,20.0s							
KEV	**Kevo**

ANN			*i*		14 24 14.2		
ANN			*e*		14 27 17.9		
ANN			*e*		14 31 17.1		
ANN			pmax	pmax			
	comp=Z,196nm,2.7s						
ANN			pmax	pmax			
	comp=Z,108nm,1.1s						
AKASG	**Malin Array Be**	**142.80 334**	PKhKP	PKPpre	14 24 09.4		
	comp=Z,0.2nm,0.3s,baz=44,slow=3.3,SNR=4.4						
ESK	**Eskdalemuir**	**143.37 7**	IAMs_20	IAMs_20	15 25 05.8		
	comp=Z,2μm,20.0s						
RGN	**Rugen**	**143.94 351**	IAMs_20	IAMs_20	15 30 09.0		
	comp=Z,3μm,20.0s						
TEND	**Ethiopian Broa**	**144.01 264**	*e*P	**PKiK**	**14 24 20.7**	**+0.5**	
	baz=270						
SIM	**Simferopol'**	**144.28 323**	*i* PKIKP	**PKiK**	**14 24 21.9**	**+2.1**	
SIM			pmax	pmax			
	comp=Z,32nm,1.2s						
DILA	**Dilla**	**144.70 254**	*e*P	**PKiK**	**14 24 23.1**	**+1.2**	
DILA	**Dilla**	**144.70 254**	*e*P	**PKiK**	**14 24 23.1**	**+1.2**	
	baz=256						
SORM	**Soroca**	**145.09 332**	⇓P	**PKiK**	**14 24 21.6**	**+0.2**	
FURI	**Furi**	**145.28 258**	*e*P	**PKiK**	**14 24 23.1**	**-0.1**	
FURI			IAMs_20	IAMs_20	15 25 36.9		
	comp=Z,3μm,19.6s						
FURI	**Furi**	**145.28 258**	*e*P	**PKiK**	**14 24 23.1**	**-0.1**	
	baz=262						
FURI			IAMs_20	IAMs_20	15 25 36.9		
	comp=Z,3μm,19.6s,baz=262						
WLRA	**Wolmera**	**145.33 258**	*e*P	**PKiK**	**14 24 21.5**	**-1.9**	
	baz=262						
LVV	**L'vov**	**145.53 337**	*i* PKIKP	**PKPab**	**14 24 19.2**	**+0.6**	
LVV			*e*		14 27 42.2		
LVV			*e*PPP	PPP	14 30 54.2		
LVV			*e*		14 31 20.2		
KIS	**Kishinev**	**145.71 330**	*e*PKHKP	PKPpre	14 24 10.0		
KIS			MLR	MLR			
	comp=Z,1μm,20.0s						
LODK	**Lodwar**	**145.96 247**	IAMs_20	IAMs_20	15 26 17.7		
	comp=Z,3μm,20.0s						
LODK	**Lodwar**	**145.96 247**	*e*P	**PKPab**	**14 24 22.4**	**+1.0**	
LODK	**Lodwar**	**145.96 247**	*e*P	**PKPab**	**14 24 22.4**	**+1.0**	
	baz=246						
KWP	**Kalwaria Pacla**	**146.16 338**	*e*PKPbc	**PKiK**	**14 24 22.8**	**-0.8**	
KWP			*e*L	L	15 18 33.7		
	comp=Z,4μm,33.0s						
KWP	**Kalwaria Pacla**	**146.16 338**	IAMs_20	IAMs_20	15 31 41.9		
	comp=Z,3μm,21.0s						
NRDL	**Niedersach Rie**	**146.35 354**	*e*PKPbc	**PKPab**	**14 24 21.9**	**+0.5**	
	baz=11,slow=2.8						
STHS	**Stebnicka Huta**	**146.84 340**	*e*PKP2	**PKiK**	**14 24 26.5**	**+1.5**	
STHS	**Stebnicka Huta**	**146.84 340**	*e*PKP	**PKiK**	**14 24 26.5**	**+1.5**	
BURAR	**Bucovina Array**	**146.85 334**	⇑P	**PKiK**	**14 24 24.5**	**-0.7**	
KOLS	**Kolonicke sedl**	**146.90 338**	*e*PKP2	**PKiK**	**14 24 24.8**	**-0.3**	
KOLS	**Kolonicke sedl**	**146.90 338**	*e*PKP	**PKiK**	**14 24 24.8**	**-0.3**	
KSP	**Ksiaz**	**146.92 346**	*e*L	L	15 27 40.4		
	comp=Z,5μm,23.1s						
KSP	**Ksiaz**	**146.92 346**	*e*PKPbc	**PKPab**	**14 24 23.9**	**+0.1**	
KSP	**Ksiaz**	**146.92 346**	*e*SS	SS	14 46 47.3	+1.7	
CLZ	**Clausthal**	**146.97 353**	*e*PKPbc	**PKPab**	**14 24 24.2**	**+0.2**	
	baz=11,slow=2.8						
GHRR		**147.06 330**	⇑P	**PKiK**	**14 24 27.8**	**+2.3**	
TESR	**Tescani**	**147.08 331**	⇑P	**PKPab**	**14 24 24.3**	**-0.3**	
CLL	**Collm**	**147.12 350**	IAMs_20	IAMs_20	15 32 49.4		
	comp=Z,3μm,20.0s						
CLL	**Collm**	**147.12 350**	*i* PKP2	**PKPab**	**14 24 24.4**	**-0.2**	
CLL			pmax	pmax			
	comp=Z,32nm,1.0s						
CLL			MLR	MLR			
	comp=Z,4μm,24.8s						
CLL	**Collm**	**147.12 350**	*e*PKPbc	**PKPab**	**14 24 24.4**	**-0.2**	
	baz=11,slow=2.8						
CLL	**Collm**	**147.12 350**	*e*PSPSrev		15 00 30.0		
CLL	**Collm**	**147.12 350**	*e*SS	SS	14 46 49.0	+1.3	
CLL	**Collm**	**147.12 350**	⇓*i*PKPbc	**PKPab**	**14 24 24.4**	**-0.2**	
	comp=Z,32nm,1.0s						
CLL	**Collm**	**147.12 350**	*i* x	x	14 24 29.5		
	comp=Z,51nm,1.5s						
CLL	**Collm**	**147.12 350**	*i* PKPmax		14 24 37.7		
	comp=Z,91nm,1.3s						
CLL	**Collm**	**147.12 350**	*e*x	x	14 26 20.0		
CLL	**Collm**	**147.12 350**	*e*SSS	SSS	14 52 24.0		
CLL	**Collm**	**147.12 350**	*e*(SSSS)		14 56 54.0		
OSTC	**Ostas**	**147.21 346**	*e*PKP2	**PKPbc**	**14 24 24.0**	**+0.7**	
OSTC			*e*SS	SS	14 46 42.9	-6.0	
OSTC			MLR	MLR			
	comp=Z,4μm,22.6s						
OSTC	**Ostas**	**147.21 346**	*e*PKP	**PKPbc**	**14 24 24.0**	**+0.7**	
OSTC			*e*x	x	14 24 34.3		
OSTC			*e*SS	SS	14 46 42.9	-6.0	
OSTC			AMS	AMS	15 27 20.0		
	comp=Z,4μm,22.6s						
CHVC	**Chvalec**	**147.22 346**	*e*PKP2	**PKPbc**	**14 24 24.0**	**+0.6**	
CHVC			MLR	MLR			
	comp=Z,4μm,22.8s						
CHVC	**Chvalec**	**147.22 346**	*e*PKP	**PKPbc**	**14 24 24.0**	**+0.6**	
CHVC			AMS	AMS	15 27 30.0		
	comp=Z,4μm,22.8s						
UPC	**Upice**	**147.30 346**	*e*PKP2	**PKPbc**	**14 24 24.3**	**+0.7**	
UPC			*e*SS	SS	14 46 46.3	-3.6	
UPC			MLR	MLR			
	comp=Z,5μm,23.2s						
UPC	**Upice**	**147.30 346**	*e*PKP	**PKPbc**	**14 24 24.3**	**+0.7**	
UPC			*e*x	x	14 24 28.7		
UPC			*e*SS	SS	14 46 46.3	-3.6	
UPC			AMS	AMS	15 27 30.0		
	comp=Z,5μm,23.2s						
PANC	**Panciu**	**147.32 330**	⇓P	**PKiK**	**14 24 29.3**	**+3.3**	
DPC	**Dobruska-Polom**	**147.38 346**	*e*PKP2	**PKPbc**	**14 24 23.8**	**-0.1**	
DPC			*e*SS	SS	14 46 46.0	-4.8	
DPC			MLR	MLR			
	comp=Z,3μm,23.6s						
DPC	**Dobruska-Polom**	**147.38 346**	*e*PKP	**PKPbc**	**14 24 23.8**	**-0.1**	
DPC			*e*x	x	14 24 33.3		
DPC			*e*SS	SS	14 46 46.0	-4.8	
DPC			AMS	AMS	15 27 30.0		
	comp=Z,3μm,23.6s						
BRG	**Berggiesshubel**	**147.38 349**	Amp		14 24 28.2		
	comp=Z,20nm,1.1s						
BRG	**Berggiesshubel**	**147.38 349**	Amp		14 24 37.7		
	comp=Z,24nm,1.2s						
BRG	**Berggiesshubel**	**147.38 349**	P	PKiKP	14 24 40.6	+15	
BRG			Amp		14 24 41.8		
	comp=Z,36nm,1.1s						
BRG	**Berggiesshubel**	**147.38 349**	*e*PKP2	**PKPbc**	**14 24 23.7**	**0.0**	
BRG			pmax	pmax			
	comp=Z,20nm,1.1s						
BRG			pmax	pmax			
	comp=Z,24nm,1.2s						
BRG			pmax	pmax			
	comp=Z,36nm,1.1s						
BRG	**Berggiesshubel**	**147.38 349**	*e*PKPbc	**PKPab**	**14 24 25.7**	**0.0**	
	baz=11,slow=2.8						
BRG	**Berggiesshubel**	**147.38 349**	*e*PKP	**PKPbc**	**14 24 23.8**	**0.0**	
BRG	**Berggiesshubel**	**147.38 349**	P	PKiKP	14 24 34.9	+8.9	
OKC	**Ostrava-Krasne**	**147.39 343**	*e*PKP2	**PKPab**	**14 24 25.6**	**-0.1**	
OKC			*e*SS	SS	14 46 50.2	-0.7	
OKC			MLR	MLR			
	comp=Z,4μm,22.3s						
OKC	**Ostrava-Krasne**	**147.39 343**	*e*PKP	**PKPab**	**14 24 25.6**	**-0.1**	
OKC			*e*x	x	14 24 41.7		
OKC			*e*SS	SS	14 46 50.2	-0.7	
OKC			AMS	AMS	15 27 10.0		
	comp=Z,4μm,22.3s						
TPGR	**Topolog**	**147.43 327**	⇓P	**PKiK**	**14 24 26.5**	**+0.2**	
FBE	**Freiberg**	**147.44 349**	*e*PKPbc	**PKPab**	**14 24 25.6**	**-0.2**	
	baz=11,slow=2.8						
BRTR	**Keskin Array B**	**147.47 315**	PKP2	**PKPbc**	**14 24 25.0**	**+0.4**	
BRTR	**Keskin Array B**	**147.47 315**	PKPbc	**PKPbc**	**14 24 25.0**	**+0.4**	
	comp=Z,3.4nm,0.9s,baz=122,slow=1.6,SNR=9.0						
TRPA	**Tarpa**	**147.48 337**	⇑P	**PKPab**	**14 24 25.3**	**-0.8**	
BMR	**Baia Mare**	**147.50 336**	⇑P	**PKPab**	**14 24 25.6**	**-0.6**	
VRI	**Vrincioaia**	**147.52 330**	⇑P	**PKiK**	**14 24 28.5**	**+1.9**	
MBAR	**Mbarara**	**147.56 236**	*e*P	**PKiK**	**14 24 29.5**	**+1.7**	
MBAR	**Mbarara**	**147.56 236**	*e*P	**PKiK**	**14 24 29.5**	**+1.7**	
	baz=229						
PLOR	**Plostina**	**147.57 330**	⇑P	**PKPbc**	**14 24 24.7**	**+0.2**	
PVCC	**Panska Ves**	**147.59 348**	*e*PKP2	**PKPab**	**14 24 26.2**	**-0.3**	
PVCC			MLR	MLR			
	comp=Z,3μm,19.6s						
PVCC	**Panska Ves**	**147.59 348**	*e*PKP	**PKPab**	**14 24 26.2**	**-0.3**	
PVCC			AMS	AMS	15 33 50.0		
	comp=Z,3μm,19.6s						
MORC	**Moravsky Berou**	**147.61 344**	⇑P	**PKiK**	**14 24 26.3**	**-0.3**	
MORC	**Moravsky Berou**	**147.61 344**	IAMs_20	IAMs_20	15 34 39.5		
	comp=Z,3μm,21.0s						
MORC	**Moravsky Berou**	**147.61 344**	*e*PKP	**PKiK**	**14 24 26.1**	**-0.5**	
ARCR	**ARCALIA**	**147.63 334**	⇑P	**PKPab**	**14 24 28.4**	**+1.6**	
LANS	**Liptovska Anna**	**147.63 341**	*e*PKP2	**PKPab**	**14 24 27.6**	**+0.9**	
LANS	**Liptovska Anna**	**147.63 341**	*e*PKP	**PKPab**	**14 24 27.6**	**+0.9**	
RICC	**Richard**	**147.66 348**	AMS	AMS	15 34 30.0		
	comp=Z,3μm,19.5s						
HSKC	**Hora Svate Kat**	**147.73 349**	*e*PKP	**PKPbc**	**14 24 25.2**	**+0.4**	
HSKC			*e*x	x	14 24 34.2		
HSKC			*e*SS	SS	14 47 35.9	+41	
HSKC			AMS	AMS	15 19 20.0		
	comp=Z,4μm,29.8s						
COVR	**Voineasa-Covas**	**147.78 331**	⇓P	**PKiK**	**14 24 26.6**	**-0.5**	
OZUR		**147.78 332**	⇓P	**PKiK**	**14 24 26.4**	**-0.7**	
HARR	**Harsova**	**147.79 328**	⇑P	**PKPab**	**14 24 28.9**	**+1.4**	
MAUC	**Maruska**	**147.91 343**	*e*PKP	**PKPbc**	**14 24 24.4**	**-0.9**	
MAUC			AMS	AMS	15 27 00.0		
	comp=Z,5μm,22.5s						
ANTO	**Ankara**	**147.95 316**	IAMs_20	IAMs_20	15 35 16.5		
	comp=Z,2μm,20.0s						
MOX	**Moxa**	**147.98 351**	*e*L	L	15 35 22.1		
	comp=Z,2μm,21.6s						
PRA	**Prague**	**148.05 348**	*e*SS	SS	14 47 39.8	+42	
PRA			AMS	AMS	15 34 30.0		
	comp=Z,4μm,19.9s						
PLN	**Plauen**	**148.06 351**	*e*PKPbc	**PKiK**	**14 24 27.0**	**-0.5**	
	baz=11,slow=2.8						
DOPR	**Dopca**	**148.06 332**	⇑P	**PKiK**	**14 24 27.6**	**-0.1**	
WERD	**Werda**	**148.07 350**	*e*PKPbc	**PKiK**	**14 24 27.2**	**-0.3**	
	baz=11,slow=2.8						
PRU	**Pruhonice**	**148.11 348**	*e*PKIKP	**PKPdf**	**14 24 22.5**	**-0.1**	
PRU			*e*		14 24 27.4		
PRU			MLR	MLR			
	comp=Z,4μm,22.8s						
PRU	**Pruhonice**	**148.11 348**	*e*PKP	**PKPdf**	**14 24 22.5**	**-0.1**	
PRU			*e*x	x	14 24 27.4		
PRU			*e*SS	SS	14 46 50.3	-8.6	
PRU			AMS	AMS	15 28 10.0		
	comp=Z,4μm,22.8s						
GOPC	**GO Pecny, Ondr**	**148.13 347**	AMS	AMS	15 27 50.0		
	comp=Z,5μm,22.7s						
GUNZ	**Gunzen**	**148.15 350**	*e*PKPbc	**PKiK**	**14 24 27.3**	**-0.3**	
	baz=11,slow=2.8						
MLR	**Muntele Rosu**	**148.17 331**	⇑P	**PKiK**	**14 24 28.0**	**0.0**	
WERN	**Wernitzgruen**	**148.21 350**	*e*PKPbc	**PKiK**	**14 24 27.9**	**0.0**	
	baz=11,slow=2.8						
CJR	**Cluj-Napoca**	**148.24 335**	⇑P	**PKiK**	**14 24 27.9**	**-0.1**	
VRAC	**Vranov**	**148.28 345**	⇑P	**PKiK**	**14 24 28.1**	**+0.2**	
VRAC	**Vranov**	**148.28 345**	*e*PKP	**PKiK**	**14 24 27.6**	**-0.4**	
VYHS	**Vyhne**	**148.41 342**	*e*PKP2	**PKiK**	**14 24 28.1**	**-0.2**	
VYHS	**Vyhne**	**148.41 342**	*e*PKP	**PKiK**	**14 24 28.0**	**-0.2**	
JAVC	**Velka Javorina**	**148.41 343**	*e*PKP	**PKiK**	**14 24 28.4**	**+0.1**	
MARR	**Marisel-Cluj**	**148.46 335**	⇑P	**PKiK**	**14 24 28.4**	**-0.1**	
BTNL	**Ternell**	**148.53 358**	*d*x	x	14 24 28.2		
MANZ	**Manzenberg**	**148.55 350**	*e*PKPbc	**PKiK**	**14 24 28.4**	**-0.1**	
	baz=11,slow=2.8						
TREC	**Trest**	**148.56 346**	AMS	AMS	15 27 10.0		
	comp=Z,3μm,26.1s						
KRUC	**Moravsky**	**148.56 345**	*e*PKP	**PKPbc**	**14 24 27.4**	**+0.4**	
PSZ	**Piszkesteto**	**148.58 340**	⇓P	**PKPbc**	**14 24 27.7**	**+0.5**	
PSZ	**Piszkesteto**	**148.58 340**	PKPdf	**PKPdf**	**14 24 21.1**	**-2.4**	
PSZ			IAMs_20	IAMs_20	15 33 35.7		
	comp=Z,3μm,21.0s						
PSZ	**Piszkesteto**	**148.58 340**	PKHKP	PKPpre	14 24 21.1		
PSZ			MLR	MLR			
	comp=Z,3μm,21.0s						
VOIR		**148.62 331**	⇑P	**PKiK**	**14 24 28.7**	**-0.2**	
ZVC	**Zvikov**	**148.70 348**	*e*PKP	**PKPdf**	**14 24 19.5**	**-4.1**	
ZVC			AMS	AMS	15 29 20.0		
	comp=Z,4μm,21.8s						
ROTZ	**Rotzenmuhle**	**148.75 350**	*e*PKPbc	**PKiK**	**14 24 28.9**	**0.0**	
	baz=11,slow=2.8						
TNS	**Taunus Mts**	**148.76 355**	*e*PKPbc	**PKiK**	**14 24 29.1**	**+0.1**	
	baz=11,slow=2.8						
ARR	**Arges**	**148.86 332**	⇑P	**PKPab**	**14 24 31.1**	**-0.7**	
MODS	**Modra-Piesok**	**148.96 343**	*e*PKP2	**PKiK**	**14 24 30.5**	**+1.1**	
MODS	**Modra-Piesok**	**148.96 343**	*e*PKP	**PKiK**	**14 24 30.5**	**+1.1**	
GRA1	**Grafenberg Arr**	**148.97 351**	IAMs_20	IAMs_20	15 38 34.1		
	comp=Z,3μm,19.0s						
GRF	**Grafenberg Arr**	**148.97 351**	*e*PKPbc	**PKiK**	**14 24 29.6**	**+0.2**	
	baz=11,slow=2.8						
GRF			*e*L	L	15 31 19.3		
	comp=Z,2μm,21.8s						
GRFO	**Grafenberg**	**148.97 351**	IAMs_20	IAMs_20	15 37 58.1		
	comp=Z,3μm,20.0s						
MMAI	**Mount Meron Ar**	**148.99 303**	PKPbc	**PKPbc**	**14 24 29.0**	**+0.3**	
	comp=Z,2.8nm,0.7s,baz=319,slow=4.2,SNR=2.5						
KHC	**Kasperske Hory**	**149.12 348**	*e*PKHKP	PKPpre	14 24 15.7		
KHC			*e*		14 24 29.8		
KHC			*e*SS	SS	14 47 12.4	+2.1	
KHC			MLR	MLR			
	comp=Z,4μm,20.8s						
KHC	**Kasperske Hory**	**149.12 348**	*e*PKP	PKPdf	14 24 15.7	-8.6	
KHC			*e*x	x	14 24 29.8		
KHC			*e*SS	SS	14 47 12.4	+2.1	
KHC			AMS	AMS	15 31 50.0		
	comp=Z,4μm,20.8s						
ZST	**Bratislava**	**149.17 343**	*e*PKP2	**PKPab**	**14 24 31.4**	**-1.5**	
ZST	**Bratislava**	**149.17 343**	*e*PKP	**PKPab**	**14 24 31.4**	**-1.5**	
LOT	**Lotru**	**149.18 333**	⇑P	**PKPab**	**14 24 31.7**	**-1.5**	
CKRC	**Cesky Krumlov**	**149.26 347**	*e*PKP2	**PKPbc**	**14 24 29.2**	**+0.4**	
CKRC			*e*SS	SS	14 47 08.4	-3.5	
CKRC	**Cesky Krumlov**	**149.26 347**	*e*PKP	**PKPbc**	**14 24 29.2**	**+0.4**	
CKRC			*e*SS	SS	14 47 08.4	-3.5	
GEC2	**GERESS Array S**	**149.37 348**	*e*PKPbc	**PKiK**	**14 24 30.5**	**+0.2**	
	baz=11,slow=2.8						
GERES	**GERESS Array B**	**149.37 348**	PKPbc	**PKiK**	**14 24 30.7**	**+0.4**	
	comp=Z,3.5nm,0.7s,baz=15,slow=4,3,SNR=7.8						
SIRR	**Siria**	**149.37 336**	⇑P	**PKiK**	**14 24 30.8**	**+0.5**	
GHAJ	**Ghor Haditha**	**149.37 300**	IAMs_20	IAMs_20	15 36 15.6		
	comp=Z,2μm,21.0s						
GRD1	**Great Renaissa**	**149.38 260**	*e*P	**PKPdf**	**14 24 27.1**	**+1.3**	
	baz=266						
WLF	**Walferdange**	**149.45 358**	*e*PKPbc	**PKiK**	**14 24 31.2**	**+0.9**	
	baz=11,slow=2.8						
WLF	**Walferdange**	**149.45 358**	*d*x	x	14 24 31.6		
SURR	**Surduc**	**149.61 335**	⇑P	**PKiK**	**14 24 30.9**	**+0.1**	
GZR	**Gura Zlata**	**149.64 334**	⇑P	**PKiK**	**14 24 31.6**	**+0.6**	
CONA	**Conrad Observa**	**149.74 345**	*e*pPKP	**PKiK**	**14 24 31.6**	**+0.5**	
	comp=Z,24nm,1.3s						
RONA	**Rosalia, Austr**	**149.84 344**	*e*pPKP	**PKiK**	**14 24 31.9**	**+0.6**	
	comp=Z,22nm,1.5s						
CSS	**Mathiatis**	**149.88 308**	IAMs_20	IAMs_20	15 36 24.9		
	comp=Z,3μm,20.0s						
BZS	**Buzias**	**149.93 335**	⇑P	**PKPbc**	**14 24 30.8**	**+0.3**	
STU	**Stuttgart**	**150.12 354**	IAMs_20	IAMs_20	15 36 45.5		
	comp=Z,2μm,21.0s						
STU	**Stuttgart**	**150.12 354**	*e*PKPbc	**PKiK**	**14 24 32.6**	**+0.8**	
	baz=11,slow=2.8						
MOA	**Molln**	**150.19 347**	*e*pPKP	**PKiK**	**14 24 32.0**	**0.0**	
	comp=Z,11nm,1.2s						
ARSA	**Arzberg**	**150.46 345**	*e*PKiKP	**PKPbc**	**14 24 31.9**	**+0.2**	
	comp=Z,6.6nm,1.1s						
BIOA	**Bad Ischl, Aus**	**150.48 347**	*e*pPKP	**PKiK**	**14 24 32.2**	**-0.4**	
	comp=Z,18nm,1.7s						
MORH	**Mrgy, Hungar**	**150.49 340**	⇑P	**PKiK**	**14 24 33.0**	**+0.5**	
MDVR	**Moldovita**	**150.58 334**	⇑P	**PKiK**	**14 24 33.4**	**+0.5**	
BFO	**Black Forest**	**150.65 355**	IAMs_20	IAMs_20	15 36 38.3		
	comp=Z,2μm,21.0s						
BFO	**Black Forest**	**150.65 355**	*e*PKPbc	**PKiK**	**14 24 33.5**	**+0.6**	
	baz=11,slow=2.8						
ECH	**Echery**	**150.85 356**	IAMs_20	IAMs_20	15 35 16.6		
	comp=Z,2μm,19.0s						
LESA	**Schwarzleotal**	**150.93 348**	*e*pPKP	**PKiK**	**14 24 33.9**	**+0.4**	
	comp=Z,11nm,1.2s						
UBR	**Ueberruh**	**151.09 352**	*e*PKPbc	**PKiK**	**14 24 36.1**	**+2.2**	
	baz=11,slow=2.8						
SOKA	**Soboth**	**151.11 345**	*e*pPKP	**PKiK**	**14 24 34.1**	**+0.1**	
	comp=Z,18nm,1.4s						
RETA	**Reutte**	**151.19 351**	*e*pPKP	**PKiK**	**14 24 34.8**	**+0.7**	
	comp=Z,11nm,1.2s						
WATA	**Walderalm**	**151.21 350**	*e*pPKP	**PKiK**	**14 24 34.6**	**+0.4**	
	comp=Z,16nm,1.4s						
WTTA	**Wattenberg**	**151.27 350**	*e*pPKP	**PKiK**	**14 24 35.0**	**+0.5**	
	comp=Z,19nm,1.4s						
MOTA	**Moosalm**	**151.28 350**	*e*pPKP	**PKiK**	**14 24 34.8**	**+0.4**	
	comp=Z,19nm,1.2s						
SQTA	**Sankt Quirin**	**151.38 350**	*e*pPKP	**PKiK**	**14 24 35.1**	**+0.5**	
	comp=Z,20nm,1.6s						
OBKA	**Obir**	**151.39 345**	*e*pPKP	**PKiK**	**14 24 34.6**	**0.0**	
	comp=Z,9.3nm,1.2s						
ALN	**Alexandroupoli**	**151.42 324**	IAMs_20	IAMs_20	15 35 16.7		
	comp=Z,2μm,21.0s						
MYKA	**Terra Mystica**	**151.49 347**	*e*pPKP	**PKiK**	**14 24 34.6**	**-0.1**	
	comp=Z,12nm,0.9s						
DAVA	**Damuels**	**151.51 352**	*e*pPKP	**PKiK**	**14 24 35.5**	**+0.7**	
	comp=Z,15nm,1.1s						
BOVS	**Bovan**	**151.51 333**	⇓P	**PKiK**	**14 24 35.6**	**+0.8**	
RDO	**Rodhopi**	**151.53 325**	IAMs_20	IAMs_20	15 30 22.4		
	comp=Z,3μm,21.0s						
ABTA	**Abfaltersbach**	**151.61 348**	*e*pPKP	**PKiK**	**14 24 35.1**	**+0.1**	
	comp=Z,14nm,1.2s						
FETA	**Feichten**	**151.65 351**	*e*pPKP	**PKiK**	**14 24 35.8**	**+0.7**	
	comp=Z,12nm,1.2s						
PRED	**Cave del Predi**	**151.68 347**	IAMs_20	IAMs_20	15 34 47.0		
	comp=Z,3μm,21.0s						
SABO	**M.te Sabotino**	**152.11 346**	IAMs_20	IAMs_20	15 37 42.1		
	comp=Z,4μm,20.0s						
TUE	**Stuetta**	**152.38 353**	IAMs_20	IAMs_20	15 40 11.1		
	comp=Z,3μm,19.0s						
SKO	**Skopje**	**152.96 331**	*i* P	**PKiK**	**14 24 39.4**	**+1.5**	
SALO	**Salr**	**153.05 350**		**PKPab**	**14 24 45.8**	**-3.3**	
TEOL	**Teolo**	**153.10 349**	IAMs_20	IAMs_20	15 35 02.5		
	comp=Z,3μm,20.0s						
PDG	**Podgorica**	**153.52 335**	IAMs_20	IAMs_20	15 32 39.9		
	comp=Z,3μm,22.0s						
FNA	**Florina**	**153.92 330**	pmax	pmax			
	comp=Z,7.0nm,0.9s						
OHR	**Ohrid**	**153.93 331**	*i* P	**PKPbc**	**14 24 38.8**	**-1.1**	
KARP	**Karpathos**	**154.04 314**	IAMs_20	IAMs_20	15 49 58.0		
	comp=Z,2μm,21.0s						
SANT	**Santorini**	**154.69 317**	IAMs_20	IAMs_20	15 40 38.7		
	comp=Z,2μm,21.0s						
PGAV	**Gavieira, Arco**	**154.78 23**	*e*PKPab	**PKPab**	**14 24 55.4**	**-1.2**	
PGAV	**Gavieira, Arco**	**154.78 23**	*e*SS	SS	14 48 24.2	+11	
PGAV	**Gavieira, Arco**	**154.78 23**	*e*LR	LR	15 16 28.0		
	comp=Z,3μm,20.0s						
GUMA	**Gualdo di Mace**	**154.92 344**	IAMs_20	IAMs_20	15 42 33.0		
	comp=Z,2μm,20.0s						
OSSC	**Osservatorio P**	**154.95 348**	IAMs_20	IAMs_20	15 34 10.5		
	comp=Z,3μm,21.0s						
FDMO	**Fiordimonte**	**155.01 345**	IAMs_20	IAMs_20	15 33 37.3		
	comp=Z,2μm,21.0s						
PBRG	**Braganca**	**155.45 20**	*e*PKPab	**PKPab**	**14 24 59.0**	**-0.4**	
POLO	**Lamas de Olo**	**155.47 22**	*e*PKPab	**PKPab**	**14 24 59.5**	**-0.1**	
POLO	**Lamas de Olo**	**155.47 22**	*e*SS	SS	14 48 30.6	+10	
KEK	**Kerkira**	**155.51 330**	IAMs_20	IAMs_20	15 38 02.0		
	comp=Z,3μm,20.0s						
CESX	**Cesi**	**155.53 345**	IAMs_20	IAMs_20	15 32 35.1		
	comp=Z,3μm,22.0s						
PVRL	**Vila Real**	**155.58 22**	*e*PKPab	**PKPab**	**14 25 00.4**	**+0.4**	
IDI	**Anoyia**	**155.71 316**	IAMs_20	IAMs_20	15 36 23.9		
	comp=Z,2μm,22.0s						
MVO	**Moncorvo**	**155.92 21**	*e*PKPab	**PKPab**	**14 24 56.6**	**-4.9**	
MVO	**Moncorvo**	**155.92 21**	*e*SS	SS	14 48 33.3	+7.8	
MVO	**Moncorvo**	**155.92 21**	*e*LR	LR	15 17 25.8		
	comp=Z,3μm,22.0s						
PVIS	**Viseu**	**156.00 23**	*e*PKPdf	**PKPdf**	**14 24 36.1**	**+1.3**	
PVIS	**Viseu**	**156.00 23**	*e*PKPab	**PKPab**	**14 25 04.5**	**+2.7**	
COI	**Coimbra**	**156.24 25**	*e*PKPdf	PKPdf	14 24 47.0	+12	
COI	**Coimbra**	**156.24 25**	IAMs_20	IAMs_20	15 43 08.0		
	comp=Z,2μm,20.0s						
PMOZ	**Porto Moniz, M**	**156.32 50**	*e*PKPab	**PKPab**	**14 25 02.7**	**-0.9**	
PMOZ	**Porto Moniz, M**	**156.32 50**	*e*LR	LR	15 18 10.8		
	comp=Z,3μm,22.0s						
PCAS	**Casmilo, Conde**	**156.34 25**	*e*SS	SS	14 48 34.4	+4.4	
MTE	**Manteigas**	**156.41 23**	*e*PKPab	**PKPab**	**14 25 01.6**	**-2.0**	
MTE	**Manteigas**	**156.41 23**	*

INCO	**Volcan de Coli**	**2.83**	**78**	*i* P	**Pn**	**14 10 41.9**	**+0.7**
INCO				*e*S	**Sn**	**14 11 17.2**	**+1.7**
JUBC	**Volcan de Coli**	**2.86**	**78**	*i* P	**Pn**	**14 10 42.4**	**+0.9**
JUBC				*e*S	**Sb**	**14 11 20.5**	**-1.5**
MMIG	**Aquila**	**3.09**	**102**	*e*P	**Pn**	**14 10 40.0**	**-4.5**
MMIG				*e*S	**Sn**	**14 11 20.2**	**-1.3**
MAIG	**Mazatlaan**	**4.22**	**1**		**Pn**	**14 10 56.0**	**-4.1**
MAIG					**Sn**	**14 11 46.1**	**-3.3**
MAIG	**Mazatlaan**	**4.22**	**1**	*e*P	**Pn**	**14 10 56.0**	**-4.1**
MAIG				*e*S	**Sn**	**14 11 47.9**	**-1.5**
AAIG	**Aguscalientes**	**4.92**	**52**	*e*P	**Pn**	**14 11 12.0**	**+2.2**
AAIG				*e*S	**Sb**	**14 12 15.5**	**-5.8**
ZAIG	**Zacatecas**	**5.31**	**44**	*e*P	**Pn**	**14 11 17.4**	**+2.1**
ZAIG				*e*S	**Sn**	**14 12 20.0**	**+3.3**
SLBS	**Sierra La Lagu**	**5.69**	**327**	Pn	**Pn**	**14 11 18.4**	**-1.9**
ARIG	**Puente Sto Nin**	**5.90**	**95**	*e*P	**Pn**	**14 11 23.8**	**+0.6**
ARIG				*e*S	**Sn**	**14 12 28.4**	**-2.5**
MEIG	**Mezcala**	**6.64**	**98**	*e*P	**Pn**	**14 11 33.1**	**-0.2**
MEIG				*e*S	**Sn**	**14 12 48.2**	**-1.0**
PLIG	**Platanillo**	**6.69**	**94**	*e*P	**Pn**	**14 11 36.0**	**+2.0**
DAIG	**Los Arroyos**	**6.82**	**105**	*e*P	**Pn**	**14 11 35.2**	**-0.6**
DAIG				*e*S	**Sn**	**14 12 52.5**	**-1.0**
YAIG	**Yautepec**	**7.07**	**89**	*e*P	**Pn**	**14 11 39.8**	**+0.6**
PPM	**Popocatepetl**	**7.48**	**88**	*e*P	**Pn**	**14 11 44.8**	**-0.5**
FTIG	**Fresnillo de T**	**8.04**	**96**	*e*P	**Pn**	**14 11 51.7**	**-0.9**
HLIG	**Huajuapan de L**	**8.36**	**96**	*e*P	**Pn**	**14 11 59.0**	**+1.9**
HLIG				*e*S	**Sn**	**14 13 26.6**	**-5.2**
PNIG	**Pinotepa**	**8.40**	**106**	*e*P	**Pn**	**14 11 58.8**	**+1.3**
TXIG	**Tlaxiaco**	**8.50**	**100**	*e*P	**Pn**	**14 12 01.1**	**+2.0**
YOIG	**Yosondua**	**8.80**	**102**	*e*P	**Pn**	**14 12 05.3**	**+2.0**
LNIG	**Linares**	**8.84**	**47**	*e*P	**Pn**	**14 12 05.6**	**+2.2**
TX31	**Lajitas Ar. Si**	**10.67**	**14**	Pn	**Pn**	**14 12 28.1**	**-0.5**
TX32	**Lajitas Array**	**10.67**	**14**		**Pn**	**14 12 28.5**	**-0.1**
TXAR	**Lajitas Array**	**10.67**	**14**	Pn	**Pn**	**14 12 28.4**	**-0.2**
SAND	**Sanderson**	**11.67**	**19**		**Pn**	**14 12 43.4**	**+1.1**
DUN6	**Lazy B Ranch**	**13.75**	**351**	Pn	**Pn**	**14 13 09.7**	**-1.0**
BRDY	**Brady**	**14.05**	**28**	Pn	**Pn**	**14 13 16.0**	**+1.3**
214A	**Organ Pipe Nat**	**14.14**	**338**	Pn	**Pn**	**14 13 14.1**	**-1.9**
ABTX	**Abilene, Hawle**	**14.96**	**23**	P	**P**	**14 13 33.7**	**+0.9**
113A	**Mohawk Valley,**	**15.22**	**336**	Pn	**Pn**	**14 13 29.3**	**-1.3**
113A				IAmb	IAmb	14 13 36.9	
	comp=Z,6.7nm,0.9s						
APMT	**Aspermont**	**15.43**	**21**	Pn	**Pn**	**14 13 33.8**	**+0.4**
APMT				IAmb	IAmb	14 13 43.6	
	comp=Z,8.4nm,1.1s						
FW07	**Weatherford**	**15.79**	**28**		**P**	**14 13 41.2**	**-0.7**
FW07				IAmb	IAmb	14 13 42.1	
	comp=Z,12nm,0.9s						
YUH	**Yuha Desert**	**16.04**	**330**	Pn	**Pn**	**14 13 41.1**	**-0.1**
FW06	**Azle**	**16.12**	**28**		**P**	**14 13 44.7**	**-0.9**
FW06				IAmb	IAmb	14 13 46.8	
	comp=Z,32nm,1.3s						
237A	**Washetta, Mont**	**16.20**	**35**		**P**	**14 13 46.8**	**+0.4**
237A				IAmb	IAmb	14 13 51.5	
	comp=Z,40nm,1.4s						
Z35A	**Perchaven, San**	**16.56**	**28**		**P**	**14 13 50.5**	**0.0**
Z35A				IAmb	IAmb	14 13 53.0	
	comp=Z,27nm,1.3s						
NATX	**Nacogdoches**	**16.65**	**38**		**P**	**14 13 52.1**	**+0.5**
NATX				IAmb	IAmb	14 13 56.8	
	comp=Z,38nm,1.1s						
PMD	**Palm Desert**	**17.08**	**331**	Pn	**Pn**	**14 13 52.8**	**-1.7**
PMD				IAmb	IAmb	14 13 56.5	
	comp=Z,14nm,1.2s						
PFO	**Pinyon Flats O**	**17.09**	**331**	Pn	**Pn**	**14 13 53.3**	**-1.4**
PFO				IAmb	IAmb	14 14 03.9	
	comp=Z,15nm,1.4s						
WMOK	**Wichita Mounta**	**17.17**	**22**		**P**	**14 13 57.4**	**+0.1**
SHPR	**Sheep Range**	**19.07**	**338**	P	**Pn**	**14 14 17.5**	**-1.6**
QSM	**Queen of Sheba**	**19.25**	**334**	P	**P**	**14 14 18.9**	**-1.3**
QSM				IAmb	IAmb	14 15 01.9	
	comp=Z,8.7nm,1.5s						
MIAR	**Mount Ida**	**19.34**	**34**	P	**Pn**	**14 14 23.4**	**+1.1**
MIAR				IAmb	IAmb	14 14 53.9	
	comp=Z,11nm,1.4s						
GWY	**Greenwater Val**	**19.36**	**335**	P	**Pn**	**14 14 20.8**	**-1.8**
BCW	**Bitter Crk WRg**	**19.61**	**327**	P	**P**	**14 14 21.6**	**-2.6**
BCW				IAmb	IAmb	14 15 02.1	
	comp=Z,31nm,1.3s						
TPNV	**Topopah Spring**	**19.86**	**337**	P	**Pn**	**14 14 26.6**	**-2.0**
WCT	**Wildcat Mounta**	**19.87**	**336**	P	**Pn**	**14 14 26.8**	**-1.9**
MSU	**Marysvale**	**20.11**	**347**	P	Pn	14 14 30.0	-1.6
GRAC	**Grapevine Rang**	**20.34**	**334**	P	Pn	14 14 32.1	-2.0
GRAC				IAmb	IAmb	14 14 35.4	
	comp=Z,6.7nm,0.7s						
U38A	**Gravette**	**20.45**	**29**	P	Pn	14 14 34.8	-0.5
U38A				IAmb	IAmb	14 14 35.7	
	comp=Z,6.6nm,1.0s						
HHAR	**Hobbs**	**20.53**	**30**	P	Pn	14 14 35.4	-0.9
PSUT	**Pine Spring**	**20.53**	**343**	P	Pn	14 14 35.0	-1.5
GMN	**Gold Mountain**	**20.56**	**335**	P	Pn	14 14 34.7	-2.2
146A	**Union**	**20.78**	**46**	P	Pn	14 14 39.7	+0.4
146A				IAmb	IAmb	14 14 45.1	
	comp=Z,49nm,1.4s						
R11B	**Troy Canyon, C**	**20.88**	**340**	P	**P**	**14 14 37.4**	**-0.7**
MZP	**Montezuma Peak**	**20.96**	**335**	P	**P**	**14 14 38.5**	**-0.5**
SPR3	**Spring Creek 3**	**21.10**	**343**	P	**P**	**14 14 39.8**	**-0.8**
TPH	**Tonopah**	**21.22**	**336**	P	**P**	**14 14 41.3**	**-0.5**
TPH				IAmb	IAmb	14 14 42.5	
	comp=Z,12nm,0.9s						
BRAL	**Brewton**	**21.40**	**52**	P	**P**	**14 14 45.0**	**+1.5**
NVAR	**Mina Array Bea**	**21.95**	**335**	P	**P**	**14 14 45.9**	**-3.8**
S39A	**Bolivar**	**21.96**	**29**	P	**P**	**14 14 50.0**	**+0.5**
S39A				IAmb	IAmb	14 15 00.2	
	comp=Z,4.3nm,0.9s						
KVN	**Kaiserville**	**22.41**	**336**	P	**P**	**14 14 53.8**	**-0.7**
KVN				IAmb	IAmb	14 15 02.4	
	comp=Z,4.6nm,1.0s						
WAKR	**Walker**	**22.49**	**333**	P	**P**	**14 14 54.8**	**-0.6**
WAKR				IAmb	IAmb	14 15 03.4	
	comp=Z,11nm,1.4s						
R40A	**Maddies Statio**	**22.93**	**30**	P	**P**	**14 15 00.9**	**+1.1**
R40A				IAmb	IAmb	14 15 02.3	
	comp=Z,4.8nm,0.8s						
CCM	**Cathedral Cave**	**23.24**	**32**	P	**P**	**14 15 04.0**	**+0.9**
CCM				IAmb	IAmb	14 15 05.1	
	comp=Z,23nm,1.5s						
ID05	**Sulphur Canyon**	**23.99**	**351**	P	**P**	**14 15 09.7**	**-0.9**
ID05				IAmb	IAmb	14 15 10.8	
	comp=Z,3.2nm,0.7s						
P40A	**Paris**	**24.03**	**28**	P	**P**	**14 15 11.1**	**+0.4**
P40A				IAmb	IAmb	14 15 12.7	
	comp=Z,14nm,1.2s						
CLTN	**Cedars of Leba**	**24.67**	**42**	P	**P**	**14 15 18.6**	**+1.9**
CLTN				IAmb	IAmb	14 15 21.1	
	comp=Z,16nm,1.5s						
W50A	**Signal Mountai**	**24.80**	**45**	P	**P**	**14 15 18.8**	**+0.9**
W50A				IAmb	IAmb	14 15 46.0	
	comp=Z,9.9nm,1.1s						
HLID	**Hailey**	**25.43**	**347**	P	**P**	**14 15 22.7**	**-0.9**
WVOR	**Wild Horse Val**	**25.57**	**339**	P	**P**	**14 15 24.8**	**0.0**
KHMM	**Horse Mountain**	**26.36**	**330**	P	**P**	**14 15 30.8**	**-1.3**
N51A	**Ashland**	**30.12**	**38**	P	**P**	**14 16 06.0**	**+0.6**
E03A	**Lebam**	**30.89**	**337**	P	**P**	**14 16 11.4**	**-0.8**
R61A	**Willards**	**33.27**	**48**	P	**P**	**14 16 34.9**	**+1.7**
BRYW	**Bryant College**	**37.49**	**45**	P	**P**	**14 17 10.9**	**+1.4**
WES	**Weston**	**37.84**	**44**	P	**P**	**14 17 13.3**	**+0.9**
WES				IAmb	IAmb	14 17 15.0	
	comp=Z,26nm,1.3s						
JCUZ	**Jacuzzi**	**45.76**	**279**	P	**P**	**14 18 17.1**	**-0.6**
BYL	**Byron's Ledge**	**45.90**	**279**	P	**P**	**14 18 18.1**	**-0.7**
SFJD	**Kangerlussuaq**	**59.65**	**22**	P	**P**	**14 20 01.0**	**+1.3**
BO04	**La Punta**	**62.79**	**147**	P	**P**	**14 20 24.4**	**+3.1**
BO01	**Tunca**	**62.86**	**147**	P	**P**	**14 20 28.1**	**+3.3**
BO01				IAmb	IAmb	14 20 43.3	
	comp=Z,3.0nm,1.0s						
NIUE	**Niue**	**72.78**	**242**	P	**P**	**14 21 25.5**	**+0.8**
KBS	**Kingsbay**	**76.74**	**10**	P	**P**	**14 21 46.8**	**+0.1**

---

*IDC **08** 14:11:40.4±1.5, 40°.24N×63°.41E, h0km, mbtmp3.3/5, ML2.8/5, Error ellipse: s-maj=40.7km s-min=13.6km az=151.0*
*ISU **08** 14:11:46.1, 40°.41N×63°.42E, h9km*
ISC 08 14:11:40.1±0.7, 40°.40N±0°.04×63°.46E±0°.04, h10km, n21, σ1§35/24, 2C-3D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZLY	**Gazly**	**0.27**	**183**	P	**Pg**	**14 11 46.4**	**+0.8**
GZLY				S	**Sb**	**14 11 50.7**	**-1.0**
DZN	**Dzhankel'dy**	**0.46**	**348**	P	**Pb**	**14 11 50.7**	**+0.4**
DZN				S	**Sb**	**14 11 57.6**	**+0.4**
BUXR	**Bukhara**	**0.95**	**134**	P	**Sg**	**14 12 10.3**	**-0.3**
TMD	**Tamdy-Bulak**	**1.61**	**33**	P	**Pg**	**14 12 11.8**	**+0.7**
NUT	**Nurota**	**1.70**	**84**	P	**Pb**	**14 12 11.7**	**+0.3**
NUT				S	**Sb**	**14 12 34.0**	**+1.2**
AGL	**Agalyk**	**2.77**	**107**	P	**Pb**	**14 12 30.7**	**+0.9**
AGL				S	**Sb**	**14 13 03.5**	**-0.3**
KRSA	**Karasay**	**3.29**	**94**	S	Sg	14 14 16.1	+50
DZI	**Dzhizak**	**3.35**	**93**	S	**Sn**	**14 13 13.2**	**+0.9**
BAYS	**Baysun**	**3.63**	**126**	P	Pg	14 13 01.8	+12
GEYT	**Alibeck**	**4.83**	**241**	Pn	**Pn**	**14 12 53.3**	**+0.4**
	0.1nm,0.3s,baz=60,slow=9.7,SNR=1.6						
GEYT				Pg	**Pb**	**14 13 05.9**	**+1.0**
	3.0nm,0.3s,baz=72,slow=14,SNR=13						
GEYT				Sn	**Sn**	**14 13 49.4**	**+0.4**
	5.0nm,0.3s,baz=234,slow=20,SNR=9.0						
GEYT				Lg	Lg	14 14 10.4	
	2.5nm,0.3s,baz=73,slow=25,SNR=5.0						
	2.4nm,0.3s						
CHMG	**Chimgan**	**5.09**	**75**	P	Pg	14 13 40.7	+23
KK31	**Karatay Array**	**5.92**	**61**	⇑Pg	**Pb**	**14 13 21.5**	**-1.9**
	0.3nm,0.3s,baz=253,slow=15						
KK31				⇓Lg	Lg	14 14 41.7	
	7.8nm,0.6s,baz=246,slow=26,SNR=9.6						
CHMI	**Chimion**	**6.16**	**89**	S	**Sn**	**14 14 20.2**	**-1.5**
CHMI				S	**Sn**	**14 14 20.2**	**-1.5**
ANR	**Andizhan**	**6.78**	**84**	S	**Sg**	**14 15 18.3**	**+0.5**
AML	**Almayashu**	**7.90**	**74**	⇓Pn	**Pn**	**14 13 35.4**	**0.0**
AML				⇑Sn	**Sn**	**14 15 01.3**	**-3.7**
	0.4nm,0.7s						
AML				⇓Lg	Lg	14 15 44.0	
	1.0nm,0.7s						
AAK	**Ala-Archa**	**8.57**	**71**	Pn	**Pn**	**14 13 46.5**	**+2.1**
	0.3nm,0.3s,baz=225,slow=14,SNR=2.1						
AAK				Lg	Lg	14 16 14.6	
	0.2nm,0.3s,baz=29,slow=16,SNR=1.7						
	0.6nm,0.3s						
AKTO	**Aktyubinsk**	**10.74**	**341**	Lg	Lg	14 17 27.0	
	baz=113,slow=12						
BVAR	**Borovoye Array**	**13.48**	**18**	Pn	**Pn**	**14 14 51.1**	**-0.2**
	baz=190,slow=9.1,SNR=2.1						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**14.67**	**41**	Lg	Lg	14 19 30.6	
	baz=242,slow=18,SNR=1.6						
MKAR	**Makanchi Array**	**15.05**	**59**	Pn	**Pn**	**14 15 10.7**	**-2.1**
	0.1nm,0.3s,baz=250,slow=13,SNR=2.1						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**19.75**	**40**	P	**Pn**	**14 16 12.1**	**+0.6**
	0.2nm,0.3s,baz=246,slow=11,SNR=3.6						
	1.1nm,0.6s						

---

*IDC **08** 14:14:11.7±0.5, 10°.70N×41°.46W, h0km, mb4.4/27, mbtmp4.4/29, ML4.7/2, MS5.5/2, Error ellipse: s-maj=15.2km s-min=12.9km az=132.0*
*NEIC **08** 14:14:13.9±1.8, 10°.7N±0°.1×41°.4W±0°.1, h10km±1km, mb5.0/148, Error ellipse: s-maj=20.9km s-min=16.2km az=148.0*
*INMG **08** 14:14:20.0, 10°.98N×40°.62W, h10km*
ISC 08 14:14:12.9±0.3, 10°.66N±0°.07×41°.40W±0°.06, h10km, n419, σ1§10/377, mb4.9/136, MS5.7/5, 1C-30D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.43**	**244**	Pn	**Pn**	**14 17 07.9**	**-2.1**
	15nm,0.3s,baz=52,slow=13,SNR=110						
MDP				Sn	Sn	14 19 16.0	-13
	1.3nm,0.3s,baz=164,slow=20,SNR=2.0						
MDP				LR	LR	14 21 03.1	
	comp=Z,250nm,21.6s,baz=76,slow=33						
	37nm,0.3s						
RCBR	**Riachuelo**	**17.27**	**161**	P	**P**	**14 18 16.5**	**+0.6**
	1.0nm,0.3s,baz=353,slow=14,SNR=10						
RCBR				LR	LR	14 23 41.8	
	comp=Z,217nm,18.3s,baz=4.5,slow=33						
	20nm,1.2s						
FDF	**Fort de France**	**19.68**	**284**	P	**P**	**14 18 43.9**	**+1.4**
FDF				IAmb	IAmb	14 18 55.5	
	comp=Z,50nm,0.9s						
PCRV	**Puerto La Cruz**	**22.86**	**271**	P	**P**	**14 19 17.6**	**+0.9**
	comp=Z,4.6nm,0.9s,baz=32,slow=13,SNR=3.6						
	comp=Z,4.6nm,0.9s						
SJG	**San Juan**	**25.07**	**290**	P	**P**	**14 19 37.8**	**0.0**
SJG	**San Juan**	**25.07**	**290**	P	**P**	**14 19 37.8**	**0.0**
	comp=Z,3.3nm,0.3s,baz=112,slow=11,SNR=1.0						
	comp=Z,3.3nm,0.3s						
BAUV	**El Baul**	**26.30**	**269**	P	**P**	**14 19 50.2**	**+1.1**
BDFB	**Brasilia**	**26.94**	**194**	P	**P**	**14 19 53.4**	**-1.4**
BDFB	**Brasilia**	**26.94**	**194**	P	**P**	**14 19 55.8**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=38,slow=10,SNR=3.4						
	comp=Z,2.1nm,0.5s						
BDFB	**Brasilia**	**26.94**	**194**	P	**P**	**14 19 53.4**	**-1.4**
SAML	**Samuel**	**29.14**	**229**	P	**P**	**14 20 15.0**	**+0.5**
SAML	**Samuel**	**29.14**	**229**	*e*P	**P**	**14 20 17.1**	**+2.7**
SDDR	**Presa de Saban**	**30.02**	**290**	P	**P**	**14 20 23.6**	**+1.4**
SDDR				IAmb	IAmb	14 20 34.1	
	comp=Z,26nm,1.1s						
PMOZ	**Porto Moniz, M**	**31.34**	**42**	*e*P	**P**	**14 20 34.5**	**+0.6**
	comp=Z,98nm,1.3s						
BARC	**Barichara**	**31.67**	**265**	*e*P	**P**	**14 20 39.0**	**+1.8**
RUSC	**La Rusia**	**31.70**	**264**	*e*P	**P**	**14 20 41.3**	**+3.7**
H10N3	**ASCENSION HYDR**	**32.48**	**123**	T	T	14 54 50.4	
	baz=303,slow=75						
H10N2	**ASCENSION HYDR**	**32.48**	**123**	T	T	14 54 50.5	
	baz=303,slow=75						
H10N1	**ASCENSION HYDR**	**32.50**	**123**	T	T	14 54 51.9	
	baz=303,slow=75						
CHIC	**Chinganza**	**32.58**	**262**	*e*P	**P**	**14 20 47.2**	**+1.8**
SPBC	**San Pablo de B**	**32.71**	**264**	*e*P	P	14 20 52.0	+6.0
H10S3	**ASCENSION HYDR**	**32.98**	**125**	T	T	14 55 36.0	
	baz=277,slow=74,SNR=40						
H10S2	**ASCENSION HYDR**	**32.99**	**125**	T	T	14 55 33.6	
	baz=303,slow=74,SNR=16						
ROSC	**El Rosal**	**33.11**	**262**	P	**P**	**14 20 54.3**	**+4.4**
	comp=Z,3.7nm,0.3s,baz=130,slow=11,SNR=4.5						
NORC	**Norcasia**	**33.50**	**264**	*e*P	**P**	**14 20 52.1**	**-0.9**
PRAC	**Prado**	**33.91**	**261**	*e*P	**P**	**14 20 56.1**	**-0.4**
GUY2C	**Guyana, Caldas**	**34.05**	**264**	*e*P	**P**	**14 20 58.9**	**+0.6**
ORTC	**Ortega, Tolima**	**34.21**	**261**	*e*P	**P**	**14 20 59.4**	**+0.3**
PLMC	**San Jos del P**	**35.01**	**263**	*e*P	**P**	**14 21 03.9**	**-2.3**
YOTC	**Yotoco, Valle**	**35.26**	**262**	*e*P	P	14 21 03.2	-5.1
POPC	**Popayan, Colom**	**35.92**	**260**	*e*P	**P**	**14 21 11.9**	**-2.3**
KOWA	**Kowa**	**36.66**	**80**	P	**P**	**14 21 21.2**	**+1.1**
KOWA				IAmb	IAmb	14 21 38.0	
	comp=Z,20nm,1.1s						
LPAZ	**La Paz**	**37.64**	**225**	P	**P**	**14 21 29.5**	**+0.4**
LPAZ	**La Paz**	**37.64**	**225**	*e*P	**P**	**14 21 29.5**	**+0.4**
IMBA	**Imbabura, San**	**38.00**	**257**	P	**P**	**14 21 33.8**	**+1.7**
IMBA				IAmb	IAmb	14 21 52.3	
	comp=Z,54nm,1.0s						
OTAV	**Otavalo**	**38.26**	**257**	P	**P**	**14 21 35.9**	**+1.6**
BOSC	**San Juan Bosco**	**39.39**	**252**	P	**P**	**14 21 43.4**	**0.0**
MORF	**Marmelete**	**39.63**	**43**	*e*P	**P**	**14 21 46.6**	**+1.6**
	comp=Z,57nm,1.8s						
MORF	**Marmelete**	**39.63**	**43**	*e*P	**P**	**14 21 46.3**	**+1.3**
MORF				IAmb	IAmb	14 21 47.3	
	comp=Z,18nm,1.1s						
COHC	**Cochancay**	**39.86**	**253**	P	**P**	**14 21 47.6**	**+0.4**
CPUP	**Villa Florida**	**39.90**	**203**	P	**P**	**14 21 47.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=51,slow=7.6,SNR=3.4						
	comp=Z,0.7nm,0.5s						
PBDV	**Barranco-do-Ve**	**40.08**	**43**	*e*P	**P**	**14 21 51.0**	**+2.3**
	comp=Z,84nm,1.8s						
PNCL	**Nicolau / Gran**	**40.16**	**42**	*e*P	**P**	**14 21 51.0**	**+1.6**
	comp=Z,25nm,1.3s						
PCVE	**Castro Verde**	**40.22**	**43**	*e*P	**P**	**14 21 51.7**	**+1.8**
PVAQ	**Vaqueiros**	**40.31**	**43**	*e*P	**P**	**14 21 52.2**	**+1.6**
	comp=Z,30nm,1.8s						
PBEJ	**Beja**	**40.55**	**42**	*e*P	**P**	**14 21 54.3**	**+1.7**
	comp=Z,21nm,1.6s						
EVO	**Evora**	**40.74**	**41**	*e*P	**P**	**14 21 55.6**	**+1.5**
	comp=Z,26nm,1.2s						
PMTG	**Montargil**	**40.90**	**41**	*e*P	**P**	**14 21 56.8**	**+1.3**
	comp=Z,25nm,1.4s						
PBAR	**Barrancos**	**41.18**	**43**	*e*P	**P**	**14 21 59.5**	**+1.7**
	comp=Z,32nm,1.6s						
MCRA	**Macar, Loja**	**41.19**	**251**	P	**P**	**14 21 58.3**	**+0.1**
PESTR	**Estremoz**	**41.20**	**41**	*e*P	**P**	**14 21 59.4**	**+1.5**
	comp=Z,14nm,2.0s						
PESTR	**Estremoz**	**41.20**	**41**	P	**P**	**14 21 58.0**	**+0.1**
PCAS	**Casmilo, Conde**	**41.30**	**39**	*e*P	**P**	**14 22 00.0**	**+1.3**
	comp=Z,32nm,1.4s						
COI	**Coimbra**	**41.44**	**39**	*e*P	**P**	**14 22 02.1**	**+2.2**
PAL	**Palisades**	**41.62**	**322**	P	**P**	**14 22 02.3**	**+1.0**
	baz=127						
PMRV	**Marv??o**	**41.64**	**41**	*e*P	**P**	**14 22 03.2**	**+1.7**
	comp=Z,33nm,1.3s						
L61B	**Northampton**	**41.81**	**325**	P	**P**	**14 22 03.7**	**+0.8**
	baz=130						
PCBR	**Castelo Branco**	**41.82**	**40**	*e*P	**P**	**14 22 04.3**	**+1.3**
	comp=Z,27nm,1.5s						
WUPA	**West Chester U**	**42.05**	**320**	P	**P**	**14 22 05.6**	**+0.7**
PVIS	**Viseu**	**42.06**	**39**	*e*P	**P**	**14 22 06.6**	**+1.6**
MTE	**Manteigas**	**42.09**	**39**	*e*P	**P**	**14 22 06.8**	**+1.5**
	comp=Z,22nm,1.2s						
MTE	**Manteigas**	**42.09**	**39**	P	**P**	**14 22 05.2**	**-0.1**
TOA0	**Torodi Ar. Sit**	**42.20**	**82**	P	**P**	**14 22 06.5**	**0.0**
TORD	**Torodi Ar. Bea**	**42.20**	**82**	P	**P**	**14 22 06.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**42.20**	**82**	P	**P**	**14 22 07.2**	**+0.7**
	comp=Z,8.0nm,0.6s,baz=283,slow=8.9,SNR=46						
	comp=Z,8.0nm,0.6s						
LUPA	**Lehigh Univers**	**42.28**	**321**	IAmb	IAmb	14 22 20.1	
	comp=Z,35nm,1.2s						
J61A	**Chester**	**42.32**	**326**	P	**P**	**14 22 08.1**	**+1.1**
J61A				IAmb	IAmb	14 22 19.0	
	comp=Z,46nm,1.4s						
SOCE	**Pocosol**	**42.47**	**274**	P	**P**	**14 22 06.3**	**-2.3**
SOCE				IAmb	IAmb	14 22 07.3	
	comp=Z,161nm,1.7s						
PVRL	**Vila Real**	**42.50**	**38**	*e*P	**P**	**14 22 10.1**	**+1.5**
	comp=Z,29nm,1.3s						
POLO	**Lamas de Olo**	**42.51**	**38**	*e*P	**P**	**14 22 10.0**	**+1.3**
	comp=Z,10nm,1.6s						
G62A	**West of Eustis**	**42.53**	**329**	P	**P**	**14 22 09.2**	**+0.4**
G62A				IAmb	IAmb	14 22 19.5	
	comp=Z,20nm,0.9s						
MVL	**Millersville**	**42.56**	**319**	P	**P**	**14 22 10.2**	**+1.2**
MVL				IAmb	IAmb	14 22 22.5	
	comp=Z,36nm,1.4s						
LBNH	**Lisbon**	**42.58**	**327**	P	**P**	**14 22 10.3**	**+1.2**
	baz=132						
PGAV	**Gavieira, Arco**	**42.58**	**37**	*e*P	**P**	**14 22 10.8**	**+1.5**
	comp=Z,32nm,1.1s						
MVO	**Moncorvo**	**42.85**	**39**	*e*P	**P**	**14 22 12.8**	**+1.3**
	comp=Z,20nm,1.7s						
KSPA	**Keystone Colle**	**43.08**	**322**	P	**P**	**14 22 14.0**	**+0.8**
BOAB	**BOACO BROADBAN**	**43.37**	**277**	P	**P**	**14 22 17.2**	**+1.2**
BOAB				IAmb	IAmb	14 22 29.3	
	comp=Z,33nm,1.1s						
PBRG	**Braganca**	**43.40**	**38**	*e*P	**P**	**14 22 17.2**	**+1.3**
	comp=Z,26nm,1.6s						
BINY	**Binghamton**	**43.59**	**322**	P	**P**	**14 22 18.3**	**+1.0**
	baz=126						
PAB	**San Pablo**	**43.69**	**42**	P	**P**	**14 22 18.8**	**+0.5**
KMSC	**Kings Mountain**	**43.69**	**310**	P	**P**	**14 22 19.7**	**+1.4**
	baz=114						
FRNY	**Flat Rock**	**43.86**	**327**	P	**P**	**14 22 19.6**	**+0.1**
FRNY				IAmb	IAmb	14 22 30.6	
	comp=Z,20nm,1.0s						
SSPA	**Standing Stone**	**43.89**	**319**	P	**P**	**14 22 21.6**	**+1.9**
	baz=123						
BLA	**Blacksburg**	**43.91**	**314**	P	**P**	**14 22 21.2**	**+1.1**
	baz=117						
ESDC	**Sonseca Array**	**44.01**	**42**	P	**P**	**14 22 21.6**	**+0.7**
ESDC	**Sonseca Array**	**44.01**	**42**	P	**P**	**14 22 21.4**	**+0.6**
	comp=Z,3.4nm,1.0s,baz=239,slow=8.6,SNR=23						
ESDC				PcP	**PcP**	**14 24 08.1**	**+1.7**
	comp=Z,0.8nm,1.0s,baz=237,slow=4.4,SNR=2.8						
	comp=Z,3.4nm,1.0s						
ESBB	**Sonseca Array**	**44.01**	**42**	P	**P**	**14 22 21.9**	**+1.0**
LONY	**Lake Ozonia**	**44.26**	**326**	P	**P**	**14 22 24.6**	**+1.8**
	baz=130						
MCWV	**Mont Chateau**	**44.67**	**317**	P	**P**	**14 22 27.6**	**+1.5**
	baz=120						
GOGA	**Godfrey**	**44.67**	**307**	P	**P**	**14 22 27.5**	**+1.3**
	baz=110						
TRQ	**Mont Tremblant**	**45.28**	**328**	P	**P**	**14

baz=104
SFJD **Kangerlussuaq** 56.61 356 *i* P P 14 23 54.8 -0.9
FETA **Feichten** 56.85 40 *e*P P 14 23 58.2 +0.2
comp=Z,5.7nm,0.9s,SNR=6.8
833A **Chaparral WMA,** 56.90 297 P P 14 23 58.5 0.0
baz=96
BRDY **Brady** 56.91 300 IAmb IAmb 14 24 08.2
comp=Z,12nm,1.0s
RETA **Reutte** 57.04 40 *e*P P 14 23 59.8 +0.5
comp=Z,7.6nm,1.0s
CTI **Castel Tesino** 57.08 42 IAmb IAmb 14 24 01.4
comp=Z,15nm,0.8s
MOTA **Moosalm** 57.20 40 *e*P P 14 24 00.8 +0.3
comp=Z,6.8nm,1.0s
SQTA **Sankt Quirin** 57.22 40 *e*P P 14 24 01.0 +0.4
comp=Z,4.0nm,0.7s
WMOK **Wichita Mounta** 57.27 304 P 14 23 59.9 -1.2
WMOK **Wichita Mounta** 57.27 304 P P 14 24 01.8 +0.7
baz=100
JCT **Junction City** 57.49 299 P P 14 24 02.9 +0.2
baz=97
WATA **Walderalm** 57.50 40 *e*P P 14 24 02.5 -0.1
comp=Z,8.0nm,1.1s
WTTA **Wattenberg** 57.51 40 *e*P P 14 24 03.0 +0.3
comp=Z,5.5nm,0.9s,SNR=5.6
ABTX **Abilene, Hawle** 57.64 302 P P 14 24 03.8 +0.1
baz=98
ECSD **EROS Data Cent** 57.78 315 P P 14 24 05.2 +0.7
baz=107
PLCA **Paso Flores** 57.80 206 P P 14 24 04.3 -0.3
comp=Z,3.2nm,1.0s,baz=10,slow=12,SNR=2.9
comp=Z,3.2nm,1.0s
ABTA **Abfaltersbach** 57.89 41 *e*P P 14 24 05.5 +0.3
comp=Z,9.6nm,1.1s
CLUD **Cludinico** 58.03 41 IAmb IAmb 14 25 20.8
comp=Z,22nm,1.1s
APMT **Aspermont** 58.14 303 IAmb IAmb 14 24 17.0
comp=Z,13nm,0.9s
LESA **Schwarzleotal** 58.23 40 *e*P P 14 24 08.0 +0.4
comp=Z,11nm,1.1s
MYKA **Terra Mystica** 58.58 41 *e*P P 14 24 10.6 +0.5
comp=Z,9.4nm,0.7s,SNR=4.4
OZNA **Ozona** 58.68 300 IAmb IAmb 14 24 21.1
comp=Z,14nm,1.3s
BIOA **Bad Ischl, Aus** 58.93 40 *e*P P 14 24 12.4 -0.1
comp=Z,3.4nm,0.8s
OBKA **Obir** 59.13 42 *e*P P 14 24 14.3 +0.4
comp=Z,11nm,0.9s,SNR=7.6
GERES **GERESS Array B** 59.37 39 P P 14 24 14.5 -1.0
comp=Z,1.5nm,0.6s,baz=245,slow=6.4,SNR=4.4
comp=Z,1.5nm,0.6s
MOA **Molln** 59.38 40 *e*P P 14 24 15.7 +0.1
comp=Z,4.6nm,0.8s,SNR=4.2
KHC **Kasperske Hory** 59.40 39 P P 14 24 14.4 -1.3
SAND **Sanderson** 59.44 298 IAmb IAmb 14 24 26.4
comp=Z,9.3nm,1.0s
ULM **Lac du Bonnet** 59.50 323 P P 14 24 15.0 -1.2
comp=Z,5.3nm,0.6s,baz=120,slow=7.9,SNR=6.3
comp=Z,5.3nm,0.6s
SOKA **Soboth** 59.50 42 *e*P P 14 24 16.7 +0.2
comp=Z,3.8nm,0.9s
CLL **Collm** 59.85 36 P P 14 24 19.7 +1.0
ARSA **Arzberg** 60.00 41 *e*P P 14 24 19.6 -0.3
comp=Z,2.9nm,0.7s
MSTX **Muleshoe** 60.42 303 IAmb IAmb 14 24 33.3
comp=Z,13nm,1.1s
MSTX **Muleshoe** 60.42 303 P P 14 24 23.2 +0.2
baz=97
CONA **Conrad Observa** 60.43 41 *e*P P 14 24 23.3 +0.5
comp=Z,5.5nm,0.9s,SNR=4.7
RONA **Rosalia, Austr** 60.64 41 *e*P P 14 24 24.6 +0.4
comp=Z,8.1nm,0.9s,SNR=5.1
TX31 **Lajitas Ar. Si** 60.73 298 P P 14 24 24.9 -0.4
TX31 IAmb IAmb 14 24 36.7
comp=Z,19nm,1.1s
TXAR **Lajitas Array** 60.73 298 P P 14 24 25.1 -0.1
comp=Z,1.1nm,0.8s,baz=105,slow=7.2,SNR=11
comp=Z,1.1nm,0.8s
ALPN **Alpine** 60.78 299 P P 14 24 25.2 -0.5
ALPN IAmb IAmb 14 24 35.4
comp=Z,10nm,1.1s
OGNE **Ogallala** 60.98 311 P P 14 24 27.4 +0.7
baz=102
MDND **Maddock** 61.01 319 P P 14 24 26.9 +0.2
baz=107
SUMG **Summit** 61.90 1 P P 14 24 31.9 -0.8
SUMG **Summit** 61.90 1 *i* P P 14 24 31.5 -1.2
425A **Indio Mountain** 61.97 299 IAmb IAmb 14 24 44.3
comp=Z,11nm,1.1s
MNTX **Cornudas Mount** 62.38 300 P P 14 24 37.1 +0.9
baz=94
FNA **Florina** 62.55 50 P P 14 24 36.9 -0.4
FNA IAmb IAmb 14 24 54.2
comp=Z,6.8nm,0.9s
FNA **Florina** 62.55 50 PKIKP P 14 24 36.9 -0.4
Q24A **Divide** 62.99 308 P P 14 24 41.5 +0.9
baz=98
RSSD **Black Hills** 63.07 314 P P 14 24 42.1 +1.2
baz=102
SDCO **Great Sand Dun** 63.10 307 IAmb IAmb 14 24 53.3
comp=Z,5.9nm,0.8s
SDCO **Great Sand Dun** 63.10 307 P P 14 24 42.1 +0.8
baz=98
NB2 **NORSAR Subarra** 63.19 26 P P 14 24 41.5 +0.4
comp=Z,40nm,2.0s,baz=245,slow=6.9
NB2 **NORSAR Subarra** 63.19 26 P P 14 24 41.5 +0.4
baz=245,slow=6.9
NOA **NORSAR Array B** 63.19 26 P P 14 24 41.6 +0.4
comp=Z,2.7nm,0.7s,baz=242,slow=7.0,SNR=7.0
comp=Z,2.7nm,0.7s
ISCO **Idaho Springs** 63.47 309 IAmb IAmb 14 24 56.0
comp=Z,8.4nm,0.9s
ISCO **Idaho Springs** 63.47 309 P P 14 24 44.8 +1.0
baz=98
ANMO **Albuquerque** 63.55 304 P P 14 24 44.6 +0.4
baz=96
HFS **Hagfors** 63.86 27 P P 14 24 45.9 +0.5
comp=Z,12nm,0.8s,baz=223,slow=6.1,SNR=12
comp=Z,12nm,0.8s
N23A **Red Feather La** 63.89 310 P P 14 24 46.4 -0.1
baz=99
HERR **Herculane** 64.05 45 ⇑P P 14 24 33.6 -13
DGMT **Dagmar** 64.14 319 P P 14 24 48.2 +0.5
baz=104
S22A **4UR Ranch, Cre** 64.15 307 IAmb IAmb 14 25 00.6
comp=Z,15nm,1.2s
S22A **4UR Ranch, Cre** 64.15 307 P P 14 24 48.4 +0.2
baz=97
121A **Cookes Peak, D** 64.47 301 P P 14 24 50.6 +0.3
baz=94
FFC **Flin Flon** 64.54 326 P P 14 24 50.5 +0.4
K22A **Casper** 64.59 312 P P 14 24 51.2 +0.3
baz=99
LAO **LASA Array** 65.09 317 P P 14 24 54.8 +0.9
baz=101
MVCO **Mesa Verde** 65.41 306 P P 14 24 56.7 +0.3
baz=95
O20A **White River Ci** 65.52 309 P P 14 24 57.3 +0.3
baz=97
BW06 **Boulder Array** 66.82 312 P P 14 25 05.8 +0.4
baz=97
PD31 **Pinedale Array** 66.82 312 P P 14 25 04.2 -1.1
PDAR **Pinedale Array** 66.82 312 P P 14 25 06.0 +0.6
comp=Z,0.3nm,0.6s,baz=108,slow=7.7,SNR=2.8
comp=Z,0.3nm,0.6s
RLMT **Red Lodge** 66.92 315 P P 14 25 06.2 +0.3
baz=98
NEEM **North Greenlan** 66.96 358 *i* P P 14 25 04.2 -1.5
NEEM IAmb IAmb 14 25 16.4
comp=Z,8.1nm,0.8s
TUC **Tucson** 66.99 301 P P 14 25 07.6 +1.1
baz=92
DAG **Danmarks Havn** 67.19 6 *i* P P 14 25 05.4 -1.4
DAG IAmb IAmb 14 25 16.9
comp=Z,4.8nm,0.8s
WUAZ **Wupatki** 67.61 304 IAmb IAmb 14 25 22.1
comp=Z,12nm,0.9s
WUAZ **Wupatki** 67.61 304 P P 14 25 10.9 +0.4
baz=93
X16A **Lo Mia Camp, P** 67.62 303 IAmb IAmb 14 25 22.2
comp=Z,13nm,1.5s
EGMT **Eagleton** 67.69 318 P P 14 25 11.8 +1.2
baz=99
TPAW **Teton Pass** 67.91 313 IAmb IAmb 14 25 22.9
comp=Z,27nm,1.6s
MTPU **Mount Pierson** 68.39 307 IAmb IAmb 14 25 28.7
comp=Z,22nm,1.5s
U15A **North Rim** 68.40 305 IAmb IAmb 14 25 27.4
comp=Z,12nm,1.2s
BOZ **Bozeman (W)** 68.63 315 P P 14 25 17.2 +0.5
baz=97
214A **Organ Pipe Nat** 68.70 300 P P 14 25 17.6 +0.4
baz=90
DUG **Dugway, Tooele** 69.01 309 IAmb IAmb 14 25 31.1
comp=Z,33nm,1.7s
DUG **Dugway, Tooele** 69.01 309 P P 14 25 19.8 +0.6
baz=94
CCUT **Cedar City** 69.30 306 IAmb IAmb 14 25 32.8
comp=Z,10nm,1.3s
AKASG **Malin Array Be** 69.56 40 P P 14 25 22.4 +0.4
comp=Z,4.7nm,0.8s,baz=260,slow=6.0,SNR=8.4
comp=Z,4.7nm,0.8s
PDMCI **Parker Dam,Lak** 69.85 303 P P 14 25 24.8 +0.6
baz=91
FINES **FINESS Array B** 70.00 28 P P 14 25 24.8 +0.3
comp=Z,5.2nm,0.6s,baz=258,slow=5.9,SNR=20
comp=Z,5.2nm,0.6s
SPR3 **Spring Creek 3** 70.12 308 IAmb IAmb 14 25 38.5
comp=Z,27nm,1.8s
MSO **Missoula** 70.36 316 P P 14 25 27.0 -0.3
MSO **Missoula** 70.36 316 P P 14 25 27.3 +0.1
baz=95
GLA **Glamis** 70.41 301 P P 14 25 27.6 -0.2
baz=90
HLID **Hailey** 70.43 312 P P 14 25 27.9 +0.1
baz=94,SNR=5.6
IRM **Iron Mountain** 70.68 302 P P 14 25 29.6 +0.3
baz=90
ELK **Elko** 70.89 309 P P 14 25 30.9 +0.1
ELK IAmb IAmb 14 25 41.9
comp=Z,16nm,1.3s
BC3 **Big Chuckawall** 70.93 302 P P 14 25 31.0 -0.1
baz=90
R11B **Troy Canyon, C** 71.08 307 P P 14 25 32.5 +0.6
R11B IAmb IAmb 14 25 44.2
comp=Z,18nm,1.8s
R11B **Troy Canyon, C** 71.08 307 P P 14 25 32.1 +0.2
baz=91
GMRC **Granite Mounta** 71.10 303 P P 14 25 32.1 0.0
baz=90
SWSC **Sam W. Stewart** 71.23 301 P P 14 25 32.9 +0.2
baz=89
TUQ **Turquoise Moun** 71.32 304 P P 14 25 33.6 +0.3
baz=90
BELC **Belle Mtn. Jos** 71.39 302 P P 14 25 34.3 +0.5
baz=90
MFID **Camas Ranch** 71.45 312 IAmb IAmb 14 25 45.0
comp=Z,21nm,1.2s
IKP **In-Ko-Pah, Jac** 71.50 301 P P 14 25 34.5 +0.1
baz=89
TPNV **Topopah Spring** 71.59 305 P P 14 25 35.2 +0.3
baz=90
PLID **Pearl Lake** 71.66 314 P P 14 25 34.6 -0.7
NOR **Nord** 71.75 4 *i* P P 14 25 34.3 -0.6
NOR IAmb IAmb 14 25 35.9
comp=Z,4.7nm,0.6s
TPFO **Pinon Flats** 71.77 302 P P 14 25 35.5 -0.6
baz=89
PFO **Pinyon Flats O** 71.77 302 P P 14 25 35.2 -0.9
baz=89
BRTR **Keskin Array B** 71.78 52 P P 14 25 37.0 +0.9
comp=Z,3.5nm,0.9s,baz=285,slow=3.9,SNR=1.5
comp=Z,3.5nm,0.9s
GWY **Greenwater Val** 71.92 305 IAmb IAmb 14 26 00.2
comp=Z,14nm,1.5s
GSC **Goldstone, Bar** 72.04 304 P P 14 25 38.0 +0.3
baz=90
FURC **Furnace Creek,** 72.08 305 P P 14 25 38.0 +0.3
baz=90
ARCES **ARCESS Array B** 72.08 20 P P 14 25 37.2 0.0
comp=Z,2.8nm,0.8s,baz=224,slow=3.3,SNR=5.8
comp=Z,2.8nm,0.8s
QSM **Queen of Sheba** 72.09 304 IAmb IAmb 14 25 49.5
comp=Z,11nm,1.1s
EUNU **Eureka** 72.43 353 IAmb IAmb 14 25 49.9
comp=Z,18nm,0.9s
BMO **Blue Mountains** 72.58 314 IAmb IAmb 14 25 51.9
comp=Z,14nm,1.5s
MPMC **Manual Prospec** 72.59 304 P P 14 25 40.9 -0.2
baz=89
NEW **Newport** 72.62 317 IAmb IAmb 14 25 50.8
comp=Z,14nm,1.2s
NEW **Newport** 72.62 317 P P 14 25 40.7 -0.1
baz=93
YKA **Yellowknife Ar** 72.86 332 P P 14 25 41.0 -0.8
comp=Z,2.2nm,0.7s,baz=139,slow=8.5,SNR=5.2
comp=Z,2.2nm,0.7s
EDW2 **Edwards Air Fo** 73.02 303 P P 14 25 43.8 +0.3
baz=89
CWC **Cottonwood Cre** 73.06 305 P P 14 25 43.9 +0.1
baz=89
NVAR **Mina Array Bea** 73.22 307 P P 14 25 45.1 +0.3
comp=Z,0.3nm,0.5s,baz=87,slow=8.4,SNR=1.6
comp=Z,0.3nm,0.5s
ISA **Isabella, Lake** 73.40 304 P P 14 25 46.2 +0.5
baz=89
SCI2 **San Clemente I** 73.54 301 P P 14 25 46.9 +0.5
baz=88
WAKR **Walker** 74.11 307 P P 14 25 51.2 +1.3
WAKR IAmb IAmb 14 26 01.2
comp=Z,32nm,1.7s
HAWA **Hanford** 74.18 315 IAmb IAmb 14 26 00.7
comp=Z,18nm,1.4s
SMMC **Simmler** 74.65 304 P P 14 25 52.8 -0.1
baz=88
BOSA **Boshof** 75.23 123 P P 14 25 57.1 +0.6
comp=Z,4.0nm,0.9s,baz=296,slow=11,SNR=3.8
comp=Z,4.0nm,0.9s
KOTAN **Kotaneelee Air** 77.17 329 P P 14 26 06.8 0.0
baz=91
LIRD **Liard River Hi** 78.21 329 P P 14 26 13.3 +0.7
baz=89
TGTN **Hyland Airport** 79.22 331 P P 14 26 18.2 0.0
baz=88
DLBC **Dease Lake** 80.29 328 IAmb IAmb 14 26 35.7
comp=Z,22nm,1.1s
DLBC **Dease Lake** 80.29 328 P P 14 26 24.4 +0.3
baz=86
T35M **Bob Quinn** 80.53 326 P P 14 26 25.4 +0.1
baz=85
MMPY **Sheldon Lake,** 80.56 332 P P 14 26 25.4 0.0
baz=85
R33M **Jennings River** 80.69 329 IAmb IAmb 14 26 38.4
comp=Z,20nm,1.3s
R33M **Jennings River** 80.69 329 P P 14 26 25.8 -0.5
baz=85
S34M **Telegraph Cree** 80.92 327 IAmb IAmb 14 26 39.5
comp=Z,29nm,1.4s
S34M **Telegraph Cree** 80.92 327 P P 14 26 27.5 +0.1
baz=84
INK **Inuvik** 80.96 338 P P 14 26 27.7 +0.4
INK IAmb IAmb 14 26 38.2
comp=Z,22nm,1.1s
INK **Inuvik** 80.96 338 P P 14 26 27.2 -0.2
baz=84
F31M **Tsiigehtchic** 81.14 337 P P 14 26 28.5 +0.2
baz=84
G31M **Satah River** 81.40 337 P P 14 26 29.9 +0.2
baz=83
Q32M **Nakina River** 81.40 328 P P 14 26 30.4 +0.2
baz=84
P33M **Teslin, Yukon** 81.54 330 IAmb IAmb 14 26 41.8
comp=Z,15nm,1.1s
P33M **Teslin, Yukon** 81.54 330 P P 14 26 30.4 -0.3
baz=83
N32M **Quiet Lake** 81.56 331 P P 14 26 30.8 0.0
baz=83
FARO **Faro, Yukon** 81.56 332 P P 14 26 30.4 -0.4
baz=83
H31M **Peel River** 81.57 335 P P 14 26 30.4 -0.3
baz=83
F30M **Barrier River** 81.89 337 P P 14 26 32.2 -0.2
baz=82
M31M **Drury Creek, Y** 82.05 332 P P 14 26 33.4 +0.1
baz=82
G30M **tAoh Zraii Nji** 82.16 337 P P 14 26 34.6 +0.8
baz=81
U33K **Whale Pass** 82.20 326 P P 14 26 34.3 +0.2
baz=82
CRAG **Craig** 82.28 325 P P 14 26 35.1 +0.5
baz=82
EPYK **Eagle Plains** 82.44 336 P P 14 26 35.4 0.0
baz=81
I30M **Mount Dempster** 82.49 335 IAmb IAmb 14 26 46.2
comp=Z,15nm,1.2s
I30M **Mount Dempster** 82.49 335 P P 14 26 36.3 +0.6
baz=81
E29M **Blow River** 82.56 338 P P 14 26 36.4 +0.6
baz=80
J30M **Hart River** 82.57 334 P P 14 26 36.2 +0.1
baz=81
D28M **Stokes Point** 82.69 339 P P 14 26 36.4 0.0
baz=79
N31M **Braeburn, Yuko** 82.81 331 P P 14 26 37.3 0.0
baz=81
S32K **Killisnoo** 82.81 327 P P 14 26 37.1 -0.1
baz=82
G29M **Pine Creek** 82.86 337 IAmb IAmb 14 26 48.6
comp=Z,15nm,1.1s
SKAG **Skagway** 82.90 329 P P 14 26 37.1 -0.6
baz=81
O30N **Mendenhall** 83.07 330 P P 14 26 38.4 -0.3
baz=81
M30M **Minto, Yukon** 83.10 332 IAmb IAmb 14 26 49.6
comp=Z,15nm,1.1s
M30M **Minto, Yukon** 83.10 332 P P 14 26 38.3 -0.6
baz=80
E28M **Babbage River** 83.11 339 P P 14 26 38.3 -0.5
baz=78
H29M **Whitestone** 83.13 336 P P 14 26 38.6 -0.2
H29M **Whitestone** 83.13 336 P P 14 26 38.7 -0.2
baz=79,SNR=5.4
K29M **Barlow Dome** 83.20 334 P P 14 26 39.3 -0.2
baz=80
I29M **Ogilvie Camp,** 83.26 335 IAmb IAmb 14 26 50.9
comp=Z,24nm,1.6s
PLBC **Pleasant Camp** 83.42 329 P P 14 26 39.5 -1.0
baz=80
N30M **Aishikik Lake** 83.43 331 P P 14 26 40.6 +0.1
baz=80
F28M **Old Crow** 83.44 338 P P 14 26 40.4 0.0
baz=78,SNR=6.1
D27M **Malcolm River** 83.48 339 P P 14 26 41.5 +0.8
baz=77
P30M **Million Dollar** 83.60 330 P P 14 26 41.0 -0.5
baz=80
S31K **Pelican** 83.61 328 P P 14 26 41.2 -0.2
baz=80
L29M **L29M** 83.61 333 P P 14 26 41.5 +0.1
baz=79
HYT **Haines Junctio** 83.74 331 P P 14 26 42.7 +0.4
baz=79
M29M **Somme Creek** 83.89 332 P P 14 26 43.3 +0.3
baz=79
I28M **Miner Creek** 83.91 335 P P 14 26 43.4 +0.4
baz=78
E27K **Coleen River** 83.95 338 P P 14 26 43.1 0.0
baz=77,SNR=7.4
DAWY **Dawson** 83.97 334 IAmb IAmb 14 26 54.3
comp=Z,20nm,1.3s
DAWY **Dawson** 83.97 334 P P 14 26 43.3 0.0
baz=78
P29M **Windy Craggy** 84.08 329 P P 14 26 43.6 -0.3
baz=79
YUK6 **Outpost Mounta** 84.13 331 P P 14 26 43.8 -0.6
baz=79
VNA1 **Neumayer--Stat** 84.20 169 ⇓P P 14 26 45.6 +1.6
comp=Z,9.5nm,0.8s
G27K **Doyon Strip** 84.29 337 P P 14 26 45.3 +0.5
baz=76,SNR=5.7
O29M **Mount Kennedy** 84.36 330 P P 14 26 46.1 +0.6
baz=78
H27K **Steamboat Moun** 84.38 336 P P 14 26 46.0 +0.7
baz=76
VNA3 **Neumayer Olymp** 84.46 170 ⇓P P 14 26 46.5 +1.1
comp=Z,19nm,0.8s
I27K **Kandik River** 84.56 336 P P 14 26 45.9 -0.4
baz=76
VNA2 **Neumayer--Watz** 84.59 169 ⇓P P 14 26 47.1 +1.0
comp=Z,6.4nm,0.8s,baz=324,slow=5.0
PNL **Peninsula** 84.90 330 P P 14 26 48.5 +0.5
baz=78
YUK3 **Moose Creek** 84.94 332 P P 14 26 48.6 +0.2
baz=77
F26K **Sheenjek River** 85.00 338 P P 14 26 48.5 +0.1
baz=74
G26K **Porcupine Rive** 85.07 337 P P 14 26 49.7 +1.0
baz=74,SNR=7.2
K27K **Chicken** 85.13 334 P P 14 26 50.5 +1.4
baz=76
PINM **Pinnacle** 85.22 330 P P 14 26 50.3 +0.5
baz=77
I26K **Coal Creek Min** 85.26 336 P P 14 26 49.6 -0.1
baz=75
L27K **Beaver Creek,** 85.26 333 P P 14 26 50.3 +0.5
L27K **Beaver Creek,** 85.26 333 P P 14 26 49.5 -0.3
baz=76,SNR=5.9
D25K **Kavik River** 85.32 340 P P 14 26 50.2 +0.2
baz=72
E25K **Arctic Village** 85.40 339 P P 14 26 50.3 -0.1
baz=73
M27K **Edge Creek, AK** 85.46 333 P P 14 26 50.9 0.0
baz=76
CTG **Chitna Glacier** 85.55 331 P P 14 26 51.0 -0.3
baz=76
F25K **Christian Rive** 85.58 338 P P 14 26 51.7 +0.4
baz=73
J26L **Joseph Creek** 85.64 335 IAmb IAmb 14 27 03.3
comp=Z,16nm,1.1s
J26L **Joseph Creek** 85.64 335 P P 14 26 52.8 +1.0
baz=74,SNR=7.1
L26K **Log Cabin Wild** 85.94 333 IAmb IAmb 14 27 04.4
comp=Z,15nm,1.1s
L26K **Log Cabin Wild** 85.94 333 P P 14 26 54.3 +1.1
baz=74
M26K **Nabesna, AK** 85.95 333 P P 14 26 54.1 +0.8
baz=75
SCRK **Sand Creek** 85.96 334 IAmb IAmb 14 27 04.5
comp=Z,15nm,1.0s
SCRK **Sand Creek** 85.96 334 P P 14 26 54.3 +1.0
baz=74
C24K **Franklin Bluff** 85.97 341 P P 14 26 53.3 +0.2
baz=70
H25L **Birch Creek** 86.04 337 P P 14 26 54.4 +0.8
baz=72
SNAA **Sanae** 86.05 169 P P 14 26 54.1 +0.6
SNAA **Sanae** 86.05 169 ⇓P P 14 26 54.3 +0.8
comp=Z,100nm,0.7s
SNAA **Sanae** 86.05 169 P P 14 26 54.2 +0.8
comp=Z,4.8nm,0.8s,baz=309,slow=5.1,SNR=27
comp=Z,4.8nm,0.8s
PRP **Porcupine Dome** 86.15 336 P P 14 26 55.9 +1.6
baz=73,SNR=8.2
D24K **Happy Valley** 86.20 340 P P 14 26 55.2 +0.9
baz=70
MCARA **McCarthy VSAT** 86.23 332 P P 14 26 55.9 +1.3
baz=75
J25K **Salcha River,** 86.36 335 P P 14 26 55.2 0.0
baz=73,SNR=5.2
RIDG **Independent Ri** 86.39 334 P P 14 26 55.5 +0.1
baz=73
F24K **Squaw Lake** 86.42 338 P P 14 26 55.8 +0.3
baz=71
CRQE **Cirque** 86.43 331 P P 14 26 56.2 +0.4
baz=75
E24K **Your Creek** 86.45 339 P P 14 26 55.8 +0.1
baz=70
G24K **Hadweenzic Riv** 86.54 337 P P 14 26 56.1 +0.1
baz=71
C23K **Itkillik River** 86.55 341 P P 14 26 56.4 +0.5
baz=68
TOLK **Toolik Lake Re** 86.63 340 P P 14 26 57.6 +1.1
baz=69
K24K **Donnelly Dome** 86.77 334 P P 14 26 57.8 +0.6
baz=72
E23K **Chandalar** 86.86 339 P P 14 26 57.5 -0.2
baz=69
PAX **Paxson** 86.89 334 P P 14 26 58.4 +0.5
baz=73
D23K **Nanushuk River** 86.89 340 P P 14 26 58.1 +0.4
baz=68
N25K **Chitina, Valde** 86.89 332 P P 14 26 57.9 -0.1
baz=73
HARP **HAARP** 86.92 333 P P 14 26 58.3 +0.3
baz=73
ILAR **Eielson Array** 86.93 336 P P 14 26 58.6 +0.7
comp=Z,7.8nm,0.9s,baz=64,slow=4.0,SNR=45
comp=Z,7.8nm,0.9s
H24K **Noodor Dome** 86.98 337 IAmb IAmb 14 27 09.8
comp=Z,19nm,1.2s
H24K **Noodor Dome** 86.98 337 P P 14 26 58.9 +0.7
baz=71
HDA **Harding Lake** 87.07 335 P P 14 26 59.7 +1.1
baz=71
COLA **College** 87.29 336 P P 14 26 59.9 +0.2

COLA	College	87.29 336	P	P	14 26 59.8	+0.2
	baz=71					
COLD	Coldfoot	87.36 338	P	P	14 27 00.2	+0.2
	baz=69					
TROLL	Troll, Antarti	87.40 168	⇓P	P	14 27 01.4	+1.2
	comp=Z,287nm,1.1s					
G23K	Bananza Creek	87.49 338	P	P	14 27 01.2	+0.5
	baz=69					
WRH	Wood River Hil	87.52 335	P	P	14 27 01.7	+0.9
WRH			IAmb	IAmb	14 27 11.7	
	comp=Z,19nm,1.2s					
KLU	Klutina	87.53 332	P	P	14 27 01.1	0.0
	baz=72					
D22K	Ayikyak River	87.59 340	P	P	14 27 01.8	+0.7
	baz=66					
H23K	Yukon River	87.62 337	P	P	14 27 01.6	+0.2
	baz=69					
I23K	Minto, Yukon-K	87.79 336	P	P	14 27 02.5	+0.4
	baz=69					
NEA2	Nenana	87.87 336	P	P	14 27 02.9	+0.3
	baz=70					
B21K	Ikpikpuk River	87.91 341	P	P	14 27 03.2	+0.6
	baz=65					
G22K	Bettles	87.95 338	P	P	14 27 04.2	+1.3
	baz=67					
WAT6	Susitna Watana	88.00 334	P	P	14 27 03.7	+0.3
	baz=71					
C21K	Knifeblade Rid	88.17 341	P	P	14 27 03.7	-0.1
	baz=64					
E21K	Killik River	88.20 340	P	P	14 27 03.9	-0.2
	baz=65					
M23K	Glacier View	88.25 333	P	P	14 27 04.7	+0.3
	baz=71					
GLI	Glacier Island	88.27 332	P	P	14 27 04.2	-0.3
	baz=71					
H22K	Ishtalitna Cre	88.30 337	P	P	14 27 04.7	+0.2
	baz=68					
KNK	Knik Glacier	88.71 333	P	P	14 27 06.6	0.0
	baz=70					
G21K	Allakaket	88.84 338	P	P	14 27 08.1	+1.0
	baz=66					
PWL	Port Wells	88.85 332	P	P	14 27 07.9	+0.7
	baz=70					
H21K	Melozitna Rive	88.94 337	P	P	14 27 07.1	-0.4
	baz=66					
E20K	Nigu River	89.03 340	P	P	14 27 07.5	-0.4
	baz=63					
ABKAR	Akbulak array	89.30 40	P	P	14 27 10.5	+1.0
ABKAR			IAmb	IAmb	14 27 22.3	
	comp=Z,16nm,1.6s					
C19K	Lookout Ridge	89.71 342	P	P	14 27 11.4	+0.2
	baz=60					
E19K	Redstone River	89.75 340	P	P	14 27 10.3	-1.0
	baz=62					
H20K	Anotleneega Mo	89.79 338	P	P	14 27 11.2	-0.3
	baz=64					
ELIB	Princess Elisa	92.52 164	dP	P	14 27 25.8	+1.7
ELIB			dx	x	14 27 33.2	
NRIK	Noril'sk	92.72 16	LR	LR	15 05 21.4	
	comp=Z,2μm,21.7s,baz=114,slow=33					
BVAR	Borovoye Array	94.24 34	P	P	14 27 32.9	+0.5
	comp=Z,0.7nm,0.7s,baz=232,slow=7.1,SNR=3.4					
	comp=Z,0.7nm,0.7s					
KURBB	Kurchatov Arra	99.83 34	P	Pdif	14 27 58.4	+0.7
	comp=Z,0.3nm,0.6s,baz=300,slow=7.4,SNR=2.0					
KURBB			LR	LR	15 12 10.1	
	comp=Z,2μm,19.0s,baz=96,slow=35					
	comp=Z,0.3nm,0.6s					
WMQ	Urumqi	108.78 36	eP	Pdif	14 28 39.7	+1.9
WMQ			LR	LR		
	comp=N,860nm,15.7s					
WMQ			LR	LR		
	comp=E,820nm,17.9s					
WMQ			LR	LR		
	comp=Z,1μm,20.1s					
BTO	Baotou	122.55 26	ePKP	PKPdf	14 33 04.5	-4.8
BTO			sPKP		14 33 18.0	
BTO			PP	PP	14 34 43.9	-1.1
BTO			SKS	SKSac	14 40 03.4	-7.0
BTO			SKKS	SKKSac	14 41 42.5	-3.2
BTO	Baotou	122.55 26	SS	SS	14 51 26.4	+0.4
BTO			pmax	pmax		
	comp=Z,25nm,0.6s					
BTO			pmax	pmax		
	comp=Z,650nm,9.4s					
BTO			LR	LR		
	comp=N,2μm,18.7s					
BTO			LR	LR		
	comp=E,2μm,18.8s					
BTO			LR	LR		
	comp=Z,2μm,17.2s					
HHC	Hu-ho-hao-te	122.99 24	eP	PKPdf	14 33 06.1	-4.1
LZH	Lanzhou	123.12 33	ePKP	PKPdf	14 33 06.7	-3.9
CD2	Chengdu	126.83 38	PKP	PKPdf	14 33 17.3	-0.4
TNCH	TengChong	127.23 47	PKP	PKPdf	14 33 18.0	-0.8
TNCH			sPKP		14 33 27.2	
TNCH			PP	PP	14 35 46.2	+29
TNCH			SKS	SKSac	14 40 20.9	-5.0
TNCH	TengChong	127.23 47	SS	SS	14 52 21.4	-5.1
TNCH			AMB	AMB		
	comp=Z,500nm,10.5s					
TNCH			LR	LR		
	comp=N,750nm,19.0s					
TNCH			LR	LR		
	comp=E,710nm,23.2s					
TNCH			LR	LR		
	comp=Z,2μm,18.1s					
PZH	PanZhiHua	128.55 43	PKP	PKPdf	14 33 21.7	+0.5
ASAR	Alice Springs	166.31 162	PKPab	PKPab	14 35 19.4	-0.9
	comp=Z,0.9nm,0.9s,baz=200,slow=3.3,SNR=6.1					

*JMA **08** 14:29:45.8±0.2,28°N±3°×14°0E±°,h544km,MV3.1/6,W OFF OGASAWARA*
*IDC **08** 14:29:46.0±2.7,28°.00N×139°.69E,h523km±38km,mb2.9/5, mbtmp3.8/6,Error ellipse: s-maj=89.6km s-min=17.0km az=76.0*
*NEIC **08** 14:29:47.1±1.1,28°.1N±0°.1×139°.9E±0°.1,h532km±9km, mb4.2/10,Error ellipse: s-maj=19.9km s-min=12.5km az=47.0*
ISC 08 14:29:47.0±0.7,28°.1N±0°.1×139°.9E±0°.1,h550km,n27, σ1°34/27,mb3.9/9,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.24	115	P	P	14 30 56.5	-1.3
CBIJ				eS	S	14 31 52.3	-3.1
JCJ	Chichijima	2.24	115	P	P	14 30 57.0	-0.8
JHJ2	Mitsune	5.05	359	P	P	14 31 11.2	-5.8
JTNC	Tanabenakahech	6.83	328	P	P	14 31 31.6	-1.7
JMN	Monobe	7.67	319	P	P	14 31 40.1	-1.3
INU	Inuyama	7.68	342	P	P	14 31 38.8	-2.6
JHU	Hanno	7.80	356	P	P	14 31 41.4	-1.2
MJAR	Matsushiro Arr	8.59	351	P	P	14 31 48.8	-1.7
	2.2nm,0.8s,baz=161,slow=10,SNR=12						
MAJO	Matsushiro	8.59	351	P	P	14 31 48.9	-1.6
MJB9	Matsu-Tunnel	8.60	351	P	P	14 31 49.8	-0.7
JSD	Sado	10.06	353	P	P	14 32 04.3	-0.9
YOJ	Yonaguni jima	15.57	261	P	P	14 33 02.4	+0.1
NJ2	Nanjing	18.65	287	eP	P	14 33 30.1	-0.6
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
WR0	Warramunga Arr	48.01	187	P	P	14 37 37.2	+0.7
WR0				IAmb	IAmb	14 38 04.3	
	comp=Z,12nm,1.5s						
WB2	Warramunga Arr	48.01	187	P	P	14 37 37.2	+0.7
WB2				IAmb	IAmb	14 37 51.4	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	48.01	187	P	P	14 37 36.9	+0.3
	comp=Z,0.2nm,0.5s,baz=4.7,slow=7.7,SNR=7.3						
	comp=Z,0.2nm,0.5s						
KURBB	Kurchatov Arra	50.93	314	P	P	14 37 57.4	-0.2
	comp=Z,0.6nm,0.3s,baz=96,slow=10,SNR=6.6						
	comp=Z,0.6nm,0.3s						
ASAR	Alice Springs	51.74	187	P	P	14 38 04.1	+0.2
	comp=Z,0.2nm,0.8s,baz=3.1,slow=7.0,SNR=1.5						
	comp=Z,0.2nm,0.8s						
SVW2	Sparrevohn	53.59	33	P	P	14 38 17.6	+1.1
BVAR	Borovoye Array	55.97	317	P	P	14 38 34.1	+0.8
	comp=Z,1.4nm,0.5s,baz=88,slow=6.3,SNR=5.7						
	comp=Z,1.4nm,0.5s						
RND	Reindeer	56.93	31	P	P	14 38 41.6	+1.8
RND				IAmb	IAmb	14 38 50.8	
	comp=Z,17nm,1.4s						
KNK	Knik Glacier	57.04	33	P	P	14 38 41.2	+0.6
TOLK	Toolik Lake Re	57.10	24	P	P	14 38 41.3	+0.4
N25K	Chitina, Valde	58.89	33	P	P	14 38 54.0	+0.8
N25K				IAmb	IAmb	14 39 22.0	
	comp=Z,18nm,1.3s						
FINES	FINESS Array B	76.19	333	P	P	14 40 39.9	+1.2
FINES	FINESS Array B	76.19	333	P	P	14 40 39.7	+1.1
	comp=Z,6.0nm,1.2s,baz=72,slow=4.5,SNR=7.8						
	comp=Z,6.0nm,1.2s						
SNCC	San Nicolas Is	83.14	56	P	P	14 41 16.9	+1.1

*IDC **08** 14:49:32.9±6.0,22°.48N×94°.30E,h97km±48km,mb3.5/7, mbtmp3.7/8,Error ellipse: s-maj=145.0km s-min=16.6km az=59.0*
*NDI **08** 14:49:35.5±3.2,22°.86N×94°.15E,h10km,ML3.0*
ISC 08 14:49:33.1±0.9,22°.59N±0°.06×94°.27E±0°.07,h100km,n18, σ2°86/24,mb3.6/7,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIH	SAIHA	1.19	265	eP	Pn	14 49 55.6	-0.1
SAIH				eS	Sn	14 50 13.2	+0.3
SAIH				IAML		14 50 16.9	
	comp=E,323nm,0.3s						
AZL	Aizawl	1.85	308	eP	Pn	14 50 04.6	+0.8
AZL				eS	Sn	14 50 27.5	+0.3
AZL				IAML		14 50 29.9	
	comp=N,191nm,0.2s						
AZL				IAML		14 50 30.2	
	comp=E,206nm,0.2s						
IMP	Imphal	2.25	353	eP	Pn	14 50 12.0	+3.1
BELO	BELONIA	2.68	285	eS	Sn	14 50 48.1	+1.6
KOHI	KOHIMA	3.12	357	eP	Pn	14 50 22.2	+1.7
KOHI				eS	Sn	14 50 56.0	-1.1
KOHI				IAML		14 51 05.8	
	comp=E,37nm,0.4s						
MOKO	MOKOCHONG	3.72	3	eS	Sn	14 51 10.1	-1.4
TEZP	TEZPUR	4.22	342	eP	Pn	14 50 34.1	-1.1
TEZP				eS	Sn	14 51 18.4	-5.1
TEZP				IAML		14 51 20.4	
	comp=N,90nm,0.2s						
GUWA	GUWAHATI	4.29	327	eS	Sn	14 51 20.8	-4.2
ZIRO	ZIRO	4.93	356	eP	Pn	14 50 45.0	+0.1
ZIRO				eS	Sn	14 51 35.8	-5.0
DHUB	DHUBRI	5.18	312	eS	Sn	14 51 42.8	-3.8
CMAR	Chiang Mai Arr	6.01	132	P	Pn	14 50 58.0	-1.5
	comp=N,0.7nm,0.5s,baz=312,slow=14,SNR=4.7						
CMAR				S	Sn	14 51 59.3	-7.7
	comp=N,0.8nm,0.4s,baz=293,slow=18,SNR=5.0						
MKAR	Makanchi Array	26.01	341	P	P	14 54 58.0	+1.4
	comp=N,1.0nm,0.6s,baz=135,slow=12,SNR=9.4						
	comp=N,1.0nm,0.6s						
KURBB	Kurchatov Arra	30.56	340	P	P	14 55 38.2	+1.2
	comp=N,0.7nm,0.5s,baz=155,slow=8.1,SNR=5.0						
	comp=N,0.7nm,0.5s						
ZALV	Zalesovo Beam	32.12	349	P	P	14 55 51.7	+1.1
	comp=N,0.8nm,0.3s,baz=163,slow=8.2,SNR=5.6						
	comp=N,0.8nm,0.3s						
WRA	Warramunga Arr	57.60	134	P	P	14 59 12.3	-0.5
	comp=N,0.4nm,0.9s,baz=324,slow=7.3,SNR=4.6						
	comp=N,0.4nm,0.9s						
ASAR	Alice Springs	59.99	138	P	P	14 59 28.9	-0.5
	comp=N,0.2nm,0.7s,baz=319,slow=6.7,SNR=5.1						
	comp=N,0.2nm,0.7s						
ARCES	ARCESS Array B	61.62	338	P	P	14 59 40.6	+0.9
	comp=N,2.2nm,0.9s,baz=86,slow=6.7,SNR=1.8						
	comp=N,2.2nm,0.9s						
EKA	Eskdalemuir Ar	75.80	324	P	P	15 01 08.9	+0.9
	comp=N,1.6nm,0.9s,baz=83,slow=5.9,SNR=3.7						
	comp=N,1.6nm,0.9s						

*IDC **08** 14:54:25.6±1.6,35°.97N×140°.15E,h70km±14km,mb3.7/11, mbtmp4.0/15,Error ellipse: s-maj=19.3km s-min=7.8km az=66.0*
*NEIC **08** 14:54:25.5±1.4,36°.00N±0°.04×140°.29E±0°.07,h71km±8km, mb4.6/23,Error ellipse: s-maj=9.2km s-min=3.7km az=63.0*
*JMA **08** 14:54:26.9±0.1,36°.0N±0°.4×140°.1E±0°.6,h61km±1km, MV3.6/34,SOUTHERN IBARAKI PREF*
JMA Felt I J1 at SOUTHERN IBARAKI PREF .
ISC 08 14:54:25.6±0.7,36°.05N±0°.04×140°.16E±0°.05,h73km±6km, n77,σ1°12/87,mb4.4/24,10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	Yasato	0.18	8	i P	Pn	14 54 36.5	+0.1
JYT				S	Sn	14 54 43.7	-0.7
JIHU	Itakohorinouch	0.30	105	i P	Pn	14 54 37.9	+0.9
JIHU				eS	Sn	14 54 46.0	+0.5
TOK	Tokyo	0.49	223	P	Pn	14 54 39.7	+1.2
TOK				eS	Sn	14 54 49.4	+1.4
JAG	Ashikaga	0.69	303	⇓i P	Pn	14 54 40.8	+0.2
JAG				⇓S	Sn	14 54 51.0	-0.7
JRY	Ryogami san	1.02	269	⇓i P	Pn	14 54 44.6	0.0
JRY				⇓eS	Sn	14 54 57.6	-1.0
JKT	Katashina	1.03	314	⇓P	Pn	14 54 44.9	+0.2
JKT				⇓S	Sn	14 54 59.0	+0.1
JOD2	Odawara 2	1.18	229	⇓i P	Pn	14 54 46.1	-0.4
JOD2				⇓S	Sn	14 54 59.8	-2.3
BSO3	Boso 3	1.27	167	P	Pn	14 54 47.5	0.0
JYN	Shimob	1.43	248	⇓i P	Pn	14 54 50.0	+0.3
JYN				⇓S	Sn	14 55 07.1	-0.8
MJAR	Matsushiro Arr	1.66	288	P	Pn	14 54 52.2	-0.4
	148nm,0.4s,baz=149,slow=12,SNR=1293						
MJAR				S	Sn	14 55 13.0	-0.2
	74nm,0.5s,baz=135,slow=15,SNR=5.0						
MAJO	Matsushiro	1.66	288		Pn	14 54 53.5	+0.8
MAJO	Matsushiro	1.66	288	P	Pn	14 54 53.8	+1.1
MJB9	Matsu-Tunnel	1.66	288		Pn	14 54 54.3	+1.5
JMM	Marumori	1.88	15		Pn	14 54 57.0	+1.3
JMM	Marumori	1.88	15	P	Pn	14 54 57.3	+1.6
JSG	Sagara	2.12	230		Pn	14 54 59.7	+0.9
JSG	Sagara	2.12	230	P	Pn	14 55 00.1	+1.2
JSD	Sado	2.50	323		Pn	14 55 04.3	+0.3
JSD	Sado	2.50	323	P	Pn	14 55 05.0	+1.0
INU	Inuyama	2.65	256		Pn	14 55 06.5	+0.4
INU	Inuyama	2.65	256	P	Pn	14 55 06.8	+0.7
JHJ	Hachijo jima 2	2.94	186	P	Pn	14 55 09.4	-0.6
	92nm,0.3s,baz=327,slow=19,SNR=19						
JHJ				S	Sn	14 55 42.6	-1.5
	164nm,0.3s,baz=126,slow=22,SNR=9.6						
JHJ2	Mitsune	2.94	186	Pn	Pn	14 55 09.1	-0.9
JHJ2	Mitsune	2.94	186	P	Pn	14 55 12.0	+2.0
JTM	Tenmabayashi	4.79	8	P	Pn	14 55 38.4	+3.3
JMN	Monobe	5.66	248	Pn	Pn	14 55 47.6	+0.5
JMN	Monobe	5.66	248	P	Pn	14 55 47.8	+0.7
ERM	Erimo	6.40	20	Pn	Pn	14 55 56.4	-0.7
ERM	Erimo	6.40	20	P	Pn	14 55 58.6	+1.5
JNU	Nakatsue	8.19	252	Pn	Pn	14 56 23.0	+1.2
JNU	Nakatsue	8.19	252	P	Pn	14 56 23.1	+1.4
JNU	Nakatsue	8.19	252	P	Pn	14 56 21.0	-0.8
	7.3nm,0.9s,baz=53,slow=5.1,SNR=9.1						
ASAJ	Asahikawa	8.27	12	P	Pn	14 56 22.7	0.0
	1.2nm,0.3s,baz=198,slow=7.2,SNR=8.1						
ASAJ				S	Sn	14 57 51.7	-2.8
	5.5nm,1.0s,baz=288,slow=19,SNR=2.4						
JKA	Kamikawa-asahi	8.27	12	Pn	Pn	14 56 22.3	-0.4
JCJ	Chichijima	9.09	169	P	Pn	14 56 27.1	-6.9
	53nm,0.8s,baz=287,slow=19,SNR=1.5						
JCJ				S	Sn	14 58 01.4	-13
	32nm,0.6s,baz=270,slow=19,SNR=1.0						
KSRS	Korea Array	9.92	282	P	Pn	14 56 49.0	+3.7
	1.1nm,0.4s,baz=95,slow=14,SNR=14						
USRK	Ussuriysk Ar.	10.27	325	P	Pn	14 56 51.3	+1.4
	4.4nm,1.0s,baz=144,slow=7.3,SNR=1.8						
TPUB	Ta-pu	21.15	238	P	P	14 59 02.9	-1.8
TPUB				IAmb	IAmb	14 59 12.5	
	comp=Z,88nm,1.4s						
TWG	Pinlang	21.17	237	P	P	14 59 04.6	-0.3
TWG				IAmb	IAmb	14 59 46.5	
	comp=Z,42nm,1.1s						
ZAA0	Zalesovo Array	41.84	313	P	P	15 02 09.0	+1.0
ZALV	Zalesovo Beam	41.84	313	P	P	15 02 08.9	+0.9
ZALV	Zalesovo Beam	41.84	313	P	P	15 02 08.4	+0.4
	comp=Z,2.4nm,0.7s,baz=110,slow=8.1,SNR=11						
	comp=Z,2.4nm,0.7s						
MK31	Makanchi Array	43.80	303	P	P	15 02 24.6	+0.6
MKAR	Makanchi Array	43.80	303	P	P	15 02 24.6	+0.5
MKAR	Makanchi Array	43.80	303	P	P	15 02 24.3	+0.3
	comp=Z,2.6nm,0.7s,baz=88,slow=10,SNR=17						
	comp=Z,2.6nm,0.7s						
MAKZ	Makanchi	44.01	303	P	P	15 02 26.6	+0.9
MAKZ				IAmb	IAmb	15 02 27.5	
	comp=Z,4.9nm,0.9s						
KURK	Kurchatov	45.76	309	P	P	15 02 39.9	+0.5
KURK				IAmb	IAmb	15 02 41.9	
	comp=Z,9.2nm,0.9s						
KURBB	Kurchatov Arra	45.82	309	P	P	15 02 40.6	+0.6
	comp=Z,4.4nm,0.7s,baz=85,slow=8.2,SNR=35						
	comp=Z,4.4nm,0.7s						
J20K	Nowinta River	47.72	33	P	P	15 02 55.0	+0.4
J20K				IAmb	IAmb	15 03 22.5	
	comp=Z,5.6nm,1.3s						
MTN	Manton Dam	49.37	192	P	P	15 03 08.1	+0.3
BVAR	Borovoye Array	50.50	313	P	P	15 03 17.2	+1.2
	comp=Z,1.4nm,0.5s,baz=81,slow=8.1,SNR=7.2						
	comp=Z,1.4nm,0.5s						
ILAR	Eielson Array	50.86	32	P	P	15 03 19.0	+0.5
ILAR	Eielson Array	50.86	32	P	P	15 03 19.9	+1.4
	comp=Z,1.0nm,0.8s,baz=269,slow=6.1,SNR=13						
	comp=Z,1.0nm,0.8s						
GSI	Gunungsitoli	52.43	239	P	P	15 03 30.6	-0.3
KNRA	Kununurra	52.56	194	P	P	15 03 32.3	+0.6
KNRA				IAmb	IAmb	15 03 38.0	
	comp=Z,13nm,1.2s						
BERG	Berg Lake	52.77	37	P	P	15 03 32.5	-0.3
BCAR	Beaver Creek A	53.27	34	P	P	15 03 36.6	0.0
DAWY	Dawson	54.17	32	P	P	15 03 41.8	-1.2
DAWY				IAmb	IAmb	15 04 00.7	
	comp=Z,7.7nm,1.5s						
WB0	Warramunga Arr	55.78	187	P	P	15 03 55.0	0.0
WB0				IAmb	IAmb	15 04 32.0	
	comp=Z,4.4nm,1.1s						
WRAB	Tennant Creek	55.95	187	P	P	15 03 56.0	-0.2
WRAB				IAmb	IAmb	15 04 31.7	
	comp=Z,11nm,1.5s						
WB2	Warramunga Arr	55.95	187	P	P	15 03 56.2	-0.1
WB2				IAmb	IAmb	15 03 57.9	
	comp=Z,13nm,1.5s						
WR0	Warramunga Arr	55.95	186	P	P	15 03 56.2	-0.1
WR0				IAmb	IAmb	15 04 14.0	
	comp=Z,7.0nm,1.3s						
WRA	Warramunga Arr	55.96	187	P	P	15 03 55.9	-0.4
WRA	Warramunga Arr	55.96	187	P	P	15 03 56.2	-0.1
	comp=Z,1.0nm,0.4s,baz=2.6,slow=7.5,SNR=27						
	comp=Z,1.0nm,0.4s						
ARU	Arti	56.44	319	P	P	15 04 00.8	+1.4
ARU				IAmb	IAmb	15 04 00.9	
	comp=Z,2.5nm,0.7s						
ABKAR	Akbulak array	57.81	310	P	P	15 04 08.7	-0.5
AS31	Alice Springs	59.68	187	P	P	15 04 21.2	-1.1
ASAR	Alice Springs	59.68	187	P	P	15 04 20.8	-1.6
ASAR	Alice Springs	59.68	187	P	P	15 04 22.6	+0.2
	comp=Z,0.4nm,0.6s,baz=19,slow=12,SNR=13						
	comp=Z,0.4nm,0.6s						
MBWA	Marble Bar	60.09	202	P	P	15 04 23.5	-1.7
PSA00	Pilbara Seismi	60.45	202	P	P	15 04 27.2	-0.4
PSA00				IAmb	IAmb	15 05 09.6	
	comp=Z,4.4nm,1.2s						
FINES	FINESS Array B	69.21	332	P	P	15 05 24.8	+0.7
	comp=Z,1.9nm,0.8s,baz=63,slow=6.4,SNR=3.6						
	comp=Z,1.9nm,0.8s						
K04D	Chiloquin, OR	71.87	50	P	P	15 05 38.8	-2.0
AKASG	Malin Array Be	74.46	322	P	P	15 05 55.5	-0.2
	comp=Z,0.6nm,0.5s,baz=47,slow=6.3,SNR=4.7						
	comp=Z,0.6nm,0.5s						
NB2	NORSAR Subarra	74.70	337	P	P	15 05 57.8	+0.8
	comp=Z,0.7nm,0.7s,baz=41,slow=6.2						
NOA	NORSAR Array B	74.70	337	P	P	15 05 57.8	+0.8
	comp=Z,0.9nm,0.7s,baz=40,slow=5.8,SNR=5.7						
	comp=Z,0.9nm,0.7s						
TXAR	Lajitas Array	91.52	52	P	P	15 07 25.1	+0.7
	comp=Z,0.2nm,0.5s,baz=323,slow=3.9,SNR=3.4						
	comp=Z,0.2nm,0.5s						

*NEIC **08** 15:06:07.8±0.8,42°.596N±0°.010×111°.45W±0°.02, h6km±1km,ML3.2/50,ML3.3/14(UUSS),Error ellipse: s-maj=1.7km s-min=1.4km az=63.0*
*UUSS **08** 15:06:08.2±0.5,42°.59N±0°.01×111°.45W±0°.01,h4km±2km, Error ellipse: s-maj=1.6km s-min=1.4km az=145.0*
*ANF **08** 15:06:09.3±0.5,42°.58N×111°.41W,h5km,ML3.4/12,Error ellipse: s-maj=6.8km s-min=5.7km az=118.0*
ISC 08 15:06:07.6±0.9,42°.61N±0°.02×111°.50W±0°.02,h4km±6km, n62,σ1°84/74,Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ID06	Fossil Canyon	0.04	125		Pg	15 06 08.9	0.0
ID05	Sulphur Canyon	0.04	39		Pg	15 06 09.6	+0.7
ID05				Sg	Sg	15 06 10.6	+0.7
AHID	Auburn Hatcher	0.33	62		Pg	15 06 14.6	+0.5
AHID				IAML		15 06 21.7	
	10μm,0.8s						
GRRI	Grays Lake	0.33	9		Pg	15 06 15.3	+1.1
ID09	Alton	0.43	148		Pg	15 06 15.7	-0.2
ID09					Sg	15 06 20.7	-0.8
ID09				IAML		15 06 22.6	
	2μm,0.5s						
ID07	Smith Canyon R	0.44	261		Pg	15 06 17.3	+1.2
ID07					Sg	15 06 23.9	+2.1
ID07	Smith Canyon R	0.44	261	IAML		15 06 25.8	
	3μm,0.6s						
ID07				IAML		15 06 26.0	
	2μm,0.5s						
ECR	Eagle Creek	0.46	12		Pg	15 06 17.6	+1.2
ID10	Lander Cutoff	0.46	101		Pg	15 06 16.4	0.0
ID10					Sg	15 06 22.7	+0.3
ID10	Lander Cutoff	0.46	101	IAML		15 06 24.7	
	2μm,0.7s						
ID10				IAML		15 06 24.8	
	2μm,0.7s						
BEI	Bear River Ran	0.54	203		Pg	15 06 18.5	+0.6
BMUT	Black Mountain	0.68	163		Pg	15 06 20.2	-0.4
L17A	Cokeville	0.69	137		Pg	15 06 20.5	-0.3
MLI	Malad Range	0.74	219		Pg	15 06 22.8	+0.9
HDU	Hyde Park	0.83	194		Pg	15 06 23.6	+0.1
NPI	North Pocatell	0.89	239		Pg	15 06 25.5	+0.9
REDW	Red Top Meadow	0.89	32		Pg	15 06 24.8	+0.1
TPAW	Teton Pass	0.97	24		Pg	15 06 26.4	+0.2
TPAW				Sg	Sg	15 06 38.3	-0.5
TPAW				IAML		15 06 44.0	
	470nm,0.5s						
TPAW				IAML		15 06 46.1	
	786nm,0.6s						
RSUT	Red Spur Mount	0.97	176		Pg	15 06 26.4	+0.2
HWUT	Hardware Ranch	1.00	183		Pg	15 06 26.2	-0.6
SNOW	Snow King Moun	1.01	32		Pg	15 06 26.9	-0.1
SNOW				IAML		15 06 47.3	
	748nm,0.8s						
SNOW				IAML		15 06 49.8	
	640nm,0.6s						
FXWY	Fox Creek	1.08	18		Pg	15 06 28.5	+0.1
FXWY				Sg	Sg	15 06 42.5	0.0
FXWY				IAML		15 06

comp=E,283nm,1.3s
H17A Grant Village 1.91 20 Pn **Pn 15 06 41.0 -0.2**
H17A Grant Village 1.91 20 P **Pb 15 06 42.7 -0.5**
baz=200,SNR=40
H17A Sb **Sg 15 07 09.9 +1.0**
baz=200
BGU Big Grassy Mou 2.04 215 **Pn 15 06 42.8 0.0**
BGU IAML 15 07 20.6
comp=E,133nm,0.7s
BSUT Blindstream Ca 2.14 165 Pn **Pn 15 06 43.3 -1.2**
BSUT IAML 15 07 16.8
comp=E,430nm,0.7s
BSUT IAML 15 07 17.0
comp=N,170nm,0.5s
YHH Holmes Hill 2.23 12 **Pn 15 06 44.7 -1.0**
HLID Hailey 2.34 295 P **Pn 15 06 49.1 +2.0**
baz=113,SNR=266
HLID S **Sb 15 07 20.3 +0.5**
baz=113
MPU Maple Canyon 2.59 182 **Pn 15 06 49.4 -1.1**
DUG Dugway, Tooele 2.61 203 **Pn 15 06 50.0 -0.7**
DUG IAML 15 07 45.5
comp=N,79nm,1.2s
DUG IAML 15 07 48.3
comp=N,104nm,1.1s
DUG Dugway, Tooele 2.61 203 P **Pn 15 06 51.3 +0.6**
baz=23,SNR=25
DUG S **Sb 15 07 25.3 -2.1**
baz=23
RLMT Red Lodge 2.99 32 P **Pb 15 06 58.8 -2.7**
baz=213
RLMT Sb **Sg 15 07 41.2 -2.3**
baz=213
BOZ Bozeman (W) 2.99 358 P **Pb 15 07 00.2 -1.3**
baz=177,SNR=57
BOZ Sb **Sb 15 07 40.8 +2.3**
baz=177
O20A White River Ci 3.48 134 P **Pn 15 07 05.2 +2.5**
baz=317,SNR=11
O20A Sb **Sg 15 07 55.4 -4.0**
baz=317
K22A Casper 3.67 88 P **Pn 15 07 07.9 +2.6**
baz=271,SNR=23
MVU Marysvale 4.14 188 **Pn 15 07 10.4 -1.4**
N23A Red Feather La 4.49 111 P **Pn 15 07 19.0 +2.2**
baz=294,SNR=26
N23A Sb **Sb 15 08 25.6 +3.7**
baz=294
MSO Missoula 4.56 338 Sb **Sg 15 08 30.5 -3.7**
baz=156
BMO Blue Mountains 4.77 300 Pn **Pn 15 07 21.2 +0.8**
BMO IAML 15 08 47.3
comp=N,23nm,1.6s
SMCO Snowmass 4.85 133 Pn **Pn 15 07 20.5 -1.2**
ISCO Idaho Springs 5.25 120 Sb **Sb 15 08 47.6 +4.0**
baz=304
R11B Troy Canyon, C 5.27 218 Pn **Pn 15 07 26.8 -0.6**
R11B IAML 15 08 58.8
comp=N,9.0nm,1.7s
R11B IAML 15 09 00.7
comp=E,12nm,2.4s
R11B Troy Canyon, C 5.27 218 P **Pn 15 07 31.2 +3.8**
baz=35
LAO LASA Array 5.55 41 Sb **Sb 15 08 55.5 +3.5**
baz=224
RSSD Black Hills 5.64 72 Pn **Pn 15 07 30.6 -1.9**
RSSD Black Hills 5.64 72 Sb **Sb 15 08 57.6 +2.7**
baz=257
S22A 4UR Ranch, Cre 6.03 142 Sg **Sg 15 09 24.9 +3.7**
baz=325
KVN Kaiserville 6.14 237 Pn **Pn 15 07 38.7 -0.6**
NEW Newport 6.90 327 Sb **Sg 15 09 41.9 -7.2**
baz=143

*IDC **08** 15:09:18.1±1.5, 42.°68N×111.°62W, h0km, mbtmp2.8/3, ML2.7/2, Error ellipse: s-maj=29.6km s-min=5.3km az=162.0*
*NEIC **08** 15:09:19.4±0.5, 42.°59N±0.°01×111.°45W±0.°01, h6km±1km, ML3.0/52, ML3.1/14(UUSS), Error ellipse: s-maj=2.0km s-min=1.4km az=198.0*
*UUSS **08** 15:09:19.8±0.5, 42.°59N±0.°01×111.°44W±0.°02, h4km, Error ellipse: s-maj=1.9km s-min=1.6km az=197.0*
ISC 08 15:09:19.2±0.9, 42.°60N±0.°02×111.°47W±0.°03, h4km±6km, n52, σ0§62/52, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ID06	**Fossil Canyon**	**0.02**	**130**		**Pg**	**15 09 20.3**	**0.0**
ID06				Sg	**Sg**	**15 09 20.9**	**-0.2**
ID05	**Sulphur Canyon**	**0.05**	**14**	Pg	**Pg**	**15 09 21.1**	**+0.5**
ID05				IAML		15 09 22.9	
24μm,0.3s							
AHID	**Auburn Hatcher**	**0.32**	**59**		**Pg**	**15 09 26.2**	**+0.7**
AHID	**Auburn Hatcher**	**0.32**	**59**	IAML		15 09 31.2	
17μm,0.3s							
AHID				IAML		15 09 33.1	
7μm,0.6s							
GRRI	**Grays Lake**	**0.34**	**6**		**Pg**	**15 09 26.8**	**+0.9**
ID09	**Alton**	**0.41**	**150**		**Pg**	**15 09 27.2**	**0.0**
ID09	**Alton**	**0.41**	**150**		**Sg**	**15 09 32.3**	**-0.3**
ID09				IAML		15 09 34.0	
3μm,0.4s							
ID09				IAML		15 09 34.1	
2μm,0.3s							
ID10	**Lander Cutoff**	**0.44**	**100**		**Pg**	**15 09 27.9**	**+0.2**
ID10	**Lander Cutoff**	**0.44**	**100**	IAML		15 09 34.4	
3μm,0.3s							
ID10				IAML		15 09 34.5	
2μm,0.6s							
ID07	**Smith Canyon R**	**0.45**	**262**		**Pg**	**15 09 28.4**	**+0.4**
ID07					**Sg**	**15 09 34.6**	**+0.8**
ID07				IAML		15 09 36.3	
838nm,0.4s							
ID07				IAML		15 09 37.3	
1μm,0.6s							
ECR	**Eagle Creek**	**0.46**	**9**		**Pg**	**15 09 29.0**	**+0.9**
BEI	**Bear River Ran**	**0.53**	**205**		**Pg**	**15 09 30.1**	**+0.6**
L17A	**Cokeville**	**0.67**	**138**		**Pg**	**15 09 32.3**	**+0.3**
MLI	**Malad Range**	**0.75**	**220**		**Pg**	**15 09 34.4**	**+0.8**
HDU	**Hyde Park**	**0.82**	**195**		**Pg**	**15 09 35.1**	**+0.2**
REDW	**Red Top Meadow**	**0.89**	**31**		**Pg**	**15 09 36.4**	**+0.1**
NPI	**North Pocatell**	**0.90**	**240**		**Pg**	**15 09 37.0**	**+0.6**
RSUT	**Red Spur Mount**	**0.96**	**177**		**Pg**	**15 09 38.0**	**+0.4**
TPAW	**Teton Pass**	**0.97**	**23**		**Pg**	**15 09 38.0**	**+0.2**
TPAW				IAML		15 09 54.3	
455nm,0.3s							
TPAW				IAML		15 09 55.8	
291nm,0.4s							
HWUT	**Hardware Ranch**	**0.99**	**184**		**Pg**	**15 09 38.0**	**-0.3**
SNOW	**Snow King Moun**	**1.01**	**31**		**Pg**	**15 09 38.6**	**0.0**
SNOW				IAML		15 09 57.2	
359nm,0.6s							
SNOW				IAML		15 09 58.8	
402nm,0.8s							
FXWY	**Fox Creek**	**1.09**	**17**		**Pg**	**15 09 40.1**	**+0.1**
FXWY				IAML		15 09 58.9	
223nm,0.5s							
MCU	**Monte Cristo P**	**1.14**	**181**		**Pg**	**15 09 40.8**	**-0.2**
LTU	**Little Mountai**	**1.16**	**210**		**Pg**	**15 09 41.5**	**+0.1**
LOHW	**Long Hollow**	**1.20**	**32**		**Pg**	**15 09 42.0**	**-0.2**
LOHW				IAML		15 10 02.0	
408nm,0.6s							
LOHW				IAML		15 10 02.1	
217nm,0.6s							
HVU	**Hansel Valley**	**1.27**	**230**		**Pg**	**15 09 43.2**	**-0.3**
MOOW	**Moose Ponds**	**1.27**	**25**		**Pg**	**15 09 43.1**	**-0.4**
IMW	**Indian Meadow**	**1.35**	**17**		**Pg**	**15 09 44.5**	**-0.7**
EPU	**East Promontor**	**1.39**	**210**		**Pn**	**15 09 45.3**	**-0.2**
BW06	**Boulder Array**	**1.42**	**83**		**Pn**	**15 09 45.2**	**-0.8**
BW06				IAML		15 10 09.4	
179nm,0.9s							
PD31	**Pinedale Array**	**1.42**	**83**		**Pn**	**15 09 45.4**	**-0.6**
PDAR	**Pinedale Array**	**1.42**	**83**	Pg	**Pb**	**15 09 46.4**	**0.0**
13nm,0.3s,baz=256,slow=12,SNR=22							
PDAR				Lg	Lg	15 10 07.1	
24nm,0.3s,baz=259,slow=24,SNR=20							
FLWY	**Flagg Ranch**	**1.59**	**21**		**Pn**	**15 09 47.8**	**-0.4**
FLWY				IAML		15 10 14.4	
174nm,0.8s							
FLWY				IAML		15 10 30.8	
140nm,1.2s							
MCID	**Moose Creek**	**1.60**	**7**		**Pn**	**15 09 49.2**	**+0.7**
NAIU	**Northern Antel**	**1.68**	**200**		**Pn**	**15 09 50.1**	**+0.6**
BGU	**Big Grassy Mou**	**2.04**	**215**		**Pn**	**15 09 54.0**	**-0.4**
BGU				IAML		15 10 23.7	
comp=N,76nm,0.7s							
BGU				IAML		15 10 31.5	
comp=E,106nm,0.8s							
YNR	**Norris Junctio**	**2.19**	**15**	Pn	**Pn**	**15 09 55.8**	**-0.8**
YHL	**Hebgen Lake**	**2.26**	**5**	Pn	**Pn**	**15 09 57.0**	**-0.6**
YHL				IAML		15 10 36.0	
comp=E,80nm,0.6s							
YMP	**Mirror Lake Pl**	**2.34**	**24**	Pn	**Pn**	**15 09 58.2**	**-0.5**
DUG	**Dugway, Tooele**	**2.60**	**203**		**Pn**	**15 10 02.1**	**0.0**
DUG				IAML		15 10 45.8	
comp=E,49nm,0.7s							
DUG				IAML		15 11 00.3	
comp=E,70nm,1.4s							
NLU	**North Lily Min**	**2.68**	**190**		**Pn**	**15 10 02.8**	**-0.5**
RWWY	**Rawlins**	**3.30**	**105**		**Pn**	**15 10 11.6**	**-0.2**
ELK	**Elko**	**3.37**	**238**	Pn	**Pn**	**15 10 12.8**	**0.0**
comp=E,0.2nm,0.3s,baz=37,slow=14,SNR=1.1							
ELK				Pg	**Pb**	**15 10 17.7**	**-1.9**
comp=E,0.5nm,0.3s,baz=40,slow=15,SNR=2.5							
ELK				Lg	Lg	15 11 04.2	
comp=E,2.8nm,0.3s,baz=186,slow=19,SNR=3.4							
comp=E,0.6nm,0.3s							
ELMT	**Elliston**	**3.99**	**350**	Pn	**Pn**	**15 10 20.4**	**-0.9**
MSU	**Marysvale**	**4.12**	**188**	Pn	**Pn**	**15 10 22.6**	**-0.4**
PSUT	**Pine Spring**	**4.45**	**205**	Pn	**Pn**	**15 10 27.1**	**-0.4**
PSUT				IAML		15 11 52.5	
comp=N,10nm,1.7s							
PSUT				IAML		15 12 03.6	
comp=E,11nm,1.5s							
PHWY	**Pilot Hill**	**4.67**	**104**	Pn	**Pn**	**15 10 30.4**	**-0.3**
BMO	**Blue Mountains**	**4.79**	**300**	Pn	**Pn**	**15 10 32.0**	**-0.2**
BMO				IAML		15 11 58.9	
comp=E,17nm,2.2s							
BMO				IAML		15 13 32.4	
comp=E,11nm,2.4s							
NVAR	**Mina Array Bea**	**6.66**	**234**	Pn	**Pn**	**15 10 57.9**	**-0.1**
comp=E,0.2nm,0.5s,baz=40,slow=15,SNR=1.0							
NVAR				Sn	**Sn**	**15 12 13.8**	**-0.6**
comp=E,0.1nm,0.3s,baz=51,slow=16,SNR=1.6							
NVAR				Lg	Lg	15 12 47.9	
comp=E,0.2nm,0.3s,baz=56,slow=40,SNR=1.8							
NEW	**Newport**	**6.92**	**327**	Lg	Lg	15 12 50.4	
comp=E,0.2nm,0.3s,baz=57,slow=18,SNR=1.4							
ANMO	**Albuquerque**	**8.59**	**151**	Lg	Lg	15 13 54.9	
comp=E,0.1nm,0.3s,baz=188,slow=14,SNR=4.2							
TXAR	**Lajitas Array**	**14.66**	**152**	Pn	**Pn**	**15 12 49.2**	**+1.9**
baz=339,slow=14,SNR=4.1							
comp=E,0.5nm,0.9s							

*KRNET **08** 15:59:06.6±0.1, 39.°95N×70.°37E, h11km, mb3.0*
*ISU **08** 15:59:11.1, 40.°08N×70.°25E, h24km*
*NNC **08** 15:59:12.9±3.0, 40.°21N×70.°42E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=24.4km s-min=14.7km az=7.0*
ISC 08 15:59:08.6±1.0, 39.°96N±0.°04×70.°40E±0.°03, h10km, n30, σ1§79/50, 20C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.33**	**72**	⇑*i*P	**Pg**	**15 59 13.9**	**-1.4**
BTK				⇑*i*S	**Sg**	**15 59 19.1**	**-0.7**
baz=72							
MINT	**Mingtut**	**0.67**	**40**	P	**Pg**	**15 59 21.0**	**-0.6**
MINT				S	**Sb**	**15 59 30.7**	**-1.1**
CHMI	**Chimion**	**0.91**	**70**	P	**Pg**	**15 59 25.9**	**-0.3**
CHMI				P	**Pg**	**15 59 25.9**	**-0.3**
CHMI				S	**Sn**	**15 59 40.6**	**-0.2**
CHMI				S	**Sn**	**15 59 40.6**	**-0.2**
FRG	**Fergana**	**1.14**	**68**	P	**Pb**	**15 59 29.4**	**-1.0**
FRG				S	**Sn**	**15 59 46.6**	**+0.3**
KSNS	**Kasansay**	**1.47**	**35**	S	**Sg**	**15 59 56.0**	**0.0**
YBZ	**Yangibazar**	**1.48**	**335**	P	**Sg**	**15 59 56.7**	**+0.4**
KUMR	**Kumaryk**	**1.55**	**326**	P	**Sg**	**16 00 00.0**	**+1.6**
TAS	**Tashkent**	**1.61**	**329**	P	**Sg**	**16 00 02.2**	**+1.9**
TGS	**TashGRES**	**1.61**	**336**	P	**Sg**	**16 00 00.8**	**+0.4**
CHMG	**Chimgan**	**1.62**	**349**	S	**Sg**	**15 59 59.9**	**-0.8**
TRKS	**Terek-Say**	**1.67**	**19**	⇓*i*P	**Pn**	**15 59 37.2**	**-0.8**
TRKS				⇓*i*S	**Sb**	**15 59 59.9**	**-0.8**
baz=22							
ANR	**Andizhan**	**1.69**	**61**	S	**Sg**	**16 00 04.8**	**+1.7**
TSTA	**Tashata**	**1.70**	**68**	P	**Pb**	**15 59 39.8**	**-0.2**
TSTA				S	**Sg**	**16 00 04.1**	**+0.7**
OHH	**Osh**	**1.91**	**72**	⇑*i*P	**Pb**	**15 59 42.9**	**-0.6**
OHH				⇑*i*S	**Sg**	**16 00 09.1**	**-0.8**
baz=72							
DZI	**Dzhizak**	**1.99**	**275**	P	**Pn**	**15 59 43.6**	**+1.3**
DZI				S	**Sb**	**16 00 08.9**	**-0.7**
ARK	**Arkit**	**2.19**	**32**	⇑*i*P	**Pb**	**15 59 46.8**	**-1.5**
ARK				⇑*i*S	**Sb**	**16 00 16.1**	**+0.6**
baz=33							
ARK	**Arkit**	**2.19**	**32**	P	**Pb**	**15 59 46.8**	**-1.5**
ARK				S	**Sg**	**16 00 16.3**	**-2.6**
SFK	**Sufi-Kurgan**	**2.38**	**88**	⇑*i*P	**Pn**	**15 59 49.6**	**+1.7**
SFK				⇑*i*S	**Sb**	**16 00 20.7**	**-0.5**
baz=87							
AGL	**Agalyk**	**2.75**	**262**	S	**Sg**	**16 00 34.8**	**-2.2**
MNAS	**Manas**	**2.98**	**31**	⇑*i*P	**Pn**	**15 59 57.8**	**+1.7**
MNAS				⇑*i*S	**Sb**	**16 00 35.2**	**-3.3**
baz=32							
KK31	**Karatay Array**	**3.15**	**1**	Pg	**Pb**	**16 00 05.0**	**+0.4**
1.0nm,0.3s,baz=187,slow=17,SNR=44							
KK31				Lg	Lg	16 00 46.7	
7.2nm,0.6s,baz=179,slow=29,SNR=13							
KKAR	**Karatay Array**	**3.15**	**1**	⇑*i*P	**Pn**	**16 00 00.1**	**+1.9**
baz=2.0							
KKAR				⇑*i*S	**Sb**	**16 00 38.6**	**-4.4**
baz=2.0							
AML	**Almayashu**	**3.30**	**48**	Pn	**Pb**	**16 00 04.6**	**-2.9**
0.2nm,0.5s							
AML				Lg	Lg	16 00 53.4	
1.1nm,0.6s							
AML	**Almayashu**	**3.30**	**48**	⇑*i*P	**Pn**	**16 00 02.4**	**+1.7**
baz=48							
AML				⇑*i*S	**Sn**	**16 00 43.0**	**+2.8**
baz=48							
MRKS	**Merke**	**3.50**	**36**	Pg	**Pb**	**16 00 12.0**	**+1.2**
7.9nm,0.6s							
MRKS				Lg	Lg	16 00 57.8	
12nm,0.5s							
ARLS	**Aral**	**3.53**	**56**	⇑*i*P	**Pn**	**16 00 05.3**	**+1.7**
baz=56							
ARLS				⇑*i*S	**Sn**	**16 00 48.5**	**+3.1**
baz=56							
EKS2	**Erkin-Say**	**3.71**	**42**	⇑*i*P	**Pn**	**16 00 07.9**	**+1.8**
baz=42							
EKS2				⇑*i*S	**Sn**	**16 00 52.3**	**+2.4**
baz=42							
UCH	**Uchtor**	**3.85**	**53**	⇑*i*P	**Pn**	**16 00 09.9**	**+1.7**
baz=53							
UCH				⇑*i*S	**Sn**	**16 00 56.2**	**+2.5**
baz=53							
TKM2	**Tokmak 2**	**4.90**	**51**	Pn	**Pn**	**16 00 25.6**	**+3.1**
3.5nm,0.5s							
TKM2				Sn	**Sn**	**16 01 22.1**	**+2.7**
4.4nm,0.7s							
TKM2				Lg	Lg	16 01 42.9	
3.7nm,0.8s							
TNSS	**Tian-Shan**	**5.80**	**56**	Pg	**Pg**	**16 00 57.2**	**-2.4**
TNSS				Lg	Lg	16 02 14.8	

SOME 08 15:59:09.2, 40.°78N×76.°70E, h0km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTBS	**Karatobe**	**2.93**	**360**	Pg	Pg	16 00 07.0	+1.7
1.7nm,0.7s							
KTBS				Lg	Lg	16 00 48.9	
2.0nm,1.0s							
KTBS	**Karatobe**	**2.93**	**360**	*e*Pg	Pg	16 00 04.7	-0.6
0.7nm,0.3s							
KTBS				*e*Lg	Lg	16 00 44.4	
3.0nm,0.5s							
KRBS	**Karabastau**	**3.01**	**346**	Pg	Pg	16 00 06.4	-0.5
0.8nm,0.4s							
KRBS				Lg	Lg	16 00 47.8	
1.7nm,0.9s							
KRBS	**Karabastau**	**3.01**	**346**	*e*Pg	Pg	16 00 06.4	-0.5
0.8nm,0.4s							
KRBS				*e*Lg	Lg	16 00 47.8	
1.7nm,0.9s							
MRKS	**Merke**	**3.25**	**308**	*e*Pg	Pg	16 00 10.0	-1.6
1.3nm,0.2s							
MRKS				*e*Lg	Lg	16 00 53.7	
11nm,0.3s							

*JMA **08** 16:15:13.6±0.3, 37.°5N±0.°7×14.°4E±.°, h57km, MV3.5/30, FAR E OFF FUKUSHIMA PREF*
*IDC **08** 16:15:16.1±7.4, 36.°34N×143.°60E, h0km, mb3.4/2, mbtmp3.3/3, ML2.5/1, Error ellipse: s-maj=158.7km s-min=35.5km az=28.0*
ISC 08 16:15:12.1±1.3, 37.°54N±0.°06×144.°04E±0.°07, h35km, n20, σ1§65/32, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.18**	**292**	*i* P	**Pn**	**16 15 46.0**	**+0.3**
JIKH				S	**Sn**	**16 16 10.1**	**-1.4**
JIO	**Ouri**	**2.31**	**294**	P	**Pn**	**16 15 48.0**	**+0.4**
JIO				S	**Sn**	**16 16 13.6**	**-1.3**
JKMT	**Kesennumamotoy**	**2.39**	**303**	P	**Pn**	**16 15 49.1**	**+0.4**
JKMT				S	**Sn**	**16 16 15.6**	**-1.1**
OFUJ	**Ofunato**	**2.42**	**310**	P	**Pn**	**16 15 49.6**	**+0.5**
OFUJ				S	**Sn**	**16 16 16.2**	**-1.2**
JMST	**Minamisoumatoc**	**2.51**	**275**	P	**Pn**	**16 15 49.9**	**-0.5**
JFK	**Kawauchi**	**2.52**	**267**	*e*P	**Pn**	**16 15 50.2**	**-0.3**
JFK				*e*S	**Sn**	**16 16 16.6**	**-3.6**
JMK	**Ichinoseki**	**2.63**	**303**	P	**Pn**	**16 15 52.8**	**+0.8**
JMK				S	**Sn**	**16 16 22.1**	**-0.6**
JOM	**Ohasama**	**2.90**	**313**	P	**Pn**	**16 15 56.6**	**+1.0**
JOM				S	**Sn**	**16 16 28.9**	**-0.4**
JOTO	**OTAMA OYAMA**	**2.94**	**272**	P	**Pn**	**16 15 57.2**	**+0.8**
JOTO				S	**Sn**	**16 16 29.7**	**-0.8**
JYK	**Kaneyama**	**3.21**	**297**	P	**Pn**	**16 16 01.3**	**+1.3**
JANG	**Nango**	**3.45**	**326**	P	**Pn**	**16 16 05.1**	**+1.9**
JANG				*e*S	**Sn**	**16 16 41.3**	**-1.6**
JRY	**Ryogami san**	**4.39**	**251**	P	**Pn**	**16 16 16.0**	**-0.3**
JOT	**Ohata**	**4.48**	**330**	P	**Pn**	**16 16 19.7**	**+2.3**
MJAR	**Matsushiro Arr**	**4.77**	**260**	Pn	**Pn**	**16 16 22.9**	**+1.5**
0.3nm,0.3s,baz=90,slow=15,SNR=29							
MJAR				Sn	**Sn**	**16 17 15.6**	**+0.1**
0.1nm,0.3s,baz=345,slow=13,SNR=1.8							
2.3nm,0.4s							
JCH	**Churui**	**5.10**	**354**	P	**Pn**	**16 16 26.8**	**+0.9**
JCH				*e*S	**Sn**	**16 17 21.6**	**-1.9**
NEM2	**Nemuro 2**	**5.96**	**12**	*e*S	**Sn**	**16 17 41.2**	**-3.6**
JTKR	**Abashiri--Toko**	**6.43**	**359**	P	**Pn**	**16 16 44.8**	**+0.7**
JTKR				*e*S	**Sn**	**16 17 52.8**	**-3.4**
JHR	**Hokuryu**	**6.44**	**345**	P	**Pn**	**16 16 47.4**	**+3.0**
WRA	**Warramunga Arr**	**57.90**	**191**	P	**P**	**16 25 00.9**	**+0.3**
0.6nm,0.9s,baz=8.0,slow=7.5,SNR=4.6							
0.6nm,0.9s							
ASAR	**Alice Springs**	**61.62**	**191**	P	**P**	**16 25 27.2**	**+1.0**
0.2nm,0.8s,baz=1.6,slow=6.5,SNR=1.9							
0.2nm,0.8s							

*IDC **08** 17:06:22.6±7.2, 4.°27S×28.°61E, h0km, mb3.7/2, mbtmp3.7/3, ML3.5/1, MS3.5/1, Error ellipse: s-maj=164.8km s-min=37.4km az=177.0*
*EAF **08** 17:07:37.3, 0.°59S×30.°70E, h0km*
*AAE **08** 17:07:39.5±66.0, 0.°60S×30.°72E, h0km±345km*
ISC 08 17:06:32.0±1.6, 2.°8S±0.°1×28.°92E±0.°08, h10km, n14, σ2§92/18, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**2.86**	**39**	*e*P	**Pn**	**17 07 19.2**	**+1.4**
MBAR				*e*S	**Pg**	**17 07 26.8**	**-0.1**
MBAR	**Mbarara**	**2.86**	**39**	*e*S	**Sg**	**17 08 02.7**	**-1.2**
MBAR	**Mbarara**	**2.86**	**39**	*e*P	**Pn**	**17 07 19.2**	**+1.4**
baz=95							
MBAR				*e*S	**Pg**	**17 07 26.8**	**-0.1**
baz=95							
MBAR	**Mbarara**	**2.86**	**39**	*e*P	**Pn**	**17 07 19.2**	**+1.4**
NAKD	**Nakauka**	**4.60**	**50**	*e*P	**Pn**	**17 07 42.7**	**+0.9**
NAKD	**Nakauka**	**4.60**	**50**	*e*S	**Sb**	**17 08 52.0**	**+3.4**
KMBO	**Kilima Mbogo**	**8.49**	**79**	*e*P	**Sn**	**17 10 07.6**	**-4.0**
KMBO				*e*S	Sg	17 10 45.2	-20
KMBO	**Kilima Mbogo**	**8.49**	**79**	Pn	**Pn**	**17 08 36.7**	**+1.3**
0.5nm,0.3s,baz=235,slow=19,SNR=5.7							
KMBO				Sn	**Sn**	**17 10 11.8**	**+0.3**
0.9nm,0.3s,baz=273,slow=10,SNR=5.2							
KMBO				Lg	Lg	17 11 01.5	
1.7nm,0.3s,baz=341,slow=21,SNR=10							
1.1nm,0.3s							
KMBO	**Kilima Mbogo**	**8.49**	**79**	*e*P	**Sn**	**17 10 07.6**	**-4.0**
baz=95							
KMBO				*e*S	Sg	17 10 45.2	-20
baz=95							
LODK	**Lodwar**	**8.94**	**46**	*e*P	**Pn**	**17 08 43.6**	**+2.2**
LODK				*e*S	**Sn**	**17 10 17.9**	**-4.4**
LODK	**Lodwar**	**8.94**	**46**	*e*P	**Pn**	**17 08 43.6**	**+2.2**
baz=121							
LODK				*e*S	**Sn**	**17 10 17.9**	**-4.4**
baz=121							
TORD	**Torodi Ar. Bea**	**31.34**	**301**	P	**P**	**17 12 49.5**	**-3.5**
0.8nm,0.7s,baz=108,slow=7.9,SNR=5.1							
0.8nm,0.7s							
BRTR	**Keskin Array B**	**42.56**	**5**	P	**P**	**17 14 32.2**	**+3.9**
0.6nm,0.6s,baz=187,slow=7.3,SNR=2.3							
0.6nm,0.6s							
AKASG	**Malin Array Be**	**53.32**	**0**	LR	LR	17 40 52.9	
comp=Z,40nm,19.2s,baz=358,slow=38							

*AUST **08** 17:06:40.5±0.7, 33.°16S×138.°64E, h0km, Error ellipse: s-maj=7.4km s-min=5.8km az=50.0*
*IDC **08** 17:06:41.8±9.0, 32.°88S×138.°43E, h0km, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=117.1km s-min=30.0km az=21.0*
*NOU **08** 17:06:41.3, 33.°21S×138.°63E, h0km, MLv3.0/9, Near Coast of South Australia*
ISC 08 17:06:39.7±0.7, 33.°09S±0.°04×138.°63E±0.°03, h10km, n22, σ1§66/29, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUJCS	**Jamestown Cent**	**0.11**	**188**	P	**Pg**	**17 06 41.7**	**-0.8**
baz=0.1							
AUJCS				S	**Sg**	**17 06 42.2**	**-2.2**
baz=0.1							
HTT	**Hallett**	**0.42**	**144**	P	**Pg**	**17 06 47.2**	**-0.7**
baz=0.4,SNR=95							
HTT				S	**Sg**	**17 06 51.9**	**-1.6**
baz=0.4							
HTT	**Hallett**	**0.42**	**144**	P	**Pg**	**17 06 47.3**	**-0.7**
PTPS	**Port Pirie**	**0.54**	**261**	P	**Pb**	**17 06 51.3**	**+0.1**
WHYH	**Whyalla**	**0.89**	**274**	P	**Pn**	**17 06 57.8**	**-0.4**
AUMAR	**Marden Senior**	**1.79**	**180**	P	**Pb**	**17 07 11.9**	**-0.8**
baz=1.7							
BBOO	**Buckleboo**	**2.18**	**277**	P	**Pb**	**17 07 18.7**	**-0.6**
baz=2.2,SNR=6.5							
BBOO				S	**Sg**	**17 07 48.4**	**-1.3**
baz=2.2							
BBOO	**Buckleboo**	**2.18**	**277**	P	**Pg**	**17 07 20.4**	**-1.1**
LCRK	**Leigh Creek**	**2.66**	**352**	P	**Pb**	**17 07 26.0**	**-1.4**
baz=2.7,SNR=4.3							
LCRK				S	**Sb**	**17 07 59.9**	**-0.3**
baz=2.7							
LCRK	**Leigh Creek**	**2.66**	**352**	P	**Pb**	**17 07 26.7**	**-0.7**
STKA	**Stephens Creek**	**2.79**	**65**	P	**Pb**	**17 07 28.6**	**-1.0**
baz=2.8,SNR=8.3							
STKA	**Stephens Creek**	**2.79**	**65**	P	**Pb**	**17 07 28.6**	**-1.0**
STKA	**Stephens Creek**	**2.79**	**65**	Pn	**Pb**	**17 07 28.6**	**-1.0**
0.6nm,0.3s,baz=248,slow=15,SNR=14							
STKA				Sn	**Sb**	**17 08 04.9**	**+1.1**

CMSA	**Cobar Meteorol**	**6.18**	**77**	P	**Pn**	**17 08 12.9**	**+1.9**
ASAR	**Alice Springs**	**10.27**	**335**	Pn	**Pn**	**17 09 07.7**	**+0.5**
	0.1nm,0.3s,baz=174,slow=8.5,SNR=9.5						
ASAR				Sn	**Sn**	**17 11 00.3**	**-2.1**
	0.1nm,0.3s,baz=158,slow=22,SNR=3.0						
	0.2nm,1.0s						
WRA	**Warramunga Arr**	**13.64**	**343**	Pn	**Pn**	**17 09 52.8**	**-0.5**
	baz=171,slow=13,SNR=1.8						
	0.4nm,0.9s						

*SSNC **08** 17:21:37.4±1.1, 17°.92N×76°.49W, h5km, MD2.8, ML2.2*
*JSN **08** 17:21:38.2±0.5, 17°.88N×76°.70W, h22km±14km, MD2.4*
ISC 08 17:21:33.0±2.4,**17°.9N**±0°.1×**76°.4W**±0°.1,**h18**km,**n7,**
σ1§**10**/11,**Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJ	**Hope**	**0.30**	**287**	*i* P	**Pn**	**17 21 42.7**	**+0.1**
GWJ	**Greenwich**	**0.31**	**300**	*i* P	**Pn**	**17 21 43.2**	**+0.4**
STH	**Stony Hill**	**0.38**	**295**	*i* P	**Pn**	**17 21 43.9**	**+0.2**
PCJ	**Portland Cotta**	**0.70**	**256**	*i* P	**Pb**	**17 21 47.1**	**+0.4**
PCJ				*i* S	**Sb**	**17 21 53.6**	**-2.4**
MTDJ	**Mount Denham**	**1.08**	**287**	*e*P	**Pg**	**17 21 54.6**	**+0.6**
MTDJ				*e*S	**Sg**	**17 22 09.0**	**+0.7**
MTDJ				IAML		17 22 11.1	
	56nm,0.2s						
MTDJ				IAML		17 22 11.2	
	comp=Z,64nm,0.2s						
RCC	**Rio Carpintero**	**2.18**	**19**	*e*P	**Pb**	**17 22 10.9**	**-1.1**
RCC				*e*S	**Sb**	**17 22 37.7**	**-1.1**
RCC				IAML		17 22 42.6	
	comp=N,3.6nm,1.1s						
RCC				IAML		17 22 45.5	
	comp=E,3.6nm,0.8s						
GTBY	**Guantanamo Bay**	**2.36**	**32**	*e*P	**Pb**	**17 22 15.2**	**+0.1**
GTBY				*e*S	**Sb**	**17 22 44.5**	**+0.6**
GTBY				IAML		17 22 48.5	
	comp=E,4.3nm,0.2s						
GTBY				IAML		17 22 48.7	
	comp=E,3.9nm,0.2s						

*TAP **08** 17:27:23.9, 24°.80N×122°.29E, h13km, ML3.2, C*
*JMA **08** 17:27:23.6±0.1, 24°.8N±0°.6×122°.4E±0°.2, h47km±1km, MV2.4/11, TAIWAN REGION*
ISC 08 17:27:21.3±1.1,**24°.82N**±0°.03×**122°.45E**±0°.02,**h9**km±9km,
n81,σ0§**75**/116,**5C-4D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.44**	**206**	⇑P	**Pb**	**17 27 31.8**	**+0.6**
	baz=190						
EOS2				*e*S	**Sb**	**17 27 38.2**	**+0.2**
	baz=190						
TWB1	**Santiao Chiao**	**0.46**	**294**	⇑*i*P	**Pb**	**17 27 31.4**	**-0.1**
	baz=308						
TWB1				*i* S	**Sg**	**17 27 36.4**	**+0.2**
	baz=308						
EGS		**0.47**	**273**	P	**Pb**	**17 27 31.1**	**-0.6**
	baz=278						
EOS3	**EOS3**	**0.54**	**193**	*e*P	**Pb**	**17 27 33.9**	**+0.9**
	baz=177						
EOS3				S	**Sb**	**17 27 42.3**	**+1.5**
	baz=177						
TWC	**Suao**	**0.58**	**249**	⇓P	**Pg**	**17 27 32.7**	**+0.1**
	baz=250						
TWC				*e*S	**Sg**	**17 27 39.0**	**-1.1**
	baz=250						
JYNG	**Yonagunijimaku**	**0.58**	**129**	P	**Pn**	**17 27 35.8**	**0.0**
JYNG				S	**Sn**	**17 27 44.7**	**-0.7**
SXI1	**Grass Mountain**	**0.59**	**298**	*e*P	**Pb**	**17 27 34.3**	**+0.5**
	baz=308						
SXI1				S	**Sb**	**17 27 41.6**	**-0.7**
	baz=308						
YOJ	**Yonaguni jima**	**0.62**	**125**	P	**Pn**	**17 27 36.6**	**+0.2**
YOJ				S	**Sn**	**17 27 45.7**	**-0.8**
YOJ	**Yonaguni jima**	**0.62**	**125**	*e*P	**Pn**	**17 27 36.6**	**+0.2**
	baz=116						
NWF	**Wu-fen Shan**	**0.65**	**293**	P	**Pn**	**17 27 35.8**	**-1.1**
	baz=300						
NWF				S	**Sb**	**17 27 43.6**	**-0.7**
	baz=300						
WFSB	**Wu-fen Shan**	**0.65**	**293**	P	**Pn**	**17 27 35.8**	**-1.0**
	baz=300						
WFSB				S	**Sb**	**17 27 43.7**	**-0.4**
	baz=300						
NDS	**Dongshan**	**0.69**	**255**	P	**Pg**	**17 27 34.7**	**+0.1**
	baz=248						
NDS				*e*S	**Sg**	**17 27 43.5**	**0.0**
	baz=248						
TNOU	**National Taiwa**	**0.69**	**298**	P	**Pb**	**17 27 36.1**	**+0.5**
	baz=307						
TNOU				*e*S	**Sb**	**17 27 44.7**	**-0.6**
	baz=307						
EOS4	**EOS4**	**0.70**	**190**	*e*P	**Pn**	**17 27 36.8**	**-0.4**
	baz=170						
ENA	**Nanau**	**0.75**	**239**	P	**Pg**	**17 27 35.9**	**+0.1**
	baz=232						
ENA				*e*S	**Sg**	**17 27 46.0**	**+0.4**
	baz=232						
FUSB	**Fushanzhiwuyua**	**0.78**	**266**	⇓P	**Pb**	**17 27 36.7**	**-0.4**
	baz=266						
FUSB				S	**Sg**	**17 27 46.7**	**+0.1**
	baz=266						
ENTT	**Nioudou**	**0.82**	**258**	*e*P	**Pg**	**17 27 37.1**	**+0.1**
	baz=257						
NWLT	**Wulai**	**0.86**	**267**	*e*P	**Pb**	**17 27 38.2**	**-0.2**
	baz=262						
YM01	**YM01**	**0.86**	**292**	P	**Pn**	**17 27 39.0**	**-0.7**
	baz=298						
YM01				S	**Sb**	**17 27 49.8**	**-0.3**
	baz=298						
YM08	**YM08**	**0.86**	**295**	P	**Pn**	**17 27 39.3**	**-0.3**
	baz=301						
YM08				S	**Sb**	**17 27 49.4**	**-0.7**
	baz=301						
PCYT	**Pengchaiyu**	**0.88**	**337**	P	**Pn**	**17 27 40.9**	**+1.0**
	baz=357						
NDT	**Datong Townshi**	**0.88**	**256**	*e*P	**Pb**	**17 27 38.5**	**-0.2**
	baz=263						
NDT				*e*S	**Sg**	**17 27 49.8**	**+0.2**
	baz=263						
TAP	**Taipei**	**0.88**	**285**	*e*P	**Pn**	**17 27 40.2**	**+0.3**
	baz=289						
LATG	**Datong**	**0.88**	**252**	P	**Pb**	**17 27 38.5**	**-0.4**
	baz=249						
LATG				*e*S	**Sg**	**17 27 49.7**	**-0.1**
	baz=249						
TWY	**Chenhua**	**0.89**	**301**	*e*P	**Pn**	**17 27 40.0**	**0.0**
	baz=307						
TWY				S	**Sb**	**17 27 51.1**	**+0.1**
	baz=307						
ANP	**Anpu**	**0.92**	**294**	*e*P	**Pb**	**17 27 39.5**	**0.0**
	baz=299						
NTST	**Danshui**	**0.97**	**291**	*e*P	**Pn**	**17 27 42.5**	**+1.4**
	baz=306						
NTST				S	**Sb**	**17 27 53.4**	**+0.2**
	baz=306						
TWS1	**Kuangyinshan**	**0.97**	**287**	*e*P	**Pn**	**17 27 42.5**	**+1.3**
	baz=291						
TWS1				*e*S	**Sb**	**17 27 53.4**	**0.0**
	baz=291						
YHNB	**Yeheng**	**0.98**	**262**	P	**Pg**	**17 27 40.0**	**-0.2**
	baz=261						
YHNB				S	**Sg**	**17 27 52.1**	**-0.9**
	baz=261						
ETL	**Fush Village**	**1.00**	**229**	*e*P	**Pb**	**17 27 40.6**	**-0.2**
	baz=223						
NSK	**Sanguang**	**1.00**	**262**	*e*P	**Pg**	**17 27 40.2**	**-0.3**
	baz=270						
NACB	**Ninganchiao**	**1.01**	**231**	⇓*i*P	**Pg**	**17 27 40.5**	**-0.2**
	baz=235						
NACB				S	**Sg**	**17 27 52.3**	**-1.5**
	baz=235						
NNSB	**Datong**	**1.04**	**248**	P	**Pg**	**17 27 41.0**	**-0.3**
	baz=246						
NNSB				S	**Sg**	**17 27 54.3**	**-0.6**
	baz=246						
NNS	**Nan Shan**	**1.05**	**249**	*i* P	**Pb**	**17 27 41.8**	**+0.1**
	baz=236						
NNS				*e*S	**Sg**	**17 27 55.2**	**+0.1**
	baz=236						
TWD	**Chiawan**	**1.07**	**227**	*e*P	**Pg**	**17 27 41.7**	**-0.1**
	baz=220						
ETLH	**Xiulin Townshi**	**1.07**	**235**	*e*P	**Pg**	**17 27 41.7**	**-0.1**
	baz=231						
NCU	**National Centr**	**1.15**	**278**	*e*P	**Pn**	**17 27 44.7**	**+1.1**
	baz=280						
NCUH	**Zhongli**	**1.16**	**278**	*e*P	**Pn**	**17 27 45.1**	**+1.4**
	baz=280						
ETM	**Tongmen**	**1.22**	**226**	*e*P	**Pb**	**17 27 44.5**	**+0.1**
	baz=202						
NFF	**Wufeng Townshi**	**1.22**	**261**	*e*P	**Pn**	**17 27 45.7**	**+1.0**
	baz=262						
LXIB	**Xiulin Townshi**	**1.23**	**230**	⇑*e*P	**Pg**	**17 27 44.8**	**-0.2**
	baz=235						
LXIB				*e*S	**Sb**	**17 28 01.7**	**+0.7**
	baz=235						
IRIF	**Iriomote-Funau**	**1.26**	**112**	*e*P	**Pg**	**17 27 45.6**	**0.0**
IRIF				*e*S	**Sg**	**17 28 02.1**	**+0.1**
WHF	**Hehuan Shan**	**1.27**	**238**	P	**Pn**	**17 27 45.8**	**+0.2**
	baz=235						
TWT	**Tachien**	**1.29**	**244**	*e*P	**Pb**	**17 27 45.9**	**0.0**
	baz=242						
TDCB	**Techi**	**1.30**	**245**	*e*P	**Pn**	**17 27 45.8**	**-0.1**
	baz=243						
LIOB	**Emei**	**1.31**	**263**	*e*P	**Pg**	**17 27 48.3**	**+1.8**
	baz=264						
NSTT	**Nanjuang**	**1.33**	**262**	P	**Pg**	**17 27 47.8**	**+1.0**
	baz=263						
SBCB	**Hsinchu**	**1.33**	**269**	*e*P	**Pg**	**17 27 48.0**	**+1.3**
	baz=289						
CHGB	**Renai**	**1.38**	**237**	⇑P	**Pg**	**17 27 48.0**	**+0.2**
	baz=234						
CHGB				*e*S	**Sb**	**17 28 04.6**	**-0.8**
	baz=234						
OWD	**Renai**	**1.44**	**234**	*e*P	**Pg**	**17 27 48.7**	**-0.3**
	baz=223						
HATJ	**Hateruma jima**	**1.45**	**121**	*e*P	**Pn**	**17 27 48.0**	**+0.2**
HATJ				S	**Sn**	**17 28 05.9**	**-1.0**
WARBT	**Fenglin Townsh**	**1.46**	**222**	*e*P	**Pg**	**17 27 49.3**	**-0.1**
	baz=200						
WUSB	**Renai**	**1.47**	**236**	P	**Pg**	**17 27 49.3**	**-0.1**
	baz=233						
WUSB				*e*S	**Sn**	**17 28 06.4**	**-1.1**
	baz=233						
WHP	**Taichung City**	**1.47**	**249**	*e*P	**Pg**	**17 27 49.7**	**+0.2**
	baz=248						
NMLH	**Miaoli**	**1.53**	**260**	*e*P	**Pg**	**17 27 51.3**	**+0.6**
	baz=277						
JKRS	**Kuro-shima**	**1.54**	**112**	*e*P	**Pb**	**17 27 49.9**	**0.0**
JKRS				*e*S	**Sn**	**17 28 09.1**	**0.0**
WCS	**Beigang Elemen**	**1.59**	**242**	*e*P	**Pg**	**17 27 51.7**	**-0.1**
	baz=240						
TWQ1	**Liyutan**	**1.59**	**253**	*e*P	**Pg**	**17 27 52.6**	**+0.7**
	baz=253						
TWQ1				*e*S	**Sg**	**17 28 12.2**	**-0.4**
	baz=253						
VWDT	**VWDT**	**1.59**	**229**	*e*P	**Pg**	**17 27 51.7**	**-0.2**
	baz=225						
JIJ	**Ishigaki jima**	**1.61**	**106**	P	**Pb**	**17 27 50.9**	**-0.3**
JIJ				S	**Sn**	**17 28 10.5**	**-0.4**
SMLT	**Sun Moon Lake**	**1.69**	**237**	⇓*e*P	**Pg**	**17 27 53.6**	**-0.1**
	baz=235						
SMLT				*e*S	**Sg**	**17 28 15.6**	**-0.1**
	baz=235						
SSLB	**Suanglung**	**1.71**	**233**	⇑*e*P	**Pg**	**17 27 53.5**	**-0.5**
	baz=230						
JISG	**Ishigakijimahi**	**1.71**	**97**	*e*P	**Pb**	**17 27 52.4**	**-0.5**
JISG				*e*S	**Sn**	**17 28 13.9**	**+0.5**
TCU	**Taichung**	**1.75**	**248**	*e*P	**Pg**	**17 27 56.1**	**+1.3**
	baz=247						
YULB	**Yu-li**	**1.77**	**217**	*e*P	**Pb**	**17 27 53.9**	**-0.1**
	baz=211						
WHYT	**Wuyi Township**	**1.83**	**233**	*e*P	**Pg**	**17 27 56.1**	**-0.4**
	baz=214						
WJS	**Zhushan**	**1.86**	**238**	*e*P	**Pg**	**17 27 57.8**	**+0.9**
	baz=225						
WNT	**Mingjian**	**1.86**	**240**	*e*P	**Pg**	**17 27 57.4**	**+0.4**
	baz=239						
ALS	**Alishan**	**1.99**	**229**	*e*P	**Pb**	**17 27 58.4**	**+0.6**
	baz=208						
EHD	**Haiduan**	**2.01**	**215**	*e*P	**Pn**	**17 27 56.6**	**+1.1**
	baz=210						
CHN5	**Tsauling**	**2.02**	**233**	*e*P	**Pb**	**17 27 58.0**	**-0.3**
	baz=230						
ELDTW	**Lidau**	**2.08**	**219**	*e*P	**Pb**	**17 27 58.3**	**-1.1**
	baz=200						
CHN4	**Tsaushan**	**2.24**	**230**	*e*P	**Pb**	**17 28 01.8**	**-0.1**
	baz=209						
CHN4				*e*S	**Sb**	**17 28 29.6**	**-0.1**
	baz=209						
TPUB	**Ta-pu**	**2.25**	**228**	*e*P	**Pb**	**17 28 00.9**	**-1.1**
	baz=208						
WTP	**Ta-pu**	**2.29**	**227**	*e*P	**Pb**	**17 28 02.5**	**-0.4**
	baz=207						
CHN1	**Nanshi**	**2.39**	**228**	*e*P	**Pb**	**17 28 03.4**	**-1.2**
	baz=224						
SGST	**Jiashian**	**2.43**	**225**	*e*P	**Pn**	**17 28 03.0**	**+1.8**
	baz=205						
SLGT	**Liugui**	**2.45**	**223**	*e*P	**Pb**	**17 28 04.2**	**-1.4**
	baz=203						
SSD	**Sandimen**	**2.65**	**219**	*e*P	**Pb**	**17 28 07.5**	**-1.4**
	baz=201						
MASBT	**Mashibuluo**	**2.75**	**217**	*e*P	**Pn**	**17 28 07.8**	**+2.1**
	baz=214						
SCZT	**Fangliau**	**2.96**	**215**	*e*P	**Pn**	**17 28 10.9**	**+2.5**
	baz=197						

*IDC **08** 17:42:01.8±2.1, 11°.65S×118°.87E, h0km, mb3.8/1, mbtmp3.9/6, ML3.9/5, MS3.4/1, Error ellipse: s-maj=47.4km s-min=27.3km az=47.0*
*DJA **08** 17:42:03.1±0.5, 12°S±7°×11°9E±°, h10km, M4.4/12, mB5.5/3, mb4.4/6, MLv4.3/12, Mw(mB)4.9/3*
ISC 08 17:42:06.6±0.8,**11°.61S**±0°.07×**118°.95E**±0°.06,**h35**km,**n29,**
σ1§**14**/30,**South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**2.11**	**49**	P	**Pn**	**17 42 40.3**	**+0.9**
PLAI	**Plampang**	**3.00**	**337**	P	**Pn**	**17 42 52.9**	**+1.2**
PLAI	**Plampang**	**3.00**	**337**	P	**Pn**	**17 42 53.2**	**+1.5**
TWSI	**Taliwang, Sumb**	**3.51**	**324**	P	**Pn**	**17 42 59.4**	**+0.7**
MMRI	**Maumere**	**4.38**	**48**	P	**Pn**	**17 43 10.8**	**+0.1**
MMRI	**Maumere**	**4.38**	**48**	P	**Pn**	**17 43 11.0**	**+0.3**
IGBI	**Denpasar**	**4.66**	**306**	P	**Pn**	**17 43 14.3**	**-0.2**
DNP	**Denpasar**	**4.70**	**308**	P	**Pn**	**17 43 13.6**	**-1.4**
BATI	**Baumata**	**4.83**	**74**	P	**Pn**	**17 43 17.9**	**+1.0**
BATI	**Baumata**	**4.83**	**74**	Pn	**Pn**	**17 43 17.7**	**+0.8**
	3.1nm,0.3s,baz=135,slow=2.9,SNR=2.1						
BATI				Sn	**Sn**	**17 44 10.5**	**-1.2**
	4.3nm,0.3s,baz=329,slow=5.9,SNR=1.5						
	8.9nm,0.3s						
SRBI	**Singaraja**	**5.08**	**313**	P	**Pn**	**17 43 21.4**	**+1.0**
	58nm,1.3s,0.2nm						
SOEI	**Soe**	**5.54**	**71**	P	**Pn**	**17 43 28.9**	**+2.2**
SOEI	**Soe**	**5.54**	**71**	P	**Pn**	**17 43 28.7**	**+2.0**
	37nm,0.6s,1μm0.2nm						
JAGI	**Jajag, Banyuwa**	**5.66**	**303**	P	**Pn**	**17 43 28.2**	**-0.1**
JAGI	**Jajag, Banyuwa**	**5.66**	**303**	P	**Pn**	**17 43 26.8**	**-1.5**
	41nm,0.9s,2μm0.4nm						
BKSI	**Bulukumba**	**6.35**	**11**	P	**Pn**	**17 43 39.5**	**+1.7**
	16nm,0.4s,0.1nm						
GMJI	**Gumukmas**	**6.36**	**301**	P	**Pn**	**17 43 38.4**	**+0.5**
	31nm,1.3s,0.2nm						
KAPI	**Kappang**	**6.60**	**7**	Pn	**Pn**	**17 43 41.1**	**-0.1**
	1.4nm,0.3s,baz=201,slow=8.6,SNR=1.2						
KAPI				Sn	**Sn**	**17 44 53.2**	**-2.0**
	2.0nm,0.3s,baz=150,slow=20,SNR=2.8						
	3.9nm,0.2s						
UGM	**Wanagama**	**9.08**	**293**	P	**Pn**	**17 44 15.5**	**+0.2**
MBWA	**Marble Bar**	**9.53**	**176**	P	**Pn**	**17 44 21.0**	**-0.3**
PSA00	**Pilbara Seismi**	**9.94**	**175**	P	**Pn**	**17 44 26.4**	**-0.7**
KNRA	**Kununurra**	**10.36**	**114**	P	**Pn**	**17 44 33.0**	**+0.3**
KPJI	**Karang Pucung**	**10.76**	**292**	P	**Pn**	**17 44 37.9**	**-0.4**
GIRL	**Giralia**	**11.86**	**202**	P	**Pn**	**17 44 53.9**	**+0.6**
SIJI	**Sorong**	**16.23**	**50**	Pn	**Pn**	**17 45 52.1**	**+0.1**
	0.7nm,0.3s,baz=173,slow=23,SNR=5.2						
	2.0nm,0.4s						
WRA	**Warramunga Arr**	**16.96**	**121**	Pn	**Pn**	**17 45 59.4**	**-1.9**
	0.4nm,0.3s,baz=295,slow=13,SNR=32						
WRA				Sn	Sn	17 48 55.7	-13
	0.1nm,0.3s,baz=290,slow=24,SNR=2.5						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**18.60**	**132**	P	**Pn**	**17 46 21.9**	**+0.4**
	0.5nm,0.3s,baz=316,slow=14,SNR=41						
ASAR				S	Sn	17 49 36.8	-12
	0.2nm,0.5s,baz=309,slow=24,SNR=4.3						
	1.7nm,0.5s						
MSVF	**Nonsavu**	**57.31**	**104**	LR	LR	18 16 11.2	
	comp=Z,29nm,18.5s,baz=292,slow=36						
MKAR	**Makanchi Array**	**66.75**	**333**	P	**P**	**17 52 54.9**	**+0.5**
	0.9nm,0.8s,baz=143,slow=6.8,SNR=5.3						
	0.9nm,0.8s						

*MDD **08** 18:01:11.8±0.8, 44°.06N×6°.72W, h1km±4km, mb_Lg2.6/16, Error ellipse: s-maj=6.2km s-min=2.8km az=159.0*
*LDG **08** 18:01:12.8±0.2, 44°.02N×6°.65W, h2km, Ml2.4/6, Error ellipse: s-maj=4.9km s-min=2.7km az=136.0*
*INMG **08** 18:01:15.0±1.3, 43°.87N×6°.69W, h0km, ML2.3, Error ellipse: s-maj=4.6km s-min=3.8km az=166.0*
ISC 08 18:01:09.3±1.5,**44°.06N**±0°.04×**6°.63W**±0°.04,**h5**km±11km,
n35,σ1§**82**/58,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPON	**Pontenova**	**0.82**	**207**	Pg	**Pb**	**18 01 26.5**	**+0.4**
EPON				Sg	**Sb**	**18 01 37.1**	**-0.3**
EPON				*i* Vmb_Lg		18 01 40.5	
EARI	**Arriondas**	**1.28**	**126**	Pg	**Pn**	**18 01 36.1**	**+2.2**
EARI				Sg	**Sn**	**18 01 53.7**	**+2.3**
EARI				*i* Vmb_Lg		18 01 55.0	
EAGO	**Agolada(Pontev**	**1.64**	**221**	Pn	**Pb**	**18 01 40.0**	**0.0**
EAGO				Sn	**Sg**	**18 02 01.3**	**-0.8**
EAGO				*i* Vmb_Lg		18 02 03.7	
EMAZ	**Mazaricos**	**2.03**	**238**	Pn	**Pb**	**18 01 45.8**	**-0.9**
EMAZ				Sn	**Sn**	**18 02 09.9**	**-0.2**
EMAZ				*i* Vmb_Lg		18 02 18.2	
ECAL	**Calabor**	**2.12**	**182**	Pn	**Pn**	**18 01 46.9**	**+1.5**
ECAL				Sn	**Sb**	**18 02 14.1**	**-0.7**
ECAL				*i* Vmb_Lg		18 02 19.9	
PBRG	**Braganca**	**2.25**	**182**	*e*Pg	**Pg**	**18 01 53.7**	**+1.3**
PBRG				*e*Sg	**Sg**	**18 02 20.6**	**-1.0**
PBRG				A	A	18 02 26.1	
	12nm,0.3s						
PGAV	**Gavieira, Arco**	**2.41**	**210**	*e*Pn	**Pb**	**18 01 52.5**	**-0.7**
PGAV				*e*Sn	**Sn**	**18 02 19.5**	**0.0**
PGAV				*e*Sg	**Sg**	**18 02 26.4**	**-0.3**
PGAV				A	A	18 02 29.7	
	13nm,0.5s						
ELOB	**Lobios**	**2.43**	**206**	Pn	**Pn**	**18 01 51.6**	**+1.9**
ELOB				Sn	**Sn**	**18 02 18.0**	**-1.9**
ELOB				*i* Vmb_Lg		18 02 32.6	
EZAM	**Zamans**	**2.43**	**219**	Pn	**Pn**	**18 01 49.9**	**+0.2**
EZAM				Sn	**Sn**	**18 02 19.0**	**-0.9**
EZAM				*i* Vmb_Lg		18 02 31.7	
ELAN	**Lanestosa**	**2.46**	**108**	Pn	**Pn**	**18 01 52.8**	**+2.6**
ELAN				Sn	**Sn**	**18 02 22.7**	**+2.0**
ELAN				*i* Vmb_Lg		18 02 36.7	
POLO	**Lamas de Olo**	**2.81**	**198**	*e*Pg	**Pg**	**18 02 04.1**	**+0.9**
POLO				*e*Sg	**Sg**	**18 02 39.0**	**-0.7**
POLO				A	A	18 02 41.6	
	4.4nm,0.6s						
PVRL	**Vila Real**	**2.89**	**196**	*e*Sg	**Sg**	**18 02 40.8**	**-1.4**
PVRL				A	A	18 02 43.9	
	12nm,0.1s						
MVO	**Moncorvo**	**2.91**	**186**	*e*Pg	**Pg**	**18 02 05.4**	**+0.5**
MVO				*e*Sg	**Sg**	**18 02 41.6**	**-1.0**
MVO				A	A	18 02 46.1	
	14nm,0.4s						
EJUZ	**Juzbado, Salam**	**3.02**	**169**	Sn	**Sn**	**18 02 34.9**	**+0.4**
PVIS	**Viseu**	**3.47**	**196**	*e*Sg	**Sg**	**18 02 58.3**	**-2.3**
PVIS				A	A	18 03 04.5	
	7.5nm,0.5s						
MTE	**Manteigas**	**3.72**	**191**	*e*Sg	**Sg**	**18 03 07.1**	**-1.5**
EALK	**Alkurruntz**	**3.81**	**101**	Pn	**Pn**	**18 02 10.7**	**+2.0**
EALK				Sn	**Sn**	**18 02 52.8**	**-1.3**
EALK				*i* Vmb_Lg		18 02 59.4	
GUD	**Guadarrama**	**3.87**	**151**	Pn	**Pn**	**18 02 11.1**	**+1.4**
GUD				Sn	**Sn**	**18 02 56.2**	**+0.6**
GUD				*i* Vmb_Lg		18 03 18.7	
EPLA	**Plasencia**	**4.01**	**174**	Pn	**Pn**	**18 02 13.7**	**+2.3**
EPLA				Sn	**Sn**	**18 02 59.3**	**+0.5**
EPLA				*i* Vmb_Lg		18 03 22.1	
SJPF	**Ste Jean**	**4.04**	**102**	*e*Pn	**Pn**	**18 02 13.0**	**+1.2**
SJPF				*e*Sn	**Sn**	**18 02 57.0**	**-2.5**
	1.0nm,0.2s						
PCAS	**Casmilo, Conde**	**4.24**	**200**	*e*Sg	**Sg**	**18 03 23.6**	**-1.7**
PCAS				A	A	18 03 30.1	
	3.7nm,0.5s						
QUIF	**Quistinic**	**4.55**	**31**	*e*Pn	**Pn**	**18 02 21.5**	**+2.7**
ETSF	**Etsaut**	**4.57**	**103**	*e*Pn	**Pn**	**18 02 20.4**	**+1.3**
ETSF				*e*Sn	**Sn**	**18 03 09.7**	**-3.0**
	1.5nm,0.4s						
PMRV	**Marv??o**	**4.66**	**187**	*e*Sg	**Sg**	**18 03 36.5**	**-2.4**
PMRV				A	A	18 03 42.9	
	3.2nm,0.9s						
ETOR	**Torete**	**4.68**	**132**	Pn	**Pn**	**18 02 22.4**	**+1.7**
ETOR				Sn	**Sn**	**18 03 17.2**	**+1.7**
ETOR				*i* Vmb_Lg		18 03 40.4	
ESDC	**Sonseca Array**	**4.81**	**155**	Pn	**Pn**	**18 02 24.4**	**+1.9**
ESDC				Sn	**Sn**	**18 03 17.2**	**-1.4**
ESDC				*i* Vmb_Lg		18 03 45.7	
PAB	**San Pablo**	**4.82**	**158**	Pn	**Pn**	**18 02 25.1**	**+2.5**
PAB				Sn	**Sn**	**18 03 18.2**	**-0.6**
PAB				*i* Vmb_Lg		18 03 44.3	
ROSF	**Rostrenen**	**4.87**	**27**	*e*Pn	**Pn**	**18 02 26.3**	**+3.0**
PMTG	**Montargil**	**5.12**	**194**	*e*Sg	**Sg**	**18 03 51.8**	**-2.0**
PMTG				A	A	18 03 56.7	
	1.6nm,0.8s						
EPF	**Esparros**	**5.17**	**99**	*e*P	Pn	18 02 32.9	+5.5
EPF				*e*Sn	**Sn**	**18 03 24.0**	**-3.5**
	1.4nm,0.4s						
MFF	**Saint Martin d**	**5.23**	**59**	*e*Pn	**Pn**	**18 02 30.3**	**+2.1**
MFF				*e*Sn	**Sn**	**18 03 26.0**	**-2.9**
	0.7nm,0.3s						
PESTR	**Estremoz**	**5.24**	**188**	*e*Sg	**Sg**	**18 03 54.9**	**-2.5**
PESTR				A	A	18 04 05.9	
	2.1nm,0.6s						
RJF	**Les Rejaudoux**	**5.94**	**75**	*e*P	Pn	18 02 44.5	+6.5
RJF				*e*Sn	**Sn**	**18 03 44.0**	**-2.4**
	1.5nm,0.3s						
CAF	**Calviac**	**6.28**	**79**	*e*Pn	**Pn**	**18 02 44.3**	**+1.7**
MTLF	**Montolieu**	**6.45**	**93**	*e*Pn	**Pn**	**18 02 45.8**	**+0.8**
MTLF				*e*Sn	**Sn**	**18 03 55.6**	**-3.

CIMO	**Cimolais**	**0.50 159**	*e*Pg	**Pg**	**18 48 31.9**	**-0.2**
CIMO			*e*Sg	**Sg**	**18 48 38.8**	**0.0**
CIMO	**Cimolais**	**0.50 159**	⇑P	**Pg**	**18 48 31.8**	**-0.2**
CIMO			AML	AML		
	comp=N,94μm,0.8s					
CIMO			AML	AML		
	comp=E,118μm,0.2s					
CIMO			AML	AML		
	comp=N,92μm,1.2s					
CIMO			AML	AML		
	comp=E,122μm,0.2s					
CIMO			AML	AML		
	comp=N,89μm,0.1s					
CIMO			AML	AML		
	comp=N,85μm,0.2s					
CIMO			AML	AML		
	comp=E,122μm,0.2s					
CIMO			AML	AML		
	comp=E,118μm,0.2s					
AGOR	**Agordo**	**0.51 191**	⇑*e*Pg	**Pg**	**18 48 31.8**	**-0.3**
AGOR			*e*Sg	**Sg**	**18 48 38.5**	**-0.5**
AGOR	**Agordo**	**0.51 191**	AML	AML		
	comp=N,581μm,0.3s					
AGOR			AML	AML		
	comp=E,498μm,0.2s					
AGOR			AML	AML		
	comp=E,498μm,0.2s					
AGOR			AML	AML		
	comp=N,701μm,0.2s					
AGOR			AML	AML		
	comp=E,498μm,0.2s					
AGOR			AML	AML		
	comp=E,371μm,0.2s					
AGOR			AML	AML		
	comp=N,569μm,0.2s					
AGOR			AML	AML		
	comp=E,498μm,0.2s					
AGOR			AML	AML		
	comp=N,701μm,0.2s					
AGOR			AML	AML		
	comp=E,386μm,0.4s					
CSO	**Casso**	**0.52 169**	⇓*e*Pg	**Pg**	**18 48 31.9**	**-0.4**
CSO			*e*Sg	**Sg**	**18 48 39.2**	**-0.1**
ROSI	**Rosskopf**	**0.55 286**	⇑P	**Pg**	**18 48 32.3**	**-0.7**
ROSI			AML	AML		
	comp=E,429μm,0.6s					
ROSI			AML	AML		
	comp=N,432μm,0.9s					
ROSI			AML	AML		
	comp=E,306μm,0.3s					
ROSI			AML	AML		
	comp=N,395μm,0.3s					
CLUD	**Cludinico**	**0.58 124**	⇓*e*Pg	**Pg**	**18 48 33.4**	**-0.1**
CLUD			*e*Sg	**Sb**	**18 48 41.8**	**-0.1**
CLUD	**Cludinico**	**0.58 124**	⇓P	**Pg**	**18 48 33.2**	**-0.3**
CLUD			AML	AML		
	comp=N,174μm,0.4s					
CLUD			AML	AML		
	comp=N,174μm,0.4s					
CLUD			AML	AML		
	comp=E,133μm,0.4s					
CLUD			AML	AML		
	comp=E,154μm,0.4s					
CLUD			AML	AML		
	comp=E,99μm,0.1s					
CLUD			AML	AML		
	comp=E,153μm,0.4s					
CLUD			AML	AML		
	comp=N,174μm,0.4s					
CLUD			AML	AML		
	comp=N,175μm,0.4s					
ZOU	**Zoufplan**	**0.59 112**	⇓*e*Pg	**Pg**	**18 48 33.5**	**-0.2**
ZOU			*e*Sg	**Sb**	**18 48 42.1**	**-0.1**
ZOU	**Zoufplan**	**0.59 112**	P	**Pg**	**18 48 33.5**	**-0.2**
ZOU			S	**Sb**	**18 48 42.2**	**-0.1**
ZOU			AML	AML		
	comp=N,382μm,1.0s					
ZOU			AML	AML		
	comp=E,280μm,1.5s					
ZOU			AML	AML		
	comp=N,381μm,1.0s					
ZOU			AML	AML		
	comp=E,280μm,0.5s					
ZOU			AML	AML		
	comp=N,360μm,0.4s					
ZOU			AML	AML		
	comp=E,263μm,0.1s					
ZOU			AML	AML		
	comp=E,279μm,0.1s					
ZOU			AML	AML		
	comp=N,360μm,0.4s					
ZOU			AML	AML		
	comp=E,294μm,0.6s					
WTTA	**Wattenberg**	**0.61 322**	*i* Pg	**Pg**	**18 48 33.9**	**-0.3**
	comp=E,9.2nm,0.1s,SNR=60					
WTTA			*e*Sg	**Sg**	**18 48 41.7**	**-0.6**
	comp=E,12nm,0.1s					
WTTA	**Wattenberg**	**0.61 322**	P	**Pg**	**18 48 33.3**	**-0.9**
WTTA			S	**Sg**	**18 48 42.0**	**-0.4**
WTTA			AML	AML		
	comp=E,106μm,0.6s					
WTTA			AML	AML		
	comp=N,101μm,0.5s					
WTTA			AML	AML		
	comp=E,85μm,0.3s					
WTTA			AML	AML		
	comp=N,99μm,0.3s					
STAL	**STALIGIAL**	**0.64 145**	⇓P	**Pg**	**18 48 34.1**	**-0.4**
STAL			S	**Sb**	**18 48 43.8**	**+0.2**
STAL			AML	AML		
	comp=E,277μm,0.8s					
STAL			AML	AML		
	comp=N,344μm,0.7s					
STAL			AML	AML		
	comp=N,238μm,1.2s					
STAL			AML	AML		
	comp=E,276μm,0.8s					
STAL			AML	AML		
	comp=N,344μm,0.7s					
STAL			AML	AML		
	comp=E,246μm,0.8s					
STAL			AML	AML		
	comp=E,276μm,0.8s					
STAL			AML	AML		
	comp=E,276μm,1.2s					
STAL			AML	AML		
	comp=N,220μm,0.3s					
STAL			AML	AML		
	comp=N,287μm,0.2s					
STAL			AML	AML		
	comp=E,239μm,0.1s					
STAL			AML	AML		
	comp=E,243μm,0.2s					
STAL			AML	AML		
	comp=E,246μm,1.2s					
STAL			AML	AML		
	comp=N,238μm,0.8s					
APGO	**Alpago**	**0.64 169**	*e*Pg	**Pg**	**18 48 34.7**	**0.0**
BOSI	**Bolzano**	**0.66 245**	P	**Pg**	**18 48 34.5**	**-0.6**
BOSI			S	**Sg**	**18 48 44.9**	**+1.1**
BOSI			AML	AML		
	comp=N,310μm,0.4s					
BOSI			AML	AML		
	comp=E,263μm,1.2s					
BOSI			AML	AML		
	comp=E,263μm,0.8s					
BOSI			AML	AML		
	comp=N,253μm,0.2s					
BOSI			AML	AML		
	comp=N,310μm,0.4s					
ZIAN	**Ziano**	**0.66 221**	*e*Pg	**Pg**	**18 48 34.5**	**-0.5**
FUSE	**Fusea**	**0.67 123**	*e*Pg	**Pg**	**18 48 35.0**	**-0.2**
FUSE	**Fusea**	**0.67 123**	P	**Pg**	**18 48 35.0**	**-0.2**
FUSE			S	**Sb**	**18 48 44.8**	**+0.2**
WATA	**Walderalm**	**0.69 323**	*i* Pg	**Pg**	**18 48 35.4**	**-0.3**
	comp=N,3.9nm,0.1s,SNR=27					
WATA			*e*Sg	**Sg**	**18 48 44.8**	**-0.1**
	comp=N,22nm,0.1s					
MLNI	**Malnisio**	**0.70 155**	*e*Pg	**Pg**	**18 48 35.3**	**-0.4**
PLRO	**Paularo**	**0.70 109**	*e*Pg	**Pg**	**18 48 35.5**	**-0.3**
LESA	**Schwarzleotal**	**0.72 27**	*i* Pg	**Pg**	**18 48 36.3**	**+0.1**
	comp=N,21nm,0.1s					
LESA			*e*Sg	**Sg**	**18 48 45.6**	**-0.3**
	comp=N,79nm,0.3s					
APPI	**Appiano**	**0.73 246**	⇑P	**Pg**	**18 48 35.6**	**-0.7**
APPI			AML	AML		
	comp=E,228μm,1.3s					
APPI			AML	AML		
	comp=N,255μm,0.4s					
APPI			AML	AML		
	comp=N,255μm,1.6s					
APPI			AML	AML		
	comp=E,225μm,0.1s					
APPI			AML	AML		
	comp=N,244μm,0.2s					
MPRI	**Monte Prat**	**0.77 134**	*e*Pg	**Pb**	**18 48 37.4**	**+0.2**
BOO	**Bordano**	**0.78 126**	*e*Pg	**Pg**	**18 48 37.2**	**-0.1**
VARN	**Col Varnada, M**	**0.79 184**	*e*Pg	**Pg**	**18 48 37.0**	**-0.4**
VARN	**Col Varnada, M**	**0.79 184**	⇑P	**Pg**	**18 48 37.0**	**-0.4**
VARN			AML	AML		
	comp=E,234μm,0.6s					
VARN			AML	AML		
	comp=N,204μm,1.4s					
VARN			AML	AML		
	comp=N,198μm,0.3s					
VARN			AML	AML		
	comp=E,185μm,0.3s					
VARN			AML	AML		
	comp=N,197μm,0.3s					
VARN			AML	AML		
	comp=E,181μm,0.4s					
VARN			AML	AML		
	comp=N,199μm,0.3s					
VARN			AML	AML		
	comp=N,204μm,0.6s					
VARN			AML	AML		
	comp=E,242μm,0.6s					
CAE	**Caneva**	**0.79 167**	*e*Pg	**Pg**	**18 48 37.6**	**+0.1**
SQTA	**Sankt Quirin**	**0.80 304**	*i* Pg	**Pg**	**18 48 37.0**	**-0.7**
	comp=E,0.9nm,0.0s,SNR=20					
SQTA			*e*Sg	**Sg**	**18 48 47.2**	**-1.0**
	comp=E,6.1nm,0.1s,SNR=10					
CTI	**Castel Tesino**	**0.82 207**	P	**Pg**	**18 48 37.3**	**-0.7**
CTI			AML	AML		
	comp=E,412μm,0.6s					
CTI			AML	AML		
	comp=N,433μm,0.3s					
GEPF	**Gemona**	**0.83 127**	AML	AML		
	comp=N,89μm,1.2s					
GEPF			AML	AML		
	comp=E,58μm,0.3s					
GEPF			AML	AML		
	comp=N,76μm,0.2s					
GEPF			AML	AML		
	comp=E,58μm,0.3s					
GEPF			AML	AML		
	comp=N,89μm,0.8s					
KBA	**Koelnbreinsper**	**0.85 69**	*i* Pg	**Pb**	**18 48 38.6**	**0.0**
	comp=N,1.1nm,0.1s					
KBA			*e*Sg	**Sb**	**18 48 49.9**	**+0.1**
	comp=N,13nm,0.1s					
BUA	**Buia**	**0.86 131**	*e*Pg	**Pb**	**18 48 38.8**	**+0.2**
OZOL	**Ozolo**	**0.87 245**	*e*Pg	**Pg**	**18 48 38.4**	**-0.5**
PTCC	**Patocco-Chiusa**	**0.89 115**	AML	AML		
	comp=N,58μm,0.2s					
PTCC			AML	AML		
	comp=E,63μm,1.4s					
PTCC			AML	AML		
	comp=N,67μm,1.4s					
PTCC			AML	AML		
	comp=N,67μm,0.6s					
PTCC			AML	AML		
	comp=E,63μm,0.6s					
PTCC			AML	AML		
	comp=E,57μm,0.3s					
BAD	**Bernadia**	**0.91 126**	P	**Pb**	**18 48 39.6**	**+0.1**
MOTA	**Moosalm**	**0.93 308**	*e*Pg	**Pg**	**18 48 39.3**	**-0.8**
	comp=E,1.6nm,0.1s,SNR=12					
MOTA			*e*Sg	**Sg**	**18 48 51.5**	**-0.8**
	comp=E,6.1nm,0.2s					
ACOM	**Acomizza, Ital**	**0.94 104**	AML	AML		
	comp=E,220μm,0.4s					
ACOM			AML	AML		
	comp=N,306μm,0.6s					
ACOM			AML	AML		
	comp=N,276μm,0.6s					
ACOM			AML	AML		
	comp=E,212μm,1.2s					
ACOM			AML	AML		
	comp=E,212μm,0.8s					
ACOM			AML	AML		
	comp=N,283μm,0.2s					
ACOM			AML	AML		
	comp=N,275μm,0.2s					
ACOM			AML	AML		
	comp=E,201μm,0.2s					
ACOM			AML	AML		
	comp=E,211μm,0.1s					
MYKA	**Terra Mystica**	**1.01 98**	*e*Pg	**Pg**	**18 48 41.3**	**-0.4**
	comp=E,1.2nm,0.1s					
MYKA			Sg	**Sb**	**18 48 55.0**	**+0.6**
	comp=E,12nm,0.3s					
FETA	**Feichten**	**1.03 284**	*e*Pg	**Pg**	**18 48 40.7**	**-1.2**
	comp=E,0.5nm,0.1s,SNR=8.9					
FETA			*e*Sg	**Sg**	**18 48 53.8**	**-1.6**
	comp=E,5.3nm,0.2s,SNR=16					
GAGG	**Gaggia**	**1.10 231**	⇑P	**Pb**	**18 48 42.4**	**-0.4**
GAGG			AML	AML		
	comp=N,102μm,0.1s					
GAGG			AML	AML		
	comp=N,132μm,1.4s					
GAGG			AML	AML		
	comp=E,101μm,0.1s					
GAGG			AML	AML		
	comp=N,132μm,0.6s					
GAGG			AML	AML		
	comp=E,125μm,0.8s					
GAGG			AML	AML		
	comp=E,101μm,0.1s					
GAGG			AML	AML		
	comp=E,124μm,0.1s					
GAGG			AML	AML		
	comp=N,102μm,0.1s					
GAGG			AML	AML		
	comp=N,124μm,0.1s					
DOSS	**Dosso del Somm**	**1.14 218**	P	**Pb**	**18 48 43.1**	**-0.3**
DOSS			AML	AML		
	comp=E,192μm,0.3s					
DOSS			AML	AML		
	comp=N,156μm,1.2s					
DOSS			AML	AML		
	comp=E,192μm,0.3s					
DOSS			AML	AML		
	comp=N,210μm,0.5s					
DOSS			AML	AML		
	comp=E,148μm,0.2s					
DOSS			AML	AML		
	comp=N,143μm,0.2s					
DOSS			AML	AML		
	comp=E,168μm,0.2s					
DOSS			AML	AML		
	comp=N,174μm,0.1s					
DOSS			AML	AML		
	comp=E,160μm,0.3s					
DOSS			AML	AML		
	comp=N,156μm,0.8s					
MOSI	**Grossmontoni**	**1.14 262**	⇓P	**Pb**	**18 48 43.2**	**-0.3**
MOSI			AML	AML		
	comp=E,247μm,0.2s					
MOSI			AML	AML		
	comp=N,284μm,0.3s					
MOSI			AML	AML		
	comp=N,284μm,0.3s					
LUSI	**Trento, Gardas**	**1.19 227**	⇑P	**Pn**	**18 48 44.0**	**-0.1**
LUSI			AML	AML		
	comp=E,178μm,0.2s					
LUSI			AML	AML		
	comp=N,348μm,0.5s					
LUSI			AML	AML		
	comp=N,348μm,1.5s					
LUSI			AML	AML		
	comp=E,178μm,0.2s					
LUSI			AML	AML		
	comp=N,321μm,0.1s					
RETA	**Reutte**	**1.20 307**	*e*Sg	**Sb**	**18 49 01.0**	**+1.2**
	comp=N,6.9nm,0.2s					
SABO	**M.te Sabotino**	**1.27 129**	P	**Pn**	**18 48 45.2**	**0.0**
BRMO	**Bormio**	**1.29 257**	⇑P	**Pn**	**18 48 45.5**	**0.0**
BRMO			AML	AML		
	comp=E,59μm,0.4s					
BRMO			AML	AML		
	comp=N,56μm,0.7s					
BRMO			AML	AML		
	comp=E,59μm,1.6s					
BRMO			AML	AML		
	comp=E,59μm,0.4s					
BRMO			AML	AML		
	comp=N,46μm,0.2s					
BIOA	**Bad Ischl, Aus**	**1.34 47**	*e*Pn	**Pb**	**18 48 47.3**	**+0.3**
	comp=N,0.4nm,0.1s					
BIOA			Sg	**Sg**	**18 49 07.1**	**+1.6**
	comp=N,11nm,0.2s					
MABI	**Malga Bissina**	**1.37 238**	⇑P	**Pn**	**18 48 46.8**	**+0.1**
MABI			S	**Sb**	**18 49 05.5**	**+0.8**
MABI			AML	AML		
	comp=N,89μm,0.5s					
MABI			AML	AML		
	comp=N,89μm,1.5s					
MABI			AML	AML		
	comp=E,89μm,0.3s					
MABI			AML	AML		
	comp=E,77μm,0.1s					
MABI			AML	AML		
	comp=N,80μm,0.1s					
ROVR	**Rover Verones**	**1.37 215**	AML	AML		
	comp=N,201μm,0.2s					
ROVR			AML	AML		
	comp=N,202μm,0.2s					
ROVR			AML	AML		
	comp=E,60μm,0.2s					
ROVR			AML	AML		
	comp=N,495μm,0.2s					
ROVR			AML	AML		
	comp=E,60μm,0.2s					
BERNI	**Berninapass**	**1.54 257**	⇓P	**Pn**	**18 48 50.4**	**+1.3**
BERNI			AML	AML		
	comp=E,32μm,0.1s					
BERNI			AML	AML		
	comp=N,34μm,0.5s					
BERNI			AML	AML		
	comp=N,34μm,1.5s					
BERNI			AML	AML		
	comp=E,32μm,0.1s					
BERNI			AML	AML		
	comp=N,27μm,0.2s					
BERNI			AML	AML		
	comp=E,32μm,1.9s					
DAVOX	**Davos/Dischmat**	**1.58 271**	⇓P	**Pn**	**18 48 50.9**	**+1.2**
DAVOX			AML	AML		
	comp=E,32μm,1.2s					
DAVOX			AML	AML		
	comp=N,34μm,0.5s					
DAVOX			AML	AML		
	comp=E,32μm,0.8s					
SALO	**Salr**	**1.64 225**	⇑P	**Pb**	**18 48 52.9**	**+1.0**
OBKA	**Obir**	**1.65 99**	*e*Pn	**Pb**	**18 48 51.8**	**-0.4**
	comp=E,2.2nm,0.2s,SNR=10					
OBKA			*e*Sg	**Sg**	**18 49 16.1**	**+0.9**
	comp=E,12nm,0.4s					
DAVA	**Damuels**	**1.66 289**	*e*Pg	**Pg**	**18 48 54.1**	**+0.2**
	comp=E,2.0nm,0.2s					
DAVA			*e*Sg	**Sg**	**18 49 17.4**	**+2.0**
	comp=E,18nm,0.2s					
MOA	**Molln**	**1.77 52**	*e*Pg	**Pg**	**18 48 56.2**	**0.0**
	comp=E,5.5nm,0.2s					
MOA			*e*Sg	**Sg**	**18 49 20.1**	**+1.0**
	comp=E,6.7nm,0.2s					
SOKA	**Soboth**	**1.96 92**	*e*Pn	**Pn**	**18 48 56.3**	**+1.5**
	comp=E,0.4nm,0.2s					
SOKA			Sn	**Sg**	**18 49 23.8**	**-1.4**
	comp=E,2.0nm,0.3s,SNR=4.7					
ARSA	**Arzberg**	**2.33 77**	*e*Pn	**Pn**	**18 49 01.3**	**+1.5**
	comp=E,0.6nm,0.2s					
CKRC	**Cesky Krumlov**	**2.49 34**	*e*PG	**Pb**	**18 49 08.2**	**+1.7**
CKRC			*e*SG	**Sg**	**18 49 39.9**	**-2.2**
KHC	**Kasperske Hory**	**2.53 21**	*e*PN	**Pn**	**18 49 04.6**	**+2.0**
KHC			*e*SN	**Sb**	**18 49 36.2**	**-1.9**
KHC			*e*SG	**Sg**	**18 49 42.4**	**-1.0**
	comp=E,5.8nm,0.4s					
CONA	**Conrad Observa**	**2.75 64**	*e*Pg	**Pg**	**18 49 13.4**	**-1.4**
	comp=E,0.6nm,0.3s					
CONA			Sg	**Sg**	**18 49 49.8**	**-0.6**
	comp=E,1.1nm,0.2s					
ZVC	**Zvikov**	**2.98 26**	*e*PG	**Pb**	**18 49 16.9**	**+2.1**
ZVC			*e*SG	**Sg**	**18 49 55.8**	**-1.9**
	comp=E,3.4nm,0.3s					
PRU	**Pruhonice**	**3.57 25**	*e*SG	**Sg**	**18 50 14.7**	**-2.0**
	comp=E,2.4nm,0.2s					
GOPC	**GO Pecny, Ondr**	**3.58 28**	*e*SG	**Sg**	**18 50 15.6**	**-1.5**
	comp=E,4.7nm,0.7s					
KRUC	**Moravsky**	**3.64 50**	*e*PN	**Pn**	**18 49 19.6**	**+1.9**
KRUC			*e*PG	**Pg**	**18 49 29.4**	**-2.3**
KRUC			*e*SG	**Sg**	**18 50 17.6**	**-1.2**
CDF	**Champ du Feu**	**3.70 298**	*e*Pn	**Pn**	**18 49 20.8**	**+2.1**
CDF			*e*Sn	**Sn**	**18 50 02.1**	**+0.1**
	comp=E,0.5nm,0.2s					
CDF			*e*Sg	**Sg**	**18 50 20.6**	**-0.3**
	comp=E,1.3nm,0.3s					
HINF	**Hinteralfeld**	**3.77 288**	*e*Pn	**Pn**	**18 49 21.8**	**+2.2**
HINF			*e*Sn	**Sn**	**18 50 04.2**	**+0.4**
	comp=E,1.1nm,0.2s					
HSKC	**Hora Svate Kat**	**3.92 12**	*e*SG	**Sg**	**18 50 26.1**	**-1.7**
	comp=E,3.7nm,0.6s					
LPG	**La Plagne**	**3.99 253**	*e*Pn	**Pn**	**18 49 24.8**	**+2.0**
PVCC	**Panska Ves**	**4.07 22**	*e*SG	**Sg**	**18 50 30.0**	**-2.6**
	comp=E,2.9nm,0.4s					
CABF	**La Chapelle**	**4.20 270**	*e*Pn	**Pn**	**18 49 27.0**	**+1.4**
CABF			*e*Sn	**Sn**	**18 50 13.3**	**-1.0**
	comp=E,0.5nm,0.2s					
BRG	**Berggiesshubel**	**4.26 15**	Sg	**Sg**	**18 50 37.3**	**-1.3**
BRG			Amp		18 50 42.3	
	comp=Z,1.9nm,0.5s					
DPC	**Dobruska-Polom**	**4.50 36**	*e*SG	**Sg**	**18 50 44.2**	**-2.4**
	comp=Z,1.4nm,0.4s					
UPC	**Upice**	**4.51 33**	*e*SG	**Sg**	**18 50 44.0**	**-2.7**
	comp=Z,3.4nm,0.9s					
CLL	**Collm**	**4.56 6**	*i* Pn	**Pn**	**18 49 34.1**	**+3.7**
CLL			*e*Sg	**Sg**	**18 50 46.0**	**-2.4**
CHVC	**Chvalec**	**4.59 33**	*e*SG	**Sg**	**18 50 46.6**	**-2.8**
OSTC	**Ostas**	**4.63 34**	*e*SG	**Sg**	**18 50 48.4**	**-2.1**
SFTF	**Sexfontaines**	**5.05 289**	*e*Pn	**Pn**	**18 49 39.0**	**+1.9**
SMF	**Signal de Mont**	**5.74 272**	*e*Pn	**Pn**	**18 49 47.8**	**+1.2**
SMF			*e*Sn	**Sn**	**18 50 50.4**	**-1.8**
	comp=Z,0.5nm,0.2s					
AVF	**Avril sur Loir**	**6.07 273**	*e*Pn	**Pn**	**18 49 52.0**	**+0.9**
BGF	**Bois d'Agland**	**6.43 271**	*e*Pn	**Pn**	**18 49 57.8**	**+1.7**
BGF			*e*Sn	**Sn**	**18 51 07.5**	**-1.7**
	comp=Z,1.5nm,0.3s					

*IDC **08** 18:54:33.8±10.0,2°.38N×125°.11E,h175km±94km,mb3.1/4, mbtmp3.6/4,Error ellipse: s-maj=177.3km s-min=27.1km az=62.0*

*DJA **08** 18:54:40.3±0.6,2°.N±4°×12°.5E±°,h174km±10km,M3.6/9, mb3.9/2,mB4.8/1,MLv3.5/9,Mw(mB)4.0/1*

ISC 08 18:54:38.9±1.6,19.N±0.1×124.83E±0.08,h198km,n12, σ1°47/14,mb3.5/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**2.20**	**236**	P	**Pn**	**18 55 20.7**	**+1.3**
TNTI	**Ternate**	**2.77**	**113**	P	**Pn**	**18 55 26.4**	**+0.6**
MRSI	**Marisa**	**3.21**	**244**	P	**Pn**	**18 55 32.5**	**+1.5**
LUWI	**Luwuk**	**3.56**	**215**	P	**Pn**	**18 55 36.0**	**+0.8**
LBMI	**Labuha**	**3.66**	**133**	P	**Pn**	**18 55 37.7**	**+1.2**
SANI	**Sanana**	**4.07**	**163**	P	**Pn**	**18 55 42.0**	**+0.4**
SANI				S	**Sn**	**18 56 29.7**	**-1.2**
NLAI	**Namlea**	**5.57**	**156**	P	**Pn**	**18 56 01.9**	**+1.3**
SWI	**Sorong**	**6.98**	**113**	P	**Pn**	**18 56 21.3**	**+2.3**
WRA	**Warramunga Arr**	**23.61**	**157**	P	**P**	**18 59 32.1**	**0.0**
	1.0nm,0.5s,baz=338,slow=10,SNR=22						
WRA				PcP	**PcP**	**19 03 09.3**	**-2.2**
	0.3nm,0.9s,baz=324,slow=2.7,SNR=2.2						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**26.88**	**161**	P	**P**	**19 00 01.5**	**-0.2**
	0.2nm,0.3s,baz=339,slow=8.0,SNR=11						
ASAR				PcP	**PcP**	**19 03 16.9**	**-1.9**
	0.5nm,1.0s,baz=357,slow=1.5,SNR=1.6						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**37.15**	**156**	P	**P**	**19 01 31.4**	**+0.6**
	1.2nm,0.7s,baz=328,slow=9.5,SNR=2.0						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**58.02**	**327**	P	P	19 04 06.4	-4.7
	0.1nm,0.3s,baz=114,slow=8.4,SNR=1.7						
	0.1nm,0.3s						

*IDC **08** 19:19:37.5±1.7,28°.90N×142°.66E,h0km,mb3.8/11, mbtmp3.9/14,ML3.4/3,MS2.8/7,Error ellipse: s-maj=56.4km s-min=15.1km az=79.0*

*JMA **08** 19:19:41.1±0.1,29.°1N±0.°3×14°.2E±°, h50km, MV4.0/16, NEAR TORISHIMA IS*
*NIED **08** 19:19:41.1,29.°09N×142.°46E, h50km, MW4.0, Moment Tensor Solution. s1 Moment tensor: Scale 10^15Nm; Mrr0.11; Mθθ-0.20; Mφφ0.09; Mrθ-0.39; Mθφ0.39; Mrφ0.98; Fault plane solution: M0 1.13000×10^15 NP1: φs340.00000°, δ86.00000°, λ110.00000°. NP2: φs81.00000°, δ20.00000°, λ11.00000°.*
*NEIC **08** 19:19:43±2.6,29.°15N±0.°06×142.°5E±0.°1, h34km±6km, mb4.6/23 Error ellipse: s-maj=16.6km s-min=8.6km az=79.0*

ISC 08 19:41.9±0.7, 29.°02N±0.°05×142.°54E±0.°09, h27km, n65, σ2°18/72, mb4.5/29, MS2.9/4, 1C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.94**	**189**	P	**Pn**	**19 20 13.2**	**+0.1**
CBIJ				S	**Sn**	**19 20 37.1**	**+0.6**
JCJ	**Chichijima**	**1.94**	**189**		**Pn**	**19 20 15.1**	**+2.0**
JCJ	**Chichijima**	**1.94**	**189**	Pn	Pn	19 20 09.2	-4.0
5.8nm,0.3s,baz=357,slow=19,SNR=17							
JCJ				Sn	**Sn**	**19 20 31.6**	**-4.9**
40nm,0.3s,baz=287,slow=20,SNR=9.7							
JHJ	**Hachijo jima 2**	**4.72**	**331**	Pn	**Pn**	**19 20 50.9**	**-0.5**
6.0nm,0.3s,baz=69,slow=12,SNR=2.2							
JHJ				Sn	**Sn**	**19 21 42.5**	**-2.8**
9.7nm,0.3s,baz=119,slow=21,SNR=1.3							
196nm,0.8s							
BSO1	**Boso 1**	**5.78**	**347**	P	**Pn**	**19 21 04.3**	**-1.0**
BSO1				S	**Sn**	**19 22 09.2**	**-1.2**
BSO4	**Boso 4**	**6.24**	**343**	S	**Sn**	**19 22 22.1**	**-0.4**
JSG	**Sagara**	**6.75**	**328**	Pn	**Pn**	**19 21 15.9**	**-3.3**
JHU	**Hanno**	**7.35**	**339**	P	**Pn**	**19 21 27.4**	**-0.1**
JHU				S	**Sn**	**19 22 46.9**	**-3.1**
JRY	**Ryogami san**	**7.62**	**337**	P	**Pn**	**19 21 31.9**	**+0.7**
INU	**Inuyama**	**7.86**	**325**	Pn	**Pn**	**19 21 29.9**	**-4.5**
MJAR	**Matsushiro Arr**	**8.34**	**335**	Pn	**Pn**	**19 21 40.1**	**-1.0**
0.3nm,0.3s,baz=160,slow=12,SNR=25							
MJAR				Sn	**Sn**	**19 23 11.6**	**-2.8**
0.1nm,0.3s,baz=143,slow=26,SNR=2.1							
MJAR				LR	LR	19 25 02.7	
comp=Z,48nm,18.1s,baz=208,slow=38							
1.2nm,0.3s							
MAJO	**Matsushiro**	**8.34**	**335**	Pn	**Pn**	**19 21 40.6**	**-0.5**
MJB9	**Matsu-Tunnel**	**8.35**	**335**	Pn	**Pn**	**19 21 41.6**	**+0.4**
JMM	**Marumori**	**8.95**	**351**	Pn	**Pn**	**19 21 47.3**	**-2.1**
JSD	**Sado**	**9.68**	**339**		**Pn**	**19 21 56.9**	**-2.5**
JNU	**Nakatsue**	**10.80**	**295**	LR	LR	19 26 28.8	
comp=Z,47nm,18.8s,baz=69,slow=38							
KSRS	**Korea Array**	**14.83**	**308**	Pn	**Pn**	**19 23 12.2**	**+2.5**
0.2nm,0.3s,baz=116,slow=12,SNR=8.3							
KSRS				LR	LR	19 28 35.9	
comp=Z,32nm,20.0s,baz=90,slow=36							
1.2nm,0.7s							
ASAJ	**Asahikawa**	**15.07**	**0**	LR	LR	19 30 14.4	
comp=Z,30nm,20.8s,baz=173,slow=42							
SSLB	**Suanglung**	**20.01**	**260**	P	**P**	**19 24 09.5**	**-3.2**
SSLB				IAmb	IAmb	19 24 19.9	
comp=Z,68nm,1.5s							
BNX	**BinXian**	**20.51**	**329**	⇑P	Pn	19 24 19.0	-1.2
BNX				pmax	pmax		
comp=Z,10.0nm,0.8s							
BNX				pmax	pmax		
comp=Z,90nm,4.9s							
NJ2	**Nanjing**	**20.61**	**284**	*e*P	**P**	**19 24 18.1**	**-1.0**
NJ2				pP	Pn	19 24 23.2	+1.7
NJ2				sP	**pP**	**19 24 26.2**	**+1.1**
NJ2				pmax	pmax		
comp=Z,21nm,0.6s							
NJ2				pmax	pmax		
comp=Z,190nm,3.6s							
KLR	**Kul'dur**	**21.81**	**341**	P	**P**	**19 24 32.9**	**+1.1**
comp=Z,0.5nm,0.4s,baz=150,slow=20,SNR=1.7							
comp=Z,0.5nm,0.4s							
BJI	**Beijing**	**24.26**	**304**	P	**P**	**19 24 53.6**	**-3.1**
BJI				pP	**pP**	**19 24 59.2**	**-4.0**
BJI				S	**S**	**19 29 04.5**	**-9.2**
BJI				pmax	pmax		
comp=Z,1.0nm,0.5s							
XLT	**XiLinHaoTe**	**25.80**	**312**	*e*P	**P**	**19 25 11.2**	**+0.4**
XLT				pP	pP	19 25 17.9	+0.9
XLT				PP	**PnPn**	**19 25 46.2**	**-2.0**
XLT				pmax	pmax		
comp=Z,8.0nm,1.0s							
XLT				pmax	pmax		
comp=Z,56nm,4.3s							
PETK	**Petropavlovsk-**	**26.54**	**21**	LR	LR	19 35 43.0	
comp=Z,8.9nm,20.5s,baz=145,slow=36							
HHC	**Hu-ho-hao-te**	**27.86**	**303**	*e*P	**P**	**19 25 30.2**	**+0.8**
HHC				pmax	pmax		
comp=Z,24nm,0.7s							
HHC				pmax	pmax		
comp=Z,160nm,4.1s							
BTO	**Baotou**	**28.93**	**302**	*e*P	**P**	**19 25 41.0**	**+2.0**
BTO				pP	**pP**	**19 25 46.4**	**+1.0**
BTO				sP	**sP**	**19 25 49.7**	**+1.6**
BTO				PP	**PnPn**	**19 26 34.4**	**+3.5**
BTO				S	**S**	**19 30 32.4**	**+4.3**
BTO				SS	**SnSn**	**19 31 54.3**	**+2.7**
BTO				pmax	pmax		
comp=Z,14nm,0.8s							
BTO				pmax	pmax		
comp=Z,180nm,3.5s							
BTO				LR	LR		
comp=N,700nm,21.4s							
BTO				LR	LR		
comp=E,490nm,17.3s							
BTO				LR	LR		
comp=Z,210nm,9.7s							
SONM	**Songino Array**	**33.58**	**314**	P	**P**	**19 26 21.5**	**+1.7**
comp=Z,1.4nm,0.8s,baz=116,slow=9.9,SNR=4.3							
comp=Z,1.4nm,0.8s							
PZH	**PanZhiHua**	**36.06**	**276**	P	**P**	**19 26 42.8**	**+1.3**
PZH				pmax	pmax		
comp=Z,10.0nm,0.9s							
PZH				pmax	pmax		
comp=Z,90nm,4.3s							
CRAI	**Chiangrai**	**39.15**	**267**	P	**P**	**19 27 06.3**	**-1.2**
KAPI	**Kappang**	**40.31**	**217**	LR	LR	19 46 59.8	
comp=Z,11nm,18.5s,baz=292,slow=41							
CMAR	**Chiang Mai Arr**	**41.06**	**265**	P	**P**	**19 27 24.1**	**+0.7**
comp=Z,0.4nm,0.6s,baz=81,slow=4.8,SNR=4.8							
comp=Z,0.4nm,0.6s							
MTN	**Manton Dam**	**43.05**	**196**	P	**P**	**19 27 39.9**	**+0.3**
MTN				IAmb	IAmb	19 27 43.1	
comp=Z,15nm,1.1s							
WMQ	**Urumqi**	**45.73**	**304**	*e*P	**P**	**19 28 02.4**	**+1.5**
WMQ				pP	pP	19 28 05.7	-1.7
WMQ				pmax	pmax		
comp=Z,12nm,0.7s							
KNRA	**Kununurra**	**46.38**	**198**	P	**P**	**19 28 06.7**	**+0.7**
ZALV	**Zalesovo Beam**	**48.26**	**318**	P	**P**	**19 28 20.9**	**+0.6**
comp=Z,0.7nm,0.4s,baz=111,slow=7.9,SNR=2.8							
ZALV				LR	LR	19 48 45.6	
comp=Z,18nm,18.5s,baz=50,slow=36							
comp=Z,0.7nm,0.4s							
WB0	**Warramunga Arr**	**49.13**	**190**	P	**P**	**19 28 28.4**	**+1.0**
WB0				IAmb	IAmb	19 28 30.6	
comp=Z,3.8nm,0.8s							
WR0	**Warramunga Arr**	**49.30**	**190**	P	**P**	**19 28 28.6**	**-0.1**
WR0				IAmb	IAmb	19 28 34.0	
comp=Z,10nm,1.3s							
WRAB	**Tennant Creek**	**49.30**	**190**	P	**P**	**19 28 29.0**	**+0.4**
WRAB				IAmb	IAmb	19 28 31.8	
comp=Z,4.3nm,0.8s							
WB2	**Warramunga Arr**	**49.31**	**190**	P	**P**	**19 28 29.9**	**+1.1**
WB2				IAmb	IAmb	19 28 41.0	
comp=Z,4.3nm,0.8s							
WRA	**Warramunga Arr**	**49.31**	**190**	P	**P**	**19 28 29.1**	**+0.3**
WRA	**Warramunga Arr**	**49.31**	**190**	P	**P**	**19 28 28.1**	**-0.6**
comp=Z,2.7nm,0.7s,baz=8.7,slow=8.2,SNR=27							
comp=Z,2.7nm,0.7s							
MK31	**Makanchi Array**	**49.51**	**308**	P	**P**	**19 28 29.6**	**-0.6**
MKAR	**Makanchi Array**	**49.51**	**308**	P	**P**	**19 28 28.8**	**-1.4**
MKAR	**Makanchi Array**	**49.51**	**308**	P	**P**	**19 28 30.0**	**-0.1**
comp=Z,0.8nm,0.5s,baz=72,slow=12,SNR=8.1							
MKAR				PcP	**PcP**	**19 29 53.2**	**+1.4**
comp=Z,0.3nm,0.5s,baz=91,slow=4.4,SNR=1.4							
comp=Z,0.8nm,0.5s							
MAKZ	**Makanchi**	**49.73**	**308**	P	**P**	**19 28 31.5**	**-0.3**
MAKZ				IAmb	IAmb	19 28 34.5	
comp=Z,13nm,1.5s							
KURK	**Kurchatov**	**51.88**	**313**	P	**P**	**19 28 48.8**	**+0.9**
KURBB	**Kurchatov Arra**	**51.94**	**313**	P	**P**	**19 28 48.7**	**+0.4**
comp=Z,2.7nm,0.7s,baz=90,slow=7.8,SNR=29							
comp=Z,2.7nm,0.7s							
ASAR	**Alice Springs**	**53.03**	**190**	P	**P**	**19 28 55.2**	**-1.4**
comp=Z,0.1nm,0.4s,baz=8.8,slow=7.4,SNR=7.7							
comp=Z,0.1nm,0.4s							
BPAW	**Bear Paw Mtn.**	**54.05**	**30**	P	**P**	**19 29 07.5**	**+3.8**
BPAW				IAmb	IAmb	19 29 33.2	
comp=Z,7.8nm,1.4s							
TRF	**Thorofare Moun**	**54.28**	**31**	P	P	19 28 58.1	-7.5
TRF				IAmb	IAmb	19 29 19.1	
comp=Z,14nm,1.3s							
I23K	**Minto, Yukon-K**	**54.87**	**29**	P	**P**	**19 29 10.9**	**+1.3**
I23K				IAmb	IAmb	19 29 26.7	
comp=Z,12nm,1.4s							
SML	**Sawmill**	**55.05**	**33**	P	P	19 29 05.5	-5.5
H24K	**Noodor Dome**	**55.56**	**28**	P	**P**	**19 29 15.2**	**+0.6**
IL31		**55.89**	**29**	P	**P**	**19 29 17.5**	**+0.6**
ILAR	**Eielson Array**	**55.89**	**29**	P	**P**	**19 29 18.4**	**+1.4**
KLU	**Klutina**	**56.19**	**33**	P	P	19 29 13.7	-5.6
J25K	**Salcha River,**	**56.53**	**29**	P	**P**	**19 29 21.4**	**-0.2**
J25K				IAmb	IAmb	19 29 25.3	
comp=Z,4.2nm,0.7s							
KHU	**Kahuku**	**56.73**	**85**	P	**P**	**19 29 22.1**	**-1.8**
BVAR	**Borovoye Array**	**56.85**	**317**	P	**P**	**19 29 24.9**	**+0.9**
comp=Z,1.7nm,0.6s,baz=99,slow=7.2,SNR=12							
comp=Z,1.7nm,0.6s							
BMAR	**Burnt Mountain**	**57.00**	**26**	P	**P**	**19 29 24.0**	**-0.9**
SCRK	**Sand Creek**	**57.12**	**30**	P	**P**	**19 29 25.6**	**-0.2**
SCRK				IAmb	IAmb	19 29 32.7	
comp=Z,5.8nm,1.0s							
GLB	**Gilahina Butte**	**57.20**	**33**	P	**P**	**19 29 25.6**	**-0.9**
GLB				IAmb	IAmb	19 29 54.6	
comp=Z,5.5nm,1.0s							
FINES	**FINESS Array B**	**76.37**	**334**	P	**P**	**19 31 28.7**	**+0.4**
comp=Z,2.7nm,0.9s,baz=67,slow=8.2,SNR=0.9							
comp=Z,2.7nm,0.9s							
BRTR	**Keskin Array B**	**84.93**	**313**	P	**P**	**19 32 16.2**	**+1.3**
comp=Z,0.5nm,0.7s,baz=38,slow=2.4,SNR=1.8							
comp=Z,0.5nm,0.7s							

*AZER **08** 19:26:25.6±4.3, 34.°23N×45.°87E, h3km±224km, Error ellipse: s-maj=717.6km s-min=19.5km az=13.0*
*TEH **08** 19:26:37.0, 34.°96N×45.°91E, h8km±35km, ML3.2*
*ISN **08** 19:26:38.7±0.7, 34.°94N×45.°99E, h18km±4km, ML3.0*

ISC 08 19:26:38.5±0.8, 34.°92N±0.°02×45.°94E±0.°03, h10km, n33, σ1°99/44, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.42**	**121**	Pg	**Pg**	**19 26 44.7**	**-2.2**
IDHR				Sg	**Sg**	**19 26 52.8**	**+0.3**
IGHG	**Ghaleghazi**	**0.78**	**139**	Pg	**Pg**	**19 26 51.1**	**-2.5**
ILIN	**Lien**	**0.84**	**90**	Pg	**Pg**	**19 26 52.1**	**-2.5**
ILIN				Sg	**Sg**	**19 27 04.1**	**-1.5**
KCHF	**Cheshme Sefid,**	**1.11**	**125**	Pg	**Pb**	**19 26 57.8**	**-2.1**
KCHF				Sg	**Sg**	**19 27 13.9**	**-0.3**
ILBA	**Ilam Banvizeh**	**1.31**	**170**	Pg	**Pn**	**19 27 01.4**	**-1.5**
IKRK	**Kirkuk**	**1.40**	**291**	*e*Pg	**Pg**	**19 27 05.0**	**-0.3**
IKRK				*e*Sg	**Sg**	**19 27 23.0**	**-0.5**
IKRK				AML	AML	19 27 31.5	
comp=N,358nm,0.9s							
IKRK				AML	AML	19 27 35.9	
comp=E,197nm,0.8s							
IKOM	**Komasi**	**1.49**	**119**	Pg	**Pn**	**19 27 04.9**	**-0.6**
IBZA	**Bozab**	**1.64**	**105**	Pg	**Pg**	**19 27 08.9**	**-1.0**
IBDR	**Badra**	**1.80**	**180**	*e*Pg	**Pb**	**19 27 11.0**	**-0.6**
IBDR				*e*Sg	**Sb**	**19 27 35.0**	**+0.8**
IBDR				AML	AML	19 27 50.1	
comp=E,125nm,0.8s							
IBDR				AML	AML	19 27 52.2	
comp=N,106nm,0.8s							
MAHB	**Mahabad**	**1.86**	**354**	Pn	**Pb**	**19 27 10.1**	**-2.5**
BHD	**Baghdad**	**2.09**	**219**	*e*Pn	**Pb**	**19 27 15.0**	**-1.5**
BHD				*e*Sn	**Sb**	**19 27 42.0**	**-0.6**
BHD				AML	AML	19 27 59.0	
comp=E,240nm,0.4s							
IKFM	**Kafar-mosalman**	**2.10**	**131**	Pn	**Pb**	**19 27 15.6**	**-1.1**
HSAM	**Samen**	**2.30**	**107**	Pn	**Pb**	**19 27 17.9**	**-2.4**
HAGD	**Aghdareh**	**2.63**	**91**	Pn	**Pb**	**19 27 23.0**	**-2.9**
IAZR	**Azarshahr**	**2.76**	**1**	Pn	**Pb**	**19 27 24.4**	**-3.6**
QSDN	**Sirdan**	**3.07**	**58**	Pn	**Pb**	**19 27 29.2**	**-4.1**
RAFI	**Al-Rafai**	**3.19**	**177**	*e*Pn	**Pn**	**19 27 30.0**	**+1.4**
RAFI				*e*Sn	**Sn**	**19 28 08.0**	**+1.3**
ISRB	**Sarab**	**3.22**	**25**	Pn	**Pn**	**19 27 29.5**	**+0.3**
ITBZ	**Tabriz**	**3.31**	**3**	Pn	**Pn**	**19 27 31.8**	**+1.2**
ISHB	**Shabestar**	**3.37**	**356**	Pn	**Pn**	**19 27 31.4**	**0.0**
IHRS	**Heris**	**3.51**	**14**	Pn	**Pn**	**19 27 34.6**	**+1.3**
ORD	**Ordubad**	**4.00**	**1**	P	Pb	19 27 43.0	-6.1
SNR=6.5							
ORD				S	**Sg**	**19 28 41.2**	**-5.9**
GRMI	**Germi**	**4.19**	**21**	Pn	**Pn**	**19 27 43.2**	**+0.7**
LRK	**Lerik**	**4.19**	**27**	P	**Pn**	**19 27 44.2**	**+1.6**
SNR=4.3							
LRK				S	**Sb**	**19 28 44.1**	**+1.1**
NAX	**Nakhchivan**	**4.26**	**355**	P	Pb	19 27 46.9	-6.7
SNR=4.6							
NAX				S	**Sb**	**19 28 47.1**	**+1.9**
AMIS	**Naft Sefid**	**4.28**	**138**	Pn	**Pn**	**19 27 45.1**	**+1.3**
ASTR	**Astara**	**4.29**	**31**	P	**Pn**	**19 27 45.8**	**+1.9**
ASTR				S	**Sb**	**19 28 46.9**	**+1.0**
YRD	**Yardimli**	**4.39**	**24**	P	**Pn**	**19 27 46.8**	**+1.4**
YRD				S	**Sb**	**19 28 51.0**	**+2.0**
LKRN	**Lenkeran, Azer**	**4.42**	**30**	P	**Pn**	**19 27 46.8**	**+1.3**
LKRN				S	**Sb**	**19 28 48.4**	**-1.0**
SBZ	**Shahbuz**	**4.48**	**356**	P	Pn	19 27 49.7	+3.2
SNR=8.6							
SBZ				S	**Sb**	**19 28 53.8**	**+2.4**
QAMS	**Qamsar**	**4.66**	**103**	Pn	**Pn**	**19 27 51.3**	**+2.1**
IPIR	**Pirpir**	**4.68**	**117**	Pn	**Pn**	**19 27 50.6**	**+1.1**
IKLH	**Kolahrood**	**4.94**	**107**	Pn	**Pn**	**19 27 55.4**	**+2.5**

IDC 08 19:34:16.3±16.0, 1.°77N×98.°05E, h0km, mb3.8/4, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=435.5km s-min=125.6km az=119.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.61**	**3**	Pn	Pn	19 38 11.0	+0.2
baz=195,slow=10,SNR=2.9							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**46.91**	**345**	P	P	19 42 48.2	-0.4
0.3nm,0.4s,baz=164,slow=8.5,SNR=4.9							
0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**51.42**	**344**	P	P	19 43 23.1	+0.1
0.4nm,0.5s,baz=166,slow=6.4,SNR=7.6							
0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**53.14**	**350**	P	P	19 43 35.5	-0.3
0.7nm,0.3s,baz=172,slow=6.0,SNR=4.2							
0.7nm,0.3s							
BVAR	**Borovoye Array**	**56.01**	**340**	P	P	19 43 56.8	+0.1
0.5nm,0.4s,baz=146,slow=10,SNR=6.9							
0.5nm,0.4s							

*WEL **08** 19:46:13.7±0.2, 39.°3N±4.°×17.°5E±°, h21km±3km, M3.3/55, ML3.7/32, MLv3.3/55, Error ellipse: s-maj=0.0km s-min=0.0km az=171.7, confirmed*
*NOU **08** 19:46:14.2, 39.°20S×174.°68E, h39km, MLv3.7/10, North Island, New Zealand*

ISC 08 19:46:14.2±0.9, 39.°24S±0.°02×174.°75E±0.°02, h32km±7km, n108, σ0°86/116, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.12**	**5**	P	**Pn**	**19 46 20.0**	**+0.3**
VRZ				S	**Sb**	**19 46 24.8**	**+0.9**
LREZ	**Lake Rotokare**	**0.34**	**230**	P	**Pb**	**19 46 22.4**	**-0.1**
LREZ				S	**Sn**	**19 46 28.9**	**+0.2**
DREZ	**Durham Road**	**0.43**	**277**	P	**Pn**	**19 46 23.9**	**-0.2**
PREZ	**Palmer Road**	**0.47**	**257**	P	**Pn**	**19 46 24.5**	**-0.1**
PREZ				S	**Sn**	**19 46 32.8**	**+1.0**
PKVZ	**Pokaka**	**0.47**	**96**	P	**Pb**	**19 46 23.7**	**-0.6**
PKVZ				S	**Sb**	**19 46 31.0**	**-0.3**
NEZ	**North Egmont**	**0.51**	**266**	P	**Pn**	**19 46 25.0**	**-0.2**
NEZ				S	**Sn**	**19 46 33.7**	**+0.9**
WAZ	**Wanganui**	**0.55**	**160**	P	**Pb**	**19 46 25.0**	**-0.5**
TWVZ	**Taurewa**	**0.56**	**73**	P	**Pb**	**19 46 25.0**	**-0.8**
KHEZ	**Kahui Hut**	**0.57**	**264**	P	**Pn**	**19 46 26.6**	**+0.5**
KHEZ	**Kahui Hut**	**0.57**	**264**	P	**Pn**	**19 46 26.2**	**+0.1**
KHEZ				S	**Sn**	**19 46 35.7**	**+1.3**
PKE	**Pukeiti**	**0.59**	**274**	P	**Pn**	**19 46 26.4**	**+0.1**
COVZ	**Chateau Observ**	**0.62**	**87**	P	**Pb**	**19 46 26.0**	**-0.7**
TRVZ	**Turoa**	**0.63**	**96**	P	**Pb**	**19 46 26.2**	**-0.7**
TRVZ				S	**Sb**	**19 46 35.0**	**-0.7**
FWVZ	**Far West T-bar**	**0.63**	**92**	P	**Pb**	**19 46 26.1**	**-0.8**
FWVZ				S	**Sb**	**19 46 35.0**	**-0.7**
WHVZ	**Whangaehu Hut**	**0.66**	**94**	P	**Pb**	**19 46 26.6**	**-0.8**
NGZ	**Ngauruhoe**	**0.67**	**85**	P	**Pb**	**19 46 26.8**	**-0.8**
WNVZ	**Wahianoa**	**0.67**	**98**	P	**Pb**	**19 46 26.9**	**-0.7**
WTVZ	**West Tongariro**	**0.67**	**80**	P	**Pb**	**19 46 26.7**	**-0.8**
NBEZ	**Newall Road No**	**0.68**	**267**	P	**Pn**	**19 46 27.6**	**+0.1**
NNVZ	**North Ngauruho**	**0.69**	**81**	P	**Pb**	**19 46 27.1**	**-0.7**
NMEZ	**Namu Road**	**0.69**	**255**	P	**Pn**	**19 46 27.7**	**0.0**
SNVZ	**South Ngauruho**	**0.70**	**86**	P	**Pb**	**19 46 27.4**	**-0.6**
TUVZ	**Tukino**	**0.71**	**93**	P	**Pb**	**19 46 27.7**	**-0.5**
KRVZ	**Karewarewa**	**0.71**	**79**	P	**Pb**	**19 46 27.5**	**-0.8**
OTVZ	**Oturere**	**0.72**	**84**	P	**Pb**	**19 46 27.7**	**-0.7**
HIZ	**Hauiti**	**0.73**	**7**	P	**Pb**	**19 46 28.0**	**-0.5**
HIZ	**Hauiti**	**0.73**	**7**	P	**Pb**	**19 46 28.0**	**-0.5**
TMVZ	**Te Maari**	**0.76**	**81**	P	**Pn**	**19 46 28.2**	**-0.4**
ETVZ	**East Tongariro**	**0.76**	**82**	P	**Pn**	**19 46 28.3**	**-0.4**
KATZ	**Kakaramea**	**0.79**	**71**	P	**Pn**	**19 46 28.7**	**-0.4**
MOVZ	**Moawhango**	**0.80**	**102**	P	**Pn**	**19 46 28.6**	**-0.6**
RATZ	**Rangitukua**	**0.88**	**65**	P	**Pn**	**19 46 30.2**	**-0.1**
RITZ	**Rihia Road**	**0.91**	**74**	P	**Pn**	**19 46 30.8**	**+0.1**
WATZ	**Wairara**	**0.94**	**56**	P	**Pn**	**19 46 31.0**	**-0.1**
BHHZ	**Black Hill Sta**	**1.05**	**104**	P	**Pn**	**19 46 32.2**	**-0.4**
OHWZ	**Ohakea**	**1.06**	**156**	P	**Pn**	**19 46 33.0**	**+0.2**
TLZ	**Tolley Road**	**1.10**	**35**	P	**Pn**	**19 46 32.9**	**-0.4**
KUTZ	**Kaahu Road**	**1.13**	**49**	P	**Pb**	**19 46 34.5**	**-0.6**
TSZ	**Takapari Road**	**1.25**	**131**	P	**Pn**	**19 46 36.0**	**+0.7**
PNHZ	**Pukenui**	**1.31**	**121**	P	**Pn**	**19 46 36.2**	**-0.1**
KWHZ	**Kaweka Forest**	**1.31**	**99**	P	**Pn**	**19 46 36.8**	**+0.5**
WPRZ	**Whakapapatarin**	**1.32**	**57**	P	**Pn**	**19 46 36.2**	**-0.1**
KRHZ	**Kereru**	**1.32**	**108**	P	**Pn**	**19 46 37.1**	**+0.7**
BKZ	**Black Stump Fm**	**1.36**	**87**	P	**Pn**	**19 46 37.1**	**+0.2**
BKZ	**Black Stump Fm**	**1.36**	**87**	P	**Pn**	**19 46 37.1**	**+0.2**
MRHZ	**Matea Rd**	**1.36**	**73**	P	**Pn**	**19 46 36.9**	**0.0**
POWZ	**Post Office Ro**	**1.40**	**146**	P	**Pn**	**19 46 38.0**	**+0.7**
DVHZ	**Dannevirke**	**1.52**	**134**	P	**Pn**	**19 46 40.4**	**+1.3**
MCHZ	**McNeill Hill**	**1.53**	**98**	P	**Pb**	**19 46 42.9**	**+1.1**
WPHZ	**Waipukurau**	**1.55**	**123**	P	**Pb**	**19 46 41.2**	**-1.0**
UTU	**Utuhina**	**1.55**	**47**	P	**Pb**	**19 46 42.4**	**+0.1**
MRZ	**Mangatainoka R**	**1.56**	**156**	P	**Pn**	**19 46 40.3**	**+0.7**
NGRZ	**Ngongotaha**	**1.60**	**45**	P	**Pn**	**19 46 41.3**	**+1.0**
NMHZ	**Naumai**	**1.61**	**86**	P	**Pb**	**19 46 44.0**	**+0.7**
OGWZ	**Otaki Gorge**	**1.61**	**168**	P	**Pn**	**19 46 41.7**	**+1.4**
PRWZ	**Pori Road**	**1.62**	**145**	P	**Pb**	**19 46 42.0**	**-1.4**
TOZ	**Tahuroa Road**	**1.62**	**22**	P	**Pn**	**19 46 40.3**	**-0.1**
KIW	**Kapiti Island**	**1.62**	**176**	P	**Pn**	**19 46 40.9**	**+0.3**
MTHZ	**Maungataniwha**	**1.68**	**77**	P	**Pn**	**19 46 41.7**	**+0.4**
DUWZ	**D'Urville Isla**	**1.68**	**202**	P	**Pn**	**19 46 42.0**	**+0.6**
KAHZ	**Kahuranaki**	**1.74**	**109**	P	**Pb**	**19 46 45.6**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.76**	**161**	P	**Pn**	**19 46 43.8**	**+1.4**
TIWZ	**Tintock**	**1.77**	**151**	P	**Pn**	**19 46 44.0**	**+1.5**
PRHZ	**Porangahau**	**1.78**	**126**	P	**Pb**	**19 46 44.6**	**-1.6**
PXZ	**Pawanui**	**1.82**	**116**	P	**Pn**	**19 46 41.1**	**-2.0**
BFZ	**Birch Farm**	**1.85**	**142**	P	**Pn**	**19 46 44.4**	**+0.8**
BFZ	**Birch Farm**	**1.85**	**142**	P	**Pn**	**19 46 44.4**	**+0.8**
RTZ	**Ruatahuna**	**1.85**	**71**	P	**Pn**	**19 46 44.5**	**+0.8**
CAW	**Cannon Point**	**1.88**	**173**	P	**Pn**	**19 46 44.9**	**+0.8**
TCW	**Tory Channel**	**2.00**	**190**	P	**Pn**	**19 46 46.2**	**+0.6**
MTW	**Mount Morrison**	**2.00**	**163**	P	**Pn**	**19 46 47.7**	**+2.0**
WEL	**Wellington**	**2.04**	**180**	P	**Pb**	**19 46 49.5**	**-1.1**
TMWZ	**Te Maipa**	**2.06**	**155**	P	**Pb**	**19 46 50.3**	**-0.7**
SNZO	**South Karori**	**2.07**	**181**	P	**Pn**	**19 46 47.3**	**+0.7**
URZ	**Urewera**	**2.09**	**63**	P	**Pb**	**19 46 50.0**	**-1.4**
MKAZ	**Moumakai**	**2.16**	**9**	P	**Pn**	**19 46 48.0**	**+0.2**
BHW	**Baring Head**	**2.17**	**177**	P	**Pn**	**19 46 49.9**	**+1.9**
AWAZ	**Awhitu Peninsu**	**2.17**	**358**	P	**Pn**	**19 46 48.3**	**+0.3**
PAWZ	**Paruwai Farm**	**2.20**	**167**	P	**Pb**	**19 46 52.3**	**-1.1**
NNZ	**Nelson**	**2.23**	**207**	P	**Pn**	**19 46 49.5**	**+0.6**
**T

KWHZ	Kaweka Forest	1.32	98	P	Pn	20 19 32.0 +0.1
KRHZ	Kereru	1.33	108	P	Pn	20 19 32.5 +0.5
WPRZ	Whakapapatarin	1.33	57	P	Pb	20 19 33.5 -0.4
BKZ	Black Stump Fm	1.37	87	P	Pn	20 19 32.7 +0.2
BKZ	Black Stump Fm	1.37	87	P	Pn	20 19 32.3 -0.2
POWZ	Post Office Ro	1.40	146	P	Pn	20 19 33.3 +0.4
GRRZ	Galatos Road	1.40	51	P	Pn	20 19 32.4 -0.5
HSRZ	Hossack Road	1.50	52	P	Pb	20 19 37.4 +0.6
DVHZ	Dannevirke	1.53	134	P	Pn	20 19 35.8 +1.2
MCHZ	McNeill Hill	1.54	98	P	Pb	20 19 37.5 +0.1
WPHZ	Waipukurau	1.55	122	P	Pb	20 19 36.8 -0.8
MRZ	Mangatainoka R	1.56	156	P	Pn	20 19 35.7 +0.6
UTU	Uruhina	1.56	47	P	Pb	20 19 37.5 -0.3
OGWZ	Otaki Gorge	1.61	168	P	Pn	20 19 36.4 +0.7
NGRZ	Ngongotaha	1.61	45	P	Pn	20 19 35.7 -0.1
NMHZ	Naumai	1.62	85	P	Pb	20 19 39.3 +0.4
PRWZ	Pori Road	1.62	144	P	Pn	20 19 37.3 +1.4
KIW	Kapiti Island	1.62	175	P	Pn	20 19 36.2 +0.3
TOZ	Tahuroa Road	1.63	22	P	Pn	20 19 35.7 -0.3
DUWZ	D'Urville Isla	1.68	202	P	Pn	20 19 37.3 +0.5
MTHZ	Maungataniwha	1.69	77	P	Pn	20 19 36.9 0.0
KARZ	Kaharoa	1.70	45	P	Pb	20 19 39.9 -0.2
KAHZ	Kahuranaki	1.75	109	P	Pb	20 19 39.7 -1.2
ARHZ	Aropaoanui	1.76	91	P	Pb	20 19 39.7 -1.4
HOWZ	Holdsworth Sta	1.76	160	P	Pn	20 19 38.9 +1.0
TIWZ	Tintock	1.77	150	P	Pn	20 19 39.5 +1.4
PRHZ	Porangahau	1.79	125	P	Pn	20 19 39.9 +1.6
ANWZ	Angora Road	1.81	133	P	Pb	20 19 41.0 -1.0
PXZ	Pawanui	1.82	116	P	Pb	20 19 40.9 -1.3
BFZ	Birch Farm	1.85	141	P	Pn	20 19 39.9 +0.8
BFZ	Birch Farm	1.85	141	P	Pn	20 19 39.8 +0.8
RAHZ	Arahi	1.86	81	P	Pb	20 19 41.3 -1.6
RTZ	Ruatahuna	1.86	71	P	Pb	20 19 39.6 +0.3
CAW	Cannon Point	1.88	172	P	Pn	20 19 40.2 +0.7
TGRZ	Tauranga	1.93	39	P	Pn	20 19 39.9 -0.3
TCW	Tory Channel	2.00	190	P	Pn	20 19 41.5 +0.4
MTW	Mount Morrison	2.00	163	P	Pn	20 19 42.9 +1.7
CPWZ	Castlepoint	2.01	146	P	Pb	20 19 44.4 -1.0
WEL	Wellington	2.04	179	P	Pn	20 19 42.8 +1.1
TMWZ	Te Maipa	2.06	155	P	Pn	20 19 43.1 +1.1
SNZO	South Karori	2.06	181	P	Pn	20 19 42.9 +0.9
SNGZ	Shannon Statio	2.08	78	P	Pn	20 19 44.6 +2.3
URZ	Urewera	2.10	63	P	Pn	20 19 44.3 +1.8
URZ	Urewera	2.10	63	P	Pn	20 19 44.4 +1.8
MKAZ	Moumakai	2.16	9	P	Pn	20 19 43.4 0.0
BHW	Baring Head	2.17	177	P	Pn	20 19 44.5 +1.1
AWAZ	Awhitu Peninsu	2.18	358	P	Pn	20 19 43.7 +0.1
PAWZ	Paruwai Farm	2.20	166	P	Pn	20 19 46.2 +2.2
NNZ	Nelson	2.23	207	P	Pn	20 19 45.3 +1.0
TKNZ	Takaka Hill	2.25	217	P	Pn	20 19 44.7 +0.1
TUWZ	Tuamarina	2.27	195	P	Pn	20 19 45.0 +0.1
TRWZ	Traveller	2.27	162	P	Pn	20 19 47.2 +2.2
ETAZ	East Tamaki Re	2.29	4	P	Pn	20 19 45.6 +0.4
QRZ	Quartz Range	2.31	226	P	Pn	20 19 44.8 -0.7
QRZ	Quartz Range	2.31	226	P	Pn	20 19 44.9 -0.6
PLWZ	Palliser	2.36	170	P	Pn	20 19 46.7 +0.5
WIAZ	Waiheke Island	2.47	7	P	Pn	20 19 47.8 +0.2
RVAZ	Riverhead Bore	2.47	357	P	Pn	20 19 47.8 +0.1
BSWZ	Blackbirch Sta	2.55	195	P	Pn	20 19 50.6 +1.8
KUZ	Kuaotunu	2.61	18	P	Pn	20 19 48.9 -0.7
KUZ	Kuaotunu	2.61	18	P	Pn	20 19 49.1 -0.5
MRNZ	Matariki Terra	2.63	214	P	Pn	20 19 50.1 +0.3
RUGZ	Raukumara Rang	2.64	62	P	Pn	20 19 50.9 +0.8
HAZ	Te Kaha	2.82	59	P	Pn	20 19 54.1 +1.7
THZ	Tophouse	2.88	208	P	Pn	20 19 54.3 +1.0
GRZ	Great Barrier	3.04	11	P	Pn	20 19 55.2 -0.3
KHZ	Kahutara	3.30	196	P	Pn	20 19 59.8 +0.9
WCZ	Waipu Caves	3.31	355	P	Pn	20 19 59.2 -0.1
DSZ	Denniston Nort	3.35	221	P	Pn	20 19 59.6 -0.2
LTZ	Lake Taylor	4.00	207	P	Pn	20 20 08.9 +0.3
OUZ	Omahuta	4.12	347	P	Pn	20 20 10.1 -0.2
OUZ	Omahuta	4.12	347	P	Pn	20 20 10.1 -0.2
INZ	Inchbonnie	4.28	215	P	Pn	20 20 12.5 +0.1
OXZ	Oxford	4.56	206	P	Pn	20 20 15.4 -0.9
OKCZ	Okains Bay	4.65	195	P	Pn	20 20 16.9 -0.7
MQZ	McQueen's Vall	4.72	199	P	Pn	20 20 17.2 -1.4
AKCZ	Akaroa Harbour	4.82	196	P	Pn	20 20 19.0 -1.0
WVZ	Waitaha Valley	4.87	217	P	Pn	20 20 21.2 +0.6
MHCZ	Mount Hutt	4.90	208	P	Pn	20 20 21.4 +0.3
GCSZ	Gaunt Creek Bo	5.25	218	P	Pn	20 20 25.7 -0.2
RPZ	Rata Peaks	5.25	211	P	Pn	20 20 26.1 +0.2
FOZ	Fox Glacier	5.66	219	P	Pn	20 20 30.8 -0.7
TMZ	Timaru	5.84	207	P	Pn	20 20 33.0 -0.9
ODZ	Otahua Downs	6.54	206	P	Pn	20 20 43.7 +0.1
ODZ	Otahua Downs	6.54	206	P	Pn	20 20 43.1 -0.5
JCZ	Jackson Bay	6.57	221	P	Pn	20 20 43.1 -0.9
JCZ	Jackson Bay	6.57	221	P	Pn	20 20 43.0 -1.0
CTZ	Chatham Island	7.89	127	P	Pn	20 21 03.3 +1.2
	37nm,2.7s					

*IDC **08** 20:23:25.6±4.2, 19°.88S×178°.82W, h542km±29km, mb2.8/4, mbtmp3.7/5, Error ellipse: s-maj=115.3km s-min=24.0km az=150.0*

ISC 08 20:23:26.5±1.5, 19°.9S±0°.4×178°.9W±0°.2, h550km, n10, σ1§66/11, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.61	305	P	P	20 24 44.2	-1.5
	18nm,0.4s,baz=154,slow=22,SNR=33						
ASAR	Alice Springs	43.89	256	P	P	20 30 44.8	-0.2
	1.2nm,0.9s,baz=89,slow=7.8,SNR=7.6						
ASAR				PcP	PcP	20 32 19.1	+0.2
	0.5nm,1.0s,baz=111,slow=4.1,SNR=1.6						
	1.2nm,0.9s						
WRA	Warramunga Arr	43.90	262	P	P	20 30 44.8	-0.3
	0.3nm,0.3s,baz=98,slow=7.1,SNR=24						
	0.3nm,0.3s						
TXAR	Lajitas Array	87.38	58	P	P	20 35 15.6	-0.3
	0.3nm,0.9s,baz=282,slow=4.3,SNR=2.1						
	0.3nm,0.9s						
ILAR	Eielson Array	87.86	13	P	P	20 35 18.2	+1.1
	0.2nm,0.6s,baz=224,slow=5.0,SNR=3.0						
	0.2nm,0.6s						
CMAR	Chiang Mai Arr	89.14	290	P	P	20 35 27.4	+3.3
	0.7nm,0.8s,baz=94,slow=0.1,SNR=5.2						
BVAR	Borovoye Array	118.07	320	PKP	PKiKP	20 41 11.1	+0.2
	0.3nm,0.3s,baz=80,slow=3.5,SNR=4.7						
AKASG	Malin Array Be	142.06	331	PKP	PKPdf	20 41 54.2	-1.8
	2.3nm,0.4s,baz=43,slow=4.1,SNR=21						
BRTR	Keskin Array B	145.81	313	PKPbc	PKPbc	20 42 03.9	-1.0
	0.4nm,0.4s,baz=74,slow=5.1,SNR=4.4						
MMAI	Mount Meron Ar	146.80	300	PKPbc	PKPbc	20 42 05.8	-1.9
	0.5nm,0.4s,baz=90,slow=1.4,SNR=1.8						

IDC 08 20:34:22.8±3.3, 30°.24S×177°.59W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=67.4km s-min=25.1km az=99.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.02	344	Pn	Pn	20 34 45.4	+0.9
	111nm,0.3s,baz=101,slow=22,SNR=5.7						
RAO				Sn	Sn	20 34 59.0	-0.6
	365nm,0.3s,baz=121,slow=21,SNR=8.9						
ASAR	Alice Springs	43.47	267	P	P	20 42 28.1	0.0
	0.3nm,0.5s,baz=104,slow=6.4,SNR=4.5						
	0.3nm,0.5s						
WRA	Warramunga Arr	44.45	272	P	P	20 42 35.6	-0.3
	0.4nm,0.3s,baz=110,slow=8.1,SNR=25						
	0.4nm,0.3s						
FINES	FINESS Array B	145.12	340	PKPbc	PKPbc	20 53 59.7	-1.3
	2.5nm,0.9s,baz=36,slow=5.2,SNR=3.7						

*IDC **08** 20:48:54.6±0.5, 61°.95S×154°.81E, h0km, mb5.3/14, mbtmp5.3/14, MS5.7/44, Error ellipse: s-maj=25.5km s-min=14.4km az=88.0*

*NEIC **08** 20:48:58.4±1.9, 61°.75S±0°.07×154°.6E±0°.2, h10km±1km, mb5.8/110, Ms_20 6.0/970, Mwb6.1/52, Mww6.2/14, Error ellipse: s-maj=18.5km s-min=11.7km az=100.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.13; $M_{\theta\theta}$1.53; $M_{\phi\phi}$-1.65; $M_{r\theta}$0.39; $M_{r\phi}$-1.23; $M_{\theta\phi}$-0.15; Fault plane solution: $M_0$2.06000×10^{18} NP1:ϕ_s63.19000°, δ80.95000°, λ171.43000°. NP2:ϕ_s154.55000°, δ81.54000°, λ9.15000°. Principal axes: T 2.0390, Plg12.0000°, Azm19.0000°; N 0.0339, Plg78.0000°, Azm197.0000°; P -2.0729, Plg0.0000°, Azm289.0000°;*

*MOS **08** 20:48:58.1±2.2, 61°.50S×154°.85E, h10km, mb5.5/20, MS5.8/29 Error ellipse: s-maj=27.3km s-min=7.4km az=95.1*

*NEIC **08** 20:48:59.2, 61°.72S×154°.57E, h16km*

*NEIC **08** 20:48:59.1, 61°.71S×154°.56E, h10km*

*NEIC **08** 20:48:59.2, 61°.72S×154°.99E, h16km, Moment Tensor Solution. Duration: 6s4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.22; $M_{\theta\theta}$1.99; $M_{\phi\phi}$-1.77; $M_{r\theta}$0.57; $M_{r\phi}$-1.56; $M_{\theta\phi}$0.70; Fault plane solution: $M_0$2.62000×10^{18} NP1: ϕ_s246.35000°, δ80.87000°, λ-161.31000°. NP2: ϕ_s153.27000°, δ71.55000°, λ-9.63000°. Principal axes: T 2.5896, Plg6.0000°, Azm19.0000°; N 0.0512, Plg69.0000°, Azm271.0000°; P -2.6408, Plg20.0000°, Azm111.0000°;*

*GCMT **08** 20:49:03.4±0.1, 61°.56S×154°.32E, h15km, MW6.2/163, Moment Tensor Solution. s163,c347; s149,c552; Duration: 3s1 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.17±.01; $M_{\theta\theta}$2.11±.01; $M_{\phi\phi}$-1.94±.01; $M_{r\theta}$-0.62±.04; $M_{\theta\phi}$-1.53±.01; $M_{r\phi}$0.46±.04; Best double couple: $M_0$2.64300×10^{18} NP1:ϕ_s334.00000°, δ85.00000°, λ14.00000°. NP2:ϕ_s243.00000°, δ76.00000°, λ174.00000°. Principal axes: T 2.8060, Plg14.0000°, Azm199.0000°; N -0.3250, Plg75.0000°, Azm354.0000°; P -2.4790, Plg6.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 08 20:48:59.0±0.5, 61.73S±0.04×154.75E±0.05, h12km±2km, h12km:pP-P, n1370, σ1§83/915, mb5.7/122, MS6.0/558, 119C-30D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	7.59	19	P	Pn	20 50 44.4	-4.8
	baz=7.5,SNR=22						
MCQ				S	Sn	20 52 18.6	+3.6
	baz=7.5						
MCQ	Macquarie Isla	7.59	19	Pn	Pn	20 50 45.7	-3.5
MCQ	Macquarie Isla	7.59	19	P	Pn	20 50 46.8	-2.4
MCQ	Macquarie Isla	7.59	19	P	Pn	20 50 45.7	-3.5
MCQ	Macquarie Isla	7.59	19	⇑P	Pn	20 50 43.9	-5.3
VNDA	Vanda	16.03	174	Pn	Pn	20 52 38.7	-5.0
	baz=342,slow=14						
SBA	Scott Base	16.64	171		Pn	20 52 48.4	-3.2
SBA	Scott Base	16.64	171	P	Pn	20 52 48.4	-3.2
SBA				pmax	pmax		
	comp=Z,191nm,1.2s						
PYZ	Puysegur Point	17.06	29	P	Pn	20 52 57.7	+0.7
PYZ				IAmb	IAmb	20 53 00.5	
	comp=Z,2μm,1.8s						
PYZ	Puysegur Point	17.06	29	P	P	20 52 59.3	+0.6
SYZ	Scrubby Hill	17.34	35	P	P	20 53 03.3	+1.5
WHZ	Wether Hill Ro	17.62	32	P	P	20 53 05.6	+0.6
WHZ				IAmb	IAmb	20 53 07.2	
	comp=Z,2μm,1.9s						
DCZ	Deep Cove	17.83	30	P	P	20 53 08.1	+0.9
MLZ	Mavora Lakes	18.15	32	P	P	20 53 12.1	+1.2
WKZ	Wanaka	18.89	33		Pn	20 53 20.3	+0.8
ODZ	Otahua Downs	19.12	36	Pn	Pn	20 53 23.1	+0.7
ODZ				IAmb	IAmb	20 53 31.5	
	comp=Z,494nm,1.5s						
ODZ	Otahua Downs	19.12	36	P	Pn	20 53 23.8	+1.4
ODZ	Otahua Downs	19.12	36	⇑P	Pn	20 53 23.6	+1.2
AUTAR	Taroona High S	19.33	343	P	P	20 53 23.8	0.0
TAU	Tasmania Unive	19.37	343		P	20 53 23.8	-0.4
TAU				IAmb	IAmb	20 53 29.0	
	comp=Z,658nm,1.2s						
TAU	Tasmania Unive	19.37	343	P	P	20 53 24.0	-0.2
TAU	Tasmania Unive	19.37	343	P	P	20 53 23.8	-0.4
TAU				pmax	pmax		
	comp=Z,658nm,1.2s						
TAU	Tasmania Unive	19.37	343	⇑P	P	20 53 24.0	-0.2
JCZ	Jackson Bay	19.53	32	P	Pn	20 53 29.1	+1.7
CASY	Casey	19.56	237		Pn	20 53 27.6	+0.1
CASY				IAmb	IAmb	20 53 34.9	
	comp=Z,694nm,1.5s						
CASY	Casey	19.56	237	⇑P	Pn	20 53 26.9	-0.5
LBZ	Lake Benmore	19.60	35	Pn	Pn	20 53 28.3	+0.1
LBZ				IAmb	IAmb	20 53 40.1	
	comp=Z,810nm,1.8s						
MOO	Moorlands	19.85	343	P	P	20 53 29.6	+0.2
	baz=20,SNR=73						
MOO	Moorlands	19.85	343	P	P	20 53 29.0	-0.4
FOZ	Fox Glacier	20.30	33		Pn	20 53 35.5	-0.8
FOZ				IAMs_20	IAMs_20	21 00 04.2	
	comp=Z,63μm,19.0s						
RPZ	Rata Peaks	20.46	36	Pn	Pn	20 53 38.8	+0.5
RPZ				IAmb	IAmb	20 53 47.6	
	comp=Z,909nm,1.6s						
RPZ				IAMs_20	IAMs_20	20 59 43.6	
	comp=Z,61μm,21.0s						
RPZ	Rata Peaks	20.46	36	P	P	20 53 35.9	-0.2
	comp=Z,81nm,0.9s,baz=194,slow=10.0,SNR=18						
RPZ				LR	LR	21 00 15.0	
	comp=Z,58μm,19.3s,baz=184,slow=33						
	comp=Z,81nm,0.9s						
CORO	Coronation Par	20.82	344	P	P	20 53 40.6	+0.6
MQZ	McQueen's Vall	20.93	39	P	Pn	20 53 43.1	-0.5
MQZ				IAmb	IAmb	20 53 48.4	
	comp=Z,951nm,1.7s						
MQZ				IAMs_20	IAMs_20	21 00 13.8	
	comp=Z,56μm,19.0s						
AULHS	Lilydale High	21.01	344	P	P	20 53 41.8	-0.3
OXZ	Oxford	21.10	37	P	P	20 53 44.9	+1.9
OXZ				IAmb	IAmb	20 54 00.8	
	comp=Z,476nm,1.6s						
GLAD	Gladstone	21.18	346	P	P	20 53 44.0	+0.2
INZ	Inchbonnie	21.49	35	P	P	20 53 48.5	+1.3
INZ				IAmb	IAmb	20 53 58.8	
	comp=Z,1μm,1.7s						
LTZ	Lake Taylor	21.67	37	P	P	20 53 52.0	+2.8
LTZ				IAmb	IAmb	20 54 04.9	
	comp=Z,1μm,2.0s						
LTZ				IAMs_20	IAMs_20	21 00 31.2	
	comp=Z,47μm,21.0s						
GVZ	Greta Valley S	21.72	38	IAMs_20	IAMs_20	21 00 48.6	
	comp=Z,55μm,19.0s						
KHZ	Kahutara	22.37	39	⇑P	P	20 53 57.0	+0.3
DSZ	Denniston Nort	22.50	35	P	P	20 53 58.5	+0.5
DSZ				IAMs_20	IAMs_20	21 01 20.1	
	comp=Z,48μm,19.0s						
THZ	Tophouse	22.79	37	P	P	20 54 01.9	+0.8
MRNZ	Matariki Terra	23.08	36	P	P	20 54 04.4	+0.2
BSWZ	Blackbirch Sta	23.11	39	P	P	20 54 04.3	-0.1
TUWZ	Tuamarina	23.40	39	P	P	20 54 07.0	-0.3
TKNZ	Takaka Hill	23.48	36	P	P	20 54 07.5	-0.6
QRZ	Quartz Range	23.55	35	P	P	20 54 07.5	-1.3
PLWZ	Palliser	23.67	41	P	P	20 54 08.9	-1.1
BHW	Baring Head	23.70	40	IAMs_20	IAMs_20	21 02 23.0	
	comp=Z,42μm,20.0s						
TCW	Tory Channel	23.70	39	P	P	20 54 10.1	-0.2
SNZO	South Karori	23.73	40	P	P	20 54 14.9	+4.3
AUSSC	Sale College,	24.14	345	P	P	20 54 14.0	-0.4
GEXS	Deakin Univers	24.44	340	P	P	20 54 18.7	+1.5
MRZ	Mangatainoka R	24.60	41	P	P	20 54 17.7	-1.0
MRZ				IAmb	IAmb	20 54 28.6	
	comp=Z,418nm,1.4s						
MRZ				IAMs_20	IAMs_20	21 02 50.1	
	comp=Z,43μm,20.0s						
MLBS	Spotswood, Mel	24.70	341	P	P	20 54 20.9	+1.3
BFZ	Birch Farm	24.79	42	P	P	20 54 23.4	+3.1
TOO	Toolangi	24.87	342	P	P	20 54 21.0	-0.1
	baz=25,SNR=47						
TOO	Toolangi	24.87	342	P	P	20 54 21.4	+0.3
TOO				IAMs_20	IAMs_20	21 01 50.0	
	comp=Z,41μm,19.0s						
TOO	Toolangi	24.87	342	P	P	20 54 20.2	-0.9
TOO	Toolangi	24.87	342	P	P	20 54 21.4	+0.3
TOO				pmax	pmax		
	comp=Z,555nm,1.1s						
TOO				MLR	MLR		
	comp=Z,41μm,19.0s						
TOO	Toolangi	24.87	342	⇑P	P	20 54 20.9	-0.2
MILA	Mila	24.95	349	P	P	20 54 22.0	0.0
	baz=25,SNR=12						
MILA	Mila	24.95	349	P	P	20 54 21.3	-0.6
MILA	Mila	24.95	349	⇑P	P	20 54 21.9	-0.1
BRAT	Ballarat	25.13	339	P	P	20 54 24.4	+1.0
BKZ	Black Stump Fm	26.25	41	P	P	20 54 34.2	+0.6
BKZ				IAMs_20	IAMs_20	21 04 44.8	
	comp=Z,38μm,18.0s						
BKZ	Black Stump Fm	26.25	41	P	P	20 54 37.4	+3.8
ARPS	Mount Arapiles	26.27	336	P	P	20 54 33.9	+0.1
	baz=26,SNR=35						
ARPS	Mount Arapiles	26.27	336	P	P	20 54 34.1	+0.3
HIZ	Hauiti	26.36	37	IAMs_20	IAMs_20	21 03 30.6	
	comp=Z,52μm,20.0s						
AUUHS	Ulladulla High	26.53	352	P	P	20 54 36.4	+0.2
CNB	Canberra Magne	26.66	350	P	P	20 54 37.7	+0.3
	baz=26,SNR=20						
CNB	Canberra Magne	26.66	350	P	P	20 54 37.7	+0.3
CAN	Canberra	26.68	349	P	P	20 54 38.3	+0.7
CAN				IAMs_20	IAMs_20	21 02 08.5	
	comp=Z,31μm,21.0s						
CAN	Canberra	26.68	349	P	P	20 54 37.7	+0.1
CAN	Canberra	26.68	349	P	P	20 54 38.3	+0.7
CAN				pmax	pmax		
	comp=Z,646nm,1.8s						
CAN				MLR	MLR		
	comp=Z,31μm,21.0s						
CAN	Canberra	26.68	349	⇑P	P	20 54 37.6	+0.1
RTZ	Ruatahuna	26.90	41	P	P	20 54 40.2	+0.6
RTZ				IAmb	IAmb	20 54 45.0	
	comp=Z,159nm,0.9s						
URZ	Urewera	27.27	41	⇑P	P	20 54 42.7	0.0
URZ	Urewera	27.27	41	LR	LR	21 03 31.7	
	comp=Z,16μm,20.7s,baz=284,slow=32						
WOLH	Wollongong Har	27.46	353	P	P	20 54 45.0	+0.5
YNG	Young	27.75	349	P	P	20 54 47.4	+0.2
	baz=28						
YNG	Young	27.75	349	P	P	20 54 45.6	-1.6
RIV	Riverview	28.02	354	P	P	20 54 50.3	+0.8
SYDH	Sydney Hard Ro	28.11	353	P	P	20 54 51.0	+0.7
MXZ	Matakaoa Point	28.28	42	IAMs_20	IAMs_20	21 05 18.3	
	comp=Z,31μm,18.0s						
QSPA	South Pole Qui	28.36	180	P	P	20 54 52.8	+0.3
QSPA	South Pole Qui	28.36	180	IAMs_20	IAMs_20	21 05 58.6	
	comp=Z,32μm,20.0s						
QSPA	South Pole Qui	28.36	180	P	P	20 54 53.3	+0.8
	comp=Z,24nm,0.9s,baz=356,slow=3.2,SNR=54						
QSPA				LR	LR	21 06 18.4	
	comp=Z,31μm,18.7s,baz=16,slow=37						
MGCD	Mangrove Creek	28.64	354	P	P	20 54 54.8	-0.2
	baz=28,SNR=7.0						
MGCD	Mangrove Creek	28.64	354	P	P	20 54 55.8	+0.8
OUZ	Omahuta	29.10	33	IAMs_20	IAMs_20	21 04 04.0	
	comp=Z,26μm,20.0s						
OUZ	Omahuta	29.10	33	⇑P	P	20 54 59.9	+0.7
AUDCS	Dubbo College	29.78	350	P	P	20 55 05.8	+0.6
HTT	Hallett	30.09	333	P	P	20 55 08.1	+0.2
	baz=30,SNR=11						
HTT	Hallett	30.09	333	P	P	20 55 08.4	+0.4
HTT	Hallett	30.09	333	⇑P	P	20 55 08.2	+0.2
LHI	Lord Howe Isla	30.36	7	IAMs_20	IAMs_20	21 03 29.2	
	comp=Z,37μm,22.0s						
AUPHS	Peel High Scho	30.75	354	P	P	20 55 13.7	-0.1
WHYH	Whyalla	30.77	331	P	P	20 55 14.0	+0.1
CMSA	Cobar Meteorol	30.78	345	P	P	20 55 14.0	0.0
	baz=31,SNR=19						
CMSA	Cobar Meteorol	30.78	345	P	P	20 55 13.8	-0.2
STKA	Stephens Creek	31.07	338	P	P	20 55 16.9	+0.3
	baz=31,SNR=16						
STKA	Stephens Creek	31.07	338	P	P	20 55 16.9	+0.3
STKA	Stephens Creek	31.07	338	P	P	20 55 16.7	+0.1
STKA	Stephens Creek	31.07	338	*c* iP	P	20 55 16.8	+0.1
STKA	Stephens Creek	31.07	338	P	P	20 55 16.7	+0.1
	comp=Z,83nm,1.1s,baz=158,slow=10,SNR=72						
STKA				LR	LR	21 04 43.7	
	comp=Z,18μm,21.3s,baz=158,slow=30						
	comp=Z,83nm,1.1s						
BBOO	Buckleboo	31.35	329	P	P	20 55 18.9	-0.2
	baz=31,SNR=16						
BBOO	Buckleboo	31.35	329	P	P	20 55 18.7	-0.4
BBOO				IAMs_20	IAMs_20	21 04 50.9	
	comp=Z,21μm,19.0s						
BBOO	Buckleboo	31.35	329	P	P	20 55 19.0	-0.1
ARMA	Armidale	31.39	355	P	P	20 55 19.4	-0.2
	baz=31,SNR=13						
ARMA	Armidale	31.39	355	P	P	20 55 20.3	+0.7
ARMA				IAmb	IAmb	20 55 20.9	
	comp=Z,267nm,1.6s						
ARMA				IAMs_20	IAMs_20	21 04 38.1	
	comp=Z,36μm,21.0s						
ARMA	Armidale	31.39	355	P	P	20 55 20.1	+0.6
ARMA	Armidale	31.39	355	⇑P	P	20 55 19.9	+0.3
AULRC	Lightning Ridg	32.62	349	P	P	20 55 30.8	+0.6
LCRK	Leigh Creek	33.12	333	P	P	20 55 34.5	-0.1
MULG	Mulgathing	34.26	327	P	P	20 55 44.5	0.0
INKA	Innaminka	35.26	338	P	P	20 55 54.1	+1.0
RMQ	Roma	35.47	351	P	P	20 55 55.7	+0.7
	baz=35,SNR=58						
RMQ	Roma	35.47	351	P	P	20 55 55.3	+0.3
FORT	Forrest	35.53	318	P	P	20 55 55.0	-0.4
	baz=35,SNR=20						
FORT	Forrest	35.53	318	P	P	20 55 55.3	-0.1
FORT				IAmb	IAmb	20 55 59.3	
	comp=Z,220nm,0.9s						
FORT	Forrest	35.53	318	P	P	20 55 55.0	-0.4
FORT	Forrest	35.53	318	⇓P	P	20 55 54.6	-0.8
QLP	Quilpie	35.85	344	P	P	20 55 58.4

comp=Z,256nm,1.7s
OUENC Ouen Island, N 40.17 17 P **P 20 56 34.9 +0.3**
ONTNC Ouen Toro 40.22 17 P **P 20 56 34.7 -0.4**
ONTNC Ouen Toro 40.22 17 P **P 20 56 36.3 +1.2**
ONTNC Ouen Toro 40.22 17 ⇑P **P 20 56 35.3 +0.2**
NOUC Port Laguerre 40.40 17 P **P 20 56 36.9 +0.3**
DZM Mont Dzumac 40.45 17 *e*P **P 20 56 35.1 -2.0**
comp=Z,358nm,1.1s
DZM *e*S **S 21 02 49.4 +4.1**
comp=Z,6μm,27.6s
DZM *e*LR LR 21 07 23.3
comp=Z,51μm,25.7s
DZM Mont Dzumac 40.45 17 P **P 20 56 37.1 -0.1**
DZM IAmb IAmb 20 56 38.5
comp=Z,157nm,1.1s
DZM Mont Dzumac 40.45 17 P **P 20 56 37.6 +0.5**
DZM Mont Dzumac 40.45 17 ⇑P **P 20 56 37.0 -0.1**
DZM Mont Dzumac 40.45 17 P **P 20 56 36.7 -0.5**
comp=Z,105nm,0.9s,baz=190,slow=11,SNR=55
DZM LR LR 21 10 01.5
comp=Z,25μm,19.1s,baz=198,slow=31
comp=Z,105nm,0.9s
BELA Belgrano 2 40.51 177 P **P 20 56 37.4 +0.4**
BELA IAms_20 IAms_20 21 11 28.5
comp=Z,16μm,22.0s
YATNC Mamie plateau, 40.53 17 P **P 20 56 38.2 +0.6**
ASAR Alice Springs 40.63 330 P **P 20 56 36.5 -2.1**
ASAR Alice Springs 40.63 330 P **P 20 56 36.7 -1.8**
comp=Z,46nm,0.9s,baz=165,slow=8.5,SNR=115
ASAR PcP **PcP 20 58 38.2 -2.0**
comp=Z,5.0nm,0.9s,baz=164,slow=2.6,SNR=3.6
ASAR LR LR 21 11 13.1
comp=Z,13μm,20.2s,baz=160,slow=33
comp=Z,46nm,0.9s
AS31 Alice Springs 40.63 330 P **P 20 56 37.6 -1.0**
WRKA Warakurna 40.82 322 P **P 20 56 39.2 -1.0**
baz=41,SNR=92
WRKA Warakurna 40.82 322 P **P 20 56 39.0 -1.1**
WRKA Warakurna 40.82 322 ⇓P **P 20 56 39.1 -1.1**
MARNC Mare, Loyalty 41.26 19 P **P 20 56 45.6 +1.9**
MORW Morawa 41.39 304 P **P 20 56 44.0 -0.7**
baz=41,SNR=17
MORW Morawa 41.39 304 P **P 20 56 43.6 -1.0**
MORW IAms_20 IAms_20 21 10 04.2
comp=Z,20μm,19.0s
MORW Morawa 41.39 304 P **P 20 56 44.4 -0.3**
MORW Morawa 41.39 304 ⇓P **P 20 56 44.2 -0.4**
KOUNC Koumac, New Ca 41.68 14 P **P 20 56 46.6 -0.6**
KOUNC IAmb IAmb 20 56 48.3
comp=Z,389nm,1.4s
KOUNC Koumac, New Ca 41.68 14 P **P 20 56 47.5 +0.4**
KOUNC Koumac, New Ca 41.68 14 ⇑P **P 20 56 47.0 -0.1**
LIFNC LIFOU 41.84 18 P **P 20 56 47.0 -1.4**
LIFNC IAmb IAmb 20 57 09.7
comp=Z,280nm,1.1s
LIFNC IAms_20 IAms_20 21 11 18.9
comp=Z,18μm,18.0s
LIFNC LIFOU 41.84 18 P **P 20 56 49.0 +0.6**
CTA Charters Tower 42.03 348 P **P 20 56 49.9 -0.1**
baz=42
CTA Charters Tower 42.03 348 P **P 20 56 50.1 +0.1**
CTA Charters Tower 42.03 348 P **P 20 56 49.6 -0.4**
comp=Z,98nm,1.2s,baz=175,slow=8.5,SNR=54
CTA LR LR 21 11 46.5
comp=Z,16μm,19.5s,baz=177,slow=32
comp=Z,98nm,1.2s
CTAO Charters Tower 42.03 348 P **P 20 56 49.6 -0.4**
CTAO Charters Tower 42.03 348 IAms_20 IAms_20 21 11 25.9
comp=Z,26μm,22.0s
CTAO Charters Tower 42.03 348 P **P 20 56 50.2 +0.1**
CTAO Charters Tower 42.03 348 P **P 20 56 49.6 -0.4**
CTAO pmax pmax
comp=Z,1μm,2.0s
CTAO MLR MLR
comp=Z,26μm,22.0s
CTAO Charters Tower 42.03 348 ⇑P **P 20 56 50.1 +0.1**
AUAYR Ayr State High 42.43 350 P **P 20 56 54.3 +1.1**
QIS Mount Isa 42.47 339 P **P 20 56 52.7 -0.9**
baz=42,SNR=38
QIS Mount Isa 42.47 339 P **P 20 56 52.9 -0.8**
ELIB Princess Elisa 42.49 200 *d*P **P 20 56 54.3 +1.0**
comp=Z,38nm,1.0s
ELIB *d*PP **PP 20 58 31.4 0.0**
ELIB *d*PS **pS 21 03 23.1 +5.2**
ELIB *d*SbSb **SnSn 21 06 39.9 +2.7**
MEEK Meekatharra 42.58 309 P **P 20 56 53.3 -1.2**
baz=42,SNR=11
MEEK Meekatharra 42.58 309 P **P 20 56 54.2 -0.3**
TV1H Townsville Har 42.80 349 P **P 20 56 56.7 +0.5**
WR0 Warramunga Arr 44.06 332 P **P 20 57 05.1 -1.4**
WC3 Warramunga Arr 44.10 332 IAms_20 IAms_20 21 12 53.0
comp=Z,14μm,21.0s
WR4 Warramunga Arr 44.10 332 IAms_20 IAms_20 21 12 54.0
comp=Z,13μm,20.0s
WC4 Warramunga Arr 44.10 332 IAms_20 IAms_20 21 12 54.1
comp=Z,14μm,21.0s
WB1 Warramunga Ar. 44.10 332 IAms_20 IAms_20 21 12 54.1
comp=Z,14μm,21.0s
WR2 Warramunga Arr 44.11 332 IAms_20 IAms_20 21 12 53.4
comp=Z,14μm,21.0s
WB2 Warramunga Arr 44.12 332 P **P 20 57 05.2 -1.8**
baz=44
WB2 Warramunga Arr 44.12 332 P **P 20 57 05.5 -1.4**
WB2 IAmb IAmb 20 57 07.5
comp=Z,273nm,1.2s
WR1 Warramunga Arr 44.12 332 IAms_20 IAms_20 21 12 54.6
comp=Z,14μm,21.0s
WRA Warramunga Arr 44.12 332 P **P 20 57 04.9 -2.1**
WRA Warramunga Arr 44.12 332 P **P 20 57 05.2 -1.8**
comp=Z,48nm,0.8s,baz=169,slow=7.2,SNR=125
WRA PcP **PP 20 58 49.5 -0.2**
comp=Z,18nm,1.0s,baz=165,slow=2.6,SNR=5.4
WRA LR LR 21 13 06.0
comp=Z,12μm,21.4s,baz=162,slow=33
comp=Z,48nm,0.8s
WRAB Tennant Creek 44.12 332 P **P 20 57 05.5 -1.4**
WRAB IAmb IAmb 20 57 07.6
comp=Z,248nm,1.2s
WRAB Tennant Creek 44.12 332 IAms_20 IAms_20 21 12 54.7
comp=Z,14μm,21.0s
WRAB Tennant Creek 44.12 332 P **P 20 57 05.6 -1.4**
WRAB Tennant Creek 44.12 332 *i*P **P 20 57 05.6 -1.4**
WRAB pmax pmax
comp=Z,290nm,1.3s
WRAB Tennant Creek 44.12 332 ⇓P **P 20 57 05.2 -1.8**
WC2 Warramunga Arr 44.13 332 IAms_20 IAms_20 21 12 54.9
comp=Z,14μm,20.0s
WB3 Warramunga Arr 44.13 332 IAms_20 IAms_20 21 12 54.0
comp=Z,15μm,22.0s
WC1 Warramunga Arr 44.14 332 IAms_20 IAms_20 21 12 55.1
comp=Z,14μm,21.0s
WB4 Warramunga Arr 44.15 332 IAms_20 IAms_20 21 12 55.5
comp=Z,14μm,21.0s
MTSU Mount Surprise 44.17 346 P **P 20 57 07.2 -0.2**
baz=44,SNR=19
MTSU Mount Surprise 44.17 346 P **P 20 57 07.8 +0.4**
WB5 Warramunga Arr 44.17 332 IAms_20 IAms_20 21 12 56.1
comp=Z,14μm,21.0s
WB6 Warramunga Arr 44.20 332 IAms_20 IAms_20 21 12 56.7
comp=Z,15μm,22.0s
WB0 Warramunga Arr 44.28 332 P **P 20 57 06.6 -1.6**
WB0 IAmb IAmb 20 57 08.7
comp=Z,172nm,1.1s
TROLL Troll, Antarti 45.17 192 ⇑P **P 20 57 15.4 +0.5**
comp=Z,1μm,1.1s
NVL N'Iazarevskaya 45.26 196 *e*P **P 20 57 17.0 +1.5**
NVL *e* 20 59 03.3
NVL *e*S **S 21 03 56.9 +2.1**
NVL *e*SS **SS 21 07 19.3 +2.5**
NVL pmax pmax
comp=Z,75nm,1.9s
NVL smax smax
comp=N,7μm,14.7s
NVL MLR MLR
comp=Z,49μm,23.0s
SNAA Sanae 45.97 190 P **P 20 57 21.7 +0.5**
SNAA IAmb IAmb 20 57 26.3
comp=Z,87nm,1.4s
SNAA Sanae 45.97 190 *c i*P **P 20 57 21.0 -0.2**
SNAA pmax pmax
comp=Z,82nm,1.5s
SNAA MLR MLR
comp=Z,55μm,17.0s
SNAA Sanae 45.97 190 ⇑P **P 20 57 21.7 +0.5**
comp=Z,330nm,1.0s
SNAA Sanae 45.97 190 P **P 20 57 21.2 0.0**
comp=Z,29nm,1.1s,baz=164,slow=8.2,SNR=48
SNAA LR LR 21 17 15.7
comp=Z,58μm,19.0s,baz=170,slow=37
PSA00 Pilbara Seismi 46.77 313 P **P 20 57 26.5 -1.4**
PSA00 IAmb IAmb 20 57 41.1
comp=Z,111nm,1.1s
PSA00 Pilbara Seismi 46.77 313 P **P 20 57 26.6 -1.4**
PSA00 IAmb IAmb 20 57 41.2
comp=Z,200nm,1.1s
PSA00 IAMs_20 IAMs_20 21 13 34.3
comp=Z,23μm,20.0s
PSA00 Pilbara Seismi 46.77 313 P **P 20 57 27.1 -0.9**
VNA3 Neumayer Olymp 46.86 187 ⇑P **P 20 57 28.5 +0.5**
comp=Z,27nm,0.8s
MSVF Nonsavu 46.93 31 P **P 20 57 27.1 -2.1**
MSVF Nonsavu 46.93 31 IAMs_20 IAMs_20 21 12 05.9
comp=Z,17μm,22.0s
MSVF Nonsavu 46.93 31 *i*P **P 20 57 28.6 -0.7**
MSVF pmax pmax
comp=Z,83nm,3.0s
MSVF Nonsavu 46.93 31 LR LR 21 14 23.1
comp=Z,14μm,18.1s,baz=228,slow=32
SMAI San Martin Ant 46.96 160 P **P 20 57 28.4 -0.4**
SMAI IAmb IAmb 20 58 05.0
comp=Z,141nm,1.6s
VNA2 Neumayer--Watz 47.03 188 ⇑P **P 20 57 29.9 +0.5**
comp=Z,14nm,0.8s,baz=160,slow=6.0
MBWA Marble Bar 47.20 313 P **P 20 57 30.2 -1.0**
MBWA Marble Bar 47.20 313 P **P 20 57 30.1 -1.1**
MBWA Marble Bar 47.20 313 ⇑P **P 20 57 30.4 -0.8**
LKBA Tubou, Lakemba 47.27 35 P **P 20 57 31.4 -0.4**
VNA1 Neumayer--Stat 47.36 188 ⇑P **P 20 57 32.8 +0.8**
comp=Z,42nm,1.0s
GIRL Giralia 47.86 306 P **P 20 57 36.0 -0.3**
baz=48,SNR=4.1
GIRL Giralia 47.86 306 IAMs_20 IAMs_20 21 14 01.7
comp=Z,16μm,20.0s
GIRL Giralia 47.86 306 P **P 20 57 37.3 +0.9**
COEN Coen 48.43 345 P **P 20 57 40.6 -0.2**
COEN Coen 48.43 345 P **P 20 57 40.8 0.0**
COEN Coen 48.43 345 ⇑P **P 20 57 40.6 -0.2**
DGTI Dogotuki 48.73 33 P **P 20 57 43.5 +0.4**
NIUE Niue 49.23 46 IAMs_20 IAMs_20 21 15 34.5
comp=Z,10μm,20.0s
KNRA Kununurra 49.58 326 P **P 20 57 48.8 -0.8**
baz=50,SNR=26
KNRA Kununurra 49.58 326 P **P 20 57 48.7 -0.9**
KNRA Kununurra 49.58 326 P **P 20 57 49.0 -0.7**
PMSA Palmer Station 50.54 160 IAMs_20 IAMs_20 21 18 13.1
comp=Z,11μm,18.0s
PMSA Palmer Station 50.54 160 LR LR 21 17 50.2
comp=Z,8μm,18.1s,baz=210,slow=34
RAR Rarotonga 51.11 59 LR LR 21 16 49.6
comp=Z,2μm,19.6s,baz=203,slow=33
KDU Kakadu 51.55 332 P **P 20 58 03.7 -0.9**
baz=52,SNR=25
KDU Kakadu 51.55 332 P **P 20 58 04.1 -0.4**
KDU Kakadu 51.55 332 ⇓P **P 20 58 03.4 -1.1**
MTN Manton Dam 51.71 330 P **P 20 58 04.6 -1.0**
baz=52,SNR=21
MTN Manton Dam 51.71 330 P **P 20 58 04.7 -1.0**
MTN Manton Dam 51.71 330 P **P 20 58 05.0 -0.7**
MTN Manton Dam 51.71 330 ⇓P **P 20 58 04.5 -1.2**
HNR Honiara 52.34 6 P **P 20 58 09.2 -1.1**
HNR Honiara 52.34 6 P **P 20 58 11.8 +1.4**
HNR Honiara 52.34 6 P **P 20 58 09.3 -1.1**
HNR pmax pmax
comp=Z,293nm,1.1s
HNR MLR MLR
comp=Z,27μm,21.0s
HNR Honiara 52.34 6 LR LR 21 15 09.3
comp=Z,363μm,21.9s,baz=176,slow=30
PMG Port Moresby 52.53 351 IAmb IAmb 20 58 14.0
comp=Z,202nm,1.1s
PMG Port Moresby 52.53 351 *c i*P **P 20 58 12.2 +0.4**
PMG pmax pmax
comp=Z,222nm,1.1s
PMG Port Moresby 52.53 351 ⇑P **P 20 58 12.1 +0.3**
PMG Port Moresby 52.53 351 LR LR 21 17 52.0
comp=Z,16μm,18.1s,baz=171,slow=33
AFI Afiamalu 53.44 42 LR LR 21 20 33.6
comp=Z,3μm,19.3s,baz=208,slow=35
TBI Tubuai 53.66 71 *e*P P 20 58 13.7 -6.4
comp=Z,1μm,28.5s
TBI *e*S **S 21 05 55.1 +1.7**
comp=Z,10μm,28.0s
TBI *e*SS **SKiKP 21 09 36.1 +1.9**
comp=Z,5μm,26.8s
TBI *e*LR LR 21 13 37.1
comp=Z,132μm,27.0s
TBI *e*LR LR 21 13 47.2
comp=Z,37μm,27.0s
TBI Tubuai 53.66 71 *e*T T 21 56 01.0
comp=Z,146nm,0.3s
FUNA Funafuti 56.07 30 P **P 20 58 36.8 -0.8**
BATI Baumata 56.21 322 P **P 20 58 38.7 0.0**
comp=Z,60nm,0.9s,comp=Z,3μmcomp=Z,3μm
BATI Baumata 56.21 322 P **P 20 58 37.3 -1.4**
comp=Z,38nm,0.8s,baz=136,slow=5.8,SNR=2.9
BATI LR LR 21 20 43.4
comp=Z,10μm,21.8s,baz=202,slow=34
comp=Z,38nm,0.8s
SAUI Saumlaki 56.37 332 IAMs_20 IAMs_20 21 25 13.8
comp=Z,12μm,18.0s
SOEI Soe 56.47 323 P **P 20 58 37.9 -2.7**
SOEI Soe 56.47 323 P **P 20 58 43.0 +2.4**
SOEI Soe 56.47 323 P **P 20 58 41.6 +1.0**
comp=Z,171nm,1.3s,comp=Z,5μm
SOEI Soe 56.47 323 P **P 20 58 39.5 -1.0**
SOEI Soe 56.47 323 ⇑P **P 20 58 41.6 +1.0**
MMRI Maumere 58.12 321 P **P 20 58 51.2 -1.0**
MMRI Maumere 58.12 321 P **P 20 58 52.9 +0.8**
MMRI Maumere 58.12 321 P **P 20 58 52.0 -0.1**
comp=Z,202nm,1.4s,comp=Z,5μmcomp=Z,4μm
MMRI Maumere 58.12 321 ⇑P **P 20 58 51.8 -0.3**
PAE Paea 58.59 67 *e*P **P 20 58 58.8 +3.4**
comp=Z,41nm,1.3s
PAE Paea 58.59 67 *e*T T 22 02 07.9
comp=Z,8.9nm,0.3s
TVO Taravao 58.63 68 *e*T T 22 02 13.3
comp=Z,10.0nm,0.3s
PPT2 Papeete2 58.66 67 *e*PKIKP P 20 58 47.4 -8.5
comp=Z,289nm,26.5s
PPT2 Papeete2 58.66 67 *e*PP **PP 21 01 05.8 +0.3**
comp=Z,192nm,27.2s
PPT2 *e*S **S 21 07 06.5 +6.5**
comp=Z,1μm,25.2s
PPT2 *e*SS **SS 21 10 50.0 -2.7**
comp=Z,1μm,26.0s
PPT2 *e*LQ LQ 21 13 28.8
comp=Z,13μm,25.0s
PPT2 *e*LR LR 21 16 02.0
comp=Z,15μm,27.2s
PPT2 *e*LR LR 21 16 09.5
comp=Z,9μm,26.0s
PPT2 Papeete2 58.66 67 *e*T T 22 02 11.7
comp=Z,14nm,0.3s
PPT Papeete 58.67 67 LR LR 21 20 09.6
comp=Z,5μm,18.4s,baz=215,slow=32
TIAR Tiarei 58.78 67 *e*P **P 20 58 58.7 +1.9**
comp=Z,18nm,1.3s
TIAR Tiarei 58.78 67 *e*T T 22 02 13.7
comp=Z,2.9nm,0.2s
USHA Ushuaia 58.90 152 LR LR 21 18 50.4
comp=Z,6μm,21.9s,baz=206,slow=31
MEH Mehetia 59.07 69 *e*T T 22 02 51.1
comp=Z,53nm,0.3s
PLAI Plampang 59.34 316 P **P 20 59 00.5 -0.1**
PLAI Plampang 59.34 316 P **P 20 59 00.7 +0.1**
comp=Z,102nm,1.5s,comp=Z,2μmcomp=Z,4μm
TWSI Taliwang, Sumb 59.72 315 P **P 20 59 03.3 +0.1**
comp=Z,92nm,0.9s,comp=Z,2μmcomp=Z,4μm
MANU Manus Island 59.81 351 P **P 20 59 02.2 -1.6**
GENI Genyem 60.02 343 P **P 20 59 05.1 -0.1**
JAY Jayapura 60.02 344 P **P 20 59 04.0 -1.3**
comp=Z,63nm,2.6s,comp=Z,2μm
JAY Jayapura 60.02 344 P **P 20 59 04.2 -1.1**
comp=Z,32nm,1.0s,baz=182,slow=14,SNR=6.6
JAY LR LR 21 23 06.1
comp=Z,12μm,20.8s,baz=132,slow=34
comp=Z,32nm,1.0s
BNDI Bandanaira 60.03 331 P **P 20 59 06.6 +1.3**
BNDI Bandanaira 60.03 331 P **P 20 59 05.4 +0.1**
comp=Z,325nm,1.1s,comp=Z,8μmcomp=Z,3μm
SMPI Sarmi 60.82 342 P **P 20 59 10.2 -0.5**
comp=Z,110nm,1.8s,comp=Z,3μmcomp=Z,4μm
SRBI Singaraja 60.90 314 P **P 20 59 11.3 0.0**
comp=Z,189nm,1.1s,comp=Z,3μmcomp=Z,4μm
JAGI Jajag, Banyuwa 60.91 313 P **P 20 59 10.0 -1.3**
JAGI IAmb IAmb 20 59 34.8
comp=Z,184nm,1.5s
FAKI Fak Fak 61.07 334 P **P 20 59 12.3 -0.2**
FAKI Fak Fak 61.07 334 P **P 20 59 13.0 +0.6**
FAKI Fak Fak 61.07 334 P **P 20 59 12.8 +0.4**
comp=Z,337nm,0.9s,comp=Z,4μmcomp=Z,3μm
GO09 Cerro Castillo 61.27 148 P **P 20 59 13.6 +0.2**
ABJI Asem Bagus 61.50 313 P **P 20 59 17.7 +2.3**
comp=Z,99nm,1.0s,comp=Z,4μm
PMOR Pomariorio Ree 61.68 68 *e*T T 22 06 06.1
comp=Z,4.6nm,0.3s
BLJI Banyuglugur 61.77 312 P **P 20 59 17.8 +0.6**
comp=Z,121nm,2.1s,comp=Z,3μm
BKSI Bulukumba 61.90 320 P **P 20 59 16.6 -1.4**
comp=Z,52nm,1.1s,comp=Z,1μmcomp=Z,3μm
NLAI Namlea 61.94 328 P **P 20 59 17.6 -0.7**
comp=Z,142nm,1.1s
RKPI Ransiki, Papua 62.06 337 P **P 20 59 18.7 -0.4**
comp=Z,92nm,1.0s,comp=Z,3μm
KAPI Kappang 62.30 320 P **P 20 59 19.4 -1.4**
KAPI IAmb IAmb 20 59 30.5
comp=Z,97nm,1.1s
KAPI Kappang 62.30 320 P **P 20 59 20.7 0.0**
KAPI Kappang 62.30 320 *i*P **P 20 59 19.3 -1.4**
KAPI pmax pmax
comp=Z,112nm,1.1s
KAPI Kappang 62.30 320 P **P 20 59 20.0 -0.7**
comp=Z,32nm,1.0s,baz=171,slow=7.4,SNR=12
KAPI LR LR 21 23 57.3
comp=Z,9μm,20.1s,baz=164,slow=34
comp=Z,32nm,1.0s
WOJI Wonogiri, Jawa 62.65 309 P **P 20 59 23.6 +0.5**
comp=Z,213nm,1.4s,comp=Z,3μm
UGM Wanagama 62.73 309 P **P 20 59 25.7 +2.0**
NGJI Ngawi 62.89 310 P **P 20 59 25.9 +1.2**
comp=Z,153nm,0.9s,comp=Z,5μm
SIJI Sorong 63.27 334 P **P 20 59 26.4 -0.8**
comp=Z,28nm,0.9s,baz=164,slow=4.3,SNR=30
comp=Z,28nm,0.9s
SWI Sorong 63.28 334 P **P 20 59 27.1 -0.1**
comp=Z,67nm,0.8s,comp=Z,2μmcomp=Z,2μm
SANI Sanana 63.37 327 P **P 20 59 26.3 -1.5**
SANI Sanana 63.37 327 P **P 20 59 25.8 -2.0**
comp=Z,107nm,1.0s,comp=Z,2μmcomp=Z,2μm
SANI Sanana 63.37 327 P **P 20 59 23.8 -4.0**
SANI Sanana 63.37 327 ⇑P **P 20 59 29.9 +2.1**
SMRI Semarang 63.56 309 P **P 20 59 28.7 -0.4**
SMRI Semarang 63.56 309 P **P 20 59 31.2 +2.1**
comp=Z,82nm,0.8s,comp=Z,4μmcomp=Z,6μm
SMRI Semarang 63.56 309 ⇓p **P 20 59 33.7 +4.6**
KPJI Karang Pucung 63.86 308 P **P 20 59 31.6 +0.5**
comp=Z,110nm,1.1s,comp=Z,3μm
EFI East Falkland 63.96 158 *i*P **P 20 59 32.0 +0.7**
EFI pmax pmax
comp=Z,27nm,0.9s
HOPE Hope Point 63.98 173 IAMs_20 IAMs_20 21 24 23.6
comp=Z,10μm,22.0s
TTSI Tana Toraja 64.14 321 P **P 20 59 33.0 +0.1**
comp=Z,69nm,1.2s,comp=Z,1μm
BBJI Bungbulang 64.23 306 P **P 20 59 37.2 +3.6**
LBMI Labuha 64.35 329 P **P 20 59 33.8 -0.5**
comp=Z,470nm,1.6s,comp=Z,8μm
TARA Tarawa 64.44 20 IAMs_20 IAMs_20 21 22 40.6
comp=Z,12μm,21.0s
LEM Lembang 64.82 306 LR LR 21 23 15.9
comp=Z,7μm,21.4s,baz=148,slow=32
LUWI Luwuk 65.19 324 P **P 20 59 38.5 -1.3**
LUWI Luwuk 65.19 324 P **P 20 59 42.7 +2.9**
LUWI Luwuk 65.19 324 P **P 20 59 40.5 +0.7**
comp=Z,81nm,1.1s,comp=Z,2μmcomp=Z,3μm
LUWI Luwuk 65.19 324 P **P 20 59 36.7 -3.0**
LUWI Luwuk 65.19 324 ⇑P **P 20 59 39.3 -0.4**
BBKI Banjar Baru 65.34 315 P **P 20 59 41.1 +0.3**
comp=Z,284nm,1.3s,comp=Z,5μm
TNTI Ternate 65.74 330 P **P 20 59 40.8 -2.5**
TNTI IAmb IAmb 20 59 54.2
comp=Z,99nm,1.2s
CGJI Cibinong 65.76 305 P **P 20 59 44.1 +0.6**
comp=Z,74nm,1.1s,comp=Z,3μm
COYC Coyhaique 66.60 146 P **P 20 59 47.5 -1.0**
COYC IAmb IAmb 21 00 17.7
comp=Z,48nm,1.2s
MRSI Marisa 66.87 324 P **P 20 59 48.3 -2.3**
comp=Z,40nm,1.0s,comp=Z,1μmcomp=Z,2μm
KASI Kota Agung 67.23 304 P **P 20 59 53.9 +1.0**
comp=Z,100nm,1.4s,comp=Z,2μm
MPSI Mapaga 67.33 322 P **P 20 59 52.2 -1.3**
comp=Z,70nm,1.1s,comp=Z,2μmcomp=Z,2μm
MTKI Muara Teweh, K 67.68 316 P **P 20 59 55.3 -0.4**
comp=Z,85nm,1.4s,comp=Z,3μmcomp=Z,4μm
TOLI2 Tolitoli 67.80 323 P **P 20 59 54.0 -2.4**
TOLI2 Tolitoli 67.80 323 P **P 20 59 59.7 +3.2**
LWLI Liwa 67.86 304 P **P 20 59 57.5 +0.5**
comp=Z,203nm,0.8s,comp=Z,3μmcomp=Z,5μm
PATS Pohnpei 68.42 4 IAMs_20 IAMs_20 21 25 44.6
comp=Z,10μm,19.0s
LL01 San Ignacio de 69.47 145 P **P 21 00 06.9 +0.3**
PMBI Palembang 69.49 305 IAMs_20 IAMs_20 21 24 51.9
comp=Z,8μm,22.0s
STKI Sintang 69.78 313 P **P 21 00 09.8 +1.0**
comp=Z,92nm,1.9s,comp=Z,3μmcomp=Z,3μm
TAOE Nuku Hiva Isla 70.58 72 *e*S S 21 09 17.0 -10
comp=Z,937nm,27.3s
TAOE *e*LQ LQ 21 18 17.2
comp=Z,17μm,27.5s
TAOE *e*LR LR 21 21 33.8
comp=Z,5μm,25.7s
KSM Kuching 71.50 312 P **P 21 00 18.2 -1.1**
KSM IAmb IAmb 21 00 34.4
comp=Z,99nm,1.2s
KSM Kuching 71.50 312 P **P 21 00 19.6 +0.3**
PLCA Paso Flores 71.51 145 P **P 21 00 18.9 -0.3**
PLCA Paso Flores 71.51 145 P **P 21 00 18.9 -0.3**
PLCA pmax pmax
comp=Z,55nm,1.4s
PLCA Paso Flores 71.51 145 P **P 21 00 18.6 -0.6**
comp=Z,8.2nm,0.9s,baz=202,slow=6.0,SNR=11
PLCA LR LR 21 25 35.5
comp=Z,4μm,20.1s,baz=209,slow=31
SBUM Sibu 71.75 315 P **P 21 00 19.6 -1.1**
DSRI Dabo 71.81 306 P **P 21 00 20.6 -0.6**
comp=Z,28nm,1.2s,comp=Z,1μmcomp=Z,3μm
DAV Davao City (W) 72.24 329 LR LR 21 33 54.5
comp=Z,1μm,18.5s,baz=80,slow=37
MYLDM Lahad Datu 72.33 322 P **P 21 00 25.0 +0.8**
MYLDM IAmb IAmb 21 00 38.4
comp=Z,133nm,1.3s
SDSI Sungai Dareh 72.63 303 P **P 21 00 25.0 -1.1**
comp=Z,96nm,1.0s,comp=Z,2μmcomp=Z,3μm
PDSI Padang 73.04 302 P **P 21 00 28.4 -0.1**
comp=Z,66nm,1.3s,comp=Z,2μm
TPRI Tanjung Pinang 73.11 307 P **P 21 00 29.7 +0.8**
comp=Z,29nm,1.1s,comp=Z,2μmcomp=Z,3μm
KKM Kota Kinabalu 73.84 320 P **P 21 00 31.5 -1.8**
KKM IAmb IAmb 21 00 44.0
comp=Z,94nm,1.1s
KKM Kota Kinabalu 73.84 320 P **P 21 00 35.0 +1.7**
BKNI Bangkinang 73.93 303 P **P 21 00 38.0 +4.2**
BKNI Bangkinang 73.93 303 P **P 21 00 33.7 -0.1**
comp=Z,128nm,1.0s,comp=Z,2μmcomp=Z,3μm
BKNI Bangkinang 73.93 303 P **P 21 00 34.7 +0.9**
MYKOM Kota Tinggi 74.17 306 P **P 21 00 34.6 -0.5**
MYKOM IAmb IAmb 21 00 55.3
comp=Z,146nm,1.6s
H03S1 Juan Fernandez 75.36 136 T T 22 24 03.6
baz=201,slow=74,SNR=880
H03S2 Juan Fernandez 75.36 136 T T 22 24 02.3
baz=201,slow=74,SNR=398
H03S3 Juan Fernandez 75.38 136 T T 22 24 02.1
baz=201,slow=74,SNR=483
GUMO Guam 75.48 350 P **P 21 00 40.1 -2.4**
GUMO Guam 75.48 350 P **P 21 00 40.8 -1.8**
comp=Z,109nm,1.0s,baz=172,slow=15,SNR=3.1
GUMO LR LR 21 32 42.7
comp=Z,2μm,19.1s,baz=184,slow=35
comp=Z,109nm,1.0s
H03N3 Juan Fernandez 75.71 136 T T 22 25 02.7
baz=208,slow=72,SNR=16
H03N2 Juan Fernandez 75.72 136 T T 22 25 00.3
baz=208,slow=72,SNR=25
H03N1 Juan Fernandez 75.73 136 T T 22 24 45.3
baz=208,slow=72,SNR=14
ML02 Panimavida 75.90 143 P **P 21 00 45.5 +0.6**

TRQA	**Tornquist**	**76.19 151**	P	**P**	**21 00 46.9**	**+0.3**
TRQA			IAmb	IAmb	21 01 24.5	
	comp=Z,124nm,1.9s					
TRQA	**Tornquist**	**76.19 151**	P	**P**	**21 00 46.9**	**+0.3**
TRQA			pmax	pmax		
	comp=Z,125nm,2.0s					
TRQA			MLR	MLR		
	comp=Z,4μm,21.0s					
GSI	**Gunungsitoli**	**76.22 300**	P	**P**	**21 00 49.2**	**+2.2**
GSI	**Gunungsitoli**	**76.22 300**	P	**P**	**21 00 47.1**	**+0.1**
	comp=Z,121nm,1.5s,comp=Z,4μm					
GRHM	**Grahamstown, E**	**76.54 222**	IAMs_20	IAMs_20	21 31 34.6	
	comp=Z,7μm,20.0s					
RPSI	**Rantau Prapat**	**76.94 302**	P	**P**	**21 00 49.3**	**-1.6**
RPSI			IAmb	IAmb	21 01 03.1	
	comp=Z,66nm,1.4s					
PSI	**Prapat**	**77.03 302**	P	**P**	**21 00 50.8**	**-0.9**
PSI	**Prapat**	**77.03 302**	P	**P**	**21 00 49.3**	**-2.4**
PSI			pmax	pmax		
	comp=Z,66nm,1.4s					
PSI			MLR	MLR		
	comp=Z,4μm,21.0s					
BO01	**Tunca**	**77.28 143**	P	**P**	**21 00 52.6**	**-0.2**
BO01			IAmb	IAmb	21 01 21.8	
	comp=Z,66nm,1.1s					
MT01	**Popeta**	**77.72 142**	P	**P**	**21 00 56.0**	**+0.7**
MT01			IAmb	IAmb	21 01 32.8	
	comp=Z,144nm,1.9s					
SNSI	**Sinabang, Aceh**	**77.74 299**	P	**P**	**21 00 55.8**	**+0.3**
	comp=Z,192nm,1.0s					
BO04	**La Punta**	**77.79 143**	P	**P**	**21 00 55.3**	**-0.4**
BO04			IAmb	IAmb	21 01 30.6	
	comp=Z,122nm,1.3s					
MT09	**Talagante**	**77.88 142**	P	**P**	**21 00 55.5**	**-0.8**
LMEL	**Las Melosas**	**78.04 143**	P	**P**	**21 00 56.6**	**-0.7**
MT13	**San Alfonso**	**78.12 143**	P	**P**	**21 00 57.3**	**-0.3**
MT13			IAmb	IAmb	21 01 16.8	
	comp=Z,79nm,1.1s					
KCSI	**Kotacane, Aceh**	**78.15 301**	P	**P**	**21 00 57.9**	**+0.1**
	comp=Z,83nm,1.3s,comp=Z,1μm					
MT03	**Universidad Ad**	**78.29 143**	IAmb	IAmb	21 01 16.5	
	comp=Z,85nm,1.1s					
MT05	**Renca**	**78.31 142**	IAmb	IAmb	21 01 49.8	
	comp=Z,176nm,1.6s					
KULM	**Kulim**	**78.61 305**	P	**P**	**21 00 60.0**	**-0.3**
KULM			IAmb	IAmb	21 01 13.8	
	comp=Z,113nm,1.1s					
SUR	**Sutherland**	**79.09 218**	P	**P**	**21 01 02.3**	**-0.8**
SUR			IAmb	IAmb	21 01 08.6	
	comp=Z,119nm,1.4s					
SUR	**Sutherland**	**79.09 218**	LR	LR	21 32 19.3	
	comp=Z,6μm,22.0s,baz=160,slow=33					
MLSI	**Meulaboh, Aceh**	**79.39 300**	P	**P**	**21 01 05.0**	**+0.4**
	comp=Z,113nm,1.2s					
H08S2	**Diego Garcia H**	**79.64 273**	T	T	22 28 38.0	
	baz=151,slow=76,SNR=662					
H08S1	**Diego Carcia H**	**79.65 273**	T	T	22 28 41.4	
	baz=151,slow=76,SNR=612					
H08S3	**Diego Garcia H**	**79.66 273**	T	T	22 28 48.1	
	baz=151,slow=76,SNR=505					
DGAR	**Diego Garcia**	**79.86 273**	IAMs_20	IAMs_20	21 30 03.6	
	comp=Z,4μm,18.0s					
LHMI	**Lhok Sumawe**	**80.04 301**	IAMs_20	IAMs_20	21 31 43.0	
	comp=Z,5μm,20.0s					
CO02	**Combarbal**	**80.28 141**	P	**P**	**21 01 05.2**	**-4.3**
CFA	**Coronel Fontan**	**80.71 144**	LR	LR	21 31 35.5	
	comp=Z,1μm,19.5s,baz=190,slow=32					
BOSA	**Boshof**	**81.21 223**	P	**P**	**21 01 10.7**	**-3.8**
BOSA			IAMs_20	IAMs_20	21 35 36.2	
	comp=Z,7μm,19.0s					
BOSA	**Boshof**	**81.21 223**	P	**P**	**21 01 12.0**	**-2.5**
	comp=Z,11nm,1.0s,baz=175,slow=5.3,SNR=10					
BOSA			LR	LR	21 35 54.7	
	comp=Z,6μm,18.3s,baz=158,slow=35					
	comp=Z,11nm,1.0s					
CO01	**Juntas del Tor**	**81.70 142**	IAmb	IAmb	21 01 46.9	
	comp=Z,153nm,1.8s					
DLV	**T Lat**	**81.88 314**	P	**P**	**21 01 21.6**	**+3.5**
SRIT	**Nakonsritamara**	**82.04 305**	IAmb	IAmb	21 01 33.9	
	comp=Z,76nm,1.2s					
SRIT	**Nakonsritamara**	**82.04 305**	P	**P**	**21 01 18.6**	**-0.1**
SURA	**Surathani**	**82.55 305**	P	**P**	**21 01 22.3**	**+0.9**
JOHN	**Johnston Islan**	**83.19 34**	IAMs_20	IAMs_20	21 31 54.0	
	comp=Z,8μm,22.0s					
LBTB	**Lobatse**	**84.43 225**	P	**P**	**21 01 30.4**	**-0.8**
LBTB			IAmb	IAmb	21 01 50.5	
	comp=Z,75nm,1.5s					
LBTB			IAMs_20	IAMs_20	21 35 30.3	
	comp=Z,6μm,20.0s					
LBTB	**Lobatse**	**84.43 225**	P	**P**	**21 01 30.4**	**-0.8**
LBTB			pmax	pmax		
	comp=Z,75nm,1.5s					
LBTB			MLR	MLR		
	comp=Z,6μm,20.0s					
AC02	**Maricunga**	**84.94 142**	P	**P**	**21 01 35.0**	**+0.8**
AC02			IAmb	IAmb	21 02 08.7	
	comp=Z,55nm,1.4s					
NAYO	**Nakonayok**	**86.62 309**	P	**P**	**21 01 42.9**	**+1.0**
PBA	**Port Blair**	**87.57 300**	IAMs_20	IAMs_20	21 34 36.6	
	comp=Z,5μm,22.0s					
MATP	**Matopo**	**87.64 229**	LR	LR	21 37 16.0	
	comp=Z,1μm,20.0s,baz=156,slow=33					
QIZ	**Qiongzhong**	**88.06 318**	P	**P**	**21 01 47.4**	**-1.4**
QIZ			PP	**PP**	**21 05 13.3**	**-2.4**
QIZ			SKS	**SKSac**	**21 12 14.1**	**-2.6**
QIZ			S	**ScS**	**21 12 36.5**	**-1.7**
QIZ			SS	**SS**	**21 18 18.0**	**-2.8**
QIZ			pmax	pmax		
	comp=Z,35nm,1.6s					
QIZ			pmax	pmax		
	comp=Z,790nm,3.9s					
QIZ			LR	LR		
	comp=Z,5μm,21.1s					
QIZ			LR	LR		
	comp=Z,6μm,23.0s					
QIZ			LR	LR		
	comp=Z,3μm,35.3s					
PB15	**IPOC Station P**	**88.24 140**	P	**P**	**21 01 50.2**	**+0.1**
PB15			IAmb	IAmb	21 02 18.9	
	comp=Z,60nm,1.3s					
CPUP	**Villa Florida**	**88.51 152**	P	**P**	**21 01 49.2**	**-1.9**
	comp=Z,6.4nm,1.0s,baz=197,slow=5.4,SNR=6.3					
CPUP			LR	LR	21 38 21.8	
	comp=Z,3μm,19.3s,baz=196,slow=34					
	comp=Z,6.4nm,1.0s					
LVC	**Limon Verde**	**88.97 140**	LR	LR	21 33 04.3	
	comp=Z,2μm,21.5s,baz=200,slow=30					
TPUB	**Ta-pu**	**89.06 329**	P	**P**	**21 01 55.7**	**+2.3**
JCJ	**Chichijima**	**89.10 349**	LR	LR	21 38 55.4	
	comp=Z,2μm,19.9s,baz=170,slow=34					
WIN	**Windhoek**	**89.41 219**	P	**P**	**21 01 55.3**	**-0.3**
WIN			IAmb	IAmb	21 02 22.8	
	comp=Z,35nm,1.0s					
WIN	**Windhoek**	**89.41 219**	P	**P**	**21 01 55.3**	**-0.3**
WIN			pmax	pmax		
	comp=Z,35nm,1.0s					
WIN			MLR	MLR		
	comp=Z,9μm,20.0s					
SSLB	**Suanglung**	**89.45 329**	P	**P**	**21 01 56.6**	**+1.4**
PB07	**IPOC Station P**	**89.50 139**	IAmb	IAmb	21 02 21.4	
	comp=Z,62nm,1.1s					
MALK	**Mahakanadarawa**	**89.97 288**	P	**P**	**21 01 58.6**	**+0.6**
STCH	**Steam Cracks**	**90.12 46**	IAMs_20	IAMs_20	21 36 45.0	
	comp=Z,5μm,18.0s					
JCUZ	**Jacuzzi**	**90.12 46**	IAMs_20	IAMs_20	21 35 58.2	
	comp=Z,7μm,21.0s					
NPOC	**North of Pu'u**	**90.13 46**	IAMs_20	IAMs_20	21 33 13.3	
	comp=Z,5μm,20.0s					
MSEY	**Mahe Island**	**90.30 260**	IAMs_20	IAMs_20	21 33 52.7	
	comp=Z,5μm,20.0s					
POHA	**Pohakuloa**	**90.32 46**	IAMs_20	IAMs_20	21 36 25.4	
	comp=Z,6μm,21.0s					
TA02	**Huaiquique**	**90.79 139**	IAMs_20	IAMs_20	21 32 37.1	
	comp=Z,4μm,22.0s					
JOW	**Kunigami**	**90.81 337**	LR	LR	21 40 53.5	
	comp=Z,3μm,20.4s,baz=174,slow=34					
KIP	**Kipapa**	**91.04 43**	*i* P	**P**	**21 02 03.5**	**+0.8**
KIP			pmax	pmax		
	comp=Z,10.0nm,0.4s					
QZH	**Quanzhou**	**91.14 328**	⇓*i* P	**P**	**21 02 07.6**	**+4.6**
QZH			S	**S**	**21 13 02.5**	**+2.0**
QZH			SS	**SS**	**21 19 02.0**	**-3.5**
QZH			pmax	pmax		
	comp=Z,610nm,4.6s					
QZH			LR	LR		
	comp=Z,2μm,22.7s					
QZH			LR	LR		
	comp=Z,3μm,21.1s					
PB08	**IPOC Station P**	**91.22 139**	IAmb	IAmb	21 02 29.1	
	comp=Z,108nm,2.0s					
CMAR	**Chiang Mai Arr**	**91.31 308**	P	**P**	**21 02 02.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**91.31 308**	P	**P**	**21 02 02.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**91.31 308**	P	**P**	**21 02 03.0**	**-1.0**
	comp=Z,2.7nm,1.0s,baz=192,slow=4.2,SNR=14					
CMAR			PP	**PP**	**21 05 39.9**	**-1.7**
	comp=Z,2.3nm,1.1s,baz=159,slow=5.2,SNR=3.8					
CMAR			LR	LR	21 41 46.1	
	comp=Z,2μm,18.9s,baz=165,slow=35					
	comp=Z,2.7nm,1.0s					
PB12	**IPOC Station P**	**92.28 138**	IAMs_20	IAMs_20	21 33 31.6	
	comp=Z,4μm,21.0s					
CRAI	**Chiangrai**	**92.40 310**	P	**P**	**21 02 08.5**	**-0.6**
CRAI			IAmb	IAmb	21 02 25.4	
	comp=Z,43nm,1.1s					
TSUM	**Tsumeb**	**92.43 220**	LR	LR	21 41 24.4	
	comp=Z,10μm,20.9s,baz=160,slow=34					
LSZ	**Lusaka**	**92.49 231**	IAMs_20	IAMs_20	21 45 12.9	
	comp=Z,4μm,19.0s					
LSZ	**Lusaka**	**92.49 231**	LR	LR	21 41 25.5	
	comp=Z,2μm,18.0s,baz=160,slow=34					
AP01	**Chacalluta**	**92.50 138**	IAMs_20	IAMs_20	21 33 47.5	
	comp=Z,5μm,21.0s					
PB16	**IPOC Station P**	**92.80 138**	P	**P**	**21 02 10.3**	**-1.6**
PB16			IAmb	IAmb	21 02 33.6	
	comp=Z,41nm,1.5s					
LPAZ	**La Paz**	**95.16 139**	P	**P**	**21 02 22.3**	**-0.4**
LPAZ	**La Paz**	**95.16 139**	P	**P**	**21 02 22.3**	**-0.4**
LPAZ			pmax	pmax		
	comp=Z,17nm,1.2s					
JHJ2	**Mitsune**	**95.28 347**	IAMs_20	IAMs_20	21 41 20.7	
	comp=Z,4μm,20.0s					
JHJ	**Hachijo jima 2**	**95.30 347**	LR	LR	21 41 32.7	
	comp=Z,3μm,21.7s,baz=182,slow=33					
MND	**Mandalay**	**95.61 307**	P	**P**	**21 02 26.4**	**+2.7**
GYA	**Guiyang**	**96.01 318**	⇓P	**P**	**21 02 26.6**	**+1.0**
GYA			PP	**PP**	**21 06 21.7**	**+3.1**
GYA			S	**S**	**21 13 42.5**	**-1.2**
GYA			pmax	pmax		
	comp=Z,10.0nm,1.2s					
GYA			pmax	pmax		
	comp=Z,290nm,5.7s					
GYA			LR	LR		
	comp=Z,3μm,24.0s					
GYA			LR	LR		
	comp=Z,1μm,17.6s					
GYA			LR	LR		
	comp=Z,3μm,22.4s					
KMI	**Kunming**	**96.07 314**	⇓P	**P**	**21 02 25.4**	**-0.6**
KMI			sP	sP	21 02 31.6	+1.4
KMI			PP	**PP**	**21 06 17.4**	**-1.8**
KMI			pmax	pmax		
	comp=Z,11nm,0.9s					
KMI			pmax	pmax		
	comp=Z,280nm,5.4s					
KMI			LR	LR		
	comp=Z,2μm,23.1s					
KMI			LR	LR		
	comp=Z,3μm,19.4s					
KMI			LR	LR		
	comp=Z,5μm,27.9s					
NNA	**Nana**	**96.19 130**	IAMs_20	IAMs_20	21 36 42.8	
	comp=Z,4μm,20.0s					
NNA	**Nana**	**96.19 130**	LR	LR	21 36 45.5	
	comp=Z,4μm,19.4s,baz=202,slow=30					
SSE	**Sheshan**	**96.41 331**	P	**P**	**21 02 27.9**	**+0.8**
SSE			S	**S**	**21 13 45.7**	**-1.0**
SSE			pmax	pmax		
	comp=Z,15nm,0.7s					
SSE			pmax	pmax		
	comp=Z,120nm,4.7s					
SSE			LR	LR		
	comp=Z,580nm,19.7s					
SSE			LR	LR		
	comp=Z,740nm,20.2s					
JNU	**Nakatsue**	**96.49 340**	LR	LR	21 45 36.5	
	comp=Z,3μm,19.0s,baz=166,slow=35					
TNCH	**TengChong**	**97.47 310**	P	**P**	**21 02 32.2**	**-0.1**
TNCH			pP	sP	21 02 36.7	+0.2
TNCH			sP	pwP	21 02 38.6	-1.2
TNCH			PP	**PP**	**21 06 31.6**	**+1.7**
TNCH			SKS	**SKSac**	**21 13 10.0**	**+0.8**
TNCH			S	**S**	**21 13 51.5**	**-5.0**
TNCH			sS	sS	21 14 03.0	+1.4
TNCH			pmax	pmax		
	comp=Z,6.0nm,1.7s					
TNCH			pmax	pmax		
	comp=Z,140nm,4.8s					
TNCH			LR	LR		
	comp=Z,1μm,17.6s					
TNCH			LR	LR		
	comp=Z,850nm,16.8s					
TNCH			LR	LR		
	comp=Z,3μm,20.3s					
SIV	**San Ignacio**	**97.50 145**	LR	LR	21 43 43.5	
	comp=Z,1μm,19.6s,baz=192,slow=34					
WHN	**Wuhan**	**97.58 326**	P	Pdif	21 02 36.1	+3.6
WHN			PP	**PP**	**21 06 29.7**	**-0.8**
WHN			S	**S**	**21 13 56.7**	**0.0**
WHN			SS	**SS**	**21 20 41.3**	**+4.1**
WHN			LR	LR		
	comp=Z,6μm,21.2s					
PZH	**PanZhiHua**	**97.68 314**	P	**P**	**21 02 33.1**	**-0.1**
PZH			PP	**PP**	**21 06 32.9**	**+1.4**
PZH			SKS	**SKSac**	**21 13 15.7**	**+5.6**
PZH			S	**S**	**21 13 55.6**	**-2.5**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.7s					
PZH			pmax	pmax		
	comp=Z,110nm,6.5s					
PZH			LR	LR		
	comp=Z,3μm,21.4s					
PZH			LR	LR		
	comp=Z,3μm,20.2s					
PZH			LR	LR		
	comp=Z,3μm,22.6s					
NJ2	**Nanjing**	**97.87 330**	*e*P	Pdif	21 02 35.1	+1.3
NJ2			pP	sP	21 02 39.0	+1.1
NJ2			sP	pwP	21 02 41.8	+0.7
NJ2			PP	**PP**	**21 06 39.2**	**+6.5**
NJ2			S	**S**	**21 14 04.3**	**+5.1**
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,390nm,4.7s					
NJ2			LR	LR		
	comp=Z,3μm,22.1s					
NJ2			LR	LR		
	comp=Z,1μm,20.6s					
NJ2			LR	LR		
	comp=Z,4μm,20.2s					
BRDH	**Bariadhala**	**97.95 304**	LR	LR	21 46 41.9	
	comp=Z,2μm,18.5s,baz=357,slow=35					
JTU	**Tsushima**	**98.10 339**	IAMs_20	IAMs_20	21 46 19.2	
	comp=Z,4μm,19.0s					
ENH	**Enshi**	**98.70 322**	P	Pdif	21 02 40.7	+3.1
HYB	**Hyderabad**	**98.81 290**	*e*PKiKP	**PKiKP**	**21 07 10.5**	**+1.1**
HYB			*es*PKiKP	**sPKiKP**	**21 07 14.0**	**+0.4**
HYB			*e*SKSac	**SKSac**	**21 13 16.2**	**+0.2**
HYB			*e*P	**SP**	**21 15 29.6**	**-3.9**
HYB			IVMs_BB	IVMs_BB	21 36 42.4	
	comp=Z,1μm,23.8s					
MJAR	**Matsushiro Arr**	**98.85 347**	PP	**PP**	**21 06 36.8**	**-3.4**
	comp=Z,3.5nm,1.1s,baz=178,slow=8.4,SNR=4.3					
MJAR			LR	LR	21 44 33.5	
	comp=Z,2μm,21.3s,baz=162,slow=34					
MAJO	**Matsushiro**	**98.85 347**	*i* P	Pdif	21 02 38.4	+0.3
MAJO			pmax	pmax		
	comp=Z,12nm,1.7s					
ATAH	**Atahualpa**	**100.07 126**	LR	LR	21 40 00.9	
	comp=Z,3μm,18.1s,baz=207,slow=31					
PAYG	**Puerto Ayora**	**100.99 113**	IAMs_20	IAMs_20	21 38 07.8	
	comp=Z,4μm,21.0s					
CD2	**Chengdu**	**101.07 317**	P	**Pdif**	**21 02 49.0**	**+0.9**
CD2			PP	**PP**	**21 06 57.4**	**+0.2**
CD2			S	**Sdif**	**21 14 24.8**	**-1.4**
CD2			SS	**SS**	**21 21 29.5**	**+3.3**
CD2			pmax	pmax		
	comp=Z,260nm,5.6s					
CD2			LR	LR		
	comp=Z,3μm,21.6s					
CD2			LR	LR		
	comp=Z,3μm,21.7s					
KSRS	**Korea Array**	**101.21 339**	P	**Pdif**	**21 02 47.8**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=194,slow=0.6,SNR=1.8					
KSRS			PP	**PP**	**21 06 56.3**	**-1.8**
	comp=Z,5.6nm,1.2s,baz=171,slow=7.6,SNR=7.0					
BOK	**Bokaro**	**101.28 299**	*ex*	x	21 06 58.8	
KMBO	**Kilima Mbogo**	**101.69 245**	*e*P	**PKiKP**	**21 07 18.3**	**+3.3**
KMBO	**Kilima Mbogo**	**101.69 245**	*e*P	**PKiKP**	**21 07 18.3**	**+3.3**
	baz=288					
LYN	**LuoYang**	**101.88 325**	⇓P	**Pdif**	**21 02 50.5**	**-1.0**
LYN			PP	**PP**	**21 07 04.0**	**+0.9**
LYN			SKS	**SKSac**	**21 13 35.4**	**+5.3**
LYN			S	SKKSac	21 14 28.2	+20
LYN			sS	sS	21 14 44.8	+6.8
LYN			SS	**SS**	**21 21 35.9**	**-1.3**
LYN			pmax	pmax		
	comp=Z,9.0nm,0.9s					
LYN			pmax	pmax		
	comp=Z,270nm,6.1s					
LYN			LR	LR		
	comp=Z,3μm,28.9s					
LYN			LR	LR		
	comp=Z,2μm,20.6s					
LYN			LR	LR		
	comp=Z,4μm,26.8s					
POO	**Poona**	**101.91 287**	*ex*	x	21 07 03.4	
XAN	**Xi'an**	**102.39 322**	Pdif	**Pdif**	**21 03 02.8**	**+8.9**
XAN			PP	**PP**	**21 07 03.1**	**-4.0**
XAN	**Xi'an**	**102.39 322**	SS	SS	21 21 41.8	-2.7
XAN			LR	LR		
	comp=N,4μm,20.6s					
XAN			LR	LR		
	comp=E,1μm,17.8s					
XAN			LR	LR		
	comp=Z,6μm,22.1s					
GTK	**Tadong**	**103.31 303**	⇑*ex*	x	21 07 15.8	
ERM	**Erimo**	**103.82 351**	IAMs_20	IAMs_20	21 43 40.7	
	comp=Z,5μm,22.0s					
JEM	**Erimo**	**103.82 351**	IAMs_20	IAMs_20	21 43 41.5	
	comp=Z,5μm,22.0s					
DL2	**Dalian**	**103.83 334**	Pdif	**Pdif**	**21 03 08.0**	**+7.9**
DL2			PP	**PP**	**21 07 16.8**	**-0.9**
DL2	**Dalian**	**103.83 334**	SS	SS	21 22 02.6	-1.5
DL2			AMB	AMB		
	comp=Z,220nm,7.2s					
DL2			LR	LR		
	comp=N,2μm,25.9s					
DL2			LR	LR		
	comp=E,2μm,23.8s					
DL2			LR	LR		
	comp=Z,3μm,24.9s					
BHPL	**Bhopal**	**104.42 292**	*ex*	x	21 07 20.1	
MBAR	**Mbarara**	**104.90 239**	IAMs_20	IAMs_20	21 47 23.1	
	comp=Z,4μm,21.0s					
LZH	**Lanzhou**	**105.82 319**	*e*Pdif	**Pdif**	**21 03 09.2**	**0.0**
LZH			PP	**PP**	**21 07 36.7**	**+4.0**
LZH			S	**Sdif**	**21 15 07.6**	**+1.8**
LZH			SS	**SS**	**21 22 32.6**	**+0.9**
LZH			AMB	AMB		
	comp=Z,460nm,5.5s					
LZH			LR	LR		
	comp=Z,3μm,18.2s					
LZH			LR	LR		
	comp=Z,4μm,19.9s					
LZH			LR	LR		
	comp=Z,3μm,21.6s					
JKA	**Kamikawa-asahi**	**105.95 351**	IAMs_20	IAMs_20	21 45 38.5	
	comp=Z,6μm,21.0s					
BJT	**Baijiatuau**	**106.11 330**	IAMs_20	IAMs_20	21 48 23.7	
	comp=Z,3μm,22.0s					
BJI	**Beijing**	**106.13 330**	Pdif	**Pdif**	**21 03 11.7**	**+1.4**
BJI			PP	**PP**	**21 07 38.0**	**+3.2**
BJI			S	**Sdif**	**21 15 10.4**	**+2.6**
BJI			SS	**SS**	**21 22 38.3**	**+2.8**
BJI			AMB	AMB		
	comp=Z,240nm,6.5s					
BJI			LR	LR		
	comp=Z,1μm,21.2s					
BJI			LR	LR		
	comp=Z,930nm,20.2s					
BJI			LR	LR		
	comp=Z,2μm,22.7s					
SNY	**Shenyang**	**106.25 336**	⇓Pdif	**Pdif**	**21 03 05.8**	**-5.0**
SNY			PP	**PKiKP**	**21 07 20.3**	**-1.8**
SNY	**Shenyang**	**106.25 336**	SS	SS	21 22 36.9	-0.3
SNY			AMB	AMB		
	comp=Z,340nm,7.5s					
SNY			LR	LR		
	comp=N,2μm,22.5s					
SNY			LR	LR		
	comp=E,990nm,22.6s					
SNY			LR	LR		
	comp=Z,4μm,23.5s					
USRK	**Ussuriysk Ar.**	**107.17 343**	PP	**PP**	**21 07 39.5**	**-2.9**
	comp=Z,1.1nm,0.5s,baz=159,slow=5.7,SNR=6.7					
DILA	**Dilla**	**107.98 249**	*e*P	PP	21 07 39.4	-9.0
DILA			*e*S		21 15 41.7	
DILA	**Dilla**	**107.98 249**	*e*P	PP	21 07 39.4	-9.0
	baz=295					
DILA			*e*S		21 15 41.7	
	baz=295					
BTO	**Baotou**	**108.22 326**	Pdif	**Pdif**	**21 03 21.7**	**+2.0**
BTO			PP	**PP**	**21 07 52.3**	**+2.0**
BTO			S		21 15 25.0	
BTO			LR	LR		
	comp=Z,4μm,20.1s					
BTO			LR	LR		
	comp=Z,3μm,20.1s					
BTO			LR	LR		
	comp=Z,4μm,20.2s					
YSS	**Yuzh-Sakhalins**	**108.77 351**	*e*P	**Pdif**	**21 03 20.2**	**-1.6**
YSS			*e*		21 07 54.3	
YSS			*e*		21 14 01.8	
YSS			*e*		21 14 37.4	
YSS			*e*PS	**PS**	**21 17 19.2**	**+0.8**
YSS			*e*		21 18 19.6	
YSS			*e*SS	SS	21 23 16.4	+5.3
GOMU	**GeErMu**	**108.92 312**	Pdif	**Pdif**	**21 03 35.9**	**+13**
GOMU			PP	**PP**	**21 07 58.4**	**+2.7**
GOMU	**GeErMu**	**108.92 312**	SS	SS	21 23 23.2	+9.0
GOMU			AMB	AMB		
	comp=Z,300nm,7.9s					
GOMU			LR	LR		
	comp=N,1μm,17.8s					
GOMU			LR	LR		
	comp=E,810nm,17.1s					
GOMU			LR	LR		
	comp=Z,2μm,17.7s					
XLT	**XiLinHaoTe**	**109.81 331**	*e*PKP	**PKiKP**	**21 07 34.6**	**+5.8**
XLT			sPKP		21 07 51.0	
XLT			PP	**PP**	**21 08 00.8**	**-1.0**
XLT	**XiLinHaoTe**	**109.81 331**	SS	SS	21 23 23.9	-1.7
XLT			AMB	AMB		
	comp=Z,340nm,8.7s					
XLT			LR	LR		
	comp=N,200nm,22.0s					
XLT			LR	LR		
	comp=E,2μm,24.3s					
XLT			LR	LR		
	comp=Z,3μm,21.3s					
GTA	**Gaotai**	**110.13 318**	Pdif	**Pdif**	**21 03 33.5**	**+5.2**
GTA			PKP	**PKiKP**	**21 07 25.3**	**-4.3**
GTA			PP	**PP**	**21 08 04.9**	**+0.7**
GTA			SKKS		21 15 09.4	
GTA			SS	**SS**	**21 23 28.5**	**-1.5**
GTA			AMB	AMB		
	comp=Z,260nm,8.8s					
GTA			LR	LR		
	comp=Z,1μm,19.1s					
GTA			LR	LR		
	comp=Z,740nm,20.7s					
GTA			LR	LR		
	comp=Z,1μm,19.9s					
ATD	**Arta Tunnel**	**110.41 256**	IAMs_20	IAMs_20	21 46 16.6	
	comp=Z,3μm,19.0s					
ROSC	**El Rosal**	**112.61 125**	IAMs_20	IAMs_20	21 48 18.1	
	comp=Z,3μm,20.0s					
JACO	**JACO, Garabito**	**112.68 113**	IAMs_20	IAMs_20	21 44 32.5	
	comp=Z,4μm,21.0s					
SLBS	**Sierra La Lagu**	**113.06 83**	IAMs_20	IAMs_20	21 45 16.8	
	comp=Z,4μm,20.0s					
JTS	**Las Juntas de**	**113.11 113**	IAMs_20	IAMs_20	21 44 53.9	
	comp=Z,3μm,19.0s					
RIMA	**Rio Macho**	**113.12 114**	IAMs_20	IAMs_20	21 45 12.3	
	comp=Z,3μm,20.0s					
ARE1	**Arenal 1**	**113.36 113**	IAMs_20	IAMs_20	21 44 52.7	

comp=Z,4µm,19.0s
COVE Coope Vega, Sa 113.73 113 IAMs_20 IAMs_20 21 44 50.4
comp=Z,3µm,21.0s
HEH HeiHe 113.76 341 PKP PKiKP 21 07 44.6 +8.6
HEH sPKP 21 07 49.6
HEH PP PP 21 08 39.7 +10
HEH HeiHe 113.76 341 SS SS 21 24 12.2 -5.5
HEH AMB AMB
comp=Z,320nm,7.4s
HEH LR LR
comp=N,1µm,20.4s
HEH LR LR
comp=E,910nm,22.6s
HEH LR LR
comp=Z,3µm,20.8s
HIA Hailar 114.15 336 IAMs_20 IAMs_20 21 56 48.5
comp=Z,2µm,19.0s
BCIP Isla Barro Col 114.30 118 IAMs_20 IAMs_20 21 44 25.2
comp=Z,4µm,22.0s
PET Petropavlovsk 114.45 3 IAMs_20 IAMs_20 21 48 45.7
comp=Z,4µm,21.0s
UOSS Minazif 115.66 275 IAMs_20 IAMs_20 21 46 10.4
comp=Z,3µm,22.0s
ULN Ulaanbaatar 115.75 326 *i* PKIKP **PKiKP 21 07 42.0 +1.9**
ULN MLR MLR
comp=Z,2µm,22.0s
SONM Songino Array 115.90 326 PKP **PKPdf 21 07 37.3 -3.0**
comp=Z,1.5nm,0.6s,baz=145,slow=3.6,SNR=3.8
SONM PKKP **PKKPdf 21 18 32.2 -4.1**
comp=Z,1.3nm,0.7s,baz=344,slow=4.8,SNR=3.6
ZEA Zeya 117.17 342 *e*PKIKP **PKPdf 21 07 39.6 -2.8**
ZEA *e* 21 08 52.1
ZEA *e*PS **PS 21 18 40.3 +3.9**
ZEA *e*SS SS 21 25 04.2 +1.9
ZEA pmax pmax
comp=Z,10.0nm,6.2s
ZEA MLR MLR
comp=E,500nm,19.0s
ZEA MLR MLR
comp=N,800nm,20.0s
ZEA MLR MLR
comp=Z,1µm,19.0s
ESJX Sierra Juarez 117.32 73 IAMs_20 IAMs_20 21 49 14.7
comp=Z,3µm,20.0s
109C Camp Elliot, M 117.54 72 IAMs_20 IAMs_20 21 52 39.5
comp=Z,3µm,18.0s
BAR Barrett 117.56 72 IAMs_20 IAMs_20 21 45 31.0
comp=Z,3µm,22.0s
RMX La Rumorosa 117.76 73 IAMs_20 IAMs_20 21 51 28.9
comp=Z,4µm,20.0s
KBL Kabul 117.83 291 IAMs_20 IAMs_20 21 49 35.3
comp=Z,3µm,22.0s
YUH Yuha Desert 117.87 73 IAMs_20 IAMs_20 21 51 16.3
comp=Z,3µm,20.0s
UABX UABC, Campus M 118.08 73 IAMs_20 IAMs_20 21 51 14.7
comp=Z,2µm,19.0s
WMQ Urumqi 118.19 311 *e*PKP **PKPdf 21 07 44.5 -0.3**
WMQ PP **PP 21 09 01.8 +0.6**
WMQ SS SS 21 25 13.0 -3.1
WMQ AMB AMB
comp=Z,460nm,7.9s
WMQ LR LR
comp=Z,2µm,20.9s
WMQ LR LR
comp=Z,1µm,22.5s
WMQ LR LR
comp=Z,3µm,27.7s
PFO Pinyon Flats O 118.44 72 IAMs_20 IAMs_20 21 53 15.3
comp=Z,4µm,18.0s
GLA Glamis 118.71 73 IAMs_20 IAMs_20 21 50 16.5
comp=Z,3µm,20.0s
214A Organ Pipe Nat 118.71 76 IAMs_20 IAMs_20 21 52 34.6
comp=Z,3µm,18.0s
113A Mohawk Valley, 118.95 74 IAMs_20 IAMs_20 21 53 02.9
comp=Z,3µm,19.0s
KSH Kashi 119.06 300 PKP **PKiKP 21 07 46.9 +0.1**
KSH SS SS 21 25 22.2 -5.3
KSH AMB AMB
comp=Z,310nm,4.7s
KSH LR LR
comp=Z,1µm,21.3s
KSH LR LR
comp=Z,2µm,21.6s
KSH LR LR
comp=Z,2µm,21.0s
ZAK Zakamensk 119.06 325 *e*PKIKP **PKiKP 21 07 50.0 +3.6**
ZAK pmax pmax
comp=Z,11nm,1.4s
MCCM Marconi Confer 119.41 64 IAMs_20 IAMs_20 21 49 59.1
comp=Z,3µm,19.0s
BLYC Blythe 119.43 73 IAMs_20 IAMs_20 21 50 46.6
comp=Z,2µm,20.0s
319A Douglas 119.87 79 IAMs_20 IAMs_20 21 53 17.1
comp=Z,3µm,19.0s
QSM Queen of Sheba 120.22 70 IAMs_20 IAMs_20 21 51 29.5
comp=Z,4µm,19.0s
CMB Columbia Colle 120.39 66 IAMs_20 IAMs_20 21 51 55.1
comp=Z,4µm,20.0s
GWY Greenwater Val 120.49 70 IAMs_20 IAMs_20 21 51 38.6
comp=Z,3µm,19.0s
MDPB Devils Postpil 120.63 67 IAMs_20 IAMs_20 21 51 39.2
comp=Z,4µm,19.0s
SHLS Shalkode 120.72 305 *e*PP **PP 21 09 16.4 -2.3**
baz=305
HRA Herat 120.77 286 IAMs_20 IAMs_20 21 52 53.9
comp=Z,3µm,20.0s
KMPM Mount Pierce 120.79 61 IAMs_20 IAMs_20 21 47 58.4
comp=Z,4µm,22.0s
TXAR Lajitas Array 120.80 85 PKIKP **PKPdf 21 07 49.0 -1.4**
TXAR Lajitas Array 120.80 85 PKP **PKPdf 21 07 49.0 -1.4**
comp=Z,0.5nm,1.0s,baz=188,slow=2.7,SNR=2.8
TXAR PKKPbc **PKKPbc 21 17 51.9 -0.5**
comp=Z,0.2nm,0.7s,baz=29,slow=3.3,SNR=2.2
W13A Hualapai Mount 120.84 73 IAMs_20 IAMs_20 21 50 01.9
comp=Z,3µm,19.0s
UZB Uzynbulak 120.89 304 *e*PKP **PKPdf 21 07 50.0 -0.2**
baz=304
UZB *e*PP **PP 21 09 18.6 -1.3**
baz=304
UZB Uzynbulak 120.89 304 *e*PKIKP **PKPdf 21 07 49.9 -0.2**
UZB *e* 21 09 18.5
AFDM Forest Hills D 120.90 65 IAMs_20 IAMs_20 21 47 43.4
comp=Z,2µm,20.0s
SATY Saty 121.06 304 *e*PKP **PKPdf 21 07 50.2 -0.3**
baz=304
SATY *e*PP **PP 21 09 19.9 -1.0**
baz=304
SATY Saty 121.06 304 *e*PKIKP **PKPdf 21 07 50.2 -0.3**
SATY *e* 21 09 19.9
ZHN Zhinishke 121.14 304 *e*PKP **PKiKP 21 07 51.5 +0.7**
baz=304
ZHN *e*PP **PP 21 09 20.7 -0.8**
baz=304
ZHN Zhinishke 121.14 304 *e*PKIKP **PKiKP 21 07 51.4 +0.7**
ZHN *e* 21 09 20.7
GMN Gold Mountain 121.16 69 IAMs_20 IAMs_20 21 55 43.1
comp=Z,3µm,18.0s
WAKR Walker 121.20 66 IAMs_20 IAMs_20 21 52 33.2
comp=Z,4µm,22.0s
KPKS Kokpek 121.29 304 *e*PKP **PKPdf 21 07 50.3 -0.6**
baz=304
KPKS *e*PP **PP 21 09 21.1 -1.4**
baz=304
KPKS Kokpek 121.29 304 *e*PKIKP **PKPdf 21 07 50.2 -0.6**
KPKS *e* 21 09 21.1
EMB Emerald Bay 121.30 65 IAMs_20 IAMs_20 21 52 38.9
comp=Z,3µm,20.0s
KHMM Horse Mountain 121.34 61 IAMs_20 IAMs_20 21 59 34.8
comp=Z,3µm,18.0s
X16A Lo Mia Camp, P 121.40 75 IAMs_20 IAMs_20 21 54 49.6
comp=Z,3µm,18.0s
MZP Montezuma Peak 121.43 68 IAMs_20 IAMs_20 21 50 17.5
comp=Z,2µm,20.0s
EPT El Paso 121.50 81 IAMs_20 IAMs_20 21 50 30.3
comp=Z,3µm,19.0s
121A Cookes Peak, D 121.53 79 IAMs_20 IAMs_20 21 54 11.1
comp=Z,3µm,20.0s
MPK Martis Peak 121.60 65 IAMs_20 IAMs_20 21 59 20.7
comp=Z,3µm,19.0s
PNTR Pine Nut 121.61 66 IAMs_20 IAMs_20 21 52 53.2
comp=Z,3µm,20.0s
TNSS Tian-Shan 121.62 303 *i* PKP **PKPdf 21 07 51.7 -0.2**
baz=303
TNSS Tian-Shan 121.62 303 *i* PKIKP **PKPdf 21 07 51.7 -0.2**
NVAR Mina Array Bea 121.63 67 PKP **PKPdf 21 07 47.9 -3.9**
comp=Z,0.3nm,0.3s,baz=203,slow=3.7,SNR=1.8
YERR Yerington 121.68 66 IAMs_20 IAMs_20 21 52 57.1
comp=Z,4µm,21.0s
AAA Alma-Ata 121.78 303 *e*PKP **PKiKP 21 07 52.3 +0.4**
baz=303
AAA *e*PP **PP 21 09 25.6 -0.3**
baz=303
AAA Alma-Ata 121.78 303 *e*PKIKP **PKiKP 21 07 52.3 +0.4**
AAA *e* 21 09 25.5
KRMB Red Mountain 121.80 61 IAMs_20 IAMs_20 21 56 39.1
comp=Z,3µm,19.0s
SDPT Sand Point 121.93 28 IAMs_20 IAMs_20 21 51 54.2
comp=Z,3µm,22.0s
MNTX Cornudas Mount 121.97 82 IAMs_20 IAMs_20 21 50 38.7
comp=Z,3µm,20.0s
KVTX Kingsville 122.05 91 IAMs_20 IAMs_20 21 54 33.7
comp=Z,3µm,18.0s
X18A Snowflake 122.18 76 IAMs_20 IAMs_20 21 52 13.3
comp=Z,3µm,21.0s
PAHR Pah Rah Range 122.22 65 IAMs_20 IAMs_20 21 51 33.3
comp=Z,3µm,20.0s
KVN Kaiserville 122.23 67 IAMs_20 IAMs_20 21 53 09.6
comp=Z,3µm,20.0s
ARXS Arharly 122.25 304 *e*PKIKP **PKPdf 21 07 50.1 -2.5**
AAK Ala-Archa 122.28 301 PKPdf **PKiKP 21 07 53.8 +0.8**
AAK Ala-Archa 122.28 301 *i* PKIKP **PKPdf 21 07 52.6 -0.3**
CHKK Chushkaly 122.29 303 *e*PKP **PKPdf 21 07 52.5 -0.2**
baz=303
CHKK Chushkaly 122.29 303 *e*PKIKP **PKPdf 21 07 52.4 -0.2**
ZSN Zaisan 122.33 311 *e*PKP **PKPdf 21 07 52.5 -0.1**
baz=311
ZSN Zaisan 122.33 311 *e*PKIKP **PKPdf 21 07 52.4 -0.1**
L02F Cave Junction 122.44 61 IAMs_20 IAMs_20 21 50 08.0
comp=Z,3µm,20.0s
Q09A Carvers 122.46 68 IAMs_20 IAMs_20 21 52 43.6
comp=Z,4µm,20.0s
YBH Yreka Blue Hor 122.48 62 IAMs_20 IAMs_20 21 49 52.0
comp=Z,3µm,22.0s
KUU Kurty 122.58 303 *e*PKP **PKPdf 21 07 52.5 -0.8**
baz=303
KUU *e*PP **PP 21 09 30.5 -0.7**
baz=303
KUU Kurty 122.58 303 *e*PKIKP **PKPdf 21 07 52.4 -0.8**
KUU *e* 21 09 30.4
TDK Taldyqorghan 122.69 305 *e*PKP **PKPdf 21 07 52.8 -0.6**
baz=305
TDK Taldyqorghan 122.69 305 *e*PKIKP **PKPdf 21 07 52.7 -0.6**
MKAR Makanchi Array 122.71 309 *c i*PKIKP **PKiKP 21 07 55.4 +1.8**
MKAR pmax pmax
comp=Z,8.0nm,1.1s
MKAR Makanchi Array 122.71 309 PKP **PKPdf 21 07 50.8 -2.5**
comp=Z,4.2nm,1.0s,baz=188,slow=4.9,SNR=8.4
LCMT Little Creek M 122.72 72 IAMs_20 IAMs_20 21 53 33.5
comp=Z,2µm,20.0s
W18A Petrified Fore 122.76 76 IAMs_20 IAMs_20 21 52 59.7
comp=Z,3µm,20.0s
R11B Troy Canyon, C 122.77 69 IAMs_20 IAMs_20 21 50 55.1
comp=Z,4µm,20.0s
SGDS Sogindy 122.90 301 *e*PKP **PKPdf 21 07 53.3 -0.6**
baz=301
SGDS Sogindy 122.90 301 *e*PKIKP **PKPdf 21 07 53.3 -0.6**
KNB Kanab 122.91 72 IAMs_20 IAMs_20 21 51 23.7
comp=Z,2µm,20.0s
CCUT Cedar City 123.11 71 IAMs_20 IAMs_20 21 50 25.8
comp=Z,3µm,20.0s
Y22D IRIS PASSCAL I 123.21 79 IAMs_20 IAMs_20 21 55 30.6
comp=Z,3µm,20.0s
SZCU Shurtz Canyon 123.27 72 IAMs_20 IAMs_20 21 51 54.1
comp=Z,3µm,20.0s
CHGN Chignik 123.27 29 IAMs_20 IAMs_20 21 51 01.7
comp=Z,4µm,22.0s
DGZ Jazzator, Alta 123.34 314 *i* PKIKP **PKPdf 21 07 53.8 -0.8**
BOD Bodaibo 123.36 335 *e*PKIKP **PKiKP 21 07 58.0 +3.6**
BOD pmax pmax
comp=Z,19nm,1.7s
K04D Chiloquin, OR 123.61 62 IAMs_20 IAMs_20 21 58 03.1
comp=Z,3µm,20.0s
SPR3 Spring Creek 3 123.86 70 IAMs_20 IAMs_20 21 57 52.7
comp=Z,3µm,19.0s
MTPU Mount Pierson 124.04 72 IAMs_20 IAMs_20 21 49 13.6
comp=Z,3µm,21.0s
CHM Chimkent 124.06 297 *e*PKP **PKPdf 21 07 55.8 -0.4**
baz=297
CHM Chimkent 124.06 297 *e*PKIKP **PKPdf 21 07 55.7 -0.4**
K05A Summer Lake 124.06 62 IAMs_20 IAMs_20 21 57 07.8
comp=Z,3µm,19.0s
ANMO Albuquerque 124.14 79 IAMs_20 IAMs_20 21 53 12.3
comp=Z,2µm,20.0s
ANMO Albuquerque 124.14 79 *i* PKIKP **PKiKP 21 07 57.7 +0.7**
ANMO MLR MLR
comp=Z,2µm,17.0s
SEY Seymchan 124.36 359 PKP **PKPdf 21 07 52.9 -3.1**
comp=Z,2.5nm,0.8s,baz=184,slow=1.7,SNR=3.3
TCRU Three Creeks R 124.39 71 IAMs_20 IAMs_20 21 51 37.7
comp=Z,3µm,19.0s
BTLS Baital 124.45 302 *e*PKP **PKiKP 21 07 57.1 +0.1**
baz=302
BTLS *e*PP **PP 21 09 42.7 -1.0**
baz=302
BTLS Baital 124.45 302 *e*PKIKP **PKiKP 21 07 57.1 +0.1**
BTLS *e* 21 09 42.7
WVOR Wild Horse Val 124.78 64 IAMs_20 IAMs_20 21 56 39.4
comp=Z,3µm,20.0s
435B Jarrell 124.90 89 IAMs_20 IAMs_20 21 58 39.4
comp=Z,3µm,19.0s
YAK Yakutsk 124.91 346 *e*PKIKP **PKPdf 21 07 55.6 -1.4**
YAK *e* 21 09 44.1
YAK *e*SS SS 21 26 36.5 -4.7
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.5s
YAK pmax pmax
comp=Z,247nm,3.9s
YAK pmax pmax
comp=N,91nm,4.1s
YAK pmax pmax
comp=E,91nm,3.8s
YAK MLR MLR
comp=N,1µm,23.0s
YAK MLR MLR
comp=E,2µm,30.0s
MVCO Mesa Verde 125.05 76 IAMs_20 IAMs_20 21 54 18.3
comp=Z,3µm,21.0s
SN01 Snyder 1 125.05 85 IAMs_20 IAMs_20 21 55 49.4
comp=Z,3µm,20.0s
MSTX Muleshoe 125.07 82 IAMs_20 IAMs_20 21 55 28.9
comp=Z,3µm,19.0s
ABTX Abilene, Hawle 125.45 86 IAMs_20 IAMs_20 21 51 51.8
comp=Z,4µm,20.0s
DUG Dugway, Tooele 125.51 70 IAMs_20 IAMs_20 21 51 01.8
comp=Z,3µm,20.0s
BBGH Gun Hill 125.57 138 IAMs_20 IAMs_20 22 10 29.7
comp=Z,3µm,20.0s
GEYT Alibeck 125.58 285 PKP **PKPdf 21 07 55.3 -3.9**
comp=Z,3.4nm,1.0s,baz=153,slow=0.9,SNR=5.3
J08A Circle Bar Ran 125.60 64 IAMs_20 IAMs_20 21 57 52.7
comp=Z,3µm,18.0s
SRU San Rafael Swe 125.67 73 IAMs_20 IAMs_20 22 00 48.6
comp=Z,2µm,18.0s
P17A Butcher Ranch, 125.86 72 IAMs_20 IAMs_20 21 48 56.7
comp=Z,3µm,22.0s
MPU Maple Canyon 125.90 71 IAMs_20 IAMs_20 21 59 07.7
comp=Z,4µm,19.0s
BGU Big Grassy Mou 126.01 69 IAMs_20 IAMs_20 21 53 06.5
comp=Z,4µm,20.0s
KDAK Kodiak Island 126.01 32 IAMs_20 IAMs_20 21 56 01.3
comp=Z,3µm,21.0s
F04A Amboy 126.04 59 IAMs_20 IAMs_20 21 52 21.2
comp=Z,2µm,20.0s
E03A Lebam 126.08 58 IAMs_20 IAMs_20 21 52 56.1
comp=Z,4µm,20.0s
P18A Preston Nutter 126.21 72 IAMs_20 IAMs_20 21 50 46.0
comp=Z,2µm,21.0s
S22A 4UR Ranch, Cre 126.25 77 IAMs_20 IAMs_20 21 55 03.2
comp=Z,3µm,20.0s
AMTX Amarillo 126.33 83 IAMs_20 IAMs_20 21 56 46.4
comp=Z,3µm,19.0s
MPOM Morne Pois Mar 126.37 136 IAMs_20 IAMs_20 21 58 16.9
comp=Z,2µm,18.0s
CTU Camp Tracy 126.39 71 IAMs_20 IAMs_20 21 59 36.7
comp=Z,3µm,18.0s
SEM Semipalatinsk 126.47 310 *e*PKP **PKPdf 21 08 00.8 0.0**
baz=310
SEM Semipalatinsk 126.47 310 *e*PKIKP **PKPdf 21 08 00.7 0.0**
FW03 Perrin-Whitt E 126.54 87 IAMs_20 IAMs_20 21 50 57.7
comp=Z,2µm,22.0s
SPUT South Promonto 126.57 70 IAMs_20 IAMs_20 21 55 07.6
comp=Z,3µm,20.0s
NLWA Neilton Lookou 126.64 57 IAMs_20 IAMs_20 21 53 22.0
comp=Z,3µm,20.0s
Q19K Cape Douglas, 126.77 30 IAMs_20 IAMs_20 21 56 21.2
comp=Z,4µm,21.0s
MFID Camas Ranch 126.78 65 IAMs_20 IAMs_20 21 57 00.4
comp=Z,2µm,19.0s
SYI Shuyak Island 126.79 31 IAMs_20 IAMs_20 21 57 11.9
comp=Z,3µm,21.0s
P18K Big Mountain, 126.80 29 IAMs_20 IAMs_20 21 53 25.1
comp=Z,3µm,21.0s
SDCO Great Sand Dun 126.87 78 IAMs_20 IAMs_20 21 55 20.6
comp=Z,2µm,21.0s
TCUT Toone Canyon 126.89 70 IAMs_20 IAMs_20 21 56 00.9
comp=Z,3µm,20.0s
T25A Trinidad 126.89 79 IAMs_20 IAMs_20 21 58 46.0
comp=Z,3µm,18.0s
LON Longmire 126.95 59 IAMs_20 IAMs_20 21 53 10.3
comp=Z,3µm,22.0s
G08A Pilot Rock 126.95 62 IAMs_20 IAMs_20 21 58 10.5
comp=Z,3µm,18.0s
GNW Green Mountain 127.20 57 IAMs_20 IAMs_20 21 53 43.8
comp=Z,4µm,22.0s
HWUT Hardware Ranch 127.21 70 IAMs_20 IAMs_20 21 53 17.7
comp=Z,2µm,20.0s
RDMU Red Mountain 127.28 72 IAMs_20 IAMs_20 21 58 53.2
comp=Z,2µm,20.0s
KURBB Kurchatov Arra 127.28 309 PKP **PKPdf 21 08 00.1 -1.8**
comp=Z,5.3nm,1.0s,baz=153,slow=1.5,SNR=18
KURBB PP **PP 21 09 55.1 -7.3**
comp=Z,0.4nm,0.7s,baz=159,slow=2.9,SNR=2.5
BMO Blue Mountains 127.30 63 IAMs_20 IAMs_20 21 59 23.2
comp=Z,3µm,19.0s
KURK Kurchatov 127.32 309 PKPdf **PKPdf 21 08 01.3 -0.7**
KURK Kurchatov 127.32 309 PKIKP **PKPdf 21 08 00.1 -1.9**
SMCO Snowmass 127.34 75 IAMs_20 IAMs_20 21 58 18.0
comp=Z,3µm,20.0s
HLID Hailey 127.52 66 IAMs_20 IAMs_20 21 52 48.8
comp=Z,3µm,22.0s
O20A White River Ci 127.53 74 IAMs_20 IAMs_20 21 54 06.0
comp=Z,2µm,21.0s
WMOK Wichita Mounta 127.59 85 IAMs_20 IAMs_20 21 53 28.6
comp=Z,3µm,20.0s
E07A Sunnyside 127.60 60 IAMs_20 IAMs_20 21 55 22.5
comp=Z,4µm,21.0s
HAWA Hanford 127.60 61 IAMs_20 IAMs_20 21 53 31.5
comp=Z,3µm,21.0s
CBE Ff, Capester 127.63 134 IAMs_20 IAMs_20 21 57 27.3
comp=Z,3µm,22.0s
O19K Port Alsworth 127.73 29 IAMs_20 IAMs_20 21 53 51.8
comp=Z,3µm,22.0s
TOA0 Torodi Ar. Sit 127.74 214 PKPdf **PKPdf 21 08 03.5 -0.5**
TORD Torodi Ar. Bea 127.74 214 **PKPdf 21 08 02.9 -1.1**
TORD Torodi Ar. Bea 127.74 214 PKP **PKPdf 21 07 59.1 -4.8**
comp=Z,4.0nm,0.8s,baz=165,slow=2.6,SNR=14
ZALV Zalesovo Beam 127.79 315 PKP **PKPdf 21 07 58.5 -4.2**
comp=Z,0.2nm,0.3s,baz=180,slow=0.4,SNR=2.6
ZALV PP **PP 21 10 07.2 +1.4**
comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=2.1
N18K Kilae Creek 127.80 28 IAMs_20 IAMs_20 22 02 00.5
comp=Z,3µm,20.0s
ILSW Iliamna Southw 127.82 30 IAMs_20 IAMs_20 21 57 04.3
comp=Z,3µm,20.0s
LTY Liberty 127.82 59 IAMs_20 IAMs_20 21 53 40.4
comp=Z,3µm,21.0s
E08A Dider Farm, El 127.88 61 IAMs_20 IAMs_20 21 55 43.8
comp=Z,3µm,20.0s
ID09 Alton 127.88 70 IAMs_20 IAMs_20 21 54 06.6
comp=Z,3µm,20.0s
ID06 Fossil Canyon 128.04 69 IAMs_20 IAMs_20 21 54 49.7
comp=Z,4µm,20.0s
PLID Pearl Lake 128.05 64 PKPdf **PKiKP 21 08 06.9 +2.4**
PLID IAMs_20 IAMs_20 21 59 40.4
comp=Z,3µm,20.0s
ID05 Sulphur Canyon 128.08 69 IAMs_20 IAMs_20 21 56 40.9
comp=Z,3µm,20.0s
BRLK Bradley Lake 128.18 32 IAMs_20 IAMs_20 21 50 28.2
comp=Z,4µm,20.0s
F10A Beach Ranch, E 128.23 63 IAMs_20 IAMs_20 21 53 41.3
comp=Z,3µm,21.0s
N19K Bonanza Creek 128.24 29 IAMs_20 IAMs_20 21 54 19.1
comp=Z,3µm,22.0s
SVW2 Sparrevohn 128.24 28 IAMs_20 IAMs_20 21 58 22.1
comp=Z,3µm,21.0s
E09A Wood Farm, Sta 128.28 61 IAMs_20 IAMs_20 21 56 02.4
comp=Z,2µm,20.0s
AHID Auburn Hatcher 128.34 69 IAMs_20 IAMs_20 21 54 41.7
comp=Z,3µm,20.0s
D08A Wollman Farm, 128.38 61 IAMs_20 IAMs_20 21 56 06.3
comp=Z,3µm,20.0s
ISCO Idaho Springs 128.47 76 IAMs_20 IAMs_20 21 59 21.0
comp=Z,3µm,19.0s
B06A Marblemount 128.50 58 IAMs_20 IAMs_20 21 54 23.3
comp=Z,3µm,21.0s
U32A Winter Ranch, 128.82 84 IAMs_20 IAMs_20 21 53 16.1
comp=Z,3µm,20.0s
W35A Tecumseh 128.83 87 IAMs_20 IAMs_20 21 54 00.5
comp=Z,3µm,21.0s
BRZS Berezniki 128.99 305 *e*PKP **PKiKP 21 08 06.0 0.0**
baz=305
BRZS Berezniki 128.99 305 *e*PKIKP **PKiKP 21 08 05.9 0.0**
PDAR Pinedale Array 129.03 71 PKP **PKPdf 21 08 04.4 -1.5**
comp=Z,0.2nm,0.6s,baz=188,slow=1.8,SNR=6.9
OK029 Liberty Lake 129.08 86 IAMs_20 IAMs_20 21 54 26.0
comp=Z,4µm,20.0s
O22K Cooper Landing 129.09 32 IAMs_20 IAMs_20 21 56 55.8
comp=Z,3µm,21.0s
N23A Red Feather La 129.19 75 IAMs_20 IAMs_20 22 04 49.9
comp=Z,2µm,18.0s
OK035 E0210 Rd and N 129.22 84 IAMs_20 IAMs_20 21 53 06.8
comp=Z,4µm,22.0s
KSCO Kaye Shedlock' 129.23 79 IAMs_20 IAMs_20 21 56 34.9
comp=Z,2µm,19.0s
M19K Big River Lodg 129.23 28 IAMs_20 IAMs_20 21 56 19.1
comp=Z,4µm,22.0s
C09A Chrisman Ranch 129.24 60 IAMs_20 IAMs_20 21 54 38.9
comp=Z,4µm,22.0s
RWWY Rawlins 129.24 73 IAMs_20 IAMs_20 21 57 16.2
comp=Z,3µm,21.0s
CROK Carrier 129.40 85 IAMs_20 IAMs_20 21 53 45.5
comp=Z,4µm,21.0s
ANM Nome 129.45 21 IAMs_20 IAMs_20 21 54 34.7
comp=Z,4µm,21.0s
M20K Styx River 129.50 29 IAMs_20 IAMs_20 21 54 46.5
comp=Z,3µm,22.0s
OK031 S. Brethren Rd 129.50 86 IAMs_20 IAMs_20 21 54 30.1
comp=Z,3µm,20.0s
OK033 Mehan 129.53 86 IAMs_20 IAMs_20 21 54 49.8
comp=Z,3µm,20.0s
OK032 Salt Plains WL 129.53 84 IAMs_20 IAMs_20 21 53 29.1
comp=Z,4µm,20.0s
OK052 Battle Ridge R 129.55 86 IAMs_20 IAMs_20 21 54 32.4
comp=Z,3µm,20.0s
FLWY Flagg Ranch 129.56 69 IAMs_20 IAMs_20 21 55 48.7
comp=Z,4µm,20.0s
RC01 Rabbit Creek A 129.62 31 IAMs_20 IAMs_20 21 59 11.5
comp=Z,4µm,21.0s
BRIGG Briggsdale 129.69 76 IAMs_20 IAMs_20 21 59 35.2
comp=Z,2µm,19.0s
SUA Susitna One 129.69 31 IAMs_20 IAMs_20 21 58 56.6
comp=Z,3µm,22.0s
DLMT Dillon 129.74 66 IAMs_20 IAMs_20 21 55 46.2
comp=Z,4µm,20.0s
QUOK Quay 129.74 86 IAMs_20 IAMs_20 22 00 33.4
comp=Z,2µm,21.0s
PWL Port Wells 129.77 32 IAMs_20 IAMs_20 22 01 04.7
comp=Z,3µm,20.0s
OK048 Pawnee Station 129.82 86 IAMs_20 IAMs_20 21 55 10.7
comp=Z,3µm,20.0s
RUBB Prince Rupert 129.84 47 IAMs_20 IAMs_20 21 55 53.2
comp=Z,4µm,20.0s
SKT Skwentna 129.95 30 IAMs_20 IAMs_20 21 55 12.4
comp=Z,4µm,22.0s
BLOK Blackwell 129.97 85 IAMs_20 IAMs_20 21 55 24.7
comp=Z,3µm,18.0s
NEW Newport 130.08 61 IAMs_20 IAMs_20 21 55 06.2
comp=Z,4µm,21.0s
M22K Willow 130.09 31 IAMs_20 IAMs_20 21 58 46.2
comp=Z,2µm,21.0s
GLI Glacier Island 130.10 33 IAMs_20 IAMs_20 21 51 19.6
comp=Z,3µm,21.0s
FID Port Fidalgo 130.16 33 IAMs_20 IAMs_20 22 00 29.6
comp=Z,3µm,20.0s
V35K Ketchikan 130.17 46 IAMs_20 IAMs_20 21 55 05.9
comp=Z,3µm,21.0s
PMR Palmer 130.20 31 IAMs_20 IAMs_20 21 58 52.0
comp=Z,3µm,20.0s

KNK	**Knik Glacier**	130.21	32	IAMs_20	IAMs_20	21 57 52.4		
	comp=Z,3µm,20.0s							
K22A	**Casper**	130.31	73	IAMs_20	IAMs_20	21 59 15.6		
	comp=Z,2µm,19.0s							
SIT	**Sitka**	130.34	42	IAMs_20	IAMs_20	21 58 16.2		
	comp=Z,3µm,20.0s							
BOZ	**Bozeman (W)**	130.34	67	IAMs_20	IAMs_20	22 04 05.6		
	comp=Z,3µm,18.0s							
GHO	**Glory Hole Cre**	130.41	31	IAMs_20	IAMs_20	21 59 55.4		
	comp=Z,3µm,20.0s							
CBKS	**Cedar Bluff**	130.42	81	IAMs_20	IAMs_20	21 57 10.7		
	comp=Z,3µm,20.0s							
RLO	**Rose Lookout**	130.53	87	IAMs_20	IAMs_20	21 48 59.5		
	comp=Z,2µm,20.0s							
K20K	**Telida**	130.57	28	IAMs_20	IAMs_20	22 03 18.7		
	comp=Z,2µm,20.0s							
SML	**Sawmill**	130.58	32	IAMs_20	IAMs_20	21 58 34.1		
	comp=Z,3µm,20.0s							
R32A	**Long Quarter,**	130.60	83	IAMs_20	IAMs_20	22 00 12.2		
	comp=Z,3µm,19.0s							
CUT	**Chulitna**	130.62	30	IAMs_20	IAMs_20	21 55 56.1		
	comp=Z,4µm,22.0s							
GHAJ	**Ghor Haditha**	130.79	261	IAMs_20	IAMs_20	22 18 17.0		
	comp=Z,3µm,19.0s							
SCM	**Sheep Creek Mo**	130.86	32	IAMs_20	IAMs_20	21 53 24.4		
	comp=Z,3µm,22.0s							
KLU	**Klutina**	130.93	33	IAMs_20	IAMs_20	21 56 16.4		
	comp=Z,3µm,20.0s							
RLMT	**Red Lodge**	131.01	69	IAMs_20	IAMs_20	21 54 52.4		
	comp=Z,3µm,21.0s							
OGNE	**Ogallala**	131.04	78	IAMs_20	IAMs_20	21 59 34.0		
	comp=Z,2µm,20.0s							
CRQM	**Cirque**	131.06	35	IAMs_20	IAMs_20	22 00 21.0		
	comp=Z,3µm,20.0s							
U38A	**Gravette**	131.06	88	PKPdf	**PKiKP**	**21 08 11.9**	**+1.4**	
CAST	**Castle Rocks**	131.07	29	IAMs_20	IAMs_20	21 57 03.0		
	comp=Z,3µm,22.0s							
TGL	**Tana Glacier**	131.14	35	IAMs_20	IAMs_20	21 59 53.0		
	comp=Z,3µm,20.0s							
HHAR	**Hobbs**	131.14	88	PKPdf	**PKiKP**	**21 08 12.1**	**+1.3**	
VRDI	**Verde Repeater**	131.36	35	IAMs_20	IAMs_20	21 57 43.9		
	comp=Z,3µm,20.0s							
N25K	**Chitina, Valde**	131.37	34	IAMs_20	IAMs_20	21 56 08.1		
	comp=Z,3µm,21.0s							
GLB	**Gilahina Butte**	131.44	34	IAMs_20	IAMs_20	21 57 29.0		
	comp=Z,3µm,22.0s							
KTH	**Kantishna Hill**	131.46	29	IAMs_20	IAMs_20	22 03 18.1		
	comp=Z,3µm,21.0s							
MCARA	**McCarthy VSAT**	131.61	35	IAMs_20	IAMs_20	21 54 50.4		
	comp=Z,2µm,22.0s							
BARN	**Barnard Glacie**	131.71	36	IAMs_20	IAMs_20	21 59 51.4		
	comp=Z,3µm,19.0s							
RND	**Reindeer**	131.82	30	IAMs_20	IAMs_20	21 56 20.6		
	comp=Z,3µm,21.0s							
DHY	**Denali Highway**	131.90	31	IAMs_20	IAMs_20	21 59 14.8		
	comp=Z,3µm,20.0s							
BPAW	**Bear Paw Mtn.**	131.91	29	IAMs_20	IAMs_20	21 57 40.1		
	comp=Z,3µm,21.0s							
KSU1	**Kansas State U**	132.13	84	IAMs_20	IAMs_20	21 55 08.8		
	comp=Z,4µm,21.0s							
BVAR	**Borovoye Array**	132.27	306	PKP	**PKPdf**	**21 08 08.6**	**-2.7**	
	comp=Z,3.5nm,0.9s,baz=140,slow=5.8,SNR=9.6							
MMAI	**Mount Meron Ar**	132.29	262	PKP	**PKPdf**	**21 08 10.4**	**-1.8**	
	comp=Z,0.6nm,0.5s,baz=149,slow=3.0,SNR=1.3							
BWN	**Browne**	132.32	29	IAMs_20	IAMs_20	21 59 37.1		
	comp=Z,3µm,21.0s							
BRVK	**Borovoye**	132.33	306	PKPdf	**PKPdf**	**21 08 11.3**	**-0.1**	
BRVK	**Borovoye**	132.33	306	*i* PKIKP	**PKPdf**	**21 08 10.3**	**-1.2**	
M26K	**Nabesna, AK**	132.46	34	IAMs_20	IAMs_20	22 00 00.8		
	comp=Z,2µm,20.0s							
S39A	**Bolivar**	132.57	88	IAMs_20	IAMs_20	22 00 15.3		
	comp=Z,3µm,20.0s							
RSSD	**Black Hills**	132.59	74	PKPdf	**PKiKP**	**21 08 13.5**	**-0.2**	
RSSD	**Black Hills**	132.59	74	IAMs_20	IAMs_20	21 59 33.0		
	comp=Z,2µm,20.0s							
RSSD	**Black Hills**	132.59	74	PKIKP	**PKiKP**	**21 08 13.5**	**-0.2**	
RSSD				MLR	MLR			
	comp=Z,2µm,20.0s							
MGMO	**Mountain Grove**	132.64	89	IAMs_20	IAMs_20	22 01 06.2		
	comp=Z,2µm,19.0s							
MENT	**Mentasta**	132.71	33	IAMs_20	IAMs_20	22 03 19.4		
	comp=Z,2µm,20.0s							
M27K	**Edge Creek, AK**	132.72	35	IAMs_20	IAMs_20	21 58 28.8		
	comp=Z,3µm,22.0s							
MLY	**Manley**	132.76	28	IAMs_20	IAMs_20	21 58 09.6		
	comp=Z,3µm,22.0s							
NEA2	**Nenana**	132.77	29	IAMs_20	IAMs_20	22 06 15.9		
	comp=Z,3µm,20.0s							
L26K	**Log Cabin Wild**	132.88	33	IAMs_20	IAMs_20	22 00 34.9		
	comp=Z,3µm,20.0s							
P32M	**Atlin**	132.88	41	IAMs_20	IAMs_20	21 55 43.3		
	comp=Z,3µm,21.0s							
WRH	**Wood River Hil**	132.90	30	IAMs_20	IAMs_20	22 00 14.3		
	comp=Z,3µm,21.0s							
N33A	**J Bar K, Exete**	133.02	82	IAMs_20	IAMs_20	21 58 51.4		
	comp=Z,3µm,20.0s							
EGMT	**Eagleton**	133.03	66	IAMs_20	IAMs_20	21 58 35.8		
	comp=Z,3µm,20.0s							
RIDG	**Independent Ri**	133.08	32	IAMs_20	IAMs_20	22 03 47.2		
	comp=Z,3µm,20.0s							
O30N	**Mendenhall**	133.09	39	IAMs_20	IAMs_20	22 01 40.7		
	comp=Z,3µm,19.0s							
CCB	**Clear Creek Bu**	133.11	30	IAMs_20	IAMs_20	21 57 21.9		
	comp=Z,3µm,22.0s							
HDA	**Harding Lake**	133.12	30	IAMs_20	IAMs_20	21 59 45.2		
	comp=Z,4µm,21.0s							
I23K	**Minto, Yukon-K**	133.18	29	IAMs_20	IAMs_20	22 06 23.5		
	comp=Z,3µm,20.0s							
BGNE	**Belgrade**	133.22	81	IAMs_20	IAMs_20	21 59 27.6		
	comp=Z,3µm,20.0s							
PVMO	**Portageville**	133.27	92	IAMs_20	IAMs_20	22 04 16.8		
	comp=Z,2µm,21.0s							
MDM	**Murphy Dome**	133.28	29	IAMs_20	IAMs_20	21 57 28.2		
	comp=Z,3µm,22.0s							
SACV	**Santiago Islan**	133.29	182	IAMs_20	IAMs_20	22 00 38.4		
	comp=Z,3µm,21.0s							
COLA	**College**	133.29	30	IAMs_20	IAMs_20	22 06 40.6		
	comp=Z,3µm,20.0s							
L27K	**Beaver Creek,**	133.31	34	IAMs_20	IAMs_20	21 57 43.3		
	comp=Z,3µm,22.0s							
BCAR	**Beaver Creek A**	133.32	34	PKPdf	**PKPdf**	**21 08 13.5**	**+0.4**	
ILAR	**Eielson Array**	133.44	30	PKP	**PKPdf**	**21 08 10.0**	**-3.2**	
	comp=Z,3.6nm,0.9s,baz=236,slow=0.3,SNR=17							
ILAR				SKPab	**SKPab**	**21 11 43.4**	**+0.2**	
	comp=Z,1.3nm,1.0s,baz=194,slow=5.6,SNR=2.1							
SCRK	**Sand Creek**	133.50	32		**PKPdf**	**21 08 14.1**	**+0.6**	
SCRK				IAMs_20	IAMs_20	22 02 03.1		
	comp=Z,2µm,20.0s							
R40A	**Maddies Statio**	133.55	88	IAMs_20	IAMs_20	22 00 56.3		
	comp=Z,3µm,20.0s							
LAO	**LASA Array**	133.57	70	IAMs_20	IAMs_20	21 57 32.2		
	comp=Z,2µm,20.0s							
POKR	**Poker Plat Res**	133.60	30	IAMs_20	IAMs_20	21 57 25.7		
	comp=Z,4µm,22.0s							
GNI	**Garni**	133.60	276	IAMs_20	IAMs_20	21 59 07.5		
	comp=Z,2µm,21.0s							
GNI	**Garni**	133.60	276	*i* PKIKP	**PKPdf**	**21 08 15.1**	**+0.6**	
GNI				MLR	MLR			
	comp=Z,977nm,16.0s							
GURO	**Guroymak-BITLI**	133.63	272	IAMs_20	IAMs_20	22 03 42.1		
	comp=Z,2µm,19.0s							
P33M	**Teslin, Yukon**	133.65	41	IAMs_20	IAMs_20	21 56 27.6		
	comp=Z,4µm,22.0s							
ABKAR	**Akbulak array**	133.67	295	PKPdf	**PKPdf**	**21 08 13.4**	**-0.7**	
J25K	**Salcha River,**	133.67	31	IAMs_20	IAMs_20	21 58 48.8		
	comp=Z,4µm,21.0s							
CCM	**Cathedral Cave**	133.85	89	IAMs_20	IAMs_20	22 01 13.2		
	comp=Z,2µm,20.0s							
K27K	**Chicken**	134.03	33	IAMs_20	IAMs_20	22 05 50.0		
	comp=Z,3µm,20.0s							
J26L	**Joseph Creek**	134.03	32	IAMs_20	IAMs_20	22 06 26.3		
	comp=Z,3µm,21.0s							
H24K	**Noodor Dome**	134.09	29	IAMs_20	IAMs_20	22 06 38.8		
	comp=Z,3µm,20.0s							
TIXI	**Tiksi**	134.31	349	PKPdf	**PKPdf**	**21 08 15.0**	**+0.4**	
TIXI				IAMs_20	IAMs_20	22 02 12.3		
	comp=Z,3µm,22.0s							
TIXI	**Tiksi**	134.31	349	⇑PKIKP	**PKPdf**	**21 08 15.2**	**+0.6**	
PRP	**Porcupine Dome**	134.38	30	IAMs_20	IAMs_20	22 01 21.5		
	comp=Z,3µm,21.0s							
BRLDA	**Berland Lookou**	134.44	56	IAMs_20	IAMs_20	21 57 51.2		
	comp=Z,4µm,22.0s							
L34A	**Svendsen Farm,**	134.49	82	IAMs_20	IAMs_20	21 59 57.1		
	comp=Z,3µm,20.0s							
MAK	**Makhachkala**	134.49	281	*e*P	**Pdif**	**21 05 14.3**	**-2.0**	
MAK				*e*		21 08 12.8		
MAK				*e*		21 15 24.6		
MAK				pmax	pmax			
	comp=Z,192nm,1.2s							
P40A	**Paris**	134.63	87	IAMs_20	IAMs_20	22 02 49.0		
	comp=Z,2µm,21.0s							
I26K	**Coal Creek Min**	134.79	32	IAMs_20	IAMs_20	21 58 31.0		
	comp=Z,3µm,22.0s							
GAZ	**Gaziantep**	134.82	267	IAMs_20	IAMs_20	21 59 18.7		
	comp=Z,3µm,20.0s							
CSS	**Mathiatis**	134.87	261	IAMs_20	IAMs_20	22 04 24.8		
	comp=Z,2µm,19.0s							
FARO	**Faro, Yukon**	135.05	39	IAMs_20	IAMs_20	21 59 12.7		
	comp=Z,3µm,20.0s							
SUSD	**Miller**	135.18	77	IAMs_20	IAMs_20	22 08 55.5		
	comp=Z,3µm,18.0s							
FYU	**Fort Yukon**	135.31	30	IAMs_20	IAMs_20	21 58 49.9		
	comp=Z,3µm,22.0s							
EDM	**Edmonton**	135.41	59	IAMs_20	IAMs_20	21 59 28.2		
	comp=Z,2µm,22.0s							
Q44A	**Meyer Farm, Va**	135.58	90	IAMs_20	IAMs_20	22 02 14.1		
	comp=Z,2µm,21.0s							
I28M	**Miner Creek**	135.72	33	IAMs_20	IAMs_20	22 02 17.0		
	comp=Z,3µm,21.0s							
ECSD	**EROS Data Cent**	135.73	80	IAMs_20	IAMs_20	22 09 09.2		
	comp=Z,2µm,18.0s							
DGMT	**Dagmar**	135.82	70	IAMs_20	IAMs_20	21 59 50.6		
	comp=Z,3µm,20.0s							
P43A	**Skaggs, Pawnee**	135.92	89	IAMs_20	IAMs_20	22 02 53.1		
	comp=Z,3µm,20.0s							
E28A	**Huff**	135.99	74	IAMs_20	IAMs_20	22 00 48.8		
	comp=Z,3µm,19.0s							
ZEI	**Tsey**	136.05	278	*e*PKIKP	**PKiKP**	**21 08 25.4**	**+4.7**	
ZEI				pmax	pmax			
	comp=Z,8.0nm,1.3s							
I29M	**Ogilvie Camp,**	136.08	34	IAMs_20	IAMs_20	22 00 46.5		
	comp=Z,3µm,21.0s							
N41A	**Harden Midland**	136.12	87	IAMs_20	IAMs_20	21 58 27.5		
	comp=Z,3µm,21.0s							
BMAR	**Burnt Mountain**	136.16	29		**PKiKP**	**21 08 20.4**	**+0.4**	
WCI	**Wyandotte Cave**	136.34	93	PKPdf	**PKiKP**	**21 08 21.8**	**+0.6**	
WCI	**Wyandotte Cave**	136.34	93	PKIKP	**PKiKP**	**21 08 21.8**	**+0.6**	
WCI				MLR	MLR			
	comp=Z,2µm,20.0s							
I30M	**Mount Dempster**	136.49	35	IAMs_20	IAMs_20	22 00 14.4		
	comp=Z,2µm,21.0s							
H29M	**Whitestone**	136.73	33	IAMs_20	IAMs_20	22 01 00.6		
	comp=Z,3µm,22.0s							
HDIL	**Hopedale**	136.75	89	IAMs_20	IAMs_20	22 12 30.9		
	comp=Z,2µm,18.0s							
O44A	**Mansfield**	136.82	90	IAMs_20	IAMs_20	22 03 43.0		
	comp=Z,2µm,21.0s							
R49A	**Shelbyville**	136.92	94	IAMs_20	IAMs_20	22 06 53.6		
	comp=Z,2µm,20.0s							
P46A	**Rosedale**	137.00	91	IAMs_20	IAMs_20	22 03 33.8		
	comp=Z,3µm,21.0s							
KBZ	**Khabaz**	137.24	278	PKP	**PKPdf**	**21 08 17.2**	**-3.7**	
	comp=Z,3.2nm,1.1s,baz=191,slow=5.2,SNR=3.0							
EPYK	**Eagle Plains**	137.27	34	IAMs_20	IAMs_20	22 03 04.1		
	comp=Z,2µm,21.0s							
R50A	**Paris**	137.32	95	IAMs_20	IAMs_20	22 06 53.0		
	comp=Z,2µm,21.0s							
F28M	**Old Crow**	137.43	31	IAMs_20	IAMs_20	22 07 14.0		
	comp=Z,2µm,20.0s							
MDND	**Maddock**	137.43	74	IAMs_20	IAMs_20	22 06 28.0		
	comp=Z,3µm,18.0s							
I37A	**Lemond, Waseca**	137.46	82	IAMs_20	IAMs_20	22 02 12.8		
	comp=Z,2µm,21.0s							
F33A	**5 Mile Ranch,**	137.47	78	IAMs_20	IAMs_20	22 07 41.1		
	comp=Z,2µm,18.0s							
H31M	**Peel River**	137.49	35	IAMs_20	IAMs_20	21 58 48.8		
	comp=Z,3µm,22.0s							
KIV	**Kislovodsk**	137.51	278	*i* PKIKP	**PKPdf**	**21 08 22.0**	**+0.4**	
KIV				*e*		21 11 05.8		
KIV				*e*SS	SS	21 29 12.0	-4.0	
KIV				*e*SSS	SSS	21 34 21.6		
KIV				pmax	pmax			
	comp=Z,12nm,1.1s							
KIV				MLR	MLR			
	comp=Z,1µm,24.0s							
SFIN	**Lafayette**	137.66	91	IAMs_20	IAMs_20	22 03 46.0		
	comp=Z,3µm,20.0s							
L42A	**Oliver, Polo**	137.69	87	IAMs_20	IAMs_20	21 59 15.0		
	comp=Z,3µm,22.0s							
G30M	**tAoh Zraii Nji**	137.87	33	IAMs_20	IAMs_20	22 01 54.9		
	comp=Z,3µm,22.0s							
M44A	**Midewin, Midew**	137.99	89	IAMs_20	IAMs_20	22 04 57.8		
	comp=Z,2µm,22.0s							
D32A	**Dogwood Acres,**	138.10	76	IAMs_20	IAMs_20	22 03 10.6		
	comp=Z,2µm,20.0s							
KARP	**Karpathos**	138.23	256	IAMs_20	IAMs_20	22 21 24.7		
	comp=Z,2µm,20.0s							
Q51A	**Peebles**	138.37	95	IAMs_20	IAMs_20	22 07 51.9		
	comp=Z,2µm,21.0s							
HQIL	**Hanson Quary C**	138.40	89	IAMs_20	IAMs_20	22 05 07.6		
	comp=Z,2µm,21.0s							
O48B	**Farmland**	138.48	93	IAMs_20	IAMs_20	22 04 35.8		
	comp=Z,2µm,20.0s							
BRTR	**Keskin Array B**	138.55	266	PKPdf	**PKPdf**	**21 08 23.7**	**0.0**	
BRTR	**Keskin Array B**	138.55	266	PKP	**PKPdf**	**21 08 18.8**	**-4.9**	
	comp=Z,0.8nm,0.7s,baz=162,slow=3.7,SNR=3.3							
SOC	**Sochi**	138.63	275	*i* PKIKP	**PKiKP**	**21 08 26.3**	**+0.6**	
SOC				*e*		21 11 13.7		
SPMN	**Marine on St.**	138.65	81	IAMs_20	IAMs_20	22 02 53.3		
	comp=Z,2µm,21.0s							
L44A	**Lake County Fo**	138.66	88	IAMs_20	IAMs_20	22 01 41.6		
	comp=Z,2µm,20.0s							
N47A	**Urbana**	138.71	92	IAMs_20	IAMs_20	22 04 32.0		
	comp=Z,2µm,20.0s							
F36A	**Milaca**	138.78	80	IAMs_20	IAMs_20	22 05 28.8		
	comp=Z,3µm,19.0s							
U59A	**Littleton**	138.83	103	IAMs_20	IAMs_20	22 09 53.8		
	comp=Z,2µm,20.0s							
F31M	**Tsiigehtchic**	138.86	34	IAMs_20	IAMs_20	22 06 53.2		
	comp=Z,2µm,20.0s							
K43A	**Burlington**	138.86	88	IAMs_20	IAMs_20	22 00 22.0		
	comp=Z,2µm,21.0s							
P51A	**Williamsport**	138.87	95	IAMs_20	IAMs_20	22 08 04.1		
	comp=Z,2µm,22.0s							
WRGLY	**Wrigley**	138.88	43	IAMs_20	IAMs_20	22 10 39.0		
	comp=Z,3µm,20.0s							
SVE	**Sverdlovsk**	138.88	304	*i* PKIKP	PKiKP	21 08 35.2	+9.5	
SVE				pmax	pmax			
	comp=Z,31nm,1.5s							
SVE				MLR	MLR			
	comp=Z,2µm,21.0s							
IDI	**Anoyia**	139.06	253	IAMs_20	IAMs_20	22 20 07.6		
	comp=Z,2µm,20.0s							
NRIK	**Noril'sk**	139.17	330	IAMs_20	IAMs_20	22 09 48.0		
	comp=Z,3µm,22.0s							
NRIK	**Noril'sk**	139.17	330	PKP	**PKPdf**	**21 08 19.7**	**-4.0**	
	comp=Z,1.8nm,0.7s,baz=154,slow=3.2,SNR=1.7							
NRIK				PP	**PP**	**21 11 12.8**	**-5.3**	
	comp=Z,1.5nm,0.3s,baz=143,slow=3.8,SNR=3.6							
L46A	**Eue Claire**	139.30	90	IAMs_20	IAMs_20	22 13 52.6		
	comp=Z,2µm,19.0s							
P52A	**Corning**	139.43	96	IAMs_20	IAMs_20	22 08 35.9		
	comp=Z,2µm,21.0s							
ARU	**Arti**	139.44	302	PKPdf	**PKiKP**	**21 08 26.4**	**-0.4**	
ARU	**Arti**	139.44	302	*i* PKIKP	**PKPdf**	**21 08 24.1**	**-0.5**	
ARU						21 11 17.3		
ARU				PPP	PPP	21 14 21.6		
ARU				MLR	MLR			
	comp=Z,2µm,22.0s							
ARU	**Arti**	139.44	302	PKP	**PKPdf**	**21 08 19.6**	**-5.0**	
	comp=Z,1.1nm,0.4s,baz=101,slow=5.2,SNR=2.3							
N49A	**Columbus Grove**	139.46	93	IAMs_20	IAMs_20	22 05 23.9		
	comp=Z,3µm,21.0s							
INK	**Inuvik**	139.54	33	IAMs_20	IAMs_20	22 03 35.0		
	comp=Z,2µm,20.0s							
P53A	**Whipple**	139.66	97	IAMs_20	IAMs_20	22 08 42.1		
	comp=Z,2µm,20.0s							
G40A	**Rib Lake**	139.91	83	IAMs_20	IAMs_20	22 02 33.8		
	comp=Z,3µm,20.0s							
O52A	**Adamsville**	139.95	96	IAMs_20	IAMs_20	22 09 28.6		
	comp=Z,2µm,21.0s							
L48A	**N Adams**	140.14	92	IAMs_20	IAMs_20	22 05 51.7		
	comp=Z,3µm,21.0s							
E38A	**The Farm, Brul**	140.26	81	IAMs_20	IAMs_20	22 03 48.8		
	comp=Z,3µm,19.0s							
M50A	**Fremont**	140.38	94	IAMs_20	IAMs_20	22 05 54.1		
	comp=Z,2µm,20.0s							
B35A	**Bob, Littlefor**	140.51	77	IAMs_20	IAMs_20	22 03 05.6		
	comp=Z,3µm,20.0s							
ANN	**Anapa**	140.63	274	*e*PKIKP	**PKPdf**	**21 08 27.5**	**+0.4**	
ANN				*i*		21 08 30.7		
ANN				*e*		21 15 37.2		
ANN				pmax	pmax			
	comp=Z,159nm,1.1s							
AAM	**Ann Arbor**	140.78	92	IAMs_20	IAMs_20	22 05 42.6		
	comp=Z,2µm,20.0s							
ULM	**Lac du Bonnet**	140.87	74	IAMs_20	IAMs_20	21 59 50.8		
	comp=Z,2µm,21.0s							
ULM	**Lac du Bonnet**	140.87	74	PKhKP	PKPpre	21 08 18.7		
	comp=Z,2.4nm,0.7s,baz=241,slow=5.1,SNR=2.1							
J47A	**Sunmer**	140.94	90	IAMs_20	IAMs_20	22 06 57.9		
	comp=Z,2µm,19.0s							
N53A	**Lisbon**	140.96	96	IAMs_20	IAMs_20	22 09 29.4		
	comp=Z,2µm,20.0s							
EYMN	**Ely**	141.26	79	IAMs_20	IAMs_20	22 03 04.3		
	comp=Z,3µm,21.0s							
M52A	**Chesterland**	141.29	95	IAMs_20	IAMs_20	22 06 12.1		
	comp=Z,2µm,21.0s							
BELG	**Belogornoye**	141.34	290	PKP	**PKPdf**	**21 08 24.1**	**-3.9**	
	comp=Z,19nm,1.1s,baz=128,slow=2.0,SNR=5.3							
YKA	**Yellowknife Ar**	141.39	48	PKhKP	PKPpre	21 08 21.7		
	comp=Z,2.9nm,1.0s,baz=233,slow=3.4,SNR=4.0							
YKAW1	**Yellowknife Wh**	141.42	48	IAMs_20	IAMs_20	22 04 11.6		
	comp=Z,4µm,20.0s							
YKAW3	**Yellowknife Wh**	141.43	48	IAMs_20	IAMs_20	22 04 09.7		
	comp=Z,4µm,20.0s							
K50A	**Casco**	141.63	92	IAMs_20	IAMs_20	22 20 46.3		
	comp=Z,2µm,19.0s							
G45A	**Suttons Bay**	141.89	87	IAMs_20	IAMs_20	22 02 44.4		
	comp=Z,3µm,20.0s							
ALLY	**Alegheny Colle**	141.94	96	IAMs_20	IAMs_20	22 21 12.5		
	comp=Z,2µm,20.0s							
D41A	**Chassel**	142.00	83	IAMs_20	IAMs_20	22 03 02.0		
	comp=Z,3µm,21.0s							
SSPA	**Standing Stone**	142.22	99	IAMs_20	IAMs_20	22 10 23.5		
	comp=Z,2µm,20.0s							
ERPA	**Erie**	142.38	96	IAMs_20	IAMs_20	22 05 40.8		
	comp=Z,2µm,22.0s							
C36M	**Paulatuk**	142.78	35	IAMs_20	IAMs_20	22 01 51.0		
	comp=Z,2µm,21.0s							
P61A	**Hammonton**	142.90	103	IAMs_20	IAMs_20	22 21 18.8		
	comp=Z,2µm,22.0s							
ANX	**Ano Chora**	143.12	253	P	PKPbc	21 08 30.3	+1.4	
M57A	**Sunshine Farm,**	143.13	99	IAMs_20	IAMs_20	22 11 07.8		
	comp=Z,2µm,21.0s							
VRH	**Novokhopyorsk**	143.20	285	*e*PKIKP	PKPbc	21 08 28.3	-0.2	
VRH				pmax	pmax			
	comp=Z,41nm,1.6s							
RDO	**Rodhopi**	143.49	260	P	PKPab	21 08 29.0	+0.4	
L56A	**Greenwood**	143.54	98	IAMs_20	IAMs_20	22 08 33.9		
	comp=Z,2µm,21.0s							
EVGI	**Lefkada island**	143.72	252	P	**PKiKP**	**21 08 35.4**	**-0.9**	
MMNY	**Mt. Morris Dam**	143.84	97	IAMs_20	IAMs_20	22 19 52.7		
	comp=Z,2µm,20.0s							
THL	**Klokotos Trika**	143.86	254	P	PKPab	21 08 30.1	-0.1	
J54A	**Appleton**	143.90	96	IAMs_20	IAMs_20	22 09 53.5		
	comp=Z,3µm,20.0s							
KSPA	**Keystone Colle**	143.94	100	IAMs_20	IAMs_20	22 14 15.2		
	comp=Z,2µm,20.0s							
KOKK	**Kokkinochori,**	143.95	258	P	PKPab	21 08 30.4	-0.1	
KDZ	**Kurdzhali**	143.96	260	P	PKPbc	21 08 31.0	-0.1	
JMB	**Yambol**	144.06	262	P	PKPbc	21 08 31.2	-0.1	
A36M	**Sachs Harbour**	144.10	32	IAMs_20	IAMs_20	22 04 22.7		
	comp=Z,3µm,22.0s							
VORD	**Divnogorie**	144.16	283	*e*PKHKP	PKPpre	21 08 29.7		
VORD				pmax	pmax			
	comp=Z,20nm,0.9s							
PRD	**Provadia**	144.16	264	P	PKPbc	21 08 31.5	-0.1	
DIM	**Dimitrovgrad**	144.17	261	P	PKPbc	21 08 32.1

comp=Z,2μm,20.0s
VLAD Vladila 146.22 262 ⇑P **PKPab 21 08 39.4 +0.6**
TIR Tirane 146.27 254 ⇑P **PKPab 21 08 40.1 +1.0**
TIR Tirane 146.27 254 IAMs_20 IAMs_20 22 18 25.6
comp=Z,3μm,22.0s
TIR Tirane 146.27 254 ⇑PKP2 **PKPab 21 08 40.1 +1.0**
ODBI Odobesti 146.28 266 ⇑P **PKPab 21 08 39.9 +0.9**
M65A Busby, Falmout 146.31 106 IAMs_20 IAMs_20 22 26 27.1
comp=Z,2μm,20.0s
PANC Panciu 146.32 266 ⇑P **PKPab 21 08 39.3 +0.1**
GHRR 146.33 267 ⇑P **PKPab 21 08 39.6 +0.4**
ACCN Adirondack Com 146.33 100 IAMs_20 IAMs_20 22 10 37.7
comp=Z,2μm,20.0s
KIS Kishinev 146.34 269 ⇓*i*PKP **PKPab 21 08 39.0 -0.2**
comp=Z,320nm,7.7s
KIS *e*L L 22 08 36.0
KIS LRM MLR 22 09 32.0
comp=Z,400nm,21.5s
KIS Kishinev 146.34 269*d i*PKP2 **PKPab 21 08 39.0 -0.2**
KIS pmax pmax
comp=Z,320nm,7.7s
KIS MLR MLR
comp=Z,400nm,21.5s
HUMR Humele 146.35 263 ⇓P **PKPbc 21 08 38.8 +0.4**
BIR Birlad 146.38 267 ⇑P **PKPab 21 08 40.1 +0.8**
BIR Birlad 146.38 267 ⇑PKP2 **PKPab 21 08 40.1 +0.8**
NEHR Nehoiu 146.39 265 ⇑P **PKPab 21 08 39.2 -0.4**
K62A Royalston 146.45 103 IAMs_20 IAMs_20 22 14 35.6
comp=Z,2μm,20.0s
VRI Vrincioaia 146.51 266 ⇑P **PKPab 21 08 39.5 -0.4**
VRI Vrincioaia 146.51 266 ⇑PKP2 **PKPab 21 08 39.5 -0.4**
NCB Newcomb 146.52 99 IAMs_20 IAMs_20 22 24 34.7
comp=Z,2μm,20.0s
L64A Middleborough 146.52 105 IAMs_20 IAMs_20 22 13 50.6
comp=Z,3μm,20.0s
PLOR Plostina 146.54 266 ⇑P **PKPbc 21 08 39.5 +0.5**
PLOR Plostina 146.54 266 ⇑PKP2 **PKPbc 21 08 39.5 +0.5**
FIGM Figuig 146.56 219 P **PKiKP 21 08 45.0 +2.5**
STFAR Stefanesti-Arg 146.61 263 ⇓P **PKPab 21 08 40.6 +0.2**
MLR Muntele Rosu 146.61 265 ⇓P **PKPbc 21 08 38.9 -0.5**
MLR Muntele Rosu 146.61 265 PKPbc **PKPdf 21 08 38.3 +0.6**
comp=Z,31nm,1.0s,baz=158,slow=6.3,SNR=15
WES Weston 146.65 104 IAMs_20 IAMs_20 22 22 50.0
comp=Z,2μm,20.0s
ARF Arif 146.74 214 P **PKiKP 21 08 44.0 +1.1**
COVR Voineasa-Covas 146.75 266 ⇑P **PKPbc 21 08 39.7 +0.1**
J61A Chester 146.82 102 IAMs_20 IAMs_20 22 16 45.7
comp=Z,2μm,21.0s
LONY Lake Ozonia 146.84 98 IAMs_20 IAMs_20 22 09 47.8
comp=Z,2μm,20.0s
OUZM OUZ 146.88 210 P **PKiKP 21 08 44.1 +0.9**
VOIR 146.99 264 ⇑P **PKPbc 21 08 41.0 +0.6**
VOIR 146.99 264 ⇑PKP2 **PKPbc 21 08 41.0 +0.6**
CUC Castrocucco 147.00 248 **PKPbc 21 08 39.9 -0.7**
TIO Tiouine 147.01 209 PKP **PKiKP 21 08 43.1 -0.4**
TESR Tescani 147.02 267 ⇑P **PKPbc 21 08 39.5 -0.8**
ARR Arges 147.14 263 ⇑P **PKPbc 21 08 41.1 +0.3**
MATE Matera 147.14 250 ⇑P **PKPbc 21 08 41.6 +0.8**
BOVS Bovan 147.21 258 ⇑P **PKPbc 21 08 41.1 +0.1**
DOPR Dopca 147.22 265 ⇑P **PKPbc 21 08 40.8 -0.2**
HNH Hanover 147.22 101 IAMs_20 IAMs_20 22 24 01.2
comp=Z,3μm,19.0s
SRE Strehaia 147.28 261 ⇑P **PKPbc 21 08 41.6 +0.5**
SRE Strehaia 147.28 261 ⇑PKP2 **PKPbc 21 08 41.6 +0.5**
FFD Franklin Falls 147.34 102 IAMs_20 IAMs_20 22 24 22.2
comp=Z,3μm,20.0s
SORM Soroca 147.37 270 ⇑P **PKPbc 21 08 41.5 +0.3**
SORM Soroca 147.37 270 ⇑PKP2 **PKPbc 21 08 41.5 +0.3**
PDG Podgorica 147.41 254 ⇑P **PKPbc 21 08 42.3 +0.8**
PDG Podgorica 147.41 254 IAMs_20 IAMs_20 22 19 31.5
comp=Z,3μm,20.0s
OUK Oukaimeden 147.42 208 P **PKiKP 21 08 46.0 +1.4**
FRNY Flat Rock 147.47 99 IAMs_20 IAMs_20 22 24 43.8
comp=Z,2μm,20.0s
VT1 Waterbury 147.48 100 IAMs_20 IAMs_20 22 23 48.9
comp=Z,3μm,20.0s
LOT Lotru 147.60 263 ⇑P **PKPbc 21 08 42.0 -0.1**
I62A Tamworth 147.80 102 IAMs_20 IAMs_20 22 24 53.4
comp=Z,3μm,20.0s
LBNH Lisbon 147.80 101 IAMs_20 IAMs_20 22 24 39.1
comp=Z,2μm,20.0s
HERR Herculane 147.82 261 ⇑P **PKPbc 21 08 43.2 +0.7**
MDB Medias 147.83 264 ⇑P **PKiKP 21 08 44.3 -0.2**
MDB Medias 147.83 264 ⇑PKP2 **PKiKP 21 08 44.3 -0.2**
PRAR RASCA 147.83 267 ⇑P **PKPbc 21 08 42.5 0.0**
PRGR Permogore 147.90 302 *e*PKP2 **PKPbc 21 08 41.7 -0.5**
PRGR pmax pmax
comp=Z,118nm,0.8s
MNTQ Montreal, Queb 147.95 98 IAMs_20 IAMs_20 22 10 19.5
comp=Z,2μm,20.0s
MOS Moscow 148.00 288 *i* PKP2 **PKPbc 21 08 41.7 -1.0**
MOS *e*SS SS 21 31 11.7 -5.2
MOS pmax pmax
comp=Z,135nm,1.6s
GZR Gura Zlata 148.03 262 ⇑P **PKPbc 21 08 42.9 -0.3**
GZR Gura Zlata 148.03 262 ⇑PKIKP **PKPbc 21 08 42.9 -0.3**
TRQ Mont Tremblant 148.04 96 IAMs_20 IAMs_20 22 24 35.9
comp=Z,2μm,20.0s
MDVR Moldovita 148.07 260 ⇑P **PKPbc 21 08 43.2 -0.2**
OBN Obninsk 148.10 287 ⇑P **PKPdf 21 08 40.2 +0.5**
OBN Obninsk 148.10 287 **PKPbc 21 08 41.8 -1.1**
OBN IAMs_20 IAMs_20 22 18 59.9
comp=Z,2μm,21.0s
OBN Obninsk 148.10 287 ⇑*i*PKP2 **PKPbc 21 08 42.4 -0.5**
OBN *e* 21 12 18.8
OBN pmax pmax
comp=Z,251nm,1.7s
OBN Obninsk 148.10 287 PKPbc **PKPbc 21 08 41.4 -1.5**
comp=Z,45nm,0.8s,baz=116,slow=3.2,SNR=10.0
MDT Midelt 148.15 214 P **PKPab 21 08 48.2 +1.3**
I63A Otisfield 148.28 103 IAMs_20 IAMs_20 22 13 13.2
comp=Z,2μm,20.0s
DEV Deva 148.34 262 ⇑P **PKPbc 21 08 43.8 -0.1**
DEV Deva 148.34 262 ⇑PKP2 **PKPbc 21 08 43.8 -0.1**
DIVS Divibare 148.36 257 IAMs_20 IAMs_20 22 20 29.8
comp=Z,2μm,21.0s
PAOL Paolisi 148.40 248 IAMs_20 IAMs_20 22 26 37.8
comp=Z,3μm,20.0s
H62A Milan 148.41 101 IAMs_20 IAMs_20 22 25 37.7
comp=Z,2μm,19.0s
CZD Col de Zad 148.47 214 P **PKPab 21 08 50.0 +1.6**
BURAR Bucovina Array 148.49 267 ⇑P **PKPbc 21 08 44.3 -0.1**
BURAR Bucovina Array 148.49 267 **PKPbc 21 08 42.8 -1.6**
BURAR Bucovina Array 148.49 267 ⇑PKP2 **PKPbc 21 08 44.3 -0.1**
ARCR ARCALIA 148.53 265 ⇑P **PKPbc 21 08 45.0 +0.6**
SURR Surduc 148.61 261 ⇑P **PKPbc 21 08 43.8 -0.8**
CJR Cluj-Napoca 148.61 264 ⇑P **PKPbc 21 08 44.0 -0.7**
CJR Cluj-Napoca 148.61 264 ⇑PKP2 **PKPbc 21 08 44.0 -0.7**
AKASG Malin Array Be 148.72 275 PKPbc **PKPbc 21 08 43.4 -1.3**
comp=Z,12nm,0.9s,baz=102,slow=2.2,SNR=18
BZS Buzias 148.74 261 ⇑P **PKPbc 21 08 44.4 -0.6**
BZS Buzias 148.74 261 ⇑PKP2 **PKPbc 21 08 44.4 -0.6**
MARR Marisel-Cluj 148.81 264 ⇑P **PKPbc 21 08 44.8 -0.5**
IFR Ifrane 148.95 214 PKP **PKPbc 21 08 45.0 -1.2**
JBK JBK 149.00 218 P **PKPab 21 08 50.0 -0.4**
TIM Timisoara 149.02 261 ⇑P **PKiKP 21 08 46.6 -0.3**
TIM Timisoara 149.02 261 ⇑PKP2 **PKiKP 21 08 46.6 -0.3**
LCRM LCR 149.04 214 P **PKPab 21 08 51.0 +0.4**
G62A West of Eustis 149.19 101 IAMs_20 IAMs_20 22 18 03.3
comp=Z,2μm,21.0s
SIRR Siria 149.20 262 ⇑P **PKPbc 21 08 44.1 -2.1**
RICI Ricice 149.21 253 *e*P **PKPdf 21 08 42.2 +0.2**
MESR Meseseni 149.24 264 ⇑P **PKPbc 21 08 44.5 -1.6**
HVAR Hvar 149.27 252 *e*P **PKPbc 21 08 44.6 -1.8**
AVE Averroes 149.32 210 P **PKPab 21 08 50.4 -1.1**
AVE Averroes 149.32 210 PKP **PKPbc 21 08 47.1 +0.3**
BMR Baia Mare 149.35 265 ⇑P **PKPbc 21 08 45.0 -1.4**
BMR Baia Mare 149.35 265 ⇑PKHKP PKPpre 21 08 45.0
INTR Introdacqua 149.48 248 IAMs_20 IAMs_20 22 29 40.5
comp=Z,2μm,20.0s
SICH Sidi Chahed 149.56 214 P **PKPab 21 08 52.0 -0.5**
PKME Peaks-Kenny Pk 149.80 103 IAMs_20 IAMs_20 22 20 05.0
comp=Z,2μm,20.0s
LTVH Ltavrtes, Hu 149.90 263 ⇑P **PKPbc 21 08 47.2 -0.5**
KIJV Kijevo 149.94 253 *e*P **PKPdf 21 08 44.8 +1.7**
F62A Pittston Farm, 149.96 101 IAMs_20 IAMs_20 22 21 53.7
comp=Z,3μm,22.0s
KLMR Klimovskoe 150.02 298 ⇑*i*PKPdf **PKPbc 21 08 47.9 +0.3**
KLMR ⇑*i*PKPdf **PKPbc 21 08 47.9 +0.3**
KLMR ⇑*i*PKPdf **PKPbc 21 08 47.9 +0.3**
KLMR AMP 21 09 02.1
comp=Z,411nm,1.5s
KLMR *e*PP **PP 21 12 22.3 -0.8**
KLMR SS **SS 21 31 38.9 -0.5**
KLMR SS **SS 21 31 38.9 -0.5**
KLMR LQ LQ 21 58 47.3
KLMR LQ LQ 21 58 47.3
KLMR LR LR 22 07 16.1
KLMR AMP 22 22 08.4
comp=Z,3μm,21.6s
KLMR Klimovskoe 150.02 298 ⇑*i*PKP2 **PKPbc 21 08 47.9 +0.3**
KLMR *e* 21 12 22.3
KLMR SS SS 21 31 38.9 -0.5
KLMR pmax pmax
comp=Z,411nm,1.5s
TRPA Tarpa 150.13 265 ⇑P **PKPbc 21 08 46.0 -2.2**
F63A Nahmakanta, Br 150.22 102 IAMs_20 IAMs_20 22 21 48.5
comp=Z,2μm,20.0s
EMMW East Machias 150.23 105 IAMs_20 IAMs_20 22 25 48.6
comp=Z,2μm,19.0s
PVLZ Peæn de 150.29 216 PKP **PKPbc 21 08 49.1 0.0**
PMAR Madeira 150.48 194 *e*PKP **PKPbc 21 08 49.3 -0.6**
GUMA Gualdo di Mace 150.58 249 IAMs_20 IAMs_20 22 29 56.4
comp=Z,2μm,18.0s
MORH Mrgy, Hungar 150.58 259 ⇑P **PKPbc 21 08 47.0 -2.5**
LVV L'vov 150.59 269 *i* PKIKP **PKPbc 21 08 49.2 -0.1**
LVV *e* 21 12 28.7
LVV *e* 21 15 52.6
LVV *e*SS SS 21 31 45.5 -0.5
LVV MLR MLR
comp=E,800nm,20.0s
LVV MLR MLR
comp=N,300nm,23.0s
LVV MLR MLR
comp=Z,1μm,23.0s
PMOZ Porto Moniz, M 150.61 194 *e*PKP **PKiKP 21 08 53.5 +2.7**
PMOZ Porto Moniz, M 150.61 194 *e*SS SS 21 31 51.5 +6.2
PMOZ Porto Moniz, M 150.61 194 *e*LR LR 22 00 13.1
comp=Z,3μm,18.0s
PMOZ Porto Moniz, M 150.61 194 PKP **PKiKP 21 08 52.8 +2.0**
BSZH Besenyszg 150.61 262 ⇑P **PKiKP 21 08 49.8 -0.3**
FDMO Fiordimonte 150.67 248 IAMs_20 IAMs_20 22 18 02.8
comp=Z,3μm,22.0s
F64A Sherman 150.69 103 IAMs_20 IAMs_20 22 22 22.9
comp=Z,3μm,20.0s
E62A Clayton Lake 150.70 100 **PKPbc 21 08 47.8 -1.9**
E62A IAMs_20 IAMs_20 22 25 10.3
comp=Z,3μm,20.0s
PMPST Porto Santo, M 150.76 195 *e*PKP **PKPbc 21 08 47.7 -2.6**
KOLS Kolonicke sedl 150.82 266 *e*PKIKP **PKiKP 21 08 52.8 +2.2**
KOLS Kolonicke sedl 150.82 266 *e*PKP **PKiKP 21 08 52.8 +2.2**
GGN Saint George 150.82 105 IAMs_20 IAMs_20 22 20 23.4
comp=Z,3μm,20.0s
PLIT Plitvice 150.97 253 *e*P **PKPbc 21 08 50.2 -0.2**
MOSL Moslavina 151.01 256 *e*P **PKPbc 21 08 50.5 0.0**
KWP Kalwaria Pacla 151.09 267 *e*PKP **PKiKP 21 08 51.2 +0.1**
KWP Kalwaria Pacla 151.09 267 IAMs_20 IAMs_20 22 31 25.3
comp=Z,2μm,21.0s
MURB Monte Urbino 151.09 248 IAMs_20 IAMs_20 22 24 14.1
comp=Z,2μm,20.0s
CRVS Cervenica-Dubn 151.18 265 *e*PKIKP **PKiKP 21 08 53.1 +1.8**
CRVS Cervenica-Dubn 151.18 265 *e*PKP **PKiKP 21 08 53.1 +1.8**
A254A Petrova Gora 151.22 254 *e*P **PKPdf 21 08 42.5 -2.5**
PSZ Piszkesteto 151.23 262 ⇓P **PKPbc 21 08 49.4 -1.6**
PSZ Piszkesteto 151.23 262 **PKiKP 21 08 51.4 -0.1**
PSZ IAMs_20 IAMs_20 22 26 29.8
comp=Z,2μm,21.0s
PSZ Piszkesteto 151.23 262 ⇓PKIKP **PKPbc 21 08 49.4 -1.6**
D62A Allapoint, All 151.26 100 IAMs_20 IAMs_20 22 21 43.1
comp=Z,3μm,20.0s
CEU Ceuta 151.26 215 PKP **PKiKP 21 08 53.2 +1.4**
PQI Presque Isle 151.44 102 IAMs_20 IAMs_20 22 24 28.9
comp=Z,2μm,19.0s
CART Cartagena 151.52 223 **PKiKP 21 08 53.7 +1.3**
CART Cartagena 151.52 223 P **PKiKP 21 08 54.9 +2.6**
CART Cartagena 151.52 223 PKP **PKPbc 21 08 51.2 -0.7**
KALN Kalnik 151.53 256 *e*P **PKPbc 21 08 51.2 -0.5**
PTJ Puntijarka 151.59 255 P **PKPdf 21 08 47.6 +1.9**
OZLJ Ozalj 151.60 254 *e*P **PKPdf 21 08 48.2 +2.7**
BOJS Bojanci 151.62 254 *e*PKPdf **PKPdf 21 08 44.8 -0.8**
BOJS *e*PKPbc **pPKPbc 21 08 53.8 -1.2**
MNK Minsk 151.75 280 *i* PKiKP **PKPbc 21 08 51.8 -0.1**
comp=E,6.0nm,0.8s
MNK *i* PKiKP **PKPbc 21 08 51.8 -0.1**
comp=N,27nm,1.1s
MNK *i* PKiKP **PKPbc 21 08 51.8 -0.1**
comp=Z,39nm,0.7s,baz=306
MNK *i* PP **PP 21 12 31.3 -1.9**
MNK *i* SKS **SKSdf 21 15 52.0 0.0**
MNK *i* PPP PPP 21 15 55.7
MNK *i* SKKS **SKKSdf 21 24 39.4 +1.3**
MNK *i* SS **SS 21 31 58.5 -0.3**
MNK *i* SSS SSS 21 37 43.3
MNK *i* LQ LQ 22 10 35.6
MNK *i* LR LR 22 21 16.9
MNK *i* LRM MLR 22 24 48.3
comp=E,409nm,19.4s
MNK *i* LRM MLR 22 25 14.1
comp=Z,2μm,21.9s
MNK *i* LRM MLR 22 25 25.7
comp=N,1μm,21.9s
MNK Minsk 151.75 280 *i* PKIKP **PKPbc 21 08 51.7 -0.1**
MNK *i*
MNK *i* 21 15 51.9
MNK *i* SS SS 21 31 58.5 -0.3
MNK *i* SSS SSS 21 37 43.2
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=Z,39nm,0.7s
MNK pmax pmax
comp=N,27nm,1.1s
EMAL Malaga-Limoner 151.81 217 PKP **PKPbc 21 08 50.7 -1.9**
GOLS Golise 151.83 255 *e*PKPdf **PKPdf 21 08 45.1 -0.8**
GOLS *e*PKPbc **pPKPbc 21 08 54.7 -0.8**
HAL Halifax 151.93 110 IAMs_20 IAMs_20 22 25 48.5
comp=Z,3μm,19.0s
ADZR Andozero 151.96 303 *e*PKIKP **PKPbc 21 08 51.8 -0.2**
ADZR pmax pmax
comp=Z,14nm,0.6s
NIE Niedzica 152.09 265 *e*PKP **PKPdf 21 08 41.4 -4.8**
VYHS Vyhne 152.14 262 *e*PKIKP **PKPdf 21 08 47.8 +1.5**
VYHS *e* 21 08 54.2
VYHS *e* 21 09 03.9
VYHS Vyhne 152.14 262 *e*PKP **PKPdf 21 08 47.8 +1.5**
VYHS *e* 21 08 54.2
VYHS *e* 21 09 03.9
NACGM Naroch 152.51 279 *e*PKP **PKPbc 21 08 50.9 -2.7**
comp=Z,32nm,1.1s,baz=125
SOKA Soboth 152.60 255 *e*PKP **PKPdf 21 08 46.7 -0.4**
comp=Z,12nm,1.5s
OBKA Obir 152.69 255 *e*PKP **PKPdf 21 08 46.9 -0.5**
comp=Z,7.1nm,1.5s
SABO M.te Sabotino 152.73 253 IAMs_20 IAMs_20 22 25 40.1
comp=Z,3μm,19.0s
ZST Bratislava 152.74 260 *e*PKP2 **PKPab 21 09 10.4 +5.1**
RONA Rosalia, Austr 152.76 258 *e*PKP **PKPdf 21 08 48.6 +1.3**
comp=Z,5.0nm,1.0s
ARSA Arzberg 152.79 257 *e*PKP **PKPdf 21 08 48.1 +0.7**
comp=Z,15nm,1.2s
OJC Ojcow 152.88 266 *e*PKP **PKPbc 21 08 54.0 -0.6**
OJC *e*SS SS 21 32 16.5 +5.3
JAVC Velka Javorina 152.95 261 *e*PKP **PKPdf 21 08 49.8 +2.2**
JAVC *e* 21 08 56.2
IIGN Ignalina 153.03 280 *e*P **PKiKP 21 09 00.1 +5.3**
PRED Cave del Predi 153.09 253 IAMs_20 IAMs_20 22 23 03.1
comp=Z,3μm,22.0s
RES Resolute Bay 153.10 33 **PKiKP 21 08 56.6 +2.1**
RES Resolute Bay 153.10 33 PKIKP **PKiKP 21 08 56.6 +2.1**
CONA Conrad Observa 153.13 258 *e*PKP **PKPdf 21 08 49.1 +1.2**
comp=Z,4.8nm,1.1s
EADA Adamuz 153.16 218 PKP **PKPdf 21 08 48.6 +0.4**
ISAL Salakas 153.20 280 *e*P **PKiKP 21 08 59.9 +4.7**
MYKA Terra Mystica 153.20 254 *e*PKP **PKPdf 21 08 48.9 +0.8**
comp=Z,4.2nm,1.0s
PBDV Barranco-do-Ve 153.21 212 *e*PKP **PKPdf 21 08 43.5 -4.8**
PBDV Barranco-do-Ve 153.21 212 *e*SS SS 21 32 19.7 +5.7
MAUC Maruska 153.22 262 AMS AMS 22 26 10.0
comp=Z,5μm,21.1s
MSSA Maissana 153.25 245 IAMs_20 IAMs_20 22 19 37.1
comp=Z,2μm,20.0s
PVAQ Vaqueiros 153.30 212 *e*PKP **PKPdf 21 08 48.4 0.0**
PVAQ Vaqueiros 153.30 212 *e*SS SS 21 32 13.6 -1.4
PVAQ Vaqueiros 153.30 212 *e*LR LR 22 03 07.4
comp=Z,4μm,20.0s
PVAQ Vaqueiros 153.30 212 IAMs_20 IAMs_20 22 15 16.5
comp=Z,2μm,20.0s
PFVI Vila Bisbo 153.32 210 *e*PKP **PKPdf 21 08 48.4 0.0**
PFVI Vila Bisbo 153.32 210 *e*SS SS 21 32 42.0 +27
OKC Ostrava-Krasne 153.40 263 *e*SS SS 21 32 15.8 -1.1
OKC AMS AMS 22 28 40.0
comp=Z,2μm,18.6s
CLUD Cludinico 153.42 253 IAMs_20 IAMs_20 22 22 20.6
comp=Z,3μm,21.0s
MORF Marmelete 153.44 211 *e*SS SS 21 32 31.4 +15
MORF Marmelete 153.44 211 *e*PKIKP **PKPdf 21 08 49.1 +0.5**
MORF Marmelete 153.44 211 *e*PKP **PKPdf 21 08 49.2 +0.5**
MORF IAMs_20 IAMs_20 22 13 23.2
comp=Z,8μm,17.4s
PCVE Castro Verde 153.60 212 *e*PKP **PKPbc 21 08 53.8 -2.8**
PCVE Castro Verde 153.60 212 *e*SS SS 21 32 33.5 +15
MORC Moravsky Berou 153.64 263 ⇑P **PKPbc 21 08 53.4 -2.9**
MORC Moravsky Berou 153.64 263 *e*PKP **PKPdf 21 08 48.3 -0.2**
MORC *e* 21 08 56.5
MORC Moravsky Berou 153.64 263 ⇑PKIKP **PKPbc 21 08 53.4 -2.9**
CTI Castel Tesino 153.66 250 **PKiKP 21 08 57.1 +0.4**
CTI Castel Tesino 153.66 250 PKIKP **PKiKP 21 08 57.1 +0.4**
CTI MLR MLR
comp=Z,4μm,22.0s
SUW Suwalki 153.68 275 *e*PKP **PKiKP 21 08 58.7 +2.5**
SUW *e*SS SS 21 33 17.2 +57
SUW Suwalki 153.68 275 *e*P **PKiKP 21 08 58.1 +1.9**
KRUC Moravsky 153.69 260 *e*PKP **PKPdf 21 08 49.6 +1.1**
PTEO Sao Teotonio 153.69 211 *e*PKP **PKPdf 21 08 51.8 +2.9**
VRAC Vranov 153.77 261 ⇓P **PKPbc 21 08 54.1 -2.5**
VRAC Vranov 153.77 261 *e*PKP **PKPdf 21 08 49.4 +0.7**
VRAC *e* 21 08 57.0
VRAC Vranov 153.77 261 PKP **PKPdf 21 08 45.5 -3.1**
comp=Z,1.6nm,0.8s,baz=297,slow=6.8,SNR=1.4
VRAC PKPab **PKPab 21 09 06.6 -3.0**
comp=Z,3.7nm,0.8s,baz=121,slow=3.5,SNR=6.5
ABTA Abfaltersbach 153.80 253 *i* PKP **PKPdf 21 08 49.0 +0.1**
comp=Z,10nm,1.1s
MOA Molln 153.81 256 *e*PKP **PKPdf 21 08 49.4 +0.6**
comp=Z,8.1nm,1.3s
SALO Salr 153.83 248 IAMs_20 IAMs_20 22 32 51.6
comp=Z,2μm,20.0s
PBAR Barrancos 153.85 214 *e*PKP **PKPdf 21 08 48.8 -0.3**
PBAR Barrancos 153.85 214 *e*SS SS 21 32 25.8 +4.7
PBEJ Beja 153.93 212 *e*PKP **PKPdf 21 08 52.7 +3.4**
BIOA Bad Ischl, Aus 153.99 255 *e*PKP **PKPdf 21 08 49.8 +0.7**
comp=Z,14nm,1.6s
PABE Paberze 154.18 279 *e*P **PKiKP 21 08 59.0 +1.8**
PNCL Nicolau / Gran 154.18 211 *e*PKP **PKPdf 21 08 51.9 +2.3**
PNCL Nicolau / Gran 154.18 211 *e*SS SS 21 32 32.0 +7.5
LESA Schwarzleotal 154.23 254 *e*PKP **PKPdf 21 08 49.0 -0.5**
comp=Z,3.1nm,1.3s
TREC Trest 154.28 260 *e*PKIKP **PKiKP 21 08 57.7 0.0**
TREC MLR MLR
comp=Z,3μm,20.2s
TREC Trest 154.28 260 *e*PKP **PKiKP 21 08 57.7 0.0**
TREC *e*SS SS 21 32 29.7 +3.2
TREC AMS AMS 22 27 50.0
comp=Z,3μm,20.2s
ES01 SONSECA Array 154.35 220 IAMs_20 IAMs_20 21 57 05.2
comp=Z,3μm,21.0s
ESDC Sonseca Array 154.36 220 PKP **PKPdf 21 08 46.0 -3.9**
comp=Z,0.2nm,0.5s,baz=20,slow=38,SNR=2.0
ESDC PKPbc **sPKPdf 21 08 55.0 +0.9**
comp=Z,6.6nm,1.1s,baz=148,slow=0.9,SNR=17
ESDC PKPab **PKPab 21 09 07.9 -4.5**
comp=Z,5.9nm,0.7s,baz=173,slow=1.6,SNR=12
PAB San Pablo 154.36 220 IAMs_20 IAMs_20 22 18 03.4
comp=Z,3μm,20.0s
PAB San Pablo 154.36 220 ⇑PKIKP **PKPdf 21 08 52.9 +3.0**
EVO Evora 154.44 213 *e*PKP **PKPdf 21 08 52.6 +2.6**
EVO Evora 154.44 213 PKP **PKPdf 21 08 48.1 -1.8**
VSU Vasula 154.45 286 *e*P **PKiKP 21 09 00.6 +2.9**
CKRC Cesky Krumlov 154.49 258 *e*PKIKP **PKPdf 21 08 53.6 +3.9**
CKRC *e*SS SS 21 32 30.4 +1.6
CKRC Cesky Krumlov 154.49 258 *e*PKP **PKPdf 21 08 53.6 +3.9**
CKRC *ex* x 21 09 05.1
CKRC *e*SS SS 21 32 30.4 +1.6
WTTA Wattenberg 154.59 252 *e*PKP **PKPdf 21 08 51.1 +0.9**
comp=Z,6.9nm,1.4s
DPC Dobruska-Polom 154.61 263 *e*PKIKP **PKiKP 21 09 03.4 +5.0**
DPC *e*SS SS 21 32 32.8 +2.6
DPC MLR MLR
comp=Z,2μm,19.7s
DPC Dobruska-Polom 154.61 263 *e*PKP **PKiKP 21 09 03.4 +5.0**
DPC *e*pPKP **pPKPab 21 09 16.8 +0.5**
DPC *e*SS SS 21 32 32.8 +2.6
DPC AMS AMS 22 27 50.0
comp=Z,2μm,19.7s
PESTR Estremoz 154.65 214 *e*PKP **PKPdf 21 08 50.0 -0.3**
PESTR Estremoz 154.65 214 *e*SS SS 21 32 35.9 +6.1
WATA Walderalm 154.67 252 *e*PKP **PKPdf 21 08 50.5 +0.3**
comp=Z,3.9nm,1.3s
FUORN Ofenpass-Fuorn 154.72 250 IAMs_20 IAMs_20 22 18 39.0
comp=Z,3μm,22.0s
LVZ Lovozero 154.74 310 IAMs_20 IAMs_20 22 18 05.3
comp=Z,3μm,22.0s
SQTA Sankt Quirin 154.75 252 *e*PKP **PKPdf 21 08 48.8 -1.5**
comp=Z,4.6nm,1.3s
GEC2 GERESS Array S 154.79 257 IAMs_20 IAMs_20 22 29 21.0
comp=Z,2μm,20.0s
GERES GERESS Array B 154.79 257 PKP **PKPdf 21 08 47.9 -2.3**
comp=Z,1.9nm,1.0s,baz=123,slow=3.6,SNR=2.1
GERES PKPbc **sPKPdf 21 08 55.3 +0.9**
comp=Z,0.5nm,0.5s,baz=174,slow=2.0,SNR=2.5
OSTC Ostas 154.80 263 *e*PKIKP **PKiKP 21 09 00.1 +1.4**
OSTC *e* 21 09 16.6
OSTC *e*SS SS 21 32 31.7 -0.5
OSTC MLR MLR
comp=Z,2μm,22.4s
OSTC Ostas 154.80 263 *e*PKP **PKiKP 21 09 00.1 +1.4**
OSTC *ex* x 21 09 16.6
OSTC *e*SS SS 21 32 31.7 -0.5
OSTC AMS AMS 22 25 20.0
comp=Z,2μm,22.4s
FETA Feichten 154.81 251 *e*PKP **PKPdf 21 08 48.2 -2.2**
comp=Z,7.2nm,1.5s
UPC Upice 154.86 262 *e*PKP2 **PKPab 21 09 18.2 +3.9**
UPC *e*SS SS 21 32 31.0 -1.8
UPC MLR MLR
comp=Z,3μm,21.5s
UPC Upice 154.86 262 *e*PKP **PKPab 21 09 18.2 +3.9**
UPC *e*SS SS 21 32 31.0 -1.8
UPC AMS AMS 22 25 10.0
comp=Z,3μm,21.5s
MOTA Moosalm 154.89 252 *e*PKP **PKPdf 21 08 49.5 -1.0**
comp=Z,6.9nm,1.5s
CHVC Chvalec 154.90 263 *e*PKP2 **PKPab 21 09 16.7 +2.3**
CHVC MLR MLR
comp=Z,2μm,22.9s
CHVC Chvalec 154.90 263 *e*PKP **PKPab 21 09 16.7 +2.3**
CHVC AMS AMS 22 25 10.0
comp=Z,2μm,22.9s
LIS Lisbon 154.91 211 *e*PKIKP **PKPdf 21 08 51.0 +0.5**
LIS Lisbon 154.91 211 *e*PKP **PKPdf 21 08 51.1 +0.5**
LIS IAMs_20 IAMs_20 22 13 25.4
comp=N,13μm,23.0s
KSP Ksiaz 154.96 263 *e*PKP **PKPdf 21 08 52.7 +2.4**
KSP *e*SS SS 21 32 40.1 +6.3
ZVC Zvikov 154.98 259 *e*PKP **PKPdf 21 08 52.3 +1.9**
ZVC *ex* x 21 09 07.1
ZVC AMS AMS 22 27 20.0
comp=N,3μm,19.7s
PMTG Montargil 155.00 213 *e*PKP **PKPdf 21 08 54.4 +3.7**
PMTG Montargil 155.00 213 *e*SS SS 21 32 44.2 +11
DAVOX Davos/Dischmat 155.01 249 PKP2 **PKPab 21 09 11.0 -4.2**
DAVOX Davos/Dischmat 155.01 249 PKPab **PKPab 21 09 11.0 -4.2**
comp=N,4.2nm,0.7s,baz=101,slow=20,SNR=3.6
GOPC GO Pecny, Ondr 155.03 260 *e*SS SS 21 32 34.3 -0.4
GOPC AMS AMS 22 25 20.0
comp=N,2μm,23.3s
KHC Kasperske Hory 155.05 258 *e*PKP PKPab 21 09 05.7 -9.5
KHC *ex* x 21 09 21.1
KHC *e*SS SS 21 32 28.6 -6.3
KHC AMS AMS 22 27 00.0
comp=N,3μm,20.2s
PMRV Marv??o 155.12 214 *e*PKP **PKPdf 21 08 50.6 -0.3**
PMRV Marv??o 155.12 214 *e*SS SS 21 32 39.7 +4.8
PMRV Marv??o 155.12 214 *e*LR LR 22 01 53.8
comp=N,5μm,18.0s
RETA Reutte 155.15 252 *e*PKP **PKPdf 21 08 50.1 -0.7**
comp=N,2.0nm,0.5s
PMAFR Mafra 155.16 211 *e*PKP **PKPdf 21 08 54.4 +3.4**
PMAFR Mafra 155.16 211 *e*SS SS 21 32 44.5 +9.2
PRU Pruhonice 155.20 260 *e*PKP2 **PKPab 21 09 16.1 +0.4**
PRU *e*SS SS 21 32 39.8 +3.4

PRU MLR MLR
comp=Z,2μm,19.5s
PRU Pruhonice 155.20 260 *e*PKP **PKPab 21 09 16.1 +0.4**
PRU *e*SS SS 21 32 39.8 +3.4
PRU AMS AMS 22 29 00.0
comp=Z,2μm,19.5s
PRA Prague 155.31 260 *e*SS SS 21 32 36.7 -0.9
PRA AMS AMS 22 29 00.0
comp=Z,2μm,18.9s
DAVA Damuels 155.40 250 *e*PKP **PKPdf 21 08 52.2 +1.0**
comp=Z,12nm,1.5s
PCBR Castelo Branco 155.53 215 *e*PKP **PKPdf 21 08 52.8 +1.4**
PVCC Panska Ves 155.56 261 *e*PKP PKPab 21 09 05.6 -12
PVCC *ex* x 21 09 21.7
PVCC AMS AMS 22 23 40.0
comp=Z,2μm,21.2s
RICC Richard 155.79 261 AMS AMS 22 23 20.0
comp=Z,3μm,21.2s
PCAS Casmilo, Conde 156.00 213 *e*PKP **PKPdf 21 08 56.0 +3.9**
PCAS Casmilo, Conde 156.00 213 *e*SS SS 21 32 59.0 +15
GKP Gorka Klasztor 156.06 269 *e*PKP **PKPdf 21 08 49.8 -1.8**
GKP Gorka Klasztor 156.06 269 *e*P **PKPdf 21 08 52.7 +1.1**
MTE Manteigas 156.07 215 *e*PKP **PKPdf 21 08 56.9 +4.7**
MTE Manteigas 156.07 215 *e*SS SS 21 32 51.9 +6.6
MTE Manteigas 156.07 215 *e*LR LR 22 02 23.5
comp=Z,7μm,20.0s
BRG Berggiesshubel 156.08 261 *e*PKP PKPdf 21 09 00.2 +8.5
BRG Amp 21 09 05.3
comp=Z,11nm,1.3s
BRG Berggiesshubel 156.08 261 P **PKPab 21 09 23.0 +3.5**
BRG Amp 21 09 24.3
comp=Z,27nm,1.7s
BRG Berggiesshubel 156.08 261 *e*PKIKP PKPdf 21 09 00.2 +8.4
BRG pmax pmax
comp=Z,11nm,1.3s
BRG pmax pmax
comp=Z,27nm,1.7s
BRG MLR MLR
comp=Z,3μm,21.6s
BRG MLR MLR
comp=N,2μm,23.2s
FINES FINESS Array B 156.09 292 PKP **PKPdf 21 08 50.3 -1.1**
comp=N,3.6nm,0.9s,baz=152,slow=6.3,SNR=3.9
COI Coimbra 156.12 213 *e*PKP **PKPdf 21 08 56.2 +4.0**
COI Coimbra 156.12 213 *e*SS SS 21 32 54.5 +8.9
SSB Saint Sauveur 156.13 240 IAms_20 IAms_20 22 21 51.3
comp=Z,2μm,20.0s
HSKC Hora Svate Kat 156.14 260 *e*SS SS 21 32 55.5 +8.8
HSKC AMS AMS 22 22 40.0
comp=Z,2μm,20.1s
PVIS Viseu 156.46 215 *e*PKP **PKPdf 21 08 56.9 +4.2**
GRA1 Grafenberg Arr 156.54 256 IAms_20 IAms_20 22 27 27.2
comp=Z,3μm,21.0s
GRFO Grafenberg 156.54 256 IAms_20 IAms_20 22 32 27.2
comp=Z,2μm,20.0s
MVO Moncorvo 156.64 217 *e*PKP **PKPdf 21 08 58.0 +5.1**
MVO Moncorvo 156.64 217 *e*SS SS 21 32 58.5 +7.1
MVO Moncorvo 156.64 217 *e*LR LR 22 02 54.8
comp=Z,5μm,20.0s
STU Stuttgart 156.81 252 IAms_20 IAms_20 22 32 09.3
comp=Z,2μm,20.0s
CLL Collm 156.81 261 IAms_20 IAms_20 22 27 18.5
comp=Z,2μm,20.0s
CLL Collm 156.81 261 *e*PKIKP **PKPdf 21 08 54.0 +1.3**
CLL *e* 21 13 02.0
CLL pmax pmax
comp=Z,14nm,1.7s
CLL pmax pmax
comp=Z,21nm,1.4s
CLL MLR MLR
comp=Z,2μm,20.9s
CLL Collm 156.81 261 *e*PKPdf **PKPdf 21 08 54.0 +1.3**
comp=Z,14nm,1.7s
CLL *i* PKPab **pPKPab 21 09 25.7 0.0**
comp=Z,21nm,1.4s
CLL *e*PP **PP 21 13 02.0 +0.4**
comp=Z,300nm,17.3s
CLL *e*SKKSac SKKSac 21 19 52.0 +2.5
CLL *e*PSKS 21 23 25.0
CLL *e*PPS PPS 21 26 16.0
CLL *ex* x 21 28 21.0
CLL *e*SS SS 21 33 05.0 +11
CLL *e*SSS SSS 21 38 36.0
CLL AMS AMS 22 29 00.0
comp=Z,2μm,20.9s
BFO Black Forest 156.87 250 IAms_20 IAms_20 22 26 36.9
comp=Z,3μm,20.0s
VADS Vadso 157.03 314 *e*PKPdf **PKPdf 21 08 50.6 -1.7**
VADS *e*PKPab **PKPab 21 09 20.8 -2.2**
VADS *e*SS SS 21 32 54.3 -1.3
POLO Lamas de Olo 157.05 215 *e*PKP **PKPdf 21 08 56.9 +3.4**
POLO Lamas de Olo 157.05 215 *e*SS SS 21 33 02.6 +6.7
PBRG Braganca 157.15 218 *e*PKP **PKPdf 21 08 55.6 +2.1**
PBRG Braganca 157.15 218 *e*SS SS 21 33 04.6 +7.7
ALE Alert 157.17 12 IAms_20 IAms_20 22 34 30.8
comp=Z,3μm,22.0s
ECH Echery 157.31 248 IAms_20 IAms_20 22 24 13.5
comp=Z,2μm,20.0s
PGAV Gavieira, Arco 157.73 215 *e*PKP **PKPdf 21 08 55.6 +1.3**
PGAV Gavieira, Arco 157.73 215 *e*SS SS 21 33 08.7 +5.6
PGAV Gavieira, Arco 157.73 215 *e*LR LR 22 03 17.1
comp=Z,6μm,18.0s
KEV Kevo 157.80 313 *e*PKPab **PKPab 21 09 25.1 -1.2**
HOPEN Hopen 157.86 331 *e*PKPdf **PKPdf 21 08 51.9 -1.4**
HOPEN *e*SS SS 21 33 01.2 -3.0
ARA0 ARCESS Array S 158.30 313 *e*PKPdf **PKPdf 21 08 55.9 +1.8**
ARA0 *e*PKPab **PKPab 21 09 28.7 +0.1**
ARA0 *e*PP **PP 21 13 10.0 +0.4**
ARA0 *e*SS SS 21 33 09.4 +0.1
ARCES ARCESS Array B 158.30 313 PKPab **PKPab 21 09 26.5 -2.1**
comp=Z,8.6nm,0.7s,baz=65,slow=5.8,SNR=9.0
HEF Hetta 158.87 309 *e*PKPab **PKPab 21 09 30.4 -0.6**
HAMF Hammerfest 158.97 316 *e*PKPdf **PKPdf 21 08 55.3 +0.6**
HAMF IVmBBB 21 09 03.8
comp=Z,939nm,2.9s
HAMF *e*PKPab **PKPab 21 09 31.4 +0.1**
HAMF *e*PP **PP 21 13 15.2 +2.1**
HAMF *e*SS SS 21 33 17.7 +1.5
SPA0 Spitsbergen Ar 159.05 337 *e*PKPdf **PKPdf 21 08 55.3 +0.6**
SPA0 IVmB_BB 21 09 36.5
comp=Z,981nm,3.4s
SPA0 *e*SS SS 21 33 16.9 +0.1
SPITS Spitsbergen Ar 159.05 337 PKPab **PKPab 21 09 28.8 -2.8**
comp=Z,8.2nm,0.8s,baz=46,slow=8.3,SNR=2.5
KTK1 Kautokeino 159.07 311 *e*PKPdf **PKPdf 21 08 56.3 +1.4**
KTK1 *e*PKPab **PKPab 21 09 31.8 -0.1**
KTK1 *e*PP **PP 21 13 10.3 -3.4**
KTK1 *e*SS SS 21 33 18.5 +1.0
KBS Kingsbay 159.41 341 *e*PKPdf **PKPdf 21 08 56.1 +1.0**
KBS *e* 21 13 10.8
KBS *e*SS SS 21 33 20.8 +0.3
NOR Nord 159.90 356 *i* P **PKPab 21 09 34.3 -1.0**
NOR IAmb IAmb 21 09 40.2
comp=Z,5.1nm,0.9s
JETT Jettan, Norway 160.09 312 *e*pPKPdf **pPKPdf 21 09 01.3 +1.9**
JETT *e*PKPab **PKPab 21 09 37.0 +0.6**
JETT *e*PP **PP 21 13 17.6 -1.7**
JETT *e*SS SS 21 33 26.6 -1.7
TRO Tromso 160.61 313 *e*PKPdf **PKPdf 21 08 57.8 +1.2**
TRO *e*PKPab **PKPab 21 09 38.4 -0.2**
TRO IVmB_BB 21 09 42.4
comp=Z,992nm,3.4s
TRO *e*PP **PP 21 13 24.4 +2.4**
TRO *e*SS SS 21 33 33.4 -0.2
HFS Hagfors 161.20 283 PKP2 **PKPab 21 09 40.0 -1.4**
HFS Hagfors 161.20 283 PKPab **PKPab 21 09 40.0 -1.4**
comp=Z,9.3nm,0.8s,baz=113,slow=13,SNR=5.5
FAUS Fauske 161.97 306 *e*PKPdf **PKPdf 21 09 00.9 +2.8**
FAUS IVmB_BB 21 09 01.7
comp=Z,509nm,3.8s
FAUS *e*PKPab **PKPab 21 09 44.2 -0.4**
FAUS *e*PP **PP 21 13 31.2 +1.8**
FAUS *e*SS SS 21 33 50.9 +2.9
STEI Steigen 161.99 307 *e*PKPdf **PKPdf 21 08 58.6 +0.4**
STEI *e*PKPab **PKPab 21 09 44.7 +0.1**
STEI *e*PP **PP 21 13 30.4 +0.9**
STEI *e*SS SS 21 33 50.9 +2.7
NEEM North Greenlan 162.15 18 *i* P **PKPab 21 09 43.6 -2.0**
NEEM IAmb IAmb 21 10 01.7
comp=Z,13nm,0.8s
MOR8 Moi Rana 162.25 302 *e*PKPdf **PKPdf 21 08 59.5 +1.0**
MOR8 *e*PKPab **PKPab 21 09 45.7 -0.2**
MOR8 *e*PP **PP 21 13 32.7 +1.7**
MOR8 *e*SS SS 21 33 50.7 -0.4
NC602 NORSAR Array S 162.41 283 *e*PKPdf **PKPdf 21 08 58.1 -0.7**
NC602 *e*SKPdf **SKPdf 21 12 30.4 +0.4**
NC602 *e*SS **SS 21 33 56.6 +3.7**
LOF Lofoten 162.63 308 *e*PKPdf **PKPdf 21 08 59.9 +1.1**
LOF *e*PP **PP 21 13 36.1 +3.2**
LOF *e*SS SS 21 33 57.6 +2.9
NB2 NORSAR Subarra162.66 284 PKPdf **PKPdf 21 08 59.9 +0.8**
comp=Z,42nm,2.5s,baz=108
NB2 PKP **pPKPab 21 09 50.5 -0.5**
comp=Z,0.9nm,0.7s,baz=107,slow=4.8
NB2 NORSAR Subarra162.66 284 PKPdf **PKPdf 21 08 59.9 +0.8**
baz=108
NOA NORSAR Array B 162.66 284 PKP **PKPdf 21 08 58.0 -1.1**
comp=Z,1.7nm,1.0s,baz=97,slow=1.1,SNR=3.8
NOA PKPab **PKPab 21 09 47.6 -0.2**
comp=Z,2.3nm,1.0s,baz=102,slow=4.5,SNR=4.5
KONS Konsvik 162.80 303 *e*PKPab **PKPab 21 09 49.4 +1.2**
HOMB Homborsund 162.89 273 *e*PKPdf **PKPdf 21 09 00.9 +1.6**
HOMB *e*SS SS 21 34 00.1 +2.3
KONO Kongsberg 162.94 279 *e*PKPdf **PKPdf 21 09 00.3 +0.9**
KONO *e*PP **PP 21 13 32.2 -2.5**
KONO *e*SS SS 21 34 00.2 +1.8
NSS Namsos 163.11 296 *e*PKPab **PKPab 21 09 51.4 +1.8**
SKAR Skarslia 163.90 281 *e*PKPdf **PKPdf 21 09 01.1 +0.8**
SKAR *e*PP **PP 21 13 40.7 +0.8**
SKAR *e*SS SS 21 34 10.8 +2.3
SKAR *e* 21 40 25.3
DOMB Dombas 163.93 286 *e*PKPdf **PKPdf 21 09 01.5 +1.2**
BLS5 Blasjo 164.34 276 *e*PKPdf **PKPdf 21 09 01.5 +0.8**
BLS5 *e*PP **PP 21 13 42.1 -0.1**
ODD1 Odda 164.43 277 *e*PKPdf **PKPdf 21 09 01.0 +0.2**
ODD1 *e*PP **PP 21 13 42.4 -0.3**
ODD1 *e*SS SS 21 34 20.2 +6.3
ODD1 *e* 21 40 28.7
DAG Danmarks Havn 164.73 354 *i* P **PKPab 21 09 55.0 -1.5**
DAG IAmb IAmb 21 10 00.8
comp=Z,15nm,0.8s
BER Bergen 165.20 278 *e*SS SS 21 34 24.4 +2.8
FOO Floro 165.68 283 IVmB_BB 21 09 11.2
comp=Z,1μm,4.0s
EKA Eskdalemuir Ar 166.84 251 PKPab **PKPab 21 10 06.3 -0.1**
comp=Z,2.3nm,0.8s,baz=117,slow=5.1,SNR=9.6
SUMG Summit 168.01 19 *i* P **PKPab 21 10 11.0 -0.6**
SUMG IAmb IAmb 21 10 15.7
comp=Z,6.2nm,0.9s
ICESG Greenland Ices 170.52 33 *i* P **PKPab 21 10 20.6 -2.1**

*IDC **08** 20:56:25.4±1.0, 6°.45S×153°.84E, h0km, mb4.1/7, mbtmp4.2/10, ML2.0/1, Error ellipse: s-maj=24.5km s-min=19.4km az=59.0*
ISC 08 20:56:31.7±0.8, 6°.48S±0°.10×153°.85E±0°.09, h48km, n15, σ1°.07/14, mb4.1/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.82**	**320**	Pn	**Pn**	**20 57 13.3**	**-0.9**
	161nm,0.6s,baz=109,slow=1.0,SNR=21						
HNR	**Honiara**	**6.71**	**116**	Pn	**Pn**	**20 58 07.1**	**-0.6**
	17nm,0.3s,baz=225,slow=7.1,SNR=12						
PMG	**Port Moresby**	**7.24**	**246**	P	**Pn**	**20 58 13.2**	**-1.7**
PMG	**Port Moresby**	**7.24**	**246**	Pn	Pn	20 58 10.5	-4.4
	1.3nm,0.3s,baz=178,slow=5.0,SNR=18						
PMG				Sn	**Sn**	**20 59 36.0**	**+0.2**
	0.8nm,0.3s,baz=68,slow=15,SNR=1.0						
	68nm,0.8s						
PMG	**Port Moresby**	**7.24**	**246**	P	**P**	**20 58 13.0**	**+1.2**
DZM	**Mont Dzumac**	**19.71**	**143**	P	**P**	**21 00 57.8**	**+0.5**
	5.8nm,0.7s,baz=243,slow=6.5,SNR=6.6						
WRA	**Warramunga Arr**	**23.20**	**233**	P	**P**	**21 01 34.7**	**+0.1**
	6.1nm,0.8s,baz=54,slow=9.9,SNR=7.7						
	6.1nm,0.8s						
ASAR	**Alice Springs**	**25.68**	**226**	P	**P**	**21 01 57.9**	**+0.4**
	5.2nm,1.0s,baz=57,slow=9.4,SNR=10.0						
	5.2nm,1.0s						
STKA	**Stephens Creek**	**27.74**	**203**	P	**P**	**21 02 17.0**	**+1.1**
	4.1nm,0.9s,baz=36,slow=15,SNR=4.0						
	4.1nm,0.9s						
KSRS	**Korea Array**	**49.96**	**333**	P	**P**	**21 05 20.4**	**-0.5**
	0.6nm,0.7s,baz=148,slow=8.5,SNR=2.6						
	0.6nm,0.7s						
XAN	**Xi'an**	**58.55**	**317**	S	S	21 14 34.5	+10
CMAR	**Chiang Mai Arr**	**59.53**	**296**	P	**P**	**21 06 32.9**	**+2.2**
	1.9nm,1.0s,baz=108,slow=4.5,SNR=4.3						
	1.9nm,1.0s						
MKAR	**Makanchi Array**	**82.27**	**319**	P	**P**	**21 08 47.7**	**-0.5**
	1.4nm,0.8s,baz=176,slow=1.7,SNR=1.0						
	1.4nm,0.8s						
QSPA	**South Pole Qui**	**83.49**	**180**	P	**P**	**21 08 54.2**	**0.0**
	2.7nm,0.7s,baz=342,slow=1.5,SNR=11						
	2.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.79**	**286**	PKPbc	**PKPbc**	**21 16 21.8**	**-0.4**
	2.1nm,0.7s,baz=50,slow=3.0,SNR=10						

*IDC **08** 21:41:31.0±2.3, 17°.62S×178°.34W, h647km±19km, mb3.0/5, mbtmp4.0/7, Error ellipse: s-maj=85.6km s-min=21.0km az=148.0*
ISC 08 21:41:31.3±1.5, 17°.5S±0°.5×178°.4W±0°.4, h650km, n12, σ0°.95/14, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.35**	**265**	P	**P**	**21 42 56.4**	**-0.2**
	19nm,0.6s,baz=152,slow=3.6,SNR=26						
DZM	**Mont Dzumac**	**14.94**	**250**	P	**P**	**21 44 37.2**	**+0.1**
	2.4nm,0.6s,baz=98,slow=18,SNR=4.0						
STKA	**Stephens Creek**	**38.81**	**241**	P	**P**	**21 48 03.4**	**+0.1**
	1.5nm,0.5s,baz=75,slow=16,SNR=3.2						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**44.68**	**259**	P	**P**	**21 48 50.0**	**+0.7**
	2.0nm,0.3s,baz=96,slow=7.6,SNR=189						
WRA				PcP	**PcP**	**21 50 17.4**	**+0.3**
	0.1nm,0.3s,baz=92,slow=3.8,SNR=4.8						
	2.0nm,0.3s						
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**21 48 51.4**	**+0.6**
	6.1nm,0.6s,baz=92,slow=7.7,SNR=68						
ASAR				PcP	**PcP**	**21 50 17.7**	**-0.1**
	0.7nm,0.4s,baz=102,slow=3.9,SNR=6.9						
	6.1nm,0.6s						
ILAR	**Eielson Array**	**85.47**	**13**	P	**P**	**21 53 02.7**	**+0.8**
	0.2nm,0.5s,baz=221,slow=4.8,SNR=2.3						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**85.79**	**58**	P	**P**	**21 53 05.2**	**+0.8**
	0.5nm,0.7s,baz=202,slow=4.5,SNR=5.1						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**116.49**	**321**	PKP	**PKPdf**	**21 59 02.7**	**-0.1**
	0.3nm,0.3s,baz=102,slow=1.8,SNR=5.2						
ARCES	**ARCESS Array B 125.89**	**350**		PKP	**PKPdf**	**21 59 20.5**	**+0.1**
	2.8nm,1.0s,baz=46,slow=3.5,SNR=4.2						
BRTR	**Keskin Array B**	**144.45**	**315**	PKP	**PKPdf**	**21 59 53.2**	**-2.5**
	0.5nm,0.6s,baz=80,slow=4.1,SNR=2.0						
MMAI	**Mount Meron Ar**	**145.88**	**303**	PKPbc	**PKiKP**	**22 00 02.1**	**-0.6**
	0.7nm,0.4s,baz=90,slow=6.3,SNR=2.5						
GERES	**GERESS Array B 147.19**	**345**		PKPbc	**PKPbc**	**22 00 02.4**	**-0.9**
	0.4nm,0.3s,baz=36,slow=7.3,SNR=5.8						

*JMA **08** 21:43:24.3±0.2, 25°.0N±0°.6×123°.5E±0°.3, h19km±4km, MV3.0/9, NW OFF ISHIGAKIJIMA IS*
*IDC **08** 21:43:27.0±1.5, 24°.32N×122°.84E, h0km, mb3.6/4, mbtmp3.6/5, Error ellipse: s-maj=65.4km s-min=25.0km az=64.0*
ISC 08 21:43:24.8±1.2, 24°.95N±0°.08×123°.51E±0°.04, h10km, n13, σ0°.58/19, mb3.6/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.64**	**162**	P	**Pg**	**21 43 37.4**	**+0.1**
IRIF				*e*S	**Sg**	**21 43 46.7**	**+1.0**
YOJ	**Yonaguni jima**	**0.67**	**223**	P	**Pg**	**21 43 37.2**	**-0.4**
YOJ				*e*S	**Sg**	**21 43 46.1**	**-0.3**
JYNG	**Yonagunijimaku**	**0.72**	**226**	P	**Pg**	**21 43 38.1**	**-0.5**
JYNG				S	**Sg**	**21 43 47.9**	**0.0**
JISG	**Ishigakijimahi**	**0.81**	**116**	P	**Pg**	**21 43 40.0**	**-0.4**
JISG				*e*S	**Sg**	**21 43 51.6**	**+0.5**
JIJ	**Ishigaki jima**	**0.82**	**135**	P	**Pg**	**21 43 40.0**	**-0.5**
JIJ				*e*S	**Sg**	**21 43 51.0**	**-0.3**
JKRS	**Kuro-shima**	**0.84**	**147**	P	**Pg**	**21 43 40.8**	**-0.2**
JKRS				S	**Sg**	**21 43 52.5**	**+0.5**
HATJ	**Hateruma jima**	**0.93**	**163**	P	**Pg**	**21 43 42.2**	**-0.5**
HATJ				*e*S	**Sg**	**21 43 55.0**	**+0.2**
JTJ	**Tarama**	**1.12**	**106**	P	**Pb**	**21 43 45.6**	**-0.7**
JTJ				S	**Sb**	**21 44 00.3**	**-0.7**
KSRS	**Korea Array**	**13.02**	**16**	Pn	Pn	21 46 42.7	+13
	1.0nm,0.8s,baz=196,slow=13,SNR=5.9						
MKAR	**Makanchi Array**	**39.29**	**314**	P	P	21 50 59.2	+5.4
	0.3nm,0.6s,baz=104,slow=10,SNR=1.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**45.85**	**166**	P	**P**	**21 51 47.0**	**-0.2**
	0.8nm,0.8s,baz=342,slow=8.1,SNR=4.7						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**49.37**	**167**	P	**P**	**21 52 15.3**	**+0.6**
	0.5nm,0.9s,baz=343,slow=7.8,SNR=2.4						
	0.5nm,0.9s						
GEYT	**Alibeck**	**56.24**	**300**	P	**P**	**21 53 06.5**	**+1.0**
	0.7nm,0.5s,baz=72,slow=6.7,SNR=3.6						
	0.7nm,0.5s						

*IDC **08** 21:59:28.8±7.9, 0°.21N×123°.88E, h136km±76km, mb3.1/4, mbtmp3.6/5, Error ellipse: s-maj=98.6km s-min=20.9km az=69.0*
*DJA **08** 21:59:29.1±0.4, 0°.S±4°.×12°.4E±°, h84km±13km, M4.2/11, mb4.4/2, mB5.4/2, MLv4.1/11, Mw(mB)4.8/2, MwMwp5.1/1, Mwp5.3/1*
ISC 08 21:59:26.7±0.8, 0°.10N±0°.09×123°.84E±0°.06, h110km, n14, σ2°.27/19, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.56**	**223**	P	**Pn**	**21 59 56.6**	**+2.4**
MRSI	**Marisa**	**1.93**	**281**	P	**Pn**	**21 59 59.6**	**+0.8**
SANI	**Sanana**	**3.03**	**135**	P	**Pn**	**22 00 12.1**	**-1.0**
SANI				S	**Sn**	**22 00 46.1**	**-2.8**
TNTI	**Ternate**	**3.59**	**79**	S	**Sn**	**22 01 06.0**	**+3.7**
LBMI	**Labuha**	**3.74**	**101**	P	**Pn**	**22 00 24.4**	**+1.9**
LBMI				S	**Sn**	**22 01 07.2**	**+1.5**
MPSI	**Mapaga**	**3.95**	**273**	P	**Pn**	**22 00 28.7**	**+3.4**
NLAI	**Namlea**	**4.65**	**136**	P	**Pn**	**22 00 36.0**	**+1.2**
NLAI				S	**Sn**	**22 01 27.5**	**-0.3**
TTSI	**Tana Toraja**	**5.09**	**232**	P	**Pn**	**22 00 44.5**	**+3.8**
	39nm,0.8s,4μm11μm0.2nm						
SIJI	**Sorong**	**7.49**	**97**	P	**Pn**	**22 01 16.3**	**+3.0**
	5.7nm,0.3s,baz=253,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**22.42**	**153**	P	**P**	**22 04 15.6**	**-0.8**
	1.4nm,0.6s,baz=334,slow=10,SNR=20						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**25.57**	**158**	P	**P**	**22 04 47.0**	**+1.4**
	0.3nm,0.4s,baz=350,slow=15,SNR=5.4						
ASAR				PcP	**PcP**	**22 08 14.0**	**-0.2**
	0.4nm,0.7s,baz=349,slow=3.0,SNR=2.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.97**	**328**	P	**P**	**22 09 13.7**	**-1.0**
	0.3nm,0.4s,baz=129,slow=8.1,SNR=5.2						
MKAR				PcP	**PcP**	**22 10 01.2**	**-1.4**
	0.2nm,0.4s,baz=133,slow=4.2,SNR=5.3						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**68.83**	**329**	P	**P**	**22 10 17.1**	**-2.1**
	0.4nm,0.7s,baz=122,slow=6.2,SNR=1.8						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**121.19**	**285**	PKP	**PKPdf**	**22 18 06.7**	**-1.1**
	0.3nm,0.7s,baz=62,slow=3.4,SNR=2.0						

*NEIC **08** 22:14:45.4±1.5, 32°.82N±0°.06×27°.32E±0°.08, h10km±1km, mb4.1/34, Error ellipse: s-maj=12.2km s-min=10.9km az=106.0*
*IDC **08** 22:14:45.1±1.1, 33°.02N×27°.42E, h0km, mb3.9/13, mbtmp4.0/28, ML4.1/13, Error ellipse: s-maj=22.0km s-min=12.8km az=9.0*
*NIC **08** 22:14:46.9, 32°.82N×27°.45E, h65km±31km, Ml4.5/12*
*ISK **08** 22:14:48.4, 33°.02N×27°.53E, h32km, ML4.8/27*
*GII **08** 22:14:53.0±0.0, 32°.84N×28°.14E, h2km, mb4.4/8, MD4.2/8*
*THE **08** 22:14:55.7, 33°.27N×27°.32E, h61km±3km, ML4.4/18, Error ellipse: s-maj=3.4km s-min=1.2km az=158.0*
ISC 08 22:14:45.7±1.0, 32°.93N±0°.05×27°.36E±0°.04, h17km±6km, n354, σ2°.37/414, mb4.0/20, 3C-14D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**2.37**	**337**	P	**Pb**	**22 15 27.1**	**-0.8**
ZKR				S	**Sn**	**22 15 49.9**	**-2.6**
	855nm,0.5s						
ZKR	**Zakros**	**2.37**	**337**	P	**Pb**	**22 15 26.9**	**-1.0**
ZKR				S	**Sb**	**22 15 56.7**	**-0.2**
ZKR				AML	AML	22 15 57.4	
	1.1nm,0.6s						
ZKR				AML	AML	22 16 00.1	
	1.9nm,0.5s						
FRMA	**Ierapetra Chan**	**2.48**	**327**	P	**Pb**	**22 15 28.7**	**-1.0**
FRMA				S	**Sn**	**22 15 53.4**	**-1.6**
	802nm,0.4s						
KARP	**Karpathos**	**2.61**	**356**	P	**Pb**	**22 15 30.5**	**-1.5**
KARP	**Karpathos**	**2.61**	**356**		**Pb**	**22 15 29.9**	**-2.1**
KARP				Sn	**Sn**	**22 16 01.3**	**+2.9**
KARP	**Karpathos**	**2.61**	**356**	P	**Pb**	**22 15 30.7**	**-1.3**
KARP				S	**Sb**	**22 16 02.2**	**-1.6**
KARP				AML	AML	22 16 02.6	
	1.9nm,0.3s						
KARP				AML	AML	22 16 06.7	
	1.7nm,0.3s						
KARP	**Karpathos**	**2.61**	**356**	P	**Pb**	**22 15 30.8**	**-1.2**
HRKL	**Herakleio**	**3.02**	**322**	Pn	**Pb**	**22 15 36.6**	**-2.4**
HRKL				Sn	**Sn**	**22 16 10.3**	**+1.9**
HRKL	**Herakleio**	**3.02**	**322**	P	**Pb**	**22 15 36.5**	**-2.4**
TMBK	**Timbaki Herakl**	**3.03**	**315**	P	**Pb**	**22 15 37.0**	**-2.1**
IDI	**Anoyia**	**3.12**	**320**	||P	**Pb**	**22 15 38.5**	**-2.1**
IDI	**Anoyia**	**3.12**	**320**	Pn	**Pn**	**22 15 37.4**	**+3.4**
IDI				Sn	**Sn**	**22 16 12.4**	**+1.5**
IDI	**Anoyia**	**3.12**	**320**	P	**Pb**	**22 15 38.1**	**-2.5**
IDI				S	**Sn**	**22 16 11.9**	**+1.0**
	1μm,0.5s						
IDI	**Anoyia**	**3.12**	**320**	Pn	**Pb**	**22 15 37.7**	**-2.9**
IDI	**Anoyia**	**3.12**	**320**	P	**Pb**	**22 15 37.8**	**-2.8**
IDI	**Anoyia**	**3.12**	**320**	Pn	**Pn**	**22 15 37.3**	**+3.3**
	12nm,0.3s,baz=174,slow=12,SNR=121						
IDI				Sn	**Sn**	**22 16 10.1**	**-0.8**
	108nm,0.3s,baz=316,slow=18,SNR=20						
	21nm,0.3s						
GVD	**Gavdhos**	**3.32**	**306**	Pn	**Pn**	**22 15 40.6**	**+3.8**
GVD				Sn	**Sn**	**22 16 18.1**	**+2.3**
GVD	**Gavdhos**	**3.32**	**306**	P	**Pb**	**22 15 40.8**	**-3.2**
GVD				S	**Sn**	**22 16 16.7**	**+0.9**
	3μm,0.4s						
OSC1	**CSNet OBS 1**	**3.33**	**79**	P	**Pn**	**22 15 40.0**	**+3.1**
OSC1				S	**Sn**	**22 16 16.0**	**-0.1**
ARG	**Arkhangelos**	**3.33**	**11**	Pn	**Pn**	**22 15 38.1**	**+1.1**
ARG				Sn	**Sn**	**22 16 14.9**	**-1.3**
ARG	**Arkhangelos**	**3.33**	**11**	P	**Pn**	**22 15 40.2**	**+3.2**
ARG	**Arkhangelos**	**3.33**	**11**		**Pn**	**22 15 39.9**	**+2.9**
ARG	**Arkhangelos**	**3.33**	**11**	P	**Pn**	**22 15 40.0**	**+3.0**
ARG				S	**Sn**	**22 16 19.4**	**+3.2**
ARG				AML	AML	22 16 21.0	
	1.2nm,0.2s						
ARG				AML	AML	22 16 22.5	
	2.0nm,0.4s						
PRNS	**Prines Rethymn**	**3.39**	**316**	P	**Pb**	**22 15 42.5**	**-2.7**
PRNS				S	**Sn**	**22 16 20.0**	**+2.5**
	610nm,0.7s						
IMMV	**Iera Moni Meta**	**3.77**	**313**	Pn	**Pn**	**22 15 46.6**	**+3.7**
IMMV	**Iera Moni Meta**	**3.77**	**313**	P	**Pn**	**22 15 47.3**	**+4.4**
SANT	**Santorini**	**3.77**	**336**	||P	**Pn**	**22 15 45.3**	**+2.3**
SANT	**Santorini**	**3.77**	**336**	P	**Pn**	**22 15 45.3**	**+2.3**
SANT				S	**Sn**	**22 16 25.1**	**-1.9**
	952nm,0.3s						
SANT	**Santorini**	**3.77**	**336**		**Pn**	**22 15 45.2**	**+

RODP Rodopos 3.97 312 P **Pn** **22 15 50.0 +4.3**
DALY Dalyan (Mula) 4.02 15 Pn **Pn** **22 15 48.5 +2.1**
DALY Sn **Sn** **22 16 31.2 -1.8**
BODT Bodrum 4.12 359 Pn **Pn** **22 15 50.0 +2.3**
BODT Bodrum 4.12 359 P **Pn** **22 15 50.1 +2.3**
OSC2 CSNet OBS 4 4.13 87 P **Pn** **22 15 48.3 +0.4**
OSC2 S **Sn** **22 16 34.2 -1.5**
YER Yerkesik 4.26 10 P **Pn** **22 15 52.7 +2.9**
CAME Cameli-Denizli 4.31 21 Pn **Pn** **22 15 51.3 +0.8**
ELL Elmali 4.34 28 Pn **Pn** **22 15 53.2 +2.2**
ELL Elmali 4.34 28 Pn **Pn** **22 15 53.8 +2.8**
ELL Elmali 4.34 28 P **Pn** **22 15 53.5 +2.5**
ELL S **Sn** **22 16 43.3 +2.0**
APE Apeiranthos 4.39 341 ⇑P **Pn** **22 15 53.8 +2.3**
APE Apeiranthos 4.39 341 Pn **Pn** **22 15 53.9 +2.4**
APE Apeiranthos 4.39 341 P **Pn** **22 15 53.3 +1.8**
APE S **Sn** **22 16 39.6 -2.7**
622nm,0.2s
ANKY Antikythira Is 4.45 312 P **Pn** **22 15 56.7 +4.4**
ANKY S **Sn** **22 16 44.2 +0.5**
1µm,0.5s
MHLO Agia Marina, M 4.47 328 P **Pn** **22 15 55.1 +2.6**
MHLO S **Sn** **22 16 42.1 -2.0**
2µm,0.4s
AKMS Akamas 4.63 62 P **Pn** **22 15 55.4 +0.6**
AKMS AML AML 22 16 46.8
1.8nm,0.3s
AKMS AML AML 22 16 48.9
1.0nm,0.2s
NATA Nata 4.71 66 P **Pn** **22 15 56.9 +1.0**
NATA AML AML 22 16 51.8
1.9nm,0.3s
NATA AML AML 22 16 52.5
2.1nm,0.4s
GCAM G?zelcaml? 4.76 359 Pn **Pn** **22 15 59.1 +2.6**
SMG Samos 4.78 355 P **Pn** **22 15 59.3 +2.4**
ANTB Antalya 4.79 33 Pn **Pn** **22 15 59.1 +2.1**
APMY Acipayam-Deniz 4.80 19 Pn **Pn** **22 15 59.4 +2.2**
KTHA Kythira Island 4.85 314 P **Pn** **22 16 00.8 +2.9**
KTHA S **Sn** **22 16 52.2 -1.4**
1µm,0.3s
ALFC Alefka 4.88 62 P **Pn** **22 15 58.8 +0.5**
ALFC AML AML 22 16 52.3
1.3nm,0.2s
ALFC AML AML 22 16 55.3
1.2nm,0.4s
TROD Troodos 5.00 65 P **Pn** **22 16 00.1 0.0**
TROD AML AML 22 17 00.3
1.0nm,0.4s
TROD AML AML 22 17 01.9
0.9nm,0.4s
AKDN Akdeniz- Kıbrı 5.22 62 Pn **Pn** **22 16 04.5 +1.7**
BCK Bucak 5.23 29 Pn **Pn** **22 16 04.4 +1.2**
ASGA Asgata 5.24 68 P **Pn** **22 16 04.4 +1.2**
ASGA AML AML 22 16 59.8
2.5nm,0.5s
ASGA AML AML 22 17 03.5
1.3nm,0.3s
VLI Veliai 5.24 317 P **Pn** **22 16 05.3 +2.1**
VLI S **Sn** **22 16 59.9 -3.3**
850nm,0.3s
GAZI Gazipasa 5.25 50 Pn **Pn** **22 16 03.8 +0.5**
CSS Mathiatis 5.36 66 Pn **Pn** **22 16 05.7 +0.8**
CSS Mathiatis 5.36 66 Pn **Pn** **22 16 06.0 +1.1**
CSS Mathiatis 5.36 66 P **Pn** **22 16 05.9 +1.1**
CSS AML AML 22 17 06.1
0.7nm,0.5s
CSS AML AML 22 17 08.4
0.7nm,0.5s
CSS Mathiatis 5.36 66 P **Pn** **22 16 06.4 +1.5**
BASM Basmaki-Afyon 5.44 23 Pn **Pn** **22 16 07.2 +1.2**
ATHAL Athalassa 5.47 65 P **Pn** **22 16 08.3 +1.9**
ATHAL S **Sn** **22 17 09.5 +0.5**
ATHAL AML AML 22 17 12.2
1.1nm,0.5s
ATHAL AML AML 22 17 17.9
1.2nm,0.5s
CHOS Chios island 5.54 349 P **Pn** **22 16 09.3 +1.9**
MVOU Mavrovouni 5.61 67 P **Pn** **22 16 09.6 +1.4**
MVOU AML AML 22 17 11.7
0.6nm,0.7s
MVOU AML AML 22 17 15.9
0.5nm,0.4s
KRND KRANIDI 5.62 323 P **Pn** **22 16 10.4 +2.0**
KRND S **Sn** **22 17 09.5 -3.0**
598nm,0.4s
KULA Kula-Manisa 5.67 10 P **Pn** **22 16 10.8 +1.7**
KULA S **Sn** **22 17 08.6 -5.2**
VLY Voula,Athens 5.71 330 P **Pn** **22 16 12.1 +2.5**
ATHU Athens Univers 5.81 331 P **Pn** **22 16 13.5 +2.5**
HDMB Hadim 5.82 45 Pn **Pn** **22 16 12.7 +1.3**
ATH Athens Observa 5.84 330 P **Pn** **22 16 14.0 +2.6**
BERE Bereket-Mersin 5.91 53 Pn **Pn** **22 16 14.2 +1.6**
PARAL Paralimni 5.92 68 P **Pn** **22 16 14.4 +1.8**
PARAL AML AML 22 17 21.8
0.3nm,0.6s
PARAL AML AML 22 17 24.5
0.3nm,0.4s
AKK1 Akkuyu-Mersin 6.02 56 Pn **Pn** **22 16 16.0 +2.1**
AKK2 Akkuyu-Mersin 6.03 56 Pn **Pn** **22 16 15.4 +1.4**
AKKU Akkuyu-Mersin 6.04 56 Pn **Pn** **22 16 16.1 +2.0**
PYL PYLOS 6.07 312 P **Pn** **22 16 15.9 +1.3**
PYL S **Sn** **22 17 19.0 -4.7**
335nm,0.4s
IKL Isikli 6.17 56 Pn **Pn** **22 16 17.8 +1.8**
VILL Villia 6.17 329 P **Pn** **22 16 18.4 +2.4**
VILL S **Sn** **22 17 21.8 -4.4**
225nm,0.5s
LOUT Loutraki 6.18 326 P **Pn** **22 16 18.3 +2.2**
KYMI Kymi, Euboea I 6.27 336 P **Pn** **22 16 20.2 +2.8**
KZIT Kziot 6.32 107 Pn **Pn** **22 16 18.0 0.0**
KZIT Sn **Sn** **22 17 25.0 -4.8**
KZIT Kziot 6.32 107 P **Pn** **22 16 18.0 0.0**
KZIT Kziot 6.32 107 P **Pn** **22 16 18.2 +0.2**
GEDZ Gediz 6.32 15 Pn **Pn** **22 16 20.8 +2.7**
SKY Skiros Island 6.35 340 P **Pn** **22 16 21.5 +3.0**
PRK Paraskevi 6.36 352 P **Pn** **22 16 20.9 +2.4**
THAL Thalero 6.37 324 P **Pn** **22 16 20.8 +2.1**
SIGR SIGRI 6.38 349 P **Pn** **22 16 20.9 +2.1**
OFRI `Ofer 6.43 91 Pn **Pn** **22 16 19.4 -0.2**
OFRI Sn **Sn** **22 17 26.4 -6.2**
OFRI `Ofer 6.43 91 P **Pn** **22 16 20.0 +0.4**
GUR Goura 6.45 322 P **Pn** **22 16 21.7 +1.7**
GUR S **Sn** **22 17 28.8 -4.4**
702nm,0.4s
SLTI Sal'it 6.52 94 Pn **Pn** **22 16 21.1 +0.3**
SLTI Sn **Sn** **22 17 28.9 -5.9**
SLTI Sal'it 6.52 94 P **Pn** **22 16 22.4 +1.6**
AMAZ Amatzia 6.55 100 Pn **Pn** **22 16 21.9 +0.6**
AMAZ Sn **Sn** **22 17 30.6 -5.0**
AMAZ Amatzia 6.55 100 P **Pn** **22 16 21.0 -0.3**
AMAZ Amatzia 6.55 100 P **Pn** **22 16 22.6 +1.3**
HNTI Hanita 6.57 87 Pn **Pn** **22 16 22.1 +0.7**
HNTI Hanita 6.57 87 P **Pn** **22 16 22.4 +1.0**
KLV Kalavryta, Ach 6.63 322 P **Pn** **22 16 23.9 +1.5**
ATAL Atalanti 6.74 330 P **Pn** **22 16 26.2 +2.4**
MMA0B Mount Meron ar 6.76 87 Pn **Pn** **22 16 24.8 +0.6**
MMA0B Sn **Sn** **22 17 35.7 -5.1**
MMAI Mount Meron Ar 6.76 87 Pn **Pn** **22 16 24.8 +0.6**
30nm,0.3s,baz=266,slow=11,SNR=536
MMAI Sn **Sn** **22 17 36.9 -3.9**
44nm,0.3s,baz=276,slow=23,SNR=8.6
YTIR Yattir 6.76 101 Pn **Pn** **22 16 24.3 +0.1**
YTIR Sn **Sn** **22 17 35.4 -5.5**
YTIR Yattir 6.76 101 P **Pn** **22 16 25.6 +1.4**
MMLI Mount Malkishu 6.82 92 Pn **Pn** **22 16 24.6 -0.3**
MMLI Sn **Sn** **22 17 36.2 -5.9**
MMLI Mount Malkishu 6.82 92 P **Pn** **22 16 24.4 -0.5**
LAKA Lakka 6.87 322 P **Pn** **22 16 27.3 +1.7**
KRMI Paran Flat 6.89 112 Pn **Pn** **22 16 26.4 +0.5**
KALE Kalithea 6.90 324 P **Pn** **22 16 27.7 +1.6**
DQRL Deir Qamar 6.92 81 *eP* **Pn** **22 16 26.1 -0.2**
TRIZ Trizonia 6.92 323 P **Pn** **22 16 27.6 +1.4**
UJAP Al Uja 6.92 96 Pn **Pn** **22 16 26.7 +0.4**
UJAP Sn **Sn** **22 17 39.4 -5.2**
UJAP Al Uja 6.92 96 P **Pn** **22 16 27.9 +1.6**
HMDT Nahal Hemdat 6.93 93 Pn **Pn** **22 16 27.2 +0.8**
HMDT Sn **Sn** **22 17 39.9 -4.9**
HMDT Nahal Hemdat 6.93 93 P **Pn** **22 16 28.0 +1.6**
EZN Ezine 6.93 353 P **Pn** **22 16 28.3 +2.0**
AXAR Agios Charalam 6.96 328 P **Pn** **22 16 29.1 +2.3**
AXAR S **Sn** **22 17 43.5 -2.0**
485nm,0.5s
QRNJ Al-Qirein 6.96 93 P **Pn** **22 16 27.7 +1.0**
MDBI Mazsada 6.98 101 P **Pn** **22 16 28.0 +1.0**
MSBI Mazada 6.98 101 Pn **Pn** **22 16 27.5 +0.5**
MSBI Sn **Sn** **22 17 40.8 -5.1**
GEM Giv'at Ha'Em 6.98 85 Pn **Pn** **22 16 27.8 +0.7**
GEM Sn **Sn** **22 17 41.9 -4.1**
GEM Giv'at Ha'Em 6.98 85 P **Pn** **22 16 27.9 +0.8**
QRWL Qaraoun 7.00 83 *eP* **Pn** **22 16 27.8 +0.3**
BHL Bhannes 7.00 80 *eP* **Pn** **22 16 27.2 -0.3**
PRNI Paran 7.01 110 Pn **Pn** **22 16 28.6 +1.1**
RLS Riolos of Patr 7.01 318 P **Pn** **22 16 30.6 +3.1**
NATI Neve Ativ 7.04 85 Pn **Pn** **22 16 28.4 +0.5**
NATI Sn **Sn** **22 17 43.4 -4.1**
NATI Neve Ativ 7.04 85 P **Pn** **22 16 28.7 +0.8**
SHBL Chebaa 7.05 84 *eP* **Pn** **22 16 28.1 -0.1**
EFP Efpalio 7.05 323 P **Pn** **22 16 29.3 +1.3**
ZFRI Zfri 7.07 108 Pn **Pn** **22 16 29.4 +1.1**
ZFRI Sn **Sn** **22 17 42.7 -5.6**
CIFT Cifteler, Eski 7.08 24 Pn **Pn** **22 16 31.2 +2.7**
SHMJ Saham 7.08 89 P **Pn** **22 16 29.7 +1.2**
KSHT Keshet 7.11 87 Pn **Pn** **22 16 30.0 +1.1**
KSHT Sn **Sn** **22 17 45.2 -4.1**
RCY Rachaya 7.13 83 *eP* **Pn** **22 16 29.7 +0.4**
GHAJ Ghor Haditha 7.15 101 Pn **Pn** **22 16 30.1 +0.7**
GHAJ Ghor Haditha 7.15 101 Pn **Pn** **22 16 30.7 +1.3**
GHAJ Sn **Sn** **22 17 44.2 -6.0**
GHAJ Ghor Haditha 7.15 101 P **Pn** **22 16 31.3 +1.9**
HRFI Mount Harif 7.17 112 Pn **Pn** **22 16 30.8 +1.1**
HRFI Sn **Sn** **22 17 46.1 -4.6**
LIA Limnos Island 7.17 346 P **Pn** **22 16 32.2 +2.6**
ANX Ano Chora 7.17 323 P **Pn** **22 16 31.6 +1.8**
MBRI Mt Berech 7.18 114 Pn **Pn** **22 16 31.0 +1.1**
MBRI Sn **Sn** **22 17 47.2 -3.9**
MBRI Mt Berech 7.18 114 P **Pn** **22 16 31.1 +1.1**
NEO Neokhori 7.18 333 P **Pn** **22 16 33.0 +3.1**
ZAHL Zahle 7.19 80 *eP* **Pn** **22 16 30.2 +0.1**
XOR Xorichti 7.25 333 P **Pn** **22 16 33.6 +2.8**
EIL Elat 7.27 115 Pn **Pn** **22 16 32.2 +1.2**
EIL Sn **Sn** **22 17 47.5 -5.6**
EIL Elat 7.27 115 P **Pn** **22 16 31.4 +0.4**
EIL Elat 7.27 115 Pn **Pn** **22 16 31.9 +0.9**
4.2nm,0.3s,baz=320,slow=4.2,SNR=59
EIL Sn Sn 22 17 44.1 -9.1
12nm,0.3s,baz=307,slow=15,SNR=5.5
9.7nm,0.3s
KARJ KARJ 7.27 102 P **Pn** **22 16 28.7 -2.4**
HWQ Hawqa 7.29 77 *eP* **Pn** **22 16 31.7 +0.2**
WALJ Wala 7.29 99 P **Pn** **22 16 32.3 +1.0**
GADA Gvkgeada 7.34 351 Pn **Pn** **22 16 34.5 +2.5**
PVO Paravola 7.39 322 P **Pn** **22 16 35.5 +2.8**
MAKR Makrakomi, Fth 7.40 327 P **Pn** **22 16 35.9 +3.1**
EVR Evrytania 7.47 325 P **Pn** **22 16 38.7 +4.7**
GELI Tayfur-Gelibol 7.48 355 Pn **Pn** **22 16 36.9 +2.9**
HSUJ Al Zarqa 7.51 94 P **Pn** **22 16 35.7 +1.3**
BEIL Beino 7.53 75 *eP* **Pn** **22 16 35.1 +0.5**
SWQJ Swaqa 7.57 101 P **Pn** **22 16 37.2 +1.9**
SMTH Samothraki Isl 7.66 349 P **Pn** **22 16 38.6 +2.1**
ERIK Erikli-Kesan 7.75 355 Pn **Pn** **22 16 40.6 +3.0**
CMRD Camardi-Nigde 7.82 51 Pn **Pn** **22 16 40.2 +1.5**
ENEZ Enez 7.85 353 Pn **Pn** **22 16 41.7 +2.8**
ENEZ Enez 7.85 353 P **Pn** **22 16 41.8 +2.8**
OUR Ouranopolis 7.87 341 P **Pn** **22 16 42.4 +3.2**
TYRN Tyrnavos 7.93 330 P **Pn** **22 16 42.2 +2.2**
THAS Thassos island 7.94 345 P **Pn** **22 16 42.5 +2.2**
ALN Alexandroupoli 8.02 353 P **Pn** **22 16 43.8 +2.5**
ALN Alexandroupoli 8.02 353 **Pn** **22 16 43.7 +2.5**
ASF Jabal al Asfar 8.09 93 P **Pn** **22 16 42.4 0.0**
ASF Jabal al Asfar 8.09 93 Pn **Pn** **22 16 44.0 +1.6**
12nm,0.3s,baz=284,slow=5.9,SNR=124
35nm,0.3s
BR231 Keskin MP Arra 8.16 31 Pn **Pn** **22 16 45.6 +2.2**
KOKK Kokkinochori, 8.31 342 P **Pn** **22 16 48.2 +2.8**
RDO Rodhopi 8.32 350 P **Pn** **22 16 48.1 +2.6**
RDO Rodhopi 8.32 350 Pn **Pn** **22 16 48.0 +2.6**
HORT Hortiatis 8.38 337 P **Pn** **22 16 49.4 +3.1**
BR131 Keskin Array S 8.46 35 Pn **Pn** **22 16 49.6 +2.1**
BRTR Keskin Array B 8.46 35 Pn **Pn** **22 16 49.6 +2.1**
0.7nm,0.3s,baz=221,slow=16,SNR=19
BRTR Sn **Sn** **22 18 16.8 -5.9**
4.6nm,0.3s,baz=202,slow=25,SNR=20
2.5nm,0.5s
SOH Sokhos 8.50 339 P **Pn** **22 16 51.2 +3.2**
BNN Bunyan 9.07 47 Pn **Pn** **22 16 57.6 +1.8**
KEK Kerkira 9.11 320 Pn **Pn** **22 16 56.8 +0.5**
GAZ Gaziantep 9.12 60 Pn **Pn** **22 16 57.5 +1.0**
FNA Florina 9.18 330 Pn **Pn** **22 16 59.7 +2.4**
FNA Florina 9.18 330 **Pn** **22 16 59.0 +1.7**
KBN Korca 9.31 327 **Pn** **22 17 01.1 +2.1**
OHR Ohrid 9.70 329 *i* Pn **Pn** **22 17 05.5 +1.1**
OHR *i* Sn **Sn** **22 18 46.4 -6.5**
VLO Vlora 9.81 322 Pn **Pn** **22 17 08.4 +2.5**
SCTE Santa Cesarea 10.09 317 Pn **Pn** **22 17 10.5 +0.8**
TIR Tirane 10.30 327 Pn **Pn** **22 17 14.2 +1.5**
LOZB Loznitsa 10.44 357 ⇓P **Pn** **22 17 16.7 +2.3**
DRME Dracevica, Mon 11.28 327 *ePn* **Pn** **22 17 24.9 -1.1**
PDG Podgorica 11.44 328 Pn **Pn** **22 17 27.2 -1.0**
PDG Podgorica 11.44 328 *ePn* **Pn** **22 17 26.3 -1.9**
VAE Valguarnera 11.52 297 Pn **Pn** **22 17 33.2 +3.9**
4.3nm,0.3s,baz=127,slow=7.2,SNR=17
VAE Sn Sn 22 19 29.4 -8.1
7.8nm,0.3s,baz=40,slow=4.1,SNR=8.9
9.8nm,0.3s
BOVS Bovan 11.57 339 ⇓P **Pn** **22 17 31.6 +1.8**
CUC Castrocucco 11.65 310 Pn **Pn** **22 17 33.1 +2.0**
HCY Herceg Novi 11.80 326 *ePn* **Pn** **22 17 31.1 -2.0**
SJES Sjenica 11.83 333 *ePn* **Pn** **22 17 32.5 -1.1**
TREB Trebinje 12.08 327 *ePn* **Pn** **22 17 34.4 -2.5**
DBRK Dubrovnik 12.14 326 *ePn* **Pn** **22 17 34.8 -3.0**
UPM Unac-Piva 12.22 329 *ePn* **Pn** **22 17 38.5 -0.5**
RUDO Rudo 12.37 332 *ePn* Pn 22 17 35.3 -5.6
CLTB Caltabellotta 12.45 296 **Pn** **22 17 43.2 +1.1**
STON Ston 12.50 325 *ePn* **Pn** **22 17 40.0 -2.7**
STON Ston 12.50 325 *ePn* **Pn** **22 17 39.3 -3.4**
DIVS Divibare 12.54 335 Pn **Pn** **22 17 43.7 +0.4**
DIVS Divibare 12.54 335 *ePn* **Pn** **22 17 43.5 +0.2**
BBLS Lazići 12.56 333 *ePn* **Pn** **22 17 41.1 -2.5**
MLR Muntele Rosu 12.59 355 ⇓P **Pn** **22 17 46.8 +2.8**
MLR Muntele Rosu 12.59 355 Pn **Pn** **22 17 45.2 +1.3**
0.3nm,0.3s,baz=265,slow=15,SNR=3.2
4.4nm,0.9s
VOIR 12.61 353 ⇓P **Pn** **22 17 46.6 +2.3**
MDVR Moldovita 12.62 341 ⇑P **Pn** **22 17 46.9 +2.6**
LSTV Lastovo 12.82 323 *ePn* **Pn** **22 17 44.5 -2.6**
PLOR Plostina 12.91 358 ⇓P **Pn** **22 17 49.9 +1.5**
GZR Gura Zlata 12.94 345 ⇓P **Pn** **22 17 50.4 +1.8**
PAOL Paolisi 13.02 312 Pn **Pn** **22 17 51.1 +1.2**
MAKA Makarska 13.14 325 *ePn* **Pn** **22 17 49.0 -2.5**
RICI Ricice 13.24 326 *ePn* **Pn** **22 17 50.2 -2.7**
HVAR Hvar 13.35 323 *ePn* **Pn** **22 17 52.0 -2.2**
DEV Deva 13.38 346 ⇓P **Pn** **22 17 57.4 +2.7**
BZS Buzias 13.42 342 ⇓P **Pn** **22 17 56.9 +1.8**
SRKY Kupres RS 13.67 327 *ePn* **Pn** **22 17 56.7 -2.1**
KIJV Kijevo 13.98 325 *ePn* **Pn** **22 18 00.7 -2.2**
MGRS Mrkonjic Grad 13.98 328 *ePn* **Pn** **22 18 00.3 -2.6**
INTR Introdacqua 13.99 314 Pn **Pn** **22 18 04.7 +1.5**
SIRR Siria 14.02 343 ⇑P **Pn** **22 18 04.8 +1.5**
ZIRJ Zirje 14.10 323 *ePn* **Pn** **22 18 01.6 -2.9**
BLY Banja Luka 14.20 329 *ePn* **Pn** **22 18 01.6 -4.3**
MORI Morici 14.22 324 *ePn* **Pn** **22 18 03.5 -2.6**
CAMP Campotosto 14.60 315 **Pn** **22 18 12.7 +1.2**
DUGI Dugi Otok 14.63 323 *ePn* **Pn** **22 18 09.9 -1.9**
BURAR Bucovina Array 14.75 354 ⇓P **Pn** **22 18 16.1 +2.6**
BURAR Bucovina Array 14.75 354 Pn **Pn** **22 18 15.4 +1.8**
BUR08 Bucovina Ar. S 14.78 354 Pn **Pn** **22 18 16.0 +2.0**
VIRC Vir 14.85 323 *ePn* **Pn** **22 18 12.5 -2.2**
NRCA Norcia 14.95 315 **Pn** **22 18 16.3 +0.1**
NRCA IAmb IAmb 22 18 25.9
comp=Z,6.2nm,0.5s
PLIT Plitvice 15.00 326 *ePn* **Pn** **22 18 14.3 -2.6**
MOSL Moslavina 15.07 330 *ePn* **Pn** **22 18 14.4 -3.3**
FDMO Fiordimonte 15.09 316 Pn **Pn** **22 18 18.2 +0.2**
FDMO IAmb IAmb 22 18 53.9
comp=Z,10nm,1.3s
NVLJ Novalja 15.13 324 *ePn* **Pn** **22 18 15.9 -2.6**
KEST Kesra 15.14 286 Pn **Pn** **22 18 20.0 +1.2**
KEST IAmb IAmb 22 18 46.6
comp=Z,5.6nm,1.0s
KEST Kesra 15.14 286 Pn **P** **22 18 22.7 -1.1**
comp=Z,0.2nm,0.3s,baz=306,slow=12,SNR=2.0
KEST Sn **Sn** **22 20 58.3 -7.8**
comp=Z,0.2nm,0.3s,baz=69,slow=22,SNR=1.8
comp=Z,2.2nm,0.6s
SORM Soroca 15.20 3 ⇓P **P** **22 18 22.8 -1.5**
A254A Petrova Gora 15.25 328 *ePn* **Pn** **22 18 16.4 -3.7**
RABC Rab 15.31 324 *ePn* **Pn** **22 18 18.6 -2.3**
MURB Monte Urbino 15.55 316 Pn **Pn** **22 18 25.7 +1.5**
MURB IAmb IAmb 22 18 35.5
comp=Z,11nm,1.1s
TRPA Tarpa 15.61 348 ⇓P **P** **22 18 27.4 -1.4**
BOJS Bojanci 15.65 327 *ePn* **Pn** **22 18 21.4 -3.8**
GNI Garni 15.71 58 Pn **P** **22 18 30.8 +0.6**
comp=Z,0.4nm,0.3s,baz=215,slow=6.6,SNR=3.4
comp=Z,2.3nm,0.5s
CRES Cresnjev 15.80 328 *ePn* **Pn** **22 18 23.2 -4.0**
BRJN Brijuni 15.94 323 *ePn* **Pn** **22 18 26.2 -2.8**
A253A Karojba, Istri 16.18 324 *ePn* **Pn** **22 18 29.5 -2.6**
CEY Cerknica 16.21 326 *ePn* **Pn** **22 18 30.7 -1.8**
KBZ Khabaz 16.25 44 Pn **P** **22 18 37.1 +1.2**
comp=Z,2.1nm,0.8s,baz=131,slow=21,SNR=2.8
KIV Kislovodsk 16.26 43 ⇓P **P** **22 18 38.8 +2.6**
KVAR Kislovodsk Arr 16.26 43 Pn **P** **22 18 38.7 +2.4**
baz=272,slow=23
comp=Z,4.3nm,0.8s
SKDS Skadanscina 16.26 325 *ePn* **Pn** **22 18 31.8 -1.4**
KOLS Kolonicke sedl 16.43 348 *eP* **P** **22 18 39.0 +1.0**
CRVS Cervenica-Dubn 16.55 346 *eP* **P** **22 18 42.0 +2.6**
OBKA Obir 16.73 328 *ePn* **Pn** **22 18 37.8 -1.4**
SABO M.te Sabotino 16.78 325 P **P** **22 18 42.3 +0.4**
SABO IAmb IAmb 22 18 45.3
comp=Z,10nm,0.6s
VYHS Vyhne 16.81 340 *eP* **P** **22 18 45.5 +3.3**
KWP Kalwaria Pacla 17.04 350 *eP* **P** **22 18 47.3 +2.6**
STHS Stebnicka Huta 17.09 346 *eP* **P** **22 18 47.4 +2.1**
PRED Cave del Predi 17.13 326 Pn **Pn** **22 18 45.2 +1.0**
LANS Liptovska Anna 17.24 342 *eP* **P** **22 18 50.5 +3.5**
NIE Niedzica 17.29 344 *eP* **P** **22 18 48.6 +1.0**
TEOL Teolo 17.34 320 Pn **Pn** **22 18 45.2 -1.5**
TEOL IAmb IAmb 22 19 25.8
comp=Z,7.1nm,0.7s
STAL STALIGIAL 17.41 324 P **Pn** **22 18 47.0 -0.7**
STAL IAmb IAmb 22 18 52.8
comp=Z,5.9nm,0.6s
CLUD Cludinico 17.47 325 P **Pn** **22 18 48.3 -0.1**
AK05 Malin Array Si 17.72 4 Pn **Pn** **22 18 51.8 +0.3**
AK05 IAmb IAmb 22 19 07.3
comp=Z,15nm,1.2s
CTI Castel Tesino 17.80 322 **P** **22 18 54.0 +0.7**
AKASG Malin Array Be 17.81 4 P **Pn** **22 18 52.8 +0.3**
comp=Z,3.3nm,0.3s,baz=190,slow=12,SNR=15
comp=Z,1.1nm,0.4s
AKBB Malin Array Si 17.81 4 P **Pn** **22 18 52.8 +0.3**
AKBB IAmb IAmb 22 18 53.8
comp=Z,9.7nm,1.1s
ABTA Abfaltersbach 17.85 325 *i* Pn **P** **22 18 55.9 +2.0**
comp=Z,6.4nm,0.6s,SNR=9.5
MAUC Maruska 17.89 339 *eP* **P** **22 18 56.7 +2.5**
KRUC Moravsky 18.08 336 *eP* **P** **22 18 57.8 +1.6**
OKC Ostrava-Krasne 18.22 341 *eP* **P** **22 18 59.6 +1.8**
VRAC Vranov 18.23 337 *eP* **P** **22 18 59.4 +1.6**
VRAC Vranov 18.23 337 P **P** **22 18 59.7 +1.9**
comp=Z,0.5nm,0.3s,baz=147,slow=9.9,SNR=7.7
comp=Z,4.5nm,0.7s
MORC Moravsky Berou 18.34 339 **P** **22 19 00.7 +1.6**
MORC Moravsky Berou 18.34 339 *eP* **P** **22 19 00.4 +1.3**
TREC Trest 18.59 335 *eP* **Pn** **22 19 03.5 +1.3**
WATA Walderalm 18.72 325 *i* Pn **Pn** **22 19 06.4 +2.6**
comp=Z,2.8nm,0.5s,SNR=4.7
FUORN Ofenpass-Fuorn 18.90 321 **P** **22 19 06.0 +0.5**
GEC2 GERESS Array S 18.91 331 **P** **22 19 05.1 -0.3**
GERES GERESS Array B 18.91 331 P **Pn** **22 19 06.0 -0.1**
GERES GERESS Array B 18.91 331 P **Pn** **22 19 06.8 +0.8**
comp=Z,0.4nm,0.3s,baz=134,slow=9.5,SNR=13
comp=Z,2.1nm,0.6s
KHC Kasperske Hory 19.18 332 P **Pn** **22 19 10.0 +0.7**
KHC IAmb IAmb 22 19 12.1
comp=Z,7.3nm,0.7s
KHC Kasperske Hory 19.18 332 *eP* **Pn** **22 19 10.9 +1.6**
ZVC Zvikov 19.19 333 *eP* **Pn** **22 19 10.2 +0.8**
DAVOX Davos/Dischmat 19.21 321 P **Pn** **22 19 11.0 +1.2**
comp=Z,0.3nm,0.3s,baz=152,slow=17,SNR=5.1
DAVOX S **Sn** **22 22 34.9 -10**
comp=Z,2.1nm,0.9s,baz=183,slow=22,SNR=1.9
comp=Z,1.7nm,0.8s
DPC Dobruska-Polom 19.22 338 *eP* **Pn** **22 19 09.7 -0.1**
TUE Stuetta 19.30 320 P **P** **22 19 10.2 +0.3**
OSTC Ostas 19.43 338 *eP* **Pn** **22 19 12.7 +0.4**
CHVC Chvalec 19.51 338 *eP* **Pn** **22 19 13.1 -0.1**
PRU Pruhonice 19.51 335 *eP* **Pn** **22 19 13.4 +0.2**
KSP Ksiaz 19.66 339 *eP* **P** **22 19 13.4 -0.1**
BNI Bardonecchia 20.05 313 P **P** **22 19 17.6 -0.5**
BNI IAmb IAmb 22 19 49.2
comp=Z,13nm,1.4s
SENIN Lac Senin/Sane 20.38 317 P **P** **22 19 22.6 +0.9**
HSKC Hora Svate Kat 20.43 334 *eP* **P** **22 19 23.2 +1.3**
CLL Collm 21.16 334 *eP* **P** **22 19 31.0 +1.3**
CLL *i* pP **sP** **22 19 34.3 -1.4**
comp=Z,4.0nm,0.6s
SUW Suwalki 21.28 353 *eP* **P** **22 19 31.3 +0.3**
SUW Suwalki 21.28 353 P **P** **22 19 31.7 +0.6**
NACGM Naroch 21.97 359 *eP* **P** **22 19 39.7 +1.3**
PABE Paberze 22.69 355 P **P** **22 19 45.9 -0.2**
GEYT Alibeck 25.49 70 P **P** **22 20 13.7 +0.7**
GEYT IAmb IAmb 22 20 17.7
comp=Z,8.3nm,1.0s
GEYT Alibeck 25.49 70 P **P** **22 20 14.5 +1.5**
comp=Z,3.9nm,0.4s,baz=270,slow=7.0,SNR=18
comp=Z,3.9nm,0.4s
GYA0B ALIBECK ARRAY 25.49 70 P **P** **22 20 13.5 +0.5**
GYA0B IAmb IAmb 22 20 17.6
comp=Z,7.1nm,1.0s
ESDC Sonseca Array 26.03 294 P **P** **22 20 19.9 +1.9**
comp=Z,0.9nm,0.7s,baz=84,slow=9.3,SNR=12
comp=Z,0.9nm,0.7s
FINES FINESS Array B 28.54 359 P **P** **22 20 41.4 +1.4**
comp=Z,4.0nm,0.9s,baz=156,slow=10,SNR=2.4
comp=Z,4.0nm,0.9s
HFS Hagfors 28.66 346 P **P** **22 20 42.3 +1.0**
comp=Z,1.3nm,0.3s,baz=145,slow=9.0,SNR=7.7
comp=Z,1.3nm,0.3s
ABKAR Akbulak array 29.19 46 P **P** **22 20 47.1 +1.1**
ABKAR Akbulak array 29.19 46 P **P** **22 20 45.6 -0.4**
NOA NORSAR Array B 30.02 344 P **P** **22 20 53.9 +0.5**
comp=Z,0.3nm,0.6s,baz=150,slow=8.8,SNR=2.2
comp=Z,0.3nm,0.6s
NC204 NORSAR Array S 30.33 344 P **P** **22 20 57.1 +1.0**
NC204 IAmb IAmb 22 21 05.2
comp=Z,7.4nm,1.2s
TOA0 Torodi Ar. Sit 30.61 236 P **P** **22 20 57.6 -1.3**
TOA0 IAmb IAmb 22 21 11.5
comp=Z,4.8nm,1.4s
TORD Torodi Ar. Bea 30.61 236 P **P** **22 21 01.7 +2.8**
comp=Z,0.4nm,0.8s,baz=31,slow=9.1,SNR=3.2
comp=Z,0.4nm,0.8s
EKA Eskdalemuir Ar 30.90 326 P **P** **22 21 02.0 +0.8**
comp=Z,0.1nm,0.3s,baz=131,slow=9.8,SNR=1.6
comp=Z,0.1nm,0.3s
BVAR Borovoye Array 36.62 44 P **P** **22 21 52.3 +1.5**
comp=Z,0.5nm,0.5s,baz=242,slow=3.2,SNR=4.8
comp=Z,0.5nm,0.5s
ARCES ARCESS Array B 36.66 359 P **P** **22 21 53.2 +2.2**
ARCES ARCESS Array B 36.66 359 P **P** **22 21 51.5 +0.5**
comp=Z,0.2nm,0.3s,baz=166,slow=8.4,SNR=9.4
comp=Z,0.2nm,0.3s
KURBB Kurchatov Arra 41.15 49 P **P** **22 22 30.3 +1.5**
comp=Z,1.3nm,0.6s,baz=272,slow=8.6,SNR=7.0
comp=Z,1.3nm,0.6s
KURK Kurchatov 41.22 49 P **P** **22 22 29.9 +0.6**
KURK IAmb IAmb 22 22 31.7
comp=Z,3.1nm,1.0s
MK31 Makanchi Array 43.52 55 P **P** **22 22 49.7 +1.4**
MK31 IAmb IAmb 22 23 21.1
comp=Z,5.7nm,1.3s
MKAR Makanchi Array 43.52 55 P **P** **22 22 48.8 +0.6**
MKAR Makanchi Array 43.52 55 P **P** **22 22 49.6 +1.4**
comp=Z,1.7nm,0.6s,baz=272,slow=4.9,SNR=11
comp=Z,1.7nm,0.6s
ZAA0 Zalesovo Array 45.27 45 P **P** **22 23 03.0 +1.0**
ZAA0 IAmb IAmb 22 23 46.0
comp=Z,3.4nm,1.4s
ZALV Zalesovo Beam 45.27 45 P **P** **22 23 02.9 +0.9**
comp=Z,1.3nm,0.3s,baz=273,slow=8.8,SNR=6.5
comp=Z,1.3nm,0.3s
SPA3 Spitsbergen Ar 45.60 357 P **P** **22 23 06.5 +2.2**
SPITS Spitsbergen Ar 45.60 357 P **P

PYUN	Piuthan comp=Z,11nm,0.5s	47.71	80	eP	P	22 23 23.8	+2.0
DANN	Dangsing comp=Z,31nm,0.6s	48.26	80	eP	P	22 23 28.3	+2.1
GKN	Gorkha comp=Z,6.2nm,0.5s	49.10	80	eP	P	22 23 34.1	+1.6
PKIN	Phulchoki	49.88	80	eP	P	22 23 39.9	+1.3
PKI	Pulchoki comp=Z,6.6nm,0.6s	49.90	80	eP	P	22 23 40.1	+1.3
GUN	Gumba comp=Z,11nm,0.3s	50.16	79	eP	P	22 23 42.6	+1.8
JIRN	Jiri comp=Z,50nm,0.2s	50.51	80	eP	P	22 23 45.0	+1.5
LBTB	Lobatse	57.65	182	P	P	22 24 33.9	-1.2

TAP 08 22:25:31.8, 22°.93N×121°.26E, h15km, ML3.5, 14C-10D, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	Donghe baz=45	0.06	44	⇑iP	Pg	22 25 34.9	+0.2
EDH	baz=45			S	Sg	22 25 37.0	+0.4
LONT	Longtian baz=268	0.12	259	⇓iP	Pb	22 25 36.0	+0.1
LONT	baz=268			S	Sb	22 25 39.0	+0.4
ECS	Chishang baz=340	0.17	348	⇑iP	Pb	22 25 36.9	+0.1
ECS	baz=340			S	Sb	22 25 41.1	+1.1
CHKT	Chengkung baz=31	0.20	30	⇑iP	Pb	22 25 37.0	-0.2
CHKT	baz=31			iS	Sb	22 25 40.7	0.0
TWGBT	Beinan baz=247	0.20	236	⇑iP	Pb	22 25 36.9	-0.3
TWGBT	baz=247			S	Sb	22 25 40.7	-0.1
TTN	Taitung baz=203	0.20	211	eP	Pb	22 25 37.4	+0.2
TWG	Pinlang baz=247	0.20	238	⇑iP	Pb	22 25 37.0	-0.3
TWG	baz=247			iS	Sb	22 25 40.8	-0.1
EHD	Haiduan baz=346	0.22	347	⇓eP	Pg	22 25 37.1	+0.2
FULB	Fuli baz=353	0.27	7	eP	Pb	22 25 38.5	0.0
FULB	baz=353			eS	Sb	22 25 43.9	+1.0
LDUT	Ludao baz=132	0.32	143	⇓eP	Pb	22 25 39.0	-0.2
LDUT	baz=132			eS	Sb	22 25 44.0	-0.3
ELDTW	Lidau baz=320	0.34	319	⇓iP	Pg	22 25 38.8	-0.1
ELDTW	baz=320			eS	Sg	22 25 44.0	+0.2
EYUL	Yuli baz=353	0.42	8	eP	Pb	22 25 41.0	0.0
EYUL	baz=353			eS	Sb	22 25 48.3	+1.1
TWF1	Yuli baz=351	0.42	5	eP	Pg	22 25 40.2	-0.1
TWF1	baz=351			eS	Sb	22 25 47.2	-0.1
ECBN	Changbin baz=23	0.42	25	P	Pb	22 25 40.7	-0.3
ECBN	baz=23			eS	Sb	22 25 47.4	+0.1
ECL	Taimali baz=233	0.43	220	⇑iP	Pg	22 25 40.3	-0.2
ECL	baz=233			eS	Sg	22 25 46.5	+0.1
YULB	Yu-li baz=351	0.46	4	eP	Pg	22 25 40.8	-0.3
YULB	baz=351			eS	Sb	22 25 48.2	-0.2
STYH	Taoyuan baz=303	0.51	298	⇓P	Pg	22 25 42.0	+0.1
STYH	baz=303			eS	Sb	22 25 49.3	-0.3
STYT	Tauyuan baz=297	0.52	297	⇓P	Pg	22 25 42.1	0.0
SLGT	Liugui baz=274	0.57	277	eP	Pb	22 25 43.4	-0.1
SLGT	baz=274			eS	Sg	22 25 51.0	+0.3
EHY	Hungye baz=355	0.58	6	eP	Pg	22 25 43.2	-0.1
EHY	baz=355			eS	Sg	22 25 50.5	-0.4
SSD	Sandimen baz=258	0.61	253	⇑P	Pg	22 25 43.3	-0.5
SSD	baz=258			eS	Sg	22 25 50.6	-1.2
TSMG	Majia baz=254	0.61	249	⇑eP	Pg	22 25 43.4	-0.4
TSMG	baz=254			eS	Sg	22 25 51.1	-0.8
SGST	Jiashian baz=286	0.64	284	eP	Pg	22 25 44.0	-0.4
SGST	baz=286			eS	Sg	22 25 53.2	+0.3
MASBT	Mashibuluo baz=235	0.66	241	⇑P	Pg	22 25 44.4	-0.4
MASBT	baz=235			S	Sg	22 25 52.8	-0.6
TAW	Tawu baz=220	0.66	211	⇑P	Pg	22 25 44.2	-0.6
TAW	baz=220			eS	Sg	22 25 53.3	-0.2
EAST	Anshuo baz=216	0.66	215	⇑P	Pg	22 25 44.3	-0.6
WTP	Ta-pu baz=302	0.67	298	⇓P	Pb	22 25 45.4	+0.1
WTP	baz=302			S	Sb	22 25 55.4	+0.9
TAWH	Dawu Township baz=220	0.68	210	⇑P	Pg	22 25 44.5	-0.6
TAWH	baz=220			eS	Sb	22 25 54.5	-0.1
TPUB	Ta-pu baz=302	0.69	303	⇓P	Pb	22 25 45.6	+0.1
TPUB	baz=302			S	Sb	22 25 55.6	+0.7
ALS	Alishan baz=324	0.71	324	⇓iP	Pb	22 25 46.0	-0.1
ALS	baz=324			S	Sg	22 25 55.3	0.0
CHN1	Nanshi baz=291	0.72	291	eP	Pb	22 25 46.5	+0.4
CHN1	baz=291			S	Sn	22 25 57.2	-1.1
SGLT	Jiouru baz=256	0.74	254	eP	Pb	22 25 46.9	+0.6
SGLT	baz=256			eS	Sn	22 25 57.6	-1.1
CHN4	Tsaushan baz=312	0.74	305	⇓P	Pb	22 25 46.8	+0.3
CHN4	baz=312			eS	Sn	22 25 58.2	-0.6
TSPT	Pingtung City baz=245	0.75	251	eP	Pb	22 25 46.7	+0.1
EGFH	Guangfu baz=358	0.75	12	eP	Pb	22 25 47.0	+0.3
SNST	Tainan City baz=292	0.76	293	eP	Pb	22 25 47.3	+0.5
SNST	baz=292			eS	Sn	22 25 58.6	-0.7
TWK	Hsinying baz=295	0.79	295	eP	Pb	22 25 47.5	+0.3
TWK	baz=295			eS	Sn	22 25 59.1	-0.9
WCKO	Fanlu baz=315	0.79	310	eP	Pb	22 25 47.6	+0.4
WCKO	baz=315			S	Sn	22 25 59.1	-0.8
WARBT	Fenglin Townsh baz=357	0.79	8	eP	Pg	22 25 46.3	-1.0
WARBT	baz=357			eS	Sb	22 25 58.4	+0.5
SCZT	Fangliau baz=222	0.81	227	⇑P	Pg	22 25 47.2	-0.4
SCZT	baz=222			S	Sb	22 25 58.4	+0.1
TEGC	Jichi Village baz=359	0.82	18	eP	Pb	22 25 47.9	+0.1
TEGC	baz=359			eS	Sn	22 26 00.7	0.0
SLIU	Shizi baz=213	0.83	211	eP	Pg	22 25 46.9	-1.0
VWDT	VWDT baz=358	0.83	353	eP	Pb	22 25 47.6	-0.3
VWDT	baz=358			eS	Sn	22 26 00.4	-0.5
CHN3	Shinhua baz=281	0.84	280	eP	Pn	22 25 48.9	-0.2
SHHT	Tainan City baz=277	0.84	276	eP	Pn	22 25 50.0	+0.8
WHYT	Xinyi Township baz=333	0.85	334	eP	Pg	22 25 48.6	+0.2
WHYT	baz=333			eS	Sb	22 25 60.0	+0.4
SNJT	Kaohsiung City baz=260	0.87	259	eP	Pn	22 25 51.8	+2.3
SSLB	Suanglung baz=348	0.90	342	⇑eP	Pb	22 25 48.8	-0.4
SSLB	baz=348			S	Sg	22 26 01.7	+0.6
SSHA	Shanhua baz=283	0.92	283	eP	Pn	22 25 51.4	+1.2
SSHA	baz=283			eS	Sn	22 26 06.0	+2.9
LAY	Lan-yu baz=154	0.93	163	eP	Pb	22 25 48.7	-0.9
LAY	baz=154			eS	Sb	22 26 00.7	-1.0
CHN2	Minshiung baz=308	0.94	310	eP	Pn	22 25 50.4	0.0
CHN2	baz=308			eS	Sn	22 26 04.1	+0.5
KAU	Kaohsiung baz=249	0.95	248	eP	Pn	22 25 53.3	+2.7
CHY	Chiayi baz=305	0.95	307	eP	Pn	22 25 50.7	0.0
CHY	baz=305			eS	Sn	22 26 05.7	+1.7
WSSB	Gushan baz=269	0.96	253	eP	Pn	22 25 52.5	+1.7
LYUB	Lan-yu baz=153	0.97	162	eP	Pb	22 25 48.6	-1.8
LYUB	baz=153			eS	Sb	22 26 02.0	-1.0
TAI	Tainan baz=275	0.98	274	eP	Pn	22 25 51.4	+0.4
WGK	Gukeng baz=318	0.99	320	eP	Pn	22 25 51.5	+0.4
WGK	baz=318			eS	Sn	22 26 05.3	+0.4
ICHU	Yijhu baz=295	1.00	296	eP	Pn	22 25 51.6	+0.3
ICHU	baz=295			eS	Sn	22 26 06.3	+1.2
SMLT	Sun Moon Lake baz=345	1.00	341	eP	Pg	22 25 51.3	0.0
SMLT	baz=345			eS	Sn	22 26 05.4	-0.1
WDLH	Douliu baz=317	1.01	319	eP	Pn	22 25 51.9	+0.5
WDLH	baz=317			eS	Sn	22 26 06.7	+1.4
SCLT	Jiali baz=284	1.01	284	eP	Pn	22 25 52.2	+0.8
SCLT	baz=284			eS	Sn	22 26 07.2	+1.8
TWP	Hsiaoliuchiu baz=230	1.01	235	eP	Pn	22 25 53.6	+2.1
WJS	Zhushan baz=336	1.01	331	eP	Pn	22 25 53.1	+1.6
WJS	baz=336			eS	Sn	22 26 06.7	+1.1
OWD	Renai baz=4.0	1.02	356	eP	Pb	22 25 51.0	-0.3
HEN	Hengchun baz=210	1.04	208	eP	Pb	22 25 51.1	-0.4
TYC	Yuchr baz=344	1.04	339	eP	Pg	22 25 52.2	+0.3
CHN8	Yiju baz=293	1.05	293	eP	Pg	22 25 52.6	+0.4
CHN8	baz=293			eS	Sn	22 26 08.3	+1.9
ETM	Tongmen baz=360	1.05	12	eP	Pb	22 25 51.7	-0.1
ETM	baz=360			eS	Sg	22 26 05.9	-0.1
WUSB	Renai	1.07	353	eP	Pb	22 25 51.7	-0.4
WUSB				eS	Sb	22 26 06.0	+0.1
TWKBT	Hengchun baz=195	1.07	203	eP	Pb	22 25 51.1	-0.9
TWKBT	baz=195			eS	Sb	22 26 05.5	-0.2
TSEB	Hengchuen, Pin baz=190	1.08	198	eP	Pb	22 25 52.1	0.0
WNT	Mingjian baz=328	1.08	331	eP	Pg	22 25 53.4	+0.6
WNT	baz=328			eS	Sn	22 26 08.8	+1.6
HWA	Hwalien baz=1.0	1.09	17	eP	Pb	22 25 52.5	+0.1
LXIB	Xiulin Townshi baz=3.0	1.10	7	eP	Pb	22 25 51.6	-1.0
LXIB	baz=3.0			eS	Sb	22 26 06.8	0.0
WTK	Tuku baz=312	1.10	314	eP	Pg	22 25 53.9	+0.8
WTK	baz=312			eS	Sn	22 26 10.0	+2.3
TSCK	Chigu Township baz=282	1.10	282	eP	Pg	22 25 54.2	+1.0
WNT1	Nantou City baz=328	1.11	331	eP	Pg	22 25 54.2	+1.0
WNT1	baz=328			eS	Sn	22 26 10.0	+2.1
WSL	Shuilin Townsh baz=300	1.12	302	eS	Sn	22 26 08.5	+0.5
CHGB	Renai baz=2.0	1.13	356	eP	Pb	22 25 53.2	0.0
CHGB	baz=2.0			eS	Sg	22 26 08.6	+0.1
DPDB	Guoxing baz=349	1.14	345	eP	Pg	22 25 54.2	+0.3
WCS	Beigang Elemen baz=350	1.17	344	eP	Pb	22 25 53.8	+0.1
WCS	baz=350			eS	Sg	22 26 10.4	+0.8
WSF	Szhu baz=305	1.19	307	eP	Pg	22 25 54.6	-0.1
WSF	baz=305			eS	Sg	22 26 11.2	+1.0
TWD	Chiawan baz=1.0	1.19	15	eP	Pn	22 25 53.7	-0.2
TWD	baz=1.0			eS	Sn	22 26 09.8	0.0
WYL	Yuanlin Townsh baz=315	1.20	329	eP	Pg	22 25 55.5	+0.5
WHF	Hehuan Shan baz=7.0	1.21	0	eP	Pn	22 25 54.6	0.0
WRL	Guolierlin Hig baz=317	1.26	320	eP	Pb	22 25 55.3	-0.1
WRL	baz=317			eS	Sg	22 26 12.7	0.0
RLNB	Erlin baz=316	1.27	319	eP	Pn	22 25 55.1	+0.1
RLNB	baz=316			eS	Sg	22 26 13.5	+0.8
ETL	Fush Village baz=10.0	1.27	15	eP	Pb	22 25 55.4	-0.1
NACB	Ninganchiao baz=9.0	1.28	14	eP	Pn	22 25 54.5	-0.6
ETLH	Xiulin Townshi baz=21	1.29	9	eP	Pn	22 25 55.1	-0.3
FUSS	Fushou baz=5.0	1.31	359	eP	Pb	22 25 56.1	-0.2
FUSS	baz=5.0			eS	Sg	22 26 13.9	-0.4
WCHH	Zhanghua baz=320	1.31	331	eP	Pb	22 25 56.5	+0.2
TWT	Tachien baz=5.0	1.32	357	eP	Pn	22 25 56.0	+0.1
TDCB	Techi baz=4.0	1.32	356	eP	Pb	22 25 56.8	+0.3
TCU	Taichung baz=334	1.33	336	eP	Pg	22 25 57.8	+0.5
WHP	Taichung City baz=356	1.37	348	eP	Pg	22 25 58.5	+0.2
TWQ1	Liyutan baz=327	1.48	343	eP	Pg	22 25 59.9	-0.5
TWQ1	baz=327			eS	Sg	22 26 19.7	+0.1
NNSB	Datong baz=8.0	1.50	4	eP	Pn	22 25 58.0	-0.3
NNSH	Datong baz=13	1.50	4	eP	Pb	22 25 59.6	+0.2
NNS	Nan Shan baz=14	1.51	4	eP	Pg	22 26 01.2	+0.3
WDGT	Dungji baz=283	1.51	283	eP	Pn	22 25 58.5	+0.2
WDGT	baz=283			eS	Sn	22 26 17.9	+0.1
WDJ	Dajia District baz=335	1.52	338	eP	Pb	22 25 59.6	-0.1
EOS4	EOS4 baz=34	1.53	39	eP	Pn	22 25 57.9	-0.4
NSY	Sanyi baz=339	1.55	343	eP	Pg	22 26 01.2	-0.5
ENA	Nanau baz=1.0	1.56	16	eP	Pb	22 25 59.7	-0.6
LATG	Datong baz=17	1.62	9	eP	Pb	22 26 01.0	-0.5
PHUB	P'eng-hu baz=290	1.66	291	eP	Pn	22 25 60.0	-0.4
PHUB	baz=290			eS	Sn	22 26 21.1	-0.3
EOS3	EOS3 baz=42	1.66	35	eP	Pn	22 26 00.6	+0.2
EOS3	baz=42			eS	Sn	22 26 20.9	-0.5
NDT	Datong Townshi baz=15	1.68	8	eP	Pb	22 26 02.9	+0.4
PNG	Penghu baz=291	1.69	292	P	Pn	22 26 01.1	+0.2
PNG	baz=291			eS	Sn	22 26 22.6	+0.4
NFF	Wufeng Townshi baz=360	1.70	356	eP	Pb	22 26 03.0	+0.1
VCHM	Qimei baz=281	1.71	280	eP	Pn	22 26 00.8	-0.3
NSTT	Nanjuang baz=359	1.71	352	eP	Pb	22 26 02.5	-0.5
LIOB	Emei baz=359	1.72	353	eP	Pb	22 26 03.6	+0.4
ENTT	Nioudou baz=18	1.73	9	eP	Pn	22 26 02.3	+1.0
YHNB	Yeheng baz=7.0	1.74	4	eP	Pn	22 26 01.7	+0.1
YHNB	baz=7.0			eS	Sn	22 26 24.2	+0.7
NDS	Dongshan baz=7.0	1.75	14	eP	Pb	22 26 04.1	+0.4
TWC	Suao baz=359	1.76	18	eP	Pb	22 26 03.5	-0.3
TWC	baz=359			eS	Sn	22 26 24.7	+0.8
FUSB	Fushanzhiwuyua baz=17	1.85	9	eP	Pn	22 26 03.7	+0.7
NWLT	Wulai baz=16	1.85	7	eP	Pb	22 26 04.9	-0.5
TATO	Taipei baz=15	2.05	6	eP	Pb	22 26 08.8	+0.1
TWA	Mucha baz=14	2.06	8	eP	Pb	22 26 07.8	-1.2
TWB1	Santiao Chiao baz=10.0	2.17	18	eP	Pb	22 26 10.3	-0.6
WFSB	Wu-fen Shan baz=5.0	2.19	13	eP	Pb	22 26 10.0	-1.1
YM01	YM01 baz=16	2.23	7	eP	Pn	22 26 09.4	+1.2
SXI1	Grass Mountain baz=7.0	2.23	15	eP	Pn	22 26 10.0	+1.7
VWUC	VWUC baz=306	2.64	321	eP	Pn	22 26 14.5	+0.7
PTMZ	Houxiangcun baz=316	2.87	317	eP	Pn	22 26 17.5	+0.4
KNM	Kinmen baz=298	2.98	300	eP	Pn	22 26 21.0	+2.4
KNMB	Chin-men Tao baz=299	3.04	301	eP	Pn	22 26 20.3	+0.9
MATB	Ma-tsu baz=339	3.42	340	eP	Pn	22 26 25.6	+0.9
AXDP	Jialang baz=302	3.59	304	eP	Pn	22 26 27.0	0.0
DSXP	Dongshan baz=282	3.61	283	eP	Pn	22 26 27.7	+0.5
MHZQ	Yesham baz=325	3.75	328	eP	Pn	22 26 29.2	0.0
LYJJ	Jianjiangzhen baz=339	3.85	340	eP	Pn	22 26 31.7	+1.1
JMJ	Miyako jima 2 baz=70	4.14	62	eP	Pn	22 26 35.2	+0.6

*ISK **08** 22:30:51.9, 35°.58N×26°.11E, h6km, ML2.7/7*
*ATH **08** 22:30:53.3, 35°.51N×26°.11E, h29km±1km, ML2.4/5, Manual Solution by F.Xalaris First location: 2019/05/29 15:58:38, This location: 2019/07/01 11:34:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **08** 22:30:53.4, 35°.52N×26°.12E, h23km±4km, ML2.3/5, Error ellipse: s-maj=4.4km s-min=0.9km az=147.0*

ISC 08 22:30:52.5±1.0, 35°.53N±0°.02×26°.08E±0°.02, h17km±9km, n26, σ0=82/44, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.43	165	Pg	Pb	22 31 01.5	-0.2
ZKR				Sg	Sb	22 31 08.3	+0.4
ZKR	Zakros	0.43	165	P	Pg	22 31 01.3	+0.1
ZKR				S	Sb	22 31 08.2	+0.4
	298nm,0.4s						
ZKR	Zakros	0.43	165	P	Pb	22 31 01.5	-0.2
ZKR				S	Sb	22 31 08.4	+0.4
AGNA	Agios Nikolaos	0.45	221	P	Pb	22 31 02.5	+0.5
AGNA				S	Sb	22 31 09.4	+0.9
FRMA	Ierapetra Chan	0.59	209	P	Pg	22 31 03.9	-0.2
FRMA				S	Sg	22 31 12.2	+0.2
	138nm,0.5s						
FRMA	Ierapetra Chan	0.59	209	P	Pg	22 31 03.9	-0.2
FRMA				S	Sg	22 31 11.9	-0.1
HRKL	Herakleio	0.83	255	Pg	Pn	22 31 09.3	-0.1
HRKL				Sg	Sn	22 31 21.9	+0.7
HRKL	Herakleio	0.83	255	P	Pn	22 31 09.3	-0.1
HRKL				S	Sg	22 31 20.6	+1.1
KSTL	Kastelli Herak	0.85	255	P	Pb	22 31 07.1	-1.8
KSTL				S	Sb	22 31 16.1	-4.0
KARP	Karpathos	0.88	89	Pg	Pb	22 31 08.8	-0.6
KARP				Sg	Sg	22 31 21.2	-0.1
KARP	Karpathos	0.88	89	P	Pb	22 31 09.0	-0.4
KARP				S	Sb	22 31 20.5	-0.4
	395nm,0.2s						
KARP	Karpathos	0.88	89	P	Pb	22 31 09.2	-0.1
KARP				S	Sg	22 31 21.2	-0.1
SANT	Santorini	0.98	329	Pg	Pb	22 31 10.5	-0.5
SANT				Sg	Sb	22 31 23.9	+0.2
SANT	Santorini	0.98	329	P	Pb	22 31 10.9	-0.1
SANT				S	Sb	22 31 23.2	-0.5
	372nm,0.4s						
SANT	Santorini	0.98	329	P	Pg	22 31 12.0	+0.5
SANT				S	Sg	22 31 24.8	+0.5
THR6	Thira Island,	0.99	326	P	Pb	22 31 11.6	+0.4
THR8	Santorini-Mono	1.00	331	P	Pb	22 31 11.5	+0.1
IDI	Anoyia	1.00	256	Pg	Pb	22 31 11.8	+0.3
IDI				Sg	Sn	22 31 26.6	+1.0
IDI	Anoyia	1.00	256	P	Pb	22 31 11.5	+0.1
IDI				S	Sg	22 31 25.2	+0.1
	128nm,0.4s						
IDI	Anoyia	1.00	256	P	Pb	22 31 11.8	+0.3
IDI				S	Sg	22 31 25.5	+0.4
THR3	Thira Island,	1.03	328	P	Pb	22 31 11.5	-0.5
PRNS	Prines Rethymn	1.30	263	P	Pb	22 31 16.4	0.0
KOSK	Kos Island	1.42	31	Pn	Pn	22 31 17.9	+0.4
APE	Apeiranthos	1.60	344	Pn	Pb	22 31 21.3	-0.3
IMMV	Iera Moni Meta	1.71	268	P	Pn	22 31 21.1	-0.5
ARG	Arkhangelos	1.80	67	P	Pn	22 31 22.2	-0.5

*BGR **08** 22:34:24.1, 52°.34N×177°.57E, h144km±1km, mb6.0,*

mB_BB6.5

BJI ***08*** *22:34:31.6±0.0, 52°.38N×176°.80E, h130km, mb5.8/95, mB6.4/79*

MOS ***08*** *22:34:32.4±1.1, 52°.31N×176°.89E, h128km, mb6.0/84, MS5.8/23, Error ellipse: s-maj=6.6km s-min=4.0km az=106.9*

AEIC ***08*** *22:34:33.4±4.2, 51°.96N±0°.07×176°.58E±0°.07, h139km±3km, Error ellipse: s-maj=10.6km s-min=5.8km az=188.0*

NEIC ***08*** *22:34:33.5±1.6, 52°.39N±0°.04×176°.77E±0°.05, h119km±1km, mb6.2/932, Mwb6.5/123, Mww6.5/51, ML6.1(AEIC), Error ellipse: s-maj=7.9km s-min=4.1km az=321.0, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}0.48; $M_{\theta\theta}$-3.42; $M_{\phi\phi}$2.94; $M_{r\theta}$4.21; $M_{\theta\phi}$-0.18; $M_{\phi r}$-3.92; Fault plane solution: $M_0$6.59000×10^18^ NP1:ϕ_s131.41000°, δ87.64000°, λ118.88000°. NP2: ϕ_s225.68000°, δ28.97000°, λ4.88000°. Principal axes: T 6.6036, Plg40.0000°, Azm68.0000°; N -0.0311, Plg29.0000°, Azm310.0000°; P -6.5724, Plg36.0000°, Azm196.0000°;*

IDC ***08*** *22:34:33.5±0.4, 52°.41N×176°.90E, h121km±2km, mb5.6/43, mbtmp6.0/46, MS5.8/75 Error ellipse: s-maj=7.6km s-min=5.0km az=173.0*

NEIC ***08*** *22:34:34.3, 52°.45N×176°.83E, h130km*

NEIC ***08*** *22:34:34.6, 52°.44N×176°.83E, h124km*

NEIC ***08*** *22:34:34.3, 51°.95N×176°.99E, h130km, Moment Tensor Solution. Duration: 9s1 Moment tensor: Scale 10^18^Nm; M_{rr}0.46; $M_{\theta\theta}$-5.15; $M_{\phi\phi}$4.69; $M_{r\theta}$4.27; $M_{\theta\phi}$-1.83; $M_{\phi r}$-3.62; Fault plane solution: $M_0$7.67000×10^18^ NP1: ϕ_s124.26000°, δ87.17000°, λ133.37000°. NP2: ϕ_s217.26000°, δ43.45000°, λ4.12000°. Principal axes: T 7.8958, Plg33.0000°, Azm70.0000°; N -0.4439, Plg43.0000°, Azm302.0000°; P -7.4519, Plg29.0000°, Azm181.0000°;*

GCMT ***08*** *22:34:36.5±0.0, 52°.37N×176°.82E, h121km, MW6.5/172, Moment Tensor Solution. s166,c440; s172,c764; Duration: 4s6 Moment tensor: Scale 10^18^Nm; M_{rr}0.78±.03; $M_{\theta\theta}$-5.53±.04; $M_{\phi\phi}$4.75±.03; $M_{r\theta}$4.98±.03; $M_{\theta\phi}$-1.56±.03; $M_{\phi r}$-4.20±.02; Best double couple: $M_0$8.46600×10^18^ NP1:ϕ_s125.00000°, δ86.00000°, λ130.00000°. NP2:ϕ_s219.00000°, δ40.00000°, λ6.00000°. Principal axes: T 8.6230, Plg36.0000°, Azm69.0000°; N -0.3160, Plg39.0000°, Azm302.0000°; P -8.3090, Plg30.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 08 22:34:33.8±0.2, 52°.29N±0°.02×176°.80E±0°.02, h128km±1km, h127km:pP-P, n2855, σ1°.68/3860, mb6.1/807, 315C-120D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**1.11**	**106**		**Pn**	**22 34 58.1**	**+0.7**
LSPA	**Little Sitkin**	**1.14**	**106**		**Pn**	**22 34 59.1**	**+1.3**
LSSE	**Little Sitkin**	**1.15**	**107**		**Pn**	**22 34 58.5**	**+0.6**
CETU	**Semis' Tuman**	**1.69**	**100**		**Pn**	**22 35 04.8**	**+0.9**
SHEM	**Shemya Is, Ala**	**1.71**	**286**	P	**Pn**	**22 35 03.5**	**-0.5**
	63μm,0.5s,baz=62,slow=3.4,SNR=544						
SHEM				S	**Sn**	**22 35 25.5**	**-1.6**
	23μm,0.4s,baz=198,slow=5.4,SNR=7.0						
SHEM				LR	LR	22 35 48.4	
	comp=Z,204μm,19.2s,baz=140,slow=43						
SMY	**Shemya**	**1.71**	**286**	Pn	**Pn**	**22 35 03.3**	**-0.7**
SMY				Sn	**Sn**	**22 35 25.8**	**-1.4**
SMY	**Shemya**	**1.71**	**286**	P	**Pn**	**22 35 03.3**	**-0.7**
SMY						22 35 25.8	
CEAP	**Semis' Anvil P**	**1.74**	**98**		**Pn**	**22 35 05.3**	**+0.9**
CESW	**Semis' Southwe**	**1.75**	**102**		**Pn**	**22 35 04.9**	**+0.3**
CEPE	**Semis' Perret**	**1.79**	**99**		**Pn**	**22 35 05.5**	**+0.6**
AMKA	**Amchitka**	**1.80**	**119**		**Pn**	**22 35 04.5**	**-0.6**
AMKA					**Sn**	**22 35 28.1**	**-0.9**
GALAA	**Gareloi Lava P**	**2.79**	**99**		**Pn**	**22 35 17.8**	**+0.3**
GAEA	**Gareloi East**	**2.80**	**99**		**Pn**	**22 35 17.8**	**+0.2**
GAEA					**Sn**	**22 35 53.2**	**+1.8**
TANO	**Tanaga North**	**3.16**	**95**		**Pn**	**22 35 22.6**	**+0.3**
TAPA	**Tanaga Point A**	**3.36**	**96**		**Pn**	**22 35 25.3**	**+0.3**
KICM	**Kanaga Island**	**3.72**	**93**		**Pn**	**22 35 30.4**	**+0.7**
KIWB	**Kanaga Island**	**3.76**	**94**		**Pn**	**22 35 29.8**	**-0.4**
ADK	**Adak**	**4.04**	**93**		**Pn**	**22 35 33.5**	**-0.3**
ADK	**Adak**	**4.04**	**93**	P	**Pn**	**22 35 33.6**	**-0.3**
GSTR	**Great Sitkin T**	**4.40**	**90**		**Pn**	**22 35 38.4**	**-0.3**
ATKA	**Atka Island**	**5.54**	**87**		**Pn**	**22 35 53.5**	**-0.3**
ATKA	**Atka Island**	**5.54**	**87**		**Sn**	**22 36 55.6**	**-0.7**
ATKA	**Atka Island**	**5.54**	**87**	P	**Pn**	**22 35 54.3**	**+0.4**
ATKA	**Atka Island**	**5.54**	**87**	⇑P	**Pn**	**22 35 53.3**	**-0.6**
KOFP	**Korovin Flat P**	**5.59**	**87**		**Pn**	**22 35 54.9**	**+0.2**
SPIA	**Saint Paul Isl**	**8.95**	**52**		**Pn**	**22 36 39.8**	**0.0**
SPIA	**Saint Paul Isl**	**8.95**	**52**		**Sn**	**22 38 22.3**	**+3.6**
SPIA	**Saint Paul Isl**	**8.95**	**52**	P	**Pn**	**22 36 41.1**	**+1.3**
	baz=241,SNR=86						
SPIA				S	**Sn**	**22 38 22.4**	**+3.7**
	baz=241						
OKCE	**Okmok Cone E**	**9.17**	**77**		**Pn**	**22 36 44.1**	**+1.2**
UNV	**Unalaska Valle**	**10.17**	**75**	P	**Pn**	**22 36 58.4**	**+2.2**
UNV	**Unalaska Valle**	**10.17**	**75**	P	**Pn**	**22 36 56.8**	**+0.5**
	baz=266,SNR=155						
UNV				S	Sn	22 38 58.7	+10
	baz=266						
AKUT	**Akutan**	**10.62**	**73**	P	**Pn**	**22 37 04.3**	**+2.1**
AKUT	**Akutan**	**10.62**	**73**	⇑P	**Pn**	**22 37 03.0**	**+0.8**
PET	**Petropavlovsk**	**11.05**	**281**	*e*P	**Pn**	**22 37 07.2**	**-0.7**
PET				*e*S	**Sn**	**22 39 03.8**	**-5.7**
PET				pmax	pmax		
	comp=Z,62μm,4.7s						
PET				pmax	pmax		
	comp=Z,3μm,1.4s						
PET				pmax	pmax		
	comp=Z,26μm,5.2s						
PET				MLR	MLR		
	comp=Z,14μm,13.0s						
PET				MLR	MLR		
	comp=Z,16μm,13.0s						
PET	**Petropavlovsk**	**11.05**	**281**	⇑P	**Pn**	**22 37 08.2**	**+0.3**
PEA0B	**Petropavlovsk-**	**11.62**	**282**	*c i*P	**Pn**	**22 37 16.7**	**+1.2**
PETK	**Petropavlovsk-**	**11.62**	**282**		**Pn**	**22 37 15.7**	**+0.2**
PETK	**Petropavlovsk-**	**11.62**	**282**	P	**Pn**	**22 37 15.5**	**0.0**
	comp=Z,2μm,1.0s,baz=72,slow=23,SNR=320						
PETK				S	**Sn**	**22 39 19.3**	**-4.1**
	comp=Z,396nm,0.4s,baz=93,slow=20,SNR=9.4						
PETK				ScP	**ScP**	**22 46 14.0**	**-0.8**
	comp=Z,31nm,0.8s,baz=96,slow=4.3,SNR=5.4						
FALS	**False Pass**	**12.04**	**70**	P	**Pn**	**22 37 23.4**	**+2.5**
FALS	**False Pass**	**12.04**	**70**	P	**Pn**	**22 37 21.6**	**+0.7**
	baz=264,SNR=154						
M11K	**Mekoryuk**	**12.41**	**43**	P	**Pn**	**22 37 26.7**	**+0.9**
	baz=236,SNR=70						
SKR	**Severo-Kuril's**	**12.98**	**271**	*e*P	**Pn**	**22 37 33.9**	**+0.6**
SKR				*e*S	**Sn**	**22 39 49.2**	**-7.1**
SKR				pmax	pmax		
	comp=Z,15μm,6.5s						
SKR				pmax	pmax		
	comp=Z,3μm,1.2s						
SKR				MLR	MLR		
	comp=Z,6μm,17.0s						
GAMB	**Gambell**	**13.00**	**23**	P	**Pn**	**22 37 34.1**	**+0.7**
	baz=213						
GAMB				S	**Sn**	**22 39 56.8**	**+0.3**
	baz=213						
GAMB	**Gambell**	**13.00**	**23**	⇑P	**Pn**	**22 37 34.2**	**+0.8**
M13K	**Dall Lake**	**13.64**	**46**	P	**Pn**	**22 37 43.2**	**+1.5**
	baz=242,SNR=170						
SDPT	**Sand Point**	**13.75**	**68**	Pn	**Pn**	**22 37 41.8**	**-1.4**
SDPT	**Sand Point**	**13.75**	**68**	P	**Pn**	**22 37 42.0**	**-1.1**
	baz=265,SNR=82						
K13K	**Kusilvak Mount**	**13.91**	**39**	P	**Pn**	**22 37 46.6**	**+1.5**
	baz=234,SNR=373						
K13K				S	**Sn**	**22 40 21.3**	**+2.9**
	baz=234						
O14K	**Tigyukauivet M**	**14.14**	**52**	P	**Pn**	**22 37 48.8**	**+0.8**
	baz=249,SNR=80						
O14K				S	**S**	**22 40 35.4**	**-0.4**
	baz=249						
N14K	**Kuskokwak Cree**	**14.18**	**49**	P	**Pn**	**22 37 49.7**	**+1.1**
	baz=246,SNR=277						
CHNA	**Chernabura Isl**	**14.25**	**70**	P	**Pn**	**22 37 47.3**	**-2.1**
	baz=268						
CNBA	**Chernabura Isl**	**14.25**	**70**	P	**Pn**	**22 37 47.8**	**-1.7**
S14K	**Fog Glacier**	**14.35**	**64**	P	**Pn**	**22 37 52.2**	**+1.3**
	baz=263,SNR=167						
L14K	**Kuka Creek**	**14.38**	**43**	P	**P**	**22 37 52.9**	**-1.4**
	baz=240,SNR=386						
L14K				S	**Sn**	**22 40 33.6**	**+3.9**
	baz=240						
M14K	**Bethel**	**14.41**	**46**	P	**P**	**22 37 53.1**	**-1.5**
	baz=243,SNR=342						
M14K				S	**Sn**	**22 40 34.4**	**+3.9**
	baz=243						
J14K	**Nanvaranak Lak**	**14.80**	**37**	P	**P**	**22 37 57.8**	**-1.2**
	baz=234,SNR=173						
J14K				S	**Sn**	**22 40 41.4**	**+1.5**
	baz=234						
O15K	**Ungalikthiuk R**	**14.81**	**53**	P	**Pn**	**22 37 57.0**	**+0.4**
	baz=252,SNR=172						
O15K				S	**S**	**22 40 47.5**	**-2.1**
	baz=252						
M15K	**Kasigluk River**	**14.95**	**47**	P	**P**	**22 37 59.4**	**-1.2**
	baz=245,SNR=511						
M15K				S	**Sn**	**22 40 45.3**	**+1.8**
	baz=245						
CHGN	**Chignik**	**14.99**	**65**	P	**Pn**	**22 37 57.9**	**-0.8**
	baz=264,SNR=89						
N15K	**Kwethluk River**	**15.02**	**49**	P	**P**	**22 38 00.6**	**-0.8**
	baz=248,SNR=407						
K15K	**Wolf Creek Mou**	**15.33**	**41**	P	**P**	**22 38 05.0**	**+0.1**
	baz=239,SNR=519						
K15K				S	**Sn**	**22 40 55.3**	**+2.6**
	baz=239						
ANM	**Nome**	**15.37**	**30**	P	**P**	**22 38 04.5**	**-0.8**
ANM	**Nome**	**15.37**	**30**	P	**P**	**22 38 04.5**	**-0.8**
ANM	**Nome**	**15.37**	**30**	P	**P**	**22 38 04.8**	**-0.4**
	baz=225,SNR=99						
ANM				S	**Sn**	**22 40 54.3**	**+0.8**
	baz=225						
TNA	**Tin City**	**15.40**	**24**	P	**P**	**22 38 05.3**	**-0.3**
	baz=218,SNR=84						
TNA				S	**Sn**	**22 40 57.2**	**+2.9**
	baz=218						
TNA	**Tin City**	**15.40**	**24**	⇑P	**P**	**22 38 05.2**	**-0.4**
R16K	**Pilot Point**	**15.60**	**60**	P	**P**	**22 38 07.7**	**-0.2**
	baz=260						
P16K	**Nushagak River**	**15.68**	**55**	P	**P**	**22 38 08.4**	**-0.3**
	baz=255,SNR=75						
N16K	**Nishlik Lake**	**15.74**	**49**	P	**P**	**22 38 09.2**	**-0.2**
	baz=249,SNR=261						
N16K				S	**S**	**22 41 05.9**	**-1.0**
	baz=249						
F14K	**Arctic Creek**	**15.76**	**26**	P	**P**	**22 38 10.0**	**+0.5**
	baz=221,SNR=81						
F14K				S	**Sn**	**22 41 04.5**	**+1.6**
	baz=221						
O16K	**Kokwok River B**	**15.78**	**53**	P	**Pn**	**22 38 09.2**	**+0.6**
	baz=253,SNR=148						
M16K	**Timber Creek**	**15.86**	**47**	P	**P**	**22 38 11.0**	**+0.3**
	baz=247,SNR=237						
M16K				S	**Sn**	**22 41 06.0**	**+0.7**
	baz=247						
L16K	**Owhat River**	**15.91**	**44**	P	**P**	**22 38 11.4**	**+0.1**
	baz=244,SNR=239						
L16K				S	**Sn**	**22 41 07.6**	**+1.0**
	baz=244						
G15K	**Niukluk**	**16.08**	**30**	P	**P**	**22 38 13.9**	**+0.8**
	baz=226,SNR=175						
G15K				S	**S**	**22 41 12.9**	**-0.6**
	baz=226						
J16K	**Anvik River**	**16.22**	**38**	P	**P**	**22 38 15.6**	**+1.0**
	baz=237,SNR=295						
J16K				S	**Sn**	**22 41 14.1**	**+0.1**
	baz=237						
MA2	**Magadan**	**16.23**	**307**	P	**Pn**	**22 38 13.3**	**-0.8**
MA2	**Magadan**	**16.23**	**307**	*d i*P	**Pn**	**22 38 12.9**	**-1.2**
MA2				pmax	pmax		
	comp=Z,1μm,2.5s						
MA2	**Magadan**	**16.23**	**307**	⇓P	**Pn**	**22 38 13.7**	**-0.4**
MA2	**Magadan**	**16.23**	**307**	P	**Pn**	**22 38 14.4**	**+0.3**
	comp=Z,88nm,0.6s,baz=89,slow=9.5,SNR=30						
MA2				ScP	**ScP**	**22 46 21.0**	**-1.4**
	comp=Z,38nm,0.8s,baz=108,slow=2.1,SNR=5.6						
R17K	**Ugashik Creek**	**16.24**	**60**	P	**Pn**	**22 38 14.4**	**+0.1**
	baz=261,SNR=191						
Q16K	**King Salmon**	**16.28**	**56**	P	**P**	**22 38 16.0**	**+0.7**
	baz=258,SNR=545						
Q16K				S	**S**	**22 41 19.6**	**+1.9**
	baz=258						
O17K	**Koliganek Bris**	**16.32**	**52**	P	**P**	**22 38 15.9**	**+0.2**
	baz=254,SNR=208						
F15K	**North Star Dit**	**16.40**	**28**	P	**P**	**22 38 18.2**	**+1.5**
	baz=224,SNR=297						
F15K				S	**S**	**22 41 20.9**	**+0.5**
	baz=224						
H16K	**Elim**	**16.42**	**33**	P	**P**	**22 38 18.1**	**+1.2**
	baz=231,SNR=318						
H16K				S	**Sn**	**22 41 19.0**	**+0.2**
	baz=231						
N17K	**Nushagak Hills**	**16.50**	**50**	P	**P**	**22 38 18.7**	**+0.9**
	baz=251,SNR=382						
P17K	**Kvichak River**	**16.50**	**55**	P	**P**	**22 38 18.5**	**+0.8**
	baz=256,SNR=636						
I17K	**Unalakleet**	**16.52**	**37**	P	**P**	**22 38 18.8**	**+0.9**
	baz=236,SNR=189						
I17K				S	**S**	**22 41 23.6**	**+0.8**
	baz=236						
CHIR	**Chirikof Islan**	**16.53**	**67**	P	**Pn**	**22 38 16.1**	**-1.7**
CHIR	**Chirikof Islan**	**16.53**	**67**	P	**Pn**	**22 38 15.9**	**-1.8**
	baz=268,SNR=26						
L17K	**Donlin**	**16.60**	**44**	P	**P**	**22 38 20.1**	**+1.2**
	baz=244,SNR=308						
L17K				S	**S**	**22 41 24.1**	**-0.6**
	baz=244						
Q17K	**Contact Creek**	**16.60**	**58**	P	**P**	**22 38 19.5**	**+0.5**
	baz=260,SNR=1000						
Q17K				S	**S**	**22 41 25.4**	**+0.4**
	baz=260						
M17K	**Holitna River**	**16.68**	**47**	P	**P**	**22 38 21.3**	**+1.5**
	baz=248,SNR=541						
M17K				S	**S**	**22 41 26.8**	**+0.1**
	baz=248						
SEY	**Seymchan**	**16.75**	**319**	P	**P**	**22 38 21.4**	**+0.9**
	comp=Z,147nm,0.6s,baz=117,slow=11,SNR=108						
SEY				ScP	**ScP**	**22 46 22.5**	**-0.9**
	comp=Z,41nm,0.9s,baz=138,slow=3.5,SNR=6.3						
K17K	**Iditarod**	**16.85**	**42**	P	**Pn**	**22 38 23.1**	**+1.4**
	baz=243,SNR=597						
K17K				S	**S**	**22 41 30.0**	**-0.4**
	baz=243						
G16K	**Koyuk River**	**16.88**	**31**	P	**Pn**	**22 38 23.5**	**+1.6**
	baz=229,SNR=432						
G16K				S	**S**	**22 41 30.4**	**-0.4**
	baz=229						
Q18K	**Katmai Hardscr**	**17.12**	**57**	P	**Pn**	**22 38 25.3**	**+0.3**
	baz=260,SNR=835						
Q18K				S	**Sn**	**22 41 35.5**	**-0.3**
	baz=260						
P18K	**Big Mountain,**	**17.15**	**54**	P	**Pn**	**22 38 26.4**	**+1.1**
P18K	**Big Mountain,**	**17.15**	**54**	P	**Pn**	**22 38 26.3**	**+1.0**
	baz=257,SNR=288						
P18K				S	**S**	**22 41 38.6**	**+1.7**
	baz=257						
N18K	**Kilae Creek**	**17.15**	**50**	P	**Pn**	**22 38 25.9**	**+0.5**
N18K	**Kilae Creek**	**17.15**	**50**	P	**Pn**	**22 38 26.7**	**+1.3**
	baz=252,SNR=241						
N18K				S	**Sn**	**22 41 36.7**	**+0.2**
	baz=252						
O18K	**Koktuh Hills**	**17.26**	**53**	P	**Pn**	**22 38 27.8**	**+1.1**
O18K	**Koktuh Hills**	**17.26**	**53**	P	**Pn**	**22 38 27.6**	**+1.0**
	baz=256						
O18K				S	**S**	**22 41 41.8**	**+2.5**
	baz=256						
R18K	**Karluk**	**17.27**	**61**	P	**P**	**22 38 24.2**	**-2.0**
	baz=264						
L18K	**Granite Mounta**	**17.32**	**45**	P	**Pn**	**22 38 28.3**	**+0.9**
	baz=247,SNR=347						
L18K				S	**S**	**22 41 39.5**	**-1.0**
	baz=247						
SII	**Sitkinak Islan**	**17.35**	**64**	P	**P**	**22 38 25.7**	**-1.5**
SII	**Sitkinak Islan**	**17.35**	**64**	P	**P**	**22 38 26.7**	**-0.5**
SII	**Sitkinak Islan**	**17.35**	**64**	P	**P**	**22 38 25.7**	**-1.5**
	baz=267,SNR=128						
H17K	**Granite Mounta**	**17.40**	**34**	P	**Pn**	**22 38 29.3**	**+1.1**
	baz=234,SNR=455						
H17K				S	**S**	**22 41 38.9**	**-3.1**
	baz=234						
SVW2	**Sparrevohn**	**17.42**	**49**	Pn	**Pn**	**22 38 29.1**	**+0.5**
G17K	**Kiwalik Mounta**	**17.49**	**32**	P	**Pn**	**22 38 30.4**	**+1.0**
	baz=231,SNR=390						
G17K				S	**Sn**	**22 41 44.3**	**-0.2**
	baz=231						
O19K	**Port Alsworth**	**17.77**	**52**		**Pn**	**22 38 32.5**	**-0.3**
O19K	**Port Alsworth**	**17.77**	**52**	P	**Pn**	**22 38 33.2**	**+0.4**
	baz=256,SNR=569						
O19K				S	**S**	**22 41 50.2**	**+0.6**
	baz=256						
J18K	**Innoko River**	**17.83**	**41**	P	**Pn**	**22 38 34.0**	**+0.5**
	baz=243,SNR=470						
J18K				S	**S**	**22 41 50.9**	**+0.2**
	baz=243						
N19K	**Bonanza Creek**	**17.85**	**50**	Pn	**Pn**	**22 38 33.9**	**0.0**
N19K	**Bonanza Creek**	**17.85**	**50**	P	**Pn**	**22 38 34.4**	**+0.5**
	baz=254,SNR=1000						
N19K				S	**S**	**22 41 52.3**	**+0.9**
	baz=254						
Q19K	**Cape Douglas,**	**17.86**	**57**		**P**	**22 38 33.2**	**+0.4**
Q19K	**Cape Douglas,**	**17.86**	**57**	P	**P**	**22 38 32.9**	**+0.1**
	baz=260,SNR=277						
Q19K				S	**S**	**22 41 52.2**	**+0.7**
	baz=260						
TTA	**Tatalina**	**17.89**	**43**	Pn	**Pn**	**22 38 34.3**	**0.0**
TTA	**Tatalina**	**17.89**	**43**	P	**Pn**	**22 38 34.3**	**0.0**
TTA	**Tatalina**	**17.89**	**43**	P	**Pn**	**22 38 34.6**	**+0.3**
	baz=246,SNR=669						
TTA				S	**Sn**	**22 41 53.2**	**-1.1**
	baz=246						
TTA	**Tatalina**	**17.89**	**43**	⇑P	**Pn**	**22 38 34.4**	**+0.1**
F17K	**Baldwin Pennin**	**17.91**	**29**	P	**Pn**	**22 38 34.9**	**+0.5**
	baz=228,SNR=459						
F17K				S	**S**	**22 41 52.3**	**+0.1**
	baz=228						
H18K	**Honhosa River**	**18.06**	**35**	P	**Pn**	**22 38 36.7**	**+0.5**
	baz=236,SNR=298						
H18K				S	**S**	**22 41 55.9**	**+0.6**
	baz=236						
L19K	**White Mountain**	**18.11**	**46**		**Pn**	**22 38 36.7**	**-0.1**
L19K	**White Mountain**	**18.11**	**46**	P	**Pn**	**22 38 36.8**	**0.0**
	baz=249,SNR=409						
L19K				S	**S**	**22 41 55.9**	**-0.3**
	baz=249						
E17K	**Hotham Inlet**	**18.18**	**27**	P	**Pn**	**22 38 37.8**	**+0.3**
	baz=226,SNR=712						
E17K				S	**S**	**22 41 57.4**	**-0.2**
	baz=226						
C16K	**Lisburne Hills**	**18.19**	**21**	P	**Pn**	**22 38 37.6**	**0.0**
	baz=217,SNR=114						
C16K				S	**S**	**22 41 58.3**	**+0.7**
	baz=217						
P19K	**Oil Pt**	**18.20**	**54**	Pn	**Pn**	**22 38 37.8**	**-0.1**
P19K	**Oil Pt**	**18.20**	**54**	P	**Pn**	**22 38 38.0**	**+0.1**
	baz=259,SNR=377						
P19K				S	**Sn**	**22 41 59.9**	**-1.6**
	baz=259						
M19K	**Big River Lodg**	**18.22**	**47**	Pn	**Pn**	**22 38 37.8**	**-0.3**
M19K	**Big River Lodg**	**18.22**	**47**	P	**Pn**	**22 38 38.2**	**+0.1**
	baz=251,SNR=428						
M19K				S	**S**	**22 41 59.0**	**+0.6**
	baz=251						
KDAK	**Kodiak Island**	**18.29**	**60**	*c i*P	**P**	**22 38 35.7**	**-1.7**
KDAK	**Kodiak Island**	**18.29**	**60**	P	**P**	**22 38 36.0**	**-1.4**
	baz=265						
KDAK	**Kodiak Island**	**18.29**	**60**	⇑P	**P**	**22 38 35.7**	**-1.7**
KDAK	**Kodiak Island**	**18.29**	**60**	P	**P**	**22 38 36.0**	**-1.4**
	comp=Z,10μm,0.8s,baz=266,slow=3.4,SNR=1376						
KDAK				S	**S**	**22 41 57.8**	**-2.0**
	comp=Z,192nm,0.8s,baz=18,slow=22,SNR=4.4						
KDAK				ScS	**ScS**	**22 50 06.6**	**-0.6**
	comp=Z,30nm,1.0s,baz=22,slow=23,SNR=2.6						
D17K	**Noatak River**	**18.29**	**25**	P	**Pn**	**22 38 39.2**	**+0.4**
	baz=222						
D17K				S	**S**	**22 41 59.1**	**-0.5**
	baz=222						
ILSW	**Iliamna Southw**	**18.30**	**53**	P	**Pn**	**22 38 39.0**	**-0.3**
GCSA	**Galena City Sc**	**18.38**	**37**	P	**Pn**	**22 38 39.7**	**-0.3**
	baz=239,SNR=168						
GCSA				S	**Sn**	**22 42 05.6**	**-0.1**
	baz=239						
G18K	**Tagagawik**	**18.39**	**33**	P	**Pn**	**22 38 39.8**	**-0.3**
	baz=234,SNR=840						
G18K				S	**Sn**	**22 42 04.7**	**-1.3**
	baz=234						
Q20K	**Shuyak Island**	**18.47**	**58**	P	**P**	**22 38 38.3**	**-1.1**
	baz=263,SNR=171						
SYI	**Shuyak Island**	**18.47**	**58**	P	**P**	**22 38 39.0**	**-0.4**
J19K	**Poorman**	**18.51**	**40**	P	**Pn**	**22 38 41.1**	**-0.4**
	baz=243,SNR=872						
O20K	**Slope Mountain**	**18.58**	**53**	P	**Pn**	**22 38 42.3**	**-0.2**
	baz=258,SNR=210						
O20K				S	**S**	**22 42 08.1**	**+2.4**
	baz=258						
RSO	**Redoubt South**	**18.59**	**52**	Pn	**Pn**	**22 38 42.2**	**-0.6**
E18K	**Tukpahlearik C**	**18.76**	**27**	P	**Pn**	**22 38 44.2**	**-0.2**
	baz=227,SNR=536						
E18K				S	**S**	**22 42 10.9**	**+1.9**
	baz=227						
M20K	**Styx River**	**18.78**	**48**	P	**Pn**	**22 38 44.5**	**-0.3**
M20K	**Styx River**	**18.78**	**48**	P	**Pn**	**22 38 44.6**	**-0.3**
	baz=252						
C17K	**DeLong Mountai**	**18.85**	**23**	P	**Pn**	**22 38 44.9**	**-0.6**
	baz=221,SNR=273						
C17K				S	**S**	**22 42 10.6**	**-0.2**
	baz=221						
K20K	**Telida**	**18.87**	**43**		**P**	**22 38 44.5**	**+0.7**
K20K	**Telida**	**18.87**	**43**	P	**P**	**22 38 44.7**	**+0.9**
	baz=247,SNR=688						
K20K				S	**S**	**22 42 12.0**	**+0.7**
	baz=247						
H19K	**Roundabout Mou**	**18.94**	**35**	P	**P**	**22 38 45.2**	**+0.8**
	baz=238,SNR=409						
HOM	**Homer**	**18.99**	**55**	P	**P**	**22 38 45.5**	**+0.4**
HOM	**Homer**	**18.99**	**55**	P	**P**	**22 38 45.5**	**+0.4**
	baz=260						
N20K	**Mount Spurr**	**19.02**	**50**	P	**Pn**	**22 38 47.4**	**-0.3**
	baz=256,SNR=972						
N20K				S	**S**	**22 42 17.8**	**+3.4**
	baz=256						
SPCR	**Spurr Chakacha**	**19.02**	**50**	P	**Pn**	**22 38 47.2**	**-0.4**
	baz=256						
G19K	**Purcell Mounta**	**19.06**	**33**	P	**P**	**22 38 46.4**	**+0.7**
	baz=236,SNR=280						
G19K				S	**S**	**22 42 15.4**	**+0.5**
	baz=236						
J20K	**Nowinta River**	**19.17**	**40**	Pn	**Pn**	**22 38 48.1**	**-1.1**
J20K	**Nowinta River**	**19.17**	**40**	P	**Pn**	**22 38 48.1**	**-1.1**
	baz=245,SNR=1000						
CNPM	**China Poot**	**19.18**	**55**		**P**	**22 38 47.0**	**-0.1**
F19K	**Shaleruckik Mo**	**19.23**	**31**	P	**P**	**22 38 48.4**	**+0.8**
	baz=233,SNR=883						
F19K				S	**S**	**22 42 19.0

baz=248,SNR=768
CHUM S S 22 42 32.3 +2.8
baz=248
B18K Kokolik River 19.85 22 P P 22 38 55.2 +0.9
baz=221,SNR=110
B18K S S 22 42 30.4 -0.1
baz=221
FIS Fire Island 19.95 51 P P 22 38 55.5 +0.1
F20K Avaraart Lake 20.02 32 P P 22 38 56.7 +0.6
baz=236
F20K S S 22 42 33.9 +0.1
baz=236
O22K Cooper Landing 20.07 53 P P 22 38 56.6 -0.1
O22K Cooper Landing 20.07 53 P P 22 38 55.5 -1.2
baz=260,SNR=205
O22K S S 22 42 34.4 -0.6
baz=260
M22K Willow 20.13 49 P P 22 38 56.8 -0.5
M22K Willow 20.13 49 P P 22 38 56.8 -0.5
baz=256,SNR=305
IMAR Indian Mountai 20.14 36 P P 22 38 57.9 +0.5
SEW Seward 20.15 54 P P 22 38 56.9 -0.7
baz=262,SNR=220
RC01 Rabbit Creek A 20.17 51 P P 22 38 56.8 -1.0
RC01 Rabbit Creek A 20.17 51 P P 22 38 56.2 -1.6
baz=259,SNR=200
RC01 S S 22 42 33.8 -3.2
baz=259
D19K Kuna River 20.18 27 P P 22 38 58.7 +0.8
baz=229,SNR=397
D19K S S 22 42 37.9 +0.7
baz=229
C19K Lookout Ridge 20.20 25 P P 22 38 58.9 +0.8
baz=225,SNR=200
C19K S S 22 42 37.9 +0.2
baz=225
CUT Chulitna 20.22 47 P P 22 38 58.2 0.0
CUT Chulitna 20.22 47 P P 22 38 58.3 0.0
baz=255,SNR=148
CUT S S 22 42 37.9 0.0
baz=255
KUR Kuril'sk 20.24 261 *e*P P 22 39 00.1 +1.4
KUR *e*S S 22 42 39.6 +1.0
KUR pmax pmax
comp=Z,4μm,1.6s
KUR pmax pmax
comp=Z,59μm,4.8s
KUR MLR MLR
comp=Z,14μm,14.0s
KTH Kantishna Hill 20.27 44 P P 22 38 59.8 +0.9
H21K Melozitna Rive 20.33 37 P P 22 38 59.5 0.0
H21K Melozitna Rive 20.33 37 P P 22 39 00.3 +0.8
baz=243,SNR=577
H21K S S 22 42 41.8 +1.8
baz=243
BPAW Bear Paw Mtn. 20.42 42 P P 22 39 00.7 +0.2
BPAW Bear Paw Mtn. 20.42 42 P P 22 39 01.4 +0.9
baz=249,SNR=586
BPAW S S 22 42 44.0 +2.1
baz=249
G21K Allakaket 20.48 35 P P 22 39 01.8 +0.7
baz=240,SNR=869
G21K S S 22 42 43.9 +0.9
baz=240
TRF Thorofare Moun 20.50 44 P P 22 39 01.6 +0.1
TRF Thorofare Moun 20.50 44 P P 22 39 02.0 +0.4
baz=252,SNR=448
TRF S S 22 42 45.0 +1.2
baz=252
PMR Palmer 20.56 50 P P 22 39 00.1 -1.8
PMR Palmer 20.56 50 P P 22 39 01.0 -0.9
PMR Palmer 20.56 50 P P 22 39 00.1 -1.8
PMR Palmer 20.56 50 P P 22 38 60.0 -1.9
baz=258,SNR=87
PMR S S 22 42 41.8 -2.7
baz=258
E20K Nigu River 20.58 29 P P 22 39 02.8 +0.6
baz=232,SNR=691
E20K S S 22 42 45.4 +0.3
baz=232
A19K Wainwright 20.65 21 P P 22 39 03.6 +0.7
baz=221,SNR=33
A19K S S 22 42 46.5 +0.3
baz=221
GHO Glory Hole Cre 20.69 49 P P 22 39 01.9 -1.5
D20K Etivluk River 20.74 27 P P 22 39 04.4 +0.5
baz=231,SNR=250
D20K S S 22 42 47.8 -0.4
baz=231
PWL Port Wells 20.81 52 P P 22 39 03.7 -0.9
PWL Port Wells 20.81 52 P P 22 39 03.0 -1.7
baz=261,SNR=251
PWL S S 22 42 45.2 -4.3
baz=261
KNK Knik Glacier 20.84 50 P P 22 39 04.0 -1.0
KNK Knik Glacier 20.84 50 P P 22 39 03.3 -1.6
baz=259,SNR=240
KNK S S 22 42 47.3 -2.8
baz=259
F21K Alatna River 20.85 33 P P 22 39 05.5 +0.5
baz=239,SNR=762
F21K S S 22 42 51.4 +1.2
baz=239
MLY Manley 20.86 40 P P 22 39 06.1 +0.9
MLY Manley 20.86 40 P P 22 39 06.0 +0.8
baz=248,SNR=965
MLY S S 22 42 53.0 +2.5
baz=248
H22K Ishtalitna Cre 20.96 37 P P 22 39 07.0 +0.7
baz=245
H22K S S 22 42 54.5 +2.1
baz=245
SML Sawmill 20.97 49 P P 22 39 05.7 -0.8
SML Sawmill 20.97 49 P P 22 39 05.0 -1.4
baz=258,SNR=422
SML S S 22 42 50.7 -2.0
baz=258
WAT1 Susitna Watana 21.09 46 P P 22 39 06.5 -1.2
baz=256
WAT1 S S 22 42 54.3 -0.7
baz=256
TYV Tymovskoe 21.16 280 *e*P P 22 39 11.0 +2.6
TYV *e*S S 22 43 01.7 +5.4
TYV pmax pmax
comp=Z,373nm,1.0s
TYV pmax pmax
comp=Z,53μm,6.3s
TYV smax smax
comp=N,46μm,7.8s
TYV smax smax
comp=E,50μm,7.8s
P23K Montague Islan 21.16 55 P P 22 39 08.0 -0.4
baz=264,SNR=97
P23K S S 22 42 54.0 -2.2
baz=264
MCK McKinley 21.16 44 P P 22 39 07.7 -0.7
baz=253,SNR=298
M23K Glacier View 21.25 50 P P 22 39 08.6 -0.8
baz=259,SNR=406
M23K S S 22 42 54.4 -3.5
baz=259
E21K Killik River 21.36 30 P P 22 39 10.0 -0.5
baz=235
E21K S S 22 42 58.4 -1.4
baz=235
NEA2 Nenana 21.37 42 P P 22 39 10.8 +0.1
baz=251,SNR=1000
NEA2 S S 22 43 00.6 +0.4
baz=251
G22K Bettles 21.38 35 P P 22 39 10.4 -0.2
baz=242
G22K S S 22 43 00.7 +0.6
baz=242
WAT6 Susitna Watana 21.40 47 P P 22 39 10.0 -1.2
baz=257,SNR=461
WAT6 S S 22 42 58.7 -2.3
baz=257
GLI Glacier Island 21.41 52 P P 22 39 09.9 -1.2
baz=262,SNR=257
GLI S S 22 42 59.3 -1.5
baz=262
F22K John River 21.43 33 P P 22 39 11.2 0.0
baz=240
F22K S S 22 43 01.7 +0.6
baz=240
SCM Sheep Creek Mo 21.44 50 P P 22 39 11.1 -0.4
baz=260,SNR=330
SCM S S 22 42 59.6 -2.0
baz=260
I23K Minto, Yukon-K 21.45 40 P P 22 39 11.5 +0.1
baz=249,SNR=333
I23K S S 22 43 02.7 +1.3
baz=249
B20K Meade River 21.45 24 P P 22 39 11.2 -0.1
baz=228
B20K S S 22 43 00.0 -1.3
baz=228
C21K Knifeblade Rid 21.54 28 P P 22 39 12.4 0.0
baz=233,SNR=146
C21K S S 22 43 00.4 -2.7
baz=233
H23K Yukon River 21.62 38 P P 22 39 13.8 +0.5
baz=247
H23K S S 22 43 06.4 +1.6
baz=247
Q23K Middleton Isla 21.65 56 P P 22 39 12.9 -0.8
baz=266,SNR=15
Q23K S S 22 43 04.9 -0.2
baz=266
DHY Denali Highway 21.67 46 P P 22 39 13.0 -1.0
baz=256,SNR=320
DHY S S 22 43 04.6 -1.3
baz=256
NKL Nikolayevsk 21.75 287 *e*P P 22 39 15.2 +0.4
NKL *e*S S 22 43 06.4 -0.7
NKL pmax pmax
comp=E,650nm,1.1s
NKL pmax pmax
comp=N,241nm,1.2s
NKL pmax pmax
comp=Z,1μm,1.3s
NKL smax smax
comp=E,13μm,7.2s
NKL smax smax
comp=N,7μm,2.5s
G23K Bananza Creek 21.81 36 P P 22 39 15.4 +0.1
baz=245,SNR=579
G23K S S 22 43 08.7 +0.7
baz=245
E22K Anaktuvuk Pass 21.87 32 P P 22 39 16.2 +0.3
baz=239
E22K S S 22 43 06.4 -2.6
baz=239
B21K Ikpikpuk River 21.87 27 P P 22 39 15.7 -0.2
baz=232
B21K S S 22 43 06.7 -2.2
baz=232
COLA College 21.96 41 P P 22 39 16.4 -0.4
COLA College 21.96 41 *c*P P 22 39 15.6 -1.2
COLA pmax pmax
comp=Z,561nm,1.4s
COLA College 21.96 41 P P 22 39 16.4 -0.4
baz=252
COLA S S 22 43 11.1 +0.6
baz=252
COLD Coldfoot 21.97 35 P P 22 39 16.8 -0.2
baz=243,SNR=208
COLD S S 22 43 10.4 -0.3
baz=243
D22K Ayikyak River 22.00 29 P P 22 39 17.2 0.0
baz=236,SNR=252
D22K S S 22 43 08.7 -2.5
baz=236
M24K Tolsona, Glenn 22.03 49 P P 22 39 17.8 +0.2
baz=260,SNR=260
M24K S S 22 43 12.8 +0.9
baz=260
EYAK Cordova Ski Ar 22.03 53 P P 22 39 17.1 -0.5
baz=264,SNR=88
EYAK S S 22 43 10.7 -1.1
baz=264
KLU Klutina 22.05 51 P P 22 39 17.1 -0.9
baz=262,SNR=182
KLU S S 22 43 11.8 -0.6
baz=262
YUK Yuzh-Kuril'sk 22.09 260 *d*P P 22 39 18.4 +0.1
UGL Uglegorsk 22.11 276 *d*P P 22 39 20.6 +2.1
UGL *e* 22 39 43.9
UGL *e*S S 22 43 15.2 +1.9
UGL *e* 22 44 00.4
UGL pmax pmax
comp=Z,9μm,3.0s
UGL pmax pmax
comp=Z,790nm,1.2s
UGL smax smax
comp=E,64μm,11.0s
UGL smax smax
comp=N,35μm,15.0s
HDA Harding Lake 22.19 43 P P 22 39 17.1 -2.2
baz=254,SNR=299
HDA S S 22 43 13.2 -1.4
baz=254
HDA S S 22 43 13.2 -1.4
baz=254
POKR Poker Plat Res 22.20 41 P P 22 39 19.0 -0.4
baz=252,SNR=200
POKR S S 22 43 15.7 +1.0
baz=252
H24K Noodor Dome 22.27 39 P P 22 39 20.1 0.0
baz=249,SNR=790
H24K S S 22 43 17.0 +1.2
baz=249
ILAR Eielson Array 22.32 42 P P 22 39 18.6 -1.9
ILAR Eielson Array 22.32 42 P P 22 39 18.3 -2.2
comp=N,284nm,0.8s,baz=242,slow=9.2,SNR=208
ILAR S S 22 43 12.5 -4.1
comp=N,12nm,0.9s,baz=252,slow=15,SNR=2.0
ILAR ScP ScP 22 46 33.9 -2.3
comp=N,14nm,0.8s,baz=251,slow=2.8,SNR=6.2
ILAR LR LR 22 48 28.5
comp=N,43μm,18.6s,baz=255,slow=38
ILAR ScS ScS 22 50 19.5 -1.5
comp=N,5.0nm,1.0s,baz=269,slow=5.0,SNR=7.2
ILAR PKiKP PKiKP 22 50 55.1 -0.5
comp=N,2.2nm,0.6s,baz=294,slow=2.3,SNR=6.2
ILAR P3KPbc 23 12 50.0
comp=N,1.4nm,1.1s,baz=97,slow=2.1,SNR=4.6
comp=N,284nm,0.8s
A21K Barrow 22.48 22 P P 22 39 21.3 -0.7
baz=226,SNR=11
A21K S S 22 43 19.1 0.0
baz=226
PAX Paxson 22.50 47 P P 22 39 22.0 -0.5
baz=259,SNR=884
PAX S S 22 43 17.4 -2.4
baz=259
K24K Donnelly Dome 22.54 45 P P 22 39 21.6 -1.1
baz=256,SNR=697
HARP HAARP 22.55 48 P P 22 39 22.9 +0.1
baz=260,SNR=174
HARP S S 22 43 20.4 +0.1
baz=260
E23K Chandalar 22.55 33 P P 22 39 23.0 +0.2
baz=242
E23K S S 22 43 19.7 -0.7
baz=242
YSS Yuzh-Sakhalins 22.55 270 P P 22 39 24.1 +1.2
YSS Yuzh-Sakhalins 22.55 270 *k*P P 22 39 24.5 +1.6
YSS *e**PP pP 22 39 48.1 +1.5
YSS *e**SP sP 22 40 04.3 +2.0
YSS *e*S S 22 43 20.5 0.0
YSS *e**SS sS 22 44 04.1 +1.9
YSS *e* 22 50 20.4
YSS pmax pmax
comp=Z,11μm,3.5s
YSS pmax pmax
comp=N,3μm,3.2s
YSS pmax pmax
comp=E,7μm,3.1s
YSS pmax pmax
comp=E,320nm,1.1s
YSS pmax pmax
comp=Z,720nm,1.1s
YSS smax smax
comp=N,37μm,9.9s
YSS smax smax
comp=E,18μm,11.5s
YSS MLR MLR
comp=Z,9μm,13.0s
YSS MLR MLR
comp=N,12μm,17.0s
YSS MLR MLR
comp=E,7μm,14.0s
YSS Yuzh-Sakhalins 22.55 270 ⇓P P 22 39 24.6 +1.6
BMRM Bremner River 22.63 52 P P 22 39 23.4 -0.2
baz=264,SNR=184
BMRM S S 22 43 22.0 +0.3
baz=264
B22K Teshekpuk Lake 22.64 26 P P 22 39 22.8 -0.7
baz=232,SNR=80
KAIM Kayak Island 22.65 55 P P 22 39 24.5 +0.6
baz=267,SNR=94
KAIM S S 22 43 24.3 +2.4
baz=267
D23K Nanushuk River 22.65 30 P P 22 39 24.0 +0.2
baz=239,SNR=274
D23K S S 22 43 20.3 -1.6
baz=239
A22K Sinclair Lake 22.66 24 P P 22 39 23.2 -0.5
baz=229
A22K S S 22 43 22.5 +0.6
baz=229
N25K Chitina, Valde 22.70 51 P P 22 39 24.3 0.0
baz=263,SNR=192
N25K S S 22 43 23.0 +0.1
baz=263
G24K Hadweenzic Riv 22.73 37 P P 22 39 25.3 +0.7
baz=248,SNR=545
G24K S S 22 43 25.5 +2.3
baz=248
TOLK Toolik Lake Re 22.84 32 P P 22 39 25.9 +0.3
TOLK Toolik Lake Re 22.84 32 P P 22 39 25.7 +0.1
baz=241,SNR=676
TOLK S S 22 43 25.0 0.0
baz=241
F24K Squaw Lake 22.90 35 P P 22 39 26.5 +0.3
baz=246,SNR=431
F24K S S 22 43 26.7 +0.8
baz=246
J25K Salcha River, 22.91 43 P P 22 39 24.2 -2.1
baz=255,SNR=335
RIDG Independent Ri 22.93 45 P P 22 39 25.1 -1.5
baz=258,SNR=350
RIDG S S 22 43 25.4 -1.1
baz=258
E24K Your Creek 22.94 33 P P 22 39 26.7 +0.2
baz=244
E24K S S 22 43 29.8 +3.3
baz=244
PRP Porcupine Dome 23.09 41 P P 22 39 26.3 -1.8
baz=253,SNR=569
PRP S S 22 43 30.6 +1.5
baz=253
C23K Itkillik River 23.14 28 P P 22 39 27.9 -0.3
baz=237,SNR=338
C23K S S 22 43 30.9 +1.4
baz=237
H25L Birch Creek 23.20 39 P P 22 39 29.0 0.0
baz=251
BGLC Bering Glacier 23.23 55 P P 22 39 30.2 +1.0
baz=268,SNR=7.5
G25K Bearman Lake 23.27 37 P P 22 39 29.9 +0.4
baz=250,SNR=166
D24K Happy Valley 23.33 31 P P 22 39 30.3 +0.2
baz=241
D24K S S 22 43 34.3 +1.7
baz=241
SCRK Sand Creek 23.35 45 P P 22 39 29.3 -1.2
baz=258,SNR=1000
SCRK S S 22 43 29.7 -3.7
baz=258
CRQE Cirque 23.35 53 P P 22 39 30.7 +0.2
baz=266,SNR=203
CRQE S S 22 43 33.0 -0.5
baz=266
MCARA McCarthy VSAT 23.43 51 P P 22 39 31.4 +0.3
baz=265,SNR=517
MCARA S S 22 43 36.1 +1.7
baz=265
L26K Log Cabin Wild 23.47 47 P P 22 39 31.5 +0.1
baz=261,SNR=733
L26K S S 22 43 34.2 -0.8
baz=261
M26K Nabesna, AK 23.54 49 P P 22 39 32.2 0.0
baz=263,SNR=225
M26K S S 22 43 35.5 -0.8
baz=263
JMP Maruseppu 23.62 263 *e*P P 22 39 34.0 +0.9
J26L Joseph Creek 23.64 44 P P 22 39 32.0 -1.1
baz=257,SNR=1000
J26L S S 22 43 35.7 -2.2
baz=257
C24K Franklin Bluff 23.64 30 P P 22 39 32.5 -0.4
baz=240
C24K S S 22 43 39.0 +1.4
baz=240
F25K Christian Rive 23.73 36 P P 22 39 34.3 +0.5
baz=248,SNR=689
F25K S S 22 43 38.9 -0.3
baz=248
JWK2 Keihoku 23.84 267 *e*P P 22 39 36.7 +1.8
MESA MESA 23.90 54 P P 22 39 36.1 +0.6
baz=269,SNR=211
MESA S S 22 43 41.7 -0.7
baz=269
E25K Arctic Village 23.95 34 P P 22 39 36.1 +0.3
baz=247,SNR=577
E25K S S 22 43 44.1 +1.3
baz=247
I26K Coal Creek Min 23.99 42 P P 22 39 34.1 -2.0
baz=256
ASAJ Asahikawa 24.03 264 P P 22 39 38.0 +1.3
ASAJ Asahikawa 24.03 264 *e*P P 22 39 38.1 +1.5
ASAJ Asahikawa 24.03 264 P P 22 39 38.0 +1.3
comp=E,900nm,0.9s,baz=46,slow=5.9,SNR=240
ASAJ LR LR 22 47 29.5
comp=E,18μm,21.3s,baz=60,slow=32
comp=E,900nm,0.9s
BMAR Burnt Mountain 24.05 36 P P 22 39 36.7 0.0
M27K Edge Creek, AK 24.05 49 P P 22 39 37.4 +0.5
baz=264,SNR=489
M27K S S 22 43 45.0 +0.2
baz=264
L27K Beaver Creek, 24.16 47 P P 22 39 37.9 +0.2
baz=262,SNR=1000
L27K S S 22 43 44.9 -1.3
baz=262
BCAR Beaver Creek A 24.18 47 P P 22 39 37.9 0.0
D25K Kavik River 24.18 31 P P 22 39 37.7 -0.1
baz=244
K27K Chicken 24.19 45 P P 22 39 38.2 +0.3
baz=260
K27K S S 22 43 46.4 -0.2
baz=260
G26K Porcupine Rive 24.19 38 P P 22 39 38.2 +0.3
baz=252,SNR=934
G26K S S 22 43 48.3 +1.8
baz=252
CTG Chitna Glacier 24.22 53 P P 22 39 38.9 +0.5
baz=268,SNR=235
CTG S S 22 43 47.2 -0.1
baz=268
F26K Sheenjek River 24.30 36 P P 22 39 39.4 +0.5
baz=250,SNR=631
F26K S S 22 43 50.7 +2.3
baz=250
MIDW Midway 24.43 167 P P 22 39 41.6 +1.3
MIDW Midway 24.43 167 ⇑P P 22 39 41.7 +1.3
BVCY Beaver Creek 24.53 49 P P 22 39 41.4 +0.3
baz=265,SNR=24
YUK3 Moose Creek 24.68 51 P P 22 39 42.5 -0.1
baz=267,SNR=689
YUK3 S S 22 43 53.9 -0.9
baz=267
I27K Kandik River 24.68 41 P P 22 39 40.7 -1.7
baz=257,SNR=157
I27K S S 22 43 53.6 -1.0
baz=257
PINM Pinnacle 24.75 55 P P 22 39 43.2 +0.1
baz=270,SNR=464
PINM S S 22 43 59.7 +4.0
baz=270
O28M Mount Upton 24.78 53 P P 22 39 43.8 +0.2
baz=269,SNR=876
O28M S S 22 43 59.3 +2.8
baz=269
H27K Steamboat Moun 24.86 40 P P 22 39 42.6 -1.5
baz=256,SNR=221
JEM Erimo 24.86 259 P P 22 39 46.2 +2.0
JEM Erimo 24.86 259 *e*P P 22 39 45.9 +1.6
ERM Erimo 24.86 259 P P 22 39 45.2 +1.0
ERM IAmb IAmb 22 40 15.9

comp=Z,2μm,1.4s
ERM Erimo 24.86 259 P **P 22 39 45.9 +1.7**
ERM Erimo 24.86 259 *d iP* **P 22 39 46.0 +1.7**
ERM pmax pmax
comp=Z,660nm,1.0s
ERM Erimo 24.86 259 ⇓P **P 22 39 45.5 +1.2**
C26K Camden Bay 24.90 31 P **P 22 39 44.7 +0.4**
baz=245,SNR=39
GRNR Gornyy 24.94 283 ⇓*iP* **P 22 39 46.0 +1.1**
GRNR *e* 22 40 09.8
GRNR *e*S **S 22 44 04.2 +5.4**
GRNR pmax pmax
comp=E,90nm,0.9s
GRNR pmax pmax
comp=N,30nm,1.0s
GRNR pmax pmax
comp=Z,200nm,1.0s
GRNR smax smax
comp=N,20nm,0.9s
GRNR MLR MLR
comp=N,8μm,18.0s
GRNR MLR MLR
comp=E,10μm,18.0s
GRNR MLR MLR
comp=Z,10μm,19.0s
G27K Doyon Strip 24.96 39 P **P 22 39 44.3 -0.6**
baz=255,SNR=272
YUK8 Steele Glacier 24.99 52 P **P 22 39 45.4 -0.1**
baz=268,SNR=211
PNL Peninsula 25.19 56 P **P 22 39 46.8 -0.3**
baz=272,SNR=114
I28M Miner Creek 25.34 42 IAmb IAmb 22 40 22.9
comp=Z,2μm,1.2s
I28M Miner Creek 25.34 42 P **P 22 39 47.8 -0.7**
baz=259,SNR=404
DAWY Dawson 25.36 45 P **P 22 39 48.8 +0.2**
baz=263,SNR=684
DAWY S **S 22 44 06.6 +1.3**
baz=263
E27K Coleen River 25.37 35 P **P 22 39 49.2 +0.5**
baz=252,SNR=512
YUK4 Talbot Arm 25.53 52 P **P 22 39 50.7 +0.3**
baz=269,SNR=99
O29M Mount Kennedy 25.58 54 P **P 22 39 50.9 +0.1**
baz=271,SNR=256
O29M S **S 22 44 13.2 +4.2**
baz=271
M29M Somme Creek 25.65 49 IAmb IAmb 22 40 27.0
comp=Z,1μm,1.2s
M29M Somme Creek 25.65 49 P **P 22 39 51.4 +0.1**
baz=267,SNR=196
M29M S **S 22 44 13.4 +3.4**
baz=267
YUK6 Outpost Mounta 25.67 53 P **P 22 39 51.8 +0.2**
baz=270,SNR=106
F28M Old Crow 25.84 37 P **P 22 39 53.3 +0.4**
baz=255,SNR=251
L29M L29M 25.84 48 P **P 22 39 53.1 +0.2**
baz=266,SNR=312
L29M S **S 22 44 13.5 +0.7**
baz=266
J29N Klondike Camp 25.92 45 P **P 22 39 53.9 +0.2**
baz=263,SNR=41
D27M Malcolm River 25.93 33 P **P 22 39 54.1 +0.5**
baz=251
I29M Ogilvie Camp, 26.00 42 P **P 22 39 53.4 -0.9**
baz=261,SNR=620
P29M Windy Craggy 26.03 56 P **P 22 39 54.9 +0.2**
baz=274,SNR=262
HYT Haines Junctio 26.09 53 P **P 22 39 55.8 +0.5**
baz=271,SNR=202
HYT S **S 22 44 18.5 +1.5**
baz=271
H29M Whitestone 26.11 41 IAmb IAmb 22 40 32.8
comp=Z,766nm,1.2s
H29M Whitestone 26.11 41 P **P 22 39 54.9 -0.4**
baz=260,SNR=163
K29M Barlow Dome 26.16 46 IAmb IAmb 22 40 32.0
comp=Z,933nm,1.0s
K29M Barlow Dome 26.16 46 P **P 22 39 56.2 +0.3**
baz=265,SNR=440
K29M S **S 22 44 19.0 +0.9**
baz=265
E28M Babbage River 26.22 35 P **P 22 39 56.9 +0.6**
baz=254,SNR=94
N30M Aishikik Lake 26.28 51 IAmb IAmb 22 40 06.8
comp=Z,849nm,0.9s
N30M Aishikik Lake 26.28 51 P **P 22 39 56.9 -0.1**
baz=270,SNR=56
N30M S **S 22 44 18.6 -1.2**
baz=270
G29M Pine Creek 26.38 39 P **P 22 39 58.2 +0.5**
G29M Pine Creek 26.38 39 P **P 22 39 58.2 +0.5**
baz=258,SNR=237
JSH Shimam 26.39 263 P **P 22 39 58.4 +0.4**
P30M Million Dollar 26.39 54 P **P 22 39 58.4 +0.4**
baz=273
P30M S **S 22 44 24.2 +2.5**
baz=273
M30M Minto, Yukon 26.43 49 IAmb IAmb 22 40 33.2
comp=Z,634nm,1.2s
M30M Minto, Yukon 26.43 49 P **P 22 39 58.0 -0.3**
baz=268,SNR=59
M30M S **S 22 44 22.9 +0.8**
baz=268
JOT Ohata 26.51 260 P **P 22 39 59.8 +0.7**
D28M Stokes Point 26.71 34 P **P 22 40 00.9 +0.4**
baz=253
D28M S **S 22 44 28.2 +2.0**
baz=253
J30M Hart River 26.74 44 P **P 22 40 01.2 +0.1**
baz=265,SNR=205
J30M S **S 22 44 24.6 -2.5**
baz=265
PLBC Pleasant Camp 26.75 56 P **P 22 40 01.3 +0.3**
baz=275,SNR=89
PLBC S **S 22 44 27.8 +0.8**
baz=275
E29M Blow River 26.75 36 P **P 22 40 01.3 +0.3**
baz=256,SNR=81
E29M S **S 22 44 25.6 -1.4**
baz=256
YAK Yakutsk 26.75 310 P **P 22 40 00.3 -0.7**
YAK IAmb IAmb 22 40 37.8
comp=Z,723nm,1.0s
YAK Yakutsk 26.75 310 *eP* **P 22 40 00.0 -1.0**
YAK *e**PP **pP 22 40 27.5 +0.6**
YAK *e* 22 40 49.2
YAK *e* 22 43 19.5
YAK *e*S **S 22 44 26.8 -0.2**
YAK *e**SS **sS 22 45 18.2 +4.2**
YAK *e* 22 50 35.7
YAK pmax pmax
comp=Z,647nm,1.0s
YAK pmax pmax
comp=N,78nm,1.6s
YAK pmax pmax
comp=E,201nm,1.4s
YAK pmax pmax
comp=Z,3μm,2.7s
YAK pmax pmax
comp=N,314nm,1.4s
YAK pmax pmax
comp=E,1μm,1.6s
YAK smax smax
comp=E,5μm,3.9s
YAK smax smax
comp=N,2μm,2.8s
YAK Yakutsk 26.75 310 ⇓P **P 22 40 00.3 -0.7**
I30M Mount Dempster 26.79 43 IAmb IAmb 22 40 36.9
comp=Z,1μm,1.4s
I30M Mount Dempster 26.79 43 P **P 22 40 00.7 -0.8**
baz=264,SNR=126
I30M S **S 22 44 27.2 -0.7**
baz=264
O30N Mendenhall 26.79 53 IAmb IAmb 22 40 09.2
comp=Z,2μm,1.7s
O30N Mendenhall 26.79 53 P **P 22 40 01.8 +0.4**
baz=272,SNR=40
O30N S **S 22 44 28.8 +1.0**
baz=272
EPYK Eagle Plains 26.80 40 IAmb IAmb 22 40 38.0
comp=Z,2μm,1.3s
EPYK Eagle Plains 26.80 40 P **P 22 40 01.0 -0.5**
baz=261,SNR=290
JTM Tenmabayashi 26.86 259 IAmb IAmb 22 40 47.9
comp=Z,1μm,1.2s
JTM Tenmabayashi 26.86 259 P **P 22 40 03.7 +1.5**
JTM Tenmabayashi 26.86 259 *eP* **P 22 40 03.0 +0.7**
JTM Tenmabayashi 26.86 259 ⇓P **P 22 40 02.9 +0.7**
MAYO Mayo, Yukon 26.87 47 P **P 22 40 02.4 +0.3**
baz=267,SNR=28
N31M Braeburn, Yuko 26.91 51 IAmb IAmb 22 40 11.6
comp=Z,544nm,1.1s
N31M Braeburn, Yuko 26.91 51 P **P 22 40 02.9 +0.4**
baz=271,SNR=40
N31M S **S 22 44 31.4 +1.7**
baz=271
S31K Pelican 26.99 59 IAmb IAmb 22 40 59.7
comp=Z,366nm,0.8s
S31K Pelican 26.99 59 P **P 22 40 03.7 +0.5**
baz=278,SNR=13
S31K S **S 22 44 32.3 +1.4**
baz=278
G30M tAoh Zraii Nji 27.09 39 P **P 22 40 03.8 -0.3**
baz=260,SNR=60
G30M S **S 22 44 32.4 0.0**
baz=260
R31K City Hall, Gus 27.19 58 P **P 22 40 05.5 +0.6**
baz=277
TEY Ternei 27.23 271 ⇑*eP* **P 22 40 05.0 -0.5**
TEY *e* 22 40 33.8
TEY pmax pmax
comp=E,30nm,1.2s
TEY pmax pmax
comp=N,10.0nm,1.3s
TEY pmax pmax
comp=Z,40nm,1.3s
TEY pmax pmax
comp=N,100nm,4.8s
TEY pmax pmax
comp=E,200nm,4.8s
TEY pmax pmax
comp=Z,300nm,4.8s
TEY pmax pmax
comp=Z,60nm,1.2s
TEY pmax pmax
comp=N,40nm,1.2s
TEY MLR MLR
comp=E,500nm,14.0s
TEY MLR MLR
comp=N,500nm,13.0s
TEY MLR MLR
comp=Z,400nm,14.0s
SKAG Skagway 27.27 56 IAmb IAmb 22 40 13.6
comp=Z,859nm,1.0s
SKAG Skagway 27.27 56 P **P 22 40 06.5 +0.7**
baz=276,SNR=53
SKAG S **S 22 44 34.5 -0.8**
baz=276
SKAG Skagway 27.27 56 ⇑P **P 22 40 06.4 +0.7**
F30M Barrier River 27.36 38 P **P 22 40 07.2 +0.7**
baz=260,SNR=219
F30M S **S 22 44 37.0 +0.3**
baz=260
WHY Whitehorse 27.39 53 IAmb IAmb 22 41 08.2
comp=Z,513nm,1.1s
WHY Whitehorse 27.39 53 P **P 22 40 07.4 +0.5**
baz=274,SNR=30
WHY S **S 22 44 39.4 +2.0**
baz=274
JOM Ohasama 27.54 256 *eP* **P 22 40 09.5 +1.2**
M31M Drury Creek, Y 27.55 50 IAmb IAmb 22 40 20.3
comp=Z,329nm,0.8s
M31M Drury Creek, Y 27.55 50 P **P 22 40 08.9 +0.7**
baz=271,SNR=127
M31M S **S 22 44 40.7 +1.0**
baz=271
SIT Sitka 27.63 61 IAmb IAmb 22 40 12.0
comp=Z,512nm,1.1s
SIT Sitka 27.63 61 P **P 22 40 09.7 +0.8**
baz=280
H31M Peel River 27.69 42 IAmb IAmb 22 40 46.4
comp=Z,559nm,1.0s
H31M Peel River 27.69 42 P **P 22 40 09.1 -0.3**
baz=264,SNR=128
H31M S **S 22 44 41.9 +0.1**
baz=264
G31M Satah River 27.84 40 P **P 22 40 10.7 +0.1**
baz=262,SNR=386
G31M S **S 22 44 43.2 -0.8**
baz=262
R32K Eaglecrest 27.84 58 P **P 22 40 11.5 +0.7**
baz=278,SNR=25
S32K Killisnoo 27.95 60 IAmb IAmb 22 40 52.9
comp=Z,578nm,1.0s
S32K Killisnoo 27.95 60 P **P 22 40 12.8 +1.1**
baz=280,SNR=37
FARO Faro, Yukon 28.03 50 IAmb IAmb 22 40 15.1
comp=Z,2μm,1.9s
FARO Faro, Yukon 28.03 50 P **P 22 40 13.1 +0.6**
baz=272,SNR=138
FARO S **S 22 44 47.1 -0.3**
baz=272
P32M Atlin 28.07 55 P **P 22 40 14.1 +1.2**
baz=277,SNR=77
P32M S **S 22 44 47.1 -1.0**
baz=277
F31M Tsiigehtchic 28.11 38 P **P 22 40 13.1 0.0**
baz=262,SNR=87
N32M Quiet Lake 28.23 52 IAmb IAmb 22 40 21.9
comp=Z,698nm,0.9s
N32M Quiet Lake 28.23 52 P **P 22 40 14.9 +0.6**
baz=274
N32M S **S 22 44 50.3 -0.1**
baz=274
KLR Kul'dur 28.31 282 P **P 22 40 15.5 +0.5**
comp=Z,219nm,0.9s,baz=64,slow=8.8,SNR=202
KLR LR LR 22 52 02.3
comp=Z,13μm,18.5s,baz=72,slow=37
comp=Z,219nm,0.9s
INK Inuvik 28.32 37 IAmb IAmb 22 40 53.1
comp=Z,957nm,1.1s
INK Inuvik 28.32 37 P **P 22 40 15.1 +0.2**
baz=261,SNR=94
INK Inuvik 28.32 37 ⇑P **P 22 40 14.9 0.0**
P33M Teslin, Yukon 28.45 54 IAmb IAmb 22 40 24.4
comp=Z,776nm,0.9s
P33M Teslin, Yukon 28.45 54 P **P 22 40 17.4 +1.1**
baz=276,SNR=240
P33M S **S 22 44 56.1 +2.1**
baz=276
TIXI Tiksi 28.50 330 P **P 22 40 16.3 -0.2**
TIXI IAmb IAmb 22 40 59.8
comp=Z,1μm,1.5s
TIXI Tiksi 28.50 330 *c iP* **P 22 40 15.0 -1.5**
TIXI pmax pmax
comp=Z,60nm,1.7s
TIXI Tiksi 28.50 330 ⇑P **P 22 40 16.1 -0.4**
JMM Marumori 28.88 254 IAmb IAmb 22 40 51.6
comp=Z,559nm,1.4s
JMM Marumori 28.88 254 P **P 22 40 21.5 +1.3**
JMM Marumori 28.88 254 P **P 22 40 21.1 +0.8**
JMM Marumori 28.88 254 ⇓P **P 22 40 21.1 +0.8**
Q32M Nakina River 28.90 56 P **P 22 40 22.3 +1.9**
baz=279,SNR=128
Q32M S **S 22 45 03.8 +2.5**
baz=279
T33K Petersburg 28.95 61 P **P 22 40 22.3 +1.7**
baz=282,SNR=11
MMPY Sheldon Lake, 28.98 49 P **P 22 40 22.2 +1.2**
baz=273,SNR=194
MMPY S **S 22 45 04.4 +2.1**
baz=273
U33K Whale Pass 29.02 62 P **P 22 40 22.6 +1.3**
baz=283,SNR=14
JYA Atsumi 29.05 257 *eP* **P 22 40 22.7 +1.0**
CRAG Craig 29.18 64 P **P 22 40 23.9 +1.2**
baz=284,SNR=7.5
CRAG S **S 22 45 08.0 +2.7**
baz=284
CRAG Craig 29.18 64 ⇑P **P 22 40 23.7 +1.1**
ZEA Zeya 29.36 293 *eP* **P 22 40 24.3 0.0**
ZEA *e**PP **pP 22 40 50.6 -0.2**
ZEA *e**SP **sP 22 41 03.9 -1.1**
ZEA *e*S **S 22 45 04.2 -4.1**
ZEA *e* 22 45 56.4
ZEA pmax pmax
comp=N,30nm,0.8s
ZEA pmax pmax
comp=E,70nm,1.0s
ZEA pmax pmax
comp=Z,150nm,1.0s
ZEA pmax pmax
comp=E,400nm,2.6s
ZEA pmax pmax
comp=N,200nm,2.7s
ZEA pmax pmax
comp=Z,500nm,2.5s
ZEA pmax pmax
comp=E,2μm,11.1s
ZEA pmax pmax
comp=Z,3μm,10.5s
ZEA smax smax
comp=E,3μm,3.6s
ZEA smax smax
comp=N,5μm,8.2s
ZEA MLR MLR
comp=Z,6μm,11.0s
R33M Jennings River 29.49 55 IAmb IAmb 22 40 33.6
comp=Z,1μm,1.1s
R33M Jennings River 29.49 55 P **P 22 40 27.3 +1.8**
baz=279,SNR=263
R33M S **S 22 45 14.6 +4.1**
baz=279
S34M Telegraph Cree 29.68 58 IAmb IAmb 22 41 15.0
comp=Z,338nm,0.8s
S34M Telegraph Cree 29.68 58 P **P 22 40 28.6 +1.5**
baz=282,SNR=81
S34M S **S 22 45 16.7 +3.5**
baz=282
V35K Ketchikan 30.04 63 P **P 22 40 31.3 +1.0**
baz=286,SNR=16
DLBC Dease Lake 30.14 57 P **P 22 40 33.1 +1.8**
baz=281,SNR=127
DLBC S **S 22 45 21.2 +0.6**
baz=281
DLBC Dease Lake 30.14 57 LR LR 22 52 59.5
comp=Z,20μm,18.9s,baz=282,slow=37
JSD Sado 30.28 257 IAmb IAmb 22 40 35.1
comp=Z,585nm,1.0s
JSD Sado 30.28 257 P **P 22 40 33.3 +0.7**
JSD Sado 30.28 257 P **P 22 40 33.3 +0.7**
JSD Sado 30.28 257 ⇑P **P 22 40 32.8 +0.2**
JYT Yasato 30.34 253 *eP* **P 22 40 34.2 +1.1**
T35M Bob Quinn 30.35 60 IAmb IAmb 22 40 38.1
comp=Z,656nm,0.8s
T35M Bob Quinn 30.35 60 P **P 22 40 35.1 +2.0**
baz=284,SNR=239
T35M S **S 22 45 25.1 +1.3**
baz=284
WTLY Watson Lake, Y 30.45 53 P **P 22 40 35.4 +1.4**
baz=279
HEH HeiHe 30.49 286 ⇓P **P 22 40 33.3 -1.0**
HEH pP **pP 22 41 00.4 -0.8**
HEH S **S 22 45 25.2 -0.7**
HEH sS **sS 22 46 10.5 -2.6**
HEH ScP **ScP 22 46 56.8 -3.7**
HEH SS **SnSn 22 47 15.6 -1.2**
HEH ScS **ScS 22 50 53.2 -3.5**
HEH pmax pmax
comp=Z,170nm,1.0s
HEH pmax pmax
comp=Z,2μm,3.8s
TGTN Hyland Airport 30.49 51 P **P 22 40 35.2 +1.0**
baz=277,SNR=95
TGTN S **S 22 45 26.1 +0.1**
baz=277
USA0B Ussuriysk Arra 30.50 273 *d iP* **P 22 40 34.2 -0.2**
USRK Ussuriysk Ar. 30.50 273 P **P 22 40 33.9 -0.5**
USRK Ussuriysk Ar. 30.50 273 P **P 22 40 34.4 0.0**
comp=Z,124nm,0.8s,baz=56,slow=8.7,SNR=158
USRK PcP **PcP 22 43 32.1 +1.9**
comp=Z,58nm,0.7s,baz=63,slow=0.9,SNR=12
USRK ScP **ScP 22 47 00.3 -0.3**
comp=Z,23nm,1.0s,baz=64,slow=4.4,SNR=8.1
USRK LR LR 22 51 52.7
comp=Z,11μm,21.4s,baz=54,slow=34
USRK P3KPbc 23 12 20.5
comp=Z,2.6nm,0.8s,baz=220,slow=4.5,SNR=4.4
comp=Z,124nm,0.8s
VLA Vladivostok 31.13 271 *d iP* **P 22 40 40.2 +0.2**
VLA pmax pmax
comp=Z,273nm,0.8s
JRY Ryogami san 31.25 254 P **P 22 40 42.3 +1.2**
MJAR Matsushiro Arr 31.30 255 P **P 22 40 42.4 +0.8**
comp=Z,139nm,1.0s,baz=47,slow=7.6,SNR=258
MJAR PcP **PcP 22 43 34.0 +1.4**
comp=Z,18nm,0.9s,baz=40,slow=3.1,SNR=8.7
MJAR ScP **ScP 22 47 03.1 -0.4**
comp=Z,27nm,1.1s,baz=335,slow=1.5,SNR=8.6
MJAR P3KPbc 23 12 16.4
comp=Z,0.7nm,0.5s,baz=216,slow=4.5,SNR=2.1
comp=Z,139nm,1.0s
MJB9 Matsu-Tunnel 31.30 255 IAmb IAmb 22 40 46.9
comp=Z,572nm,1.0s
MAJO Matsushiro 31.30 255 P **P 22 40 42.6 +1.1**
MAJO IAmb IAmb 22 40 46.0
comp=Z,607nm,1.0s
MAJO Matsushiro 31.30 255 P **P 22 40 43.0 +1.4**
MAJO Matsushiro 31.30 255 *d iP* **P 22 40 42.2 +0.6**
MAJO pmax pmax
comp=Z,522nm,0.9s
MAJO Matsushiro 31.30 255 ⇓P **P 22 40 42.4 +0.8**
MAJO Matsushiro 31.30 255 P **P 22 40 42.9 +1.4**
MAJO pP **pP 22 41 09.7 +0.7**
MAJO ScP **ScP 22 47 04.1 +0.7**
MAT Matsushiro 31.30 255 P **P 22 40 43.0 +1.4**
GRNB Grenville Isla 31.41 66 IAmb IAmb 22 41 47.1
comp=Z,670nm,1.8s
A36M Sachs Harbour 31.65 30 IAmb IAmb 22 41 22.0
comp=Z,452nm,0.9s
A36M Sachs Harbour 31.65 30 P **P 22 40 45.0 +0.8**
baz=263,SNR=18
A36M S **S 22 45 44.3 +0.8**
baz=263
JOD2 Odawara 2 31.66 253 *eP* **P 22 40 45.7 +1.0**
MDJ Mudanjiang 31.75 275 P **P 22 40 45.0 -0.4**
MDJ pP pP 22 41 09.9 -3.0
MDJ S **S 22 45 51.6 +5.9**
MDJ SS **SnSn 22 47 49.1 +1.7**
MDJ pmax pmax
comp=Z,56nm,1.0s
MDJ pmax pmax
comp=Z,2μm,8.5s
MDJ LR LR
comp=Z,23μm,16.6s
MDJ LR LR
comp=Z,17μm,16.3s
MDJ LR LR
comp=Z,32μm,23.0s
MDJ Mudanjiang 31.75 275 P **P 22 40 45.2 -0.2**
MDJ pP **pP 22 41 11.6 -1.2**
MDJ PcP **PcP 22 43 35.4 +1.8**
C36M Paulatuk 31.84 35 P **P 22 40 45.9 +0.1**
baz=268,SNR=45
C36M S **S 22 45 46.3 -0.3**
baz=268
MSHR Mys Shultsa 31.88 271 *d iP* **P 22 40 47.8 +1.2**
MSHR pmax pmax
comp=Z,209nm,1.2s
LIRD Liard River Hi 31.93 54 P **P 22 40 48.3 +1.4**
baz=282,SNR=75
LIRD S **S 22 45 47.1 -1.2**
baz=282
JGN Niukaw 32.04 256 *eP* **P 22 40 49.2 +1.0**
JGF Kuroka 32.44 255 P **P 22 40 53.2 +1.6**
WRGLY Wrigley 32.47 47 P **P 22 40 52.5 +1.0**
baz=278,SNR=29
WRGLY S **S 22 45 59.0 +2.5**
baz=278
BNX BinXian 32.51 278 ⇓P **P 22 40 51.7 -0.4**
BNX pP **pP 22 41 18.6 -1.1**
BNX sP **sP 22 41 33.2 -1.1**
BNX PcP **PcP 22 43 35.2 -0.5**
BNX S **S 22 45 54.2 -3.4**
BNX sS **sS 22 46 43.9 -1.0**
BNX ScS **ScS 22 51 07.2 +0.2**
BNX pmax pmax
comp=Z,450nm,0.8s
BNX pmax pmax
comp=Z,1μm,3.7s
KOTAN Kotaneelee Air 32.78 53 P **P 22 40 55.8 +1.6**
baz=283,SNR=393
KOTAN S **S 22 46 05.2 +3.7**
baz=283
JHJ Hachijo jima 2 32.78 249 P **P 22 40 55.8 +1.3**
comp=Z,379nm,0.9s,baz=93,slow=17,SNR=4.0
comp=Z,379nm,0.9s
INU Inuyama 32.82 255 P **P 22 40 56.1 +1.3**

INU	**Inuyama**	**32.82 255**	⇓P	**P**	**22 40 55.5 +0.7**
INU	**Inuyama**	**32.82 255**	P	**P**	**22 40 55.7 +0.9**
INU			pP	**pP**	**22 41 22.1 -0.2**
FLDN	**Fort Liard**	**33.03 52**	IAmb	IAmb	22 41 12.4
	comp=Z,412nm,0.9s				
FLDN	**Fort Liard**	**33.03 52**	P	**P**	**22 40 57.9 +1.5**
	baz=283,SNR=22				
FLDN			S	**S**	**22 46 08.3 +3.0**
	baz=283				
BBB	**Bella Bella**	**33.05 68**	LR	LR	22 52 05.0
	comp=Z,15μm,21.6s,baz=291,slow=32				
JIE	**Ise**	**33.66 254**	*e*P	**P**	**22 41 04.2 +2.0**
JWT	**Wachi**	**33.82 256**	P	**P**	**22 41 04.5 +1.0**
WAKE	**Wake Island**	**33.88 197**	P	**P**	**22 41 05.5 +1.4**
WAKE	**Wake Island**	**33.88 197**	P	**P**	**22 41 05.4 +1.2**
CN2	**Changchun**	**34.71 277**	⇓P	**P**	**22 41 10.7 -0.4**
CN2			*e*pP	pP	22 41 37.0 -1.9
CN2			*e*S	**S**	**22 46 30.2 -1.3**
CN2			pmax	pmax	
	comp=Z,40nm,1.1s				
CN2			pmax	pmax	
	comp=Z,900nm,6.0s				
JAD	**Aida**	**34.80 257**	P	**P**	**22 41 12.9 +1.0**
BOD	**Bodaibo**	**35.23 304**	*e*P	**P**	**22 41 14.9 -0.5**
BOD			pmax	pmax	
	comp=Z,597nm,1.9s				
KEKH	**Kekaha**	**35.26 140**	P	**P**	**22 41 17.3 +1.3**
KEKH			IAmb	IAmb	22 41 18.8
	comp=Z,502nm,1.1s				
JHS	**Saijyo**	**35.39 258**	P	**P**	**22 41 18.6 +1.5**
HIA	**Hailar**	**35.41 288**	P	**P**	**22 41 17.3 +0.2**
HIA	**Hailar**	**35.41 288**	P	**P**	**22 41 16.8 -0.3**
HIA			pP	**pP**	**22 41 42.5 -2.1**
HIA			PcP	**PcP**	**22 43 47.1 +3.2**
HHU	**Hamhung**	**35.64 270**	P	**P**	**22 41 20.2 +1.1**
HHU			S	**S**	**22 46 46.8 +1.0**
HHU			AmB		
	comp=Z,5μm,3.2s				
JMN	**Monobe**	**35.80 256**	IAmb	IAmb	22 41 23.5
	comp=Z,522nm,1.5s				
JMN	**Monobe**	**35.80 256**	P	**P**	**22 41 22.9 +2.2**
JMN	**Monobe**	**35.80 256**	P	**P**	**22 41 22.4 +1.7**
JMN	**Monobe**	**35.80 256**	⇑P	**P**	**22 41 22.4 +1.7**
CBIJ	**Chichi jima**	**36.08 239**	*e*P	**P**	**22 41 24.1 +1.1**
JCJ	**Chichijima**	**36.08 239**	P	**P**	**22 41 24.1 +1.1**
JCJ	**Chichijima**	**36.08 239**	P	**P**	**22 41 24.7 +1.7**
JCJ	**Chichijima**	**36.08 239**	⇓P	**P**	**22 41 24.0 +1.0**
JCJ	**Chichijima**	**36.08 239**	P	**P**	**22 41 20.4 -2.6**
	comp=Z,154nm,0.4s,baz=270,slow=22,SNR=20				
OPA	**Opana**	**36.21 138**	IAmb	IAmb	22 41 29.4
	comp=Z,832nm,1.4s				
KIP	**Kipapa**	**36.44 138**	P	**P**	**22 41 27.7 +1.6**
KIP	**Kipapa**	**36.44 138**	P	**P**	**22 41 28.7 +2.6**
KIP	**Kipapa**	**36.44 138**	P	**P**	**22 41 28.9 +2.8**
KIP	**Kipapa**	**36.44 138**	P	**P**	**22 41 27.7 +1.6**
KIP			pmax	pmax	
	comp=Z,2μm,1.6s				
YKA	**Yellowknife Ar**	**36.59 46**	P	**P**	**22 41 27.1 +0.1**
YKA	**Yellowknife Ar**	**36.59 46**	P	**P**	**22 41 26.0 -0.9**
	comp=Z,225nm,0.8s,baz=290,slow=8.3,SNR=226				
YKA			PP	**PP**	**22 42 53.2 +0.7**
	comp=Z,57nm,0.9s,baz=281,slow=9.2,SNR=1.8				
YKA			PcP	**PcP**	**22 43 47.7 +0.5**
	comp=Z,75nm,0.8s,baz=292,slow=3.2,SNR=6.4				
YKA			S	**S**	**22 46 60.0 +0.2**
	comp=Z,3.7nm,0.8s,baz=284,slow=15,SNR=1.9				
YKA			ScP	**ScP**	**22 47 21.4 -0.4**
	comp=Z,20nm,0.8s,baz=297,slow=3.5,SNR=8.0				
YKA			LR	LR	22 57 22.0
	comp=Z,39μm,19.7s,baz=290,slow=38				
YKA			P3KPbc		23 11 55.5
	comp=Z,4.0nm,1.1s,baz=104,slow=4.6,SNR=7.9				
	comp=Z,225nm,0.8s				
WAPA	**Wapiti River**	**36.76 59**	P	**P**	**22 41 29.1 +0.5**
WAPA				**PcP**	**22 43 50.3 +2.3**
KSRS	**Korea Array**	**36.93 266**	P	**P**	**22 41 31.8 +1.6**
	comp=Z,157nm,1.0s,baz=58,slow=8.3,SNR=367				
KSRS			PcP	**PcP**	**22 43 50.2 +1.6**
	comp=Z,24nm,1.0s,baz=29,slow=2.2,SNR=5.2				
KSRS			S	**S**	**22 47 09.0 +3.5**
	comp=Z,5.4nm,1.1s,baz=42,slow=16,SNR=5.2				
KSRS			P3KPbc		23 11 54.4
	comp=Z,5.0nm,0.7s,baz=232,slow=4.1,SNR=15				
KSRS			PKP2ab		23 15 52.3
	comp=Z,0.4nm,0.3s,baz=243,slow=1.0,SNR=1.3				
	comp=Z,157nm,1.0s				
KS19	**Wonju Array Si**	**36.94 266**	IAmb	IAmb	22 42 01.3
	comp=Z,546nm,1.4s				
SNY	**Shenyang**	**36.95 275**	⇓P	**P**	**22 41 31.1 +0.9**
SNY			pP	**pP**	**22 41 58.0 -0.2**
SNY			S	**S**	**22 47 06.1 +0.4**
SNY			pmax	pmax	
	comp=Z,120nm,2.2s				
SNY			pmax	pmax	
	comp=Z,2μm,4.2s				
SNY			LR	LR	
	comp=Z,18μm,18.6s				
SNY			LR	LR	
	comp=Z,13μm,20.6s				
SNY			LR	LR	
	comp=Z,16μm,17.7s				
C03A	**Quillayute Air**	**36.96 73**	IAmb	IAmb	22 42 47.1
	comp=Z,563nm,1.5s				
KSAR	**Wonju Array Be**	**36.96 266**	P	**P**	**22 41 31.4 +1.0**
KSAR	**Wonju Array Be**	**36.96 266**	P	**P**	**22 41 31.4 +1.0**
JOHN	**Johnston Islan**	**37.09 158**	P	**P**	**22 41 33.2 +1.6**
JOHN	**Johnston Islan**	**37.09 158**	P	**P**	**22 41 33.4 +1.9**
LLLB	**Lillooet**	**37.25 67**	IAmb	IAmb	22 41 35.3
	comp=Z,281nm,1.0s				
PYAG	**Pyongyang**	**37.26 270**	P	**P**	**22 41 34.2 +1.3**
PYAG			pP	**pP**	**22 42 01.3 +0.5**
PYAG			S	**S**	**22 47 12.6 +2.2**
PYAG			AmB		
	comp=Z,5μm,2.9s				
PYAG			AMS	AMS	
	comp=Z,9μm,14.1s				
SUJ	**Sinuiju**	**37.40 272**	P	**P**	**22 41 34.8 +0.8**
SUJ			S	**S**	**22 47 14.1 +1.5**
SUJ			AmB		
	comp=Z,7μm,2.9s				
SUJ			AMS	AMS	
	comp=Z,9μm,14.0s				
KHLH	**Kahului Airpor**	**37.57 136**	IAmb	IAmb	22 41 41.1
	comp=Z,319nm,1.1s				
NLWA	**Neilton Lookou**	**37.64 73**	⇑P	**P**	**22 41 36.2 +0.1**
CIT	**Chita**	**37.70 296**	*e*P	**P**	**22 41 37.2 +0.7**
CIT			*e*		22 42 06.3
CIT			*e*		22 42 16.5
CIT			*e*		22 43 05.6
CIT			*e*		22 43 29.7
CIT			*e*		22 43 49.4
CIT			*e*		22 47 15.0
CIT			*e*		22 47 59.7
CIT			*e*		22 50 29.9
CIT			pmax	pmax	
	comp=Z,588nm,1.7s				
INCN	**Inchon**	**37.70 267**	P	**P**	**22 41 38.0 +1.4**
INCN			IAmb	IAmb	22 41 39.6
	comp=Z,532nm,1.1s				
INCN	**Inchon**	**37.70 267**	P	**P**	**22 41 38.1 +1.4**
INCN			pmax	pmax	
	comp=Z,532nm,1.1s				
INCN	**Inchon**	**37.70 267**	P	**P**	**22 41 37.9 +1.2**
INCN			S	**S**	**22 47 17.0 -0.3**
INCN	**Inchon**	**37.70 267**	⇑P	**P**	**22 41 37.7 +1.0**
INCN	**Inchon**	**37.70 267**	P	**P**	**22 41 38.4 +1.8**
INCN			pP	**pP**	**22 42 05.7 +1.0**
INCN			sP	**sP**	**22 42 19.9 +0.8**
HLK	**Haleakala**	**37.77 136**	IAmb	IAmb	22 42 23.6
	comp=Z,298nm,1.0s				
WISH	**Wishkah**	**37.84 73**	IAmb	IAmb	22 42 51.8
	comp=Z,331nm,1.1s				
HJU	**Haeju**	**37.91 269**	P	**P**	**22 41 39.3 +1.0**
HJU			S	**S**	**22 47 22.0 +1.7**
HJU			AmB		
	comp=Z,3μm,1.5s				
HJU			AMS	AMS	
	comp=Z,14μm,12.5s				
JTU	**Tsushima**	**37.95 261**	P	**P**	**22 41 40.1 +1.3**
JTU	**Tsushima**	**37.95 261**	⇓P	**P**	**22 41 39.5 +0.7**
TJN	**Taejon**	**37.97 265**	P	**P**	**22 41 40.6 +1.7**
TJN	**Taejon**	**37.97 265**	*d iP*	**P**	**22 41 40.4 +1.5**
JNU	**Nakatsue**	**38.02 258**	IAmb	IAmb	22 41 42.7
	comp=Z,683nm,1.1s				
JNU	**Nakatsue**	**38.02 258**	P	**P**	**22 41 40.9 +1.5**
JNU	**Nakatsue**	**38.02 258**	*e*P	**P**	**22 41 40.8 +1.3**
JNU	**Nakatsue**	**38.02 258**	⇓P	**P**	**22 41 40.8 +1.3**
JNU	**Nakatsue**	**38.02 258**	P	**P**	**22 41 41.1 +1.7**
	comp=Z,462nm,1.0s,baz=40,slow=4.7,SNR=168				
	comp=Z,462nm,1.0s				
BRLDA	**Berland Lookou**	**38.19 60**	P	**P**	**22 41 40.8 +0.1**
BRLDA				**S**	**22 47 27.6 +3.2**
E03A	**Lebam**	**38.25 74**	IAmb	IAmb	22 41 44.9
	comp=Z,392nm,0.9s				
HPAH	**Hawaii Prepara**	**38.65 136**	IAmb	IAmb	22 42 32.7
	comp=Z,300nm,1.0s				
F04D	**Rainier, OR**	**38.82 74**	P	**P**	**22 41 46.0 +0.1**
F04D			IAmb	IAmb	22 41 48.4
	comp=Z,322nm,1.0s				
F04D				**S**	**22 47 29.6 -4.2**
HEBO	**Mount Hebo**	**38.84 76**	IAmb	IAmb	22 41 55.5
	comp=Z,519nm,1.4s				
D05A	**Enumclaw**	**38.85 72**	IAmb	IAmb	22 41 48.7
	comp=Z,281nm,1.0s				
HUH	**Hualalai**	**38.90 136**	IAmb	IAmb	22 42 48.9
	comp=Z,527nm,1.2s				
KHLU	**Kahalu`u**	**38.95 137**	IAmb	IAmb	22 42 38.3
	comp=Z,411nm,1.2s				
POHA	**Pohakuloa**	**38.96 136**	P	**P**	**22 41 49.0 +1.4**
POHA			IAmb	IAmb	22 42 33.6
	comp=Z,397nm,0.9s				
POHA	**Pohakuloa**	**38.96 136**	P	**P**	**22 41 49.6 +2.0**
POHA	**Pohakuloa**	**38.96 136**	⇓P	**P**	**22 41 49.7 +2.0**
POHA	**Pohakuloa**	**38.96 136**	P	**P**	**22 41 49.7 +2.1**
POHA			sP	**sP**	**22 42 31.8 +1.7**
HMH	**Humu'ula Sheep**	**39.12 136**	IAmb	IAmb	22 42 35.4
	comp=Z,491nm,1.4s				
MLOA	**Mauna Loa Obse**	**39.14 136**	IAmb	IAmb	22 42 25.6
	comp=Z,455nm,1.2s				
MWH	**Moku'aweowe**	**39.18 136**	IAmb	IAmb	22 42 36.2
	comp=Z,354nm,1.0s				
F04A	**Amboy**	**39.25 74**	IAmb	IAmb	22 41 53.1
	comp=Z,190nm,0.7s				
KHU	**Kahuku**	**39.38 136**	IAmb	IAmb	22 42 37.1
	comp=Z,554nm,1.1s				
JSU	**Suzuyama**	**39.41 257**	*e*P	**P**	**22 41 52.5 +1.5**
COR	**Corvallis**	**39.45 77**	P	**P**	**22 41 51.5 +0.3**
COR			IAmb	IAmb	22 41 53.8
	comp=Z,316nm,0.9s				
COR	**Corvallis**	**39.45 77**	P	**P**	**22 41 51.5 +0.3**
COR			pmax	pmax	
	comp=Z,316nm,1.0s				
COR	**Corvallis**	**39.45 77**	⇑P	**P**	**22 41 51.7 +0.5**
COR	**Corvallis**	**39.45 77**	P	**P**	**22 41 51.5 +0.3**
COR			PcP	**PcP**	**22 43 58.9 +2.5**
COR			ScP	**ScP**	**22 47 34.2 +1.3**
JFU	**Fukue jima 2**	**39.63 260**	*e*P	**P**	**22 41 54.4 +1.6**
BUCK	**Buck Mountain**	**39.86 77**	IAmb	IAmb	22 43 14.1
	comp=Z,796nm,1.7s				
DL2	**Dalian**	**39.89 273**	P	**P**	**22 41 55.5 +0.7**
DL2			pP	**pP**	**22 42 22.8 -0.3**
DL2			PP	**PnPn**	**22 43 34.5 +1.1**
DL2			PcP	**PcP**	**22 43 55.9 -2.0**
DL2			S	**S**	**22 47 50.8 +0.9**
DL2			pmax	pmax	
	comp=Z,180nm,1.6s				
DL2			pmax	pmax	
	comp=Z,6μm,7.1s				
RES	**Resolute Bay**	**40.05 24**	LR	LR	23 01 39.3
	comp=Z,11μm,19.1s,baz=282,slow=41				
H04A	**Detroit Lake**	**40.06 76**	IAmb	IAmb	22 41 58.7
	comp=Z,268nm,0.9s				
EUNU	**Eureka**	**40.14 16**	P	**P**	**22 41 56.6 +0.1**
EUNU			IAmb	IAmb	22 42 43.9
	comp=Z,1μm,1.9s				
EUNU	**Eureka**	**40.14 16**	⇑P	**P**	**22 41 56.7 +0.1**
KBO	**Bosley Butte**	**40.23 80**	IAmb	IAmb	22 43 08.0
	comp=Z,828nm,1.9s				
G05A	**Wamic**	**40.27 75**	IAmb	IAmb	22 42 07.2
	comp=Z,360nm,1.0s				
XLT	**XiLinHaoTe**	**40.32 283**	⇓*i P*	**P**	**22 41 59.2 +0.7**
XLT			pP	pP	22 42 26.0 -0.8
XLT			sP	sP	22 42 38.5 -2.6
XLT			PcP	**PcP**	**22 44 01.5 +2.2**
XLT			ScP	**ScP**	**22 47 37.5 +1.0**
XLT			S	**S**	**22 47 53.2 -3.3**
XLT			sS	sS	22 48 44.7 -0.2
XLT			ScS	**ScS**	**22 51 49.3 -1.4**
XLT			pmax	pmax	
	comp=Z,280nm,1.3s				
XLT			pmax	pmax	
	comp=Z,5μm,5.4s				
XLT			LR	LR	
	comp=Z,25μm,17.6s				
XLT			LR	LR	
	comp=Z,30μm,17.9s				
E07A	**Sunnyside**	**40.43 72**	P	**P**	**22 41 58.8 -0.5**
HAWA	**Hanford**	**40.70 72**	IAmb	IAmb	22 42 03.7
	comp=Z,303nm,0.9s				
HAWA	**Hanford**	**40.70 72**	⇑P	**P**	**22 42 00.1 -1.3**
F07A	**Phinny Hill Vi**	**40.74 73**	IAmb	IAmb	22 42 04.1
	comp=Z,247nm,0.9s				
NEW	**Newport**	**41.11 68**	IAmb	IAmb	22 42 06.8
	comp=Z,309nm,0.9s				
NEW	**Newport**	**41.11 68**	P	**P**	**22 42 04.2 -0.7**
	baz=301,SNR=343				
NEW	**Newport**	**41.11 68**	⇑P	**P**	**22 42 03.9 -0.9**
NEW	**Newport**	**41.11 68**	LR	LR	22 58 42.8
	comp=Z,11μm,19.8s,baz=295,slow=35				
KHMM	**Horse Mountain**	**41.32 82**	P	**P**	**22 42 06.4 -0.4**
KMPM	**Mount Pierce**	**41.36 82**	P	**P**	**22 42 06.0 -1.0**
L04D	**Klamath Falls**	**41.39 79**	IAmb	IAmb	22 42 14.1
	comp=Z,303nm,0.9s				
YBH	**Yreka Blue Hor**	**41.43 80**	P	**P**	**22 42 07.5 -0.1**
YBH	**Yreka Blue Hor**	**41.43 80**	P	**P**	**22 42 07.5 -0.1**
YBH			pmax	pmax	
	comp=Z,207nm,1.0s				
YBH	**Yreka Blue Hor**	**41.43 80**	LR	LR	22 56 07.7
	comp=Z,11μm,21.1s,baz=320,slow=31				
K04D	**Chiloquin, OR**	**41.49 78**	IAmb	IAmb	22 42 16.2
	comp=Z,279nm,0.8s				
G08A	**Pilot Rock**	**41.64 73**	P	**P**	**22 42 08.0 -1.3**
KMRM	**Mail Ridge**	**41.73 82**	P	**P**	**22 42 10.6 +0.6**
KMRM			IAmb	IAmb	22 43 21.2
	comp=Z,352nm,1.3s				
JAM	**Amami Oshima**	**42.16 254**	P	**P**	**22 42 14.8 +1.3**
ALE	**Alert**	**42.20 10**	P	**P**	**22 42 13.8 +0.6**
ALE			PcP	**PcP**	**22 44 05.5 +0.7**
ALE			ScP	**ScP**	**22 47 43.3 +0.2**
NRIK	**Noril'sk**	**42.22 328**	P	**P**	**22 42 13.5 0.0**
NRIK			IAmb	IAmb	22 42 48.4
	comp=Z,1μm,2.0s				
NRIK	**Noril'sk**	**42.22 328**	P	**P**	**22 42 13.5 0.0**
NRIK			pmax	pmax	
	comp=Z,1μm,2.0s				
NRIK	**Noril'sk**	**42.22 328**	P	**P**	**22 42 13.8 +0.2**
	comp=Z,175nm,1.0s,baz=83,slow=8.4,SNR=51				
NRIK			ScP	**ScP**	**22 47 44.0 +0.5**
	comp=Z,42nm,1.0s,baz=29,slow=3.6,SNR=3.7				
NRIK			LR	LR	23 02 23.9
	comp=Z,10μm,18.2s,baz=73,slow=40				
	comp=Z,175nm,1.0s				
F10A	**Beach Ranch, E**	**42.27 71**	⇑P	**P**	**22 42 13.3 -1.1**
BJI	**Beijing**	**42.52 278**	P	**P**	**22 42 17.6 +1.3**
BJI			pP	**pP**	**22 42 42.8 -2.1**
BJI			S	**S**	**22 48 27.0 -1.9**
BJI			SS	**SS**	**22 51 37.2 -5.8**
BJI			ScS	**ScS**	**22 52 05.1 +1.1**
BJI			pmax	pmax	
	comp=Z,92nm,1.9s				
BJI			pmax	pmax	
	comp=Z,2μm,3.7s				
BJI			LR	LR	
	comp=Z,11μm,18.7s				
BJI			LR	LR	
	comp=Z,9μm,16.5s				
BJI			LR	LR	
	comp=Z,7μm,21.9s				
BJT	**Baijiatuau**	**42.54 278**	P	**P**	**22 42 17.8 +1.3**
BJT	**Baijiatuau**	**42.54 278**	P	**P**	**22 42 17.3 +0.8**
IRK	**Irkutsk**	**42.63 300**	*e*P	**P**	**22 42 17.0 -0.1**
IRK			pmax	pmax	
	comp=Z,555nm,2.4s				
BMO	**Blue Mountains**	**42.85 73**	⇑P	**P**	**22 42 18.1 -1.0**
JMZ	**Minamidaito 2**	**43.17 250**	*e*P	**P**	**22 42 22.2 +0.5**
ULN	**Ulaanbaatar**	**43.40 293**	P	**P**	**22 42 23.6 +0.1**
ULN	**Ulaanbaatar**	**43.40 293**	*d iP*	**P**	**22 42 24.2 +0.7**
ULN			pmax	pmax	
	comp=Z,144nm,0.8s				
ULN	**Ulaanbaatar**	**43.40 293**	P	**P**	**22 42 23.9 +0.4**
ULN			S	**S**	**22 48 42.1 +0.2**
ULN	**Ulaanbaatar**	**43.40 293**	⇓P	**P**	**22 42 24.0 +0.5**
ULN	**Ulaanbaatar**	**43.40 293**	P	**P**	**22 42 24.2 +0.7**
ULN			pP	**pP**	**22 42 52.0 +1.0**
WVOR	**Wild Horse Val**	**43.47 76**	⇑P	**P**	**22 42 23.6 -0.5**
MCCM	**Marconi Confer**	**43.52 84**	⇑P	**P**	**22 42 24.0 -0.3**
MSO	**Missoula**	**43.70 68**	IAmb	IAmb	22 42 29.8
	comp=Z,275nm,1.0s				
MSO	**Missoula**	**43.70 68**	P	**P**	**22 42 24.9 -0.9**
	baz=303,SNR=147				
MSO			S	**S**	**22 48 42.6 -3.5**
	baz=303				
MSO	**Missoula**	**43.70 68**	⇑P	**P**	**22 42 24.9 -0.9**
SONM	**Songino Array**	**43.79 293**	P	**P**	**22 42 26.7 +0.2**
SONM	**Songino Array**	**43.79 293**	P	**P**	**22 42 27.5 +0.9**
	comp=Z,95nm,0.7s,baz=62,slow=7.5,SNR=155				
SONM			pP	**pP**	**22 42 55.2 +1.1**
	comp=Z,52nm,0.8s,baz=60,slow=7.9,SNR=3.8				
SONM			PcP	**PcP**	**22 44 12.1 +1.3**
	comp=Z,28nm,0.6s,baz=90,slow=0.9,SNR=6.0				
SONM			ScP	**ScP**	**22 47 50.2 -0.2**
	comp=Z,14nm,1.2s,baz=162,slow=0.5,SNR=3.6				
SONM			S	**S**	**22 48 47.8 +0.3**
	comp=Z,14nm,1.1s,baz=71,slow=11,SNR=3.9				
SONM			LR	LR	23 00 44.6
	comp=Z,10μm,20.6s,baz=54,slow=36				
	comp=Z,95nm,0.7s				
PLTX	**Planet X, Gerl**	**44.00 79**	IAmb	IAmb	22 42 31.6
	comp=Z,393nm,0.9s				
JOW	**Kunigami**	**44.12 254**	P	**P**	**22 42 29.4 +0.1**
JOW	**Kunigami**	**44.12 254**	P	**P**	**22 42 30.7 +1.4**
JOW	**Kunigami**	**44.12 254**	P	**P**	**22 42 30.6 +1.2**
JOW	**Kunigami**	**44.12 254**	⇓P	**P**	**22 42 29.9 +0.6**
ZAK	**Zakamensk**	**44.13 298**	*e*P	**P**	**22 42 29.2 -0.1**
ZAK			pmax	pmax	
	comp=Z,165nm,1.5s				
TIA	**Tai'an**	**44.36 273**	⇓P	**P**	**22 42 32.1 +1.0**
TIA			pP	**pP**	**22 43 01.4 +1.5**
TIA			sP	**sP**	**22 43 15.2 +1.0**
TIA			ScP	**ScP**	**22 47 52.7 0.0**
TIA			S	**S**	**22 48 54.6 -1.1**
TIA			ScS	**ScS**	**22 52 11.4 -4.3**
TIA			pmax	pmax	
	comp=Z,220nm,0.9s				
TIA			pmax	pmax	
	comp=Z,3μm,3.8s				
TIA			LR	LR	
	comp=Z,7μm,14.4s				
TIA			LR	LR	
	comp=Z,6μm,14.4s				
TIA			LR	LR	
	comp=Z,6μm,19.4s				
MPK	**Martis Peak**	**44.53 81**	IAmb	IAmb	22 42 36.3
	comp=Z,458nm,1.1s				
MOY	**Mondy**	**44.67 301**	*e*P	**P**	**22 42 34.0 +0.5**
MOY			*e*		22 43 02.4
MOY			pmax	pmax	
	comp=Z,230nm,2.0s				
EMB	**Emerald Bay**	**44.69 81**	IAmb	IAmb	22 42 39.5
	comp=Z,248nm,0.9s				
HHC	**Hu-ho-hao-te**	**44.82 282**	*e*P	**P**	**22 42 36.0 +1.2**
HHC			pP	pP	22 43 01.4 -2.2
HHC			sP	sP	22 43 15.0 -2.9
HHC			S	**S**	**22 48 58.8 -3.7**
HHC			pmax	pmax	
	comp=Z,320nm,1.3s				
HHC			pmax	pmax	
	comp=Z,6μm,5.6s				
HHC			LR	LR	
	comp=Z,40μm,19.6s				
HHC			LR	LR	
	comp=Z,21μm,17.0s				
HHC			LR	LR	
	comp=Z,17μm,18.7s				
PNTR	**Pine Nut**	**44.92 81**	IAmb	IAmb	22 42 45.4
	comp=Z,417nm,0.8s				
TULEG	**Thule**	**44.95 18**	⇑P	**P**	**22 42 35.3 +0.1**
TULEG	**Thule**	**44.95 18**	*i* P	**P**	**22 42 35.4 +0.1**
TULEG			IAmb	IAmb	22 42 40.4
	comp=Z,73nm,0.7s				
HNS	**HongShan**	**45.07 276**	⇓P	**P**	**22 42 38.1 +1.4**
HNS			pP	**pP**	**22 43 04.8 -0.7**
HNS			sP	**sP**	**22 43 20.9 +1.1**
HNS			S	**S**	**22 49 00.7 -5.2**
HNS			sS	**sS**	**22 49 52.2 -2.9**
HNS			ScS	**ScS**	**22 52 19.3 -0.9**
HNS			pmax	pmax	
	comp=Z,270nm,1.2s				
HNS			pmax	pmax	
	comp=Z,4μm,5.5s				
HNS			LR	LR	
	comp=Z,14μm,19.6s				
HNS			LR	LR	
	comp=Z,13μm,22.2s				
SAO	**San Andreas Ge**	**45.28 85**	⇑P	**P**	**22 42 37.8 -0.6**
HLID	**Hailey**	**45.30 72**	P	**P**	**22 42 38.1 -0.6**
	baz=306,SNR=281				
HLID			S	**S**	**22 49 03.1 -6.4**
	baz=306				
HLID	**Hailey**	**45.30 72**	⇑P	**P**	**22 42 37.9 -0.8**
DLMT	**Dillon**	**45.30 69**	IAmb	IAmb	22 44 22.6
	comp=Z,338nm,0.9s				
SSE	**Sheshan**	**45.32 265**	P	**P**	**22 42 40.4 +1.7**
SSE			S	**S**	**22 49 06.9 -2.7**
SSE			pmax	pmax	
	comp=Z,200nm,1.0s				
SSE			pmax	pmax	
	comp=Z,3μm,4.6s				
SSE			LR	LR	
	comp=Z,5μm,18.9s				
SSE			LR	LR	
	comp=Z,3μm,18.9s				
SSE	**Sheshan**	**45.32 265**	P	**P**	**22 42 40.5 +1.7**
SSE			pP	**pP**	**22 43 08.1 +0.6**
EGMT	**Eagleton**	**45.39 65**	IAmb	IAmb	22 42 45.8
	comp=Z,414nm,0.8s				
EGMT	**Eagleton**	**45.39 65**	P	**P**	**22 42 38.2 -1.0**
	baz=304,SNR=102				
EGMT	**Eagleton**	**45.39 65**	⇑P	**P**	**22 42 38.0 -1.2**
BBGB	**Big Mountain B**	**45.65 85**	IAmb	IAmb	22 42 46.4
	comp=Z,544nm,1.1s				
BOZ	**Bozeman (W)**	**45.72 69**	IAmb	IAmb	22 42 43.7
	comp=Z,298nm,0.9s				
BOZ	**Bozeman (W)**	**45.72 69**	P	**P**	**22 42 41.0 -0.9**
	baz=305,SNR=458				
BOZ	**Bozeman (W)**	**45.72 69**	⇑P	**P**	**22 42 40.8 -1.1**
FFC	**Flin Flon**	**45.80 53**	P	**P**	**22 42 41.9 -0.4**
FFC	**Flin Flon**	**45.80 53**	P	**P**	**22 42 41.9 -0.4**
FFC			pmax	pmax	
	comp=Z,177nm,0.9s				
FFC	**Flin Flon**	**45.80 53**	⇑P	**P**	**22 42 41.8 -0.4**
FFC			⇑P	**P**	**22 42 42.0 -0.4**
FFC	**Flin Flon**	**45.80 53**	P	**P**	**22 42 41.9 -0.4**
FFC			ScP	**ScP**	**22 47 57.3 -1.1**
BTO	**Baotou**	**45.89 283**	*e*P	**P**	**22 42 44.2 +0.9**
BTO			pP	**pP**	**22 43 12.9 +0.8**
BTO			sP	**sP**	**22 43 27.5 +1.2**
BTO			PcP	**PcP**	**22 44 20.3 +2.1**
BTO			PP	**PP**	**22 44 32.9 -0.2**
BTO			S	**S**	**22 49 18.8 +0.9**
BTO			sS	**sS**	**22 50 07.5 +0.3**
BTO			ScS	**ScS**	**22 52 23.9 -1.8**
BTO			SS	**SS**	**22 52 39.3 -4.4**
BTO			pmax	pmax	
	comp=Z,660nm,1.0s				
BTO			pmax	pmax	
	comp=Z,9μm,4.0s				
BTO			LR	LR	
	comp=Z,30μm,15.9s				
BTO			LR	LR	
	comp=Z,23μm,16.5s				
BTO			LR	LR	
	comp=Z,28μm,16.7s				
PMPB	**Monarch Peak**	**46.03 85**	IAmb	IAmb	22 42 50.8
	comp=Z,283nm,1.0s				
NJ2	**Nanjing**	**46.09 268**	⇓*i P*	**P**	**22 42 45.3 +0.6**
NJ2			pP	**pP**	**22 43 10.2 -3.4**
NJ2

comp=Z,9µm,3.9s
NJ2 LR LR
comp=Z,13µm,16.9s
NJ2 LR LR
comp=Z,12µm,16.1s
NJ2 LR LR
comp=Z,12µm,16.3s
NVAR Mina Array Bea 46.12 81 P **P 22 42 45.0 -0.3**
comp=Z,192nm,0.9s,baz=295,slow=7.4,SNR=145
NVAR PcP **PcP 22 44 20.2 +1.0**
comp=Z,133nm,0.8s,baz=287,slow=4.3,SNR=7.9
NVAR ScP **ScP 22 47 59.8 -0.5**
comp=Z,24nm,0.8s,baz=286,slow=4.7,SNR=6.2
NVAR PKiKP **PKiKP 22 51 14.3 -0.1**
comp=Z,1.0nm,0.6s,baz=336,slow=2.0,SNR=1.6
NVAR LR LR 23 01 21.9
comp=Z,6µm,18.8s,baz=290,slow=35
NVAR P4KPbc 23 20 29.7
comp=Z,0.2nm,0.3s,baz=286,slow=3.3,SNR=1.0
comp=Z,192nm,0.9s
NOR Nord 46.16 3 ⇑P **P 22 42 44.2 -0.5**
NOR ⇑P **P 22 42 44.3 -0.5**
NOR Nord 46.16 3 *i* P **P 22 42 45.0 +0.3**
NOR IAmb IAmb 22 43 20.3
comp=Z,3µm,2.6s
NOR IAMs_20 IAMs_20 22 57 20.8
comp=Z,18µm,30.0s
MDPB Devils Postpil 46.16 82 IAmb IAmb 22 42 52.0
comp=Z,237nm,0.8s
TIY Taiyuan 46.26 278 ⇓P **P 22 42 48.0 +1.9**
TIY pP **pP 22 43 16.8 +1.7**
TIY sP **sP 22 43 29.1 -0.3**
TIY PP **PP 22 44 33.9 -2.7**
TIY S **S 22 49 26.8 +3.7**
TIY sS **sS 22 50 17.9 +5.5**
TIY pmax pmax
comp=Z,160nm,1.3s
TIY pmax pmax
comp=Z,3µm,4.3s
TIY LR LR
comp=Z,13µm,17.2s
TIY LR LR
comp=Z,12µm,17.9s
TIY LR LR
comp=Z,8µm,19.2s
GUMO Guam 46.28 225 P **P 22 42 45.0 -1.4**
GUMO IAmb IAmb 22 42 46.5
comp=Z,1µm,1.4s
GUMO Guam 46.28 225 P **P 22 42 45.9 -0.5**
GUMO Guam 46.28 225 P **P 22 42 45.0 -1.4**
GUMO pmax pmax
comp=Z,1µm,1.4s
GUMO Guam 46.28 225 LR LR 22 58 16.1
comp=Z,7µm,20.7s,baz=31,slow=31
GUMO Guam 46.28 225 P **P 22 42 45.1 -1.4**
GUMO pP **pP 22 43 13.8 -1.6**
MLAC Mammoth, Mammo 46.31 82 P **P 22 42 47.2 +0.4**
baz=310,SNR=12
YHL Hebgen Lake 46.41 69 IAmb IAmb 22 42 50.0
comp=Z,456nm,0.9s
ELK Elko 46.52 76 ⇑P **P 22 42 47.6 -0.7**
ELK Elko 46.52 76 LR LR 22 59 19.0
comp=Z,11µm,21.6s,baz=314,slow=32
Q09A Carvers 46.55 79 IAmb IAmb 22 42 52.3
comp=Z,459nm,1.1s
YNM Yellowstone No 46.76 69 IAmb IAmb 22 42 54.9
comp=Z,294nm,1.0s
YNR Norris Junctio 46.78 69 IAmb IAmb 22 42 52.9
comp=Z,269nm,1.0s
VOG Valley Oaks Go 46.83 84 P **P 22 42 50.0 -0.5**
baz=311,SNR=9.1
YFT Old Faithful 46.85 69 IAmb IAmb 22 42 54.7
comp=Z,372nm,0.9s
LKWY Lake 47.03 69 IAmb IAmb 22 42 59.9
comp=Z,248nm,0.9s
LKWY Lake 47.03 69 ⇑P **P 22 42 52.5 +0.2**
H17A Grant Village 47.03 69 IAmb IAmb 22 42 55.7
comp=Z,356nm,1.0s
H17A Grant Village 47.03 69 P **P 22 42 53.1 +0.8**
baz=306,SNR=64
TIN Tinemaha, Big 47.05 82 P **P 22 42 52.6 +0.2**
baz=310,SNR=21
SMMC Simmler 47.11 85 P **P 22 42 53.0 +0.1**
baz=311,SNR=20
FLWY Flagg Ranch 47.15 70 IAmb IAmb 22 42 55.7
comp=Z,270nm,0.8s
NEEM North Greenlan 47.17 13 *i* P **P 22 42 53.6 +0.6**
NEEM IAmb IAmb 22 43 28.1
comp=Z,29µm,2.8s
FCC Fort Churchill 47.28 45 IAmb IAmb 22 42 60.0
comp=Z,518nm,0.8s
VES Vestal, Richgr 47.32 84 P **P 22 42 53.6 -0.7**
baz=311,SNR=103
RLMT Red Lodge 47.34 68 IAmb IAmb 22 42 57.6
comp=Z,386nm,0.8s
RLMT Red Lodge 47.34 68 P **P 22 42 54.4 -0.3**
baz=306,SNR=429
RLMT S **S 22 49 36.5 -2.2**
baz=306
RLMT Red Lodge 47.34 68 ⇑P **P 22 42 54.0 -0.7**
PKM Mcpherson Peak 47.51 85 P **P 22 42 55.8 -0.2**
baz=312,SNR=32
PKM S **S 22 49 44.4 +3.2**
baz=312
CWC Cottonwood Cre 47.54 83 P **P 22 42 55.9 -0.3**
baz=311
CWC S **S 22 49 42.1 +0.5**
baz=311
GRAC Grapevine Rang 47.61 81 P **P 22 42 56.7 0.0**
baz=310,SNR=62
AHID Auburn Hatcher 47.71 71 ⇑P **P 22 42 56.8 -0.8**
PATS Pohnpei 47.79 205 P **P 22 42 59.2 +1.1**
ISA Isabella, Lake 47.81 84 P **P 22 42 57.2 -1.1**
baz=311,SNR=44
ISA S **S 22 49 42.5 -2.7**
baz=311
R11B Troy Canyon, C 47.82 79 P **P 22 42 57.7 -0.7**
baz=310,SNR=198
R11B S **S 22 49 42.3 -3.1**
baz=310
SBC Santa Barbara 47.87 86 P **P 22 42 58.8 +0.2**
baz=312,SNR=7.9
SBC S **S 22 49 47.4 +1.6**
baz=312
ARVC Arvin 47.95 84 P **P 22 42 58.3 -0.9**
baz=312,SNR=17
ARVC S **S 22 49 46.8 -0.3**
baz=312
LAO LASA Array 48.12 64 IAmb IAmb 22 43 02.6
comp=Z,464nm,0.9s
LAO LASA Array 48.12 64 P **P 22 43 00.4 0.0**
baz=306,SNR=53
LAO S **S 22 49 48.9 -0.4**
baz=306
LAO LASA Array 48.12 64 P **P 22 43 00.2 -0.2**
baz=307,SNR=53
LAO S **S 22 49 48.3 -1.0**
baz=307
LAO LASA Array 48.12 64 ⇑P **P 22 43 00.3 -0.2**
MPMC Manual Prospec 48.15 83 P **P 22 43 00.5 -0.5**
baz=311,SNR=140
MPMC S **S 22 49 49.7 -0.6**
baz=311
HWUT Hardware Ranch 48.16 73 ⇑P **P 22 43 00.1 -0.8**
DGMT Dagmar 48.17 61 IAmb IAmb 22 43 02.5
comp=Z,500nm,0.9s
DGMT Dagmar 48.17 61 P **P 22 43 00.2 -0.5**
baz=306,SNR=80
DGMT S **S 22 49 48.7 -1.2**
baz=306
DGMT Dagmar 48.17 61 P **P 22 43 00.3 -0.5**
baz=306,SNR=80
DGMT S **S 22 49 47.2 -2.6**
baz=306
DGMT Dagmar 48.17 61 ⇓P **P 22 42 59.6 -1.2**
S11A Rachel 48.17 80 IAmb IAmb 22 43 05.7
comp=Z,355nm,1.0s
SCZ2 Santa Cruz Isl 48.22 86 P **P 22 43 01.1 -0.2**
baz=312,SNR=7.5
SCZ2 S **S 22 49 50.1 -0.7**
baz=312
FURC Furnace Creek, 48.27 82 P **P 22 43 01.5 -0.1**
baz=311,SNR=102
FURC S **S 22 49 53.3 +2.0**
baz=311
DUG Dugway, Tooele 48.30 75 IAmb IAmb 22 44 20.3
comp=Z,403nm,1.3s
DUG Dugway, Tooele 48.30 75 P **P 22 43 01.8 -0.3**
baz=309,SNR=226
DUG S **S 22 49 49.3 -2.9**
baz=309
DUG Dugway, Tooele 48.30 75 ⇑P **P 22 43 01.4 -0.6**
LYN LuoYang 48.31 275 ⇓P **P 22 43 03.3 +1.3**
LYN pP pP 22 43 32.1 +0.9
LYN sP sP 22 43 45.2 -0.2
LYN S **S 22 49 54.3 +2.2**
LYN sS sS 22 50 43.6 +1.9
LYN pmax pmax
comp=Z,520nm,0.8s
LYN pmax pmax
comp=Z,7µm,4.0s
TPNV Topopah Spring 48.32 81 IAmb IAmb 22 43 06.6
comp=Z,325nm,0.9s
TPNV Topopah Spring 48.32 81 P **P 22 43 01.9 -0.3**
baz=310,SNR=381
TPNV S **S 22 49 51.3 -1.3**
baz=310
TPNV Topopah Spring 48.32 81 ⇑P **P 22 43 03.0 +0.8**
OSI Osito Audit: C 48.36 85 P **P 22 43 02.3 -0.2**
baz=312,SNR=29
OSI S **S 22 49 52.1 -0.8**
baz=312
KULLO Kullorsuaq 48.41 17 ⇑P **P 22 43 02.2 -0.1**
KULLO ⇑P **P 22 43 02.5 +0.3**
KULLO Kullorsuaq 48.41 17 *i* P **P 22 43 02.5 +0.3**
KULLO IAmb IAmb 22 43 08.6
comp=Z,460nm,0.7s
QSM Queen of Sheba 48.59 82 IAmb IAmb 22 43 09.8
comp=Z,261nm,1.1s
BW06 Boulder Array 48.61 70 IAmb IAmb 22 43 06.3
comp=Z,274nm,0.9s
BW06 Boulder Array 48.61 70 P **P 22 43 03.6 -0.9**
baz=308,SNR=334
BW06 S **S 22 49 52.9 -3.7**
baz=308
BW06 Boulder Array 48.61 70 ⇑P **P 22 43 02.8 -1.7**
PD31 Pinedale Array 48.61 70 IAmb IAmb 22 43 06.3
comp=Z,246nm,0.9s
PDAR Pinedale Array 48.61 70 P **P 22 43 03.2 -1.3**
PDAR Pinedale Array 48.61 70 P **P 22 43 03.4 -1.1**
comp=Z,215nm,0.8s,baz=312,slow=3.6,SNR=290
PDAR ScP **ScP 22 48 09.6 -1.1**
comp=Z,24nm,1.0s,baz=318,slow=2.0,SNR=5.2
PDAR LR LR 23 05 13.1
comp=Z,5µm,18.7s,baz=325,slow=38
PDAR PKP2ab 23 14 55.9
comp=Z,2.6nm,1.0s,baz=116,slow=8.1,SNR=4.1
comp=Z,215nm,0.8s
EDW2 Edwards Air Fo 48.62 84 P **P 22 43 04.0 -0.5**
baz=312,SNR=43
EDW2 S **S 22 49 55.1 -1.6**
baz=312
KBS Kingsbay 48.73 356 P **P 22 43 04.8 +0.1**
KBS IAmb IAmb 22 43 40.9
comp=Z,344nm,0.9s
KBS Kingsbay 48.73 356 *c i* P **P 22 43 04.4 -0.2**
KBS pmax pmax
comp=Z,254nm,0.7s
KBS Kingsbay 48.73 356 ⇑*i* P **P 22 43 05.1 +0.4**
KBS IVmB_BB 22 43 06.0
comp=Z,4µm,2.6s
KBS *e*pP **pP 22 43 32.4 -0.5**
KBS *e*PP **PP 22 45 01.5 +3.1**
KBS *e*S **S 22 49 57.4 +0.4**
KBS *e*ScS **ScS 22 52 43.7 +0.6**
KBS IVMs_BB IVMs_BB 22 58 45.1
comp=Z,4µm,27.8s
KBS Kingsbay 48.73 356 ⇑P **P 22 43 04.9 +0.3**
KBS ⇑sP **pwP 22 43 39.7 +1.7**
KBS Kingsbay 48.73 356 *i* P **P 22 43 06.3 +1.7**
KBS Kingsbay 48.73 356 P **P 22 43 04.8 +0.1**
KBS pP **pP 22 43 32.7 -0.1**
KBS ScP **ScP 22 48 10.9 +0.6**
PSUT Pine Spring 48.74 77 IAmb IAmb 22 44 35.0
comp=Z,188nm,0.7s
PRN Pahroc Range 48.75 79 IAmb IAmb 22 44 35.3
comp=Z,293nm,0.9s
PRN Pahroc Range 48.75 79 ⇑P **P 22 43 05.1 -0.4**
PRN ⇑P **P 22 43 05.3 -0.2**
SNCC San Nicolas Is 48.79 87 IAmb IAmb 22 43 09.3
comp=Z,387nm,1.2s
SNCC San Nicolas Is 48.79 87 P **P 22 43 05.6 -0.1**
baz=313
SNCC S **S 22 49 59.1 +0.2**
baz=313
DECC Green Verdugo 48.84 85 P **P 22 43 05.7 -0.4**
baz=312,SNR=18
DECC S **S 22 49 58.7 -0.9**
baz=312
PASC Pasadena Art C 48.98 85 IAmb IAmb 22 43 11.4
comp=Z,229nm,1.1s
YOJ Yonaguni jima 49.03 257 IAmb IAmb 22 43 09.1
comp=Z,241nm,1.1s
GSC Goldstone, Bar 49.07 83 IAmb IAmb 22 43 12.3
comp=Z,418nm,1.0s
GSC Goldstone, Bar 49.07 83 P **P 22 43 07.5 -0.4**
baz=312,SNR=272
GSC S **S 22 49 58.6 -4.4**
baz=312
RRX Edison Barstow 49.24 83 P **P 22 43 08.7 -0.4**
baz=312,SNR=8.2
RRX S **S 22 50 05.6 +0.4**
baz=312
SPA0 Spitsbergen Ar 49.25 355 ⇑*i* P **P 22 43 08.3 -0.3**
SPA0 IVmB_BB 22 43 09.1
comp=Z,5µm,1.5s
SPA0 *e*pP **pP 22 43 35.7 -1.1**
SPA0 *e* 22 43 43.0
SPA0 *e*S **S 22 50 04.0 -0.3**
SPA0 *e*ScS **ScS 22 52 45.2 -1.5**
SPITS Spitsbergen Ar 49.25 355 P **P 22 43 08.1 -0.5**
SPITS pmax pmax
comp=Z,858nm,0.9s
SPITS Spitsbergen Ar 49.25 355 P **P 22 43 08.3 -0.3**
comp=Z,131nm,0.4s,baz=44,slow=6.4,SNR=228
SPITS pP **pP 22 43 37.2 +0.4**
comp=Z,310nm,0.9s,baz=80,slow=6.0,SNR=2.2
SPITS LR LR 23 04 47.6
comp=Z,7µm,19.8s,baz=346,slow=37
comp=Z,131nm,0.4s
BFSC Mount Baldy Ra 49.26 84 P **P 22 43 09.1 -0.4**
baz=312,SNR=74
BFSC S **S 22 50 04.6 -1.1**
baz=312
BSUT Blindstream Ca 49.30 73 IAmb IAmb 22 44 32.1
comp=Z,458nm,1.5s
CIS Catalina Islan 49.36 86 P **P 22 43 09.5 -0.6**
baz=313,SNR=12
CIS S **S 22 50 08.6 +1.6**
baz=313
TUQ Turquoise Moun 49.52 82 P **P 22 43 10.8 -0.5**
baz=312,SNR=148
TUQ S **S 22 50 07.9 -1.4**
baz=312
TCRU Three Creeks R 49.53 76 IAmb IAmb 22 44 39.1
comp=Z,320nm,0.8s
SCI2 San Clemente I 49.57 86 P **P 22 43 11.3 -0.3**
baz=313,SNR=7.5
SCI2 S **S 22 50 10.6 +0.9**
baz=313
HEC Hector,Ludlow 49.67 83 P **P 22 43 11.9 -0.6**
baz=312,SNR=68
HEC S **S 22 50 09.8 -1.5**
baz=312
BBRC Big Bear Solar 49.70 84 P **P 22 43 12.6 -0.3**
baz=312,SNR=7.0
BBRC S **S 22 50 11.0 -1.0**
baz=312
TMUT Trail Mountain 49.83 75 IAmb IAmb 22 43 16.6
comp=Z,305nm,0.9s
YHNB Yeheng 49.86 258 P **P 22 43 15.6 +1.7**
WHN Wuhan 49.90 270 ⇓*i* P **P 22 43 14.6 +0.5**
WHN pP **pP 22 43 44.1 +0.6**
WHN sP **sP 22 44 01.4 +3.8**
WHN S **S 22 50 14.5 +0.2**
WHN sS **sS 22 51 05.7 +1.4**
WHN ScS **ScS 22 52 51.6 -0.7**
WHN pmax pmax
comp=Z,980nm,1.3s
WHN pmax pmax
comp=Z,12µm,3.5s
WHN LR LR
comp=Z,12µm,12.0s
WHN LR LR
comp=Z,17µm,12.2s
WHN LR LR
comp=Z,33µm,15.0s
MURC Murrieta 49.98 85 P **P 22 43 14.2 -0.5**
baz=313,SNR=76
MURC S **S 22 50 14.4 -1.1**
baz=313
V12A Nelson 49.98 81 IAmb IAmb 22 44 39.5
comp=Z,157nm,0.8s
RDMU Red Mountain 49.98 73 IAmb IAmb 22 43 17.2
comp=Z,437nm,0.9s
UPNV Upernavik 49.98 18 *i* P **P 22 43 16.4 +2.2**
UPNV IAmb IAmb 22 43 50.3
comp=Z,791nm,0.9s
P17A Butcher Ranch, 49.99 74 IAmb IAmb 22 44 39.0
comp=Z,739nm,1.5s
MTPU Mount Pierson 50.06 77 IAmb IAmb 22 44 40.0
comp=Z,424nm,1.6s
NACB Ninganchiao 50.09 258 IAmb IAmb 22 43 18.5
comp=Z,252nm,1.1s
NACB Ninganchiao 50.09 258 P **P 22 43 16.3 +0.6**
LCMT Little Creek M 50.10 79 IAmb IAmb 22 44 40.1
comp=Z,272nm,0.8s
GMRC Granite Mounta 50.11 82 P **P 22 43 15.4 -0.4**
baz=312,SNR=177
GMRC S **S 22 50 15.8 -1.8**
baz=312
P18A Preston Nutter 50.19 74 IAmb IAmb 22 44 40.8
comp=Z,252nm,0.8s
HOPEN Hopen 50.21 352 ⇑*i* P **P 22 43 15.7 -0.1**
HOPEN IVmBBB 22 43 16.7
comp=Z,4µm,1.4s
HOPEN *e*pP **pP 22 43 43.3 -0.9**
HOPEN *e*S **S 22 50 16.0 -1.6**
HOPEN *i* 22 51 08.5
HOPEN IVMs_BB IVMs_BB 22 59 23.1
comp=Z,4µm,42.8s
PFO Pinyon Flats O 50.42 84 P **P 22 43 17.3 -0.8**
PFO IAmb IAmb 22 44 41.5
comp=Z,179nm,0.9s
PFO Pinyon Flats O 50.42 84 *c i* P **P 22 43 17.2 -1.0**
PFO pmax pmax
comp=Z,139nm,1.0s
PFO Pinyon Flats O 50.42 84 P **P 22 43 17.4 -0.8**
baz=313,SNR=16
PFO S **S 22 50 20.1 -1.7**
baz=313
PFO Pinyon Flats O 50.42 84 LR LR 23 00 38.8
comp=Z,11µm,21.0s,baz=296,slow=31
PFO Pinyon Flats O 50.42 84 P **P 22 43 17.1 -1.1**
PFO PcP **PcP 22 44 36.8 +2.2**
PFO ScP **ScP 22 48 17.3 -1.1**
K22A Casper 50.42 69 IAmb IAmb 22 43 19.7
comp=Z,189nm,0.8s
K22A Casper 50.42 69 P **P 22 43 16.9 -1.2**
baz=309,SNR=110
K22A S **S 22 50 18.7 -3.0**
baz=309
K22A Casper 50.42 69 P **P 22 43 17.1 -1.0**
baz=309,SNR=110
K22A S **S 22 50 18.4 -3.4**
baz=309
TPFO Pinon Flats 50.42 84 P **P 22 43 17.5 -0.7**
baz=313,SNR=34
TPFO S **S 22 50 20.2 -1.7**
baz=313
BELC Belle Mtn. Jos 50.44 83 P **P 22 43 17.3 -1.0**
baz=312,SNR=107
BELC S **S 22 50 20.5 -1.6**
baz=312
HSPB Hornsund (broa 50.44 355 *i* P **P 22 43 17.4 -0.1**
HSPB *e*pP **pP 22 43 44.4 -1.4**
HSPB *e*PP PP 22 45 43.4 +30
HSPB *e*S **S 22 50 19.0 -1.7**
HSPB *e*sS **sS 22 51 10.5 -0.2**
HSPB *e*ScS **ScS 22 52 52.1 -2.5**
HSPB *e*L L 22 59 27.0
comp=Z,16µm,38.8s
HSPB Hornsund (broa 50.44 355 ⇑*i* P **P 22 43 17.6 0.0**
HSPB IVmBBB 22 43 18.4
comp=Z,3µm,1.6s
HSPB *e* 22 43 46.8
HSPB *i* 22 45 43.5
PMD Palm Desert 50.44 84 IAmb IAmb 22 44 41.3
comp=Z,181nm,0.8s
109C Camp Elliot, M 50.52 85 IAmb IAmb 22 43 23.3
comp=Z,296nm,1.0s
109C Camp Elliot, M 50.52 85 P **P 22 43 18.5 -0.2**
baz=313,SNR=48
109C S **S 22 50 23.3 +0.5**
baz=313
RWWY Rawlins 50.64 70 IAmb IAmb 22 43 22.5
comp=Z,212nm,1.1s
NEE2 Needles Airpor 50.76 82 P **P 22 43 19.7 -0.8**
baz=312,SNR=15
NEE2 S **S 22 50 24.5 -1.7**
baz=312
SSLB Suanglung 50.77 258 IAmb IAmb 22 44 03.8
comp=Z,879nm,1.8s
SSLB Suanglung 50.77 258 P **P 22 43 21.9 +1.1**
XAN Xi'an 50.82 277 ⇓P **P 22 43 21.5 +0.4**
XAN pP pP 22 43 49.5 -1.0
XAN sP sP 22 44 06.3 +1.7
XAN PP **PP 22 45 25.1 +6.9**
XAN S **S 22 50 27.4 +0.2**
XAN sS sS 22 51 15.4 -1.8
XAN SS **SS 22 54 00.3 -2.6**
XAN pmax pmax
comp=Z,190nm,1.4s
XAN pmax pmax
comp=Z,4µm,6.1s
XAN LR LR
comp=Z,15µm,16.2s
XAN LR LR
comp=Z,14µm,18.6s
XAN LR LR
comp=Z,19µm,19.2s
XAN Xi'an 50.82 277 P **P 22 43 21.5 +0.4**
DAG Danmarks Havn 50.84 5 S **S 22 50 25.4 -0.9**
DAG P **P 22 43 17.7 -2.8**
DAG Danmarks Havn 50.84 5 ⇑P **P 22 43 19.8 -0.8**
DAG ⇑P **P 22 43 19.8 -0.8**
DAG ⇑P **P 22 43 21.6 +1.1**
DAG Danmarks Havn 50.84 5 *i* P **P 22 43 20.5 -0.1**
DAG IAmb IAmb 22 43 55.8
comp=Z,7µm,2.8s
IRM Iron Mountain 50.85 83 P **P 22 43 20.8 -0.5**
baz=312,SNR=214
IRM S **S 22 50 26.4 -1.1**
baz=312
TARA Tarawa 50.86 185 P **P 22 43 22.6 +1.2**
YULB Yu-li 50.86 257 IAmb IAmb 22 43 24.9
comp=Z,408nm,1.1s
YULB Yu-li 50.86 257 P **P 22 43 22.4 +1.0**
RSSD Black Hills 50.91 66 P **P 22 43 20.8 -1.0**
RSSD IAmb IAmb 22 44 42.1
comp=Z,157nm,0.8s
RSSD Black Hills 50.91 66 P **P 22 43 20.8 -1.0**
RSSD pmax pmax
comp=Z,157nm,0.8s
RSSD Black Hills 50.91 66 P **P 22 43 20.7 -1.0**
baz=309
RSSD S **S 22 50 24.4 -4.1**
baz=309
RSSD Black Hills 50.91 66 P **P 22 43 20.9 -1.0**
baz=309,SNR=98
RSSD Black Hills 50.91 66 ⇑P **P 22 43 20.6 -1.2**
RSSD ⇑P **P 22 43 20.7 -1.2**
RSSD ⇑P **P 22 43 23.8 +2.0**
RSSD Black Hills 50.91 66 P **P 22 43 20.8 -1.0**
RSSD PcP **PcP 22 44 40.3 +3.9**
RSSD ScP **ScP 22 48 19.5 -1.0**
BAR Barrett 50.92 85 IAmb IAmb 22 43 26.2
comp=Z,219nm,0.9s
MONP2 Monument Peak 50.93 85 P **P 22 43 21.5 -0.6**
baz=313,SNR=44
MONP2 S **S 22 50 28.8 -0.2**
baz=313
MDND Maddock 51.00 59 P **P 22 43 22.3 +0.1**
baz=308,SNR=59
MDND S **S 22 50 28.0 -1.2**
baz=308
MDND Maddock 51.00 59 P **P 22 43 22.1 0.0**
baz=308,SNR=59
MDND S **S 22 50 26.9 -2.3**

	baz=308							
BC3	**Big Chuckawall**	**51.00**	**83**	P	**P**	**22 43 21.6**	**-1.0**
	baz=313,SNR=64						
BC3				S	**S**	**22 50 27.6**	**-2.3**
	baz=313						
O20A	**White River Ci**	**51.04**	**72**	IAmb	IAmb	22 43 24.6	
	comp=Z,222nm,0.8s						
O20A	**White River Ci**	**51.04**	**72**	P	**P**	**22 43 21.9**	**-0.9**
	baz=310,SNR=77						
O20A				S	**S**	**22 50 27.4**	**-3.0**
	baz=310						
U15A	**North Rim**	**51.06**	**78**	IAmb	IAmb	22 44 44.0	
	comp=Z,289nm,0.8s						
CBX	**Cerro Bola**	**51.18**	**86**	IAmb	IAmb	22 43 28.6	
	comp=Z,211nm,0.9s						
E28A	**Huff**	**51.21**	**61**	P	**P**	**22 43 23.7**	**-0.1**
	baz=309,SNR=34						
E28A				S	**S**	**22 50 28.3**	**-3.8**
	baz=309						
SWSC	**Sam W. Stewart**	**51.28**	**84**	P	**P**	**22 43 23.6**	**-0.8**
	baz=313,SNR=32						
SWSC				S	**S**	**22 50 33.8**	**+0.5**
	baz=313						
IKP	**In-Ko-Pah, Jac**	**51.29**	**85**	P	**P**	**22 43 24.1**	**-0.5**
	baz=313,SNR=23						
IKP				S	**S**	**22 50 32.5**	**-1.2**
	baz=313						
TPUB	**Ta-pu**	**51.33**	**258**	P	**P**	**22 43 24.8**	**-0.2**
TPUB				IAmb	IAmb	22 43 27.0	
	comp=Z,520nm,1.1s						
TPUB	**Ta-pu**	**51.33**	**258**	P	**P**	**22 43 25.8**	**+0.8**
QZH	**Quanzhou**	**51.34**	**261**	⇓*i*P	**P**	**22 43 25.9**	**+1.0**
QZH				pP	**pP**	**22 43 54.6**	**+0.2**
QZH				S	**S**	**22 50 36.6**	**+2.3**
QZH				pmax	pmax		
	comp=Z,540nm,1.2s						
QZH				pmax	pmax		
	comp=Z,8μm,3.3s						
QZH				LR	LR		
	comp=Z,5μm,18.7s						
QZH				LR	LR		
	comp=Z,8μm,17.5s						
QZH				LR	LR		
	comp=Z,11μm,26.3s						
PDMCI	**Parker Dam,Lak**	**51.36**	**82**	P	**P**	**22 43 24.5**	**-0.6**
	baz=312,SNR=86						
PDMCI				S	**S**	**22 50 32.4**	**-2.1**
	baz=312						
ZALV	**Zalesovo Beam**	**51.40**	**311**	P	**P**	**22 43 24.5**	**-0.5**
ZALV	**Zalesovo Beam**	**51.40**	**311**	P	**P**	**22 43 24.7**	**-0.3**
	comp=Z,11nm,0.3s,baz=48,slow=7.6,SNR=45						
ZALV				pP	**pP**	**22 43 53.5**	**+0.1**
	comp=Z,22nm,0.7s,baz=42,slow=14,SNR=3.0						
ZALV				PcP	**PcP**	**22 44 40.1**	**+2.3**
	comp=Z,61nm,0.7s,baz=31,slow=3.8,SNR=8.4						
ZALV				S	**S**	**22 50 31.9**	**-2.5**
	comp=Z,2.5nm,0.9s,baz=36,slow=12,SNR=0.9						
ZALV				LR	LR	23 07 05.8	
	comp=Z,5μm,18.0s,baz=51,slow=38						
ZALV				P4KPbc		23 20 50.9	
	comp=Z,1.2nm,0.7s,baz=64,slow=5.0,SNR=2.7						
	comp=Z,11nm,0.3s						
TWGBT	**Beinan**	**51.43**	**257**	P	**P**	**22 43 25.8**	**+0.2**
TWG	**Pinlang**	**51.43**	**257**	IAmb	IAmb	22 44 20.6	
	comp=Z,374nm,1.4s						
ULM	**Lac du Bonnet**	**51.44**	**55**	IAmb	IAmb	22 43 27.1	
	comp=Z,562nm,1.1s						
ULM	**Lac du Bonnet**	**51.44**	**55**	P	**P**	**22 43 25.0**	**-0.4**
	comp=Z,202nm,0.6s,baz=309,slow=7.1,SNR=158						
ULM				pP	**pP**	**22 43 52.4**	**-1.4**
	comp=Z,69nm,0.7s,baz=207,slow=6.4,SNR=2.2						
ULM				ScP	**ScP**	**22 48 20.6**	**-1.7**
	comp=Z,68nm,1.2s,baz=324,slow=4.4,SNR=5.2						
ULM				LR	LR	23 06 28.1	
	comp=Z,28μm,18.4s,baz=316,slow=37						
	comp=Z,202nm,0.6s						
BLYC	**Blythe**	**51.51**	**83**	IAmb	IAmb	22 44 45.6	
	comp=Z,295nm,0.8s						
GLA	**Glamis**	**51.80**	**83**	IAmb	IAmb	22 43 32.8	
	comp=Z,263nm,1.1s						
GLA	**Glamis**	**51.80**	**83**	P	**P**	**22 43 27.8**	**-0.5**
	baz=313,SNR=90						
GLA				S	**S**	**22 50 40.6**	**0.0**
	baz=313						
KNMB	**Chin-men Tao**	**51.81**	**261**	IAmb	IAmb	22 44 00.6	
	comp=Z,761nm,1.7s						
N23A	**Red Feather La**	**51.88**	**70**	P	**P**	**22 43 28.7**	**-0.4**
	baz=310,SNR=26						
N23A				S	**S**	**22 50 40.3**	**-1.7**
	baz=310						
CPBX	**Cerro Prieto**	**51.94**	**84**	IAmb	IAmb	22 44 44.5	
	comp=Z,208nm,1.1s						
GUVIX	**Guadalupe Vict**	**52.16**	**84**	IAmb	IAmb	22 43 36.9	
	comp=Z,238nm,0.9s						
WUAZ	**Wupatki**	**52.22**	**79**	IAmb	IAmb	22 44 48.4	
	comp=Z,271nm,0.8s						
WUAZ	**Wupatki**	**52.22**	**79**	P	**P**	**22 43 31.6**	**0.0**
	baz=312,SNR=46						
WUAZ				S	**S**	**22 50 46.1**	**-0.4**
	baz=312						
WUAZ	**Wupatki**	**52.22**	**79**	⇑P	**P**	**22 43 31.4**	**-0.2**
SMCO	**Snowmass**	**52.40**	**72**	⇑P	**P**	**22 43 32.5**	**-0.7**
UMMG	**Uummannaq**	**52.43**	**18**	*i* P	**P**	**22 43 32.7**	**+0.3**
UMMG				IAmb	IAmb	22 43 38.0	
	comp=Z,429nm,0.8s						
CNSH	**ChangSha**	**52.44**	**269**	⇓P	**P**	**22 43 33.2**	**+0.1**
CNSH				pP	**pP**	**22 43 59.2**	**-3.6**
CNSH				S	**S**	**22 50 48.9**	**-0.5**
CNSH				ScS	**ScS**	**22 53 09.7**	**-0.3**
CNSH				pmax	pmax		
	comp=Z,170nm,1.0s						
CNSH				LR	LR		
	comp=Z,7μm,20.6s						
CNSH				LR	LR		
	comp=Z,11μm,17.8s						
CNSH				LR	LR		
	comp=Z,10μm,16.3s						
LZH	**Lanzhou**	**52.51**	**283**	⇓P	**P**	**22 43 34.9**	**+1.1**
LZH				pP	pP	22 44 01.4	-1.8
LZH				PP	**PP**	**22 45 37.8**	**+4.2**
LZH				S	**S**	**22 50 46.2**	**-4.3**
LZH				sS	sS	22 51 38.0	-3.2
LZH				ScS	**ScS**	**22 53 10.9**	**+0.2**
LZH				SS	**SS**	**22 54 28.4**	**-1.4**
LZH				pmax	pmax		
	comp=Z,380nm,1.0s						
LZH				pmax	pmax		
	comp=Z,7μm,5.2s						
LZH				LR	LR		
	comp=Z,18μm,19.2s						
LZH				LR	LR		
	comp=Z,16μm,18.5s						
LZH				LR	LR		
	comp=Z,14μm,19.9s						
GTA	**Gaotai**	**52.69**	**288**	⇓P	**P**	**22 43 35.6**	**+0.6**
GTA				pP	pP	22 44 04.8	+0.1
GTA				ScP	**ScP**	**22 48 28.1**	**-0.1**
GTA				S	**S**	**22 50 52.4**	**-0.4**
GTA				sS	sS	22 51 43.1	-1.0
GTA				ScS	**ScS**	**22 53 09.3**	**-2.5**
GTA				pmax	pmax		
	comp=Z,160nm,1.2s						
GTA				pmax	pmax		
	comp=Z,2μm,8.8s						
GTA				LR	LR		
	comp=Z,12μm,13.5s						
GTA				LR	LR		
	comp=Z,12μm,15.1s						
GTA				LR	LR		
	comp=Z,13μm,19.5s						
ISCO	**Idaho Springs**	**52.79**	**71**	P	**P**	**22 43 35.8**	**-0.1**
	baz=311,SNR=147						
ISCO				S	**S**	**22 50 53.1**	**-1.3**
	baz=311						
ISCO	**Idaho Springs**	**52.79**	**71**	P	**P**	**22 43 36.0**	**0.0**
	baz=311,SNR=147						
ISCO				S	**S**	**22 50 52.8**	**-1.6**
	baz=311						
ISCO	**Idaho Springs**	**52.79**	**71**	⇑P	**P**	**22 43 35.6**	**-0.3**
ISCO				⇑P	**P**	**22 43 35.7**	**-0.3**
MVCO	**Mesa Verde**	**52.80**	**75**	P	**P**	**22 43 35.3**	**-0.7**
	baz=312,SNR=67						
MVCO				S	**S**	**22 50 52.5**	**-2.1**
	baz=312						
MVCO	**Mesa Verde**	**52.80**	**75**	⇑P	**P**	**22 43 35.1**	**-0.9**
MVCO				⇑P	**P**	**22 43 35.2**	**-0.9**
DGZ	**Jazzator, Alta**	**52.81**	**305**	*d i* P	**P**	**22 43 36.0**	**+0.3**
DGZ				pmax	pmax		
	comp=Z,242nm,1.8s						
D32A	**Dogwood Acres,**	**52.81**	**59**	IAmb	IAmb	22 43 36.9	
	comp=Z,390nm,0.9s						
D32B	**Dogwood Acres,**	**52.81**	**59**	P	**P**	**22 43 34.7**	**-0.9**
	baz=310,SNR=9.5						
X16A	**Lo Mia Camp, P**	**52.92**	**80**	IAmb	IAmb	22 43 43.1	
	comp=Z,166nm,0.8s						
BRIGG	**Briggsdale**	**53.02**	**69**	IAmb	IAmb	22 43 43.2	
	comp=Z,962nm,1.9s						
SUMG	**Summit**	**53.04**	**13**	P	**P**	**22 43 37.1**	**-0.3**
SUMG	**Summit**	**53.04**	**13**	P	**P**	**22 43 37.1**	**-0.3**
SUMG				pmax	pmax		
	comp=Z,691nm,0.9s						
SUMG	**Summit**	**53.04**	**13**	S	**S**	**22 50 55.3**	**-1.9**
SUMG				P	**P**	**22 43 36.7**	**-0.6**
SUMG	**Summit**	**53.04**	**13**	⇑P	**P**	**22 43 37.5**	**+0.1**
SUMG				⇑P	**P**	**22 43 37.5**	**+0.1**
SUMG	**Summit**	**53.04**	**13**	*i* P	**P**	**22 43 38.0**	**+0.6**
SUMG				IAmb	IAmb	22 44 13.5	
	comp=Z,16μm,2.8s						
ENH	**Enshi**	**53.07**	**273**	IAmb	IAmb	22 43 40.2	
	comp=Z,157nm,0.8s						
ENH	**Enshi**	**53.07**	**273**	P	**P**	**22 43 38.3**	**+0.5**
ENH	**Enshi**	**53.07**	**273**	P	**P**	**22 43 38.0**	**+0.2**
ENH				PcP	**PcP**	**22 44 45.4**	**+0.9**
ENH				ScP	**ScP**	**22 48 28.7**	**-1.2**
DBG	**Daneborg**	**53.17**	**6**	*i* P	**P**	**22 43 38.2**	**+0.4**
DBG				IAmb	IAmb	22 44 12.9	
	comp=Z,382nm,0.8s						
S22A	**4UR Ranch, Cre**	**53.44**	**74**	IAmb	IAmb	22 43 45.2	
	comp=Z,224nm,1.1s						
S22A	**4UR Ranch, Cre**	**53.44**	**74**	P	**P**	**22 43 40.8**	**+0.1**
	baz=312,SNR=184						
S22A				S	**S**	**22 51 00.5**	**-2.8**
	baz=312						
W18A	**Petrified Fore**	**53.47**	**78**	IAmb	IAmb	22 43 44.5	
	comp=Z,188nm,0.9s						
W18A	**Petrified Fore**	**53.47**	**78**	P	**P**	**22 43 40.7**	**-0.2**
	baz=313,SNR=52						
W18A				S	**S**	**22 51 02.9**	**-0.7**
	baz=313						
SUSD	**Miller**	**53.51**	**62**	P	**P**	**22 43 39.9**	**-0.9**
	baz=310,SNR=45						
SUSD				S	**S**	**22 51 00.0**	**-3.5**
	baz=310						
SUSD	**Miller**	**53.51**	**62**	P	**P**	**22 43 39.8**	**-0.9**
	baz=311,SNR=45						
SUSD				S	**S**	**22 50 59.8**	**-3.7**
	baz=311						
FRB	**Frobisher Bay**	**53.65**	**30**	LR	LR	23 08 07.1	
	comp=Z,18μm,20.0s,baz=314,slow=38						
B35A	**Bob, Littlefor**	**53.72**	**56**	IAmb	IAmb	22 43 48.0	
	comp=Z,339nm,0.8s						
B35A	**Bob, Littlefor**	**53.72**	**56**	P	**P**	**22 43 41.7**	**-0.5**
	baz=311,SNR=120						
B35A				S	**S**	**22 51 00.6**	**-5.7**
	baz=311						
214A	**Organ Pipe Nat**	**53.78**	**83**	IAmb	IAmb	22 43 48.5	
	comp=Z,165nm,0.9s						
214A	**Organ Pipe Nat**	**53.78**	**83**	P	**P**	**22 43 42.4**	**-0.6**
	baz=314,SNR=66						
214A				S	**S**	**22 51 07.4**	**-0.1**
	baz=314						
ILULI	**Ilulissat**	**53.84**	**19**	IAmb	IAmb	22 43 48.9	
	comp=Z,851nm,0.7s						
ILULI	**Ilulissat**	**53.84**	**19**	*i* P	**P**	**22 43 43.0**	**+0.3**
ILULI				IAmb	IAmb	22 43 48.5	
	comp=Z,844nm,0.7s						
F33A	**5 Mile Ranch,**	**54.03**	**60**	IAmb	IAmb	22 43 45.7	
	comp=Z,264nm,0.8s						
F33A	**5 Mile Ranch,**	**54.03**	**60**	P	**P**	**22 43 43.5**	**-1.0**
	baz=311,SNR=47						
F33A				S	**S**	**22 51 07.3**	**-3.2**
	baz=311						
OGNE	**Ogallala**	**54.09**	**68**	IAmb	IAmb	22 43 47.2	
	comp=Z,449nm,1.1s						
OGNE	**Ogallala**	**54.09**	**68**	P	**P**	**22 43 44.9**	**-0.2**
	baz=311,SNR=31						
OGNE	**Ogallala**	**54.09**	**68**	P	**P**	**22 43 44.9**	**-0.2**
	baz=312,SNR=31						
OGNE	**Ogallala**	**54.09**	**68**	⇑P	**P**	**22 43 45.0**	**-0.2**
OGNE				⇑P	**P**	**22 43 45.1**	**0.0**
SDCO	**Great Sand Dun**	**54.22**	**73**	IAmb	IAmb	22 43 50.6	
	comp=Z,175nm,1.0s						
SDCO	**Great Sand Dun**	**54.22**	**73**	P	**P**	**22 43 46.3**	**-0.1**
	baz=312,SNR=117						
SDCO	**Great Sand Dun**	**54.22**	**73**	P	**P**	**22 43 46.3**	**-0.1**
	baz=313,SNR=117						
SDCO				S	**S**	**22 51 13.1**	**-0.6**
	baz=313						
SDCO	**Great Sand Dun**	**54.22**	**73**	⇑P	**P**	**22 43 46.2**	**-0.1**
SDCO				⇑P	**P**	**22 43 46.3**	**-0.1**
XMAS	**Kiritimati**	**54.49**	**148**	P	**P**	**22 43 49.2**	**+1.1**
XMAS	**Kiritimati**	**54.49**	**148**	⇑P	**P**	**22 43 49.5**	**+1.4**
XMAS				⇑P	**P**	**22 43 50.0**	**+2.0**
XMAS	**Kiritimati**	**54.49**	**148**	P	**P**	**22 43 49.5**	**+1.4**
TUC	**Tucson**	**54.77**	**81**	P	**P**	**22 43 49.8**	**-0.3**
TUC	**Tucson**	**54.77**	**81**	P	**P**	**22 43 49.8**	**-0.3**
TUC				pmax	pmax		
	comp=Z,443nm,0.9s						
TUC	**Tucson**	**54.77**	**81**	P	**P**	**22 43 49.9**	**-0.2**
	baz=314						
TUC	**Tucson**	**54.77**	**81**	P	**P**	**22 43 50.1**	**-0.1**
TUC				pP	**pP**	**22 44 19.7**	**+0.1**
TUC				ScP	**ScP**	**22 48 36.8**	**-0.5**
KSCO	**Kaye Shedlock'**	**55.04**	**70**	IAmb	IAmb	22 43 54.4	
	comp=Z,303nm,0.9s						
KSCO	**Kaye Shedlock'**	**55.04**	**70**	P	**P**	**22 43 52.2**	**+0.2**
	baz=312,SNR=38						
KSCO	**Kaye Shedlock'**	**55.04**	**70**	P	**P**	**22 43 51.9**	**-0.1**
	baz=313,SNR=38						
EYMN	**Ely**	**55.12**	**55**	P	**P**	**22 43 52.1**	**-0.4**
	baz=311,SNR=212						
EYMN	**Ely**	**55.12**	**55**	P	**P**	**22 43 51.9**	**-0.4**
	baz=312,SNR=212						
EYMN	**Ely**	**55.12**	**55**	⇑P	**P**	**22 43 51.8**	**-0.6**
EYMN				⇑P	**P**	**22 43 52.0**	**-0.4**
ECSD	**EROS Data Cent**	**55.24**	**62**	IAmb	IAmb	22 43 54.4	
	comp=Z,282nm,0.9s						
ECSD	**EROS Data Cent**	**55.24**	**62**	P	**P**	**22 43 52.2**	**-1.1**
	baz=312						
T25A	**Trinidad**	**55.27**	**73**	IAmb	IAmb	22 43 58.8	
	comp=Z,373nm,1.1s						
T25A	**Trinidad**	**55.27**	**73**	P	**P**	**22 43 53.8**	**0.0**
	baz=313,SNR=207						
F36A	**Milaca**	**55.47**	**58**	IAmb	IAmb	22 43 56.4	
	comp=Z,250nm,0.9s						
F36A	**Milaca**	**55.47**	**58**	P	**P**	**22 43 54.3**	**-0.6**
	baz=312,SNR=104						
ANMO	**Albuquerque**	**55.55**	**76**	P	**P**	**22 43 55.2**	**-0.7**
ANMO	**Albuquerque**	**55.55**	**76**	*c i* P	**P**	**22 43 55.5**	**-0.4**
ANMO				pmax	pmax		
	comp=Z,81nm,1.0s						
ANMO	**Albuquerque**	**55.55**	**76**	P	**P**	**22 43 55.7**	**-0.2**
	baz=313						
ANMO	**Albuquerque**	**55.55**	**76**	P	**P**	**22 43 55.2**	**-0.7**
	baz=314,SNR=118						
ANMO	**Albuquerque**	**55.55**	**76**	LR	LR	23 05 21.3	
	comp=Z,7μm,21.2s,baz=42,slow=33						
ANMO	**Albuquerque**	**55.55**	**76**	P	**P**	**22 43 55.5**	**-0.4**
ANMO				PcP	**PcP**	**22 44 55.7**	**+1.5**
ANMO				ScP	**ScP**	**22 48 40.7**	**-0.1**
ZSN	**Zaisan**	**55.57**	**305**	*e*P	**P**	**22 43 56.4**	**+0.7**
	baz=305						
ZSN				*e*pP	**pP**	**22 44 25.3**	**+0.6**
	baz=305						
ZSN				*e*S	**S**	**22 51 31.3**	**+0.3**
	baz=305						
ZSN	**Zaisan**	**55.57**	**305**	*e*P	**P**	**22 43 56.3**	**+0.7**
ZSN				*e**PP	**pP**	**22 44 25.3**	**+0.6**
ZSN				*e*S	**S**	**22 51 31.3**	**+0.3**
DUN6	**Lazy B Ranch**	**55.63**	**80**	IAmb	IAmb	22 45 00.8	
	comp=Z,343nm,1.0s						
VADS	**Vadso**	**55.64**	**347**	⇑*i* P	**P**	**22 43 55.0**	**-0.7**
VADS				IVmB_BB		22 43 56.1	
	comp=Z,3μm,1.6s						
VADS				*e*pP	**pP**	**22 44 23.9**	**-0.6**
VADS				*i*		22 44 30.0	
VADS				*e*S	**S**	**22 51 28.4**	**-2.9**
VADS				*i*		22 52 20.3	
VADS				*e*ScS	**ScS**	**22 53 29.2**	**-2.3**
VADS				IVMs_BB	IVMs_BB	23 02 35.2	
	comp=Z,3μm,51.6s						
SFJD	**Kangerlussuaq**	**55.79**	**20**	P	**P**	**22 43 56.4**	**-0.4**
SFJD	**Kangerlussuaq**	**55.79**	**20**	P	**P**	**22 43 56.4**	**-0.4**
SFJD				pmax	pmax		
	comp=Z,405nm,0.8s						
SFJD	**Kangerlussuaq**	**55.79**	**20**	*i* P	**P**	**22 43 56.2**	**-0.6**
SFJD				IAmb	IAmb	22 44 32.5	
	comp=Z,6μm,2.6s						
SFJD				IAMs_20	IAMs_20	23 01 44.3	
	comp=Z,48μm,46.0s						
SFJD	**Kangerlussuaq**	**55.79**	**20**	LR	LR	23 13 23.2	
	comp=Z,5μm,18.1s,baz=326,slow=42						
SFJD	**Kangerlussuaq**	**55.79**	**20**	P	**P**	**22 43 56.1**	**-0.7**
SFJD				PcP	**PcP**	**22 44 54.1**	**-0.2**
SEM	**Semipalatinsk**	**55.84**	**310**	*e*P	**P**	**22 43 57.3**	**-0.5**
	baz=310						
SEM				*i* pP	**pP**	**22 44 26.3**	**-0.2**
	baz=310						
SEM				*e*S	**S**	**22 51 32.5**	**-2.4**
	baz=310						
SEM	**Semipalatinsk**	**55.84**	**310**	*e*P	**P**	**22 43 57.2**	**-0.5**
SEM				*i* *PP	**pP**	**22 44 26.3**	**-0.2**
SEM				*e*S	**S**	**22 51 32.4**	**-2.4**
HAMF	**Hammerfest**	**55.86**	**350**	⇑*i* P	**P**	**22 43 56.4**	**-0.8**
HAMF				IVmB_BB		22 43 57.2	
	comp=Z,3μm,2.8s						
HAMF				*e*pP	**pP**	**22 44 25.5**	**-0.6**
HAMF				*e*S	**S**	**22 51 30.9**	**-3.2**
HAMF				*i*		22 52 23.6	
HAMF				IVMs_BB	IVMs_BB	23 02 39.9	
	comp=Z,4μm,37.4s						
Y22D	**IRIS PASSCAL I**	**55.88**	**77**	IAmb	IAmb	22 44 07.1	
	comp=Z,269nm,0.9s						
Y22D	**IRIS PASSCAL I**	**55.88**	**77**	P	**P**	**22 43 58.7**	**+0.6**
	baz=314,SNR=14						
Y22D	**IRIS PASSCAL I**	**55.88**	**77**	P	**P**	**22 43 58.8**	**+0.7**
	baz=314,SNR=14						
Y22F	**Passcal Instru**	**55.88**	**77**	P	**P**	**22 43 58.6**	**+0.5**
	baz=314,SNR=15						
GZH	**Guangzhou**	**55.91**	**264**	P	**P**	**22 43 53.7**	**-4.6**
GZH				pP	**pP**	**22 44 24.6**	**-3.6**
GZH				sP	**sP**	**22 44 38.7**	**-3.4**
GZH				S	**S**	**22 51 27.9**	**-8.1**
GZH				pmax	pmax		
	comp=Z,190nm,1.2s						
Y22A	**Socorro**	**55.95**	**77**	P	**P**	**22 43 59.1**	**+0.4**
	baz=314,SNR=203						
Y22A				S	**S**	**22 51 35.6**	**-1.1**
	baz=314						
BGNE	**Belgrade**	**55.96**	**65**	P	**P**	**22 43 58.1**	**-0.4**
	baz=312,SNR=127						
BGNE	**Belgrade**	**55.96**	**65**	P	**P**	**22 43 58.0**	**-0.4**
	baz=313,SNR=127						
BGNE				S	**S**	**22 51 33.4**	**-2.9**
	baz=313						
E38A	**The Farm, Brul**	**55.99**	**56**	P	**P**	**22 43 58.0**	**-0.6**
	baz=312,SNR=273						
HKC	**Hong Kong Obse**	**55.99**	**263**	⇑P	**P**	**22 44 01.0**	**+2.1**
ICESG	**Greenland Ices**	**56.01**	**15**	*i* P	**P**	**22 43 59.6**	**+0.8**
ICESG				IAmb	IAmb	22 44 34.3	
	comp=Z,13μm,2.7s						
HKPS	**Hong Kong Po S**	**56.03**	**263**	P	**P**	**22 43 59.4**	**+0.2**
HKPS				pP	**pP**	**22 44 25.6**	**-3.4**
HKPS				IAmb	IAmb	22 44 33.5	
	comp=Z,914nm,2.0s						
GULI	**GuiLin**	**56.11**	**268**	⇓P	**P**	**22 44 03.5**	**+3.8**
GULI				pP	**pP**	**22 44 34.4**	**+4.7**
GULI				sP	**sP**	**22 44 44.8**	**+1.1**
GULI				S	**S**	**22 51 42.3**	**+3.6**
GULI				sS	**sS**	**22 52 30.2**	**-0.2**
GULI				ScS	**ScS**	**22 53 36.2**	**0.0**
GULI				pmax	pmax		
	comp=Z,200nm,1.2s						
GULI				pmax	pmax		
	comp=Z,7μm,3.2s						
GULI				LR	LR		
	comp=Z,3μm,15.9s						
GULI				LR	LR		
	comp=Z,4μm,14.4s						
GULI				LR	LR		
	comp=Z,4μm,15.5s						
CD2	**Chengdu**	**56.13**	**278**	P	**P**	**22 44 00.4**	**+0.6**
CD2				pP	pP	22 44 27.6	-2.3
CD2				sP	sP	22 44 41.4	-2.5
CD2				S	**S**	**22 51 39.0**	**+0.1**
CD2				sS	sS	22 52 26.0	-4.8
CD2				ScS	**ScS**	**22 53 35.0**	**-1.4**
CD2				SS	**SS**	**22 55 29.3**	**+2.6**
CD2				pmax	pmax		
	comp=Z,170nm,0.9s						
CD2				pmax	pmax		
	comp=Z,6μm,4.5s						
CD2				LR	LR		
	comp=Z,5μm,14.5s						
CD2				LR	LR		
	comp=Z,4μm,13.2s						
SPMN	**Marine on St.**	**56.27**	**58**	P	**P**	**22 44 00.5**	**-0.2**
	baz=312,SNR=120						
SPMN				S	**S**	**22 51 40.1**	**-0.2**
	baz=312						
SPMN	**Marine on St.**	**56.27**	**58**	P	**P**	**22 44 00.6**	**0.0**
	baz=313,SNR=120						
SPMN				S	**S**	**22 51 39.2**	**-1.2**
	baz=313						
KEV	**Kevo**	**56.29**	**348**	P	**P**	**22 43 59.5**	**-0.9**
KEV				IAmb	IAmb	22 44 35.5	
	comp=Z,184nm,1.0s						
KEV	**Kevo**	**56.29**	**348**	P	**P**	**22 43 59.5**	**-0.9**
KEV				pmax	pmax		
	comp=Z,184nm,1.0s						
KEV	**Kevo**	**56.29**	**348**	P	**P**	**22 43 59.9**	**-0.4**
KEV				PcP	**PcP**	**22 44 57.1**	**+1.0**
KEV				ScP	**ScP**	**22 48 43.4**	**+0.2**
319A	**Douglas**	**56.34**	**81**	IAmb	IAmb	22 44 05.6	
	comp=Z,274nm,1.0s						
KURK	**Kurchatov**	**56.39**	**311**	P	**P**	**22 44 01.4**	**0.0**
KURK	**Kurchatov**	**56.39**	**311**	*d i* P	**P**	**22 44 01.9**	**+0.5**
KURK				pmax	pmax		
	comp=Z,629nm,1.0s						
KURK	**Kurchatov**	**56.39**	**311**	P	**P**	**22 44 01.8**	**+0.5**
KURK				S	**S**	**22 51 40.3**	**-1.3**
KURK	**Kurchatov**	**56.39**	**311**	P	**P**	**22 44 01.8**	**+0.5**
KURK				pP	**pP**	**22 44 30.6**	**+0.5**
121A	**Cookes Peak, D**	**56.43**	**79**	P	**P**	**22 44 02.0**	**-0.1**
	baz=314,SNR=52						
121A				S	**S**	**22 51 43.1**	**0.0**
	baz=314						
121A	**Cookes Peak, D**	**56.43**	**79**	P	**P**	**22 44 02.2**	**+0.1**
	baz=315,SNR=52						
KURBB	**Kurchatov Arra**	**56.49**	**311**	P	**P**	**22 44 02.5**	**+0.5**
	comp=Z,218nm,0.6s,baz=46,slow=6.9,SNR=295						
KURBB				pP	**pP**	**22 44 32.3**	**+1.4**
	comp=Z,177nm,0.8s,baz=50,slow=7.4,SNR=5.3						
KURBB				S	**S**	**22 51 36.3**	**-6.8**
	comp=Z,13nm,0.9s,baz=54,slow=14,SNR=7.4						
KURBB				LR	LR	23 12 05.0	
	comp=Z,6μm,19.2s,baz=46,slow=40						
KURBB				PKPPKP		23 13 55.9	
	comp=Z,2.1nm,0.7s,baz=260,slow=2.6,SNR=4.8						
KURBB				P4KPbc		23 21 11.8	
	comp=Z,2.1nm,0.9s,baz=44,slow=4.3,SNR=8.7			

ARA0 IVMs_BB IVMs_BB 23 02 20.2
comp=Z,4μm,44.0s
ARCES ARCESS Array B 56.69 348 P **P** **22 44 02.5 -0.7**
ARCES IAmb IAmb 22 44 38.5
comp=Z,291nm,1.1s
ARCES ARCESS Array B 56.69 348 P **P** **22 44 02.5 -0.7**
comp=Z,67nm,0.7s,baz=34,slow=7.7,SNR=143
ARCES pP **pP** **22 44 31.9 -0.2**
comp=Z,72nm,1.0s,baz=32,slow=9.3,SNR=2.4
ARCES ScP **ScP** **22 48 45.0 0.0**
comp=Z,54nm,1.1s,baz=18,slow=5.1,SNR=6.7
ARCES PKiKP **PKiKP** **22 51 25.3 +0.5**
comp=Z,4.1nm,0.8s,baz=23,slow=2.9,SNR=2.1
ARCES LR LR 23 10 14.3
comp=Z,10μm,19.6s,baz=18,slow=38
ARCES PKPPKP **P'P'df** **23 13 53.3 -4.4**
comp=Z,3.0nm,0.8s,baz=204,slow=2.7,SNR=4.9
comp=Z,67nm,0.7s
I37B Waseca 56.78 60 P **P** **22 44 04.2 0.0**
baz=313,SNR=235
SCO Scoresbysund 56.79 7 P **P** **22 44 03.2 -0.7**
SCO IAmb IAmb 22 44 40.3
comp=Z,380nm,1.0s
SCO Scoresbysund 56.79 7 P **P** **22 44 03.2 -0.7**
SCO pmax pmax
comp=Z,380nm,1.0s
SCO Scoresbysund 56.79 7 *i* P **P** **22 44 04.4 +0.5**
SCO IAmb IAmb 22 44 40.5
comp=Z,6μm,2.6s
N33B J Bar K, Exete 56.80 65 P **P** **22 44 03.7 -0.7**
baz=313,SNR=60
N33B S **S** **22 51 44.9 -2.6**
baz=313
CBKS Cedar Bluff 56.83 68 P **P** **22 44 04.3 -0.4**
baz=313,SNR=173
CBKS S **S** **22 51 47.4 -0.5**
baz=313
CBKS Cedar Bluff 56.83 68 P **P** **22 44 04.7 0.0**
baz=314,SNR=173
LVZ Lovozero 56.85 344 P **P** **22 44 03.7 -0.7**
LVZ Lovozero 56.85 344 *c i* P **P** **22 44 03.1 -1.3**
LVZ pmax pmax
comp=Z,1μm,1.3s
LVZ Lovozero 56.85 344 P **P** **22 44 04.0 -0.4**
LVZ pP **pP** **22 44 33.3 0.0**
LVZ pwP **pwP** **22 44 39.1 +0.4**
JMIC Jan Mayen 56.98 2 ⇑ *i* P **P** **22 44 06.1 +1.0**
JMIC *e*S **S** **22 51 52.0 +3.2**
JMIC Jan Mayen 56.98 2 LR LR 23 08 10.2
comp=Z,3μm,20.9s,baz=346,slow=36
JMI Jan Mayen 57.03 2 *e*P **P** **22 44 06.8 +1.3**
JMI *e*S **S** **22 51 49.3 -0.2**
DY2G Dye2 57.14 19 *i* P **P** **22 44 07.3 +0.5**
DY2G IAmb IAmb 22 44 43.3
comp=Z,3μm,1.8s
D41A Chassel 57.19 54 P **P** **22 44 07.3 +0.3**
baz=314,SNR=128
D41A S **S** **22 51 51.0 -1.3**
baz=314
JETT Jettan, Norway 57.25 350 ⇑ *i* P **P** **22 44 07.2 0.0**
JETT *e*pP **pP** **22 44 36.1 0.0**
JETT *e*S **S** **22 51 51.2 -1.4**
JETT *i* 22 52 43.5
MK31 Makanchi Array 57.30 306 *i* P **P** **22 44 06.9 -1.0**
MK31 pmax pmax
comp=Z,42nm,0.4s
MKAR Makanchi Array 57.30 306 P **P** **22 44 07.5 -0.5**
MKAR Makanchi Array 57.30 306 *i* P **P** **22 44 07.6 -0.3**
MKAR pmax pmax
comp=Z,46nm,0.4s
MKAR Makanchi Array 57.30 306 P **P** **22 44 07.7 -0.3**
comp=Z,45nm,0.4s,baz=51,slow=5.3,SNR=154
MKAR pP **pP** **22 44 35.8 -1.4**
comp=Z,38nm,0.7s,baz=54,slow=7.3,SNR=2.2
MKAR S **S** **22 51 55.5 +1.6**
comp=Z,4.6nm,1.0s,baz=45,slow=15,SNR=2.3
MKAR LR LR 23 10 59.9
comp=Z,5μm,18.2s,baz=35,slow=38
MKAR PKPPKP P'P'df 23 13 49.0 -7.9
comp=Z,2.5nm,1.0s,baz=267,slow=2.9,SNR=4.8
comp=Z,45nm,0.4s
TRO Tromso 57.32 351 ⇑ *i* P **P** **22 44 07.4 -0.2**
TRO IVmB_BB 22 44 08.3
comp=Z,2μm,1.4s
TRO *e*pP **pP** **22 44 35.7 -0.9**
TRO *e*S **S** **22 51 52.1 -1.3**
TRO *i* 22 52 44.2
TRO IVMs_BB IVMs_BB 23 02 59.8
comp=Z,3μm,38.5s
APA Apatity 57.36 344 ⇓ *i* P **P** **22 44 06.5 -1.4**
APA *i* *PP **pP** **22 44 37.0 +0.2**
APA *i* 22 45 08.0
APA *i* S **S** **22 51 52.0 -1.9**
APA *i* PS **pS** **22 52 19.0 -6.6**
APA *i* 22 53 41.0
APA pmax pmax
comp=Z,13nm,0.9s
APA MLR MLR
comp=Z,16μm,40.0s
MAKZ Makanchi 57.45 306 P **P** **22 44 08.4 -0.6**
MAKZ Makanchi 57.45 306 P **P** **22 44 09.4 +0.5**
MAKZ Makanchi 57.45 306 P **P** **22 44 08.7 -0.3**
MAKZ pP **pP** **22 44 38.0 -0.2**
KTK1 Kautokeino 57.46 349 ⇑ *i* P **P** **22 44 08.2 -0.4**
KTK1 IVmB_BB 22 44 09.1
comp=Z,4μm,1.7s
KTK1 *e*pP **pP** **22 44 37.5 -0.1**
KTK1 *e*S **S** **22 51 53.3 -2.0**
KTK1 *i* 22 52 45.7
KTK1 IVMs_BB IVMs_BB 23 03 05.0
comp=Z,2μm,15.0s
GYA Guiyang 57.53 272 ⇓ P **P** **22 44 10.1 +0.2**
GYA pP pP 22 44 38.7 -1.3
GYA sP sP 22 44 53.4 -0.5
GYA S **S** **22 51 55.8 -1.8**
GYA ScS **ScS** **22 53 46.2 -0.7**
GYA pmax pmax
comp=Z,180nm,1.5s
GYA pmax pmax
comp=Z,4μm,4.3s
GYA LR LR
comp=Z,5μm,17.3s
GYA LR LR
comp=Z,4μm,24.4s
GYA LR LR
comp=Z,7μm,25.6s
COWI Conover 57.56 55 P **P** **22 44 09.3 -0.4**
baz=314
COWI S **S** **22 51 53.4 -3.8**
baz=314
G40A Rib Lake 57.59 57 P **P** **22 44 09.6 -0.3**
baz=314
G40A S **S** **22 51 56.1 -1.5**
baz=314
R32A Long Quarter, 57.68 68 P **P** **22 44 10.1 -0.6**
baz=314,SNR=128
R32A S **S** **22 51 56.6 -2.4**
baz=314
N35A Tabor 57.72 64 P **P** **22 44 10.8 -0.1**
baz=314,SNR=302
N35A S **S** **22 51 58.3 -1.2**
baz=314
KIDD KIDD Seismic O 57.73 79 P **P** **22 44 11.0 -0.2**
baz=315,SNR=87
GOMU GeErMu 57.77 289 P **P** **22 44 11.9 +0.1**
GOMU S **S** **22 51 53.4 -7.6**
GOMU pmax pmax
comp=Z,52nm,1.0s
GOMU LR LR
comp=Z,8μm,15.3s
GOMU LR LR
comp=Z,6μm,15.8s
GOMU LR LR
comp=Z,10μm,16.0s
NUUK Nuuk 57.91 23 *i* P **P** **22 44 12.3 +0.5**
K38A Parkersburg 58.05 60 P **P** **22 44 12.7 -0.4**
baz=314,SNR=146
K38A S **S** **22 52 01.2 -2.5**
baz=314
F42A Maple Grove Fa 58.30 55 P **P** **22 44 15.1 +0.2**
baz=314,SNR=77
F42A S **S** **22 52 06.5 -0.4**
baz=314
SCIA State Center 58.32 61 P **P** **22 44 14.7 -0.4**
baz=314,SNR=130
SCIA S **S** **22 52 05.1 -2.2**
baz=314
SCIA State Center 58.32 61 P **P** **22 44 14.9 -0.1**
baz=314,SNR=130
SCIA S **S** **22 52 05.2 -2.0**
baz=314
I40A Norwalk 58.32 58 P **P** **22 44 14.9 -0.2**
baz=314,SNR=277
I40A S **S** **22 52 04.9 -2.4**
baz=314
KSU1 Kansas State U 58.40 66 P **P** **22 44 14.6 -1.0**
baz=314,SNR=78
KSU1 S **S** **22 52 05.8 -2.5**
baz=314
KSU1 Kansas State U 58.40 66 P **P** **22 44 14.7 -1.0**
baz=314,SNR=78
KSU1 S **S** **22 52 04.6 -3.7**
baz=314
BVAR Borovoye Array 58.40 317 P **P** **22 44 16.0 +0.6**
BVAR Borovoye Array 58.40 317 P **P** **22 44 16.0 +0.6**
comp=Z,441nm,0.7s,baz=52,slow=7.0,SNR=598
BVAR ScP **ScP** **22 48 52.9 0.0**
comp=Z,14nm,1.0s,baz=46,slow=4.4,SNR=1.6
BVAR S **S** **22 52 00.7 -7.2**
comp=Z,2.9nm,0.8s,baz=48,slow=14,SNR=1.8
BVAR LR LR 23 10 18.4
comp=Z,10μm,21.3s,baz=47,slow=37
BVAR PKPPKP **P'P'df** **23 13 56.6 +1.4**
comp=Z,1.7nm,0.8s,baz=302,slow=2.7,SNR=2.6
BVAR P4KPbc 23 21 17.4
comp=Z,0.2nm,0.4s,baz=46,slow=4.2,SNR=1.5
comp=Z,441nm,0.7s
MSTX Muleshoe 58.42 74 IAmb IAmb 22 44 22.4
comp=Z,216nm,0.9s
MSTX Muleshoe 58.42 74 P **P** **22 44 15.4 -0.6**
baz=314,SNR=135
MSTX S **S** **22 52 07.8 -1.2**
baz=314
MSTX Muleshoe 58.42 74 P **P** **22 44 15.4 -0.6**
baz=315,SNR=135
MSTX S **S** **22 52 07.9 -1.0**
baz=315
BRVK Borovoye 58.42 317 P **P** **22 44 15.8 +0.3**
BRVK Borovoye 58.42 317 *c i* P **P** **22 44 15.9 +0.3**
BRVK pmax pmax
comp=Z,395nm,0.8s
BRVK Borovoye 58.42 317 P **P** **22 44 16.1 +0.6**
BRVK S **S** **22 52 07.0 -1.1**
BRVK Borovoye 58.42 317 P **P** **22 44 16.1 +0.6**
BRVK pP **pP** **22 44 46.0 +1.5**
AMTX Amarillo 58.42 73 IAmb IAmb 22 45 11.8
comp=Z,168nm,0.8s
AMTX Amarillo 58.42 73 P **P** **22 44 15.7 -0.2**
baz=314
AMTX S **S** **22 52 08.2 -0.7**
baz=314
AMTX Amarillo 58.42 73 P **P** **22 44 15.8 -0.2**
baz=315,SNR=53
AMTX S **S** **22 52 07.1 -1.8**
baz=315
E43A Lone Tree Farm 58.44 54 P **P** **22 44 15.7 -0.1**
baz=314
E43A S **S** **22 52 07.8 -0.8**
baz=314
MNTX Cornudas Mount 58.46 78 IAmb IAmb 22 44 22.3
comp=Z,238nm,0.9s
MNTX Cornudas Mount 58.46 78 P **P** **22 44 16.1 -0.1**
baz=315,SNR=304
MNTX S **S** **22 52 10.7 +1.4**
baz=315
MNTX Cornudas Mount 58.46 78 P **P** **22 44 16.3 +0.1**
baz=316,SNR=304
MNTX S **S** **22 52 11.2 +1.9**
baz=316
NOKA Waynoka 58.79 69 IAmb IAmb 22 44 19.9
comp=Z,288nm,0.9s
KAN12 Harper NE Stat 58.87 68 IAmb IAmb 22 44 19.9
comp=Z,254nm,0.8s
ELIS Ellis County 58.91 70 IAmb IAmb 22 44 22.6
comp=Z,330nm,0.9s
U32A Winter Ranch, 58.93 70 P **P** **22 44 19.0 -0.4**
baz=315,SNR=67
U32A S **S** **22 52 13.7 -1.6**
baz=315
KAN06 Argonia West S 58.98 68 IAmb IAmb 22 44 24.2
comp=Z,305nm,1.1s
N38A Joes South For 59.08 62 P **P** **22 44 19.3 -1.0**
baz=315,SNR=118
N38A S **S** **22 52 13.9 -3.2**
baz=315
OK032 Salt Plains WL 59.09 69 IAmb IAmb 22 44 25.7
comp=Z,318nm,0.9s
KAN14 Manchester OK 59.12 68 IAmb IAmb 22 44 25.7
comp=Z,178nm,0.8s
JFWS Jewell Farm 59.20 59 P **P** **22 44 20.1 -1.0**
baz=314,SNR=218
JFWS S **S** **22 52 16.0 -2.6**
baz=314
JFWS Jewell Farm 59.20 59 P **P** **22 44 20.1 -1.0**
baz=315,SNR=218
JFWS S **S** **22 52 15.9 -2.7**
baz=315
I42A Draeger Farm, 59.21 57 P **P** **22 44 21.0 -0.2**
baz=315,SNR=207
I42A S **S** **22 52 17.6 -1.1**
baz=315
L40A Anamosa 59.28 60 P **P** **22 44 20.8 -0.8**
baz=315,SNR=139
L40A S **S** **22 52 16.7 -2.9**
baz=315
STEI Steigen 59.31 352 ⇑ *i* P **P** **22 44 21.1 -0.4**
STEI IVmB_BB 22 44 22.2
comp=Z,1μm,0.7s
STEI *e*pP **pP** **22 44 49.7 -0.9**
STEI *e*S **S** **22 52 16.9 -2.4**
STEI *e*SS **SS** **22 56 19.6 +4.7**
STEI IVMs_BB IVMs_BB 23 04 18.1
comp=Z,3μm,40.2s
SVE Sverdlovsk 59.32 325 *d i* P **P** **22 44 22.9 +1.2**
SVE *e*S **S** **22 52 22.5 +2.8**
SVE pmax pmax
comp=Z,375nm,1.3s
ISOG Isortoq, Green 59.34 16 *i* P **P** **22 44 21.4 -0.2**
ISOG IAmb IAmb 22 44 26.9
comp=Z,618nm,0.8s
425A Indio Mountain 59.35 78 IAmb IAmb 22 44 28.5
comp=Z,216nm,0.9s
H43A Windswept, Lux 59.39 56 P **P** **22 44 22.1 -0.2**
baz=315,SNR=65
H43A S **S** **22 52 20.7 -0.3**
baz=315
ANGG Ammassalik, Gr 59.50 16 *i* P **P** **22 44 21.9 -0.9**
ANGG IAmb IAmb 22 44 27.2
comp=Z,573nm,0.9s
MANU Manus Island 59.55 215 P **P** **22 44 24.3 +0.6**
PECS Pecos 59.60 77 IAmb IAmb 22 44 29.9
comp=Z,270nm,1.2s
BRZS Berezniki 59.61 313 *e* P **P** **22 44 24.1 +0.2**
baz=314
BRZS *e*pP **pP** **22 44 53.8 +0.9**
baz=314
BRZS *i* S **S** **22 52 22.2 -1.5**
baz=314
BRZS Berezniki 59.61 313 *e* P **P** **22 44 24.0 +0.2**
BRZS *e**PP **pP** **22 44 53.8 +0.9**
BRZS *i* S **S** **22 52 22.2 -1.5**
BLOK Blackwell 59.69 68 IAmb IAmb 22 44 27.4
comp=Z,445nm,1.4s
ADZR Andozero 59.70 340 *e* P **P** **22 44 25.0 +0.9**
ADZR *e**PP **pwP** **22 45 00.2 +1.5**
ADZR *e*S **S** **22 52 25.3 +1.0**
ADZR pmax pmax
comp=Z,590nm,1.5s
DKNS Dickens 59.72 73 IAmb IAmb 22 44 26.8
comp=Z,288nm,1.0s
P38A Dawn 59.74 63 P **P** **22 44 23.7 -1.1**
baz=315,SNR=264
P38A S **S** **22 52 21.1 -4.5**
baz=315
E46A Sault Ste Mari 59.77 52 P **P** **22 44 25.2 +0.3**
baz=316,SNR=236
E46A S **S** **22 52 25.4 -0.4**
baz=316
POST Post 59.80 74 IAmb IAmb 22 44 27.2
comp=Z,285nm,0.9s
FAUS Fauske 59.85 352 ⇑ *i* P **P** **22 44 25.0 -0.1**
FAUS IVmBBB 22 44 25.7
comp=Z,5μm,1.6s
FAUS *e*pP **pP** **22 44 54.0 -0.3**
FAUS *e*S **S** **22 52 25.0 -1.1**
FAUS IVMs_BB IVMs_BB 23 04 08.6
comp=Z,3μm,40.6s
ODSA Odessa 59.86 76 IAmb IAmb 22 44 30.9
comp=Z,212nm,0.9s
T35A Sooner Cattle 59.98 68 IAmb IAmb 22 44 32.0
comp=Z,410nm,1.1s
T35B Sooner Cattle 59.98 68 P **P** **22 44 25.2 -1.3**
baz=315,SNR=146
T35B S **S** **22 52 25.9 -2.8**
baz=315
PRGR Permogore 59.99 335 ⇑ *i* P **P** **22 44 26.9 +0.7**
PRGR *i* *PP **pwP** **22 44 58.1 -2.6**
PRGR *i* S **S** **22 52 29.6 +1.5**
PRGR *i* 22 54 02.4
PRGR pmax pmax
comp=Z,595nm,0.7s
G45A Suttons Bay 60.05 54 P **P** **22 44 26.6 -0.3**
baz=316,SNR=56
G45A P **P** **22 44 26.6 -0.3**
baz=316,SNR=56
G45A S **S** **22 52 28.9 -0.5**
baz=316
G45A S **S** **22 52 28.9 -0.5**
baz=316
OK051 E0350 and S346 60.08 68 IAmb IAmb 22 44 32.7
comp=Z,224nm,0.8s
L42A Oliver, Polo 60.14 59 P **P** **22 44 26.5 -1.0**
baz=315,SNR=214
L42A S **S** **22 52 28.2 -2.5**
baz=315
KRVT Keravat (AS076 60.17 209 LR LR 23 08 13.9
comp=Z,12μm,19.5s,baz=100,slow=34
WMOK Wichita Mounta 60.21 71 IAmb IAmb 22 44 34.1
comp=Z,187nm,0.7s
WMOK Wichita Mounta 60.21 71 P **P** **22 44 28.0 -0.2**
baz=315,SNR=240
WMOK S **S** **22 52 30.4 -1.4**
baz=315
WMOK Wichita Mounta 60.21 71 P **P** **22 44 28.1 -0.2**
baz=316,SNR=240
WMOK S **S** **22 52 31.7 -0.2**
baz=316
SN01 Snyder 1 60.31 74 IAmb IAmb 22 44 32.1
comp=Z,145nm,0.9s
K43A Burlington 60.35 58 P **P** **22 44 28.5 -0.4**
baz=316,SNR=144
K43A S **S** **22 52 31.4 -1.8**
baz=316
ARU Arti 60.35 326 P **P** **22 44 29.1 +0.3**
ARU Arti 60.35 326 P **P** **22 44 29.5 +0.8**
comp=Z,185nm,0.4s,baz=39,slow=3.1,SNR=250
ARU pP **pP** **22 44 57.3 -0.6**
comp=Z,102nm,0.9s,baz=160,slow=9.9,SNR=1.8
ARU S **S** **22 52 34.4 +1.4**
comp=Z,17nm,0.9s,baz=237,slow=18,SNR=12
ARU LR LR 23 14 39.8
comp=Z,7μm,19.0s,baz=34,slow=40
comp=Z,185nm,0.4s
ARU Arti 60.35 326 P **P** **22 44 29.5 +0.8**
ARU pP **pP** **22 44 59.5 +1.6**
N41A Harden Midland 60.43 61 P **P** **22 44 28.8 -0.7**
baz=315,SNR=286
N41A S **S** **22 52 31.8 -2.6**
baz=315
APMT Aspermont 60.43 73 IAmb IAmb 22 44 33.8
comp=Z,778nm,1.2s
ALPN Alpine 60.45 78 IAmb IAmb 22 44 35.0
comp=Z,110nm,0.9s
I45A Fountain 60.47 55 P **P** **22 44 29.7 0.0**
baz=316,SNR=50
I45A P **P** **22 44 29.7 0.0**
baz=316,SNR=50
I45A S **S** **22 52 34.7 -0.2**
baz=316
I45A S **S** **22 52 34.7 -0.2**
baz=316
TDK Taldyqorghan 60.49 306 *e* P **P** **22 44 30.5 +0.5**
comp=Z,156nm,0.8s,baz=306
TDK Taldyqorghan 60.49 306 *e* P **P** **22 44 30.4 +0.5**
TDK pmax pmax
comp=Z,156nm,0.8s
PZH PanZhiHua 60.52 276 P **P** **22 44 30.9 +0.4**
PZH pP **pP** **22 44 59.5 -1.4**
PZH PcP **sP** **22 45 16.5 +1.6**
PZH ScP **ScP** **22 49 01.8 -1.0**
PZH S **S** **22 52 35.4 -0.7**
PZH sS **sS** **22 53 23.8 -3.6**
PZH ScS SKKSac 22 54 07.1 -1.8
PZH pmax pmax
comp=Z,300nm,1.1s
PZH pmax pmax
comp=Z,3μm,6.2s
PZH LR LR
comp=Z,7μm,19.4s
PZH LR LR
comp=Z,7μm,19.2s
PZH LR LR
comp=Z,6μm,16.9s
FUNA Funafuti 60.60 177 P **P** **22 44 31.9 +1.1**
P40A Paris 60.62 63 P **P** **22 44 30.0 -0.8**
baz=316,SNR=888
P40A S **S** **22 52 33.1 -3.7**
baz=316
GLMI Grayling 60.72 54 P **P** **22 44 31.5 +0.1**
baz=316,SNR=81
GLMI S **S** **22 52 39.0 +1.0**
baz=316
GLMI Grayling 60.72 54 P **P** **22 44 31.5 +0.1**
baz=316,SNR=81
GLMI S **S** **22 52 38.0 0.0**
baz=316
SGCY Sterling City 60.85 75 IAmb IAmb 22 44 34.2
comp=Z,366nm,0.8s
X34A Smith Ranch, M 60.86 70 IAmb IAmb 22 44 36.7
comp=Z,428nm,1.1s
KONS Konsvik 60.90 353 *e* P **P** **22 44 32.3 +0.1**
KONS *e* 22 45 06.2
KMI Kunming 60.91 274 ⇓ P **P** **22 44 33.5 +0.2**
KMI pP pP 22 45 02.8 -0.9
KMI S **S** **22 52 40.8 -0.6**
KMI sS sS 22 53 30.7 -1.6
KMI pmax pmax
comp=Z,110nm,1.1s
KMI pmax pmax
comp=Z,3μm,5.0s
KMI LR LR
comp=Z,9μm,19.5s
KMI LR LR
comp=Z,6μm,18.0s
KMI LR LR
comp=Z,11μm,38.1s
KMI Kunming 60.91 274 P **P** **22 44 33.9 +0.6**
KMI pP **pP** **22 45 02.6 -1.1**
L44A Lake County Fo 60.94 58 P **P** **22 44 32.3 -0.7**
baz=315,SNR=112
L44A S **S** **22 52 38.5 -2.3**
baz=315
L44A Lake County Fo 60.94 58 P **P** **22 44 32.5 -0.5**
baz=316,SNR=112
L44A S **S** **22 52 38.5 -2.3**
baz=316
SCHQ Schefferville 60.94 36 P **P** **22 44 32.4 -0.4**
comp=Z,414nm,0.8s,baz=338,slow=6.9,SNR=171
SCHQ pP **pP** **22 45 01.4 -0.7**
comp=Z,98nm,0.8s,baz=332,slow=11,SNR=1.9
SCHQ S **S** **22 52 41.1 +0.6**
comp=Z,11nm,0.9s,baz=213,slow=16,SNR=2.0
SCHQ LR LR 23 11 47.2
comp=Z,13μm,20.1s,baz=325,slow=37
comp=Z,414nm,0.8s
STOK Stokkvaagen 61.07 353 *e* P **P** **22 44 33.5 +0.1**
STOK *e* 22 45 09.0
STOK *e*S **S** **22 52 41.0 -0.6**
WTFS Witchita Falls 61.09 71 P **P** **22 44 33.8 -0.3**
WTFS IAmb IAmb 22 44 39.9
comp=Z,273nm,0.9s
TUL3 Leonard 61.10 68 P **P** **22 44 33.3 -0.9**
baz=315,SNR=105
TUL3 S **S** **22 52 39.7 -3.3**
baz=315
TUL3 Leonard 61.10 68 P **P** **22 44 33.5 -0.7**
baz=316,SNR=105
TUL3 S **S** **22 52 40.0 -3.0**
baz=316
QIZ Qiongzhong 61.10 264 ⇓ *i* P **P** **22 44 30.6 -3.7**

QIZ pP **pP** **22 45 00.8 -3.9**
QIZ S **S** **22 52 41.1 -2.3**
QIZ sS **sS** **22 53 36.6 +2.8**
QIZ pmax pmax
comp=Z,190nm,1.3s
QIZ pmax pmax
comp=Z,4μm,3.9s
QIZ LR LR
comp=Z,5μm,23.3s
QIZ LR LR
comp=Z,7μm,17.1s
QIZ LR LR
comp=Z,6μm,13.5s
QIZ Qiongzhong 61.10 264 P **P** **22 44 34.9 +0.6**
QIZ IAmb IAmb 22 44 37.7
comp=Z,189nm,1.0s
QIZ **pP** **22 45 02.8 -1.9**
QIZ Qiongzhong 61.10 264 P **P** **22 44 36.6 +2.3**
MOR8 Moi Rana 61.11 352⇑ *i*P **P** **22 44 32.2 -1.5**
MOR8 IVmB_BB 22 44 33.0
comp=Z,2μm,1.5s
MOR8 *e* 22 45 07.4
MOR8 *e*S **S** **22 52 40.0 -2.3**
MOR8 *i* 22 53 30.0
MOR8 IVMs_BB IVMs_BB 23 05 06.4
comp=Z,2μm,13.2s
TX31 Lajitas Ar. Si 61.18 79 P **P** **22 44 34.6 -0.3**
baz=317,SNR=439
TX32 Lajitas Array 61.18 79 IAmb IAmb 22 44 39.1
comp=Z,326nm,1.2s
TXAR Lajitas Array 61.18 79 P **P** **22 44 34.4 -0.5**
comp=Z,76nm,0.6s,baz=304,slow=4.6,SNR=304
TXAR ScP **ScP** **22 49 05.7 0.0**
comp=Z,11nm,0.9s,baz=339,slow=4.8,SNR=4.2
TXAR PKPPKP P'P'df 23 13 42.3 -8.3
comp=Z,2.0nm,0.9s,baz=220,slow=3.3,SNR=6.2
TXAR P4KPbc 23 21 27.8
comp=Z,0.2nm,0.7s,baz=303,slow=5.1,SNR=2.1
comp=Z,76nm,0.6s
ABTX Abilene, Hawle 61.22 73 P **P** **22 44 34.8 -0.1**
baz=316,SNR=328
ABTX S **S** **22 52 43.9 -0.7**
baz=316
ABTX Abilene, Hawle 61.22 73 P **P** **22 44 34.9 -0.1**
baz=316,SNR=328
ABTX S **S** **22 52 44.2 -0.4**
baz=316
S39A Bolivar 61.22 65 P **P** **22 44 32.7 -2.3**
baz=316,SNR=94
S39A S **S** **22 52 38.1 -6.5**
baz=316
SHLS Shalkode 61.29 304⇓ *i*P **P** **22 44 34.3 -1.2**
comp=Z,120nm,0.8s,baz=304
SHLS Shalkode 61.29 304 *d i*P **P** **22 44 34.2 -1.2**
SHLS pmax pmax
comp=Z,120nm,0.8s
IVI Ivigtut 61.31 23 P **P** **22 44 35.1 0.0**
IVI Ivigtut 61.31 23 *i* P **P** **22 44 35.8 +0.7**
IVI IAmb IAmb 22 44 41.6
comp=Z,605nm,0.7s
IVI Ivigtut 61.31 23 P **P** **22 44 34.7 -0.4**
RLO Rose Lookout 61.35 67 IAmb IAmb 22 44 40.9
comp=Z,178nm,0.7s
HDIL Hopedale 61.37 60 P **P** **22 44 35.1 -0.8**
baz=316,SNR=345
HDIL S **S** **22 52 43.7 -2.7**
baz=316
HDIL Hopedale 61.37 60 P **P** **22 44 35.4 -0.5**
baz=316,SNR=345
HDIL S **S** **22 52 44.5 -1.8**
baz=316
R40A Maddies Statio 61.38 64 IAmb IAmb 22 44 36.8
comp=Z,298nm,0.8s
R40A Maddies Statio 61.38 64 P **P** **22 44 34.3 -1.7**
baz=316,SNR=242
R40A S **S** **22 52 40.0 -6.5**
baz=316
DAV Davao City (W) 61.42 242⇓ *i*P **P** **22 44 39.0 +2.5**
DAV Davao City (W) 61.42 242 P **P** **22 44 36.3 -0.2**
DAV Davao City (W) 61.42 242 P **P** **22 44 36.8 +0.3**
DAV S **S** **22 52 47.6 +0.2**
M44A Midewin, Midew 61.44 59 P **P** **22 44 35.9 -0.4**
baz=316,SNR=345
M44A S **S** **22 52 45.1 -2.0**
baz=316
KPKS Kokpek 61.46 305⇓ *i*P **P** **22 44 37.1 +0.5**
baz=305
KPKS *i* pP **pP** **22 45 06.7 +0.6**
baz=305
KPKS *i* S **S** **22 52 47.8 +0.2**
baz=305
KPKS Kokpek 61.46 305 *d i*P **P** **22 44 37.1 +0.5**
KPKS *i* *PP **pP** **22 45 06.6 +0.6**
KPKS *i* S **S** **22 52 47.8 +0.2**
SLBS Sierra La Lagu 61.48 88 P **P** **22 44 36.9 0.0**
U38A Gravette 61.52 67 IAmb IAmb 22 44 42.0
comp=Z,293nm,0.8s
U38A Gravette 61.52 67 P **P** **22 44 35.7 -1.3**
baz=316,SNR=255
U38A S **S** **22 52 44.5 -3.9**
baz=316
UZB Uzynbulak 61.52 304⇓ *i*P **P** **22 44 37.5 +0.4**
baz=304
UZB *i* pP **pP** **22 45 07.2 +0.7**
baz=304
UZB *e*S **S** **22 52 48.5 0.0**
baz=304
UZB Uzynbulak 61.52 304 *d i*P **P** **22 44 37.4 +0.4**
UZB *i* *PP **pP** **22 45 07.2 +0.7**
UZB *e*S **S** **22 52 48.4 0.0**
KIRV Kirov 61.52 332 *c i*P **P** **22 44 37.3 +0.7**
KIRV Kirov 61.52 332 LR LR 23 12 26.3
comp=Z,9μm,21.7s,baz=26,slow=37
OZNA Ozona 61.56 75 IAmb IAmb 22 44 41.1
comp=Z,254nm,1.1s
SAND Sanderson 61.66 77 IAmb IAmb 22 44 44.8
comp=Z,104nm,1.0s
J47A Sunmer 61.76 55 P **P** **22 44 38.5 +0.1**
baz=317,SNR=114
J47A P **P** **22 44 38.5 +0.1**
baz=317,SNR=114
J47A S **S** **22 52 51.1 -0.1**
baz=317
J47A S **S** **22 52 51.1 -0.1**
baz=317
ZHN Zhinishke 61.80 305 *e*P **P** **22 44 39.4 +0.5**
baz=305
ZHN *e*S **S** **22 52 52.5 +0.5**
baz=305
ZHN Zhinishke 61.80 305 *e*P **P** **22 44 39.4 +0.5**
ZHN *e*S **S** **22 52 52.4 +0.5**
FW03 Perrin-Whitt E 61.84 72 IAmb IAmb 22 44 41.5
comp=Z,221nm,1.0s
HHAR Hobbs 61.88 66 IAmb IAmb 22 44 44.3
comp=Z,299nm,0.7s
HHAR Hobbs 61.88 66 P **P** **22 44 38.1 -1.3**
baz=316
HHAR S **S** **22 52 48.8 -4.2**
baz=316
L46A Eue Claire 61.89 57 P **P** **22 44 38.9 -0.5**
baz=316,SNR=62
L46A P **P** **22 44 38.9 -0.5**
baz=316,SNR=62
L46A S **S** **22 52 50.9 -1.9**
baz=316
L46A S **S** **22 52 50.9 -1.9**
baz=316
SATY Saty 61.90 305⇓ *i*P **P** **22 44 40.1 +0.6**
baz=305
SATY *i* S **S** **22 52 53.6 +0.4**
baz=305
SATY Saty 61.90 305 *d i*P **P** **22 44 40.1 +0.6**
SATY *i* S **S** **22 52 53.6 +0.4**
P43A Skaggs, Pawnee 61.91 61 P **P** **22 44 38.8 -0.7**
baz=316,SNR=164
P43A S **S** **22 52 51.0 -2.1**
baz=316
NRS Narsarsuaq 62.00 22 P **P** **22 44 39.0 -0.6**
NRS IAmb IAmb 22 44 45.4
comp=Z,288nm,0.7s
NRS Narsarsuaq 62.00 22 P **P** **22 44 39.1 -0.6**
NRS pmax pmax
comp=Z,288nm,0.7s
NRS Narsarsuaq 62.00 22 *i* P **P** **22 44 39.6 -0.1**
NRS IAmb IAmb 22 44 45.7
comp=Z,279nm,0.8s
CHKK Chushkaly 62.03 306 *e*P **P** **22 44 40.0 -0.3**
baz=306
CHKK Chushkaly 62.03 306 *e*P **P** **22 44 40.0 -0.3**
O44A Mansfield 62.10 60 P **P** **22 44 39.7 -1.0**
baz=316,SNR=139
O44A S **S** **22 52 53.5 -2.0**
baz=316
Z35A Perchaven, San 62.10 71 P **P** **22 44 40.2 -0.7**
baz=316,SNR=77
Z35A S **S** **22 52 53.7 -2.1**
baz=316
CCM Cathedral Cave 62.11 63 P **P** **22 44 39.1 -1.7**
CCM IAmb IAmb 22 44 45.4
comp=Z,223nm,0.7s
CCM Cathedral Cave 62.11 63 P **P** **22 44 39.2 -1.7**
CCM pmax pmax
comp=Z,223nm,0.7s
CCM Cathedral Cave 62.11 63 P **P** **22 44 39.2 -1.7**
baz=316
CCM S **S** **22 52 51.7 -4.0**
baz=316
CCM Cathedral Cave 62.11 63 P **P** **22 44 39.4 -1.4**
baz=316,SNR=183
CCM S **S** **22 52 51.5 -4.2**
baz=316
CCM Cathedral Cave 62.11 63 P **P** **22 44 39.4 -1.4**
KLMR Klimovskoe 62.15 338⇑ *i*P **P** **22 44 41.1 +0.3**
KLMR ⇓ *i*P **P** **22 44 41.1 +0.3**
KLMR *e*P **P** **22 44 41.1 +0.3**
KLMR AMP 22 44 46.2
comp=Z,446nm,1.1s
KLMR *e*pP **pP** **22 45 10.3 +0.2**
KLMR S **S** **22 52 55.8 +0.3**
KLMR S **S** **22 52 55.8 +0.3**
KLMR sS **sS** **22 53 46.0 -0.5**
KLMR ScS **SKiKP** **22 54 47.8 -4.7**
KLMR ScS **SKiKP** **22 54 47.8 -4.7**
KLMR LQ LQ 23 05 38.4
KLMR LQ LQ 23 05 38.4
KLMR LR LR 23 11 13.4
KLMR AMP 23 14 44.4
comp=Z,9μm,22.0s
KLMR Klimovskoe 62.15 338 *c i*P **P** **22 44 41.0 +0.3**
KLMR *e**PP **pP** **22 45 10.3 +0.2**
KLMR S **S** **22 52 55.8 +0.3**
KLMR pmax pmax
comp=Z,446nm,1.1s
KLMR MLR MLR
comp=Z,9μm,22.0s
FW06 Azle 62.19 71 IAmb IAmb 22 44 43.7
comp=Z,320nm,0.8s
MGMO Mountain Grove 62.19 65 IAmb IAmb 22 44 46.1
comp=Z,244nm,0.8s
SLM Saint Louis 62.24 62 P **P** **22 44 40.8 -0.9**
baz=316,SNR=31
SLM S **S** **22 52 54.4 -2.9**
baz=316
FW07 Weatherford 62.25 72 IAmb IAmb 22 44 47.8
comp=Z,374nm,0.8s
X37A Clayton 62.28 69 IAmb IAmb 22 44 43.9
comp=Z,203nm,0.9s
X37A Clayton 62.28 69 P **P** **22 44 41.7 -0.4**
baz=316,SNR=107
X37A S **S** **22 52 57.8 -0.2**
baz=316
KUU Kurty 62.32 307 *i* P **P** **22 44 41.8 -0.4**
baz=307
KUU *i* pP **pP** **22 45 11.6 -0.3**
baz=307
KUU *e*S **S** **22 52 55.6 -2.7**
baz=307
KUU Kurty 62.32 307 *i* P **P** **22 44 41.8 -0.4**
KUU *i* *PP **pP** **22 45 11.5 -0.3**
KUU *e*S **S** **22 52 55.5 -2.7**
U40A Yellville 62.44 66 P **P** **22 44 41.5 -1.6**
baz=316,SNR=326
U40A P **P** **22 44 41.5 -1.6**
baz=316,SNR=326
U40A S **S** **22 52 55.3 -4.6**
baz=316
U40A S **S** **22 52 55.3 -4.6**
baz=316
BORG Borgarnes 62.46 9 P **P** **22 44 42.6 -0.1**
BORG IAmb IAmb 22 44 50.3
comp=Z,194nm,0.8s
BORG Borgarnes 62.46 9 P **P** **22 44 42.6 -0.1**
BORG pmax pmax
comp=Z,194nm,0.8s
BORG Borgarnes 62.46 9 LR LR 23 11 40.8
comp=Z,3μm,20.4s,baz=347,slow=36
BORG Borgarnes 62.46 9 P **P** **22 44 44.3 +1.6**
BORG PcP **PcP** **22 45 19.1 -1.8**
JAY Jayapura 62.51 222 S **S** **22 53 03.5 +2.2**
comp=Z,8.7nm,0.9s,baz=343,slow=23,SNR=8.0
JAY LR LR 23 07 51.5
comp=Z,5μm,20.2s,baz=16,slow=32
AAA Alma-Ata 62.53 306 *e*P **P** **22 44 44.5 +0.8**
comp=Z,162nm,0.5s,baz=306
AAA Alma-Ata 62.53 306 *e*P **P** **22 44 44.5 +0.8**
AAA pmax pmax
comp=Z,162nm,0.5s
BRDY Brady 62.56 74 IAmb IAmb 22 44 48.1
comp=Z,362nm,1.1s
BTLS Baital 62.59 309⇓ *i*P **P** **22 44 44.3 +0.3**
baz=309
BTLS *i* pP **pP** **22 45 13.8 +0.1**
baz=309
BTLS *e*S **S** **22 53 00.2 -1.3**
baz=309
BTLS Baital 62.59 309 *d i*P **P** **22 44 44.2 +0.3**
BTLS *i* *PP **pP** **22 45 13.8 +0.1**
BTLS *e*S **S** **22 53 00.2 -1.3**
FVM French Village 62.61 63 P **P** **22 44 43.2 -1.0**
baz=317,SNR=165
FVM S **S** **22 52 58.8 -3.2**
baz=317
TNSS Tian-Shan 62.64 306 *e*P **P** **22 44 45.4 +0.5**
baz=306
TNSS Tian-Shan 62.64 306 *e*P **P** **22 44 45.4 +0.5**
SFIN Lafayette 62.66 59 P **P** **22 44 43.9 -0.6**
baz=316,SNR=345
SFIN S **S** **22 53 01.0 -1.5**
baz=316
SFIN Lafayette 62.66 59 P **P** **22 44 44.1 -0.4**
baz=317,SNR=345
SFIN S **S** **22 53 00.6 -1.9**
baz=317
JCT Junction City 62.66 75 IAmb IAmb 22 44 49.0
comp=Z,585nm,1.2s
JCT Junction City 62.66 75 P **P** **22 44 43.8 -0.9**
baz=316,SNR=134
JCT S **S** **22 53 00.5 -2.4**
baz=316
JCT Junction City 62.66 75 P **P** **22 44 44.0 -0.8**
baz=317,SNR=134
JCT S **S** **22 53 00.8 -2.1**
baz=317
FW13 Cleburne 62.71 72 IAmb IAmb 22 44 51.2
comp=Z,332nm,0.8s
Q44A Meyer Farm, Va 62.71 61 P **P** **22 44 44.0 -0.8**
baz=317,SNR=130
Q44A S **S** **22 53 00.9 -2.3**
baz=317
GENI Genyem 62.80 222 P **P** **22 44 46.9 +1.2**
comp=Z,748nm,1.1s,comp=Z,20μmcomp=Z,44μm
FW14 Alvarado 62.81 72 IAmb IAmb 22 44 51.4
comp=Z,238nm,0.7s
WUS Wushi 62.83 303 P **P** **22 44 46.9 +1.0**
WUS pP **pP** **22 45 16.0 +0.7**
SMPI Sarmi 62.87 224 P **P** **22 44 47.5 +1.4**
L48A N Adams 62.90 56 P **P** **22 44 45.5 -0.6**
baz=317,SNR=146
L48A P **P** **22 44 45.5 -0.6**
baz=317,SNR=146
L48A S **S** **22 53 03.8 -1.7**
baz=317
L48A S **S** **22 53 03.8 -1.7**
baz=317
FW16 Waxahatchie 62.92 71 IAmb IAmb 22 44 53.3
comp=Z,263nm,0.9s
NSS Namsos 62.93 353⇑ *i*P **P** **22 44 45.3 -0.6**
NSS IVmB_BB 22 44 46.4
comp=Z,3μm,2.6s
NSS *e*pP **pP** **22 45 14.9 -0.4**
NSS *e* 22 45 20.9
NSS *e*S **S** **22 53 04.1 -1.0**
NSS *i* 22 53 58.0
NSS IVMs_BB IVMs_BB 23 15 13.4
comp=Z,3μm,20.8s
T42A Van Buren 62.93 64 IAmb IAmb 22 44 46.9
comp=Z,175nm,0.7s
T42A Van Buren 62.93 64 P **P** **22 44 44.4 -1.9**
baz=317
DRIO Del Rio 62.95 76 IAmb IAmb 22 44 51.6
comp=Z,162nm,0.9s
WHTX Lake Whitney, 62.95 72 IAmb IAmb 22 44 52.5
comp=Z,390nm,0.8s
WHTX Lake Whitney, 62.95 72 P **P** **22 44 46.3 -0.2**
baz=316,SNR=94
WHTX S **S** **22 53 05.4 -1.0**
baz=316
WHTX Lake Whitney, 62.95 72 P **P** **22 44 46.3 -0.2**
baz=317,SNR=94
WHTX S **S** **22 53 04.3 -2.1**
baz=317
N47A Urbana 63.03 58 IAmb IAmb 22 44 47.8
comp=Z,266nm,0.7s
N47A Urbana 63.03 58 P **P** **22 44 45.7 -1.2**
baz=317,SNR=84
N47A P **P** **22 44 45.7 -1.2**
baz=317,SNR=84
N47A S **S** **22 53 04.2 -2.9**
baz=317
N47A S **S** **22 53 04.2 -2.9**
baz=317
AAM Ann Arbor 63.03 55 IAmb IAmb 22 44 48.7
comp=Z,278nm,0.7s
AAM Ann Arbor 63.03 55 P **P** **22 44 46.5 -0.4**
baz=317,SNR=26
AAM S **S** **22 53 06.2 -0.8**
baz=317
AAM Ann Arbor 63.03 55 P **P** **22 44 46.7 -0.2**
baz=317,SNR=26
AAM S **S** **22 53 05.8 -1.3**
baz=317
HNR Honiara 63.15 199 P **P** **22 44 48.3 +0.4**
HNR IAmb IAmb 22 46 04.5
comp=Z,371nm,1.0s
HNR Honiara 63.15 199 P **P** **22 44 48.3 +0.4**
HNR pmax pmax
comp=Z,371nm,1.0s
HNR Honiara 63.15 199 LR LR 23 08 08.0
comp=Z,96μm,19.6s,baz=10,slow=32
P46A Rosedale 63.16 59 P **P** **22 44 47.3 -0.4**
baz=317,SNR=298
P46A S **S** **22 53 06.8 -1.9**
baz=317
K50A Casco 63.20 54 IAmb IAmb 22 44 53.8
comp=Z,387nm,0.9s
K50A Casco 63.20 54 P **P** **22 44 47.7 -0.3**
baz=318,SNR=27
K50A P **P** **22 44 47.7 -0.3**
baz=318,SNR=27
K50A S **S** **22 53 09.3 +0.2**
baz=318
K50A S **S** **22 53 09.3 +0.2**
baz=318
OLIL Olney 63.32 61 P **P** **22 44 48.4 -0.5**
baz=317,SNR=178
OLIL S **S** **22 53 08.9 -1.9**
baz=317
MIAR Mount Ida 63.34 67 IAmb IAmb 22 44 55.2
comp=Z,436nm,0.8s
MIAR Mount Ida 63.34 67 P **P** **22 44 48.5 -0.5**
baz=316,SNR=343
MIAR S **S** **22 53 10.2 -0.9**
baz=316
MIAR Mount Ida 63.34 67 P **P** **22 44 48.7 -0.4**
baz=317,SNR=343
MIAR S **S** **22 53 09.1 -2.1**
baz=317
TKM2 Tokmak 2 63.40 306 P **P** **22 44 50.4 +0.8**
SNR=100
SADO Sadowa 63.42 51 IAmb IAmb 22 44 55.0
comp=Z,308nm,0.9s
SADO Sadowa 63.42 51 LR LR 23 13 23.7
comp=Z,17μm,20.8s,baz=338,slow=37
S44A Carbondale 63.46 62 P **P** **22 44 48.8 -1.0**
baz=317,SNR=200
S44A S **S** **22 53 09.2 -3.2**
baz=317
Z38A Mt. Pleasant 63.47 69 P **P** **22 44 49.6 -0.3**
baz=317,SNR=50
Z38A S **S** **22 53 11.7 -1.0**
baz=317
PBMO Poplar Bluff 63.48 64 P **P** **22 44 48.9 -1.0**
baz=317,SNR=430
PBMO S **S** **22 53 09.3 -3.5**
baz=317
SGDS Sogindy 63.48 307 *e*P **P** **22 44 50.9 +0.9**
baz=307
SGDS *e*S **S** **22 53 13.6 +0.7**
baz=307
SGDS Sogindy 63.48 307 *e*P **P** **22 44 50.9 +0.9**
SGDS *e*S **S** **22 53 13.5 +0.7**
WHAR Wooly Hollow 63.53 66 IAmb IAmb 22 44 55.6
comp=Z,312nm,0.8s
TNCH TengChong 63.56 277 ⇓P **P** **22 44 51.9 +1.0**
TNCH pP pP 22 45 21.3 -0.3
TNCH PP **PP** **22 47 14.2 +2.3**
TNCH ScP 22 49 12.7
TNCH S **S** **22 53 13.7 -0.8**
TNCH SS **SS** **22 57 21.1 -2.5**
TNCH pmax pmax
comp=Z,310nm,1.4s
TNCH pmax pmax
comp=Z,3μm,4.2s
TNCH LR LR
comp=Z,3μm,13.6s
TNCH LR LR
comp=Z,2μm,14.9s
TNCH LR LR
comp=Z,7μm,19.9s
ULHL Ulahol 63.58 305 P **P** **22 44 52.1 +1.3**
SNR=62
LCAR Lake Charles 63.59 65 IAmb IAmb 22 44 51.1
comp=Z,150nm,0.8s
LCAR Lake Charles 63.59 65 P **P** **22 44 49.1 -1.6**
baz=317,SNR=96
LCAR S **S** **22 53 09.7 -4.5**
baz=317
HNDO Hondo 63.66 75 IAmb IAmb 22 44 54.7
comp=Z,133nm,0.9s
USP Ospenovka 63.68 307 P **P** **22 44 52.4 +1.1**
SNR=121
435B Jarrell 63.75 73 IAmb IAmb 22 44 58.5
comp=Z,344nm,0.9s
435B Jarrell 63.75 73 P **P** **22 44 51.7 -0.1**
baz=317
435B S **S** **22 53 17.1 +0.7**
baz=317
435B Jarrell 63.75 73 P **P** **22 44 51.9 0.0**
baz=317,SNR=70
435B S **S** **22 53 17.0 +0.6**
baz=317
CHMS Chumysh 63.76 307 P **P** **22 44 52.7 +1.0**
SNR=57
O48B Farmland 63.76 58 P **P** **22 44 50.3 -1.4**
baz=317,SNR=168
O48B S **S** **22 53 11.0 -5.2**
baz=317
O48B Farmland 63.76 58 P **P** **22 44 50.5 -1.2**
baz=318,SNR=168
O48B S **S** **22 53 13.7 -2.5**
baz=318
N49A Columbus Grove 63.77 57 P **P** **22 44 51.3 -0.6**
baz=318,SNR=138
N49A P **P** **22 44 51.3 -0.6**
baz=318,SNR=138
N49A S **S** **22 53 13.6 -2.8**
baz=318
N49A S **S** **22 53 13.6 -2.8**
baz=318
X40A Basin Creek Fa 63.80 67 IAmb IAmb 22 44 57.9
comp=Z,199nm,0.9s
X40A Basin Creek Fa 63.80 67 P **P** **22 44 51.3 -0.8**
baz=317,SNR=158
X40A P **P** **22 44 51.3 -0.8**
baz=317,SNR=158
X40A S **S** **22 53 15.1 -1.7**
baz=317
X40A S **S** **22 53 15.1 -1.7**
baz=317
237A Washetta, Mont 63.91 71 IAmb IAmb 22 44 58.5
comp=Z,268nm,0.8s

237A	**Washetta, Mont**	**63.91**	**71**	P	**P**	**22 44 52.3**	**-0.5**
	baz=317,SNR=36						
KBK	**Karagaybulak**	**63.92**	**307**	P	**P**	**22 44 53.9**	**+0.9**
	SNR=115						
FRU1	**Bishkek**	**63.96**	**307**	IAmb	IAmb	22 44 58.9	
	comp=Z,216nm,0.7s						
M50A	**Fremont**	**64.00**	**55**	IAmb	IAmb	22 44 59.0	
	comp=Z,293nm,0.8s						
M50A	**Fremont**	**64.00**	**55**	P	**P**	**22 44 52.5**	**-0.8**
	baz=318,SNR=37						
M50A				P	**P**	**22 44 52.5**	**-0.8**
	baz=318,SNR=37						
M50A				S	**S**	**22 53 18.0**	**-1.1**
	baz=318						
M50A				S	**S**	**22 53 18.0**	**-1.1**
	baz=318						
AAK	**Ala-Archa**	**64.16**	**307**	P	**P**	**22 44 55.5**	**+1.0**
	SNR=107						
AAK	**Ala-Archa**	**64.16**	**307**	P	**P**	**22 44 54.9**	**+0.3**
AAK	**Ala-Archa**	**64.16**	**307**	*d iP*	**P**	**22 44 55.0**	**+0.5**
AAK				pmax	pmax		
	comp=Z,332nm,1.7s						
AAK	**Ala-Archa**	**64.16**	**307**	*i* P	**P**	**22 44 55.2**	**+0.7**
	SNR=248						
AAK	**Ala-Archa**	**64.16**	**307**	P	**P**	**22 44 55.3**	**+0.7**
AAK				S	**S**	**22 53 21.5**	**+0.2**
AAK	**Ala-Archa**	**64.16**	**307**	P	**P**	**22 44 55.5**	**+1.0**
	comp=Z,108nm,0.7s,baz=115,slow=3.4,SNR=117						
AAK				pP	**pP**	**22 45 23.5**	**-0.8**
	comp=Z,36nm,0.7s,baz=58,slow=2.3,SNR=2.2						
AAK				S	**S**	**22 53 21.6**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=276,slow=13,SNR=3.6						
AAK				LR	LR	23 13 40.4	
	comp=Z,7μm,19.9s,baz=34,slow=37						
	comp=Z,108nm,0.7s						
AAK	**Ala-Archa**	**64.16**	**307**	P	**P**	**22 44 55.2**	**+0.7**
AAK				pP	**pP**	**22 45 24.9**	**+0.7**
AAK				sP	**sP**	**22 45 37.5**	**-0.3**
P48A	**Milroy**	**64.21**	**58**	P	**P**	**22 44 53.5**	**-1.2**
	baz=318,SNR=355						
P48A				P	**P**	**22 44 53.5**	**-1.2**
	baz=318,SNR=355						
P48A				S	**S**	**22 53 19.9**	**-1.9**
	baz=318						
P48A				S	**S**	**22 53 19.9**	**-1.9**
	baz=318						
O49A	**Covington**	**64.24**	**57**	P	**P**	**22 44 54.1**	**-0.8**
	baz=318,SNR=176						
O49A				P	**P**	**22 44 54.1**	**-0.8**
	baz=318,SNR=176						
O49A				S	**S**	**22 53 19.6**	**-2.5**
	baz=318						
O49A				S	**S**	**22 53 19.6**	**-2.5**
	baz=318						
FINES	**FINESS Array B**	**64.24**	**345**	P	**P**	**22 44 53.8**	**-0.8**
FINES	**FINESS Array B**	**64.24**	**345**	P	**P**	**22 44 54.0**	**-0.5**
FINES	**FINESS Array B**	**64.24**	**345**	P	**P**	**22 44 54.0**	**-0.5**
	comp=Z,183nm,0.7s,baz=27,slow=6.9,SNR=329						
FINES				PKPPKP	P'P'df	23 13 36.0	-10
	comp=Z,3.2nm,0.6s,baz=166,slow=2.9,SNR=12						
FINES				LR	LR	23 17 28.5	
	comp=Z,6μm,19.1s,baz=34,slow=40						
FINES				P4KPbc		23 21 40.4	
	comp=Z,2.5nm,0.9s,baz=33,slow=5.3,SNR=2.0						
	comp=Z,183nm,0.7s						
HBAR	**Harrisburg**	**64.24**	**65**	IAmb	IAmb	22 44 59.7	
	comp=Z,375nm,0.8s						
HBAR	**Harrisburg**	**64.24**	**65**	P	**P**	**22 44 54.2**	**-0.8**
	baz=317,SNR=10						
HBAR				S	**S**	**22 53 19.8**	**-2.5**
	baz=317						
T45B	**Paducah**	**64.28**	**62**	P	**P**	**22 44 54.5**	**-0.7**
	baz=318,SNR=64						
T45B				S	**S**	**22 53 20.1**	**-2.6**
	baz=318						
GNAR	**Gosnell**	**64.30**	**64**	IAmb	IAmb	22 45 00.7	
	comp=Z,352nm,0.7s						
TBLU	**Trondheim**	**64.32**	**353⇑**	*i iP*	**P**	**22 44 53.9**	**-1.1**
TBLU				IVmB_BB		22 44 54.8	
	comp=Z,2μm,1.5s						
TBLU				*e*pP	**pP**	**22 45 21.6**	**-3.0**
TBLU				*i*		22 45 29.3	
TBLU				*e*S	**S**	**22 53 18.3**	**-4.1**
TBLU				IVMs_BB	IVMs_BB	23 06 00.8	
	comp=Z,2μm,25.2s						
DELO	**Deloro Mine**	**64.32**	**50**	IAmb	IAmb	22 44 56.6	
	comp=Z,275nm,0.7s						
UCH	**Uchtor**	**64.45**	**306**	P	**P**	**22 44 57.7**	**+0.9**
	SNR=82						
H06N1	**SOCORRO T-PHAS**	**64.45**	**92**	P	**P**	**22 44 55.6**	**-0.9**
	SNR=6.1						
RKPI	**Ransiki, Papua**	**64.45**	**229**	P	**P**	**22 44 57.2**	**+0.7**
	comp=Z,532nm,2.4s,comp=Z,21μmcomp=Z,38μm						
833A	**Chaparral WMA,**	**64.48**	**76**	IAmb	IAmb	22 45 00.4	
	comp=Z,184nm,1.0s						
833A	**Chaparral WMA,**	**64.48**	**76**	P	**P**	**22 44 56.7**	**+0.1**
	baz=317,SNR=54						
833A				S	**S**	**22 53 25.1**	**-0.2**
	baz=317						
833A	**Chaparral WMA,**	**64.48**	**76**	P	**P**	**22 44 56.6**	**0.0**
	baz=318,SNR=54						
833A				S	**S**	**22 53 24.9**	**-0.5**
	baz=318						
EKS2	**Erkin-Say**	**64.49**	**307**	P	**P**	**22 44 58.0**	**+1.4**
	SNR=24						
LNXT	**Lenox**	**64.49**	**64**	P	**P**	**22 44 56.1**	**-0.4**
	baz=318,SNR=56						
LNXT				S	**S**	**22 53 24.9**	**-0.3**
	baz=318						
P49A	**Miami Univ. Ec**	**64.52**	**58**	IAmb	IAmb	22 45 01.8	
	comp=Z,454nm,0.8s						
P49A	**Miami Univ. Ec**	**64.52**	**58**	P	**P**	**22 44 55.6**	**-1.1**
	baz=318,SNR=177						
P49A				S	**S**	**22 53 23.9**	**-1.7**
	baz=318						
P49A	**Miami Univ. Ec**	**64.52**	**58**	P	**P**	**22 44 55.7**	**-1.1**
	baz=318,SNR=177						
P49A				S	**S**	**22 53 23.6**	**-2.0**
	baz=318						
H06E1	**SOCORRO T-PHAS**	**64.55**	**92**	P	**P**	**22 44 57.4**	**+0.2**
	SNR=8.9						
LSA	**Lhasa**	**64.56**	**286**	P	**P**	**22 44 58.9**	**+1.2**
LSA				S	**S**	**22 53 30.0**	**+2.7**
LSA				pmax	pmax		
	comp=Z,140nm,1.0s						
LSA				LR	LR		
	comp=Z,7μm,15.7s						
LSA				LR	LR		
	comp=Z,4μm,17.1s						
LSA				LR	LR		
	comp=Z,9μm,15.3s						
LSA	**Lhasa**	**64.56**	**286**	IAmb	IAmb	22 45 01.7	
	comp=Z,186nm,0.7s						
LSA	**Lhasa**	**64.56**	**286**	P	**P**	**22 44 59.3**	**+1.5**
LSA	**Lhasa**	**64.56**	**286**	P	**P**	**22 44 59.2**	**+1.5**
LSA				pP	**pP**	**22 45 28.7**	**+0.5**
WCI	**Wyandotte Cave**	**64.66**	**60**	P	**P**	**22 44 56.7**	**-0.9**
WCI				IAmb	IAmb	22 45 03.6	
	comp=Z,393nm,0.8s						
WCI	**Wyandotte Cave**	**64.66**	**60**	P	**P**	**22 44 56.7**	**-0.9**
WCI				pmax	pmax		
	comp=Z,393nm,0.8s						
WCI	**Wyandotte Cave**	**64.66**	**60**	P	**P**	**22 44 57.0**	**-0.6**
	baz=317						
WCI				S	**S**	**22 53 25.8**	**-1.5**
	baz=317						
WCI	**Wyandotte Cave**	**64.66**	**60**	P	**P**	**22 44 57.0**	**-0.6**
	baz=318,SNR=176						
WCI				S	**S**	**22 53 25.3**	**-2.0**
	baz=318						
WCI	**Wyandotte Cave**	**64.66**	**60**	P	**P**	**22 44 56.9**	**-0.7**
N51A	**Ashland**	**64.70**	**55**	P	**P**	**22 44 57.0**	**-0.9**
	baz=318,SNR=68						
N51A				P	**P**	**22 44 57.0**	**-0.9**
	baz=318,SNR=68						
N51A				S	**S**	**22 53 26.2**	**-1.6**
	baz=318						
N51A				S	**S**	**22 53 26.2**	**-1.6**
	baz=318						
Z41A	**Richland Creek**	**64.72**	**68**	IAmb	IAmb	22 45 03.2	
	comp=Z,194nm,0.8s						
Z41A	**Richland Creek**	**64.72**	**68**	P	**P**	**22 44 56.5**	**-1.6**
	baz=318,SNR=33						
Z41A				P	**P**	**22 44 56.5**	**-1.6**
	baz=318,SNR=33						
M52A	**Chesterland**	**64.75**	**54**	P	**P**	**22 44 57.7**	**-0.5**
	baz=319,SNR=52						
M52A				P	**P**	**22 44 57.7**	**-0.5**
	baz=319,SNR=52						
M52A				S	**S**	**22 53 26.6**	**-1.7**
	baz=319						
M52A				S	**S**	**22 53 26.6**	**-1.7**
	baz=319						
NATX	**Nacogdoches**	**64.75**	**70**	IAmb	IAmb	22 45 04.3	
	comp=Z,282nm,0.8s						
NATX	**Nacogdoches**	**64.75**	**70**	P	**P**	**22 44 58.1**	**-0.2**
	baz=317,SNR=43						
NATX				S	**S**	**22 53 28.1**	**-0.5**
	baz=317						
NATX	**Nacogdoches**	**64.75**	**70**	P	**P**	**22 44 58.2**	**-0.2**
	baz=318,SNR=43						
NATX				S	**S**	**22 53 28.0**	**-0.5**
	baz=318						
J54A	**Appleton**	**64.78**	**51**	P	**P**	**22 44 58.1**	**-0.2**
	baz=319,SNR=57						
J54A				P	**P**	**22 44 58.1**	**-0.2**
	baz=319,SNR=57						
J54A				S	**S**	**22 53 26.5**	**-2.1**
	baz=319						
J54A				S	**S**	**22 53 26.5**	**-2.1**
	baz=319						
CCAR	**Cane Creek**	**64.82**	**67**	P	**P**	**22 44 58.4**	**-0.3**
	baz=318,SNR=41						
CCAR				S	**S**	**22 53 29.5**	**+0.1**
	baz=318						
ACSO	**Alum Creek Sta**	**64.90**	**56**	IAmb	IAmb	22 45 05.1	
	comp=Z,360nm,0.8s						
ACSO	**Alum Creek Sta**	**64.90**	**56**	P	**P**	**22 44 58.5**	**-0.7**
	baz=318						
ACSO				S	**S**	**22 53 28.2**	**-2.0**
	baz=318						
ACSO	**Alum Creek Sta**	**64.90**	**56**	P	**P**	**22 44 58.4**	**-0.8**
	baz=318						
ACSO				S	**S**	**22 53 28.3**	**-2.0**
	baz=318						
ITAN	**ITANAGAR**	**64.91**	**282**	*e*P	**P**	**22 45 01.4**	**+2.0**
ITAN				IAmb	IAmb	22 45 03.4	
	comp=Z,979nm,1.0s						
AML	**Almayashu**	**64.93**	**307**	P	**P**	**22 45 01.2**	**+1.4**
	SNR=20						
AML	**Almayashu**	**64.93**	**307**	*i* P	**P**	**22 44 59.8**	**0.0**
AML				pmax	pmax		
	comp=Z,34nm,1.1s						
ERPA	**Erie**	**64.99**	**53**	P	**P**	**22 44 59.6**	**-0.1**
	baz=319,SNR=85						
ERPA				S	**S**	**22 53 30.6**	**-0.7**
	baz=319						
ERPA	**Erie**	**64.99**	**53**	P	**P**	**22 44 59.7**	**-0.1**
	baz=319,SNR=85						
ERPA				S	**S**	**22 53 30.8**	**-0.5**
	baz=319						
HNVL	**Huntsville, TX**	**65.01**	**72**	IAmb	IAmb	22 45 06.8	
	comp=Z,403nm,0.9s						
735A	**Kenedy**	**65.03**	**75**	P	**P**	**22 45 01.0**	**+0.8**
	baz=318,SNR=36						
735A				S	**S**	**22 53 32.5**	**+0.4**
	baz=318						
MOKO	**MOKOCHONG**	**65.04**	**281**	*e*P	**P**	**22 45 02.4**	**+1.9**
MOKO				IAmb	IAmb	22 45 04.5	
	comp=Z,339nm,0.9s						
PUL	**Pulkovo**	**65.07**	**342**	*ce*P	**P**	**22 45 00.5**	**+0.6**
PUL				pmax	pmax		
	comp=Z,537nm,0.7s						
T47A	**Sharon Grove**	**65.14**	**61**	P	**P**	**22 45 00.5**	**-0.3**
	baz=318,SNR=411						
T47A				S	**S**	**22 53 31.1**	**-2.1**
	baz=318						
M53A	**WI Miller and**	**65.16**	**54**	P	**P**	**22 45 00.5**	**-0.3**
	baz=318,SNR=163						
M53A				S	**S**	**22 53 33.2**	**-0.2**
	baz=318						
MOL	**Molde**	**65.17**	**355⇑**	*i iP*	**P**	**22 45 01.0**	**+0.5**
MOL				IVmBBB		22 45 01.5	
	comp=Z,3μm,1.5s						
MOL				*e*		22 45 36.1	
MOL				*e*S	**S**	**22 53 32.4**	**-0.4**
J55A	**Hilton**	**65.18**	**51**	P	**P**	**22 45 00.5**	**-0.4**
	baz=320,SNR=72						
J55A				P	**P**	**22 45 00.5**	**-0.4**
	baz=320,SNR=72						
J55A				S	**S**	**22 53 31.4**	**-2.1**
	baz=320						
J55A				S	**S**	**22 53 31.4**	**-2.1**
	baz=320						
R49A	**Shelbyville**	**65.20**	**59**	IAmb	IAmb	22 45 05.2	
	comp=Z,199nm,0.8s						
R49A	**Shelbyville**	**65.20**	**59**	P	**P**	**22 45 00.7**	**-0.5**
	baz=318,SNR=94						
R49A				P	**P**	**22 45 00.7**	**-0.5**
	baz=318,SNR=94						
R49A				S	**S**	**22 53 32.6**	**-1.4**
	baz=318						
R49A				S	**S**	**22 53 32.6**	**-1.4**
	baz=318						
SWI	**Sorong**	**65.26**	**232**	P	**P**	**22 45 01.3**	**-0.5**
	comp=Z,2μm,1.4s,comp=Z,23μmcomp=Z,34μm						
ALLY	**Alegheny Colle**	**65.27**	**53**	P	**P**	**22 45 01.5**	**0.0**
	baz=319,SNR=172						
ALLY				S	**S**	**22 53 33.9**	**-0.8**
	baz=319						
SIJI	**Sorong**	**65.27**	**232**	S	**S**	**22 53 32.7**	**-2.5**
	comp=Z,1.8nm,0.3s,baz=305,slow=23,SNR=23						
SIJI				PKPPKP		23 13 42.4	
	comp=Z,2.0nm,0.3s,baz=195,slow=11,SNR=5.8						
SIJI				LR	LR	23 14 39.3	
	comp=Z,3μm,18.1s,baz=34,slow=37						
RAF	**Rauma**	**65.29**	**347**	*e*P	**P**	**22 45 01.5**	**+0.2**
AKTO	**Aktyubinsk**	**65.32**	**322**	P	**P**	**22 45 02.3**	**+0.5**
	comp=Z,235nm,0.7s,baz=58,slow=5.3,SNR=281						
AKTO				pP	**PcP**	**22 45 33.1**	**+0.2**
	comp=Z,199nm,1.0s,baz=39,slow=6.3,SNR=3.4						
AKTO				S	**S**	**22 53 36.6**	**+1.5**
	comp=Z,16nm,1.1s,baz=288,slow=20,SNR=17						
AKTO				LR	LR	23 16 18.6	
	comp=Z,14μm,19.7s,baz=27,slow=38						
	comp=Z,235nm,0.7s						
WVT	**Waverly**	**65.38**	**62**	P	**P**	**22 45 01.5**	**-0.8**
WVT	**Waverly**	**65.38**	**62**	P	**P**	**22 45 01.5**	**-0.8**
WVT				pmax	pmax		
	comp=Z,407nm,0.8s						
WVT	**Waverly**	**65.38**	**62**	P	**P**	**22 45 01.8**	**-0.6**
	baz=318						
WVT				S	**S**	**22 53 33.9**	**-2.3**
	baz=318						
WVT	**Waverly**	**65.38**	**62**	P	**P**	**22 45 01.9**	**-0.4**
	baz=318,SNR=304						
WVT				S	**S**	**22 53 34.2**	**-1.9**
	baz=318						
WVT	**Waverly**	**65.38**	**62**	P	**P**	**22 45 01.7**	**-0.6**
HKT	**Hockley**	**65.39**	**72**	P	**P**	**22 45 02.2**	**-0.2**
HKT	**Hockley**	**65.39**	**72**	*c iP*	**P**	**22 45 02.1**	**-0.3**
HKT				pmax	pmax		
	comp=Z,225nm,1.3s						
HKT	**Hockley**	**65.39**	**72**	P	**P**	**22 45 02.7**	**+0.3**
	baz=318						
HKT				S	**S**	**22 53 37.5**	**+1.2**
	baz=318						
HKT	**Hockley**	**65.39**	**72**	P	**P**	**22 45 02.5**	**+0.2**
MNTQ	**Montreal, Queb**	**65.41**	**47**	IAmb	IAmb	22 45 07.1	
	comp=Z,266nm,0.8s						
P51A	**Williamsport**	**65.42**	**57**	IAmb	IAmb	22 45 09.2	
	comp=Z,338nm,0.9s						
P51A	**Williamsport**	**65.42**	**57**	P	**P**	**22 45 01.5**	**-1.1**
	baz=319,SNR=32						
P51A				P	**P**	**22 45 01.5**	**-1.1**
	baz=319,SNR=32						
P51A				S	**S**	**22 53 35.4**	**-1.2**
	baz=319						
P51A				S	**S**	**22 53 35.4**	**-1.2**
	baz=319						
DZA	**Taraz**	**65.50**	**309**	*e*P	**P**	**22 45 03.7**	**+0.7**
	baz=309						
DZA	**Taraz**	**65.50**	**309**	*e*P	**P**	**22 45 03.7**	**+0.7**
BMNY	**Brushton-Moira**	**65.52**	**48**	P	**P**	**22 45 01.3**	**-1.8**
	baz=320,SNR=140						
BMNY				S	**S**	**22 53 32.9**	**-4.7**
	baz=320						
ABKAR	**Akbulak array**	**65.53**	**320**	P	**P**	**22 45 03.4**	**+0.4**
ABKAR	**Akbulak array**	**65.53**	**320**	IAmb	IAmb	22 45 08.1	
	comp=Z,308nm,1.2s						
N53A	**Lisbon**	**65.56**	**55**	IAmb	IAmb	22 45 08.9	
	comp=Z,280nm,0.8s						
N53A	**Lisbon**	**65.56**	**55**	P	**P**	**22 45 02.5**	**-0.9**
	baz=319,SNR=87						
N53A				P	**P**	**22 45 02.5**	**-0.9**
	baz=319,SNR=87						
N53A				S	**S**	**22 53 36.4**	**-1.8**
	baz=319						
N53A				S	**S**	**22 53 36.4**	**-1.8**
	baz=319						
O52A	**Adamsville**	**65.57**	**56**	P	**P**	**22 45 02.9**	**-0.6**
	baz=319,SNR=158						
O52A				P	**P**	**22 45 02.9**	**-0.6**
	baz=319,SNR=158						
O52A				S	**S**	**22 53 36.0**	**-2.5**
	baz=319						
O52A				S	**S**	**22 53 36.0**	**-2.5**
	baz=319						
PAOC	**Oil Creek Stat**	**65.59**	**53**	P	**P**	**22 45 02.9**	**-0.7**
	baz=319						
PAOC				S	**S**	**22 53 38.3**	**-0.4**
	baz=319						
AKN	**Aaknes**	**65.60**	**355⇑**	*i iP*	**P**	**22 45 03.5**	**+0.2**
AKN				*e*pP	**pP**	**22 45 31.7**	**-1.4**
AKN				*i*		22 45 39.5	
AKN				*e*S	**S**	**22 53 37.9**	**-0.2**
AKN				IVMs_BB	IVMs_BB	23 06 32.0	
	comp=Z,3μm,54.2s						
DOMB	**Dombas**	**65.60**	**354⇑**	*i iP*	**P**	**22 45 03.2**	**-0.2**
DOMB				IVmB_BB		22 45 04.0	
	comp=Z,4μm,1.6s						
DOMB				*i*		22 45 38.7	
DOMB				*e*S	**S**	**22 53 36.4**	**-1.8**
DOMB				IVMs_BB	IVMs_BB	23 06 52.8	
	comp=Z,3μm,43.5s						
Q51A	**Peebles**	**65.61**	**57**	P	**P**	**22 45 03.6**	**-0.2**
	baz=319,SNR=332						
Q51A				P	**P**	**22 45 03.6**	**-0.2**
	baz=319,SNR=332						
Q51A				S	**S**	**22 53 38.0**	**-1.0**
	baz=319						
Q51A				S	**S**	**22 53 38.0**	**-1.0**
	baz=319						
J56A	**Wolcott**	**65.62**	**50**	P	**P**	**22 45 03.1**	**-0.7**
	baz=320,SNR=118						
J56A				P	**P**	**22 45 03.1**	**-0.7**
	baz=320,SNR=118						
J56A				S	**S**	**22 53 35.6**	**-3.4**
	baz=320						
J56A				S	**S**	**22 53 35.6**	**-3.4**
	baz=320						
WCNY	**West Carthage**	**65.65**	**49**	P	**P**	**22 45 02.6**	**-1.3**
	baz=320,SNR=74						
WCNY				S	**S**	**22 53 35.7**	**-3.6**
	baz=320						
LONY	**Lake Ozonia**	**65.65**	**48**	IAmb	IAmb	22 45 04.3	
	comp=Z,202nm,0.6s						
LONY	**Lake Ozonia**	**65.65**	**48**	P	**P**	**22 45 02.2**	**-1.8**
	baz=320,SNR=84						
LONY				S	**S**	**22 53 34.5**	**-4.8**
	baz=320						
R50A	**Paris**	**65.66**	**59**	IAmb	IAmb	22 45 09.9	
	comp=Z,260nm,0.9s						
R50A	**Paris**	**65.66**	**59**	P	**P**	**22 45 03.8**	**-0.3**
	baz=318,SNR=127						
R50A				P	**P**	**22 45 03.8**	**-0.3**
	baz=318,SNR=127						
R50A				S	**S**	**22 53 37.8**	**-1.7**
	baz=318						
R50A				S	**S**	**22 53 37.8**	**-1.7**
	baz=318						
MEF	**Metsahovi**	**65.67**	**345**	*e*P	**P**	**22 45 03.5**	**-0.2**
OXF	**Oxford**	**65.70**	**65**	P	**P**	**22 45 03.7**	**-0.7**
	baz=318,SNR=270						
OXF				S	**S**	**22 53 39.0**	**-1.2**
	baz=318						
OXF	**Oxford**	**65.70**	**65**	P	**P**	**22 45 03.9**	**-0.5**
	baz=318,SNR=270						
OXF				S	**S**	**22 53 38.7**	**-1.4**
	baz=318						
KOHI	**KOHIMA**	**65.73**	**281**	*e*P	**P**	**22 45 05.9**	**+1.0**
KOHI				IAmb	IAmb	22 45 17.6	
	comp=Z,256nm,1.1s						
KKAR	**Karatay Array**	**65.73**	**310**	P	**P**	**22 45 04.5**	**0.0**
KKAR	**Karatay Array**	**65.73**	**310**	P	**P**	**22 45 04.5**	**0.0**
KSH	**Kashi**	**65.74**	**304**	P	**P**	**22 45 08.7**	**+3.9**
KSH				PcP	**pwP**	**22 45 39.2**	**-0.5**
KSH				S	**S**	**22 53 43.4**	**+2.6**
KSH				pmax	pmax		
	comp=Z,160nm,1.1s						
KSH				LR	LR		
	comp=Z,6μm,15.5s						
KSH				LR	LR		
	comp=Z,9μm,14.4s						
KSH				LR	LR		
	comp=Z,11μm,19.9s						
P52A	**Corning**	**65.78**	**56**	IAmb	IAmb	22 45 05.9	
	comp=Z,256nm,0.8s						
P52A	**Corning**	**65.78**	**56**	P	**P**	**22 45 03.6**	**-1.2**
	baz=318,SNR=82						
P52A				S	**S**	**22 53 39.4**	**-1.5**
	baz=318						
O53A	**New Philadelph**	**65.78**	**55**	IAmb	IAmb	22 45 10.1	
	comp=Z,324nm,0.8s						
O53A	**New Philadelph**	**65.78**	**55**	P	**P**	**22 45 03.9**	**-0.9**
	baz=319,SNR=83						
O53A				S	**S**	**22 53 39.2**	**-1.8**
	baz=319						
TNTI	**Ternate**	**65.79**	**236**	P	**P**	**22 45 05.3**	**+0.1**
TNTI				IAmb	IAmb	22 45 11.8	
	comp=Z,652nm,1.4s						
TNTI	**Ternate**	**65.79**	**236**	P	**P**	**22 45 05.2**	**0.0**
	comp=Z,293nm,1.1s,comp=Z,12μmcomp=Z,25μm						
PAMR	**Moraine State**	**65.82**	**54**	P	**P**	**22 45 04.6**	**-0.6**
	baz=319						
PAMR				S	**S**	**22 53 40.0**	**-1.5**
	baz=319						
HBVL	**Hebbronville**	**65.84**	**77**	IAmb	IAmb	22 45 12.1	
	comp=Z,327nm,1.2s						
TEZP	**TEZPUR**	**65.85**	**283**	*e*P	**P**	**22 45 06.1**	**+0.6**
TEZP				IAmb	IAmb	22 45 08.4	
	comp=Z,211nm,1.1s						
143A	**Socs Landing,**	**65.92**	**67**	IAmb	IAmb	22 45 11.1	
	comp=Z,465nm,1.2s						
143A	**Socs Landing,**	**65.92**	**67**	P	**P**	**22 45 05.5**	**-0.3**
	baz=318,SNR=27						
143A				S	**S**	**22 53 41.7**	**-1.1**
	baz=318						
J57A	**Williamstown**	**65.93**	**50**	IAmb	IAmb	22 45 06.8	
	comp=Z,262nm,0.7s						
J57A	**Williamstown**	**65.93**	**50**	P	**P**	**22 45 05.0**	**-0.7**
	baz=320,SNR=86						
J57A				P	**P**	**22 45 05.0**	**-0.7**
	baz=320,SNR=86						
J57A				S	**S**	**22 53 38.6**	**-4.0**
	baz=320						
J57A				S	**S**	**22 53 38.6**	**-4.0**
	baz=320						
FRNY	**Flat Rock**	**65.94**	**47**	IAmb	IAmb	22 45 05.8	
	comp=Z,142nm,0.6s						
FRNY	**Flat Rock**	**65.94**	**47**	P	**P**	**22 45 03.8**	**-2.0**
	baz=321,SNR=53						
FRNY				S	**S**	**22 53 37.3**	**-5.4**
	baz=321						
KVTX	**Kingsville**	**65.95**	**76**	IAmb	IAmb	22 45 13.4	
	comp=Z,205nm,0.8s						
KVTX	**Kingsville**	**65.95**	**76**	P	**P**	**22 45 07.4**	**+1.3**
	baz=318,SNR=11						
KVTX				S	**S**	**22 53 46.4**	**+3.2**
	baz=318						
Y45A	**Yeager Farm, C**	**66.11**	**65**	P	**P**	**22 45 06.8**	**-0.2**
	baz=318,SNR=210						
Y45A				S	**S**	**22 53 42.6**	**-2.4**
	baz=318						
D62A	**Allapoint, All**	**66.15**	**43**	IAmb	IAmb	22 45 12.6	
	comp=Z,320nm,0.8s						
D62A	**Allapoint, All**	**66.15**	**43**	P	**P**	**22 45 06.6**	**-0.5**
	baz=322,SNR=79						
D62A				P	**P**	**22 45 06.6**	**-0.5**
	baz=322,SNR=79						
D62A				S	**S**	**22 53 42.5**	**-2.8**
	baz=322						
D62A				S	**S**	**22 53 42.5**	**-2.8**
	baz=322						
L56A	**Greenwood**	**66.16**	**52**	P	**P**	**22 45 07.1**	**-0.2**
	baz=320,SNR=408						
L56A				P	**P**	**22 45 07.1**	**-0.2**
	baz=320,SNR=408						
L56A				S	**S**	**22 53 43.5**	**-2.0**
	baz=320						
L56A				S	**S**	**22 53 43.5**	**-2.0**
	baz=320						
K57A	**Scipio Center**	**66.20**	**50**

	baz=320,SNR=147							
K57A				S	S	22 53 43.6	-2.4	
	baz=320							
U49A	**Red Boiling Sp**	**66.20**	**61**	IAmb	IAmb	22 45 13.1		
	comp=Z,442nm,0.9s							
U49A	**Red Boiling Sp**	**66.20**	**61**	P	**P**	**22 45 07.1**	**-0.5**	
	baz=318,SNR=260							
U49A				S	**S**	**22 53 45.1**	**-1.0**	
	baz=318							
UPAO	**U. Pittsburgh**	**66.21**	**54**	P	**P**	**22 45 07.2**	**-0.3**	
	baz=319							
UPAO				S	**S**	**22 53 44.7**	**-1.4**	
	baz=319							
V48A	**Smith Brothers**	**66.21**	**62**	IAmb	IAmb	22 45 13.0		
	comp=Z,406nm,0.9s							
V48A	**Smith Brothers**	**66.21**	**62**	P	**P**	**22 45 06.9**	**-0.8**	
	baz=318,SNR=251							
V48A				S	**S**	**22 53 44.1**	**-2.2**	
	baz=318							
Q52A	**Bidwell**	**66.22**	**57**	IAmb	IAmb	22 45 12.9		
	comp=Z,436nm,0.8s							
Q52A	**Bidwell**	**66.22**	**57**	P	**P**	**22 45 06.7**	**-0.9**	
	baz=319,SNR=118							
Q52A				P	**P**	**22 45 06.7**	**-0.9**	
	baz=319,SNR=118							
Q52A				S	**S**	**22 53 44.7**	**-1.6**	
	baz=319							
Q52A				S	**S**	**22 53 44.7**	**-1.6**	
	baz=319							
NC204	**NORSAR Array S**	**66.24**	**353**	IAmb	IAmb	22 45 44.0		
	comp=Z,497nm,1.2s							
O54A	**Avella**	**66.26**	**55**	IAmb	IAmb	22 45 13.3		
	comp=Z,236nm,0.8s							
O54A	**Avella**	**66.26**	**55**	P	**P**	**22 45 07.3**	**-0.6**	
	baz=319,SNR=76							
O54A				P	**P**	**22 45 07.3**	**-0.6**	
	baz=319,SNR=76							
O54A				S	**S**	**22 53 45.2**	**-1.5**	
	baz=319							
O54A				S	**S**	**22 53 45.2**	**-1.5**	
	baz=319							
P53A	**Whipple**	**66.27**	**56**	P	**P**	**22 45 07.1**	**-0.9**	
	baz=319,SNR=52							
P53A				P	**P**	**22 45 07.1**	**-0.9**	
	baz=319,SNR=52							
P53A				S	**S**	**22 53 44.6**	**-2.3**	
	baz=319							
P53A				S	**S**	**22 53 44.6**	**-2.3**	
	baz=319							
FOO	**Floro**	**66.28**	**356**	⇑*i*P	**P**	**22 45 07.6**	**0.0**	
FOO				*e*pP	**PcP**	**22 45 36.4**	**-0.2**	
FOO				*i*		22 45 43.3		
FOO				*e*S	**S**	**22 53 47.0**	**+0.8**	
FOO				IVMs_BB	IVMs_BB	23 06 56.3		
	comp=Z,3μm,32.9s							
J58A	**Remsen**	**66.30**	**49**	IAmb	IAmb	22 45 13.6		
	comp=Z,370nm,0.8s							
J58A	**Remsen**	**66.30**	**49**	P	**P**	**22 45 07.2**	**-1.0**	
	baz=321,SNR=128							
J58A				P	**P**	**22 45 07.2**	**-1.0**	
	baz=321,SNR=128							
J58A				S	**S**	**22 53 42.7**	**-4.5**	
	baz=321							
J58A				S	**S**	**22 53 42.7**	**-4.5**	
	baz=321							
NCB	**Newcomb**	**66.32**	**48**	IAmb	IAmb	22 45 09.0		
	comp=Z,212nm,0.8s							
NCB	**Newcomb**	**66.32**	**48**	P	**P**	**22 45 07.0**	**-1.2**	
	baz=321,SNR=74							
NCB				S	**S**	**22 53 41.6**	**-5.8**	
	baz=321							
E62A	**Clayton Lake**	**66.32**	**44**	IAmb	IAmb	22 45 09.9		
	comp=Z,345nm,0.9s							
E62A	**Clayton Lake**	**66.32**	**44**	P	**P**	**22 45 07.3**	**-0.9**	
	baz=322,SNR=71							
E62A				P	**P**	**22 45 07.3**	**-0.9**	
	baz=322,SNR=71							
E62A				S	**S**	**22 53 43.2**	**-4.1**	
	baz=322							
E62A				S	**S**	**22 53 43.2**	**-4.1**	
	baz=322							
NC405	**NORSAR Array S**	**66.33**	**352**	IAmb	IAmb	22 45 44.6		
	comp=Z,494nm,1.1s							
T50A	**Nancy**	**66.33**	**60**	P	**P**	**22 45 07.7**	**-0.7**	
	baz=319							
T50A				P	**P**	**22 45 07.7**	**-0.7**	
	baz=319							
T50A				S	**S**	**22 53 46.2**	**-1.4**	
	baz=319							
T50A				S	**S**	**22 53 46.2**	**-1.4**	
	baz=319							
441A	**DeRidder**	**66.34**	**70**	IAmb	IAmb	22 45 15.5		
	comp=Z,289nm,1.1s							
441A	**DeRidder**	**66.34**	**70**	P	**P**	**22 45 08.8**	**+0.3**	
	baz=318,SNR=11							
441A				S	**S**	**22 53 49.4**	**+1.5**	
	baz=318							
PSDB	**Penn State Uni**	**66.35**	**53**	P	**P**	**22 45 08.3**	**-0.1**	
	baz=320							
PSDB				S	**S**	**22 53 47.6**	**-0.2**	
	baz=320							
AAL	**Aland**	**66.35**	**348**	*e*P	**P**	**22 45 08.0**	**-0.1**	
NB2	**NORSAR Subarra**	**66.44**	**352**	P	**P**	**22 45 08.4**	**-0.4**	
	comp=Z,662nm,1.4s,baz=8.7,slow=6.5							
NB2				P'P'		23 13 32.6		
	comp=Z,320nm,3.3s,baz=171,slow=3.7							
NB2	**NORSAR Subarra**	**66.44**	**352**	P	**P**	**22 45 08.4**	**-0.4**	
	baz=8.7,slow=6.5							
NOA	**NORSAR Array B**	**66.44**	**352**	P	**P**	**22 45 08.3**	**-0.4**	
	comp=Z,55nm,0.6s,baz=2.8,slow=5.7,SNR=303							
NOA				pP	**pP**	**22 45 38.2**	**-0.3**	
	comp=Z,41nm,0.8s,baz=11,slow=6.6,SNR=1.7							
NOA				LR	LR	23 11 51.6		
	comp=Z,2μm,21.0s,baz=25,slow=34							
NOA				PKPPKP	P'P'df	23 13 33.4	-8.8	
	comp=Z,6.5nm,0.8s,baz=157,slow=3.4,SNR=9.4							
	comp=Z,55nm,0.6s							
NBO00	**NORSAR Array S**	**66.48**	**353**	IAmb	IAmb	22 45 46.2		
	comp=Z,1μm,2.0s							
IMP	**Imphal**	**66.48**	**281**	*e*P	**P**	**22 45 10.3**	**+0.7**	
IMP				IAmb	IAmb	22 45 12.7		
	comp=Z,296nm,1.2s							
PMG	**Port Moresby**	**66.50**	**212**	P	**P**	**22 45 10.2**	**+0.6**	
PMG				IAmb	IAmb	22 45 11.4		
	comp=Z,680nm,1.5s							
PMG	**Port Moresby**	**66.50**	**212**	*d*P	**P**	**22 45 09.7**	**+0.1**	
PMG				pmax	pmax			
	comp=Z,502nm,1.5s							
PMG	**Port Moresby**	**66.50**	**212**	PKP2bc		23 13 42.8		
	comp=Z,15nm,0.6s,baz=270,slow=2.6,SNR=4.6							
PMG	**Port Moresby**	**66.50**	**212**	P	**P**	**22 45 10.2**	**+0.6**	
S51A	**Beattyville**	**66.52**	**59**	IAmb	IAmb	22 45 11.1		
	comp=Z,267nm,0.7s							
S51A	**Beattyville**	**66.52**	**59**	P	**P**	**22 45 09.1**	**-0.5**	
	baz=319,SNR=111							
S51A				P	**P**	**22 45 09.1**	**-0.5**	
	baz=319,SNR=111							
S51A				S	**S**	**22 53 48.4**	**-1.6**	
	baz=319							
S51A				S	**S**	**22 53 48.4**	**-1.6**	
	baz=319							
KMPI	**Kaimana, Papua**	**66.57**	**228**	P	**P**	**22 45 09.4**	**-0.7**	
	comp=Z,854nm,1.5s,comp=Z,18μmcomp=Z,29μm							
J59A	**Piesco**	**66.58**	**49**	P	**P**	**22 45 08.7**	**-1.2**	
	baz=321,SNR=185							
J59A				P	**P**	**22 45 08.7**	**-1.2**	
	baz=321,SNR=185							
J59A				S	**S**	**22 53 44.8**	**-5.8**	
	baz=321							
J59A				S	**S**	**22 53 44.8**	**-5.8**	
	baz=321							
FAKI	**Fak Fak**	**66.59**	**230**	P	**P**	**22 45 10.8**	**+0.5**	
FAKI	**Fak Fak**	**66.59**	**230**	P	**P**	**22 45 09.7**	**-0.6**	
	comp=Z,836nm,1.4s,comp=Z,18μmcomp=Z,35μm							
HYA	**Hoyanger**	**66.65**	**355**	⇑*i*P	**P**	**22 45 10.1**	**+0.1**	
HYA				*i*		22 45 45.5		
HYA				*e*S	**S**	**22 53 52.8**	**+2.0**	
AFI	**Afiamalu**	**66.66**	**168**	P	**P**	**22 45 11.2**	**+0.6**	
AFI				IAmb	IAmb	22 45 12.4		
	comp=Z,396nm,1.6s							
AFI	**Afiamalu**	**66.66**	**168**	P	**P**	**22 45 11.2**	**+0.6**	
AFI				pmax	pmax			
	comp=Z,396nm,1.6s							
AFI	**Afiamalu**	**66.66**	**168**	LR	LR	23 14 25.1		
	comp=Z,3μm,18.0s,baz=355,slow=36							
NAO01	**NORSAR Array S**	**66.66**	**353**	IAmb	IAmb	22 45 46.4		
	comp=Z,350nm,1.4s							
F62A	**Pittston Farm,**	**66.70**	**44**	IAmb	IAmb	22 45 16.3		
	comp=Z,317nm,0.9s							
F62A	**Pittston Farm,**	**66.70**	**44**	P	**P**	**22 45 09.8**	**-0.9**	
	baz=322,SNR=69							
F62A				P	**P**	**22 45 09.8**	**-0.9**	
	baz=322,SNR=69							
F62A				S	**S**	**22 53 49.0**	**-2.9**	
	baz=322							
F62A				S	**S**	**22 53 49.0**	**-2.9**	
	baz=322							
VT1	**Waterbury**	**66.70**	**47**	IAmb	IAmb	22 45 15.6		
	comp=Z,217nm,0.9s							
VT1	**Waterbury**	**66.70**	**47**	P	**P**	**22 45 09.5**	**-1.2**	
	baz=321,SNR=61							
NC602	**NORSAR Array S**	**66.71**	**352**	⇑*i*P	**P**	**22 45 09.9**	**-0.5**	
NC602				*e*pP	**pP**	**22 45 39.6**	**-0.6**	
NC602				*e*		22 45 45.9		
NC602				*e*S	**S**	**22 53 50.5**	**-1.1**	
NC602				IVMs_BB	IVMs_BB	23 09 46.0		
	comp=Z,3μm,19.4s							
CHM	**Chimkent**	**66.76**	**310**	*e*P	**P**	**22 45 12.1**	**+1.0**	
	baz=310							
CHM	**Chimkent**	**66.76**	**310**	*e*P	**P**	**22 45 12.1**	**+1.0**	
VBMS	**Vicksburg**	**66.78**	**67**	IAmb	IAmb	22 45 17.5		
	comp=Z,495nm,0.9s							
VBMS	**Vicksburg**	**66.78**	**67**	P	**P**	**22 45 11.1**	**-0.2**	
	baz=318,SNR=19							
VBMS				S	**S**	**22 53 52.5**	**-0.7**	
	baz=318							
VBMS	**Vicksburg**	**66.78**	**67**	P	**P**	**22 45 11.1**	**-0.2**	
	baz=318,SNR=19							
VBMS				S	**S**	**22 53 51.7**	**-1.5**	
	baz=318							
GUWA	**GUWAHATI**	**66.83**	**283**	*e*P	**P**	**22 45 12.2**	**+0.5**	
GUWA				IAmb	IAmb	22 45 14.4		
	comp=Z,308nm,1.2s							
SUE	**Sulen**	**66.83**	**356**	⇑*i*P	**P**	**22 45 10.9**	**-0.2**	
SUE				IVmB_BB		22 45 12.1		
	comp=Z,3μm,3.9s							
SUE				*e*		22 45 47.2		
SUE				*e*S	**S**	**22 53 53.3**	**+0.4**	
SUE				IVMs_BB	IVMs_BB	23 07 32.1		
	comp=Z,4μm,33.2s							
R53A	**Hurricane**	**66.85**	**57**	P	**P**	**22 45 11.5**	**-0.2**	
	baz=319,SNR=222							
R53A				P	**P**	**22 45 11.5**	**-0.2**	
	baz=319,SNR=222							
R53A				S	**S**	**22 53 52.5**	**-1.5**	
	baz=319							
R53A				S	**S**	**22 53 52.5**	**-1.5**	
	baz=319							
BINY	**Binghamton**	**66.86**	**51**	P	**P**	**22 45 11.1**	**-0.6**	
	baz=320,SNR=124							
BINY				S	**S**	**22 53 51.5**	**-2.6**	
	baz=320							
BINY	**Binghamton**	**66.86**	**51**	P	**P**	**22 45 11.1**	**-0.6**	
	baz=321,SNR=124							
BINY				S	**S**	**22 53 52.5**	**-1.5**	
	baz=321							
MCVT	**Middlebury Col**	**66.89**	**47**	P	**P**	**22 45 10.5**	**-1.4**	
	baz=321,SNR=49							
MCVT				S	**S**	**22 53 48.5**	**-5.8**	
	baz=321							
MYLDM	**Lahad Datu**	**66.90**	**247**	IAmb	IAmb	22 46 07.3		
	comp=Z,763nm,1.4s							
PQI	**Presque Isle**	**66.91**	**43**	IAmb	IAmb	22 45 17.1		
	comp=Z,180nm,0.7s							
MCWV	**Mont Chateau**	**66.92**	**55**	IAmb	IAmb	22 45 17.7		
	comp=Z,344nm,0.9s							
MCWV	**Mont Chateau**	**66.92**	**55**	P	**P**	**22 45 11.6**	**-0.5**	
	baz=319,SNR=82							
MCWV				S	**S**	**22 53 53.2**	**-1.5**	
	baz=319							
MCWV	**Mont Chateau**	**66.92**	**55**	P	**P**	**22 45 11.8**	**-0.3**	
	baz=320,SNR=82							
MCWV				S	**S**	**22 53 53.0**	**-1.7**	
	baz=320							
LBMI	**Labuha**	**66.93**	**235**	P	**P**	**22 45 13.0**	**+0.6**	
	comp=Z,618nm,2.6s,comp=Z,18μm							
Q54A	**Coxs Mills**	**66.93**	**56**	IAmb	IAmb	22 45 50.7		
	comp=Z,787nm,1.8s							
Q54A	**Coxs Mills**	**66.93**	**56**	P	**P**	**22 45 11.6**	**-0.5**	
	baz=320,SNR=62							
Q54A				P	**P**	**22 45 11.6**	**-0.5**	
	baz=320,SNR=62							
Q54A				S	**S**	**22 53 52.4**	**-2.5**	
	baz=320							
Q54A				S	**S**	**22 53 52.4**	**-2.5**	
	baz=320							
E63A	**Oxbow**	**66.94**	**43**	P	**P**	**22 45 10.7**	**-1.4**	
	baz=323,SNR=53							
E63A				P	**P**	**22 45 10.7**	**-1.4**	
	baz=323,SNR=53							
E63A				S	**S**	**22 53 49.3**	**-5.5**	
	baz=323							
E63A				S	**S**	**22 53 49.3**	**-5.5**	
	baz=323							
VSU	**Vasula**	**66.95**	**343**	*c*P	**P**	**22 45 11.7**	**-0.3**	
VSU				pmax	pmax			
	comp=Z,1μm,1.4s							
VSU	**Vasula**	**66.95**	**343**	*e*P	**P**	**22 45 12.5**	**+0.6**	
UPP	**Uppsala**	**66.96**	**349**	*e*P	**P**	**22 45 12.4**	**+0.4**	
M57A	**Sunshine Farm,**	**66.98**	**52**	P	**P**	**22 45 11.9**	**-0.5**	
	baz=320,SNR=246							
M57A				P	**P**	**22 45 11.9**	**-0.5**	
	baz=320,SNR=246							
M57A				S	**S**	**22 53 53.5**	**-1.9**	
	baz=320							
M57A				S	**S**	**22 53 53.5**	**-1.9**	
	baz=320							
G62A	**West of Eustis**	**66.99**	**45**	IAmb	IAmb	22 45 17.9		
	comp=Z,440nm,1.1s							
G62A	**West of Eustis**	**66.99**	**45**	P	**P**	**22 45 11.9**	**-0.6**	
	baz=322,SNR=70							
G62A				P	**P**	**22 45 11.9**	**-0.6**	
	baz=322,SNR=70							
G62A				S	**S**	**22 53 53.0**	**-2.5**	
	baz=322							
G62A				S	**S**	**22 53 53.0**	**-2.5**	
	baz=322							
SKAR	**Skarslia**	**67.01**	**354**	⇑*i*P	**P**	**22 45 12.5**	**+0.1**	
SKAR				IVmBBB		22 45 13.4		
	comp=Z,3μm,1.5s							
SKAR				*e*pP	**pP**	**22 45 41.6**	**-0.6**	
SKAR				*i*		22 45 48.2		
SKAR				*e*S	**S**	**22 53 55.1**	**-0.2**	
SKAR				IVMs_BB	IVMs_BB	23 07 35.1		
	comp=Z,3μm,38.9s							
ACCN	**Adirondack Com**	**67.03**	**48**	P	**P**	**22 45 11.7**	**-1.1**	
	baz=321,SNR=132							
ACCN				S	**S**	**22 53 51.0**	**-4.9**	
	baz=321							
X48A	**Hartselle**	**67.05**	**63**	IAmb	IAmb	22 45 15.5		
	comp=Z,477nm,1.4s							
X48A	**Hartselle**	**67.05**	**63**	P	**P**	**22 45 11.7**	**-1.3**	
	baz=319,SNR=83							
X48A				S	**S**	**22 53 52.7**	**-3.7**	
	baz=319							
PABK	**Blue Knob Stat**	**67.08**	**53**	P	**P**	**22 45 12.6**	**-0.5**	
	baz=320							
PABK				S	**S**	**22 53 54.2**	**-2.5**	
	baz=320							
SWET	**Sewanee**	**67.09**	**62**	IAmb	IAmb	22 45 14.2		
	comp=Z,323nm,0.7s							
HFS	**Hagfors**	**67.11**	**351**	P	**P**	**22 45 12.4**	**-0.5**	
	comp=Z,52nm,0.6s,baz=33,slow=5.7,SNR=124							
HFS				S	**S**	**22 53 55.4**	**-1.0**	
	comp=Z,8.4nm,1.0s,baz=30,slow=12,SNR=1.6							
HFS				PKPPKP	P'P'df	23 13 32.5	-8.4	
	comp=Z,4.5nm,0.8s,baz=186,slow=2.9,SNR=3.8							
HFS				LR	LR	23 17 54.5		
	comp=Z,5μm,19.1s,baz=14,slow=39							
	comp=Z,52nm,0.6s							
SSPA	**Standing Stone**	**67.14**	**53**	P	**P**	**22 45 13.0**	**-0.6**	
SSPA	**Standing Stone**	**67.14**	**53**	P	**P**	**22 45 13.2**	**-0.4**	
	baz=320							
SSPA				S	**S**	**22 53 56.6**	**-0.8**	
	baz=320							
SSPA	**Standing Stone**	**67.14**	**53**	P	**P**	**22 45 13.3**	**-0.2**	
	baz=320,SNR=295							
SSPA				S	**S**	**22 53 56.5**	**-0.9**	
	baz=320							
SSPA	**Standing Stone**	**67.14**	**53**	P	**P**	**22 45 13.1**	**-0.4**	
SSPA				pP	**pP**	**22 45 43.3**	**0.0**	
LBNH	**Lisbon**	**67.15**	**47**	IAmb	IAmb	22 45 19.1		
	comp=Z,252nm,0.8s							
LBNH	**Lisbon**	**67.15**	**47**	P	**P**	**22 45 12.5**	**-1.0**	
	baz=322,SNR=52							
LBNH				S	**S**	**22 53 52.8**	**-4.6**	
	baz=322							
LBNH	**Lisbon**	**67.15**	**47**	P	**P**	**22 45 12.5**	**-1.0**	
	baz=322,SNR=52							
LBNH				S	**S**	**22 53 54.2**	**-3.1**	
	baz=322							
MOS	**Moscow**	**67.18**	**336**	*e*P	**P**	**22 45 13.5**	**+0.1**	
MOS				*e**PP	**pP**	**22 45 44.6**	**+1.5**	
MOS				*e*		22 47 42.9		
MOS				*e*S	**S**	**22 53 57.3**	**0.0**	
MOS				*e**SS	**sS**	**22 54 48.9**	**+0.2**	
MOS				*e*SS	**SS**	**22 58 25.0**	**+7.3**	
MOS				pmax	pmax			
	comp=Z,400nm,0.6s							
MOS				pmax	pmax			
	comp=Z,379nm,0.6s							
MOS				smax	smax			
	comp=E,9μm,4.5s							
MOS				smax	smax			
	comp=N,2μm,2.9s							
MOS				MLR	MLR			
	comp=Z,12μm,18.0s							
MOS				MLR	MLR			
	comp=N,12μm,19.0s							
SHL	**Shillong**	**67.18**	**283**	IAmb	IAmb	22 46 02.4		
	comp=Z,798nm,1.5s							
SHL	**Shillong**	**67.18**	**283**	*e*P	**P**	**22 45 14.7**	**+0.5**	
SHL				IAmb	IAmb	22 45 16.8		
	comp=Z,446nm,1.4s							
SHL	**Shillong**	**67.18**	**283**	P	**P**	**22 45 14.4**	**+0.2**	
	SNR=88							
MTSE	**Matsula**	**67.20**	**345**	*e*P	**P**	**22 45 14.0**	**+0.5**	
SILR	**SILCHAR**	**67.21**	**281**	*e*P	**P**	**22 45 16.4**	**+2.3**	
SILR				IAmb	IAmb	22 45 50.0		
	comp=Z,490nm,1.1s							
HCNY	**Howe Caverns**	**67.22**	**49**	P	**P**	**22 45 12.9**	**-1.1**	
	baz=321,SNR=114							
HCNY				S	**S**	**22 53 54.0**	**-4.3**	
	baz=321							
F63A	**Nahmakanta, Br**	**67.22**	**44**	IAmb	IAmb	22 45 15.7		
	comp=Z,333nm,1.1s							
F63A	**Nahmakanta, Br**	**67.22**	**44**	P	**P**	**22 45 13.0**	**-1.0**	
	baz=323							
F63A				P	**P**	**22 45 13.0**	**-1.0**	
	baz=323							
F63A				S	**S**	**22 53 54.2**	**-4.0**	
	baz=323							
F63A				S	**S**	**22 53 54.2**	**-4.0**	
	baz=323							
H62A	**Milan**	**67.23**	**46**	P	**P**	**22 45 13.3**	**-0.7**	
	baz=322,SNR=133							
H62A				P	**P**	**22 45 13.3**	**-0.7**	
	baz=322,SNR=133							
H62A				S	**S**	**22 53 54.1**	**-4.2**	
	baz=322							
H62A				S	**S**	**22 53 54.1**	**-4.2**	
	baz=322							
344A	**Westbrook Farm**	**67.23**	**68**	IAmb	IAmb	22 45 20.8		
	comp=Z,334nm,0.7s							
344A	**Westbrook Farm**	**67.23**	**68**	P	**P**	**22 45 14.5**	**+0.3**	
	baz=319,SNR=61							
344A				S	**S**	**22 53 58.7**	**+0.1**	
	baz=319							
MND	**Mandalay**	**67.27**	**277**	P	**P**	**22 45 15.2**	**+0.7**	
146A	**Union**	**67.29**	**66**	P	**P**	**22 45 14.4**	**-0.1**	
	baz=319,SNR=135							
146A				S	**S**	**22 53 58.3**	**-1.1**	
	baz=319							
BELG	**Belogornoye**	**67.31**	**329**	*c*P	**P**	**22 45 14.9**	**+0.6**	
BELG				pmax	pmax			
	comp=Z,222nm,1.0s							
BELG	**Belogornoye**	**67.31**	**329**	LR	LR	23 16 32.2		
	comp=Z,6μm,19.3s,baz=33,slow=38							
L59A	**Walton**	**67.31**	**50**	IAmb	IAmb	22 45 19.9		
	comp=Z,444nm,0.9s							
L59A	**Walton**	**67.31**	**50**	P	**P**	**22 45 14.0**	**-0.6**	
	baz=321,SNR=92							
L59A				P	**P**	**22 45 14.0**	**-0.6**	
	baz=321,SNR=92							
L59A				S	**S**	**22 53 56.1**	**-3.4**	
	baz=321							
L59A				S	**S**	**22 53 56.1**	**-3.4**	
	baz=321							
TZTN	**Tazewell**	**67.37**	**59**	IAmb	IAmb	22 45 20.9		
	comp=Z,346nm,0.8s							
TZTN	**Tazewell**	**67.37**	**59**	P	**P**	**22 45 14.7**	**-0.3**	
	baz=319,SNR=23							
TZTN				S	**S**	**22 54 00.4**	**+0.2**	
	baz=319							
TZTN	**Tazewell**	**67.37**	**59**	P	**P**	**22 45 14.9**	**-0.1**	
	baz=319,SNR=23							
TZTN				S	**S**	**22 53 59.6**	**-0.6**	
	baz=319							
ASK	**Askoy**	**67.38**	**356**	⇑*i*P	**P**	**22 45 14.8**	**+0.1**	
ASK				IVmBBB		22 45 16.2		
	comp=Z,6μm,1.9s							
ASK				*i*		22 45 50.9		
ASK				*e*S	**S**	**22 54 01.5**	**+2.0**	
HNH	**Hanover**	**67.40**	**47**	IAmb	IAmb	22 45 16.8		
	comp=Z,168nm,0.8s							
HNH	**Hanover**	**67.40**	**47**	P	**P**	**22 45 14.3**	**-0.8**	
	baz=322,SNR=24							
HNH				S	**S**	**22 53 56.8**	**-3.6**	
	baz=322							
F64A	**Sherman**	**67.42**	**43**	P	**P**	**22 45 14.3**	**-0.8**	
	baz=323,SNR=74							
F64A				P	**P**	**22 45 14.3**	**-0.8**	
	baz=323,SNR=74							
F64A				S	**S**	**22 53 57.3**	**-3.2**	
	baz=323							
F64A				S	**S**	**22 53 57.3**	**-3.2**	
	baz=323							
Z47A	**Carrollton**	**67.42**	**65**	P	**P**	**22 45 14.4**	**-0.9**	
	baz=319,SNR=220							
Z47A				S	**S**	**22 53 56.6**	**-4.3**	
	baz=319							
W50A	**Signal Mountai**	**67.44**	**61**	P	**P**	**22 45 14.9**	**-0.6**	
	baz=319,SNR=118							
W50A				S	**S**	**22 53 59.2**	**-1.9**	
	baz=319							
KSPA	**Keystone Colle**	**67.46**	**51**	IAmb	IAmb	22 45 16.9		
	comp=Z,294nm,0.7s							
KSPA	**Keystone Colle**	**67.46**	**51**	P	**P**	**22 45 14.8**	**-0.7**	
	baz=321,SNR=95							
KSPA				S	**S**	**22 53 57.4**	**-3.7**	
	baz=321							
BER	**Bergen**	**67.47**	**355**	⇑*i*P	**P**	**22 45 15.8**	**+0.5**	
BER				IVmBBB		22 45 16.1		
	comp=Z,2μm,1.6s							
BER				*e*pP	**pP**	**22 45 44.4**	**-0.6**	
BER				*i*		22 45 51.2		
BER				*e*S	**S**	**22 54 00.9**	**+0.3**	
PKME	**Peaks-Kenny Pk**	**67.49**	**44**	P	**P**	**22 45 14.8**	**-0.8**	
	baz=322,SNR=23							
PKME				S	**S**	**22 53 57.4**	**-4.0**	
	baz=322							
PKME	**Peaks-Kenny Pk**	**67.49**	**44**	P	**P**	**22 45 14.8**	**-0.8**	
	baz=323,SNR=23							
PKME				S	**S**	**22 53 57.1**	**-4.3**	
	baz=323							
V51A	**Loudon**	**67.50**	**60**	P	**P**	**22 45 15.2**	**-0.6**	
	baz=319,SNR=185							
V51A				S	**S**	**22 53 59.2**	**-2.6**	
	baz=319							
KKM	**Kota Kinabalu**	**67.50**	**250**	IAmb	IAmb	22 45 18.1		
	comp=Z,300nm,1.3s							
KKM	**Kota Kinabalu**	**67.50**	**250**	P	**P**	**22 45 17.6**	**+1.4**	
TRY	**Troy**	**67.53**	**49**	IAmb	IAmb	22 45 21.3		
	comp=Z,248nm,0.8s							
TRY	**Troy**	**67.53**	**49**	P	**P**	**22 45 14.8**	**-1.1**	
	baz=321,SNR=43							
TRY				S	**S**	**22 53 59.0**	**-3.0**	
	baz=321							
PSWB	**Penn State Wil**	**67.54**	**51**

J61A	**Chester**	**67.56**	**48**	P	**P**	**22 45 15.3**	**-0.8**		baz=322,SNR=72
J61A				P	**P**	**22 45 15.3**	**-0.8**		baz=322,SNR=72
J61A				S	**S**	**22 53 58.6**	**-3.8**		baz=322
J61A				S	**S**	**22 53 58.6**	**-3.8**		baz=322
OSL	**Oslo**	**67.57**	**352⇑**	*i*P	**P**	**22 45 16.2**	**+0.4**		comp=Z,5μm,1.6s
OSL				IVmB_BB		22 45 16.8			
OSL				*e*pP	**pP**	**22 45 45.0**	**-0.6**		
OSL				*i*		22 45 51.9			
OSL				*e*S	**S**	**22 54 01.2**	**-0.6**		
OSL				*i*		22 54 55.8			
S54A	**Dingess, Beckl**	**67.58**	**57**	IAmb	IAmb	22 45 22.0			comp=Z,243nm,0.8s
S54A	**Dingess, Beckl**	**67.58**	**57**	P	**P**	**22 45 15.6**	**-0.8**		baz=320,SNR=110
S54A				P	**P**	**22 45 15.6**	**-0.8**		baz=320,SNR=110
S54A				S	**S**	**22 54 01.1**	**-1.7**		baz=320
S54A				S	**S**	**22 54 01.1**	**-1.7**		baz=320
CPCT	**Cooper Cave**	**67.67**	**61**	IAmb	IAmb	22 45 21.7			comp=Z,313nm,1.0s
I62A	**Tamworth**	**67.70**	**47**	P	**P**	**22 45 15.5**	**-1.4**		baz=322,SNR=27
I62A				P	**P**	**22 45 15.5**	**-1.4**		baz=322,SNR=27
I62A				S	**S**	**22 54 01.6**	**-2.3**		baz=322
I62A				S	**S**	**22 54 01.6**	**-2.3**		baz=322
Q56A	**Snyder Ridge,**	**67.72**	**55**	IAmb	IAmb	22 45 22.2			comp=Z,204nm,0.9s
Q56A	**Snyder Ridge,**	**67.72**	**55**	P	**P**	**22 45 16.5**	**-0.6**		baz=320,SNR=62
Q56A				P	**P**	**22 45 16.5**	**-0.6**		baz=320,SNR=62
Q56A				S	**S**	**22 54 01.1**	**-3.2**		baz=320
Q56A				S	**S**	**22 54 01.1**	**-3.2**		baz=320
GTK	**Tadong**	**67.83**	**286**	*e*P	**P**	**22 45 19.7**	**+1.5**		comp=Z,320nm,1.2s
GTK				IAmb	IAmb	22 45 21.9			
R55A	**Marlinton**	**67.83**	**56**	IAmb	IAmb	22 45 24.1			comp=Z,288nm,0.8s
R55A	**Marlinton**	**67.83**	**56**	P	**P**	**22 45 17.5**	**-0.4**		baz=320,SNR=68
R55A				P	**P**	**22 45 17.5**	**-0.4**		baz=320,SNR=68
R55A				S	**S**	**22 54 03.3**	**-2.4**		baz=320
R55A				S	**S**	**22 54 03.3**	**-2.4**		baz=320
Y49A	**Blount Mountai**	**67.84**	**63**	IAmb	IAmb	22 45 18.8			comp=Z,213nm,0.7s
Y49A	**Blount Mountai**	**67.84**	**63**	P	**P**	**22 45 16.9**	**-1.1**		baz=319,SNR=76
Y49A				S	**S**	**22 54 01.7**	**-4.3**		baz=319
V52A	**Sevierville**	**67.87**	**60**	IAmb	IAmb	22 45 23.8			comp=Z,213nm,0.8s
V52A	**Sevierville**	**67.87**	**60**	P	**P**	**22 45 17.8**	**-0.4**		baz=319,SNR=97
V52A				S	**S**	**22 54 04.5**	**-1.7**		baz=319
FFD	**Franklin Falls**	**67.87**	**47**	IAmb	IAmb	22 45 19.2			comp=Z,231nm,0.6s
FFD	**Franklin Falls**	**67.87**	**47**	P	**P**	**22 45 17.3**	**-0.7**		baz=322,SNR=17
ODD1	**Odda**	**67.88**	**355⇑**	*i*P	**P**	**22 45 18.0**	**+0.2**		comp=Z,3μm,1.5s
ODD1				IVmB_BB		22 45 18.9			
ODD1				*e*	**pP**	**22 45 46.9**	**-0.9**		
ODD1				*e*pP	**pP**	**22 45 46.9**	**-0.9**		
ODD1				*i*		22 45 53.9			
ODD1				*e*S	**S**	**22 54 07.2**	**+1.6**		
ODD1				IVMs_BB	IVMs_BB	23 08 12.8			comp=Z,2μm,16.0s
WVL	**Waterville**	**67.89**	**45**	IAmb	IAmb	22 45 23.6			comp=Z,226nm,0.8s
WVL	**Waterville**	**67.89**	**45**	P	**P**	**22 45 17.1**	**-1.0**		baz=323,SNR=31
I63A	**Otisfield**	**67.89**	**46**	IAmb	IAmb	22 45 24.1			comp=Z,435nm,0.8s
I63A	**Otisfield**	**67.89**	**46**	P	**P**	**22 45 17.7**	**-0.4**		baz=322,SNR=61
I63A				P	**P**	**22 45 17.7**	**-0.4**		baz=322,SNR=61
I63A				S	**S**	**22 54 01.3**	**-4.9**		baz=322
I63A				S	**S**	**22 54 01.3**	**-4.9**		baz=322
BTK	**Batken**	**67.91**	**307**	IAmb	IAmb	22 45 24.8			comp=Z,242nm,0.8s
TKL	**Tuckaleechee C**	**67.92**	**60**	IAmb	IAmb	22 45 23.8			comp=Z,301nm,0.8s
TKL	**Tuckaleechee C**	**67.92**	**60**	P	**P**	**22 45 17.8**	**-0.6**		baz=319,SNR=118
TKL				S	**S**	**22 54 05.0**	**-1.8**		baz=319
TKL	**Tuckaleechee C**	**67.92**	**60**	LR	LR	23 16 43.9			comp=Z,29μm,18.4s,baz=334,slow=37
LRW	**Lerwick**	**67.92**	**359⇑**	*e*P	**P**	**22 45 17.1**	**-1.0**		
LRW				IAmb	IAmb	22 45 23.7			comp=Z,223nm,0.8s
KONO	**Kongsberg**	**67.94**	**353**	P	**P**	**22 45 18.0**	**-0.2**		
KONO	**Kongsberg**	**67.94**	**353***c*	*i*P	**P**	**22 45 18.6**	**+0.4**		
KONO				pmax	pmax				comp=Z,278nm,1.2s
KONO	**Kongsberg**	**67.94**	**353⇑**	*i*P	**P**	**22 45 18.4**	**+0.2**		
KONO				IVmB_BB		22 45 19.3			comp=Z,3μm,1.6s
KONO				*e*pP	**pP**	**22 45 46.4**	**-1.6**		
KONO				*i*		22 45 54.3			
KONO				*e*S	**S**	**22 54 06.9**	**+0.7**		
KONO				IVMs_BB	IVMs_BB	23 09 46.6			comp=Z,2μm,21.7s
KONO	**Kongsberg**	**67.94**	**353**	P	**P**	**22 45 18.5**	**+0.4**		
KONO				pP	**pP**	**22 45 46.8**	**-1.2**		
KONO				pwP	**pwP**	**22 45 54.4**	**+1.2**		
CHTO	**Chiang Mai**	**67.95**	**272**	P	**P**	**22 45 19.0**	**+0.1**		
CHTO				IAmb	IAmb	22 45 52.2			comp=Z,267nm,1.2s
CHTO	**Chiang Mai**	**67.95**	**272**	P	**P**	**22 45 19.0**	**+0.1**		
CHTO				pmax	pmax				comp=Z,267nm,1.3s
P57A	**Homestead Farm**	**67.97**	**54**	IAmb	IAmb	22 45 20.2			comp=Z,223nm,0.7s
P57A	**Homestead Farm**	**67.97**	**54**	P	**P**	**22 45 18.1**	**-0.6**		baz=320,SNR=89
P57A				P	**P**	**22 45 18.1**	**-0.6**		baz=320,SNR=89
P57A				S	**S**	**22 54 05.4**	**-1.8**		baz=320
P57A				S	**S**	**22 54 05.4**	**-1.8**		baz=320
DHUB	**DHUBRI**	**67.97**	**284**	*e*P	**P**	**22 45 19.5**	**+0.6**		
DHUB				IAmb	IAmb	22 45 53.8			comp=Z,247nm,1.5s
346A	**Big Creek Wild**	**67.99**	**67**	IAmb	IAmb	22 45 25.2			comp=Z,361nm,0.8s
346A	**Big Creek Wild**	**67.99**	**67**	P	**P**	**22 45 18.5**	**-0.4**		baz=319,SNR=26
346A				S	**S**	**22 54 05.6**	**-2.2**		baz=319
OBN	**Obninsk**	**68.00**	**337**	⇑P	**P**	**22 45 19.8**	**+1.2**		
OBN	**Obninsk**	**68.00**	**337**	P	**P**	**22 45 18.7**	**+0.1**		
OBN				IAmb	IAmb	22 45 24.0			comp=Z,623nm,1.3s
OBN	**Obninsk**	**68.00**	**337***c*	*i*P	**P**	**22 45 18.0**	**-0.6**		
OBN				*i* *PP	**pP**	**22 45 47.6**	**-0.8**		
OBN				*e*		22 47 47.4			
OBN				*e*PPP	PPP	22 49 28.3			
OBN				*i* S	**S**	**22 54 04.0**	**-3.1**		
OBN				pmax	pmax				comp=Z,748nm,1.7s
OBN	**Obninsk**	**68.00**	**337**	LR	LR	23 19 28.0			comp=Z,9μm,18.0s,baz=22,slow=40
OBN	**Obninsk**	**68.00**	**337**	P	**P**	**22 45 18.8**	**+0.1**		
AZL	**Aizawl**	**68.06**	**281**	*e*P	**P**	**22 45 20.9**	**+1.3**		
NPNY	**Mohonk Preserv**	**68.07**	**50**	P	**P**	**22 45 18.4**	**-0.9**		baz=322,SNR=70
NPNY				S	**S**	**22 54 05.4**	**-3.0**		baz=322
LRAL	**Lakeview Retre**	**68.14**	**64**	IAmb	IAmb	22 45 24.8			comp=Z,229nm,0.8s
LRAL	**Lakeview Retre**	**68.14**	**64**	P	**P**	**22 45 18.5**	**-1.3**		baz=319,SNR=93
LRAL				S	**S**	**22 54 05.9**	**-3.5**		baz=319
LRAL	**Lakeview Retre**	**68.14**	**64**	P	**P**	**22 45 18.5**	**-1.3**		baz=319,SNR=93
LRAL				S	**S**	**22 54 05.2**	**-4.2**		baz=319
X51A	**Calhoun**	**68.16**	**62**	IAmb	IAmb	22 45 25.2			comp=Z,212nm,0.8s
X51A	**Calhoun**	**68.16**	**62**	P	**P**	**22 45 19.1**	**-0.9**		baz=319,SNR=65
X51A				P	**P**	**22 45 19.1**	**-0.9**		baz=319,SNR=65
X51A				S	**S**	**22 54 06.2**	**-3.4**		baz=319
X51A				S	**S**	**22 54 06.2**	**-3.4**		baz=319
GTOI	**Gorontalo**	**68.19**	**240**	P	**P**	**22 45 18.9**	**-1.4**		comp=Z,79nm,2.6s,comp=Z,4μmcomp=Z,13μm
L61B	**Northampton**	**68.21**	**48**	IAmb	IAmb	22 45 21.1			comp=Z,256nm,0.7s
L61B	**Northampton**	**68.21**	**48**	P	**P**	**22 45 19.1**	**-1.1**		baz=322,SNR=67
L61B				S	**S**	**22 54 06.3**	**-3.8**		baz=322
L61B	**Northampton**	**68.21**	**48**	P	**P**	**22 45 19.0**	**-1.1**		baz=322,SNR=67
L61B				S	**S**	**22 54 05.3**	**-4.8**		baz=322
CM31	**Chiang Mai Arr**	**68.22**	**272**	P	**P**	**22 45 21.4**	**+0.8**		
CM31				S	**S**	**22 54 11.1**	**+0.3**		
CMAR	**Chiang Mai Arr**	**68.22**	**272**	P	**P**	**22 45 20.8**	**+0.2**		
CMAR	**Chiang Mai Arr**	**68.22**	**272**	*i* P	**P**	**22 45 21.2**	**+0.7**		
CMAR				pmax	pmax				comp=Z,97nm,0.6s
CMAR	**Chiang Mai Arr**	**68.22**	**272**	P	**P**	**22 45 21.3**	**+0.7**		comp=Z,93nm,0.6s,baz=26,slow=7.2,SNR=296
CMAR				pP	**pP**	**22 45 51.7**	**0.0**		comp=Z,88nm,1.1s,baz=28,slow=7.6,SNR=3.7
CMAR				S	**S**	**22 54 11.0**	**+0.2**		comp=Z,0.6nm,0.3s,baz=32,slow=11,SNR=1.2
CMAR				PKPPKP	**P'P'df**	**23 13 31.4**	**-7.2**		comp=Z,6.2nm,0.8s,baz=240,slow=4.3,SNR=13
CMAR				LR	LR	23 18 17.5			comp=Z,2μm,18.5s,baz=40,slow=38
K62A	**Royalston**	**68.24**	**48**	IAmb	IAmb	22 45 21.5			comp=Z,93nm,0.6s
K62A	**Royalston**	**68.24**	**48**	P	**P**	**22 45 19.4**	**-1.0**		comp=Z,185nm,0.7s
K62A				P	**P**	**22 45 19.4**	**-1.0**		baz=322,SNR=33
K62A				S	**S**	**22 54 06.0**	**-4.4**		baz=322,SNR=33
K62A				S	**S**	**22 54 06.0**	**-4.4**		baz=322
W52A	**Murphy**	**68.26**	**61**	IAmb	IAmb	22 45 26.1			comp=Z,312nm,0.8s
W52A	**Murphy**	**68.26**	**61**	P	**P**	**22 45 20.0**	**-0.6**		baz=320,SNR=37
W52A				S	**S**	**22 54 08.9**	**-2.0**		baz=320
G65A	**Princeton**	**68.28**	**43**	IAmb	IAmb	22 45 26.4			comp=Z,493nm,0.9s
G65A	**Princeton**	**68.28**	**43**	P	**P**	**22 45 19.8**	**-0.7**		baz=324,SNR=45
G65A				P	**P**	**22 45 19.8**	**-0.7**		baz=324,SNR=45
G65A				S	**S**	**22 54 06.5**	**-4.2**		baz=324
G65A				S	**S**	**22 54 06.5**	**-4.2**		baz=324
U54A	**Nelsons Funny**	**68.29**	**58**	IAmb	IAmb	22 45 26.8			comp=Z,487nm,0.9s
U54A	**Nelsons Funny**	**68.29**	**58**	P	**P**	**22 45 20.8**	**0.0**		baz=320,SNR=112
U54A				P	**P**	**22 45 20.8**	**0.0**		baz=320,SNR=112
U54A				S	**S**	**22 54 10.5**	**-0.9**		baz=320
U54A				S	**S**	**22 54 10.5**	**-0.9**		baz=320
TAPN	**Taplejung**	**68.33**	**287**	*e*P	**P**	**22 45 22.3**	**+0.8**		comp=Z,2μm,1.1s
BLS5	**Blasjo**	**68.37**	**355⇑**	*i*P	**P**	**22 45 21.1**	**+0.2**		
BLS5				IVmB_BB		22 45 22.0			comp=Z,2μm,1.4s
BLS5				*e*pP	**pP**	**22 45 49.3**	**-1.5**		
BLS5				*i*		22 45 56.9			
BLS5				*e*S	**S**	**22 54 12.5**	**+1.0**		
BLS5				*e*SKSac	**ScS**	**22 55 08.0**	**0.0**		
BLS5				IVMs_BB	IVMs_BB	23 08 15.2			comp=Z,4μm,47.4s
ODNJ	**Ogdensburg**	**68.38**	**50**	IAmb	IAmb	22 45 26.3			comp=Z,382nm,1.2s
ODNJ	**Ogdensburg**	**68.38**	**50**	P	**P**	**22 45 20.1**	**-1.1**		baz=322,SNR=60
ODNJ				S	**S**	**22 54 09.4**	**-2.7**		baz=322
MVL	**Millersville**	**68.38**	**52**	IAmb	IAmb	22 45 27.3			comp=Z,430nm,0.8s
VIKU	**Vikbolandet**	**68.39**	**349**	*e*P	**P**	**22 45 21.5**	**+0.5**		
BRNY	**Black Rk. Fore**	**68.40**	**50**	P	**P**	**22 45 20.4**	**-1.0**		baz=322,SNR=50
BRNY				S	**S**	**22 54 09.0**	**-3.4**		baz=322
KSCT	**Kent School, K**	**68.40**	**49**	IAmb	IAmb	22 45 22.4			comp=Z,251nm,0.7s
V53A	**Saluda**	**68.42**	**59**	IAmb	IAmb	22 45 27.4			comp=Z,278nm,0.8s
V53A	**Saluda**	**68.42**	**59**	P	**P**	**22 45 21.4**	**-0.2**		baz=320,SNR=114
V53A				P	**P**	**22 45 21.4**	**-0.2**		baz=320,SNR=114
V53A				S	**S**	**22 54 10.9**	**-1.9**		baz=320
V53A				S	**S**	**22 54 10.9**	**-1.9**		baz=320
SPMM	**Sapulut**	**68.44**	**249**	P	**P**	**22 45 23.0**	**+1.0**		
SLIT	**Slitere, Latvi**	**68.48**	**346**	*e*P	**P**	**22 45 22.3**	**+0.8**		
BLA	**Blacksburg**	**68.49**	**57**	IAmb	IAmb	22 45 24.1			comp=Z,313nm,0.8s
BLA	**Blacksburg**	**68.49**	**57**	P	**P**	**22 45 21.5**	**-0.5**		baz=320,SNR=80
BLA				S	**S**	**22 54 13.1**	**-0.5**		baz=320
BLA	**Blacksburg**	**68.49**	**57**	P	**P**	**22 45 21.5**	**-0.5**		baz=320,SNR=80
BLA				S	**S**	**22 54 12.8**	**-0.8**		baz=320
QUA2	**Belchertown**	**68.49**	**48**	IAmb	IAmb	22 45 23.2			comp=Z,152nm,0.6s
QUA2	**Belchertown**	**68.49**	**48**	P	**P**	**22 45 20.8**	**-1.1**		baz=322,SNR=21
QUA2				S	**S**	**22 54 09.7**	**-3.7**		baz=322
TRNY	**Table Rock, Ra**	**68.51**	**50**	IAmb	IAmb	22 45 23.1			comp=Z,664nm,1.8s
UNH	**University of**	**68.52**	**47**	P	**P**	**22 45 21.1**	**-1.0**		baz=323,SNR=39
UNH				S	**S**	**22 54 10.2**	**-3.5**		baz=323
GGN	**Saint George**	**68.65**	**43**	IAmb	IAmb	22 45 28.4			comp=Z,432nm,0.8s
KMY	**Karmoy**	**68.65**	**355⇑**	*i*P	**P**	**22 45 22.7**	**+0.2**		
KMY				IVmB_BB		22 45 23.6			comp=Z,2μm,1.5s
KMY				*i*		22 45 58.6			
HRV	**Adam Dziewonsk**	**68.67**	**48**	P	**P**	**22 45 22.1**	**-0.9**		
HRV				pP	**pP**	**22 45 52.8**	**-0.1**		
EMMW	**East Machias**	**68.72**	**44**	P	**P**	**22 45 22.4**	**-0.8**		baz=324,SNR=37
EMMW				S	**S**	**22 54 11.7**	**-4.2**		baz=324
PAL	**Palisades**	**68.77**	**50**	IAmb	IAmb	22 45 28.9			comp=Z,532nm,0.9s
PAL	**Palisades**	**68.77**	**50**	P	**P**	**22 45 22.8**	**-0.9**		baz=322,SNR=81
PAL				S	**S**	**22 54 13.2**	**-3.5**		baz=322
PAL	**Palisades**	**68.77**	**50**	P	**P**	**22 45 23.0**	**-0.7**		baz=322,SNR=81
PAL				S	**S**	**22 54 13.2**	**-3.5**		baz=322
WUPA	**West Chester U**	**68.80**	**52**	IAmb	IAmb	22 45 26.1			comp=Z,196nm,0.6s
SAIH	**SAIHA**	**68.82**	**280**	*e*P	**P**	**22 45 25.1**	**+0.7**		
SAIH				IAmb	IAmb	22 45 27.5			comp=Z,654nm,1.4s
TUPA	**Temple Univers**	**68.82**	**51**	P	**P**	**22 45 23.5**	**-0.5**		baz=321,SNR=184
TUPA				S	**S**	**22 54 15.0**	**-2.2**		baz=321
AGT	**Agartala**	**68.82**	**282**	*e*P	**P**	**22 45 26.3**	**+2.1**		
S57A	**Dark Hollow, R**	**68.82**	**55**	P	**P**	**22 45 23.6**	**-0.5**		baz=321,SNR=82
S57A				P	**P**	**22 45 23.6**	**-0.5**		baz=321,SNR=82
S57A				S	**S**	**22 54 17.8**	**+0.4**		baz=321
S57A				S	**S**	**22 54 17.8**	**+0.4**		baz=321
PSUB	**Penn St. - Bra**	**68.88**	**52**	P	**P**	**22 45 23.4**	**-0.9**		baz=321
PSUB				S	**S**	**22 54 15.0**	**-2.9**		baz=321
GEDE	**Greenville**	**68.88**	**52**	P	**P**	**22 45 23.7**	**-0.6**		baz=321,SNR=65
GEDE				S	**S**	**22 54 14.8**	**-3.1**		baz=321
WES	**Weston**	**68.88**	**47**	IAmb	IAmb	22 45 25.8			comp=Z,328nm,0.8s
WES	**Weston**	**68.88**	**47**	P	**P**	**22 45 23.4**	**-0.9**		baz=323,SNR=54
WES				S	**S**	**22 54 15.1**	**-2.8**		baz=323
ODAN	**Odare**	**68.88**	**287**	*e*P	**P**	**22 45 25.0**	**+0.1**		comp=Z,372nm,1.3s
FOR	**Fordham**	**68.89**	**50**	P	**P**	**22 45 23.8**	**-0.5**		baz=322,SNR=58
FOR				S	**S**	**22 54 15.2**	**-2.8**		baz=322
LMN	**Caledonia Moun**	**68.89**	**41**	IAmb	IAmb	22 45 29.6			comp=Z,288nm,0.9s
MRSI	**Marisa**	**68.89**	**241**	P	**P**	**22 45 23.6**	**-1.1**		comp=Z,562nm,1.1s,comp=Z,13μmcomp=Z,33μm
SANI	**Sanana**	**68.91**	**236**	P	**P**	**22 45 24.7**	**-0.1**		
SANI	**Sanana**	**68.91**	**236**	P	**P**	**22 45 23.3**	**-1.5**		comp=Z,402nm,1.4s,comp=Z,11μmcomp=Z,33μm
SANI	**Sanana**	**68.91**	**236**	S	**S**	**22 54 16.3**	**-2.5**		
SANI				P	**P**	**22 45 22.9**	**-1.8**		
CPNY	**Central Park**	**68.91**	**50**	IAmb	IAmb	22 45 30.4			comp=Z,511nm,0.8s
WSPT	**Westport, CT**	**68.91**	**50**	IAmb	IAmb	22 45 29.4			comp=Z,282nm,0.8s
Z51A	**Franklin**	**68.93**	**63**	IAmb	IAmb	22 45 29.4			comp=Z,259nm,0.9s
Z51A	**Franklin**	**68.93**	**63**	P	**P**	**22 45 23.4**	**-1.4**		baz=320,SNR=61
Z51A				S	**S**	**22 54 14.6**	**-4.2**		baz=320
UCCT	**U. Connecticut**	**68.93**	**48**	IAmb	IAmb	22 45 25.3			comp=Z,365nm,0.7s
GUN	**Gumba**	**68.98**	**289**	*e*P	**P**	**22 45 26.6**	**+1.0**		comp=Z,1μm,0.7s
JIRN	**Jiri**	**68.99**	**288**	*e*P	**P**	**22 45 26.7**	**+1.0**		comp=Z,2μm,1.2s
TOLI2	**Tolitoli**	**68.99**	**243**	IAmb	IAmb	22 45 27.5			comp=Z,318nm,1.0s
TOLI2	**Tolitoli**	**68.99**	**243**	P	**P**	**22 45 24.4**	**-0.9**		
N62A	**Caumsett State**	**69.03**	**50**	IAmb	IAmb	22 45 30.4			comp=Z,205nm,0.7s
N62A	**Caumsett State**	**69.03**	**50**	P	**P**	**22 45 24.2**	**-1.0**		baz=322
N62A				P	**P**	**22 45 24.2**	**-1.0**		baz=322
N62A				S	**S**	**22 54 15.9**	**-3.8**		baz=322
N62A				S	**S**	**22 54 15.9**	**-3.8**		baz=322
BNDI	**Bandanaira**	**69.10**	**231**	P	**P**	**22 45 25.9**	**-0.1**		comp=Z,632nm,1.4s,comp=Z,32μmcomp=Z,35μm
Y52A	**Lilburn**	**69.12**	**62**	IAmb	IAmb	22 45 31.7			comp=Z,423nm,0.8s
Y52A	**Lilburn**	**69.12**	**62**	P	**P**	**22 45 25.2**	**-0.7**		baz=320,SNR=171
Y52A				P	**P**	**22 45 25.2**	**-0.7**		baz=320,SNR=171
Y52A				S	**S**	**22 54 18.0**	**-3.0**		baz=320
Y52A				S	**S**	**22 54 18.0**	**-3.0**		baz=320
BRYW	**Bryant College**	**69.15**	**48**	IAmb	IAmb	22 45 27.0			comp=Z,329nm,0.6s
U56A	**King**	**69.17**	**57**	P	**P**	**22 45 25.9**	**-0.3**		baz=320,SNR=44
U56A				P	**P**	**22 45 25.9**	**-0.3**		baz=320,SNR=44
U56A				S	**S**	**22 54 20.3**	**-1.4**		baz=320
U56A				S	**S**	**22 54 20.3**	**-1.4**		baz=320
BELO	**BELONIA**	**69.18**	**281**	*e*P	**P**	**22 45 28.6**	**+2.2**		
R58B	**Mineral**	**69.20**	**55**	IAmb	IAmb	22 45 32.0			comp=Z,210nm,0.8s
R58B	**Mineral**	**69.20**	**55**	P	**P**	**22 45 25.9**	**-0.5**		baz=321,SNR=71
R58B				P	**P**	**22 45 25.9**	**-0.5**		baz=321,SNR=71
R58B				S	**S**	**22 54 22.0**	**+0.2**		baz=321
R58B				S	**S**	**22 54 22.0**	**+0.2**		baz=321
T57A	**Hurt**	**69.25**	**56**	IAmb	IAmb	22 45 28.5			comp=Z,233nm,0.7s
T57A	**Hurt**	**69.25**	**56**	P	**P**	**22 45 25.9**	**-0.8**		baz=321,SNR=99
T57A				P	**P**	**22 45 25.9**	**-0.8**		baz=321,SNR=99
T57A				S	**S**	**22 54 21.5**	**-1.0**		baz=321
T57A				S	**S**	**22 54 21.5**	**-1.0**		baz=321
CBN	**Corbin Frederi**	**69.27**	**54**	IAmb	IAmb	22 45 32.3			comp=Z,404nm,0.9s
CBN	**Corbin Frederi**	**69.27**	**54**	P	**P**	**22 45 26.1**	**-0.6**		baz=321,SNR=39
CBN				S	**S**	**22 54 22.2**	**-0.4**		baz=321
CBN	**Corbin Frederi**	**69.27**	**54**	P	**P**	**22 45 26.1**	**-0.6**		baz=321,SNR=39
CBN				S	**S**	**22 54 22.4**	**-0.2**		baz=321
RAMN	**Ramite**	**69.28**	**287**	*e*P	**P**	**22 45 28.3**	**+1.0**		comp=Z,1μm,0.8s
M63A	**Gales Ferry**	**69.32**	**49**	P	**P**	**22 45 26.1**	**-0.9**		baz=322,SNR=49
M63A				P	**P**	**22 45 26.1**	**-0.9**		baz=322,SNR=49
M63A				S	**S**	**22 54 18.6**	**-4.5**		baz=322
M63A				S	**S**	**22 54 18.6**	**-4.5**		baz=322
250A	**Grady**	**69.34**	**64**	IAmb	IAmb	22 45 32.5			comp=Z,476nm,0.8s
250A	**Grady**	**69.34**	**64**	P	**P**	**22 45 26.3**	**-1.0**		baz=320,SNR=66
250A				S	**S**	**22 54 19.3**	**-4.3**		baz=320
NLAI	**Namlea**	**69.36**	**234**	P	**P**	**22 45 29.5**	**+1.9**		comp=Z,57nm,2.3s,comp=Z,12μm
P61A	**Hammonton**	**69.39**	**51**	P	**P**	**22 45 26.9**	**-0.6**		baz=322,SNR=19
P61A				P	**P**	**22 45 26.9**	**-0.6**		baz=322,SNR=19
P61A				S	**S**	**22 54 21.8**	**-2.2**		baz=322
P61A				S	**S**	**22 54 21.8**	**-2.2**		baz=322
HOMB	**Homborsund**	**69.39**	**353⇑**	*i*P	**P**	**22 45 27.2**	**+0.1**		
HOMB				*e*pP	**pP**	**22 45 56.7**	**-0.4**		
HOMB				*i*		22 46 03.1			
HOMB				*e*S	**S**	**22 54 24.4**	**+1.0**		
HOMB				*e*SS	**SS**	**22 58 55.0**	**+3.5**		
HOMB				IVMs_BB	IVMs_BB	23 09 04.2			comp=Z,2μm,31.2s
SNART	**Snartemo**	**69.41**	**354**	*e*P	**P**	**22 45 27.2**	**0.0**		
SNART				*i*		22 46 03.5			
SNART				*e*S	**S**	**22 54 26.4**	**+2.8**		
KKN	**Kakani**	**69.42**	**289**	*e*P	**P**	**22 45 29.4**	**+1.3**		comp=Z,4μm,2.4s

L64A	**Middleborough**	69.45	47	P	**P**	22 45 26.8	-1.0
L64A				IAmb	IAmb	22 45 33.0	
	comp=Z,243nm,0.9s						
L64A				pP	**pP**	22 45 56.3	-1.5
L64A	**Middleborough**	69.45	47	P	**P**	22 45 26.8	-1.0
	baz=323,SNR=21						
L64A				P	**P**	22 45 26.8	-1.0
	baz=323,SNR=21						
L64A				S	**S**	22 54 19.2	-5.5
	baz=323						
L64A				S	**S**	22 54 19.2	-5.5
	baz=323						
BRDH	**Bariadhala**	69.49	281	LR	LR	23 20 31.1	
	comp=Z,4μm,18.1s,baz=6.5,slow=40						
PKI	**Pulchoki**	69.51	289	*e*P	**P**	22 45 29.6	+0.8
	comp=Z,414nm,0.7s						
PKIN	**Phulchoki**	69.51	289	*e*P	**P**	22 45 29.4	+0.6
	comp=Z,261nm,0.4s						
BRAL	**Brewton**	69.52	65	IAmb	IAmb	22 45 34.3	
	comp=Z,534nm,0.8s						
BRAL	**Brewton**	69.52	65	P	**P**	22 45 28.1	-0.3
	baz=319,SNR=16						
BRAL				S	**S**	22 54 25.4	-0.3
	baz=319						
BRAL	**Brewton**	69.52	65	P	**P**	22 45 28.0	-0.3
	baz=320,SNR=16						
BRAL				S	**S**	22 54 25.2	-0.5
	baz=320						
BIGH	**Upper Bighouse**	69.58	0⇑	*e*P	**P**	22 45 27.3	-1.0
KMSC	**Kings Mountain**	69.60	59	IAmb	IAmb	22 45 34.8	
	comp=Z,494nm,0.8s						
KMSC	**Kings Mountain**	69.60	59	P	**P**	22 45 28.2	-0.6
	baz=320						
KMSC				S	**S**	22 54 25.4	-1.2
	baz=320						
KMSC	**Kings Mountain**	69.60	59	P	**P**	22 45 28.3	-0.6
	baz=320						
KMSC				S	**S**	22 54 24.6	-2.0
	baz=320						
IZAR	**Zarasai**	69.61	343	*e*P	**P**	22 45 29.7	+1.1
GKN	**Gorkha**	69.63	290	*e*P	**P**	22 45 30.3	+0.9
	comp=Z,1μm,1.1s						
DMN	**Daman**	69.66	289	*e*P	**P**	22 45 30.7	+1.0
	comp=Z,553nm,1.1s						
152A	**Waverly Hall**	69.67	63	P	**P**	22 45 27.8	-1.5
	baz=320,SNR=64						
152A				S	**S**	22 54 22.0	-5.5
	baz=320						
LPSR	**Galich'ya Gora**	69.67	334	*e*P	**P**	22 45 27.9	-1.1
LPSR				*e**PP	**pP**	22 45 57.1	-1.8
LPSR				*e*S	**S**	22 54 23.8	-3.1
LPSR				pmax	pmax		
	comp=Z,260nm,0.8s						
LPSR				smax	smax		
	comp=E,5μm,12.1s						
LUWI	**Luwuk**	69.72	240	P	**P**	22 45 28.0	-1.8
	comp=E,927nm,1.2s,comp=E,19μmcomp=E,31μm						
LUWI	**Luwuk**	69.72	240	P	**P**	22 45 27.2	-2.6
LUWI				S	**S**	22 54 25.6	-2.8
MSVF	**Nonsavu**	69.73	179	P	**P**	22 45 31.5	+1.8
MSVF				IAmb	IAmb	22 45 48.7	
	comp=Z,552nm,1.6s						
MSVF	**Nonsavu**	69.73	179	P	**P**	22 45 31.6	+1.8
MSVF	**Nonsavu**	69.73	179	*d* i P	**P**	22 45 31.2	+1.5
MSVF				pmax	pmax		
	comp=Z,693nm,2.7s						
MSVF	**Nonsavu**	69.73	179	P	**P**	22 45 31.6	+1.9
GOGA	**Godfrey**	69.78	61	P	**P**	22 45 28.8	-1.2
	baz=320,SNR=73						
GOGA				S	**S**	22 54 25.5	-3.3
	baz=320						
GOGA	**Godfrey**	69.78	61	P	**P**	22 45 28.8	-1.2
	baz=320,SNR=73						
GOGA				S	**S**	22 54 24.4	-4.4
	baz=320						
VSVD	**Vaisvydziai**	69.80	344	*e*P	**P**	22 45 30.1	+0.4
ISAL	**Salakas**	69.80	343	*e*P	**P**	22 45 31.9	+2.2
M65A	**Busby, Falmout**	69.84	48	P	**P**	22 45 29.0	-1.2
	baz=323						
DANN	**Dangsing**	69.88	290	*e*P	**P**	22 45 32.0	+1.0
	comp=Z,917nm,0.9s						
SIMJ	**Simiganj**	69.88	307	P	**P**	22 45 31.5	+0.8
LEWI	**Lewis, Hebride**	69.89	2⇑	*e*P	**P**	22 45 29.7	-0.5
LINV	**Loch Inver, As**	69.92	1⇑	*e*P	**P**	22 45 30.7	+0.3
LINV				IAmb	IAmb	22 45 36.9	
	comp=Z,232nm,0.9s						
IIGN	**Ignalina**	70.00	343	*e*P	**P**	22 45 32.7	+1.8
PBUR	**Paburge**	70.08	345	*e*P	**P**	22 45 32.2	+0.8
MPSI	**Mapaga**	70.12	243	P	**P**	22 45 31.5	-0.7
	comp=Z,435nm,1.6s,comp=Z,10μmcomp=Z,34μm						
T59A	**Double "B" Far**	70.13	55	IAmb	IAmb	22 45 34.4	
	comp=Z,253nm,0.8s						
T59A	**Double "B" Far**	70.13	55	P	**P**	22 45 31.7	-0.4
	baz=321,SNR=88						
T59A				P	**P**	22 45 31.7	-0.4
	baz=321,SNR=88						
T59A				S	**S**	22 54 27.4	-5.4
	baz=321						
T59A				S	**S**	22 54 27.4	-5.4
	baz=321						
VRH	**Novokhopyorsk**	70.14	332	*e*P	**P**	22 45 31.2	-0.7
VRH				*e**PP	**pP**	22 46 00.0	-1.9
VRH				*e*S	**S**	22 54 29.5	-2.9
VRH				pmax	pmax		
	comp=Z,400nm,0.6s						
VRH				smax	smax		
	comp=E,6μm,12.6s						
R61A	**Willards**	70.17	53	P	**P**	22 45 32.4	+0.1
	baz=322,SNR=9.7						
R61A				P	**P**	22 45 32.4	+0.1
	baz=322,SNR=9.7						
R61A				S	**S**	22 54 30.0	-3.2
	baz=322						
R61A				S	**S**	22 54 30.0	-3.2
	baz=322						
OVD	**Ostervraa, Den**	70.21	352	*i* P	**P**	22 45 33.6	+1.5
OVD				IAmb	IAmb	22 46 12.9	
	comp=Z,413nm,1.0s						
PABE	**Paberze**	70.25	344	IAmb	IAmb	22 45 38.2	
	comp=Z,501nm,0.8s						
PABE	**Paberze**	70.25	344	*e*P	**P**	22 45 32.9	+0.5
V58A	**Windy Hill, Pi**	70.25	57	IAmb	IAmb	22 45 38.5	
	comp=Z,270nm,0.9s						
V58A	**Windy Hill, Pi**	70.25	57	P	**P**	22 45 32.1	-0.7
	baz=321,SNR=99						
V58A				P	**P**	22 45 32.1	-0.7
	baz=321,SNR=99						
V58A				S	**S**	22 54 32.9	-1.3
	baz=321						
V58A				S	**S**	22 54 32.9	-1.3
	baz=321						
W57A	**Gilead**	70.29	58	IAmb	IAmb	22 45 34.8	
	comp=Z,218nm,0.8s						
W57A	**Gilead**	70.29	58	P	**P**	22 45 32.1	-0.9
	baz=321,SNR=54						
W57A				P	**P**	22 45 32.1	-0.9
	baz=321,SNR=54						
W57A				S	**S**	22 54 33.2	-1.5
	baz=321						
W57A				S	**S**	22 54 33.2	-1.5
	baz=321						
JSC	**Jenkinsville**	70.30	59	IAmb	IAmb	22 45 38.7	
	comp=Z,372nm,0.9s						
JSC	**Jenkinsville**	70.30	59	P	**P**	22 45 32.8	-0.3
	baz=321,SNR=115						
NACGM	**Naroch**	70.31	342	*e*P	**P**	22 45 32.7	-0.2
	comp=E,3μm,0.8s						
HAL	**Halifax**	70.38	41	IAmb	IAmb	22 45 38.3	
	comp=Z,263nm,1.0s						
KOLN	**Koldanda**	70.41	290	*e*P	**P**	22 45 35.2	+1.0
	comp=Z,2μm,2.4s						
T60A	**Surry**	70.42	54	IAmb	IAmb	22 45 40.3	
	comp=Z,432nm,0.9s						
T60A	**Surry**	70.42	54	P	**P**	22 45 33.3	-0.4
	baz=322,SNR=30						
T60A				P	**P**	22 45 33.3	-0.4
	baz=322,SNR=30						
T60A				S	**S**	22 54 34.4	-1.6
	baz=322						
T60A				S	**S**	22 54 34.4	-1.6
	baz=322						
VORR	**Voronezh**	70.43	334	*e*P	**P**	22 45 33.9	+0.3
VORR				*e**PP	**pP**	22 46 00.0	-3.6
VORR				*e*S	**S**	22 54 32.4	-3.4
VORR				pmax	pmax		
	comp=Z,160nm,0.4s						
VORR				smax	smax		
	comp=E,1μm,6.0s						
BIRD	**Birdtown, Kers**	70.44	59	IAmb	IAmb	22 45 39.9	
	comp=Z,247nm,0.8s						
BIRD	**Birdtown, Kers**	70.44	59	P	**P**	22 45 33.4	-0.6
	baz=321,SNR=72						
352A	**Blakely**	70.46	64	IAmb	IAmb	22 45 39.2	
	comp=Z,216nm,0.9s						
352A	**Blakely**	70.46	64	P	**P**	22 45 33.0	-1.2
	baz=320,SNR=18						
MNK	**Minsk**	70.48	341	*i* P	**P**	22 45 34.2	+0.3
	comp=E,50nm,1.0s						
MNK				*i* P	**P**	22 45 34.2	+0.3
	comp=N,294nm,1.0s						
MNK				*i* P	**P**	22 45 34.2	+0.3
	comp=Z,669nm,0.9s,baz=200						
MNK				*i* pP	**pP**	22 46 02.3	-1.6
MNK				*i* PP	**PP**	22 48 09.9	-0.9
MNK				*i* PPP	PPP	22 49 53.4	
MNK				*i* S	**S**	22 54 36.2	-0.1
MNK				*i* sS	**sS**	22 55 28.3	+0.1
MNK				*i* SS	**SS**	22 59 10.9	+2.3
MNK				*i* SSS	SSS	23 02 50.1	
MNK				*i* LRM	MLR	23 20 30.8	
	comp=Z,4μm,16.6s						
MNK				*i* LRM	MLR	23 20 31.4	
	comp=N,4μm,16.6s						
MNK				*i* LRM	MLR	23 20 35.3	
	comp=E,956nm,19.1s						
MNK	**Minsk**	70.48	341	*i* P	**P**	22 45 34.2	+0.3
MNK				*i* *PP	**pP**	22 46 02.3	-1.6
MNK				*i*		22 48 09.9	
MNK				*i* PPP	PPP	22 49 53.4	
MNK				*i* S	**S**	22 54 36.1	-0.1
MNK				*i* *SS	**sS**	22 55 28.3	+0.1
MNK				*i* SS	**SS**	22 59 10.8	+2.3
MNK				pmax	pmax		
	comp=Z,669nm,0.9s						
MNK				pmax	pmax		
	comp=E,50nm,1.0s						
MNK				pmax	pmax		
	comp=N,294nm,1.0s						
MNK				MLR	MLR		
	comp=Z,4μm,17.0s						
MNK				MLR	MLR		
	comp=N,4μm,17.0s						
MNK				MLR	MLR		
	comp=E,956nm,19.0s						
MCD	**Coleburn Disti**	70.49	0⇑	*e*P	**P**	22 45 33.2	-0.8
MCD				IAmb	IAmb	22 45 39.7	
	comp=Z,283nm,0.9s						
U59A	**Littleton**	70.49	56	P	**P**	22 45 33.9	-0.4
	baz=321,SNR=96						
U59A				P	**P**	22 45 33.9	-0.4
	baz=321,SNR=96						
U59A				S	**S**	22 54 36.0	-1.0
	baz=321						
U59A				S	**S**	22 54 36.0	-1.0
	baz=321						
PYUN	**Piuthan**	70.51	291	*e*P	**P**	22 45 35.3	+0.5
	comp=Z,956nm,0.9s						
S61A	**Accomac**	70.52	53	P	**P**	22 45 34.5	+0.1
	baz=322						
S61A				P	**P**	22 45 34.5	+0.1
	baz=322						
S61A				S	**S**	22 54 38.4	+1.1
	baz=322						
S61A				S	**S**	22 54 38.4	+1.1
	baz=322						
154A	**Montrose**	70.59	62	P	**P**	22 45 33.9	-1.1
	baz=320,SNR=51						
154A				S	**S**	22 54 35.5	-2.6
	baz=320						
451A	**Vernon**	70.66	65	P	**P**	22 45 35.3	-0.1
	baz=320						
451A				S	**S**	22 54 38.2	-0.9
	baz=320						
DEL	**Delary**	70.70	350	*e*P	**P**	22 45 35.6	+0.4
KPL	**Plockton**	70.72	1⇑	*e*P	**P**	22 45 35.2	0.0
KPL				IAmb	IAmb	22 45 37.0	
	comp=Z,141nm,1.2s						
HAW	**Hawthorne Fire**	70.82	60	P	**P**	22 45 35.8	-0.5
	baz=321,SNR=96						
HAW				S	**S**	22 54 38.4	-2.5
	baz=321						
VSR	**Storozhevoye**	70.85	333	*e*P	**P**	22 45 36.0	-0.2
VSR				*e**PP	**pP**	22 46 01.9	-4.3
VSR				*e*S	**S**	22 54 36.2	-4.5
VSR				*e*S	**SKiKP**	22 55 10.5	+5.5
VSR				pmax	pmax		
	comp=Z,230nm,0.9s						
VSR				smax	smax		
	comp=N,2μm,11.7s						
Y57A	**Sumter**	70.96	59	IAmb	IAmb	22 45 42.7	
	comp=Z,336nm,0.9s						
Y57A	**Sumter**	70.96	59	P	**P**	22 45 36.5	-0.6
	baz=321,SNR=27						
Y57A				P	**P**	22 45 36.5	-0.6
	baz=321,SNR=27						
Y57A				S	**S**	22 54 41.1	-1.4
	baz=321						
Y57A				S	**S**	22 54 41.1	-1.4
	baz=321						
PTH	**Pithoragarh**	70.98	294	*e*P	**P**	22 45 38.0	+0.3
VORD	**Divnogorie**	71.04	333	*e*P	**P**	22 45 37.1	-0.2
VORD				*e**PP	**pP**	22 46 04.8	-2.6
VORD				*e*S	**S**	22 54 40.0	-2.8
VORD				pmax	pmax		
	comp=Z,350nm,1.0s						
VORD				smax	smax		
	comp=N,830nm,7.8s						
LGTI	**Lohaghat**	71.04	294	*e*P	**P**	22 45 39.1	+1.4
W59A	**Clinton**	71.08	57	IAmb	IAmb	22 45 44.1	
	comp=Z,384nm,0.9s						
W59A	**Clinton**	71.08	57	P	**P**	22 45 37.7	-0.1
	baz=321,SNR=30						
W59A				S	**S**	22 54 42.5	-1.3
	baz=321						
DHRM	**DHARAMSHALA**	71.08	298	*e*P	**P**	22 45 38.9	+0.7
MUD	**Monsted U'grnd**	71.14	353	*i* P	**P**	22 45 42.0	+4.2
MUD				IAmb	IAmb	22 46 22.0	
	comp=Z,2μm,2.6s						
TAOE	**Nuku Hiva Isla**	71.16	135	*e*P	**P**	22 45 39.4	+0.8
	comp=Z,491nm,1.1s						
TAOE				*e*S	**S**	22 54 42.1	-3.1
	comp=Z,1μm,23.6s						
TAOE	**Nuku Hiva Isla**	71.16	135	*e*LR	LR	23 07 26.5	
	comp=Z,10μm,33.8s						
TAOE	**Nuku Hiva Isla**	71.16	135	*e*T	T	00 03 32.7	
	comp=Z,83nm,0.2s						
TAOE	**Nuku Hiva Isla**	71.16	135	IAmb	IAmb	22 45 42.0	
	comp=Z,298nm,1.2s						
DRUM	**Mains of Drumt**	71.16	360⇑	*e*P	**P**	22 45 37.4	-0.6
DRUM				IAmb	IAmb	22 45 42.9	
	comp=Z,313nm,1.2s						
TIGA	**Tifton**	71.22	63	P	**P**	22 45 37.8	-1.0
	baz=320,SNR=15						
TIGA				S	**S**	22 54 42.9	-2.6
	baz=320						
TIGA	**Tifton**	71.22	63	P	**P**	22 45 37.8	-1.0
	baz=320,SNR=15						
TIGA				S	**S**	22 54 40.6	-5.0
	baz=320						
THN	**Thein Dam**	71.26	299	*e*P	**P**	22 45 40.0	+1.0
CNNC	**Cliffs of the**	71.31	56	IAmb	IAmb	22 45 41.5	
	comp=Z,191nm,0.7s						
CNNC	**Cliffs of the**	71.31	56	P	**P**	22 45 38.8	-0.4
	baz=321,SNR=7.6						
CNNC	**Cliffs of the**	71.31	56	P	**P**	22 45 39.1	-0.1
	baz=322,SNR=7.6						
CNNC				S	**S**	22 54 45.7	-0.7
	baz=322						
Y58A	**Scranton**	71.42	59	P	**P**	22 45 39.4	-0.5
	baz=321,SNR=28						
Y58A				P	**P**	22 45 39.4	-0.5
	baz=321,SNR=28						
Y58A				S	**S**	22 54 46.1	-1.7
	baz=321						
Y58A				S	**S**	22 54 46.1	-1.7
	baz=321						
255A	**Hazlehurst**	71.46	62	IAmb	IAmb	22 45 42.3	
	comp=Z,576nm,0.9s						
255A	**Hazlehurst**	71.46	62	P	**P**	22 45 39.7	-0.5
	baz=321,SNR=44						
255A				S	**S**	22 54 46.1	-2.1
	baz=321						
SMLA	**Simla**	71.47	297	*e*P	**P**	22 45 40.5	+0.2
SMLA				IAmb	IAmb	22 45 44.9	
	comp=Z,169nm,0.5s						
JMU	**Jammu**	71.48	300	*e*P	**P**	22 45 41.9	+1.6
SAUI	**Saumlaki**	71.48	228	P	**P**	22 45 42.9	+2.5
	comp=Z,2μm,1.3s,comp=Z,36μmcomp=Z,53μm						
V61A	**Roper**	71.55	55	IAmb	IAmb	22 45 46.0	
	comp=Z,702nm,1.1s						
V61A	**Roper**	71.55	55	P	**P**	22 45 40.1	-0.5
	baz=322,SNR=18						
V61A				P	**P**	22 45 40.1	-0.5
	baz=322,SNR=18						
V61A				S	**S**	22 54 47.9	-1.3
	baz=322						
V61A				S	**S**	22 54 47.9	-1.3
	baz=322						
DDI	**Dehra Dun**	71.60	296	*e*P	**P**	22 45 42.4	+1.2
COP	**Copenhagen**	71.62	351	*i* P	**P**	22 45 40.4	-0.3
COP				IAmb	IAmb	22 45 45.7	
	comp=Z,469nm,1.1s						
INVG	**Invergeldie, C**	71.65	0⇑	*e*P	**P**	22 45 40.2	-0.7
INVG				IAmb	IAmb	22 45 43.9	
	comp=Z,111nm,0.8s						
553A	**Crawfordville**	71.72	64	IAmb	IAmb	22 45 48.0	
	comp=Z,331nm,0.8s						
553A	**Crawfordville**	71.72	64	P	**P**	22 45 41.1	-0.6
	baz=321,SNR=7.0						
553A				S	**S**	22 54 49.1	-2.2
	baz=321						
NHSC	**New Hope**	71.78	59	P	**P**	22 45 42.1	+0.1
	baz=321,SNR=45						
NHSC				S	**S**	22 54 52.0	+0.1
	baz=321						
NHSC	**New Hope**	71.78	59	P	**P**	22 45 42.1	+0.1
	baz=321,SNR=45						
NHSC				S	**S**	22 54 51.8	0.0
	baz=321						
LAWE	**Loch Awe, Argy**	71.81	1⇑	*e*P	**P**	22 45 41.2	-0.6
LAWE				IAmb	IAmb	22 45 43.7	
	comp=Z,214nm,0.6s						
SUW	**Suwalki**	71.81	344	*i* P	**P**	22 45 41.1	-0.8
SUW				*e*pP	**pP**	22 46 11.7	-0.3
SUW				*e*PP	PP	22 48 31.9	+10
SUW				*e*S	**S**	22 54 49.1	-2.5
SUW				*e*L	L	23 10 18.7	
	comp=Z,17μm,37.5s						
SUW	**Suwalki**	71.81	344	IAmb	IAmb	22 45 47.1	
	comp=Z,503nm,0.9s						
SUW	**Suwalki**	71.81	344	*e*P	**P**	22 45 42.3	+0.4
BSD	**Bornholm Skovb**	71.92	349	*e*P	**P**	22 45 42.5	0.0
BSD	**Bornholm Skovb**	71.92	349	*i* P	**P**	22 45 42.7	+0.2
BSD				IAmb	IAmb	22 45 47.7	
	comp=Z,88nm,0.7s						
SSRD	**Sdr. Stenderup**	72.08	352	*i* P	**P**	22 45 44.9	+1.5
SSRD				IAmb	IAmb	22 46 21.5	
	comp=Z,2μm,2.1s						
SSRD				IAMs_20	IAMs_20	23 18 24.3	
	comp=Z,5μm,20.1s						
BOK	**Bokaro**	72.08	286	*e*P	**P**	22 45 45.4	+1.3
COEN	**Coen**	72.09	214	P	**P**	22 45 45.1	+1.1
Y60A	**Bolivia**	72.10	57	IAmb	IAmb	22 45 49.8	
	comp=Z,362nm,0.8s						
Y60A	**Bolivia**	72.10	57	P	**P**	22 45 43.3	-0.7
	baz=322,SNR=11						
Y60A				P	**P**	22 45 43.3	-0.7
	baz=322,SNR=11						
Y60A				S	**S**	22 54 53.7	-1.8
	baz=322						
Y60A				S	**S**	22 54 53.7	-1.8
	baz=322						
EDI	**Edinburgh**	72.16	360⇑	*e*P	**P**	22 45 43.7	-0.2
EDI				IAmb	IAmb	22 45 45.4	
	comp=Z,182nm,1.2s						
257A	**Skidaway Islan**	72.20	61	P	**P**	22 45 44.6	0.0
	baz=321						
257A				S	**S**	22 54 56.1	-0.6
	baz=321						
PGBU	**Glenifferbraes**	72.26	1⇑	*e*P	**P**	22 45 44.7	+0.1
PGBU				IAmb	IAmb	22 45 49.9	
	comp=Z,355nm,1.1s						
456A	**Hilliard**	72.63	62	P	**P**	22 45 46.9	-0.2
	baz=321						
456A				S	**S**	22 54 59.9	-1.7
	baz=321						
RGN	**Rugen**	72.65	350	IAmb	IAmb	22 45 53.2	
	comp=Z,391nm,0.8s						
RGN	**Rugen**	72.65	350	*e*P	**P**	22 45 48.3	+1.4
RGN	**Rugen**	72.65	350	*e*P	**P**	22 45 48.0	+1.2
	comp=Z,401nm,0.8s,baz=8.5,slow=5.6						
SBUM	**Sibu**	72.72	251	P	**P**	22 45 49.0	+1.1
EKA	**Eskdalemuir Ar**	72.75	360	P	**P**	22 45 47.5	0.0
	comp=Z,68nm,0.6s,baz=359,slow=4.7,SNR=268						
EKA				pP	**pP**	22 46 17.4	-0.3
	comp=Z,24nm,0.8s,baz=359,slow=6.0,SNR=1.4						
EKA				PKPPKP	**P'P'df**	23 13 29.8	-1.4
	comp=Z,1.4nm,0.8s,baz=147,slow=1.7,SNR=5.3						
	comp=Z,68nm,0.6s						
ESK	**Eskdalemuir**	72.77	0⇑	*e*P	**P**	22 45 47.5	-0.1
ESK				IAmb	IAmb	22 45 53.4	
	comp=Z,179nm,0.9s						
ESK	**Eskdalemuir**	72.77	0	P	**P**	22 45 47.7	+0.1
ESK				IAmb	IAmb	22 46 26.1	
	comp=Z,339nm,1.1s						
ESK	**Eskdalemuir**	72.77	0	P	**P**	22 45 47.7	+0.1
ESK				pmax	pmax		
	comp=Z,339nm,1.2s						
NEWG	**New Galloway**	72.96	1⇑	*e*P	**P**	22 45 46.9	-1.8
NEWG				IAmb	IAmb	22 45 54.3	
	comp=Z,141nm,1.0s						
CLGH	**Cloghs, Cushen**	72.97	2⇑	*e*P	**P**	22 45 49.1	+0.3
CLGH				IAmb	IAmb	22 45 50.7	
	comp=Z,166nm,0.7s						
TTSI	**Tana Toraja**	72.98	241	P	**P**	22 45 47.8	-1.6
	comp=Z,356nm,1.4s,comp=Z,8μmcomp=Z,28μm						
BKB	**Balikpapan**	73.10	245	P	**P**	22 45 50.5	+0.5
BKB					**pP**	22 46 18.6	-3.0
BKB	**Balikpapan**	73.10	245	P	**P**	22 45 49.8	-0.3
	comp=Z,567nm,1.4s,comp=Z,17μmcomp=Z,38μm						
KBL	**Kabul**	73.10	305	P	**P**	22 45 49.5	-0.7
KBL				IAmb	IAmb	22 45 54.5	
	comp=Z,230nm,0.8s						
KBL	**Kabul**	73.10	305	P	**P**	22 45 49.5	-0.7
KBL				pmax	pmax		
	comp=Z,230nm,0.9s						
KBL	**Kabul**	73.10	305	P	**P**	22 45 49.8	-0.4
	SNR=130						
GAL1	**Galloway**	73.21	1⇑	*e*P	**P**	22 45 50.0	-0.2
GAL1				IAmb	IAmb	22 45 55.8	
	comp=Z,148nm,0.9s						
LIFNC	**LIFOU**	73.23	189	IAmb	IAmb	22 45 55.5	
	comp=Z,1μm,1.8s						
EDMD	**Edmundbyers**	73.25	359⇑	*e*P	**P**	22 45 50.3	-0.1
EDMD				IAmb	IAmb	22 45 57.4	
	comp=Z,124nm,1.0s						
ALBI	**Allahabad**	73.31	290	*e*P	**P**	22 45 51.5	+0.3
KOUNC	**Koumac, New Ca**	73.34	192	IAmb	IAmb	22 45 54.2	
	comp=Z,483nm,1.3s						
KOUNC	**Koumac, New Ca**	73.34	192	P	**P**	22 45 53.2	+2.0
656A	**Willston**	73.40	64	IAmb	IAmb	22 45 54.3	
	comp=Z,422nm,0.8s						
656A	**Willston**	73.40	64	P	**P**	22 45 51.8	+0.1
	baz=321,SNR=19						
656A				S	**S**	22 55 09.9	-0.4
	baz=321						
GKP	**Gorka Klasztor**	73.43	347	*i* P	**P**	22 45 51.3	-0.2
GKP				*e*pP	**pP**	22 46 21.4	-0.3
GKP				*e*PP	PP	22 48 56.1	+20
GKP				*e*PPP	PPP	22 50 45.1	
GKP				*e*S	**S**	22 55 09.8	-0.2
GKP				*e*L	L	23 19 27.3	
	comp=Z,13μm,21.8s						
GKP	**Gorka Klasztor**	73.43	347	*e*P	**P**	22 45 52.0	+0.5
KESW	**Keswick, Cumbr**	73.50	360⇑	*e*P	**P**	22 45 51.8	-0.1
KESW				IAmb	IAmb	22 45 56.7	
	comp=Z,330nm,1.1s						
BSEG	**Bad Segeberg**	73.55	352	*e*P	**P**	22 45 52.4	+0.2
	comp=Z,236nm,0.8s,baz=8.5,sl

comp=Z,26nm,0.6s,baz=22,slow=6.2,SNR=2.3
AKASG S **SKiKP** **22 55 09.0 -0.4**
comp=Z,3.8nm,1.0s,baz=23,slow=12,SNR=2.8
AKASG PKPPKP 23 13 28.3
comp=Z,1.1nm,0.7s,baz=232,slow=1.1,SNR=1.9
AKASG LR LR 23 22 06.5
comp=Z,6μm,18.9s,baz=24,slow=39
comp=Z,166nm,0.7s
IOMK Kirk Michael 73.82 1⇑ *e*P **P** **22 45 53.1 -0.6**
IOMK IAmb IAmb 22 45 59.0
comp=Z,395nm,0.8s
WIM Isle of Man 73.93 1⇑ *e*P **P** **22 45 54.5 +0.1**
MTKI Muara Teweh, K 73.95 247 P **P** **22 45 56.0 +0.9**
comp=Z,213nm,1.9s,comp=Z,12μmcomp=Z,28μm
ILTH Belurgan, Co L 74.03 2⇑ *e*P **P** **22 45 54.9 -0.1**
HPK Haverah Park 74.12 359⇑ *e*P **P** **22 45 55.5 0.0**
HPK IAmb IAmb 22 46 01.7
comp=Z,210nm,0.9s
KUDL Kundal 74.15 295 *e*P **P** **22 45 56.7 +0.6**
BEL Belsk 74.30 345 *e*P **P** **22 45 56.9 +0.3**
BEL *e*pP **pP** **22 46 28.3 +1.5**
BEL *e*PP PP 22 49 07.0 +24
BEL *e*PPP PPP 22 50 52.0
BEL *e*S **S** **22 55 18.5 -1.3**
BEL *e*ScS **ScS** **22 55 54.5 -0.7**
BEL *e*L L 23 11 30.4
comp=Z,21μm,48.3s
GORT1 Trebel 74.39 351 *e*P **P** **22 45 57.2 +0.2**
comp=Z,465nm,1.6s,baz=8.5,slow=5.6
YATNC Mamie plateau, 74.53 190 P **P** **22 46 00.9 +2.8**
DZM Mont Dzumac 74.59 190 *e*P **P** **22 45 57.6 -1.0**
comp=Z,673nm,1.6s
DZM *e*pP **pP** **22 46 27.5 -2.0**
comp=Z,403nm,1.3s
DZM *e*S **SKiKP** **22 55 13.5 +2.3**
comp=Z,15μm,27.8s
DZM Mont Dzumac 74.59 190 *e*LR LR 23 08 50.4
comp=Z,40μm,34.6s
DZM Mont Dzumac 74.59 190 IAmb IAmb 22 46 01.8
comp=Z,556nm,1.5s
DZM Mont Dzumac 74.59 190 P **P** **22 46 00.6 +2.0**
LMK Market Rasen 74.60 358⇑ *e*P **P** **22 45 58.1 -0.2**
LMK IAmb IAmb 22 46 03.9
comp=Z,352nm,0.9s
KSM Kuching 74.62 252 IAmb IAmb 22 46 32.6
comp=Z,599nm,1.7s
KSM Kuching 74.62 252 P **P** **22 46 00.0 +1.0**
NOUC Port Laguerre 74.63 190 P **P** **22 46 01.0 +2.3**
RUE Ruedersdorf 74.64 349 *e*P **P** **22 45 58.7 +0.2**
RUE Ruedersdorf 74.64 349 *e*P **P** **22 45 58.2 -0.3**
comp=Z,166nm,1.1s,baz=8.5,slow=5.6
KAPI Kappang 74.67 240 P **P** **22 45 59.6 +0.4**
KAPI Kappang 74.67 240 P **P** **22 46 00.5 +1.3**
KAPI Kappang 74.67 240 *d i*P **P** **22 45 59.2 0.0**
KAPI pmax pmax
comp=Z,613nm,3.0s
LBWR Ladybower, Pea 74.68 359⇑ *e*P **P** **22 45 58.4 -0.4**
LBWR IAmb IAmb 22 46 04.4
comp=Z,157nm,0.9s
WPS Cemaes, Angles 74.68 1⇑ *e*P **P** **22 45 59.2 +0.5**
BKSI Bulukumba 74.73 240 P **P** **22 45 58.8 -0.7**
comp=Z,281nm,2.3s,comp=Z,8μmcomp=Z,28μm
WLF1 Llynfaes 74.79 1⇑ *e*P **P** **22 45 58.6 -0.8**
WLF1 IAmb IAmb 22 46 00.7
comp=Z,160nm,1.0s
DSB Dublin 74.81 2 IAmb IAmb 22 46 01.7
comp=Z,436nm,1.4s
DSB Dublin 74.81 2 P **P** **22 45 57.1 -2.4**
DSB S **S** **22 55 26.3 +0.9**
RETH Rethem/Aller, 74.82 352 *e*P **P** **22 45 59.8 +0.3**
comp=Z,308nm,1.5s,baz=8.5,slow=5.6
JHSG JHARSUGUGA 74.89 286 *e*P **P** **22 46 01.6 +1.2**
OUENC Ouen Island, N 74.89 190 IAmb IAmb 22 46 03.4
comp=Z,625nm,1.7s
OUENC Ouen Island, N 74.89 190 P **P** **22 46 02.1 +1.9**
YLL Llanberis 74.94 1 *e*P **P** **22 45 60.0 -0.3**
SURA Surathani 74.95 265 P **P** **22 46 02.0 +1.1**
DWPF Disney Wildern 74.98 64 P **P** **22 46 01.1 +0.1**
DWPF IAmb IAmb 22 46 03.4
comp=Z,259nm,0.8s
DWPF Disney Wildern 74.98 64 P **P** **22 46 00.8 -0.1**
baz=321
DWPF S **S** **22 55 28.5 +0.5**
baz=321
DWPF Disney Wildern 74.98 64 P **P** **22 46 01.0 +0.1**
baz=322,SNR=9.5
DWPF S **S** **22 55 28.6 +0.5**
baz=322
STNC Stoke 74.99 359⇑ *e*P **P** **22 46 00.8 +0.2**
STNC IAmb IAmb 22 46 02.6
comp=Z,173nm,0.7s
NRDL Niedersach Rie 75.00 352 *e*P **P** **22 46 00.4 -0.1**
comp=Z,107nm,0.9s,baz=8.5,slow=5.6
PINNC Pines Island, 75.02 189 P **P** **22 46 01.8 +0.9**
PINNC **P** **22 46 02.8 +1.9**
PINNC IAmb IAmb 22 46 04.0
comp=Z,575nm,1.6s
PINNC **pwP** **22 46 34.2 -1.8**
FLTG Flechtingen 75.05 351 *e*P **P** **22 46 00.2 -0.7**
comp=Z,92nm,0.9s,baz=8.5,slow=5.6
STKI Sintang 75.08 250 P **P** **22 46 01.0 -0.6**
comp=Z,178nm,1.6s,comp=Z,13μmcomp=Z,27μm
KDU Kakadu 75.13 225 P **P** **22 46 01.8 +0.1**
GOF Gofitskoye 75.19 328 *c i*P **P** **22 46 02.9 +1.0**
GOF *e*S **S** **22 55 32.1 +2.1**
FOEL Foel Wylfa 75.20 360⇑ *e*P **P** **22 46 01.8 0.0**
FOEL IAmb IAmb 22 46 06.6
comp=Z,282nm,1.1s
LLW Llanuwchllyn 75.24 0⇑ *e*P **P** **22 46 01.6 -0.3**
ASSE Asse, Remlinge 75.31 351 *e*P **P** **22 46 02.1 -0.2**
comp=Z,165nm,1.3s,baz=8.5,slow=5.6
WACR West Acre 75.31 358⇑ *e*P **P** **22 46 01.9 -0.5**
CWF Charnwood Fore 75.34 359⇑ *e*P **P** **22 46 02.4 -0.2**
CWF IAmb IAmb 22 46 04.1
comp=Z,462nm,1.5s
IBBN Ibbenburen 75.37 353 *e*P **P** **22 46 02.9 +0.2**
comp=Z,390nm,0.9s,baz=8.5,slow=5.6
PPT Papeete 75.45 147 P **P** **22 46 05.8 +2.2**
comp=Z,68nm,0.9s,baz=321,slow=4.0,SNR=6.5
PPT LR LR 23 15 50.4
comp=Z,4μm,18.8s,baz=338,slow=33
comp=Z,68nm,0.9s
PPT2 Papeete2 75.47 147 *e*P **P** **22 46 03.5 -0.2**
comp=Z,223nm,1.5s
PPT2 *e*S **SKiKP** **22 55 22.6 +10**
comp=Z,4μm,28.2s
PPT2 *e*SS SS 23 00 14.8 -13
comp=Z,2μm,25.5s
PPT2 Papeete2 75.47 147 *e*T T 00 08 48.8
comp=Z,23nm,0.3s
PPTF Pamatai, Papee 75.47 147 IAmb IAmb 22 46 08.3
comp=Z,717nm,1.7s
MAK Makhachkala 75.51 324 *d i*P **P** **22 46 04.4 +0.7**
MAK *e**PP **pP** **22 46 35.7 +1.7**
MAK *e**SP **sP** **22 46 47.7 +0.5**
MAK *e* 22 48 54.7
MAK *e*S **S** **22 55 34.9 +1.4**
MAK *e**SS **sS** **22 56 26.8 +0.8**
MAK *e*SS **SS** **23 00 29.5 +4.0**
MAK *e*SSS SSS 23 03 51.8
MAK pmax pmax
comp=Z,902nm,1.8s
MAK MLR MLR
comp=Z,6μm,15.0s
TIAR Tiarei 75.52 147 *e*P **P** **22 46 05.5 +1.6**
comp=Z,17nm,0.9s
TIAR Tiarei 75.52 147 *e*T T 00 08 53.3
comp=Z,3.0nm,0.2s
GEYT Alibeck 75.53 314 P **P** **22 46 04.8 +0.9**
GEYT IAmb IAmb 22 46 44.5
comp=Z,371nm,1.2s
GEYT Alibeck 75.53 314 P **P** **22 46 04.9 +0.9**
GEYT pmax pmax
comp=Z,371nm,1.3s
GEYT Alibeck 75.53 314 P **P** **22 46 05.3 +1.4**
comp=Z,103nm,0.9s,baz=22,slow=4.8,SNR=138
GEYT pP **pP** **22 46 34.8 +0.1**
comp=Z,140nm,1.2s,baz=323,slow=24,SNR=3.8
GEYT LR LR 23 22 20.4
comp=Z,9μm,19.8s,baz=49,slow=38
comp=Z,103nm,0.9s
GYA0B ALIBECK ARRAY 75.53 314 IAmb IAmb 22 46 44.5
comp=Z,384nm,1.3s
PAE Paea 75.53 147 *e*P **P** **22 46 03.8 -0.2**
comp=Z,95nm,1.5s
PAE Paea 75.53 147 *e*T T 00 08 40.2

comp=Z,7.3nm,0.2s
HLM1 Long Mynd 75.57 360⇑ *e*P **P** **22 46 03.9 0.0**
HLM1 IAmb IAmb 22 46 05.7
comp=Z,98nm,0.8s
CLZ Clausthal 75.62 351 *e*P **P** **22 46 04.4 +0.1**
comp=Z,278nm,1.1s,baz=8.5,slow=5.6
IWEX Carrickbyrne, 75.67 2⇑ *e*P **P** **22 46 04.6 +0.2**
LVV L'vov 75.68 342 *e*P **P** **22 46 04.8 +0.2**
LVV *e* 22 46 20.5
LVV *e**PP **pwP** **22 46 39.1 -1.3**
LVV *e*PPP PPP 22 50 43.6
LVV *i* S **S** **22 55 34.0 -1.2**
LVV *e* 22 56 08.3
LVV *e**SS **sS** **22 56 28.3 +0.6**
LVV *e*PS 22 56 37.5
LVV *e*SS **SS** **23 00 32.3 +4.6**
LVV pmax pmax
comp=Z,600nm,1.5s
LVV MLR MLR
comp=E,4μm,19.0s
LVV MLR MLR
comp=N,4μm,22.0s
LVV MLR MLR
comp=Z,6μm,20.0s
TVO Taravao 75.76 147 *e*P **P** **22 46 08.2 +2.9**
comp=Z,34nm,0.8s
MTN Manton Dam 75.85 226 P **P** **22 46 06.1 +0.2**
CLL Collm 75.88 350⇑ *i*P **P** **22 46 05.3 -0.4**
CLL *i* *PP **pwP** **22 46 41.3 -0.2**
CLL *e*S **S** **22 55 35.0 -2.3**
CLL pmax pmax
comp=Z,360nm,1.9s
CLL Collm 75.88 350 *e*P **P** **22 46 04.8 -0.8**
comp=Z,144nm,1.4s,baz=8.5,slow=5.6
CLL Collm 75.88 350⇑ *i*P **P** **22 46 05.3 -0.4**
comp=Z,360nm,1.9s
CLL *e*Pmax 22 46 06.0
CLL *i* x x 22 46 16.3
CLL *i* pP **pwP** **22 46 40.9 -0.6**
comp=Z,1μm,2.8s
CLL *i* x x 22 46 48.0
CLL *i* x x 22 46 57.1
CLL *e*S **S** **22 55 35.0 -2.3**
comp=N,1μm,10.4s
CLL *e*S **S** **22 55 35.0 -2.3**
comp=E,3μm,14.3s
CLL *e*x x 22 55 53.0
CLL *e*SKSac **SKKSac** **22 56 06.0 +1.6**
CLL *e*PS 22 56 27.0
CLL *e*sSKSac **sSKSac** **22 56 58.0 -1.7**
CLL *e*SS **SS** **23 00 33.0 +2.4**
CLL *e*SSS SSS 23 04 06.0
CLL *i* PKPPKPdf 23 13 25.0
comp=Z,55nm,2.5s
CLL *e*x x 23 16 38.0
CLL *e*SKPPKPdf 23 16 51.0
TV1H Townsville Har 75.89 209 P **P** **22 46 06.9 +0.9**
KSP Ksiaz 75.93 347 *i* P **P** **22 46 05.9 -0.1**
KSP *e*pP **pP** **22 46 36.8 +0.4**
KSP *e*S **S** **22 55 35.7 -2.3**
KSP *e*L L 23 11 50.9
comp=Z,14μm,46.6s
GTTG Gottingen 75.95 352 *e*P **P** **22 46 06.1 0.0**
comp=Z,158nm,1.1s,baz=8.5,slow=5.6
VAL Valentia 75.98 4 P **P** **22 46 06.4 +0.2**
VAL S **S** **22 55 38.7 +0.4**
RAR Rarotonga 75.99 158 P **P** **22 46 08.0 +1.5**
RAR Rarotonga 75.99 158 P **P** **22 46 08.0 +1.5**
RAR pmax pmax
comp=Z,277nm,1.4s
RAR Rarotonga 75.99 158 LR LR 23 16 45.3
comp=Z,5μm,18.4s,baz=342,slow=33
OJC Ojcow 76.03 345 *i* P **P** **22 46 06.8 +0.3**
OJC *e*pP **pP** **22 46 37.7 +0.7**
OJC *e*PP PP 22 49 24.9 +27
OJC *e*PPP PPP 22 51 11.7
OJC *e*S **S** **22 55 36.5 -2.5**
OJC *e*ScS **SKKSac** **22 56 07.1 +1.5**
OJC *e*L L 23 12 15.7
comp=Z,22μm,48.0s
OJC Ojcow 76.03 345 IAmb IAmb 22 46 13.2
comp=Z,230nm,0.8s
BBKI Banjar Baru 76.06 245 P **P** **22 46 07.3 +0.1**
comp=Z,328nm,2.5s,comp=Z,28μm
MCH1 Michaelchurch 76.09 360⇑ *e*P **P** **22 46 06.8 -0.1**
MCH1 IAmb IAmb 22 46 12.9
comp=Z,245nm,0.8s
KWP Kalwaria Pacla 76.10 343 *i* P **P** **22 46 07.8 +0.8**
KWP *e*pP **pP** **22 46 38.7 +1.3**
KWP *e*PP PP 22 49 16.1 +17
KWP *e*S **S** **22 55 38.1 -1.8**
KWP *e*ScS **ScS** **22 56 08.7 -1.2**
KWP *e*sS **sS** **22 56 34.8 +2.3**
KWP *e*L L 23 16 14.2
comp=Z,14μm,28.3s
NEUB Neuenburg 76.11 350 *e*P **P** **22 46 06.6 -0.4**
comp=Z,163nm,1.1s,baz=8.5,slow=5.6
RSBS Rosebush, Pemb 76.13 1⇑ *e*P **P** **22 46 05.3 -1.7**
RSBS IAmb IAmb 22 46 12.7
comp=Z,214nm,1.0s
BRG Berggiesshubel 76.20 349 *i* P **P** **22 46 07.8 +0.3**
BRG Amp 22 46 10.6
comp=Z,66nm,1.0s
BRG pP **pwP** **22 46 43.9 +0.6**
BRG Amp 22 46 45.5
comp=Z,51nm,1.2s
BRG Berggiesshubel 76.20 349 SS SS 23 00 41.0 +5.5
BRG PKPPKP 23 13 19.4
BRG Amp 23 13 21.2
comp=Z,10nm,1.5s
BRG Berggiesshubel 76.20 349 *i* P **P** **22 46 07.8 +0.3**
BRG 22 46 43.9
BRG 22 46 51.7
BRG S **S** **22 55 41.0 +0.2**
BRG SS **SS** **23 00 41.0 +5.5**
BRG pmax pmax
comp=Z,66nm,1.0s
BRG pmax pmax
comp=Z,51nm,1.2s
BRG pmax pmax
comp=Z,94nm,1.3s
BRG pmax pmax
comp=Z,150nm,1.4s
BRG pmax pmax
comp=Z,36nm,1.0s
BRG pmax pmax
comp=Z,59nm,1.3s
BRG pmax pmax
comp=Z,11nm,1.5s
BRG pmax pmax
comp=Z,15nm,1.6s
BRG MLR MLR
comp=Z,6μm,23.5s
BRG MLR MLR
comp=N,5μm,21.2s
BRG MLR MLR
comp=E,4μm,21.5s
BRG Berggiesshubel 76.20 349 *e*P **P** **22 46 07.5 0.0**
comp=E,88nm,1.3s,baz=8.5,slow=5.6
CHVC Chvalec 76.21 347 *e*P **P** **22 46 07.8 +0.2**
CHVC *e*S **S** **22 55 33.6 -7.5**
CHVC MLR MLR
comp=Z,8μm,21.6s
CHVC Chvalec 76.21 347 *e*P **P** **22 46 07.8 +0.2**
CHVC *e*x x 22 46 11.3
CHVC *e*S **S** **22 55 33.6 -7.5**
CHVC AMS AMS 23 21 00.0
comp=Z,8μm,21.6s
FBE Freiberg 76.22 349 *e*P **P** **22 46 07.6 0.0**
comp=Z,167nm,1.3s,baz=8.5,slow=5.6
OSTC Ostas 76.22 347 *e*P **P** **22 46 08.0 +0.3**
OSTC *e*S **S** **22 55 39.9 -1.3**
OSTC MLR MLR
comp=Z,8μm,22.7s
OSTC Ostas 76.22 347 *e*P **P** **22 46 08.0 +0.3**
OSTC *e*x x 22 46 11.7
OSTC *e*S **S** **22 55 39.9 -1.3**
OSTC AMS AMS 23 20 50.0
comp=Z,8μm,22.7s
MONM Monmouth 76.25 360⇑ *e*P **P** **22 46 07.9 +0.1**
MONM IAmb IAmb 22 46 14.0
comp=Z,255nm,0.8s
MEH Mehetia 76.25 146 *e*T T 00 09 30.1
comp=Z,76nm,0.2s

BUG Bochum--Univer 76.27 353 *e*P **P** **22 46 07.6 -0.3**
comp=Z,126nm,1.0s,baz=8.5,slow=5.6
KVAR Kislovodsk Arr 76.29 328 LR LR 23 22 56.1
comp=Z,4μm,21.3s,baz=270,slow=38
KIV Kislovodsk 76.29 328 ⇓P **P** **22 46 09.7 +1.4**
KIV Kislovodsk 76.29 328 P **P** **22 46 09.3 +1.0**
KIV Kislovodsk 76.29 328 *e*P **P** **22 46 08.8 +0.5**
KIV *e**PP **pP** **22 46 39.2 +0.6**
KIV *e**SP **sP** **22 46 52.8 +1.0**
KIV *e* 22 49 02.1
KIV *e*PPP PPP 22 50 48.6
KIV *e*S **S** **22 55 43.9 +1.6**
KIV *e*SS **SS** **23 00 40.0 +2.5**
KIV *e*SSS SSS 23 04 03.2
KIV pmax pmax
comp=Z,194nm,1.0s
KIV pmax pmax
comp=Z,194nm,4.3s
KIV MLR MLR
comp=Z,5μm,18.0s
KIV Kislovodsk 76.29 328 *i* P **P** **22 46 08.9 +0.6**
SNR=22
KIV Kislovodsk 76.29 328 P **P** **22 46 09.1 +0.9**
KIV S **S** **22 55 42.7 +0.4**
UPC Upice 76.30 348 *e*P **P** **22 46 08.5 +0.4**
UPC *e*S **S** **22 55 33.5 -8.5**
UPC MLR MLR
comp=Z,8μm,20.6s
UPC Upice 76.30 348 *e*P **P** **22 46 08.5 +0.4**
UPC *e*x x 22 46 11.8
UPC *e*S **S** **22 55 33.5 -8.5**
UPC AMS AMS 23 21 10.0
comp=Z,8μm,20.6s
STRD Stroud 76.31 359⇑ *e*P **P** **22 46 08.1 +0.1**
STRD IAmb IAmb 22 46 13.5
comp=Z,571nm,0.9s
SOEI Soe 76.38 234 IAmb IAmb 22 46 17.6
comp=Z,401nm,1.2s
SOEI Soe 76.38 234 P **P** **22 46 10.7 +1.7**
SOEI Soe 76.38 234 P **P** **22 46 09.4 +0.4**
comp=Z,257nm,0.9s,comp=Z,10μmcomp=Z,32μm
SOEI Soe 76.38 234 P **P** **22 46 06.4 -2.7**
SOEI S **S** **22 55 41.8 -1.9**
SORM Soroca 76.40 339 ⇓P **P** **22 46 09.0 +0.4**
SORM Soroca 76.40 339 P **P** **22 46 08.4 -0.2**
NCK Nalchik 76.40 327 *c i*P **P** **22 46 10.1 +1.3**
NCK pmax pmax
comp=Z,322nm,1.0s
060A Indiantown 76.41 63 P **P** **22 46 09.0 0.0**
baz=322
060A S **S** **22 55 43.7 -0.1**
baz=322
DPC Dobruska-Polom 76.41 347 *e*P **P** **22 46 08.9 +0.1**
DPC *e* 22 46 51.3
DPC *e*S **S** **22 55 34.9 -8.4**
DPC MLR MLR
comp=Z,6μm,19.8s
DPC Dobruska-Polom 76.41 347 *e*P **P** **22 46 08.9 +0.1**
DPC *e*x x 22 46 12.7
DPC *e*sP **sP** **22 46 51.3 -1.1**
DPC *e*S **S** **22 55 34.9 -8.4**
DPC AMS AMS 23 22 30.0
comp=Z,6μm,19.8s
KASTN Kahler Asten 76.42 353 *e*P **P** **22 46 08.8 0.0**
comp=Z,136nm,1.2s,baz=8.5,slow=5.6
KBZ Khabaz 76.42 327 *c i*P **P** **22 46 09.3 +0.4**
KBZ pmax pmax
comp=Z,134nm,0.9s
KBZ Khabaz 76.42 327 P **P** **22 46 10.2 +1.3**
comp=Z,78nm,0.7s,baz=94,slow=1.8,SNR=97
KBZ LR LR 23 22 43.3
comp=Z,5μm,21.7s,baz=13,slow=38
comp=Z,78nm,0.7s
OLDB Oldbury-Upon-S 76.43 360⇑ *e*P **P** **22 46 08.6 -0.1**
MMRI Maumere 76.44 236 IAmb IAmb 22 46 41.4
comp=Z,616nm,1.4s
PVCC Panska Ves 76.46 348 *e*P **P** **22 46 09.4 +0.4**
PVCC *e*S **S** **22 55 38.5 -5.2**
PVCC MLR MLR
comp=Z,6μm,23.7s
PVCC Panska Ves 76.46 348 *e*P **P** **22 46 09.4 +0.4**
PVCC *e*x x 22 46 13.1
PVCC *e*S **S** **22 55 38.5 -5.2**
PVCC AMS AMS 23 17 40.0
comp=Z,6μm,23.7s
AJM Ajmer 76.47 296 *e*P **P** **22 46 10.4 +0.9**
RICC Richard 76.50 349 *e*P **P** **22 46 10.0 +0.8**
RICC *e*x x 22 46 14.0
RICC *e*S **S** **22 55 36.9 -7.3**
RICC AMS AMS 23 17 50.0
comp=Z,6μm,24.5s
HSKC Hora Svate Kat 76.52 349 *e*P **P** **22 46 09.0 -0.4**
HSKC *e*x x 22 46 49.6
HSKC *e*S **pS** **22 56 25.7 +4.1**
HSKC AMS AMS 23 14 50.0
comp=Z,7μm,31.7s
HRA Herat 76.56 309 IAmb IAmb 22 46 47.9
comp=Z,414nm,1.3s
STHS Stebnicka Huta 76.57 344 *e*P **P** **22 46 09.9 +0.3**
STHS pmax pmax
comp=Z,164nm,1.0s
STHS Stebnicka Huta 76.57 344 *e*P **P** **22 46 09.9 +0.3**
SWN1 Swindon 76.57 359⇑ *e*P **P** **22 46 09.6 +0.1**
SWN1 IAmb IAmb 22 46 15.2
comp=Z,755nm,1.0s
OKC Ostrava-Krasne 76.65 346 *e*P **P** **22 46 10.6 +0.5**
OKC *e* 22 46 15.2
OKC *e*S S 22 55 34.5 -11
OKC MLR MLR
comp=Z,8μm,19.7s
OKC Ostrava-Krasne 76.65 346 *e*P **P** **22 46 10.6 +0.5**
OKC *e*x x 22 46 15.2
OKC *e*S S 22 55 34.5 -11
OKC AMS AMS 23 22 30.0
comp=Z,8μm,19.7s
MOX Moxa 76.68 350 *e*P **P** **22 46 09.9 -0.3**
comp=Z,63nm,0.9s,baz=8.5,slow=5.6
NIE Niedzica 76.72 344 *i* P **P** **22 46 12.0 +1.5**
NIE *e*pP **pP** **22 46 43.2 +2.2**
NIE *e*PP PP 22 49 27.1 +23
NIE *e*S **S** **22 55 47.3 +0.6**
NIE *e*L L 23 12 33.7
comp=Z,11μm,48.7s
WOL Wolverton 76.76 359⇑ *e*P **P** **22 46 10.5 -0.2**
PLN Plauen 76.78 350 *e*P **P** **22 46 10.5 -0.3**
comp=Z,124nm,1.5s,baz=8.5,slow=5.6
MORC Moravsky Berou 76.80 346 ⇓P **P** **22 46 12.0 +1.1**
MORC Moravsky Berou 76.80 346 *e*P **P** **22 46 11.1 +0.1**
MORC *e* 22 46 46.9
MORC *e*S **S** **22 55 46.2 -1.3**
MORC Moravsky Berou 76.80 346 P **P** **22 46 11.3 +0.3**
WERD Werda 76.80 350 *e*P **P** **22 46 10.6 -0.4**
comp=Z,128nm,1.4s,baz=8.5,slow=5.6
TANN Tannenbergstha 76.82 350 *e*P **P** **22 46 10.9 -0.2**
comp=Z,331nm,1.9s,baz=8.5,slow=5.6
CTA Charters Tower 76.83 209 P **P** **22 46 12.1 +0.8**
CTA Charters Tower 76.83 209 LR LR 23 18 24.9
comp=Z,7μm,19.0s,baz=9.0,slow=34
CTAO Charters Tower 76.83 209 P **P** **22 46 11.6 +0.3**
CTAO IAmb IAmb 22 46 13.7
comp=Z,667nm,1.5s
CTAO Charters Tower 76.83 209 P **P** **22 46 12.2 +0.9**
CTAO Charters Tower 76.83 209 P **P** **22 46 11.6 +0.3**
CTAO pmax pmax
comp=Z,667nm,1.5s
KOLS Kolonicke sedl 76.85 343 *e*P **P** **22 46 12.3 +1.1**
KOLS pmax pmax
comp=Z,428nm,0.6s
KOLS Kolonicke sedl 76.85 343 *e*P **P** **22 46 12.3 +1.1**
ELSH Elham, Standar 76.88 357⇑ *e*P **P** **22 46 11.4 +0.1**
GUNZ Gunzen 76.88 350 *e*P **P** **22 46 11.1 -0.4**
comp=Z,139nm,1.4s,baz=8.5,slow=5.6
ZEI Tsey 76.92 326 *e*P **P** **22 46 08.7 -3.3**
ZEI pmax pmax
comp=Z,339nm,1.1s
PRA Prague 76.93 348 *e*P **P** **22 46 12.0 +0.4**
PRA *e* 22 46 16.0
PRA *e*S **S** **22 55 43.9 -4.9**
PRA MLR MLR
comp=Z,6μm,25.1s
PRA Prague 76.93 348 *e*P **P** **22 46 12.0 +0.4**
PRA *e*x x 22 46 16.0
PRA *e*S **S** **22 55 43.9 -4.9**
PRA AMS AMS 23 18 00.0

comp=Z,6μm,25.1s
WERN Wernitzgruen 76.95 350 *e*P **P 22 46 11.6 -0.2**
comp=Z,98nm,1.0s,baz=8.5,slow=5.6
PRU Pruhonice 77.00 348 *e*P **P 22 46 12.4 +0.4**
PRU *e* 22 46 16.4
PRU *e* 22 46 54.6
PRU *e*S **S 22 55 42.0 -7.5**
PRU MLR MLR
comp=Z,6μm,21.0s
PRU Pruhonice 77.00 348 *e*P **P 22 46 12.4 +0.4**
PRU *ex* x 22 46 16.4
PRU *es*P **sP 22 46 54.6 -1.1**
PRU *e*S **S 22 55 42.0 -7.5**
PRU AMS AMS 23 18 30.0
comp=Z,6μm,21.0s
BEBN Eben Emael 77.02 354 *d*P **P 22 46 11.9 -0.2**
CRVS Cervenica-Dubn 77.03 344 *e*P **P 22 46 13.0 +0.8**
CRVS *e* 22 46 49.1
CRVS pmax pmax
comp=Z,2μm,2.3s
CRVS Cervenica-Dubn 77.03 344 *e*P **P 22 46 13.0 +0.8**
CRVS *e* 22 46 49.1
061Z Ochoppi 77.03 65 IAmb IAmb 22 46 15.4
comp=Z,308nm,1.2s
061Z Ochoppi 77.03 65 P **P 22 46 12.8 +0.2**
baz=322
061Z S **S 22 55 50.8 +0.3**
baz=322
GOPC GO Pecny, Ondr 77.04 348 *e*P **P 22 46 12.8 +0.5**
GOPC *e* 22 46 16.5
GOPC *e*S **S 22 55 48.0 -2.1**
GOPC MLR MLR
comp=Z,7μm,24.3s
GOPC GO Pecny, Ondr 77.04 348 *e*P **P 22 46 12.8 +0.5**
GOPC *ex* x 22 46 16.5
GOPC *e*S **S 22 55 48.0 -2.1**
GOPC AMS AMS 23 22 00.0
comp=Z,7μm,24.3s
BATI Baumata 77.06 234 P **P 22 46 13.4 +0.6**
comp=Z,513nm,1.0s,comp=Z,9μmcomp=Z,26μm
HTL Hartland 77.09 1⇑*e*P **P 22 46 12.7 +0.2**
HTL IAmb IAmb 22 46 17.9
comp=Z,146nm,0.8s
LANS Liptovska Anna 77.12 345 *e*P **P 22 46 14.1 +1.4**
LANS *e* 22 46 49.8
LANS pmax pmax
comp=Z,162nm,0.8s
LANS Liptovska Anna 77.12 345 *e*P **P 22 46 14.1 +1.4**
LANS *e* 22 46 49.8
MAUC Maruska 77.16 346 *e*P **P 22 46 14.2 +1.2**
MAUC *ex* x 22 46 17.3
MAUC *e*S **S 22 55 43.1 -8.3**
MAUC AMS AMS 23 22 40.0
comp=Z,16μm,19.6s
ANN Anapa 77.16 332 *e*P **P 22 46 13.1 +0.1**
ANN *e**PP **pP 22 46 41.6 -1.8**
ANN *e* 22 49 05.7
ANN *i* S **S 22 55 50.4 -1.0**
ANN *e*SS **SS 23 00 55.3 +5.0**
ANN pmax pmax
comp=Z,148nm,0.6s
HMNX Herstmonceux 77.18 358 *e*P **P 22 46 13.1 +0.1**
AHRW Bad Neuenahr-A 77.18 353 *e*P **P 22 46 10.5 -2.5**
comp=Z,168nm,1.1s,baz=8.5,slow=5.6
MEM Membach 77.19 354 *d*P **P 22 46 13.0 0.0**
MEM *d*PcP **PcP 22 46 17.7 -5.5**
MEM *ds*P **pwP 22 46 49.3 +0.5**
TEIG Tepich 77.19 74 P **P 22 46 13.2 -0.4**
TEIG Tepich 77.19 74 *e*P **P 22 46 13.4 -0.2**
BTNL Ternell 77.20 354 *d*P **P 22 46 12.9 -0.3**
BTNL *ds*P **pwP 22 46 49.4 +0.5**
BSTI Sart Tilman 77.24 354 *d*P **P 22 46 13.5 +0.2**
comp=Z,36nm,0.8s
PBA Port Blair 77.25 273 IAmb IAmb 22 46 16.6
comp=Z,917nm,1.6s
PBA Port Blair 77.25 273 *e*P **P 22 46 13.9 0.0**
PBA IAmb IAmb 22 46 28.8
comp=Z,195nm,1.0s
PBA Port Blair 77.25 273 P **P 22 46 13.8 -0.1**
SNR=28
MANZ Manzenberg 77.28 350 *e*P **P 22 46 13.3 -0.4**
comp=Z,26nm,1.5s,baz=8.5,slow=5.6
MANZ *ep*P **pwP 22 46 49.0 -0.5**
JRMM Jerantut 77.36 260 P **P 22 46 15.0 +0.5**
KIS Kishinev 77.36 338⇑*i*P **P 22 46 14.0 -0.1**
comp=Z,480nm,1.5s
KIS Kishinev 77.36 338 *e*PcP **P 22 46 17.0 +2.9**
KIS *ep*P **pP 22 46 40.0 -4.6**
KIS *es*P **sP 22 46 54.0 -3.8**
KIS Kishinev 77.36 338 ⇓P **P 22 46 15.0 +0.9**
KIS Kishinev 77.36 338 *i* P **P 22 46 14.0 -0.1**
KIS *i* S **S 22 55 53.5 -0.1**
KIS *i* 22 56 13.0
KIS *i* *SS **pS 22 56 32.0 +1.1**
KIS *i* PS **PnS 22 56 49.0 -0.8**
KIS pmax pmax
comp=Z,1μm,2.3s
KIS smax smax
comp=E,5μm,10.6s
KULM Kulim 77.37 262 P **P 22 46 15.0 +0.4**
TNS Taunus Mts 77.39 352 *e*P **P 22 46 14.1 -0.2**
comp=E,70nm,0.7s,baz=8.5,slow=5.6
VRAC Vranov 77.39 347 ⇓P **P 22 46 14.7 +0.5**
VRAC Vranov 77.39 347 *e*P **P 22 46 14.5 +0.3**
VRAC *e* 22 46 50.5
VRAC *e*S **S 22 55 51.7 -2.2**
VRAC Vranov 77.39 347 P **P 22 46 14.7 +0.5**
VRAC Vranov 77.39 347 LR LR 23 23 02.9
comp=E,9μm,21.1s,baz=22,slow=38
BCLA Clavier 77.42 354 *d*P **P 22 46 14.3 0.0**
BCLA *dx* x 22 46 19.3
BHPL Bhopal 77.43 292 *e*P **P 22 46 15.4 +0.5**
BHOU Houvegnez 77.44 354 *d*P **P 22 46 14.3 -0.2**
BHOU *ds*P **pwP 22 46 51.0 +0.7**
IAS Iasi 77.46 339 ⇑P **P 22 46 15.6 +1.0**
IAS Iasi 77.46 339 P **P 22 46 15.6 +1.0**
BGES Gesves 77.47 355 *d*P **P 22 46 14.4 -0.2**
comp=Z,105nm,0.9s
BGES *dx* x 22 46 19.4
ROTZ Rotzenmuhle 77.49 350 *e*P **P 22 46 14.6 -0.1**
comp=Z,31nm,1.3s,baz=8.5,slow=5.6
ROTZ *ep*P **pwP 22 46 49.8 -0.8**
BUR08 Bucovina Ar. S 77.53 341 IAmb IAmb 22 46 22.1
comp=Z,380nm,0.8s
BURAR Bucovina Array 77.56 341 ⇑P **P 22 46 16.0 +0.7**
BURAR Bucovina Array 77.56 341 P **P 22 46 15.9 +0.6**
BURAR IAmb IAmb 22 46 22.1
comp=Z,571nm,0.8s
BURAR Bucovina Array 77.56 341 P **P 22 46 16.0 +0.7**
TREC Trest 77.56 348 *e*P **P 22 46 15.6 +0.4**
TREC *e* 22 46 19.4
TREC *e*S **S 22 55 47.7 -8.0**
TREC MLR MLR
comp=Z,6μm,18.9s
TREC Trest 77.56 348 *e*P **P 22 46 15.6 +0.4**
TREC *ex* x 22 46 19.4
TREC *e*S **S 22 55 47.7 -8.0**
TREC AMS AMS 23 23 20.0
comp=Z,6μm,18.9s
PURM Purcari 77.56 337 ⇑P **P 22 46 15.6 +0.5**
BMRD Maredsous 77.56 355 *d*P **P 22 46 14.9 -0.2**
BMRD *d*PcP **PcP 22 46 20.3 -4.6**
BMRD *ds*P **pwP 22 46 51.6 +0.6**
SOC Sochi 77.58 330 *e*P **P 22 46 14.9 -0.4**
SOC *e**PP **pP 22 46 44.0 -1.8**
SOC *e**SP **sP 22 46 57.2 -1.7**
SOC *e* 22 49 17.0
SOC *e*S **S 22 55 56.3 +0.3**
SOC *e**SS **sS 22 56 49.5 +0.7**
SOC *e*SS **SS 23 00 58.3 +1.7**
SOC *e*SSS SSS 23 04 24.3
SOC pmax pmax
comp=Z,192nm,1.0s
TRPA Tarpa 77.58 343 ⇑P **P 22 46 16.7 +1.4**
ZVC Zvikov 77.58 348 *e*P **P 22 46 15.4 +0.1**
ZVC *ex* x 22 46 19.7
ZVC *ex* x 22 46 58.0
ZVC *e*S S 22 56 17.8 +22
ZVC AMS AMS 23 18 30.0
comp=Z,6μm,20.9s
PRAR RASCA 77.59 340 ⇑P **P 22 46 16.1 +0.8**
KECS Kecovo 77.60 344 *e*P **P 22 46 17.1 +1.7**
KECS pmax pmax
comp=Z,194nm,0.9s
KECS Kecovo 77.60 344 *e*P **P 22 46 17.1 +1.7**
DYA Yadsworthy 77.65 0⇑*e*P **P 22 46 15.4 -0.2**
KRUC Moravsky 77.66 347 *e*P **P 22 46 15.9 +0.2**
KRUC *e* 22 46 51.9
KRUC *e*S **S 22 55 55.2 -1.6**
GRF Grafenberg Arr 77.66 350 *e*P **P 22 46 15.8 +0.1**
comp=Z,100nm,0.9s,baz=8.5,slow=5.6
GRFO Grafenberg 77.67 350 P **P 22 46 15.9 +0.2**
GRFO Grafenberg 77.67 350 P **P 22 46 15.9 +0.2**
GRFO pmax pmax
comp=Z,108nm,0.9s
JAVC Velka Javorina 77.68 346 *e*P **P 22 46 17.3 +1.4**
JAVC *e*S **S 22 55 57.3 +0.2**
RCHB Rochefort 77.69 354 *d*P **P 22 46 15.4 -0.4**
comp=Z,78nm,0.9s
DOU Dourbes 77.78 355 *d*P **P 22 46 16.3 -0.1**
DOU *dx* x 22 46 20.4
DOU *dp*P pP 22 46 38.0 -9.0
DOU *ds*P **pwP 22 46 52.7 +0.5**
BMR Baia Mare 77.84 342 ⇑P **P 22 46 17.5 +0.8**
BMR Baia Mare 77.84 342 P **P 22 46 17.5 +0.8**
VYHS Vyhne 77.85 345 *e*P **P 22 46 17.6 +0.8**
VYHS *e* 22 46 53.9
VYHS pmax pmax
comp=Z,175nm,1.1s
VYHS Vyhne 77.85 345 *e*P **P 22 46 17.6 +0.8**
VYHS *e* 22 46 53.9
CCA1 Carnmenellis 77.89 1⇑*e*P **P 22 46 16.9 0.0**
CCA1 IAmb IAmb 22 46 18.6
comp=Z,192nm,1.0s
VASR Vaslui 77.93 339 ⇑P **P 22 46 18.1 +0.8**
SIM Simferopol' 77.96 334 *e*P **P 22 46 18.4 +1.4**
SIM *e* 22 46 27.0
SIM *e* 22 49 18.0
SIM *e*S **S 22 56 01.0 +0.9**
SIM *e* 22 56 24.0
SIM *e*PS PnS 22 56 41.0 -16
SIM pmax pmax
comp=Z,78nm,0.9s
SIM pmax pmax
comp=Z,1μm,9.4s
SIM MLR MLR
comp=N,28μm,30.1s
KHC Kasperske Hory 77.96 349 *e*P **P 22 46 17.5 +0.1**
KHC *e* 22 46 22.4
KHC *e* 22 46 54.6
KHC *e*S **S 22 55 54.2 -5.8**
KHC MLR MLR
comp=Z,7μm,27.2s
KHC Kasperske Hory 77.96 349 *e*P **P 22 46 17.5 +0.1**
KHC *ex* x 22 46 22.4
KHC *ex* x 22 46 54.6
KHC *e*S **S 22 55 54.2 -5.8**
KHC AMS AMS 23 15 50.0
comp=Z,7μm,27.2s
LEOM Leova 77.99 338 ⇑P **P 22 46 18.6 +1.1**
LEOM Leova 77.99 338 P **P 22 46 18.7 +1.2**
WET Wettzell 78.03 349 *e*P **P 22 46 17.9 +0.1**
comp=Z,224nm,1.6s,baz=8.5,slow=5.6
SMOL Smolenice 78.05 346 *e*P **P 22 46 19.3 +1.4**
SMOL *e* 22 46 55.5
WLF Walferdange 78.12 354 IAmb IAmb 22 47 04.6
comp=Z,497nm,1.7s
WLF Walferdange 78.12 354 *d*P **P 22 46 18.9 +0.7**
comp=Z,68nm,1.0s
WLF *ds*P **pwP 22 46 53.8 -0.3**
WLF Walferdange 78.12 354 P **P 22 46 18.1 -0.1**
WLF S **S 22 56 03.2 +1.6**
WLF Walferdange 78.12 354 *e*P **P 22 46 18.5 +0.2**
comp=Z,227nm,1.4s,baz=8.5,slow=5.6
CKRC Cesky Krumlov 78.17 348 *e*P **P 22 46 18.8 +0.2**
CKRC *e* 22 46 22.7
CKRC *e*S **S 22 55 56.2 -6.1**
CKRC Cesky Krumlov 78.17 348 *e*P **P 22 46 18.8 +0.2**
CKRC *ex* x 22 46 22.7
CKRC *e*S **S 22 55 56.2 -6.1**
MYKOM Kota Tinggi 78.20 257 P **P 22 46 19.0 -0.2**
MYKOM **P 22 46 20.3 +1.1**
MYKOM **pP 22 46 48.9 -2.1**
MYKOM Kota Tinggi 78.20 257 P **P 22 46 20.0 +0.9**
MODS Modra-Piesok 78.21 346 *e*P **P 22 46 19.8 +1.0**
MODS pmax pmax
comp=Z,463nm,1.2s
MODS Modra-Piesok 78.21 346 *e*P **P 22 46 19.8 +1.0**
GEC2 GERESS Array S 78.22 349 *e*P **P 22 46 18.7 -0.3**
comp=Z,88nm,1.0s,baz=8.5,slow=5.6
GERES GERESS Array B 78.22 349 P **P 22 46 19.1 +0.2**
GERES GERESS Array B 78.22 349 P **P 22 46 19.1 +0.1**
comp=Z,62nm,1.0s,baz=17,slow=5.6,SNR=92
GERES PKPPKP **P'P'df** **23 13 18.6 -3.1**
comp=Z,2.9nm,1.0s,baz=146,slow=0.5,SNR=3.7
GERES LR LR 23 23 06.0
comp=Z,6μm,21.0s,baz=26,slow=37
comp=Z,62nm,1.0s
ARCR ARCALIA 78.23 341 ⇑P **P 22 46 20.3 +1.4**
PSZ Piszkesteto 78.24 344 ⇑P **P 22 46 21.0 +1.9**
PSZ Piszkesteto 78.24 344 P **P 22 46 20.9 +1.9**
VIS Vishakhapatnam 78.27 284 *e*P **P 22 46 20.8 +1.3**
VIS IAmb IAmb 22 46 24.4
comp=Z,146nm,1.2s
TESR Tescani 78.31 339 ⇑P **P 22 46 19.9 +0.6**
BIR Birlad 78.33 339 ⇑P **P 22 46 21.5 +2.1**
BIR Birlad 78.33 339 P **P 22 46 21.5 +2.1**
ZST Bratislava 78.41 346 *e*P **P 22 46 21.0 +1.2**
ZST *e* 22 46 57.9
ZST pmax pmax
comp=Z,585nm,1.2s
ZST Bratislava 78.41 346 *e*P **P 22 46 21.0 +1.2**
ZST *e* 22 46 57.9
LTVH Ltavrtes, Hu 78.41 343 ⇑P **P 22 46 21.2 +1.4**
MESR Meseseni 78.44 342 ⇓P **P 22 46 21.9 +1.8**
TPRI Tanjung Pinang 78.49 256 P **P 22 46 19.7 -1.0**
comp=Z,151nm,2.3s,comp=Z,7μmcomp=Z,26μm
GHRR 78.57 339 ⇓P **P 22 46 22.5 +1.7**
SRO Srobarova 78.60 345 *e*P **P 22 46 22.0 +1.1**
SRO *e* 22 46 58.8
SRO pmax pmax
comp=Z,168nm,1.2s
SRO Srobarova 78.60 345 *e*P **P 22 46 22.0 +1.1**
SRO *e* 22 46 58.8
VARL Varlezi 78.62 338 ⇑P **P 22 46 23.0 +2.0**
VLDR Vladesti 78.62 338 ⇑P **P 22 46 21.9 +0.8**
CBBR Cluj-Babes-Bol 78.70 342 ⇑P **P 22 46 23.1 +1.6**
BORR Bors 78.72 343 ⇑P **P 22 46 23.2 +1.6**
TGMR Targu Mures 78.73 341 ⇑P **P 22 46 23.8 +2.1**
CJR Cluj-Napoca 78.74 342 ⇑P **P 22 46 22.8 +1.1**
CJR Cluj-Napoca 78.74 342 P **P 22 46 22.8 +1.1**
STU Stuttgart 78.77 352 *e*P **P 22 46 21.5 -0.4**
comp=Z,289nm,0.9s,baz=8.5,slow=5.6
BSZH Besenyszg 78.78 344 ⇓P **P 22 46 23.7 +1.8**
RK1H Rockhampton Ha 78.78 205 P **P 22 46 23.7 +1.7**
SCTR Scanteiesti 78.80 338 ⇑P **P 22 46 23.3 +1.3**
PANC Panciu 78.81 339 ⇑P **P 22 46 23.8 +1.7**
CONA Conrad Observa 78.84 347 *e*P **P 22 46 23.0 +0.6**
comp=Z,149nm,1.4s,SNR=96
CONA S **S 22 56 09.9 +0.3**
comp=Z,24nm,1.7s
TATR Tatarca 78.86 338 ⇑P **P 22 46 23.7 +1.3**
MARR Marisel-Cluj 78.87 342 ⇓P **P 22 46 23.5 +1.0**
OZUR 78.89 340 ⇑P **P 22 46 24.4 +1.9**
BCA Borcka 78.89 327 ⇓P **P 22 46 23.7 +1.1**
JSA Saint Aubin 78.90 359 *e*P **P 22 46 22.5 0.0**
JSA IAmb IAmb 22 46 23.9
comp=Z,601nm,1.4s
VRI Vrincioaia 78.90 339 ⇑P **P 22 46 23.3 +0.7**
VRI Vrincioaia 78.90 339 P **P 22 46 23.3 +0.7**
PLAI Plampang 78.92 240 P **P 22 46 21.9 -1.1**
PLAI Plampang 78.92 240 P **P 22 46 21.6 -1.4**
ODBI Odobesti 78.93 339 ⇓P **P 22 46 24.8 +2.1**
GIUM Giurgiulesti 78.93 338 ⇑P **P 22 46 24.6 +1.8**
SLCR Slobozia Conac 78.93 338 ⇑P **P 22 46 24.9 +2.1**
PLOR Plostina 78.93 339 ⇑P **P 22 46 24.2 +1.4**
PLOR Plostina 78.93 339 P **P 22 46 24.2 +1.4**
TUDR 78.95 338 ⇑P **P 22 46 24.3 +1.5**
GNI Garni 78.97 325 P **P 22 46 23.3 0.0**
GNI IAmb IAmb 22 46 26.9
comp=Z,614nm,1.6s
GNI Garni 78.97 325 P **P 22 46 23.3 0.0**
GNI pmax pmax
comp=Z,614nm,1.7s
GNI Garni 78.97 325 P **P 22 46 20.5 -2.8**
GNI Garni 78.97 325 P **P 22 46 20.7 -2.6**
GNI S **S 22 56 14.8 +3.4**
GNI Garni 78.97 325 LR LR 23 24 33.2
comp=Z,10μm,21.9s,baz=30,slow=38
IZVR Izvoarele 78.98 338 ⇑P **P 22 46 24.7 +1.7**
SCHL Schela 79.00 338 ⇑P **P 22 46 25.1 +2.0**
RONA Rosalia, Austr 79.01 347 *e*P **P 22 46 23.9 +0.7**
comp=Z,121nm,1.2s,SNR=79
RONA *e*S **S 22 56 10.9 -0.4**
comp=Z,31nm,2.4s
COVR Voineasa-Covas 79.03 340 ⇑P **P 22 46 25.5 +2.1**
TLCR 79.07 338 ⇑P **P 22 46 24.5 +1.0**
TLCR 79.07 338 P **P 22 46 24.5 +1.0**
DOPR Dopca 79.09 340 ⇑P **P 22 46 25.8 +2.2**
KARS Kars 79.12 326 P **P 22 46 25.2 +1.1**
KARS Kars 79.12 326 P **P 22 46 25.2 +1.1**
KARS pmax pmax
comp=Z,1μm,1.7s
MDB Medias 79.13 341 ⇑P **P 22 46 25.6 +1.7**
MDB Medias 79.13 341 P **P 22 46 25.6 +1.7**
MOA Moln 79.13 348 *e*P **P 22 46 23.9 0.0**
comp=Z,52nm,1.4s,SNR=33
MOA S **S 22 56 13.9 +1.4**
comp=Z,11nm,1.5s
MOA P'P' 23 13 12.2
comp=Z,5.5nm,1.4s
FUR Furstenfeldbru 79.17 350 *e*P **P 22 46 23.9 -0.2**
comp=Z,196nm,1.1s,baz=8.5,slow=5.6
CFR Carcaliu 79.24 338 ⇓P **P 22 46 25.7 +1.2**
CFR Carcaliu 79.24 338 P **P 22 46 25.6 +1.2**
BFO Black Forest 79.28 352 P **P 22 46 24.4 -0.3**
BFO Black Forest 79.28 352 P **P 22 46 24.4 -0.3**
BFO pmax pmax
comp=Z,130nm,1.1s
BFO Black Forest 79.28 352 *e*P **P 22 46 24.4 -0.3**
comp=Z,172nm,1.2s,baz=8.5,slow=5.6
BFO *ep*P **pwP 22 47 00.4 -0.1**
GRER 79.31 339 ⇓P **P 22 46 27.0 +2.2**
TWSI Taliwang, Sumb 79.32 241 P **P 22 46 23.8 -1.4**
comp=Z,84nm,1.1s,comp=Z,5μmcomp=Z,23μm
BIOA Bad Ischl, Aus 79.37 349 *i* P **P 22 46 25.1 0.0**
comp=Z,117nm,1.3s,SNR=72
KNRA Kununurra 79.41 227 P **P 22 46 25.8 +0.2**
KNRA IAmb IAmb 22 46 27.6
comp=Z,456nm,1.2s
KNRA Kununurra 79.41 227 P **P 22 46 25.7 +0.2**
NEHR Nehoiu 79.41 339 ⇑P **P 22 46 27.0 +1.5**
RJOB Jochberg 79.42 349 *e*P **P 22 46 25.7 +0.2**
comp=Z,86nm,0.8s,baz=8.5,slow=5.6
MLR Muntele Rosu 79.43 340 ⇑P **P 22 46 27.7 +2.0**
MLR Muntele Rosu 79.43 340 P **P 22 46 26.2 +0.6**
MLR IAmb IAmb 22 46 32.5
comp=Z,252nm,0.9s
MLR Muntele Rosu 79.43 340 P **P 22 46 26.2 +0.6**
MLR pmax pmax
comp=Z,253nm,0.9s
MLR Muntele Rosu 79.43 340 LR LR 23 26 14.8
comp=Z,4μm,18.8s,baz=26,slow=39
QIS Mount Isa 79.45 215 P **P 22 46 25.4 -0.4**
JURR Jurilovca 79.46 337 ⇑P **P 22 46 27.2 +1.6**
TPGR Topolog 79.48 338 ⇑P **P 22 46 27.0 +1.2**
ECH Echery 79.49 353 P **P 22 46 25.6 -0.2**
ECH Echery 79.49 353 P **P 22 46 25.6 -0.2**
ECH pmax pmax
comp=Z,208nm,1.5s
SIRR Siria 79.53 343 ⇓P **P 22 46 27.3 +1.3**
ARSA Arzberg 79.56 347 *i* P **P 22 46 26.7 +0.5**
comp=Z,111nm,1.0s,SNR=68
ARSA *e*S **S 22 56 18.2 +1.1**
comp=Z,12nm,1.5s
ARSA *e*P'P' 23 13 11.3
comp=Z,3.7nm,1.0s
DSRI Dabo 79.57 256 P **P 22 46 25.8 -0.8**
comp=Z,230nm,1.3s,comp=Z,6μmcomp=Z,25μm
RTAL Retalhuleu 79.57 80 P **P 22 46 27.2 +0.5**
RTAL IAmb IAmb 22 46 33.3
comp=Z,263nm,0.7s
AMBH Ambrzfalva 79.62 343 ⇑P **P 22 46 27.7 +1.2**
AKL Akola 79.65 290 *e*P **P 22 46 28.2 +1.1**
ISR Istrita 79.65 339 ⇑P **P 22 46 28.9 +2.1**
ISR Istrita 79.65 339 P **P 22 46 28.8 +2.1**
VOIR 79.67 340 ⇓P **P 22 46 28.1 +1.2**
VOIR 79.67 340 P **P 22 46 28.1 +1.2**
DEV Deva 79.67 342 ⇑P **P 22 46 27.4 +0.6**
DEV Deva 79.67 342 P **P 22 46 27.4 +0.6**
LHMI Lhok Sumawe 79.67 265 P **P 22 46 27.1 -0.1**
LHMI IAmb IAmb 22 46 30.8
comp=Z,675nm,1.1s
LHMI Lhok Sumawe 79.67 265 P **P 22 46 27.7 +0.5**
LHMI Lhok Sumawe 79.67 265 P **P 22 46 27.9 +0.7**
comp=Z,637nm,1.0s,comp=Z,19μmcomp=Z,26μm
SRBI Singaraja 79.68 242 P **P 22 46 25.6 -1.5**
comp=Z,128nm,1.2s,comp=Z,9μmcomp=Z,32μm
LESA Schwarzleotal 79.74 349 *e*P **P 22 46 27.5 +0.2**
comp=Z,116nm,1.5s
LESA S **S 22 56 20.7 +1.5**
comp=Z,20nm,1.6s
HARR Harsova 79.75 338 ⇑P **P 22 46 28.3 +1.0**
HARR Harsova 79.75 338 P **P 22 46 28.2 +1.0**
PGOR Pogoanele 79.76 339 ⇑P **P 22 46 28.8 +1.6**
UBR Ueberruh 79.76 351 *e*P **P 22 46 27.3 0.0**
comp=Z,204nm,1.5s,baz=8.5,slow=5.6
ARR Arges 79.82 340 ⇑P **P 22 46 28.6 +0.9**
TIRR Tirgusor 79.86 338 ⇑P **P 22 46 29.0 +1.2**
TIRR Tirgusor 79.86 338 P **P 22 46 28.2 +0.4**
TIRR IAmb IAmb 22 46 30.1
comp=Z,717nm,1.3s
TIRR Tirgusor 79.86 338 P **P 22 46 28.2 +0.4**
TIRR pmax pmax
comp=Z,717nm,1.3s
MTUR Matau 79.87 340 ⇑P **P 22 46 29.6 +1.6**
MTUR Matau 79.87 340 P **P 22 46 29.6 +1.6**
RETA Reutte 79.89 350 *e*P **P 22 46 27.8 -0.2**
comp=Z,77nm,1.5s,SNR=37
RETA *e*PKKP **PKKPbc** **23 05 11.9 +1.6**
comp=Z,1.4nm,0.5s
RETA *e*P'P' 23 13 10.7
comp=Z,6.3nm,1.1s
KTUT Trabzon 79.91 328 ⇓P **P 22 46 29.4 +1.2**
LOT Lotru 79.92 341 ⇓P **P 22 46 29.3 +1.0**
SURR Surduc 79.94 342 ⇓P **P 22 46 29.4 +1.2**
WATA Walderalm 79.95 350 *e*P **P 22 46 28.4 -0.1**
comp=Z,236nm,1.1s,SNR=134
WATA S **S 22 56 23.1 +1.6**
comp=Z,23nm,1.4s
WATA *e*PKKP **PKKPbc** **23 05 11.7 +1.4**
comp=Z,3.4nm,0.8s
WATA *e*P'P' 23 13 16.2
comp=Z,5.9nm,1.4s
CLF Chambon-Foret 79.96 356 P **P 22 46 28.7 +0.4**
CLF IAmb IAmb 22 46 34.4
comp=Z,402nm,1.0s
AMRR Amara 79.96 338 ⇑P **P 22 46 29.0 +0.7**
AMRR Amara 79.96 338 P **P 22 46 29.0 +0.7**
PLAR PLOIESTI 79.96 339 ⇑P **P 22 46 29.3 +1.0**
ABJI Asem Bagus 79.97 243 P **P 22 46 29.0 +0.3**
MOTA Moosalm 80.00 350 *e*P **P 22 46 28.5 -0.2**
comp=Z,217nm,1.3s,SNR=83
MOTA *e*S **S 22 56 23.4 +1.4**
comp=Z,23nm,1.7s
MOTA *i* PKKP **PKKPbc** **23 05 12.1 +2.0**
comp=Z,3.0nm,0.9s
MOTA *e*P'P' 23 13 12.4
comp=Z,4.5nm,1.1s
KBA Koelnbreinsper 80.00 349 *e*P **P 22 46 29.4 +0.6**
comp=Z,284nm,0.7s
WTTA Wattenberg 80.02 350 *e*P **P 22 46 29.0 +0.2**
comp=Z,134nm,0.6s,SNR=149
WTTA S **S 22 56 22.8 +0.5**
comp=Z,9.3nm,1.1s
WTTA *e*PKKP **PKKPbc** **23 05 11.9 +1.7**
comp=Z,5.5nm,0.7s
WTTA *e*P'P' 23 13 10.1
comp=Z,11nm,1.2s
CVDA Cernavoda 80.06 338 ⇑P **P 22 46 30.0 +1.2**
BBSR BB Station 80.08 49 P **P 22 46 28.5 -0.6**
BBSR BB Station 80.08 49 P **P 22 46 28.6 -0.6**
baz=327,SNR=12
BBSR S **S 22 56 20.2 -2.6**
baz=327
TSCT Constanta Port 80.08 337 ⇑P **P 22 46 30.5 +1.6**
MORH Mrgy, Hungar 80.10 345 ⇑P **P 22 46 29.8 +0.8**
SQTA Sankt Quirin 80.11 350 *e*P **P 22 46 29.5 +0.2**
comp=Z,297nm,2.0s,SNR=110
SQTA *i* PKKP **PKKPbc** **23 05 11.5 +1.6**
comp=Z,4.8nm,0.9s

SQTA *e*P'P' 23 13 10.2
comp=Z,8.9nm,1.1s
MFTR Murfatlar 80.12 337 ⇑P **P** **22 46 30.3 +1.1**
SULR 80.14 339 ⇑P **P** **22 46 30.4 +1.2**
EFOR EFORIE 80.16 337 ⇓P **P** **22 46 31.1 +1.7**
GZR Gura Zlata 80.17 342 ⇑P **P** **22 46 30.5 +1.0**
GZR Gura Zlata 80.17 342 P **P** **22 46 30.5 +1.0**
BZS Buzias 80.17 343 ⇑P **P** **22 46 29.9 +0.4**
BZS Buzias 80.17 343 P **P** **22 46 29.9 +0.4**
DAVA Damuels 80.18 351 *e*P **P** **22 46 29.6 -0.1**
comp=Z,116nm,1.4s,SNR=42
DAVA S **S** **22 56 25.0 +1.1**
comp=Z,14nm,1.7s
DAVA *e*PKKP **PKKPbc** **23 05 11.7 +1.9**
comp=Z,3.1nm,0.8s
DAVA *e*P'P' 23 13 10.4
comp=Z,10.0nm,1.1s
SOKA Soboth 80.18 347 *e*P **P** **22 46 29.8 +0.2**
comp=Z,299nm,1.4s,SNR=282
SOKA *e*S **S** **22 56 24.6 +0.9**
comp=Z,7.9nm,1.4s
SOKA P'P' 23 13 16.0
comp=Z,3.6nm,1.2s
PERS Pernice 80.21 347 *i* P **P** **22 46 30.3 +0.5**
PERS *i* P'P'df **P'P'df** **23 13 15.6 -2.4**
PERS *e* 23 16 27.1
KOGS Kog 80.24 346 *i* P **P** **22 46 30.0 +0.2**
KOGS *e*SKSac **S** **22 56 21.1 -3.1**
KOGS *e*S **SKSac** **22 56 33.2 -2.1**
KOGS *e* 22 57 04.2
KOGS *e* 22 57 04.4
BLJI Banyuglugur 80.28 244 P **P** **22 46 30.6 +0.2**
comp=Z,104nm,1.9s,comp=Z,7µmcomp=Z,22µm
FETA Feichten 80.36 350 *e*P **P** **22 46 30.8 +0.1**
comp=Z,89nm,0.7s,SNR=86
FETA *e*S **S** **22 56 27.2 +1.5**
comp=Z,35nm,1.8s
FETA *i* PKKP **PKKPbc** **23 05 11.4 +2.0**
comp=Z,4.5nm,1.2s
FETA *e*P'P' 23 13 10.8
comp=Z,3.8nm,1.0s
PSI Prapat 80.38 262 P **P** **22 46 31.9 +0.8**
PSI Prapat 80.38 262 P **P** **22 46 30.7 -0.4**
PSI pmax pmax
comp=Z,504nm,1.7s
INCR INCERC-Sediu C 80.38 339 ⇑P **P** **22 46 31.9 +1.3**
MYKA Terra Mystica 80.41 348 *e*P **P** **22 46 30.7 -0.2**
comp=Z,141nm,1.6s,SNR=74
MYKA *e*S **S** **22 56 24.1 -2.1**
comp=Z,20nm,1.7s
MYKA *e*P'P' 23 13 12.5
comp=Z,5.4nm,1.3s
OBKA Obir 80.41 348 *e*P **P** **22 46 31.0 +0.2**
comp=Z,217nm,0.9s,SNR=156
OBKA S **S** **22 56 25.7 -0.5**
comp=Z,8.5nm,1.6s
OBKA P'P' 23 13 12.4
comp=Z,10nm,1.6s
OBKA Obir 80.41 348 ⇑*i*P **P** **22 46 31.2 +0.3**
MANR Mangalia 80.42 337 ⇑P **P** **22 46 32.7 +1.9**
ABTA Abfaltersbach 80.43 349 *e*P **P** **22 46 30.9 -0.1**
comp=Z,217nm,1.2s,SNR=133
ABTA S **S** **22 56 27.3 +1.0**
comp=Z,20nm,1.5s
ABTA *e*P'P' 23 13 14.5
comp=Z,3.6nm,1.1s
RPSI Rantau Prapat 80.46 262 P **P** **22 46 30.7 -0.7**
RPSI IAmb IAmb 22 47 04.3
comp=Z,504nm,1.7s
BUC1 Bucharest 80.50 339 ⇑P **P** **22 46 32.6 +1.4**
BUC1 Bucharest 80.50 339 P **P** **22 46 32.6 +1.4**
KCSI Kotacane, Aceh 80.51 263 P **P** **22 46 29.9 -1.8**
comp=Z,25nm,1.6s,comp=Z,3µm
KALN Kalnik 80.52 346 *i* P **P** **22 46 31.7 +0.4**
EIDS Eidsvold 80.53 203 P **P** **22 46 32.4 +0.9**
EIDS Eidsvold 80.53 203 P **P** **22 46 32.5 +1.1**
HUMR Humele 80.55 340 ⇓P **P** **22 46 32.1 +0.5**
LOBO Lobor 80.55 347 *i* P **P** **22 46 31.7 +0.1**
JAGI Jajag, Banyuwa 80.57 243 P **P** **22 46 30.1 -1.9**
comp=Z,97nm,2.1s,comp=Z,3µmcomp=Z,20µm
PRED Cave del Predi 80.60 348 P **P** **22 46 31.7 -0.2**
PRED IAmb IAmb 22 46 39.8
comp=Z,247nm,0.8s
SGRR Singureni 80.63 339 ⇑P **P** **22 46 32.9 +1.0**
CLUD Cludinico 80.67 349 P **P** **22 46 31.7 -0.5**
WB0 Warramunga Arr 80.68 220 P **P** **22 46 32.4 0.0**
WB0 IAmb IAmb 22 46 34.1
comp=Z,912nm,1.4s
PSN Preselentsi 80.70 338 P **P** **22 46 33.5 +1.2**
HERR Herculane 80.73 342 ⇑P **P** **22 46 33.4 +0.9**
MLSI Meulaboh, Aceh 80.76 265 P **P** **22 46 32.2 -0.8**
comp=Z,70nm,0.8s
SRE Strehaia 80.79 341 ⇑P **P** **22 46 34.0 +1.2**
SRE Strehaia 80.79 341 P **P** **22 46 34.0 +1.2**
WR0 Warramunga Arr 80.80 220 P **P** **22 46 32.5 -0.5**
WR0 IAmb IAmb 22 46 34.0
comp=Z,393nm,1.2s
FUORN Ofenpass-Fuorn 80.80 351 P **P** **22 46 33.5 +0.3**
GMJI Gumukmas 80.80 244 P **P** **22 46 31.4 -1.7**
comp=Z,92nm,2.3s,comp=Z,4µm
VJD Vijayawada 80.80 285 *e*P **P** **22 46 35.2 +2.0**
PTJ Puntijarka 80.81 347 P **P** **22 46 33.4 +0.4**
WRAB Tennant Creek 80.85 220 P **P** **22 46 33.4 +0.1**
WRAB IAmb IAmb 22 46 35.0
comp=Z,429nm,1.1s
WRAB Tennant Creek 80.85 220 *d*P **P** **22 46 33.4 +0.1**
WRAB Tennant Creek 80.85 220 *i*P **P** **22 46 33.3 +0.1**
WRAB pmax pmax
comp=Z,564nm,1.3s
WB2 Warramunga Arr 80.86 220 P **P** **22 46 33.1 -0.2**
WB2 IAmb IAmb 22 46 35.1
comp=Z,426nm,1.1s
WRA Warramunga Arr 80.86 220 P **P** **22 46 33.1 -0.2**
WRA Warramunga Arr 80.86 220 P **P** **22 46 33.4 0.0**
comp=Z,244nm,1.0s,baz=34,slow=6.0,SNR=274
WRA pP **pP** **22 47 04.3 -0.9**
comp=Z,147nm,0.9s,baz=32,slow=5.9,SNR=6.5
WRA PKiKP **PKiKP** **22 51 59.1 -0.2**
comp=Z,2.5nm,0.9s,baz=4.8,slow=2.4,SNR=1.9
WRA S **S** **22 56 28.5 -2.6**
comp=Z,3.5nm,1.2s,baz=26,slow=10,SNR=7.3
WRA PKKPbc **PKKPbc** **23 05 10.4 +0.8**
comp=Z,4.1nm,0.5s,baz=221,slow=2.0,SNR=32
WRA PKPPKP **P'P'df** **23 13 08.9 -4.9**
comp=Z,2.8nm,1.2s,baz=198,slow=2.4,SNR=6.8
WRA LR LR 23 18 47.7
comp=Z,6µm,20.9s,baz=16,slow=33
comp=Z,244nm,1.0s
LJU Ljubljana 80.87 348 *i* P **P** **22 46 32.9 -0.4**
LJU *e*pP **pP** **22 47 03.6 -0.4**
LJU *e* 22 49 58.1
LJU *i* SKSac **S** **22 56 23.6 -7.2**
LJU *e* 23 08 25.3
LJU *e*P'P'df **P'P'df** **23 13 13.8 -2.9**
LJU *e* 23 16 25.7
COPA Copaceanca 80.88 340 ⇓P **P** **22 46 33.9 +0.6**
TBI Tubuai 80.88 149 *e*P **P** **22 46 32.8 -0.5**
comp=Z,900nm,1.7s
TBI *e*S **S** **22 56 28.6 -2.4**
comp=Z,20µm,31.2s
TBI *e*SS **SS** **23 01 48.3 -0.1**
comp=Z,18µm,28.8s
TBI Tubuai 80.88 149 *e*T T 00 15 56.3
comp=Z,15nm,0.3s
RMGR Halanga-Turnu 80.89 342 ⇑P **P** **22 46 33.8 +0.5**
STAL STALIGIAL 80.89 349 P **P** **22 46 32.4 -1.0**
DJES Djerdap 80.92 342 ⇑P **P** **22 46 34.5 +1.0**
DJES Djerdap 80.92 342 P **P** **22 46 33.9 +0.4**
MDVR Moldovita 80.96 342 ⇑P **P** **22 46 34.2 +0.4**
CRES Cresnjev 80.96 347 ⇑*i*P **P** **22 46 33.7 0.0**
ESQI Esquipulas 80.96 78 P **P** **22 46 34.3 0.0**
MOSL Moslavina 80.98 346 *i* P **P** **22 46 34.0 +0.2**
TUE Stuetta 81.03 351 P **P** **22 46 34.7 +0.3**
BKNI Bangkinang 81.05 259 P **P** **22 46 34.4 -0.2**
BKNI **pP** **22 47 06.6 0.0**
BKNI IAmb IAmb 22 47 07.7
comp=Z,635nm,1.6s
BKNI Bangkinang 81.05 259 P **P** **22 46 34.5 -0.1**
comp=Z,163nm,1.1s,comp=Z,8µmcomp=Z,26µm
BKNI Bangkinang 81.05 259 P **P** **22 46 33.5 -1.1**
BKNI S **S** **22 56 30.8 -2.6**
JMBI JAMBI 81.05 256 P **P** **22 46 35.5 +1.0**
comp=Z,227nm,0.9s,comp=Z,6µm
SABO M.te Sabotino 81.06 348 P **P** **22 46 33.7 -0.5**
SABO IAmb IAmb 22 46 41.6
comp=Z,69nm,0.7s
MTO3 Montecristo 81.08 78 P **P** **22 46 34.5 -0.5**
RAZG Razgrad 81.14 339 ⇑P **P** **22 46 35.4 +0.7**
NGJI Ngawi 81.16 246 P **P** **22 46 34.7 -0.4**
comp=Z,161nm,2.3s,comp=Z,12µmcomp=Z,31µm
OZLJ Ozalj 81.17 347 *i* P **P** **22 46 34.8 +0.1**
VLAD Vladila 81.18 340 ⇑P **P** **22 46 35.3 +0.5**
CEY Cerknica 81.19 348 ⇑*i*P **P** **22 46 34.6 -0.3**
CEY Cerknica 81.19 348 *i* P **P** **22 46 34.7 -0.3**
PUNG Punghina 81.21 341 ⇑P **P** **22 46 35.8 +0.8**
CTI Castel Tesino 81.22 350 P **P** **22 46 34.6 -0.5**
CTI Castel Tesino 81.22 350 P **P** **22 46 34.7 -0.5**
CTI pmax pmax
comp=Z,123nm,0.7s
TRI Trieste 81.30 348 P **P** **22 46 33.9 -1.5**
TRI Trieste 81.30 348 P **P** **22 46 33.9 -1.5**
TRI pmax pmax
comp=Z,68nm,0.7s
BOJS Bojanci 81.31 347 ⇑*i*P **P** **22 46 35.7 +0.2**
LOZB Loznitsa 81.31 338 ⇑P **P** **22 46 36.5 +0.9**
PRD Provadia 81.32 338 P **P** **22 46 36.8 +1.2**
RAO Raoul Island 81.32 175 LR LR 23 18 08.1
comp=Z,7µm,19.2s,baz=9.0,slow=32
SENIN Lac Senin/Sane 81.32 353 P **P** **22 46 36.2 +0.3**
SENIN IAmb IAmb 22 46 41.0
comp=Z,559nm,1.4s
HYB Hyderabad 81.34 287 *e*P **P** **22 46 36.4 +0.2**
HYB IAmb IAmb 22 46 40.6
comp=Z,205nm,1.2s
HYB Hyderabad 81.34 287 *e*P **P** **22 46 36.3 +0.2**
HYB IVmB_BB 22 46 37.1
comp=Z,3µm,3.2s
HYB *e*pP **pP** **22 47 06.9 -1.3**
HYB *e*PP **PP** **22 49 43.4 +0.1**
HYB *e*S **S** **22 56 37.6 +1.1**
HYB *e*SKSac **SKSac** **22 56 43.4 -0.3**
HYB *e*SS **SS** **23 01 56.9 +2.4**
GURO Guroymak-BITLI 81.34 326 P **P** **22 46 37.3 +1.3**
SBSI Sibolga 81.38 261 P **P** **22 46 33.0 -3.3**
A254A Petrova Gora 81.41 347 *i* P **P** **22 46 36.6 +0.5**
SKDS Skadanscina 81.43 348 ⇑*i*P **P** **22 46 35.7 -0.5**
SMRI Semarang 81.47 247 P **P** **22 46 36.3 -0.5**
SMRI IAmb IAmb 22 46 39.8
comp=Z,400nm,1.3s
SMRI Semarang 81.47 247 P **P** **22 46 35.4 -1.3**
comp=Z,353nm,2.1s,comp=Z,13µmcomp=Z,31µm
SZH Strazhitsa 81.54 339 P **P** **22 46 36.3 -0.5**
TEKS Tekeris 81.57 344 ⇑*i*P **P** **22 46 37.1 +0.1**
RIY Rijeka 81.58 347 P **P** **22 46 36.9 -0.1**
PRIJ Prijedor 81.61 346 *e*P **P** **22 46 38.3 +1.2**
DOB Doboj 81.63 345 *e*P **P** **22 46 38.4 +1.2**
A253A Karojba, Istri 81.70 348 *i* P **P** **22 46 37.6 0.0**
BLY Banja Luka 81.76 345 ⇑*i*P **P** **22 46 38.1 +0.2**
SALO Salr 81.76 350 P **P** **22 46 37.6 -0.3**
SALO IAmb IAmb 22 46 45.5
comp=Z,254nm,0.9s
SDSI Sungai Dareh 81.81 258 P **P** **22 46 37.0 -1.6**
comp=Z,138nm,1.4s,comp=Z,6µmcomp=Z,24µm
WOJI Wonogiri, Jawa 81.84 246 P **P** **22 46 37.7 -1.0**
comp=Z,188nm,1.4s,comp=Z,6µmcomp=Z,25µm
PVL Pavlikeni 81.85 339 P **P** **22 46 38.4 0.0**
TEOL Teolo 81.89 349 P **P** **22 46 39.2 +0.5**
DIVS Divibare 81.93 343 P **P** **22 46 39.5 +0.5**
DIVS Divibare 81.93 343 ⇑*i*P **P** **22 46 39.2 +0.3**
MPEP Malo Peshtene 81.93 341 P **P** **22 46 38.7 -0.1**
BRJN Brijuni 82.09 348 *i* P **P** **22 46 38.7 -0.9**
MGRS Mrkonjic Grad 82.10 345 ⇑*i*P **P** **22 46 40.4 +0.7**
RABC Rab 82.11 347 *i* P **P** **22 46 39.4 -0.3**
UGM Wanagama 82.13 246 P **P** **22 46 38.9 -1.4**
UGM IAmb IAmb 22 46 40.5
comp=Z,623nm,1.2s
UGM **pP** **22 47 10.1 -2.2**
UGM Wanagama 82.13 246 P **P** **22 46 39.0 -1.2**
UGM Wanagama 82.13 246 P **P** **22 46 38.8 -1.4**
comp=Z,543nm,1.4s,comp=Z,10µmcomp=Z,24µm
SIRT Sirnak 82.14 325 P **P** **22 46 41.3 +1.1**
SIRT IAmb IAmb 22 47 18.4
comp=Z,475nm,1.0s
JMB Yambol 82.16 338 P **P** **22 46 40.4 +0.4**
YOGI Yogyakarta 82.18 247 P **P** **22 46 39.3 -1.1**
comp=Z,220nm,2.1s,comp=Z,6µm
RMQ Roma 82.19 205 P **P** **22 46 42.1 +1.9**
UDBI Udbina 82.19 346 *i* P **P** **22 46 40.3 0.0**
BBLS Lazići 82.26 344 ⇑*i*P **P** **22 46 41.5 +0.9**
SNSI Sinabang, Aceh 82.27 264 P **P** **22 46 42.4 +1.4**
comp=Z,458nm,1.2s,comp=Z,13µmcomp=Z,25µm
NVLJ Novalja 82.28 347 *i* P **P** **22 46 40.3 -0.3**
GSI Gunungsitoli 82.38 262 P **P** **22 46 41.9 +0.3**
GSI IAmb IAmb 22 47 21.8
comp=Z,622nm,1.6s
GSI Gunungsitoli 82.38 262 P **P** **22 46 42.2 +0.7**
GSI Gunungsitoli 82.38 262 P **P** **22 46 41.4 -0.1**
comp=Z,262nm,2.2s,comp=Z,10µmcomp=Z,25µm
PDSI Padang 82.38 259 P **P** **22 46 38.1 -3.5**
comp=Z,103nm,1.2s,comp=Z,4µmcomp=Z,21µm
SRKY Kupres RS 82.43 345 ⇑*i*P **P** **22 46 41.9 +0.3**
RUDO Rudo 82.50 344 *e*P **P** **22 46 42.1 +0.3**
VIRC Vir 82.52 347 *i* P **P** **22 46 41.5 -0.4**
KPJI Karang Pucung 82.56 248 P **P** **22 46 40.8 -1.6**
comp=Z,224nm,1.0s,comp=Z,5µmcomp=Z,44µm
SSB Saint Sauveur 82.59 354 P **P** **22 46 42.8 +0.5**
SSB Saint Sauveur 82.59 354 P **P** **22 46 42.8 +0.5**
SSB pmax pmax
comp=Z,164nm,1.3s
TGUH Tegucigalpa,Un 82.60 77 P **P** **22 46 43.7 +0.9**
TGUH IAmb IAmb 22 47 38.5
comp=Z,594nm,1.3s
TGUH Tegucigalpa,Un 82.60 77 *e*P **P** **22 46 43.8 +0.9**
KIJV Kijevo 82.61 346 *i* P **P** **22 46 42.5 +0.1**
PRMA PARMA 82.63 350 P **P** **22 46 42.9 +0.5**
PRMA IAmb IAmb 22 46 48.0
comp=Z,545nm,1.4s
PGB Panagyurishte 82.65 340 P **P** **22 46 43.5 +0.9**
BNI Bardonecchia 82.67 353 P **P** **22 46 43.9 +1.1**
BNI Bardonecchia 82.67 353 P **P** **22 46 43.9 +1.1**
BNI pmax pmax
comp=Z,190nm,1.1s
EDRB Edirne 82.72 338 P **P** **22 46 43.4 +0.5**
SJES Sjenica 82.75 343 ⇑*i*P **P** **22 46 43.9 +0.7**
PLE Pljevlja 82.78 344 ⇑*i*P **P** **22 46 44.5 +1.1**
DUGI Dugi Otok 82.81 347 *i* P **P** **22 46 43.3 -0.1**
MORI Morici 82.84 346 *i* P **P** **22 46 43.3 -0.3**
PLD Plovdiv 82.88 339 P **P** **22 46 44.6 +0.8**
LEM Lembang 82.90 249 P **P** **22 46 43.5 -0.9**
comp=Z,145nm,1.1s,comp=Z,2µmcomp=Z,19µm
ISK Istanbul-Kandi 82.90 336 P **P** **22 46 44.1 +0.2**
MDUB Mudurnu 82.91 334 P **P** **22 46 45.0 +0.9**
BR131 Keskin Array S 82.93 332 P **P** **22 46 44.7 +0.5**
BR131 Keskin Array S 82.93 332 P **P** **22 46 45.5 +1.3**
SNR=38
BRTR Keskin Array B 82.93 332 P **P** **22 46 44.9 +0.6**
BRTR Keskin Array B 82.93 332 P **P** **22 46 44.8 +0.5**
comp=Z,52nm,0.8s,baz=44,slow=1.7,SNR=110
BRTR *e*P **pP** **22 47 14.8 -0.2**
comp=Z,20nm,0.8s,baz=66,slow=3.0,SNR=2.3
BRTR PKKPbc **PKKPbc** **23 05 04.4 +0.9**
comp=Z,2.5nm,0.8s,baz=184,slow=4.3,SNR=7.0
BRTR PKP2bc 23 12 54.6
comp=Z,5.6nm,1.1s,baz=199,slow=2.6,SNR=10.0
BRTR LR LR 23 30 07.0
comp=Z,3µm,18.0s,baz=354,slow=40
comp=Z,52nm,0.8s
ZCCA Zocca 82.97 350 P **P** **22 46 46.2 +1.9**
ZCCA IAmb IAmb 22 46 53.1
comp=Z,397nm,0.8s
UPM Unac-Piva 82.99 344 ⇑*i*P **P** **22 46 44.1 -0.5**
RICI Ricice 82.99 345 *i* P **P** **22 46 44.2 -0.2**
ANTO Ankara 83.03 333 ⇑P **P** **22 46 45.4 +0.7**
ANTO Ankara 83.03 333 P **P** **22 46 45.7 +1.0**
ANTO IAmb IAmb 22 46 48.4
comp=Z,400nm,1.5s
ANTO Ankara 83.03 333 P **P** **22 46 45.5 +0.7**
ANTO S **S** **22 56 54.4 +1.1**
ZIRJ Zirje 83.06 346 *i* P **P** **22 46 44.4 -0.3**
BR231 Keskin MP Arra 83.06 333 P **P** **22 46 46.2 +1.3**
BR231 IAmb IAmb 22 46 50.5
comp=Z,778nm,1.9s
BNN Bunyan 83.08 330 P **P** **22 46 45.7 +0.6**
IVA Berane 83.14 343 ⇑*i*P **P** **22 46 45.7 +0.5**
MSSA Maissana 83.15 351 P **P** **22 46 45.0 -0.2**
POO Poona 83.19 291 *e*P **P** **22 46 46.7 +0.9**
POO IAmb IAmb 22 46 50.3
comp=Z,271nm,1.2s
MAKA Makarska 83.21 345 *i* P **P** **22 46 45.1 -0.4**
KDZ Kurdzhali 83.24 339 P **P** **22 46 46.9 +1.2**
RZN Rozhen 83.31 339 P **P** **22 46 47.2 +0.9**
BBJI Bungbulang 83.39 249 P **P** **22 46 45.4 -1.4**
PVY Plav 83.39 343 ⇑*i*P **P** **22 46 47.1 +0.5**
NKME Niksic 83.40 344 ⇑*i*P **P** **22 46 47.2 +0.7**
HVAR Hvar 83.41 346 *i* P **P** **22 46 46.2 -0.3**
LWLI Liwa 83.51 253 P **P** **22 46 44.6 -2.9**
comp=Z,223nm,1.1s,comp=Z,19µm
KKB Krupnik 83.51 341 P **P** **22 46 47.9 +0.8**
STON Ston 83.51 345 *i* P **P** **22 46 46.2 -0.7**
STON Ston 83.51 345 ⇑*i*P **P** **22 46 46.3 -0.7**
SISI Saibi 83.53 259 P **P** **22 46 47.3 -0.2**
comp=Z,231nm,1.0s,comp=Z,8µm
QLP Quilpie 83.54 209 P **P** **22 46 48.1 +1.0**
TREB Trebinje 83.55 344 *e*P **P** **22 46 47.4 +0.2**
CEME Cevo 83.62 344 ⇑*i*P **P** **22 46 47.7 0.0**
DBRK Dubrovnik 83.64 344 *i* P **P** **22 46 46.7 -0.9**
KASI Kota Agung 83.66 253 P **P** **22 46 45.3 -2.8**
comp=Z,139nm,1.1s,comp=Z,3µmcomp=Z,20µm
RDO Rodhopi 83.66 339 P **P** **22 46 48.3 +0.5**
RDO Rodhopi 83.66 339 P **P** **22 46 48.6 +0.8**
RDO IAmb IAmb 22 46 54.2
comp=Z,364nm,0.8s
PDG Podgorica 83.68 343 ⇑P **P** **22 46 48.6 +0.8**
PDG Podgorica 83.68 343 P **P** **22 46 47.8 0.0**
PDG IAmb IAmb 22 46 53.1
comp=Z,301nm,0.9s
PDG Podgorica 83.68 343 ⇑*i*P **P** **22 46 47.7 -0.1**
PDG Podgorica 83.68 343 ⇑*i*P **P** **22 46 47.7 -0.1**
SKO Skopje 83.72 342 *i* P **P** **22 46 48.7 +0.6**
LSTV Lastovo 83.74 345 *i* P **P** **22 46 47.9 -0.3**
OSSC Osservatorio P 83.76 349 P **P** **22 46 48.4 +0.1**
OSSC IAmb IAmb 22 46 53.6
comp=Z,212nm,1.0s
ALN Alexandroupoli 83.78 338 P **P** **22 46 48.4 0.0**
ALN Alexandroupoli 83.78 338 P **P** **22 46 48.6 +0.2**
ALN IAmb IAmb 22 46 54.0
comp=Z,208nm,1.0s
HCY Herceg Novi 83.79 344 ⇑*i*P **P** **22 46 47.8 -0.7**
HCY Herceg Novi 83.79 344 ⇑*i*P **P** **22 46 48.8 +0.3**
NVR Nevrokopi 83.83 340 P **P** **22 46 50.2 +1.5**
CGJI Cibinong 83.84 251 P **P** **22 46 47.2 -1.8**
comp=Z,94nm,1.3s,comp=Z,4µm
MURB Monte Urbino 83.86 349 P **P** **22 46 49.8 +0.9**
ENEZ Enez 83.91 338 P **P** **22 46 49.2 +0.1**
DRME Dracevica, Mon 83.93 343 ⇑*i*P **P** **22 46 49.1 0.0**
DRME Dracevica, Mon 83.93 343 ⇑*i*P **P** **22 46 49.6 +0.5**
GUMA Gualdo di Mace 83.96 348 P **P** **22 46 50.4 +1.1**
GUMA IAmb IAmb 22 46 56.2
comp=Z,472nm,0.7s
FDMO Fiordimonte 84.02 348 P **P** **22 46 50.5 +0.9**
FDMO IAmb IAmb 22 46 52.4
comp=Z,530nm,1.3s
KAVA Kavala 84.03 339 P **P** **22 46 49.8 +0.1**
SRS Serrai 84.11 340 P **P** **22 46 49.9 -0.2**
PPSI Pulau Pagai 84.12 258 P **P** **22 46 49.4 -1.0**
comp=Z,284nm,1.2s
ULC Ulcinj 84.13 343 ⇑*i*P **P** **22 46 50.2 0.0**
CNGN Cerro Negro 84.16 77 *e*P **P** **22 46 49.9 -0.8**
GAZ Gaziantep 84.20 329 P **P** **22 46 51.6 +0.9**
GAZ IAmb IAmb 22 46 57.1
comp=Z,346nm,0.9s
KNT Kendrikon 84.21 340 P **P** **22 46 51.1 +0.5**
MATN Matagalpa 84.29 76 P **P** **22 46 50.0 -1.5**
SMTH Samothraki Isl 84.31 338 P **P** **22 46 50.6 -0.5**
KOKK Kokkinochori, 84.31 340 P **P** **22 46 50.9 -0.2**
THAS Thassos island 84.36 339 P **P** **22 46 51.1 -0.2**
AS31 Alice Springs 84.39 219 P **P** **22 46 52.1 +0.5**
ASAR Alice Springs 84.39 219 P **P** **22 46 52.5 +0.9**
ASAR Alice Springs 84.39 219 P **P** **22 46 52.0 +0.4**
comp=Z,143nm,1.0s,baz=25,slow=4.9,SNR=332
ASAR pP **pP** **22 47 24.1 +0.5**
comp=Z,84nm,0.9s,baz=28,slow=4.7,SNR=5.9
ASAR PP **PP** **22 50 10.0 +1.3**
comp=Z,33nm,1.1s,baz=32,slow=7.8,SNR=3.0
ASAR PKiKP **PKiKP** **22 52 06.1 +1.2**
comp=Z,3.2nm,1.0s,baz=27,slow=2.3,SNR=1.9
ASAR S **SKSac** **22 57 03.9 +0.7**
comp=Z,3.7nm,1.1s,baz=22,slow=5.2,SNR=6.3
ASAR PKKPbc **PKKPbc** **23 05 01.9 +0.4**
comp=Z,2.1nm,0.8s,baz=199,slow=2.2,SNR=5.6
ASAR PKPPKP 23 13 03.6
comp=Z,3.3nm,1.0s,baz=142,slow=1.4,SNR=6.9
ASAR LR LR 23 23 24.9
comp=Z,3µm,18.6s,baz=26,slow=35
comp=Z,143nm,1.0s
SOH Sokhos 84.44 340 P **P** **22 46 51.7 -0.1**
CAMP Campotosto 84.47 348 P **P** **22 46 53.0 +0.9**
CAMP IAmb IAmb 22 46 58.1
comp=Z,503nm,1.0s
CESX Cesi 84.50 348 P **P** **22 46 52.0 0.0**
CESX IAmb IAmb 22 46 58.9
comp=Z,162nm,0.7s
GRG Griva 84.51 341 P **P** **22 46 52.5 +0.3**
CASP Castiglione de 84.52 350 P **P** **22 46 52.2 0.0**
TIR Tirane 84.62 343 ⇑P **P** **22 46 54.2 +1.5**
TIR Tirane 84.62 343 P **P** **22 46 52.6 0.0**
TIR Tirane 84.62 343 P **P** **22 46 53.3 +0.6**
AQU L'Aquila 84.65 348 P **P** **22 46 53.5 +0.7**
AQU IAmb IAmb 22 47 02.9
comp=Z,384nm,0.9s
OHR Ohrid 84.67 342 *i* P **P** **22 46 53.6 +0.6**
THE Thessaloniki 84.71 340 P **P** **22 46 51.9 -1.2**
HORT Hortiatis 84.71 340 P **P** **22 46 52.7 -0.5**
EZN Ezine 84.74 338 P **P** **22 46 52.1 -1.1**
OUR Ouranopolis 84.78 339 P **P** **22 46 53.1 -0.3**
BOAB BOACO BROADBAND 84.82 76 P **P** **22 46 53.4 -0.7**
BOAB IAmb IAmb 22 46 55.6
comp=Z,596nm,1.7s
BOAB BOACO BROADBAND 84.82 76 P **P** **22 46 53.3 -0.7**
FNA Florina 84.88 342 P **P** **22 46 53.3 -0.7**
FNA Florina 84.88 342 P **P** **22 46 54.2 +0.2**
LHI Lord Howe Isla 84.88 195 P **P** **22 46 55.3 +1.5**
LHI IAmb IAmb 22 46 56.2
comp=Z,597nm,1.6s
SGRT San Giovanni R 84.91 346 P **P** **22 46 54.0 -0.2**
SGRT IAmb IAmb 22 47 00.3
comp=Z,200nm,0.7s
INTR Introdacqua 84.92 347 P **P** **22 46 54.3 +0.1**
LIA Limnos Island 84.93 338 P **P** **22 46 53.9 -0.3**
GTBY Guantanamo Bay 84.96 64 P **P** **22 46 54.4 -0.3**
GTBY Guantanamo Bay 84.96 64 *e*P **P** **22 46 54.0 -0.7**
MTDJ Mount Denham 84.97 67 P **P** **22 46 54.0 -0.6**
MTDJ IAmb IAmb 22 48 01.8
comp=Z,505nm,1.6s
MTDJ Mount Denham 84.97 67 *e*P **P** **22 46 54.5 -0.4**
KTI Kastanea 85.11 341 P **P** **22 46 55.4 +0.1**
KBN Korca 85.15 342 P **P** **22 46 54.9 -0.5**
KBN Korca 85.15 342 P **P** **22 46 55.4 0.0**
H07N1 FLORES T-PHASE 85.23 21 *e*P **P** **22 46 55.9 +0.1**
comp=Z,950nm,1.2s
H07N1 FLORES T-PHASE 85.23 21 P **P** **22 46 54.1 -1.7**
SNR=88
ARMA Armidale 85.25 202 P **P** **22 46 57.6 +1.8**
ARMA IAmb IAmb 22 46 58.8
comp=Z,444nm,1.3s
ARMA Armidale 85.25 202 P **P** **22 46 57.6 +1.8**
NEST Nestorio 85.30 342 P **P** **22 46 55.9 -0.3**
PRK Paraskevi 85.30 337 P **P** **22 46 55.5 -0.6**
KULA Kula-Manisa 85.41 335 P **P** **22 46 56.3 -0.5**
SIGR SIGRI 85.43 338 P **P** **22 46 56.2 -0.5**
ACON Acoyapa 85.49 76 P **P** **22 46 56.9 -0.5**
ACON Acoyapa 85.49 76 *e*P **P** **22 46 56.8 -0.6**
PENT Pentalofos 85.50 342 P **P** **22 46 57.0 -0.2**
EJON La Jonquera 85.50 355 P **P** **22 46 56.6 -0.4**
EJON S **S** **22 57 16.7 -0.9**
H07S1 FLORES T-PHASE 85.51 21 *e*P **P** **22 46 57.6 +0.4**
comp=Z,1µm,1.3s
H07S1 FLORES T-PHASE 85.51 21 P **P** **22 46 59.3 +2.2**
SNR=171
VLO Vlora 85.54 343 P **P** **22 46 57.9 +0.6**
VLO IAmb IAmb 22 47 54.5
comp=Z,396nm,1.3s
GOA Goa 85.61 290 *e*P **P** **22 46 58.1 +0.1**
LSK Leskovik 85.64 342 P **P** **22 46 57.8 -0.1**
KPRO Kipourio 85.68 341 P **P** **22 46 57.6 -0.5**
INKA Innaminka 85.71 212 P **P** **22 46 59.4 +1.4**
JASK Jask - Hormozg 85.72 308 P **P** **22 46 59.3 +0.9**
SNR=19
JASK S **SKSac** **22 57 12.6 +0.6**
PAOL Paolisi 85.79 347 P **P** **22 46 58.1 -0.5**
ESPN Las Esperanzas 85.83 76 P **P** **22 46 59.0 -0.1**

MATE	**Matera**	**85.84**	**345**	⇑P	**P**	**22 47 00.3**	**+1.6**
XOR	**Xorichti**	**85.88**	**340**	P	**P**	**22 46 57.5**	**-1.5**
NEO	**Neokhori**	**85.93**	**340**	P	**P**	**22 46 58.1**	**-1.1**
THL	**Klokotos Trika**	**85.93**	**341**	P	**P**	**22 46 57.8**	**-1.4**
SRN	**Sarande**	**86.02**	**342**	P	**P**	**22 46 58.9**	**-0.7**
PGAV	**Gavieira, Arco**	**86.03**	**4**	⇑*i*P	**P**	**22 47 00.0**	**+0.2**
	comp=Z,185nm,1.9s						
PGAV				*e*pP	**pP**	**22 47 28.9**	**-2.0**
PGAV				*e*S	**SKSac**	**22 57 11.8**	**-1.9**
PGAV				*e*SS	**SS**	**23 03 09.9**	**+8.0**
SKY	**Skiros Island**	**86.05**	**339**	P	**P**	**22 46 58.9**	**-0.9**
JAN	**Janina**	**86.07**	**342**	P	**P**	**22 46 59.9**	**0.0**
SALM	**Salem**	**86.08**	**284**	*e*P	**P**	**22 47 01.0**	**+0.8**
ECAL	**Calabor**	**86.10**	**3**	P	**P**	**22 46 59.0**	**-1.1**
ECAL				S	**S**	**22 57 23.7**	**+0.1**
SCTE	**Santa Cesarea**	**86.11**	**344**	P	**P**	**22 47 00.4**	**+0.4**
SCTE				IAmb	IAmb	22 47 47.0	
	comp=Z,323nm,1.0s						
CHOS	**Chios island**	**86.17**	**337**	P	**P**	**22 46 59.5**	**-1.0**
KEK	**Kerkira**	**86.22**	**342**	P	**P**	**22 47 00.1**	**-0.5**
KEK	**Kerkira**	**86.22**	**342**	P	**P**	**22 47 00.8**	**+0.2**
KEK				IAmb	IAmb	22 47 51.7	
	comp=Z,379nm,1.7s						
PBRG	**Braganca**	**86.24**	**3**	⇑*i*P	**P**	**22 47 00.0**	**-0.7**
	comp=Z,148nm,1.8s						
PBRG				*e*pP	**pP**	**22 47 30.7**	**-1.2**
PBRG				*e*S	**SKSac**	**22 57 13.3**	**-1.6**
PBRG				*e*SS	**SS**	**23 03 14.3**	**+9.3**
IGT	**Igoumenitsa**	**86.29**	**342**	P	**P**	**22 47 00.6**	**-0.4**
KYMI	**Kymi, Euboea I**	**86.38**	**339**	P	**P**	**22 47 00.4**	**-1.0**
SHME	**Shamm**	**86.39**	**309**	*i* P	**P**	**22 47 01.5**	**-0.2**
	SNR=21						
SHME	**Shamm**	**86.39**	**309**	P	**P**	**22 47 02.4**	**+0.7**
	SNR=9.4						
MAKR	**Makrakomi, Fth**	**86.44**	**340**	P	**P**	**22 47 00.7**	**-1.0**
SRBC	**Serra Branca**	**86.52**	**19**	*e*P	P	22 46 51.7	-10
	comp=Z,204nm,2.0s						
PGRA	**Graciosa**	**86.53**	**19**	*e*P	**P**	**22 47 02.5**	**+0.3**
	comp=Z,435nm,1.5s						
ATAL	**Atalanti**	**86.56**	**340**	P	**P**	**22 47 00.4**	**-1.9**
AXAR	**Agios Charalam**	**86.57**	**340**	P	**P**	**22 47 00.7**	**-1.7**
ORTG	**Ortega, Santa**	**86.58**	**78**	P	**P**	**22 47 02.8**	**-0.1**
EVR	**Evrytania**	**86.60**	**341**	P	**P**	**22 47 02.4**	**-0.2**
CUC	**Castrocucco**	**86.62**	**345**	P	**P**	**22 47 02.3**	**-0.3**
PRVC	**Isla de Provid**	**86.63**	**73**	*e*P	**P**	**22 47 03.1**	**+0.1**
POLO	**Lamas de Olo**	**86.63**	**3**	⇑*i*P	**P**	**22 47 02.3**	**-0.4**
	comp=Z,37nm,1.0s						
POLO				*e*pP	**pP**	**22 47 31.8**	**-2.1**
POLO	**Lamas de Olo**	**86.63**	**3**	*e*PP	**PP**	**22 50 30.6**	**+5.2**
POLO				*e*S	**SKSac**	**22 57 15.3**	**-2.2**
POLO				*e*SS	**SS**	**23 03 17.1**	**+6.2**
PVRL	**Vila Real**	**86.73**	**3**	⇑*i*P	**P**	**22 47 02.7**	**-0.5**
	comp=Z,149nm,1.4s						
PVRL				*e*pP	**pP**	**22 47 32.8**	**-1.6**
PVRL	**Vila Real**	**86.73**	**3**	*e*PP	PP	22 50 37.4	+11
ELL	**Elmali**	**86.75**	**334**	P	**P**	**22 47 03.2**	**-0.2**
ELL				IAmb	IAmb	22 47 13.4	
	comp=Z,227nm,0.8s						
PCED	**Cedros**	**86.77**	**20**	*e*P	**P**	**22 47 03.3**	**0.0**
	comp=Z,164nm,0.8s						
ROSA	**Rosais**	**86.78**	**19**	*e*P	**P**	**22 47 03.2**	**-0.2**
	comp=Z,167nm,1.8s						
ROSA	**Rosais**	**86.78**	**19**	P	**P**	**22 47 02.5**	**-0.9**
DUNO	**Dulce Nombre,**	**86.79**	**78**	P	**P**	**22 47 03.7**	**0.0**
DUNO				IAmb	IAmb	22 47 11.4	
	comp=Z,223nm,0.9s						
YER	**Yerkesik**	**86.81**	**335**	P	**P**	**22 47 03.4**	**-0.2**
CALA	**Caldeira**	**86.82**	**20**	*e*P	**P**	**22 47 03.4**	**-0.3**
	comp=Z,225nm,1.0s						
PTO	**Porto**	**86.84**	**4**	*e*P	**P**	**22 47 04.0**	**+0.4**
	comp=Z,117nm,1.5s						
MVO	**Moncorvo**	**86.87**	**3**	⇑*i*P	**P**	**22 47 03.3**	**-0.6**
	comp=Z,135nm,2.4s						
MVO				*e*pP	**pP**	**22 47 34.3**	**-0.7**
MVO	**Moncorvo**	**86.87**	**3**	*e*PP	**PP**	**22 50 34.2**	**+6.9**
MVO				*e*S	**SKSac**	**22 57 18.5**	**-0.4**
MVO				*e*SS	**SS**	**23 03 07.4**	**-6.8**
ANX	**Ano Chora**	**86.89**	**341**	P	**P**	**22 47 02.9**	**-1.1**
HOR	**Horta**	**86.89**	**20**	*e*P	**P**	**22 47 03.1**	**-0.8**
	comp=Z,106nm,0.4s						
PMAN	**Manadas**	**86.90**	**19**	*e*P	**P**	**22 47 04.1**	**+0.2**
	comp=Z,263nm,1.3s						
PSBA	**Serra de Santa**	**86.92**	**19**	*e*P	**P**	**22 47 04.1**	**0.0**
	comp=Z,199nm,1.7s						
COVE	**Coope Vega, Sa**	**86.94**	**77**	P	**P**	**22 47 04.3**	**-0.2**
PVO	**Paravola**	**86.94**	**341**	P	**P**	**22 47 02.7**	**-1.4**
JTS	**Las Juntas de**	**86.94**	**77**	*e*P	**P**	**22 47 02.8**	**-1.7**
PAGU	**Agualva, Azore**	**86.95**	**19**	*e*P	**P**	**22 47 03.9**	**-0.3**
	comp=Z,100nm,1.2s						
LKD2	**Lefkada island**	**86.95**	**342**	P	**P**	**22 47 03.2**	**-1.0**
ARE1	**Arenal 1**	**86.95**	**77**	P	**P**	**22 47 04.3**	**-0.2**
ARE1				IAmb	IAmb	22 47 11.4	
	comp=Z,155nm,0.8s						
PICO	**Pico**	**86.95**	**20**	*e*P	**P**	**22 47 03.9**	**-0.4**
	comp=Z,177nm,0.5s						
MDH	**Madha**	**86.95**	**309**	*i* P	**P**	**22 47 03.3**	**-1.1**
	SNR=18						
MDH	**Madha**	**86.95**	**309**	P	**P**	**22 47 05.0**	**+0.6**
	SNR=22						
MASF	**Masafi**	**86.96**	**309**	P	**P**	**22 47 05.1**	**+0.6**
	SNR=17						
MSFE	**Esma-Masafi**	**86.97**	**309**	*i* P	**P**	**22 47 04.1**	**-0.4**
	SNR=23						
PCAN	**Candelaria**	**86.98**	**20**	*e*P	**P**	**22 47 03.9**	**-0.5**
	comp=Z,161nm,1.0s						
XMIS	**Christmas Isla**	**86.98**	**249**	P	**P**	**22 47 04.3**	**-0.3**
XMIS				IAmb	IAmb	22 47 07.5	
	comp=Z,474nm,1.4s						
XMIS					**pP**	**22 47 37.6**	**+0.6**
VILL	**Villia**	**87.00**	**339**	P	**P**	**22 47 02.5**	**-2.0**
NYDR	**Nydri-Lefkada**	**87.01**	**341**	P	**P**	**22 47 02.8**	**-1.7**
PPNO	**Prainha do Nor**	**87.02**	**19**	*e*P	**P**	**22 47 03.8**	**-0.8**
	comp=Z,203nm,1.2s						
KALE	**Kalithea**	**87.03**	**340**	P	**P**	**22 47 02.9**	**-1.8**
ADH	**Angra Heroismo**	**87.04**	**19**	*e*P	**P**	**22 47 04.4**	**-0.2**
	comp=Z,126nm,0.8s						
EFP	**Efpalio**	**87.05**	**341**	P	**P**	**22 47 04.0**	**-0.7**
UMQ	**Umm Al-Quwin**	**87.07**	**309**	P	**P**	**22 47 05.3**	**+0.4**
PID	**Ribeirinha**	**87.07**	**19**	*e*P	**P**	**22 47 04.7**	**-0.1**
	comp=Z,146nm,1.0s						
TRIZ	**Trizonia**	**87.07**	**340**	P	**P**	**22 47 02.9**	**-1.9**
ATHU	**Athens Univers**	**87.09**	**339**	P	**P**	**22 47 03.0**	**-1.9**
ATH	**Athens Observa**	**87.10**	**339**	P	**P**	**22 47 03.1**	**-1.8**
EVGI	**Lefkada island**	**87.11**	**342**	P	**P**	**22 47 04.0**	**-1.0**
BODT	**Bodrum**	**87.12**	**336**	P	**P**	**22 47 03.8**	**-1.3**
OUZ	**Omahuta**	**87.18**	**183**	P	**P**	**22 47 06.9**	**+1.9**
OUZ	**Omahuta**	**87.18**	**183**	P	**P**	**22 47 07.2**	**+2.3**
VLY	**Voula,Athens**	**87.20**	**339**	P	**P**	**22 47 03.4**	**-2.0**
LAKA	**Lakka**	**87.21**	**340**	P	**P**	**22 47 04.5**	**-1.0**
MALK	**Mahakanadarawa**	**87.23**	**280**	P	**P**	**22 47 05.0**	**-0.9**
MALK				S	**S**	**22 57 35.4**	**+0.2**
HWQ	**Hawqa**	**87.26**	**328**	*e*P	**P**	**22 47 05.8**	**-0.1**
THAL	**Thalero**	**87.27**	**340**	P	**P**	**22 47 03.9**	**-1.8**
PVIS	**Viseu**	**87.29**	**4**	⇑*i*P	**P**	**22 47 05.2**	**-0.7**
PVIS				*e*pP	**pP**	**22 47 36.3**	**-0.8**
PVIS	**Viseu**	**87.29**	**4**	*e*PP	PP	22 50 44.0	+13
UOSS	**Minazif**	**87.30**	**309**	P	**P**	**22 47 05.7**	**-0.4**
UOSS	**Minazif**	**87.30**	**309**	*i* P	**P**	**22 47 04.9**	**-1.2**
	SNR=19						
UOSS	**Minazif**	**87.30**	**309**	P	**P**	**22 47 05.6**	**-0.4**
KLV	**Kalavryta, Ach**	**87.37**	**340**	P	**P**	**22 47 05.0**	**-1.3**
DAT	**Datca**	**87.37**	**336**	P	**P**	**22 47 04.5**	**-1.9**
GUR	**Goura**	**87.43**	**340**	P	**P**	**22 47 04.7**	**-2.0**
HATD	**Hatta, Dubai**	**87.43**	**309**	*i* P	**P**	**22 47 06.2**	**-0.5**
	SNR=40						
HATD	**Hatta, Dubai**	**87.43**	**309**	P	**P**	**22 47 07.0**	**+0.2**
	SNR=31						
CSS	**Mathiatis**	**87.44**	**331**	P	**P**	**22 47 07.1**	**+0.5**
OOD	**Oodnadatta**	**87.48**	**216**	P	**P**	**22 47 07.0**	**+0.4**
RLS	**Riolos of Patr**	**87.49**	**341**	P	**P**	**22 47 06.2**	**-0.6**
NAZ	**Nazwa, Dubai**	**87.52**	**309**	*i* P	**P**	**22 47 06.8**	**-0.3**
	SNR=10						
NAZ	**Nazwa, Dubai**	**87.52**	**309**	P	**P**	**22 47 09.0**	**+1.8**
	SNR=11						
WSAR	**Wadi Sarin**	**87.54**	**306**	P	**P**	**22 47 08.4**	**+1.1**
	SNR=32						
WSAR				S	**S**	**22 57 34.6**	**-3.4**
WSAR	**Wadi Sarin**	**87.54**	**306**	LR	LR	23 32 00.6	
	comp=Z,3μm,18.8s,baz=68,slow=39						
VLS	**Valsamata**	**87.55**	**341**	P	**P**	**22 47 06.2**	**-0.9**
BIDO	**Bidbid**	**87.56**	**306**	P	**P**	**22 47 09.0**	**+1.7**
	SNR=21						
ASHO	**Ashiyiah**	**87.59**	**309**	*i* P	**P**	**22 47 07.2**	**-0.3**
	SNR=10						
ASHO	**Ashiyiah**	**87.59**	**309**	P	**P**	**22 47 08.0**	**+0.5**
	SNR=30						
MTE	**Manteigas**	**87.61**	**3**	⇑*i*P	**P**	**22 47 07.1**	**-0.3**
	comp=Z,104nm,0.9s						
MTE				*e*pP	**pP**	**22 47 37.6**	**-1.1**
MTE	**Manteigas**	**87.61**	**3**	*e*PP	**PP**	**22 50 33.0**	**-0.3**
MTE				*e*S	**SKSac**	**22 57 21.3**	**-2.1**
MTE				*e*SS	**SS**	**23 03 34.7**	**+10**
MTE	**Manteigas**	**87.61**	**3**	P	**P**	**22 47 07.2**	**-0.2**
JACO	**JACO, Garabito**	**87.62**	**77**	P	**P**	**22 47 08.3**	**+0.6**
JACO				IAmb	IAmb	22 47 15.6	
	comp=Z,246nm,0.8s						
PSDA	**Pessada-Kefalo**	**87.62**	**341**	P	**P**	**22 47 06.1**	**-1.3**
HDC	**Heredia**	**87.67**	**77**	*e*P	**P**	**22 47 09.6**	**+1.4**
BHL	**Bhannes**	**87.69**	**329**	*e*P	**P**	**22 47 07.4**	**-0.5**
ARG	**Arkhangelos**	**87.72**	**335**	P	**P**	**22 47 06.3**	**-1.6**
ARG	**Arkhangelos**	**87.72**	**335**	P	**P**	**22 47 07.8**	**-0.1**
ARG				IAmb	IAmb	22 47 13.4	
	comp=Z,275nm,1.0s						
FAQ	**Al Faqa, Dubai**	**87.76**	**309**	*i* P	**P**	**22 47 07.6**	**-0.7**
	SNR=13						
FAQ	**Al Faqa, Dubai**	**87.76**	**309**	P	**P**	**22 47 08.1**	**-0.2**
COI	**Coimbra**	**87.77**	**4**	⇑*i*P	**P**	**22 47 07.4**	**-0.7**
	comp=Z,184nm,1.9s						
COI				*e*pP	**pP**	**22 47 38.6**	**-0.8**
COI				*e*S	**SKSac**	**22 57 20.6**	**-3.6**
COI	**Coimbra**	**87.77**	**4**	P	**P**	**22 47 08.3**	**+0.2**
KRND	**KRANIDI**	**87.79**	**339**	P	**P**	**22 47 05.7**	**-2.5**
CMSA	**Cobar Meteorol**	**87.80**	**206**	P	**P**	**22 47 09.5**	**+1.5**
SDDR	**Presa de Saban**	**87.81**	**61**	P	**P**	**22 47 09.3**	**+0.7**
SDDR	**Presa de Saban**	**87.81**	**61**	*e*P	**P**	**22 47 08.5**	**-0.2**
SOHO	**SOHO**	**87.82**	**308**	*i* P	**P**	**22 47 08.0**	**-0.5**
	SNR=18						
SOHO	**SOHO**	**87.82**	**308**	P	**P**	**22 47 08.1**	**-0.4**
SOHO				S	**SKSac**	**22 57 20.9**	**-4.0**
WRKA	**Warakurna**	**87.87**	**223**	P	**P**	**22 47 09.2**	**+0.6**
WCZ	**Waipu Caves**	**87.88**	**182**	P	**P**	**22 47 09.5**	**+1.3**
WBK	**Wadi Bani Khal**	**87.90**	**305**	P	**P**	**22 47 11.0**	**+1.9**
	SNR=27						
HOQ	**Hoqain**	**87.91**	**307**	P	**P**	**22 47 10.0**	**+0.9**
	SNR=23						
PCAS	**Casmilo, Conde**	**87.92**	**4**	⇑*i*P	**P**	**22 47 07.9**	**-0.9**
	comp=Z,156nm,2.1s						
PCAS				*e*pP	**pP**	**22 47 39.0**	**-1.1**
PCAS				*e*S	**SKSac**	**22 57 22.2**	**-2.9**
PCAS				*e*SS	**SS**	**23 03 36.1**	**+6.6**
MAHO	**Mahon**	**87.97**	**354**	P	**P**	**22 47 08.7**	**-0.3**
MAHO				S	**S**	**22 57 40.8**	**-0.5**
SMDO	**Samad**	**87.98**	**306**	P	**P**	**22 47 10.0**	**+0.5**
	SNR=28						
ASUD	**Al Ashush, Dub**	**87.99**	**309**	*i* P	**P**	**22 47 09.3**	**-0.1**
	SNR=27						
ASUD	**Al Ashush, Dub**	**87.99**	**309**	P	**P**	**22 47 11.0**	**+1.6**
	SNR=7.3						
MGCD	**Mangrove Creek**	**88.05**	**201**	P	**P**	**22 47 11.2**	**+2.0**
JLN	**Jalan Bani Buh**	**88.06**	**305**	P	**P**	**22 47 11.0**	**+1.2**
	SNR=25						
PSET	**Sete Cidades**	**88.14**	**18**	*e*P	**P**	**22 47 07.5**	**-2.4**
	comp=Z,135nm,0.7s						
GRZ	**Great Barrier**	**88.17**	**181**	P	**P**	**22 47 11.2**	**+1.5**
ETOS	**Mallorca**	**88.17**	**355**	P	**P**	**22 47 09.1**	**-0.9**
ETOS				S	**S**	**22 57 43.5**	**+0.1**
PCBR	**Castelo Branco**	**88.17**	**3**	⇑*i*P	**P**	**22 47 09.3**	**-0.7**
	comp=Z,120nm,1.2s						
PCBR				*e*pP	**pP**	**22 47 39.7**	**-1.6**
PCBR	**Castelo Branco**	**88.17**	**3**	*e*PP	**PP**	**22 50 40.7**	**+3.0**
PDA	**Ponta Delgada**	**88.22**	**18**	*e*P	**P**	**22 47 10.5**	**+0.3**
	comp=Z,308nm,1.0s						
CMLA	**Cha da Macela**	**88.23**	**18**	*e*P	**P**	**22 47 10.8**	**+0.5**
	comp=Z,208nm,0.3s						
CMLA	**Cha da Macela**	**88.23**	**18**	P	**P**	**22 47 10.9**	**+0.5**
CMLA				IAmb	IAmb	22 47 17.2	
	comp=Z,152nm,0.7s						
CMLA	**Cha da Macela**	**88.23**	**18**	P	**P**	**22 47 11.7**	**+1.3**
PGRON	**Lagoa das Cont**	**88.25**	**17**	*e*P	**P**	**22 47 09.3**	**-1.2**
	comp=Z,123nm,1.0s						
ALNE	**Al Ain**	**88.27**	**308**	*i* P	**P**	**22 47 10.4**	**-0.3**
	SNR=31						
ALNE	**Al Ain**	**88.27**	**308**	P	**P**	**22 47 11.2**	**+0.4**
	SNR=27						
BART	**Pico Bartolome**	**88.29**	**17**	*e*P	**P**	**22 47 10.4**	**-0.3**
	comp=Z,186nm,1.0s						
MBWA	**Marble Bar**	**88.36**	**232**	P	**P**	**22 47 10.5**	**-0.4**
MBWA				IAmb	IAmb	22 47 12.0	
	comp=Z,206nm,1.1s						
MBWA	**Marble Bar**	**88.36**	**232**	P	**P**	**22 47 10.3**	**-0.6**
ESBB	**Sonseca Array**	**88.41**	**1**	P	**P**	**22 47 10.7**	**-0.5**
ESDC	**Sonseca Array**	**88.41**	**1**	P	**P**	**22 47 10.7**	**-0.5**
ESDC	**Sonseca Array**	**88.41**	**1**	P	**P**	**22 47 10.4**	**-0.8**
	comp=Z,12nm,0.9s,baz=352,slow=4.2,SNR=79						
ESDC				PKKPbc	**PKKPbc**	**23 04 51.5**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=194,slow=1.9,SNR=13						
ESDC				PKPPKP	P'P'df	23 12 55.1	-7.8
	comp=Z,1.6nm,1.1s,baz=129,slow=1.3,SNR=6.6						
	comp=Z,12nm,0.9s						
PSBE	**So Bento**	**88.45**	**4**	*e*PP	**PP**	**22 50 47.5**	**+7.6**
ECHE	**Chera**	**88.48**	**358**	P	**P**	**22 47 10.5**	**-1.0**
ECHE				S	**S**	**22 57 43.5**	**-2.9**
ARQ	**Araqi**	**88.50**	**307**	P	**P**	**22 47 13.0**	**+1.1**
	SNR=36						
JMDO	**Jabal Madar**	**88.53**	**306**	P	**P**	**22 47 13.0**	**+1.0**
	SNR=38						
PAB	**San Pablo**	**88.54**	**1**	P	**P**	**22 47 11.1**	**-0.7**
PAB	**San Pablo**	**88.54**	**1**	P	**P**	**22 47 11.9**	**0.0**
PMRV	**Marv??o**	**88.59**	**3**	⇑*i*P	**P**	**22 47 11.1**	**-0.9**
	comp=Z,134nm,1.6s						
PMRV				*e*pP	**pP**	**22 47 41.2**	**-2.1**
PMRV	**Marv??o**	**88.59**	**3**	*e*PP	**PP**	**22 50 45.8**	**+4.8**
PMRV				*e*S	**SKSac**	**22 57 27.8**	**-1.4**
MMAI	**Mount Meron Ar**	**88.59**	**328**	P	**P**	**22 47 12.7**	**+0.5**
	comp=Z,41nm,0.8s,baz=37,slow=5.7,SNR=32						
MMAI				PP	**PP**	**22 50 43.0**	**+1.6**
	comp=Z,13nm,1.0s,baz=35,slow=11,SNR=3.7						
MMAI				LR	LR	23 31 17.9	
	comp=Z,4μm,20.9s,baz=358,slow=38						
	comp=Z,41nm,0.8s						
KARP	**Karpathos**	**88.60**	**336**	P	**P**	**22 47 11.8**	**-0.4**
KARP				IAmb	IAmb	22 47 16.6	
	comp=Z,259nm,0.7s						
RIV	**Riverview**	**88.64**	**201**	P	**P**	**22 47 14.3**	**+2.4**
PSA00	**Pilbara Seismi**	**88.66**	**231**	P	**P**	**22 47 11.7**	**-0.7**
PSA00				IAmb	IAmb	22 47 12.7	
	comp=Z,203nm,1.4s						
PSA00	**Pilbara Seismi**	**88.66**	**231**	P	**P**	**22 47 12.1**	**-0.2**
PSA00				IAmb	IAmb	22 47 13.4	
	comp=Z,141nm,1.0s						
PSA00	**Pilbara Seismi**	**88.66**	**231**	P	**P**	**22 47 12.1**	**-0.2**
BSY	**Bisya**	**88.67**	**307**	P	**P**	**22 47 13.0**	**+0.4**
	SNR=34						
DRK0	**Durika**	**88.78**	**77**	P	**P**	**22 47 13.7**	**+0.3**
DRK0				IAmb	IAmb	22 47 16.2	
	comp=Z,374nm,1.2s						
JRN	**Qarnain Island**	**88.88**	**311**	P	**P**	**22 47 14.4**	**+0.9**
	SNR=5.8						
PMTG	**Montargil**	**88.92**	**4**	⇑*i*P	**P**	**22 47 12.7**	**-0.8**
	comp=Z,91nm,2.1s						
PMTG				*e*pP	**pP**	**22 47 43.4**	**-1.4**
PMTG				*e*S	**SKSac**	**22 57 28.9**	**-2.1**
PMTG				*e*SS	**SS**	**23 03 53.3**	**+9.4**
EIBI	**Ibiza**	**88.98**	**356**	P	**P**	**22 47 13.5**	**-0.3**
EIBI				S	**S**	**22 57 51.3**	**+0.3**
PMAFR	**Mafra**	**88.98**	**5**	⇑*i*P	**P**	**22 47 13.1**	**-0.7**
	comp=Z,271nm,1.8s						
PMAFR				*e*pP	**pP**	**22 47 45.9**	**+0.7**
PMAFR				*e*S	**SKSac**	**22 57 29.8**	**-1.7**
PMAFR				*e*SS	**SS**	**23 03 47.0**	**+2.1**
PMAFR	**Mafra**	**88.98**	**5**	P	**P**	**22 47 12.2**	**-1.6**
PMAFR				S	**S**	**22 57 47.8**	**-3.2**
LCRK	**Leigh Creek**	**89.03**	**213**	P	**P**	**22 47 14.3**	**+0.4**
PSMA	**Santa Maria**	**89.05**	**17**	*e*P	**P**	**22 47 13.3**	**-0.9**
	comp=Z,199nm,1.5s						
PSMN	**Pico do Norte,**	**89.06**	**17**	*e*P	**P**	**22 47 13.5**	**-0.7**
	comp=Z,193nm,1.3s						
PESTR	**Estremoz**	**89.14**	**3**	⇑*i*P	**P**	**22 47 13.5**	**-1.1**
	comp=Z,172nm,1.8s						
PESTR				*e*pP	**pP**	**22 47 44.8**	**-1.2**
PESTR				*e*S	**SKSac**	**22 57 32.8**	**+0.4**
PESTR				*e*SS	**SS**	**23 03 54.1**	**+6.9**
PESTR	**Estremoz**	**89.14**	**3**	P	**P**	**22 47 14.0**	**-0.6**
PESTR	**Estremoz**	**89.14**	**3**	P	**P**	**22 47 14.9**	**+0.3**
PESTR	**Estremoz**	**89.14**	**3**	P	**P**	**22 47 13.2**	**-1.4**
PESTR				S	**S**	**22 57 49.8**	**-2.8**
LIS	**Lisbon**	**89.22**	**5**	⇑*i*P	**P**	**22 47 14.3**	**-0.6**
	comp=Z,170nm,1.4s						
LIS				*e*pP	**pP**	**22 47 45.1**	**-1.2**
LIS	**Lisbon**	**89.22**	**5**	*e*PP	**PP**	**22 50 51.2**	**+5.2**
LIS	**Lisbon**	**89.22**	**5**	*e*P	**P**	**22 47 14.0**	**-0.9**
LIS				IAmb	IAmb	22 47 16.4	
	comp=Z,81nm,1.0s						
LIS				*e*PP	**PP**	**22 50 45.9**	**-0.1**
LIS				*e*SKSac	**SKSac**	**22 57 31.9**	**-0.9**
EBAD	**Badajoz**	**89.27**	**3**	P	**P**	**22 47 13.5**	**-1.7**
EBAD				S	**S**	**22 57 54.4**	**+0.7**
STKA	**Stephens Creek**	**89.29**	**209**	P	**P**	**22 47 16.4**	**+1.4**
STKA	**Stephens Creek**	**89.29**	**209**	P	**P**	**22 47 16.4**	**+1.4**
STKA	**Stephens Creek**	**89.29**	**209**	P	**P**	**22 47 16.1**	**+1.0**
	comp=Z,499nm,1.1s,baz=3.9,slow=5.1,SNR=213						
STKA				PKKP	**PKKPdf**	**23 04 45.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=154,slow=1.1,SNR=1.4						
STKA				LR	LR	23 25 44.8	
	comp=Z,5μm,19.2s,baz=9.7,slow=34						
	comp=Z,499nm,1.1s						
VAE	**Valguarnera**	**89.30**	**346**	LR	LR	23 31 06.0	
	comp=Z,4μm,21.0s,baz=40,slow=38						
CLTB	**Caltabellotta**	**89.37**	**347**	P	**P**	**22 47 15.7**	**-0.1**
CLTB				IAmb	IAmb	22 48 06.4	
	comp=Z,228nm,1.0s						
IDI	**Anoyia**	**89.40**	**337**	P	**P**	**22 47 14.4**	**-1.5**
IDI	**Anoyia**	**89.40**	**337**	LR	LR	23 31 60.0	
	comp=Z,4μm,19.2s,baz=18,slow=39						
ETOB	**Tobarra**	**89.43**	**359**	P	**P**	**22 47 16.1**	**0.0**
ETOB				S	**S**	**22 57 54.4**	**-1.0**
IMMV	**Iera Moni Meta**	**89.45**	**338**	P	**P**	**22 47 15.3**	**-0.8**
EVO	**Evora**	**89.46**	**4**	⇑*i*P	**P**	**22 47 15.1**	**-1.0**
	comp=Z,141nm,2.1s						
EVO				*e*pP	**pP**	**22 47 46.3**	**-1.1**
EVO	**Evora**	**89.46**	**4**	P	**P**	**22 47 14.8**	**-1.3**
EVO				S	**S**	**22 57 54.4**	**-1.1**
CDITO	**Canoas**	**89.55**	**77**	P	**P**	**22 47 17.2**	**+0.5**
CDITO				IAmb	IAmb	22 47 20.0	
	comp=Z,567nm,1.6s						
TOZ	**Tahuroa Road**	**89.65**	**181**	P	**P**	**22 47 18.4**	**+1.9**
HAZ	**Te Kaha**	**89.67**	**179**	P	**P**	**22 47 18.1**	**+1.4**
YNG	**Young**	**89.73**	**203**	P	**P**	**22 47 18.9**	**+1.9**
MHTO	**MHTO**	**89.76**	**305**	P	**P**	**22 47 18.1**	**+0.4**
	SNR=28						
PBAR	**Barrancos**	**89.85**	**3**	⇑*i*P	**P**	**22 47 17.3**	**-0.6**
	comp=Z,207nm,1.8s						
PBAR				*e*pP	**pP**	**22 47 48.1**	**-1.1**
PBAR	**Barrancos**	**89.85**	**3**	*e*PP	**PP**	**22 50 53.0**	**+2.0**
PBAR				*e*S	**SKSac**	**22 57 35.2**	**-1.4**
PBAR				*e*SS	**SS**	**23 04 04.5**	**+7.1**
PNCL	**Nicolau / Gran**	**89.86**	**4**	⇑*i*P	**P**	**22 47 16.9**	**-1.0**
	comp=Z,128nm,1.9s						
PNCL				*e*pP	**pP**	**22 47 48.0**	**-1.3**
PNCL	**Nicolau / Gran**	**89.86**	**4**	*e*PP	**PP**	**22 50 53.7**	**+2.6**
PNCL				*e*S	**SKSac**	**22 57 35.3**	**-1.3**
PNCL				*e*SS	**SS**	**23 04 04.2**	**+6.7**
EADA	**Adamuz**	**89.91**	**1**	P	**P**	**22 47 17.6**	**-0.6**
EADA				S	**S**	**22 58 01.4**	**+1.6**
PBEJ	**Beja**	**89.97**	**4**	⇑*i*P	**P**	**22 47 17.9**	**-0.6**
	comp=Z,133nm,1.7s						
PBEJ				*e*pP	**pP**	**22 47 49.5**	**-0.3**
PUZ	**Puketiti**	**89.99**	**179**	P	**P**	**22 47 18.3**	**+0.1**
GHAJ	**Ghor Haditha**

comp=Z,262nm,1.6s
BBOO pP 22 48 00.0 +0.3
BBOO Buckleboo 91.92 213 P P 22 47 27.7 +0.4
CEU Ceuta 92.17 2 P P 22 47 27.6 -1.1
PAYG Puerto Ayora 92.32 88 P P 22 47 29.7 +0.1
PAYG IAmb IAmb 22 47 32.8
comp=Z,185nm,1.2s
PAYG Puerto Ayora 92.32 88 *eP* P 22 47 28.1 -1.5
GIRL Giralia 92.32 235 P P 22 47 30.4 +1.1
SMIR Smir Dam 92.38 2 P P 22 47 31.0 +1.3
SMRC Santa Marta, M 92.54 68 *eP* P 22 47 30.0 -0.6
MRZ Mangatainoka R 92.58 181 IAmb IAmb 22 47 32.3
comp=Z,120nm,1.1s
MRZ Mangatainoka R 92.58 181 P P 22 47 30.2 +0.1
OGWZ Otaki Gorge 92.73 181 P P 22 47 30.5 -0.2
DUWZ D'Urville Isla 92.74 182 P P 22 47 30.7 -0.2
KIW Kapiti Island 92.78 181 P P 22 47 30.6 -0.4
QRZ Quartz Range 92.81 183 P P 22 47 32.0 +0.8
QRZ Quartz Range 92.81 183 P P 22 47 31.9 +0.8
HOWZ Holdsworth Sta 92.81 181 P P 22 47 31.3 +0.1
SJCC San Jacinto, C 93.01 70 *eP* P 22 47 33.1 +0.2
FORT Forrest 93.04 220 P P 22 47 33.2 +0.7
MTW Mount Morrison 93.07 181 P P 22 47 33.6 +1.3
LCBC Los crdobas, 93.16 71 *eP* P 22 47 34.8 +1.3
NNZ Nelson 93.17 183 P P 22 47 34.2 +1.4
TAF Taforalt 93.27 359 P P 22 47 35.0 +1.1
CRJC Cerrejon, Guaj 93.42 67 *eP* P 22 47 34.0 -0.8
MEEK Meekatharra 93.54 230 P P 22 47 34.9 -0.1
TOO Toolangi 93.56 204 IAmb IAmb 22 47 39.2
comp=Z,175nm,1.4s
TOO Toolangi 93.56 204 P P 22 47 36.2 +1.5
ARGC Ariguani, Magd 93.58 69 *eP* P 22 47 35.4 -0.1
DOK Doka 93.67 307 P P 22 47 37.0 +1.1
SNR=8.6
PTAC Punta Ardita, 93.69 73 *eP* P 22 47 35.0 -0.9
JBK JBK 93.74 359 P P 22 47 37.0 +0.7
DSZ Denniston Nort 93.75 184 P P 22 47 36.3 +0.8
ARPS Mount Arapiles 93.79 207 P P 22 47 37.2 +1.5
APAC Apartado, Choc 93.80 72 *eP* P 22 47 37.2 +0.7
DMTO DMTO 94.03 306 P P 22 47 36.1 -1.5
PMPST Porto Santo, M 94.22 11⇑ *iP* P 22 47 37.4 -0.8
PMPST *epP* **pwP** 22 48 13.8 -0.9
PMPST Porto Santo, M 94.22 11 *e*PP **PP** 22 51 26.7 +1.2
LL6C La Loma 6 Bece 94.24 68 *eP* P 22 47 37.8 -0.7
PMOZ Porto Moniz, M 94.37 12⇑ *iP* P 22 47 38.2 -0.8
comp=Z,169nm,1.3s
PMOZ *epP* **pP** 22 48 11.9 +1.4
PMOZ Porto Moniz, M 94.37 12 *e*PP **PP** 22 51 28.5 +1.8
PMOZ *eS* **SKSac** 22 58 04.6 +2.3
PMOZ *eSS* **SS** 23 05 05.2 +2.6
ANBD Bethesda, Anti 94.39 55 *e* P 22 47 37.9 -1.2
MBFL Flemmings, Mon 94.42 55 *e* P 22 47 39.6 +0.3
WHFO Wadi Hawf 94.44 307 P P 22 47 40.0 +0.5
SNR=7.5
MLYT Lee's Yard 94.45 55 *e* P 22 47 39.5 0.0
PMAR Madeira 94.50 12⇑ *iP* P 22 47 39.2 -0.5
comp=Z,232nm,1.6s
PMAR *epP* **pwP** 22 48 15.6 -0.6
PMAR Madeira 94.50 12 *e*PP **PP** 22 51 29.7 +1.8
IFR Ifrane 94.55 2 P P 22 47 38.3 -1.5
ZHG ZHG 94.58 3 P P 22 47 41.0 +1.1
FUL Funchal 94.58 12 *eP* P 22 47 39.9 +0.1
comp=Z,126nm,1.4s
FUL Funchal 94.58 12 *e*PP **PP** 22 51 30.4 +2.2
AVE Averroes 94.70 4 P P 22 47 40.8 +0.4
AVE Averroes 94.70 4 P P 22 47 39.5 -0.9
INZ Inchbonnie 94.74 184 IAmb IAmb 22 49 06.0
comp=Z,170nm,1.8s
ABD La Joyeuse, An 95.02 55 *e* P 22 47 50.7 +8.7
CZD Col de Zad 95.03 2 P P 22 47 43.0 +0.7
WVZ Waitaha Valley 95.12 184 P P 22 47 40.7 -1.0
ABTO Aybut 95.16 307 P P 22 47 46.0 +3.2
SNR=5.6
MDT Midelt 95.25 1 P P 22 47 43.1 +0.1
CBE Ff, Capester 95.30 55 *e* P 22 47 39.8 -3.5
TDBA Terre de Bas, 95.47 55 *e* P 22 47 40.7 -3.4
SRHM Skhour des Reh 95.50 4 P P 22 47 46.0 +1.8
FOZ Fox Glacier 95.63 185 P P 22 47 45.1 +1.2
RPZ Rata Peaks 95.75 184 LR LR 23 28 43.3
comp=Z,4µm,18.8s,baz=9.0,slow=34
FIGM Figuig 95.92 358 P P 22 47 46.6 +0.4
KMBL Kamballda 96.12 225 P P 22 47 45.9 -0.7
JCZ Jackson Bay 96.23 186 P P 22 47 49.0 +2.2
JCZ Jackson Bay 96.23 186 P P 22 47 48.1 +1.3
PLMC San Jos del P 96.38 74 *eP* P 22 47 46.0 -2.4
SDV Santo Domingo 96.42 67 *eP* P 22 47 48.1 -0.6
SDV Santo Domingo 96.42 67 *eP* P 22 47 48.2 -0.6
SDV Santo Domingo 96.42 67 LR LR 23 35 34.3
comp=Z,3µm,18.1s,baz=344,slow=38
LBZ Lake Benmore 96.46 185 IAmb IAmb 22 47 49.3
comp=Z,214nm,1.9s
PAMC Pamplona, Colo 96.50 69 *eP* P 22 47 47.3 -2.2
ARF Arif 96.64 1 P P 22 47 50.0 +0.6
FDF Fort de France 96.66 56 *e* P 22 47 49.8 +0.2
GUY2C Guyana, Caldas 96.66 73 *eP* P 22 47 49.3 -0.9
NORC Norcasia 96.68 72 *eP* P 22 47 48.6 -1.1
OUK Oukaimeden 96.77 4 P P 22 47 50.2 0.0
MORW Morawa 96.82 230 P P 22 47 49.7 -0.1
MORW P 22 47 49.9 +0.1
MORW IAmb IAmb 22 47 51.4
comp=Z,72nm,1.1s
MORW **pP** 22 48 21.4 -1.0
MORW Morawa 96.82 230 P P 22 47 49.9 +0.1
BIM Bigot 96.89 56 *e* P 22 47 47.7 -2.9
MPOM Morne Pois Mar 97.05 56 *e* P 22 47 43.5 -7.8
TIO Tiouine 97.07 4 P P 22 47 50.0 -1.4
SPBC San Pablo de B 97.08 71 *eP* P 22 47 49.2 -2.3
OUZM OUZ 97.10 3 P Pdif 22 47 52.0 +0.4
ANIL Santa Ana 97.23 73 *eP* P 22 47 51.6 -0.9
SLBI Saint Lucia, B 97.35 56 *e* P 22 47 50.5 -2.1
RUSC La Rusia 97.45 70 *eP* P 22 47 51.8 -2.0
JAMC Jamundi, Valle 97.50 75 *eP* P 22 47 53.5 -0.1
ROSC El Rosal 97.58 72 *eP* P 22 47 51.4 -2.8
ROSC El Rosal 97.58 72 P P 22 47 54.0 -0.2
comp=Z,5.0nm,0.6s,baz=34,slow=6.2,SNR=5.4
ROSC S **SKSac** 22 58 20.1 +0.1
comp=Z,2.7nm,0.3s,baz=311,slow=24,SNR=6.9
ROSC LR LR 23 38 46.3
comp=Z,3µm,18.2s,baz=6.0,slow=40
comp=Z,5.0nm,0.6s
ORTC Ortega, Tolima 97.79 73 *eP* P 22 47 53.7 -1.0
BLDU Ballidu 97.80 229 P Pdif 22 47 55.4 +1.2
BAUV El Baul 97.83 65 IAmb IAmb 22 51 22.1
comp=Z,94nm,1.3s
BAUV El Baul 97.83 65 *e* P 22 47 53.1 -1.7
SSV Crater Summit 97.83 56 *e* Pdif 22 47 55.4 +0.5
SVB Belmont 97.85 57 *e* P 22 47 46.7 -8.2
ZGR Zagora 97.92 2 P Pdif 22 47 55.4 +0.2
BBAC Balboa, Cauca 98.11 76 *eP* P 22 47 55.8 -0.5
KLBR Kellerberrin 98.14 228 P Pdif 22 47 56.6 +0.9
PRAC Prado 98.16 73 *eP* P 22 47 55.8 -0.6
GCMP Grenada, Carri 98.42 57 *e* P 22 47 56.6 -0.8
GRHS Sauteurs 98.53 57 *e* P 22 47 57.0 -1.0
GRW Mount Saint Ca 98.57 57 *e* P 22 47 45.3 -13
GRGR Grenville 98.60 57 *e* P 22 47 56.0 -2.3
BETC Betania 98.66 74 *eP* Pdif 22 47 59.8 +1.2
GCUF Volcan Galeras 98.69 77 *eP* P 22 47 58.7 -0.6
OTAV Otavalo 98.81 78 P P 22 47 59.3 -0.5
OTAV Otavalo 98.81 78 *eP* P 22 47 58.3 -1.5
OTAV Otavalo 98.81 78 *eP* P 22 47 59.4 -0.3
BBGH Gun Hill 98.82 55 *e* Pdif 22 47 59.5 +0.3
MACI Morro de la Ar 98.97 12 P P 22 47 58.6 -1.3
MACI IAmb IAmb 22 48 05.6
comp=Z,78nm,1.0s
GARC Garzon, Huila 99.02 75 *eP* **Pdif** 22 47 59.6 -0.8
PTGC Puerto Gaitan, 99.37 71 *eP* **Pdif** 22 47 57.2 -4.5
FLOC Florencia 99.41 75 *eP* **Pdif** 22 48 01.7 -0.2
NWAO Narrogin (SRO) 99.51 227 LR LR 23 34 31.1
comp=Z,3µm,19.1s,baz=24,slow=36
PIAT Ana Tenorio 99.90 79 *eP* **Pdif** 22 48 02.5 -2.0
MCRA Macar, Loja 101.54 82 *eP* **Pdif** 22 48 10.4 -1.0
TAM Tamanrasset 104.86 352 **Pdif** 22 48 26.4 +0.2
MDP Montagnes des 109.16 53 PKKP 23 04 08.0
comp=Z,6.7nm,1.0s,baz=175,slow=5.4,SNR=3.4
KOWA Kowa 113.49 1 P **PKiKP** 22 52 57.2 +0.4
TORD Torodi Ar. Bea 114.70 355 Pdiff **Pdif** 22 49 10.2 +0.3
comp=Z,0.6nm,0.6s,baz=356,slow=6.2,SNR=3.9
TORD PKP **PKiKP** 22 52 58.3 -0.8
comp=Z,16nm,0.5s,baz=0.2,slow=2.6,SNR=136
TORD PP **PP** 22 53 55.9 -1.5
comp=Z,15nm,1.1s,baz=10,slow=7.6,SNR=4.9
TORD PKKPbc **PKKPbc** 23 03 34.8 0.0
comp=Z,4.2nm,0.5s,baz=161,slow=2.5,SNR=20
LPAZ La Paz 118.03 80 **PKPdf** 22 53 06.0 -0.2
KMBO Kilima Mbogo 118.87 312 **PKPdf** 22 53 06.6 -0.9
KMBO Kilima Mbogo 118.87 312 *i* P **PKiKP** 22 53 07.9 +0.4
SNR=22
KMBO Kilima Mbogo 118.87 312 PKP **PKiKP** 22 53 08.1 +0.5
comp=Z,15nm,1.0s,baz=0.9,slow=2.3,SNR=25
KMBO PKKPab **PKKPab** 23 03 26.6 -0.2
comp=Z,3.2nm,1.0s,baz=208,slow=6.6,SNR=5.6
PB08 IPOC Station P 120.35 84 PP PP 22 54 37.7 -0.6
PB07 IPOC Station P 121.10 86 PP PP 22 54 45.5 +2.4
MBAR Mbarara 121.19 319 **PKPdf** 22 53 11.4 -0.4
DBIC Dimbokro 121.26 2 **PKPdf** 22 53 11.6 -0.2
TIC Toumodi 121.28 2⇑ *e*PKP1 **PKPdf** 22 53 11.0 -0.9
comp=Z,68nm,0.7s
KIC Kosan Boka 121.57 2⇑ *e*PKP1 **PKPdf** 22 53 12.0 -0.4
comp=Z,160nm,0.7s
LIC Lamto 121.70 2⇑ *e*PKP1 **PKPdf** 22 53 12.3 -0.3
comp=Z,201nm,0.8s
SIV San Ignacio 122.02 74 PP **PP** 22 54 49.5 +0.4
comp=Z,66nm,1.2s,baz=333,slow=6.8,SNR=13
SIV PKKPbc **PKKPbc** 23 03 09.0 +0.6
comp=Z,9.7nm,1.0s,baz=146,slow=4.5,SNR=13
LVC Limon Verde 122.36 86 **PKPdf** 22 53 13.9 -0.1
LVC Limon Verde 122.36 86 *eP* **PKiKP** 22 53 14.6 +0.4
LVC Limon Verde 122.36 86 PKP **PKiKP** 22 53 14.8 +0.6
comp=Z,14nm,0.9s,baz=289,slow=4.3,SNR=7.2
LVC PKKPab **PKKPab** 23 03 09.6 -0.1
comp=Z,8.0nm,1.0s,baz=233,slow=3.0,SNR=5.5
SBV Sambava 122.76 292 PKP **PKiKP** 22 53 19.4 +4.7
PB14 IPOC Station P 122.93 88 PP PP 22 54 57.9 +2.2
LCO Las Campanas 125.92 92 **PKPdf** 22 53 20.2 -0.3
RCBR Riachuelo 126.44 42 *eP* **PKiKP** 22 53 22.0 -0.2
CASY Casey 128.43 208 **PKiKP** 22 53 24.3 -0.1
ABPO Ambohimpanom 128.74 291 **PKPdf** 22 53 25.2 -0.9
BDFB Brasilia 129.15 61 PKhKP PKPpre 22 53 16.1
comp=Z,2.4nm,0.5s,baz=131,slow=3.4,SNR=4.4
BDFB PKP **PKiKP** 22 53 28.2 +0.6
comp=Z,28nm,0.7s,baz=311,slow=2.5,SNR=9.6
BDFB PP **PP** 22 55 36.5 +0.1
comp=Z,18nm,0.9s,baz=332,slow=11,SNR=3.4
BDFB SKPbc SKPab 22 56 34.6 -0.7
comp=Z,13nm,0.7s,baz=5.2,slow=6.7,SNR=3.6
CFA Coronel Fontan 129.25 93 PKP **PKiKP** 22 53 27.2 0.0
comp=Z,53nm,0.7s,baz=281,slow=2.4,SNR=32
CFA SKPbc SKPab 22 56 34.6 -0.6
comp=Z,92nm,0.9s,baz=318,slow=3.5,SNR=24
RPRD Ribas do Rio P 129.85 70 *eP* **PKiKP** 22 53 28.4 -0.3
SBA Scott Base 130.02 183 PKPpre 22 53 17.8
CPUP Villa Florida 132.16 79 *eP* **PKiKP** 22 53 32.9 -0.3
CPUP Villa Florida 132.16 79 PKhKP PKPpre 22 53 22.5
comp=Z,3.2nm,0.6s,baz=304,slow=2.0,SNR=9.5
CPUP PKP **PKPdf** 22 53 31.9 -0.2
comp=Z,33nm,1.0s,baz=7.3,slow=3.3,SNR=16
CPUP SKPbc **SKPbc** 22 56 46.4 -0.2
comp=Z,61nm,1.0s,baz=327,slow=3.6,SNR=25
MCR1 Marechal Candi 132.72 74 *eP* **PKiKP** 22 53 34.1 -0.4
PLCA Paso Flores 133.84 104 *eP* **PKiKP** 22 53 35.9 -0.4
PLCA Paso Flores 133.84 104 PKhKP PKPpre 22 53 24.8
comp=Z,3.1nm,0.7s,baz=331,slow=3.5,SNR=6.1
PLCA PKP **PKiKP** 22 53 36.8 +0.5
comp=Z,24nm,0.7s,baz=259,slow=1.9,SNR=15
PLCA SKPbc **SKPbc** 22 56 52.2 +0.2
comp=Z,44nm,0.9s,baz=310,slow=4.1,SNR=13
FRBT Francisco Belt 134.44 75 *eP* **PKPdf** 22 53 36.9 +0.4
CRSM Crissiumal (Br 134.99 77 *eP* **PKPdf** 22 53 37.9 +0.5
LSZ Lusaka 135.46 314 **PKPdf** 22 53 39.3 +0.5
LSZ Lusaka 135.46 314 PKhKP PKPpre 22 53 31.0
comp=Z,2.1nm,0.7s,baz=45,slow=9.1,SNR=3.7
LSZ PKP **PKPdf** 22 53 38.8 0.0
comp=Z,17nm,0.7s,baz=65,slow=3.4,SNR=18
LSZ PP **PP** 22 56 17.5 +1.0
comp=Z,8.1nm,0.9s,baz=36,slow=5.2,SNR=4.1
LSZ SKPbc **SKPbc** 22 56 58.3 +0.4
comp=Z,19nm,0.9s,baz=25,slow=2.0,SNR=6.2
UNIS Unistalda (Bra 135.52 79 *eP* **PKPdf** 22 53 38.9 +0.5
RODS Rosario do Sul 136.36 81 *eP* **PKPdf** 22 53 40.5 +0.6
ALGR Alto Alegre (B 136.55 77 *eP* **PKPdf** 22 53 39.9 -0.5
ESAR Angra dos Reis 137.09 63 *eP* **PKPdf** 22 53 41.9 +0.5
TRQA Tornquist 137.37 95 PKPpre 22 53 30.6
DUB01 Friburgo-RJ 137.45 60 *eP* **PKPdf** 22 53 42.7 +0.5
LPA La Plata 137.82 88 PKIKP **PKPdf** 22 53 34.9 -7.5
LPA PKIKP **PKiKP** 22 53 47.7 +3.3
LPA PP **PP** 22 56 26.9 -4.8
LPA pPP 22 56 52.0
LPA SKP 22 56 57.7
LPA SKIKP 22 57 09.8
LPA PKS **PKSdf** 22 57 17.0 -1.5
LPA PPP PPP 22 59 27.1
LPA SKIKS 23 00 40.0
LPA SKIKS 23 00 50.3
LPA SDIFF 23 04 48.8
LPA PS **PS** 23 07 01.2 +1.1
LPA PSP PSP 23 08 47.3
LPA PPS PPS 23 08 55.4
LPA PPP PPP 23 09 09.1
LPA SS **SS** 23 14 36.5 +5.3
LPA SSS SSS 23 19 30.6
MATP Matopo 139.81 310 PKhKP PKPpre 22 53 39.5
comp=Z,5.1nm,0.7s,baz=47,slow=2.1,SNR=9.3
MATP SKPbc **SKPbc** 22 57 10.3 -0.2
comp=Z,20nm,0.9s,baz=6.7,slow=4.0,SNR=7.8
QSPA South Pole Qui 142.04 180 PKPpre 22 53 43.4
QSPA South Pole Qui 142.04 180 PKhKP PKPpre 22 53 45.9
comp=Z,45nm,0.5s,baz=261,slow=0.6,SNR=46
QSPA SKPbc **SKiKP** 22 57 15.4 -0.7
comp=Z,54nm,0.7s,baz=53,slow=0.3,SNR=9.1
QSPA SKKPbc **SKKPab** 23 05 34.0 -0.1
comp=Z,41nm,1.1s,baz=221,slow=3.2,SNR=7.6
TSUM Tsumeb 143.20 326 **PKPdf** 22 53 51.6 -1.2
TSUM Tsumeb 143.20 326 PKP PKPbc 22 53 51.3 +1.2
comp=Z,49nm,0.8s,baz=26,slow=4.3,SNR=19
MAW Mawson 145.52 218 **PKPbc** 22 53 55.4 -0.1
MAW Mawson 145.52 218 PKPbc **PKPbc** 22 53 55.5 0.0
comp=Z,130nm,0.7s,baz=76,slow=3.2,SNR=196
MAW pPKPbc **pPKPdf** 22 54 27.8 -0.9
comp=Z,153nm,1.0s,baz=11,slow=3.5,SNR=4.5
WIN Windhoek 146.47 325 **PKPdf** 22 53 58.7 +0.3
WIN Windhoek 146.47 325 *i* P **PKPdf** 22 53 58.0 -0.5
WIN Windhoek 146.47 325 *i* P **PKPdf** 22 53 53.5 -5.0
EFI East Falkland 146.89 111 **PKPab** 22 54 01.6 -0.2
PMSA Palmer Station 147.26 136 *eP* **PKPdf** 22 53 58.6 +0.5
BOSA Boshof 148.30 307 **PKPdf** 22 54 02.0 +0.8
BOSA Boshof 148.30 307 PKPbc **PKPbc** 22 54 05.4 +0.6
comp=Z,120nm,0.8s,baz=36,slow=2.5,SNR=46
ARMS Ukamas 150.35 316 *i* P **PKPdf** 22 54 04.9 +0.5
ARMS Ukamas 150.35 316 *i* P **PKPdf** 22 54 05.3 +0.9
AUSN Aus 150.52 323 *i* P **PKPdf** 22 54 03.6 -1.3
AUSN Aus 150.52 323 *i* P **PKPdf** 22 54 03.9 -1.0
SUR Sutherland 153.55 309 **PKPdf** 22 54 09.7 +0.5
SUR Sutherland 153.55 309 PKP **PKPdf** 22 54 12.1 +2.9
comp=Z,14nm,0.7s,baz=151,slow=3.9,SNR=14
SUR PKPbc **PKiKP** 22 54 18.3 +1.1
comp=Z,36nm,0.8s,baz=70,slow=3.1,SNR=8.2
ORCD Orcadas 155.95 127 **PKPab** 22 54 37.9 -1.3
ELIB Princess Elisa 157.08 201 *d*PKPdf **PKPdf** 22 54 12.4 -0.3
ELIB *d*PKP **PKPab** 22 54 43.5 -0.5
ELIB *d*PP **PP** 22 58 25.4 +1.7
ELIB *d*SKKSac SKKSac 23 04 56.6 -2.9
TROLL Troll, Antarti 160.04 185 ⇑PKPab **PKPab** 22 54 58.7 +1.8
comp=Z,6µm,0.8s
TROLL ⇑PKPdf **PKPdf** 22 54 15.9 -0.3
comp=Z,469nm,0.8s
SNAA Sanae 160.54 180 ⇑PKPab **PKPab** 22 54 59.4 +0.4
comp=Z,1µm,0.9s
SNAA ⇑PKPdf **PKPdf** 22 54 15.8 -0.9
comp=Z,162nm,0.7s
SNAA Sanae 160.54 180 PKP **PKPdf** 22 54 16.7 0.0
comp=Z,7.6nm,0.8s,baz=154,slow=1.8,SNR=18
SNAA PKPab **PKPab** 22 54 57.7 -1.2
comp=Z,64nm,0.9s,baz=201,slow=5.9,SNR=16
SNAA PP **PP** 22 58 45.4 +3.1
comp=Z,6.4nm,0.9s,baz=180,slow=5.6,SNR=4.2
VNA3 Neumayer Olymp 160.75 174 ⇑PKPab **PKPab** 22 55 00.7 +0.9
comp=Z,117nm,0.8s
VNA3 ⇑PKPdf **PKPdf** 22 54 16.5 -0.4
comp=Z,26nm,0.7s
VNA2 Neumayer--Watz 161.20 176 ⇑PKPab **PKPab** 22 55 02.8 +1.1
comp=Z,123nm,0.8s,baz=191,slow=3.0
VNA2 ⇑PKPdf **PKPdf** 22 54 17.4 +0.1
comp=Z,40nm,0.6s,baz=275,slow=1.0
VNA1 Neumayer--Stat 161.42 175 ⇑PKPab **sPKPdf** 22 55 03.9 -0.3
comp=Z,175nm,0.9s
VNA1 ⇑PKPdf **PKPdf** 22 54 17.4 -0.1
comp=Z,17nm,0.9s

ISK 08 23:01:14.9, 36.91N×27.59E, h15km±1km, ML0.8/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.15**	**55**		Pg	Pg	23 01 18.9	+0.1
RFTAA					Sg	Sb	23 01 22.1	-0.3
DAT	**Datca**	**0.18**	**184**		Pg	Pg	23 01 19.6	+0.2
DAT					Sg	Sg	23 01 22.9	+0.5
RFTC	**Emecik-Datca**	**0.22**	**127**		Pg	Pg	23 01 20.2	+0.3
RFTD	**Palamutbuku-Ka**	**0.24**	**199**		Pg	Pb	23 01 20.7	-0.3
BODT	**Bodrum**	**0.27**	**303**		Pg	Pg	23 01 21.1	+0.4
BODT					Sg	Sb	23 01 25.5	-0.5

*THE **08** 23:01:22.1, 36.00N×26.84E, h14km±2km, ML1.9/3, Error ellipse: s-maj=2.4km s-min=0.9km az=137.0*

ATH 08 23:01:21.7, 35.99N×26.81E, h23km±2km, ML2.4/2, Manual Solution by K.Orfanogiannaki First location: 2019/05/29 16:00:07, This location: 2019/11/22 06:52:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.53**	**147**		P	Pb	23 01 32.3	0.0
KARP					S	Sb	23 01 39.9	+0.3
505nm,0.2s								
KARP	**Karpathos**	**0.53**	**147**		P	Pb	23 01 32.3	0.0
KARP					S	Sb	23 01 39.4	-0.2
KRPA	**Karpathos**	**0.58**	**146**		P	Pb	23 01 33.3	0.0
KRPA					S	Sb	23 01 41.3	+0.3
ASTA	**Astypalaia**	**0.67**	**326**		P	Pb	23 01 34.0	-0.7
ASTA					S	Sb	23 01 43.6	+0.1
KOSK	**Kos Island**	**0.77**	**10**		P	Pb	23 01 36.7	+0.3
KOSK	**Kos Island**	**0.77**	**10**		P	Pb	23 01 36.5	+0.1
KOSK					S	Sb	23 01 47.2	+0.7
ZKR	**Zakros**	**1.00**	**209**		P	Pb	23 01 41.0	+0.6
ZKR					S	Sn	23 01 54.8	+1.1
30nm,0.4s								
ZKR	**Zakros**	**1.00**	**209**		P	Pb	23 01 40.9	+0.5
ZKR					S	Sn	23 01 53.6	-0.1
ARG	**Arkhangelos**	**1.09**	**78**		P	Pn	23 01 41.6	+0.1
ARG					S	Sb	23 01 55.5	-0.1
60nm,0.4s								
ARG	**Arkhangelos**	**1.09**	**78**		P	Pn	23 01 41.6	0.0
ARG					S	Sb	23 01 55.5	-0.1
THR8	**Santorini-Mono**	**1.15**	**291**		P	Pn	23 01 42.6	+0.2
SANT	**Santorini**	**1.16**	**289**		P	Pn	23 01 42.6	+0.1
SANT					S	Sb	23 01 57.6	0.0
THR3	**Thira Island,**	**1.21**	**290**		P	Pn	23 01 43.2	-0.1
CMBO	**Columbo, Santo**	**1.23**	**293**		P	Pn	23 01 43.5	0.0
APE	**Apeiranthos**	**1.49**	**317**		P	Pn	23 01 46.7	-0.4
APE	**Apeiranthos**	**1.49**	**317**		P	Pn	23 01 46.6	-0.5
IDI	**Anoyia**	**1.71**	**246**		P	Pn	23 01 50.3	+0.1
IDI	**Anoyia**	**1.71**	**246**		P	Pn	23 01 50.3	+0.1
IMMV	**Iera Moni Meta**	**2.36**	**258**		P	Pn	23 01 59.5	+0.4

*GUC **08** 23:10:19.6±0.7, 34.44S×71.56W, h50km±1km, ML3.8*
*NEIC **08** 23:10:19.7±1.3, 34.43S±0.03×71.59W±0.02, h48km±7km, mb4.3/12, ML3.8(GUC), Error ellipse: s-maj=3.7km s-min=2.0km az=200.0*

ISC 08 23:10:19.1±0.8, 34.44S±0.03×71.60W±0.04, h48km±7km, n76, σ1.9±16/103, 2C-16D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.31**	**259⇑**	*iP*		**Pn**	**23 10 29.1**	**+1.0**
BO03				*eS*		**Sn**	**23 10 35.8**	**+1.3**
BO03				IAML			23 10 36.7	
comp=N,11µm,0.2s								
BO01	**Tunca**	**0.43**	**84**			**Pn**	**23 10 29.4**	**0.0**
BO01					Sn	**Sn**	**23 10 36.6**	**-0.1**
BO01	**Tunca**	**0.43**	**84⇓**	*iP*		**Pn**	**23 10 29.7**	**+0.4**
BO01				*eS*		**Sn**	**23 10 36.7**	**+0.1**
BO01				IAML			23 10 38.9	
comp=N,7µm,0.5s								
GO05	**Huala**	**0.63**	**206**		Pn	**Pn**	**23 10 32.5**	**+0.6**
GO05					Sn	**Sn**	**23 10 42.3**	**+1.1**
GO05	**Huala**	**0.63**	**206⇑**	*iP*		**Pn**	**23 10 32.5**	**+0.6**
GO05				*i* S		**Sn**	**23 10 41.9**	**+0.8**
GO05				IAML			23 10 43.3	
comp=N,5µm,0.3s								
MT01	**Popeta**	**0.64**	**27**			**Pn**	**23 10 32.4**	**+0.5**
MT01					Sn	**Sn**	**23 10 41.4**	**+0.1**
MT01	**Popeta**	**0.64**	**27⇓**	*iP*		**Pn**	**23 10 32.5**	**+0.5**
MT01				*eS*		**Sn**	**23 10 42.0**	**+0.7**
MT01				IAML			23 10 45.5	
comp=N,7µm,0.1s								
BO02	**Sierra Bellavi**	**0.76**	**118**			**Pn**	**23 10 34.0**	**+0.5**
BO02					Sn	**Sn**	**23 10 44.3**	**+0.2**
BO02	**Sierra Bellavi**	**0.76**	**118⇓**	*iP*		**Pn**	**23 10 34.0**	**+0.5**
BO02				*i* S		**Sn**	**23 10 44.4**	**+0.2**
VA05	**Santo Domingo**	**0.78**	**359**			**Pn**	**23 10 34.2**	**+0.4**
VA05					Sn	**Sn**	**23 10 44.7**	**+0.2**
VA05	**Santo Domingo**	**0.78**	**359**	*eP*		**Pn**	**23 10 34.2**	**+0.4**
VA05				*eS*		**Sn**	**23 10 45.4**	**+0.9**
VA05				IAML			23 10 46.8	
comp=N,6µm,0.3s								
MT09	**Talagante**	**0.83**	**38**			**Pn**	**23 10 35.2**	**+0.6**
MT09					Sn	**Sn**	**23 10 45.7**	**-0.3**
MT09	**Talagante**	**0.83**	**38⇓**	*iP*		**Pn**	**23 10 35.2**	**+0.6**
MT09				*eS*		**Sn**	**23 10 46.7**	**+0.8**
BO04	**La Punta**	**0.93**	**62**			**Pn**	**23 10 36.5**	**+0.6**
BO04					Sn	**Sn**	**23 10 48.8**	**+0.6**
BO04	**La Punta**	**0.93**	**62⇓**	*iP*		**Pn**	**23 10 36.4**	**+0.6**
BO04				*i* S		**Sn**	**23 10 49.1**	**+0.9**
BO04				IAML			23 10 50.9	
comp=E,5µm,0.2s								
MT12	**Pirque**	**1.12**	**51⇓**	*iP*		**Pn**	**23 10 39.1**	**+0.7**
MT12				*eS*		**Sn**	**23 10 54.0**	**+1.2**
MT12				IAML			23 10 58.3	
comp=N,5µm,0.3s								
MT02	**Curacav**	**1.24**	**18**	Pn		**Pn**	**23 10 40.4**	**+0.4**
MT05	**Renca**	**1.27**	**35**			**Pn**	**23 10 41.2**	**+0.8**
MT05	**Renca**	**1.27**	**35⇓**	*iP*		**Pn**	**23 10 41.5**	**+1.1**
MT05				*eS*		**Sn**	**23 10 57.9**	**+1.6**
MT05				IAML			23 11 08.2	
comp=E,4µm,0.3s								
MT13	**San Alfonso**	**1.29**	**58**			**Pn**	**23 10 41.2**	**+0.4**
MT13	**San Alfonso**	**1.29**	**58⇓**	*eP*		**Pn**	**23 10 41.7**	**+0.9**
MT13				*eS*		**Sn**	**23 10 58.5**	**+1.5**
MT13				IAML			23 11 02.7	
comp=N,3µm,0.1s								
LMEL	**Las Melosas**	**1.30**	**63**			**Pn**	**23 10 41.8**	**+0.9**
LMEL	**Las Melosas**	**1.30**	**63⇓**	*iP*		**Pn**	**23 10 41.8**	**+0.9**
LMEL				IAML			23 11 03.0	
comp=N,6µm,0.1s								
MT03	**Universidad Ad**	**1.30**	**44**			**Pn**	**23 10 41.7**	**+0.7**
MT03	**Universidad Ad**	**1.30**	**44⇓**	*iP*		**Pn**	**23 10 41.7**	**+0.7**
MT03				*eS*		**Sn**	**23 10 58.2**	**+0.9**
MT03				IAML			23 11 06.5	
comp=E,5µm,0.2s								
ML02	**Panimavida**	**1.33**	**174**			**Pn**	**23 10 42.0**	**+0.8**
ML02	**Panimavida**	**1.33**	**174**	*eP*		**Pn**	**23 10 42.3**	**+1.0**

comp=N,2μm,0.3s
MT04 Ro Olivares 1.59 50⇓iP Pn 23 10 46.1 +1.1
MT04 eS Sn 23 11 07.0 +2.4
MT04 IAML 23 11 12.5
comp=E,2μm,0.2s
VA03 San Esteban 1.89 28 Pn 23 10 50.1 +1.2
VA03 San Esteban 1.89 28 eP **Pn 23 10 50.6 +1.7**
VA03 eS Sn 23 11 14.3 +2.8
VA03 IAML 23 11 19.9
comp=E,2μm,0.2s
BI05 Punta Hualpn 2.64 209 Pn 23 10 59.1 -0.1
BI05 Punta Hualpn 2.64 209 eP **Pn 23 10 59.5 +0.3**
CO02 Combarbal 3.27 9 Pn 23 11 08.9 +1.1
CO02 Combarbal 3.27 9 eP **Pn 23 11 09.0 +1.1**
CO02 eS Sn 23 11 47.1 +1.6
CO03 El Pedregal 3.67 12 Pn 23 11 14.3 +0.9
CO03 El Pedregal 3.67 12 eP **Pn 23 11 14.9 +1.5**
CO03 eS Sn 23 11 56.8 +1.3
CO06 Fray Jorge 3.75 359 Pn **Pn 23 11 14.7 +0.2**
CO06 Fray Jorge 3.75 359⇓iP Pn 23 11 14.6 +0.2
ZON Zonda 3.79 41 Pn 23 11 15.8 +0.9
GO04 Tololo Observa 4.31 9 Pn 23 11 23.0 +0.7
CO05 La Serena 4.52 4 Pn **Pn 23 11 25.4 +0.5**
CO01 Juntas del Tor 4.63 16 Pn 23 11 27.5 +0.8
CO01 Juntas del Tor 4.63 16 eP **Pn 23 11 28.6 +1.9**
GO06 Curarrehue 5.14 179 Pn 23 11 35.2 +1.7
LR03 Panguipulli 5.22 186 Pn **Pn 23 11 35.6 +1.1**
LCO Las Campanas 5.46 8 Pn **Pn 23 11 38.6 +0.4**
LR04 Corral 5.62 195 Pn **Pn 23 11 40.1 0.0**
AC05 El Transito 5.70 12 Pn **Pn 23 11 40.8 -0.4**
VA04 Juan Fernndez 6.06 276 Pn **Pn 23 11 46.8 +0.7**
AC04 Llanos de Chal 6.23 4 Pn **Pn 23 11 48.5 +0.1**
PLCA Paso Flores 6.34 173 Pn **Pn 23 11 50.7 +0.7**
GO03 Copiap 6.92 10 Pn **Pn 23 11 57.3 -0.7**
AC06 Mina Casimiro 7.14 9 Pn **Pn 23 12 00.3 -0.6**
AC02 Maricunga 7.87 16 Pn **Pn 23 12 10.5 -0.9**
AC01 Pan de Azucar 8.31 6 Pn **Pn 23 12 16.9 -0.1**
TRQA Tornquist 8.57 118 Pn **Pn 23 12 22.0 +1.6**
GO09 Cerro Castillo 16.83 182 Pn **Pn 23 14 11.5 +0.4**
GO09 IAmb IAmb 23 14 11.7
comp=Z,12nm,1.1s
MG05 Puerto Natales 17.24 182 Pn **Pn 23 14 15.4 -0.8**
MG05 IAmb IAmb 23 14 22.9
comp=Z,15nm,1.1s
LPAZ La Paz 18.34 11 P **P 23 14 27.9 -2.3**
EFI East Falkland 19.81 155 P **P 23 14 45.8 +0.5**
EFI IAmb IAmb 23 14 56.0
comp=Z,21nm,0.9s
SMAI San Martin Ant 33.84 177 P **P 23 16 58.6 +2.3**
SMAI IAmb IAmb 23 17 07.4
comp=Z,7.0nm,1.1s
BELA Belgrano 2 46.38 170 P **P 23 18 41.7 +1.6**
BOAB BOACO BROADBAND 48.51 342 P **P 23 18 55.7 -1.5**
BOAB IAmb IAmb 23 18 56.1
comp=Z,5.5nm,0.7s
MTDJ Mount Denham 52.68 353 P **P 23 19 26.7 -2.0**
JSC Jenkinsville 68.96 351 P P 23 21 24.4 +5.4
TOA0 Torodi Ar. Sit 84.02 70 P **P 23 22 44.4 -0.3**
DRLN Deer Lake 84.27 9 P **P 23 22 43.3 -1.8**
FOZ Fox Glacier 84.33 220 P **P 23 22 45.8 -0.1**

---

*IDC **08** 23:17:01.1±1.8, 1°.94N×126°.66E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=187.3km s-min=21.3km az=66.0*
*DJA **08** 23:17:07.1±0.5, 2°.N±6°.×12°.6E±°., h10km, M3.7/8, mb3.7/3, MLv3.8/8*
ISC 08 23:17:08.0±1.3, **1°.9N**±0°.1×**126°.49E**±0°.08, **h47**km, **n9**, σ0.87/10, **mb3.8/4, Northern Moluccan Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.43**	**142**	P	**Pn**	**23 17 32.0**	**+0.5**
GTOI	**Gorontalo**	**3.70**	**250**	P	**Pn**	**23 18 03.9**	**+1.3**
LUWI	**Luwuk**	**4.73**	**232**	P	**Pn**	**23 18 16.2**	**-0.6**
LUWI				S	**Sn**	**23 19 11.0**	**+0.6**
NLAI	**Namlea**	**5.15**	**173**	P	**Pn**	**23 18 23.2**	**+0.7**
	5.0nm,0.6s,0.1nm						
MPSI	**Mapaga**	**6.77**	**257**	P	**Pn**	**23 18 44.5**	**-0.3**
WRA	**Warramunga Arr**	**23.04**	**161**	P	**P**	**23 22 08.2**	**-1.2**
	2.4nm,0.5s,baz=340,slow=12,SNR=46						
	2.4nm,0.5s						
ASAR	**Alice Springs**	**26.43**	**165**	P	**P**	**23 22 39.8**	**-0.7**
	0.5nm,0.5s,baz=341,slow=11,SNR=1.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**58.91**	**326**	P	**P**	**23 27 02.7**	**+0.4**
	0.5nm,0.7s,baz=115,slow=7.4,SNR=9.4						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**63.14**	**328**	P	**P**	**23 27 30.8**	**-0.1**
	0.5nm,0.5s,baz=129,slow=6.5,SNR=10						
	0.5nm,0.5s						

---

*IDC **08** 23:25:19.8±0.6, 12°.71S×66°.36E, h0km, mb4.1/15, mbtmp4.1/15, Error ellipse: s-maj=21.4km s-min=17.6km az=103.0*
*NEIC **08** 23:25:22.3±1.1, 12°.72S±0°.09×66°.30E±0°.09, h10km±1km, mb4.7/55, Error ellipse: s-maj=17.9km s-min=12.6km az=138.0*
ISC 08 23:25:21.6±0.4, **12°.70S**±0°.08×**66°.32E**±0°.07, **h10**km, **n84**, σ0.73/78, **mb4.5**/40, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.87**	**51**	T	T	23 35 23.3	
	baz=230,slow=76,SNR=766						
H08S2	**Diego Garcia H**	**7.88**	**51**	T	T	23 35 24.3	
	baz=230,slow=76,SNR=644						
H08S3	**Diego Garcia H**	**7.89**	**51**	T	T	23 35 27.9	
	baz=230,slow=76,SNR=740						
DGAR	**Diego Garcia**	**8.01**	**50**	Pn	**Pn**	**23 27 17.2**	**-0.8**
RER	**Riviere de l'E**	**13.15**	**229**	Pn	**Pn**	**23 28 28.2**	**-0.4**
MNCI	**Minicoy**	**21.90**	**18**	P	**P**	**23 30 15.5**	**+0.5**
KMBO	**Kilima Mbogo**	**31.02**	**289**	P	**P**	**23 31 39.8**	**-0.2**
KMBO				IAmb	IAmb	23 31 42.6	
	comp=Z,6.9nm,1.4s						
GSI	**Gunungsitoli**	**34.00**	**68**	P	**P**	**23 32 06.0**	**+0.1**
FURI	**Furi**	**34.85**	**307**	P	**P**	**23 32 13.4**	**-0.2**
H04N2	**CROZET ISLANDS**	**35.55**	**197**	T	T	00 10 09.3	
	baz=25,slow=75,SNR=33						
H04N1	**CROZET ISLANDS**	**35.55**	**197**	T	T	00 10 14.4	
	baz=25,slow=75,SNR=25						
H04N3	**CROZET ISLANDS**	**35.56**	**197**	T	T	00 10 17.2	
	baz=25,slow=75,SNR=28						
CRZF	**Crozet Islands**	**35.77**	**197**	P	**P**	**23 32 21.3**	**+0.6**
LSZ	**Lusaka**	**37.06**	**261**	P	**P**	**23 32 32.9**	**+0.5**
LSZ				IAmb	IAmb	23 32 40.5	
	comp=Z,31nm,1.4s						
MBAR	**Mbarara**	**37.26**	**286**	P	**P**	**23 32 33.6**	**-0.6**
KULM	**Kulim**	**38.51**	**64**	P	**P**	**23 32 44.4**	**-0.2**
KULM				IAmb	IAmb	23 32 47.5	
	comp=Z,24nm,1.4s						
LBTB	**Lobatse**	**40.28**	**246**	P	**P**	**23 32 59.3**	**0.0**
LBTB				IAmb	IAmb	23 33 06.3	
	comp=Z,13nm,1.1s						
BOSA	**Boshof**	**41.33**	**241**	P	**P**	**23 33 08.1**	**+0.2**
	comp=Z,6.2nm,1.1s,baz=80,slow=4.8,SNR=3.2						
	comp=Z,6.2nm,1.1s						
SMRI	**Semarang**	**43.78**	**87**	P	**P**	**23 33 27.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**44.65**	**47**	P	**P**	**23 33 35.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**44.65**	**47**	P	**P**	**23 33 34.3**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=235,slow=8.7,SNR=1.1						
	comp=Z,1.1nm,0.3s						
CHTO	**Chiang Mai**	**44.89**	**46**	P	**P**	**23 33 36.7**	**0.0**
SHL	**Shillong**	**45.47**	**33**	P	**P**	**23 33 41.4**	**0.0**
HRA	**Herat**	**46.99**	**355**	P	**P**	**23 33 53.7**	**+0.5**
KBL	**Kabul**	**47.05**	**3**	P	**P**	**23 33 55.5**	**+1.8**
KBL				IAmb	IAmb	23 34 02.6	
	comp=Z,9.2nm,1.1s						
MORW	**Morawa**	**48.86**	**118**	P	**P**	**23 34 08.7**	**+1.0**
GEYT	**Alibeck**	**50.95**	**352**	P	**P**	**23 34 24.3**	**+0.9**
GYA0B	**ALIBECK ARRAY**	**50.95**	**352**	P	**P**	**23 34 24.0**	**+0.6**
MAW	**Mawson**	**54.90**	**182**	P	**P**	**23 34 52.1**	**+0.1**
MAW	**Mawson**	**54.90**	**182**	P	**P**	**23 34 51.6**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=9.9,slow=15,SNR=2.7						
	comp=Z,1.6nm,0.8s						
AAK	**Ala-Archa**	**55.58**	**7**	P	**P**	**23 34 58.0**	**+0.5**
AAK				IAmb	IAmb	23 35 12.1	
	comp=Z,8.9nm,1.4s						
KK31	**Karatay Array**	**55.66**	**4**	P	**P**	**23 34 58.5**	**+0.6**
KKAR	**Karatay Array**	**55.66**	**4**	P	**P**	**23 34 58.4**	**+0.4**
KKAR	**Karatay Array**	**55.66**	**4**	P	**P**	**23 34 58.2**	**+0.3**
KKAR				IAmb	IAmb	23 35 08.1	
	comp=Z,1.8nm,0.9s						
GURO	**Guroymak-BITLI**	**55.82**	**337**	P	**P**	**23 34 59.8**	**+0.6**
GNI	**Garni**	**56.27**	**340**	P	**P**	**23 35 03.3**	**+0.8**
GNI				IAmb	IAmb	23 35 19.0	
	comp=Z,14nm,1.4s						
AKH	**Akhalkalaki**	**57.82**	**340**	P	**P**	**23 35 13.3**	**-0.2**
MKAR	**Makanchi Array**	**60.93**	**12**	P	**P**	**23 35 34.3**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=204,slow=14,SNR=4.2						
	comp=Z,1.0nm,0.9s						
ABKAR	**Akbulak array**	**61.94**	**355**	P	**P**	**23 35 41.8**	**+0.4**
MDUB	**Mudurnu**	**62.12**	**330**	P	**P**	**23 35 42.6**	**-0.3**
KURBB	**Kurchatov Arra**	**63.95**	**9**	P	**P**	**23 35 55.2**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=205,slow=6.6,SNR=7.0						
	comp=Z,0.9nm,1.0s						
KURK	**Kurchatov**	**64.06**	**9**	P	**P**	**23 35 56.4**	**+1.0**
KURK				IAmb	IAmb	23 36 02.5	
	comp=Z,3.7nm,0.9s						
ASAR	**Alice Springs**	**64.63**	**110**	P	**P**	**23 35 59.4**	**-0.6**
ASAR	**Alice Springs**	**64.63**	**110**	P	**P**	**23 35 59.1**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=272,slow=5.8,SNR=8.6						
	comp=Z,1.1nm,0.8s						
AS31	**Alice Springs**	**64.64**	**110**	P	**P**	**23 35 59.9**	**-0.1**
WRA	**Warramunga Arr**	**65.31**	**106**	P	**P**	**23 36 03.4**	**-1.0**
WRA	**Warramunga Arr**	**65.31**	**106**	P	**P**	**23 36 04.4**	**0.0**
	comp=Z,2.5nm,1.1s,baz=275,slow=5.4,SNR=6.8						
	comp=Z,2.5nm,1.1s						
WB2	**Warramunga Arr**	**65.32**	**106**	P	**P**	**23 36 02.9**	**-1.6**
WB2				IAmb	IAmb	23 36 40.6	
	comp=Z,11nm,1.3s						
WB0	**Warramunga Arr**	**65.38**	**106**	P	**P**	**23 36 05.0**	**+0.1**
WB0				IAmb	IAmb	23 36 48.4	
	comp=Z,12nm,1.5s						
BVAR	**Borovoye Array**	**65.55**	**3**	P	**P**	**23 36 05.0**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=164,slow=5.9,SNR=4.3						
	comp=Z,1.4nm,0.9s						
BRVK	**Borovoye**	**65.58**	**3**	P	**P**	**23 36 05.0**	**-0.3**
BRVK				IAmb	IAmb	23 36 12.2	
	comp=Z,4.4nm,1.1s						
YOJ	**Yonaguni jima**	**66.52**	**56**	P	**P**	**23 36 12.1**	**0.0**
ZAA0	**Zalesovo Array**	**68.24**	**12**	P	**P**	**23 36 22.3**	**0.0**
ZAA0				IAmb	IAmb	23 36 36.8	
	comp=Z,7.4nm,1.2s						
ZALV	**Zalesovo Beam**	**68.24**	**12**	P	**P**	**23 36 21.3**	**-1.0**
ZALV	**Zalesovo Beam**	**68.24**	**12**	P	**P**	**23 36 21.0**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=214,slow=5.0,SNR=4.6						
	comp=Z,0.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**69.02**	**290**	P	**P**	**23 36 27.2**	**-0.8**
	comp=Z,3.1nm,1.2s,baz=78,slow=3.1,SNR=6.6						
	comp=Z,3.1nm,1.2s						
ARU	**Arti**	**69.18**	**355**	P	**P**	**23 36 26.7**	**-1.3**
ARU				IAmb	IAmb	23 36 57.2	
	comp=Z,7.9nm,1.4s						
ULN	**Ulaanbaatar**	**70.34**	**28**	P	**P**	**23 36 36.0**	**+0.4**
ULN				IAmb	IAmb	23 36 39.4	
	comp=Z,8.1nm,1.3s						
DIVS	**Divibare**	**70.49**	**326**	P	**P**	**23 36 36.6**	**0.0**
DIVS				IAmb	IAmb	23 36 38.2	
	comp=Z,9.5nm,1.5s						
SNAA	**Sanae**	**71.51**	**198**	P	**P**	**23 36 43.0**	**+0.6**
SNAA				IAmb	IAmb	23 36 49.8	
	comp=Z,7.1nm,1.2s						
SNAA	**Sanae**	**71.51**	**198**	P	**P**	**23 36 42.1**	**-0.3**
	comp=Z,3.3nm,1.2s,baz=78,slow=5.4,SNR=4.5						
	comp=Z,3.3nm,1.2s						
PAOL	**Paolisi**	**71.69**	**321**		**P**	**23 36 43.6**	**-0.2**
PAOL				IAmb	IAmb	23 37 02.2	
	comp=Z,10nm,1.3s						
PRED	**Cave del Predi**	**75.49**	**325**	P	**P**	**23 37 03.1**	**-3.0**
MORC	**Moravsky Berou**	**75.49**	**330**	P	**P**	**23 37 04.3**	**-1.7**
MORC				IAmb	IAmb	23 37 07.5	
	comp=Z,4.8nm,1.3s						
STAL	**STALIGIAL**	**75.86**	**325**	P	**P**	**23 37 07.3**	**-0.9**
STAL				IAmb	IAmb	23 37 15.8	
	comp=Z,3.5nm,1.0s						
CLUD	**Cludinico**	**75.88**	**325**	P	**P**	**23 37 08.4**	**+0.1**
CLUD				IAmb	IAmb	23 37 41.7	
	comp=Z,5.8nm,1.1s						
TEOL	**Teolo**	**75.93**	**324**	P	**P**	**23 37 07.7**	**-0.9**
TEOL				IAmb	IAmb	23 37 09.8	
	comp=Z,6.3nm,1.0s						
KSAR	**Wonju Array Be**	**76.26**	**46**	P	**P**	**23 37 11.2**	**+0.6**
KSRS	**Korea Array**	**76.29**	**46**	P	**P**	**23 37 10.9**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=108,slow=12,SNR=5.5						
	comp=Z,0.7nm,0.4s						
PRMA	**PARMA**	**76.39**	**323**	P	**P**	**23 37 11.5**	**+0.3**
GEC2	**GERESS Array S**	**76.86**	**327**	P	**P**	**23 37 14.7**	**+0.8**
GERES	**GERESS Array B**	**76.86**	**327**	P	**P**	**23 37 14.4**	**+0.5**
KHC	**Kasperske Hory**	**77.10**	**328**	P	**P**	**23 37 15.2**	**0.0**
KHC				IAmb	IAmb	23 37 48.3	
	comp=Z,4.8nm,1.3s						
QSPA	**South Pole Qui**	**77.37**	**180**	P	**P**	**23 37 16.9**	**+0.3**
QSPA	**South Pole Qui**	**77.37**	**180**	P	**P**	**23 37 16.5**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=279,slow=4.5,SNR=6.5						
	comp=Z,2.5nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**77.45**	**324**	P	**P**	**23 37 17.7**	**+0.2**
FUORN				IAmb	IAmb	23 37 24.6	
	comp=Z,6.0nm,1.3s						
HIA	**Hailar**	**77.53**	**33**	P	**P**	**23 37 18.1**	**+0.5**
HIA				IAmb	IAmb	23 37 32.9	
	comp=Z,5.4nm,0.5s						
ESDC	**Sonseca Array**	**83.39**	**313**	P	**P**	**23 37 49.0**	**-0.4**
ESDC				IAmb	IAmb	23 37 51.8	
	comp=Z,4.1nm,1.4s						
ESDC	**Sonseca Array**	**83.39**	**313**	P	**P**	**23 37 49.9**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=87,slow=4.6,SNR=7.6						
	comp=Z,1.3nm,1.0s						
MJB9	**Matsu-Tunnel**	**83.41**	**50**	P	**P**	**23 37 49.5**	**0.0**
MJB9				IAmb	IAmb	23 38 05.2	
	comp=Z,8.8nm,1.1s						
MAJO	**Matsushiro**	**83.41**	**50**	P	**P**	**23 37 48.8**	**-0.7**
MAJO				IAmb	IAmb	23 38 04.3	
	comp=Z,9.1nm,1.1s						
MJAR	**Matsushiro Arr**	**83.41**	**50**	P	**P**	**23 37 48.8**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=246,slow=5.3,SNR=3.1						
	comp=Z,1.2nm,0.6s						
PDAR	**Pinedale Array**	**149.83**	**354**	PKPbc	**PKPbc**	**23 45 12.5**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=83,slow=1.7,SNR=9.8						
TXAR	**Lajitas Array**	**161.01**	**332**	PKPab	**PKPab**	**23 46 06.3**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=107,slow=1.3,SNR=3.9						

---

*IDC **08** 23:29:48.4±0.6, 22°.24N×121°.30E, h0km, mb4.3/26, mbtmp4.3/28, ML3.8/2, Error ellipse: s-maj=19.0km s-min=13.3km az=74.0*
*ASIES **08** 23:29:52.0, 22°.43N×121°.41E, h23km, ML4.8, Mw4.6, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}2.39; $M_{\theta\theta}$7.45; $M_{\phi\phi}$-4.60; $M_{r\theta}$-4.87; $M_{\theta\phi}$-3.78; $M_{\phi r}$-2.93; Fault plane solution: $M_0$9.37091×10^{22} NP1: ϕ_s239.61000°, δ87.74000°, λ141.13000°. NP2: ϕ_s331.43000°, δ51.17000°, λ2.91000°. Principal axes: T Plg28.1210°, Azm188.2320°; N Plg51.0780°, Azm56.7950°; P Plg24.5440°, Azm292.3570°;*
*JMA **08** 23:29:51.1±0.1, 22°.5N±0°.6×121°.6E±0°.3, h2km±1km, MD4.8/18, MV5.0/18, TAIWAN REGION*
*TAP **08** 23:29:52.0, 22°.43N×121°.41E, h23km, ML4.8, C*
*NEIC **08** 23:29:51.2, 22°.44N×121°.44E, h9km*
*BJI **08** 23:29:51.3±0.0, 22°.43N×121°.35E, h6km, mb4.4/44, mB5.2/13, ML4.4/5, Ms4.6/10, Ms7 4.4/7*
*NIED **08** 23:29:51.1, 22°.52N×121°.58E, h2km, MW4.6, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}1.21; $M_{\theta\theta}$7.45; $M_{\phi\phi}$-8.66; $M_{r\theta}$-2.37; $M_{\theta\phi}$-4.22; $M_{\phi r}$-0.20; Fault plane solution: $M_0$9.44000×10^{15} NP1: ϕ_s238.00000°, δ82.00000°, λ166.00000°. NP2: ϕ_s330.00000°, δ76.00000°, λ9.00000°.*
*NEIC **08** 23:29:52.7±1.8, 22°.44N±0°.04×121°.46E±0°.05, h20km±4km, mb4.7/109, Mwr4.6/22 Error ellipse: s-maj=7.1km s-min=6.1km az=106.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.43; $M_{\theta\theta}$8.18; $M_{\phi\phi}$-4.75; $M_{r\theta}$-0.95; $M_{\theta\phi}$-1.56; $M_{\phi r}$-4.89; Fault plane solution: $M_0$8.83000×10^{15} NP1:ϕ_s313.84000°, δ60.85000°, λ-29.92000°. NP2:ϕ_s59.50000°, δ64.17000°, λ-147.23000°. Principal axes: T 8.3809, Plg2.0000°, Azm186.0000°; N 0.8340, Plg49.0000°, Azm94.0000°; P -9.2149, Plg41.0000°, Azm278.0000°;*
ISC 08 23:29:52.3±0.5, **22°.42N**±0°.02×**121°.43E**±0°.02, **h22**km±4km, **n416**, σ1.26/519, **mb4.6**/92, **25C-53D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.26**	**9**	⇑iP	**Pb**	**23 29 58.5**	**0.0**
	baz=22						
LDUT				*i* S	**Sb**	**23 30 03.4**	**+0.6**
	baz=22						
LAY	**Lan-yu**	**0.39**	**163**	⇓iP	**Pb**	**23 30 00.6**	**-0.1**
	baz=160						
LAY				S	**Sb**	**23 30 06.5**	**+0.2**
	baz=160						
TTN	**Taitung**	**0.42**	**323**	⇑iP	**Pb**	**23 30 01.3**	**+0.1**
	baz=328						
TTN				S	**Sb**	**23 30 08.4**	**+1.3**
	baz=328						
LYUB	**Lan-yu**	**0.44**	**160**	⇓iP	**Pb**	**23 30 00.1**	**-1.3**
	baz=159						
LYUB				eS	**Sb**	**23 30 05.8**	**-1.7**
	baz=159						
ECL	**Taimali**	**0.47**	**293**	⇓iP	**Pb**	**23 30 01.0**	**-1.0**
	baz=284						
ECL				eS	**Sb**	**23 30 07.1**	**-1.4**
	baz=284						
TAW	**Tawu**	**0.49**	**263**	⇓iP	**Pb**	**23 30 01.6**	**-0.7**
	baz=261						
TAW				eS	**Sb**	**23 30 07.4**	**-1.7**
	baz=261						
TAWH	**Dawu Township**	**0.50**	**261**	⇓P	**Pb**	**23 30 01.6**	**-0.8**
	baz=259						
TAWH				eS	**Sb**	**23 30 07.9**	**-1.5**
	baz=259						
TWGBT	**Beinan**	**0.51**	**322**	P	**Pb**	**23 30 01.8**	**-0.9**
TWGBT	**Beinan**	**0.51**	**322**	⇓iP	**Pb**	**23 30 02.0**	**-0.6**
	baz=308						
TWGBT				S	**Sb**	**23 30 09.4**	**-0.3**
	baz=308						
TWG	**Pinlang**	**0.52**	**321**	Pg	**Pb**	**23 30 01.7**	**-1.1**
TWG				Sg	**Sb**	**23 30 07.5**	**-2.5**
TWG	**Pinlang**	**0.52**	**321**	⇓P	**Pb**	**23 30 02.0**	**-0.8**
	baz=308						
TWG				S	**Sb**	**23 30 09.2**	**-0.8**
	baz=308						
EAST	**Anshuo**	**0.54**	**267**	⇓iP	**Pb**	**23 30 02.1**	**-1.0**
	baz=264						
EAST				eS	**Sb**	**23 30 08.6**	**-1.9**
	baz=264						
LONT	**Longtian**	**0.56**	**331**	⇑eP	**Pb**	**23 30 03.0**	**-0.5**
	baz=316						
EDH	**Donghe**	**0.56**	**349**	⇑eP	**Pb**	**23 30 02.6**	**-1.0**
	baz=358						
EDH				eS	**Sb**	**23 30 11.2**	**0.0**
	baz=358						
SLIU	**Shizi**	**0.61**	**251**	⇓P	**Pb**	**23 30 03.5**	**-0.9**
	baz=249						
SLIU				eS	**Sb**	**23 30 11.1**	**-1.5**
	baz=249						
SMST	**Manzhou Townsh**	**0.67**	**234**	eP	**Pb**	**23 30 04.6**	**-0.8**
	baz=232						
SMST				eS	**Sb**	**23 30 13.2**	**-1.1**
	baz=232						
CHKT	**Chengkung**	**0.68**	**355**	⇑iP	**Pb**	**23 30 04.3**	**-1.3**
	baz=4.0						
CHKT				S	**Sb**	**23 30 14.0**	**-0.6**
	baz=4.0						
ECS	**Chishang**	**0.70**	**344**	⇑P	**Pb**	**23 30 05.5**	**-0.4**
	baz=331						
ECS				S	**Sn**	**23 30 16.8**	**-0.3**
	baz=331						
TSEB	**Hengchuen, Pin**	**0.71**	**224**	⇑iP	**Pb**	**23 30 05.9**	**-0.1**
	baz=233						
TSEB				S	**Sb**	**23 30 15.8**	**+0.5**
	baz=233						
TWKBT	**Hengchun**	**0.74**	**230**	⇑iP	**Pb**	**23 30 05.7**	**-0.8**
	baz=228						
TWKBT				*i* S	**Sb**	**23 30 15.0**	**-1.2**
	baz=228						
SCZT	**Fangliau**	**0.75**	**267**	⇓P	**Pb**	**23 30 05.6**	**-1.0**
	baz=265						
SCZT				eS	**Sb**	**23 30 14.8**	**-1.6**
	baz=265						
HEN	**Hengchun**	**0.76**	**237**	⇓eP	**Pb**	**23 30 06.2**	**-0.6**
	baz=227						
HEN				eS	**Sb**	**23 30 15.8**	**-0.8**
	baz=227						
EHD	**Haiduan**	**0.76**	**345**	eP	**Pb**	**23 30 05.4**	**-1.4**
	baz=346						
MASBT	**Mashibuluo**	**0.76**	**285**	⇓iP	**Pb**	**23 30 05.6**	**-1.2**
	baz=284						
TSMG	**Majia**	**0.78**	**292**	P	**Pb**	**23 30 06.0**	**-1.2**
	baz=291						
FULB	**Fuli**	**0.79**	**351**	⇑P	**Pb**	**23 30 06.0**	**-1.4**
	baz=338						
FULB				eS	**Sb**	**23 30 18.2**	**+0.6**
	baz=338						
SSD	**Sandimen**	**0.80**	**294**	⇓P	**Pb**	**23 30 06.1**	**-1.5**
	baz=294						
ELDTW	**Lidau**	**0.86**	**334**	P	**Pb**	**23 30 06.8**	**-1.9**
	baz=325						
ECBN	**Changbin**	**0.90**	**2**	eP	**Pb**	**23 30 07.7**	**-1.5**
	baz=12						
ECBN				eS	**Sb**	**23 30 19.6**	**-1.1**
	baz=12						
TSPT	**Pingtung City**	**0.90**	**287**	eP	**Pb**	**23 30 09.0**	**-0.2**
	baz=286						
SGLT	**Jiouru**	**0.92**	**290**	P	**Pb**	**23 30 09.4**	**-0.1**
	baz=289						
SLGT	**Liugui**	**0.92**	**309**	⇓eP	**Pb**	**23 30 08.6**	**-1.0**
	baz=305						
EYUL	**Yuli**	**0.93**	**354**	eP	**Pb**	**23 30 09.0**	**-0.8**
	baz=341						
TWF1	**Yuli**	**0.94**	**353**	⇑P	**Pb**	**23 30 08.3**	**-1.6**
	baz=341						
STYH	**Taoyuan**	**0.96**	**322**	⇓eP	**Pb**	**23 30 09.1**	**-1.2**
	baz=330						
STYT	**Tauyuan**	**0.97**	**320**	eP	**Pb**	**23 30 09.2**	**-1.2**
	baz=329						
YULB	**Yu-li**	**0.98**	**353**		**Pb**	**23 30 09.0**	**-1.6**
YULB				Sg	**Sb**	**23 30 22.0**	**-1.2**
YULB	**Yu-li**	**0.98**	**353**	P	**Pb**	**23 30 09.3**	**-1.3**
YULB	**Yu-li**	**0.98**	**353**	⇑P	**Pb**	**23 30 08.8**	**-1.8**
	baz=341						
TWP	**Hsiaoliuchiu**	**0.99**	**266**	⇓eP	**Pn**	**23 30 12.5**	**+1.7**
	baz=265						
TWM1	**Shoushan**	**1.01**	**294**	eP	**Pn**	**23 30 11.4**	**+0.2**
	baz=285						
**SG

baz=334
ALS eS Sb 23 30 32.2 +1.6
baz=334
TAI1 Yung-k'ang 1.27 300 eP Pb 23 30 16.4 +0.9
baz=298
WCKO Fanlu 1.27 324 ⇓P Pb 23 30 15.1 -0.4
baz=324
WCKO eS Sb 23 30 32.0 +0.5
baz=324
SSHA Shanhua 1.27 305 eP Pb 23 30 16.0 +0.4
baz=304
SSHA eS Sb 23 30 33.4 +1.9
baz=304
TAI Tainan 1.27 297 eP Pn 23 30 15.1 +0.3
baz=296
TEGC Jichi Village 1.29 5 eP Pn 23 30 14.3 -0.7
baz=15
TEGC eS Sn 23 30 30.5 -1.2
baz=15
WARBT Fenglin Townsh 1.30 358⇑eP Pn 23 30 13.3 -1.8
baz=360
VWDT VWDT 1.36 349 ⇑P Pn 23 30 15.4 -0.6
baz=359
SCLT Jiali 1.36 304 eP Pb 23 30 16.8 -0.4
baz=304
SCLT eS Sb 23 30 34.6 +0.4
baz=304
WHYT Xinyi Township 1.38 338 eP Pn 23 30 16.6 +0.3
baz=338
CHN2 Minshiung 1.41 322 eP Pb 23 30 17.8 -0.2
baz=323
CHN2 eS Sb 23 30 36.7 +1.0
baz=323
ICHU Yijhu 1.41 312⇓eP Pb 23 30 17.5 -0.6
baz=311
CHY Chiayi 1.42 320 ⇓P Pb 23 30 17.6 -0.5
baz=320
CHY eS Sb 23 30 36.3 +0.5
baz=320
SSLB Suanglung 1.43 342 Pn 23 30 16.6 -0.4
SSLB Suanglung 1.43 342 P Pn 23 30 17.3 +0.3
SSLB Suanglung 1.43 342 eP Pn 23 30 16.9 -0.2
baz=354
SSLB eS Sb 23 30 36.7 +0.5
baz=354
TSCK Chigu Township 1.43 301⇓eP Pn 23 30 17.4 +0.4
baz=300
CHN8 Yiju 1.45 310 ⇓P Pn 23 30 17.7 +0.5
baz=310
CHN8 S Sb 23 30 36.5 -0.2
baz=310
WGK Gukeng 1.49 328 ⇓P Pb 23 30 19.0 -0.4
baz=328
WDLH Douliu 1.51 327 ⇓P Pb 23 30 19.2 -0.4
baz=328
WDLH eS Sb 23 30 38.5 +0.2
baz=328
SMLT Sun Moon Lake 1.54 342 ⇑P Pn 23 30 19.1 +0.6
baz=353
SMLT eS Sb 23 30 39.6 +0.3
baz=353
WJS Zhushan 1.54 336⇓eP Pb 23 30 19.8 -0.4
baz=318
WJS eS Sb 23 30 39.4 +0.1
baz=318
ETM Tongmen 1.54 2 eP Pn 23 30 17.9 -0.6
baz=352
OWD Renai 1.55 352 eP Pn 23 30 19.0 +0.3
baz=5.0
WSL Shuilin Townsh 1.56 315 eP Pn 23 30 19.3 +0.6
baz=315
WSL eS Sb 23 30 39.7 -0.1
baz=315
HWA Hwalien 1.56 6 eP Pn 23 30 18.5 -0.3
baz=20
TYC Yuchr 1.57 341 ⇑P Pb 23 30 19.8 -0.9
baz=351
WTK Tuku 1.58 323⇓eP Pn 23 30 19.9 +0.8
baz=324
WTK eS Sb 23 30 40.4 -0.2
baz=324
WUSB Renai 1.59 350 ⇑P Pn 23 30 19.0 -0.3
baz=3.0
WUSB eS Sn 23 30 38.6 -0.7
baz=3.0
LXIB Xiulin Townshi 1.60 360 ⇑P Pn 23 30 17.9 -1.5
baz=2.0
LXIB S Sn 23 30 39.4 -0.1
baz=2.0
WNT Mingjian 1.61 335 ⇓P Pb 23 30 20.9 -0.4
baz=318
WNT eS Sb 23 30 41.9 +0.7
baz=318
WNT1 Nantou City 1.64 335 eP Pb 23 30 21.2 -0.6
baz=318
WNT1 eS Sb 23 30 42.4 +0.4
baz=318
WSF Szhu 1.65 318 ⇓P Pn 23 30 20.3 +0.4
baz=318
WSF S Sb 23 30 41.3 -0.9
baz=318
WPL Puli Township 1.65 345 eP Pn 23 30 20.7 +0.7
baz=359
CHGB Renai 1.65 352 ⇑P Pn 23 30 19.9 -0.4
baz=6.0
TWD Chiawan 1.66 5 P Pn 23 30 19.2 -1.0
baz=356
TWD eS Sn 23 30 40.0 -0.9
baz=356
DPDB Guoxing 1.67 344 eP Pb 23 30 21.5 -1.0
baz=358
WCS Beigang Elemen 1.70 344 eP Pb 23 30 21.9 -1.0
baz=358
WYL Yuanlin Townsh 1.72 333 eP Pn 23 30 21.5 +0.6
baz=315
WHF Hehuan Shan 1.73 355 eP Pn 23 30 21.4 0.0
baz=8.0
ETL Fush Village 1.75 6 eP Pn 23 30 20.6 -0.7
baz=18
NACB Ninganchiao 1.76 5 Pn Pn 23 30 20.0 -1.4
NACB Sn Sn 23 30 41.5 -1.6
NACB Ninganchiao 1.76 5 P Pn 23 30 20.6 -0.9
NACB Ninganchiao 1.76 5 ⇑P Pn 23 30 20.2 -1.2
baz=355
NACB S Sn 23 30 42.2 -1.0
baz=355
WRL Guolierlin Hig 1.77 327⇓eP Pn 23 30 22.3 +0.8
baz=327
RLNB Erlin 1.77 326 ⇓P Pn 23 30 22.2 +0.7
baz=327
RLNB S Sn 23 30 43.9 +0.6
baz=327
WMLT Mailiao 1.77 322 eP Pn 23 30 22.4 +0.7
baz=321
ETLH Xiulin Townshi 1.78 2 eP Pn 23 30 21.8 -0.1
baz=3.0
WTCT Ta-ch'eng 1.79 324 eP Pn 23 30 22.2 +0.4
baz=325
WTCT eS Sn 23 30 44.5 +0.7
baz=325
FUSS Fushou 1.83 355 eP Pn 23 30 22.8 +0.1
baz=7.0
WDGT Dungji 1.83 298 ⇓P Pn 23 30 21.8 -0.6
baz=297
WDGT eS Sn 23 30 42.7 -2.2
baz=297
WCHH Zhanghua 1.84 334 eP Pb 23 30 23.9 -1.4
baz=317
TWT Tachien 1.84 353 eP Pn 23 30 23.0 +0.2
baz=354
TDCB Techi 1.84 352 ⇑P Pn 23 30 23.1 +0.3
baz=354
TCU Taichung 1.86 338 ⇓P Pb 23 30 24.3 -1.3
baz=321
EOS4 EOS4 1.89 26 eP Pn 23 30 22.8 -0.1
baz=28
EOS4 eS Sn 23 30 44.6 -1.2
baz=28
WHP Taichung City 1.91 347 eP Pb 23 30 25.4 -1.0
baz=358
WHP eS Sb 23 30 49.7 -0.1
baz=358
VCHM Qimei 2.00 294 ⇓P Pn 23 30 23.8 -1.1
baz=292
NNSB Datong 2.00 359 eP Pn 23 30 25.6 +0.6
baz=1.0
NNSB eS Sn 23 30 49.8 +0.4
baz=1.0
NNSH Datong 2.00 359 eP Pn 23 30 26.1 +1.2
baz=13
TWQ1 Liyutan 2.01 343 eP Pb 23 30 26.7 -1.6
baz=327
TWQ1 eS Sb 23 30 51.7 -1.2
baz=327
NNS Nan Shan 2.02 359 eP Pn 23 30 25.5 +0.3
baz=14
ENA Nanau 2.02 8 eP Pn 23 30 24.5 -0.7
baz=358
PHUB P'eng-hu 2.03 303 P Pn 23 30 24.5 -0.7
baz=302
PHUB eS Sn 23 30 46.8 -3.0
baz=302
EOS3 EOS3 2.04 24 eP Pn 23 30 25.5 +0.4
baz=24
EOS3 eS Sn 23 30 49.2 -0.6
baz=24
WDJ Dajia District 2.05 340 eP Pb 23 30 27.2 -1.7
baz=340
PNG Penghu 2.07 304 P Pn 23 30 25.2 -0.6
baz=303
PNG eS Sn 23 30 48.2 -2.7
baz=303
NSY Sanyi 2.08 343 eP Pb 23 30 27.8 -1.7
baz=345
NSY eS Sb 23 30 53.4 -1.5
baz=345
LATG Datong 2.11 3 eP Pn 23 30 26.2 -0.2
baz=4.0
EOS2 EOS2 2.13 20 eP Pn 23 30 26.9 +0.4
baz=20
NDT Datong Townshi 2.18 2 eP Pn 23 30 28.0 +0.7
baz=4.0
NMLH Miaoli 2.19 345 eP Pb 23 30 29.9 -1.4
baz=345
ENTT Nioudou 2.22 3 eP Pn 23 30 28.5 +0.7
baz=5.0
TWC Suao 2.22 10 eP Pn 23 30 28.0 +0.2
baz=24
TWC eS Sn 23 30 54.6 +0.1
baz=24
NDS Dongshan 2.22 7 eP Pn 23 30 29.1 +1.2
baz=357
NSTT Nanjuang 2.24 350 eP Pn 23 30 29.1 +1.0
baz=335
YHNB Yeheng 2.24 359 Pn 23 30 28.3 +0.1
YHNB Yeheng 2.24 359 P Pn 23 30 29.2 +1.0
YHNB Yeheng 2.24 359 ⇓P Pn 23 30 28.9 +0.7
baz=13
LIOB Emei 2.25 350 eP Pn 23 30 29.6 +1.3
baz=335
NSK Sanguang 2.25 358 eP Pn 23 30 29.3 +1.0
baz=13
NJD Zhudong 2.33 352 eP Pn 23 30 30.7 +1.4
baz=336
FUSB Fushanzhiwuyua 2.34 4 eP Pn 23 30 30.2 +0.7
baz=5.0
NWLT Wulai 2.35 2 eP Pn 23 30 31.1 +1.4
baz=15
HSN1 Hsinchu 2.38 351 eP Pn 23 30 30.7 +0.7
baz=352
SBCB Hsinchu 2.40 350 eP Pn 23 30 31.3 +1.0
baz=351
HSN Hsinchu 2.41 350 eP Pn 23 30 32.0 +1.5
baz=352
JYNG Yonagunijimaku 2.46 34 eP Pn 23 30 31.4 +0.2
JYNG S Sn 23 31 00.1 -0.4
JYNG Yonagunijimaku 2.46 34 A A 23 30 31.4
comp=E,5.0nm,8.9s,comp=N,6.0nm,0.7s
EGS 2.46 11 eP Pn 23 30 32.7 +1.6
baz=25
EGS eS Sn 23 31 01.9 +1.4
baz=25
YOJ Yonaguni jima 2.50 35 Pn 23 30 30.8 -0.9
YOJ Yonaguni jima 2.50 35 P Pn 23 30 32.2 +0.5
YOJ Yonaguni jima 2.50 35 P Pn 23 30 32.0 +0.3
YOJ eS Sn 23 31 01.3 -0.2
YOJ Yonaguni jima 2.50 35 P Pn 23 30 32.1 +0.3
baz=49
YOJ eS Sn 23 30 59.9 -1.7
baz=49
NHDH Xindian Distri 2.54 2 eP Pn 23 30 33.8 +1.6
baz=14
TATO Taipei 2.55 1 Pn 23 30 32.6 +0.3
TATO Taipei 2.55 1 P Pn 23 30 33.2 +0.9
TATO Taipei 2.55 1 eP Pn 23 30 33.0 +0.7
baz=14
NCU National Centr 2.55 355 eP Pn 23 30 33.5 +1.1
baz=338
TWA Mucha 2.56 3 eP Pn 23 30 33.8 +1.3
baz=5.0
TAP Taipei 2.61 2 eP Pn 23 30 34.1 +0.9
baz=14
TWB1 Santiao Chiao 2.63 11 eP Pn 23 30 34.7 +1.2
baz=26
TWB1 eS Sn 23 31 05.2 +0.5
baz=26
NWF Wu-fen Shan 2.66 7 P Pn 23 30 35.3 +1.3
NWF eS Sn 23 31 05.5 -0.2
WFSB Wu-fen Shan 2.66 7 eP Pn 23 30 35.5 +1.6
WFSB eS Sn 23 31 06.8 +1.3
TWS1 Kuangyinshan 2.67 360 eP Pn 23 30 36.0 +2.0
baz=14
TWS1 eS Sn 23 31 07.6 +1.9
baz=14
SXI1 Grass Mountain 2.70 9 P Pn 23 30 35.5 +1.1
baz=1.0
SXI1 S Sn 23 31 07.7 +1.2
baz=1.0
YM01 YM01 2.72 3 eP Pn 23 30 36.0 +1.3
baz=5.0
YM01 eS Sn 23 31 08.8 +1.8
baz=5.0
HATJ Hateruma jima 2.73 53 P Pn 23 30 34.8 0.0
HATJ S Sn 23 31 06.8 -0.3
HATJ Hateruma jima 2.73 53 A A 23 30 34.8
comp=E,14nm,0.7s,comp=N,9.0nm,3.8s
NTST Danshui 2.74 0 eP Pn 23 30 36.9 +2.0
baz=15
TNOU National Taiwa 2.74 7 eP Pn 23 30 37.2 +2.2
baz=9.0
YM08 YM08 2.76 3 eP Pn 23 30 35.8 +0.5
baz=5.0
IRIF Iriomote-Funau 2.85 48 P Pn 23 30 36.9 +0.4
IRIF eS Sn 23 31 09.8 -0.4
IRIF Iriomote-Funau 2.85 48 A A 23 30 36.9
comp=E,13nm,0.8s,comp=N,13nm,1.0s
TWY Chenhua 2.85 3 eP Pn 23 30 38.1 +1.6
baz=5.0
JKRS Kuro-shima 2.99 52 P Pn 23 30 38.9 +0.5
JKRS eS Sn 23 31 13.1 -0.4
JKRS Kuro-shima 2.99 52 A A 23 30 38.9
comp=E,8.0nm,2.8s,comp=N,8.0nm,6.4s
VWUC VWUC 3.14 325 ⇓P Pn 23 30 39.9 -0.5
baz=323
JIJ Ishigaki jima 3.16 52 P Pn 23 30 40.8 +0.1
JIJ S Sn 23 31 17.2 -0.6
PCYT Pengchaiyu 3.25 10 eP Pn 23 30 43.4 +1.3
baz=1.0
PTMZ Houxiangcun 3.36 321 ⇓P Pn 23 30 43.2 -0.2
baz=321
PTMZ eS Sn 23 31 20.1 -2.6
baz=321
KNM Kinmen 3.39 307⇓eP Pn 23 30 44.9 +0.9
baz=304
KNM eS Sn 23 31 24.1 +0.6
baz=304
JISG Ishigakijimahi 3.42 50 P Pn 23 30 44.7 +0.4
JISG eS Sn 23 31 23.7 -0.5
KNMB Chin-men Tao 3.45 307 Pn Pn 23 30 44.1 -0.7
KNMB Chin-men Tao 3.45 307⇓eP Pn 23 30 44.3 -0.5
baz=304
QZH Quanzhou 3.62 315⇓iPn Pn 23 30 46.4 -0.6
QZH Sn Sn 23 31 25.5 -3.5
QZH smax smax
comp=N,690nm,1.0s
QZH smax smax
comp=N,820nm,1.0s
ZPLA Ao Xicun 3.70 295 eP Pn 23 30 46.8 -1.4
baz=292
JTJ Tarama 3.73 53 P Pn 23 30 49.3 +0.7
JTJ eS Sn 23 31 31.5 -0.5
DSXP Dongshan 3.90 290⇓eP Pn 23 30 50.5 -0.5
baz=287
MATB Ma-tsu 3.96 340 eP Pn 23 30 51.7 0.0
baz=339
MSUT Lienchiang 3.98 340 eP Pn 23 30 52.7 +0.7
baz=339
AXDP Jialang 4.02 309⇓eP Pn 23 30 52.3 -0.2
baz=305
JIRB Irabujima 4.19 54 eP Pn 23 30 55.5 +0.6
JIRB eS Sn 23 31 43.3 +0.1
JMJ2 Miyako jima3 4.26 56 eP Pn 23 30 56.5 +0.6
JMJ2 eS Sn 23 31 45.0 0.0
MHZQ Yeshan 4.27 330 eP Pn 23 30 56.1 +0.1
baz=327
JMJ Miyako jima 2 4.28 55 P Pn 23 30 56.7 +0.6
JMJ Miyako jima 2 4.28 55 eP Pn 23 30 56.7 +0.6
baz=68
JMJ eS Sn 23 31 43.4 -1.9
baz=68
JIKM Ikemajima 4.30 54 eP Pn 23 30 57.0 +0.5
JIKM eS Sn 23 31 46.1 +0.1
JOGS Gusukube 4.33 57 P Pn 23 30 57.7 +0.8
JOGS eS Sn 23 31 46.6 -0.1
LYJJ Jianjiangzhen 4.39 340⇓eP Pn 23 30 57.7 +0.1
baz=339
VDOS Pratas Island 4.69 250 eP Pn 23 31 02.6 +0.8
baz=248
SXFK Yanhouchang 5.25 320⇓eP Pn 23 31 09.1 -0.5
baz=315
HKPS Hong Kong Po S 6.74 270 Pn 23 31 30.1 0.0
HKPS Hong Kong Po S 6.74 270 P Pn 23 31 30.6 +0.6
HKPS Hong Kong Po S 6.74 270 eP Pn 23 31 30.7 +0.7
baz=269
GZH Guangzhou 7.49 277 P Pn 23 31 37.4 -2.8
GZH S Sn 23 32 59.0 -5.5
GZH smax smax
comp=N,190nm,0.9s
GZH smax smax
comp=N,130nm,1.1s
JOW Kunigami 7.63 53 Pn Pn 23 31 40.8 -1.4
JOW Kunigami 7.63 53 eP Pn 23 31 40.7 -1.4
baz=58
JOW Kunigami 7.63 53 Pn Pn 23 31 40.2 -1.9
comp=N,4.3nm,0.3s,baz=130,slow=17,SNR=6.3
JOW Sn Sn 23 33 04.4 -3.5
comp=N,1.4nm,0.3s,baz=316,slow=29,SNR=0.9
CNSH ChangSha 9.59 308 ⇑P Pn 23 32 08.3 -0.8
CNSH S Sn 23 33 56.6 +0.4
CNSH smax smax
comp=N,100nm,1.1s
CNSH smax smax
comp=N,120nm,0.9s
NJ2 Nanjing 9.87 347 eP Pn 23 32 15.0 +2.2
NJ2 pmax pmax
comp=N,10.0nm,0.6s
NJ2 smax smax
comp=N,66nm,1.3s
NJ2 smax smax
comp=N,65nm,1.8s
WHN Wuhan 10.28 323 P Pn 23 32 18.7 +0.2
WHN S Sn 23 34 12.7 -0.3
GULI GuiLin 10.52 288 eP Pn 23 32 24.1 +2.3
QIZ Qiongzhong 11.35 255 P Pn 23 32 33.4 +0.2
QIZ S Sn 23 34 43.3 +3.9
QIZ LR LR
comp=N,2μm,20.2s
QIZ LR LR
comp=N,2μm,16.0s
QIZ LR LR
comp=N,2μm,15.1s
ENH Enshi 13.25 309 Pn Pn 23 32 58.9 -0.3
ENH Enshi 13.25 309 P Pn 23 33 00.4 +1.2
JNU Nakatsue 13.55 36 Pn Pn 23 33 01.4 -1.8
JNU Nakatsue 13.55 36 P Pn 23 33 05.3 +2.1
JNU Nakatsue 13.55 36 Pn Pn 23 33 04.0 +0.8
comp=N,0.4nm,0.3s,baz=200,slow=7.4,SNR=3.6
comp=N,4.8nm,0.7s
JTU Tsushima 13.95 28 Pn Pn 23 33 08.3 -0.3
GYA Guiyang 14.03 290 ⇓P P 23 33 13.9 -3.8
GYA pmax pmax
comp=N,23nm,0.8s
TIA Tai'an 14.25 346 eP P 23 33 17.3 -2.6
TIA pmax pmax
comp=N,5.0nm,1.0s
LYN LuoYang 14.42 329 ⇑P Pn 23 33 17.3 +2.2
LYN sP P 23 33 24.8 +3.0
LYN pmax pmax
comp=N,18nm,1.1s
TJN Taejon 14.84 19 P P 23 33 23.9 -2.6
TJN Taejon 14.84 19 P P 23 33 24.4 -2.0
INCN Inchon 15.68 16 Pn 23 33 31.9 +0.1
XAN Xi'an 15.97 319 ⇑P Pn 23 33 36.6 +0.9
XAN pP P 23 33 41.2 +2.1
XAN pmax pmax
comp=N,43nm,1.3s
KSAR Wonju Array Be 15.98 19 P 23 33 37.7 -1.4
KSRS Korea Array 16.00 19 Pn Pn 23 33 37.4 +1.4
comp=N,0.3nm,0.3s,baz=198,slow=13,SNR=50
comp=N,18nm,0.7s
HNS HongShan 16.02 340 ⇑P P 23 33 38.9 -0.6
HNS pmax pmax
comp=N,22nm,1.4s
KS19 Wonju Array Si 16.03 19 Pn 23 33 36.0 -0.4
KS19 P P 23 33 38.2 -1.5
KS19 IAmb IAmb 23 33 42.9
comp=Z,32nm,0.8s
KKM Kota Kinabalu 17.04 198 Pn Pn 23 33 47.8 -1.6
MYLDM Lahad Datu 17.37 190 Pn Pn 23 33 52.0 -1.3
BJT Baijiatuau 18.11 347 Pn 23 34 02.4 0.0
BJT Baijiatuau 18.11 347 P P 23 34 05.7 +3.1
BJI Beijing 18.13 347 P P 23 34 02.8 0.0
BJI sP pwP 23 34 11.0 +0.1
BJI pmax pmax
comp=Z,2.0nm,0.6s
PZH PanZhiHua 18.37 287 P Pn 23 34 07.1 +1.2
PZH pmax pmax
comp=Z,20nm,0.9s
INU Inuyama 18.74 43 P P 23 34 09.2 -0.5
CRAI Chiangrai 19.73 268 P P 23 34 20.5 -0.2
MAJO Matsushiro 20.24 42 P P 23 34 25.5 -0.6
MAJO Matsushiro 20.24 42 P Pn 23 34 29.5 +1.4
MJB9 Matsu-Tunnel 20.24 42 P P 23 34 26.3 +0.2
MJAR Matsushiro Arr 20.25 42 P Pn 23 34 27.3 -0.9
comp=Z,8.6nm,0.9s,baz=232,slow=7.3,SNR=22
comp=Z,8.6nm,0.9s
LZH Lanzhou 20.47 316 eP Pn 23 34 31.2 +0.3
LZH pP pP 23 34 35.7 +1.1
LZH sP sP 23 34 38.0 +0.7
LZH pmax pmax
comp=Z,45nm,1.2s
LZH LR LR
comp=Z,1μm,18.2s
LZH LR LR
comp=Z,2μm,19.6s
TNCH TengChong 21.13 282 P P 23 34 37.1 +1.1
TNCH sP pP 23 34 41.8 +0.1
TNCH pmax pmax
comp=Z,43nm,0.9s
TOLI2 Tolitoli 21.19 182 P P 23 34 37.0 +0.6
TOLI2 IAmb IAmb 23 34 43.6
comp=Z,19nm,0.8s
TOLI2 Tolitoli 21.19 182 P P 23 34 37.6 +1.2
JSD Sado 21.25 39 P P 23 34 35.4 -1.6
JSD IAmb IAmb 23 34 40.7
comp=Z,43nm,1.5s
JSD Sado 21.25 39 P P 23 34 38.7 +1.7
CHTO Chiang Mai 21.34 264 P P 23 34 36.8 -1.3
CM31 Chiang Mai Arr 21.43 264 P P 23 34 39.4 +0.4
CMAR Chiang Mai Arr 21.43 264 P P 23 34 39.7 +0.7
CMAR Chiang Mai Arr 21.43 264 P P 23 34 41.1 +2.1
comp=Z,10.0nm,0.9s,baz=71,slow=9.1,SNR=42
CMAR PcP PcP 23 38 41.9 -0.3
comp=Z,1.3nm,0.7s,baz=353,slow=1.0,SNR=6.9
GTOI Gorontalo 21.70 176 P P 23 34 43.2 +1.3
comp=Z,13nm,0.7s
SBUM Sibu 21.77 206 P P 23 34 43.0 +0.4
MRSI Marisa 21.81 179 P P 23 34 46.7 +3.6
comp=Z,30nm,1.1s
XLT XiLinHaoTe 21.88 350 eP P 23 34 48.2 +4.5
XLT pmax pmax
comp=Z,11nm,1.1s
MPSI Mapaga 22.00 184 P P 23 34 46.5 +1.4
comp=Z,14nm,1.1s,comp=Z,2μm
JMM Marumori 22.68 43 P P 23 34 52.3 0.0
JMM IAmb IAmb 23 34 54.0
comp=Z,34nm,1.0s
JMM Marumori 22.68 43 P P 23 34 53.5 +1.2
MDJ Mudanjiang 23.14 15 P P 23 34 59.5 +2.5
MDJ pmax pmax

comp=Z,21nm,1.1s
MDJ pmax pmax
comp=Z,2μm,11.0s
MDJ Mudanjiang 23.14 15 P P 23 34 59.8 +2.8
LUWI Luwuk 23.35 177 P P 23 34 58.5 -0.8
LUWI Luwuk 23.35 177 P P 23 35 04.3 +5.0
LUWI Luwuk 23.35 177 P P 23 35 02.3 +3.0
comp=Z,66nm,1.0s,comp=Z,2μm
USA0B Ussuriysk Arra 23.41 19 P P 23 34 59.9 +0.2
USRK Ussuriysk Ar. 23.41 19 P P 23 35 01.7 +2.1
comp=Z,6.7nm,0.7s,baz=207,slow=7.9,SNR=9.4
comp=Z,6.7nm,0.7s
MND Mandalay 23.43 274 P P 23 35 01.6 +1.5
KSM Kuching 23.46 209 P P 23 34 59.4 -1.0
KSM IAmb IAmb 23 35 05.1
comp=Z,17nm,0.9s
KSM Kuching 23.46 209 P P 23 35 04.2 +3.8
LBMI Labuha 23.67 165 P P 23 35 04.0 +1.6
comp=Z,60nm,0.7s
BKB Balikpapan 23.94 191 P P 23 35 05.3 +0.3
JTM Tenmabayashi 24.71 38 P P 23 35 11.5 -0.3
JTM Tenmabayashi 24.71 38 P P 23 35 12.1 +0.2
SANI Sanana 24.72 169 P P 23 35 17.2 +5.0
SANI Sanana 24.72 169 P P 23 35 15.4 +3.2
comp=Z,18nm,0.9s
GTA Gaotai 25.01 318 *e*P **P 23 35 16.8 +2.0**
GTA sP sP 23 35 26.2 +3.0
GTA pmax pmax
comp=Z,6.0nm,0.9s
SRIT Nakonsritamara 25.07 240 P P 23 35 15.4 +0.1
NLAI Namlea 26.09 167 P P 23 35 26.6 +2.0
comp=Z,38nm,0.6s,comp=Z,5μm
MYKOM Kota Tinggi 26.68 222 P P 23 35 31.5 +1.5
MYKOM IAmb IAmb 23 35 37.9
comp=Z,30nm,1.0s
ERM Erimo 26.70 38 P P 23 35 28.3 -1.5
SHL Shillong 27.14 283 P P 23 35 34.6 +0.3
SHL IAmb IAmb 23 35 48.7
comp=Z,27nm,1.3s
KAPI Kappang 27.31 184 P P 23 35 36.7 +1.1
ASAJ Asahikawa 27.81 34 P P 23 35 41.2 +1.4
comp=Z,8.0nm,0.7s,baz=215,slow=9.5,SNR=7.6
comp=Z,8.0nm,0.7s
JKA Kamikawa-asahi 27.81 34 P P 23 35 40.9 +1.1
ULN Ulaanbaatar 27.89 339 P P 23 35 39.4 -1.2
KLR Kul'dur 27.98 15 P P 23 35 43.7 +2.4
comp=Z,1.8nm,0.4s,baz=249,slow=7.0,SNR=10
comp=Z,1.8nm,0.4s
SONM Songino Array 28.08 338 P P 23 35 41.4 -1.0
SONM Songino Array 28.08 338 P P 23 35 42.0 -0.3
comp=Z,4.6nm,0.8s,baz=156,slow=10.0,SNR=15
SONM ScP **ScP 23 42 36.6 +0.4**
comp=Z,0.9nm,0.8s,baz=169,slow=3.8,SNR=3.4
comp=Z,4.6nm,0.8s
YSS Yuzh-Sakhalins 29.93 30 P P 23 35 59.3 +0.7
YSS Yuzh-Sakhalins 29.93 30 P P 23 36 01.8 +3.2
comp=Z,33nm,1.2s
SMRI Semarang 31.20 201 P P 23 36 09.3 -0.8
SAUI Saumlaki 31.72 161 P P 23 36 13.7 -1.0
WMQ Urumqi 35.05 316 *e*P **P 23 36 45.6 +2.0**
MK31 Makanchi Array 39.77 317 P P 23 37 24.2 +0.7
MK31 IAmb IAmb 23 37 28.4
comp=Z,15nm,0.9s
MKAR Makanchi Array 39.77 317 P P 23 37 24.2 +0.7
comp=Z,15nm,0.7s,baz=109,slow=6.7,SNR=41
MKAR PcP **PcP 23 39 30.3 +0.7**
comp=Z,0.8nm,0.8s,baz=101,slow=7.5,SNR=1.6
comp=Z,15nm,0.7s
MAKZ Makanchi 39.97 317 P P 23 37 25.3 +0.1
MAKZ IAmb IAmb 23 37 29.7
comp=Z,21nm,0.8s
PRZ Przheval'sk 40.93 310 P P 23 37 32.9 -0.5
TARG Taragay, Kyrgy 41.16 308 P P 23 37 35.8 +0.2
ZAA0 Zalesovo Array 41.85 328 P P 23 37 39.9 -0.6
ZAA0 IAmb IAmb 23 37 43.2
comp=Z,10nm,0.8s
ZALV Zalesovo Beam 41.85 328 P P 23 37 40.4 -0.1
ZALV Zalesovo Beam 41.85 328 P P 23 37 40.3 -0.2
comp=Z,11nm,0.8s,baz=118,slow=7.5,SNR=25
comp=Z,11nm,0.8s
KSH Kashi 42.06 305 P P 23 37 46.7 +4.0
KSH pP sP 23 37 50.0 -1.2
KSH pmax pmax
comp=Z,3.0nm,0.7s
NRN Naryn 42.41 307 P P 23 37 46.1 +0.3
NRN IAmb IAmb 23 37 51.3
comp=Z,7.4nm,0.7s
BOOM Boomskoye usch 42.69 309 P P 23 37 47.1 -0.6
KURK Kurchatov 43.59 321 P P 23 37 55.1 +0.4
KURK IAmb IAmb 23 38 11.2
comp=Z,15nm,1.1s
KURBB Kurchatov Arra 43.61 321 P P 23 37 55.1 +0.3
comp=Z,7.6nm,0.9s,baz=113,slow=7.4,SNR=25
comp=Z,7.6nm,0.9s
FRU1 Bishkek 43.70 309 P P 23 37 55.6 -0.2
FRU1 IAmb IAmb 23 38 01.1
comp=Z,8.2nm,0.6s
AAK Ala-Archa 43.77 309 P P 23 37 56.5 +0.1
WB0 Warramunga Arr 43.80 162 P P 23 37 57.3 +0.7
WB0 IAmb IAmb 23 38 02.2
comp=Z,15nm,1.4s
WRAB Tennant Creek 43.94 162 P P 23 37 57.9 0.0
WRAB IAmb IAmb 23 38 13.6
comp=Z,13nm,1.4s
WRA Warramunga Arr 43.95 162 P P 23 37 55.7 -2.1
comp=Z,2.9nm,0.6s,baz=345,slow=8.7,SNR=30
comp=Z,2.9nm,0.6s
WR0 Warramunga Arr 44.02 162 P P 23 37 57.0 -1.4
BTK Batken 46.07 305 P P 23 38 15.1 +0.3
BTK IAmb IAmb 23 38 39.3
comp=Z,6.9nm,1.2s
KK31 Karatay Array 46.73 309 P P 23 38 20.5 +0.7
KK31 IAmb IAmb 23 38 25.1
comp=Z,8.1nm,0.8s
KKAR Karatay Array 46.73 309 P P 23 38 19.9 +0.2
KKAR Karatay Array 46.73 309 P P 23 38 20.4 +0.6
KKAR IAmb IAmb 23 38 25.1
comp=Z,8.1nm,0.8s
KBL Kabul 47.14 297 P P 23 38 23.9 +0.6
KBL IAmb IAmb 23 38 55.2
comp=Z,11nm,1.2s
AS31 Alice Springs 47.39 164 P P 23 38 24.4 -0.6
ASAR Alice Springs 47.39 164 P P 23 38 26.0 +1.0
ASAR Alice Springs 47.39 164 P P 23 38 23.1 -1.9
comp=Z,1.0nm,0.4s,baz=354,slow=14,SNR=28
ASAR PcP **PcP 23 39 55.3 -0.3**
comp=Z,0.6nm,0.8s,baz=353,slow=4.0,SNR=2.1
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 49.18 322 P P 23 38 38.8 +0.2
comp=Z,4.3nm,0.6s,baz=105,slow=9.3,SNR=14
BVAR PcP **PcP 23 40 01.5 -0.1**
comp=Z,0.6nm,0.6s,baz=130,slow=4.2,SNR=1.3
comp=Z,4.3nm,0.6s
BRVK Borovoye 49.25 322 P P 23 38 39.4 +0.3
BRVK IAmb IAmb 23 38 43.0
comp=Z,8.9nm,0.8s
TIXI Tiksi 49.44 3 P P 23 38 40.2 0.0
TIXI IAmb IAmb 23 39 11.5
comp=Z,7.8nm,1.1s
NRIK Noril'sk 51.16 345 P P 23 38 53.0 -0.3
NRIK IAmb IAmb 23 38 57.4
comp=Z,6.1nm,0.9s
NRIK Noril'sk 51.16 345 P P 23 38 52.5 -0.8
comp=Z,7.6nm,1.0s,baz=150,slow=7.6,SNR=7.2
comp=Z,7.6nm,1.0s
ABKAR Akbulak array 54.84 315 P P 23 39 21.2 +0.5
GSTR Great Sitkin T 55.82 41 P P 23 39 27.4 -0.4
GEYT Alibeck 55.89 301 P P 23 39 29.8 +1.1
GEYT IAmb IAmb 23 39 43.9
comp=Z,5.0nm,0.9s
GEYT Alibeck 55.89 301 P P 23 39 28.9 +0.3
comp=Z,3.0nm,0.8s,baz=86,slow=6.1,SNR=6.9
comp=Z,3.0nm,0.8s
GYA0B ALIBECK ARRAY 55.89 301 P P 23 39 29.2 +0.6
GYA0B IAmb IAmb 23 39 43.8
comp=Z,5.2nm,0.8s
ARU Arti 56.65 324 P P 23 39 32.7 -1.0
ARU IAmb IAmb 23 39 39.7
comp=Z,7.2nm,0.8s
BBOO Buckleboo 56.67 165 P P 23 39 33.0 -1.0
STKA Stephens Creek 57.34 160 P P 23 39 38.1 -0.6
STKA Stephens Creek 57.34 160 P P 23 39 37.6 -1.1
comp=Z,2.3nm,0.7s,baz=329,slow=10,SNR=4.8
comp=Z,2.3nm,0.7s
KBZ Khabaz 66.76 309 P P 23 40 40.9 -1.1
comp=Z,3.6nm,0.9s,baz=51,slow=5.0,SNR=3.0
comp=Z,3.6nm,0.9s
KLMR Klimovskoe 66.77 328 *e*P **P 23 40 40.4 -1.4**
KLMR AMP 23 40 45.5
comp=Z,27nm,1.4s
KIV Kislovodsk 66.87 310 P P 23 40 43.0 +0.2
IMAR Indian Mountai 67.66 26 P P 23 40 48.2 +0.9
H21K Melozitna Rive 68.08 26 P P 23 40 51.0 +1.0
H21K IAmb IAmb 23 40 58.9
comp=Z,5.7nm,1.1s
SIRT Sirnak 68.26 303 P P 23 40 51.6 -0.2
MSVF Nonsavu 68.26 121 P P 23 40 51.6 -0.3
MSVF IAmb IAmb 23 41 02.0
comp=Z,11nm,1.1s
GURO Guroymak-BITLI 68.35 304 P P 23 40 52.5 +0.1
M20K Styx River 68.36 31 P P 23 40 52.9 +0.9
M20K IAmb IAmb 23 41 25.6
comp=Z,9.1nm,1.1s
CAST Castle Rocks 68.65 29 P P 23 40 54.2 +0.5
CAST IAmb IAmb 23 40 56.4
comp=Z,6.1nm,1.0s
TOLK Toolik Lake Re 68.98 23 P P 23 40 57.4 +1.8
TOLK IAmb IAmb 23 41 27.8
comp=Z,10nm,1.4s
MLY Manley 69.02 27 P P 23 40 58.2 +2.3
MLY IAmb IAmb 23 40 58.4
comp=Z,6.7nm,1.2s
BPAW Bear Paw Mtn. 69.04 28 P P 23 40 57.6 +1.6
BPAW IAmb IAmb 23 41 27.6
comp=Z,14nm,1.4s
H23K Yukon River 69.39 26 P P 23 40 59.1 +0.8
H23K IAmb IAmb 23 41 07.7
comp=Z,11nm,1.2s
BRLK Bradley Lake 69.76 33 P P 23 41 01.3 +0.7
NEA2 Nenana 69.79 27 P P 23 41 01.4 +0.7
FIS Fire Island 69.85 31 P P 23 41 01.4 +0.3
KNK Knik Glacier 70.64 31 P P 23 41 06.2 +0.3
ILAR Eielson Array 70.68 27 P P 23 41 06.2 +0.1
ILAR Eielson Array 70.68 27 P P 23 41 08.2 +2.1
comp=Z,0.4nm,0.7s,baz=269,slow=6.8,SNR=4.8
comp=Z,0.4nm,0.7s
PWL Port Wells 70.81 31 P P 23 41 05.8 -1.2
BMAR Burnt Mountain 71.04 24 P P 23 41 09.8 +1.5
SCM Sheep Creek Mo 71.08 30 P P 23 41 10.0 +1.3
ARCES ARCESS Array B 71.25 338 P P 23 41 09.6 +0.1
ARCES IAmb IAmb 23 41 30.2
comp=Z,8.2nm,1.2s
ARCES ARCESS Array B 71.25 338 P P 23 41 10.5 +0.9
comp=Z,4.0nm,1.0s,baz=81,slow=5.6,SNR=2.0
comp=Z,4.0nm,1.0s
HIN Hinchinbrook I 71.79 31 P P 23 41 12.7 -0.2
KLU Klutina 71.81 30 P P 23 41 14.2 +1.1
KLU IAmb IAmb 23 41 26.5
comp=Z,13nm,1.2s
GLB Gilahina Butte 72.81 30 P P 23 41 19.8 +0.8
K27K Chicken 72.89 27 P P 23 41 21.0 +1.7
K27K IAmb IAmb 23 41 35.8
comp=Z,12nm,1.5s
M26K Nabesna, AK 72.92 29 P P 23 41 21.1 +1.4
M26K IAmb IAmb 23 41 48.3
comp=Z,16nm,1.4s
FINES FINESS Array B 73.08 330 P P 23 41 20.4 -0.1
FINES FINESS Array B 73.08 330 P P 23 41 19.4 -1.1
comp=Z,2.6nm,0.7s,baz=46,slow=5.5,SNR=7.9
comp=Z,2.6nm,0.7s
L27K Beaver Creek, 73.26 28 P P 23 41 23.8 +2.2
L27K IAmb IAmb 23 41 59.2
comp=Z,9.0nm,1.4s
BCAR Beaver Creek A 73.28 28 P P 23 41 24.0 +2.2
M27K Edge Creek, AK 73.44 29 P P 23 41 23.7 +0.9
M27K IAmb IAmb 23 42 02.6
comp=Z,15nm,1.4s
G29M Pine Creek 73.65 24 P P 23 41 25.7 +1.9
G29M IAmb IAmb 23 41 43.2
comp=Z,15nm,1.4s
H29M Whitestone 73.73 25 P P 23 41 25.8 +1.5
H29M IAmb IAmb 23 41 26.1
comp=Z,6.2nm,1.2s
BARN Barnard Glacie 73.91 30 P P 23 41 27.1 +1.4
MNK Minsk 74.06 323 *i* P **P 23 41 25.2 -1.2**
comp=E,5.0nm,0.8s
MNK *i* P **P 23 41 25.2 -1.2**
comp=N,6.0nm,0.8s
MNK *i* P **P 23 41 25.2 -1.2**
comp=Z,9.0nm,0.8s,baz=254
MNK *i* PcP **PcP 23 41 40.5 -1.0**
MNK *i* PP **PP 23 44 09.5 -2.0**
MNK *i* PPP PPP 23 45 54.4
MNK *i* S **S 23 50 57.1 -0.7**
MNK *i* ScS **ScS 23 51 34.7 -0.6**
MNK *i* SS **SS 23 55 41.8 -0.5**
MNK *i* SSS SSS 23 59 03.1
CTGM Chitina Glacie 74.09 30 P P 23 41 29.1 +2.4
EPYK Eagle Plains 74.31 24 P P 23 41 29.0 +1.2
EPYK IAmb IAmb 23 42 04.3
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 74.33 319 P P 23 41 28.3 +0.2
comp=Z,1.9nm,0.7s,baz=60,slow=6.2,SNR=6.0
comp=Z,1.9nm,0.7s
BR131 Keskin Array S 74.40 307 P P 23 41 29.5 +0.6
BR131 IAmb IAmb 23 41 34.7
comp=Z,16nm,1.5s
BRTR Keskin Array B 74.40 307 P P 23 41 28.7 -0.2
BRTR Keskin Array B 74.40 307 P P 23 41 26.8 -2.1
comp=Z,0.9nm,0.7s,baz=112,slow=4.1,SNR=4.0
comp=Z,0.9nm,0.7s
INK Inuvik 74.77 22 P P 23 41 31.8 +1.5
INK IAmb IAmb 23 41 42.1
comp=Z,10.0nm,1.3s
I30M Mount Dempster 74.84 25 P P 23 41 32.2 +1.2
I30M IAmb IAmb 23 41 47.0
comp=Z,10nm,1.4s
M29M Somme Creek 74.92 28 P P 23 41 33.0 +1.5
M29M IAmb IAmb 23 41 36.3
comp=Z,10nm,1.4s
F31M Tsiigehtchic 75.03 23 P P 23 41 32.8 +1.0
F31M IAmb IAmb 23 41 34.0
comp=Z,5.7nm,0.8s
J30M Hart River 75.09 26 P P 23 41 34.2 +1.8
J30M IAmb IAmb 23 42 02.9
comp=Z,5.3nm,1.2s
YKU2 Yakutat 75.34 31 P P 23 41 33.6 -0.1
H31M Peel River 75.42 24 P P 23 41 34.9 +0.7
H31M IAmb IAmb 23 41 42.7
comp=Z,7.1nm,1.1s
SUW Suwalki 76.83 323 P P 23 41 43.3 +0.9
BURAR Bucovina Array 77.79 317 P P 23 41 48.1 +0.1
HFS Hagfors 79.21 331 P P 23 41 56.4 +1.0
comp=Z,4.0nm,0.8s,baz=116,slow=6.6,SNR=3.0
comp=Z,4.0nm,0.8s
NB2 NORSAR Subarra 79.89 332 P P 23 41 59.8 +0.6
comp=Z,4.6nm,1.0s,baz=63,slow=5.6
NOA NORSAR Array B 79.89 332 P P 23 41 59.4 +0.2
comp=Z,2.1nm,0.8s,baz=63,slow=5.2,SNR=5.6
comp=Z,2.1nm,0.8s
OJC Ojcow 80.17 320 P P 23 42 01.0 +0.2
OJC IAmb IAmb 23 42 04.2
comp=Z,6.4nm,0.8s
PSZ Piszkesteto 81.02 318 P P 23 42 05.4 -0.2
VYHS Vyhne 81.43 319 *e*P **P 23 42 08.7 +1.0**
DPC Dobruska-Polom 82.14 321 *e*P **P 23 42 14.0 +2.6**
CHVC Chvalec 82.20 322 *e*P **P 23 42 09.9 -1.8**
DIVS Divibare 82.49 315 P P 23 42 12.6 -0.8
DIVS IAmb IAmb 23 42 17.1
comp=Z,4.2nm,1.0s
FNA Florina 82.87 311 P P 23 42 14.0 -1.4
KBN Korca 83.34 311 P P 23 42 18.2 +0.3
ABPO Ambohimpanom 83.36 246 P P 23 42 18.5 +0.1
CONA Conrad Observa 83.48 319 *e*P **P 23 42 19.2 +0.8**
comp=Z,5.3nm,1.4s
CLL Collm 83.59 323 P P 23 42 19.0 +0.2
CLL IAmb IAmb 23 42 20.4
comp=Z,5.8nm,1.1s
CLL Collm 83.59 323 *i* P **P 23 42 19.9 +1.1**
comp=Z,6.0nm,1.1s
ZVC Zvikov 83.78 321 *e*P **P 23 42 20.3 +0.4**
CKRC Cesky Krumlov 84.00 321 *e*P **P 23 42 22.5 +1.5**
SUMG Summit 84.27 354 P P 23 42 22.9 +0.5
KHC Kasperske Hory 84.28 321 *e*P **P 23 42 21.8 -0.7**
GEC2 GERESS Array S 84.34 321 P P 23 42 22.8 -0.1
GEC2 IAmb IAmb 23 42 26.1
comp=Z,4.3nm,0.9s
GERES GERESS Array B 84.34 321 P P 23 42 22.9 0.0
GERES GERESS Array B 84.34 321 P P 23 42 23.6 +0.7
comp=Z,2.9nm,0.9s,baz=63,slow=6.1,SNR=12
comp=Z,2.9nm,0.9s
MOA Molln 84.47 320 *e*PcP **P 23 42 24.9 +1.4**
comp=Z,2.4nm,0.7s
YKA Yellowknife Ar 84.51 23 P P 23 42 22.8 -0.4
comp=Z,1.0nm,0.9s,baz=316,slow=4.8,SNR=4.0
comp=Z,1.0nm,0.9s
SOKA Soboth 84.54 318 *e*P **P 23 42 24.4 +0.5**
comp=Z,2.2nm,0.7s
OBKA Obir 84.91 318 *e*P **P 23 42 26.0 +0.2**
comp=Z,4.9nm,1.0s
KMBO Kilima Mbogo 85.04 267 P P 23 42 27.5 +0.3
comp=Z,0.7nm,0.6s,baz=41,slow=15,SNR=2.3
comp=Z,0.7nm,0.6s
LESA Schwarzleotal 85.62 320 *e*P **P 23 42 29.9 +0.6**
comp=Z,3.6nm,1.1s
MOTA Moosalm 86.59 320 *e*PcP **PcP 23 42 36.3 -0.3**
comp=Z,3.7nm,1.1s
FETA Feichten 86.97 320 *e*PcP **PcP 23 42 38.5 +0.2**
comp=Z,4.2nm,1.0s
EKA Eskdalemuir Ar 89.37 332 P P 23 42 48.0 +0.9
comp=Z,1.0nm,0.7s,baz=78,slow=3.7,SNR=3.5
comp=Z,1.0nm,0.7s

---

*IDC **08** 23:48:17.1±1.2, 31°.19N×140°.94E, h0km, mb3.8/8, mbtmp3.8/11, ML3.3/3, Error ellipse: s-maj=50.3km s-min=19.0km az=68.0*
*JMA **08** 23:48:24.6±0.2, 31°.9N±1°.0×141°.1E±0°.8, h0km, MV4.2/14, NEAR TORISHIMA IS*
ISC 08 23:48:21.9±0.9, 31°.23N±0°.09×141°.0E±0°.2, h35km, n20, σ1$66/22, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.60**	**321**	*e*P	**Pn**	**23 48 49.1**	**+1.4**
JHJ2	**Mitsune**	**2.11**	**333**	P	**Pn**	**23 48 55.0**	**+0.3**
JHJ2				*e*S	**Sn**	**23 49 16.8**	**-3.0**
JHJ	**Hachijo jima 2**	**2.13**	**332**	Pn	**Pn**	**23 48 54.7**	**-0.3**
	25nm,0.3s,baz=44,slow=23,SNR=29						
JHJ				Sn	**Sn**	**23 49 16.4**	**-3.9**
	137nm,0.3s,baz=83,slow=18,SNR=12						
	80nm,0.4s						
JMKN	**Mikurajimanish**	**2.90**	**337**	*e*P	**Pn**	**23 49 05.6**	**+0.1**
JMKN				*e*S	**Sn**	**23 49 35.9**	**-3.2**
JCJ	**Chichijima**	**4.26**	**165**	Pn	**Pn**	**23 49 23.4**	**-0.9**
	4.8nm,0.3s,baz=300,slow=20,SNR=1.3						
JCJ				Sn	**Sn**	**23 50 09.4**	**-3.3**
	5.8nm,0.3s,baz=334,slow=22,SNR=1.9						
	24nm,0.4s						
JOD2	**Odawara 2**	**4.32**	**339**	*e*P	**Pn**	**23 49 25.6**	**+0.5**
JRY	**Ryogami san**	**5.07**	**341**	*e*P	**Pn**	**23 49 36.8**	**+1.4**
JAG	**Ashikaga**	**5.33**	**347**	*e*P	**Pn**	**23 49 38.9**	**0.0**
MJAR	**Matsushiro Arr**	**5.77**	**337**	Pn	**Pn**	**23 49 45.7**	**+0.6**
	0.3nm,0.3s,baz=290,slow=3.2,SNR=10						
MJAR				Sn	**Sn**	**23 50 50.3**	**+0.3**
	baz=158,slow=30						
	1.4nm,0.3s						
SONM	**Songino Array**	**31.07**	**312**	P	**P**	**23 54 37.3**	**+0.6**
	0.7nm,0.7s,baz=118,slow=8.3,SNR=2.4						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**45.71**	**317**	P	**P**	**23 56 39.5**	**+0.2**
	0.4nm,0.5s,baz=92,slow=10,SNR=1.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**47.09**	**307**	P	**P**	**23 56 50.6**	**+0.3**
	0.6nm,0.5s,baz=87,slow=11,SNR=4.6						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**49.44**	**312**	P	**P**	**23 57 08.8**	**+0.4**
	0.7nm,0.6s,baz=88,slow=7.0,SNR=11						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**51.28**	**188**	P	**P**	**23 57 22.6**	**+0.1**
	0.2nm,0.4s,baz=5.9,slow=7.6,SNR=5.0						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**54.32**	**315**	P	**P**	**23 57 45.0**	**+0.3**
	0.8nm,0.5s,baz=91,slow=6.1,SNR=7.7						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**73.78**	**333**	P	**P**	**23 59 53.1**	**+0.8**
	4.0nm,0.9s,baz=66,slow=2.3,SNR=8.7						
	4.0nm,0.9s						
TXAR	**Lajitas Array**	**93.95**	**52**	P	**P**	**00 01 37.2**	**+0.7**
	0.4nm,0.9s,baz=305,slow=2.6,SNR=3.7						
	0.4nm,0.9s						
H03N2	**Juan Fernandez**	**146.36**	**105**	T	T	02 50 08.8	
	baz=245,slow=73,SNR=20						
H03N3	**Juan Fernandez**	**146.37**	**105**	T	T	02 50 10.5	
	baz=245,slow=73,SNR=14						
H03N1	**Juan Fernandez**	**146.37**	**105**	T	T	02 50 09.8	
	baz=245,slow=73,SNR=7.6						

---

*GCG **09** 00:07:34.9±0.3, 14°.98N×93°.95W, h172km±17km, MD4.5*
*MEX **09** 00:07:49.3±0.7, 14°.03N×93°.15W, h15km, MD4.5*
*IDC **09** 00:07:54.5±3.7, 14°.26N×92°.45W, h49km±32km, mb3.8/12, mbtmp4.0/13, ML4.8/2, Error ellipse: s-maj=29.1km s-min=16.6km az=55.0*
*NEIC **09** 00:07:55.6±1.9, 14°.33N±0°.07×92°.86W±0°.06, h40km±8km, mb4.4/150, Md4.5/14(MEX), Error ellipse: s-maj=11.0km s-min=6.5km az=212.0*
ISC 09 00:07:53.3±0.5, 14°.28N±0°.05×93°.00W±0°.03, h39km±3km, n243, σ1$81/268, mb4.3/56, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.94**	**49**	*e*P	**Pn**	**00 08 08.3**	**-1.8**
THIG				*e*S	**Sn**	**00 08 20.7**	**-1.6**
PATR	**El Naranjo**	**1.11**	**42**	*e*P	**Pn**	**00 08 10.6**	**-2.0**
PATR				*e*S	**Sn**	**00 08 27.1**	**+0.3**
CHUJ	**Union Juarez**	**1.18**	**47**	*e*P	**Pn**	**00 08 11.4**	**-2.1**
CHUJ				*e*S	**Sn**	**00 08 30.1**	**+1.6**
PAVE	**Pavencul**	**1.21**	**41**	*e*P	**Pn**	**00 08 12.1**	**-1.8**
PAVE				*e*S	**Sn**	**00 08 30.1**	**+1.0**
RTAL	**Retalhuleu**	**1.28**	**79**	Pn	**Pn**	**00 08 13.3**	**-1.5**
RTAL					**Sn**	**00 08 30.3**	**-0.4**
SULM	**Suchitepequez,**	**1.39**	**89**	*i* P	**Pn**	**00 08 16.6**	**+0.4**
PCIG		**1.43**	**351**		**Pn**	**00 08 14.7**	**-2.1**
PCIG					**Sn**	**00 08 30.1**	**-4.2**
PCIG		**1.43**	**351**	*e*P	**Pn**	**00 08 14.7**	**-2.1**
PCIG				*e*S	**Sn**	**00 08 30.3**	**-3.9**
STG3	**Santiaguito 3,**	**1.45**	**73**	*i* P	**Pn**	**00 08 16.3**	**-0.9**
STG3				*i* S	Sn	00 08 48.5	+14
HUEH	**Huehuetenango**	**1.77**	**54**		**Pn**	**00 08 22.0**	**+0.4**
HUEH					**Sn**	**00 08 46.2**	**+3.0**
FUG	**Fuego 3**	**2.10**	**85**	*i* P	**Pn**	**00 08 25.4**	**-0.7**
CARR	**Arriaga**	**2.14**	**336**	*e*P	**Pn**	**00 08 25.9**	**-0.7**
CARR				*e*S	**Sn**	**00 08 53.6**	**+1.7**
CCIG	**Comitan**	**2.15**	**23**	Pn	**Pn**	**00 08 28.1**	**+1.3**
CCIG	**Comitan**	**2.15**	**23**	*e*P	**Pn**	**00 08 28.4**	**+1.5**
CCIG				*e*S	**Sn**	**00 08 54.4**	**+2.0**
PCG	**Pacaya**	**2.32**	**87**	*i* P	**Pn**	**00 08 28.5**	**-0.7**
TGBT	**Tuxtla Gutierr**	**2.48**	**358**	*e*P	**Pn**	**00 08 32.3**	**+1.1**
TGBT				*e*S	**Sn**	**00 09 03.4**	**+3.2**
TGIG		**2.48**	**357**		**Pn**	**00 08 31.6**	**+0.4**
TGIG					**Sn**	**00 08 58.1**	**-2.3**
TGIG		**2.48**	**357**	*e*P	**Pn**	**00 08 31.6**	**+0.4**
TGIG				*e*S	**Sn**	**00 08 58.1**	**-2.3**
NBG	**Las Nubes**	**2.59**	**83**	*i* P	**Pn**	**00 08 34.0**	**+1.2**
NILT	**Santiago Nilte**	**2.75**	**326**	*e*P	**Pn**	**00 08 34.2**	**-0.8**
NILT				*e*S	**Sn**	**00 09 07.2**	**+0.3**
UXUV	**UXUV**	**3.21**	**340**	*e*P	**Pn**	**00 08 41.9**	**+0.6**
UXUV				*e*S	**Sn**	**00 09 20.9**	**+2.6**
HUIG	**Huatulco**	**3.35**	**297**	*e*P	**Pn**	**00 08 41.0**	**-2.2**
HUIG				*e*S	**Sn**	**00 09 18.6**	**-3.1**
MTO3	**Montecristo**	**3.53**	**88**	Pn	**Pn**	**00 08 45.4**	**-0.4**
ESQI	**Esquipulas**	**3.55**	**85**		**Pn**	**00 08 46.6**	**+0.5**
SNET	**Serv Nac Est T**	**3.70**	**99**	Pn	**Pn**	**00 08 48.7**	**+0.6**
TUIG	**Tuzandepetl**	**3.97**	**340**	*e*P	**Pn**	**00 08 51.6**	**-0.1**
TUIG				*e*S	**Sn**	**00 09 37.4**	**+0.3**
PETF	**Flores**	**4.00**	**49**		**Pn**	**00 08 51.6**	**-0.4**
NEUV	**Arroyo Zacate**	**4.35**	**322**	*e*P	**Pn**	**00 08 55.6**	**-1.2**
PEIG	**Puerto Escondi**	**4.36**	**294**	*e*P	**Pn**	**00 08 55.6**	**-1.4**
PEIG				*e*S	Sn	00 09 39.2	-7.3
VHO	**Vista Hermosa**	**4.54**	**308**	*e*P	**Pn**	**00 09 01.0**	**+1.3**
VHO				*e*S	**Sn**	**00 09 51.9**	**+0.5**
PMUV	**Sontecomapan**	**4.70**	**335**	*e*P	Pn	00 08 52.5	-9.4
PMUV				*e*S	**Sn**	**00 09 52.8**	**-2.4**
YOIG	**Yosondua**	**5.08**	**301**	*e*P	**Pn**	**00 09 09.0**	**+1.9**
YOIG				*e*S	**Sn**	**00 10 04.5**	**-0.1**
PNIG	**Pinotepa**	**5.37**	**294**	*e*P	**Pn**	**00 09 10.4**	**-0.5**
PNIG				*e*S	Sn	00 10 03.5	-8.1
TOIG	**Toxpalan**	**5.44**	**315**		**Pn**	**00 09 11.7**	**-0.3**
TOIG					**Sn**	**00 10 16.9**	**+3.4**
TOIG	**Toxpalan**	**5.44**	**315**	*e*P	**Pn**	**00 09 11.7**	**-0.3**
TOIG				*e*S	**Sn**	**00 10 16.9**	**+3.4**
TXIG	**Tlaxiaco**	**5.46**	**303**	*e*P	**Pn**	**00 09 14.1**	**+1.7**
TXIG				*e*S	**Sn**	**00 10 12.6**	**-1.5**

TGUH	Tegucigalpa,Un	5.56 92		Pn	00 09 13.9	+0.3
HLIG	Huajuapan de L	5.81 308	eP	Pn	00 09 19.1	+1.9
HLIG			eS	Sn	00 10 24.3	+1.6
TPIG	Tehuac#an	5.87 315	eP	Pn	00 09 16.9	-1.1
TPIG			eS	Sn	00 10 23.6	-0.5
CRIN	San Cristobal	6.00 105	Pn	Pn	00 09 19.3	-0.3
FTIG	Fresnillo de T	6.11 307	eP	Pn	00 09 23.2	+2.0
FTIG			eS	Sn	00 10 29.8	-0.1
JAUV	Jalcomulco	6.23 325	eP	Pn	00 09 20.5	-2.3
JAUV			eS	Sn	00 10 30.9	-1.9
TLIG	Tlapa	6.27 302	eP	Pn	00 09 25.0	+1.6
TLIG			eS	Sn	00 10 32.7	-1.2
LVIG	Laguna Verde	6.32 329	eP	Pn	00 09 21.8	-2.1
LVIG			eS	Sn	00 10 32.3	-2.7
CNGN	Cerro Negro	6.38 105		Pn	00 09 24.7	-0.1
DAIG	Los Arroyos	6.96 294	eP	Pn	00 09 33.4	+0.6
DAIG			eS	Sn	00 10 46.7	-4.1
MATN	Matagalpa	7.01 100		Pn	00 09 32.0	-1.5
PPM	Popocatepetl	7.19 312	eP	Pn	00 09 35.3	-1.1
PPM			eS	Sn	00 11 00.1	+3.0
CXUV	Coxquihui	7.32 324	eP	Pn	00 09 37.4	-0.3
CXUV			eS	Sn	00 10 52.8	-6.8
MEIG	Mezcala	7.32 301	eP	Pn	00 09 39.8	+2.0
MEIG			eS	Sn	00 10 57.7	-2.0
MYIG	Mrida	7.33 25	eP	Pn	00 09 37.9	+0.1
MYIG			eS	Sn	00 10 58.4	-1.4
BOAB	BOACO BROADBAN	7.36 103	Pn	Pn	00 09 38.0	-0.3
YAIG	Yautepec	7.39 309	eP	Pn	00 09 39.3	+0.5
YAIG			eS	Sn	00 11 03.9	+2.4
TEIG	Tepich	7.43 37	Pn	Pn	00 09 39.5	+0.2
TEIG	Tepich	7.43 37	P	Pn	00 09 38.2	-1.1
	180nm,0.3s,baz=19,slow=2.4,SNR=46					
TEIG			S	Sn	00 10 55.9	-6.4
	587nm,0.7s,baz=200,slow=19,SNR=1.6					
PLIG	Platanillo	7.46 304	eP	Pn	00 09 41.7	+2.0
PLIG			eS	Sn	00 11 02.8	-0.4
CAIG	El Cayaco	7.52 292	eP	Pn	00 09 41.5	+1.0
CAIG			eS	Sn	00 10 55.3	-9.2
ACON	Acoyapa	7.96 106	Pn	Pn	00 09 46.6	+0.1
ARIG	Puente Sto Nin	8.10 300	eP	Pn	00 09 51.0	+2.6
ARIG			eS	Sn	00 11 16.6	-2.1
DEIG	Demacu	8.31 317	eP	Pn	00 09 53.8	+2.3
DEIG			eS	Sn	00 11 17.5	-6.7
ORTG	Ortega, Santa	8.33 117		Pn	00 09 51.2	-0.4
DUNO	Dulce Nombre,	8.44 119		Pn	00 09 52.8	-0.3
ESPN	Las Esperanzas	8.72 103		Pn	00 09 54.4	-2.5
CTUV	Llano Grande	8.78 325	eP	Pn	00 09 56.0	-1.8
CTUV			eS	Sn	00 11 34.1	-1.3
ZIIG	Zihuatanejo	8.79 293	eP	Pn	00 09 59.4	+1.6
ZIIG			eS	Sn	00 11 27.6	-8.0
JTS	Las Juntas de	8.81 116	Pn	Pn	00 09 57.6	-0.5
ARE1	Arenal 1	8.94 114		Pn	00 09 59.3	-0.6
SOCE	Pocosol	9.06 114	Pn	Pn	00 10 01.2	-0.4
RIMA	Rio Macho	10.00 116	Pn	Pn	00 10 15.7	+1.0
DRK0	Durika	10.77 117	Pn	Pn	00 10 24.0	-1.2
SOR	Soroa	12.70 47	Pn	Pn	00 10 51.3	-0.1
HBVL	Hebbronville	13.78 338	Pn	Pn	00 11 09.6	+3.6
BCIP	Isla Barro Col	13.85 110		P	00 11 13.8	-0.9
PAYG	Puerto Ayora	15.10 170	Pn	Pn	00 11 26.7	+2.7
833A	Chaparral WMA,	15.18 338	Pn	Pn	00 11 27.1	+2.1
833A			IAmb	IAmb	00 11 58.7	
	comp=Z,18nm,0.9s					
MTDJ	Mount Denham	15.36 73	P	P	00 11 30.1	-1.5
MTDJ			IAmb	IAmb	00 11 58.1	
	comp=Z,32nm,1.1s					
HKT	Hockley	15.81 351		Pn	00 11 34.3	+1.3
061Z	Ochoppi	16.16 43	Pn	Pn	00 11 36.4	-1.3
HNDO	Hondo	16.25 340		P	00 11 40.6	-0.7
HNDO			IAmb	IAmb	00 11 47.6	
	comp=Z,8.0nm,0.7s					
441A	DeRidder	16.39 359	Pn	Pn	00 11 40.7	+0.3
441A			IAmb	IAmb	00 11 44.0	
	comp=Z,31nm,1.0s					
HNVL	Huntsville, TX	16.55 353	Pn	Pn	00 11 43.0	+0.5
HNVL			IAmb	IAmb	00 11 47.0	
	comp=Z,31nm,1.2s					
DRIO	Del Rio	16.64 336	Pn	P	00 11 45.3	-0.3
DRIO			IAmb	IAmb	00 11 49.9	
	comp=Z,11nm,0.9s					
435B	Jarrell	16.96 346	Pn	P	00 11 49.1	0.0
435B			IAmb	IAmb	00 12 01.9	
	comp=Z,25nm,1.1s					
JCT	Junction City	17.30 340	P	P	00 11 54.1	+1.1
346A	Big Creek Wild	17.33 10		P	00 11 53.1	-0.2
NATX	Nacogdoches	17.46 355		P	00 11 55.0	+0.2
NATX			IAmb	IAmb	00 12 11.2	
	comp=Z,14nm,0.6s					
SAND	Sanderson	17.73 333		P	00 11 59.5	+1.7
SAND			IAmb	IAmb	00 12 01.6	
	comp=Z,14nm,0.8s					
BRDY	Brady	17.80 343		P	00 11 59.2	+0.7
BRDY			IAmb	IAmb	00 12 15.4	
	comp=Z,5.9nm,0.8s					
237A	Washetta, Mont	17.82 352		P	00 11 59.8	+1.0
TXAR	Lajitas Array	17.94 328	P	P	00 12 02.5	+2.3
TXAR	Lajitas Array	17.94 328	P	P	00 12 03.4	+3.3
	comp=Z,0.2nm,0.3s,baz=141,slow=12,SNR=27					
	comp=Z,8.5nm,1.0s					
TX31	Lajitas Ar. Si	17.94 328	P	P	00 12 02.0	+1.9
TX31			IAmb	IAmb	00 12 19.2	
	comp=Z,26nm,0.8s					
TX32	Lajitas Array	17.94 328	P	P	00 12 02.0	+1.9
VBMS	Vicksburg	18.00 7		P	00 12 02.0	+1.4
VBMS			IAmb	IAmb	00 12 24.9	
	comp=Z,29nm,1.1s					
WHTX	Lake Whitney,	18.09 348	P	P	00 12 02.7	+1.0
OZNA	Ozona	18.17 337	P	P	00 12 04.7	+2.1
OZNA			IAmb	IAmb	00 12 13.5	
	comp=Z,12nm,0.7s					
143A	Socs Landing,	18.39 4		Pn	00 12 05.2	-0.1
143A			IAmb	IAmb	00 12 11.2	
	comp=Z,17nm,0.7s					
FW14	Alvarado	18.44 349	P	Pn	00 12 06.9	+1.0
FW14			IAmb	IAmb	00 12 10.9	
	comp=Z,16nm,0.7s					
352A	Blakely	18.65 22	P	Pn	00 12 08.2	-0.2
ALPN	Alpine	18.78 330	P	Pn	00 12 12.2	+2.1
ALPN			IAmb	IAmb	00 12 17.5	
	comp=Z,12nm,1.0s					
Z41A	Richland Creek	18.89 1	P	Pn	00 12 12.0	+0.7
SGCY	Sterling City	19.06 338	P	Pn	00 12 14.9	+1.4
SGCY			IAmb	IAmb	00 12 17.5	
	comp=Z,23nm,0.8s					
FW03	Perrin-Whitt E	19.23 347	P	Pn	00 12 16.2	+0.8
FW03			IAmb	IAmb	00 12 41.2	
	comp=Z,33nm,1.5s					
ABTX	Abilene, Hawle	19.24 343		Pn	00 12 16.5	+0.9
WLAR	White Oak Lake	19.32 360	P	P	00 12 15.6	+0.4
WLAR			IAmb	IAmb	00 12 34.1	
	comp=Z,22nm,1.0s					
Z35A	Perchaven, San	19.35 349	P	Pn	00 12 18.6	+1.8
Z35A			IAmb	IAmb	00 12 49.4	
	comp=Z,14nm,0.7s					
LRAL	Lakeview Retre	19.45 15		Pn	00 12 19.2	+1.2
PECS	Pecos	19.71 331	P	Pn	00 12 21.9	+0.7
PECS			IAmb	IAmb	00 12 50.8	
	comp=Z,11nm,1.0s					
Y45A	Yeager Farm, C	19.75 9		Pn	00 12 22.3	+0.7
425A	Indio Mountain	19.78 328	P	Pn	00 12 23.7	+1.6
ODSA	Odessa	19.79 335	P	Pn	00 12 22.0	-0.1
ODSA			IAmb	IAmb	00 12 27.1	
	comp=Z,29nm,0.7s					
152A	Waverly Hall	19.80 21		Pn	00 12 23.1	+1.0
152A			IAmb	IAmb	00 12 28.7	
	comp=Z,12nm,0.9s					
SN01	Snyder 1	19.84 340	P	Pn	00 12 23.5	+0.8
SN01			IAmb	IAmb	00 12 29.8	
	comp=Z,16nm,0.6s					
LOOK	Love County	19.99 350		Pn	00 12 23.9	-0.5
LOOK			IAmb	IAmb	00 13 07.5	
	comp=Z,13nm,0.7s					
WTFS	Witchita Falls	20.02 347	P	Pn	00 12 24.7	-0.1
WTFS			IAmb	IAmb	00 12 42.6	
	comp=Z,11nm,0.8s					
APMT	Aspermont	20.03 342		Pn	00 12 25.9	+0.9
APMT			IAmb	IAmb	00 12 31.4	
	comp=Z,13nm,0.7s					
PULU	Pululahua	20.16 133	P	P	00 12 23.8	-1.1
MIAR	Mount Ida	20.18 359	P	Pn	00 12 26.4	-0.2
MIAR			IAmb	IAmb	00 12 32.5	
	comp=Z,21nm,0.9s					
IMBA	Imbabura, San	20.20 132	P	Pn	00 12 26.6	-0.9
TULM	Tulcn-Chalpat	20.20 131	P	Pn	00 12 26.4	-1.1
TULM			IAmb	IAmb	00 12 30.2	
	comp=Z,16nm,1.2s					
POST	Post	20.24 339	P	Pn	00 12 27.4	0.0
POST			IAmb	IAmb	00 12 36.6	
	comp=Z,11nm,1.0s					
X37A	Clayton	20.33 354		Pn	00 12 28.0	-0.4
X37A			IAmb	IAmb	00 12 56.1	
	comp=Z,15nm,1.1s					
OXF	Oxford	20.40 9	P	Pn	00 12 28.4	-0.8
OXF			IAmb	IAmb	00 12 34.5	
	comp=Z,20nm,0.8s					
UALR	University of	20.41 2	P	Pn	00 12 28.8	-0.6
UALR			IAmb	IAmb	00 12 56.4	
	comp=Z,23nm,1.2s					
DKNS	Dickens	20.59 341	P	Pn	00 12 31.0	-0.6
DKNS			IAmb	IAmb	00 12 42.9	
	comp=Z,11nm,0.7s					
ROSC	El Rosal	20.65 115	P	P	00 12 31.0	+0.8
ROSC			IAmb	IAmb	00 12 47.5	
	comp=Z,28nm,1.3s					
ROSC	El Rosal	20.65 115	P	P	00 12 25.9	-4.4
	comp=Z,2.2nm,0.4s,baz=339,slow=15,SNR=1.0					
	comp=Z,2.2nm,0.4s					
SLOR	San Lorenzo -	20.70 135	P	P	00 12 30.8	-0.1
MNTX	Cornudas Mount	20.72 329	P	Pn	00 12 32.2	-0.7
X48A	Hartselle	20.79 14		Pn	00 12 32.9	-0.9
WMOK	Wichita Mounta	21.03 347	P	P	00 12 35.5	+1.7
W35A	Tecumseh	21.07 351		P	00 12 35.1	+0.9
W35A			IAmb	IAmb	00 12 44.6	
	comp=Z,12nm,0.7s					
PLAL	Pickwick Lake	21.08 11	P	P	00 12 37.1	+2.8
Y52A	Lilburn	21.11 21	P	P	00 12 36.2	+1.6
Y52A			IAmb	IAmb	00 12 48.0	
	comp=Z,24nm,1.1s					
FPAL	Fort Paine	21.25 17	P	P	00 12 37.0	+0.9
FPAL			IAmb	IAmb	00 13 11.0	
	comp=Z,14nm,1.0s					
SDDR	Presa de Saban	21.31 74	P	P	00 12 36.9	-0.1
OKCSW	OKLAHOMA CITY	21.41 350		P	00 12 39.6	+1.8
X51A	Calhoun	21.49 19	P	P	00 12 39.5	+0.8
COHC	Cochancay	21.50 140	P	P	00 12 38.2	-0.7
MSTX	Muleshoe	21.51 337	P	P	00 12 39.5	+0.5
MSTX			IAmb	IAmb	00 12 46.0	
	comp=Z,17nm,0.9s					
FCAR	Ozark Folk Cen	21.53 2	P	P	00 12 40.0	+0.9
OK029	Liberty Lake	21.79 350	P	P	00 12 44.1	+2.2
OK029			IAmb	IAmb	00 12 51.4	
	comp=Z,12nm,0.8s					
OK031	S. Brethren Rd	21.85 352	P	P	00 12 42.9	+0.3
OK031			IAmb	IAmb	00 13 01.9	
	comp=Z,8.9nm,0.7s					
RLO	Rose Lookout	21.87 356	P	P	00 12 44.7	+2.0
RLO			IAmb	IAmb	00 13 14.8	
	comp=Z,8.8nm,0.8s					
OK052	Battle Ridge R	21.89 352	P	P	00 12 43.6	+0.7
OK052			IAmb	IAmb	00 12 52.8	
	comp=Z,15nm,1.0s					
HHAR	Hobbs	21.92 358	P	P	00 12 44.9	+1.6
W50A	Signal Mountai	21.95 17	P	P	00 12 44.8	+1.2
W50A			IAmb	IAmb	00 13 23.1	
	comp=Z,11nm,0.8s					
AMTX	Amarillo	21.96 341	P	P	00 12 45.5	+1.8
OK033	Mehan	21.96 351	P	P	00 12 45.6	+2.0
OK033			IAmb	IAmb	00 12 53.1	
	comp=Z,14nm,0.7s					
QUOK	Quay	22.05 352	P	P	00 12 45.5	+0.8
QUOK			IAmb	IAmb	00 12 54.2	
	comp=Z,17nm,1.0s					
U38A	Gravette	22.10 357	P	P	00 12 47.1	+1.9
WVT	Waverly	22.24 11	P	P	00 12 48.0	+1.3
OK048	Pawnee Station	22.32 352		P	00 12 49.0	+1.4
OK051	E0350 and S346	22.39 352		P	00 12 49.3	+0.9
OK051			IAmb	IAmb	00 12 51.0	
	comp=Z,15nm,0.8s					
BOSC	San Juan Bosco	22.51 139	P	P	00 12 50.5	+0.5
PBMO	Poplar Bluff	22.52 5	P	P	00 12 52.7	+3.0
PBMO			IAmb	IAmb	00 12 59.8	
	comp=Z,9.1nm,0.8s					
JSC	Jenkinsville	22.57 26	P	P	00 12 54.2	+3.9
CROK	Carrier	22.57 349	P	P	00 12 51.0	+0.6
CROK			IAmb	IAmb	00 13 00.7	
	comp=Z,9.0nm,0.8s					
121A	Cookes Peak, D	22.63 326	P	P	00 12 54.3	+3.2
121A			IAmb	IAmb	00 13 03.2	
	comp=Z,14nm,0.8s					
319A	Douglas	22.64 321	P	P	00 12 54.5	+3.4
319A			IAmb	IAmb	00 13 03.6	
	comp=Z,10nm,0.9s					
T35A	Sooner Cattle	22.76 353	P	P	00 12 51.1	-1.1
T35A			IAmb	IAmb	00 13 11.0	
	comp=Z,20nm,1.4s					
V51A	Loudon	22.79 18	P	P	00 12 54.4	+1.8
V51A			IAmb	IAmb	00 13 01.7	
	comp=Z,14nm,1.1s					
TKL	Tuckaleechee C	22.84 20	P	P	00 12 54.5	+1.4
TKL			IAmb	IAmb	00 13 10.7	
	comp=Z,18nm,1.1s					
U49A	Red Boiling Sp	23.06 15	P	P	00 12 54.7	-0.6
V52A	Sevierville	23.07 20	P	P	00 12 56.6	+1.2
V52A			IAmb	IAmb	00 13 16.2	
	comp=Z,24nm,1.4s					
S39A	Bolivar	23.32 359	P	P	00 12 57.2	-0.7
S39A			IAmb	IAmb	00 12 58.4	
	comp=Z,10nm,1.1s					
DUN6	Lazy B Ranch	23.37 324	P	P	00 13 00.3	+1.7
Y22D	IRIS PASSCAL I	23.39 330	P	P	00 12 59.9	+1.0
S44A	Carbondale	23.55 7	P	P	00 13 02.0	+1.9
S44A			IAmb	IAmb	00 13 24.2	
	comp=Z,17nm,1.1s					
SIUC	Southern Illin	23.58 8	P	P	00 13 01.4	+1.0
SIUC			IAmb	IAmb	00 13 37.4	
	comp=Z,13nm,0.9s					
ANMO	Albuquerque	23.89 332	P	P	00 13 06.3	+2.7
TUC	Tucson	24.20 321	P	P	00 13 08.4	+2.1
S51A	Beattyville	24.72 18	P	P	00 13 11.6	+0.7
S51A			IAmb	IAmb	00 13 25.5	
	comp=Z,10nm,0.8s					
V58A	Windy Hill, Pi	24.78 28	P	P	00 13 10.5	-1.0
V58A			IAmb	IAmb	00 13 43.0	
	comp=Z,16nm,1.1s					
T25A	Trinidad	24.93 338	P	P	00 13 17.6	+4.5
BAUV	El Baul	25.00 100	P	P	00 13 11.9	-1.9
BAUV			IAmb	IAmb	00 13 12.8	
	comp=Z,7.7nm,0.7s					
P40A	Paris	25.16 2	P	P	00 13 14.3	-0.6
S54A	Dingess, Beckl	25.62 22	P	P	00 13 19.4	+0.2
S54A			IAmb	IAmb	00 13 22.9	
	comp=Z,12nm,1.1s					
T57A	Hurt	25.73 26	P	P	00 13 19.3	-0.8
T57A			IAmb	IAmb	00 13 47.4	
	comp=Z,12nm,1.4s					
P46A	Rosedale	25.75 10	P	P	00 13 20.1	-0.1
P46A			IAmb	IAmb	00 13 54.4	
	comp=Z,9.0nm,0.8s					
SSFO	Shawnee State	25.81 18	P	P	00 13 21.1	+0.2
SDCO	Great Sand Dun	25.88 337	P	P	00 13 23.5	+1.7
X16A	Lo Mia Camp, P	26.07 323	P	P	00 13 27.5	+4.1
Q51A	Peebles	26.08 17	P	P	00 13 22.7	-0.5
Q51A			IAmb	IAmb	00 13 51.4	
	comp=Z,8.4nm,0.9s					
P49A	Miami Univ. Ec	26.19 15	P	P	00 13 23.2	-1.0
P49A			IAmb	IAmb	00 14 00.7	
	comp=Z,9.9nm,1.2s					
S22A	4UR Ranch, Cre	26.40 335	P	P	00 13 28.2	+1.7
S22A			IAmb	IAmb	00 13 32.1	
	comp=Z,6.7nm,0.8s					
T59A	Double "B" Far	26.46 29	P	P	00 13 26.4	-0.3
T59A			IAmb	IAmb	00 13 31.9	
	comp=Z,6.0nm,0.8s					
MVCO	Mesa Verde	26.69 332	P	P	00 13 32.1	+3.0
MVCO			IAmb	IAmb	00 13 35.0	
	comp=Z,8.7nm,0.9s					
GLA	Glamis	27.26 317	P	P	00 13 34.5	+0.5
GLA			IAmb	IAmb	00 13 46.1	
	comp=Z,5.7nm,0.8s					
ISCO	Idaho Springs	27.73 339	P	P	00 13 41.0	+2.5
O54A	Avella	28.07 21	P	P	00 13 41.7	+0.6
V12A	Nelson	28.99 321	P	P	00 13 51.6	+2.0
TCUT	Toone Canyon	31.17 333	P	P	00 14 12.1	+3.2
PD31	Pinedale Array	31.77 337	P	P	00 14 16.1	+2.0
PDAR	Pinedale Array	31.77 337	P	P	00 14 15.8	+1.7
	comp=Z,2.1nm,1.0s,baz=141,slow=8.9,SNR=9.1					
	comp=Z,2.1nm,1.0s					
ID09	Alton	32.00 334	P	P	00 14 18.7	+2.6
ID09			IAmb	IAmb	00 14 21.4	
	comp=Z,6.0nm,0.9s					
YLE	Yale	32.09 29	P	P	00 14 17.4	+0.8
ID07	Smith Canyon R	32.61 333	P	P	00 14 23.5	+2.0
ID07			IAmb	IAmb	00 14 32.0	
	comp=Z,6.7nm,1.0s					
NV11	Mina Array Sit	32.76 322	P	P	00 14 24.9	+2.1
REDW	Red Top Meadow	32.78 336	P	P	00 14 24.6	+1.6
SNOW	Snow King Moun	32.83 336	P	P	00 14 25.8	+2.4
NVAR	Mina Array Bea	32.85 322	P	P	00 14 25.1	+1.5
NVAR	Mina Array Bea	32.85 322	P	P	00 14 27.4	+3.7
	comp=Z,1.1nm,0.6s,baz=134,slow=8.9,SNR=3.6					
	comp=Z,1.1nm,0.6s					
DELO	Deloro Mine	32.86 20	P	P	00 14 24.3	+1.0
LOHW	Long Hollow	32.89 336	P	P	00 14 25.3	+1.4
TPAW	Teton Pass	32.93 336	P	P	00 14 26.6	+2.2
MOOW	Moose Ponds	33.06 336	P	P	00 14 27.0	+1.6
MOOW			IAmb	IAmb	00 14 30.3	
	comp=Z,3.7nm,0.8s					
FXWY	Fox Creek	33.08 336	P	P	00 14 28.2	+2.6
FXWY			IAmb	IAmb	00 14 35.7	
	comp=Z,4.8nm,0.9s					
KVN	Kaiserville	33.13 323	P	P	00 14 28.6	+2.5
KVN			IAmb	IAmb	00 14 37.3	
	comp=Z,4.7nm,1.0s					
IMW	Indian Meadow	33.26 336	P	P	00 14 29.3	+2.0
IMW			IAmb	IAmb	00 14 32.5	
	comp=Z,5.1nm,0.9s					
FLWY	Flagg Ranch	33.33 336	P	P	00 14 30.2	+2.5
FLWY			IAmb	IAmb	00 14 33.1	
	comp=Z,4.3nm,0.8s					
HLID	Hailey	34.47 332	P	P	00 14 40.3	+2.7
HLID			IAmb	IAmb	00 14 51.3	
	comp=Z,5.0nm,1.3s					
DLMT	Dillon	35.14 336	P	P	00 14 45.6	+2.3
ULM	Lac du Bonnet	35.95 357	P	P	00 14 49.5	-0.5
	comp=Z,1.9nm,0.5s,baz=184,slow=19,SNR=4.7					
	comp=Z,1.9nm,0.5s					
BEMT	Mount Belmont	36.19 337	P	P	00 14 53.0	+0.6
J08A	Circle Bar Ran	36.29 328	P	P	00 14 55.6	+2.4
BPMT	Black Pine Rid	36.36 336	P	P	00 14 55.0	+1.0
LYMT	Lyon Mountain	36.36 338	P	P	00 14 55.3	+1.4
PLID	Pearl Lake	36.37 332	P	P	00 14 55.9	+1.9
PLID			IAmb	IAmb	00 15 04.0	
	comp=Z,3.8nm,0.7s					
EGMT	Eagleton	36.40 341	P	P	00 14 55.1	+1.1
CHMT	Chamberlain Mo	36.68 337	P	P	00 14 57.1	+0.5
MSO	Missoula	36.88 336	P	P	00 15 00.9	+2.8
MSO			IAmb	IAmb	00 15 08.1	
	comp=Z,6.1nm,1.0s					
F10A	Beach Ranch, E	37.60 332	P	P	00 15 06.0	+1.7
YKA	Yellowknife Ar	50.53 347		P	00 16 47.3	-0.1
YKA	Yellowknife Ar	50.53 347	P	P	00 16 48.2	+0.7
	comp=Z,1.7nm,0.7s,baz=152,slow=7.0,SNR=12					
	comp=Z,1.7nm,0.7s					
CPUP	Villa Florida	53.23 139	P	P	00 17 03.7	-4.4
	comp=Z,2.3nm,1.0s,baz=0.0,slow=9.1,SNR=2.9					
	comp=Z,2.3nm,1.0s					
PLCA	Paso Flores	58.56 160	P	P	00 17 45.2	-0.9
	comp=Z,2.7nm,0.9s,baz=327,slow=17,SNR=4.0					
	comp=Z,2.7nm,0.9s					
INK	Inuvik	59.90 344	P	P	00 17 57.2	+2.4
F28M	Old Crow	61.29 341	P	P	00 18 06.1	+1.6
PRP	Porcupine Dome	62.05 338	P	P	00 18 11.4	+1.6
IL31		62.20 337	P	P	00 18 12.6	+2.0
ILAR	Eielson Array	62.20 337	P	P	00 18 13.1	+2.5
ILAR	Eielson Array	62.20 337	P	P	00 18 12.7	+2.1
	comp=Z,0.9nm,0.9s,baz=121,slow=5.7,SNR=7.8					
	comp=Z,0.9nm,0.9s					
BMAR	Burnt Mountain	62.70 340	P	P	00 18 15.8	+1.9
TULEG	Thule	63.54 6	P	P	00 18 17.3	-1.9
EKA	Eskdalemuir Ar	78.30 36	P	P	00 19 47.3	-1.9
	comp=Z,1.5nm,0.8s,baz=302,slow=4.0,SNR=4.7					
	comp=Z,1.5nm,0.8s					
ESDC	Sonseca Array	80.30 52	P	P	00 19 58.7	-1.9
	comp=Z,0.6nm,0.8s,baz=304,slow=3.5,SNR=7.3					
	comp=Z,0.6nm,0.8s					
ARCES	ARCESS Array B	86.17 18	P	P	00 20 30.0	-0.1
	comp=Z,3.6nm,1.0s,baz=308,slow=4.4,SNR=5.4					
	comp=Z,3.6nm,1.0s					
TORD	Torodi Ar. Bea	91.25 76	P	P	00 20 53.3	-2.0
	comp=Z,0.4nm,0.9s,baz=267,slow=6.1,SNR=1.3					
	comp=Z,0.4nm,0.9s					
WRA	Warramunga Arr	134.52 256	PKP	PKPdf	00 27 08.4	+0.2
	comp=Z,0.4nm,0.7s,baz=305,slow=1.1,SNR=2.4					
ASAR	Alice Springs	134.84 251	PKP	PKPdf	00 27 08.7	-0.2
	comp=Z,0.2nm,0.4s,baz=106,slow=3.0,SNR=2.0					
PZH	PanZhiHua	137.00 340	PKP	PKPdf	00 27 13.5	+0.6
CMAR	Chiang Mai Arr	145.40 340	PKPbc	PKPbc	00 27 28.2	+0.3
	comp=Z,2.1nm,0.6s,baz=346,slow=3.8,SNR=8.4					

*IDC **09** 00:16:41.9±5.4, 36°.80N×70°.39E, h120km±43km, mb3.0/1, mbtmp3.5/7, MS3.0/1, Error ellipse: s-maj=64.8km s-min=18.0km az=153.0*

ISC 09 00:16:39.1±1.8, 36°.5N±0°.1×70°.5E±0°.1, h100km, n10, σ1§65/13, **1C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.10	23	⇓Pn	Pn	00 18 08.0	+1.0
	1.2nm,0.6s						
AML				⇓Sn	Sn	00 19 14.2	-1.4
	7.4nm,0.8s						
KK31	Karatay Array	6.56	360	⇓Pn	Pn	00 18 14.6	+1.7
	2.9nm,0.4s,baz=187,slow=13,SNR=35						
KK31				⇑Sn	Sn	00 19 27.7	+1.5
	1.9nm,0.5s,baz=191,slow=22,SNR=4.4						
AAK	Ala-Archa	6.81	25	P	Pn	00 18 17.9	+1.3
	1.9nm,0.3s,baz=192,slow=6.8,SNR=17						
AAK				S	Sn	00 19 29.6	-3.1
	5.1nm,0.5s,baz=342,slow=18,SNR=13						
GEYT	Alibeck	10.00	282	P	Pn	00 19 00.7	+0.9
	0.4nm,0.4s,baz=110,slow=16,SNR=2.3						
GEYT				S	Sn	00 20 48.3	-1.8
	0.5nm,0.3s,baz=94,slow=18,SNR=6.0						
MKAR	Makanchi Array	13.48	37	P	Pn	00 19 47.8	+1.7
	0.9nm,0.8s,baz=220,slow=15,SNR=3.1						
KURBB	Kurchatov Arra	15.21	20	P	Pn	00 20 08.7	+0.4
	0.1nm,0.3s,baz=216,slow=12,SNR=1.6						
AKTO	Aktyubinsk	16.56	331

MAW	Mawson	36.32	220	P	P	00 32 15.5	+1.0
	comp=Z,4.2nm,0.9s,baz=133,slow=10,SNR=5.5						
	comp=Z,4.2nm,0.9s						
H01W1	Cape Leeuwin H	37.31	297	T	T	01 11 49.8	
	baz=149,slow=76,SNR=117						
H01W2	Cape Leeuwin H	37.31	297	T	T	01 11 49.9	
	baz=149,slow=76,SNR=108						
H01W3	Cape Leeuwin H	37.33	297	T	T	01 11 51.0	
	baz=149,slow=76,SNR=125						
NWAO	Narrogin (SRO)	37.74	302	P	P	00 32 27.9	+0.8
NWAO				IAmb	IAmb	00 32 31.4	
	comp=Z,75nm,1.2s						
BELA	Belgrano 2	40.39	177	P	P	00 32 49.1	+0.4
ASAR	Alice Springs	40.84	329	P	P	00 32 53.5	+0.5
ASAR	Alice Springs	40.84	329	P	P	00 32 49.9	-3.2
	comp=Z,0.4nm,0.7s,baz=169,slow=10,SNR=2.6						
ASAR				PcP	PcP	00 34 52.4	-1.3
	comp=Z,0.4nm,1.0s,baz=163,slow=3.9,SNR=1.8						
	comp=Z,0.4nm,0.7s						
KOUNC	Koumac, New Ca	41.74	13	P	P	00 33 01.1	+0.7
KOUNC				IAmb	IAmb	00 33 02.8	
	comp=Z,7.7nm,0.9s						
WB2	Warramunga Arr	44.32	331	P	P	00 33 23.0	+1.7
WB2				IAmb	IAmb	00 33 42.6	
	comp=Z,8.1nm,1.3s						
WRA	Warramunga Arr	44.32	331	P	P	00 33 18.1	-3.2
	comp=Z,2.5nm,1.3s,baz=171,slow=7.1,SNR=5.0						
WRA				PcP	PP	00 35 02.8	-1.8
	comp=Z,1.6nm,1.3s,baz=163,slow=3.7,SNR=2.1						
	comp=Z,2.5nm,1.3s						
TROLL	Troll, Antarti	45.11	192	⇓P	P	00 33 28.4	+1.3
	comp=Z,180nm,0.9s						
SNAA	Sanae	45.90	189	P	P	00 33 34.2	+0.8
SNAA				IAmb	IAmb	00 33 35.6	
	comp=Z,3.8nm,1.1s						
SNAA	Sanae	45.90	189	⇑P	P	00 33 34.9	+1.5
	comp=Z,50nm,1.0s						
SNAA	Sanae	45.90	189	P	P	00 33 34.1	+0.8
	comp=Z,2.7nm,1.0s,baz=164,slow=10,SNR=7.3						
SNAA				LR	LR	00 53 23.0	
	comp=Z,809nm,18.6s,baz=190,slow=37						
	comp=Z,2.7nm,1.0s						
VNA3	Neumayer Olymp	46.77	187	⇓P	P	00 33 41.6	+1.4
	comp=Z,3.4nm,0.7s						
VNA1	Neumayer--Stat	47.28	187	P	P	00 33 45.3	+1.2
	comp=Z,11nm,1.1s						
PMSA	Palmer Station	50.36	159	P	P	00 34 08.1	+0.4
PMSA				IAmb	IAmb	00 34 08.3	
	comp=Z,2.5nm,0.7s						
AIS	Amsterdam Isla	51.85	260	P	P	00 34 20.2	+0.8
HNR	Honiara	52.43	6	P	P	00 34 22.7	-1.2
SOEI	Soe	56.69	323	P	P	00 34 55.7	+0.8
SOEI				IAmb	IAmb	00 34 56.7	
	comp=Z,10.0nm,0.5s						
MMRI	Maumere	58.34	321	P	P	00 35 07.7	+1.2
MG01	Puerto William	58.79	153	P	P	00 35 08.6	-0.5
XMAS	Kiritimati	73.14	50	P	P	00 36 42.3	+0.4
ROCAM	Rodrigues Isla	73.65	259	P	P	00 36 44.7	-0.2
H03S1	Juan Fernandez	75.13	136	T	T	02 00 09.4	
	baz=201,slow=74,SNR=160						
H03S2	Juan Fernandez	75.13	136	T	T	02 00 08.1	
	baz=201,slow=74,SNR=148						
H03S3	Juan Fernandez	75.15	136	T	T	02 00 09.0	
	baz=201,slow=74,SNR=179						
H08S2	Diego Garcia H	79.86	273	T	T	02 05 00.3	
	baz=151,slow=76,SNR=12						
H08S1	Diego Carcia H	79.87	273	T	T	02 05 03.7	
	baz=151,slow=76,SNR=9.2						
H08S3	Diego Garcia H	79.88	273	T	T	02 05 04.6	
	baz=151,slow=76,SNR=13						
CO02	Combarbal	80.06	141	P	P	00 37 20.3	-0.8
CO02				IAmb	IAmb	00 37 38.9	
	comp=Z,11nm,1.0s						
AC06	Mina Casimiro	83.86	140	P	P	00 37 41.0	+0.1
AC06				IAmb	IAmb	00 37 59.8	
	comp=Z,8.1nm,1.0s						
LBTB	Lobatse	84.50	225	P	P	00 37 42.8	-1.6

*BJI **09** 00:28:18.6±0.0, 13°.16S×66°.00E, h10km, mb4.7/41, mB5.2/20, Ms4.8/7, Ms7 4.6/7*
*IDC **09** 00:28:22.2±0.5, 12°.77S×66°.33E, h0km, mb4.2/23, mbtmp4.2/23, MS4.4/2, Error ellipse: s-maj=15.3km s-min=13.3km az=113.0*
*MOS **09** 00:28:22.0±1.1, 12°.69S×66°.35E, h11km, mb5.0/46, Error ellipse: s-maj=8.5km s-min=5.6km az=87.4*
*NEIC **09** 00:28:24.5±2.0, 12°.80S±0°.07×66°.43E±0°.08, h10km±1km, mb5.0/131, Error ellipse: s-maj=14.0km s-min=11.5km az=129.0*
ISC 09 00:28:25.2±0.6, 12°.76S±0°.05×66°.35E±0°.05, h20km±2km, h20km:pP-P,n356,σ1$20/362, mb4.8/138, MS4.4/5, 14C-2D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
ROCAM	Rodrigues Isla	7.52	202	Pn	Pn	00 30 12.7		-1.1
H08S1	Diego Carcia H	7.89	50	Pn	Pn	00 30 15.2		-3.5
	baz=255,slow=12							
H08S1				T	T	00 38 25.3		
	baz=230,slow=75,SNR=978							
H08S2	Diego Garcia H	7.90	51	Pn	Pn	00 30 16.1		-2.7
	baz=255,slow=12							
H08S2				T	T	00 38 25.9		
	baz=230,slow=75,SNR=679							
H08S3	Diego Garcia H	7.91	50	Pn	Pn	00 30 15.5		-3.4
	baz=255,slow=12							
H08S3				T	T	00 38 27.0		
	baz=230,slow=75,SNR=947							
MSEY	Mahe Island	13.41	306	Pn	Pn	00 31 34.7		+0.1
MSEY	Mahe Island	13.41	306	P	Pn	00 31 34.7		+0.1
ABPO	Ambohimpanom	19.40	249	P	P	00 32 50.7		+0.2
ABPO	Ambohimpanom	19.40	249	P	P	00 32 50.7		+0.2
ABPO				pmax	pmax			
	comp=Z,20nm,1.3s							
KIBK	Kibwezi	29.86	288	P	P	00 34 32.5		+0.7
KMBO	Kilima Mbogo	31.06	290	P	P	00 34 43.6		+1.1
KMBO	Kilima Mbogo	31.06	290	P	P	00 34 43.6		+1.1
KMBO				pmax	pmax			
	comp=Z,10.0nm,1.4s							
KMBO	Kilima Mbogo	31.06	290	P	P	00 34 44.0		+1.5
	comp=Z,4.9nm,1.2s,baz=75,slow=8.9,SNR=5.4							
	comp=Z,4.9nm,1.2s							
HYB	Hyderabad	32.32	22	eP	P	00 34 54.8		+1.5
ATD	Arta Tunnel	33.56	315	P	P	00 35 03.5		-0.7
ATD				IAmb	IAmb	00 35 12.4		
	comp=Z,16nm,1.2s							
LODK	Lodwar	34.72	296	P	P	00 35 14.6		+0.2
FURI	Furi	34.91	307	P	P	00 35 17.0		+0.8
FURI				IAmb	IAmb	00 35 31.1		
	comp=Z,16nm,1.2s							
H04N2	CROZET ISLANDS	35.50	197	T	T	01 12 58.0		
	baz=25,slow=75,SNR=43							
H04N1	CROZET ISLANDS	35.50	198	T	T	01 12 58.5		
	baz=25,slow=75,SNR=49							
H04N3	CROZET ISLANDS	35.52	198	T	T	01 13 08.8		
	baz=25,slow=75,SNR=38							
PBA	Port Blair	35.70	48	P	P	00 35 23.4		+0.7
PBA				IAmb	IAmb	00 35 44.5		
	comp=Z,42nm,1.1s							
RPSI	Rantau Prapat	35.81	67	P	P	00 35 24.6		+0.9
RPSI				IAmb	IAmb	00 35 33.2		
	comp=Z,16nm,1.3s							
PSI	Prapat	35.85	67	P	P	00 35 24.6		+0.4
PSI				pmax	pmax			
	comp=Z,16nm,1.3s							
LSZ	Lusaka	37.08	262	P	P	00 35 35.5		+0.8
LSZ				IAmb	IAmb	00 35 42.8		
	comp=Z,45nm,1.3s							
LSZ	Lusaka	37.08	262	P	P	00 35 35.5		+0.8
LSZ				pmax	pmax			
	comp=Z,45nm,1.3s							
MBAR	Mbarara	37.30	286	P	P	00 35 35.7		-0.9
MBAR	Mbarara	37.30	286	P	P	00 35 35.7		-0.9
MBAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KULM	Kulim	38.52	64	P	P	00 35 46.8		+0.1
XMIS	Christmas Isla	38.54	91	P	P	00 35 47.0		+0.1
UOSS	Minazif	38.76	345	P	P	00 35 48.1		-0.4
SRIT	Nakonsritamara	39.27	59	P	P	00 35 52.5		-0.4
LBTB	Lobatse	40.28	246	P	P	00 36 01.3		-0.2
LBTB				IAmb	IAmb	00 36 09.0		
	comp=Z,26nm,1.3s							
LBTB	Lobatse	40.28	246	P	P	00 36 01.3		-0.2
LBTB				pmax	pmax			
	comp=Z,26nm,1.3s							
BOSA	Boshof	41.32	241	P	P	00 36 09.8		-0.2
BOSA				IAmb	IAmb	00 36 11.5		
	comp=Z,87nm,1.9s							
BOSA	Boshof	41.32	241	P	P	00 36 09.8		-0.2
BOSA				pmax	pmax			
	comp=Z,87nm,2.0s							
BOSA	Boshof	41.32	241	P	P	00 36 10.1		0.0
	comp=Z,6.1nm,0.9s,baz=75,slow=12,SNR=7.9							
BOSA				LR	LR	00 50 32.0		
	comp=Z,371nm,19.3s,baz=106,slow=32							
	comp=Z,6.1nm,0.9s							
GRHM	Grahamstown, E	41.74	234	P	P	00 36 12.9		-0.4
BRDH	Bariadhala	43.07	35	LR	LR	00 53 21.4		
	comp=Z,537nm,20.4s,baz=270,slow=35							
SMRI	Semarang	43.76	87	P	P	00 36 30.2		+0.3
CMAR	Chiang Mai Arr	44.67	47	P	P	00 36 37.9		+0.8
CMAR	Chiang Mai Arr	44.67	47	P	P	00 36 37.9		+0.8
CMAR	Chiang Mai Arr	44.67	47	P	P	00 36 38.6		+1.6
	comp=Z,1.8nm,0.9s,baz=245,slow=8.2,SNR=11							
CMAR				S	S	00 43 16.2		+3.4
	comp=Z,1.5nm,0.3s,baz=219,slow=30,SNR=0.8							
	comp=Z,1.8nm,0.9s							
CHTO	Chiang Mai	44.91	46	P	P	00 36 38.5		-0.4
CHTO	Chiang Mai	44.91	46	P	P	00 36 38.5		-0.4
SHL	Shillong	45.50	33	P	P	00 36 44.7		+1.0
SHL				IAmb	IAmb	00 36 58.1		
	comp=Z,21nm,1.0s							
SHL	Shillong	45.50	33	P	P	00 36 44.7		+1.0
SHL				pmax	pmax			
	comp=Z,21nm,1.0s							
KSM	Kuching	45.86	75	P	P	00 36 45.2		-1.4
GIRL	Giralia	46.50	109	P	P	00 36 50.1		-1.4
CRAI	Chiangrai	46.85	46	P	P	00 36 54.6		+0.3
CRAI				IAmb	IAmb	00 37 02.7		
	comp=Z,22nm,1.6s							
HRA	Herat	47.05	355	P	P	00 36 55.7		-0.1
KBL	Kabul	47.11	3	P	P	00 36 56.7		+0.5
KBL				IAmb	IAmb	00 37 04.9		
	comp=Z,9.5nm,1.0s							
KBL	Kabul	47.11	3	P	P	00 36 56.7		+0.5
KBL				pmax	pmax			
	comp=Z,9.0nm,1.0s							
JAGI	Jajag, Banyuwa	47.13	90	P	P	00 36 55.2		-1.4
TSUM	Tsumeb	47.19	256	P	P	00 36 56.6		-0.6
TSUM				IAmb	IAmb	00 37 05.2		
	comp=Z,31nm,1.6s							
WIN	Windhoek	47.74	251	P	P	00 37 00.9		-0.6
WIN	Windhoek	47.74	251	P	P	00 37 00.9		-0.6
WIN				pmax	pmax			
	comp=Z,45nm,1.5s							
SBUM	Sibu	47.98	75	P	P	00 37 02.7		-0.5
H01W3	Cape Leeuwin H	48.41	125	T	T	01 28 57.0		
	baz=285,slow=75,SNR=14							
H01W2	Cape Leeuwin H	48.41	126	T	T	01 29 03.1		
	baz=285,slow=75,SNR=28							
H01W1	Cape Leeuwin H	48.43	126	T	T	01 29 01.5		
	baz=285,slow=75,SNR=22							
LSA	Lhasa	48.52	29	P	P	00 37 07.7		+0.1
LSA				IAmb	IAmb	00 37 23.0		
	comp=Z,31nm,1.6s							
LSA	Lhasa	48.52	29	P	P	00 37 07.7		+0.1
LSA				pmax	pmax			
	comp=Z,31nm,1.6s							
TNCH	TengChong	48.94	40	⇑P	P	00 37 12.9		+2.3
TNCH				pP	pP	00 37 16.5		+0.7
TNCH				sP	sP	00 37 17.9		-0.2
TNCH				pmax	pmax			
	comp=Z,32nm,0.7s							
TNCH				pmax	pmax			
	comp=Z,140nm,4.3s							
SLVN	Son La	50.08	48	P	P	00 37 17.9		-1.4
SLVN				IAmb	IAmb	00 37 22.8		
	comp=Z,32nm,1.6s							
NWAO	Narrogin (SRO)	50.48	122	P	P	00 37 22.1		0.0
NWAO	Narrogin (SRO)	50.48	122	P	P	00 37 21.7		-0.4
NWAO				IAmb	IAmb	00 37 58.1		
	comp=Z,362nm,1.8s							
NWAO	Narrogin (SRO)	50.48	122	P	P	00 37 21.7		-0.4
NWAO				pmax	pmax			
	comp=Z,362nm,1.8s							
GEYT	Alibeck	51.01	352	P	P	00 37 26.6		+0.7
GEYT	Alibeck	51.01	352	P	P	00 37 26.6		+0.7
GEYT				pmax	pmax			
	comp=Z,9.0nm,1.4s							
GEYT	Alibeck	51.01	352	P	P	00 37 27.4		+1.5
	comp=Z,1.0nm,0.9s,baz=211,slow=18,SNR=4.9							
	comp=Z,1.0nm,0.9s							
GYA0B	ALIBECK ARRAY	51.01	352	P	P	00 37 26.3		+0.4
PSA00	Pilbara Seismi	51.66	107	P	P	00 37 28.8		-2.3
PSA00				IAmb	IAmb	00 38 41.1		
	comp=Z,20nm,1.6s							
PZH	PanZhiHua	52.03	41	P	P	00 37 36.5		+2.6
PZH				pmax	pmax			
	comp=Z,10.0nm,1.1s							
PZH				pmax	pmax			
	comp=Z,140nm,7.1s							
BTK	Batken	52.71	4	P	P	00 37 38.9		+0.3
BTK				IAmb	IAmb	00 37 52.1		
	comp=Z,17nm,1.4s							
BTK	Batken	52.71	4	P	P	00 37 38.9		+0.3
BTK				pmax	pmax			
	comp=Z,17nm,1.4s							
KSH	Kashi	52.77	9	P	P	00 37 36.9		-2.2
KSH				pP	pP	00 37 42.5		-1.9
KSH				pmax	pmax			
	comp=Z,15nm,1.1s							
GHAJ	Ghor Haditha	52.84	327	P	P	00 37 39.4		-0.2
GHAJ				IAmb	IAmb	00 37 48.0		
	comp=Z,12nm,1.1s							
KKM	Kota Kinabalu	52.96	72	P	P	00 37 39.6		-1.3
KKM				IAmb	IAmb	00 38 23.8		
	comp=Z,15nm,1.0s							
NRN	Naryn	54.65	9	P	P	00 37 53.0		-0.1
NRN	Naryn	54.65	9	P	P	00 37 53.0		-0.1
NRN				pmax	pmax			
	comp=Z,9.0nm,1.4s							
SIRT	Sirnak	54.81	337	P	P	00 37 54.5		+0.5
MAW	Mawson	54.84	182	P	P	00 37 53.8		+0.1
MAW	Mawson	54.84	182	P	P	00 37 53.8		+0.1
MAW				pmax	pmax			
	comp=Z,3.0nm,1.2s							
MAW	Mawson	54.84	182	P	P	00 37 54.2		+0.5
	comp=Z,7.8nm,1.1s,baz=23,slow=11,SNR=8.1							
	comp=Z,7.8nm,1.1s							
CHM	Chimkent	54.88	3	eP	P	00 37 53.9		-0.6
	baz=2.9							
CHM	Chimkent	54.88	3	eP	P	00 37 53.8		-0.6
MMRI	Maumere	54.99	92	P	P	00 37 56.1		+0.3
TARG	Taragay, Kyrgy	55.23	10	P	P	00 37 57.3		-0.1
TARG				IAmb	IAmb	00 38 23.2		
	comp=Z,22nm,1.9s							
TARG	Taragay, Kyrgy	55.23	10	P	P	00 37 57.3		-0.1
TARG				pmax	pmax			
	comp=Z,22nm,1.9s							
AAK	Ala-Archa	55.63	7	P	P	00 38 00.5		+0.6
AAK				IAmb	IAmb	00 38 13.6		
	comp=Z,16nm,1.6s							
AAK	Ala-Archa	55.63	7	ceP	P	00 37 57.7		-2.3
AAK				pmax	pmax			
	comp=Z,14nm,2.5s							
BOOM	Boomskoye usch	55.68	9	P	P	00 38 00.1		-0.2
BOOM				IAmb	IAmb	00 38 24.8		
	comp=Z,16nm,1.5s							
BOOM	Boomskoye usch	55.68	9	P	P	00 38 00.1		-0.2
BOOM				pmax	pmax			
	comp=Z,16nm,1.5s							
KK31	Karatay Array	55.72	4	P	P	00 38 00.6		+0.2
KK31				IAmb	IAmb	00 38 13.2		
	comp=Z,15nm,1.7s							
KK31	Karatay Array	55.72	4	P	P	00 38 00.6		+0.2
KK31				pmax	pmax			
	comp=Z,15nm,1.7s							
KKAR	Karatay Array	55.72	4	P	P	00 38 00.8		+0.4
KKAR				IAmb	IAmb	00 38 13.2		
	comp=Z,15nm,1.7s							
KKAR	Karatay Array	55.72	4	P	P	00 38 00.1		-0.3
KKAR	Karatay Array	55.72	4	P	P	00 38 00.1		-0.3
KKAR				pmax	pmax			
	comp=Z,15nm,1.7s							
TOLI2	Tolitoli	55.73	80	P	P	00 38 00.6		-0.5
FRU1	Bishkek	55.81	7	P	P	00 38 01.1		-0.1
FRU1				IAmb	IAmb	00 39 40.2		
	comp=Z,12nm,0.4s							
FRU1	Bishkek	55.81	7	P	P	00 38 01.1		-0.1
FRU1				pmax	pmax			
	comp=Z,12nm,0.4s							
GURO	Guroymak-BITLI	55.88	337	P	P	00 38 02.5		+0.7
PRZ	Przheval'sk	56.07	11	P	P	00 38 04.4		+1.2
PRZ				IAmb	IAmb	00 38 18.1		
	comp=Z,29nm,1.5s							
PRZ	Przheval'sk	56.07	11	P	P	00 38 04.4		+1.2
PRZ				pmax	pmax			
	comp=Z,29nm,1.5s							
GNI	Garni	56.33	340	P	P	00 38 05.8		+0.7
GNI	Garni	56.33	340	P	P	00 38 05.8		+0.7
GNI				pmax	pmax			
	comp=Z,67nm,1.9s							
CD2	Chengdu	56.37	39	eP	P	00 38 06.6		+1.3
SATY	Saty	56.63	11	eP	P	00 38 06.3		-0.8
	comp=Z,14nm,1.6s,baz=11							
SATY	Saty	56.63	11	eP	P	00 38 06.3		-0.8
SATY				pmax	pmax			
	comp=Z,14nm,1.6s							
GAZ	Gaziantep	56.72	332	P	P	00 38 08.0		+0.2
ZHN	Zhinishke	56.74	11	eP	P	00 38 06.6		-1.3
	baz=11							
ZHN	Zhinishke	56.74	11	eP	P	00 38 06.6		-1.3
SOEI	Soe	56.79	93	P	P	00 38 07.7		-1.1
UZB	Uzynbulak	56.83	11	eP	P	00 38 07.5		-1.1
	baz=11							
UZB	Uzynbulak	56.83	11	eP	P	00 38 07.4		-1.1
CSS	Mathiatis	56.86	328	P	P	00 38 09.5		+0.8
CSS				IAmb	IAmb	00 38 36.2		
	comp=Z,20nm,1.2s							
SHLS	Shalkode	56.92	11	eP	P	00 38 08.8		-0.3
	comp=Z,16nm,1.6s,baz=12							
SHLS	Shalkode	56.92	11	eP	P	00 38 08.8		-0.3
SHLS				pmax	pmax			
	comp=Z,16nm,1.6s							
KPKS	Kokpek	57.08	11	eP	P	00 38 08.6		-1.7
	baz=11							
KPKS	Kokpek	57.08	11	eP	P	00 38 08.5		-1.7
KUU	Kurty	57.11	9	eP	P	00 38 09.0		-1.4
	comp=Z,13nm,1.2s,baz=8.6							
KUU	Kurty	57.11	9	eP	P	00 38 08.9		-1.4
KUU				pmax	pmax			
	comp=Z,13nm,1.2s							
KARS	Kars	57.33	339	P	P	00 38 12.7		+0.6
KARS	Kars	57.33	339	P	P	00 38 12.7		+0.6
KARS				pmax	pmax			
	comp=Z,280nm,2.0s							
BTLS	Baital	57.95	6	eP	P	00 38 15.9		-0.3
	baz=6.4							
BTLS	Baital	57.95	6	eP	P	00 38 15.9		-0.3
MAK	Makhachkala	58.07	344	eP	P	00 38 11.3		-5.8
MAK				e		00 40 23.5		
MAK				eS	S	00 46 08.4		-8.6
MAK				eSS	SS	00 50 02.1		-6.8
MAK				pmax	pmax			
	comp=Z,281nm,1.3s							
TDK	Taldyqorghan	58.52	10	eP	P	00 38 19.5		-0.7
	baz=10.0							
TDK	Taldyqorghan	58.52	10	eP	P	00 38 19.5		-0.7
BNN	Bunyan	58.72	332	P	P	00 38 21.9		+0.1
FORT	Forrest	59.36	118	P	P	00 38 25.3		-1.1
FORT				IAmb	IAmb	00 38 59.3		
	comp=Z,22nm,1.0s							
WMQ	Urumqi	59.58	18	eP	P	00 38 29.1		+1.4
WMQ				pP	sP	00 38 35.3		+0.3
WMQ				sP	pwP	00 38 37.9		+0.8
WMQ				pmax	pmax			
	comp=Z,14nm,1.3s							
WMQ				LR	LR			
	comp=Z,120nm,17.5s							
ENH	Enshi	59.62	43	P	P	00 38 26.7		-1.5
ENH				IAmb	IAmb	00 38 50.2		
	comp=Z,25nm,1.3s							
LZH	Lanzhou	60.11	35	eP	P	00 38 37.6		+6.0
LZH				sP	pwP	00 38 43.9		+2.8
LZH				S	S	00 46 48.9		+4.8
LZH				sS	sS	00 47 03.7		+10
LZH				pmax	pmax			
	comp=Z,17nm,1.2s							
LZH				LR	LR			
	comp=Z,270nm,15.8s							
LZH				LR	LR			
	comp=Z,280nm,17.2s							
LZH				LR	LR			
	comp=Z,470nm,19.6s							
KBZ	Khabaz	60.15	341	P	P	00 38 32.8		+1.4
	comp=Z,1.5nm,0.8s,baz=131,slow=11,SNR=2.1							
	comp=Z,1.5nm,0.8s							
KIV	Kislovodsk	60.42	341	eP	P	00 38 31.0		-2.5
KIV				pmax	pmax			
	comp=Z,5.0nm,1.1s							
BRTR	Keskin Array B	60.43	331	P	P	00 38 33.4		-0.3
BRTR	Keskin Array B	60.43	331	ceP	P	00 38 34.0		+0.3
BRTR				pmax	pmax			
	comp=Z,3.0nm,1.2s							
BRTR	Keskin Array B	60.43	331	P	P	00 38 32.8		-0.9
	comp=Z,3.2nm,1.2s,baz=126,slow=3.7,SNR=6.8							
	comp=Z,3.2nm,1.2s							
BR131	Keskin Array S	60.43	331	P	P	00 38 33.6		-0.1
BR131				IAmb	IAmb	00 38 35.7		
	comp=Z,14nm,1.4s							
BR131	Keskin Array S	60.43	331	iP	P	00 38 33.1		-0.6
GTA	Gaotai	60.55	29	eP	P	00 38 41.8		+7.3
GTA				pP	pwP	00 38 47.1		+3.2
GTA				pmax	pmax			
	comp=Z,11nm,0.9s							
ARG	Arkhangelos	60.61	325	P	P	00 38 36.0		+1.3
ARG	Arkhangelos	60.61	325	P	P	00 38 36.1		+1.3
ARG				pmax	pmax			
	comp=Z,317nm,2.0s							
KARP	Karpathos	60.68	324	P	P	00 38 36.2		+0.8
MAKZ	Makanchi	60.93	12	P	P	00 38 36.6		-0.2
MAKZ				IAmb	IAmb	00 38 38.3		
	comp=Z,12nm,1.1s							
MAKZ	Makanchi	60.93	12	P	P	00 38 36.6		-0.2
MAKZ				pmax	pmax			
	comp=Z,12nm,1.2s							
MK31	Makanchi Array	60.98	12	P	P	00 38 37.4		+0.2
MK31				IAmb	IAmb	00 38 43.6		
	comp=Z,10nm,1.1s							
MK31	Makanchi Array	60.98	12	iP	P	00 38 36.4		-0.7
MKAR	Makanchi Array	60.98	12	P	P	00 38 36.1		-1.1
MKAR	Makanchi Array	60.98	12	ceP	P	00 38 37.0		-0.1
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR	Makanchi Array	60.98	12	P	P	00 38 35.8		-1.3
	comp=Z,2.2nm,0.8s,baz=193,slow=5.8,SNR=9.3							
	comp=Z,2.2nm,0.8s							
CASY	Casey	61.07	161	P	P	00 38 37.8		+0.3
CASY				IAmb	IAmb	00 38 56.9		
	comp=Z,13nm,1.4s							
XAN	Xi'an	61.69	40	P	P	00 38 42.8		+0.6
XAN				pP	pP	00 38 47.6		+0.1
XAN				pmax	pmax			
	comp=Z,17nm,1.3s							
LBMI

LYN pmax pmax
comp=Z,380nm,10.3s
ELIB Princess Elisa 64.47 194 *d*P **P 00 39 00.5 +0.2**
comp=Z,10.0nm,1.1s
ASAR Alice Springs 64.59 110 P **P 00 39 01.4 -0.4**
ASAR Alice Springs 64.59 110 P **P 00 39 01.4 -0.4**
ASAR Alice Springs 64.59 110 P **P 00 39 02.1 +0.3**
comp=Z,2.1nm,0.7s,baz=273,slow=6.0,SNR=29
comp=Z,2.1nm,0.7s
AS31 Alice Springs 64.59 110 P **P 00 39 01.1 -0.7**
YULB Yu-li 64.65 56 P **P 00 39 02.5 +0.5**
DGZ Jazzator, Alta 64.90 15 *i* P **P 00 39 02.3 -1.0**
DGZ pmax pmax
comp=Z,23nm,1.6s
WRA Warramunga Arr 65.27 106 P **P 00 39 05.8 -0.5**
WRA Warramunga Arr 65.27 106 P **P 00 39 05.8 -0.5**
WRA pmax pmax
comp=Z,4.0nm,2.0s
WRA Warramunga Arr 65.27 106 P **P 00 39 06.8 +0.5**
comp=Z,8.0nm,1.3s,baz=273,slow=5.7,SNR=12
comp=Z,8.0nm,1.3s
WRAB Tennant Creek 65.28 106 P **P 00 39 06.2 -0.1**
WRAB Tennant Creek 65.28 106 P **P 00 39 06.2 -0.1**
WRAB pmax pmax
comp=Z,61nm,1.9s
WB2 Warramunga Arr 65.28 106 P **P 00 39 06.0 -0.3**
WB0 Warramunga Arr 65.34 106 P **P 00 39 05.6 -1.0**
WB0 IAmb IAmb 00 39 19.4
comp=Z,14nm,1.4s
WR0 Warramunga Arr 65.46 106 P **P 00 39 06.8 -0.6**
WR0 IAmb IAmb 00 39 24.1
comp=Z,12nm,0.6s
BVAR Borovoye Array 65.61 3 P **P 00 39 07.7 0.0**
comp=Z,1.6nm,0.7s,baz=134,slow=6.2,SNR=9.1
comp=Z,1.6nm,0.7s
BRVK Borovoye 65.64 3 P **P 00 39 07.8 0.0**
BRVK IAmb IAmb 00 39 21.6
comp=Z,5.4nm,0.9s
BRVK Borovoye 65.64 3*ce*P **P 00 39 08.5 +0.7**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
BTO Baotou 66.73 35 *e*P **P 00 39 16.1 +0.8**
BTO pP **pP 00 39 21.1 +0.4**
BTO sP **sP 00 39 23.6 +1.0**
BTO PcP **PcP 00 39 43.6 -0.6**
BTO PP **PP 00 41 42.7 +0.1**
BTO S **S 00 48 09.5 +3.0**
BTO pmax pmax
comp=Z,18nm,0.9s
BTO pmax pmax
comp=Z,340nm,5.6s
BTO LR LR
comp=Z,650nm,19.6s
BTO LR LR
comp=Z,450nm,14.1s
BTO LR LR
comp=Z,550nm,16.2s
NJ2 Nanjing 67.15 47 *e*P **P 00 39 20.6 +2.7**
NJ2 pP **sP 00 39 24.7 -0.9**
NJ2 sP **pwP 00 39 26.4 -1.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,340nm,3.9s
HNS HongShan 67.45 40 ⇑P **P 00 39 21.4 +1.7**
HNS pmax pmax
comp=Z,11nm,1.5s
FNA Florina 67.58 325 P **P 00 39 20.1 -0.4**
FNA Florina 67.58 325 P **P 00 39 20.2 -0.4**
FNA pmax pmax
comp=Z,2.0nm,0.8s
HHC Hu-ho-hao-te 67.77 36 *e*P **P 00 39 24.6 +2.8**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,200nm,5.2s
KEK Kerkira 67.79 323 P **P 00 39 21.8 -0.1**
KBN Korca 67.81 324 P **P 00 39 20.3 -1.8**
KBN IAmb IAmb 00 39 35.6
comp=Z,11nm,1.0s
KBN Korca 67.81 324 P **P 00 39 20.3 -1.8**
KBN pmax pmax
comp=Z,11nm,1.0s
ZAA0 Zalesovo Array 68.28 12 P **P 00 39 24.2 -0.4**
ZAA0 IAmb IAmb 00 39 37.5
comp=Z,20nm,1.3s
ZALV Zalesovo Beam 68.28 12 P **P 00 39 24.5 -0.2**
ZALV Zalesovo Beam 68.28 12 *i* P **P 00 39 24.3 -0.3**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 68.28 12 P **P 00 39 24.1 -0.6**
comp=Z,2.3nm,0.7s,baz=205,slow=6.3,SNR=11
comp=Z,2.3nm,0.7s
TIA Tai'an 68.29 42 P **P 00 39 22.9 -2.2**
TIA pmax pmax
comp=Z,11nm,1.2s
TOA0 Torodi Ar. Sit 69.07 290 P **P 00 39 30.8 +0.5**
TOA0 IAmb IAmb 00 39 43.9
comp=Z,36nm,1.9s
TORD Torodi Ar. Bea 69.07 290 P **P 00 39 30.2 -0.1**
TORD IAmb IAmb 00 39 43.9
comp=Z,24nm,1.9s
TORD Torodi Ar. Bea 69.07 290 P **P 00 39 30.4 0.0**
comp=Z,4.0nm,1.2s,baz=98,slow=2.9,SNR=11
comp=Z,4.0nm,1.2s
ARU Arti 69.23 355 P **P 00 39 30.6 0.0**
ARU IAmb IAmb 00 39 43.6
comp=Z,16nm,1.5s
ARU Arti 69.23 355*d* *i*P **P 00 39 30.5 0.0**
ARU 00 42 01.5
ARU S **S 00 48 39.7 +4.3**
ARU SS **SS 00 52 59.1 -3.5**
ARU pmax pmax
comp=Z,10.0nm,1.3s
TAM Tamanrasset 69.24 300 P **P 00 39 31.5 0.0**
TAM Tamanrasset 69.24 300 P **P 00 39 31.5 0.0**
TAM pmax pmax
comp=Z,6.0nm,1.3s
SVE Sverdlovsk 69.49 357 *e*P **P 00 39 31.9 -0.2**
SVE pmax pmax
comp=Z,13nm,1.5s
BJT Baijiatuau 69.95 39 P **P 00 39 36.2 +0.9**
BJT IAmb IAmb 00 39 48.8
comp=Z,14nm,1.6s
BJT Baijiatuau 69.95 39 P **P 00 39 36.2 +0.9**
BJT pmax pmax
comp=Z,14nm,1.6s
TROLL Troll, Antarti 69.98 197 ⇑P **P 00 39 35.4 +0.2**
comp=Z,128nm,1.0s
SONM Songino Array 70.06 27 P **P 00 39 37.0 +1.0**
SONM IAmb IAmb 00 39 50.5
comp=Z,13nm,1.3s
SONM Songino Array 70.06 27 P **P 00 39 37.0 +1.0**
SONM pmax pmax
comp=Z,13nm,1.3s
SONM Songino Array 70.06 27 P **P 00 39 37.1 +1.1**
comp=Z,3.5nm,1.1s,baz=211,slow=5.0,SNR=15
comp=Z,3.5nm,1.1s
CUC Castrocucco 70.37 321 P **P 00 39 39.0 +1.1**
CUC IAmb IAmb 00 41 48.5
comp=Z,11nm,1.2s
ULN Ulaanbaatar 70.38 28 P **P 00 39 38.4 +0.4**
ULN IAmb IAmb 00 39 52.1
comp=Z,14nm,1.4s
ULN Ulaanbaatar 70.38 28*ce*P **P 00 39 39.1 +1.1**
ULN pmax pmax
comp=Z,18nm,2.5s
BURAR Bucovina Array 70.39 332 P **P 00 39 37.0 -0.9**
DIVS Divibare 70.55 326 P **P 00 39 39.2 +0.2**
AKASG Malin Array Be 71.01 336 P **P 00 39 41.3 -0.3**
comp=Z,0.6nm,0.7s,baz=133,slow=4.7,SNR=5.5
comp=Z,0.6nm,0.7s
SNAA Sanae 71.47 198 P **P 00 39 44.5 +0.3**
SNAA IAmb IAmb 00 39 51.9
comp=Z,11nm,1.2s
SNAA Sanae 71.47 198*ce*P **P 00 39 45.2 +1.0**
SNAA pmax pmax
comp=Z,8.0nm,1.3s
SNAA Sanae 71.47 198 ⇑P **P 00 39 45.9 +1.7**
SNAA Sanae 71.47 198 P **P 00 39 44.6 +0.5**
comp=Z,2.2nm,0.9s,baz=62,slow=10,SNR=6.1
comp=Z,2.2nm,0.9s
OBN Obninsk 72.13 343 P **P 00 39 49.6 +1.5**
OBN Obninsk 72.13 343 *e*P **P 00 39 48.8 +0.7**
OBN pmax pmax
comp=Z,24nm,1.9s
KEST Kesra 72.26 314 P **P 00 39 49.2 -0.3**
KEST IAmb IAmb 00 39 58.9
comp=Z,33nm,2.0s
MOS Moscow 72.37 343 *e*P **P 00 39 47.3 -2.2**
MOS *e* 00 40 08.2
KIRV Kirov 72.42 351*ce*P **P 00 39 50.2 +0.4**
INTR Introdacqua 72.73 322 P **P 00 39 52.2 0.0**
INTR IAmb IAmb 00 41 22.8
comp=Z,16nm,1.7s
TRIS Tristan da Cun 73.43 235 P **P 00 39 56.0 -0.4**
NRCA Norcia 73.68 322 P **P 00 39 57.7 -0.1**
NRCA IAmb IAmb 00 39 59.5
comp=Z,15nm,1.3s
VYHS Vyhne 74.07 329 *e*P **P 00 40 01.1 +1.3**
VYHS Vyhne 74.07 329 *e*P **P 00 40 01.1 +1.3**
RONA Rosalia, Austr 74.85 328 *e*P **P 00 40 05.4 +1.0**
comp=Z,4.6nm,1.2s
SOKA Soboth 74.89 326 *i* P **P 00 40 05.3 +0.6**
comp=Z,5.9nm,1.4s
JAVC Velka Javorina 74.89 329 *e*P **P 00 40 06.1 +1.4**
ARSA Arzberg 74.97 327 *e*P **P 00 40 06.0 +0.9**
comp=Z,9.0nm,1.4s
OBKA Obir 75.05 326 *i* P **P 00 40 06.0 +0.3**
comp=Z,5.6nm,1.1s
NACGM Naroch 75.21 338 *e*P **P 00 40 07.0 +0.7**
comp=Z,17nm,1.3s,baz=140
CONA Conrad Observa 75.22 328 *e*P **P 00 40 06.6 0.0**
comp=Z,8.9nm,1.4s
SABO M.te Sabotino 75.25 325 P **P 00 40 06.3 -0.4**
SABO IAmb IAmb 00 42 01.1
comp=Z,13nm,1.2s
INCN Inchon 75.42 46 P **P 00 40 07.4 -0.5**
INCN Inchon 75.42 46 P **P 00 40 07.4 -0.5**
INCN pmax pmax
comp=Z,20nm,0.5s
PRED Cave del Predi 75.55 325 P **P 00 40 07.3 -1.2**
MORC Moravsky Berou 75.55 330 P **P 00 40 08.8 +0.3**
MORC Moravsky Berou 75.55 330 *e*P **P 00 40 08.7 +0.3**
MORC Moravsky Berou 75.55 330 P **P 00 40 08.8 +0.3**
MORC pmax pmax
comp=Z,9.0nm,1.6s
KRUC Moravsky 75.66 329 *e*P **P 00 40 08.5 -0.5**
VRAC Vranov 75.72 329 *e*P **P 00 40 09.1 -0.3**
STAL STALIGIAL 75.92 325 P **P 00 40 09.0 -1.6**
CLUD Cludinico 75.94 325 P **P 00 40 09.7 -1.0**
SUW Suwalki 75.94 335 P **P 00 40 11.5 +1.0**
SUW Suwalki 75.94 335 P **P 00 40 11.5 +1.0**
SUW pmax pmax
comp=Z,57nm,1.6s
MOA Molln 76.02 327 *i* P **P 00 40 11.5 +0.4**
comp=Z,10nm,1.4s
BIOA Bad Ischl, Aus 76.26 326 *i* P **P 00 40 13.1 +0.6**
comp=Z,7.8nm,1.8s
KSAR Wonju Array Be 76.28 46 P **P 00 40 13.0 +0.2**
KSAR Wonju Array Be 76.28 46 P **P 00 40 13.0 +0.2**
KS19 Wonju Array Si 76.29 46 P **P 00 40 13.7 +0.8**
KS19 IAmb IAmb 00 40 20.1
comp=Z,42nm,2.0s
KSRS Korea Array 76.31 46 P **P 00 40 13.2 +0.2**
comp=Z,3.2nm,1.1s,baz=253,slow=7.9,SNR=12
comp=Z,3.2nm,1.1s
ABTA Abfaltersbach 76.31 325 *i* P **P 00 40 13.7 +0.8**
comp=Z,8.0nm,1.2s
CTAO Charters Tower 76.37 108 P **P 00 40 13.5 -0.3**
CTAO IAmb IAmb 00 40 15.9
comp=Z,38nm,1.7s
CTAO Charters Tower 76.37 108 P **P 00 40 13.5 -0.3**
CTAO pmax pmax
comp=Z,39nm,1.7s
KLMR Klimovskoe 76.42 347 *e*P **P 00 40 11.0 -2.1**
KLMR AMP 00 40 26.2
comp=Z,28nm,1.5s
KLMR Klimovskoe 76.42 347 *e*P **P 00 40 10.9 -2.1**
KLMR pmax pmax
comp=Z,28nm,1.5s
JNU Nakatsue 76.54 51 P **P 00 40 14.4 0.0**
JNU IAmb IAmb 00 40 27.6
comp=Z,18nm,1.1s
LESA Schwarzleotal 76.62 326 *i* P **P 00 40 14.4 -0.2**
comp=Z,5.6nm,1.1s
GEC2 GERESS Array S 76.92 327 P **P 00 40 15.8 -0.4**
GERES GERESS Array B 76.92 327 P **P 00 40 15.1 -1.2**
GERES GERESS Array B 76.92 327 P **P 00 40 15.1 -1.2**
GERES GERESS Array B 76.92 327 P **P 00 40 16.3 +0.1**
comp=Z,0.6nm,0.8s,baz=111,slow=5.4,SNR=2.2
comp=Z,0.6nm,0.8s
WTTA Wattenberg 77.10 325 *i* P **P 00 40 17.4 -0.1**
comp=Z,10nm,1.7s
KHC Kasperske Hory 77.16 328 P **P 00 40 17.3 -0.2**
KHC IAmb IAmb 00 41 10.1
comp=Z,14nm,1.8s
KHC Kasperske Hory 77.16 328 *e*P **P 00 40 15.0 -2.6**
KHC Kasperske Hory 77.16 328 *e*P **P 00 40 15.0 -2.6**
WATA Walderalm 77.18 325 *i* P **P 00 40 17.7 -0.1**
comp=Z,10nm,1.6s
QSPA South Pole Qui 77.31 180 P **P 00 40 18.2 -0.1**
QSPA IAmb IAmb 00 40 20.0
comp=Z,21nm,1.3s
QSPA South Pole Qui 77.31 180 P **P 00 40 17.3 -1.0**
comp=Z,8.0nm,1.0s,baz=256,slow=4.0,SNR=10
comp=Z,8.0nm,1.0s
SQTA Sankt Quirin 77.31 325 *i* P **P 00 40 18.1 -0.5**
comp=Z,3.4nm,0.8s
MOTA Moosalm 77.44 325 *e*P **P 00 40 19.3 -0.1**
comp=Z,5.3nm,1.5s
FETA Feichten 77.47 325 *i* pP pP 00 40 25.3 +0.4
comp=Z,3.8nm,1.1s
FUORN Ofenpass-Fuorn 77.51 324 P **P 00 40 20.0 +0.1**
RETA Reutte 77.72 325 *i* P **P 00 40 21.9 +1.2**
comp=Z,7.1nm,1.9s
TUE Stuetta 77.95 324 P **P 00 40 21.6 -0.7**
BRG Berggiesshubel 78.03 329 *e*P **P 00 40 24.8 +2.4**
BRG Amp 00 40 26.7
comp=Z,6.6nm,1.2s
BRG Berggiesshubel 78.03 329 P P 00 40 36.4 +14
BRG Amp 00 40 39.1
comp=Z,7.1nm,1.3s
BRG Berggiesshubel 78.03 329 *e*P **P 00 40 24.7 +2.4**
BRG 00 40 36.3
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG pmax pmax
comp=Z,7.0nm,1.3s
DAVA Damuels 78.10 325 *e*P **P 00 40 25.1 +2.1**
comp=Z,4.6nm,1.1s
CLL Collm 78.77 329 P **P 00 40 27.6 +1.2**
CLL Collm 78.77 329 *i* P **P 00 40 27.3 +0.9**
CLL pmax pmax
comp=Z,10.0nm,1.3s
CLL Collm 78.77 329 *i* P **P 00 40 27.3 +0.9**
comp=Z,10.0nm,1.3s
BNI Bardonecchia 78.79 321 P **P 00 40 27.5 +0.7**
BNI IAmb IAmb 00 41 43.8
comp=Z,26nm,1.8s
BNI Bardonecchia 78.79 321 P **P 00 40 27.5 +0.7**
BNI pmax pmax
comp=Z,26nm,1.8s
BFO Black Forest 79.55 325 P **P 00 40 31.4 +0.6**
BFO IAmb IAmb 00 40 43.3
comp=Z,23nm,1.8s
BFO Black Forest 79.55 325 P **P 00 40 31.4 +0.6**
BFO pmax pmax
comp=Z,23nm,1.8s
SBA Scott Base 79.80 168 P **P 00 40 32.1 +0.4**
SBA IAmb IAmb 00 40 55.9
comp=Z,33nm,1.9s
SBA Scott Base 79.80 168 P **P 00 40 32.1 +0.4**
SBA pmax pmax
comp=Z,33nm,2.0s
BELA Belgrano 2 79.91 192 P **P 00 40 32.4 +0.1**
BELA IAmb IAmb 00 40 33.8
comp=Z,17nm,1.6s
MDJ Mudanjiang 80.79 40 P **P 00 40 37.9 +0.4**
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,220nm,10.1s
USA0B Ussuriysk Arra 82.13 41 P **P 00 40 44.6 0.0**
USA0B Ussuriysk Arra 82.13 41 P **P 00 40 44.6 0.0**
USA0B pmax pmax
comp=Z,5.0nm,0.8s
USRK Ussuriysk Ar. 82.13 41 P **P 00 40 45.0 +0.4**
USRK Ussuriysk Ar. 82.13 41 P **P 00 40 45.0 +0.4**
CLF Chambon-Foret 82.90 323 P **P 00 40 49.1 +0.6**
NRIK Noril'sk 83.24 7 P **P 00 40 50.7 +0.8**
NRIK IAmb IAmb 00 40 53.5
comp=Z,27nm,1.8s
NRIK Noril'sk 83.24 7 *i* P **P 00 40 51.0 +1.1**
NRIK pmax pmax
comp=Z,15nm,1.8s
NRIK Noril'sk 83.24 7 P **P 00 40 50.5 +0.7**
comp=Z,1.2nm,0.6s,baz=181,slow=8.6,SNR=4.6
comp=Z,1.2nm,0.6s
MJB9 Matsu-Tunnel 83.42 50 P **P 00 40 52.1 +0.6**
MJB9 IAmb IAmb 00 41 06.7
comp=Z,33nm,1.8s
MAJO Matsushiro 83.42 50 P **P 00 40 51.8 +0.2**
MAJO IAmb IAmb 00 41 05.7
comp=Z,32nm,1.7s
MAJO Matsushiro 83.42 50 *i* P **P 00 40 52.5 +0.9**
MAJO pmax pmax
comp=Z,17nm,1.7s
MJAR Matsushiro Arr 83.43 50 P **P 00 40 51.8 +0.2**
comp=Z,3.4nm,0.9s,baz=238,slow=5.2,SNR=9.1
comp=Z,3.4nm,0.9s
ESDC Sonseca Array 83.44 313 P **P 00 40 51.7 0.0**
ESDC IAmb IAmb 00 40 53.9
comp=Z,6.7nm,1.2s
ESDC Sonseca Array 83.44 313 P **P 00 40 51.9 +0.2**
comp=Z,2.7nm,1.0s,baz=97,slow=3.0,SNR=15
comp=Z,2.7nm,1.0s
PAB San Pablo 83.67 313 P **P 00 40 53.3 +0.4**
PAB IAmb IAmb 00 40 54.5
comp=Z,15nm,1.5s
PAB San Pablo 83.67 313 P **P 00 40 53.3 +0.4**
PAB pmax pmax
comp=Z,15nm,1.5s
JSD Sado 84.00 49 P **P 00 40 54.2 -0.3**
TIXI Tiksi 93.76 16*ce*P **P 00 41 39.8 -0.5**
TIXI pmax pmax
comp=Z,10.0nm,1.3s
CMWZ Cape Campbell 94.50 134 P **P 00 41 41.9 -2.6**
ILAR Eielson Array 123.23 16 PKP **PKPdf 00 47 19.4 -0.9**
comp=Z,0.3nm,0.6s,baz=270,slow=3.3,SNR=2.6
YKA Yellowknife Ar 130.34 1 PKP **PKPdf 00 47 34.1 +0.2**
comp=Z,0.7nm,0.9s,baz=344,slow=2.1,SNR=4.6
CPCT Cooper Cave 145.34 316 **PKPbc 00 48 01.9 -0.1**
LAO LASA Array 145.60 351 PKPdf **PKPab 00 48 03.5 +0.6**
N41A Harden Midland 145.72 328 PKPdf **PKPdf 00 48 02.9 +0.2**
Q44A Meyer Farm, Va 146.01 324 PKPdf **PKPab 00 48 04.7 +0.1**
MSO Missoula 146.04 0 PKPdf **PKPdf 00 48 03.7 +0.4**
E09A Wood Farm, Sta 146.14 6 PKPdf **PKPbc 00 48 04.4 +0.2**
BPMT Black Pine Rid 146.43 360 PKPdf **PKPbc 00 48 05.5 +0.1**
F10A Beach Ranch, E 146.76 5 PKPdf **PKPdf 00 48 05.4 +0.9**
WVT Waverly 147.12 319 **PKPbc 00 48 06.7 -0.6**
WVT Waverly 147.12 319 PKP2 **PKPbc 00 48 06.7 -0.6**
P40A Paris 147.21 328 **PKPbc 00 48 08.3 +0.8**
DLMT Dillon 147.49 359 **PKPbc 00 48 09.2 +0.8**
RLMT Red Lodge 147.53 354 PKPdf **PKPdf 00 48 05.2 -0.8**
RSSD Black Hills 147.67 347 **PKPbc 00 48 09.4 +0.5**
RSSD Black Hills 147.67 347 PKP2 **PKPbc 00 48 09.4 +0.5**
PLID Pearl Lake 147.72 3 **PKPbc 00 48 09.7 +0.6**
CCM Cathedral Cave 147.86 326 **PKPbc 00 48 09.6 +0.3**
CCM Cathedral Cave 147.86 326 PKP2 **PKPbc 00 48 09.6 +0.3**
IMW Indian Meadow 148.88 356 **PKiKP 00 48 13.7 +0.1**
MOOW Moose Ponds 149.02 356 **PKiKP 00 48 14.0 +0.2**
LOHW Long Hollow 149.14 356 **PKiKP 00 48 14.2 +0.2**
J08A Circle Bar Ran 149.23 7 PKPdf **PKPdf 00 48 09.5 +0.9**
J08A PKPbc **pPKPdf 00 48 14.6 +0.1**
S39A Bolivar 149.24 327 **PKPbc 00 48 12.9 0.0**
HLID Hailey 149.30 1 **PKiKP 00 48 14.3 -0.1**
MFID Camas Ranch 149.40 3 **PKiKP 00 48 14.8 +0.3**
PDAR Pinedale Array 149.89 354 **PKPbc 00 48 14.8 +0.1**
PDAR Pinedale Array 149.89 354 PKPbc **PKPbc 00 48 14.6 -0.1**
comp=Z,1.8nm,0.7s,baz=48,slow=1.3,SNR=5.8
U38A Gravette 150.74 327 **PKPbc 00 48 17.1 +0.5**
N23A Red Feather La 151.17 348 **PKiKP 00 48 18.6 +0.2**
HWUT Hardware Ranch 151.20 357 **PKiKP 00 48 18.8 +0.5**
T35A Sooner Cattle 151.45 330 **PKiKP 00 48 19.0 +0.3**
MIAR Mount Ida 151.67 323 **PKiKP 00 48 19.8 +0.6**
MIAR Mount Ida 151.67 323 PKIKP **PKiKP 00 48 19.8 +0.6**
ELK Elko 152.09 3 **PKiKP 00 48 21.0 +0.8**
ELK PKPab **PKPab 00 48 30.6 +1.3**
DUG Dugway, Tooele 152.66 359 PKPbc **PKiKP 00 48 21.8 +0.5**
DUG **PKPab 00 48 33.1 +1.5**
NVAR Mina Array Bea 154.10 8 PKPbc **PKiKP 00 48 25.4 +1.0**
comp=Z,0.5nm,0.4s,baz=28,slow=2.1,SNR=2.9
TXAR Lajitas Array 161.07 332 PKP **PKPdf 00 48 25.5 +0.4**
comp=Z,0.3nm,1.0s,baz=356,slow=5.9,SNR=3.6
TXAR PKPab **PKPab 00 49 08.6 +0.6**
comp=Z,0.5nm,0.8s,baz=55,slow=4.7,SNR=5.2

ANF ***09*** *00:56:17.1±0.2,60°.17N×139°.49W,h0km±1km, ML3.0/27, Error ellipse: s-maj=1.3km s-min=1.1km az=75.0*
AEIC ***09*** *00:56:17.9±1.6,60°.17N±0°.02×139°.51W±0°.03,h7km±3km, ML2.7,ML2.8(OTT),ML2.8/83(NEIC),Error ellipse: s-maj=2.4km s-min=1.8km az=162.0*
NEIC ***09*** *00:56:18.0±2.0,60°.128N±0°.007×139°.52W±0°.03, h10km±1km,Error ellipse: s-maj=2.8km s-min=2.1km az=174.0*
PGC ***09*** *00:56:18.6,60°.15N×139°.50W,h7km,ML2.7,ML2.8/33, 95km northeast of Yakutat, Ak Southeastern Alaska*
ISC 09 00:56:18.4±0.8,60°.14N±0°.01×139°.51W±0°.01,h17km±6km, n223,σ1°65/354,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPM	**Bancas Point**	**0.20**	**199**	Pg	**Pg**	**00 56 22.6**	**-0.6**
BCPM				Sg	**Sg**	**00 56 26.2**	**-0.3**
PINM	**Pinnacle**	**0.38**	**263**	P	**Pg**	**00 56 25.7**	**-0.5**
	baz=79,SNR=741						
PINM				S	**Sg**	**00 56 30.9**	**-0.6**
	baz=79						
PCA	**Pinnacle**	**0.38**	**263**		**Pg**	**00 56 25.7**	**-0.5**
PCA					**Sg**	**00 56 31.1**	**-0.5**
PCA	**Pinnacle**	**0.38**	**263**	P	**Pg**	**00 56 25.8**	**-0.5**
PCA				S	**Sb**	**00 56 31.4**	**-0.8**
PNL	**Peninsula**	**0.48**	**173**		**Pg**	**00 56 27.2**	**-0.8**
PNL	**Peninsula**	**0.48**	**173**		**Pg**	**00 56 27.2**	**-0.8**
PNL					**Sg**	**00 56 34.2**	**-0.3**
PNL	**Peninsula**	**0.48**	**173**	P	**Pg**	**00 56 27.2**	**-0.8**
	baz=354,SNR=418						
PNL				S	**Sg**	**00 56 33.9**	**-0.6**
	baz=354						
PNL	**Peninsula**	**0.48**	**173**	P	**Pg**	**00 56 27.2**	**-0.8**
PNL				S	**Sg**	**00 56 34.2**	**-0.3**
O29M	**Mount Kennedy**	**0.49**	**71**		**Pg**	**00 56 27.2**	**-1.0**
O29M				Sg	**Sg**	**00 56 33.9**	**-1.1**
O29M				IAML		00 56 35.3	
	comp=E,504nm,0.3s						
O29M	**Mount Kennedy**	**0.49**	**71**		**Pg**	**00 56 27.2**	**-1.0**
O29M					**Sg**	**00 56 34.2**	**-0.7**
O29M	**Mount Kennedy**	**0.49**	**71**	P	**Pg**	**00 56 27.2**	**-1.0**
	baz=254,SNR=581						
O29M				S	**Sg**	**00 56 33.1**	**-1.8**
	baz=254						
O29M	**Mount Kennedy**	**0.49**	**71**	P	**Pg**	**00 56 27.2**	**-1.0**
O29M				S	**Sg**	**00 56 34.2**	**-0.7**
SAMH	**Samovar Hills**	**0.64**	**269**		**Pb**	**00 56 30.8**	**-0.2**
SAMH					**Sb**	**00 56 39.5**	**-0.2**
SAMH	**Samovar Hills**	**0.64**	**269**	P	**Pb**	**00 56 30.8**	**-0.2**
SAMH				S	**Sb**	**00 56 39.5**	**-0.2**
YKU2	**Yakutat**	**0.64**	**188**	Pg	**Pb**	**00 56 30.5**	**-0.5**
YKU2				Sg	**Sn**	**00 56 41.3**	**-1.0**
O28M	**Mount Upton**	**0.71**	**332**		**Pg**	**00 56 30.8**	**-1.6**
O28M	**Mount Upton**	**0.71**	**332**		**Pg**	**00 56 30.9**	**-1.6**
O28M					**Sg**	**00 56 40.2**	**-1.8**
O28M	**Mount Upton**	**0.71**	**332**	P	**Pg**	**00 56 30.9**	**-1.6**
	baz=151,SNR=326						
O28M				S	**Sg**	**00 56 40.3**	**-1.7**
	baz=151						
O28M	**Mount Upton**	**0.71**	**332**	P	**Pg**	**00 56 30.9**	**-1.6**
O28M				S	**Sg**	**00 56 40.2**	**-1.8**
YUK7	**Dusty Glacier**	**0.78**	**60**		**Pg**	**00 56 32.8**	**-0.9**
YUK7					**Sg**	**00 56 43.5**	**-0.7**
YUK7	**Dusty Glacier**	**0.78**	**60**		**Pg**	**00 56 32.9**	**-0.8**
YUK7					**Sg**	**00 56 43.4**	**-0.7**
YUK7	**Dusty Glacier**	**0.78**	**60**	P	**Pg**	**00 56 32.9**	**-0.8**
YUK7				S	**Sg**	**00 56 43.4**	**-0.7**
RKAV	**Rock Avalanche**	**0.93**	**280**		**Pg**	**00 56 35.5**	**-1.0**
RKAV					**Sg**	**00 56 48.2**	**-0.5**
RKAV	**Rock Avalanche**	**0.93**	**280**	P	**Pg**	**00 56 35.5**	**-1.0**
RKAV				S	**Sg**	**00 56 48.2**	**-0.5**
YUK6	**Outpost Mounta**	**0.98**	**35**		**Pg**	**00 56 36.5**	**-0.9**
YUK6					**Sg**	**00 56 49.2**	**-1.2**
YUK6	**Outpost Mounta**	**0.98**	**35**		**Pg**	**00 56 36.5**	**-0.9**

YUK6					Sg	00 56 49.1	-1.2
YUK6	**Outpost Mounta**	**0.98**	**35**	P	**Pg**	**00 56 36.5**	**-0.9**
	baz=216,SNR=1000						
YUK6				S	**Sg**	**00 56 49.0**	**-1.3**
	baz=216						
YUK6	**Outpost Mounta**	**0.98**	**35**	P	**Pg**	**00 56 36.5**	**-0.9**
YUK6				S	**Sg**	**00 56 49.1**	**-1.2**
LOGN	**Logan Glacier**	**1.01**	**313**		**Pg**	**00 56 35.9**	**-2.0**
LOGN				Sg	**Sg**	**00 56 48.6**	**-2.5**
LOGN	**Logan Glacier**	**1.01**	**313**	P	**Pg**	**00 56 35.7**	**-2.2**
LOGN				S	**Sg**	**00 56 48.7**	**-2.5**
P29M	**Windy Craggy**	**1.03**	**119**		**Pg**	**00 56 36.6**	**-1.7**
P29M				Sg	**Sg**	**00 56 50.5**	**-1.3**
P29M				IAML		00 56 54.2	
	comp=N,351nm,0.6s						
P29M				IAML		00 56 55.5	
	comp=E,321nm,0.4s						
P29M	**Windy Craggy**	**1.03**	**119**		**Pg**	**00 56 36.6**	**-1.7**
P29M					**Sg**	**00 56 50.3**	**-1.5**
P29M	**Windy Craggy**	**1.03**	**119**	P	**Pg**	**00 56 36.4**	**-1.9**
	baz=302,SNR=130						
P29M				S	**Sg**	**00 56 50.3**	**-1.5**
	baz=302						
P29M	**Windy Craggy**	**1.03**	**119**	P	**Pg**	**00 56 36.6**	**-1.7**
P29M				S	**Sg**	**00 56 50.3**	**-1.5**
YUK8	**Steele Glacier**	**1.15**	**354**		**Pb**	**00 56 38.9**	**-1.0**
YUK8					**Sg**	**00 56 54.0**	**-1.7**
YUK8	**Steele Glacier**	**1.15**	**354**		**Pb**	**00 56 38.9**	**-1.0**
YUK8					**Sg**	**00 56 54.2**	**-1.5**
YUK8	**Steele Glacier**	**1.15**	**354**	P	**Pb**	**00 56 38.9**	**-1.0**
	baz=174,SNR=597						
YUK8				S	**Sg**	**00 56 54.1**	**-1.6**
	baz=174						
YUK8	**Steele Glacier**	**1.15**	**354**	P	**Pb**	**00 56 38.9**	**-1.0**
YUK8				S	**Sg**	**00 56 54.2**	**-1.5**
HYT	**Haines Junctio**	**1.20**	**55**		**Pb**	**00 56 40.2**	**-0.5**
HYT				Sg	**Sb**	**00 56 56.1**	**0.0**
HYT				IAML		00 56 59.1	
	comp=E,152nm,0.6s						
HYT	**Haines Junctio**	**1.20**	**55**		**Pb**	**00 56 40.0**	**-0.8**
HYT					**Sb**	**00 56 56.0**	**-0.1**
HYT	**Haines Junctio**	**1.20**	**55**	P	**Pb**	**00 56 40.0**	**-0.8**
	baz=237,SNR=140						
HYT				S	**Sb**	**00 56 56.0**	**-0.1**
	baz=237						
HYT	**Haines Junctio**	**1.20**	**55**	P	**Pb**	**00 56 40.0**	**-0.8**
HYT				S	**Sb**	**00 56 56.0**	**-0.1**
CTGM	**Chitina Glacie**	**1.22**	**313**		**Pn**	**00 56 39.5**	**-1.3**
CTGM				Sg	**Sb**	**00 56 55.2**	**-1.4**
CTGM	**Chitina Glacie**	**1.22**	**313**	P	**Pn**	**00 56 39.5**	**-1.3**
CTGM				S	**Sb**	**00 56 56.6**	**+0.1**
MESA	**MESA**	**1.22**	**273**		**Pb**	**00 56 37.8**	**-3.3**
MESA				IAML		00 56 59.3	
	comp=E,295nm,0.5s						
MESA	**MESA**	**1.22**	**273**	S	**Sg**	**00 56 57.2**	**-0.8**
	baz=89						
MESA	**MESA**	**1.22**	**273**	P	**Pb**	**00 56 37.3**	**-3.8**
MESA				S	**Sb**	**00 56 56.8**	**+0.2**
CTG	**Chitna Glacier**	**1.22**	**313**	P	**Pn**	**00 56 39.3**	**-1.5**
	baz=131,SNR=160						
CTG				S	**Sb**	**00 56 56.6**	**0.0**
	baz=131						
GRNC	**Granite Creek**	**1.26**	**299**		**Pn**	**00 56 40.0**	**-1.3**
GRNC	**Granite Creek**	**1.26**	**299**		**Sb**	**00 56 58.0**	**+0.3**
GRNC	**Granite Creek**	**1.26**	**299**	IAML		00 57 01.9	
	comp=N,275nm,0.4s						
GRNC				IAML		00 57 02.0	
	comp=E,141nm,0.6s						
GRNC	**Granite Creek**	**1.26**	**299**	P	**Pn**	**00 56 40.2**	**-1.2**
GRNC				S	**Sb**	**00 56 58.0**	**+0.3**
P30M	**Million Dollar**	**1.27**	**90**		**Pn**	**00 56 41.1**	**-0.3**
P30M					**Sb**	**00 56 58.1**	**+0.1**
P30M	**Million Dollar**	**1.27**	**90**	IAML		00 57 01.4	
	comp=E,159nm,0.6s						
P30M				IAML		00 57 01.5	
	comp=N,171nm,0.8s						
P30M	**Million Dollar**	**1.27**	**90**		**Pn**	**00 56 41.1**	**-0.3**
P30M					**Sb**	**00 56 57.8**	**-0.2**
P30M	**Million Dollar**	**1.27**	**90**	P	**Pn**	**00 56 41.0**	**-0.3**
	baz=273						
P30M				S	**Sb**	**00 56 58.0**	**0.0**
	baz=273						
P30M	**Million Dollar**	**1.27**	**90**	P	**Pn**	**00 56 41.1**	**-0.3**
P30M				S	**Sb**	**00 56 57.8**	**-0.2**
YUK4	**Talbot Arm**	**1.28**	**19**		**Pg**	**00 56 43.8**	**+0.7**
YUK4	**Talbot Arm**	**1.28**	**19**	P	**Pg**	**00 56 43.6**	**+0.6**
	baz=201,SNR=756						
YUK4	**Talbot Arm**	**1.28**	**19**	P	**Pg**	**00 56 43.8**	**+0.7**
YUK5	**Granite Creek**	**1.28**	**39**		**Pn**	**00 56 41.9**	**+0.3**
YUK5					**Sb**	**00 56 58.5**	**+0.2**
YUK5	**Granite Creek**	**1.28**	**39**	P	**Pn**	**00 56 41.9**	**+0.3**
YUK5				S	**Sb**	**00 56 58.5**	**+0.2**
BARN	**Barnard Glacie**	**1.40**	**312**		**Pn**	**00 56 41.9**	**-1.4**
BARN				IAML		00 57 03.9	
	comp=E,141nm,0.3s						
BARN				IAML		00 57 04.8	
	comp=N,186nm,0.4s						
BARK	**Barkley Ridge**	**1.51**	**281**		**Pn**	**00 56 45.0**	**+0.4**
KIAG	**Kiagna River**	**1.61**	**300**	Pn	**Pn**	**00 56 45.9**	**-0.3**
KIAG				Sg	**Sb**	**00 57 08.4**	**+0.6**
KIAG	**Kiagna River**	**1.61**	**300**	Pn	**Pn**	**00 56 45.9**	**-0.3**
KIAG				Sg	**Sb**	**00 57 08.4**	**+0.6**
SNH	**Sunshine Point**	**1.67**	**273**	Pn	**Pn**	**00 56 47.3**	**+0.5**
SNH	**Sunshine Point**	**1.67**	**273**		**Sb**	**00 57 09.4**	**+0.2**
YUK3	**Moose Creek**	**1.70**	**345**		**Pn**	**00 56 47.9**	**+0.5**
YUK3	**Moose Creek**	**1.70**	**345**	Pn	**Pn**	**00 56 48.0**	**+0.6**
YUK3				Sg	**Sb**	**00 57 12.1**	**+1.6**
YUK3	**Moose Creek**	**1.70**	**345**	P	**Pn**	**00 56 47.9**	**+0.5**
	baz=164,SNR=870						
YUK3				S	**Sb**	**00 57 11.1**	**+0.6**
	baz=164						
YUK3	**Moose Creek**	**1.70**	**345**	Pn	**Pn**	**00 56 48.0**	**+0.6**
YUK3				Sg	**Sb**	**00 57 12.1**	**+1.6**
PLBC	**Pleasant Camp**	**1.73**	**112**		**Pn**	**00 56 48.7**	**+1.0**
PLBC	**Pleasant Camp**	**1.73**	**112**	Pn	**Pn**	**00 56 48.6**	**+1.0**
PLBC				Sg	**Sb**	**00 57 12.0**	**+0.9**
PLBC	**Pleasant Camp**	**1.73**	**112**	P	**Pn**	**00 56 48.2**	**+0.6**
	baz=296,SNR=47						
PLBC				S	**Sb**	**00 57 11.8**	**+0.7**
	baz=296						
PLBC	**Pleasant Camp**	**1.73**	**112**	Pn	**Pn**	**00 56 48.6**	**+1.0**
PLBC				Sg	**Sb**	**00 57 12.0**	**+0.9**
TGL	**Tana Glacier**	**1.76**	**292**		**Pn**	**00 56 48.6**	**+0.5**
TGL				IAML		00 57 14.8	
	comp=N,82nm,0.6s						
TGL				IAML		00 57 18.6	
	comp=E,71nm,0.8s						
YUK2	**White River**	**1.77**	**339**		**Pn**	**00 56 49.1**	**+0.8**
YUK2	**White River**	**1.77**	**339**	Pn	**Pn**	**00 56 48.9**	**+0.6**
YUK2				Sg	**Sb**	**00 57 13.4**	**+1.0**
YUK2	**White River**	**1.77**	**339**	Pn	**Pn**	**00 56 48.9**	**+0.6**
YUK2				Sg	**Sb**	**00 57 13.4**	**+1.0**
N30M	**Aishikik Lake**	**1.77**	**41**		**Pn**	**00 56 48.8**	**+0.4**
N30M				IAML		00 57 16.7	
	comp=E,72nm,0.9s						
N30M				IAML		00 57 17.2	
	comp=N,96nm,0.5s						
N30M	**Aishikik Lake**	**1.77**	**41**	Pn	**Pn**	**00 56 48.7**	**+0.4**
N30M					**Sn**	**00 57 12.0**	**+1.6**
N30M	**Aishikik Lake**	**1.77**	**41**	P	**Pn**	**00 56 48.6**	**+0.3**
	baz=224,SNR=129						
N30M				S	**Sn**	**00 57 11.9**	**+1.4**
	baz=224						
N30M	**Aishikik Lake**	**1.77**	**41**	Pn	**Pn**	**00 56 48.7**	**+0.4**
N30M				Sg	**Sn**	**00 57 12.0**	**+1.6**
PTPK	**Patty Peak**	**1.79**	**307**	Pn	**Pn**	**00 56 49.4**	**+0.7**
PTPK				Sg	**Sb**	**00 57 13.4**	**+0.4**
PTPK	**Patty Peak**	**1.79**	**307**	Pn	**Pn**	**00 56 49.4**	**+0.7**
PTPK				Sg	**Sb**	**00 57 13.4**	**+0.4**
O30N	**Mendenhall**	**1.81**	**68**		**Pn**	**00 56 49.0**	**+0.3**
O30N				IAML		00 57 14.1	
	comp=E,113nm,0.5s						
O30N	**Mendenhall**	**1.81**	**68**	P	**Pn**	**00 56 49.1**	**+0.3**
	baz=252,SNR=105						
O30N				S	**Sn**	**00 57 13.0**	**+1.8**
	baz=252						
CRQE	**Cirque**	**1.88**	**290**	P	**Pn**	**00 56 50.4**	**+0.6**
	baz=107						
CRQE				S	**Sb**	**00 57 15.2**	**-0.2**
	baz=107						
CRQM	**Cirque**	**1.90**	**290**		**Pn**	**00 56 50.2**	**0.0**
CRQM				IAML		00 57 22.9	
	comp=E,131nm,0.5s						
BERG	**Berg Lake**	**2.10**	**279**		**Pn**	**00 56 53.4**	**+0.6**
MCARA	**McCarthy VSAT**	**2.13**	**307**		**Pn**	**00 56 54.3**	**+1.2**
MCARA				IAML		00 57 26.9	
	comp=N,86nm,0.7s						
MCARA				IAML		00 57 28.8	
	comp=E,72nm,0.4s						
MCARA	**McCarthy VSAT**	**2.13**	**307**	P	**Pn**	**00 56 54.0**	**+0.9**
	baz=124,SNR=46						
MCARA				Sb	**Sb**	**00 57 24.0**	**+1.5**
	baz=124						
SUCK	**Suckling Hills**	**2.14**	**270**	Pn	**Pn**	**00 56 53.9**	**+0.6**
SUCK				IAML		00 58 06.3	
	comp=E,92nm,1.3s						
SKAG	**Skagway**	**2.22**	**106**	Pn	**Pb**	**00 56 57.4**	**-0.5**
SKAG				IAML		00 57 28.3	
	comp=E,48nm,0.7s						
SKAG				IAML		00 57 28.8	
	comp=N,48nm,1.0s						
SKAG	**Skagway**	**2.22**	**106**	Sb	**Sb**	**00 57 27.0**	**+1.9**
	baz=290						
VRDI	**Verde Repeater**	**2.23**	**301**		**Pn**	**00 56 55.5**	**+0.9**
NICHA	**Nichawak Mount**	**2.23**	**274**		**Pn**	**00 56 53.9**	**-0.6**
N31M	**Braeburn, Yuko**	**2.27**	**52**	Pn	**Pn**	**00 56 55.9**	**+0.8**
N31M	**Braeburn, Yuko**	**2.27**	**52**	IAML		00 57 33.0	
	comp=E,95nm,0.9s						
N31M				IAML		00 57 37.0	
	comp=N,77nm,0.8s						
N31M	**Braeburn, Yuko**	**2.27**	**52**	P	**Pn**	**00 56 55.9**	**+0.8**
	baz=236,SNR=230						
N31M				S	**Sn**	**00 57 24.3**	**+1.6**
	baz=236						
N31M	**Braeburn, Yuko**	**2.27**	**52**	Pn	**Pn**	**00 56 55.9**	**+0.8**
N31M				Sn	**Sn**	**00 57 24.2**	**+1.6**
WHY	**Whitehorse**	**2.35**	**75**	Pn	**Pn**	**00 56 56.8**	**+0.5**
WHY				IAML		00 57 32.6	
	comp=E,39nm,1.0s						
WHY	**Whitehorse**	**2.35**	**75**	Pn	**Pn**	**00 56 56.7**	**+0.4**
WHY				Sn	**Sn**	**00 57 26.1**	**+1.3**
WHY	**Whitehorse**	**2.35**	**75**	P	**Pn**	**00 56 56.7**	**+0.4**
	baz=260,SNR=96						
WHY				S	**Sn**	**00 57 26.4**	**+1.6**
	baz=260						
WHY	**Whitehorse**	**2.35**	**75**	Pn	**Pn**	**00 56 56.7**	**+0.4**
WHY				Sn	**Sn**	**00 57 26.1**	**+1.3**
M29M	**Somme Creek**	**2.36**	**12**	Pn	**Pn**	**00 56 57.1**	**+0.8**
M29M				IAML		00 57 33.6	
	comp=N,79nm,0.5s						
M29M	**Somme Creek**	**2.36**	**12**	Pn	**Pn**	**00 56 57.2**	**+0.8**
M29M				Sg	**Sb**	**00 57 32.0**	**+2.7**
M29M	**Somme Creek**	**2.36**	**12**	P	**Pn**	**00 56 57.1**	**+0.8**
	baz=193,SNR=39						
M29M				Sb	**Sb**	**00 57 31.6**	**+2.3**
	baz=193						
M29M	**Somme Creek**	**2.36**	**12**	Pn	**Pn**	**00 56 57.2**	**+0.8**
M29M				Sg	**Sb**	**00 57 32.0**	**+2.7**
BVCY	**Beaver Creek**	**2.37**	**345**	Sg	**Sb**	**00 57 32.2**	**+2.7**
BVCY	**Beaver Creek**	**2.37**	**345**	Sb	**Sb**	**00 57 32.3**	**+2.9**
	baz=163						
BVCY	**Beaver Creek**	**2.37**	**345**	Sg	**Sb**	**00 57 32.2**	**+2.7**
HMT	**Hamilton**	**2.38**	**277**	Pn	**Pn**	**00 56 57.2**	**+0.7**
GLB	**Gilahina Butte**	**2.48**	**304**	Pn	**Pn**	**00 56 58.4**	**+0.4**
M27K	**Edge Creek, AK**	**2.50**	**334**		**Pn**	**00 56 59.0**	**+0.7**
M27K	**Edge Creek, AK**	**2.50**	**334**	Sg	**Sb**	**00 57 36.4**	**+3.1**
M27K	**Edge Creek, AK**	**2.50**	**334**	IAML		00 57 45.2	
	comp=N,41nm,1.1s						
M27K				IAML		00 57 49.1	
	comp=E,24nm,0.9s						
M27K	**Edge Creek, AK**	**2.50**	**334**	Sb	**Sb**	**00 57 34.9**	**+1.6**
	baz=152						
M27K	**Edge Creek, AK**	**2.50**	**334**	Pn	**Pn**	**00 56 59.0**	**+0.7**
M27K				Sg	**Sb**	**00 57 36.4**	**+3.1**
RAGM	**Ragged Mountai**	**2.59**	**278**	Pn	**Pn**	**00 57 00.3**	**+0.9**
GOAT	**Goat Mountain**	**2.63**	**282**		**Pn**	**00 57 00.2**	**+0.2**
BMRM	**Bremner River**	**2.65**	**290**		**Pn**	**00 57 00.4**	**+0.1**
BMRM	**Bremner River**	**2.65**	**290**	P	**Pn**	**00 57 00.8**	**+0.5**
	baz=106						
BMRM				S	**Sn**	**00 57 33.5**	**+1.5**
	baz=106						
S31K	**Pelican**	**2.77**	**141**	Pn	**Pn**	**00 57 04.7**	**+2.9**
S31K				IAML		00 58 01.9	
	comp=N,32nm,1.4s						
S31K				IAML		00 58 45.6	
	comp=E,21nm,1.3s						
M30M	**Minto, Yukon**	**2.77**	**27**	Pn	**Pn**	**00 57 02.4**	**+0.5**
M30M				IAML		00 57 54.8	
	comp=E,26nm,0.6s						
M30M	**Minto, Yukon**	**2.77**	**27**	Pn	**Pn**	**00 57 02.6**	**+0.7**
M30M				Sn	**Sn**	**00 57 36.5**	**+1.6**
M30M	**Minto, Yukon**	**2.77**	**27**	P	**Pn**	**00 57 02.5**	**+0.6**
	baz=210,SNR=85						
M30M				S	**Sn**	**00 57 36.3**	**+1.4**
	baz=210						
M30M	**Minto, Yukon**	**2.77**	**27**	Pn	**Pn**	**00 57 02.6**	**+0.7**
M30M				Sn	**Sn**	**00 57 36.5**	**+1.6**
M26K	**Nabesna, AK**	**2.82**	**325**		**Pn**	**00 57 02.6**	**-0.1**
M26K	**Nabesna, AK**	**2.82**	**325**	P	**Pn**	**00 57 02.7**	**0.0**
	baz=142,SNR=5.8						
M26K				Sb	**Sb**	**00 57 45.0**	**+2.5**
	baz=142						
N25K	**Chitina, Valde**	**2.89**	**303**	Pn	**Pn**	**00 57 04.5**	**+0.9**
N25K	**Chitina, Valde**	**2.89**	**303**	S	**Sn**	**00 57 40.3**	**+2.4**
	baz=118						
P32M	**Atlin**	**2.97**	**98**	Pg	**Pg**	**00 57 13.8**	**-1.5**
P32M				IAML		00 57 53.8	
	comp=N,23nm,0.8s						
P32M	**Atlin**	**2.97**	**98**	Sn	**Sn**	**00 57 39.5**	**-0.5**
P32M				Sg	**Sb**	**00 57 50.2**	**+3.3**
P32M	**Atlin**	**2.97**	**98**	Sb	**Sb**	**00 57 50.0**	**+3.1**
	baz=284						
P32M	**Atlin**	**2.97**	**98**	Sn	**Sn**	**00 57 39.5**	**-0.5**
P32M				Sg	**Sb**	**00 57 50.2**	**+3.3**
L29M	**L29M**	**3.05**	**12**		**Pn**	**00 57 06.7**	**+1.0**
L29M	**L29M**	**3.05**	**12**	Pn	**Pn**	**00 57 06.8**	**+1.0**
L29M				Sg	**Sg**	**00 57 53.5**	**-2.6**
L29M	**L29M**	**3.05**	**12**	P	**Pn**	**00 57 06.8**	**+1.0**
	baz=193,SNR=43						
L29M				S	**Sn**	**00 57 44.3**	**+2.5**
	baz=193						
L29M	**L29M**	**3.05**	**12**	Pn	**Pn**	**00 57 06.8**	**+1.0**
L29M				Sg	**Sg**	**00 57 53.5**	**-2.6**
BCAR	**Beaver Creek A**	**3.13**	**341**	Pn	**Pn**	**00 57 06.6**	**-0.2**
BCAR					**Pb**	**00 57 15.6**	**+2.2**
L27K	**Beaver Creek,**	**3.13**	**340**	Pn	**Pn**	**00 57 08.2**	**+1.4**
L27K					**Pb**	**00 57 14.9**	**+1.4**
L27K	**Beaver Creek,**	**3.13**	**340**	Pn	**Pn**	**00 57 08.3**	**+1.4**
L27K				Sg	**Sg**	**00 57 55.7**	**-3.1**
M31M	**Drury Creek, Y**	**3.23**	**48**		**Pn**	**00 57 09.3**	**+1.1**
M31M				IAML		00 58 03.5	
	comp=N,24nm,0.9s						
M31M				IAML		00 58 05.0	
	comp=E,27nm,0.8s						
M31M	**Drury Creek, Y**	**3.23**	**48**	Pn	**Pn**	**00 57 09.3**	**+1.1**
M31M				Sn	**Sn**	**00 57 46.6**	**+0.4**
M31M				Sg	**Sg**	**00 58 00.1**	**-1.8**
M31M	**Drury Creek, Y**	**3.23**	**48**	P	**Pn**	**00 57 09.3**	**+1.1**
	baz=233,SNR=12						
M31M				S	**Sn**	**00 57 48.1**	**+2.0**
	baz=233						
M31M	**Drury Creek, Y**	**3.23**	**48**	Pn	**Pn**	**00 57 09.3**	**+1.1**
M31M				Sn	**Sn**	**00 57 46.6**	**+0.4**
M31M				Sg	**Sg**	**00 58 00.1**	**-1.8**
DIV	**Divide**	**3.24**	**290**	Sn	**Sn**	**00 57 47.1**	**+0.5**
DIV	**Divide**	**3.24**	**290**	Sn	**Sn**	**00 57 47.1**	**+0.5**
N32M	**Quiet Lake**	**3.32**	**70**	Pn	**Pn**	**00 57 09.7**	**+0.2**
N32M				Sn	**Sn**	**00 57 49.2**	**+0.6**
N32M				Sg	**Sg**	**00 58 01.9**	**-3.0**
N32M	**Quiet Lake**	**3.32**	**70**	P	**Pn**	**00 57 09.9**	**+0.4**
	baz=256						
N32M				S	**Sn**	**00 57 49.3**	**+0.8**
	baz=256						
N32M	**Quiet Lake**	**3.32**	**70**	Pn	**Pn**	**00 57 09.7**	**+0.2**
N32M				Sn	**Sn**	**00 57 49.2**	**+0.6**
N32M				Sg	**Sg**	**00 58 01.9**	**-3.0**
P33M	**Teslin, Yukon**	**3.34**	**86**		**Pb**	**00 57 18.3**	**+1.1**
P33M				IAML		00 58 07.5	
	comp=N,16nm,0.8s						
P33M	**Teslin, Yukon**	**3.34**	**86**	Pn	**Pn**	**00 57 09.7**	**-0.1**
P33M				Sn	**Sn**	**00 57 48.7**	**-0.4**
P33M	**Teslin, Yukon**	**3.34**	**86**	P	**Pn**	**00 57 09.3**	**-0.6**
	baz=272,SNR=8.7						
P33M				S	**Sn**	**00 57 49.5**	**+0.3**
	baz=272						
P33M	**Teslin, Yukon**	**3.34**	**86**	Pn	**Pn**	**00 57 09.7**	**-0.1**
P33M				Sn	**Sn**	**00 57 48.7**	**-0.4**
KLU	**Klutina**	**3.42**	**296**	Pn	**Pn**	**00 57 11.8**	**+0.9**
	baz=110						
KLU				S	**Sn**	**00 57 52.4**	**+1.3**
	baz=110						
L26K	**Log Cabin Wild**	**3.42**	**329**		**Pn**	**00 57 11.3**	**+0.4**
L26K				IAML		00 58 11.8	
	comp=E,17nm,0.7s						
L26K				IAML		00 58 18.0	
	comp=N,16nm,0.9s						
L26K	**Log Cabin Wild**	**3.42**	**329**	P	**Pn**	**00 57 12.0**	**+1.1**
	baz=146						
MENT	**Mentasta**	**3.45**	**326**	Pn	**Pn**	**00 57 12.8**	**+1.5**
FID	**Port Fidalgo**	**3.51**	**283**	Pn	**Pn**	**00 57 13.8**	**+1.7**
FARO	**Faro, Yukon**	**3.64**	**52**		**Pn**	**00 57 15.2**	**+1.3**
FARO				IAML		00 58 17.0	
	comp=N,21nm,1.0s						
FARO	**Faro, Yukon**	**3.64**	**52**	Pn	**Pn**	**00 57 15.1**	**+1.2**
FARO				Sn	**Sn**	**00 57 56.2**	**-0.2**
FARO	**Faro, Yukon**	**3.64**	**52**	P	**Pn**	**00 57 15.1**	**+1.2**
	baz=238,SNR=26						
FARO	**Faro, Yukon**	**3.64**	**52**	Pn	**Pn**	**00 57 15.1**	**+1.2**
FARO				Sn	**Sn**	**00 57 56.2**	**-0.2**
M24K	**Tolsona, Glenn**	**3.79**	**304**	Pn	**Pn**	**00 57 17.0**	**+1.1**
M24K				IAML		00 58 25.9	
	comp=E,22nm,1.4s						
M24K				IAML		00 58 26.5	
	comp=N,19nm,1.4s						
K29M	**Barlow Dome**	**3.83**	**13**		**Pn**	**00 57 17.5**	**+1.0**
K29M				IAML		00 58 22.5	
	comp=N,20nm,0.8s						
K29M	**Barlow Dome**	**3.83**	**13**	Pn	**Pn**	**00 57 17.9**	**+1.3**
K29M				Sn	**Sn**	**00 58 01.4**	**+0.3**
K29M				Sg	**Sg**	**00 58 17.1**	**-4.0**
K29M	**Barlow Dome**	**3.83**	**13**	P	**Pn**	**00 57 17.9**	**+1.3**
	baz=195,SNR=112						
K29M				S	**Sn**	**00 58 02.7**	**+1.5**
	baz=195						
K29M	**Barlow Dome**	**3.83**	**13**	Pn	**Pn**	**00 57 17.9**	**+1.3**
K29M				Sn	**Sn**	**00 58 01.4**	**+0.3**
K29M				Sg	**Sg**	**00 58 17.1**	**-4.0**
MAYO	**Mayo, Yukon**	**3.86**	**25**	Pn	**Pn**	**00 57 18.3**	**+1.4**
MAYO	**Mayo, Yukon**	**3.86**	**25**	Pn	**Pn**	**00 57 18.2**	**+1.4**
MAYO	**Mayo, Yukon**	**3.86**	**25**	P	**Pn**	**00 57 18.0**	**+1.1**
	baz=208,SNR=5.4						
MAYO	**Mayo, Yukon**	**3.86**	**25**	Pn	**Pn**	**00 57 18.2**	**+1.4**
Q32M	**Nakina River**	**3.87**	**105**	Pn	**Pn**	**00 57 18.3**	**+1.1**
Q32M				IAML		00 58 25.3	
	comp=N,18nm,1.1s						
Q32M				IAML		00 58 41.9	
	comp=E,12nm,1.3s						
DAWY	**Dawson**	**3.94**	**1**	Pn	**Pn**	**00 57 18.6**	**+0.7**
DAWY	**Dawson**	**3.94**	**1**	Pn	**Pn**	**00 57 18.7**	**+0.7**
DAWY				Sn	**Sn**	**00 58 03.6**	**-0.1**
DAWY	**Dawson**	**3.94**	**1**	P	**Pn**	**00 57 18.6**	**+0.7**
	baz=181,SNR=18						
DAWY				S	**Sn**	**00 58 04.5**	**+0.8**
	baz=181						
DAWY	**Dawson**	**3.94**	**1**	Pn	**Pn**	**00 57 18.7**	**+0.7**
DAWY				Sn	**Sn**	**00 58 03.6**	**-0.1**
K27K	**Chicken**	**4.08**	**344**	Pn	**Pn**	**00 57 20.3**	**+0.4**
K27K				IAML		00 58 28.3	
	comp=E,7.5nm,1.1s						
K27K				IAML		00 58 32.5	
	comp=N,7.6nm,1.0s						
K27K	**Chicken**	**4.08**	**344**	Pn	**Pn**	**00 57 20.1**	**+0.2**
K27K				Sg	**Sg**	**00 58 24.8**	**-4.5**
SCM	**Sheep Creek Mo**	**4.17**	**297**	Pn	**Pn**	**00 57 22.1**	**+0.9**
SCM	**Sheep Creek Mo**	**4.17**	**297**	S	**Sn**	**00 58 11.1**	**+1.6**
	baz=110						
M23K	**Glacier View**	**4.33**	**296**	S	**Sn**	**00 58 14.3**	**+0.9**
	baz=108						
R33M	**Jennings River**	**4.38**	**96**	Pn	**Pn**	**00 57 25.4**	**+1.2**
R33M	**Jennings River**	**4.38**	**96**	Sn	**Sn**	**00 58 14.1**	**-0.7**
R33M				Sg	**Sg**	**00 58 35.0**	**-3.9**
R33M	**Jennings River**	**4.38**	**96**	Sn	**Sn**	**00 58 14.1**	**-0.7**
R33M				Sg	**Sg**	**00 58 35.0**	**-3.9**
SCRK	**Sand Creek**	**4.38**	**333**	Pn	**Pn**	**00 57 25.2**	**+1.0**
KNK	**Knik Glacier**	**4.57**	**290**	Pn	**Pn**	**00 57 27.3**	**+0.7**
SML	**Sawmill**	**4.61**	**295**	Pn	**Pn**	**00 57 28.5**	**+1.3**
MMPY	**Sheldon Lake,**	**4.68**	**54**		**Pn**	**00 57 29.3**	**+1.2**
MMPY	**Sheldon Lake,**	**4.68**	**54**	Pn	**Pn**	**00 57 29.3**	**+1.2**
MMPY				Sn	**Sn**	**00 58 21.5**	**-0.5**
MMPY				Sg	**Sg**	**00 58 44.3**	**-4.1**
MMPY	**Sheldon Lake,**	**4.68**	**54**	P	**Pn**	**00 57 29.1**	**+1.0**
	baz=242,SNR=42						
MMPY				S	**Sn**	**00 58 21.4**	**-0.5**
	baz=242						
MMPY	**Sheldon Lake,**	**4.68**	**54**	Pn	**Pn**	**00 57 29.3**	**+1.2**
MMPY				Sn	**Sn**	**00 58 21.5**	**-0.5**
MMPY				Sg	**Sg**	**00 58 44.3**	**-4.1**
J30M	**Hart River**	**4.69**	**17**		**Pn**	**00 57 29.9**	**+1.6**
J30M	**Hart River**	**4.69**	**17**	P	**Pn**	**00 57 29.8**	**+1.6**
	baz=200,SNR=85						
J30M				S	**Sn**	**00 58 23.6**	**+1.3**
	baz=200						
J30M	**Hart

ellipse: s-maj=1.0km s-min=0.3km az=131.0
*NAO **09** 01:19:53.5,39.′86N×21.′15E,h33km,mb3.3*
ISC 09 01:19:32.1±0.7,**38.′21N**±0.′01×**22.′67E**±0.′01,**h17**km±4km,
n299,σ1§**54**/350,**mb4.0**/24,**19C-6D,Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.17**	**182**	P	**Pg**		**01 19 36.0**	**-0.6**
THAL				S	**Sg**		**01 19 39.2**	**-0.4**
61µm,0.4s								
THAL	**Thalero**	**0.17**	**182**	P	**Pg**		**01 19 36.1**	**-0.6**
THAL				S	**Sg**		**01 19 39.0**	**-0.6**
THAL				AML	AML		01 19 41.1	
THAL				AML	AML		01 19 43.4	
DLFA	**Delphi**	**0.30**	**333**	P	**Pg**		**01 19 38.4**	**-0.3**
DLFA				S	**Sg**		**01 19 43.4**	**+0.2**
DLFA				AML	AML		01 19 44.8	
comp=E,42433µm,0.3s								
DLFA				AML	AML		01 19 45.1	
comp=N,49537µm,0.3s								
LOUT	**Loutraki**	**0.33**	**133**	P	**Pg**		**01 19 38.9**	**-0.2**
LOUT				S	**Sg**		**01 19 43.5**	**-0.3**
comp=N,12µm,0.5s								
LOUT	**Loutraki**	**0.33**	**133**	P	**Pg**		**01 19 38.9**	**-0.2**
LOUT				S	**Sg**		**01 19 44.2**	**+0.4**
GUR	**Goura**	**0.38**	**223**	P	**Pg**		**01 19 39.4**	**-0.6**
GUR				S	**Sg**		**01 19 45.4**	**+0.1**
comp=N,14µm,0.3s								
GUR	**Goura**	**0.38**	**223**	P	**Pg**		**01 19 39.4**	**-0.6**
GUR				AML	AML		01 19 45.6	
comp=E,23200µm,0.3s								
GUR				AML	AML		01 19 46.8	
comp=N,32350µm,0.3s								
ALIK	**Aliki, Aigiali**	**0.44**	**277**	P	**Pg**		**01 19 41.1**	**0.0**
ALIK				S	**Sb**		**01 19 48.3**	**+0.5**
KLV	**Kalavryta, Ach**	**0.44**	**248**	P	**Pg**		**01 19 40.5**	**-0.7**
KLV	**Kalavryta, Ach**	**0.44**	**248**	P	**Pg**		**01 19 40.5**	**-0.7**
KLV				S	**Sg**		**01 19 47.5**	**+0.2**
KLV				AML	AML		01 19 51.8	
comp=E,4582µm,0.3s								
KLV				AML	AML		01 19 53.8	
comp=N,3162µm,0.2s								
KALE	**Kalithea**	**0.45**	**293**	P	**Pg**		**01 19 41.0**	**-0.4**
KALE				S	**Sb**		**01 19 48.3**	**+0.1**
comp=N,7µm,0.3s								
KALE	**Kalithea**	**0.45**	**293**	P	**Pg**		**01 19 41.0**	**-0.4**
KALE				S	**Sb**		**01 19 48.5**	**+0.3**
KALE				AML	AML		01 19 50.8	
comp=E,11719µm,0.3s								
KALE				AML	AML		01 19 51.6	
comp=N,17022µm,0.3s								
VIL2	**Platees**	**0.47**	**90**	P	**Pb**		**01 19 42.2**	**+0.3**
VIL2				S	**Sb**		**01 19 49.2**	**+0.6**
VIL2				AML	AML		01 19 54.4	
comp=N,12590µm,0.3s								
VIL2				AML	AML		01 19 56.3	
comp=E,20731µm,0.4s								
TRIZ	**Trizonia**	**0.49**	**288**	P	**Pg**		**01 19 41.7**	**-0.3**
TRIZ				S	**Sb**		**01 19 49.3**	**0.0**
TRIZ	**Trizonia**	**0.49**	**288**	P	**Pg**		**01 19 41.7**	**-0.3**
TRIZ				S	**Sb**		**01 19 49.2**	**-0.1**
VILL	**Villia**	**0.51**	**95**	P	**Pg**		**01 19 42.2**	**-0.1**
VILL				S	**Sg**		**01 19 49.1**	**-0.1**
comp=E,10µm,0.4s								
LKR	**Lokris**	**0.51**	**30**	P	**Pg**		**01 19 42.0**	**-0.3**
LKR				S	**Sb**		**01 19 49.9**	**+0.2**
LKR				AML	AML		01 19 52.4	
comp=N,43784µm,0.3s								
LKR				AML	AML		01 19 54.3	
comp=E,51874µm,0.2s								
LAKA	**Lakka**	**0.55**	**273**	P	**Pg**		**01 19 42.7**	**-0.3**
LAKA				S	**Sb**		**01 19 51.1**	**+0.3**
comp=E,5µm,0.6s								
LAKA	**Lakka**	**0.55**	**273**	P	**Pg**		**01 19 42.7**	**-0.3**
ATAL	**Atalanti**	**0.55**	**30**	P	**Pg**		**01 19 42.8**	**-0.4**
ATAL				S	**Sb**		**01 19 51.8**	**+0.8**
comp=E,15µm,0.4s								
ATAL	**Atalanti**	**0.55**	**30**	P	**Pg**		**01 19 42.8**	**-0.4**
ATAL				S	**Sb**		**01 19 51.8**	**+0.8**
ATAL				AML	AML		01 19 56.7	
comp=E,29142µm,0.3s								
ATAL				AML	AML		01 19 57.0	
comp=N,31554µm,0.4s								
AXAR	**Agios Charalam**	**0.55**	**359**	P	**Pg**		**01 19 43.0**	**-0.2**
AXAR				S	**Sb**		**01 19 51.9**	**+0.9**
AXAR	**Agios Charalam**	**0.55**	**359**	P	**Pg**		**01 19 43.0**	**-0.2**
AXAR				S	**Sb**		**01 19 51.5**	**+0.5**
AXAR				AML	AML		01 19 56.2	
comp=E,95413µm,0.4s								
AXAR				AML	AML		01 20 00.3	
comp=N,76145µm,0.7s								
EFP	**Efpalio**	**0.64**	**290**	P	**Pg**		**01 19 44.1**	**-0.6**
EFP	**Efpalio**	**0.64**	**290**	P	**Pg**		**01 19 44.4**	**-0.3**
UPR	**University Cam**	**0.70**	**276**	P	**Pg**		**01 19 45.8**	**-0.1**
UPR				S	**Sb**		**01 19 55.7**	**+0.5**
ANX	**Ano Chora**	**0.70**	**303**	P	**Pg**		**01 19 45.2**	**-0.7**
ANX				S	**Sb**		**01 19 55.5**	**+0.2**
ANX	**Ano Chora**	**0.70**	**303**	P	**Pg**		**01 19 45.6**	**-0.3**
ANX				S	**Sb**		**01 19 55.5**	**+0.2**
DRO	**Drossia**	**0.80**	**251**	P	**Pb**		**01 19 47.1**	**-0.5**
DRO				S	**Sn**		**01 19 59.4**	**-0.7**
comp=N,5µm,0.4s								
DRO	**Drossia**	**0.80**	**251**	P	**Pb**		**01 19 47.2**	**-0.3**
DRO				AML	AML		01 20 06.1	
comp=E,9914µm,0.4s								
DRO				AML	AML		01 20 07.7	
comp=N,8256µm,0.5s								
ATH	**Athens Observa**	**0.86**	**106**	P	**Pg**		**01 19 49.0**	**+0.1**
ATH				S	**Sn**		**01 20 01.3**	**-0.2**
comp=N,8µm,0.8s								
ATH	**Athens Observa**	**0.86**	**106**	P	**Pg**		**01 19 49.1**	**+0.3**
ATH				AML	AML		01 20 03.3	
comp=E,17632µm,0.8s								
ATH				AML	AML		01 20 03.6	
comp=N,13238µm,0.8s								
MAKR	**Makrakomi, Fth**	**0.91**	**332**	P	**Pb**		**01 19 49.2**	**-0.1**
MAKR				S	**Sn**		**01 20 03.6**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.91**	**332**	P	**Pb**		**01 19 49.3**	**-0.1**
MAKR				S	**Sn**		**01 20 03.1**	**+0.3**
KRND	**KRANIDI**	**0.91**	**155**	P	**Pb**		**01 19 49.1**	**-0.3**
KRND				S	**Sn**		**01 20 03.2**	**+0.5**
comp=N,9µm,0.8s								
KRND	**KRANIDI**	**0.91**	**155**	P	**Pb**		**01 19 49.1**	**-0.3**
KRND				S	**Sn**		**01 20 03.3**	**+0.5**
KRND				AML	AML		01 20 06.2	
comp=N,20712µm,0.8s								
KRND				AML	AML		01 20 06.3	
comp=E,14227µm,0.7s								
ATHU	**Athens Univers**	**0.91**	**105**	P	**Pg**		**01 19 49.9**	**0.0**
ATHU				S	**Sn**		**01 20 02.6**	**-0.3**
ATHU	**Athens Univers**	**0.91**	**105**	P	**Pb**		**01 19 49.7**	**+0.2**
ATHU				S	**Sb**		**01 20 01.7**	**+0.4**
ATHU				AML	AML		01 20 04.6	
comp=E,2943µm,0.7s								
ATHU				AML	AML		01 20 05.1	
comp=N,3832µm,0.3s								
PTL	**Penteli**	**0.96**	**99**	P	**Pn**		**01 19 51.1**	**+0.4**
PTL				S	**Sg**		**01 20 03.5**	**+0.2**
PTL				AML	AML		01 20 06.9	
comp=N,17092µm,0.7s								
PTL				AML	AML		01 20 07.5	
comp=E,14978µm,0.6s								
VLY	**Voula,Athens**	**0.96**	**112**	P	**Pg**		**01 19 50.8**	**+0.1**
VLY	**Voula,Athens**	**0.96**	**112**	P	**Pg**		**01 19 50.8**	**+0.1**
VLY				AML	AML		01 20 05.5	
comp=N,8260µm,0.6s								
VLY				AML	AML		01 20 09.1	
comp=E,9110µm,0.5s								
RLS	**Riolos of Patr**	**0.96**	**261**	P	**Pb**		**01 19 49.9**	**-0.4**
RLS				S	**Sn**		**01 20 04.9**	**+0.9**
RLS	**Riolos of Patr**	**0.96**	**261**	P	**Pb**		**01 19 49.9**	**-0.4**
EVR	**Evrytania**	**0.98**	**316**	P	**Pg**		**01 19 51.1**	**0.0**
EVR				S	**Sn**		**01 20 05.1**	**+0.5**
comp=E,4µm,0.7s								
EVR	**Evrytania**	**0.98**	**316**	P	**Pn**		**01 19 51.9**	**+0.7**
PVO	**Paravola**	**0.99**	**295**	P	**Pb**		**01 19 50.5**	**-0.2**
PVO				S	**Sn**		**01 20 06.1**	**+1.4**
comp=E,7µm,0.6s								
PVO	**Paravola**	**0.99**	**295**	P	**Pb**		**01 19 50.4**	**-0.4**
YDRA	**Hydra**	**1.07**	**144**	P	**Pb**		**01 19 52.0**	**-0.1**
NEO	**Neokhori**	**1.18**	**21**	P	**Pn**		**01 19 53.8**	**0.0**
NEO				S	**Sg**		**01 20 11.7**	**+1.4**
comp=E,5µm,0.5s								
NEO	**Neokhori**	**1.18**	**21**	P	**Pn**		**01 19 54.0**	**+0.2**
KYMI	**Kymi, Euboea I**	**1.20**	**69**	P	**Pb**		**01 19 54.4**	**0.0**
KYMI				S	**Sg**		**01 20 11.8**	**+0.8**
comp=E,3µm,0.8s								
KYMI	**Kymi, Euboea I**	**1.20**	**69**	P	**Pb**		**01 19 54.4**	**0.0**
XOR	**Xorichti**	**1.22**	**19**	P	**Pb**		**01 19 55.1**	**+0.3**
XOR	**Xorichti**	**1.22**	**19**	P	**Pb**		**01 19 55.0**	**+0.3**
XOR				S	**Sg**		**01 20 11.9**	**+0.2**
XOR				AML	AML		01 20 18.5	
comp=E,6101µm,0.4s								
XOR				AML	AML		01 20 21.0	
comp=N,7198µm,0.5s								
KLMT	**Kalamata**	**1.25**	**203**	P	**Pb**		**01 19 55.2**	**+0.1**
KLMT				S	**Sg**		**01 20 14.7**	**+2.2**
comp=N,3µm,0.8s								
AST1	**Astakos**	**1.28**	**285**	P	**Pg**		**01 19 56.9**	**0.0**
AST1				S	**Sg**		**01 20 16.1**	**+2.4**
comp=N,2µm,0.8s								
THL	**Klokotos Trika**	**1.45**	**339**	P	**Pb**		**01 19 58.6**	**+0.1**
THL				S	**Sg**		**01 20 20.0**	**+1.2**
THL	**Klokotos Trika**	**1.45**	**339**	P	**Pb**		**01 19 59.0**	**+0.4**
LRSO	**Larissa Observ**	**1.47**	**352**	P	**Pb**		**01 19 59.6**	**+0.6**
LRSO				S	**Sg**		**01 20 20.0**	**+0.3**
comp=N,2µm,0.7s								
LRSO	**Larissa Observ**	**1.47**	**352**	P	**Pb**		**01 19 59.6**	**+0.6**
VLI	**Veliai**	**1.50**	**172**	P	**Pn**		**01 19 59.0**	**+0.7**
VLI				S	**Sg**		**01 20 20.9**	**+0.2**
comp=N,2µm,0.9s								
VLI	**Veliai**	**1.50**	**172**	P	**Pn**		**01 19 59.0**	**+0.7**
PYL	**PYLOS**	**1.51**	**210**	P	**Pb**		**01 19 59.5**	**-0.1**
PYL	**PYLOS**	**1.51**	**210**	P	**Pb**		**01 19 59.5**	**-0.1**
LTHK	**Lithakia**	**1.53**	**251**	P	**Pg**		**01 20 01.1**	**-0.5**
LTHK	**Lithakia**	**1.53**	**251**	P	**Pg**		**01 20 01.4**	**-0.3**
SKY	**Skiros Island**	**1.62**	**65**	P	**Pb**		**01 20 00.8**	**-0.7**
SKY	**Skiros Island**	**1.62**	**65**	P	**Pb**		**01 20 00.8**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.63**	**289**	P	**Pb**		**01 20 02.6**	**+0.9**
EVGI	**Lefkada island**	**1.63**	**285**	P	**Pb**		**01 20 02.2**	**+0.4**
EVGI	**Lefkada island**	**1.63**	**285**	P	**Pb**		**01 20 02.6**	**+0.8**
VLS	**Valsamata**	**1.64**	**269**	P	**Pb**		**01 20 02.1**	**+0.2**
VLS	**Valsamata**	**1.64**	**269**	P	**Pb**		**01 20 02.2**	**+0.4**
PSDA	**Pessada-Kefalo**	**1.65**	**267**	P	**Pb**		**01 20 02.2**	**+0.3**
PSDA	**Pessada-Kefalo**	**1.65**	**267**	P	**Pb**		**01 20 02.3**	**+0.3**
VSK1	**VASILIKIADES**	**1.67**	**277**	P	**Pb**		**01 20 02.9**	**+0.5**
VSK1				S	**Sg**		**01 20 25.6**	**-0.3**
comp=N,802nm,0.7s								
FSK	**Fiskardo**	**1.68**	**279**	P	**Pb**		**01 20 03.1**	**+0.6**
FSK	**Fiskardo**	**1.68**	**279**	P	**Pb**		**01 20 03.4**	**+0.9**
LKD2	**Lefkada island**	**1.68**	**291**	P	**Pb**		**01 20 03.0**	**+0.4**
LKD2	**Lefkada island**	**1.68**	**291**	P	**Pg**		**01 20 03.8**	**-0.7**
TSLK	**Tsoukalades, L**	**1.69**	**292**	P	**Pg**		**01 20 03.9**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.71**	**287**	P	**Pg**		**01 20 04.2**	**-0.9**
KEF4	**Livadi, Kephal**	**1.77**	**272**	P	**Pb**		**01 20 04.8**	**+0.7**
DMLN	**Damoulianata-K**	**1.81**	**272**	P	**Pb**		**01 20 05.7**	**+1.0**
KEF3	**Kipouria, Keph**	**1.83**	**270**	P	**Pb**		**01 20 04.9**	**-0.2**
KEF3	**Kipouria, Keph**	**1.83**	**270**	P	**Pb**		**01 20 05.6**	**+0.5**
KTHA	**Kythira Island**	**1.98**	**171**	Pn	**Pb**		**01 20 06.9**	**-0.7**
KTHA	**Kythira Island**	**1.98**	**171**	P	**Pb**		**01 20 06.4**	**-1.2**
KTHA	**Kythira Island**	**1.98**	**171**	P	**Pb**		**01 20 06.6**	**-1.0**
KPRO	**Kipourio**	**2.02**	**330**	P	**Pb**		**01 20 07.5**	**-0.8**
KPRO	**Kipourio**	**2.02**	**330**	P	**Pb**		**01 20 07.3**	**-1.1**
JAN	**Janina**	**2.02**	**316**	P	**Pb**		**01 20 08.9**	**+0.4**
MHLO	**Agia Marina, M**	**2.05**	**137**	P	**Pb**		**01 20 07.7**	**-1.2**
IGT	**Igoumenitsa**	**2.25**	**307**	P	**Pb**		**01 20 11.9**	**-0.5**
PENT	**Pentalofos**	**2.31**	**329**	P	**Pb**		**01 20 12.6**	**-0.8**
OUR	**Ouranopolis**	**2.35**	**25**	Pn	**Pn**		**01 20 10.7**	**+0.8**
OUR				Sn	**Sn**		**01 20 38.9**	**+0.5**
OUR	**Ouranopolis**	**2.35**	**25**	P	**Pn**		**01 20 10.8**	**+0.8**
OUR	**Ouranopolis**	**2.35**	**25**	P	**Pn**		**01 20 10.8**	**+0.9**
ANKY	**Antikythira Is**	**2.39**	**168**	P	**Pn**		**01 20 12.4**	**+1.9**
ANKY	**Antikythira Is**	**2.39**	**168**	P	**Pn**		**01 20 12.5**	**+2.0**
HORT	**Hortiatis**	**2.41**	**8**	Pn	**Pn**		**01 20 11.2**	**+0.4**
HORT				Sn	**Sn**		**01 20 41.0**	**+1.1**
HORT	**Hortiatis**	**2.41**	**8**	P	**Pn**		**01 20 11.6**	**+0.8**
THE	**Thessaloniki**	**2.43**	**5**	P	**Pn**		**01 20 11.5**	**+0.6**
NEST	**Nestorio**	**2.54**	**331**	P	**Pn**		**01 20 14.8**	**+2.3**
NEST	**Nestorio**	**2.54**	**331**	P	**Pb**		**01 20 15.5**	**-1.6**
APE	**Apeiranthos**	**2.54**	**116**	⇑P	**Pb**		**01 20 17.6**	**+0.3**
APE				⇑S	**Sb**		**01 20 49.0**	**+0.8**
APE	**Apeiranthos**	**2.54**	**116**	Pn	**Pn**		**01 20 13.7**	**+1.1**
APE	**Apeiranthos**	**2.54**	**116**	P	**Pn**		**01 20 14.1**	**+1.5**
LIA	**Limnos Island**	**2.58**	**48**	P	**Pn**		**01 20 13.7**	**+0.7**
SOH	**Sokhos**	**2.66**	**11**	P	**Pn**		**01 20 15.9**	**+1.7**
SOH	**Sokhos**	**2.66**	**11**	P	**Pn**		**01 20 16.0**	**+1.7**
CHOS	**Chios island**	**2.67**	**85**	P	**Pn**		**01 20 15.8**	**+1.5**
CHOS	**Chios island**	**2.67**	**85**	P	**Pn**		**01 20 15.8**	**+1.5**
SIGR	**SIGRI**	**2.68**	**67**	Pn	**Pn**		**01 20 15.6**	**+1.2**
SIGR	**SIGRI**	**2.68**	**67**	P	**Pn**		**01 20 15.7**	**+1.2**
KEK	**Kerkira**	**2.69**	**305**	Pn	**Pn**		**01 20 16.3**	**+1.7**
KEK	**Kerkira**	**2.69**	**305**	P	**Pb**		**01 20 17.9**	**-1.9**
GRG	**Griva**	**2.75**	**356**	P	**Pn**		**01 20 16.9**	**+1.5**
GRG	**Griva**	**2.75**	**356**	P	**Pn**		**01 20 16.5**	**+1.1**
FNA	**Florina**	**2.76**	**339**	P	**Pn**		**01 20 17.7**	**+2.1**
FNA				S	**Sb**		**01 20 53.2**	**-1.3**
comp=N,332nm,0.8s								
FNA	**Florina**	**2.76**	**339**	Pn	**Pn**		**01 20 17.5**	**+2.0**
FNA	**Florina**	**2.76**	**339**	P	**Pn**		**01 20 17.7**	**+2.1**
RODP	**Rodopos**	**2.79**	**161**	Pn	**Pn**		**01 20 18.1**	**+2.2**
RODP	**Rodopos**	**2.79**	**161**	P	**Pn**		**01 20 17.3**	**+1.4**
KOKK	**Kokkinochori,**	**2.80**	**21**	P	**Pn**		**01 20 17.0**	**+0.9**
KBN	**Korca**	**2.82**	**329**	Pn	**Pb**		**01 20 19.8**	**-2.2**
THAS	**Thassos island**	**2.87**	**33**	P	**Pn**		**01 20 16.8**	**-0.2**
SANT	**Santorini**	**2.88**	**129**	Pn	Pn		01 20 10.9	-6.4
EAG1	**Polichnitos, L**	**2.92**	**71**	P	**Pn**		**01 20 18.8**	**+1.1**
IMMV	**Iera Moni Meta**	**2.94**	**159**	Pn	**Pn**		**01 20 20.0**	**+2.0**
IMMV	**Iera Moni Meta**	**2.94**	**159**	P	**Pn**		**01 20 19.4**	**+1.4**
IMMV				S	**Sn**		**01 20 56.5**	**+3.6**
comp=N,588nm,0.8s								
KNT	**Kendrikon**	**2.95**	**3**	P	**Pn**		**01 20 20.0**	**+1.8**
KNT	**Kendrikon**	**2.95**	**3**	P	**Pn**		**01 20 19.9**	**+1.8**
SRS	**Serrai**	**2.99**	**13**	P	**Pn**		**01 20 19.9**	**+1.2**
SRS	**Serrai**	**2.99**	**13**	P	**Pn**		**01 20 20.1**	**+1.4**
PRK	**Paraskevi**	**3.00**	**69**	P	**Pn**		**01 20 20.6**	**+1.8**
URLA	**Izmir**	**3.09**	**86**	Pn	**Pn**		**01 20 21.0**	**+0.9**
BOZC	**Bozcaada**	**3.10**	**57**	Pn	**Pn**		**01 20 20.2**	**0.0**
KAVA	**Kavala**	**3.12**	**27**	P	**Pn**		**01 20 20.8**	**+0.2**
SMTH	**Samothraki Isl**	**3.16**	**44**	P	**Pn**		**01 20 21.3**	**+0.1**
PRNS	**Prines Rethymn**	**3.20**	**152**	P	**Pn**		**01 20 23.1**	**+1.6**
RFT1	**Sazli**	**3.23**	**65**	Pn	**Pn**		**01 20 22.5**	**+0.6**
RFT5	**Foca**	**3.23**	**81**	Pn	**Pn**		**01 20 23.2**	**+1.2**
OHR	**Ohrid**	**3.24**	**334**	*i* Pn	**Pb**		**01 20 26.1**	**-3.0**
OHR				*i* Sn	**Sb**		**01 21 08.9**	**+0.6**
NVR	**Nevrokopi**	**3.27**	**16**	P	**Pn**		**01 20 24.7**	**+2.2**
NVR	**Nevrokopi**	**3.27**	**16**	P	**Pn**		**01 20 24.9**	**+2.3**
VLO	**Vlora**	**3.34**	**313**	Pn	**Pn**		**01 20 26.9**	**+3.4**
RFT7	**Candarli**	**3.41**	**76**	Pn	**Pn**		**01 20 25.9**	**+1.4**
IDI	**Anoyia**	**3.42**	**148**	⇑P	**Pb**		**01 20 29.6**	**-2.6**
IDI	**Anoyia**	**3.42**	**148**	P	**Pn**		**01 20 26.8**	**+2.2**
IDI	**Anoyia**	**3.42**	**148**	Pn	**Pn**		**01 20 26.9**	**+2.2**
comp=N,3.2nm,0.3s,baz=302,slow=11,SNR=12								
IDI				Sn	**Sn**		**01 21 05.5**	**+0.7**
comp=N,6.7nm,0.3s,baz=322,slow=17,SNR=4.2								
comp=N,8.6nm,0.4s								
STIP	**Stip**	**3.50**	**354**	*i* Pn	**Pn**		**01 20 28.2**	**+2.5**
STIP				*i* Sn	**Sb**		**01 21 11.9**	**-3.8**
KKB	**Krupnik**	**3.64**	**5**	P	**Pn**		**01 20 29.9**	**+2.2**
RDO	**Rodhopi**	**3.67**	**36**	Pn	**Pn**		**01 20 28.6**	**+0.6**
RDO	**Rodhopi**	**3.67**	**36**	P	**Pn**		**01 20 28.5**	**+0.4**
ALN	**Alexandroupoli**	**3.74**	**43**	Pn	**Pn**		**01 20 29.5**	**+0.5**
ALN	**Alexandroupoli**	**3.74**	**43**	P	**Pn**		**01 20 29.2**	**+0.1**
SCTE	**Santa Cesarea**	**3.76**	**301**	Pn	**Pn**		**01 20 31.2**	**+1.9**
TIR	**Tirane**	**3.81**	**326**	⇑P	**Pn**		**01 20 32.0**	**+2.1**
TIR	**Tirane**	**3.81**	**326**	Pn	**Pn**		**01 20 33.4**	**+3.5**
RZN	**Rozhen**	**3.83**	**24**	P	**Pn**		**01 20 31.5**	**+1.2**
KDZ	**Kurdzhali**	**3.98**	**30**	P	**Pn**		**01 20 33.1**	**+0.7**
DIM	**Dimitrovgrad**	**4.43**	**29**	P	**Pn**		**01 20 40.1**	**+1.6**
DRME	**Dracevica, Mon**	**4.78**	**327**	*e*Pn	**Pn**		**01 20 45.4**	**+2.0**
PDG	**Podgorica**	**4.96**	**329**	⇑P	**Pn**		**01 20 47.8**	**+2.1**
PDG	**Podgorica**	**4.96**	**329**		**Pn**		**01 20 47.8**	**+2.1**
PDG	**Podgorica**	**4.96**	**329**	*e*Pn	**Pn**		**01 20 48.3**	**+2.6**
MATE	**Matera**	**5.22**	**300**	⇓P	**Pn**		**01 20 52.1**	**+2.7**
PVL	**Pavlikeni**	**5.26**	**20**	P	**Pn**		**01 20 51.6**	**+1.7**
HCY	**Herceg Novi**	**5.30**	**324**	*e*Pn	**Pn**		**01 20 51.3**	**+0.9**
SJES	**Sjenica**	**5.44**	**339**	*e*Pn	**Pn**		**01 20 56.2**	**+3.7**
BOVS	**Bovan**	**5.47**	**353**	⇓P	**Pn**		**01 20 54.3**	**+1.6**
TREB	**Trebinje**	**5.58**	**325**	*e*Pn	**Pn**		**01 20 54.2**	**0.0**
CUC	**Castrocucco**	**5.62**	**291**	Pn	**Pn**		**01 20 58.0**	**+3.1**
DBRK	**Dubrovnik**	**5.63**	**324**	*e*Pn	**Pn**		**01 20 55.7**	**+0.6**
UPM	**Unac-Piva**	**5.75**	**331**	*e*Pn	**Pn**		**01 21 00.2**	**+3.4**
RUDO	**Rudo**	**5.95**	**336**	*e*Pn	**Pn**		**01 21 01.1**	**+1.7**
STON	**Ston**	**6.00**	**322**	*e*Pn	**Pn**		**01 21 00.5**	**+0.5**
STON	**Ston**	**6.00**	**322**	*e*Pn	**Pn**		**01 21 00.7**	**+0.7**
BBLS	**Lazići**	**6.16**	**337**	*e*Pn	**Pn**		**01 21 04.6**	**+2.2**

*NEIC **09** 01:19:29.5±2.1,37.′96N±0.′07×22.′91E±0.′08,h10km±2km,*
mb4.1/11,Error ellipse: s-maj=12.8km s-min=9.6km
az=217.0
*IDC **09** 01:19:30.3±0.9,38.′30N×22.′64E,h0km,mb3.8/13,*
mbtmp3.7/22,ML3.2/7,Error ellipse: s-maj=15.6km
s-min=13.9km az=171.0
*ISK **09** 01:19:31.2,38.′27N×22.′76E,h5km,ML3.7/10*
*ATH **09** 01:19:32.8,38.′21N×22.′67E,h8km±1km,ML3.7/16,Error*
ellipse: s-maj=1.2km s-min=0.5km az=234.0
*THE **09** 01:19:32.5,38.′21N×22.′68E,h0km±1km,ML3.7/21,Error*

DIVS	Divibare	6.22 342	Pn	Pn	01 21 05.6	+2.5
DIVS	Divibare	6.22 342	ePn	Pn	01 21 03.5	+0.4
LSTV	Lastovo	6.33 318	ePn	Pn	01 21 05.1	+0.5
SGRT	San Giovanni R	6.39 306	Pn	Pn	01 21 07.1	+1.6
DJES	Djerdap	6.45 359	⇑P	Pn	01 21 08.1	+1.9
VAE	Valguarnera	6.58 266	Pn	Pn	01 21 10.1	+2.0
	comp=N,0.3nm,0.3s,baz=157,slow=7.7,SNR=2.7					
VAE			Sn	Sn	01 22 25.8	+3.1
	comp=N,0.3nm,0.3s,baz=121,slow=16,SNR=1.7					
	comp=N,6.2nm,0.9s					
MDVR	Moldovita	6.60 354	⇑P	Pn	01 21 10.1	+1.7
MAKA	Makarska	6.64 322	ePn	Pn	01 21 09.4	+0.5
RICI	Ricice	6.74 323	ePn	Pn	01 21 11.2	+0.9
HVAR	Hvar	6.85 318	ePn	Pn	01 21 11.8	+0.1
PAOL	Paolisi	6.86 297	Pn	Pn	01 21 15.3	+3.4
SRKY	Kupres RS	7.17 326	ePn	Pn	01 21 18.2	+1.9
GZR	Gura Zlata	7.18 1	⇑P	Pn	01 21 17.8	+1.5
LOT	Lotru	7.28 6	⇑P	Pn	01 21 19.1	+1.4
ARR	Arges	7.30 11	⇓P	Pn	01 21 19.6	+1.6
VOIR		7.43 13	⇑P	Pn	01 21 22.2	+2.3
BZS	Buzias	7.44 354	⇓P	Pn	01 21 20.9	+1.1
KIJV	Kijevo	7.47 323	ePn	Pn	01 21 21.1	+0.8
MGRS	Mrkonjic Grad	7.49 328	ePn	Pn	01 21 25.1	+4.6
HARR	Harsova	7.58 30	⇑P	Pn	01 21 23.1	+1.4
ZIRJ	Zirje	7.60 318	ePn	Pn	01 21 22.9	+0.8
MLR	Muntele Rosu	7.67 18	⇑P	Pn	01 21 26.1	+2.9
MLR	Muntele Rosu	7.67 18	Pn	Pn	01 21 23.3	+0.2
MLR	Muntele Rosu	7.67 18	Pn	Pn	01 21 23.6	+0.5
	comp=N,5.6nm,0.5s,baz=144,slow=18,SNR=11					
MLR			Sn	Sn	01 22 50.5	+0.8
	comp=N,0.2nm,0.3s,baz=235,slow=20,SNR=0.8					
NEHR	Nehoiu	7.70 19	⇓P	Pn	01 21 26.5	+3.0
INTR	Introdacqua	7.71 302	Pn	Pn	01 21 26.3	+2.7
MORI	Morici	7.72 319	ePn	Pn	01 21 24.3	+0.7
BLY	Banja Luka	7.72 330	ePn	Pn	01 21 25.1	+1.5
DOPR	Dopca	8.01 14	⇑P	Pn	01 21 30.4	+2.8
COVR	Voineasa-Covas	8.07 18	⇑P	Pn	01 21 31.7	+3.3
DUGI	Dugi Otok	8.14 318	ePn	Pn	01 21 30.0	+0.5
UDBI	Udbina	8.17 323	ePn	Pn	01 21 32.0	+2.1
PLOR	Plostina	8.19 20	⇓P	Pn	01 21 32.6	+2.5
OZUR		8.21 15	⇑P	Pn	01 21 33.3	+2.9
CAMP	Campotosto	8.28 304	Pn	Pn	01 21 33.7	+2.2
VIRC	Vir	8.35 319	ePn	Pn	01 21 32.6	+0.3
PLIT	Plitvice	8.50 324	ePn	Pn	01 21 36.1	+1.7
MORH	Mrgy, Hungar	8.54 341	⇑P	Pn	01 21 36.3	+1.5
MOSL	Moslavina	8.61 331	ePn	Pn	01 21 36.1	+0.2
NRCA	Norcia	8.62 305	Pn	Pn	01 21 38.0	+2.0
NVLJ	Novalja	8.64 320	ePn	Pn	01 21 36.4	+0.2
BRTR	Keskin Array B	8.68 77	Pn	Pn	01 21 40.3	+3.3
	comp=N,0.2nm,0.3s,baz=257,slow=14,SNR=7.4					
	comp=N,1.9nm,0.8s					
FDMO	Fiordimonte	8.73 307	Pn	Pn	01 21 39.9	+2.3
A254A	Petrova Gora	8.75 326	ePn	Pn	01 21 39.7	+1.8
TESR	Tescani	8.80 18	⇑P	Pn	01 21 41.3	+2.8
RABC	Rab	8.81 320	ePn	Pn	01 21 39.1	+0.5
BOJS	Bojanci	9.15 325	ePn	Pn	01 21 43.7	+0.5
MURB	Monte Urbino	9.20 306	Pn	Pn	01 21 46.2	+2.2
VASR	Vaslui	9.23 23	⇑P	Pn	01 21 46.1	+1.7
CRES	Cresnjev	9.31 327	ePn	Pn	01 21 45.0	-0.4
BRJN	Brijuni	9.45 318	ePn	Pn	01 21 47.5	+0.1
BURAR	Bucovina Array	9.58 10	Pn	Pn	01 21 52.1	+2.9
BUR08	Bucovina Ar. S	9.61 10	Pn	Pn	01 21 50.8	+1.2
A253A	Karojba, Istri	9.68 320	ePn	Pn	01 21 50.1	-0.5
CEY	Cerknica	9.70 323	ePn	Pn	01 21 51.2	+0.3
SKDS	Skadanscina	9.76 321	ePn	Pn	01 21 52.6	+0.9
PSZ	Piszkesteto	9.91 349	⇑P	Pn	01 21 56.3	+2.6
SOKA	Soboth	10.16 329	ePn	Pn	01 21 59.7	+2.5
	comp=N,1.4nm,0.6s					
OBKA	Obir	10.23 327	*i* Pn	Pn	01 22 00.7	+2.4
	comp=N,2.0nm,0.6s					
OBKA	Obir	10.23 327	ePn	Pn	01 22 02.0	+3.8
ARSA	Arzberg	10.45 332	*i* Pn	Pn	01 22 04.7	+3.6
	comp=N,3.6nm,0.8s					
VYHS	Vyhne	10.65 346	ePN	Pn	01 22 08.8	+5.0
CONA	Conrad Observa	10.91 335	ePn	Pn	01 22 11.1	+3.7
	comp=N,0.8nm,0.5s					
CLUD	Cludinico	10.96 322	Pn	Pn	01 22 10.1	+2.0
CTI	Castel Tesino	11.32 317	Pn	Pn	01 22 13.9	+0.8
ABTA	Abfaltersbach	11.35 322	ePn	Pn	01 22 16.3	+2.8
	comp=N,5.9nm,1.4s					
MOA	Molln	11.42 330	*i* Pn	Pn	01 22 17.9	+3.5
	comp=N,2.4nm,0.9s					
BIOA	Bad Ischl, Aus	11.55 328	*i* Pn	Pn	01 22 19.1	+3.0
	comp=N,5.8nm,1.3s					
MMAI	Mount Meron Ar	11.58 113	Pn	Pn	01 22 18.8	+2.1
	comp=N,1.2nm,0.6s,baz=306,slow=17,SNR=1.6					
LESA	Schwarzleotal	11.76 325	ePn	Pn	01 22 22.3	+3.2
	comp=N,0.9nm,0.5s					
WATA	Walderalm	12.22 322	ePn	Pn	01 22 29.9	+4.5
	comp=N,0.9nm,0.4s					
SQTA	Sankt Quirin	12.32 321	ePn	Pn	01 22 28.4	+1.7
	comp=N,1.6nm,0.6s					
FUORN	Ofenpass-Fuorn	12.42 317	Pn	Pn	01 22 29.5	+1.2
FETA	Feichten	12.43 319	ePn	Pn	01 22 31.4	+3.1
	comp=N,3.5nm,0.9s					
GERES	GERESS Array B	12.45 331	Pn	Pn	01 22 29.1	+0.5
	comp=N,0.1nm,0.3s,baz=147,slow=13,SNR=2.7					
	comp=N,0.4nm,0.6s					
MOTA	Moosalm	12.46 321	ePn	Pn	01 22 31.8	+3.2
	comp=N,4.2nm,1.5s					
RETA	Reutte	12.72 321	*i* Pn	Pn	01 22 36.5	+4.3
	comp=N,6.4nm,2.0s					
DAVOX	Davos/Dischmat	12.73 316	Pn	Pn	01 22 33.3	+0.9
	comp=N,0.1nm,0.3s,baz=151,slow=19,SNR=2.1					
DAVOX			Sn	Sn	01 24 49.9	-3.9
	comp=N,0.1nm,0.3s,baz=82,slow=19,SNR=1.8					
	comp=N,0.5nm,0.4s					
KHC	Kasperske Hory	12.73 332	ePn	Pn	01 22 19.0	-13
TUE	Stuetta	12.84 314	Pn	Pn	01 22 35.2	+1.3
AKASG	Malin Array Be	13.33 18	Pn	Pn	01 22 39.0	-1.3
	comp=N,0.3nm,0.3s,baz=206,slow=12,SNR=1.8					
	comp=N,0.4nm,0.6s					
SENIN	Lac Senin/Sane	13.98 311	Pn	Pn	01 22 51.0	+1.5
CLL	Collm	14.77 336	*i* PP	P	01 23 08.2	+2.3
	comp=Z,3.0nm,1.0s					
GNI	Garni	17.22 77	P	P	01 23 33.8	+0.4
	comp=Z,0.3nm,0.3s,baz=234,slow=19,SNR=1.5					
	comp=Z,0.8nm,0.3s					
ESBB	Sonseca Array	20.74 282	P	P	01 24 13.2	+1.3
ESBB			IAmb	IAmb	01 24 14.8	
	comp=Z,4.6nm,0.8s					
ESDC	Sonseca Array	20.75 282	P	P	01 24 12.9	+1.0
ESDC	Sonseca Array	20.75 282	P	P	01 24 13.1	+1.2
	comp=Z,3.9nm,0.7s,baz=76,slow=11,SNR=44					
	comp=Z,3.9nm,0.7s					
PAB	San Pablo	21.05 282	P	P	01 24 16.3	+1.1
PAB			IAmb	IAmb	01 24 20.3	
	comp=Z,4.7nm,1.0s					
HFS	Hagfors	22.67 348	P	P	01 24 31.1	-1.3
	comp=Z,3.7nm,0.8s,baz=162,slow=15,SNR=2.4					
	comp=Z,3.7nm,0.8s					
FINES	FINESS Array B	23.35 4	P	P	01 24 38.0	-1.3
FINES	FINESS Array B	23.35 4	P	P	01 24 38.6	-0.7
	comp=Z,4.1nm,0.9s,baz=171,slow=14,SNR=2.3					
	comp=Z,4.1nm,0.9s					
NC602	NORSAR Array S	23.61 346	P	P	01 24 41.4	-0.5
NC602			IAmb	IAmb	01 25 18.6	
	comp=Z,21nm,1.4s					
NB201	NORSAR Array S	23.95 346	P	P	01 24 44.3	-0.8
NB2	NORSAR Subarra	23.95 346	P	P	01 24 45.2	0.0
	comp=Z,0.9nm,0.6s,baz=159,slow=11					
NOA	NORSAR Array B	23.95 346	P	P	01 24 44.8	-0.4
	comp=Z,0.2nm,0.5s,baz=160,slow=9.7,SNR=4.7					
	comp=Z,0.2nm,0.5s					
PVAQ	Vaqueiros	23.98 278	P	P	01 24 44.7	-0.9
PVAQ			IAmb	IAmb	01 24 57.4	
	comp=Z,10nm,1.4s					
NC204	NORSAR Array S	24.26 346	P	P	01 24 47.1	-1.0
EKA	Eskdalemuir Ar	24.40 323	P	P	01 24 50.0	+0.7
	comp=Z,0.9nm,0.4s,baz=118,slow=8.9,SNR=13					
	comp=Z,0.9nm,0.4s					
TORD	Torodi Ar. Bea	31.16 222	P	P	01 25 49.0	-1.2
TORD	Torodi Ar. Bea	31.16 222	P	P	01 25 51.1	+0.9
	comp=Z,0.7nm,0.8s,baz=29,slow=10,SNR=5.4					
	comp=Z,0.7nm,0.8s					
ARCES	ARCESS Array B	31.42 2	P	P	01 25 51.3	-0.7
	comp=Z,2.9nm,1.1s,baz=200,slow=7.7,SNR=1.8					
	comp=Z,2.9nm,1.1s					
BVAR	Borovoye Array	35.80 50	P	P	01 26 31.9	+1.6
	comp=Z,0.6nm,0.4s,baz=208,slow=4.6,SNR=2.0					
	comp=Z,0.6nm,0.4s					
KK31	Karatay Array	36.23 67	P	P	01 26 32.0	-2.1
KK31			IAmb	IAmb	01 26 42.4	
	comp=Z,1.3nm,0.8s					
KKAR	Karatay Array	36.23 67	P	P	01 26 30.7	-3.4
KURBB	Kurchatov Arra	40.85 54	P	P	01 27 13.3	+0.6
	comp=Z,1.3nm,0.6s,baz=280,slow=8.7,SNR=13					
	comp=Z,1.3nm,0.6s					
MK31	Makanchi Array	43.84 59	P	P	01 27 35.9	-1.3
MK31			IAmb	IAmb	01 27 48.2	
	comp=Z,6.1nm,1.3s					
MKAR	Makanchi Array	43.84 59	P	P	01 27 33.9	-3.3
MKAR	Makanchi Array	43.84 59	P	P	01 27 38.1	+1.0
	comp=Z,1.2nm,0.5s,baz=273,slow=7.5,SNR=14					
	comp=Z,1.2nm,0.5s					
ZAA0	Zalesovo Array	44.41 48	P	P	01 27 40.5	-1.0
ZAA0			IAmb	IAmb	01 27 49.0	
	comp=Z,3.2nm,0.8s					
ZALV	Zalesovo Beam	44.41 48	P	P	01 27 40.0	-1.6
ZALV	Zalesovo Beam	44.41 48	P	P	01 27 41.3	-0.2
	comp=Z,2.6nm,0.6s,baz=270,slow=8.9,SNR=9.4					
	comp=Z,2.6nm,0.6s					
WMQ	Urumqi	48.26 62	*e*P	P	01 28 13.4	+1.3
WMQ			pP	pP	01 28 16.3	-1.0
WMQ			pmax	pmax		
	comp=Z,12nm,0.7s					
SONM	Songino Array	59.12 51	P	P	01 29 30.9	-0.8
	comp=Z,0.2nm,0.3s,baz=282,slow=7.2,SNR=1.7					
	comp=Z,0.2nm,0.3s					
LZH	Lanzhou	62.67 64	*e*P	P	01 29 54.9	-1.1
LZH			pP	pP	01 29 59.2	-2.2
LZH			pmax	pmax		
	comp=Z,20nm,1.1s					
HHC	Hu-ho-hao-te	65.61 56	*e*P	P	01 30 12.4	-2.8
HHC			pmax	pmax		
	comp=Z,19nm,0.6s					
HHC			pmax	pmax		
	comp=Z,90nm,6.2s					
HHC			LR	LR		
	comp=N,300nm,19.6s					
HHC			LR	LR		
	comp=E,430nm,20.4s					
HHC			LR	LR		
	comp=Z,320nm,20.5s					
PZH	PanZhiHua	65.97 74	P	P	01 30 16.1	-1.6
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,130nm,6.5s					
LYN	LuoYang	69.51 62	*e*P	P	01 30 45.7	+5.9
LYN			pmax	pmax		
	comp=Z,8.0nm,0.8s					
MDJ	Mudanjiang	74.49 45	P	P	01 31 07.8	-1.7
MDJ			pmax	pmax		
	comp=Z,3.0nm,0.6s					
MDJ			pmax	pmax		
	comp=Z,200nm,9.1s					
ILAR	Eielson Array	77.02 355	P	P	01 31 22.3	-1.3
	comp=Z,0.3nm,0.8s,baz=358,slow=5.4,SNR=2.5					
	comp=Z,0.3nm,0.8s					

AFAD ***09*** *01:19:41.4±0.0, 36°.92N×27°.66E, h7km±1km, ML1.8*
ISK ***09*** *01:19:41.4, 36°.95N×27°.69E, h13km±1km, ML2.1/8*
ISC 09 01:19:41.6±0.9, 36°.94N±0°.03×27°.67E±0°.03, h16km±8km, n15, σ0s51/25, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTC	Emecik-Datca	0.20 144		Pg	Pg	01 19 45.9	-0.5
RFTC				Sg	Sg	01 19 49.6	+0.1
BDRM	Kayabasi	0.22 304		P	Pg	01 19 46.4	-0.3
BDRM				S	Sg	01 19 49.8	-0.3
BDRM				*i* AML	AML	01 19 51.0	
	comp=E,192nm,0.2s						
DAT	Datca	0.22 199		Pg	Pg	01 19 46.9	+0.1
DAT				Sg	Sg	01 19 50.8	+0.5
RFTD	Palamutbuku-Ka	0.29 208		Pg	Pg	01 19 47.8	-0.1
RFTD				Sg	Sb	01 19 52.9	-0.3
BODT	Bodrum	0.31 293		Pg	Pg	01 19 48.2	0.0
BODT				Sg	Sb	01 19 53.5	-0.3
RFTB	Kemer-Bodrum	0.32 274		Pg	Pb	01 19 48.6	-0.4
RFTB				Sg	Sb	01 19 53.9	-0.1
MLSB	Milas	0.36 13		Pg	Pg	01 19 48.7	-0.5
MLSB				Sg	Sg	01 19 54.8	+0.5
TURN	Turunc	0.49 110		Pg	Pg	01 19 51.4	0.0
TURN	Turunc	0.49 110		P	Pg	01 19 51.2	-0.2
TURN				S	Sb	01 19 58.3	-0.5
TURN				*i* AML	AML	01 20 01.0	
	comp=N,122nm,0.3s						
TURN				*i* AML	AML	01 20 01.0	
	comp=E,75nm,0.3s						
YER	Yerkesik	0.53 68		Pg	Pg	01 19 52.1	0.0
AYDN	Tasoluk	0.74 13		P	Pg	01 19 55.3	-0.8
AYDN				S	Sg	01 20 05.2	-0.6
AYDN				*i* AML	AML	01 20 06.0	
	comp=E,52nm,0.2s						
DALY	Dalyan (Mula)	0.80 99		Pg	Pb	01 19 57.4	+0.3
ARG	Arkhangelos	0.81 153		Pg	Pb	01 19 57.5	+0.1
GCAM	G?zelcaml?	0.83 335		Pg	Pb	01 19 58.0	+0.2
GCAM	G?zelcaml?	0.83 335		P	Pb	01 19 58.5	+0.7
GCAM				S	Sb	01 20 10.2	+1.4

ISK ***09*** *01:20:00.9, 36°.94N×27°.70E, h18km±1km, ML2.8/8*
AFAD ***09*** *01:20:02.2±0.0, 36°.96N×27°.71E, h7km±3km, ML2.7*
THE ***09*** *01:20:02.0, 36°.96N×27°.70E, h3km±3km, ML2.7/5, Error ellipse: s-maj=3.0km s-min=0.6km az=188.0*
ISC 09 01:20:01.5±0.9, 36°.96N±0°.02×27°.72E±0°.02, h13km±7km, n25, σ0s54/45, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTC	Emecik-Datca	0.19 157		Pg	Pb	01 20 06.3	-0.5
RFTC				Sg	Sb	01 20 09.7	-0.7
BDRM	Kayabasi	0.25 296		P	Pg	01 20 06.9	+0.2
BDRM				S	Sg	01 20 10.1	-0.3
BDRM				*i* AML	AML	01 20 11.0	
	comp=E,2μm,0.4s						
DAT	Datca	0.25 207		Pg	Pg	01 20 06.9	+0.1
DAT				Sg	Sg	01 20 11.0	+0.5
DAT	Datca	0.25 207		P	Pg	01 20 07.0	+0.1
DAT				S	Sg	01 20 10.4	-0.1
RFTD	Palamutbuku-Ka	0.33 214		Pg	Pg	01 20 08.3	+0.2
RFTD				Sg	Sg	01 20 12.9	+0.3
BODT	Bodrum	0.35 288		Pg	Pg	01 20 08.6	+0.1
BODT				Sg	Sg	01 20 13.9	+0.6
BODT	Bodrum	0.35 288		P	Pg	01 20 08.6	+0.1
BODT				S	Sg	01 20 13.5	+0.2
RFTB	Kemer-Bodrum	0.36 272		Pg	Pg	01 20 08.4	-0.4
TURN	Turunc	0.46 113		Pg	Pb	01 20 10.6	-0.7
TURN	Turunc	0.46 113		P	Pb	01 20 11.3	0.0
TURN				S	Sb	01 20 18.7	+0.7
TURN				*i* AML	AML	01 20 21.0	
	comp=E,697nm,0.2s						
TURN				*i* AML	AML	01 20 22.0	
	comp=N,1μm,0.4s						
YER	Yerkesik	0.48 68		P	Pb	01 20 11.9	0.0
YER				S	Sb	01 20 19.2	+0.3
MULA	Mugla, Merkez-	0.56 58		P	Pn	01 20 14.7	-0.6
MULA				S	Sb	01 20 21.4	+0.1
NISR	Nisiros	0.59 235		P	Pg	01 20 13.2	+0.3
NISR				S	Sb	01 20 22.3	+0.5
	668nm,0.3s						
KOSK	Kos Island	0.63 251		P	Pb	01 20 14.3	0.0
KOSK				S	Sb	01 20 23.4	+0.4
	610nm,0.4s						
DDIM	Aydin, Didim	0.63 323		P	Pb	01 20 14.2	-0.1
DDIM				S	Sb	01 20 24.0	+0.9
DDIM				*i* AML	AML	01 20 27.0	
	comp=N,412nm,0.4s						
DDIM				*i* AML	AML	01 20 30.0	
	comp=E,445nm,0.4s						
AYDN	Tasoluk	0.72 10		P	Pn	01 20 16.4	-0.9
AYDN				S	Sb	01 20 25.7	+0.1
AYDN				*i* AML	AML	01 20 27.0	
	comp=E,369nm,0.5s						
DALY	Dalyan (Mula)	0.76 100		Pg	Pb	01 20 16.3	-0.2
ARG	Arkhangelos	0.81 156		Pg	Pb	01 20 16.9	-0.4
ARG	Arkhangelos	0.81 156		P	Pn	01 20 18.4	-0.1
ARG				S	Sn	01 20 30.6	+0.3
	828nm,0.7s						
GCAM	G?zelcaml?	0.84 332		P	Pn	01 20 18.7	-0.3
GCAM				S	Sn	01 20 30.5	-0.7
GCAM				*i* AML	AML	01 20 37.0	
	comp=E,249nm,0.4s						
SMG	Samos	1.03 317		P	Pn	01 20 21.4	-0.2
SMG				S	Sn	01 20 36.1	+0.1
	348nm,0.4s						
TAVA	DENIZLI_Tavas	1.08 61		P	Pb	01 20 20.7	-1.3
TAVA				S	Sn	01 20 38.7	+1.5
IZMR	zmir-demi	1.19 9		P	Pg	01 20 24.8	+0.4
IZMR				S	Sb	01 20 39.0	-0.3
DNIZ	Denizli-Tavas-	1.25 57		P	Pg	01 20 25.5	+0.1
DNIZ				S	Sg	01 20 42.7	+1.0
DNIZ				*i* AML	AML	01 20 46.0	
	comp=N,137nm,0.3s						
DNIZ				*i* AML	AML	01 20 49.0	
	comp=E,201nm,0.4s						
KARP	Karpathos	1.48 198		P	Pn	01 20 27.3	-0.5

TRN ***09*** *01:24:43.3, 11°.12N×62°.35W, h17km, MD3.5*
FUNV ***09*** *01:24:46.2, 11°.13N×62°.25W, h24km, MW3.4*
ISC 09 01:24:43.3±1.3, 11°.12N±0°.04×62°.34W±0°.04, h17km±11km, n15, σ1s87/24, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.98 244		*e*P	Pn	01 25 06.9	+4.6
CRUV				*e*S	Sn	01 25 19.7	+3.9
TRN	Trinidad (W)	1.03 117		*e*P	Pg	01 25 04.2	+0.9
TRN				*e*S	Sn	01 25 17.9	+0.9
TPP	Pointe-a-Pierr	1.18 132		*e*P	Pn	01 25 04.8	-0.2
GRGR	Grenville	1.21 34		*e*P	Pb	01 25 06.2	+0.4
GRGR				*e*S	Sg	01 25 22.8	+0.2
GRW	Mount Saint Ca	1.23 33		*e*P	Pg	01 25 06.8	-0.3
GRW				*e*S	Sg	01 25 23.1	-0.2
GRHS	Sauteurs	1.30 32		*e*P	Pn	01 25 07.0	+0.4
GRHS				*e*S	Sb	01 25 23.7	+0.1
GCMP	Grenada, Carri	1.63 33		*e*P	Pn	01 25 10.6	-0.6
GCMP				*e*S	Sn	01 25 31.9	+0.1
SVB	Belmont	2.39 26		*e*S	Sn	01 25 51.0	+0.4
PCRV	Puerto La Cruz	2.44 248		*e*P	Pb	01 25 25.0	-1.8
PCRV				*e*S	Sn	01 25 53.0	+1.0
MERV	Las Mercedes	4.31 245		*e*S	Sn	01 26 37.8	-0.3
BENV	Beln	5.30 258		*e*P	Pn	01 26 03.1	+1.4
BENV				*e*S	Sn	01 27 01.6	-0.9
CACV	CAICARA DEL OR	5.44 230		*e*P	Pn	01 25 59.6	-4.1
CACV				*e*S	Sn	01 26 54.4	-12
BAUV	El Baul	6.02 249		*e*P	Pn	01 26 11.6	0.0
BAUV				*e*S	Sn	01 27 17.8	-2.2
BAUV	El Baul	6.02 249		*e*P	Pn	01 26 11.8	+0.3
BAUV	El Baul	6.02 249		*e*S	Sn	01 27 18.5	-1.6

WEL ***09*** *01:24:00.41°.76S×174°.33E, h21km, ML4.1, Mw3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14} Nm; M_{rr}0.05; $M_{\theta\theta}$5.32; $M_{\phi\phi}$-5.37; $M_{r\theta}$1.11; $M_{r\phi}$-2.52; $M_{\theta\phi}$1.53; Fault plane solution: $M_0$6.19000×10^{14} NP1: ϕ_s147.00000°, δ74.00000°, λ-6.00000°. NP2:ϕ_s238.00000°, δ85.00000°, λ-164.00000°. Principal axes: T 59.8600, Plg8.0000°, Azm11.0000°; N -64.0200, Plg73.0000°, Azm254.0000°; P 4.1700, Plg15.0000°, Azm104.0000°;*
IDC ***09*** *01:24:54.0±1.8, 41°.64S×174°.15E, h0km, mb3.3/2, mbtmp3.4/4, ML3.4/2 Error ellipse: s-maj=47.1km s-min=26.0km az=135.0*
NOU ***09*** *01:24:56.4, 41°.84S×174°.51E, h14km, MLv4.3/14, Cook Strait, New Zealand*
WEL ***09*** *01:24:57.3±0.4, 42°.5S±3°×17°.4E±°, h12km±4km, M4.1/74, ML4.3/18, MLv4.1/74, Error ellipse: s-maj=0.0km s-min=0.0km az=146.3, confirmed*
ISC 09 01:24:56.6±0.9, 41°.76S±0°.03×174°.36E±0°.03, h23km±6km, n133, σ1s33/139, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.11 278		P	Pb	01 25 01.1	0.0
CMWZ				S	Sb	01 25 04.2	+0.1
BSWZ	Blackbirch Sta	0.36 278		P	Pb	01 25 04.3	-0.2
BSWZ				S	Sb	01 25 09.8	0.0
TUWZ	Tuamarina	0.46 317		P	Pb	01 25 05.3	-0.7
TUWZ				S	Sb	01 25 11.1	-1.2
SNZO	South Karori	0.52 30		P	Pb	01 25 07.7	+0.6
BHW	Baring Head	0.52 47		P	Pb	01 25 08.3	-0.3
TCW	Tory Channel	0.56 354		P	Pb	01 25 07.3	-0.3
WEL	Wellington	0.57 33		P	Pn	01 25 08.7	-0.5
PLWZ	Paliiser	0.70 74		P	Pn	01 25 12.1	+1.1
MSWZ	Moikau Station	0.75 63		P	Pn	01 25 13.2	+1.4
CAW	Cannon Point	0.84 39		P	Pn	01 25 13.5	+0.5
PAWZ	Paruwai Farm	0.89 65		P	Pn	01 25 14.6	+1.0
KHZ	Kahutara	0.89 223		P	Pn	01 25 14.9	+1.2
KHZ	Kahutara	0.89 223		P	Pn	01 25 14.9	+1.2
KHZ				S	Sn	01 25 27.9	+2.0
NNZ	Nelson	0.92 306		P	Pb	01 25 13.6	-0.2
KIW	Kapiti Island	0.99 25		P	Pb	01 25 15.6	+0.5
DUWZ	D'Urville Isla	1.02 341		P	Pb	01 25 15.2	-0.3
MTW	Mount Morrison	1.05 55		P	Pb	01 25 16.8	+0.7
TRWZ	Traveller	1.06 70		P	Pb	01 25 16.8	+0.5
THZ	Tophouse	1.09 270		P	Pb	01 25 17.1	+0.4
OGWZ	Otaki Gorge	1.13 33		P	Pb	01 25 18.1	+0.7
HOWZ	Holdsworth Sta	1.23 46		P	Pb	01 25 19.2	+0.1
MRNZ	Matariki Terra	1.26 286		P	Pb	01 25 20.0	+0.4
TKNZ	Takaka Hill	1.28 304		P	Pb	01 25 20.0	0.0
TMWZ	Te Maipa	1.32 61		P	Pn	01 25 20.3	+0.6
MRZ	Mangatainoka R	1.44 40		P	Pn	01 25 22.1	-0.5
TIWZ	Tintock	1.52 50		P	Pn	01 25 22.7	+0.5
GVZ	Greta Valley S	1.55 219		P	Pn	01 25 23.8	+1.1
CPWZ	Castlepoint	1.63 59		P	Pn	01 25 24.5	+0.8
QRZ	Quartz Range	1.67 304		P	Pb	01 25 26.4	-0.2
QRZ	Quartz Range	1.67 304

MCHZ	McNeill Hill	2.92	38	P	Pn	01 25 41.6	0.0
KATZ	Kakaramea	2.97	21	P	Pb	01 25 45.8	-3.0
WVZ	Waitaha Valley	2.98	243	P	Pn	01 25 43.6	+1.1
RITZ	Rihia Road	3.01	23	P	Pb	01 25 49.9	+0.4
BKZ	Black Stump Fm	3.06	33	P	Pn	01 25 43.6	0.0
BKZ	Black Stump Fm	3.06	33	P	Pn	01 25 43.3	-0.3
RATZ	Rangitukua	3.09	21	P	Pb	01 25 51.2	+0.3
RPZ	Rata Peaks	3.12	230	P	Pn	01 25 44.5	+0.2
RPZ	Rata Peaks	3.12	230	P	Pn	01 25 44.4	+0.1
RPZ	Rata Peaks	3.12	230	Pn	Pn	01 25 44.2	-0.1
	5.2nm,0.3s,baz=60,slow=8.1,SNR=23						
RPZ				Sn	Sn	01 26 19.0	-1.8
	9.4nm,0.3s,baz=56,slow=14,SNR=14						
	9.4nm,0.3s						
ARCZ	Arundel	3.20	226	P	Pn	01 25 45.6	+0.2
ARHZ	Aropaoanui	3.21	40	P	Pn	01 25 44.2	-1.2
WATZ	Wairara	3.23	19	P	Pb	01 25 49.7	-3.5
HIZ	Hauiti	3.27	7	P	Pb	01 25 51.0	-2.8
GCSZ	Gaunt Creek Bo	3.36	241	P	Pn	01 25 49.3	+1.7
MTHZ	Maungataniwha	3.47	34	P	Pn	01 25 48.8	-0.4
ALRZ	Allen Road	3.54	26	P	Pb	01 25 57.2	-1.3
TLZ	Tolley Road	3.55	15	P	Pn	01 25 52.3	+2.1
TMZ	Timaru	3.59	222	P	Pn	01 25 50.7	0.0
PRRZ	Plateau Road	3.61	26	P	Pb	01 25 58.3	-1.4
FOZ	Fox Glacier	3.79	241	P	Pn	01 25 54.4	+0.9
RIGZ	Rimuhau	4.01	42	P	Pn	01 25 55.2	-1.4
LBZ	Lake Benmore	4.03	228	P	Pn	01 25 58.1	+1.3
URZ	Urewera	4.09	32	P	Pn	01 25 58.4	+0.8
URZ	Urewera	4.09	32	P	Pn	01 25 58.3	+0.7
URZ	Urewera	4.09	32	Pn	Pn	01 25 58.1	+0.5
	2.5nm,0.3s,baz=289,slow=12,SNR=6.9						
URZ				Sn	Sn	01 26 46.2	+1.6
	2.4nm,0.3s,baz=283,slow=14,SNR=1.2						
	6.1nm,0.3s						
TOZ	Tahuroa Road	4.12	13	P	Pn	01 26 00.5	+2.4
ODZ	Otahua Downs	4.25	218	P	Pn	01 25 59.6	-0.2
ODZ	Otahua Downs	4.25	218	P	Pn	01 25 59.5	-0.3
RUGZ	Raukumara Rang	4.57	35	P	Pn	01 26 03.0	-1.4
MKAZ	Moumakai	4.70	8	P	Pn	01 26 07.7	+1.7
AWAZ	Awhitu Peninsu	4.70	3	P	Pn	01 26 09.6	+3.7
JCZ	Jackson Bay	4.70	239	P	Pn	01 26 07.9	+1.8
JCZ	Jackson Bay	4.70	239	P	Pn	01 26 06.7	+0.6
HAZ	Te Kaha	4.79	34	P	Pn	01 26 07.8	+0.6
WTAZ	Waiatarua	4.83	2	P	Pn	01 26 11.2	+3.4
WIAZ	Waiheke Island	5.00	7	P	Pn	01 26 12.8	+2.7
KUZ	Kuaotunu	5.12	12	P	Pn	01 26 13.4	+1.6
KUZ	Kuaotunu	5.12	12	P	Pn	01 26 12.6	+0.8
SYZ	Scrubby Hill	6.07	216	P	Pn	01 26 26.3	+1.5
OUZ	Omahuta	6.56	355	P	Pn	01 26 34.2	+2.6
OUZ	Omahuta	6.56	355	P	Pn	01 26 34.7	+3.1
CTZ	Chatham Island	6.93	110	P	Pn	01 26 36.1	-0.5
CTZ	Chatham Island	6.93	110	P	Pn	01 26 36.8	+0.2
ASAR	Alice Springs	38.11	285	P	P	01 32 14.1	+0.3
	0.1nm,0.3s,baz=120,slow=6.4,SNR=2.3						
	0.1nm,0.3s						
WRA	Warramunga Arr	40.19	290	P	P	01 32 29.7	-1.5
	0.1nm,0.3s,baz=126,slow=8.3,SNR=5.0						
	0.1nm,0.3s						
TORD	Torodi Ar. Bea	150.78	195	PKPbc	PKiKP	01 44 48.4	+0.5
	0.2nm,0.4s,baz=163,slow=2.2,SNR=6.6						

RSNC 09 01:30:20.8±0.9, 6°82N×73°15W, h144km±5km, ML2.0, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	188	eP	Pn	01 30 40.2	-0.6
BARC				eS	Sn	01 30 55.1	-0.8
BARC				i		01 30 56.5	
	comp=Z,28nm,0.2s						
BARC	Barichara	0.23	188⇑	eP	Pn	01 30 40.2	-0.6
BARC				eS	Sn	01 30 55.1	-0.8
BARC				i		01 30 56.5	
	comp=Z,28nm,0.2s						
PAMC	Pamplona, Colo	0.68	41	eP	Pn	01 30 43.0	-0.1
PAMC				eS	Sn	01 31 00.1	0.0
PAMC				i		01 31 00.7	
	comp=Z,13nm,0.2s						
PAMC	Pamplona, Colo	0.68	41	eP	Pn	01 30 43.0	-0.1
PAMC				eS	Sn	01 31 00.1	0.0
PAMC				i		01 31 00.7	
	comp=Z,13nm,0.2s						
RUSC	La Rusia	0.93	176	eP	Pn	01 30 44.2	-0.8
RUSC				eS	Sn	01 31 03.3	0.0
RUSC				i		01 31 04.0	
	comp=Z,9.5nm,0.4s						
RUSC	La Rusia	0.93	176	eP	Pn	01 30 44.1	-0.8
RUSC				eS	Sn	01 31 03.3	0.0
RUSC				i		01 31 03.9	
	comp=Z,5.8nm,0.1s						
SPBC	San Pablo de B	1.48	218	eP	Pn	01 30 49.1	-0.7
SPBC				i		01 31 16.2	
	comp=Z,17nm,0.2s						
SPBC	San Pablo de B	1.48	218	eP	Pn	01 30 49.1	-0.7
SPBC				eS	Sn	01 31 11.9	-0.1
SPBC				i		01 31 16.2	
	comp=Z,17nm,0.2s						
ZARC	Zaragoza, Cauc	1.82	292	eP	Pn	01 30 52.3	-1.2
ZARC				eS	Sn	01 31 18.7	+0.2
ZARC				i		01 31 24.3	
	comp=Z,12nm,0.3s						
ZARC	Zaragoza, Cauc	1.82	292	eP	Pn	01 30 54.0	+0.5
ZARC				eS	Sn	01 31 18.7	+0.2
ZARC				i		01 31 24.3	
	comp=Z,11nm,0.3s						
NORC	Norcasia	2.12	234	eP	Pn	01 30 56.6	-0.5
NORC				eS	Sn	01 31 24.4	-0.5
NORC				i		01 31 29.2	
	comp=Z,8.1nm,0.2s						
CHIC	Chingaza	2.25	195	eP	Pn	01 30 58.6	-0.5
CHIC				eS	Sn	01 31 28.1	-0.3
CHIC				i		01 31 34.8	
	comp=Z,4.8nm,0.5s						
CHIC	Chingaza	2.25	195	eP	Pn	01 30 58.5	-0.5
CHIC				eS	Sn	01 31 28.1	-0.3
CHIC				i		01 31 34.8	
	comp=Z,4.3nm,0.5s						
GUY2C	Guyana, Caldas	2.71	234	eP	Pn	01 31 05.3	+0.5
GUY2C				eS	Sn	01 31 40.3	+1.7
GUY2C				i		01 31 49.1	
	comp=Z,4.9nm,0.4s						
GUY2C	Guyana, Caldas	2.71	234	eP	Pn	01 31 05.4	+0.6
GUY2C				eS	Sn	01 31 39.9	+1.3
GUY2C				i		01 31 45.2	
	comp=Z,2.6nm,0.5s						
PRAC	Prado	3.54	209	eP	Pn	01 31 14.8	-0.2
PRAC				eS	Sn	01 31 56.4	-0.5
PRAC				i		01 32 05.1	
	comp=Z,4.5nm,0.4s						

*OSPL **09** 01:32:29.7±0.4, 19°73N×75°70W, h29km±2km, ML2.2*
*SSNC **09** 01:32:30.0±0.8, 19°84N×75°74W, h30km±4km, MD2.5, ML2.1, MW2.3*

ISC 09 01:32:28.2±1.5, 19°80N±0°09×75°74W±0°05, h35km±5km, n7, σ0°60/14, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	Guantanamo Bay	0.60	77	eP	Pb	01 32 40.5	0.0
GTBY				eS	Sb	01 32 48.6	-0.3
GTBY				IAML		01 32 49.7	
	265nm,0.1s						
GTBY				IAML		01 32 49.9	
	comp=Z,270nm,0.1s						
GTBY	Guantanamo Bay	0.60	77	i P	Pb	01 32 40.7	+0.1
GTBY				eS	Sb	01 32 48.7	-0.3
GTBY				IAML		01 32 49.6	
	comp=Z,138nm,0.2s						
MOAC	Moa	1.13	40	eP	Pn	01 32 47.6	+0.1
MOAC				eS	Sn	01 33 00.9	-0.8
MOAC				IAML		01 33 05.2	
	comp=N,20nm,0.3s						
MOAC				IAML		01 33 07.3	
	comp=E,11nm,0.3s						
LMGC	Las Mercedes	1.22	283	eP	Pn	01 32 49.2	+0.4
LMGC				eS	Sn	01 33 04.3	+0.1
LMGC				IAML		01 33 05.2	
	comp=E,54nm,0.1s						
LMGC				IAML		01 33 05.7	
	comp=N,82nm,0.1s						
MASC	Masc	1.46	75	eP	Pn	01 32 52.6	+0.5
MASC				eS	Sn	01 33 10.4	+0.3
MASC				IAML		01 33 13.3	
	comp=E,10nm,0.2s						
MASC				IAML		01 33 14.4	
	comp=N,10nm,0.2s						
MASC	Masc	1.46	75	i P	Pn	01 32 52.6	+0.5
MASC				eS	Sn	01 33 09.8	-0.3
MASC				IAML		01 33 14.4	
	comp=Z,5.6nm,0.9s						
MTDJ	Mount Denham	2.31	228	i P	Pn	01 33 04.5	+0.5
MTDJ				eS	Sn	01 33 29.9	-1.3
MTDJ				IAML		01 33 35.9	
	comp=Z,27nm,2.0s						

IDC 09 01:38:25.4±9.1, 6°57S×153°34E, h0km, mb3.6/3, mbtmp3.6/3, MS3.8/1, Error ellipse: s-maj=265.8km s-min=37.1km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.74	232	P	P	01 43 29.1	-0.3
	1.6nm,0.8s,baz=63,slow=10,SNR=8.1						
	1.6nm,0.8s						
ASAR	Alice Springs	25.26	226	P	P	01 43 53.8	+0.2
	0.7nm,0.7s,baz=58,slow=9.5,SNR=5.5						
	0.7nm,0.7s						
RAO	Raoul Island	35.26	133	LR	LR	01 57 34.1	
	comp=Z,134nm,19.7s,baz=3.0,slow=33						
SONM	Songino Array	68.10	328	P	P	01 49 27.3	0.0
	0.3nm,0.3s,baz=146,slow=8.0,SNR=2.0						
	0.3nm,0.3s						

*DJA **09** 01:39:18.3±0.6, 10°S±5°×15°3E±°, h10km, M4.9/25, mB5.7/7, mb4.7/25, MLv4.8/1, Mw(mB)5.2/7*
*IDC **09** 01:39:19.1±0.8, 10°02S×152°56E, h0km, mb4.3/14, mbtmp4.3/17, ML4.0/3, MS4.1/13, Error ellipse: s-maj=25.2km s-min=15.9km az=92.0*
*NEIC **09** 01:39:22.4±1.3, 10°00S±0°07×152°30E±0°04, h10km±1km, mb4.7/26, Error ellipse: s-maj=12.3km s-min=6.1km az=157.0*
*NOU **09** 01:39:37.6, 10°68S×151°51E, h50km, mb4.8/13, D'Entrecasteaux Islands Region*

ISC 09 01:39:22.1±0.5, 10°07S±0°05×152°25E±0°06, h10km, n115, σ1§71/110, mb4.8/39, MS4.3/14, 2C-2D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.07	277	Pn	Pn	01 40 37.5	-0.6
PMG	Port Moresby	5.07	277	Pn	Pb	01 40 46.0	-4.8
	2.4nm,0.3s,baz=144,slow=15,SNR=34						
PMG				Sn	Sb	01 41 47.4	-4.4
	1.2nm,0.3s,baz=137,slow=19,SNR=1.3						
KRVT	Keravat (AS076	5.73	358	Pn	Pn	01 40 44.2	-3.1
	7.2nm,0.3s,baz=143,slow=20,SNR=1.9						
KRVT				Sn	Sn	01 41 49.2	-4.0
	9.5nm,0.3s,baz=108,slow=20,SNR=7.6						
	24nm,0.4s						
RABL	Rabaul	5.84	359	Pn	Pn	01 40 47.9	-0.9
HNR	Honiara	7.61	86	Pn	Pn	01 41 12.6	-0.5
MANU	Manus Island	9.34	328	Pn	Pn	01 41 37.0	+0.1
TV1H	Townsville Har	10.55	209	P	Pn	01 41 54.1	+0.7
CTA	Charters Tower	11.52	209	Pn	Pn	01 42 06.6	-0.1
	1.4nm,0.3s,baz=32,slow=15,SNR=9.6						
CTA				Sn	Sn	01 44 10.2	-5.3
	0.8nm,0.3s,baz=298,slow=18,SNR=4.7						
CTA				LR	LR	01 46 31.2	
	comp=Z,1μm,18.9s,baz=48,slow=37						
	4.8nm,0.4s						
CTAO	Charters Tower	11.52	209	Pn	Pn	01 42 06.0	-0.8
CTAO	Charters Tower	11.52	209	P	Pn	01 42 07.1	+0.4
EIDS	Eidsvold	15.26	184	Pn	Pn	01 42 59.2	+1.6
EIDS				IAmb	IAmb	01 43 21.6	
	comp=Z,22nm,1.4s						
SMPI	Sarmi	15.67	300	P	P	01 43 08.3	+1.0
	comp=Z,108nm,1.3s,comp=Z,2μm						
DZM	Mont Dzumac	18.10	133		Pn	01 43 33.3	-0.6
DZM	Mont Dzumac	18.10	133	P	Pn	01 43 30.8	-3.0
	comp=Z,0.1nm,0.3s,baz=280,slow=19,SNR=2.6						
	comp=Z,3.4nm,1.0s						
KDU	Kakadu	19.57	260	P	Pn	01 43 52.2	+0.6
WR0	Warramunga Arr	19.71	238	P	Pn	01 43 53.2	-0.1
WR0				IAmb	IAmb	01 43 54.8	
	comp=Z,42nm,1.1s						
WB0	Warramunga Arr	19.75	239	P	Pn	01 43 52.9	-0.8
WB0				IAmb	IAmb	01 43 55.2	
	comp=Z,31nm,1.1s						
WRAB	Tennant Creek	19.86	238	P	P	01 43 53.5	0.0
WRAB				IAmb	IAmb	01 43 57.9	
	comp=Z,31nm,1.1s						
WRAB	Tennant Creek	19.86	238	P	Pn	01 43 55.2	+0.1
WB2	Warramunga Arr	19.86	238	P	P	01 43 54.1	+0.5
WB2				IAmb	IAmb	01 43 56.4	
	comp=Z,34nm,1.1s						
WRA	Warramunga Arr	19.87	238		P	01 43 54.0	+0.4
WRA	Warramunga Arr	19.87	238	P	Pn	01 43 55.2	-0.1
	comp=Z,12nm,0.6s,baz=63,slow=10,SNR=49						
	comp=Z,12nm,0.6s						
MTN	Manton Dam	20.88	260	P	P	01 44 05.0	+0.3
MTN				IAmb	IAmb	01 44 07.1	
	comp=Z,42nm,1.2s						
FAKI	Fak Fak	21.10	288	P	P	01 44 06.9	-0.1
FAKI	Fak Fak	21.10	288	P	P	01 44 11.5	+4.5
	comp=Z,50nm,2.2s,comp=Z,884nm						
AS31	Alice Springs	22.12	230	P	P	01 44 18.3	+0.3
ASAR	Alice Springs	22.12	230	P	P	01 44 17.2	-0.7
ASAR	Alice Springs	22.12	230	P	P	01 44 19.4	+1.4
	comp=Z,6.7nm,0.6s,baz=62,slow=9.6,SNR=43						
	comp=Z,6.7nm,0.6s						
CMSA	Cobar Meteorol	22.21	195	P	P	01 44 21.6	+2.8
SIJI	Sorong	22.78	292	P	P	01 44 25.1	0.0
	comp=Z,5.3nm,0.3s,baz=72,slow=8.5,SNR=7.2						
	comp=Z,5.3nm,0.3s						
SWI	Sorong	22.79	292	P	P	01 44 28.7	+3.5
	comp=Z,15nm,1.0s,comp=Z,2μm						
OOD	Oodnadatta	23.53	219	P	P	01 44 34.7	+2.1
KNRA	Kununurra	23.56	254	P	P	01 44 32.6	-0.3
KNRA				IAmb	IAmb	01 44 41.0	
	comp=Z,20nm,1.1s						
STKA	Stephens Creek	23.84	203	P	P	01 44 35.6	0.0
STKA	Stephens Creek	23.84	203	P	P	01 44 35.5	0.0
	comp=Z,16nm,1.0s,baz=18,slow=12,SNR=13						
	comp=Z,16nm,1.0s						
NFK	Norfolk Island	23.92	144	P	P	01 44 46.9	+11
	comp=Z,220nm,0.9s						
LCRK	Leigh Creek	24.12	211	P	P	01 44 39.8	+1.6
GUMO	Guam	24.62	343	LR	LR	01 52 23.7	
	comp=Z,156nm,21.4s,baz=134,slow=32						
NLAI	Namlea	25.88	283	P	P	01 44 56.6	+2.3
	comp=Z,11nm,1.1s,comp=Z,3μm						
HTT	Hallett	26.28	206	P	P	01 44 59.3	+1.4
MULG	Mulgathing	26.30	218	P	P	01 45 01.2	+3.2
LBMI	Labuha	26.34	289	P	P	01 45 00.4	+1.9
	comp=Z,55nm,1.1s						
FUNA	Funafuti	26.63	89	P	P	01 45 18.0	+17
BBOO	Buckleboo	27.11	211	P	P	01 45 07.6	+2.3
SANI	Sanana	27.29	285	P	P	01 45 07.6	+0.5
	comp=Z,38nm,1.0s,comp=Z,690nm						
FORT	Forrest	30.50	224	P	P	01 45 35.7	+0.2
GTOI	Gorontalo	30.98	288	P	P	01 45 41.9	+2.0
	comp=Z,15nm,1.0s						
KAPI	Kappang	32.60	276	P	P	01 45 54.2	+0.1
TOLI2	Tolitoli	33.24	288	P	P	01 45 59.0	-0.7
TOLI2				IAmb	IAmb	01 46 00.5	
	comp=Z,15nm,1.2s						
MPSI	Mapaga	33.81	286	P	P	01 46 04.4	-0.4
	comp=Z,14nm,0.9s,comp=Z,932nm						
JCJ	Chichijima	38.22	345	LR	LR	02 00 18.7	
	comp=Z,186nm,20.8s,baz=114,slow=33						
SBUM	Sibu	41.76	285	P	P	01 47 12.7	+0.8
KSM	Kuching	43.30	283	P	P	01 47 22.9	-1.6
KSM				IAmb	IAmb	01 47 26.5	
	comp=Z,25nm,1.2s						
CGJI	Cibinong	46.17	270	P	P	01 47 46.6	-0.8
	comp=Z,48nm,1.2s						
JNU	Nakatsue	47.54	336	LR	LR	02 06 33.1	
	comp=Z,120nm,19.9s,baz=39,slow=34						
KSRS	Korea Array	52.49	336	P	P	01 48 35.5	+0.2
	comp=Z,0.7nm,0.3s,baz=148,slow=8.0,SNR=8.7						
	comp=Z,0.7nm,0.3s						
KSAR	Wonju Array Be	52.50	336	P	P	01 48 34.8	-0.6
NJ2	Nanjing	52.67	324	eP	P	01 48 38.9	+2.1
NJ2				pP	pwP	01 48 42.0	-0.6
NJ2				sP	sP	01 48 44.0	+4.0
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,290nm,3.6s						
USA0B	Ussuriysk Arra	57.06	343	P	P	01 49 07.4	-0.9
USA0B				IAmb	IAmb	01 49 16.2	
	comp=Z,7.5nm,1.0s						
USRK	Ussuriysk Ar.	57.06	343	P	P	01 49 07.7	-0.7
USRK	Ussuriysk Ar.	57.06	343	P	P	01 49 06.1	-2.3
	comp=Z,1.1nm,0.5s,baz=150,slow=4.3,SNR=1.9						
	comp=Z,1.1nm,0.5s						
MDJ	Mudanjiang	58.17	341	P	P	01 49 18.6	+2.4
MDJ				pP	pwP	01 49 22.4	+0.4
MDJ				sP	sP	01 49 23.8	+4.4
MDJ				PcP	PcP	01 50 12.1	+4.5
MDJ				PP	PP	01 51 24.8	-0.4
MDJ				ScP	ScP	01 54 11.2	+3.1
MDJ				PcS	PcS	01 54 13.4	+4.5
MDJ				S	S	01 57 16.9	-0.8
MDJ				sS	sS	01 57 28.0	+6.4
MDJ				ScS	ScS	01 59 06.0	0.0
MDJ	Mudanjiang	58.17	341	SS	SS	02 00 58.3	-11
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,140nm,10.8s						
MDJ				LR	LR		
	comp=N,180nm,20.6s						
MDJ				LR	LR		
	comp=E,160nm,22.8s						
MDJ				LR	LR		
	comp=Z,270nm,20.7s						
LYN	LuoYang	58.23	322	⇑P	P	01 49 17.0	+0.2
LYN				pmax	pmax		
	comp=Z,22nm,1.3s						
HNS	HongShan	58.89	325	⇓P	P	01 49 21.0	-0.3
HNS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CN2	Changchun	58.90	338	P	P	01 49 22.2	+0.9
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CRAI	Chiangrai	59.26	301	P	P	01 49 24.0	-0.2
KMI	Kunming	59.59	307	⇑P	P	01 49 28.1	+1.4
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
CMAR	Chiang Mai Arr	59.75	298	P	P	01 49 27.6	-0.1
CMAR	Chiang Mai Arr	59.75	298	P	P	01 49 28.4	+0.7
	comp=Z,1.2nm,0.3s,baz=120,slow=5.1,SNR=16						
	comp=Z,1.2nm,0.3s						
CHTO	Chiang Mai	59.89	299	P	P	01 49 28.6	-0.1
XAN	Xi'an	60.13	319	P	P	01 49 29.7	-0.4
XAN				pmax	pmax		
	comp=Z,33nm,1.3s						
PZH	PanZhiHua	61.05	308	P	P	01 49 38.8	+2.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,4.5s						
XLT	XiLinHaoTe	62.96	331	eP	P	01 49 49.3	+0.3
XLT				pP	pwP	01 49 53.8	-1.1
XLT				sP	sP	01 49 56.8	+4.5
XLT				PP	PP	01 52 11.4	+3.7
XLT				pmax	pmax		
	comp=Z,4.0nm,0.5s						
XLT				pmax	pmax		
	comp=Z,49nm,3.8s						
HEH	HeiHe	63.87	343	eP	P	01 49 54.3	-0.5
HEH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LZH	Lanzhou	64.68	318	eP	P	01 50 01.7	+1.0
LZH				pP	pwP	01 50 06.3	-0.3
LZH				sP	sP	01 50 10.2	+6.3
LZH				pmax	pmax		
	comp=Z,19nm,1.1s						
HIA	Hailar	65.62	337	P	P	01 50 05.7	-0.6
SHL	Shillong	68.58	303	P	P	01 50 25.4	-0.4
ULN	Ulaanbaatar	70.20	329	P	P	01 50 35.1	-0.2
ULN				IAmb	IAmb	01 50 47.7	
	comp=Z,7.1nm,1.4s						
SONM	Songino Array	70.51	329	P	P	01 50 37.5	+0.3
SONM				IAmb	IAmb	01 50 38.9	
	comp=Z,11nm,1.3s						
SONM	Songino Array	70.51	329	P	P	01 50 37.6	+0.4
	comp=Z,3.3nm,1.0s,baz=133,slow=4.1,SNR=14						
	comp=Z,3.3nm,1.0s						
WMQ	Urumqi	79.26	318	eP	P	01 51 30.3	+2.4
WMQ				LR	LR		
	comp=Z,190nm,23.5s						
QSPA	South Pole Qui	79.92	180	P	P	01 51 31.0	-0.1
QSPA				IAmb	IAmb	01 51 40.3	
	comp=Z,8.9nm,1.1s						
QSPA	South Pole Qui	79.92	180	P	P	01 51 30.7	-0.5
	comp=Z,4.0nm,0.8s,baz=6.6,slow=3.3,SNR=7.3						
	comp=Z,4.0nm,0.8s						
KDAK	Kodiak Island	81.10	26	LR	LR	02 20 03.6	
	comp=Z,143nm,21.9s,baz=227,slow=30						
MK31	Makanchi Array	83.94	320	P	P	01 51 51.9	-0.6
MK31				IAmb	IAmb	01 51 54.3	
	comp=Z,9.4nm,1.4s						
MKAR	Makanchi Array	83.94	320	P	P	01 51 51.8	-0.7
MKAR	Makanchi Array	83.94	320	P	P	01 51 52.4	-0.1
	comp=Z,2.8nm,0.8s,baz=96,slow=6.4,SNR=10						
	comp=Z,2.8nm,0.8s						
ZALV	Zalesovo Beam	85.23	327	P	P	01 51 57.2	-1.5
	comp=Z,4.9nm,0.8s,baz=117,slow=5.2,SNR=14						
	comp=Z,4.9nm,0.8s						
ILAR	Eielson Array	87.22	22	P	P	01 52 05.7	-2.7
	comp=Z,1.6nm,0.9s,baz=264,slow=4.8,SNR=10.0						
ILAR				LR	LR	02 25 21.2	
	comp=Z,97nm,20.0s,baz=234,slow=32						
	comp=Z,1.6nm,0.9s						
KURBB	Kurchatov Arra	87.60	322	P	P	01 52 09.5	-1.1
	comp=Z,0.5nm,0.7s,baz=111,slow=3.7,SNR=6.0						
	comp=Z,0.5nm,0.7s						
ELIB	Princess Elisa	91.59	194	dx	x	01 52 56.8	
DLBC	Dease Lake	92.16	31	LR	LR	02 28 07.6	
	comp=Z,77nm,20.3s,baz=9.0,slow=32						
RPN	Rapa Nui	92.84	118	LR	LR	02 24 00.2	
	comp=Z,240nm,21.7s,baz=6.0,slow=29						
YBH	Yreka Blue Hor	92.95	48	LR	LR	02 26 57.6	
	comp=Z,105nm,21.8s,baz=282,slow=31						
BVAR	Borovoye Array	93.11	323	P	P	01 52 34.5	-1.7
	comp=Z,0.7nm,0.6s,baz=120,slow=5.2,SNR=2.6						
	comp=Z,0.7nm,0.6s						
INK	Inuvik	93.54	21	LR	LR	02 29 11.0	
	comp=Z,114nm,20.0s,baz=191,slow=32						
PFO	Pinyon Flats O	96.56	57	LR	LR	02 31 02.9	
	comp=Z,51nm,18.4s,baz=343,slow=32						
SNAA	Sanae	96.76	188	LR	LR	02 35 01.4	
	comp=Z,121nm,21.6s,baz=196,slow=34						
NEW	Newport	97.84	42	LR	LR	02 29 42.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.77**	**278**	Pn	**Pn**	**01 42 13.9**	**0.0**
PB01				Sn	**Sn**	**01 42 28.6**	**-0.5**
PB01	**IPOC Station P**	**0.77**	**278**	⇓*i*P	**Pn**	**01 42 14.0**	**+0.1**
PB01				*e*S	**Sn**	**01 42 28.0**	**-1.2**
PB01				IAML		01 42 29.9	
	comp=N,18μm,0.3s						
PB01	**IPOC Station P**	**0.77**	**278**	*e*P	**Pn**	**01 42 14.0**	**+0.1**
PB01				*e*S	**Sn**	**01 42 29.6**	**+0.4**
PB01				IAML		01 42 30.6	
	comp=Z,6μm,0.3s						
PB09	**IPOC Station P**	**0.83**	**220**	Pn	**Pn**	**01 42 15.0**	**+0.5**
PB09				Sn	**Sn**	**01 42 29.9**	**-0.3**
PB09	**IPOC Station P**	**0.83**	**220**	⇑*i*P	**Pn**	**01 42 14.9**	**+0.4**
PB09				*i*S	**Sn**	**01 42 29.9**	**-0.3**
PB09				IAML		01 42 31.2	
	comp=N,17μm,0.5s						
PB09	**IPOC Station P**	**0.83**	**220**	*e*P	**Pn**	**01 42 14.9**	**+0.4**
PB09				*e*S	**Sn**	**01 42 30.9**	**+0.7**
PB09				IAML		01 42 31.3	
	comp=Z,7μm,0.4s						
PB08	**IPOC Station P**	**1.11**	**336**	Pn	**Pn**	**01 42 18.6**	**+1.2**
PB08				Sn	**Sn**	**01 42 36.4**	**+1.1**
PB08	**IPOC Station P**	**1.11**	**336**	⇓*e*P	**Pn**	**01 42 18.6**	**+1.2**
PB08				*e*S	**Sn**	**01 42 36.3**	**+1.0**
PB08				IAML		01 42 38.0	
	comp=E,8μm,0.6s						
PB08	**IPOC Station P**	**1.11**	**336**	*e*P	**Pn**	**01 42 18.4**	**+0.9**
PB08				*e*S	**Sn**	**01 42 37.4**	**+2.0**
PB08				*e*S		01 42 37.4	
PB08				IAML		01 42 38.9	
	comp=Z,5μm,0.3s						
PB02	**IPOC Station P**	**1.15**	**262**	Pn	**Pn**	**01 42 17.4**	**-0.2**
PB02				Sn	**Sn**	**01 42 34.8**	**-0.8**
PB02	**IPOC Station P**	**1.15**	**262**	⇓*i*P	**Pn**	**01 42 17.7**	**+0.1**
PB02				*i*S	**Sn**	**01 42 35.0**	**-0.6**
PB02				IAML		01 42 37.6	
	comp=E,22μm,0.4s						
PB02	**IPOC Station P**	**1.15**	**262**	*e*P	**Pn**	**01 42 17.4**	**-0.2**
PB02				*e*S	**Sn**	**01 42 35.3**	**-0.3**
PB02				IAML		01 42 36.6	
	comp=Z,17μm,0.2s						
PB07	**IPOC Station P**	**1.26**	**243**	Sn	**Sn**	**01 42 36.5**	**-1.3**
PB07	**IPOC Station P**	**1.26**	**243**	⇓*i*P	**Pn**	**01 42 18.8**	**-0.1**
PB07				*e*S	**Sn**	**01 42 36.8**	**-1.1**
PB07				IAML		01 42 38.1	
	comp=N,16μm,0.3s						
PB07	**IPOC Station P**	**1.26**	**243**	*e*P	**Pn**	**01 42 18.6**	**-0.3**
PB07				*e*S	**Sn**	**01 42 37.4**	**-0.5**
PB07				IAML		01 42 43.3	
	comp=Z,9μm,0.4s						
PATCX	**Punta Patache**	**1.42**	**283**	Pn	**Pn**	**01 42 20.6**	**+0.1**
PATCX				Sn	**Sn**	**01 42 40.0**	**-0.8**
PATCX	**Punta Patache**	**1.42**	**283**	⇓*i*P	**Pn**	**01 42 20.8**	**+0.3**
PATCX				*e*S	**Sn**	**01 42 40.4**	**-0.4**
PATCX				IAML		01 42 43.1	
	comp=E,7μm,0.5s						
PATCX	**Punta Patache**	**1.42**	**283**	*e*P	**Pn**	**01 42 20.8**	**+0.3**
PATCX				*e*S	**Sn**	**01 42 41.7**	**+0.9**
PATCX				IAML		01 42 43.1	
	comp=Z,3μm,0.4s						
HMBC	**Humberstone**	**1.44**	**307**	⇓*i*P	**Pn**	**01 42 20.8**	**+0.1**
HMBC				*e*S	**Sn**	**01 42 41.0**	**-0.2**
HMBC				IAML		01 42 45.6	
	comp=E,7μm,0.7s						
HMBC	**Humberstone**	**1.44**	**307**	*e*P	**Pn**	**01 42 20.8**	**+0.1**
HMBC				*e*S	**Sn**	**01 42 41.5**	**+0.4**
HMBC				IAML		01 42 42.6	
	comp=Z,5μm,0.4s						
LVC	**Limon Verde**	**1.46**	**189**	Pn	**Pn**	**01 42 21.4**	**+0.2**
LVC	**Limon Verde**	**1.46**	**189**	*e*P	**Pn**	**01 42 20.9**	**-0.3**
LVC	**Limon Verde**	**1.46**	**189**	P	**Pn**	**01 42 21.3**	**0.0**
	comp=Z,2μm,0.4s,baz=15,slow=10,SNR=2872						
LVC				S	**Sn**	**01 42 41.7**	**-0.4**
	comp=Z,725nm,0.3s,baz=97,slow=22,SNR=28						
LVC	**Limon Verde**	**1.46**	**189**	⇑*e*P	**Pn**	**01 42 20.8**	**-0.3**
LVC				*i*S	**Sn**	**01 42 41.9**	**-0.2**
LVC				IAML		01 42 42.8	
	comp=Z,10μm,0.3s						
LVC	**Limon Verde**	**1.46**	**189**	*e*P	**Pn**	**01 42 21.4**	**+0.2**
LVC				*e*S	**Sn**	**01 42 46.5**	**+4.4**
TA01	**Diego Aracena**	**1.53**	**292**	Pn	**Pn**	**01 42 21.5**	**-0.1**
TA01	**Diego Aracena**	**1.53**	**292**	⇓*i*P	**Pn**	**01 42 21.6**	**-0.1**
TA01				*e*S	**Sn**	**01 42 41.6**	**-1.2**
TA01				IAML		01 42 44.6	
	comp=N,3μm,0.2s						
TA01	**Diego Aracena**	**1.53**	**292**	*e*P	**Pn**	**01 42 21.6**	**0.0**
TA01				*e*S	**Sn**	**01 42 44.8**	**+2.0**
GO01	**Chusmiza**	**1.56**	**342**	⇓*i*P	**Pn**	**01 42 23.5**	**+1.0**
GO01				*e*S	**Sn**	**01 42 45.2**	**+0.9**
GO01				IAML		01 42 48.3	
	comp=N,12μm,0.3s						
GO01	**Chusmiza**	**1.56**	**342**	*e*P	**Pn**	**01 42 23.6**	**+1.0**
GO01				*e*S	**Sn**	**01 42 46.4**	**+2.0**
GO01				IAML		01 42 48.4	
	comp=Z,3μm,0.6s						
TA02	**Huaiquique**	**1.63**	**303**	Pn	**Pn**	**01 42 22.6**	**-0.1**
TA02	**Huaiquique**	**1.63**	**303**	*e*P	**Pn**	**01 42 22.6**	**-0.1**
TA02				*e*S	**Sn**	**01 42 43.1**	**-1.8**
TA02				IAML		01 42 49.7	
	comp=N,5μm,0.1s						
TA02	**Huaiquique**	**1.63**	**303**	*e*P	**Pn**	**01 42 22.8**	**+0.1**
TA02				*e*S	**Sn**	**01 42 48.2**	**+3.3**
TA02				IAML		01 42 52.0	
	comp=Z,2μm,0.1s						
PB06	**IPOC Station P**	**1.75**	**208**	Pn	**Pn**	**01 42 24.3**	**-0.1**
PB06	**IPOC Station P**	**1.75**	**208**	⇑*i*P	**Pn**	**01 42 24.4**	**0.0**
PB06				*e*S	**Sn**	**01 42 46.8**	**-1.0**
PB06				IAML		01 42 47.9	
	comp=E,5μm,0.6s						
PB06	**IPOC Station P**	**1.75**	**208**	*e*P	**Pn**	**01 42 24.3**	**-0.1**
PB06				*e*P		01 42 24.4	
PB06				*e*S	**Sn**	**01 42 47.4**	**-0.4**
PB06				IAML		01 42 48.0	
	comp=Z,2μm,0.6s						
PB04	**IPOC Station P**	**1.80**	**229**	Pn	**Pn**	**01 42 24.4**	**-0.7**
PB04	**IPOC Station P**	**1.80**	**229**	⇑*i*P	**Pn**	**01 42 24.6**	**-0.5**
PB04				*i*S	**Sn**	**01 42 47.0**	**-2.0**
PB04				IAML		01 42 48.7	
	comp=E,5μm,0.5s						
PB04	**IPOC Station P**	**1.80**	**229**	*e*P	**Pn**	**01 42 24.4**	**-0.7**
PB04				*e*S	**Sn**	**01 42 48.0**	**-0.9**
PB04				IAML		01 42 50.1	
	comp=Z,3μm,0.2s						
AF01	**San Pedro de A**	**1.84**	**166**	Pn	**Pn**	**01 42 26.5**	**+0.8**
AF01	**San Pedro de A**	**1.84**	**166**	⇑*i*P	**Pn**	**01 42 26.9**	**+1.2**
AF01				*e*S	**Sn**	**01 42 49.5**	**-0.5**
AF01				IAML		01 42 55.5	
	comp=E,4μm,0.6s						
PB15	**IPOC Station P**	**2.17**	**200**	Pn	**Pn**	**01 42 29.3**	**-0.4**
PB15	**IPOC Station P**	**2.17**	**200**	⇑*i*P	**Pn**	**01 42 29.5**	**-0.2**
PB15				*i*S	**Sn**	**01 42 56.6**	**-0.5**
PB15	**IPOC Station P**	**2.17**	**200**	*e*P	**Pn**	**01 42 29.5**	**-0.2**
PB15				*e*S	**Sn**	**01 42 58.6**	**+1.5**
PB15				IAML		01 43 10.2	
	comp=Z,5μm,0.3s						
PB16	**IPOC Station P**	**2.92**	**344**	Pn	**Pn**	**01 42 41.1**	**+1.5**
PB16	**IPOC Station P**	**2.92**	**344**	*e*P	**Pn**	**01 42 40.8**	**+1.2**
PB16				*i*S	**Sn**	**01 43 11.3**	**-3.5**
PB16				IAML		01 43 24.0	
	comp=N,1μm,0.4s						
PB16	**IPOC Station P**	**2.92**	**344**	*e*P	**Pn**	**01 42 41.0**	**+1.4**
PB16				*e*S	**Sn**	**01 43 17.5**	**+2.7**
PB16				IAML		01 43 20.9	
	comp=Z,880nm,0.4s						
PB12	**IPOC Station P**	**2.97**	**328**	Pn	**Pn**	**01 42 39.0**	**-0.9**
PB12	**IPOC Station P**	**2.97**	**328**	⇓*i*P	**Pn**	**01 42 38.9**	**-0.9**
PB12				*i*S	**Sn**	**01 43 13.8**	**-1.6**
PB12				IAML		01 43 23.4	
	comp=N,2μm,0.5s						
PB12	**IPOC Station P**	**2.97**	**328**	*e*P	**Pn**	**01 42 39.0**	**-0.9**
PB12				*e*S	**Sn**	**01 43 13.7**	**-1.6**
PB12				IAML		01 43 20.0	
	comp=Z,1μm,0.3s						
YJA	**Yavi**	**3.11**	**110**	*e*P	**Pn**	**01 42 44.1**	**+2.2**
AP01	**Chacalluta**	**3.19**	**330**	Pn	**Pn**	**01 42 43.8**	**+1.2**
AP01	**Chacalluta**	**3.19**	**330**	*e*P	**Pn**	**01 42 42.8**	**+0.2**
AP01				*i*S	**Sn**	**01 43 18.3**	**-1.9**
PB18	**Visviri**	**3.63**	**348**	Pn	**Pn**	**01 42 50.8**	**+1.8**
HJA	**Humahuaca**	**3.65**	**125**	*e*P	**Pn**	**01 42 51.0**	**+2.0**
PB14	**IPOC Station P**	**3.80**	**205**	Pn	**Pn**	**01 42 48.9**	**-2.1**
GO02	**Mina Guanaco**	**4.07**	**192**	Pn	**Pn**	**01 42 53.1**	**-1.5**
GO02	**Mina Guanaco**	**4.07**	**192**	⇑*e*P	**Pn**	**01 42 53.1**	**-1.5**
GO02				*e*S	**Sn**	**01 43 39.5**	**-2.2**
LPAZ	**La Paz**	**4.87**	**6**	Pn	**Pn**	**01 43 06.5**	**+0.8**
LPAZ	**La Paz**	**4.87**	**6**	*e*P	**Pn**	**01 43 08.6**	**+2.9**
AC01	**Pan de Azucar**	**5.27**	**199**	Pn	**Pn**	**01 43 07.0**	**-3.4**
AC02	**Maricunga**	**5.67**	**184**	Pn	**Pn**	**01 43 14.4**	**-1.7**
AC06	**Mina Casimiro**	**6.36**	**194**	Pn	**Pn**	**01 43 21.2**	**-3.9**
GO03	**Copiap**	**6.56**	**192**	Pn	**Pn**	**01 43 23.9**	**-4.0**
AC04	**Llanos de Chal**	**7.35**	**197**	Pn	Pn	01 43 33.1	-5.3
AC05	**El Transito**	**7.78**	**190**	Pn	**Pn**	**01 43 40.4**	**-4.0**
LCO	**Las Campanas**	**8.03**	**193**	Pn	Pn	01 43 42.7	-5.2
SIV	**San Ignacio**	**8.85**	**56**	P	**Pn**	**01 43 56.6**	**-2.2**
	comp=Z,20nm,0.3s,baz=247,slow=11,SNR=262						
SIV				S	**Sn**	**01 45 29.6**	**-7.3**
	comp=Z,8.5nm,0.9s,baz=305,slow=20,SNR=2.9						
CO01	**Juntas del Tor**	**8.87**	**188**	Pn	**Pn**	**01 43 55.8**	**-3.5**
CO05	**La Serena**	**9.02**	**194**	Pn	Pn	01 43 54.8	-6.2
GO04	**Tololo Observa**	**9.18**	**192**	Pn	Pn	01 43 57.9	-5.4
CO03	**El Pedregal**	**9.81**	**190**	Pn	Pn	01 44 06.3	-5.4
CO06	**Fray Jorge**	**9.84**	**195**	Pn	Pn	01 44 05.2	-6.8
CO02	**Combarbal**	**10.22**	**191**	Pn	Pn	01 44 10.7	-6.6
ZON	**Zonda**	**10.35**	**180**	Pn	**Pn**	**01 44 15.1**	**-3.8**
CFA	**Coronel Fontan**	**10.41**	**178**	P	**Pn**	**01 44 15.5**	**-4.3**
	comp=Z,4.7nm,0.3s,baz=15,slow=17,SNR=41						
CFA				S	Sn	01 46 02.8	-12
	comp=Z,5.0nm,0.3s,baz=311,slow=20,SNR=4.6						
CPUP	**Villa Florida**	**11.59**	**119**	Pn	**Pn**	**01 44 32.4**	**-3.2**
CPUP	**Villa Florida**	**11.59**	**119**	*e*P	**Pn**	**01 44 36.5**	**+1.0**
CPUP	**Villa Florida**	**11.59**	**119**	P	**Pn**	**01 44 32.6**	**-2.9**
	comp=Z,5.5nm,0.6s,baz=294,slow=12,SNR=16						
VA03	**San Esteban**	**11.68**	**188**	Pn	Pn	01 44 30.6	-6.2
ANTJ	**Antonio Joao (**	**11.82**	**96**	*e*P	**Pn**	**01 44 37.4**	**-1.2**
ROC1	**El Roble**	**11.95**	**190**	Pn	Pn	01 44 34.1	-6.4
MT02	**Curacav**	**12.25**	**190**	Pn	Pn	01 44 36.6	-7.5
MT09	**Talagante**	**12.73**	**189**	Pn	Pn	01 44 43.5	-7.1
AMBA	**Amambai (Brazi**	**12.81**	**100**	*e*P	**Pn**	**01 44 49.8**	**-1.7**
MT01	**Popeta**	**12.86**	**190**	Pn	Pn	01 44 44.9	-7.2
BO04	**La Punta**	**12.89**	**187**	Pn	Pn	01 44 45.6	-7.0
SAML	**Samuel**	**13.24**	**24**	Pn	**Pn**	**01 44 55.1**	**-2.1**
SAML	**Samuel**	**13.24**	**24**	⇓*e*P	**Pn**	**01 44 57.5**	**+0.3**
SAML	**Samuel**	**13.24**	**24**	*e*P	**Pn**	**01 44 55.0**	**-2.1**
BO01	**Tunca**	**13.35**	**189**	Pn	**Pn**	**01 44 56.3**	**-2.2**
MCR1	**Marechal Candi**	**13.89**	**106**	*e*P	**Pn**	**01 45 04.7**	**-0.8**
RPRD	**Ribas do Rio P**	**14.02**	**90**	*e*P	**Pn**	**01 45 07.2**	**+0.1**
ML02	**Panimavida**	**14.75**	**189**	Pn	**Pn**	**01 45 14.8**	**-1.5**
FRBT	**Francisco Belt**	**15.09**	**112**	*e*P	**Pn**	**01 45 21.0**	**+0.3**
RODS	**Rosario do Sul**	**15.19**	**130**	*e*P	**Pn**	**01 45 22.1**	**+0.3**
ALGR	**Alto Alegre (B**	**16.08**	**121**	*e*P	**P**	**01 45 33.8**	**-0.3**
TRQA	**Tornquist**	**17.81**	**162**	P	**P**	**01 45 51.4**	**-1.6**
PLCA	**Paso Flores**	**19.58**	**184**		**P**	**01 46 12.8**	**+0.6**
PLCA	**Paso Flores**	**19.58**	**184**	*e*P	**P**	**01 46 13.1**	**+0.9**
PLCA	**Paso Flores**	**19.58**	**184**	P	**P**	**01 46 12.9**	**+0.6**
	comp=Z,7.7nm,0.8s,baz=6.5,slow=11,SNR=13						
MCRA	**Macar, Loja**	**19.97**	**325**	P	**P**	**01 46 18.1**	**+1.4**
MCRA	**Macar, Loja**	**19.97**	**325**	*e*P	**Pn**	**01 46 19.0**	**-0.6**
BOSC	**San Juan Bosco**	**20.29**	**331**	P	**P**	**01 46 21.2**	**+0.9**
BDFB	**Brasilia**	**20.35**	**78**	P	**P**	**01 46 20.0**	**-0.9**
BDFB				IAmb	IAmb	01 46 24.3	
	comp=Z,21nm,0.5s						
BDFB	**Brasilia**	**20.35**	**78**	P	**P**	**01 46 20.5**	**-0.4**
	comp=Z,19nm,0.5s,baz=250,slow=9.8,SNR=58						
	comp=Z,19nm,0.5s						
COHC	**Cochancay**	**21.25**	**330**	P	**P**	**01 46 32.9**	**+2.6**
COHC	**Cochancay**	**21.25**	**330**	*e*P	**P**	**01 46 34.6**	**+4.3**
PIAT	**Ana Tenorio**	**22.12**	**334**	*e*P	P	01 46 50.2	+10
SLOR	**San Lorenzo -**	**22.46**	**333**	P	**P**	**01 46 44.4**	**+0.9**
SLOR				IAmb	IAmb	01 47 00.8	
	comp=Z,37nm,0.9s						
IMBA	**Imbabura, San**	**23.25**	**335**	P	**P**	**01 46 53.0**	**+1.9**
OTAV	**Otavalo**	**23.32**	**335**	P	**P**	**01 46 52.6**	**+0.9**
OTAV	**Otavalo**	**23.32**	**335**	*e*P	**P**	**01 46 54.6**	**+2.9**
OTAV	**Otavalo**	**23.32**	**335**	*e*P	**P**	**01 46 51.6**	**-0.1**
TULM	**Tulcn-Chalpat**	**23.50**	**337**	P	**P**	**01 46 53.9**	**+0.5**
FLOC	**Florencia**	**23.61**	**342**	*e*P	**P**	**01 46 55.2**	**+1.3**
GCUF	**Volcan Galeras**	**23.81**	**338**	*e*P	**P**	**01 47 00.7**	**+4.4**
BBAC	**Balboa, Cauca**	**24.52**	**339**	*e*P	**P**	**01 47 06.4**	**+4.1**
POPC	**Popayan, Colom**	**24.82**	**341**	*e*P	**P**	**01 47 07.2**	**+2.1**
JAMC	**Jamundi, Valle**	**25.46**	**341**	*e*P	**P**	**01 47 12.3**	**+1.4**
ORTC	**Ortega, Tolima**	**25.73**	**345**	*e*P	**P**	**01 47 14.2**	**+1.0**
YOTC	**Yotoco, Valle**	**26.09**	**342**	*e*P	**P**	**01 47 18.5**	**+2.0**
CHIC	**Chingaza**	**26.11**	**348**	*e*P	**P**	**01 47 17.5**	**+0.6**
ROSC	**El Rosal**	**26.43**	**347**	P	**P**	**01 47 20.9**	**+1.2**
	comp=Z,3.7nm,0.4s,baz=228,slow=17,SNR=2.2						
	comp=Z,3.7nm,0.4s						
PLMC	**San Jos del P**	**26.96**	**343**	*e*P	**P**	**01 47 25.3**	**+1.1**
GUY2C	**Guyana, Caldas**	**27.03**	**345**	*e*P	**P**	**01 47 26.2**	**+0.9**
SPBC	**San Pablo de B**	**27.17**	**348**	*e*P	**P**	**01 47 26.6**	**+0.6**
RUSC	**La Rusia**	**27.23**	**350**	*e*P	**P**	**01 47 27.8**	**+0.7**
NORC	**Norcasia**	**27.24**	**346**	*e*P	**P**	**01 47 27.8**	**+1.1**
BARC	**Barichara**	**27.93**	**350**	*e*P	**P**	**01 47 33.1**	**0.0**
ZARC	**Zaragoza, Cauc**	**29.11**	**347**	*e*P	**P**	**01 47 41.9**	**-1.4**
SDV	**Santo Domingo**	**29.92**	**356**	*e*P	**P**	**01 47 49.7**	**-0.9**
BAUV	**El Baul**	**29.92**	**1**	P	**P**	**01 47 49.5**	**-0.9**
SJCC	**San Jacinto, C**	**31.52**	**348**	*e*P	**P**	**01 48 06.2**	**+1.7**
HDC	**Heredia**	**34.48**	**332**	*e*P	**P**	**01 48 29.9**	**-0.5**
FDF	**Fort de France**	**36.43**	**12**	P	**P**	**01 48 46.9**	**0.0**
SVN	**Savane Anatole**	**36.53**	**12**	P	**P**	**01 48 47.2**	**-0.6**
SJG	**San Juan**	**39.11**	**4**	P	**P**	**01 49 07.8**	**-1.5**
SJG				IAmb	IAmb	01 49 11.3	
	comp=Z,13nm,0.8s						
PMSA	**Palmer Station**	**43.70**	**177**	*e*P	**P**	**01 49 48.0**	**+1.7**
SMAI	**San Martin Ant**	**46.98**	**179**	P	**P**	**01 50 13.4**	**+1.3**
656A	**Willston**	**51.98**	**345**	P	**P**	**01 50 50.7**	**+0.1**
Y58A	**Scranton**	**55.75**	**349**	P	**P**	**01 51 18.7**	**+0.8**
JSC	**Jenkinsville**	**56.42**	**347**	P	**P**	**01 51 23.4**	**+0.8**
JSC				IAmb	IAmb	01 51 43.4	
	comp=Z,14nm,1.2s						
BIRD	**Birdtown, Kers**	**56.62**	**348**	P	**P**	**01 51 24.3**	**+0.2**
W57A	**Gilead**	**57.02**	**349**	P	**P**	**01 51 27.7**	**+0.8**
Y49A	**Blount Mountai**	**57.26**	**342**	P	**P**	**01 51 28.3**	**-0.4**
Y49A				IAmb	IAmb	01 52 02.4	
	comp=Z,10nm,1.1s						
V58A	**Windy Hill, Pi**	**57.50**	**350**	P	**P**	**01 51 30.4**	**+0.1**
V58A				IAmb	IAmb	01 52 02.4	
	comp=Z,14nm,1.2s						
X48A	**Hartselle**	**58.00**	**342**	P	**P**	**01 51 33.4**	**-0.3**
X48A				IAmb	IAmb	01 52 06.0	
	comp=Z,9.7nm,1.1s						
V53A	**Saluda**	**58.09**	**346**	P	**P**	**01 51 34.9**	**+0.5**
V53A				IAmb	IAmb	01 51 38.0	
	comp=Z,9.6nm,1.4s						
TKL	**Tuckaleechee C**	**58.29**	**346**	P	**P**	**01 51 34.4**	**-1.4**
TKL				IAmb	IAmb	01 51 36.4	
	comp=Z,6.6nm,0.9s						
SWET	**Sewanee**	**58.41**	**343**	P	**P**	**01 51 36.2**	**-0.5**
SWET				IAmb	IAmb	01 51 37.1	
	comp=Z,7.4nm,0.5s						
T59A	**Double "B" Far**	**58.42**	**352**	P	**P**	**01 51 34.9**	**-1.7**
T59A				IAmb	IAmb	01 52 08.9	
	comp=Z,8.2nm,0.9s						
V52A	**Sevierville**	**58.43**	**346**	P	**P**	**01 51 36.5**	**-0.3**
U54A	**Nelsons Funny**	**58.70**	**348**	P	**P**	**01 51 38.7**	**0.0**
U54A				IAmb	IAmb	01 51 39.9	
	comp=Z,8.1nm,0.8s						
T57A	**Hurt**	**58.70**	**350**	P	**P**	**01 51 38.2**	**-0.4**
T57A				IAmb	IAmb	01 52 11.1	
	comp=Z,15nm,1.2s						
BLA	**Blacksburg**	**59.10**	**349**	P	**P**	**01 51 42.2**	**+0.7**
V48A	**Smith Brothers**	**59.14**	**343**	P	**P**	**01 51 41.6**	**-0.1**
V48A				IAmb	IAmb	01 52 13.6	
	comp=Z,14nm,1.3s						
WLAR	**White Oak Lake**	**59.31**	**336**	P	**P**	**01 51 43.5**	**+0.6**
CLTN	**Cedars of Leba**	**59.34**	**343**	P	**P**	**01 51 43.0**	**0.0**
CLTN				IAmb	IAmb	01 51 44.1	
	comp=Z,5.6nm,0.8s						
S57A	**Dark Hollow, R**	**59.40**	**351**	P	**P**	**01 51 44.5**	**+1.1**
S57A				IAmb	IAmb	01 52 26.8	
	comp=Z,9.1nm,1.2s						
WVT	**Waverly**	**59.79**	**342**	P	**P**	**01 51 45.7**	**-0.5**
WVT				IAmb	IAmb	01 51 46.6	
	comp=Z,7.2nm,0.8s						
S54A	**Dingess, Beckl**	**59.84**	**348**	P	**P**	**01 51 47.1**	**+0.6**
T50A	**Nancy**	**59.84**	**345**	P	**P**	**01 51 45.5**	**-0.9**
MIAR	**Mount Ida**	**60.25**	**336**	P	**P**	**01 51 49.5**	**+0.2**
MIAR				IAmb	IAmb	01 52 14.0	
	comp=Z,8.4nm,1.2s						
VNA3	**Neumayer Olymp**	**60.33**	**161**	⇓P	**P**	**01 51 50.3**	**+0.9**
	comp=Z,4.8nm,0.7s						
TXAR	**Lajitas Array**	**60.48**	**325**	P	**P**	**01 51 49.0**	**-2.1**
TXAR	**Lajitas Array**	**60.48**	**325**	P	**P**	**01 51 51.8**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=138,slow=7.7,SNR=3.9						
TXAR				pP	**pP**	**01 52 20.6**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=152,slow=8.2,SNR=4.7						
	comp=Z,0.2nm,0.6s						
VNA1	**Neumayer--Stat**	**60.53**	**161**	⇓P	**P**	**01 51 52.1**	**+1.4**
	comp=Z,4.7nm,0.8s						
LCAR	**Lake Charles**	**60.77**	**339**	P	**P**	**01 51 52.6**	**-0.1**
Q54A	**Coxs Mills**	**60.90**	**349**	P	**P**	**01 51 54.0**	**+0.4**
Q54A				IAmb	IAmb	01 51 54.6	
	comp=Z,8.0nm,0.8s						
MCWV	**Mont Chateau**	**61.39**	**350**	P	**P**	**01 51 57.6**	**+0.7**
P53A	**Whipple**	**61.49**	**349**	P	**P**	**01 51 57.3**	**-0.3**
S44A	**Carbondale**	**61.66**	**342**	P	**P**	**01 51 58.9**	**+0.1**
S44A				IAmb	IAmb	01 51 59.8	
	comp=Z,6.8nm,0.8s						
P52A	**Corning**	**61.77**	**348**	P	**P**	**01 51 59.3**	**-0.2**
P52A				IAmb	IAmb	01 52 01.3	
	comp=Z,22nm,1.4s						
MGMO	**Mountain Grove**	**62.12**	**339**	P	**P**	**01 52 01.3**	**-0.6**
MGMO				IAmb	IAmb	01 52 34.2	
	comp=Z,14nm,1.5s						
O52A	**Adamsville**	**62.18**	**349**	P	**P**	**01 52 02.3**	**+0.1**
O52A				IAmb	IAmb	01 52 07.6	
	comp=Z,19nm,1.4s						
O53A	**New Philadelph**	**62.20**	**349**	P	**P**	**01 52 02.3**	**0.0**
425A	**Indio Mountain**	**62.32**	**325**	P	**P**	**01 52 03.3**	**-0.2**
SNAA	**Sanae**	**62.53**	**161**	P	**P**	**01 52 04.8**	**+0.5**
SNAA				IAmb	IAmb	01 52 06.0	
	comp=Z,5.5nm,0.8s						
SNAA	**Sanae**	**62.53**	**161**	P	**P**	**01 52 05.3**	**+1.0**
	comp=Z,119nm,0.7s						
SNAA	**Sanae**	**62.53**	**161**	P	**P**	**01 52 04.8**	**+0.5**
	comp=Z,4.1nm,0.6s,baz=283,slow=7.9,SNR=24						
	comp=Z,4.1nm,0.6s						
CCM	**Cathedral Cave**	**62.61**	**340**	P	**P**	**01 52 05.4**	**+0.3**
CCM				IAmb	IAmb	01 52 06.1	
	comp=Z,6.3nm,0.8s						
M57A	**Sunshine Farm,**	**62.67**	**353**	P	**P**	**01 52 06.3**	**+0.9**
M57A				IAmb	IAmb	01 52 10.0	
	comp=Z,11nm,1.1s						
BRYW	**Bryant College**	**62.81**	**358**	P	**P**	**01 52 07.0**	**+0.6**
S39A	**Bolivar**	**62.97**	**338**	P	**P**	**01 52 07.5**	**0.0**
S39A				IAmb	IAmb	01 52 08.7	
	comp=Z,7.5nm,0.7s						
R40A	**Maddies Statio**	**63.15**	**339**	P	**P**	**01 52 08.0**	**-0.7**
R40A				IAmb	IAmb	01 52 09.2	
	comp=Z,5.2nm,0.7s						
L59A	**Walton**	**63.30**	**355**	P	**P**	**01 52 10.3**	**+0.6**
L59A				IAmb	IAmb	01 52 11.5	
	comp=Z,15nm,0.9s						
BINY	**Binghamton**	**63.40**	**354**	P	**P**	**01 52 09.9**	**-0.3**
BINY				IAmb	IAmb	01 52 43.1	
	comp=Z,12nm,0.9s						
N49A	**Columbus Grove**	**63.42**	**347**	P	**P**	**01 52 08.9**	**-1.5**
N49A				IAmb	IAmb	01 52 42.5	
	comp=Z,15nm,0.8s						
L56A	**Greenwood**	**63.51**	**353**	P	**P**	**01 52 11.2**	**+0.2**
K57A	**Scipio Center**	**63.98**	**354**	P	**P**	**01 52 14.2**	**+0.1**
K57A				IAmb	IAmb	01 52 15.5	
	comp=Z,14nm,1

	167nm,0.1s							
SATY				S	Sg	01 42 30.0	-0.4
	864nm,0.1s							
SATY	**Saty**	**0.48**	**68**	*e*P	**Pg**	**01 42 23.7**	**-0.3**
	baz=67							
SATY				*e*S	Sg	01 42 30.0	-0.4
	baz=67							
SATY	**Saty**	**0.48**	**68**	*e*P	**Pg**	**01 42 23.7**	**-0.3**
	172nm,0.1s							
SATY				*e*S	Sg	01 42 30.0	-0.4
	864nm,0.1s							
ZHN	**Zhinishke**	**0.55**	**58**	P	**Pg**	**01 42 24.9**	**-0.4**
	88nm,0.1s							
ZHN				S	Sg	01 42 32.2	-0.3
	2μm,0.2s							
ZHN	**Zhinishke**	**0.55**	**58**	*e*P	**Pg**	**01 42 24.9**	**-0.4**
	88nm,0.1s							
ZHN				*e*S	Sg	01 42 32.2	-0.3
	2μm,0.2s							
PRZ	**Przheval'sk**	**0.60**	**131**	⇓*e*P	**Pg**	**01 42 26.2**	**+0.1**
	baz=30							
PRZ				⇓*e*S	Sg	01 42 33.7	-0.2
	baz=30							
KOTS	**Kotyrbulak**	**0.61**	**306**	P	**Pg**	**01 42 27.0**	**+0.6**
	85nm,0.1s							
KOTS				S	Sb	01 42 35.9	-0.6
	407nm,0.2s							
KOTS	**Kotyrbulak**	**0.61**	**306**	*e*P	**Pg**	**01 42 27.0**	**+0.6**
	baz=6.0							
KOTS				*e*S	Sb	01 42 36.0	-0.6
	baz=6.0							
KOTS	**Kotyrbulak**	**0.61**	**306**	*e*P	**Pg**	**01 42 27.0**	**+0.6**
	85nm,0.1s							
KOTS				*e*S	Sb	01 42 35.9	-0.6
	407nm,0.2s							
TNSS	**Tian-Shan**	**0.64**	**285**	P	**Pg**	**01 42 27.3**	**+0.3**
	92nm,0.1s							
TNSS				S	Sg	01 42 36.3	+0.9
	129nm,0.2s							
TNSS	**Tian-Shan**	**0.64**	**285**	*e*P	**Pg**	**01 42 27.3**	**+0.3**
	92nm,0.1s							
TNSS				*e*S	Sg	01 42 36.3	+0.9
	129nm,0.2s							
KURS	**Kuram**	**0.67**	**24**	P	**Pg**	**01 42 27.5**	**0.0**
	48nm,0.2s							
KURS				S	Sg	01 42 36.7	+0.5
	137nm,0.3s							
KURS	**Kuram**	**0.67**	**24**	*e*P	**Pg**	**01 42 27.5**	**0.0**
	baz=23							
KURS				*e*S	Sg	01 42 36.7	+0.5
	baz=23							
KURS	**Kuram**	**0.67**	**24**	*e*P	**Pg**	**01 42 27.5**	**0.0**
	48nm,0.2s							
KURS				*e*S	Sg	01 42 36.7	+0.5
	137nm,0.3s							
KNDC	**Almaty**	**0.69**	**299**	⇓P	**Pg**	**01 42 28.0**	**+0.1**
	21nm,0.3s							
KNDC				⇑S	Sb	01 42 38.4	-0.4
	210nm,0.6s							
AAA	**Alma-Ata**	**0.72**	**298**	P	**Pb**	**01 42 29.4**	**-0.1**
	128nm,0.1s							
AAA				S	Sb	01 42 39.8	+0.1
	450nm,0.2s							
AAA	**Alma-Ata**	**0.72**	**298**	*e*P	**Pb**	**01 42 29.4**	**-0.1**
	128nm,0.1s							
AAA				*e*S	Sb	01 42 39.8	+0.1
	450nm,0.2s							
KPKS	**Kokpek**	**0.88**	**48**	P	**Pb**	**01 42 30.9**	**-1.3**
	74nm,0.1s							
KPKS				S	Sb	01 42 42.2	-1.9
	594nm,0.4s							
KPKS	**Kokpek**	**0.88**	**48**	*e*P	**Pb**	**01 42 30.9**	**-1.3**
	74nm,0.1s							
KPKS				*e*S	Sb	01 42 42.2	-1.9
	594nm,0.4s							
KASK	**Kaskelen**	**0.91**	**292**	⇑S	**Sn**	**01 42 45.6**	**-1.5**
UZB	**Uzynbulak**	**0.94**	**73**	P	**Pb**	**01 42 31.6**	**-1.6**
	68nm,0.2s							
UZB				S	Sb	01 42 43.5	-2.4
	307nm,0.2s							
UZB	**Uzynbulak**	**0.94**	**73**	*e*P	**Pb**	**01 42 31.6**	**-1.6**
	68nm,0.2s							
UZB				*e*S	Sb	01 42 43.5	-2.4
	307nm,0.2s							
MTBS	**Maitube**	**1.03**	**285**	P	**Pb**	**01 42 34.3**	**-0.5**
	80nm,0.2s							
MTBS				S	Sb	01 42 48.2	-0.3
	169nm,0.2s							
MTBS	**Maitube**	**1.03**	**285**	*e*P	**Pb**	**01 42 34.3**	**-0.5**
	baz=85							
MTBS				*e*S	Sb	01 42 48.2	-0.3
	baz=85							
MTBS	**Maitube**	**1.03**	**285**	*e*P	**Pb**	**01 42 34.3**	**-0.5**
	80nm,0.2s							
MTBS				*e*S	Sb	01 42 48.2	-0.3
	169nm,0.2s							
CHKK	**Chushkaly**	**1.14**	**329**	P	**Pb**	**01 42 36.3**	**-0.2**
	28nm,0.2s							
CHKK				S	Sg	01 42 51.8	+0.6
	265nm,0.2s							
CHKK	**Chushkaly**	**1.14**	**329**	*e*P	**Pb**	**01 42 36.3**	**-0.2**
	baz=29							
CHKK				*e*S	Sg	01 42 51.8	+0.6
	baz=29							
CHKK	**Chushkaly**	**1.14**	**329**	*e*P	**Pb**	**01 42 36.3**	**-0.2**
	28nm,0.2s							
CHKK				*e*S	Sg	01 42 51.8	+0.6
	265nm,0.2s							
KTBS	**Karatobe**	**1.16**	**316**	P	**Pb**	**01 42 36.8**	**-0.2**
	19nm,0.1s							
KTBS				S	Sn	01 42 52.4	-1.0
	62nm,0.2s							
KTBS	**Karatobe**	**1.16**	**316**	*e*P	**Pb**	**01 42 36.8**	**-0.2**
	baz=16							
KTBS				*e*S	Sn	01 42 52.3	-1.0
	baz=16							
KTBS	**Karatobe**	**1.16**	**316**	*e*P	**Pb**	**01 42 36.8**	**-0.2**
	19nm,0.1s							
KTBS				*e*S	Sn	01 42 52.4	-1.0
	62nm,0.2s							
SHLS	**Shalkode**	**1.25**	**77**	P	**Pg**	**01 42 43.0**	**+4.3**
	50nm,0.2s							
SHLS				S	Sg	01 43 03.0	+8.0
	166nm,0.3s							
SHLS	**Shalkode**	**1.25**	**77**	*e*P	**Pg**	**01 42 43.0**	**+4.3**
	50nm,0.2s							
SHLS				*e*S	Sg	01 43 03.0	+8.0
	166nm,0.3s							
ULHL	**Ulahol**	**1.31**	**242**	⇓P	**Pb**	**01 42 38.9**	**-0.7**
	94nm,0.2s,SNR=26							
ULHL				⇑S	Sn	01 42 56.2	-1.0
	283nm,0.2s							
ULHL	**Ulahol**	**1.31**	**242**	⇑*e*P	**Pn**	**01 42 38.7**	**-0.7**
	baz=42							
ULHL				⇑*e*S	Sg	01 42 57.1	+0.5
	baz=42							
BLB	**Baldybastay**	**1.32**	**22**	P	**Pb**	**01 42 39.3**	**-0.3**
	21nm,0.3s							
BLB				S	Sg	01 42 56.7	-0.2
	195nm,0.3s							
PDGK	**Podgornoye**	**1.32**	**69**	P	**Pn**	**01 42 38.4**	**-1.1**
	11nm,0.1s							
PDGK				S	Sb	01 42 54.9	-2.0
	74nm,0.3s							
PDGK	**Podgornoye**	**1.32**	**69**	⇑P	**Pn**	**01 42 38.3**	**-1.2**
	20nm,0.6s							
PDGK				⇑S	Sb	01 42 54.9	-2.0
	90nm,0.5s							
ARXS	**Arharly**	**1.33**	**1**	P	**Pb**	**01 42 39.8**	**-0.1**
	16nm,0.2s							
ARXS				S	Sg	01 42 57.9	+0.4
	117nm,0.3s							
ARXS	**Arharly**	**1.33**	**1**	*e*P	**Pb**	**01 42 39.8**	**-0.1**
	16nm,0.2s							
ARXS				*e*S	Sg	01 42 57.9	+0.4
	117nm,0.3s							
KST	**Kastek**	**1.35**	**278**	P	**Pn**	**01 42 39.6**	**-0.4**
	18nm,0.1s							
KST				S	Sb	01 42 57.3	-0.5
	212nm,0.3s							
KST	**Kastek**	**1.35**	**278**	*e*P	**Pn**	**01 42 39.6**	**-0.4**
	18nm,0.1s							
KST				*e*S	Sb	01 42 57.3	-0.5
	212nm,0.3s							
BOOM	**Boomskoye usch**	**1.42**	**255**	⇑*e*P	**Pb**	**01 42 40.7**	**-0.7**
	baz=55							
BOOM				⇑*e*S	Sg	01 43 00.0	-0.2
	baz=55							
KUU	**Kurty**	**1.47**	**314**	P	**Pb**	**01 42 42.0**	**-0.1**
	5.7nm,0.2s							
KUU				S	Sg	01 43 01.5	-0.2
	121nm,0.3s							
KUU	**Kurty**	**1.47**	**314**	*e*P	**Pb**	**01 42 42.0**	**-0.1**
	5.7nm,0.2s							
KUU				*e*S	Sg	01 43 01.5	-0.2
	121nm,0.3s							
DGS	**Degeres**	**1.52**	**284**	P	**Pb**	**01 42 43.2**	**0.0**
	28nm,0.3s							
DGS				S	Sg	01 43 03.6	0.0
	304nm,0.5s							
DGS	**Degeres**	**1.52**	**284**	*e*P	**Pb**	**01 42 43.2**	**0.0**
	baz=85							
DGS				*e*S	Sg	01 43 03.6	0.0
	baz=85							
DGS	**Degeres**	**1.52**	**284**	*e*P	**Pb**	**01 42 43.2**	**0.0**
	28nm,0.3s							
DGS				*e*S	Sg	01 43 03.6	0.0
	304nm,0.5s							
TKM2	**Tokmak 2**	**1.61**	**272**	⇓P	**Pb**	**01 42 44.6**	**-0.1**
	36nm,0.2s,SNR=46							
TKM2				⇑S	Sg	01 43 06.8	+0.3
	93nm,0.1s							
TKM2	**Tokmak 2**	**1.61**	**272**	⇑P	**Pb**	**01 42 44.5**	**-0.3**
	8.3nm,0.2s							
TKM2				⇑S	Sg	01 43 06.5	0.0
	118nm,0.6s							
TKM2	**Tokmak 2**	**1.61**	**272**	⇓*e*P	**Pb**	**01 42 44.6**	**-0.1**
	baz=72							
TKM2				⇓*e*S	Sg	01 43 06.5	0.0
	baz=72							
KRBS	**Karabastau**	**1.75**	**299**	P	**Pb**	**01 42 47.0**	**0.0**
	23nm,0.2s							
KRBS				S	Sb	01 43 09.9	+0.7
	154nm,0.2s							
KRBS	**Karabastau**	**1.75**	**299**	*e*P	**Pb**	**01 42 47.0**	**0.0**
	23nm,0.2s							
KRBS				*e*S	Sb	01 43 09.9	+0.7
	154nm,0.2s							
KNOS	**Konyrlen**	**1.79**	**34**	P	**Pb**	**01 42 47.9**	**+0.1**
	32nm,0.3s							
KNOS				S	Sg	01 43 11.5	-0.6
	105nm,0.3s							
KTMS	**Ketmen**	**1.96**	**72**	Pg	**Pg**	**01 42 51.8**	**-0.3**
	10nm,0.2s							
KTMS				Lg	Lg	01 43 17.7	
	53nm,0.3s							
KTMS	**Ketmen**	**1.96**	**72**	*e*P	**Pg**	**01 42 50.9**	**-1.1**
	10nm,0.2s							
KTMS				*e*S	Sg	01 43 16.7	-0.7
	53nm,0.3s							
NRN	**Naryn**	**1.96**	**223**	⇑*e*P	**Pb**	**01 42 50.5**	**-0.3**
	baz=24							
NRN				⇑*e*S	Sg	01 43 16.9	-0.8
	baz=24							
DJR	**Jarkent**	**2.05**	**44**	Pg	**Pb**	**01 42 51.7**	**-0.5**
	17nm,0.1s							
DJR				Lg	Lg	01 43 18.5	
	128nm,0.5s							
DJR	**Jarkent**	**2.05**	**44**	*e*Pg	**Pb**	**01 42 51.7**	**-0.5**
	17nm,0.1s							
DJR				*e*Lg	Lg	01 43 18.5	
	128nm,0.5s							
KBK	**Karagaybulak**	**2.11**	**265**	⇓P	**Pb**	**01 42 53.4**	**+0.3**
	63nm,0.2s,SNR=66							
KBK				⇓S	Sg	01 43 22.0	-0.2
	174nm,0.3s							
KBK	**Karagaybulak**	**2.11**	**265**	⇑*e*P	**Pb**	**01 42 52.7**	**-0.4**
	baz=65							
KBK				⇑*e*S	Sb	01 43 20.1	+0.6
	baz=65							
TDK	**Taldyqorghan**	**2.17**	**12**	Pg	**Pb**	**01 42 54.5**	**+0.4**
	26nm,0.2s							
TDK				Lg	Lg	01 43 22.7	
	230nm,0.5s							
TDK	**Taldyqorghan**	**2.17**	**12**	*e*Pg	**Pb**	**01 42 54.5**	**+0.4**
	26nm,0.2s							
TDK				*e*Lg	Lg	01 43 22.7	
	230nm,0.5s							
CHMS	**Chumysh**	**2.24**	**274**	⇑P	**Pb**	**01 42 55.4**	**+0.2**
	11nm,0.2s,SNR=9.3							
CHMS				⇑S	Sg	01 43 25.0	-1.4
	63nm,0.2s							
CHMS	**Chumysh**	**2.24**	**274**	⇑Pg	**Pb**	**01 42 55.4**	**+0.2**
	26nm,0.8s							
CHMS				⇑Lg	Lg	01 43 25.1	
	39nm,0.6s							
CHMS	**Chumysh**	**2.24**	**274**	⇑*e*P	**Pb**	**01 42 54.5**	**-0.8**
	baz=74							
CHMS				⇑*e*S	Sb	01 43 23.1	0.0
	baz=74							
FRU1	**Bishkek**	**2.33**	**269**	⇑*i*P	**Pb**	**01 42 55.8**	**-1.0**
	baz=70							
FRU1				⇑*e*S	Sb	01 43 25.4	-0.4
	baz=70							
SGDS	**Sogindy**	**2.38**	**285**	Pg	**Pb**	**01 42 57.5**	**-0.3**
	10nm,0.2s							
SGDS				Lg	Lg	01 43 28.8	
	72nm,0.4s							
AAK	**Ala-Archa**	**2.44**	**265**	⇑P	**Pb**	**01 42 58.7**	**-0.2**
	30nm,0.2s,SNR=46							
AAK				⇑S	Sg	01 43 31.2	-1.8
	56nm,0.3s							
AAK	**Ala-Archa**	**2.44**	**265**	⇓*e*P	**Pb**	**01 42 57.3**	**-1.5**
	baz=66							
AAK				⇓*e*S	Sb	01 43 28.0	-1.2
	baz=66							
USP	**Ospenovka**	**2.44**	**280**	⇑P	**Pb**	**01 42 58.1**	**-0.7**
	24nm,0.3s,SNR=22							
USP				⇓S	Sb	01 43 30.3	+1.2
	54nm,0.2s							
USP	**Ospenovka**	**2.44**	**280**	⇑*e*P	**Pb**	**01 42 57.4**	**-1.4**
	baz=80							
USP				⇑*e*S	Sb	01 43 28.2	-0.9
	baz=80							
UCH	**Uchtor**	**2.51**	**256**	⇑P	**Pb**	**01 42 59.4**	**-0.7**
	16nm,0.3s,SNR=29							
UCH				⇓S	Sb	01 43 32.6	+1.2
	71nm,0.5s							
UCH	**Uchtor**	**2.51**	**256**	⇑*e*P	**Pb**	**01 42 58.2**	**-2.0**
	baz=56							
UCH				⇑*e*S	Sb	01 43 29.9	-1.5
	baz=56							
ARLS	**Aral**	**2.77**	**250**	⇓*e*P	**Pb**	**01 43 01.5**	**-2.8**
	baz=50							
ARLS				⇓*e*S	Sb	01 43 35.4	-3.1
	baz=50							
EKS2	**Erkin-Say**	**2.96**	**267**	⇓P	**Pb**	**01 43 05.5**	**-2.2**
	8.5nm,0.2s,SNR=16							
EKS2	**Erkin-Say**	**2.96**	**267**	⇑*e*P	**Pb**	**01 43 04.5**	**-3.2**
	baz=67							
EKS2				⇑*e*S	Sb	01 43 40.6	-3.6
	baz=67							
AML	**Almayashu**	**3.12**	**258**	⇑Pg	**Pb**	**01 43 09.8**	**-0.8**
	0.3nm,0.3s							
AML				⇑Lg	Lg	01 43 52.0	
	6.9nm,0.7s							
AML	**Almayashu**	**3.12**	**258**	⇑*e*P	**Pn**	**01 43 06.8**	**+2.3**
	baz=58							
AML				⇑*e*S	Sn	01 43 44.5	+2.3
	baz=58							
BTLS	**Baital**	**3.46**	**310**	Pg	**Pb**	**01 43 16.8**	**+0.6**
	1.5nm,0.1s							
BTLS				Lg	Lg	01 44 01.1	
	2.5nm,0.3s							
BTLS	**Baital**	**3.46**	**310**	*e*Pg	**Pb**	**01 43 16.8**	**+0.6**
	1.5nm,0.1s							
BTLS				*e*Lg	Lg	01 44 01.1	
	2.5nm,0.3s							
ARSB	**Arslanbob**	**3.90**	**248**	⇑*e*P	**Pn**	**01 43 17.5**	**+2.5**
	baz=48							
ARSB				⇑*e*S	Sn	01 44 02.7	+1.6
	baz=48							
MNAS	**Manas**	**3.92**	**266**	⇑*e*P	**Pn**	**01 43 17.8**	**+2.6**
	baz=66							
MNAS				⇑*e*S	Sn	01 44 03.4	+1.9
	baz=66							
SFK	**Sufi-Kurgan**	**4.31**	**230**	⇑*e*P	**Pn**	**01 43 23.0**	**+2.3**
	baz=30							
SFK				⇑*e*S	Sn	01 44 12.4	+1.1
	baz=30							
OHH	**Osh**	**4.43**	**240**	⇑*e*P	**Pn**	**01 43 24.4**	**+2.3**
	baz=40							
OHH				⇑*e*S	Sn	01 44 15.1	+1.2
	baz=40							
ARK	**Arkit**	**4.45**	**258**	⇑*e*P	**Pn**	**01 43 25.1**	**+2.6**
	baz=58							
ARK				⇑*e*S	Sn	01 44 16.1	+1.4
	baz=58							
MAKZ	**Makanchi**	**4.93**	**36**	⇓Pn	**Pn**	**01 43 26.4**	**-2.6**
	10.0nm,1.2s							
MAKZ				⇑Lg	Lg	01 44 49.9	
	3.3nm,0.6s							
MK31	**Makanchi Array**	**5.05**	**38**	⇓Pn	**Pn**	**01 43 32.7**	**+2.0**
	0.3nm,0.2s							
MK31				⇓Lg	Lg	01 44 54.5	
	3.5nm,0.5s,baz=219,slow=27,SNR=6.1							
KK31	**Karatay Array**	**5.35**	**275**	⇑Pg	**Pg**	**01 43 53.7**	**-3.2**
	1.9nm,0.6s,baz=92,slow=16,SNR=3.7							
KK31				⇑Lg	Lg	01 45 04.8	
	1.9nm,0.3s,baz=93,slow=29,SNR=18							
KURBB	**Kurchatov Arra**	**7.76**	**3**	⇓Lg	Lg	01 46 22.6	
	7.3nm,0.7s							
KURK	**Kurchatov**	**7.86**	**4**	⇑Lg	Lg	01 46 24.2	
	2.5nm,0.4s							

*SOME **09** 01:50:21.8, 40°.62N×77°.12E, h5km*
*KRNET **09** 01:50:22.4±0.1, 40°.62N×77°.13E, h15km, mb3.2*
*NNC **09** 01:50:24.6±0.9, 40°.67N×77°.16E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=6.3km s-min=4.2km az=165.0
ISC 09 01:50:26.0±1.3, 40.70N±0.06×77.13E±0.04, h10km, n65,
σ1§11/81, 36C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.12**	**311**	⇑*i*P		**Pg**		**01 50 44.9**	**-2.8**
	baz=13								
NRN				⇑*i*S		Sg		01 51 01.8	-0.6
	baz=13								
TARG	**Taragay, Kyrgy**	**1.15**	**26**	⇑*i*P		**Pg**		**01 50 45.6**	**-2.5**
	baz=24								
TARG				⇑*i*S		Sb		01 51 02.9	-0.4
	baz=24								
ULHL	**Ulahol**	**1.68**	**337**	P		**Pn**		**01 50 56.0**	**+0.2**
	SNR=9.5								
ULHL	**Ulahol**	**1.68**	**337**	⇑*i*P		**Pn**		**01 50 55.3**	**-0.4**
	baz=38								
ULHL				⇑*i*S		Sg		01 51 19.6	-0.6
	baz=38								
BOOM	**Boomskoye usch**	**2.00**	**334**	⇑*i*P		**Pn**		**01 51 00.6**	**+0.6**
	baz=35								
BOOM				⇑*i*S		Sb		01 51 28.6	+1.0
	baz=35								
ANVS	**Anan'yevo**	**2.12**	**11**	⇑*i*P		**Pn**		**01 51 02.7**	**+1.0**
	baz=10.0								
ANVS				⇑*i*S		Sb		01 51 31.8	+0.7
	baz=10.0								
TNSS	**Tian-Shan**	**2.34**	**357**	Pg		**Pb**		**01 51 08.3**	**-0.2**
	19nm,0.2s								
TNSS				Lg		Lg		01 51 41.8	
	17nm,0.3s								
TNSS	**Tian-Shan**	**2.34**	**357**	*e*Pg		**Pb**		**01 51 08.3**	**-0.2**
	19nm,0.2s								
TNSS				*e*Lg		Lg		01 51 41.5	
	18nm,0.2s								
ARLS	**Aral**	**2.41**	**300**	⇑*e*P		**Pn**		**01 51 05.7**	**0.0**
	baz=1.0								
ARLS				⇑*i*S		Sn		01 51 37.3	+1.9
	baz=1.0								
MTBS	**Maitube**	**2.48**	**348**	Pg		**Pb**		**01 51 10.5**	**-0.3**
	30nm,0.2s								
MTBS				Lg		Lg		01 51 45.7	
	31nm,0.4s								
MTBS	**Maitube**	**2.48**	**348**	*e*Pg		**Pb**		**01 51 10.5**	**-0.3**
	30nm,0.2s								
MTBS				*e*Lg		Lg		01 51 45.5	
	31nm,0.4s								
UCH	**Uchtor**	**2.49**	**309**	P		**Pb**		**01 51 10.0**	**-1.1**
	SNR=23								
UCH	**Uchtor**	**2.49**	**309**	⇓*i*P		**Pn**		**01 51 07.3**	**+0.3**
	baz=10.0								
UCH				⇓*i*S		Sn		01 51 40.0	+2.3
	baz=10.0								
KST	**Kastek**	**2.50**	**340**	Pg		**Pb**		**01 51 10.0**	**-1.1**
	11nm,0.2s								
KST				Lg		Lg		01 51 45.0	
	27nm,0.6s								
KST	**Kastek**	**2.50**	**340**	*e*Pg		**Pb**		**01 51 10.0**	**-1.1**
	11nm,0.2s								
KST				*e*Lg		Lg		01 51 44.5	
	27nm,0.6s								
TKM2	**Tokmak 2**	**2.50**	**333**	P		**Pb**		**01 51 10.9**	**-0.2**
	SNR=10.0								
TKM2	**Tokmak 2**	**2.50**	**333**	⇑Pn		**Pn**		**01 51 08.7**	**+1.8**
	3.5nm,0.3s								
TKM2				⇓Lg		Lg		01 51 46.8	
	23nm,0.5s								
TKM2	**Tokmak 2**	**2.50**	**333**	⇑*i*P		**Pn**		**01 51 07.6**	**+0.7**
	baz=34								
TKM2				⇑*i*S		Sb		01 51 40.6	-1.4
	baz=34								
KOTS	**Kotyrbulak**	**2.53**	**360**	Pg		**Pb**		**01 51 11.7**	**+0.1**
	14nm,0.2s								
KOTS				Lg		Lg		01 51 47.4	
	172nm,0.5s								
KOTS	**Kotyrbulak**	**2.53**	**360**	*e*Pg		**Pb**		**01 51 11.7**	**+0.1**
	14nm,0.2s								
KOTS				*e*Lg		Lg		01 51 47.4	
	172nm,0.5s								
SATY	**Saty**	**2.54**	**22**	Pg		**Pb**		**01 51 11.4**	**-0.4**
	5.3nm,0.3s								
SATY				Lg		Lg		01 51 47.0	
	37nm,0.7s								
SATY	**Saty**	**2.54**	**22**	*e*Pg		**Pb**		**01 51 11.4**	**-0.4**
	5.8nm,0.2s								
SATY				*e*Lg		Lg		01 51 47.0	
	33nm,0.2s								
KBK	**Karagaybulak**	**2.55**	**321**	P		**Pb**		**01 51 11.5**	**-0.4**
	SNR=18								
KBK	**Karagaybulak**	**2.55**	**321**	⇑*i*P		**Pn**		**01 51 08.1**	**+0.5**
	baz=22								
KBK				⇑*i*S		Sb		01 51 41.4	-2.0
	baz=22								
DGS	**Degeres**	**2.73**	**339**	Pg		**Pb**		**01 51 15.1**	**0.0**
	14nm,0.3s								
DGS				Lg		Lg		01 51 53.6	
	25nm,0.4s								
DGS	**Degeres**	**2.73**	**339**	*e*Pg		**Pb**		**01 51 15.3**	**+0.2**
	18nm,0.2s								
DGS				*e*Lg		Lg		01 51 53.6	
	27nm,0.3s								
AAK	**Ala-Archa**	**2.77**	**315**	P		**Pb**		**01 51 15.2**	**-0.4**
	SNR=39								
AAK	**Ala-Archa**	**2.77**	**315**	⇑*e*P		**Pn**		**01 51 11.0**	**+0.4**
	baz=16								
AAK				⇑*i*S		Sn		01 51 46.7	+2.6
	baz=16								
UZB	**Uzynbulak**	**2.82**	**29**	Pg		**Pb**		**01 51 15.4**	**-1.2**
	5.3nm,0.3s								
UZB				Lg		Lg		01 51 53.9	
	9.7nm,0.4s								
UZB	**Uzynbulak**	**2.82**	**29**	*e*Pg		**Pb**		**01 51 15.4**	**-1.2**
	4.6nm,1.5s								
UZB				*e*Lg		Lg		01 51 53.9	
	9.7nm,0.4s								
SFK	**Sufi-Kurgan**	**2.85**	**257**	⇑*i*P		**Pn**		**01 51 11.4**	**-0.5**
	baz=59								
SFK				⇑*i*S		Sn		01 51 47.1	+0.7
	baz=59								
KURS	**Kuram**	**2.89**	**15**	*e*Pg		**Pb**		**01 51 18.7**	**+1.0**
	8.9nm,0.3s								
KURS				*e*Lg		Lg		01 51 59.4	
	16nm,0.5s								
CHMS	**Chumysh**	**2.90**	**323**	P		**Pb**		**01 51 17.1**	**-0.8**
	SNR=8.6								
CHMS	**Chumysh**	**2.90**	**323**	⇑Pg		**Pb**		**01 51 17.2**	**-0.7**
	11nm,0.6s								

9.5nm,0.4s
KPKS Lg Lg 01 52 00.7
29nm,0.6s
KPKS Kokpek 3.00 22 *e*Pg **Pb 01 51 19.5 -0.1**
5.0nm,0.9s
KPKS *e*Lg Lg 01 52 00.7
29nm,0.6s
SHLS Shalkode 3.01 35 Pg **Pg 01 51 22.9 -0.8**
8.8nm,0.3s
SHLS Lg Lg 01 52 06.6
22nm,0.4s
SHLS Shalkode 3.01 35 *e*Pg **Pg 01 51 22.9 -0.8**
2.6nm,0.5s
SHLS *e*Lg Lg 01 52 06.6
22nm,0.4s
KTBS Karatobe 3.03 354 Pg **Pb 01 51 20.0 0.0**
20nm,0.2s
KTBS Lg Lg 01 52 02.0
33nm,0.5s
KTBS Karatobe 3.03 354 *e*Pg **Pb 01 51 20.0 0.0**
20nm,0.2s
KTBS *e*Lg Lg 01 52 01.5
33nm,0.5s
CHKK Chushkaly 3.15 358 Pg **Pb 01 51 22.1 -0.1**
11nm,0.2s
CHKK Lg Lg 01 52 06.0
25nm,0.7s
CHKK Chushkaly 3.15 358 *e*Pg **Pb 01 51 22.1 -0.1**
11nm,0.2s
CHKK *e*Lg Lg 01 52 05.0
33nm,0.2s
PDGK Podgornoye 3.16 33 Pg **Pb 01 51 22.1 -0.3**
3.8nm,0.5s
PDGK Lg Lg 01 52 05.0
15nm,0.7s
PDGK Podgornoye 3.16 33 ⇓Pg **Pb 01 51 21.8 -0.6**
6.7nm,0.5s
PDGK ⇑Lg Lg 01 52 04.7
37nm,0.9s
KRBS Karabastau 3.18 341 Pg **Pb 01 51 23.0 +0.3**
9.6nm,0.4s
KRBS Lg Lg 01 52 07.0
14nm,0.6s
KRBS Karabastau 3.18 341 *e*Pg **Pb 01 51 23.0 +0.3**
9.6nm,0.4s
KRBS *e*Lg Lg 01 52 06.8
14nm,0.2s
EKS2 Erkin-Say 3.19 309 P **Pb 01 51 23.6 +0.8**
SNR=5.5
EKS2 Erkin-Say 3.19 309⇑*e*P **Pn 01 51 16.7 +0.4**
baz=10.0
EKS2 ⇑*i*S **Sn 01 51 56.8 +2.4**
baz=10.0
ARSB Arslanbob 3.20 283⇑*e*P **Pn 01 51 16.5 0.0**
baz=84
ARSB ⇑*i*S **Sn 01 51 55.9 +1.1**
baz=84
USP Ospenovka 3.23 323 P **Pb 01 51 23.2 -0.3**
SNR=26
KUU Kurty 3.24 350 Pg **Pb 01 51 23.8 0.0**
2.5nm,0.1s
KUU Lg Lg 01 52 08.1
21nm,0.7s
KUU Kurty 3.24 350 *e*Pg **Pb 01 51 23.8 0.0**
2.5nm,0.1s
KUU *e*Lg Lg 01 52 08.1
21nm,0.7s
SGDS Sogindy 3.32 327 Pg **Pb 01 51 24.8 -0.2**
11nm,0.3s
SGDS Lg Lg 01 52 09.7
7.3nm,0.3s
ARXS Arharly 3.55 8 Pg **Pb 01 51 28.4 -0.5**
1.9nm,0.5s
ARXS Lg Lg 01 52 15.9
17nm,0.6s
ARXS Arharly 3.55 8 *e*Pg **Pb 01 51 28.4 -0.5**
1.6nm,0.2s
ARXS *e*Lg Lg 01 52 16.3
17nm,0.2s
MRKS Merke 3.56 306 Pg **Pb 01 51 28.7 -0.5**
7.3nm,0.3s
MRKS Lg Lg 01 52 16.4
7.7nm,0.4s
MRKS Merke 3.56 306 *e*Pg **Pb 01 51 28.6 -0.7**
7.3nm,0.3s
MRKS *e*Lg Lg 01 52 16.4
8.9nm,0.5s
KTMS Ketmen 3.64 40 Pg **Pb 01 51 31.6 +1.0**
1.3nm,0.2s
KTMS Lg Lg 01 52 21.2
6.6nm,0.5s
KTMS Ketmen 3.64 40 *e*Pg **Pb 01 51 31.6 +1.0**
1.5nm,0.2s
KTMS *e*Lg Lg 01 52 21.4
7.0nm,0.2s
ARK Arkit 4.05 287⇑*i*P **Pn 01 51 28.7 +0.6**
baz=89
ARK ⇑*i*S **Sn 01 52 16.6 +1.0**
baz=89
KK31 Karatay Array 5.49 298 ⇑Pg **Pb 01 52 05.6 +3.6**
1.0nm,0.5s,baz=108,slow=16,SNR=13
KK31 ⇑Lg Lg 01 53 21.4
2.6nm,0.7s,baz=114,slow=28

IDC 09 01:52:18.5±5.0, 10°.07S×152°.82E, h0km, mb3.5/2, mbtmp3.7/2, Error ellipse: s-maj=288.0km s-min=53.7km az=134.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.35**	**239**	P	P	01 56 56.5	-0.3
	2.7nm,0.7s,baz=62,slow=10,SNR=16						
	2.7nm,0.7s						
ASAR	**Alice Springs**	**22.55**	**231**	P	P	01 57 20.4	-0.1
	1.0nm,0.7s,baz=62,slow=9.4,SNR=10						
	1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.56**	**279**	PKPbc	PKPbc	02 12 15.8	0.0
	0.4nm,0.8s,baz=89,slow=2.4,SNR=2.8						

IDC 09 02:10:33.0±9.8, 22°.39S×178°.91E, h573km±69km, mb2.8/2, mbtmp3.9/3, Error ellipse: s-maj=244.0km s-min=41.2km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.70**	**350**	P	P	02 12 02.1	0.0
	25nm,0.5s,baz=150,slow=8.2,SNR=38						
ASAR	**Alice Springs**	**41.31**	**259**	P	P	02 17 28.7	-1.1
	0.4nm,0.4s,baz=91,slow=7.5,SNR=9.1						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**41.52**	**265**	P	P	02 17 32.0	+0.5
	1.0nm,0.4s,baz=99,slow=7.1,SNR=18						
	1.0nm,0.4s						
HFS	**Hagfors**	**140.87**	**348**	PKP	PKPdf	02 28 55.2	-2.7
	1.6nm,0.4s,baz=36,slow=2.7,SNR=13						
AKASG	**Malin Array Be**	**143.16**	**328**	PKP	PKPdf	02 29 02.3	+0.1
	0.3nm,0.4s,baz=41,slow=4.1,SNR=2.3						

---

*JMA **09** 02:25:19.8±0.2, 37°.4N±0°.9×14°.5E±°, h53km, MV3.8/24, FAR E OFF NORTH HONSHU*
*IDC **09** 02:25:21.5±2.9, 36°.14N×144°.03E, h0km, mb3.8/2, mbtmp3.7/4, ML3.1/2, Error ellipse: s-maj=64.5km s-min=33.8km az=42.0*
ISC 09 02:25:17.6±1.7, 37°.31N±0°.08×144°.71E±0°.10, h35km, n14, σ1§66/22, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.75**	**292**	P	**Pn**	**02 26 00.4**	**+1.2**
JIKH				*e*S	**Sn**	**02 26 30.3**	**-0.9**
JIO	**Ouri**	**2.89**	**294**	P	**Pn**	**02 26 02.4**	**+1.3**
JIO				*e*S	**Sn**	**02 26 34.2**	**-0.4**
JKMT	**Kesennumamotoy**	**2.96**	**301**	P	**Pn**	**02 26 03.2**	**+1.2**
JKMT				*e*S	**Sn**	**02 26 35.6**	**-0.6**
OFUJ	**Ofunato**	**2.97**	**307**	P	**Pn**	**02 26 03.4**	**+1.2**
OFUJ				*e*S	**Sn**	**02 26 36.0**	**-0.6**
JMK	**Ichinoseki**	**3.20**	**302**	P	**Pn**	**02 26 06.8**	**+1.5**
JOM	**Ohasama**	**3.44**	**310**	P	**Pn**	**02 26 10.6**	**+2.0**
JOTO	**OTAMA OYAMA**	**3.49**	**275**	P	**Pn**	**02 26 11.3**	**+2.0**
JOTO				*e*S	**Sn**	**02 26 49.6**	**+0.2**
JRY	**Ryogami san**	**4.84**	**256**	P	**Pn**	**02 26 28.4**	**+0.5**
JRY				S	**Sn**	**02 27 19.8**	**-3.0**
JOT	**Ohata**	**4.95**	**326**	P	**Pn**	**02 26 31.2**	**+1.8**
JOT				*e*S	**Sn**	**02 27 23.9**	**-1.5**
MJAR	**Matsushiro Arr**	**5.26**	**264**	Pn	**Pn**	**02 26 34.4**	**+0.7**
	0.4nm,0.3s,baz=86,slow=15,SNR=14						
MJAR				Sn	**Sn**	**02 27 29.9**	**-3.2**
	0.1nm,0.3s,baz=66,slow=34,SNR=1.6						
	3.8nm,0.4s						
JCH	**Churui**	**5.39**	**349**	*e*P	**Pn**	**02 26 36.3**	**+0.8**
JCH				*e*S	**Sn**	**02 27 33.5**	**-2.7**
KSRS	**Korea Array**	**13.35**	**276**	Pn	**Pn**	**02 28 25.4**	**+0.9**
	0.2nm,0.3s,baz=96,slow=11,SNR=1.9						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**47.90**	**308**	P	P	02 34 03.7	+12
	0.7nm,0.2s,baz=81,slow=8.5,SNR=1.7						
	0.7nm,0.2s						
WRA	**Warramunga Arr**	**57.78**	**192**	P	**P**	**02 35 05.3**	**+0.1**
	0.3nm,0.6s,baz=13,slow=7.3,SNR=2.2						
	0.3nm,0.6s						

IDC 09 02:45:57.2±4.5, 10°.75S×153°.56E, h0km, mb3.6/2, mbtmp3.7/2, MS3.3/5, Error ellipse: s-maj=216.9km s-min=48.0km az=133.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**6.58**	**347**	LR	LR	02 49 36.4	
	comp=Z,157nm,20.4s,baz=202,slow=33						
CTA	**Charters Tower**	**11.64**	**216**	LR	LR	02 53 03.4	
	comp=Z,171nm,19.3s,baz=80,slow=37						
WRA	**Warramunga Arr**	**20.64**	**241**	P	P	02 50 37.6	-1.0
	3.2nm,0.7s,baz=62,slow=10,SNR=12						
	3.2nm,0.7s						
ASAR	**Alice Springs**	**22.70**	**233**	P	P	02 51 00.8	0.0
	1.3nm,0.8s,baz=67,slow=8.8,SNR=12						
ASAR				LR	LR	03 00 35.4	
	comp=Z,63nm,18.2s,baz=64,slow=39						
	1.3nm,0.8s						
RPZ	**Rata Peaks**	**36.17**	**158**	LR	LR	03 06 21.9	
	comp=Z,132nm,21.1s,baz=336,slow=34						
MJAR	**Matsushiro Arr**	**49.21**	**344**	LR	LR	03 13 32.0	
	comp=Z,20nm,22.0s,baz=140,slow=34						
TORD	**Torodi Ar. Bea**	**152.38**	**278**	PKPbc	PKiKP	03 05 57.2	+0.6
	0.5nm,0.8s,baz=104,slow=2.3,SNR=2.2						
TORD				PKPab	PKPab	03 06 05.6	-0.8
	0.4nm,0.7s,baz=78,slow=3.6,SNR=2.6						

---

*BJI **09** 03:46:37.5±0.0, 13°.09S×65°.88E, h5km, mb5.0/74, mB5.3/46, Ms4.9/62, Ms7 4.7/63*
*MOS **09** 03:46:41.6±0.9, 12°.67S×66°.40E, h8km, mb5.4/78, MS4.2/9, Error ellipse: s-maj=7.1km s-min=4.2km az=99.4*
*IDC **09** 03:46:42.1±0.4, 12°.75S×66°.34E, h0km, mb4.8/32, mbtmp4.7/33, ML3.6/1, MS4.3/61, Error ellipse: s-maj=13.5km s-min=12.2km az=77.0*
*NEIC **09** 03:46:44.2, 12°.48S×66°.23E, h14km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.35; $M_{\theta\theta}$3.29; $M_{\phi\phi}$2.06; $M_{r\theta}$1.94; $M_{\theta\phi}$-2.31; $M_{\phi r}$-1.34; Fault plane solution: $M_0$5.72000×10^{16} NP1: ϕ_s306.39000°, δ57.20000°, λ-91.18000°. NP2: ϕ_s128.56000°, δ32.82000°, λ-88.17000°. Principal axes: T 5.5771, Plg12.0000°, Azm37.0000°; N 0.2819, Plg1.0000°, Azm307.0000°; P -5.8590, Plg78.0000°, Azm212.0000°;*
*NEIC **09** 03:46:44.2, 12°.78S×66°.33E, h14km*
*NEIC **09** 03:46:44.2±1.7, 12°.78S±0°.08×66°.38E±0°.09, h10km±1km, mb5.3/151, Mww5.1/12, Error ellipse: s-maj=14.5km s-min=13.3km az=107.0*
*GCMT **09** 03:46:46.2±0.2, 12°.85S±0°.02×66°.33E±0°.02, h13km, MW5.1/116, Moment Tensor Solution. s43,c46; s116,c184; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.09±.31; $M_{\theta\theta}$3.48±.19; $M_{\phi\phi}$2.61±.20; $M_{r\theta}$-1.12±.48; $M_{\theta\phi}$-2.36±.11; $M_{\phi r}$-1.00±.57; Best double couple: $M_0$5.92800×10^{16} NP1:ϕ_s118.00000°, δ47.00000°, λ-106.00000°. NP2:ϕ_s321.00000°, δ45.00000°, λ-73.00000°. Principal axes: T 5.4490, Plg1.0000°, Azm219.0000°; N 0.9580, Plg12.0000°, Azm129.0000°; P -6.4070, Plg78.0000°, Azm315.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **09** 03:46:59.6, 12°.00S×63°.52E, h33km, mb5.1, Ms3.8*
ISC 09 03:46:44.1±0.4, 12°.77S±0°.04×66°.29E±0°.04, h14km±2km, h14km:pP-P, n856, σ1§16/843, mb5.2/241, MS4.5/95, 35C-26D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.94**	**51**	T	T	03 56 46.7	
	baz=230,slow=76						
H08S2	**Diego Garcia H**	**7.95**	**51**	T	T	03 56 44.6	
	baz=230,slow=76						
H08S3	**Diego Garcia H**	**7.96**	**51**	T	T	03 56 45.5	
	baz=230,slow=76						
RER	**Riviere de l'E**	**13.08**	**229**	Pn	**Pn**	**03 49 50.5**	**+0.7**
RER	**Riviere de l'E**	**13.08**	**229**	P	**Pn**	**03 49 52.9**	**+3.2**
MSEY	**Mahe Island**	**13.37**	**306**	Pn	**Pn**	**03 49 55.1**	**+1.4**
MSEY	**Mahe Island**	**13.37**	**306**	P	**Pn**	**03 49 55.1**	**+1.4**
MSEY	**Mahe Island**	**13.37**	**306**	P	**Pn**	**03 49 54.6**	**+0.9**
MSEY				P	**Pn**	**03 49 54.6**	**+0.9**
MSEY				P	P	03 49 54.8	-8.5
MSEY				P	P	03 49 54.8	-8.5
KAAM	**Kaadhehdhoo**	**14.77**	**27**	P	**Pn**	**03 50 14.0**	**+1.2**
SBV	**Sambava**	**15.96**	**266**	P	**P**	**03 50 30.6**	**-1.4**
OPO	**Ambohidratompo**	**19.26**	**250**	P	**Pn**	**03 51 10.5**	**+0.8**
	baz=82,slow=11,SNR=4.6						
	11nm,1.1s						
ABPO	**Ambohimpanom**	**19.34**	**249**	P	**P**	**03 51 10.1**	**+0.5**
ABPO	**Ambohimpanom**	**19.34**	**249**	P	**P**	**03 51 10.1**	**+0.5**
ABPO				pmax	pmax		
	comp=Z,36nm,1.2s						
VOI	**Vohitsoka**	**20.69**	**241**	P	**P**	**03 51 24.9**	**+0.8**
VOI	**Vohitsoka**	**20.69**	**241**	P	Pn	03 51 28.2	+1.7
MNCI	**Minicoy**	**21.97**	**18**	P	**P**	**03 51 37.2**	**-0.7**
KIBK	**Kibwezi**	**29.81**	**288**	P	**P**	**03 52 50.8**	**-0.4**
KIBK	**Kibwezi**	**29.81**	**288**	P	**P**	**03 52 53.6**	**+2.4**
	SNR=5.0						
KMBO	**Kilima Mbogo**	**31.01**	**290**	P	**P**	**03 53 02.5**	**+0.6**
KMBO	**Kilima Mbogo**	**31.01**	**290**	*e*P	**P**	**03 53 03.3**	**+1.4**
KMBO				pmax	pmax		
	comp=Z,11nm,1.1s						
KMBO	**Kilima Mbogo**	**31.01**	**290**	P	**P**	**03 53 03.6**	**+1.7**
KMBO				P	**P**	**03 53 03.6**	**+1.7**
KMBO	**Kilima Mbogo**	**31.01**	**290**	P	**P**	**03 53 02.8**	**+0.9**
	comp=Z,11nm,1.1s,baz=95,slow=8.3,SNR=16						
KMBO				LR	LR	04 03 32.1	
	comp=Z,508nm,19.2s,baz=96,slow=32						
	comp=Z,11nm,1.1s						
HYB	**Hyderabad**	**32.35**	**22**	*e*P	**P**	**03 53 13.4**	**0.0**
HYB				IVmB_BB		03 53 20.3	
	comp=Z,294nm,3.0s						
HYB				*e*PP	**PP**	**03 54 26.5**	**-0.2**
HYB				*e*S	**S**	**03 58 28.3**	**+1.0**
HYB				IVMs_BB	IVMs_BB	04 06 10.1	
	comp=Z,433nm,15.3s						
ABTO	**Aybut**	**32.57**	**336**	P	**P**	**03 53 17.1**	**+1.8**
DOK	**Doka**	**33.42**	**339**	P	**P**	**03 53 25.0**	**+2.3**
	SNR=12						
ATD	**Arta Tunnel**	**33.53**	**315**	P	**P**	**03 53 23.8**	**0.0**
ATD				IAmb	IAmb	03 53 38.2	
	comp=Z,68nm,1.7s						
ATD	**Arta Tunnel**	**33.53**	**315**	LR	LR	04 05 14.5	
	comp=Z,10.0nm,19.1s,baz=158,slow=33						
MHTO	**MHTO**	**34.53**	**346**	P	**P**	**03 53 34.0**	**+1.7**
	SNR=14						
MHTO				P	**P**	**03 53 34.0**	**+1.7**
	SNR=14						
LODK	**Lodwar**	**34.68**	**296**	P	**P**	**03 53 34.8**	**+1.0**
LODK				IAmb	IAmb	03 53 49.4	
	comp=Z,55nm,1.7s						
LODK	**Lodwar**	**34.68**	**296**	P	**P**	**03 53 34.8**	**+1.0**
FURI	**Furi**	**34.87**	**307**	P	**P**	**03 53 37.2**	**+1.5**
JLN	**Jalan Bani Buh**	**35.36**	**349**	P	**P**	**03 53 41.3**	**+1.9**
JLN				P	**P**	**03 53 42.0**	**+2.5**
	SNR=5.2						
H04N2	**CROZET ISLANDS**	**35.47**	**197**	T	T	04 31 13.7	
	baz=25,slow=75,SNR=83						
H04N1	**CROZET ISLANDS**	**35.47**	**197**	T	T	04 31 10.2	
	baz=25,slow=75,SNR=89						
H04N3	**CROZET ISLANDS**	**35.48**	**197**	T	T	04 31 12.3	
	baz=25,slow=75,SNR=89						
PBA	**Port Blair**	**35.76**	**48**	P	**P**	**03 53 42.0**	**-1.0**
PBA				IAmb	IAmb	03 53 58.1	
	comp=Z,56nm,1.0s						
JMDO	**Jabal Madar**	**35.84**	**347**	P	**P**	**03 53 46.0**	**+2.4**
	SNR=7.6						
RPSI	**Rantau Prapat**	**35.87**	**67**	P	**P**	**03 53 42.1**	**-1.9**
WBK	**Wadi Bani Khal**	**35.89**	**348**	P	**P**	**03 53 46.0**	**+1.9**
	SNR=5.7						
PSI	**Prapat**	**35.91**	**67**	P	**P**	**03 53 42.1**	**-2.5**
PSI				pmax	pmax		
	comp=Z,28nm,1.3s						
BSY	**Bisya**	**36.41**	**346**	P	**P**	**03 53 51.0**	**+2.5**
	SNR=13						
SMDO	**Samad**	**36.51**	**347**	P	**P**	**03 53 52.0**	**+2.5**
	SNR=7.6						
WSAR	**Wadi Sarin**	**36.57**	**348**	P	**P**	**03 53 51.0**	**+1.1**
	SNR=12						
WSAR	**Wadi Sarin**	**36.57**	**348**	LR	LR	04 06 13.3	
	comp=Z,364nm,18.2s,baz=182,slow=32						
MATP	**Matopo**	**36.94**	**253**	LR	LR	04 07 02.2	
	comp=Z,153nm,19.5s,baz=62,slow=33						
BIDO	**Bidbid**	**36.95**	**347**	P	**P**	**03 53 54.4**	**+1.4**
BIDO				P	**P**	**03 53 56.0**	**+2.9**
	SNR=10						
LSZ	**Lusaka**	**37.02**	**262**	P	**P**	**03 53 54.9**	**+0.9**
LSZ	**Lusaka**	**37.02**	**262**	P	**P**	**03 53 54.9**	**+0.9**
LSZ				pmax	pmax		
	comp=Z,152nm,1.3s						
LSZ	**Lusaka**	**37.02**	**262**	P	**P**	**03 53 55.3**	**+1.3**
LSZ	**Lusaka**	**37.02**	**262**	LR	LR	04 07 11.2	
	comp=Z,2μm,21.4s,baz=114,slow=33						
ARQ	**Araqi**	**37.14**	**345**	P	**P**	**03 53 57.0**	**+2.3**
	SNR=6.7						
HOQ	**Hoqain**	**37.19**	**346**	P	**P**	**03 53 57.0**	**+1.9**
	SNR=9.8						
MBAR	**Mbarara**	**37.25**	**286**	P	**P**	**03 53 56.8**	**+0.7**
MBAR	**Mbarara**	**37.25**	**286**	*i* P	**P**	**03 53 56.4**	**+0.4**
MBAR	**Mbarara**	**37.25**	**286**	LR	LR	04 06 52.9	
	comp=Z,623nm,20.8s,baz=97,slow=32						
ASHO	**Ashiyiah**	**38.55**	**345**	P	**P**	**03 54 08.0**	**+1.4**
	SNR=19						
KULM	**Kulim**	**38.57**	**64**	P	**P**	**03 54 06.3**	**-0.7**
KULM				IAmb	IAmb	03 54 10.1	
	comp=Z,97nm,1.6s						
HATD	**Hatta, Dubai**	**38.66**	**345**	P	**P**	**03 54 10.1**	**+2.5**
	SNR=9.4						
UOSS	**Minazif**	**38.76**	**345**	P	**P**	**03 54 07.4**	**-1.0**
MDH	**Madha**	**39.07**	**346**	P	**P**	**03 54 12.1**	**+1.1**
	SNR=5.8						
MASF	**Masafi**	**39.18**	**345**	P	**P**	**03 54 13.4**	**+1.5**
	SNR=12						
SRIT	**Nakonsritamara**	**39.32**	**59**	P	**P**	**03 54 13.3**	**+0.1**
MYKOM	**Kota Tinggi**	**39.99**	**71**	P	**P**	**03 54 19.8**	**+0.9**
LBTB	**Lobatse**	**40.22**	**246**	P	**P**	**03 54 20.9**	**+0.1**
LBTB	**Lobatse**	**40.22**	**246**	P	**P**	**03 54 20.9**	**+0.1**
LBTB				pmax	pmax		
	comp=Z,47nm,1.2s						
LEM	**Lembang**	**41.12**	**86**	LR	LR	04 08 02.2	
	comp=Z,478nm,21.3s,baz=166,slow=31						
BOSA	**Boshof**	**41.26**	**241**	P	**P**	**03 54 29.8**	**+0.4**
BOSA				IAmb	IAmb	03 54 31.3	
	comp=Z,60nm,1.3s						
BOSA	**Boshof**	**41.26**	**241**	P	**P**	**03 54 29.8**	**+0.4**
BOSA				pmax	pmax		
	comp=Z,60nm,1.3s						
BOSA	**Boshof**	**41.26**	**241**	P	**P**	**03 54 29.5**	**+0.1**
	comp=Z,27nm,1.1s,baz=66,slow=8.4,SNR=12						
BOSA				LR	LR	04 09 03.5	
	comp=Z,1μm,20.2s,baz=82,slow=32						
	comp=Z,27nm,1.1s						
BRDH	**Bariadhala**	**43.11**	**35**	LR	LR	04 11 31.4	
	comp=Z,2μm,20.8s,baz=272,slow=35						
KOLN	**Koldanda**	**43.66**	**22**	*e*P	**P**	**03 54 49.5**	**+0.6**
	comp=Z,394nm,1.7s						
KOLN	**Koldanda**	**43.66**	**22**	*e*P	**P**	**03 54 49.3**	**+0.4**
PYUN	**Piuthan**	**43.73**	**22**	*e*P	**P**	**03 54 50.7**	**+1.2**
	comp=Z,124nm,1.0s						
PYUN	**Piuthan**	**43.73**	**22**	*e*P	**P**	**03 54 50.2**	**+0.7**
	comp=Z,124nm,1.0s						
SMRI	**Semarang**	**43.82**	**87**	P	**P**	**03 54 49.1**	**-1.1**
DMN	**Daman**	**44.10**	**24**	*e*P	**P**	**03 54 53.8**	**+1.3**
	comp=Z,202nm,1.4s						
DMN	**Daman**	**44.10**	**24**	*e*P	**P**	**03 54 53.4**	**+0.9**
	comp=Z,202nm,1.4s						
RAMN	**Ramite**	**44.14**	**26**	*e*P	**P**	**03 54 54.3**	**+1.5**
	comp=Z,338nm,1.5s						
RAMN	**Ramite**	**44.14**	**26**	*e*P	**P**	**03 54 53.9**	**+1.1**
	comp=Z,338nm,1.5s						
PKI	**Pulchoki**	**44.19**	**25**	*e*P	**P**	**03 54 54.4**	**+1.1**
	comp=Z,149nm,1.5s						
PKI	**Pulchoki**	**44.19**	**25**	*e*P	**P**	**03 54 53.8**	**+0.5**
	comp=Z,149nm,1.5s						
PKIN	**Phulchoki**	**44.19**	**25**	*e*P	**P**	**03 54 54.2**	**+1.0**
	comp=Z,177nm,1.6s						
DANN	**Dangsing**	**44.24**	**22**	*e*P	**P**	**03 54 54.8**	**+1.1**
	comp=Z,121nm,1.0s						
DANN	**Dangsing**	**44.24**	**22**	*e*P	**P**	**03 54 53.9**	**+0.2**
	comp=Z,121nm,1.0s						
GKN	**Gorkha**	**44.26**	**24**	*e*P	**P**	**03 54 55.1**	**+1.4**
	comp=Z,143nm,1.0s						
GKN	**Gorkha**	**44.26**	**24**	*e*P	**P**	**03 54 54.8**	**+1.1**
	comp=Z,143nm,1.0s						
KKN	**Kakani**	**44.33**	**24**	*e*P	**P**	**03 54 55.9**	**+1.6**
	comp=Z,275nm,1.7s						
KKN	**Kakani**	**44.33**	**24**	*e*P	**P**	**03 54 54.7**	**+0.4**
ODAN	**Odare**	**44.41**	**27**	*e*P	**P**	**03 54 55.7**	**+0.8**
	comp=Z,225nm,2.1s						
ODAN	**Odare**	**44.41**	**27**	*e*P	**P**	**03 54 55.8**	**+0.8**
JIRN	**Jiri**	**44.59**	**25**	*e*P	**P**	**03 54 57.5**	**+1.0**
	comp=Z,199nm,1.5s						
JIRN	**Jiri**	**44.59**	**25**	*e*P	**P**	**03 54 57.6**	**+1.0**
	comp=Z,199nm,1.5s						
GUN	**Gumba**	**44.68**	**25**	*e*P	**P**	**03 54 58.6**	**+1.4**
	comp=Z,665nm,2.0s						
GUN	**Gumba**	**44.68**	**25**	*e*P	**P**	**03 54 58.4**	**+1.2**
	comp=Z,665nm,2.0s						
CM31	**Chiang Mai Arr**	**44.73**	**47**	P	**P**	**03 54 57.7**	**+0.4**
CM31				IAmb	IAmb	03 55 00.2	
	comp=Z,43nm,1.4s						
CM31	**Chiang Mai Arr**	**44.73**	**47**	P	**P**	**03 54 59.0**	**+1.6**
	SNR=8.1						
CMAR	**Chiang Mai Arr**	**44.73**	**47**	P	**P**	**03 54 57.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**44.73**	**47**	P	**P**	**03 54 57.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**44.73**	**47**	P	**P**	**03 54 58.6**	**+1.3**
	comp=Z,1.5nm,0.3s,baz=239,slow=8.0,SNR=26						
CMAR				LR	LR	04 10 55.1	
	comp=Z,552nm,21.9s,baz=235,slow=32						
	comp=Z,1.5nm,0.3s						
CHTO	**Chiang Mai**	**44.96**	**46**	P	**P**	**03 54 59.5**	**+0.3**
CHTO	**Chiang Mai**	**44.96**	**46**	P	**P**	**03 54 59.5**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,2.0nm,1.5s						
TAPN	**Taplejung**	**44.98**	**27**	*e*P	**P**	**03 55 00.7**	**+1.1**
	comp=Z,152nm,1.6s						
TAPN	**Taplejung**	**44.98**	**27**	*e*P	**P**	**03 55 00.6**	**+1.0**
	comp=Z,152nm,1.6s						
SHL	**Shillong**	**45.54**	**33**	P	**P**	**03 55 03.1**	**-0.8**
SHL				IAmb	IAmb	03 55 16.7	
	comp=Z,81nm,1.3s						
SHL	**Shillong**	**45.54**	**33**	P	**P**	**03 55 03.1**	**-0.8**
SHL				pmax	pmax		
	comp=Z,81nm,1.3s						
SHL	**Shillong**	**45.54**	**33**	P	**P**	**03 55 05.9**	**+1.9**
	SNR=18						
SUR	**Sutherland**	**45.90**	**237**	LR	LR	04 12 37.4	
	comp=Z,667nm,18.2s,baz=80,slow=34						
KSM	**Kuching**	**45.92**	**75**	P	**P**	**03 55 07.1**	**+0.2**
KSM				IAmb	IAmb	03 55 20.0	
	comp=Z,64nm,1.7s						
CRAI	**Chiangrai**	**46.91**	**46**	P	**P**	**03 55 14.9**	**+0.4**
CRAI				IAmb	IAmb	03 55 22.1	
	comp=Z,27nm,1.3s						
HRA	**Herat**	**47.06**	**355**	P	**P**	**03 55 15.3**	**-0.5**
KBL	**Kabul**	**47.12**	**3**	P	**P**	**03 55 17.2**	**+0.9**
KBL				IAmb	IAmb	03 55 19.1	
	comp=Z,54nm,1.4s						
KBL	**Kabul**	**47.12**	**3**	P	**P**	**03 55 17.2**	**+0.9**
KBL				pmax	p

H01W2 Cape Leeuwin H 48.45 125 T T 04 47 24.7
baz=285,slow=75
H01W1 Cape Leeuwin H 48.46 125 T T 04 47 17.5
baz=285,slow=75
MORW Morawa 48.85 117 P **P** **03 55 28.6 -1.0**
MORW IAmb IAmb 03 55 32.2
comp=Z,46nm,1.4s
TNCH TengChong 48.99 40 P **P** **03 55 32.2 +1.4**
TNCH sP pwP 03 55 37.9 -0.6
TNCH pmax pmax
comp=Z,51nm,1.2s
TNCH pmax pmax
comp=Z,220nm,3.0s
NWAO Narrogin (SRO) 50.52 122 P **P** **03 55 43.8 +1.5**
NWAO Narrogin (SRO) 50.52 122 LR LR 04 13 25.9
comp=Z,159nm,18.9s,baz=44,slow=32
GEYT Alibeck 51.01 352 P **P** **03 55 45.6 -0.2**
GEYT Alibeck 51.01 352 P **P** **03 55 46.1 +0.3**
comp=Z,1.9nm,0.2s,baz=165,slow=6.0,SNR=3.4
GEYT LR LR 04 15 36.5
comp=Z,357nm,19.7s,baz=162,slow=34
comp=Z,1.9nm,0.2s
GYA0 ALIBECK ARRAY 51.01 352 P **P** **03 55 45.1 -0.7**
GYA0B ALIBECK ARRAY 51.01 352 P **P** **03 55 45.1 -0.7**
PSA00 Pilbara Seismi 51.71 107 P **P** **03 55 51.5 +0.1**
PSA00 IAmb IAmb 03 55 53.7
comp=Z,33nm,1.2s
PSA00 Pilbara Seismi 51.71 107 P **P** **03 55 50.8 -0.6**
PSA00 IAmb IAmb 03 55 52.9
comp=Z,35nm,1.6s
KMI Kunming 51.79 43 ⇑P **P** **03 55 53.2 +1.1**
KMI S **S** **04 03 12.6 -1.6**
KMI pmax pmax
comp=Z,12nm,1.1s
KMI LR LR
comp=Z,240nm,15.6s
KMI LR LR
comp=Z,500nm,17.2s
KMI LR LR
comp=Z,370nm,21.4s
EIL Elat 51.90 325 LR LR 04 14 46.3
comp=Z,379nm,20.9s,baz=98,slow=32
PZH PanZhiHua 52.08 41 P **P** **03 55 54.7 +0.6**
PZH S **S** **04 03 20.3 +2.3**
PZH pmax pmax
comp=Z,30nm,1.5s
PZH pmax pmax
comp=Z,200nm,3.8s
PZH LR LR
comp=Z,390nm,22.7s
PZH LR LR
comp=Z,470nm,19.6s
PZH LR LR
comp=Z,500nm,19.2s
BTK Batken 52.73 4 P **P** **03 55 58.5 -0.1**
BTK Batken 52.73 4 P **P** **03 55 58.5 -0.1**
BTK pmax pmax
comp=Z,31nm,1.2s
KSH Kashi 52.80 9 P **P** **03 55 56.5 -2.7**
KSH pP pP 03 56 02.3 -0.2
KSH sP pwP 03 56 07.8 +0.9
KSH PP **PP** **03 57 55.0 -3.8**
KSH S **S** **04 03 22.3 -5.1**
KSH pmax pmax
comp=Z,65nm,1.3s
KSH LR LR
comp=Z,660nm,15.2s
KSH LR LR
comp=Z,660nm,16.2s
KSH LR LR
comp=Z,820nm,17.5s
KAPI Kappang 53.30 87 P **P** **03 56 02.3 -1.0**
KAPI IAmb IAmb 03 56 04.7
comp=Z,74nm,1.6s
KAPI Kappang 53.30 87 P **P** **03 56 02.3 -1.0**
KAPI pmax pmax
comp=Z,75nm,1.7s
KAPI Kappang 53.30 87 LR LR 04 15 34.7
comp=Z,388nm,21.3s,baz=230,slow=32
QIZ Qiongzhong 53.30 54 P **P** **03 56 03.5 +0.4**
QIZ S **S** **04 03 36.9 +2.3**
QIZ LR LR
comp=Z,290nm,16.0s
QIZ LR LR
comp=Z,550nm,16.1s
QIZ LR LR
comp=Z,580nm,22.2s
MMAI Mount Meron Ar 54.25 328 P **P** **03 56 10.8 +0.9**
comp=Z,11nm,1.0s,baz=163,slow=5.6,SNR=7.5
MMAI LR LR 04 17 20.2
comp=Z,303nm,19.1s,baz=112,slow=34
comp=Z,11nm,1.0s
SIRT Sirnak 54.80 337 P **P** **03 56 14.0 +0.2**
MAW Mawson 54.82 182 P **P** **03 56 14.0 +0.5**
MAW Mawson 54.82 182 P **P** **03 56 14.0 +0.5**
MAW Mawson 54.82 182 P **P** **03 56 14.0 +0.5**
comp=Z,21nm,1.1s,baz=16,slow=9.8,SNR=13
MAW LR LR 04 13 44.9
comp=Z,739nm,21.7s,baz=357,slow=30
comp=Z,21nm,1.1s
CHM Chimkent 54.90 3 *e*P **P** **03 56 14.4 0.0**
baz=2.9
CHM Chimkent 54.90 3 *e*P **P** **03 56 14.4 0.0**
GYA Guiyang 55.33 45 ⇑P **P** **03 56 17.9 0.0**
GYA pP sP 03 56 24.1 +1.2
GYA pmax pmax
comp=Z,37nm,1.3s
GYA LR LR
comp=Z,340nm,17.8s
DZA Taraz 55.58 4 *e*P **P** **03 56 19.5 +0.1**
baz=4.4
DZA Taraz 55.58 4 *e*P **P** **03 56 19.4 +0.1**
AAK Ala-Archa 55.65 7 P **P** **03 56 19.7 -0.3**
AAK IAmb IAmb 03 56 22.2
comp=Z,38nm,1.4s
AAK Ala-Archa 55.65 7 *ce*P **P** **03 56 20.5 +0.5**
AAK pmax pmax
comp=Z,35nm,1.7s
AAK Ala-Archa 55.65 7 P **P** **03 56 22.5 +2.5**
AAK Ala-Archa 55.65 7 LR LR 04 18 21.6
comp=Z,322nm,21.6s,baz=182,slow=34
GOMU GeErMu 55.66 28 P **P** **03 56 21.5 +1.1**
GOMU pP sP 03 56 25.0 0.0
GOMU sP pwP 03 56 29.1 +1.0
GOMU pmax pmax
comp=Z,9.0nm,1.0s
GOMU pmax pmax
comp=Z,140nm,6.1s
GOMU LR LR
comp=Z,300nm,18.1s
GOMU LR LR
comp=Z,280nm,18.1s
GOMU LR LR
comp=Z,400nm,19.6s
BOOM Boomskoye usch 55.70 9 P **P** **03 56 19.3 -1.1**
BOOM Boomskoye usch 55.70 9 P **P** **03 56 19.3 -1.1**
BOOM pmax pmax
comp=Z,15nm,1.2s
KK31 Karatay Array 55.74 4 P **P** **03 56 20.2 -0.2**
KK31 Karatay Array 55.74 4 P **P** **03 56 20.2 -0.2**
KK31 pmax pmax
comp=Z,31nm,1.6s
KKAR Karatay Array 55.74 4 P **P** **03 56 19.5 -0.9**
KKAR Karatay Array 55.74 4 P **P** **03 56 20.3 -0.1**
KKAR IAmb IAmb 03 56 22.6
comp=Z,30nm,1.6s
KKAR Karatay Array 55.74 4 P **P** **03 56 20.3 -0.1**
KKAR pmax pmax
comp=Z,31nm,1.6s
TOLI2 Tolitoli 55.79 80 P **P** **03 56 20.1 -1.3**
TOLI2 IAmb IAmb 03 56 23.3
comp=Z,50nm,1.6s
FRU1 Bishkek 55.84 7 P **P** **03 56 21.7 +0.5**
FRU1 Bishkek 55.84 7 P **P** **03 56 21.7 +0.5**
FRU1 pmax pmax
comp=Z,51nm,0.5s
GURO Guroymak-BITLI 55.87 337 P **P** **03 56 21.9 +0.3**
GURO IAmb IAmb 03 56 35.4
comp=Z,60nm,1.9s
PRZ Przheval'sk 56.10 11 P **P** **03 56 23.0 -0.2**
PRZ IAmb IAmb 03 56 26.6
comp=Z,72nm,1.6s
PRZ Przheval'sk 56.10 11 P **P** **03 56 23.0 -0.2**
PRZ pmax pmax
comp=Z,73nm,1.6s
BATI Baumata 56.19 94 LR LR 04 16 49.9
comp=Z,435nm,21.4s,baz=199,slow=32
GNI Garni 56.33 340 P **P** **03 56 26.2 +1.3**
GNI Garni 56.33 340 *ce*P **P** **03 56 26.0 +1.1**
GNI pmax pmax
comp=Z,54nm,1.3s
GNI Garni 56.33 340 LR LR 04 19 47.8
comp=Z,165nm,18.7s,baz=149,slow=35
TNSS Tian-Shan 56.39 9 *e*P **P** **03 56 24.9 -0.7**
baz=9.2
TNSS Tian-Shan 56.39 9 *e*P **P** **03 56 24.9 -0.7**
CD2 Chengdu 56.41 39 P **P** **03 56 25.6 0.0**
CD2 S **S** **04 04 18.5 +2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,560nm,18.6s
CD2 LR LR
comp=Z,630nm,16.7s
SGDS Sogindy 56.47 7 *e*P **P** **03 56 25.1 -0.7**
baz=7.2
SGDS Sogindy 56.47 7 *e*P **P** **03 56 25.0 -0.7**
AAA Alma-Ata 56.55 9 *e*P **P** **03 56 25.7 -0.6**
baz=9.2
AAA Alma-Ata 56.55 9 *e*P **P** **03 56 25.7 -0.6**
SATY Saty 56.66 11 *e*P **P** **03 56 26.8 -0.4**
comp=Z,26nm,1.4s,baz=10
SATY Saty 56.66 11 *e*P **P** **03 56 26.7 -0.4**
SATY pmax pmax
comp=Z,26nm,1.4s
ZHN Zhinishke 56.77 11 *e*P **P** **03 56 27.3 -0.6**
baz=10
ZHN Zhinishke 56.77 11 *e*P **P** **03 56 27.3 -0.6**
CSS Mathiatis 56.84 328 P **P** **03 56 28.8 +0.3**
CSS IAmb IAmb 03 56 33.9
comp=Z,44nm,1.5s
SOEI Soe 56.85 93 P **P** **03 56 29.9 +0.8**
UZB Uzynbulak 56.86 11 *e*P **P** **03 56 28.1 -0.5**
baz=11
UZB Uzynbulak 56.86 11 *e*P **P** **03 56 28.1 -0.5**
SHLS Shalkode 56.95 11 *e*P **P** **03 56 29.8 +0.5**
comp=Z,49nm,1.5s,baz=12
SHLS Shalkode 56.95 11 *e*P **P** **03 56 29.7 +0.5**
SHLS pmax pmax
comp=Z,49nm,1.5s
KPKS Kokpek 57.10 11 *e*P **P** **03 56 29.6 -0.6**
comp=Z,27nm,1.8s,baz=11
KPKS Kokpek 57.10 11 *e*P **P** **03 56 29.6 -0.6**
KPKS pmax pmax
comp=Z,27nm,1.8s
KUU Kurty 57.13 9 *e*P **P** **03 56 29.2 -1.2**
comp=Z,51nm,1.6s,baz=8.5
KUU Kurty 57.13 9 *e*P **P** **03 56 29.2 -1.2**
KUU pmax pmax
comp=Z,51nm,1.6s
CHKK Chushkaly 57.19 9 *e*P **P** **03 56 29.5 -1.3**
baz=9.1
CHKK Chushkaly 57.19 9 *e*P **P** **03 56 29.5 -1.3**
ARXS Arharly 57.68 10 *e*P **P** **03 56 32.9 -1.4**
AKH Akhalkalaki 57.88 340 P **P** **03 56 36.1 +0.2**
AKH Akhalkalaki 57.88 340 P **P** **03 56 36.1 +0.2**
AKH pmax pmax
comp=Z,110nm,1.5s
BTLS Baital 57.97 6 *e*P **P** **03 56 35.6 -0.6**
baz=6.4
BTLS Baital 57.97 6 *e*P **P** **03 56 35.6 -0.6**
MAK Makhachkala 58.07 344 *e*P **P** **03 56 32.6 -4.3**
MAK *e* 03 58 40.8
MAK *e*S **S** **04 04 32.0 -5.5**
MAK pmax pmax
comp=Z,160nm,1.2s
MAK MLR MLR
comp=Z,97nm,17.0s
TDK Taldyqorghan 58.54 10 *e*P **P** **03 56 39.8 -0.4**
baz=9.9
TDK Taldyqorghan 58.54 10 *e*P **P** **03 56 39.8 -0.4**
BNN Bunyan 58.70 332 P **P** **03 56 41.9 +0.3**
ZEI Tsey 58.98 341 *e*P **P** **03 56 43.6 0.0**
ZEI pmax pmax
comp=Z,16nm,1.3s
FORT Forrest 59.40 118 P **P** **03 56 46.1 -0.5**
WMQ Urumqi 59.61 18 *e*P **P** **03 56 48.5 +0.7**
WMQ pP pwP 03 56 54.3 -1.2
WMQ sP sP 03 56 56.2 +3.8
WMQ pmax pmax
comp=Z,45nm,1.5s
WMQ pmax pmax
comp=Z,260nm,3.7s
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,540nm,15.9s
WMQ LR LR
comp=Z,1μm,22.1s
KBZ Khabaz 60.15 341 *ce*P **P** **03 56 50.2 -1.1**
KBZ pmax pmax
comp=Z,14nm,1.5s
KBZ Khabaz 60.15 341 P **P** **03 56 50.5 -0.8**
comp=Z,3.4nm,1.1s,baz=141,slow=4.8,SNR=4.8
KBZ LR LR 04 22 00.5
comp=Z,134nm,18.2s,baz=155,slow=35
comp=Z,3.4nm,1.1s
LZH Lanzhou 60.16 35 *e*P **P** **03 56 52.8 +1.0**
LZH pP sP 03 56 57.4 +0.6
LZH S **S** **04 05 04.9 -0.3**
LZH sS sS 04 05 14.8 +4.1
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,180nm,5.6s
LZH LR LR
comp=Z,580nm,20.2s
LZH LR LR
comp=Z,860nm,20.6s
LZH LR LR
comp=Z,960nm,20.3s
TGY Tagaytay City 60.37 66 LR LR 04 21 08.4
comp=Z,313nm,19.6s,baz=302,slow=34
KVAR Kislovodsk Arr 60.41 341 LR LR 04 22 22.9
comp=Z,116nm,18.5s,baz=79,slow=35
KIV Kislovodsk 60.42 341 P **P** **03 56 52.7 -0.6**
KIV Kislovodsk 60.42 341 *e*P **P** **03 56 53.3 0.0**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,105nm,17.0s
BR131 Keskin Array S 60.42 331 P **P** **03 56 52.9 -0.6**
BR131 IAmb IAmb 03 56 55.7
comp=Z,48nm,1.5s
BR131 Keskin Array S 60.42 331 *i* P **P** **03 56 52.5 -1.0**
BR131 Keskin Array S 60.42 331 P **P** **03 56 53.3 -0.2**
SNR=8.0
BRTR Keskin Array B 60.42 331 P **P** **03 56 53.5 0.0**
BRTR Keskin Array B 60.42 331 P **P** **03 56 53.6 +0.2**
comp=Z,12nm,1.2s,baz=150,slow=5.1,SNR=20
comp=Z,12nm,1.2s
KNRA Kununurra 60.44 101 P **P** **03 56 52.6 -1.4**
KNRA IAmb IAmb 03 56 55.8
comp=Z,49nm,1.5s
GTA Gaotai 60.59 29 *e*P **P** **03 56 55.3 +0.7**
GTA pP sP 03 57 00.9 +1.2
GTA sP pwP 03 57 06.2 +3.9
GTA pmax pmax
comp=Z,26nm,1.4s
ARG Arkhangelos 60.59 325 P **P** **03 56 55.2 +0.7**
ARG Arkhangelos 60.59 325 P **P** **03 56 55.2 +0.7**
ARG pmax pmax
comp=Z,160nm,1.4s
ANTO Ankara 60.93 331 P **P** **03 56 56.9 0.0**
ANTO IAmb IAmb 03 57 42.1
comp=Z,32nm,1.3s
ANTO Ankara 60.93 331 P **P** **03 56 56.9 0.0**
ANTO pmax pmax
comp=Z,31nm,1.3s
MAKZ Makanchi 60.96 12 P **P** **03 56 56.2 -0.6**
MAKZ IAmb IAmb 03 56 58.2
comp=Z,41nm,1.4s
MAKZ Makanchi 60.96 12 P **P** **03 56 56.2 -0.6**
MAKZ pmax pmax
comp=Z,41nm,1.4s
MK31 Makanchi Array 61.01 13 P **P** **03 56 57.1 -0.1**
MK31 IAmb IAmb 03 56 58.5
comp=Z,51nm,1.5s
MK31 Makanchi Array 61.01 13 *i* P **P** **03 56 56.8 -0.4**
MKAR Makanchi Array 61.01 13 P **P** **03 56 56.9 -0.3**
comp=Z,24nm,1.2s,baz=190,slow=6.2,SNR=27
MKAR LR LR 04 21 55.5
comp=Z,339nm,18.5s,baz=204,slow=35
comp=Z,24nm,1.2s
CASY Casey 61.08 161 P **P** **03 56 57.7 +0.3**
CASY IAmb IAmb 03 56 59.8
comp=Z,36nm,1.4s
SOC Sochi 61.11 338 *e*P **P** **03 56 55.4 -2.5**
SOC *e* 03 59 10.7
SOC *e*S **S** **04 05 15.7 -1.0**
SOC *e*SS **SS** **04 09 16.4 -0.6**
SOC MLR MLR
comp=Z,106nm,18.0s
XAN Xi'an 61.73 40 ⇑P **P** **03 57 02.1 -0.3**
XAN pP sP 03 57 07.0 -0.4
XAN pmax pmax
comp=Z,48nm,1.4s
XAN LR LR
comp=Z,360nm,18.4s
XAN LR LR
comp=Z,560nm,18.2s
XAN LR LR
comp=Z,690nm,20.6s
IDI Anoyia 61.81 322 ⇑P **P** **03 57 03.4 +0.5**
IDI Anoyia 61.81 322 P **P** **03 57 03.1 +0.1**
ABKAR Akbulak array 62.01 355 P **P** **03 57 03.6 -0.2**
TNTI Ternate 62.04 82 P **P** **03 57 04.4 -0.5**
DAV Davao City (W) 62.12 75 LR LR 04 21 35.6
comp=Z,436nm,21.6s,baz=263,slow=34
MDUB Mudurnu 62.16 330 P **P** **03 57 04.7 -0.5**
ZSN Zaisan 62.21 14 *e*P **P** **03 57 05.7 +0.4**
comp=Z,38nm,1.5s,baz=14
ZSN Zaisan 62.21 14 *e*P **P** **03 57 05.7 +0.4**
ZSN pmax pmax
comp=Z,38nm,1.5s
SANT Santorini 62.22 323 ⇑P **P** **03 57 05.9 +0.2**
SANT Santorini 62.22 323 P **P** **03 57 06.1 +0.5**
BRZS Berezniki 62.74 5 *e*P **P** **03 57 09.1 +0.4**
comp=Z,21nm,1.5s,baz=4.5
BRZS Berezniki 62.74 5 *e*P **P** **03 57 09.1 +0.4**
BRZS pmax pmax
comp=Z,21nm,1.5s
WHN Wuhan 63.17 46 ⇑P **P** **03 57 13.0 +1.0**
WHN sP **pwP** **03 57 18.4 -1.3**
WHN pmax pmax
comp=Z,96nm,1.2s
AKTO Aktyubinsk 63.35 354 LR LR 04 24 14.3
comp=Z,156nm,20.8s,baz=175,slow=36
KURBB Kurchatov Arra 64.03 9 P **P** **03 57 17.3 +0.1**
comp=Z,7.0nm,1.0s,baz=201,slow=7.0,SNR=28
KURBB LR LR 04 24 18.2
comp=Z,290nm,18.8s,baz=170,slow=35
comp=Z,7.0nm,1.0s
SEM Semipalatinsk 64.09 10 *e*P **P** **03 57 17.7 -0.3**
comp=Z,21nm,1.7s,baz=9.8
SEM Semipalatinsk 64.09 10 *e*P **P** **03 57 17.6 -0.3**
SEM pmax pmax
comp=Z,21nm,1.7s
KURK Kurchatov 64.13 9 P **P** **03 57 17.6 -0.4**
KURK IAmb IAmb 03 57 19.7
comp=Z,52nm,1.6s
KURK Kurchatov 64.13 9 *ce*P **P** **03 57 17.2 -0.7**
KURK pmax pmax
comp=Z,42nm,1.7s
LYN LuoYang 64.31 41 *e*P P 03 57 24.9 +5.4
LYN pP pwP 03 57 30.7 +3.5
LYN S **S** **04 06 05.0 +7.7**
LYN pmax pmax
comp=Z,12nm,0.5s
LYN pmax pmax
comp=Z,250nm,6.4s
LYN LR LR
comp=Z,530nm,18.2s
LYN LR LR
comp=Z,480nm,17.2s
LYN LR LR
comp=Z,930nm,17.7s
ELIB Princess Elisa 64.44 194 *d*P **P** **03 57 20.3 +0.4**
comp=Z,30nm,1.2s
ASAR Alice Springs 64.64 110 P **P** **03 57 21.4 -0.6**
comp=Z,11nm,1.1s,baz=269,slow=5.7,SNR=46
ASAR LR LR 04 22 37.5
comp=Z,236nm,19.6s,baz=276,slow=33
comp=Z,11nm,1.1s
AS31 Alice Springs 64.64 110 P **P** **03 57 21.0 -1.0**
DGZ Jazzator, Alta 64.93 15 *i* P **P** **03 57 22.9 -0.5**
DGZ pmax pmax
comp=Z,48nm,1.5s
ALN Alexandroupoli 65.09 327 P **P** **03 57 24.8 +0.4**
ALN IAmb IAmb 03 57 26.8
comp=Z,28nm,1.4s
ALN Alexandroupoli 65.09 327 P **P** **03 57 24.8 +0.4**
ALN pmax pmax
comp=Z,28nm,1.4s
WRA Warramunga Arr 65.32 106 P **P** **03 57 25.7 -0.7**
WRA Warramunga Arr 65.32 106 P **P** **03 57 25.7 -0.7**
comp=Z,26nm,1.2s,baz=264,slow=6.5,SNR=39
comp=Z,26nm,1.2s
WB2 Warramunga Arr 65.33 106 P **P** **03 57 25.9 -0.6**
WRAB Tennant Creek 65.33 106 P **P** **03 57 25.7 -0.8**
WRAB Tennant Creek 65.33 106 *i* P **P** **03 57 24.2 -2.3**
WRAB pmax pmax
comp=Z,66nm,1.5s
WB0 Warramunga Arr 65.39 106 P **P** **03 57 26.2 -0.7**
WR0 Warramunga Arr 65.51 106 P **P** **03 57 26.8 -0.9**
BVAR Borovoye Array 65.63 3 P **P** **03 57 27.4 -0.2**
comp=Z,12nm,1.1s,baz=165,slow=6.2,SNR=22
BVAR LR LR 04 24 14.1
comp=Z,234nm,21.3s,baz=175,slow=34
comp=Z,12nm,1.1s
BRVK Borovoye 65.65 3 P **P** **03 57 27.5 -0.3**
BRVK IAmb IAmb 03 57 34.1
comp=Z,17nm,1.1s
BRVK Borovoye 65.65 3 *ce*P **P** **03 57 26.7 -1.1**
BRVK pmax pmax
comp=Z,32nm,1.7s
BBOO Buckleboo 66.26 120 P **P** **03 57 31.7 -0.6**
TIY Taiyuan 66.28 39 *e*P **P** **03 57 33.0 +0.7**
TIY S **S** **04 06 20.6 -1.0**
TIY ScS **SKSac** **04 07 23.8 -4.7**
TIY LR LR
comp=Z,250nm,20.1s
TIY LR LR
comp=Z,160nm,16.2s
TIY LR LR
comp=Z,250nm,13.9s
NVL N'lazarevskaya 66.72 197 *e*P **P** **03 57 36.1 +1.6**
NVL pmax pmax
comp=Z,30nm,1.3s
BTO Baotou 66.78 35 *e*P **P** **03 57 35.7 +0.2**
BTO pP **sP** **03 57 40.3 -0.2**
BTO sP **pwP** **03 57 43.0 -0.2**
BTO PcP **PcP** **03 58 02.8 -1.5**
BTO PP **PP** **04 00 05.6 +2.8**
BTO S **S** **04 06 29.4 +1.9**
BTO sS **sS** **04 06 35.1 +2.1**
BTO SS **SS** **04 10 52.6 +6.7**
BTO pmax pmax
comp=Z,24nm,0.7s
BTO pmax pmax
comp=Z,400nm,4.5s
BTO LR LR
comp=Z,980nm,19.6s
BTO LR LR
comp=Z,460nm,11.8s
BTO LR LR
comp=Z,690nm,18.2s
BELG Belogornoye 66.87 348 *i* P **P** **03 57 34.6 -1.0**
BELG pmax pmax
comp=Z,9.0nm,1.2s
BELG Belogornoye 66.87 348 LR LR 04 27 05.9
comp=Z,177nm,20.6s,baz=140,slow=36
NJ2 Nanjing 67.20 47 *e*P **P** **03 57 38.4 +0.2**
NJ2 pP **sP** **03 57 42.9 -0.3**
NJ2 sP **pwP** **03 57 44.2 -1.7**
NJ2 pmax pmax
comp=Z,14nm,0.5s
NJ2 pmax pmax
comp=Z,280nm,3.8s
NJ2 LR LR
comp=Z,520nm,14.2s
NJ2 LR LR
comp=Z,320nm,18.9s
NJ2 LR LR
comp=Z,560nm,20.6s
VRH Novokhopyorsk 67.20 344 *e*P **P** **03 57 37.3 -0.4**
VRH pmax pmax
comp=Z,36nm,1.3s

CFR Carcaliu 67.21 332 ⇑P **P 03 57 38.7 +0.8**
CFR Carcaliu 67.21 332 P **P 03 57 38.7 +0.8**
HNS HongShan 67.50 40 ⇓P **P 03 57 40.2 +0.3**
HNS S **S 04 06 38.2 +2.2**
HNS pmax pmax
comp=Z,43nm,1.5s
HNS LR LR
comp=Z,160nm,16.8s
HNS LR LR
comp=Z,210nm,17.7s
HNS LR LR
comp=Z,320nm,16.9s
FNA Florina 67.56 325 P **P 03 57 39.7 -0.6**
FNA Florina 67.56 325 P **P 03 57 39.7 -0.6**
FNA pmax pmax
comp=Z,7.0nm,1.3s
VORD Divnogorie 67.70 342 *e*P **P 03 57 39.4 -1.5**
VORD pmax pmax
comp=Z,20nm,1.0s
HHC Hu-ho-hao-te 67.81 36 *e*P **P 03 57 42.2 +0.2**
HHC sP pwP 03 57 49.1 -0.7
HHC S **S 04 06 42.8 +2.8**
HHC pmax pmax
comp=Z,49nm,1.0s
HHC LR LR
comp=Z,560nm,19.6s
HHC LR LR
comp=Z,500nm,19.6s
HHC LR LR
comp=Z,630nm,20.4s
VSR Storozhevoye 67.96 342 *e*P **P 03 57 39.4 -3.1**
VSR pmax pmax
comp=Z,20nm,1.3s
LCRK Leigh Creek 68.16 118 P **P 03 57 44.2 -0.1**
KIS Kishinev 68.30 333 *e*P **P 03 57 44.0 -0.7**
KIS pmax pmax
comp=Z,90nm,3.7s
ZALV Zalesovo Beam 68.31 12 P **P 03 57 44.1 -0.6**
comp=Z,12nm,1.1s,baz=221,slow=5.9,SNR=27
ZALV LR LR 04 26 09.0
comp=Z,356nm,20.1s,baz=212,slow=35
comp=Z,12nm,1.1s
TIA Tai'an 68.34 42 ⇑P **P 03 57 45.8 +0.5**
TIA pmax pmax
comp=Z,28nm,1.9s
TIA LR LR
comp=Z,370nm,19.6s
TIA LR LR
comp=Z,160nm,19.6s
TIA LR LR
comp=Z,400nm,24.5s
VORR Voronezh 68.34 342 *e*P **P 03 57 45.5 +0.6**
VORR pmax pmax
comp=Z,28nm,0.4s
VRI Vrincioaia 68.38 331 ⇓P **P 03 57 46.4 +1.0**
VRI Vrincioaia 68.38 331 P **P 03 57 46.4 +1.0**
PLOR Plostina 68.41 331 ⇑P **P 03 57 45.8 +0.2**
PLOR Plostina 68.41 331 P **P 03 57 45.8 +0.2**
MLR Muntele Rosu 68.48 331 P **P 03 57 46.2 +0.1**
MLR IAmb IAmb 03 57 59.5
comp=Z,60nm,1.8s
MLR Muntele Rosu 68.48 331 P **P 03 57 47.3 +1.2**
MLR Muntele Rosu 68.48 331 LR LR 04 27 49.2
comp=Z,110nm,18.8s,baz=102,slow=36
COVR Voineasa-Covas 68.61 331 ⇓P **P 03 57 47.4 +0.5**
HTT Hallett 68.66 121 P **P 03 57 48.3 +0.8**
TIR Tirane 68.79 324 ⇑P **P 03 57 48.5 +0.5**
TIR Tirane 68.79 324 P **P 03 57 47.9 -0.1**
TIR Tirane 68.79 324 P **P 03 57 48.5 +0.5**
VOIR 68.87 330 ⇓P **P 03 57 49.1 +0.6**
VOIR 68.87 330 P **P 03 57 49.1 +0.6**
TOA0 Torodi Ar. Sit 69.02 290 P **P 03 57 49.5 -0.5**
TOA0 IAmb IAmb 03 57 52.2
comp=Z,38nm,1.3s
TOA0 Torodi Ar. Sit 69.02 290 P **P 03 57 51.0 +1.1**
SNR=7.5
TORD Torodi Ar. Bea 69.02 290 P **P 03 57 49.7 -0.2**
TORD IAmb IAmb 03 57 52.2
comp=Z,37nm,1.4s
TORD Torodi Ar. Bea 69.02 290 P **P 03 57 50.5 +0.5**
comp=Z,18nm,1.2s,baz=85,slow=5.8,SNR=39
TORD LR LR 04 25 20.8
comp=Z,173nm,21.9s,baz=126,slow=34
comp=Z,18nm,1.2s
ARR Arges 69.02 330 ⇑P **P 03 57 49.7 +0.2**
DOPR Dopca 69.09 331 ⇑P **P 03 57 49.8 0.0**
TAM Tamanrasset 69.20 301 P **P 03 57 51.5 +0.4**
TAM IAmb IAmb 03 57 53.9
comp=Z,26nm,1.4s
TAM Tamanrasset 69.20 301 P **P 03 57 51.5 +0.4**
TAM pmax pmax
comp=Z,26nm,1.4s
ARU Arti 69.24 355 P **P 03 57 50.4 -0.1**
ARU IAmb IAmb 03 57 52.0
comp=Z,55nm,1.5s
ARU Arti 69.24 355*c i*P **P 03 57 50.5 +0.1**
ARU S **S 04 07 01.0 +4.9**
ARU SS **SS 04 11 21.6 -1.6**
ARU pmax pmax
comp=Z,41nm,1.4s
ARU MLR MLR
comp=Z,212nm,17.0s
ARU Arti 69.24 355 LR LR 04 28 05.1
comp=Z,198nm,18.8s,baz=146,slow=36
BOVS Bovan 69.30 327 ⇓P **P 03 57 51.0 -0.1**
SORM Soroca 69.37 334 ⇓P **P 03 57 51.5 0.0**
SORM Soroca 69.37 334 P **P 03 57 51.4 0.0**
SVE Sverdlovsk 69.50 357 *e*P **P 03 57 51.6 -0.4**
SVE pmax pmax
comp=Z,48nm,1.6s
DJES Djerdap 69.58 328 P **P 03 57 53.1 +0.2**
GZR Gura Zlata 69.96 329 ⇓P **P 03 57 56.0 +0.7**
GZR Gura Zlata 69.96 329 P **P 03 57 55.9 +0.7**
BJI Beijing 70.02 39 P **P 03 57 56.5 +0.9**
BJI S **S 04 07 05.8 0.0**
BJI sS **sS 04 07 13.2 +1.8**
BJI SKS **SKSac 04 07 53.2 -3.3**
BJI pmax pmax
comp=Z,6.0nm,1.5s
BJI LR LR
comp=Z,130nm,16.1s
BJI LR LR
comp=Z,87nm,15.7s
BJI LR LR
comp=Z,160nm,18.0s
MDVR Moldovita 70.08 328 ⇓P **P 03 57 56.7 +0.8**
SONM Songino Array 70.10 27 P **P 03 57 56.9 +0.8**
SONM IAmb IAmb 03 57 58.8
comp=Z,68nm,1.6s
SONM Songino Array 70.10 27 P **P 03 57 56.8 +0.7**
comp=Z,45nm,1.4s,baz=220,slow=5.2,SNR=47
SONM LR LR 04 28 03.3
comp=Z,640nm,21.0s,baz=222,slow=35
comp=Z,45nm,1.4s
BURAR Bucovina Array 70.38 332 ⇑P **P 03 57 58.8 +1.0**
BURAR Bucovina Array 70.38 332 P **P 03 57 57.8 0.0**
ULN Ulaanbaatar 70.42 28 P **P 03 57 58.2 +0.1**
ULN IAmb IAmb 03 58 00.4
comp=Z,55nm,1.7s
ULN Ulaanbaatar 70.42 28*ce*P **P 03 57 57.7 -0.4**
ULN pmax pmax
comp=Z,35nm,1.7s
DIVS Divibare 70.53 326 P **P 03 57 58.0 -0.7**
DIVS IAmb IAmb 03 58 01.2
comp=Z,38nm,1.4s
SURR Surduc 70.54 329 ⇑P **P 03 57 59.3 +0.7**
BZS Buzias 70.70 328 ⇓P **P 03 57 60.0 +0.3**
BZS Buzias 70.70 328 P **P 03 57 59.9 +0.3**
ZAK Zakamensk 70.73 24 *e*P **P 03 57 58.9 -1.0**
ZAK pmax pmax
comp=Z,17nm,1.6s
MOY Mondy 70.88 22 *e*P **P 03 58 01.6 +0.8**
MOY pmax pmax
comp=Z,42nm,3.6s
STKA Stephens Creek 70.98 119 P **P 03 58 01.2 -0.5**
STKA Stephens Creek 70.98 119 P **P 03 58 02.0 +0.2**
STKA Stephens Creek 70.98 119 P **P 03 58 01.9 +0.2**
comp=Z,4.2nm,0.9s,baz=284,slow=4.2,SNR=5.2
STKA LR LR 04 24 48.6
comp=Z,167nm,21.3s,baz=218,slow=32
comp=Z,4.2nm,0.9s
AKASG Malin Array Be 71.00 336 P **P 03 58 01.0 -0.4**
comp=Z,0.6nm,0.5s,baz=139,slow=4.7,SNR=18
AKASG LR LR 04 29 40.3
comp=Z,118nm,20.5s,baz=118,slow=36
comp=Z,0.6nm,0.5s
SNAA Sanae 71.43 198 P **P 03 58 03.9 0.0**
SNAA IAmb IAmb 03 58 06.1
comp=Z,25nm,1.1s
SNAA Sanae 71.43 198*ce*P **P 03 58 01.3 -2.6**
SNAA pmax pmax
comp=Z,9.0nm,2.5s
SNAA Sanae 71.43 198 P **P 03 58 04.6 +0.7**
comp=Z,18nm,1.1s,baz=68,slow=6.4,SNR=25
SNAA LR LR 04 22 54.8
comp=Z,354nm,20.6s,baz=16,slow=30
comp=Z,18nm,1.1s
SGRT San Giovanni R 71.45 322 P **P 03 58 04.0 -0.4**
SGRT IAmb IAmb 03 58 06.6
comp=Z,31nm,1.2s
TRPA Tarpa 72.00 331 ⇓P **P 03 58 08.4 +1.0**
OBN Obninsk 72.12 343 P **P 03 58 08.3 +0.4**
OBN Obninsk 72.12 343⇑*e*P **P 03 58 07.9 -0.1**
OBN *e* 04 00 48.7
OBN *e*S **S 04 07 32.8 +3.2**
OBN pmax pmax
comp=Z,56nm,1.7s
OBN MLR MLR
comp=Z,133nm,21.0s
KEST Kesra 72.23 314 P **P 03 58 09.4 +0.2**
KEST IAmb IAmb 03 58 24.5
comp=Z,41nm,1.7s
KEST Kesra 72.23 314 P **P 03 58 08.9 -0.3**
comp=Z,5.3nm,1.2s,baz=93,slow=6.8,SNR=4.8
comp=Z,5.3nm,1.2s
XLT XiLinHaoTe 72.34 35 ⇓*i*P **P 03 58 11.2 +1.5**
XLT pP sP 03 58 16.0 +1.3
XLT sP pwP 03 58 17.7 +0.2
XLT S **S 04 07 26.7 -6.1**
XLT sS sS 04 07 39.8 +1.4
XLT pmax pmax
comp=Z,20nm,1.8s
XLT pmax pmax
comp=Z,180nm,4.3s
XLT LR LR
comp=Z,290nm,13.7s
XLT LR LR
comp=Z,260nm,21.1s
MOS Moscow 72.36 343 *e*P **P 03 58 08.3 -1.1**
MOS *e* 03 58 24.6
MOS *e* 04 00 50.8
MOS pmax pmax
comp=Z,109nm,1.5s
KIRV Kirov 72.43 351*ce*P **P 03 58 09.6 -0.1**
KIRV Kirov 72.43 351 LR LR 04 30 06.8
comp=Z,181nm,20.3s,baz=167,slow=36
LVV L'vov 72.52 333 *e*P **P 03 58 08.9 -1.6**
IRK Irkutsk 72.57 23 *e*P **P 03 58 10.8 0.0**
IRK pmax pmax
comp=Z,90nm,2.0s
MORH Mrgy, Hungar 72.64 327 ⇑P **P 03 58 12.2 +0.9**
KOLS Kolonicke sedl 72.69 331 *e*P **P 03 58 12.8 +1.2**
KOLS pmax pmax
comp=Z,11nm,1.3s
INTR Introdacqua 72.70 322 P **P 03 58 11.6 -0.4**
INTR IAmb IAmb 03 58 13.6
comp=Z,41nm,1.4s
KWP Kalwaria Pacla 72.98 332 P **P 03 58 13.1 -0.2**
KWP IAmb IAmb 03 58 14.5
comp=Z,45nm,1.4s
KWP Kalwaria Pacla 72.98 332 P **P 03 58 13.1 -0.2**
KWP pmax pmax
comp=Z,45nm,1.4s
CRVS Cervenica-Dubn 73.05 331 *e*P **P 03 58 14.4 +0.7**
CRVS pmax pmax
comp=Z,53nm,1.6s
KIC Kosan Boka 73.08 281⇑*i*P **P 03 58 15.4 +0.8**
comp=Z,85nm,1.2s
PSZ Piszkesteto 73.14 329 ⇑P **P 03 58 14.1 -0.2**
PSZ Piszkesteto 73.14 329 P **P 03 58 13.6 -0.8**
PSZ Piszkesteto 73.14 329 P **P 03 58 13.6 -0.8**
PSZ pmax pmax
comp=Z,13nm,1.3s
AQU L'Aquila 73.21 322 P **P 03 58 14.6 -0.3**
AQU IAmb IAmb 03 58 16.9
comp=Z,38nm,1.4s
AQU L'Aquila 73.21 322 P **P 03 58 14.6 -0.3**
AQU pmax pmax
comp=Z,38nm,1.4s
DBIC Dimbokro 73.27 281 P **P 03 58 16.8 +1.0**
DBIC Dimbokro 73.27 281 P **P 03 58 16.8 +1.0**
CAMP Campotosto 73.31 322 P **P 03 58 15.0 -0.5**
CAMP IAmb IAmb 03 58 17.6
comp=Z,52nm,1.4s
LIC Lamto 73.32 281⇑*i*P **P 03 58 16.8 +0.7**
comp=Z,79nm,1.2s
TIC Toumodi 73.42 281⇑*i*P **P 03 58 17.5 +0.8**
comp=Z,65nm,1.2s
NRCA Norcia 73.66 322 P **P 03 58 16.8 -0.7**
NRCA IAmb IAmb 03 58 19.4
comp=Z,67nm,1.5s
TOO Toolangi 73.82 126 P **P 03 58 18.5 -0.2**
TOO IAmb IAmb 03 58 21.6
comp=Z,56nm,1.4s
TOO Toolangi 73.82 126 P **P 03 58 18.5 -0.2**
TOO pmax pmax
comp=Z,56nm,1.4s
SRO Srobarova 73.86 329 *e*P **P 03 58 19.6 +1.1**
SRO pmax pmax
comp=Z,25nm,1.2s
VYHS Vyhne 74.05 329 *e*P **P 03 58 20.3 +0.7**
VYHS pmax pmax
comp=Z,35nm,1.5s
LANS Liptovska Anna 74.18 330 *e*P **P 03 58 21.4 +1.0**
LANS pmax pmax
comp=Z,9.0nm,1.3s
JAY Jayapura 74.25 89 LR LR 04 32 15.9
comp=Z,39nm,18.7s,baz=346,slow=37
MNK Minsk 74.49 338 *i*P **P 03 58 18.3 -3.7**
MNK *i* 03 58 32.7
MNK *i* 04 01 04.4
MNK *i* PPP PPP 04 02 49.7
MNK *i* S **S 04 07 53.8 -2.7**
MNK *i* SS **SS 04 12 41.1 -2.5**
MNK *i* SSS SSS 04 16 02.9
MNK pmax pmax
comp=N,18nm,0.9s
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=Z,17nm,1.0s
MNK MLR MLR
comp=N,44nm,19.0s
MNK MLR MLR
comp=Z,62nm,19.0s
MNK MLR MLR
comp=E,37nm,19.0s
OJC Ojcow 74.75 331 P **P 03 58 23.1 -0.5**
OJC Ojcow 74.75 331 P **P 03 58 23.1 -0.5**
OJC pmax pmax
comp=Z,30nm,1.8s
MODS Modra-Piesok 74.76 329 *e*P **P 03 58 24.2 +0.5**
MODS pmax pmax
comp=Z,36nm,1.5s
RONA Rosalia, Austr 74.83 328 *i*P **P 03 58 24.8 +0.6**
comp=Z,18nm,1.3s,SNR=8.5
SOKA Soboth 74.87 326 *i*P **P 03 58 25.6 +1.1**
comp=Z,17nm,1.3s,SNR=8.3
ARSA Arzberg 74.96 327 *i*P **P 03 58 25.9 +0.9**
comp=Z,23nm,1.3s,SNR=7.3
OBKA Obir 75.03 326 *i*P **P 03 58 26.3 +0.9**
comp=Z,21nm,1.4s,SNR=8.3
MAUC Maruska 75.13 330 *e*P **P 03 58 26.6 +0.7**
CONA Conrad Observa 75.20 328 *i*P **P 03 58 26.7 +0.3**
comp=Z,35nm,1.5s,SNR=17
OKC Ostrava-Krasne 75.28 330 *e*P **P 03 58 27.5 +0.8**
OKC Ostrava-Krasne 75.28 330 *e*P **P 03 58 27.5 +0.8**
TJN Taejon 75.46 47 P **P 03 58 27.4 -0.7**
TJN Taejon 75.46 47*ce*P **P 03 58 26.7 -1.3**
INCN Inchon 75.47 46 P **P 03 58 27.5 -0.6**
INCN IAmb IAmb 03 58 39.9
comp=Z,66nm,1.4s
INCN Inchon 75.47 46 P **P 03 58 27.5 -0.6**
INCN pmax pmax
comp=Z,66nm,1.5s
PRED Cave del Predi 75.53 325 P **P 03 58 27.9 -0.4**
MORC Moravsky Berou 75.53 330 ⇓P **P 03 58 28.5 +0.2**
MORC Moravsky Berou 75.53 330 P **P 03 58 28.4 +0.2**
MORC IAmb IAmb 03 58 30.4
comp=Z,42nm,1.8s
MORC Moravsky Berou 75.53 330 P **P 03 58 28.4 +0.2**
MYKA Terra Mystica 75.60 326 *i*P **P 03 58 29.3 +0.6**
comp=Z,23nm,1.6s,SNR=7.4
VRAC Vranov 75.70 329 ⇓P **P 03 58 29.9 +0.7**
VRAC Vranov 75.70 329 P **P 03 58 29.8 +0.7**
ZCCA Zocca 75.80 323 P **P 03 58 30.3 +0.4**
STAL STALIGIAL 75.90 325 P **P 03 58 30.3 -0.1**
CLUD Cludinico 75.92 325 P **P 03 58 29.9 -0.6**
CLUD IAmb IAmb 03 58 32.3
comp=Z,36nm,1.6s
SUW Suwalki 75.94 335 P **P 03 58 30.5 +0.2**
SUW IAmb IAmb 03 58 32.2
comp=Z,75nm,1.4s
SUW Suwalki 75.94 335 P **P 03 58 30.5 +0.2**
SUW pmax pmax
comp=Z,75nm,1.4s
PRGR Permogore 75.94 350 *e*P **P 03 58 30.1 -0.1**
PRGR pmax pmax
comp=Z,18nm,1.5s
TEOL Teolo 75.97 324 P **P 03 58 30.3 -0.5**
TEOL IAmb IAmb 03 58 32.9
comp=Z,31nm,1.2s
MOA Molln 76.00 327 *i*P **P 03 58 31.2 +0.3**
comp=Z,41nm,1.4s,SNR=18
KBA Koelnbreinsper 76.03 326 *i*P **P 03 58 32.2 +0.9**
comp=Z,24nm,1.6s
BIOA Bad Ischl, Aus 76.24 326 *i*P **P 03 58 33.1 +0.9**
comp=Z,20nm,1.4s,SNR=8.0
TREC Trest 76.25 329 *e*P **P 03 58 32.3 0.0**
TREC Trest 76.25 329 *e*P **P 03 58 32.3 0.0**
ABTA Abfaltersbach 76.29 325 *i*P **P 03 58 33.3 +0.6**
comp=Z,37nm,1.4s,SNR=15
CIT Chita 76.33 28 *e*P **P 03 58 33.3 +0.6**
CIT *e* 03 58 38.1
CIT *e* 03 58 45.6
CIT pmax pmax
comp=Z,92nm,1.7s
KSAR Wonju Array Be 76.33 46 P **P 03 58 32.5 -0.5**
KSAR Wonju Array Be 76.33 46 P **P 03 58 32.5 -0.5**
KS19 Wonju Array Si 76.34 46 P **P 03 58 32.1 -1.0**
KS19 IAmb IAmb 03 58 34.9
comp=Z,54nm,1.5s
KSRS Korea Array 76.36 46 P **P 03 58 33.3 +0.2**
comp=Z,18nm,1.2s,baz=243,slow=5.3,SNR=34
comp=Z,18nm,1.2s
CTI Castel Tesino 76.37 324 P **P 03 58 33.0 -0.2**
CTI Castel Tesino 76.37 324 P **P 03 58 33.0 -0.2**
CTI pmax pmax
comp=Z,17nm,1.3s
KLMR Klimovskoe 76.42 347 *e*P **P 03 58 29.9 -3.0**
KLMR pmax pmax
comp=Z,83nm,1.4s
KLMR MLR MLR
comp=Z,280nm,20.0s
CTA Charters Tower 76.42 108 LR LR 04 29 40.9
comp=Z,134nm,20.1s,baz=266,slow=34
CTAO Charters Tower 76.42 108 P **P 03 58 33.8 -0.2**
CTAO IAmb IAmb 03 58 36.3
comp=Z,60nm,1.4s
CTAO Charters Tower 76.42 108 P **P 03 58 33.8 -0.2**
CTAO pmax pmax
comp=Z,60nm,1.5s
PRMA PARMA 76.43 323 P **P 03 58 33.9 +0.5**
DPC Dobruska-Polom 76.51 330 *e*P **P 03 58 34.1 +0.3**
DPC Dobruska-Polom 76.51 330 *e*P **P 03 58 34.1 +0.3**
JNU Nakatsue 76.60 51 P **P 03 58 34.7 0.0**
JNU IAmb IAmb 03 58 36.9
comp=Z,58nm,1.3s
LESA Schwarzleotal 76.60 326 *i*P **P 03 58 34.5 +0.1**
comp=Z,26nm,1.5s
OSTC Ostas 76.69 330 *e*P **P 03 58 35.4 +0.6**
OSTC Ostas 76.69 330 *e*P **P 03 58 35.4 +0.6**
RJOB Jochberg 76.72 326 *e*P **P 03 58 35.1 0.0**
comp=Z,17nm,1.5s,baz=127,slow=5.6
UPC Upice 76.76 330 *e*P **P 03 58 36.3 +1.2**
UPC Upice 76.76 330 *e*P **P 03 58 36.3 +1.2**
CHVC Chvalec 76.79 330 *e*P **P 03 58 36.5 +1.2**
CHVC Chvalec 76.79 330 *e*P **P 03 58 36.5 +1.2**
CAN Canberra 76.84 124 P **P 03 58 35.9 -0.3**
CAN Canberra 76.84 124 P **P 03 58 35.9 -0.3**
CAN pmax pmax
comp=Z,158nm,1.9s
GEC2 GERESS Array S 76.90 327 P **P 03 58 35.9 -0.3**
GEC2 GERESS Array S 76.90 327 *e*P **P 03 58 35.8 -0.3**
comp=Z,12nm,1.3s,baz=127,slow=5.6
GERES GERESS Array B 76.90 327 P **P 03 58 35.1 -1.0**
GERES GERESS Array B 76.90 327 P **P 03 58 35.7 -0.4**
comp=Z,2.9nm,1.0s,baz=145,slow=3.6,SNR=1.8
comp=Z,2.9nm,1.0s
GOPC GO Pecny, Ondr 77.00 329 *e*P **P 03 58 37.0 +0.5**
GOPC GO Pecny, Ondr 77.00 329 *e*P **P 03 58 37.0 +0.5**
ZVC Zvikov 77.01 328 *e*P **P 03 58 36.6 0.0**
ZVC *e*pP **sP 03 58 42.2 +0.6**
WTTA Wattenberg 77.08 325 *i*P **P 03 58 38.0 +0.7**
comp=Z,36nm,1.6s,SNR=10
KHC Kasperske Hory 77.14 328 P **P 03 58 36.6 -0.7**
KHC Kasperske Hory 77.14 328 *i*P **P 03 58 36.2 -1.2**
KHC pmax pmax
comp=Z,50nm,1.5s
KHC Kasperske Hory 77.14 328 *e*P **P 03 58 37.0 -0.4**
KHC *e*pP **sP 03 58 42.8 +0.4**
KHC *e*PCP **PcP 03 58 49.2 +1.1**
WATA Walderalm 77.16 325 *i*P **P 03 58 38.0 +0.3**
comp=Z,26nm,1.1s,SNR=9.9
PRU Pruhonice 77.17 329 *e*P **P 03 58 38.3 +0.9**
PRU *e**PP **pwP 03 58 44.0 -1.1**
PRU Pruhonice 77.17 329 *e*P **P 03 58 38.3 +0.9**
PRU *e*pP **pwP 03 58 44.0 -1.1**
PRA Prague 77.27 329 *e*P **P 03 58 39.1 +1.1**
PRA Prague 77.27 329 *e*P **P 03 58 39.1 +1.1**
QSPA South Pole Qui 77.30 180 P **P 03 58 38.6 +0.4**
comp=Z,29nm,1.1s,baz=275,slow=3.6,SNR=33
comp=Z,29nm,1.1s
SQTA Sankt Quirin 77.30 325 *i*P **P 03 58 39.0 +0.6**
comp=Z,6.9nm,0.9s,SNR=7.7
MOTA Moosalm 77.42 325 *i*P **P 03 58 39.4 +0.2**
comp=Z,22nm,1.4s,SNR=8.8
FETA Feichten 77.45 325 *i*P **P 03 58 39.4 +0.1**
comp=Z,19nm,1.2s,SNR=9.2
FUORN Ofenpass-Fuorn 77.49 324 P **P 03 58 39.4 -0.2**
PVCC Panska Ves 77.49 329 *e*P **P 03 58 40.8 +1.6**
PVCC Panska Ves 77.49 329 *e*P **P 03 58 40.8 +1.6**
WET Wettzell 77.51 327 *e*P **P 03 58 39.1 -0.3**
comp=Z,17nm,1.4s,baz=127,slow=5.6
RETA Reutte 77.70 325 *i*P **P 03 58 41.1 +0.5**
comp=Z,17nm,1.4s,SNR=6.1
CN2 Changchun 77.84 39 P **P 03 58 40.8 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,17.0s
TUE Stuetta 77.93 324 P **P 03 58 41.4 -0.7**
TUE IAmb IAmb 03 58 59.8
comp=Z,41nm,1.6s
BRG Berggiesshubel 78.02 329⇑*i*P **P 03 58 43.8 +1.6**
BRG 03 58 50.1
BRG pmax pmax
comp=Z,36nm,1.6s
BRG pmax pmax
comp=Z,40nm,1.7s
BRG Berggiesshubel 78.02 329 *e*P **P 03 58 43.8 +1.6**
comp=Z,50nm,1.7s,baz=127,slow=5.6
DAVA Damuels 78.08 325 *i*P **P 03 58 43.5 +0.7**
comp=Z,16nm,1.2s,SNR=6.1
HSKC Hora Svate Kat 78.11 329 *e*P **P 03 58 43.2 +0.5**
UBR Ueberruh 78.17 325 *e*P **P 03 58 43.7 +0.5**
comp=Z,35nm,1.2s,baz=127,slow=5.6
ROTZ Rotzenmuhle 78.24 328 *e*P **P 03 58 43.8 +0.4**
comp=Z,8.8nm,1.9s,baz=127,slow=5.6
FBE Freiberg 78.34 329 *e*P **P 03 58 45.1 +1.2**
comp=Z,30nm,1.4s,baz=127,slow=5.6
MANZ Manzenberg 78.42 328 *e*P **P 03 58 44.9 +0.4**
comp=Z,2.2nm,1.2s,baz=127,slow=5.6
WERN Wernitzgruen 78.46 328 *e*P **P 03 58 45.7 +1.0**
comp=Z,41nm,1.5s,baz=127,slow=5.6
TANN Tannenbergstha 78.49 328 *e*P **P 03 58 45.8 +0.9**
comp=Z,29nm,1.7s,baz=127,slow=5.6
GUNZ Gunzen 78.53 328 *e*P **P 03 58 46.0 +1.0**
comp=Z,30nm,1.4s,baz=127,slow=5.6
WERD Werda 78.59 328 *e*P **P 03 58 46.4 +1.0**
comp=Z,34nm,1.8s,baz=127,slow=5.6

PLN	**Plauen**	78.69	328	*eP*		**P**	**03 58 46.9 +1.0**
	comp=Z,9.8nm,1.2s,baz=127,slow=5.6						
GRA1	**Grafenberg Arr**	78.71	327	P		**P**	**03 58 45.7 -0.4**
GRA1				IAmb		IAmb	03 58 48.1
	comp=Z,48nm,1.4s						
GRF	**Grafenberg Arr**	78.71	327	P		**P**	**03 58 45.7 -0.4**
GRF				pmax		pmax	
	comp=Z,48nm,1.4s						
GRF	**Grafenberg Arr**	78.71	327	*eP*		**P**	**03 58 46.2 +0.1**
	comp=Z,38nm,1.3s,baz=127,slow=5.6						
GRF				*eL*		L	04 41 02.5
	comp=Z,49nm,21.8s						
GRFO	**Grafenberg**	78.71	327	P		**P**	**03 58 45.4 -0.7**
GRFO				IAmb		IAmb	03 58 48.0
	comp=Z,46nm,1.4s						
GRFO	**Grafenberg**	78.71	327	P		**P**	**03 58 45.4 -0.7**
GRFO				pmax		pmax	
	comp=Z,45nm,1.4s						
CLL	**Collm**	78.75	329	P		**P**	**03 58 46.4 +0.2**
CLL				IAmb		IAmb	03 58 49.1
	comp=Z,32nm,1.4s						
CLL	**Collm**	78.75	329⇑	*iP*		**P**	**03 58 47.5 +1.3**
CLL				pmax		pmax	
	comp=Z,50nm,1.7s						
CLL	**Collm**	78.75	329	*eP*		**P**	**03 58 47.4 +1.3**
	comp=Z,47nm,1.6s,baz=127,slow=5.6						
MOX	**Moxa**	79.06	328	*eP*		**P**	**03 58 48.8 +0.9**
	comp=Z,23nm,1.5s,baz=127,slow=5.6						
MOX				*eL*		L	04 33 10.7
	comp=Z,61nm,21.1s						
SENIN	**Lac Senin/Sane**	79.07	323	P		**P**	**03 58 47.4 -1.0**
JMN	**Monobe**	79.13	52	P		**P**	**03 58 47.3 -1.5**
JMN				IAmb		IAmb	03 58 49.8
	comp=Z,34nm,1.4s						
PMG	**Port Moresby**	79.14	97	LR		LR	04 34 42.0
	comp=Z,156nm,18.5s,baz=198,slow=36						
STU	**Stuttgart**	79.29	326	P		**P**	**03 58 48.7 -0.5**
STU				IAmb		IAmb	03 58 51.3
	comp=Z,25nm,1.1s						
STU	**Stuttgart**	79.29	326	P		**P**	**03 58 48.7 -0.5**
STU				pmax		pmax	
	comp=Z,25nm,1.1s						
NEUB	**Neuenburg**	79.31	329	*eP*		**P**	**03 58 50.4 +1.2**
	comp=Z,27nm,1.1s,baz=127,slow=5.6						
ADZR	**Andozero**	79.42	348	*eP*		**P**	**03 58 48.4 -1.2**
ADZR				pmax		pmax	
	comp=Z,17nm,1.1s						
BFO	**Black Forest**	79.53	325	P		**P**	**03 58 49.3 -1.3**
BFO	**Black Forest**	79.53	325	P		**P**	**03 58 49.3 -1.3**
BFO				pmax		pmax	
	comp=Z,33nm,1.7s						
ARMA	**Armidale**	79.68	119	P		**P**	**03 58 51.8 -0.3**
ARMA				IAmb		IAmb	03 59 00.2
	comp=Z,41nm,1.2s						
SBA	**Scott Base**	79.80	168	P		**P**	**03 58 52.7 +1.1**
SBA				IAmb		IAmb	03 59 05.4
	comp=Z,61nm,1.9s						
SBA	**Scott Base**	79.80	168	P		**P**	**03 58 52.7 +1.1**
SBA				pmax		pmax	
	comp=Z,61nm,1.9s						
BELA	**Belgrano 2**	79.88	192	P		**P**	**03 58 51.9 -0.2**
BELA				IAmb		IAmb	04 00 28.7
	comp=Z,15nm,0.6s						
EIDS	**Eidsvold**	80.00	114	P		**P**	**03 58 54.1 +0.4**
EIDS				IAmb		IAmb	03 58 56.0
	comp=Z,46nm,1.4s						
FLTG	**Flechtingen**	80.24	329	*eP*		**P**	**03 58 55.0 +0.7**
	comp=Z,49nm,1.4s,baz=127,slow=5.6						
CLZ	**Clausthal**	80.39	329	*eP*		**P**	**03 58 56.2 +1.0**
	comp=Z,40nm,1.3s,baz=127,slow=5.6						
GTTG	**Gottingen**	80.43	328	*eP*		**P**	**03 58 56.4 +1.0**
	comp=Z,42nm,1.6s,baz=127,slow=5.6						
CART	**Cartagena**	80.46	312	P		**P**	**03 58 56.5 +0.7**
CART				IAmb		IAmb	03 58 58.5
	comp=Z,77nm,1.7s						
BOD	**Bodaibo**	80.46	24	*eP*		**P**	**03 58 55.2 -0.2**
BOD				pmax		pmax	
	comp=Z,28nm,1.8s						
FINES	**FINESS Array B**	80.48	342	P		**P**	**03 58 55.9 +0.5**
FINES				LR		LR	04 34 22.5
	comp=Z,15nm,1.3s,baz=289,slow=5.8,SNR=4.5						
	comp=Z,100nm,21.9s,baz=156,slow=36						
	comp=Z,15nm,1.3s						
TNS	**Taunus Mts**	80.49	327	*eP*		**P**	**03 58 56.7 +0.9**
	comp=Z,28nm,1.4s,baz=127,slow=5.6						
MDJ	**Mudanjiang**	80.84	40	P		**P**	**03 58 57.9 +0.2**
MDJ				pP		pP	03 59 00.5 -1.0
MDJ				sP		sP	03 59 02.3 -0.5
MDJ				PP		**PP**	**04 02 03.6 +1.3**
MDJ				S		**S**	**04 09 09.0 +3.3**
MDJ				SS		**SS**	**04 14 25.8 +6.0**
MDJ				pmax		pmax	
	comp=Z,17nm,1.2s						
MDJ				pmax		pmax	
	comp=Z,220nm,8.1s						
MDJ				LR		LR	
	comp=Z,290nm,16.8s						
MDJ				LR		LR	
	comp=Z,250nm,19.5s						
MDJ				LR		LR	
	comp=Z,500nm,20.6s						
NRDL	**Niedersach Rie**	80.90	329	*eP*		**P**	**03 58 59.0 +1.3**
	comp=Z,27nm,1.4s,baz=127,slow=5.6						
MSHR	**Mys Shultsa**	80.92	43	*i* P		**P**	**03 58 57.4 -0.7**
MSHR				pmax		pmax	
	comp=Z,17nm,1.3s						
MDT	**Midelt**	81.35	306	LR		LR	04 34 56.7
	comp=Z,207nm,21.0s,baz=130,slow=36						
WLF	**Walferdange**	81.45	325	*dP*		**P**	**03 59 01.7 +0.9**
BHOU	**Houvegnez**	81.89	326	*dP*		**P**	**03 59 03.2 0.0**
BTNL	**Ternell**	81.94	326	*dP*		**P**	**03 59 04.2 +0.7**
MEM	**Membach**	82.02	326	*dP*		**P**	**03 59 05.0 +1.2**
INU	**Inuyama**	82.15	51	P		**P**	**03 59 03.2 -1.6**
INU				IAmb		IAmb	03 59 06.6
	comp=Z,34nm,1.3s						
GUMO	**Guam**	82.15	74	LR		LR	04 31 52.2
	comp=Z,127nm,21.8s,baz=174,slow=33						
USA0B	**Ussuriysk Arra**	82.18	41	P		**P**	**03 59 04.2 -0.6**
USA0B	**Ussuriysk Arra**	82.18	41	P		**P**	**03 59 04.2 -0.6**
USA0B				pmax		pmax	
	comp=Z,12nm,0.9s						
USRK	**Ussuriysk Ar.**	82.18	41	P		**P**	**03 59 03.5 -1.3**
USRK	**Ussuriysk Ar.**	82.18	41	P		**P**	**03 59 04.4 -0.4**
	comp=Z,4.6nm,0.9s,baz=252,slow=3.8,SNR=12						
USRK				LR		LR	04 36 42.5
	comp=Z,161nm,19.3s,baz=235,slow=36						
	comp=Z,4.6nm,0.9s						
RCHB	**Rochefort**	82.22	325	*dP*		**P**	**03 59 05.6 +0.8**
	comp=Z,5.5nm,1.5s						
BSTI	**Sart Tilman**	82.25	326	*dP*		**P**	**03 59 06.0 +1.0**
HEH	**HeiHe**	82.30	35	*eP*		**P**	**03 59 04.4 -0.9**
HEH				pmax		pmax	
	comp=Z,12nm,1.0s						
HEH				pmax		pmax	
	comp=Z,220nm,5.4s						
HEH				LR		LR	
	comp=Z,320nm,17.5s						
HEH				LR		LR	
	comp=Z,300nm,16.5s						
HEH				LR		LR	
	comp=Z,300nm,16.6s						
BCLA	**Clavier**	82.31	326	*dP*		**P**	**03 59 06.1 +0.8**
	comp=Z,5.2nm,1.4s						
BCLA				*dP*cP		**pwP**	**03 59 12.0 -1.1**
BGES	**Gesves**	82.41	326	*dP*		**P**	**03 59 07.1 +1.2**
DOU	**Dourbes**	82.54	325	*dP*		**P**	**03 59 07.5 +0.9**
	comp=Z,7.2nm,1.6s						
BMRD	**Maredsous**	82.55	325	*dP*		**P**	**03 59 07.8 +1.3**
NRIK	**Noril'sk**	83.27	7	P		**P**	**03 59 10.2 +0.3**
NRIK				IAmb		IAmb	03 59 12.4
	comp=Z,55nm,1.7s						
NRIK	**Noril'sk**	83.27	7	*ceP*		**P**	**03 59 09.8 -0.1**
NRIK				pmax		pmax	
	comp=Z,42nm,1.8s						
NRIK	**Noril'sk**	83.27	7	P		**P**	**03 59 10.0 +0.1**
	comp=Z,1.3nm,0.4s,baz=223,slow=5.9,SNR=10						
NRIK				LR		LR	04 37 52.0
	comp=Z,149nm,18.1s,baz=176,slow=37						
	comp=Z,1.3nm,0.4s						
ESBB	**Sonseca Array**	83.41	313	P		**P**	**03 59 10.9 -0.5**
ESBB				IAmb		IAmb	03 59 13.9
	comp=Z,36nm,1.4s						
ESDC	**Sonseca Array**	83.41	313	P		**P**	**03 59 11.6 +0.2**
ESDC				IAmb		IAmb	03 59 13.8
	comp=Z,35nm,1.4s						
ESDC	**Sonseca Array**	83.41	313	P		**P**	**03 59 12.3 +0.9**
	comp=Z,18nm,1.2s,baz=96,slow=4.1,SNR=48						
ESDC				LR		LR	04 37 24.1
	comp=Z,54nm,19.2s,baz=112,slow=36						
	comp=Z,18nm,1.2s						
MJB9	**Matsu-Tunnel**	83.48	50	P		**P**	**03 59 12.0 +0.3**
MAJO	**Matsushiro**	83.48	50	P		**P**	**03 59 10.9 -0.8**
MAJO	**Matsushiro**	83.48	50	*i P*		**P**	**03 59 10.2 -1.6**
MAJO				pmax		pmax	
	comp=Z,49nm,1.5s						
MJAR	**Matsushiro Arr**	83.48	50	P		**P**	**03 59 12.4 +0.7**
	comp=Z,34nm,1.3s,baz=244,slow=5.0,SNR=34						
MJAR				LR		LR	04 37 56.4
	comp=Z,166nm,18.2s,baz=238,slow=37						
	comp=Z,34nm,1.3s						
JHJ	**Hachijo jima 2**	83.51	54	LR		LR	04 34 21.7
	comp=Z,104nm,21.8s,baz=258,slow=34						
JCJ	**Chichijima**	83.55	6	LR		LR	04 31 11.6
	comp=Z,108nm,22.0s,baz=106,slow=32						
APA	**Apatity**	83.60	348⇓	*iP*		**P**	**03 59 06.9 -4.7**
APA				pmax		pmax	
	comp=Z,5.0nm,1.2s						
APA				MLR		MLR	
	comp=Z,400nm,23.0s						
PAB	**San Pablo**	83.64	313	P		**P**	**03 59 13.3 +0.7**
PAB				IAmb		IAmb	03 59 15.1
	comp=Z,49nm,1.4s						
PAB	**San Pablo**	83.64	313	P		**P**	**03 59 13.1 +0.5**
HFS	**Hagfors**	83.89	336	P		**P**	**03 59 13.8 +0.5**
	comp=Z,9.1nm,1.2s,baz=214,slow=6.9,SNR=3.8						
	comp=Z,9.1nm,1.2s						
ZEA	**Zeya**	84.00	31	*eP*		**P**	**03 59 13.8 -0.2**
ZEA				pmax		pmax	
	comp=Z,10.0nm,1.1s						
ZEA				MLR		MLR	
	comp=Z,200nm,16.0s						
JSD	**Sado**	84.06	49	P		**P**	**03 59 13.9 -0.8**
JSD				IAmb		IAmb	03 59 15.7
	comp=Z,43nm,1.4s						
KLR	**Kul'dur**	84.28	37	LR		LR	04 38 04.5
	comp=Z,191nm,20.0s,baz=240,slow=37						
PBAR	**Barrancos**	85.10	311	*eP*		**P**	**03 59 20.9 +1.0**
	comp=Z,27nm,1.6s						
NB2	**NORSAR Subarra**	85.42	336	P		**P**	**03 59 20.9 -0.1**
	comp=Z,32nm,1.7s,baz=127,slow=5.1						
NB2	**NORSAR Subarra**	85.42	336	P		**P**	**03 59 20.9 -0.1**
	baz=127,slow=5.1						
NOA	**NORSAR Array B**	85.42	336	P		**P**	**03 59 21.3 +0.2**
	comp=Z,7.7nm,1.3s,baz=116,slow=5.0,SNR=4.3						
	comp=Z,7.7nm,1.3s						
PCVE	**Castro Verde**	85.66	310	*eP*		**P**	**03 59 24.1 +1.3**
	comp=Z,33nm,1.6s						
PBEJ	**Beja**	85.66	310	*eP*		**P**	**03 59 24.1 +1.3**
	comp=Z,22nm,1.5s						
PESTR	**Estremoz**	85.75	311	*eP*		**P**	**03 59 24.1 +0.9**
	comp=Z,39nm,1.6s						
PESTR	**Estremoz**	85.75	311	P		**P**	**03 59 23.1 0.0**
PESTR				IAmb		IAmb	03 59 25.8
	comp=Z,49nm,1.5s						
PMRV	**Marv??o**	85.79	312	*eP*		**P**	**03 59 23.9 +0.5**
	comp=Z,31nm,1.5s						
PMRV	**Marv??o**	85.79	312	*e*LR		LR	04 38 30.5
	comp=Z,108nm,20.0s						
JMM	**Marumori**	85.87	50	P		**P**	**03 59 23.6 -0.2**
JMM				IAmb		IAmb	03 59 30.2
	comp=Z,40nm,1.0s						
EVO	**Evora**	85.94	311	*eP*		**P**	**03 59 25.9 +1.8**
	comp=Z,36nm,1.6s						
PCBR	**Castelo Branco**	86.00	312	*eP*		**P**	**03 59 25.5 +1.1**
	comp=Z,36nm,1.6s						
MORF	**Marmelete**	86.01	309	*eP*		**P**	**03 59 25.3 +0.7**
	comp=Z,62nm,1.5s						
MVO	**Moncorvo**	86.14	314	*eP*		**P**	**03 59 26.9 +1.8**
	comp=Z,41nm,1.5s						
PTEO	**Sao Teotonio**	86.14	310	*eP*		**P**	**03 59 26.9 +1.8**
	comp=Z,52nm,1.3s						
PBRG	**Braganca**	86.16	314	*eP*		**P**	**03 59 26.6 +1.4**
	comp=Z,33nm,1.5s						
PNCL	**Nicolau / Gran**	86.19	310	*eP*		**P**	**03 59 26.4 +1.1**
	comp=Z,34nm,1.6s						
MTE	**Manteigas**	86.24	313	*eP*		**P**	**03 59 26.7 +1.1**
	comp=Z,28nm,1.7s						
MTE	**Manteigas**	86.24	313	*e*S		S	04 10 13.3 +13
MTE	**Manteigas**	86.24	313	*e*LR		LR	04 35 49.8
	comp=Z,97nm,20.0s						
MTE	**Manteigas**	86.24	313	P		**P**	**03 59 25.1 -0.5**
MTE				IAmb		IAmb	03 59 28.4
	comp=Z,29nm,1.4s						
PMTG	**Montargil**	86.28	311	*eP*		**P**	**03 59 26.4 +0.6**
	comp=Z,62nm,1.5s						
PVIS	**Viseu**	86.59	313	*eP*		**P**	**03 59 29.0 +1.6**
PVRL	**Vila Real**	86.66	313	*eP*		**P**	**03 59 28.5 +0.8**
	comp=Z,32nm,1.6s						
POLO	**Lamas de Olo**	86.75	314	*eP*		**P**	**03 59 29.6 +1.4**
	comp=Z,16nm,1.7s						
COI	**Coimbra**	86.80	312	*eP*		**P**	**03 59 29.4 +1.1**
	comp=Z,53nm,1.6s						
COI	**Coimbra**	86.80	312	P		**P**	**03 59 28.1 -0.1**
COI	**Coimbra**	86.80	312	P		**P**	**03 59 28.2 -0.1**
COI				pmax		pmax	
	comp=Z,73nm,1.6s						
PCAS	**Casmilo, Conde**	86.81	312	*eP*		**P**	**03 59 29.2 +0.8**
	comp=Z,55nm,1.5s						
ARCES	**ARCESS Array B**	86.90	347	P		**P**	**03 59 26.4 -1.7**
	comp=Z,8.2nm,1.2s,baz=132,slow=7.4,SNR=6.6						
ARCES				LR		LR	04 39 18.6
	comp=Z,130nm,20.3s,baz=120,slow=36						
	comp=Z,8.2nm,1.2s						
PGAV	**Gavieira, Arco**	87.28	314	*eP*		**P**	**03 59 31.5 +0.7**
	comp=Z,28nm,1.6s						
EKA	**Eskdalemuir Ar**	89.12	328	P		**P**	**03 59 39.4 +0.4**
	comp=Z,4.5nm,1.1s,baz=134,slow=8.2,SNR=6.0						
	comp=Z,4.5nm,1.1s						
ASAJ	**Asahikawa**	89.20	44	LR		LR	04 38 57.4
	comp=Z,187nm,20.7s,baz=146,slow=35						
YSS	**Yuzh-Sakhalins**	90.21	42	*eP*		**P**	**03 59 42.8 -1.5**
YSS				*e*			04 16 35.0
YSS				pmax		pmax	
	comp=Z,20nm,0.8s						
YSS				MLR		MLR	
	comp=Z,300nm,14.0s						
RPZ	**Rata Peaks**	91.66	135	LR		LR	04 32 50.8
	comp=Z,58nm,19.6s,baz=268,slow=30						
SMAI	**San Martin Ant**	92.72	196	P		**P**	**03 59 55.6 0.0**
SMAI				IAmb		IAmb	03 59 57.3
	comp=Z,24nm,1.3s						
TIXI	**Tiksi**	93.79	16	P		**P**	**03 59 59.1 -1.2**
TIXI				IAmb		IAmb	04 00 01.5
	comp=Z,36nm,1.4s						
TIXI	**Tiksi**	93.79	16	*ceP*		**P**	**03 59 59.5 -0.8**
TIXI				pmax		pmax	
	comp=Z,31nm,1.4s						
PMSA	**Palmer Station**	94.14	199	LR		LR	04 35 50.7
	comp=Z,138nm,18.4s,baz=130,slow=31						
DZM	**Mont Dzumac**	94.44	114	*e*LR		LR	04 30 35.1
	comp=Z,203nm,23.1s						
DZM	**Mont Dzumac**	94.44	114	LR		LR	04 42 00.0
	comp=Z,138nm,18.4s,baz=210,slow=35						
SPITS	**Spitsbergen Ar**	94.90	351	LR		LR	04 43 36.8
	comp=Z,91nm,21.9s,baz=76,slow=36						
JMIC	**Jan Mayen**	97.11	341	LR		LR	04 45 54.6
	comp=Z,88nm,18.4s,baz=63,slow=37						
MA2	**Magadan**	98.13	31	LR		LR	04 45 32.5
	comp=Z,248nm,19.1s,baz=180,slow=36						
SEY	**Seymchan**	99.50	28	LR		LR	04 46 02.7
	comp=Z,600nm,20.0s,baz=266,slow=36						
D20K	**Etivluk River**	117.74	16	P		**PKiKP**	**04 05 30.0 +0.4**
	baz=311						
E19K	**Redstone River**	118.39	18	P		**PKPdf**	**04 05 30.8 -0.1**
	baz=310						
K13K	**Kusilvak Mount**	118.97	25	P		**PKiKP**	**04 05 32.5 +0.3**
	baz=300						
J14K	**Nanvaranak Lak**	118.99	24	P		**PKiKP**	**04 05 33.1 +1.0**
	baz=302						
M11K	**Mekoryuk**	119.06	27	P		**PKiKP**	**04 05 32.4 +0.1**
	baz=298						
F20K	**Avaraart Lake**	119.10	17	P		**PKPdf**	**04 05 31.9 -0.3**
	baz=312						
I17K	**Unalakleet**	119.44	22	P		**PKPdf**	**04 05 32.9 0.0**
	baz=305						
H18K	**Honhosa River**	119.50	20	P		**PKiKP**	**04 05 33.2 +0.1**
	baz=308						
H19K	**Roundabout Mou**	119.88	19	P		**PKPdf**	**04 05 33.7 0.0**
	baz=310						
K15K	**Wolf Creek Mou**	120.03	24	P		**PKPdf**	**04 05 33.9 -0.2**
	baz=303						
E23K	**Chandalar**	120.04	15	P		**PKPdf**	**04 05 33.7 -0.4**
	baz=319						
M13K	**Dall Lake**	120.28	26	P		**PKPdf**	**04 05 33.8 -0.8**
	baz=300						
E24K	**Your Creek**	120.30	14	P		**PKPdf**	**04 05 34.4 -0.2**
	baz=320						
G22K	**Bettles**	120.39	16	P		**PKiKP**	**04 05 34.9 +0.2**
	baz=316						
IMAR	**Indian Mountai**	120.41	18			**PKPdf**	**04 05 34.8 0.0**
F24K	**Squaw Lake**	120.88	15	P		**PKiKP**	**04 05 36.4 +0.6**
	baz=320						
H21K	**Melozitna Rive**	120.92	18	P		**PKiKP**	**04 05 37.1 +1.2**
	baz=314						
G23K	**Bananza Creek**	120.94	16	P		**PKiKP**	**04 05 36.7 +0.7**
	baz=318						
J18K	**Innoko River**	121.11	21	P		**PKiKP**	**04 05 36.4 +0.1**
	baz=309						
J19K	**Poorman**	121.15	20	P		**PKiKP**	**04 05 37.2 +0.8**
	baz=310						
H22K	**Ishtalitna Cre**	121.16	17	P		**PKiKP**	**04 05 37.7 +1.3**
	baz=316						
N14K	**Kuskokwak Cree**	121.25	26	P		**PKiKP**	**04 05 37.4 +0.7**
	baz=302						
D28M	**Stokes Point**	121.28	10	P		**PKiKP**	**04 05 37.1 +0.6**
	baz=331						
J20K	**Nowinta River**	121.52	19	P		**PKiKP**	**04 05 37.8 +0.7**
	baz=312						
F26K	**Sheenjek River**	121.61	13	P		**PKiKP**	**04 05 38.2 +0.9**
	baz=324						
G24K	**Hadweenzic Riv**	121.61	15	P		**PKiKP**	**04 05 38.0 +0.8**
	baz=320						
H23K	**Yukon River**	121.73	16	P		**PKiKP**	**04 05 38.3 +0.8**
	baz=318						
E27K	**Coleen River**	121.74	12	P		**PKiKP**	**04 05 38.6 +1.2**
	baz=328						
M16K	**Timber Creek**	121.76	24	P		**PKiKP**	**04 05 38.0 +0.3**
	baz=305						
UNV	**Unalaska Valle**	121.77	34	P		**PKiKP**	**04 05 38.0 +0.2**
	baz=294						
E28M	**Babbage River**	121.78	11	P		**PKiKP**	**04 05 38.2 +0.7**
	baz=330						
O14K	**Tigyukauivet M**	121.79	26	P		**PKiKP**	**04 05 38.1 +0.3**
	baz=302						
G25K	**Bearman Lake**	121.90	14	P		**PKiKP**	**04 05 38.7 +1.0**
	baz=322						
L18K	**Granite Mounta**	121.91	22	P		**PKiKP**	**04 05 38.4 +0.5**
	baz=308						
MLY	**Manley**	121.97	18	PKPdf		**PKPdf**	**04 05 37.7 -0.2**
MLY	**Manley**	121.97	18	P		**PKPdf**	**04 05 37.9 +0.1**
	baz=316						
K20K	**Telida**	122.09	20	P		**PKPdf**	**04 05 38.0 -0.1**
	baz=312						
N16K	**Nishlik Lake**	122.16	24	P		**PKiKP**	**04 05 38.5 0.0**
	baz=305						
H24K	**Noodor Dome**	122.17	16	P		**PKiKP**	**04 05 39.2 +0.8**
	baz=320						
E29M	**Blow River**	122.26	10	P		**PKiKP**	**04 05 38.6 +0.2**
	baz=332						
I23K	**Minto, Yukon-K**	122.29	17	P		**PKiKP**	**04 05 39.2 +0.7**
	baz=318						
F28M	**Old Crow**	122.57	12	P		**PKPdf**	**04 05 38.8 -0.1**
	baz=329						
G27K	**Doyon Strip**	122.89	13	P		**PKPdf**	**04 05 39.6 0.0**
	baz=327						
M19K	**Big River Lodg**	122.94	22	P		**PKiKP**	**04 05 40.6 +0.6**
	baz=311						
O16K	**Kokwok River B**	122.94	25	P		**PKPdf**	**04 05 39.8 0.0**
	baz=306						
FALS	**False Pass**	122.96	32	P		**PKiKP**	**04 05 40.2 0.0**
	baz=298						
INK	**Inuvik**	123.04	9	P		**PKiKP**	**04 05 40.5 +0.6**
	baz=337						
PRP	**Porcupine Dome**	123.04	15	P		**PKiKP**	**04 05 41.2 +1.0**
	baz=322						
ILAR	**Eielson Array**	123.26	16	PKP		**PKPdf**	**04 05 39.4 -0.9**
	comp=Z,1.5nm,1.1s,baz=322,slow=3.0,SNR=6.5						
F30M	**Barrier River**	123.32	10	P		**PKiKP**	**04 05 41.6 +1.1**
	baz=334						
M20K	**Styx River**	123.40	21	P		**PKiKP**	**04 05 41.7 +0.7**
	baz=312						
H27K	**Steamboat Moun**	123.41	13	P		**PKiKP**	**04 05 42.0 +1.2**
	baz=327						
MCK	**McKinley**	123.46	18	P		**PKPdf**	**04 05 40.3 -0.4**
	baz=318						
HDA	**Harding Lake**	123.52	17	P		**PKPdf**	**04 05 40.2 -0.6**
	baz=320						
G29M	**Pine Creek**	123.54	11	P		**PKiKP**	**04 05 41.4 +0.3**
	baz=331						
N19K	**Bonanza Creek**	123.62	23	P		**PKPdf**	**04 05 41.0 -0.3**
	baz=310						
J25K	**Salcha River,**	123.79	16	P		**PKiKP**	**04 05 42.1 +0.4**
	baz=322						
I26K	**Coal Creek Min**	123.80	14	P		**PKiKP**	**04 05 41.5 0.0**
	baz=325						
F31M	**Tsiigehtchic**	123.80	9	P		**PKPdf**	**04 05 41.0 -0.3**
	baz=336						
I27K	**Kandik River**	123.91	14	P		**PKiKP**	**04 05 42.4 +0.5**
	baz=326						
O18K	**Koktuh Hills**	123.95	24	P		**PKPdf**	**04 05 41.1 -0.6**
	baz=309						
CUT	**Chulitna**	124.01	20	P		**PKPdf**	**04 05 41.7 -0.1**
	baz=315						
H29M	**Whitestone**	124.08	12	P		**PKiKP**	**04 05 43.2 +1.1**
	baz=330						
G31M	**Satah River**	124.19	10	P		**PKPdf**	**04 05 41.8 -0.2**
	baz=335						
SDPT	**Sand Point**	124.20	30	P		**PKPdf**	**04 05 42.2 -0.1**
	baz=301						
WAT1	**Susitna Watana**	124.25	18	P		**PKPdf**	**04 05 41.5 -0.8**
	baz=318						
EPYK	**Eagle Plains**	124.27	11	P		**PKPdf**	**04 05 42.3 +0.1**
	baz=332						
K24K	**Donnelly Dome**	124.32	17	P		**PKiKP**	**04 05 43.0 +0.3**
	baz=321						
R16K	**Pilot Point**	124.34	27	P		**PKPdf**	**04 05 42.1 -0.4**
	baz=305						
J26L	**Joseph Creek**	124.35	15	P		**PKiKP**	**04 05 43.0 +0.2**
	baz=324						
I28M	**Miner Creek**	124.42	13	P		**PKiKP**	**04 05 42.9 0.0**
	baz=328						
M22K	**Willow**	124.53	20	P		**PKPdf**	**04 05 42.9 +0.2**
	baz=315						
Q17K	**Contact Creek**	124.66	26	P		**PKiKP**	**04 05 43.5 -0.1**
	baz=307						
SCRK	**Sand Creek**	124.67	16	P		**PKiKP**	**04 05 43.8 +0.4**
	baz=323						
I29M	**Ogilvie Camp,**	124.84	12	P		**PKiKP**	**04 05 44.2 +0.5**

baz=58,SNR=7.4
V53A P PKPbc 04 06 18.4 +0.6
baz=58,SNR=7.4
TZTN Tazewell 144.05 316 P PKPbc 04 06 18.5 +0.6
baz=56
TZTN Tazewell 144.05 316 P PKPbc 04 06 18.1 +0.3
baz=56,SNR=9.4
R49A Shelbyville 144.09 320 P **PKPab 04 06 17.6 +0.2**
baz=52
R49A P **PKPab 04 06 17.6 +0.2**
baz=52
L42A Oliver, Polo 144.14 329 P PKPbc 04 06 18.2 +0.3
baz=42,SNR=5.5
HAW Hawthorne Fire 144.28 310 P PKPbc 04 06 18.8 +0.1
baz=62
I37A Lemond, Waseca 144.31 335 PKPdf **PKPab 04 06 16.8 -1.3**
I37B Waseca 144.31 335 P **PKPab 04 06 18.2 +0.1**
baz=35,SNR=12
CASEE Lake Jocassee 144.44 314 P PKPbc 04 06 19.9 +0.7
baz=59
V52A Sevierville 144.46 315 P PKPbc 04 06 19.2 0.0
baz=57,SNR=6.7
P46A Rosedale 144.47 324 P PKPbc 04 06 19.1 +0.1
baz=48
NEW Newport 144.50 4 PKPdf PKPbc 04 06 19.0 +0.1
NEW Newport 144.50 4 PKIKP PKPbc 04 06 19.0 +0.1
NEW Newport 144.50 4 P **PKPdf 04 06 19.8 -0.6**
baz=354,SNR=5.3
E28A Huff 144.56 344 P PKPbc 04 06 19.7 +0.6
baz=22,SNR=12
T50A Nancy 144.63 318 P PKPbc 04 06 20.0 +0.4
baz=54
T50A P PKPbc 04 06 20.0 +0.4
baz=54
TKL Tuckaleechee C 144.68 315 P PKPbc 04 06 20.4 +0.5
baz=57,SNR=6.1
EGMT Eagleton 144.70 355 PKPdf PKPbc 04 06 19.6 0.0
EGMT Eagleton 144.70 355 P **PKPab 04 06 17.8 -1.7**
baz=6.5
WCI Wyandotte Cave 144.82 321 PKPdf **PKPab 04 06 19.2 -0.9**
WCI Wyandotte Cave 144.82 321 PKIKP **PKPab 04 06 19.2 -0.9**
WCI Wyandotte Cave 144.82 321 P **PKPab 04 06 19.2 -0.9**
baz=51
WCI Wyandotte Cave 144.82 321 P PKPbc 04 06 20.5 +0.3
baz=51
O44A Mansfield 144.83 325 P PKPbc 04 06 20.5 +0.3
baz=46,SNR=14
L40A Anamosa 144.87 330 P **PKPab 04 06 20.1 -0.1**
baz=40,SNR=12
C09A Chrisman Ranch 144.87 5 PKPdf **PKPab 04 06 19.9 -0.1**
HDIL Hopedale 145.00 327 P **PKPab 04 06 20.3 -0.4**
baz=44
HDIL Hopedale 145.00 327 P PKPbc 04 06 20.9 +0.2
baz=44,SNR=11
V51A Loudon 145.00 316 P **PKPab 04 06 20.6 -0.2**
baz=56,SNR=9.6
W52A Murphy 145.09 315 P **PKPbc 04 06 20.1 -1.2**
baz=58,SNR=7.8
K38A Parkersburg 145.14 333 P **PKPbc 04 06 20.2 -0.9**
baz=37,SNR=9.8
U49A Red Boiling Sp 145.54 318 P **PKPdf 04 06 21.7 -0.8**
baz=54
D08A Wollman Farm, 145.55 6 **PKPdf 04 06 22.2 0.0**
OLIL Olney 145.58 323 P **PKPdf 04 06 22.2 -0.2**
baz=48,SNR=25
LAO LASA Array 145.61 351 P **PKPab 04 06 23.2 +0.3**
baz=13
LAO LASA Array 145.61 351 P **PKPab 04 06 23.6 +0.8**
baz=13
GOGA Godfrey 145.62 312 P **PKPdf 04 06 22.7 -0.1**
baz=60,SNR=7.1
GOGA Godfrey 145.62 312 P **PKPdf 04 06 22.1 -0.6**
baz=60,SNR=7.1
N41A Harden Midland 145.70 328 P **PKPdf 04 06 22.1 -0.5**
baz=42,SNR=26
154A Montrose 145.74 310 P **PKPab 04 06 23.6 0.0**
baz=62,SNR=5.4
P43A Skaggs, Pawnee 145.76 326 PKPdf **PKPbc 04 06 23.0 -0.1**
P43A Skaggs, Pawnee 145.76 326 P **PKPbc 04 06 23.1 -0.1**
baz=45,SNR=16
ECSD EROS Data Cent 145.82 338 P **PKPdf 04 06 22.8 0.0**
baz=30
ECSD EROS Data Cent 145.82 338 P **PKPdf 04 06 22.9 +0.1**
baz=30
Y52A Lilburn 145.82 313 P **PKPab 04 06 24.0 0.0**
baz=59,SNR=9.8
Y52A P **PKPab 04 06 24.0 0.0**
baz=59,SNR=9.8
SCIA State Center 145.93 332 P **PKPdf 04 06 22.8 -0.1**
baz=37
W50A Signal Mountai 145.98 316 P **PKPdf 04 06 23.7 +0.4**
baz=56,SNR=8.1
Q44A Meyer Farm, Va 146.00 324 P **PKPab 04 06 24.5 +0.1**
baz=46,SNR=11
SUSD Miller 146.00 341 P **PKPdf 04 06 22.6 -0.5**
baz=26
X51A Calhoun 146.02 315 P **PKPbc 04 06 23.9 -0.2**
baz=57
X51A P **PKPbc 04 06 23.9 -0.2**
baz=57
MSO Missoula 146.05 0 PKPdf **PKPdf 04 06 23.4 +0.2**
MSO Missoula 146.05 0 P **PKPbc 04 06 24.0 0.0**
baz=359,SNR=38
TAOE Nuku Hiva Isla 146.07 128 *e*LR LR 04 54 11.7
comp=Z,229nm,26.1s
T47A Sharon Grove 146.10 320 P **PKPbc 04 06 24.1 -0.2**
baz=51,SNR=10.0
V48A Smith Brothers 146.68 318 P **PKPbc 04 06 25.5 -0.5**
baz=53,SNR=7.1
Z51A Franklin 146.90 313 P **PKPdf 04 06 25.6 +0.7**
baz=58,SNR=6.4
152A Waverly Hall 146.90 312 P **PKPbc 04 06 25.9 -0.9**
baz=60,SNR=7.0
S44A Carbondale 146.95 323 P **PKPbc 04 06 27.4 +0.6**
baz=48,SNR=12
WVT Waverly 147.09 319 **PKPdf 04 06 26.1 +1.0**
WVT Waverly 147.09 319 PKP2 **PKPdf 04 06 26.1 +1.0**
WVT Waverly 147.09 319 P **PKPdf 04 06 25.8 +0.6**
baz=51
WVT Waverly 147.09 319 P **PKPbc 04 06 26.5 -0.7**
baz=51,SNR=19
P40A Paris 147.19 328 P **PKPbc 04 06 26.3 -1.0**
baz=41
BOZ Bozeman (W) 147.24 357 P **PKPbc 04 06 26.6 -1.0**
baz=3.6,SNR=21
Y49A Blount Mountai 147.48 315 P **PKPbc 04 06 27.5 -0.9**
baz=56,SNR=8.7
RLMT Red Lodge 147.54 354 P **PKPbc 04 06 28.4 0.0**
baz=7.9
RSSD Black Hills 147.67 347 PKPdf **PKPdf 04 06 25.5 -0.6**
RSSD Black Hills 147.67 347 PKIKP **PKPdf 04 06 25.5 -0.6**
RSSD Black Hills 147.67 347 P **PKPdf 04 06 27.5 +1.4**
baz=18
RSSD Black Hills 147.67 347 P **PKPdf 04 06 26.7 +0.5**
baz=18
PLID Pearl Lake 147.74 3 PKPdf **PKPdf 04 06 25.5 -0.8**
CCM Cathedral Cave 147.84 325 **PKPbc 04 06 29.2 +0.1**
CCM Cathedral Cave 147.84 325 PKP2 **PKPbc 04 06 29.3 +0.1**
CCM Cathedral Cave 147.84 325 P **PKPdf 04 06 27.5 +1.2**
baz=44
CCM Cathedral Cave 147.84 325 P **PKPdf 04 06 27.0 +0.7**
baz=44
P38A Dawn 147.86 330 P **PKPdf 04 06 27.1 +0.8**
baz=39
PLAL Pickwick Lake 147.95 318 PKPbc **PKPbc 04 06 28.2 -1.4**
YHH Holmes Hill 148.00 356 PKPbc **PKPbc 04 06 30.0 +0.2**
PBMO Poplar Bluff 148.26 323 P **PKPbc 04 06 29.1 -1.3**
baz=47,SNR=12
LRAL Lakeview Retre 148.34 314 P **PKPbc 04 06 29.5 -1.2**
baz=56,SNR=7.3
LRAL Lakeview Retre 148.34 314 P **PKPbc 04 06 31.3 +0.6**
baz=56
H17A Grant Village 148.37 356 P **PKPbc 04 06 29.8 -1.0**
baz=5.7
BGNE Belgrade 148.40 337 PKPbc **PKPbc 04 06 30.1 -0.5**
BGNE Belgrade 148.40 337 P **PKPbc 04 06 29.5 -1.1**
baz=30
T42A Van Buren 148.47 324 P **PKPdf 04 06 27.9 +0.5**
baz=46
BCYI Bear Canyon 148.57 360 PKPbc **PKPdf 04 06 29.2 +1.5**
IMW Indian Meadow 148.90 356 PKPdf **PKPdf 04 06 27.8 -0.5**
OXF Oxford 149.10 319 P **PKPbc 04 06 31.8 -0.8**
baz=51
FXWY Fox Creek 149.16 356 PKPdf **PKPdf 04 06 28.3 -0.3**
S39A Bolivar 149.22 327 P **PKPdf 04 06 28.9 +0.3**
baz=41,SNR=11
HLID Hailey 149.31 1 PKPdf **PKPdf 04 06 28.0 -0.8**
HLID PKPbc **sPKPdf 04 06 33.5 -0.4**
HLID Hailey 149.31 1 P **PKPbc 04 06 33.2 +0.1**
baz=358
K22A Casper 149.59 349 P **PKPbc 04 06 32.0 -1.8**
baz=14,SNR=10.0
K22A Casper 149.59 349 P **PKPdf 04 06 30.7 +1.4**
baz=14,SNR=10.0
KSU1 Kansas State U 149.71 333 P **PKPbc 04 06 33.4 -0.7**
baz=34
KSU1 Kansas State U 149.71 333 P **PKPdf 04 06 31.0 +1.7**
baz=34,SNR=5.8
BW06 Boulder Array 149.90 354 P **PKPbc 04 06 33.9 -0.7**
baz=7.9,SNR=9.9
PD31 Pinedale Array 149.90 354 PKPdf **PKPdf 04 06 27.2 -2.6**
PD31 PKPbc **PKPbc 04 06 34.6 0.0**
PDAR Pinedale Array 149.90 354 PKPbc **PKPbc 04 06 34.1 -0.6**
comp=Z,14nm,1.1s,baz=51,slow=0.9,SNR=17
U40A Yellville 149.95 325 P **PKPdf 04 06 30.9 +1.1**
baz=44,SNR=17
U40A P **PKPdf 04 06 30.9 +1.1**
baz=44,SNR=17
146A Union 150.00 315 P **PKPbc 04 06 34.8 -0.1**
baz=54
OGNE Ogallala 150.13 342 P **PKPbc 04 06 34.8 -0.3**
baz=23
OGNE Ogallala 150.13 342 P **PKPbc 04 06 34.7 -0.3**
baz=23
U38A Gravette 150.72 327 P **PKPdf 04 06 31.1 +0.1**
baz=41,SNR=9.7
N23A Red Feather La 151.17 348 P **PKPbc 04 06 36.8 -1.0**
baz=16,SNR=15
R32A Long Quarter, 151.18 335 P **PKPdf 04 06 32.3 +0.6**
baz=31,SNR=7.0
CBKS Cedar Bluff 151.25 337 P **PKPbc 04 06 37.3 -0.4**
baz=29
T35B Sooner Cattle 151.44 330 P **PKPdf 04 06 33.6 +1.5**
baz=37,SNR=9.4
MIAR Mount Ida 151.65 323 P **PKPbc 04 06 37.6 -1.1**
baz=45,SNR=9.8
MIAR Mount Ida 151.65 323 P **PKPdf 04 06 33.7 +1.2**
baz=45
TUL3 Leonard 151.86 328 P **PKPbc 04 06 38.5 -0.7**
baz=39,SNR=6.6
TUL3 Leonard 151.86 328 P **PKPdf 04 06 34.8 +2.1**
baz=39,SNR=6.6
KSCO Kaye Shedlock' 152.08 341 P **PKPbc 04 06 39.3 -0.4**
baz=23
ISCO Idaho Springs 152.15 347 P **PKPbc 04 06 39.7 -0.4**
baz=17,SNR=6.0
O20A White River Ci 152.32 351 P **PKPbc 04 06 39.6 -0.8**
baz=11,SNR=8.5
DUG Dugway, Tooele 152.67 358 P **PKPbc 04 06 40.8 -0.3**
baz=1.7
Q24A Divide 152.83 345 P **PKPbc 04 06 40.9 -0.8**
baz=18
MATN Matagalpa 152.91 273 PKPbc **PKPbc 04 06 39.5 -2.7**
SDCO Great Sand Dun 154.07 345 P **PKPbc 04 06 43.3 -1.1**
baz=18
NVAR Mina Array Bea 154.12 8 PKP **PKPdf 04 06 37.5 +1.2**
comp=Z,0.3nm,0.7s,baz=248,slow=1.0,SNR=5.1
NVAR PKPbc **PKiKP 04 06 46.1 +1.6**
comp=Z,4.3nm,1.1s,baz=42,slow=1.8,SNR=13
NVAR PP **PP 04 10 31.0 -0.3**
comp=Z,0.7nm,0.9s,baz=328,slow=2.3,SNR=3.6
NATX Nacogdoches 154.24 320 P **PKPbc 04 06 43.8 -0.7**
baz=47
WMOK Wichita Mounta 154.28 331 P **PKPbc 04 06 43.4 -1.2**
baz=35
T25A Trinidad 154.34 343 P **PKiKP 04 06 45.0 +0.1**
baz=21
S22A 4UR Ranch, Cre 154.38 347 P **PKPab 04 06 57.2 -1.8**
baz=15
R11B Troy Canyon, C 154.47 3 P **PKPab 04 06 58.8 -0.4**
baz=356
MLAC Mammoth, Mammt 154.83 10 P **PKPab 04 06 59.5 -1.3**
baz=348
MVCO Mesa Verde 155.22 350 P **PKPab 04 07 02.3 -0.3**
baz=12
WHTX Lake Whitney, 155.73 325 P **PKPab 04 07 04.3 -0.4**
baz=41
TPNV Topopah Spring 155.82 5 P **PKPab 04 07 04.3 -0.7**
baz=354
CWC Cottonwood Cre 156.11 9 P **PKPab 04 07 04.9 -1.3**
baz=349
ABTX Abilene, Hawle 156.41 329 P **PKPab 04 07 07.3 -0.2**
baz=36
VES Vestal, Richgr 156.53 11 P **PKPab 04 07 07.6 -0.2**
baz=347
MPMC Manual Prospec 156.57 8 P **PKPab 04 07 08.3 0.0**
baz=350
MSTX Muleshoe 156.67 337 P **PKPab 04 07 06.5 -2.2**
baz=28
435B Jarrell 156.70 323 P **PKPab 04 07 07.1 -1.7**
baz=43
ISA Isabella, Lake 156.81 10 P **PKPab 04 07 07.5 -1.6**
baz=348
ANMO Albuquerque 156.97 345 PKPdf **PKPdf 04 06 38.6 -1.6**
ANMO **PKPab 04 07 10.5 +0.4**
ANMO Albuquerque 156.97 345 P **PKPab 04 07 09.0 -1.0**
baz=18
BRDY Brady 157.12 326 PKPdf **PKPdf 04 06 39.3 -1.0**
BRDY PKPab **PKPab 04 07 09.8 -0.9**
WUAZ Wupatki 157.26 355 P **PKPab 04 07 12.2 +1.0**
baz=5.7
GSC Goldstone, Bar 157.40 7 P **PKPab 04 07 11.6 -0.1**
baz=352
GMRC Granite Mounta 158.02 4 P **PKPab 04 07 12.8 -1.6**
baz=355
JCT Junction City 158.18 326 P **PKPab 04 07 15.0 -0.2**
baz=39
PDMCI Parker Dam,Lak 158.56 1 P **PKPab 04 07 16.8 +0.2**
baz=359
IRM Iron Mountain 158.67 3 P **PKPab 04 07 17.3 +0.1**
baz=356
BELC Belle Mtn. Jos 158.77 5 P **PKPab 04 07 18.4 +0.7**
baz=354
MURC Murrieta 159.03 8 P **PKPab 04 07 17.7 -1.0**
baz=350
TPFO Pinon Flats 159.11 6 P **PKPab 04 07 18.5 -0.7**
baz=352
BC3 Big Chuckawall 159.15 4 P **PKPab 04 07 18.7 -0.7**
baz=355
SCI2 San Clemente I 159.41 12 P **PKPab 04 07 19.1 -1.3**
baz=346
833A Chaparral WMA, 159.56 321 P **PKPab 04 07 19.8 -1.5**
baz=43
121A Cookes Peak, D 159.60 346 P **PKPab 04 07 19.9 -1.6**
baz=16
MNTX Cornudas Mount 159.66 339 P **PKPab 04 07 20.5 -1.0**
baz=24
MNTX Cornudas Mount 159.66 339 P **PKPdf 04 06 41.6 -1.7**
baz=24
109C Camp Elliot, M 159.74 8 P **PKPab 04 07 20.9 -0.8**
baz=350
SWSC Sam W. Stewart 159.83 5 P **PKPab 04 07 20.6 -1.6**
baz=354
IKP In-Ko-Pah, Jac 160.09 6 P **PKPab 04 07 20.3 -3.1**
baz=353
TUC Tucson 160.37 353 P **PKPab 04 07 22.2 -2.4**
baz=8.2
TX31 Lajitas Ar. Si 161.06 332 PKPdf **PKPdf 04 06 43.3 -1.7**
TX31 PKPab **PKPab 04 07 27.2 -0.7**
TXAR Lajitas Array 161.06 332 PKP **PKPdf 04 06 44.2 -0.8**
comp=Z,1.3nm,1.1s,baz=318,slow=1.7,SNR=7.4
TXAR PKPab **PKPab 04 07 28.3 +0.5**
comp=Z,5.2nm,1.2s,baz=46,slow=3.6,SNR=14
TXAR PP **PP 04 11 08.7 -1.1**
comp=Z,0.1nm,0.6s,baz=46,slow=3.9,SNR=1.9

IDC 09 03:49:06.9±4.8,16°.24S×172°.47W,h0km,mb3.7/3, mbtmp3.9/4,ML4.6/1,Error ellipse: s-maj=169.2km s-min=27.2km az=131.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**16**	Pn	Pn	03 49 47.0	-0.7
	137nm,0.3s,baz=198,slow=9.6,SNR=126						
AFI				Sn	Sn	03 50 07.5	-10
	119nm,0.3s,baz=40,slow=23,SNR=12						
	304nm,0.3s						
WRA	**Warramunga Arr**	**50.53**	**257**	P	P	03 58 07.2	-0.3
	1.8nm,1.0s,baz=96,slow=8.0,SNR=5.1						
	1.8nm,1.0s						
ASAR	**Alice Springs**	**50.71**	**253**	P	P	03 58 08.8	0.0
	0.6nm,0.4s,baz=91,slow=7.8,SNR=7.7						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**83.09**	**11**	P	P	04 01 34.5	+0.4
	0.3nm,0.9s,baz=225,slow=4.4,SNR=4.3						
	0.3nm,0.9s						

IGQ ***09*** *04:15:21±0.3,2°S±2°×7°8W±°,h187km*
NEIC ***09*** *04:15:21.7±2.4,1°.64S±0°.06×77°.58W±0°.08,h168km±4km, mb4.9/399,Error ellipse: s-maj=11.8km s-min=8.0km az=86.0*
VAO ***09*** *04:15:21.5±0.2,1°.64S×77°.59W,h173km,mb5.0*
IDC ***09*** *04:15:22.6±0.5,1°.58S×77°.49W,h180km±3km,mb4.2/29, mbtmp4.7/33,MS3.5/3,Error ellipse: s-maj=13.0km s-min=7.6km az=64.0*
GCMT ***09*** *04:15:24.7±0.5,1°.75S±0°.03×77°.70W±0°.04,h189km±5km, MW5.0/74,Moment Tensor Solution. s7,c7; s74,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.82±.23; $M_{\theta\theta}$0.75±.24; $M_{\phi\phi}$1.07±.29; $M_{r\theta}$2.24±.16; $M_{\theta\phi}$-1.52±.20; $M_{\phi r}$-2.23±.19; Best double couple: $M_0$3.81200×10^{16} NP1:ϕ_s315.00000°,δ73.00000°,λ-92.00000°. NP2: ϕ_s143.00000°,δ17.00000°,λ-82.00000°. Principal axes: T 4.1170, Plg28.0000°, Azm47.0000°; N -0.6130, Plg2.0000°, Azm316.0000°; P -3.5060, Plg62.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 04:15:22.0±0.3,1°.68S±0°.03×77°.66W±0°.04,h181km±2km, h182km:pP-P,n937,σ1°.16/821,mb4.9/270,12C-25D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**0.40**	**297**	P	**Pn**	**04 15 46.0**	**-0.7**
PUYO				S	**Sn**	**04 16 05.0**	**-0.7**
ARDO	**Archidona, Ten**	**0.69**	**349**	P	**Pn**	**04 15 47.0**	**-1.0**
ARDO				S	**Sn**	**04 16 06.0**	**-2.1**
TAIS	**Taisha**	**0.72**	**167**	P	**Pn**	**04 15 48.0**	**-0.1**
TAIS				S	**Sn**	**04 16 09.0**	**+0.7**
BULB	**Ulba Tungurahu**	**0.78**	**288**	P	**Pn**	**04 15 48.0**	**-0.8**
BULB				S	**Sn**	**04 16 08.0**	**-1.4**
BRUN	**Tungurahua Vol**	**0.81**	**289**	P	**Pn**	**04 15 48.0**	**-0.9**
ARRY	**Arrayan**	**0.81**	**282**	P	**Pn**	**04 15 48.0**	**-1.0**
ARRY				S	**Sn**	**04 16 08.0**	**-1.7**
RETU	**Refugio**	**0.81**	**286**	P	**Pn**	**04 15 48.0**	**-1.2**
POND	**Pondoa**	**0.83**	**288**	P	**Pn**	**04 15 48.0**	**-1.1**
TUYU	**Q. Yuibug Volc**	**0.83**	**283**	P	**Pn**	**04 15 49.0**	**-0.2**
BMAS	**Trigal station**	**0.83**	**282**	P	**Pn**	**04 15 48.0**	**-1.1**
JUI6	**Juive**	**0.84**	**287**	P	**Pn**	**04 15 48.0**	**-1.1**
BBIL	**Ulba Tungurahu**	**0.85**	**285**	P	**Pn**	**04 15 48.0**	**-1.2**
PIAT	**Ana Tenorio**	**0.90**	**318**	P	**Pn**	**04 15 49.0**	**-0.6**
PIAT				S	**Sn**	**04 16 09.0**	**-1.9**
PIAT	**Ana Tenorio**	**0.90**	**318**	‖*i*P	**Pn**	**04 15 49.6**	**0.0**
APSY	**Ecuador-Napo A**	**0.92**	**319**	P	**Pn**	**04 15 49.0**	**-0.7**
PIS1	**Pisayambo**	**0.95**	**310**	P	**Pn**	**04 15 50.0**	**-0.1**
IGUA	**Igualata**	**0.99**	**281**	P	**Pn**	**04 15 50.0**	**-0.4**
ARIO	**Riobamba**	**1.03**	**271**	P	**Pn**	**04 15 49.0**	**-1.5**
TAMH	**Tambohuasha Ch**	**1.12**	**277**	P	**Pn**	**04 15 51.0**	**-0.3**
PORT	**Chimborazo Vol**	**1.13**	**281**	P	**Pn**	**04 15 51.0**	**-0.5**
VCES	**Cotopaxi**	**1.14**	**320**	P	**Pn**	**04 15 51.0**	**-0.5**
BRRN	**Barrancas-Volc**	**1.20**	**318**	P	**Pn**	**04 15 52.0**	**0.0**
TAMB	**Tambo**	**1.20**	**324**	P	**Pn**	**04 15 52.0**	**-0.1**
ALAT	**Latacunga**	**1.21**	**308**	P	**Pn**	**04 15 52.0**	**+0.1**
CHSH	**Refugio Sur-Vo**	**1.22**	**279**		**Pn**	**04 15 51.4**	**-0.8**
CHSH	**Refugio Sur-Vo**	**1.22**	**279**	P	**Pn**	**04 15 51.0**	**-1.2**
BTAM	**Cotopaxi Volca**	**1.24**	**324**	P	**Pn**	**04 15 52.0**	**-0.3**
SLOR	**San Lorenzo -**	**1.26**	**318**	Pn	**Pn**	**04 15 51.9**	**-0.6**
SLOR	**San Lorenzo -**	**1.26**	**318**	P	**Pn**	**04 15 52.0**	**-0.4**
BVC2	**Cotopaxi Volca**	**1.26**	**324**	P	**Pn**	**04 15 52.0**	**-0.6**
ANTM	**Antisana-La Mi**	**1.26**	**334**	P	**Pn**	**04 15 52.0**	**-0.6**
VC1	**Cotopaxi 1**	**1.27**	**324**	P	**Pn**	**04 15 52.0**	**-0.6**
BREF	**Cotopaxi Volca**	**1.27**	**322**	P	**Pn**	**04 15 52.0**	**-0.7**
ANTS	**Antisana-Sarah**	**1.28**	**337**	P	**Pn**	**04 15 52.0**	**-0.7**
SRAM	**San Ramn-Vol**	**1.29**	**316**	P	**Pn**	**04 15 52.0**	**-0.6**
SRAM				S	**Sn**	**04 16 17.0**	**+0.7**
BNAS	**Cotopaxi Volca**	**1.29**	**321**	P	**Pn**	**04 15 54.0**	**+1.3**
CAMI	**Rancho Maria**	**1.30**	**320**	P	**Pn**	**04 15 53.0**	**+0.2**
ANTG	**Antisana-Guama**	**1.31**	**333**	P	**Pn**	**04 15 53.0**	**+0.1**
ANTI	**Antisana**	**1.32**	**338**	P	**Pn**	**04 15 53.0**	**-0.1**
SUCR	**Mariscal Sucre**	**1.32**	**321**	P	**Pn**	**04 15 53.0**	**0.0**
PITA	**Cotopaxi Volc**	**1.35**	**325**	P	**Pn**	**04 15 53.0**	**-0.2**
APS4	**Papallacta**	**1.37**	**341**	P	**Pn**	**04 15 53.0**	**-0.3**
PAST	**Pastocalle**	**1.38**	**315**	P	**Pn**	**04 15 53.0**	**-0.5**
TOMA	**Boca Toma-Volc**	**1.40**	**327**	P	**Pn**	**04 15 53.0**	**-0.6**
TOMA				S	**Sn**	**04 16 18.0**	**-0.1**
ILLI	**Illinizas Sur**	**1.43**	**312**	P	**Pn**	**04 15 53.0**	**-1.0**
REVS	**Reventador Sur**	**1.56**	**2**	P	**Pn**	**04 15 55.0**	**0.0**
LAV4	**Lava4-Reventad**	**1.57**	**1**	P	**Pn**	**04 15 55.0**	**-0.1**
TING	**Casa Alexandra**	**1.59**	**330**	P	**Pn**	**04 15 55.0**	**-0.3**
AZOG	**Ecuador-Azogue**	**1.59**	**228**	P	**Pn**	**04 15 55.0**	**-0.3**
BOSC	**San Juan Bosco**	**1.68**	**210**	Pn	**Pn**	**04 15 55.4**	**-0.7**
BOSC	**San Juan Bosco**	**1.68**	**210**	P	**Pn**	**04 15 55.0**	**-1.0**
BOSC				S	**Sn**	**04 16 22.0**	**-0.5**
GGPT	**Toaza - Volcan**	**1.73**	**326**	P	**Pn**	**04 15 56.0**	**-0.8**
JUA2	**San Juan 2**	**1.73**	**327**	P	**Pn**	**04 15 56.0**	**-0.9**
AV11	**Acelerografo,**	**1.74**	**336**	P	**Pn**	**04 15 57.0**	**+0.2**
AGU	**Angureal**	**1.75**	**349**	P	**Pn**	**04 15 57.0**	**-0.2**
AV03	**Acelerografo,**	**1.75**	**11**	P	**Pn**	**04 15 56.0**	**-0.6**
TERV	**Terraza Guagua**	**1.76**	**328**	P	**Pn**	**04 15 57.0**	**-0.3**
CAYA	**Cayambe**	**1.77**	**349**	P	**Pn**	**04 15 57.0**	**-0.3**
COHC	**Cochancay**	**1.77**	**244**		**Pn**	**04 15 55.8**	**-0.9**
COHC	**Cochancay**	**1.77**	**244**	P	**Pn**	**04 15 55.0**	**-1.7**
COHC				S	**Sn**	**04 16 22.0**	**-1.7**
COHC	**Cochancay**	**1.77**	**244**	*e*P	**Pn**	**04 15 55.6**	**-1.1**
PINO	**Pino**	**1.78**	**328**	P	**Pn**	**04 15 57.0**	**-0.5**
ACUE	**Ecuador-Cuenca**	**1.78**	**227**	P	**Pn**	**04 15 57.0**	**-0.2**
CASC	**Dorado de Casc**	**1.83**	**10**	P	**Pn**	**04 15 57.0**	**-0.5**
SADP	**Ecuador-Quito-**	**1.84**	**335**	P	**Pn**	**04 15 57.0**	**-0.8**
PULU	**Pululahua**	**1.89**	**334**	Pn	**Pn**	**04 15 57.5**	**-0.9**
PULU	**Pululahua**	**1.89**	**334**	P	**Pn**	**04 15 58.0**	**-0.4**
AQUE	**Quevedo**	**1.93**	**289**	P	**Pn**	**04 15 57.0**	**-1.4**
AMIL	**Milagro (Trans**	**1.98**	**257**	P	**Pn**	**04 15 56.0**	**-2.9**
MILO	**Milagro-Astudi**	**1.98**	**252**	P	**Pn**	**04 15 56.0**	**-2.9**
IMBA	**Imbabura, San**	**2.01**	**345**	Pn	**Pn**	**04 16 00.0**	**+0.2**
IMBA	**Imbabura, San**	**2.01**	**345**	P	**Pn**	**04 16 00.0**	**+0.2**
ACOT	**Cotacachi (Cas**	**2.05**	**343**	P	**Pn**	**04 16 01.0**	**+0.9**
AIB2	**Ibarra (Univer**	**2.05**	**348**	P	**Pn**	**04 16 01.0**	**+0.9**
OTAV	**Otavalo**	**2.06**	**338**	Pn	**Pn**	**04 15 59.0**	**-1.3**
OTAV	**Otavalo**	**2.06**	**338**	P	**Pn**	**04 15 59.0**	**-1.3**
OTAV	**Otavalo**	**2.06**	**338**	‖*i*P	**Pn**	**04 15 59.9**	**-0.4**
OTAV	**Otavalo**	**2.06**	**338**	*e*P	**Pn**	**04 15 58.7**	**-1.6**
AAT1	**Ecuador-Atunta**	**2.07**	**345**	P	**Pn**	**04 16 01.0**	**+0.8**
YAHU	**Yahuarcocha**	**2.07**	**349**	P	**Pn**	**04 16 00.0**	**-0.4**
CUIC	**Cuicocha-Domo**	**2.09**	**340**	P	**Pn**	**04 16 00.0**	**-0.5**
COTA	**Cotacachi**	**2.11**	**341**	P	**Pn**	**04 16 01.0**	**+0.1**
BONI	**La Bonita**	**2.12**	**4**	P	**Pn**	**04 16 00.0**	**-0.7**
BONI	**La Bonita**	**2.12**	**4**	‖*i*P	**Pn**	**04 16 00.7**	**-0.1**
URCU	**Urcuqui**	**2.18**	**344**	P	**Pn**	**04 16 01.0**	**-0.6**
PAC1	**Pacto, Paraso**	**2.24**	**330**	P	**Pn**	**04 15 59.0**	**-2.9**
GYE3	**Ecuador-Guayaq**	**2.28**	**258**	P	**Pn**	**04 15 59.0**	**-3.3**
AGUAY	**Guayaquil**	**2.32**	**261**	P	**Pn**	**04 15 59.0**	**-3.6**
TULM	**Tulcn-Chalpat**	**2.38**	**357**	Pn	**Pn**	**04 16 03.5**	**-0.4**
TULM	**Tulcn-Chalpat**	**2.38**	**357**	P	**Pn**	**04 16 04.0**	**+0.1**
TULM	**Tulcn-Chalpat**	**2.38**	**357**	*i* P	**Pn**	**04 16 04.3**	**+0.5**
BV15	**Puerto Quito-O**	**2.40**	**319**	P	**Pn**	**04 16 03.0**	**-0.6**
LNGL	**El Angel-Carch**	**2.42**	**352**	P	**Pn**	**04 16 04.0**	**-0.4**
CHL1	**Volc¡n Chiles**	**2.47**	**353**	P	**Pn**	**04 16 05.0**	**0.0**
CHL2	**Volc¡n Chiles**	**2.48**	**354**	P	**Pn**	**04 16 06.0**	**+1.0**
ECEN	**Cerro Negro**	**2.50**	**353**	P	**Pn**	**04 16 05.0**	**-0.4**
LITE1	**Lita**	**2.55**	**344**	P	**Pn**	**04 16 04.0**	**-1.5**
CHMA	**Chilma**	**2.55**	**351**	P	**Pn**	**04 16 06.0**	**+0.3**
CMBC	**Cumbal**	**2.61**	**356**	P	**Pn**	**04 16 07.0**	**+0.5**
CMBC	**Cumbal**	**2.61**	**356**	‖*i*P	**Pn**	**04 16 07.4**	**+1.0**
MAG1	**Magdalena**	**2.64**	**307**	P	**Pn**	**04 16 05.0**	**-1.5**
ACH2	**Ecuador-Machal**	**2.66**	**234**	P	**Pn**	**04 16 04.0**	**-2.6**
AV18	**Acelerografo,**	**2.68**	**317**	P	**Pn**	**04 16 07.0**	**+0.1**
ISPG	**Isla Puna-Puer**	**2.81**	**243**	P	**Pn**	**04 16 06.0**	**-2.5**
MORR	**Playas El Morr**	**2.84**	**250**	P	**Pn**	**04 16 06.0**	**-2.7**
APO2	**Ecuador-Portov**	**2.86**	**282**	P	**Pn**	**04 16 07.0**	**-2.0**
APLA	**Playas - Guaya**	**2.89**	**251**	P	**Pn**	**04 16 07.0**	**-2.3**
GCUF	**Volcan Galeras**	**2.90**	**6**	‖*i*P	**Pn**	**04 16 10.8**	**+0.8**
CABP	**Cabo Pasado**	**3.05**	**295**	P	**Pn**	**04 16 10.0**	**-1.3**
SNLR	**San Lorenzo-Es**	**3.18**	**338**	P	**Pn**

PTGL Punta Galera 3.40 316 P Pn 04 16 14.0 -1.6
PTLC Puerto Leguiza 3.40 57 P Pn 04 16 13.0 -2.7
PTLC Puerto Leguiza 3.40 57⇑ iP Pn 04 16 13.9 -1.7
ISPT Isla de la Pla 3.43 277 P Pn 04 16 13.0 -3.0
AMCR Ecuador-Macara 3.52 220 P Pn 04 16 14.0 -3.1
MCRA Macar, Loja 3.52 220 Pn Pn 04 16 14.2 -3.0
MCRA Macar, Loja 3.52 220 P Pn 04 16 14.0 -3.1
MCRA Macar, Loja 3.52 220⇑ iP Pn 04 16 14.7 -2.5
TUMC Tumaco 3.64 343 P Pn 04 16 18.0 -0.6
TUMC Tumaco 3.64 343 eP Pn 04 16 17.9 -0.7
BBAC Balboa, Cauca 3.70 6 P Pn 04 16 19.0 -0.6
BBAC Balboa, Cauca 3.70 6⇑ eP Pn 04 16 19.3 -0.3
FLOC Florencia 3.81 32 P Pn 04 16 20.0 -0.8
FLOC Florencia 3.81 32 i P Pn 04 16 20.8 0.0
POPC Popayan, Colom 4.30 13⇑ iP Pn 04 16 27.1 -0.2
GARC Garzon, Huila 4.41 29 i P Pn 04 16 29.1 +0.5
GR1C Gorgona, Isla 4.68 354 eP Pn 04 16 32.0 +0.2
BETC Betania 4.87 27 eP Pn 04 16 35.2 +0.9
JAMC Jamundi, Valle 4.96 12⇑ iP Pn 04 16 34.0 -1.7
MACC Macarena, Meta 5.38 45⇑ iP Pn 04 16 41.0 0.0
ATAH Atahualpa 5.47 188 P Pn 04 16 43.3 +0.8
1µm,0.6s,baz=16,slow=9.3,SNR=1416
ATAH S Sn 04 17 44.8 -1.0
1µm,0.7s,baz=140,slow=22,SNR=13
MALC Bahia Malaga 5.66 3 P Pn 04 16 42.0 -2.6
MALC Bahia Malaga 5.66 3 eP Pn 04 16 42.8 -1.8
YOTC Yotoco, Valle 5.78 13 eP Pn 04 16 43.1 -3.1
PRAC Prado 6.03 27 i P Pn 04 16 48.9 -0.7
ORTC Ortega, Tolima 6.05 24 eP Pn 04 16 48.9 -0.9
ANIL Santa Ana 6.53 20 eP Pn 04 16 54.7 -1.5
GUVC San Jose del G 6.55 50 eP Pn 04 16 57.2 +0.9
PLMC San Jos del P 6.68 12 eP Pn 04 16 54.7 -3.4
VILC Villavicencio, 6.99 35 eP Pn 04 17 02.9 +0.8
GUY2C Guyana, Caldas 7.23 19 eP Pn 04 17 02.9 -2.8
ROSC El Rosal 7.29 27 Pn Pn 04 17 04.7 -1.6
ROSC El Rosal 7.29 27 eP Pn 04 17 07.0 +0.7
ROSC El Rosal 7.29 27 P Pn 04 17 04.5 -1.7
33nm,0.4s,baz=349,slow=5.5,SNR=18
CHIC Chingaza 7.39 32 eP Pn 04 17 07.9 +0.2
NORC Norcasia 7.71 21 eP Pn 04 17 09.5 -2.1
SOLC Bahia Solano 7.86 2 eP Pn 04 17 11.4 -2.0
PTGC Puerto Gaitan, 8.04 43⇑ iP Pn 04 17 15.9 +0.1
SPBC San Pablo de B 8.12 26 eP Pn 04 17 15.8 -1.2
DBBC Dabeiba 8.76 10 eP Pn 04 17 27.6 +2.3
PTAC Punta Ardita, 8.77 359 eP Pn 04 17 23.4 -2.0
RUSC La Rusia 8.80 31 eP Pn 04 17 25.6 -0.7
BARC Barichara 9.35 29 eP Pn 04 17 34.9 +1.5
CACAO El Cacao, Vera 9.51 340 eP Pn 04 17 35.4 +0.2
ZARC Zaragoza, Cauc 9.53 17 eP Pn 04 17 33.2 -2.2
APAC Apartado, Choc 9.57 6 eP Pn 04 17 37.9 +1.9
UREC San Jos de Ur 9.61 13 eP Pn 04 17 37.4 +0.9
AZU Azuero 9.76 345 eP Pn 04 17 39.1 +0.7
TAMC Tame, Arauca 9.97 36 eP Pn 04 17 40.7 -0.4
PAMC Pamplona, Colo 10.23 29 eP Pn 04 17 45.8 +0.7
NNA Nana 10.28 175 Pn Pn 04 17 44.5 -0.7
NNA Nana 10.28 175 eP Pn 04 17 46.2 +1.0
NNA Nana 10.28 175 P Pn 04 17 46.0 +0.8
74nm,0.4s,baz=7.4,slow=12,SNR=30
NNA S Sn 04 19 31.4 -8.2
63nm,0.3s,baz=191,slow=12,SNR=8.7
UPA Univ. de Panam 10.75 350 eP Pn 04 17 50.9 -0.4
BCIP Isla Barro Col 10.99 349 Pn Pn 04 17 53.7 -0.7
BCIP Isla Barro Col 10.99 349 eP Pn 04 17 54.1 -0.3
CDITO Canoas 11.43 333 Pn Pn 04 18 01.9 +1.8
BRU2 Volcan 11.55 334 Pn Pn 04 18 02.2 +0.4
SJCC San Jacinto, C 11.76 12 eP Pn 04 18 04.0 -0.5
ARGC Ariguani, Magd 11.95 16 eP Pn 04 18 08.2 +1.4
SDV Santo Domingo 12.62 34 Pn Pn 04 18 14.0 -1.5
SDV Santo Domingo 12.62 34 eP Pn 04 18 14.9 -0.6
SDV Santo Domingo 12.62 34 eP Pn 04 18 14.4 -1.1
SDV Santo Domingo 12.62 34 P Pn 04 18 15.2 -0.4
92nm,0.4s,baz=218,slow=12,SNR=46
PAYG Puerto Ayora 12.66 274 Pn Pn 04 18 16.7 +0.8
RIMA Rio Macho 12.94 332 Pn Pn 04 18 20.0 +0.4
SMRC Santa Marta, M 13.21 15 eP Pn 04 18 22.5 -0.3
HDC Heredia 13.26 331 eP Pn 04 18 24.8 +1.2
CRJC Cerrejon, Guaj 13.48 21 eP Pn 04 18 24.6 -1.8
SOCE Pocosol 13.84 330 P 04 18 32.2 -1.1
JTS Las Juntas de 13.93 329 Pn Pn 04 18 32.3 +0.4
JTS Las Juntas de 13.93 329 eP P 04 18 34.3 0.0
ARE1 Arenal 1 13.95 330 Pn Pn 04 18 32.5 +0.4
COVE Coope Vega, Sa 14.02 332 Pn Pn 04 18 33.1 +0.1
DUNO Dulce Nombre, 14.04 326 P 04 18 34.6 -1.0
BAUV El Baul 14.26 42 Pn Pn 04 18 34.0 -1.9
BAUV El Baul 14.26 42 e Pn 04 18 34.6 -1.3
ORTG Ortega, Santa 14.26 327 Pn 04 18 36.8 +0.8
URIC Uribia, Colomb 14.44 23 eP Pn 04 18 35.9 -2.3
ESPN Las Esperanzas 15.28 335 P 04 18 49.2 0.0
ACON Acoyapa 15.47 331 P 04 18 51.4 0.0
SAML Samuel 16.12 117 P 04 18 56.8 -1.8
SAML Samuel 16.12 117 eP P 04 18 57.3 -1.2
SAML Samuel 16.12 117 eP P 04 18 57.0 -1.5
BOAB BOACO BROADBAN 16.13 331 Pn 04 18 59.6 +0.8
HATO Hato, Curacao 16.26 32 P P 04 19 00.0 0.0
MATN Matagalpa 16.67 331 P Pn 04 19 05.6 +0.1
LPAZ La Paz 17.29 148 P P 04 19 12.4 +0.4
LPAZ La Paz 17.29 148 eP Pn 04 19 14.4 +1.0
LPAZ La Paz 17.29 148 eP P 04 19 12.2 +0.2
PCRV Puerto La Cruz 17.52 48 P P 04 19 14.4 +0.4
84nm,0.4s,baz=213,slow=8.0,SNR=228
PCRV LR LR 04 26 21.8
comp=Z,80nm,19.5s,slow=38
PB18 Visviri 17.74 154 P Pn 04 19 18.2 -0.4
PB12 IPOC Station P 18.30 157 P P 04 19 23.0 +0.5
TGUH Tegucigalpa,Un 18.30 329 P Pn 04 19 23.9 -0.9
PB16 IPOC Station P 18.39 155 P Pn 04 19 25.9 -0.3
GO01 Chusmiza 19.71 156 P P 04 19 39.5 +1.4
MTO3 Montecristo 19.73 324 P P 04 19 39.8 +1.7
MTDJ Mount Denham 19.78 0 P P 04 19 39.2 +0.7
MTDJ Mount Denham 19.78 0 eP P 04 19 40.1 +1.6
ESQI Esquipulas 19.85 325 P P 04 19 40.8 +1.5
TA02 Huaiquique 19.89 159 P Pn 04 19 41.6 -1.9
TA01 Diego Aracena 20.14 159 P P 04 19 43.5 +1.2
PB08 IPOC Station P 20.15 156 P P 04 19 43.8 +1.1
TRN Trinidad (W) 20.29 53 e P 04 19 43.2 -0.7
PATCX Punta Patache 20.39 159 P P 04 19 45.9 +0.9
PB01 IPOC Station P 20.84 158 P P 04 19 51.8 +2.0
PB02 IPOC Station P 20.94 159 P P 04 19 51.1 +0.2
GRGR Grenville 21.00 49 P P 04 19 52.0 +0.4
GRGR Grenville 21.00 49 eP P 04 19 48.6 -2.9
GRGR Grenville 21.00 49 e P 04 19 48.6 -2.9
GRW Mount Saint Ca 21.02 49 e P 04 19 49.3 -2.5
GRHS Sauteurs 21.07 49 e P 04 19 49.5 -2.7
PB07 IPOC Station P 21.32 160 P P 04 19 54.4 -0.6
GCMP Grenada, Carri 21.40 48 e P 04 19 53.5 -2.2
SDDR Presa de Saban 21.47 17 eP P 04 20 09.2 +13
PB09 IPOC Station P 21.61 158 P P 04 19 59.0 +0.9
GTBY Guantanamo Bay 21.61 7 eP P 04 19 58.6 +0.7
SIV San Ignacio 21.67 132 P P 04 19 59.5 +0.9
14nm,0.5s,baz=309,slow=9.0,SNR=85
SIV S S 04 23 43.6 -2.9
3.8nm,0.7s,baz=258,slow=17,SNR=1.7
14nm,0.5s
SVB Belmont 22.04 47 e P 04 19 59.3 -2.9
PETF Flores 22.05 327 P P 04 20 04.2 +1.8
SVV Soufriere Volc 22.09 47 e P 04 20 06.8 -2.0
SSV Crater Summit 22.12 47 e P 04 20 00.2 -2.9
PB06 IPOC Station P 22.33 160 P P 04 20 05.1 0.0
PB06 IAmb IAmb 04 20 16.9
comp=Z,31nm,0.9s
LVC Limon Verde 22.48 158 P P 04 20 08.4 +1.6
LVC IAmb IAmb 04 20 11.0
comp=Z,72nm,1.1s
LVC Limon Verde 22.48 158 eP P 04 20 07.5 +0.8
MCLT Moule a Chique 22.55 47 e P 04 20 03.2 -3.9
SJG San Juan 22.70 29 P P 04 20 05.5 -2.9
SJG IAmb IAmb 04 20 08.0
comp=Z,34nm,0.6s
SJG San Juan 22.70 29 eP P 04 20 06.9 -1.4
SJG San Juan 22.70 29 e P 04 20 06.5 -1.8
SLBI Saint Lucia, B 22.73 46 e P 04 20 06.4 -2.3
BIM Bigot 23.00 45 e P 04 20 08.4 -2.8
FDF Fort de France 23.09 45 P P 04 20 09.1 -2.8
FDF Fort de France 23.09 45 e P 04 20 09.9 -2.1
MPOM Morne Pois Mar 23.10 46 e P 04 20 14.9 +2.9
BCHC Barbados, Cave 23.17 50 e P 04 20 11.5 -1.1
BBGH Gun Hill 23.23 50 e P 04 20 12.1 -1.0
CBE Ff, Capester 23.72 41 e P 04 20 21.9 +4.2
PB14 IPOC Station P 23.87 163 P P 04 20 19.6 +0.3
PB14 IAmb IAmb 04 20 23.9
comp=Z,52nm,0.9s

ABD La Joyeuse, An 24.09 41 e P 04 20 08.7 -12
TEIG Tepich 24.13 335 eP P 04 20 22.6 +1.3
GDSD La Dsirade Is 24.25 42 IAmb IAmb 04 20 46.8
comp=Z,34nm,1.0s
ANBD Bethesda, Anti 24.33 39 e P 04 20 21.8 -1.4
GO02 Mina Guanaco 24.61 162 P P 04 20 26.9 +0.8
GO02 IAmb IAmb 04 20 31.4
comp=Z,45nm,0.7s
AC02 Maricunga 26.32 163 IAmb IAmb 04 20 46.1
comp=Z,50nm,1.2s
AC06 Mina Casimiro 26.48 165 IAmb IAmb 04 20 45.2
comp=Z,22nm,0.7s
LCO Las Campanas 27.98 167 P P 04 20 56.7 +0.6
CO01 Juntas del Tor 29.05 166 IAmb IAmb 04 21 08.4
comp=Z,10nm,0.5s
ANTJ Antonio Joao (29.19 135 eP P 04 21 06.9 +0.2
DWPF Disney Wildern 29.84 353 P P 04 21 12.7 +0.4
DWPF Disney Wildern 29.84 353 P P 04 21 12.6 +0.4
baz=172
RPRD Ribas do Rio P 29.95 130 eP P 04 21 13.8 +0.5
AMBA Amambai (Brazi 30.50 136 eP P 04 21 17.1 -1.1
CPUP Villa Florida 31.35 143 P P 04 21 25.4 -0.2
comp=Z,7.4nm,0.8s,baz=326,slow=9.2,SNR=18
CPUP PcP PcP 04 24 15.8 +0.7
comp=Z,1.7nm,0.5s,baz=265,slow=3.3,SNR=3.6
comp=Z,7.4nm,0.8s
CPUP Villa Florida 31.35 143 P P 04 21 25.4 -0.2
CPUP PcP PcP 04 24 16.3 +1.1
ROC1 El Roble 31.75 169 P P 04 21 30.1 +0.7
PEL Peldehue 31.98 169 P P 04 21 33.4 +2.3
MCR1 Marechal Candi 32.16 137 eP P 04 21 32.3 -0.4
BDFB Brasilia 32.36 117 P P 04 21 35.4 +0.7
BDFB IAmb IAmb 04 21 41.9
comp=Z,61nm,1.8s
BDFB Brasilia 32.36 117 P P 04 21 34.8 +0.1
comp=Z,8.0nm,0.4s,baz=290,slow=9.1,SNR=24
comp=Z,8.0nm,0.4s
MT09 Talagante 32.54 170 P P 04 21 37.9 +1.9
MT01 Popeta 32.58 170 IAmb IAmb 04 21 38.5
comp=Z,25nm,0.7s
MT13 San Alfonso 32.64 169 P P 04 21 38.1 +1.2
BO04 La Punta 32.82 169 P P 04 21 40.3 +2.0
TIGA Tifton 33.41 351 P P 04 21 43.3 -0.2
baz=169
BO02 Sierra Bellavi 33.57 170 IAmb IAmb 04 21 51.7
comp=Z,25nm,0.6s
GO05 Huala 33.59 171 P P 04 21 45.8 +0.8
FRBT Francisco Belt 33.82 138 eP P 04 21 46.7 -0.5
BRAL Brewton 33.86 345 P P 04 21 47.3 0.0
baz=163
CRSM Crissiumal (Br 34.22 141 eP P 04 21 49.8 -0.7
ML02 Panimavida 34.41 171 P P 04 21 52.9 +0.8
250A Grady 34.45 347 IAmb IAmb 04 21 53.4
comp=Z,28nm,0.7s
NHSC New Hope 34.68 356 P P 04 21 54.6 +0.3
baz=175,SNR=9.4
UNIS Unistalda (Bra 34.72 144 eP P 04 21 54.5 -0.3
346A Big Creek Wild 34.74 342 IAmb IAmb 04 21 56.4
comp=Z,36nm,0.8s
152A Waverly Hall 34.81 350 IAmb IAmb 04 21 56.2
comp=Z,34nm,0.9s
344A Westbrook Farm 35.21 340 IAmb IAmb 04 22 00.6
comp=Z,27nm,0.6s
GOGA Godfrey 35.33 352 IAmb IAmb 04 22 00.7
comp=Z,29nm,1.4s
GOGA Godfrey 35.33 352 P P 04 21 59.7 -0.2
baz=170,SNR=6.9
Y58A Scranton 35.44 357 P P 04 22 01.5 +0.6
Z51A Franklin 35.52 349 IAmb IAmb 04 22 02.3
comp=Z,19nm,0.7s
RODS Rosario do Sul 35.60 145 eP P 04 22 02.5 +0.2
LRAL Lakeview Retre 35.63 346 IAmb IAmb 04 22 02.7
comp=Z,22nm,0.6s
LRAL Lakeview Retre 35.63 346 P P 04 22 02.2 -0.3
baz=164,SNR=12
ALGR Alto Alegre (B 35.77 141 eP P 04 22 03.2 -0.7
146A Union 35.79 343 IAmb IAmb 04 22 05.3
comp=Z,31nm,1.2s
Y52A Lilburn 35.86 351 IAmb IAmb 04 22 05.4
comp=Z,29nm,1.6s
JSC Jenkinsville 35.93 355 IAmb IAmb 04 22 06.2
comp=Z,34nm,0.7s
BIRD Birdtown, Kers 36.23 356 P P 04 22 06.7 -0.9
BIRD IAmb IAmb 04 22 10.0
comp=Z,38nm,0.9s
Y49A Blount Mountai 36.29 348 IAmb IAmb 04 22 08.3
comp=Z,18nm,1.0s
833A Chaparral WMA, 36.40 327 P P 04 22 10.5 +1.4
833A Chaparral WMA, 36.40 327 P P 04 22 10.6 +1.4
baz=141
W59A Clinton 36.66 359 IAmb IAmb 04 22 12.5
comp=Z,23nm,0.8s
X51A Calhoun 36.68 350 IAmb IAmb 04 22 11.9
comp=Z,46nm,1.4s
CNNC Cliffs of the 36.73 360 P P 04 22 11.7 -0.1
baz=180
KMSC Kings Mountain 36.79 355 P P 04 22 12.6 +0.3
baz=174,SNR=23
FPAL Fort Paine 36.79 349 IAmb IAmb 04 22 12.7
comp=Z,31nm,1.0s
NATX Nacogdoches 36.96 336 IAmb IAmb 04 22 15.2
comp=Z,22nm,0.9s
NATX Nacogdoches 36.96 336 P P 04 22 13.6 -0.2
baz=151
X48A Hartselle 37.00 347 IAmb IAmb 04 22 14.3
comp=Z,19nm,0.9s
W52A Murphy 37.05 351 IAmb IAmb 04 22 15.4
comp=Z,92nm,2.0s
HNDO Hondo 37.29 328 IAmb IAmb 04 22 21.5
comp=Z,15nm,0.7s
V58A Windy Hill, Pi 37.30 358 IAmb IAmb 04 22 17.7
comp=Z,40nm,0.8s
W50A Signal Mountai 37.38 350 IAmb IAmb 04 22 17.9
comp=Z,21nm,0.8s
435B Jarrell 37.44 331 P P 04 22 18.0 +0.1
baz=146
V53A Saluda 37.46 353 IAmb IAmb 04 22 19.1
comp=Z,20nm,0.7s
CPCT Cooper Cave 37.49 351 P P 04 22 17.3 -0.9
CPCT IAmb IAmb 04 22 19.0
comp=Z,21nm,0.8s
SWET Sewanee 37.51 349 IAmb IAmb 04 22 18.6
comp=Z,21nm,0.9s
TKL Tuckaleechee C 37.58 352 IAmb IAmb 04 22 19.8
comp=Z,50nm,1.7s
TKL Tuckaleechee C 37.58 352 LR LR 04 38 18.1
comp=Z,37nm,18.6s,baz=200,slow=37
OXF Oxford 37.65 344 IAmb IAmb 04 22 19.4
comp=Z,16nm,0.8s
OXF Oxford 37.65 344 P P 04 22 18.1 -1.5
baz=160
V52A Sevierville 37.73 352 IAmb IAmb 04 22 21.6
comp=Z,36nm,1.1s
PLAL Pickwick Lake 37.75 346 IAmb IAmb 04 22 20.3
comp=Z,11nm,0.7s
V51A Loudon 37.81 351 IAmb IAmb 04 22 21.6
comp=Z,69nm,1.5s
U59A Littleton 37.84 360 IAmb IAmb 04 22 21.9
comp=Z,12nm,0.8s
DRIO Del Rio 37.93 326 IAmb IAmb 04 22 24.7
comp=Z,15nm,1.0s
WLAR White Oak Lake 38.07 339 P P 04 22 22.9 -0.2
WLAR IAmb IAmb 04 22 24.3
comp=Z,24nm,0.8s
GO06 Curarrehue 38.15 172 IAmb IAmb 04 22 25.9
comp=Z,18nm,0.7s
JCT Junction City 38.31 328 P P 04 22 25.2 0.0
baz=143
WHTX Lake Whitney, 38.38 332 P P 04 22 24.8 -0.9
baz=147
TZTN Tazewell 38.42 352 P P 04 22 25.6 -0.4
baz=170,SNR=13
CLTN Cedars of Leba 38.44 349 IAmb IAmb 04 22 26.4
comp=Z,16nm,0.9s
T59A Double "B" Far 38.45 0 P P 04 22 25.4 -0.8
T59A IAmb IAmb 04 22 27.5
comp=Z,39nm,0.8s
BRDY Brady 38.55 330 IAmb IAmb 04 22 30.8
comp=Z,4.2nm,0.8s
ESAR Angra dos Reis 38.59 126 eP P 04 22 27.2 -0.4
BLA Blacksburg 38.78 356 P P 04 22 29.5 +0.6
baz=176
UALR University of 38.79 341 IAmb IAmb 04 22 29.3
comp=Z,28nm,0.7s
WVT Waverly 38.79 347 P P 04 22 27.1 -2.0
WVT IAmb IAmb 04 22 28.2
comp=Z,20nm,0.5s

WVT Waverly 38.79 347 P P 04 22 27.2 -1.8
baz=164
WVT Waverly 38.79 347 P P 04 22 27.3 -1.8
WVT ScP ScP 04 28 07.5 -0.4
TRQA Tornquist 38.96 160 P P 04 22 30.7 +0.1
TRQA IAmb IAmb 04 22 32.6
comp=Z,20nm,1.0s
MIAR Mount Ida 39.01 339 P P 04 22 29.7 -1.2
baz=154,SNR=5.2
T50A Nancy 39.08 351 IAmb IAmb 04 22 31.6
comp=Z,48nm,2.0s
SAND Sanderson 39.18 325 IAmb IAmb 04 22 39.5
comp=Z,3.9nm,0.8s
WHAR Wooly Hollow 39.24 341 IAmb IAmb 04 22 33.0
comp=Z,27nm,0.9s
S57A Dark Hollow, R 39.26 358 IAmb IAmb 04 22 34.2
comp=Z,35nm,1.0s
PEBM Pemiscott Bayo 39.28 344 P P 04 22 31.9 -1.2
OZNA Ozona 39.37 327 IAmb IAmb 04 22 41.1
comp=Z,4.4nm,0.7s
PLCA Paso Flores 39.41 171 eP P 04 22 35.8 +1.6
PLCA Paso Flores 39.41 171 P P 04 22 35.9 +1.6
comp=Z,32nm,0.7s,baz=347,slow=9.6,SNR=68
PLCA PcP PcP 04 24 40.0 +1.3
comp=Z,6.6nm,0.8s,baz=331,slow=2.9,SNR=5.1
comp=Z,32nm,0.7s
PLCA Paso Flores 39.41 171 P P 04 22 36.0 +1.7
PLCA PcP PcP 04 24 40.1 +1.4
R58B Mineral 39.44 360 IAmb IAmb 04 22 36.0
comp=Z,32nm,1.2s
T47A Sharon Grove 39.46 348 IAmb IAmb 04 22 34.2
comp=Z,27nm,0.7s
LCAR Lake Charles 39.61 343 IAmb IAmb 04 22 35.7
comp=Z,38nm,0.8s
TX31 Lajitas Ar. Si 39.62 323 P P 04 22 37.0 +0.8
TX32 Lajitas Array 39.62 323 P P 04 22 37.0 +0.8
TXAR Lajitas Array 39.62 323 P P 04 22 37.7 +1.5
comp=Z,2.4nm,0.8s,baz=150,slow=7.8,SNR=29
TXAR PcP PcP 04 24 40.9 +1.2
comp=Z,2.1nm,0.8s,baz=151,slow=5.7,SNR=7.6
TXAR ScP ScP 04 28 12.4 +1.0
comp=Z,0.9nm,0.9s,baz=151,slow=5.0,SNR=4.8
comp=Z,2.4nm,0.8s
X37A Clayton 39.72 337 IAmb IAmb 04 22 49.2
comp=Z,36nm,1.8s
FCAR Ozark Folk Cen 39.74 342 IAmb IAmb 04 22 36.6
comp=Z,20nm,0.7s
ABTX Abilene, Hawle 39.95 331 P P 04 22 38.7 -0.1
baz=144
PBMO Poplar Bluff 40.06 344 IAmb IAmb 04 22 39.3
comp=Z,33nm,0.8s
R50A Paris 40.23 352 IAmb IAmb 04 22 41.4
comp=Z,31nm,0.7s
SLBS Sierra La Lagu 40.26 311 P P 04 22 41.2 -0.3
SLBS IAmb IAmb 04 22 44.6
comp=Z,19nm,0.7s
WTFS Witchita Falls 40.33 333 P P 04 22 41.7 -0.1
WTFS IAmb IAmb 04 22 43.6
comp=Z,55nm,1.6s
CGM3 Cape Girardeau 40.34 345 IAmb IAmb 04 22 41.6
comp=Z,37nm,1.1s
ALPN Alpine 40.36 324 IAmb IAmb 04 22 45.2
comp=Z,10nm,1.0s
R49A Shelbyville 40.37 351 IAmb IAmb 04 22 42.1
comp=Z,31nm,1.1s
WCI Wyandotte Cave 40.50 350 P P 04 22 41.7 -1.5
WCI IAmb IAmb 04 22 42.9
comp=Z,34nm,1.2s
WCI Wyandotte Cave 40.50 350 P P 04 22 41.6 -1.6
baz=167
WCI Wyandotte Cave 40.50 350 P P 04 22 41.6 -1.6
USIN University of 40.52 348 IAmb IAmb 04 22 42.8
comp=Z,44nm,0.8s
Q56A Snyder Ridge, 40.54 358 IAmb IAmb 04 22 45.5
comp=Z,31nm,1.0s
S44A Carbondale 40.62 346 IAmb IAmb 04 22 43.8
comp=Z,61nm,1.1s
HHAR Hobbs 40.70 340 IAmb IAmb 04 22 45.1
comp=Z,32nm,1.0s
APMT Aspermont 40.75 331 IAmb IAmb 04 22 51.6
comp=Z,7.7nm,0.8s
LL01 San Ignacio de 40.79 174 P P 04 22 45.6 +0.1
LL01 IAmb IAmb 04 22 47.4
comp=Z,40nm,1.0s
Q51A Peebles 40.84 353 IAmb IAmb 04 22 46.3
comp=Z,22nm,0.8s
MGMO Mountain Grove 40.95 342 P P 04 22 45.6 -1.3
RLO Rose Lookout 40.98 338 IAmb IAmb 04 22 47.8
comp=Z,38nm,1.3s
TUL3 Leonard 41.04 337 P P 04 22 46.3 -1.4
TUL3 IAmb IAmb 04 22 48.4
comp=Z,55nm,0.9s
TUL3 Leonard 41.04 337 P P 04 22 47.6 -0.1
baz=152,SNR=6.7
ODSA Odessa 41.06 327 P P 04 22 48.3 +0.3
ODSA IAmb IAmb 04 22 50.9
comp=Z,7.9nm,0.9s
P53A Whipple 41.11 356 P P 04 22 47.1 -1.0
MCWV Mont Chateau 41.18 357 IAmb IAmb 04 22 50.1
comp=Z,25nm,0.9s
MCWV Mont Chateau 41.18 357 P P 04 22 48.5 -0.2
baz=177,SNR=7.3
P51A Williamsport 41.26 354 IAmb IAmb 04 22 50.1
comp=Z,45nm,1.1s
DEOK Depew 41.26 337 IAmb IAmb 04 22 50.1
comp=Z,25nm,1.1s
WMOK Wichita Mounta 41.29 333 P P 04 22 49.3 -0.4
baz=147
P52A Corning 41.31 355 P P 04 22 49.4 -0.4
baz=173,SNR=24
OLIL Olney 41.35 348 IAmb IAmb 04 22 49.4
comp=Z,35nm,0.9s
DKNS Dickens 41.42 330 IAmb IAmb 04 22 54.8
comp=Z,14nm,0.8s
BLO Bloomington 41.46 350 IAmb IAmb 04 22 50.5
comp=Z,33nm,0.6s
CCM Cathedral Cave 41.48 344 P P 04 22 49.0 -2.2
CCM IAmb IAmb 04 22 51.4
comp=Z,21nm,0.7s
CCM Cathedral Cave 41.48 344 P P 04 22 49.4 -1.8
baz=159
CCM Cathedral Cave 41.48 344 P P 04 22 49.6 -1.6
CCM pP pP 04 23 29.6 -1.5
CCM ScP ScP 04 28 18.8 +0.4
MVL Millersville 41.49 2 P P 04 22 51.3 +0.1
MVL IAmb IAmb 04 22 52.9
comp=Z,33nm,0.7s
OK031 S. Brethren Rd 41.49 336 IAmb IAmb 04 22 52.0
comp=Z,28nm,1.1s
OK052 Battle Ridge R 41.51 336 IAmb IAmb 04 22 52.3
comp=Z,27nm,1.1s
P49A Miami Univ. Ec 41.52 352 IAmb IAmb 04 22 51.0
comp=Z,38nm,1.1s
P49A Miami Univ. Ec 41.52 352 P P 04 22 50.1 -1.3
baz=169,SNR=10
P48A Milroy 41.55 351 IAmb IAmb 04 22 51.0
comp=Z,22nm,0.8s
OK029 Liberty Lake 41.61 336 IAmb IAmb 04 22 53.0
comp=Z,15nm,0.8s
OK033 Mehan 41.61 336 IAmb IAmb 04 22 53.2
comp=Z,29nm,1.2s
QUOK Quay 41.63 337 P P 04 22 52.2 -0.3
QUOK IAmb IAmb 04 22 53.2
comp=Z,22nm,1.0s
LL02 Futaleuf 41.66 174 P P 04 22 53.4 +0.8
LL02 IAmb IAmb 04 22 54.9
comp=Z,30nm,0.9s
Q44A Meyer Farm, Va 41.71 347 IAmb IAmb 04 22 52.3
comp=Z,43nm,0.8s
SLM Saint Louis 41.76 345 P P 04 22 51.2 -2.2
SLM IAmb IAmb 04 22 52.9
comp=Z,32nm,1.1s
O53A New Philadelph 41.85 356 P P 04 22 53.3 -0.9
O53A IAmb IAmb 04 22 55.6
comp=Z,33nm,0.8s
O53A New Philadelph 41.85 356 P P 04 22 53.5 -0.7
baz=175,SNR=10.0
RCBR Riachuelo 41.86 97 eP P 04 22 55.1 +0.4
RCBR Riachuelo 41.86 97 P P 04 22 54.5 -0.2
RCBR pP pP 04 23 34.7 +0.7
OK051 E0350 and S346 41.97 337 IAmb IAmb 04 22 56.2
comp=Z,40nm,1.0s
ACSO Alum Creek Sta 41.99 354 P P 04 22 54.4 -0.9
baz=172,SNR=22
R40A Maddies Statio 41.99 343 IAmb IAmb 04 22 54.7
comp=Z,46nm,1.6s
O49A Covington 42.11 352 IAmb IAmb 04 22 56.0

comp=Z,35nm,1.0s
SSPA Standing Stone 42.11 360 P P 04 22 55.9 -0.4
SSPA IAmb IAmb 04 22 57.3
comp=Z,25nm,0.8s
SSPA Standing Stone 42.11 360 P P 04 22 56.4 +0.2
baz=180
SSPA Standing Stone 42.11 360 P P 04 22 56.5 +0.2
SSPA pP **pP** 04 23 36.3 0.0
LUPA Lehigh Univers 42.13 3 IAmb IAmb 04 22 58.1
comp=Z,36nm,0.8s
O48B Farmland 42.29 351 P P 04 22 56.0 -1.7
baz=169,SNR=19
MNTX Cornudas Mount 42.35 324 P P 04 22 58.4 0.0
MNTX Cornudas Mount 42.35 324 P P 04 22 58.9 +0.6
baz=136,SNR=6.9
N53A Lisbon 42.38 356 IAmb IAmb 04 22 58.6
comp=Z,33nm,0.6s
P43A Skaggs, Pawnee 42.53 346 IAmb IAmb 04 22 59.1
comp=Z,40nm,1.0s
MSTX Muleshoe 42.60 329 P P 04 23 01.3 +0.8
baz=141,SNR=5.1
N51A Ashland 42.61 355 IAmb IAmb 04 23 00.2
comp=Z,34nm,0.8s
PAL Palisades 42.62 4 IAmb IAmb 04 23 01.2
comp=Z,29nm,1.1s
PAL Palisades 42.62 4 P P 04 23 00.6 +0.3
baz=185
ODNJ Ogdensburg 42.65 3 P P 04 23 00.3 -0.3
KAN13 South Haven SW 42.67 336 P P 04 23 00.3 -0.5
ELIS Ellis County 42.68 334 IAmb IAmb 04 23 03.9
comp=Z,101nm,1.9s
SFIN Lafayette 42.73 349 P P 04 22 59.7 -1.5
baz=166
TRNY Table Rock, Ra 42.73 4 IAmb IAmb 04 23 02.5
comp=Z,26nm,0.9s
U32A Winter Ranch, 42.76 334 IAmb IAmb 04 23 03.1
comp=Z,37nm,1.0s
AMTX Amarillo 42.77 330 IAmb IAmb 04 23 05.9
comp=Z,33nm,1.2s
AMTX Amarillo 42.77 330 P P 04 23 02.8 +1.0
baz=143
OK032 Salt Plains WL 42.79 335 IAmb IAmb 04 23 02.8
comp=Z,44nm,1.3s
O44A Mansfield 42.79 348 IAmb IAmb 04 23 01.6
comp=Z,21nm,0.9s
AY01 Puyuhuapi 42.79 175 IAmb IAmb 04 23 04.4
comp=Z,31nm,1.1s
KAN17 Caldwell West 42.81 336 IAmb IAmb 04 23 03.0
comp=Z,45nm,0.9s
N49A Columbus Grove 42.81 353 IAmb IAmb 04 23 01.7
comp=Z,34nm,0.8s
KAN14 Manchester OK 42.81 336 P P 04 23 01.9 -0.1
KAN14 IAmb IAmb 04 23 03.0
comp=Z,22nm,0.7s
M57A Sunshine Farm, 42.81 1 IAmb IAmb 04 23 03.6
comp=Z,48nm,1.1s
WSPT Westport, CT 42.83 5 P P 04 23 01.4 -0.6
WSPT IAmb IAmb 04 23 02.9
comp=Z,35nm,0.8s
KAN01 Argonia South 42.90 336 IAmb IAmb 04 23 03.9
comp=Z,37nm,0.9s
N47A Urbana 42.98 351 IAmb IAmb 04 23 02.6
comp=Z,42nm,0.8s
M53A Wl Miller and 43.00 357 IAmb IAmb 04 23 04.0
comp=Z,37nm,1.1s
M53A Wl Miller and 43.00 357 P P 04 23 03.1 -0.3
baz=176,SNR=5.3
KAN06 Argonia West S 43.02 336 IAmb IAmb 04 23 04.9
comp=Z,32nm,0.9s
KAN08 Anthony NE Sta 43.05 336 IAmb IAmb 04 23 05.1
comp=Z,39nm,0.8s
KSPA Keystone Colle 43.07 2 IAmb IAmb 04 23 05.4
comp=Z,26nm,0.8s
KAN12 Harper NE Stat 43.12 336 P P 04 23 04.5 +0.1
HDIL Hopedale 43.35 347 P P 04 23 04.3 -1.9
baz=163,SNR=29
L56A Greenwood 43.61 0 IAmb IAmb 04 23 09.0
comp=Z,26nm,0.7s
ERPA Erie 43.64 357 P P 04 23 08.1 -0.5
baz=176,SNR=9.1
BINY Binghamton 43.70 2 P P 04 23 09.3 +0.2
baz=182,SNR=13
L59A Walton 43.73 3 IAmb IAmb 04 23 10.7
comp=Z,21nm,0.9s
L48A N Adams 43.85 353 IAmb IAmb 04 23 09.4
comp=Z,34nm,0.6s
COYC Coyhaique 43.99 174 P P 04 23 11.3 0.0
COYC IAmb IAmb 04 23 14.0
comp=Z,34nm,1.0s
COYC Coyhaique 43.99 174 P P 04 23 12.8 +1.5
AAM Ann Arbor 44.11 354 IAmb IAmb 04 23 12.3
comp=Z,32nm,0.8s
AAM Ann Arbor 44.11 354 P P 04 23 11.0 -1.2
baz=171
KSU1 Kansas State U 44.16 339 IAmb IAmb 04 23 13.0
comp=Z,30nm,0.8s
KSU1 Kansas State U 44.16 339 P P 04 23 11.9 -0.8
baz=152,SNR=9.5
MMNY Mt. Morris Dam 44.21 360 IAmb IAmb 04 23 13.8
comp=Z,88nm,1.5s
HRV Adam Dziewonsk 44.33 6 P P 04 23 14.4 +0.5
TRY Troy 44.35 4 IAmb IAmb 04 23 16.3
comp=Z,29nm,1.1s
121A Cookes Peak, D 44.38 323 P P 04 23 15.0 +0.2
baz=134,SNR=5.1
R32A Long Quarter, 44.38 336 IAmb IAmb 04 23 15.4
comp=Z,16nm,0.6s
N38A Joes South For 44.59 343 P P 04 23 14.0 -2.1
N38A IAmb IAmb 04 23 15.6
comp=Z,33nm,0.8s
J55A Hilton 44.74 360 IAmb IAmb 04 23 17.9
comp=Z,38nm,0.9s
J54A Appleton 44.76 359 IAmb IAmb 04 23 18.0
comp=Z,27nm,0.8s
L42A Oliver, Polo 44.82 347 IAmb IAmb 04 23 17.0
comp=Z,72nm,1.5s
J58A Remsen 44.88 2 P P 04 23 17.6 -0.8
J58A IAmb IAmb 04 23 19.5
comp=Z,32nm,0.6s
J57A Williamstown 44.91 2 IAmb IAmb 04 23 19.5
comp=Z,62nm,1.4s
Y22D IRIS PASSCAL I 44.96 325 P P 04 23 19.3 0.0
baz=136
Y22F Passcal Instru 44.96 325 P P 04 23 18.8 -0.5
baz=136
ACCN Adirondack Com 45.00 4 IAmb IAmb 04 23 20.7
comp=Z,25nm,1.1s
J59A Piesco 45.03 3 IAmb IAmb 04 23 20.8
comp=Z,49nm,0.8s
CBKS Cedar Bluff 45.13 336 IAmb IAmb 04 23 22.2
comp=Z,43nm,0.9s
CBKS Cedar Bluff 45.13 336 P P 04 23 21.1 +0.7
baz=148,SNR=7.7
J47A Sumner 45.17 353 P P 04 23 19.0 -1.6
DUN6 Lazy B Ranch 45.19 322 IAmb IAmb 04 23 23.5
comp=Z,24nm,0.7s
K43A Burlington 45.22 349 IAmb IAmb 04 23 20.1
comp=Z,53nm,1.1s
L40A Anamosa 45.24 346 IAmb IAmb 04 23 21.1
comp=Z,31nm,0.9s
ANMO Albuquerque 45.33 326 P P 04 23 22.5 +0.2
ANMO Albuquerque 45.33 326 P P 04 23 23.8 +1.6
baz=137
ANMO Albuquerque 45.33 326 ScP **ScP 04 28 34.3 -0.1**
comp=Z,2.0nm,1.0s,baz=233,slow=6.2,SNR=5.0
ANMO Albuquerque 45.33 326 P P 04 23 24.0 +1.8
ANMO pP **pP 04 24 04.5 +1.2**
ANMO ScP **ScP 04 28 35.6 +1.2**
N35A Tabor 45.40 341 IAmb IAmb 04 23 22.0
comp=Z,28nm,0.8s
NCB Newcomb 45.55 3 IAmb IAmb 04 23 24.7
comp=Z,27nm,0.7s
SCIA State Center 45.62 344 IAmb IAmb 04 23 23.7
comp=Z,26nm,0.8s
SCIA State Center 45.62 344 P P 04 23 22.8 -1.3
baz=158
JFWS Jewell Farm 45.81 347 P P 04 23 23.9 -1.7
JFWS IAmb IAmb 04 23 24.6
comp=Z,31nm,0.5s
JFWS Jewell Farm 45.81 347 P P 04 23 24.0 -1.7
baz=162,SNR=13
T25A Trinidad 45.91 330 P P 04 23 27.7 +0.9
T25A Trinidad 45.91 330 P P 04 23 28.5 +1.7
baz=141
LBNH Lisbon 46.00 6 IAmb IAmb 04 23 28.1
comp=Z,18nm,0.7s
LBNH Lisbon 46.00 6 P P 04 23 26.7 -0.4
baz=188
TUC Tucson 46.10 320 P P 04 23 29.1 +0.9
TUC IAmb IAmb 04 23 30.5
comp=Z,33nm,0.9s
TUC Tucson 46.10 320 P P 04 23 29.3 +1.1
baz=131
TUC Tucson 46.10 320 P P 04 23 29.4 +1.1
TUC pP **pP 04 24 10.5 +1.2**
TUC PcP **PcP 04 25 02.5 +1.2**
LONY Lake Ozonia 46.17 3 IAmb IAmb 04 23 30.4
comp=Z,22nm,0.8s
LONY Lake Ozonia 46.17 3 P P 04 23 27.6 -0.9
baz=184,SNR=8.8
K38A Parkersburg 46.18 345 IAmb IAmb 04 23 27.2
comp=Z,15nm,0.6s
SADO Sadowa 46.26 359 IAmb IAmb 04 23 29.2
comp=Z,66nm,1.2s
FRNY Flat Rock 46.45 4 IAmb IAmb 04 23 31.9
comp=Z,42nm,0.9s
L34A Svendsen Farm, 46.63 341 IAmb IAmb 04 23 31.5
comp=Z,18nm,0.8s
GLMI Grayling 46.71 353 P P 04 23 31.2 -1.5
baz=170,SNR=8.2
BGNE Belgrade 46.75 339 P P 04 23 32.6 -0.4
baz=151
I40A Norwalk 46.83 347 IAmb IAmb 04 23 33.7
comp=Z,27nm,1.1s
SDCO Great Sand Dun 46.92 330 P P 04 23 35.9 +1.1
baz=140,SNR=24
MNTQ Montreal, Queb 47.11 4 P P 04 23 35.5 -0.1
G62A West of Eustis 47.12 7 IAmb IAmb 04 23 37.7
comp=Z,79nm,1.5s
214A Organ Pipe Nat 47.20 318 P P 04 23 37.1 +0.4
214A Organ Pipe Nat 47.20 318 P P 04 23 37.7 +1.0
baz=128,SNR=6.1
PKME Peaks-Kenny Pk 47.33 8 P P 04 23 37.6 +0.2
baz=191
W18A Petrified Fore 47.33 324 P P 04 23 39.2 +1.4
baz=134
S22A 4UR Ranch, Cre 47.61 328 P P 04 23 41.6 +1.5
baz=139
Q24A Divide 47.69 331 P P 04 23 42.3 +1.6
baz=141
TRQ Mont Tremblant 47.77 3 IAmb IAmb 04 23 41.9
comp=Z,20nm,0.7s
G40A Rib Lake 48.05 348 P P 04 23 41.5 -1.4
MVCO Mesa Verde 48.11 327 P P 04 23 45.5 +1.7
baz=136
E46A Sault Ste Mari 48.20 354 IAmb IAmb 04 23 43.3
comp=Z,26nm,0.7s
ECSD EROS Data Cent 48.30 342 P P 04 23 43.1 -1.8
baz=154,SNR=7.2
E43A Lone Tree Farm 48.55 351 IAmb IAmb 04 23 46.0
comp=Z,42nm,0.8s
ISCO Idaho Springs 48.57 331 P P 04 23 49.1 +1.6
baz=141
WUAZ Wupatki 48.59 323 P P 04 23 47.1 -0.3
SPMN Marine on St. 48.60 346 P P 04 23 44.8 -2.3
baz=160
COWI Conover 48.64 349 P P 04 23 45.6 -1.9
COWI IAmb IAmb 04 23 46.8
comp=Z,18nm,0.7s
D62A Allapoint, All 49.14 8 IAmb IAmb 04 24 35.1
comp=Z,93nm,1.8s
D41A Chassel 49.47 350 IAmb IAmb 04 23 53.8
comp=Z,28nm,0.8s
PDMCI Parker Dam,Lak 49.53 320 P P 04 23 54.8 +0.4
baz=129
N23A Red Feather La 49.58 332 P P 04 23 56.3 +1.2
baz=142
VLDQ Val d'Or 49.59 0 P P 04 23 53.6 -0.9
E38A The Farm, Brul 49.61 347 IAmb IAmb 04 23 54.4
comp=Z,29nm,0.8s
IKP In-Ko-Pah, Jac 49.85 317 P P 04 23 57.8 +0.8
baz=126
BC3 Big Chuckawall 50.00 318 P P 04 23 58.9 +0.8
baz=127
IRM Iron Mountain 50.09 319 P P 04 23 59.4 +0.7
baz=128,SNR=6.0
O20A White River Ci 50.13 329 P P 04 24 00.1 +1.0
baz=138
MONP2 Monument Peak 50.20 317 P P 04 24 01.0 +1.2
baz=126
BELC Belle Mtn. Jos 50.56 318 P P 04 24 03.7 +1.3
baz=127
TPFO Pinon Flats 50.64 317 P P 04 24 04.1 +1.2
baz=126
PFO Pinyon Flats O 50.65 317 P P 04 24 04.0 +1.0
baz=126
109C Camp Elliot, M 50.67 316 P P 04 24 04.9 +1.9
baz=125
GMRC Granite Mounta 50.81 319 P P 04 24 05.3 +1.0
baz=128,SNR=6.3
EYMN Ely 50.88 348 IAmb IAmb 04 24 03.7
comp=Z,26nm,0.7s
EYMN Ely 50.88 348 P P 04 24 02.8 -1.5
baz=162,SNR=12
MURC Murrieta 51.14 317 P P 04 24 06.5 -0.1
baz=125
K22A Casper 51.23 333 P P 04 24 07.5 +0.3
baz=142
HEC Hector,Ludlow 51.28 319 P P 04 24 09.2 +1.5
baz=127,SNR=5.4
RSSD Black Hills 51.33 336 P P 04 24 08.4 +0.4
RSSD Black Hills 51.33 336 P P 04 24 09.2 +1.1
baz=145
RSSD Black Hills 51.33 336 P P 04 24 08.8 +0.7
RSSD pP **pP 04 24 49.1 -0.8**
SCI2 San Clemente I 51.72 316 P P 04 24 12.6 +1.8
baz=124
B35A Bob, Littlefor 51.76 346 IAmb IAmb 04 24 10.4
comp=Z,18nm,0.8s
BFSC Mount Baldy Ra 51.82 317 P P 04 24 13.4 +1.6
baz=125
GSC Goldstone, Bar 51.87 319 P P 04 24 13.8 +1.7
baz=127
E28A Huff 52.15 340 P P 04 24 13.1 -0.7
DECC Green Verdugo 52.29 317 P P 04 24 15.9 +0.8
baz=125
EDW2 Edwards Air Fo 52.42 318 P P 04 24 17.1 +1.1
baz=125
EFI East Falkland 52.48 165 P P 04 24 18.1 +2.1
TCUT Toone Canyon 52.49 328 IAmb IAmb 04 24 21.5
comp=Z,14nm,0.6s
TPNV Topopah Spring 52.52 321 P P 04 24 18.9 +2.0
baz=128
CCAC Calif City Air 52.59 318 IAmb IAmb 04 24 19.8
comp=Z,20nm,0.7s
DUG Dugway, Tooele 52.60 326 P P 04 24 19.3 +1.9
baz=134,SNR=5.4
SPR3 Spring Creek 3 52.66 324 P P 04 24 17.7 -0.4
PDAR Pinedale Array 52.75 331 P P 04 24 18.9 +0.3
comp=Z,1.3nm,0.7s,baz=127,slow=8.7,SNR=11
PDAR PcP **PcP 04 25 25.8 +0.1**
comp=Z,0.8nm,0.4s,baz=133,slow=6.6,SNR=5.1
comp=Z,1.3nm,0.7s
OSI Osito Audit: C 52.76 317 P P 04 24 19.8 +1.3
baz=124
MPMC Manual Prospec 52.77 319 P P 04 24 19.6 +0.8
baz=126
MDND Maddock 52.91 342 P P 04 24 19.6 +0.2
baz=152
R11B Troy Canyon, C 52.98 323 P P 04 24 21.5 +1.2
baz=130
GRAC Grapevine Rang 53.25 320 P P 04 24 23.8 +1.7
baz=127
CWC Cottonwood Cre 53.38 319 P P 04 24 24.9 +1.7
baz=126
VES Vestal, Richgr 53.70 318 P P 04 24 26.9 +1.6
baz=125
TPH Tonopah 53.82 321 P P 04 24 26.9 +0.5
TPH IAmb IAmb 04 24 28.8
comp=Z,31nm,1.0s
ULM Lac du Bonnet 54.04 346 P P 04 24 26.1 -1.3
comp=Z,29nm,0.7s,baz=155,slow=7.8,SNR=37
comp=Z,29nm,0.7s
LAO LASA Array 54.32 336 P P 04 24 30.5 +0.8
baz=144
ELK Elko 54.34 325 P P 04 24 31.3 +1.2
comp=Z,0.9nm,0.4s,baz=119,slow=7.9,SNR=4.5
ELK pP **pP 04 25 13.0 +0.7**
comp=Z,2.0nm,0.8s,baz=138,slow=4.1,SNR=3.8
ELK ScP **ScP 04 29 13.5 +0.6**
comp=Z,3.4nm,1.0s,baz=158,slow=3.3,SNR=9.5
comp=Z,0.9nm,0.4s
RLMT Red Lodge 54.40 333 P P 04 24 32.0 +1.5
baz=140
NVAR Mina Array Bea 54.71 321 P P 04 24 32.8 0.0
NVAR Mina Array Bea 54.71 321 P P 04 24 34.4 +1.5
comp=Z,1.9nm,0.5s,baz=130,slow=7.3,SNR=20
NVAR pP **pP 04 25 16.3 +1.1**
comp=Z,4.7nm,0.9s,baz=136,slow=7.0,SNR=5.1
NVAR ScP **ScP 04 29 15.6 +1.0**
comp=Z,0.7nm,0.7s,baz=133,slow=5.0,SNR=3.9
comp=Z,1.9nm,0.5s
DGMT Dagmar 55.01 339 P P 04 24 36.2 +1.6
baz=147
HLID Hailey 55.79 328 P P 04 24 42.1 +1.7
baz=134
BOZ Bozeman (W) 55.85 332 P P 04 24 42.0 +1.3
baz=138,SNR=7.3
MFID Camas Ranch 56.44 327 P P 04 24 45.0 0.0
MFID IAmb IAmb 04 24 47.7
comp=Z,15nm,1.1s
EGMT Eagleton 56.84 335 P P 04 24 49.1 +1.4
baz=141
SCHQ Schefferville 57.02 7 P P 04 24 48.3 -0.4
comp=Z,11nm,0.7s,baz=222,slow=8.2,SNR=7.9
comp=Z,11nm,0.7s
WVOR Wild Horse Val 57.37 325 IAmb IAmb 04 25 35.9
comp=Z,12nm,1.1s
ORV Oroville 57.39 321 IAmb IAmb 04 24 54.2
comp=Z,17nm,0.9s
MSO Missoula 57.85 331 P P 04 24 56.0 +1.3
baz=136
YBH Yreka Blue Hor 59.38 322 P P 04 25 05.7 +0.2
comp=Z,2.8nm,0.8s,baz=132,slow=6.4,SNR=6.3
comp=Z,2.8nm,0.8s
PINE Pine Mountain 59.54 325 IAmb IAmb 04 25 09.2
comp=Z,15nm,0.8s
FFC Flin Flon 59.69 344 P P 04 25 06.9 -0.2
I05D Terrebonne, OR 60.10 325 IAmb IAmb 04 25 12.6
comp=Z,11nm,0.8s
NEW Newport 60.39 331 P P 04 25 13.5 +1.3
baz=133
NEW Newport 60.39 331 P P 04 25 12.5 +0.4
comp=Z,3.0nm,0.6s,baz=127,slow=5.2,SNR=8.6
comp=Z,3.0nm,0.6s
EDM Edmonton 62.29 337 IAmb IAmb 04 25 26.2
comp=Z,36nm,1.6s
HOPE Hope Point 62.31 154 P P 04 25 26.5 +1.8
PMSA Palmer Station 63.73 174 P P 04 25 33.8 -0.2
PMSA IAmb IAmb 04 25 36.9
comp=Z,23nm,0.9s
PMSA Palmer Station 63.73 174 *e*P **P 04 25 36.2 +2.3**
PMSA Palmer Station 63.73 174 P P 04 25 36.0 +2.0
PMSA PcP **PcP 04 26 06.9 -1.4**
MACI Morro de la Ar 65.69 58 P P 04 25 47.0 -0.5
YKA Yellowknife Ar 69.81 343 P P 04 26 12.1 -0.3
comp=Z,4.4nm,0.8s,baz=138,slow=6.1,SNR=16
comp=Z,4.4nm,0.8s
SFJD Kangerlussuaq 71.14 11 P P 04 26 20.0 -0.4
SFJD PcP **PcP 04 26 40.0 +0.7**
KOTAN Kotaneelee Air 71.34 338 P P 04 26 22.6 +0.8
baz=130
DY2G Dye2 71.59 13 *i* P **P 04 26 21.7 -1.7**
DY2G IAmb IAmb 04 26 23.6
comp=Z,13nm,0.6s
DLBC Dease Lake 72.76 334 P P 04 26 31.1 +0.8
comp=Z,3.3nm,0.7s,baz=155,slow=5.1,SNR=5.8
comp=Z,3.3nm,0.7s
LIC Lamto 72.94 83⇑ *i*P **P 04 26 31.7 -0.4**
comp=Z,99nm,0.9s
U33K Whale Pass 72.94 331 P P 04 26 32.5 +1.2
baz=120
TIC Toumodi 72.97 83⇑ *i*P **P 04 26 31.9 -0.5**
comp=Z,67nm,0.8s
ILULI Ilulissat 73.02 10 IAmb IAmb 04 26 32.0
comp=Z,38nm,0.7s
ILULI Ilulissat 73.02 10 *i* P **P 04 26 30.7 -0.8**
ILULI IAmb IAmb 04 26 31.9
comp=Z,29nm,0.6s
DBIC Dimbokro 73.13 83 P P 04 26 32.6 -0.7
WRGLY Wrigley 73.16 340 P P 04 26 33.3 +0.9
WRGLY IAmb IAmb 04 26 34.1
comp=Z,15nm,0.8s
WRGLY Wrigley 73.16 340 P P 04 26 33.6 +1.2
baz=132
KIC Kosan Boka 73.23 83⇑ *i*P **P 04 26 33.7 -0.2**
comp=Z,121nm,0.7s
UMMG Uummannaq 74.17 9 *i* P **P 04 26 37.8 -0.4**
UMMG IAmb IAmb 04 26 39.1
comp=Z,18nm,0.7s
MORF Marmelete 74.46 51 *e*P **P 04 26 40.5 -0.1**
comp=Z,35nm,1.4s
MORF *e*pP **pP 04 27 25.4 +1.0**
PTEO Sao Teotonio 74.46 50 *e*P **P 04 26 40.7 +0.1**
PTEO *e*pP **pP 04 27 25.2 +0.8**
PNCL Nicolau / Gran 74.75 50 *e*P **P 04 26 41.7 -0.5**
comp=Z,20nm,1.0s
PNCL *e*pP **pP 04 27 26.4 +0.3**
P33M Teslin, Yukon 74.93 335 P P 04 26 44.2 +1.3
baz=122
PCVE Castro Verde 75.01 50 *e*P **P 04 26 43.3 -0.4**
PCVE *e*pP **pP 04 27 28.4 +0.8**
ICESG Greenland Ices 75.19 13 *i* P **P 04 26 43.6 -0.9**
ICESG IAmb IAmb 04 26 45.1
comp=Z,54nm,0.6s
PMTG Montargil 75.22 49 *e*P **P 04 26 45.3 +0.4**
comp=Z,26nm,1.5s
PMTG *e*pP **pP 04 27 29.1 +0.3**
EVO Evora 75.25 49 *e*P **P 04 26 45.8 +0.7**
comp=Z,18nm,1.6s
EVO *e*pP **pP 04 27 29.3 +0.3**
PCAS Casmilo, Conde 75.27 48 *e*pP pP 04 27 29.0 -0.1
COI Coimbra 75.37 48 *e*pP pP 04 27 30.4 +0.8
PTO Porto 75.48 47 *e*pP pP 04 27 31.1 +0.9
UPNV Upernavik 75.57 6 *i* P **P 04 26 45.4 -0.8**
UPNV IAmb IAmb 04 26 46.7
comp=Z,32nm,0.6s
PESTR Estremoz 75.65 49 *e*P **P 04 26 48.3 +0.9**
comp=Z,48nm,1.3s
PESTR *e*pP **pP 04 27 30.9 -0.4**
PVIS Viseu 75.89 47 *e*pP pP 04 27 30.6 -2.1
PBAR Barrancos 75.91 50 *e*pP pP 04 27 33.1 +0.3
PGAV Gavieira, Arco 75.94 46 *e*pP pP 04 27 33.9 +0.9
PMRV Marv??o 75.94 49 *e*P **P 04 26 48.9 -0.1**
comp=Z,19nm,1.3s
PMRV *e*pP **pP 04 27 33.1 +0.1**
PCBR Castelo Branco 75.98 48 *e*pP pP 04 27 33.0 -0.1
WHY Whitehorse 76.04 335 P P 04 26 49.9 +0.7
baz=120
MTE Manteigas 76.06 48 *e*pP pP 04 27 33.9 +0.2
PLBC Pleasant Camp 76.10 333 P P 04 26 50.3 +0.9
baz=118
POLO Lamas de Olo 76.13 47 *e*pP pP 04 27 34.5 +0.4
PVRL Vila Real 76.16 47 *e*pP pP 04 27 34.7 +0.5
FARO Faro, Yukon 76.22 337 P P 04 26 51.3 +1.2
baz=122
O30N Mendenhall 76.61 335 P P 04 26 53.7 +1.3
baz=119
MVO Moncorvo 76.63 47 *e*P **P 04 26 51.7 -1.2**
comp=Z,36nm,1.5s
MVO *e*pP **pP 04 27 37.4 +0.4**
SOEG Soedalen 76.64 16 *i* P P 04 26 46.9 -5.4
SOEG IAmb IAmb 04 26 48.4
comp=Z,16nm,0.3s
RES Resolute Bay 76.96 355 P P 04 26 54.6 +0.7
comp=Z,2.1nm,0.7s,baz=217,slow=5.1,SNR=1.5
comp=Z,2.1nm,0.7s
PBRG Braganca 77.00 46 *e*P **P 04 26 55.0 0.0**
comp=Z,13nm,1.0s
PBRG *e*pP **pP 04 27 39.7 +0.7**
KULLO Kullorsuaq 77.14 6 *i* P **P 04 26 54.4 -0.5**
KULLO IAmb IAmb 04 26 56.1
comp=Z,46nm,0.7s
N30M Aishikik Lake 77.37 335 P P 04 26 58.2 +1.6
baz=118
M30M Minto, Yukon 77.78 336 P P 04 26 59.8 +1.0
baz=119
SUMG Summit 78.14 11 P P 04 26 59.9 -1.1
SUMG Summit 78.14 11 *i* P **P 04 27 00.4 -0.6**
SUMG IAmb IAmb 04 27 02.3
comp=Z,42nm,0.6s
M29M Somme Creek 78.40 336 P P 04 27 03.0 +0.7
baz=117
O28M Mount Upton 78.41 334 P P 04 27 03.4 +0.8
baz=115
H31M Peel River 78.47 339 IAmb IAmb 04 27 49.9
comp=Z,19nm,1.4s
H31M Peel River 78.47 339 P P 04 27 03.7 +1.1
baz=122
J30M Hart River 78.57 338 P P 04 27 03.8 +0.6
baz=119

L29M L29M 78.57 336 P **P** 04 27 04.4 +1.2
baz=117
ESDC Sonseca Array 78.58 49 P **P** 04 27 02.6 -1.1
ESDC Sonseca Array 78.58 49 P **P** 04 27 03.9 +0.1
comp=Z,2.5nm,0.9s,baz=274,slow=4.6,SNR=14
ESDC pP **pP** 04 27 48.0 0.0
comp=Z,8.6nm,1.0s,baz=260,slow=6.3,SNR=17
comp=Z,2.5nm,0.9s
K29M Barlow Dome 78.67 337 IAmb IAmb 04 27 35.5
comp=Z,25nm,1.7s
K29M Barlow Dome 78.67 337 P **P** 04 27 04.5 +0.7
baz=118
I30M Mount Dempster 78.91 338 P **P** 04 27 06.0 +0.9
baz=119
CTG Chitna Glacier 79.00 334 P **P** 04 27 06.5 +0.8
baz=114
G31M Satah River 79.04 340 P **P** 04 27 06.3 +0.8
baz=122
F31M Tsiigehtchic 79.14 341 P **P** 04 27 06.3 +0.3
baz=122
BELA Belgrano 2 79.46 172 IAmb IAmb 04 27 09.9
comp=Z,21nm,0.7s
A36M Sachs Harbour 79.51 346 P **P** 04 27 07.6 -0.3
baz=131
DAWY Dawson 79.51 337 P **P** 04 27 08.3 0.0
baz=116
INK Inuvik 79.54 342 P **P** 04 27 08.5 +0.3
INK IAmb IAmb 04 27 10.0
comp=Z,23nm,1.2s
INK Inuvik 79.54 342 P **P** 04 27 08.4 +0.2
baz=123
INK Inuvik 79.54 342 P **P** 04 27 08.9 +0.7
comp=Z,6.8nm,0.5s,baz=117,slow=4.4,SNR=22
INK pP **pP** 04 27 53.4 +0.8
comp=Z,3.1nm,0.9s,baz=98,slow=12,SNR=1.6
comp=Z,6.8nm,0.5s
EPYK Eagle Plains 79.60 339 P **P** 04 27 09.5 +0.8
baz=119
I29M Ogilvie Camp, 79.69 338 P **P** 04 27 10.0 +0.9
baz=118
M27K Edge Creek, AK 79.80 335 P **P** 04 27 10.5 +0.5
baz=114
F30M Barrier River 79.90 341 P **P** 04 27 11.1 +0.9
baz=120
TOA0 Torodi Ar. Sit 80.02 76 IAmb IAmb 04 27 11.6
comp=Z,19nm,0.5s
TORD Torodi Ar. Bea 80.02 76 P **P** 04 27 10.4 -1.6
TORD IAmb IAmb 04 27 11.6
comp=Z,11nm,0.6s
TORD Torodi Ar. Bea 80.02 76 P **P** 04 27 11.2 -0.8
comp=Z,10nm,0.4s,baz=289,slow=5.8,SNR=390
TORD PKKPbc **PKKPbc** 04 45 55.9 +0.5
comp=Z,0.3nm,0.5s,baz=47,slow=1.7,SNR=4.4
comp=Z,10nm,0.4s
H29M Whitestone 80.11 339 P **P** 04 27 11.7 +0.3
H29M IAmb IAmb 04 29 05.7
comp=Z,47nm,1.9s
H29M Whitestone 80.11 339 P **P** 04 27 12.0 +0.6
baz=118
G29M Pine Creek 80.31 340 P **P** 04 27 13.2 +0.7
baz=118
I28M Miner Creek 80.33 338 P **P** 04 27 13.5 +0.8
baz=116
NEEM North Greenlan 80.38 6 *i* P **P** 04 27 13.1 +0.1
NEEM IAmb IAmb 04 27 14.8
comp=Z,65nm,0.7s
K27K Chicken 80.56 336 P **P** 04 27 14.5 +0.7
baz=114
L26K Log Cabin Wild 80.69 335 P **P** 04 27 14.5 0.0
baz=113
E29M Blow River 80.98 341 P **P** 04 27 16.1 +0.1
baz=118
H27K Steamboat Moun 81.26 338 P **P** 04 27 18.1 +0.5
baz=115
SCRK Sand Creek 81.32 336 P **P** 04 27 18.6 +0.7
baz=112
J26L Joseph Creek 81.35 336 P **P** 04 27 18.9 +0.8
baz=113
VNA3 Neumayer Olymp 81.45 162 ⇓P **P** 04 27 19.6 +1.2
comp=Z,28nm,0.8s
I26K Coal Creek Min 81.50 337 P **P** 04 27 19.9 +1.2
baz=113
G27K Doyon Strip 81.55 339 P **P** 04 27 19.4 +0.4
baz=115
PAX Paxson 81.57 335 P **P** 04 27 20.3 +1.0
baz=111
M24K Tolsona, Glenn 81.57 334 P **P** 04 27 20.3 +1.0
baz=110
E28M Babbage River 81.61 341 P **P** 04 27 19.3 0.0
baz=117
VNA1 Neumayer--Stat 81.68 162 ⇓P **P** 04 27 21.1 +1.5
comp=Z,22nm,0.9s
K24K Donnelly Dome 81.99 335 P **P** 04 27 22.0 +0.6
baz=110
SCM Sheep Creek Mo 82.00 333 P **P** 04 27 21.5 0.0
baz=109
VNA2 Neumayer--Watz 82.05 162 ⇓P **P** 04 27 22.5 +1.0
comp=Z,16nm,0.6s,baz=302,slow=5.0
J25K Salcha River, 82.11 336 P **P** 04 27 22.9 +0.8
baz=111
E27K Coleen River 82.11 340 P **P** 04 27 22.3 +0.4
baz=115
D27M Malcolm River 82.36 341 P **P** 04 27 24.0 +0.7
baz=116
KNK Knik Glacier 82.38 333 P **P** 04 27 23.9 +0.4
baz=108
G26K Porcupine Rive 82.38 339 P **P** 04 27 24.0 +0.7
baz=113
WAT6 Susitna Watana 82.42 334 P **P** 04 27 24.1 +0.3
baz=108
SML Sawmill 82.44 333 P **P** 04 27 24.0 +0.2
baz=108
EKA Eskdalemuir Ar 82.60 34 P **P** 04 27 23.9 -0.8
comp=Z,1.3nm,0.4s,baz=246,slow=2.7,SNR=28
EKA pP **pP** 04 28 08.2 -1.2
comp=Z,4.0nm,0.8s,baz=245,slow=6.0,SNR=4.7
comp=Z,1.3nm,0.4s
HDA Harding Lake 82.68 336 P **P** 04 27 25.1 +0.1
baz=109
PMR Palmer 82.74 333 P **P** 04 27 25.0 -0.2
baz=107
ILAR Eielson Array 82.78 336 P **P** 04 27 25.7 +0.3
comp=Z,1.5nm,0.8s,baz=143,slow=4.2,SNR=18
ILAR pP **pP** 04 28 09.4 -1.0
comp=Z,2.2nm,1.0s,baz=116,slow=3.5,SNR=3.2
ILAR PP **PP** 04 30 38.5 +0.4
comp=Z,1.2nm,1.0s,baz=110,slow=6.5,SNR=6.2
comp=Z,1.5nm,0.8s
F26K Sheenjek River 82.80 339 P **P** 04 27 26.4 +0.9
baz=112
H25L Birch Creek 82.88 338 P **P** 04 27 26.4 +0.6
baz=111
BRSE Bradley Lake S 82.98 331 P **P** 04 27 26.8 +0.2
baz=106
POKR Poker Plat Res 83.11 336 P **P** 04 27 28.2 +1.1
baz=109
RND Reindeer 83.16 335 IAmb IAmb 04 28 32.4
comp=Z,28nm,1.6s
G25K Bearman Lake 83.16 338 P **P** 04 27 28.3 +1.0
baz=110
F25K Christian Rive 83.29 339 P **P** 04 27 29.5 +1.5
baz=111
HOM Homer 83.40 331 P **P** 04 27 29.6 +1.0
baz=105
H24K Noodor Dome 83.52 337 IAmb IAmb 04 29 14.2
comp=Z,21nm,1.7s
H24K Noodor Dome 83.52 337 P **P** 04 27 29.4 +0.1
baz=109
NEA2 Nenana 83.61 336 P **P** 04 27 29.1 -0.6
NEA2 Nenana 83.61 336 P **P** 04 27 29.6 -0.1
baz=108
G24K Hadweenzic Riv 83.65 338 P **P** 04 27 30.4 +0.5
baz=109
SNAA Sanae 83.66 162 IAmb IAmb 04 27 31.9
comp=Z,16nm,0.9s
SNAA Sanae 83.66 162 ⇓P **P** 04 27 30.8 +0.9
comp=Z,371nm,0.9s
SNAA Sanae 83.66 162 P **P** 04 27 30.9 +0.9
comp=Z,11nm,0.7s,baz=266,slow=6.3,SNR=57
comp=Z,11nm,0.7s
TRF Thorofare Moun 83.79 334 P **P** 04 27 30.9 0.0
baz=106
I23K Minto, Yukon-K 83.90 336 IAmb IAmb 04 27 36.6
comp=Z,42nm,1.8s
I23K Minto, Yukon-K 83.90 336 P **P** 04 27 31.3 +0.2
baz=107
SKT Skwentna 83.94 333 IAmb IAmb 04 27 33.2
comp=Z,32nm,1.3s
SKT Skwentna 83.94 333 P **P** 04 27 32.0 +0.6
baz=105
F24K Squaw Lake 84.08 339 P **P** 04 27 32.0 -0.1
baz=109
D25K Kavik River 84.16 341 P **P** 04 27 32.1 -0.3
baz=110
H23K Yukon River 84.17 337 P **P** 04 27 32.7 +0.2
baz=107
BPAW Bear Paw Mtn. 84.27 335 P **P** 04 27 33.2 +0.1
baz=106
MLY Manley 84.42 336 P **P** 04 27 34.3 +0.4
baz=106
E24K Your Creek 84.47 339 P **P** 04 27 34.4 +0.4
baz=108
PPLA Purkeypile 84.47 334 P **P** 04 27 33.9 -0.3
baz=104
CLF Chambon-Foret 84.50 42 IAmb IAmb 04 28 20.8
comp=Z,36nm,1.0s
CAST Castle Rocks 84.56 334 IAmb IAmb 04 28 26.5
comp=Z,12nm,1.0s
CAST Castle Rocks 84.56 334 P **P** 04 27 34.9 +0.4
baz=105
G23K Bananza Creek 84.62 338 P **P** 04 27 35.2 +0.5
baz=107
M20K Styx River 84.65 333 P **P** 04 27 35.6 +0.5
baz=104
CHUM Lake Minchumin 84.78 335 P **P** 04 27 35.9 +0.4
baz=104
DAG Danmarks Havn 84.82 11 *i* P **P** 04 27 34.7 -0.8
DAG IAmb IAmb 04 27 36.1
comp=Z,14nm,0.6s
COLD Coldfoot 84.84 338 P **P** 04 27 36.8 +1.0
baz=107
N19K Bonanza Creek 85.05 331 P **P** 04 27 37.8 +0.7
baz=102
Q17K Contact Creek 85.23 329 P **P** 04 27 38.1 0.0
baz=101
TROLL Troll, Antarti 85.38 162 ⇓P **P** 04 27 39.9 +1.3
comp=Z,1μm,0.5s
K20K Telida 85.41 334 P **P** 04 27 39.1 +0.4
baz=103
H21K Melozitna Rive 85.42 336 P **P** 04 27 39.5 +0.7
baz=104
D23K Nanushuk River 85.51 340 P **P** 04 27 39.7 +0.6
baz=106
J20K Nowinta River 85.63 335 P **P** 04 27 40.2 +0.4
baz=103
F22K John River 85.65 338 P **P** 04 27 40.5 +0.6
baz=105
E22K Anaktuvuk Pass 85.68 339 P **P** 04 27 40.8 +0.8
baz=105
N18K Kilae Creek 85.69 331 P **P** 04 27 40.7 +0.5
baz=101
Q16K King Salmon 85.70 329 P **P** 04 27 40.6 +0.4
baz=100
C23K Itkillik River 85.73 341 P **P** 04 27 40.5 +0.3
baz=106
G21K Allakaket 85.91 337 P **P** 04 27 41.4 +0.2
baz=104
F21K Alatna River 86.07 338 P **P** 04 27 42.1 +0.2
baz=104
O17K Koliganek Bris 86.12 330 P **P** 04 27 42.8 +0.5
baz=100
H20K Anktoleneega Mo 86.23 336 P **P** 04 27 42.9 +0.2
baz=102
DOU Dourbes 86.30 40 *d*P **P** 04 27 43.2 -0.2
DOU *dp*P **pP** 04 28 27.0 -1.4
BMRD Maredsous 86.44 40 *d*P **P** 04 27 44.0 0.0
comp=Z,5.9nm,1.2s
E21K Killik River 86.54 339 P **P** 04 27 44.6 +0.4
baz=103
J18K Innoko River 86.60 334 P **P** 04 27 45.2 +0.6
baz=100
BGES Gesves 86.65 40 *d*P **P** 04 27 45.3 +0.2
comp=Z,11nm,1.0s
RCHB Rochefort 86.72 40 *d*P **P** 04 27 45.6 +0.2
BCLA Clavier 86.79 39 *d*PcP **P** 04 27 46.4 +0.7
B22K Teshekpuk Lake 86.80 341 P **P** 04 27 46.1 +0.7
baz=104
H19K Roundabout Mou 86.87 336 P **P** 04 27 46.3 +0.5
baz=101
F20K Avaraart Lake 86.89 337 P **P** 04 27 46.4 +0.6
baz=102
BSTI Sart Tilman 86.98 39 *d*P **P** 04 27 47.2 +0.6
comp=Z,3.5nm,0.9s
B21K Ikpikpuk River 87.03 340 P **P** 04 27 46.7 +0.2
baz=103
L17K Donlin 87.09 332 P **P** 04 27 47.1 +0.1
baz=99
BNI Bardonecchia 87.17 45 P **P** 04 27 47.8 -0.1
BNI IAmb IAmb 04 28 34.8
comp=Z,16nm,1.4s
K17K Iditarod 87.18 333 P **P** 04 27 48.2 +0.8
baz=99
BHOU Houvegnez 87.23 40 *d*PcP **P** 04 27 48.6 +0.7
BHOU *dp*P **pP** 04 28 32.2 -0.8
M16K Timber Creek 87.23 331 P **P** 04 27 48.5 +0.8
baz=98
G19K Purcell Mounta 87.25 336 P **P** 04 27 48.5 +0.9
baz=100
WLF Walferdange 87.26 40 *d*PcP **P** 04 27 48.7 +0.7
WLF *dp*P **pP** 04 28 34.4 +1.3
MEM Membach 87.26 39 *d*PcP **P** 04 27 48.5 +0.5
E20K Nigu River 87.30 339 P **P** 04 27 48.6 +0.7
baz=101
BTNL Tervuren 87.33 39 *d*P **P** 04 27 48.8 +0.4
comp=Z,8.7nm,0.8s
E19K Redstone River 87.54 338 P **P** 04 27 50.2 +1.2
baz=100
D20K Etivluk River 87.54 339 P **P** 04 27 50.7 +1.7
baz=101
NOR Nord 87.56 7 *i* P **P** 04 27 48.2 -0.6
NOR IAmb IAmb 04 27 50.7
comp=Z,5.8nm,0.8s
L16K Owhat River 87.58 332 P **P** 04 27 50.4 +1.2
baz=98
H18K Honhosa River 87.60 335 P **P** 04 27 50.5 +1.2
baz=99
F19K Shaleruckik Mo 87.64 337 P **P** 04 27 50.1 +0.7
baz=100
SENIN Lac Senin/Sane 87.72 44 IAmb IAmb 04 28 38.0
comp=Z,20nm,1.0s
ECH Echery 87.78 42 IAmb IAmb 04 27 51.2
comp=Z,12nm,0.8s
G18K Tagagawik 87.83 336 P **P** 04 27 51.9 +1.4
baz=99
B20K Meade River 87.97 340 P **P** 04 27 51.1 +0.2
baz=100
M15K Kasigluk River 88.03 331 P **P** 04 27 52.0 +0.6
baz=97
H17K Granite Mounta 88.22 335 P **P** 04 27 52.8 +0.5
baz=98
J16K Anvik River 88.30 333 P **P** 04 27 53.7 +1.0
baz=97
F18K Selawik 88.34 337 P **P** 04 27 53.7 +1.0
baz=98
QSPA South Pole Qui 88.39 180 P **P** 04 27 54.7 +1.5
comp=Z,50nm,1.0s,baz=157,slow=1.6,SNR=115
I17K Unalakleet 88.42 334 P **P** 04 27 53.5 +0.4
baz=97
KEST Kesra 88.54 54 IAmb IAmb 04 27 57.0
comp=Z,12nm,0.8s
KEST Kesra 88.54 54 P **P** 04 27 54.5 0.0
comp=Z,11nm,0.7s,baz=308,slow=4.8,SNR=13
comp=Z,11nm,0.7s
G17K Kiwalik Mounta 88.60 336 P **P** 04 27 54.7 +0.7
baz=97
M14K Bethel 88.66 331 P **P** 04 27 55.5 +1.2
baz=96
TUE Stuetta 89.14 44 IAmb IAmb 04 27 58.1
comp=Z,11nm,0.7s
C18K Utukok River 89.19 339 P **P** 04 27 57.8 +1.0
baz=96
B18K Kokolik River 89.48 339 P **P** 04 27 57.8 -0.3
baz=96
DAVA Damuels 89.55 43 *i* P **P** 04 27 59.6 +0.5
comp=Z,20nm,1.1s,SNR=7.2
J14K Nanvaranak Lak 89.59 333 P **P** 04 27 58.8 +0.1
baz=94
FUORN Ofenpass-Fuorn 89.78 44 IAmb IAmb 04 28 46.8
comp=Z,13nm,1.6s
K13K Kusilvak Mount 90.05 332 P **P** 04 28 00.1 -0.7
baz=93
FETA Feichten 90.12 43 *i* P **P** 04 28 01.9 +0.1
comp=Z,18nm,0.9s,SNR=9.1
RETA Reutte 90.16 43 *i* P **P** 04 28 01.7 -0.1
comp=Z,5.5nm,1.0s
MOTA Moosalm 90.38 43 *i* P **P** 04 28 03.0 +0.1
comp=Z,21nm,1.1s,SNR=7.2
SQTA Sankt Quirin 90.45 43 *i* P **P** 04 28 03.6 +0.3
comp=Z,14nm,0.5s,SNR=5.7
ANM Nome 90.51 334 P **P** 04 28 03.0 +0.1
baz=93
WATA Walderalm 90.70 43 *i* P **P** 04 28 04.7 +0.2
comp=Z,4.4nm,0.6s
CTI Castel Tesino 90.72 44 IAmb IAmb 04 28 05.0
comp=Z,15nm,0.8s
WTTA Wattenberg 90.74 43 *i* P **P** 04 28 04.9 +0.2
comp=Z,11nm,0.7s
NB2 NORSAR Subarra 90.91 29 P **P** 04 28 04.9 0.0
comp=Z,1.0nm,0.7s,baz=269,slow=4.6
NOA NORSAR Array B 90.91 29 P **P** 04 28 05.2 +0.3
comp=Z,3.6nm,0.9s,baz=269,slow=4.5,SNR=7.4
NOA pP **pP** 04 28 50.3 0.0
comp=Z,1.0nm,0.9s,baz=270,slow=4.7,SNR=2.7
comp=Z,3.6nm,0.9s
ABTA Abfaltersbach 91.33 43 *i* P **P** 04 28 07.5 +0.2
comp=Z,11nm,1.0s
LESA Schwarzleotal 91.45 43 *i* P **P** 04 28 07.5 -0.3
comp=Z,6.0nm,0.6s
STAL STALIGIAL 91.46 44 P **P** 04 28 07.5 -0.3
STAL IAmb IAmb 04 28 08.4
comp=Z,8.0nm,1.0s
CLL Collm 91.72 39⇑ *i* P **P** 04 28 09.2 +0.4
comp=Z,13nm,1.5s
ELIB Princess Elisa 91.83 162 *d*P **P** 04 28 10.5 +1.3
comp=Z,26nm,0.0s
ELIB *dp*P **pP** 04 28 54.6 +0.1
KBA Koelnbreinsper 91.91 43 *e*P **P** 04 28 10.1 0.0
comp=Z,5.8nm,0.9s
PRED Cave del Predi 92.05 44 IAmb IAmb 04 28 11.5
comp=Z,11nm,1.0s
KHC Kasperske Hory 92.07 41 *e*P **P** 04 28 11.3 +0.7
MYKA Terra Mystica 92.11 44 *i* P **P** 04 28 11.0 +0.1
comp=Z,6.4nm,0.5s
BIOA Bad Ischl, Aus 92.11 43 *i* P **P** 04 28 11.0 +0.2
comp=Z,6.3nm,0.9s
HFS Hagfors 92.12 30 P **P** 04 28 10.2 -0.3
comp=Z,1.8nm,0.8s,baz=242,slow=3.1,SNR=1.6
comp=Z,1.8nm,0.8s
GERES GERESS Array B 92.15 41 P **P** 04 28 11.2 +0.1
comp=Z,1.5nm,0.7s,baz=260,slow=3.8,SNR=8.7
comp=Z,1.5nm,0.7s
BRG Berggiesshubel 92.31 39 *i* P **P** 04 28 12.9 +1.4
BRG Amp 04 28 13.8
comp=Z,10nm,1.0s
BRG pP **pP** 04 28 59.1 +2.2
BRG Amp 04 29 00.0
comp=Z,8.6nm,1.0s
BRG Amp 04 31 09.0
comp=Z,0.1nm,21.9s
RICC Richard 92.41 40 *e*P **P** 04 28 13.6 +1.6
SPITS Spitsbergen Ar 92.46 12 P **P** 04 28 12.1 +0.3
comp=Z,11nm,0.9s,baz=230,slow=3.6,SNR=5.3
comp=Z,11nm,0.9s
ZVC Zvikov 92.47 41 *e*P **P** 04 28 13.4 +1.0
MOA Molln 92.53 42 *i* P **P** 04 28 12.9 +0.2
comp=Z,8.0nm,1.0s
PVCC Panska Ves 92.71 40 *e*P **P** 04 28 14.7 +1.3
OBKA Obir 92.73 44 *i* P **P** 04 28 13.7 -0.1
comp=Z,5.8nm,1.1s
SOKA Soboth 93.06 44 *i* P **P** 04 28 14.9 -0.4
comp=Z,2.2nm,0.5s
ARSA Arzberg 93.39 43 *i* P **P** 04 28 16.7 0.0
comp=Z,6.0nm,0.6s
CONA Conrad Observa 93.60 42 *i* P **P** 04 28 17.7 0.0
comp=Z,6.6nm,0.7s
SBA Scott Base 93.61 191 P **P** 04 28 19.0 +2.0
SBA IAmb IAmb 04 28 20.2
comp=Z,8.8nm,1.0s
UPC Upice 93.63 40 *e*P **P** 04 28 18.6 +0.9
CHVC Chvalec 93.65 40 *e*P **P** 04 28 18.8 +1.0
OSTC Ostas 93.76 40 *e*P **P** 04 28 19.7 +1.4
DPC Dobruska-Polom 93.83 40 *e*P **P** 04 28 19.7 +1.0
RONA Rosalia, Austr 93.90 42 *i* PcP **PcP** 04 28 19.4 0.0
comp=Z,6.0nm,0.7s
KRUC Moravsky 93.92 41 *e*P **P** 04 28 19.2 +0.1
VRAC Vranov 94.05 41 *e*P **P** 04 28 20.2 +0.6
VRAC Vranov 94.05 41 P **P** 04 28 17.7 -2.0
comp=Z,2.0nm,0.5s,baz=266,slow=6.5,SNR=4.7
comp=Z,2.0nm,0.5s
MODS Modra-Piesok 94.53 42 *e*P **P** 04 28 22.6 +0.7
MORC Moravsky Berou 94.64 40 IAmb IAmb 04 28 24.2
comp=Z,3.9nm,0.8s
MORC Moravsky Berou 94.64 40 *e*P **P** 04 28 23.2 +0.8
JAVC Velka Javorina 94.77 41 *e*P **P** 04 28 24.3 +1.3
MAUC Maruska 94.85 41 *e*P **P** 04 28 24.8 +1.4
VYHS Vyhne 95.56 42 *e*P **P** 04 28 27.2 +0.6
ARCES ARCESS Array B 96.16 20 P **P** 04 28 28.2 -0.7
comp=Z,1.1nm,0.3s,baz=272,slow=4.2,SNR=27
ARCES PKKPbc **PKKPbc** 04 45 15.0 -3.2
comp=Z,4.0nm,1.0s,baz=79,slow=6.3,SNR=6.6
comp=Z,1.1nm,0.3s
FNA Florina 97.94 49 IAmb IAmb 04 28 38.8
comp=Z,2.1nm,0.7s
FINES FINESS Array B 98.02 28 P **P** 04 28 36.6 -0.7
comp=Z,3.4nm,0.8s,baz=231,slow=6.1,SNR=4.7
comp=Z,3.4nm,0.8s
RAO Raoul Island 98.13 240 LR LR 05 06 21.3
comp=Z,82nm,19.7s,baz=332,slow=31
ABKAR Akbulak array 120.37 31 PKPdf **PKiKP** 04 33 52.0 +0.1
ARMA Armidale 123.26 232 PKPdf **PKPdf** 04 33 57.0 -1.1
TOO Toolangi 124.18 221 PKPdf **PKiKP** 04 34 00.1 +0.3
ZALV Zalesovo Beam 125.94 13 PKP **PKiKP** 04 34 02.5 -0.2
comp=Z,1.6nm,0.4s,baz=243,slow=2.8,SNR=7.3
KURBB Kurchatov Arra 127.22 19 PKP **PKiKP** 04 34 05.6 +0.2
comp=Z,1.3nm,0.5s,baz=320,slow=2.4,SNR=18
STKA Stephens Creek 130.03 225 PKP **PKiKP** 04 34 11.7 0.0
comp=Z,5.8nm,0.7s,baz=44,slow=3.3,SNR=11
MDJ Mudanjiang 130.92 334 P **PKPdf** 04 34 11.7 -0.4
MDJ pmax pmax
comp=Z,2.0nm,0.8s
MDJ pmax pmax
comp=Z,390nm,9.0s
MK31 Makanchi Array 131.78 18 PKPdf **PKPdf** 04 34 12.5 -1.2
MKAR Makanchi Array 131.78 18 PKPdf **PKPdf** 04 34 13.5 -0.2
MKAR Makanchi Array 131.78 18 PKP **PKPdf** 04 34 14.1 +0.4
comp=Z,1.2nm,0.5s,baz=302,slow=3.0,SNR=14
MKAR SKPbc **SKPab** 04 37 23.1 -0.4
comp=Z,1.1nm,0.7s,baz=331,slow=4.6,SNR=4.9
CTAO Charters Tower 131.82 241 PKPdf **PKPdf** 04 34 14.1 -0.5
MJAR Matsushiro Arr 132.03 321 PKP **PKPdf** 04 34 14.0 -0.5
comp=Z,1.0nm,0.6s,baz=83,slow=1.1,SNR=3.0
MJAR SKPbc **SKPab** 04 37 24.8 -0.2
comp=Z,4.4nm,0.8s,baz=50,slow=2.7,SNR=11
BBOO Buckleboo 133.19 220 PKPdf **PKPdf** 04 34 16.8 0.0
SONM Songino Array 133.89 356 PKPdf **PKPdf** 04 34 17.8 0.0
SONM Songino Array 133.89 356 PKP **PKPdf** 04 34 18.1 +0.3
comp=Z,0.5nm,0.4s,baz=42,slow=0.3,SNR=4.4
SONM SKPbc **SKPab** 04 37 31.4 -1.3
comp=Z,2.4nm,0.9s,baz=319,slow=1.4,SNR=8.4
WMQ Urumqi 136.06 15 *e*P **PKPdf** 04 34 22.4 +0.5
COEN Coen 136.65 248 PKPdf **PKPdf** 04 34 23.9 +0.3
KSRS Korea Array 137.31 330 PKP **PKPdf** 04 34 24.8 +0.5
comp=Z,2.7nm,0.7s,baz=22,slow=2.2,SNR=12
KSRS pPKP **pPKPdf** 04 35 11.5 -0.5
comp=Z,1.2nm,0.6s,baz=25,slow=1.8,SNR=2.9
KSRS SKPbc **SKPbc** 04 37 41.5 +0.8
comp=Z,3.9nm,1.0s,baz=15,slow=2.2,SNR=14
KSAR Wonju Array Be 137.34 330 PKPdf **PKPdf** 04 34 24.4 0.0
FORT Forrest 139.49 215 PKPpre PKPpre 04 34 20.6
HHC Hu-ho-hao-te 140.12 349 *e*P **PKPdf** 04 34 26.2 -3.3
HHC LR LR
comp=N,490nm,22.1s
HHC LR LR
comp=E,250nm,21.3s
HHC LR LR
comp=Z,230nm,22.1s
AS31 Alice Springs 140.29 229 PKPpre PKPpre 04 34 21.8
ASAR Alice Springs 140.29 229 PKPpre PKPpre 04 34 21.8
ASAR Alice Springs 140.29 229 PKhKP PKPpre 04 34 22.1
comp=Z,3.1nm,0.6s,baz=128,slow=3.7,SNR=33
ASAR PKP **PKPdf** 04 34 29.9 -0.3
comp=Z,5.1nm,0.5s,baz=110,slow=2.1,SNR=16
ASAR SKPbc **SKPbc** 04 37 48.3 -1.2
comp=Z,0.7nm,0.6s,baz=121,slow=2.7,SNR=3.9
ASAR PKKP **PKKPdf** 04 43 52.5 -1.6
comp=Z,0.4nm,0.7s,baz=280,slow=5.5,SNR=4.6
WR0 Warramunga Arr 141.79 234 PKPpre PKPpre 04 34 27.1
WB2 Warramunga Arr 141.95 234 PKPpre PKPpre 04 34 28.6
WRA Warramunga Arr 141.96 234 PKhKP PKPpre 04 34 28.6
comp=Z,9.0nm,0.7s,baz=117,slow=2.9,SNR=94
WRA SKPbc **SKPbc** 04 37 53.6 -0.3
comp=Z,2.0nm,0.7s,baz=118,slow=2.3,SNR=8.3
WB0 Warramunga Arr 142.01 234 PKPpre PKPpre 04 34 28.4

NWAO	Narrogin (SRO)	142.81	201		PKPpre	PKPpre	04 34 30.8	
JOW	Kunigami	144.71	317			PKPdf	04 34 38.1	+0.2
GOMU	GeErMu	144.95	11		PKP	PKPab	04 34 38.3	+0.1
LZH	Lanzhou	145.73	358	*e*	PKPbc	PKPab	04 34 41.6	+0.7
LZH					pPKP	pPKPab	04 35 25.9	-1.3
LZH					sPKP		04 35 39.3	
NJ2	Nanjing	146.01	334	*e*	P	PKPdf	04 34 38.5	-1.4
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.6s							
MORW	Morawa	146.73	202		PKPbc	PKPbc	04 34 42.6	-0.6
XAN	Xi'an	147.22	350		PKPbc	PKPbc	04 34 44.8	+0.3
XAN					pPKP	pPKPbc	04 35 31.2	-0.5
PYUN	Piuthan	147.87	33	*e*	P	PKPbc	04 34 47.2	+0.6
PYUN	Piuthan	147.87	33	*e*	P	PKPbc	04 34 47.0	+0.4
	comp=Z,172nm,0.7s							
MTN	Manton Dam	147.99	242		PKPdf	PKPdf	04 34 43.7	0.0
MTN					PKPbc	PKPbc	04 34 47.3	+0.3
DANN	Dangsing	148.09	32	*e*	P	PKPbc	04 34 47.9	+0.6
	comp=Z,88nm,0.6s							
KOLN	Koldanda	148.46	33	*e*	P	PKPbc	04 34 48.2	+0.1
KOLN	Koldanda	148.46	33	*e*	P	PKPbc	04 34 48.3	+0.1
	comp=Z,60nm,1.2s							
KNRA	Kununurra	148.70	236		PKPdf	PKPdf	04 34 45.0	+0.1
KNRA					PKPbc	PKPbc	04 34 48.9	+0.1
GKN	Gorkha	148.82	31	*e*	P	PKiKP	04 34 49.7	-0.6
	comp=Z,77nm,0.7s							
KKN	Kakani	149.33	31	*i*	P	PKPbc	04 34 50.7	+0.3
	comp=Z,56nm,0.6s							
DMN	Daman	149.39	31	*e*	P	PKPbc	04 34 50.9	+0.4
DMN	Daman	149.39	31	*e*	P	PKPbc	04 34 51.0	+0.4
	comp=Z,38nm,0.5s							
GUN	Gumba	149.53	30	*e*	P	PKiKP	04 34 51.9	-0.1
GUN	Gumba	149.53	30	*e*	P	PKiKP	04 34 51.8	-0.2
	comp=Z,24nm,0.4s							
PKIN	Phulchoki	149.56	31	*e*	P	PKiKP	04 34 51.8	-0.2
PKIN	Phulchoki	149.56	31	*e*	P	PKPbc	04 34 51.3	+0.3
	comp=Z,19nm,0.4s							
PKI	Pulchoki	149.57	31	*e*	P	PKPbc	04 34 50.7	-0.4
PKI	Pulchoki	149.57	31	*e*	P	PKPbc	04 34 51.0	-0.1
	comp=Z,42nm,1.0s							
FAKI	Fak Fak	149.75	261		PKPbc	PKPbc	04 34 51.1	-0.5
JIRN	Jiri	149.89	29	*e*	P	PKPbc	04 34 52.2	+0.3
JIRN	Jiri	149.89	29	*e*	P	PKPbc	04 34 52.3	+0.3
	comp=Z,19nm,0.5s							
RAMN	Ramite	150.68	30	*e*	P	PKPbc	04 34 53.4	-0.3
	comp=Z,23nm,0.4s							
TAPN	Taplejung	150.88	27	*e*	P	PKiKP	04 34 54.6	-0.2
	comp=Z,11nm,0.2s							
CD2	Chengdu	150.89	357		PKPbc	PKPdf	04 34 46.2	-1.8
ODAN	Odare	151.14	29	*e*	P	PKPbc	04 34 54.6	-0.2
PSA00	Pilbara Seismi	151.24	216		PKPbc	PKPbc	04 34 54.3	-0.5
MBWA	Marble Bar	151.63	216		PKPbc	PKPbc	04 34 55.6	-0.1
PZH	PanZhiHua	155.31	1		PKP	PKPdf	04 34 52.2	-2.4
CRAI	Chiangrai	161.46	6		PKPab	PKPab	04 35 46.6	-0.4
CHTO	Chiang Mai	162.65	11		PKPab	PKPab	04 35 50.2	-2.0
CMAR	Chiang Mai Arr	163.00	11		PKPdf	PKPdf	04 35 03.7	+0.1
CMAR					PKPab	PKPab	04 35 53.3	-0.5
CMAR	Chiang Mai Arr	163.00	11		PKPab	PKPab	04 35 53.4	-0.4
	comp=Z,5.5nm,0.7s,baz=329,slow=5.5,SNR=22							

*ISU **09** 04:40:33.1,39°.77N×72°.95E,h30km*
*IDC **09** 04:40:35.6±1.4,39°.04N×72°.40E,h0km,mb3.6/4,*
mbtmp3.5/8,ML2.6/4,Error ellipse: s-maj=29.4km
s-min=21.1km az=131.0
*KRNET **09** 04:40:36.6±0.1,39°.31N×72°.56E,h13km,mb3.4*
*SOME **09** 04:40:45.8,39°.92N×72°.33E,h5km*
*NNC **09** 04:40:48.1±4.0,39°.82N×72°.72E,h0km,mb4.0,mpv3.6,*
Error ellipse: s-maj=31.5km s-min=20.5km az=175.0
ISC 09 04:40:37.7±0.9,39°.26N±0°.06×72°.50E±0°.03,h10km,n57,
σ2s00/82,mb3.4/4,31C-14D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	0.59	293	⇓*i*P	Pg	04 40 48.1	-1.1
	baz=87						
DRK				⇓*i*S	Sg	04 40 57.0	0.0
	baz=87						
SFK	Sufi-Kurgan	1.08	45	*i* P	Pg	04 40 55.9	-2.7
	baz=45						
SFK				*i* S	Sg	04 41 09.9	-2.8
	baz=45						
FRG	Fergana	1.25	334	P	Pn	04 41 00.3	-0.9
FRG				S	Sb	04 41 16.2	-1.3
CHMI	Chimion	1.26	324	P	Pn	04 40 59.9	-1.5
CHMI				P	Pn	04 40 59.9	-1.5
CHMI				S	Sb	04 41 17.4	-0.5
CHMI				S	Sb	04 41 17.4	-0.5
OHH	Osh	1.29	10	⇑*i*P	Pn	04 40 59.9	-1.9
	baz=8.0						
OHH				⇑*i*S	Sb	04 41 16.7	-2.0
	baz=8.0						
BTK	Batken	1.53	302	⇑*i*P	Pn	04 41 05.2	+0.1
	baz=0.0						
BTK				⇑*i*S	Sg	04 41 26.2	-0.6
	baz=0.0						
MINT	Mingtut	1.69	316	P	Pg	04 41 10.0	0.0
MINT				S	Sg	04 41 33.4	+1.5
NAM	Namangan	1.85	340	P	Sg	04 41 37.2	0.0
KSNS	Kasansay	2.04	339	P	Pb	04 41 14.9	-0.1
ARSB	Arslanbob	2.10	10	⇑*i*P	Pn	04 41 13.8	+0.7
	baz=9.0						
ARSB				⇑*i*S	Sn	04 41 41.0	+1.7
	baz=9.0						
TRKS	Terek-Say	2.50	336	⇑*i*P	Pn	04 41 18.9	+0.3
	baz=34						
TRKS				⇑*i*S	Sn	04 41 49.6	+0.4
	baz=34						
ARK	Arkit	2.57	351	⇓*e*P	Pn	04 41 20.7	+1.2
	baz=50						
ARK				⇓*i*S	Sn	04 41 52.8	+1.8
	baz=50						
ARLS	Aral	2.95	27	⇓*e*P	Pn	04 41 25.6	+0.8
	baz=27						
ARLS				⇓*i*S	Sn	04 42 01.2	+0.9
	baz=27						
CHMG	Chimgan	2.98	321	P	Pn	04 41 27.9	+2.8
CHMG				S	Sb	04 42 05.9	-1.5
AML	Almayashu	3.01	17	⇓Pn	Pn	04 41 28.2	+2.4
	2.9nm,0.5s						
AML				⇓Lg	Lg	04 42 05.4	
	38nm,0.8s						
AML	Almayashu	3.01	17	⇑*e*P	Pn	04 41 26.6	+0.8
	baz=17						
AML				⇑*i*S	Sn	04 42 03.2	+1.0
	baz=17						
TGS	TashGRES	3.14	315	P	Sg	04 42 14.3	-4.3
KUMR	Kumaryk	3.17	310	P	Sg	04 42 13.9	-5.7
MNAS	Manas	3.23	0	⇑*e*P	Pn	04 41 29.5	+0.9
	baz=59						
MNAS				⇑*e*S	Sn	04 42 08.3	+1.1
	baz=59						
UCH	Uchtor	3.34	27	⇑*e*P	Pn	04 41 31.1	+0.7
	baz=26						
UCH				⇑*e*S	Sn	04 42 10.8	+0.4
	baz=26						
NRN	Naryn	3.45	50	⇑*e*P	Pn	04 41 32.0	+0.2
	baz=50						
NRN				⇑*i*S	Sn	04 42 12.6	-0.2
	baz=50						
MRKS	Merke	3.53	9	Pg	Pb	04 41 41.3	+1.0
	24nm,0.3s						
MRKS				Lg	Lg	04 42 20.4	
	84nm,0.5s						
MRKS	Merke	3.53	9	*e*Pg	Pb	04 41 40.6	+0.3
	24nm,0.3s						
MRKS				*e*Lg	Lg	04 42 20.4	
	84nm,0.5s						
EKS2	Erkin-Say	3.54	15	⇑*e*P	Pn	04 41 33.6	+0.8
	baz=15						
EKS2				⇑*i*S	Sn	04 42 15.5	+0.7
	baz=15						
AAK	Ala-Archa	3.70	23	⇑*e*P	Pn	04 41 36.0	+0.9
	baz=23						
AAK				⇑*i*S	Sn	04 42 19.5	+0.7
	baz=23						
KRSA	Karasay	3.77	285	S	Sb	04 42 32.7	+2.6
KBK	Karagaybulak	3.87	28	⇓*e*P	Pn	04 41 38.4	+1.0
	baz=28						
KBK				⇓*i*S	Sn	04 42 23.3	+0.3
	baz=28						
CHMS	Chumysh	4.11	24	⇑Pn	Pn	04 41 43.8	+3.3
	8.6nm,0.5s						
CHMS				⇑Lg	Lg	04 42 40.1	
	18nm,0.6s						
CHMS	Chumysh	4.11	24	⇓*e*P	Pn	04 41 41.5	+0.9
	baz=23						
CHMS				⇓*i*S	Sn	04 42 29.0	+0.3
	baz=23						
ULHL	Ulahol	4.12	42	⇑*i*P	Pn	04 41 41.7	+0.8
	baz=42						
ULHL				⇑*i*S	Sn	04 42 29.4	+0.1
	baz=42						
KK31	Karatay Array	4.13	339	⇓Pn	Pn	04 41 43.0	+2.2
	4.9nm,0.3s,baz=139,slow=13,SNR=153						
KK31				⇓Sn	Sn	04 42 32.1	+3.0
	5.9nm,0.3s,baz=139,slow=27,SNR=5.3						
BOOM	Boomskoye usch	4.15	38	⇑*e*P	Pn	04 41 42.3	+1.0
	baz=38						
BOOM				⇑*e*S	Sn	04 42 30.1	+0.1
	baz=38						
TKM2	Tokmak 2	4.35	32	⇑Pn	Pn	04 41 46.9	+2.9
	1.8nm,0.5s						
TKM2				⇑Pg	Pg	04 41 58.7	-2.2
	7.5nm,0.6s						
TKM2				⇑Lg	Lg	04 42 48.2	
	16nm,0.5s						
TKM2	Tokmak 2	4.35	32	⇑*e*P	Pn	04 41 45.0	+1.0
	baz=31						
TKM2				⇑*i*S	Sn	04 42 34.9	+0.1
	baz=31						
AGL	Agalyk	4.36	275	S	Sb	04 42 41.4	-5.8
DGS	Degeres	4.69	31	Pg	Pg	04 42 05.2	-2.2
	18nm,0.4s						
DGS				Lg	Lg	04 43 02.9	
	12nm,0.6s						
DGS	Degeres	4.69	31	*e*Pg	Pg	04 42 05.2	-2.2
	18nm,0.4s						
DGS				*e*Lg	Lg	04 43 02.9	
	12nm,0.6s						
IZV	Izvestkoviy	4.89	38	Pg	Pg	04 42 10.2	-1.1
	2.9nm,0.5s						
IZV				Lg	Lg	04 43 11.5	
	23nm,0.7s						
IZV	Izvestkoviy	4.89	38	*e*Pg	Pg	04 42 10.2	-1.1
	3.0nm,0.3s						
IZV				*e*Lg	Lg	04 43 11.5	
	23nm,0.3s						
KRBS	Karabastau	5.04	27	Pg	Pg	04 42 11.1	-3.0
	3.7nm,0.3s						
KRBS				Lg	Lg	04 43 13.4	
	14nm,0.6s						
KRBS	Karabastau	5.04	27	*e*Pg	Pg	04 42 11.1	-3.0
	3.7nm,0.3s						
KRBS				*e*Lg	Lg	04 43 13.1	
	4.5nm,0.2s						
TNSS	Tian-Shan	5.05	40	Pg	Pg	04 42 11.9	-2.6
	5.5nm,0.2s						
TNSS				Lg	Lg	04 43 15.0	
	11nm,0.8s						
TNSS	Tian-Shan	5.05	40	*e*Pg	Pg	04 42 12.1	-2.5
	5.5nm,0.2s						
TNSS				*e*Lg	Lg	04 43 14.4	
	11nm,0.8s						
KOTS	Kotyrbulak	5.28	40	Pg	Pg	04 42 17.0	-1.9
	7.9nm,0.4s						
KOTS				Lg	Lg	04 43 22.8	
	38nm,0.7s						
KOTS	Kotyrbulak	5.28	40	*e*Pg	Pg	04 42 16.8	-2.0
	8.8nm,0.3s						
KOTS				*e*Lg	Lg	04 43 22.8	
	38nm,0.4s						
KTBS	Karatobe	5.45	34	Pg	Pb	04 42 17.0	+4.1
	5.1nm,0.5s						
KTBS				Lg	Lg	04 43 24.1	
	11nm,0.3s						
KTBS	Karatobe	5.45	34	*e*Pg	Pb	04 42 17.4	+4.5
	3.2nm,0.2s						
KTBS				*e*Lg	Lg	04 43 23.7	
	11nm,0.2s						
KUU	Kurty	5.46	31	Pg	Pb	04 42 18.1	+5.0
	2.3nm,0.2s						
KUU				Lg	Lg	04 43 24.6	
	12nm,0.4s						
KUU	Kurty	5.46	31	*e*Pg	Pb	04 42 18.1	+5.0
	1.8nm,0.1s						
KUU				*e*Lg	Lg	04 43 24.6	
	12nm,0.2s						
MKAR	Makanchi Array	10.39	40	Pn	Pn	04 43 10.7	+3.9
	baz=228,slow=15,SNR=2.6						
	1.2nm,0.9s						
KURBB	Kurchatov Arra	12.14	19	Pn	Pn	04 43 33.3	+2.7
	baz=210,slow=12,SNR=1.9						
	0.1nm,0.3s						
BVAR	Borovoye Array	13.85	355	Pn	Pn	04 43 51.9	-2.1
	baz=160,slow=8.8,SNR=2.2						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	16.92	26	P	P	04 44 36.0	-0.3
	0.2nm,0.3s,baz=207,slow=12,SNR=2.7						
	0.6nm,0.3s						
SONM	Songino Array	25.85	60	P	P	04 46 09.6	+0.1
	0.5nm,0.5s,baz=255,slow=11,SNR=4.0						
	0.5nm,0.5s						
ARCES	ARCESS Array B	39.09	336	P	P	04 48 04.0	-0.5
	0.8nm,0.9s,baz=112,slow=9.8,SNR=1.3						
	0.8nm,0.9s						
TORD	Torodi Ar. Bea	66.98	268	P	P	04 51 30.7	-0.2
	0.4nm,0.5s,baz=59,slow=5.3,SNR=7.8						
	0.4nm,0.5s						
WRA	Warramunga Arr	82.47	123	P	P	04 52 59.3	-1.2
	0.2nm,0.7s,baz=325,slow=4.8,SNR=1.5						
	0.2nm,0.7s						

*TAP **09** 04:47:41.0,22°.07N×121°.10E,h32km,ML3.7,C*
*JMA **09** 04:47:45.0±0.1,22°.5N±0°.7×121°.4E±0°.5,h9km,MV3.6/13,*
TAIWAN REGION
ISC 09 04:47:41.1±0.9,22°.10N±0°.04×121°.14E±0°.03,h28km±8km,
n95,σ1s04/123,6C-3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMST	Manzhou Townsh	0.29	254	*i* P	Pb	04 47 48.0	-0.2
	baz=257						
SMST				*i* S	Sb	04 47 53.0	-0.1
	baz=257						
TAWH	Dawu Township	0.33	316	⇑*i*P	Pb	04 47 49.1	+0.3
	baz=331						
TAWH				*i* S	Sn	04 47 55.0	-0.9
	baz=331						
TAW	Tawu	0.34	319	⇑*i*P	Pb	04 47 49.2	+0.2
	baz=335						
TAW				*i* S	Sb	04 47 55.0	+0.8
	baz=335						
TWKBT	Hengchun	0.34	242	⇓*i*P	Pb	04 47 48.6	-0.4
	baz=241						
TWKBT				*i* S	Sb	04 47 53.8	-0.6
	baz=241						
HEN	Hengchun	0.38	255	*i* P	Pb	04 47 49.7	+0.1
	baz=257						
HEN				*i* S	Sb	04 47 55.6	+0.2
	baz=257						
EAST	Anshuo	0.39	316	⇑*i*P	Pb	04 47 49.9	+0.2
	baz=331						
EAST				*i* S	Sb	04 47 55.8	+0.2
	baz=331						
LAY	Lan-yu	0.39	99	⇓*i*P	Pb	04 47 50.1	+0.3
	baz=87						
LAY				*i* S	Sn	04 47 57.0	-0.4
	baz=87						
LYUB	Lan-yu	0.43	104	⇓*i*P	Pb	04 47 49.5	-0.8
	baz=91						
LYUB				S	Sb	04 47 56.1	-0.4
	baz=91						
ECL	Taimali	0.52	341	⇑*i*P	Pb	04 47 51.4	-0.4
	baz=356						
ECL				*i* S	Sb	04 47 57.7	-1.3
	baz=356						
SCZT	Fangliau	0.55	299	*i* P	Pb	04 47 52.4	+0.2
	baz=310						
SCZT				*i* S	Sb	04 48 00.3	+0.4
	baz=310						
LDUT	Ludao	0.65	28	*i* P	Pb	04 47 53.8	-0.1
	baz=38						
LDUT				*i* S	Sn	04 48 03.6	-0.1
	baz=38						
TTN	Taitung	0.65	1	*i* P	Pn	04 47 55.0	+0.5
	baz=353						
TTN				*i* S	Sn	04 48 04.1	+0.4
	baz=353						
MASBT	Mashibuluo	0.69	317	⇑*i*P	Pb	04 47 54.6	0.0
	baz=326						
MASBT				S	Sb	04 48 03.8	0.0
	baz=326						
TWGBT	Beinan	0.71	356	⇑*i*P	Pb	04 47 54.2	-0.9
	baz=351						
TSMG	Majia	0.75	323	*e*P	Pb	04 47 55.6	-0.1
	baz=332						
SSD	Sandimen	0.79	324	*i* P	Pb	04 47 56.0	-0.4
	baz=333						
LONT	Longtian	0.80	360	P	Pb	04 47 55.5	-0.9
	baz=355						
LONT				S	Sb	04 48 06.5	-0.5
	baz=355						
EDH	Donghe	0.88	10	*i* P	Pn	04 47 57.1	-0.5
	baz=12						
EDH				S	Sn	04 48 09.2	-0.3
	baz=12						
WSSB	Gushan	0.97	304	*e*P	Pb	04 47 59.8	+0.4
	baz=306						
TWM1	Shoushan	0.97	317	P	Pb	04 48 01.1	+1.6
	baz=321						
ECS	Chishang	0.99	4	P	Pn	04 47 58.8	-0.4
	baz=7.0						
ECS				S	Sn	04 48 12.6	+0.3
	baz=7.0						
SLGT	Liugui	1.00	333	*e*P	Pb	04 47 59.7	-0.1
	baz=336						
CHKT	Chengkung	1.01	12	P	Pn	04 47 58.8	-0.7
	baz=14						
CHKT				S	Sb	04 48 12.6	-0.5
	baz=14						
EHD	Haiduan	1.04	4	P	Pn	04 47 58.5	-1.4
	baz=6.0						
EHD				S	Sn	04 48 12.0	-1.6
	baz=6.0						
ELDTW	Lidau	1.09	354	*i* P	Pn	04 47 59.7	-0.9
	baz=2.0						
FULB	Fuli	1.10	8	P	Pn	04 48 00.6	-0.1
	baz=9.0						
FULB				S	Sb	04 48 15.6	+0.1
	baz=9.0						
SGST	Jiashian	1.10	332	P	Pb	04 48 01.6	0.0
	baz=335						
STYH	Taoyuan	1.11	343	*e*P	Pb	04 48 03.2	+1.4
	baz=345						
SHHT	Tainan City	1.17	322	*e*P	Pb	04 48 04.0	+1.3
	baz=309						
CHN1	Nanshi	1.22	333	*e*P	Pb	04 48 04.0	+0.5
	baz=335						
WTP	Ta-pu	1.24	337	P	Pb	04 48 04.3	+0.4
	baz=327						
WTP				*e*S	Sb	04 48 22.5	+3.0
	baz=327						
ECBN	Changbin	1.24	13	*e*P	Pn	04 48 02.5	-0.1
	baz=5.0						
ECBN				*e*S	Sb	04 48 19.6	0.0
	baz=5.0						
EYUL	Yuli	1.25	8	*e*P	Pn	04 48 03.0	+0.3
	baz=9.0						
TWF1	Yuli	1.25	7	*e*P	Pn	04 48 02.2	-0.5
	baz=9.0						
SNST	Tainan City	1.26	332	*e*P	Pb	04 48 05.3	+1.1
	baz=334						
TPUB	Ta-pu	1.28	339	*e*P	Pb	04 48 04.5	-0.1
	baz=328						
YULB	Yu-li	1.29	7	*e*P	Pn	04 48 01.8	-1.6
	baz=8.0						
TWK	Hsinying	1.30	333	*e*P	Pb	04 48 05.6	+0.6
	baz=335						
CHN4	Tsaushan	1.34	338	*e*P	Pb	04 48 06.1	+0.5
	baz=340						
EHY	Hungye	1.41	7	*e*P	Pn	04 48 04.0	-0.9
	baz=9.0						
HGSD	Ruisui	1.41	11	*e*P	Pn	04 48 04.3	-0.6
	baz=12						
WCKO	Fanlu	1.42	340	*e*P	Pb	04 48 07.5	+0.5
	baz=328						
TSCK	Chigu Township	1.42	317	*e*P	Pn	04 48 05.6	+0.5
	baz=304						
TSCK				*e*S	Sb	04 48 24.0	-0.7
	baz=304						
ALS	Alishan	1.43	348	*e*P	Pb	04 48 06.4	-1.0
	baz=350						
ALS				*e*S	Sb	04 48 27.6	+2.2
	baz=350						
CHY	Chiayi	1.54	335	*e*P	Pn	04 48 07.4	+0.8
	baz=337						
CHN5	Tsauling	1.55	344	*e*P	Pb	04 48 09.1	0.0
	baz=332						
CHN2	Minshiung	1.55	337	*e*P	Pb	04 48 09.7	+0.5
	baz=339						
WHYT	Xinyi Township	1.61	351	*e*P	Pb	04 48 09.6	-0.6
	baz=6.0						
WARBT	Fenglin Townsh	1.62	8	*e*P	Pn	04 48 08.0	+0.1
	baz=9.0						
VWDT	VWDT	1.64	0	*e*P	Pn	04 48 08.3	+0.2
	baz=10.0						
WDLH	Douliu	1.67	341	*e*P	Pb	04 48 10.6	-0.6
	baz=342						
SSLB	Suanglung	1.69	354	*e*P	Pn	04 48 10.0	+1.2
	baz=8.0						
WTK	Tuku	1.72	337	*e*P	Pn	04 48 09.7	+0.5
	baz=338						
WJS	Zhushan	1.75	348	*e*P	Pb	04 48 11.6	-1.0
	baz=349						
SMLT	Sun Moon Lake	1.79	353	*e*P	Pb	04 48 13.0	-0.3
	baz=6.0						
WDGT	Dungji	1.79	310	*e*P	Pn	04 48 09.1	-0.9
	baz=312						
WNT	Mingjian	1.82	347	*e*P	Pb	04 48 13.4	-0.3
	baz=334						
OWD	Renai	1.84	1	*e*P	Pn	04 48 11.6	+0.6
	baz=2.0						
WUSB	Renai	1.88	359	*e*P	Pn	04 48 12.6	+1.0
	baz=13						
ETM	Tongmen	1.88	10	*e*P	Pn	04 48 10.9	-0.5
	baz=11						
WRL	Guolierlin Hig	1.92	339	*e*P	Pn	04 48 12.8	+0.8
	baz=328						
VCHM	Qimei	1.92	305	*e*P	Pn	04 48 11.2	-0.8
	baz=307						
LXIB	Xiulin Townshi	1.93	8	*e*P	Pn	04 48 10.8	-1.3
	baz=17						
CHGB	Renai	1.95	1	*e*P	Pn	04 48 12.4	-0.1
	baz=2.0						
WCS	Beigang Elemen	1.96	354	*e*P	Pb	04 48 14.8	-1.3
	baz=355						
TWD	Chiawan	2.01	12	*e*P	Pn	04 48 13.7	+0.5
	baz=13						
PHUB	P'eng-hu	2.01	314	*e*P	Pn	04 48 12.3	-0.9
	baz=316						
WHF	Hehuan Shan	2.04	3	*e*P	Pn	04 48 14.9	+0.9
	baz=15						
PNG	Penghu	2.06	315	*e*P	Pn	04 48 12.2	-1.7
	baz=317						
NACB	Ninganchiao	2.10	11	*e*P	Pn	04 48 13.2	-1.3
	baz=12						
ETLH	Xiulin Townshi	2.12	9	*e*P	Pn	04 48 16.4	+1.6
	baz=19						
TWT	Tachien	2.14	1	*e*P	Pn	04 48 16.9	+1.8
	baz=1.0						
WHP	Taichung City	2.17	355	*e*P	Pb	04 48 17.8	-2.1
	baz=8.0						
TWQ1	Liyutan	2.26	352	*e*P	Pb	04 48 20.2	-1.1
	baz=340						
WDJ	Dajia District	2.28	349	*e*P	Pb	04 48 19.8	-1.8
	baz=337						
EOS4	EOS4	2.28	28	*e*P	Pn	04 48 17.6	+1.0
	baz=19						
NNSB	Datong	2.33	6	*e*P	Pn	04 48 18.2	+0.5
	baz=17						
NNS	Nan Shan	2.34	5	*e*P	Pn	04 48 20.0	+2.2
	baz=16						
ENA	Nanau	2.38	13	*e*P	Pn	04 48 20.2	+1.9
	baz=14						
LATG	Datong	2.45	8	*e*P	Pn	04 48 19.6	+0.3
	baz=17						
NDT	Datong Townshi	2.51	8	*e*P	Pn	04 48 21.5	+1.4
	baz=17						
NFF	Wufeng Townshi	2.52	360	*e*P	Pb	04 48 23.3	-2.4
NSTT	Nanjuang	2.52	357	*e*P	Pn	04 48 21.8	+1.6
	baz=358						
ENTT	Nioudou	2.56	9	*e*P	Pn	04 48 21.7	+1.0

baz=16
YOJ Yonaguni jima 2.91 36 *e*P **Pn 04 48 28.2 +2.6**
HATJ Hateruma jima 3.13 51 S **Sn 04 49 05.0 -0.1**
IRIF Iriomote-Funau 3.26 47 P **Pn 04 48 33.0 +2.7**
IRIF *e*S **Sn 04 49 08.6 +0.4**
JKRS Kuro-shima 3.39 51 *e*P **Pn 04 48 34.4 +2.2**
JKRS S **Sn 04 49 11.1 -0.4**
JIJ Ishigaki jima 3.56 50 P **Pn 04 48 36.2 +1.7**
JIJ S **Sn 04 49 14.7 -1.1**
JISG Ishigakijimahi 3.82 49 P **Pn 04 48 38.8 +0.7**
JISG S **Sn 04 49 21.4 -0.7**
JTJ Tarama 4.14 52 P **Pn 04 48 43.7 +1.3**
JTJ *e*S **Sn 04 49 29.2 -0.6**

*KRSC **09** 04:50:50.9±2.1, 54.°84N×167.°54E, h25km±18km, Ml4.4*
*IDC **09** 04:50:51.3±0.7, 55.°10N×167.°45E, h0km, mb3.8/15, mbtmp3.9/17, ML3.9/2, MS3.2/6, Error ellipse: s-maj=24.2km s-min=13.6km az=173.0*
*NEIC **09** 04:50:52.0±1.9, 54.°97N±0.°06×167.°5E±0.°1, h10km±1km, mb4.3/29, Error ellipse: s-maj=12.8km s-min=9.7km az=88.0*
*MOS **09** 04:50:52.3±0.9, 54.°92N×167.°65E, h26km, mb4.3/4, Error ellipse: s-maj=10.2km s-min=6.3km az=178.5*

ISC 09 04:50:51.8±0.5, 54.°88N±0.°07×167.°59E±0.°04, h10km, n136, σ1§49/139, mb4.2/29, MS3.2/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.98**	**290**	PN	**Pg**	**04 51 09.5**	**-1.2**
BKI				S	**Sg**	**04 51 21.7**	**-1.8**
BKI	**Bering**	**0.98**	**290**	*e*P	**Pg**	**04 51 09.5**	**-1.2**
BKI				*e*S	**Sg**	**04 51 21.7**	**-1.8**
MKZ	**Mys Kozlova**	**3.41**	**267**	PN	**Pn**	**04 51 45.0**	**0.0**
MKZ	**Mys Kozlova**	**3.41**	**267**	*e*P	**Pn**	**04 51 45.0**	**0.0**
MKZ				*e*S	**Sn**	**04 52 23.5**	**-1.9**
SMKR	**Semkarok**	**3.86**	**299**	PN	**Pn**	**04 51 52.3**	**+1.1**
SMKR				S	**Sn**	**04 52 37.5**	**+0.9**
SMKR	**Semkarok**	**3.86**	**299**	*e*P	**Pn**	**04 51 52.3**	**+1.1**
SMKR				*e*S	**Sn**	**04 52 37.5**	**+0.9**
ZLN	**Zelenaya**	**4.03**	**289**	PN	**Pn**	**04 51 55.6**	**+2.1**
ZLN	**Zelenaya**	**4.03**	**289**	*e*P	**Pn**	**04 51 55.6**	**+2.1**
BZGR	**Bezymyannyi-Gr**	**4.07**	**288**	PN	**Pn**	**04 51 56.4**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**4.07**	**288**	*e*P	**Pn**	**04 51 56.4**	**+2.3**
TUMD	**Tumrok D**	**4.15**	**277**	*e*P	**Pn**	**04 51 56.0**	**+0.9**
TUMD				*e*S	**Sn**	**04 52 45.8**	**+2.1**
BZP	**Bezymyannyi-Pe**	**4.15**	**287**	*e*P	**Pn**	**04 51 56.5**	**+1.2**
BZMR	**Bezymyannaya**	**4.18**	**288**	PN	**Pn**	**04 51 57.0**	**+1.3**
BZMR	**Bezymyannaya**	**4.18**	**288**	*e*P	**Pn**	**04 51 57.0**	**+1.3**
BZWR	**Bezymyannyi-We**	**4.18**	**288**	PN	**Pn**	**04 51 57.2**	**+1.4**
BZWR	**Bezymyannyi-We**	**4.18**	**288**	*e*P	**Pn**	**04 51 57.1**	**+1.4**
KLY	**Klyuchi**	**4.19**	**293**	*e*S	**Sn**	**04 52 42.9**	**-1.7**
KRSR	**Krestovskiy**	**4.21**	**291**	PN	**Pn**	**04 51 56.5**	**+0.5**
KRSR	**Krestovskiy**	**4.21**	**291**	*e*P	**Pn**	**04 51 56.5**	**+0.5**
KZV	**Kizimen**	**4.21**	**276**	PN	**Pn**	**04 51 56.7**	**+0.6**
KZV	**Kizimen**	**4.21**	**276**	*e*P	**Pn**	**04 51 56.7**	**+0.6**
KIRR	**Kirishev**	**4.27**	**288**	PN	**Pn**	**04 51 57.7**	**+0.8**
KIRR				S	**Sn**	**04 52 48.5**	**+1.7**
KIRR	**Kirishev**	**4.27**	**288**	*e*P	**Pn**	**04 51 57.7**	**+0.8**
KIRR				*e*S	**Sn**	**04 52 48.5**	**+1.7**
KMNR	**Kamenistaya**	**4.29**	**285**	PN	**Pn**	**04 51 59.6**	**+2.5**
KMNR	**Kamenistaya**	**4.29**	**285**	*e*P	**Pn**	**04 51 59.6**	**+2.5**
TUMR	**Tumrok**	**4.30**	**278**	PN	**Pn**	**04 51 58.2**	**+0.9**
TUMR	**Tumrok**	**4.30**	**278**	*e*P	**Pn**	**04 51 58.2**	**+0.9**
KPT	**Kopyto**	**4.34**	**288**	PN	**Pn**	**04 51 59.1**	**+1.4**
KPT	**Kopyto**	**4.34**	**288**	*e*P	**Pn**	**04 51 59.1**	**+1.4**
SHEM	**Shemya Is, Ala**	**4.42**	**117**	Pn	**Pn**	**04 52 00.1**	**+1.3**
	33nm,0.3s,baz=30,slow=2.6,SNR=21						
SHEM				Sn	**Sn**	**04 52 48.8**	**-1.4**
	10.0nm,0.3s,baz=341,slow=23,SNR=6.6						
	94nm,0.3s						
SMY	**Shemya**	**4.42**	**117**	Pn	**Pn**	**04 51 59.5**	**+0.7**
SMY	**Shemya**	**4.42**	**117**	PN	**Pn**	**04 51 59.5**	**+0.7**
KOZ	**Kozyrevsk**	**4.55**	**288**	PN	**Pn**	**04 52 02.4**	**+1.8**
KOZ	**Kozyrevsk**	**4.55**	**288**	*e*P	**Pn**	**04 52 02.4**	**+1.8**
SRDR	**Sredinnyy**	**4.69**	**291**	PN	**Pn**	**04 52 04.0**	**+1.4**
SRDR	**Sredinnyy**	**4.69**	**291**	*e*P	**Pn**	**04 52 04.0**	**+1.4**
SPN	**Mys Shipunski**	**4.81**	**251**	PN	**Pn**	**04 52 04.0**	**-0.1**
SPN	**Mys Shipunski**	**4.81**	**251**	*e*P	**Pn**	**04 52 04.0**	**-0.1**
NLC	**Nalytchevo**	**5.15**	**254**	PN	**Pn**	**04 52 10.6**	**+1.7**
NLC	**Nalytchevo**	**5.15**	**254**	*e*P	**Pn**	**04 52 10.6**	**+1.7**
ESO	**Esso**	**5.17**	**285**	PN	**Pn**	**04 52 10.8**	**+1.6**
ESO	**Esso**	**5.17**	**285**	*e*P	**Pn**	**04 52 10.8**	**+1.6**
SMAR	**Somma**	**5.42**	**256**	PN	**Pn**	**04 52 14.2**	**+1.4**
SMAR	**Somma**	**5.42**	**256**	*e*P	**Pn**	**04 52 14.2**	**+1.4**
KRER	**Koryakskii**	**5.44**	**257**	PN	**Pn**	**04 52 12.1**	**-0.9**
KRER	**Koryakskii**	**5.44**	**257**	*e*P	**Pn**	**04 52 12.1**	**-0.9**
AVH	**Avacha**	**5.46**	**256**	PN	**Pn**	**04 52 14.6**	**+1.5**
AVH	**Avacha**	**5.46**	**256**	*e*P	**Pn**	**04 52 14.6**	**+1.5**
KRX	**Arik**	**5.47**	**257**	PN	**Pn**	**04 52 15.0**	**+1.5**
KRX	**Arik**	**5.47**	**257**	*e*P	**Pn**	**04 52 15.0**	**+1.5**
KOK	**Koryaka**	**5.50**	**257**	PN	**Pn**	**04 52 15.1**	**+1.3**
KOK	**Koryaka**	**5.50**	**257**	*e*P	**Pn**	**04 52 15.1**	**+1.3**
PET	**Petropavlovsk**	**5.59**	**254**	Pn	**Pn**	**04 52 15.2**	**+0.3**
PET	**Petropavlovsk**	**5.59**	**254**	*e*PN	**Pn**	**04 52 18.1**	**+3.2**
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PET	**Petropavlovsk**	**5.59**	**254**	*e*P	**Pn**	**04 52 18.3**	**+3.3**
GNL	**Ganaly**	**5.77**	**262**	PN	**Pn**	**04 52 19.0**	**+1.5**
GNL	**Ganaly**	**5.77**	**262**	*e*P	**Pn**	**04 52 19.0**	**+1.5**
KRMR	**Karymshinskiy**	**5.96**	**254**	PN	**Pn**	**04 52 24.0**	**+4.0**
KRMR	**Karymshinskiy**	**5.96**	**254**	*e*P	**Pn**	**04 52 24.0**	**+4.0**
PEA0B	**Petropavlovsk-**	**6.10**	**257**	Pn	**Pn**	**04 52 21.4**	**-0.5**
PEA0B	**Petropavlovsk-**	**6.10**	**257**	PN	**Pn**	**04 52 21.4**	**-0.5**
PETK	**Petropavlovsk-**	**6.10**	**257**	Pn	**Pn**	**04 52 22.0**	**+0.1**
PETK	**Petropavlovsk-**	**6.10**	**257**	Pn	**Pn**	**04 52 22.4**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=86,slow=19,SNR=16						
PETK				Sn	**Sn**	**04 53 28.6**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=90,slow=18,SNR=1.3						
PETK				LR	LR	04 54 42.6	
	comp=Z,133nm,20.9s,baz=51,slow=38						
	comp=Z,7.4nm,0.6s						
GRL	**Gorelyy**	**6.11**	**251**	PN	**Pn**	**04 52 23.4**	**+1.2**
GRL	**Gorelyy**	**6.11**	**251**	*e*P	**Pn**	**04 52 23.4**	**+1.2**
ASAK	**Asacha**	**6.28**	**251**	PN	**Pn**	**04 52 27.0**	**+2.5**
ASAK	**Asacha**	**6.28**	**251**	*e*P	**Pn**	**04 52 27.0**	**+2.5**
KDTR	**Khodutka, Kamc**	**6.47**	**246**	PN	**Pn**	**04 52 28.4**	**+1.4**
KDTR	**Khodutka, Kamc**	**6.47**	**246**	*e*P	**Pn**	**04 52 28.4**	**+1.4**
KIWB	**Kanaga Island**	**9.61**	**102**	Pn	**Pn**	**04 53 11.6**	**+1.6**
MA2	**Magadan**	**10.25**	**304**	LR	LR	04 56 43.2	
	comp=Z,59nm,20.4s,baz=108,slow=35						
ATKA	**Atka Island**	**11.16**	**96**	Pn	**Pn**	**04 53 30.9**	**-0.4**
L19K	**White Mountain**	**20.66**	**54**	P	Pn	04 55 33.7	0.0
L19K				IAmb	IAmb	04 55 47.1	
	comp=Z,24nm,1.5s						
N19K	**Bonanza Creek**	**20.81**	**58**	P	**P**	**04 55 34.6**	**+1.5**
N19K				IAmb	IAmb	04 55 54.9	
	comp=Z,10nm,1.1s						
M19K	**Big River Lodg**	**20.87**	**55**	P	Pn	04 55 35.4	-0.7
M19K				IAmb	IAmb	04 56 00.6	
	comp=Z,12nm,1.2s						
IMAR	**Indian Mountai**	**21.67**	**44**	P	**P**	**04 55 40.6**	**-1.5**
KDAK	**Kodiak Island**	**22.05**	**66**	P	**P**	**04 55 47.5**	**+1.3**
	comp=Z,12nm,1.0s,baz=265,slow=18,SNR=1.7						
	comp=Z,12nm,1.0s						
BPAW	**Bear Paw Mtn.**	**22.55**	**49**	P	**P**	**04 55 51.4**	**-0.3**
KLR	**Kul'dur**	**22.57**	**270**	LR	LR	05 06 17.6	
	comp=Z,46nm,18.8s,baz=272,slow=41						
I23K	**Minto, Yukon-K**	**23.35**	**47**	P	**P**	**04 55 59.2**	**-0.6**
I23K				IAmb	IAmb	04 56 11.1	
	comp=Z,11nm,1.4s						
NEA2	**Nenana**	**23.43**	**48**	P	**P**	**04 56 01.6**	**+0.9**
RND	**Reindeer**	**23.47**	**51**	P	**P**	**04 56 00.3**	**-0.9**
RND				IAmb	IAmb	04 56 18.7	
	comp=Z,7.2nm,1.2s						
RND	**Reindeer**	**23.47**	**51**	P	**P**	**04 56 00.3**	**-0.9**
RND				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SML	**Sawmill**	**23.74**	**55**	P	**P**	**04 56 02.5**	**-1.3**
SML				IAmb	IAmb	04 56 03.9	
	comp=Z,26nm,1.3s						
CCB	**Clear Creek Bu**	**23.97**	**48**	P	**P**	**04 56 06.4**	**+0.4**
SCM	**Sheep Creek Mo**	**24.22**	**55**	P	**P**	**04 56 06.2**	**-2.1**
SCM	**Sheep Creek Mo**	**24.22**	**55**	P	**P**	**04 56 06.2**	**-2.1**
SCM				pmax	pmax		
	comp=Z,25nm,1.3s						
IL31		**24.37**	**48**	P	**P**	**04 56 08.9**	**-0.7**
IL31				IAmb	IAmb	04 56 24.1	
	comp=Z,3.5nm,0.8s						
ILAR	**Eielson Array**	**24.37**	**48**	P	**P**	**04 56 07.9**	**-1.7**
ILAR	**Eielson Array**	**24.37**	**48**	P	**P**	**04 56 09.3**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=254,slow=7.7,SNR=20						
	comp=Z,1.4nm,0.8s						
M24K	**Tolsona, Glenn**	**24.74**	**54**	P	**P**	**04 56 12.0**	**-1.0**
KLU	**Klutina**	**24.91**	**56**	P	**P**	**04 56 14.9**	**+0.2**
J25K	**Salcha River,**	**25.02**	**48**	P	**P**	**04 56 13.6**	**-2.0**
FYU	**Fort Yukon**	**25.16**	**44**	P	**P**	**04 56 17.2**	**+0.5**
FYU				IAmb	IAmb	04 56 42.3	
	comp=Z,16nm,1.4s						
USRK	**Ussuriysk Ar.**	**25.18**	**260**	LR	LR	05 06 15.6	
	comp=Z,44nm,18.3s,baz=143,slow=37						
BMAR	**Burnt Mountain**	**25.50**	**42**	P	**P**	**04 56 20.9**	**+1.0**
K27K	**Chicken**	**26.47**	**50**	P	**P**	**04 56 27.6**	**-1.1**
L27K	**Beaver Creek,**	**26.66**	**52**	P	**P**	**04 56 31.1**	**+0.7**
L27K				IAmb	IAmb	04 56 32.4	
	comp=Z,3.5nm,0.7s						
BCAR	**Beaver Creek A**	**26.68**	**52**	P	**P**	**04 56 31.2**	**+0.6**
MJAR	**Matsushiro Arr**	**27.21**	**240**	P	**P**	**04 56 36.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=31,slow=9.9,SNR=1.9						
	comp=Z,0.4nm,0.3s						
I28M	**Miner Creek**	**27.31**	**46**	P	**P**	**04 56 36.3**	**0.0**
H29M	**Whitestone**	**27.92**	**45**	P	**P**	**04 56 42.5**	**+0.9**
H29M				IAmb	IAmb	04 57 06.3	
	comp=Z,6.5nm,1.5s						
G29M	**Pine Creek**	**28.03**	**43**	P	**P**	**04 56 42.4**	**-0.3**
G29M				IAmb	IAmb	04 56 55.1	
	comp=Z,10nm,1.4s						
K29M	**Barlow Dome**	**28.49**	**49**	P	**P**	**04 56 47.0**	**+0.2**
K29M				IAmb	IAmb	04 56 50.5	
	comp=Z,8.0nm,1.4s						
M31M	**Drury Creek, Y**	**30.19**	**52**	P	**P**	**04 57 02.6**	**+0.8**
KSRS	**Korea Array**	**31.98**	**254**	P	**P**	**04 57 18.4**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=22,slow=10,SNR=1.4						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**37.75**	**285**	P	**P**	**04 58 08.1**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=62,slow=6.4,SNR=4.1						
SONM				LR	LR	05 14 29.6	
	comp=Z,46nm,18.2s,baz=64,slow=38						
	comp=Z,0.6nm,0.6s						
CHMT	**Chamberlain Mo**	**48.03**	**65**	P	**P**	**04 59 29.7**	**-1.4**
BPMT	**Black Pine Rid**	**48.24**	**65**	P	**P**	**04 59 32.3**	**-0.4**
BOZ	**Bozeman (W)**	**49.75**	**65**	P	**P**	**04 59 44.5**	**+0.3**
BOZ	**Bozeman (W)**	**49.75**	**65**	P	**P**	**04 59 44.5**	**+0.3**
BOZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KURK	**Kurchatov**	**50.46**	**304**	P	**P**	**04 59 46.8**	**-2.5**
KURK				IAmb	IAmb	04 59 49.4	
	comp=Z,3.1nm,0.8s						
KURK	**Kurchatov**	**50.46**	**304**	P	**P**	**04 59 46.8**	**-2.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**50.57**	**304**	P	**P**	**04 59 49.5**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=52,slow=7.5,SNR=15						
	comp=Z,2.1nm,0.8s						
NVAR	**Mina Array Bea**	**50.99**	**76**	P	**P**	**04 59 55.3**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=303,slow=8.3,SNR=4.4						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**51.28**	**299**	P	**P**	**04 59 54.1**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=43,slow=8.1,SNR=3.5						
	comp=Z,0.7nm,0.7s						
BVAR	**Borovoye Array**	**52.65**	**311**	P	**P**	**05 00 05.3**	**-0.4**
	comp=Z,2.8nm,0.8s,baz=52,slow=9.7,SNR=11						
	comp=Z,2.8nm,0.8s						
PDAR	**Pinedale Array**	**52.76**	**67**	P	**P**	**05 00 07.4**	**+0.5**
PDAR	**Pinedale Array**	**52.76**	**67**	P	**P**	**05 00 07.8**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=314,slow=3.6,SNR=5.3						
	comp=Z,0.7nm,0.9s						
RSSD	**Black Hills**	**54.69**	**62**	P	**P**	**05 00 18.7**	**-2.3**
RSSD	**Black Hills**	**54.69**	**62**	P	**P**	**05 00 18.7**	**-2.3**
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AKTO	**Aktyubinsk**	**59.76**	**316**	P	**P**	**05 00 55.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=19,slow=4.2,SNR=4.2						
	comp=Z,1.2nm,0.6s						
FINES	**FINESS Array B**	**60.11**	**340**	P	**P**	**05 00 57.7**	**-0.9**
FINES	**FINESS Array B**	**60.11**	**340**	P	**P**	**05 00 57.7**	**-0.9**
NB2	**NORSAR Subarra**	**62.92**	**347**	P	P	05 01 27.8	+10
	comp=Z,0.6nm,0.5s,baz=17,slow=6.9						
NOA	**NORSAR Array B**	**62.92**	**347**	P	**P**	**05 01 17.7**	**0.0**
	comp=Z,0.8nm,0.8s,baz=20,slow=6.6,SNR=2.2						
	comp=Z,0.8nm,0.8s						
SIJI	**Sorong**	**63.05**	**222**	LR	LR	05 22 53.0	
	comp=Z,77nm,21.2s,baz=163,slow=30						
TX31	**Lajitas Ar. Si**	**65.87**	**73**	P	**P**	**05 01 38.1**	**+0.5**
TX32	**Lajitas Array**	**65.87**	**73**	P	**P**	**05 01 37.5**	**0.0**
TX32				IAmb	IAmb	05 01 50.6	
	comp=Z,1.8nm,0.8s						
TXAR	**Lajitas Array**	**65.87**	**73**	P	**P**	**05 01 38.1**	**+0.5**
TXAR	**Lajitas Array**	**65.87**	**73**	P	**P**	**05 01 38.1**	**+0.5**
TXAR	**Lajitas Array**	**65.87**	**73**	P	**P**	**05 01 38.8**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=303,slow=4.4,SNR=14						
	comp=Z,0.8nm,0.6s						
FCAR	**Ozark Folk Cen**	**66.89**	**60**	P	**P**	**05 01 42.9**	**-1.0**
WRA	**Warramunga Arr**	**79.75**	**212**	P	**P**	**05 03 02.1**	**+2.4**
	comp=Z,0.6nm,1.0s,baz=25,slow=6.2,SNR=2.4						
	comp=Z,0.6nm,1.0s						
ASAR	**Alice Springs**	**83.39**	**211**	P	**P**	**05 03 22.2**	**+3.3**
	comp=Z,0.2nm,0.7s,baz=19,slow=5.9,SNR=2.1						
	comp=Z,0.2nm,0.7s						

IDC 09 04:51:21.7±2.0, 42.°65S×83.°87E, h0km, mb4.1/4, mbtmp4.1/4, MS4.0/32, Error ellipse: s-maj=57.2km s-min=30.4km az=116.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S1	**CROZET ISLANDS**	**22.99**	**248**	T	T	05 20 40.4	
	baz=89,slow=75						
H04S2	**CROZET ISLANDS**	**23.01**	**248**	T	T	05 20 44.2	
	baz=89,slow=75						
H04S3	**CROZET ISLANDS**	**23.01**	**248**	T	T	05 20 39.6	
	baz=89,slow=75						
H04N2	**CROZET ISLANDS**	**23.09**	**250**	T	T	05 20 51.0	
	baz=91,slow=75						
H04N3	**CROZET ISLANDS**	**23.11**	**250**	T	T	05 20 53.4	
	baz=91,slow=75						
H04N1	**CROZET ISLANDS**	**23.11**	**250**	T	T	05 20 53.2	
	baz=91,slow=75						
H01W2	**Cape Leeuwin H**	**24.73**	**82**	T	T	05 22 12.5	
	baz=243,slow=75,SNR=152						
H01W3	**Cape Leeuwin H**	**24.74**	**82**	T	T	05 22 16.2	
	baz=243,slow=75,SNR=151						
H01W1	**Cape Leeuwin H**	**24.75**	**82**	T	T	05 22 16.9	
	baz=243,slow=75,SNR=162						
MAW	**Mawson**	**27.45**	**197**	LR	LR	05 05 44.2	
	comp=Z,194nm,20.7s,baz=24,slow=31						
NWAO	**Narrogin (SRO)**	**27.94**	**81**	LR	LR	05 05 43.0	
	comp=Z,393nm,20.9s,baz=253,slow=31						
H08S2	**Diego Garcia H**	**36.28**	**341**	T	T	05 36 20.8	
	baz=165,slow=76,SNR=570						
H08S1	**Diego Garcia H**	**36.28**	**341**	T	T	05 36 21.1	
	baz=165,slow=76,SNR=638						
H08S3	**Diego Garcia H**	**36.30**	**341**	T	T	05 36 22.2	
	baz=165,slow=76,SNR=799						
ASAR	**Alice Springs**	**45.25**	**82**	P	P	04 59 40.9	-0.1
	1.5nm,0.9s,baz=217,slow=7.2,SNR=12						
ASAR				LR	LR	05 16 20.4	
	comp=Z,538nm,20.7s,baz=250,slow=33						
	1.5nm,0.9s						
STKA	**Stephens Creek**	**46.37**	**96**	LR	LR	05 16 41.2	
	comp=Z,226nm,18.6s,baz=242,slow=33						
QSPA	**South Pole Qui**	**47.51**	**180**	P	P	04 59 58.3	-0.1
	3.8nm,0.8s,baz=292,slow=6.2,SNR=12						
QSPA				LR	LR	05 18 05.6	
	comp=Z,268nm,21.8s,baz=290,slow=34						
	3.8nm,0.8s						
WRA	**Warramunga Arr**	**47.88**	**78**	P	P	05 00 01.5	-0.1
	2.1nm,0.7s,baz=232,slow=8.0,SNR=20						
	2.1nm,0.7s						
BOSA	**Boshof**	**48.74**	**267**	LR	LR	05 16 12.9	
	comp=Z,251nm,20.9s,baz=170,slow=31						
SNAA	**Sanae**	**49.17**	**205**	LR	LR	05 19 27.4	
	comp=Z,84nm,19.0s,baz=22,slow=34						
SUR	**Sutherland**	**50.02**	**260**	LR	LR	05 16 24.2	
	comp=Z,153nm,21.8s,baz=140,slow=30						
LSZ	**Lusaka**	**54.68**	**282**	LR	LR	05 21 00.1	
	comp=Z,133nm,19.7s,baz=148,slow=32						
CTA	**Charters Tower**	**56.50**	**87**	LR	LR	05 23 28.8	
	comp=Z,112nm,18.5s,baz=264,slow=34						
TSUM	**Tsumeb**	**59.93**	**271**	LR	LR	05 23 05.6	
	comp=Z,180nm,21.7s,baz=148,slow=32						
CMAR	**Chiang Mai Arr**	**62.37**	**16**	P	P	05 01 46.0	-0.1
	1.0nm,0.3s,baz=212,slow=6.4,SNR=1.9						
CMAR				LR	LR	05 25 24.3	
	comp=Z,64nm,19.6s,baz=210,slow=33						
	1.0nm,0.3s						
MBAR	**Mbarara**	**63.28**	**296**	LR	LR	05 22 53.2	
	comp=Z,162nm,21.5s,baz=236,slow=30						
PMG	**Port Moresby**	**64.10**	**78**	LR	LR	05 28 01.6	
	comp=Z,213nm,18.5s,baz=188,slow=34						
JAY	**Jayapura**	**64.36**	**68**	LR	LR	05 28 55.4	
	comp=Z,139nm,19.8s,baz=252,slow=35						
BRDH	**Bariadhala**	**65.39**	**8**	LR	LR	05 26 30.8	
	comp=Z,162nm,21.3s,baz=166,slow=32						
WSAR	**Wadi Sarin**	**69.57**	**335**	LR	LR	05 26 19.1	
	comp=Z,133nm,18.7s,baz=220,slow=30						
PMSA	**Palmer Station**	**70.00**	**194**	LR	LR	05 32 58.4	
	comp=Z,261nm,19.9s,baz=141,slow=36						
DZM	**Mont Dzumac**	**70.08**	**102**	LR	LR	05 28 56.8	
	comp=Z,84nm,19.3s,baz=208,slow=32						
MSVF	**Nonsavu**	**81.19**	**106**	LR	LR	05 35 06.8	
	comp=Z,90nm,18.3s,baz=132,slow=32						
AAK	**Ala-Archa**	**85.32**	**353**	LR	LR	05 38 18.4	
	comp=Z,161nm,19.7s,baz=180,slow=33						
MKAR	**Makanchi Array**	**89.07**	**359**	LR	LR	05 42 34.7	
	comp=Z,65nm,18.1s,baz=218,slow=34						
GNI	**Garni**	**89.71**	**331**	LR	LR	05 39 43.6	
	comp=Z,27nm,21.2s,baz=168,slow=32						
SONM	**Songino Array**	**92.27**	**15**	LR	LR	05 45 03.2	
	comp=Z,44nm,19.3s,baz=176,slow=35						
KURBB	**Kurchatov Arra**	**93.01**	**357**	LR	LR	05 43 17.9	
	comp=Z,115nm,21.0s,baz=174,slow=34						
TORD	**Torodi Ar. Bea**	**93.14**	**285**	LR	LR	05 43 20.9	
	comp=Z,93nm,21.1s,baz=144,slow=34						
KBZ	**Khabaz**	**93.51**	**332**	LR	LR	05 44 18.2	
	comp=Z,22nm,18.6s,baz=160,slow=34						
PLCA	**Paso Flores**	**93.84**	**199**	LR	LR	05 46 08.3	
	comp=Z,49nm,20.3s,baz=158,slow=35						
AKTO	**Aktyubinsk**	**95.42**	**344**	LR	LR	05 46 45.9	
	comp=Z,26nm,18.2s,baz=337,slow=35						
BVAR	**Borovoye Array**	**96.00**	**352**	LR	LR	05 45 33.1	
	comp=Z,112nm,18.8s,baz=173,slow=34						
ZALV	**Zalesovo Beam**	**96.22**	**1**	LR	LR	05 47 06.9	
	comp=Z,42nm,18.6s,baz=190,slow=35						
BELG	**Belogornoye**	**99.72**	**338**	LR	LR	05 48 43.8	
	comp=Z,23nm,18.9s,baz=161,slow=34						

ISC 09 04:59:36.8±1.0, 45.°16N±0.°03×13.°81E±0.°06, h17km±7km, n12, σ0§39/20, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A253A	**Karojba, Istri**	**0.13**	**1**	*e*Pg	**Pb**	**04 59 41.0**	**+0.2**
A253A				E		04 59 41.1	
A253A				Sg	**Sg**	**04 59 44.0**	**+0.6**
BRJN	**Brijuni**	**0.26**	**190**	*e*Pg	**Pg**	**04 59 42.5**	**-0.1**
BRJN				E		04 59 42.5	
BRJN				Sg	**Sb**	**04 59 46.9**	**-0.2**
SMRN	**Sveta Marina**	**0.27**	**117**	*e*Pg	**Pg**	**04 59 42.7**	**-0.1**
SMRN				Sg	**Sg**	**04 59 46.7**	**-0.2**
SKDS	**Skadanscina**	**0.41**	**20**	*i* Pg	**Pg**	**04 59 45.0**	**-0.3**
SKDS				*i* Sg	**Sg**	**04 59 51.0**	**+0.1**
SKDS				IAML		04 59 51.2	
	comp=Z,6.2nm,0.0s						
KNDS	**Knezji Dol**	**0.54**	**47**	*i* Pg	**Pg**	**04 59 47.4**	**-0.2**
KNDS				*i* Sg	**Sg**	**04 59 55.2**	**+0.2**
KNDS				IAML		04 59 55.5	
	comp=Z,0.8nm,0.1s						
JAVS	**Javornik**	**0.75**	**13**	*i* Pg	**Pb**	**04 59 51.0**	**-0.5**
JAVS				*e*Sg	**Sb**	**05 00 01.7**	**+0.2**
JAVS				IAML		05 00 04.5	
	comp=Z,0.7nm,0.1s						
RABC	**Rab**	**0.80**	**120**	Sg	**Sb**	**05 00 02.5**	**-0.2**
RABC		

1.1nm,0.3s,baz=302,slow=14,SNR=29
WRA Sn Sn 05 15 19.2 -12
6.4nm,0.3s,baz=304,slow=24,SNR=10
WRAB Tennant Creek 13.89 134 Pn 05 12 53.6 -3.3
WRAB Tennant Creek 13.89 134 P **Pn 05 12 54.0 -2.9**
WB1 Warramunga Ar. 13.91 134 P **Pn 05 12 53.9 -3.2**
WR0 Warramunga Arr 14.04 134 Pn 05 12 55.6 -3.3
KPJI Karang Pucung 15.00 281 P **Pn 05 13 13.4 +1.4**
33nm,0.7s,2μm
WRKA Warakurna 15.15 164 P **Pn 05 13 12.5 -1.5**
GIRL Giralia 15.20 216 Pn **Pn 05 13 14.5 -0.2**
AS31 Alice Springs 16.32 145 Pn 05 13 27.1 -2.2
ASAR Alice Springs 16.32 145 Pn 05 13 27.5 -1.8
ASAR Alice Springs 16.32 145 Pn **Pn 05 13 26.9 -2.4**
0.8nm,0.3s,baz=323,slow=13,SNR=31
MYLDM Lahad Datu 16.38 341 Pn **Pn 05 13 29.7 -0.2**
LEM Lembang 16.38 281 Pn **Pn 05 13 29.7 -0.5**
3.1nm,0.3s,baz=63,slow=18,SNR=1.3
17nm,0.5s
CNJI Cibinong 16.75 279 P **P 05 13 36.1 -0.9**
57nm,1.4s
MEEK Meekatharra 16.85 196 P **P 05 13 37.9 -0.2**
SBUM Sibu 17.21 317 P **P 05 13 42.0 -0.1**
DAV Davao City (W) 17.47 6 LR LR 05 20 51.1
comp=Z,94nm,20.2s,baz=170,slow=39
KSM Kuching 17.88 311 P **P 05 13 48.8 -0.7**
KSM IAmb IAmb 05 13 52.6
comp=Z,22nm,1.2s
KKM Kota Kinabalu 18.02 335 P **P 05 13 51.8 +0.7**
KKM IAmb IAmb 05 14 03.7
comp=Z,16nm,0.8s
QIS Mount Isa 18.25 125 P **Pn 05 13 51.1 -2.3**
CGJI Cibinong 18.29 281 P **P 05 13 55.1 +1.1**
comp=Z,32nm,0.7s,comp=Z,1μm
JAY Jayapura 18.54 66 P **Pn 05 13 58.5 +1.5**
comp=Z,14nm,0.8s
JAY Jayapura 18.54 66 P **Pn 05 13 58.1 +1.1**
comp=Z,0.4nm,0.3s,baz=145,slow=7.3,SNR=3.8
comp=Z,17nm,1.0s
COEN Coen 19.27 102 P **P 05 14 03.4 -1.4**
COEN IAmb IAmb 05 14 29.9
comp=Z,22nm,1.2s
KASI Kota Agung 19.71 283 P **Pn 05 14 11.0 -0.1**
comp=Z,186nm,0.9s
MORW Morawa 19.91 200 P **P 05 14 09.9 -1.9**
MORW IAmb IAmb 05 14 28.8
comp=Z,16nm,0.9s
MORW Morawa 19.91 200 P **Pn 05 14 16.4 +3.0**
OOD Oodnadatta 20.58 149 P Pn 05 14 20.4 -0.9
FORT Forrest 20.64 170 P **P 05 14 18.1 -1.5**
FORT Forrest 20.64 170 P Pn 05 14 20.7 -1.1
BLDU Ballidu 21.14 197 P **P 05 14 29.2 +4.2**
MULG Mulgathing 21.95 156 P **P 05 14 35.4 +1.7**
NWAO Narrogin (SRO) 23.19 194 P **P 05 14 45.7 -1.2**
NWAO IAmb IAmb 05 15 13.9
comp=Z,23nm,1.2s
NWAO Narrogin (SRO) 23.19 194 P **P 05 14 49.3 +2.5**
comp=Z,4.0nm,0.7s,baz=8.4,slow=11,SNR=1.5
NWAO LR LR 05 25 28.2
comp=Z,153nm,19.6s,baz=16,slow=40
comp=Z,4.0nm,0.7s
CTA Charters Tower 23.68 117 P **P 05 14 54.1 +2.3**
comp=Z,16nm,1.0s,baz=284,slow=11,SNR=11
comp=Z,16nm,1.0s
CTAO Charters Tower 23.68 117 P **P 05 14 54.1 +2.3**
CTAO IAmb IAmb 05 14 55.2
comp=Z,27nm,1.1s
TGY Tagaytay City 24.54 353 LR LR 05 24 43.9
comp=Z,73nm,20.8s,baz=170,slow=37
BBOO Buckleboo 24.98 155 P **P 05 15 03.6 -0.1**
STKA Stephens Creek 26.96 145 P **P 05 15 20.7 -1.0**
STKA Stephens Creek 26.96 145 P **P 05 15 23.5 +1.8**
comp=Z,3.9nm,0.8s,baz=316,slow=8.8,SNR=7.0
STKA LR LR 05 26 28.8
comp=Z,154nm,20.9s,baz=352,slow=37
comp=Z,3.9nm,0.8s
JOW Kunigami 37.29 7 P **P 05 16 50.5 -1.7**
CM31 Chiang Mai Arr 37.75 319 P **P 05 16 56.5 +0.3**
CM31 IAmb IAmb 05 16 57.1
comp=Z,6.9nm,0.9s
CMAR Chiang Mai Arr 37.75 319 P **P 05 16 56.2 0.0**
CMAR Chiang Mai Arr 37.75 319 P **P 05 16 55.1 -1.1**
comp=Z,2.9nm,0.7s,baz=143,slow=6.7,SNR=21
CMAR PcP **PcP 05 19 14.1 +0.8**
comp=Z,0.9nm,0.3s,baz=163,slow=2.6,SNR=4.9
comp=Z,2.9nm,0.7s
CHTO Chiang Mai 38.01 320 P **P 05 16 57.6 -0.8**
NJ2 Nanjing 42.50 354 *eP* **P 05 17 36.8 +1.4**
NJ2 pP **sP 05 17 45.4 +5.7**
NJ2 sP pP 05 17 50.1 +12
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,230nm,3.5s
PZH PanZhiHua 42.51 330 P **P 05 17 38.8 +3.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,5.7s
XAN Xi'an 46.42 343 P **P 05 18 05.7 -1.2**
XAN pP sP 05 18 15.4 +4.2
XAN pmax pmax
comp=Z,8.0nm,0.9s
KSAR Wonju Array Be 47.77 4 P **P 05 18 16.0 -1.3**
KSRS Korea Array 47.79 4 P **P 05 18 15.7 -1.7**
comp=Z,0.4nm,0.3s,baz=186,slow=11,SNR=4.2
comp=Z,0.4nm,0.3s
MJAR Matsushiro Arr 48.65 15 P **P 05 18 22.9 -1.2**
comp=Z,0.4nm,0.3s,baz=194,slow=4.6,SNR=1.7
comp=Z,0.4nm,0.3s
LZH Lanzhou 49.94 339 *eP* **P 05 18 35.3 +1.1**
LZH pmax pmax
comp=Z,15nm,1.0s
TAPN Taplejung 51.32 318 *eP* **P 05 18 44.2 -0.7**
comp=Z,11nm,0.4s
TAPN Taplejung 51.32 318 *eP* **P 05 18 44.1 -0.8**
RAMN Ramite 51.80 317 *eP* **P 05 18 45.1 -3.3**
comp=Z,18nm,0.7s
HHC Hu-ho-hao-te 52.26 348 *eP* **P 05 18 54.2 +2.8**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.0s
JIRN Jiri 52.54 317 *eP* **P 05 18 52.5 -1.6**
comp=Z,12nm,0.7s
JIRN Jiri 52.54 317 *eP* **P 05 18 52.8 -1.3**
GUN Gumba 52.91 317 *eP* **P 05 18 55.1 -1.7**
comp=Z,28nm,0.8s
GUN Gumba 52.91 317 *eP* **P 05 18 55.0 -1.7**
PKI Pulchoki 53.01 316 *eP* **P 05 18 55.5 -2.0**
comp=Z,8.0nm,0.5s
PKIN Phulchoki 53.02 316 *eP* **P 05 18 55.4 -2.1**
comp=Z,5.1nm,0.2s
PKIN Phulchoki 53.02 316 *eP* **P 05 18 55.2 -2.3**
DANN Dangsing 54.62 316 *eP* **P 05 19 07.2 -2.0**
comp=Z,26nm,0.7s
DANN Dangsing 54.62 316 *eP* **P 05 19 07.3 -2.0**
USRK Ussuriysk Ar. 54.88 7 P **P 05 19 07.2 -3.2**
comp=Z,1.2nm,0.5s,baz=205,slow=8.1,SNR=1.9
comp=Z,1.2nm,0.5s
PYUN Piuthan 55.00 315 *eP* **P 05 19 09.4 -2.5**
comp=Z,24nm,1.0s
PYUN Piuthan 55.00 315 *eP* **P 05 19 09.7 -2.2**
URZ Urewera 55.01 130 LR LR 05 45 26.0
comp=Z,84nm,18.1s,baz=30,slow=39
MDJ Mudanjiang 55.04 5 P P 05 18 59.5 -12
MDJ Mudanjiang 55.04 5 P **P 05 19 11.2 -0.4**
MDJ pmax pmax
comp=Z,4.0nm,0.5s
MDJ pmax pmax
comp=Z,68nm,3.6s
MDJ pmax pmax
comp=Z,13nm,0.8s
MDJ pmax pmax
comp=Z,56nm,5.1s
KLR Kul'dur 59.81 6 LR LR 05 44 57.2
comp=Z,20nm,21.9s,baz=258,slow=36
SONM Songino Array 60.03 347 P **P 05 19 46.6 -0.3**
SONM IAmb IAmb 05 19 57.0
comp=Z,1.8nm,0.9s
SONM Songino Array 60.03 347 P **P 05 19 46.4 -0.5**
comp=Z,0.8nm,0.7s,baz=166,slow=7.7,SNR=4.9
comp=Z,0.8nm,0.7s
HEH HeiHe 60.51 3 *eP* P 05 19 57.4 +7.5
HEH pmax pmax
comp=Z,7.0nm,0.9s
HEH pmax pmax
comp=Z,81nm,4.9s
WMQ Urumqi 63.17 331 *eP* **P 05 20 10.2 +2.0**
WMQ pP sP 05 20 19.7 +7.1
WMQ pmax pmax
comp=Z,15nm,0.6s
KSH Kashi 66.61 321 P **P 05 20 31.4 +0.7**
KSH pmax pmax
comp=Z,11nm,0.8s
MK31 Makanchi Array 67.94 331 P **P 05 20 38.5 -0.4**
MKAR Makanchi Array 67.94 331 P **P 05 20 38.1 -0.8**
MKAR Makanchi Array 67.94 331 P **P 05 20 37.9 -1.0**
comp=Z,5.1nm,0.7s,baz=136,slow=7.3,SNR=26
comp=Z,5.1nm,0.7s
AAK Ala-Archa 69.39 323 P **P 05 20 47.7 -0.5**
AAK IAmb IAmb 05 20 49.0
comp=Z,3.7nm,0.8s
AAK Ala-Archa 69.39 323 P **P 05 20 47.3 -0.8**
comp=Z,3.3nm,0.7s,baz=72,slow=15,SNR=3.7
comp=Z,3.3nm,0.7s
MAW Mawson 69.56 201 LR LR 05 48 38.4
comp=Z,61nm,20.2s,baz=30,slow=34
H04N2 CROZET ISLANDS 70.08 225 T T 06 37 28.2
baz=83,slow=75,SNR=9.5
H04N3 CROZET ISLANDS 70.09 225 T T 06 37 26.5
baz=83,slow=75,SNR=6.3
H04N1 CROZET ISLANDS 70.10 225 T T 06 37 25.8
baz=83,slow=75,SNR=6.2
KKAR Karatay Array 72.04 322 P **P 05 21 02.6 -1.6**
ZAA0 Zalesovo Array 72.12 337 P **P 05 21 03.3 -1.1**
ZAA0 IAmb IAmb 05 21 03.6
comp=Z,4.6nm,0.6s
ZALV Zalesovo Beam 72.12 337 P **P 05 21 02.6 -1.7**
comp=Z,5.9nm,0.6s,baz=150,slow=4.9,SNR=14
comp=Z,5.9nm,0.6s
KURBB Kurchatov Arra 72.40 332 P **P 05 21 04.9 -1.1**
comp=Z,1.0nm,0.6s,baz=146,slow=5.1,SNR=12
comp=Z,1.0nm,0.6s
KURK Kurchatov 72.42 332 P **P 05 21 04.6 -1.6**
KURK IAmb IAmb 05 21 11.3
comp=Z,4.1nm,0.8s
BVAR Borovoye Array 77.82 330 P **P 05 21 36.1 -1.3**
comp=Z,0.6nm,0.5s,baz=132,slow=4.3,SNR=2.1
comp=Z,0.6nm,0.5s
QSPA South Pole Qui 79.57 180 P **P 05 21 48.1 +1.1**
comp=Z,1.9nm,1.0s,baz=281,slow=1.3,SNR=3.8
comp=Z,1.9nm,1.0s
ABKAR Akbulak array 81.47 324 P **P 05 21 55.4 -1.9**
AKTO Aktyubinsk 83.11 324 P **P 05 22 05.5 -0.4**
comp=Z,2.2nm,0.7s,baz=159,slow=2.3,SNR=7.3
comp=Z,2.2nm,0.7s
SNAA Sanae 90.86 195 P **P 05 22 44.0 +0.6**
SNAA IAmb IAmb 05 22 45.4
comp=Z,5.3nm,1.4s
SNAA Sanae 90.86 195 P **P 05 22 44.8 +1.4**
comp=Z,2.1nm,0.9s,baz=109,slow=2.5,SNR=8.3
comp=Z,2.1nm,0.9s
BELA Belgrano 2 91.01 184 P **P 05 22 44.9 +1.0**
BELA IAmb IAmb 05 22 45.9
comp=Z,3.9nm,0.9s
MMAI Mount Meron Ar 94.26 303 LR LR 06 10 59.1
comp=Z,18nm,18.5s,baz=131,slow=39
TORD Torodi Ar. Bea 123.35 279 PKP **PKiKP 05 28 39.0 +0.6**
comp=Z,0.9nm,0.7s,baz=57,slow=3.0,SNR=4.8
PDAR Pinedale Array 123.65 45 PKP **PKiKP 05 28 38.9 +0.3**
comp=Z,0.4nm,0.8s,baz=259,slow=1.8,SNR=2.9

IDC 09 05:16:36.5±2.5, 53°.60N×86°.84E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=23.1km s-min=14.5km az=75.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25 287**		I	I	05 25 00.0	
baz=104,slow=330,SNR=1.7							
ZALV	**Zalesovo Beam**	**1.25 287**		Pg	Pg	05 16 59.4	-1.0
1.2nm,0.3s,baz=104,slow=14,SNR=15							
ZALV				Lg	Lg	05 17 16.9	
1.8nm,0.3s,baz=110,slow=30,SNR=6.8							
KURBB	**Kurchatov Arra**	**5.92 243**		Pn	Pn	05 18 06.7	+1.4
baz=60,slow=14,SNR=3.3							
KURBB				Lg	Lg	05 19 45.4	
baz=53,slow=32,SNR=4.2							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**7.41 205**		Pn	Pn	05 18 26.9	+1.1
0.2nm,0.3s,baz=26,slow=13,SNR=5.5							
0.6nm,0.7s							

IDC 09 05:45:18.2±3.2, 54°.50N×87°.17E, h0km, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=26.7km s-min=21.4km az=32.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.48 249**		I	I	05 53 40.0	
baz=69,slow=328,SNR=3.7							
ZALV	**Zalesovo Beam**	**1.48 249**		Pg	Pn	05 45 44.0	-2.2
1.4nm,0.3s,baz=66,slow=16,SNR=9.8							
ZALV				Lg	Lg	05 46 05.8	
2.1nm,0.3s,baz=63,slow=16,SNR=6.0							
KURBB	**Kurchatov Arra**	**6.54 237**		Pn	Pn	05 46 56.5	+0.9
0.1nm,0.3s,baz=54,slow=14,SNR=8.1							
KURBB				Sn	Sn	05 48 10.1	-0.7
baz=210,slow=46,SNR=1.4							
KURBB				Lg	Lg	05 48 45.9	
baz=52,slow=30,SNR=4.1							
1.4nm,0.5s							
MKAR	**Makanchi Array**	**8.31 204**		Pn	Pn	05 47 20.9	+1.0
0.1nm,0.3s,baz=25,slow=13,SNR=2.0							
0.8nm,0.7s							

*SOF **09** 06:05:13.6, 41°.81N×22°.82E, h11km, MD2.8*
*SKO **09** 06:05:14.1, 41°.79N×22°.82E, h15km, ML2.2*
*BEO **09** 06:05:15.8±0.3, 41°.89N×22°.88E, h12km±4km, ML2.5/10*
*THE **09** 06:05:16.2, 41°.71N×22°.86E, h12km±1km, ML2.5/5, Error ellipse: s-maj=1.6km s-min=0.7km az=155.0*

ISC 09 06:05:14.4±0.9, 41°.81N±0°.02×22°.89E±0°.02, h12km±8km, n47, σ0°.74/72, 11C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.18**	**81**	⇑*i*Pg	**Pb**	**06 05 19.1**	**-0.6**
KKB				*i* Sg	**Sg**	**06 05 22.1**	**+0.8**
KKB	**Krupnik**	**0.18**	**81**	*i* Pg	**Pb**	**06 05 19.1**	**-0.6**
KNT	**Kendrikon**	**0.65**	**179**	P	**Pg**	**06 05 26.7**	**-0.3**
KNT				S	**Sg**	**06 05 34.9**	**-0.7**
572nm,0.2s							
KNT	**Kendrikon**	**0.65**	**179**	⇑*i*Pg	**Pg**	**06 05 26.8**	**-0.2**
KNT				*i* Sg	**Sg**	**06 05 35.8**	**+0.2**
MMB	**Musomishta**	**0.70**	**112**	⇑*i*Pg	**Pb**	**06 05 28.4**	**-0.1**
MMB				*i* Sg	**Sb**	**06 05 38.3**	**+0.1**
MMB	**Musomishta**	**0.70**	**112**	*i* Pg	**Pb**	**06 05 28.4**	**-0.1**
BOSS	**Bosilegrad**	**0.75**	**336**	*e*Pg	**Pg**	**06 05 28.8**	**-0.1**
BOSS				*e*Sg	**Sg**	**06 05 38.8**	**+0.1**
PLNA	**Plana**	**0.77**	**31**	*i* Pg	**Pb**	**06 05 29.5**	**-0.4**
NVR	**Nevrokopi**	**0.86**	**122**	P	**Pn**	**06 05 32.3**	**-0.1**
NVR				S	**Sn**	**06 05 44.1**	**-0.9**
438nm,0.2s							
SRS	**Serrai**	**0.87**	**142**	P	**Pg**	**06 05 31.1**	**-0.2**
SRS				S	**Sb**	**06 05 43.8**	**+0.6**
468nm,0.3s							
SRS	**Serrai**	**0.87**	**142**	*e*Pg	**Pg**	**06 05 31.2**	**-0.1**
SRS				*e*Sg	**Sn**	**06 05 45.8**	**+0.6**
SRS	**Serrai**	**0.87**	**142**	⇑*i*Pg	**Pg**	**06 05 31.2**	**-0.1**
SRS				*i* Sg	**Sb**	**06 05 43.7**	**+0.6**
PRVS	**Prvonek**	**0.92**	**319**	*e*Pg	**Pg**	**06 05 31.7**	**-0.5**
PRVS				*e*Sg	**Sg**	**06 05 44.1**	**-0.1**
GRG	**Griva**	**0.93**	**203**	P	**Pg**	**06 05 31.5**	**-0.8**
GRG				S	**Sg**	**06 05 44.1**	**-0.4**
235nm,0.5s							
GRG	**Griva**	**0.93**	**203**	*i* Pg	**Pg**	**06 05 31.7**	**-0.7**
GRG				*i* Sg	**Sg**	**06 05 44.2**	**-0.2**
SOH	**Sokhos**	**1.05**	**160**	P	**Pb**	**06 05 34.3**	**-0.2**
SOH	**Sokhos**	**1.05**	**160**	*i* Pg	**Pb**	**06 05 34.4**	**-0.2**
THE	**Thessaloniki**	**1.18**	**177**	P	**Pb**	**06 05 36.3**	**-0.4**
THE				S	**Sb**	**06 05 51.4**	**-0.5**
190nm,0.5s							
THE	**Thessaloniki**	**1.18**	**177**	⇓*i*Pg	**Pb**	**06 05 36.5**	**-0.2**
THE				*i* Sg	**Sb**	**06 05 51.6**	**-0.3**
PGB	**Panagyurishte**	**1.19**	**53**	P	**Pg**	**06 05 37.5**	**+0.3**
HORT	**Hortiatis**	**1.22**	**172**	P	**Pn**	**06 05 37.3**	**-0.1**
BARS	**Barje**	**1.28**	**322**	*e*Pg	**Pb**	**06 05 38.2**	**-0.2**
BARS				*e*Sg	**Sg**	**06 05 55.5**	**-0.2**
BARS	**Barje**	**1.28**	**322**	*i* Pg	**Pb**	**06 05 38.3**	**-0.2**
BARS				*i* Sg	**Sg**	**06 05 55.3**	**-0.4**
KOKK	**Kokkinochori,**	**1.30**	**140**	P	**Pb**	**06 05 38.8**	**0.0**
RZN	**Rozhen**	**1.39**	**94**	P	**Pg**	**06 05 40.8**	**-0.3**
PLD	**Plovdiv**	**1.43**	**76**	*e*Pg	**Pg**	**06 05 41.6**	**-0.2**
PLD				*e*Sg	**Sg**	**06 05 59.8**	**-0.5**
PLD	**Plovdiv**	**1.43**	**76**	*i* Pg	**Pg**	**06 05 41.5**	**-0.3**
PLD	**Plovdiv**	**1.43**	**76**	*e*P	**Pg**	**06 05 41.4**	**-0.3**
KAVA	**Kavala**	**1.47**	**123**	P	**Pg**	**06 05 42.0**	**-0.6**
ZAPS	**Zavoj**	**1.47**	**353**	*e*Pg	**Pb**	**06 05 41.9**	**+0.1**
ZAPS				*e*Sg	**Sb**	**06 06 00.1**	**-0.4**
FNA	**Florina**	**1.53**	**228**	*e*Pg	**Pg**	**06 05 43.4**	**-0.5**
FNA				*e*Sg	**Sg**	**06 06 06.9**	**+3.1**
FNA	**Florina**	**1.53**	**228**	*i* Pg	**Pb**	**06 05 42.4**	**-0.4**
MPEP	**Malo Peshtene**	**1.67**	**22**	P	**Pb**	**06 05 45.3**	**+0.3**
OHR	**Ohrid**	**1.72**	**247**	*i* Pn	**Pn**	**06 05 44.6**	**+0.3**
OHR				*i* Sn	**Sb**	**06 06 08.2**	**+0.6**
OHR				*e*Lg	Lg	06 06 11.5	
comp=N,18nm,0.6s							
SELS	**Selova**	**1.92**	**318**	*e*Pg	**Pb**	**06 05 49.3**	**-0.1**
SELS				*e*Sg	**Sb**	**06 06 14.1**	**+0.7**
BOVS	**Bovan**	**2.02**	**335**	⇑P	**Pn**	**06 05 49.3**	**+1.0**
BOVS				⇑S	**Sn**	**06 06 13.4**	**-0.1**
BOVS	**Bovan**	**2.02**	**335**	*e*Pg	**Pb**	**06 05 51.0**	**-0.1**
BOVS				*e*Sg	**Sg**	**06 06 17.5**	**-1.8**
ZAGS	**Zajecar**	**2.06**	**347**	*e*Pg	**Pn**	**06 05 49.2**	**+0.4**
ZAGS				*e*Sg	**Sg**	**06 06 18.6**	**-1.9**
PVL	**Pavlikeni**	**2.14**	**51**	P	**Pg**	**06 05 55.0**	**-0.4**
HERR	**Herculane**	**3.09**	**354**	⇑P	**Pn**	**06 06 03.0**	**0.0**
MDVR	**Moldovita**	**3.09**	**344**	⇓P	**Pn**	**06 06 03.3**	**+0.2**
GZR	**Gura Zlata**	**3.58**	**359**	⇑P	**Pn**	**06 06 10.6**	**+0.8**
GZR				⇓S	**Sn**	**06 06 52.1**	**0.0**
LOT	**Lotru**	**3.69**	**10**	⇑S	**Sn**	**06 06 54.4**	**-0.4**
ARR	**Arges**	**3.77**	**19**	⇓P	**Pn**	**06 06 13.7**	**+1.2**
BZS	**Buzias**	**3.91**	**347**	⇑P	**Pn**	**06 06 15.0**	**+0.6**
VOIR		**3.95**	**23**	⇑P	**Pn**	**06 06 17.3**	**+2.4**
SURR	**Surduc**	**3.98**	**352**	⇓P	**Pn**	**06 06 15.8**	**+0.6**

*SOF **09** 06:06:28.1, 41°.80N×22°.83E, h11km, MD2.8*
*SKO **09** 06:06:28.8, 41°.79N×22°.83E, h15km, ML2.1*
*BEO **09** 06:06:29.9±0.5, 41°.89N×22°.93E, h14km±2km, ML2.4/7*
*THE **09** 06:06:30.6, 41°.71N×22°.86E, h9km±4km, ML2.5/6, Error ellipse: s-maj=4.4km s-min=0.9km az=162.0*

ISC 09 06:06:28.7±0.9, 41°.79N±0°.02×22°.88E±0°.02, h15km±7km, n34, σ0°.65/58, 3C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.19**	**74**	⇓*i*Pg	**Pg**	**06 06 33.5**	**+0.2**
KKB				*i* Sg	**Sg**	**06 06 36.5**	**+0.1**
KKB	**Krupnik**	**0.19**	**74**	*i* Pg	**Pg**	**06 06 33.5**	**+0.2**
KNT	**Kendrikon**	**0.63**	**179**	P	**Pb**	**06 06 41.3**	**0.0**
KNT				S	**Sb**	**06 06 49.4**	**-0.5**
798nm,0.2s							
KNT	**Kendrikon**	**0.63**	**179**	*i* Pg	**Pb**	**06 06 41.3**	**0.0**
KNT				*i* Sg	**Sb**	**06 06 49.9**	**0.0**
MMB	**Musomishta**	**0.69**	**110**	⇑*i*Pg	**Pn**	**06 06 42.8**	**-1.2**
MMB				*i* Sg	**Sb**	**06 06 52.5**	**+0.6**
MMB	**Musomishta**	**0.69**	**110**	*i* Pg	**Pn**	**06 06 42.8**	**-1.2**
BOSS	**Bosilegrad**	**0.77**	**337**	*e*Pg	**Pg**	**06 06 43.2**	**-0.4**
BOSS				*e*Sg	**Sg**	**06 06 53.0**	**-0.8**
PLNA	**Plana**	**0.80**	**30**	Pg	**Pb**	**06 06 44.0**	**-0.3**
NVR	**Nevrokopi**	**0.86**	**121**	P	**Pn**	**06 06 46.7**	**+0.5**
NVR				S	**Sn**	**06 06 58.2**	**-0.3**
390nm,0.3s							
SRS	**Serrai**	**0.86**	**141**	P	**Pn**	**06 06 45.5**	**-0.7**
SRS				S	**Sn**	**06 06 58.1**	**-0.4**
262nm,0.2s							
SRS	**Serrai**	**0.86**	**141**	*e*Pg	**Pn**	**06 06 45.7**	**-0.5**
SRS				*e*Sg	**Sn**	**06 06 59.8**	**+1.3**
SRS	**Serrai**	**0.86**	**141**	⇓*i*Pg	**Pn**	**06 06 45.8**	**-0.5**
SRS				*i* Sg	**Sn**	**06 06 58.1**	**-0.4**
GRG	**Griva**	**0.91**	**204**	P	**Pg**	**06 06 45.5**	**-0.8**
GRG				S	**Sb**	**06 06 58.2**	**+0.2**
225nm,0.4s							
GRG	**Griva**	**0.91**	**204**	⇑*i*Pg	**Pb**	**06 06 46.1**	**0.0**
GRG				*i* Sg	**Sb**	**06 06 58.4**	**+0.4**
PRVS	**Prvonek**	**0.93**	**320**	*e*Pg	**Pg**	**06 06 46.2**	**-0.6**
PRVS				*e*Sg	**Sg**	**06 06 58.4**	**-0.7**
SOH	**Sokhos**	**1.03**	**160**	P	**Pn**	**06 06 48.7**	**+0.1**
SOH				S	**Sn**	**06 07 02.6**	**-0.2**
285nm,0.5s							
SOH	**Sokhos**	**1.03**	**160**	⇓*i*Pg	**Pn**	**06 06 49.0**	**+0.4**
SOH				*i* Sg	**Sn**	**06 07 02.6**	**-0.2**
THE	**Thessaloniki**	**1.16**	**177**	P	**Pn**	**06 06 51.2**	**+0.9**
THE				S	**Sn**	**06 07 06.1**	**+0.3**
262nm,0.5s							
THE	**Thessaloniki**	**1.16**	**177**	⇑*i*Pg	**Pn**	**06 06 51.2**	**+0.9**
THE				*i* Sg	**Sn**	**06 07 06.3**	**+0.5**
HORT	**Hortiatis**	**1.20**	**172**	P	**Pn**	**06 06 52.0**	**+1.0**
PGB	**Panagyurishte**	**1.20**	**53**	P	**Pn**	**06 06 51.8**	**+0.8**
KOKK	**Kokkinochori,**	**1.29**	**139**	P	**Pg**	**06 06 53.5**	**0.0**
BARS	**Barje**	**1.29**	**323**	*e*Pg	**Pg**	**06 06 53.2**	**-0.5**
BARS				*e*Sg	**Sb**	**06 07 09.4**	**+0.3**
BARS	**Barje**	**1.29**	**323**	*i* Pg	**Pg**	**06 06 53.1**	**-0.5**
BARS				*i* Sg	**Sb**	**06 07 09.4**	**+0.3**
RZN	**Rozhen**	**1.39**	**93**	P	**Pg**	**06 06 55.4**	**-0.2**
PLD	**Plovdiv**	**1.44**	**75**	*i* Pg	**Pg**	**06 06 56.6**	**+0.2**
PLD				*i* Sg	**Sg**	**06 07 15.3**	**+0.3**
PLD	**Plovdiv**	**1.44**	**75**	P	**Pg**	**06 06 56.1**	**-0.3**
ZAPS	**Zavoj**	**1.49**	**353**	*e*Pg	**Pb**	**06 06 56.3**	**+0.2**
ZAPS				*e*Sg	**Sn**	**06 07 14.8**	**+0.6**
FNA	**Florina**	**1.52**	**229**	*i* Pg	**Pg**	**06 06 57.3**	**-0.5**
FNA				*i* Sg	**Sg**	**06 07 17.4**	**-0.1**
MPEP	**Malo Peshtene**	**1.69**	**22**	P	**Pg**	**06 06 59.9**	**-1.3**
OHR	**Ohrid**	**1.71**	**247**	*i* Pn	**Pb**	**06 06 59.6**	**-0.2**
OHR				*i* Sn	**Sb**	**06 07 22.2**	**+1.2**
OHR				*e*Lg	Lg	06 07 27.4	
comp=E,24nm,0.8s							
OHR				*e*Lg	Lg	06 07 27.7	
comp=N,12nm,0.5s							
SELS	**Selova**	**1.93**	**318**	*e*Pg	**Pb**	**06 07 04.1**	**+0.5**
SELS				*e*Sg	**Sg**	**06 07 29.8**	**-1.1**
BOVS	**Bovan**	**2.04**	**335**	*e*Pg	**Pb**	**06 07 05.8**	**+0.4**
BOVS				*e*Sg	**Sn**	**06 07 29.2**	**+1.7**
PVL	**Pavlikeni**	**2.16**	**51**	P	**Pg**	**06 07 09.0**	**-1.1**

*NEIC **09** 06:13:31.9±1.9, 27°.83S±0°.06×70°.2W±0°.1, h97km±6km, mb4.2/7, ML4.1(GUC), Error ellipse: s-maj=14.8km s-min=7.3km az=111.0*
*IDC **09** 06:13:32.8±0.5, 27°.85S×69°.80W, h91km±3km, mb4.1/6, mbtmp4.2/11, MS2.9/7, Error ellipse: s-maj=19.8km s-min=9.0km az=83.0*
*SJA **09** 06:13:32.6±6.3, 27°.89S×70°.01W, h75km, ML4.1, MW4.1*
*GUC **09** 06:13:32.4±0.8, 27°.84S×70°.09W, h98km±3km, ML4.1*

ISC 09 06:13:31.9±0.4, 27°.82S±0°.03×70°.08W±0°.04, h94km±3km, n105, σ1°.50/145, mb4.2/10, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.27**	**329**	Pn	**Pn**	**06 13 46.0**	**+0.4**
GO03				Sn	**Sn**	**06 13 56.7**	**+0.8**
GO03	**Copiap**	**0.27**	**329**	⇓*i*P	**Pn**	**06 13 46.4**	**+0.7**
GO03				*e*S	**Sn**	**06 13 56.5**	**+0.6**
GO03	**Copiap**	**0.27**	**329**	*e*P	**Pn**	**06 13 46.0**	**+0.4**
GO03				*e*S	**Sn**	**06 13 57.0**	**+1.1**
GO03				IAML		06 13 57.1	
comp=Z,20μm,0.2s							
AC06	**Mina Casimiro**	**0.52**	**332**	Pn	**Pn**	**06 13 47.9**	**+0.6**
AC06				Sn	**Sn**	**06 13 59.6**	**+0.9**
AC06	**M

AC05	**El Transito**	**1.02**	**190**	*e*P		**Pn**	**06 13 52.2**	**0.0**
AC05				*e*S		**Sn**	**06 14 08.5**	**+0.9**
AC05				IAML			06 14 09.8	
	comp=Z,2μm,0.3s							
AC02	**Maricunga**	**1.30**	**41**	Pn		**Pn**	**06 13 57.0**	**+1.2**
AC02				Sn		**Sn**	**06 14 15.1**	**+1.3**
AC02	**Maricunga**	**1.30**	**41** ⇑	*i*P		**Pn**	**06 13 56.9**	**+1.2**
AC02				*e*S		**Sn**	**06 14 15.1**	**+1.3**
AC02				IAML			06 14 16.2	
	comp=E,11μm,0.5s							
AC02	**Maricunga**	**1.30**	**41**	*i*P		**Pn**	**06 13 57.0**	**+1.2**
AC02				*e*S		**Sn**	**06 14 15.2**	**+1.4**
AC02				IAML			06 14 17.1	
	comp=Z,4μm,0.3s							
LCO	**Las Campanas**	**1.30**	**205** ⇑	*i*P		**Pn**	**06 13 56.3**	**+0.6**
LCO				*e*S		**Sn**	**06 14 13.8**	**+0.2**
LCO	**Las Campanas**	**1.30**	**205**	*e*P		**Pn**	**06 13 56.0**	**+0.3**
LCO				*e*S		**Sn**	**06 14 14.5**	**+0.9**
AC01	**Pan de Azucar**	**1.73**	**344**			**Pn**	**06 14 02.2**	**+1.4**
AC01	**Pan de Azucar**	**1.73**	**344**	*i*P		**Pn**	**06 14 02.2**	**+1.4**
AC01				*e*S		**Sn**	**06 14 23.8**	**+1.2**
AC01				IAML			06 14 26.7	
	comp=E,2μm,0.3s							
AC01	**Pan de Azucar**	**1.73**	**344**	*i*P		**Pn**	**06 14 02.1**	**+1.4**
AC01				*e*S		**Sn**	**06 14 22.1**	**-0.6**
AC01				IAML			06 14 26.9	
	comp=Z,998nm,0.4s							
VCA	**Vinchina**	**1.89**	**119**	*i*P		**Pn**	**06 14 05.3**	**+2.4**
VCA				*e*S		**Sn**	**06 14 30.5**	**+4.0**
VCA				IAML			06 14 31.7	
	comp=Z,1μm,0.4s							
CO01	**Juntas del Tor**	**2.15**	**180**			**Pn**	**06 14 07.7**	**+1.3**
CO01	**Juntas del Tor**	**2.15**	**180**	*i*P		**Pn**	**06 14 07.7**	**+1.3**
CO01				*e*S		**Sn**	**06 14 33.8**	**+1.1**
CO01				IAML			06 14 37.2	
	comp=E,783nm,0.5s							
CO01	**Juntas del Tor**	**2.15**	**180**	*e*P		**Pn**	**06 14 07.2**	**+0.8**
CO01				*e*S		**Sn**	**06 14 33.8**	**+1.1**
CO01				IAML			06 14 36.1	
	comp=Z,666nm,0.5s							
TINO	**Tinogasta**	**2.23**	**97**	*e*P		**Pn**	**06 14 08.9**	**+1.5**
CO05	**La Serena**	**2.32**	**206**			**Pn**	**06 14 08.0**	**-0.4**
CO05	**La Serena**	**2.32**	**206**	*i*P		**Pn**	**06 14 09.5**	**+1.1**
CO05				IAML			06 14 38.5	
	comp=E,3μm,0.3s							
AROD	**Rodeo**	**2.40**	**167**	*e*P		**Pn**	**06 14 11.8**	**+2.0**
AROD				*e*S		**Sn**	**06 14 41.3**	**+2.6**
GO04	**Tololo Observa**	**2.43**	**195**			**Pn**	**06 14 10.0**	**0.0**
GO04	**Tololo Observa**	**2.43**	**195**	*i*P		**Pn**	**06 14 10.0**	**0.0**
GO04	**Tololo Observa**	**2.43**	**195**	*e*P		**Pn**	**06 14 10.3**	**+0.2**
GO04				*e*S		**Sn**	**06 14 39.5**	**+0.3**
GO04				IAML			06 14 42.1	
	comp=Z,2μm,0.4s							
GO02	**Mina Guanaco**	**2.69**	**10**	Pn		**Pn**	**06 14 14.7**	**+1.1**
GO02	**Mina Guanaco**	**2.69**	**10**	*i*P		**Pn**	**06 14 15.5**	**+1.9**
GO02				*e*S		**Sn**	**06 14 47.5**	**+2.0**
GO02				IAML			06 14 57.7	
	comp=N,1μm,0.5s							
GO02	**Mina Guanaco**	**2.69**	**10**	*i*P		**Pn**	**06 14 14.6**	**+1.1**
GO02				*e*S		**Sn**	**06 14 38.3**	**-7.2**
GO02				IAML			06 15 09.8	
	comp=Z,877nm,0.4s							
ACCO	**Cerro Coronel**	**2.90**	**162**	*e*P		**Pn**	**06 14 18.2**	**+1.8**
ACCO				*e*S		Sn	06 14 40.8	-10
ACCO				*e*S			06 14 47.8	
CO03	**El Pedregal**	**3.05**	**190**	Pn		**Pn**	**06 14 18.4**	**+0.1**
CO03	**El Pedregal**	**3.05**	**190**	*i*P		**Pn**	**06 14 19.4**	**+1.1**
CO03	**El Pedregal**	**3.05**	**190**	*e*P		**Pn**	**06 14 18.4**	**+0.1**
CO03				*e*S		Sn	06 14 38.8	-15
CO03				IAML			06 14 49.0	
	comp=Z,359nm,0.7s							
CO06	**Fray Jorge**	**3.15**	**205**			**Pn**	**06 14 18.2**	**-1.2**
CO06	**Fray Jorge**	**3.15**	**205**	*i*P		**Pn**	**06 14 20.8**	**+1.3**
CO06				IAML			06 15 13.2	
	comp=E,421nm,0.5s							
PB14	**IPOC Station P**	**3.20**	**355**	Pn		**Pn**	**06 14 20.5**	**+0.1**
PB14	**IPOC Station P**	**3.20**	**355**	*i*P		**Pn**	**06 14 22.1**	**+1.6**
PB14				IAML			06 15 11.1	
	comp=E,267nm,0.6s							
PB14	**IPOC Station P**	**3.20**	**355**	*e*P		**Pn**	**06 14 20.6**	**+0.1**
PB14				*e*S		Sn	06 14 40.8	-17
PB14				*e*S			06 14 57.9	
PB14				IAML			06 15 23.4	
	comp=Z,387nm,0.5s							
DOCA	**Reserva Natura**	**3.24**	**165**	*e*P		**Pn**	**06 14 21.8**	**+0.8**
DOCA				*e*P			06 14 22.6	
DOCA				*e*S		Sn	06 14 47.8	-11
DOCA				IAML			06 15 06.3	
	comp=Z,661nm,0.6s							
CO02	**Combarbal**	**3.46**	**193**			**Pn**	**06 14 23.1**	**-0.8**
CO02	**Combarbal**	**3.46**	**193**	*i*P		**Pn**	**06 14 25.2**	**+1.4**
CO02	**Combarbal**	**3.46**	**193**	*e*P		**Pn**	**06 14 23.0**	**-0.8**
CO02				*e*S		Sn	06 14 49.2	-15
CO02				IAML			06 15 26.0	
	comp=Z,572nm,0.5s							
RTLL	**Cerro Villicun**	**3.76**	**159**	*e*P		**Pn**	**06 14 28.1**	**+0.2**
RTLL				*e*P			06 14 28.8	
CYA	**Choya**	**3.83**	**100**	*e*P		**Pn**	**06 14 28.8**	**+0.2**
CYA				*e*S		**Sn**	**06 15 11.5**	**-1.1**
CYA				IAML			06 15 11.7	
	comp=Z,181nm,0.7s							
ZON	**Zonda**	**3.91**	**162**	Pn		**Pn**	**06 14 30.6**	**+0.9**
ZON	**Zonda**	**3.91**	**162**	*e*P		**Pn**	**06 14 30.0**	**+0.3**
ZON				*e*S		**Sn**	**06 15 12.3**	**-2.2**
RTLS	**Leoncito**	**4.02**	**170**	*e*P		**Pn**	**06 14 32.7**	**+1.2**
RTLS				*e*S		Sn	06 14 59.8	-18
RTLS				IAML			06 15 26.1	
	comp=Z,382nm,0.6s							
APLL	**PUNTA DE LOS L**	**4.03**	**130**	*e*P		**Pn**	**06 14 31.9**	**+0.5**
APLL				*e*S		**Sn**	**06 15 17.0**	**-0.6**
CFA	**Coronel Fontan**	**4.10**	**157**	P		**Pn**	**06 14 32.8**	**+0.5**
	comp=Z,45nm,0.3s,baz=338,slow=13,SNR=552							
CFA				S		**Sn**	**06 15 17.0**	**-2.1**
	comp=Z,104nm,0.4s,baz=97,slow=22,SNR=10.0							
CFA	**Coronel Fontan**	**4.10**	**157**	*e*P		**Pn**	**06 14 32.8**	**+0.5**
CFA				*e*S		**Sn**	**06 15 12.3**	**-6.8**
CFA				*e*S			06 15 20.7	
ACHE	**Chepes**	**4.46**	**139**	*e*P		**Pn**	**06 14 37.9**	**+0.5**
ACHE				*e*S		**Sn**	**06 15 28.0**	**-0.2**
PB15	**IPOC Station P**	**4.63**	**7**	Pn		**Pn**	**06 14 39.7**	**0.0**
VA03	**San Esteban**	**4.94**	**185**			**Pn**	**06 14 43.6**	**-0.2**
PB06	**IPOC Station P**	**5.12**	**5**	Pn		**Pn**	**06 14 45.0**	**-1.2**
SLA	**San Lorenzo**	**5.14**	**54**	*e*P		**Pn**	**06 14 48.9**	**+2.3**
AF01	**San Pedro de A**	**5.14**	**20**	Pn		**Pn**	**06 14 47.1**	**+0.3**
LVC	**Limon Verde**	**5.30**	**12**	P		**Pn**	**06 14 48.9**	**-0.1**
	comp=Z,8.2nm,0.3s,baz=160,slow=8.5,SNR=16							
LVC				S		**Sn**	**06 15 47.6**	**-1.2**
	comp=Z,45nm,0.3s,baz=204,slow=9.0,SNR=3.9							
PEL	**Peldehue**	**5.33**	**185**			**Pn**	**06 14 48.2**	**-0.8**
PB04	**IPOC Station P**	**5.46**	**359**	Pn		**Pn**	**06 14 49.1**	**-2.0**
MT02	**Curacav**	**5.50**	**189**			**Pn**	**06 14 49.2**	**-2.0**
MT05	**Renca**	**5.58**	**186**	Pn		**Pn**	**06 14 51.7**	**-0.8**
MT03	**Universidad Ad**	**5.67**	**184**			**Pn**	**06 14 52.8**	**-0.8**
MT13	**San Alfonso**	**5.91**	**182**	Pn		**Pn**	**06 14 56.4**	**-0.5**
VA05	**Santo Domingo**	**5.96**	**192**	Pn		**Pn**	**06 14 55.0**	**-2.6**
MT09	**Talagante**	**5.99**	**187**			**Pn**	**06 14 55.8**	**-2.2**
LMEL	**Las Melosas**	**6.01**	**181**			**Pn**	**06 14 57.8**	**-0.5**
PB09	**IPOC Station P**	**6.05**	**7**	Pn		**Pn**	**06 14 58.8**	**-0.2**
PB07	**IPOC Station P**	**6.07**	**2**	Pn		**Pn**	**06 14 57.0**	**-2.3**
PB02	**IPOC Station P**	**6.48**	**2**	Pn		**Pn**	**06 15 02.4**	**-2.4**
PB01	**IPOC Station P**	**6.77**	**5**			**Pn**	**06 15 06.5**	**-2.2**
PATCX	**Punta Patache**	**6.97**	**359**	Pn		**Pn**	**06 15 09.7**	**-1.8**
BO02	**Sierra Bellavi**	**6.97**	**185**			**Pn**	**06 15 10.1**	**-1.3**
TA01	**Diego Aracena**	**7.22**	**359**	Pn		**Pn**	**06 15 13.1**	**-1.7**
PB16	**IPOC Station P**	**9.46**	**3**	Pn		**Pn**	**06 15 44.9**	**-0.9**
CPUP	**Villa Florida**	**11.46**	**85**	P		**Pn**	**06 16 09.9**	**-2.5**
	comp=Z,1.9nm,0.8s,baz=269,slow=6.6,SNR=2.9							
CPUP				LR		LR	06 20 35.1	
	comp=Z,69nm,20.5s,baz=198,slow=38							
PLCA	**Paso Flores**	**12.88**	**182**	Pn		**Pn**	**06 16 30.4**	**-1.0**
PLCA	**Paso Flores**	**12.88**	**182**	P		**Pn**	**06 16 30.7**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=4.4,slow=13,SNR=1.6							
SIV	**San Ignacio**	**14.43**	**37**	P		**Pn**	**06 16 50.0**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=242,slow=9.4,SNR=5.9							
SAML	**Samuel**	**19.87**	**20**	P		**P**	**06 17 55.5**	**-0.1**
BDFB	**Brasilia**	**23.77**	**64**	P		**P**	**06 18 35.9**	**-0.1**
BDFB				IAmb		IAmb	06 18 54.1	
	comp=Z,13nm,1.4s							
BDFB	**Brasilia**	**23.77**	**64**	P		**P**	**06 18 35.1**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=228,slow=7.7,SNR=6.5							
	comp=Z,2.0nm,0.4s							
BELA	**Belgrano 2**	**52.68**	**171**	P		**P**	**06 22 37.4**	**+1.2**
BELA				IAmb		IAmb	06 22 38.0	
	comp=Z,7.8nm,1.5s							
SNAA	**Sanae**	**56.71**	**160**	P		**P**	**06 23 05.8**	**+0.4**
SNAA	**Sanae**	**56.71**	**160** ⇓	*i*P		**P**	**06 23 05.8**	**+0.4**
	comp=Z,80nm,0.5s							
SNAA	**Sanae**	**56.71**	**160**	P		**P**	**06 23 05.8**	**+0.4**
	comp=Z,3.3nm,0.5s,baz=270,slow=8.6,SNR=30							
	comp=Z,3.3nm,0.5s							
TROLL	**Troll, Antarti**	**58.43**	**160** ⇓	*i*P		**P**	**06 23 18.0**	**+0.5**
	comp=Z,131nm,0.5s							
QSPA	**South Pole Qui**	**62.40**	**180**	P		**P**	**06 23 45.9**	**+1.3**
	comp=Z,5.0nm,0.7s,baz=331,slow=2.1,SNR=46							
QSPA				pP		**pP**	**06 24 09.0**	**0.0**
	comp=Z,4.7nm,1.2s,baz=290,slow=4.9,SNR=2.4							
	comp=Z,5.0nm,0.7s							
TXAR	**Lajitas Array**	**65.29**	**328**	P		**P**	**06 24 06.1**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=144,slow=7.8,SNR=2.1							
TXAR				pP		**pP**	**06 24 29.4**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=150,slow=7.5,SNR=3.6							
TXAR				sP		**sP**	**06 24 38.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=157,slow=6.8,SNR=3.7							
DBIC	**Dimbokro**	**71.63**	**72**	P		**P**	**06 24 43.8**	**+0.1**
MAW	**Mawson**	**78.60**	**163**	P		**P**	**06 25 24.1**	**+1.2**
MAW				IAmb		IAmb	06 25 24.6	
	comp=Z,2.2nm,1.1s							
MAW	**Mawson**	**78.60**	**163**	P		**P**	**06 25 23.7**	**+0.9**
	comp=Z,3.1nm,0.5s,baz=209,slow=7.4,SNR=7.5							
MAW				pP		**pP**	**06 25 45.4**	**-2.5**
	comp=Z,1.9nm,0.6s,baz=259,slow=10,SNR=1.5							
	comp=Z,3.1nm,0.5s							
PDAR	**Pinedale Array**	**79.09**	**332**	P		**P**	**06 25 28.2**	**+2.2**
	comp=Z,0.1nm,0.5s,baz=138,slow=8.4,SNR=1.5							
PDAR				pP		**pP**	**06 25 52.6**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=120,slow=5.6,SNR=2.9							
TOA0	**Torodi Ar. Sit**	**80.51**	**70**	P		**P**	**06 25 34.6**	**+0.5**
TOA0				IAmb		IAmb	06 25 34.9	
	comp=Z,3.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**80.51**	**70**	P		**P**	**06 25 34.7**	**+0.6**
TORD				IAmb		IAmb	06 25 34.9	
	comp=Z,2.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**80.51**	**70**	P		**P**	**06 25 34.4**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=275,slow=6.0,SNR=21							
TORD				pP		**pP**	**06 25 57.7**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=277,slow=6.0,SNR=2.3							
TORD				sP		**sP**	**06 26 09.1**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=269,slow=3.9,SNR=6.6							
	comp=Z,2.4nm,0.6s							
BOSA	**Boshof**	**81.44**	**118**	P		**P**	**06 25 39.2**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=248,slow=2.0,SNR=3.1							
	comp=Z,2.5nm,0.7s							
ASAR	**Alice Springs**	**123.82**	**207**	PKP		**PKiKP**	**06 32 19.6**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=95,slow=1.4,SNR=5.2							
WRA	**Warramunga Arr**	**126.96**	**209**	PKP		**PKiKP**	**06 32 26.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=160,slow=1.6,SNR=9.7							
WRA				pPKP		**pPKPdf**	**06 32 50.4**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=164,slow=1.5,SNR=4.2							
KURBB	**Kurchatov Arra**	**147.09**	**38**	PKPbc		**PKPab**	**06 33 04.8**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=303,slow=3.1,SNR=6.7							
ZALV	**Zalesovo Beam**	**148.06**	**28**	PKPbc		**PKiKP**	**06 33 07.3**	**-0.5**
	comp=Z,2.9nm,0.5s,baz=287,slow=3.8,SNR=11							
ZALV				pPKPbc		**pPKPbc**	**06 33 32.5**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=296,slow=3.7,SNR=5.3							
MKAR	**Makanchi Array**	**151.22**	**41**	PKPbc		**PKiKP**	**06 33 15.2**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=269,slow=2.3,SNR=5.4							
MKAR				pPKPbc		**pPKPbc**	**06 33 40.8**	**0.0**
	comp=Z,1.0nm,0.5s,baz=331,slow=1.5,SNR=3.6							
PZH	**PanZhiHua**	**172.60**	**98**	PKP		**PKPdf**	**06 33 28.5**	**-2.0**

IDC 09 06:14:24.7±3.3, 54°27N×86°82E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=27.9km s-min=18.3km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**256**	I	I	06 22 42.9	
	baz=74,slow=327,SNR=6.9						
ZALV	**Zalesovo Beam**	**1.22**	**256**	Pg	Pg	06 14 47.1	-1.0
	2.4nm,0.3s,baz=74,slow=17,SNR=21						
ZALV				Lg	Lg	06 15 03.9	
	1.6nm,0.3s,baz=77,slow=33,SNR=5.9						
ZALV				Rg	Rg	06 15 19.6	
	1.4nm,0.3s,baz=73,slow=36,SNR=1.8						
KURBB	**Kurchatov Arra**	**6.25**	**238**	Pn	Pn	06 15 59.2	+1.2
	0.1nm,0.3s,baz=52,slow=13,SNR=5.4						
KURBB				Lg	Lg	06 17 45.3	
	baz=57,slow=32,SNR=2.2						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**8.02**	**203**	Pn	Pn	06 16 23.3	+0.9
	0.1nm,0.3s,baz=20,slow=16,SNR=1.4						
	0.2nm,0.4s						

*IDC **09** 06:27:00.3±2.3, 42°01S×90°01W, h0km, mb3.7/4, mbtmp3.8/5, ML3.2/1, MS4.3/26, Error ellipse: s-maj=104.5km s-min=39.1km az=44.0*
*GCMT **09** 06:27:08.0±0.2, 41°29S±0°01×89°25W±0°02, h14km±1km, MW5.1/113, Moment Tensor Solution. s49,c63; s113,c174; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.47±.12; $M_{\theta\theta}$1.17±.12; $M_{\phi\phi}$-0.69±.11; $M_{r\theta}$-1.58±.28; $M_{\theta\phi}$-4.53±.11; $M_{\phi r}$0.66±.22; Best double couple: $M_0$4.89100×10^{16} NP1:ϕ_s264.00000°, δ84.00000°, λ163.00000°. NP2:ϕ_s355.00000°, δ73.00000°, λ6.00000°. Principal axes: T 5.3290, Plg16.0000°, Azm218.0000°; N -0.8750, Plg72.0000°, Azm65.0000°; P -4.4520, Plg7.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 09 06:27:02.2±1.8, 41°9S±0°4×89°9W±0°2, h10km, n40, σ1§34/5, mb3.6/4, MS4.3/30, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**11.83**	**50**	T	T	06 41 03.5	
	baz=223,slow=73						
H03S1	**Juan Fernandez**	**11.84**	**51**	T	T	06 41 04.7	
	baz=223,slow=73						
H03S3	**Juan Fernandez**	**11.85**	**51**	T	T	06 41 02.2	
	baz=223,slow=73						
H03N3	**Juan Fernandez**	**12.11**	**49**	T	T	06 41 23.2	
	baz=224,slow=71						
H03N2	**Juan Fernandez**	**12.12**	**49**	T	T	06 41 21.3	
	baz=224,slow=71						
H03N1	**Juan Fernandez**	**12.13**	**49**	T	T	06 41 20.7	
	baz=224,slow=71						
PLCA	**Paso Flores**	**14.58**	**92**	Pn	**Pn**	**06 30 28.5**	**0.0**
	baz=279,slow=12,SNR=3.3						
	4.4nm,1.2s						
CFA	**Coronel Fontan**	**20.12**	**66**	LR	LR	06 37 23.8	
	comp=Z,1μm,20.5s,baz=235,slow=31						
LVC	**Limon Verde**	**26.06**	**49**	LR	LR	06 39 59.6	
	comp=Z,826nm,19.4s,baz=223,slow=30						
PMSA	**Palmer Station**	**27.21**	**156**	LR	LR	06 40 48.7	
	comp=Z,396nm,19.6s,baz=310,slow=30						
CPUP	**Villa Florida**	**30.89**	**70**	LR	LR	06 44 29.3	
	comp=Z,821nm,19.0s,baz=241,slow=34						
NNA	**Nana**	**31.93**	**25**	LR	LR	06 42 31.1	
	comp=Z,367nm,20.2s,baz=200,slow=29						
SIV	**San Ignacio**	**35.80**	**52**	LR	LR	06 46 43.5	
	comp=Z,759nm,21.5s,baz=279,slow=33						
ATAH	**Atahualpa**	**36.12**	**20**	LR	LR	06 44 53.1	
	comp=Z,976nm,20.6s,baz=215,slow=30						
BDFB	**Brasilia**	**44.46**	**67**	LR	LR	06 52 45.3	
	comp=Z,775nm,19.8s,baz=219,slow=35						
QSPA	**South Pole Qui**	**48.30**	**180**	LR	LR	06 51 59.9	
	comp=Z,102nm,21.2s,baz=132,slow=31						
ROSC	**El Rosal**	**48.66**	**21**	LR	LR	06 52 59.7	
	comp=Z,620nm,21.9s,baz=199,slow=32						
SNAA	**Sanae**	**49.93**	**156**	LR	LR	06 53 40.3	
	comp=Z,158nm,19.8s,baz=206,slow=32						
TBI	**Tubuai**	**52.44**	**271**	*e*LR	LR	06 51 16.1	
	comp=Z,5μm,24.8s						
TBI				*e*LR	LR	06 51 23.9	
	comp=Z,2μm,27.5s						
SDV	**Santo Domingo**	**53.56**	**24**	LR	LR	06 56 26.2	
	comp=Z,473nm,21.5s,baz=189,slow=33						
TAOE	**Nuku Hiva Isla**	**55.03**	**292**	*e*LR	LR	06 52 28.7	
	comp=Z,409nm,26.6s						
PPT2	**Papeete2**	**56.01**	**277**	*e*S	S	06 44 13.8	-16
	82nm,25.0s						
PPT2				*e*LR	LR	06 52 59.1	
	comp=Z,298nm,25.8s						
PPT2				*e*LR	LR	06 53 02.4	
	comp=Z,227nm,28.8s						
PCRV	**Puerto La Cruz**	**56.80**	**30**	LR	LR	06 59 59.7	
	comp=Z,469nm,18.2s,slow=35						
MDP	**Montagnes des**	**57.80**	**45**	LR	LR	06 59 01.4	
	comp=Z,396nm,21.3s,baz=176,slow=33						
RCBR	**Riachuelo**	**59.75**	**69**	LR	LR	07 01 55.1	
	comp=Z,345nm,18.2s,baz=232,slow=35						
SJG	**San Juan**	**63.64**	**25**	LR	LR	07 03 17.5	
	comp=Z,197nm,19.1s,baz=188,slow=34						
MAW	**Mawson**	**68.86**	**169**	LR	LR	07 07 16.0	
	comp=Z,158nm,19.4s,baz=204,slow=35						
TXAR	**Lajitas Array**	**72.04**	**347**	P	**P**	**06 38 27.4**	**+1.1**
	0.7nm,0.9s,baz=170,slow=7.3,SNR=6.1						
	0.7nm,0.9s						
TKL	**Tuckaleechee C**	**77.42**	**5**	LR	LR	07 06 39.7	
	comp=Z,172nm,21.9s,baz=188,slow=31						
PFO	**Pinyon Flats O**	**79.04**	**338**	LR	LR	07 06 36.1	
	comp=Z,64nm,19.4s,baz=199,slow=30						
SUR	**Sutherland**	**82.43**	**127**	LR	LR	07 10 33.1	
	comp=Z,108nm,18.8s,baz=176,slow=32						
NVAR	**Mina Array Bea**	**84.07**	**338**	P	**P**	**06 39 32.7**	**-0.4**
	0.1nm,0.3s,baz=162,slow=6.2,SNR=1.2						
	0.1nm,0.3s						
DZM	**Mont Dzumac**	**85.12**	**245**	*e*LR	LR	07 06 40.3	
	comp=Z,381nm,28.7s						
PDAR	**Pinedale Array**	**86.16**	**346**	P	**P**	**06 39 42.0**	**-1.5**
	0.2nm,0.7s,baz=157,slow=7.8,SNR=2.3						
	0.2nm,0.7s						
SADO	**Sadowa**	**86.85**	**8**	LR	LR	07 12 51.8	
	comp=Z,105nm,19.6s,baz=152,slow=32						
BOSA	**Boshof**	**87.80**	**127**	P	**P**	**06 39 52.1**	**+0.2**
	2.6nm,0.9s,baz=243,slow=4.5,SNR=1.7						
BOSA				LR	LR	07 13 18.0	
	comp=Z,106nm,18.9s,baz=190,slow=32						
	2.6nm,0.9s						
TSUM	**Tsumeb**	**89.66**	**116**	LR	LR	07 20 52.6	
	comp=Z,58nm,18.1s,baz=146,slow=36						
KOWA	**Kowa**	**96.52**	**76**	LR	LR	07 20 44.1	
	comp=Z,154nm,21.9s,baz=210,slow=33						
SCHQ	**Schefferville**	**98.38**	**13**	LR	LR	07 22 30.8	
	comp=Z,64nm,19.9s,baz=270,slow=34						
TORD	**Torodi Ar. Bea**	**99.81**	**81**	LR	LR	07 21 25.9	
	comp=Z,75nm,19.9s,baz=216,slow=33						

*ANF **09** 06:39:47.2±0.1, 34°03N×117°24W, h19km±1km, ML2.7/24, Error ellipse: s-maj=1.0km s-min=0.9km az=53.0*
*NEIC **09** 06:39:47.6±0.7, 34°04N±0°01×117°23W±0°01, h20km±1km, Error ellipse: s-maj=2.2km s-min=1.2km az=219.0*
*PAS **09** 06:39:48.2±0.9, 34°041N±0°010×117°24W±0°01, h18km±1km, ML3.0/229, ML2.9/20(NEIC), Error ellipse: s-maj=1.5km s-min=1.4km az=53.0*

ISC 09 06:39:47.7±0.9, 34°03N±0°01×117°24W±0°01, h19km±2km, n93, σ0§42/155, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFSC	**Central Fire S**	**0.08**	**334**		**Pg**	**06 39 51.6**	**+0.1**
CLTC	**Calectric**	**0.09**	**313**		**Pg**	**06 39 51.9**	**+0.4**
HLNC	**Highland**	**0.09**	**12**		**Pg**	**06 39 51.4**	**-0.1**
RSBC	**Riverside Bore**	**0.09**	**230**		**Pg**	**06 39 51.8**	**+0.2**
PEC	**Perris**	**0.16**	**155**		**Pg**	**06 39 52.5**	**+0.2**
PEC					**Sg**	**06 39 55.7**	**+0.3**
FON	**Fontana**	**0.18**	**292**		**Pg**	**06 39 52.6**	**0.0**
FON					**Sg**	**06 39 55.9**	**0.0**
BBSC	**Beaumont Base**	**0.24**	**117**		**Pg**	**06 39 53.8**	**+0.3**
BBSC					**Sg**	**06 39 58.0**	**+0.5**
CRNC	**Corona**	**0.31**	**240**		**Pg**	**06 39 54.6**	**+0.1**
CRNC					**Sb**	**06 39 59.4**	**+0.2**
BBRC	**Big Bear Solar**	**0.35**	**49**		**Pg**	**06 39 55.2**	**-0.2**
BBRC					**Sg**	**06 40 00.3**	**-0.3**
BBRC	**Big Bear Solar**	**0.35**	**49**	P	**Pg**	**06 39 55.2**	**-0.2**
	baz=229,SNR=92						
BBRC				S	**Sg**	**06 40 00.3**	**-0.3**
	baz=229						
CHNC	**Chino**	**0.37**	**265**	

GTM					Sb	06 40 12.1	-0.8
PASC	Pasadena Art C	0.80	280		Pb	06 40 02.3	-0.6
PASC					Sb	06 40 13.1	-0.2
PASC	Pasadena Art C	0.80	280	IAML		06 40 15.0	
	comp=N,476nm,0.6s						
SBB	Saddle Back Bu	0.81	324		Pb	06 40 02.8	-0.5
SBB					Sb	06 40 13.6	-0.3
PMD	Palm Desert	0.81	118	Pg	Pb	06 40 02.7	-0.5
PMD				IAML		06 40 14.6	
	comp=E,504nm,0.2s						
PMD				IAML		06 40 14.9	
	comp=N,251nm,0.5s						
PMD	Palm Desert	0.81	118		Sb	06 40 13.7	-0.1
LRRC	Littlerock Res	0.82	307		Pb	06 40 03.0	-0.2
LRRC					Sb	06 40 14.0	+0.2
WTT2	Watts, South G	0.85	265		Sn	06 40 17.4	+1.0
RRX	Edison Barstow	0.86	13		Pb	06 40 04.2	+0.1
RRX					Sb	06 40 15.6	+0.3
RRX	Edison Barstow	0.86	13	P	Pb	06 40 04.1	+0.1
	baz=193						
RRX				S	Sg	06 40 15.9	-0.2
	baz=193						
USC	University of	0.87	269		Sn	06 40 16.9	0.0
HYS	Haystack Butte	0.87	342		Pb	06 40 04.1	-0.1
HYS					Sb	06 40 15.4	-0.1
GORC	Green Oak Ranc	0.88	179		Pb	06 40 03.7	-0.6
GORC					Sb	06 40 15.1	-0.4
GR2C	Griffith Obs.	0.88	276		Pb	06 40 04.1	-0.3
GR2C					Sb	06 40 15.9	+0.1
CJV	Casa Juvan	0.90	304		Pb	06 40 04.3	-0.4
CJV					Sb	06 40 16.3	-0.1
DECC	Green Verdugo	0.93	284	P	Pb	06 40 05.0	-0.3
	baz=103,SNR=8.1						
DECC				S	Sb	06 40 17.4	+0.1
	baz=103						
BELC	Belle Mtn. Jos	1.03	91	P	Pn	06 40 07.3	+0.1
	baz=272,SNR=20						
BELC				S	Sb	06 40 20.6	+0.4
	baz=272						
EDW2	Edwards Air Fo	1.05	324	P	Pb	06 40 07.1	-0.2
	baz=144,SNR=35						
EDW2				S	Sb	06 40 20.7	0.0
	baz=144						
HEC	Hector,Ludlow	1.09	43	P	Pb	06 40 07.6	-0.4
	baz=223,SNR=24						
HEC				S	Sn	06 40 22.5	-0.2
	baz=223						
109C	Camp Elliot, M	1.15	174		Pn	06 40 08.2	-0.5
109C	Camp Elliot, M	1.15	174	P	Pn	06 40 08.2	-0.5
	baz=354						
109C				S	Sb	06 40 23.1	-0.2
	baz=354						
CIS	Catalina Islan	1.16	238	P	Pn	06 40 08.3	-0.6
	baz=57						
CIS				S	Sn	06 40 24.6	+0.3
	baz=57						
CCAC	Calif City Air	1.29	330		Pn	06 40 10.2	-0.4
CCAC				IAML		06 40 28.8	
	comp=E,174nm,0.4s						
CCAC				IAML		06 40 30.7	
	comp=N,189nm,0.4s						
GSC	Goldstone, Bar	1.31	16		Pn	06 40 11.0	-0.1
GSC				IAML		06 40 31.4	
	comp=N,209nm,0.5s						
GSC	Goldstone, Bar	1.31	16	Pb	Pn	06 40 11.2	+0.1
	baz=196,SNR=21						
GSC				S	Sb	06 40 28.8	+0.5
	baz=196						
MONP2	Monument Peak	1.33	149	Pb	Pn	06 40 11.7	+0.3
	baz=329,SNR=23						
MONP2				S	Sb	06 40 29.0	+0.2
	baz=329						
OSI	Osito Audit: C	1.36	296	Pb	Pn	06 40 12.3	+0.6
	baz=115,SNR=9.0						
OSI				S	Sb	06 40 29.6	+0.1
	baz=115						
BAR	Barrett	1.43	160	Pn	Pn	06 40 12.5	-0.1
BAR				IAML		06 40 31.6	
	comp=N,245nm,0.3s						
GMRC	Granite Mounta	1.51	60	P	Pn	06 40 13.2	-0.5
	baz=240,SNR=10						
GMRC				Sb	Sb	06 40 34.9	+1.0
	baz=240						
SCI2	San Clemente I	1.52	226	P	Pn	06 40 13.6	-0.2
	baz=46						
BC3	Big Chuckawall	1.53	104	P	Pn	06 40 13.7	-0.4
	baz=285,SNR=34						
BC3				Sb	Sb	06 40 35.8	+1.2
	baz=285						
SWSC	Sam W. Stewart	1.62	132	P	Pn	06 40 14.4	-0.8
	baz=313,SNR=8.4						
IKP	In-Ko-Pah, Jac	1.67	145	P	Pn	06 40 15.9	-0.1
	baz=326,SNR=14						
IKP				Sb	Sb	06 40 39.9	+1.3
	baz=326						
ARVC	Arvin	1.71	310	P	Pn	06 40 16.6	+0.2
	baz=129,SNR=8.9						
ARVC				Sb	Sb	06 40 40.8	+1.3
	baz=129						
TUQ	Turquoise Moun	1.77	37	Sb	Sb	06 40 42.9	+1.5
	baz=218						
ISA	Isabella, Lake	1.92	328	Pn	Pn	06 40 19.3	0.0
ISA	Isabella, Lake	1.92	328	P	Pn	06 40 19.3	0.0
	baz=148,SNR=18						
ISA				Sb	Sb	06 40 46.7	+1.1
	baz=148						
MPMC	Manual Prospec	2.03	354	P	Pn	06 40 21.4	+0.3
	baz=174,SNR=18						
GLA	Glamis	2.24	115	P	Pn	06 40 23.1	-0.6
	baz=297						

*ATH **09** 06:50:14.3, 34°.98N×26°.30E, h14km±2km, ML3.1/6, Manual Solution by K.Orfanogiannaki First location: 2019/05/29 16:12:43, This location: 2019/05/29 19:08:52 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*

*IDC **09** 06:50:15.3±1.6, 34°.50N×26°.34E, h0km, mb3.8/3, mbtmp3.7/4, MS3.6/5, Error ellipse: s-maj=74.2km s-min=27.2km az=137.0*

*ISK **09** 06:50:15.9, 35°.23N×26°.20E, h5km, ML2.8/21*

ISC 09 06:50:14.1±1.5, **34°.97N**±0°.09×**26°.27E**±0°.04, **h13**km±7km, **n36**, σ1§**79**/37, **mb3.5**/3, **MS3.7**/5, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.15	342	Pg	Pg	06 50 18.2	+0.4
ZKR				Sg	Sg	06 50 20.9	+0.5
ZKR	Zakros	0.15	342	P	Pg	06 50 18.1	+0.4
ZKR				S	Sg	06 50 20.5	+0.1
FRMA	Ierapetra Chan	0.45	276	P	Pg	06 50 21.5	-1.4
FRMA				S	Sg	06 50 26.8	-2.0
AGNA	Agios Nikolaos	0.50	296	P	Pg	06 50 24.6	+0.6
AGNA				S	Sg	06 50 31.4	+0.7
KARP	Karpathos	0.93	51	Pg	Pn	06 50 32.5	-0.3
KARP				Sg	Sn	06 50 46.1	+0.1
KARP	Karpathos	0.93	51	P	Pg	06 50 31.9	-0.1
KARP				S	Sb	06 50 44.5	+0.2
HRKL	Herakleio	1.02	290	Pg	Pn	06 50 34.6	+0.6
KSTL	Kastelli Herak	1.04	289	P	Pb	06 50 30.1	-3.8
KSTL				S	Sb	06 50 41.7	-5.8
IDI	Anoyia	1.18	286	Pg	Pb	06 50 36.9	+0.6
IDI				Sg	Sg	06 50 53.5	+1.4
IDI	Anoyia	1.18	286	P	Pn	06 50 36.5	+0.2
SANT	Santorini	1.54	335	Pn	Pn	06 50 41.7	+0.4
GVD	Gavdhos	1.80	266	Pn	Pg	06 50 48.9	+0.3
KOSK	Kos Island	1.87	18	Pn	Pb	06 50 47.0	-1.0
IMMV	Iera Moni Meta	1.94	285	Pn	Pb	06 50 50.1	+0.9
ARG	Arkhangelos	1.96	50	Pn	Pg	06 50 50.4	-1.2
RFTD	Palamutbuku-Ka	1.98	30	Pn	Pb	06 50 49.2	-0.7
DAT	Datca	2.05	31	Pn	Pb	06 50 50.5	-0.7
RODP	Rodopos	2.14	287	Pn	Pb	06 50 52.5	-0.2
RFTB	Kemer-Bodrum	2.15	22	Pn	Pb	06 50 51.1	-1.7
APE	Apeiranthos	2.18	344	Pn	Pn	06 50 50.8	+0.8
RFTC	Emecik-Datca	2.20	34	Pn	Pb	06 50 52.8	-0.8
BODT	Bodrum	2.25	22	Pn	Pb	06 50 52.8	-1.8
RFTAA	Mazikoy-Bodrum	2.35	30	Pn	Pb	06 50 54.9	-1.3
TURN	Turunc	2.41	41	Pn	Pb	06 50 56.0	-1.3
MLSB	Milas	2.62	27	Pn	Pb	06 50 58.4	-2.5
DALY	Dalyan (Mula)	2.67	46	Pn	Pb	06 50 59.9	-1.8
YER	Yerkesik	2.70	36	Pn	Pb	06 50 59.9	-2.4
BRTR	Keskin Array B	7.54	49	LR	LR	06 55 56.2	
	comp=Z,26nm,20.4s,baz=163,slow=44						
AKASG	Malin Array Be	15.87	7	Pn	P	06 54 04.7	+4.1
	0.2nm,0.3s,baz=195,slow=11,SNR=1.5						
TORD	Torodi Ar. Bea	31.08	232	P	P	06 56 33.1	+1.1
	0.4nm,0.6s,baz=36,slow=9.2,SNR=4.4						
	0.4nm,0.6s						
AAK	Ala-Archa	37.92	64	LR	LR	07 15 17.6	
	comp=Z,41nm,18.4s,baz=200,slow=39						
KURBB	Kurchatov Arra	40.53	51	P	P	06 57 57.6	+4.8
	1.1nm,0.3s,baz=277,slow=9.1,SNR=1.5						
	1.1nm,0.3s						
MKAR	Makanchi Array	43.12	56	P	P	06 58 19.2	+5.2
	0.5nm,0.5s,baz=266,slow=9.7,SNR=4.3						
MKAR				LR	LR	07 17 18.6	
	comp=Z,17nm,19.2s,baz=36,slow=38						
	0.5nm,0.5s						
FRB	Frobisher Bay	61.29	330	LR	LR	07 27 40.9	
	comp=Z,132nm,18.7s,baz=188,slow=36						
RES	Resolute Bay	64.08	345	LR	LR	07 30 51.1	
	comp=Z,47nm,19.6s,baz=90,slow=38						
MJAR	Matsushiro Arr	84.77	49	LR	LR	07 43 34.7	
	comp=Z,116nm,20.3s,baz=134,slow=38						

*IDC **09** 07:08:26.9±0.7, 17°.00S×177°.01W, h0km, mb4.2/12, mbtmp4.2/14, ML1.8/1, MS4.4/50, Error ellipse: s-maj=26.3km s-min=17.6km az=145.0*

*GCMT **09** 07:08:34.0±0.2, 16°.91S±0°.01×176°.91W±0°.01, h16km±1km, MW5.1/118, Moment Tensor Solution. s59,c79; s118,c200; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.45±.13; $M_{\theta\theta}$-4.81±.13; $M_{\phi\phi}$5.26±.12; $M_{r\theta}$0.24±.36; $M_{\theta\phi}$1.32±.11; $M_{\phi r}$3.38±.45; Best double couple: $M_0$5.98200×10^16^ NP1:ϕ_s320.00000°, δ75.00000°, λ160.00000°. NP2:ϕ_s55.00000°, δ71.00000°, λ16.00000°. Principal axes: T 6.9740, Plg25.0000°, Azm277.0000°; N -1.9780, Plg65.0000°, Azm105.0000°; P -4.9910, Plg3.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 09 07:08:32.5±0.6, **17°.05**±0°.1×**177°.08W**±0°.09, **h35**km, **n86**, σ1§**18**/44, **mb4.3**/12, **MS4.4**/49, **2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.70	261	Pn	Pn	07 09 40.7	-0.4
	8.1nm,0.3s,baz=187,slow=21,SNR=22						
MSVF				Sn	Sn	07 10 34.3	-0.1
	5.2nm,0.3s,baz=245,slow=21,SNR=6.5						
MSVF				LR	LR	07 11 18.2	
	comp=Z,12μm,19.1s,baz=77,slow=36						
RAO	Raoul Island	12.19	183	LR	LR	07 15 13.1	
	comp=Z,4μm,21.4s,baz=14,slow=33						
DZM	Mont Dzumac	16.31	249	*e*Pn	P	07 12 22.4	+0.6
	114nm,1.6s						
DZM				*e*LR	LR	07 16 15.4	
	comp=Z,3μm,25.6s						
DZM	Mont Dzumac	16.31	249	Pn	Pn	07 12 18.4	-0.7
	baz=97,slow=22,SNR=1.9						
DZM				LR	LR	07 17 39.8	
	comp=Z,2μm,18.6s,baz=79,slow=34						
	3.5nm,1.1s						
RAR	Rarotonga	16.88	107	LR	LR	07 17 20.3	
	comp=Z,1μm,20.5s,baz=306,slow=32						
URZ	Urewera	21.76	192	LR	LR	07 20 22.0	
	comp=Z,2μm,18.3s,baz=125,slow=33						
PPT2	Papeete2	26.26	95	*e*LR	LR	07 20 14.4	
	comp=Z,3μm,26.5s						
PPT2				*e*LR	LR	07 20 20.4	
	comp=Z,2μm,29.5s						
PPT	Papeete	26.26	95	LR	LR	07 21 37.4	
	comp=Z,515nm,20.2s,baz=250,slow=30						
TBI	Tubuai	26.65	108	*e*LR	LR	07 20 29.7	
	comp=Z,13μm,28.2s						
TBI				*e*LR	LR	07 20 49.6	
	comp=Z,37μm,24.2s						
KRVT	Keravat (AS076	32.82	289	LR	LR	07 27 11.1	
	comp=Z,1μm,19.8s,baz=228,slow=34						
CTA	Charters Tower	34.85	259	LR	LR	07 27 56.8	
	comp=Z,1μm,19.4s,baz=94,slow=34						
PMG	Port Moresby	35.58	278	LR	LR	07 29 09.1	
	comp=Z,570nm,18.2s,baz=96,slow=35						
TAOE	Nuku Hiva Isla	36.85	82	*e*LR	LR	07 24 58.6	
	comp=Z,1μm,28.8s						
STKA	Stephens Creek	40.16	241	P	P	07 16 05.2	-0.3
	4.5nm,1.0s,baz=94,slow=12,SNR=5.1						
	4.5nm,1.0s						
JAY	Jayapura	43.90	285	LR	LR	07 33 31.2	
	comp=Z,345nm,21.4s,baz=62,slow=34						
WRA	Warramunga Arr	46.04	259	P	P	07 16 51.6	-1.6
	2.0nm,1.2s,baz=90,slow=6.6,SNR=5.0						
	2.0nm,1.2s						
ASAR	Alice Springs	46.25	253	P	P	07 16 53.6	-1.3
	6.6nm,0.9s,baz=86,slow=8.3,SNR=50						
ASAR				PcP	PcP	07 18 30.6	+0.5
	0.8nm,0.8s,baz=91,slow=5.8,SNR=0.6						
ASAR				LR	LR	07 35 45.6	
	comp=Z,1μm,18.0s,baz=100,slow=35						
	6.6nm,0.9s						
SIJI	Sorong	53.28	282	LR	LR	07 39 34.9	
	comp=Z,453nm,20.4s,baz=148,slow=35						
BATI	Baumata	57.81	269	LR	LR	07 41 22.7	
	comp=Z,304nm,20.7s,baz=106,slow=34						
JCJ	Chichijima	59.04	317	LR	LR	07 37 46.2	
	comp=Z,138nm,21.2s,baz=104,slow=30						
NWAO	Narrogin (SRO)	60.74	241	LR	LR	07 43 53.8	
	comp=Z,297nm,18.4s,baz=167,slow=35						
DAV	Davao City (W)	61.52	288	LR	LR	07 42 05.9	
	comp=Z,139nm,21.9s,baz=132,slow=33						
KAPI	Kappang	62.90	273	LR	LR	07 44 21.6	
	comp=Z,157nm,21.5s,baz=92,slow=34						
RPN	Rapa Nui	62.94	112	LR	LR	07 38 49.7	
	comp=Z,370nm,19.9s,baz=270,slow=29						
JHJ	Hachijo jima 2	64.68	321	LR	LR	07 45 28.3	
	comp=Z,51nm,18.8s,baz=140,slow=34						
MJAR	Matsushiro Arr	67.97	322	P	P	07 19 27.5	-0.6
	3.1nm,1.1s,baz=128,slow=7.6,SNR=3.7						
	3.1nm,1.1s						
SHEM	Shemya Is, Ala	69.89	354	LR	LR	07 45 01.5	
	comp=Z,258nm,19.5s,baz=170,slow=31						
ASAJ	Asahikawa	71.13	330	LR	LR	07 46 38.7	
	comp=Z,173nm,19.9s,baz=149,slow=32						
QSPA	South Pole Qui	73.02	180	P	P	07 19 59.2	+0.6
	3.2nm,0.9s,baz=308,slow=2.0,SNR=12						
QSPA				LR	LR	07 47 41.0	
	comp=Z,95nm,21.7s,baz=41,slow=32						
	3.2nm,0.9s						
PETK	Petropavlovsk-	73.17	344	P	P	07 19 59.3	-0.1
	4.9nm,0.9s,baz=175,slow=7.2,SNR=3.6						
PETK				LR	LR	07 48 36.8	
	comp=Z,196nm,19.2s,baz=150,slow=33						
	4.9nm,0.9s						
LEM	Lembang	74.01	268	LR	LR	07 52 47.7	
	comp=Z,169nm,20.2s,baz=166,slow=36						
KSRS	Korea Array	74.90	318	P	P	07 20 11.7	+1.8
	0.3nm,0.3s,baz=116,slow=5.7,SNR=4.6						
	0.3nm,0.3s						
USRK	Ussuriysk Ar.	76.61	325	LR	LR	07 50 22.9	
	comp=Z,105nm,18.2s,baz=116,slow=33						
PFO	Pinyon Flats O	76.63	48	LR	LR	07 47 29.8	
	comp=Z,213nm,19.6s,baz=238,slow=31						
KDAK	Kodiak Island	77.26	13	LR	LR	07 47 04.9	
	comp=Z,457nm,20.4s,baz=220,slow=30						
NVAR	Mina Array Bea	77.92	43	P	P	07 20 26.9	-0.4
	0.9nm,0.7s,baz=228,slow=8.9,SNR=5.5						
NVAR				LR	LR	07 50 00.5	
	comp=Z,140nm,19.1s,baz=249,slow=32						
	0.9nm,0.7s						
KLR	Kul'dur	80.01	329	LR	LR	07 50 27.7	
	comp=Z,194nm,21.9s,baz=154,slow=32						
MA2	Magadan	80.69	344	LR	LR	07 52 42.3	
	comp=Z,141nm,19.4s,baz=142,slow=33						
BBB	Bella Bella	80.95	28	LR	LR	07 49 08.4	
	comp=Z,133nm,20.1s,baz=234,slow=30						
SEY	Seymchan	83.22	346	LR	LR	07 51 33.1	
	comp=Z,232nm,21.8s,baz=143,slow=31						
NEW	Newport	84.06	36	LR	LR	07 53 26.9	
	comp=Z,140nm,18.1s,baz=230,slow=32						
PMSA	Palmer Station	84.11	157	LR	LR	07 57 47.6	
	comp=Z,84nm,18.0s,baz=279,slow=35						
TXAR	Lajitas Array	84.46	57	P	P	07 21 01.1	-1.0
	1.2nm,0.9s,baz=224,slow=5.2,SNR=9.1						
TXAR				LR	LR	07 53 13.3	
	comp=Z,89nm,19.0s,baz=245,slow=32						
	1.2nm,0.9s						
DLBC	Dease Lake	84.53	23	LR	LR	07 51 12.4	
	comp=Z,500nm,19.3s,baz=242,slow=30						
ANMO	Albuquerque	84.56	51	LR	LR	07 52 57.0	
	comp=Z,145nm,18.4s,baz=338,slow=32						
ILAR	Eielson Array	84.75	13	P	P	07 21 01.1	-1.6
	3.4nm,0.9s,baz=204,slow=5.4,SNR=5.6						
ILAR				LR	LR	07 51 36.0	
	comp=Z,252nm,21.1s,baz=220,slow=31						
	3.4nm,0.9s						
MAW	Mawson	85.11	199	LR	LR	07 57 14.3	
	comp=Z,275nm,18.4s,baz=109,slow=34						
PDAR	Pinedale Array	85.85	43	P	P	07 21 07.6	-1.3
	0.7nm,0.7s,baz=217,slow=1.5,SNR=7.2						
	0.7nm,0.7s						
CMAR	Chiang Mai Arr	89.79	289	P	P	07 21 29.6	+1.6
	1.1nm,0.2s,baz=92,slow=2.7,SNR=1.4						
CMAR				LR	LR	07 59 15.2	
	comp=Z,34nm,20.1s,baz=115,slow=34						
	1.1nm,0.2s						
INK	Inuvik	90.71	15	LR	LR	07 55 51.3	
	comp=Z,177nm,20.8s,baz=181,slow=31						
PLCA	Paso Flores	91.01	133	LR	LR	07 56 18.1	
	comp=Z,81nm,18.2s,baz=240,slow=32						
TROLL	Troll, Antarti	91.18	180	⇑P	P	07 21 33.7	-0.1
	comp=Z,42nm,0.6s						
SNAA	Sanae	91.44	178	⇑P	P	07 21 34.7	-0.2
	comp=Z,14nm,0.7s						
SNAA	Sanae	91.44	178	LR	LR	08 00 59.3	
	comp=Z,126nm,19.3s,baz=194,slow=34						
YKA	Yellowknife Ar	93.01	24	LR	LR	07 55 58.4	
	comp=Z,298nm,21.2s,baz=260,slow=31						
TEIG	Tepich	94.66	70	LR	LR	07 55 39.1	
	comp=Z,1μm,21.8s,baz=8.5,slow=30						
NNA	Nana	96.10	104	LR	LR	07 57 32.7	
	comp=Z,76nm,18.4s,baz=235,slow=31						
ATAH	Atahualpa	96.17	99	LR	LR	07 55 16.9	
	comp=Z,300nm,21.2s,baz=246,slow=29						
CFA	Coronel Fontan	96.42	126	LR	LR	07 57 51.6	
	comp=Z,74nm,19.6s,baz=282,slow=31						
ULM	Lac du Bonnet	97.43	40	LR	LR	08 00 25.3	
	comp=Z,201nm,19.3s,baz=284,slow=32						
LVC	Limon Verde	99.47	117	LR	LR	07 56 35.5	
	comp=Z,259nm,22.0s,baz=255,slow=29						
ARCES	ARCESS Array B	125.67	350	PKP	PKPdf	07 27 29.3	-0.4
	comp=Z,3.6nm,1.1s,baz=8.7,slow=1.2,SNR=5.4						
BRTR	Keskin Array B	145.04	317	PKPbc	PKPbc	07 28 06.2	+0.2
	comp=Z,4.9nm,0.9s,baz=126,slow=1.7,SNR=12						
MORC	Moravsky Berou	145.26	343	*e*PKP	PKiKP	07 28 14.2	+3.7
JAVC	Velka Javorina	146.05	342	*e*PKP	PKiKP	07 28 16.0	+3.8
MMAI	Mount Meron Ar	146.71	305	PKPbc	PKPbc	07 28 11.5	+0.2
	comp=Z,2.5nm,0.5s,baz=76,slow=4.4,SNR=4.2						
GERES	GERESS Array B	147.07	347	PKPbc	PKPbc	07 28 11.6	-0.3
	comp=Z,0.5nm,0.3s,baz=18,slow=3.7,SNR=1.3						
CONA	Conrad Observa	147.40	344	*e*PKP	PKiKP	07 28 15.0	0.0
	comp=Z,13nm,1.4s						
RONA	Rosalia, Austr	147.49	343	*e*PKiKP	PKiKP	07 28 16.6	+1.4
	comp=Z,8.4nm,1.3s						
ARSA	Arzberg	148.12	344	*e*PKP	PKPab	07 28 18.2	+0.8
	comp=Z,4.3nm,1.3s						
BIOA	Bad Ischl, Aus	148.17	346	*e*PKP	PKPab	07 28 18.0	+0.3
	comp=Z,2.4nm,0.6s						
LESA	Schwarzleotal	148.64	347	*i* PKiKP	PKiKP	07 28 18.4	+0.8
	comp=Z,8.2nm,1.2s						
SOKA	Soboth	148.77	344	*i* PKP	PKPab	07 28 20.6	+0.4
	comp=Z,7.3nm,1.4s						
KBA	Koelnbreinsper	148.82	346	*i* PKP	PKPab	07 28 20.0	-0.5
	comp=Z,4.5nm,0.9s						
WATA	Walderalm	148.94	349	*i* PKP	PKPdf	07 28 14.4	+1.5
	comp=Z,9.0nm,1.1s						
RETA	Reutte	148.94	350	*i* PKP	PKPab	07 28 20.6	-0.3
	comp=Z,10nm,1.3s						
WTTA	Wattenberg	149.00	348	*i* PKP	PKPbc	07 28 17.5	+0.4
	comp=Z,8.1nm,1.1s						
MOTA	Moosalm	149.02	349	*e*PKP	PKPdf	07 28 14.3	+1.2
	comp=Z,5.4nm,0.9s						
OBKA	Obir	149.06	344	*i* PKP	PKPdf	07 28 13.4	+0.4
	comp=Z,1.4nm,0.6s						
SQTA	Sankt Quirin	149.12	349	*i* PKP	PKPdf	07 28 13.5	+0.3
	comp=Z,6.2nm,1.0s						
MYKA	Terra Mystica	149.17	346	*i* PKP	PKPab	07 28 22.8	+1.0
	comp=Z,6.2nm,1.0s						
DAVA	Damuels	149.28	351	*e*PKP	PKPab	07 28 22.6	+0.2
	comp=Z,3.4nm,0.7s						
ABTA	Abfaltersbach	149.32	347	*i* PKP	PKPab	07 28 22.9	+0.5
	comp=Z,12nm,1.6s						
FETA	Feichten	149.40	349	*i* PKP	PKPab	07 28 22.3	-0.6
	comp=Z,8.5nm,1.4s						
ESDC	Sonseca Array	156.65	13	PKPbc	PKPdf	07 28 37.2	+13
	comp=Z,0.6nm,0.3s,baz=332,slow=10,SNR=3.5						
TORD	Torodi Ar. Bea	175.97	163	PKP	PKPdf	07 28 38.8	-1.2
	comp=Z,0.2nm,0.5s,baz=196,slow=10.0,SNR=1.7						
TORD				PKPab	PKPab	07 30 19.0	+0.2
	comp=Z,0.9nm,0.9s,baz=262,slow=4.2,SNR=3.6						

*IDC **09** 07:13:11.4±0.8, 16°.97S×177°.12W, h0km, mb4.0/9, mbtmp4.0/10, ML5.3/1, Error ellipse: s-maj=35.3km s-min=18.3km az=149.0*

*GCMT **09** 07:13:19.0±0.3, 16°.87S±0°.02×176°.96W±0°.01, h12km, MW5.0/96, Moment Tensor Solution. s17,c21; s96,c137; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}0.40±.11; $M_{\theta\theta}$-2.96±.10; $M_{\phi\phi}$2.56±.08; $M_{r\theta}$0.31±.29; $M_{\theta\phi}$0.49±.09; $M_{\phi r}$1.97±.27; Best double couple: $M_0$3.39300×10^16^ NP1:ϕ_s54.00000°, δ71.00000°, λ25.00000°. NP2: ϕ_s316.00000°, δ67.00000°, λ159.00000°. Principal axes: T 3.7760, Plg31.0000°, Azm276.0000°; N -0.7670, Plg59.0000°, Azm89.0000°; P -3.0100, Plg3.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 09 07:13:16.7±0.8, **17°.05**±0°.2×**177°.2W**±0°.1, **h35**km, **n16**, σ1§**07**/15, **mb4.0**/9, **MS4.4**/3, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.63	260	Pn	Pn	07 14 23.5	-0.9
	5.3nm,0.3s,baz=60,slow=20,SNR=11						
MSVF				Sn	Sn	07 15 18.1	+1.1
	3.3nm,0.3s,baz=144,slow=21,SNR=2.3						
	5.0nm,0.3s						
DZM	Mont Dzumac	16.26	249	*e*LR	LR	07 20 57.2	
	com

*CNRM **09** 07:21:16.7, 34.°96N×12.°00W, h19km*
INMG 09 07:21:57.8±1.1, 35.°79N×7.°34W, h40km, ML1.4, 1C, Error ellipse: s-maj=5.0km s-min=3.1km az=65.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.52**	**342**	*eP*	Pn	07 22 21.6	-1.0
PBDV				*eS*	Sn	07 22 39.0	-2.2
PVAQ	**Vaqueiros**	**1.64**	**349**	⇑*iP*	Pn	07 22 23.2	-0.9
PVAQ				*eS*	Sn	07 22 41.5	-2.5
PVAQ				A	A	07 22 43.0	
	3.7nm,0.2s						
PVAQ	**Vaqueiros**	**1.64**	**349**	P	Pn	07 22 20.2	-3.9
PFVI	**Vila Bisbo**	**1.80**	**319**	*eP*	Pn	07 22 24.9	-1.4
PFVI				*eS*	Sn	07 22 45.8	-2.1
PFVI				A	A	07 22 54.5	
	3.8nm,0.6s						
PFVI	**Vila Bisbo**	**1.80**	**319**	S	Sn	07 22 48.5	+0.6
MORF	**Marmelete**	**1.84**	**325**	*eP*	Pn	07 22 25.7	-1.3
MORF				*eS*	Sn	07 22 47.1	-2.0
MORF				A	A	07 22 51.3	
	3.6nm,0.4s						
PCVE	**Castro Verde**	**1.92**	**343**	*eP*	Pn	07 22 27.3	-0.7
PCVE				*eS*	Sn	07 22 48.7	-2.2
PCVE				A	A	07 22 51.0	
	1.2nm,0.3s						
PTEO	**Sao Teotonio**	**2.07**	**328**	*eP*	Pn	07 22 29.1	-1.0
PTEO				*eS*	Sn	07 22 52.9	-1.8
PBAR	**Barrancos**	**2.39**	**6**	*eP*	Pn	07 22 34.0	-0.5
PBAR				*eS*	Sn	07 23 00.5	-2.0
PBAR				A	A	07 23 08.5	
	1.1nm,0.6s						
PNCL	**Nicolau / Gran**	**2.50**	**338**	*eP*	Pn	07 22 34.9	-1.1
MD31	**MD31**	**3.62**	**143**	P	Pn	07 22 49.5	-1.9
PMRV	**Marv??o**	**3.63**	**359**	*eP*	Pn	07 22 51.2	-0.3
PMRV				*eS*	Sn	07 23 30.1	-3.0
MDT	**Midelt**	**3.73**	**142**	P	Pn	07 22 51.6	-1.4

*SKO **09** 07:31:33.0, 41.°80N×22.°84E, h15km, ML2.3*
*SOF **09** 07:31:32.6, 41.°80N×22.°83E, h12km, MD3.0*
*BEO **09** 07:31:34.4±0.3, 41.°80N×22.°80E, h13km±3km, ML2.6/10*
*ATH **09** 07:31:35.9, 41.°65N×22.°87E, h19km±7km, ML2.7/12,*
Manual Solution by A.Fokaefs First location: 2019/05/21 10:05:31, This location: 2019/05/21 10:04:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 5 km
*THE **09** 07:31:35.1, 41.°70N×22.°85E, h6km±1km, ML2.7/12, Error ellipse: s-maj=1.6km s-min=0.8km az=170.0*
ISC 09 07:31:33.7±1.1, 41.°77N±0.°02×22.°83E±0.°02, h5km±9km, n64, σ0.°98/102, 13C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.23**	**71**	⇓*iPg*	**Pg**	**07 31 37.9**	**-0.3**
KKB				*i Sg*	**Sg**	**07 31 41.0**	**-0.3**
KKB	**Krupnik**	**0.23**	**71**	*i Pg*	**Pg**	**07 31 37.9**	**-0.3**
KNT	**Kendrikon**	**0.61**	**175**	P	**Pg**	**07 31 45.7**	**+0.4**
KNT				S	**Sg**	**07 31 53.8**	**+0.6**
	758nm,0.2s						
KNT	**Kendrikon**	**0.61**	**175**	⇑*iPg*	**Pg**	**07 31 45.8**	**+0.4**
KNT				*i Sg*	**Sg**	**07 31 54.6**	**+1.4**
KNT	**Kendrikon**	**0.61**	**175**	P	**Pg**	**07 31 45.7**	**+0.4**
KNT				S	**Sg**	**07 31 53.1**	**-0.1**
MMB	**Musomishta**	**0.72**	**107**	⇑*iPg*	**Pg**	**07 31 47.3**	**-0.2**
MMB				*i Sg*	**Sg**	**07 31 56.8**	**-0.1**
MMB	**Musomishta**	**0.72**	**107**	*i Pg*	**Pg**	**07 31 47.3**	**-0.2**
BOSS	**Bosilegrad**	**0.77**	**340**	*ePg*	**Pg**	**07 31 47.8**	**-0.7**
BOSS				*eSg*	**Sg**	**07 31 58.6**	**0.0**
PLNA	**Plana**	**0.83**	**32**	Pg	**Pg**	**07 31 48.4**	**-1.3**
SRS	**Serrai**	**0.86**	**138**	P	**Pg**	**07 31 50.0**	**-0.2**
SRS				S	**Sg**	**07 32 02.1**	**+0.6**
	475nm,0.1s						
SRS	**Serrai**	**0.86**	**138**	*ePg*	**Pg**	**07 31 50.1**	**-0.2**
SRS				*eSg*	**Sg**	**07 32 02.5**	**+1.0**
SRS	**Serrai**	**0.86**	**138**	⇑*iPg*	**Pg**	**07 31 50.1**	**-0.2**
SRS				*i Sg*	**Sg**	**07 32 02.7**	**+1.2**
SRS	**Serrai**	**0.86**	**138**	P	**Pg**	**07 31 50.0**	**-0.2**
SRS				S	**Sg**	**07 32 01.2**	**-0.3**
GRG	**Griva**	**0.87**	**202**	P	**Pg**	**07 31 50.4**	**0.0**
GRG				S	**Sg**	**07 32 01.7**	**0.0**
	292nm,0.4s						
GRG	**Griva**	**0.87**	**202**	⇑*iPg*	**Pg**	**07 31 50.5**	**+0.1**
GRG				*i Sg*	**Sg**	**07 32 02.8**	**+1.1**
GRG	**Griva**	**0.87**	**202**	P	**Pg**	**07 31 50.4**	**0.0**
GRG				S	**Sg**	**07 32 01.5**	**-0.2**
NVR	**Nevrokopi**	**0.88**	**118**	P	**Pg**	**07 31 51.2**	**+0.7**
NVR				S	**Sg**	**07 32 02.9**	**+1.0**
	490nm,0.2s						
NVR	**Nevrokopi**	**0.88**	**118**	P	**Pg**	**07 31 51.1**	**+0.7**
NVR				S	**Sg**	**07 32 02.8**	**+1.0**
PRVS	**Prvonek**	**0.93**	**323**	*ePg*	**Pg**	**07 31 50.5**	**-1.0**
PRVS				*eSg*	**Sg**	**07 32 04.0**	**+0.5**
SOH	**Sokhos**	**1.02**	**157**	P	**Pb**	**07 31 53.2**	**-0.7**
SOH				S	**Sg**	**07 32 07.1**	**+0.6**
	695nm,0.6s						
SOH	**Sokhos**	**1.02**	**157**	⇓*iPg*	**Pb**	**07 31 53.5**	**-0.5**
SOH				*i Sg*	**Sg**	**07 32 07.3**	**+0.7**
SOH	**Sokhos**	**1.02**	**157**	P	**Pb**	**07 31 53.4**	**-0.5**
SOH				S	**Sg**	**07 32 05.3**	**-1.2**
SKO	**Skopje**	**1.06**	**282**	*ePg*	**Pb**	**07 31 53.4**	**-1.1**
SKO				*i Sg*	**Sb**	**07 32 08.6**	**-0.1**
THE	**Thessaloniki**	**1.14**	**175**	P	**Pb**	**07 31 55.2**	**-0.7**
THE				S	**Sb**	**07 32 10.6**	**-0.3**
	130nm,0.4s						
THE	**Thessaloniki**	**1.14**	**175**	⇓*iPg*	**Pb**	**07 31 55.4**	**-0.4**
THE	**Thessaloniki**	**1.14**	**175**	P	**Pb**	**07 31 55.1**	**-0.7**
HORT	**Hortiatis**	**1.19**	**170**	P	**Pb**	**07 31 56.3**	**-0.4**
HORT				S	**Sb**	**07 32 12.2**	**-0.2**
HORT	**Hortiatis**	**1.19**	**170**	P	**Pb**	**07 31 56.0**	**-0.7**
BARS	**Barje**	**1.29**	**325**	*ePg*	**Pn**	**07 31 57.5**	**-0.9**
BARS				*eSg*	**Sb**	**07 32 13.8**	**-1.6**
BARS	**Barje**	**1.29**	**325**	⇓*iPg*	**Pn**	**07 31 57.5**	**-0.9**
BARS				*i Sg*	**Sb**	**07 32 14.0**	**-1.4**
KOKK	**Kokkinochori,**	**1.29**	**137**	P	**Pn**	**07 31 57.5**	**-0.9**
KOKK				S	**Sb**	**07 32 15.0**	**-0.4**
	198nm,0.4s						
RZN	**Rozhen**	**1.43**	**92**	P	**Pn**	**07 31 59.9**	**-0.6**
KVLA	**Kavala**	**1.43**	**125**	P	**Pn**	**07 31 59.8**	**-0.6**
FNA	**Florina**	**1.47**	**229**	P	**Pn**	**07 32 01.2**	**+0.3**
FNA				S	**Sb**	**07 32 21.0**	**+0.4**
	70nm,0.3s						
FNA	**Florina**	**1.47**	**229**	*ePg*	**Pn**	**07 32 01.3**	**+0.3**
FNA				*eSg*	**Sb**	**07 32 21.7**	**+1.1**
FNA	**Florina**	**1.47**	**229**	⇑*iPg*	**Pn**	**07 32 01.2**	**+0.3**
FNA				*i Sg*	**Sb**	**07 32 21.8**	**+1.1**
FNA	**Florina**	**1.47**	**229**	P	**Pn**	**07 32 01.2**	**+0.3**
PLD	**Plovdiv**	**1.48**	**75**	*ePg*	**Pb**	**07 32 02.1**	**+0.5**
PLD				*eSg*	**Sb**	**07 32 21.2**	**+0.5**
PLD	**Plovdiv**	**1.48**	**75**	P	**Pn**	**07 32 01.5**	**+0.6**
KAVA	**Kavala**	**1.48**	**121**	P	**Pn**	**07 32 00.6**	**-0.4**
KAVA				S	**Sn**	**07 32 20.3**	**-0.4**
	595nm,0.2s						
KAVA	**Kavala**	**1.48**	**121**	P	**Pn**	**07 32 00.6**	**-0.4**
ZAPS	**Zavoj**	**1.51**	**355**	*ePg*	**Pn**	**07 32 01.5**	**0.0**
ZAPS				*eSg*	**Sn**	**07 32 21.2**	**-0.4**
OHR	**Ohrid**	**1.66**	**247**	*ePn*	**Pn**	**07 32 03.9**	**+0.3**
OHR				*i Sg*	**Sg**	**07 32 28.1**	**+1.0**
OHR				*eLg*	Lg	07 32 28.5	
OHR				*eLg*	Lg	07 32 29.1	
	comp=N,25nm,0.5s						
OUR	**Ouranopolis**	**1.68**	**148**	P	**Pn**	**07 32 02.8**	**-0.8**
OUR				S	**Sb**	**07 32 26.1**	**-0.3**
	comp=N,315nm,0.4s						
OUR	**Ouranopolis**	**1.68**	**148**	P	**Pn**	**07 32 03.2**	**-0.4**
MPEP	**Malo Peshtene**	**1.72**	**23**	P	**Pn**	**07 32 04.1**	**-0.2**
THAS	**Thassos island**	**1.84**	**129**	P	**Pn**	**07 32 04.7**	**-1.2**
THAS				S	**Sb**	**07 32 30.2**	**-0.8**
	comp=N,200nm,0.3s						
THAS	**Thassos island**	**1.84**	**129**	P	**Pn**	**07 32 04.8**	**-1.0**
BLKB	**Belogradchik**	**1.86**	**356**	⇑S	**Sn**	**07 32 30.5**	**+0.4**
NEST	**Nestorio**	**1.91**	**226**	P	**Pn**	**07 32 06.6**	**-0.4**
SELS	**Selova**	**1.93**	**319**	*ePn*	**Pn**	**07 32 05.1**	**-2.1**
SELS				*eSn*	**Sn**	**07 32 31.3**	**-0.5**
BOVS	**Bovan**	**2.04**	**336**	⇑P	**Pn**	**07 32 10.4**	**+1.6**
BOVS				⇓S	**Sn**	**07 32 35.5**	**+0.9**
BOVS	**Bovan**	**2.04**	**336**	*ePg*	**Pn**	**07 32 10.1**	**+1.4**
BOVS				*eSg*	**Sb**	**07 32 36.4**	**-0.6**
RDO	**Rodhopi**	**2.13**	**106**	P	**Pn**	**07 32 09.9**	**+0.1**
RDO				S	**Sb**	**07 32 38.4**	**-0.9**
	comp=N,182nm,0.2s						
RDO	**Rodhopi**	**2.13**	**106**	P	**Pn**	**07 32 10.1**	**+0.3**
SMTH	**Samothraki Isl**	**2.42**	**122**	P	**Pn**	**07 32 12.6**	**-1.2**
XOR	**Xorichti**	**2.42**	**173**	P	**Pn**	**07 32 12.8**	**-1.1**
MDVR	**Moldovita**	**3.12**	**345**	⇑P	**Pn**	**07 32 26.4**	**+2.8**
DIVS	**Divibare**	**3.13**	**319**	*ePn*	**Pn**	**07 32 23.5**	**-0.2**
HERR	**Herculane**	**3.13**	**355**	⇑P	**Pn**	**07 32 25.9**	**+2.3**
GZR	**Gura Zlata**	**3.62**	**359**	⇑P	**Pn**	**07 32 33.5**	**+2.9**
BZS	**Buzias**	**3.95**	**348**	⇑P	**Pn**	**07 32 37.4**	**+2.5**
VOIR		**4.01**	**23**	⇑P	**Pn**	**07 32 38.3**	**+2.5**
SURR	**Surduc**	**4.02**	**353**	⇑P	**Pn**	**07 32 38.7**	**+2.9**

*MEX **09** 07:45:22.3±0.4, 14.°02N×92.°41W, h17km±105km, MD3.9*
*GCG **09** 07:45:24.8±0.8, 14.°31N×92.°15W, h65km±15km, MD3.6*
ISC 09 07:45:21.8±2.4, 14.°1N±0.°1×92.°34W±0.°06, h27km±15km, n14, σ1.°56/27, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.77**	**76**	*i P*	**Pn**	**07 45 38.1**	**+1.1**
THIG		**0.79**	**5**	*i P*	**Pb**	**07 45 36.9**	**0.0**
THIG				*i S*	**Sn**	**07 45 49.8**	**+1.9**
STG3	**Santiaguito 3,**	**0.95**	**52**	*i P*	**Pb**	**07 45 40.0**	**+0.2**
STG3				*i S*	**Sb**	**07 45 51.8**	**-0.2**
CHUJ	**Union Juarez**	**0.99**	**13**	*eP*	**Pn**	**07 45 39.5**	**-0.7**
CHUJ				*eS*	**Sb**	**07 45 53.2**	**-0.1**
PATR	**El Naranjo**	**0.99**	**6**	*eP*	**Pn**	**07 45 39.5**	**-0.7**
PATR				*i S*	**Sb**	**07 45 52.9**	**-0.5**
PAVE	**Pavencul**	**1.08**	**8**	*eP*	**Pn**	**07 45 40.7**	**-0.7**
PAVE				*i S*	**Sb**	**07 45 55.3**	**-0.5**
FUG	**Fuego 3**	**1.49**	**77**	*i P*	**Pn**	**07 45 46.8**	**-0.2**
FUG				*i S*	**Sn**	**07 46 02.3**	**-3.3**
PCIG		**1.79**	**332**	*eP*	**Pn**	**07 45 50.0**	**-1.0**
PCIG				*eS*	**Sn**	**07 46 11.6**	**-1.2**
NBG	**Las Nubes**	**1.99**	**76**	*i P*	**Pn**	**07 45 54.7**	**+0.9**
NBG				*i S*	**Sb**	**07 46 22.7**	**+0.9**
CCIG	**Comitan**	**2.16**	**5**	*i P*	**Pb**	**07 45 59.6**	**-0.7**
CCIG				*i S*	**Sb**	**07 46 27.8**	**+1.1**
CARR	**Arriaga**	**2.60**	**324**	*eP*	**Pn**	**07 46 02.3**	**+0.2**
CARR				*eS*	**Sn**	**07 46 32.3**	**-0.6**
TGIG		**2.75**	**344**	*eP*	**Pn**	**07 46 04.8**	**+0.6**
TGIG				*eS*	**Sn**	**07 46 35.6**	**-0.9**
NILT	**Santiago Nilte**	**3.28**	**318**	*eP*	**Pn**	**07 46 11.0**	**-0.4**
NILT				*eS*	**Sn**	**07 46 47.4**	**-2.1**
UXUV	**UXUV**	**3.62**	**332**	*eP*	**Pn**	**07 46 17.7**	**+1.5**
UXUV				*eS*	**Sn**	**07 47 03.1**	**+5.0**

*SKO **09** 07:54:16.2, 41.°12N×20.°84E, h16km, ML3.2*
*THE **09** 07:54:16.7, 41.°17N×20.°92E, h0km±2km, ML3.0/8, Error ellipse: s-maj=2.4km s-min=0.9km az=21.0*
*TIR **09** 07:54:16.9, 41.°13N×20.°89E, h5km±2km, Ml3.3*
*PDG **09** 07:54:17.5±0.4, 41.°13N×20.°91E, h10km±1km, ML3.0/8, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
*BEO **09** 07:54:17.3±0.4, 41.°11N×20.°84E, h6km±2km, ML2.9/9*
ISC 09 07:54:17.2±1.0, 41.°11N±0.°01×20.°93E±0.°02, h3km±8km, n92, σ1.°12/145, 19C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.10**	**269**	*ePg*	**Pg**	**07 54 18.8**	**-0.5**
OHR				*eSg*	**Sg**	**07 54 20.0**	**-0.7**
OHR	**Ohrid**	**0.10**	**269**	⇑*iPg*	**Pg**	**07 54 18.8**	**-0.5**
OHR				*i Sg*	**Sg**	**07 54 19.9**	**-0.8**
OHR				*eLg*	Lg	07 54 20.1	
	comp=N,19μm,0.4s						
OHR				*eLg*	Lg	07 54 20.1	
	comp=E,45μm,0.4s						
FNA	**Florina**	**0.47**	**134**	P	**Pb**	**07 54 27.1**	**-1.0**
FNA				S	**Sb**	**07 54 35.0**	**-0.5**
	comp=E,10μm,0.3s						
FNA	**Florina**	**0.47**	**134**	P	**Pb**	**07 54 27.1**	**-1.0**
	baz=132						
FNA				S	**Sb**	**07 54 35.3**	**-0.1**
	baz=132						
FNA	**Florina**	**0.47**	**134**	*ePg*	**Pb**	**07 54 27.2**	**-1.0**
FNA				*eSg*	**Sb**	**07 54 35.7**	**+0.2**
FNA	**Florina**	**0.47**	**134**	⇑*iPg*	**Pb**	**07 54 27.2**	**-1.0**
FNA				*i Sg*	**Sb**	**07 54 35.3**	**-0.1**
KBN	**Korca**	**0.50**	**193**	P	**Pg**	**07 54 27.2**	**+0.4**
KBN				S	**Sg**	**07 54 34.7**	**+1.4**
	comp=E,2μm,0.6s						
KBN	**Korca**	**0.50**	**193**	P	**Pg**	**07 54 27.3**	**+0.4**
	baz=189						
KBN				S	**Sb**	**07 54 35.2**	**-1.1**
	baz=189						
KBN				AMP			
	comp=N,8.1nm,0.5s,baz=189						
NEST	**Nestorio**	**0.70**	**173**	P	**Pg**	**07 54 30.6**	**-0.1**
NEST				S	**Sn**	**07 54 42.7**	**-2.8**
	comp=N,2μm,0.4s						
TIR	**Tirane**	**0.84**	**287**	⇑P	**Pg**	**07 54 31.9**	**-1.4**
TIR	**Tirane**	**0.84**	**287**	P	**Pg**	**07 54 31.5**	**-1.8**
TIR				S	**Sg**	**07 54 43.8**	**-0.4**
TIR	**Tirane**	**0.84**	**287**	P	**Pg**	**07 54 31.6**	**-1.8**
	baz=287						
TIR				S	**Sg**	**07 54 44.7**	**+0.5**
	baz=287						
TIR	**Tirane**	**0.84**	**287**	*i* Pg	**Pg**	**07 54 31.9**	**-1.4**
TIR				*i* Sg	**Sg**	**07 54 44.5**	**+0.2**
PENT	**Pentalofos**	**0.93**	**170**	P	**Pg**	**07 54 35.1**	**+0.1**
PENT				S	**Sn**	**07 54 49.1**	**-2.0**
SKO	**Skopje**	**0.94**	**24**	*ePg*	**Pb**	**07 54 36.2**	**+0.1**
SKO				*eSg*	**Sn**	**07 54 49.4**	**-1.8**
SKO	**Skopje**	**0.94**	**24**	*i Pg*	**Pb**	**07 54 36.0**	**-0.1**
SKO				*i Sg*	**Sb**	**07 54 48.3**	**-0.7**
LSK	**Leskovik**	**0.99**	**195**	P	**Pg**	**07 54 36.4**	**+0.1**
LSK				S	**Sn**	**07 54 51.9**	**-0.8**
LSK	**Leskovik**	**0.99**	**195**	P	**Pb**	**07 54 37.2**	**+0.1**
	baz=193						
LSK				S	**Sn**	**07 54 51.2**	**-1.5**
	baz=193						
LSK				AMP			
	comp=N,4.8nm,0.5s,baz=193						
STIP	**Stip**	**1.11**	**58**	⇑*iPg*	**Pn**	**07 54 41.5**	**+1.9**
GRG	**Griva**	**1.12**	**98**	P	**Pn**	**07 54 38.6**	**-1.2**
GRG				S	**Sn**	**07 54 55.2**	**-0.5**
	comp=N,602nm,0.6s						
GRG	**Griva**	**1.12**	**98**	⇑*iPg*	**Pn**	**07 54 38.7**	**-1.1**
GRG				*i Sg*	**Sn**	**07 54 55.6**	**-0.1**
KPRO	**Kipourio**	**1.20**	**164**	P	**Pg**	**07 54 40.5**	**+0.3**
KPRO				S	**Sn**	**07 54 59.3**	**+1.5**
	comp=N,842nm,0.5s						
VAY	**Valandovo**	**1.25**	**80**	⇑*iPg*	**Pg**	**07 54 40.9**	**-0.4**
VAY				*i Sg*	**Sn**	**07 54 59.3**	**+0.4**
VAY				*eLg*	Lg	07 55 00.8	
	comp=N,135nm,0.4s						
VAY				*eLg*	Lg	07 55 01.0	
	comp=E,108nm,0.4s						
VLO	**Vlora**	**1.27**	**240**	P	**Pn**	**07 54 40.8**	**-1.0**
BCI	**Bajram Curri**	**1.41**	**333**	P	**Pb**	**07 54 44.2**	**0.0**
	baz=334						
BCI				S	**Sg**	**07 55 04.2**	**+1.6**
	baz=334						
BCI				AMP			
	comp=N,3.1nm,0.5s,baz=334						
SRN	**Sarande**	**1.42**	**210**	P	**Pb**	**07 54 44.2**	**-0.1**
SRN				S	**Sg**	**07 55 04.5**	**+1.6**
	comp=N,312nm,0.5s						
SRN	**Sarande**	**1.42**	**210**	P	**Pg**	**07 54 45.7**	**+1.2**
	baz=209						
SRN				S	**Sg**	**07 55 06.9**	**+4.0**
	baz=209						
SRN				AMP			
	comp=N,1.1nm,0.5s,baz=209						
JAN	**Janina**	**1.46**	**183**	P	**Pb**	**07 54 44.7**	**-0.2**
JAN				S	**Sg**	**07 55 06.6**	**+2.6**
	comp=N,502nm,0.6s						
KNT	**Kendrikon**	**1.48**	**87**	⇑*iPn*	**Pg**	**07 54 45.3**	**-0.4**
KNT				*i Sg*	**Sg**	**07 55 06.1**	**+1.2**
ULC	**Ulcinj**	**1.53**	**304**	⇑*iPg*	**Pn**	**07 54 43.5**	**-1.9**
ULC	**Ulcinj**	**1.53**	**304**	⇑*iPg*	**Pn**	**07 54 43.5**	**-1.9**
ULC				*i Sg*	**Sg**	**07 55 08.1**	**+1.8**
THE	**Thessaloniki**	**1.61**	**107**	⇑*iPn*	**Pg**	**07 54 47.3**	**-0.9**
THE				*i Sg*	**Sg**	**07 55 09.2**	**+0.2**
PRVS	**Prvonek**	**1.64**	**31**	*ePg*	**Pb**	**07 54 47.4**	**-0.6**
PRVS				*eSg*	**Sg**	**07 55 11.8**	**+2.1**
IGT	**Igoumenitsa**	**1.64**	**196**	P	**Pb**	**07 54 47.7**	**-0.4**
IGT				S	**Sg**	**07 55 09.9**	**-0.1**
	comp=N,352nm,0.7s						
IGT	**Igoumenitsa**	**1.64**	**196**	P	**Pg**	**07 54 49.1**	**+0.4**
	baz=196						
IGT				S	**Sg**	**07 55 13.2**	**+3.2**
	baz=196						
KEK	**Kerkira**	**1.65**	**212**	P	**Pb**	**07 54 48.0**	**-0.1**
KEK				S	**Sg**	**07 55 11.4**	**+1.4**
PVY	**Plav**	**1.65**	**334**	⇓*iPn*	**Pn**	**07 54 46.8**	**-0.4**
PVY				*i Sn*	**Sg**	**07 55 11.9**	**+1.7**
DRME	**Dracevica, Mon**	**1.69**	**310**	*ePn*	**Pn**	**07 54 46.3**	**-1.4**
DRME	**Dracevica, Mon**	**1.69**	**310**	⇑*iPn*	**Pn**	**07 54 47.1**	**-0.6**
DRME				*i Sn*	**Sg**	**07 55 12.8**	**+1.2**
BOSS	**Bosilegrad**	**1.80**	**39**	*ePg*	**Pb**	**07 54 49.9**	**-0.9**
BOSS				*eSg*	**Sg**	**07 55 15.3**	**+0.2**
KKB	**Krupnik**	**1.80**	**65**	*i Pn*	**Pb**	**07 54 50.0**	**-0.9**
KKB				*i Sg*	**Sg**	**07 55 15.2**	**0.0**
PDG	**Podgorica**	**1.82**	**317**	⇓P	**Pn**	**07 54 48.7**	**-0.6**
PDG				⇑S	**Sn**	**07 55 10.9**	**-2.0**
PDG	**Podgorica**	**1.82**	**317**	*ePn*	**Pb**	**07 54 50.8**	**-0.3**
PDG	**Podgorica**	**1.82**	**317**	*i Pn*	**Pn**	**07 54 49.0**	**-0.3**
PDG				*i Sn*	**Sg**	**07 55 17.1**	**+1.4**
PDG	**Podgorica**	**1.82**	**317**	⇑*iPn*	**Pn**	**07 54 49.5**	**+0.1**
PDG				*i Sn*	**Sb**	**07 55 15.6**	**+1.3**
BARS	**Barje**	**1.82**	**21**	⇑*iPn*	**Pb**	**07 54 50.6**	**-0.6**
BARS				*i Sg*	**Sg**	**07 55 17.9**	**+2.1**
SOH	**Sokhos**	**1.86**	**98**	*i Pn*	**Pb**	**07 54 50.9**	**-0.9**
SOH				*i Sg*	**Sg**	**07 55 16.8**	**-0.1**
BEY	**Berane**	**1.92**	**337**	*i Pn*	**Pn**	**07 54 52.0**	**+1.1**
IVA	**Berane**	**1.92**	**337**	⇑*iPn*	**Pn**	**07 54 51.5**	**+0.6**
IVA				*i Sn*	**Sb**	**07 55 17.2**	**-0.1**
SRS	**Serrai**	**2.01**	**89**	*ePg*	**Pb**	**07 54 53.3**	**-1.1**
SRS				*eSg*	**Sg**	**07 55 22.3**	**+0.6**
SRS	**Serrai**	**2.01**	**89**	*i Pn*	**Pb**	**07 54 53.4**	**-0.9**
CEME	**Cevo**	**2.08**	**314**	⇓*iPn*	**Pn**	**07 54 54.0**	**+1.0**
CEME				*i Sn*	**Sb**	**07 55 22.1**	**+0.3**
SELS	**Selova**	**2.11**	**4**	*ePg*	**Pn**	**07 54 52.7**	**-0.7**
SELS				*eSg*	**Sb**	**07 55 23.9**	**+1.2**
MMB	**Musomishta**	**2.16**	**78**	*ePn*	**Pb**	**07 54 55.5**	**-1.6**
HCY	**Herceg Novi**	**2.26**	**307**	*ePn*	**Pn**	**07 54 56.1**	**+0.7**
HCY	**Herceg Novi**	**2.26**	**307**	⇓*iPn*	**Pn**	**07 54 57.0**	**+1.6**
HCY				*i Sn*	**Sb**	**07 55 26.4**	**-0.6**
SJES	**Sjenica**	**2.26**	**342**	*ePg*	**Pn**	**07 54 56.4**	**+0.8**
SJES				*eSg*	**Sb**	**07 55 29.1**	**+1.9**
SJES	**Sjenica**	**2.26**	**342**	*ePn*	**Pn**	**07 54 55.9**	**+0.3**
ZAPS	**Zavoj**	**2.50**	**30**	*ePg*	**Pb**	**07 55 02.0**	**-0.8**
ZAPS				*eSg*	**Sg**	**07 55 38.3**	**+0.7**
TREB	**Trebinje**	**2.51**	**311**	*ePn*	**Pn**	**07 54 59.5**	**+0.7**
UPM	**Unac-Piva**	**2.58**	**325**	*ePn*	**Pb**	**07 55 02.4**	**-1.7**
UPM	**Unac-Piva**	**2.58**	**325**	⇑*iPn*	**Pn**	**07 55 00.4**	**+0.4**
UPM				*i Sn*	**Sn**	**07 55 33.9**	**+2.0**
BOVS	**Bovan**	**2.58**	**13**	⇓P	**Pn**	**07 55 00.0**	**+0.2**
DBRK	**Dubrovnik**	**2.60**	**308**	*ePn*	**Pn**	**07 55 00.8**	**+0.8**
DBRK				Sn	**Sn**	**07 55 33.3**	**+1.2**
RUDO	**Rudo**	**2.76**	**336**	*ePn*	**Pn**	**07 55 03.3**	**+1.0**
GRUS	**Gruza**	**2.78**	**357**	*ePn*	**Pn**	**07 55 02.9**	**+0.3**
BLKB	**Belogradchik**	**2.82**	**27**	⇓S	**Sn**	**07 55 39.4**	**+1.7**
ZAGS	**Zajecar**	**2.86**	**19**	*ePn*	**Pn**	**07 55 04.2**	**+0.5**
BBLS	**Lazići**	**2.98**	**338**	*ePn*	**Pn**	**07 55 05.6**	**+0.3**
BBLS	**Lazići**	**2.98**	**338**	*ePn*	**Pn**	**07 55 05.4**	**+0.1**
STON	**Ston**	**2.98**	**307**	*ePn*	**Pn**	**07 55 05.9**	**+0.6**
STON				Sn	**Sn**	**07 55 41.9**	**+0.3**
STON	**Ston**	**2.98**	**307**	*ePn*	**Pn**	**07 55 05.7**	**+0.4**
DIVS	**Divibare**	**3.06**	**347**	*ePn*	**Pn**	**07 55 06.4**	**-0.2**
DIVS	**Divibare**	**3.06**	**347**	*ePn*	**Pn**	**07 55 05.6**	**-1.0**
MATE	**Matera**	**3.24**	**263**	⇑P	**Pn**	**07 55 08.5**	**-0.4**
LSTV	**Lastovo**	**3.44**	**300**	*ePn*	**Pn**	**07 55 11.4**	**-0.3**
LSTV				Sn	**Sn**	**07 55 51.1**	**-1.7**
TEKS	**Tekeris**	**3.59**	**344**	*ePn*	**Pn**	**07 55 13.5**	**-0.2**
RICI	**Ricice**	**3.69**	**311**	*ePn*	**Pn**	**07 55 16.1**	**+1.0**
MDVR	**Moldovita**	**3.71**	**9**

8.9nm,0.3s
PMG Port Moresby 17.73 274 LR LR 08 15 59.3
comp=Z,445nm,19.0s,baz=106,slow=37
RK1H Rockhampton Ha 18.42 227 P **Pn** **08 09 19.9 +1.8**
EIDS Eidsvold 19.32 221 P **Pn** **08 09 30.5 +1.5**
TV1H Townsville Har 19.35 243 P **Pn** **08 09 31.4 +2.1**
MANU Manus Island 19.81 296 P **P** **08 09 33.2 0.0**
CTA Charters Tower 20.13 242 P Pn 08 09 38.1 -0.6
CTA Charters Tower 20.13 242 P **P** **08 09 33.2 -3.5**
3.1nm,0.8s,baz=52,slow=11,SNR=10.0
CTA LR LR 08 16 17.8
comp=Z,225nm,18.7s,baz=77,slow=34
3.1nm,0.8s
CTAO Charters Tower 20.13 242 P **P** **08 09 36.0 -0.7**
CTAO Charters Tower 20.13 242 P Pn 08 09 38.2 -0.5
MTSU Mount Surprise 21.21 249 P **P** **08 09 49.3 +0.9**
COEN Coen 21.55 260 P **P** **08 09 51.8 -0.3**
COEN IAmb IAmb 08 10 05.1
comp=Z,35nm,1.1s
COEN Coen 21.55 260 P **P** **08 09 52.9 +0.9**
COEN Coen 21.55 260 P **P** **08 09 53.3 +1.3**
RMQ Roma 21.61 223 P **P** **08 09 54.1 +1.5**
AFI Afiamalu 22.74 99 LR LR 08 17 03.0
comp=Z,278nm,19.2s,baz=244,slow=32
ARMA Armidale 22.81 211 P **P** **08 10 06.8 +1.2**
ARMA Armidale 22.81 211 P **P** **08 10 07.5 +2.0**
AUPHS Peel High Scho 23.74 211 P **P** **08 10 16.6 +2.0**
AULRC Lightning Ridg 24.12 219 P **P** **08 10 18.1 -0.1**
QLP Quilpie 24.88 229 P **P** **08 10 26.4 +1.3**
OUZ Omahuta 25.10 163 P **P** **08 10 29.6 +2.6**
AUDCS Dubbo College 25.81 213 P **P** **08 10 36.5 +2.9**
QIS Mount Isa 26.16 246 P **P** **08 10 38.3 +1.4**
CMSA Cobar Meteorol 27.00 219 P **P** **08 10 44.9 +0.6**
CMSA Cobar Meteorol 27.00 219 P **P** **08 10 47.9 +3.6**
CAN Canberra 28.08 209 P **P** **08 10 53.9 -0.1**
CAN IAmb IAmb 08 11 08.6
comp=Z,35nm,1.4s
INKA Innaminka 28.12 231 P **P** **08 10 55.7 +1.4**
INKA Innaminka 28.12 231 P **P** **08 10 57.7 +3.4**
URZ Urewera 28.98 160 P **P** **08 11 01.1 -0.8**
comp=Z,11nm,0.8s,baz=340,slow=12,SNR=2.2
comp=Z,11nm,0.8s
RTZ Ruatahuna 29.26 161 P **P** **08 11 05.0 +0.5**
BKZ Black Stump Fm 29.61 162 P **P** **08 11 09.0 +1.5**
BKZ IAmb IAmb 08 11 22.7
comp=Z,23nm,1.2s
BKZ Black Stump Fm 29.61 162 P **P** **08 11 08.8 +1.2**
STKA Stephens Creek 29.86 223 P **P** **08 11 09.2 -0.5**
STKA Stephens Creek 29.86 223 P **P** **08 11 08.2 -1.5**
comp=Z,5.6nm,0.7s,baz=4.1,slow=14,SNR=7.0
STKA PcP **PcP** **08 14 12.2 -0.4**
comp=Z,1.9nm,0.8s,baz=334,slow=5.8,SNR=3.1
STKA LR LR 08 22 14.2
comp=Z,192nm,21.9s,baz=26,slow=35
comp=Z,5.6nm,0.7s
WR0 Warramunga Arr 30.62 250 P **P** **08 11 14.9 -1.8**
WB0 Warramunga Arr 30.72 250 P **P** **08 11 16.7 -0.8**
WB0 IAmb IAmb 08 11 20.1
comp=Z,14nm,0.7s
WRAB Tennant Creek 30.79 250 P **P** **08 11 17.4 -0.8**
WRAB IAmb IAmb 08 11 20.3
comp=Z,9.0nm,0.8s
WRAB Tennant Creek 30.79 250 P **P** **08 11 18.4 +0.2**
WRAB Tennant Creek 30.79 250 P **P** **08 11 18.9 +0.7**
WB2 Warramunga Arr 30.79 250 P **P** **08 11 17.4 -0.8**
WB2 IAmb IAmb 08 11 31.4
comp=Z,23nm,1.4s
WRA Warramunga Arr 30.80 250 P **P** **08 11 17.9 -0.4**
WRA Warramunga Arr 30.80 250 P **P** **08 11 16.3 -2.0**
comp=Z,6.1nm,0.7s,baz=82,slow=9.0,SNR=38
WRA PcP **PcP** **08 14 15.9 +0.6**
comp=Z,1.1nm,0.8s,baz=86,slow=2.5,SNR=5.0
comp=Z,6.1nm,0.7s
BFZ Birch Farm 30.94 163 P **P** **08 11 20.0 +0.8**
LCRK Leigh Creek 31.41 228 P **P** **08 11 24.0 +0.5**
LCRK Leigh Creek 31.41 228 P **P** **08 11 24.3 +0.8**
GUMO Guam 31.79 320 LR LR 08 24 21.2
comp=Z,169nm,18.2s,baz=146,slow=36
KDU Kakadu 31.92 264 P **P** **08 11 27.6 -0.5**
OOD Oodnadatta 32.10 235 P **P** **08 11 30.4 +0.8**
AS31 Alice Springs 32.12 243 P **P** **08 11 29.8 -0.1**
ASAR Alice Springs 32.12 243 P **P** **08 11 30.0 +0.1**
ASAR Alice Springs 32.12 243 P **P** **08 11 28.0 -1.9**
comp=Z,6.0nm,0.7s,baz=69,slow=9.4,SNR=48
ASAR PcP **PcP** **08 14 18.1 -0.7**
comp=Z,1.5nm,0.8s,baz=63,slow=3.2,SNR=7.4
ASAR LR LR 08 23 33.7
comp=Z,171nm,19.5s,baz=75,slow=35
comp=Z,6.0nm,0.7s
HTT Hallett 32.59 223 P **P** **08 11 35.2 +1.3**
HTT Hallett 32.59 223 P **P** **08 11 35.7 +1.8**
RPZ Rata Peaks 32.77 172 LR LR 08 23 54.7
comp=Z,206nm,18.2s,baz=338,slow=35
JCZ Jackson Bay 32.88 175 P **P** **08 11 38.1 +1.8**
MTN Manton Dam 33.23 264 P **P** **08 11 39.6 0.0**
FAKI Fak Fak 33.58 282 P **P** **08 11 42.6 -0.1**
FAKI IAmb IAmb 08 11 50.4
comp=Z,10nm,0.6s
FAKI Fak Fak 33.58 282 P **P** **08 11 44.5 +1.8**
BBOO Buckleboo 34.22 227 P **P** **08 11 47.1 -0.9**
BBOO IAmb IAmb 08 11 51.8
comp=Z,16nm,0.9s
BBOO Buckleboo 34.22 227 P **P** **08 11 48.9 +0.8**
MULG Mulgathing 34.47 232 P **P** **08 11 50.1 -0.1**
MULG Mulgathing 34.47 232 P **P** **08 11 51.6 +1.4**
RAR Rarotonga 35.10 111 LR LR 08 23 15.8
comp=Z,62nm,19.2s,baz=250,slow=31
KNRA Kununurra 35.56 259 P **P** **08 11 59.7 -0.1**
KNRA Kununurra 35.56 259 P **P** **08 11 59.5 -0.3**
KNRA Kununurra 35.56 259 P **P** **08 12 00.2 +0.4**
WRKA Warakurna 37.41 243 P **P** **08 12 16.3 +0.7**
WRKA Warakurna 37.41 243 P **P** **08 12 16.9 +1.3**
DAV Davao City (W) 43.31 293 LR LR 08 32 06.9
comp=Z,36nm,18.3s,baz=106,slow=38
JCJ Chichijima 44.11 330 P **P** **08 13 10.9 +0.3**
PPT Papeete 44.29 104 LR LR 08 28 21.8
comp=Z,86nm,18.8s,baz=300,slow=32
PPT2 Papeete2 44.29 104 *e*S **S** **08 19 50.0 +5.3**
comp=Z,101nm,29.2s
PPT2 *e*LR LR 08 25 28.6
comp=Z,313nm,33.2s
PPT2 *e*LR LR 08 25 35.4
comp=Z,142nm,36.8s
PSA00 Pilbara Seismi 44.45 251 P **P** **08 13 11.7 -1.9**
TBI Tubuai 44.87 112 *e*LR LR 08 25 47.7
comp=Z,3μm,25.8s
TBI *e*LR LR 08 25 57.3
comp=Z,1μm,28.0s
MEEK Meekatharra 46.28 244 P **P** **08 13 29.3 +1.3**
NWAO Narrogin (SRO) 48.81 236 LR LR 08 34 14.8
comp=Z,249nm,20.3s,baz=16,slow=36
MORW Morawa 48.96 241 P **P** **08 13 49.9 +1.1**
MORW IAmb IAmb 08 14 05.4
comp=Z,17nm,1.1s
JMN Monobe 53.67 328 P **P** **08 14 24.3 +0.3**
JMN Monobe 53.67 328 P **P** **08 14 24.6 +0.6**
MJAR Matsushiro Arr 53.84 333 P **P** **08 14 23.8 -1.3**
comp=Z,1.5nm,0.5s,baz=156,slow=12,SNR=6.5
comp=Z,1.5nm,0.5s
JNU Nakatsue 54.85 325 P P 08 14 41.7 +9.0
comp=Z,4.8nm,0.7s,baz=54,slow=2.2,SNR=5.0
JNU LR LR 08 35 15.8
comp=Z,23nm,21.2s,baz=183,slow=33
ASAJ Asahikawa 58.76 341 LR LR 08 37 10.1
comp=Z,48nm,20.5s,baz=104,slow=33
KSRS Korea Array 59.67 326 P **P** **08 15 04.3 -2.2**
comp=Z,0.3nm,0.3s,baz=154,slow=6.7,SNR=1.6
comp=Z,0.3nm,0.3s
NJ2 Nanjing 61.70 316 *e*P **P** **08 15 22.5 +2.1**
NJ2 pP **pP** **08 15 27.9 -0.3**
NJ2 sP **sP** **08 15 31.2 +0.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 pmax pmax
comp=Z,300nm,4.3s
MDJ Mudanjiang 64.21 333 P **P** **08 15 36.6 -0.3**
MDJ pmax pmax
comp=Z,6.0nm,0.7s
MDJ pmax pmax
comp=Z,120nm,3.5s
PEA0B Petropavlovsk- 64.40 355 P **P** **08 15 37.9 0.0**
PETK Petropavlovsk- 64.40 355 P **P** **08 15 37.9 -0.1**
PETK Petropavlovsk- 64.40 355 LR LR 08 37 53.9
comp=Z,53nm,22.0s,baz=161,slow=31
SBA Scott Base 66.61 180 P **P** **08 15 53.7 +1.7**
SBA IAmb IAmb 08 15 54.4
comp=Z,10nm,1.1s
XAN Xi'an 69.77 313 P **P** **08 16 11.8 -0.7**
XAN pP pP 08 16 17.9 -2.4
XAN pmax pmax
comp=Z,12nm,1.4s
MA2 Magadan 71.51 352 LR LR 08 42 45.3
comp=Z,30nm,20.6s,baz=183,slow=32
CMAR Chiang Mai Arr 71.59 294 P **P** **08 16 23.7 -0.2**
comp=Z,1.7nm,0.3s,baz=122,slow=4.0,SNR=9.2
CMAR LR LR 08 48 54.6
comp=Z,16nm,18.8s,baz=55,slow=37
comp=Z,1.7nm,0.3s
PZH PanZhiHua 72.03 303 P **P** **08 16 29.7 +3.2**
PZH pmax pmax
comp=Z,10.0nm,0.4s
PZH pmax pmax
comp=Z,120nm,4.7s
BTO Baotou 72.40 319 *e*P **P** **08 16 31.9 +3.4**
BTO pP **sP** **08 16 37.8 -1.4**
BTO sP **pwP** **08 16 42.1 -1.8**
BTO PP PP 08 19 20.4 +11
BTO S **SKiKP** **08 25 58.3 -3.6**
LZH Lanzhou 74.40 313 *e*P **P** **08 16 43.3 +2.9**
LZH pP pP 08 16 49.2 +1.0
LZH sP PcP 08 16 53.4 -1.6
LZH pmax pmax
comp=Z,26nm,0.9s
SONM Songino Array 78.43 324 P **P** **08 17 03.3 +0.4**
SONM Songino Array 78.43 324 P **P** **08 17 01.4 -1.5**
comp=Z,1.3nm,0.8s,baz=134,slow=8.5,SNR=5.4
SONM LR LR 08 50 34.6
comp=Z,40nm,20.0s,baz=74,slow=35
comp=Z,1.3nm,0.8s
QSPA South Pole Qui 78.77 180 P **P** **08 17 02.7 -1.8**
comp=Z,13nm,1.1s,baz=45,slow=1.1,SNR=24
comp=Z,13nm,1.1s
MDM Murphy Dome 83.61 18 P **P** **08 17 30.0 -0.1**
MDM IAmb IAmb 08 17 52.3
comp=Z,5.6nm,1.0s
HDA Harding Lake 83.63 19 P **P** **08 17 31.1 +0.9**
HDA IAmb IAmb 08 17 52.0
comp=Z,6.7nm,0.8s
M26K Nabesna, AK 83.66 22 P **P** **08 17 30.5 +0.1**
M26K IAmb IAmb 08 17 31.2
comp=Z,10nm,1.0s
IL31 83.90 19 P **P** **08 17 32.1 +0.7**
ILAR Eielson Array 83.90 19 P **P** **08 17 31.5 0.0**
ILAR Eielson Array 83.90 19 P **P** **08 17 29.1 -2.4**
comp=Z,2.1nm,0.7s,baz=238,slow=5.2,SNR=36
comp=Z,2.1nm,0.7s
M27K Edge Creek, AK 84.04 22 P **P** **08 17 33.5 +1.0**
J25K Salcha River, 84.28 19 P **P** **08 17 33.6 +0.1**
J25K IAmb IAmb 08 17 47.1
comp=Z,6.8nm,1.0s
MAW Mawson 84.30 202 P **P** **08 17 32.5 -1.0**
comp=Z,2.6nm,0.7s,baz=183,slow=5.5,SNR=2.7
comp=Z,2.6nm,0.7s
L27K Beaver Creek, 84.49 21 P **P** **08 17 35.2 +0.6**
L27K IAmb IAmb 08 17 35.6
comp=Z,3.6nm,0.8s
YBH Yreka Blue Hor 84.49 46 P **P** **08 17 34.2 -1.0**
YBH IAmb IAmb 08 17 47.5
comp=Z,7.2nm,1.1s
YBH Yreka Blue Hor 84.49 46 LR LR 08 44 54.0
comp=Z,29nm,21.5s,baz=244,slow=28
BCAR Beaver Creek A 84.51 21 P **P** **08 17 35.4 +0.7**
HYT Haines Junctio 84.83 24 P **P** **08 17 36.8 +0.4**
HYT IAmb IAmb 08 17 37.0
comp=Z,9.2nm,1.0s
BBB Bella Bella 85.11 35 LR LR 08 45 33.0
comp=Z,44nm,21.8s,baz=242,slow=29
E03A Lebam 85.62 41 P **P** **08 17 40.4 -0.1**
CBB Campbell River 85.81 37 P **P** **08 17 41.8 +0.3**
CBB IAmb IAmb 08 17 53.5
comp=Z,6.4nm,0.9s
DAWY Dawson 85.97 21 P **P** **08 17 42.2 +0.3**
J05D Fort Rock, OR 86.04 45 P **P** **08 17 43.4 +0.5**
M30M Minto, Yukon 86.09 23 P **P** **08 17 42.9 +0.3**
CLRS Cowichan Lake 86.10 39 P **P** **08 17 42.5 -0.3**
K05A Summer Lake 86.10 45 P **P** **08 17 43.5 +0.3**
S34M Telegraph Cree 86.12 29 P **P** **08 17 43.8 +1.1**
BMAR Burnt Mountain 86.38 17 P **P** **08 17 44.9 +1.0**
PINE Pine Mountain 86.41 44 P **P** **08 17 45.2 +0.4**
PINE IAmb IAmb 08 17 58.4
comp=Z,5.0nm,0.9s
GNW Green Mountain 86.46 40 P **P** **08 17 44.8 +0.2**
K29M Barlow Dome 86.52 22 P **P** **08 17 45.4 +0.6**
I28M Miner Creek 86.60 20 P **P** **08 17 45.0 -0.1**
I28M IAmb IAmb 08 17 55.9
comp=Z,11nm,1.5s
NVAR Mina Array Bea 86.64 50 P **P** **08 17 44.3 -1.8**
comp=Z,1.6nm,0.8s,baz=230,slow=8.4,SNR=9.3
NVAR LR LR 08 47 57.5
comp=Z,56nm,21.4s,baz=267,slow=30
comp=Z,1.6nm,0.8s
PFO Pinyon Flats O 86.73 55 LR LR 08 48 35.2
comp=Z,48nm,19.2s,baz=236,slow=30
NV11 Mina Array Sit 86.76 50 P **P** **08 17 47.8 +1.2**
I29M Ogilvie Camp, 87.10 21 P **P** **08 17 47.4 0.0**
I29M IAmb IAmb 08 18 09.1
comp=Z,4.1nm,0.8s
J08A Circle Bar Ran 87.98 45 P **P** **08 17 52.2 -0.1**
J08A IAmb IAmb 08 17 53.1
comp=Z,5.6nm,1.1s
G29M Pine Creek 88.09 19 P **P** **08 17 52.5 +0.3**
G29M IAmb IAmb 08 17 55.9
comp=Z,3.7nm,1.1s
WMQ Urumqi 88.77 315 *e*P **P** **08 17 57.9 +1.9**
WMQ pP pP 08 18 04.7 +0.7
WMQ sP sP 08 18 06.2 -0.7
WMQ pmax pmax
comp=Z,16nm,0.7s
NEW Newport 90.31 41 LR LR 08 50 15.1
comp=Z,33nm,20.2s,baz=305,slow=30
BELA Belgrano 2 90.35 176 P **P** **08 18 02.3 -0.4**
BELA IAmb IAmb 08 18 03.1
comp=Z,8.5nm,1.0s
HLID Hailey 90.88 46 P **P** **08 18 06.2 +0.3**
MTPU Mount Pierson 91.19 52 P **P** **08 18 09.7 +1.9**
MTPU IAmb IAmb 08 18 21.4
comp=Z,3.8nm,1.0s
HVU Hansel Valley 91.62 48 P **P** **08 18 10.2 +0.8**
HVU IAmb IAmb 08 18 17.2
comp=Z,9.2nm,1.4s
CHMT Chamberlain Mo 92.49 43 P **P** **08 18 13.3 -0.1**
DLMT Dillon 92.57 44 P **P** **08 18 13.9 +0.1**
SMAI San Martin Ant 92.63 163 P **P** **08 18 14.3 +0.9**
SMAI IAmb IAmb 08 18 14.4
comp=Z,5.2nm,1.1s
MKAR Makanchi Array 93.21 317 P **P** **08 18 17.1 +0.6**
MKAR Makanchi Array 93.21 317 P **P** **08 18 15.7 -0.8**
comp=Z,0.9nm,0.7s,baz=92,slow=6.3,SNR=5.1
comp=Z,0.9nm,0.7s
ELIB Princess Elisa 93.22 191 *d*P **P** **08 18 16.1 -0.2**
BOZ Bozeman (W) 93.29 44 P **P** **08 18 17.4 +0.3**
BOZ IAmb IAmb 08 18 18.1
comp=Z,2.8nm,0.9s
ZALV Zalesovo Beam 93.33 324 P **P** **08 18 14.6 -2.1**
comp=Z,0.6nm,0.4s,baz=115,slow=5.4,SNR=2.2
comp=Z,0.6nm,0.4s
PDAR Pinedale Array 94.16 47 P **P** **08 18 21.7 +0.4**
PDAR Pinedale Array 94.16 47 P **P** **08 18 17.8 -3.4**
comp=Z,0.9nm,0.9s,baz=251,slow=2.8,SNR=6.3
PDAR LR LR 09 01 07.1
comp=Z,41nm,18.0s,baz=327,slow=36
comp=Z,0.9nm,0.9s
ANMO Albuquerque 95.09 56 LR LR 08 53 30.2
comp=Z,22nm,19.8s,baz=24,slow=31
YKA Yellowknife Ar 95.44 27 LR LR 09 01 07.5
comp=Z,38nm,18.6s,baz=304,slow=35
TROLL Troll, Antarti 96.13 185 ⇑P **P** **08 18 29.4 -0.2**
comp=Z,299nm,0.8s
KSH Kashi 96.36 309 P P 08 18 36.3 +5.1
TXAR Lajitas Array 96.49 61 P **P** **08 18 32.0 -0.1**
TXAR Lajitas Array 96.49 61 P **P** **08 18 31.1 -0.9**
comp=Z,0.4nm,0.7s,baz=224,slow=5.2,SNR=5.8
TXAR LR LR 08 52 47.6
comp=Z,48nm,21.2s,baz=286,slow=30
comp=Z,0.4nm,0.7s
SNAA Sanae 96.89 184 P **P** **08 18 32.5 -0.4**
SNAA Sanae 96.89 184 ⇑P **P** **08 18 32.4 -0.6**
comp=Z,56nm,0.7s
SNAA Sanae 96.89 184 P **P** **08 18 31.9 -1.0**
comp=Z,3.0nm,0.8s,baz=183,slow=3.4,SNR=11
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 116.35 345 PKP **PKPdf** **08 23 43.9 -1.1**
comp=Z,1.7nm,0.8s,baz=79,slow=0.6,SNR=9.4
FINES FINESS Array B 121.71 338 PKP **PKPdf** **08 23 54.1 -1.3**
comp=Z,1.3nm,0.8s,baz=33,slow=7.3,SNR=5.0
BOSA Boshof 124.53 224 PKP **PKPdf** **08 24 01.1 -1.1**
comp=Z,3.8nm,1.0s,baz=168,slow=9.3,SNR=4.5
KEST Kesra 147.17 322 PKPbc **PKPbc** **08 24 45.5 -0.1**
comp=Z,9.2nm,0.8s,baz=122,slow=1.2,SNR=8.1
PGAV Gavieira, Arco 148.84 350 *e*PKPbc **PKiKP** **08 24 52.3 +0.9**
POLO Lamas de Olo 149.33 349 *e*PKPbc **PKPbc** **08 24 51.6 +0.4**
MVO Moncorvo 149.39 348 *e*PKPbc **PKiKP** **08 24 52.3 -0.2**
PVIS Viseu 149.99 349 *e*PKPbc **PKPbc** **08 24 52.8 0.0**
ESDC Sonseca Array 150.05 343 PKPbc **PKPbc** **08 24 52.6 -0.4**
comp=Z,2.1nm,1.0s,baz=11,slow=1.6,SNR=11
MTE Manteigas 150.23 349 *e*PKPbc **PKiKP** **08 24 54.2 0.0**
PCAS Casmilo, Conde 150.74 350 *e*PKPbc **PKPbc** **08 24 54.7 +0.1**
PMRV Marv??o 151.14 348 *e*PKPbc **PKPbc** **08 24 55.7 +0.2**
PMTG Montargil 151.65 349 *e*PKPbc **PKPbc** **08 24 56.8 +0.1**
PBEJ Beja 152.58 348 *e*PKPbc **PKiKP** **08 24 59.4 +0.3**
PCVE Castro Verde 153.00 348 *e*PKPbc **PKiKP** **08 25 00.4 +0.4**
PTEO Sao Teotonio 153.22 349 *e*PKPbc **PKiKP** **08 25 01.0 +0.6**
TORD Torodi Ar. Bea 163.65 278 PKP **PKPdf** **08 25 03.6 -2.3**
comp=Z,1.9nm,0.9s,baz=25,slow=1.9,SNR=6.4

HEL 09 08:12:11.2±0.1, 61°.54N×23°.99E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu** baz=216	**0.76**	**33**	PG	Pg	08 12 24.9	-0.8
KEF				SG	Sg	08 12 34.4	-1.2
KEF				MSG		08 12 34.8	
FIA0	**FINESS Array S**	**1.01**	**94**	PG	Pg	08 12 29.0	-1.4
FIA0				MSG		08 12 42.1	
FIA0				SG	Sg	08 12 42.4	-1.1
RAF	**Rauma**	**1.19**	**245**	PG	Pg	08 12 32.6	-1.4
RAF				MSG		08 12 47.2	
RAF				SB	Sg	08 12 48.4	-1.0
KAF	**Kangasniemi** baz=240	**1.24**	**61**	PG	Pg	08 12 33.5	-1.5
KAF				MSG		08 12 48.8	
KAF				SG	Sg	08 12 50.6	-0.5
PVF	**Pernaja** baz=319	**1.35**	**137**	PG	Pg	08 12 35.4	-1.6
PVF				MSG		08 12 51.9	
VAF	**Ylistaro**	**1.63**	**338**	MSG		08 13 00.2	
VAF				SG	Sn	08 13 01.8	-1.0
AAL	**Aland**	**2.38**	**237**	SG	Sn	08 13 22.9	+1.6
RUF	**Ruokolahti**	**2.38**	**90**	MSG		08 13 21.7	
RUF				SG	Sb	08 13 25.3	+0.5
NIF	**Nilsia**	**2.57**	**42**	SG	Sb	08 13 29.2	-1.0
JOF	**Joensuu**	**3.70**	**65**	SG	Sg	08 14 06.5	-3.4

*IDC **09** 08:12:45.6±1.0, 31°.90N×141°.81E, h0km, mb3.7/6, mbtmp3.7/9, ML3.4/3, Error ellipse: s-maj=34.1km s-min=17.5km az=75.0*

ISC 09 08:12:49.7±0.9, 31°.91N±0°.09×141°.8E±0°.2, h29km, n9, σ0°.89/10, mb3.7/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2** 24nm,0.3s,baz=142,slow=23,SNR=8.1 56nm,0.3s	**2.06**	**306**	Pn	**Pn**	**08 13 21.8**	**-0.6**
JCJ	**Chichijima** 13nm,0.3s,baz=87,slow=22,SNR=12	**4.81**	**176**	Pn	**Pn**	**08 13 59.3**	**-1.0**
JCJ	6.2nm,0.3s,baz=72,slow=19,SNR=1.5 51nm,0.4s			Sn	**Sn**	**08 14 55.8**	**+0.7**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=147,slow=11,SNR=6.9 1.0nm,0.4s	**5.48**	**328**	Pn	**Pn**	**08 14 08.3**	**-1.1**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=89,slow=11,SNR=1.6 0.4nm,0.6s	**47.24**	**306**	P	**P**	**08 21 21.1**	**+1.0**
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=89,slow=6.8,SNR=3.1 0.4nm,0.5s	**49.50**	**312**	P	**P**	**08 21 37.5**	**+0.1**
WRA	**Warramunga Arr** 4.2nm,0.9s,baz=5.0,slow=7.7,SNR=27 4.2nm,0.9s	**52.05**	**189**	P	**P**	**08 21 57.1**	**+0.3**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=215,slow=7.7,SNR=2.8 0.2nm,0.7s	**53.71**	**30**	P	**P**	**08 22 08.3**	**-0.4**
ASAR	**Alice Springs** 0.6nm,0.8s,baz=358,slow=5.5,SNR=7.5 0.6nm,0.8s	**55.78**	**189**	P	**P**	**08 22 24.1**	**0.0**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=291,slow=3.5,SNR=3.8 0.3nm,0.7s	**93.00**	**53**	P	**P**	**08 26 02.0**	**+1.2**

*IDC **09** 08:15:30.9±1.8, 54°.73N×83°.78E, h0km, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=17.1km s-min=10.8km az=12.0*

ISC 09 08:15:30.8±2.5, 54°.7N±0°.2×83°.69E±0°.08, h10km, n7, σ2°.21/7, 3C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=318,slow=318,SNR=3.8	**1.02**	**139**	I	I	08 21 21.8	
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=332,slow=18,SNR=3.3	**1.02**	**139**	Pg	**Pg**	**08 15 49.9**	**-0.6**
ZALV	6.2nm,0.3s,baz=326,slow=30,SNR=6.2			Lg	Lg	08 16 04.5	
KURK	**Kurchatov** 2.5nm,0.7s	**5.06**	**220**	⇑Pn	**Pg**	**08 17 05.4**	**-2.2**
KURK	8.9nm,0.9s			⇑Lg	Lg	08 18 13.3	
KURBB	**Kurchatov Arra** 3.4nm,0.8s,baz=32,slow=14	**5.17**	**219**	⇓Pn	**Pg**	**08 17 08.4**	**-1.3**
KURBB	5.3nm,0.6s,baz=40,slow=28			⇑Lg	Lg	08 18 18.6	
KURBB	**Kurchatov Arra** baz=39,slow=13,SNR=4.6	**5.17**	**219**	Pn	**Pn**	**08 16 50.6**	**+2.5**
KURBB	0.1nm,0.3s,baz=57,slow=6.8,SNR=2.3			Sn	**Sn**	**08 17 49.9**	**+2.2**
KURBB	0.1nm,0.3s,baz=42,slow=32,SNR=8.0 0.4nm,0.6s			Lg	Lg	08 18 19.6	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=7.6,slow=12,SNR=1.9 0.4nm,0.6s	**7.99**	**187**	Pn	**Pn**	**08 17 26.2**	**-0.7**
BVAR	**Borovoye Array** baz=66,slow=15,SNR=4.9 1.1nm,0.5s	**8.04**	**263**	Pn	**Pn**	**08 17 28.8**	**+1.2**

IDC 09 08:22:50.7±2.5, 53°.69N×86°.87E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=22.9km s-min=14.3km az=73.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=101,slow=326,SNR=2.4	**1.24**	**283**	I	I	08 31 00.0	
ZALV	**Zalesovo Beam** 1.7nm,0.3s,baz=98,slow=17,SNR=9.9	**1.24**	**283**	Pg	Pg	08 23 13.2	-1.3
ZALV	2.4nm,0.3s,baz=104,slow=30,SNR=8.8			Lg	Lg	08 23 31.6	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=56,slow=13,SNR=4.6	**5.98**	**242**	Pn	Pn	08 24 21.1	+0.7
KURBB	baz=61,slow=4.4,SNR=2.3 0.5nm,0.4s			Lg	Lg	08 25 59.7	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=24,slow=14,SNR=6.5 0.4nm,0.4s	**7.50**	**205**	Pn	Pn	08 24 42.8	+1.5

*NEIC **09** 08:47:48.6±2.0, 16°.39N±0°.05×95°.06W±0°.04, h10km±1km, mb4.1/13, Md4.3/22(MEX), Error ellipse: s-maj=9.6km s-min=3.5km az=37.0*

*MEX **09** 08:47:49.5±0.9, 16°.44N×95°.06W, h81km±14km, MD4.4*

*IDC **09** 08:47:51.3±7.6, 17°.14N×94°.80W, h0km, mb3.8/3,*

mbtmp3.7/4, ML3.7/1, MS3.3/1, Error ellipse: s-maj=130.5km s-min=31.2km az=2.0

ISC 09 08:47:47.5±1.1, 16°.49N±0°.03×95°.07W±0°.02, h6km±9km, n93, σ2§22/151, mb3.7/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.44**	**81**	*i* P	**Pg**	**08 47 56.5**	**+0.4**
NILT				*i* S	**Sb**	**08 48 03.2**	**-1.4**
CARR	**Arriaga**	**1.14**	**102**	*i* P	**Pb**	**08 48 09.0**	**-0.6**
CARR				*e*S	**Sb**	**08 48 24.5**	**-0.2**
UXUV	**UXUV**	**1.21**	**47**	*i* P	**Pg**	**08 48 09.9**	**-0.7**
UXUV				*e*S	**Sg**	**08 48 26.6**	**+0.3**
HUIG	**Huatulco**	**1.23**	**234**		**Pg**	**08 48 09.6**	**-1.5**
HUIG					**Sg**	**08 48 25.9**	**-1.0**
HUIG	**Huatulco**	**1.23**	**234**	*e*P	**Pg**	**08 48 09.6**	**-1.5**
HUIG				*e*S	**Sg**	**08 48 25.5**	**-1.5**
NEUV	**Arroyo Zacate**	**1.40**	**330**	*i* P	**Pn**	**08 48 12.7**	**-0.9**
NEUV				*i* S	**Sg**	**08 48 30.9**	**-1.6**
MIHL	**Minatitlan**	**1.57**	**19**	*e*P	**Pn**	**08 48 13.0**	**-3.0**
MIHL				*e*S	**Sg**	**08 48 39.8**	**+1.7**
PANG	**Puerto Angel**	**1.58**	**239**	*e*P	**Pn**	**08 48 15.7**	**-0.3**
PANG				*e*S	**Sn**	**08 48 35.4**	**-1.4**
TUIG	**Tuzandepetl**	**1.65**	**22**	*i* P	**Pn**	**08 48 17.4**	**+0.3**
TUIG				*e*S	**Sn**	**08 48 40.0**	**+1.3**
OXLC	**Oaxaca**	**1.66**	**290**	*e*P	**Pn**	**08 48 16.9**	**-0.4**
OXLC				*e*S	**Sn**	**08 48 38.3**	**-0.9**
OXBJ	**Oaxaca**	**1.68**	**290**	*e*P	**Pn**	**08 48 16.9**	**-0.8**
OXBJ				*e*S	**Sn**	**08 48 38.9**	**-0.7**
OXIG	**Oaxaca**	**1.69**	**290**		**Pn**	**08 48 17.7**	**-0.1**
VHO	**Vista Hermosa**	**1.69**	**290**	*e*P	**Pn**	**08 48 17.5**	**-0.2**
VHO				*e*S	**Sn**	**08 48 38.2**	**-1.7**
TGIG		**1.89**	**81**	*e*P	**Pn**	**08 48 21.2**	**+0.8**
TGIG				*e*S	**Sb**	**08 48 46.0**	**-0.4**
TGBT	**Tuxtla Gutierr**	**1.92**	**81**	*e*P	**Pb**	**08 48 22.7**	**-0.3**
TGBT				*e*S	**Sb**	**08 48 47.7**	**+0.5**
PCIG		**1.95**	**113**		**Pn**	**08 48 21.0**	**-0.1**
PCIG					**Sb**	**08 48 47.4**	**-0.5**
PCIG		**1.95**	**113**	*e*P	**Pn**	**08 48 20.9**	**-0.2**
PCIG				*e*S	**Sb**	**08 48 47.4**	**-0.5**
PMUV	**Sontecomapan**	**2.04**	**359**	*e*P	**Pn**	**08 48 23.9**	**+1.4**
PMUV				*e*S	**Sn**	**08 48 45.3**	**-3.1**
PEIG	**Puerto Escondi**	**2.05**	**256**	*e*P	**Pn**	**08 48 21.9**	**-0.7**
PEIG				*e*S	**Sn**	**08 48 49.7**	**+1.2**
YOIG	**Yosondua**	**2.40**	**279**		**Pn**	**08 48 28.9**	**+1.4**
YOIG					**Sn**	**08 48 58.9**	**+1.5**
YOIG	**Yosondua**	**2.40**	**279**	*e*P	**Pn**	**08 48 28.9**	**+1.4**
YOIG				*e*S	**Sn**	**08 48 58.9**	**+1.5**
TOIG	**Toxpalan**	**2.48**	**310**		**Pn**	**08 48 29.7**	**+1.1**
TOIG					**Sn**	**08 49 01.4**	**+2.1**
TOIG	**Toxpalan**	**2.48**	**310**	*e*P	**Pn**	**08 48 29.7**	**+1.1**
TOIG				*e*S	**Sn**	**08 49 01.4**	**+2.1**
TXIG	**Tlaxiaco**	**2.69**	**287**	*e*P	**Pb**	**08 48 35.5**	**-0.7**
TXIG				*e*S	**Sn**	**08 49 07.3**	**+2.6**
CCIG	**Comitan**	**2.83**	**94**	*e*P	**Pb**	**08 48 36.1**	**-2.3**
CCIG				*e*S	**Sn**	**08 49 09.7**	**+1.8**
TPIG	**Tehuac#an**	**2.91**	**312**	*e*P	**Pn**	**08 48 36.0**	**+1.5**
TPIG				*e*S	**Sn**	**08 49 09.6**	**-0.3**
HLIG	**Huajuapan de L**	**2.93**	**297**	*e*P	**Pn**	**08 48 37.8**	**+2.9**
HLIG				*e*S	**Sn**	**08 49 08.7**	**-1.8**
PNIG	**Pinotepa**	**2.93**	**268**	*e*P	**Pn**	**08 48 33.6**	**-1.1**
PNIG				*e*S	**Sn**	**08 49 12.0**	**+1.7**
OZST	**Orizaba**	**3.04**	**321**	*e*P	**Pn**	**08 48 37.7**	**+1.4**
OZST				*e*S	**Sn**	**08 49 14.8**	**+1.6**
PATR	**El Naranjo**	**3.06**	**116**	*e*P	**Pn**	**08 48 36.9**	**+0.3**
PATR				*e*S	**Sn**	**08 49 14.2**	**+0.6**
PAVE	**Pavencul**	**3.07**	**114**	*e*P	**Pn**	**08 48 38.0**	**+1.2**
PAVE				*e*S	**Sn**	**08 49 13.7**	**-0.3**
THIG		**3.13**	**120**	*e*P	**Pn**	**08 48 37.9**	**+0.5**
THIG				*e*S	**Sn**	**08 49 14.8**	**-0.3**
CHUJ	**Union Juarez**	**3.17**	**116**	*e*P	**Pn**	**08 48 39.0**	**+0.8**
CHUJ				*e*S	**Sn**	**08 49 14.8**	**-1.8**
FTIG	**Fresnillo de T**	**3.25**	**296**	*e*P	**Pn**	**08 48 41.9**	**+2.8**
FTIG				*e*S	**Sn**	**08 49 20.4**	**+2.2**
JAUV	**Jalcomulco**	**3.30**	**330**	*e*P	**Pn**	**08 48 37.6**	**-2.1**
JAUV				*e*S	**Sn**	**08 49 16.7**	**-2.6**
LVIG	**Laguna Verde**	**3.46**	**338**	*e*P	**Pn**	**08 48 39.9**	**-2.0**
LVIG				*e*S	**Sn**	**08 49 20.2**	**-3.1**
MGIG	**Malinaltepec**	**3.49**	**283**	*e*P	**Pn**	**08 48 44.0**	**+1.5**
MGIG				*e*S	**Sn**	**08 49 25.0**	**+0.8**
TLIG	**Tlapa**	**3.51**	**288**	*e*P	**Pn**	**08 48 44.2**	**+1.5**
TLIG				*e*S	**Sn**	**08 49 21.4**	**-3.2**
HMTT	**Tlapaneco**	**3.58**	**292**	*e*P	**Pn**	**08 48 45.2**	**+1.5**
HMTT				*e*S	**Sn**	**08 49 26.4**	**+0.1**
HUEH	**Huehuetenango**	**3.63**	**108**		**Pn**	**08 48 45.7**	**+1.3**
RTAL	**Retalhuleu**	**3.80**	**121**	Pn	**Pn**	**08 48 46.8**	**+0.2**
PHPU	**Puebla**	**3.89**	**311**	*e*P	**Pn**	**08 48 46.1**	**-2.0**
PHPU				*e*S	**Sn**	**08 49 32.8**	**-1.5**
PPM	**Popocatepetl**	**4.25**	**308**	*e*P	**Pn**	**08 48 56.5**	**+3.3**
PPM				*e*S	**Sn**	**08 49 45.6**	**+2.2**
CXUV	**Coxquihui**	**4.37**	**327**	*e*P	**Pn**	**08 48 53.0**	**-1.5**
CXUV				*e*S	**Sn**	**08 49 39.9**	**-6.0**
DAIG	**Los Arroyos**	**4.42**	**277**	*e*P	**Pn**	**08 48 56.6**	**+1.5**
DAIG				*e*S	**Sn**	**08 49 41.6**	**-5.3**
SCIG	**Sabancuy**	**4.45**	**56**	*i* P	**Pn**	**08 48 55.9**	**+0.4**
SCIG				*e*S	**Sn**	**08 49 43.9**	**-3.7**
YAIG	**Yautepec**	**4.48**	**302**	*e*P	**Pn**	**08 48 57.6**	**+1.5**
YAIG				*e*S	**Sn**	**08 49 44.2**	**-4.5**
MEIG	**Mezcala**	**4.57**	**289**	*e*P	**Pn**	**08 48 58.0**	**+0.7**
MEIG				*e*S	**Sn**	**08 49 49.8**	**-1.1**
MPVM	**San Francisco**	**4.62**	**306**	*e*P	**Pn**	**08 49 02.5**	**+4.5**
MPVM				*e*S	**Sn**	**08 49 53.7**	**+1.5**
PLIG	**Platanillo**	**4.63**	**295**	*e*P	**Pn**	**08 49 02.0**	**+3.9**
PLIG				*e*S	**Sn**	**08 49 51.2**	**-1.1**
THVM	**De Xico**	**4.65**	**308**	*e*P	**Pn**	**08 49 01.3**	**+2.7**
THVM				*e*S	**Sn**	**08 49 53.6**	**+0.5**
TLVM	**San Miguel Top**	**4.73**	**305**	*e*P	**Pn**	**08 49 02.5**	**+2.8**
TLVM				*e*S	**Sn**	**08 49 49.6**	**-5.6**
COVM	**Coyoacan**	**4.82**	**307**	*e*P	**Pn**	**08 49 02.5**	**+1.7**
COVM				*e*S	**Sn**	**08 49 57.0**	**-0.1**
UNM	**Universidad Na**	**4.82**	**306**	*e*P	**Pn**	**08 49 01.9**	**+1.0**
UNM				*e*S	**Sn**	**08 49 57.9**	**+0.6**
BJVM	**Benito Juarez**	**4.84**	**307**	*e*P	**Pn**	**08 49 01.9**	**+0.7**
BJVM				*e*S	**Sn**	**08 49 59.9**	**+2.1**
AOVM	**Tlapan**	**4.90**	**305**	*e*P	**Pn**	**08 49 04.7**	**+2.6**
AOVM				*e*S	**Sn**	**08 49 59.5**	**0.0**
CJVM	**Cuajimalpa**	**4.92**	**306**	*e*P	**Pn**	**08 49 04.4**	**+2.1**
CJVM				*e*S	**Sn**	**08 49 52.6**	**-7.2**
CAIG	**El Cayaco**	**5.01**	**277**	*e*P	**Pn**	**08 49 05.0**	**+1.7**
CAIG				*e*S	**Sn**	**08 50 01.6**	**+0.2**
PETF	**Flores**	**5.01**	**84**		**Pn**	**08 49 03.5**	**+0.3**
DEIG	**Demacu**	**5.34**	**316**	*e*P	**Pn**	**08 49 11.1**	**+3.1**
DEIG				*e*S	**Sn**	**08 50 05.3**	**-4.7**
ARIG	**Puente Sto Nin**	**5.34**	**290**	*e*P	**Pn**	**08 49 10.8**	**+2.9**
ARIG				*e*S	**Sn**	**08 50 06.1**	**-3.7**
ESQI	**Esquipulas**	**5.85**	**108**		**Pn**	**08 49 14.7**	**-0.2**
MTO3	**Montecristo**	**5.89**	**110**	Pn	**Pn**	**08 49 16.0**	**+0.5**
ZIIG	**Zihuatanejo**	**6.21**	**281**	*e*P	**Pn**	**08 49 23.9**	**+4.1**
ZIIG				*e*S	**Sn**	**08 50 27.4**	**-3.8**
RPIG	**Rio Verde**	**7.09**	**320**	*e*P	Pn	08 49 25.4	-6.6
RPIG				*e*S	**Sn**	**08 50 55.6**	**+2.6**
TEIG	**Tepich**	**7.45**	**59**	Pn	**Pn**	**08 49 35.1**	**-1.6**
TEIG	**Tepich**	**7.45**	**59**	Pn	**Pn**	**08 49 35.6**	**-1.1**
	77nm,0.3s,baz=252,slow=20,SNR=30						
TEIG				Sn	**Sn**	**08 50 53.3**	**-8.2**
	4.2nm,0.3s,baz=257,slow=23,SNR=1.5						
GTIG	**Gomez Farias**	**7.59**	**330**	*e*P	Pn	08 49 32.5	-6.3
GTIG				*e*S	**Sn**	**08 50 59.7**	**-5.5**
ORTG	**Ortega, Santa**	**11.16**	**122**	Pn	**Pn**	**08 50 27.8**	**0.0**
DUNO	**Dulce Nombre,**	**11.29**	**123**	Pn	**Pn**	**08 50 31.1**	**+1.6**
833A	**Chaparral WMA,**	**12.43**	**342**		**Pn**	**08 50 48.7**	**+3.6**
SOR	**Soroa**	**12.97**	**59**	Pn	**Pn**	**08 50 51.1**	**-1.4**
HNDO	**Hondo**	**13.54**	**344**		**Pn**	**08 51 03.0**	**+2.8**
435B	**Jarrell**	**14.41**	**351**	Pn	**Pn**	**08 51 12.5**	**+2.4**
JCT	**Junction City**	**14.58**	**344**		**Pn**	**08 51 18.4**	**+4.0**
TXAR	**Lajitas Array**	**15.03**	**330**		**P**	**08 51 26.5**	**+0.4**
TXAR	**Lajitas Array**	**15.03**	**330**	Pn	**P**	**08 51 24.4**	**-1.7**
	0.1nm,0.3s,baz=153,slow=13,SNR=18						
	0.7nm,0.9s						
BRDY	**Brady**	**15.16**	**347**		**Pn**	**08 51 23.8**	**+1.6**
BRDY				IAmb	IAmb	08 51 35.3	
	comp=Z,4.1nm,0.8s						
OZNA	**Ozona**	**15.39**	**340**		**P**	**08 51 30.0**	**-0.1**
OZNA				IAmb	IAmb	08 51 34.6	
	comp=Z,21nm,1.1s						
WHTX	**Lake Whitney,**	**15.58**	**352**	Pn	**Pn**	**08 51 29.0**	**+1.2**
WHTX				IAmb	IAmb	08 51 35.7	
	comp=Z,11nm,0.6s						
ALPN	**Alpine**	**15.89**	**332**		**P**	**08 51 36.4**	**+0.7**
ALPN				IAmb	IAmb	08 51 40.7	
	comp=Z,9.4nm,0.7s						
FW13	**Cleburne**	**15.94**	**353**	Pn	**Pn**	**08 51 33.0**	**+0.6**
FW13				IAmb	IAmb	08 51 34.8	
	comp=Z,13nm,0.5s						
FW16	**Waxahatchie**	**16.01**	**354**	Pn	**Pn**	**08 51 35.0**	**+1.7**
FW16				IAmb	IAmb	08 51 41.7	
	comp=Z,19nm,0.5s						
ABTX	**Abilene, Hawle**	**16.59**	**346**		**P**	**08 51 43.9**	**+0.5**
ABTX				IAmb	IAmb	08 51 47.7	
	comp=Z,11nm,0.9s						
PECS	**Pecos**	**16.84**	**333**	P	**P**	**08 51 48.2**	**+2.0**
PECS				IAmb	IAmb	08 51 51.4	
	comp=Z,12nm,1.0s						
LOOK	**Love County**	**17.53**	**354**	P	**P**	**08 51 54.8**	**+1.1**
LOOK				IAmb	IAmb	08 52 03.3	
	comp=Z,14nm,0.7s						
W35A	**Tecumseh**	**18.65**	**355**	P	**P**	**08 52 06.8**	**+0.7**
FCAR	**Ozark Folk Cen**	**19.50**	**7**	P	**P**	**08 52 15.9**	**+0.5**
121A	**Cookes Peak, D**	**19.69**	**327**	P	**Pn**	**08 52 21.0**	**+1.9**
121A				IAmb	IAmb	08 52 23.7	
	comp=Z,7.7nm,1.1s						
ANMO	**Albuquerque**	**21.01**	**333**	P	**P**	**08 52 33.4**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=184,slow=7.8,SNR=4.5						
	comp=Z,0.4nm,0.4s						
SDV	**Santo Domingo**	**24.99**	**105**	LR	LR	09 03 42.4	
	comp=Z,70nm,18.6s,baz=38,slow=38						
NVAR	**Mina Array Bea**	**29.88**	**322**	P	**P**	**08 53 57.5**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=141,slow=10,SNR=5.3						
	comp=Z,0.8nm,0.7s						
ULM	**Lac du Bonnet**	**33.68**	**359**	P	**P**	**08 54 26.7**	**-2.4**
	comp=Z,7.6nm,1.0s,baz=162,slow=9.6,SNR=3.5						
	comp=Z,7.6nm,1.0s						

IDC 09 09:00:02.1±1.3, 56°.36S×28°.32W, h0km, mb3.7/3, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=76.1km s-min=27.0km az=91.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.72**	**155**	P	P	09 04 20.8	-1.1
	0.2nm,0.3s,baz=324,slow=19,SNR=6.5						
	0.8nm,0.5s						
QSPA	**South Pole Qui**	**33.89**	**180**	P	P	09 06 46.5	+0.1
	1.0nm,0.6s,baz=180,slow=2.0,SNR=15						
	1.0nm,0.6s						
VNDA	**Vanda**	**46.23**	**183**	P	P	09 08 28.5	+0.3
	0.5nm,0.6s,baz=183,slow=6.1						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.64**	**31**	P	P	09 11 37.6	+0.4
	0.7nm,0.9s,baz=198,slow=5.8,SNR=3.2						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**149.85**	**311**	PKPbc	PKPbc	09 19 51.6	-1.0
	0.6nm,0.8s,baz=124,slow=2.4,SNR=7.5						

*BJI **09** 09:05:05.0±0.0, 7°.30S×95°.80E, h5km, mb5.0/58, mB5.0/42, Ms4.6/46, Ms7 4.3/45*
*MOS **09** 09:05:06.3±1.0, 7°.17S×95°.80E, h12km, mb5.1/31, MS4.2/6, Error ellipse: s-maj=9.8km s-min=5.9km az=99.8*
*IDC **09** 09:05:06.2±0.5, 7°.22S×95°.79E, h0km, mb4.7/25, mbtmp4.7/26, ML4.9/1, MS4.0/25, Error ellipse: s-maj=17.1km s-min=12.2km az=68.0*
*NEIC **09** 09:05:08.4±2.0, 7°.36S±0°.05×95°.79E±0°.10, h10km±1km, mb5.0/61, Error ellipse: s-maj=16.5km s-min=9.0km az=271.0*
*GCMT **09** 09:05:10.4±0.3, 7°.20S±0°.01×95°.86E±0°.02, h31km±1km, MW5.1/101, Moment Tensor Solution. s34,c38; s101,c154; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.88±.23; $M_{\theta\theta}$-2.36±.15; $M_{\phi\phi}$0.48±.16; $M_{r\theta}$3.02±.23; $M_{\theta\phi}$-3.17±.10; $M_{\phi r}$-1.31±.23; Best double couple: $M_0$5.05300×10^16^ NP1:ϕ_s95.00000°, δ74.00000°, λ134.00000°. NP2:ϕ_s200.00000°, δ46.00000°, λ22.00000°. Principal axes: T 5.1270, Plg43.0000°, Azm47.0000°; N -0.1460, Plg42.0000°, Azm260.0000°; P -4.9800, Plg17.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **09** 09:05:10, 7°.10S×95°.72E, h11km, mb5.5*
*DJA **09** 09:05:12.2±1.6, 7°.5±4°×9°.6E±°, h29km±11km, M5.5/49, mB5.8/25, mb5.2/49, MLv6.3/7, Mw(mB)5.3/25, MwMwp4.8/1, Mwp5.1/1*

ISC 09 09:05:09.5±0.5, 7°.38S±0°.04×95°.68E±0°.06, h23km±3km, h23km:pP-P, n338, σ1§45/322, mb4.9/111, MS4.3/52, 22C-13D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
COCO	**West Island**	**4.91**	**167**		**Pn**	**09 06 19.2**	**-2.8**
COCO	**West Island**	**4.91**	**167**	P	**Pn**	**09 06 19.2**	**-2.8**
PPSI	**Pulau Pagai**	**6.29**	**43**	P	**Pn**	**09 06 39.5**	**-1.5**
	4μm,1.2s,59μm20nm						
SISI	**Saibi**	**6.91**	**30**	P	**Pn**	**09 06 48.0**	**-1.4**
	598nm,0.8s,14μm3.8nm						
KSI	**Kapahiang**	**7.81**	**62**	P	**Pn**	**09 07 00.2**	**-1.7**
	696nm,0.7s,31μm8.1nm						
PDSI	**Padang**	**8.00**	**37**	P	**Pn**	**09 07 02.0**	**-2.5**
	392nm,0.8s,13μm6.9nm						
LHSI	**Lahat**	**8.56**	**66**	P	Pn	09 07 05.9	-6.3
SDSI	**Sungai Dareh**	**8.59**	**42**	P	**Pn**	**09 07 10.8**	**-1.8**
	485nm,1.1s,6μm2.1nm						
LWLI	**Liwa**	**8.65**	**75**	P	**Pn**	**09 07 13.8**	**+0.3**
	1μm,0.6s,21μm						
GSI	**Gunungsitoli**	**8.83**	**12**	Pn	**Pn**	**09 07 13.8**	**-2.0**
GSI	**Gunungsitoli**	**8.83**	**12**	P	**Pn**	**09 07 14.7**	**-1.2**
GSI	**Gunungsitoli**	**8.83**	**12**	P	**Pn**	**09 07 15.0**	**-0.9**
	315nm,0.8s						
KASI	**Kota Agung**	**8.95**	**79**	P	**Pn**	**09 07 17.7**	**+0.2**
	368nm,0.8s,4μm						
BKNI	**Bangkinang**	**9.34**	**35**		**Pn**	**09 07 20.9**	**-1.8**
BKNI	**Bangkinang**	**9.34**	**35**	P	**Pn**	**09 07 23.2**	**+0.4**
BKNI	**Bangkinang**	**9.34**	**35**	P	**Pn**	**09 07 22.1**	**-0.7**
	413nm,0.8s,6μm						
SBSI	**Sibolga**	**9.43**	**20**	P	**Pn**	**09 07 24.2**	**+0.1**
	283nm,0.8s						
KLI	**Kotabumi**	**9.46**	**75**	P	**Pn**	**09 07 24.5**	**0.0**
	668nm,1.4s,6μm						
JMBI	**JAMBI**	**9.77**	**55**	P	**Pn**	**09 07 28.8**	**0.0**
	375nm,0.8s						
CGJI	**Cibinong**	**9.97**	**86**	P	**Pn**	**09 07 31.0**	**-0.4**
	162nm,0.7s						
PMBI	**Palembang**	**10.07**	**64**	Pn	**Pn**	**09 07 30.1**	**-2.9**
RPSI	**Rantau Prapat**	**10.52**	**18**	Pn	**Pn**	**09 07 38.7**	**-0.3**
PSI	**Prapat**	**10.62**	**18**	P	**Pn**	**09 07 39.3**	**-1.2**
PSI	**Prapat**	**10.62**	**18**	P	**Pn**	**09 07 38.7**	**-1.8**
KCSI	**Kotacane, Aceh**	**11.03**	**11**	P	**Pn**	**09 07 45.0**	**-1.0**
	144nm,0.6s,2μm						
CBJI	**Citeko**	**11.13**	**86**	P	**Pn**	**09 07 49.4**	**+2.0**
	563nm,0.8s,14μm						
DSRI	**Dabo**	**11.21**	**53**	P	**Pn**	**09 07 46.4**	**-2.1**
	170nm,1.0s,3μm						
CNJI	**Cibinong**	**11.36**	**90**	P	**Pn**	**09 07 50.2**	**-0.3**
	52nm,1.0s,947nm						
MLSI	**Meulaboh, Aceh**	**11.59**	**4**	P	**Pn**	**09 07 53.5**	**-0.2**
	159nm,0.7s						
PPBI	**Pangkal Pinang**	**11.63**	**64**	P	**Pn**	**09 07 53.1**	**-1.2**
	85nm,1.0s,21μm						
LEM	**Lembang**	**11.86**	**88**	Pn	**Pn**	**09 07 56.6**	**-0.9**
	7.6nm,0.3s,baz=307,slow=20,SNR=4.4						
LEM				Sn	Sn	09 09 54.6	-15
	33nm,0.3s,baz=342,slow=20,SNR=6.5						
	21nm,0.4s						
BBJI	**Bungbulang**	**11.87**	**91**	P	**Pn**	**09 07 57.8**	**+0.2**
TPRI	**Tanjung Pinang**	**12.07**	**47**	P	**Pn**	**09 07 59.0**	**-1.3**
	87nm,0.7s						
MYKOM	**Kota Tinggi**	**12.22**	**42**		**Pn**	**09 07 59.9**	**-2.4**
JRMM	**Jerantut**	**13.09**	**31**	P	**Pn**	**09 08 13.0**	**-1.1**
KPJI	**Karang Pucung**	**13.14**	**91**	P	**Pn**	**09 08 16.6**	**+1.7**
	60nm,0.9s						
KULM	**Kulim**	**13.53**	**22**	Pn	**Pn**	**09 08 19.0**	**-1.1**
KULM	**Kulim**	**13.53**	**22**	P	**Pn**	**09 08 20.0**	**-0.2**
WOJI	**Wonogiri, Jawa**	**15.12**	**93**	P	**P**	**09 08 48.4**	**+1.6**
NGJI	**Ngawi**	**15.65**	**91**	P	**Pn**	**09 08 48.8**	**0.0**
	94nm,1.1s						
KSM	**Kuching**	**17.04**	**59**		**Pn**	**09 09 04.2**	**-2.3**
KSM				IAmb	IAmb	09 09 10.3	
	comp=Z,192nm,1.1s						
STKI	**Sintang**	**17.40**	**66**	P	**P**	**09 09 11.5**	**-0.7**
	comp=Z,131nm,0.9s,comp=Z,15μm						
BLJI	**Banyuglugur**	**17.76**	**92**	P	**P**	**09 09 15.7**	**-0.5**
	comp=Z,65nm,1.1s						
PBA	**Port Blair**	**19.14**	**351**	P	**Pn**	**09 09 31.9**	**-0.3**
PBA				IAmb	IAmb	09 09 42.2	
	comp=Z,59nm,0.7s						
SBUM	**Sibu**	**19.18**	**60**		**Pn**	**09 09 31.3**	**-1.4**
SBUM	**Sibu**	**19.18**	**60**	P	**Pn**	**09 09 33.0**	**+0.3**
MTKI	**Muara Teweh, K**	**20.19**	**72**	P	Pn	09 09 43.4	-1.4
SRDT	**SRDT**	**21.86**	**9**	P	**P**	**09 10 01.5**	**+0.8**
PLAI	**Plampang**	**21.92**	**95**	P	**P**	**09 10 02.0**	**+0.5**
PLAI	**Plampang**	**21.92**	**95**	P	**P**	**09 10 02.8**	**+1.3**
	comp=Z,180nm,1.1s,comp=Z,2μm						
NAYO	**Nakonayok**	**22.27**	**15**	P	**P**	**09 10 06.0**	**+0.8**
H08S2	**Diego Garcia H**	**22.99**	**268**	T	T	09 33 51.1	
	baz=90,slow=73,SNR=3.7						
H08S3	**Diego Garcia H**	**23.00**	**268**	T	T	09 33 53.0	
	baz=90,slow=73,SNR=3.7						
H08S1	**Diego Carcia H**	**23.01**	**268**	T	T	09 33 51.1	
	baz=90,slow=73,SNR=4.3						
DLV	**T Lat**	**23.04**	**34**	P	**P**	**09 10 13.2**	**-0.3**
SPMM	**Sapulut**	**23.96**	**61**	P	**P**	**09 10 23.0**	**+0.5**
KAPI	**Kappang**	**24.04**	**86**⇑	*e*P	**P**	**09 10 21.3**	**-1.9**
KAPI				pmax	pmax		
	comp=Z,15nm,1.1s						
BKSI	**Bulukumba**	**24.37**	**87**	P	**P**	**09 10 26.1**	**-0.2**
	comp=Z,19nm,1.0s,comp=Z,415nm						
TTSI	**Tana Toraja**	**24.41**	**81**	P	**P**	**09 10 28.2**	**+1.6**
	comp=Z,39nm,1.0s						
KKM	**Kota Kinabalu**	**24.44**	**57**	P	**P**	**09 10 26.2**	**-0.8**
KKM	**Kota Kinabalu**	**24.44**	**57**	P	**P**	**09 10 26.7**	**-0.3**
CM31	**Chiang Mai Arr**	**25.87**	**7**	P	**P**	**09 10 39.2**	**-0.5**
CM31				IAmb	IAmb	09 10 57.7	
	comp=Z,26nm,0.9s						
CMAR	**Chiang Mai Arr**	**25.87**	**7**	P	**P**	**09 10 39.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**25.87**	**7**	*ce*P	**P**	**09 10 40.2**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**25.87**	**7**	P	**P**	**09 10 39.5**	**-0.3**
	comp=Z,5.2nm,0.7s,baz=197,slow=9.0,SNR=28						
	comp=Z,5.2nm,0.7s						
MYLDM	**Lahad Datu**	**25.96**	**62**	P	**P**	**09 10 40.4**	**-0.2**
CHTO	**Chiang Mai**	**26.23**	**7**	P	**P**	**09 10 41.9**	**-1.0**
CHTO	**Chiang Mai**	**26.23**	**7**	P	**P**	**09 10 41.9**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TOLI2	**Tolitoli**	**26.42**	**72**	P	**P**	**09 10 44.0**	**-0.8**
TOLI2				IAmb	IAmb	09 10 47.7	
	comp=Z,53nm,1.0s						
TOLI2	**Tolitoli**	**26.42**	**72**	P	**P**	**09 10 44.2**	**-0.6**
PSA00	**Pilbara Seismi**	**27.26**	**124**	P	**P**	**09 10 51.7**	**-0.7**
PSA00				IAmb	IAmb	09 10 53.3	
	comp=Z,28nm,1.0s						
PSA00	**Pilbara Seismi**	**27.26**	**124**	P	**P**	**09 10 53.0**	**+0.7**
PSA00				IAmb	IAmb	09 10 53.3	
	comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**27.26**	**124**	P	**P**	**09 10 52.6**	**+0.3**
MORW	**Morawa**	**28.87**	**141**	P	**P**	**09 11 06.8**	**+0.2**
MORW				IAmb	IAmb	09 11 09.2	
	comp=Z,28nm,0.9s						
MORW	**Morawa**	**28.87**	**141**	P	**P**	**09 11 08.4**	**+1.8**
MEEK	**Meekatharra**	**29.02**	**134**	P	**P**	**09 11 08.6**	**+0.6**
MND	**Mandalay**	**29.22**	**1**	P	**P**	**09 11 10.0**	**+0.3**
QIZ	**Qiongzhong**	**29.72**	**28**	P	P	09 11 21.0	+6.8
QIZ				S	**S**	**09 16 15.1**	**+5.8**
QIZ				pmax	pmax		
	comp=Z,55nm,2.2s						
QIZ				LR	LR		
	comp=N,560nm,18.6s						
QIZ				LR	LR		
	comp=E,740nm,16.7s						
QIZ				LR	LR		

comp=Z,16nm,0.9s
WHN Wuhan 41.74 25 ⇑P P 09 12 58.1 +1.1
WHN pmax pmax
comp=Z,42nm,0.8s
MULG Mulgathing 42.56 127 P P 09 13 04.1 +0.3
OOD Oodnadatta 42.93 123 P P 09 13 07.4 +0.6
XAN Xi'an 43.06 16 ⇑P P 09 13 07.0 -0.8
XAN pP pP 09 13 11.8 -1.3
XAN pmax pmax
comp=Z,74nm,0.9s
XAN LR LR
comp=Z,580nm,15.8s
XAN LR LR
comp=Z,380nm,17.2s
XAN LR LR
comp=Z,860nm,15.8s
LZH Lanzhou 43.91 10 eP P 09 13 14.8 0.0
LZH pP pP 09 13 18.8 -1.3
LZH sP sP 09 13 21.3 -0.9
LZH pmax pmax
comp=Z,34nm,1.0s
LZH LR LR
comp=Z,480nm,20.3s
LZH LR LR
comp=Z,410nm,21.0s
LZH LR LR
comp=Z,580nm,19.6s
QIS Mount Isa 44.44 112 P P 09 13 19.6 +0.5
baz=44,SNR=7.2
QIS Mount Isa 44.44 112 P P 09 13 19.6 +0.5
LYN LuoYang 44.62 20 ⇑P P 09 13 20.0 -0.3
LYN sP pP 09 13 27.7 +2.1
LYN S **S 09 19 56.1 +0.8**
LYN sS sS 09 20 06.9 +2.9
LYN pmax pmax
comp=Z,37nm,1.2s
LYN pmax pmax
comp=Z,160nm,5.0s
LYN LR LR
comp=Z,500nm,18.7s
LYN LR LR
comp=Z,450nm,18.6s
LYN LR LR
comp=Z,690nm,21.3s
NJ2 Nanjing 45.02 28 eP P 09 13 24.4 +0.9
NJ2 pP **pP 09 13 27.6 -1.2**
NJ2 sP **sP 09 13 30.8 -0.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 pmax pmax
comp=Z,290nm,4.1s
NJ2 LR LR
comp=Z,500nm,21.8s
NJ2 LR LR
comp=Z,610nm,19.9s
NJ2 LR LR
comp=Z,640nm,19.9s
BBOO Buckleboo 45.16 130 P 09 13 24.4 -0.3
BBOO IAmb IAmb 09 13 50.0
comp=Z,68nm,1.9s
SSE Sheshan 45.38 31 P P 09 13 26.8 +0.4
SSE S **S 09 20 10.1 +3.7**
SSE pmax pmax
comp=Z,23nm,0.8s
SSE pmax pmax
comp=Z,74nm,3.9s
SSE LR LR
comp=Z,300nm,18.3s
SSE LR LR
comp=Z,270nm,18.3s
LCRK Leigh Creek 45.93 126 P P 09 13 31.5 +0.6
WHYH Whyalla 46.41 129 P P 09 13 35.4 +0.8
GTA Gaotai 46.71 4 P P 09 13 36.8 -0.1
GTA pP sP 09 13 45.7 +1.3
GTA pmax pmax
comp=Z,40nm,1.0s
GTA LR LR
comp=Z,140nm,17.5s
GTA LR LR
comp=Z,210nm,20.7s
GTA LR LR
comp=Z,200nm,21.9s
INKA Innaminka 47.16 121 P P 09 13 41.8 +1.3
WSAR Wadi Sarin 47.31 311 LR LR 09 30 57.4
comp=Z,266nm,18.8s,baz=146,slow=33
HTT Hallett 47.61 129 P P 09 13 44.9 +0.9
baz=48,SNR=5.3
HTT Hallett 47.61 129 P P 09 13 44.9 +0.9
HNS HongShan 47.97 20 ⇑P P 09 13 46.6 +0.1
HNS eS **S 09 20 40.7 -2.4**
HNS pmax pmax
comp=Z,41nm,1.2s
HNS LR LR
comp=Z,190nm,16.0s
HNS LR LR
comp=Z,290nm,16.9s
HNS LR LR
comp=Z,280nm,22.7s
MTSU Mount Surprise 48.49 108 P P 09 13 51.0 0.0
baz=48,SNR=5.7
MTSU Mount Surprise 48.49 108 P P 09 13 52.5 +1.5
STKA Stephens Creek 49.15 126 P P 09 13 56.5 +0.7
baz=49,SNR=18
STKA Stephens Creek 49.15 126 P P 09 13 55.8 -0.1
STKA Stephens Creek 49.15 126 P P 09 13 56.4 +0.6
STKA Stephens Creek 49.15 126 *d iP* **P 09 13 56.4 +0.6**
STKA Stephens Creek 49.15 126 P P 09 13 56.3 +0.5
comp=Z,23nm,0.8s,baz=297,slow=8.1,SNR=46
comp=Z,23nm,0.8s
BTO Baotou 49.54 14 eP P 09 13 59.1 +0.4
BTO pP **pP 09 14 03.6 -0.5**
BTO sP **sP 09 14 06.5 +0.3**
BTO PP **PP 09 15 55.0 +1.7**
BTO S **S 09 21 07.8 +2.3**
BTO pmax pmax
comp=Z,43nm,0.7s
BTO pmax pmax
comp=Z,300nm,4.2s
BTO LR LR
comp=Z,440nm,13.7s
BTO LR LR
comp=Z,480nm,8.4s
BTO LR LR
comp=Z,360nm,13.7s
QLP Quilpie 49.86 119 P P 09 14 01.7 +0.4
baz=50,SNR=5.3
QLP Quilpie 49.86 119 P P 09 14 02.7 +1.4
UOSS Minazif 50.10 311 P P 09 14 05.0 +1.9
KSH Kashi 50.10 340 P P 09 14 08.5 +5.4
KSH sP PcP 09 15 25.7 +3.2
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH LR LR
comp=N,450nm,20.9s
KSH LR LR
comp=E,440nm,17.1s
KSH LR LR
comp=Z,510nm,20.6s
CTA Charters Tower 50.53 110 P P 09 14 07.9 +1.3
CTAO Charters Tower 50.53 110 P P 09 14 06.9 +0.3
CTAO Charters Tower 50.53 110 P P 09 14 07.7 +1.1
CTAO Charters Tower 50.53 110 P P 09 14 06.9 +0.3
CTAO pmax pmax
comp=Z,12nm,1.2s
BJT Baijiatuau 50.82 20 IAmb IAmb 09 14 09.3
comp=Z,26nm,0.9s
BJT Baijiatuau 50.82 20 P P 09 14 08.6 +0.3
BJI Beijing 50.84 20 P P 09 14 08.0 -0.4
BJI pmax pmax
comp=Z,15nm,0.9s
ARPS Mount Arapiles 51.12 132 P P 09 14 11.5 +0.8
baz=51,SNR=5.8
ARPS Mount Arapiles 51.12 132 P P 09 14 11.5 +0.8
WMQ Urumqi 51.47 353 *eP* **P 09 14 14.0 +0.8**
WMQ pP pP 09 14 21.0 +2.4
WMQ sP sP 09 14 23.8 +3.1
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ pmax pmax
comp=Z,150nm,3.8s
WMQ LR LR
comp=Z,100nm,23.1s
TARG Taragay, Kyrgy 51.54 343 IAmb IAmb 09 14 30.2
comp=Z,44nm,1.5s
JNU Nakatsue 52.35 38 P P 09 14 19.1 -0.9
CMSA Cobar Meteorol 52.36 124 P P 09 14 20.8 +0.7
baz=52,SNR=19
CMSA Cobar Meteorol 52.36 124 P P 09 14 21.3 +1.2
SHLS Shalkode 52.41 345 *eP* **P 09 14 18.8 -1.5**
baz=345
SHLS Shalkode 52.41 345 *eP* **P 09 14 18.8 -1.5**
UZB Uzynbulak 52.52 345 *eP* **P 09 14 20.5 -0.7**
baz=345
UZB Uzynbulak 52.52 345 *eP* **P 09 14 20.4 -0.7**
SATY Saty 52.60 344 *eP* **P 09 14 20.5 -1.3**
baz=344
SATY Saty 52.60 344 *eP* **P 09 14 20.4 -1.3**
TJN Taejon 52.71 32⇓ *eP* **P 09 14 21.7 -0.8**
BOOM Boomskoye usch 52.80 342 IAmb IAmb 09 14 39.4
comp=Z,15nm,0.9s
KPKS Kokpek 52.91 345 *eP* **P 09 14 23.0 -1.0**
baz=344
KPKS Kokpek 52.91 345 *eP* **P 09 14 22.9 -1.0**
AAK Ala-Archa 53.40 341⇓ *eP* **P 09 14 27.9 +0.3**
AAK pmax pmax
comp=Z,6.0nm,1.6s
AAK Ala-Archa 53.40 341 LR LR 09 36 37.5
comp=Z,388nm,21.0s,baz=162,slow=36
AULRC Lightning Ridg 53.74 121 P P 09 14 31.7 +1.5
KSAR Wonju Array Be 53.79 32 P P 09 14 29.6 -0.7
KSAR Wonju Array Be 53.79 32 P P 09 14 29.7 -0.7
KSRS Korea Array 53.82 32 P P 09 14 29.1 -1.6
comp=Z,13nm,0.9s,baz=220,slow=7.8,SNR=74
comp=Z,13nm,0.9s
KS19 Wonju Array Si 53.83 32 IAmb IAmb 09 14 30.9
comp=Z,22nm,1.0s
H04N2 CROZET ISLANDS 53.94 217 T T 10 10 55.9
baz=62,slow=75,SNR=4.0
H04N1 CROZET ISLANDS 53.95 217 T T 10 10 56.7
baz=62,slow=75,SNR=5.2
KUU Kurty 53.95 343 *eP* **P 09 14 30.0 -1.5**
comp=Z,12nm,1.2s,baz=343
KUU Kurty 53.95 343 *eP* **P 09 14 30.0 -1.5**
KUU pmax pmax
comp=Z,12nm,1.2s
H04N3 CROZET ISLANDS 53.96 217 T T 10 10 55.3
baz=62,slow=75,SNR=4.4
XLT XiLinHaoTe 54.28 18⇑ *iP* **P 09 14 34.7 +0.7**
XLT pP pP 09 14 39.5 +0.1
XLT sP sP 09 14 41.9 +0.4
XLT pmax pmax
comp=Z,13nm,0.7s
XLT pmax pmax
comp=Z,100nm,4.1s
XLT LR LR
comp=Z,220nm,13.5s
XLT LR LR
comp=Z,190nm,17.3s
JMN Monobe 54.61 39 P P 09 14 35.4 -1.2
JMN Monobe 54.61 39 P P 09 14 36.1 -0.5
KK31 Karatay Array 55.21 338 P P 09 14 41.5 +0.8
KK31 IAmb IAmb 09 14 56.3
comp=Z,14nm,1.2s
KK31 Karatay Array 55.21 338 P P 09 14 41.5 +0.8
KK31 pmax pmax
comp=Z,14nm,1.2s
KKAR Karatay Array 55.21 338 P P 09 14 40.0 -0.7
KKAR Karatay Array 55.21 338 IAmb IAmb 09 14 56.3
comp=Z,14nm,1.2s
KKAR Karatay Array 55.21 338 P P 09 14 40.0 -0.7
MK31 Makanchi Array 55.23 349 IAmb IAmb 09 14 55.7
comp=Z,14nm,1.1s
MK31 Makanchi Array 55.23 349 *deP* **P 09 14 40.0 -0.8**
MKAR Makanchi Array 55.23 349 *i P* **P 09 14 40.0 -0.8**
MKAR pmax pmax
comp=Z,7.0nm,1.0s
MKAR Makanchi Array 55.23 349 P P 09 14 39.2 -1.6
comp=Z,7.4nm,1.0s,baz=161,slow=8.2,SNR=17
comp=Z,7.4nm,1.0s
YNG Young 55.32 127 P P 09 14 43.1 +1.4
ZSN Zaisan 55.42 351 *eP* **P 09 14 41.8 -0.4**
comp=Z,8.4nm,1.3s,baz=351
ZSN Zaisan 55.42 351 *eP* **P 09 14 41.7 -0.4**
ZSN pmax pmax
comp=Z,8.0nm,1.3s
SONM Songino Array 55.78 9 P P 09 14 44.5 -0.4
comp=Z,8.2nm,0.8s,baz=194,slow=8.2,SNR=40
comp=Z,8.2nm,0.8s
ULN Ulaanbaatar 55.92 9 P P 09 14 44.8 -1.1
ULN Ulaanbaatar 55.92 9 *c iP* **P 09 14 45.4 -0.4**
ULN pmax pmax
comp=Z,18nm,1.7s
JCJ Chichijima 56.58 51 LR LR 09 40 02.9
comp=Z,70nm,19.1s,baz=134,slow=37
GEYT Alibeck 57.07 325 P P 09 14 55.2 +1.1
comp=Z,6.0nm,0.7s,baz=141,slow=9.6,SNR=9.8
comp=Z,6.0nm,0.7s
GYA0B ALIBECK ARRAY 57.07 325 IAmb IAmb 09 15 10.3
comp=Z,25nm,0.8s
DGZ Jazzator, Alta 57.30 354 *deP* **P 09 14 55.7 +0.1**
DGZ pmax pmax
comp=Z,12nm,1.1s
CN2 Changchun 57.63 25 P P 09 14 56.8 -1.1
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,200nm,18.0s
ZAK Zakamensk 57.90 6 *eP* **P 09 14 59.2 -0.6**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
JHJ Hachijo jima 2 58.11 43 LR LR 09 38 04.0
comp=Z,54nm,21.4s,baz=256,slow=34
MOY Mondy 58.99 4 *eP* **P 09 15 05.2 -2.2**
MOY pmax pmax
comp=Z,21nm,2.5s
MAJO Matsushiro 59.13 39 *ceP* **P 09 15 06.5 -2.1**
MAJO pmax pmax
comp=Z,13nm,1.4s
MJAR Matsushiro Arr 59.14 39 P P 09 15 06.1 -2.5
comp=Z,8.2nm,1.1s,baz=224,slow=6.2,SNR=13
comp=Z,8.2nm,1.1s
KURBB Kurchatov Arra 59.65 347 P P 09 15 09.8 -2.0
comp=Z,4.7nm,0.9s,baz=171,slow=6.8,SNR=15
comp=Z,4.7nm,0.9s
CASY Casey 59.70 173 P P 09 15 12.6 +0.7
CASY IAmb IAmb 09 15 14.5
comp=Z,22nm,1.1s
KURK Kurchatov 59.72 348 P P 09 15 11.4 -0.9
KURK Kurchatov 59.72 348 *ceP* **P 09 15 11.1 -1.1**
KURK pmax pmax
comp=Z,21nm,1.7s
MDJ Mudanjiang 60.09 27 P P 09 15 16.1 +1.1
MDJ pP pP 09 15 19.4 -1.1
MDJ sP sP 09 15 20.8 -1.7
MDJ PcP **PcP 09 15 55.8 -4.9**
MDJ PP **PP 09 17 32.7 +4.9**
MDJ ScP **ScP 09 19 59.3 -1.3**
MDJ PcS **PcS 09 20 00.8 -2.1**
MDJ pmax pmax
comp=Z,9.0nm,1.0s
MDJ pmax pmax
comp=Z,190nm,3.7s
MDJ LR LR
comp=Z,320nm,17.9s
MDJ LR LR
comp=Z,320nm,21.7s
MDJ LR LR
comp=Z,440nm,17.2s
USA0B Ussuriysk Arra 60.91 29 *deP* **P 09 15 20.1 -0.4**
USRK Ussuriysk Ar. 60.91 29 P P 09 15 19.3 -1.3
USRK Ussuriysk Ar. 60.91 29 P P 09 15 19.6 -0.9
comp=Z,23nm,0.9s,baz=226,slow=6.0,SNR=22
comp=Z,23nm,0.9s
ZAA0 Zalesovo Array 61.78 353 P P 09 15 24.9 -1.4
ZALV Zalesovo Beam 61.78 353 P P 09 15 25.0 -1.3
ZALV Zalesovo Beam 61.78 353 *i P* **P 09 15 25.3 -0.9**
ZALV pmax pmax
comp=Z,33nm,0.7s
ZALV Zalesovo Beam 61.78 353 P P 09 15 25.4 -0.8
comp=Z,32nm,0.7s,baz=177,slow=5.5,SNR=92
comp=Z,32nm,0.7s
HEH HeiHe 63.66 22 *eP* **P 09 15 37.5 -1.4**
HEH pmax pmax
comp=Z,9.0nm,1.0s
HEH pmax pmax
comp=Z,93nm,6.2s
HEH LR LR
comp=Z,330nm,16.3s
HEH LR LR
comp=Z,140nm,17.3s
HEH LR LR
comp=Z,400nm,16.8s
BVAR Borovoye Array 63.90 343 P P 09 15 39.8 -0.6
comp=Z,5.1nm,0.8s,baz=164,slow=6.9,SNR=9.2
BVAR LR LR 09 43 18.2
comp=Z,276nm,20.4s,baz=161,slow=36
comp=Z,5.1nm,0.8s
BRVK Borovoye 63.96 343 P P 09 15 39.7 -1.0
BRVK IAmb IAmb 09 15 55.3
comp=Z,10nm,1.1s
BRVK Borovoye 63.96 343 *deP* **P 09 15 40.1 -0.7**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 64.07 193 P P 09 15 41.6 +0.3
comp=Z,10nm,1.0s,baz=53,slow=9.8,SNR=6.9
MAW LR LR 09 37 34.8
comp=Z,118nm,20.7s,baz=25,slow=30
comp=Z,10nm,1.0s
ABKAR Akbulak array 64.46 335 P P 09 15 43.9 -0.3
ABKAR IAmb IAmb 09 15 59.8
comp=Z,19nm,0.9s
MBAR Mbarara 65.08 273 LR LR 09 38 52.0
comp=Z,110nm,20.5s,baz=41,slow=31
MATP Matopo 66.11 251 LR LR 09 42 24.6
comp=Z,50nm,18.5s,baz=60,slow=34
ZEA Zeya 66.46 20 *eP* **P 09 15 56.3 -0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,100nm,16.0s
MAK Makhachkala 66.49 323 *eP* P 09 15 50.9 -6.5
MAK pmax pmax
comp=Z,181nm,1.3s
MAK MLR MLR
comp=Z,223nm,18.0s
BOD Bodaibo 66.67 11 *eP* **P 09 15 57.6 -0.6**
BOD pmax pmax
comp=Z,19nm,1.5s
YSS Yuzh-Sakhalins 68.30 33 P P 09 16 07.3 -1.5
YSS Yuzh-Sakhalins 68.30 33 *eP* **P 09 16 08.5 -0.3**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,200nm,14.0s
ZEI Tsey 68.57 322 *eP* P 09 16 22.0 +11
ZEI pmax pmax
comp=Z,13nm,1.0s
BOSA Boshof 69.33 242 P P 09 16 16.9 +1.0
comp=Z,2.9nm,0.7s,baz=76,slow=9.2,SNR=5.9
BOSA LR LR 09 40 24.1
comp=Z,197nm,21.8s,baz=58,slow=30
comp=Z,2.9nm,0.7s
DZM Mont Dzumac 69.46 111 *e*LR LR 09 37 26.3
comp=Z,148nm,24.9s
KBZ Khabaz 69.70 322 *deP* **P 09 16 18.8 +1.3**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 69.70 322 P P 09 16 16.1 -1.4
comp=Z,4.5nm,1.0s,baz=97,slow=7.5,SNR=4.0
comp=Z,4.5nm,1.0s
MMAI Mount Meron Ar 69.88 309 LR LR 09 45 47.7
comp=Z,110nm,19.2s,baz=85,slow=35
KVAR Kislovodsk Arr 69.94 322 LR LR 09 49 06.9
comp=Z,62nm,20.7s,baz=291,slow=38
KIV Kislovodsk 69.95 322 *eP* **P 09 16 18.4 -0.8**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,43nm,17.0s
SVE Sverdlovsk 70.13 340 *eP* **P 09 16 20.5 +0.6**
SVE pmax pmax
comp=Z,38nm,1.3s
ARU Arti 70.53 339 P P 09 16 21.8 -0.6
ARU IAmb IAmb 09 16 38.0
comp=Z,20nm,1.1s
ARU Arti 70.53 339 *c iP* **P 09 16 22.3 -0.1**
ARU 09 16 44.3
ARU 09 18 54.1
ARU S **S 09 25 36.8 +2.4**
ARU SS **SS 09 30 02.6 -3.6**
ARU pmax pmax
comp=Z,10.0nm,0.8s
TYV Tymovskoe 70.72 29 *eP* P 09 16 30.9 +7.3
TYV pmax pmax
comp=Z,8.0nm,1.0s
TYV pmax pmax
comp=Z,200nm,3.4s
SOC Sochi 71.59 321 *eP* **P 09 16 24.7 -4.4**
SOC *e* 09 19 05.7
SOC *e*S **S 09 25 42.2 -5.0**
SOC *e*SS **SS 09 30 26.4 +3.4**
SOC pmax pmax
comp=Z,45nm,1.0s
SUR Sutherland 73.32 239 LR LR 09 43 26.3
comp=Z,165nm,18.6s,baz=144,slow=31
BR131 Keskin Array S 73.90 315 *deP* **P 09 16 43.5 +0.4**
BRTR Keskin Array B 73.90 315 P P 09 16 43.7 +0.6
comp=Z,0.8nm,0.5s,baz=141,slow=4.8,SNR=2.6
BRTR LR LR 09 49 18.7
comp=Z,82nm,18.8s,baz=124,slow=36
comp=Z,0.8nm,0.5s
YAK Yakutsk 74.03 16 *eP* **P 09 16 41.6 -1.5**
YAK *e**PP **pP 09 16 49.0 +0.3**
YAK *e* 09 16 56.3
YAK *e* 09 19 26.0
YAK *e*S **S 09 26 13.4 -0.8**
YAK *e* 09 26 50.2
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,79nm,2.5s
YAK pmax pmax
comp=N,58nm,2.7s
YAK pmax pmax
comp=E,41nm,2.3s
YAK smax smax
comp=E,35nm,1.8s
YAK smax smax
comp=N,53nm,2.0s
YAK MLR MLR
comp=Z,196nm,22.0s
RPZ Rata Peaks 74.37 133 LR LR 09 46 25.3
comp=Z,138nm,21.1s,baz=270,slow=33
VRH Novokhopyorsk 74.46 328 *eP* **P 09 16 43.4 -2.5**
VRH pmax pmax
comp=Z,7.0nm,0.4s
KIRV Kirov 75.50 337 *ceP* **P 09 16 51.8 +0.1**
VORD Divnogorie 75.62 327 *eP* **P 09 16 50.4 -2.2**
VORD pmax pmax
comp=Z,3.0nm,0.4s
VSR Storozhevoye 75.82 327 *eP* **P 09 16 52.0 -1.8**
VSR pmax pmax
comp=Z,5.0nm,0.5s
LPSR Galich'ya Gora 76.67 328 *eP* **P 09 16 56.5 -2.0**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
NRIK Noril'sk 76.75 357 *c iP* **P 09 16 57.8 -0.9**
NRIK pmax pmax
comp=Z,27nm,1.1s
NRIK Noril'sk 76.75 357 P P 09 16 57.9 -0.7
comp=Z,14nm,0.9s,baz=155,slow=6.5,SNR=12
comp=Z,14nm,0.9s
ELIB Princess Elisa 77.58 198 *dP* **P 09 17 04.8 +1.2**
comp=Z,12nm,1.1s
ELIB *d*PP **PP 09 19 58.1 -0.3**
RTZ Ruatahuna 78.65 128 P P 09 17 09.7 -0.4
RTZ IAmb IAmb 09 17 10.5
comp=Z,22nm,1.0s
URZ Urewera 78.75 127 LR LR 09 50 36.4
comp=Z,163nm,19.6s,baz=30,slow=35
IDI Anoyia 78.84 308 LR LR 09 51 33.3
comp=Z,41nm,21.8s,baz=90,slow=35
MOS Moscow 78.96 331 *eP* P 09 17 24.5 +13
MOS pmax pmax
comp=Z,71nm,1.3s
OBN Obninsk 79.16 330⇑ *eP* **P 09 17 12.5 +0.2**
OBN *i* 09 17 27.3
OBN *e* 09 20 13.7
OBN pmax pmax
comp=Z,12nm,0.9s

OBN MLR MLR
comp=Z,110nm,17.0s
PETK Petropavlovsk- 79.70 33 LR LR 09 52 38.9
comp=Z,74nm,21.4s,baz=232,slow=36
KLMR Klimovskoe 80.84 336 *e*P **P 09 17 19.7 -1.6**
KLMR AMP 09 17 38.1
comp=Z,27nm,1.4s
KLMR Klimovskoe 80.84 336 *e*P **P 09 17 19.7 -1.6**
KLMR pmax pmax
comp=Z,27nm,1.4s
NVL N'lazarevskaya 81.05 199 *e*P **P 09 17 25.1 +2.8**
NVL pmax pmax
comp=Z,15nm,1.4s
AKASG Malin Array Be 81.17 324 *i* P **P 09 17 23.2 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 81.17 324 P **P 09 17 23.2 -0.1**
comp=Z,0.5nm,0.4s,baz=96,slow=4.1,SNR=8.0
comp=Z,0.5nm,0.4s
AKBB Malin Array Si 81.17 324⇑*e*P **P 09 17 22.9 -0.4**
MLR Muntele Rosu 81.32 318 P **P 09 17 25.7 +1.3**
MLR Muntele Rosu 81.32 318 P **P 09 17 25.4 +1.0**
comp=Z,7.6nm,1.0s,baz=125,slow=4.7,SNR=5.4
comp=Z,7.6nm,1.0s
TIXI Tiksi 81.84 10 P **P 09 17 24.9 -1.5**
TIXI Tiksi 81.84 10 *de*P **P 09 17 25.0 -1.4**
TIXI pmax pmax
comp=Z,9.0nm,1.2s
BURAR Bucovina Array 82.51 320 P **P 09 17 30.3 -0.3**
BURAR IAmb IAmb 09 17 48.4
comp=Z,7.6nm,0.8s
BUR08 Bucovina Ar. S 82.53 320 IAmb IAmb 09 17 48.2
comp=Z,11nm,1.0s
QSPA South Pole Qui 82.62 180 P **P 09 17 30.9 0.0**
QSPA IAmb IAmb 09 17 33.4
comp=Z,16nm,1.2s
QSPA South Pole Qui 82.62 180 P **P 09 17 31.9 +1.0**
comp=Z,8.9nm,1.0s,baz=297,slow=2.2,SNR=14
QSPA LR LR 09 50 42.5
comp=Z,273nm,18.9s,baz=301,slow=33
comp=Z,8.9nm,1.0s
TROLL Troll, Antarti 84.01 198 ⇑P **P 09 17 40.8 +2.8**
comp=Z,389nm,1.0s
NACGM Naroch 84.14 327 *e*P **P 09 17 39.9 +1.3**
comp=Z,20nm,1.2s,baz=112
KOLS Kolonicke sedl 84.79 321 *e*P **P 09 17 44.6 +2.5**
KOLS Kolonicke sedl 84.79 321 *e*P **P 09 17 44.6 +2.5**
DIVS Divibare 84.94 316 P **P 09 17 42.0 -1.1**
DIVS IAmb IAmb 09 18 00.6
comp=Z,7.9nm,1.1s
SNAA Sanae 85.72 198 P **P 09 17 47.7 +1.2**
SNAA IAmb IAmb 09 17 50.2
comp=Z,14nm,1.1s
SNAA Sanae 85.72 198 *d* *i* P **P 09 17 48.6 +2.1**
SNAA pmax pmax
comp=Z,16nm,1.3s
SNAA Sanae 85.72 198 ⇑P **P 09 17 49.2 +2.7**
comp=Z,146nm,0.9s
SNAA Sanae 85.72 198 P **P 09 17 49.0 +2.5**
comp=Z,6.3nm,0.9s,baz=90,slow=5.9,SNR=20
SNAA LR LR 09 52 13.3
comp=Z,82nm,19.1s,baz=24,slow=33
comp=Z,6.3nm,0.9s
FINES FINESS Array B 86.89 333 P **P 09 17 52.9 +0.6**
comp=Z,4.9nm,0.6s,baz=104,slow=6.1,SNR=16
comp=Z,4.9nm,0.6s
VNA2 Neumayer--Watz 87.32 199 ⇑P **P 09 17 57.2 +2.9**
comp=Z,15nm,0.8s,baz=86,slow=5.0
VNA1 Neumayer--Stat 87.67 199 ⇑P **P 09 17 59.1 +3.2**
comp=Z,24nm,0.9s
JAVC Velka Javorina 87.69 320 *e*P **P 09 17 57.9 +1.4**
JAVC *e* 09 18 13.3
MODS Modra-Piesok 87.83 319 *e*P **P 09 17 59.2 +2.1**
MODS Modra-Piesok 87.83 319 *e*P **P 09 17 59.2 +2.1**
MODS *e* 09 18 13.5
MORC Moravsky Berou 87.99 321 *e*P **P 09 17 58.3 +0.4**
MORC *e* 09 18 13.6
ARCES ARCESS Array B 90.07 341 P **P 09 18 06.1 -1.1**
comp=Z,9.7nm,1.1s,baz=108,slow=6.9,SNR=7.2
comp=Z,9.7nm,1.1s
GERES GERESS Array B 90.25 319 P **P 09 18 09.9 +1.3**
comp=Z,3.0nm,0.6s,baz=48,slow=2.0,SNR=5.4
comp=Z,3.0nm,0.6s
KHC Kasperske Hory 90.38 319 *e*P **P 09 18 10.0 +0.9**
KHC Kasperske Hory 90.38 319 *e*P **P 09 18 10.0 +0.9**
KHC *ex* x 09 18 21.0
BRG Berggiesshubel 90.48 321 *e*P P 09 18 21.5 +12
BRG Amp 09 18 22.9
comp=Z,4.9nm,0.9s
BELA Belgrano 2 90.63 189 P **P 09 18 10.1 +0.4**
CLL Collm 91.15 321 *e*P **P 09 18 14.0 +1.5**
comp=Z,5.0nm,0.7s
CLL *ex* x 09 18 21.0
KEST Kesra 91.30 306 LR LR 10 01 02.9
comp=Z,33nm,18.8s,baz=305,slow=37
TORD Torodi Ar. Bea 95.51 283 LR LR 09 58 48.3
comp=Z,69nm,19.8s,baz=157,slow=34
TBI Tubuai 109.44 118 *e*LR LR 09 55 33.5
comp=Z,613nm,26.2s
TBI *e*LR LR 09 55 55.2
comp=Z,2μm,24.0s
PPT2 Papeete2 110.95 112 *e*LR LR 09 56 36.2
comp=Z,133nm,26.0s
GO02 Mina Guanaco 144.62 203 PKPab 09 24 43.3 -0.8
TUC Tucson 145.06 41 PKPdf 09 24 45.2 -0.7
TUC Tucson 145.06 41 PKIKP **PKPdf 09 24 45.2 -0.7**
KSPA Keystone Colle 145.13 349 PKPbc 09 24 44.0 -1.0
N38A Joes South For 145.79 12 PKPdf 09 24 45.0 -1.7
ANMO Albuquerque 145.84 33 PKPdf **PKPdf 09 24 46.8 -0.4**
ANMO Albuquerque 145.84 33 PKIKP **PKPdf 09 24 46.8 -0.4**
SSPA Standing Stone 146.39 351 PKPdf 09 24 46.8 -0.9
ACSO Alum Creek Sta 147.27 358 PKPdf 09 24 48.8 -0.5
OK033 Mehan 149.22 20 PKPdf **PKPdf 09 24 50.7 -1.9**
OK033 **PKPab 09 24 60.0 -1.2**
R50A Paris 149.24 0 PKPbc 09 24 55.1 -1.7
WCI Wyandotte Cave 149.24 3 PKPbc 09 24 55.3 -1.5
WCI Wyandotte Cave 149.24 3 PKP2 **PKPbc 09 24 55.3 -1.5**
WMOK Wichita Mounta 149.69 24 PKPbc 09 24 56.1 -1.9
WMOK **PKPab 09 25 02.7 -0.5**
WMOK Wichita Mounta 149.69 24 PKP2 **PKPbc 09 24 56.1 -1.9**
425A Indio Mountain 149.72 37 PKPbc 09 24 57.7 -0.7
S51A Beattyville 149.87 359 PKPbc 09 24 56.5 -1.9
S51A **PKPab 09 25 03.4 -0.3**
WVT Waverly 151.20 6 PKPbc 09 25 01.0 -0.6
WVT Waverly 151.20 6 PKIKP **PKPbc 09 25 01.0 -0.6**
CLTN Cedars of Leba 151.36 3 PKPbc 09 25 01.4 -0.6
LPAZ La Paz 151.54 214 *e*P **PKiKP 09 25 05.9 +1.8**
TXAR Lajitas Array 151.56 37 PKPbc 09 25 02.5 -0.3
TXAR Lajitas Array 151.56 37 PKP **PKPdf 09 24 57.4 +0.9**
comp=Z,0.3nm,0.7s,baz=215,slow=1.5,SNR=4.5
TXAR PKPbc **PKiKP 09 25 02.6 -0.6**
comp=Z,3.9nm,0.7s,baz=275,slow=0.3,SNR=56
TXAR PKPab **pPKPbc 09 25 10.8 +2.2**
comp=Z,7.1nm,0.8s,baz=187,slow=1.4,SNR=21
CPCT Cooper Cave 152.06 0 PKPbc 09 25 02.0 -1.5
CPCT PKPab **pPKPbc 09 25 11.7 +2.3**
WLAR White Oak Lake 152.59 16 PKiKP 09 25 04.5 -0.6
SAML Samuel 153.42 233 PKPab 09 25 19.7 +0.5
SAML Samuel 153.42 233 PKP2 **PKPab 09 25 19.7 +0.5**
SAML Samuel 153.42 233 *e*P **PKPdf 09 25 03.0 +3.5**

---

*IDC **09** 09:06:23.9±2.9, 3°.53S×100°.03E, h0km, mb4.3/8, mbtmp4.3/8, Error ellipse: s-maj=136.0km s-min=21.7km az=52.0*
ISC 09 09:06:29.2±2.5, 3°.5S±0°.5×100°.1E±0°.6, h35km, n11, σ0 70/8, mb4.3/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.17**	**119**	P	**P**	**09 13 38.1**	**+0.8**
	3.0nm,0.9s,baz=306,slow=8.7,SNR=5.1						
	3.0nm,0.9s						
ASAR	**Alice Springs**	**38.31**	**125**	P	**P**	**09 13 46.2**	**-0.7**
	0.9nm,0.4s,baz=295,slow=7.7,SNR=1.5						
	0.9nm,0.4s						
SONM	**Songino Array**	**51.43**	**5**	P	**P**	**09 15 30.8**	**-0.2**
	2.1nm,0.7s,baz=193,slow=8.6,SNR=1.9						
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**52.50**	**345**	P	**P**	**09 15 38.2**	**-0.6**
	1.1nm,0.4s,baz=156,slow=8.4,SNR=15						
	1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**57.02**	**344**	P	**P**	**09 16 12.2**	**+0.8**
	2.7nm,0.8s,baz=179,slow=6.6,SNR=4.0						
	2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**58.66**	**349**	P	**P**	**09 16 22.7**	**-0.2**
	7.9nm,0.8s,baz=165,slow=6.6,SNR=1.4						
	7.9nm,0.8s						
H04N2	**CROZET ISLANDS**	**59.64**	**217**	T	T	10 21 52.9	
	baz=60,slow=74,SNR=7.5						
H04N1	**CROZET ISLANDS**	**59.66**	**217**	T	T	10 21 34.6	
	baz=60,slow=74,SNR=9.8						
H04N3	**CROZET ISLANDS**	**59.66**	**217**	T	T	10 21 32.9	
	baz=60,slow=74,SNR=8.7						
BVAR	**Borovoye Array**	**61.63**	**340**	P	**P**	**09 16 43.6**	**+0.3**
	4.5nm,0.8s,baz=146,slow=8.2,SNR=3.7						
	4.5nm,0.8s						
ARCES	**ARCESS Array B**	**87.92**	**340**	P	**P**	**09 19 14.9**	**-0.1**
	2.5nm,0.9s,baz=83,slow=12,SNR=1.4						
	2.5nm,0.9s						

---

*NAO **09** 09:09:01.8, 37°.20N×24°.51E, h33km, mb3.8*
*IDC **09** 09:09:08.1±0.8, 38°.15N×22°.70E, h0km, mb4.0/11, mbtmp3.9/14, ML3.5/3, MS2.8/6, Error ellipse: s-maj=19.5km s-min=18.1km az=128.0*
*ISK **09** 09:09:10.8, 38°.30N×22°.65E, h18km, ML3.8/25*
*THE **09** 09:09:11.2, 38°.19N×22°.65E, h10km±1km, ML3.8/18, Error ellipse: s-maj=1.6km s-min=0.4km az=307.0*
*ATH **09** 09:09:11.5, 38°.21N×22°.66E, h9km±1km, ML3.8/20, Error ellipse: s-maj=1.8km s-min=0.5km az=205.0*
*NEIC **09** 09:09:11.7±1.6, 38°.245N±0°.009×22°.80E±0°.07, h10km±2km, mb4.2/9, Error ellipse: s-maj=9.8km s-min=3.0km az=91.0*
ISC 09 09:09:11.2±0.8, 38°.21N±0°.02×22°.66E±0°.02, h16km±5km, n177, σ1 25/210, mb4.0/14, 9C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THAL	**Thalero**	**0.17**	**179**	P	**Pg**	**09 09 15.0**	**-0.6**
THAL				S	**Sg**	**09 09 17.8**	**-0.7**
	136μm,0.4s						
THAL	**Thalero**	**0.17**	**179**	P	**Pg**	**09 09 15.1**	**-0.5**
THAL				S	**Sg**	**09 09 18.1**	**-0.5**
THAL				AML	AML	09 09 19.0	
THAL				AML	AML	09 09 20.1	
DLFA	**Delphi**	**0.30**	**334**	P	**Pg**	**09 09 17.2**	**-0.5**
DLFA				S	**Sg**	**09 09 21.7**	**-0.3**
DLFA				AML	AML	09 09 24.1	
	comp=E,52727μm,0.3s						
DLFA				AML	AML	09 09 24.7	
	comp=N,36093μm,0.3s						
LOUT	**Loutraki**	**0.33**	**132**	P	**Pg**	**09 09 17.8**	**-0.4**
LOUT				S	**Sg**	**09 09 22.2**	**-0.7**
	comp=N,14μm,0.5s						
LOUT	**Loutraki**	**0.33**	**132**	P	**Pg**	**09 09 17.9**	**-0.4**
LOUT				S	**Sg**	**09 09 23.1**	**+0.2**
LOUT				AML	AML	09 09 24.7	
	comp=E,5540μm,0.4s						
LOUT				AML	AML	09 09 26.2	
	comp=N,5098μm,0.5s						
GUR	**Goura**	**0.37**	**223**	P	**Pg**	**09 09 18.4**	**-0.6**
GUR				S	**Sg**	**09 09 23.2**	**-1.0**
	comp=N,62μm,0.4s						
GUR	**Goura**	**0.37**	**223**	P	**Pg**	**09 09 18.3**	**-0.6**
GUR				S	**Sg**	**09 09 23.3**	**-0.9**
GUR				AML	AML	09 09 24.6	
	comp=E,90619μm,0.3s						
GUR				AML	AML	09 09 24.6	
ALIK	**Aliki, Aigiali**	**0.44**	**277**	P	**Pg**	**09 09 19.9**	**-0.1**
ALIK				S	**Sg**	**09 09 26.3**	**+0.3**
KLV	**Kalavryta, Ach**	**0.44**	**248**	P	**Pg**	**09 09 19.4**	**-0.7**
KLV				S	**Sg**	**09 09 25.3**	**-0.7**
	comp=E,5μm,0.4s						
KLV	**Kalavryta, Ach**	**0.44**	**248**	P	**Pg**	**09 09 19.4**	**-0.7**
KLV				S	**Sg**	**09 09 25.4**	**-0.7**
KLV				AML	AML	09 09 26.6	
	comp=E,6714μm,0.4s						
KLV				AML	AML	09 09 28.0	
	comp=N,11067μm,0.8s						
KALE	**Kalithea**	**0.45**	**294**	P	**Pg**	**09 09 19.9**	**-0.4**
KALE				S	**Sb**	**09 09 27.2**	**-0.1**
	comp=N,12μm,0.5s						
KALE	**Kalithea**	**0.45**	**294**	P	**Pg**	**09 09 20.0**	**-0.4**
KALE				S	**Sg**	**09 09 26.7**	**+0.3**
KALE				AML	AML	09 09 29.4	
	comp=E,24798μm,0.5s						
KALE				AML	AML	09 09 30.1	
	comp=N,23173μm,0.2s						
VIL2	**Platees**	**0.48**	**90**	P	**Pg**	**09 09 20.9**	**0.0**
VIL2				S	**Sb**	**09 09 28.8**	**+0.7**
VIL2				AML	AML	09 09 34.5	
	comp=E,28889μm,0.8s						
VIL2				AML	AML	09 09 35.4	
	comp=N,14925μm,0.7s						
TRIZ	**Trizonia**	**0.49**	**289**	P	**Pg**	**09 09 20.5**	**-0.5**
TRIZ				S	**Sb**	**09 09 28.4**	**+0.1**
	comp=N,6μm,0.3s						
TRIZ	**Trizonia**	**0.49**	**289**	P	**Pg**	**09 09 20.8**	**-0.2**
TRIZ				S	**Sg**	**09 09 27.9**	**+0.3**
LKR	**Lokris**	**0.51**	**31**	P	**Pg**	**09 09 20.7**	**-0.8**
LKR				AML	AML	09 09 33.1	
	comp=E,32800μm,0.2s						
LKR				AML	AML	09 09 34.8	
	comp=N,29212μm,0.4s						
VILL	**Villia**	**0.52**	**95**	P	**Pg**	**09 09 21.1**	**-0.4**
VILL				S	**Sb**	**09 09 29.9**	**+0.7**
	comp=N,12μm,0.8s						
LAKA	**Lakka**	**0.54**	**273**	P	**Pg**	**09 09 21.6**	**-0.4**
LAKA				S	**Sg**	**09 09 29.1**	**-0.1**
	comp=N,7μm,0.5s						
LAKA	**Lakka**	**0.54**	**273**	P	**Pg**	**09 09 21.8**	**-0.2**
LAKA				AML	AML	09 09 34.0	
	comp=N,20793μm,0.3s						
LAKA				AML	AML	09 09 35.8	
	comp=E,10605μm,0.4s						
AXAR	**Agios Charalam**	**0.56**	**360**	P	**Pg**	**09 09 21.7**	**-0.6**
AXAR				S	**Sb**	**09 09 31.2**	**+0.9**
	comp=E,35μm,0.4s						
AXAR	**Agios Charalam**	**0.56**	**360**	P	**Pg**	**09 09 21.9**	**-0.4**
AXAR				AML	AML	09 09 34.7	
	comp=E,67408μm,0.5s						
AXAR				AML	AML	09 09 35.9	
	comp=N,71186μm,0.4s						
ATAL	**Atalanti**	**0.56**	**30**	P	**Pg**	**09 09 21.5**	**-0.8**
ATAL				S	**Sb**	**09 09 31.0**	**+0.6**
	comp=N,10μm,0.5s						
ATAL	**Atalanti**	**0.56**	**30**	P	**Pg**	**09 09 21.5**	**-0.8**
ATAL				AML	AML	09 09 34.1	
	comp=E,14912μm,0.5s						
ATAL				AML	AML	09 09 35.9	
	comp=N,25500μm,0.5s						
EFP	**Efpalio**	**0.63**	**290**	P	**Pg**	**09 09 22.9**	**-0.8**
EFP				S	**Sb**	**09 09 32.4**	**-0.1**
	comp=N,6μm,0.2s						
EFP	**Efpalio**	**0.63**	**290**	P	**Pg**	**09 09 22.9**	**-0.8**
EFP				S	**Sg**	**09 09 31.2**	**-0.9**
EFP				AML	AML	09 09 38.5	
	comp=N,12713μm,0.3s						
EFP				AML	AML	09 09 40.3	
	comp=E,11168μm,0.4s						
ANX	**Ano Chora**	**0.70**	**304**	P	**Pg**	**09 09 23.9**	**-1.0**
ANX				S	**Sb**	**09 09 34.5**	**+0.1**
ANX	**Ano Chora**	**0.70**	**304**	P	**Pg**	**09 09 24.0**	**-0.9**
ATH	**Athens Observa**	**0.87**	**106**	P	**Pg**	**09 09 27.4**	**-0.7**
ATH				S	**Sb**	**09 09 40.2**	**+1.0**
	comp=E,9μm,0.6s						
ATH	**Athens Observa**	**0.87**	**106**	P	**Pg**	**09 09 27.9**	**-0.2**
ATH				AML	AML	09 09 42.3	
	comp=E,22838μm,0.6s						
ATH				AML	AML	09 09 42.6	
	comp=N,13709μm,0.6s						
MAKR	**Makrakomi, Fth**	**0.90**	**333**	P	**Pg**	**09 09 27.9**	**-0.9**
MAKR				S	**Sn**	**09 09 42.6**	**+0.6**
	comp=N,12μm,0.8s						
MAKR	**Makrakomi, Fth**	**0.90**	**333**	P	**Pg**	**09 09 28.0**	**-0.8**
MAKR				AML	AML	09 09 44.9	
	comp=N,25265μm,0.7s						
MAKR				AML	AML	09 09 50.4	
	comp=E,22197μm,0.9s						
KRND	**KRANIDI**	**0.91**	**155**	P	**Pg**	**09 09 28.0**	**-0.9**
KRND				S	**Sb**	**09 09 41.1**	**+0.6**
	comp=E,14μm,0.6s						
KRND	**KRANIDI**	**0.91**	**155**	P	**Pg**	**09 09 28.1**	**-0.9**
ATHU	**Athens Univers**	**0.92**	**105**	P	**Pb**	**09 09 29.3**	**+0.5**
ATHU				AML	AML	09 09 43.5	
	comp=E,3992μm,0.7s						
ATHU				AML	AML	09 09 43.9	
	comp=N,5510μm,0.5s						
RLS	**Riolos of Patr**	**0.95**	**261**	P	**Pg**	**09 09 28.7**	**-1.0**
RLS				S	**Sb**	**09 09 42.6**	**+0.9**
	comp=N,2μm,0.5s						
RLS	**Riolos of Patr**	**0.95**	**261**	P	**Pg**	**09 09 28.8**	**-1.0**
PTL	**Penteli**	**0.96**	**99**	P	**Pn**	**09 09 31.1**	**+1.0**
VLY	**Voula,Athens**	**0.96**	**111**	P	**Pg**	**09 09 29.7**	**-0.2**
VLY				S	**Sg**	**09 09 42.3**	**-0.3**
	comp=N,5μm,0.7s						
VLY	**Voula,Athens**	**0.96**	**111**	P	**Pg**	**09 09 29.7**	**-0.2**
VLY				AML	AML	09 09 46.1	
	comp=E,8536μm,0.5s						
VLY				AML	AML	09 09 50.4	
	comp=N,9575μm,0.9s						
EVR	**Evrytania**	**0.97**	**317**	P	**Pb**	**09 09 30.4**	**+0.7**
EVR				AML	AML	09 09 47.8	
	comp=N,8635μm,1.2s						
EVR				AML	AML	09 09 48.8	
	comp=E,11058μm,0.9s						
PVO	**Paravola**	**0.98**	**295**	P	**Pg**	**09 09 29.3**	**-0.9**
PVO				S	**Sn**	**09 09 44.8**	**+1.0**
	comp=E,11μm,0.6s						
PVO	**Paravola**	**0.98**	**295**	P	**Pg**	**09 09 28.8**	**-1.4**
DION	**Dionisos Attik**	**1.01**	**97**	P	**Pn**	**09 09 31.4**	**+0.6**
DION				AML	AML	09 09 47.5	
	comp=N,28275μm,0.7s						
DION				AML	AML	09 09 49.2	
	comp=E,21085μm,0.8s						
NEO	**Neokhori**	**1.18**	**22**	P	**Pb**	**09 09 33.1**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.21**	**69**	P	**Pn**	**09 09 33.5**	**+0.1**
KYMI				AML	AML	09 09 56.7	
	comp=N,6654μm,0.5s						
KYMI				AML	AML	09 09 57.2	
	comp=E,5120μm,0.7s						
XOR	**Xorichti**	**1.23**	**20**	P	**Pn**	**09 09 33.8**	**+0.1**
THL	**Klokotos Trika**	**1.44**	**340**	P	**Pb**	**09 09 37.8**	**+0.1**
PYL	**PYLOS**	**1.50**	**209**	P	**Pn**	**09 09 38.4**	**+0.9**
PYL	**PYLOS**	**1.50**	**209**	P	**Pb**	**09 09 38.7**	**0.0**
VLI	**Veliai**	**1.51**	**172**	P	**Pn**	**09 09 38.0**	**+0.5**
VLI				S	**Sn**	**09 09 56.7**	**-0.1**
	comp=E,3μm,0.6s						
VLI	**Veliai**	**1.51**	**172**	P	**Pn**	**09 09 37.4**	**-0.1**
VLI				AML	AML	09 10 00.6	
	comp=N,4690μm,0.7s						
VLI				AML	AML	09 10 02.9	
	comp=E,4611μm,0.6s						
LTHK	**Lithakia**	**1.53**	**251**	P	**Pb**	**09 09 39.5**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.62**	**289**	P	**Pb**	**09 09 41.3**	**+0.6**
EVGI	**Lefkada island**	**1.63**	**285**	P	**Pb**	**09 09 41.1**	**+0.3**
VLS	**Valsamata**	**1.63**	**269**	P	**Pb**	**09 09 41.0**	**0.0**
PSDA	**Pessada-Kefalo**	**1.64**	**267**	P	**Pn**	**09 09 40.6**	**+1.3**
LKD2	**Lefkada island**	**1.68**	**291**	P	**Pb**	**09 09 42.2**	**+0.5**
TSLK	**Tsoukalades, L**	**1.69**	**292**	P	**Pn**	**09 09 40.9**	**+0.9**
DRAG	**Dragano-Lefkad**	**1.71**	**287**	P	**Pb**	**09 09 42.6**	**+0.4**
DMLN	**Damoulianata-K**	**1.80**	**272**	P	**Pb**	**09 09 44.0**	**+0.2**
KTHA	**Kythira Island**	**1.98**	**171**	Pn	**Pn**	**09 09 45.8**	**+1.8**
KTHA				Sn	**Sb**	**09 10 11.2**	**0.0**
KTHA	**Kythira Island**	**1.98**	**171**	P	**Pn**	**09 09 45.4**	**+1.4**
KPRO	**Kipourio**	**2.01**	**330**	P	**Pn**	**09 09 45.7**	**+1.1**
OUR	**Ouranopolis**	**2.36**	**25**	Pn	**Pn**	**09 09 48.7**	**-0.5**
HORT	**Hortiatis**	**2.41**	**8**	Pn	**Pn**	**09 09 49.4**	**-0.6**
HORT				Sn	**Sn**	**09 10 17.4**	**-1.8**
HORT	**Hortiatis**	**2.41**	**8**	P	**Pn**	**09 09 50.4**	**+0.3**
APE	**Apeiranthos**	**2.55**	**116**	⇓P	**Pn**	**09 09 53.0**	**+1.2**
APE	**Apeiranthos**	**2.55**	**116**	Pn	**Pn**	**09 09 53.1**	**+1.2**
SOH	**Sokhos**	**2.66**	**11**	P	**Pn**	**09 09 54.7**	**+1.2**
CHOS	**Chios island**	**2.68**	**85**	Pn	**Pn**	**09 09 54.4**	**+0.7**
KEK	**Kerkira**	**2.69**	**305**	Pn	**Pn**	**09 09 56.8**	**+3.0**
SIGR	**SIGRI**	**2.69**	**67**	Pn	**Pn**	**09 09 54.3**	**+0.5**
GRG	**Griva**	**2.75**	**356**	Pn	**Pn**	**09 09 54.3**	**-0.4**
FNA	**Florina**	**2.76**	**339**	Pn	**Pn**	**09 09 53.9**	**-0.9**
FNA	**Florina**	**2.76**	**339**	Pn	**Pn**	**09 09 56.3**	**+1.5**
RODP	**Rodopos**	**2.79**	**161**	Pn	**Pn**	**09 09 56.5**	**+1.3**
RODP				Sn	**Sn**	**09 10 30.5**	**+2.1**
KBN	**Korca**	**2.81**	**330**		**Pn**	**09 09 57.1**	**+1.5**
SANT	**Santorini**	**2.89**	**129**	⇑P	**Pn**	**09 09 57.4**	**+0.8**
SANT	**Santorini**	**2.89**	**129**	Pn	**Pn**	**09 09 57.0**	**+0.4**
IMMV	**Ierа Moni Meta**	**2.94**	**159**	Pn	**Pn**	**09 09 59.5**	**+2.2**
KNT	**Kendrikon**	**2.95**	**3**	Pn	**Pn**	**09 09 57.3**	**-0.2**
SRS	**Serrai**	**2.99**	**14**	P	**Pn**	**09 09 58.8**	**+0.8**
KNDR	**Palaiochora Ch**	**3.08**	**164**	Pn	**Pn**	**09 10 00.9**	**+1.7**
URLA	**Izmir**	**3.10**	**86**	Pn	**Pn**	**09 10 01.4**	**+1.9**
BOZC	**Bozcaada**	**3.10**	**57**	Pn	**Pn**	**09 09 59.9**	**+0.4**
GADA	**Gvkgeada**	**3.20**	**51**	Pn	**Pn**	**09 10 01.1**	**+0.3**
OHR	**Ohrid**	**3.23**	**334**	*i* Pn	**Pb**	**09 10 05.6**	**-2.7**
OHR				*i* Sn	**Sb**	**09 10 50.3**	**+2.9**
RFT5	**Foca**	**3.24**	**81**	Pn	**Pn**	**09 10 02.6**	**+1.2**
EZN	**Ezine**	**3.28**	**59**	Pn	**Pn**	**09 10 01.9**	**0.0**
IDI	**Anoyia**	**3.42**	**148**	⇑P	**Pn**	**09 10 03.9**	**0.0**
IDI	**Anoyia**	**3.42**	**148**	Pn	**Pn**	**09 10 06.1**	**+2.2**
IDI	**Anoyia**	**3.42**	**148**	Pn	**Pn**	**09 10 05.2**	**+1.3**
IDI	**Anoyia**	**3.42**	**148**	Pn	**Pn**	**09 10 02.9**	**-1.1**
	comp=E,1.3nm,0.3s,baz=14,slow=12,SNR=3.4						
IDI				Sn	**Sn**	**09 10 40.6**	**-3.6**
	comp=E,5.5nm,0.3s,baz=323,slow=20,SNR=3.7						
IDI				LR	LR	09 11 42.5	
	comp=E,177nm,20.9s,baz=315,slow=46						
	comp=E,7.0nm,0.6s						
DKL	**Dikili**	**3.43**	**74**	Pn	**Pn**	**09 10 04.9**	**+0.9**
MMB	**Musomishta**	**3.44**	**14**	P	**Pn**	**09 10 05.1**	**+1.0**
STIP	**Stip**	**3.50**	**354**	*i* Pn	**Pn**	**09 10 07.0**	**+2.1**
RFT2	**Karaagac**	**3.50**	**68**	Pn	**Pn**	**09 10 06.2**	**+1.3**
GVD	**Gavdhos**	**3.56**	**161**	Pn	**Pn**	**09 10 08.3**	**+2.6**
KKB	**Krupnik**	**3.65**	**6**	P	**Pn**	**09 10 08.5**	**+1.5**
GELI	**Tayfur-Gelibol**	**3.68**	**52**	Pn	**Pn**	**09 10 07.4**	**0.0**
RDO	**Rodhopi**	**3.68**	**36**	Pn	**Pn**	**09 10 07.8**	**+0.4**
RDO	**Rodhopi**	**3.68**	**36**	Pn	**Pn**	**09 10 07.2**	**-0.1**
ENEZ	**Enez**	**3.70**	**46**	Pn	**Pn**	**09 10 08.2**	**+0.6**
ALN	**Alexandroupoli**	**3.75**	**43**	Pn	**Pn**	**09 10 08.5**	**+0.2**
ALN	**Alexandroupoli**	**3.75**	**43**		**Pn**	**09 10 08.3**	**-0.1**
SCTE	**Santa Cesarea**	**3.75**	**301**	Pn	**Pn**	**09 10 10.8**	**+2.4**
RZN	**Rozhen**	**3.83**	**24**	P	**Pn**	**09 10 10.1**	**+0.5**
LPK	**Lapseki**	**3.84**	**55**	Pn	**Pn**	**09 10 10.2**	**+0.5**
ERIK	**Erikli-Kesan**	**3.86**	**49**	Pn	**Pn**	**09 10 09.9**	**0.0**
SKO	**Skopje**	**3.87**	**346**	*i* Pn	**Pn**	**09 10 14.2**	**+4.1**
KDZ	**Kurdzhali**	**3.99**	**30**	Pn	**Pn**	**09 10 12.2**	**+0.5**
KRBG	**Karabiga-Canak**	**4.21**	**57**	Pn	**Pn**	**09 10 15.6**	**+1.0**
PLD	**Plovdiv**	**4.24**	**21**	Pn	**Pn**	**09 10 14.9**	**-0.3**
PGB	**Panagyurishte**	**4.45**	**15**	*e*P	**Pn**	**09 10 19.8**	**+1.7**
KARP	**Karpathos**	**4.48**	**125**	Pn	**Pn**	**09 10 18.8**	**+0.4**
MPEP	**Malo Peshtene**	**5.21**	**9**	P	**Pn**	**09 10 30.1**	**+1.7**
MATE	**Matera**	**5.21**

TIRR Tirgusor 7.59 33 Pn **Pn 09 11 01.5 +0.3**
ZIRJ Zirje 7.60 318 *e*Pn **Pn 09 11 00.5 -0.7**
MLR Muntele Rosu 7.68 18 ||P **Pn 09 11 04.6 +2.2**
MLR Muntele Rosu 7.68 18 Pn **Pn 09 11 03.0 +0.6**
MLR Muntele Rosu 7.68 18 Pn **Pn 09 11 01.8 -0.6**
comp=E,0.6nm,0.3s,baz=276,slow=5.4,SNR=6.8
MLR LR LR 09 14 57.1
comp=E,80nm,19.8s,baz=192,slow=45
comp=E,7.6nm,0.7s
INTR Introdacqua 7.71 302 Pn **Pn 09 11 05.5 +2.7**
MORI Morici 7.71 319 *e*Pn **Pn 09 11 03.4 +0.6**
DOPR Dopca 8.01 14 ||P **Pn 09 11 09.1 +2.2**
DUGI Dugi Otok 8.14 318 *e*Pn **Pn 09 11 09.5 +0.9**
PLOR Plostina 8.19 20 ||P **Pn 09 11 10.8 +1.4**
VRI Vrincioaia 8.22 20 ||P **Pn 09 11 11.6 +1.8**
CAMP Campotosto 8.28 304 Pn **Pn 09 11 13.9 +3.3**
NRCA Norcia 8.61 305 **Pn 09 11 17.1 +1.9**
BRTR Keskin Array B 8.69 77 Pn **Pn 09 11 18.6 +2.4**
comp=E,0.1nm,0.3s,baz=264,slow=17,SNR=2.4
comp=E,1.3nm,0.7s
BRJN Brijuni 9.45 318 *e*Pn **Pn 09 11 26.9 +0.4**
VRAC Vranov 11.92 340 LR LR 09 16 49.5
comp=E,27nm,21.1s,baz=168,slow=38
DAVOX Davos/Dischmat 12.73 316 LR LR 09 18 50.2
comp=E,32nm,19.7s,baz=253,slow=46
KHC Kasperske Hory 12.73 332 *e*P **Pn 09 12 16.0 +4.5**
AKASG Malin Array Be 13.33 18 LR LR 09 18 14.0
comp=E,48nm,20.0s,baz=80,slow=41
ESBB Sonseca Array 20.74 282 P **P 09 13 52.7 +1.6**
ESBB IAmb IAmb 09 13 53.8
comp=Z,5.7nm,0.7s
ESDC Sonseca Array 20.74 282 P **P 09 13 52.5 +1.4**
ESDC Sonseca Array 20.74 282 P **P 09 13 51.8 +0.7**
comp=Z,5.5nm,0.7s,baz=76,slow=11,SNR=50
comp=Z,5.5nm,0.7s
PAB San Pablo 21.05 282 P **P 09 13 56.1 +1.6**
PAB IAmb IAmb 09 13 57.2
comp=Z,6.9nm,1.0s
HFS Hagfors 22.67 348 P **P 09 14 12.0 +0.4**
comp=Z,3.8nm,0.9s,baz=77,slow=6.4,SNR=1.5
HFS LR LR 09 24 00.8
comp=Z,40nm,18.1s,baz=82,slow=39
comp=Z,3.8nm,0.9s
FINES FINESS Array B 23.36 4 P **P 09 14 20.1 +1.5**
FINES FINESS Array B 23.36 4 P **P 09 14 18.0 -0.6**
comp=Z,4.4nm,1.0s,baz=181,slow=9.5,SNR=3.7
comp=Z,4.4nm,1.0s
NB201 NORSAR Array S 23.95 346 P **P 09 14 24.0 -0.4**
NB2 NORSAR Subarra 23.95 346 P **P 09 14 24.6 +0.1**
comp=Z,1.9nm,0.7s,baz=154,slow=9.3
NOA NORSAR Array B 23.95 346 P **P 09 14 24.4 0.0**
comp=Z,0.5nm,0.6s,baz=157,slow=10,SNR=3.6
comp=Z,0.5nm,0.6s
NC204 NORSAR Array S 24.26 346 P **P 09 14 27.2 -0.1**
EKA Eskdalemuir Ar 24.40 323 P **P 09 14 28.9 +0.4**
comp=Z,5.1nm,0.9s,baz=119,slow=10,SNR=10.0
comp=Z,5.1nm,0.9s
TOA0 Torodi Ar. Sit 31.15 222 P **P 09 15 30.2 +0.9**
TOA0 IAmb IAmb 09 15 56.9
comp=Z,3.7nm,1.2s
TORD Torodi Ar. Bea 31.15 222 P **P 09 15 30.5 +1.1**
TORD Torodi Ar. Bea 31.15 222 P **P 09 15 27.8 -1.6**
comp=Z,1.2nm,0.8s,baz=31,slow=10,SNR=8.0
comp=Z,1.2nm,0.8s
KK31 Karatay Array 36.24 67 P **P 09 16 13.0 -0.4**
KK31 IAmb IAmb 09 16 14.4
comp=Z,6.5nm,1.4s
KKAR Karatay Array 36.24 67 P **P 09 16 12.9 -0.5**
KKAR IAmb IAmb 09 16 14.3
comp=Z,6.5nm,1.4s
SPITS Spitsbergen Ar 40.16 358 P **P 09 16 46.4 +0.4**
comp=Z,13nm,1.1s,baz=183,slow=5.2,SNR=1.7
comp=Z,13nm,1.1s
KURBB Kurchatov Arra 40.85 54 P **P 09 16 52.4 +0.4**
comp=Z,1.2nm,0.7s,baz=279,slow=8.7,SNR=4.1
comp=Z,1.2nm,0.7s
MKAR Makanchi Array 43.84 59 P **P 09 17 16.7 +0.2**
comp=Z,1.1nm,0.4s,baz=270,slow=7.0,SNR=6.7
comp=Z,1.1nm,0.4s
ZALV Zalesovo Beam 44.41 48 P **P 09 17 19.5 -1.4**
comp=Z,3.4nm,0.7s,baz=271,slow=8.2,SNR=2.5
comp=Z,3.4nm,0.7s
SONM Songino Array 59.13 51 P **P 09 19 08.8 -2.2**
comp=Z,0.4nm,0.6s,baz=274,slow=8.1,SNR=1.3
comp=Z,0.4nm,0.6s
TGY Tagaytay City 87.76 74 LR LR 10 06 13.9
comp=Z,79nm,19.4s,baz=216,slow=39
WRA Warramunga Arr 118.86 93 PKP **PKPdf 09 27 57.5 -1.6**
comp=Z,0.2nm,0.6s,baz=291,slow=7.5,SNR=1.2
ASAR Alice Springs 120.50 97 PKP **PKPdf 09 28 01.9 -0.3**
comp=Z,0.2nm,0.4s,baz=304,slow=1.7,SNR=5.1

---

*IDC **09** 09:22:28.5±1.0, 15°.35N×94°.62W, h0km, mb3.9/11, mbtmp3.9/12, ML4.0/1, MS3.6/10, Error ellipse: s-maj=32.1km s-min=20.1km az=56.0*
*GCG **09** 09:22:35.1±1.9, 16°.07N×94°.51W, h50km±999km, MD4.6*
*MEX **09** 09:22:36.7±0.8, 15°.42N×94°.78W, h22km±21km, MD4.6*
*NEIC **09** 09:22:36.6±2.8, 15°.42N±0°.08×94°.71W±0°.04, h38km±10km, mb4.4/67, Md4.5/20(MEX), Error ellipse: s-maj=11.3km s-min=6.0km az=189.0*
ISC 09 09:22:34.7±0.8, 15°.33N±0°.04×94°.74W±0°.03, h37km±1km, n186, σ2§28/225, mb4.4/21, MS3.5/8, 2C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.21**	**41**	*i* P	**Pn**	**09 22 53.3**	**-1.7**
CARR				*e*S	**Sn**	**09 23 06.7**	**-3.4**
NILT	**Santiago Nilte**	**1.23**	**5**	*i* P	**Pn**	**09 22 53.8**	**-1.6**
NILT				*e*S	**Sn**	**09 23 06.1**	**-4.6**
HUIG	**Huatulco**	**1.39**	**288**		**Pn**	**09 22 57.4**	**-0.1**
HUIG					**Sn**	**09 23 12.9**	**-1.7**
HUIG	**Huatulco**	**1.39**	**288**	*e*P	**Pn**	**09 22 57.2**	**-0.3**
HUIG				*e*S	**Sn**	**09 23 12.6**	**-2.1**
PCIG		**1.51**	**76**		**Pn**	**09 22 58.3**	**-0.8**
PCIG					**Sn**	**09 23 15.6**	**-2.0**
PCIG		**1.51**	**76**	*e*P	**Pn**	**09 22 58.3**	**-0.8**
PCIG				*e*S	**Sn**	**09 23 15.6**	**-2.0**
PANG	**Puerto Angel**	**1.71**	**281**	*e*P	**Pn**	**09 22 59.5**	**-2.3**
PANG				*e*S	**Sn**	**09 23 17.9**	**-4.5**
UXUV	**UXUV**	**2.06**	**16**	*i* P	**Pn**	**09 23 06.9**	**+0.2**
UXUV				*e*S	**Sn**	**09 23 29.3**	**-1.8**
TGIG		**2.12**	**47**	*e*P	**Pn**	**09 23 07.8**	**+0.3**
TGIG				*e*S	**Sn**	**09 23 33.2**	**+0.6**
TGBT	**Tuxtla Gutierr**	**2.14**	**48**	*e*P	**Pn**	**09 23 08.4**	**+0.6**
TGBT				*e*S	**Sn**	**09 23 33.8**	**+0.7**
PEIG	**Puerto Escondi**	**2.42**	**286**		**Pn**	**09 23 11.8**	**+0.1**
PEIG					**Sn**	**09 23 36.4**	**-3.6**
PEIG	**Puerto Escondi**	**2.42**	**286**	*e*P	**Pn**	**09 23 11.8**	**+0.1**
PEIG				*e*S	**Sn**	**09 23 36.6**	**-3.4**
THIG		**2.42**	**100**	*e*P	**Pn**	**09 23 11.6**	**-0.1**
THIG				*e*S	**Sn**	**09 23 37.4**	**-2.7**
PATR	**El Naranjo**	**2.42**	**95**	*e*P	**Pn**	**09 23 11.4**	**-0.5**
PATR				*e*S	**Sn**	**09 23 38.2**	**-2.3**
PAVE	**Pavencul**	**2.48**	**93**	*e*P	**Pn**	**09 23 12.7**	**+0.1**
PAVE				*e*S	**Sn**	**09 23 39.4**	**-2.3**
CHUJ	**Union Juarez**	**2.55**	**95**	*e*P	**Pn**	**09 23 13.3**	**-0.4**
CHUJ				*e*S	**Sn**	**09 23 41.5**	**-2.1**
OXLC	**Oaxaca**	**2.56**	**313**	*e*P	**Pn**	**09 23 15.2**	**+1.4**
OXLC				*e*S	**Sn**	**09 23 44.3**	**+0.5**
OXBJ	**Oaxaca**	**2.57**	**312**	*e*P	**Pn**	**09 23 14.3**	**+0.3**
OXBJ				*e*S	**Sn**	**09 23 44.8**	**+0.6**
NEUV	**Arroyo Zacate**	**2.58**	**337**	*e*P	**Pn**	**09 23 13.8**	**-0.1**
NEUV				*e*S	**Sn**	**09 23 42.0**	**-2.0**
OXIG	**Oaxaca**	**2.58**	**312**		**Pn**	**09 23 16.0**	**+1.9**
OXIG					**Sn**	**09 23 44.6**	**+0.2**
VHO	**Vista Hermosa**	**2.58**	**312**	*i* P	**Pn**	**09 23 16.0**	**+1.9**
VHO				*e*S	**Sn**	**09 23 43.2**	**-1.2**
MIHL	**Minatitlan**	**2.65**	**4**	*e*P	**Pn**	**09 23 15.2**	**+0.3**
MIHL				*e*S	**Sn**	**09 23 47.4**	**+1.7**
CCIG	**Comitan**	**2.67**	**69**	*e*P	**Pn**	**09 23 16.2**	**+0.9**
CCIG				*e*S	**Sn**	**09 23 46.4**	**-0.2**
TUIG	**Tuzandepetl**	**2.70**	**6**	*i* P	**Pn**	**09 23 15.8**	**+0.3**
TUIG				*e*S	**Sn**	**09 23 48.6**	**+1.5**
RTAL	**Retalhuleu**	**3.05**	**105**	Pn	**Pn**	**09 23 20.4**	**+0.1**
YOIG	**Yosondua**	**3.10**	**300**		**Pn**	**09 23 23.6**	**+2.4**
YOIG					**Sn**	**09 23 55.5**	**-1.6**
YOIG	**Yosondua**	**3.10**	**300**	*e*P	**Pn**	**09 23 23.6**	**+2.4**
YOIG				*e*S	**Sn**	**09 23 55.5**	**-1.6**
HUEH	**Huehuetenango**	**3.12**	**90**		**Pn**	**09 23 23.8**	**+2.3**
STG3	**Santiaguito 3,**	**3.12**	**101**	*i* P	**Pn**	**09 23 22.4**	**+0.9**
STG3				*i* S	**Sn**	**09 23 57.1**	**-0.5**
PMUV	**Sontecomapan**	**3.22**	**353**	*e*P	**Pn**	**09 23 21.1**	**-1.6**
PMUV				*e*S	**Sn**	**09 23 57.4**	**-2.4**
SULM	**Suchitepequez,**	**3.23**	**108**	*i* P	**Pn**	**09 23 24.7**	**+1.8**
SULM				*i* S	**Sn**	**09 24 04.8**	**+4.7**
PNIG	**Pinotepa**	**3.43**	**288**	*e*P	**Pn**	**09 23 26.4**	**+0.8**
PNIG				*e*S	**Sn**	**09 24 00.4**	**-4.6**
TXIG	**Tlaxiaco**	**3.48**	**304**	*e*P	**Pn**	**09 23 29.0**	**+2.5**
TXIG				*e*S	**Sn**	**09 24 04.7**	**-2.0**
TOIG	**Toxpalan**	**3.54**	**321**	*e*P	**Pn**	**09 23 30.1**	**+2.9**
TOIG				*e*S	**Sn**	**09 24 07.3**	**-0.5**
HLIG	**Huajuapan de L**	**3.85**	**311**	*e*P	**Pn**	**09 23 34.3**	**+2.7**
HLIG				*e*S	**Sn**	**09 24 15.4**	**-0.2**
FUG	**Fuego 3**	**3.87**	**103**	*i* P	**Pn**	**09 23 34.8**	**+3.1**
FUG				*i* S	**Sn**	**09 24 14.3**	**-1.7**
TPIG	**Tehuac#an**	**3.97**	**321**	*e*P	**Pn**	**09 23 36.7**	**+3.6**
TPIG				*e*S	**Sn**	**09 24 19.7**	**+1.2**
PCG	**Pacaya**	**4.10**	**103**	*i* P	**Pn**	**09 23 36.7**	**+1.7**
FTIG	**Fresnillo de T**	**4.14**	**309**		**Pn**	**09 23 38.7**	**+3.2**
FTIG					**Sn**	**09 24 22.0**	**-0.8**
FTIG	**Fresnillo de T**	**4.14**	**309**	*e*P	**Pn**	**09 23 38.7**	**+3.2**
FTIG				*e*S	**Sn**	**09 24 22.0**	**-0.8**
OZST	**Orizaba**	**4.17**	**328**	*e*P	Pn	09 23 40.5	+4.6
OZST				*e*S	**Sn**	**09 24 18.4**	**-5.1**
TLIG	**Tlapa**	**4.29**	**302**	*e*P	**Pn**	**09 23 40.4**	**+2.8**
TLIG				*e*S	**Sn**	**09 24 23.7**	**-2.8**
JAUV	**Jalcomulco**	**4.47**	**334**	*e*P	**Pn**	**09 23 39.3**	**-0.6**
JAUV				*e*S	**Sn**	**09 24 28.6**	**-2.1**
LVIG	**Laguna Verde**	**4.65**	**340**	*e*P	**Pn**	**09 23 41.0**	**-1.4**
LVIG				*e*S	**Sn**	**09 24 29.2**	**-6.0**
PETF	**Flores**	**4.94**	**71**		**Pn**	**09 23 47.1**	**+0.8**
PHPU	**Puebla**	**4.94**	**319**	*e*P	**Pn**	**09 23 49.5**	**+2.9**
PHPU				*e*S	**Sn**	**09 24 39.7**	**-2.9**
SCIG	**Sabancuy**	**4.96**	**43**	*e*P	**Pn**	**09 23 46.4**	**-0.2**
SCIG				*e*S	**Sn**	**09 24 40.7**	**-2.0**
DAIG	**Los Arroyos**	**5.01**	**290**	*e*P	**Pn**	**09 23 48.9**	**+1.6**
DAIG				*i* S	**Sn**	**09 24 38.4**	**-5.7**
PPM	**Popocatepetl**	**5.25**	**316**	*e*P	Pn	09 23 55.7	+4.6
PPM				*e*S	**Sn**	**09 24 52.5**	**+1.8**
ESQI	**Esquipulas**	**5.27**	**98**		**Pn**	**09 23 52.6**	**+1.6**
MTO3	**Montecristo**	**5.28**	**99**	Pn	**Pn**	**09 23 52.9**	**+1.6**
MEIG	**Mezcala**	**5.34**	**300**	*e*P	**Pn**	**09 23 53.6**	**+1.6**
MEIG				*e*S	**Sn**	**09 24 48.7**	**-3.7**
YAIG	**Yautepec**	**5.43**	**311**	*e*P	**Pn**	**09 23 56.8**	**+3.6**
YAIG				*e*S	**Sn**	**09 24 48.2**	**-6.3**
PLIG	**Platanillo**	**5.49**	**304**	*e*P	**Pn**	**09 23 57.7**	**+3.8**
PLIG				*e*S	**Sn**	**09 24 52.3**	**-3.5**
CXUV	**Coxquihui**	**5.53**	**331**	*e*P	**Pn**	**09 23 54.9**	**+0.5**
CXUV				*e*S	**Sn**	**09 24 51.6**	**-5.2**
SNET	**Serv Nac Est T**	**5.58**	**106**		**Pn**	**09 23 57.3**	**+2.1**
CAIG	**El Cayaco**	**5.58**	**289**	*e*P	**Pn**	**09 23 56.9**	**+1.7**
CAIG				*e*S	**Sn**	**09 24 52.3**	**-5.8**
MPVM	**San Francisco**	**5.61**	**314**	*e*P	**Pn**	**09 23 58.5**	**+2.7**
MPVM				*e*S	**Sn**	**09 25 01.4**	**+2.3**
THVM	**De Xico**	**5.66**	**315**	*e*P	**Pn**	**09 23 55.5**	**-0.9**
THVM				*e*S	**Sn**	**09 24 58.5**	**-1.9**
TLVM	**San Miguel Top**	**5.72**	**313**	*e*P	**Pn**	**09 23 59.3**	**+2.0**
TLVM				*e*S	**Sn**	**09 25 00.9**	**-1.0**
COVM	**Coyoacan**	**5.81**	**314**	*e*P	**Pn**	**09 23 54.8**	**-3.8**
COVM				*e*S	**Sn**	**09 25 03.9**	**-0.3**
COVM				*e*S		09 25 06.3	
UNM	**Universidad Na**	**5.81**	**314**	*e*P	Pn	09 24 04.0	+5.4
UNM				*e*S	**Sn**	**09 25 07.9**	**+3.7**
VRVM	**Mexico City**	**5.83**	**315**	*e*S	**Sn**	**09 25 07.1**	**+2.5**
BJVM	**Benito Juarez**	**5.84**	**314**	*e*S	**Sn**	**09 25 02.2**	**-2.6**
AOVM	**Tlapan**	**5.87**	**312**	*e*P	**Pn**	**09 24 03.9**	**+4.3**
AOVM				*e*S	**Sn**	**09 25 06.5**	**+0.5**
CJVM	**Cuajimalpa**	**5.91**	**313**	*e*S	**Sn**	**09 25 06.2**	**-0.4**
ARIG	**Puente Sto Nin**	**6.12**	**299**	*e*P	**Pn**	**09 24 06.2**	**+3.6**
ARIG				*e*S	**Sn**	**09 25 06.7**	**-4.7**
DEIG	**Demacu**	**6.42**	**321**	*e*P	**Pn**	**09 24 10.8**	**+4.0**
DEIG				*e*S	**Sn**	**09 25 16.2**	**-2.8**
ZIIG	**Zihuatanejo**	**6.84**	**290**	*e*P	**Pn**	**09 24 15.4**	**+3.0**
ZIIG				*e*S	**Sn**	**09 25 28.0**	**-1.1**
CTUV	**Llano Grande**	**7.01**	**331**	*e*P	**Pn**	**09 24 13.6**	**-1.1**
CTUV				*e*S	**Sn**	**09 25 28.7**	**-4.5**
TGUH	**Tegucigalpa,Un**	**7.33**	**99**	Pn	**Pn**	**09 24 20.8**	**+1.4**
TGUH	**Tegucigalpa,Un**	**7.33**	**99**	‖*e*P	**Pn**	**09 24 21.5**	**+2.1**
MYIG	**Mrida**	**7.34**	**40**	*e*P	**Pn**	**09 24 19.4**	**+0.1**
MYIG				*e*S	**Sn**	**09 25 37.8**	**-3.5**
TEIG	**Tepich**	**7.85**	**51**	Pn	**Pn**	**09 24 25.4**	**-0.9**
TEIG	**Tepich**	**7.85**	**51**	Pn	**Pn**	**09 24 24.5**	**-1.8**
133nm,0.3s,baz=124,slow=1.0,SNR=36							
TEIG				Sn	**Sn**	**09 25 46.0**	**-7.8**
38nm,0.3s,baz=112,slow=17,SNR=1.2							
TEIG				LR	LR	09 27 55.8	
comp=Z,995nm,19.4s,baz=335,slow=42							
RPIG	**Rio Verde**	**8.20**	**323**	*e*P	**Pn**	**09 24 28.1**	**-3.1**
RPIG				*e*S	**Sn**	**09 26 01.1**	**-1.6**
CNGN	**Cerro Negro**	**8.30**	**109**	Pn	**Pn**	**09 24 33.1**	**+0.6**
MMIG	**Aquila**	**8.75**	**291**	*e*P	**Pn**	**09 24 40.8**	**+2.1**
MMIG				*e*S	**Sn**	**09 26 14.3**	**-1.8**
GTIG	**Gomez Farias**	**8.76**	**332**	*e*P	**Pn**	**09 24 41.9**	**+3.1**
GTIG				*e*S	**Sn**	**09 26 19.4**	**+3.1**
MATN	**Matagalpa**	**8.87**	**105**		**Pn**	**09 24 42.3**	**+1.8**
BOAB	**BOACO BROADBAN**	**9.26**	**107**	Pn	**Pn**	**09 24 46.8**	**+1.1**
AAIG	**Aguscalientes**	**9.80**	**313**	*e*P	**Pn**	**09 24 54.0**	**+0.7**
ACON	**Acoyapa**	**9.88**	**109**	Pn	**Pn**	**09 24 55.2**	**+1.0**
ORTG	**Ortega, Santa**	**10.30**	**118**	Pn	**Pn**	**09 25 03.3**	**+3.2**
DUNO	**Dulce Nombre,**	**10.42**	**119**		**Pn**	**09 25 04.6**	**+3.0**
ZAIG	**Zacatecas**	**10.46**	**316**	*e*P	**Pn**	**09 25 03.2**	**+0.7**
LNIG	**Linares**	**10.50**	**336**	*e*P	**Pn**	**09 25 05.9**	**+3.2**
CJM	**Chamela**	**10.68**	**294**	*e*P	Pn	09 25 09.5	+4.4
JTS	**Las Juntas de**	**10.78**	**117**	Pn	**Pn**	**09 25 06.8**	**+0.3**
JTS	**Las Juntas de**	**10.78**	**117**	*e*P	**Pn**	**09 25 10.9**	**+4.4**
ARE1	**Arenal 1**	**10.90**	**115**		**Pn**	**09 25 09.7**	**+1.5**
SOCE	**Pocosol**	**11.02**	**115**	Pn	**Pn**	**09 25 11.1**	**+1.2**
JACO	**JACO, Garabito**	**11.34**	**119**	Pn	**Pn**	**09 25 16.9**	**+2.7**
RIMA	**Rio Macho**	**11.97**	**116**		**Pn**	**09 25 24.9**	**+2.0**
833A	**Chaparral WMA,**	**13.63**	**342**	Pn	**Pn**	**09 25 47.6**	**+2.2**
HNDO	**Hondo**	**14.74**	**344**		**Pn**	**09 26 02.0**	**+1.5**
DRIO	**Del Rio**	**15.04**	**340**	Pn	**P**	**09 26 07.8**	**-1.7**
435B	**Jarrell**	**15.60**	**351**	Pn	**Pn**	**09 26 13.4**	**+1.5**
JCT	**Junction City**	**15.78**	**344**	Pn	**Pn**	**09 26 14.3**	**+0.2**
TXAR	**Lajitas Array**	**16.19**	**331**	Pn	**Pn**	**09 26 19.1**	**-0.4**
0.1nm,0.3s,baz=156,slow=8.9,SNR=5.8							
TXAR				LR	LR	09 32 52.2	
comp=Z,64nm,21.2s,baz=112,slow=38							
1.4nm,0.8s							
BRDY	**Brady**	**16.35**	**347**		**P**	**09 26 23.2**	**-0.8**
BRDY				IAmb	IAmb	09 26 36.0	
comp=Z,22nm,0.7s							
344A	**Westbrook Farm**	**16.46**	**12**	P	**P**	**09 26 24.5**	**-0.7**
344A				IAmb	IAmb	09 26 26.7	
comp=Z,54nm,1.2s							
OZNA	**Ozona**	**16.59**	**340**		**P**	**09 26 25.9**	**-0.8**
OZNA				IAmb	IAmb	09 26 35.4	
comp=Z,47nm,1.2s							
ALPN	**Alpine**	**17.06**	**333**		**P**	**09 26 31.8**	**-0.2**
ALPN				IAmb	IAmb	09 26 34.2	
comp=Z,11nm,0.7s							
FW13	**Cleburne**	**17.12**	**352**	P	**Pn**	**09 26 30.8**	**-0.3**
FW13				IAmb	IAmb	09 26 46.6	
comp=Z,23nm,0.9s							
FW14	**Alvarado**	**17.14**	**353**	P	**P**	**09 26 32.5**	**-0.2**
FW14				IAmb	IAmb	09 26 38.2	
comp=Z,80nm,1.4s							
FW16	**Waxahatchie**	**17.19**	**354**		**P**	**09 26 32.9**	**-0.4**
FW16				IAmb	IAmb	09 26 39.5	
comp=Z,101nm,1.4s							
SGCY	**Sterling City**	**17.51**	**342**		**P**	**09 26 36.5**	**-0.4**
SGCY				IAmb	IAmb	09 26 42.7	
comp=Z,38nm,1.0s							
FW07	**Weatherford**	**17.52**	**351**	P	**P**	**09 26 38.2**	**+1.4**
FW07				IAmb	IAmb	09 26 52.0	
comp=Z,88nm,1.2s							
143A	**Socs Landing,**	**17.56**	**9**	P	**P**	**09 26 36.9**	**-0.4**
FW06	**Azle**	**17.75**	**352**		**P**	**09 26 39.6**	**+0.2**
FW06				IAmb	IAmb	09 26 55.7	
comp=Z,37nm,0.9s							
ABTX	**Abilene, Hawle**	**17.78**	**346**	P	**P**	**09 26 40.6**	**+0.7**
ABTX				IAmb	IAmb	09 26 46.0	
comp=Z,26nm,0.9s							
Z38A	**Mt. Pleasant**	**17.85**	**359**	P	**Pn**	**09 26 39.8**	**-0.3**
Z38A				IAmb	IAmb	09 26 45.0	
comp=Z,27nm,0.9s							
FW03	**Perrin-Whitt E**	**17.89**	**351**	P	**P**	**09 26 42.1**	**+1.1**
FW03				IAmb	IAmb	09 26 57.8	
comp=Z,27nm,0.7s							
Z41A	**Richland Creek**	**17.93**	**5**	P	**P**	**09 26 42.0**	**+0.5**
Z35A	**Perchaven, San**	**18.07**	**353**	P	**P**	**09 26 45.0**	**+2.1**
Z35A				IAmb	IAmb	09 26 59.9	
comp=Z,48nm,1.2s							
ODSA	**Odessa**	**18.17**	**338**		**P**	**09 26 45.5**	**+1.3**
ODSA				IAmb	IAmb	09 26 50.7	
comp=Z,35nm,1.2s							
SN01	**Snyder 1**	**18.33**	**343**		**Pn**	**09 26 47.3**	**+1.2**
SN01				IAmb	IAmb	09 26 51.8	
comp=Z,22nm,0.9s							
APMT	**Aspermont**	**18.57**	**346**		**Pn**	**09 26 48.7**	**-0.2**
APMT				IAmb	IAmb	09 26 51.8	
comp=Z,36nm,1.3s							
WTFS	**Witchita Falls**	**18.66**	**350**	P	**P**	**09 26 48.8**	**-0.6**
WTFS				IAmb	IAmb	09 26 59.9	
comp=Z,49nm,0.6s							
LOOK	**Love County**	**18.71**	**354**		**Pn**	**09 26 51.1**	**+0.5**
MNTX	**Cornudas Mount**	**18.97**	**331**	P	**Pn**	**09 26 54.0**	**+0.2**
DKNS	**Dickens**	**19.09**	**344**	P	**Pn**	**09 26 56.2**	**+0.9**
DKNS				IAmb	IAmb	09 26 57.8	
comp=Z,32nm,1.3s							
X37A	**Clayton**	**19.18**	**358**	IAmb	IAmb	09 27 06.2	
comp=Z,22nm,1.1s							
X34A	**Smith Ranch, M**	**19.39**	**352**	P	**Pn**	**09 26 57.9**	**-0.9**
152A	**Waverly Hall**	**19.51**	**26**		**Pn**	**09 27 01.5**	**+1.2**
WMOK	**Wichita Mounta**	**19.66**	**350**		**Pn**	**09 27 01.4**	**-0.7**
W35A	**Tecumseh**	**19.83**	**355**	IAmb	IAmb	09 27 08.5	
comp=Z,22nm,0.9s							
WHAR	**Wooly Hollow**	**20.00**	**6**	P	**P**	**09 27 03.8**	**-0.3**
AMTX	**Amarillo**	**20.45**	**343**	P	Pn	09 27 10.5	-0.9
AMTX				IAmb	IAmb	09 27 16.7	
comp=Z,15nm,0.7s							
OK029	**Liberty Lake**	**20.52**	**354**	IAmb	IAmb	09 27 13.7	
comp=Z,17nm,0.9s							
OK031	**S. Brethren Rd**	**20.62**	**355**		**P**	**09 27 11.5**	**+0.7**
OK031				IAmb	IAmb	09 27 15.2	
comp=Z,24nm,1.1s							
OK052	**Battle Ridge R**	**20.66**	**355**	IAmb	IAmb	09 27 17.1	
comp=Z,16nm,0.7s							
OK033	**Mehan**	**20.72**	**355**		Pn	09 27 13.6	-0.9
QUOK	**Quay**	**20.83**	**356**	IAmb	IAmb	09 27 27.2	
comp=Z,25nm,1.0s							
121A	**Cookes Peak, D**	**20.83**	**328**	IAmb	IAmb	09 27 19.7	
comp=Z,21nm,1.2s							
OK048	**Pawnee Station**	**21.09**	**355**	IAmb	IAmb	09 27 23.8	
comp=Z,24nm,1.0s							
OK051	**E0350 and S346**	**21.17**	**355**	IAmb	IAmb	09 27 23.5	
comp=Z,19nm,0.9s							
CROK	**Carrier**	**21.29**	**353**		**P**	**09 27 20.1**	**+2.1**
YOTC	**Yotoco, Valle**	**21.32**	**120**	*e*P	**P**	**09 27 19.4**	**+0.7**
JAMC	**Jamundi, Valle**	**21.48**	**122**	*e*P	**P**	**09 27 15.7**	**-4.8**
GUY2C	**Guyana, Caldas**	**21.52**	**116**	*e*P	**P**	**09 27 22.6**	**+1.4**
NOKA	**Waynoka**	**21.54**	**351**	IAmb	IAmb	09 27 27.3	
comp=Z,18nm,0.9s							
T35A	**Sooner Cattle**	**21.56**	**356**	IAmb	IAmb	09 27 37.4	
comp=Z,20nm,0.9s							
OK032	**Salt Plains WL**	**21.61**	**352**	IAmb	IAmb	09 27 46.8	
comp=Z,12nm,0.7s							
BBAC	**Balboa, Cauca**	**21.74**	**126**	*e*P	**P**	**09 27 26.2**	**+2.9**
NORC	**Norcasia**	**21.79**	**114**	*e*P	**P**	**09 27 25.7**	**+2.0**
POPC	**Popayan, Colom**	**21.88**	**124**	*e*P	**P**	**09 27 27.2**	**+2.5**
ORTC	**Ortega, Tolima**	**22.29**	**119**	‖*e*P	**P**	**09 27 31.4**	**+2.4**
SPBC	**San Pablo de B**	**22.46**	**113**	*e*P	**P**	**09 27 32.0**	**+1.2**
ROSC	**El Rosal**	**22.62**	**115**	P	**P**	**09 27 35.0**	**+2.1**
ROSC	**El Rosal**	**22.62**	**115**	*e*P	**P**	**09 27 30.8**	**-2.1**
ROSC	**El Rosal**	**22.62**	**115**	P	**P**	**09 27 31.4**	**-1.5**
comp=Z,5.2nm,0.4s,baz=349,slow=11,SNR=2.2							
comp=Z,5.2nm,0.4s							
SDDR	**Presa de Saban**	**22.69**	**77**	P	**P**	**09 27 34.5**	**+1.2**
SDDR	**Presa de Saban**	**22.69**	**77**	*e*P	**P**	**09 27 37.1**	**+3.8**
PRAC	**Prado**	**22.70**	**119**	*e*P	**P**	**09 27 34.8**	**+1.4**
S44A	**Carbondale**	**22.80**	**11**	P	**P**	**09 27 36.8**	**+2.7**
S44A				IAmb	IAmb	09 27 53.5	
comp=Z,11nm,0.9s

MASC IAML 09 28 09.1
comp=Z,36nm,0.6s

*IDC **09** 09:37:52.6±2.1, 14°.40S×174°.65W, h127km±21km, mb3.7/6, mbtmp4.1/7, Error ellipse: s-maj=51.9km s-min=18.2km az=161.0*

ISC 09 09:37:50.0±0.9, 14°.3S±0°.3×174°.9W±0°.1, h100km, n7, σ1°40/8, mb4.1/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.01**	**83**	P	**Pn**	**09 38 37.9**	**+1.9**
	127nm,0.4s,baz=228,slow=3.2,SNR=42						
AFI				S	**Sn**	**09 39 11.3**	**-0.2**
	158nm,0.5s,baz=356,slow=20,SNR=7.9						
WRA	**Warramunga Arr**	**48.74**	**256**	P	**P**	**09 46 26.1**	**+1.1**
	1.7nm,0.5s,baz=92,slow=6.7,SNR=77 1.7nm,0.5s						
ASAR	**Alice Springs**	**49.13**	**251**	P	**P**	**09 46 28.6**	**+0.6**
	10nm,0.6s,baz=86,slow=8.1,SNR=233 10nm,0.6s						
NVAR	**Mina Array Bea**	**74.46**	**43**	P	**P**	**09 49 17.5**	**-0.4**
	0.6nm,0.7s,baz=227,slow=11,SNR=4.7 0.6nm,0.7s						
TXAR	**Lajitas Array**	**81.18**	**57**	P	**P**	**09 49 53.5**	**-1.6**
	0.1nm,0.5s,baz=216,slow=4.5,SNR=1.9 0.1nm,0.5s						
PLCA	**Paso Flores**	**91.30**	**133**	P	**P**	**09 50 43.4**	**-1.4**
	1.3nm,0.7s,baz=243,slow=9.0,SNR=6.1 1.3nm,0.7s						
SONM	**Songino Array**	**93.08**	**319**	P	**P**	**09 50 53.2**	**+0.4**
	0.3nm,0.4s,baz=90,slow=4.3,SNR=1.3 0.3nm,0.4s						

TAP 09 09:42:27.5, 22°.94N×121°.25E, h19km, ML1.8, 4C, A, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDH	**Donghe**	**0.06**	**57**	⇑P	Pg	09 42 30.8	-0.2
	baz=56						
EDH				*e*S	Sg	09 42 32.7	-0.6
	baz=56						
LONT	**Longtian**	**0.12**	**253**	*i* P	Pg	09 42 31.9	+0.4
	baz=252						
LONT				*i* S	Sg	09 42 35.1	+0.9
	baz=252						
ECS	**Chishang**	**0.16**	**348**	*e*P	Pg	09 42 33.5	+1.5
	baz=348						
ECS				*e*S	Sg	09 42 37.5	+2.5
	baz=348						
CHKT	**Chengkung**	**0.19**	**33**	P	Pg	09 42 32.7	+0.3
	baz=35						
CHKT				*i* S	Sg	09 42 37.0	+1.3
	baz=35						
TWGBT	**Beinan**	**0.20**	**232**	⇑*i*P	Pg	09 42 33.1	+0.5
	baz=232						
TWGBT				S	Sg	09 42 37.2	+1.1
	baz=232						
TWG	**Pinlang**	**0.21**	**234**	⇑*i*P	Pg	09 42 33.1	+0.5
	baz=232						
TWG				S	Sg	09 42 37.3	+1.1
	baz=232						
EHD	**Haiduan**	**0.21**	**348**	⇑*i*P	Pg	09 42 33.2	+0.5
	baz=348						
EHD				*i* S	Sg	09 42 37.4	+1.1
	baz=348						
TTN	**Taitung**	**0.21**	**208**	*i* P	Pg	09 42 33.2	+0.5
	baz=205						
TTN				S	Sg	09 42 37.4	+1.2
	baz=205						
FULB	**Fuli**	**0.26**	**8**	*e*P	Pn	09 42 35.4	-0.9
	baz=8.0						
FULB				*e*S	Sn	09 42 41.6	-0.2
	baz=8.0						
ELDTW	**Lidau**	**0.33**	**319**	P	Pb	09 42 35.0	+0.2
	baz=319						
ELDTW				S	Sb	09 42 40.0	+0.3
	baz=319						
LDUT	**Ludao**	**0.33**	**143**	P	Pb	09 42 35.0	+0.1
	baz=143						
LDUT				S	Sb	09 42 40.8	+1.0
	baz=143						
EYUL	**Yuli**	**0.41**	**9**	*i* P	Pb	09 42 36.5	+0.4
	baz=8.0						
EYUL				S	Sb	09 42 42.5	+0.5
	baz=8.0						
TWF1	**Yuli**	**0.41**	**6**	*i* P	Pb	09 42 36.5	+0.3
	baz=6.0						
TWF1				S	Sb	09 42 43.7	+1.5
	baz=6.0						
STYH	**Taoyuan**	**0.49**	**297**	*i* P	Pb	09 42 38.1	+0.5
	baz=298						
STYH				*e*S	Sb	09 42 44.7	+0.2
	baz=298						
SLGT	**Liugui**	**0.56**	**275**	P	Pg	09 42 39.3	+0.5
	baz=275						
SLGT				*i* S	Sg	09 42 47.6	+1.3
	baz=275						
MASBT	**Mashibuluo**	**0.66**	**240**	*e*P	Pb	09 42 40.2	-0.1
	baz=240						
MASBT				*e*S	Sb	09 42 48.9	-0.2
	baz=240						
WTP	**Ta-pu**	**0.66**	**297**	*e*P	Pn	09 42 41.8	-0.1
	baz=297						
TPUB	**Ta-pu**	**0.68**	**302**	P	Pg	09 42 41.3	+0.5
	baz=301						
TPUB				*e*S	Sg	09 42 50.1	+0.2
	baz=301						
ALS	**Alishan**	**0.70**	**324**	*e*P	Pn	09 42 42.2	-0.5
	baz=324						
ALS				S	Sg	09 42 51.7	+0.9
	baz=324						
CHN4	**Tsaushan**	**0.73**	**304**	*e*P	Pn	09 42 44.0	+1.1
	baz=303						
CHN5	**Tsauling**	**0.84**	**321**	*e*P	Pn	09 42 44.6	+0.2
	baz=320						

TAP 09 09:42:30.7, 23°.80N×121°.59E, h39km, ML2.0, 1C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.10**	**205**	*e*P	Pn	09 42 39.3	+0.1
	baz=201						
ETM	**Tongmen**	**0.18**	**332**	P	Pn	09 42 38.4	-0.2
	baz=331						
ETM				S	Sn	09 42 43.9	-1.0
	baz=331						
EGFH	**Guangfu**	**0.20**	**228**	⇓*i*P	Pn	09 42 38.1	-0.4
	baz=227						
EGFH				S	Sn	09 42 43.4	-1.4
	baz=227						
WARBT	**Fenglin Townsh**	**0.20**	**245**	⇓*i*P	Pn	09 42 38.1	-0.5
	baz=245						
WARBT				S	Sn	09 42 43.2	-1.6
	baz=245						
LXIB	**Xiulin Townshi**	**0.27**	**324**	P	Pn	09 42 39.0	+0.1
	baz=323						
LXIB				*i* S	Sn	09 42 45.0	-0.2
	baz=323						
TWD	**Chiawan**	**0.28**	**2**	P	Pn	09 42 39.3	+0.5
	baz=3.0						
TWD				S	Sn	09 42 45.5	+0.6
	baz=3.0						
HGSD	**Ruisui**	**0.34**	**206**	*e*P	Pn	09 42 40.1	+0.8
	baz=16						
HGSD				S	Sn	09 42 47.6	+2.0
	baz=16						
HGSD	**Ruisui**	**0.34**	**206**	P	Pn	09 42 40.2	+0.8
	baz=205						
HGSD				*e*S	Sn	09 42 47.6	+2.0
	baz=205						
ETL	**Fush Village**	**0.36**	**5**	P	Pn	09 42 39.8	+0.3
	baz=5.0						
ETL				S	Sn	09 42 46.5	+0.6
	baz=5.0						
NACB	**Ninganchiao**	**0.37**	**1**	*i* P	Pn	09 42 40.1	+0.4
NACB				*e*S	Sn	09 42 46.5	+0.4
EHY	**Hungye**	**0.38**	**220**	P	Pn	09 42 39.4	-0.4
	baz=7.0						
EHY				*e*S	Sn	09 42 45.5	-0.9
	baz=7.0						
EHY	**Hungye**	**0.38**	**220**	*e*P	Pn	09 42 39.4	-0.5
	baz=218						
EHY				*e*S	Sn	09 42 45.6	-0.8
	baz=218						
OWD	**Renai**	**0.41**	**292**	P	Pn	09 42 41.0	+0.7
	baz=291						
OWD				S	Sn	09 42 47.7	+0.6
	baz=291						
VWDT	**VWDT**	**0.41**	**263**	P	Pn	09 42 41.0	+0.9
	baz=263						
VWDT				*i* S	Sn	09 42 48.0	+1.1
	baz=263						
ETLH	**Xiulin Townshi**	**0.41**	**346**	*i* P	Pn	09 42 40.7	+0.4
	baz=346						
ETLH				*e*S	Sn	09 42 47.2	+0.1
	baz=346						
WHF	**Hehuan Shan**	**0.45**	**319**	P	Pn	09 42 41.7	+0.6
	baz=319						
WHF				*e*S	Sn	09 42 49.6	+1.1
	baz=319						
CHGB	**Renai**	**0.46**	**304**	*i* P	Pn	09 42 41.3	+0.3
	baz=304						
CHGB				S	Sn	09 42 49.4	+1.1
	baz=304						
WUSB	**Renai**	**0.47**	**294**	P	Pn	09 42 42.0	+0.9
	baz=293						
WUSB				S	Sn	09 42 49.1	+0.6
	baz=293						
YULB	**Yu-li**	**0.49**	**213**	*e*P	Pn	09 42 40.5	-0.7
	baz=213						
YULB				*e*S	Sn	09 42 47.8	-0.9
	baz=213						
EYUL	**Yuli**	**0.52**	**209**	*i* P	Pn	09 42 42.0	+0.3
	baz=208						
EYUL				*e*S	Sn	09 42 49.2	-0.1
	baz=208						
TWF1	**Yuli**	**0.52**	**211**	*e*P	Pn	09 42 41.1	-0.6
	baz=209						
TWF1				*e*S	Sn	09 42 48.4	-1.1
	baz=209						
FUSS	**Fushou**	**0.54**	**325**	*e*P	Pn	09 42 42.9	+0.7
	baz=324						
FUSS				*e*S	Sn	09 42 51.0	+0.6
	baz=324						
SSLB	**Suanglung**	**0.58**	**269**	P	Pn	09 42 42.8	+0.2
	baz=268						
SSLB				S	Sn	09 42 52.2	+1.3
	baz=268						
NNSB	**Datong**	**0.65**	**343**	*i* P	Pn	09 42 44.0	+0.4
	baz=343						
NNSB				*e*S	Sn	09 42 52.9	+0.1
	baz=343						
NNS	**Nan Shan**	**0.66**	**343**	*i* P	Pn	09 42 44.0	+0.2
	baz=343						
NNS				S	Sn	09 42 54.3	+1.2
	baz=343						
TYC	**Yuchr**	**0.68**	**279**	*e*P	Pn	09 42 44.0	+0.2
	baz=278						
TYC				*e*S	Sn	09 42 53.9	+0.7
	baz=278						
WHYT	**Xinyi Township**	**0.68**	**261**	*e*P	Pn	09 42 44.2	+0.3
	baz=261						
WHYT				*e*S	Sn	09 42 54.3	+0.9
	baz=261						
LATG	**Datong**	**0.73**	**356**	P	Pn	09 42 45.0	+0.3
	baz=355						
LATG				*e*S	Sn	09 42 55.1	+0.4
	baz=355						
EOS4	**EOS4**	**0.74**	**65**	P	Pn	09 42 45.4	+1.1
	baz=64						
EOS4				*i* S	Sn	09 42 56.0	+1.9
	baz=64						
EHD	**Haiduan**	**0.74**	**208**	P	Pn	09 42 45.5	+0.8
	baz=208						
WHP	**Taichung City**	**0.75**	**309**	P	Pn	09 42 45.9	+1.0
	baz=308						
WHP				S	Sn	09 42 56.0	+0.8
	baz=308						
ALS	**Alishan**	**0.78**	**248**	P	Pn	09 42 46.0	+0.6
	baz=247						
ALS				S	Sn	09 42 56.9	+0.9
	baz=247						
NDT	**Datong Townshi**	**0.80**	**355**	P	Pn	09 42 45.9	+0.4
	baz=355						
NDT				*e*S	Sn	09 42 56.7	+0.5
	baz=355						
EOS3	**EOS3**	**0.82**	**54**	P	Pn	09 42 46.6	+0.9
	baz=54						
EOS3				*e*S	Sn	09 42 59.4	+2.9
	baz=54						
ENTT	**Nioudou**	**0.83**	**359**	P	Pn	09 42 46.4	+0.4
	baz=359						
ENTT				S	Sn	09 42 57.7	+0.7
	baz=359						
CHN5	**Tsauling**	**0.86**	**256**	⇑P	Pn	09 42 47.3	+1.0
	baz=256						
CHN5				S	Sn	09 42 58.4	+0.7
	baz=256						
YHNB	**Yeheng**	**0.88**	**347**	*i* P	Pn	09 42 47.3	+0.5
	baz=347						
YHNB				*e*S	Sn	09 42 58.8	+0.4
	baz=347						
TWQ1	**Liyutan**	**0.92**	**306**	P	Pn	09 42 47.6	+0.4
	baz=305						
TWQ1				S	Sn	09 43 00.8	+1.6
	baz=305						
NFF	**Wufeng Townshi**	**0.93**	**333**	P	Pn	09 42 48.7	+1.3
	baz=332						
NFF				S	Sn	09 43 01.2	+1.7
	baz=332						
FUSB	**Fushanzhiwuyua**	**0.95**	**360**	*i* P	Pn	09 42 48.2	+0.6
	baz=359						
FUSB				S	Sn	09 43 00.9	+0.8
	baz=359						
NWLT	**Wulai**	**0.97**	**355**	P	Pn	09 42 49.1	+1.2
	baz=355						
NWLT				*e*S	Sn	09 43 00.7	+0.2
	baz=355						
STYH	**Taoyuan**	**0.98**	**230**	P	Pn	09 42 48.7	+0.8
	baz=230						
STYH				S	Sn	09 43 00.9	+0.4
	baz=230						
TPUB	**Ta-pu**	**1.01**	**241**	P	Pn	09 42 49.4	+1.0
	baz=240						
TPUB				S	Sn	09 43 03.0	+1.6
	baz=240						
CHN4	**Tsaushan**	**1.02**	**244**	P	Pn	09 42 49.6	+1.1
	baz=243						
CHN4				*e*S	Sn	09 43 03.5	+1.9
	baz=243						
WTP	**Ta-pu**	**1.05**	**238**	P	Pn	09 42 49.3	+0.3
	baz=237						
WTP				S	Sn	09 43 03.9	+1.5
	baz=237						

IDC 09 09:44:54.5±3.7, 54°.23N×87°.54E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=30.8km s-min=20.8km az=36.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.63**	**261**	I	I	09 54 27.6	
	baz=81,slow=329,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.63**	**261**	Pg	Pn	09 45 22.6	-1.7
	1.3nm,0.3s,baz=80,slow=17,SNR=17						
ZALV				Lg	Lg	09 45 45.9	
	0.7nm,0.3s,baz=79,slow=17,SNR=4.2						
KURBB	**Kurchatov Arra**	**6.58**	**240**	Pn	Pn	09 46 33.0	+0.5
	baz=55,slow=13,SNR=2.5						
KURBB				Sn	Sn	09 47 48.9	+0.8
	baz=42,slow=28,SNR=1.7 0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.16**	**206**	Pn	Pn	09 46 55.3	+1.3
	0.1nm,0.3s,baz=24,slow=14,SNR=1.1 0.2nm,0.5s						

*IDC **09** 09:50:05.5±0.9, 5°.85S×153°.21E, h0km, mb3.9/11, mbtmp3.9/11, MS3.3/1, Error ellipse: s-maj=35.1km s-min=19.0km az=84.0*

ISC 09 09:50:10.6±0.8, 5°.8S±0°.1×153°.3E±0°.1, h35km, n15, σ1°39/16, mb4.1/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.98**	**320**	Pn	**Pn**	**09 50 41.6**	**0.0**
	5.5nm,0.3s,baz=156,slow=19,SNR=5.7						
PMG	**Port Moresby**	**7.06**	**239**	Sn	**Sn**	**09 53 11.4**	**+0.8**
	1.6nm,0.3s,baz=160,slow=21,SNR=6.3						
DZM	**Mont Dzumac**	**20.55**	**143**	P	**P**	**09 54 45.7**	**-0.7**
	5.9nm,1.0s,baz=304,slow=18,SNR=3.0 5.9nm,1.0s						
WRA	**Warramunga Arr**	**23.18**	**231**	P	**P**	**09 55 12.1**	**-2.3**
	0.5nm,0.8s,baz=54,slow=9.4,SNR=2.3						
WRA				PcP	**PcP**	**09 59 04.1**	**+1.9**
	0.2nm,0.7s,baz=54,slow=2.4,SNR=1.7 0.5nm,0.8s						
ASAR	**Alice Springs**	**25.76**	**225**	P	**P**	**09 55 36.5**	**-1.8**
	0.7nm,0.8s,baz=57,slow=9.2,SNR=9.6						
ASAR				PcP	**PcP**	**09 59 09.6**	**+1.8**
	0.5nm,0.9s,baz=46,slow=3.1,SNR=3.0 0.7nm,0.8s						
STKA	**Stephens Creek**	**28.15**	**201**	LR	LR	10 07 32.2	
	comp=Z,58nm,18.1s,baz=33,slow=37						
KLR	**Kul'dur**	**57.96**	**343**	P	**P**	**09 59 59.2**	**-0.3**
	1.8nm,0.7s,baz=131,slow=2.6,SNR=5.0 1.8nm,0.7s						
PETK	**Petropavlovsk-**	**58.82**	**3**	P	**P**	**10 00 04.8**	**-0.6**
	5.5nm,1.1s,baz=193,slow=12,SNR=2.7 5.5nm,1.1s						
SONM	**Songino Array**	**67.45**	**328**	P	**P**	**10 01 03.6**	**+0.6**
	0.2nm,0.4s,baz=100,slow=6.4,SNR=1.7 0.2nm,0.4s						
MKAR	**Makanchi Array**	**81.42**	**319**	P	**P**	**10 02 25.9**	**+1.8**
	0.4nm,0.5s,baz=91,slow=8.2,SNR=2.0 0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**82.28**	**326**	P	**P**	**10 02 28.6**	**+0.2**
	1.1nm,0.5s,baz=97,slow=7.6,SNR=2.2 1.1nm,0.5s						
QSPA	**South Pole Qui**	**84.15**	**180**	P	**P**	**10 02 39.3**	**+1.3**
	1.5nm,0.9s,baz=312,slow=1.7,SNR=6.3 1.5nm,0.9s						
KURBB	**Kurchatov Arra**	**84.91**	**322**	P	**P**	**10 02 41.4**	**-0.6**
	0.4nm,0.3s,baz=104,slow=3.6,SNR=5.5 0.4nm,0.3s						
BVAR	**Borovoye Array**	**90.36**	**323**	P	**P**	**10 03 06.7**	**-1.4**
	1.5nm,0.8s,baz=75,slow=6.3,SNR=4.6 1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.10**	**287**	PKPbc	**PKPbc**	**10 10 00.4**	**-0.7**
	0.6nm,0.7s,baz=64,slow=2.7,SNR=3.8						

*JMA **09** 09:53:28.5±0.4, 44°.N±2°.×14°.7E±°, h164km±3km, MV3.2/28, NEAR ETOROFU ISLAND*
*SKHL **09** 09:53:28.3±0.6, 44°.50N×147°.00E, h138km±4km, mb4.5/3, msha4.8/6*

ISC 09 09:53:26.5±2.5, 44°.48N±0°.09×146°.91E±0°.10, h172km±16km, n19, σ1°15/32, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.61**	**185**	*i* P	**Pn**	**09 53 51.3**	**+0.4**
SHO				AMB	AMB	09 53 51.5	
	340nm,0.2s						
SHO				*i* S	**Sn**	**09 54 07.7**	**-1.8**
SHO				A	A	09 54 09.7	
	260nm,0.3s						
SHO				A	A	09 54 09.7	
	310nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.87**	**240**	*e*P	**Pn**	**09 53 53.2**	**+0.8**
YUK				AMB	AMB	09 53 54.6	
	310nm,0.2s						
YUK				*e*S	**Sn**	**09 54 11.2**	**-1.1**
YUK				A	A	09 54 14.2	
	30nm,0.7s						
YUK				A	A	09 54 14.2	
	240nm,0.7s						
KUR	**Kuril'sk**	**1.01**	**42**	*e*P	**Pn**	**09 53 54.0**	**+0.6**
KUR				*e*S	**Sn**	**09 54 13.9**	**-0.3**
KUR				A	A	09 54 14.8	
	50nm,0.5s						
KUR				A	A	09 54 14.8	
	40nm,0.5s						
JRA	**Rausu**	**1.39**	**248**	*e*P	**Pn**	**09 53 57.3**	**+0.7**
JRA				*e*S	**Sn**	**09 54 20.0**	**0.0**
NEM2	**Nemuro 2**	**1.40**	**217**	*e*P	**Pn**	**09 53 57.4**	**+0.6**
NEM2				*e*S	**Sn**	**09 54 19.4**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.40**	**218**	*i* P	**Pn**	**09 53 57.4**	**+0.6**
NMR				*i* S	**Sn**	**09 54 19.4**	**-0.7**
JNSB	**Nemuroshibetsu**	**1.54**	**243**	*e*P	**Pn**	**09 53 59.2**	**+1.1**
JNK	**Nakash**	**1.81**	**241**	*e*P	**Pn**	**09 54 01.8**	**+0.9**
JKHN	**Kushirohamanak**	**1.89**	**223**	*e*P	**Pn**	**09 54 02.8**	**+1.1**
JKHN				*e*S	**Sn**	**09 54 29.0**	**+0.1**
AKK	**Akkeshi**	**2.09**	**226**	*i* P	**Pn**	**09 54 04.9**	**+0.9**
AKK				*e*S	**Sn**	**09 54 32.4**	**-0.6**
AKK				A	A	09 54 33.2	
	80nm,0.4s						
AKK				A	A	09 54 33.2	
	80nm,0.4s						
JAK	**Akkeshi**	**2.19**	**228**	*e*P	**Pn**	**09 54 05.9**	**+0.9**
JAK				*e*S	**Sn**	**09 54 34.4**	**-0.4**
JTKR	**Abashiri--Toko**	**2.21**	**258**	*e*P	**Pn**	**09 54 05.7**	**+0.3**
JTKR				*e*S	**Sn**	**09 54 35.1**	**-0.4**
JAR	**Ashorobuto**	**2.56**	**243**	*e*P	Pn	09 54 12.4	+3.0
JAR				*e*S	**Sn**	**09 54 44.4**	**+1.7**
JOB	**Onbets**	**2.73**	**236**	*e*P	**Pn**	**09 54 12.8**	**+1.4**
JOB				*e*S	**Sn**	**09 54 46.1**	**-0.2**
JKK2	**Kamakawa 2**	**3.05**	**260**	*e*P	**Pn**	**09 54 16.3**	**+1.0**
ASAJ	**Asahikawa**	**3.12**	**265**	*e*P	**Pn**	**09 54 16.9**	**+0.8**
JCH	**Churui**	**3.18**	**235**	*e*P	**Pn**	**09 54 18.0**	**+1.0**
JCH				*e*S	**Sn**	**09 54 54.8**	**-1.4**
JNBK	**Urakawa-nobuka**	**3.74**	**235**	*e*P	**Pn**	**09 54 24.2**	**+0.2**
JNBK				*e*S	**Sn**	**09 55 05.2**	**-3.7**
JRBN	**Rebuntou**	**4.25**	**285**	*e*P	**Pn**	**09 54 30.2**	**-0.3**

*IDC **09** 10:08:16.3±1.3, 25°.78S×179°.28E, h527km±14km, mb3.0/5, mbtmp4.1/9, Error ellipse: s-maj=18.0km s-min=16.8km az=87.0*

ISC 09 10:08:17.2±0.7, 25°.85S±0°.09×179°.3E±0°.1, h550km, n16, σ1°46/18, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.19**	**145**	P	**P**	**10 09 39.4**	**-1.0**
	253nm,0.4s,baz=307,slow=23,SNR=2.3						
MSVF	**Nonsavu**	**8.16**	**352**	P	**P**	**10 10 14.1**	**-2.7**
	6.4nm,0.4s,baz=215,slow=21,SNR=18						
DZM	**Mont Dzumac**	**12.35**	**285**	P	**P**	**10 10 59.8**	**+0.3**
	8.0nm,0.6s,baz=99,slow=12,SNR=10						
URZ	**Urewera**	**12.51**	**188**	P	**P**	**10 10 59.5**	**-1.4**
	20nm,1.1s,baz=87,slow=3.9,SNR=8.2						
URZ				S	**S**	**10 13 14.2**	**-1.4**
	11nm,0.9s,baz=35,slow=18,SNR=1.6						
RPZ	**Rata Peaks**	**19.05**	**199**	P	**P**	**10 12 03.4**	**-1.0**
	3.7nm,0.5s,baz=22,slow=23,SNR=1.4						
ASAR	**Alice Springs**	**41.13**	**263**	P	**P**	**10 15 15.0**	**+1.0**
	0.6nm,0.4s,baz=92,slow=7.5,SNR=24 0.6nm,0.4s						
WRA	**Warramunga Arr**	**41.69**	**269**	P	**P**	**10 15 18.0**	**-0.4**
	1.2nm,0.6s,baz=100,slow=6.8,SNR=32						
WRA				ScP	**ScP**	**10 20 03.3**	**+3.2**
	0.4nm,1.0s,baz=105,slow=3.8,SNR=1.9 1.2nm,0.6s						
QSPA	**South Pole Qui**	**64.24**	**180**	P	**P**	**10 18 00.3**	**+2.1**
	1.0nm,0.5s,baz=345,slow=0.6,SNR=17 1.0nm,0.5s						
NVAR	**Mina Array Bea**	**86.58**	**44**	P	**P**	**10 20 03.4**	**+0.7**
	0.4nm,0.5s,baz=221,slow=8.8,SNR=4.6 0.4nm,0.5s						
TXAR	**Lajitas Array**	**91.99**	**58**	P	**P**	**10 20 29.3**	**+1.5**
	0.4nm,0.7s,baz=206,slow=5.4,SNR=6.1 0.4nm,0.7s						
BVAR	**Borovoye Array**	**121.47**	**318**	PKP	**PKiKP**	**10 26 08.4**	**+0.3**
	0.9nm,0.4s,baz=162,slow=4.5,SNR=3.3						
ARCES	**ARCESS Array B**	**133.65**	**348**	PKP	**PKiKP**	**10 26 31.6**	**-0.5**
	0.8nm,0.7s,baz=72,slow=4.0,SNR=4.3						
NOA	**NORSAR Array B**	**143.89**	**350**	PKP	**PKPdf**	**10 26 49.0**	**-0.6**
	1.7nm,0.7s,baz=22,slow=3.8,SNR=8.5						
HFS	**Hagfors**	**144.32**	**348**	PKP	**PKPab**	**10 26 50.5**	**0.0**
	2.6nm,0.5s,baz=49,slow=4.5,SNR=18						
MMAI	**Mount Meron Ar**	**147.88**	**291**	PKPbc	**PKiKP**	**10 27 02.9**	**+0.5**
	1.9nm,0.4s,baz=82,slow=6.0,SNR=3.6						
EKA	**Eskdalemuir Ar**	**150.49**	**3**	PKPbc	**PKiKP**	**10 27 06.8**	**-0.2**
	0.5nm,0.4s,baz=342,slow=3.2,SNR=6.0						

KRSC 09 10:10:19.9±1.8, 50°.04N×156°.99E, h88km±28km, Ml4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.85**	**319**	*e*P	Pn	10 10 38.5	+0.7
SKR				*e*S	Sn	10 10 51.6	+0.5
PAU	**Pauzhetka**	**1.43**	**355**	*e*P	Pn	10 10 46.7	+2.1
PAU				*e*S	Sn	10 11 05.9	+2.5
KDTR	**Khodutka, Kamc**	**1.90**	**21**	*e*P	Pn	10 10 52.9	+2.2

KDTR				*e*S	Sn	10 11 16.7	+2.6
MTVR	**Mutnovka**	**2.56**	**17**	*e*P	Pn	10 11 02.4	+2.8
MTVR				*e*S	Sn	10 11 33.1	+3.2
GRL	**Gorelyy**	**2.60**	**15**	*e*P	Pn	10 11 03.1	+3.0
AVH	**Avacha**	**3.41**	**18**	*e*P	Pn	10 11 14.2	+3.3
SMAR	**Somma**	**3.42**	**19**	*e*P	Pn	10 11 13.4	+2.2
KRER	**Koryakskii**	**3.44**	**18**	*e*P	Pn	10 11 14.0	+2.4
SDLR	**Sedlovina**	**3.45**	**19**	*e*P	Pn	10 11 13.4	+1.8
KRX	**Arik**	**3.48**	**17**	*e*P	Pn	10 11 14.2	+2.2
SPN	**Mys Shipunski**	**3.60**	**31**	*e*P	Pn	10 11 15.9	+2.5
SPN				*e*S	Sn	10 11 54.9	+0.1
MKZ	**Mys Kozlova**	**5.38**	**31**	*e*P	Pn	10 11 39.2	+1.7

*EAF **09** 10:42:15.2, 26°.48S×28°.21E, h10km, MC3.5*
*BUL **09** 10:42:15.2±0.6, 26°.48S×28°.21E, h10km, MD3.6*
*PRE **09** 10:42:16.8±1.3, 26°.48S×27°.60E, h2km, ML2.2*

ISC 09 10:42:14.7±1.1, 26°.44S±0°.04×27°.69E±0°.06, h10km, n12, σ2§13/24, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**0.88**	**38**	*e*P	**Pn**	**10 42 35.9**	**+2.6**
SLR				*e*S	**Sn**	**10 42 47.8**	**+1.6**
SLR				IAML		10 42 48.9	
	comp=Z,43nm,0.6s						
KSR	**Koster**	**0.92**	**309**	*e*P	**Pb**	**10 42 33.5**	**+0.7**
KSR				*e*S	**Sg**	**10 42 45.4**	**+1.0**
KSR				IAML		10 42 55.2	
	comp=Z,231nm,0.1s						
LBTB	**Lobatse**	**2.36**	**307**	*i* P	**Pg**	**10 42 59.9**	**0.0**
LBTB				*i* S	**Sg**	**10 43 31.7**	**+1.2**
LBTB	**Lobatse**	**2.36**	**307**	*e*P	**Pb**	**10 42 57.2**	**-0.2**
LBTB				*e*S	**Sb**	**10 43 27.0**	**+0.4**
LBTB				IAML		10 43 33.3	
	comp=Z,51nm,0.2s						
LBTB	**Lobatse**	**2.36**	**307**	*i* P	**Pg**	**10 42 59.9**	**0.0**
	baz=301						
LBTB				*i* S	**Sg**	**10 43 31.7**	**+1.2**
	baz=301						
LEPH	**Lephalale, Lim**	**2.57**	**2**	*e*P	**Pb**	**10 43 01.4**	**+0.5**
LEPH				*e*S	**Sb**	**10 43 33.5**	**+0.8**
LEPH				IAML		10 43 42.3	
	comp=Z,17nm,0.3s						
BOSA	**Boshof**	**3.06**	**224**	*i* P	**Pb**	**10 43 08.1**	**-1.2**
BOSA				*i* S	**Sb**	**10 43 45.9**	**-0.8**
BOSA	**Boshof**	**3.06**	**224**	*e*P	**Pn**	**10 43 05.3**	**+2.1**
BOSA				*e*S	**Sn**	**10 43 41.8**	**+1.9**
BOSA				IAML		10 44 00.8	
	comp=Z,6.4nm,0.3s						
BOSA	**Boshof**	**3.06**	**224**	*i* P	**Pb**	**10 43 08.1**	**-1.2**
	baz=230						
BOSA				*i* S	**Sb**	**10 43 45.9**	**-0.8**
	baz=230						
MATP	**Matopo**	**6.03**	**7**	*i* P	**Pn**	**10 43 43.9**	**-0.3**
MATP				*i* S	**Sn**	**10 44 48.1**	**-5.3**
MATP	**Matopo**	**6.03**	**7**	*i* P	**Pn**	**10 43 43.9**	**-0.3**
	baz=3.0						
MATP				*i* S	**Sn**	**10 44 48.1**	**-5.3**
	baz=3.0						
FRAZ	**Fraserburg**	**7.75**	**224**	*e*P	**Pn**	**10 44 10.8**	**+3.1**
FRAZ				*e*S	**Sn**	**10 45 34.0**	**-1.6**
FRAZ				IAML		10 45 45.3	
	comp=Z,1.6nm,0.7s						

*IDC **09** 10:42:31.1±1.0, 61°.96S×153°.26E, h0km, mb4.1/7, mbtmp4.1/7, MS4.1/36, Error ellipse: s-maj=56.2km s-min=17.3km az=83.0*
*NEIC **09** 10:42:32.2±1.2, 61°.89S±0°.04×154°.3E±0°.4, h10km±1km, mb4.6/23, Error ellipse: s-maj=32.1km s-min=4.3km az=80.0*
*GCMT **09** 10:42:36.2±0.3, 61°.59S±0°.01×154°.24E±0°.04, h12km±2km, MW5.0/87, Moment Tensor Solution. s22,c25; s87,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.11±.13; $M_{\theta\theta}$2.15±.11; $M_{\phi\phi}$-2.26±.12; $M_{r\theta}$-1.07±.38; $M_{\theta\phi}$-2.43±.13; $M_{r\phi}$2.42±.63; Best double couple: $M_0$4.21600×10^{16} NP1:ϕ_s339.00000°, δ88.00000°, λ39.00000°. NP2: ϕ_s248.00000°, δ51.00000°, λ178.00000°. Principal axes: T 4.2550, Plg28.0000°, Azm211.0000°; N -0.0770, Plg51.0000°, Azm341.0000°; P -4.1760, Plg25.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 10:42:32.5±0.5, 61°.89S±0°.07×154°.0E±0°.1, h10km, n88, σ1§41/51, mb4.5/16, MS4.1/37, 2C, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.91**	**174**	Pn	**Pn**	**10 46 15.0**	**-1.0**
VNDA	**Vanda**	**15.91**	**174**	Pn	**Pn**	**10 46 13.9**	**-2.1**
	baz=342,slow=14						
SBA	**Scott Base**	**16.55**	**171**	Pn	**Pn**	**10 46 23.9**	**-0.2**
WHZ	**Wether Hill Ro**	**17.95**	**33**	P	**Pn**	**10 46 39.9**	**-2.0**
WHZ				IAmb	IAmb	10 46 52.8	
	comp=Z,26nm,1.0s						
DCZ	**Deep Cove**	**18.15**	**31**		**Pn**	**10 46 43.1**	**-1.2**
MLZ	**Mavora Lakes**	**18.48**	**33**		**P**	**10 46 46.4**	**-2.0**
JCZ	**Jackson Bay**	**19.86**	**33**	P	**Pn**	**10 47 06.8**	**+1.7**
RPZ	**Rata Peaks**	**20.81**	**37**	LR	LR	10 53 47.7	
	comp=Z,1μm,19.2s,baz=183,slow=32						
KHZ	**Kahutara**	**22.73**	**40**	P	**P**	**10 47 36.2**	**+2.0**
TOO	**Toolangi**	**24.91**	**344**	P	**P**	**10 47 54.9**	**-0.6**
TOO				IAmb	IAmb	10 48 36.0	
	comp=Z,31nm,1.4s						
BRAT	**Ballarat**	**25.16**	**341**	P	**P**	**10 48 00.7**	**+3.2**
URZ	**Urewera**	**27.63**	**42**	LR	LR	10 59 18.7	
	comp=Z,698nm,18.7s,baz=223,slow=36						
QSPA	**South Pole Qui**	**28.20**	**180**	P	**P**	**10 48 25.5**	**+0.5**
QSPA				IAmb	IAmb	10 49 05.8	
	comp=Z,21nm,1.4s						
QSPA	**South Pole Qui**	**28.20**	**180**	P	**P**	**10 48 25.0**	**+0.1**
	comp=Z,4.2nm,1.1s,baz=288,slow=2.9,SNR=6.5						
QSPA				LR	LR	10 59 15.5	
	comp=Z,634nm,22.0s,baz=14,slow=36						
	comp=Z,4.2nm,1.1s						
STKA	**Stephens Creek**	**31.08**	**339**	P	**P**	**10 48 50.7**	**+0.1**
STKA	**Stephens Creek**	**31.08**	**339**	P	**P**	**10 48 52.3**	**+1.7**
STKA	**Stephens Creek**	**31.08**	**339**	P	**P**	**10 48 50.9**	**+0.3**
	comp=Z,4.6nm,0.9s,baz=201,slow=7.0,SNR=7.3						
STKA				LR	LR	10 59 59.0	
	comp=Z,227nm,18.3s,baz=155,slow=34						
	comp=Z,4.6nm,0.9s						
BBOO	**Buckleboo**	**31.30**	**330**	P	**P**	**10 48 52.7**	**+0.2**
INKA	**Innaminka**	**35.27**	**339**	P	**P**	**10 49 28.6**	**+1.5**
RMQ	**Roma**	**35.57**	**352**	P	**P**	**10 49 32.1**	**+2.4**
MAW	**Mawson**	**35.90**	**221**	P	**P**	**10 49 31.4**	**-0.7**
MAW				IAmb	IAmb	10 49 44.2	
	comp=Z,5.1nm,1.4s						
MAW	**Mawson**	**35.90**	**221**	P	**P**	**10 49 30.7**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=123,slow=19,SNR=2.8						
MAW				LR	LR	11 04 40.3	
	comp=Z,874nm,18.3s,baz=112,slow=37						
	comp=Z,1.8nm,0.8s						
QLP	**Quilpie**	**35.91**	**345**	P	**P**	**10 49 33.3**	**+0.7**
H01W1	**Cape Leeuwin H**	**36.82**	**299**	T	T	11 28 57.0	
	baz=148,slow=75,SNR=800						
H01W2	**Cape Leeuwin H**	**36.82**	**299**	T	T	11 29 01.1	
	baz=148,slow=75,SNR=648						
H01W3	**Cape Leeuwin H**	**36.83**	**299**	T	T	11 28 58.3	
	baz=148,slow=75,SNR=1179						
NWAO	**Narrogin (SRO)**	**37.28**	**304**	LR	LR	11 01 15.7	
	comp=Z,555nm,20.6s,baz=84,slow=30						
RAO	**Raoul Island**	**37.51**	**43**	LR	LR	11 03 17.6	
	comp=Z,443nm,19.7s,baz=179,slow=33						
BELA	**Belgrano 2**	**40.37**	**177**	P	**P**	**10 50 10.8**	**+1.1**
BELA				IAmb	IAmb	10 50 16.0	
	comp=Z,9.8nm,1.2s						
ASAR	**Alice Springs**	**40.59**	**331**	P	**P**	**10 50 12.1**	**0.0**
ASAR	**Alice Springs**	**40.59**	**331**	P	**P**	**10 50 10.9**	**-1.2**
	comp=Z,4.3nm,0.9s,baz=166,slow=8.5,SNR=24						
ASAR				PcP	**PcP**	**10 52 13.5**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=161,slow=2.5,SNR=4.7						
ASAR				LR	LR	11 04 46.9	
	comp=Z,286nm,19.5s,baz=162,slow=33						
	comp=Z,4.3nm,0.9s						
AS31	**Alice Springs**	**40.59**	**331**	P	**P**	**10 50 12.5**	**+0.4**
DZM	**Mont Dzumac**	**40.71**	**18**	P	**P**	**10 50 11.7**	**-1.4**
DZM				IAmb	IAmb	10 50 14.7	
	comp=Z,19nm,1.1s						
DZM	**Mont Dzumac**	**40.71**	**18**	P	**P**	**10 50 11.9**	**-1.3**
DZM	**Mont Dzumac**	**40.71**	**18**	LR	LR	11 03 44.4	
	comp=Z,430nm,19.1s,baz=205,slow=31						
WRKA	**Warakurna**	**40.73**	**323**	P	**P**	**10 50 13.5**	**+0.3**
CTA	**Charters Tower**	**42.11**	**349**	LR	LR	11 06 08.8	
	comp=Z,300nm,18.1s,baz=166,slow=34						
WR0	**Warramunga Arr**	**44.03**	**333**	P	**P**	**10 50 39.9**	**-0.2**
WR0				IAmb	IAmb	10 50 45.5	
	comp=Z,14nm,1.2s						
WB2	**Warramunga Arr**	**44.09**	**333**	P	**P**	**10 50 40.4**	**-0.2**
WB2				IAmb	IAmb	10 51 00.3	
	comp=Z,7.6nm,1.0s						
WRA	**Warramunga Arr**	**44.09**	**333**	P	**P**	**10 50 39.7**	**-0.9**
WRA	**Warramunga Arr**	**44.09**	**333**	P	**P**	**10 50 38.9**	**-1.7**
	comp=Z,4.3nm,1.0s,baz=164,slow=7.3,SNR=23						
WRA				PcP	**PcP**	**10 52 25.5**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=167,slow=3.2,SNR=6.4						
	comp=Z,4.3nm,1.0s						
WRAB	**Tennant Creek**	**44.10**	**333**	P	**P**	**10 50 40.3**	**-0.3**
WRAB				IAmb	IAmb	10 51 00.3	
	comp=Z,9.1nm,1.1s						
WB0	**Warramunga Arr**	**44.25**	**333**	P	**P**	**10 50 41.8**	**0.0**
WB0				IAmb	IAmb	10 51 03.7	
	comp=Z,18nm,1.5s						
TROLL	**Troll, Antarti**	**44.94**	**192**	⇑P	**P**	**10 50 50.3**	**+3.3**
	comp=Z,94nm,0.8s						
SNAA	**Sanae**	**45.75**	**190**	P	**P**	**10 50 54.3**	**+1.0**
SNAA				IAmb	IAmb	10 50 59.8	
	comp=Z,11nm,1.4s						
SNAA	**Sanae**	**45.75**	**190**	⇑P	**P**	**10 50 56.7**	**+3.4**
	comp=Z,29nm,0.7s						
SNAA	**Sanae**	**45.75**	**190**	P	**P**	**10 50 51.4**	**-2.0**
	comp=Z,0.6nm,1.0s,baz=186,slow=12,SNR=1.5						
SNAA				LR	LR	11 10 48.3	
	comp=Z,1μm,18.9s,baz=189,slow=37						
	comp=Z,0.6nm,1.0s						
PSA00	**Pilbara Seismi**	**46.62**	**314**	P	**P**	**10 50 59.7**	**-0.9**
PSA00				IAmb	IAmb	10 51 03.6	
	comp=Z,11nm,1.2s						
SMAI	**San Martin Ant**	**46.93**	**160**	P	**P**	**10 51 02.4**	**-0.1**
SMAI				IAmb	IAmb	10 51 06.8	
	comp=Z,7.8nm,1.3s						
MSVF	**Nonsavu**	**47.25**	**32**	LR	LR	11 06 24.3	
	comp=Z,320nm,21.8s,baz=161,slow=30						
COEN	**Coen**	**48.49**	**346**	P	**P**	**10 51 15.3**	**+0.1**
KNRA	**Kununurra**	**49.52**	**327**	P	**P**	**10 51 23.5**	**+0.5**
PMSA	**Palmer Station**	**50.51**	**160**	LR	LR	11 11 29.3	
	comp=Z,194nm,18.3s,baz=202,slow=34						
RAR	**Rarotonga**	**51.51**	**59**	LR	LR	11 09 49.7	
	comp=Z,62nm,20.8s,baz=178,slow=32						
HNR	**Honiara**	**52.55**	**7**	LR	LR	11 10 54.1	
	comp=Z,5μm,18.1s,baz=208,slow=32						
PMG	**Port Moresby**	**52.63**	**352**	LR	LR	11 11 25.0	
	comp=Z,288nm,18.8s,baz=176,slow=33						
AFI	**Afiamalu**	**53.80**	**43**	LR	LR	11 13 57.4	
	comp=Z,88nm,18.9s,baz=182,slow=35						
PPT	**Papeete**	**59.07**	**68**	LR	LR	11 14 09.7	
	comp=Z,76nm,18.2s,baz=214,slow=32						
JAY	**Jayapura**	**60.07**	**345**	LR	LR	11 17 37.6	
	comp=Z,203nm,18.4s,baz=141,slow=35						
KAPI	**Kapping**	**62.19**	**321**	LR	LR	11 17 31.8	
	comp=Z,198nm,20.2s,baz=169,slow=34						
LEM	**Lembang**	**64.62**	**307**	LR	LR	11 16 39.7	
	comp=Z,136nm,21.4s,baz=174,slow=32						
PLCA	**Paso Flores**	**71.58**	**146**	LR	LR	11 19 52.2	
	comp=Z,107nm,18.6s,baz=196,slow=31						
DAV	**Davao City (W)**	**72.19**	**330**	LR	LR	11 25 01.5	
	comp=Z,39nm,20.7s,baz=258,slow=35						
H03S2	**Juan Fernandez**	**75.50**	**137**	T	T	12 17 36.5	
	baz=201,slow=74,SNR=55						
H03S1	**Juan Fernandez**	**75.50**	**137**	T	T	12 17 37.2	
	baz=201,slow=74,SNR=75						
H03S3	**Juan Fernandez**	**75.52**	**137**	T	T	12 17 40.2	
	baz=201,slow=74,SNR=62						
GUMO	**Guam**	**75.58**	**351**	LR	LR	11 26 25.0	
	comp=Z,38nm,19.1s,baz=138,slow=35						
SUR	**Sutherland**	**78.74**	**219**	LR	LR	11 28 50.4	
	comp=Z,79nm,18.6s,baz=159,slow=35						
H08S2	**Diego Garcia H**	**79.29**	**274**	T	T	12 22 21.7	
	baz=151,slow=76,SNR=51						
H08S1	**Diego Carcia H**	**79.30**	**274**	T	T	12 22 23.4	
	baz=151,slow=76,SNR=24						
H08S3	**Diego Garcia H**	**79.31**	**274**	T	T	12 22 24.1	
	baz=151,slow=76,SNR=62						
CFA	**Coronel Fontan**	**80.79**	**144**	LR	LR	11 27 08.7	
	comp=Z,39nm,18.2s,baz=212,slow=33						
BOSA	**Boshof**	**80.84**	**224**	LR	LR	11 29 27.1	
	comp=Z,111nm,18.0s,baz=195,slow=35						
CPUP	**Villa Florida**	**88.54**	**152**	LR	LR	11 31 53.6	
	comp=Z,65nm,19.2s,baz=206,slow=33						
LVC	**Limon Verde**	**89.08**	**141**	LR	LR	11 26 02.9	
	comp=Z,30nm,20.2s,baz=190,slow=29						
CMAR	**Chiang Mai Arr**	**91.12**	**309**	P	**P**	**10 55 37.8**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=193,slow=3.7,SNR=4.5						
CMAR				LR	LR	11 35 01.2	
	comp=Z,40nm,19.0s,baz=160,slow=35						
	comp=Z,0.4nm,0.4s						
TSUM	**Tsumeb**	**92.07**	**221**	LR	LR	11 35 07.2	
	comp=Z,181nm,20.6s,baz=162,slow=34						
LSZ	**Lusaka**	**92.10**	**232**	LR	LR	11 33 59.0	
	comp=Z,30nm,18.9s,baz=166,slow=34						
JHJ	**Hachijo jima 2**	**95.37**	**348**	LR	LR	11 35 05.2	
	comp=Z,55nm,21.5s,baz=128,slow=33						
NNA	**Nana**	**96.37**	**130**	LR	LR	11 30 07.1	
	comp=Z,114nm,19.8s,baz=209,slow=30						
JNU	**Nakatsue**	**96.51**	**341**	LR	LR	11 37 25.6	
	comp=Z,43nm,20.0s,baz=204,slow=34						
SIV	**San Ignacio**	**97.57**	**146**	LR	LR	11 37 33.7	
	comp=Z,42nm,18.3s,baz=114,slow=34						
MJAR	**Matsushiro Arr**	**98.92**	**347**	LR	LR	11 38 07.4	
	comp=Z,37nm,21.1s,baz=171,slow=34						
NVAR	**Mina Array Bea**	**122.03**	**68**	PKP	**PKiKP**	**11 01 28.4**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=204,slow=6.8,SNR=3.6						
MKAR	**Makanchi Array**	**122.53**	**309**	PKP	**PKPdf**	**11 01 26.6**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=215,slow=1.5,SNR=3.7						
ILAR	**Eielson Array**	**133.76**	**31**	PKP	**PKPdf**	**11 01 47.9**	**+0.2**
	comp=Z,0.6nm,1.0s,baz=256,slow=3.6,SNR=4.1						
AKASG	**Malin Array Be**	**148.37**	**275**	PKPbc	**PKPbc**	**11 02 16.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=88,slow=14,SNR=1.6						
ESDC	**Sonseca Array**	**154.00**	**221**	PKPbc	**PKPbc**	**11 02 29.8**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=232,slow=1.5,SNR=1.3						
ESDC				PKPab	**PKPab**	**11 02 43.6**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=242,slow=0.6,SNR=4.8						

*IDC **09** 10:50:16.8±1.1, 0°.95N×127°.41E, h0km, mb3.6/5, mbtmp3.6/6, ML3.1/1, MS2.8/2, Error ellipse: s-maj=49.4km s-min=18.1km az=59.0*
*DJA **09** 10:50:18.5±0.4, 1°.N±4°×12°.8E±°, h10km, M3.9/9, mb4.4/1, MLv3.7/9*

ISC 09 10:50:18.8±1.0, 1°.01N±0°.09×127°.56E±0°.08, h10km, n13, σ0§95/13, mb3.7/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.30**	**219**	P	**Pg**	**10 50 25.0**	**+0.1**
LBMI	**Labuha**	**1.64**	**182**	P	**Pn**	**10 50 47.8**	**+0.1**
SANI	**Sanana**	**3.42**	**207**	P	**Pn**	**10 51 12.0**	**-0.2**
SIJI	**Sorong**	**4.15**	**117**	Pn	**Pn**	**10 51 23.0**	**+0.7**
	1.2nm,0.3s,baz=342,slow=20,SNR=9.0						
SIJI				Sn	**Sn**	**10 52 12.3**	**+1.3**
	0.6nm,0.3s,baz=34,slow=24,SNR=1.2						
SIJI				LR	LR	10 53 16.7	
	comp=Z,118nm,18.8s,baz=280,slow=42						
	5.7nm,0.5s						
NLAI	**Namlea**	**4.24**	**186**	P	**Pn**	**10 51 24.5**	**+1.0**
GTOI	**Gorontalo**	**4.56**	**265**	P	**Pn**	**10 51 29.4**	**+1.5**
TTSI	**Tana Toraja**	**8.72**	**242**	P	**Pn**	**10 52 25.6**	**+0.5**
GUMO	**Guam**	**21.21**	**53**	LR	LR	11 02 11.7	
	comp=Z,29nm,20.7s,baz=110,slow=34						
WRA	**Warramunga Arr**	**21.86**	**163**	P	**P**	**10 55 10.5**	**-1.4**
	1.2nm,0.7s,baz=339,slow=11,SNR=15						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**25.29**	**166**	P	**P**	**10 55 45.5**	**-0.1**
	1.4nm,0.8s,baz=340,slow=8.8,SNR=16						
	1.4nm,0.8s						
SONM	**Songino Array**	**50.12**	**342**	P	**P**	**10 59 14.0**	**-0.4**
	0.2nm,0.4s,baz=146,slow=8.7,SNR=2.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**60.25**	**326**	P	**P**	**11 00 27.3**	**-0.2**
	0.5nm,0.6s,baz=123,slow=8.6,SNR=3.6						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**64.46**	**328**	P	**P**	**11 00 54.4**	**-1.1**
	0.7nm,0.5s,baz=127,slow=6.0,SNR=7.2						
	0.7nm,0.5s						

IDC 09 11:16:55.0±254.0, 54°.91N×41°.97E, h0km, Error ellipse: s-maj=114.5km s-min=72.4km az=136.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.24**	**306**	I	I	11 37 50.0	
	0.1nm,0.8s,baz=124,slow=306,SNR=1.8						
I31KZ	**AKTYUBINSK INF**	**10.74**	**108**	I	I	12 25 00.0	
	baz=304,slow=327,SNR=1.1						
I46RU	**ZALESOVO INFRA**	**24.66**	**74**	I	I	13 44 40.0	
	baz=291,slow=325,SNR=1.5						
I34MN	**SONGINO INFRAS**	**39.56**	**73**	I	I	15 19 20.0	
	baz=303,slow=335,SNR=1.0						

IDC 09 11:22:36.3±2.3, 27°.74S×177°.87E, h0km, mb3.6/3, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=47.5km s-min=35.5km az=89.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.51**	**183**	Pn	Pn	11 25 08.9	+0.7
	0.5nm,0.3s,baz=27,slow=14,SNR=1.1						
URZ				Sn	Sn	11 27 06.0	-0.5
	0.5nm,0.3s,baz=78,slow=19,SNR=0.9						
	5.7nm,0.6s						
ASAR	**Alice Springs**	**39.66**	**266**	P	P	11 30 10.4	+0.1
	0.2nm,0.4s,baz=108,slow=7.9,SNR=7.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**40.40**	**271**	P	P	11 30 16.0	-0.4
	0.5nm,0.5s,baz=108,slow=7.7,SNR=12						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**96.21**	**14**	P	P	11 36 05.7	-0.1
	0.2nm,0.9s,baz=222,slow=2.9,SNR=1.2						
	0.2nm,0.9s						

*IDC **09** 11:48:02.5±2.2, 41°.80N×140°.89E, h118km±19km, mb3.2/9, mbtmp3.6/11, Error ellipse: s-maj=23.4km s-min=16.9km az=159.0*
*JMA **09** 11:48:03.4±0.1, 41°.9N±0°.4×140°.9E±0°.7, h125km±1km, MV3.0/39, OSHIMA PEN REG HOKKAIDO*

ISC 09 11:48:03.4±0.8, 41°.84N±0°.04×140°.87E±0°.04, h125km±6km, n28, σ0§60/38, mb3.5/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.13**	**69**	*e*P	**Pn**	**11 48 20.5**	**+0.1**
JSR	**Shiriuchi**	**0.46**	**228**	*e*P	**Pn**	**11 48 21.8**	**+0.2**
JSR				*e*S	**Sn**	**11 48 35.1**	**-0.2**
JYM2	**Yakumo 2**	**0.47**	**307**	*e*P	**Pn**	**11 48 21.8**	**+0.1**
JOT	**Ohata**	**0.48**	**164**	*e*P	**Pn**	**11 48 21.9**	**+0.2**
JNB	**Noboribetsu**	**0.64**	**11**	*e*P	**Pn**	**11 48 22.4**	**-0.3**
JOMM	**Oshimamatsumae**	**0.72**	**244**	*e*P	**Pn**	**11 48 23.6**	**+0.3**
JHST	**Hiyamasetana**	**0.94**	**308**	*e*P	**Pn**	**11 48 25.1**	**-0.1**
JHST				*e*S	**Sn**	**11 48 41.3**	**-0.5**
JSH	**Shimam**	**1.01**	**323**	*e*P	**Pn**	**11 48 26.0**	**+0.2**
JTM	**Tenmabayashi**	**1.06**	**172**	*e*P	**Pn**	**11 48 26.8**	**+0.4**
JTM				*e*S	**Sn**	**11 48 44.5**	**+0.6**
JOSM	**Okushiri--Mats**	**1.07**	**284**	*e*P	**Pn**	**11 48 26.2**	**-0.3**
JOSM				*e*S	**Sn**	**11 48 43.6**	**-0.3**
JEW	**Eniwo**	**1.09**	**23**	*e*P	**Pn**	**11 48 27.1**	**+0.4**
JIAM	**Iburiatsuma**	**1.10**	**45**	*e*P	**Pn**	**11 48 27.5**	**+0.7**
JIAM				*e*S	**Sn**	**11 48 45.5**	**+1.0**
JIW	**Iwasaki**	**1.41**	**208**	*e*P	**Pn**	**11 48 30.8**	**+0.7**
JIW				*e*S	**Sn**	**11 48 51.7**	**+1.3**
JBT2	**Biratori 2**	**1.45**	**49**	*e*P	**Pn**	**11 48 30.7**	**+0.2**
JBT2				*e*S	**Sn**	**11 48 52.0**	**+0.8**
JNBK	**Urakawa-nobuka**	**1.47**	**72**	*e*P	**Pn**	**11 48 30.8**	**+0.1**
JANG	**Nango**	**1.54**	**161**	*e*P	**Pn**	**11 48 31.4**	**-0.2**
JANG				*e*S	**Sn**	**11 48 52.1**	**-1.0**
JCH	**Churui**	**2.00**	**66**	*e*P	**Pn**	**11 48 37.5**	**+0.4**
JCH				*e*S	**Sn**	**11 49 02.3**	**-0.5**
ASAJ	**Asahikawa**	**2.60**	**29**	P	**Pn**	**11 48 44.9**	**+0.2**
	12nm,0.2s,baz=218,slow=14,SNR=108						
ASAJ				S	**Sn**	**11 49 15.6**	**-0.8**
	16nm,0.5s,baz=310,slow=31,SNR=3.4						
USRK	**Ussuriysk Ar.**	**6.92**	**293**	P	**Pn**	**11 49 43.4**	**+1.2**
	1.6nm,0.4s,baz=88,slow=15,SNR=6.0						
ZALV	**Zalesovo Beam**	**38.49**	**308**	P	**P**	**11 55 12.9**	**-0.2**
	0.6nm,0.3s,baz=82,slow=10,SNR=3.8						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**41.37**	**297**	P	**P**	**11 55 36.6**	**-0.3**
	0.6nm,0.7s,baz=86,slow=9.4,SNR=2.8						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**42.84**	**304**	P	**P**	**11 55 48.1**	**-0.7**
	0.9nm,0.4s,baz=77,slow=8.8,SNR=4.7						
	0.9nm,0.4s						
ILAR	**Eielson Array**	**45.72**	**35**	P	**P**	**11 56 11.9**	**+0.4**
	1.0nm,0.9s,baz=249,slow=5.8,SNR=16						
	1.0nm,0.9s						
BVAR	**Borovoye Array**	**47.12**	**309**	P	**P**	**11 56 22.8**	**+0.1**
	0.9nm,0.4s,baz=76,slow=7.8,SNR=3.4						
	0.9n

KPKS			eLg	Lg	12 01 29.6	
	14nm,0.3s					
SATY	**Saty**	**3.30 245**	Pg	**Pn**	**12 01 01.6**	**+4.0**
	0.9nm,0.0s					
SATY			Lg	Lg	12 01 42.0	
	17nm,0.2s					
SATY	**Saty**	**3.30 245**	*e*Pg	**Pn**	**12 01 01.3**	**+3.8**
	1.1nm,0.1s					
SATY			eLg	Lg	12 01 42.7	
	17nm,0.2s					
ARXS	**Arharly**	**3.36 266**	Pg	**Pn**	**12 01 01.0**	**+2.7**
	1.0nm,0.2s					
ARXS			Lg	Lg	12 01 41.5	
	7.9nm,0.3s					
ARXS	**Arharly**	**3.36 266**	*e*Pg	**Pn**	**12 01 01.3**	**+3.1**
	1.3nm,0.1s					
ARXS			eLg	Lg	12 01 42.8	
	8.2nm,0.2s					

*WEL **09** 12:02:51.5, 41°S±4°×17°5E±°, h10km±5km, M3.8/16, ML4.1/16, MLv3.8/16, Error ellipse: s-maj=0.0km s-min=0.0km az=105.1, confirmed*
*NOU **09** 12:02:52.5, 40°62S×174°86E, h7km, MLv4.0/11, Cook Strait, New Zealand*
*IDC **09** 12:02:55.0±3.0, 40°59S×174°93E, h39km±27km, mb3.3/2, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=42.6km s-min=22.0km az=138.0*
ISC 09 12:02:52.1±1.1, 40°57S±0°02×174°84E±0°02, h12km±8km, n156, σ1§15/168, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.30**	**169**	P	**Pg**	**12 02 58.2**	**0.0**
KIW				S	**Sg**	**12 03 02.3**	**0.0**
OGWZ	**Otaki Gorge**	**0.36**	**134**	P	**Pg**	**12 02 59.3**	**+0.1**
OGWZ				S	**Sb**	**12 03 04.7**	**-1.2**
CAW	**Cannon Point**	**0.57**	**162**	P	**Pg**	**12 03 03.4**	**+0.2**
MRZ	**Mangatainoka R**	**0.57**	**100**	P	**Pg**	**12 03 03.0**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.61**	**123**	P	**Pg**	**12 03 04.2**	**+0.1**
WEL	**Wellington**	**0.72**	**184**	P	**Pg**	**12 03 06.0**	**0.0**
DUWZ	**D'Urville Isla**	**0.73**	**251**	P	**Pg**	**12 03 05.8**	**-0.5**
POWZ	**Post Office Ro**	**0.73**	**76**	P	**Pg**	**12 03 05.9**	**-0.4**
SNZO	**South Karori**	**0.75**	**188**	P	**Pg**	**12 03 06.2**	**-0.4**
TCW	**Tory Channel**	**0.77**	**213**	P	**Pg**	**12 03 06.1**	**-0.9**
MTW	**Mount Morrison**	**0.78**	**140**	P	**Pb**	**12 03 07.7**	**+0.2**
MTW				S	**Sb**	**12 03 19.0**	**+1.0**
WAZ	**Wanganui**	**0.82**	**8**	P	**Pg**	**12 03 07.5**	**-0.5**
TIWZ	**Tintock**	**0.83**	**105**	P	**Pg**	**12 03 08.2**	**+0.2**
BHW	**Baring Head**	**0.84**	**178**	P	**Pg**	**12 03 08.3**	**0.0**
PRWZ	**Pori Road**	**0.87**	**90**	P	**Pg**	**12 03 08.8**	**0.0**
PAWZ	**Paruwai Farm**	**0.93**	**151**	P	**Pb**	**12 03 10.7**	**+0.6**
PAWZ				S	**Sn**	**12 03 23.5**	**-0.7**
TMWZ	**Te Maipa**	**0.96**	**124**	P	**Pn**	**12 03 11.3**	**-0.1**
TMWZ				S	**Sn**	**12 03 25.4**	**+0.3**
TSZ	**Takapari Road**	**1.00**	**60**	P	**Pg**	**12 03 10.4**	**-0.9**
PLWZ	**Palliser**	**1.05**	**163**	P	**Pn**	**12 03 13.3**	**+0.6**
PLWZ				S	**Sn**	**12 03 27.6**	**+0.4**
DVHZ	**Dannevirke**	**1.05**	**76**	P	**Pg**	**12 03 11.9**	**-0.5**
TRWZ	**Traveller**	**1.05**	**142**	P	**Pn**	**12 03 13.2**	**+0.6**
BFZ	**Birch Farm**	**1.08**	**97**	P	**Pg**	**12 03 12.8**	**-0.1**
BFZ	**Birch Farm**	**1.08**	**97**	P	**Pb**	**12 03 13.0**	**+0.4**
BFZ				S	**Sn**	**12 03 30.6**	**+2.7**
CPWZ	**Castlepoint**	**1.09**	**109**	P	**Pn**	**12 03 14.4**	**+1.2**
CPWZ				S	**Sn**	**12 03 32.1**	**+3.9**
TUWZ	**Tuamarina**	**1.09**	**218**	P	**Pb**	**12 03 11.8**	**-1.1**
LREZ	**Lake Rotokare**	**1.16**	**343**	P	**Pb**	**12 03 14.1**	**+0.2**
LREZ				S	**Sn**	**12 03 30.9**	**+1.3**
PNHZ	**Pukenui**	**1.23**	**58**	P	**Pn**	**12 03 14.4**	**-0.7**
ANWZ	**Angora Road**	**1.25**	**86**	P	**Pg**	**12 03 16.2**	**0.0**
CMWZ	**Cape Campbell**	**1.27**	**201**	P	**Pg**	**12 03 17.8**	**+1.3**
MTVZ	**Mangateitei**	**1.28**	**23**	P	**Pn**	**12 03 14.9**	**-0.9**
NNZ	**Nelson**	**1.28**	**239**	P	**Pn**	**12 03 15.5**	**-0.3**
PREZ	**Palmer Road**	**1.33**	**337**	P	**Pn**	**12 03 17.2**	**+0.7**
PKYZ	**Pokaka**	**1.34**	**17**	P	**Pn**	**12 03 16.0**	**-0.6**
BSWZ	**Blackbirch Sta**	**1.36**	**212**	P	**Pn**	**12 03 16.8**	**0.0**
MOVZ	**Moawhango**	**1.36**	**32**	P	**Pn**	**12 03 15.6**	**-1.3**
NMEZ	**Namu Road**	**1.37**	**327**	P	**Pn**	**12 03 17.6**	**+0.7**
WNVZ	**Wahianoa**	**1.37**	**26**	P	**Pn**	**12 03 16.3**	**-0.8**
TRVZ	**Turoa**	**1.38**	**24**	P	**Pn**	**12 03 16.8**	**-0.6**
PRHZ	**Porangahau**	**1.41**	**78**	P	**Pb**	**12 03 18.6**	**+0.3**
WHVZ	**Whangaehu Hut**	**1.41**	**25**	P	**Pn**	**12 03 17.1**	**-0.6**
NEZ	**North Egmont**	**1.42**	**336**	P	**Pn**	**12 03 18.2**	**+0.6**
KHEZ	**Kahui Hut**	**1.42**	**333**	P	**Pn**	**12 03 18.2**	**+0.5**
KHEZ	**Kahui Hut**	**1.42**	**333**	P	**Pn**	**12 03 18.5**	**+0.7**
FWVZ	**Far West T-bar**	**1.42**	**23**	P	**Pn**	**12 03 17.3**	**-0.6**
BHHZ	**Black Hill Sta**	**1.43**	**42**	P	**Pn**	**12 03 17.0**	**-0.9**
VRZ	**Vera Road**	**1.44**	**358**	P	**Pn**	**12 03 18.2**	**+0.3**
TUVZ	**Tukino**	**1.44**	**26**	P	**Pn**	**12 03 17.7**	**-0.5**
DREZ	**Durham Road**	**1.46**	**340**	P	**Pn**	**12 03 19.1**	**+0.8**
COVZ	**Chateau Observ**	**1.47**	**22**	P	**Pn**	**12 03 18.3**	**-0.2**
KRHZ	**Kereru**	**1.50**	**52**	P	**Pn**	**12 03 18.8**	**+0.1**
TKNZ	**Takaka Hill**	**1.50**	**251**	P	**Pn**	**12 03 19.8**	**+1.0**
NGZ	**Ngauruhoe**	**1.51**	**23**	P	**Pn**	**12 03 19.0**	**-0.1**
SNVZ	**South Ngauruho**	**1.51**	**24**	P	**Pn**	**12 03 19.0**	**-0.1**
PKE	**Pukeiti**	**1.52**	**334**	P	**Pn**	**12 03 20.0**	**+1.0**
OTVZ	**Oturere**	**1.54**	**25**	P	**Pn**	**12 03 19.4**	**-0.1**
NNVZ	**North Ngauruho**	**1.56**	**23**	P	**Pn**	**12 03 19.7**	**0.0**
WTVZ	**West Tongariro**	**1.56**	**22**	P	**Pn**	**12 03 19.8**	**+0.1**
TWVZ	**Taurewa**	**1.56**	**17**	P	**Pn**	**12 03 19.6**	**-0.2**
ETVZ	**East Tongariro**	**1.58**	**26**	P	**Pn**	**12 03 20.0**	**0.0**
KRVZ	**Karewarewa**	**1.60**	**23**	P	**Pn**	**12 03 20.4**	**+0.2**
TMVZ	**Te Maari**	**1.60**	**25**	P	**Pn**	**12 03 20.3**	**+0.1**
PXZ	**Pawanui**	**1.64**	**72**	P	**Pn**	**12 03 21.4**	**+0.7**
KWHZ	**Kaweka Forest**	**1.67**	**47**	P	**Pn**	**12 03 21.9**	**+0.8**
KATZ	**Kakaramea**	**1.72**	**23**	P	**Pn**	**12 03 22.6**	**+0.6**
KAHZ	**Kahuranaki**	**1.75**	**64**	P	**Pn**	**12 03 23.0**	**+0.9**
QRZ	**Quartz Range**	**1.77**	**261**	P	**Pn**	**12 03 23.6**	**+1.1**
QRZ	**Quartz Range**	**1.77**	**261**	P	**Pn**	**12 03 23.8**	**+1.3**
RITZ	**Rihia Road**	**1.77**	**27**	P	**Pn**	**12 03 23.9**	**+1.3**
MRNZ	**Matariki Terra**	**1.78**	**241**	P	**Pn**	**12 03 24.3**	**+1.7**
MCHZ	**McNeill Hill**	**1.82**	**52**	P	**Pn**	**12 03 24.5**	**+1.4**
RATZ	**Rangitukua**	**1.85**	**23**	P	**Pn**	**12 03 25.1**	**+1.5**
THZ	**Tophouse**	**1.88**	**230**	P	**Pn**	**12 03 25.3**	**+1.2**
BKZ	**Black Stump Fm**	**1.89**	**43**	P	**Pn**	**12 03 25.4**	**+1.2**
BKZ	**Black Stump Fm**	**1.89**	**43**	P	**Pn**	**12 03 25.5**	**+1.2**
HATZ	**Hinemaiaia**	**1.94**	**30**	P	**Pn**	**12 03 26.5**	**+1.8**
CKHZ	**Cape Kidnapper**	**1.94**	**63**	P	**Pg**	**12 03 28.8**	**-0.6**
WATZ	**Wairara**	**1.98**	**21**	P	**Pb**	**12 03 28.0**	**0.0**
HIZ	**Hauiti**	**2.05**	**0**	P	**Pn**	**12 03 27.4**	**+1.1**
HIZ	**Hauiti**	**2.05**	**0**	P	**Pn**	**12 03 27.6**	**+1.3**
KHZ	**Kahutara**	**2.09**	**207**	P	**Pn**	**12 03 28.3**	**+1.5**
KHZ	**Kahutara**	**2.09**	**207**	P	**Pn**	**12 03 28.2**	**+1.3**
WHTZ	**Whakaora**	**2.09**	**25**	P	**Pg**	**12 03 32.6**	**+0.5**
ARHZ	**Aropaoanui**	**2.11**	**53**	P	**Pn**	**12 03 28.4**	**+1.2**
NMHZ	**Naumai**	**2.11**	**47**	P	**Pn**	**12 03 28.6**	**+1.3**
MRHZ	**Matea Rd**	**2.12**	**36**	P	**Pn**	**12 03 28.8**	**+1.5**
KUTZ	**Kauhu Road**	**2.21**	**21**	P	**Pb**	**12 03 31.9**	**-0.1**
WPRZ	**Whakapapatarin**	**2.29**	**27**	P	**Pb**	**12 03 33.1**	**-0.2**
TLZ	**Tolley Road**	**2.30**	**14**	P	**Pn**	**12 03 30.4**	**+0.6**
MTHZ	**Maungataniwha**	**2.31**	**43**	P	**Pn**	**12 03 30.9**	**+1.0**
ALRZ	**Allen Road**	**2.32**	**31**	P	**Pn**	**12 03 31.7**	**+1.6**
WHHZ	**Waihua**	**2.37**	**52**	P	**Pn**	**12 03 32.5**	**+1.7**
PRRZ	**Plateau Road**	**2.39**	**31**	P	**Pn**	**12 03 32.7**	**+1.7**
RAHZ	**Arahi**	**2.39**	**47**	P	**Pn**	**12 03 32.1**	**+1.0**
GRRZ	**Galatos Road**	**2.42**	**24**	P	**Pn**	**12 03 33.9**	**+2.4**
HRRZ	**Handcock Road**	**2.45**	**28**	P	**Pb**	**12 03 34.9**	**-1.1**
HSRZ	**Hossack Road**	**2.50**	**26**	P	**Pb**	**12 03 36.7**	**-0.2**
RTZ	**Ruatahuna**	**2.56**	**41**	P	**Pn**	**12 03 36.2**	**+2.8**
MUGZ	**Murupara**	**2.57**	**36**	P	**Pn**	**12 03 36.0**	**+2.6**
DSZ	**Denniston Nort**	**2.57**	**242**	P	**Pn**	**12 03 35.5**	**+1.9**
RRRZ	**Republican Roa**	**2.58**	**31**	P	**Pb**	**12 03 37.1**	**-1.1**
SNGZ	**Shannon Statio**	**2.63**	**48**	P	**Pn**	**12 03 34.9**	**+0.5**
NGRZ	**Ngongotaha**	**2.68**	**24**	P	**Pb**	**12 03 40.3**	**+0.4**
OMRZ	**Omania**	**2.73**	**26**	P	**Pb**	**12 03 41.0**	**+0.1**
GVZ	**Greta Valley S**	**2.75**	**209**	P	**Pn**	**12 03 36.5**	**+0.5**
MHGZ	**Mahia Peninsul**	**2.75**	**60**	P	**Pn**	**12 03 35.9**	**-0.1**
KARZ	**Kaharoa**	**2.77**	**24**	P	**Pb**	**12 03 44.0**	**+2.5**
KMRZ	**Kaimai**	**2.85**	**18**	P	**Pb**	**12 03 43.8**	**+1.0**
PRGZ	**Paritu Road**	**2.87**	**56**	P	**Pn**	**12 03 38.0**	**+0.4**
TOZ	**Tahuroa Road**	**2.88**	**11**	P	**Pn**	**12 03 39.2**	**+1.5**
URZ	**Urewera**	**2.90**	**38**	P	**Pn**	**12 03 38.3**	**+0.3**
URZ	**Urewera**	**2.90**	**38**	P	**Pn**	**12 03 38.3**	**+0.3**
URZ	**Urewera**	**2.90**	**38**	Pn	**Pn**	**12 03 38.1**	**+0.1**
	9.1nm,0.3s,baz=299,slow=7.8,SNR=23						
URZ				Sn	**Sn**	**12 04 12.5**	**-0.3**
	13nm,0.3s,baz=42,slow=22,SNR=3.7						
	16nm,0.3s						
RIGZ	**Rimuhau**	**2.93**	**52**	P	**Pn**	**12 03 38.1**	**-0.3**
LTZ	**Lake Taylor**	**2.93**	**220**	P	**Pn**	**12 03 39.5**	**+1.1**
OPRZ	**Ohinepanea**	**3.03**	**27**	P	**Pb**	**12 03 43.8**	**-2.1**
MWZ	**Matawai**	**3.05**	**44**	P	**Pn**	**12 03 40.1**	**-0.1**
TKGZ	**Te Karaka**	**3.15**	**49**	P	**Pn**	**12 03 41.2**	**-0.3**
INZ	**Inchbonnie**	**3.33**	**229**	P	**Pn**	**12 03 45.4**	**+1.5**
RUGZ	**Raukumara Rang**	**3.41**	**41**	P	**Pn**	**12 03 45.4**	**+0.3**
TWGZ	**Tauwhareparae**	**3.41**	**47**	P	**Pn**	**12 03 44.9**	**-0.2**
OKCZ	**Okains Bay**	**3.42**	**202**	P	**Pn**	**12 03 45.2**	**+0.1**
OXZ	**Oxford**	**3.46**	**216**	P	**Pn**	**12 03 45.3**	**-0.3**
MKAZ	**Moumakai**	**3.47**	**4**	P	**Pn**	**12 03 46.9**	**+1.1**
AWAZ	**Awhitu Peninsu**	**3.50**	**357**	P	**Pn**	**12 03 48.2**	**+1.9**
MQZ	**McQueen's Vall**	**3.53**	**207**	P	**Pn**	**12 03 45.6**	**-1.0**
AKCZ	**Akaroa Harbour**	**3.60**	**203**	P	**Pn**	**12 03 47.7**	**+0.1**
ETAZ	**East Tamaki Re**	**3.61**	**1**	P	**Pn**	**12 03 49.8**	**+2.0**
HAZ	**Te Kaha**	**3.62**	**40**	P	**Pn**	**12 03 48.4**	**+0.5**
WTAZ	**Waiatarua**	**3.63**	**357**	P	**Pn**	**12 03 50.3**	**+2.1**
PUZ	**Puketiti**	**3.64**	**48**	P	**Pn**	**12 03 47.3**	**-1.0**
WIAZ	**Waiheke Island**	**3.78**	**4**	P	**Pn**	**12 03 52.4**	**+2.3**
MBAZ	**Motutapu North**	**3.79**	**1**	P	**Pn**	**12 03 51.9**	**+1.6**
RVAZ	**Riverhead Bore**	**3.80**	**357**	P	**Pn**	**12 03 51.9**	**+1.6**
KUZ	**Kuaotunu**	**3.88**	**11**	P	**Pn**	**12 03 54.8**	**+3.3**
KUZ	**Kuaotunu**	**3.88**	**11**	P	**Pn**	**12 03 54.2**	**+2.8**
WMGZ	**Waiomatatini S**	**3.91**	**47**	P	**Pn**	**12 03 51.1**	**-0.7**
WVZ	**Waitaha Valley**	**3.96**	**229**	P	**Pn**	**12 03 54.1**	**+1.6**
WACZ	**Wakanui South**	**4.04**	**212**	P	**Pn**	**12 03 53.4**	**-0.2**
RPZ	**Rata Peaks**	**4.22**	**221**	P	**Pn**	**12 03 58.6**	**+2.4**
RPZ	**Rata Peaks**	**4.22**	**221**	Pn	**Pn**	**12 03 56.7**	**+0.6**
	1.3nm,0.3s,baz=209,slow=19,SNR=1.9						
RPZ				Sn	**Sn**	**12 04 44.2**	**-1.1**
	baz=325,slow=20						
	12nm,0.6s						
ARCZ	**Arundel**	**4.33**	**218**	P	**Pn**	**12 03 58.7**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**4.34**	**229**	P	**Pn**	**12 03 59.7**	**+1.8**
WCZ	**Waipu Caves**	**4.64**	**355**	P	**Pn**	**12 04 03.2**	**+1.3**
TMZ	**Timaru**	**4.75**	**215**	P	**Pn**	**12 04 04.1**	**+0.6**
FOZ	**Fox Glacier**	**4.77**	**230**	P	**Pn**	**12 04 04.2**	**+0.5**
LBZ	**Lake Benmore**	**5.14**	**220**	P	**Pn**	**12 04 10.5**	**+1.7**
OUZ	**Omahuta**	**5.43**	**349**	P	**Pn**	**12 04 15.1**	**+2.4**
OUZ	**Omahuta**	**5.43**	**349**	P	**Pn**	**12 04 14.3**	**+1.6**
ODZ	**Otahua Downs**	**5.43**	**213**	P	**Pn**	**12 04 12.3**	**-0.5**
ODZ	**Otahua Downs**	**5.43**	**213**	P	**Pn**	**12 04 12.3**	**-0.5**
JCZ	**Jackson Bay**	**5.69**	**230**	P	**Pn**	**12 04 17.1**	**+0.7**
CTZ	**Chatham Island**	**7.10**	**119**	P	**Pn**	**12 04 35.5**	**-0.1**
ASAR	**Alice Springs**	**38.16**	**284**	P	**P**	**12 10 11.4**	**+0.1**
	0.2nm,0.4s,baz=118,slow=6.3,SNR=12						
ASAR				PcP	**PcP**	**12 12 23.3**	**-2.7**
	0.3nm,0.8s,baz=120,slow=4.4,SNR=1.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**40.12**	**289**	P	**P**	**12 10 27.8**	**0.0**
	0.8nm,0.5s,baz=126,slow=8.3,SNR=20						
	0.8nm,0.5s						
ARCES	**ARCESS Array B**	**146.81**	**341**	PKPbc	**PKPdf**	**12 22 30.6**	**-0.5**
	1.1nm,0.6s,baz=65,slow=4.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**152.03**	**194**	PKPbc	**PKPbc**	**12 22 47.2**	**-0.4**
	0.3nm,0.5s,baz=147,slow=2.6,SNR=2.7						

HEL 09 12:04:48.0±0.3, 67°91N×20°07E, h0km, ML1.0, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.74**	**78**	PG	**Pg**	12 05 01.5	-0.6
LANU				SG	**Sg**	12 05 11.1	-0.7
KIF	**Kilpisjarvi**	**1.14**	**14**	PN	**Pn**	12 05 11.6	+0.5
KIF				MSG		12 05 23.5	
	comp=Z,1.7nm,0.2s						
KIF				SN	**Sn**	12 05 28.2	+0.8
HEF	**Hetta**	**1.44**	**68**	PG	**Pn**	12 05 14.1	-1.2
	baz=255						
HEF				MSG		12 05 31.3	
	comp=Z,0.8nm,0.2s						
HEF				SN	**Sg**	12 05 33.6	-0.5
PAJU	**Pajala**	**1.47**	**126**	PG	**Pn**	12 05 12.9	-2.9
PAJU				SG	**Sg**	12 05 31.4	-3.8
ERTU	**Ertsjaerv**	**1.59**	**148**	PG	**Pn**	12 05 16.7	-0.7
ERTU				SG	**Sn**	12 05 35.9	-2.7
KLF	**Kolari**	**1.64**	**112**	MSG		12 05 37.0	
	comp=Z,0.7nm,0.2s						
KLF				SG	**Sn**	12 05 38.1	-1.7
TOF	**Tornio**	**2.48**	**136**	MSG		12 06 01.3	
	comp=Z,0.5nm,0.2s						
TOF				SB	**Sn**	12 06 02.0	+1.4
RNF	**Rovaniemi**	**2.65**	**117**	SB	**Sn**	12 06 05.8	+1.1
VRF	**Varrio**	**3.62**	**88**	SG	**Sg**	12 06 40.8	-3.4
MSF	**Maaselka**	**4.06**	**115**	PB	**Pb**	12 05 56.6	-3.7
MSF				SB	**Sb**	12 06 46.1	-3.8

HEL 09 12:05:22.0±0.2, 67°66N×33°77E, h0km, ML1.2, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.41**	**54**	PG	**Pg**	12 05 29.9	0.0
LVZ				SG	**Sg**	12 05 34.1	-1.1
VRF	**Varrio**	**1.59**	**275**	PG	**Pn**	12 05 50.7	-0.7
VRF				MSG		12 06 09.7	
	comp=Z,1.7nm,0.2s						
VRF				SG	**Sn**	12 06 10.6	-2.0
VRF	**Varrio**	**1.59**	**275**	PB	**Pn**	12 05 50.7	-0.7
OLKF	**Oulanka, Finla**	**2.18**	**234**	PG	**Pb**	12 06 01.1	-1.2
OLKF				MSG		12 06 26.5	
	comp=Z,1.1nm,0.2s						
OLKF				SG	**Sb**	12 06 29.4	-0.4
KU6	**Riekki**	**2.25**	**225**	MSG		12 06 28.6	
	comp=Z,0.8nm,0.2s						
KU6				SG	**Sb**	12 06 30.4	-1.2
RNF	**Rovaniemi**	**3.21**	**254**	SG	**Sb**	12 07 00.3	+1.0
KEV	**Kevo**	**3.24**	**314**	SN	**Sn**	12 06 52.7	-0.6
ARA0	**ARCESS Array S**	**3.57**	**306**	PN	**Pn**	12 06 18.0	-0.5
	baz=119						
ARA0				SN	**Sn**	12 06 59.8	-1.5

*NOU **09** 12:34:18.2, 38°68S×175°10E, h277km, MLv3.6/10, North Island, New Zealand*
*WEL **09** 12:34:22.0±0.8, 39°S±6°×17°5E±°, h247km±7km, M2.8/45, ML2.4/8, MLv2.8/45, Error ellipse: s-maj=0.0km s-min=0.0km az=89.2, confirmed*
ISC 09 12:34:16.6±2.0, 38°70S±0°07×175°16E±0°06, h285km±11km, n131, σ1§50/139, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.30**	**308**	P	**Pn**	**12 34 54.3**	**+1.2**
HIZ	**Hauiti**	**0.30**	**308**	P	**Pn**	**12 34 54.4**	**+1.2**
TWVZ	**Taurewa**	**0.43**	**150**	P	**Pn**	**12 34 55.0**	**+1.5**
TLZ	**Tolley Road**	**0.47**	**39**	P	**Pn**	**12 34 54.9**	**+1.3**
KATZ	**Kakaramea**	**0.51**	**124**	P	**Pn**	**12 34 55.1**	**+1.5**
RATZ	**Rangitukua**	**0.51**	**110**	P	**Pn**	**12 34 54.9**	**+1.3**
VRZ	**Vera Road**	**0.53**	**216**	P	**Pn**	**12 34 55.2**	**+1.6**
WTVZ	**West Tongariro**	**0.54**	**141**	P	**Pn**	**12 34 55.3**	**+1.6**
WTVZ				S	**S**	**12 35 21.3**	**-1.9**
KRVZ	**Karewarewa**	**0.55**	**137**	P	**Pn**	**12 34 55.4**	**+1.6**
KUTZ	**Kaahu Road**	**0.56**	**69**	P	**Pn**	**12 34 55.3**	**+1.5**
NNVZ	**North Ngauruho**	**0.56**	**141**	P	**Pn**	**12 34 55.4**	**+1.5**
NNVZ				S	**S**	**12 35 21.8**	**-1.6**
COVZ	**Chateau Observ**	**0.59**	**149**	P	**Pn**	**12 34 55.5**	**+1.6**
NGZ	**Ngauruhoe**	**0.59**	**144**	P	**Pn**	**12 34 55.6**	**+1.6**
NGZ				S	**S**	**12 35 22.3**	**-1.2**
TMVZ	**Te Maari**	**0.60**	**135**	P	**Pn**	**12 34 55.7**	**+1.8**
PKVZ	**Pokaka**	**0.61**	**166**	P	**Pn**	**12 34 55.5**	**+1.6**
OTVZ	**Oturere**	**0.61**	**140**	P	**Pn**	**12 34 55.8**	**+1.8**
OTVZ				S	**S**	**12 35 22.6**	**-1.0**
ETVZ	**East Tongariro**	**0.62**	**136**	P	**Pn**	**12 34 55.7**	**+1.7**
RITZ	**Rihia Road**	**0.62**	**117**	P	**Pn**	**12 34 55.6**	**+1.7**
SNVZ	**South Ngauruho**	**0.62**	**143**	P	**Pn**	**12 34 55.9**	**+1.8**
FWVZ	**Far West T-bar**	**0.64**	**151**	P	**Pn**	**12 34 55.7**	**+1.6**
TRVZ	**Turoa**	**0.68**	**153**	P	**Pn**	**12 34 56.0**	**+1.7**
WHVZ	**Whangaehu Hut**	**0.68**	**150**	P	**Pn**	**12 34 56.1**	**+1.8**
TUVZ	**Tukino**	**0.69**	**146**	P	**Pn**	**12 34 55.9**	**+1.6**
WNVZ	**Wahianoa**	**0.72**	**152**	P	**Pn**	**12 34 56.0**	**+1.6**
MTVZ	**Mangateitei**	**0.73**	**161**	P	**Pn**	**12 34 55.9**	**+1.6**
WPRZ	**Whakapapatarin**	**0.81**	**78**	P	**Pn**	**12 34 55.9**	**+1.3**
MOVZ	**Moawhango**	**0.85**	**147**	P	**Pn**	**12 34 56.1**	**+1.3**
HRRZ	**Handcock Road**	**0.94**	**71**	P	**Pn**	**12 34 56.6**	**+1.4**
HSRZ	**Hossack Road**	**0.94**	**66**	P	**Pn**	**12 34 56.6**	**+1.4**
ALRZ	**Allen Road**	**0.94**	**82**	P	**Pn**	**12 34 56.3**	**+1.1**
MRHZ	**Matea Rd**	**1.00**	**98**	P	**Pn**	**12 34 56.5**	**+1.0**
TOZ	**Tahuroa Road**	**1.00**	**16**	P	**Pn**	**12 34 56.9**	**+1.4**
NEZ	**North Egmont**	**1.01**	**235**	P	**Pn**	**12 34 57.7**	**+2.2**
NEZ				S	**S**	**12 35 26.0**	**-0.3**
PKE	**Pukeiti**	**1.04**	**241**	P	**Pn**	**12 34 57.1**	**+1.6**
KMRZ	**Kaimai**	**1.05**	**36**	P	**Pn**	**12 34 57.0**	**+1.2**
BHHZ	**Black Hill Sta**	**1.06**	**139**	P	**Pn**	**12 34 57.2**	**+1.5**
WAZ	**Wanganui**	**1.07**	**187**	P	**Pn**	**12 34 58.1**	**+2.5**
WAZ				S	**S**	**12 35 25.6**	**-1.1**
KARZ	**Kaharoa**	**1.09**	**52**	P	**Pn**	**12 34 56.8**	**+0.9**
RRRZ	**Republican Roa**	**1.12**	**72**	P	**Pn**	**12 34 57.2**	**+1.1**
BKZ	**Black Stump Fm**	**1.14**	**115**	P	**Pn**	**12 34 57.4**	**+1.2**
BKZ	**Black Stump Fm**	**1.14**	**115**	P	**Pn**	**12 34 57.6**	**+1.4**
KWHZ	**Kaweka Forest**	**1.23**	**127**	P	**Pn**	**12 34 58.6**	**+2.0**
MUGZ	**Murupara**	**1.28**	**81**	P	**Pn**	**12 34 57.8**	**+0.9**
MTHZ	**Maungataniwha**	**1.33**	**97**	P	**Pn**	**12 34 58.7**	**+1.4**
MTHZ				S	**S**	**12 35 26.8**	**-2.7**
KRHZ	**Kereru**	**1.34**	**135**	P	**Pn**	**12 34 58.9**	**+1.7**
NMHZ	**Naumai**	**1.35**	**108**	P	**Pn**	**12 34 59.7**	**+2.3**
OPRZ	**Ohinepanea**	**1.39**	**53**	P	**Pn**	**12 34 58.6**	**+0.9**
MCHZ	**McNeill Hill**	**1.41**	**122**	P	**Pn**	**12 34 60.0**	**+2.3**
RTZ	**Ruatahuna**	**1.43**	**87**	P	**Pn**	**12 34 59.1**	**+1.1**
PNHZ	**Pukenui**	**1.46**	**147**	P	**Pn**	**12 34 59.7**	**+1.7**
TSZ	**Takapari Road**	**1.50**	**156**	P	**Pn**	**12 35 00.1**	**+1.8**
RAHZ	**Arahi**	**1.52**	**99**	P	**Pn**	**12 35 00.3**	**+1.9**
ARHZ	**Aropaoanui**	**1.54**	**112**	P	**Pn**	**12 35 00.6**	**+2.0**
MKAZ	**Moumakai**	**1.59**	**0**	P	**Pn**	**12 35 00.4**	**+1.4**
URZ	**Urewera**	**1.59**	**75**	P	**Pn**	**12 34 59.4**	**+0.5**
URZ	**Urewera**	**1.59**	**75**	Pn	**Pn**	**12 34 59.5**	**+0.5**
URZ				S	**S**	**12 35 28.7**	**-3.9**
WHHZ	**Waihua**	**1.67**	**104**	P	**Pn**	**12 35 01.3**	**+1.9**
AWAZ	**Awhitu Peninsu**	**1.68**	**346**	P	**Pn**	**12 35 01.5**	**+1.9**
SNGZ	**Shannon Statio**	**1.71**	**94**	P	**Pn**	**12 35 01.4**	**+1.6**
KAHZ	**Kahuranaki**	**1.73**	**130**	P	**Pn**	**12 35 02.0**	**+2.1**
ETAZ	**East Tamaki Re**	**1.75**	**354**	P	**Pn**	**12 35 01.9**	**+1.7**
POWZ	**Post Office Ro**	**1.76**	**165**	P	**Pn**	**12 35 02.5**	**+2.4**
DVHZ	**Dannevirke**	**1.

T 3.0060, Plg2.0000°, Azm12.0000°; N -0.7080, Plg7.0000°, Azm102.0000°; P -2.2920, Plg83.0000°, Azm264.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 09 13:09:43.5±0.3, 10.02S±0.05×152.25E±0.05, h35km, n146, σ1.13/124, mb4.8/50, MS3.8/36, 1C-1D, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.06**	**277**	Pn	**Pn**	**13 10 57.2**	**+0.2**
PMG	**Port Moresby**	**5.06**	**277**	Pn	**Pn**	**13 10 58.4**	**+1.4**
	1.4nm,0.3s,baz=19,slow=22,SNR=1.7						
PMG				Sn	**Sn**	**13 11 55.3**	**+1.1**
	baz=130,slow=16						
	8.8nm,0.6s						
KRVT	**Keravat (AS076**	**5.68**	**358**	Pn	**Pn**	**13 11 02.7**	**-2.9**
	42nm,0.5s,baz=322,slow=20,SNR=6.7						
KRVT				Sn	**Sn**	**13 12 07.2**	**-2.4**
	18nm,0.3s,baz=77,slow=0.6,SNR=11						
HNR	**Honiara**	**7.61**	**86**	Pn	**Pn**	**13 11 33.4**	**+1.5**
HNR	**Honiara**	**7.61**	**86**	Pn	**Pn**	**13 11 28.5**	**-3.5**
	136nm,0.3s,baz=243,slow=9.0,SNR=2.3						
COEN	**Coen**	**9.70**	**245**	Pn	**Pn**	**13 11 59.1**	**-1.6**
CTA	**Charters Tower**	**11.56**	**209**	Pn	**Pn**	**13 12 24.7**	**-1.5**
	3.2nm,0.4s,baz=35,slow=14,SNR=22						
CTA				Sn	**Sn**	**13 14 28.2**	**-5.9**
	1.1nm,0.3s,baz=299,slow=17,SNR=8.6						
CTA				LR	LR	13 16 49.2	
	comp=Z,2μm,18.2s,baz=32,slow=37						
CTAO	**Charters Tower**	**11.56**	**209**	Pn	**Pn**	**13 12 24.7**	**-1.5**
EIDS	**Eidsvold**	**15.30**	**184**	Pn	**Pn**	**13 13 16.9**	**-0.1**
SMPI	**Sarmi**	**15.65**	**300**	P	**P**	**13 13 24.3**	**-1.0**
	119nm,1.4s,2μm						
PATS	**Pohnpei**	**17.80**	**20**	P	**P**	**13 13 50.1**	**+0.9**
SRPI	**Serui, Papua**	**17.86**	**296**	P	**P**	**13 13 50.6**	**+0.8**
	57nm,0.4s						
DZM	**Mont Dzumac**	**18.13**	**133**	P	**P**	**13 13 55.4**	**+2.5**
DZM	**Mont Dzumac**	**18.13**	**133**	P	**Pn**	**13 13 53.0**	**+0.2**
	12nm,0.9s,baz=29,slow=8.2,SNR=5.4						
DZM				LR	LR	13 19 50.2	
	comp=Z,1μm,19.0s,baz=320,slow=34						
OUENC	**Ouen Island, N**	**18.64**	**133**	P	**Pn**	**13 13 59.3**	**+0.5**
OUENC				IAmb	IAmb	13 14 03.2	
	comp=Z,108nm,2.0s						
MARNC	**Mare, Loyalty**	**18.96**	**129**	P	**P**	**13 14 02.4**	**+0.5**
PINNC	**Pines Island,**	**19.19**	**133**	P	**P**	**13 14 04.8**	**+0.4**
WR0	**Warramunga Arr**	**19.74**	**238**	P	**P**	**13 14 11.1**	**+0.6**
WR0				IAmb	IAmb	13 14 12.7	
	comp=Z,37nm,0.9s						
WB0	**Warramunga Arr**	**19.77**	**239**	P	**P**	**13 14 11.6**	**+0.7**
RKPI	**Ransiki, Papua**	**19.86**	**294**	P	**Pn**	**13 14 13.1**	**-0.5**
	comp=Z,93nm,1.3s						
WRAB	**Tennant Creek**	**19.89**	**238**	P	**P**	**13 14 12.3**	**+0.2**
WB2	**Warramunga Arr**	**19.89**	**238**	P	**P**	**13 14 12.2**	**+0.1**
WRA	**Warramunga Arr**	**19.90**	**238**	P	**P**	**13 14 12.0**	**-0.2**
WRA	**Warramunga Arr**	**19.90**	**238**	P	**P**	**13 14 12.7**	**+0.4**
	comp=Z,20nm,0.8s,baz=61,slow=10,SNR=68						
	comp=Z,20nm,0.8s						
ARMA	**Armidale**	**20.30**	**182**	P	**P**	**13 14 17.3**	**+0.7**
MTN	**Manton Dam**	**20.89**	**260**	P	**P**	**13 14 23.4**	**+0.4**
MTN				IAmb	IAmb	13 14 25.0	
	comp=Z,147nm,1.6s						
FAKI	**Fak Fak**	**21.08**	**288**	P	**P**	**13 14 25.9**	**+0.8**
	comp=Z,50nm,1.6s,comp=Z,2μm						
AS31	**Alice Springs**	**22.15**	**230**	P	**P**	**13 14 37.1**	**+0.6**
ASAR	**Alice Springs**	**22.16**	**230**	P	**P**	**13 14 37.2**	**+0.6**
ASAR	**Alice Springs**	**22.16**	**230**	P	**P**	**13 14 36.6**	**0.0**
	comp=Z,9.8nm,0.8s,baz=59,slow=5.4,SNR=5.2						
ASAR				PcP	**PcP**	**13 18 32.6**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=66,slow=3.4,SNR=3.0						
ASAR				LR	LR	13 23 00.2	
	comp=Z,778nm,19.1s,baz=56,slow=36						
	comp=Z,9.8nm,0.8s						
SIJI	**Sorong**	**22.77**	**292**	P	**P**	**13 14 43.0**	**-0.2**
	comp=Z,12nm,0.9s,baz=87,slow=8.5,SNR=6.8						
SIJI				LR	LR	13 24 40.9	
	comp=Z,321nm,21.0s,baz=92,slow=39						
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**23.57**	**254**	P	**P**	**13 14 51.2**	**0.0**
KNRA				IAmb	IAmb	13 14 53.1	
	comp=Z,78nm,1.9s						
STKA	**Stephens Creek**	**23.88**	**203**	P	**P**	**13 14 53.9**	**0.0**
STKA	**Stephens Creek**	**23.88**	**203**	P	**P**	**13 14 54.1**	**+0.1**
	comp=Z,19nm,1.0s,baz=7.2,slow=10,SNR=19						
STKA				LR	LR	13 24 28.5	
	comp=Z,917nm,19.0s,baz=20,slow=37						
	comp=Z,19nm,1.0s						
GUMO	**Guam**	**24.58**	**343**	LR	LR	13 23 11.1	
	comp=Z,100nm,20.6s,baz=160,slow=33						
MSVF	**Nonsavu**	**26.17**	**110**	LR	LR	13 23 35.7	
	comp=Z,148nm,20.6s,baz=121,slow=32						
LBMI	**Labuha**	**26.32**	**289**	P	**P**	**13 15 20.0**	**+3.6**
BBOO	**Buckleboo**	**27.16**	**211**	P	**P**	**13 15 22.5**	**-1.2**
BBOO				IAmb	IAmb	13 15 29.0	
	comp=Z,32nm,1.1s						
BATI	**Baumata**	**28.14**	**267**	LR	LR	13 28 39.9	
	comp=Z,476nm,21.8s,baz=113,slow=40						
FORT	**Forrest**	**30.54**	**224**	P	**P**	**13 15 53.7**	**-0.1**
KAPI	**Kappang**	**32.59**	**276**	P	**P**	**13 16 12.7**	**+0.7**
	comp=Z,15nm,0.8s,baz=109,slow=7.2,SNR=7.8						
KAPI				LR	LR	13 31 23.3	
	comp=Z,95nm,18.1s,baz=108,slow=40						
	comp=Z,15nm,0.8s						
PSA00	**Pilbara Seismi**	**33.16**	**246**	P	**P**	**13 16 17.0**	**+0.1**
PSA00				IAmb	IAmb	13 16 18.0	
	comp=Z,21nm,1.7s						
TOLI2	**Tolitoli**	**33.22**	**288**	P	**P**	**13 16 17.0**	**-0.5**
TOLI2				IAmb	IAmb	13 16 18.4	
	comp=Z,16nm,1.1s						
RAO	**Raoul Island**	**33.82**	**129**	LR	LR	13 28 20.8	
	comp=Z,110nm,18.5s,baz=294,slow=33						
URZ	**Urewera**	**35.89**	**146**	LR	LR	13 30 13.9	
	comp=Z,450nm,18.0s,baz=32,slow=34						
MYLDM	**Lahad Datu**	**36.86**	**293**	P	**P**	**13 16 49.1**	**+0.1**
MYLDM				IAmb	IAmb	13 16 52.2	
	comp=Z,36nm,1.4s						
RPZ	**Rata Peaks**	**37.33**	**157**	LR	LR	13 30 09.0	
	comp=Z,892nm,20.8s,baz=321,slow=33						
GVZ	**Greta Valley S**	**37.50**	**155**	P	**P**	**13 16 55.6**	**+1.5**
JAGI	**Jajag, Banyuwa**	**37.63**	**269**	P	**P**	**13 16 54.1**	**-1.4**
JCJ	**Chichijima**	**38.17**	**345**	LR	LR	13 30 25.1	
	comp=Z,344nm,20.5s,baz=100,slow=33						
ODZ	**Otahua Downs**	**38.32**	**159**	P	**P**	**13 17 02.6**	**+1.7**
ODZ				IAmb	IAmb	13 18 13.4	
	comp=Z,51nm,1.4s						
SBUM	**Sibu**	**41.75**	**285**	P	**P**	**13 17 30.7**	**+0.9**
KSM	**Kuching**	**43.29**	**283**	P	**P**	**13 17 43.1**	**+0.8**
KSM				IAmb	IAmb	13 17 44.4	
	comp=Z,21nm,1.1s						
JOW	**Kunigami**	**43.41**	**328**	LR	LR	13 33 17.3	
	comp=Z,147nm,20.0s,baz=41,slow=33						
LEM	**Lembang**	**44.24**	**270**	LR	LR	13 40 16.2	
	comp=Z,153nm,18.4s,baz=112,slow=41						
JHJ	**Hachijo jima 2**	**44.52**	**345**	LR	LR	13 33 32.1	
	comp=Z,117nm,21.0s,baz=140,slow=32						
JMN	**Monobe**	**46.89**	**339**	P	**P**	**13 18 11.3**	**+0.7**
JNU	**Nakatsue**	**47.49**	**335**	P	**P**	**13 18 16.3**	**+1.0**
JNU				IAmb	IAmb	13 18 39.9	
	comp=Z,7.7nm,1.0s						
JNU	**Nakatsue**	**47.49**	**335**	LR	LR	13 36 23.8	
	comp=Z,36nm,21.0s,baz=152,slow=34						
MJAR	**Matsushiro Arr**	**48.17**	**345**	LR	LR	13 37 10.4	
	comp=Z,89nm,20.3s,baz=166,slow=34						
KSRS	**Korea Array**	**52.45**	**336**	P	**P**	**13 18 53.2**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=150,slow=8.0,SNR=13						
KSRS				LR	LR	13 39 43.1	
	comp=Z,58nm,20.4s,baz=145,slow=34						
	comp=Z,2.1nm,0.8s						
KSAR	**Wonju Array Be**	**52.45**	**336**	P	**P**	**13 18 52.6**	**-0.2**
KULM	**Kulim**	**53.61**	**284**	P	**P**	**13 19 01.6**	**-0.3**
KULM				IAmb	IAmb	13 19 02.8	
	comp=Z,18nm,1.2s						
WHN	**Wuhan**	**54.34**	**319**	P	**P**	**13 19 08.3**	**+1.5**
WHN				pmax	pmax		
	comp=Z,120nm,1.5s						
ASAJ	**Asahikawa**	**54.59**	**351**	LR	LR	13 40 28.9	
	comp=Z,64nm,20.7s,baz=166,slow=34						
PPTF	**Pamatai, Papee**	**56.82**	**104**	P	**P**	**13 19 24.6**	**-0.5**
USA0B	**Ussuriysk Arra**	**57.01**	**343**	P	**P**	**13 19 25.0**	**-0.8**
USA0B				IAmb	IAmb	13 19 53.7	
	comp=Z,28nm,1.7s						
USRK	**Ussuriysk Ar.**	**57.01**	**343**	P	**P**	**13 19 25.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**57.01**	**343**	P	**P**	**13 19 25.2**	**-0.6**
	comp=Z,3.4nm,1.0s,baz=138,slow=11,SNR=5.2						
USRK				LR	LR	13 42 10.8	
	comp=Z,64nm,20.7s,baz=157,slow=34						
	comp=Z,3.4nm,1.0s						
LYN	**LuoYang**	**58.19**	**322**	⇑P	**P**	**13 19 34.9**	**+0.6**
LYN				pmax	pmax		
	comp=Z,26nm,1.1s						
LYN				pmax	pmax		
	comp=Z,230nm,4.7s						
HNS	**HongShan**	**58.85**	**325**	⇓P	**P**	**13 19 39.0**	**+0.2**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
CN2	**Changchun**	**58.85**	**338**	P	**P**	**13 19 38.5**	**-0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AIN	**Ainahou**	**59.22**	**60**	P	**P**	**13 19 42.3**	**+0.4**
CRAI	**Chiangrai**	**59.23**	**301**	P	**P**	**13 19 42.4**	**+0.6**
CRAI				IAmb	IAmb	13 19 44.0	
	comp=Z,15nm,1.0s						
CMAR	**Chiang Mai Arr**	**59.73**	**298**	P	**P**	**13 19 46.2**	**+0.9**
	comp=Z,2.9nm,0.9s,baz=118,slow=5.0,SNR=22						
	comp=Z,2.9nm,0.9s						
CHTO	**Chiang Mai**	**59.87**	**299**	P	**P**	**13 19 46.2**	**0.0**
BJT	**Baijiatuau**	**59.97**	**329**	P	**P**	**13 19 46.7**	**+0.2**
BJT				IAmb	IAmb	13 19 59.0	
	comp=Z,11nm,1.2s						
XAN	**Xi'an**	**60.09**	**319**	P	**P**	**13 19 48.0**	**+0.4**
XAN				pP	pP	13 19 52.4	-4.9
XAN				pmax	pmax		
	comp=Z,41nm,1.4s						
KLR	**Kul'dur**	**61.69**	**345**	LR	LR	13 43 22.7	
	comp=Z,70nm,21.9s,baz=200,slow=33						
CD2	**Chengdu**	**61.80**	**313**	*e*P	**P**	**13 20 00.0**	**+0.8**
PETK	**Petropavlovsk-**	**63.05**	**4**	P	**P**	**13 20 07.1**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=116,slow=10,SNR=1.8						
PETK				LR	LR	13 43 17.0	
	comp=Z,66nm,20.5s,baz=175,slow=32						
	comp=Z,3.2nm,0.9s						
HEH	**HeiHe**	**63.82**	**343**	*e*P	**P**	**13 20 12.0**	**-0.2**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,140nm,4.3s						
LZH	**Lanzhou**	**64.65**	**318**	*e*P	**P**	**13 20 19.2**	**+1.1**
LZH				pP	pP	13 20 27.8	-0.2
LZH				sP	sP	13 20 33.1	+1.3
LZH				pmax	pmax		
	comp=Z,27nm,1.1s						
SHEM	**Shemya Is, Ala**	**65.25**	**14**	LR	LR	13 43 58.8	
	comp=Z,213nm,20.4s,baz=248,slow=32						
VNDA	**Vanda**	**67.67**	**178**	P	**P**	**13 20 37.1**	**+0.5**
SBA	**Scott Base**	**68.22**	**177**	P	**P**	**13 20 41.0**	**+0.9**
SBA				IAmb	IAmb	13 20 52.6	
	comp=Z,7.6nm,1.2s						
SHL	**Shillong**	**68.56**	**302**	P	**P**	**13 20 42.4**	**-1.0**
MA2	**Magadan**	**69.37**	**359**	LR	LR	13 51 07.2	
	comp=Z,59nm,19.2s,baz=168,slow=36						
ULN	**Ulaanbaatar**	**70.16**	**329**	P	**P**	**13 20 53.3**	**+0.6**
SONM	**Songino Array**	**70.47**	**329**	P	**P**	**13 20 54.9**	**+0.3**
SONM				IAmb	IAmb	13 20 56.8	
	comp=Z,14nm,1.4s						
SONM	**Songino Array**	**70.47**	**329**	P	**P**	**13 20 55.2**	**+0.6**
	comp=Z,3.6nm,0.9s,baz=144,slow=5.5,SNR=20						
SONM				LR	LR	13 52 18.4	
	comp=Z,60nm,20.4s,baz=113,slow=36						
	comp=Z,3.6nm,0.9s						
SEY	**Seymchan**	**72.73**	**0**	LR	LR	13 51 22.7	
	comp=Z,32nm,20.0s,baz=180,slow=34						
QSPA	**South Pole Qui**	**79.97**	**180**	P	**P**	**13 21 48.7**	**-0.3**
QSPA	**South Pole Qui**	**79.97**	**180**	P	**P**	**13 21 49.2**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=325,slow=1.6,SNR=20						
QSPA				LR	LR	13 55 49.1	
	comp=Z,62nm,18.9s,baz=12,slow=35						
	comp=Z,2.8nm,0.8s						
O22K	**Cooper Landing**	**83.79**	**25**	P	**P**	**13 22 09.3**	**+0.3**
MK31	**Makanchi Array**	**83.90**	**320**	P	**P**	**13 22 09.4**	**-0.5**
MK31				IAmb	IAmb	13 22 11.5	
	comp=Z,14nm,1.4s						
MKAR	**Makanchi Array**	**83.90**	**320**	P	**P**	**13 22 09.4**	**-0.5**
MKAR	**Makanchi Array**	**83.90**	**320**	P	**P**	**13 22 10.3**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=98,slow=6.7,SNR=13						
MKAR				LR	LR	14 00 09.5	
	comp=Z,40nm,19.6s,baz=84,slow=36						
	comp=Z,3.0nm,0.8s						
MAKZ	**Makanchi**	**84.11**	**319**	P	**P**	**13 22 10.8**	**-0.1**
MAKZ				IAmb	IAmb	13 22 12.4	
	comp=Z,10nm,0.9s						
ZAA0	**Zalesovo Array**	**85.19**	**327**	P	**P**	**13 22 15.2**	**-1.0**
ZAA0				IAmb	IAmb	13 22 16.2	
	comp=Z,7.8nm,0.8s						
ZALV	**Zalesovo Beam**	**85.19**	**327**	P	**P**	**13 22 15.1**	**-1.0**
ZALV	**Zalesovo Beam**	**85.19**	**327**	P	**P**	**13 22 15.2**	**-0.9**
	comp=Z,5.6nm,0.7s,baz=111,slow=6.1,SNR=24						
ZALV				LR	LR	14 00 40.4	
	comp=Z,41nm,19.2s,baz=102,slow=36						
	comp=Z,5.6nm,0.7s						
TARG	**Taragay, Kyrgy**	**85.24**	**314**	P	**P**	**13 22 17.6**	**+0.3**
TARG				IAmb	IAmb	13 22 30.0	
	comp=Z,8.9nm,1.2s						
IMAR	**Indian Mountai**	**85.46**	**19**	P	**P**	**13 22 17.7**	**+0.5**
KSH	**Kashi**	**85.92**	**311**	P	**P**	**13 22 22.0**	**+1.6**
KSH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
NIL	**Nilore**	**86.48**	**305**	P	**P**	**13 22 23.1**	**-0.1**
NIL				IAmb	IAmb	13 22 57.8	
	comp=Z,8.5nm,1.1s						
BOOM	**Boomskoye usch**	**86.79**	**314**	P	**P**	**13 22 24.8**	**+0.2**
BOOM				IAmb	IAmb	13 22 26.2	
	comp=Z,18nm,1.5s						
TGL	**Tana Glacier**	**86.88**	**26**	P	**P**	**13 22 25.4**	**+0.9**
IL31		**87.17**	**22**	P	**P**	**13 22 24.6**	**-1.1**
IL31				IAmb	IAmb	13 25 37.6	
	comp=Z,24nm,1.9s						
ILAR	**Eielson Array**	**87.17**	**22**	P	**P**	**13 22 24.8**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=258,slow=4.9,SNR=9.7						
	comp=Z,1.8nm,0.9s						
KURK	**Kurchatov**	**87.54**	**322**	P	**P**	**13 22 25.8**	**-2.0**
KURK				IAmb	IAmb	13 22 27.2	
	comp=Z,7.4nm,1.4s						
KURBB	**Kurchatov Arra**	**87.56**	**322**	P	**P**	**13 22 27.3**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=110,slow=4.2,SNR=5.7						
	comp=Z,0.9nm,0.7s						
J25K	**Salcha River,**	**87.66**	**22**	P	**P**	**13 22 28.1**	**-0.1**
AAK	**Ala-Archa**	**87.86**	**314**	P	**P**	**13 22 29.1**	**-0.7**
AAK				IAmb	IAmb	13 22 31.1	
	comp=Z,10nm,1.6s						
AAK	**Ala-Archa**	**87.86**	**314**	LR	LR	14 01 44.6	
	comp=Z,33nm,20.6s,baz=103,slow=36						
BCAR	**Beaver Creek A**	**88.35**	**25**	P	**P**	**13 22 32.0**	**+0.6**
K27K	**Chicken**	**88.66**	**24**		**P**	**13 22 34.6**	**+1.8**
K27K				IAmb	IAmb	13 22 47.0	
	comp=Z,11nm,1.1s						
I26K	**Coal Creek Min**	**88.82**	**22**	P	**P**	**13 22 33.9**	**+0.3**
I26K				IAmb	IAmb	13 24 15.8	
	comp=Z,6.5nm,1.2s						
BMAR	**Burnt Mountain**	**89.31**	**20**	P	**P**	**13 22 36.6**	**+0.7**
DAWY	**Dawson**	**89.75**	**24**		**P**	**13 22 39.5**	**+1.5**
K29M	**Barlow Dome**	**90.42**	**25**	P	**P**	**13 22 41.7**	**+0.5**
K29M				IAmb	IAmb	13 22 43.6	
	comp=Z,8.1nm,1.0s						
NRIK	**Noril'sk**	**90.70**	**341**	LR	LR	14 03 05.7	
	comp=Z,36nm,18.2s,baz=147,slow=35						
KKAR	**Karatay Array**	**90.81**	**314**	P	**P**	**13 22 42.9**	**-0.5**
DLBC	**Dease Lake**	**92.11**	**31**	LR	LR	13 57 52.5	
	comp=Z,133nm,19.6s,baz=283,slow=32						
YBH	**Yreka Blue Hor**	**92.92**	**48**	LR	LR	13 56 53.1	
	comp=Z,159nm,21.8s,baz=244,slow=31						
BVAR	**Borovoye Array**	**93.07**	**323**	P	**P**	**13 22 52.6**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=107,slow=5.0,SNR=6.4						
BVAR				LR	LR	14 07 48.6	
	comp=Z,24nm,18.2s,baz=84,slow=38						
	comp=Z,1.5nm,0.9s						
NVAR	**Mina Array Bea**	**95.71**	**52**	P	**P**	**13 23 04.9**	**-1.5**
	comp=Z,1.1nm,0.9s,baz=251,slow=4.5,SNR=5.2						
	comp=Z,1.1nm,0.9s						
PFO	**Pinyon Flats O**	**96.53**	**57**	LR	LR	14 00 31.3	
	comp=Z,83nm,19.6s,baz=244,slow=32						
SNAA	**Sanae**	**96.81**	**188**	LR	LR	14 05 09.0	
	comp=Z,234nm,21.7s,baz=190,slow=34						
NEW	**Newport**	**97.81**	**42**	LR	LR	13 59 38.1	
	comp=Z,194nm,21.8s,baz=280,slow=31						
ESDC	**Sonseca Array**	**143.66**	**328**	PKP	**PKPdf**	**13 29 16.3**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=64,slow=3.0,SNR=2.1						
PGAV	**Gavieira, Arco**	**143.87**	**335**	*e*PKPdf	**PKPdf**	**13 29 16.9**	**+1.3**
MVO	**Moncorvo**	**143.99**	**333**	*e*PKPdf	PKPbc	13 29 14.7	+1.0
POLO	**Lamas de Olo**	**144.16**	**334**	*e*PKPdf	**PKPab**	**13 29 14.4**	**+0.6**
PVIS	**Viseu**	**144.74**	**333**	*e*PKPdf	**PKPab**	**13 29 16.4**	**+0.5**
MTE	**Manteigas**	**144.84**	**333**	*e*PKPdf	PKPbc	13 29 17.0	+0.6
PCBR	**Castelo Branco**	**145.26**	**332**	*e*PKPdf	**PKPab**	**13 29 18.3**	**+0.5**
PMRV	**Marv??o**	**145.55**	**332**	*e*PKPdf	**PKPdf**	**13 29 18.8**	**+0.3**
PMTG	**Montargil**	**146.22**	**332**	*e*PKPdf	**PKPdf**	**13 29 19.3**	**-0.3**
PBAR	**Barrancos**	**146.36**	**330**	*e*PKPbc	**PKPbc**	**13 29 21.5**	**+0.4**
PNCL	**Nicolau / Gran**	**147.13**	**331**	*e*PKPbc	**PKPbc**	**13 29 23.9**	**+0.6**
PCVE	**Castro Verde**	**147.28**	**330**	*e*PKPbc	**PKPbc**	**13 29 24.4**	**+0.6**
PVAQ	**Vaqueiros**	**147.30**	**330**	*e*PKPbc	**PKPbc**	**13 29 24.5**	**+0.7**
BDFB	**Brasilia**	**147.55**	**142**	PKPbc	**PKPbc**	**13 29 24.5**	**-0.7**
	comp=Z,1.3nm,0.3s,baz=129,slow=8.1,SNR=3.2						
MORF	**Marmelete**	**147.84**	**331**	*e*PKPbc	**PKPbc**	**13 29 26.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**151.00**	**279**	PKPbc	**PKPbc**	**13 29 33.7**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=44,slow=3.3,SNR=14						

IDC 09 13:50:04.4±263.0, 54.42N×43.32E, h0km, Error ellipse: s-maj=115.7km s-min=83.0km az=139.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.16**	**306**	I	I	14 17 00.0	
	baz=123,slow=317,SNR=2.2						
I31KZ	**AKTYUBINSK INF**	**9.85**	**108**	I	I	14 52 40.0	
	0.1nm,0.7s,baz=300,slow=327,SNR=4.5						
I46RU	**ZALESOVO INFRA**	**24.05**	**74**	I	I	16 12 50.0	
	baz=290,slow=325,SNR=2.1						
I34MN	**SONGINO INFRAS**	**38.96**	**73**	I	I	17 50 40.0	
	baz=303,slow=333,SNR=1.7						

*NEIC **09** 13:54:48.5±0.5, 36.544N±0.004×89.617W±0.009, h11km±2km, Error ellipse: s-maj=1.1km s-min=0.3km az=66.0*

SLM 09 13:54:48.2±0.4, 36.543N±0.007×89.616W±0.009, h9km±1km, Md2.5/38, ML2.1/30(NEIC), Error ellipse: s-maj=1.1km s-min=1.0km az=82.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEM	**New Madrid Sch**	**0.04**	**39**		Pg	13 54 51.9	+2.0
MARMO	**Marston**	**0.04**	**253**		Pg	13 54 52.0	+2.1
WALK	**Watson Lake**	**0.06**	**94**		Pg	13 54 52.2	+2.1
NMMO	**New Madrid**	**0.07**	**49**		Pg	13 54 50.5	+0.4
NMMO					Sg	13 54 52.6	+1.0
CATM	**Catron**	**0.07**	**340**		Pg	13 54 50.7	+0.4
CATM					Sg	13 54 52.7	+1.0
PENMO	**Penman**	**0.09**	**186**		Pg	13 54 50.7	+0.2
PENMO					Sg	13 54 52.9	+0.7
PGVM	**Portageville**	**0.12**	**228**		Pg	13 54 51.3	+0.3
PGVM					Sg	13 54 53.7	+0.8
POBM	**Portage Bay**	**0.14**	**195**		Pg	13 54 51.5	+0.2
POBM					Sg	13 54 54.1	+0.8
PPLM	**Point Pleasant**	**0.14**	**169**		Pg	13 54 51.5	+0.2
PPLM					Sg	13 54 54.2	+0.9
SJMO	**Saint John's B**	**0.14**	**53**		Pg	13 54 51.6	+0.3
SJMO					Sg	13 54 54.4	+1.0
PVMO	**Portageville**	**0.15**	**208**		Pg	13 54 51.3	0.0
PVMO					Sg	13 54 54.3	+0.8
PVMO	**Portageville**	**0.15**	**208**	IAML		13 54 54.5	
	comp=E,951nm,0.2s						
PVMO				IAML		13 54 56.8	
	comp=N,452nm,0.4s						
KEWM	**Kewanee**	**0.16**	**7**		Pg	13 54 51.8	+0.3
KEWM					Sg	13 54 54.8	+0.9
PARMO	**Parma**	**0.16**	**318**		Pg	13 54 52.0	+0.4
PARMO					Sg	13 54 55.1	+1.1
PARMO	**Parma**	**0.16**	**318**	IAML		13 54 55.1	
	comp=E,772nm,0.2s						
PARMO				IAML		13 54 55.4	
	comp=N,558nm,0.3s						
COKM	**Charter Oak**	**0.19**	**332**		Pg	13 54 52.5	+0.4
COKM					Sg	13 54 55.8	+1.1
HENM	**Henderson Moun**	**0.21**	**34**		Pg	13 54 52.7	+0.2
WYBT	**Wynnburg**	**0.22**	**154**		Pg	13 54 52.8	+0.3
TOPM	**Tallapoosa**	**0.22**	**266**		Pg	13 54 52.9	+0.3
TOPM					Sg	13 54 56.7	+1.0
WADM	**Wardell**	**0.23**	**219**		Pg	13 54 53.0	+0.2
WADM					Sg	13 54 56.8	+0.9
MATM	**Matthews**	**0.23**	**2**		Pg	13 54 53.2	+0.3
MATM					Sg	13 54 57.0	+1.0
MLDM	**Malden**	**0.26**	**289**		Pg	13 54 53.5	+0.2
DWDM	**Dogwood**	**0.27**	**21**		Pg	13 54 53.8	+0.2
DWDM					Sg

az=95.0
*SCB **09** 14:19:52.4±1.4,21°.63S×66°.88W,h196km±11km,ML4.0/2, MW4.0,Error ellipse: s-maj=4.3km s-min=4.3km az=0.0*
ISC 09 14:19:50.9±0.7,21°.55S±0°.04×66°.82W±0°.04,h214km±6km, n95,σ1°37/132,mb4.1/4,4C-4D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.14**	**75**	Pg	**Pn**	**14 20 24.3**	**+0.7**
MOCB				Sg	**S**	**14 20 48.2**	**-0.6**
MOCB				IAML		14 20 49.0	
	1μm,0.4s						
YJA	**Yavi**	**1.36**	**118**	Pg	**Pn**	**14 20 25.9**	**+0.7**
YJA	**Yavi**	**1.36**	**118**	*e*P	**Pn**	**14 20 26.0**	**+0.7**
YJA				*e*S	**S**	**14 20 51.4**	**-0.4**
YJA				IAML		14 20 53.7	
	comp=Z,177nm,0.5s						
AF01	**San Pedro de A**	**1.89**	**222**	Pn	**Pn**	**14 20 30.4**	**+0.8**
AOVT	**TarijaAcel**	**1.96**	**90**	Pg	**Pn**	**14 20 30.8**	**+0.5**
HJA	**Humahuaca**	**2.10**	**142**	*e*P	**Pn**	**14 20 32.8**	**+0.9**
HJA				*e*S	**S**	**14 21 06.7**	**+2.9**
HJA				IAML		14 21 08.2	
	comp=Z,253nm,0.4s						
LVC	**Limon Verde**	**2.21**	**241**	Pg	**Pn**	**14 20 33.5**	**+0.5**
LVC	**Limon Verde**	**2.21**	**241**	P	**Pn**	**14 20 33.6**	**+0.5**
	comp=Z,12nm,0.4s,baz=50,slow=6.4,SNR=19						
LVC				S	**S**	**14 21 05.0**	**-0.6**
	comp=Z,15nm,0.4s,baz=39,slow=1.4,SNR=37						
LVC	**Limon Verde**	**2.21**	**241**	⇓*i*P	**Pn**	**14 20 33.4**	**+0.5**
LVC				*e*S	**S**	**14 21 04.8**	**-0.8**
LVC				IAML		14 21 05.7	
	comp=Z,149nm,0.3s						
LVC	**Limon Verde**	**2.21**	**241**	*e*P	**Pn**	**14 20 33.6**	**+0.6**
LVC				*e*S	**S**	**14 21 05.2**	**-0.4**
PB09	**IPOC Station P**	**2.27**	**263**		**Pn**	**14 20 34.0**	**+0.6**
PB09	**IPOC Station P**	**2.27**	**263**	Pg	**Pn**	**14 20 34.2**	**+0.8**
PB09	**IPOC Station P**	**2.27**	**263**	⇓*i*P	**Pn**	**14 20 34.0**	**+0.6**
PB09				*e*S	**S**	**14 21 06.0**	**-0.2**
PB09	**IPOC Station P**	**2.27**	**263**	*e*P	**Pn**	**14 20 34.3**	**+0.9**
PB09				*e*S	**S**	**14 21 08.5**	**+2.3**
PB01	**IPOC Station P**	**2.54**	**281**		**Pn**	**14 20 35.9**	**-0.3**
PB01	**IPOC Station P**	**2.54**	**281**	Pg	**Pn**	**14 20 36.7**	**+0.5**
PB01	**IPOC Station P**	**2.54**	**281**	⇑*e*P	**Pn**	**14 20 36.5**	**+0.2**
PB01				*e*S	**S**	**14 21 10.7**	**-0.6**
PB01				IAML		14 21 12.4	
	comp=N,192nm,0.6s						
PB01	**IPOC Station P**	**2.54**	**281**	*e*P	**Pn**	**14 20 36.5**	**+0.2**
PB01				*e*S	**S**	**14 21 11.4**	**+0.1**
PB08	**IPOC Station P**	**2.60**	**302**		**Pn**	**14 20 37.3**	**+0.2**
PB08	**IPOC Station P**	**2.60**	**302**	Pg	**Pn**	**14 20 38.2**	**+1.1**
PB08	**IPOC Station P**	**2.60**	**302**	*e*P	**Pn**	**14 20 38.4**	**+1.2**
PB08				*e*S	**S**	**14 21 13.3**	**+0.4**
PB08				IAML		14 21 14.6	
	comp=N,88nm,0.6s						
PB08	**IPOC Station P**	**2.60**	**302**	*e*P	**Pn**	**14 20 38.5**	**+1.4**
PB08				*e*S	**S**	**14 21 14.1**	**+1.1**
PB06	**IPOC Station P**	**2.81**	**245**	Pn	**Pn**	**14 20 39.0**	**-0.2**
PB06	**IPOC Station P**	**2.81**	**245**	Pg	**Pn**	**14 20 39.7**	**+0.5**
PB06	**IPOC Station P**	**2.81**	**245**	*e*P	**Pn**	**14 20 39.9**	**+0.7**
PB06				*e*S	**S**	**14 21 15.2**	**-1.5**
PB06				IAML		14 21 17.0	
	comp=E,73nm,0.2s						
PB06	**IPOC Station P**	**2.81**	**245**	*e*P	**Pn**	**14 20 40.8**	**+1.6**
PB06				*e*S	**S**	**14 21 16.0**	**-0.7**
PB07	**IPOC Station P**	**2.86**	**266**		**Pn**	**14 20 39.9**	**0.0**
PB07	**IPOC Station P**	**2.86**	**266**	Pg	**Pn**	**14 20 40.3**	**+0.4**
PB07	**IPOC Station P**	**2.86**	**266**	*e*P	**Pn**	**14 20 40.2**	**+0.4**
PB07				*i* S	**S**	**14 21 15.9**	**-2.0**
PB07				IAML		14 21 16.6	
	comp=E,163nm,0.4s						
PB07	**IPOC Station P**	**2.86**	**266**	*e*P	**Pn**	**14 20 40.3**	**+0.4**
PB07				*e*S	**S**	**14 21 16.0**	**-2.0**
PB07				IAML		14 21 17.8	
	comp=Z,143nm,0.3s						
PB02	**IPOC Station P**	**2.88**	**274**		**Pn**	**14 20 40.0**	**0.0**
PB02	**IPOC Station P**	**2.88**	**274**	Pg	**Pn**	**14 20 40.3**	**+0.3**
PB02				Sg	**S**	**14 21 16.1**	**-2.0**
PB02				IAML		14 21 16.7	
	comp=Z,286nm,0.4s						
PB02	**IPOC Station P**	**2.88**	**274**	⇓*i*P	**Pn**	**14 20 40.2**	**+0.2**
PB02				*e*S	**S**	**14 21 16.1**	**-2.0**
PB02	**IPOC Station P**	**2.88**	**274**	*e*P	**Pn**	**14 20 40.2**	**+0.2**
PB02				*e*S	**S**	**14 21 16.4**	**-1.7**
PB02				IAML		14 21 17.2	
	comp=Z,200nm,0.3s						
GO01	**Chusmiza**	**2.91**	**310**		**Pn**	**14 20 41.3**	**+0.6**
GO01	**Chusmiza**	**2.91**	**310**	Pg	**Pn**	**14 20 41.9**	**+1.2**
GO01	**Chusmiza**	**2.91**	**310**	⇑*e*P	**Pn**	**14 20 41.7**	**+1.0**
GO01				*e*S	**S**	**14 21 21.2**	**+1.8**
GO01				IAML		14 21 25.2	
	comp=N,102nm,0.4s						
GO01	**Chusmiza**	**2.91**	**310**	*e*P	**Pn**	**14 20 41.8**	**+1.0**
GO01				*e*S	**S**	**14 21 22.7**	**+3.3**
PB15	**IPOC Station P**	**2.96**	**236**	*i* P	**Pn**	**14 20 42.4**	**+1.4**
PB15				*e*S	**S**	**14 21 18.8**	**-1.2**
PB15	**IPOC Station P**	**2.96**	**236**	*e*P	**Pn**	**14 20 43.3**	**+2.3**
PB15				*e*S	**S**	**14 21 19.1**	**-0.9**
PB15				IAML		14 21 21.1	
	comp=Z,296nm,0.3s						
AZAP	**Zapla**	**3.12**	**149**	*e*P	**Pn**	**14 20 42.7**	**-0.1**
AZAP				*e*S	**S**	**14 21 24.5**	**+1.2**
AZAP				IAML		14 21 29.4	
	comp=Z,116nm,0.8s						
SOEO	**Opoqueri**	**3.13**	**341**	Pg	**Pn**	**14 20 46.0**	**+2.6**
HMBC	**Humberstone**	**3.14**	**293**	Pg	**Pn**	**14 20 43.0**	**-0.1**
HMBC	**Humberstone**	**3.14**	**293**	⇑*i*P	**Pn**	**14 20 42.9**	**-0.1**
HMBC				*e*S	**S**	**14 21 21.5**	**-2.0**
HMBC	**Humberstone**	**3.14**	**293**	*e*P	**Pn**	**14 20 42.9**	**-0.1**
HMBC				*e*S	**S**	**14 21 22.4**	**-1.1**
PB04	**IPOC Station P**	**3.19**	**255**	Pn	**Pn**	**14 20 43.7**	**0.0**
PB04	**IPOC Station P**	**3.19**	**255**	Pg	**Pn**	**14 20 43.5**	**-0.2**
PB04	**IPOC Station P**	**3.19**	**255**	*e*P	**Pn**	**14 20 43.8**	**+0.2**
PB04				*e*S	**S**	**14 21 23.0**	**-1.8**
PB04				IAML		14 21 24.2	
	comp=Z,52nm,0.3s						
PATCX	**Punta Patache**	**3.20**	**282**		**Pn**	**14 20 43.5**	**-0.1**
PATCX	**Punta Patache**	**3.20**	**282**	⇓*i*P	**Pn**	**14 20 43.5**	**-0.1**
PATCX				*e*S	**S**	**14 21 22.5**	**-2.2**
PATCX	**Punta Patache**	**3.20**	**282**	*e*P	**Pn**	**14 20 43.9**	**+0.2**
PATCX				*e*S	**S**	**14 21 23.0**	**-1.7**
ASTB	**Santa Barbara**	**3.24**	**138**	*e*P	**Pn**	**14 20 44.5**	**+0.3**
ASTB				*e*S	**S**	**14 21 25.4**	**-0.3**
TA01	**Diego Aracena**	**3.29**	**287**	Pn	**Pn**	**14 20 44.3**	**-0.3**
TA01	**Diego Aracena**	**3.29**	**287**	Pg	**Pn**	**14 20 44.7**	**+0.1**
TA01	**Diego Aracena**	**3.29**	**287**	*e*P	**Pn**	**14 20 44.7**	**+0.1**
TA01				*e*S	**S**	**14 21 24.0**	**-2.5**
SLA	**San Lorenzo**	**3.38**	**159**	Pg	**Pn**	**14 20 46.9**	**+1.0**
SLA	**San Lorenzo**	**3.38**	**159**	*e*P	**Pn**	**14 20 47.0**	**+1.0**
ALOL	**LOMAS DE OLMED**	**3.46**	**131**	*e*P	**Pn**	**14 20 46.4**	**-0.3**
ALOL				*e*S	**S**	**14 21 28.2**	**-1.9**
SOET	**ToroToro**	**3.54**	**16**	Pg	**Pn**	**14 20 49.7**	**+1.7**
PB16	**IPOC Station P**	**4.08**	**321**	Pg	**Pn**	**14 20 56.6**	**+1.9**
PB16	**IPOC Station P**	**4.08**	**321**	⇑*i*P	**Pn**	**14 20 56.5**	**+1.7**
PB16				*e*S	**S**	**14 21 45.3**	**+0.7**
PB16	**IPOC Station P**	**4.08**	**321**	*e*P	**Pn**	**14 20 54.7**	**0.0**
PB16				*e*S	**S**	**14 21 46.5**	**+1.9**
PB16				IAML		14 21 52.5	
	comp=Z,47nm,0.5s						
PB12	**IPOC Station P**	**4.41**	**311**		**Pn**	**14 20 57.9**	**-0.4**
PB12	**IPOC Station P**	**4.41**	**311**	*e*P	**Pn**	**14 20 57.8**	**-0.5**
PB12				*e*S	**S**	**14 21 48.4**	**-2.8**
PB12				IAML		14 21 53.6	
	comp=Z,40nm,0.4s						
GO02	**Mina Guanaco**	**4.41**	**215**		**Pn**	**14 20 58.0**	**-0.5**
GO02	**Mina Guanaco**	**4.41**	**215**	Pg	**Pn**	**14 20 58.4**	**-0.1**
GO02	**Mina Guanaco**	**4.41**	**215**	*e*P	**Pn**	**14 20 58.3**	**-0.2**
GO02				*e*S	**S**	**14 21 49.1**	**-2.6**
SOEJ	**Jacaque**	**4.73**	**344**	Pg	**Pn**	**14 21 05.7**	**+2.9**
BBOE	**La Paz, Chanca**	**4.84**	**347**	Pg	**Pn**	**14 21 07.0**	**+2.8**
BBOD	**La Paz, Gloria**	**5.17**	**341**	Pg	**Pn**	**14 21 10.8**	**+2.5**
LPAZ	**La Paz**	**5.38**	**346**	Pg	**Pn**	**14 21 12.9**	**+1.8**
AC02	**Maricunga**	**5.67**	**201**		**Pn**	**14 21 14.3**	**-0.3**
AC01	**Pan de Azucar**	**5.74**	**216**	Pn	**Pn**	**14 21 13.1**	**-1.9**
AC06	**Mina Casimiro**	**6.62**	**208**	Pn	**Pn**	**14 21 23.6**	**-2.7**
GO03	**Copiap**	**6.78**	**207**	Pn	**Pn**	**14 21 26.0**	**-2.4**
SIV	**San Ignacio**	**7.75**	**46**	P	**Pn**	**14 21 40.0**	**-1.0**
	comp=Z,4.0nm,0.3s,baz=249,slow=9.9,SNR=28						
SIV				S	**S**	**14 23 03.5**	**-5.5**
	comp=Z,1.5nm,0.3s,baz=299,slow=19,SNR=5.6						
CO01	**Juntas del Tor**	**8.90**	**199**	Pn	**Pn**	**14 21 54.6**	**-1.3**
CPUP	**Villa Florida**	**9.89**	**121**	P	**Pn**	**14 22 10.4**	**+1.9**
	comp=Z,2.3nm,1.0s,baz=92,slow=16,SNR=2.1						
MT02	**Curacav**	**12.28**	**197**	Pn	**Pn**	**14 22 38.2**	**-0.6**
MT03	**Universidad Ad**	**12.34**	**195**	Pn	**Pn**	**14 22 39.9**	**+0.2**
SAML	**Samuel**	**13.00**	**16**	Pn	**Pn**	**14 22 47.9**	**-0.1**
TRQA	**Tornquist**	**16.98**	**167**	P	**P**	**14 23 34.4**	**-0.2**
TRQA				IAmb	IAmb	14 23 40.8	
	comp=Z,21nm,1.5s						
GO06	**Curarrehue**	**18.42**	**191**	P	**P**	**14 23 50.6**	**+0.3**
MACA	**Manacapuru-AM**	**19.22**	**19**	P	**P**	**14 23 59.1**	**0.0**
PLCA	**Paso Flores**	**19.39**	**189**	P	**Pn**	**14 24 03.6**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=345,slow=13,SNR=4.2						
P48A	**Milroy**	**63.13**	**344**	P	**P**	**14 29 54.9**	**-0.8**
CCM	**Cathedral Cave**	**63.58**	**339**	P	**P**	**14 29 57.2**	**-1.5**
CCM				IAmb	IAmb	14 30 13.8	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**68.65**	**180**	P	**P**	**14 30 32.8**	**+2.0**
QSPA				IAmb	IAmb	14 30 49.5	
	comp=Z,5.1nm,1.4s						
QSPA	**South Pole Qui**	**68.65**	**180**	P	**P**	**14 30 33.0**	**+2.3**
	comp=Z,1.4nm,0.5s,baz=121,slow=1.9,SNR=19						
	comp=Z,1.4nm,0.5s						
TOA0	**Torodi Ar. Sit**	**75.54**	**69**	P	**P**	**14 31 12.1**	**-0.2**
TOA0				IAmb	IAmb	14 31 51.6	
	comp=Z,6.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**75.54**	**69**	P	**P**	**14 31 12.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**75.54**	**69**	P	**P**	**14 31 12.6**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=260,slow=5.0,SNR=9.6						
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**130.74**	**205**	PKP	**PKiKP**	**14 38 38.2**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=132,slow=1.8,SNR=8.6						
WRA	**Warramunga Arr**	**133.87**	**208**	PKP	**PKiKP**	**14 38 44.5**	**0.0**
	comp=Z,0.5nm,1.0s,baz=159,slow=1.7,SNR=6.2						
MKAR	**Makanchi Array**	**144.50**	**37**	PKP	**PKPdf**	**14 39 01.9**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=327,slow=2.3,SNR=6.5						

*NEIC **09** 14:39:45±0.9,38°.25N±0°.01×118°.72W±0°.01,h12km±3km, Error ellipse: s-maj=1.6km s-min=1.4km az=165.0*
REN 09 14:39:44.7±1.3,38°.247N±0°.009×118°.71W±0°.02, h7km±4km,ML2.9/18,ML2.8/54(NEIC),Error ellipse: s-maj=2.1km s-min=1.3km az=105.0,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHV	**Little Huntoon**	**0.16**	**88**		Pg	14 39 48.8	+0.8
LHV					Sg	14 39 51.9	+1.5
LHV	**Little Huntoon**	**0.16**	**88**	IAML		14 39 52.1	
	comp=E,7μm,0.7s						
LHV				IAML		14 39 54.5	
	comp=N,6μm,0.4s						
TVH1	**TV Hill, Hawth**	**0.21**	**348**		Pg	14 39 49.5	+0.4
TVH1					Sg	14 39 53.3	+1.1
NV08	**Mina Array Sit**	**0.35**	**63**		Pg	14 39 52.0	+0.4
NV09	**Mina Array Sit**	**0.35**	**57**		Pg	14 39 52.0	+0.3
NVAR	**Mina Array Bea**	**0.37**	**60**		Pg	14 39 51.2	-0.8
LUL	**Lundy Lake**	**0.42**	**242**		Pg	14 39 53.4	+0.5
MGNR	**McGee Canyon**	**0.43**	**178**		Pg	14 39 53.7	+0.5
NV11	**Mina Array Sit**	**0.47**	**67**		Pg	14 39 54.2	+0.3
NV11	**Mina Array Sit**	**0.47**	**67**		Sg	14 40 00.8	+0.6
BENR	**Benton**	**0.54**	**168**		Pg	14 39 55.5	+0.3
ORC	**Owens River**	**0.61**	**176**		Pg	14 39 56.8	+0.3
MCBM	**Casa Benchmark**	**0.62**	**194**		Pg	14 39 57.1	+0.4
MCBM					Sg	14 40 05.9	+1.1
MLAC	**Mammoth, Mammo**	**0.62**	**189**		Sb	14 40 06.3	-0.9
WAKR	**Walker**	**0.63**	**294**		Pg	14 39 57.1	+0.2
WAKR					Sg	14 40 05.9	+0.9
WAKR	**Walker**	**0.63**	**294**	IAML		14 40 07.0	
	comp=E,384nm,0.5s						
WAKR				IAML		14 40 10.9	
	comp=N,355nm,0.5s						
MDYM	**Dry Creek**	**0.63**	**202**		Pg	14 39 57.5	+0.5
MDYM					Sb	14 40 06.4	-1.1
MDPB	**Devils Postpil**	**0.68**	**206**		Pg	14 39 58.0	+0.1
CASR	**Casa Diablo Mo**	**0.68**	**169**		Pg	14 39 58.0	+0.1
RCCR	**Rock Creek Can**	**0.76**	**181**		Pg	14 39 59.5	+0.1
YERR	**Yerington**	**0.85**	**331**		Pg	14 40 00.9	-0.1
YERR					Sg	14 40 12.6	+0.5
SCHCA	**Scheelite**	**0.89**	**179**		Pg	14 40 01.8	0.0
KVN	**Kaiserville**	**0.94**	**31**		Pg	14 40 02.5	-0.2
KVN					Sg	14 40 15.2	+0.4
POCCA	**Poleta Canyon**	**0.95**	**159**		Pg	14 40 02.5	-0.4
BHPR	**Bishop**	**0.96**	**169**		Pg	14 40 03.3	+0.1
KCC	**Kaiser Creek**	**1.04**	**208**		Pg	14 40 04.4	-0.3
DSP	**Deep Springs**	**1.05**	**146**		Pg	14 40 04.7	-0.2
PNTR	**Pine Nut**	**1.09**	**321**		Pg	14 40 05.4	-0.3
PNTR	**Pine Nut**	**1.09**	**321**	IAML		14 40 25.5	
	comp=N,266nm,0.6s						
MZP	**Montezuma Peak**	**1.18**	**117**		Pg	14 40 07.5	+0.1
MZP	**Montezuma Peak**	**1.18**	**117**	IAML		14 40 26.6	
	comp=E,166nm,0.4s						
TPH	**Tonopah**	**1.19**	**98**		Pg	14 40 07.3	-0.2
TIN	**Tinemaha, Big**	**1.25**	**162**		Pn	14 40 10.2	+1.5
EMB	**Emerald Bay**	**1.31**	**304**		Pn	14 40 09.4	-0.3
EMB				IAML		14 40 31.6	
	comp=E,222nm,0.7s						
Q09A	**Carvers**	**1.33**	**63**		Pn	14 40 09.4	-0.6
CMB	**Columbia Colle**	**1.34**	**261**		Pn	14 40 09.6	-0.3
CMB	**Columbia Colle**	**1.34**	**261**	Pn	Pn	14 40 09.5	-0.4
CMB	**Columbia Colle**	**1.34**	**261**	IAML		14 40 27.4	
	comp=E,196nm,0.3s						
MPK	**Martis Peak**	**1.47**	**316**		Pb	14 40 12.4	-0.2
MPK				IAML		14 40 35.2	
	comp=N,190nm,1.1s						
MPK				IAML		14 40 37.0	
	comp=E,150nm,0.8s						
GMN	**Gold Mountain**	**1.49**	**129**		Pn	14 40 11.8	-0.3
GMN				IAML		14 40 18.6	
	comp=N,109nm,0.6s						
PAHR	**Pah Rah Range**	**1.55**	**340**		Pn	14 40 12.7	-0.2
PAHR				IAML		14 40 36.6	
	comp=E,81nm,0.7s						
PAHR				IAML		14 40 37.3	
	comp=N,84nm,0.7s						
GRAC	**Grapevine Rang**	**1.64**	**139**		Pn	14 40 14.7	+0.6
GRAC	**Grapevine Rang**	**1.64**	**139**	Pn	Pn	14 40 14.2	+0.1
GRAC	**Grapevine Rang**	**1.64**	**139**	IAML		14 40 41.9	
	comp=N,114nm,1.0s						
PEAR	**Peavine Mounta**	**1.67**	**325**		Pb	14 40 16.2	+0.2
DONR	**Donner Summit**	**1.67**	**312**		Pb	14 40 15.8	-0.2
SGV	**South Grapevin**	**1.84**	**133**		Pn	14 40 17.1	+0.2
LOY	**Loyalton**	**1.84**	**320**		Pb	14 40 18.6	-0.3
AFDM	**Forest Hills D**	**1.91**	**292**		Pn	14 40 17.9	+0.2
AFDM				IAML		14 40 47.7	
	comp=E,96nm,0.4s						
AFDM				IAML		14 40 47.7	
	comp=N,97nm,0.6s						
BEKR	**Beckworth**	**2.06**	**322**		Pb	14 40 22.3	-0.4
WCT	**Wildcat Mounta**	**2.20**	**131**		Pn	14 40 21.8	0.0
BMRR	**Black Mountain**	**2.23**	**327**		Pb	14 40 25.0	-0.5
TPNV	**Topopah Spring**	**2.34**	**123**	Pn	Pn	14 40 23.3	-0.6
TPNV				IAML		14 41 05.3	
	comp=N,77nm,0.5s						
TPNV				IAML		14 41 06.0	
	comp=N,70nm,0.6s						
S11A	**Rachel**	**2.42**	**103**		Pn	14 40 24.2	-0.6
R11B	**Troy Canyon, C**	**2.46**	**87**		Pn	14 40 25.1	-0.4
R11B				IAML		14 41 03.8	
	comp=N,55nm,0.5s						
R11B				IAML		14 41 05.2	
	comp=E,41nm,0.3s						
CPY	**CP-1**	**2.48**	**121**		Pn	14 40 26.5	+0.7
BBGB	**Big Mountain B**	**2.49**	**229**	Pn	Pn	14 40 25.2	-0.6
ORV	**Oroville**	**2.54**	**302**	Pn	Pn	14 40 26.0	-0.4
ORV				IAML		14 41 04.3	
	comp=N,29nm,0.8s						
GWY	**Greenwater Val**	**2.62**	**141**	Pn	Pn	14 40 26.9	-0.8
SAO	**San Andreas Ge**	**2.63**	**237**	Pn	Pn	14 40 26.9	-0.7
AMDNV	**Amargosa**	**2.64**	**132**		Pn	14 40 28.7	+1.0
QSM	**Queen of Sheba**	**2.71**	**147**	Pn	Pn	14 40 28.5	-0.3
PRN	**Pahroc Range**	**3.02**	**105**	Pn	Pn	14 40 32.8	-0.2
GSC	**Goldstone, Bar**	**3.31**	**152**	Pn	Pn	14 40 36.5	-0.6
GSC				IAML		14 41 39.3	
	comp=E,19nm,3.1s						
GSC				IAML		14 41 42.2	
	comp=N,21nm,3.6s						
SPR3	**Spring Creek 3**	**3.51**	**76**	Pn	Pn	14 40 39.5	-0.6
CCUT	**Cedar City**	**4.29**	**98**	Pn	Pn	14 40 48.0	-2.6
LCMT	**Little Creek M**	**4.51**	**104**	Pn	Pn	14 40 53.2	-0.4
KNB	**Kanab**	**4.83**	**103**	Pn	Pn	14 40 58.1	+0.1

DJA 09 14:42:27.0±1.1,3°N±11°×12°8E±°,h220km±9km,M3.9/13, mb3.8/6,mB5.8/2,MLv3.9/13,Mw(mB)5.3/2,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.19**	**209**	P	Pn	14 43 09.9	+0.9
LBMI	**Labuha**	**3.44**	**196**	P	Pn	14 43 23.8	+0.9
SWI	**Sorong**	**4.53**	**141**	P	Pn	14 43 35.5	-0.6
SANI	**Sanana**	**5.31**	**207**	P	Pn	14 43 43.7	-2.2
	123nm,0.8s,3μm0.5nm						
GTOI	**Gorontalo**	**5.79**	**249**	P	Pn	14 43 51.1	-0.9
	9.1nm,0.5s,0.0nm						
NLAI	**Namlea**	**6.05**	**193**	P	Pn	14 43 56.1	+0.9
	9.1nm,0.8s,74μm0.2nm						
FAKI	**Fak Fak**	**6.76**	**146**	P	Pn	14 44 04.4	0.0
	17nm,0.9s,0.1nm						
MRSI	**Marisa**	**6.85**	**251**	P	Pn	14 44 07.2	+1.7
	19nm,0.6s,0.1nm						
TTSI	**Tana Toraja**	**10.33**	**237**	P	Pn	14 44 52.0	+1.8

*MOS **09** 14:47:17.8±1.0,38°.33N×141°.79E,h60km,mb4.6/8,Error ellipse: s-maj=8.9km s-min=5.7km az=88.1*
*NIED **09** 14:47:19.8,38°.33N×141°.62E,h54km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}0.80; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-0.35; $M_{r\theta}$0.28; $M_{\theta\phi}$-0.57; $M_{\phi r}$0.83; Fault plane solution: $M_0$1.26000×10^15 NP1:ϕ_s27.00000°, δ68.00000°,λ71.00000°. NP2:ϕ_s249.00000°,δ28.00000°, λ129.00000°.*
*JMA **09** 14:47:19.8±0.1,38°.3N±0°.3×141°.6E±0°.4,h54km,MD4.1/40, MV4.4/40,KINKAZAN REGION*
JMA Felt III J1 at KINKAZAN REGION .
*NEIC **09** 14:47:19.2±1.1,38°.30N±0°.05×141°.66E±0°.09,h49km±7km, mb4.8/24,Error ellipse: s-maj=10.7km s-min=7.2km az=115.0*
*IDC **09** 14:47:21.8±0.8,38°.27N×141°.56E,h75km±5km,mb3.8/23, mbtmp4.1/29,MS2.9/13,Error ellipse: s-maj=16.1km s-min=11.7km az=82.0*
ISC 09 14:47:19.3±0.6,38°.30N±0°.05×141°.75E±0°.06,h53km±3km, h53km:pP-P,n148,σ1°43/156,mb4.5/43,MS3.1/7,9C-23D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibku**	**0.22**	**274**	P	**Pn**	**14 47 28.2**	**+0.1**
JIKH				S	**Sn**	**14 47 34.0**	**-0.5**
JIKH	**Ishinomakibku**	**0.22**	**274**	A	A	14 47 28.2	
	comp=E,40nm,0.3s,comp=N,38nm,0.3s						
JIO	**Ouri**	**0.35**	**297**	⇓P	**Pn**	**14 47 29.0**	**-0.1**
JIO				⇓S	**Sn**	**14 47 35.3**	**-0.9**
JIO	**Ouri**	**0.35**	**297**	A	A	14 47 29.0	
	comp=E,28nm,0.3s,comp=N,76nm,0.3s						
JKMT	**Kesennumamotoy**	**0.56**	**337**	⇓P	**Pn**	**14 47 31.3**	**-0.1**
JKMT				⇓S	**Sn**	**14 47 39.3**	**-0.8**
JKMT	**Kesennumamotoy**	**0.56**	**337**	A	A	14 47 31.3	
	comp=E,16nm,0.4s,comp=N,12nm,0.5s						
JOFO	**Osakifurukawao**	**0.72**	**295**	⇓*i*P	**Pn**	**14 47 32.9**	**-0.5**
JOFO	**Osakifurukawao**	**0.72**	**295**	A	A	14 47 32.9	
	comp=E,29nm,0.8s,comp=N,20nm,1.4s						
JMK	**Ichinoseki**	**0.77**	**328**	⇓*i*P	**Pn**	**14 47 34.0**	**-0.1**
JMK				⇓S	**Sn**	**14 47 43.9**	**-1.0**
JMK	**Ichinoseki**	**0.77**	**328**	A	A	14 47 34.0	
	comp=E,24nm,0.9s,comp=N,19nm,0.3s						
OFUJ	**Ofunato**	**0.78**	**356**	⇓*i*P	**Pn**	**14 47 34.3**	**0.0**
OFUJ				⇓S	**Sn**	**14 47 44.5**	**-0.7**
OFUJ	**Ofunato**	**0.78**	**356**	A	A	14 47 34.3	
	comp=E,15nm,0.3s,comp=N,9.0nm,0.6s						
JOU	**Okura**	**0.85**	**275**	⇓*i*P	**Pn**	**14 47 34.5**	**-0.7**
JOU				⇓S	**Sn**	**14 47 45.3**	**-1.5**
JOU	**Okura**	**0.85**	**275**	A	A	14 47 34.5	
	comp=E,9.0nm,0.5s,comp=N,18nm,0.6s						
JMM	**Marumori**	**0.87**	**241**		**Pn**	**14 47 34.5**	**-0.8**
JMM				Sn	**Sn**	**14 47 45.0**	**-2.1**
JMM

comp=E,56nm,0.6s
YSS Yuzh-Sakhalins 8.68 5 *e*P **Pn 14 49 24.3 +2.2**
YSS pmax pmax
comp=Z,10.0nm,0.7s
USA0B Ussuriysk Arra 9.42 312 Pn **Pn 14 49 32.2 0.0**
USA0B Ussuriysk Arra 9.42 312 *c i*P **Pn 14 49 32.4 +0.2**
USRK Ussuriysk Ar. 9.42 312 **Pn 14 49 32.0 -0.2**
USRK Ussuriysk Ar. 9.42 312 P **Pn 14 49 32.5 +0.3**
comp=Z,7.3nm,0.6s,baz=119,slow=14,SNR=27
USRK LR LR 14 53 05.4
comp=Z,49nm,18.5s,baz=182,slow=37
JNU Nakatsue 10.23 243 P **Pn 14 49 44.2 +0.7**
comp=Z,5.1nm,0.7s,baz=45,slow=8.6,SNR=11
JNU S **Sn 14 51 35.9 -0.8**
comp=Z,2.2nm,0.7s,baz=137,slow=18,SNR=1.6
JNU LR LR 14 54 00.7
comp=Z,69nm,18.8s,baz=38,slow=40
KSRS Korea Array 10.96 270 *e*P **Pn 14 49 56.7 +3.4**
KSRS pmax pmax
comp=Z,2.0nm,0.4s
KSRS Korea Array 10.96 270 P **Pn 14 49 54.1 +0.8**
comp=Z,2.0nm,0.4s,baz=81,slow=14,SNR=9.6
KSRS LR LR 14 53 56.1
comp=Z,32nm,18.2s,baz=65,slow=36
JCJ Chichijima 11.18 178 P Pn 14 49 50.9 -5.5
comp=Z,103nm,0.9s,baz=299,slow=20,SNR=2.0
JCJ S Sn 14 51 45.7 -14
comp=Z,69nm,0.8s,baz=287,slow=19,SNR=2.3
KLR Kul'dur 13.09 330 P **Pn 14 50 23.2 +0.9**
comp=Z,0.9nm,0.5s,baz=180,slow=6.1,SNR=1.8
KLR LR LR 14 54 30.0
comp=Z,48nm,21.2s,baz=144,slow=33
HEH HeiHe 15.72 324 *e*P **Pn 14 50 54.8 -2.3**
HEH pmax pmax
comp=Z,4.0nm,1.5s
PETK Petropavlovsk- 18.47 32 LR LR 14 59 26.5
comp=Z,28nm,19.3s,baz=166,slow=39
MA2 Magadan 22.07 12 LR LR 15 01 42.8
comp=Z,50nm,18.0s,baz=163,slow=39
GUMO Guam 24.77 173 LR LR 15 00 36.1
comp=Z,9.5nm,21.9s,baz=114,slow=32
YAK Yakutsk 24.90 346⇑ *e*P **P 14 52 35.4 -1.4**
YAK pmax pmax
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar 26.89 302⇑ *e*P **P 14 52 55.0 -0.2**
ULN pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 27.32 302 P **P 14 52 57.1 -1.9**
SONM Songino Array 27.32 302 *e*P **P 14 53 01.6 +2.5**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 27.32 302 P **P 14 52 58.5 -0.5**
comp=Z,1.1nm,0.7s,baz=99,slow=8.4,SNR=5.1
SONM pP **pP 14 53 16.3 +3.8**
comp=Z,1.1nm,0.8s,baz=103,slow=8.9,SNR=3.5
comp=Z,1.1nm,0.7s
DGZ Jazzator, Alta 39.88 305 *i*P **P 14 54 47.9 +0.1**
CRAI Chiangrai 39.95 255 P **P 14 54 47.6 -1.0**
ZAA0 Zalesovo Array 41.27 311 P **P 14 54 58.4 -0.7**
ZALV Zalesovo Beam 41.27 311 P **P 14 54 58.5 -0.6**
comp=Z,3.6nm,0.4s,baz=89,slow=7.6,SNR=16
ZALV pP **pP 14 55 16.7 +3.7**
comp=Z,5.3nm,0.6s,baz=87,slow=7.4,SNR=9.4
ZALV PcP **PcP 14 56 54.9 -1.9**
comp=Z,1.4nm,0.6s,baz=100,slow=6.0,SNR=4.6
comp=Z,3.6nm,0.4s
CMAR Chiang Mai Arr 42.08 254 P **P 14 55 05.5 -0.6**
comp=Z,0.3nm,0.3s,baz=46,slow=6.5,SNR=1.3
CMAR PcP **PcP 14 56 59.4 -0.7**
comp=Z,0.3nm,0.3s,baz=40,slow=1.5,SNR=1.2
comp=Z,0.3nm,0.3s
MK31 Makanchi Array 43.68 301 P **P 14 55 17.8 -1.0**
MK31 Makanchi Array 43.68 301 *d i*P **P 14 55 18.1 -0.7**
MKAR Makanchi Array 43.68 301 P **P 14 55 18.1 -0.7**
MKAR Makanchi Array 43.68 301 P **P 14 55 18.2 -0.6**
comp=Z,5.3nm,0.8s,baz=85,slow=9.9,SNR=19
MKAR pP **sP 14 55 37.5 -1.5**
comp=Z,2.2nm,0.7s,baz=90,slow=9.3,SNR=5.0
comp=Z,5.3nm,0.8s
TTA Tatalina 44.24 35 P **P 14 55 23.9 +0.9**
TTA IAmb IAmb 14 56 52.7
comp=Z,26nm,1.6s
TTA Tatalina 44.24 35 P **P 14 55 23.9 +0.9**
TTA pmax pmax
comp=Z,26nm,1.6s
KURK Kurchatov 45.37 307 P **P 14 55 31.2 -0.9**
KURK Kurchatov 45.37 307 *c i*P **P 14 55 31.0 -1.1**
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 45.37 307 P **P 14 55 31.1 -1.1**
KURK pP **sP 14 55 50.4 -2.1**
KURBB Kurchatov Arra 45.44 307 P **P 14 55 31.9 -0.8**
comp=Z,11nm,0.6s,baz=82,slow=8.1,SNR=69
KURBB pP **sP 14 55 51.1 -1.9**
comp=Z,9.9nm,0.5s,baz=81,slow=8.0,SNR=11
KURBB PcP **PcP 14 57 10.4 -0.6**
comp=Z,0.8nm,0.3s,baz=88,slow=2.1,SNR=2.3
comp=Z,11nm,0.6s
KAPI Kappang 47.68 210 LR LR 15 18 44.7
comp=Z,11nm,18.1s,baz=70,slow=40
SML Sawmill 47.82 37 P **P 14 55 52.0 +0.8**
ILAR Eielson Array 48.29 33 P **P 14 55 55.8 +1.1**
comp=Z,0.4nm,0.6s,baz=266,slow=7.1,SNR=5.3
comp=Z,0.4nm,0.6s
BOOM Boomskoye usch 49.17 297 P **P 14 56 01.6 -0.4**
BOOM IAmb IAmb 14 56 22.1
comp=Z,3.9nm,0.7s
BOOM Boomskoye usch 49.17 297 P **P 14 56 01.6 -0.4**
BOOM pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 49.92 312 P **P 14 56 06.6 -0.8**
comp=Z,1.5nm,0.4s,baz=78,slow=7.9,SNR=8.6
BVAR pP **sP 14 56 26.4 -1.4**
comp=Z,2.1nm,0.6s,baz=81,slow=9.2,SNR=5.4
BVAR PcP **PcP 14 57 27.0 0.0**
comp=Z,2.2nm,0.5s,baz=73,slow=3.2,SNR=7.7
comp=Z,1.5nm,0.4s
BRVK Borovoye 49.98 312⇑ *e*P **P 14 56 06.8 -1.0**
BRVK pmax pmax
comp=Z,1.0nm,0.7s
AAK Ala-Archa 50.13 298 P **P 14 56 08.5 -0.8**
comp=Z,0.9nm,0.4s,baz=54,slow=19,SNR=1.5
comp=Z,0.9nm,0.4s
KSH Kashi 50.14 293 P P 14 56 13.5 +4.1
KSH pmax pmax
comp=Z,4.0nm,0.7s
I28M Miner Creek 51.15 32 P **P 14 56 18.1 +1.6**
I28M IAmb IAmb 14 57 02.6
comp=Z,21nm,2.0s
SIMJ Simiganj 55.48 295 P **P 14 56 48.7 -0.1**
SIMJ pP **sP 14 57 07.6 -1.8**
ARU Arti 55.59 318 P **P 14 56 48.1 -1.1**
ARU IAmb IAmb 14 57 09.4
comp=Z,9.0nm,1.0s
ARU Arti 55.59 318 *c i*P **P 14 56 48.2 -0.9**
ARU pmax pmax
comp=Z,4.0nm,0.9s
ARU Arti 55.59 318 P **P 14 56 48.5 -0.6**
comp=Z,4.8nm,0.4s,baz=89,slow=6.2,SNR=7.8
ARU LR LR 15 21 21.3
comp=Z,32nm,21.4s,baz=336,slow=37
comp=Z,4.8nm,0.4s
ARU Arti 55.59 318 P **P 14 56 48.2 -0.9**
ARU pP **sP 14 57 08.2 -1.5**
ABKAR Akbulak array 57.33 310 P **P 14 57 00.5 -1.1**
ABKAR IAmb IAmb 14 57 21.1
comp=Z,4.5nm,0.6s
AKTO Aktyubinsk 58.03 311 P **P 14 57 05.8 -0.7**
comp=Z,1.1nm,0.6s,baz=60,slow=9.0,SNR=4.2
AKTO LR LR 15 21 37.4
comp=Z,26nm,20.5s,baz=150,slow=36
comp=Z,1.1nm,0.6s
WB0 Warramunga Arr 58.17 188 P **P 14 57 07.3 -0.4**
WB0 IAmb IAmb 14 58 32.4
comp=Z,16nm,1.6s
CTA Charters Tower 58.23 175 P **P 14 57 08.3 +0.2**
comp=Z,1.8nm,0.8s,baz=68,slow=16,SNR=2.1
comp=Z,1.8nm,0.8s
CTAO Charters Tower 58.23 175 P **P 14 57 08.3 +0.2**
CTAO Charters Tower 58.23 175 P **P 14 57 08.3 +0.2**
CTAO pmax pmax
comp=Z,26nm,1.8s
WRAB Tennant Creek 58.34 188⇑ *e*P **P 14 57 08.2 -0.7**
WRAB pmax pmax
comp=Z,2.0nm,0.5s
WR0 Warramunga Arr 58.34 188 P **P 14 57 08.4 -0.5**
WR0 IAmb IAmb 14 58 52.2
comp=Z,11nm,1.5s
WB2 Warramunga Arr 58.35 188 P **P 14 57 08.4 -0.6**
WB2 IAmb IAmb 14 57 20.7
comp=Z,15nm,1.6s
WRA Warramunga Arr 58.35 188 P **P 14 57 08.1 -0.9**
WRA Warramunga Arr 58.35 188 P **P 14 57 08.5 -0.4**
comp=Z,2.4nm,0.5s,baz=5.1,slow=6.8,SNR=66
comp=Z,2.4nm,0.5s
EUNU Eureka 58.90 9 P **P 14 57 12.2 0.0**
EUNU IAmb IAmb 14 57 31.8
comp=Z,21nm,1.9s
KIRV Kirov 59.40 323 *de*P **P 14 57 15.5 -0.4**
KIRV Kirov 59.40 323 P **P 14 57 15.8 -0.1**
comp=Z,12nm,0.6s,baz=73,slow=11,SNR=4.0
comp=Z,12nm,0.6s
RES Resolute Bay 61.31 15 P **P 14 57 28.8 +0.1**
RES Resolute Bay 61.31 15 P **P 14 57 28.8 +0.1**
RES pmax pmax
comp=Z,44nm,2.0s
AS31 Alice Springs 62.07 188 P **P 14 57 34.3 -0.1**
ASAR Alice Springs 62.07 188 P **P 14 57 34.3 -0.1**
comp=Z,1.5nm,0.8s,baz=354,slow=3.8,SNR=39
comp=Z,1.5nm,0.8s
ARCES ARCESS Array B 62.91 339 P **P 14 57 39.0 -0.5**
ARCES ARCESS Array B 62.91 339 *e*P **P 14 57 40.1 +0.6**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 62.91 339 P **P 14 57 39.1 -0.3**
comp=Z,0.6nm,0.5s,baz=51,slow=8.4,SNR=9.5
comp=Z,0.6nm,0.5s
WAPA Wapiti River 64.22 39 P **P 14 57 50.7 +2.4**
WAPA IAmb IAmb 14 59 51.4
comp=Z,8.3nm,1.6s
DZM Mont Dzumac 64.37 155 LR LR 15 23 01.3
comp=Z,24nm,19.8s,baz=352,slow=33
FINES FINESS Array B 67.82 332 P **P 14 58 10.8 -0.5**
comp=Z,3.8nm,0.9s,baz=32,slow=11,SNR=4.1
FINES pP **pP 14 58 30.1 +3.9**
comp=Z,4.4nm,0.7s,baz=86,slow=10,SNR=3.7
comp=Z,3.8nm,0.9s
KIV Kislovodsk 70.28 311 *e*P **P 14 58 24.4 -2.6**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 70.28 310⇓ *e*P **P 14 58 26.6 -0.3**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
HFS Hagfors 73.05 336 P **P 14 58 43.0 -0.2**
HFS Hagfors 73.05 336 P **P 14 58 43.0 -0.2**
comp=Z,4.9nm,1.0s,baz=54,slow=7.5,SNR=3.1
comp=Z,4.9nm,1.0s
NB2 NORSAR Subarra 73.12 337 P **P 14 58 43.3 -0.4**
comp=Z,1.9nm,0.7s,baz=40,slow=6.5
NOA NORSAR Array B 73.12 337 P **P 14 58 43.2 -0.5**
comp=Z,1.5nm,0.9s,baz=39,slow=6.0,SNR=4.0
NOA pP **PcP 14 59 02.2 +2.1**
comp=Z,2.5nm,0.9s,baz=38,slow=6.0,SNR=5.1
NOA LR LR 15 35 17.0
comp=Z,9.4nm,18.2s,baz=330,slow=39
comp=Z,1.5nm,0.9s
AKASG Malin Array Be 73.46 322 P **P 14 58 45.1 -0.7**
comp=Z,0.5nm,0.3s,baz=44,slow=5.8,SNR=7.8
comp=Z,0.5nm,0.3s
AKBB Malin Array Si 73.46 322⇑ *e*P **P 14 58 44.7 -1.1**
PDAR Pinedale Array 76.59 46 P **P 14 59 05.2 +0.9**
comp=Z,0.5nm,0.6s,baz=253,slow=2.8,SNR=8.1
comp=Z,0.5nm,0.6s
LCMT Little Creek M 78.06 52 P **P 14 59 12.9 +0.3**
LCMT IAmb IAmb 14 59 40.8
comp=Z,6.6nm,0.8s
BRTR Keskin Array B 78.21 312 P **P 14 59 13.9 +0.6**
comp=Z,0.7nm,0.7s,baz=23,slow=0.1,SNR=2.1
comp=Z,0.7nm,0.7s
EKA Eskdalemuir Ar 82.03 341 P **P 14 59 34.0 +0.6**
comp=Z,0.2nm,0.4s,baz=32,slow=5.8,SNR=1.8
comp=Z,0.2nm,0.4s
FUORN Ofenpass-Fuorn 84.96 329 P **P 14 59 48.8 -0.1**
FUORN IAmb IAmb 15 01 20.8
comp=Z,14nm,1.9s
TXAR Lajitas Array 89.14 53 P **P 15 00 10.4 +1.1**
TXAR Lajitas Array 89.14 53 P **P 15 00 10.7 +1.3**
comp=Z,0.5nm,0.7s,baz=301,slow=3.1,SNR=7.6
comp=Z,0.5nm,0.7s
CLTN Cedars of Leba 93.66 37 P **P 15 00 31.6 +1.6**
QSPA South Pole Qui 128.04 180 PKP **PKPdf 15 06 17.7 -0.5**
comp=Z,0.8nm,1.0s,baz=146,slow=3.8,SNR=1.8
SNAA Sanae 142.03 197 PKP **PKPdf 15 06 43.2 -1.0**
comp=Z,0.9nm,0.9s,baz=180,slow=2.0,SNR=2.2

BUT ***09*** *14:58:30.2±1.1,46°.88N±0°.06×112°.55W±0°.07, h12km±8km,*
Error ellipse: s-maj=9.0km s-min=6.5km az=166.0
NEIC 09 14:58:29.4±1.3, 46°.91N±0°.06×112°.50W±0°.07, h16km±7km,
ML2.9/42, ML3.1/26(BUT), Error ellipse: s-maj=9.5km
s-min=5.1km az=149.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.16**	**66**	Pg	Pb	14 58 34.6	+0.5
BEMT	**Mount Belmont**	**0.20**	**143**	Pg	Pg	14 58 34.4	+0.2
OVMT	**Ovando**	**0.37**	**295**	Pg	Pg	14 58 37.4	+0.3
ELMT	**Elliston**	**0.38**	**179**	Pg	Pg	14 58 37.1	-0.1
CHMT	**Chamberlain Mo**	**0.51**	**271**	Pg	Pg	14 58 39.7	0.0
BPMT	**Black Pine Rid**	**0.80**	**235**	Pg	Pg	14 58 44.3	-0.7
MSO	**Missoula**	**0.99**	**266**	Pg	Pb	14 58 48.0	-0.2
MSO				IAML		14 59 01.4	
	263nm,0.3s						
MSO				IAML		14 59 04.8	
	335nm,0.5s						
BOZ	**Bozeman (W)**	**1.44**	**155**		Pb	14 58 56.5	+0.5
BOZ	**Bozeman (W)**	**1.44**	**155**	IAML		14 59 16.2	
	308nm,0.2s						
BOZ				IAML		14 59 17.9	
	242nm,0.3s						
DLMT	**Dillon**	**1.55**	**182**		Pn	14 58 56.8	+0.3
DLMT	**Dillon**	**1.55**	**182**	IAML		14 59 21.4	
	103nm,0.2s						
EGMT	**Eagleton**	**2.17**	**58**		Pn	14 59 05.8	+0.8
YHL	**Hebgen Lake**	**2.25**	**155**		Pn	14 59 08.0	+1.7
YHL				IAML		14 59 42.5	
	comp=E,118nm,0.3s						
YHL				IAML		14 59 42.6	
	comp=N,107nm,0.5s						
YHH	**Holmes Hill**	**2.41**	**151**		Pb	14 59 10.9	-1.7
BCYI	**Bear Canyon**	**2.67**	**194**		Pn	14 59 12.2	+0.2
RLMT	**Red Lodge**	**2.88**	**127**	Pn	Pn	14 59 16.3	+1.5
RLMT				IAML		15 00 04.0	
	comp=N,42nm,0.7s						
RLMT				IAML		15 00 04.2	
	comp=N,41nm,0.3s						
PLID	**Pearl Lake**	**3.04**	**235**	Pn	Pn	14 59 17.1	0.0
PLID				IAML		15 00 05.8	
	comp=N,32nm,0.6s						
IMW	**Indian Meadow**	**3.20**	**159**		Pb	14 59 22.9	-3.2
IMW				IAML		15 00 11.2	
	comp=N,43nm,0.4s						
MOOW	**Moose Ponds**	**3.39**	**158**		Pn	14 59 24.5	+2.6
F10A	**Beach Ranch, E**	**3.40**	**256**		Pn	14 59 22.6	+0.8
NEW	**Newport**	**3.41**	**295**	Pn	Pn	14 59 22.5	+0.6
NEW				IAML		15 00 17.8	
	comp=N,34nm,0.3s						
NEW				IAML		15 00 18.2	
	comp=N,31nm,0.3s						
TPAW	**Teton Pass**	**3.59**	**162**	Pn	Pn	14 59 25.9	+1.3
TPAW				IAML		15 00 25.1	
	comp=N,16nm,0.6s						
HLID	**Hailey**	**3.61**	**203**	Pn	Pn	14 59 25.6	+0.8
HLID				IAML		15 00 23.6	
	comp=N,40nm,0.3s						
E09A	**Wood Farm, Sta**	**3.90**	**266**	Pn	Pn	14 59 29.6	+0.9
E09A				IAML		15 00 39.1	
	comp=N,20nm,0.1s						
E09A				IAML		15 00 39.8	
	comp=E,20nm,0.3s						
BMO	**Blue Mountains**	**3.93**	**240**	Pn	Pn	14 59 29.4	+0.1
MFID	**Camas Ranch**	**4.21**	**215**	Pn	Pn	14 59 33.3	+0.3
G08A	**Pilot Rock**	**4.77**	**253**	Pn	Pn	14 59 42.0	+1.2
G08A				IAML		15 01 06.8	
	comp=N,7.7nm,4.1s						
G08A				IAML		15 01 17.9	
	comp=E,6.7nm,4.6s						
HAWA	**Hanford**	**4.87**	**266**	Pn	Pn	14 59 42.3	+0.3
HAWA				IAML		15 00 45.2	
	comp=E,9.6nm,3.8s						
HAWA				IAML		15 01 12.4	
	comp=E,12nm,1.2s						
E07A	**Sunnyside**	**5.07**	**269**	Pn	Pn	14 59 43.8	-0.9

SOME ***09*** *14:59:29.7, 43°.35N×80°.07E, h10km*
NNC ***09*** *14:59:29.9±0.4, 43°.37N×80°.02E, h0km, mb3.8, mpv2.7,*
Error ellipse: s-maj=3.6km s-min=2.1km az=156.0
ISC 09 14:59:29.1±1.2, 43°.30N±0°.05×80°.04E±0°.03, h3km±11km,
n23, σ1°51/42, 3C-1D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**0.27**	**58**	P	**Pg**	**14 59 34.7**	**+0.3**
	2.7nm,0.1s						
KTMS				S	**Sg**	**14 59 38.3**	**+0.3**
	35nm,0.1s						
KTMS	**Ketmen**	**0.27**	**58**	*e*P	**Pg**	**14 59 34.7**	**+0.3**
	2.7nm,0.1s						
KTMS				*e*S	**Sg**	**14 59 38.3**	**+0.3**
	35nm,0.1s						
PDGK	**Podgornoye**	**0.40**	**274**	P	**Pg**	**14 59 38.2**	**+1.4**
	4.3nm,0.1s						
PDGK				S	**Sg**	**14 59 44.4**	**+2.3**
	20nm,0.2s						
PDGK	**Podgornoye**	**0.40**	**274**	⇑P	**Pg**	**14 59 37.6**	**+0.8**
	1.6nm,0.2s						
PDGK				⇑S	**Sg**	**14 59 43.2**	**+1.1**
	10.0nm,0.3s						
SHLS	**Shalkode**	**0.45**	**251**	P	**Pg**	**14 59 34.9**	**-2.7**
	33nm,0.2s						
SHLS				S	**Sg**	**14 59 38.9**	**-4.5**
	276nm,0.2s						
SHLS	**Shalkode**	**0.45**	**251**	*e*P	**Pg**	**14 59 35.0**	**-2.7**
	33nm,0.2s						
SHLS				*e*S	**Sg**	**14 59 38.9**	**-4.5**
	276nm,0.1s						
UZB	**Uzynbulak**	**0.76**	**259**	P	**Pg**	**14 59 44.4**	**+0.8**
	1.6nm,0.2s						
UZB				S	**Sg**	**14 59 55.2**	**+1.7**
	4.1nm,0.2s						
UZB	**Uzynbulak**	**0.76**	**259**	*e*P	**Pg**	**14 59 44.4**	**+0.8**
	1.6nm,0.2s						
UZB				*e*S	**Sg**	**14 59 55.2**	**+1.7**
	4.1nm,0.2s						
KPKS	**Kokpek**	**1.00**	**280**	P	**Pg**	**14 59 48.7**	**+0.4**
	1.4nm,0.1s						
KPKS				S	**Sb**	**15 00 02.6**	**-0.2**
	10nm,0.2s						
KPKS	**Kokpek**	**1.00**	**280**	*e*P	**Pg**	**14 59 48.7**	**+0.4**
	1.4nm,0.1s						
KPKS				*e*S	**Sb**	**15 00 02.5**	**-0.2**
	10nm,0.2s						
DJR	**Jarkent**	**1.05**	**350**	P	**Pg**	**14 59 48.9**	**-0.3**
	1.1nm,0.2s						
DJR				S	**Sb**	**15 00 02.7**	**-1.3**
	12nm,0.2s						
DJR	**Jarkent**	**1.05**	**350**	*e*P	**Pg**	**14 59 48.9**	**-0.3**
	1.1nm,0.2s						
DJR				*e*S	**Sb**	**15 00 02.7**	**-1.3**
	12nm,0.2s						
SATY	**Saty**	**1.22**	**259**	P	**Pg**	**14 59 53.2**	**+0.7**
	1.6nm,0.2s						
SATY				S	**Sb**	**15 00 10.0**	**+1.0**
	10nm,0.1s						
SATY	**Saty**	**1.22**	**259**	*e*P	**Pg**	**14 59 53.2**	**+0.7**
	1.6nm,0.2s						
SATY				*e*S	**Sb**	**15 00 10.0**	**+1.0**
	10nm,0.1s						
KNOS	**Konyrlen**	**1.23**	**330**	P	**Pg**	**14 59 52.1**	**-0.5**
	3.8nm,0.2s						
KNOS				S	**Sb**	**15 00 08.2**	**-1.1**
	6.0nm,0.3s						
KURS	**Kuram**	**1.37**	**278**	*e*P	**Pn**	**14 59 55.5**	**+0.3**
	1.5nm,0.3s						
KURS				*e*S	**Sg**	**15 00 14.0**	**+0.7**
	2.3nm,0.3s						
BLB	**Baldybastay**	**1.38**	**306**	P	**Pn**	**14 59 55.2**	**-0.2**
	0.8nm,0.1s						
BLB				S	**Sn**	**15 00 13.6**	**-0.7**
	4.9nm,0.2s						
ARXS	**Arharly**	**1.84**	**300**	P	**Pb**	**15 00 03.3**	**-0.2**
	0.3nm,0.1s						
ARXS				S	**Sg**	**15 00 27.5**	**-0.8**
	4.3nm,0.3s						
ARXS	**Arharly**	**1.84**	**300**	*e*P	**Pb**	**15 00 03.3**	**-0.2**
	0.3nm,0.1s						
ARXS				*e*S	**Sg**	**15 00 27.5**	**-0.8**
	4.3nm,0.3s						
KOTS	**Kotyrbulak**	**2.14**	**269**	*e*Pg	**Pb**	**15 00 09.5**	**+1.0**
	1.2nm,0.2s						
KOTS				*e*Lg	Lg	15 00 38.0	
	4.9nm,0.1s						
KNDC	**Almaty**	**2.25**	**269**	⇓Pg	**Pn**	**15 00 08.2**	**+1.0**
	7.4nm,0.3s						
KNDC				⇑Lg	Lg	15 00 37.2	
	12nm,0.4s						
KTBS	**Karatobe**	**2.48**	**281**	*e*Pg	**Pb**	**15 00 14.6**	**+0.4**
	0.5nm,0.1s						
KTBS				*e*Lg	Lg	15 00 46.9	
	4.0nm,0.2s						
KUU	**Kurty**	**2.75**	**284**	*e*Pg	**Pb**	**15 00 19.5**	**+0.5**
	1.1nm,0.3s						
KUU				*e*Lg	Lg	15 00 55.4	
	1.9nm,0.1s						

EAF ***09*** *15:18:17.2, 26°.02S×30°.33E, h38km, MC3.5*
BUL ***09*** *15:18:18.4±0.4, 25°.96S×30°.15E, h10km±5km, MD3.7*
ISC 09 15:18:12.8±1.7, 25°.99S±0°.07×30°.24E±0°.08, h10km, n10,
σ2°82/20, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.67**	**23**	*i* P	**Pn**	**15 18 56.8**	**+0.8**
MOPA				*i* S	**Sn**	**15 19 25.7**	**-2.7**
MOPA	**Mopani**	**2.67**	**23**	*i* P	**Pn**	**15 18 56.8**	**+0.8**
	baz=22						
MOPA				*i* S	**Sn**	**15 19 25.7**	**-2.7**
	baz=22						
MUSN	**Musina, Limpop**	**3.70**	**355**	*i* P	**Pn**	**15 19 13.3**	**+3.2**
MUSN				*i* S	**Sn**	**15 19 53.2**	**-0.6**
MUSN	**Musina, Limpop**	**3.70**	**355**	*i* P	**Pn**	**15 19 13.3**	**+3.2**
	baz=353						
MUSN				*i* S	**Sn**	**15 19 53.2**	**-0.6**
	baz=353						
LBTB	**Lobatse**	**4.30**	**282**	*i* P	**Pn**	**15 19 20.8**	**+2.3**
LBTB				*i* S	**Sn**	**15 20 06.0**	**-2.9**
LBTB	**Lobatse**	**4.30**	**282**	*i* P	**Pn**	**15 19 20.8**	**+2.3**
	baz=282						
LBTB				*i* S	**Sn**	**15 20 06.0**	**-2.9**
	baz=282						
BOSA	**Boshof**	**5.15**	**238**	*i* P	**Pn**	**15 19 32.6**	**+2.5**
BOSA				*i* S	**Sn**	**15 20 26.6**	**-3.1**
BOSA	**Boshof**	**5.15**	**238**	*i* P	**Pn**	**15 19 32.6**	**+2.5**
	baz=239						
BOSA				*i* S	**Sn**	**15 20 26.6**	**-3.1**
	baz=239						
MATP	**Matopo**	**5.76**	**344**	*i* P	**Pn**	**15 19 41.1**	**+2.6**
MATP				*i* S	**Sn**	**15 20 41.2**	**-3.6**
MATP	**Matopo**	**5.76**	**344**	*i* P	**Pn**	**15 19 41.1**	**+2.6**
	baz=343						
MATP				*i* S	**Sn**	**15 20 41.2**	**-3.6**
	baz=343						

SKO 09 15:34:27.5, 41°.00N×22°.73E, h20km, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.21**	**38⇑**	*i*Pg	Pb	15 34 33.0	-0.3
KNT				*e*Sg	Sb	15 34 36.1	-1.1
GRG	**Griva**	**0.25**	**260**	*i* Pg	Pb	15 34 33.2	-0.5
GRG				*e*Sg	Sb	15 34 37.1	-0.7
VAY	**Valandovo**	**0.34**	**339**	*e*Pg	Pb	15 34 35.5	+0.6
VAY				*e*Sg	Sb	15 34 40.7	+0.8
VAY				*e*Lg	Lg	15 34 40.9	
	comp=E,7.5nm,0.3s						
VAY				*e*Lg	Lg	15 34 41.0	
	comp=N,9.1nm,0.2s						
SRS	**Serrai**	**0.66**	**80⇑**	*i*Pg	Pb	15 34 40.8	+0.3
SRS				*e*Sg	Sb	15 34 50.0	+0.7
STIP	**Stip**	**0.81**	**330**	*i* Pg	Pn	15 34 43.3	-0.4
STIP				*i* Sg	Sb	15 34 53.7	+0.4
FNA	**Florina**	**1.05**	**259**	*e*Pg	Pn	15 34 48.2	+1.2

SKO 09 15:34:41.9, 41°.29N×20°.88E, h0km, ML1.1, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.19**	**199**	*i* Pg	Pg	15 34 46.0	+0.5
OHR				*i* Sg	Sg	15 34 47.0	-1.0
OHR				*e*Lg	Lg	15 34 47.1	
	comp=N,100nm,0.3s						
OHR				*e*Lg	Lg	15 34 47.2	
	comp=E,58nm,0.3s						
FNA	**Florina**	**0.63**	**143**	*i* Pg	Pg	15 34 54.1	+0.2
FNA	**Florina**	**0.63**	**143**	*i* Sg	Sg	15 35 02.0	-0.1
GRG	**Griva**	**1.20**	**106**	*e*Pg	Pg	15 35 02.4	-2.5

JMA 09 15:52:48.6±0.2,31°N±1°×14°1E±°,h50km,MV3.6/17,
NEAR TORISHIMA IS,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.69**	**334**	*e*P	Pn	15 53 30.4	+1.0
JHCJ				*e*S	Sn	15 54 01.1	+0.2
JHJ2	**Mitsune**	**2.72**	**334**	P	Pn	15 53 31.0	+1.2
JHJ2				S	Sn	15 54 01.6	+0.1
JMKN	**Mikurajimanish**	**3.51**	**337**	*e*P	Pn	15 53 42.2	+1.6
CBIJ	**Chichi jima**	**3.65**	**166**	P	Pn	15 53 43.6	+1.0
CBIJ				*e*S	Sn	15 54 25.8	+1.4
BSO1	**Boso 1**	**3.99**	**357**	*e*P	Pn	15 53 48.9	+2.2
JIE	**Ise**	**5.33**	**315**	*e*P	Pn	15 54 07.8	+2.2
JNY	**Yasuok**	**5.47**	**330**	*e*P	Pn	15 54 11.5	+3.9
JRY	**Ryogami san**	**5.69**	**341**	*e*P	Pn	15 54 14.3	+3.8
JAG	**Ashikaga**	**5.94**	**346**	P	Pn	15 54 16.9	+3.0

*NOU **09** 15:54:46.9,38°.90S×174°.85E,h268km,MLv3.6/6,North Island, New Zealand*
*IDC **09** 15:54:49.4±0.9,39°.39S×175°.27E,h222km±14km,mb2.7/2, mbtmp3.2/2,Error ellipse: s-maj=50.3km s-min=11.7km az=130.0*
*NEIC **09** 15:54:50.9±1.2,39°.07S±0°.08×174°.9E±0°.1,h227km±7km, mb4.6/2,Error ellipse: s-maj=14.9km s-min=10.3km az=111.0*
*WEL **09** 15:54:54.8±0.7,39°S±8°×17°5E±°,h196km±5km,M3.8/97, ML3.1/7,MLv3.8/97,Error ellipse: s-maj=0.0km s-min=0.0km az=7.9,confirmed*
ISC 09 15:54:50.6±0.8,39°.14S±0°.05×174°.89E±0°.05,h229km±5km,
n201,σ1§16/216,mb3.8/4,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.10**	**280**	P	Pn	15 55 20.9	+0.6
VRZ				S	S	15 55 41.6	-1.9
PKVZ	**Pokaka**	**0.39**	**112**	P	Pn	15 55 21.8	+0.9
PKVZ				S	S	15 55 43.0	-1.5
TWVZ	**Taurewa**	**0.44**	**81**	P	Pn	15 55 21.7	+0.7
TWVZ				S	S	15 55 42.9	-1.9
LREZ	**Lake Rotokare**	**0.49**	**229**	P	Pn	15 55 22.5	+1.5
COVZ	**Chateau Observ**	**0.51**	**97**	P	Pn	15 55 22.1	+0.8
MTVZ	**Mangateitei**	**0.52**	**118**	P	Pn	15 55 22.2	+1.0
FWVZ	**Far West T-bar**	**0.53**	**102**	P	Pn	15 55 22.4	+0.9
DREZ	**Durham Road**	**0.53**	**265**	P	Pn	15 55 22.4	+1.2
TRVZ	**Turoa**	**0.54**	**107**	P	Pn	15 55 22.5	+0.9
TRVZ				S	S	15 55 44.5	-1.2
WTVZ	**West Tongariro**	**0.55**	**87**	P	Pn	15 55 22.2	+0.7
WTVZ				S	S	15 55 43.5	-1.9
NGZ	**Ngauruhoe**	**0.56**	**94**	P	Pn	15 55 22.3	+0.8
WHVZ	**Whangaehu Hut**	**0.56**	**105**	P	Pn	15 55 22.5	+0.9
WHVZ				S	S	15 55 43.9	-1.9
NNVZ	**North Ngauruho**	**0.57**	**89**	P	Pn	15 55 22.2	+0.7
NNVZ				S	S	15 55 44.2	-1.5
WNVZ	**Wahianoa**	**0.58**	**109**	P	Pn	15 55 22.5	+0.9
SNVZ	**South Ngauruho**	**0.59**	**95**	P	Pn	15 55 22.6	+1.0
SNVZ				S	S	15 55 44.4	-1.5
KRVZ	**Karewarewa**	**0.59**	**86**	P	Pn	15 55 22.3	+0.7
KRVZ				S	S	15 55 44.3	-1.4
PREZ	**Palmer Road**	**0.60**	**250**	P	Pn	15 55 22.9	+1.4
OTVZ	**Oturere**	**0.61**	**92**	P	Pn	15 55 22.5	+0.8
TUVZ	**Tukino**	**0.61**	**102**	P	Pn	15 55 22.7	+1.0
WAZ	**Wanganui**	**0.62**	**173**	P	Pn	15 55 23.2	+1.7
NEZ	**North Egmont**	**0.63**	**258**	P	Pn	15 55 23.1	+1.4
HIZ	**Hauiti**	**0.63**	**358**		Pn	15 55 21.8	+0.1
HIZ				Sn	S	15 55 44.6	-1.2
HIZ	**Hauiti**	**0.63**	**358**	P	Pn	15 55 21.9	+0.3
HIZ	**Hauiti**	**0.63**	**358**	P	Pn	15 55 21.9	+0.3
HIZ				S	S	15 55 44.6	-1.2
TMVZ	**Te Maari**	**0.64**	**88**	P	Pn	15 55 22.8	+1.0
ETVZ	**East Tongariro**	**0.64**	**90**	P	Pn	15 55 22.5	+0.7
KATZ	**Kakaramea**	**0.65**	**75**	P	Pn	15 55 22.3	+0.4
KHEZ	**Kahui Hut**	**0.69**	**257**	P	Pn	15 55 23.3	+1.4
KHEZ	**Kahui Hut**	**0.69**	**257**	P	Pn	15 55 23.2	+1.3
PKE	**Pukeiti**	**0.70**	**265**	P	Pn	15 55 23.1	+1.3
MOVZ	**Moawhango**	**0.72**	**112**	P	Pn	15 55 22.7	+0.7
MOVZ				S	S	15 55 44.2	-2.4
RATZ	**Rangitukua**	**0.74**	**69**	P	Pn	15 55 22.5	+0.4
RITZ	**Rihia Road**	**0.78**	**78**	P	Pn	15 55 23.0	+0.7
WATZ	**Wairara**	**0.79**	**57**	P	Pn	15 55 23.1	+0.7
NMEZ	**Namu Road**	**0.83**	**251**	P	Pn	15 55 24.0	+1.6
TLZ	**Tolley Road**	**0.96**	**32**	P	Pn	15 55 23.4	+0.1
WHTZ	**Whakaora**	**0.96**	**61**	P	Pn	15 55 23.8	+0.5
HATZ	**Hinemaiaia**	**0.97**	**75**	P	Pn	15 55 23.5	+0.2
BHHZ	**Black Hill Sta**	**0.98**	**111**	P	Pn	15 55 24.1	+0.8
KUTZ	**Kaahu Road**	**0.98**	**49**	P	Pn	15 55 23.9	+0.5
WPRZ	**Whakapapatarin**	**1.18**	**58**	P	Pn	15 55 24.7	+0.1
KWHZ	**Kaweka Forest**	**1.23**	**104**	P	Pn	15 55 26.1	+1.2
MRHZ	**Matea Rd**	**1.23**	**76**	P	Pn	15 55 24.9	-0.1
TSZ	**Takapari Road**	**1.24**	**138**	P	Pn	15 55 26.5	+1.6
BKZ	**Black Stump Fm**	**1.25**	**92**		Pn	15 55 25.4	+0.3
BKZ	**Black Stump Fm**	**1.25**	**92**	P	Pn	15 55 25.6	+0.5
BKZ	**Black Stump Fm**	**1.25**	**92**	P	Pn	15 55 25.6	+0.5
BKZ				S	S	15 55 49.5	-2.5
KRHZ	**Kereru**	**1.25**	**114**	P	Pn	15 55 26.3	+1.2
KRHZ				S	S	15 55 50.9	-1.1
PNHZ	**Pukenui**	**1.28**	**128**	P	Pn	15 55 26.6	+1.4
PNHZ				S	S	15 55 51.9	-0.5
ALRZ	**Allen Road**	**1.28**	**64**	P	Pn	15 55 25.3	0.0
HRRZ	**Handcock Road**	**1.33**	**56**	P	Pn	15 55 26.1	+0.4
PRRZ	**Plateau Road**	**1.34**	**62**	P	Pn	15 55 26.1	+0.3
HSRZ	**Hossack Road**	**1.35**	**52**	P	Pn	15 55 26.6	+0.7
POWZ	**Post Office Ro**	**1.42**	**152**	P	Pn	15 55 27.7	+1.4
MCHZ	**McNeill Hill**	**1.44**	**103**	P	Pn	15 55 28.1	+1.6
HLRZ	**Highlands Stat**	**1.45**	**53**	P	Pn	15 55 28.2	+1.5
NGRZ	**Ngongotaha**	**1.46**	**45**	P	Pn	15 55 31.5	+4.8
TOZ	**Tahuroa Road**	**1.49**	**19**		Pn	15 55 26.9	0.0
TOZ	**Tahuroa Road**	**1.49**	**19**	P	Pn	15 55 27.0	0.0
NMHZ	**Naumai**	**1.50**	**89**	P	Pn	15 55 28.4	+1.4
RRRZ	**Republican Roa**	**1.51**	**58**	P	Pn	15 55 27.1	0.0
DVHZ	**Dannevirke**	**1.52**	**140**	P	Pn	15 55 28.4	+1.3
KMRZ	**Kaimai**	**1.54**	**33**	P	Pn	15 55 33.4	+6.1
KARZ	**Kaharoa**	**1.55**	**44**	P	Pn	15 55 27.9	+0.6
MTHZ	**Maungataniwha**	**1.55**	**80**	P	Pn	15 55 27.7	+0.3
OMRZ	**Omania**	**1.56**	**49**	P	Pn	15 55 28.5	+1.0
TARZ	**Mount Tarawera**	**1.56**	**55**	P	Pn	15 55 29.9	+2.3
MRZ	**Mangatainoka R**	**1.61**	**161**		Pn	15 55 28.9	+1.1
MRZ	**Mangatainoka R**	**1.61**	**161**	P	Pn	15 55 29.1	+1.3
MUGZ	**Murupara**	**1.62**	**66**	P	Pn	15 55 27.4	-0.5
PRWZ	**Pori Road**	**1.64**	**150**	P	Pn	15 55 29.7	+1.6
ARHZ	**Aropaoanui**	**1.65**	**95**	P	Pn	15 55 29.3	+1.2
KAHZ	**Kahuranaki**	**1.67**	**114**	P	Pn	15 55 30.0	+1.6
OGWZ	**Otaki Gorge**	**1.69**	**173**	P	Pn	15 55 30.2	+1.7
KIW	**Kapiti Island**	**1.72**	**179**	P	Pn	15 55 30.2	+1.5
RTZ	**Ruatahuna**	**1.72**	**73**		Pn	15 55 28.7	-0.2
RTZ	**Ruatahuna**	**1.72**	**73**	P	Pn	15 55 28.8	-0.2
RAHZ	**Arahi**	**1.73**	**83**	P	Pn	15 55 29.6	+0.7
PRHZ	**Porangahau**	**1.76**	**130**	P	Pn	15 55 30.6	+1.5
PXZ	**Pawanui**	**1.77**	**121**	P	Pn	15 55 30.6	+1.4
CKHZ	**Cape Kidnapper**	**1.78**	**108**	P	Pn	15 55 30.8	+1.5
TGRZ	**Tauranga**	**1.78**	**38**	P	Pn	15 55 29.3	0.0
ANWZ	**Angora Road**	**1.80**	**138**	P	Pn	15 55 31.1	+1.7
TIWZ	**Tintock**	**1.80**	**155**	P	Pn	15 55 30.9	+1.4
DUWZ	**D'Urville Isla**	**1.81**	**204**	P	Pn	15 55 31.2	+1.6
MARZ	**Manawahe**	**1.82**	**51**	P	Pn	15 55 35.3	+5.6
HOWZ	**Holdsworth Sta**	**1.82**	**165**	P	Pn	15 55 30.9	+1.2
WHHZ	**Waihua**	**1.83**	**89**	P	Pn	15 55 30.6	+0.8
OPRZ	**Ohinepanea**	**1.84**	**46**	P	Pn	15 55 29.7	-0.3
BFZ	**Birch Farm**	**1.86**	**146**		Pn	15 55 31.1	+1.1
BFZ	**Birch Farm**	**1.86**	**146**	P	Pn	15 55 31.2	+1.2
SNGZ	**Shannon Statio**	**1.95**	**80**	P	Pn	15 55 31.3	+0.4
URZ	**Urewera**	**1.95**	**64**	P	Pn	15 55 30.0	-0.9
URZ	**Urewera**	**1.95**	**64**	P	Pn	15 55 30.1	-0.9
URZ	**Urewera**	**1.95**	**64**	P	Pn	15 55 29.9	-1.0
	74nm,0.3s,baz=330,slow=6.4,SNR=36						
URZ				S	S	15 55 58.1	-4.3
	309nm,0.4s,baz=222,slow=22,SNR=53						
CAW	**Cannon Point**	**1.97**	**176**	P	Pn	15 55 32.5	+1.5
CPWZ	**Castlepoint**	**2.04**	**151**	P	Pn	15 55 33.5	+1.9
MKAZ	**Moumakai**	**2.05**	**6**	P	Pn	15 55 32.0	+0.2
MTW	**Mount Morrison**	**2.07**	**167**	P	Pn	15 55 33.1	+1.1
AWAZ	**Awhitu Peninsu**	**2.08**	**355**	P	Pn	15 55 32.5	+0.3
TMWZ	**Te Maipa**	**2.11**	**159**	P	Pn	15 55 33.6	+1.2
TCW	**Tory Channel**	**2.12**	**193**		Pn	15 55 34.0	+1.6
TCW	**Tory Channel**	**2.12**	**193**	P	Pn	15 55 34.1	+1.7
WEL	**Wellington**	**2.14**	**182**	P	Pn	15 55 34.0	+1.3
SNZO	**South Karori**	**2.17**	**184**		Pn	15 55 34.0	+1.1
SNZO	**South Karori**	**2.17**	**184**	P	Pn	15 55 34.5	+1.6
KNZ	**Kokohu**	**2.17**	**88**	P	Pn	15 55 33.5	+0.5
ETAZ	**East Tamaki Re**	**2.19**	**1**	P	Pn	15 55 33.6	+0.4
MWZ	**Matawai**	**2.22**	**70**	P	Pn	15 55 33.1	-0.5
WTAZ	**Waiatarua**	**2.22**	**354**	P	Pn	15 55 34.0	+0.4
BHW	**Baring Head**	**2.26**	**180**		Pn	15 55 35.0	+1.2
BHW	**Baring Head**	**2.26**	**180**	P	Pn	15 55 35.0	+1.2
PAWZ	**Paruwai Farm**	**2.27**	**170**	P	Pn	15 55 35.3	+1.2
RIGZ	**Rimuhau**	**2.29**	**80**	P	Pn	15 55 34.4	+0.2
MSWZ	**Moikau Station**	**2.29**	**173**	Pn	Pn	15 55 35.2	+1.1
TRWZ	**Traveller**	**2.34**	**165**	P	Pn	15 55 35.8	+1.2
PRGZ	**Paritu Road**	**2.35**	**86**	P	Pn	15 55 35.3	+0.5
MHGZ	**Mahia Peninsul**	**2.35**	**91**	P	Pn	15 55 35.6	+0.7
NNZ	**Nelson**	**2.37**	**209**		Pn	15 55 36.2	+1.2
NNZ	**Nelson**	**2.37**	**209**	P	Pn	15 55 36.4	+1.4
TUWZ	**Tuamarina**	**2.40**	**197**		Pn	15 55 36.6	+1.4
TUWZ	**Tuamarina**	**2.40**	**197**	P	Pn	15 55 36.7	+1.5
TKNZ	**Takaka Hill**	**2.40**	**217**		Pn	15 55 35.9	+0.6
TKNZ	**Takaka Hill**	**2.40**	**217**	P	Pn	15 55 36.1	+0.8
TKGZ	**Te Karaka**	**2.42**	**74**	P	Pn	15 55 35.7	+0.2
PLWZ	**Palliser**	**2.44**	**173**		Pn	15 55 36.6	+0.9
PLWZ	**Palliser**	**2.44**	**173**	P	Pn	15 55 36.8	+1.1
QRZ	**Quartz Range**	**2.47**	**226**		Pn	15 55 36.5	+0.6
QRZ	**Quartz Range**	**2.47**	**226**	P	Pn	15 55 36.6	+0.6
QRZ	**Quartz Range**	**2.47**	**226**	P	Pn	15 55 36.6	+0.6
KUZ	**Kuaotunu**	**2.48**	**16**	P	Pn	15 55 36.0	-0.2
RUGZ	**Raukumara Rang**	**2.48**	**63**	P	Pn	15 55 34.8	-1.5
TWGZ	**Tauwhareparae**	**2.61**	**69**	P	Pn	15 55 36.9	-0.7
CMWZ	**Cape Campbell**	**2.65**	**191**		Pn	15 55 39.8	+1.8
CMWZ	**Cape Campbell**	**2.65**	**191**	P	Pn	15 55 39.9	+2.0
HAZ	**Te Kaha**	**2.66**	**60**	P	Pn	15 55 36.6	-1.5
CNGZ	**Carnagh Statio**	**2.68**	**77**	P	Pn	15 55 38.7	+0.5
BSWZ	**Blackbirch Sta**	**2.68**	**196**		Pn	15 55 39.4	+1.1
BSWZ	**Blackbirch Sta**	**2.68**	**196**	P	Pn	15 55 39.8	+1.6
MRNZ	**Matariki Terra**	**2.78**	**215**		Pn	15 55 39.9	+0.5
MRNZ	**Matariki Terra**	**2.78**	**215**	P	Pn	15 55 40.1	+0.8
PKGZ	**Pakihiroa**	**2.80**	**64**	P	Pn	15 55 38.8	-0.9
PUZ	**Puketiti**	**2.85**	**69**	P	Pn	15 55 39.4	-0.8
GRZ	**Great Barrier**	**2.92**	**9**	P	Pn	15 55 41.0	0.0
THZ	**Tophouse**	**3.02**	**209**		Pn	15 55 42.8	+0.7
THZ	**Tophouse**	**3.02**	**209**	P	Pn	15 55 43.1	+1.0
WMGZ	**Waiomatatini S**	**3.07**	**66**	P	Pn	15 55 41.7	-0.9
MXZ	**Matakaoa Point**	**3.12**	**61**	Pn	Pn	15 55 42.3	-0.9
MXZ	**Matakaoa Point**	**3.12**	**61**	P	Pn	15 55 42.4	-0.7
KHZ	**Kahutara**	**3.43**	**197**		Pn	15 55 47.7	+1.1
KHZ	**Kahutara**	**3.43**	**197**	P	Pn	15 55 47.9	+1.3
DSZ	**Denniston Nort**	**3.50**	**221**		Pn	15 55 47.9	+0.3
DSZ	**Denniston Nort**	**3.50**	**221**	P	Pn	15 55 48.0	+0.4
GVZ	**Greta Valley S**	**4.07**	**200**		Pn	15 55 54.9	+0.6
GVZ	**Greta Valley S**	**4.07**	**200**	P	Pn	15 55 55.0	+0.8
LTZ	**Lake Taylor**	**4.14**	**208**		Pn	15 55 55.8	+0.6
LTZ	**Lake Taylor**	**4.14**	**208**	P	Pn	15 55 55.8	+0.6
AMCZ	**Amberley**	**4.37**	**202**		Pn	15 55 58.5	+0.6
INZ	**Inchbonnie**	**4.43**	**215**		Pn	15 55 58.7	+0.1
INZ	**Inchbonnie**	**4.43**	**215**	P	Pn	15 55 58.9	+0.3
OXZ	**Oxford**	**4.70**	**206**		Pn	15 56 01.8	-0.1
OXZ	**Oxford**	**4.70**	**206**	P	Pn	15 56 01.9	0.0
OKCZ	**Okains Bay**	**4.78**	**196**	P	Pn	15 56 03.4	+0.5
MQZ	**McQueen's Vall**	**4.86**	**199**		Pn	15 56 03.4	-0.4
MQZ	**McQueen's Vall**	**4.86**	**199**	P	Pn	15 56 03.6	-0.3
AKCZ	**Akaroa Harbour**	**4.95**	**197**	P	Pn	15 56 05.2	+0.2
RACZ	**Rakaia**	**5.02**	**203**	P	Pn	15 56 06.1	+0.2
WVZ	**Waitaha Valley**	**5.02**	**217**	P	Pn	15 56 05.8	-0.1
MHCZ	**Mount Hutt**	**5.05**	**209**	P	Pn	15 56 06.5	+0.2
WACZ	**Wakanui South**	**5.31**	**204**	P	Pn	15 56 09.8	+0.3
RPZ	**Rata Peaks**	**5.40**	**211**	P	Pn	15 56 10.6	0.0
RPZ	**Rata Peaks**	**5.40**	**211**	P	Pn	15 56 10.5	-0.2
	41nm,0.3s,baz=12,slow=2.0,SNR=24						
RPZ				S	S	15 57 10.6	-3.6
	50nm,0.4s,baz=310,slow=23,SNR=23						
GCSZ	**Gaunt Creek Bo**	**5.40**	**218**	P	Pn	15 56 10.3	-0.3
ARCZ	**Arundel**	**5.55**	**209**	P	Pn	15 56 12.5	0.0
FOZ	**Fox Glacier**	**5.81**	**219**		Pn	15 56 15.3	-0.5
FOZ	**Fox Glacier**	**5.81**	**219**	P	Pn	15 56 15.4	-0.4
TMZ	**Timaru**	**5.99**	**208**	P	Pn	15 56 18.6	+0.6
LBZ	**Lake Benmore**	**6.31**	**212**	Pn	Pn	15 56 21.8	-0.3
LBZ	**Lake Benmore**	**6.31**	**212**	P	Pn	15 56 22.1	0.0
ODZ	**Otahua Downs**	**6.69**	**207**		Pn	15 56 27.4	+0.5
ODZ	**Otahua Downs**	**6.69**	**207**	P	Pn	15 56 27.8	+0.8
JCZ	**Jackson Bay**	**6.72**	**221**	P	Pn	15 56 27.1	-0.3
WKZ	**Wanaka**	**7.17**	**216**	Pn	Pn	15 56 32.1	-1.0
WKZ	**Wanaka**	**7.17**	**216**	P	Pn	15 56 32.3	-0.8
EAZ	**Earnscleugh**	**7.36**	**212**	P	Pn	15 56 34.7	-0.8
HHSZ	**Highcliff Hill**	**7.44**	**204**	P	Pn	15 56 38.0	+1.5
MSZ	**Milford Sound**	**7.58**	**221**	P	Pn	15 56 38.4	+0.1
TUZ	**Tuapeka**	**7.83**	**208**	P	Pn	15 56 42.7	+1.2
MLZ	**Mavora Lakes**	**7.99**	**217**	Pn	Pn	15 56 43.5	-0.1
MLZ	**Mavora Lakes**	**7.99**	**217**	P	Pn	15 56 43.7	+0.1
WHZ	**Wether Hill Ro**	**8.47**	**215**	Pn	Pn	15 56 48.5	-1.1
WHZ	**Wether Hill Ro**	**8.47**	**215**	P	Pn	15 56 48.6	-1.1
SYZ	**Scrubby Hill**	**8.51**	**208**	P	Pn	15 56 51.1	+0.9
DCZ	**Deep Cove**	**8.53**	**220**	Pn	Pn	15 56 48.8	-1.6
APZ	**The Paps**	**9.19**	**211**	P	Pn	15 56 59.7	+0.7
MSVF	**Nonsavu**	**21.51**	**8**	P	**P**	15 59 21.7	-0.1
MSVF				IAmb	IAmb	15 59 26.4	
	comp=Z,15nm,1.1s						
ASAR	**Alice Springs**	**37.89**	**282**	P	**P**	**16 01 48.1**	**+2.3**
	comp=Z,0.5nm,0.9s,baz=120,slow=6.5,SNR=9.9 comp=Z,0.5nm,0.9s						
WRA	**Warramunga Arr**	**39.73**	**287**	P	**P**	**16 02 03.1**	**+2.0**
	comp=Z,0.2nm,0.8s,baz=129,slow=6.7,SNR=1.6 comp=Z,0.2nm,0.8s						
MANU	**Manus Island**	**44.64**	**319**	P	**P**	**16 02 40.0**	**-0.7**
MANU				IAmb	IAmb	16 03 14.8	
	comp=Z,58nm,1.2s						
ARCES	**ARCESS Array B**	**145.48**	**342**	PKPbc	**PKPbc**	**16 14 00.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=63,slow=4.4,SNR=5.3						
FINES	**FINESS Array B**	**150.58**	**330**	PKPab	**PKPab**	**16 14 22.0**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=67,slow=3.6,SNR=8.2						

*NOU **09** 16:02:42.8,37°.48S×177°.12E,h213km,MLv3.7/10,Off E. Coast of N. Island, N.Z.*
*WEL **09** 16:02:49.3±1.0,37°S±6°×17°7E±°,h138km±10km,M3.1/59, ML2.9/7,MLv3.1/59,Error ellipse: s-maj=0.0km s-min=0.0km az=30.2,confirmed*
ISC 09 16:02:43.7±1.8,37°.46S±0°.06×176°.90E±0°.06,
h189km±10km,n127,σ1§79/133,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.47**	**215**	P	Pn	16 03 09.8	+0.3
MYRZ	**Mayor Island**	**0.55**	**288**	P	Pn	16 03 10.4	+0.6
MARZ	**Manawahe**	**0.56**	**199**	P	Pn	16 03 11.0	+1.2
HAZ	**Te Kaha**	**0.76**	**113**	P	Pn	16 03 11.6	+0.8
HAZ				S	Sn	16 03 29.8	-1.9
OMRZ	**Omania**	**0.77**	**213**	P	Pn	16 03 12.1	+1.2
RUGZ	**Raukumara Rang**	**0.80**	**130**	P	Pn	16 03 11.4	+0.3
URZ	**Urewera**	**0.82**	**168**	P	Pn	16 03 12.3	+1.2
URZ	**Urewera**	**0.82**	**168**	P	Pn	16 03 12.0	+0.9
URZ				S	Sn	16 03 30.5	-2.0
NGRZ	**Ngongotaha**	**0.86**	**221**	P	Pn	16 03 12.7	+1.3
RRRZ	**Republican Roa**	**0.93**	**199**	P	Pn	16 03 14.0	+2.1
MWZ	**Matawai**	**1.01**	**151**	P	Pn	16 03 13.5	+1.1
MWZ				S	Sn	16 03 33.4	-1.4
MUGZ	**Murupara**	**1.02**	**186**	P	Pn	16 03 14.0	+1.5
MUGZ				S	Sn	16 03 33.1	-1.9
PKGZ	**Pakihiroa**	**1.03**	**115**	P	Pn	16 03 14.1	+1.5
GRRZ	**Galatos Road**	**1.09**	**215**	P	Pn	16 03 14.9	+1.9
PRRZ	**Plateau Road**	**1.11**	**201**	P	Pn	16 03 14.9	+1.7
TWGZ	**Tauwhareparae**	**1.12**	**130**	P	Pn	16 03 15.5	+2.3
MXZ	**Matakaoa Point**	**1.12**	**96**	P	Pn	16 03 14.1	+0.9
MXZ	**Matakaoa Point**	**1.12**	**96**	P	Pn	16 03 15.0	+1.8
TOZ	**Tahuroa Road**	**1.14**	**256**	P	Pn	16 03 14.5	+1.2
RTZ	**Ruatahuna**	**1.16**	**177**	P	Pn	16 03 15.1	+1.5
RTZ				S	Sn	16 03 35.3	-1.7
KUZ	**Kuaotunu**	**1.18**	**307**	P	Pn	16 03 14.0	+0.3
ALRZ	**Allen Road**	**1.19**	**202**	P	Pn	16 03 15.6	+1.9
TKGZ	**Te Karaka**	**1.23**	**143**	P	Pn	16 03 16.2	+2.1
PUZ	**Puketiti**	**1.24**	**120**	P	Pn	16 03 15.6	+1.4
PUZ				S	Sn	16 03 37.2	-0.6
WMGZ	**Waiomatatini S**	**1.26**	**107**	P	Pn	16 03 16.2	+1.9
KUTZ	**Kaahu Road**	**1.34**	**219**	P	Pn	16 03 17.2	+2.2
SNGZ	**Shannon Statio**	**1.37**	**165**	P	Pn	16 03 17.5	+2.3
TLZ	**Tolley Road**	**1.39**	**231**	P	Pn	16 03 17.3	+1.8
MTHZ	**Maungataniwha**	**1.39**	**182**	P	Pn	16 03 17.4	+1.9
RIGZ	**Rimuhau**	**1.42**	**152**	P	Pn	16 03 17.9	+2.1
MRHZ	**Matea Rd**	**1.43**	**195**	P	Pn	16 03 17.5	+1.7
MKAZ	**Moumakai**	**1.43**	**284**	P	Pn	16 03 16.9	+1.1
CNGZ	**Carnagh Statio**	**1.46**	**135**	P	Pn	16 03 19.1	+3.1
RAHZ	**Arahi**	**1.46**	**174**	P	Pn	16 03 18.7	+2.6
WIAZ	**Waiheke Island**	**1.56**	**295**	P	Pn	16 03 18.1	+1.1
NMHZ	**Naumai**	**1.64**	**183**	P	Pn	16 03 20.6	+2.8
WHHZ	**Waihua**	**1.64**	**171**	P	Pn	16 03 20.5	+2.8
ETAZ	**East Tamaki Re**	**1.65**	**287**	P	Pn	16 03 19.3	+1.5
PRGZ	**Paritu Road**	**1.66**	**152**	P	Pn	16 03 20.5	+2.6
RATZ	**Rangitukua**	**1.67**	**212**	P	Pn	16 03 20.3	+2.2
GRZ	**Great Barrier**	**1.67**	**316**	P	Pn	16 03 18.9	+0.8
KNZ	**Kokohu**	**1.68**	**159**	P	Pn	16 03 20.4	+2.4
RITZ	**Rihia Road**	**1.73**	**208**	P	Pn	16 03 21.0	+2.4
BKZ	**Black Stump Fm**	**1.74**	**191**	P	Pn	16 03 19.8	+1.1
BKZ	**Black Stump Fm**	**1.74**	**191**	P	Pn	16 03 20.0	+1.3
MBAZ	**Motutapu North**	**1.74**	**293**	P	Pn	16 03 20.2	+1.4
KATZ	**Kakaramea**	**1.79**	**212**	P	Pn	16 03 21.3	+2.0
ARHZ	**Aropaoanui**	**1.81**	**178**	P	Pn	16 03 21.9	+2.6
EPAZ	**Eden Park BICE**	**1.82**	**288**	P	Pn	16 03 18.4	-1.1
HBAZ	**Herne Bay Bore**	**1.84**	**289**	P	Pn	16 03 21.2	+1.5
AWAZ	**Awhitu Peninsu**	**1.84**	**282**	P	Pn	16 03 21.2	+1.5
MHGZ	**Mahia Peninsul**	**1.87**	**155**	P	Pn	16 03 22.7	+2.6
TMVZ	**Te Maari**	**1.91**	**209**	P	Pn	16 03 22.7	+2.2

baz=220
LATG eS **Sn** **16 09 21.0 +0.6**
baz=220
YHNB Yeheng 1.15 242 eP **Pn** **16 08 59.4 +0.4**
YHNB baz=237 i S **Sn** **16 09 20.3 -0.6**
baz=237
NSK Sanguang 1.16 242 eP **Pn** **16 08 58.5 -0.6**
NSK baz=237 eS **Sn** **16 09 20.4 -0.5**
baz=237
NNS Nan Shan 1.28 233 eP **Pn** **16 09 00.7 +0.6**
NNS baz=228 eS **Sn** **16 09 23.6 +0.7**
baz=228
NNSB Datong 1.28 232 P **Pn** **16 09 00.6 +0.4**
NNSB baz=227 eS **Sn** **16 09 22.5 -0.4**
baz=227
ETL Fush Village 1.32 217 eP **Pn** **16 09 00.1 -0.4**
ETL baz=219 eS **Sn** **16 09 22.6 -0.8**
baz=219
NACB Ninganchiao 1.32 218 eP **Pn** **16 09 00.4 0.0**
NACB baz=214 eS **Sn** **16 09 21.9 -1.5**
baz=214
ETLH Xiulin Townshi 1.36 222 P **Pn** **16 09 01.1 +0.3**
ETLH baz=218 S **Sn** **16 09 23.3 -0.9**
baz=218
NFF Wufeng Townshi 1.37 245 eP **Pn** **16 09 00.2 -0.7**
NFF baz=235 eS **Sn** **16 09 23.6 -0.7**
baz=235
TWD Chiawan 1.39 216 P **Pn** **16 09 01.1 0.0**
TWD baz=219 eS **Sn** **16 09 23.3 -1.3**
baz=219
IRIF Iriomote-Funau 1.43 128 P **Pn** **16 09 01.5 +0.1**
IRIF eS **Sn** **16 09 24.7 -0.4**
LIOB Emei 1.45 247 P **Pn** **16 09 02.0 +0.4**
LIOB baz=243 eS **Sn** **16 09 25.3 -0.3**
baz=243
NSTT Nanjuang 1.47 247 P **Pn** **16 09 02.1 +0.3**
NSTT baz=243 eS **Sn** **16 09 24.8 -1.1**
baz=243
FUSS Fushou 1.49 230 P **Pn** **16 09 03.0 +0.8**
FUSS baz=226 eS **Sn** **16 09 26.3 -0.4**
baz=226
TWT Tachien 1.53 231 eP **Pn** **16 09 03.7 +1.2**
TWT baz=228 eS **Sn** **16 09 26.8 -0.4**
baz=228
ETM Tongmen 1.54 216 eP **Pn** **16 09 01.9 -0.6**
ETM baz=213 eS **Sn** **16 09 25.4 -1.8**
baz=213
LXIB Xiulin Townshi 1.54 220 eP **Pn** **16 09 02.5 -0.2**
LXIB baz=210 eS **Sn** **16 09 26.4 -1.0**
baz=210
WHF Hehuan Shan 1.54 226 eS **Sn** **16 09 27.4 -0.5**
TDCB Techi 1.54 232 eP **Pn** **16 09 03.6 +1.0**
TDCB baz=228 eS **Sn** **16 09 27.3 -0.1**
baz=228
CHGB Renai 1.66 226 eP **Pn** **16 09 05.0 +1.0**
CHGB baz=216 eS **Sn** **16 09 29.7 0.0**
baz=216
HATJ Hateruma jima 1.67 134 S **Sn** **16 09 29.3 0.0**
WHP Taichung City 1.69 237 eP **Pn** **16 09 04.4 +0.3**
WHP baz=227 eS **Sn** **16 09 29.3 -0.6**
baz=227
JKRS Kuro-shima 1.69 125 P **Pn** **16 09 04.9 +0.9**
JKRS S **Sn** **16 09 29.1 -0.6**
JIJ Ishigaki jima 1.73 119 P **Pn** **16 09 04.6 +0.3**
JIJ S **Sn** **16 09 28.6 -1.8**
OWD Renai 1.73 224 eP **Pn** **16 09 05.4 +0.8**
OWD baz=216 eS **Sn** **16 09 30.6 -0.3**
baz=216
WUSB Renai 1.75 226 eP **Pn** **16 09 05.9 +1.2**
WUSB baz=216 eS **Sn** **16 09 31.5 +0.5**
baz=216
JISG Ishigakijimahi 1.77 110 P **Pn** **16 09 05.0 +0.3**
JISG S **Sn** **16 09 30.5 -0.7**
TWQ1 Liyutan 1.78 241 eS **Sn** **16 09 30.9 -0.6**
WARBT baz=243 **Fenglin Townsh 1.80 214** eP **Pn** **16 09 03.9 -1.2**
WARBT baz=215 eS **Sn** **16 09 29.2 -2.7**
baz=215
EGFH Guangfu 1.82 212 eP **Pn** **16 09 05.2 -0.2**
EGFH baz=210 eS **Sn** **16 09 30.3 -1.9**
baz=210
WCS Beigang Elemen 1.84 231 eP **Pn** **16 09 06.2 +0.7**
WCS baz=233 eS **Sn** **16 09 31.9 -0.7**
baz=233
VWDT VWDT 1.91 220 eP **Pn** **16 09 07.3 +1.1**
VWDT baz=214 eS **Sn** **16 09 33.9 +0.1**
baz=214
HGSD Ruisui 1.97 210 eP **Pn** **16 09 07.8 +0.9**
HGSD baz=213 eS **Sn** **16 09 35.8 +0.7**
baz=213
TYC Yuchr 1.98 229 eP **Pn** **16 09 07.3 +0.3**
TYC baz=232 eS **Sn** **16 09 35.2 0.0**
baz=232
SSLB Suanglung 2.00 225 eP **Pn** **16 09 07.5 +0.3**
SSLB baz=222 eS **Sn** **16 09 35.6 0.0**
baz=222
JTJ Tarama 2.09 106 P **Pn** **16 09 09.1 +0.8**
JTJ S **Sn** **16 09 36.9 -0.5**
YULB Yu-li 2.12 211 eP **Pn** **16 09 08.0 -0.7**
WHYT baz=208 **Xinyi Township 2.12 225** eP **Pn** **16 09 09.2 +0.5**
WHYT baz=222 eS **Sn** **16 09 37.9 -0.4**
baz=222
FULB Fuli 2.29 209 eP **Pn** **16 09 10.3 -0.2**
FULB baz=213 eS **Sn** **16 09 41.4 -0.2**
baz=213
ALS Alishan 2.29 222 eP **Pn** **16 09 11.7 +0.9**
ALS baz=220 eS **Sn** **16 09 42.0 0.0**
baz=220
EHD Haiduan 2.37 210 eP **Pn** **16 09 11.3 -0.1**
EHD baz=212 eS **Sn** **16 09 41.3 -1.9**
baz=212
ELDTW Lidau 2.43 214 eP **Pn** **16 09 11.9 -0.3**
WCKO Fanlu 2.47 224 eS **Sn** **16 09 44.5 -0.8**
baz=215
CHN4 Tsaushan 2.54 223 eP **Pn** **16 09 15.3 +1.9**
CHN4 baz=214 eS **Sn** **16 09 46.4 -0.3**
baz=214
TPUB Ta-pu 2.55 222 eP **Pn** **16 09 15.2 +1.6**
TPUB baz=220 eS **Sn** **16 09 46.2 -0.9**
baz=220
JMJ2 Miyako jima3 2.62 100 P **Pn** **16 09 15.5 +1.1**
JMJ2 S **Sn** **16 09 47.7 -0.6**

---

*SOME **09** 16:16:07.2, 47.°28N×82.°03E, h0km*
*NNC **09** 16:16:07.7±0.5, 47.°27N×82.°32E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=3.3km s-min=2.5km az=77.0*
*ASRS **09** 16:16:08.6±0.2, 47.°N±3.°×8.°3E±.°, h8km, MLh4.1/10, Error ellipse: s-maj=10.1km s-min=2.5km az=127.5, confirmed*
ISC 09 16:16:09.0±0.7, **47.°19N**±0.°03×**82.°49E**±0.°04, **h19**km, **n60,**

σ2°86/85, 6C-8D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.42 199**		⇑P	**Pg**	**16 16 17.2**	**-0.5**
	11nm,0.2s,baz=11,slow=16,SNR=9689						
MK31				⇑S	**Sg**	**16 16 23.5**	**0.0**
	103nm,0.2s,baz=10,slow=26,SNR=83						
MKAR	**Makanchi Array**	**0.42 199**		Pg	**Pg**	**16 16 17.2**	**-0.4**
MKAR				Sg	**Sg**	**16 16 23.7**	**+0.2**
MAKZ	**Makanchi**	**0.52 223**		⇓P	**Pb**	**16 16 18.0**	**-1.4**
	16nm,0.2s						
MAKZ				⇓S	**Sg**	**16 16 25.2**	**-1.2**
	533nm,0.3s						
MAKZ	**Makanchi**	**0.52 223**		Pg	**Pb**	**16 16 18.0**	**-1.4**
MAKZ				Sg	**Sg**	**16 16 25.3**	**-1.2**
ZSN	**Zaisan**	**1.64**	**80**	eP	**Pn**	**16 16 38.2**	**+1.4**
	92nm,0.4s						
ZSN				eS	**Sn**	**16 17 00.7**	**+3.3**
	109nm,0.4s						
DJR	**Jarkent**	**3.42 214**		Pg	**Pb**	**16 17 08.5**	**-0.5**
	5.3nm,0.2s						
DJR				Lg	Lg	16 17 52.6	
	41nm,0.3s						
DJR	**Jarkent**	**3.42 214**		ePg	**Pb**	**16 17 08.6**	**-0.5**
	5.3nm,0.1s						
DJR				eLg	Lg	16 17 52.6	
	42nm,0.2s						
SEM	**Semipalatinsk**	**3.55 336**		ePg	**Pb**	**16 17 10.4**	**-0.9**
	26nm,0.2s						
SEM				eLg	Lg	16 17 55.7	
	69nm,0.3s						
TDK	**Taldyqorghan**	**3.58 234**		Pg	**Pb**	**16 17 12.6**	**+0.9**
	36nm,0.4s						
TDK				Lg	Lg	16 17 59.8	
	230nm,0.8s						
TDK	**Taldyqorghan**	**3.58 234**		ePg	**Pb**	**16 17 12.6**	**+0.9**
	36nm,0.4s						
TDK				eLg	Lg	16 17 59.8	
	230nm,0.8s						
KNOS	**Konyrlen**	**3.66 221**		Pg	**Pb**	**16 17 12.4**	**-0.7**
	8.5nm,0.2s						
KNOS				Lg	Lg	16 17 58.8	
	40nm,0.5s						
KTMS	**Ketmen**	**4.03 203**		ePg	**Pb**	**16 17 20.1**	**+0.6**
	1.7nm,0.1s						
KTMS				eLg	Lg	16 18 12.8	
	21nm,0.6s						
UKR	**Ust'-Kan**	**4.04**	**21**	Pn	**Pn**	**16 17 10.7**	**+0.8**
UKR				Pg	**Pg**	**16 17 28.7**	**+2.3**
UKR				S	**Sn**	**16 17 58.5**	**+1.8**
UKR				Sg	**Sg**	**16 18 16.5**	**-2.2**
DGZ	**Jazzator, Alta**	**4.14**	**51**	Pn	**Pn**	**16 17 14.3**	**+3.0**
DGZ				Pg	**Pb**	**16 17 25.4**	**+4.1**
DGZ				Sg	**Sg**	**16 18 19.7**	**-2.2**
BLB	**Baldybastay**	**4.18 224**		Pg	**Pb**	**16 17 23.7**	**+1.8**
	1.9nm,0.1s						
BLB				Lg	Lg	16 18 18.5	
	40nm,0.4s						
KURBB	**Kurchatov Arra**	**4.32 324**		⇑Pg	**Pb**	**16 17 23.9**	**-0.3**
	13nm,0.6s						
KURBB				⇑Lg	Lg	16 18 21.5	
	218nm,0.6s						
KURK	**Kurchatov**	**4.36 326**		⇑Pg	**Pb**	**16 17 24.7**	**-0.1**
	5.2nm,0.4s						
KURK				⇓Lg	Lg	16 18 21.3	
	68nm,0.4s						
PDGK	**Podgornoye**	**4.40 210**		Pg	**Pb**	**16 17 27.2**	**+1.5**
	2.2nm,0.4s						
PDGK				Lg	Lg	16 18 23.9	
	25nm,0.7s						
PDGK	**Podgornoye**	**4.40 210**		⇑Pn	**Pn**	**16 17 16.2**	**+1.3**
	4.0nm,0.5s						
PDGK				⇓Lg	Lg	16 18 26.4	
	34nm,0.5s						
ARXS	**Arharly**	**4.42 229**		ePg	**Pb**	**16 17 26.9**	**+0.9**
	13nm,0.2s						
ARXS				eLg	Lg	16 18 24.3	
	79nm,0.4s						
CHBI	**Chibit, Altay**	**4.56**	**45**	Pn	**Pn**	**16 17 20.4**	**+3.4**
CHBI				Sg	**Sg**	**16 18 30.3**	**-4.9**
SHLS	**Shalkode**	**4.56 209**		Pg	**Pb**	**16 17 27.5**	**-1.0**
	6.8nm,0.3s						
SHLS				Lg	Lg	16 18 25.3	
	57nm,0.5s						
SHLS	**Shalkode**	**4.56 209**		ePg	**Pb**	**16 17 27.5**	**-1.0**
	6.8nm,0.3s						
SHLS				eLg	Lg	16 18 25.3	
	57nm,0.5s						
KPKS	**Kokpek**	**4.59 217**		Pg	**Pb**	**16 17 29.4**	**+0.5**
	11nm,0.1s						
KPKS				Lg	Lg	16 18 28.9	
	73nm,0.3s						
KPKS	**Kokpek**	**4.59 217**		ePg	**Pb**	**16 17 29.4**	**+0.5**
	11nm,0.1s						
KPKS				eLg	Lg	16 18 28.9	
	73nm,0.3s						
AKAR	**Aktash**	**4.62**	**45**	Pn	**Pn**	**16 17 21.6**	**+3.7**
AKAR				Sg	**Sg**	**16 18 33.5**	**-3.8**
ELDR	**Elanda**	**4.67**	**29**	Pn	**Pn**	**16 17 21.0**	**+2.5**
ELDR				Pg	**Pb**	**16 17 32.9**	**+2.6**
ELDR				Sg	**Sg**	**16 18 34.6**	**-4.3**
UZB	**Uzynbulak**	**4.73 213**		Pg	**Pb**	**16 17 32.1**	**+0.9**
	4.4nm,0.1s						
UZB				Lg	Lg	16 18 33.2	
	41nm,0.3s						
UZB	**Uzynbulak**	**4.73 213**		ePg	**Pb**	**16 17 32.1**	**+0.9**
	4.4nm,0.1s						
UZB				eLg	Lg	16 18 33.2	
	41nm,0.3s						
KURS	**Kuram**	**4.79 221**		Pg	**Pb**	**16 17 34.0**	**+1.6**
	3.4nm,0.2s						
KURS				Lg	Lg	16 18 36.3	
	27nm,0.9s						
KURS	**Kuram**	**4.79 221**		ePg	**Pb**	**16 17 34.0**	**+1.6**
	3.4nm,0.2s						
KURS				eLg	Lg	16 18 36.3	
	27nm,0.9s						
CUR	**Chagan-Uzun**	**4.86**	**51**	Pn	**Pn**	**16 17 24.2**	**+3.1**
CUR				Pg	**Pg**	**16 17 39.3**	**-2.7**
CUR				Sg	**Sg**	**16 18 40.4**	**-4.4**
ULGR	**Ulagan, Altay**	**4.98**	**44**	Pn	**Pn**	**16 17 27.6**	**+4.7**
ULGR				Sg	**Sg**	**16 18 46.4**	**-2.5**
SATY	**Saty**	**5.04 216**		Pg	**Pb**	**16 17 38.8**	**+2.2**
	9.5nm,0.1s						
SATY				Lg	Lg	16 18 44.5	
	56nm,0.3s						
SATY	**Saty**	**5.04 216**		ePg	**Pb**	**16 17 38.8**	**+2.2**
	9.5nm,0.1s						
SATY				eLg	Lg	16 18 44.5	
	56nm,0.3s						
CHKK	**Chushkaly**	**5.10 231**		Pg	**Pb**	**16 17 39.3**	**+1.6**
	2.8nm,0.1s						
CHKK				Lg	Lg	16 18 45.4	
	36nm,0.5s						
CHKK	**Chushkaly**	**5.10 231**		ePg	**Pb**	**16 17 39.3**	**+1.6**
	2.8nm,0.1s						
CHKK				eLg	Lg	16 18 45.4	
	36nm,0.5s						
KTBS	**Karatobe**	**5.36 232**		Pg	**Pb**	**16 17 44.3**	**+2.2**
	2.0nm,0.2s						
KTBS				Lg	Lg	16 18 54.6	
	49nm,0.5s						
KTBS	**Karatobe**	**5.36 232**		ePg	**Pb**	**16 17 44.3**	**+2.2**
	2.0nm,0.2s						
KTBS				eLg	Lg	16 18 54.6	
	49nm,0.5s						
KUU	**Kurty**	**5.43 235**		Pg	**Pb**	**16 17 45.2**	**+1.9**
	1.8nm,0.2s						
KUU				Lg	Lg	16 18 55.8	
	34nm,0.5s						
KUU	**Kurty**	**5.43 235**		ePg	**Pb**	**16 17 45.2**	**+1.9**
	1.8nm,0.2s						
KUU				eLg	Lg	16 18 55.8	
	34nm,0.5s						
KOTS	**Kotyrbulak**	**5.48 226**		Pg	**Pb**	**16 17 46.8**	**+2.6**
	2.2nm,0.3s						
KOTS				Lg	Lg	16 18 58.4	
	48nm,0.8s						
KOTS	**Kotyrbulak**	**5.48 226**		ePg	**Pb**	**16 17 46.8**	**+2.6**
	2.2nm,0.3s						
KOTS				eLg	Lg	16 18 58.4	
	48nm,0.8s						
ARTR	**Artybash**	**5.57**	**32**	Pn	**Pn**	**16 17 34.9**	**+4.1**
ARTR				S	**Sn**	**16 18 35.0**	**+0.7**
ARTR				Sg	**Sg**	**16 19 01.7**	**-5.9**
YALR	**Yailyu, Altay**	**5.67**	**34**	Pn	**Pn**	**16 17 35.4**	**+3.2**
YALR				S	**Sn**	**16 18 37.1**	**+0.4**
YALR				Sg	**Sg**	**16 19 04.4**	**-6.5**
TNSS	**Tian-Shan**	**5.71 225**		Pg	**Pb**	**16 17 51.9**	**+3.7**
	2.6nm,0.3s						
TNSS				Lg	Lg	16 19 07.0	
	8.2nm,0.6s						
TNSS	**Tian-Shan**	**5.71 225**		ePg	**Pb**	**16 17 51.9**	**+3.7**
	2.6nm,0.3s						
TNSS				eLg	Lg	16 19 07.0	
	8.2nm,0.6s						
MTBS	**Maitube**	**5.90 229**		Pg	**Pb**	**16 17 53.5**	**+2.3**
MTBS				Lg	Lg	16 19 09.8	
MTBS	**Maitube**	**5.90 229**		eP	**Pb**	**16 17 53.5**	**+2.3**
MTBS				eS	**Sg**	**16 19 09.8**	**-8.5**
KRBS	**Karabastau**	**5.93 236**		Pg	**Pb**	**16 17 54.1**	**+2.3**
	2.0nm,0.3s						
KRBS				Lg	Lg	16 19 11.5	
	14nm,0.9s						
KRBS	**Karabastau**	**5.93 236**		ePg	**Pb**	**16 17 54.1**	**+2.3**
	2.0nm,0.3s						
KRBS				eLg	Lg	16 19 11.5	
	14nm,0.9s						
DGS	**Degeres**	**6.17 233**		Pg	Pb	16 18 00.6	+4.8
	8.5nm,0.4s						
DGS				Lg	Lg	16 19 22.6	
	20nm,0.6s						
DGS	**Degeres**	**6.17 233**		ePg	Pb	16 18 00.6	+4.8
	8.5nm,0.4s						
DGS				eLg	Lg	16 19 22.6	
	20nm,0.6s						
KST	**Kastek**	**6.20 230**		Pg	**Pb**	**16 18 01.0**	**+4.5**
	3.1nm,0.4s						
KST				Lg	Lg	16 19 22.9	
	20nm,0.8s						
KST	**Kastek**	**6.20 230**		ePg	**Pb**	**16 18 01.0**	**+4.5**
	3.1nm,0.4s						
KST				eLg	Lg	16 19 22.9	
	20nm,0.8s						
ELT	**Eltsovka**	**6.54**	**20**	Pn	**Pn**	**16 17 47.2**	**+3.2**
ELT				S	**Sn**	**16 18 57.3**	**-0.7**
ELT				Sg	**Sg**	**16 19 34.9**	**-3.7**
TASR	**Tashtagol**	**6.57**	**30**	Pn	**Pn**	**16 17 48.9**	**+4.4**
TASR				S	**Sn**	**16 19 00.4**	**+1.5**
TASR				Sg	**Sg**	**16 19 32.1**	**-7.6**
OTUK	**Ortayu**	**6.93 283**		⇓Pn	**Pn**	**16 17 47.9**	**-1.6**
	0.9nm,0.3s						
OTUK				⇓Lg	Lg	16 19 42.3	
	18nm,0.6s						
KK31	**Karatay Array**	**9.40 249**		⇓Pn	**Pn**	**16 18 21.5**	**-1.8**
	0.5nm,0.3s,baz=64,slow=13,SNR=17						
KK31				⇓Lg	Lg	16 21 05.2	
	3.6nm,0.6s,baz=56,slow=29,SNR=3.9						
HNS	**HongShan**	**25.60 101**		eP	**P**	**16 21 36.0**	**-0.9**
HNS				eS	**S**	**16 26 02.5**	**-1.3**
HNS				LR	LR		
	comp=N,340nm,15.6s						
HNS				LR	LR		
	comp=E,230nm,11.8s						
HNS				LR	LR		
	comp=Z,320nm,14.7s						

---

*NEIC **09** 16:49:18.4±0.8, 24.°73S±0.°05×179.°6W±0.°2, h498km±16km, mb4.4/14, Error ellipse: s-maj=24.0km s-min=7.4km az=85.0*
*IDC **09** 16:49:20.2±2.8, 24.°40S×179.°78W, h521km±52km, mb3.4/6, mbtmp4.3/7, Error ellipse: s-maj=59.1km s-min=24.3km az=30.0*
ISC 09 16:49:18.1±0.8, **24.°70S**±0.°10×**179.°7W**±0.°1, **h490**km, **n29,**
σ0°86/29, mb4.2/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.81 161**		P	**P**	**16 50 42.8**	**+0.1**
MSVF	**Nonsavu**	**7.23 343**		P	**P**	**16 51 07.2**	**+0.7**
MSVF	**Nonsavu**	**7.23 343**		P	**P**	**16 51 06.6**	**+0.1**
	5.1nm,0.5s,baz=168,slow=9.0,SNR=9.9						
PINNC	**Pines Island,**	**11.93 277**		P	**P**	**16 51 57.4**	**+1.4**
DZM	**Mont Dzumac**	**12.96 279**		P	**P**	**16 52 06.7**	**-0.4**
AFI	**Afiamalu**	**13.10**	**36**	P	**P**	**16 52 08.0**	**-0.6**
URZ	**Urewera**	**13.78 190**		P	**P**	**16 52 14.4**	**-0.9**
	3.8nm,0.4s,baz=347,slow=4.2,SNR=2.6						
TCW	**Tory Channel**	**17.21 195**		P	**P**	**16 52 49.8**	**-1.4**
QRZ	**Quartz Range**	**17.33 200**		P	**P**	**16 52 51.1**	**-1.3**
THZ	**Tophouse**	**18.08 198**		P	**P**	**16 52 58.5**	**-1.1**
THZ				IAmb	IAmb	16 53 27.1	
	comp=Z,27nm,1.4s						
DSZ	**Denniston Nort**	**18.39 200**		P	**P**	**16 53 01.8**	**-0.7**
CTA	**Charters Tower**	**31.73 271**		P	**P**	**16 55 01.4**	**+0.4**
	comp=Z,8.8nm,0.3s,baz=93,slow=11,SNR=12						
	comp=Z,8.8nm,0.3s						
CTAO	**Charters Tower**	**31.73 271**		P	**P**	**16 55 01.8**	**+0.7**
CTAO				IAmb	IAmb	16 55 02.6	
	comp=Z,9.7nm,0.5s						
STKA	**Stephens Creek**	**34.66 249**		P	**P**	**16 55 26.2**	**+0.4**
STKA	**Stephens Creek**	**34.66 249**		P	**P**	**16 55 26.0**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=92,slow=11,SNR=4.7						
	comp=Z,0.9nm,0.5s						
BBOO	**Buckleboo**	**39.36 248**		P	**P**	**16 56 04.1**	**-0.4**
BBOO				IAmb	IAmb	16 56 45.6	
	comp=Z,30nm,1.4s						
AS31	**Alice Springs**	**42.15 261**		P	**P**	**16 56 26.9**	**-0.1**
ASAR	**Alice Springs**	**42.15 261**		P	**P**	**16 56 26.6**	**-0.4**
ASAR	**Alice Springs**	**42.15 261**		P	**P**	**16 56 26.8**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=90,slow=6.8,SNR=52						
	comp=Z,0.7nm,0.3s						
WR0	**Warramunga Arr**	**42.41 267**		P	**P**	**16 56 28.6**	**-0.5**
WR0				IAmb	IAmb	16 57 13.3	
	comp=Z,4.4nm,0.7s						
WB2	**Warramunga Arr**	**42.59 267**		P	**P**	**16 56 30.2**	**-0.3**
WB2				IAmb	IAmb	16 57 12.1	
	comp=Z,7.5nm,0.8s						
WRAB	**Tennant Creek**	**42.59 267**		P	**P**	**16 56 29.9**	**-0.5**
WRAB				IAmb	IAmb	16 57 12.9	
	comp=Z,6.4nm,0.6s						
WB0	**Warramunga Arr**	**42.59 267**		P	**P**	**16 56 30.1**	**-0.4**
WB0				IAmb	IAmb	16 57 12.2	
	comp=Z,6.1nm,0.7s						
WRA	**Warramunga Arr**	**42.60 267**		P	**P**	**16 56 29.9**	**-0.6**
	comp=Z,3.7nm,0.4s,baz=99,slow=6.8,SNR=258						
	comp=Z,3.7nm,0.4s						
FORT	**Forrest**	**46.26 250**		P	**P**	**16 56 58.2**	**-0.6**
FAKI	**Fak Fak**	**51.05 287**		P	**P**	**16 57 33.7**	**-0.9**
FAKI				IAmb	IAmb	16 57 50.6	
	comp=Z,22nm,1.1s						
SIJI	**Sorong**	**52.92 289**		P	**P**	**16 57 47.6**	**-0.6**
	comp=Z,6.0nm,0.7s,baz=120,slow=8.1,SNR=2.4						
	comp=Z,6.0nm,0.7s						
QSPA	**South Pole Qui**	**65.39 180**		P	**P**	**16 59 13.3**	**+2.0**
QSPA	**South Pole Qui**	**65.39 180**		P	**P**	**16 59 12.8**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=31,slow=0.8,SNR=11						
	comp=Z,1.8nm,0.8s						

---

*IDC **09** 16:53:24.9±1.3, 8.°89S×124.°27E, h0km, mb3.7/5, mbtmp3.6/7, ML3.3/2, MS3.2/3, Error ellipse: s-maj=47.3km s-min=20.6km az=82.0*
ISC 09 16:53:25.5±0.9, **8.°92S**±0.°09×**124.°1E**±0.°1, **h10**km, **n15,**
σ2°03/10, mb3.8/5, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.35 199**		Pn	**Pg**	**16 53 52.5**	**+1.0**
	12nm,0.3s,baz=57,slow=4.8,SNR=14						
KAPI	**Kappang**	**5.81 312**		Pn	**Pn**	**16 54 47.9**	**-3.9**
	4.4nm,0.3s,baz=171,slow=3.8,SNR=5.3						
WRA	**Warramunga Arr**	**14.77 139**		Pn	**Pn**	**16 56 53.1**	**-1.6**
	0.1nm,0.3s,baz=308,slow=13,SNR=5.0						
	0.5nm,0.6s						
DAV	**Davao City (W)**	**15.95**	**5**	LR	LR	17 03 26.0	
	comp=Z,84nm,21.7s,baz=180,slow=38						
LEM	**Lembang**	**16.46 276**		Pn	**Pn**	**16 57 17.0**	**0.0**
	1.6nm,0.3s,baz=102,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**17.41 149**		P	**P**	**16 57 29.2**	**-0.8**
	0.1nm,0.3s,baz=318,slow=11,SNR=8.1						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**36.83 318**		P	**P**	**17 00 35.7**	**+1.6**
	0.4nm,0.7s,baz=147,slow=6.7,SNR=4.3						
CMAR				LR	LR	17 17 46.4	
	comp=Z,43nm,18.9s,baz=135,slow=40						
	0.4nm,0.7s						
SONM	**Songino Array**	**58.64 346**		P	**P**	**17 03 25.0**	**+1.9**
	0.3nm,0.4s,baz=159,slow=8.7,SNR=4.3						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**66.79 330**		P	**P**	**17 04 18.7**	**+1.3**
	1.2nm,0.7s,baz=130,slow=8.5,SNR=6.9						
	1.2nm,0.7s						

ZALV	**Zalesovo Beam**	**70.86 337**	P		**P**	**17 04 43.6**	**+1.0**
	0.4nm,0.5s,baz=115,slow=6.8,SNR=2.5						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**71.23 331**	P		**P**	**17 04 45.6**	**+0.8**
	0.1nm,0.3s,baz=140,slow=6.1,SNR=1.7						
	0.1nm,0.3s						
H04N2	**CROZET ISLANDS**	**71.37 224**	T		T	18 23 02.7	
	baz=83,slow=74,SNR=12						
H04N3	**CROZET ISLANDS**	**71.38 224**	T		T	18 22 59.1	
	baz=83,slow=74,SNR=12						
H04N1	**CROZET ISLANDS**	**71.38 224**	T		T	18 22 58.6	
	baz=83,slow=74,SNR=14						
MA2	**Magadan**	**71.53 14**	LR		LR	17 40 57.9	
	comp=Z,11nm,18.1s,baz=131,slow=40						

NEIC ***09*** *16:53:33.6±2.4, 8°.38S±0°.07×123°.37E±0°.06, h10km±1km, mb4.5/20, Error ellipse: s-maj=12.5km s-min=8.0km az=33.0*
DJA ***09*** *16:53:33.4±0.2, 8°.3S±2°×12°.3E±°, h10km, M4.5/16, mB5.1/2, mb4.5/16, MLv4.4/12, Mw(mB)4.5/2*
IDC ***09*** *16:53:40.6±1.0, 8°.85S×124°.24E, h0km, mb3.9/6, mbtmp4.0/8, ML4.3/2, MS3.3/2, Error ellipse: s-maj=23.8km s-min=14.6km az=62.0*
ISC 09 16:53:32.9±0.5,**8°.32S**±0°.05×**123°.47E**±0°.05,**h10**km,**n76,**
σ2§20/72,mb4.3/12,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.26**	**255**		**Pn**	**16 53 56.6**	**+0.1**
MMRI	**Maumere**	**1.26**	**255**	P	**Pn**	**16 53 55.9**	**-0.7**
MMRI				S	**Sn**	**16 54 15.4**	**+1.9**
SOEI	**Soe**	**1.64**	**151**	Pn	**Pn**	**16 54 02.9**	**+1.0**
SOEI	**Soe**	**1.64**	**151**	P	**Pb**	**16 54 04.0**	**+0.7**
SOEI	**Soe**	**1.64**	**151**	P	**Pb**	**16 54 03.3**	**0.0**
BATI	**Baumata**	**1.89**	**174**	P	**Pb**	**16 54 07.9**	**+0.4**
BATI	**Baumata**	**1.89**	**174**	Pn	**Pg**	**16 54 09.0**	**-0.2**
	140nm,0.3s,baz=360,slow=1.6,SNR=57						
BATI				Sn	**Sn**	**16 54 28.6**	**-0.6**
	56nm,0.3s,baz=307,slow=17,SNR=7.4						
BASI	**Baing, Sumba**	**3.42**	**236**	P	**Pn**	**16 54 26.4**	**0.0**
BKSI	**Bulukumba**	**4.46**	**312**	P	**Pn**	**16 54 39.0**	**-1.6**
KAPI	**Kappang**	**4.94**	**311**	Pn	**Pn**	**16 54 46.7**	**-0.5**
KAPI	**Kappang**	**4.94**	**311**	P	**Pn**	**16 54 48.5**	**+1.3**
KAPI	**Kappang**	**4.94**	**311**	Pn	**Pg**	**16 55 04.3**	**-3.2**
	3.2nm,0.3s,baz=142,slow=10,SNR=4.4						
PLAI	**Plampang**	**5.65**	**264**	P	**Pn**	**16 54 59.0**	**+2.0**
PLAI	**Plampang**	**5.65**	**264**	P	**Pn**	**16 54 57.8**	**+0.8**
	190nm,0.7s,2μm0.6nm						
NLAI	**Namlea**	**6.20**	**36**	P	**Pn**	**16 55 07.5**	**+2.9**
	19nm,1.0s,0.1nm						
TTSI	**Tana Toraja**	**6.37**	**325**	P	**Pn**	**16 55 07.1**	**+0.2**
	31nm,0.7s,0.1nm						
TWSI	**Taliwang, Sumb**	**6.53**	**266**	P	**Pn**	**16 55 11.6**	**+2.5**
	92nm,0.9s,0.3nm						
SANI	**Sanana**	**6.71**	**22**	P	**Pn**	**16 55 11.2**	**-0.4**
	15nm,1.0s,0.1nm						
LBMI	**Labuha**	**8.62**	**28**	P	**Pn**	**16 55 38.9**	**+1.0**
	25nm,1.0s,1μm						
MTN	**Manton Dam**	**8.78**	**121**	Pn	**Pn**	**16 55 39.8**	**-0.2**
MTN	**Manton Dam**	**8.78**	**121**	P	**Pn**	**16 55 39.7**	**-0.2**
MRSI	**Marisa**	**8.87**	**350**	P	**Pn**	**16 55 40.5**	**-0.7**
	14nm,0.9s						
KNRA	**Kununurra**	**8.96**	**145**	Pn	**Pn**	**16 55 41.4**	**-1.1**
JAGI	**Jajag, Banyuwa**	**9.22**	**268**	P	Pn	16 55 50.5	+4.5
MPSI	**Mapaga**	**9.30**	**337**	P	**Pn**	**16 55 47.7**	**+0.5**
	13nm,0.7s						
TOLI2	**Tolitoli**	**9.74**	**344**		**Pn**	**16 55 54.8**	**+1.6**
TOLI2	**Tolitoli**	**9.74**	**344**	P	**Pn**	**16 55 55.9**	**+2.7**
TNTI	**Ternate**	**9.83**	**23**		**Pn**	**16 55 56.1**	**+1.7**
TNTI	**Ternate**	**9.83**	**23**	P	**Pn**	**16 55 56.3**	**+1.9**
	40nm,1.2s						
KDU	**Kakadu**	**9.86**	**117**	P	**Pn**	**16 55 54.4**	**-0.5**
FAKI	**Fak Fak**	**10.25**	**59**	Pn	**Pn**	**16 56 02.0**	**+1.8**
FAKI	**Fak Fak**	**10.25**	**59**	P	**Pn**	**16 56 02.0**	**+1.8**
SWI	**Sorong**	**10.73**	**47**	P	**Pn**	**16 56 05.9**	**-0.8**
	26nm,0.9s						
SIJI	**Sorong**	**10.73**	**47**	Pn	**Pn**	**16 56 09.3**	**+2.6**
	0.4nm,0.3s,baz=236,slow=7.9,SNR=4.5						
WB0	**Warramunga Arr**	**15.54**	**138**		**Pn**	**16 57 07.2**	**-5.1**
WB0				IAmb	IAmb	16 57 18.5	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**15.63**	**139**		**Pn**	**16 57 08.9**	**-4.6**
WRA	**Warramunga Arr**	**15.63**	**139**	Pn	**Pn**	**16 57 09.7**	**-3.8**
	comp=Z,1.0nm,0.3s,baz=315,slow=15,SNR=25						
WRA				Sn	Sn	16 59 54.8	-12
	comp=Z,0.2nm,0.3s,baz=313,slow=24,SNR=9.8						
	comp=Z,5.2nm,0.8s						
WRAB	**Tennant Creek**	**15.63**	**139**		**Pn**	**16 57 09.6**	**-3.9**
WRAB				IAmb	IAmb	16 57 19.6	
	comp=Z,18nm,0.6s						
WB2	**Warramunga Arr**	**15.64**	**139**		**Pn**	**16 57 09.8**	**-3.8**
WB2				IAmb	IAmb	16 57 19.6	
	comp=Z,14nm,0.7s						
WR0	**Warramunga Arr**	**15.78**	**138**		**Pn**	**16 57 11.6**	**-3.8**
GIRL	**Giralia**	**16.78**	**211**	P	**P**	**16 57 31.3**	**+0.9**
	comp=Z,91nm,1.7s						
AS31	**Alice Springs**	**18.25**	**148**		**Pn**	**16 57 44.9**	**-1.6**
ASAR	**Alice Springs**	**18.25**	**148**	P	**Pn**	**16 57 45.5**	**-1.0**
ASAR	**Alice Springs**	**18.25**	**148**	P	**Pn**	**16 57 45.9**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=318,slow=11,SNR=66						
ASAR				S	**Sn**	**17 01 01.6**	**-8.9**
	comp=Z,2.2nm,0.8s,baz=312,slow=22,SNR=6.1						
	comp=Z,10nm,0.6s						
MEEK	**Meekatharra**	**18.80**	**194**	P	**Pn**	**16 57 54.2**	**+1.1**
QIS	**Mount Isa**	**19.78**	**130**	P	**P**	**16 58 04.7**	**+1.2**
COEN	**Coen**	**20.13**	**108**	P	**P**	**16 58 08.0**	**+0.7**
COEN				IAmb	IAmb	16 58 12.4	
	comp=Z,14nm,0.7s						
COEN	**Coen**	**20.13**	**108**	P	Pn	16 58 10.1	+1.0
MORW	**Morawa**	**21.80**	**198**	P	**P**	**16 58 24.0**	**-1.2**
MORW				IAmb	IAmb	16 58 30.4	
	comp=Z,26nm,1.1s						
MTSU	**Mount Surprise**	**22.50**	**118**	P	**P**	**16 58 34.9**	**+2.0**
OOD	**Oodnadatta**	**22.56**	**151**	P	**P**	**16 58 37.4**	**+4.0**
FORT	**Forrest**	**22.76**	**170**	P	**P**	**16 58 35.8**	**+0.4**
FORT	**Forrest**	**22.76**	**170**	P	**P**	**16 58 39.8**	**+4.3**
BLDU	**Ballidu**	**23.07**	**195**	P	**P**	**16 58 39.2**	**+0.5**
PMG	**Port Moresby**	**23.43**	**94**	P	**P**	**16 58 41.7**	**-0.9**
	comp=Z,7.7nm,0.9s,baz=267,slow=16,SNR=1.7						
	comp=Z,7.7nm,0.9s						
KLBR	**Kellerberrin**	**23.76**	**192**	P	**P**	**16 58 46.9**	**+1.3**
MULG	**Mulgathing**	**24.00**	**157**	P	**P**	**16 58 48.9**	**+1.0**
CTA	**Charters Tower**	**24.96**	**120**	P	**P**	**16 58 58.0**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=270,slow=9.8,SNR=5.6						
	comp=Z,3.4nm,0.8s						
CTAO	**Charters Tower**	**24.96**	**120**	P	**P**	**16 58 55.6**	**-1.2**
NWAO	**Narrogin (SRO)**	**25.16**	**192**	P	**P**	**16 58 58.3**	**-0.2**
RABL	**Rabaul**	**28.81**	**84**	P	**P**	**16 59 32.0**	**+0.4**
STKA	**Stephens Creek**	**28.88**	**147**	P	**P**	**16 59 32.1**	**+0.1**
STKA	**Stephens Creek**	**28.88**	**147**	P	**P**	**16 59 32.4**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=307,slow=10,SNR=8.0						
	comp=Z,2.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**35.96**	**318**	P	P	17 00 49.6	+15
	comp=Z,0.6nm,0.8s,baz=129,slow=7.1,SNR=4.6						
	comp=Z,0.6nm,0.8s						
HNR	**Honiara**	**36.05**	**95**	P	**P**	**17 00 32.4**	**-2.6**
JMN	**Monobe**	**42.97**	**13**	P	**P**	**17 01 32.6**	**+0.3**
JMN				IAmb	IAmb	17 01 54.9	
	comp=Z,12nm,1.2s						
JHJ	**Hachijo jima 2**	**44.03**	**20**	LR	LR	17 18 17.5	
	comp=Z,34nm,21.3s,baz=72,slow=33						
QRZ	**Quartz Range**	**54.15**	**135**	P	**P**	**17 02 58.7**	**+0.3**
QRZ				IAmb	IAmb	17 03 02.3	
	comp=Z,17nm,1.2s						
SNZO	**South Karori**	**55.86**	**135**	P	**P**	**17 03 09.4**	**-1.4**
CASY	**Casey**	**58.56**	**186**	P	**P**	**17 03 29.4**	**-0.1**
CASY				IAmb	IAmb	17 03 39.0	
	comp=Z,3.8nm,1.1s						
KSH	**Kashi**	**64.78**	**321**	P	**P**	**17 04 14.9**	**+2.9**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**65.96**	**330**	P	**P**	**17 04 17.6**	**-1.8**
KURBB	**Kurchatov Arra**	**70.40**	**331**	P	P	17 05 02.0	+15
	comp=Z,0.5nm,0.5s,baz=151,slow=5.0,SNR=4.3						
	comp=Z,0.5nm,0.5s						
BVAR	**Borovoye Array**	**75.84**	**330**	P	P	17 05 35.4	+16
	comp=Z,0.4nm,0.5s,baz=114,slow=7.0,SNR=2.1						
	comp=Z,0.4nm,0.5s						
QSPA	**South Pole Qui**	**81.67**	**180**	P	**P**	**17 05 51.8**	**+0.5**
QSPA				IAmb	IAmb	17 06 00.3	
	comp=Z,8.3nm,1.5s						
ARU	**Arti**	**83.47**	**330**	LR	LR	17 48 12.8	
	comp=Z,17nm,18.4s,baz=113,slow=39						

SKO ***09*** *16:57:55.6, 41°.80N×22°.83E, h18km, ML2.5*
ATH ***09*** *16:57:57.8, 41°.69N×22°.88E, h18km±8km, ML2.1/8, Manual Solution by A.Fokaefs First location: 2019/05/23 10:26:48, This location: 2019/05/23 10:25:03 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 14 km; Longitude uncertainty: 11 km*
BEO ***09*** *16:57:57.2±0.3, 41°.81N×22°.82E, h0km, ML2.1/9*
ISC 09 16:57:54.8±1.0,**41°.79N**±0°.02×**22°.75E**±0°.03,**h8**km±9km,
n30,σ1§05/50,3C-4D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.28**	**80**	⇓*i*Pg	**Pg**	**16 58 00.5**	**0.0**
KKB				*i* Sg	**Sg**	**16 58 03.6**	**-0.7**
STIP	**Stip**	**0.44**	**257**	⇓*i*Pg	**Pg**	**16 58 01.9**	**-1.4**
STIP				*i* Sg	**Sg**	**16 58 06.3**	**-2.7**
VAY	**Valandovo**	**0.49**	**196**	*e*Pg	**Pn**	**16 58 07.1**	**-1.0**
VAY				*e*Sg	**Sb**	**16 58 14.3**	**+1.2**
VAY	**Valandovo**	**0.49**	**196**	*i* Pg	**Pn**	**16 58 07.2**	**-1.0**
VAY				*i* Sg	**Sb**	**16 58 14.0**	**+0.9**
VAY				*e*Lg	Lg	16 58 14.3	
	comp=E,260nm,0.5s						
VAY				*e*Lg	Lg	16 58 14.3	
	comp=N,160nm,0.6s						
KNT	**Kendrikon**	**0.64**	**170**	⇑*i*Pg	**Pb**	**16 58 08.4**	**+0.1**
KNT				*i* Sg	**Sg**	**16 58 17.1**	**+1.6**
KNT	**Kendrikon**	**0.64**	**170**	P	**Pb**	**16 58 08.3**	**+0.1**
KNT				S	**Sg**	**16 58 16.6**	**+1.1**
BOSS	**Bosilegrad**	**0.73**	**344**	*e*Pg	**Pn**	**16 58 10.4**	**-1.1**
BOSS				*e*Sg	**Sn**	**16 58 19.9**	**-3.0**
MMB	**Musomishta**	**0.79**	**108**	⇑*i*Pg	**Pg**	**16 58 09.9**	**-0.1**
MMB				*i* Sg	**Sg**	**16 58 19.6**	**-0.6**
PRVS	**Prvonek**	**0.87**	**325**	*e*Pg	**Pn**	**16 58 13.2**	**-0.3**
PRVS				*e*Sg	**Sn**	**16 58 26.0**	**-0.4**
GRG	**Griva**	**0.88**	**198**	*i* Pg	**Pn**	**16 58 13.1**	**-0.3**
GRG				*i* Sg	**Sn**	**16 58 25.7**	**-0.8**
GRG	**Griva**	**0.88**	**198**	P	**Pn**	**16 58 13.2**	**-0.3**
SRS	**Serrai**	**0.92**	**137**	*e*Pg	**Pg**	**16 58 12.7**	**+0.1**
SRS				*e*Sg	**Sb**	**16 58 25.8**	**+0.2**
SRS	**Serrai**	**0.92**	**137**	⇑*i*Pg	**Pg**	**16 58 12.7**	**+0.1**
SRS				*i* Sg	**Sg**	**16 58 25.2**	**+0.6**
SRS	**Serrai**	**0.92**	**137**	P	**Pg**	**16 58 12.5**	**-0.1**
NVR	**Nevrokopi**	**0.94**	**118**	P	**Pb**	**16 58 13.5**	**0.0**
SOH	**Sokhos**	**1.07**	**155**	⇓*i*Pg	**Pb**	**16 58 16.0**	**+0.6**
SOH				*i* Sg	**Sb**	**16 58 30.2**	**+0.4**
SOH	**Sokhos**	**1.07**	**155**	P	**Pg**	**16 58 16.0**	**+0.6**
SOH				S	**Sb**	**16 58 29.0**	**-0.9**
THE	**Thessaloniki**	**1.17**	**172**	*i* Pg	**Pg**	**16 58 18.1**	**+0.8**
THE				*i* Sg	**Sb**	**16 58 33.2**	**+0.6**
THE	**Thessaloniki**	**1.17**	**172**	P	**Pg**	**16 58 17.9**	**+0.6**
HORT	**Hortiatis**	**1.22**	**168**	P	**Pg**	**16 58 19.0**	**+0.7**
BARS	**Barje**	**1.24**	**326**	*e*Pg	**Pg**	**16 58 19.9**	**+1.3**
BARS				*e*Sg	**Sn**	**16 58 36.2**	**+0.8**
BARS	**Barje**	**1.24**	**326**	⇓*i*Pg	**Pg**	**16 58 19.9**	**+1.3**
BARS				*i* Sg	**Sn**	**16 58 36.4**	**+1.1**
ZAPS	**Zavoj**	**1.48**	**357**	*e*Pg	**Pg**	**16 58 23.2**	**-0.1**
ZAPS				*e*Sg	**Sg**	**16 58 44.7**	**+2.2**
PLD	**Plovdiv**	**1.53**	**76**	*e*Sg	**Sg**	**16 58 43.2**	**-0.8**
KAVA	**Kavala**	**1.54**	**120**	P	**Pb**	**16 58 23.2**	**-0.5**
OUR	**Ouranopolis**	**1.73**	**147**	P	**Pn**	**16 58 25.8**	**+0.6**
SELS	**Selova**	**1.87**	**320**	*e*Pg	**Pg**	**16 58 31.3**	**+0.6**
SELS				*e*Sg	**Sg**	**16 58 56.0**	**+1.1**
THAS	**Thassos island**	**1.90**	**128**	P	**Pn**	**16 58 27.3**	**-0.2**
BOVS	**Bovan**	**2.00**	**338**	*e*Pg	**Pg**	**16 58 32.7**	**-0.4**
BOVS				*e*Sg	**Sg**	**16 59 00.7**	**+1.7**
GRUS	**Gruza**	**2.58**	**325**	*e*Sn	**Sb**	**16 59 13.0**	**-0.1**

SJA ***09*** *16:58:02.8±0.7, 30°.66S×72°.03W, h6km±5km, ML3.6, MW3.4*
GUC ***09*** *16:58:08.8±0.7, 30°.70S×71°.67W, h34km±1km, ML3.9*
ISC 09 16:58:09.1±1.0,**30°.64S**±0°.02×**71°.68W**±0°.04,**h29**km±6km,
n58,σ1§80/96,2C-9D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.05**	**128**	⇓*i*P	**Pb**	**16 58 13.7**	**-0.3**
CO06				*i* S	**Sb**	**16 58 17.2**	**-0.2**
CO02	**Combarbal**	**0.81**	**134**	⇓*i*P	**Pb**	**16 58 23.1**	**-1.5**
CO02				*e*S	**Sb**	**16 58 33.8**	**-1.4**
CO02				IAML		16 58 35.7	
	comp=N,9μm,0.2s						
CO02	**Combarbal**	**0.81**	**134**	*e*P	**Pb**	**16 58 23.1**	**-1.5**
CO02				*e*S	**Sb**	**16 58 34.0**	**-1.2**
CO02				IAML		16 58 35.4	
	comp=Z,2μm,0.2s						
CO05	**La Serena**	**0.82**	**28**	⇓*i*P	**Pb**	**16 58 24.2**	**-0.5**
CO05				*e*S	**Sn**	**16 58 36.6**	**+0.8**
CO03	**El Pedregal**	**0.87**	**103**	⇓*i*P	**Pb**	**16 58 24.4**	**-1.3**
CO03				*i* S	**Sn**	**16 58 36.1**	**-1.2**
CO03				IAML		16 58 36.5	
	comp=E,8μm,0.1s						
CO03	**El Pedregal**	**0.87**	**103**	*e*P	**Pb**	**16 58 24.4**	**-1.3**
CO03				*e*S	**Sn**	**16 58 36.2**	**-1.1**
CO03				IAML		16 58 37.2	
	comp=Z,2μm,0.3s						
GO04	**Tololo Observa**	**0.89**	**58**	⇓*i*P	**Pn**	**16 58 25.6**	**-0.3**
GO04				*e*S	**Sn**	**16 58 38.2**	**+0.2**
GO04	**Tololo Observa**	**0.89**	**58**	*e*P	**Pn**	**16 58 25.6**	**-0.3**
GO04				*e*S	**Sn**	**16 58 39.2**	**+1.3**
CO01	**Juntas del Tor**	**1.52**	**65**	⇓*e*P	**Pb**	**16 58 35.6**	**-1.2**
CO01				*i* S	**Sb**	**16 58 56.0**	**+0.2**
CO01	**Juntas del Tor**	**1.52**	**65**	*e*P	**Pb**	**16 58 35.6**	**-1.2**
CO01				*e*S	**Sb**	**16 58 56.0**	**+0.2**
CO01				IAML		16 58 58.1	
	comp=Z,597nm,0.4s						
LCO	**Las Campanas**	**1.84**	**28**	⇑*i*P	**Pn**	**16 58 39.5**	**+0.6**
LCO				*i* S	**Sb**	**16 59 04.7**	**-0.1**
LCO	**Las Campanas**	**1.84**	**28**	*e*P	**Pn**	**16 58 39.9**	**+1.0**
LCO				*e*S	**Sb**	**16 59 08.3**	**+3.5**
LCO				IAML		16 59 11.0	
	comp=Z,688nm,0.4s						
AROD	**Rodeo**	**1.96**	**77**	*e*P	**Pb**	**16 58 44.1**	**-0.2**
AROD				*e*S	**Sb**	**16 59 10.1**	**+1.5**
AC05	**El Transito**	**2.18**	**34**	*e*P	**Pb**	**16 58 45.8**	**-2.1**
AC05				*i* S	**Sb**	**16 59 14.7**	**+0.2**
AC05				IAML		16 59 23.6	
	comp=N,1μm,0.5s						
AC05	**El Transito**	**2.18**	**34**	*e*P	**Pn**	**16 58 45.1**	**+1.7**
AC05				IAML		16 59 21.1	
	comp=Z,438nm,0.2s						
ACCO	**Cerro Coronel**	**2.25**	**89**	*e*P	**Pb**	**16 58 48.3**	**-1.0**
ACCO				*e*S	**Sb**	**16 59 21.4**	**+4.6**
ACCO				IAML		16 59 22.1	
	comp=Z,169nm,0.2s						
DOCA	**Reserva Natura**	**2.25**	**98**	*e*P	**Pb**	**16 58 47.1**	**-2.2**
ACDV	**Cuesta del Vie**	**2.26**	**79**	*e*P	**Pb**	**16 58 48.9**	**-0.4**
ACDV				*e*S	**Sb**	**16 59 19.7**	**+2.8**
ACDV				IAML		16 59 30.9	
	comp=Z,145nm,0.7s						
VA03	**San Esteban**	**2.32**	**156**	⇓*i*P	**Pn**	**16 58 46.0**	**+0.6**
VA03				*i* S	**Sn**	**16 59 14.8**	**+1.7**
VA03				IAML		16 59 22.4	
	comp=E,1μm,0.4s						
VA03	**San Esteban**	**2.32**	**156**	*e*P	**Pn**	**16 58 46.0**	**+0.6**
VA03				IAML		16 59 23.3	
	comp=Z,324nm,0.3s						
RTLS	**Leoncito**	**2.34**	**120**	*e*P	**Pb**	**16 58 49.0**	**-1.8**
RTLS				*e*S	**Sb**	**16 59 20.0**	**+0.6**
RTLS				IAML		16 59 30.4	
	comp=Z,902nm,0.6s						
VA01	**Torpederas**	**2.37**	**179**	*e*P	**Pn**	**16 58 47.8**	**+1.8**
ROCH	**El Roble**	**2.39**	**166**	*e*P	**Pn**	**16 58 46.0**	**-0.5**
ROCH				*i* S	**Sn**	**16 59 15.0**	**+0.1**
ROCH				IAML		16 59 27.6	
	comp=N,487nm,0.7s						
ROC1	**El Roble**	**2.39**	**167**	*e*P	**Pn**	**16 58 46.2**	**-0.4**
ROC1				*e*S	**Sn**	**16 59 15.4**	**+0.3**
AC04	**Llanos de Chal**	**2.49**	**12**	⇓*i*P	**Pn**	**16 58 47.5**	**-0.1**
AC04	**Llanos de Chal**	**2.49**	**12**	*e*P	**Pn**	**16 58 47.5**	**-0.1**
AC04				IAML		16 59 28.6	
	comp=Z,165nm,0.6s						
PEL	**Peldehue**	**2.63**	**162**	⇓*e*P	**Pn**	**16 58 49.9**	**+0.2**
PEL				*e*S	**Sn**	**16 59 20.9**	**+0.2**
PEL				IAML		16 59 31.1	
	comp=N,381nm,0.3s						
PEL	**Peldehue**	**2.63**	**162**	*e*P	**Pn**	**16 58 50.0**	**+0.3**
PEL				*e*S	**Sb**	**16 59 32.1**	**+4.7**
ZON	**Zonda**	**2.73**	**110**	*e*P	**Pb**	**16 58 54.3**	**-2.8**
ZON				*e*S	**Sb**	**16 59 33.7**	**+3.5**
ZON				IAML		16 59 47.6	
	comp=Z,97nm,0.4s						
MT05	**Renca**	**2.85**	**164**	*e*P	**Pn**	**16 58 52.8**	**+0.1**
MT05				*e*S	**Sn**	**16 59 27.2**	**+1.1**
MT05				IAML		16 59 41.2	
	comp=E,626nm,0.4s						
MT05	**Renca**	**2.85**	**164**	*e*P	**Pn**	**16 58 54.6**	**+1.9**
MT05				IAML		16 59 37.7	
	comp=Z,186nm,0.4s						
MT14	**Cerro Calın**	**2.91**	**161**	*e*P	**Pn**	**16 58 55.9**	**+2.4**
MT14				*e*S	**Sn**	**16 59 28.8**	**+1.3**
MT14				IAML		16 59 41.0	
	comp=N,476nm,0.5s						
FCH	**Farellones**	**2.92**	**157**	*e*P	**Pn**	**16 58 53.7**	**-0.2**
FCH				*e*S	**Sn**	**16 59 30.7**	**+2.5**
FCH				IAML		16 59 45.2	
	comp=N,175nm,0.3s						
VA05	**Santo Domingo**	**3.00**	**179**	*i* S	**Sb**	**16 59 38.0**	**-0.1**
VA05				IAML		16 59 41.1	
	comp=E,349nm,0.4s						
MT03	**Universidad Ad**	**3.01**	**161**	*e*P	**Pn**	**16 58 55.8**	**+0.9**
MT03				*i* S	**Sn**	**16 59 30.9**	**+0.9**
MT03				IAML		16 59 45.1	
	comp=E,554nm,0.2s						
MT03	**Universidad Ad**	**3.01**	**161**	*e*P	**Pn**	**16 58 56.0**	**+1.1**
MT03				IAML		16 59 40.1	
	comp=Z,242nm,0.4s						
MT04	**Ro Olivares**	**3.05**	**155**	*e*P	**Pn**	**16 58 56.9**	**+1.4**
MT04				*e*S	**Sn**	**16 59 34.1**	**+2.9**
MT04				IAML		16 59 44.5	
	comp=N,228nm,0.7s						
ASAL	**Salagasta**	**3.11**	**129**	*e*P	**Pb**	**16 58 60.0**	**-3.7**
ASAL				*e*S	**Sb**	**16 59 41.8**	**+0.7**
ASAL				IAML		16 59 51.5	
	comp=Z,78nm,0.7s						
MT09	**Talagante**	**3.18**	**170**	*e*P	**Pn**	**16 58 57.8**	**+0.6**
MT09				*e*S	**Sn**	**16 59 34.1**	**-0.1**
MT09				IAML		16 59 49.3	
	comp=N,286nm,0.3s						
ARCO	**CERRO ARCO**	**3.21**	**134**	*e*P	**Pb**	**16 59 02.2**	**-3.2**
ARCO				IAML		16 59 52.5	
	comp=Z,136nm,0.5s						
MT12	**Pirque**	**3.23**	**163**	*e*P	**Pn**	**16 58 58.1**	**+0.3**
MT12				*i* S	**Sn**	**16 59 35.3**	**0.0**
MT12				IAML		16 59 52.6	
	comp=N,393nm,0.5s						
MT01	**Popeta**	**3.23**	**174**	*e*P	**Pn**	**16 58 58.8**	**+0.9**
MT01				IAML		16 59 49.3	
	comp=E,145nm,0.4s						
MT01	**Popeta**	**3.23**	**174**	*e*P	**Pn**	**16 58 57.2**	**-0.6**
MT01				IAML		16 59 51.0	
	comp=Z,128nm,0.4s						
GO03	**Copiap**	**3.29**	**23**	*e*P	**Pn**	**16 58 59.5**	**+0.7**
GO03				*e*S	**Sb**	**16 59 45.3**	**-1.1**
GO03				IAML		16 59 59.6	
	comp=E,188nm,0.3s						
GO03	**Copiap**	**3.29**	**23**	*e*P	**Pn**	**16 58 59.6**	**+0.8**
MT13	**San Alfonso**	**3.31**	**159**	*e*P	**Pn**	**16 59 01.1**	**+2.1**
MT13				*e*S	**Sn**	**16 59 38.8**	**+1.3**
MT13				IAML		16 59 51.1	
	comp=E,248nm,0.3s						
AAGR	**Agrelo**	**3.44**	**136**	*e*P	**Pb**	**16 59 06.2**	**-3.1**
AAGR				*e*S	Sb	16 59 59.0	+8.4
AAGR				IAML		17 00 01.1	
	comp=Z,86nm,0.4s						
BO04	**La Punta**	**3.46**	**165**	⇑*i*P	**Pn**	**16 59 01.1**	**+0.1**
BO04				*e*S	**Sn**	**16 59 40.5**	**-0.4**
BO04				IAML		16 59 58.4	
	comp=N,174nm,0.5s						
AC06	**Mina Casimiro**	**3.47**	**20**	*e*P	**Pb**	**16 59 09.1**	**-0.8**
AC06				*e*S	**Sb**	**16 59 53.6**	**+2.0**
VCA	**Vinchina**	**3.57**	**59**	*e*P	**Pb**	**16 59 07.5**	**-4.1**
VCA				*e*S	**Sb**	**16 59 53.1**	**-1.5**
VCA				IAML		16 59 57.6	
	comp=Z,204nm,0.3s						
BO01	**Tunca**	**3.77**	**173**	*e*P	**Pn**	**16 59 05.1**	**-0.2**
BO01				*e*S	**Sn**	**16 59 46.9**	**-1.8**
BO01	**Tunca**	**3.77**	**173**	*e*P

*NIED **09** 17:26:28.2, 38.°37N×144.°57E, h43km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.82; $M_{\theta\theta}$0.03; $M_{\phi\phi}$1.80; $M_{r\theta}$0.09; $M_{\theta\phi}$0.75; $M_{\phi r}$2.51; Fault plane solution: $M_0$3.18000×10^{14} NP1: ϕ_s=186.00000°, δ72.00000°, λ-100.00000°. NP2: ϕ_s=36.00000°, δ21.00000°, λ-61.00000°.*

JMA 09 17:26:28.2±0.2, 38.°4N±0.°8×14.°5E±.°, h43km, MV3.7/32, **FAR E OFF NORTH HONSHU, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.38**	**288**	*i* P	Pn	17 27 06.1	+1.4
OFUJ				*e*S	Sn	17 27 33.5	+1.0
JIKH	**Ishinomakikobu**	**2.44**	**270**	P	Pn	17 27 06.7	+1.2
JIKH				S	Sn	17 27 35.3	+1.2
MIYJ	**Miyakonagasawa**	**2.46**	**300**	*i* P	Pn	17 27 06.9	+1.1
MIYJ				S	Sn	17 27 35.5	+0.9
JKMT	**Kesennumamotoy**	**2.46**	**281**	P	Pn	17 27 07.2	+1.4
JKMT				*e*S	Sn	17 27 35.8	+1.1
JMK	**Ichinoseki**	**2.69**	**284**	*i* P	Pn	17 27 10.7	+1.8
JMK				S	Sn	17 27 42.1	+2.0
JOM	**Ohasama**	**2.78**	**294**	P	Pn	17 27 11.9	+1.7
JANG	**Nango**	**3.10**	**311**	P	Pn	17 27 15.7	+1.1
JYK	**Kaneyama**	**3.34**	**281**	P	Pn	17 27 20.2	+2.3
JYK				*e*S	Sn	17 27 59.2	+2.8
JOTO	**OTAMA OYAMA**	**3.44**	**258**	P	Pn	17 27 21.6	+2.3
JOTO				S	Sn	17 28 01.3	+2.4
JOT	**Ohata**	**4.05**	**319**	*e*S	Sn	17 28 13.0	-0.8
JCH	**Churui**	**4.34**	**348**	P	Pn	17 27 31.5	-0.1
JCH				*e*S	Sn	17 28 18.8	-2.1
BSO1	**Boso 1**	**4.70**	**219**	*e*P	Pn	17 27 37.4	+1.3
BSO1				*e*S	Sn	17 28 30.1	+1.0
NEM2	**Nemuro 2**	**5.07**	**10**	P	Pn	17 27 39.1	-2.5
NEM2				*e*S	Sn	17 28 32.8	-6.1
JRY	**Ryogami san**	**5.10**	**244**	P	Pn	17 27 43.5	+1.4
JRY				*e*S	Sn	17 28 38.8	-0.8
JOSM	**Okushiri--Mats**	**5.38**	**315**	P	Pn	17 27 48.2	+2.4
JTKR	**Abashiri--Toko**	**5.62**	**355**	P	Pn	17 27 48.6	-0.6
JTKR				*e*S	Sn	17 28 48.3	-4.0

*STR **09** 17:36:46.9±0.8, 51.°N±4.°×.°±.°, h5km, MLv2.3/5, Error ellipse: s-maj=0.0km s-min=0.0km az=117.7, preliminary*
*LDG **09** 17:36:46.1±0.3, 50.°61N×1.°95W, h8km, Md2.5/2, Ml2.5/7, Error ellipse: s-maj=2.3km s-min=1.9km az=31.0*
*BGS **09** 17:36:47.5±0.3, 50.°60N×2.°05W, h7km, ML1.9*

ISC 09 17:36:44.6±1.1, 50.°61N±0.°02×1.°97W±0.°03, h12km±10km, **n35,** σ0.°**73**/46, **United Kingdom**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWN1	**Swindon**	**0.91**	**7**	*e*P	**Pn**	**17 37 04.3**	**+1.0**
SWN1				*e*S	**Sn**	**17 37 17.0**	**+0.7**
SWN1				IAML		17 37 18.4	
	comp=E,72nm,0.2s						
SWN1				IAML		17 37 19.8	
	comp=N,50nm,0.3s						
SWN1	**Swindon**	**0.91**	**7**	Sg	**Sn**	**17 37 16.7**	**+0.4**
SWN1	**Swindon**	**0.91**	**7**	Pg	**Pn**	**17 37 04.0**	**+0.8**
DYA	**Yadsworthy**	**1.26**	**263**	*e*P	**Pg**	**17 37 09.2**	**+0.4**
DYA				*e*S	**Sg**	**17 37 24.7**	**-0.6**
DYA				IAML		17 37 26.1	
	comp=E,24nm,0.1s						
DYA				IAML		17 37 26.3	
	comp=N,23nm,0.2s						
DYA	**Yadsworthy**	**1.26**	**263**	Sg	**Sg**	**17 37 25.3**	**-0.1**
DYA	**Yadsworthy**	**1.26**	**263**	Pg	**Pg**	**17 37 09.3**	**+0.4**
MONM	**Monmouth**	**1.34**	**337**	*e*P	**Pg**	**17 37 10.7**	**+0.3**
MONM				IAML		17 37 29.1	
	comp=E,24nm,0.2s						
MONM				IAML		17 37 29.4	
	comp=N,22nm,0.3s						
JSA	**Saint Aubin**	**1.43**	**185**	Sg	**Sn**	**17 37 28.9**	**-0.1**
JSA	**Saint Aubin**	**1.43**	**185**	Pg	**Pg**	**17 37 13.8**	**+1.8**
MCH1	**Michaelchurch**	**1.54**	**335**	*e*P	**Pg**	**17 37 13.4**	**-0.6**
MCH1				IAML		17 37 33.6	
	comp=E,37nm,0.3s						
MCH1				IAML		17 37 33.9	
	comp=N,23nm,0.3s						
MCH1	**Michaelchurch**	**1.54**	**335**	Sn	**Sg**	**17 37 33.2**	**-0.8**
MCH1	**Michaelchurch**	**1.54**	**335**	Pn	**Pg**	**17 37 13.6**	**-0.4**
HTL	**Hartland**	**1.64**	**285**	*e*P	**Pb**	**17 37 15.0**	**+0.2**
HTL				IAML		17 37 42.0	
	comp=E,13nm,0.5s						
HTL				IAML		17 37 43.5	
	comp=N,16nm,0.6s						
HTL	**Hartland**	**1.64**	**285**	Pn	**Pb**	**17 37 15.0**	**+0.2**
HTL	**Hartland**	**1.64**	**285**	Sn	**Sg**	**17 37 36.3**	**-1.1**
HLM1	**Long Mynd**	**2.00**	**344**	*e*P	**Pb**	**17 37 20.8**	**0.0**
HLM1				IAML		17 37 48.4	
	comp=N,8.8nm,0.4s						
HLM1				IAML		17 37 49.4	
	comp=E,12nm,0.5s						
FLN	**La Foliniere**	**2.08**	**152**	*e*Pn	**Pn**	**17 37 19.8**	**+0.4**
FLN	**La Foliniere**	**2.08**	**152**	*e*Pg	**Pg**	**17 37 24.1**	**-0.4**
FLN				*e*Sg	**Sg**	**17 37 51.0**	**-0.5**
	comp=E,8.5nm,0.3s						
CCA1	**Carnmenellis**	**2.13**	**260**	*e*P	**Pn**	**17 37 20.7**	**+0.7**
CCA1				IAML		17 37 54.6	
	comp=N,5.2nm,0.3s						
CCA1				IAML		17 37 55.3	
	comp=E,4.6nm,0.5s						
GRR	**Gorron**	**2.34**	**162**	*e*Pg	**Pg**	**17 37 29.4**	**0.0**
GRR				*e*Sn	**Sn**	**17 37 50.5**	**-0.9**
GRR				*e*Sg	**Sg**	**17 37 59.1**	**-0.5**
	comp=E,8.8nm,0.3s						
LDF	**La Druitiere**	**2.35**	**149**	*e*Pg	**Pb**	**17 37 28.3**	**+1.5**
LDF				*e*Sg	**Sg**	**17 37 59.3**	**-0.7**
	comp=E,3.3nm,0.2s						
SGMF	**Saint Gilles**	**2.39**	**189**	*e*Pn	**Pn**	**17 37 24.0**	**+0.5**
SGMF	**Saint Gilles**	**2.39**	**189**	*e*Pg	**Pg**	**17 37 30.3**	**0.0**
SGMF				*e*Sn	**Sn**	**17 37 52.1**	**-0.6**
SGMF				*e*Sg	**Sg**	**17 38 01.0**	**-0.2**
	comp=E,2.0nm,0.2s						
ROSF	**Rostrenen**	**2.43**	**201**	*e*Pn	**Pn**	**17 37 24.5**	**+0.4**
ROSF	**Rostrenen**	**2.43**	**201**	*e*Pg	**Pg**	**17 37 30.9**	**-0.2**
ROSF				*e*Sn	**Sn**	**17 37 53.3**	**-0.4**
ROSF				*e*Sg	**Sg**	**17 38 02.6**	**0.0**
	comp=E,4.3nm,0.3s						
ROSF	**Rostrenen**	**2.43**	**201**	Sn	**Sn**	**17 37 51.3**	**-2.3**
ROSF	**Rostrenen**	**2.43**	**201**	Pn	**Pn**	**17 37 24.6**	**+0.5**
SBD1	**Bryn Du**	**2.44**	**341**	*e*P	Pn	17 37 16.8	-7.4
QUIF	**Quistinic**	**2.81**	**197**	*e*Pn	**Pn**	**17 37 29.4**	**+0.1**
QUIF	**Quistinic**	**2.81**	**197**	*e*Pg	**Pg**	**17 37 38.0**	**-0.3**
QUIF				*e*Sn	**Sn**	**17 38 02.3**	**-0.7**
QUIF				*e*Sg	**Sg**	**17 38 13.7**	**-1.0**
	comp=E,5.8nm,0.3s						
BAIF	**Baives**	**4.00**	**96**	*e*Pg	**Pg**	**17 38 00.6**	**-0.5**
SSF	**Saint Saulge**	**5.07**	**132**	*e*Pn	**Pn**	**17 38 00.2**	**-0.1**
LOR	**Lormes**	**5.09**	**129**	*e*Pn	**Pn**	**17 38 00.6**	**-0.1**
BGF	**Bois d'Agland**	**5.16**	**140**	*e*Pn	**Pn**	**17 38 02.1**	**+0.5**
AVF	**Avril sur Loir**	**5.20**	**135**	*e*Pn	**Pn**	**17 38 02.0**	**-0.1**

*IDC **09** 17:41:47.6±1.2, 11.°32S×66.°63E, h0km, mb3.7/8, mbtmp3.7/8, MS3.3/9, Error ellipse: s-maj=36.1km s-min=27.6km az=59.0*

ISC 09 17:41:49.7±1.2, 11.°4S±0.°2×66.°6E±0.°2, h13km, **n16,** σ0.°**63**/8, **mb3.9**/7, **MS3.2**/9, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**20.08**	**247**	P	**P**	**17 46 23.5**	**+0.1**
	1.8nm,0.6s,baz=80,slow=6.1,SNR=2.0						
	1.8nm,0.6s						
KMBO	**Kilima Mbogo**	**30.87**	**287**	LR	LR	17 58 31.7	
	comp=Z,56nm,21.6s,baz=92,slow=32						
MBAR	**Mbarara**	**37.19**	**284**	LR	LR	18 01 52.3	
	comp=Z,34nm,20.9s,baz=46,slow=32						
LSZ	**Lusaka**	**37.56**	**260**	LR	LR	18 03 18.7	
	comp=Z,36nm,18.7s,baz=110,slow=34						
BOSA	**Boshof**	**42.24**	**240**	LR	LR	18 05 00.4	
	comp=Z,68nm,18.3s,baz=19,slow=33						
CMAR	**Chiang Mai Arr**	**43.53**	**47**	LR	LR	18 05 32.0	
	comp=Z,18nm,20.3s,baz=215,slow=33						
SUR	**Sutherland**	**46.95**	**236**	LR	LR	18 07 25.2	
	comp=Z,43nm,18.2s,baz=91,slow=33						
TSUM	**Tsumeb**	**47.81**	**254**	LR	LR	18 09 05.1	
	comp=Z,37nm,18.3s,baz=171,slow=34						
AAK	**Ala-Archa**	**54.21**	**7**	LR	LR	18 12 46.7	
	comp=Z,17nm,19.0s,baz=209,slow=34						
MKAR	**Makanchi Array**	**59.56**	**12**	P	**P**	**17 51 52.4**	**-0.6**
	0.8nm,0.7s,baz=216,slow=6.6,SNR=2.3						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**62.58**	**9**	P	**P**	**17 52 13.3**	**-0.1**
	0.6nm,0.2s,baz=210,slow=7.2,SNR=2.4						
	0.6nm,0.2s						
BVAR	**Borovoye Array**	**64.20**	**3**	P	**P**	**17 52 23.5**	**-0.6**
	0.4nm,0.5s,baz=186,slow=7.1,SNR=2.7						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**64.83**	**111**	P	**P**	**17 52 28.5**	**-0.4**
	0.3nm,0.6s,baz=276,slow=5.7,SNR=6.9						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**65.41**	**107**	P	**P**	**17 52 33.0**	**+0.2**
	0.3nm,0.6s,baz=273,slow=5.7,SNR=6.9						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**66.86**	**12**	P	**P**	**17 52 40.7**	**-0.6**
	0.4nm,0.5s,baz=215,slow=8.0,SNR=2.6						
	0.4nm,0.5s						
SONM	**Songino Array**	**68.70**	**28**	P	**P**	**17 52 54.0**	**+0.9**
	0.3nm,0.4s,baz=207,slow=6.5,SNR=2.4						
SONM				LR	LR	18 22 07.2	
	comp=Z,18nm,20.4s,baz=202,slow=35						
	0.3nm,0.4s						

*IDC **09** 17:53:50.8±2.9, 18.°40S×178.°25W, h522km±21km, mb3.1/4, mbtmp3.9/5, Error ellipse: s-maj=63.5km s-min=31.0km az=27.0*
*NEIC **09** 17:53:53.3±1.2, 19.°1S±0.°2×178.°6W±0.°1, h508km±13km, mb4.2/15, Error ellipse: s-maj=26.4km s-min=15.2km az=210.0*

ISC 09 17:53:52.5±0.9, 19.°1S±0.°2×178.°59W±0.°09, h500km, **n24,** σ0.°**93**/26, **mb4.0**/12, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.45**	**292**	P	**P**	**17 55 07.6**	**+0.7**
	8.7nm,0.4s,baz=218,slow=22,SNR=16						
NIUE	**Niue**	**8.19**	**92**	P	**P**	**17 55 51.8**	**+0.9**
MARNC	**Mare, Loyalty**	**12.79**	**257**	P	**P**	**17 56 39.9**	**+0.4**
OUENC	**Ouen Island, N**	**14.04**	**254**	P	**P**	**17 56 52.3**	**-0.4**
RAR	**Rarotonga**	**17.80**	**100**	P	**P**	**17 57 30.9**	**-0.2**
DCZ	**Deep Cove**	**28.87**	**201**	P	**P**	**17 59 10.0**	**+0.2**
DCZ				IAmb	IAmb	17 59 42.3	
	comp=Z,18nm,1.2s						
STKA	**Stephens Creek**	**37.94**	**242**	P	**P**	**18 00 29.1**	**+2.3**
STKA	**Stephens Creek**	**37.94**	**242**	P	**P**	**18 00 28.4**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=65,slow=7.6,SNR=4.2						
	comp=Z,1.0nm,0.5s						
MCQ	**Macquarie Isla**	**39.33**	**201**	P	**P**	**18 00 38.7**	**+1.1**
BBOO	**Buckleboo**	**42.71**	**242**	P	**P**	**18 01 04.5**	**-0.6**
BBOO				IAmb	IAmb	18 01 16.3	
	comp=Z,32nm,1.4s						
WR0	**Warramunga Arr**	**44.08**	**261**	P	**P**	**18 01 15.4**	**-0.5**
WR0				IAmb	IAmb	18 01 32.3	
	comp=Z,5.2nm,1.3s						
WB0	**Warramunga Arr**	**44.24**	**261**	P	**P**	**18 01 17.0**	**-0.2**
WB0				IAmb	IAmb	18 01 38.5	
	comp=Z,3.4nm,1.1s						
WB2	**Warramunga Arr**	**44.26**	**261**	P	**P**	**18 01 17.1**	**-0.2**
WB2				IAmb	IAmb	18 01 27.2	
	comp=Z,6.1nm,1.1s						
WRAB	**Tennant Creek**	**44.26**	**261**	P	**P**	**18 01 16.3**	**-1.1**
WRAB				IAmb	IAmb	18 01 46.3	
	comp=Z,7.3nm,1.3s						
WRA	**Warramunga Arr**	**44.27**	**261**	P	**P**	**18 01 17.0**	**-0.4**
WRA	**Warramunga Arr**	**44.27**	**261**	P	**P**	**18 01 17.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=98,slow=7.5,SNR=43						
WRA				PcP	**pP**	**18 02 48.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=91,slow=3.7,SNR=6.3						
	comp=Z,0.3nm,0.3s						
ASAR	**Alice Springs**	**44.33**	**255**	P	**P**	**18 01 18.0**	**+0.2**
ASAR	**Alice Springs**	**44.33**	**255**	P	**P**	**18 01 18.2**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=90,slow=8.3,SNR=52						
ASAR				PcP	**pP**	**18 02 48.8**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=106,slow=4.0,SNR=5.2						
	comp=Z,2.3nm,0.5s						
SAUI	**Saumlaki**	**49.79**	**276**	P	**P**	**18 01 58.4**	**-0.8**
KNRA	**Kununurra**	**50.21**	**265**	P	**P**	**18 02 02.3**	**0.0**
KNRA				IAmb	IAmb	18 02 22.2	
	comp=Z,32nm,1.3s						
QSPA	**South Pole Qui**	**71.00**	**180**	P	**P**	**18 04 19.5**	**+0.4**
QSPA				IAmb	IAmb	18 04 49.9	
	comp=Z,4.8nm,1.5s						
QSPA	**South Pole Qui**	**71.00**	**180**	P	**P**	**18 04 19.5**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=24,slow=0.9,SNR=8.1						
	comp=Z,0.8nm,0.6s						
BELA	**Belgrano 2**	**81.05**	**173**	P	**P**	**18 05 13.3**	**-1.1**
SNAA	**Sanae**	**89.46**	**179**	P	**P**	**18 05 53.6**	**-1.8**
SNAA				IAmb	IAmb	18 06 33.1	
	comp=Z,4.8nm,1.4s						

*ISK **09** 17:57:58.4, 34.°48N×23.°57E, h24km, ML3.3/9*
*THE **09** 17:57:59.9, 34.°53N×23.°55E, h13km±1km, ML3.1/4, Error ellipse: s-maj=1.6km s-min=1.1km az=64.0*
*ATH **09** 17:58:04.3, 34.°83N×23.°76E, h25km±4km, ML3.1/7, Manual Solution by A.Fokaefs First location: 2019/05/23 10:51:43, This location: 2019/05/23 10:51:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 8 km; Longitude uncertainty: 7 km*
*GII **09** 17:58:05.7±0.7, 34.°72N×24.°35E, h40km*

ISC 09 17:57:55.8±1.1, 34.°4N±0.°1×23.°46E±0.°10, h46km±28km, **n39,** σ2.°**70**/52, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.68**	**50**	Pg	**Pn**	**17 58 10.3**	**+1.2**
GVD				Sg	**Sn**	**17 58 18.5**	**-0.3**
GVD	**Gavdhos**	**0.68**	**50**	P	**Pn**	**17 58 10.7**	**+1.6**
GVD				S	**Sn**	**17 58 18.4**	**-0.3**
	6μm,0.3s						
GVD	**Gavdhos**	**0.68**	**50**	P	**Pn**	**17 58 10.8**	**+1.6**
GVD				S	**Sn**	**17 58 15.9**	**-2.8**
KNDR	**Palaiochora Ch**	**0.85**	**13**	Pg	**Pn**	**17 58 13.4**	**+2.0**
KNDR				Sg	**Sn**	**17 58 25.1**	**+2.2**
KNDR	**Palaiochora Ch**	**0.85**	**13**	P	**Pn**	**17 58 13.3**	**+1.9**
KNDR				S	**Sn**	**17 58 23.7**	**+0.8**
	1μm,0.5s						
KNDR	**Palaiochora Ch**	**0.85**	**13**	P	**Pn**	**17 58 13.3**	**+1.9**
KNDR				S	**Sn**	**17 58 18.4**	**-4.5**
IMMV	**Iera Moni Meta**	**1.15**	**22**	Pg	**Pn**	**17 58 17.6**	**+2.2**
IMMV				Sg	**Sn**	**17 58 31.9**	**+2.0**
IMMV	**Iera Moni Meta**	**1.15**	**22**	P	**Pn**	**17 58 17.9**	**+2.5**
IMMV				S	**Sn**	**17 58 32.3**	**+2.4**
	2μm,0.4s						
IMMV	**Iera Moni Meta**	**1.15**	**22**	P	**Pn**	**17 58 17.5**	**+2.1**
IMMV				S	Sn	17 58 26.7	-3.3
RODP	**Rodopos**	**1.19**	**12**	Pn	**Pn**	**17 58 18.8**	**+2.9**
RODP	**Rodopos**	**1.19**	**12**	P	**Pn**	**17 58 18.8**	**+2.9**
RODP				S	**Sn**	**17 58 34.0**	**+3.0**
	310nm,0.4s						
RODP	**Rodopos**	**1.19**	**12**	P	**Pn**	**17 58 18.9**	**+2.9**
CHAN	**Chania**	**1.22**	**23**	P	**Pn**	**17 58 19.0**	**+2.6**
PRNS	**Prines Rethymn**	**1.29**	**41**	P	**Pn**	**17 58 19.3**	**+1.9**
IDI	**Anoyia**	**1.48**	**53**	Pn	**Pn**	**17 58 22.5**	**+2.5**
IDI				Sn	**Sn**	**17 58 39.7**	**+1.6**
IDI	**Anoyia**	**1.48**	**53**	P	**Pn**	**17 58 22.8**	**+2.8**
IDI	**Anoyia**	**1.48**	**53**	P	**Pn**	**17 58 23.1**	**+3.2**
HRKL	**Herakleio**	**1.63**	**56**	Pn	**Pn**	**17 58 24.6**	**+2.6**
KTHA	**Kythira Island**	**1.88**	**350**	Pn	**Pn**	**17 58 29.2**	**+3.7**
VLI	**Veliai**	**2.35**	**350**	P	**Pn**	**17 58 36.4**	**+4.5**
VLI	**Veliai**	**2.35**	**350**	P	**Pn**	**17 58 36.6**	**+4.6**
ZKR	**Zakros**	**2.38**	**72**	Pn	**Pn**	**17 58 35.5**	**+3.2**
MHLO	**Agia Marina, M**	**2.41**	**18**	P	**Pn**	**17 58 34.8**	**+2.0**
SANT	**Santorini**	**2.56**	**39**	Pn	**Pn**	**17 58 37.1**	**+2.3**
APE	**Apeiranthos**	**3.15**	**32**	Pn	**Pn**	**17 58 44.2**	**+1.2**
CSS	**Mathiatis**	**8.15**	**83**	Pn	**Pn**	**17 59 52.0**	**+0.5**
STON	**Ston**	**9.58**	**334**	*e*Pn	**Pn**	**18 00 10.3**	**-0.7**
LSTV	**Lastovo**	**9.81**	**330**	*e*Pn	**Pn**	**18 00 13.4**	**-0.7**
LSTV				Sn	Sn	18 01 52.7	-10
SALP	**Salfit**	**10.10**	**100**	Pn	**Pn**	**18 00 20.6**	**+2.4**
GEM	**Giv'at Ha'Em**	**10.23**	**93**	Pn	**Pn**	**18 00 19.9**	**0.0**
GEM				Sn	Sn	18 02 07.5	-5.7
YTIR	**Yattir**	**10.26**	**104**	Pn	**Pn**	**18 00 22.6**	**+2.1**
HMDT	**Nahal Hemdat**	**10.32**	**99**	Pn	**Pn**	**18 00 22.5**	**+1.3**
RICI	**Ricice**	**10.33**	**333**	*e*Pn	**Pn**	**18 00 21.0**	**-0.2**
KRMI	**Paran Flat**	**10.45**	**111**	Pn	**Pn**	**18 00 25.4**	**+2.4**
KRMI				Sn	**Sn**	**18 02 14.5**	**-4.2**
PRNI	**Paran**	**10.56**	**109**	Pn	**Pn**	**18 00 27.5**	**+2.9**
PRNI				Sn	**Sn**	**18 02 17.8**	**-3.7**
MBRI	**Mt Berech**	**10.74**	**112**	Pn	**Pn**	**18 00 30.4**	**+3.3**
ZIRJ	**Zirje**	**11.05**	**329**	*e*Pn	**Pn**	**18 00 31.0**	**-0.2**
MORI	**Morici**	**11.20**	**330**	*e*Pn	**Pn**	**18 00 33.4**	**+0.3**
MORI				Sn	**Sn**	**18 02 29.9**	**-7.0**
DUGI	**Dugi Otok**	**11.58**	**328**	*e*Pn	**Pn**	**18 00 39.3**	**+1.0**
DUGI				Sn	Sn	18 02 37.9	-8.3

*SJA **09** 18:03:22.5±0.6, 19.°52S×69.°46W, h91km±5km, ML3.4, MW3.5*
*GUC **09** 18:03:24.0±0.7, 19.°49S×69.°42W, h85km±3km, ML3.4*

ISC 09 18:03:27.0±1.3, 19.°53S±0.°02×69.°58W±0.°05, h59km±11km, **n35,** σ2.°**13**/59, **3C-4D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.39**	**111**	*e*P	**Pn**	**18 03 37.0**	**-1.2**
GO01				*e*S	**Sn**	**18 03 48.3**	**+1.9**
GO01				IAML		18 03 49.4	
	comp=E,5μm,0.2s						
GO01	**Chusmiza**	**0.39**	**111**	*e*P	**Pn**	**18 03 37.1**	**-1.2**
PB08	**IPOC Station P**	**0.73**	**147**	⇓*i*P	**Pn**	**18 03 40.4**	**-1.5**
PB08				*i* S	**Sn**	**18 03 53.4**	**+0.6**
PB08				IAML		18 03 53.9	
	comp=E,1μm,0.2s						
PB08	**IPOC Station P**	**0.73**	**147**	*e*P	**Pn**	**18 03 40.2**	**-1.6**
PB08				IAML		18 03 54.2	
	comp=Z,656nm,0.1s						
HMBC	**Humberstone**	**0.80**	**201**	⇓*i*P	**Pn**	**18 03 41.6**	**-0.9**
HMBC				*e*S	**Sn**	**18 03 55.7**	**+1.8**
HMBC				IAML		18 03 59.2	
	comp=N,820nm,0.1s						
HMBC	**Humberstone**	**0.80**	**201**	*e*P	**Pn**	**18 03 41.5**	**-1.1**
TA02	**Huaiquique**	**0.90**	**215**	*i* S	**Sn**	**18 03 57.9**	**+1.9**
TA02				IAML		18 04 03.0	
	comp=N,1μm,0.2s						
TA02	**Huaiquique**	**0.90**	**215**	*e*P	**Pn**	**18 03 43.0**	**-0.7**
TA02				*e*S	**Sn**	**18 03 58.2**	**+2.2**
TA02				IAML		18 04 04.9	
	comp=Z,432nm,0.1s						
PB12	**IPOC Station P**	**1.15**	**322**	⇑*i*P	**Pn**	**18 03 45.2**	**-1.9**
PB12				*e*S	**Sn**	**18 04 03.1**	**+1.0**
PB12				IAML		18 04 03.8	
	comp=E,460nm,0.7s						
PB12	**IPOC Station P**	**1.15**	**322**	*e*P	**Pn**	**18 03 45.2**	**-1.9**
PB12				*e*S	**Sn**	**18 04 03.6**	**+1.5**
TA01	**Diego Aracena**	**1.18**	**209**	*e*P	**Pn**	**18 03 45.7**	**-1.6**
TA01				*e*S	**Sn**	**18 04 03.0**	**+0.6**
TA01				IAML		18 04 04.1	
	comp=E,374nm,0.3s						
TA01	**Diego Aracena**	**1.18**	**209**	*e*P	**Pn**	**18 03 45.7**	**-1.6**
TA01				*e*S	**Sn**	**18 04 03.6**	**+1.2**
PB16	**IPOC Station P**	**1.19**	**3**	⇑*i*P	**Pn**	**18 03 46.2**	**-1.9**
PB16				*e*S	**Sn**	**18 04 02.9**	**-0.8**
PB16	**IPOC Station P**	**1.19**	**3**	*e*P	**Pn**	**18 03 46.1**	**-1.9**
PB16				*e*S	**Sn**	**18 04 03.7**	**0.0**
PB16				IAML		18 04 05.3	
	comp=Z,254nm,0.2s						
AP01	**Chacalluta**	**1.36**	**328**	*e*P	**Pn**	**18 03 48.4**	**-1.4**
AP01				*e*S	**Sn**	**18 04 07.8**	**+1.0**
AP01				IAML		18 04 10.2	
	comp=E,773nm,0.3s						
AP01	**Chacalluta**	**1.36**	**328**	*e*P	**Pn**	**18 03 48.1**	**-1.6**
AP01				IAML		18 04 13.4	
	comp=Z,402nm,0.3s						
PATCX	**Punta Patache**	**1.39**	**203**	*i* P	**Pn**	**18 03 48.5**	**-1.8**
PATCX				*i* S	**Sn**	**18 04 08.0**	**+0.2**
PATCX	**Punta Patache**	**1.39**	**203**	*e*P	**Pn**	**18 03 48.5**	**-1.8**
PB01	**IPOC Station P**	**1.51**	**177**	⇑*i*P	**Pn**	**18 03 49.7**	**-2.2**
PB01				*e*S	**Sn**	**18 04 10.0**	**-0.5**
PB01				IAML		18 04 13.8	
	comp=N,642nm,0.5s						
PB01	**IPOC Station P**	**1.51**	**177**	*e*P	**Pn**	**18 03 49.7**	**-2.2**
PB01				*e*S	**Sn**	**18 04 10.0**	**-0.5**
PB01				IAML		18 04 11.9	
	comp=Z,484nm,0.2s						
PB02	**IPOC Station P**	**1.81**	**189**	⇓*e*P	**Pn**	**18 03 54.0**	**-2.0**
PB02				*e*S	**Sn**	**18 04 17.2**	**-0.6**
PB02				IAML		18 04 25.1	
	comp=E,754nm,0.2s						
PB02	**IPOC Station P**	**1.81**	**189**	*e*P	**Pn**	**18 03 53.9**	**-2.0**
PB02				IAML		18 04 24.2	
	comp=Z,562nm,0.2s						
PB18	**Visviri**	**1.93**	**3**	*e*P	**Pn**	**18 03 58.3**	**+0.2**
PB18				*i* S	**Sn**	**18 04 26.3**	**+4.8**
PB07	**IPOC Station P**	**2.20**	**187**	*e*P	**Pn**	**18 03 59.5**	**-1.9**
PB07				*e*S	**Sn**	**18 04 28.5**	**+0.9**
PB07				IAML		18 04 34.1	
	comp=E,358nm,0.4s

baz=286,slow=75,SNR=6.3
H01W1 Cape Leeuwin H 49.02 127 T T 19 13 05.9
baz=286,slow=75,SNR=7.4
MKAR Makanchi Array 59.55 12 P **P 18 21 47.8 -0.8**
1.2nm,0.8s,baz=213,slow=8.7,SNR=2.4
1.2nm,0.8s
KURBB Kurchatov Arra 62.57 8 P **P 18 22 08.8 -0.2**
1.1nm,0.8s,baz=207,slow=6.9,SNR=6.1
1.1nm,0.8s
ASAR Alice Springs 64.81 111 P **P 18 22 24.6 0.0**
1.0nm,1.0s,baz=266,slow=5.7,SNR=7.1
1.0nm,1.0s
WRA Warramunga Arr 65.39 107 P **P 18 22 28.1 -0.3**
0.8nm,0.7s,baz=272,slow=5.9,SNR=9.2
0.8nm,0.7s
ZALV Zalesovo Beam 66.85 12 P **P 18 22 36.4 -0.5**
0.7nm,0.4s,baz=198,slow=4.2,SNR=6.4
0.7nm,0.4s
SONM Songino Array 68.68 28 P **P 18 22 49.1 +0.3**
0.8nm,0.7s,baz=203,slow=8.4,SNR=5.9
0.8nm,0.7s
PDAR Pinedale Array 148.52 355 PKPbc **PKPbc 18 31 31.7 -0.9**
0.4nm,0.7s,baz=20,slow=2.9,SNR=4.2

---

*NOU **09** 18:14:46.0, 32°.52S×177°.15W, h143km, mb4.5/6, South of Kermadec Islands*
*WEL **09** 18:15:01.7±0.9, 33°S±6°×17°8W±1°.6, h33km, M4.6/30, mB5.2/6, ML4.8/15, MLv4.6/30, Mw(mB)4.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=107.8, confirmed*
*NEIC **09** 18:15:04.9±1.5, 33°.12S±0°.04×179°.1W±0°.2, h35km±2km, mb4.6/14, Error ellipse: s-maj=23.6km s-min=6.5km az=95.0*
*IDC **09** 18:15:07.4±2.8, 33°.14S×179°.26W, h58km±23km, mb3.9/4, mbtmp4.2/5, ML4.5/2, MS3.2/2, Error ellipse: s-maj=27.9km s-min=17.7km az=100.0*
ISC 09 18:15:04.0±0.5, 33°.17S±0°.04×179°.01W±0°.08, h35km, n125, σ1.9/70/101, mb4.3/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.00**	**14**	P	**Pn**	**18 16 00.9**	**-2.0**
GLKZ				S	**Sn**	**18 16 46.7**	**-1.9**
RAO	**Raoul Island**	**4.01**	**14**	Pn	**Pn**	**18 16 02.8**	**-0.2**
RAO	**Raoul Island**	**4.01**	**14**	P	Pn	18 16 08.3	+5.3
RAO	69nm,0.3s,baz=74,slow=22,SNR=1.8			S	**Sn**	**18 16 51.6**	**+2.8**
MXZ	**Matakaoa Point**	**4.90**	**206**	Pn	**Pn**	**18 16 15.4**	**+0.2**
MXZ	**Matakaoa Point**	**4.90**	**206**	P	**Pn**	**18 16 15.8**	**+0.6**
MXZ	**Matakaoa Point**	**4.90**	**206**	P	**Pn**	**18 16 16.0**	**+0.8**
MXZ				S	**Sn**	**18 17 12.5**	**+1.9**
WMGZ	**Waiomatatini S**	**5.09**	**204**	P	**Pn**	**18 16 18.9**	**+1.1**
WMGZ				S	**Sn**	**18 17 18.5**	**+3.0**
HAZ	**Te Kaha**	**5.27**	**209**	P	**Pn**	**18 16 21.1**	**+0.8**
PKGZ	**Pakihiroa**	**5.28**	**206**	P	**Pn**	**18 16 21.0**	**+0.6**
PUZ	**Puketiti**	**5.38**	**204**	P	**Pn**	**18 16 21.8**	**+0.1**
PUZ				S	**Sn**	**18 17 23.5**	**+1.1**
RUGZ	**Raukumara Rang**	**5.50**	**209**	P	**Pn**	**18 16 23.7**	**+0.3**
RUGZ				S	**Sn**	**18 17 28.4**	**+2.9**
GRZ	**Great Barrier**	**5.50**	**234**	P	Pn	18 16 27.7	+4.3
TWGZ	**Tauwhareparae**	**5.57**	**205**	P	**Pn**	**18 16 24.1**	**-0.3**
KUZ	**Kuaotunu**	**5.61**	**229**	P	Pn	18 16 28.9	+4.0
KUZ	**Kuaotunu**	**5.61**	**229**	P	Pn	18 16 29.3	+4.4
CNGZ	**Carnagh Statio**	**5.76**	**202**	P	**Pn**	**18 16 27.1**	**+0.1**
TKGZ	**Te Karaka**	**5.85**	**205**	P	**Pn**	**18 16 29.9**	**+1.8**
MWZ	**Matawai**	**5.87**	**208**	P	**Pn**	**18 16 28.3**	**-0.3**
OPRZ	**Ohinepanea**	**5.90**	**217**	P	Pn	18 16 31.9	+2.9
URZ	**Urewera**	**5.98**	**211**	P	**Pn**	**18 16 31.8**	**+1.8**
URZ	**Urewera**	**5.98**	**211**	P	**Pn**	**18 16 30.0**	**0.0**
URZ	**Urewera**	**5.98**	**211**	P	**Pn**	**18 16 31.0**	**+1.0**
URZ	4.6nm,0.3s,baz=353,slow=4.6,SNR=66			S	**Sn**	**18 17 37.3**	**0.0**
RIGZ	31nm,0.4s,baz=165,slow=23,SNR=6.6 18nm,0.3s **Rimuhau**	**6.12**	**204**	P	**Pn**	**18 16 32.2**	**+0.3**
TARZ	**Mount Tarawera**	**6.24**	**215**	P	Pn	18 16 37.1	+3.4
PRGZ	**Paritu Road**	**6.27**	**203**	P	**Pn**	**18 16 34.5**	**+0.5**
MUGZ	**Murupara**	**6.31**	**212**	P	**Pn**	**18 16 34.7**	**+0.1**
SNGZ	**Shannon Statio**	**6.33**	**207**	P	**Pn**	**18 16 35.5**	**+0.6**
TOZ	**Tahuroa Road**	**6.39**	**223**		**Pn**	**18 16 33.4**	**-2.2**
TOZ	**Tahuroa Road**	**6.39**	**223**	P	Pn	18 16 40.4	+4.8
KNZ	**Kokohu**	**6.43**	**204**	P	**Pn**	**18 16 36.5**	**+0.3**
OUZ	**Omahuta**	**6.46**	**250**	P	Pn	18 16 41.4	+4.8
OUZ	**Omahuta**	**6.46**	**250**	P	Pn	18 16 41.2	+4.6
RAHZ	**Arahi**	**6.55**	**208**	P	**Pn**	**18 16 39.6**	**+1.8**
MTHZ	**Maungataniwha**	**6.59**	**210**	P	**Pn**	**18 16 39.7**	**+1.2**
MRHZ	**Matea Rd**	**6.76**	**212**	P	**Pn**	**18 16 41.6**	**+0.8**
TLZ	**Tolley Road**	**6.79**	**219**	P	Pn	18 16 44.4	+3.1
NMHZ	**Naumai**	**6.82**	**209**	P	**Pn**	**18 16 42.4**	**+0.8**
ARHZ	**Aropaoanui**	**6.88**	**207**	P	**Pn**	**18 16 42.7**	**+0.2**
BKZ	**Black Stump Fm**	**7.00**	**210**	P	**Pn**	**18 16 42.8**	**-1.4**
BKZ	**Black Stump Fm**	**7.00**	**210**	P	**Pn**	**18 16 44.3**	**+0.2**
BKZ	**Black Stump Fm**	**7.00**	**210**	P	**Pn**	**18 16 44.0**	**-0.1**
MCHZ	**McNeill Hill**	**7.16**	**208**	P	**Pn**	**18 16 46.4**	**+0.2**
CKHZ	**Cape Kidnapper**	**7.20**	**205**	P	**Pn**	**18 16 47.6**	**+0.8**
KATZ	**Kakaramea**	**7.21**	**215**	P	**Pn**	**18 16 49.5**	**+2.5**
KWHZ	**Kaweka Forest**	**7.25**	**209**	P	**Pn**	**18 16 47.0**	**-0.5**
TMVZ	**Te Maari**	**7.31**	**214**	P	**Pn**	**18 16 50.0**	**+1.5**
ETVZ	**East Tongariro**	**7.33**	**214**	P	**Pn**	**18 16 49.5**	**+0.8**
KRVZ	**Karewarewa**	**7.33**	**215**	P	**Pn**	**18 16 50.0**	**+1.3**
WTVZ	**West Tongariro**	**7.37**	**215**	P	**Pn**	**18 16 49.9**	**+0.7**
NNVZ	**North Ngauruho**	**7.37**	**215**	P	**Pn**	**18 16 50.3**	**+1.0**
OTVZ	**Oturere**	**7.37**	**214**	P	**Pn**	**18 16 49.8**	**+0.5**
KAHZ	**Kahuranaki**	**7.39**	**205**	P	**Pn**	**18 16 48.4**	**-1.1**
SNVZ	**South Ngauruho**	**7.40**	**214**	P	**Pn**	**18 16 50.5**	**+0.8**
TWVZ	**Taurewa**	**7.41**	**216**	P	**Pn**	**18 16 51.0**	**+1.2**
NGZ	**Ngauruhoe**	**7.41**	**214**	P	**Pn**	**18 16 50.8**	**+1.0**
BHHZ	**Black Hill Sta**	**7.46**	**211**	P	**Pn**	**18 16 50.1**	**-0.3**
KRHZ	**Kereru**	**7.46**	**209**	P	**Pn**	**18 16 49.3**	**-1.0**
TUVZ	**Tukino**	**7.46**	**214**	P	**Pn**	**18 16 51.8**	**+1.4**
WHVZ	**Whangaehu Hut**	**7.50**	**214**	P	**Pn**	**18 16 52.1**	**+1.0**
MOVZ	**Moawhango**	**7.53**	**213**	P	**Pn**	**18 16 50.8**	**-0.5**
WNVZ	**Wahianoa**	**7.53**	**214**	P	**Pn**	**18 16 52.3**	**+0.8**
PXZ	**Pawanui**	**7.61**	**205**	P	**Pn**	**18 16 51.5**	**-0.9**
PNHZ	**Pukenui**	**7.76**	**208**	P	**Pn**	**18 16 53.2**	**-1.3**
PRHZ	**Porangahau**	**7.90**	**205**	P	**Pn**	**18 16 54.6**	**-1.8**
TSZ	**Takapari Road**	**7.98**	**209**	P	**Pn**	**18 16 55.8**	**-1.7**
PKE	**Pukeiti**	**8.26**	**221**	P	Pn	18 17 05.1	+3.7
POWZ	**Post Office Ro**	**8.34**	**209**	P	**Pn**	**18 17 01.4**	**-1.0**
BFZ	**Birch Farm**	**8.40**	**206**	Pn	**Pn**	**18 17 00.1**	**-3.2**
BFZ	**Birch Farm**	**8.40**	**206**	P	**Pn**	**18 17 02.3**	**-1.0**
BFZ	**Birch Farm**	**8.40**	**206**	P	**Pn**	**18 17 01.0**	**-2.3**
MRZ	**Mangatainoka R**	**8.64**	**209**	Pn	**Pn**	**18 17 03.0**	**-3.5**
TMWZ	**Te Maipa**	**8.91**	**206**	P	**Pn**	**18 17 07.4**	**-2.8**
PLWZ	**Palliser**	**9.54**	**207**	Pn	**Pn**	**18 17 14.4**	**-4.5**
SNZO	**South Karori**	**9.54**	**210**	Pn	**Pn**	**18 17 14.8**	**-4.1**
BHW	**Baring Head**	**9.56**	**209**	Pn	**Pn**	**18 17 14.6**	**-4.5**
TCW	**Tory Channel**	**9.65**	**212**	Pn	Pn	18 17 15.6	-4.7
TUWZ	**Tuamarina**	**9.97**	**212**	Pn	Pn	18 17 19.5	-5.3
NNZ	**Nelson**	**10.07**	**215**	Pn	Pn	18 17 20.7	-5.4
TKNZ	**Takaka Hill**	**10.13**	**217**	Pn	**Pn**	**18 17 23.2**	**-3.8**
QRZ	**Quartz Range**	**10.20**	**219**	Pn	**Pn**	**18 17 24.2**	**-3.7**
BSWZ	**Blackbirch Sta**	**10.23**	**211**	Pn	**Pn**	**18 17 25.2**	**-3.1**
MRNZ	**Matariki Terra**	**10.51**	**216**	Pn	**Pn**	**18 17 27.8**	**-4.3**
CTZ	**Chatham Island**	**10.71**	**171**	Pn	**Pn**	**18 17 35.7**	**+0.8**
KHZ	**Kahutara**	**10.95**	**210**	P	**Pn**	**18 17 39.3**	**+1.2**
DSZ	**Denniston Nort**	**11.24**	**218**	Pn	Pn	18 17 37.3	-5.0
GVZ	**Greta Valley S**	**11.61**	**210**	Pn	Pn	18 17 42.2	-5.0
LTZ	**Lake Taylor**	**11.80**	**213**	Pn	Pn	18 17 44.7	-5.1
MQZ	**McQueen's Vall**	**12.38**	**209**	Pn	Pn	18 17 50.9	-6.7
RPZ	**Rata Peaks**	**13.09**	**214**	Pn	Pn	18 18 01.5	-5.9
RPZ	**Rata Peaks**	**13.09**	**214**	P	Pn	18 18 01.2	-6.1
RPZ	4.6nm,0.8s,baz=126,slow=21,SNR=1.5			S	Sn	18 20 19.7	-12
FOZ	2.1nm,0.4s,baz=85,slow=18,SNR=1.2 **Fox Glacier**	**13.55**	**217**	Pn	Pn	18 18 08.2	-5.5
LBZ	**Lake Benmore**	**14.00**	**214**	Pn	Pn	18 18 14.2	-5.6
ODZ	**Otahua Downs**	**14.31**	**211**	Pn	Pn	18 18 17.1	-6.9
MSVF	**Nonsavu**	**15.60**	**350**	Pn	**Pn**	**18 18 39.2**	**-2.2**
DZM	**Mont Dzumac**	**16.96**	**307**	LR	LR	18 23 51.2	
CTAO	comp=Z,98nm,19.1s,baz=97,slow=31 **Charters Tower**	**33.52**	**284**	P	**P**	**18 21 41.8**	**+1.4**
CTAO	comp=Z,3.5nm,0.7s			IAmb	IAmb	18 21 43.1	
COEN	**Coen**	**39.31**	**290**	P	**P**	**18 22 31.5**	**+1.6**
COEN	comp=Z,24nm,1.4s			IAmb	IAmb	18 23 09.7	
AS31	**Alice Springs**	**42.19**	**270**	P	**P**	**18 22 53.7**	**+0.1**
ASAR	**Alice Springs**	**42.19**	**270**	P	**P**	**18 22 52.6**	**-1.1**
ASAR	**Alice Springs**	**42.19**	**270**	P	**P**	**18 22 53.4**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=109,slow=7.6,SNR=55						
	comp=Z,0.9nm,0.3s						
WR0	**Warramunga Arr**	**43.25**	**276**		**P**	**18 23 02.1**	**-0.1**
WB2	**Warramunga Arr**	**43.42**	**276**	P	**P**	**18 23 03.5**	**-0.1**
WRAB	**Tennant Creek**	**43.42**	**276**	P	**P**	**18 23 03.0**	**-0.7**
WRA	**Warramunga Arr**	**43.43**	**276**	P	**P**	**18 23 03.5**	**-0.2**
WRA	**Warramunga Arr**	**43.43**	**276**	P	**P**	**18 23 03.8**	**+0.1**
	comp=Z,2.8nm,0.6s,baz=115,slow=7.8,SNR=70						
	comp=Z,2.8nm,0.6s						
WB0	**Warramunga Arr**	**43.46**	**276**	P	**P**	**18 23 03.8**	**-0.2**
FORT	**Forrest**	**44.57**	**258**		**P**	**18 23 12.5**	**-0.3**
MORW	**Morawa**	**54.97**	**256**	P	**P**	**18 24 29.7**	**-2.2**
QSPA	**South Pole Qui**	**56.95**	**180**	P	**P**	**18 24 48.1**	**+2.5**
QSPA				IAmb	IAmb	18 24 48.6	
	comp=Z,8.5nm,1.5s						
QSPA	**South Pole Qui**	**56.95**	**180**	P	**P**	**18 24 48.3**	**+2.7**
	comp=Z,1.6nm,0.6s,baz=29,slow=0.9,SNR=16						
	comp=Z,1.6nm,0.6s						
POHA	**Pohakuloa**	**57.21**	**27**	P	**P**	**18 24 47.9**	**-0.2**
SNAA	**Sanae**	**75.42**	**179**	P	**P**	**18 26 44.7**	**+0.9**
SNAA				IAmb	IAmb	18 27 18.6	
	comp=Z,4.9nm,1.4s						
SNAA	**Sanae**	**75.42**	**179**	P	**P**	**18 26 44.5**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=196,slow=16,SNR=2.3						
	comp=Z,1.1nm,0.7s						
JHJ	**Hachijo jima 2**	**76.50**	**325**	LR	LR	19 00 54.9	
	comp=Z,9.0nm,18.5s,baz=121,slow=36						
H03S2	**Juan Fernandez**	**79.65**	**124**	T	T	19 55 38.1	
	baz=234						
H03S1	**Juan Fernandez**	**79.66**	**124**	T	T	19 55 36.3	
	baz=234						
H03S3	**Juan Fernandez**	**79.67**	**124**	T	T	19 55 39.5	
	baz=234						
H03N3	**Juan Fernandez**	**79.86**	**123**	T	T	19 55 48.9	
	baz=239,slow=72,SNR=14						
H03N2	**Juan Fernandez**	**79.86**	**123**	T	T	19 55 35.0	
	baz=239,slow=72,SNR=12						
H03N1	**Juan Fernandez**	**79.88**	**123**	T	T	19 55 48.1	
	baz=239,slow=72,SNR=14						
FINES	**FINESS Array B**	**147.41**	**338**	PKPbc	**PKPbc**	**18 34 42.3**	**-1.1**
	comp=Z,2.4nm,0.5s,baz=42,slow=4.3,SNR=20						
NB2	**NORSAR Subarra**	**151.33**	**350**	PKP	**PKiKP**	**18 34 52.7**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.33**	**350**	PKPbc	**PKPbc**	**18 34 52.4**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=15,slow=4.1,SNR=4.7						
HFS	**Hagfors**	**151.76**	**347**	PKPbc	**PKPbc**	**18 34 52.9**	**-1.3**
	comp=Z,2.1nm,0.7s,baz=50,slow=2.3,SNR=6.9						
TORD	**Torodi Ar. Bea**	**160.06**	**182**	PKPab	**PKPab**	**18 35 40.2**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=173,slow=3.2,SNR=4.2						

---

*NEIC **09** 18:19:36.1±2.4, 7°.94S±0°.06×123°.51E±0°.04, h10km±1km, mb4.1/10, Error ellipse: s-maj=10.6km s-min=5.9km az=353.0*
*IDC **09** 18:19:38.8±1.0, 8°.11S×124°.03E, h0km, mb3.9/6, mbtmp4.0/9, ML3.9/3, MS3.0/1, Error ellipse: s-maj=61.8km s-min=17.8km az=71.0*
*DJA **09** 18:19:41.9±0.2, 8°S±2°×12°4E±°, h10km, M4.4/13, mB4.9/2, mb4.5/13, MLv4.3/10, Mw(mB)4.2/2*
ISC 09 18:19:41.9±0.6, 8°.35S±0°.06×123°.52E±0°.07, h35km, n53, σ2.9/58/48, mb3.9/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.30**	**257**	Pn	**Pn**	**18 20 03.1**	**-0.5**
MMRI	**Maumere**	**1.30**	**257**	P	**Pn**	**18 20 04.9**	**+1.3**
MMRI	**Maumere**	**1.30**	**257**	P	**Pn**	**18 20 05.2**	**+1.6**
SOEI	**Soe**	**1.58**	**152**	Pn	**Pn**	**18 20 09.8**	**+2.3**
SOEI	**Soe**	**1.58**	**152**	P	**Pn**	**18 20 10.1**	**+2.5**
SOEI	**Soe**	**1.58**	**152**	P	**Pn**	**18 20 11.6**	**+4.0**
BATI	**Baumata**	**1.85**	**176**	P	**Pn**	**18 20 15.6**	**+4.4**
BATI	**Baumata**	**1.85**	**176**	Pn	**Pn**	**18 20 15.8**	**+4.6**
BATI	54nm,0.3s,baz=30,slow=4.5,SNR=48			Sn	Sn	18 20 47.2	+14
	58nm,0.3s,baz=305,slow=20,SNR=9.2						
BATI				LR	LR	18 20 58.4	
	comp=Z,362nm,18.8s,baz=55,slow=38						
	160nm,0.4s						
BASI	**Baing, Sumba**	**3.44**	**237**	P	**Pn**	**18 20 35.0**	**+1.9**
BKSI	**Bulukumba**	**4.52**	**312**	P	**Pn**	**18 20 47.3**	**-0.6**
KAPI	**Kappang**	**5.00**	**311**	Pn	Pn	18 20 46.8	-7.7
KAPI	**Kappang**	**5.00**	**311**	Pn	**Pn**	**18 20 53.4**	**-1.1**
KAPI	5.8nm,0.3s,baz=173,slow=16,SNR=6.2			Sn	**Sn**	**18 21 50.7**	**-0.4**
	baz=214,slow=20						
PLAI	**Plampang**	**5.70**	**265**	P	**Pn**	**18 21 06.8**	**+2.7**
PLAI	**Plampang**	**5.70**	**265**	P	**Pn**	**18 21 06.2**	**+2.1**
	73nm,0.7s,0.3nm						
TTSI	**Tana Toraja**	**6.43**	**325**	P	**Pn**	**18 21 16.2**	**+2.0**
	54nm,0.9s,563nm0.2nm						
TWSI	**Taliwang, Sumb**	**6.57**	**266**	P	Pn	18 21 22.4	+6.2
	61nm,0.9s,0.2nm						
SANI	**Sanana**	**6.73**	**22**	P	**Pn**	**18 21 20.4**	**+2.1**
SANI	**Sanana**	**6.73**	**22**	P	**Pn**	**18 21 19.9**	**+1.6**
	9.8nm,0.9s,0.0nm						
LUWI	**Luwuk**	**7.30**	**354**	Pn	Pn	18 21 17.1	-9.0
SAUI	**Saumlaki**	**7.71**	**88**	Pn	**Pn**	**18 21 28.8**	**-3.0**
MTN	**Manton Dam**	**8.71**	**121**		**Pn**	**18 21 44.0**	**-1.6**
MTN	**Manton Dam**	**8.71**	**121**	P	**Pn**	**18 21 47.9**	**+2.3**
KNRA	**Kununurra**	**8.90**	**145**	Pn	**Pn**	**18 21 49.6**	**+1.4**
KNRA	**Kununurra**	**8.90**	**145**	P	**Pn**	**18 21 49.9**	**+1.8**
MRSI	**Marisa**	**8.91**	**350**	P	**Pn**	**18 21 49.0**	**+0.7**
	15nm,0.8s						
MPSI	**Mapaga**	**9.36**	**337**	P	**Pn**	**18 21 56.4**	**+2.0**
	15nm,0.8s						
TOLI2	**Tolitoli**	**9.79**	**344**	P	**Pn**	**18 22 03.3**	**+3.0**
KDU	**Kakadu**	**9.80**	**117**	P	**Pn**	**18 22 02.5**	**+2.0**
TNTI	**Ternate**	**9.84**	**23**		Pn	18 21 53.8	-7.3
TNTI	**Ternate**	**9.84**	**23**	P	**Pn**	**18 22 05.2**	**+4.2**
	23nm,1.2s						
SIJI	**Sorong**	**10.72**	**46**	Pn	**Pn**	**18 22 12.7**	**-0.3**
	0.4nm,0.3s,baz=228,slow=12,SNR=8.9						
WB0	**Warramunga Arr**	**15.48**	**138**	Pn	**Pn**	**18 23 16.4**	**-1.4**
WB0				IAmb	IAmb	18 23 38.8	
	comp=Z,13nm,0.9s						
WB0	**Warramunga Arr**	**15.48**	**138**	IAmb	IAmb	18 23 38.8	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**15.57**	**139**	Pn	**Pn**	**18 23 18.6**	**-0.3**
WRA	**Warramunga Arr**	**15.57**	**139**	Pn	**Pn**	**18 23 17.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=316,slow=11,SNR=6.4						
WRA				Sn	**Sn**	**18 26 02.5**	**-8.0**
	comp=Z,0.2nm,0.3s,baz=313,slow=24,SNR=7.5						
	comp=Z,5.2nm,0.8s						
WRAB	**Tennant Creek**	**15.57**	**139**		**Pn**	**18 23 16.9**	**-2.0**
WRAB				IAmb	IAmb	18 23 29.4	
	comp=Z,9.2nm,0.8s						
WRAB	**Tennant Creek**	**15.57**	**139**	IAmb	IAmb	18 23 29.5	
	comp=Z,9.2nm,0.8s						
WB2	**Warramunga Arr**	**15.58**	**139**		**Pn**	**18 23 17.9**	**-1.1**
WB2				IAmb	IAmb	18 23 29.1	
	comp=Z,9.8nm,0.9s						
WB2	**Warramunga Arr**	**15.58**	**139**	IAmb	IAmb	18 23 29.1	
	comp=Z,9.8nm,0.9s						
WR0	**Warramunga Arr**	**15.72**	**138**		**Pn**	**18 23 19.3**	**-1.5**
WR0				IAmb	IAmb	18 23 33.0	
	comp=Z,11nm,0.9s						
WR0	**Warramunga Arr**	**15.72**	**138**	IAmb	IAmb	18 23 33.0	
	comp=Z,11nm,0.9s						
AS31	**Alice Springs**	**18.19**	**148**	P	**Pn**	**18 23 51.4**	**-0.4**
ASAR	**Alice Springs**	**18.19**	**148**	P	**Pn**	**18 23 51.3**	**-0.5**
ASAR	**Alice Springs**	**18.19**	**148**	P	**Pn**	**18 23 52.4**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=321,slow=12,SNR=37						
ASAR				S	**Sn**	**18 27 10.0**	**-4.0**
	comp=Z,0.9nm,0.6s,baz=312,slow=20,SNR=3.9						
	comp=Z,4.2nm,0.6s						
STKA	**Stephens Creek**	**28.82**	**147**	P	**P**	**18 25 38.3**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=331,slow=13,SNR=3.7						
	comp=Z,1.9nm,0.8s						
SONM	**Songino Array**	**57.96**	**346**	P	**P**	**18 29 33.6**	**+2.6**
	comp=Z,0.6nm,0.8s,baz=191,slow=12,SNR=3.7						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**66.02**	**330**	P	**P**	**18 30 28.8**	**+3.8**
	comp=Z,2.0nm,1.0s,baz=115,slow=6.8,SNR=3.0						
	comp=Z,2.0nm,1.0s						
AAK	**Ala-Archa**	**67.58**	**323**	P	**P**	**18 30 32.0**	**-3.2**
AAK				IAmb	IAmb	18 30 44.7	
	comp=Z,2.3nm,0.9s						
ZALV	**Zalesovo Beam**	**70.12**	**337**	P	**P**	**18 30 51.0**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=99,slow=8.9,SNR=3.9						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**70.46**	**331**	P	**P**	**18 30 54.6**	**+2.0**
	comp=Z,0.6nm,0.2s,baz=131,slow=3.8,SNR=1.8						
	comp=Z,0.6nm,0.2s						
VNDA	**Vanda**	**71.96**	**172**	P	**P**	**18 31 01.1**	**-0.3**
VNDA				IAmb	IAmb	18 31 15.7	
	comp=Z,3.3nm,1.4s						
VNDA	**Vanda**	**71.96**	**172**	P	**P**	**18 31 04.8**	**+3.4**
	comp=Z,0.6nm,0.9s,baz=303,slow=9.6,SNR=4.0						
	comp=Z,0.6nm,0.9s						
QSPA	**South Pole Qui**	**81.64**	**180**	P	**P**	**18 31 55.7**	**-0.6**

---

*IDC **09** 18:24:39.0±2.0, 6°.01N×126°.99E, h97km±18km, mb3.6/6, mbtmp4.0/7, Error ellipse: s-maj=48.9km s-min=12.5km az=59.0*
ISC 09 18:24:38.4±0.8, 6°.12N±0°.10×127°.2E±0°.1, h100km, n12, σ2.9/68/13, mb3.8/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.90**	**300**	P	**Pn**	**18 25 07.8**	**-1.9**
	822nm,0.5s,baz=152,slow=1.0,SNR=32						
DAV				S	**Sn**	**18 25 31.0**	**-2.5**
	536nm,0.7s,baz=244,slow=22,SNR=5.9						
LBMI	**Labuha**	**6.71**	**178**	P	Pn	18 26 21.4	+6.9
MRSI	**Marisa**	**7.70**	**224**	P	**Pn**	**18 26 29.5**	**+1.6**
SWI	**Sorong**	**8.02**	**150**	P	**Pn**	**18 26 34.5**	**+2.3**
SIJI	**Sorong**	**8.02**	**150**	P	**Pn**	**18 26 32.5**	**+0.2**
	12nm,0.3s,baz=335,slow=17,SNR=37						
SIJI				S	**Sn**	**18 27 54.5**	**-6.9**
	5.1nm,0.2s,baz=207,slow=23,SNR=8.3						
WRA	**Warramunga Arr**	**26.82**	**165**	P	**P**	**18 30 10.7**	**+1.1**
	0.3nm,0.5s,baz=342,slow=10,SNR=6.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**30.31**	**168**	P	**P**	**18 30 41.0**	**+0.4**
	0.4nm,0.3s,baz=346,slow=6.9,SNR=12						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**55.91**	**324**	P	**P**	**18 34 06.7**	**+0.6**
	2.5nm,0.5s,baz=118,slow=8.3,SNR=19						
	2.5nm,0.5s						
KURBB	**Kurchatov Arra**	**60.02**	**326**	P	**P**	**18 34 34.9**	**+0.2**
	1.5nm,0.2s,baz=126,slow=6.3,SNR=13						
	1.5nm,0.2s						
BVAR	**Borovoye Array**	**65.61**	**326**	P	**P**	**18 35 12.6**	**+0.9**
	1.3nm,0.5s,baz=124,slow=7.7,SNR=6.1						
	1.3nm,0.5s						
ILAR	**Eielson Array**	**82.75**	**26**	P	**P**	**18 36 52.8**	**+1.7**
	0.2nm,0.6s,baz=260,slow=5.4,SNR=4.7						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**122.62**	**290**	PKP	**PKPdf**	**18 43 22.9**	**-0.6**
	0.4nm,0.8s,baz=64,slow=3.4,SNR=2.4						

---

*DJA **09** 18:27:43.3±0.3, 8°S±4°×12°3E±°, h10km, M4.6/8, mb4.8/7, mB4.9/1, MLv4.5/8, Mw(mB)4.2/1*
*NEIC **09** 18:27:45.9±1.1, 8°.36S±0°.03×123°.48E±0°.05, h31km±6km, mb4.3/19, Error ellipse: s-maj=7.6km s-min=4.6km az=90.0*
*IDC **09** 18:27:48.1±1.6, 8°.23S×123°.45E, h47km±17km, mb3.7/8, mbtmp4.0/11, ML3.8/3, MS3.6/15, Error ellipse: s-maj=29.8km s-min=11.4km az=54.0*
ISC 09 18:27:46.5±0.5, 8°.32S±0°.05×123°.46E±0°.06, h35km, n88, σ2.9/35/79, mb4.2/15, MS3.5/12, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.25**	**255**		**Pn**	**18 28 06.9**	**-0.6**
MMRI				Sn	**Sn**	**18 28 26.1**	**+2.9**
MMRI	**Maumere**	**1.25**	**255**	P	**Pn**	**18 28 07.2**	**-0.3**
MMRI	**Maumere**	**1.25**	**255**	P	**Pn**	**18 28 07.2

ARPS Mount Arapiles 32.88 152 P P 18 34 20.0 +2.7
JOW Kunigami 35.25 7 LR LR 18 49 41.3
comp=Z,63nm,21.4s,baz=166,slow=37
CMAR Chiang Mai Arr 35.96 318 P **P 18 34 43.8 -0.4**
comp=Z,0.4nm,0.6s,baz=143,slow=7.9,SNR=0.8
comp=Z,0.4nm,0.6s
HNR Honiara 36.06 95 LR LR 18 49 49.3
comp=Z,1µm,20.0s,baz=216,slow=37
DZM Mont Dzumac 43.51 113 LR LR 18 53 43.2
comp=Z,60nm,21.3s,baz=276,slow=36
XLT XiLinHaoTe 52.40 353 *e*P **P 18 36 56.6 +1.2**
XLT pP pP 18 37 03.0 -3.0
XLT sP sP 18 37 05.7 -4.4
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,180nm,4.4s
RPZ Rata Peaks 54.35 139 LR LR 18 59 47.8
comp=Z,64nm,19.6s,baz=326,slow=35
ULN Ulaanbaatar 57.79 347 P **P 18 37 35.5 +1.1**
ULN IAmb IAmb 18 38 11.1
comp=Z,4.7nm,1.4s
SONM Songino Array 57.91 347 P **P 18 37 35.1 -0.1**
SONM IAmb IAmb 18 37 40.8
comp=Z,2.8nm,1.3s
SONM Songino Array 57.91 347 P **P 18 37 35.3 +0.1**
comp=Z,1.3nm,1.1s,baz=169,slow=8.2,SNR=5.7
comp=Z,1.3nm,1.1s
CASY Casey 58.56 186 P **P 18 37 38.9 -0.4**
KSH Kashi 64.77 321 P **P 18 38 23.2 +1.4**
KSH pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 65.96 330 P **P 18 38 28.9 -0.3**
comp=Z,1.2nm,0.7s,baz=120,slow=8.5,SNR=3.7
comp=Z,1.2nm,0.7s
BOOM Boomskoye usch 66.57 324 P **P 18 38 33.1 -0.3**
BOOM IAmb IAmb 18 38 35.9
comp=Z,3.5nm,0.9s
AAK Ala-Archa 67.52 323 P **P 18 38 39.3 -0.1**
AAK IAmb IAmb 18 39 04.7
comp=Z,2.8nm,1.1s
ZAA0 Zalesovo Array 70.06 337 P **P 18 38 53.7 -1.0**
ZAA0 IAmb IAmb 18 39 20.1
comp=Z,4.2nm,1.3s
ZALV Zalesovo Beam 70.06 337 P **P 18 38 54.1 -0.6**
ZALV Zalesovo Beam 70.06 337 P **P 18 38 53.1 -1.7**
comp=Z,0.3nm,0.3s,baz=132,slow=2.1,SNR=4.4
comp=Z,0.3nm,0.3s
KKAR Karatay Array 70.19 322 P **P 18 38 54.9 -0.9**
YAK Yakutsk 70.30 3 P **P 18 38 55.7 -0.3**
KURBB Kurchatov Arra 70.40 331 P **P 18 38 56.7 -0.2**
comp=Z,0.4nm,0.2s,baz=132,slow=4.1,SNR=1.2
comp=Z,0.4nm,0.2s
KURK Kurchatov 70.42 332 P **P 18 38 56.8 -0.2**
KURK IAmb IAmb 18 38 59.0
comp=Z,5.1nm,1.2s
AKTO Aktyubinsk 81.23 324 LR LR 19 22 30.1
comp=Z,22nm,18.6s,baz=78,slow=40
QSPA South Pole Qui 81.67 180 P **P 18 40 02.2 +1.1**
QSPA IAmb IAmb 18 40 06.5
comp=Z,4.6nm,1.1s
QSPA South Pole Qui 81.67 180 P **P 18 40 02.2 +1.1**
comp=Z,2.7nm,0.9s,baz=283,slow=1.5,SNR=9.6
comp=Z,2.7nm,0.9s
KIRV Kirov 88.85 330 LR LR 19 24 28.0
comp=Z,30nm,18.7s,baz=125,slow=38
SUR Sutherland 96.13 236 LR LR 19 15 09.6
comp=Z,26nm,22.0s,baz=140,slow=30

IDC 09 18:40:39.6±3.3, 32°.80S×178°.52W, h0km, mb3.4/2, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=74.4km s-min=37.4km az=112.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.51**	**212**	Pn	Pn	18 42 17.4	+0.8
	0.7nm,0.3s,baz=40,slow=15,SNR=7.3						
URZ				Sn	Sn	18 43 29.8	-1.8
	1.0nm,0.3s,baz=201,slow=13,SNR=2.0						
	5.1nm,0.8s						
ASAR	**Alice Springs**	**42.59**	**270**	P	P	18 48 37.7	0.0
	0.4nm,0.7s,baz=108,slow=7.0,SNR=4.4						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**43.80**	**275**	P	P	18 48 47.2	-0.2
	0.4nm,0.5s,baz=115,slow=7.7,SNR=11						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**147.22**	**338**	PKPbc	PKPbc	19 00 23.1	-1.0
	4.5nm,0.9s,baz=29,slow=3.2,SNR=3.5						

---

*ISK **09** 18:45:43.7, 34°.39N×23°.44E, h17km, ML3.2/10*
*GII **09** 18:46:00.5±0.0, 35°.14N×25°.09E, h30km*
ISC 09 18:45:44.8±1.9, 34°.4N±0°.1×23°.3E±0°.1, h51km±34km, n23, σ2°.01/29, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.79**	**59**	Pg	**Pn**	18 45 57.2	**-2.5**
GVD				Sg	**Sn**	18 46 08.2	**-2.4**
KNDR	**Palaiochora Ch**	**0.87**	**23**	Pg	**Pn**	18 46 00.9	**+0.2**
KNDR				Sg	**Sn**	18 46 13.1	**+0.7**
IMMV	**Iera Moni Meta**	**1.18**	**30**	Pn	**Pn**	18 46 04.0	**-0.9**
IMMV				Sn	**Sn**	18 46 21.1	**+1.2**
RODP	**Rodopos**	**1.19**	**20**	Pn	**Pn**	18 46 06.3	**+1.2**
RODP				Sn	**Sn**	18 46 22.4	**+2.2**
IDI	**Anoyia**	**1.58**	**57**	Pn	**Pn**	18 46 10.3	**-0.2**
IDI				Sn	**Sn**	18 46 30.2	**+0.4**
KTHA	**Kythira Island**	**1.82**	**355**	Pn	**Pn**	18 46 16.3	**+2.6**
ZKR	**Zakros**	**2.52**	**74**	Pn	**Pn**	18 46 23.1	**-0.2**
SANT	**Santorini**	**2.63**	**42**	Pn	**Pn**	18 46 25.9	**+1.1**
APE	**Apeiranthos**	**3.21**	**34**	Pn	**Pn**	18 46 34.3	**+1.6**
APE	**Apeiranthos**	**3.21**	**34**	Pn	**Pn**	18 46 31.5	**-1.2**
KARP	**Karpathos**	**3.38**	**70**	Pn	**Pn**	18 46 35.9	**+0.8**
DBRK	**Dubrovnik**	**9.14**	**336**	*e*Pn	**Pn**	18 47 55.2	**+1.2**
DBRK				Sn	**Sn**	18 49 29.1	**-6.3**
STON	**Ston**	**9.48**	**334**	*e*Pn	**Pn**	18 47 58.4	**-0.1**
LSTV	**Lastovo**	**9.70**	**331**	*e*Pn	**Pn**	18 48 00.2	**-1.3**
KZIT	**Kziot**	**10.02**	**107**	Pn	**Pn**	18 48 05.8	**-0.2**
KZIT				Sn	Sn	18 49 45.8	-11
YTIR	**Yattir**	**10.42**	**104**	Pn	**Pn**	18 48 12.3	**+0.7**
MSBI	**Mazada**	**10.63**	**104**	Pn	**Pn**	18 48 14.8	**+0.4**
PRNI	**Paran**	**10.72**	**109**	Pn	**Pn**	18 48 16.4	**+0.7**
PRNI				Sn	Sn	18 50 04.8	-10
GHAJ	**Ghor Haditha**	**10.80**	**103**	Pn	**Pn**	18 48 16.7	**0.0**
KIJV	**Kijevo**	**10.93**	**333**	*e*Pn	**Pn**	18 48 18.8	**+0.4**
ZIRJ	**Zirje**	**10.94**	**330**	*e*Pn	**Pn**	18 48 20.7	**+2.2**
DUGI	**Dugi Otok**	**11.46**	**329**	*e*Pn	**Pn**	18 48 28.7	**+3.0**
VIRC	**Vir**	**11.71**	**330**	*e*Pn	**Pn**	18 48 32.1	**+3.1**

---

*IDC **09** 18:58:15.8±0.8, 37°.53S×51°.94E, h0km, mb4.0/7, mbtmp4.0/7, MS3.7/7, Error ellipse: s-maj=28.6km s-min=23.8km az=8.0*
ISC 09 18:58:17.3±0.9, 37°.5S±0°.2×51°.9E±0°.2, h10km, n20, σ0°.79/8, mb4.1/7, MS3.8/7, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**8.64**	**181**	T	T	19 09 23.8	
	baz=1.1,slow=75,SNR=666						
H04N2	**CROZET ISLANDS**	**8.64**	**180**	T	T	19 09 26.6	
	baz=1.1,slow=75,SNR=1167						
H04N3	**CROZET ISLANDS**	**8.65**	**181**	T	T	19 09 22.2	
	baz=1.1,slow=75,SNR=744						
BOSA	**Boshof**	**23.97**	**284**	P	**P**	**19 03 31.5**	**-0.6**
	3.5nm,0.9s,baz=156,slow=6.3,SNR=2.5						
	3.5nm,0.9s						
KMBO	**Kilima Mbogo**	**38.65**	**336**	LR	LR	19 19 45.9	
	comp=Z,84nm,20.1s,baz=94,slow=33						
MBAR	**Mbarara**	**41.60**	**327**	LR	LR	19 20 39.7	
	comp=Z,60nm,18.1s,baz=128,slow=32						
SNAA	**Sanae**	**43.91**	**202**	P	**P**	**19 06 23.5**	**-0.2**
	2.3nm,1.1s,baz=30,slow=14,SNR=4.1						
	2.3nm,1.1s						
H01W2	**Cape Leeuwin H**	**49.46**	**107**	T	T	20 00 11.0	
	baz=248,slow=75,SNR=56						
H01W3	**Cape Leeuwin H**	**49.47**	**107**	T	T	20 00 11.5	
	baz=248,slow=75,SNR=31						
H01W1	**Cape Leeuwin H**	**49.48**	**107**	T	T	20 00 12.3	
	baz=248,slow=75,SNR=31						
QSPA	**South Pole Qui**	**52.67**	**180**	P	**P**	**19 07 32.1**	**+0.5**
	2.3nm,0.9s,baz=254,slow=2.9,SNR=3.8						
QSPA				LR	LR	19 27 46.3	
	comp=Z,122nm,20.7s,baz=292,slow=34						
	2.3nm,0.9s						

WSAR	**Wadi Sarin**	**60.76**	**7**	LR	LR	19 28 29.2	
	comp=Z,63nm,20.2s,baz=235,slow=30						
TORD	**Torodi Ar. Bea**	**68.99**	**307**	P	**P**	**19 09 23.6**	**+0.6**
	1.4nm,1.1s,baz=108,slow=4.5,SNR=4.3						
	1.4nm,1.1s						
ASAR	**Alice Springs**	**69.91**	**105**	P	**P**	**19 09 27.8**	**-1.1**
	1.0nm,0.7s,baz=231,slow=6.0,SNR=15						
	1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**71.12**	**47**	P	**P**	**19 09 36.2**	**+0.2**
	1.6nm,0.9s,baz=231,slow=6.8,SNR=7.6						
	1.6nm,0.9s						
WRA	**Warramunga Arr**	**72.29**	**102**	P	**P**	**19 09 44.0**	**+0.7**
	1.4nm,0.8s,baz=233,slow=5.4,SNR=13						
	1.4nm,0.8s						
GNI	**Garni**	**77.57**	**354**	LR	LR	19 45 04.2	
	comp=Z,22nm,18.1s,baz=175,slow=36						
KEST	**Kesra**	**82.88**	**326**	LR	LR	19 46 48.6	
	comp=Z,54nm,18.7s,baz=261,slow=35						
CFA	**Coronel Fontan**	**91.40**	**228**	LR	LR	19 47 38.5	
	comp=Z,42nm,19.2s,slow=32						
ILAR	**Eielson Array**	**150.52**	**16**	PKPbc	**PKiKP**	**19 18 08.3**	**-0.7**
	2.8nm,1.0s,baz=316,slow=3.6,SNR=17						

---

*IDC **09** 18:59:51.0±1.2, 45°.82N×27°.54W, h0km, mb3.5/4, mbtmp3.4/5, ML4.1/1, MS2.8/5, Error ellipse: s-maj=45.7km s-min=26.5km az=33.0*
ISC 09 18:59:53.1±1.1, 45°.8N±0°.3×27°.6W±0°.2, h13km, n11, σ0°.72/9, mb3.6/4, MS2.7/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.34**	**101**	P	**P**	**19 04 08.3**	**+1.0**
	0.1nm,0.3s,baz=296,slow=13,SNR=5.6						
ESDC				LR	LR	19 09 42.9	
	comp=Z,42nm,19.1s,baz=295,slow=32						
	0.3nm,0.4s						
MDT	**Midelt**	**21.90**	**118**	LR	LR	19 11 16.3	
	comp=Z,18nm,21.2s,baz=16,slow=31						
DAVOX	**Davos/Dischmat**	**25.72**	**74**	LR	LR	19 14 18.5	
	comp=Z,25nm,18.2s,baz=308,slow=34						
GERES	**GERESS Array B**	**27.88**	**69**	LR	LR	19 15 13.4	
	comp=Z,22nm,21.9s,baz=128,slow=33						
VRAC	**Vranov**	**29.67**	**67**	LR	LR	19 17 15.0	
	comp=Z,22nm,20.3s,baz=202,slow=35						
TORD	**Torodi Ar. Bea**	**40.89**	**133**	P	**P**	**19 07 34.5**	**-0.5**
	1.7nm,0.9s,baz=314,slow=7.1,SNR=7.2						
	1.7nm,0.9s						
ILAR	**Eielson Array**	**60.07**	**334**	P	**P**	**19 09 59.3**	**-0.1**
	0.2nm,0.7s,baz=36,slow=4.7,SNR=2.5						
	0.2nm,0.7s						
TXAR	**Lajitas Array**	**60.34**	**283**	P	**P**	**19 10 02.4**	**+0.6**
	0.3nm,0.8s,baz=59,slow=7.5,SNR=1.8						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**64.69**	**43**	P	**P**	**19 10 30.5**	**+0.1**
	0.3nm,0.3s,baz=313,slow=6.8,SNR=1.9						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**150.19**	**36**	PKPbc	**PKPbc**	**19 19 43.0**	**-1.0**
	0.3nm,0.7s,baz=309,slow=2.6,SNR=2.4						
WRA				PKPab	**sPKPbc**	**19 19 49.3**	**+0.5**
	0.4nm,0.7s,baz=335,slow=4.6,SNR=5.6						
ASAR	**Alice Springs**	**153.28**	**40**	PKPbc	**PKPbc**	**19 19 50.5**	**-0.5**
	0.3nm,0.7s,baz=3.1,slow=3.4,SNR=4.5						
ASAR				PKPab	**PKPab**	**19 20 02.4**	**-0.4**
	0.6nm,0.8s,baz=336,slow=4.9,SNR=6.3						

---

*IDC **09** 19:05:04.3±1.0, 37°.25S×51°.88E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=36.8km s-min=32.0km az=7.0*
ISC 09 19:05:05.7±1.0, 37°.2S±0°.2×51°.9E±0°.2, h10km, n12, σ0°.33/6, mb3.8/5, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**8.92**	**180**	T	T	19 16 15.3	
	baz=1.1,slow=75,SNR=424						
H04N2	**CROZET ISLANDS**	**8.93**	**180**	T	T	19 16 14.1	
	baz=1.1,slow=75,SNR=419						
H04N3	**CROZET ISLANDS**	**8.94**	**180**	T	T	19 16 14.5	
	baz=1.1,slow=75,SNR=366						
SNAA	**Sanae**	**44.16**	**202**	P	**P**	**19 13 14.2**	**0.0**
	1.1nm,0.9s,baz=26,slow=2.5,SNR=3.1						
	1.1nm,0.9s						
H01W2	**Cape Leeuwin H**	**49.58**	**107**	T	T	20 07 06.1	
	baz=248,slow=75,SNR=40						
H01W3	**Cape Leeuwin H**	**49.59**	**107**	T	T	20 07 08.5	
	baz=248,slow=75,SNR=35						
H01W1	**Cape Leeuwin H**	**49.60**	**107**	T	T	20 07 07.4	
	baz=248,slow=75,SNR=35						
TORD	**Torodi Ar. Bea**	**68.78**	**307**	P	**P**	**19 16 10.3**	**+0.2**
	0.5nm,0.7s,baz=110,slow=4.9,SNR=3.2						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**70.02**	**105**	P	**P**	**19 16 18.1**	**+0.2**
	1.1nm,0.7s,baz=233,slow=5.9,SNR=7.3						
	1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**70.96**	**47**	P	**P**	**19 16 23.6**	**+0.1**
	0.8nm,0.8s,baz=236,slow=6.4,SNR=6.3						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**72.39**	**102**	P	**P**	**19 16 32.3**	**0.0**
	0.6nm,0.6s,baz=230,slow=5.2,SNR=9.7						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**150.26**	**16**	PKPbc	**PKiKP**	**19 24 56.4**	**-0.5**
	2.3nm,1.0s,baz=319,slow=3.3,SNR=11						

DJA 09 19:05:40.2±0.5, 2°N±5°×12°6E±°, h87km±8km, M3.6/11, mb3.5/2, mB5.2/1, MLv3.7/11, Mw(mB)4.5/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.92**	**118**	P	Pn	19 06 11.4	+0.2
GTOI	**Gorontalo**	**2.85**	**249**	P	Pn	19 06 24.7	+1.0
LBMI	**Labuha**	**2.93**	**141**	P	Pn	19 06 25.4	+0.6
SANI	**Sanana**	**3.71**	**175**	P	Pn	19 06 35.0	-0.3
MRSI	**Marisa**	**3.91**	**252**	P	Pn	19 06 39.3	+1.3
LUWI	**Luwuk**	**3.96**	**227**	P	Pn	19 06 46.1	+7.5
NLAI	**Namlea**	**5.08**	**164**	P	Pn	19 06 54.4	+0.4
NLAI				S	Sn	19 07 50.3	-1.1
MPSI	**Mapaga**	**5.92**	**257**	P	Pn	19 07 06.5	+1.1

---

*NEIC **09** 19:07:18.7±1.6, 15°.2S±0°.2×178°.1W±0°.1, h10km±1km, mb4.5/29, Error ellipse: s-maj=35.6km s-min=13.2km az=152.0*
*IDC **09** 19:07:20.1±4.2, 16°.81S×177°.30W, h56km±37km, mb3.6/10, mbtmp3.9/12, ML5.1/1, MS3.8/38, Error ellipse: s-maj=33.9km s-min=22.2km az=148.0*
ISC 09 19:07:20.8±0.6, 15°.3S±0°.2×178°.0W±0°.1, h35km, n99, σ1°.56/68, mb4.1/14, MS3.8/34, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.46**	**237**	Pn	**Pn**	**19 08 25.9**	**-0.1**
MSVF	**Nonsavu**	**4.46**	**237**	P	**Pn**	**19 08 26.8**	**+0.8**
	3.5nm,0.3s,baz=77,slow=18,SNR=14						
MSVF				S	**Sn**	**19 09 18.8**	**+2.1**
	9.5nm,0.6s,baz=326,slow=22,SNR=1.2						
MSVF				LR	LR	19 10 16.1	
	comp=Z,4µm,18.3s,baz=53,slow=39						
	6.3nm,0.4s						
AFI	**Afiamalu**	**6.21**	**78**	Pn	**Pn**	**19 08 49.3**	**-0.9**
AFI	**Afiamalu**	**6.21**	**78**	LR	LR	19 10 26.2	
	comp=Z,1µm,21.9s,baz=238,slow=31						
RAO	**Raoul Island**	**13.86**	**180**	LR	LR	19 14 01.6	
	comp=Z,568nm,21.1s,baz=348,slow=32						
GLKZ	**Green Lake**	**13.87**	**180**	P	P	19 10 49.7	+7.1
MARNC	**Mare, Loyalty**	**14.57**	**243**	Pn	**Pn**	**19 10 43.8**	**-0.8**
MARNC				Sn	Sn	19 13 12.9	-12
OUENC	**Ouen Island, N**	**15.95**	**241**	P	**Pn**	**19 11 02.9**	**+0.2**
DZM	**Mont Dzumac**	**16.16**	**243**	*e*P	**Pn**	**19 11 05.3**	**-0.1**
	93nm,1.4s						
DZM				*e*LR	LR	19 15 07.3	
	comp=Z,2µm,25.5s						
DZM	**Mont Dzumac**	**16.16**	**243**		**Pn**	**19 11 05.0**	**-0.5**
DZM				IAmb	IAmb	19 11 21.9	
	comp=Z,53nm,1.3s						
DZM	**Mont Dzumac**	**16.16**	**243**	P	**Pn**	**19 11 03.9**	**-1.6**
	comp=Z,13nm,1.1s,baz=97,slow=17,SNR=4.6						
DZM				LR	LR	19 16 26.0	
	comp=Z,1µm,19.0s,baz=84,slow=34						
ONTNC	**Ouen Toro**	**16.24**	**242**		**Pn**	**19 11 06.7**	**+0.4**
KOUNC	**Koumac, New Ca**	**17.61**	**250**	Pn	**Pn**	**19 11 23.2**	**-0.3**
KOUNC				IAmb	IAmb	19 11 31.8	
	comp=Z,90nm,1.4s						
RAR	**Rarotonga**	**18.29**	**111**	LR	LR	19 15 21.9	
	comp=Z,280nm,21.9s,baz=312,slow=28						
OUZ	**Omahuta**	**21.19**	**199**	P	**P**	**19 12 08.2**	**+5.0**
GRZ	**Great Barrier**	**21.63**	**194**	P	**P**	**19 12 09.6**	**+1.6**
KUZ	**Kuaotunu**	**22.05**	**193**	P	**P**	**19 12 13.5**	**+1.1**
WIAZ	**Waiheke Island**	**22.23**	**195**	P	**P**	**19 12 16.1**	**+1.7**
MKAZ	**Moumakai**	**22.52**	**194**	P	**P**	**19 12 18.8**	**+1.3**
AWAZ	**Awhitu Peninsu**	**22.61**	**195**	P	**P**	**19 12 19.9**	**+1.4**
WMGZ	**Waiomatatini S**	**22.62**	**187**	P	**P**	**19 12 19.4**	**+0.8**
HAZ	**Te Kaha**	**22.65**	**189**	P	**P**	**19 12 19.2**	**+0.4**
RUGZ	**Raukumara Rang**	**22.87**	**189**	P	**P**	**19 12 21.9**	**+0.6**
PUZ	**Puketiti**	**22.89**	**188**	P	**P**	**19 12 22.8**	**+1.4**
TWGZ	**Tauwhareparae**	**23.03**	**188**	P	**P**	**19 12 23.4**	**+0.4**
TOZ	**Tahuroa Road**	**23.04**	**193**	P	**P**	**19 12 22.7**	**-0.2**
URZ	**Urewera**	**23.24**	**190**	P	**P**	**19 12 24.3**	**-0.7**
URZ	**Urewera**	**23.24**	**190**	P	P	19 12 08.7	-16
	comp=Z,9.4nm,0.9s,baz=330,slow=16,SNR=3.5						
URZ				LR	LR	19 20 05.6	
	comp=Z,302nm,19.1s,baz=88,slow=35						
	comp=Z,9.4nm,0.9s						
CNGZ	**Carnagh Statio**	**23.30**	**187**	P	**P**	**19 12 27.1**	**+1.5**
MTHZ	**Maungataniwha**	**23.87**	**190**	P	**P**	**19 12 31.9**	**+0.9**
SNVZ	**South Ngauruho**	**24.41**	**192**	P	**P**	**19 12 35.8**	**-0.4**
BFZ	**Birch Farm**	**25.75**	**190**	P	**P**	**19 12 48.6**	**+0.5**
MRZ	**Mangatainoka R**	**25.85**	**191**	P	**P**	**19 12 48.5**	**-0.5**
TCW	**Tory Channel**	**26.64**	**193**	P	**P**	**19 12 57.0**	**+0.8**
SNZO	**South Karori**	**26.65**	**192**	P	**P**	**19 12 57.0**	**+0.9**
QRZ	**Quartz Range**	**26.70**	**196**	P	**P**	**19 12 59.4**	**+2.7**
TKNZ	**Takaka Hill**	**26.78**	**195**	P	**P**	**19 12 59.4**	**+1.9**
NNZ	**Nelson**	**26.85**	**194**	P	**P**	**19 12 59.6**	**+1.5**
TUWZ	**Tuamarina**	**26.92**	**193**	P	**P**	**19 12 59.5**	**+0.8**
MRNZ	**Matariki Terra**	**27.18**	**195**	P	**P**	**19 13 03.4**	**+2.3**
PPT	**Papeete**	**27.37**	**99**	LR	LR	19 20 14.6	
	comp=Z,209nm,20.4s,baz=267,slow=29						
THZ	**Tophouse**	**27.48**	**195**	P	**P**	**19 13 05.9**	**+2.1**
DSZ	**Denniston Nort**	**27.75**	**196**	P	**P**	**19 13 08.3**	**+2.1**
GVZ	**Greta Valley S**	**28.59**	**194**	P	**P**	**19 13 15.1**	**+1.4**
LTZ	**Lake Taylor**	**28.60**	**195**	P	**P**	**19 13 14.8**	**+1.1**
INZ	**Inchbonnie**	**28.76**	**196**	P	**P**	**19 13 16.9**	**+1.8**
OXZ	**Oxford**	**29.17**	**195**	P	**P**	**19 13 20.5**	**+1.8**
RPZ	**Rata Peaks**	**29.79**	**196**	P	**P**	**19 13 26.1**	**+1.9**
RPZ	**Rata Peaks**	**29.79**	**196**	LR	LR	19 24 55.7	
	comp=Z,179nm,18.6s,baz=52,slow=37						
FOZ	**Fox Glacier**	**29.97**	**198**	P	**P**	**19 13 28.2**	**+2.5**
LBZ	**Lake Benmore**	**30.64**	**197**	P	**P**	**19 13 33.0**	**+1.2**
MLZ	**Mavora Lakes**	**32.14**	**198**	P	**P**	**19 13 46.1**	**+1.1**
DCZ	**Deep Cove**	**32.53**	**200**	P	**P**	**19 13 49.8**	**+1.4**
CTA	**Charters Tower**	**34.31**	**257**	P	**P**	**19 14 02.7**	**-1.5**
	comp=Z,3.6nm,0.8s,baz=86,slow=12,SNR=3.6						
CTA				LR	LR	19 26 36.1	
	comp=Z,330nm,19.7s,baz=80,slow=33						
	comp=Z,3.6nm,0.8s						
CTAO	**Charters Tower**	**34.31**	**257**	P	**P**	**19 14 04.4**	**+0.2**
CTAO				IAmb	IAmb	19 14 26.1	
	comp=Z,10nm,1.1s						
TAOE	**Nuku Hiva Isla**	**37.55**	**85**	*e*LR	LR	19 23 22.8	
	comp=Z,457nm,28.4s						
STKA	**Stephens Creek**	**40.23**	**239**	P	**P**	**19 14 50.7**	**-3.7**
	comp=Z,2.4nm,1.0s,baz=101,slow=18,SNR=2.4						
STKA				LR	LR	19 30 23.7	
	comp=Z,142nm,18.8s,baz=37,slow=34						
	comp=Z,2.4nm,1.0s						
JAY	**Jayapura**	**42.61**	**283**	LR	LR	19 32 24.2	
	comp=Z,86nm,21.9s,baz=149,slow=34						
WRA	**Warramunga Arr**	**45.51**	**257**	P	**P**	**19 15 36.5**	**-0.8**
WRA	**Warramunga Arr**	**45.51**	**257**	P	**P**	**19 15 37.2**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=94,slow=7.2,SNR=13						
	comp=Z,1.5nm,0.9s						
AS31	**Alice Springs**	**45.89**	**252**	P	**P**	**19 15 39.5**	**-0.8**
AS31				IAmb	IAmb	19 15 40.4	
	comp=Z,2.9nm,0.7s						
ASAR	**Alice Springs**	**45.89**	**252**	P	**P**	**19 15 39.1**	**-1.2**
ASAR	**Alice Springs**	**45.89**	**252**	P	**P**	**19 15 39.5**	**-0.7**
	comp=Z,8.2nm,0.7s,baz=90,slow=8.2,SNR=119						
ASAR				PcP	**PcP**	**19 17 15.0**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=92,slow=6.0,SNR=0.6						
	comp=Z,8.2nm,0.7s						
GUMO	**Guam**	**46.61**	**306**	LR	LR	19 36 01.6	
	comp=Z,21nm,18.4s,baz=126,slow=36						
JCJ	**Chichijima**	**57.18**	**317**	LR	LR	19 38 56.2	
	comp=Z,70nm,20.3s,baz=107,slow=32						
NWAO	**Narrogin (SRO)**	**60.76**	**241**	LR	LR	19 44 28.9	
	comp=Z,96nm,18.3s,baz=77,slow=37						
JHJ	**Hachijo jima 2**	**62.80**	**321**	LR	LR	19 39 53.1	
	comp=Z,44nm,20.1s,baz=94,slow=30						
MJAR	**Matsushiro Arr**	**66.08**	**322**	P	P	19 18 11.4	+7.0
	comp=Z,0.4nm,0.5s,baz=157,slow=6.6,SNR=2.1						
MJAR				LR	LR	19 42 33.5	
	comp=Z,36nm,19.4s,baz=152,slow=31						
	comp=Z,0.4nm,0.5s						
SHEM	**Shemya Is, Ala**	**68.11**	**355**	LR	LR	19 41 47.0	
	comp=Z,88nm,21.6s,baz=127,slow=30						
JNU	**Nakatsue**	**68.55**	**315**	LR	LR	19 44 16.1	
	comp=Z,15nm,21.3s,baz=168,slow=32						
ASAJ	**Asahikawa**	**69.21**	**331**	LR	LR	19 43 27.2	
	comp=Z,122nm,21.6s,baz=152,slow=31						
PETK	**Petropavlovsk-**	**71.29**	**345**	LR	LR	19 46 30.4	
	comp=Z,42nm,20.1s,baz=143,slow=32						
KSRS	**Korea Array**	**73.04**	**318**	LR	LR	19 46 08.4	
	comp=Z,32nm,22.0s,baz=240,slow=31						
LEM	**Lembang**	**73.17**	**267**	LR	LR	19 52 27.1	
	comp=Z,41nm,18.1s,ba

Manual Solution by A.Fokaefs First location: 2019/06/11 07:45:05, This location: 2020/01/13 12:25:50 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km
*AFAD **09** 19:30:10.8±0.0, 35°.33N×27°.07E, h16km±2km, ML2.6*
*THE **09** 19:30:11.5, 35°.36N×27°.06E, h0km±1km, ML2.6/3, Error ellipse: s-maj=4.5km s-min=0.9km az=141.0*
ISC 09 19:30:11.3±1.1, 35°.33N±0°.05×27°.11E±0°.03, h17km±7km, n41, σ1§43/60, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPA	**Karpathos**	**0.19**	**26**	P	**Pg**	**19 30 15.7**	**-0.3**
KRPA				S	**Sb**	**19 30 19.6**	**-0.2**
KARP	**Karpathos**	**0.22**	**12**	Pg	**Pg**	**19 30 16.3**	**-0.2**
KARP				Sg	**Sb**	**19 30 20.7**	**+0.1**
KARP	**Karpathos**	**0.22**	**12**	P	**Pg**	**19 30 16.2**	**-0.2**
KARP				S	**Sg**	**19 30 19.6**	**-0.3**
	3μm,0.2s						
KARP	**Karpathos**	**0.22**	**12**	P	**Pg**	**19 30 16.2**	**-0.2**
KARP				S	**Sb**	**19 30 21.0**	**+0.4**
ZKR	**Zakros**	**0.76**	**254**	Pg	**Pg**	**19 30 25.8**	**-0.3**
ZKR				Sg	**Sn**	**19 30 38.2**	**-0.1**
ZKR	**Zakros**	**0.76**	**254**	P	**Pg**	**19 30 25.4**	**-0.7**
ZKR				S	**Sb**	**19 30 38.1**	**+2.0**
	462nm,0.3s						
ZKR	**Zakros**	**0.76**	**254**	P	**Pg**	**19 30 25.4**	**-0.7**
ZKR				S	**Sg**	**19 30 36.3**	**+0.1**
FRMA	**Ierapetra Chan**	**1.17**	**255**	P	**Pn**	**19 30 31.0**	**-1.9**
FRMA				S	**Sb**	**19 30 46.0**	**-1.9**
ARG	**Arkhangelos**	**1.21**	**43**	Pn	**Pg**	**19 30 34.3**	**-0.3**
ARG	**Arkhangelos**	**1.21**	**43**	P	**Pg**	**19 30 34.5**	**-0.1**
ARG				S	**Sg**	**19 30 51.2**	**+0.7**
	270nm,0.6s						
ARG	**Arkhangelos**	**1.21**	**43**	P	**Pg**	**19 30 34.5**	**-0.1**
RFTD	**Palamutbuku-Ka**	**1.38**	**13**	Pn	**Pg**	**19 30 37.9**	**0.0**
KOSK	**Kos Island**	**1.42**	**356**	Pn	**Pg**	**19 30 38.7**	**+0.1**
DAT	**Datca**	**1.45**	**15**	Pn	**Pb**	**19 30 38.4**	**+0.6**
DAT	**Datca**	**1.45**	**15**	P	**Pb**	**19 30 37.7**	**-0.1**
DAT				S	**Sg**	**19 30 57.4**	**-0.5**
DAT	**Datca**	**1.45**	**15**	P	**Pb**	**19 30 38.0**	**+0.2**
DAT				S	**Sg**	**19 30 58.2**	**+0.3**
RFTC	**Emecik-Datca**	**1.55**	**22**	Pn	**Pb**	**19 30 39.9**	**+0.3**
HRKL	**Herakleio**	**1.64**	**270**	Pn	**Pb**	**19 30 41.9**	**+0.9**
SANT	**Santorini**	**1.69**	**308**	Pn	**Pb**	**19 30 42.9**	**+0.9**
TURN	**Turunc**	**1.71**	**32**	Pn	**Pb**	**19 30 43.0**	**+0.8**
TURN	**Turunc**	**1.71**	**32**	P	**Pg**	**19 30 43.9**	**-0.2**
TURN				S	**Sg**	**19 31 05.8**	**-0.5**
BODT	**Bodrum**	**1.73**	**5**	Pn	**Pn**	**19 30 41.9**	**+1.2**
RFTAA	**Mazikoy-Bodrum**	**1.74**	**17**	Pn	**Pb**	**19 30 42.4**	**-0.4**
BDRM	**Kayabasi**	**1.75**	**9**	P	**Pb**	**19 30 43.4**	**+0.5**
BDRM				S	**Sb**	**19 31 04.9**	**+0.2**
SNT5	**Nea Kammeni, S**	**1.75**	**308**	P	**Pn**	**19 30 42.0**	**+1.1**
IDI	**Anoyia**	**1.81**	**269**	Pn	**Pb**	**19 30 44.6**	**+0.6**
DALY	**Dalyan (Mula)**	**1.94**	**40**	Pn	**Pb**	**19 30 45.5**	**-0.7**
YER	**Yerkesik**	**2.03**	**28**	Pn	**Pb**	**19 30 46.9**	**-0.9**
IZZE	**Mula-Seydike**	**2.04**	**57**	P	**Pn**	**19 30 45.9**	**+1.0**
IZZE				S	**Sn**	**19 31 10.4**	**+0.3**
IZZE				*i* AML	AML	19 31 20.0	
	comp=N,36nm,0.4s						
FETY	**Fethiye**	**2.06**	**50**	Pn	**Pn**	**19 30 46.7**	**+1.5**
DDIM	**Aydin, Didim**	**2.12**	**3**	P	**Pg**	**19 30 54.8**	**+2.8**
DDIM				S	**Sn**	**19 31 05.4**	**-6.6**
DDIM				*i* AML	AML	19 31 43.0	
	comp=E,95nm,1.2s						
DDIM				*i* AML	AML	19 32 00.0	
	comp=Z,125nm,1.3s						
DDIM				*i* AML	AML	19 32 07.0	
	comp=N,88nm,1.3s						
APE	**Apeiranthos**	**2.15**	**324**	Pn	**Pb**	**19 30 48.8**	**-1.0**
AKAS	**Kas**	**2.22**	**65**	Pn	**Pn**	**19 30 48.9**	**+1.4**
CAME	**Cameli-Denizli**	**2.40**	**47**	Pn	**Pn**	**19 30 51.9**	**+2.0**
AYDN	**Tasoluk**	**2.41**	**15**	P	**Pb**	**19 30 52.8**	**-1.3**
AYDN				S	**Sb**	**19 31 22.7**	**-0.8**
IMMV	**Iera Moni Meta**	**2.56**	**274**	Pn	**Pn**	**19 30 54.9**	**+3.0**
TAVA	**DENIZLI_Tavas**	**2.58**	**34**	P	**Pb**	**19 30 55.6**	**-1.5**
TAVA				S	**Sb**	**19 31 29.1**	**+0.4**
ELL	**Elmali**	**2.67**	**57**	Pn	**Pn**	**19 30 55.8**	**+2.1**
GOLH	**Golhisar**	**2.75**	**46**	P	**Pb**	**19 30 57.9**	**-2.1**
GOLH				S	**Sb**	**19 31 33.6**	**+0.2**
GOLH				*i* AML	AML	19 31 46.0	
	comp=Z,19nm,2.1s						
GOLH				*i* AML	AML	19 31 58.0	
	comp=E,28nm,1.8s						
GOLH				*i* AML	AML	19 32 21.0	
	comp=N,34nm,2.2s						
DNIZ	**Denizli-Tavas-**	**2.77**	**34**	P	**Pb**	**19 31 02.3**	**+2.0**
DNIZ				S	**Sb**	**19 31 33.1**	**-0.9**
DNIZ				*i* AML	AML	19 31 42.0	
	comp=N,28nm,0.9s						
DNIZ				*i* AML	AML	19 31 51.0	
	comp=E,45nm,0.6s						
DNIZ				*i* AML	AML	19 31 53.0	
	comp=Z,19nm,0.9s						
APMY	**Acipayam-Deniz**	**2.77**	**39**	Pn	**Pn**	**19 30 57.2**	**+2.2**

*IDC **09** 19:32:33.4±0.7, 12°.80N×92°.50E, h0km, mb3.9/20, mbtmp3.9/21, ML3.6/1, Error ellipse: s-maj=25.2km s-min=15.0km az=49.0*
*NDI **09** 19:32:37.3±3.0, 12°.88N×92°.31E, h10km, ML4.2, mb4.5(NEIC)*
*NEIC **09** 19:32:39.0±1.9, 12°.94N±0°.05×92°.41E±0°.07, h32km±5km, mb4.5/11, Error ellipse: s-maj=11.2km s-min=6.5km az=60.0*
ISC 09 19:32:38.6±0.4, 13°.03N±0°.05×92°.51E±0°.07, h31km, n61, σ1§58/66, mb4.0/28, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.39**	**170**		**Pn**	**19 33 00.7**	**-1.2**
PBA	**Port Blair**	**1.39**	**170**	*eP*	**Pn**	**19 33 01.1**	**-0.8**
PBA				*eS*	**Sn**	**19 33 19.6**	**+0.4**
PBA				IAML		19 33 22.6	
	comp=N,3μm,0.2s						
PBA				IAML		19 33 23.0	
	comp=E,3μm,0.5s						
CM31	**Chiang Mai Arr**	**8.21**	**48**	Pn	**Pn**	**19 34 37.3**	**+1.5**
CMAR	**Chiang Mai Arr**	**8.21**	**48**	Pn	**Pn**	**19 34 36.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**8.21**	**48**	Pn	**Pn**	**19 34 37.6**	**+1.9**
	comp=E,0.2nm,0.3s,baz=235,slow=15,SNR=8.3						
CMAR				Sn	**Sn**	**19 36 05.2**	**-2.4**
	baz=238,slow=19						
	comp=E,0.9nm,0.5s						
SRIT	**Nakonsritamara**	**8.25**	**122**	Pn	**Pn**	**19 34 36.9**	**+0.7**
CHTO	**Chiang Mai**	**8.45**	**46**		**Pn**	**19 34 40.7**	**+1.7**
SAIH	**SAIHA**	**9.41**	**3**	*eP*	**Pn**	**19 34 54.1**	**+1.8**
SAIH				*eS*	**Sn**	**19 36 36.6**	**-0.6**
MND	**Mandalay**	**9.57**	**21**		**Pn**	**19 34 55.0**	**+0.7**
MND				Sn	**Sn**	**19 36 40.7**	**-0.2**
VIS	**Vishakhapatnam**	**10.00**	**299**	*eP*	**Pn**	**19 34 59.4**	**-0.9**
VIS				*eS*	Sn	19 36 42.1	-9.4
VIS				IAML		19 36 47.1	
	comp=E,125nm,0.2s						
VIS				IAML		19 36 47.1	
	comp=N,176nm,0.2s						
AZL	**Aizawl**	**10.65**	**1**	*eP*	**Pn**	**19 35 12.6**	**+3.4**
AZL				*eS*	**Sn**	**19 37 01.8**	**-5.7**
MDRS	**Chennai**	**11.95**	**272**	*eS*	Sn	19 37 27.7	-11
SHL	**Shillong**	**12.48**	**357**	Pn	**Pn**	**19 35 34.2**	**-0.2**
SHL	**Shillong**	**12.48**	**357**	*eP*	**Pn**	**19 35 36.3**	**+2.0**
SHL				*eS*	**Sn**	**19 37 47.9**	**-4.6**
KOHI	**KOHIMA**	**12.71**	**7**	*eP*	**Pn**	**19 35 37.7**	**+0.3**
DHUB	**DHUBRI**	**13.13**	**350**	*eP*	**Pn**	**19 35 45.7**	**+2.7**
DHUB				IAmb	IAmb	19 35 51.6	
	comp=Z,11nm,0.4s						
GTK	**Tadong**	**14.68**	**346**	*eP*	**Pn**	**19 36 06.4**	**+2.1**
ENH	**Enshi**	**23.26**	**40**	P	**P**	**19 37 43.7**	**+0.1**
ENH				IAmb	IAmb	19 38 13.1	
	comp=Z,20nm,1.5s						
NIL	**Nilore**	**26.99**	**323**	P	**P**	**19 38 18.6**	**+0.7**
NIL				IAmb	IAmb	19 38 27.8	
	comp=Z,11nm,1.2s						
H08S3	**Diego Garcia H**	**28.58**	**225**	T	T	20 08 00.9	
	baz=44,slow=76,SNR=28						
H08S2	**Diego Garcia H**	**28.59**	**225**	T	T	20 07 59.8	
	baz=44,slow=76,SNR=32						
H08S1	**Diego Carcia H**	**28.60**	**225**	T	T	20 08 02.7	
	baz=44,slow=76,SNR=15						
BTK	**Batken**	**33.00**	**329**	P	**P**	**19 39 14.1**	**+3.1**
BTK				IAmb	IAmb	19 39 24.1	
	comp=Z,7.8nm,0.8s						
MKAR	**Makanchi Array**	**34.73**	**348**	P	**P**	**19 39 26.6**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=188,slow=9.5,SNR=1.8						
MKAR				PcP	**PcP**	**19 41 59.8**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=207,slow=3.8,SNR=2.2						
	comp=Z,0.5nm,0.4s						
KK31	**Karatay Array**	**35.47**	**332**	P	**P**	**19 39 32.8**	**+0.5**
KK31				IAmb	IAmb	19 39 43.0	
	comp=Z,5.1nm,1.5s						
KKAR	**Karatay Array**	**35.47**	**332**	P	**P**	**19 39 32.8**	**+0.5**
SONM	**Songino Array**	**36.58**	**16**	P	**P**	**19 39 42.0**	**+0.1**
SONM	**Songino Array**	**36.58**	**16**	P	**P**	**19 39 42.6**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=206,slow=6.8,SNR=11						
SONM				PcP	**PcP**	**19 42 05.7**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=246,slow=3.5,SNR=4.9						
	comp=Z,1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**39.18**	**346**	P	**P**	**19 40 05.2**	**+1.6**
	comp=Z,2.0nm,0.8s,baz=164,slow=7.9,SNR=17						
KURBB				PcP	**PcP**	**19 42 13.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=160,slow=2.3,SNR=11						
	comp=Z,2.0nm,0.8s						
GEYT	**Alibeck**	**39.36**	**315**	P	**P**	**19 40 05.0**	**-0.5**
GEYT	**Alibeck**	**39.36**	**315**	P	**P**	**19 40 07.2**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=207,slow=9.5,SNR=4.2						
	comp=Z,1.7nm,0.7s						
KSRS	**Korea Array**	**39.85**	**46**	P	**P**	**19 40 09.8**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=242,slow=9.1,SNR=6.5						
	comp=Z,1.9nm,0.9s						
ZALV	**Zalesovo Beam**	**41.27**	**353**	P	**P**	**19 40 22.0**	**+1.1**
ZALV	**Zalesovo Beam**	**41.27**	**353**	P	**P**	**19 40 22.6**	**+1.7**
	comp=Z,2.6nm,0.8s,baz=174,slow=7.6,SNR=8.0						
	comp=Z,2.6nm,0.8s						
BVAR	**Borovoye Array**	**43.62**	**341**	P	**P**	**19 40 40.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=132,slow=6.2,SNR=4.7						
BVAR				PcP	**PcP**	**19 42 26.6**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=103,slow=3.1,SNR=3.5						
	comp=Z,0.7nm,0.7s						
ABKAR	**Akbulak array**	**44.97**	**330**	P	**P**	**19 40 48.5**	**-2.4**
GNI	**Garni**	**49.76**	**312**	P	**P**	**19 41 26.6**	**-2.0**
WRA	**Warramunga Arr**	**52.62**	**128**	P	**P**	**19 41 47.7**	**-2.4**
	comp=Z,0.9nm,0.6s,baz=307,slow=8.1,SNR=9.8						
WRA				PcP	**PcP**	**19 42 59.2**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=315,slow=3.3,SNR=6.3						
	comp=Z,0.9nm,0.6s						
ASAR	**Alice Springs**	**54.49**	**132**	P	**P**	**19 42 01.9**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=308,slow=6.4,SNR=18						
ASAR				PcP	**PcP**	**19 43 07.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=300,slow=3.7,SNR=2.3						
	comp=Z,0.5nm,0.4s						
BRTR	**Keskin Array B**	**57.91**	**309**	P	**P**	**19 42 28.1**	**0.0**
	comp=Z,1.4nm,0.7s,baz=141,slow=7.6,SNR=5.0						
	comp=Z,1.4nm,0.7s						
AKASG	**Malin Array Be**	**63.15**	**320**	P	**P**	**19 43 03.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=100,slow=4.3,SNR=2.1						
	comp=Z,0.2nm,0.3s						
MLR	**Muntele Rosu**	**64.41**	**314**	P	**P**	**19 43 12.0**	**-0.1**
MLR				IAmb	IAmb	19 43 22.5	
	comp=Z,8.0nm,0.9s						
STKA	**Stephens Creek**	**64.84**	**135**	P	**P**	**19 43 15.8**	**+0.9**
	comp=Z,3.7nm,1.1s,baz=265,slow=11,SNR=4.4						
FINES	**FINESS Array B**	**67.43**	**332**	P	**P**	**19 43 32.2**	**+1.1**
	comp=Z,3.1nm,0.7s,baz=124,slow=4.0,SNR=6.5						
	comp=Z,3.1nm,0.7s						
H04N2	**CROZET ISLANDS**	**69.37**	**209**	T	T	20 59 02.6	
	baz=44,slow=75,SNR=20						
H04N1	**CROZET ISLANDS**	**69.38**	**209**	T	T	20 59 03.7	
	baz=44,slow=75,SNR=20						
H04N3	**CROZET ISLANDS**	**69.39**	**209**	T	T	20 59 02.6	
	baz=44,slow=75,SNR=24						
KEV	**Kevo**	**69.47**	**340**	P	**P**	**19 43 41.9**	**-1.7**
ARCES	**ARCESS Array B**	**69.90**	**340**	P	**P**	**19 43 47.1**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=80,slow=6.5,SNR=6.7						
	comp=Z,1.8nm,0.8s						
GERES	**GERESS Array B**	**72.95**	**317**	P	**P**	**19 44 06.0**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=91,slow=6.4,SNR=2.9						
	comp=Z,0.9nm,0.7s						
PRED	**Cave del Predi**	**73.07**	**315**	P	**P**	**19 44 05.1**	**-0.9**
PRED				IAmb	IAmb	19 44 14.3	
	comp=Z,5.5nm,1.1s						
HFS	**Hagfors**	**73.22**	**329**	P	**P**	**19 44 07.2**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=64,slow=3.4,SNR=4.1						
	comp=Z,1.8nm,0.7s						
NB2	**NORSAR Subarra**	**74.48**	**330**	P	**P**	**19 44 14.1**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=90,slow=6.2						
NOA	**NORSAR Array B**	**74.48**	**330**	P	**P**	**19 44 14.2**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=91,slow=5.6,SNR=5.4						
	comp=Z,0.6nm,0.6s						
CASY	**Casey**	**80.21**	**173**	P	**P**	**19 44 44.7**	**-1.0**
CASY				IAmb	IAmb	19 44 45.9	
	comp=Z,3.5nm,0.8s						
EKA	**Eskdalemuir Ar**	**82.59**	**325**	P	**P**	**19 44 59.8**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=90,slow=5.0,SNR=2.1						
	comp=Z,1.0nm,0.7s						
ESDC	**Sonseca Array**	**86.69**	**310**	P	**P**	**19 45 20.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=61,slow=4.1,SNR=4.6						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**87.87**	**283**	P	**P**	**19 45 26.2**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=65,slow=4.2,SNR=5.2						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**90.58**	**22**	P	**P**	**19 45 37.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=307,slow=4.3,SNR=4.7						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**121.25**	**28**	PKP	**PKiKP**	**19 51 30.4**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=352,slow=2.7,SNR=3.0						
TXAR	**Lajitas Array**	**135.08**	**20**	PKP	**PKiKP**	**19 51 57.7**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=157,slow=1.0,SNR=2.5						

*IDC **09** 19:46:31.0±0.6, 46°.80N×155°.93E, h0km, mb3.7/14, mbtmp3.7/16, ML3.4/2, Error ellipse: s-maj=19.9km s-min=15.6km az=154.0*
*SKHL **09** 19:46:33.7±0.4, 47°.00N×155°.60E, h35km±4km, mb5.1/7*
*MOS **09** 19:46:35.8±2.1, 47°.04N×155°.48E, h44km, mb4.5/1, Error ellipse: s-maj=14.9km s-min=9.5km az=51.3*
ISC 09 19:46:33.7±0.7, 46°.98N±0°.08×155°.66E±0°.09, h18km, n38, σ2§02/45, mb3.9/15, 3C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.71**	**4**	*ePN*	**Pn**	**19 47 28.5**	**-1.6**
SKR				pmax	pmax		
	comp=Z,63nm,0.6s						
SKR				MLR	MLR		
	comp=Z,700nm,18.0s						
SKR	**Severo-Kuril's**	**3.71**	**4**	*eP*	**Pn**	**19 47 28.5**	**-1.6**
SKR				AMB	AMB	19 47 29.2	
	comp=Z,60nm,0.6s						
SKR				*eS*	**Sn**	**19 48 09.9**	**-3.4**
SKR				A	A	19 48 12.3	
	comp=Z,180nm,0.5s						
SKR				A	A	19 48 12.3	
	comp=Z,470nm,0.5s						
PAU	**Pauzhetka**	**4.55**	**9**	*eP*	**Pn**	**19 47 42.0**	**+0.4**
PAU				AMB	AMB	19 47 42.4	
	comp=Z,40nm,0.3s						
PAU				*eS*	**Sn**	**19 48 32.4**	**-1.5**
PAU				A	A	19 48 33.5	
	comp=Z,340nm,0.3s						
PAU				A	A	19 48 33.5	
	comp=Z,540nm,0.3s						
KUR	**Kuril'sk**	**5.70**	**255**	*ePN*	**Pn**	**19 47 58.3**	**+1.0**
KUR				pmax	pmax		
	comp=Z,198nm,0.3s						
KUR				pmax	pmax		
	comp=E,50nm,0.4s						
KUR				pmax	pmax		
	comp=N,74nm,0.3s						
KUR	**Kuril'sk**	**5.70**	**255**	*eP*	**Pn**	**19 47 58.3**	**+1.0**
KUR				AMB	AMB	19 47 58.8	
	comp=N,200nm,0.3s						
KUR				*eS*	**Sn**	**19 49 01.1**	**-1.1**
KUR				A	A	19 49 03.1	
	comp=N,120nm,0.4s						
KUR				A	A	19 49 03.1	
	comp=N,80nm,0.4s						
PETK	**Petropavlovsk-**	**6.27**	**11**	Pn	**Pn**	**19 48 04.0**	**-1.2**
	comp=N,2.4nm,0.3s,baz=181,slow=11,SNR=10						
PETK				Sn	**Sn**	**19 49 18.6**	**+2.2**
	comp=N,1.7nm,0.3s,baz=309,slow=52,SNR=2.5						
PET	**Petropavlovsk**	**6.35**	**17**	*ePN*	**Pn**	**19 48 04.0**	**-2.2**
PET	**Petropavlovsk**	**6.35**	**17**	*eP*	**Pn**	**19 48 06.3**	**+0.1**
PET				*eS*	**Sn**	**19 49 13.6**	**-4.5**
PET				A	A	19 49 14.8	
	comp=N,180nm,0.3s						
PET				A	A	19 49 14.8	
	comp=N,90nm,0.3s						
SHO	**Shikotan**	**6.95**	**247**	*c iPN*	**Pn**	**19 48 12.4**	**-2.1**
SHO				pmax	pmax		
	comp=Z,54nm,0.3s						
SHO				pmax	pmax		
	comp=E,29nm,0.2s						
SHO	**Shikotan**	**6.95**	**247**	*i* P	**Pn**	**19 48 12.5**	**-2.1**
SHO				AMB	AMB	19 48 14.7	
	comp=E,50nm,0.3s						
SHO				*eS*	**Sn**	**19 49 27.1**	**-5.9**
YUK	**Yuzh-Kuril'sk**	**7.49**	**250**	*c iPN*	**Pn**	**19 48 21.9**	**0.0**
YUK				pmax	pmax		
	comp=E,54nm,0.2s						
YUK				pmax	pmax		
	comp=Z,379nm,0.2s						
YUK				pmax	pmax		
	comp=N,74nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**7.49**	**250**	*i* P	**Pn**	**19 48 21.8**	**-0.1**
YUK				AMB	AMB	19 48 22.6	
	comp=N,300nm,0.2s						
YUK				*i* S	**Sn**	**19 49 42.6**	**-3.7**
YUK				A	A	19 49 49.8	
	comp=N,130nm,0.7s						
YUK				A	A	19 49 49.8	
	comp=N,130nm,0.7s						
RUSJ	**Misakicho**	**7.86**	**252**	*ePN*	**Pn**	**19 48 28.2**	**+1.2**
NMR	**Nemuro--Hokkai**	**7.89**	**246**	⇑*iPN*	**Pn**	**19 48 25.1**	**-2.4**
NMR	**Nemuro--Hokkai**	**7.89**	**246**	*i* P	**Pn**	**19 48 25.1**	**-2.4**
JKA	**Kamikawa-asahi**	**9.60**	**257**	*eP*	**Pn**	**19 48 51.8**	**+0.9**
ASAJ	**Asahikawa**	**9.60**	**257**	Pn	**Pn**	**19 48 51.8**	**+0.9**
	comp=N,0.9nm,0.3s,baz=96,slow=18,SNR=1.9						
	comp=N,3.4nm,0.4s						
MJAR	**Matsushiro Arr**	**16.65**	**237**	Pn	**P**	**19 50 28.4**	**0.0**
	baz=30,slow=8.6,SNR=3.1						
	comp=N,0.8nm,0.9s						
KSRS	**Korea Array**	**22.54**	**255**	P	**P**	**19 51 34.6**	**+2.1**
	comp=N,0.4nm,0.7s,baz=44,slow=11,SNR=1.8						
	comp=N,0.4nm,0.7s						
ILAR	**Eielson Array**	**35.27**	**39**	P	**P**	**19 53 26.4**	**-0.5**
	comp=N,0.3nm,0.5s,baz=257,slow=7.7,SNR=5.6						
	comp=N,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**43.89**	**306**	P	**P**	**19 54 41.1**	**+2.4**
	comp=N,0.3nm,0.3s,baz=45,slow=8.4,SNR=2.0						
	comp=N,0.3nm,0.3s						
MKAR	**Makanchi Array**	**48.38**	**298**	P	**P**	**19 55 16.1**	**+1.8**
	comp=N,1.3nm,0.9s,baz=75,slow=4.1,SNR=2.9						
	comp=N,1.3nm,0.9s						
KURK	**Kurchatov**	**48.68**	**304**	P	**P**	**19 55 18.2**	**+1.7**
KURK	**Kurchatov**	**48.68**	**304**	*eP*	**P**	**19 55 18.2**	**+1.7**
KURBB	**Kurchatov Arra**	**48.77**	**304**	P	**P**	**19 55 18.2**	**+1.0**
	comp=N,0.8nm,0.6s,baz=69,slow=8.5,SNR=9.5						
	comp=N,0.8nm,0.6s						
BVAR	**Borovoye Array**	**52.05**	**310**	P	**P**	**19 55 43.7**	**+1.7**
	comp=N,1.0nm,0.5s,baz=52,slow=8.2,SNR=9.4						
	comp=N,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**54.13**	**258**	P	**P**	**19 56 00.1**	**+2.4**
	comp=N,0.4nm,0.6s,baz=34,slow=6.9,SNR=3.1						
	comp=N,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**60.77**	**64**	P	**P**	**19 56 44.8**	**+0.2**
	comp=N,0.3nm,0.5s,baz=300,slow=8.9,SNR=2.8						
	comp=N,0.3nm,0.5s						
PDAR	**Pinedale Array**	**63.19**	**55**	P	**P**	**19 57 00.9**	**+0.1**
	comp=N,0.5nm,0.8s,baz=354,slow=1.5,SNR=5.2						
	comp=N,0.5nm,0.8s						
FINES	**FINESS Array B**	**64.56**	**336**	P	**P**	**19 57 10.8**	**+1.7**
	comp=N,1.9nm,0.7s,baz=46,slow=6.8,SNR=6.3						
	comp=N,1.9nm,0.7s						
NOA	**NORSAR Array B**	**68.55**	**342**	P	**P**	**19 57 36.2**	**+1.4**
	comp=N,0.2nm,0.6s,baz=28,slow=6.6,SNR=2.0						
	comp=N,0.2nm,0.6s						
HFS	**Hagfors**	**68.83**	**341**	P	**P**	**19 57 39.3**	**+2.9**
	comp=N,2.3nm,0.9s,baz=63,slow=3.5,SNR=8.1						
	comp=N,2.3nm,0.9s						
WRA	**Warramunga Arr**	**69.34**	**201**	P	**P**	**19 57 39.1**	**-0.9**
	comp=N,1.6nm,0.8s,baz=20,slow=6.9,SNR=7.7						
	comp=N,1.6nm,0.8s						
ASAR	**Alice Springs**	**73.02**	**201**	P	**P**	**19 58 02.1**	**-0.1**
	comp=N,1.1nm,0.8s,baz=20,slow=5.4,SNR=14						
	comp=N,1.1nm,0.8s						
TXAR	**Lajitas Array**	**75.85**	**62**	P	**P**	**19 58 19.2**	**+0.2**
	comp=N,2.9nm,0.5s,baz=303,slow=5.0,SNR=55						
PLCA	**Paso Flores**	**146.49**	**96**	PKPbc	**PKPdf**	**20 06 11.5**	**-0.4**
	comp=N,3.2nm,1.0s,baz=260,slow=6.1,SNR=3.1						
CPUP	**Villa Florida**	**146.81**	**63**	PKPbc	**PKPbc**	**20 06 14.2**	**-0.4**
	comp=N,0.7nm,0.4s,baz=333,slow=4.5,SNR=3.3						
SNAA	**Sanae**	**153.25**	**195**	PKPbc	**PKPbc**	**20 06 28.2**	**-0.9**
	comp=N,0.4nm,0.5s,baz=185,slow=11,SNR=2.1						

*IDC **09** 19:55:34.4±1.3, 11°.34S×66°.53E, h0km, mb3.9/11, mbtmp3.9/11, MS3.3/12, Error ell

comp=Z,0.8nm,0.8s
WRA Warramunga Arr 65.38 107 P **P 20 06 20.1 +0.4**
comp=Z,1.4nm,0.9s,baz=275,slow=5.4,SNR=9.0
comp=Z,1.4nm,0.9s
ZAA0 Zalesovo Array 66.80 12 P **P 20 06 27.5 -0.5**
ZAA0 IAmb IAmb 20 06 30.0
comp=Z,3.6nm,1.1s
ZALV Zalesovo Beam 66.80 12 P **P 20 06 27.8 -0.2**
ZALV Zalesovo Beam 66.80 12 P **P 20 06 27.6 -0.4**
comp=Z,2.1nm,0.9s,baz=212,slow=6.8,SNR=8.1
comp=Z,2.1nm,0.9s
ARU Arti 67.81 355 P **P 20 06 32.9 -1.6**
SONM Songino Array 68.63 28 P **P 20 06 41.3 +1.4**
comp=Z,1.3nm,0.8s,baz=219,slow=5.7,SNR=5.7
SONM LR LR 20 35 52.9
comp=Z,50nm,19.7s,baz=218,slow=35
comp=Z,1.3nm,0.8s
DIVS Divibare 69.52 326 P **P 20 06 45.5 +0.1**
DIVS IAmb IAmb 20 06 46.7
comp=Z,4.1nm,1.1s
AKASG Malin Array Be 69.82 336 P **P 20 06 46.7 -0.4**
comp=Z,0.3nm,0.4s,baz=139,slow=5.1,SNR=2.4
comp=Z,0.3nm,0.4s
MORC Moravsky Berou 74.46 329 P **P 20 07 14.8 -0.1**
MORC IAmb IAmb 20 07 15.6
comp=Z,4.2nm,1.1s
KSRS Korea Array 75.08 46 LR LR 20 39 48.8
comp=Z,19nm,20.5s,baz=230,slow=35
MJAR Matsushiro Arr 82.26 50 P **P 20 07 59.1 +0.8**
comp=Z,1.5nm,0.9s,baz=234,slow=6.6,SNR=4.1
MJAR LR LR 20 46 51.2
comp=Z,8.1nm,18.1s,baz=204,slow=37
comp=Z,1.5nm,0.9s
ESDC Sonseca Array 82.69 313 P **P 20 08 00.1 -0.5**
comp=Z,0.9nm,0.8s,baz=94,slow=4.3,SNR=7.4
comp=Z,0.9nm,0.8s
KLR Kul'dur 82.88 37 LR LR 20 47 22.7
comp=Z,11nm,18.0s,baz=135,slow=38
ASAJ Asahikawa 87.89 44 LR LR 20 46 52.7
comp=Z,15nm,19.9s,baz=130,slow=35
DZM Mont Dzumac 94.69 113 LR LR 20 50 54.6
comp=Z,18nm,18.2s,baz=187,slow=35
PDAR Pinedale Array 148.48 355 PKPbc **PKPbc 20 15 23.6 -0.4**
comp=Z,0.9nm,0.8s,baz=54,slow=2.8,SNR=8.0
NVAR Mina Array Bea 152.62 9 PKPbc **PKiKP 20 15 34.3 +0.1**
comp=Z,0.3nm,0.5s,baz=300,slow=2.0,SNR=3.9
TXAR Lajitas Array 159.92 335 PKPab **PKPab 20 16 13.9 -1.9**
comp=Z,0.3nm,0.7s,baz=60,slow=5.3,SNR=3.5

TAP 09 20:02:41.8, 23°.22N×120°.79E, h5km±2km, ML0.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.05**	**193**	*i* P		Pg	20 02 43.6	+0.4
	baz=187							
STYH				*i* S		Sg	20 02 44.6	+0.5
	baz=187							
WTP	**Ta-pu**	**0.16**	**280**	*i* P		Pg	20 02 45.8	+0.7
	baz=279							
WTP				S		Sg	20 02 48.7	+1.4
	baz=279							
TPUB	**Ta-pu**	**0.17**	**300**	*i* P		Pg	20 02 45.8	+0.6
	baz=299							
ELDTW	**Lidau**	**0.21**	**97**	*e*P		Pg	20 02 47.5	+1.4
	baz=97							

*AFAD **09** 20:05:07.6±0.0, 36°.96N×27°.61E, h7km±1km, ML2.0*
*ISK **09** 20:05:07.0, 36°.94N×27°.60E, h12km, ML1.7/13*
ISC 09 20:05:07.6±0.9, 36°.95N±0°.02×27°.61E±0°.03, h12km±6km, n24, σ0°.40/40, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.12**	**64**	Pg		**Pg**	**20 05 10.7**	**-0.1**
RFTAA				Sg		**Sg**	**20 05 13.1**	**0.0**
BDRM	**Kayabasi**	**0.18**	**313**	P		**Pg**	**20 05 11.4**	**-0.2**
BDRM				*i* AML		AML	20 05 14.0	
	comp=Z,505nm,0.3s							
BDRM				*i* AML		AML	20 05 14.0	
	comp=E,421nm,0.5s							
BDRM				S		**Sg**	**20 05 14.2**	**-0.2**
DAT	**Datca**	**0.22**	**186**	Pg		**Pg**	**20 05 12.1**	**-0.2**
DAT				Sg		**Sg**	**20 05 15.5**	**0.0**
DAT	**Datca**	**0.22**	**186**	P		**Pg**	**20 05 11.9**	**-0.4**
DAT				S		**Sg**	**20 05 16.9**	**+1.3**
RFTC	**Emecik-Datca**	**0.24**	**135**	Pg		**Pg**	**20 05 11.9**	**-0.7**
RFTC				Sg		**Sg**	**20 05 16.3**	**+0.3**
BODT	**Bodrum**	**0.26**	**296**	Pg		**Pg**	**20 05 12.9**	**-0.2**
BODT				Sg		**Sg**	**20 05 17.2**	**+0.4**
RFTB	**Kemer-Bodrum**	**0.27**	**274**	Pg		**Pg**	**20 05 12.9**	**-0.3**
RFTB				Sg		**Sg**	**20 05 17.4**	**+0.5**
RFTD	**Palamutbuku-Ka**	**0.28**	**198**	Pg		**Pg**	**20 05 12.9**	**-0.4**
MLSB	**Milas**	**0.38**	**21**	Pg		**Pg**	**20 05 15.1**	**0.0**
TURN	**Turunc**	**0.54**	**108**	Pg		**Pg**	**20 05 18.1**	**0.0**
TURN	**Turunc**	**0.54**	**108**	P		**Pg**	**20 05 18.1**	**0.0**
TURN				S		**Sb**	**20 05 26.4**	**-0.3**
TURN				*i* AML		AML	20 05 28.0	
	comp=E,74nm,0.3s							
TURN	**Turunc**	**0.54**	**108**	P		**Pg**	**20 05 18.1**	**0.0**
TURN				S		**Sb**	**20 05 26.2**	**-0.4**
TURN				*i* AML		AML	20 05 28.0	
	comp=E,74nm,0.3s							
YER	**Yerkesik**	**0.57**	**71**	Pg		**Pg**	**20 05 18.8**	**0.0**
DDIM	**Aydin, Didim**	**0.59**	**330**	P		**Pg**	**20 05 18.7**	**-0.4**
DDIM				S		**Sb**	**20 05 27.5**	**-0.5**
DDIM				*i* AML		AML	20 05 30.0	
	comp=Z,95nm,1.3s							
DDIM				*i* AML		AML	20 05 42.0	
	comp=N,80nm,1.8s							
AYDN	**Tasoluk**	**0.75**	**17**	P		**Pg**	**20 05 22.0**	**-0.1**
AYDN				S		**Sb**	**20 05 32.2**	**-0.5**
AYDN				*i* AML		AML	20 05 41.0	
	comp=N,49nm,0.4s							
AYDN	**Tasoluk**	**0.75**	**17**	P		**Pg**	**20 05 21.9**	**-0.2**
AYDN				S		**Sb**	**20 05 32.4**	**-0.4**
AYDN				*i* AML		AML	20 05 41.0	
	comp=N,49nm,0.4s							
GCAM	**G?zelcaml?**	**0.81**	**339**	Pg		**Pb**	**20 05 23.5**	**-0.1**
GCAM	**G?zelcaml?**	**0.81**	**339**	P		**Pg**	**20 05 23.1**	**-0.2**
GCAM				S		**Sb**	**20 05 34.9**	**+0.5**
GCAM				*i* AML		AML	20 05 44.0	
	comp=Z,52nm,1.4s							
GCAM				*i* AML		AML	20 05 48.0	
	comp=N,64nm,1.6s							
GCAM	**G?zelcaml?**	**0.81**	**339**	P		**Pb**	**20 05 23.4**	**-0.1**
GCAM				S		**Sb**	**20 05 35.3**	**+0.8**
ARG	**Arkhangelos**	**0.84**	**150**	Pg		**Pg**	**20 05 23.7**	**-0.1**
DALY	**Dalyan (Mula)**	**0.85**	**98**	Pg		**Pb**	**20 05 24.1**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.17**	**63**	P		**Pn**	**20 05 30.3**	**+0.5**
TAVA				S		**Sb**	**20 05 45.0**	**+0.2**
IZMR	**zmir-demi**	**1.22**	**13**	P		**Pn**	**20 05 30.5**	**0.0**
IZMR				S		**Sg**	**20 05 46.7**	**-0.2**
FETY	**Fethiye**	**1.23**	**104**	Pn		**Pn**	**20 05 30.5**	**0.0**

*AFAD **09** 20:05:11.2±0.0, 37°.15N×28°.28E, h7km±7km, ML1.9*
ISK 09 20:05:26.1, 36°.95N×27°.69E, h10km, ML1.6/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.07**	**41**	Pg		Pg	20 05 28.8	+0.5
RFTAA				Sg		Sg	20 05 30.2	+0.4
RFTC	**Emecik-Datca**	**0.20**	**148**	Pg		Pg	20 05 30.6	+0.4
RFTC				Sg		Sg	20 05 33.9	+0.9
BDRM	**Kayabasi**	**0.23**	**302**	P		Pg	20 05 31.0	+0.2
BDRM				S		Sg	20 05 34.8	+0.8
DAT	**Datca**	**0.23**	**202**	Pg		Pg	20 05 31.4	+0.5
DAT				Sg		Sg	20 05 35.1	+0.9
DAT	**Datca**	**0.23**	**202**	P		Pg	20 05 31.5	+0.6
DAT				S		Sg	20 05 35.3	+1.1
DAT				*i* AML		AML	20 06 02.0	
	comp=Z,62nm,0.1s							
DAT				*i* AML		AML	20 06 02.0	
	comp=N,132nm,0.2s							
DAT				*i* AML		AML	20 06 02.0	
	comp=E,106nm,0.2s							
RFTD	**Palamutbuku-Ka**	**0.30**	**210**	Pg		Pg	20 05 32.6	+0.4
RFTD				Sg		Sg	20 05 37.4	+1.2
BODT	**Bodrum**	**0.32**	**291**	Pg		Pg	20 05 32.9	+0.3
BODT				Sg		Sg	20 05 38.0	+1.1
MLSB	**Milas**	**0.36**	**11**	Pg		Pg	20 05 33.6	+0.4

IDC 09 20:10:35.6±2.2, 1°.49S×128°.32E, h0km, mb3.4/2, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=140.5km s-min=28.9km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.27**	**163**	P		P	20 15 01.3	-0.6
	0.1nm,0.3s,baz=342,slow=12,SNR=5.5							
	0.4nm,0.7s							
ASAR	**Alice Springs**	**22.70**	**167**	P		P	20 15 39.5	+0.3
	0.2nm,0.3s,baz=343,slow=10,SNR=5.1							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**62.73**	**326**	P		P	20 21 02.7	+0.1
	1.1nm,1.0s,baz=129,slow=7.7,SNR=1.3							
	1.1nm,1.0s							

*IDC **09** 20:24:43.5±2.3, 28°.22N×64°.17E, h0km, mb3.8/13, mbtmp3.9/15, ML4.1/2, Error ellipse: s-maj=50.5km s-min=18.8km az=142.0*
*TEH **09** 20:24:44.4, 28°.00N×64°.58E, h10km±197km, ML3.8*
*OMAN **09** 20:24:58.9±2.0, 27°.13N×64°.13E, h40km, mb4.5/15, Error ellipse: s-maj=25.4km s-min=13.0km az=134.0*
ISC 09 20:24:43.6±0.6, 27°.94N±0°.07×64°.51E±0°.06, h10km, n76, σ2°.47/73, mb4.1/22, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRVN	**Saravan**	**1.94**	**255**	Pn		**Pb**	**20 25 22.0**	**+2.8**
ZHDN	**Zahedan**	**3.56**	**295**	Pn		**Pn**	**20 25 42.7**	**+3.6**
NGCH	**Negor - Chabah**	**3.96**	**230**	P		**Pn**	**20 25 48.7**	**+4.2**
	SNR=227							
NGCH	**Negor - Chabah**	**3.96**	**230**	Pn		**Pn**	**20 25 48.6**	**+4.1**
CHBR	**Chabahar**	**4.29**	**238**	Pn		**Pn**	**20 25 52.4**	**+3.4**
KBAM	**BAM**	**5.46**	**284**	Pn		Pn	20 26 09.7	+4.5
JASK	**Jask - Hormozg**	**6.28**	**252**	P		Pn	20 26 22.3	+5.9
JASK				S		**Sn**	**20 27 26.8**	**-1.4**
JASK	**Jask - Hormozg**	**6.28**	**252**	Pn		**Pn**	**20 26 20.8**	**+4.5**
IKOO	**Kooshah**	**6.53**	**315**	Pn		**Pn**	**20 26 22.6**	**+2.6**
SHRT	**Shahrakht**	**6.75**	**329**	Pn		**Pn**	**20 26 25.0**	**+2.2**
WSAR	**Wadi Sarin**	**7.07**	**230**	P		**Pn**	**20 26 28.9**	**+1.6**
	SNR=22							
WSAR				S		Sn	20 27 39.4	-8.3
WSAR	**Wadi Sarin**	**7.07**	**230**	Pn		**Pn**	**20 26 28.8**	**+1.5**
	5.3nm,0.3s,baz=86,slow=5.2,SNR=167							
WSAR				Sn		Sn	20 27 38.8	-9.0
	29nm,0.3s,baz=81,slow=19,SNR=44							
	15nm,0.3s							
BIDO	**Bidbid**	**7.24**	**234**	Pn		**Pn**	**20 26 32.1**	**+2.6**
WBK	**Wadi Bani Khal**	**7.29**	**225**	P		**Pn**	**20 26 31.7**	**+1.3**
	SNR=102							
WBK				S		Sn	20 27 45.3	-8.0
JLN	**Jalan Bani Buh**	**7.38**	**220**	P		**Pn**	**20 26 32.9**	**+1.4**
	SNR=24							
JLN				S		Sn	20 27 48.9	-6.5
GENO	**Geno**	**7.41**	**268**	Pn		Pn	20 26 37.2	+5.1
SMDO	**Samad**	**7.59**	**232**	P		**Pn**	**20 26 37.6**	**+3.1**
	SNR=25							
SMDO				S		Sn	20 27 53.8	-6.9
SHME	**Shamm**	**7.69**	**258**	P		**Pn**	**20 26 39.5**	**+3.7**
SHME	**Shamm**	**7.69**	**258**	Pn		**Pn**	**20 26 39.9**	**+4.1**
HOQ	**Hoqain**	**7.80**	**238**	P		**Pn**	**20 26 39.8**	**+2.5**
	SNR=20							
HOQ				S		Sn	20 27 57.0	-8.7
MDH	**Madha**	**7.80**	**252**	P		**Pn**	**20 26 40.0**	**+2.8**
MDH	**Madha**	**7.80**	**252**	P		**Pn**	**20 26 40.5**	**+3.2**
	SNR=16							
MDH	**Madha**	**7.80**	**252**	Pn		**Pn**	**20 26 40.0**	**+2.8**
MSFE	**Esma-Masafi**	**7.90**	**253**	P		**Pn**	**20 26 41.1**	**+2.5**
THW	**Thamme Wali**	**7.91**	**50**	P		**Pn**	**20 26 38.5**	**-0.2**
UOSS	**Minazif**	**8.01**	**250**	P		**Pn**	**20 26 42.6**	**+2.4**
UOSS	**Minazif**	**8.01**	**250**	P		**Pn**	**20 26 42.9**	**+2.7**
UOSS				S		Sn	20 28 03.1	-7.9
UOSS	**Minazif**	**8.01**	**250**	Pn		**Pn**	**20 26 42.8**	**+2.6**
JMDO	**Jabal Madar**	**8.02**	**228**	P		**Pn**	**20 26 44.0**	**+3.7**
	SNR=12							
JMDO				S		Sn	20 28 04.6	-6.6
SOHO	**SOHO**	**8.11**	**244**	P		**Pn**	**20 26 43.1**	**+1.6**
SOHO	**SOHO**	**8.11**	**244**	P		**Pn**	**20 26 43.7**	**+2.2**
SOHO	**SOHO**	**8.11**	**244**	Pn		**Pn**	**20 26 43.6**	**+2.2**
HATD	**Hatta, Dubai**	**8.12**	**249**	P		**Pn**	**20 26 44.1**	**+2.4**
HATD	**Hatta, Dubai**	**8.12**	**249**	Pn		**Pn**	**20 26 44.4**	**+2.7**
ASHO	**Ashiyiah**	**8.24**	**249**	P		**Pn**	**20 26 45.9**	**+2.5**
ASHO	**Ashiyiah**	**8.24**	**249**	P		**Pn**	**20 26 46.5**	**+3.2**
	SNR=18							
ASHO	**Ashiyiah**	**8.24**	**249**	Pn		**Pn**	**20 26 46.4**	**+3.0**
BSY	**Bisya**	**8.39**	**234**	P		**Pn**	**20 26 49.1**	**+3.8**
	SNR=13							
BSY				S		**Sn**	**20 28 15.8**	**-4.4**
ARQ	**Araqi**	**8.54**	**239**	P		Pn	20 26 52.6	+5.3
	SNR=95							
ARQ				S		**Sn**	**20 28 21.5**	**-2.4**
FAQ	**Al Faqa, Dubai**	**8.60**	**250**	P		Pn	20 26 53.4	+5.1
FAQ	**Al Faqa, Dubai**	**8.60**	**250**	P		Pn	20 26 54.1	+5.8
	SNR=5.7							
FAQ				S		**Sn**	**20 28 22.5**	**-2.9**
CEP	**Cherat**	**8.65**	**45**	P		**Pn**	**20 26 49.4**	**+0.3**
ALNE	**Al Ain**	**8.77**	**246**	P		Pn	20 26 55.3	+4.6
ALNE	**Al Ain**	**8.77**	**246**	P		Pn	20 26 55.6	+5.0
	SNR=6.0							
ALNE				S		**Sn**	**20 28 26.2**	**-3.4**
ASUD	**Al Ashush, Dub**	**8.87**	**250**	P		**Pn**	**20 26 56.2**	**+4.3**
ASUD	**Al Ashush, Dub**	**8.87**	**250**	P		Pn	20 26 58.0	+6.1
	SNR=13							
ASUD				S		**Sn**	**20 28 30.7**	**-1.3**
MHTO	**MHTO**	**9.13**	**222**	P		**Pn**	**20 26 58.0**	**+2.6**
	SNR=33							
MHTO				S		Sn	20 28 31.0	-7.3
CHCP	**Chirah Chowk**	**9.44**	**51**	P		**Pn**	**20 27 00.2**	**+0.4**
MZR	**Muzera**	**11.11**	**246**	P		**Pn**	**20 27 24.4**	**+1.8**
MZR	**Muzera**	**11.11**	**246**	P		**Pn**	**20 27 26.3**	**+3.7**
MZR				S		Sn	20 29 20.2	-6.7
WHFO	**Wadi Hawf**	**14.03**	**227**	P		**Pn**	**20 28 04.1**	**+1.4**
	SNR=12							
WHFO				S		Sn	20 30 29.5	-9.1
AAK	**Ala-Archa**	**16.76**	**26**	Pn		**P**	**20 28 40.7**	**-0.2**
	0.5nm,0.3s,baz=148,slow=5.2,SNR=4.4							
	1.9nm,0.5s							
GNI	**Garni**	**20.36**	**312**	P		**P**	**20 29 20.9**	**+0.4**
	5.4nm,0.8s,baz=195,slow=18,SNR=4.3							
MKAR	**Makanchi Array**	**23.44**	**32**	P		**P**	**20 29 53.0**	**-0.1**
	2.6nm,1.0s,baz=208,slow=11,SNR=5.3							
	2.6nm,1.0s							
KBZ	**Khabaz**	**23.46**	**318**	P		**P**	**20 29 54.4**	**+1.2**
	1.3nm,0.8s,baz=149,slow=5.9,SNR=1.7							
KURBB	**Kurchatov Arra**	**25.04**	**21**	P		**P**	**20 30 08.1**	**+0.3**
	0.4nm,0.8s,baz=219,slow=8.7,SNR=3.8							
	0.4nm,0.8s							
BVAR	**Borovoye Array**	**25.44**	**8**	P		**P**	**20 30 12.0**	**+0.6**
	1.9nm,0.5s,baz=176,slow=9.8,SNR=17							
	1.9nm,0.5s							
MMAI	**Mount Meron Ar**	**25.54**	**289**	P		**P**	**20 30 10.4**	**-2.4**
	6.4nm,1.1s,baz=85,slow=16,SNR=3.0							
	6.4nm,1.1s							
ZALV	**Zalesovo Beam**	**29.96**	**24**	P		**P**	**20 30 50.5**	**-1.4**
	0.7nm,0.5s,baz=232,slow=7.3,SNR=4.3							
	0.7nm,0.5s							
FINES	**FINESS Array B**	**42.12**	**334**	P		**P**	**20 32 34.0**	**-1.8**
	6.7nm,1.1s,baz=125,slow=8.2,SNR=9.5							
	6.7nm,1.1s							
KBA	**Koelnbreinsper**	**43.99**	**310**	*i* P		**P**	**20 32 51.2**	**-0.2**
	0.9nm,0.3s							
GERES	**GERESS Array B**	**44.01**	**313**	P		**P**	**20 32 48.7**	**-2.7**
	0.4nm,0.5s,baz=126,slow=9.9,SNR=0.3							
	0.4nm,0.5s							
LESA	**Schwarzleotal**	**44.49**	**310**	*i* P		**P**	**20 32 54.8**	**-0.4**
	4.2nm,0.3s							
WTTA	**Wattenberg**	**45.17**	**310**	*i* P		**P**	**20 32 59.9**	**-0.8**
	1.6nm,0.3s							
WATA	**Walderalm**	**45.22**	**310**	*i* P		**P**	**20 32 60.0**	**-1.1**
	1.1nm,0.2s							
SQTA	**Sankt Quirin**	**45.46**	**310**	*i* P		**P**	**20 33 01.9**	**-1.1**
	1.2nm,0.2s							
MOTA	**Moosalm**	**45.54**	**310**	*i* P		**P**	**20 33 02.3**	**-1.4**
	1.1nm,0.2s							
RETA	**Reutte**	**45.78**	**310**	*i* P		**P**	**20 33 04.3**	**-1.2**
	1.4nm,0.3s							
DAVA	**Damuels**	**46.36**	**310**	*i* P		**P**	**20 33 09.3**	**-0.9**
	2.3nm,0.3s							
HFS	**Hagfors**	**46.90**	**328**	P		**P**	**20 33 12.1**	**-1.9**
	0.8nm,0.4s,baz=117,slow=9.6,SNR=8.5							
	0.8nm,0.4s							
ARCES	**ARCESS Array B**	**47.30**	**342**	P		**P**	**20 33 15.3**	**-1.7**
	2.2nm,1.0s,baz=119,slow=9.9,SNR=4.6							
	2.2nm,1.0s							
NB2	**NORSAR Subarra**	**48.35**	**329**	P		**P**	**20 33 23.6**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=108,slow=7.9							
NOA	**NORSAR Array B**	**48.35**	**329**	P		**P**	**20 33 23.5**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=101,slow=7.8,SNR=2.4							
	comp=Z,0.4nm,0.6s							
EKA	**Eskdalemuir Ar**	**54.93**	**320**	P		**P**	**20 34 13.4**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=104,slow=6.8,SNR=3.9							
	comp=Z,0.5nm,0.5s							
ESDC	**Sonseca Array**	**56.84**	**301**	P		**P**	**20 34 26.8**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=70,slow=8.2,SNR=6.2							
	comp=Z,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**60.06**	**270**	P		**P**	**20 34 50.7**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=55,slow=6.4,SNR=6.7							
	comp=Z,0.8nm,0.7s							

*IDC **09** 20:30:06.4±2.4, 17°.49N×145°.86E, h194km±22km, mb3.6/21, mbtmp4.1/22, Error ellipse: s-maj=17.0km s-min=10.8km az=89.0*
*NEIC **09** 20:30:06.6±1.4, 17°.43N±0°.10×145°.8E±0°.2, h185km±8km, mb4.3/67, Error ellipse: s-maj=21.8km s-min=14.4km az=93.0*
ISC 09 20:30:06.9±0.5, 17°.38N±0°.06×145°.8E±0°.1, h200km, n97, σ1°.25/100, mb4.2/52, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.88**	**194**	Pn		**Pn**	**20 31 06.6**	**-0.6**
GUMO	**Guam**	**3.88**	**194**	P		**Pn**	**20 31 09.0**	**+1.7**
	22nm,0.2s,baz=353,slow=19,SNR=1.8							
GUMO				S		**Sn**	**20 31 50.5**	**-4.1**
	45nm,0.3s,baz=332,slow=15,SNR=2.0							
MANU	**Manus Island**	**19.36**	**175**	P		**P**	**20 34 18.3**	**+0.8**
MJAR	**Matsushiro Arr**	**20.24**	**342**	P		**P**	**20 34 23.7**	**-3.1**
	1.2nm,0.6s,baz=163,slow=8.8,SNR=1.7							
	1.2nm,0.6s							
MAJO	**Matsushiro**	**20.24**	**342**	P		**P**	**20 34 24.9**	**-2.0**
MJB9	**Matsu-Tunnel**	**20.25**	**342**	P		**P**	**20 34 24.6**	**-2.3**
JSD	**Sado**	**21.62**	**344**	P		**P**	**20 34 40.3**	**-1.0**
JSD					IAmb	IAmb	20 34 41.4	
	comp=Z,9.1nm,0.6s							
KSRS	**Korea Array**	**25.45**	**325**	P		**P**	**20 35 15.2**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=146,slow=8.9,SNR=5.5							
	comp=Z,0.9nm,0.6s							
ASAJ	**Asahikawa**	**26.79**	**355**	P		**P**	**20 35 27.6**	**-0.8**
	comp=Z,3.6nm,0.5s,baz=152,slow=5.5,SNR=5.1							
	comp=Z,3.6nm,0.5s							
PETK	**Petropavlovsk-**	**36.85**	**12**	P		**P**	**20 36 55.8**	**0.0**
	comp=Z,3.7nm,0.8s,baz=142,slow=7.5,SNR=4.0							
	comp=Z,3.7nm,0.8s							
WRAB	**Tennant Creek**	**38.75**	**197**	P		**P**	**20 37 12.7**	**+0.6**
WRAB					IAmb	IAmb	20 37 14.0	
	comp=Z,5.0nm,0.8s							
WRA	**Warramunga Arr**	**38.76**	**197**	P		**P**	**20 37 12.3**	**+0.1**
WRA	**Warramunga Arr**	**38.76**	**197**	P		**P**	**20 37 12.6**	**+0.4**
	comp=Z,3.8nm,1.0s,baz=20,slow=9.3,SNR=14							
WRA					PcP	**PcP**	**20 39 20.3**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=15,slow=3.6,SNR=1.3							
	comp=Z,3.8nm,1.0s							
ASAR	**Alice Springs**	**42.42**	**196**	P		**P**	**20 37 42.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=16,slow=11,SNR=7.0							
	comp=Z,0.3nm,0.5s							
EIDS	**Eidsvold**	**42.80**	**173**	P		**P**	**20 37 45.1**	**+0.1**
ULN	**Ulaanbaatar**	**43.88**	**323**	P		**P**	**20 37 55.1**	**+1.4**
SONM	**Songino Array**	**44.24**	**322**	P		**P**	**20 37 57.2**	**+0.6**
SONM	**Songino Array**	**44.24**	**322**	P		**P**	**20 37 56.3**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=134,slow=7.3,SNR=7.2							
	comp=Z,1.4nm,0.7s							
CHTO	**Chiang Mai**	**44.48**	**279**	P		**P**	**20 38 01.0**	**+2.3**
CM31	**Chiang Mai Arr**	**44.52**	**279**	P		**P**	**20 38 00.9**	**+1.9**
CM31					IAmb	IAmb	20 38 02.8	
	comp=Z,8.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**44.52**	**279**	P		**P**	**20 37 59.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**44.52**	**279**	P		**P**	**20 38 01.0**	**+2.0**
	comp=Z,5.6nm,0.8s,baz=72,slow=6.7,SNR=46							
CMAR					PcP	**PcP**	**20 39 40.1**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=74,slow=3.6,SNR=5.4							
	comp=Z,5.6nm,0.8s							
YAK	**Yakutsk**	**46.03**	**350**	P		**P**	**20 38 08.7**	**-1.4**
STKA	**Stephens Creek**	**49.14**	**185**	P		**P**	**20 38 34.4**	**0.0**
	comp=Z,1.8nm,0.6s,baz=16,slow=9.7,SNR=4.8							
	comp=Z,1.8nm,0.6s							
SHL	**Shillong**	**50.57**	**289**	P		**P**	**20 38 46.5**	**+0.9**
SHL					IAmb	IAmb	20 38 47.1	
	comp=Z,4.9nm,0.5s							
LSA	**Lhasa**	**51.18**	**294**	P		**P**	**20 38 52.7**	**+2.2**
ZAA0	**Zalesovo Array**	**59.13**	**323**	P		**P**	**20 39 45.9**	**-0.4**
ZALV	**Zalesovo Beam**	**59.13**	**323**	P		**P**	**20 39 45.8**	**-0.5**
ZALV	**Zalesovo Beam**	**59.13**	**323**	P		**P**	**20 39 45.5**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=110,slow=8.7,SNR=5.0							
	comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**59.46**	**314**	P		**P**	**20 39 48.8**	**0.0**
	comp=Z,1.3nm,0.7s,baz=85,slow=8.8,SNR=5.8							
	comp=Z,1.3nm,0.7s							
J20K

comp=Z,8.3nm,1.5s
HYT Haines Junctio 68.49 31 P P 20 40 49.8 +2.3
H29M Whitestone 68.51 25 P P 20 40 48.1 +0.7
H29M IAmb IAmb 20 41 23.7
comp=Z,9.3nm,1.5s
K29M Barlow Dome 68.67 28 P P 20 40 49.6 +1.1
K29M IAmb IAmb 20 40 51.1
comp=Z,3.4nm,0.7s
N30M Aishikik Lake 68.73 30 P P 20 40 50.1 +1.2
EPYK Eagle Plains 69.19 25 P P 20 40 52.3 +0.7
EPYK IAmb IAmb 20 40 55.0
comp=Z,3.9nm,0.7s
J30M Hart River 69.23 27 P P 20 40 53.8 +1.8
J30M IAmb IAmb 20 40 54.3
comp=Z,2.8nm,0.8s
I30M Mount Dempster 69.25 26 P P 20 40 53.7 +1.6
G30M tAoh Zraii Nji 69.43 24 P P 20 40 54.4 +1.3
H31M Peel River 70.13 26 P P 20 40 58.7 +1.4
H31M IAmb IAmb 20 41 00.2
comp=Z,5.4nm,0.8s
F31M Tsiigehtchic 70.42 24 P P 20 40 59.9 +0.9
F31M IAmb IAmb 20 41 00.7
comp=Z,4.5nm,0.7s
INK Inuvik 70.53 23 P P 20 41 00.7 +1.0
INK IAmb IAmb 20 41 01.8
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 74.38 317 P P 20 41 22.1 -0.6
PINE Pine Mountain 80.47 47 P P 20 41 57.3 +0.5
PINE IAmb IAmb 20 42 01.4
comp=Z,5.3nm,0.8s
BMO Blue Mountains 82.68 45 P P 20 42 09.0 +0.7
ARCES ARCESS Array B 83.78 342 P P 20 42 12.1 -1.3
comp=Z,1.0nm,0.8s,baz=63,slow=5.6,SNR=3.7
comp=Z,1.0nm,0.8s
KVN Kaiserville 83.83 51 P P 20 42 16.0 +1.6
NVAR Mina Array Bea 83.86 52 P P 20 42 15.7 +1.1
NVAR Mina Array Bea 83.86 52 P P 20 42 15.3 +0.7
comp=Z,1.1nm,0.6s,baz=268,slow=5.7,SNR=10.0
comp=Z,1.1nm,0.6s
MFID Camas Ranch 84.13 46 P P 20 42 15.9 +0.2
MFID IAmb IAmb 20 42 18.1
comp=Z,3.6nm,0.9s
ELK Elko 85.40 49 P P 20 42 23.4 +1.1
YHL Hebgen Lake 86.80 44 P P 20 42 31.0 +1.9
YHL IAmb IAmb 20 42 31.9
comp=Z,5.1nm,0.8s
HVU Hansel Valley 86.80 47 P P 20 42 29.9 +0.8
HVU IAmb IAmb 20 42 32.1
comp=Z,3.5nm,0.8s
PSUT Pine Spring 87.14 51 P P 20 42 31.7 +0.9
PSUT IAmb IAmb 20 42 33.4
comp=Z,3.6nm,0.9s
KBZ Khabaz 87.15 315 P P 20 42 29.2 -1.2
comp=Z,4.7nm,1.1s,baz=47,slow=5.7,SNR=3.7
comp=Z,4.7nm,1.1s
DUG Dugway, Tooele 87.33 49 P P 20 42 32.6 +1.0
DUG IAmb IAmb 20 42 33.8
comp=Z,3.9nm,0.7s
FINES FINESS Array B 88.12 335 P P 20 42 33.4 -1.3
comp=Z,1.6nm,0.8s,baz=0.0,slow=1.9,SNR=5.2
comp=Z,1.6nm,0.8s
PDAR Pinedale Array 88.66 45 P P 20 42 38.3 +0.3
PDAR Pinedale Array 88.66 45 P P 20 42 38.4 +0.4
comp=Z,0.5nm,0.5s,baz=142,slow=0.7,SNR=9.0
comp=Z,0.5nm,0.5s
SMCO Snowmass 91.88 48 P P 20 42 53.5 +0.3
SMCO IAmb IAmb 20 42 55.4
comp=Z,3.1nm,0.8s
N23A Red Feather La 91.89 46 P P 20 42 54.2 +1.2
TXAR Lajitas Array 98.48 56 P P 20 43 21.8 -1.2
comp=Z,0.3nm,0.9s,baz=264,slow=5.2,SNR=2.3
comp=Z,0.3nm,0.9s
TORD Torodi Ar. Bea 133.36 308 PKP PKiKP 20 49 00.6 -0.8
comp=Z,0.5nm,1.1s,baz=2.7,slow=0.7,SNR=1.7

---

*JMA **09** 20:56:57.8±0.2,23°.3N±0°.7×122°.0E±0°.6,h41km,MV2.8/17, TAIWAN REGION*
*TAP **09** 20:56:58.5,23°.26N×121°.99E,h36km,ML3.3,D*
ISC 09 20:56:58.6±4.8,**23°.23N**±0°.02×**122°.03E**±0°.02,**h36**km±5km, **n126**,σ1§**45**/230,**2D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ECBN	**Changbin** baz=276	**0.54**	**279**	*i* P		**Pn**	**20 57 08.7**	**-1.1**
ECBN				*e*S		**Sn**	**20 57 15.3**	**-2.3**
HGSD	**Ruisui** baz=294	**0.61**	**295**	*i* P		**Pn**	**20 57 09.2**	**-1.7**
HGSD				*e*S		**Sn**	**20 57 16.6**	**-2.9**
CHKT	**Chengkung** baz=249	**0.62**	**258**	*i* P		**Pn**	**20 57 09.5**	**-1.5**
CHKT				S		**Sn**	**20 57 17.3**	**-2.5**
TEGC	**Jichi Village** baz=317	**0.65**	**317**	*e*P		**Pn**	**20 57 10.2**	**-1.3**
TEGC				*e*S		**Sn**	**20 57 18.2**	**-2.3**
EYUL	**Yuli** baz=273	**0.66**	**280**	*i* P		**Pn**	**20 57 10.6**	**-1.0**
EYUL				*e*S		**Sn**	**20 57 19.9**	**-0.9**
FULB	**Fuli** baz=256	**0.68**	**267**	P		**Pn**	**20 57 10.2**	**-1.6**
FULB				*e*S		**Sn**	**20 57 18.7**	**-2.4**
TWF1	**Yuli** baz=272	**0.68**	**280**	P		**Pn**	**20 57 10.5**	**-1.3**
TWF1				*e*S		**Sn**	**20 57 19.6**	**-1.7**
YULB	**Yu-li** baz=277	**0.69**	**284**	P		**Pn**	**20 57 10.7**	**-1.3**
YULB				*e*S		**Sn**	**20 57 20.4**	**-1.0**
EGFH	**Guangfu** baz=318	**0.70**	**309**	*e*P		**Pn**	**20 57 10.8**	**-1.3**
EGFH				*e*S		**Sn**	**20 57 19.9**	**-1.8**
EHY	**Hungye** baz=292	**0.70**	**293**	*i* P		**Pn**	**20 57 10.8**	**-1.3**
EHY				*e*S		**Sn**	**20 57 19.6**	**-2.1**
EDH	**Donghe** baz=241	**0.71**	**249**	P		**Pn**	**20 57 10.8**	**-1.4**
EDH				S		**Sn**	**20 57 19.6**	**-2.4**
ECS	**Chishang** baz=257	**0.76**	**260**	P		**Pn**	**20 57 11.9**	**-0.9**
ECS				*e*S		**Sn**	**20 57 22.3**	**-0.6**
LDUT	**Ludao** baz=219	**0.76**	**223**	P		**Pn**	**20 57 11.7**	**-1.0**
LDUT				*e*S		**Sn**	**20 57 21.0**	**-1.9**
EHD	**Haiduan** baz=255	**0.76**	**264**	P		**Pn**	**20 57 11.2**	**-1.6**
EHD				*e*S		**Sn**	**20 57 21.9**	**-1.2**
WARBT	**Fenglin Townsh** baz=317	**0.76**	**310**	P		**Pn**	**20 57 11.6**	**-1.3**
WARBT				*e*S		**Sn**	**20 57 21.2**	**-2.0**
HWA	**Hwalien** baz=334	**0.84**	**333**	*e*P		**Pn**	**20 57 12.5**	**-1.4**
HWA				*e*S		**Sn**	**20 57 23.8**	**-1.3**
ETM	**Tongmen** baz=327	**0.88**	**326**	P		**Pn**	**20 57 13.0**	**-1.6**
ETM				*e*S		**Sn**	**20 57 23.5**	**-2.7**
LONT	**Longtian** baz=239	**0.89**	**249**	*e*P		**Pn**	**20 57 14.0**	**-0.6**
LONT				*e*S		**Sn**	**20 57 25.6**	**-0.6**
EOS4	**EOS4** baz=19	**0.93**	**17**	P		**Pn**	**20 57 14.7**	**-0.1**
EOS4				*e*S		**Sn**	**20 57 26.0**	**-0.7**
ELDTW	**Lidau** baz=265	**0.93**	**268**	⇓*i*P		**Pn**	**20 57 14.1**	**-1.2**
ELDTW				*e*S		**Sn**	**20 57 24.7**	**-2.8**
TWD	**Chiawan** baz=336	**0.93**	**335**	P		**Pn**	**20 57 13.8**	**-1.4**
TWD				*e*S		**Sn**	**20 57 25.2**	**-2.2**
TTN	**Taitung** baz=237	**0.94**	**240**	*e*P		**Pn**	**20 57 14.7**	**-0.6**
TTN				*e*S		**Sn**	**20 57 27.1**	**-0.3**
TWGBT	**Beinan** baz=236	**0.96**	**245**	*e*P		**Pn**	**20 57 14.8**	**-0.8**
TWGBT				*e*S		**Sn**	**20 57 26.9**	**-1.2**
VWDT	**VWDT** baz=294	**0.97**	**303**	P		**Pn**	**20 57 15.2**	**-0.4**
VWDT				*e*S		**Sn**	**20 57 26.5**	**-1.6**
LXIB	**Xiulin Townshi** baz=333	**0.97**	**325**	P		**Pn**	**20 57 14.7**	**-1.1**
LXIB				*e*S		**Sn**	**20 57 26.2**	**-2.2**
TWG	**Pinlang** baz=236	**0.97**	**245**	P		**Pn**	**20 57 14.9**	**-0.8**
TWG				*e*S		**Sn**	**20 57 27.0**	**-1.2**
ETL	**Fush Village** baz=339	**1.00**	**338**	*e*P		**Pn**	**20 57 14.7**	**-1.4**
ETL				*e*S		**Sn**	**20 57 26.9**	**-2.1**
NACB	**Ninganchiao** baz=338	**1.02**	**337**	*i* P		**Pn**	**20 57 15.1**	**-1.3**
NACB				*e*S		**Sn**	**20 57 26.7**	**-2.7**
OWD	**Renai** baz=313	**1.06**	**313**	*e*P		**Pn**	**20 57 16.5**	**-0.7**
OWD				*e*S		**Sn**	**20 57 29.1**	**-1.6**
EOS3	**EOS3** baz=12	**1.08**	**14**	P		**Pn**	**20 57 17.5**	**+0.3**
EOS3				*e*S		**Sn**	**20 57 30.9**	**+0.1**
ETLH	**Xiulin Townshi** baz=333	**1.09**	**333**	P		**Pn**	**20 57 16.5**	**-1.0**
ETLH				*e*S		**Sn**	**20 57 29.8**	**-1.6**
WUSB	**Renai** baz=312	**1.13**	**312**	P		**Pn**	**20 57 17.5**	**-0.5**
WUSB				*e*S		**Sn**	**20 57 30.2**	**-2.1**
SSLB	**Suanglung** baz=292	**1.13**	**300**	P		**Pn**	**20 57 17.4**	**-0.6**
SSLB				*e*S		**Sn**	**20 57 30.5**	**-1.8**
CHGB	**Renai** baz=317	**1.14**	**317**	P		**Pn**	**20 57 17.7**	**-0.6**
CHGB				*e*S		**Sn**	**20 57 31.1**	**-1.6**
WHF	**Hehuan Shan** baz=323	**1.15**	**323**	*e*P		**Pn**	**20 57 17.5**	**-1.0**
WHF				*e*S		**Sn**	**20 57 31.0**	**-2.2**
STYH	**Taoyuan** baz=260	**1.15**	**267**	*e*P		**Pn**	**20 57 17.9**	**-0.2**
STYH				*e*S		**Sn**	**20 57 32.2**	**-0.6**
ALS	**Alishan** baz=283	**1.16**	**284**	P		**Pn**	**20 57 18.6**	**+0.1**
ALS				*e*S		**Sn**	**20 57 32.8**	**-0.5**
ECL	**Taimali** baz=246	**1.17**	**238**	P		**Pn**	**20 57 17.5**	**-1.0**
ECL				*e*S		**Sn**	**20 57 31.6**	**-1.6**
WHYT	**Xinyi Township** baz=298	**1.17**	**294**	*e*P		**Pn**	**20 57 18.9**	**+0.3**
WHYT				*e*S		**Sn**	**20 57 32.7**	**-0.6**
EOS2	**EOS2** baz=6.0	**1.20**	**9**	*e*P		**Pn**	**20 57 19.0**	**+0.2**
ENA	**Nanau** baz=349	**1.22**	**348**	P		**Pn**	**20 57 18.5**	**-0.7**
ENA				*e*S		**Sn**	**20 57 33.1**	**-1.3**
SMLT	**Sun Moon Lake** baz=308	**1.22**	**302**	*e*P		**Pn**	**20 57 19.3**	**+0.1**
SMLT				*e*S		**Sn**	**20 57 33.3**	**-1.3**
LAY	**Lan-yu** baz=198	**1.27**	**200**	*e*P		**Pn**	**20 57 18.6**	**-1.1**
LAY				*e*S		**Sn**	**20 57 33.2**	**-2.3**
TWT	**Tachien** baz=314	**1.28**	**323**	P		**Pn**	**20 57 20.1**	**-0.1**
TWT				*e*S		**Sn**	**20 57 34.9**	**-1.3**
TPUB	**Ta-pu** baz=267	**1.29**	**273**	P		**Pn**	**20 57 20.9**	**+0.8**
TPUB				*e*S		**Sn**	**20 57 36.7**	**+0.6**
LYUB	**Lan-yu** baz=196	**1.29**	**199**	*e*P		**Pn**	**20 57 18.5**	**-1.6**
CHN5	**Tsauling** baz=294	**1.29**	**287**	P		**Pn**	**20 57 21.2**	**+0.9**
CHN5				*e*S		**Sn**	**20 57 36.9**	**+0.5**
TDCB	**Techi** baz=314	**1.29**	**322**	*e*P		**Pn**	**20 57 20.1**	**-0.2**
TDCB				*e*S		**Sn**	**20 57 34.6**	**-1.8**
SLGT	**Liugui** baz=261	**1.29**	**260**	*e*P		**Pn**	**20 57 20.9**	**+0.8**
SLGT				*e*S		**Sn**	**20 57 36.3**	**+0.1**
WTP	**Ta-pu** baz=264	**1.30**	**271**	⇓*i*P		**Pn**	**20 57 21.1**	**+0.8**
WTP				*e*S		**Sn**	**20 57 38.0**	**+1.6**
WCS	**Beigang Elemen** baz=317	**1.31**	**309**	*e*P		**Pn**	**20 57 20.6**	**+0.2**
WCS				*e*S		**Sn**	**20 57 35.6**	**-1.1**
WCKO	**Fanlu** baz=278	**1.32**	**279**	P		**Pn**	**20 57 22.0**	**+1.4**
WCKO				*e*S		**Sn**	**20 57 38.3**	**+1.3**
CHN4	**Tsaushan** baz=269	**1.32**	**275**	*i* P		**Pn**	**20 57 21.7**	**+1.1**
CHN4				*i* S		**Sn**	**20 57 38.5**	**+1.5**
WJS	**Zhushan** baz=296	**1.33**	**297**	P		**Pn**	**20 57 21.6**	**+0.9**
WJS				*e*S		**Sn**	**20 57 38.7**	**+1.5**
NNSB	**Datong** baz=334	**1.33**	**334**	*e*P		**Pn**	**20 57 20.4**	**-0.4**
NNSB				*e*S		**Sn**	**20 57 35.5**	**-1.8**
SGST	**Jiashian** baz=260	**1.34**	**264**	P		**Pn**	**20 57 20.6**	**-0.1**
SGST				*e*S		**Sn**	**20 57 37.9**	**+0.5**
NNS	**Nan Shan** baz=334	**1.34**	**334**	*e*P		**Pn**	**20 57 20.7**	**-0.3**
NNS				*e*S		**Sn**	**20 57 36.1**	**-1.6**
TAW	**Tawu** baz=236	**1.36**	**230**	*e*P		**Pn**	**20 57 20.3**	**-0.8**
TAW				*e*S		**Sn**	**20 57 36.8**	**-1.0**
SSD	**Sandimen** baz=240	**1.37**	**250**	P		**Pn**	**20 57 21.1**	**-0.2**
TAWH	**Dawu Township** baz=235	**1.38**	**230**	*e*P		**Pn**	**20 57 20.7**	**-0.5**
TAWH				*e*S		**Sn**	**20 57 37.1**	**-1.1**
EAST	**Anshuo** baz=238	**1.38**	**232**	P		**Pn**	**20 57 20.8**	**-0.6**
TSMG	**Majia** baz=239	**1.38**	**248**	*e*P		**Pn**	**20 57 21.2**	**-0.1**
LATG	**Datong** baz=341	**1.38**	**341**	P		**Pn**	**20 57 20.9**	**-0.5**
LATG				*e*S		**Sn**	**20 57 36.5**	**-2.0**
CHN1	**Nanshi** baz=259	**1.38**	**268**	P		**Pn**	**20 57 22.7**	**+1.3**
CHN1				*e*S		**Sn**	**20 57 41.5**	**+3.2**
TWC	**Suao** baz=354	**1.38**	**353**	*e*P		**Pn**	**20 57 21.3**	**-0.1**
TWC				*e*S		**Sn**	**20 57 37.6**	**-0.8**
WNT	**Mingjian** baz=297	**1.39**	**298**	P		**Pn**	**20 57 22.7**	**+1.2**
WNT				*e*S		**Sn**	**20 57 40.0**	**+1.3**
SNST	**Tainan City** baz=268	**1.41**	**270**	P		**Pn**	**20 57 23.1**	**+1.4**
SNST				*e*S		**Sn**	**20 57 41.3**	**+2.3**
TWK	**Hsinying** baz=270	**1.42**	**272**	P		**Pn**	**20 57 23.0**	**+1.1**
TWK				*e*S		**Sn**	**20 57 41.1**	**+1.8**
MASBT	**Mashibuluo** baz=237	**1.43**	**245**	P		**Pn**	**20 57 22.0**	**+0.1**
NDS	**Dongshan** baz=349	**1.43**	**349**	P		**Pn**	**20 57 22.1**	**+0.1**
NDS				*e*S		**Sn**	**20 57 39.6**	**+0.1**
WHP	**Taichung City** baz=316	**1.44**	**317**	*e*P		**Pn**	**20 57 22.7**	**+0.5**
WHP				*e*S		**Sn**	**20 57 38.8**	**-1.1**
WDLH	**Douliu** baz=287	**1.44**	**289**	*e*P		**Pn**	**20 57 23.6**	**+1.5**
WDLH				*e*S		**Sn**	**20 57 42.1**	**+2.3**
NDT	**Datong Townshi** baz=341	**1.45**	**341**	*e*P		**Pn**	**20 57 21.9**	**-0.4**
NDT				*e*S		**Sn**	**20 57 37.7**	**-2.3**
ENTT	**Nioudou** baz=344	**1.47**	**343**	P		**Pn**	**20 57 22.5**	**-0.1**
ENTT				*e*S		**Sn**	**20 57 39.1**	**-1.4**
JYNG	**Yonagunijimaku**	**1.48**	**34**	*e*P		**Pn**	**20 57 23.1**	**+0.4**
JYNG				*e*S		**Sn**	**20 57 40.9**	**+0.1**
CHY	**Chiayi** baz=279	**1.50**	**281**	*e*P		**Pn**	**20 57 24.5**	**+1.5**
CHY				*e*S		**Sn**	**20 57 43.2**	**+2.0**
YOJ	**Yonaguni jima**	**1.52**	**36**	P		**Pn**	**20 57 23.6**	**+0.3**
YOJ				*e*S		**Sn**	**20 57 41.5**	**-0.3**
YOJ	**Yonaguni jima** baz=48	**1.52**	**36**	P		**Pn**	**20 57 23.5**	**+0.2**
YOJ				*e*S		**Sn**	**20 57 41.3**	**-0.5**
TWM1	**Shoushan** baz=253	**1.53**	**255**	*e*P		**Pn**	**20 57 26.5**	**+3.1**
CHN3	**Shinhua** baz=263	**1.54**	**265**	*e*P		**Pn**	**20 57 26.9**	**+3.4**
TCU	**Taichung** baz=306	**1.54**	**307**	*e*P		**Pn**	**20 57 25.9**	**+2.4**
YHNB	**Yeheng** baz=338	**1.55**	**338**	*e*P		**Pn**	**20 57 23.7**	**-0.1**
YHNB				*e*S		**Sn**	**20 57 41.5**	**-1.2**
SCZT	**Fangliau** baz=235	**1.55**	**237**	*e*P		**Pn**	**20 57 24.1**	**+0.4**
SCZT				*e*S		**Sn**	**20 57 42.5**	**-0.1**
SHHT	**Tainan City** baz=261	**1.56**	**263**	P		**Pn**	**20 57 26.8**	**+3.0**
SHHT				*e*S		**Sn**	**20 57 47.5**	**+4.7**
NSK	**Sanguang** baz=338	**1.56**	**337**	*e*P		**Pn**	**20 57 23.6**	**-0.4**
NSK				*e*S		**Sn**	**20 57 42.4**	**-0.6**
WTK	**Tuku** baz=286	**1.57**	**287**	*e*P		**Pn**	**20 57 25.8**	**+1.9**
WTK				*e*S		**Sn**	**20 57 44.5**	**+1.5**
FUSB	**Fushanzhiwuyua** baz=346	**1.57**	**345**	P		**Pn**	**20 57 24.3**	**+0.2**
FUSB				*e*S		**Sn**	**20 57 42.2**	**-1.1**
WCHH	**Zhanghua** baz=301	**1.59**	**302**	*e*P		**Pn**	**20 57 26.2**	**+2.0**
WCHH				*e*S		**Sn**	**20 57 47.2**	**+3.7**
TWQ1	**Liyutan** baz=322	**1.60**	**314**	*e*P		**Pn**	**20 57 26.3**	**+1.9**
TWQ1				*e*S		**Sn**	**20 57 44.9**	**+1.1**
EGS	baz=8.0	**1.61**	**357**	*e*P		**Pn**	**20 57 23.5**	**-1.0**
ICHU	**Yijhu** baz=273	**1.61**	**275**	*e*P		**Pn**	**20 57 26.3**	**+1.8**
ICHU				*e*S		**Sn**	**20 57 46.2**	**+2.2**
NWLT	**Wulai** baz=343	**1.61**	**343**	*e*P		**Pn**	**20 57 25.0**	**+0.4**
NWLT				*e*S		**Sn**	**20 57 42.7**	**-1.5**
NFF	**Wufeng Townshi** baz=337	**1.62**	**329**	*e*P		**Pn**	**20 57 25.7**	**+0.9**
NFF				*i* S		**Sn**	**20 57 44.3**	**-0.2**
SNJT	**Kaohsiung City** baz=251	**1.63**	**253**	*e*P		**Pn**	**20 57 27.5**	**+2.8**
SNJT				*e*S		**Sn**	**20 57 49.7**	**+5.2**
WRL	**Guolierlin Hig** baz=293	**1.66**	**294**	*e*P		**Pn**	**20 57 26.6**	**+1.4**
WRL				*e*S		**Sn**	**20 57 46.4**	**+1.2**
WSL	**Shuilin Townsh** baz=279	**1.68**	**280**	*e*P		**Pn**	**20 57 27.0**	**+1.6**
WSL				*e*S		**Sn**	**20 57 47.9**	**+2.2**
NSTT	**Nanjuang** baz=335	**1.68**	**326**	*e*P		**Pn**	**20 57 26.8**	**+1.3**
NSTT				*e*S		**Sn**	**20 57 45.6**	**-0.2**
LIOB	**Emei** baz=336	**1.69**	**327**	*e*P		**Pn**	**20 57 27.1**	**+1.6**
LIOB				*e*S		**Sn**	**20 57 46.9**	**+0.9**
WDJ	**Dajia District** baz=311	**1.69**	**311**	*e*P		**Pn**	**20 57 26.6**	**+1.0**
WDJ				*e*S		**Sn**	**20 57 47.9**	**+2.0**
TWKBT	**Hengchun** baz=227	**1.71**	**221**	*e*P		**Pn**	**20 57 25.6**	**-0.2**
TWKBT				*e*S		**Sn**	**20 57 46.1**	**-0.2**
NMLH	**Miaoli** baz=319	**1.72**	**319**	*e*P		**Pn**	**20 57 28.9**	**+2.8**
NMLH				*e*S		**Sn**	**20 57 48.9**	**+2.0**
WSSB	**Gushan** baz=264	**1.73**	**251**	*e*P		**Pn**	**20 57 29.0**	**+2.9**
NHDH	**Xindian Distri** baz=335	**1.79**	**345**	*e*P		**Pn**	**20 57 27.7**	**+0.8**
NHDH				*e*S		**Sn**	**20 57 48.4**	**+0.1**
TSCK	**Chigu Township** baz=266	**1.79**	**268**	*e*P		**Pn**	**20 57 28.4**	**+1.4**
TSCK				*e*S		**Sn**	**20 57 50.4**	**+2.0**
HATJ	**Hateruma jima**	**1.83**	**63**	P		**Pn**	**20 57 27.9**	**+0.4**
HATJ				*e*S		**Sn**	**20 57 49.0**	**-0.4**
NWF	**Wu-fen Shan** baz=353	**1.85**	**353**	*e*P		**Pn**	**20 57 29.5**	**+1.7**
NWF				*e*S		**Sn**	**20 57 51.0**	**+1.0**
WFSB	**Wu-fen Shan** baz=6.0	**1.85**	**353**	*e*P		**Pn**	**20 57 29.6**	**+1.8**
SXI1	**Grass Mountain** baz=10.0	**1.86**	**356**	P		**Pn**	**20 57 28.9**	**+0.8**
SXI1				*e*S		**Sn**	**20 57 51.1**	**+0.7**
IRIF	**Iriomote-Funau**	**1.91**	**54**	P		**Pn**	**20 57 29.3**	**+0.7**
YM01	**YM01** baz=335	**1.95**	**348**	*e*P		**Pn**	**20 57 29.8**	**+0.5**
YM01				*e*S		**Sn**	**20 57 52.8**	**+0.2**
YM08	**YM08** baz=335	**1.99**	**349**	*e*P		**Pn**	**20 57 29.9**	**+0.1**
ANP	**Anpu** baz=348	**2.00**	**347**	*e*P		**Pn**	**20 57 30.2**	**+0.2**
JKRS	**Kuro-shima**	**2.08**	**61**	P		**Pn**	**20 57 31.6**	**+0.7**
JKRS				*e*S		**Sn**	**20 57 55.9**	**+0.4**
WDGT	**Dungji** baz=269	**2.18**	**271**	*e*P		**Pn**	**20 57 32.9**	**+0.6**
JIJ	**Ishigaki jima**	**2.24**	**59**	P		**Pn**	**20 57 33.5**	**+0.3**
JIJ				S		**Sn**	**20 57 59.4**	**-0.3**
PHUB	**P'eng-hu** baz=264	**2.27**	**278**	*e*P		**Pn**	**20 57 34.4**	**+0.7**
PHUB				*e*S		**Sn**	**20 58 00.2**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=264						
PNG	**Penghu**	**2.30**	**279**	*e*P	**Pn**	**20 57 34.7**	**+0.8**
	baz=265						
PNG				*e*S	**Sn**	**20 58 01.0**	**+0.1**
	baz=265						
VCHM	**Qimei**	**2.39**	**270**	*e*P	**Pn**	**20 57 35.4**	**+0.2**
	baz=268						
VCHM				*e*S	**Sn**	**20 58 02.0**	**-1.3**
	baz=268						
JISG	**Ishigakijimahi**	**2.49**	**57**	P	**Pn**	**20 57 36.5**	**-0.1**
JISG				*e*S	**Sn**	**20 58 05.2**	**-0.5**
JTJ	**Tarama**	**2.82**	**60**	P	**Pn**	**20 57 41.9**	**+0.7**
JTJ				*e*S	**Sn**	**20 58 13.4**	**-0.6**
PTMZ	**Houxiangcun**	**3.21**	**305**	*e*P	**Pn**	**20 57 46.6**	**+0.1**
	baz=304						
JIRB	**Irabujima**	**3.29**	**60**	P	**Pn**	**20 57 47.9**	**+0.3**
JMJ2	**Miyako jima3**	**3.37**	**63**	P	**Pn**	**20 57 49.6**	**+0.8**
JOGS	**Gusukube**	**3.45**	**63**	*e*P	**Pn**	**20 57 50.8**	**+1.0**
MATB	**Ma-tsu**	**3.47**	**327**	*e*P	**Pn**	**20 57 49.5**	**-0.6**
	baz=327						
AXDP	**Jialang**	**4.06**	**295**	*e*P	**Pn**	**20 57 58.8**	**+0.5**
	baz=304						

KRNET ***09*** *21:08:30.7±0.1, 39°.52N×71°.51E, h10km, mb2.5*
ISU ***09*** *21:08:37.3, 39°.58N×71°.50E, h11km*
ISC 09 21:08:31.5±1.1, 39°.55N±0°.05×71°.59E±0°.02, h9km±10km, n26, σ2§01/46, 25C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.18**	**114**	⇑*e*P	**Pg**	**21 08 35.2**	**-0.2**
	baz=0.0						
DRK				⇑*e*S	**Sg**	**21 08 38.5**	**+0.4**
	baz=0.0						
CHMI	**Chimion**	**0.72**	**356**	P	**Pb**	**21 08 46.0**	**-0.2**
CHMI				P	**Pb**	**21 08 46.0**	**-0.2**
CHMI				S	**Sb**	**21 08 56.5**	**+0.3**
CHMI				S	**Sb**	**21 08 56.5**	**+0.3**
BTK	**Batken**	**0.78**	**311**	⇑*i*P	**Pg**	**21 08 45.5**	**-1.0**
	baz=15						
BTK				⇑*i*S	**Sg**	**21 08 56.1**	**-0.6**
	baz=15						
BTK	**Batken**	**0.78**	**311**	P	**Pg**	**21 08 45.5**	**-1.0**
BTK				S	**Sg**	**21 08 56.1**	**-0.6**
FRG	**Fergana**	**0.83**	**10**	P	**Pn**	**21 08 49.4**	**-0.1**
FRG				S	**Sn**	**21 09 01.7**	**-0.3**
MINT	**Mingtut**	**1.02**	**333**	S	**Sn**	**21 09 07.4**	**+0.7**
OHH	**Osh**	**1.34**	**43**	⇑*i*P	**Pg**	**21 08 57.6**	**+0.4**
	baz=44						
OHH				⇑*i*S	**Sg**	**21 09 16.6**	**+2.1**
	baz=44						
OHH	**Osh**	**1.34**	**43**	P	**Pg**	**21 08 57.6**	**+0.4**
OHH				S	**Sg**	**21 09 16.6**	**+2.1**
ANR	**Andizhan**	**1.34**	**26**	S	**Sg**	**21 09 18.8**	**+4.2**
SFK	**Sufi-Kurgan**	**1.55**	**72**	⇑*i*P	**Pg**	**21 09 01.5**	**+0.3**
	baz=72						
SFK				⇑*i*S	**Sg**	**21 09 23.6**	**+2.3**
	baz=72						
KSNS	**Kasansay**	**1.60**	**358**	S	**Sg**	**21 09 28.3**	**+5.2**
TRKS	**Terek-Say**	**2.00**	**350**	⇑*e*P	**Pb**	**21 09 07.4**	**-0.9**
	baz=53						
TRKS				⇑*i*S	**Sb**	**21 09 33.7**	**+0.3**
	baz=53						
ARSB	**Arslanbob**	**2.06**	**31**	⇑*i*P	**Pb**	**21 09 09.9**	**+0.6**
	baz=31						
ARSB				⇑*i*S	**Sg**	**21 09 37.9**	**0.0**
	baz=31						
ARSB	**Arslanbob**	**2.06**	**31**	P	**Pb**	**21 09 09.9**	**+0.6**
ARSB				S	**Sg**	**21 09 37.9**	**0.0**
ARK	**Arkit**	**2.26**	**7**	⇑*i*P	**Pb**	**21 09 12.3**	**-0.3**
	baz=8.0						
ARK				⇑*i*S	**Sb**	**21 09 42.1**	**+1.4**
	baz=8.0						
YBZ	**Yangibazar**	**2.32**	**319**	P	**Pb**	**21 09 14.4**	**+0.8**
YBZ				S	**Sg**	**21 09 45.0**	**-1.1**
CHMG	**Chimgan**	**2.33**	**329**	P	**Pg**	**21 09 14.8**	**-1.4**
CHMG				S	**Sg**	**21 09 45.7**	**-0.6**
BXML	**Bakhmal**	**2.75**	**274**	S	**Sg**	**21 10 03.9**	**+4.0**
DZI	**Dzhizak**	**2.95**	**282**	P	**Sb**	**21 10 02.8**	**+2.3**
MNAS	**Manas**	**3.01**	**13**	⇑*e*P	**Pb**	**21 09 22.7**	**-2.7**
	baz=14						
MNAS				⇑*i*S	**Sb**	**21 10 00.3**	**-2.1**
	baz=14						
KRSA	**Karasay**	**3.01**	**282**	S	**Sg**	**21 10 05.8**	**-2.5**
AML	**Almayashu**	**3.03**	**31**	⇑Pg	**Pb**	**21 09 23.5**	**-2.3**
0.2nm,0.5s							
AML				⇑Lg	Lg	21 10 08.4	
0.9nm,0.6s							
AML	**Almayashu**	**3.03**	**31**	⇑*e*P	**Pb**	**21 09 23.6**	**-2.3**
	baz=32						
AML				⇑*i*S	**Sb**	**21 10 01.5**	**-1.7**
	baz=32						
ARLS	**Aral**	**3.10**	**41**	⇑*i*P	**Pb**	**21 09 24.5**	**-2.5**
	baz=42						
ARLS				⇑*i*S	**Sb**	**21 10 03.0**	**-2.1**
	baz=42						
UCH	**Uchtor**	**3.47**	**39**	⇑*e*P	**Pb**	**21 09 29.8**	**-3.7**
	baz=39						
UCH				⇑*i*S	**Sb**	**21 10 12.1**	**-3.8**
	baz=39						
KK31	**Karatay Array**	**3.64**	**347**	Pn	**Pn**	**21 09 30.6**	**+2.5**
1.0nm,0.3s,baz=181,slow=13,SNR=13							
KK31				⇑Lg	Lg	21 10 27.3	
8.7nm,0.5s,baz=172,slow=29,SNR=4.7							

IDC ***09*** *21:16:03.8±2.5, 6°.72N×127°.05E, h99km±23km, mb3.2/5, mbtmp3.8/7, Error ellipse: s-maj=42.5km s-min=15.5km az=60.0*
ISC 09 21:16:03.9±0.8, 6°.7N±0°.1×127°.0E±0°.1, h100km, n9, σ1§03/11, mb3.2/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.49**	**283**	P	**Pn**	**21 16 29.9**	**-0.1**
670nm,0.4s,baz=81,slow=2.9,SNR=35							
DAV				LR	LR	21 16 47.1	
comp=Z,56nm,21.1s,baz=252,slow=29							
DAV				S	**Sn**	**21 16 49.8**	**-0.1**
632nm,0.3s,baz=105,slow=20,SNR=5.5							
SIJI	**Sorong**	**8.66**	**151**	P	**Pn**	**21 18 07.4**	**+1.0**
4.3nm,0.4s,baz=343,slow=19,SNR=6.4							
BATI	**Baumata**	**17.17**	**191**	P	**P**	**21 19 57.6**	**-0.2**
13nm,0.5s,baz=15,slow=3.7,SNR=2.3							
WRA	**Warramunga Arr**	**27.47**	**165**	P	**P**	**21 21 40.0**	**-0.9**
0.5nm,0.8s,baz=327,slow=12,SNR=3.0							
0.5nm,0.8s							
ASAR	**Alice Springs**	**30.96**	**168**	P	**P**	**21 22 11.1**	**-0.7**
0.4nm,0.5s,baz=342,slow=7.3,SNR=8.7							
ASAR				PcP	**PcP**	**21 25 06.2**	**+0.3**
0.2nm,0.6s,baz=343,slow=3.9,SNR=1.6							
0.4nm,0.5s							
SONM	**Songino Array**	**44.57**	**340**	P	**P**	**21 24 07.8**	**+1.8**
0.1nm,0.3s,baz=128,slow=2.4,SNR=1.9							
0.1nm,0.3s							
MKAR	**Makanchi Array**	**55.30**	**324**	P	**P**	**21 25 26.6**	**-0.5**
0.8nm,0.8s,baz=106,slow=7.0,SNR=1.9							
0.8nm,0.8s							
ILAR	**Eielson Array**	**82.27**	**26**	P	**P**	**21 28 12.4**	**-1.6**
0.4nm,0.9s,baz=270,slow=4.5,SNR=2.5							
0.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**122.23**	**290**	PKP	**PKiKP**	**21 34 48.9**	**+0.5**
0.4nm,0.9s,baz=46,slow=4.2,SNR=1.5							

IDC ***09*** *21:16:07.4±1.0, 35°.22N×27°.19E, h0km, mb3.7/9, mbtmp3.6/17, ML3.6/8, MS2.6/1, Error ellipse: s-maj=21.7km s-min=13.2km az=172.0*
AFAD ***09*** *21:16:07.7±0.0, 35°.28N×27°.16E, h4km±2km, MW3.9*
ATH ***09*** *21:16:08.9, 35°.26N×27°.23E, h9km±3km, ML3.5/15, Manual Solution by A.Papageorgiou First location: 2019/04/04 09:46:14, This location: 2019/04/04 09:44:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km*
ISK ***09*** *21:16:09.5, 35°.34N×27°.15E, h6km, ML3.4/32*
THE ***09*** *21:16:09.0, 35°.31N×27°.11E, h0km±1km, ML3.4/3, Error ellipse: s-maj=3.7km s-min=1.0km az=141.0*
ISC 09 21:16:08.6±1.2, 35°.25N±0°.03×27°.17E±0°.02, h8km±7km, n96, σ1§22/136, mb3.6/9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPA	**Karpathos**	**0.26**	**8**	P	**Pg**	**21 16 14.1**	**+0.3**
KRPA				S	**Sg**	**21 16 18.1**	**+0.8**
KARP	**Karpathos**	**0.30**	**359**	Pg	**Pg**	**21 16 14.4**	**-0.1**
KARP				Sg	**Sg**	**21 16 18.2**	**-0.3**
KARP	**Karpathos**	**0.30**	**359**	P	**Pg**	**21 16 14.3**	**-0.2**
KARP				S	**Sg**	**21 16 18.6**	**+0.1**
13μm,0.6s							
KARP	**Karpathos**	**0.30**	**359**	P	**Pg**	**21 16 14.4**	**-0.1**
KARP				S	**Sg**	**21 16 19.0**	**+0.5**
ZKR	**Zakros**	**0.79**	**260**	Pg	**Pg**	**21 16 23.2**	**-0.6**
ZKR				Sg	**Sb**	**21 16 36.5**	**+1.1**
ZKR	**Zakros**	**0.79**	**260**	P	**Pg**	**21 16 23.5**	**-0.3**
ZKR				S	**Sb**	**21 16 36.6**	**+1.1**
2μm,0.9s							
ZKR	**Zakros**	**0.79**	**260**	P	**Pb**	**21 16 25.4**	**+0.8**
AGNA	**Agios Nikolaos**	**1.19**	**267**	P	**Pg**	**21 16 31.7**	**+0.3**
AGNA				S	**Sn**	**21 16 48.4**	**+0.5**
FRMA	**Ierapetra Chan**	**1.20**	**259**	P	**Pg**	**21 16 30.7**	**-0.9**
FRMA				S	**Sg**	**21 16 46.2**	**-1.0**
ARG	**Arkhangelos**	**1.24**	**39**	Pn	**Pg**	**21 16 32.2**	**-0.2**
ARG				Sn	**Sn**	**21 16 49.5**	**+0.3**
ARG	**Arkhangelos**	**1.24**	**39**	P	**Pg**	**21 16 32.1**	**-0.3**
ARG				S	**Sn**	**21 16 49.3**	**+0.1**
3μm,0.8s							
ARG	**Arkhangelos**	**1.24**	**39**	P	**Pg**	**21 16 32.0**	**-0.5**
ARG				S	**Sg**	**21 16 48.0**	**-0.6**
RFTD	**Palamutbuku-Ka**	**1.45**	**11**	Pn	**Pn**	**21 16 35.7**	**+0.5**
RFTD				Sn	**Sn**	**21 16 54.9**	**+0.4**
KOSK	**Kos Island**	**1.51**	**354**	Pn	**Pn**	**21 16 36.4**	**+0.5**
KOSK				Sn	**Sg**	**21 16 56.2**	**-0.9**
KOSK	**Kos Island**	**1.51**	**354**	P	**Pn**	**21 16 36.0**	**+0.1**
KOSK				S	**Sn**	**21 16 55.2**	**-0.5**
DAT	**Datca**	**1.51**	**13**	Pn	**Pn**	**21 16 36.5**	**+0.3**
DAT				Sn	**Sg**	**21 16 56.6**	**-0.7**
DAT	**Datca**	**1.51**	**13**	P	**Pn**	**21 16 36.0**	**-0.2**
DAT				S	**Sb**	**21 16 55.6**	**-0.8**
DAT	**Datca**	**1.51**	**13**	P	**Pn**	**21 16 36.3**	**+0.2**
DAT				S	**Sg**	**21 16 56.5**	**-0.7**
RFTC	**Emecik-Datca**	**1.61**	**19**	Pn	**Pb**	**21 16 38.3**	**-0.4**
RFTC				Sn	**Sb**	**21 16 59.0**	**-0.2**
HRKL	**Herakleio**	**1.69**	**273**	Pn	**Pb**	**21 16 40.3**	**+0.3**
HRKL	**Herakleio**	**1.69**	**273**	P	**Pn**	**21 16 39.6**	**+1.1**
HRKL				S	**Sn**	**21 17 01.2**	**+0.9**
RFTB	**Kemer-Bodrum**	**1.71**	**3**	Pn	**Pn**	**21 16 39.0**	**+0.2**
KSTL	**Kastelli Herak**	**1.72**	**272**	P	**Pn**	**21 16 37.2**	**-1.7**
KSTL				S	**Sn**	**21 16 57.0**	**-3.9**
TURN	**Turunc**	**1.75**	**30**	Pn	**Pn**	**21 16 40.3**	**+0.9**
TURN	**Turunc**	**1.75**	**30**	P	**Pb**	**21 16 41.4**	**+0.3**
TURN				S	**Sb**	**21 17 03.4**	**+0.1**
SANT	**Santorini**	**1.78**	**309**	Pn	**Pn**	**21 16 39.9**	**+0.1**
SANT	**Santorini**	**1.78**	**309**	P	**Pn**	**21 16 39.6**	**-0.2**
SANT				S	**Sb**	**21 17 04.5**	**+0.3**
RFTAA	**Mazikoy-Bodrum**	**1.81**	**15**	Pn	**Pn**	**21 16 40.8**	**+0.7**
BODT	**Bodrum**	**1.81**	**4**	Pn	**Pn**	**21 16 40.8**	**+0.6**
BDRM	**Kayabasi**	**1.82**	**7**	P	**Pn**	**21 16 40.8**	**+0.5**
BDRM				S	**Sn**	**21 17 03.1**	**-0.6**
IDI	**Anoyia**	**1.86**	**272**	Pn	**Pb**	**21 16 42.7**	**-0.3**
IDI	**Anoyia**	**1.86**	**272**	Pn	**Pn**	**21 16 42.0**	**+1.2**
7.7nm,0.3s,baz=85,slow=16,SNR=30							
IDI				Sn	**Sn**	**21 17 06.0**	**+1.3**
14nm,0.3s,baz=38,slow=17,SNR=6.7							
IDI	**Anoyia**	**1.86**	**272**	P	**Pn**	**21 16 42.1**	**+1.2**
IDI				S	**Sb**	**21 17 07.2**	**+0.8**
AMGA	**Amorgos Island**	**1.89**	**327**	P	**Pn**	**21 16 41.1**	**-0.1**
DALY	**Dalyan (Mula)**	**1.97**	**37**	Pn	**Pn**	**21 16 43.5**	**+1.1**
IZZE	**Mula-Seydike**	**2.05**	**54**	P	**Pn**	**21 16 44.0**	**+0.6**
IZZE				S	**Sb**	**21 17 11.1**	**-0.6**
FETY	**Fethiye**	**2.08**	**48**	Pn	**Pn**	**21 16 45.2**	**+1.3**
YER	**Yerkesik**	**2.09**	**25**	Pn	**Pn**	**21 16 45.2**	**+1.2**
MLSB	**Milas**	**2.10**	**13**	Pn	**Pn**	**21 16 44.9**	**+0.7**
DDIM	**Aydin, Didim**	**2.20**	**2**	P	**Pg**	**21 16 52.3**	**+1.4**
DDIM				S	**Sb**	**21 17 17.1**	**+0.9**
MULA	**Mugla, Merkez-**	**2.21**	**25**	P	**Pg**	**21 16 50.4**	**-0.5**
MULA				S	**Sg**	**21 17 18.6**	**-1.0**
AKAS	**Kas**	**2.21**	**63**	Pn	**Pn**	**21 16 47.5**	**+1.7**
AKAS	**Kas**	**2.21**	**63**	P	**Pn**	**21 16 47.4**	**+1.6**
AKAS				S	**Sn**	**21 17 12.9**	**-0.5**
APE	**Apeiranthos**	**2.25**	**324**	Pn	**Pn**	**21 16 46.3**	**+0.1**
APE	**Apeiranthos**	**2.25**	**324**	P	**Pn**	**21 16 46.0**	**-0.2**
CAME	**Cameli-Denizli**	**2.42**	**45**	Pn	**Pn**	**21 16 49.9**	**+1.3**
GCAM	**G?zelcaml?**	**2.45**	**1**	Pn	**Pn**	**21 16 50.1**	**+1.2**
GCAM	**G?zelcaml?**	**2.45**	**1**	P	**Pb**	**21 16 51.7**	**-1.2**
GCAM				S	**Sb**	**21 17 22.3**	**-0.9**
SMG	**Samos**	**2.47**	**354**	P	**Pn**	**21 16 49.1**	**-0.1**
AYDN	**Tasoluk**	**2.47**	**13**	P	**Pn**	**21 16 51.3**	**+2.0**
AYDN				S	**Sn**	**21 17 20.9**	**+1.1**
CAEL	**Denizli, Camel**	**2.56**	**42**	P	**Pb**	**21 16 53.2**	**-1.6**
CAEL				S	**Sg**	**21 17 35.0**	**+4.3**
GVD	**Gavdhos**	**2.56**	**262**	Pn	**Pn**	**21 16 53.1**	**+2.7**
GVD	**Gavdhos**	**2.56**	**262**	P	**Pn**	**21 16 51.3**	**+0.8**
IMMV	**Iera Moni Meta**	**2.61**	**276**	Pn	**Pn**	**21 16 53.6**	**+2.4**
IMMV	**Iera Moni Meta**	**2.61**	**276**	P	**Pn**	**21 16 52.8**	**+1.6**
IMMV				S	**Sn**	**21 17 25.6**	**+2.5**
TAVA	**DENIZLI_Tavas**	**2.62**	**32**	P	**Pn**	**21 16 53.8**	**+2.4**
TAVA				S	**Sb**	**21 17 26.6**	**-1.7**
MHLO	**Agia Marina, M**	**2.66**	**303**	P	**Pn**	**21 16 53.3**	**+1.4**
ELL	**Elmali**	**2.68**	**55**	Pn	**Pn**	**21 16 53.6**	**+1.4**
GOLH	**Golhisar**	**2.77**	**44**	P	**Pn**	**21 16 55.6**	**+2.1**
GOLH				S	**Sb**	**21 17 33.6**	**+1.0**
RODP	**Rodopos**	**2.80**	**277**	Pn	**Pn**	**21 16 56.4**	**+2.6**
RODP	**Rodopos**	**2.80**	**277**	P	**Pn**	**21 16 55.1**	**+1.3**
APMY	**Acipayam-Deniz**	**2.81**	**37**	Pn	**Pn**	**21 16 54.9**	**+1.0**
DNIZ	**Denizli-Tavas-**	**2.81**	**32**	P	**Pn**	**21 16 55.6**	**+1.6**
DNIZ				S	**Sb**	**21 17 33.4**	**-0.4**
KNDR	**Palaiochora Ch**	**2.85**	**271**	Pn	**Pb**	**21 16 57.9**	**-1.8**
ZEYE	**Izmir, Urla-Ze**	**3.03**	**350**	P	**Pn**	**21 16 57.7**	**+0.8**
ZEYE				S	**Sg**	**21 17 45.1**	**-0.9**
KORT	**Korkueli**	**3.11**	**55**	Pn	**Pn**	**21 16 59.9**	**+1.7**
URLA	**Izmir**	**3.14**	**352**	Pn	**Pn**	**21 16 59.7**	**+1.3**
URLA	**Izmir**	**3.14**	**352**	P	**Pn**	**21 16 56.6**	**-1.8**
CHOS	**Chios island**	**3.25**	**344**	P	**Pn**	**21 17 00.1**	**0.0**
ANTB	**Antalya**	**3.27**	**59**	Pn	**Pn**	**21 17 02.6**	**+2.4**
RFT5	**Foca**	**3.42**	**355**	Pn	**Pn**	**21 17 03.5**	**+1.3**
MANT	**Manisa**	**3.42**	**19**	P	**Pn**	**21 17 04.1**	**+1.6**
VLI	**Veliai**	**3.73**	**294**	P	**Pn**	**21 17 06.5**	**0.0**
VLI				S	**Sn**	**21 17 52.5**	**+1.8**
VLY	**Voula,Athens**	**3.76**	**315**	P	**Pn**	**21 17 07.5**	**+0.6**
ATHU	**Athens Univers**	**3.84**	**316**	P	**Pn**	**21 17 08.5**	**+0.5**
SIGR	**SIGRI**	**4.09**	**346**	P	**Pn**	**21 17 11.7**	**+0.2**
KYMI	**Kymi, Euboea I**	**4.17**	**325**	P	**Pn**	**21 17 13.5**	**+0.8**
BRTR	**Keskin Array B**	**6.81**	**47**	Pn	**Pn**	**21 17 50.6**	**+1.5**
0.2nm,0.3s,baz=277,slow=11,SNR=2.5							
BRTR				Sn	**Sn**	**21 19 06.3**	**-0.6**
0.2nm,0.3s,baz=313,slow=21,SNR=2.4							
0.6nm,0.4s							
MMAI	**Mount Meron Ar**	**7.18**	**106**	Pn	**Pn**	**21 17 53.1**	**-1.0**
1.6nm,0.3s,baz=307,slow=11,SNR=6.0							
MMAI				Sn	**Sn**	**21 19 12.8**	**-3.1**
1.4nm,0.3s,baz=308,slow=27,SNR=2.0							
0.6nm,0.3s							
ASF	**Jabal al Asfar**	**8.67**	**108**	Pn	**Pn**	**21 18 14.7**	**+0.2**
0.3nm,0.3s,baz=343,slow=5.7,SNR=1.9							
ASF				Sn	**Sn**	**21 19 50.3**	**-2.1**
0.2nm,0.3s,baz=307,slow=20,SNR=2.1							
0.9nm,0.4s							
MLR	**Muntele Rosu**	**10.27**	**355**	Pn	**Pn**	**21 18 37.8**	**+1.4**
0.1nm,0.3s,baz=139,slow=20,SNR=2.2							
1.2nm,0.8s							
KEST	**Kesra**	**14.53**	**277**	Pn	**Pn**	**21 19 33.6**	**-1.0**
baz=90,slow=5.1,SNR=2.2							
2.2nm,0.8s							
AKASG	**Malin Array Be**	**15.52**	**5**	Pn	**Pn**	**21 19 47.4**	**-0.3**
0.4nm,0.3s,baz=191,slow=9.3,SNR=1.5							
0.2nm,0.3s							
VRAC	**Vranov**	**16.06**	**334**	Pn	**Pn**	**21 19 56.5**	**+1.8**
0.2nm,0.3s,baz=104,slow=6.5,SNR=1.7							
0.8nm,0.5s							
GERES	**GERESS Array B**	**16.83**	**328**	Pn	**Pn**	**21 20 06.1**	**+1.4**
0.1nm,0.3s,baz=149,slow=19,SNR=4.0							
1.0nm,0.7s							
KHC	**Kasperske Hory**	**17.10**	**328**	*e*P	**P**	**21 20 10.0**	**+0.3**
GEYT	**Alibeck**	**24.94**	**75**	P	**P**	**21 21 32.0**	**-0.5**
0.7nm,0.6s,baz=269,slow=14,SNR=1.8							
0.7nm,0.6s							
ESDC	**Sonseca Array**	**25.03**	**289**	P	**P**	**21 21 32.4**	**-0.9**
0.6nm,0.6s,baz=81,slow=9.8,SNR=12							
0.6nm,0.6s							
FINES	**FINESS Array B**	**26.22**	**359**	P	**P**	**21 21 43.8**	**+0.1**
2.6nm,0.8s,baz=166,slow=17,SNR=1.9							
2.6nm,0.8s							
MDT	**Midelt**	**26.39**	**274**	LR	LR	21 33 33.4	
comp=Z,13nm,19.6s,baz=154,slow=40							
TORD	**Torodi Ar. Bea**	**31.83**	**233**	P	**P**	**21 22 33.9**	**-0.1**
0.8nm,0.7s,baz=29,slow=8.8,SNR=7.1							
0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**39.79**	**51**	P	**P**	**21 23 43.1**	**+1.1**
0.3nm,0.6s,baz=274,slow=9.1,SNR=1.8							
0.3nm,0.6s							
MKAR	**Makanchi Array**	**42.35**	**57**	P	**P**	**21 24 02.4**	**-0.8**
1.6nm,1.0s,baz=252,slow=9.8,SNR=5.3							
1.6nm,1.0s							
ZALV	**Zalesovo Beam**	**43.76**	**46**	P	**P**	**21 24 14.2**	**-0.2**
0.3nm,0.4s,baz=260,slow=8.1,SNR=1.5							
0.3nm,0.4s							
SONM	**Songino Array**	**58.15**	**51**	P	**P**	**21 26 03.5**	**+0.5**
0.3nm,0.5s,baz=289,slow=6.6,SNR=3.1							
0.3nm,0.5s							
KSRS	**Korea Array**	**76.92**	**53**	P	**P**	**21 28 01.5**	**-0.1**
0.9nm,0.6s,baz=301,slow=5.9,SNR=2.2							
0.9nm,0.6s							

IDC ***09*** *21:40:11.7±2.4, 38°.85N×142°.27E, h66km±20km, mb3.5/4, mbtmp3.7/8, MS2.9/2, Error ellipse: s-maj=30.7km s-min=12.7km az=109.0*
JMA ***09*** *21:40:11.1±0.1, 38°.9N±0°.3×142°.1E±0°.7, h46km±1km, MV3.5/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
ISC 09 21:40:10.5±1.8, 38°.84N±0°.06×142°.1E±0°.1, h44km±13km, n20, σ1§33/27, mb3.8/4, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.43**	**304**	⇓P	**Pn**	**21 40 20.7**	**+0.3**
OFUJ				⇓S	**Sn**	**21 40 27.3**	**-0.1**
JKMT	**Kesennumamotoy**	**0.51**	**267**	⇓P	**Pn**	**21 40 21.5**	**+0.1**
JKMT				⇓S	**Sn**	**21 40 28.6**	**-0.5**
JMK	**Ichinoseki**	**0.71**	**279**	⇓*i*P	**Pn**	**21 40 24.2**	**+0.1**
JMK				⇓S	**Sn**	**21 40 33.3**	**-0.7**
JIO	**Ouri**	**0.72**	**238**	⇓*i*P	**Pn**	**21 40 24.2**	**0.0**
JIO				⇓S	**Sn**	**21 40 33.1**	**-1.0**
JOM	**Ohasama**	**0.90**	**315**	⇓*i*P	**Pn**	**21 40 26.9**	**+0.2**
JOM				⇓S	**Sn**	**21 40 37.8**	**-0.8**
JOU	**Okura**	**1.24**	**248**	⇓*i*P	**Pn**	**21 40 31.4**	**+0.1**
JOU				⇓S	**Sn**	**21 40 46.6**	**-0.2**
JRG	**Rokugo**	**1.28**	**296**	⇓*i*P	**Pn**	**21 40 32.0**	**+0.1**
JYK	**Kaneyama**	**1.38**	**274**	⇓*i*P	**Pn**	**21 40 33.3**	**+0.1**
JMM	**Marumori**	**1.43**	**227**	P	**Pn**	**21 40 33.8**	**-0.1**
JMM				S	**Sn**	**21 40 50.8**	**-0.6**
JANG	**Nango**	**1.60**	**343**	P	**Pn**	**21 40 36.5**	**+0.2**
MJAR	**Matsushiro Arr**	**3.86**	**235**	P	**Pn**	**21 41 08.7**	**+1.4**
0.9nm,0.5s,baz=37,slow=12,SNR=12							
MJAR				S	**Sn**	**21 41 55.5**	**+4.2**
1.0nm,0.5s,baz=110,slow=18,SNR=1.1							
ASAJ	**Asahikawa**	**5.28**	**4**	P	**Pn**	**21 41 28.4**	**+1.6**
4.3nm,0.6s,baz=203,slow=15,SNR=1.3							
ASAJ				S	**Sn**	**21 42 27.4**	**+1.1**
7.8nm,0.8s,baz=210,slow=20,SNR=2.2							
JHJ	**Hachijo jima 2**	**6.01**	**199**	P	**Pn**	**21 41 39.5**	**+2.7**
38nm,0.7s,baz=86,slow=14,SNR=1.1							
USRK	**Ussuriysk Ar.**	**9.29**	**308**	P	**Pn**	**21 42 23.9**	**+2.2**
1.9nm,0.8s,baz=134,slow=14,SNR=2.6							
KSRS	**Korea Array**	**11.27**	**267**	LR	LR	21 46 34.7	
comp=Z,9.8nm,18.8s,baz=235,slow=34							
TGY	**Tagaytay City**	**30.94**	**223**	LR	LR	21 57 08.9	
comp=Z,151nm,19.6s,baz=236,slow=33							
MKAR	**Makanchi Array**	**43.66**	**301**	P	**P**	**21 48 10.2**	**-0.5**
0.6nm,0.6s,baz=76,slow=9.5,SNR=5.3							
0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**45.35**	**307**	P	**P**	**21 48 23.7**	**-0.5**
1.3nm,0.4s,baz=82,slow=8.3,SNR=7.8							
1.3nm,0.4s							
BVAR	**Borovoye Array**	**49.79**	**311**	P	**P**	**21 48 58.6**	**+0.1**
0.7nm,0.4s,baz=58,slow=8.6,SNR=1.9							
0.7nm,0.4s							
WRA	**Warramunga Arr**	**58.93**	**189**	P	**P**	**21 50 03.7**	**-1.5**
0.4nm,1.0s,baz=7.8,sl

0.3nm,0.4s,baz=350,slow=7.8,SNR=5.6
0.3nm,0.4s
STKA Stephens Creek 37.58 161 P P 22 09 21.2 +0.2
1.4nm,0.4s,baz=336,slow=10.0,SNR=4.6
1.4nm,0.4s
MKAR Makanchi Array 58.36 325 P P 22 12 01.8 0.0
0.9nm,0.9s,baz=127,slow=7.9,SNR=4.9
0.9nm,0.9s

---

*ISK **09** 22:03:18.1, 38.°85N×26.°00E, h9km, ML2.6/25*
*AFAD **09** 22:03:18.5±0.0, 38.°85N×26.°02E, h7km±1km, ML2.5*
*THE **09** 22:03:18.8, 38.°86N×26.°01E, h11km±2km, ML2.6/4, Error ellipse: s-maj=2.4km s-min=0.9km az=97.0*
*ATH **09** 22:03:19.3, 38.°82N×25.°99E, h13km±3km, ML2.5/8, Manual Solution by A.Papageorgiou First location: 2019/04/04 10:53:45, This location: 2019/04/04 10:52:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 5 km*

ISC 09 22:03:18.8±0.9, 38.°85N±0.°02×26.°01E±0.°02, h12km±8km, n59, σ0.°52/92, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG2	**Marmaro, Chios**	**0.32**	**166**	P	**Pg**	**22 03 25.2**	**-0.1**
EAG2				S	**Sg**	**22 03 29.9**	**+0.3**
KARB	**zmir-Karabur**	**0.37**	**121**	P	**Pg**	**22 03 25.9**	**-0.2**
KARB				S	**Sg**	**22 03 31.6**	**+0.5**
SIGR	**SIGRI**	**0.38**	**341**	Pg	**Pg**	**22 03 26.3**	**-0.1**
SIGR				Sg	**Sg**	**22 03 31.8**	**+0.3**
SIGR	**SIGRI**	**0.38**	**341**	P	**Pg**	**22 03 26.3**	**-0.1**
SIGR				S	**Sg**	**22 03 31.8**	**+0.3**
	918nm,0.3s						
PRK	**Paraskevi**	**0.44**	**27**	P	**Pg**	**22 03 27.4**	**-0.2**
PRK				S	**Sg**	**22 03 33.1**	**-0.4**
	602nm,0.6s						
CHOS	**Chios island**	**0.47**	**176**	P	**Pg**	**22 03 28.1**	**0.0**
CHOS				S	**Sg**	**22 03 34.5**	**+0.2**
	1μm,0.3s						
CHOS	**Chios island**	**0.47**	**176**	P	**Pg**	**22 03 27.9**	**-0.2**
CHOS				S	**Sg**	**22 03 34.4**	**+0.2**
PSRA	**Psara**	**0.47**	**228**	P	**Pg**	**22 03 28.0**	**0.0**
PSRA				S	**Sg**	**22 03 34.1**	**-0.2**
LESV	**Lesvos island,**	**0.50**	**59**	P	**Pg**	**22 03 28.6**	**0.0**
LESV				S	**Sg**	**22 03 36.0**	**+0.8**
GPNR	**Gulpinar-Canak**	**0.61**	**9**	Pg	**Pg**	**22 03 30.5**	**-0.2**
RFT5	**Foca**	**0.61**	**108**	Pg	**Pg**	**22 03 30.3**	**-0.4**
KOCA	**Canakkale, Ayv**	**0.66**	**9**	P	**Pg**	**22 03 31.2**	**-0.4**
KOCA				S	**Sb**	**22 03 41.2**	**-0.1**
URLA	**Izmir**	**0.67**	**137**	Pg	**Pg**	**22 03 31.7**	**-0.3**
URLA				Sg	**Sb**	**22 03 41.7**	**-0.1**
URLA	**Izmir**	**0.67**	**137**	P	**Pg**	**22 03 31.6**	**-0.3**
URLA				S	**Sg**	**22 03 39.4**	**-1.4**
URLA				*i* AML	AML	22 03 46.0	
	comp=E,198nm,0.8s						
AYVA	**Ayvalik**	**0.70**	**49**	P	**Pg**	**22 03 32.0**	**-0.4**
AYVA				S	**Sg**	**22 03 41.4**	**-0.2**
AYVA				*i* AML	AML	22 03 44.0	
	comp=N,425nm,0.7s						
AYVA				*i* AML	AML	22 03 44.0	
	comp=E,352nm,0.3s						
RFT7	**Candarli**	**0.72**	**81**	Pg	**Pg**	**22 03 32.7**	**0.0**
RFT7				Sg	**Sb**	**22 03 43.1**	**+0.1**
ZEYE	**Izmir, Urla-Ze**	**0.72**	**148**	P	**Pg**	**22 03 32.6**	**-0.3**
ZEYE				S	**Sg**	**22 03 41.8**	**-0.6**
ZEYE				*i* AML	AML	22 03 45.0	
	comp=N,204nm,0.3s						
ZEYE				*i* AML	AML	22 03 46.0	
	comp=E,205nm,0.2s						
ZEYE				*i* AML	AML	22 03 47.0	
	comp=Z,164nm,0.4s						
DKL	**Dikili**	**0.73**	**72**	Pg	**Pg**	**22 03 32.9**	**-0.1**
DKL				Sg	**Sb**	**22 03 43.8**	**+0.4**
RFT1	**Sazli**	**0.76**	**26**	Pg	**Pg**	**22 03 32.9**	**-0.6**
ZEDA	**zmir-Bergama**	**0.84**	**82**	P	**Pg**	**22 03 34.7**	**-0.4**
ZEDA				S	**Sb**	**22 03 46.5**	**-0.1**
RFT2	**Karaagac**	**0.87**	**49**	Pg	**Pg**	**22 03 35.5**	**-0.2**
RFT2				Sg	**Sb**	**22 03 48.7**	**+1.2**
BAYC	**CANAKKALE_Bayr**	**0.98**	**25**	P	**Pg**	**22 03 37.0**	**-0.7**
BAYC				S	**Sb**	**22 03 51.0**	**+0.4**
BOZC	**Bozcaada**	**0.99**	**2**	Pg	**Pg**	**22 03 37.1**	**-0.8**
BOZC				Sg	**Sb**	**22 03 51.6**	**+0.8**
EZN	**Ezine**	**1.00**	**14**	Pg	**Pg**	**22 03 37.2**	**-0.9**
EZN				Sg	**Sb**	**22 03 52.1**	**+0.9**
EFSA	**Agios Efstrati**	**1.05**	**311**	P	**Pb**	**22 03 38.6**	**-0.3**
EFSA				S	**Sb**	**22 03 53.1**	**+0.6**
BUHA	**Balikesir, Bur**	**1.05**	**52**	P	**Pb**	**22 03 38.2**	**-0.8**
BUHA				S	**Sb**	**22 03 52.8**	**+0.2**
BUHA				*i* AML	AML	22 03 54.0	
	comp=N,153nm,1.0s						
BUHA				*i* AML	AML	22 03 55.0	
	comp=E,149nm,0.4s						
SKY	**Skiros Island**	**1.14**	**272**	P	**Pg**	**22 03 41.7**	**+0.9**
SKY				S	**Sn**	**22 03 56.3**	**+0.2**
LIA	**Limnos Island**	**1.22**	**329**	P	**Pn**	**22 03 41.4**	**-0.3**
LIA				S	**Sb**	**22 03 56.8**	**-0.8**
	445nm,0.5s						
IKRA	**Agios-Kirikos-**	**1.26**	**170**	P	**Pb**	**22 03 42.7**	**+0.3**
IKRA				S	**Sb**	**22 03 57.9**	**-0.7**
GADA	**Gvkgeada**	**1.34**	**356**	Pn	**Pn**	**22 03 43.4**	**+0.1**
GADA				Sn	**Sn**	**22 04 01.5**	**+0.5**
AKHS	**Akhisar**	**1.41**	**88**	P	**Pg**	**22 03 45.7**	**-0.2**
TNSA	**Tinos**	**1.47**	**207**	P	**Pn**	**22 03 45.4**	**+0.3**
TNSA				S	**Sn**	**22 04 02.8**	**-1.4**
GCAM	**G?zelcaml?**	**1.50**	**140**	Pn	**Pn**	**22 03 45.7**	**+0.2**
GCAM				Sn	**Sb**	**22 04 06.0**	**+0.5**
GCAM	**G?zelcaml?**	**1.50**	**140**	P	**Pb**	**22 03 46.6**	**0.0**
GCAM				S	**Sg**	**22 04 07.4**	**+0.3**
GCAM				*i* AML	AML	22 04 11.0	
	comp=N,86nm,0.4s						
KYMI	**Kymi, Euboea I**	**1.51**	**262**	P	**Pn**	**22 03 46.1**	**+0.4**
KYMI				S	**Sn**	**22 04 05.4**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.58**	**13**	Pn	**Pn**	**22 03 47.1**	**+0.5**
LPK	**Lapseki**	**1.62**	**21**	Pn	**Pn**	**22 03 46.9**	**-0.3**
SMTH	**Samothraki Isl**	**1.66**	**347**	P	**Pn**	**22 03 47.0**	**-0.7**
GONE	**Gonen-Balikesi**	**1.76**	**47**	Pn	**Pn**	**22 03 49.6**	**+0.5**
DION	**Dionisos Attik**	**1.81**	**245**	P	**Pn**	**22 03 49.9**	**+0.1**
DION				S	**Sn**	**22 04 12.7**	**+0.1**
APE	**Apeiranthos**	**1.82**	**192**	Pn	**Pn**	**22 03 49.4**	**-0.6**
APE	**Apeiranthos**	**1.82**	**192**	P	**Pn**	**22 03 49.0**	**-1.0**
APE				S	**Sn**	**22 04 13.2**	**+0.2**
KRBG	**Karabiga-Canak**	**1.83**	**32**	Pn	**Pn**	**22 03 49.9**	**-0.1**
ERIK	**Erikli-Kesan**	**1.85**	**12**	Pn	**Pn**	**22 03 50.5**	**+0.1**
ENEZ	**Enez**	**1.88**	**3**	Pn	**Pn**	**22 03 50.9**	**+0.1**
VLY	**Voula,Athens**	**2.01**	**241**	P	**Pn**	**22 03 52.1**	**-0.4**
ALN	**Alexandroupoli**	**2.04**	**1**	P	**Pn**	**22 03 52.6**	**-0.3**
BODT	**Bodrum**	**2.06**	**150**	Pn	**Pn**	**22 03 53.9**	**+0.6**
EDC	**Edincik**	**2.07**	**43**	Pn	**Pn**	**22 03 54.0**	**+0.7**
KULA	**Kula-Manisa**	**2.10**	**98**	Pn	**Pn**	**22 03 54.3**	**+0.4**
OUR	**Ouranopolis**	**2.15**	**314**	P	**Pn**	**22 03 54.5**	**-0.0**
NEO	**Neokhori**	**2.22**	**283**	P	**Pn**	**22 03 56.4**	**+1.0**
VIL2	**Platees**	**2.25**	**254**	P	**Pn**	**22 03 55.1**	**-0.6**
KCTX	**Karacabey (Bur**	**2.30**	**51**	Pn	**Pn**	**22 03 57.1**	**+0.6**
RFTAA	**Mazikoy-Bodrum**	**2.31**	**143**	Pn	**Pn**	**22 03 57.4**	**+0.9**
RDO	**Rodhopi**	**2.32**	**351**	P	**Pn**	**22 03 56.7**	**0.0**
ATAL	**Atalanti**	**2.34**	**267**	P	**Pn**	**22 03 56.7**	**-0.4**
DAT	**Datca**	**2.46**	**149**	Pn	**Pn**	**22 03 59.5**	**+0.7**
RFTC	**Emecik-Datca**	**2.52**	**145**	Pn	**Pn**	**22 04 00.2**	**+0.7**

IDC 09 22:08:36.2±942.0, 30.°68N×132.°39E, h0km, Error ellipse: s-maj=377.9km s-min=158.8km az=36.0, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**8.10**	**53**	I	I	22 53 50.0	
	0.1nm,1.4s,baz=239,slow=308,SNR=9.8						
I45RU	**USSURIYSK INFR**	**13.50**	**359**	I	I	23 30 50.0	
	baz=179,slow=338,SNR=1.5						
I44RU	**PETROPAVLOVSK**	**29.00**	**32**	I	I	01 07 10.0	
	baz=229,slow=326,SNR=0.9						
I53US	**FAIRBANKS INFR**	**58.36**	**30**	I	I	04 05 40.0	
	baz=274,slow=319,SNR=1.4						

---

*OSPL **09** 22:16:34.9±1.3, 18.°51N×69.°19W, h82km±10km, ML2.8*
*SDD **09** 22:16:36.7±2.4, 18.°73N×69.°43W, h104km±14km, MD3.6, ML3.0*

ISC 09 22:16:38.0±1.7, 18.°67N±0.°06×69.°47W±0.°04, h78km±13km, n18, σ1.°14/29, 21C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.14**	**38**	*e*Pg	**Pn**	**22 16 48.5**	**-1.0**
HATOM				IAML		22 16 58.8	
	comp=N,375nm,0.1s						
HATOM				IAML		22 16 58.8	
	comp=E,315nm,0.1s						
SDD	**Santo Domingo**	**0.47**	**243**	IAML		22 17 01.5	
	comp=E,162nm,0.2s						
SDD				IAML		22 17 01.8	
	comp=N,125nm,0.3s						
SDD	**Santo Domingo**	**0.47**	**243**	*i* P	**Pn**	**22 16 50.4**	**-1.0**
SDD				*e*S	**Sn**	**22 17 01.2**	**+0.1**
MIDR	**Miches**	**0.51**	**52**	⇓*e*Pg	**Pn**	**22 16 50.7**	**-0.9**
MIDR				⇓*e*Pg		22 16 50.8	
MIDR				⇓*e*Sg	**Sn**	**22 17 02.6**	**+0.9**
MIDR				⇑*e*Sg		22 17 02.8	
MIDR				IAML		22 17 03.2	
	comp=E,187nm,0.2s						
MIDR				IAML		22 17 03.2	
	comp=E,354nm,0.2s						
MIDR				IAML		22 17 03.4	
	comp=N,142nm,0.2s						
MIDR				IAML		22 17 03.4	
	comp=N,295nm,0.2s						
HIDR	**Higuey Centro**	**0.72**	**96**	⇑*e*Pg	**Pn**	**22 16 53.4**	**-0.3**
HIDR				⇑*e*Sg	**Sn**	**22 17 06.7**	**+1.2**
HIDR				IAML		22 17 06.9	
	comp=E,421nm,0.2s						
HIDR				IAML		22 17 07.5	
	comp=N,523nm,0.2s						
NADR	**Nagua**	**0.77**	**332**	⇑*e*Pg	**Pn**	**22 16 52.8**	**-1.5**
NADR				IAML		22 17 09.7	
	comp=N,2μm,0.3s						
NADR				IAML		22 17 11.3	
	comp=E,1μm,0.2s						
LONA1	**Toro Cenizo, N**	**0.79**	**332**	*i* P	**Pn**	**22 16 54.0**	**-0.5**
LONA1				*e*S	**Sn**	**22 17 07.7**	**+0.8**
LONA1				IAML		22 17 08.8	
	comp=Z,764nm,1.1s						
SADR	**Isla Saona**	**0.81**	**126**	⇑*e*Pg	**Pn**	**22 16 54.0**	**-0.8**
SADR				⇑*e*Pg		22 16 54.4	
SADR				⇑*e*Sg	**Sn**	**22 17 08.1**	**+0.9**
SADR				⇑*e*Sg		22 17 08.6	
SADR				IAML		22 17 11.8	
	comp=E,113nm,0.2s						
SADR				IAML		22 17 12.1	
	comp=N,137nm,0.2s						
BANI	**BANI**	**0.89**	**252**	⇑*e*Pg	**Pn**	**22 16 55.1**	**-0.6**
BANI				⇑*e*Sg	**Sn**	**22 17 10.6**	**+1.6**
BANI				IAML		22 17 14.1	
	comp=N,537nm,0.3s						
PCDR	**Punta Cana, DR**	**1.05**	**99**	⇑*e*Pg	**Pn**	**22 16 56.9**	**-0.7**
PCDR				⇑*e*Sg	**Sn**	**22 17 12.9**	**+0.8**
PCDR				IAML		22 17 16.0	
	comp=N,178nm,0.7s						
PCDR				IAML		22 17 16.4	
	comp=Z,89nm,1.0s						
ABDR	**Alto Bandera**	**1.10**	**277**	⇑*e*Pg	**Pn**	**22 16 57.2**	**-1.3**
ABDR				⇑*e*Sg	**Sn**	**22 17 14.6**	**+0.7**
ABDR				⇑*e*		22 17 14.6	
ABDR				IAML		22 17 15.9	
	comp=N,218nm,0.2s						
ABDR				IAML		22 17 18.3	
	comp=E,253nm,0.6s						
SC01	**Santiago de lo**	**1.40**	**302**	⇑*e*Pg	**Pn**	**22 17 02.5**	**+0.5**
SC01				IAML		22 17 25.2	
	comp=N,240nm,0.2s						
SC01	**Santiago de lo**	**1.40**	**302**	*i* P	**Pn**	**22 17 02.3**	**+0.2**
SC01				*e*S	**Sn**	**22 17 22.3**	**+2.2**
SC01				IAML		22 17 28.9	
	comp=Z,114nm,0.9s						
SDDR	**Presa de Saban**	**1.75**	**280**	⇓*e*Pg	**Pn**	**22 17 06.8**	**+0.3**
SDDR				IAML		22 17 34.6	
	comp=N,70nm,0.8s						
SDDR				IAML		22 17 35.4	
	comp=E,87nm,0.5s						
SDDR	**Presa de Saban**	**1.75**	**280**	*i* P	**Pn**	**22 17 06.6**	**0.0**
SDDR				*e*S	**Sn**	**22 17 30.0**	**+1.8**
SDDR				IAML		22 17 34.3	
	comp=Z,36nm,0.4s						
PODR	**Polo**	**1.79**	**254**	⇑*e*Pg	**Pn**	**22 17 05.8**	**-1.4**
PODR				IAML		22 17 31.4	
	comp=N,72nm,0.5s						
PODR	**Polo**	**1.79**	**254**	*i* P	**Pn**	**22 17 06.0**	**-1.3**
PODR				*e*S	**Sn**	**22 17 29.9**	**+0.4**
LUDR	**Luperon**	**1.85**	**311**	⇑*e*Pg	**Pn**	**22 17 06.4**	**-1.5**
LUDR				⇑*e*Sg	**Sn**	**22 17 29.1**	**-1.5**
LUDR				IAML		22 17 40.6	
	comp=N,413nm,0.3s						
LUDR				IAML		22 17 41.9	
	comp=E,413nm,0.2s						

---

*BJI **09** 22:23:45.0±0.0, 8.°30S×123.°50E, h5km, mb4.7/59, mB5.0/34, Ms4.7/42, Ms7 4.4/42*
*MOS **09** 22:23:46.7±0.9, 8.°19S×123.°50E, h20km, mb5.0/27, Error ellipse: s-maj=12.5km s-min=7.4km az=120.4*
*IDC **09** 22:23:46.3±0.6, 8.°11S×123.°51E, h0km, mb4.4/16, mbtmp4.5/21, ML4.3/5, MS4.3/59, Error ellipse: s-maj=19.3km s-min=13.0km az=68.0*
*NEIC **09** 22:23:47.6±2.1, 8.°32S±0.°05×123.°41E±0.°03, h10km±1km, mb5.0/52, Error ellipse: s-maj=9.8km s-min=4.3km az=200.0*
*GCMT **09** 22:23:48.6±0.2, 8.°24S±0.°01×123.°52E±0.°01, h12km, MW5.1/121, Moment Tensor Solution. s67,c87; s121,c197; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.64±.09; $M_{\theta\theta}$1.71±.08; $M_{\phi\phi}$-1.07±.10; $M_{r\theta}$-0.99±.23; $M_{\theta\phi}$-4.35±.07; $M_{\phi r}$-2.98±.25; Best double couple: $M_0$5.51800×10^{16} NP1:ϕ_s348.00000°, δ78.00000°, λ-30.00000°. NP2:ϕ_s85.00000°, δ61.00000°, λ-166.00000°. Principal axes: T 5.0790, Plg11.0000°, Azm40.0000°; N 0.8790, Plg58.0000°, Azm148.0000°; P -5.9580, Plg30.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **09** 22:23:48.1±0.1, 8.°S±2.°×12.°4E±.°, h10km, M4.8/46, mB5.3/25, mb5.1/46, MLv5.1/13, Mw(mB)4.8/25, MwMwp4.8/7, Mwp5.1/7*

ISC 09 22:23:48.7±0.5, 8.°33S±0.°03×123.°45E±0.°05, h17km±2km, h18km:pP-P, n321, σ1.°94/302, mb4.9/78, MS4.4/70, 8C-11D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.23**	**255**		**Pn**	**22 24 10.3**	**-0.8**
MMRI	**Maumere**	**1.23**	**255**	P	**Pn**	**22 24 10.9**	**-0.2**
MMRI	**Maumere**	**1.23**	**255**	P	**Pn**	**22 24 10.5**	**-0.6**
SOEI	**Soe**	**1.64**	**150**	Pn	**Pn**	**22 24 16.8**	**0.0**
SOEI	**Soe**	**1.64**	**150**	P	**Pb**	**22 24 18.3**	**-0.2**
SOEI	**Soe**	**1.64**	**150**	P	**Pn**	**22 24 17.5**	**+0.7**
BATI	**Baumata**	**1.88**	**173**	P	**Pb**	**22 24 22.5**	**-0.1**
BATI	**Baumata**	**1.88**	**173**	Pn	**Pb**	**22 24 23.2**	**+0.6**
	438nm,0.3s,baz=350,slow=2.0,SNR=140						
BATI				Sn	**Sg**	**22 24 52.0**	**+2.6**
	176nm,0.3s,baz=197,slow=24,SNR=11						
	3μm,0.5s						
BASI	**Baing, Sumba**	**3.40**	**236**	P	**Pn**	**22 24 41.4**	**+0.5**
BKSI	**Bulukumba**	**4.45**	**312**	P	**Pn**	**22 24 52.4**	**-2.9**
KAPI	**Kappang**	**4.93**	**312**	Pn	**Pn**	**22 24 59.9**	**-2.0**
KAPI	**Kappang**	**4.93**	**312**	P	**Pn**	**22 25 04.4**	**+2.5**
KAPI	**Kappang**	**4.93**	**312**	P	**Pn**	**22 24 59.9**	**-2.0**
KAPI	**Kappang**	**4.93**	**312**	Pn	**Pn**	**22 25 00.7**	**-1.2**
	9.0nm,0.3s,baz=148,slow=4.2,SNR=26						
KAPI				Sn	**Sn**	**22 25 57.9**	**-0.7**
	18nm,0.3s,baz=197,slow=22,SNR=2.9						
KAPI				LR	LR	22 27 02.7	
	comp=Z,10μm,18.7s,baz=122,slow=41						
	57nm,0.6s						
PLAI	**Plampang**	**5.63**	**264**	P	**Pn**	**22 25 14.2**	**+2.6**
PLAI	**Plampang**	**5.63**	**264**	P	**Pn**	**22 25 12.7**	**+1.1**
	547nm,0.8s,8μm2.1nm						
NLAI	**Namlea**	**6.22**	**36**	P	**Pn**	**22 25 22.9**	**+3.1**
TTSI	**Tana Toraja**	**6.37**	**325**	P	**Pn**	**22 25 19.6**	**-2.1**
	276nm,0.9s,2μm0.9nm						
TWSI	**Taliwang, Sumb**	**6.50**	**266**	P	**Pn**	**22 25 24.8**	**+1.2**
	297nm,0.9s,4μm1.3nm						
SANI	**Sanana**	**6.73**	**22**	P	Pn	22 25 13.6	-13
LUWI	**Luwuk**	**7.27**	**355**	Pn	**Pn**	**22 25 33.0**	**-1.1**
LUWI	**Luwuk**	**7.27**	**355**	P	**Pn**	**22 25 34.6**	**+0.5**
LUWI	**Luwuk**	**7.27**	**355**	P	**Pn**	**22 25 33.6**	**-0.5**
	301nm,0.8s,1.2nm						
SRBI	**Singaraja**	**8.15**	**271**	P	**Pn**	**22 25 47.4**	**+1.1**
	117nm,1.4s,2μm						
IGBI	**Denpasar**	**8.22**	**266**	P	**Pn**	**22 25 48.2**	**+1.0**
	156nm,1.0s,2μm						
LBMI	**Labuha**	**8.64**	**28**	P	**Pn**	**22 25 55.9**	**+3.0**
MTN	**Manton Dam**	**8.79**	**121**	P	**Pn**	**22 25 52.7**	**-2.3**
	baz=8.7,SNR=110						
MTN	**Manton Dam**	**8.79**	**121**	Pn	**Pn**	**22 25 52.7**	**-2.3**
MTN	**Manton Dam**	**8.79**	**121**	P	**Pn**	**22 25 54.1**	**-0.9**
MRSI	**Marisa**	**8.87**	**350**	P	**Pn**	**22 25 54.8**	**-1.3**
	78nm,1.1s,886nm						
GTOI	**Gorontalo**	**8.91**	**357**	P	**Pn**	**22 25 56.3**	**-0.4**
	23nm,0.7s,236nm						
KNRA	**Kununurra**	**8.97**	**145**	P	**Pn**	**22 25 55.6**	**-1.8**
	baz=8.9,SNR=81						
KNRA	**Kununurra**	**8.97**	**145**	Pn	**Pn**	**22 25 55.0**	**-2.5**
KNRA	**Kununurra**	**8.97**	**145**	P	**Pn**	**22 25 56.2**	**-1.2**
ABJI	**Asem Bagus**	**9.14**	**273**	P	Pn	22 26 09.2	+9.4
JAGI	**Jajag, Banyuwa**	**9.20**	**268**	Pn	**Pn**	**22 26 00.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**9.20**	**268**	P	**Pn**	**22 26 04.9**	**+4.3**
JAGI	**Jajag, Banyuwa**	**9.20**	**268**	P	**Pn**	**22 26 01.4**	**+0.8**
	82nm,0.9s						
MPSI	**Mapaga**	**9.30**	**337**	P	**Pn**	**22 26 00.5**	**-1.6**
	69nm,0.8s,1μm						
TOLI2	**Tolitoli**	**9.74**	**344**	Pn	**Pn**	**22 26 07.5**	**-0.6**
TOLI2	**Tolitoli**	**9.74**	**344**	P	**Pn**	**22 26 09.8**	**+1.7**
TNTI	**Ternate**	**9.85**	**24**	Pn	**Pn**	**22 26 10.0**	**+0.5**
TNTI	**Ternate**	**9.85**	**24**	P	**Pn**	**22 26 11.1**	**+1.6**
	136nm,1.1s						
TNTI	**Ternate**	**9.85**	**24**	P	**Pn**	**22 26 10.5**	**+1.0**
	136nm,1.4s,2μm						
KDU	**Kakadu**	**9.88**	**117**	P	**Pn**	**22 26 08.6**	**-1.3**
	baz=9.8,SNR=60						
KDU	**Kakadu**	**9.88**	**117**	P	**Pn**	**22 26 08.6**	**-1.3**
FAKI	**Fak Fak**	**10.27**	**59**	Pn	**Pn**	**22 26 15.8**	**+0.4**
FAKI	**Fak Fak**	**10.27**	**59**	P	**Pn**	**22 26 17.4**	**+2.0**
FAKI	**Fak Fak**	**10.27**	**59**	P	**Pn**	**22 26 15.0**	**-0.4**
	82nm,1.0s,1μm2μm						
SIJI	**Sorong**	**10.75**	**47**	Pn	**Pn**	**22 26 20.4**	**-1.5**
	1.3nm,0.3s,baz=217,slow=7.8,SNR=29						
SIJI				LR	LR	22 30 38.3	
	comp=Z,5μm,19.1s,baz=222,slow=39						
	39nm,0.9s						
SWI	**Sorong**	**10.75**	**47**	P	**Pn**	**22 26 20.9**	**-1.0**
	166nm,1.1s,2μm2μm						
WOJI	**Wonogiri, Jawa**	**12.41**	**271**	P	**Pn**	**22 26 47.3**	**+2.7**
	121nm,1.1s,7μm						
RKPI	**Ransiki, Papua**	**12.65**	**58**	P	**Pn**	**22 26 47.6**	**-0.3**
	141nm,0.9s						
UGM	**Wanagama**	**12.80**	**271**	Pn	**Pn**	**22 26 48.4**	**-1.6**
SMRI	**Semarang**	**12.95**	**275**	Pn	**Pn**	**22 26 51.5**	**-0.6**
SMRI	**Semarang**	**12.95**	**275**	P	**Pn**	**22 26 55.9**	**+3.9**
	241nm,1.0s						
SMRI	**Semarang**	**12.95**	**275**	P	**Pn**	**22 26 55.4**	**+3.4**
	239nm,1.0s						
MBWA	**Marble Bar**	**13.25**	**195**	Pn	**Pn**	**22 26 54.3**	**-1.8**
PSA00	**Pilbara Seismi**	**13.62**	**194**	Pn	**Pn**	**22 27 00.4**	**-0.8**
PSA00	**Pilbara Seismi**	**13.62**	**194**	Pn	**Pn**	**22 27 01.0**	**-0.1**
PSA00	**Pilbara Seismi**	**13.62**	**194**	P	**Pn**	**22 27 02.3**	**+1.2**
MYLDM	**Lahad Datu**	**14.29**	**340**	Pn	**Pn**	**22 27 10.3**	**-0.1**
DAV	**Davao City (W)**	**15.44**	**8**	LR	LR	22 33 50.6	
	comp=Z,1μm,19.6s,baz=200,slow=40						
SBUM	**Sibu**	**15.49**	**313**	Pn	**Pn**	**22 27 25.2**	**-1.2**
WB0	**Warramunga Arr**	**15.55**	**138**	Pn	**Pn**	**22 27 21.9**	**-5.3**
WB0				IAmb	IAmb	22 27 33.4	
	comp=Z,44nm,0.8s						
WRA	**Warramunga Arr**	**15.64**	**139**	Pn	**Pn**	**22 27 22.8**	**-5.7**
WRA	**Warramunga Arr**	**15.64**	**139**	Pn	**Pn**	**22 27 22.8**	**-5.7**
	comp=Z,1.4nm,0.3s,baz=307,slow=14,SNR=74						
WRA				Sn	Sn	22 30 08.9	-12
	comp=Z,0.7nm,0.3s,baz=313,slow=24,SNR=13						
WRA				LR	LR	22 34 41.3	
	comp=Z,1μm,18.8s,baz=313,slow=42						
WRAB	**Tennant Creek**	**15.64**	**139**	Pn	**Pn**	**22 27 22.8**	**-5.6**
WRAB	**Tennant Creek**	**15.64**	**139**	P	**Pn**	**22 27 22.8**	**-5.6**
WRAB				pmax	pmax		
	comp=Z,31nm,0.7s						
WB2	**Warramunga Arr**	**15.65**	**139**	Pn	**Pn**	**22 27 23.3**	**-5.2**
WB2				IAmb	IAmb	22 27 36.3	
	comp=Z,36nm,0.7s						
BBJI	**Bungbulang**	**15.67**	**272**	P	**P**	**22 27 33.3**	**+0.4**
LEM	**Lembang**	**15.76**	**274**	P	**P**	**22 27 32.4**	**-1.6**
	comp=Z,131nm,1.0s						
LEM	**Lembang**	**15.76**	**274**	Pn	**Pn**	**22 27 30.9**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=107,slow=8.5,SNR=13						
LEM				LR	LR	22 35 51.3	
	comp=Z,3μm,18.4s,baz=76,slow=46						
	comp=Z,76nm,0.8s						
WR0	**Warramunga Arr**	**15.78**	**138**	Pn	**Pn**	**22 27 24.5**	**-5.8**
KSM	**Kuching**	**16.32**	**306**		**Pn**	**22 27 38.1**	**+1.0**
KSM	**Kuching**	**16.32**	**306**	P	**P**	**22 27 39.6**	**-0.4**
CBJI	**Citeko**	**16.57**	**275**	P	**P**	**22 27 47.2**	**+4.4**
GIRL	**Giralia**	**16.77**	**211**	P	**Pn**	**22 27 42.7**	**0.0**

baz=24,SNR=5.5
MUN Mundaring 24.48 195 P **P 22 29 08.1 +1.2**
CTA Charters Tower 24.97 120 P **P 22 29 12.6 +1.1**
CTA Charters Tower 24.97 120 LR LR 22 40 01.8
comp=Z,1μm,19.4s,baz=297,slow=39
CTAO Charters Tower 24.97 120 P **P 22 29 12.1 +0.5**
CTAO Charters Tower 24.97 120 P **P 22 29 12.6 +1.1**
CTAO Charters Tower 24.97 120 P **P 22 29 12.1 +0.5**
CTAO pmax pmax
comp=Z,53nm,1.1s
TV1H Townsville Har 25.11 118 P **P 22 29 15.2 +2.4**
comp=Z,80nm,0.8s
NWAO Narrogin (SRO) 25.15 192 P **P 22 29 12.8 -0.1**
baz=25,SNR=16
NWAO P **P 22 29 12.8 -0.1**
baz=25,SNR=16
NWAO Narrogin (SRO) 25.15 192 P **P 22 29 12.9 -0.1**
NWAO IAmb IAmb 22 29 34.5
comp=Z,45nm,1.1s
NWAO Narrogin (SRO) 25.15 192 P **P 22 29 12.9 -0.1**
NWAO pmax pmax
comp=Z,45nm,1.1s
NWAO Narrogin (SRO) 25.15 192 LR LR 22 39 35.1
comp=Z,1μm,20.5s,baz=24,slow=37
INKA Innaminka 25.30 142 P **P 22 29 17.1 +2.7**
LCRK Leigh Creek 25.99 150 P **P 22 29 23.1 +2.5**
QLP Quilpie 26.81 135 P **P 22 29 27.8 -0.3**
baz=27,SNR=6.5
QLP Quilpie 26.81 135 P **P 22 29 30.4 +2.3**
RKGY Rocky Gully 26.83 192 P **P 22 29 29.3 +1.2**
baz=27,SNR=5.5
BBOO Buckleboo 27.02 156 P **P 22 29 30.9 +1.0**
baz=27,SNR=16
BBOO Buckleboo 27.02 156 P **P 22 29 29.9 0.0**
BBOO IAmb IAmb 22 29 33.1
comp=Z,24nm,0.8s
BBOO Buckleboo 27.02 156 P **P 22 29 30.7 +0.7**
KRVT Keravat (AS076 28.68 84 LR LR 22 44 36.0
comp=Z,468nm,18.3s,baz=230,slow=44
HTT Hallett 28.79 152 P **P 22 29 46.3 +0.5**
baz=29,SNR=16
HTT Hallett 28.79 152 P **P 22 29 47.2 +1.4**
STKA Stephens Creek 28.88 147 P **P 22 29 47.9 +1.3**
baz=29,SNR=14
STKA Stephens Creek 28.88 147 P **P 22 29 47.1 +0.6**
STKA Stephens Creek 28.88 147 P **P 22 29 47.8 +1.3**
STKA Stephens Creek 28.88 147⇑ *e*P **P 22 29 46.5 -0.1**
STKA Stephens Creek 28.88 147 P **P 22 29 47.9 +1.3**
comp=Z,8.7nm,0.7s,baz=315,slow=9.9,SNR=15
STKA LR LR 22 41 33.7
comp=Z,671nm,19.3s,baz=314,slow=37
comp=Z,8.7nm,0.7s
GUMO Guam 30.44 45 LR LR 22 41 46.2
comp=Z,514nm,20.5s,baz=210,slow=36
CMSA Cobar Meteorol 31.02 141 P **P 22 30 07.2 +1.7**
baz=31,SNR=13
CMSA Cobar Meteorol 31.02 141 P **P 22 30 07.4 +1.8**
AULRC Lightning Ridg 31.17 136 P **P 22 30 08.8 +2.0**
ARPS Mount Arapiles 32.89 152 P **P 22 30 22.5 +0.6**
baz=33,SNR=11
ARPS Mount Arapiles 32.89 152 P **P 22 30 24.3 +2.5**
AUDCS Dubbo College 33.35 139 P **P 22 30 29.2 +3.2**
comp=Z,28nm,1.2s
AUPHS Peel High Scho 34.18 135 P **P 22 30 36.4 +3.2**
ARMA Armidale 34.31 134 P **P 22 30 34.2 -0.3**
baz=34,SNR=4.5
YNG Young 34.56 142 P **P 22 30 38.4 +1.9**
JOW Kunigami 35.26 7 LR LR 22 45 56.2
comp=Z,395nm,21.2s,baz=116,slow=38
TOO Toolangi 35.30 149 P **P 22 30 43.4 +0.5**
baz=35,SNR=5.5
TOO Toolangi 35.30 149 P **P 22 30 44.7 +1.9**
CNB Canberra Magne 35.84 142 P **P 22 30 48.1 +0.5**
baz=36,SNR=4.2
CMAR Chiang Mai Arr 35.96 318 P **P 22 30 48.9 +0.2**
CMAR Chiang Mai Arr 35.96 318 *i* P **P 22 30 50.7 +2.1**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 35.96 318 P **P 22 30 49.3 +0.6**
comp=Z,1.2nm,0.4s,baz=144,slow=6.2,SNR=10
CMAR LR LR 22 48 10.0
comp=Z,445nm,19.0s,baz=135,slow=41
comp=Z,1.2nm,0.4s
HNR Honiara 36.07 95 LR LR 22 46 29.7
comp=Z,3μm,21.0s,baz=264,slow=38
CHTO Chiang Mai 36.21 318 P **P 22 30 50.8 0.0**
CHTO Chiang Mai 36.21 318 P **P 22 30 50.8 0.0**
CHTO pmax pmax
comp=Z,1.0nm,1.3s
GYA Guiyang 38.22 335 *e*P **P 22 31 12.3 +4.4**
GYA pmax pmax
comp=Z,14nm,1.1s
GYA LR LR
comp=Z,260nm,12.2s
KMI Kunming 38.89 329 ⇑P **P 22 31 12.1 -1.6**
KMI sP pP 22 31 16.6 -2.5
KMI S **S 22 37 12.1 +0.7**
KMI SS **SnSn 22 39 56.7 -5.5**
KMI pmax pmax
comp=Z,16nm,1.3s
KMI LR LR
comp=Z,340nm,14.3s
KMI LR LR
comp=Z,570nm,14.1s
KMI LR LR
comp=Z,460nm,22.1s
SSE Sheshan 39.26 357 P **P 22 31 16.6 +0.2**
SSE S **S 22 37 17.1 +0.8**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,55nm,3.5s
SSE LR LR
comp=Z,100nm,10.2s
SSE LR LR
comp=Z,98nm,10.7s
WHN Wuhan 39.62 348 P **P 22 31 23.2 +3.8**
WHN pmax pmax
comp=Z,36nm,0.5s
JCJ Chichijima 39.62 27 LR LR 22 44 43.9
comp=Z,249nm,20.8s,baz=144,slow=32
NJ2 Nanjing 40.39 354 *e*P **P 22 31 27.1 +1.3**
NJ2 pP **pP 22 31 31.0 +0.1**
NJ2 sP **sP 22 31 33.0 -0.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
NJ2 pmax pmax
comp=Z,350nm,3.8s
PZH PanZhiHua 40.53 329 P **P 22 31 28.7 +1.5**
PZH S **S 22 37 39.3 +3.5**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,180nm,5.9s
PZH LR LR
comp=Z,330nm,14.4s
PZH LR LR
comp=Z,390nm,17.7s
PZH LR LR
comp=Z,360nm,19.6s
ENH Enshi 40.65 341 P **P 22 31 27.6 -0.5**
ENH IAmb IAmb 22 32 04.4
comp=Z,20nm,1.1s
TNCH TengChong 41.10 324 ⇑P **P 22 31 29.5 -2.5**
TNCH pP pP 22 31 37.3 -0.1
TNCH sP sP 22 31 39.2 -0.5
TNCH PP **PnPn 22 33 14.7 +3.3**
TNCH S **S 22 37 45.3 +0.9**
TNCH sS sS 22 37 55.5 +2.1
TNCH pmax pmax
comp=Z,10.0nm,0.7s
TNCH pmax pmax
comp=Z,160nm,6.3s
TNCH LR LR
comp=Z,500nm,24.5s
TNCH LR LR
comp=Z,470nm,20.8s
TNCH LR LR
comp=Z,1μm,28.3s
JNU Nakatsue 41.82 9 LR LR 22 49 59.1
comp=Z,182nm,20.1s,baz=184,slow=38
CD2 Chengdu 43.34 335 *e*P **P 22 31 50.5 +0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
DZM Mont Dzumac 43.52 113 *e*LR LR 22 44 02.9
comp=Z,791nm,22.4s
DZM Mont Dzumac 43.52 113 P **P 22 31 52.6 +0.8**
DZM IAmb IAmb 22 31 55.8
comp=Z,24nm,1.2s
DZM Mont Dzumac 43.52 113 LR LR 22 50 46.7
comp=Z,413nm,18.4s,baz=234,slow=37
LYN LuoYang 43.89 347 *e*P **P 22 31 54.9 +0.6**
LYN pmax pmax
comp=Z,20nm,0.7s
OUENC Ouen Island, N 43.95 114 P **P 22 31 54.4 -0.7**
OUENC IAmb IAmb 22 31 59.5
comp=Z,42nm,1.3s
OUENC Ouen Island, N 43.95 114 P **P 22 31 57.0 +1.9**
JHJ Hachijo jima 2 44.05 20 LR LR 22 49 17.9
comp=Z,138nm,20.5s,baz=211,slow=35
XAN Xi'an 44.33 343 P **P 22 31 57.3 -0.6**
XAN pP pP 22 32 01.6 -1.8
XAN S **S 22 38 32.4 +0.9**
XAN ScS **ScS 22 41 55.0 -0.9**
XAN pmax pmax
comp=Z,19nm,0.8s
XAN LR LR
comp=Z,490nm,15.9s
XAN LR LR
comp=Z,350nm,19.9s
XAN LR LR
comp=Z,790nm,16.9s
KSRS Korea Array 45.73 5 LR LR 22 52 45.4
comp=Z,191nm,20.2s,baz=185,slow=38
HNS HongShan 46.21 350 ⇓P **P 22 32 12.6 -0.1**
HNS *e*S **S 22 38 59.9 +1.4**
HNS pmax pmax
comp=Z,7.0nm,0.9s
HNS LR LR
comp=Z,340nm,15.1s
HNS LR LR
comp=Z,280nm,16.1s
MAJO Matsushiro 46.73 16 P **P 22 32 17.3 +0.4**
MAJO IAmb IAmb 22 32 26.2
comp=Z,33nm,1.8s
MAJO Matsushiro 46.73 16⇑ *e*P **P 22 32 14.9 -2.0**
MAJO pmax pmax
comp=Z,2.0nm,0.9s
MJAR Matsushiro Arr 46.73 16 P **P 22 32 15.0 -1.9**
comp=Z,1.2nm,0.6s,baz=188,slow=7.5,SNR=2.0
MJAR LR LR 22 50 42.1
comp=Z,158nm,19.9s,baz=210,slow=35
comp=Z,1.2nm,0.6s
MJB9 Matsu-Tunnel 46.74 16 P **P 22 32 17.8 +0.9**
MJB9 IAmb IAmb 22 32 27.2
comp=Z,30nm,1.7s
LZH Lanzhou 47.87 339 *e*P **P 22 32 26.7 +0.7**
LZH pP pP 22 32 31.3 -0.2
LZH sP sP 22 32 33.1 -0.6
LZH S **S 22 39 22.2 -0.4**
LZH sS sS 22 39 34.5 +2.8
LZH pmax pmax
comp=Z,14nm,1.0s
LZH LR LR
comp=Z,340nm,14.4s
LZH LR LR
comp=Z,420nm,14.4s
LZH LR LR
comp=Z,360nm,15.1s
BJI Beijing 48.59 353 P **P 22 32 31.7 +0.5**
BJI pP **pP 22 32 36.2 -0.5**
LSA Lhasa 48.94 322 P **P 22 32 33.8 -0.9**
LSA pmax pmax
comp=Z,2.0nm,0.4s
ODAN Odare 49.45 316 *e*P **P 22 32 39.0 +0.6**
comp=Z,102nm,2.3s
TAPN Taplejung 49.55 317 *e*P **P 22 32 41.2 +2.0**
comp=Z,40nm,1.0s
RAMN Ramite 50.05 316 *e*P **P 22 32 43.4 +0.4**
comp=Z,163nm,1.5s
HHC Hu-ho-hao-te 50.14 348 *e*P **P 22 32 45.1 +1.9**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,150nm,4.9s
HHC LR LR
comp=Z,350nm,19.6s
HHC LR LR
comp=Z,410nm,19.6s
HHC LR LR
comp=Z,390nm,20.4s
JIRN Jiri 50.78 316 *e*P **P 22 32 49.4 +0.7**
comp=Z,27nm,0.8s
GUN Gumba 51.16 316 *e*P **P 22 32 51.8 +0.4**
comp=Z,31nm,0.7s
HYB Hyderabad 51.20 300 *e*P **P 22 32 50.8 -0.8**
HYB *e*pP **pP 22 32 53.9 -3.3**
PKI Pulchoki 51.27 315 *e*P **P 22 32 52.2 0.0**
comp=Z,43nm,1.2s
PKIN Phulchoki 51.28 315 *e*P **P 22 32 52.2 -0.1**
comp=Z,13nm,0.5s
KKN Kakani 51.49 316 *e*P **P 22 32 54.3 +0.5**
DMN Daman 51.50 315 *e*P **P 22 32 53.2 -0.7**
comp=Z,58nm,1.2s
GKN Gorkha 52.07 315 *e*P **P 22 32 57.7 -0.3**
comp=Z,97nm,1.5s
GTA Gaotai 52.31 337 *e*P **P 22 32 59.6 0.0**
GTA sP sP 22 33 08.3 +1.0
GTA S **S 22 40 22.5 -1.8**
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA LR LR
comp=Z,170nm,14.3s
GTA LR LR
comp=Z,380nm,17.9s
GTA LR LR
comp=Z,280nm,21.1s
XLT XiLinHaoTe 52.41 353 *e*P P 22 33 08.2 +8.1
XLT pP sP 22 33 18.2 +10
XLT sP pP 22 33 22.2 +16
XLT pmax pmax
comp=Z,16nm,1.0s
XLT pmax pmax
comp=Z,110nm,3.9s
KOLN Koldanda 52.66 314 *e*P **P 22 33 00.9 -1.6**
comp=Z,92nm,1.4s
USRK Ussuriysk Ar. 52.85 8 P **P 22 33 01.4 -1.8**
comp=Z,3.8nm,0.8s,baz=179,slow=9.4,SNR=6.4
USRK LR LR 22 56 34.6
comp=Z,152nm,19.6s,baz=188,slow=37
comp=Z,3.8nm,0.8s
DANN Dangsing 52.90 315 *e*P **P 22 33 03.9 -0.4**
comp=Z,154nm,1.5s
MDJ Mudanjiang 52.99 5 P **P 22 33 06.2 +1.9**
MDJ pP pP 22 33 09.4 -0.5
MDJ sP sP 22 33 10.9 -1.1
MDJ ScP **ScP 22 38 10.3 +0.5**
MDJ S **S 22 40 39.8 +6.7**
MDJ sS sS 22 40 45.7 +3.9
MDJ ScS **ScS 22 42 55.3 +2.1**
MDJ pmax pmax
comp=Z,15nm,0.7s
MDJ pmax pmax
comp=Z,270nm,4.3s
MDJ LR LR
comp=Z,290nm,13.6s
MDJ LR LR
comp=Z,210nm,14.2s
MDJ LR LR
comp=Z,340nm,14.9s
PYUN Piuthan 53.29 314 *e*P **P 22 33 05.6 -1.5**
comp=Z,75nm,1.2s
QRZ Quartz Range 54.16 135 P **P 22 33 12.6 -0.5**
RPZ Rata Peaks 54.35 139 LR LR 22 56 41.5
comp=Z,470nm,19.3s,baz=311,slow=36
THZ Tophouse 54.78 136 P **P 22 33 18.9 +1.2**
THZ IAmb IAmb 22 33 26.6
comp=Z,15nm,0.8s
ASAJ Asahikawa 55.00 17 LR LR 22 55 44.6
comp=Z,167nm,21.6s,baz=194,slow=35
TCW Tory Channel 55.53 135 P **P 22 33 23.4 +0.4**
BKZ Black Stump Fm 56.43 132 P **P 22 33 29.1 -0.5**
BKZ IAmb IAmb 22 33 54.2
comp=Z,24nm,1.2s
URZ Urewera 56.61 131 LR LR 22 58 50.3
comp=Z,652nm,18.7s,baz=32,slow=37
YSS Yuzh-Sakhalins 57.66 16 *e*P **P 22 33 39.4 +1.5**
YSS *e*S **S 22 41 37.8 +2.3**
YSS MLR MLR
comp=Z,200nm,18.0s
KLR Kul'dur 57.77 6 LR LR 23 00 20.0
comp=Z,108nm,19.7s,baz=192,slow=38
ULN Ulaanbaatar 57.80 347 P **P 22 33 37.3 -1.8**
ULN IAmb IAmb 22 33 46.3
comp=Z,12nm,1.2s
ULN Ulaanbaatar 57.80 347 *de*P **P 22 33 39.0 -0.1**
ULN pmax pmax
comp=Z,14nm,2.5s
SONM Songino Array 57.92 347 P **P 22 33 38.3 -1.6**
SONM Songino Array 57.92 347 P **P 22 33 38.3 -1.6**
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 57.92 347 P **P 22 33 39.6 -0.3**
comp=Z,2.2nm,0.9s,baz=166,slow=8.3,SNR=8.8
SONM LR LR 23 00 14.6
comp=Z,190nm,20.5s,baz=159,slow=38
comp=Z,2.2nm,0.9s
HEH HeiHe 58.44 3 *e*P **P 22 33 41.5 -1.8**
HEH pP **sP 22 33 50.8 -0.3**
HEH pmax pmax
comp=Z,16nm,0.8s
HEH pmax pmax
comp=Z,160nm,3.8s
HEH LR LR
comp=Z,170nm,16.2s
HEH LR LR
comp=Z,160nm,16.5s
HEH LR LR
comp=Z,250nm,18.5s
CASY Casey 58.55 186 P **P 22 33 42.6 -1.3**
CASY IAmb IAmb 22 33 51.6
comp=Z,26nm,1.5s
RAO Raoul Island 58.67 119 LR LR 22 57 31.2
comp=Z,271nm,20.7s,baz=290,slow=34
WMQ Urumqi 61.18 331 *e*P **P 22 34 05.0 +2.6**
WMQ pP sP 22 34 09.9 -0.4
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=Z,340nm,17.3s
WMQ LR LR
comp=Z,190nm,21.7s
WMQ LR LR
comp=Z,310nm,21.7s
ZEA Zeya 61.91 3 *e*P P 22 34 14.3 +7.2
ZEA pmax pmax
comp=Z,10.0nm,1.2s
NIL Nilore 63.31 314 P **P 22 34 15.9 -0.9**
NIL Nilore 63.31 314 P **P 22 34 16.0 -0.9**
NIL pmax pmax
comp=Z,39nm,1.8s
AFI Afiamalu 63.65 101 LR LR 23 00 44.9
comp=Z,148nm,20.3s,baz=298,slow=35
KSH Kashi 64.77 321 P **P 22 34 27.0 +0.5**
KSH pP pP 22 34 31.5 -0.7
KSH sP sP 22 34 33.9 -0.5
KSH S **S 22 43 06.9 +0.2**
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH LR LR
comp=Z,180nm,17.1s
KSH LR LR
comp=Z,330nm,20.6s
KSH LR LR
comp=Z,430nm,22.8s
TARG Taragay, Kyrgy 65.01 324 P **P 22 34 27.3 -1.1**
TARG IAmb IAmb 22 34 46.2
comp=Z,14nm,1.1s
TARG Taragay, Kyrgy 65.01 324 P **P 22 34 27.3 -1.1**
TARG pmax pmax
comp=Z,14nm,1.1s
PRZ Przheval'sk 65.14 325 P **P 22 34 28.1 -0.8**
PRZ Przheval'sk 65.14 325 P **P 22 34 28.1 -0.8**
PRZ pmax pmax
comp=Z,18nm,1.1s
DGZ Jazzator, Alta 65.77 335 ⇓ *e*P **P 22 34 32.4 -0.4**
DGZ pmax pmax
comp=Z,5.0nm,0.9s
NRN Naryn 65.89 323 P **P 22 34 32.7 -1.3**
NRN IAmb IAmb 22 34 41.4
comp=Z,21nm,1.4s
NRN Naryn 65.89 323 P **P 22 34 32.7 -1.3**
NRN pmax pmax
comp=Z,21nm,1.4s
MK31 Makanchi Array 65.96 330 P **P 22 34 33.3 -0.6**
MK31 IAmb IAmb 22 34 41.5
comp=Z,15nm,1.1s
MK31 Makanchi Array 65.96 330 *de*P **P 22 34 33.5 -0.4**
MKAR Makanchi Array 65.96 330 P **P 22 34 33.0 -0.9**
MKAR Makanchi Array 65.96 330 *i* P **P 22 34 32.7 -1.2**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 65.96 330 P **P 22 34 33.4 -0.5**
comp=Z,7.7nm,0.9s,baz=138,slow=6.9,SNR=14
comp=Z,7.7nm,0.9s
BOD Bodaibo 66.36 355 *e*P **P 22 34 34.8 -1.4**
BOD pmax pmax
comp=Z,13nm,1.6s
ARXS Arharly 66.56 326 *e*P **P 22 34 36.9 -1.0**
BOOM Boomskoye usch 66.57 324 P **P 22 34 36.5 -1.6**
BOOM Boomskoye usch 66.57 324 P **P 22 34 36.6 -1.6**
BOOM pmax pmax
comp=Z,24nm,1.1s
KBL Kabul 66.78 313 P **P 22 34 38.8 -0.9**
KBL IAmb IAmb 22 34 46.3
comp=Z,8.6nm,0.9s
KBL Kabul 66.78 313 P **P 22 34 38.8 -0.9**
KBL pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 67.51 323 P **P 22 34 43.4 -0.8**
AAK Ala-Archa 67.51 323 *ce*P **P 22 34 43.9 -0.2**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 67.51 323 LR LR 23 08 25.1
comp=Z,226nm,21.4s,baz=138,slow=40
PETK Petropavlovsk- 67.77 22 P **P 22 34 44.9 -0.4**
comp=Z,3.3nm,0.8s,baz=204,slow=6.3,SNR=3.0
PETK LR LR 23 03 40.4
comp=Z,69nm,21.6s,baz=213,slow=35
comp=Z,3.3nm,0.8s
PET Petropavlovsk 68.05 22 *e*P P 22 34 35.9 -11
PET *e*S S 22 43 34.4 -11
PET MLR MLR
comp=Z,100nm,21.0s
BTK Batken 68.36 319 P **P 22 34 48.0 -1.4**
BTK IAmb IAmb 22 34 57.2
comp=Z,22nm,1.4s
BTK Batken 68.36 319 P **P 22 34 48.0 -1.4**
BTK pmax pmax
comp=Z,22nm,1.5s
ZAA0 Zalesovo Array 70.06 337 P **P 22 34 58.0 -1.5**
ZAA0 IAmb IAmb 22 35 05.8
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 70.06 337 P **P 22 34 58.0 -1.5**
ZALV Zalesovo Beam 70.06 337 *i* P **P 22 34 58.5 -1.0**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 70.06 337 P **P 22 34 58.8 -0.7**
comp=Z,2.6nm,0.8s,baz=132,slow=4.4,SNR=9.4
comp=Z,2.6nm,0.8s
KK31 Karatay Array 70.19 322 P **P 22 34 59.9 -0.7**
KK31 Karatay Array 70.19 322 P **P 22 34 59.9 -0.7**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 70.19 322 P **P 22 35 00.0 -0.6**
KKAR Karatay Array 70.19 322 P **P 22 35 00.0 -0.6**
YAK Yakutsk 70.31 3 P **P 22 34 59.7 -1.1**
YAK Yakutsk 70.31 3 *e*P **P 22 35 00.0 -0.8**
YAK *e**PP **sP 22 35 11.7 +3.0**
YAK *e*S **S 22 44 10.1 -1.9**
YAK *e* 22 44 59.6
YAK *e*SS **SS 22 48 37.9 -5.0**
YAK pmax pmax
comp=Z,38nm,0.6s
YAK pmax pmax
comp=N,6.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,71nm,2.2s
YAK pmax pmax
comp=N,147nm,2.8s
YAK pmax pmax
comp=E,56nm,2.2s
YAK smax smax
comp=E,89nm,2.9s
YAK smax smax
comp=N,99nm,2.8s

KURBB **Kurchatov Arra** 70.40 331 P **P** 22 35 00.9 -0.7
comp=N,1.2nm,0.2s,baz=138,slow=5.4,SNR=8.0
comp=N,1.2nm,0.2s
KURK **Kurchatov** 70.42 332 P **P** 22 35 00.6 -1.2
KURK IAmb IAmb 22 35 09.6
comp=Z,15nm,1.1s
KURK **Kurchatov** 70.42 332 *de*P **P** 22 35 01.2 -0.6
KURK pmax pmax
comp=Z,5.0nm,1.1s
WSAR **Wadi Sarin** 70.67 298 LR LR 23 05 22.3
comp=Z,299nm,22.0s,baz=122,slow=35
MA2 **Magadan** 71.12 14 LR LR 23 05 37.8
comp=Z,47nm,21.8s,baz=293,slow=35
H04N1 **CROZET ISLANDS** 71.35 224 T T 23 52 58.4
SNR=67
MAW **Mawson** 71.39 201 P **P** 22 35 07.8 +0.4
comp=Z,4.5nm,0.8s,baz=68,slow=8.1,SNR=3.3
MAW LR LR 23 05 38.1
comp=Z,224nm,18.2s,baz=62,slow=35
comp=Z,4.5nm,0.8s
HRA **Herat** 71.74 310 P **P** 22 35 09.5 -0.9
HRA IAmb IAmb 22 36 59.1
comp=Z,6.5nm,0.4s
SHEM **Shemya Is, Ala** 74.49 29 LR LR 23 03 23.2
comp=Z,135nm,21.9s,baz=280,slow=32
RAR **Rarotonga** 74.76 110 LR LR 23 07 38.5
comp=Z,64nm,20.8s,baz=298,slow=35
BVAR **Borovoye Array** 75.84 330 P **P** 22 35 31.7 -2.2
comp=Z,2.0nm,0.8s,baz=161,slow=9.2,SNR=3.2
comp=Z,2.0nm,0.8s
GEYT **Alibeck** 76.20 312 P **P** 22 35 36.7 +0.4
comp=Z,2.2nm,0.7s,baz=118,slow=8.8,SNR=3.1
GEYT LR LR 23 15 17.0
comp=Z,186nm,19.7s,baz=146,slow=41
comp=Z,2.2nm,0.7s
ABKAR **Akbulak array** 79.59 323 P **P** 22 35 53.4 -1.4
TIXI **Tiksi** 79.89 2 P **P** 22 35 55.4 -0.5
TIXI **Tiksi** 79.89 2⇑ *e*P **P** 22 35 55.4 -0.5
TIXI pmax pmax
comp=Z,20nm,2.3s
AKTO **Aktyubinsk** 81.22 324 LR LR 23 18 25.1
comp=Z,138nm,18.6s,baz=40,slow=40
QSPA **South Pole Qui** 81.66 180 P **P** 22 36 06.1 +0.3
QSPA **South Pole Qui** 81.66 180 LR LR 23 11 51.4
comp=Z,344nm,19.3s,baz=348,slow=35
SVE **Sverdlovsk** 82.62 330 *e*P **P** 22 36 14.4 +3.6
SVE pmax pmax
comp=Z,10.0nm,1.0s
ARU **Arti** 83.47 330 P **P** 22 36 14.1 -1.1
ARU **Arti** 83.47 330 *d i*P **P** 22 36 14.3 -0.9
ARU S **S** 22 46 35.7 -0.1
ARU SS **SS** 22 51 56.5 -5.4
ARU pmax pmax
comp=Z,3.0nm,1.1s
ARU **Arti** 83.47 330 LR LR 23 18 38.4
comp=Z,141nm,18.8s,baz=124,slow=40
TBI **Tubuai** 84.10 113 *e*LR LR 23 02 56.2
TBI comp=Z,1μm,25.2s *e*LR LR 23 02 56.5
comp=Z,5μm,22.8s
PPT2 **Papeete2** 84.67 107 *e*LR LR 23 03 12.5
PPT2 comp=Z,271nm,25.8s *e*LR LR 23 03 14.9
comp=Z,251nm,38.0s
PPT **Papeete** 84.67 107 LR LR 23 14 29.3
comp=Z,32nm,18.2s,baz=190,slow=36
ELIB **Princess Elisa** 85.26 198 *d*P **P** 22 36 24.8 +0.6
comp=Z,9.7nm,1.2s
ELIB *d*PP **PP** 22 39 41.0 -0.7
KMBO **Kilima Mbogo** 86.07 269 P **P** 22 36 31.4 +1.8
comp=Z,1.0nm,0.8s,baz=82,slow=7.1,SNR=2.7
KMBO LR LR 23 09 22.4
comp=Z,216nm,21.8s,baz=82,slow=32
comp=Z,1.0nm,0.8s
GNI **Garni** 86.78 311 LR LR 23 19 45.7
comp=Z,66nm,22.0s,baz=122,slow=39
BELG **Belogornoye** 88.00 324 LR LR 23 21 38.6
comp=Z,188nm,21.4s,baz=137,slow=40
ZEI **Tsey** 88.00 314 *e*P **P** 22 36 41.5 +3.2
ZEI pmax pmax
comp=Z,15nm,1.4s
KIRV **Kirov** 88.85 330 LR LR 23 22 15.1
comp=Z,154nm,19.7s,baz=119,slow=40
KBZ **Khabaz** 88.93 314⇑ *e*P **P** 22 36 42.5 +0.2
KBZ pmax pmax
comp=Z,6.0nm,1.1s
KBZ **Khabaz** 88.93 314 P **P** 22 36 42.5 +0.2
comp=Z,3.2nm,0.8s,baz=137,slow=2.6,SNR=4.3
KBZ LR LR 23 23 13.3
comp=Z,67nm,21.8s,baz=108,slow=40
comp=Z,3.2nm,0.8s
KVAR **Kislovodsk Arr** 89.12 315 LR LR 23 25 37.1
comp=Z,51nm,18.1s,baz=296,slow=42
NVL **N'lazarevskaya** 89.14 198 *e*P **P** 22 36 43.4 +0.5
NVL pmax pmax
comp=Z,14nm,1.1s
TROLL **Troll, Antarti** 91.22 195 ⇓P **P** 22 36 55.9 +3.1
comp=Z,128nm,1.0s
MBAR **Mbarara** 92.59 269 LR LR 23 16 45.4
comp=Z,132nm,18.4s,baz=76,slow=34
VORD **Divnogorie** 92.73 321 *e*P **P** 22 37 00.2 +0.3
VORD pmax pmax
comp=Z,4.0nm,0.8s
SNAA **Sanae** 92.80 195 P **P** 22 36 60.0 0.0
SNAA IAmb IAmb 22 37 10.8
comp=Z,6.6nm,1.1s
SNAA **Sanae** 92.80 195⇑ *e*P **P** 22 36 57.7 -2.3
SNAA pmax pmax
comp=Z,2.0nm,1.5s
SNAA **Sanae** 92.80 195 ⇓P **P** 22 37 02.2 +2.3
SNAA **Sanae** 92.80 195 P **P** 22 37 01.6 +1.7
comp=Z,2.1nm,1.0s,baz=189,slow=8.8,SNR=9.4
SNAA LR LR 23 16 09.2
comp=Z,573nm,20.7s,baz=105,slow=34
comp=Z,2.1nm,1.0s
MMAI **Mount Meron Ar** 92.84 303 LR LR 23 21 35.1
comp=Z,283nm,20.8s,baz=82,slow=37
VSR **Storozhevoye** 92.85 321 *e*P **P** 22 37 01.1 +0.7
VSR pmax pmax
comp=Z,5.0nm,1.0s
LSZ **Lusaka** 92.86 254 LR LR 23 15 16.3
comp=Z,202nm,18.9s,baz=112,slow=33
BELA **Belgrano 2** 93.07 185 P **P** 22 36 60.0 -1.1
BOSA **Boshof** 93.18 241 LR LR 23 16 08.4
comp=Z,158nm,18.1s,baz=60,slow=34
OBN **Obninsk** 94.98 325 LR LR 23 25 12.8
comp=Z,154nm,21.5s,baz=170,slow=39
BRTR **Keskin Array B** 95.11 309 LR LR 23 25 00.2
comp=Z,114nm,20.6s,baz=124,slow=39
SUR **Sutherland** 96.11 236 LR LR 23 16 25.5
comp=Z,140nm,18.7s,baz=110,slow=33
ILAR **Eielson Array** 97.33 26 LR LR 23 20 51.0
comp=Z,69nm,18.8s,baz=266,slow=35
AKASG **Malin Array Be** 99.05 320 LR LR 23 29 43.5
comp=Z,119nm,19.3s,baz=91,slow=40
TORD **Torodi Ar. Bea** 122.67 280 PKP **PKPdf** 22 42 44.1 -0.4
comp=Z,0.7nm,0.6s,baz=62,slow=3.8,SNR=4.9
CPUP **Villa Florida** 145.54 179 PKPbc **PKPab** 22 43 27.9 +0.9
comp=Z,8.7nm,0.9s,baz=163,slow=2.6,SNR=12

*THE **09** 22:40:03.6, 35.29N×27.13E, h0km±1km, ML2.5/3, Error ellipse: s-maj=3.7km s-min=1.1km az=142.0*
*ISK **09** 22:40:03.3, 35.31N×27.12E, h5km, ML2.5/22*
*ATH **09** 22:40:04.0, 35.32N×27.11E, h14km±4km, ML2.7/7, Manual Solution by A.Papageorgiou First location: 2019/04/05 14:22:51, This location: 2019/04/05 14:22:09 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 6 km*
*AFAD **09** 22:40:05.3±0.0, 35.36N×27.42E, h2km±3km, ML2.4*
ISC 09 22:40:01.8±1.3, 35°20N±0'05×27°21E±0'03, h10km±9km, n43,σ0°99/63, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPA	**Karpathos**	**0.31**	**1**	P	**Pb**	**22 40 08.7**	**-0.8**
KRPA				S	**Sg**	**22 40 12.6**	**+0.3**
KARP	**Karpathos**	**0.35**	**354**	Pg	**Pg**	**22 40 09.1**	**+0.3**
KARP				Sg	**Sg**	**22 40 13.7**	**+0.2**
KARP	**Karpathos**	**0.35**	**354**	P	**Pg**	**22 40 09.1**	**+0.3**
KARP				S	**Sg**	**22 40 13.7**	**+0.2**
	2μm,0.1s						
KARP	**Karpathos**	**0.35**	**354**	P	**Pg**	**22 40 09.0**	**+0.3**
KARP				S	**Sg**	**22 40 13.2**	**-0.3**
ZKR	**Zakros**	**0.81**	**265**	Pg	**Pn**	**22 40 19.2**	**-0.1**
ZKR				Sg	**Sb**	**22 40 30.9**	**+1.9**
ZKR	**Zakros**	**0.81**	**265**	P	**Pb**	**22 40 18.2**	**+0.2**
ZKR				S	**Sn**	**22 40 31.4**	**0.0**
	322nm,0.5s						
ZKR	**Zakros**	**0.81**	**265**	P	**Pb**	**22 40 18.9**	**+0.9**
FRMA	**Ierapetra Chan**	**1.22**	**262**	P	**Pg**	**22 40 24.9**	**-0.3**
FRMA				S	**Sg**	**22 40 38.9**	**-2.2**
ARG	**Arkhangelos**	**1.27**	**36**	Pn	**Pn**	**22 40 26.9**	**+1.4**
ARG	**Arkhangelos**	**1.27**	**36**	P	**Pn**	**22 40 26.9**	**+1.4**
ARG				S	**Sn**	**22 40 44.2**	**+1.7**
	300nm,0.9s						
ARG	**Arkhangelos**	**1.27**	**36**	P	**Pn**	**22 40 26.9**	**+1.4**
ARG				S	**Sb**	**22 40 42.6**	**+0.6**
RFTD	**Palamutbuku-Ka**	**1.50**	**9**	Pn	**Pg**	**22 40 31.1**	**+0.5**
DAT	**Datca**	**1.56**	**11**	Pn	**Pg**	**22 40 31.5**	**-0.2**
DAT	**Datca**	**1.56**	**11**	P	**Pg**	**22 40 31.4**	**-0.4**
DAT				S	**Sb**	**22 40 50.9**	**+0.2**
DAT				*i* AML	AML	22 40 57.0	
	comp=E,46nm,0.8s						
KOSK	**Kos Island**	**1.56**	**353**	Pn	**Pg**	**22 40 31.9**	**+0.1**
RFTC	**Emecik-Datca**	**1.66**	**17**	Pn	**Pg**	**22 40 33.6**	**+0.1**
HRKL	**Herakleio**	**1.73**	**274**	Pn	**Pg**	**22 40 34.7**	**-0.2**
TURN	**Turunc**	**1.79**	**28**	Pn	**Pg**	**22 40 35.7**	**-0.3**
TURN	**Turunc**	**1.79**	**28**	P	**Pg**	**22 40 35.8**	**-0.3**
TURN				S	**Sg**	**22 40 59.5**	**+0.2**
SANT	**Santorini**	**1.84**	**310**	Pn	**Pb**	**22 40 35.7**	**+0.1**
SANT	**Santorini**	**1.84**	**310**	P	**Pn**	**22 40 34.2**	**+0.8**
SANT				S	**Sn**	**22 40 55.8**	**-1.1**
RFTAA	**Mazikoy-Bodrum**	**1.85**	**14**	Pn	**Pn**	**22 40 33.8**	**+0.3**
BODT	**Bodrum**	**1.86**	**3**	Pn	**Pb**	**22 40 36.1**	**+0.2**
BDRM	**Kayabasi**	**1.88**	**6**	P	**Pg**	**22 40 37.5**	**-0.2**
BDRM				S	**Sb**	**22 41 00.3**	**+0.6**
IDI	**Anoyia**	**1.90**	**273**	Pn	**Pb**	**22 40 36.7**	**+0.2**
IDI	**Anoyia**	**1.90**	**273**	P	**Pb**	**22 40 36.0**	**-0.5**
IDI				S	**Sn**	**22 40 58.0**	**-0.2**
DALY	**Dalyan (Mula)**	**2.00**	**36**	Pn	**Pg**	**22 40 39.0**	**-1.1**
IZZE	**Mula-Seydike**	**2.06**	**52**	P	**Pb**	**22 40 38.8**	**-0.4**
IZZE				S	**Sb**	**22 41 05.3**	**+0.4**
IZZE				*i* AML	AML	22 41 23.0	
	comp=N,38nm,1.4s						
FETY	**Fethiye**	**2.10**	**46**	Pn	**Pb**	**22 40 40.7**	**+0.8**
YER	**Yerkesik**	**2.12**	**24**	Pn	**Pb**	**22 40 40.4**	**0.0**
AKAS	**Kas**	**2.21**	**61**	Pn	**Pb**	**22 40 42.8**	**+0.9**
APE	**Apeiranthos**	**2.31**	**325**	Pn	**Pn**	**22 40 41.5**	**+1.6**
APE	**Apeiranthos**	**2.31**	**325**	P	**Pn**	**22 40 39.9**	**0.0**
APE				S	**Sn**	**22 41 06.9**	**-1.5**
CAME	**Cameli-Denizli**	**2.44**	**44**	Pn	**Pb**	**22 40 45.4**	**-0.3**
AYDN	**Tasoluk**	**2.52**	**12**	P	**Pn**	**22 40 44.4**	**+1.6**
AYDN				S	**Sn**	**22 41 12.8**	**-0.8**
AYDN				*i* AML	AML	22 42 12.0	
	comp=N,30nm,3.2s						
CAEL	**Denizli, Camel**	**2.58**	**41**	P	**Pb**	**22 40 47.0**	**-1.1**
CAEL				*i* AML	AML	22 41 46.0	
	comp=E,47nm,1.8s						
CAEL				*i* AML	AML	22 41 47.0	
	comp=Z,29nm,1.3s						
CAEL				*i* AML	AML	22 42 11.0	
	comp=N,45nm,1.7s						
IMMV	**Iera Moni Meta**	**2.65**	**277**	Pn	**Pb**	**22 40 48.3**	**-1.0**
IMMV	**Iera Moni Meta**	**2.65**	**277**	P	**Pn**	**22 40 46.3**	**+1.8**
TAVA	**DENIZLI_Tavas**	**2.65**	**31**	P	**Pb**	**22 40 49.2**	**-0.2**
TAVA				S	**Sb**	**22 41 22.0**	**-0.1**
ELL	**Elmali**	**2.69**	**54**	Pn	**Pb**	**22 40 49.4**	**-0.6**
GOLH	**Golhisar**	**2.79**	**42**	P	**Pb**	**22 40 49.9**	**-1.8**
GOLH				S	**Sg**	**22 41 28.6**	**-2.8**
GOLH				*i* AML	AML	22 41 46.0	
	comp=E,19nm,1.4s						
GOLH				*i* AML	AML	22 41 51.0	
	comp=Z,16nm,1.9s						
GOLH				*i* AML	AML	22 41 52.0	
	comp=N,20nm,1.6s						
APMY	**Acipayam-Deniz**	**2.83**	**36**	Pn	**Pb**	**22 40 50.9**	**-1.6**
VLI	**Velıai**	**3.78**	**295**	P	**Pn**	**22 41 01.0**	**+0.9**
VLI				S	**Sn**	**22 41 42.7**	**-1.9**

*IDC **09** 22:52:04.9±3.8, 53.71N×167.18W, h80km±31km, mb3.8/20, mbtmp4.1/22, Error ellipse: s-maj=28.7km s-min=17.5km az=176.0*
*NEIC **09** 22:52:06.8±1.2, 53.40N±0.09×167.2W±0.1, h96km±4km, mb4.1/29, ML3.9/10, ML4.0(AEIC), Error ellipse: s-maj=16.4km s-min=4.1km az=143.0*
*AEIC **09** 22:52:07.9±2.1, 53.26N±0.08×167.01W±0.10, h81km±5km, Error ellipse: s-maj=14.6km s-min=3.0km az=146.0*
ISC 09 22:52:07.0±0.8, 53.5N±0.1×167.11W±0.06, h104km±4km, n175,σ1°32/179, mb4.0/32, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPS	**Pakushin South**	**0.32**	**19**		**Pn**	**22 52 21.7**	**-0.4**
MAPS					**Sn**	**22 52 32.8**	**-0.8**
MGOD	**Makushin Gods**	**0.32**	**26**		**Pn**	**22 52 21.8**	**-0.4**
MGOD					**Sn**	**22 52 32.9**	**-0.7**
MSW	**Makushin Switc**	**0.45**	**26**		**Pn**	**22 52 22.5**	**-0.4**
MSW					**Sn**	**22 52 34.5**	**-0.4**
MNAT	**Makushin Natee**	**0.46**	**34**		**Pn**	**22 52 22.5**	**-0.4**
MNAT					**Sn**	**22 52 34.4**	**-0.5**
OKFG	**Magazine Ridge**	**0.49**	**259**		Pn	22 52 21.7	-1.4
OKFG					**Sn**	**22 52 32.7**	**-2.5**
UNV	**Unalaska Valle**	**0.50**	**47**	Pn	**Pn**	**22 52 22.4**	**-0.8**
UNV				Sn	**Sn**	**22 52 34.4**	**-0.8**
UNV	**Unalaska Valle**	**0.50**	**47**	P	**Pn**	**22 52 22.9**	**-0.2**
MTBL	**Makushin Table**	**0.53**	**29**		**Pn**	**22 52 23.3**	**-0.1**
MTBL					**Sn**	**22 52 36.0**	**+0.1**
OKER	**Okmok East Rim**	**0.56**	**265**		Pn	22 52 22.6	-1.1
OKNC	**Okmok New Cone**	**0.61**	**266**		Pn	22 52 22.7	-1.2
OKNC					**Sn**	**22 52 34.9**	**-1.8**
OKCE	**Okmok Cone E**	**0.63**	**263**		Pn	22 52 23.2	-1.0
AKMO	**Akutan Morgan**	**0.88**	**48**		**Pn**	**22 52 25.9**	**-0.5**
AKRB	**Akutan Reef Bi**	**0.88**	**44**		**Pn**	**22 52 27.0**	**+0.5**
AKRB					**Sn**	**22 52 42.3**	**+1.2**
ZRO	**Akutan Zero**	**0.89**	**49**		**Pn**	**22 52 26.9**	**+0.3**
LVA	**Lava Point**	**0.92**	**44**		**Pn**	**22 52 27.4**	**+0.6**
AKBBA	**Akutan Broad B**	**0.92**	**49**		**Pn**	**22 52 27.0**	**+0.2**
AKBBA					**Sn**	**22 52 42.9**	**+1.1**
AKV	**Akutan Volcano**	**0.92**	**47**		**Pn**	**22 52 27.2**	**+0.3**
AKLV	**Akutan Long Va**	**0.95**	**46**		**Pn**	**22 52 27.4**	**+0.3**
AKGG	**Akutan Green G**	**0.96**	**43**		**Pn**	**22 52 27.7**	**+0.5**
AKGG					**Sn**	**22 52 43.6**	**+1.0**
AHB	**Akutan Harbor**	**0.98**	**51**		**Pn**	**22 52 27.6**	**+0.1**
AKUT	**Akutan**	**1.01**	**51**	Pn	**Pn**	**22 52 27.7**	**0.0**
AKUT				Sn	**Sn**	**22 52 43.8**	**+0.3**
AKUT				IAML		22 52 46.1	
	comp=N,2μm,0.6s						
AKUT				IAML		22 52 46.9	
	comp=E,3μm,0.4s						
AKUT	**Akutan**	**1.01**	**51**	P	**Pn**	**22 52 28.1**	**+0.3**
AKSA	**Akutan Strait**	**1.05**	**53**		**Pn**	**22 52 28.2**	**0.0**
NIKH	**Nikolski High**	**1.18**	**244**	Pn	Pn	22 52 28.1	-1.5
NIKH				Sn	Sn	22 52 43.8	-2.9
NIKH	**Nikolski High**	**1.18**	**244**	P	Pn	22 52 28.5	-1.1
WECS	**Westdahl Cape**	**1.72**	**52**		**Pn**	**22 52 36.9**	**+0.8**
WESP	**Westdahl Peak**	**1.72**	**54**		**Pn**	**22 52 36.8**	**+0.6**
CLCO	**Concord Point,**	**1.73**	**246**		Pn	22 52 35.2	-1.0
WEBT	**Westdahl Beart**	**1.77**	**51**		**Pn**	**22 52 37.4**	**+0.7**
CLES	**Cleveland East**	**1.81**	**249**	Pn	Pn	22 52 36.2	-1.0
SSBA	**Shishaldin**	**2.17**	**53**		**Pn**	**22 52 42.2**	**+0.4**
SSLS	**Shishaldin Sou**	**2.20**	**55**		**Pn**	**22 52 43.0**	**+0.8**
SSLN	**Shishaldin Nor**	**2.25**	**53**		**Pn**	**22 52 43.8**	**+0.9**
BRPK	**Brown Peak**	**2.29**	**59**		**Pn**	**22 52 43.9**	**+0.5**
ISLZ	**Isanotski Laza**	**2.35**	**57**		**Pn**	**22 52 44.8**	**+0.6**
ISNN	**Isanotski Nort**	**2.37**	**55**		**Pn**	**22 52 45.5**	**+1.1**
FALS	**False Pass**	**2.56**	**57**	Pn	**Pn**	**22 52 47.5**	**+0.7**
FALS	**False Pass**	**2.56**	**57**	P	**Pn**	**22 52 47.8**	**+0.9**
HAG	**Hague Volcano**	**3.54**	**57**		**Pn**	**22 53 01.1**	**+1.1**
PN7A	**Pavlof North-7**	**3.55**	**55**		**Pn**	**22 53 01.3**	**+1.1**
PS4A	**Pavlof South-4**	**3.58**	**57**		**Pn**	**22 53 01.5**	**+1.0**
PS1A	**Pavlof South-1**	**3.67**	**56**		**Pn**	**22 53 02.8**	**+1.0**
SDPT	**Sand Point**	**4.29**	**62**	Pn	**Pn**	**22 53 10.3**	**+0.3**
SDPT				IAML		22 53 59.0	
	comp=N,117nm,0.3s						
SDPT				IAML		22 54 00.2	
	comp=E,108nm,0.7s						
SDPT	**Sand Point**	**4.29**	**62**	P	**Pn**	**22 53 10.4**	**+0.3**
KOFP	**Korovin Flat P**	**4.41**	**257**		**Pn**	**22 53 11.8**	**+0.1**
ATKA	**Atka Island**	**4.49**	**256**	Pn	**Pn**	**22 53 12.0**	**-0.7**
ATKA				IAML		22 54 04.1	
	comp=E,75nm,2.2s						
ATKA				IAML		22 54 11.2	
	comp=N,71nm,2.7s						
ATKA	**Atka Island**	**4.49**	**256**	P	**Pn**	**22 53 12.1**	**-0.6**
CNBA	**Chernabura Isl**	**4.61**	**70**	Pn	**Pn**	**22 53 13.4**	**-1.0**
VNWF	**Veniaminof 8**	**5.11**	**56**		**Pn**	**22 53 22.4**	**+1.3**
VNSG	**Veniaminof 6**	**5.33**	**57**		**Pn**	**22 53 24.9**	**+0.7**
GSTR	**Great Sitkin T**	**5.61**	**259**	Pn	**Pn**	**22 53 28.1**	**+0.2**
GSCK	**Great Sitkin C**	**5.70**	**258**		**Pn**	**22 53 29.0**	**-0.1**
CHGN	**Chignik**	**5.75**	**57**	Pn	**Pn**	**22 53 30.2**	**+0.5**
ADK	**Adak**	**6.04**	**258**	Pn	**Pn**	**22 53 33.2**	**-0.6**
KIWB	**Kanaga Island**	**6.33**	**259**	Pn	**Pn**	**22 53 37.1**	**-0.5**
KIMD	**Kanaga Island**	**6.41**	**258**		**Pn**	**22 53 38.0**	**-0.6**
O14K	**Tigyukauivet M**	**6.61**	**27**		**Pn**	**22 53 43.4**	**+2.0**
O15K	**Ungalikthiuk R**	**6.98**	**33**		**Pn**	**22 53 48.4**	**+2.1**
CHIR	**Chirikof Islan**	**7.06**	**66**	Pn	**Pn**	**22 53 46.4**	**-1.1**
GANE	**Gareloi North**	**7.29**	**261**		**Pn**	**22 53 50.4**	**-0.3**
R17K	**Ugashik Creek**	**7.35**	**51**		**Pn**	**22 53 52.6**	**+1.1**
N15K	**Kwethluk River**	**7.71**	**27**		**Pn**	**22 53 58.2**	**+2.0**
O16K	**Kokwok River B**	**7.87**	**36**		**Pn**	**22 54 00.3**	**+1.8**
CNTC	**Contact Creek**	**7.91**	**48**		**Pn**	**22 53 59.9**	**+0.8**
SII	**Sitkinak Islan**	**8.03**	**62**	Pn	**Pn**	**22 53 60.0**	**-0.7**
SII	**Sitkinak Islan**	**8.03**	**62**	P	**Pn**	**22 53 59.8**	**-0.9**
ANCK	**Angle Creek**	**8.05**	**50**		**Pn**	**22 54 01.7**	**+0.7**
ACHA	**Angle Creek He**	**8.13**	**50**		**Pn**	**22 54 02.9**	**+0.8**
AMKA	**Amchitka**	**8.57**	**261**	Pn	Pn	22 54 06.1	-1.9
P18K	**Big Mountain,**	**8.83**	**43**	Pn	**Pn**	**22 54 13.1**	**+1.6**
O18K	**Koktuh Hills**	**9.12**	**41**	Pn	**Pn**	**22 54 16.9**	**+1.4**
Q19K	**Cape Douglas,**	**9.26**	**49**	Pn	**Pn**	**22 54 17.2**	**-0.1**
KDAK	**Kodiak Island**	**9.26**	**57**	Pn	**Pn**	**22 54 15.2**	**-2.2**
KDAK	**Kodiak Island**	**9.26**	**57**	P	**Pn**	**22 54 15.4**	**-2.0**
	comp=N,8.5nm,0.3s,baz=195,slow=4.1,SNR=217						
KDAK				S	**Sn**	**22 55 53.3**	**-6.2**
	comp=N,15nm,0.9s,baz=59,slow=21,SNR=2.3						
N18K	**Kilae Creek**	**9.42**	**36**	Pn	**Pn**	**22 54 20.2**	**+0.6**
SYI	**Shuyak Island**	**9.68**	**52**	Pn	**Pn**	**22 54 21.9**	**-1.1**
P19K	**Oil Pt**	**9.81**	**46**	Pn	**Pn**	**22 54 25.5**	**+0.6**
SVW2	**Sparrevohn**	**9.83**	**35**	Pn	**Pn**	**22 54 26.2**	**+1.2**
N19K	**Bonanza Creek**	**10.02**	**38**	Pn	**Pn**	**22 54 29.2**	**+1.5**
RSO	**Redoubt South**	**10.47**	**43**	Pn	**Pn**	**22 54 34.1**	**+0.2**
CNPM	**China Poot**	**10.63**	**49**	Pn	**Pn**	**22 54 34.2**	**-1.7**
M19K	**Big River Lodg**	**10.80**	**34**	Pn	**Pn**	**22 54 39.5**	**+1.2**
L19K	**White Mountain**	**10.86**	**32**	Pn	**Pn**	**22 54 39.4**	**+0.4**
BRLK	**Bradley Lake**	**10.90**	**48**	Pn	**Pn**	**22 54 37.7**	**-1.8**
SUA	**Susitna One**	**11.85**	**41**	Pn	**Pn**	**22 54 51.7**	**-0.7**
SKT	**Skwentna**	**11.86**	**38**	Pn	**Pn**	**22 54 52.8**	**+0.4**
K20K	**Telida**	**11.98**	**29**	Pn	**Pn**	**22 54 55.0**	**+1.1**
RC01	**Rabbit Creek A**	**12.05**	**44**	Pn	**Pn**	**22 54 53.3**	**-1.6**
PWL	**Port Wells**	**12.53**	**47**	Pn	**Pn**	**22 54 58.4**	**-2.9**
J20K	**Nowinta River**	**12.60**	**27**	Pn	**Pn**	**22 55 03.6**	**+1.5**
KNK	**Knik Glacier**	**12.75**	**44**	Pn	**Pn**	**22 55 01.4**	**-2.8**
GLI	**Glacier Island**	**13.09**	**48**	Pn	**Pn**	**22 55 05.5**	**-3.0**
SCM	**Sheep Creek Mo**	**13.43**	**44**	Pn	**Pn**	**22 55 10.8**	**-2.2**
KLU	**Klutina**	**13.86**	**46**	Pn	**Pn**	**22 55 16.3**	**-2.4**
RAGM	**Ragged Mountai**	**14.00**	**52**	Pn	**Pn**	**22 55 19.1**	**-1.3**
M24K	**Tolsona, Glenn**	**14.04**	**44**	Pn	**Pn**	**22 55 19.6**	**-1.3**
H21K	**Melozitna Rive**	**14.12**	**25**	Pn	**P**	**22 55 23.7**	**-2.6**
HMT	**Hamilton**	**14.18**	**52**	Pn	**Pn**	**22 55 20.4**	**-2.3**
SUCK	**Suckling Hills**	**14.33**	**53**	Pn	**Pn**	**22 55 24.3**	**-0.3**
BERG	**Berg Lake**	**14.46**	**52**	Pn	**Pn**	**22 55 23.8**	**-2.5**
N25K	**Chitina, Valde**	**14.49**	**47**	Pn	**Pn**	**22 55 24.1**	**-2.6**
I23K	**Minto, Yukon-K**	**14.70**	**31**	Pn	**P**	**22 55 29.3**	**-3.4**
SNH	**Sunshine Point**	**14.81**	**54**	Pn	**Pn**	**22 55 30.6**	**-0.1**
CRQM	**Cirque**	**14.84**	**51**	Pn	**Pn**	**22 55 29.4**	**-1.9**
VRDI	**Verde Repeater**	**14.85**	**49**	Pn	**Pn**	**22 55 29.8**	**-1.7**
MDM	**Murphy Dome**	**14.92**	**32**	Pn	**P**	**22 55 33.6**	**-1.5**
TGL	**Tana Glacier**	**14.98**	**51**	Pn	**Pn**	**22 55 32.4**	**-0.6**
MCARA	**McCarthy VSAT**	**15.10**	**49**	Pn	**Pn**	**22 55 33.6**	**-0.9**
MCARA				IAmb	IAmb	22 55 35.2	
	comp=Z,15nm,1.1s						
H23K	**Yukon River**	**15.13**	**28**	Pn	**P**	**22 55 36.1**	**-1.3**
H23K				IAmb	IAmb	22 56 06.4	
	comp=Z,8.0nm,1.2s						
MESA	**MESA**	**15.23**	**54**	Pn	**Pn**	**22 55 36.5**	**+0.1**
ILAR	**Eielson Array**	**15.24**	**34**	P	**Pn**	**22 55 34.6**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=226,slow=10.0,SNR=5.5						
GRNC	**Granite Creek**	**15.48**	**52**	Pn	**Pn**	**22 55 38.0**	**-1.4**
GRNC				IAmb	IAmb	22 56 07.9	
	comp=Z,16nm,1.1s						
M26K	**Nabesna, AK**	**15.50**	**45**	Pn	**Pn**	**22 55 37.8**	**-1.7**
M26K				IAmb	IAmb	22 55 40.2	
	comp=Z,4.6nm,0.5s						
H24K	**Noodor Dome**	**15.62**	**30**	Pn	**P**	**22 55 41.3**	**-1.6**
J25K	**Salcha River,**	**15.67**	**36**	Pn	**Pn**	**22 55 40.5**	**-1.1**
LOGN	**Logan Glacier**	**15.86**	**52**	Pn	**Pn**	**22 55 43.6**	**-0.5**
LOGN				IAmb	IAmb	22 55 47.2	
	comp=Z,14nm,1.1s						
M27K	**Edge Creek, AK**	**15.96**	**46**	Pn	**Pn**	**22 55 44.4**	**-1.0**
M27K				IAmb	IAmb	22 56 08.3	
	comp=Z,9.1nm,1.3s						
I26K	**Coal Creek Min**	**16.84**	**36**	Pn	**P**	**22 55 55.8**	**-0.6**
O29M	**Mount Kennedy**	**16.90**	**55**		**P**	**22 55 57.8**	**+0.6**
P29M	**Windy Craggy**	**17.21**	**57**		**P**	**22 56 02.3**	**+1.8**
TOLK	**Toolik Lake Re**	**17.27**	**22**		**P**	**22 56 02.2**	**+1.0**
TOLK				IAmb	IAmb	22 56 25.7	
	comp=Z,17nm,1.4s						
M29M	**Somme Creek**	**17.49**	**48**	P	**Pn**	**22 56 04.6**	**+0.6**
HYT	**Haines Junctio**	**17.52**	**54**	P	**Pn**	**22 56 06

comp=Z,2.6nm,0.5s,baz=52,slow=7.8,SNR=17
BVAR PcP **PcP** **23 03 01.5 0.0**
comp=Z,1.7nm,0.5s,baz=38,slow=2.8,SNR=6.7
comp=Z,2.6nm,0.5s
WMQ Urumqi 63.89 309 *eP* P 23 02 35.9 +7.6
MKAR Makanchi Array 64.00 314 P **P** **23 02 28.0 -1.0**
comp=Z,1.6nm,0.9s,baz=55,slow=6.6,SNR=8.0
MKAR PcP **PcP** **23 03 03.2 -0.3**
comp=Z,1.8nm,1.0s,baz=43,slow=3.6,SNR=2.2
comp=Z,1.6nm,0.9s
FINES FINESS Array B 64.92 353 P **P** **23 02 33.8 -0.8**
comp=Z,0.8nm,0.3s,baz=11,slow=6.1,SNR=13
comp=Z,0.8nm,0.3s
NOA NORSAR Array B 65.79 1 P **P** **23 02 39.8 -0.5**
comp=Z,0.6nm,0.7s,baz=127,slow=10,SNR=2.2
comp=Z,0.6nm,0.7s
HFS Hagfors 66.71 360 P **P** **23 02 45.4 -0.8**
comp=Z,1.8nm,0.3s,baz=29,slow=3.4,SNR=23
comp=Z,1.8nm,0.3s
PZH PanZhiHua 69.80 287 P P 23 03 11.2 +5.1
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,6.9s
EKA Eskdalemuir Ar 70.72 10 P **P** **23 03 10.8 -0.3**
comp=Z,1.3nm,0.7s,baz=343,slow=5.4,SNR=4.4
comp=Z,1.3nm,0.7s
AKASG Malin Array Be 75.26 349 P **P** **23 03 36.9 -1.0**
comp=Z,4.7nm,0.4s,baz=12,slow=5.9,SNR=22
comp=Z,4.7nm,0.4s
CMAR Chiang Mai Arr 77.68 284 P **P** **23 03 52.2 +0.2**
comp=Z,0.8nm,0.4s,baz=26,slow=6.8,SNR=7.6
comp=Z,0.8nm,0.4s
GERES GERESS Array B 78.02 359 P **P** **23 03 53.0 -0.6**
comp=Z,0.9nm,0.7s,baz=46,slow=3.9,SNR=5.2
comp=Z,0.9nm,0.7s
CONA Conrad Observa 78.91 358 *iP* **P** **23 03 59.0 +0.5**
comp=Z,1.0nm,0.5s
MOTA Moosalm 79.51 1 *iP* **P** **23 04 01.8 -0.1**
comp=Z,2.7nm,1.0s
WATA Walderalm 79.53 1 *iP* **P** **23 04 02.1 +0.1**
comp=Z,0.9nm,0.4s
ARSA Arzberg 79.59 358 *iP* **P** **23 04 02.6 +0.4**
comp=Z,1.0nm,0.5s
WTTA Wattenberg 79.60 1 *iP* **P** **23 04 02.7 +0.3**
comp=Z,2.2nm,0.5s
SQTA Sankt Quirin 79.64 1 *iP* **P** **23 04 02.9 +0.4**
comp=Z,3.5nm,0.9s
KBZ Khabaz 79.78 338 P **P** **23 04 03.8 +0.6**
comp=Z,2.2nm,0.7s,baz=23,slow=22,SNR=5.0
comp=Z,2.2nm,0.7s
FETA Feichten 79.83 1 *iP* **P** **23 04 03.9 +0.3**
comp=Z,1.7nm,0.7s
ABTA Abfaltersbach 80.12 0 *iP* **P** **23 04 05.4 +0.3**
comp=Z,1.0nm,0.5s
SOKA Soboth 80.17 359 *iP* **P** **23 04 05.6 +0.2**
comp=Z,1.2nm,0.7s
OBKA Obir 80.35 359 *iP* **P** **23 04 06.9 +0.5**
comp=Z,3.4nm,0.5s
GEYT Alibeck 80.89 325 P **P** **23 04 10.0 +0.7**
comp=Z,0.9nm,0.6s,baz=267,slow=2.5,SNR=2.6
comp=Z,0.9nm,0.6s
BRTR Keskin Array B 85.42 344 P **P** **23 04 33.1 +0.4**
comp=Z,2.3nm,0.7s,baz=44,slow=2.0,SNR=9.6
comp=Z,2.3nm,0.7s
ESDC Sonseca Array 86.06 13 P **P** **23 04 35.5 -0.2**
comp=Z,0.4nm,0.6s,baz=348,slow=5.0,SNR=9.7
comp=Z,0.4nm,0.6s
H03N2 Juan Fernandez 115.09 113 T T 01 15 54.0
baz=322,slow=77,SNR=20
H03N1 Juan Fernandez 115.10 113 T T 01 15 55.4
baz=322,slow=77,SNR=16
H03N3 Juan Fernandez 115.11 113 T T 01 15 54.7
baz=322,slow=77,SNR=22
MAW Mawson 152.62 220 PKPbc **PKPbc** **23 11 50.3 +0.7**
comp=Z,1.0nm,0.4s,baz=304,slow=3.6,SNR=2.1

---

*IDC **09** 22:55:45.2±0.7, 30.°09S×71.°30W, h0km, mb4.2/9, mbtmp4.2/13, ML4.0/4, MS3.3/9, Error ellipse: s-maj=20.4km s-min=14.1km az=46.0*
*GUC **09** 22:55:51.3±0.7, 30.°01S×71.°24W, h50km±2km, ML4.7*
*SJA **09** 22:55:51.0±0.7, 30.°02S×71.°33W, h50km±5km, ML4.5, MW4.3*
*NEIC **09** 22:55:52.6±1.9, 30.°01S±0.°03×71.°37W±0.°06, h51km±5km, mb4.6/42, Mwr4.4/45, Mwr4.5(GUC), Error ellipse: s-maj=7.3km s-min=4.6km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.57; $M_{\theta\theta}$1.11; $M_{\phi\phi}$-4.68; $M_{r\theta}$0.84; $M_{\theta\phi}$-0.13; $M_{\phi r}$0.45; Fault plane solution: $M_0$4.34000×10^{15} NP1:ϕ_s17.14000°, δ50.54000°, λ111.99000°. NP2:ϕ_s164.71000°, δ44.29000°, λ65.54000°. Principal axes: T 3.8442, Plg73.0000°, Azm351.0000°; N 0.8671, Plg17.0000°, Azm183.0000°; P -4.7112, Plg3.0000°, Azm92.0000°;*
*NEIC **09** 22:55:52.4, 30.°01S×71.°36W, h48km*
ISC 09 22:55:51.3±0.6, 30.°01S±0.°02×71.°38W±0.°04, h42km±5km, n189, σ1§69/223, mb4.6/25, MS3.6/3, 9C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.15**	**53**		**Pn**	**22 56 00.0**	**+1.6**
CO05					**Sn**	**22 56 05.2**	**+1.8**
CO05	**La Serena**	**0.15**	**53**	⇑*iP*	**Pn**	**22 56 00.0**	**+1.6**
CO05				*i*S	**Sn**	**22 56 05.5**	**+2.1**
CO05	**La Serena**	**0.15**	**53**	⇑*iP*	**Pn**	**22 56 00.1**	**+1.6**
CO05				*i*S	**Sn**	**22 56 05.6**	**+2.2**
CO05				IAML		22 56 06.2	
	comp=E,244μm,0.3s						
GO04	**Tololo Observa**	**0.53**	**108**	Pn	**Pn**	**22 56 03.4**	**+0.7**
GO04				Sn	**Sn**	**22 56 11.5**	**+0.7**
GO04	**Tololo Observa**	**0.53**	**108**	*eP*	**Pn**	**22 56 03.3**	**+0.6**
GO04				*i*S	**Sn**	**22 56 11.7**	**+0.9**
GO04	**Tololo Observa**	**0.53**	**108**	*eP*	**Pn**	**22 56 03.3**	**+0.6**
GO04				*e*S	**Sn**	**22 56 11.6**	**+0.9**
GO04				IAML		22 56 12.9	
	comp=E,256μm,0.5s						
GO04	**Tololo Observa**	**0.53**	**108**	*eP*	**Pn**	**22 56 03.4**	**+0.6**
GO04				*e*S	**Sn**	**22 56 12.0**	**+1.2**
CO06	**Fray Jorge**	**0.70**	**198**	Pn	**Pn**	**22 56 06.2**	**+1.5**
CO06				Sn	**Sn**	**22 56 16.2**	**+1.8**
CO06	**Fray Jorge**	**0.70**	**198**	⇑*iP*	**Pn**	**22 56 06.2**	**+1.5**
CO06				*i*S	**Sn**	**22 56 16.4**	**+2.0**
CO06	**Fray Jorge**	**0.70**	**198**	⇑*iP*	**Pn**	**22 56 06.2**	**+1.5**
CO06				*e*S	**Sn**	**22 56 16.4**	**+2.0**
CO06				IAML		22 56 18.1	
	comp=E,22μm,0.3s						
CO03	**El Pedregal**	**1.02**	**144**	Pn	**Pn**	**22 56 09.8**	**+0.6**
CO03				Sn	**Sn**	**22 56 22.6**	**+0.3**
CO03	**El Pedregal**	**1.02**	**144**	⇓*iP*	**Pn**	**22 56 10.0**	**+0.7**
CO03				*i*S	**Sn**	**22 56 22.9**	**+0.4**
CO03				IAML		22 56 23.7	
	comp=E,32μm,0.1s						
CO03	**El Pedregal**	**1.02**	**144**	⇓*iP*	**Pn**	**22 56 10.0**	**+0.7**
CO03				*e*S	**Sn**	**22 56 22.8**	**+0.4**
CO03	**El Pedregal**	**1.02**	**144**	*eP*	**Pn**	**22 56 09.9**	**+0.7**
CO03				*e*S	**Sn**	**22 56 22.9**	**+0.6**
CO03				IAML		22 56 24.8	
	comp=Z,10μm,0.2s						
CO01	**Juntas del Tor**	**1.12**	**89**	Pn	**Pn**	**22 56 11.5**	**+0.9**
CO01				Sn	**Sn**	**22 56 25.5**	**+0.5**
CO01	**Juntas del Tor**	**1.12**	**89**	⇓*iP*	**Pn**	**22 56 11.8**	**+1.1**
CO01				*i*S	**Sn**	**22 56 25.6**	**+0.7**
CO01	**Juntas del Tor**	**1.12**	**89**	⇓*iP*	**Pn**	**22 56 11.8**	**+1.1**
CO01				*e*S	**Sn**	**22 56 25.7**	**+0.7**
CO01				IAML		22 56 26.3	
	comp=N,6μm,0.2s						
CO01	**Juntas del Tor**	**1.12**	**89**	*eP*	**Pn**	**22 56 11.5**	**+0.9**
CO01				*e*S	**Sn**	**22 56 26.0**	**+1.0**
LCO	**Las Campanas**	**1.16**	**31**	Pn	**Pn**	**22 56 11.6**	**+0.3**
LCO				Sn	**Sn**	**22 56 26.1**	**0.0**
LCO	**Las Campanas**	**1.16**	**31**	⇓*iP*	**Pn**	**22 56 11.8**	**+0.5**
LCO				*e*S	**Sn**	**22 56 26.2**	**+0.1**
LCO	**Las Campanas**	**1.16**	**31**	*eP*	**Pn**	**22 56 11.7**	**+0.4**
LCO				*e*S	**Sn**	**22 56 27.6**	**+1.5**
LCO				IAML		22 56 30.3	
	comp=Z,29μm,0.3s						
CO02	**Combarbal**	**1.23**	**165**	Pn	**Pn**	**22 56 13.0**	**+0.8**
CO02	**Combarbal**	**1.23**	**165**	⇑*iP*	**Pn**	**22 56 13.2**	**+1.1**
CO02				*i*S	**Sn**	**22 56 28.6**	**+0.8**
CO02				IAML		22 56 29.8	
	comp=E,51μm,0.3s						
CO02	**Combarbal**	**1.23**	**165**	⇑*iP*	**Pn**	**22 56 13.3**	**+1.1**
CO02				*e*S	**Sn**	**22 56 28.5**	**+0.8**
CO02	**Combarbal**	**1.23**	**165**	*eP*	**Pn**	**22 56 13.0**	**+0.8**
CO02				*e*S	**Sn**	**22 56 29.3**	**+1.6**
CO02				IAML		22 56 32.1	
	comp=Z,9μm,0.6s						
AC05	**El Transito**	**1.52**	**40**	⇓*iP*	**Pn**	**22 56 17.4**	**+1.4**
AC05				*i*S	**Sn**	**22 56 36.5**	**+1.9**
AC05				IAML		22 56 39.4	
	comp=N,26μm,0.3s						
AC05	**El Transito**	**1.52**	**40**	*eP*	**Pn**	**22 56 17.5**	**+1.4**
AC05				*e*S	**Sn**	**22 56 38.6**	**+3.9**
AC05				IAML		22 56 39.1	
	comp=Z,5μm,0.6s						
AROD	**Rodeo**	**1.66**	**96**	*eP*	**Pn**	**22 56 20.8**	**+2.5**
AC04	**Llanos de Chal**	**1.82**	**9**	Pn	**Pn**	**22 56 21.4**	**+1.3**
AC04	**Llanos de Chal**	**1.82**	**9**	⇓*iP*	**Pn**	**22 56 21.4**	**+1.3**
AC04				*i*S	**Sn**	**22 56 44.1**	**+2.1**
AC04				IAML		22 56 50.3	
	comp=E,5μm,0.2s						
AC04	**Llanos de Chal**	**1.82**	**9**	⇓*iP*	**Pn**	**22 56 21.5**	**+1.3**
AC04	**Llanos de Chal**	**1.82**	**9**	*eP*	**Pn**	**22 56 21.7**	**+1.5**
AC04				*e*S	**Sn**	**22 56 48.8**	**+6.8**
AC04				IAML		22 56 50.1	
	comp=Z,4μm,0.4s						
ACCO	**Cerro Coronel**	**2.08**	**107**	*eP*	**Pn**	**22 56 27.6**	**+3.6**
DOCA	**Reserva Natura**	**2.19**	**116**	*eP*	**Pn**	**22 56 28.7**	**+3.1**
DOCA				*e*S	Sn	22 56 42.7	-9.0
RTLS	**Leoncito**	**2.52**	**135**	*eP*	**Pn**	**22 56 33.6**	**+3.6**
RTLS				*e*S	Sn	22 56 48.6	-11
AGUA	**GUANDACOL**	**2.56**	**79**	*eP*	**Pn**	**22 56 34.3**	**+3.8**
AGUA				*e*S	Sn	22 57 14.7	+14
AGUA				IAML		22 57 16.3	
	comp=Z,3μm,0.3s						
GO03	**Copiap**	**2.61**	**23**	Pn	**Pn**	**22 56 32.2**	**+1.2**
GO03	**Copiap**	**2.61**	**23**	⇑*iP*	**Pn**	**22 56 32.2**	**+1.2**
GO03	**Copiap**	**2.61**	**23**	*eP*	**Pn**	**22 56 32.6**	**+1.6**
GO03				*e*S	Sn	22 56 47.1	-14
ZON	**Zonda**	**2.78**	**124**	Pn	**Pn**	**22 56 36.1**	**+2.7**
ZON	**Zonda**	**2.78**	**124**	*eP*	**Pn**	**22 56 36.4**	**+3.0**
ZON				*e*S	Sn	22 56 54.0	-12
AC06	**Mina Casimiro**	**2.79**	**19**	Pn	**Pn**	**22 56 34.6**	**+1.1**
RTLL	**Cerro Villicun**	**2.83**	**118**	*eP*	**Pn**	**22 56 35.9**	**+1.9**
RTLL				IAML		22 57 21.1	
	comp=Z,3μm,2.0s						
VA03	**San Esteban**	**2.83**	**166**	Pn	**Pn**	**22 56 36.1**	**+1.9**
VA03	**San Esteban**	**2.83**	**166**	*eP*	**Pn**	**22 56 36.0**	**+1.9**
VA03				*i*S	**Sn**	**22 57 10.2**	**+3.1**
VA03				IAML		22 57 19.4	
	comp=E,3μm,0.3s						
VA03	**San Esteban**	**2.83**	**166**	*eP*	**Pn**	**22 56 35.4**	**+1.3**
VA03				*e*S	Sn	22 56 51.8	-15
VA03				IAML		22 57 16.1	
	comp=Z,2μm,0.3s						
SJA	**San Juan**	**2.86**	**123**	*eP*	**Pn**	**22 56 38.1**	**+3.6**
SJA				*e*S	Sn	22 56 54.7	-13
SJA				IAML		22 56 55.6	
	comp=Z,807nm,0.6s						
ROCH	**El Roble**	**2.97**	**174**	*eP*	**Pn**	**22 56 38.4**	**+2.2**
ROCH				*i*S	**Sn**	**22 57 13.0**	**+2.4**
ROCH				IAML		22 57 30.3	
	comp=E,3μm,0.5s						
ROC1	**El Roble**	**2.97**	**174**	Pn	**Pn**	**22 56 37.8**	**+1.6**
ROC1	**El Roble**	**2.97**	**174**	*eP*	**Pn**	**22 56 38.3**	**+2.1**
ROC1				*e*S	Sn	22 56 54.6	-16
VA01	**Torpederas**	**3.01**	**184**	Pn	**Pn**	**22 56 37.6**	**+1.2**
VA01	**Torpederas**	**3.01**	**184**	*eP*	**Pn**	**22 56 37.6**	**+1.2**
VA01				*i*S	**Sn**	**22 57 12.2**	**+0.9**
VA01				IAML		22 57 24.4	
	comp=E,943nm,0.5s						
VA01	**Torpederas**	**3.01**	**184**	*eP*	**Pn**	**22 56 37.0**	**+0.6**
VCA	**Vinchina**	**3.05**	**66**	*eP*	**Pn**	**22 56 40.7**	**+3.6**
VCA				IAML		22 57 29.8	
	comp=Z,4μm,0.5s						
CFA	**Coronel Fontan**	**3.13**	**121**	Pg	**Pn**	**22 56 40.7**	**+2.4**
	comp=Z,49nm,0.3s,baz=324,slow=10,SNR=496						
CFA				Lg	Lg	22 57 21.9	
	comp=Z,238nm,0.3s,baz=227,slow=22,SNR=15						
CFA				LR	LR	22 58 08.2	
	comp=Z,282nm,21.6s,baz=312,slow=47						
CFA	**Coronel Fontan**	**3.13**	**121**	*eP*	**Pn**	**22 56 40.6**	**+2.4**
CFA				*e*S	Sn	22 56 59.9	-15
CFA				IAML		22 57 27.9	
	comp=Z,670nm,0.3s						
PEL	**Peldehue**	**3.18**	**169**	Pn	**Pn**	**22 56 40.6**	**+1.8**
PEL	**Peldehue**	**3.18**	**169**	*eP*	**Pn**	**22 56 40.6**	**+1.8**
PEL				*i*S	**Sn**	**22 57 18.8**	**+3.2**
PEL				IAML		22 57 33.8	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**3.18**	**169**	*eP*	**Pn**	**22 56 41.0**	**+2.2**
PEL				*e*S	**Sn**	**22 57 19.6**	**+4.0**
MT02	**Curacav**	**3.25**	**176**	Pn	**Pn**	**22 56 41.5**	**+1.8**
MT02	**Curacav**	**3.25**	**176**	*eP*	**Pn**	**22 56 41.3**	**+1.6**
MT02	**Curacav**	**3.25**	**176**	*eP*	**Pn**	**22 56 41.0**	**+1.4**
MT02				*e*S	Sn	22 56 59.9	-17
MT02				IAML		22 57 29.8	
	comp=Z,931nm,0.3s						
ASAL	**Salagasta**	**3.37**	**140**	*eP*	**Pn**	**22 56 45.2**	**+3.7**
ASAL				*e*S	Sn	22 57 06.9	-13
ASAL				IAML		22 57 47.5	
	comp=Z,655nm,0.6s						
MT05	**Renca**	**3.41**	**171**	Pn	**Pn**	**22 56 44.5**	**+2.4**
MT05	**Renca**	**3.41**	**171**	*eP*	**Pn**	**22 56 44.2**	**+2.1**
MT05	**Renca**	**3.41**	**171**	*eP*	**Pn**	**22 56 44.4**	**+2.4**
MT05				IAML		22 57 39.9	
	comp=Z,1μm,0.3s						
MT14	**Cerro Calıın**	**3.45**	**168**	*eP*	**Pn**	**22 56 45.1**	**+2.5**
MT14				*i*S	**Sn**	**22 57 24.6**	**+2.3**
MT14				IAML		22 57 44.8	
	comp=N,2μm,0.5s						
MT03	**Universidad Ad**	**3.55**	**168**	Pn	**Pn**	**22 56 46.5**	**+2.6**
MT03	**Universidad Ad**	**3.55**	**168**	*eP*	**Pn**	**22 56 47.0**	**+3.0**
MT03				*e*S	**Sn**	**22 57 30.3**	**+5.6**
MT03				IAML		22 57 44.6	
	comp=Z,1μm,0.2s						
VA05	**Santo Domingo**	**3.64**	**183**	Pn	**Pn**	**22 56 45.9**	**+0.8**
VA05	**Santo Domingo**	**3.64**	**183**	*eP*	**Pn**	**22 56 46.0**	**+0.8**
VA05				*i*S	**Sn**	**22 57 27.4**	**+0.6**
AC02	**Maricunga**	**3.73**	**33**	*eP*	**Pn**	**22 56 48.8**	**+1.9**
AC02				IAML		22 57 47.7	
	comp=Z,688nm,1.0s						
AAGR	**Agrelo**	**3.76**	**145**	*eP*	**Pn**	**22 56 51.3**	**+4.5**
AAGR				IAML		22 57 56.3	
	comp=Z,638nm,1.4s						
MT13	**San Alfonso**	**3.84**	**166**	Pn	**Pn**	**22 56 50.5**	**+2.6**
MT01	**Popeta**	**3.84**	**178**	Pn	**Pn**	**22 56 49.7**	**+1.8**
MT01	**Popeta**	**3.84**	**178**	*eP*	**Pn**	**22 56 49.5**	**+1.6**
MT01	**Popeta**	**3.84**	**178**	*e*S	**Sn**	**22 57 35.4**	**+3.5**
MT01				IAML		22 57 44.4	
	comp=Z,870nm,0.6s						
AC01	**Pan de Azucar**	**3.91**	**10**	Pn	**Pn**	**22 56 48.2**	**-0.7**
LMEL	**Las Melosas**	**3.95**	**166**	Pn	**Pn**	**22 56 52.8**	**+3.2**
BO04	**La Punta**	**4.02**	**171**	Pn	**Pn**	**22 56 52.6**	**+2.3**
APLL	**PUNTA DE LOS L**	**4.22**	**96**	*eP*	**Pn**	**22 56 55.2**	**+2.1**
ACHE	**Chepes**	**4.22**	**107**	*eP*	**Pn**	**22 56 55.5**	**+2.2**
BO01	**Tunca**	**4.38**	**177**	Pn	**Pn**	**22 56 56.8**	**+1.6**
BO01	**Tunca**	**4.38**	**177**	IAML		22 57 59.5	
	comp=Z,218nm,0.9s						
BO02	**Sierra Bellavi**	**4.79**	**174**	Pn	**Pn**	**22 57 02.7**	**+1.7**
BO02	**Sierra Bellavi**	**4.79**	**174**	*eP*	**Pn**	**22 57 02.9**	**+1.9**
GO05	**Huala**	**5.01**	**185**	Pn	**Pn**	**22 57 03.8**	**-0.1**
GO02	**Mina Guanaco**	**5.08**	**19**	Pn	**Pn**	**22 57 05.0**	**-0.2**
GO02	**Mina Guanaco**	**5.08**	**19**	*eP*	**Pn**	**22 57 04.7**	**-0.5**
GO02				*eP*	**Pn**	**22 57 04.7**	**-0.5**
PB14	**IPOC Station P**	**5.43**	**9**	Pn	**Pn**	**22 57 07.8**	**-2.3**
ML02	**Panimavida**	**5.74**	**180**	Pn	**Pn**	**22 57 13.8**	**0.0**
BI05	**Punta Hualpn**	**6.89**	**192**	Pn	**Pn**	**22 57 28.7**	**-1.0**
H03N1	**Juan Fernandez**	**7.27**	**240**	Pn	**Pn**	**22 57 35.9**	**+1.2**
	baz=113,slow=19						
H03N1				T	T	23 05 07.2	
	baz=66,slow=72,SNR=1582						
H03N2	**Juan Fernandez**	**7.29**	**240**	Pn	**Pn**	**22 57 36.4**	**+1.5**
	baz=113,slow=19						
H03N2				T	T	23 05 07.8	
	baz=66,slow=72,SNR=1447						
H03N3	**Juan Fernandez**	**7.29**	**240**	Pn	**Pn**	**22 57 35.9**	**+1.0**
	baz=113,slow=19						
H03N3				T	T	23 05 07.3	
	baz=66,slow=72,SNR=1717						
VA04	**Juan Fernndez**	**7.30**	**238**	Pn	**Pn**	**22 57 35.0**	**-0.3**
PB06	**IPOC Station P**	**7.45**	**13**	Pn	**Pn**	**22 57 36.2**	**-1.5**
LVC	**Limon Verde**	**7.70**	**17**	Pn	**Pn**	**22 57 41.7**	**+0.5**
LVC	**Limon Verde**	**7.70**	**17**	Pn	**Pn**	**22 57 39.3**	**-1.9**
	comp=Z,1.5nm,0.3s,baz=184,slow=6.3,SNR=19						
LVC				Sn	**Sn**	**22 59 09.0**	**+1.8**
	comp=Z,8.8nm,0.3s,baz=210,slow=19,SNR=1.8						
LVC				LR	LR	23 00 35.5	
	comp=Z,164nm,20.4s,baz=204,slow=37						
	comp=Z,4.0nm,0.3s						
PB09	**IPOC Station P**	**8.40**	**14**	Pn	**Pn**	**22 57 49.4**	**-1.3**
GO06	**Curarrehue**	**9.55**	**180**	Pn	**Pn**	**22 58 07.2**	**+0.9**
PLCA	**Paso Flores**	**10.72**	**177**	Pn	**Pn**	**22 58 19.0**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=343,slow=14,SNR=1.7						
PLCA				LR	LR	23 02 20.8	
	comp=Z,133nm,21.0s,baz=334,slow=37						
	comp=Z,1.2nm,0.8s						
TRQA	**Tornquist**	**11.18**	**138**	Pn	**Pn**	**22 58 28.5**	**-0.1**
CPUP	**Villa Florida**	**12.92**	**77**	Pn	**Pn**	**22 58 50.2**	**-2.1**
CPUP	**Villa Florida**	**12.92**	**77**	Pn	**Pn**	**22 58 49.4**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=261,slow=14,SNR=15						
CPUP				LR	LR	23 04 21.0	
	comp=Z,130nm,19.0s,baz=241,slow=40						
	comp=Z,1.3nm,0.4s						
LPAZ	**La Paz**	**13.98**	**13**	Pn	**Pn**	**22 59 04.8**	**-2.6**
PLTB	**Pedras Altas**	**15.36**	**101**	Pn	**Pn**	**22 59 24.7**	**-0.5**
SIV	**San Ignacio**	**16.86**	**36**	Pn	**Pn**	**22 59 43.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=212,slow=11,SNR=36						
SIV				LR	LR	23 07 24.9	
	comp=Z,116nm,19.8s,baz=273,slow=41						
	comp=Z,7.9nm,0.6s						
ITAB	**Concordia**	**17.12**	**85**		**P**	**22 59 49.4**	**+0.6**
PTLB	**Pontes e Lacer**	**18.35**	**41**	P	**P**	**23 00 02.3**	**0.0**
NNA	**Nana**	**18.64**	**343**	LR	LR	23 05 44.2	
	comp=Z,38nm,21.2s,baz=142,slow=32						
VILB	**Vilhena**	**19.88**	**34**	P	**P**	**23 00 18.7**	**-0.5**
ETMB	**Extrema**	**20.66**	**15**	P	**P**	**23 00 27.2**	**-0.4**
ETMB				IAmb	IAmb	23 00 32.8	
	comp=Z,13nm,0.7s						
SAML	**Samuel**	**22.32**	**22**	P	**P**	**23 00 44.5**	**-0.8**
BDFB	**Brasilia**	**25.78**	**61**	P	**P**	**23 01 17.5**	**-1.0**
BDFB				IAmb	IAmb	23 01 18.5	
	comp=Z,12nm,0.6s						
BDFB	**Brasilia**	**25.78**	**61**	P	**P**	**23 01 18.0**	**-0.5**
	comp=Z,7.9nm,0.5s,baz=236,slow=8.8,SNR=18						
BDFB				LR	LR	23 11 33.3	
	comp=Z,74nm,19.5s,baz=326,slow=37						
	comp=Z,7.9nm,0.5s						
PRAC	**Prado**	**33.70**	**354**	*eP*	**P**	**23 02 28.1**	**-0.5**
BOAV	**Boa Vista**	**33.85**	**20**	P	**P**	**23 02 29.4**	**-0.5**
BOAV				IAmb	IAmb	23 02 30.5	
	comp=Z,6.2nm,0.6s						
ORTC	**Ortega, Tolima**	**33.93**	**353**	*eP*	**P**	**23 02 32.0**	**+1.4**
CHIC	**Chingaza**	**34.52**	**356**	*eP*	**P**	**23 02 35.2**	**-0.9**
PLMC	**San Jos del P**	**35.03**	**351**	*eP*	P	23 02 35.0	-5.2
GUY2C	**Guyana, Caldas**	**35.24**	**353**	*eP*	**P**	**23 02 44.0**	**+1.6**
NORC	**Norcasia**	**35.53**	**354**	*eP*	**P**	**23 02 45.9**	**+1.4**
RUSC	**La Rusia**	**35.74**	**357**	*eP*	**P**	**23 02 46.5**	**-0.1**
ZARC	**Zaragoza, Cauc**	**37.44**	**354**	*eP*	**P**	**23 02 59.4**	**-1.2**
BAUV	**El Baul**	**38.86**	**5**	P	**P**	**23 03 11.9**	**-0.7**
RCBR	**Riachuelo**	**41.16**	**61**	LR	LR	23 21 11.5	
	comp=Z,70nm,18.6s,baz=257,slow=37						
TEIG	**Tepich**	**52.53**	**340**	P	**P**	**23 05 01.3**	**+0.8**
SNAA	**Sanae**	**55.08**	**159**	P	**P**	**23 05 18.2**	**-0.4**
SNAA				IAmb	IAmb	23 05 19.2	
	comp=Z,3.6nm,0.7s						
SNAA	**Sanae**	**55.08**	**159**	⇑P	**P**	**23 05 18.6**	**0.0**
	comp=Z,116nm,1.0s						
SNAA	**Sanae**	**55.08**	**159**	P	**P**	**23 05 18.4**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=274,slow=8.5,SNR=19						
	comp=Z,3.4nm,0.8s						
TROLL	**Troll, Antarti**	**56.79**	**159**	⇑P	**P**	**23 05 31.0**	**+0.1**
	comp=Z,154nm,0.8s						
553A	**Crawfordville**	**61.14**	**347**	P	**P**	**23 06 02.0**	**+0.7**
HNDO	**Hondo**	**64.91**	**333**	P	**P**	**23 06 27.9**	**+1.4**
HNDO				IAmb	IAmb	23 06 29.0	
	comp=Z,9.6nm,0.7s						
SWET	**Sewanee**	**66.31**	**347**	P	**P**	**23 06 34.9**	**-0.4**
SWET				IAmb	IAmb	23 06 36.0	
	comp=Z,4.6nm,0.6s						
BRDY	**Brady**	**66.37**	**334**	P	**P**	**23 06 35.5**	**-0.3**
BRDY				IAmb	IAmb	23 06 37.8	
	comp=Z,4.1nm,0.8s						
SAND	**Sanderson**	**66.44**	**331**	P	**P**	**23 06 37.4**	**+1.1**
SAND				IAmb	IAmb	23 06 38.8	
	comp=Z,5.1nm,1.0s						
TX32	**Lajitas Array**	**66.56**	**329**	P	**P**	**23 06 38.0**	**+0.8**
TXAR	**Lajitas Array**	**66.56**	**329**	P	**P**	**23 06 38.1**	**+0.9**
TXAR	**Lajitas Array**	**66.56**	**329**	P	**P**	**23 06 38.5**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=152,slow=8.2,SNR=12						
	comp=Z,1.4nm,0.7s						
TX31	**Lajitas Ar. Si**	**66.57**	**329**	P	**P**	**23 06 38.0**	**+0.8**
TX31				IAmb	IAmb	23 06 39.6	
	comp=Z,3.6nm,0.8s						
OZNA	**Ozona**	**66.88**	**332**	P	**P**	**23 06 40.6**	**+1.5**
OZNA				IAmb	IAmb	23 06 41.2	
	comp=Z,5.3nm,0.7s						
T59A	**Double "B" Far**	**66.88**	**355**	P	**P**

SNR=7.7
KURBB **Kurchatov Arra** 149.50 39 PKPbc **PKPbc** 23 15 36.0 +0.4
comp=Z,3.1nm,0.4s,baz=303,slow=3.2,SNR=16
USP **Ospenovka** 149.81 55 P **PKiKP** 23 15 37.6 -0.1
SNR=6.4
AAK **Ala-Archa** 149.96 56 P **PKiKP** 23 15 38.6 +0.5
SNR=5.7
UCH **Uchtor** 150.07 57 P **PKiKP** 23 15 39.3 +0.5
SNR=18
ZALV **Zalesovo Beam** 150.52 29 PKPbc **PKPbc** 23 15 38.4 +0.4
comp=Z,15nm,0.7s,baz=298,slow=3.3,SNR=57
TKM2 **Tokmak 2** 150.68 55 P **PKiKP** 23 15 40.0 +0.3
SNR=9.1
ULHL **Ulahol** 151.31 56 P **PKiKP** 23 15 41.9 +0.9
SNR=5.2
KSH **Kashi** 151.68 62 PKPbc **PKiKP** 23 15 42.2 +0.5
KSH sPKP 23 15 49.7
MKAR **Makanchi Array** 153.60 43 PKPbc **PKPbc** 23 15 45.1 -0.1
comp=Z,1.5nm,0.7s,baz=269,slow=2.9,SNR=7.4
MKAR PKPab **PKPab** 23 15 58.1 +0.2
comp=Z,0.7nm,0.5s,baz=303,slow=2.9,SNR=6.7
WMQ **Urumqi** 158.40 45 *eP* **PKPdf** 23 15 43.3 -0.7
HHC **Hu-ho-hao-te** 168.92 348 *eP* **PKPdf** 23 15 56.5 +2.7
LZH **Lanzhou** 172.74 32 *e*PKP **PKPdf** 23 15 56.2 +0.1
LZH pPKP pPKPdf 23 16 06.7 -2.7
PZH **PanZhiHua** 173.00 118 PKP **PKPdf** 23 15 54.8 -1.6

---

*HEL **09** 23:20:44.6±0.3, 67°.82N×20°.32E, h0km, ML1.7, Suspected explosion*
UPP 09 23:20:43.0±0.5, 67°.85N×20°.19E, h1km±5km, ML1.8, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	0.12	27	P	Pg	23 20 45.4	+0.1
RATU	**Laukkuluspa**	0.23	264	P	Pg	23 20 47.5	+0.1
KOVU	**Salmi**	0.38	358	P	Pg	23 20 50.2	0.0
LANU	**Lannavaara**	0.71	73	P	Pg	23 20 56.4	-0.1
LANU	**Lannavaara**	0.71	73	PG	Pg	23 20 56.3	-0.3
LANU				SG	Sg	23 21 01.8	-3.9
DUNU	**Dundret**	0.74	169	P	Pg	23 20 56.7	-0.5
MASU	**Masugnsbyn**	0.79	119	P	Pg	23 20 57.9	-0.3
SALU	**Saltoluokta**	0.80	235	P	Pg	23 20 58.0	-0.3
KIF	**Kilpisjarvi**	1.18	11	*eP*	Pn	23 21 06.9	+0.3
KIF	**Kilpisjarvi**	1.18	11	PG	Pg	23 21 05.8	+0.1
KIF				MSG		23 21 22.2	
	comp=Z,14nm,0.2s						
KIF				SG	Sn	23 21 23.6	+0.2
PAJU	**Pajala**	1.40	125	P	Pn	23 21 08.3	-1.3
PAJU	**Pajala**	1.40	125	PG	Pn	23 21 08.3	-1.3
PAJU				SN	Sn	23 21 29.1	+0.4
HEF	**Hetta**	1.42	65	*eP*	Pn	23 21 09.3	-0.5
HEF	**Hetta**	1.42	65	PG	Pn	23 21 09.0	-0.8
HEF				MSG		23 21 26.3	
	comp=Z,7.2nm,0.2s						
HEF				SN	Sn	23 21 29.6	+0.5
KLF	**Kolari**	1.57	111	PG	Pn	23 21 11.6	-0.4
	baz=296						
KLF				MSG		23 21 30.2	
	comp=Z,4.2nm,0.2s						
KLF				SN	Sg	23 21 35.3	+1.8
KTK1	**Kautokeino**	1.62	42	PG	Pb	23 21 13.4	-0.3
KTK1				SN	Sg	23 21 36.6	+1.6
TRO	**Tromso**	1.85	346	PG	Pg	23 21 18.5	+0.1
TRO				SG	Sg	23 21 43.3	+0.9
KALU	**Kalix**	2.36	146	PG	Pb	23 21 25.8	-0.4
	baz=329						
KALU				SG	Sb	23 21 56.2	+0.5
TOF	**Tornio**	2.41	136	PG	Pb	23 21 26.8	-0.2
	baz=315						
TOF				MSG		23 21 54.3	
	comp=Z,3.9nm,0.2s						
TOF				SG	Sb	23 21 58.2	+1.1
SGF	**Sodankyl**	2.46	97	PG	Pb	23 21 26.9	-1.0
SGF				SG	Sb	23 21 58.5	0.0
ARA0	**ARCESS Array S**	2.58	46	PB	Pb	23 21 28.2	-1.7
	baz=229						
ARA0				SB	Sn	23 21 58.6	+0.9
RNF	**Rovaniemi**	2.58	116	PG	Pb	23 21 28.0	-2.0
RNF				SG	Sb	23 22 03.5	+1.2
KEV	**Kevo**	3.13	49	PB	Pb	23 21 37.8	-1.5
KEV				SB	Sb	23 22 14.8	-3.2
KEV				MSG		23 22 16.1	
	comp=Z,2.3nm,0.2s						
VRF	**Varrio**	3.58	87	PB	Pb	23 21 44.9	-2.1
VRF				SG	Sb	23 22 34.2	+3.4

UPP 09 23:20:45.2±0.0, 67°.85N×20°.20E, h0km, ML2.2, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	0.11	27	P	Pg	23 20 47.7	+0.4
KUA				S	Sg	23 20 49.3	+0.5
RATU	**Laukkuluspa**	0.23	263	P	Pg	23 20 49.9	+0.2
KOVU	**Salmi**	0.37	358	P	Pg	23 20 52.3	0.0
KOVU				S	Sg	23 20 57.4	+0.3
LANU	**Lannavaara**	0.70	73	P	Pg	23 20 58.3	-0.4
DUNU	**Dundret**	0.75	169	P	Pg	23 20 59.5	-0.1
MASU	**Masugnsbyn**	0.79	119	P	Pg	23 21 00.1	-0.3
SALU	**Saltoluokta**	0.81	235	P	Pg	23 21 00.2	-0.4
PAJU	**Pajala**	1.40	125	P	Pn	23 21 10.6	-1.4

---

*NOU **09** 23:21:07.9, 41°.35S×173°.29E, h45km, MLv4.0/10, South Island, New Zealand*
*WEL **09** 23:21:07.3±0.7, 41°.5S±5°.5×17°.3E±°, h59km±7km, M3.9/73, ML4.0/15, MLv3.9/73, Error ellipse: s-maj=0.0km s-min=0.0km az=154.9, confirmed*
ISC 09 23:21:05.9±1.4, 41°.43S±0°.04×173°.50E±0°.05, h95km±9km, n119, σ0°.83/116, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	0.23	338	P	Pn	23 21 17.9	-1.7
NNZ				S	Sn	23 21 26.0	-3.8
TUWZ	**Tuamarina**	0.34	89	P	**Pn**	**23 21 20.3**	**+0.2**
TUWZ				S	**Sn**	**23 21 29.4**	**-1.3**
BSWZ	**Blackbirch Sta**	0.40	135	P	**Pn**	**23 21 21.3**	**+0.8**
THZ	**Tophouse**	0.55	233	P	**Pn**	**23 21 21.0**	**-0.7**
THZ				S	Sn	23 21 31.4	-2.1
MRNZ	**Matariki Terra**	0.56	273	P	Pn	23 21 20.1	-1.5
MRNZ				S	Sn	23 21 29.2	-4.2
TKNZ	**Takaka Hill**	0.57	314	P	Pn	23 21 19.7	-2.0
TKNZ				S	Sn	23 21 28.6	-5.0
CMWZ	**Cape Campbell**	0.62	121	P	**Pn**	**23 21 23.6**	**+1.4**
TCW	**Tory Channel**	0.63	69	P	**Pn**	**23 21 23.0**	**+0.8**
TCW				S	**Sn**	**23 21 34.2**	**-0.2**
DUWZ	**D'Urville Isla**	0.71	27	P	**Pn**	**23 21 22.5**	**-0.5**
DUWZ				S	**Sn**	**23 21 34.2**	**-1.5**
SNZO	**South Karori**	0.92	83	P	**Pn**	**23 21 25.9**	**+0.9**
QRZ	**Quartz Range**	0.95	309	P	Pn	23 21 23.0	-2.4
QRZ	**Quartz Range**	0.95	309	P	Pn	23 21 23.2	-2.3
WEL	**Wellington**	0.97	82	P	**Pn**	**23 21 26.7**	**+1.1**
KHZ	**Kahutara**	0.98	178	P	**Pn**	**23 21 27.1**	**+1.4**
KHZ	**Kahutara**	0.98	178	P	**Pn**	**23 21 27.1**	**+1.4**
BHW	**Baring Head**	1.03	89	P	**Pn**	**23 21 27.0**	**+0.7**
KIW	**Kapiti Island**	1.21	62	P	**Pn**	**23 21 29.3**	**+0.9**
CAW	**Cannon Point**	1.23	75	P	**Pn**	**23 21 29.3**	**+0.7**
DSZ	**Denniston Nort**	1.31	256	P	Pn	23 21 28.3	-1.2
PLWZ	**Palliser**	1.33	96	P	**Pn**	**23 21 30.5**	**+0.7**
PLWZ				S	**Sn**	**23 21 48.2**	**+0.4**
OGWZ	**Otaki Gorge**	1.41	65	P	**Pn**	**23 21 31.4**	**+0.7**
PAWZ	**Paruwai Farm**	1.45	89	P	**Pn**	**23 21 31.7**	**+0.4**
PAWZ				S	**Sn**	**23 21 50.5**	**-0.1**
MTW	**Mount Morrison**	1.54	80	P	**Pn**	**23 21 32.6**	**+0.3**
GVZ	**Greta Valley S**	1.57	192	P	**Pn**	**23 21 33.6**	**+0.8**
HOWZ	**Holdsworth Sta**	1.61	71	P	**Pn**	**23 21 33.6**	**+0.2**
LTZ	**Lake Taylor**	1.63	214	P	**Pn**	**23 21 34.0**	**+0.5**
TRWZ	**Traveller**	1.65	89	P	**Pn**	**23 21 34.2**	**+0.4**
MRZ	**Mangatainoka R**	1.75	65	P	**Pn**	**23 21 35.3**	**+0.2**
TMWZ	**Te Maipa**	1.83	81	P	**Pn**	**23 21 36.4**	**+0.3**
OHWZ	**Ohakea**	1.85	49	P	**Pn**	**23 21 37.2**	**+0.9**
AMCZ	**Amberley**	1.85	200	P	**Pn**	**23 21 37.0**	**+0.6**
TIWZ	**Tintock**	1.92	71	P	**Pn**	**23 21 37.3**	**0.0**
INZ	**Inchbonnie**	2.00	229	P	**Pn**	**23 21 38.5**	**+0.3**
POWZ	**Post Office Ro**	2.01	60	P	**Pn**	**23 21 38.3**	**-0.1**
WAZ	**Wanganui**	2.02	35	P	**Pn**	**23 21 40.2**	**+1.5**
NMEZ	**Namu Road**	2.04	8	P	**Pn**	**23 21 39.4**	**+0.7**
PRWZ	**Pori Road**	2.07	66	P	**Pn**	**23 21 39.3**	**+0.1**
LREZ	**Lake Rotokare**	2.09	20	P	**Pn**	**23 21 41.5**	**+2.0**
CPWZ	**Castlepoint**	2.11	77	P	**Pn**	**23 21 40.4**	**+0.7**
PREZ	**Palmer Road**	2.15	14	P	**Pn**	**23 21 41.1**	**+0.8**
KHEZ	**Kahui Hut**	2.17	11	P	**Pn**	**23 21 41.2**	**+0.6**
KHEZ	**Kahui Hut**	2.17	11	P	**Pn**	**23 21 41.0**	**+0.4**
OXZ	**Oxford**	2.18	209	P	**Pn**	**23 21 40.2**	**-0.4**
NEZ	**North Egmont**	2.21	12	P	**Pn**	**23 21 41.4**	**+0.3**
BFZ	**Birch Farm**	2.21	71	P	**Pn**	**23 21 40.8**	**-0.2**
PKE	**Pukeiti**	2.27	10	P	**Pn**	**23 21 42.5**	**+0.7**
DREZ	**Durham Road**	2.31	14	P	**Pn**	**23 21 42.9**	**+0.6**
OKCZ	**Okains Bay**	2.31	188	P	**Pn**	**23 21 42.8**	**+0.5**
DVHZ	**Dannevirke**	2.32	62	P	**Pn**	**23 21 41.9**	**-0.6**
TSZ	**Takapari Road**	2.32	55	P	**Pn**	**23 21 42.4**	**-0.2**
MQZ	**McQueen's Vall**	2.35	195	P	**Pn**	**23 21 42.0**	**-0.9**
ANWZ	**Angora Road**	2.46	68	P	**Pn**	**23 21 44.1**	**-0.1**
AKCZ	**Akaroa Harbour**	2.48	190	P	**Pn**	**23 21 45.0**	**+0.4**
VRZ	**Vera Road**	2.50	23	P	**Pn**	**23 21 46.1**	**+1.3**
RACZ	**Rakaia**	2.50	203	P	**Pn**	**23 21 45.7**	**+0.9**
MHCZ	**Mount Hutt**	2.54	214	P	**Pn**	**23 21 45.6**	**+0.3**
MTVZ	**Mangateitei**	2.54	37	P	**Pn**	**23 21 46.5**	**+1.0**
PNHZ	**Pukenui**	2.56	54	P	**Pn**	**23 21 45.0**	**-0.6**
PKVZ	**Pokaka**	2.57	34	P	**Pn**	**23 21 47.3**	**+1.5**
WPHZ	**Waipukurau**	2.62	60	P	**Pn**	**23 21 45.9**	**-0.5**
WVZ	**Waitaha Valley**	2.62	230	P	**Pn**	**23 21 46.7**	**+0.2**
WNVZ	**Wahianoa**	2.65	38	P	**Pn**	**23 21 47.6**	**+0.7**
MOVZ	**Moawhango**	2.66	41	P	**Pn**	**23 21 47.0**	**0.0**
WHVZ	**Whangaehu Hut**	2.68	37	P	**Pn**	**23 21 48.2**	**+0.7**
FWVZ	**Far West T-bar**	2.68	36	P	**Pn**	**23 21 48.2**	**+0.7**
TUVZ	**Tukino**	2.72	38	P	**Pn**	**23 21 48.9**	**+0.9**
COVZ	**Chateau Observ**	2.72	36	P	**Pn**	**23 21 49.1**	**+1.1**
BHHZ	**Black Hill Sta**	2.76	46	P	**Pn**	**23 21 48.4**	**0.0**
NGZ	**Ngauruhoe**	2.77	36	P	**Pn**	**23 21 49.2**	**+0.6**
SNVZ	**South Ngauruho**	2.78	37	P	**Pn**	**23 21 49.4**	**+0.7**
TWVZ	**Taurewa**	2.79	33	P	**Pn**	**23 21 49.3**	**+0.5**
WACZ	**Wakanui South**	2.79	205	P	**Pn**	**23 21 49.5**	**+0.8**
OTVZ	**Oturere**	2.81	37	P	**Pn**	**23 21 49.7**	**+0.5**
NNVZ	**North Ngauruho**	2.81	36	P	**Pn**	**23 21 49.6**	**+0.4**
WTVZ	**West Tongariro**	2.81	35	P	**Pn**	**23 21 49.6**	**+0.4**
KRHZ	**Kereru**	2.83	52	P	**Pn**	**23 21 48.6**	**-0.7**
ETVZ	**East Tongariro**	2.85	37	P	**Pn**	**23 21 50.1**	**+0.4**
KRVZ	**Karewarewa**	2.85	36	P	**Pn**	**23 21 50.0**	**+0.2**
TMVZ	**Te Maari**	2.87	37	P	**Pn**	**23 21 50.7**	**+0.9**
RPZ	**Rata Peaks**	2.91	218	P	**Pn**	**23 21 51.7**	**+1.4**
RPZ	**Rata Peaks**	2.91	218	P	**Pn**	**23 21 51.1**	**+0.8**
PXZ	**Pawanui**	2.92	62	P	**Pn**	**23 21 49.5**	**-0.8**
KATZ	**Kakaramea**	2.98	35	P	**Pn**	**23 21 52.4**	**+1.0**
KWHZ	**Kaweka Forest**	3.00	49	P	**Pn**	**23 21 51.0**	**-0.6**
GCSZ	**Gaunt Creek Bo**	3.01	230	P	**Pn**	**23 21 51.9**	**+0.2**
ARCZ	**Arundel**	3.04	213	P	**Pn**	**23 21 51.9**	**-0.1**
KAHZ	**Kahuranaki**	3.05	59	P	**Pn**	**23 21 51.5**	**-0.7**
RATZ	**Rangitukua**	3.10	35	P	Pn	23 21 56.2	+3.2
MCHZ	**McNeill Hill**	3.15	52	P	**Pn**	**23 21 53.2**	**-0.3**
BKZ	**Black Stump Fm**	3.22	46	P	**Pn**	**23 21 53.7**	**-0.8**
MRHZ	**Matea Rd**	3.43	42	P	**Pn**	**23 21 56.3**	**-1.0**
FOZ	**Fox Glacier**	3.44	231	P	**Pn**	**23 21 57.0**	**-0.3**
NMHZ	**Naumai**	3.44	48	P	**Pn**	**23 21 56.8**	**-0.7**
TMZ	**Timaru**	3.47	211	P	**Pn**	**23 21 57.5**	**-0.3**
TLZ	**Tolley Road**	3.48	28	P	**Pn**	**23 21 58.9**	**+1.0**
MTHZ	**Maungataniwha**	3.63	46	P	**Pn**	**23 21 58.9**	**-1.2**
RAHZ	**Arahi**	3.73	49	P	Pn	23 22 06.1	+4.8
LBZ	**Lake Benmore**	3.82	218	P	**Pn**	**23 22 01.7**	**-0.9**
MUGZ	**Murupara**	3.88	41	P	**Pn**	**23 22 01.9**	**-1.5**
TOZ	**Tahuroa Road**	4.01	23	P	**Pn**	**23 22 05.2**	**+0.1**
ODZ	**Otahua Downs**	4.17	209	P	**Pn**	**23 22 08.9**	**+1.7**
ODZ	**Otahua Downs**	4.17	209	P	**Pn**	**23 22 07.1**	**-0.1**
JCZ	**Jackson Bay**	4.36	231	P	**Pn**	**23 22 09.8**	**-0.1**
JCZ	**Jackson Bay**	4.36	231	P	**Pn**	**23 22 09.3**	**-0.6**
AWAZ	**Awhitu Peninsu**	4.45	12	P	**Pn**	**23 22 11.7**	**+0.6**
MKAZ	**Moumakai**	4.51	17	P	**Pn**	**23 22 12.6**	**+0.7**
WTAZ	**Waiatarua**	4.57	11	P	**Pn**	**23 22 13.4**	**+0.7**
WKZ	**Wanaka**	4.72	223	P	**Pn**	**23 22 13.9**	**-0.8**
TWGZ	**Tauwhareparae**	4.74	48	P	**Pn**	**23 22 13.3**	**-1.8**
WIAZ	**Waiheke Island**	4.80	16	P	**Pn**	**23 22 16.7**	**+0.8**
EAZ	**Earnscleugh**	4.87	217	P	**Pn**	**23 22 15.9**	**-0.9**
KUZ	**Kuaotunu**	4.99	21	P	**Pn**	**23 22 19.9**	**+1.5**
KUZ	**Kuaotunu**	4.99	21	P	**Pn**	**23 22 18.7**	**+0.3**
TUZ	**Tuapeka**	5.32	211	P	**Pn**	**23 22 23.8**	**+1.0**
MLZ	**Mavora Lakes**	5.55	223	P	**Pn**	**23 22 26.7**	**+0.7**
SYZ	**Scrubby Hill**	5.99	210	P	**Pn**	**23 22 33.6**	**+1.7**
SYZ	**Scrubby Hill**	5.99	210	P	**Pn**	**23 22 33.0**	**+1.0**
OUZ	**Omahuta**	6.20	1	P	**Pn**	**23 22 36.1**	**+1.2**
OUZ	**Omahuta**	6.20	1	P	**Pn**	**23 22 35.3**	**+0.4**

---

*SKO **09** 23:25:35.5, 41°.17N×20°.85E, h14km, ML2.0*
*BEO **09** 23:25:36.6±0.6, 41°.10N×20°.79E, h9km±3km, ML1.6/5*
*THE **09** 23:25:36.1, 41°.19N×20°.87E, h4km±26km, ML1.5/5, Error ellipse: s-maj=26.2km s-min=0.9km az=152.0*
*TIR **09** 23:25:36.7, 41°.08N×20°.91E, h0km±1km, Md2.6, Ml1.8*
ISC 09 23:25:37.0±1.0, 41°.14N±0°.02×20°.88E±0°.03, h2km±10km, n21, σ1°.37/41, 2C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	0.06	246	*e*Pg	**Pg**	**23 25 38.2**	**-0.1**
OHR				*e*Sg	**Sg**	**23 25 39.5**	**+0.3**
OHR	**Ohrid**	0.06	246	*i*/*e*Pg	**Pg**	**23 25 38.4**	**+0.1**
OHR				*i* Sg	**Sg**	**23 25 39.4**	**+0.3**
OHR				*e*Lg	Lg	23 25 39.6	
	comp=N,917nm,0.3s						
OHR				*e*Lg	Lg	23 25 39.6	
	comp=E,2μm,0.4s						
KBN	**Korca**	0.52	187	P	**Pg**	**23 25 46.7**	**-0.2**
KBN				S	**Sg**	**23 25 55.0**	**+1.4**
	comp=E,110nm,0.5s						
KBN	**Korca**	0.52	187	P	**Pg**	**23 25 46.7**	**-0.2**
	baz=192						
KBN				S	**Sg**	**23 25 53.9**	**+0.3**
	baz=192						
KBN				AMP			
	comp=N,0.3nm,0.5s,baz=192						
FNA	**Florina**	0.52	133	P	**Pg**	**23 25 46.9**	**0.0**
FNA				S	**Sg**	**23 25 54.5**	**+0.8**
	comp=N,125nm,0.3s						
FNA	**Florina**	0.52	133	P	**Pg**	**23 25 46.8**	**0.0**
	baz=129						
FNA				S	**Sg**	**23 25 54.4**	**+0.8**
	baz=129						
FNA	**Florina**	0.52	133	*e*Pg	**Pg**	**23 25 46.7**	**-0.2**
FNA				*e*Sg	**Sg**	**23 25 54.8**	**+1.2**
FNA	**Florina**	0.52	133	⇑*i*/*e*Pg	**Pg**	**23 25 46.6**	**-0.2**
FNA				*i* Sg	**Sg**	**23 25 54.5**	**+0.8**
NEST	**Nestorio**	0.73	170	P	**Pg**	**23 25 50.5**	**-0.5**
NEST				S	**Sb**	**23 26 03.0**	**0.0**
	comp=N,28nm,0.5s						
LSK	**Leskovik**	1.01	192	P	**Pg**	**23 25 56.0**	**-0.3**
LSK				S	**Sn**	**23 26 11.6**	**-1.4**
	comp=N,28nm,0.5s						
LSK	**Leskovik**	1.01	192	P	**Pg**	**23 25 55.9**	**-0.3**
	baz=195						
LSK				S	**Sb**	**23 26 11.0**	**+0.1**
	baz=195						
LSK				AMP			
	comp=N,0.1nm,0.5s,baz=195						
STIP	**Stip**	1.13	60	*i* Pg	**Pn**	**23 26 01.4**	**+1.6**
STIP				*i* Sg	**Sn**	**23 26 20.1**	**+4.2**
GRG	**Griva**	1.17	98	P	**Pb**	**23 25 58.5**	**-1.4**
GRG				S	**Sn**	**23 26 15.3**	**-1.6**
	comp=N,12nm,0.5s						
GRG	**Griva**	1.17	98	⇑*i*/*e*Pg	**Pb**	**23 25 58.5**	**-1.4**
GRG				*i* Sg	**Sn**	**23 26 15.5**	**-1.4**
BCI	**Bajram Curri**	1.37	334	P	**Pg**	**23 26 05.1**	**+1.9**
	baz=335						
BCI				S	**Sg**	**23 26 23.6**	**+2.6**
	baz=335						
BCI				AMP			
	comp=E,0.1nm,0.4s,baz=335						
SRN	**Sarande**	1.42	208	P	**Pg**	**23 26 04.7**	**+0.5**
	baz=211						
SRN				S	**Sg**	**23 26 25.2**	**+2.6**
	baz=211						
PRVS	**Prvonek**	1.64	33	*e*Pg	**Pg**	**23 26 08.1**	**-0.3**
PRVS				*e*Sg	**Sg**	**23 26 30.5**	**+0.9**
IGT	**Igoumenitsa**	1.66	195	P	**Pg**	**23 26 08.5**	**-0.2**
	baz=197						
IGT				S	**Sg**	**23 26 31.6**	**+1.5**
	baz=197						
BARS	**Barje**	1.82	22	*e*Pg	**Pg**	**23 26 11.3**	**-0.5**
BARS				*e*Sg	**Sg**	**23 26 35.4**	**0.0**
SJES	**Sjenica**	2.23	343	*e*Pg	**Pg**	**23 26 17.7**	**-1.9**
SJES				*e*Sg	**Sg**	**23 26 48.6**	**+0.1**
BBLS	**Lazići**	2.94	339	*e*Pg	**Pb**	**23 26 27.2**	**-2.9**

---

*TIF **09** 23:30:49.6, 42°.91N×46°.41E, h2km±3km*
*NORS **09** 23:30:49.7±0.0, 42°.88N×46°.50E, h5km, MPVA3.5*
*MOS **09** 23:30:49.1±0.0, 42°.90N×46°.47E, h6km, MPVA3.4*
*DRS **09** 23:30:50.0±0.0, 42°.95N×46°.51E, h14km*
ISC 09 23:30:50.8±1.0, 42°.90N±0°.02×46°.46E±0°.01, h7km±8km, n47, σ1°.60/93, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	0.21	36	*e*Pg	**Pg**	**23 30 54.8**	**-0.2**
DLMR				*e*Sg	**Sg**	**23 30 57.9**	**0.0**
DVE	**Vedeno**	0.25	284	*e*Pg	**Pg**	**23 30 55.1**	**-0.7**
DVE				*e*Sg	**Sg**	**23 30 59.4**	**+0.2**
BTLR	**Botlikh**	0.29	217	*e*Pg	**Pg**	**23 30 56.3**	**-0.2**
BTLR				*e*Sg	**Sb**	**23 31 01.9**	**-1.6**
DBC	**Dubki**	0.30	66	*i* Pg	**Pb**	**23 30 56.3**	**-2.2**
DBC				*e*Sg	**Sb**	**23 31 01.7**	**-2.0**
UNCR	**Uncukul**	0.31	127	*e*Pg	**Pb**	**23 30 56.9**	**-1.7**
	87nm,0.3s						
UNCR				*e*Sg	**Sb**	**23 31 02.0**	**-1.9**
	226nm,0.3s						
KRNR	**Karanay**	0.34	102	*e*Pg	**Pb**	**23 30 57.1**	**-2.0**
KRNR				*e*Sg	**Sb**	**23 31 03.0**	**-1.8**
XNZR	**Khunzakh**	0.40	153	*e*Pg	**Pb**	**23 30 58.8**	**-1.5**
	19nm,0.6s						
XNZR				*e*Sg	**Sb**	**23 31 05.5**	**-1.1**
	52nm,0.2s						
BUJR	**Buynaksk**	0.48	98	*e*Pg	**Pb**	**23 31 00.6**	**-1.0**
BUJR				*e*Sg	**Sb**	**23 31 08.6**	**-0.3**
ARKR	**Arakani**	0.49	127	*e*Pg	**Pb**	**23 31 00.7**	**-1.1**
ARKR				*e*Sg	**Sb**	**23 31 08.0**	**-1.2**
GROC	**Groznyy**	0.57	302	*e*Pg	**Pb**	**23 31 02.4**	**-0.8**
GROC				*e*Sg	**Sb**	**23 31 10.4**	**-1.2**
GNBR	**Gunib**	0.63	144	*e*Pg	**Pb**	**23 31 04.0**	**-0.2**
GNBR				*e*Sg	**Sn**	**23 31 14.0**	**-2.6**
MAK	**Makhachkala**	0.77	85	*e*Pg	**Pn**	**23 31 06.7**	**-1.4**
MAK				*e*Sg	**Sn**	**23 31 20.3**	**+0.4**
KANR	**Karaman**	0.81	68	*e*Pg	**Pn**	**23 31 10.3**	**+1.7**
KANR				*i* Sg	**Sn**	**23 31 21.6**	**+0.7**
KMKR	**Kumukh**	0.90	148	*e*Pg	**Pn**	**23 31 08.9**	**-1.2**
KMKR				*e*Sg	**Sn**	**23 31 23.5**	**0.0**
SGKR	**Sergokala**	0.98	116	*e*Pg	**Pn**	**23 31 12.0**	**+0.9**
SGKR				*e*Sg	**Sn**	**23 31 28.1**	**+2.8**
SHTL	**Shatili**	0.99	256	*e*Pg	**Pg**	**23 31 08.9**	**-0.9**
SHTL				*e*Sg	**Sg**	**23 31 22.9**	**+0.1**
SHTL	**Shatili**	0.99	256	P	**Pg**	**23 31 08.9**	**-0.9**
SHTL				S	**Sg**	**23 31 22.9**	**+0.1**
LGD	**Lagodekhi**	1.07	189	*e*Pg	**Pn**	**23 31 11.3**	**-1.0**
LGD				*e*Sg	**Sn**	**23 31 26.7**	**-0.8**
LGD	**Lagodekhi**	1.07	189	P	**Pn**	**23 31 11.3**	**-1.0**
LGD				S	**Sn**	**23 31 26.7**	**-0.8**
URKR	**Urkarakh**	1.13	130	*e*Pg	**Pn**	**23 31 13.8**	**+0.6**
URKR				*e*Sg	**Sn**	**23 31 31.4**	**+2.2**
KMGR	**Komgaron**	1.18	278	*e*Pg	**Pn**	**23 31 15.1**	**+1.3**
KMGR				*e*Sg	**Sn**	**23 31 33.0**	**+2.8**
VLKR	**Vladikavkaz**	1.32	277	*e*Pg	**Pg**	**23 31 17.2**	**+1.1**
VLKR				*e*Sg	**Sn**	**23 31 35.8**	**+2.2**
MTEO	**Meteo**	1.44	262	P	**Pg**	**23 31 17.8**	**-0.6**
MTEO				S	**Sg**	**23 31 37.5**	**+0.5**
DDFL	**Dedoflistskaro**	1.47	190	P	**Pg**	**23 31 22.5**	**+3.5**
DDFL				S	Sg	23 31 48.0	+10
BTKR	**Batakoyurt**	1.48	289	*e*Pg	**Pg**	**23 31 19.5**	**+0.3**
BTKR				*e*Sg	**Sg**	**23 31 42.1**	**+3.6**
TRKR	**Terskaya**	1.51	304	*e*Pg	**Pg**	**23 31 21.4**	**+1.7**
TRKR				*e*Sg	**Sg**	**23 31 42.9**	**+3.7**
GUDG	**Gudauri**	1.53	254	*e*Pg	**Pn**	**23 31 18.4**	**-0.3**
GUDG				*e*Sg	**Sg**	**23 31 42.4**	**+2.6**
GUDG	**Gudauri**	1.53	254	P	**Pn**	**23 31 18.4**	**-0.3**
GUDG				S	**Sg**	**23 31 42.4**	**+2.6**
LACR	**Lac**	1.59	268	*e*Pg	**Pg**	**23 31 20.5**	**-0.8**
LACR				*e*Sg	**Sg**	**23 31 42.

mbtmp4.8/24,MS3.6/3,Error ellipse: s-maj=13.5km s-min=8.4km az=55.0
DJA ***10*** *00:04:58.8±0.2,7°S±2°×13°0E±°,h157km±4km,M4.9/37, mB5.3/25,mb5.1/37,MLv5.5/16,Mw(mB)4.8/25, MwMwp4.9/1,Mwp5.2/1*
ISC 10 00:04:58.4±0.4,6°47S±0°04×129°96E±0°04,h167km±3km, h167km:pP-P,n303,σ1988/325,mb4.8/68,1C-2D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.93**	**359**	P	**Pn**	**00 05 35.7**	**+1.9**
BNDI	**Bandanaira**	**1.93**	**359**	P	**Pn**	**00 05 36.0**	**+2.2**
SAUI	**Saumlaki**	**2.01**	**139**	Pn	**Pn**	**00 05 34.4**	**-0.3**
SAUI				Sn	**Sn**	**00 06 04.5**	**+1.7**
SAUI	**Saumlaki**	**2.01**	**139**	P	**Pn**	**00 05 35.2**	**+0.5**
SAUI	**Saumlaki**	**2.01**	**139**	P	**Pn**	**00 05 35.4**	**+0.7**
FAKI	**Fak Fak**	**4.20**	**33**	Pn	**Pn**	**00 06 00.9**	**-0.8**
FAKI				Sn	**Sn**	**00 06 47.6**	**-3.6**
FAKI	**Fak Fak**	**4.20**	**33**	P	**Pn**	**00 06 01.3**	**-0.4**
FAKI				S	**Sn**	**00 06 48.5**	**-2.7**
NLAI	**Namlea**	**4.29**	**318**	P	**Pn**	**00 06 07.0**	**+4.2**
KMPI	**Kaimana, Papua**	**4.66**	**53**	P	**Pn**	**00 06 08.0**	**+0.3**
SIJI	**Sorong**	**5.71**	**13**	P	**Pn**	**00 06 20.9**	**-0.6**
	125nm,0.2s,baz=219,slow=19,SNR=49						
SIJI				S	**Sn**	**00 07 21.3**	**-5.5**
	546nm,0.2s,baz=234,slow=23,SNR=16						
SWI	**Sorong**	**5.72**	**13**	P	**Pn**	**00 06 21.0**	**-0.5**
SANI	**Sanana**	**5.91**	**318**	P	**Pn**	**00 06 26.1**	**+2.0**
SANI	**Sanana**	**5.91**	**318**	P	**Pn**	**00 06 26.4**	**+2.3**
	141nm,0.8s,2μm0.5nm						
LBMI	**Labuha**	**6.29**	**337**	P	**Pn**	**00 06 30.9**	**+1.8**
	488nm,0.8s,4μm1.8nm						
MTN	**Manton Dam**	**6.44**	**170**	Pn	**Pn**	**00 06 30.0**	**-1.1**
MTN				Sn	**Sn**	**00 07 39.4**	**-4.7**
MTN	**Manton Dam**	**6.44**	**170**	P	**Pn**	**00 06 29.9**	**-1.2**
RKPI	**Ransiki, Papua**	**6.48**	**41**	P	**Pn**	**00 06 32.7**	**+1.1**
	744nm,0.7s,17μm14nm						
SOEI	**Soe**	**6.51**	**240**	Pn	**Pn**	**00 06 29.8**	**-2.3**
SOEI	**Soe**	**6.51**	**240**	P	**Pn**	**00 06 32.3**	**+0.2**
SOEI	**Soe**	**6.51**	**240**	P	**Pn**	**00 06 32.6**	**+0.5**
	318nm,0.8s,4μm3.8nm						
KDU	**Kakadu**	**6.66**	**158**	P	**Pn**	**00 06 32.4**	**-1.6**
BATI	**Baumata**	**7.25**	**239**	P	**Pn**	**00 06 41.8**	**0.0**
	400nm,0.7s,5μm3.1nm						
BATI	**Baumata**	**7.25**	**239**	P	**Pn**	**00 06 42.3**	**+0.5**
	368nm,0.5s,baz=88,slow=1.3,SNR=75						
BATI				S	**Sn**	**00 07 59.3**	**-4.0**
	550nm,0.4s,baz=64,slow=20,SNR=19						
TNTI	**Ternate**	**7.64**	**340**	Pn	**Pn**	**00 06 44.5**	**-2.5**
MMRI	**Maumere**	**7.95**	**254**	Pn	**Pn**	**00 06 48.4**	**-2.7**
MMRI	**Maumere**	**7.95**	**254**	P	**Pn**	**00 06 53.0**	**+1.9**
MMRI	**Maumere**	**7.95**	**254**	P	**Pn**	**00 06 53.8**	**+2.7**
	130nm,0.8s,4μm0.5nm						
LUWI	**Luwuk**	**8.97**	**307**	Pn	**Pn**	**00 07 01.2**	**-3.4**
LUWI	**Luwuk**	**8.97**	**307**	P	**Pn**	**00 07 08.0**	**+3.4**
LUWI	**Luwuk**	**8.97**	**307**	P	**Pn**	**00 07 07.2**	**+2.6**
	61nm,0.8s						
KNRA	**Kununurra**	**9.23**	**187**		**Pn**	**00 07 05.8**	**-2.1**
KNRA	**Kununurra**	**9.23**	**187**	P	**Pn**	**00 07 06.1**	**-1.9**
SMPI	**Sarmi**	**9.80**	**63**	P	**Pn**	**00 07 17.0**	**+1.5**
BKSI	**Bulukumba**	**9.85**	**276**	P	**Pn**	**00 07 19.1**	**+2.9**
	35nm,0.6s,475nm						
BASI	**Baing, Sumba**	**10.00**	**247**	P	**Pn**	**00 07 17.8**	**-0.4**
	221nm,0.5s						
KAPI	**Kappang**	**10.25**	**278**	Pn	**Pn**	**00 07 18.4**	**-3.2**
KAPI	**Kappang**	**10.25**	**278**	P	**Pn**	**00 07 24.7**	**+3.2**
KAPI	**Kappang**	**10.25**	**278**	P	**Pn**	**00 07 23.5**	**+2.0**
	9.1nm,0.5s,baz=109,slow=23,SNR=5.1						
MRSI	**Marisa**	**10.56**	**310**	P	**Pn**	**00 07 27.9**	**+2.3**
	353nm,0.8s,3μm						
TTSI	**Tana Toraja**	**10.66**	**288**	P	**P**	**00 07 37.8**	**+2.7**
GENI	**Genyem**	**10.88**	**70**	P	**Pn**	**00 07 31.3**	**+1.5**
GENI	**Genyem**	**10.88**	**70**	P	**P**	**00 07 39.4**	**+1.8**
JAY	**Jayapura**	**11.41**	**70**	P	**Pn**	**00 07 37.8**	**+1.1**
	32nm,0.7s,16μm						
JAY	**Jayapura**	**11.41**	**70**	P	**Pn**	**00 07 35.8**	**-0.9**
	16nm,0.8s,baz=264,slow=6.0,SNR=4.6						
JAY				S	**Sn**	**00 09 36.8**	**-6.5**
	13nm,0.8s,baz=103,slow=2.8,SNR=0.6						
TOLI2	**Tolitoli**	**11.85**	**309**	Pn	**Pn**	**00 07 40.0**	**-2.4**
TOLI2	**Tolitoli**	**11.85**	**309**	P	**P**	**00 07 46.3**	**-2.3**
MPSI	**Mapaga**	**12.10**	**304**	P	**P**	**00 07 51.5**	**+0.2**
	45nm,1.1s						
PLAI	**Plampang**	**12.30**	**258**	P	**Pn**	**00 07 48.5**	**+0.4**
PLAI	**Plampang**	**12.30**	**258**	P	**Pn**	**00 07 49.0**	**+0.9**
	123nm,0.9s,2μm						
TWSI	**Taliwang, Sumb**	**13.15**	**259**	P	**Pn**	**00 08 00.0**	**+1.0**
	38nm,0.5s,1μm						
WB0	**Warramunga Arr**	**13.91**	**162**	Pn	**Pn**	**00 08 05.0**	**-3.5**
BKB	**Balikpapan**	**14.01**	**291**	Pn	**Pn**	**00 08 06.7**	**-3.2**
BKB	**Balikpapan**	**14.01**	**291**	P	**P**	**00 08 14.1**	**+1.5**
BKB	**Balikpapan**	**14.01**	**291**	P	**P**	**00 08 16.8**	**+4.2**
WRAB	**Tennant Creek**	**14.05**	**163**	Pn	**Pn**	**00 08 07.1**	**-3.2**
WRA	**Warramunga Arr**	**14.06**	**163**	Pn	**Pn**	**00 08 07.3**	**-3.1**
WRA	**Warramunga Arr**	**14.06**	**163**	P	**Pn**	**00 08 06.5**	**-3.9**
	45nm,0.8s,baz=342,slow=12,SNR=88						
WRA				S	Sn	00 10 33.8	-13
	35nm,0.4s,baz=340,slow=22,SNR=12						
WB2	**Warramunga Arr**	**14.06**	**163**	Pn	**Pn**	**00 08 07.4**	**-3.0**
WR0	**Warramunga Arr**	**14.13**	**162**		**Pn**	**00 08 09.2**	**-2.2**
SRBI	**Singaraja**	**14.71**	**263**	P	**P**	**00 08 19.5**	**-0.9**
	113nm,1.0s						
IGBI	**Denpasar**	**14.86**	**260**	P	**Pn**	**00 08 19.5**	**-1.0**
COEN	**Coen**	**14.98**	**121**	Pn	**Pn**	**00 08 22.5**	**+0.5**
COEN	**Coen**	**14.98**	**121**	P	**P**	**00 08 22.8**	**-0.6**
BBKI	**Banjar Baru**	**15.35**	**280**	P	**P**	**00 08 31.6**	**+4.2**
ABJI	**Asem Bagus**	**15.65**	**264**	P	**P**	**00 08 31.5**	**+0.7**
	130nm,0.9s						
JAGI	**Jajag, Banyuwa**	**15.79**	**262**	Pn	**Pn**	**00 08 28.6**	**-3.3**
JAGI	**Jajag, Banyuwa**	**15.79**	**262**	P	**Pn**	**00 08 32.0**	**+0.1**
JAGI	**Jajag, Banyuwa**	**15.79**	**262**	P	**Pn**	**00 08 31.1**	**-0.8**
	80nm,0.4s,2μm						
MYLDM	**Lahad Datu**	**16.27**	**315**		**P**	**00 08 34.8**	**-2.8**
BLJI	**Banyuglugur**	**16.28**	**265**	P	**Pn**	**00 08 39.0**	**+1.1**
	414nm,0.7s,3μm						
GMJI	**Gumukmas**	**16.47**	**263**	P	**Pn**	**00 08 41.2**	**+1.0**
	47nm,1.3s						
QIS	**Mount Isa**	**16.85**	**147**	P	**Pn**	**00 08 44.6**	**0.0**
PMG	**Port Moresby**	**17.29**	**101**	P	**Pn**	**00 08 49.9**	**0.0**
PMG	**Port Moresby**	**17.29**	**101**	P	**Pn**	**00 08 53.0**	**+3.1**
PMG	**Port Moresby**	**17.29**	**101**	P	**Pn**	**00 08 52.8**	**+2.9**
PMG	**Port Moresby**	**17.29**	**101**	P	**Pn**	**00 08 51.1**	**+1.1**
	79nm,1.0s,baz=300,slow=8.5,SNR=11						
PMG				S	**S**	**00 11 52.4**	**-8.1**
	9.9nm,0.4s,baz=33,slow=23,SNR=1.9						
PMG				LR	LR	00 16 16.3	
	comp=Z,94nm,18.8s,baz=270,slow=39						
AS31	**Alice Springs**	**17.52**	**168**	P	**P**	**00 08 51.5**	**+0.2**
ASAR	**Alice Springs**	**17.52**	**168**	P	**P**	**00 08 51.6**	**+0.3**
ASAR	**Alice Springs**	**17.52**	**168**	P	**Pn**	**00 08 52.4**	**-0.2**
	52nm,0.7s,baz=338,slow=9.5,SNR=420						
ASAR				S	**S**	**00 11 55.7**	**-9.4**
	13nm,0.9s,baz=350,slow=27,SNR=4.2						
MBWA	**Marble Bar**	**17.64**	**213**	P	**P**	**00 08 51.0**	**-1.6**
MBWA	**Marble Bar**	**17.64**	**213**	P	**Pn**	**00 08 53.5**	**-0.6**
PSA00	**Pilbara Seismi**	**17.92**	**212**		**P**	**00 08 54.9**	**-0.8**
PSA00	**Pilbara Seismi**	**17.92**	**212**	P	**P**	**00 08 56.5**	**+0.8**
	168nm,0.6s						
MTSU	**Mount Surprise**	**18.18**	**131**	P	**Pn**	**00 09 00.2**	**-0.3**
KKM	**Kota Kinabalu**	**18.51**	**312**	P	**P**	**00 08 57.1**	**-5.1**
WRKA	**Warakurna**	**18.53**	**185**	P	**Pn**	**00 09 03.9**	**-0.7**
WOJI	**Wonogiri, Jawa**	**18.93**	**265**	P	**P**	**00 09 04.9**	**-1.9**
	63nm,0.8s						
UGM	**Wanagama**	**19.33**	**265**	P	**P**	**00 09 11.4**	**+0.3**
	121nm,2.1s						
SMRI	**Semarang**	**19.39**	**267**	P	**P**	**00 09 09.8**	**-1.9**
SBUM	**Sibu**	**19.80**	**296**	P	**P**	**00 09 15.8**	**-0.4**
TV1H	**Townsville Har**	**20.74**	**129**	P	**P**	**00 09 27.7**	**+1.6**
	108nm,0.7s						
CTA	**Charters Tower**	**20.82**	**132**	P	**P**	**00 09 28.9**	**+1.8**
CTA	**Charters Tower**	**20.82**	**132**	P	**P**	**00 09 28.8**	**+1.7**
	80nm,0.8s,baz=312,slow=11,SNR=59						
CTA				S	**S**	**00 13 12.8**	**+2.5**
	2.1nm,0.4s,baz=21,slow=22,SNR=1.4						
	80nm,0.8s						
CTAO	**Charters Tower**	**20.82**	**132**	P	**P**	**00 09 28.4**	**+1.3**
CTAO	**Charters Tower**	**20.82**	**132**	P	**P**	**00 09 28.9**	**+1.8**
KSM	**Kuching**	**21.14**	**291**	P	**P**	**00 09 28.6**	**-1.9**
OOD	**Oodnadatta**	**21.90**	**166**	P	**P**	**00 09 38.3**	**0.0**
KRVT	**Keravat (AS076**	**22.08**	**86**	P	**P**	**00 09 40.5**	**+0.2**
	66nm,0.4s,baz=57,slow=1.5,SNR=5.0						
	66nm,0.4s						
BBJI	**Bungbulang**	**22.16**	**266**	P	**P**	**00 09 41.9**	**+0.7**
LEM	**Lembang**	**22.19**	**268**	P	**P**	**00 09 43.2**	**+1.7**
	117nm,0.9s						
LEM	**Lembang**	**22.19**	**268**	LR	LR	00 19 52.8	
	comp=Z,47nm,19.9s,baz=2.0,slow=40						
CNJI	**Cibinong**	**22.68**	**267**	P	**P**	**00 09 47.5**	**+1.6**
	266nm,1.1s,2μm						
INKA	**Innaminka**	**23.51**	**155**	P	**P**	**00 09 56.6**	**+3.3**
MULG	**Mulgathing**	**24.00**	**171**	P	**P**	**00 09 58.8**	**+1.0**
CGJI	**Cibinong**	**24.10**	**268**	P	**P**	**00 10 00.6**	**+1.7**
QLP	**Quilpie**	**24.19**	**147**	P	**P**	**00 10 01.5**	**+1.9**
FORT	**Forrest**	**24.25**	**184**	P	**P**	**00 09 59.6**	**-0.5**
FORT	**Forrest**	**24.25**	**184**	P	**P**	**00 10 01.7**	**+1.7**
	77nm,0.9s						
XMIS	**Christmas Isla**	**24.36**	**259**	P	**P**	**00 09 59.1**	**-2.2**
LCRK	**Leigh Creek**	**25.09**	**163**	P	**P**	**00 10 09.0**	**+1.4**
RK1H	**Rockhampton Ha**	**25.95**	**133**	P	**P**	**00 10 16.6**	**+1.1**
	46nm,0.7s						
RMQ	**Roma**	**26.78**	**140**	P	**P**	**00 10 24.6**	**+1.6**
BBOO	**Buckleboo**	**26.82**	**169**	P	**P**	**00 10 23.4**	**+0.2**
BBOO				IAmb	IAmb	00 10 24.2	
	comp=Z,34nm,0.7s						
BBOO	**Buckleboo**	**26.82**	**169**	P	**P**	**00 10 24.2**	**+1.0**
MYKOM	**Kota Tinggi**	**27.32**	**287**	P	**P**	**00 10 26.8**	**-1.1**
MYKOM				IAmb	IAmb	00 10 32.4	
	comp=Z,17nm,0.7s						
WHYH	**Whyalla**	**27.37**	**166**	P	**P**	**00 10 28.7**	**+0.7**
	comp=Z,39nm,0.8s						
STKA	**Stephens Creek**	**27.52**	**158**	P	**P**	**00 10 29.3**	**-0.2**
STKA				IAmb	IAmb	00 10 30.6	
	comp=Z,6.8nm,0.4s						
STKA	**Stephens Creek**	**27.52**	**158**	P	**P**	**00 10 30.2**	**+0.7**
STKA	**Stephens Creek**	**27.52**	**158**	P	**P**	**00 10 30.0**	**+0.6**
	comp=Z,22nm,0.3s,baz=334,slow=8.7,SNR=70						
	comp=Z,22nm,0.3s						
EIDS	**Eidsvold**	**27.59**	**135**	P	**P**	**00 10 29.5**	**-0.8**
EIDS	**Eidsvold**	**27.59**	**135**	P	**P**	**00 10 33.5**	**+3.3**
HTT	**Hallett**	**28.09**	**164**	P	**P**	**00 10 35.8**	**+1.2**
	comp=Z,26nm,0.7s						
AULRC	**Lightning Ridg**	**28.47**	**146**	P	**P**	**00 10 39.6**	**+1.7**
NWAO	**Narrogin (SRO)**	**28.86**	**203**	P	**P**	**00 10 42.2**	**+0.8**
	comp=Z,4.5nm,0.4s,baz=46,slow=9.3,SNR=8.2						
	comp=Z,4.5nm,0.4s						
CMSA	**Cobar Meteorol**	**28.96**	**151**	P	**P**	**00 10 43.6**	**+1.3**
HNR	**Honiara**	**29.84**	**98**	LR	LR	00 22 57.2	
	comp=Z,756nm,20.9s,baz=6.5,slow=36						
IPM	**Ipoh**	**30.86**	**290**	P	**P**	**00 10 58.4**	**-0.9**
AUDCS	**Dubbo College**	**30.99**	**148**	P	**P**	**00 11 01.7**	**+1.5**
ARMA	**Armidale**	**31.34**	**142**	P	**P**	**00 11 04.4**	**+1.1**
ARMA				IAmb	IAmb	00 11 06.0	
	comp=Z,15nm,0.8s						
KULM	**Kulim**	**31.50**	**291**	P	**P**	**00 11 03.2**	**-1.7**
KULM				IAmb	IAmb	00 11 05.4	
	comp=Z,13nm,0.7s						
NACB	**Ninganchiao**	**31.53**	**345**	P	**P**	**00 11 02.1**	**-2.7**
NACB				IAmb	IAmb	00 11 27.0	
	comp=Z,26nm,1.1s						
ARPS	**Mount Arapiles**	**32.06**	**162**	P	**P**	**00 11 11.6**	**+2.2**
RPSI	**Rantau Prapat**	**32.29**	**285**	P	**P**	**00 11 10.3**	**-1.5**
RPSI				IAmb	IAmb	00 11 15.3	
	comp=Z,24nm,0.8s						
PSI	**Prapat**	**32.32**	**286**	P	**P**	**00 11 14.6**	**+2.4**
YNG	**Young**	**32.52**	**151**	P	**P**	**00 11 15.4**	**+1.9**
MGCD	**Mangrove Creek**	**33.08**	**146**	P	**P**	**00 11 21.5**	**+3.1**
GSI	**Gunungsitoli**	**33.23**	**282**	P	**P**	**00 11 19.7**	**-0.3**
CAN	**Canberra**	**33.64**	**151**	P	**P**	**00 11 24.5**	**+1.3**
CAN	**Canberra**	**33.64**	**151**	P	**P**	**00 11 25.5**	**+2.2**
CAN	**Canberra**	**33.64**	**151**	P	**P**	**00 11 25.3**	**+2.0**
SRIT	**Nakonsritamara**	**33.76**	**296**	P	**P**	**00 11 23.6**	**-0.9**
SRIT				IAmb	IAmb	00 11 25.7	
	comp=Z,18nm,0.6s						
CNB	**Canberra Magne**	**33.81**	**151**	P	**P**	**00 11 26.4**	**+1.6**
TOO	**Toolangi**	**34.04**	**158**	P	**P**	**00 11 28.1**	**+1.5**
TOO				IAmb	IAmb	00 11 29.5	
	comp=Z,17nm,0.7s						
LHMI	**Lhok Sumawe**	**34.94**	**289**	P	**P**	**00 11 32.7**	**-2.0**
AULHS	**Lilydale High**	**37.91**	**159**	P	**P**	**00 12 01.0**	**+1.6**
NOUC	**Port Laguerre**	**38.36**	**118**	P	**P**	**00 12 04.7**	**+1.2**
DZM	**Mont Dzumac**	**38.48**	**118**	P	**P**	**00 12 04.5**	**-0.1**
DZM				IAmb	IAmb	00 12 06.4	
	comp=Z,14nm,0.9s						
DZM	**Mont Dzumac**	**38.48**	**118**	P	**P**	**00 12 05.6**	**+1.0**
	comp=Z,7.9nm,0.7s,baz=272,slow=5.8,SNR=9.3						
	comp=Z,7.9nm,0.7s						
DZM	**Mont Dzumac**	**38.48**	**118**	P	**P**	**00 12 05.5**	**+0.9**
LIFNC	**LIFOU**	**38.80**	**115**	P	**P**	**00 12 07.0**	**-0.3**
CM31	**Chiang Mai Arr**	**39.36**	**310**	P	**P**	**00 12 10.8**	**-1.1**
CM31				IAmb	IAmb	00 12 13.4	
	comp=Z,14nm,1.1s						
CMAR	**Chiang Mai Arr**	**39.36**	**310**	P	**P**	**00 12 11.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**39.36**	**310**	P	**P**	**00 12 13.1**	**+1.2**
	comp=Z,6.1nm,0.6s,baz=135,slow=7.1,SNR=39						
CMAR				ScP	**ScP**	**00 17 50.4**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=145,slow=3.3,SNR=6.2						
	comp=Z,6.1nm,0.6s						
CHTO	**Chiang Mai**	**39.57**	**310**	P	**P**	**00 12 12.2**	**-1.4**
WHN	**Wuhan**	**39.72**	**339**	P	**P**	**00 12 16.7**	**+2.0**
NJ2	**Nanjing**	**39.74**	**345**	*eP*	**P**	**00 12 17.4**	**+2.6**
NJ2				pP	**pP**	**00 12 51.8**	**+2.4**
NJ2				sP	**sP**	**00 13 06.9**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,220nm,4.9s						
KMI	**Kunming**	**41.08**	**321**	⇑P	**P**	**00 12 27.9**	**+1.7**
KMI				pmax	pmax		
	comp=Z,14nm,0.7s						
JSG	**Sagara**	**41.65**	**10**	P	**P**	**00 12 31.2**	**+0.8**
PZH	**PanZhiHua**	**42.69**	**321**	P	**P**	**00 12 40.4**	**+1.3**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,120nm,4.7s						
MJAR	**Matsushiro Arr**	**43.48**	**10**	pP	pP	00 13 20.6	-0.2
	comp=Z,1.0nm,0.3s,baz=194,slow=9.9,SNR=4.0						
KSRS	**Korea Array**	**43.73**	**358**	P	**P**	**00 12 47.5**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=147,slow=38,SNR=2.2						
	comp=Z,1.1nm,0.6s						
TNCH	**TengChong**	**43.77**	**317**	P	P	00 12 52.8	+4.9
TNCH				pP	pP	00 13 24.4	+1.3
TNCH				pmax	pmax		
	comp=Z,140nm,5.2s						
LYN	**LuoYang**	**44.02**	**339**	*eP*	**P**	**00 12 54.0**	**+4.6**
LYN				pmax	pmax		
	comp=Z,14nm,0.5s						
XAN	**Xi'an**	**44.94**	**335**	P	**P**	**00 12 56.9**	**+0.1**
XAN				pP	pP	00 13 31.1	-1.1
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
JMM	**Marumori**	**45.25**	**12**	P	**P**	**00 12 59.6**	**+0.5**
JMM				IAmb	IAmb	00 13 05.3	
	comp=Z,35nm,0.6s						
HNS	**HongShan**	**45.90**	**343**	⇓P	**P**	**00 13 05.4**	**+1.1**
HNS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SHL	**Shillong**	**48.81**	**312**	P	**P**	**00 13 26.3**	**-0.9**
SHL				IAmb	IAmb	00 13 29.9	
	comp=Z,14nm,1.0s						
LZH	**Lanzhou**	**48.92**	**332**	*eP*	**P**	**00 13 28.8**	**+1.0**
LZH				pP	pP	00 14 03.5	-0.2
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.03**	**342**	*eP*	**P**	**00 13 38.6**	**+2.6**
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,4.2s						
BTO	**Baotou**	**50.30**	**340**	*eP*	**P**	**00 13 35.4**	**-2.7**
BTO				PcP	**PcP**	**00 14 52.0**	**-2.5**
BTO				PP	**PP**	**00 15 33.1**	**-2.3**
BTO				S	**S**	**00 20 33.6**	**-4.5**
BTO				pmax	pmax		
	comp=Z,16nm,0.8s						
BTO				pmax	pmax		
	comp=Z,180nm,4.1s						
BTO				LR	LR		
	comp=Z,180nm,6.2s						
BTO				LR	LR		
	comp=Z,120nm,6.3s						
BTO				LR	LR		
	comp=Z,120nm,14.0s						
FOZ	**Fox Glacier**	**50.83**	**143**	P	**P**	**00 13 42.2**	**+0.2**
FOZ				IAmb	IAmb	00 14 12.9	
	comp=Z,73nm,1.7s						
MDJ	**Mudanjiang**	**50.85**	**360**	SS	SS	00 24 38.3	+16
MDJ				pmax	pmax		
	comp=Z,14nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,140nm,5.2s						
INZ	**Inchbonnie**	**51.38**	**141**	P	**P**	**00 13 47.2**	**+1.2**
INZ				IAmb	IAmb	00 13 48.8	
	comp=Z,14nm,0.9s						
TKNZ	**Takaka Hill**	**51.47**	**139**	P	**P**	**00 13 47.0**	**+0.2**
XLT	**XiLinHaoTe**	**51.68**	**347**	*eP*	**P**	**00 13 52.7**	**+4.4**
XLT				pmax	pmax		
	comp=Z,11nm,0.9s						
XLT				pmax	pmax		
	comp=Z,130nm,4.1s						
RPZ	**Rata Peaks**	**51.68**	**143**	P	**P**	**00 13 50.1**	**+1.8**
LSA	**Lhasa**	**51.78**	**316**	P	**P**	**00 13 51.3**	**+1.5**
LSA				pmax	pmax		
	comp=Z,22nm,0.7s						
LSA	**Lhasa**	**51.78**	**316**	P	**P**	**00 13 51.3**	**+1.5**
LSA				IAmb	IAmb	00 13 52.3	
	comp=Z,14nm,0.8s						
LSA	**Lhasa**	**51.78**	**316**	P	**P**	**00 13 51.7**	**+1.9**
THZ	**Tophouse**	**51.80**	**140**	P	**P**	**00 13 50.3**	**+1.0**
THZ				IAmb	IAmb	00 15 39.5	
	comp=Z,54nm,1.7s						
NNZ	**Nelson**	**51.84**	**139**	P	**P**	**00 13 50.7**	**+1.2**
NNZ				IAmb	IAmb	00 15 44.6	
	comp=Z,78nm,1.8s						
TUWZ	**Tuamarina**	**52.31**	**139**	P	**P**	**00 13 53.2**	**+0.2**
TCW	**Tory Channel**	**52.42**	**138**	P	**P**	**00 13 54.3**	**+0.5**
GVZ	**Greta Valley S**	**52.50**	**141**	P	**P**	**00 13 55.7**	**+1.4**
KHZ	**Kahutara**	**52.54**	**140**	P	**P**	**00 13 55.5**	**+0.9**
KHZ				IAmb	IAmb	00 15 31.1	
	comp=Z,62nm,1.4s						
MQZ	**McQueen's Vall**	**52.65**	**142**	P	**P**	**00 13 56.7**	**+1.3**
SNZO	**South Karori**	**52.75**	**138**	P	**P**	**00 13 56.8**	**+0.5**
TAPN	**Taplejung**	**52.90**	**311**	*eP*	**P**	**00 13 58.3**	**+0.4**
	comp=Z,27nm,0.4s						
BHW	**Baring Head**	**52.91**	**138**	P	**P**	**00 13 57.3**	**0.0**
BKZ	**Black Stump Fm**	**53.00**	**135**	P	**P**	**00 13 58.9**	**+0.7**
BKZ				IAmb	IAmb	00 13 59.7	
	comp=Z,14nm,0.8s						
MRZ	**Mangatainoka R**	**53.03**	**137**	P	**P**	**00 13 58.8**	**+0.5**
MRZ				IAmb	IAmb	00 15 33.0	
	comp=Z,60nm,1.7s						
RTZ	**Ruatahuna**	**53.12**	**134**	P	**P**	**00 13 60.0**	**+0.9**
RTZ				IAmb	IAmb	00 15 31.9	
	comp=Z,18nm,1.4s						
PLWZ	**Palliser**	**53.24**	**138**	P	**P**	**00 13 59.7**	**-0.1**
RAMN	**Ramite**	**53.52**	**310**	*eP*	**P**	**00 14 03.5**	**+1.1**
	comp=Z,75nm,0.6s						
JIRN	**Jiri**	**54.20**	**311**	*eP*	**P**	**00 14 08.0**	**+0.5**
	comp=Z,8.2nm,0.2s						
GUN	**Gumba**	**54.57**	**311**	*eP*	**P**	**00 14 10.6**	**+0.5**
	comp=Z,55nm,0.7s						
PKI	**Pulchoki**	**54.75**	**310**	*eP*	**P**	**00 14 11.6**	**+0.3**
	comp=Z,19nm,0.6s						
PKIN	**Phulchoki**	**54.76**	**310**	*eP*	**P**	**00 14 11.6**	**+0.2**
GKN	**Gorkha**	**55.56**	**310**	*eP*	**P**	**00 14 17.5**	**+0.6**
	comp=Z,46nm,0.3s						
DANN	**Dangsing**	**56.40**	**310**	*eP*	**P**	**00 14 23.3**	**+0.2**
	comp=Z,10nm,0.4s						
PYUN	**Piuthan**	**56.86**	**310**	*eP*	**P**	**00 14 26.9**	**+0.7**
ULN	**Ulaanbaatar**	**57.75**	**342**	P	**P**	**00 14 32.8**	**+0.8**
ULN				IAmb	IAmb	00 14 34.8	
	comp=Z,6.7nm,0.8s						
ULN	**Ulaanbaatar**	**57.75**	**342**	P	**P**	**00 14 33.8**	**+1.9**
ULN				pP	**pP**	**00 15 11.6**	**+2.4**
SONM	**Songino Array**	**57.92**	**341**	P	**P**	**00 14 34.4**	**+1.2**
SONM	**Songino Array**	**57.92**	**341**	P	**P**	**00 14 34.6**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=157,slow=6.8,SNR=8.6						
	comp=Z,1.4nm,0.6s						
DRV	**Dumont d'Urvil**	**60.50**	**175**	P	**P**	**00 14 51.2

HOQ	**Hoqain**	**76.85 296**	P	**P**		**00 16 33.9 +1.4**
KHLH	**Kahului Airpor**	**77.15 67**	P	**P**		**00 16 35.5 +1.3**
SHAO	**Shalim**	**77.23 290**	P	**P**		**00 16 35.8 +1.2**
KHLU	**Kahalu`u**	**77.38 68**	P	**P**		**00 16 36.4 +0.9**
BVAR	**Borovoye Array**	**77.59 328**	P	**P**		**00 16 37.1 +1.2**
	comp=Z,3.5nm,0.6s,baz=126,slow=7.5,SNR=26					
BVAR			pP	**pP**		**00 17 16.4 +0.9**
	comp=Z,0.3nm,0.4s,baz=119,slow=5.1,SNR=1.5					
	comp=Z,3.5nm,0.6s					
BRVK	**Borovoye**	**77.66 328**	P	**P**		**00 16 36.6 +0.3**
SOHO	**SOHO**	**77.67 296**	P	**P**		**00 16 38.0 +1.1**
SOHO	**SOHO**	**77.67 296**	P	**P**		**00 16 38.3 +1.3**
DMTO	**DMTO**	**77.81 290**	P	**P**		**00 16 38.9 +1.1**
WRMHI	**West Rim**	**77.89 69**	P	**P**		**00 16 38.4 0.0**
KKO	**Keanakako`i**	**77.92 69**	P	**P**		**00 16 39.0 +0.4**
UOSS	**Minazif**	**78.14 297**	P	**P**		**00 16 38.3 -1.3**
UOSS	**Minazif**	**78.14 297**	P	**P**		**00 16 40.0 +0.4**
UOSS	**Minazif**	**78.14 297**	P	**P**		**00 16 40.4 +0.8**
HATD	**Hatta, Dubai**	**78.18 297**	P	**P**		**00 16 40.9 +1.1**
HATD	**Hatta, Dubai**	**78.18 297**	P	**P**		**00 16 41.0 +1.2**
ASHO	**Ashiyiah**	**78.21 297**	P	**P**		**00 16 41.1 +1.0**
ASHO	**Ashiyiah**	**78.21 297**	P	**P**		**00 16 41.4 +1.4**
MSFE	**Esma-Masafi**	**78.27 297**	P	**P**		**00 16 42.1 +1.7**
MASF	**Masafi**	**78.28 297**	P	**P**		**00 16 42.6 +2.2**
ALNE	**Al Ain**	**78.35 296**	P	**P**		**00 16 42.0 +1.2**
ALNE	**Al Ain**	**78.35 296**	P	**P**		**00 16 41.3 +0.5**
SHME	**Shamm**	**78.44 298**	P	**P**		**00 16 42.8 +1.6**
SHME	**Shamm**	**78.44 298**	P	**P**		**00 16 43.1 +1.9**
RBK	**Rabkut**	**78.47 289**	P	**P**		**00 16 42.7 +1.2**
NAZ	**Nazwa, Dubai**	**78.63 297**	P	**P**		**00 16 43.9 +1.6**
FAQ	**Al Faqa, Dubai**	**78.64 297**	P	**P**		**00 16 43.6 +1.3**
FAQ	**Al Faqa, Dubai**	**78.64 297**	P	**P**		**00 16 43.7 +1.3**
DOK	**Doka**	**78.74 290**	P	**P**		**00 16 43.8 +0.8**
	SNR=10					
ASUD	**Al Ashush, Dub**	**78.85 297**	P	**P**		**00 16 45.1 +1.6**
ASUD	**Al Ashush, Dub**	**78.85 297**	P	**P**		**00 16 45.2 +1.8**
WHFO	**Wadi Hawf**	**78.95 290**	P	**P**		**00 16 44.7 +0.5**
	SNR=26					
ABTO	**Aybut**	**79.29 289**	P	**P**		**00 16 47.3 +1.2**
GEYT	**Alibeck**	**79.84 310**	P	**P**		**00 16 49.5 +0.9**
GEYT	**Alibeck**	**79.84 310**	P	**P**		**00 16 50.2 +1.6**
	comp=Z,4.9nm,0.9s,baz=99,slow=9.2,SNR=8.8					
	comp=Z,4.9nm,0.9s					
GYA0B	**ALIBECK ARRAY**	**79.84 310**	P	**P**		**00 16 48.8 +0.1**
MZR	**Muzera**	**80.17 295**	P	**P**		**00 16 51.9 +1.2**
MZR	**Muzera**	**80.17 295**	P	**P**		**00 16 52.1 +1.4**
ABKAR	**Abkulak array**	**82.07 322**	P	**P**		**00 16 60.0 -0.1**
QSPA	**South Pole Qui**	**83.50 180**	P	**P**		**00 17 06.9 -0.5**
QSPA	**South Pole Qui**	**83.50 180**	P	**P**		**00 17 07.6 +0.2**
	comp=Z,4.4nm,0.7s,baz=298,slow=1.1,SNR=22					
	comp=Z,4.4nm,0.7s					
ARU	**Arti**	**85.23 328**	P	**P**		**00 17 15.6 -0.4**
ARU			pP	**pP**		**00 17 54.5 -1.6**
ARU			IAmb	IAmb		00 17 58.7
	comp=Z,17nm,1.5s					
ELIB	**Princess Elisa**	**88.98 197**	*d*P	**P**		**00 17 34.6 +0.6**
	comp=Z,2.2nm,0.7s					
KMBO	**Kilima Mbogo**	**92.56 269**	P	**P**		**00 17 53.0 +1.1**
	comp=Z,1.1nm,0.9s,baz=86,slow=9.1,SNR=2.9					
	comp=Z,1.1nm,0.9s					
ILAR	**Eielson Array**	**92.89 25**	P	**P**		**00 17 51.1 -0.9**
	comp=Z,0.4nm,0.6s,baz=271,slow=3.9,SNR=6.9					
	comp=Z,0.4nm,0.6s					
SNAA	**Sanae**	**96.17 194**	P	**P**		**00 18 07.0 -0.1**
	comp=Z,0.8nm,0.7s,baz=255,slow=0.7,SNR=5.7					
	comp=Z,0.8nm,0.7s					
TXAR	**Lajitas Array**	**124.69 59**	PKP	**PKiKP**		**00 23 39.3 0.0**
	comp=Z,0.1nm,0.4s,baz=264,slow=1.3,SNR=3.7					
TORD	**Torodi Ar. Bea**	**128.66 282**	PKP	**PKPdf**		**00 23 47.0 +0.2**
	comp=Z,0.4nm,0.6s,baz=119,slow=1.9,SNR=6.3					
TORD			SKPbc	SKPbc		00 26 50.8
	comp=Z,1.4nm,0.6s,baz=69,slow=3.9,SNR=8.9					
SCHQ	**Schefferville**	**129.92 13**	SKPbc	SKPab		00 26 55.1 +0.2
	comp=Z,7.8nm,0.8s,baz=27,slow=6.8,SNR=4.8					
DBIC	**Dimbokro**	**135.12 273**	SKPbc	**SKPbc**		**00 27 13.3 -1.1**
	comp=Z,4.3nm,0.6s,baz=124,slow=4.5,SNR=6.6					
CPUP	**Villa Florida**	**146.64 168**	PKPbc	**PKPab**		**00 24 22.3 -0.2**
	comp=Z,5.0nm,0.8s,baz=171,slow=3.8,SNR=10					
CPUP			SKPbc	**SKPbc**		**00 27 44.0 -0.4**
	comp=Z,3.4nm,1.1s,baz=149,slow=1.3,SNR=5.2					

DJA 10 00:14:52.9±0.4,8°S±6°×12°3E±°,h10km,M4.0/6,mb4.4/1, MLv3.8/6,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.35**	**246**	P	Pn	00 15 16.8	-1.0
MMRI				S	Sb	00 15 35.3	-0.3
SOEI	**Soe**	**1.84**	**155**	P	Pn	00 15 23.9	-0.8
BATI	**Baumata**	**2.12**	**175**	P	Pn	00 15 28.7	+0.2
BKSI	**Bulukumba**	**4.32**	**309**	P	Pn	00 15 58.2	-0.4
PLAI	**Plampang**	**5.69**	**262**	P	Pn	00 16 19.0	+1.4

*IDC **10** 00:27:15.4±0.6,2°.12N×97°.72E,h0km,mb4.2/20, mbtmp4.2/21,ML4.0/1,MS3.2/2,Error ellipse: s-maj=29.1km s-min=13.4km az=55.0*
*NEIC **10** 00:27:23.6±1.8,2°.16N±0°.04×97°.74E±0°.05,h57km±7km, mb4.4/27,Error ellipse: s-maj=8.3km s-min=4.1km az=53.0*
*DJA **10** 00:27:23.9±0.4,2°N±3°×9°8E±°,h58km±16km,M4.5/13, mb4.6/1,MLv4.4/13*
ISC 10 00:27:22.6±0.4,2°.15N±0°.04×97°.79E±0°.05,h50km,n89, σ1§26/81,mb4.3/37,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.86**	**195**	Pn	**Pn**	**00 27 39.9**	**+1.5**
GSI	**Gunungsitoli**	**0.86**	**195**	P	**Pn**	**00 27 40.0**	**+1.5**
RPSI	**Rantau Prapat**	**1.26**	**64**	Pn	**Pn**	**00 27 45.8**	**+2.1**
KCSI	**Kotacane, Aceh**	**1.37**	**359**	P	**Pn**	**00 27 46.9**	**+1.6**
KCSI				S	**Sn**	**00 28 05.0**	**+2.6**
SNSI	**Sinabang, Aceh**	**1.49**	**280**	P	**Pn**	**00 27 47.8**	**+0.9**
PBSI	**Pulau Batu**	**2.24**	**167**	P	**Pn**	**00 27 59.3**	**+2.1**
MLSI	**Meulaboh, Aceh**	**2.52**	**327**	P	**Pn**	**00 28 03.0**	**+1.9**
LHMI	**Lhok Sumawe**	**3.18**	**345**	Pn	**Pn**	**00 28 11.1**	**+1.0**
LHMI	**Lhok Sumawe**	**3.18**	**345**	P	**Pn**	**00 28 12.4**	**+2.3**
SISI	**Saibi**	**3.68**	**159**	P	**Pn**	**00 28 15.7**	**-1.3**
BKNI	**Bangkinang**	**3.71**	**119**	Pn	**Pn**	**00 28 18.4**	**+0.9**
BKNI	**Bangkinang**	**3.71**	**119**	P	**Pn**	**00 28 19.0**	**+1.5**
PDSI	**Padang**	**4.04**	**139**	P	**Pn**	**00 28 24.2**	**+2.2**
KULM	**Kulim**	**4.23**	**42**	Pn	**Pn**	**00 28 26.0**	**+1.4**
SDSI	**Sungai Dareh**	**4.75**	**130**	P	**Pn**	**00 28 33.7**	**+2.0**
MYKOM	**Kota Tinggi**	**6.06**	**93**	Pn	**Pn**	**00 28 49.8**	**+0.1**
SRIT	**Nakonsritamara**	**6.66**	**16**	Pn	**Pn**	**00 28 57.3**	**-0.6**
SRIT				Sn	**Sn**	**00 30 11.7**	**-0.8**
LEM	**Lembang**	**13.25**	**132**	LR	LR	00 35 35.8	
	comp=Z,115nm,19.8s,baz=332,slow=38						
SBUM	**Sibu**	**14.42**	**89**	P	**P**	**00 30 49.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.25**	**4**	Pn	**Pn**	**00 31 04.3**	**-3.3**
	0.2nm,0.3s,baz=191,slow=11,SNR=1.5						
	0.4nm,0.3s						
CHTO	**Chiang Mai**	**16.61**	**4**	P	**Pn**	**00 31 12.0**	**-0.1**
CRAI	**Chiangrai**	**18.15**	**8**	P	**P**	**00 31 30.0**	**-1.0**
KKM	**Kota Kinabalu**	**18.78**	**78**		**Pn**	**00 31 41.9**	**+3.0**
KKM				IAmb	IAmb	00 32 19.4	
	comp=Z,26nm,1.1s						
TNCH	**TengChong**	**22.76**	**2**	P	**P**	**00 32 21.3**	**+0.3**
TNCH				pP	pP	00 32 35.0	+2.3
TNCH				sP	sP	00 32 42.5	+3.5
TNCH				pmax	pmax		
	comp=Z,39nm,0.6s						
KAPI	**Kappang**	**23.06**	**108**	LR	LR	00 41 11.0	
	comp=Z,48nm,19.5s,baz=286,slow=36						
HYB	**Hyderabad**	**24.24**	**310**	*e*P	**P**	**00 32 37.4**	**+2.3**
PZH	**PanZhiHua**	**24.52**	**9**	P	P	00 32 28.3	-9.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,80nm,4.7s						
H08S2	**Diego Garcia H**	**27.05**	**249**	T	T	01 00 24.5	
	baz=70,slow=76,SNR=40						
H08S3	**Diego Garcia H**	**27.05**	**249**	T	T	01 00 24.5	
	baz=70,slow=76,SNR=28						
H08S1	**Diego Carcia H**	**27.07**	**249**	T	T	01 00 24.7	
	baz=70,slow=76,SNR=35						
MORW	**Morawa**	**35.62**	**152**	P	**P**	**00 34 17.3**	**+1.6**
HHC	**Hu-ho-hao-te**	**40.49**	**16**	*e*P	**P**	**00 34 58.2**	**+1.5**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,99nm,5.8s						

WB0	**Warramunga Arr**	**42.01 123**	P	**P**		**00 35 08.9**	**-0.5**
WB0			IAmb	IAmb		00 35 09.5	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**42.04 123**	P	**P**		**00 35 09.3**	**-0.4**
WRA	**Warramunga Arr**	**42.04 123**	P	**P**		**00 35 09.1**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=302,slow=9.1,SNR=58						
WRA			PcP	**PcP**		**00 37 04.6**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=312,slow=2.6,SNR=1.5						
	comp=Z,2.6nm,0.5s						
WRAB	**Tennant Creek**	**42.05 123**	P	**P**		**00 35 09.6**	**-0.1**
WB2	**Warramunga Arr**	**42.05 123**	P	**P**		**00 35 09.5**	**-0.2**
WB2			IAmb	IAmb		00 35 10.5	
	comp=Z,6.5nm,0.9s						
KSH	**Kashi**	**42.17 335**	P	**P**		**00 35 10.6**	**+0.1**
KSH			pP	sP		00 35 28.2	-1.5
KSH			pmax	pmax			
	comp=Z,2.0nm,0.6s						
WR0	**Warramunga Arr**	**42.22 123**	P	**P**		**00 35 10.8**	**-0.3**
WR0			IAmb	IAmb		00 35 12.0	
	comp=Z,6.2nm,0.9s						
WMQ	**Urumqi**	**42.46 349**	*e*P	**P**		**00 35 13.7**	**+0.9**
AS31	**Alice Springs**	**43.50 128**	P	**P**		**00 35 20.1**	**-1.4**
AS31			IAmb	IAmb		00 35 21.6	
	comp=Z,1.4nm,0.4s						
ASAR	**Alice Springs**	**43.50 128**	P	**P**		**00 35 21.1**	**-0.3**
ASAR	**Alice Springs**	**43.50 128**	P	**P**		**00 35 20.9**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=298,slow=7.5,SNR=16						
ASAR			PcP	**PcP**		**00 37 09.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=298,slow=2.0,SNR=1.6						
	comp=Z,1.3nm,0.4s						
FORT	**Forrest**	**43.62 141**	P	**P**		**00 35 23.4**	**+1.2**
NRN	**Naryn**	**43.76 336**	P	**P**		**00 35 23.5**	**-0.2**
NRN			IAmb	IAmb		00 35 43.7	
	comp=Z,2.4nm,0.7s						
XLT	**XiLinHaoTe**	**44.64 19**	*e*P	**P**		**00 35 26.8**	**-3.5**
XLT			pmax	pmax			
	comp=Z,8.0nm,1.0s						
XLT			pmax	pmax			
	comp=Z,140nm,4.8s						
BOOM	**Boomskoye usch**	**44.68 337**	P	**P**		**00 35 32.0**	**+1.2**
BOOM			IAmb	IAmb		00 35 33.3	
	comp=Z,4.4nm,1.4s						
SONM	**Songino Array**	**46.12 8**	P	**P**		**00 35 42.9**	**+0.8**
SONM	**Songino Array**	**46.12 8**	P	**P**		**00 35 42.1**	**0.0**
	comp=Z,1.1nm,0.4s,baz=188,slow=10,SNR=9.4						
	comp=Z,1.1nm,0.4s						
MKAR	**Makanchi Array**	**46.48 345**	P	**P**		**00 35 44.6**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=157,slow=9.2,SNR=20						
	comp=Z,1.9nm,0.6s						
MAJO	**Matsushiro**	**50.60 43**	P	**P**		**00 36 15.0**	**-1.6**
MAJO			IAmb	IAmb		00 36 44.0	
	comp=Z,3.3nm,0.8s						
GEYT	**Alibeck**	**50.88 319**	P	**P**		**00 36 18.6**	**-0.1**
GEYT			IAmb	IAmb		00 36 36.6	
	comp=Z,4.4nm,0.7s						
GEYT	**Alibeck**	**50.88 319**	P	**P**		**00 36 19.8**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=126,slow=9.1,SNR=2.4						
	comp=Z,1.4nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**50.88 319**	P	**P**		**00 36 18.0**	**-0.7**
GYA0B			IAmb	IAmb		00 36 39.5	
	comp=Z,4.4nm,0.7s						
KURBB	**Kurchatov Arra**	**50.98 344**	P	**P**		**00 36 19.6**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=163,slow=7.0,SNR=23						
KURBB			PcP	**PcP**		**00 37 35.5**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=157,slow=2.9,SNR=4.3						
	comp=Z,2.3nm,0.6s						
KURK	**Kurchatov**	**51.04 344**	P	**P**		**00 36 18.8**	**-0.8**
KURK			IAmb	IAmb		00 36 20.9	
	comp=Z,4.3nm,0.9s						
ZAA0	**Zalesovo Array**	**52.73 350**	P	**P**		**00 36 31.7**	**-0.5**
ZALV	**Zalesovo Beam**	**52.73 350**	P	**P**		**00 36 31.7**	**-0.4**
ZALV	**Zalesovo Beam**	**52.73 350**	P	**P**		**00 36 32.3**	**+0.1**
	comp=Z,2.6nm,0.4s,baz=175,slow=6.9,SNR=17						
	comp=Z,2.6nm,0.4s						
STKA	**Stephens Creek**	**53.55 133**	P	**P**		**00 36 38.5**	**-0.2**
STKA	**Stephens Creek**	**53.55 133**	P	**P**		**00 36 38.9**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=298,slow=9.1,SNR=5.4						
	comp=Z,2.7nm,0.8s						
BVAR	**Borovoye Array**	**55.56 340**	P	**P**		**00 36 52.9**	**+0.1**
	comp=Z,6.5nm,0.6s,baz=144,slow=9.5,SNR=42						
	comp=Z,6.5nm,0.6s						
BRVK	**Borovoye**	**55.62 340**	P	**P**		**00 36 52.7**	**-0.6**
ABKAR	**Abkulak array**	**56.97 331**	P	**P**		**00 37 02.6**	**-0.3**
H04N2	**CROZET ISLANDS**	**62.88 214**	T	T		01 45 32.0	
	baz=52,slow=75,SNR=25						
H04N1	**CROZET ISLANDS**	**62.89 214**	T	T		01 45 33.6	
	baz=52,slow=75,SNR=27						
H04N3	**CROZET ISLANDS**	**62.90 214**	T	T		01 45 32.4	
	baz=52,slow=75,SNR=30						
H04S1	**CROZET ISLANDS**	**63.22 214**	T	T		01 45 56.7	
	baz=55						
H04S3	**CROZET ISLANDS**	**63.23 214**	T	T		01 45 58.6	
	baz=55						
H04S2	**CROZET ISLANDS**	**63.24 214**	T	T		01 45 56.4	
	baz=55						
KBZ	**Khabaz**	**63.76 319**	P	**P**		**00 37 49.1**	**-0.2**
	comp=Z,3.7nm,0.8s,baz=118,slow=8.2,SNR=9.3						
	comp=Z,3.7nm,0.8s						
MMAI	**Mount Meron Ar**	**65.84 305**	P	**P**		**00 38 03.3**	**0.0**
	comp=Z,1.0nm,0.4s,baz=82,slow=10,SNR=2.8						
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**68.92 312**	P	**P**		**00 38 20.8**	**-2.0**
	comp=Z,1.2nm,0.6s,baz=109,slow=6.8,SNR=4.6						
	comp=Z,1.2nm,0.6s						
AKASG	**Malin Array Be**	**74.88 322**	P	**P**		**00 38 56.9**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=85,slow=5.5,SNR=9.4						
	comp=Z,0.5nm,0.4s						
BOSA	**Boshof**	**75.76 240**	P	**P**		**00 39 03.9**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=120,slow=2.3,SNR=5.3						
	comp=Z,1.9nm,0.7s						
BURAR	**Bucovina Array**	**76.71 318**	P	**P**		**00 39 08.9**	**+0.2**
BURAR			IAmb	IAmb		00 39 10.9	
	comp=Z,3.5nm,0.9s						
BUR08	**Bucovina Ar. S**	**76.73 318**	P	**P**		**00 39 07.5**	**-1.3**
BUR08			IAmb	IAmb		00 39 11.1	
	comp=Z,6.8nm,1.3s						
FINES	**FINESS Array B**	**79.44 332**	P	**P**		**00 39 23.0**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=104,slow=5.7,SNR=29						
	comp=Z,2.6nm,0.4s						
BILL	**Bilibino**	**80.08 21**	P	**P**		**00 39 26.6**	**-0.1**
BSWZ	**Blackbirch Sta**	**81.07 133**	P	**P**		**00 39 30.2**	**-2.3**
ARCES	**ARCESS Array B**	**81.85 340**	P	**P**		**00 39 36.2**	**0.0**
ARCES	**ARCESS Array B**	**81.85 340**	P	**P**		**00 39 36.2**	**0.0**
	comp=Z,0.6nm,0.4s,baz=96,slow=5.2,SNR=19						
	comp=Z,0.6nm,0.4s						
PRED	**Cave del Predi**	**84.47 316**	P	**P**		**00 39 48.7**	**-1.6**
PRED			IAmb	IAmb		00 39 50.1	
	comp=Z,3.1nm,0.9s						
GERES	**GERESS Array B**	**84.50 319**	P	**P**		**00 39 50.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=79,slow=5.1,SNR=2.8						
	comp=Z,0.5nm,0.6s						
SPITS	**Spitsbergen Ar**	**86.15 348**	P	**P**		**00 39 57.4**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=66,slow=7.0,SNR=0.9						
	comp=Z,3.7nm,0.9s						
NB2	**NORSAR Subarra**	**86.47 331**	P	**P**		**00 39 59.6**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=94,slow=4.8						
NOA	**NORSAR Array B**	**86.47 331**	P	**P**		**00 39 59.9**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=94,slow=4.8,SNR=6.4						
	comp=Z,1.5nm,0.8s						
QSPA	**South Pole Qui**	**92.08 180**	P	**P**		**00 40 27.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=267,slow=0.7,SNR=2.1						
	comp=Z,0.4nm,0.3s						
TXAR	**Lajitas Array**	**142.56 32**	PKhKP	PKPpre		00 46 46.6	
	comp=Z,0.1nm,0.6s,baz=204,slow=2.0,SNR=1.7						

*NEIC **10** 00:38:44.4±1.5,20°.04N±0°.08×121°.2E±0°.1,h10km±1km, mb4.4/17,Error ellipse: s-maj=16.5km s-min=13.9km az=108.0*
*IDC **10** 00:38:47.0±3.5,20°.00N×121°.42E,h22km±21km,mb3.8/8, mbtmp4.0/10,ML4.0/2,MS2.9/4,Error ellipse: s-maj=31.6km s-min=15.9km az=67.0*
ISC 10 00:38:44.1±0.6,19°.98N±0°.07×121°.3E±0°.1,h10km,n47, σ1§28/47,mb4.3/17,MS3.2/3,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.83**	**356**	P	**Pn**	**00 39 28.9**	**-0.5**
TWG	**Pinlang**	**2.84**	**356**		**Pn**	**00 39 28.1**	**-1.3**
TPUB	**Ta-pu**	**3.36**	**350**		**Pn**	**00 39 35.8**	**-1.0**
TPUB	**Ta-pu**	**3.36**	**350**	P	**Pn**	**00 39 36.3**	**-0.4**
YULB	**Yu-li**	**3.40**	**0**		**Pn**	**00 39 37.3**	**+0.1**
YULB	**Yu-li**	**3.40**	**0**	P	**Pn**	**00 39 39.0**	**+1.8**
SSLB	**Suanglung**	**3.80**	**355**		**Pn**	**00 39 42.5**	**-0.3**
SSLB	**Suanglung**	**3.80**	**355**	P	**Pn**	**00 39 43.6**	**+0.8**
NACB	**Ninganchiao**	**4.19**	**4**		**Pn**	**00 39 47.3**	**-0.7**
NACB	**Ninganchiao**	**4.19**	**4**	P	**Pn**	**00 39 49.3**	**+1.3**
YHNB	**Yeheng**	**4.67**	**1**		**Pn**	**00 39 55.6**	**+0.8**
YHNB	**Yeheng**	**4.67**	**1**	P	**Pn**	**00 39 55.7**	**+1.0**
YOJ	**Yonaguni jima**	**4.74**	**19**	Pn	**Pn**	**00 39 56.2**	**+0.6**
KNMB	**Chin-men Tao**	**5.21**	**330**	Pn	**Pn**	**00 40 01.1**	**-0.9**
JOW	**Kunigami**	**9.37**	**42**	Pn	**Pn**	**00 40 59.7**	**+0.6**
JOW	**Kunigami**	**9.37**	**42**	Pn	**Pn**	**00 40 59.5**	**+0.3**
	5.5nm,0.3s,baz=181,slow=21,SNR=6.6						
	12nm,0.3s						
JNU	**Nakatsue**	**15.64**	**31**	LR	LR	00 48 47.0	
	comp=Z,27nm,18.1s,baz=227,slow=39						
KSRS	**Korea Array**	**18.35**	**17**	P	**Pn**	**00 42 58.1**	**-0.5**
	0.2nm,0.3s,baz=201,slow=9.9,SNR=2.7						
	1.0nm,0.5s						
LUWI	**Luwuk**	**20.94**	**176**	P	**P**	**00 43 26.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**21.15**	**270**	P	**P**	**00 43 32.3**	**+2.8**
	1.0nm,0.3s,baz=81,slow=12,SNR=4.7						
CMAR				LR	LR	00 51 49.7	
	comp=Z,9.7nm,18.0s,baz=305,slow=37						
	1.0nm,0.3s						
JMM	**Marumori**	**24.60**	**39**	P	**P**	**00 44 01.7**	**-2.7**
KULM	**Kulim**	**24.82**	**237**	P	**P**	**00 44 05.9**	**-0.7**
KULM				IAmb	IAmb	00 44 09.4	
	comp=Z,14nm,1.3s						
KAPI	**Kappang**	**24.88**	**184**	P	**P**	**00 44 08.3**	**+1.2**
KAPI				IAmb	IAmb	00 44 12.1	
	comp=Z,6.8nm,0.8s						
SONM	**Songino Array**	**30.30**	**340**	P	**P**	**00 44 57.6**	**+1.9**
SONM	**Songino Array**	**30.30**	**340**	P	**P**	**00 44 58.9**	**+3.3**
	comp=Z,0.4nm,0.4s,baz=160,slow=11,SNR=4.2						
SONM				LR	LR	00 58 01.0	
	comp=Z,47nm,18.9s,baz=94,slow=38						
	comp=Z,0.4nm,0.4s						
KNRA	**Kununurra**	**36.19**	**168**	P	**P**	**00 45 47.8**	**+0.8**
PSA00	**Pilbara Seismi**	**41.32**	**182**	P	**P**	**00 46 30.9**	**+0.8**
MKAR	**Makanchi Array**	**41.49**	**319**	P	**P**	**00 46 30.0**	**-1.3**
MKAR	**Makanchi Array**	**41.49**	**319**	P	**P**	**00 46 33.1**	**+1.8**
	comp=Z,1.3nm,0.5s,baz=107,slow=9.3,SNR=14						
	comp=Z,1.3nm,0.5s						
WB0	**Warramunga Arr**	**41.53**	**161**	P	**P**	**00 46 32.1**	**+0.2**
WB0				IAmb	IAmb	00 46 32.8	
	comp=Z,3.2nm,0.6s						
WRAB	**Tennant Creek**	**41.68**	**161**	P	**P**	**00 46 33.5**	**+0.5**
WRAB				IAmb	IAmb	00 46 34.2	
	comp=Z,3.5nm,0.5s						
WRA	**Warramunga Arr**	**41.68**	**161**	P	**P**	**00 46 32.7**	**-0.5**
WRA	**Warramunga Arr**	**41.68**	**161**	P	**P**	**00 46 33.3**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=334,slow=10,SNR=60						
	comp=Z,2.2nm,0.5s						
WB2	**Warramunga Arr**	**41.69**	**161**	P	**P**	**00 46 33.5**	**+0.3**
WB2				IAmb	IAmb	00 46 34.2	
	comp=Z,4.2nm,0.7s						
WR0	**Warramunga Arr**	**41.76**	**161**	P	**P**	**00 46 34.0**	**+0.2**
WR0				IAmb	IAmb	00 46 41.7	
	comp=Z,12nm,1.4s						
GIRL	**Giralia**	**42.92**	**190**	P	**P**	**00 46 41.0**	**-2.1**
ZAA0	**Zalesovo Array**	**43.86**	**330**	P	**P**	**00 46 49.2**	**-1.2**
ZALV	**Zalesovo Beam**	**43.86**	**330**	P	**P**	**00 46 48.9**	**-1.6**
ZALV	**Zalesovo Beam**	**43.86**	**330**	P	**P**	**00 46 50.9**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=111,slow=7.5,SNR=8.8						
ZALV				ScP	**ScP**	**00 52 27.9**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=113,slow=3.7,SNR=2.0						
	comp=Z,1.8nm,0.8s						
AS31	**Alice Springs**	**45.09**	**164**	P	**P**	**00 47 01.7**	**+1.1**
AS31				IAmb	IAmb	00 47 02.6	
	comp=Z,1.7nm,0.4s						
ASAR	**Alice Springs**	**45.09**	**164**	P	**P**	**00 47 00.6**	**0.0**
ASAR	**Alice Springs**	**45.09**	**164**	P	**P**	**00 47 02.2**	**+1.6**
	comp=Z,2.3nm,0.

CBZL	Buffer Zone	0.39 354		Pb	00 53 26.6	0.0	
JBMM	Black Mountain	0.39 272		Pg	00 53 26.0	+0.1	
HFEM	San Felipe	0.39 146		Pg	00 53 26.1	+0.2	
CSU1	Sunol Dilatome	0.40 327		Pb	00 53 26.2	-0.6	
HPCM	Pacheco Lake	0.40 128		Pb	00 53 26.3	-0.5	
JELB	Ellicott, Sant	0.40 199		Pb	00 53 26.9	+0.1	
C062	Calle Reynoso	0.41 333		Pb	00 53 27.1	+0.2	
OCR	O'Connell Ranc	0.41 162		Pn	00 53 28.2	-1.2	
JSFB	Stanford Teles	0.41 283		Pg	00 53 26.5	+0.1	
JFP	Foothills Park	0.42 277		Pg	00 53 26.6	+0.1	
C006	Lk Pillsbury D	0.42 313		Pb	00 53 26.7	-0.4	
HCOM	Corn Cob Canyo	0.42 184		Pb	00 53 27.2	0.0	
CYD1	Coyote D'meter	0.42 307		Pg	00 53 26.4	-0.2	
ANZ	Anzar Road	0.43 172		Pb	00 53 27.3	0.0	
PACP	Pacheco Peak	0.43 134		Pb	00 53 26.9	-0.4	
SLD	San Luis Dam	0.43 123		Pb	00 53 26.8	-0.5	
JRSC	Jasper Ridge	0.46 282		Pg	00 53 27.1	-0.2	
HBTM	San Juan Bauti	0.47 168		Pb	00 53 28.2	+0.3	
HTUM	Tustin Road	0.48 178		Pb	00 53 28.1	-0.1	
C056	Diablo Avenue	0.49 312		Pb	00 53 28.1	-0.2	
SCKWR	San Luis Creek	0.49 104		Pb	00 53 28.7	+0.3	
C055	Cottonwood Ave	0.49 315	Pg	Pb	00 53 28.0	-0.4	
C055			Sg	Sb	00 53 34.8	-0.7	
C021	Meadowview Dri	0.50 321		Pb	00 53 28.3	-0.1	
C045	Hawkins Drive	0.50 332		Pb	00 53 29.1	+0.6	
CBSNC	Byron Hot Spri	0.51 2		Pb	00 53 29.1	+0.4	
HERM	Elkhorn Road	0.51 184		Pb	00 53 28.6	0.0	
HLTM	Lone Tree Road	0.51 146		Pg	00 53 28.2	+0.1	
CMOB	Morgan Territo	0.51 348		Pb	00 53 29.3	+0.5	
HSFM	Saint Francis	0.51 165		Pg	00 53 28.2	0.0	
HJGM	San Juan Grade	0.51 171		Pb	00 53 28.8	+0.1	
C071	Via Corta San	0.53 315		Pb	00 53 28.4	-0.5	
CLCB	Lake Chabot	0.53 324		Pb	00 53 28.9	-0.2	
BGH	Bear Gulch	0.54 274		Pb	00 53 28.8	-0.4	
C029	Evergreen Cour	0.54 334		Pn	00 53 29.8	-1.4	
C070	Dillo Street S	0.54 317		Pb	00 53 28.9	-0.3	
C027	Lawnview Circl	0.54 333		Pn	00 53 29.9	-1.3	
CSLM	San Leandro Hi	0.55 319		Pb	00 53 29.0	-0.3	
JPSM		0.55 259		Pb	00 53 29.0	-0.4	
FRP	Fremont Peak	0.57 165		Pb	00 53 29.9	+0.1	
SAO	San Andreas Ge	0.57 162		Pb	00 53 30.1	+0.4	
SAO			Sg	Sb	00 53 37.5	-0.2	
JCPM	Coyote Point	0.59 299		Pg	00 53 29.3	-0.3	
C047	Rutherford Dri	0.59 332		Pb	00 53 30.5	+0.4	
BGC	Bolinger Road	0.60 329		Pb	00 53 30.2	0.0	
JCHM	Cahill Ridge	0.60 291		Pg	00 53 29.5	-0.3	
C044	Maitland Drive	0.61 314		Pb	00 53 30.2	-0.2	
CMCM	Mills College	0.62 320		Pb	00 53 30.4	-0.2	
C051	Centre Court A	0.63 314		Pb	00 53 30.6	-0.1	
C058	Eastshore Driv	0.63 316		Pb	00 53 30.6	-0.1	
CRPB	Russellman Par	0.63 343		Pb	00 53 30.8	0.0	
C026	Kell Court Ala	0.64 332		Pn	00 53 31.5	-1.0	
C064	Brunell Drive	0.64 321		Pb	00 53 30.9	0.0	
BSRM	Salinas Radio	0.65 169		Pb	00 53 31.0	-0.1	
SAC	San Andreas	0.66 295		Pg	00 53 30.6	-0.2	
C013	Ascot Lane Oak	0.66 321		Pb	00 53 31.3	0.0	
C049	Pacific Avenue	0.67 314		Pb	00 53 31.1	-0.4	
C005	Mandana Bl Oak	0.68 318		Pb	00 53 31.3	-0.2	
JSBM	San Bruno Moun	0.69 303		Pg	00 53 30.8	-0.7	
C028	Eucalyptus Rd	0.71 320		Pb	00 53 32.0	-0.1	
JMGM	Milagra Ridge	0.72 297		Pg	00 53 31.6	-0.5	
BKS	Berkeley--Byer	0.72 322		Pb	00 53 32.1	-0.2	
CVPM	Vollmer Peak	0.72 323		Pb	00 53 32.6	+0.2	
CMSB	University of	0.73 321		Pb	00 53 32.4	0.0	
C033	Glashaus Lp Em	0.73 318		Pb	00 53 32.4	0.0	
VAK	Adit at Lawren	0.73 321		Pb	00 53 32.5	0.0	
BL67	Building 67, L	0.73 321		Pb	00 53 32.3	-0.2	
BL88	Building 88, L	0.73 321		Pb	00 53 32.6	+0.1	
BPCNC	Pine Canyon	0.73 177		Pn	00 53 32.6	+0.2	
HMOM	Monterey	0.73 196		Pb	00 53 32.4	-0.1	
BRK	Berkeley--Havi	0.73 320		Pb	00 53 32.3	-0.2	
C031	McGee Avenue B	0.73 319		Pb	00 53 32.5	0.0	
BJOM	Mount Johnson	0.74 157		Pb	00 53 32.7	+0.2	
SCZ	Santa Cruz	0.74 163		Pb	00 53 32.5	-0.1	
CYBM	Yerba Buena Is	0.74 313		Pg	00 53 32.2	-0.3	
C018	Christie Drive	0.76 332		Pg	00 53 33.0	+0.2	
C008	Spokane Avenue	0.77 320		Pg	00 53 32.9	-0.1	
CTAM	Taylor	0.77 339		Pg	00 53 33.2	+0.2	
C011	Colusa Avenue,	0.78 321		Pn	00 53 33.5	-0.9	
J061	Lakeshore Driv	0.78 303		Pb	00 53 32.8	-0.5	
BJCM	Johnson Can.	0.79 164		Pb	00 53 33.1	-0.3	
JPRM	Presidio of Sa	0.80 307		Pb	00 53 33.2	-0.5	
CPIM	Pinole Ridge	0.81 328		Pg	00 53 33.9	+0.2	
RFSB	Richmond Field	0.81 319		Pg	00 53 33.7	0.0	
CSPM	San Pablo Ridg	0.82 322		Pg	00 53 34.1	0.0	
BVL	Bear Valley	0.83 152		Pg	00 53 34.1	+0.1	
C024	33rd St Richmo	0.83 320		Pg	00 53 34.1	+0.1	
BAVM	Antelope Valle	0.84 142		Pg	00 53 34.2	0.0	
HMR	Hamilton Ranch	0.85 353		Pn	00 53 35.2	-0.2	
CPMM	Point Molate	0.87 318		Pg	00 53 34.5	-0.3	
BBGB	Big Mountain B	0.89 145		Pg	00 53 35.1	-0.1	
BBGB			Sn	Sn	00 53 50.2	+1.5	
BPRM	Ponciano Ridge	0.90 183		Pb	00 53 35.2	-0.2	
HAST	Hastings Reser	0.92 174		Pg	00 53 35.7	-0.1	
BSMM	Soledad Missio	0.94 168		Pb	00 53 35.9	-0.2	
BSGM	Shirttail Gulc	0.95 159		Pb	00 53 35.6	-0.7	
BCWM	Chews Ridge	1.00 175		Pb	00 53 36.7	-0.5	
LRV	Little Rabbit	1.02 149		Pb	00 53 37.4	-0.1	
SNT	Sears Point	1.07 325		Pb	00 53 37.6	-0.6	
BPOM	Post Ranch	1.08 184		Pb	00 53 37.5	-0.9	
FARB	Farallon Islan	1.13 291		Pn	00 53 37.7	-1.6	
BAPM	Anderson Peak	1.13 179		Pb	00 53 38.6	-0.7	
NOLM	Olema	1.15 310		Pn	00 53 37.8	-1.8	
NADM	Allendale	1.18 348		Pn	00 53 39.5	-0.4	
NBRB	Beebe Ranch Br	1.18 324		Pn	00 53 38.9	-1.1	
NAPC	Atlas Peak	1.22 338		Pn	00 53 39.6	-1.0	
CMB	Columbia Colle	1.25 54	Pn	Pb	00 53 41.0	-0.3	
CMB				Sg	00 53 58.3	-0.1	
CMB			IAML		00 53 59.1		
	comp=E,7μm,0.8s						
NPRM	Point Reyes	1.27 303		Pn	00 53 39.7	-1.6	
MCCM	Marconi Confer	1.27 311	Pn	Pn	00 53 39.6	-1.6	
MCCM			Sn	Sb	00 53 56.6	-1.2	
MCCM			IAML		00 54 04.0		
	comp=N,6μm,0.9s						
MCCM			IAML		00 54 04.4		
	comp=E,8μm,0.8s						
PCCM	Crazy Canyon	1.28 161		Pn	00 53 40.9	-0.5	
PMPB	Monarch Peak	1.29 147	Pn	Pn	00 53 41.3	-0.3	
PMPB				Sg	00 54 00.3	+0.5	
HULI	Fort Hunter Li	1.33 165		Pn	00 53 41.4	-0.7	
NTYM	Taylor	1.34 324		Pn	00 53 41.5	-0.7	
PJUM	Juniper Ridge	1.38 141		Pn	00 53 42.3	-0.5	
PAPM	Alder Peak	1.41 170		Pn	00 53 42.7	-0.6	
PPTM	Peach Tree Val	1.42 147		Pn	00 53 43.2	-0.1	
NBPM	Berryessa Peak	1.42 343		Pn	00 53 43.0	-0.3	
PDRM	Domengine Ranc	1.43 133		Pn	00 53 43.0	-0.3	
PSAM	San Ardo	1.43 154		Pn	00 53 43.2	-0.2	
PWMM	Westland Maint	1.46 126		Pn	00 53 44.0	+0.2	
NDHM	Dunnigan Hills	1.47 353		Pn	00 53 43.1	-0.9	
PSMM	Smith Mountain	1.51 145		Pn	00 53 44.3	-0.3	
NHSM	Mount Saint He	1.54 331		Pn	00 53 43.8	-1.3	
PHSB	Hesperia Broad	1.56 161		Pn	00 53 44.7	-0.6	
PHPM	Hope Ranch	1.58 147		Pn	00 53 45.0	-0.4	
NMTM	Middletown	1.62 338		Pn	00 53 44.8	-1.2	
PANM	San Antonio Re	1.64 158		Pn	00 53 45.3	-1.1	
PVCM	Vineyard Canyo	1.66 146		Pn	00 53 46.3	-0.4	
PPO	Portuguese Can	1.67 149		Pn	00 53 46.7	0.0	
PHCM	Hearst Castle	1.68 165		Pn	00 53 46.4	-0.5	
GCRM	Castle Rock Sp	1.68 331		Pn	00 53 45.8	-1.2	
MNRC	McLaughlin Min	1.68 339		Pn	00 53 46.4	-0.5	
GBGM	Boggs Mountain	1.70 332		Pn	00 53 46.4	-0.8	
GGPM	Geyser Peak	1.73 328		Pn	00 53 46.6	-1.0	
AFDM	Forest Hills D	1.73 18		Pn	00 53 47.5	-0.1	
AFDM			IAML		00 54 12.4		
	comp=E,2μm,0.5s						
GDXM	Geysers	1.74 330		Pn	00 53 46.7	-1.1	
GSSM	Skaggs Springs	1.75 323		Pn	00 53 47.3	-0.5	
PHFM	Heflinger Ranc	1.75 144		Pn	00 53 47.9	+0.1	
PWKM	Work Ranch	1.76 148		Pn	00 53 47.8	-0.2	
GSGM	Seigler Mounta	1.76 332		Pn	00 53 47.1	-0.8	
PKEM	Kettleman Hill	1.77 134		Pn	00 53 48.2	+0.1	
GHCM	House Creek	1.77 317		Pn	00 53 47.1	-1.0	
RAMR	Ramage Ranch	1.79 159		Pn	00 53 47.9	-0.5	
PHAM	Harlan Ranch	1.79 145		Pn	00 53 48.4	0.0	
GRTM	Round Top Moun	1.81 334		Pn	00 53 47.6	-1.1	
GHC	Gold Hill	1.81 144		Pn	00 53 48.5	-0.3	
GPMM	Pine Mountain	1.84 327		Pn	00 53 48.9	-0.3	
PKLM	Kerr Lake	1.87 145		Pn	00 53 49.4	-0.1	
BLDC	Black Mountain	1.87 161		Pn	00 53 49.4	-0.2	
KCC	Kaiser Creek	1.87 89		Pn	00 53 50.2	+0.6	
PMRM	Maxey Ranch	1.91 142		Pn	00 53 49.9	-0.1	
TCHL	Shandon	1.91 147		Pn	00 53 50.0	-0.1	
TCAS	Cass Winery, P	1.92 152		Pn	00 53 50.0	-0.2	
SUTB	Sutter Butte	1.92 357		Pn	00 53 48.9	-1.3	
ARDC	Alexander Ranc	1.92 163		Pn	00 53 49.5	-0.7	
TRAM	Private Proper	1.98 145		Pn	00 53 51.0	-0.1	
HOPS	Hopland Field	2.01 327		Pn	00 53 50.9	-0.6	
HOPS			IAML		00 54 35.0		
	comp=N,844nm,1.7s						
HOPS			IAML		00 54 35.4		
	comp=E,1μm,1.7s						
GHLM	Highland Sprin	2.03 329		Pn	00 53 50.7	-1.1	
TSCN	Private Proper	2.06 148		Pn	00 53 52.0	-0.1	
PTAM	Tassajara Cree	2.06 158		Pn	00 53 51.8	-0.4	
EMB	Emerald Bay	2.07 36		Pb	00 53 53.8	-1.7	
EMB			IAML		00 54 24.3		
	comp=E,3μm,0.6s						
VOG	Valley Oaks Go	2.08 118		Pn	00 53 52.5	+0.1	
VOG	Valley Oaks Go	2.08 118	P	Pn	00 53 52.5	+0.1	
	baz=299,SNR=24						
VOG			S	Sn	00 54 18.8	+0.7	
	baz=299						
MDPB	Devils Postpil	2.09 80		Pn	00 53 53.6	+0.9	
MDPB			IAML		00 54 23.8		
	comp=E,3μm,0.7s						
MRDM	Red Cones	2.10 81		Pb	00 53 54.3	-1.7	
MINS	Minaret Summit	2.10 80		Pb	00 53 54.3	-1.8	
LSDC	Los Osos Digit	2.11 161		Pn	00 53 52.6	-0.3	
GGUM	Gualala	2.12 318		Pn	00 53 51.9	-1.0	
MMPM	Mammoth Pass	2.12 81		Pb	00 53 54.6	-1.8	
MMSM	Mammoth Summit	2.12 80		Pb	00 53 54.7	-1.7	
EFD	Emergency Oper	2.12 159		Pn	00 53 52.4	-0.5	
MDCM	Deadman Creek	2.13 78		Pb	00 53 54.6	-1.9	
WAKR	Walker	2.13 55		Pn	00 53 54.1	+0.9	
MLIM	Lincoln Peak	2.13 80		Pb	00 53 56.0	-0.6	
MDYM	Dry Creek	2.14 80		Pb	00 53 55.3	-1.5	
TSCS	Shell Creek So	2.14 150		Pn	00 53 52.7	-0.6	
OMMB	Old Mammoth Mi	2.15 81		Pn	00 53 54.5	+1.0	
OMMB			IAML		00 54 24.2		
	comp=E,2μm,0.6s						
OMMB			IAML		00 54 24.3		
	comp=N,2μm,0.6s						
PBPM	Bitterwater Pu	2.15 143		Pn	00 53 53.4	0.0	
MMLB	Mammoth Lakes	2.17 80		Pb	00 53 55.6	-1.5	
DPD	Davis Peak	2.19 161		Pn	00 53 53.5	-0.4	
DCD	Diablo Creek	2.20 162		Pn	00 53 53.3	-0.6	
MEMM	East Mammoth H	2.20 80		Pb	00 53 56.0	-1.7	
MLCM	Laurel Creek C	2.21 81		Pb	00 53 56.2	-1.7	
MGPM	Gravel Pit	2.22 81		Pb	00 53 57.3	-0.8	
MCSM	Casa Diablo Ho	2.23 80		Pb	00 53 56.5	-1.6	
MCBM	Casa Benchmark	2.23 80		Pb	00 53 56.8	-1.4	
ORV	Oroville	2.25 3		Pn	00 53 54.3	-0.4	
MLAC	Mammoth, Mammo	2.28 81		Pb	00 53 58.1	-0.8	
MLAC	Mammoth, Mammo	2.28 81	Pb	Pb	00 53 58.2	-0.8	
	baz=263,SNR=121						
MLAC			Sb	Sg	00 54 29.0	-2.3	
	baz=263						
MCVM	Convict Lake	2.28 82		Pb	00 53 56.9	-2.1	
MDRNC	Doe Ridge	2.28 81		Pb	00 53 57.7	-1.3	
KPK	Kanaka Peak	2.29 7		Pn	00 53 55.6	+0.3	
DONR	Donner Summit	2.30 27		Pn	00 53 57.0	+1.3	
MPK	Martis Peak	2.37 33		Pn	00 53 57.3	+0.8	
SCHCA	Scheelite	2.38 88		Pb	00 53 58.5	-2.1	
SMMC	Simmler	2.41 145		Pn	00 53 56.7	-0.2	
SMMC	Simmler	2.41 145	P	Pn	00 53 56.5	-0.4	
	baz=326,SNR=39						
PNTR	Pine Nut	2.41 42		Pn	00 53 58.7	+1.5	
MGNR	McGee Canyon	2.42 77		Pb	00 54 00.0	-1.3	
BENR	Benton	2.50 80		Pn	00 54 00.0	+1.7	
CASR	Casa Diablo Mo	2.50 83		Pb	00 54 00.2	-2.5	
BHPR	Bishop	2.54 89		Pb	00 54 00.8	-2.6	
VES	Vestal, Richgr	2.54 124		Pn	00 53 58.4	-0.4	
VES	Vestal, Richgr	2.54 124	P	Pn	00 53 58.4	-0.4	
	baz=306,SNR=130						
VES			S	Sn	00 54 30.9	+1.5	
	baz=306						
YERR	Yerington	2.54 48		Pn	00 54 00.4	+1.5	
PMLM	Mount Lospe	2.56 160		Pn	00 53 58.5	-0.4	
GTC	Three Chop Rid	2.56 325		Pn	00 53 58.4	-0.6	
MCDM	Chidago Canyon	2.58 84		Pb	00 54 02.2	-1.9	
SPG2	Springville 2	2.58 114		Pn	00 53 59.3	0.0	
CRGC	Crocker Grade	2.59 142		Pn	00 54 00.1	+0.5	
BABR	Babbit Peak	2.60 28		Pn	00 54 01.4	+1.6	
LOY	Loyalton	2.60 25		Pn	00 54 01.1	+1.4	
PEAR	Peavine Mounta	2.66 30		Pn	00 54 01.7	+1.1	
MLNR	Milner Canyon	2.66 83		Pn	00 54 02.5	+1.9	
LHV	Little Huntoon	2.68 68		Pn	00 54 02.4	+1.8	
LHV			IAML		00 54 53.0		
	comp=N,2μm,1.1s						
TIN	Tinemaha, Big	2.76 94	Pb	Pb	00 54 04.8	-2.3	
	baz=276,SNR=112						
KCPM	Cahto Peak	2.81 328		Pn	00 54 01.9	-0.6	
KCPM			IAML		00 54 29.3		
	comp=E,343nm,0.8s						
PKM	Mcpherson Peak	2.84 148	P	Pn	00 54 02.7	-0.4	
	baz=329,SNR=15						
NVAR	Mina Array Bea	2.89 66		Pn	00 54 05.0	+1.2	
NVAR	Mina Array Bea	2.89 66	Pn	Pn	00 54 05.8	+2.1	
	comp=E,11nm,0.3s,baz=242,slow=15,SNR=246						
NVAR			Lg	Lg	00 54 45.9		
	comp=E,158nm,0.3s,baz=244,slow=27,SNR=3.6						
	comp=E,26nm,0.5s						
DSP	Deep Springs	2.95 88		Pn	00 54 05.8	+1.5	
DSP			IAML		00 54 54.9		
	comp=E,999nm,1.0s						
DSP			IAML		00 54 55.5		
	comp=N,686nm,1.0s						
BCW	Bitter Crk WRg	2.99 142		Pn	00 54 05.5	+0.6	
BCW			IAML		00 55 17.2		
	comp=E,1μm,0.8s						
BCW			IAML		00 55 17.6		
	comp=N,884nm,0.8s						
PAHR	Pah Rah Range	2.99 36		Pn	00 54 05.8	+0.7	
PAHR			IAML		00 54 56.0		
	comp=N,586nm,0.8s						
PAHR			IAML		00 54 59.6		
	comp=E,517nm,0.9s						
NV11	Mina Array Sit	3.00 67		Pn	00 54 05.7	+0.5	
NV11			IAML		00 54 57.1		
	comp=N,676nm,1.5s						
NV11			IAML		00 55 02.5		
	comp=E,514nm,1.4s						
CWC	Cottonwood Cre	3.00 106	P	Pn	00 54 06.1	+0.8	
	baz=288						
CWC			Sb	Sb	00 54 49.0	+1.1	
	baz=288						
ISA	Isabella, Lake	3.05 122		Pn	00 54 06.1	+0.3	
ISA			IAML		00 55 00.6		
	comp=E,700nm,0.7s						
ISA			IAML		00 55 04.1		
	comp=N,636nm,0.8s						
ISA	Isabella, Lake	3.05 122	P	Pn	00 54 06.0	+0.3	
	baz=304,SNR=179						
ARVC	Arvin	3.16 133	P	Pn	00 54 07.2	-0.1	
	baz=314,SNR=30						
ARVC			S	Sn	00 54 45.1	+0.3	
	baz=314						
SBC	Santa Barbara	3.27 150	P	Pn	00 54 08.9	+0.2	
	baz=332						
KVN	Kaiserville	3.31 57		Pn	00 54 10.6	+1.1	
KVN			IAML		00 55 07.0		
	comp=E,707nm,1.3s						
KVN			IAML		00 55 08.8		
	comp=N,798nm,1.1s						
KMRM	Mail Ridge	3.32 332		Pn	00 54 09.6	+0.1	
KMRM			IAML		00 55 42.7		
	comp=E,276nm,2.4s						
MZP	Montezuma Peak	3.43 82		Pn	00 54 12.6	+1.4	
MZP			IAML		00 55 13.7		
	comp=N,224nm,0.7s						
GRAC	Grapevine Rang	3.45 94		Pn	00 54 13.5	+2.2	
GRAC	Grapevine Rang	3.45 94	P	Pn	00 54 13.9	+2.6	
	baz=277,SNR=84						
GMN	Gold Mountain	3.52 89		Pn	00 54 13.8	+1.4	
GMN			IAML		00 55 12.7		
	comp=E,536nm,0.7s						
GMN			IAML		00 55 15.0		
	comp=N,829nm,0.8s						
MPMC	Manual Prospec	3.58 109	P	Pn	00 54 13.8	+0.6	
	baz=292,SNR=58						
OSI	Osito Audit: C	3.60 137	P	Pn	00 54 13.0	-0.3	
	baz=319						
OSI			S	Sn	00 54 57.1	+1.5	
	baz=319						
TPH	Tonopah	3.61 76		Pn	00 54 15.5	+1.9	
KMPM	Mount Pierce	3.65 329		Pn	00 54 13.4	-0.6	
CCAC	Calif City Air	3.65 125		Pn	00 54 14.7	+0.6	
CCAC			IAML		00 55 27.9		
	comp=E,721nm,1.1s						
CCAC			IAML		00 55 38.5		
	comp=N,867nm,1.2s						
SCZ2	Santa Cruz Isl	3.70 153	P	Pn	00 54 13.7	-0.9	
	baz=334						
PLTX	Planet X, Gerl	3.80 26		Pn	00 54 16.8	+0.7	
EDW2	Edwards Air Fo	3.84 128	P	Pn	00 54 16.1	-0.5	
	baz=310,SNR=37						
EDW2			S	Sn	00 55 02.1	+0.6	
	baz=310						
Q09A	Carvers	3.85 65		Pn	00 54 19.4	+2.4	
KHMM	Horse Mountain	3.91 336		Pn	00 54 18.4	+0.8	
WCT	Wildcat Mounta	4.07 96		Pn	00 54 21.7	+1.9	
WCT			IAML		00 55 27.1		
	comp=N,239nm,0.6s						
WCT			IAML		00 55 29.6		
	comp=E,285nm,0.7s						
QSM	Queen of Sheba	4.09 108		Pn	00 54 20.1	+0.1	
QSM			IAML		00 55 31.6		
	comp=N,239nm,1.0s						
QSM			IAML		00 55 43.6		
	comp=E,216nm,0.9s						
GWY	Greenwater Val	4.17 104		Pn	00 54 22.1	+0.8	
GWY			IAML		00 55 37.4		
	comp=N,215nm,0.9s						
GWY			IAML		00 55 42.7		
	comp=E,286nm,1.4s						
PASC	Pasadena Art C	4.22 137		Pn	00 54 21.8	0.0	
KRPM	Rodgers	4.26 335	Pn	Pn	00 54 22.1	-0.3	
KRPM			IAML		00 55 47.0		
	comp=N,123nm,1.6s						
KRPM			IAML		00 56 30.3		
	comp=E,109nm,1.7s						
TPNV	Topopah Spring	4.35 93		Pn	00 54 26.2	+2.5	
TPNV			IAML		00 55 43.9		
	comp=E,368nm,1.4s						
TPNV	Topopah Spring	4.35 93	P	Pn	00 54 24.5	+0.8	
	baz=276,SNR=52						
GSC	Goldstone, Bar	4.41 116		Pn	00 54 25.1	+0.7	
GSC			IAML		00 55 46.5		
	comp=E,264nm,0.7s						
GSC			IAML		00 55 51.3		
	comp=N,229nm,0.8s						
GSC	Goldstone, Bar	4.41 116	P	Pn	00 54 25.0	+0.5	
	baz=299,SNR=37						
SNCC	San Nicolas Is	4.41 156		Pn	00 54 23.9	-0.6	
SNCC	San Nicolas Is	4.41 156	P	Pn	00 54 23.8	-0.6	
	baz=337						
SNCC			S	Sn	00 55 15.7	+0.1	
	baz=337						
BFSC	Mount Baldy Ra	4.47 132	P	Pn	00 54 25.4	0.0	
	baz=314,SNR=16						
BFSC			S	Sn	00 55 17.7	+0.5	
	baz=314						
YBH	Yreka Blue Hor	4.49 350		Pn	00 54 26.9	+1.3	
YBH	Yreka Blue Hor	4.49 350	Pn	Pn	00 54 27.2	+1.6	
	comp=N,1.6nm,0.3s,baz=172,slow=7.2,SNR=24						
YBH			Sn	Sn	00 55 20.6	+3.0	
	comp=N,1.0nm,0.3s,baz=81,slow=22,SNR=1.6						
YBH			LR	LR	00 56 44.5		
	comp=N,127nm,20.7s,baz=167,slow=46						
	comp=N,9.3nm,0.7s						
RRX	Edison Barstow	4.50 121	P	Pn	00 54 25.4	-0.2	
	baz=304,SNR=11						
RRX			S	Sn	00 55 18.4	+0.8	
	baz=304						
KRMB	Red Mountain	4.55 338		Pn	00 54 27.6	+1.1	
CIS	Catalina Islan	4.72 145	P	Pn	00 54 27.6	-1.0	
	baz=327						
S11A	Rachel	4.72 84		Pn	00 54 31.1	+2.3	
KSXB	Camp Six Broad	4.83 340		Pn	00 54 30.1	-0.1	
R11B	Troy Canyon, C	4.93 76		Pn	00 54 34.1	+2.4	
R11B			IAML		00 56 06.8		
	comp=N,84nm,2.2s						
R11B	Troy Canyon, C	4.93 76	P	Pn	00 54 32.2	+0.5	
	baz=260,SNR=9.5						
L04D	Klamath Falls	4.93 354		Pn	00 54 32.9	+1.3	
HEC	Hector,Ludlow	4.98 118	P	Pn	00 54 32.3	0.0	
	baz=302,SNR=28						
TUQ	Turquoise Moun	5.00 110	P	Pn	00 54 33.1	+0.5	
	baz=294,SNR=6.0						
SCI2	San Clemente I	5.02 148	P	Pn	00 54 32.5	-0.3	
	baz=330						
L02F	Cave Junction	5.03 344		Pn	00 54 35.3	+2.4	
ELS	Elsinore Mount	5.03 135		Pn	00 54 33.5	+0.5	
MURC	Murrieta	5.20 134	P	Pn	00 54 35.5	+0.2	
	baz=317,SNR=9.0						
PRN	Pahroc Range	5.27 87		Pn	00 54 38.4	+2.0	
PRN			IAML		00 56 15.5		
	comp=N,220nm,0.8s						
PRN			IAML		00 56 25.7		
	comp=E,261nm,0.8s						
SHPR	Sheep Range	5.28 97		Pn	00 54 39.0	+2.6	
KBO	Bosley Butte	5.28 339	Pn

KNB	Kanab	7.07	90	Pn		Pn	00 55 01.0 -0.2
ESJX	Sierra Juarez	7.08	137			Pn	00 55 01.8 +0.4
H04D	Lebanon	7.25	354	Pn		Pn	00 55 06.0 +2.5
H04A	Detroit Lake	7.38	357	Pn		Pn	00 55 10.0 +4.8
TCRU	Three Creeks R	7.40	77	Pn		Pn	00 55 10.3 +4.5
PKCU	Pink Cliffs	7.45	86	Pn		Pn	00 55 10.0 +3.5
DUG	Dugway, Tooele	7.50	65	Pn		Pn	00 55 10.0 +3.1
MFID	Camas Ranch	7.55	34	Pn		Pn	00 55 08.6 +0.9
MTPU	Mount Pierson	7.56	82			Pn	00 55 11.5 +3.5
U15A	North Rim	7.57	94	Pn		Pn	00 55 10.6 +2.6
MVU	Marysvale	7.57	78	Pn		Pn	00 55 11.9 +3.9
MSU	Marysvale	7.60	78	Pn		Pn	00 55 12.6 +4.2
BGU	Big Grassy Mou	7.62	59	Pn		Pn	00 55 10.5 +1.8
VTX	Valle De La Tr	7.65	139	Pn		Pn	00 55 10.4 +1.4
113A	Mohawk Valley,	7.91	123	Pn		Pn	00 55 13.3 +0.9
G05A	Wamic	7.93	2	Pn		Pn	00 55 12.9 +0.2
G06A	Carlson Farm,	7.96	5	Pn		Pn	00 55 14.6 +1.4
G03D	McMinnville, O	7.99	352	Pn		Pn	00 55 18.8 +5.3
HEBO	Mount Hebo	8.05	349	Pn		Pn	00 55 16.8 +2.3
G08A	Pilot Rock	8.23	13	Pn		Pn	00 55 18.2 +1.3
Q16A	Castle Valley	8.43	76	Pn		Pn	00 55 21.0 +1.2
TMUT	Trail Mountain	8.46	73	Pn		Pn	00 55 22.6 +2.3
WUAZ	Wupatki	8.49	99			Pn	00 55 22.2 +1.6
HMU	Henry Mountain	8.69	83	Pn		Pn	00 55 25.8 +2.3
X16A	Lo Mia Camp, P	8.79	106	Pn		Pn	00 55 24.9 +0.2
TCUT	Toone Canyon	8.82	61	Pn		Pn	00 55 26.1 +0.9
P17A	Butcher Ranch,	8.85	73	Pn		Pn	00 55 25.6 +0.1
X18A	Snowflake	9.90	103			Pn	00 55 40.9 +0.9
WISH	Wishkah	9.93	352	Pn		Pn	00 55 43.4 +3.4
NLWA	Neilton Lookou	10.21	352	Pn		Pn	00 55 45.7 +1.8
TUC	Tucson	10.24	116	Pn		Pn	00 55 45.1 +0.6
GNW	Green Mountain	10.29	356	Pn		Pn	00 55 43.9 -1.1
PD31	Pinedale Array	10.76	56	Pn		Pn	00 55 53.4 +1.6
PDAR	Pinedale Array	10.76	56	Pn		Pn	00 55 52.8 +1.0
PDAR	Pinedale Array	10.76	56	Pn		Pn	00 55 56.7 +4.9
	comp=E,0.1nm,0.3s,baz=226,slow=12,SNR=6.4						
PDAR				Lg	Lg		00 58 56.5
	comp=E,0.1nm,0.3s,baz=48,slow=18,SNR=3.8						
PDAR				LR	LR		00 59 55.5
	comp=E,120nm,18.8s,baz=248,slow=37						
	comp=E,0.5nm,0.6s						
O20A	White River Ci	10.86	71	Pn		Pn	00 55 53.6 +0.4
YHL	Hebgen Lake	10.92	43	Pn		Pn	00 55 53.3 -0.7
MSO	Missoula	11.11	29	Pn		Pn	00 55 57.0 +0.7
DUN6	Lazy B Ranch	11.36	111			Pn	00 55 59.4 -0.5
NEW	Newport	11.45	15	Pn		Pn	00 56 06.4 +5.5
	comp=E,0.2nm,0.3s,baz=195,slow=9.3,SNR=6.6						
NEW				LR		LR	01 00 15.2
	comp=E,156nm,21.7s,baz=200,slow=36						
	comp=E,2.2nm,0.6s						
CHMT	Chamberlain Mo	11.45	30	Pn		Pn	00 56 02.3 +1.2
ELMT	Elliston	11.46	34	Pn		Pn	00 56 01.6 +0.4
SMCO	Snowmass	11.71	76			Pn	00 56 05.3 +0.5
S22A	4UR Ranch, Cre	11.79	83			Pn	00 56 06.0 0.0
319A	Douglas	11.82	116			Pn	00 56 04.8 -1.4
ANMO	Albuquerque	12.52	96	Pn		Pn	00 56 13.9 -2.0
	comp=E,0.1nm,0.3s,baz=171,slow=12,SNR=2.1						
ANMO				Lg	Lg		00 59 47.5
	comp=E,0.1nm,0.3s,baz=35,slow=14,SNR=1.4						
ANMO				LR	LR		01 01 14.2
	comp=E,92nm,21.4s,baz=23,slow=38						
	comp=E,0.5nm,0.5s						
MNTX	Cornudas Mount	14.54	108			Pn	00 56 44.5 +1.2
RSSD	Black Hills	14.99	58	P		P	00 56 53.8 -1.1
425A	Indio Mountain	15.27	110			Pn	00 56 53.6 +0.4
425A				IAmb		IAmb	00 57 13.9
	comp=Z,15nm,1.4s						
MSTX	Muleshoe	15.72	97			Pn	00 56 56.5 -2.5
MSTX				IAmb		IAmb	00 57 12.3
	comp=Z,21nm,1.0s						
PECS	Pecos	15.85	107	Pn		Pn	00 56 59.6 -1.0
PECS				IAmb		IAmb	00 57 14.7
	comp=Z,7.5nm,1.1s						
ALPN	Alpine	16.49	110			Pn	00 57 07.3 -1.6
ALPN				IAmb		IAmb	00 57 20.0
	comp=Z,8.2nm,1.3s						
ODSA	Odessa	16.54	103	P		Pn	00 57 09.7 +0.1
ODSA				IAmb		IAmb	00 57 20.1
	comp=Z,36nm,1.3s						
EDM	Edmonton	16.94	17	Pn		Pn	00 57 14.4 0.0
EDM				IAmb		IAmb	00 57 27.8
	comp=Z,27nm,0.8s						
DGMT	Dagmar	16.94	43	Pn		P	00 57 15.3 -1.0
DGMT				IAmb		IAmb	00 57 20.4
	comp=Z,10nm,1.0s						
TX31	Lajitas Ar. Si	17.00	113			Pn	00 57 15.8 +0.4
TX31				IAmb		IAmb	00 57 25.0
	comp=Z,22nm,1.1s						
TX32	Lajitas Array	17.00	113			Pn	00 57 15.8 +0.4
TXAR	Lajitas Array	17.00	113	P		P	00 57 16.6 -0.6
TXAR	Lajitas Array	17.00	113	Pn		P	00 57 17.8 +0.6
	comp=Z,0.1nm,0.3s,baz=288,slow=12,SNR=17						
TXAR				LR		LR	01 05 12.4
	comp=Z,62nm,18.6s,baz=299,slow=42						
	comp=Z,1.2nm,0.8s						
POST	Post	17.02	98	Pn		Pn	00 57 15.4 -0.1
POST				IAmb		IAmb	00 57 28.8
	comp=Z,8.0nm,0.7s						
SAND	Sanderson	17.84	109	P		Pn	00 57 25.3 -0.4
SAND				IAmb		IAmb	00 57 35.0
	comp=Z,3.3nm,0.8s						
OZNA	Ozona	18.15	104			Pn	00 57 27.8 -1.8
OZNA				IAmb		IAmb	00 57 38.4
	comp=Z,7.4nm,1.1s						
ABTX	Abilene, Hawle	18.64	98	P		Pn	00 57 35.5 0.0
KAN08	Anthony NE Sta	18.86	83	P		P	00 57 36.7 -0.8
KAN14	Manchester OK	18.90	84	P		Pn	00 57 38.0 -0.6
BRDY	Brady	19.65	101	P		Pn	00 57 47.2 -0.5
BRDY				IAmb		IAmb	00 57 51.0
	comp=Z,8.6nm,1.1s						
FW03	Perrin-Whitt E	19.75	95	P		Pn	00 57 47.6 -1.1
FW03				IAmb		IAmb	00 57 58.3
	comp=Z,21nm,1.2s						
HNDO	Hondo	20.20	106	P		P	00 57 54.0 +1.1
HNDO				IAmb		IAmb	00 57 57.5
	comp=Z,10.0nm,0.8s						
435B	Jarrell	20.96	101	P		P	00 58 01.4 +0.9
X37A	Clayton	21.44	89	P		P	00 58 06.1 +0.5
X37A				IAmb		IAmb	00 58 21.0
	comp=Z,6.2nm,0.9s						
HILA	High Level	21.48	7	P		P	00 58 06.0 +0.2
SIT	Sitka	21.75	340	P		P	00 58 09.2 +0.5
U38A	Gravette	21.82	84	P		P	00 58 09.6 -0.1
DLBC	Dease Lake	21.84	348	LR		LR	01 06 05.7
	comp=Z,188nm,20.4s,baz=121,slow=35						
S39A	Bolivar	22.46	80	P		P	00 58 17.0 +0.4
S39A				IAmb		IAmb	00 58 24.9
	comp=Z,5.6nm,1.1s						
F36A	Milaca	22.63	59	P		P	00 58 17.2 -1.1
F36A				IAmb		IAmb	00 58 21.1
	comp=Z,13nm,1.5s						
HNVL	Huntsville, TX	22.64	99	P		P	00 58 18.9 +0.4
HNVL				IAmb		IAmb	00 58 39.7
	comp=Z,30nm,0.9s						
HKT	Hockley	22.68	101	P		P	00 58 18.6 -0.3
HKT				IAmb		IAmb	00 58 33.6
	comp=Z,7.2nm,1.1s						
K38A	Parkersburg	22.72	67	P		P	00 58 19.6 +0.3
MIAR	Mount Ida	22.88	88	P		P	00 58 18.4 -2.6
MIAR				IAmb		IAmb	00 58 27.9
	comp=Z,10nm,1.1s						
YKA	Yellowknife Ar	25.59	8	LR		LR	01 10 05.1
	comp=Z,117nm,20.6s,baz=136,slow=39						
TKL	Tuckaleechee C	30.38	81	LR		LR	01 13 48.3
	comp=Z,62nm,18.6s,baz=295,slow=40						
ILAR	Eielson Array	31.30	339	P		P	00 59 36.8 -0.4
	comp=Z,0.5nm,0.6s,baz=147,slow=8.5,SNR=5.0						
	comp=Z,0.5nm,0.6s						
INK	Inuvik	31.75	352	LR		LR	01 14 54.2
	comp=Z,106nm,18.6s,baz=185,slow=41						
TEIG	Tepich	33.63	111	LR		LR	01 16 10.8
	comp=Z,375nm,18.4s,baz=352,slow=41						
RES	Resolute Bay	39.56	11	LR		LR	01 19 32.2
	comp=Z,69nm,19.3s,baz=44,slow=40						
SCHQ	Schefferville	40.72	46	LR		LR	01 19 06.0
	comp=Z,76nm,18.8s,baz=18,slow=38						
JTS	Las Juntas de	42.60	120	LR		LR	01 18 60.0
	comp=Z,54nm,20.9s,baz=326,slow=36						
SFJD	Kangerlussuaq	48.95	30	LR		LR	01 23 10.8
	comp=Z,52nm,18.2s,baz=265,slow=37						
SJG	San Juan	51.99	96	LR		LR	01 27 48.5
	comp=Z,20nm,18.4s,baz=283,slow=40						
SDV	Santo Domingo	53.98	108	LR		LR	01 29 26.3
	comp=Z,22nm,18.0s,baz=290,slow=40						
BORG	Borgarnes	61.07	29	LR		LR	01 27 59.9
	comp=Z,24nm,20.6s,baz=300,slow=34						
ARCES	ARCESS Array B	70.77	12	LR		LR	01 38 29.6
	comp=Z,28nm,19.4s,baz=253,slow=38						
FINES	FINESS Array B	78.15	15	LR		LR	01 40 47.7
	comp=Z,38nm,18.1s,baz=20,slow=36						
ESDC	Sonseca Array	84.40	43	LR		LR	01 40 42.1
	comp=Z,31nm,18.7s,baz=308,slow=34						
HHC	Hu-ho-hao-te	88.21	323	*eP*		P	01 06 08.4 -0.3
HHC				pmax		pmax	
	comp=Z,17nm,0.6s						
HHC				pmax		pmax	
	comp=Z,120nm,4.2s						
WMQ	Urumqi	94.97	339	*eP*		P	01 06 42.1 +2.2
LZH	Lanzhou	95.66	324	*eP*		P	01 06 43.0 -0.4
LZH				pmax		pmax	
	comp=Z,30nm,1.0s						

BER 10 00:53:34.1±1.7, 72°.53N×3°.12E, h10km, mb(Pn)4.0,
Confirmed Earthquake, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	5.54	30	*eP*	Pn	00 54 54.1	-2.4
LOF	Lofoten	5.64	136	*eP*	Pn	00 54 56.1	-1.7
LOF				*eS*	Sn	00 55 53.1	-9.5
LOF				IAML		00 55 57.8	
	comp=Z,4.2nm,0.8s						
TRO	Tromso	5.90	112	*eP*	Pn	00 54 58.5	-2.8
TRO				*e*		00 55 56.7	
TRO				IAML		00 56 05.0	
	comp=Z,2.2nm,0.9s						
STEI	Steigen	6.17	132	*eP*	Pn	00 55 02.7	-2.4
STEI				*eS*	Sn	00 56 05.6	-10
STEI				IAML		00 56 12.0	
	comp=Z,1.8nm,0.7s						
SPA0	Spitsbergen Ar	6.57	24	*eP*	Pn	00 55 09.2	-1.4
SPA0				*eS*	Sn	00 56 14.2	-11
SPA0				IAML		00 56 31.2	
	comp=Z,8.3nm,0.5s						
FAUS	Fauske	6.64	135	*eP*	Pn	00 55 09.2	-2.3
FAUS				IAML		00 56 26.9	
	comp=Z,2.2nm,0.5s						
HAMF	Hammerfest	6.77	96	*eP*	Pn	00 55 09.3	-4.0
KBS	Kingsbay	6.78	15	*eP*	Pn	00 55 10.7	-2.7
KIF	Kilpisjarvi	6.81	113	*eP*	Pn	00 55 11.8	-2.0
DAG	Danmarks Havn	7.13	317	*eP*	Pn	00 55 15.1	-3.2
DAG				*eS*	Sn	00 56 25.8	-13

*IDC **10** 01:04:18.2±0.8, 49°.05S×127°.37E, h0km, mb4.2/7, mbtmp4.2/7, MS3.5/7, Error ellipse: s-maj=52.4km s-min=17.6km az=102.0*
*NEIC **10** 01:04:19.9±1.1, 49°.0S±0°.1×127°.1E±0°.4, h10km±1km, mb4.3/10, Error ellipse: s-maj=44.6km s-min=10.3km az=288.0*
ISC 10 01:04:19.9±0.7, 49°.0S±0°.1×127°.1E±0°.2, h10km, n35, σ0°.84/23, mb4.3/10, MS3.6/7, 3D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	17.05	321	T	T	01 25 57.2	
	baz=147,slow=74,SNR=137						
H01W2	Cape Leeuwin H	17.05	321	T	T	01 25 56.2	
	baz=147,slow=74,SNR=182						
H01W3	Cape Leeuwin H	17.06	321	T	T	01 25 58.1	
	baz=147,slow=74,SNR=127						
NWAO	Narrogin (SRO)	17.69	332	LR	LR	01 13 28.3	
	comp=Z,85nm,21.8s,baz=25,slow=31						
CASY	Casey	19.32	200	P	P	01 08 44.4	-0.5
CASY				IAmb	IAmb	01 08 47.7	
	comp=Z,5.0nm,0.9s						
STKA	Stephens Creek	20.31	38	P	P	01 08 55.6	-0.3
	comp=Z,3.1nm,0.8s,baz=207,slow=15,SNR=6.1						
STKA				LR	LR	01 15 44.6	
	comp=Z,99nm,18.7s,baz=209,slow=34						
	comp=Z,3.1nm,0.8s						
ASAR	Alice Springs	25.87	14	P	P	01 09 51.1	-0.6
	comp=Z,5.1nm,0.8s,baz=188,slow=9.2,SNR=33						
	comp=Z,5.1nm,0.8s						
AS31	Alice Springs	25.87	14	P	P	01 09 51.1	-0.7
ARMA	Armidale	26.29	54	P	P	01 09 54.1	-1.5
ARMA				IAmb	IAmb	01 09 57.4	
	comp=Z,19nm,1.2s						
WRA	Warramunga Arr	29.59	14	P	P	01 10 24.3	-0.7
WRA	Warramunga Arr	29.59	14	P	P	01 10 24.0	-1.0
	comp=Z,1.4nm,0.8s,baz=190,slow=10,SNR=10.0						
	comp=Z,1.4nm,0.8s						
WB2	Warramunga Arr	29.59	14	P	P	01 10 24.7	-0.3
WB2				IAmb	IAmb	01 11 06.1	
	comp=Z,8.4nm,1.4s						
WB0	Warramunga Arr	29.77	14	P	P	01 10 25.2	-1.5
WB0				IAmb	IAmb	01 10 43.5	
	comp=Z,7.4nm,1.4s						
CTA	Charters Tower	32.70	35	LR	LR	01 23 17.4	
	comp=Z,81nm,21.6s,baz=264,slow=35						
URZ	Urewera	37.14	92	LR	LR	01 24 27.3	
	comp=Z,76nm,20.2s,baz=31,slow=33						
QSPA	South Pole Qui	41.10	180	P	P	01 12 03.6	-0.1
QSPA				IAmb	IAmb	01 12 04.7	
	comp=Z,8.9nm,1.3s						
QSPA	South Pole Qui	41.10	180	P	P	01 12 03.4	-0.3
	comp=Z,3.8nm,0.8s,baz=347,slow=3.0,SNR=8.9						
	comp=Z,3.8nm,0.8s						
DZM	Mont Dzumac	41.11	63	LR	LR	01 26 08.3	
	comp=Z,90nm,19.8s,baz=258,slow=32						
HNR	Honiara	48.07	46	LR	LR	01 31 45.9	
	comp=Z,805nm,18.2s,baz=126,slow=34						
BELA	Belgrano 2	52.87	185	P	P	01 13 35.0	-0.2
BELA				IAmb	IAmb	01 13 35.4	
	comp=Z,2.8nm,0.8s						
TROLL	Troll, Antarti	53.17	199	⇓P	P	01 13 37.5	-0.1
	comp=Z,16nm,0.1s						
SNAA	Sanae	54.52	197	P	P	01 13 47.5	+0.1
SNAA	Sanae	54.52	197	⇓P	P	01 13 47.5	+0.1
SNAA	Sanae	54.52	197	P	P	01 13 47.5	+0.1
	comp=Z,7.6nm,0.8s,baz=140,slow=8.9,SNR=31						
SNAA				LR	LR	01 35 41.7	
	comp=Z,57nm,19.9s,baz=181,slow=34						
	comp=Z,7.6nm,0.8s						
VNA1	Neumayer--Stat	56.39	196	⇓P	P	01 14 01.1	+0.3
NIUE	Niue	58.17	83	P	P	01 14 15.8	+1.8
H08S2	Diego Garcia H	61.48	293	T	T	02 21 32.0	
	baz=142,slow=76,SNR=6.5						
H08S1	Diego Garcia H	61.49	293	T	T	02 21 28.1	
	baz=142,slow=76,SNR=8.2						
H08S3	Diego Garcia H	61.50	293	T	T	02 21 32.0	
	baz=142,slow=76,SNR=7.4						
CMAR	Chiang Mai Arr	71.69	332	P	P	01 15 43.2	+1.4
	comp=Z,1.0nm,0.4s,baz=184,slow=5.2,SNR=16						
	comp=Z,1.0nm,0.4s						
MJAR	Matsushiro Arr	85.76	9	P	P	01 16 59.0	+0.2
	comp=Z,1.1nm,0.4s,baz=197,slow=3.8,SNR=2.2						
	comp=Z,1.1nm,0.4s						
KMBO	Kilima Mbogo	89.05	269	LR	LR	01 48 57.0	
	comp=Z,20nm,19.4s,baz=88,slow=30						
TORD	Torodi Ar. Bea	122.79	251	PKP	PKPdf	01 23 15.4	-0.9
	comp=Z,1.1nm,1.0s,baz=197,slow=1.5,SNR=4.5						
ESDC	Sonseca Array	144.33	274	PKP	PKPab	01 23 54.5	+0.7
	comp=Z,2.0nm,1.0s,baz=116,slow=2.4,SNR=13						
EKA	Eskdalemuir Ar	149.41	301	PKPbc	PKPbc	01 24 07.5	-0.5
	comp=Z,1.5nm,0.6s,baz=115,slow=3.8,SNR=4.3						

*IDC **10** 01:13:40.6±0.8, 4°.16N×62°.92E, h0km, mb3.8/10, mbtmp3.8/10, MS3.5/23, Error ellipse: s-maj=32.0km s-min=18.0km az=14.0*
ISC 10 01:13:42.3±1.0, 4°.1N±0°.2×62°.9E±0°.1, h10km, n32, σ1°.13/12, mb3.9/10, MS3.5/22, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	19.44	348	LR	LR	01 24 17.5	
	comp=Z,82nm,20.0s,baz=208,slow=33						
ATD	Arta Tunnel	21.17	291	P	P	01 18 28.9	+0.8
	0.8nm,0.9s,baz=114,slow=19,SNR=6.9						
	0.8nm,0.9s						
KMBO	Kilima Mbogo	26.15	259	P	P	01 19 19.2	+1.8
	2.6nm,0.8s,baz=51,slow=8.7,SNR=9.0						
KMBO				LR	LR	01 28 28.8	
	comp=Z,127nm,20.4s,baz=56,slow=34						
	2.6nm,0.8s						
MBAR	Mbarara	32.48	262	LR	LR	01 32 28.1	
	comp=Z,101nm,20.3s,baz=291,slow=35						
GEYT	Alibeck	33.93	353	LR	LR	01 34 13.5	
	comp=Z,28nm,19.1s,baz=150,slow=36						
CMAR	Chiang Mai Arr	38.00	65	P	P	01 21 01.8	+0.9
	0.5nm,0.3s,baz=264,slow=8.7,SNR=1.1						
CMAR				LR	LR	01 36 26.7	
	comp=Z,33nm,18.3s,baz=285,slow=36						
	0.5nm,0.3s						
MMAI	Mount Meron Ar	38.54	322	LR	LR	01 35 57.2	
	comp=Z,52nm,21.2s,baz=119,slow=35						
LSZ	Lusaka	39.41	240	LR	LR	01 35 26.2	
	comp=Z,112nm,19.9s,baz=101,slow=33						
GNI	Garni	39.43	338	LR	LR	01 38 44.5	
	comp=Z,19nm,19.9s,baz=36,slow=38						
AAK	Ala-Archa	39.71	13	LR	LR	01 37 35.3	
	comp=Z,79nm,21.8s,baz=202,slow=36						
KBZ	Khabaz	43.22	339	P	P	01 21 44.8	+1.2
	2.5nm,1.0s,baz=128,slow=5.6,SNR=2.9						
	2.5nm,1.0s						
MKAR	Makanchi Array	45.70	19	LR	LR	01 40 46.1	
	comp=Z,20nm,18.5s,baz=217,slow=36						
AKTO	Aktyubinsk	46.33	356	LR	LR	01 41 59.2	
	comp=Z,33nm,20.7s,baz=109,slow=37						
KURBB	Kurchatov Arra	48.17	13	LR	LR	01 42 53.9	
	comp=Z,40nm,19.7s,baz=150,slow=36						
BOSA	Boshof	48.67	226	LR	LR	01 40 32.9	
	comp=Z,66nm,19.9s,baz=22,slow=33						
BVAR	Borovoye Array	49.13	6	LR	LR	01 43 54.2	
	comp=Z,77nm,19.8s,baz=220,slow=37						
TSUM	Tsumeb	50.24	241	LR	LR	01 42 03.5	
	comp=Z,133nm,20.4s,baz=62,slow=34						
AKASG	Malin Array Be	54.34	334	LR	LR	01 48 38.6	
	comp=Z,22nm,18.5s,baz=294,slow=39						
KIRV	Kirov	55.32	351	LR	LR	01 47 12.7	
	comp=Z,50nm,21.6s,baz=156,slow=36						
SONM	Songino Array	57.30	33	P	P	01 23 30.9	+0.4
	0.3nm,0.5s,baz=248,slow=7.6,SNR=2.2						
SONM				LR	LR	01 48 27.7	
	comp=Z,66nm,21.1s,baz=252,slow=36						
	0.3nm,0.5s						
VRAC	Vranov	59.67	327	LR	LR	01 50 09.8	
	comp=Z,18nm,18.3s,baz=136,slow=37						
TORD	Torodi Ar. Bea	61.04	283	P	P	01 23 56.3	-0.5
	0.6nm,0.7s,baz=96,slow=5.9,SNR=4.9						
	0.6nm,0.7s						
HFS	Hagfors	67.17	336	P	P	01 24 35.3	-1.0
	1.4nm,0.6s,baz=145,slow=8.1,SNR=5.9						
	1.4nm,0.6s						
ESDC	Sonseca Array	69.64	311	P	P	01 24 50.8	-1.5
	1.4nm,0.9s,baz=84,slow=5.8,SNR=10						
	1.4nm,0.9s						
ARCES	ARCESS Array B	69.78	347	LR	LR	01 59 10.1	
	comp=Z,26nm,18.3s,baz=98,slow=39						
WRA	Warramunga Arr	74.07	112	P	P	01 25 19.2	0.0
	1.0nm,0.8s,baz=288,slow=5.3,SNR=8.0						
	1.0nm,0.8s						
ASAR	Alice Springs	74.39	116	P	P	01 25 20.8	-0.3
	1.2nm,0.8s,baz=284,slow=5.5,SNR=9.1						
	1.2nm,0.8s						
SPITS	Spitsbergen Ar	77.79	351	LR	LR	02 03 30.8	
	comp=Z,39nm,18.2s,baz=108,slow=38						
MA2	Magadan	85.39	31	LR	LR	02 06 06.9	
	comp=Z,70nm,19.0s,baz=170,slow=37						
SNAA	Sanae	86.45	197	LR	LR	01 58 16.1	
	comp=Z,37nm,20.7s,baz=18,slow=31						
PDAR	Pinedale Array	132.83	352	PKP	PKPdf	01 32 57.3	-1.2
	0.2nm,0.5s,baz=98,slow=3.7,SNR=2.1						
TXAR	Lajitas Array	144.32	340	PKP	PKPab	01 33 17.1	-0.4
	12nm,0.5s,baz=35,slow=3.3,SNR=4.6						

*TRN **10** 01:18:46.1, 10°.73N×62°.30W, h106km, MD3.5*
*FUNV **10** 01:18:48.7, 10°.74N×62°.41W, h64km, MW3.8*
ISC 10 01:18:45.9±1.6, 10°.7N±0°.08×62°.45W±0°.06, h91km±15km, n13, σ1°.40/21, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	Carupano	0.78	263	⇑*i*P	Pn	01 19 03.7	+0.5
CRUV				*e*S	Sn	01 19 15.0	-1.2
TRN	Trinidad (W)	1.03	97	*e*P	Pn	01 19 06.6	+0.7
TRN				*e*S	Sn	01 19 19.9	-1.2
GRGR	Grenville	1.56	30	*e*P	Pn	01 19 13.3	+0.8
GRGR				*e*S	Sn	01 19 33.3	+0.7
GRHS	Sauteurs	1.65	29	*e*P	Pn	01 19 14.4	+0.8
GRHS				*e*S	Sn	01 19 34.4	-0.1
GCMP	Grenada, Carri	1.98	30	*e*P	Pn	01 19 18.9	+1.1
GCMP				*e*S	Sn	01 19 42.0	-0.1
PCRV	Puerto La Cruz	2.23	255	*e*P	Pn	01 19 23.1	+1.8
PCRV				*e*S	Sn	01 19 47.3	-0.9
SVB	Belmont	2.75	25	*e*P	Pn	01 19 29.1	+1.0
MCLT	Moule a Chique	3.27	27	*e*P	Pn	01 19 34.5	-0.6
MCLT				*e*S	Sn	01 20 11.9	-1.2
SLBI	Saint Lucia, B	3.54	24	*e*P	Pn	01 19 39.6	+0.9
SLBI				*e*S	Sn	01 20 17.2	-2.3
CACV	CAICARA DEL OR	5.14	232	*e*P	Pn	01 19 55.9	-4.6
CACV				*e*S	Sn	01 20 47.5	-11
BAUV	El Baul	5.80	252	*e*P	Pn	01 20 10.6	+1.2
BAUV				*e*S	Sn	01 21 11.5	-3.3
BAUV	El Baul	5.80	252	*e*P	Pn	01 20 10.7	+1.2
BAUV	El Baul	5.80	252	*e*S	Sn	01 21 14.6	-0.1

*IDC **10** 01:22:16.8±1.6, 36°.97N×141°.50E, h0km, mb3.4/3, mbtmp3.3/4, ML2.1/1, MS3.6/2, Error ellipse: s-maj=33.9km s-min=28.1km az=147.0*
*JMA **10** 01:22:19

*AFAD **10** 01:26:31.9±0.0, 35°.32N×27°.17E, h22km±2km, MW3.5*
*ISK **10** 01:26:31.9, 35°.32N×27°.12E, h8km, ML3.2/21*
*THE **10** 01:26:33.0, 35°.16N×27°.18E, h18km±4km, ML3.3/5, Error ellipse: s-maj=6.3km s-min=1.8km az=145.0*
ISC 10 01:26:31.0±1.1, 35°.25N±0°.03×27°.13E±0°.02, h9km±8km, n78, σ1§19/110, mb3.4/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPA	**Karpathos**	**0.26**	**14**	P	**Pg**	**01 26 36.2**	**0.0**
KRPA				S	**Sg**	**01 26 40.1**	**+0.3**
KARP	**Karpathos**	**0.29**	**4**	Pg	**Pg**	**01 26 36.8**	**-0.1**
KARP				Sg	**Sg**	**01 26 41.4**	**+0.6**
KARP	**Karpathos**	**0.29**	**4**	P	**Pg**	**01 26 36.7**	**-0.1**
KARP				S	**Sg**	**01 26 41.1**	**+0.3**
	11μm,0.3s						
KARP	**Karpathos**	**0.29**	**4**	P	**Pg**	**01 26 36.7**	**-0.1**
KARP				S	**Sg**	**01 26 40.6**	**-0.2**
ZKR	**Zakros**	**0.76**	**260**	Pg	**Pg**	**01 26 46.3**	**+0.6**
ZKR				Sg	**Sb**	**01 26 58.9**	**+2.0**
ZKR	**Zakros**	**0.76**	**260**	P	**Pg**	**01 26 45.7**	**0.0**
ZKR				S	**Sb**	**01 26 58.4**	**+1.5**
	2μm,0.6s						
ZKR	**Zakros**	**0.76**	**260**	P	**Pg**	**01 26 46.5**	**+0.8**
AGNA	**Agios Nikolaos**	**1.16**	**267**	P	**Pb**	**01 26 54.2**	**+1.0**
FRMA	**Ierapetra Chan**	**1.17**	**259**	P	**Pb**	**01 26 51.4**	**-2.0**
FRMA				S	**Sb**	**01 27 07.1**	**-1.6**
	558nm,0.5s						
FRMA	**Ierapetra Chan**	**1.17**	**259**	P	**Pb**	**01 26 51.7**	**-1.7**
FRMA				S	**Sb**	**01 27 06.2**	**-2.4**
ARG	**Arkhangelos**	**1.25**	**40**	Pn	**Pb**	**01 26 55.2**	**+0.4**
ARG	**Arkhangelos**	**1.25**	**40**	P	**Pn**	**01 26 54.3**	**-0.4**
ARG				S	**Sn**	**01 27 11.7**	**0.0**
	2μm,0.7s						
ARG	**Arkhangelos**	**1.25**	**40**	P	**Pn**	**01 26 54.8**	**+0.2**
ARG				S	**Sb**	**01 27 10.7**	**-0.3**
RFTD	**Palamutbuku-Ka**	**1.46**	**12**	Pn	**Pb**	**01 26 58.4**	**+0.2**
KOSK	**Kos Island**	**1.50**	**355**	Pn	**Pn**	**01 26 58.8**	**+0.8**
KOSK	**Kos Island**	**1.50**	**355**	P	**Pn**	**01 26 58.8**	**+0.8**
KOSK				S	**Sn**	**01 27 16.9**	**-0.8**
DAT	**Datca**	**1.52**	**14**	Pn	**Pn**	**01 26 59.1**	**+0.7**
DAT	**Datca**	**1.52**	**14**	P	**Pn**	**01 26 58.3**	**-0.1**
DAT				S	**Sg**	**01 27 19.8**	**+0.1**
DAT	**Datca**	**1.52**	**14**	P	**Pn**	**01 26 58.7**	**+0.3**
DAT				S	**Sb**	**01 27 18.6**	**-0.1**
DAT				*i* AML	AML	01 27 23.0	
	comp=N,218nm,0.3s						
DAT				*i* AML	AML	01 27 25.0	
	comp=E,206nm,0.4s						
RFTC	**Emecik-Datca**	**1.62**	**20**	Pn	**Pb**	**01 27 00.8**	**-0.2**
HRKL	**Herakleio**	**1.66**	**273**	Pn	**Pb**	**01 27 02.3**	**+0.5**
KSTL	**Kastelli Herak**	**1.69**	**272**	P	**Pn**	**01 26 59.1**	**-1.5**
RFTB	**Kemer-Bodrum**	**1.71**	**4**	Pn	**Pn**	**01 27 01.7**	**+0.8**
SANT	**Santorini**	**1.76**	**310**	Pn	**Pn**	**01 27 02.3**	**+0.6**
SANT	**Santorini**	**1.76**	**310**	P	**Pn**	**01 27 02.1**	**+0.4**
SANT				S	**Sn**	**01 27 24.1**	**-0.1**
	608nm,0.6s						
TURN	**Turunc**	**1.77**	**30**	Pn	**Pb**	**01 27 03.1**	**-0.4**
TURN	**Turunc**	**1.77**	**30**	P	**Pn**	**01 27 02.6**	**+0.9**
TURN				S	**Sg**	**01 27 26.7**	**-1.0**
TURN				*i* AML	AML	01 27 33.0	
	comp=E,178nm,0.4s						
TURN				*i* AML	AML	01 27 40.0	
	comp=N,143nm,0.6s						
THR8	**Santorini-Mono**	**1.77**	**311**	P	**Pn**	**01 27 02.1**	**+0.3**
THR6	**Thira Island,**	**1.79**	**308**	P	**Pn**	**01 27 02.7**	**+0.7**
BODT	**Bodrum**	**1.81**	**4**	Pn	**Pn**	**01 27 03.2**	**+0.8**
RFTAA	**Mazikoy-Bodrum**	**1.81**	**16**	Pn	**Pn**	**01 27 02.2**	**-0.1**
THR9	**Santorini-Faro**	**1.82**	**308**	P	**Pn**	**01 27 03.1**	**+0.7**
THR3	**Thira Island,**	**1.82**	**310**	P	**Pn**	**01 27 02.9**	**+0.5**
THT2	**Imerovigli**	**1.82**	**311**	P	**Pn**	**01 27 02.9**	**+0.4**
BDRM	**Kayabasi**	**1.82**	**8**	P	**Pn**	**01 27 03.4**	**+0.8**
BDRM				S	**Sn**	**01 27 26.1**	**+0.3**
IDI	**Anoyia**	**1.84**	**272**	Pn	**Pn**	**01 27 04.6**	**+1.9**
IDI	**Anoyia**	**1.84**	**272**	P	**Pn**	**01 27 04.3**	**+1.6**
IDI	**Anoyia**	**1.84**	**272**	LR	LR	01 27 58.2	
	comp=Z,136nm,18.9s,baz=73,slow=49						
IDI	**Anoyia**	**1.84**	**272**	P	**Pn**	**01 27 04.1**	**+1.3**
IDI				S	**Sn**	**01 27 27.4**	**+1.2**
CMBO	**Columbo, Santo**	**1.86**	**311**	P	**Pn**	**01 27 03.3**	**+0.3**
CMBO	**Columbo, Santo**	**1.86**	**311**	P	**Pn**	**01 27 02.9**	**-0.1**
CMBO				S	**Sn**	**01 27 27.1**	**+0.5**
DALY	**Dalyan (Mula)**	**1.99**	**38**	Pn	**Pn**	**01 27 06.1**	**+1.4**
IZZE	**Mula-Seydike**	**2.07**	**55**	P	**Pn**	**01 27 06.6**	**+0.7**
IZZE				S	**Sn**	**01 27 32.7**	**+0.9**
IZZE				*i* AML	AML	01 27 47.0	
	comp=E,134nm,0.5s						
IZZE				*i* AML	AML	01 27 53.0	
	comp=N,198nm,0.5s						
YER	**Yerkesik**	**2.10**	**26**	Pn	**Pn**	**01 27 07.7**	**+1.4**
YER	**Yerkesik**	**2.10**	**26**	P	**Pn**	**01 27 07.4**	**+1.1**
YER				S	**Sn**	**01 27 33.6**	**+1.1**
FETY	**Fethiye**	**2.10**	**48**	Pn	**Pn**	**01 27 08.0**	**+1.7**
MLSB	**Milas**	**2.10**	**14**	Pn	**Pn**	**01 27 07.4**	**+1.0**
KSL	**Kastellorizon**	**2.19**	**65**	P	**Pn**	**01 27 08.0**	**+0.5**
KSL				S	**Sn**	**01 27 35.0**	**+0.3**
DDIM	**Aydin, Didim**	**2.20**	**2**	P	**Pb**	**01 27 12.2**	**+1.3**
DDIM				S	**Sg**	**01 27 40.6**	**-1.0**
DDIM				*i* AML	AML	01 27 48.0	
	comp=N,199nm,0.9s						
DDIM				*i* AML	AML	01 27 54.0	
	comp=E,105nm,1.0s						
MULA	**Mugla, Merkez-**	**2.22**	**25**	P	**Pn**	**01 27 10.0**	**+1.9**
MULA				S	**Sn**	**01 27 37.0**	**+1.4**
APE	**Apeiranthos**	**2.23**	**325**	Pn	**Pn**	**01 27 08.2**	**+0.1**
APE	**Apeiranthos**	**2.23**	**325**	P	**Pn**	**01 27 08.5**	**+0.4**
APE	**Apeiranthos**	**2.23**	**325**	P	**Pn**	**01 27 08.3**	**+0.1**
APE				S	**Sn**	**01 27 36.6**	**+0.8**
AKAS	**Kas**	**2.23**	**63**	Pn	**Pn**	**01 27 09.8**	**+1.5**
AKAS	**Kas**	**2.23**	**63**	P	**Pn**	**01 27 09.9**	**+1.7**
AKAS				S	**Sb**	**01 27 38.2**	**-1.3**
AKAS				*i* AML	AML	01 28 09.0	
	comp=N,150nm,1.1s						
AKAS				*i* AML	AML	01 28 12.0	
	comp=E,109nm,0.9s						
CAME	**Cameli-Denizli**	**2.44**	**46**	Pn	**Pn**	**01 27 12.5**	**+1.4**
GCAM	**G?zelcaml?**	**2.44**	**2**	Pn	**Pn**	**01 27 12.5**	**+1.5**
GCAM	**G?zelcaml?**	**2.44**	**2**	P	**Pb**	**01 27 13.5**	**-1.6**
GCAM				S	**Sb**	**01 27 43.3**	**-2.0**
SMG	**Samos**	**2.46**	**355**	P	**Pn**	**01 27 12.9**	**+1.6**
AYDN	**Tasoluk**	**2.48**	**14**	P	**Pn**	**01 27 13.4**	**+1.8**
AYDN				S	**Sb**	**01 27 44.4**	**-1.9**
AYDN				*i* AML	AML	01 27 53.0	
	comp=E,87nm,0.4s						
AYDN				*i* AML	AML	01 27 59.0	
	comp=N,84nm,0.6s						
GVD	**Gavdhos**	**2.53**	**261**	P	**Pn**	**01 27 12.8**	**+0.6**
CAEL	**Denizli, Camel**	**2.57**	**43**	P	**Pb**	**01 27 15.9**	**-1.4**
CAEL				S	**Sg**	**01 27 58.0**	**+4.4**
CAEL				*i* AML	AML	01 28 22.0	
	comp=N,160nm,0.9s						
CAEL				*i* AML	AML	01 28 28.0	
	comp=E,223nm,0.9s						
IMMV	**Iera Moni Meta**	**2.58**	**275**	P	**Pn**	**01 27 15.1**	**+2.1**
TAVA	**DENIZLI_Tavas**	**2.63**	**33**	P	**Pn**	**01 27 16.1**	**+2.3**
TAVA				S	**Sb**	**01 27 49.8**	**-1.1**
TAVA				*i* AML	AML	01 28 00.0	
	comp=E,101nm,0.6s						
TAVA				*i* AML	AML	01 28 07.0	
	comp=N,90nm,0.7s						
GOLH	**Golhisar**	**2.79**	**44**	P	**Pn**	**01 27 17.5**	**+1.7**
GOLH				S	**Sb**	**01 27 55.2**	**-0.1**
GOLH				*i* AML	AML	01 28 16.0	
	comp=N,75nm,0.9s						
GOLH				*i* AML	AML	01 28 17.0	
	comp=E,86nm,0.8s						
GOLH				*i* AML	AML	01 28 18.0	
	comp=Z,63nm,0.9s						
DNIZ	**Denizli-Tavas-**	**2.82**	**32**	P	**Pn**	**01 27 18.0**	**+1.7**
DNIZ				S	**Sb**	**01 27 54.6**	**-1.7**
DNIZ				*i* AML	AML	01 28 05.0	
	comp=N,145nm,0.4s						
DNIZ				*i* AML	AML	01 28 05.0	
	comp=E,138nm,0.3s						
DNIZ				*i* AML	AML	01 28 15.0	
	comp=Z,62nm,1.0s						
IZMR	**zmir-demi**	**2.95**	**13**	P	**Pn**	**01 27 18.9**	**+0.8**
IZMR				S	**Sn**	**01 27 54.8**	**+1.2**
MANT	**Manisa**	**3.43**	**19**	P	**Pn**	**01 27 25.5**	**+0.8**
MANT				S	**Sn**	**01 28 05.7**	**0.0**
KTHA	**Kythira Island**	**3.46**	**288**	P	**Pn**	**01 27 26.2**	**+1.2**
VLI	**Veliai**	**3.70**	**294**	P	**Pn**	**01 27 28.9**	**+0.5**
AKMS	**Akamas**	**4.27**	**92**	P	**Pn**	**01 27 36.7**	**+0.6**
ALFC	**Alefka**	**4.48**	**90**	P	**Pn**	**01 27 38.0**	**-1.0**
MMAI	**Mount Meron Ar**	**7.21**	**106**	Pn	**Pn**	**01 28 16.0**	**-0.6**
	1.0nm,0.3s,baz=315,slow=13,SNR=7.0						
MMAI				Sn	**Sn**	**01 29 36.6**	**-2.0**
	1.2nm,0.3s,baz=304,slow=28,SNR=1.9						
	0.9nm,0.4s						
KHC	**Kasperske Hory**	**17.08**	**328**	*e*P	**Pn**	**01 30 28.1**	**-1.9**
ESDC	**Sonseca Array**	**25.01**	**289**	P	**P**	**01 31 54.4**	**-0.8**
	0.5nm,0.6s,baz=80,slow=9.9,SNR=9.0						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**31.81**	**233**	P	**P**	**01 32 56.4**	**+0.4**
	0.6nm,0.8s,baz=34,slow=10.0,SNR=3.3						
	0.6nm,0.8s						
DBIC	**Dimbokro**	**40.90**	**233**	LR	LR	01 52 07.3	
	comp=Z,36nm,19.4s,baz=124,slow=38						
MKAR	**Makanchi Array**	**42.37**	**57**	P	**P**	**01 34 26.3**	**+0.8**
	0.3nm,0.5s,baz=277,slow=9.1,SNR=1.1						
	0.3nm,0.5s						

*DJA **10** 01:32:50.0±0.2, 3°.5S±3°.3×12°.8E±°, h10km, M4.5/13, mb4.7/8, mB5.0/6, MLv4.5/13, Mw(mB)4.3/6*
*IDC **10** 01:32:52.6±1.8, 3°.12S×128°.18E, h62km±17km, mb3.9/9, mbtmp4.3/12, MS3.4/10, Error ellipse: s-maj=13.9km s-min=9.2km az=84.0*
*NEIC **10** 01:32:53.0±2.0, 3°.01S±0°.09×128°.03E±0°.04, h65km±12km, mb4.1/9, Error ellipse: s-maj=14.3km s-min=2.7km az=161.0*
ISC 10 01:32:50.7±0.6, 3°.08S±0°.06×128°.08E±0°.06, h38km, n54, σ1§97/49, mb4.2/12, MS3.2/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.99**	**261**	P	**Pn**	**01 33 06.8**	**-1.3**
BNDI	**Bandanaira**	**2.32**	**128**	P	Pn	01 33 32.2	+5.8
SANI	**Sanana**	**2.33**	**296**	P	**Pn**	**01 33 23.5**	**-3.0**
LBMI	**Labuha**	**2.49**	**346**	P	**Pn**	**01 33 29.8**	**+1.1**
SWI	**Sorong**	**3.86**	**55**	P	**Pn**	**01 33 49.7**	**+2.1**
SIJI	**Sorong**	**3.86**	**56**	P	**Pn**	**01 33 49.8**	**+2.2**
	79nm,0.3s,baz=85,slow=6.6,SNR=207						
SIJI				S	**Sn**	**01 34 32.8**	**+1.0**
	63nm,0.3s,baz=78,slow=21,SNR=16						
TNTI	**Ternate**	**3.89**	**349**	P	**Pn**	**01 33 48.1**	**+0.1**
FAKI	**Fak Fak**	**4.16**	**88**		**Pn**	**01 33 54.6**	**+2.9**
FAKI				Sn	**Sn**	**01 34 41.3**	**+2.1**
FAKI	**Fak Fak**	**4.16**	**88**	P	**Pn**	**01 33 54.5**	**+2.7**
LUWI	**Luwuk**	**5.68**	**291**	Pn	**Pn**	**01 34 11.7**	**-0.9**
LUWI	**Luwuk**	**5.68**	**291**	P	**Pn**	**01 34 11.9**	**-0.7**
	185nm,0.7s,4μm0.7nm						
GTOI	**Gorontalo**	**6.27**	**306**	P	**Pn**	**01 34 22.4**	**+1.7**
	30nm,0.7s,434nm0.2nm						
MRSI	**Marisa**	**7.08**	**300**	P	**Pn**	**01 34 31.1**	**-0.8**
	51nm,0.6s,0.3nm						
SOEI	**Soe**	**7.64**	**210**		**Pn**	**01 34 42.9**	**+3.3**
BKSI	**Bulukumba**	**8.25**	**254**	P	**Pn**	**01 34 50.2**	**+2.3**
	63nm,1.6s,576nm						
BATI	**Baumata**	**8.33**	**212**	P	Pn	01 34 54.7	+5.6
	29nm,0.5s,baz=236,slow=1.8,SNR=4.2						
BATI				LR	LR	01 38 08.2	
	comp=Z,490nm,19.5s,baz=26,slow=38						
TOLI2	**Tolitoli**	**8.40**	**300**	Pn	**Pn**	**01 34 46.1**	**-3.8**
KAPI	**Kappang**	**8.53**	**257**	Pn	**Pn**	**01 34 52.7**	**+1.0**
KAPI	**Kappang**	**8.53**	**257**	P	**Pn**	**01 34 54.3**	**+2.5**
	22nm,0.7s,baz=110,slow=6.4,SNR=10						
KAPI				S	**Sn**	**01 36 30.8**	**+4.1**
	8.9nm,0.4s,baz=192,slow=17,SNR=1.4						
KAPI				LR	LR	01 38 13.5	
	comp=Z,262nm,21.2s,baz=74,slow=37						
MPSI	**Mapaga**	**8.86**	**292**	P	**Pn**	**01 34 55.7**	**-0.5**
	18nm,0.7s,5μm						
MTN	**Maton Dam**	**10.16**	**163**	Pn	**Pn**	**01 35 17.6**	**+3.5**
SMPI	**Sarmi**	**10.67**	**84**	P	Pn	01 35 07.6	-14
KNRA	**Kununurra**	**12.54**	**177**	Pn	**Pn**	**01 35 49.1**	**+2.5**
WB0	**Warramunga Arr**	**17.70**	**160**	P	**Pn**	**01 36 55.2**	**+0.8**
WB0				IAmb	IAmb	01 37 07.0	
	comp=Z,18nm,1.1s						
WRAB	**Tennant Creek**	**17.84**	**160**	P	**P**	**01 36 57.4**	**+0.9**
WRAB				IAmb	IAmb	01 37 16.1	
	comp=Z,7.7nm,0.8s						
WRA	**Warramunga Arr**	**17.84**	**160**	P	**Pn**	**01 36 55.6**	**-0.6**
WRA	**Warramunga Arr**	**17.84**	**160**	P	**P**	**01 36 57.2**	**+0.6**
	comp=Z,5.5nm,0.7s,baz=340,slow=11,SNR=62						
WRA				S	**Sn**	**01 40 13.9**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=330,slow=23,SNR=4.7						
WB2	**Warramunga Arr**	**17.85**	**160**	P	**P**	**01 36 57.2**	**+0.6**
WB2				IAmb	IAmb	01 37 20.9	
	comp=Z,9.1nm,0.8s						
WR0	**Warramunga Arr**	**17.93**	**160**	P	**P**	**01 36 58.1**	**+0.6**
MANU	**Manus Island**	**19.29**	**87**	P	**P**	**01 37 08.1**	**-4.4**
LEM	**Lembang**	**20.72**	**259**	LR	LR	01 46 31.2	
	comp=Z,177nm,18.9s,baz=240,slow=39						
AS31	**Alice Springs**	**21.23**	**165**	P	**P**	**01 37 33.8**	**+0.3**
AS31				IAmb	IAmb	01 37 36.1	
	comp=Z,6.5nm,0.9s						
ASAR	**Alice Springs**	**21.23**	**165**	P	**P**	**01 37 34.3**	**+0.8**
ASAR	**Alice Springs**	**21.23**	**165**	P	**P**	**01 37 34.5**	**+1.0**
	comp=Z,23nm,0.9s,baz=345,slow=12,SNR=89						
ASAR				S	**S**	**01 41 24.9**	**-2.8**
	comp=Z,1.5nm,0.8s,baz=349,slow=23,SNR=7.3						
	comp=Z,23nm,0.9s						
KRVT	**Keravat (AS076**	**23.93**	**94**	LR	LR	01 48 01.9	
	comp=Z,7nm,18.5s,baz=22,slow=38						
CTA	**Charters Tower**	**24.50**	**135**	LR	LR	01 49 43.8	
	comp=Z,40nm,20.0s,baz=268,slow=41						
STKA	**Stephens Creek**	**31.35**	**158**	P	**P**	**01 39 04.9**	**-2.8**
	comp=Z,2.0nm,0.6s,baz=356,slow=13,SNR=3.0						
STKA				LR	LR	01 52 48.6	
	comp=Z,93nm,18.6s,baz=17,slow=38						
	comp=Z,2.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**31.39**	**198**	LR	LR	01 53 11.8	
	comp=Z,57nm,18.5s,baz=53,slow=39						
HNR	**Honiara**	**32.28**	**103**	LR	LR	01 53 03.6	
	comp=Z,443nm,19.1s,baz=4.5,slow=38						
CMAR	**Chiang Mai Arr**	**35.80**	**308**	LR	LR	01 56 46.3	
	comp=Z,17nm,19.4s,baz=230,slow=40						
JNU	**Nakatsue**	**36.10**	**4**	LR	LR	01 53 08.9	
	comp=Z,42nm,20.4s,baz=212,slow=34						
LYN	**LuoYang**	**40.21**	**340**	*e*P	**P**	**01 40 26.4**	**+2.8**
LYN				pmax	pmax		
	comp=Z,19nm,0.5s						
LYN				pmax	pmax		
	comp=Z,140nm,4.1s						
SONM	**Songino Array**	**54.14**	**342**	P	**P**	**01 42 12.4**	**+0.2**
	comp=Z,2.0nm,1.0s,baz=161,slow=8.4,SNR=9.8						
	comp=Z,2.0nm,1.0s						
KHZ	**Kahutara**	**56.32**	**141**	P	**P**	**01 42 25.5**	**-2.3**
MKAR	**Makanchi Array**	**63.92**	**327**	P	**P**	**01 43 19.1**	**-0.8**
MKAR	**Makanchi Array**	**63.92**	**327**	P	**P**	**01 43 19.4**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=129,slow=7.0,SNR=9.1						
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**67.24**	**334**	P	**P**	**01 43 39.7**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=119,slow=5.2,SNR=5.5						
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**68.19**	**329**	P	**P**	**01 43 46.6**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=128,slow=5.6,SNR=27						
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**68.19**	**329**	P	**P**	**01 43 47.3**	**+0.1**
KURK				IAmb	IAmb	01 43 47.9	
	comp=Z,7.0nm,0.9s						
BVAR	**Borovoye Array**	**73.75**	**328**	P	**P**	**01 44 20.7**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=132,slow=8.0,SNR=6.1						
	comp=Z,1.3nm,0.7s						
QSPA	**South Pole Qui**	**86.88**	**180**	P	**P**	**01 45 30.1**	**-1.3**
	comp=Z,1.5nm,1.0s,baz=295,slow=2.6,SNR=2.4						
	comp=Z,1.5nm,1.0s						
ILAR	**Eielson Array**	**90.64**	**25**	P	**P**	**01 45 48.8**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=269,slow=4.2,SNR=3.3						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**126.09**	**284**	PKP	**PKiKP**	**01 51 50.3**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=58,slow=3.8,SNR=5.8						
CPUP	**Villa Florida**	**150.30**	**170**	PKPbc	**PKPbc**	**01 52 38.2**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=352,slow=15,SNR=2.0						

*CNRM **10** 01:34:27.1, 36°.55N×7°.18W, h62km, ml1.9*
*IGIL **10** 01:34:28.9, 36°.61N×7°.00W, h27km, ML1.8*
*SFS **10** 01:34:28.9, 36°.63N×6°.99W, h47km, ML2.3/12, ML2.4/8, MLv2.2/12*
*MDD **10** 01:34:29.1±0.5, 36°.61N×7°.05W, h31km±10km, mb_Lg2.5/14, Error ellipse: s-maj=4.0km s-min=2.4km az=30.0*
*INMG **10** 01:34:29.4±1.2, 36°.61N×7°.00W, h31km±8km, ML1.9, Error ellipse: s-maj=2.8km s-min=2.6km az=177.0*
ISC 10 01:34:27.1±1.1, 36°.64N±0°.03×7°.01W±0°.02, h32km±12km,

n70, σ1§41/121, 2C-10D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**0.95**	**324**	⇓*i*P	**Pb**	**01 34 45.7**	**+0.5**
PVAQ				*e*S	**Sn**	**01 34 57.7**	**+1.0**
PVAQ				A	A	01 34 58.3	
	18nm,0.1s						
PVAQ	**Vaqueiros**	**0.95**	**324**	P	**Pb**	**01 34 45.7**	**+0.5**
PVAQ				S	**Sn**	**01 34 57.7**	**+1.0**
PVAQ	**Vaqueiros**	**0.95**	**324**	Pn	**Pb**	**01 34 45.7**	**+0.5**
PBDV	**Barranco-do-Ve**	**0.95**	**310**	⇓*e*P	**Pb**	**01 34 45.7**	**+0.5**
PBDV				*e*S	**Sn**	**01 34 57.7**	**+0.9**
PBDV				A	A	01 34 58.7	
	12nm,0.2s						
ESPR	**Espera**	**0.96**	**76**	⇑P	**Pb**	**01 34 45.6**	**+0.4**
ESPR				S	**Sb**	**01 34 57.3**	**-0.2**
ESPR	**Espera**	**0.96**	**76**	Pn	**Pb**	**01 34 45.6**	**+0.4**
ESPR				Sn	**Sn**	**01 34 57.5**	**+0.7**
EGRO	**El Granado**	**0.97**	**337**	⇓P	**Pb**	**01 34 46.0**	**+0.5**
EGRO				S	**Sn**	**01 34 58.1**	**+0.9**
EGRO				*i* Vmb_Lg		01 34 59.0	
EGRO	**El Granado**	**0.97**	**337**	Pn	**Pb**	**01 34 46.0**	**+0.5**
EGRO				Sn	**Sn**	**01 34 58.2**	**+0.9**
EMIN	**Mina Concepcio**	**1.16**	**13**	⇓P	**Pb**	**01 34 48.3**	**-0.4**
EMIN				S	**Sn**	**01 35 02.0**	**+0.1**
EMIN				*i* Vmb_Lg		01 35 03.2	
EMIN	**Mina Concepcio**	**1.16**	**13**	Pn	**Pb**	**01 34 48.3**	**-0.4**
EMIN				Sn	**Sn**	**01 35 02.0**	**+0.1**
PCVE	**Castro Verde**	**1.29**	**321**	⇓*e*P	**Pb**	**01 34 50.3**	**-0.6**
PCVE				*e*S	**Sb**	**01 35 06.2**	**-0.9**
PCVE				A	A	01 35 07.0	
	5.7nm,0.2s						
PCVE	**Castro Verde**	**1.29**	**321**	Pn	**Pb**	**01 34 50.3**	**-0.6**
MORF	**Marmelete**	**1.48**	**297**	⇓*e*P	**Pn**	**01 34 52.5**	**+1.0**
MORF				*e*S	**Sn**	**01 35 10.1**	**+0.4**
MORF				A	A	01 35 11.4	
	6.6nm,0.2s						
MORF	**Marmelete**	**1.48**	**297**	*e*P	**Pn**	**01 34 52.4**	**+1.0**
MORF				*e*S	**Sn**	**01 35 10.0**	**+0.4**
MORF				IAML		01 35 10.9	
	comp=E,11nm,0.1s						
PBAR	**Barrancos**	**1.54**	**359**	⇓*e*P	**Pn**	**01 34 53.7**	**+1.4**
PBAR				*e*S	**Sn**	**01 35 11.4**	**+0.2**
PBAR				A	A	01 35 13.1	
	comp=E,6.4nm,0.1s						
PBAR	**Barrancos**	**1.54**	**359**	Pn	**Pn**	**01 34 53.7**	**+1.4**
PFVI	**Vila Bisbo**	**1.54**	**289**	*e*P	**Pn**	**01 34 53.4**	**+1.1**
PFVI				*e*S	**Sn**	**01 35 11.3**	**+0.1**
PFVI				A	A	01 35 15.2	
	comp=E,4.2nm,0.3s						
PFVI	**Vila Bisbo**	**1.54**	**289**	P	**Pn**	**01 34 52.2**	**-0.1**
PFVI				S	**Sn**	**01 35 09.1**	**-2.1**
PBEJ	**Beja**	**1.55**	**334**	*e*P	**Pn**	**01 34 53.7**	**+1.3**
PBEJ				*e*S	**Sn**	**01 35 11.7**	**+0.3**
PBEJ				A	A	01 35 12.8	
	comp=E,3.5nm,0.2s						
SMIR	**Smir Dam**	**1.63**	**125**	P	**Pn**	**01 34 55.1**	**+1.6**
SMIR				S	**Sb**	**01 35 15.6**	**-1.0**
PTEO	**Sao Teotonio**	**1.64**	**304**	*e*P	**Pn**	**01 34 55.1**	**+1.3**
PTEO				*e*S	**Sn**	**01 35 14.2**	**+0.4**
PTEO				A	A	01 35 15.5	
	comp=E,4.0nm,0.1s						
EMIJ	**Mijas**	**1.80**	**92**	P	**Pb**	**01 34 58.8**	**-0.7**
EMIJ				S	**Sn**	**01 35 19.0**	**+1.3**
EMIJ				*i* Vmb_Lg		01 35 31.1	
PNCL	**Nicolau / Gran**	**1.91**	**321**	*e*P	**Pn**	**01 34 58.7**	**+1.4**
PNCL				*e*S	**Sn**	**01 35 20.4**	**+0.1**
PNCL				A	A	01 35 21.1	
	comp=E,2.6nm,0.2s						
PNCL	**Nicolau / Gran**	**1.91**	**321**	Pn	**Pn**	**01 34 58.7**	**+1.4**
ECAB	**El Cabril**	**1.92**	**41**	P	**Pn**	**01 34 58.5**	**+0.9**
ECAB				S	**Sn**	**01 35 20.6**	**0.0**
ECAB				*i* Vmb_Lg		01 35 21.9	
ECAB	**El Cabril**	**1.92**	**41**	Pn	**Pn**	**01 34 58.3**	**+0.8**
ECAB				Sn	**Sn**	**01 35 19.9**	**-0.7**
EVO	**Evora**	**2.05**	**337**	*e*P

comp=E,0.9nm,0.7s
ETOB Tobarra 4.78 64 P **Pn 01 35 37.1 +0.2**
ETOB *i* Vmb_Lg 01 36 27.1
ETOB S **Sn 01 36 28.6 -2.6**
PBRG Braganca 5.17 2 *e*P **Pn 01 35 43.5 +1.3**
PBRG *e*S **Sn 01 36 38.1 -2.6**
ELOB Lobios 5.29 351 S **Sn 01 36 42.3 -1.5**
ECAL Calabor 5.30 2 S **Sn 01 36 42.8 -1.3**
EVIV Cofrentes, Val 5.35 59 S **Sn 01 36 43.3 -1.9**
OUK Oukaimeden 5.46 188 P **Pn 01 35 46.8 +0.2**
OUK S **Sn 01 36 44.9 -3.6**
ETOR Torete 5.70 41 S **Sn 01 36 51.5 -2.3**
TIO Tiouine 5.70 182 Sn **Sn 01 36 48.7 -5.3**
TIO Pn **Pn 01 35 49.5 -0.1**
OUZM OUZ 5.71 178 P **Pn 01 35 50.4 +0.5**

---

*IDC **10** 01:39:04.5±3.7, 24°.93S×177°.60W±0°.1×177°.6W±0°.2, h211km±32km, mb3.6/5, mbtmp4.2/7, Error ellipse: s-maj=29.8km s-min=25.1km az=82.0*

ISC 10 01:39:03.7±1.3, 25°.05S±0°.1×177°.6W±0°.2, h200km, n11, σ0°.83/11, mb3.7/5, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.30**	**330**	P	**Pn**	**01 41 01.4**	**+0.3**
	7.1nm,0.5s,baz=111,slow=20,SNR=7.0						
URZ	**Urewera**	**13.96**	**198**	P	**Pn**	**01 42 12.8**	**-0.2**
	5.7nm,0.4s,baz=337,slow=5.7,SNR=6.8						
URZ				S	S	01 44 33.6	-15
	6.3nm,0.3s,baz=6.5,slow=24,SNR=9.2						
CTA	**Charters Tower**	**33.69**	**271**	P	**P**	**01 45 27.3**	**+1.1**
	2.4nm,0.5s,baz=90,slow=11,SNR=4.2						
	2.4nm,0.5s						
ASAR	**Alice Springs**	**44.04**	**261**	P	**P**	**01 46 51.0**	**-0.9**
	1.3nm,0.6s,baz=87,slow=6.9,SNR=13						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**44.54**	**266**	P	**P**	**01 46 54.7**	**-1.2**
	0.5nm,0.3s,baz=100,slow=7.3,SNR=18						
WRA				PcP	**PcP**	**01 48 36.2**	**+0.6**
	0.5nm,0.8s,baz=107,slow=3.0,SNR=3.4						
	0.5nm,0.3s						
PETK	**Petropavlovsk-**	**80.71**	**345**	P	**P**	**01 50 53.3**	**-0.9**
	1.8nm,0.6s,baz=130,slow=6.6,SNR=3.6						
	1.8nm,0.6s						
TROLL	**Troll, Antarti**	**83.24**	**180**	⇑P	**P**	**01 51 08.2**	**+0.7**
	comp=Z,96nm,0.7s						
SNAA	**Sanae**	**83.51**	**178**	⇑P	**P**	**01 51 09.1**	**+0.3**
	comp=Z,18nm,0.5s						
SNAA	**Sanae**	**83.51**	**178**	P	**P**	**01 51 08.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=188,slow=13,SNR=6.8						
	comp=Z,0.8nm,0.6s						
HFS	**Hagfors**	**144.03**	**350**	PKP	PKPab	01 58 12.2	-0.6
	comp=Z,24nm,0.8s,baz=38,slow=2.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**168.18**	**177**	PKPab	**PKPab**	**01 59 56.4**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=194,slow=3.1,SNR=2.0						

---

*SJA **10** 01:56:22.8±0.7, 27°.68S×70°.22W, h77km±2km, ML4.0, MW4.0*
*IDC **10** 01:56:23.9±0.9, 27°.74S×70°.16W, h74km±6km, mb3.2/4, mbtmp3.5/5, Error ellipse: s-maj=36.3km s-min=25.9km az=60.0*
*NEIC **10** 01:56:24.0±1.6, 27°.72S±0°.04×70°.29W±0°.09, h77km±4km, mb4.4/4, ML4.0(GUC), Error ellipse: s-maj=11.0km s-min=6.2km az=98.0*
*GUC **10** 01:56:24.2±0.8, 27°.72S×70°.21W, h75km±4km, ML4.0*

ISC 10 01:56:23.5±0.6, 27°.72S±0°.03×70°.22W±0°.04, h73km±4km, n82, σ1°.41/108, mb3.9/5, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.12**	**354**		**Pn**	**01 56 34.7**	**+0.4**
GO03	**Copiap**	**0.12**	**354**	*e*P	**Pn**	**01 56 34.4**	**+0.2**
GO03				*e*S	**Sn**	**01 56 42.6**	**+0.6**
GO03				IAML		01 56 44.0	
	comp=N,8μm,0.1s						
GO03	**Copiap**	**0.12**	**354**	*e*P	**Pn**	**01 56 34.5**	**+0.2**
GO03				IAML		01 56 44.2	
	comp=Z,7μm,0.4s						
AC06	**Mina Casimiro**	**0.38**	**342**		**Pn**	**01 56 36.2**	**+0.6**
AC06				Sn	**Sn**	**01 56 44.9**	**+0.5**
AC06	**Mina Casimiro**	**0.38**	**342**	⇑*i*P	**Pn**	**01 56 36.2**	**+0.6**
AC06				*e*S	**Sn**	**01 56 45.1**	**+0.7**
AC06				IAML		01 56 45.8	
	comp=E,15μm,0.2s						
AC04	**Llanos de Chal**	**0.90**	**237**		**Pn**	**01 56 41.8**	**+0.8**
AC04				Sn	**Sn**	**01 56 54.4**	**+0.6**
AC04	**Llanos de Chal**	**0.90**	**237**	⇓*i*P	**Pn**	**01 56 41.7**	**+0.8**
AC04				*e*S	**Sn**	**01 56 55.3**	**+1.4**
AC04				IAML		01 56 58.2	
	comp=E,9μm,0.2s						
AC04	**Llanos de Chal**	**0.90**	**237**	*e*P	**Pn**	**01 56 41.7**	**+0.8**
AC04				*e*S	**Sn**	**01 56 56.5**	**+2.6**
AC04				IAML		01 56 58.0	
	comp=Z,3μm,0.3s						
AC05	**El Transito**	**1.12**	**182**		**Pn**	**01 56 44.6**	**+0.9**
AC05				Sn	**Sn**	**01 56 59.6**	**+0.7**
AC05	**El Transito**	**1.12**	**182**	*e*P	**Pn**	**01 56 44.5**	**+0.7**
AC05				IAML		01 57 04.8	
	comp=E,5μm,0.2s						
AC05	**El Transito**	**1.12**	**182**	*e*P	**Pn**	**01 56 45.1**	**+1.3**
AC05				*e*S	**Sn**	**01 57 01.1**	**+2.2**
AC05				IAML		01 57 04.7	
	comp=Z,1μm,0.1s						
AC02	**Maricunga**	**1.31**	**48**		**Pn**	**01 56 47.7**	**+1.2**
AC02	**Maricunga**	**1.31**	**48**	⇑*i*P	**Pn**	**01 56 47.8**	**+1.2**
AC02				*e*S	**Sn**	**01 57 04.7**	**+1.0**
AC02				IAML		01 57 07.0	
	comp=N,3μm,0.2s						
AC02	**Maricunga**	**1.31**	**48**	*e*P	**Pn**	**01 56 46.8**	**+0.3**
AC02				*e*S	**Sn**	**01 57 05.4**	**+1.6**
AC02				IAML		01 57 06.4	
	comp=Z,1μm,0.2s						
LCO	**Las Campanas**	**1.36**	**198**		**Pn**	**01 56 47.9**	**+0.9**
LCO	**Las Campanas**	**1.36**	**198**	*e*P	**Pn**	**01 56 47.7**	**+0.7**
LCO				*e*S	**Sn**	**01 57 06.0**	**+1.4**
LCO	**Las Campanas**	**1.36**	**198**	*e*P	**Pn**	**01 56 48.0**	**+0.9**
LCO				*e*S	**Sn**	**01 57 06.9**	**+2.3**
LCO				IAML		01 57 09.6	
	comp=Z,9μm,0.2s						
AC01	**Pan de Azucar**	**1.60**	**348**		**Pn**	**01 56 51.1**	**+1.2**
AC01	**Pan de Azucar**	**1.60**	**348**	*e*P	**Pn**	**01 56 51.0**	**+1.1**
AC01				IAML		01 57 14.6	
	comp=E,2μm,0.3s						
AC01	**Pan de Azucar**	**1.60**	**348**	*e*P	**Pn**	**01 56 50.3**	**+0.4**
AC01				*e*S	**Sn**	**01 57 10.6**	**+0.7**
AC01				IAML		01 57 14.5	
	comp=Z,1μm,0.2s						
VCA	**Vinchina**	**2.05**	**120**	*e*P	**Pn**	**01 56 53.9**	**-2.2**
VCA				*e*P	**Pn**	**01 56 58.6**	**+2.6**
VCA				*e*S	**Sn**	**01 57 22.9**	**+2.1**
VCA				IAML		01 57 32.4	
	comp=Z,540nm,0.4s						
CO01	**Juntas del Tor**	**2.26**	**177**		**Pn**	**01 57 00.7**	**+1.8**
CO01	**Juntas del Tor**	**2.26**	**177**	*e*P	**Pn**	**01 57 00.8**	**+1.8**
CO01	**Juntas del Tor**	**2.26**	**177**	*e*P	**Pn**	**01 57 00.2**	**+1.3**
CO01				*e*S	**Sn**	**01 57 28.6**	**+2.7**
CO05	**La Serena**	**2.37**	**202**		**Pn**	**01 57 00.4**	**+0.2**
CO05	**La Serena**	**2.37**	**202**	*e*P	**Pn**	**01 57 00.2**	**0.0**
CO05				IAML		01 57 35.8	
	comp=N,1μm,0.2s						
GO04	**Tololo Observa**	**2.50**	**192**		**Pn**	**01 57 02.8**	**+0.6**
GO04	**Tololo Observa**	**2.50**	**192**	*e*P	**Pn**	**01 57 02.8**	**+0.6**
GO04	**Tololo Observa**	**2.50**	**192**	*e*P	**Pn**	**01 57 03.0**	**+0.8**
GO04				*e*S	**Sn**	**01 57 34.9**	**+3.0**
GO04				IAML		01 57 42.0	
	comp=Z,800nm,0.2s						
AROD	**Rodeo**	**2.53**	**165**	*e*P	**Pn**	**01 57 05.2**	**+2.5**
AROD				*e*S	**Sn**	**01 57 28.7**	**-4.0**
GO02	**Mina Guanaco**	**2.60**	**13**	Pn	**Pn**	**01 57 04.8**	**+1.1**
GO02	**Mina Guanaco**	**2.60**	**13**	*e*P	**Pn**	**01 57 04.7**	**+0.9**
GO02	**Mina Guanaco**	**2.60**	**13**	*e*P	**Pn**	**01 57 04.3**	**+0.6**
GO02				*e*S	**Sn**	**01 57 36.4**	**+1.9**
GO02				IAML		01 57 46.9	
	comp=Z,462nm,0.5s						
ACCO	**Cerro Coronel**	**3.04**	**161**	*e*P	Pn	01 57 01.1	-8.5
ACCO				*e*S	**Sn**	**01 57 45.9**	**+0.9**
ACCO				*e*S	Sn	01 57 53.9	+8.9
PB14	**IPOC Station P**	**3.08**	**357**	Pn	**Pn**	**01 57 11.6**	**+1.4**
CO03	**El Pedregal**	**3.14**	**187**		**Pn**	**01 57 11.5**	**+0.8**
CO03	**El Pedregal**	**3.14**	**187**	*e*P	**Pn**	**01 57 11.4**	**+0.6**
CO03				IAML		01 57 59.0	
	comp=N,504nm,0.5s						
CO06	**Fray Jorge**	**3.20**	**202**		**Pn**	**01 57 10.6**	**-0.8**
CO06	**Fray Jorge**	**3.20**	**202**	*e*P	**Pn**	**01 57 10.4**	**-1.1**
CO06				IAML		01 58 02.5	
	comp=E,449nm,0.3s						
DOCA	**Reserva Natura**	**3.37**	**163**	*e*P	**Pn**	**01 57 17.2**	**+3.0**
DOCA				IAML		01 58 08.9	
	comp=Z,266nm,0.8s						
CO02	**Combarbal**	**3.54**	**191**		**Pn**	**01 57 16.2**	**0.0**
CO02	**Combarbal**	**3.54**	**191**	*e*P	**Pn**	**01 57 16.1**	**-0.2**
CYA	**Choya**	**3.97**	**102**	*e*P	**Pn**	**01 57 22.9**	**+0.9**
CYA				*e*S	**Sn**	**01 58 09.0**	**+1.6**
ZON	**Zonda**	**4.05**	**161**		**Pn**	**01 57 25.2**	**+2.1**
ZON	**Zonda**	**4.05**	**161**	*e*P	**Pn**	**01 57 26.2**	**+3.1**
ZON				*e*S	**Sn**	**01 58 09.4**	**+0.1**
ZON				IAML		01 58 22.3	
	comp=Z,102nm,0.7s						
APLL	**PUNTA DE LOS L**	**4.19**	**130**	*e*P	**Pn**	**01 57 26.1**	**+1.1**
APLL				*e*S	**Sn**	**01 58 09.4**	**-3.5**
APLL				*e*S	**Sn**	**01 58 13.5**	**+0.6**
CFA	**Coronel Fontan**	**4.24**	**156**	*e*P	**Pn**	**01 57 27.5**	**+1.8**
CFA				*e*S	**Sn**	**01 58 14.4**	**+0.3**
PB15	**IPOC Station P**	**4.54**	**9**		**Pn**	**01 57 30.7**	**+0.7**
PB15	**IPOC Station P**	**4.54**	**9**	*e*P	**Pn**	**01 57 30.0**	**0.0**
PB15	**IPOC Station P**	**4.54**	**9**	*e*P	**Pn**	**01 57 30.9**	**+0.9**
PB15				*e*S	Sn	01 58 35.9	+14
PB15				IAML		01 58 42.4	
	comp=Z,420nm,0.4s						
ACHE	**Chepes**	**4.63**	**139**	*e*P	**Pn**	**01 57 33.4**	**+2.3**
ASAL	**Salagasta**	**5.00**	**166**	*e*P	**Pn**	**01 57 39.1**	**+2.9**
ASAL				*e*S	**Sn**	**01 58 32.4**	**-0.4**
ASAL				IAML		01 58 45.0	
	comp=Z,103nm,0.8s						
PB06	**IPOC Station P**	**5.02**	**7**	*e*P	**Pn**	**01 57 35.9**	**-0.7**
PB06				*e*P	**Pn**	**01 57 36.3**	**-0.3**
PB06				*e*S	Sn	01 58 46.9	+13
PB06				IAML		01 59 02.6	
	comp=Z,126nm,0.6s						
VA03	**San Esteban**	**5.04**	**183**		**Pn**	**01 57 37.2**	**+0.6**
VA03	**San Esteban**	**5.04**	**183**	*e*P	**Pn**	**01 57 37.1**	**+0.4**
VA03	**San Esteban**	**5.04**	**183**	*e*P	**Pn**	**01 57 37.0**	**+0.3**
VA03				IAML		01 58 54.5	
	comp=Z,147nm,1.1s						
LVC	**Limon Verde**	**5.22**	**13**		**Pn**	**01 57 40.3**	**+0.8**
LVC	**Limon Verde**	**5.22**	**13**	*e*P	**Pn**	**01 57 39.6**	**+0.1**
LVC				*e*S	Sn	01 58 53.9	+15
LVC				IAML		01 59 21.4	
	comp=Z,119nm,0.7s						
ROC1	**El Roble**	**5.29**	**187**		**Pn**	**01 57 39.7**	**-0.5**
PB04	**IPOC Station P**	**5.36**	**1**	*e*P	**Pn**	**01 57 40.0**	**-1.2**
PB04				IAML		01 59 24.1	
	comp=Z,91nm,0.7s						
MT02	**Curacav**	**5.58**	**188**		**Pn**	**01 57 42.4**	**-1.6**
MT08	**Bocatoma Ro**	**5.71**	**178**		**Pn**	**01 57 47.2**	**+1.2**
MT13	**San Alfonso**	**6.01**	**181**		**Pn**	**01 57 50.0**	**0.0**
VA05	**Santo Domingo**	**6.04**	**191**		**Pn**	**01 57 47.6**	**-2.6**
MT09	**Talagante**	**6.08**	**186**		**Pn**	**01 57 49.2**	**-1.7**
PB01	**IPOC Station P**	**6.68**	**6**		**Pn**	**01 57 55.8**	**-3.2**
H03N1	**Juan Fernandez**	**9.41**	**231**	T	T	02 07 43.4	
	baz=55,slow=72,SNR=40						
H03N2	**Juan Fernandez**	**9.43**	**231**	T	T	02 07 41.7	
	baz=55,slow=72,SNR=36						
H03N3	**Juan Fernandez**	**9.43**	**231**	T	T	02 07 44.4	
	baz=55,slow=72,SNR=31						
CPUP	**Villa Florida**	**11.58**	**86**	P	**Pn**	**01 59 04.6**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=231,slow=17,SNR=2.3						
PLTB	**Pedras Altas**	**14.99**	**110**	Pn	**Pn**	**01 59 50.4**	**-0.9**
ITAB	**Concordia**	**16.07**	**92**		**P**	**02 00 06.2**	**-0.9**
PMSA	**Palmer Station**	**37.28**	**176**	P	**P**	**02 03 27.4**	**-0.6**
SNAA	**Sanae**	**56.86**	**160**	P	**P**	**02 06 00.5**	**+0.2**
SNAA				IAmb	IAmb	02 06 41.0	
	comp=Z,6.5nm,1.5s						
SNAA	**Sanae**	**56.86**	**160**	P	**P**	**02 06 00.0**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=290,slow=11,SNR=2.3						
SNAA				pP	**pP**	**02 06 19.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=278,slow=11,SNR=2.0						
	comp=Z,0.3nm,0.4s						
QSPA	**South Pole Qui**	**62.50**	**180**	P	**P**	**02 06 39.6**	**+0.4**
QSPA				IAmb	IAmb	02 06 51.0	
	comp=Z,4.3nm,1.4s						
TXAR	**Lajitas Array**	**65.14**	**328**	P	**P**	**02 06 56.6**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=148,slow=7.4,SNR=4.5						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**78.94**	**332**	P	**P**	**02 08 20.4**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=112,slow=6.9,SNR=4.4						
	comp=Z,0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**80.59**	**70**	P	**P**	**02 08 28.8**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=274,slow=6.2,SNR=5.7						
TORD				pP	**pP**	**02 08 48.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=270,slow=4.8,SNR=3.7						
TORD				sP	**sP**	**02 08 56.3**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=275,slow=5.2,SNR=4.4						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**126.99**	**209**	PKP	**PKPdf**	**02 15 19.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=161,slow=1.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**148.02**	**28**	PKPbc	**PKPbc**	**02 16 00.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=256,slow=4.3,SNR=2.0						
ZALV				pPKPbc	**pPKPbc**	**02 16 21.3**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=293,slow=4.1,SNR=2.4						
MKAR	**Makanchi Array**	**151.22**	**41**	pPKPbc	pPKPbc	02 16 29.8	+0.2
	comp=Z,0.9nm,0.7s,baz=345,slow=2.7,SNR=2.1						

DJA 10 01:56:33.7±1.8, 4°.3S×147°.17E±0°.8, h143km±17km, M4.0/6, mb4.8/1, mB5.5/1, MLv3.6/6, Mw(mB)5.0/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.87**	**305**	P	Pn	01 56 57.6	+0.9
SANI	**Sanana**	**2.48**	**312**	P	Pn	01 57 14.3	0.0
SANI				S	Sn	01 57 39.0	-6.5
LBMI	**Labuha**	**3.10**	**354**	P	Pn	01 57 22.0	-0.1
SWI	**Sorong**	**4.47**	**50**	P	Pn	01 57 31.9	-8.1
LUWI	**Luwuk**	**5.71**	**298**	P	Pn	01 57 56.4	-0.1

NOU 10 02:02:11.8, 19°.85S×170°.27E, h11km, MLv4.0/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.65**	**232**	P	Pn	02 02 53.6	-0.9
LIFNC	**LIFOU**	**2.99**	**252**	P	Pn	02 02 57.9	-1.3
PINNC	**Pines Island,**	**3.81**	**223**	P	Pn	02 03 10.0	-0.4
YATNC	**Mamie plateau,**	**3.85**	**235**	P	Pn	02 03 10.7	-0.3
OUENC	**Ouen Island, N**	**4.09**	**231**	P	Pn	02 03 14.8	+0.4
DZM	**Mont Dzumac**	**4.20**	**238**	P	Pn	02 03 15.6	-0.4
ONTNC	**Ouen Toro**	**4.32**	**235**	P	Pn	02 03 18.4	+0.9
NOUC	**Port Laguerre**	**4.33**	**238**	P	Pn	02 03 18.5	+0.9
KOUNC	**Koumac, New Ca**	**5.66**	**262**	P	Pn	02 03 36.5	+0.6

---

*SJA **10** 02:02:34.1±0.7, 27°.79S×71°.47W, h26km±2km, ML3.6, MW3.9*
*GUC **10** 02:02:38.6±0.8, 27°.91S×71°.16W, h42km±2km, ML3.4*

ISC 10 02:02:32.9±1.8, 27°.85S±0°.03×71°.47W±0°.06, h7km±11km, n33, σ1°.85/59, 4C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.50**	**135**	⇓*e*P	**Pn**	**02 02 46.3**	**-0.1**
AC04				*e*S	**Sb**	**02 02 52.2**	**+0.7**
AC04				IAML		02 02 53.0	
	comp=N,4μm,0.2s						
AC04	**Llanos de Chal**	**0.50**	**135**	*e*P	**Pb**	**02 02 45.5**	**+1.5**
AC04				*e*S	**Sg**	**02 02 46.2**	**-2.8**
AC06	**Mina Casimiro**	**1.10**	**64**	*e*P	**Pb**	**02 02 54.8**	**+0.4**
AC06				*e*S	**Sb**	**02 03 07.3**	**-1.7**
AC06				IAML		02 03 09.7	
	comp=E,1μm,0.2s						
GO03	**Copiap**	**1.12**	**77**	*e*P	**Pb**	**02 02 55.0**	**+0.2**
GO03				*e*S	**Sb**	**02 03 06.5**	**-3.0**
GO03				IAML		02 03 09.8	
	comp=E,1μm,0.3s						
GO03	**Copiap**	**1.12**	**77**	*e*P	**Pb**	**02 02 55.3**	**+0.6**
GO03				*e*S	**Sb**	**02 03 09.2**	**-0.4**
GO03				IAML		02 03 09.6	
	comp=Z,1μm,0.2s						
LCO	**Las Campanas**	**1.34**	**150**	⇑*e*P	**Pn**	**02 02 58.9**	**+0.6**
LCO				*e*S	**Sb**	**02 03 14.7**	**-1.3**
LCO	**Las Campanas**	**1.34**	**150**	*e*P	**Pg**	**02 02 59.9**	**+1.3**
LCO				*e*S	**Sn**	**02 03 16.5**	**-0.1**
AC05	**El Transito**	**1.44**	**133**	⇑*e*P	**Pb**	**02 03 00.8**	**+0.6**
AC05				*e*S	**Sn**	**02 03 15.7**	**-3.1**
AC05				IAML		02 03 21.0	
	comp=N,2μm,0.5s						
AC05	**El Transito**	**1.44**	**133**	*e*P	**Pb**	**02 03 01.2**	**+1.0**
AC05				*e*S	Sn	02 03 06.4	-12
AC05				IAML		02 03 21.0	
	comp=Z,660nm,0.9s						
AC01	**Pan de Azucar**	**1.86**	**25**	⇑*e*P	**Pn**	**02 03 06.0**	**+0.6**
AC01				*e*S	**Sn**	**02 03 27.2**	**-1.9**
AC01	**Pan de Azucar**	**1.86**	**25**	*e*P	**Pn**	**02 03 05.9**	**+0.6**
AC01				*e*S	**Sn**	**02 03 28.1**	**-1.0**
CO05	**La Serena**	**2.07**	**174**	*e*P	**Pn**	**02 03 09.2**	**+1.0**
CO05				IAML		02 03 44.0	
	comp=E,407nm,0.4s						
AC02	**Maricunga**	**2.31**	**65**	*e*P	**Pb**	**02 03 14.0**	**-1.2**
AC02				*e*S	**Sn**	**02 03 40.5**	**-0.4**
AC02				IAML		02 03 44.9	
	comp=N,847nm,0.3s						
AC02	**Maricunga**	**2.31**	**65**	*e*P	**Pn**	**02 03 13.5**	**+1.5**
AC02				*e*S	**Sn**	**02 03 42.1**	**+1.3**
AC02				IAML		02 03 44.8	
	comp=Z,358nm,0.4s						
GO04	**Tololo Observa**	**2.39**	**166**	*e*P	**Pn**	**02 03 14.9**	**+2.2**
GO04				*e*S	**Sn**	**02 03 43.6**	**+1.2**
GO04	**Tololo Observa**	**2.39**	**166**	*e*P	**Pn**	**02 03 14.9**	**+2.2**
GO04				*e*S	**Sb**	**02 03 45.5**	**-0.6**
GO04				IAML		02 03 55.3	
	comp=Z,284nm,0.4s						
CO01	**Juntas del Tor**	**2.44**	**151**	*e*P	**Pn**	**02 03 15.8**	**+2.3**
CO01				*e*S	**Sn**	**02 03 43.6**	**0.0**
CO01				IAML		02 03 47.5	
	comp=N,169nm,0.3s						
CO01	**Juntas del Tor**	**2.44**	**151**	*e*P	**Pn**	**02 03 15.7**	**+2.3**
CO01				*e*S	**Sb**	**02 03 45.8**	**-1.8**
CO01				IAML		02 03 56.7	
	comp=Z,160nm,0.6s						
CO06	**Fray Jorge**	**2.82**	**183**	*e*P	**Pn**	**02 03 19.5**	**+1.1**
CO06				*i* S	**Sn**	**02 03 50.6**	**-2.0**
AROD	**Rodeo**	**2.90**	**143**	*e*P	**Pb**	**02 03 24.4**	**-0.8**
AROD				*e*S	**Sn**	**02 03 53.9**	**-1.1**
VCA	**Vinchina**	**3.01**	**108**	*e*P	**Pn**	**02 03 23.4**	**+2.2**
VCA				*e*S	**Sg**	**02 04 10.4**	**+0.8**
VCA				IAML		02 04 11.9	
	comp=Z,152nm,0.5s						
CO03	**El Pedregal**	**3.06**	**167**	*e*P	**Pn**	**02 03 24.0**	**+2.3**
CO03				IAML		02 04 14.8	
	comp=E,197nm,0.3s						
CO03	**El Pedregal**	**3.06**	**167**	*e*P	**Pn**	**02 03 24.1**	**+2.4**
CO03				*e*S	**Sn**	**02 03 57.4**	**-1.2**
CO03				IAML		02 04 19.6	
	comp=Z,80nm,0.4s						
GO02	**Mina Guanaco**	**3.16**	**33**	⇑*e*P	**Pn**	**02 03 24.7**	**+1.3**
GO02				*i* S	**Sn**	**02 03 59.4**	**-2.2**
GO02	**Mina Guanaco**	**3.16**	**33**	*e*P	**Pn**	**02 03 24.8**	**+1.3**
GO02				*e*S	**Sn**	**02 04 01.8**	**+0.2**
GO02				IAML		02 04 22.8	
	comp=Z,130nm,0.5s						
CO02	**Combarbal**	**3.37**	**173**	*e*P	**Pn**	**02 03 27.8**	**+1.7**
CO02				*e*S	**Sn**	**02 04 08.3**	**+2.0**
CO02				IAML		02 04 24.0	
	comp=Z,117nm,0.8s						
ACCO	**Cerro Coronel**	**3.44**	**143**	*e*P	**Pb**	**02 03 32.4**	**-2.1**
ACCO				*e*S	**Sb**	**02 04 15.9**	**-0.7**
DOCA	**Reserva Natura**	**3.72**	**147**	*e*P	Pn	02 03 35.1	+3.9
DOCA				*e*S	**Sb**	**02 04 20.4**	**-4.4**
DOCA				IAML		02 04 40.8	
	comp=Z,51nm,0.5s						
RTLS	**Leoncito**	**4.36**	**155**	*e*P	Pn	02 03 45.1	+5.2
RTLS				*e*S	**Sb**	**02 04 40.4**	**-2.7**
RTLS				IAML		02 04 58.5	
	comp=Z,202nm,0.8s						
CFA	**Coronel Fontan**	**4.68**	**144**	*e*P	**Pn**	**02 03 47.3**	**+3.3**
CFA				*e*S	**Sg**	**02 05 01.4**	**-1.8**
PB15	**IPOC Station P**	**4.96**	**22**	*e*P	**Pn**	**02 03 49.6**	**+1.5**
PB15	**IPOC Station P**	**4.96**	**22**	*e*P	**Pn**	**02 03 50.3**	**+2.2**
PB15				*e*S	**Sn**	**02 04 47.1**	**+1.2**
PB15				IAML		02 05 16.8	
	comp=Z,112nm,0.2s						
CYA	**Choya**	**5.04**	**98**	*e*P	**Pn**	**02 03 53.1**	**+4.2**

---

*IDC **10** 02:02:33.6±4.8, 35°.99N×70°.53E, h179km±32km, mb3.2/5, mbtmp3.6/10, Error ellipse: s-maj=64.8km s-min=23.8km az=149.0*
*NNC **10** 02:02:43.6±7.8, 36°.86N×70°.17E, h143km±185km, mb2.4, mpv2.9, Error ellipse: s-maj=87.9km s-min=61.5km az=54.0*

ISC 10 02:02:39.5±0.8, 36°.59N±0°.08×70°.27E±0°.08, h200km, n20, σ1°.57/23, mb3.3/4, 1C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.13**	**25**	⇓P	**Pn**	**02 04 09.0**	**+0.2**
	0.2nm,0.4s						
AML				⇓S	**Sn**	**02 05 17.2**	**-2.2**
	4.8nm,0.5s						
KK31	**Karatay Array**	**6.51**	**2**	P	**Pn**	**02 04 14.2**	**+1.0**
	0.6

3.5nm,0.8s,baz=248,slow=19,SNR=1.6
BKZ Black Stump Fm 15.50 190 P P 02 12 34.5 0.0
BKZ IAmb IAmb 02 12 51.4
comp=Z,21nm,1.5s
MRZ Mangatainoka R 17.11 192 P P 02 12 50.3 -0.2
TCW Tory Channel 17.91 194 P P 02 12 59.1 +1.3
QRZ Quartz Range 18.00 199 P P 02 13 00.8 +2.1
DSZ Denniston Nort 19.06 199 P P 02 13 09.4 +1.1
KHZ Kahutara 19.22 195 P P 02 13 11.9 +2.1
KHZ IAmb IAmb 02 13 29.5
comp=Z,21nm,1.2s
LTZ Lake Taylor 19.88 197 P P 02 13 17.9 +2.1
LTZ IAmb IAmb 02 13 56.7
comp=Z,23nm,1.4s
CTAO Charters Tower 31.50 270 P P 02 15 00.1 +1.4
CTAO IAmb IAmb 02 15 02.0
comp=Z,4.8nm,0.4s
BBOO Buckleboo 39.46 247 P P 02 16 05.2 +0.4
BBOO IAmb IAmb 02 16 39.9
comp=Z,23nm,1.4s
ASAR Alice Springs 42.06 261 P P 02 16 26.8 +1.1
comp=Z,0.7nm,0.4s,baz=100,slow=7.3,SNR=8.7
comp=Z,0.7nm,0.4s
WB2 Warramunga Arr 42.42 266 P P 02 16 28.2 -0.4
WB0 Warramunga Arr 42.43 266 P P 02 16 28.6 0.0
WRA Warramunga Arr 42.43 266 P P 02 16 28.7 0.0
WRA Warramunga Arr 42.43 266 P P 02 16 28.7 0.0
comp=Z,0.7nm,0.4s,baz=93,slow=8.6,SNR=21
comp=Z,0.7nm,0.4s
FORT Forrest 46.33 250 P P 02 16 59.0 +0.4
MTN Manton Dam 47.48 274 P P 02 17 06.7 -0.9
MTN IAmb IAmb 02 17 25.4
comp=Z,14nm,1.1s
KNRA Kununurra 48.71 270 P P 02 17 17.2 +0.5
KNRA IAmb IAmb 02 17 56.9
comp=Z,32nm,1.4s
NWAO Narrogin (SRO) 55.25 246 P P 02 18 00.8 -2.8
NWAO IAmb IAmb 02 18 07.8
comp=Z,38nm,1.4s
SNAA Sanae 84.65 179 P P 02 20 58.7 +0.8
SNAA Sanae 84.65 179 P P 02 20 58.2 +0.3
comp=Z,0.4nm,0.5s,baz=231,slow=6.5,SNR=6.3
comp=Z,0.4nm,0.5s
NVAR Mina Array Bea 84.74 44 P P 02 20 59.3 +0.3
comp=Z,0.5nm,0.7s,baz=206,slow=8.2,SNR=4.4
comp=Z,0.5nm,0.7s
TXAR Lajitas Array 90.42 58 P P 02 21 27.2 +1.5
comp=Z,0.7nm,0.7s,baz=210,slow=7.2,SNR=10
comp=Z,0.7nm,0.7s
PDAR Pinedale Array 92.68 44 P P 02 21 35.7 -0.4
comp=Z,0.2nm,0.5s,baz=211,slow=2.6,SNR=3.6
comp=Z,0.2nm,0.5s
ARCES ARCESS Array B 131.91 348 PKP PKPdf 02 27 32.1 -0.8
comp=Z,1.4nm,0.8s,baz=52,slow=2.0,SNR=4.0
NOA NORSAR Array B 142.10 351 PKhKP PKPpre 02 27 47.6
comp=Z,0.2nm,0.5s,baz=15,slow=3.7,SNR=1.2
HFS Hagfors 142.56 349 PKhKP PKPpre 02 27 49.0
comp=Z,1.9nm,0.3s,baz=79,slow=3.2,SNR=21
AKASG Malin Array Be 145.00 327 PKPbc PKPdf 02 27 57.0 -0.2
comp=Z,1.1nm,0.4s,baz=44,slow=3.7,SNR=6.3
MMAI Mount Meron Ar 147.73 294 PKPbc PKiKP 02 28 07.6 0.0
comp=Z,1.4nm,0.4s,baz=64,slow=6.6,SNR=4.2
EKA Eskdalemuir Ar 148.53 3 PKPbc PKPbc 02 28 06.4 -0.9
comp=Z,1.7nm,0.8s,baz=346,slow=2.9,SNR=5.6

*NEIC **10** 02:45:37.1±2.1, 45°.33N±0°.01×121°.70W±0°.02, h13km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=202.0*
SEA 10 02:45:37.0±1.8, 45°.32N±0°.01×121°.69W±0°.02, h7km±3km, ML2.8/23, ML2.7/58(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=175.0, Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIMB	**Timberline**	**0.02**	**311**		Pg	02 45 40.4	+1.8
HOOD	**Mount Hood Mea**	**0.02**	**88**		Sg	02 45 40.1	+0.5
HOOD	**Mount Hood Mea**	**0.02**	**88**	Pg	Pg	02 45 38.7	+0.1
HOOD	**Mount Hood Mea**	**0.02**	**88**	IAML		02 45 40.3	
	comp=N,8μm,0.5s						
HOOD				IAML		02 45 40.4	
	comp=E,10μm,0.7s						
PALME	**Palmer Lift, M**	**0.04**	**340**		Pg	02 45 41.0	+2.2
TDH	**Tom, Dick, Har**	**0.08**	**247**		Pg	02 45 39.3	+0.2
HIYU	**Hiyu Mountain**	**0.14**	**323**		Pg	02 45 40.5	+0.4
HIYU					Sg	02 45 42.8	+0.6
VLL	**Laurance Lake**	**0.14**	**2**		Pg	02 45 40.6	+0.5
VFP	**Flag Point**	**0.16**	**91**		Pg	02 45 40.5	+0.2
SHRK	**Shell Rock**	**0.18**	**38**		Pg	02 45 41.1	+0.3
SHRK					Sg	02 45 44.1	+0.8
VBEM	**Beaver Butte**	**0.27**	**165**		Pg	02 45 42.9	+0.5
G05A	**Wamic**	**0.27**	**107**		Pg	02 45 43.0	+0.5
G05A	**Wamic**	**0.27**	**107**	IAML		02 45 44.0	
	comp=E,729nm,0.6s						
G05A				IAML		02 45 48.1	
	comp=N,552nm,0.3s						
BULL	**Bull Run Dam**	**0.35**	**291**		Pg	02 45 44.1	+0.2
COLT	**Colton High Sc**	**0.55**	**254**		Pg	02 45 47.7	0.0
COLT					Sg	02 45 55.6	+0.7
PGO	**Gresham**	**0.56**	**285**		Pg	02 45 48.0	+0.1
G04A	**Mulino**	**0.57**	**259**		Pg	02 45 47.9	-0.2
G04A					Sg	02 45 56.3	+0.8
CROR	**Criterion Ridg**	**0.60**	**124**		Pg	02 45 48.5	-0.1
CROR					Sg	02 45 57.1	+0.7
H04A	**Detroit Lake**	**0.73**	**209**		Pg	02 45 50.3	-0.8
H04A					Sg	02 46 00.2	-0.3
G06A	**Carlson Farm,**	**0.75**	**96**		Pg	02 45 50.8	-0.6
MTMW	**Mount Mitchell**	**0.80**	**333**		Pg	02 45 51.5	-0.8
F04A	**Amboy**	**0.80**	**320**		Pg	02 45 51.6	-0.8
F04A					Sg	02 46 02.6	-0.2
F04A	**Amboy**	**0.80**	**320**	IAML		02 46 02.7	
	comp=E,502nm,0.5s						
F04A				IAML		02 46 02.7	
	comp=N,516nm,0.3s						
VTHM	**Trough**	**0.81**	**100**		Pg	02 45 51.8	-0.8
ASR	**Mount Adams--S**	**0.83**	**4**		Pb	02 45 53.6	-0.3
CDFW	**Cedar Flats**	**0.83**	**343**		Pg	02 45 52.4	-0.7
JLK	**June Lake**	**0.89**	**339**		Pg	02 45 53.6	-0.5
LVP	**Lakeview Peak**	**0.90**	**326**		Pg	02 45 53.6	-0.8
HSR	**South Ridge**	**0.92**	**338**		Pg	02 45 54.1	-0.6
ESD	**East Dome**	**0.94**	**340**		Pg	02 45 54.2	-0.8
SWF2	**Southwest Flan**	**0.94**	**337**		Pg	02 45 54.4	-0.6
SEPW	**September Lobe**	**0.95**	**338**		Pg	02 45 54.8	-0.4
SHW	**Mount Saint He**	**0.95**	**336**		Pg	02 45 54.6	-0.8
BOLM	**Sugar Bowl**	**0.96**	**339**		Pg	02 45 54.7	-0.7
VALT	**Mount Saint He**	**0.96**	**339**		Pg	02 45 54.7	-0.8
B203	**Quarry, Mount**	**0.96**	**332**		Pg	02 45 54.3	-1.3
B203					Sg	02 46 07.5	-0.5
B202	**Windy Ridge, M**	**0.98**	**341**		Pg	02 45 54.4	-1.4
B202					Sg	02 46 07.8	-0.7
FL2	**Flat Top 2**	**0.99**	**332**		Pg	02 45 55.1	-1.0
STD	**Studebaker Rid**	**0.99**	**338**		Pg	02 45 55.0	-1.1
I05D	**Terrebonne, OR**	**1.01**	**166**		Pg	02 45 55.4	-1.1
I05D				IAML		02 46 12.8	
	comp=E,126nm,0.5s						
I05D				IAML		02 46 14.5	
	comp=N,130nm,0.4s						
B201	**Coldwater, Mou**	**1.06**	**338**		Pg	02 45 56.0	-1.5
ERK	**Elk Rock**	**1.09**	**335**		Pg	02 45 56.5	-1.4
ERK					Sg	02 46 11.1	-1.0
H04D	**Lebanon**	**1.09**	**224**		Pg	02 45 56.7	-1.3
TDL	**Tradedollar La**	**1.09**	**340**		Pg	02 45 56.6	-1.4
RVW	**Rose Valley**	**1.11**	**319**		Pg	02 45 56.7	-1.7
G03D	**McMinnville, O**	**1.12**	**265**		Pg	02 45 57.2	-1.3
G03D				IAML		02 46 13.4	
	comp=E,297nm,0.3s						
PRLK	**Prince Lake**	**1.13**	**190**		Pg	02 45 58.2	-0.5
BROR	**Big Rock Looko**	**1.19**	**208**		Pg	02 45 58.4	-1.4
F04D	**Rainier, OR**	**1.20**	**310**		Pg	02 45 58.8	-1.3
BLTW	**Bickleton**	**1.22**	**60**		Pg	02 45 59.4	-1.0
GLK	**Glacier Lake**	**1.25**	**2**		Pg	02 46 00.1	-0.8
B023	**Clatskanie**	**1.26**	**310**		Pn	02 45 59.3	-1.7
TRW	**Toppenish Ridg**	**1.26**	**39**		Pn	02 46 00.3	-0.8
WIFE	**Three Sisters-**	**1.26**	**184**		Pg	02 46 00.4	-0.9
F07A	**Phinny Hill Vi**	**1.36**	**64**		Pn	02 46 01.9	-0.5
COR	**Corvallis**	**1.36**	**238**	Pn	Pn	02 46 01.3	-1.2
COR				IAML		02 46 21.0	
	comp=E,150nm,0.7s						
COR				IAML		02 46 21.5	
	comp=E,96nm,0.5s						
LON	**Longmire**	**1.43**	**357**		Pn	02 46 02.2	-1.3
LON	**Longmire**	**1.43**	**357**		Pn	02 46 03.2	-0.4
F03A	**Seaside**	**1.45**	**296**		Pn	02 46 02.3	-1.4
BUCK	**Buck Mountain**	**1.46**	**220**		Pn	02 46 03.1	-0.8
BUCK				IAML		02 46 25.5	
	comp=E,92nm,0.7s						
HEBO	**Mount Hebo**	**1.46**	**267**		Pn	02 46 03.1	-0.8
HEBO	**Mount Hebo**	**1.46**	**267**	IAML		02 46 10.2	
	comp=E,183nm,2.3s						
HEBO				IAML		02 46 27.3	
	comp=N,120nm,1.1s						
PAT2	**Paterson 2**	**1.47**	**67**		Pn	02 46 04.0	+0.1
REMR	**Mount Rainier-**	**1.50**	**356**		Pn	02 46 04.7	0.0
ASBU	**Astronaut Butt**	**1.52**	**171**		Pn	02 46 03.9	-0.9
NAC	**Naches**	**1.54**	**23**		Pb	02 46 05.5	-0.3
HBO	**Huckleberry Mo**	**1.54**	**197**		Pn	02 46 05.0	-0.2
BMW	**Boistfort Moun**	**1.58**	**318**		Pn	02 46 04.6	-1.0
FMW	**Mount Fremont**	**1.61**	**0**		Pn	02 46 06.7	+0.6
I04A	**Tendick Farm,**	**1.61**	**199**		Pn	02 46 05.3	-0.6
PINE	**Pine Mountain**	**1.62**	**161**		Pn	02 46 06.2	0.0
PINE				IAML		02 46 30.6	
	comp=E,98nm,0.3s						
PINE				IAML		02 46 32.2	
	comp=N,92nm,0.7s						
PRW	**Prosser**	**1.66**	**57**		Pn	02 46 07.1	+0.5
B022	**Seaside**	**1.70**	**293**		Pn	02 46 06.4	-0.6
EBG	**Ellensburg**	**1.77**	**26**		Pn	02 46 08.9	+0.7
E07A	**Sunnyside**	**1.78**	**45**		Pn	02 46 07.8	-0.5
E03A	**Lebam**	**1.79**	**314**	Pn	Pn	02 46 07.9	-0.5
E03A				IAML		02 46 36.9	
	comp=N,65nm,1.0s						
E03A				IAML		02 46 39.0	
	comp=E,63nm,0.5s						
RSW	**Rattlesnake Hi**	**1.82**	**53**		Pn	02 46 09.1	+0.3
SNIWA	**Snively Ranch**	**1.82**	**50**		Pn	02 46 09.6	+0.8
BENWA	**Benson Ranch**	**1.82**	**48**		Pn	02 46 09.4	+0.5
RADR	**Rader Ridge**	**1.84**	**307**		Pn	02 46 08.9	-0.2
RADR	**Rader Ridge**	**1.84**	**307**	IAML		02 46 41.3	
	comp=E,68nm,0.8s						
RADR				IAML		02 47 09.7	
	comp=N,66nm,2.0s						
HAWA	**Hanford**	**1.85**	**54**		Pn	02 46 08.6	-0.6
D05A	**Enumclaw**	**1.88**	**354**	Pn	Pn	02 46 09.7	0.0
H2OWA	**Water**	**1.91**	**55**		Pn	02 46 10.7	+0.6
G08A	**Pilot Rock**	**1.92**	**90**		Pn	02 46 09.7	-0.6
I07A	**Izee**	**1.99**	**128**		Pn	02 46 10.6	-0.6
TBM	**Table Mountain**	**2.00**	**22**		Pn	02 46 12.5	+1.2
WIW	**Wooded Island**	**2.01**	**56**		Pn	02 46 12.2	+0.8
GBL	**Gable Mountain**	**2.01**	**50**		Pn	02 46 12.4	+1.0
I03D	**Drain, OR**	**2.01**	**217**	Pn	Pn	02 46 11.6	+0.1
YPT	**Yellepit**	**2.04**	**68**		Pn	02 46 11.6	-0.3
WAH2	**Wahluke Slope**	**2.06**	**45**		Pn	02 46 13.3	+1.2
J05D	**Fort Rock, OR**	**2.06**	**171**		Pn	02 46 12.6	+0.3
LTY	**Liberty**	**2.06**	**20**		Pn	02 46 12.1	-0.1
LTY				IAML		02 46 41.0	
	comp=N,54nm,0.6s						
LTY				IAML		02 46 41.3	
	comp=E,36nm,0.5s						
B017	**Montesano**	**2.12**	**323**		Pn	02 46 14.0	+1.1
E08A	**Dider Farm, El**	**2.18**	**57**		Pn	02 46 13.7	0.0
WISH	**Wishkah**	**2.31**	**322**	Pn	Pn	02 46 16.1	+0.6
WISH				IAML		02 46 41.6	
	comp=N,45nm,4.9s						
WISH				IAML		02 47 01.0	
	comp=E,39nm,2.6s						
GNW	**Green Mountain**	**2.38**	**341**		Pn	02 46 17.2	+0.8
LNOR	**Lincton Mounta**	**2.45**	**76**		Pn	02 46 16.8	-0.7
DBO	**Dodson Butte**	**2.47**	**208**	Pn	Pn	02 46 18.7	+0.9
DBO				IAML		02 46 37.1	
	comp=N,30nm,4.9s						
DBO				IAML		02 46 57.2	
	comp=E,38nm,3.4s						
NLWA	**Neilton Lookou**	**2.56**	**325**		Pn	02 46 19.6	+0.5
D08A	**Wollman Farm,**	**2.59**	**47**	Pn	Pn	02 46 19.0	-0.4
K05A	**Summer Lake**	**2.66**	**167**	Pn	Pn	02 46 20.4	-0.1
E09A	**Wood Farm, Sta**	**2.74**	**63**	Pn	Pn	02 46 20.6	-1.0
SAW	**Saint Andrews**	**2.86**	**33**		Pn	02 46 23.4	+0.3
OD2	**Odessa Site #2**	**2.92**	**44**		Pn	02 46 24.0	0.0
J08A	**Circle Bar Ran**	**3.03**	**129**	Pn	Pn	02 46 25.1	-0.3
BMO	**Blue Mountains**	**3.14**	**97**	Pn	Pn	02 46 26.6	-0.4
BMO				IAML		02 47 14.2	
	comp=E,15nm,0.4s						
BMO				IAML		02 47 14.9	
	comp=E,17nm,0.5s						
F10A	**Beach Ranch, E**	**3.19**	**77**	Pn	Pn	02 46 27.3	-0.5
F10A				IAML		02 47 19.4	
	comp=N,32nm,0.6s						
F10A				IAML		02 47 23.1	
	comp=E,30nm,0.5s						
C09A	**Chrisman Ranch**	**3.42**	**42**		Pn	02 46 30.7	-0.1
PLID	**Pearl Lake**	**4.03**	**91**	Pn	Pn	02 46 39.0	-0.3
PLID				IAML		02 47 53.0	
	comp=E,6.2nm,1.0s						
LLLB	**Lilloet**	**5.29**	**359**		Pb	02 47 06.4	-3.5

MEX 10 03:02:07.6±0.8, 15°.50N×92°.94W, h159km±13km, MD3.7, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.33**	**307**	*eP*	Pn	03 02 31.3	+1.9
PCIG				*eS*	Sn	03 02 43.9	-2.1
PATR	**El Naranjo**	**0.78**	**119**	*eP*	Pn	03 02 30.2	-1.8
PATR				*i S*	Sn	03 02 47.5	-3.0
PATR	**El Naranjo**	**0.78**	**119**	*e*	Pn	03 02 30.4	-1.6
PATR				*i*		03 02 47.5	
PAVE	**Pavencul**	**0.80**	**113**	*i P*	Pn	03 02 31.0	-1.0
PAVE	**Pavencul**	**0.80**	**113**	*e*	Pn	03 02 30.9	-1.2
PAVE				*e*		03 02 49.8	
CHUJ	**Union Juarez**	**0.90**	**117**	*i P*	Pn	03 02 32.1	-0.7
CHUJ				*eS*	Sn	03 02 50.8	-1.2
CHUJ	**Union Juarez**	**0.90**	**117**	*e*	Pn	03 02 32.6	-0.2
CHUJ				*e*		03 02 50.7	
CCIG	**Comitan**	**1.09**	**45**	*eP*	Pn	03 02 31.8	-2.5
CCIG				*eS*	Sn	03 02 52.4	-2.4
CARR	**Arriaga**	**1.19**	**308**	*i P*	Pn	03 02 40.9	+6.0
TGIG		**1.28**	**352**	*i P*	Pn	03 02 30.5	-5.3
TGIG				*i S*	Sn	03 02 55.1	-2.5
NILT	**Santiago Nilte**	**1.93**	**303**	*i*	Pn	03 02 53.2	+11
UXUV	**UXUV**	**2.14**	**328**	*eP*	Pn	03 02 43.4	-1.6
HLIG	**Huajuapan de L**	**5.20**	**297**	*e*		03 04 27.0	

MEX 10 03:03:04.1±0.9, 16°.22N×95°.27W, h46km±52km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.72**	**61**	*eP*	Pn	03 03 13.4	-4.5
NILT				*eS*	Sn	03 03 20.3	-7.7
HUIG	**Huatulco**	**0.92**	**241**	*eP*	Pn	03 03 18.9	-1.8
HUIG				*eS*	Sn	03 03 30.8	-1.9
CARR	**Arriaga**	**1.31**	**88**	*i S*	Sn	03 03 37.6	-4.6
UXUV	**UXUV**	**1.54**	**44**	*eP*	Pn	03 03 27.2	-1.9
UXUV				*eS*	Sn	03 03 46.5	-1.5
NEUV	**Arroyo Zacate**	**1.57**	**341**	*e*	Pn	03 03 28.5	-1.1
NEUV	**Arroyo Zacate**	**1.57**	**341**	*eP*	Pn	03 03 27.9	-1.7
NEUV				*eS*	Sn	03 03 50.0	+1.3
NEUV	**Arroyo Zacate**	**1.57**	**341**	*i*	Sn	03 03 49.8	+1.1
VHO	**Vista Hermosa**	**1.64**	**301**	*i S*	Sn	03 03 50.5	-0.1
PEIG	**Puerto Escondi**	**1.81**	**263**	*i P*	Pn	03 03 34.0	+1.1
PEIG				*eS*	Sn	03 03 58.1	+3.3
PCIG		**2.04**	**104**	*eS*	Sn	03 03 56.6	-3.6
TGIG		**2.14**	**75**	*i P*	Pn	03 03 34.5	-2.9
TGIG				*eS*	Sn	03 04 01.5	-1.2
YOIG	**Yosondua**	**2.27**	**287**	*eP*	Pn	03 03 40.6	+1.2
YOIG				*eS*	Sn	03 04 09.5	+3.2
TOIG	**Toxpalan**	**2.54**	**318**	*eP*	Pn	03 03 43.5	+0.7
TOIG				*i S*	Sn	03 04 16.8	+4.2
HLIG	**Huajuapan de L**	**2.90**	**304**	*eP*	Pn	03 03 46.3	-1.7
HLIG				*i S*	Sn	03 04 23.3	+1.5
CCIG	**Comitan**	**3.01**	**88**	*e*	Pn	03 03 59.9	+10
CCIG				*e*		03 04 30.0	
FTIG	**Fresnillo de T**	**3.21**	**302**	*eP*	Pn	03 03 58.2	+6.0
FTIG				*i S*	Sn	03 04 37.8	+8.5

*TEH **10** 03:21:33.1, 26°.10N×60°.42E, h9km, ML2.8*
*DSN **10** 03:21:37.3±1.7, 25°.54N×60°.34E, h15km, ML2.3/6, Error ellipse: s-maj=29.9km s-min=14.9km az=158.0*
ISC 10 03:21:32.6±1.1, 26°.14N±0°.08×60°.46E±0°.06, h10km, n11, σ1°.69/13, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBR	**Chabahar**	**0.54**	**178**	Pg	**Pg**	**03 21 43.2**	**+0.1**
NGCH	**Negor - Chabah**	**0.99**	**142**	Pg	**Pn**	**03 21 52.8**	**+0.3**
NGCH				Sg	**Sn**	**03 22 07.1**	**+0.6**
SRVN	**Saravan**	**2.14**	**54**	Pn	**Pb**	**03 22 11.7**	**+0.1**
ZHDN	**Zahedan**	**3.26**	**5**	Pn	**Pb**	**03 22 29.0**	**-1.8**
MDH	**Madha**	**3.85**	**258**	P	**Pn**	**03 22 32.6**	**+0.8**
SHME	**Shamm**	**3.88**	**270**	P	**Pn**	**03 22 35.5**	**+3.2**
MSFE	**Esma-Masafi**	**3.96**	**260**	P	**Pn**	**03 22 36.1**	**+2.7**
UOSS	**Minazif**	**4.02**	**254**	P	**Pn**	**03 22 34.2**	**-0.1**
SOHO	**SOHO**	**4.08**	**242**	P	**Pn**	**03 22 34.2**	**-0.8**
HATD	**Hatta, Dubai**	**4.12**	**252**	P	**Pn**	**03 22 35.9**	**+0.2**
ASHO	**Ashiyiah**	**4.24**	**251**	P	**Pn**	**03 22 39.0**	**+1.7**
ASHO				S	**Sn**	**03 23 25.0**	**-1.8**

*IDC **10** 03:31:53.4±6.8, 14°.69N×92°.71W, h71km±61km, mb3.3/4, mbtmp3.6/5, ML4.2/2, MS3.3/2, Error ellipse: s-maj=51.1km s-min=25.5km az=47.0*
*NEIC **10** 03:31:57.5±0.9, 14°.99N±0°.07×93°.20W±0°.08, h50km±12km, mb4.1/14, Md4.2/22(MEX), Error ellipse: s-maj=15.4km s-min=2.3km az=48.0*
*MEX **10** 03:31:58.0±0.8, 14°.99N×93°.20W, h66km±14km, MD4.3*
*GCG **10** 03:32:02.9±0.8, 15°.42N×92°.44W, h84km±22km, MD4.1*
ISC 10 03:31:56.9±0.9, 15°.01N±0°.05×93°.23W±0°.03, h66km±9km, n66, σ2°.42/97, mb4.0/10, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.69**	**1**		**Pn**	**03 32 11.3**	**-0.1**
PCIG					**Sn**	**03 32 21.6**	**-0.5**
PCIG		**0.69**	**1**	*eP*	**Pn**	**03 32 11.2**	**-0.3**
PCIG				*eS*	**Sn**	**03 32 21.6**	**-0.5**
THIG		**0.94**	**96**		**Pn**	**03 32 13.9**	**-0.4**
THIG					**Sn**	**03 32 26.4**	**-0.9**
THIG		**0.94**	**96**	*eP*	**Pn**	**03 32 13.8**	**-0.5**
THIG				*eS*	**Sn**	**03 32 26.2**	**-1.1**
PATR	**El Naranjo**	**0.96**	**83**	*eP*	**Pn**	**03 32 13.7**	**-1.3**
PATR				*eS*	**Sn**	**03 32 26.7**	**-1.7**
PAVE	**Pavencul**	**1.03**	**80**	*eP*	**Pn**	**03 32 15.0**	**-0.8**
PAVE				*i S*	**Sn**	**03 32 28.8**	**-1.0**
CHUJ	**Union Juarez**	**1.08**	**85**	*eP*	**Pn**	**03 32 15.4**	**-1.1**
CHUJ				*eS*	**Sn**	**03 32 29.5**	**-1.6**
CARR	**Arriaga**	**1.40**	**332**	*eP*	**Pn**	**03 32 21.2**	**+0.8**
CARR				*i S*	**Sn**	**03 32 39.0**	**+1.0**
RTAL	**Retalhuleu**	**1.56**	**108**		**Pn**	**03 32 22.2**	**-0.3**
STG3	**Santiaguito 3,**	**1.63**	**100**	*eP*	**Pn**	**03 32 24.4**	**+0.8**
STG3				*eS*	**Sn**	**03 32 40.4**	**-3.5**
CCIG	**Comitan**	**1.65**	**40**	*eP*	**Pn**	**03 32 24.4**	**+0.5**
CCIG				*eS*	**Sn**	**03 32 40.4**	**-3.8**
HUEH	**Huehuetenango**	**1.69**	**79**		**Pn**	**03 32 25.1**	**+0.5**
SULM	**Suchitepequez,**	**1.75**	**113**	*eP*	**Pn**	**03 32 26.6**	**+1.5**
SULM				*eS*	**Sn**	**03 32 46.1**	**-0.5**
TGIG		**1.76**	**3**		**Pn**	**03 32 25.5**	**+0.1**
TGIG					**Sn**	**03 32 45.8**	**-1.1**
TGIG		**1.76**	**3**	*eP*	**Pn**	**03 32 25.3**	**-0.1**
TGBT	**Tuxtla Gutierr**	**1.76**	**4**	*eP*	**Pn**	**03 32 28.3**	**+3.0**
TGBT				*i S*	**Sn**	**03 32 46.3**	**-0.5**
NILT	**Santiago Nilte**	**2.05**	**319**	*eP*	**Pn**	**03 32 29.4**	**+0.3**
NILT				*i S*	**Sn**	**03 32 53.8**	**+0.1**
FUG	**Fuego 3**	**2.37**	**103**	*eP*	**Pn**	**03 32 36.9**	**+3.1**
FUG				*eS*	**Sn**	**03 32 57.0**	**-4.9**
UXUV	**UXUV**	**2.46**	**339**	*eP*	**Pn**	**03 32 36.0**	**+1.2**
UXUV				*eS*	**Sn**	**03 32 58.7**	**-5.1**
HUIG	**Huatulco**	**2.88**	**286**	*eP*	**Pn**	**03 32 40.4**	**0.0**
HUIG				*eS*	**Sn**	**03 33 09.1**	**-4.9**
TUIG	**Tuzandepetl**	**3.22**	**339**	*i P*	**Pn**	**03 32 41.9**	**-3.2**
TUIG				*i S*	**Sn**	**03 33 19.6**	**-2.7**
NEUV	**Arroyo Zacate**	**3.65**	**318**	*eP*	**Pn**	**03 32 50.7**	**-0.3**
NEUV				*i S*	Sn	03 33 24.1	-8.8
PETF	**Flores**	**3.75**	**59**		**Pn**	**03 32 52.9**	**+0.6**
ESQI	**Esquipulas**	**3.79**	**96**	Pn	**Pn**	**03 32 52.1**	**-0.8**
MTO3	**Montecristo**	**3.79**	**99**		**Pn**	**03 32 52.9**	**-0.2**
PEIG	**Puerto Escondi**	**3.91**	**285**	*eP*	**Pn**	**03 32 54.4**	**-0.1**
PEIG				*eS*	**Sn**	**03 33 35.3**	**-3.9**
VHO	**Vista Hermosa**	**3.95**	**302**	*eP*	**Pn**	**03 32 56.1**	**+0.9**
VHO				*eS*	**Sn**	**03 33 37.6**	**-2.8**
PMUV	**Sontecomapan**	**3.96**	**333**	*eP*	**Pn**	**03 32 53.7**	**-1.6**
PMUV				*eS*	**Sn**	**03 33 38.2**	**-2.3**
SCIG	**Sabancuy**	**4.39**	**26**	*eP*	**Pn**	**03 33 01.3**	**+0.2**
SCIG				*eS*	**Sn**	**03 33 47.9**	**-3.2**
YOIG	**Yosondua**	**4.54**	**294**	*eP*	**Pn**	**03 33 06.1**	**+2.7**
YOIG				*eS*	**Sn**	**03 33 52.0**	**-3.1**
TOIG	**Toxpalan**	**4.79**	**310**	*eP*	**Pn**	**03 33 08.2**	**+1.4**
TOIG				*eS*	**Sn**	**03 33 57.5**	**-3.5**
TXIG	**Tlaxiaco**	**4.90**	**298**	*eP*	**Pn**	**03 33 10.7**	**+2.3**
TXIG				*eS*	Sn	03 33 55.1	-8.9
PNIG	**Pinotepa**	**4.92**	**287**	*eP*	**Pn**	**03 33 09.0**	**+0.7**
PNIG				*eS*	**Sn**	**03 33 59.9**	**-4.1**
HLIG	**Huajuapan de L**	**5.21**	**303**	*eP*	**Pn**	**03 33 09.1**	**-3.4**
HLIG				*eS*	**Sn**	**03 34 08.4**	**-3.1**
TPIG	**Tehuac#an**	**5.21**	**311**	*eP*	**Pn**	**03 33 11.8**	**-

IDC 10 03:48:40.0±1.2, 49°.22S×128°.44E, h0km, mb4.0/5, mbtmp4.0/5, MS3.3/3, Error ellipse: s-maj=88.2km s-min=21.0km az=98.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.77**	**318**	T	T	04 10 21.5	
	baz=147,slow=74,SNR=43						
H01W2	**Cape Leeuwin H**	**17.77**	**318**	T	T	04 10 21.6	
	baz=147,slow=74,SNR=44						
H01W3	**Cape Leeuwin H**	**17.78**	**318**	T	T	04 10 18.9	
	baz=147,slow=74,SNR=42						
ASAR	**Alice Springs**	**25.86**	**12**	P	P	03 54 13.6	+0.3
	4.4nm,0.8s,baz=186,slow=9.4,SNR=29						
	4.4nm,0.8s						
RPZ	**Rata Peaks**	**29.56**	**96**	LR	LR	04 04 32.7	
	comp=Z,43nm,19.2s,baz=300,slow=32						
WRA	**Warramunga Arr**	**29.59**	**11**	P	P	03 54 46.1	-0.5
	1.2nm,0.8s,baz=193,slow=9.4,SNR=6.5						
	1.2nm,0.8s						
URZ	**Urewera**	**36.25**	**91**	LR	LR	04 07 16.4	
	comp=Z,40nm,19.5s,baz=26,slow=31						
DZM	**Mont Dzumac**	**40.42**	**62**	LR	LR	04 10 45.5	
	comp=Z,43nm,19.8s,baz=134,slow=33						
QSPA	**South Pole Qui**	**40.91**	**180**	P	P	03 56 23.8	+0.1
	1.1nm,1.2s,baz=330,slow=6.0,SNR=1.4						
	1.1nm,1.2s						
SNAA	**Sanae**	**54.60**	**197**	P	P	03 58 09.3	-0.3
	1.7nm,0.9s,baz=152,slow=9.3,SNR=6.7						
	1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**72.29**	**331**	P	P	04 00 07.3	+0.2
	0.8nm,0.3s,baz=181,slow=5.1,SNR=4.6						
	0.8nm,0.3s						

*SJA **10** 04:38:43.1±0.8, 19°.22S×70°.19W, h65km±7km, ML3.3, MW3.5*

*GUC **10** 04:38:45.7±0.7, 19°.27S×70°.17W, h38km±2km, ML3.4*

ISC 10 04:38:45.4±1.3, 19°.26S±0°.02×70°.22W±0°.06, h33km±4km, n31, σ0s87/55, 4C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.65**	**351⇓**	*e*P	**Pb**	**04 38 58.2**	**-0.3**
PB12				*e*S	**Sb**	**04 39 07.7**	**+0.3**
PB12				IAML		04 39 09.0	
	comp=E,4μm,0.1s						
PB12	**IPOC Station P**	**0.65**	**351**	*e*P	**Pb**	**04 38 57.5**	**-1.0**
PB12				*e*S	**Sb**	**04 39 08.4**	**+1.0**
PB12				IAML		04 39 08.5	
	comp=Z,2μm,0.1s						
AP01	**Chacalluta**	**0.89**	**353**	*e*P	**Pn**	**04 39 01.6**	**0.0**
AP01				*e*S	**Sb**	**04 39 13.8**	**-0.1**
AP01				IAML		04 39 16.3	
	comp=E,5μm,0.4s						
AP01	**Chacalluta**	**0.89**	**353**	*e*P	**Pn**	**04 39 01.1**	**-0.5**
AP01				*e*S	**Sb**	**04 39 13.2**	**-0.7**
AP01				IAML		04 39 15.8	
	comp=Z,3μm,0.1s						
TA02	**Huaiquique**	**1.01**	**175⇑**	*e*P	**Pn**	**04 39 02.8**	**-0.5**
TA02				*e*S	**Sn**	**04 39 15.3**	**-1.1**
TA02				IAML		04 39 19.5	
	comp=N,2μm,0.2s						
TA02	**Huaiquique**	**1.01**	**175**	*e*P	**Pn**	**04 39 03.0**	**-0.3**
TA02				*e*S	Sn	04 39 03.1	-13
TA02				IAML		04 39 20.6	
	comp=Z,656nm,0.1s						
GO01	**Chusmiza**	**1.05**	**113**	*e*P	**Pn**	**04 39 04.0**	**-0.3**
GO01				*e*S	**Sn**	**04 39 17.8**	**-0.2**
GO01				IAML		04 39 19.6	
	comp=E,3μm,0.1s						
GO01	**Chusmiza**	**1.05**	**113**	*e*P	**Pn**	**04 39 03.5**	**-0.8**
GO01				*e*S	**Sn**	**04 39 18.8**	**+0.7**
GO01				IAML		04 39 18.9	
	comp=Z,614nm,0.3s						
HMBC	**Humberstone**	**1.07**	**163⇓**	*e*P	**Pn**	**04 39 03.4**	**-0.8**
HMBC				*e*S	**Sn**	**04 39 17.9**	**0.0**
HMBC	**Humberstone**	**1.07**	**163**	*e*P	**Pn**	**04 39 03.2**	**-0.9**
HMBC				*e*S	**Sb**	**04 39 20.4**	**+1.2**
HMBC				IAML		04 39 21.5	
	comp=Z,544nm,0.3s						
PB16	**IPOC Station P**	**1.14**	**37⇑**	*e*P	**Pn**	**04 39 04.8**	**-0.8**
PB16				*e*S	**Sn**	**04 39 19.1**	**-1.2**
PB16				IAML		04 39 20.2	
	comp=N,836nm,0.4s						
PB16	**IPOC Station P**	**1.14**	**37**	*e*P	**Pn**	**04 39 04.7**	**-0.8**
PB16				*e*S	**Sn**	**04 39 19.8**	**-0.5**
PB16				IAML		04 39 19.8	
	comp=Z,505nm,0.1s						
TA01	**Diego Aracena**	**1.30**	**178⇑**	*e*P	**Pn**	**04 39 06.8**	**-0.5**
TA01				*e*S	**Sn**	**04 39 23.9**	**+0.3**
TA01	**Diego Aracena**	**1.30**	**178**	*e*P	**Pn**	**04 39 07.0**	**-0.3**
TA01				*e*S	**Sn**	**04 39 24.9**	**+1.3**
TA01				IAML		04 39 30.6	
	comp=Z,223nm,0.3s						
PB08	**IPOC Station P**	**1.34**	**131**	*e*P	**Pn**	**04 39 07.8**	**-0.3**
PB08				*e*S	**Sn**	**04 39 25.0**	**0.0**
PB08				IAML		04 39 26.4	
	comp=N,910nm,0.1s						
PB08	**IPOC Station P**	**1.34**	**131**	*e*P	**Pn**	**04 39 07.2**	**-0.9**
PB08				*e*S	**Sn**	**04 39 25.3**	**+0.4**
PB08				IAML		04 39 26.2	
	comp=Z,496nm,0.2s						
PATCX	**Punta Patache**	**1.56**	**178**	*e*P	**Pn**	**04 39 10.5**	**-0.4**
PATCX				*e*S	**Sn**	**04 39 30.0**	**0.0**
PATCX	**Punta Patache**	**1.56**	**178**	*e*P	**Pn**	**04 39 10.6**	**-0.4**
PATCX				*e*S	**Sb**	**04 39 34.7**	**+1.5**
PATCX				IAML		04 39 36.5	
	comp=Z,220nm,0.3s						
PB18	**Visviri**	**1.80**	**23⇑**	*e*P	**Pn**	**04 39 16.6**	**+2.0**
PB18				*e*S	**Sn**	**04 39 38.9**	**+2.4**
PB01	**IPOC Station P**	**1.91**	**159**	*e*P	**Pn**	**04 39 14.9**	**-0.8**
PB01				*e*S	**Sn**	**04 39 39.0**	**+0.4**
PB01	**IPOC Station P**	**1.91**	**159**	*e*P	**Pn**	**04 39 15.2**	**-0.6**
PB01				*e*S	**Sn**	**04 39 40.8**	**+2.2**
PB02	**IPOC Station P**	**2.08**	**172**	*e*P	**Pn**	**04 39 17.6**	**-0.4**
PB02				*e*S	**Sn**	**04 39 43.1**	**+0.2**
PB02				IAML		04 39 56.6	
	comp=E,372nm,0.2s						
PB02	**IPOC Station P**	**2.08**	**172**	*e*P	**Pn**	**04 39 17.8**	**-0.2**
PB02				*e*S	**Sn**	**04 39 41.2**	**-1.6**
PB02				IAML		04 39 57.8	
	comp=Z,261nm,0.3s						
PB07	**IPOC Station P**	**2.48**	**173**	*e*P	**Pn**	**04 39 23.2**	**-0.4**
PB07				*e*S	**Sn**	**04 39 52.6**	**-0.2**
PB07				IAML		04 40 02.1	
	comp=E,202nm,0.4s						
PB07	**IPOC Station P**	**2.48**	**173**	*e*P	**Pn**	**04 39 24.0**	**+0.4**
PB07				IAML		04 40 04.6	
	comp=Z,107nm,0.3s						
PB09	**IPOC Station P**	**2.69**	**160**	IAML		04 40 10.7	
	comp=E,158nm,0.6s						
PB09				IAML		04 40 19.2	
	comp=N,114nm,0.5s						
PB09	**IPOC Station P**	**2.69**	**160**	*e*P	**Pn**	**04 39 27.2**	**+0.7**
PB09				*e*S	**Sn**	**04 39 56.7**	**-1.3**
PB09				IAML		04 40 08.2	
	comp=Z,95nm,0.6s						
PB04	**IPOC Station P**	**3.06**	**179**	*e*P	**Pn**	**04 39 31.6**	**-0.1**
PB04				*e*S	**Sn**	**04 40 07.8**	**+0.5**
PB04				IAML		04 40 19.7	
	comp=E,69nm,0.5s						
PB04	**IPOC Station P**	**3.06**	**179**	*e*P	**Pn**	**04 39 31.8**	**+0.1**
PB04				*e*S	**Sn**	**04 40 06.6**	**-0.7**
PB04				IAML		04 40 26.1	
	comp=Z,75nm,0.4s						
LVC	**Limon Verde**	**3.56**	**160**	*e*P	**Pn**	**04 39 38.9**	**+0.3**
LVC				IAML		04 40 42.2	
	comp=Z,29nm,2.0s						
LPAZ	**La Paz**	**3.56**	**34**	*e*P	Pn	04 39 42.6	+3.7

*IDC **10** 04:41:46.9±0.8, 17°.15S×176°.82W, h0km, mb4.0/10, mbtmp4.1/12, ML5.0/1, MS4.0/52, Error ellipse: s-maj=37.1km s-min=18.6km az=149.0*

*GCMT **10** 04:41:55.0±0.2, 17°.15S±0°.02×176°.74W±0°.01, h15km, MW5.0/109, Moment Tensor Solution. s22,c24; s109,c151; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.07±.10; $M_{\theta\theta}$-2.37±.09; $M_{\phi\phi}$2.44±.07; $M_{r\theta}$-0.04±.34; $M_{\theta\phi}$-1.52±.08; $M_{\phi r}$1.95±.28; Best double couple: $M_0$3.36400×10^16^ NP1:ϕ_s30.00000°, δ81.00000°, λ28.00000°. NP2:ϕ_s295.00000°, δ62.00000°, λ170.00000°.*

Principal axes: T 3.8040, Plg26.0000°, Azm256.0000°; N -0.8840, Plg61.0000°, Azm46.0000°; P -2.9240, Plg13.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function

*NOU **10** 04:42:12.3, 16°.78S×178°.72W, h0km, mb4.5/10, Fiji Islands Region*

ISC 10 04:41:48.8±0.7, 17°.0S±0°.2×176°.97W±0°.09, h10km, n85, σ2s11/37, mb4.0/10, MS4.1/52, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**2.83**	**275**	P	**Pn**	**04 42 34.2**	**+0.1**
DGTI	**Dogotuki**	**3.23**	**282**	P	**Pn**	**04 42 39.5**	**-0.2**
MSVF	**Nonsavu**	**4.81**	**261**	P	**Pn**	**04 43 03.0**	**+1.5**
MSVF	**Nonsavu**	**4.81**	**261**	Pn	**Pn**	**04 43 03.5**	**+2.0**
	1.9nm,0.3s,baz=102,slow=8.4,SNR=14						
MSVF				Sn	**Sn**	**04 43 52.5**	**-4.8**
	baz=80,slow=14						
MSVF				LR	LR	04 44 52.1	
	comp=Z,9μm,18.0s,baz=54,slow=38						
	20nm,0.8s						
YSA	**Yasawairara**	**5.23**	**272**	P	**Pn**	**04 43 09.8**	**+2.7**
AFI	**Afiamalu**	**5.87**	**59**	LR	LR	04 45 02.1	
	comp=Z,2μm,20.7s,baz=232,slow=34						
RAO	**Raoul Island**	**12.23**	**184**	LR	LR	04 48 36.8	
	comp=Z,1μm,20.4s,baz=358,slow=34						
PINNC	**Pines Island,**	**15.69**	**247**	P	**P**	**04 45 34.7**	**+0.6**
YATNC	**Mamie plateau,**	**16.02**	**249**	P	**P**	**04 45 40.3**	**+2.4**
DZM	**Mont Dzumac**	**16.42**	**249**	*e*Pn	**P**	**04 45 42.0**	**-0.4**
	95nm,1.4s						
DZM				*e*LR	LR	04 49 42.9	
	comp=Z,3μm,25.3s						
DZM	**Mont Dzumac**	**16.42**	**249**	P	**P**	**04 45 43.7**	**+1.3**
DZM	**Mont Dzumac**	**16.42**	**249**	Pn	**P**	**04 45 41.2**	**-1.2**
	13nm,1.1s,baz=93,slow=14,SNR=4.0						
DZM				LR	LR	04 51 02.0	
	comp=Z,2μm,19.1s,baz=66,slow=34						
ONTNC	**Ouen Toro**	**16.48**	**249**	P	**P**	**04 45 46.7**	**+3.8**
NOUC	**Port Laguerre**	**16.56**	**249**	P	**P**	**04 45 46.3**	**+2.5**
RAR	**Rarotonga**	**16.78**	**107**	LR	LR	04 50 21.7	
	comp=Z,700nm,21.9s,baz=316,slow=31						
KOUNC	**Koumac, New Ca**	**18.09**	**256**	P	**P**	**04 46 06.6**	**+5.8**
HNR	**Honiara**	**23.68**	**286**	LR	LR	04 55 24.7	
	comp=Z,5μm,19.4s,baz=91,slow=34						
PPT2	**Papeete2**	**26.16**	**95**	*e*LR	LR	04 53 23.2	
	comp=Z,1μm,26.8s						
PPT2				*e*LR	LR	04 53 32.5	
	comp=Z,1μm,29.0s						
PPT	**Papeete**	**26.16**	**95**	LR	LR	04 54 50.5	
	comp=Z,374nm,20.1s,baz=266,slow=30						
TBI	**Tubuai**	**26.56**	**108**	*e*LR	LR	04 53 42.3	
	comp=Z,4μm,28.0s						
TBI				*e*LR	LR	04 54 01.6	
	comp=Z,14μm,24.5s						
RPZ	**Rata Peaks**	**28.50**	**198**	LR	LR	04 58 43.6	
	comp=Z,525nm,18.7s,baz=46,slow=36						
KRVT	**Keravat (AS076**	**32.91**	**289**	LR	LR	05 00 40.9	
	comp=Z,289nm,18.9s,baz=200,slow=34						
CTA	**Charters Tower**	**34.96**	**259**	LR	LR	05 01 31.6	
	comp=Z,593nm,19.0s,baz=86,slow=34						
PMG	**Port Moresby**	**35.68**	**278**	LR	LR	05 02 36.0	
	comp=Z,183nm,18.1s,baz=360,slow=35						
TAOE	**Nuku Hiva Isla**	**36.74**	**82**	*e*LR	LR	04 58 44.4	
	comp=Z,624nm,24.9s						
STKA	**Stephens Creek**	**40.27**	**241**	P	**P**	**04 49 25.1**	**-1.1**
	1.1nm,0.3s,baz=102,slow=13,SNR=3.6						
STKA				LR	LR	05 03 50.1	
	comp=Z,221nm,21.8s,baz=45,slow=33						
	1.1nm,0.3s						
JAY	**Jayapura**	**43.99**	**284**	LR	LR	05 07 09.9	
	comp=Z,171nm,20.9s,baz=169,slow=34						
WRA	**Warramunga Arr**	**46.15**	**258**	P	**P**	**04 50 13.5**	**-0.5**
	1.7nm,0.9s,baz=92,slow=7.6,SNR=12						
WRA				PcP	**PcP**	**04 51 50.7**	**+0.6**
	0.6nm,0.9s,baz=88,slow=4.2,SNR=2.1						
	1.7nm,0.9s						
ASAR	**Alice Springs**	**46.36**	**253**	P	**P**	**04 50 15.7**	**+0.1**
	13nm,0.8s,baz=86,slow=8.3,SNR=69						
ASAR				LR	LR	05 09 01.1	
	comp=Z,589nm,19.4s,baz=98,slow=35						
	13nm,0.8s						
GUMO	**Guam**	**48.42**	**307**	LR	LR	05 10 17.9	
	comp=Z,39nm,19.5s,baz=122,slow=35						
SIJI	**Sorong**	**53.38**	**282**	LR	LR	05 13 12.5	
	comp=Z,165nm,20.6s,baz=169,slow=35						
BATI	**Baumata**	**57.92**	**268**	LR	LR	05 15 08.4	
	comp=Z,153nm,18.8s,baz=101,slow=34						
JCJ	**Chichijima**	**59.09**	**317**	LR	LR	05 11 45.4	
	comp=Z,116nm,20.7s,baz=107,slow=30						
NWAO	**Narrogin (SRO)**	**60.85**	**241**	LR	LR	05 18 04.9	
	comp=Z,151nm,18.1s,baz=45,slow=36						
DAV	**Davao City (W)**	**61.61**	**288**	LR	LR	05 15 22.5	
	comp=Z,42nm,21.1s,baz=162,slow=33						
RPN	**Rapa Nui**	**62.85**	**112**	LR	LR	05 12 52.9	
	comp=Z,152nm,20.5s,baz=254,slow=30						
KAPI	**Kappang**	**63.01**	**273**	LR	LR	05 17 35.5	
	comp=Z,76nm,21.7s,baz=98,slow=34						
JHJ	**Hachijo jima 2**	**64.73**	**321**	LR	LR	05 20 10.2	
	comp=Z,48nm,18.8s,baz=96,slow=36						
MJAR	**Matsushiro Arr**	**68.02**	**322**	LR	LR	05 16 38.5	
	comp=Z,63nm,20.3s,baz=176,slow=31						
SHEM	**Shemya Is, Ala**	**69.87**	**354**	LR	LR	05 17 07.7	
	comp=Z,171nm,21.9s,baz=132,slow=30						
JNU	**Nakatsue**	**70.45**	**315**	LR	LR	05 17 50.3	
	comp=Z,28nm,21.3s,baz=139,slow=31						
ASAJ	**Asahikawa**	**71.16**	**330**	LR	LR	05 18 25.7	
	comp=Z,170nm,20.9s,baz=168,slow=31						
QSPA	**South Pole Qui**	**73.05**	**180**	P	**P**	**04 53 17.6**	**-1.3**
	1.5nm,1.0s,baz=357,slow=4.8,SNR=3.7						
QSPA				LR	LR	05 22 11.2	
	comp=Z,23nm,18.7s,baz=38,slow=33						
	1.5nm,1.0s						
PETK	**Petropavlovsk-**	**73.17**	**344**	LR	LR	05 21 36.7	
	comp=Z,86nm,19.3s,baz=164,slow=33						
LEM	**Lembang**	**74.12**	**268**	LR	LR	05 27 28.5	
	comp=Z,114nm,18.5s,baz=15,slow=37						
KSRS	**Korea Array**	**74.95**	**317**	LR	LR	05 20 45.3	
	comp=Z,54nm,21.9s,baz=85,slow=31						
USRK	**Ussuriysk Ar.**	**76.65**	**325**	LR	LR	05 23 41.5	
	comp=Z,69nm,18.6s,baz=138,slow=33						
KDAK	**Kodiak Island**	**77.20**	**13**	LR	LR	05 20 52.5	
	comp=Z,139nm,20.4s,baz=221,slow=30						
NVAR	**Mina Array Bea**	**77.82**	**43**	P	**P**	**04 53 46.2**	**-0.6**
	0.3nm,0.6s,baz=221,slow=10,SNR=4.4						
NVAR				LR	LR	05 21 24.3	
	comp=Z,62nm,18.6s,baz=269,slow=30						
	0.3nm,0.6s						
KLR	**Kul'dur**	**80.04**	**329**	LR	LR	05 23 45.7	
	comp=Z,164nm,21.7s,baz=171,slow=31						
MA2	**Magadan**	**80.70**	**344**	LR	LR	05 26 59.3	
	comp=Z,79nm,18.9s,baz=140,slow=34						
SEY	**Seymchan**	**83.21**	**346**	LR	LR	05 25 34.1	
	comp=Z,124nm,21.7s,baz=126,slow=32						
NEW	**Newport**	**83.97**	**36**	LR	LR	05 27 02.1	
	comp=Z,71nm,18.1s,baz=231,slow=32						
PMSA	**Palmer Station**	**84.10**	**157**	LR	LR	05 27 34.7	
	comp=Z,30nm,18.1s,baz=255,slow=33						
TXAR	**Lajitas Array**	**84.35**	**57**	P	**P**	**04 54 21.8**	**0.0**
	0.3nm,0.8s,baz=232,slow=4.4,SNR=2.0						
TXAR				LR	LR	05 23 44.8	
	comp=Z,133nm,20.6s,baz=248,slow=30						
	0.3nm,0.8s						
ANMO	**Albuquerque**	**84.46**	**51**	LR	LR	05 25 12.8	
	comp=Z,89nm,19.4s,baz=336,slow=31						
ILAR	**Eielson Array**	**84.70**	**12**	P	**P**	**04 54 22.4**	**-0.2**
	2.8nm,1.0s,baz=230,slow=5.4,SNR=14						
ILAR				LR	LR	05 24 51.9	
	comp=Z,91nm,19.6s,baz=242,slow=30						
	2.8nm,1.0s						
MAW	**Mawson**	**85.17**	**199**	LR	LR	05 30 35.3	
	comp=Z,106nm,20.1s,baz=112,slow=34						
PDAR	**Pinedale Array**	**85.75**	**43**	P	**P**	**04 54 27.3**	**-1.3**
	0.8nm,1.0s,baz=241,slow=5.0,SNR=2.3						
	0.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.88**	**289**	P	**P**	**04 54 49.8**	**+1.1**
	0.6nm,0.3s,baz=119,slow=4.4,SNR=1.4						
CMAR				LR	LR	05 34 49.3	
	comp=Z,12nm,18.6s,baz=130,slow=35						
	0.6nm,0.3s						
INK	**Inuvik**	**90.66**	**15**	LR	LR	05 32 09.5	
	comp=Z,50nm,19.2s,baz=286,slow=33						
PLCA	**Paso Flores**	**90.95**	**133**	LR	LR	05 29 32.2	
	comp=Z,42nm,18.5s,baz=209,slow=32						
SNAA	**Sanae**	**91.46**	**178**	P	**P**	**04 54 55.0**	**-0.2**
	0.6nm,0.9s,baz=238,slow=9.5,SNR=2.5						
SNAA				LR	LR	05 34 18.5	
	comp=Z,56nm,18.5s,baz=202,slow=34						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**92.94**	**24**	LR	LR	05 29 24.1	
	comp=Z,60nm,21.5s,baz=234,slow=31						
SONM	**Songino Array**	**93.77**	**319**	LR	LR	05 34 03.2	
	comp=Z,30nm,18.4s,baz=122,slow=33						
TEIG	**Tepich**	**94.55**	**70**	LR	LR	05 29 16.6	
	comp=Z,786nm,21.5s,baz=360,slow=30						
JTS	**Las Juntas de**	**94.86**	**81**	LR	LR	05 29 15.4	
	comp=Z,82nm,19.4s,baz=292,slow=30						
NNA	**Nana**	**96.01**	**104**	LR	LR	05 28 56.0	
	comp=Z,48nm,20.9s,baz=256,slow=30						
ATAH	**Atahualpa**	**96.07**	**99**	LR	LR	05 28 30.8	
	comp=Z,158nm,21.7s,baz=253,slow=29						
LVC	**Limon Verde**	**99.38**	**117**	LR	LR	05 30 28.6	
	comp=Z,61nm,20.5s,baz=241,slow=30						
BRTR	**Keskin Array B**	**145.09**	**317**	PKPbc	**PKPdf**	**05 01 26.4**	**-0.6**
	0.3nm,0.4s,baz=126,slow=2.0,SNR=1.5						
MORC	**Moravsky Berou**	**145.26**	**343**	*e*PKP	**PKiKP**	**05 01 36.0**	**+5.2**
VRAC	**Vranov**	**145.94**	**344**	*e*PKP	PKiKP	05 01 39.8	+7.6
JAVC	**Velka Javorina**	**146.06**	**343**	*e*PKP	PKiKP	05 01 40.0	+7.5
KRUC	**Moravsky**	**146.22**	**344**	*e*PKP	PKiKP	05 01 39.7	+7.0
GERES	**GERESS Array B**	**147.07**	**347**	PKPbc	**PKiKP**	**05 01 33.5**	**-1.1**
	0.6nm,0.3s,baz=21,slow=4.2,SNR=3.2						
CONA	**Conrad Observa**	**147.40**	**344**	*e*PKP	**PKiKP**	**05 01 36.1**	**+0.8**
	17nm,1.6s						
RONA	**Rosalia, Austr**	**147.50**	**343**	*e*PKP	**PKPab**	**05 01 37.3**	**+2.0**
	12nm,1.4s						
LESA	**Schwarzleotal**	**148.63**	**347**	*e*PKP	**PKPab**	**05 01 39.4**	**-0.4**
	6.5nm,1.2s						
WATA	**Walderalm**	**148.94**	**349**	*e*PKP	**PKPab**	**05 01 40.2**	**-0.9**
	7.2nm,0.7s						
MOTA	**Moosalm**	**149.01**	**349**	*e*PKP	**PKPab**	**05 01 40.0**	**-1.5**
	6.4nm,1.1s						
SQTA	**Sankt Quirin**	**149.12**	**349**	*e*PKP	**PKPab**	**05 01 41.0**	**-0.9**
	4.5nm,0.9s						
DAVA	**Damuels**	**149.27**	**351**	*i* PKP	**PKPab**	**05 01 40.8**	**-1.7**
	10nm,1.1s						
ABTA	**Abfaltersbach**	**149.31**	**347**	*e*PKP	**PKPab**	**05 01 41.3**	**-1.3**
	11nm,1.4s						
FETA	**Feichten**	**149.39**	**350**	*e*PKP	**PKPab**	**05 01 41.2**	**-1.8**
	8.7nm,1.0s						

VIE 10 04:49:26.9±0.3, 47°.39N×11°.29E, h10km±3km, mb0.3/1, ml0.8/5, Error ellipse: s-maj=1.7km s-min=0.9km az=178.0 10 km NE of Seefeld, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOTA	**Moosalm**	**0.13**	**251**	*i* Pg	Pg	04 49 30.3	+0.2
	0.5nm,0.1s						
MOTA				*i* Sg	Sg	04 49 32.6	+0.3
	13nm,0.1s						
SQTA	**Sankt Quirin**	**0.18**	**198**	*i* Pg	Pg	04 49 31.1	+0.4
	1.4nm,0.1s						
SQTA				*e*Sg	Sg	04 49 33.8	+0.4
	3.5nm,0.1s						
WATA	**Walderalm**	**0.20**	**105**	*i* Pg	Pg	04 49 31.3	+0.1
	1.5nm,0.1s						
WATA				*i* Sg	Sg	04 49 34.4	+0.3
	5.0nm,0.1s						
WTTA	**Wattenberg**	**0.27**	**118**	*i* Pg	Pg	04 49 32.6	+0.2
	0.7nm,0.1s						
WTTA				*i* Sg	Sg	04 49 36.6	+0.5
	1.6nm,0.1s						
FETA	**Feichten**	**0.53**	**226**	*e*Pg	Pg	04 49 37.5	+0.3
	0.1nm,0.0s						
FETA				*i* Sg	Sg	04 49 44.8	+0.5
	0.3nm,0.1s						

ROM 10 04:49:32.0±0.1, 46°.301N±0°.009×12°.70E±0°.02, h11km, ML0.6/6, Error ellipse: s-maj=1.2km s-min=1.0km az=296.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STAL	**STALIGIAL**	**0.04**	**170**	P	Pg	04 49 34.6	+0.5
STAL				S	Sg	04 49 35.8	+0.1
STAL				AML	AML		
	comp=E,1155μm,1.3s						
STAL				AML	AML		
	comp=N,1895μm,0.2s						
STAL				AML	AML		
	comp=E,1880μm,0.2s						
STAL				AML	AML		
	comp=N,1310μm,0.7s						
STAL				AML	AML		
	comp=N,1268μm,0.2s						
STAL				AML	AML		
	comp=N,1894μm,0.2s						
STAL				AML	AML		
	comp=E,1877μm,0.2s						
STAL				AML	AML		
	comp=E,1121μm,0.2s						
MLNI	**Malnisio**	**0.16**	**203**	*e*Pg	Pb	04 49 36.6	-0.5
MLNI				*e*Sg	Sg	04 49 39.9	+1.6
CIMO	**Cimolais**	**0.18**	**273**	*e*Pg	Pg	04 49 36.7	+0.7
CIMO				*e*Sg	Sg	04 49 39.3	+0.6
CIMO	**Cimolais**	**0.18**	**273**	P	Pg	04 49 36.7	+0.7
CIMO				S	Sg	04 49 39.6	+0.8
CIMO				AML	AML		
	comp=E,24μm,0.8s						
CIMO				AML	AML		
	comp=N,21μm,0.1s						
CIMO				AML	AML		
	comp=N,22μm,0.7s						
CIMO				AML	AML		
	comp=E,40μm,1.3s						
CIMO				AML	AML		
	comp=E,19μm,0.1s						
CIMO				AML	AML		
	comp=N,21μm,0.1s						
CLUD	**Cludinico**	**0.20**	**39**	*e*Pg	Pg	04 49 36.9	+0.5
CLUD				*e*Sg	Sg	04 49 39.9	+0.6
MPRI	**Monte Prat**	**0.21**	**107**	*e*Pg	Pg	04 49 37.1	+0.6
MPRI				*e*Sg	Sg	04 49 40.3	+0.8
CSMI	**Casera Mimoias**	**0.21**	**351**

OUENC IAmb IAmb 05 05 52.5
comp=Z,14nm,1.0s
MTN Manton Dam 23.85 250 P **P 05 06 12.2 -0.3**
MTN IAmb IAmb 05 06 18.9
comp=Z,18nm,1.4s
WR0 Warramunga Arr 23.92 231 P **P 05 06 12.5 -0.6**
WB0 Warramunga Arr 23.93 232 P **P 05 06 13.5 +0.3**
WRAB Tennant Creek 24.06 231 P **P 05 06 14.1 -0.2**
WRAB IAmb IAmb 05 06 15.2
comp=Z,6.9nm,0.7s
WB2 Warramunga Arr 24.06 231 P **P 05 06 14.7 +0.3**
WB2 IAmb IAmb 05 06 14.9
comp=Z,6.2nm,0.7s
WRA Warramunga Arr 24.07 231 P **P 05 06 12.6 -1.9**
WRA Warramunga Arr 24.07 231 P **P 05 06 14.6 +0.1**
comp=Z,6.5nm,0.8s,baz=55,slow=10.0,SNR=60
WRA PcP **PcP 05 09 52.3 +0.2**
comp=Z,0.4nm,0.6s,baz=58,slow=2.0,SNR=3.2
WRA ScP **ScP 05 13 17.2 +0.4**
comp=Z,0.4nm,0.7s,baz=53,slow=2.7,SNR=2.9
comp=Z,6.5nm,0.8s
ARMA Armidale 25.01 185 P **P 05 06 23.7 +0.7**
ARMA IAmb IAmb 05 06 37.4
comp=Z,20nm,1.3s
ASAR Alice Springs 26.63 225 P **P 05 06 37.3 -0.3**
comp=Z,1.2nm,0.8s,baz=60,slow=9.0,SNR=12
comp=Z,1.2nm,0.8s
KNRA Kununurra 26.90 246 P **P 05 06 39.5 -0.6**
KNRA IAmb IAmb 05 06 41.4
comp=Z,9.7nm,0.8s
STKA Stephens Creek 28.85 202 P **P 05 06 56.4 -0.7**
comp=Z,1.2nm,0.6s,baz=14,slow=9.3,SNR=3.8
comp=Z,1.2nm,0.6s
BBOO Buckleboo 32.07 209 P **P 05 07 25.1 -0.4**
TOLI2 Tolitoli 33.91 280 P **P 05 07 42.6 +0.8**
TOLI2 IAmb IAmb 05 07 44.9
comp=Z,3.3nm,0.6s
FORT Forrest 35.19 221 P **P 05 07 51.5 -1.0**
MORW Morawa 43.01 232 P **P 05 08 56.8 -0.8**
MORW IAmb IAmb 05 08 58.1
comp=Z,12nm,1.2s
JNU Nakatsue 44.18 332 P **P 05 09 06.3 -0.6**
KSRS Korea Array 49.11 332 P **P 05 09 45.4 +0.3**
comp=Z,1.7nm,0.7s,baz=132,slow=8.6,SNR=4.7
comp=Z,1.7nm,0.7s
PETK Petropavlovsk- 58.35 3 P **P 05 10 52.2 +0.3**
comp=Z,3.1nm,0.9s,baz=159,slow=4.5,SNR=2.4
comp=Z,3.1nm,0.9s
CMAR Chiang Mai Arr 59.30 295 P **P 05 10 58.5 -0.8**
CMAR Chiang Mai Arr 59.30 295 P **P 05 11 00.8 +1.5**
comp=Z,2.0nm,0.6s,baz=108,slow=5.0,SNR=17
comp=Z,2.0nm,0.6s
SONM Songino Array 67.51 327 P **P 05 11 53.4 +0.5**
comp=Z,1.1nm,0.6s,baz=139,slow=6.2,SNR=7.4
comp=Z,1.1nm,0.6s
SHL Shillong 67.72 300 P **P 05 11 55.1 +0.4**
J20K Nowinta River 79.27 20 P **P 05 13 02.1 +1.0**
J20K IAmb IAmb 05 13 19.5
comp=Z,9.8nm,1.5s
SML Sawmill 80.12 24 P **P 05 13 06.2 +0.3**
IMAR Indian Mountai 80.50 19 P **P 05 13 08.3 +0.5**
MKAR Makanchi Array 81.62 319 P **P 05 13 13.7 -0.4**
MKAR Makanchi Array 81.62 319 P **P 05 13 14.4 +0.3**
comp=Z,2.7nm,0.9s,baz=100,slow=6.7,SNR=7.2
comp=Z,2.7nm,0.9s
HDA Harding Lake 82.00 22 P **P 05 13 15.2 -0.5**
HDA IAmb IAmb 05 13 53.2
comp=Z,4.1nm,1.3s
ILAR Eielson Array 82.21 22 P **P 05 13 15.8 -0.9**
comp=Z,0.8nm,0.6s,baz=247,slow=5.5,SNR=15
comp=Z,0.8nm,0.6s
ZALV Zalesovo Beam 82.36 326 P **P 05 13 16.6 -1.2**
comp=Z,1.0nm,0.5s,baz=101,slow=4.7,SNR=3.8
comp=Z,1.0nm,0.5s
M27K Edge Creek, AK 83.05 25 P **P 05 13 21.9 +0.5**
M27K IAmb IAmb 05 13 24.3
comp=Z,7.9nm,1.4s
TOLK Toolik Lake Re 83.36 18 P **P 05 13 22.6 -0.1**
TOLK IAmb IAmb 05 13 46.6
comp=Z,6.7nm,1.4s
BCAR Beaver Creek A 83.39 24 P **P 05 13 23.3 +0.3**
QSPA South Pole Qui 84.58 180 P **P 05 13 29.3 +0.2**
QSPA South Pole Qui 84.58 180 P **P 05 13 29.0 -0.1**
comp=Z,3.7nm,0.6s,baz=334,slow=0.8,SNR=48
comp=Z,3.7nm,0.6s
KURBB Kurchatov Arra 85.06 322 P **P 05 13 31.3 -0.3**
comp=Z,0.7nm,0.7s,baz=102,slow=4.7,SNR=4.4
comp=Z,0.7nm,0.7s
MAW Mawson 85.54 203 P **P 05 13 33.2 -0.4**
MAW Mawson 85.54 203 P **P 05 13 33.6 -0.1**
comp=Z,3.1nm,0.6s,baz=90,slow=7.4,SNR=6.8
comp=Z,3.1nm,0.6s
BVAR Borovoye Array 90.49 323 P **P 05 13 56.3 -1.1**
comp=Z,0.6nm,0.4s,baz=90,slow=5.8,SNR=2.9
comp=Z,0.6nm,0.4s
TORD Torodi Ar. Bea 151.73 288 PKPbc **PKPbc 05 20 49.3 -1.4**
comp=Z,0.3nm,0.4s,baz=30,slow=2.4,SNR=4.5

*ISK **10** 05:10:25.6, 35.°34N×27.°13E, h8km, ML3.3/22*
*ATH **10** 05:10:25.5, 35.°29N×27.°14E, h9km±3km, ML3.4/9, Manual Solution by A.Papageorgiou First location: 2019/04/09 10:41:23, This location: 2019/04/09 10:40:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 6 km; Longitude uncertainty: 4 km*
*THE **10** 05:10:25.6, 35.°30N×27.°11E, h0km±2km, ML3.2/5, Error ellipse: s-maj=5.4km s-min=1.3km az=140.0*
*AFAD **10** 05:10:26.4±0.0, 35.°35N×27.°32E, h15km±1km, MW3.6*
*IDC **10** 05:10:32.5±3.1, 35.°41N×26.°81E, h78km±34km, mb3.3/4, mbtmp3.5/7, MS3.3/3, Error ellipse: s-maj=35.0km s-min=21.4km az=165.0*
ISC 10 05:10:22.8±1.3, 35.°17N±0.°04×27.°20E±0.°03, h2km±9km, n72, σ1.9°03/96, mb3.5/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPA	**Karpathos**	**0.34**	**1**	P	**Pg**	**05 10 30.1**	**+0.7**
KRPA				S	**Sg**	**05 10 34.1**	**+0.3**
KARP	**Karpathos**	**0.38**	**355**	Pg	**Pg**	**05 10 30.5**	**+0.3**
KARP	**Karpathos**	**0.38**	**355**	P	**Pg**	**05 10 30.5**	**+0.3**
KARP				S	**Sg**	**05 10 34.9**	**-0.3**
13μm,0.2s							
KARP	**Karpathos**	**0.38**	**355**	P	**Pg**	**05 10 30.5**	**+0.3**
KARP				S	**Sg**	**05 10 35.0**	**-0.1**
ZKR	**Zakros**	**0.81**	**267**	Pg	**Pb**	**05 10 39.5**	**-0.1**
ZKR				Sg	**Sn**	**05 10 53.1**	**-0.7**
ZKR	**Zakros**	**0.81**	**267**	P	**Pb**	**05 10 39.5**	**-0.1**
ZKR				S	**Sb**	**05 10 52.0**	**+1.0**
2μm,0.7s							
ZKR	**Zakros**	**0.81**	**267**	P	**Pn**	**05 10 40.5**	**-0.7**
FRMA	**Ierapetra Chan**	**1.22**	**263**	P	**Pg**	**05 10 44.6**	**-1.5**
FRMA				S	**Sg**	**05 11 01.1**	**-0.7**
615nm,0.7s							
FRMA	**Ierapetra Chan**	**1.22**	**263**	P	**Pg**	**05 10 46.0**	**-0.1**
FRMA				S	**Sg**	**05 11 01.2**	**-0.6**
AGNA	**Agios Nikolaos**	**1.22**	**272**	P	**Pn**	**05 10 47.1**	**+0.3**
AGNA				S	**Sb**	**05 11 03.4**	**+0.8**
ARG	**Arkhangelos**	**1.29**	**35**	Pn	**Pn**	**05 10 48.9**	**+1.1**
ARG				Sn	**Sn**	**05 11 05.8**	**+0.1**
ARG	**Arkhangelos**	**1.29**	**35**	P	**Pn**	**05 10 48.4**	**+0.6**
ARG				S	**Sn**	**05 11 06.3**	**+0.6**
2μm,0.8s							
ARG	**Arkhangelos**	**1.29**	**35**	P	**Pn**	**05 10 48.9**	**+1.1**
ARG				S	**Sg**	**05 11 04.5**	**+0.3**
RFTD	**Palamutbuku-Ka**	**1.53**	**9**	Pn	**Pn**	**05 10 51.3**	**+0.1**
RFTD				Sn	**Sn**	**05 11 10.8**	**-0.9**
DAT	**Datca**	**1.59**	**11**	Pn	**Pn**	**05 10 52.5**	**+0.4**
DAT	**Datca**	**1.59**	**11**	P	**Pn**	**05 10 52.3**	**+0.2**
DAT				S	**Sn**	**05 11 11.8**	**-1.5**
DAT	**Datca**	**1.59**	**11**	P	**Pn**	**05 10 52.5**	**+0.4**
DAT				S	**Sn**	**05 11 12.3**	**-0.9**
DAT				*i* AML	AML	05 11 22.0	
comp=N,178nm,0.7s							
DAT				*i* AML	AML	05 11 22.0	
comp=E,193nm,0.4s							
KOSK	**Kos Island**	**1.59**	**353**	Pn	**Pn**	**05 10 52.3**	**+0.3**
RFTC	**Emecik-Datca**	**1.69**	**17**	Pn	**Pb**	**05 10 54.3**	**-0.2**
HRKL	**Herakleio**	**1.73**	**275**	Pn	**Pg**	**05 10 55.9**	**0.0**
RFTB	**Kemer-Bodrum**	**1.80**	**2**	Pn	**Pn**	**05 10 55.4**	**+0.6**
TURN	**Turunc**	**1.81**	**27**	Pn	**Pb**	**05 10 56.2**	**-0.5**
TURN	**Turunc**	**1.81**	**27**	P	**Pb**	**05 10 56.4**	**-0.3**
TURN				S	**Sn**	**05 11 18.6**	**0.0**
TURN				*i* AML	AML	05 11 29.0	
comp=Z,141nm,0.4s							
TURN				*i* AML	AML	05 11 32.0	
comp=E,166nm,0.7s							
TURN				*i* AML	AML	05 11 34.0	
comp=N,152nm,1.1s							
SANT	**Santorini**	**1.86**	**311**	Pn	**Pn**	**05 10 56.6**	**+0.9**
RFTAA	**Mazikoy-Bodrum**	**1.88**	**13**	Pn	**Pn**	**05 10 56.6**	**+0.7**
THR6	**Thira Island,**	**1.89**	**309**	P	**Pn**	**05 10 56.3**	**+0.2**
BODT	**Bodrum**	**1.90**	**3**	Pn	**Pn**	**05 10 56.9**	**+0.7**
BODT	**Bodrum**	**1.90**	**3**	P	**Pn**	**05 10 57.1**	**+0.9**
IDI	**Anoyia**	**1.90**	**274**	Pn	**Pb**	**05 10 57.9**	**-0.3**
IDI	**Anoyia**	**1.90**	**274**	P	**Pb**	**05 10 58.1**	**-0.1**
IDI				S	**Sb**	**05 11 23.5**	**+1.1**
282nm,0.7s							
IDI	**Anoyia**	**1.90**	**274**	LR	LR	05 11 52.1	
comp=Z,135nm,19.1s,baz=68,slow=51							
IDI	**Anoyia**	**1.90**	**274**	P	**Pb**	**05 10 58.1**	**-0.1**
IDI				S	**Sn**	**05 11 21.6**	**+0.8**
BDRM	**Kayabasi**	**1.91**	**6**	P	**Pb**	**05 10 57.7**	**-0.6**
BDRM				S	**Sn**	**05 11 21.8**	**+0.9**
BDRM				*i* AML	AML	05 11 26.0	
comp=E,94nm,0.8s							
THR9	**Santorini-Faro**	**1.92**	**309**	P	**Pn**	**05 10 56.9**	**+0.5**
THR3	**Thira Island,**	**1.92**	**311**	P	**Pn**	**05 10 56.6**	**+0.1**
CMBO	**Columbo, Santo**	**1.96**	**312**	P	**Pn**	**05 10 57.3**	**+0.3**
CMBO				S	**Sn**	**05 11 20.3**	**-1.8**
DALY	**Dalyan (Mula)**	**2.02**	**35**	Pn	**Pb**	**05 10 59.7**	**-0.6**
IZZE	**Mula-Seydike**	**2.08**	**52**	P	**Pb**	**05 11 00.4**	**-0.8**
IZZE				S	**Sb**	**05 11 26.9**	**-0.5**
IZZE				*i* AML	AML	05 11 44.0	
comp=E,122nm,0.5s							
IZZE				*i* AML	AML	05 11 48.0	
comp=N,229nm,0.5s							
FETY	**Fethiye**	**2.12**	**46**	Pn	**Pb**	**05 11 01.3**	**-0.6**
YER	**Yerkesik**	**2.15**	**24**	Pn	**Pn**	**05 11 00.9**	**+1.2**
YER	**Yerkesik**	**2.15**	**24**	P	**Pb**	**05 11 01.2**	**-1.3**
YER				S	**Sn**	**05 11 27.4**	**+0.4**
KSL	**Kastellorizon**	**2.17**	**62**	P	**Pb**	**05 11 01.9**	**-0.9**
KSL				S	**Sb**	**05 11 29.2**	**-1.0**
MLSB	**Milas**	**2.18**	**12**	Pn	**Pn**	**05 11 01.0**	**+1.0**
AKAS	**Kas**	**2.23**	**61**	Pn	**Pb**	**05 11 03.5**	**-0.3**
AKAS	**Kas**	**2.23**	**61**	P	**Pb**	**05 11 03.1**	**-0.7**
AKAS				S	**Sb**	**05 11 31.4**	**-0.5**
AKAS				*i* AML	AML	05 11 34.0	
comp=N,117nm,0.5s							
AKAS				*i* AML	AML	05 11 55.0	
comp=E,96nm,1.1s							
MULA	**Mugla, Merkez-**	**2.27**	**23**	P	**Pb**	**05 11 03.5**	**-1.1**
MULA				S	**Sn**	**05 11 28.5**	**-1.6**
MULA				*i* AML	AML	05 11 44.0	
comp=E,93nm,0.5s							
MULA				*i* AML	AML	05 11 45.0	
comp=Z,73nm,0.6s							
APE	**Apeiranthos**	**2.33**	**325**	Pn	**Pn**	**05 11 02.5**	**+0.3**
APE	**Apeiranthos**	**2.33**	**325**	P	**Pn**	**05 11 01.9**	**-0.3**
APE	**Apeiranthos**	**2.33**	**325**	P	**Pn**	**05 11 03.3**	**+1.1**
CAME	**Cameli-Denizli**	**2.46**	**43**	Pn	**Pb**	**05 11 05.8**	**-2.0**
GCAM	**G?zelcaml?**	**2.53**	**1**	Pn	**Pn**	**05 11 05.9**	**+1.0**
AYDN	**Tasoluk**	**2.55**	**12**	P	**Pb**	**05 11 07.7**	**-1.6**
AYDN				S	**Sn**	**05 11 37.5**	**+0.6**
AYDN				*i* AML	AML	05 11 47.0	
comp=E,87nm,0.4s							
AYDN				*i* AML	AML	05 11 53.0	
comp=N,87nm,0.6s							
SMG	**Samos**	**2.56**	**353**	P	**Pn**	**05 11 05.5**	**+0.3**
GVD	**Gavdhos**	**2.58**	**264**	P	**Pn**	**05 11 07.5**	**+2.0**
CAEL	**Denizli, Camel**	**2.60**	**41**	P	**Pb**	**05 11 10.4**	**+0.2**
CAEL				S	**Sg**	**05 11 49.1**	**+2.9**
CAEL				*i* AML	AML	05 11 56.0	
comp=N,161nm,0.7s							
CAEL				*i* AML	AML	05 12 05.0	
comp=Z,216nm,0.7s							
CAEL				*i* AML	AML	05 12 16.0	
comp=E,240nm,0.9s							
IMMV	**Iera Moni Meta**	**2.65**	**277**	P	**Pn**	**05 11 08.3**	**+1.8**
TAVA	**DENIZLI_Tavas**	**2.68**	**31**	P	**Pb**	**05 11 09.6**	**-1.9**
TAVA				S	**Sb**	**05 11 44.4**	**-0.5**
TAVA				*i* AML	AML	05 11 51.0	
comp=Z,66nm,0.7s							
TAVA				*i* AML	AML	05 11 59.0	
comp=E,75nm,0.6s							
TAVA				*i* AML	AML	05 12 00.0	
comp=N,99nm,0.7s							
AKUM	**Antalya-Kumluc**	**2.80**	**65**	P	**Pb**	**05 11 11.1**	**-2.4**
AKUM				*i* AML	AML	05 11 54.0	
comp=N,23nm,1.0s							
AKUM				*i* AML	AML	05 11 57.0	
comp=E,28nm,0.6s							
GOLH	**Golhisar**	**2.81**	**42**	P	**Pb**	**05 11 12.1**	**-1.7**
GOLH				S	**Sb**	**05 11 49.2**	**+0.5**
GOLH				*i* AML	AML	05 12 00.0	
comp=Z,64nm,0.9s							
GOLH				*i* AML	AML	05 12 01.0	
comp=N,105nm,0.8s							
GOLH				*i* AML	AML	05 12 07.0	
comp=E,88nm,0.6s							
DNIZ	**Denizli-Tavas-**	**2.87**	**31**	P	**Pb**	**05 11 12.5**	**-2.2**
DNIZ				S	**Sb**	**05 11 48.8**	**-1.4**
DNIZ				*i* AML	AML	05 11 58.0	
comp=N,163nm,0.5s							
DNIZ				*i* AML	AML	05 12 05.0	
comp=E,184nm,0.9s							
DNIZ				*i* AML	AML	05 12 08.0	
comp=Z,73nm,1.1s							
IZMR	**zmir-demi**	**3.03**	**11**	P	**Pn**	**05 11 14.1**	**+2.4**
IZMR				S	**Sn**	**05 11 48.2**	**-0.4**
IZMR				*i* AML	AML	05 12 08.0	
comp=N,2μm,1.8s							
IZMR				*i* AML	AML	05 12 35.0	
comp=E,4μm,2.1s							
MANT	**Manisa**	**3.49**	**18**	P	**Pn**	**05 11 19.3**	**+1.0**
MANT				*i* AML	AML	05 12 16.0	
comp=E,18nm,0.6s							
MANT				*i* AML	AML	05 12 33.0	
comp=N,12nm,1.2s							
BRTR	**Keskin Array B**	**6.85**	**46**	P	Pn	05 12 10.5	+6.1
0.7nm,0.6s,baz=234,slow=12,SNR=2.0							
MMAI	**Mount Meron Ar**	**7.13**	**105**	P	Pb	05 12 20.0	-7.4
0.5nm,0.3s,baz=292,slow=12,SNR=1.6							
VRAC	**Vranov**	**16.15**	**334**	LR	LR	05 20 54.4	
comp=Z,28nm,18.3s,baz=176,slow=39							
GERES	**GERESS Array B**	**16.92**	**328**	P	**Pn**	**05 14 20.5**	**-0.2**
0.4nm,0.3s,baz=128,slow=11,SNR=81							
ESDC	**Sonseca Array**	**25.09**	**290**	P	**P**	**05 15 46.2**	**-2.6**
0.6nm,0.6s,baz=83,slow=10.0,SNR=6.6							
0.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**31.80**	**233**	P	**P**	**05 16 48.6**	**-0.3**
0.9nm,0.8s,baz=36,slow=9.5,SNR=4.5							
0.9nm,0.8s							
MKAR	**Makanchi Array**	**42.37**	**57**	P	**P**	**05 18 19.8**	**+1.4**
1.0nm,1.0s,baz=277,slow=6.8,SNR=2.0							
1.0nm,1.0s							
ZALV	**Zalesovo Beam**	**43.79**	**46**	LR	LR	05 42 42.3	
comp=Z,52nm,18.3s,baz=78,slow=44							
SFJD	**Kangerlussuaq**	**53.48**	**331**	LR	LR	05 44 38.3	
comp=Z,52nm,18.8s,baz=310,slow=38							
SONM	**Songino Array**	**58.18**	**51**	P	**P**	**05 20 19.2**	**+0.9**
0.3nm,0.5s,baz=296,slow=7.3,SNR=2.2							
0.3nm,0.5s							

*SJA **10** 05:17:47.6±1.4, 19.°74S×69.°30W, h101km±5km, ML3.5, MW3.6*
*GUC **10** 05:17:49.0±0.7, 19.°75S×69.°22W, h99km±2km, ML3.8*
ISC 10 05:17:49.0±1.4, 19.°77S±0.°03×69.°29W±0.°06, h99km±8km, n32, σ0.9°70/54, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.14**	**43**	*i* P	**Pn**	**05 18 03.2**	**-0.3**
GO01				*i* S	**Sn**	**05 18 14.3**	**+0.1**
GO01				IAML		05 18 15.6	
comp=N,16μm,0.1s							
GO01	**Chusmiza**	**0.14**	**43**	*i* P	**Pn**	**05 18 03.0**	**-0.5**
GO01				*e* S	**Sn**	**05 18 14.3**	**+0.1**
GO01				IAML		05 18 15.8	
comp=Z,3μm,0.1s							
PB08	**IPOC Station P**	**0.39**	**160**	⇓*e* P	**Pn**	**05 18 04.4**	**0.0**
PB08				*e* S	**Sn**	**05 18 16.1**	**+0.2**
PB08				IAML		05 18 17.0	
comp=E,5μm,0.3s							
PB08	**IPOC Station P**	**0.39**	**160**	*i* P	**Pn**	**05 18 03.4**	**-1.0**
PB08				⇓*e* S	**Sn**	**05 18 16.5**	**+0.7**
PB08				IAML		05 18 17.1	
comp=Z,1μm,0.3s							
TA02	**Huaiquique**	**0.93**	**238**	⇑*e* P	**Pn**	**05 18 08.5**	**-0.1**
TA02				*e* S	**Sn**	**05 18 23.9**	**+0.5**
TA02				IAML		05 18 24.4	
comp=E,4μm,0.2s							
TA02	**Huaiquique**	**0.93**	**238**	*i* P	**Pn**	**05 18 08.3**	**-0.3**
TA02				*e* S	**Sn**	**05 18 23.7**	**+0.4**
TA02				IAML		05 18 25.2	
comp=Z,2μm,0.1s							
TA01	**Diego Aracena**	**1.15**	**226**	⇓*e* P	**Pn**	**05 18 11.0**	**0.0**
TA01				*e* S	**Sn**	**05 18 27.7**	**+0.1**
TA01				IAML		05 18 28.8	
comp=E,1μm,0.2s							
TA01	**Diego Aracena**	**1.15**	**226**	*i* P	**Pn**	**05 18 10.5**	**-0.5**
TA01				*e* S	**Sn**	**05 18 28.2**	**+0.6**
TA01				IAML		05 18 30.2	
comp=Z,404nm,0.3s							
PB01	**IPOC Station P**	**1.28**	**188**	*e* P	**Pn**	**05 18 12.6**	**-0.1**
PB01				*e* S	**Sn**	**05 18 31.0**	**+0.5**
PB01				IAML		05 18 31.9	
comp=N,6μm,0.3s							
PB01	**IPOC Station P**	**1.28**	**188**	*i* P	**Pn**	**05 18 12.4**	**-0.2**
PB01				*e* S	**Sn**	**05 18 30.8**	**+0.3**
PB01				IAML		05 18 31.4	
comp=Z,2μm,0.2s							
PATCX	**Punta Patache**	**1.32**	**218**	⇑*e* P	**Pn**	**05 18 12.7**	**-0.4**
PATCX				*e* S	**Sn**	**05 18 31.6**	**+0.3**
PATCX				IAML		05 18 35.6	
comp=E,1μm,0.8s							
PATCX	**Punta Patache**	**1.32**	**218**	*i* P	**Pn**	**05 18 12.4**	**-0.7**
PATCX				*e* S	**Sn**	**05 18 31.9**	**+0.6**
PATCX				IAML		05 18 36.3	
comp=Z,761nm,0.6s							
PB16	**IPOC Station P**	**1.44**	**352**	*e* P	**Pn**	**05 18 15.5**	**+0.4**
PB16				*e* S	**Sn**	**05 18 36.0**	**+1.3**
PB16	**IPOC Station P**	**1.44**	**352**	*i* P	**Pn**	**05 18 14.9**	**-0.2**
PB16				IAML		05 18 54.2	
comp=Z,72nm,0.7s							
PB12	**IPOC Station P**	**1.51**	**319**	⇑*e* P	**Pn**	**05 18 14.8**	**-0.6**
PB12				*e* S	**Sn**	**05 18 35.7**	**+0.3**
PB12				IAML		05 18 37.6	
comp=E,464nm,0.2s							
PB12	**IPOC Station P**	**1.51**	**319**	*i* P	**Pn**	**05 18 14.3**	**-1.1**
PB12				IAML		05 18 51.8	
comp=Z,132nm,0.4s							
PB02	**IPOC Station P**	**1.64**	**200**	*e* P	**Pn**	**05 18 16.9**	**-0.2**
PB02				*e* S	**Sn**	**05 18 39.0**	**+0.6**
PB02				IAML		05 18 44.9	
comp=N,2μm,0.5s							
PB02	**IPOC Station P**	**1.64**	**200**	*i* P	**Pn**	**05 18 17.7**	**+0.6**
PB02				IAML		05 18 59.5	
comp=Z,470nm,0.3s							
AP01	**Chacalluta**	**1.71**	**324**	*e* P	**Pn**	**05 18 17.8**	**-0.1**
AP01				*e* S	**Sn**	**05 18 39.9**	**+0.2**
AP01				IAML		05 18 45.9	
comp=N,824nm,0.4s							
AP01	**Chacalluta**	**1.71**	**324**	*i* P	**Pn**	**05 18 17.4**	**-0.4**
AP01				IAML		05 18 59.7	
comp=Z,337nm,0.2s							
PB09	**IPOC Station P**	**2.02**	**179**	*e* P	**Pn**	**05 18 22.5**	**+0.5**
PB09				*e* S	**Sn**	**05 18 47.7**	**+0.7**
PB09				IAML		05 18 53.8	
comp=E,548nm,0.5s							
PB09	**IPOC Station P**	**2.02**	**179**	*i* P	**Pn**	**05 18 22.2**	**+0.2**
PB09				IAML		05 19 05.7	
comp=Z,160nm,0.4s							
PB07	**IPOC Station P**	**2.02**	**196**	*e* P	**Pn**	**05 18 22.3**	**+0.2**
PB07				*e* S	**Sn**	**05 18 48.0**	**+0.8**
PB07				IAML		05 18 53.6	
comp=E,785nm,0.2s							
PB07	**IPOC Station P**	**2.02**	**196**	*i* P	**Pn**	**05 18 22.9**	**+0.9**
PB07				IAML		05 19 07.0	
comp=Z,218nm,0.4s							
PB18	**Visviri**	**2.18**	**355**	*e* S	**Sn**	**05 18 51.4**	**+0.1**
PB04	**IPOC Station P**	**2.67**	**197**	*e* P	**Pn**	**05 18 30.8**	**+0.2**
PB04				*e* S	**Sn**	**05 19 02.6**	**+0.1**
PB04				IAML		05 19 11.9	
comp=E,361nm,0.4s							
LVC	**Limon Verde**	**2.85**	**173**	⇑*e* P	**Pn**	**05 18 33.1**	**0.0**
LVC				*e* S	**Sn**	**05 19 07.2**	**+0.4**
LVC				IAML		05 19 16.1	
comp=E,814nm,0.3s							
LVC	**Limon Verde**	**2.85**	**173**	*i* P	**Pn**	**05 18 33.5**	**+0.4**
LVC				IAML		05 19 27.2	
comp=Z,78nm,0.3s							
PB06	**IPOC Station P**	**2.93**	**185**	*e* P	**Pn**	**05 18 34.6**	**+0.6**
PB06				*e* S	**Sn**	**05 19 06.1**	**-2.5**
PB06				IAML		05 19 18.2	
comp=E,350nm,0.4s							
PB06	**IPOC Station P**	**2.93**	**185**	*i* P	**Pn**	**05 18 35.7**	**+1.7**
PB06				IAML		05 19 33.2	
comp=Z,94nm,0.3s							
PB15	**IPOC Station P**	**3.43**	**183**	*e* P	**Pn**	**05 18 40.6**	**0.0**
PB15				*e* S	**Sn**	**05 19 19.3**	**-1.2**
GO02	**Mina Guanaco**	**5.37**	**183**	*e* P	**Pn**	**05 19 05.7**	**-1.4**
GO02				IAML		05 20 38.7	
comp=Z,56nm,0.8s							

*MDD **10** 05:38:41.2±0.3, 27.°95N×16.°79W, h26km±7km, mb_Lg4.0/29, Error ellipse: s-maj=5.3km s-min=1.9km az=171.0*
*INMG **10** 05:38:42.9±1.5, 27.°93N×16.°80W, h12km, ML3.2, Error ellipse: s-maj=2.7km s-min=1.9km az=158.0*
*CNRM **10** 05:38:51.9, 28.°97N×16.°11W, h54km, ml3.9*
ISC 10 05:38:38.0±1.0, 27.°97N±0.°04×16.°78W±0.°03, h35km, n53, σ1.9°77/89, 10C-7D, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADE	**Adeje, Tenerif**	**0.19**	**9**	⇑P	**Pn**	**05 38 46.7**	**+1.8**
CADE				S	**Sn**	**05 38 50.0**	**+0.5**
CADE				*i* Vmb_Lg		05 38 50.4	
CVIL	**Vilaflor**	**0.22**	**33**	⇑P	**Pn**	**05 38 47.2**	**+1.9**
CVIL				S	**Sn**	**05 38 51.0**	**+0.8**
CGRA	**Granadilla de**	**0.26**	**58**	⇓P	**Pn**	**05 38 48.0**	**+2.5**
CGRA				S	**Sn**	**05 38 52.3**	**+1.8**
CGRA				*i* Vmb_Lg		05 38 53.1	
GUIA	**Guia de Isora,**	**0.28**	**10**	⇑P	**Pn**	**05 38 47.8**	**+1.8**
GUIA				S	**Sn**	**05 38 52.2**	**+0.9**
GUIA				*i* Vmb_Lg		05 38 53.3	
CCAN	**Las Canadas**	**0.29**	**31**	⇑P	**Pn**	**05 38 47.8**	**+1.6**
CCAN				S	**Sn**	**05 38 52.2**	**+0.5**
CCAN				*i* Vmb_Lg		05 38 52.4	
CDOS	**Garachico, Isl**	**0.32**	**6**	⇑P	**Pn**	**05 38 48.5**	**+2.1**
CDOS				S	**Sn**	**05 38 53.4**	**+1.1**
CDOS				*i* Vmb_Lg		05 38 55.2	
CRAJ	**Montana Rajada**	**0.33**	**29**	⇑P	**Pn**	**05 38 48

CNAO S **Sn** **05 39 10.7 -0.7**
CNAO *i* Vmb_Lg 05 39 12.4
CMCL Mercadel, El H 1.13 257 P **Pn** **05 38 59.1 +1.7**
CMCL S **Sn** **05 39 11.0 -0.8**
CCUM Cumbre, El Hie 1.13 259 P **Pn** **05 38 58.7 +1.3**
CCUM S **Sn** **05 39 11.2 -0.5**
CCUM *i* Vmb_Lg 05 39 11.8
CJED Jedey, El Paso 1.14 302 P **Pn** **05 38 59.7 +2.1**
CJED S **Sn** **05 39 12.5 +0.5**
CJED *i* Vmb_Lg 05 39 20.8
CPUN Puntallana, La 1.15 312 P **Pn** **05 38 59.5 +1.9**
CPUN S **Sn** **05 39 11.9 -0.3**
CPUN *i* Vmb_Lg 05 39 15.8
CTAN El Hierro 1.15 260 ⇓P **Pn** **05 38 59.0 +1.4**
CTAN S **Sn** **05 39 11.7 -0.5**
CTAN *i* Vmb_Lg 05 39 13.2
CTAD Las Tabladas, 1.18 260 P **Pn** **05 38 59.3 +1.3**
CTAD S **Sn** **05 39 12.2 -0.7**
CTAD *i* Vmb_Lg 05 39 14.9
CJUL El Julan, El H 1.18 259 ⇓P **Pn** **05 38 59.4 +1.3**
CJUL S **Sn** **05 39 12.6 -0.5**
CJUL *i* Vmb_Lg 05 39 15.2
TBT Taburiente 1.23 305 P **Pn** **05 39 00.0 +1.4**
TBT S **Sn** **05 39 13.3 -0.7**
TBT *i* Vmb_Lg 05 39 18.6
CCAL Punta Orchilla 1.24 258 P **Pn** **05 39 00.3 +1.5**
CCAL S **Sn** **05 39 14.3 0.0**
CCAL *i* Vmb_Lg 05 39 15.9
CGIN Giniginamar, F 2.39 84 P **Pn** **05 39 17.2 +2.5**
CGIN S **Sn** **05 39 43.1 +0.3**
CGIN *i* Vmb_Lg 05 39 45.0
CFTV Fuerteventura 2.42 79 P **Pn** **05 39 16.8 +1.7**
CFTV S **Sn** **05 39 42.3 -1.2**
CFTV *i* Vmb_Lg 05 39 45.6
CFUE Fuerteventura 2.59 74 P **Pn** **05 39 19.0 +1.5**
CFUE S **Sn** **05 39 47.0 -0.8**
CFUE *i* Vmb_Lg 05 39 53.8
CLOB Isla de Lobos, 2.73 72 P **Pn** **05 39 21.7 +2.4**
CLOB S **Sn** **05 39 50.2 -0.8**
EFAM Famara 3.08 67 P **Pn** **05 39 26.1 +1.9**
EFAM S **Sn** **05 39 58.5 -1.3**
EFAM *i* Vmb_Lg 05 40 01.1
PMAR Madeira 4.74 359 *e*P **Pn** **05 39 47.1 0.0**
PMAR *e*S **Sn** **05 40 38.1 -2.8**
PMAR A A 05 40 45.6
54nm,0.2s
PMAR Madeira 4.74 359 P **Pn** **05 39 47.4 +0.2**
PMAR S Sn 05 40 33.5 -7.4
PMOZ Porto Moniz, M 4.85 356 *e*P **Pn** **05 39 48.9 +0.4**
PMOZ *e*S **Sn** **05 40 41.0 -2.6**
PMOZ A A 05 40 48.3
81nm,0.3s
PMOZ Porto Moniz, M 4.85 356 P **Pn** **05 39 49.0 +0.4**
PMOZ S Sn 05 40 35.3 -8.3
PMPS Porto Santo 5.08 4 *e*P Pn 05 39 35.2 -16
PMPS *e*S Sn 05 40 30.2 -19
PMPS A A 05 40 37.6
21nm,0.7s
PMPST Porto Santo, M 5.11 4 *e*P **Pn** **05 39 52.3 +0.3**
PMPST *e*S **Sn** **05 40 47.4 -2.3**
PMPST A A 05 40 56.4
20nm,0.5s
OUK Oukaimeden 8.40 65 P **Pn** **05 40 38.5 +1.0**
OUK S Sn 05 42 01.8 -10
OUZM OUZ 9.21 69 P **Pn** **05 40 47.8 -0.7**
OUZM S Sn 05 42 20.4 -11
ZGR Zagora 10.00 75 P **Pn** **05 41 01.4 +2.2**
ZHG ZHG 10.29 55 P **Pn** **05 41 02.2 -1.0**
ZHG S Sn 05 42 41.7 -16
CZD Col de Zad 11.31 61 P **Pn** **05 41 17.3 -0.1**
PFVI Vila Bisbo 11.33 34 *e*S **Sn** **05 43 18.6 -4.1**
VPORT Vila do Porto, 11.42 324 P **Pn** **05 41 20.0 +1.5**
MD31 MD31 11.46 62 P **Pn** **05 41 19.7 +0.5**
MORF Marmelete 11.55 34 *e*S **Sn** **05 43 25.0 -3.1**
MORF A A 05 43 28.8
1.1nm,0.5s
MDT Midelt 11.56 62 P **Pn** **05 41 21.4 +0.8**
PBDV Barranco-do-Ve 11.87 37 *e*P **Pn** **05 41 27.4 +2.6**
PBDV *e*S **Sn** **05 43 32.3 -3.7**
PVAQ Vaqueiros 12.11 37 *e*P **Pn** **05 41 29.3 +1.3**
PVAQ *e*S **Sn** **05 43 37.6 -4.1**
PVAQ A A 05 43 47.2
0.8nm,0.2s
EGRO El Granado 12.33 37 S **Sn** **05 43 41.9 -5.1**
PMAFR Mafra 12.61 28 *e*P Pn 05 41 10.8 -24

IDC 10 05:39:09.9±23.0, 49°75S×70°65E, h0km, mb3.5/3, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=656.3km s-min=31.5km az=128.0, Kerguelen Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**18.33**	**189**	P	Pn	05 43 25.3	+0.1
	0.2nm,0.3s,baz=13,slow=16,SNR=3.2						
MAW				S	Sn	05 46 36.0	-14
	1.4nm,0.7s,baz=319,slow=19,SNR=1.8						
	3.2nm,0.9s						
H01W2	**Cape Leeuwin H**	**34.88**	**82**	T	T	06 23 16.9	
	baz=232,slow=74,SNR=3.4						
H01W3	**Cape Leeuwin H**	**34.89**	**81**	T	T	06 23 16.9	
	baz=232,slow=74,SNR=4.4						
H01W1	**Cape Leeuwin H**	**34.90**	**82**	T	T	06 23 19.8	
	baz=232,slow=74,SNR=3.6						
QSPA	**South Pole Qui**	**40.42**	**180**	P	P	05 46 49.4	-0.2
	0.7nm,0.7s,baz=303,slow=1.1,SNR=11						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**55.15**	**86**	P	P	05 48 43.9	-0.2
	0.3nm,0.6s,baz=225,slow=6.5,SNR=2.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**58.09**	**83**	P	P	05 49 05.1	+0.1
	0.5nm,0.7s,baz=224,slow=6.9,SNR=3.8						
	0.5nm,0.7s						

*SOME **10** 05:49:32.0, 49°90N×83°90E, h15km*
*IDC **10** 05:49:36.2±1.5, 49°71N×83°61E, h0km, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=17.9km s-min=10.6km az=78.0*
*NNC **10** 05:49:37.9±0.7, 49°81N×83°68E, h17km±4km, mb3.4, mpv3.1, Error ellipse: s-maj=6.2km s-min=3.5km az=87.0*

ISC 10 05:49:33.9±1.2, 49°85N±0°04×83°65E±0°08, h10km, n20, σ2°83/25, 8C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**2.26**	**286**	*e*Pg	**Pg**	**05 50 16.8**	**-0.4**
	33nm,0.2s						
SEM				*e*Lg	Lg	05 50 48.9	
	24nm,0.1s						
ZSN	**Zaisan**	**2.54**	**161**	*e*Pg	**Pb**	**05 50 17.7**	**-1.8**
	16nm,0.2s						
ZSN				*e*Lg	Lg	05 50 50.2	
	26nm,0.5s						
MK31	**Makanchi Array**	**3.19**	**197**	⇑Pn	**Pn**	**05 50 26.8**	**+2.6**
	2.2nm,0.6s,baz=22,slow=13,SNR=20						
MK31				⇑Sn	**Sn**	**05 51 04.7**	**+2.3**
	8.6nm,0.5s,baz=25,slow=28,SNR=16						
MKAR	**Makanchi Array**	**3.19**	**197**	Pn	**Pn**	**05 50 27.0**	**+2.8**
	1.4nm,0.3s,baz=20,slow=13,SNR=18						
MKAR				Sn	**Sn**	**05 51 03.5**	**+1.1**
	3.3nm,0.3s,baz=18,slow=24,SNR=25						
	2.6nm,0.4s						
MAKZ	**Makanchi**	**3.25**	**201**	⇓Pn	**Pn**	**05 50 27.4**	**+2.4**
	3.0nm,0.5s						
MAKZ				⇑Sn	**Sn**	**05 51 07.1**	**+3.5**
	10nm,0.5s						
KURK	**Kurchatov**	**3.34**	**287**	⇓Pn	**Pn**	**05 50 29.5**	**+3.3**
	0.9nm,0.5s						
KURK				⇑Pg	**Pg**	**05 50 39.7**	**+1.8**
	1.5nm,0.3s						
KURK				⇑Lg	Lg	05 51 25.6	
	9.1nm,0.4s						
KURBB	**Kurchatov Arra**	**3.38**	**285**	⇑Pn	**Pn**	**05 50 29.6**	**+2.9**
	1.4nm,0.5s						
KURBB				⇑Pg	**Pg**	**05 50 40.1**	**+1.5**
	3.3nm,0.4s						
KURBB				⇓Lg	Lg	05 51 26.1	
	22nm,0.6s						
KURBB	**Kurchatov Arra**	**3.38**	**285**	Pn	**Pb**	**05 50 30.7**	**-3.2**
	0.2nm,0.3s,baz=102,slow=15,SNR=4.1						
KURBB				Pg	**Pg**	**05 50 36.0**	**-2.6**
	0.4nm,0.3s,baz=102,slow=19,SNR=9.3						
KURBB				Lg	Lg	05 51 22.8	
	0.9nm,0.3s,baz=102,slow=31,SNR=7.3						
	2.2nm,0.2s						
ZAA0	**Zalesovo Array**	**4.16**	**10**	⇓Pg	**Pg**	**05 50 55.0**	**+1.4**
	0.3nm,0.5s						
ZAA0				⇑Lg	Lg	05 51 52.6	
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**4.16**	**10**	Pn	**Pb**	**05 50 43.3**	**-3.9**
	0.2nm,0.3s,baz=189,slow=15,SNR=3.1						
ZALV				Pg	Pg	05 50 56.4	+2.7
	1.0nm,0.3s,baz=191,slow=17,SNR=10						
ZALV				Lg	Lg	05 51 51.7	
	1.1nm,0.3s,baz=190,slow=28,SNR=7.0						
	0.8nm,0.5s						
I46RU	**ZALESOVO INFRA**	**4.17**	**10**	I	I	06 17 00.0	
	baz=187,slow=328,SNR=4.6						
DJR	**Jarkent**	**6.12**	**207**	Pg	**Pg**	**05 51 28.6**	**-2.5**
	0.6nm,0.1s						
DJR				Lg	Lg	05 52 51.9	
	2.5nm,0.1s						
DJR	**Jarkent**	**6.12**	**207**	*e*Pg	**Pg**	**05 51 28.6**	**-2.5**
	0.6nm,0.1s						
DJR				*e*Lg	Lg	05 52 51.9	
	2.5nm,0.1s						
KNOS	**Konyrlen**	**6.29**	**211**	Pg	**Pg**	**05 51 31.2**	**-3.1**
	1.8nm,0.3s						
KNOS				Lg	Lg	05 52 56.1	
	2.6nm,0.5s						
ARXS	**Arharly**	**6.90**	**217**	Pg	**Pg**	**05 51 43.0**	**-3.1**
	1.6nm,0.5s						
ARXS				Lg	Lg	05 53 15.4	
	4.1nm,0.7s						
ARXS	**Arharly**	**6.90**	**217**	*e*Pg	**Pg**	**05 51 43.0**	**-3.1**
	1.6nm,0.3s						
ARXS				*e*Lg	Lg	05 53 15.3	
	4.3nm,0.4s						
KTBS	**Karatobe**	**7.78**	**221**	Pg	**Pg**	**05 52 00.3**	**-2.6**
	1.6nm,0.7s						
KTBS				Lg	Lg	05 53 45.8	
	2.2nm,0.5s						
KTBS	**Karatobe**	**7.78**	**221**	*e*Pg	**Pg**	**05 52 00.3**	**-2.6**
	1.5nm,0.5s						
KTBS				*e*Lg	Lg	05 53 45.8	
	2.2nm,0.5s						
KUU	**Kurty**	**7.79**	**223**	Pg	**Pg**	**05 51 59.7**	**-3.2**
	0.8nm,0.2s						
KUU				Lg	Lg	05 53 45.4	
	3.0nm,0.3s						
KUU	**Kurty**	**7.79**	**223**	*e*Pg	**Pg**	**05 51 59.7**	**-3.2**
	0.8nm,0.2s						
KUU				*e*Lg	Lg	05 53 45.4	
	3.0nm,0.3s						

*IDC **10** 06:00:44.9±4.3, 36°77S×177°93E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=333.4km s-min=39.8km az=20.0*
*NOU **10** 06:01:08.4, 38°10S×176°51E, h179km, MLv3.7/11, North Island, New Zealand*
*WEL **10** 06:01:11.6±0.8, 38°S±5°×17°6E±°, h141km±6km, M3.5/90, ML2.4/7, MLv3.5/90, Error ellipse: s-maj=0.0km s-min=0.0km az=159.0, confirmed*

ISC 10 06:01:08.5±1.0, 38°08S±0°04×176°42E±0°05, h171km±6km, n146, σ1°11/153, mb3.5/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMRZ	**Omania**	**0.05**	**236**	P	**Pn**	**06 01 31.5**	**+0.3**
MKRZ	**Makatiti**	**0.07**	**150**	P	**Pn**	**06 01 32.2**	**+0.9**
LIRZ	**Lichensteins R**	**0.08**	**337**	P	**Pn**	**06 01 31.5**	**+0.3**
KARZ	**Kaharoa**	**0.15**	**292**	P	**Pn**	**06 01 31.5**	**+0.1**
TARZ	**Mount Tarawera**	**0.17**	**158**	P	**Pn**	**06 01 31.9**	**+0.5**
HLRZ	**Highlands Stat**	**0.18**	**198**	P	**Pn**	**06 01 32.1**	**+0.7**
NGRZ	**Ngongotaha**	**0.19**	**263**	P	**Pn**	**06 01 31.8**	**+0.4**
MARZ	**Manawahe**	**0.22**	**65**	P	**Pn**	**06 01 31.8**	**+0.3**
EDRZ	**Edgecumbe**	**0.25**	**96**	P	**Pn**	**06 01 31.7**	**+0.2**
OPRZ	**Ohinepanea**	**0.26**	**24**	P	**Pn**	**06 01 31.3**	**-0.2**
OPRZ				S	**Sn**	**06 01 47.4**	**-1.7**
RRRZ	**Republican Roa**	**0.27**	**165**	P	**Pn**	**06 01 31.9**	**+0.3**
HSRZ	**Hossack Road**	**0.27**	**211**	P	**Pn**	**06 01 32.2**	**+0.7**
HRRZ	**Handcock Road**	**0.33**	**200**	P	**Pn**	**06 01 32.3**	**+0.5**
GRRZ	**Galatos Road**	**0.37**	**222**	P	**Pn**	**06 01 32.5**	**+0.7**
TGRZ	**Tauranga**	**0.37**	**340**	P	**Pn**	**06 01 31.8**	**0.0**
TGRZ				S	**Sn**	**06 01 48.0**	**-1.6**
PRRZ	**Plateau Road**	**0.42**	**183**	P	**Pn**	**06 01 32.4**	**+0.5**
KMRZ	**Kaimai**	**0.45**	**301**	P	**Pn**	**06 01 32.4**	**+0.3**
MUGZ	**Murupara**	**0.48**	**146**	P	**Pn**	**06 01 32.5**	**+0.3**
WPRZ	**Whakapapatarin**	**0.49**	**205**	P	**Pn**	**06 01 32.9**	**+0.7**
ALRZ	**Allen Road**	**0.49**	**188**	P	**Pn**	**06 01 32.9**	**+0.7**
URZ	**Urewera**	**0.57**	**109**	P	**Pn**	**06 01 32.6**	**+0.1**
URZ	**Urewera**	**0.57**	**109**	P	**Pn**	**06 01 32.6**	**+0.1**
URZ				S	**Sn**	**06 01 49.3**	**-1.8**
KUTZ	**Kaahu Road**	**0.63**	**229**	P	**Pn**	**06 01 33.6**	**+0.8**
RTZ	**Ruatahuna**	**0.69**	**141**	P	**Pn**	**06 01 34.1**	**+0.8**
WHTZ	**Whakaora**	**0.69**	**212**	P	**Pn**	**06 01 34.5**	**+1.2**
TLZ	**Tolley Road**	**0.74**	**250**	P	**Pn**	**06 01 34.3**	**+0.7**
TLZ				S	**Sn**	**06 01 52.1**	**-0.8**
MRHZ	**Matea Rd**	**0.75**	**180**	P	**Pn**	**06 01 34.5**	**+0.8**
TOZ	**Tahuroa Road**	**0.81**	**295**	P	**Pn**	**06 01 34.3**	**+0.4**
MYRZ	**Mayor Island**	**0.81**	**350**	P	**Pn**	**06 01 34.2**	**+0.2**
WIZ	**White Island**	**0.82**	**48**	P	**Pn**	**06 01 33.9**	**-0.1**
WATZ	**Wairara**	**0.83**	**221**	P	**Pn**	**06 01 35.1**	**+1.0**
MTHZ	**Maungataniwha**	**0.84**	**157**	P	**Pn**	**06 01 35.2**	**+1.0**
MTHZ				S	**Sn**	**06 01 53.3**	**-0.8**
HATZ	**Hinemaiaia**	**0.85**	**198**	P	**Pn**	**06 01 35.2**	**+0.9**
HATZ				S	**Sn**	**06 01 53.0**	**-1.2**
RAGZ	**Rawiri**	**0.88**	**118**	P	**Pn**	**06 01 35.6**	**+1.0**
MWZ	**Matawai**	**0.91**	**107**	P	**Pn**	**06 01 35.2**	**+0.6**
MWZ				S	**Sn**	**06 01 53.8**	**-1.0**
RATZ	**Rangitukua**	**0.94**	**213**	P	**Pn**	**06 01 35.9**	**+1.0**
RAHZ	**Arahi**	**0.98**	**148**	P	**Pn**	**06 01 36.7**	**+1.5**
RUGZ	**Raukumara Rang**	**1.00**	**84**	P	**Pn**	**06 01 35.0**	**-0.4**
RITZ	**Rihia Road**	**1.00**	**206**	P	**Pn**	**06 01 36.8**	**+1.4**
SNGZ	**Shannon Statio**	**1.00**	**135**	P	**Pn**	**06 01 36.8**	**+1.5**
NMHZ	**Naumai**	**1.06**	**164**	P	**Pn**	**06 01 37.7**	**+1.8**
KATZ	**Kakaramea**	**1.06**	**212**	P	**Pn**	**06 01 36.9**	**+0.9**
BKZ	**Black Stump Fm**	**1.09**	**177**	P	**Pn**	**06 01 37.0**	**+0.9**
BKZ	**Black Stump Fm**	**1.09**	**177**	P	**Pn**	**06 01 37.0**	**+0.9**
HAZ	**Te Kaha**	**1.12**	**74**	P	**Pn**	**06 01 36.1**	**-0.2**
TKGZ	**Te Karaka**	**1.18**	**108**	P	**Pn**	**06 01 38.0**	**+1.3**
TMVZ	**Te Maari**	**1.18**	**208**	P	**Pn**	**06 01 37.9**	**+1.0**
WHHZ	**Waihua**	**1.18**	**148**	P	**Pn**	**06 01 38.4**	**+1.6**
KRVZ	**Karewarewa**	**1.19**	**211**	P	**Pn**	**06 01 38.0**	**+1.0**
ETVZ	**East Tongariro**	**1.19**	**208**	P	**Pn**	**06 01 38.1**	**+1.1**
RIGZ	**Rimuhau**	**1.22**	**121**	P	**Pn**	**06 01 38.7**	**+1.5**
WTVZ	**West Tongariro**	**1.22**	**212**	P	**Pn**	**06 01 38.3**	**+1.0**
NNVZ	**North Ngauruho**	**1.23**	**211**	P	**Pn**	**06 01 38.6**	**+1.2**
TWGZ	**Tauwhareparae**	**1.23**	**95**	P	**Pn**	**06 01 37.9**	**+0.7**
OTVZ	**Oturere**	**1.23**	**209**	P	**Pn**	**06 01 38.7**	**+1.3**
TWVZ	**Taurewa**	**1.26**	**219**	P	**Pn**	**06 01 38.7**	**+1.1**
ARHZ	**Aropaoanui**	**1.26**	**159**	P	**Pn**	**06 01 39.2**	**+1.8**
SNVZ	**South Ngauruho**	**1.27**	**209**	P	**Pn**	**06 01 39.0**	**+1.3**
NGZ	**Ngauruhoe**	**1.27**	**210**	P	**Pn**	**06 01 39.0**	**+1.3**
HIZ	**Hauiti**	**1.31**	**250**	P	**Pn**	**06 01 39.0**	**+1.1**
HIZ	**Hauiti**	**1.31**	**250**	P	**Pn**	**06 01 38.9**	**+1.1**
COVZ	**Chateau Observ**	**1.31**	**211**	P	**Pn**	**06 01 39.0**	**+0.9**
PKGZ	**Pakihiroa**	**1.32**	**82**	P	**Pn**	**06 01 38.7**	**+0.6**
TUVZ	**Tukino**	**1.33**	**207**	P	**Pn**	**06 01 39.6**	**+1.3**
KWHZ	**Kaweka Forest**	**1.34**	**180**	P	**Pn**	**06 01 39.6**	**+1.3**
FWVZ	**Far West T-bar**	**1.36**	**210**	P	**Pn**	**06 01 39.6**	**+1.0**
KNZ	**Kokohu**	**1.36**	**134**	P	**Pn**	**06 01 39.7**	**+1.4**
WHVZ	**Whangaehu Hut**	**1.37**	**208**	P	**Pn**	**06 01 39.7**	**+1.0**
MCHZ	**McNeill Hill**	**1.38**	**171**	P	**Pn**	**06 01 40.4**	**+1.9**
MKAZ	**Moumakai**	**1.40**	**314**	P	**Pn**	**06 01 39.1**	**+0.4**
TRVZ	**Turoa**	**1.40**	**209**	P	**Pn**	**06 01 40.1**	**+1.2**
WNVZ	**Wahianoa**	**1.40**	**207**	P	**Pn**	**06 01 40.1**	**+1.1**
PRGZ	**Paritu Road**	**1.42**	**127**	P	**Pn**	**06 01 40.3**	**+1.4**
MOVZ	**Moawhango**	**1.43**	**201**	P	**Pn**	**06 01 39.8**	**+0.8**
BHHZ	**Black Hill Sta**	**1.44**	**191**	P	**Pn**	**06 01 40.1**	**+1.0**
KUZ	**Kuaotunu**	**1.44**	**337**	P	**Pn**	**06 01 39.2**	**0.0**
KUZ	**Kuaotunu**	**1.44**	**337**	P	**Pn**	**06 01 39.2**	**0.0**
PUZ	**Puketiti**	**1.45**	**90**	P	**Pn**	**06 01 39.8**	**+0.6**
CNGZ	**Carnagh Statio**	**1.46**	**107**	P	**Pn**	**06 01 41.2**	**+1.9**
PKVZ	**Pokaka**	**1.47**	**215**	P	**Pn**	**06 01 40.8**	**+1.3**
MTVZ	**Mangateitei**	**1.50**	**209**	P	**Pn**	**06 01 41.1**	**+1.3**
KRHZ	**Kereru**	**1.56**	**182**	P	**Pn**	**06 01 41.5**	**+1.2**
MXZ	**Matakaoa Point**	**1.58**	**71**	P	**Pn**	**06 01 41.7**	**+1.2**
MXZ	**Matakaoa Point**	**1.58**	**71**	P	**Pn**	**06 01 41.6**	**+1.1**
MHGZ	**Mahia Peninsul**	**1.58**	**133**	P	**Pn**	**06 01 42.3**	**+1.8**
WMGZ	**Waiomatatini S**	**1.59**	**81**	P	**Pn**	**06 01 41.6**	**+1.0**
ETAZ	**East Tamaki Re**	**1.64**	**313**	P	**Pn**	**06 01 41.6**	**+0.5**
WIAZ	**Waiheke Island**	**1.64**	**321**	P	**Pn**	**06 01 41.7**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.66**	**162**	P	**Pn**	**06 01 43.1**	**+1.8**
VRZ	**Vera Road**	**1.67**	**231**	P	**Pn**	**06 01 43.0**	**+1.6**
AWAZ	**Awhitu Peninsu**	**1.74**	**305**	P	**Pn**	**06 01 42.6**	**+0.4**
KAHZ	**Kahuranaki**	**1.75**	**169**	P	**Pn**	**06 01 44.0**	**+1.7**
MBAZ	**Motutapu North**	**1.79**	**317**	P	**Pn**	**06 01 43.3**	**+0.7**
PNHZ	**Pukenui**	**1.84**	**185**	P	**Pn**	**06 01 44.1**	**+0.9**
WTAZ	**Waiatarua**	**1.86**	**307**	P	**Pn**	**06 01 44.1**	**+0.6**
PXZ	**Pawanui**	**1.98**	**170**	P	**Pn**	**06 01 46.0**	**+1.4**
GRZ	**Great Barrier**	**1.98**	**337**	P	**Pn**	**06 01 45.1**	**+0.3**
WPHZ	**Waipukurau**	**1.98**	**180**	P	**Pn**	**06 01 45.8**	**+1.0**
TSZ	**Takapari Road**	**2.01**	**190**	P	**Pn**	**06 01 45.9**	**+0.8**
WAZ	**Wanganui**	**2.02**	**213**	P	**Pn**	**06 01 46.4**	**+1.3**
NEZ	**North Egmont**	**2.18**	**236**	P	**Pn**	**06 01 49.6**	**+2.6**
PRHZ	**Porangahau**	**2.19**	**176**	P	**Pn**	**06 01 48.2**	**+1.1**
PKE	**Pukeiti**	**2.21**	**239**	P	**Pn**	**06 01 49.4**	**+2.1**
DVHZ	**Dannevirke**	**2.23**	**185**	P	**Pn**	**06 01 48.1**	**+0.6**
KHEZ	**Kahui Hut**	**2.24**	**236**	P	**Pn**	**06 01 50.5**	**+2.8**
KHEZ	**Kahui Hut**	**2.24**	**236**	P	**Pn**	**06 01 50.2**	**+2.5**
POWZ	**Post Office Ro**	**2.37**	**192**	P	**Pn**	**06 01 49.6**	**+0.6**
ANWZ	**Angora Road**	**2.38**	**179**	P	**Pn**	**06 01 50.4**	**+1.2**
PRWZ	**Pori Road**	**2.50**	**188**	P	**Pn**	**06 01 51.6**	**+1.0**
BFZ	**Birch Farm**	**2.60**	**183**	P	**Pn**	**06 01 52.5**	**+0.6**
BFZ	**Birch Farm**	**2.60**	**183**	P	**Pn**	**06 01 52.5**	**+0.6**
MRZ	**Mangatainoka R**	**2.66**	**194**	P	**Pn**	**06 01 52.8**	**+0.2**
WCZ	**Waipu Caves**	**2.71**	**321**	P	**Pn**	**06 01 53.9**	**+0.8**
TIWZ	**Tintock**	**2.73**	**189**	P	**Pn**	**06 01 53.9**	**+0.5**
CPWZ	**Castlepoint**	**2.83**	**183**	P	**Pn**	**06 01 55.8**	**+1.2**
HOWZ	**Holdsworth Sta**	**2.90**	**194**	P	**Pn**	**06 01 55.5**	**0.0**
OGWZ	**Otaki Gorge**	**2.90**	**199**	P	**Pn**	**06 01 55.6**	**+0.1**
KIW	**Kapiti Island**	**3.02**	**202**	P	**Pn**	**06 01 56.6**	**-0.3**
TMWZ	**Te Maipa**	**3.05**	**188**	P	**Pn**	**06 01 57.5**	**+0.1**
MTW	**Mount Morrison**	**3.16**	**193**	P	**Pn**	**06 01 58.3**	**-0.3**
CAW	**Cannon Point**	**3.20**	**199**	P	**Pn**	**06 01 58.9**	**-0.3**
DUWZ	**D'Urville Isla**	**3.34**	**215**	P	**Pn**	**06 02 00.5**	**-0.4**
TRWZ	**Traveller**	**3.36**	**189**	P	**Pn**	**06 02 01.0**	**-0.2**
PAWZ	**Paruwai Farm**	**3.39**	**193**	P	**Pn**	**06 02 01.0**	**-0.5**
WEL	**Wellington**	**3.45**	**201**	P	**Pn**	**06 02 02.0**	**-0.2**
SNZO	**South Karori**	**3.49**	**202**	P	**Pn**	**06 02 02.7**	**0.0**
BHW	**Baring Head**	**3.53**	**199**	P	**Pn**	**06 02 02.5**	**-0.8**
TCW	**Tory Channel**	**3.54**	**207**	P	**Pn**	**06 02 02.7**	**-0.7**
PLWZ	**Palliser**	**3.60**	**194**	P	**Pn**	**06 02 03.4**	**-0.8**
OUZ	**Omahuta**	**3.65**	**321**	P	**Pn**	**06 02 06.2**	**+1.4**
OUZ	**Omahuta**	**3.65**	**321**	P	**Pn**	**06 02 06.1**	**+1.3**
TUWZ	**Tuamarina**	**3.85**	**209**	P	**Pn**	**06 02 06.4**	**-0.9**
NNZ	**Nelson**	**3.92**	**216**	P	**Pn**	**06 02 07.5**	**-0.7**
QRZ	**Quartz Range**	**4.08**	**226**	P	**Pn**	**06 02 10.3**	**+0.1**
QRZ	**Quartz Range**	**4.08**	**226**	P	**Pn**	**06 02 09.1**	**-1.2**
BSWZ	**Blackbirch Sta**	**4.13**	**208**	P	**Pn**	**06 02 10.3**	**-0.6**
MRNZ	**Matariki Terra**	**4.36**	**219**	P	**Pn**	**06 02 13.0**	**-0.8**
THZ	**Tophouse**	**4.57**	**215**	P	**Pn**	**06 02 15.8**	**-0.8**
KHZ	**Kahutara**	**4.86**	**206**	P	**Pn**	**06 02 19.5**	**-0.9**
KHZ	**Kahutara**	**4.86**	**206**	P	**Pn**	**06 02 19.2**	**-1.1**
OKCZ	**Okains Bay**	**6.19**	**203**	P	**Pn**	**06 02 36.5**	**-1.3**
AKCZ	**Akaroa Harbour**	**6.37**	**204**	P	**Pn**	**06 02 38.7**	**-1.4**
TMZ	**Timaru**	**7.50**	**211**	P	**Pn**	**06 02 53.6**	**-1.6**
ASAR	**Alice Springs**	**38.88**	**279**	P	**P**	**06 08 20.1**	**+2.8**
	0.8nm,0.6s,baz=119,slow=7.6,SNR=8.8						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**40.60**	**284**	P	**P**	**06 08 34.1**	**+2.5**
	0.2nm,0.4s,baz=124,slow=7.3,SNR=1.0						
	0.2nm,0.4s						
CPUP	**Villa Florida**	**98.50**	**133**	P	**P**	**06 14 25.4**	**-2.2**
	1.7nm,0.5s,baz=231,slow=1.8,SNR=6.9						

*IDC **10** 06:10:00.3±1.4, 44°20N×128°60W, h0km, mb3.7/7, mbtmp3.6/13, ML3.1/6, MS3.2/12, Error ellipse: s-maj=33.2km s-min=15.2km az=39.0*
*NEIC **10** 06:10:04.0±2.0, 44°12N±0°04×128°4W±0°2, h10km±2km, ML3.3/48, Error ellipse: s-maj=22.2km s-min=3.1km az=254.0*

ISC 10 06:10:01.0±1.1, 44°05N±0°08×128°8W±0°1, h10km, n57, σ1°42/52, mb3.9/6, MS2.9/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.45**	**108**	Pn	**Pn**	**06 10 51.3**	**-3.6**
KEBM				IAML		06 12 20.1	
	comp=N,92nm,2.5s						
KEBM				IAML		06 12 43.7	
	comp=E,80nm,2.6s						
J01E	**Myrtle Point**	**3.64**	**102**		**Pn**	**06 10 55.4**	**-2.0**
J01E				IAML		06 12 14.1	
	comp=E,53nm,4.1s						
HEBO	**Mount Hebo**	**3.78**	**70**	Pn	**Pn**

D08A Wollman Farm, 7.55 63 Pn Pn 06 11 52.1 +1.0
BBB Bella Bella 8.15 3 LR LR 06 14 02.4
comp=E,30nm,19.9s,baz=197,slow=30
PAHR Pah Rah Range 8.25 119 Pn Pn 06 12 01.8 +0.9
BMO Blue Mountains 8.26 80 Pn Pn 06 12 01.4 +0.5
CMB Columbia Colle 8.74 131 Pn **Pn 06 12 10.1 +2.7**
NEW Newport 9.12 58 Pn **Pn 06 12 10.8 -1.9**
comp=E,0.1nm,0.3s,baz=248,slow=8.5,SNR=3.5
NEW LR LR 06 15 35.2
comp=E,96nm,20.8s,baz=254,slow=38
comp=E,2.2nm,0.8s
NVAR Mina Array Bea 9.69 122 Pn **Pn 06 12 22.8 +2.2**
comp=E,0.1nm,0.3s,baz=297,slow=14,SNR=2.7
NVAR LR LR 06 16 01.6
comp=E,119nm,20.4s,baz=273,slow=37
comp=E,1.0nm,0.9s
ELK Elko 10.55 104 Pn **Pn 06 12 34.6 +2.1**
baz=294,slow=18,SNR=3.2
ELK LR LR 06 16 48.4
comp=E,149nm,20.6s,baz=301,slow=39
comp=E,0.8nm,0.9s
PDAR Pinedale Array 14.04 89 Pn **Pn 06 13 23.3 +3.2**
baz=273,slow=10,SNR=4.3
PDAR LR LR 06 18 53.5
comp=E,124nm,19.4s,baz=291,slow=38
comp=E,0.8nm,1.0s
DLBC Dease Lake 14.43 357 LR LR 06 18 25.3
comp=E,182nm,18.2s,baz=264,slow=35
ANMO Albuquerque 19.44 110 P **P 06 14 28.0 +0.3**
baz=35,slow=11,SNR=8.5
ANMO LR LR 06 22 19.5
comp=E,156nm,19.5s,baz=28,slow=38
comp=E,2.4nm,0.9s
KDAK Kodiak Island 20.20 321 LR LR 06 20 10.2
comp=E,56nm,19.4s,baz=188,slow=30
YKA Yellowknife Ar 20.24 19 P **P 06 14 36.7 +0.6**
comp=E,2.9nm,0.9s,baz=212,slow=9.2,SNR=3.9
YKA LR LR 06 21 35.7
comp=E,33nm,18.1s,baz=202,slow=35
comp=E,2.9nm,0.9s
ULM Lac du Bonnet 23.10 63 P **P 06 15 06.7 0.0**
comp=E,3.6nm,0.8s,baz=274,slow=12,SNR=3.8
comp=E,3.6nm,0.8s
ILAR Eielson Array 23.11 340 P **P 06 15 06.5 -0.2**
comp=E,0.3nm,0.9s,baz=150,slow=7.3,SNR=2.6
comp=E,0.3nm,0.9s
INK Inuvik 24.44 356 LR LR 06 23 25.9
comp=E,39nm,20.3s,baz=14,slow=33
TXAR Lajitas Array 24.80 118 P **P 06 15 24.5 +1.2**
comp=E,0.9nm,0.8s,baz=293,slow=6.7,SNR=8.0
TXAR LR LR 06 25 40.3
comp=E,57nm,20.2s,baz=296,slow=38
comp=E,0.9nm,0.8s
SONM Songino Array 76.43 325 P **P 06 21 52.7 +2.0**
comp=E,1.4nm,1.0s,baz=38,slow=7.3,SNR=4.3
comp=E,1.4nm,1.0s
KURBB Kurchatov Arra 82.76 343 P **P 06 22 23.9 -1.0**
comp=E,0.7nm,0.2s,baz=18,slow=6.2,SNR=1.6
comp=E,0.7nm,0.2s
AKASG Malin Array Be 83.71 14 P **P 06 22 28.0 -1.8**
comp=E,0.2nm,0.3s,baz=338,slow=4.3,SNR=2.2
comp=E,0.2nm,0.3s

---

*NEIC **10** 06:12:43.9±1.1, 2°.49N±0°.09×128°.51E±0°.08, h231km±7km, mb4.7/20, Error ellipse: s-maj=13.8km s-min=10.7km az=219.0*
*IDC **10** 06:12:44.0±1.2, 2°.48N×128°.59E, h230km±11km, mb4.0/15, mbtmp4.7/20, Error ellipse: s-maj=17.6km s-min=7.9km az=75.0*
*DJA **10** 06:12:44.6±0.5, 3°N±5°×12°8E±°, h219km±4km, M4.7/15, mb4.9/10, mB5.2/8, MLv4.9/15, Mw(mB)4.5/8*

ISC 10 06:12:45.2±0.4, 2°.43N±0°.05×128°.43E±0°.06, h250km, n93, σ1°25/100, mb4.5/26, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.96**	**213**		**Pn**	**06 13 25.2**	**-2.1**
TNTI	**Ternate**	**1.96**	**213**	P	**Pn**	**06 13 25.9**	**-1.4**
TNTI	**Ternate**	**1.96**	**213**	P	**Pn**	**06 13 25.4**	**-1.9**
TNTI				S	**S**	**06 13 57.4**	**-3.2**
LBMI	**Labuha**	**3.18**	**197**	P	**Pn**	**06 13 39.4**	**-0.3**
LBMI				S	**S**	**06 14 21.3**	**-1.7**
SWI	**Sorong**	**4.32**	**139**	P	**Pn**	**06 13 51.6**	**-1.2**
SIJI	**Sorong**	**4.33**	**139**	P	**Pn**	**06 13 51.6**	**-1.4**
	100nm,0.4s,baz=330,slow=14,SNR=38						
SANI	**Sanana**	**5.07**	**209**	P	**Pn**	**06 13 59.9**	**-2.0**
SANI	**Sanana**	**5.07**	**209**	P	**Pn**	**06 13 59.8**	**-2.1**
	1μm,0.6s,48μm8.8nm						
DAV	**Davao City (W)**	**5.42**	**328**	P	**Pn**	**06 14 04.7**	**-1.4**
	195nm,0.5s,baz=90,slow=4.0,SNR=7.1						
GTOI	**Gorontalo**	**5.70**	**252**	P	**Pn**	**06 14 09.6**	**-0.1**
	172nm,0.7s,2μm0.6nm						
NLAI	**Namlea**	**5.78**	**193**	P	**Pn**	**06 14 11.6**	**+0.9**
	45nm,0.5s,0.2nm						
FAKI	**Fak Fak**	**6.54**	**144**		**Pn**	**06 14 17.8**	**-2.3**
FAKI	**Fak Fak**	**6.54**	**144**	P	**Pn**	**06 14 19.3**	**-0.9**
	253nm,0.9s,2μm0.8nm						
LUWI	**Luwuk**	**6.62**	**239**	Pn	**Pn**	**06 14 19.7**	**-1.5**
LUWI	**Luwuk**	**6.62**	**239**	P	**Pn**	**06 14 22.1**	**+0.9**
	469nm,0.7s,5μm1.6nm						
MRSI	**Marisa**	**6.77**	**253**	P	**Pn**	**06 14 22.8**	**-0.3**
	186nm,0.7s,3μm0.9nm						
RKPI	**Ransiki, Papua**	**6.95**	**124**	P	**Pn**	**06 14 26.4**	**+1.1**
	170nm,1.7s,13μm0.7nm						
TOLI2	**Tolitoli**	**7.76**	**260**	Pn	**Pn**	**06 14 34.7**	**-0.8**
MPSI	**Mapaga**	**8.78**	**256**	P	**Pn**	**06 14 48.9**	**+0.5**
	40nm,1.2s,3μm0.3nm						
TTSI	**Tana Toraja**	**10.18**	**238**	P	**Pn**	**06 15 06.1**	**-0.1**
MYLDM	**Lahad Datu**	**10.28**	**286**	Pn	**Pn**	**06 15 07.1**	**-0.2**
KAPI	**Kappang**	**11.39**	**230**	Pn	**Pn**	**06 15 21.1**	**-0.2**
KAPI	**Kappang**	**11.39**	**230**	P	**Pn**	**06 15 21.3**	**-0.1**
KAPI	**Kappang**	**11.39**	**230**	P	**P**	**06 15 23.8**	**-1.4**
	29nm,0.8s,baz=56,slow=3.9,SNR=8.4						
GENI	**Genyem**	**12.75**	**113**	P	**P**	**06 15 38.2**	**-2.0**
SOEI	**Soe**	**12.79**	**199**	Pn	**Pn**	**06 15 38.3**	**-0.5**
JAY	**Jayapura**	**13.21**	**112**	P	**Pn**	**06 15 41.7**	**-2.2**
	40nm,0.8s,baz=285,slow=19,SNR=2.4						
BATI	**Baumata**	**13.42**	**201**	P	**Pn**	**06 15 46.7**	**+0.3**
	67nm,0.5s,baz=230,slow=13,SNR=2.3						
TGY	**Tagaytay City**	**13.76**	**328**	P	**P**	**06 15 50.3**	**-1.2**
	174nm,0.3s,baz=152,slow=17,SNR=4.5						
MTN	**Manton Dam**	**15.41**	**170**		**P**	**06 16 08.8**	**-0.8**
MTN	**Manton Dam**	**15.41**	**170**	P	**P**	**06 16 08.9**	**-0.7**
KDU	**Kakadu**	**15.54**	**165**	P	**Pn**	**06 16 10.8**	**-1.2**
SBUM	**Sibu**	**16.20**	**270**	Pn	**Pn**	**06 16 20.0**	**+0.2**
KNRA	**Kununurra**	**17.99**	**179**	P	**P**	**06 16 37.9**	**+0.1**
KNRA	**Kununurra**	**17.99**	**179**	P	**Pn**	**06 16 38.7**	**-2.1**
KSM	**Kuching**	**18.14**	**267**	P	**P**	**06 16 39.8**	**+0.3**
KSM	**Kuching**	**18.14**	**267**	P	**Pn**	**06 16 42.4**	**-0.2**
	21nm,1.1s						
YULB	**Yu-li**	**21.96**	**342**	P	**P**	**06 17 18.6**	**-0.4**
TPUB	**Ta-pu**	**22.09**	**341**	P	**P**	**06 17 19.2**	**-0.9**
WB0	**Warramunga Arr**	**22.82**	**165**	P	**P**	**06 17 26.8**	**-0.1**
WRAB	**Tennant Creek**	**22.97**	**166**	P	**P**	**06 17 28.3**	**+0.1**
WRAB	**Tennant Creek**	**22.97**	**166**	P	**P**	**06 17 28.4**	**+0.2**
WRA	**Warramunga Arr**	**22.97**	**166**	P	**P**	**06 17 26.7**	**-1.5**
WRA	**Warramunga Arr**	**22.97**	**166**	P	**P**	**06 17 27.7**	**-0.5**
	37nm,0.8s,baz=345,slow=11,SNR=197						
WRA				S	**S**	**06 21 25.5**	**+5.8**
	2.1nm,0.9s,baz=352,slow=18,SNR=4.6						
WRA				ScP	**ScP**	**06 24 25.9**	**+1.6**
	1.2nm,0.6s,baz=340,slow=3.1,SNR=7.0						
	37nm,0.8s						
WB2	**Warramunga Arr**	**22.98**	**166**	P	**P**	**06 17 28.2**	**-0.1**
WR0	**Warramunga Arr**	**23.04**	**165**	P	**P**	**06 17 28.7**	**-0.1**
MBWA	**Marble Bar**	**24.94**	**200**	P	**P**	**06 17 46.5**	**+0.4**
MBWA				IAmb	IAmb	06 18 11.8	
	comp=Z,27nm,1.5s						
PSA00	**Pilbara Seismi**	**25.29**	**199**	P	**P**	**06 17 49.2**	**+0.1**
QIS	**Mount Isa**	**25.33**	**155**	P	**P**	**06 17 49.8**	**+0.2**
AS31	**Alice Springs**	**26.48**	**169**	P	**P**	**06 17 59.6**	**-0.2**
AS31				IAmb	IAmb	06 18 00.6	
	comp=Z,9.2nm,0.6s						
ASAR	**Alice Springs**	**26.48**	**169**	P	**P**	**06 17 60.0**	**+0.1**
	comp=Z,19nm,0.6s,baz=356,slow=8.2,SNR=336						
ASAR				PcP	**PcP**	**06 21 19.2**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=333,slow=1.9,SNR=4.1						
ASAR				ScP	**ScP**	**06 24 36.0**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=344,slow=2.1,SNR=13						
	comp=Z,19nm,0.6s						
JCJ	**Chichijima**	**27.84**	**27**	P	**P**	**06 18 10.9**	**-1.0**
CTA	**Charters Tower**	**28.40**	**143**	P	**P**	**06 18 17.7**	**+0.8**
	comp=Z,5.6nm,0.6s,baz=321,slow=12,SNR=8.4						
	comp=Z,5.6nm,0.6s						
CTAO	**Charters Tower**	**28.40**	**143**	P	**P**	**06 18 16.8**	**-0.1**
GIRL	**Giralia**	**28.51**	**208**	P	**P**	**06 18 19.2**	**+1.4**
OOD	**Oodnadatta**	**30.85**	**167**	P	**P**	**06 18 38.8**	**+0.5**
INKA	**Innaminka**	**32.25**	**159**	P	**P**	**06 18 51.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**32.99**	**301**	P	**P**	**06 18 59.5**	**+2.4**
	comp=Z,0.8nm,0.3s,baz=116,slow=6.9,SNR=5.4						
	comp=Z,0.8nm,0.3s						
FORT	**Forrest**	**33.02**	**181**	P	**P**	**06 18 57.2**	**0.0**
FORT				IAmb	IAmb	06 18 58.2	
	comp=Z,73nm,1.4s						
LCRK	**Leigh Creek**	**34.00**	**165**	P	**P**	**06 19 06.4**	**+0.8**
KSRS	**Korea Array**	**34.86**	**359**	P	**P**	**06 19 12.5**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=174,slow=9.5,SNR=2.5						
	comp=Z,0.8nm,0.3s						
MJAR	**Matsushiro Arr**	**35.13**	**14**	P	**P**	**06 19 14.7**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=189,slow=9.9,SNR=8.3						
	comp=Z,3.7nm,0.7s						
EIDS	**Eidsvold**	**35.29**	**143**	P	**P**	**06 19 16.1**	**-0.7**
EIDS				IAmb	IAmb	06 19 16.9	
	comp=Z,27nm,1.8s						
BBOO	**Buckleboo**	**35.78**	**169**	P	**P**	**06 19 21.1**	**+0.2**
BBOO	**Buckleboo**	**35.78**	**169**	P	**P**	**06 19 21.3**	**+0.5**
WHYH	**Whyalla**	**36.31**	**167**	P	**P**	**06 19 25.7**	**+0.4**
	comp=Z,69nm,0.7s						
STKA	**Stephens Creek**	**36.33**	**161**	P	**P**	**06 19 25.1**	**-0.4**
STKA	**Stephens Creek**	**36.33**	**161**	P	**P**	**06 19 26.0**	**+0.5**
STKA	**Stephens Creek**	**36.33**	**161**	P	**P**	**06 19 25.4**	**-0.1**
	comp=Z,22nm,0.8s,baz=338,slow=8.2,SNR=42						
STKA				PP	**PP**	**06 20 52.4**	**-1.7**
	comp=Z,6.8nm,0.8s,baz=325,slow=12,SNR=4.9						
	comp=Z,22nm,0.8s						
NWAO	**Narrogin (SRO)**	**36.72**	**196**	P	**P**	**06 19 29.3**	**+0.5**
NWAO	**Narrogin (SRO)**	**36.72**	**196**	P	**P**	**06 19 29.2**	**+0.4**
	comp=Z,61nm,1.4s,baz=15,slow=5.2,SNR=2.7						
	comp=Z,61nm,1.4s						
JMM	**Marumori**	**37.05**	**16**	P	**P**	**06 19 31.8**	**+0.3**
JMM				IAmb	IAmb	06 19 42.5	
	comp=Z,24nm,0.6s						
CMSA	**Cobar Meteorol**	**37.55**	**155**	P	**P**	**06 19 36.0**	**+0.2**
ARMA	**Armidale**	**39.46**	**148**	P	**P**	**06 19 52.0**	**+0.3**
ARMA				IAmb	IAmb	06 20 11.0	
	comp=Z,42nm,1.6s						
JTM	**Tenmabayashi**	**39.86**	**15**	P	**P**	**06 19 52.6**	**-2.1**
ARPS	**Mount Arapiles**	**40.95**	**163**	P	**P**	**06 20 05.0**	**+1.3**
TOO	**Toolangi**	**42.83**	**160**	P	**P**	**06 20 19.5**	**+0.6**
SONM	**Songino Array**	**49.08**	**340**	P	**P**	**06 21 08.1**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=142,slow=7.8,SNR=2.2						
PETK	**Petropavlovsk-**	**56.01**	**21**	P	**P**	**06 21 58.8**	**+0.9**
	comp=Z,4.9nm,0.7s,baz=193,slow=4.6,SNR=4.5						
	comp=Z,4.9nm,0.7s						
MKAR	**Makanchi Array**	**59.59**	**325**	P	**P**	**06 22 23.5**	**+0.6**
MKAR	**Makanchi Array**	**59.59**	**325**	P	**P**	**06 22 23.9**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=120,slow=8.0,SNR=8.5						
	comp=Z,0.7nm,0.5s						
LBZ	**Lake Benmore**	**59.66**	**146**	P	**P**	**06 22 23.7**	**+0.3**
LBZ				IAmb	IAmb	06 23 17.2	
	comp=Z,59nm,1.5s						
ZAA0	**Zalesovo Array**	**62.52**	**333**	P	**P**	**06 22 41.7**	**-0.6**
ZAA0				IAmb	IAmb	06 22 48.8	
	comp=Z,16nm,1.1s						
ZALV	**Zalesovo Beam**	**62.52**	**333**	P	**P**	**06 22 41.9**	**-0.4**
KURBB	**Kurchatov Arra**	**63.75**	**327**	P	**P**	**06 22 51.6**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=127,slow=6.2,SNR=9.7						
	comp=Z,1.5nm,0.5s						
KURK	**Kurchatov**	**63.75**	**327**	P	**P**	**06 22 50.2**	**-0.3**
CASY	**Casey**	**69.75**	**188**	P	**P**	**06 23 29.1**	**+1.2**
CASY				IAmb	IAmb	06 23 30.1	
	comp=Z,6.2nm,0.7s						
KDAK	**Kodiak Island**	**82.08**	**32**	P	**P**	**06 24 38.1**	**+0.5**
	comp=Z,17nm,1.1s,baz=270,slow=4.0,SNR=6.0						
	comp=Z,17nm,1.1s						
MAW	**Mawson**	**83.13**	**201**	P	**P**	**06 24 44.1**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=54,slow=8.7,SNR=1.9						
	comp=Z,1.1nm,0.6s						
ILAR	**Eielson Array**	**85.54**	**25**	P	**P**	**06 24 54.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=250,slow=5.0,SNR=6.7						
	comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**92.34**	**180**	P	**P**	**06 25 27.9**	**+0.8**
QSPA				IAmb	IAmb	06 25 29.4	
	comp=Z,5.9nm,1.2s						
QSPA	**South Pole Qui**	**92.34**	**180**	P	**P**	**06 25 28.3**	**+1.2**
	comp=Z,2.0nm,0.5s,baz=322,slow=2.5,SNR=42						
	comp=Z,2.0nm,0.5s						
CFA	**Coronel Fontan**	**146.99**	**153**	PKPbc	**PKiKP**	**06 32 00.1**	**-1.4**
	comp=Z,6.8nm,0.7s,baz=226,slow=4.6,SNR=12						

IDC 10 06:19:19.1±1.3, 2°.36N×124°.13E, h0km, mb3.9/6, mbtmp3.9/6, MS3.0/1, Error ellipse: s-maj=195.9km s-min=18.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.90**	**17**	LR	LR	06 22 24.4	
	comp=Z,150nm,18.6s,baz=113,slow=38						
WRA	**Warramunga Arr**	**24.32**	**156**	P	P	06 24 38.6	-0.1
	4.4nm,0.8s,baz=334,slow=11,SNR=16						
	4.4nm,0.8s						
ASAR	**Alice Springs**	**27.56**	**160**	P	P	06 25 09.2	+1.2
	0.3nm,0.5s,baz=340,slow=8.2,SNR=1.6						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**37.87**	**155**	P	P	06 26 37.5	-0.4
	1.6nm,0.5s,baz=342,slow=11,SNR=4.8						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**57.24**	**327**	P	P	06 29 09.2	+0.8
	0.8nm,0.6s,baz=117,slow=9.0,SNR=6.4						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**61.52**	**329**	P	P	06 29 36.8	-1.0
	1.1nm,0.6s,baz=127,slow=6.1,SNR=5.8						
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**67.07**	**328**	P	P	06 30 13.8	-0.5
	0.5nm,0.4s,baz=132,slow=8.7,SNR=2.4						
	0.5nm,0.4s						

IDC 10 06:27:45.1±2.7, 53°.94N×86°.64E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=23.0km s-min=13.4km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.07**	**271**	I	I	06 35 10.0	
	baz=90,slow=329,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.07**	**271**	Pg	Pg	06 28 04.7	-0.9
	1.1nm,0.3s,baz=88,slow=17,SNR=10						
ZALV				Lg	Lg	06 28 21.2	
	3.6nm,0.3s,baz=91,slow=30,SNR=14						
KURBB	**Kurchatov Arra**	**5.98**	**240**	Pn	Pn	06 29 14.6	-0.2
	0.2nm,0.3s,baz=57,slow=13,SNR=1.9						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**7.68**	**203**	Pn	Pn	06 29 39.8	+1.7
	0.2nm,0.3s,baz=24,slow=14,SNR=6.8						
	0.3nm,0.3s						

PRU 10 06:29:35.8, 50°.18N×19°.08E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**85**	*e*Pg	Pg	06 29 43.8	-0.9
OJC				*e*Sg	Sg	06 29 50.2	-0.5
OKC	**Ostrava-Krasne**	**0.69**	**241**	*e*PG	Pg	06 29 48.7	-0.4
OKC				*e*SG	Sg	06 29 58.5	+0.5
	comp=Z,31nm,0.6s						
LANS	**Liptovska Anna**	**1.06**	**166**	*e*PG	Pg	06 29 54.1	-2.0
LANS				*e*SG	Sg	06 30 07.6	-2.2
LANS				*e*LG	Lg	06 30 13.1	
MORC	**Moravsky Berou**	**1.07**	**248**	*e*PG	Pg	06 29 55.9	-0.4
MORC				*e*SG	Sg	06 30 09.0	-1.2
NIE	**Niedzica**	**1.10**	**134**	*e*Pg	Pg	06 29 55.2	-1.6
NIE				*e*Sg	Sg	06 30 10.4	-0.6
MAUC	**Maruska**	**1.15**	**225**	*e*PG	Pg	06 29 56.8	-1.0
MAUC				*e*SG	Sg	06 30 12.7	0.0
	comp=Z,27nm,0.5s						
STHS	**Stebnicka Huta**	**1.60**	**118**	*e*PN	Pn	06 30 03.9	-1.4
STHS				*e*SN	Sn	06 30 26.1	-0.5
STHS				*e*LG	Lg	06 30 31.6	
JAVC	**Velka Javorina**	**1.61**	**215**	*e*PN	Pn	06 30 04.5	-1.0
VYHS	**Vyhne**	**1.69**	**185**	*e*PN	Pn	06 30 04.3	-2.4
VYHS				*e*SN	Sn	06 30 25.9	-3.1
DPC	**Dobruska-Polom**	**1.78**	**277**	*e*PG	Pn	06 30 08.5	+0.7
DPC				*e*SG	Sn	06 30 31.5	+0.3
	comp=Z,15nm,0.9s						
VRAC	**Vranov**	**1.83**	**243**	*e*PN	Pn	06 30 09.2	+0.6
VRAC				*e*SG	Sn	06 30 32.4	-0.1
OSTC	**Ostas**	**1.87**	**283**	*e*PG	Pn	06 30 09.2	+0.1
OSTC				*e*SG	Sb	06 30 34.6	-0.2
	comp=Z,7.3nm,0.6s						
CHVC	**Chvalec**	**1.98**	**283**	*e*PG	Pn	06 30 10.9	+0.3
CHVC				*e*SG	Sg	06 30 39.2	-0.1
	comp=Z,4.4nm,0.6s						
UPC	**Upice**	**1.99**	**281**	*e*SG	Sg	06 30 39.3	-0.5
	comp=Z,7.5nm,0.8s						
KRUC	**Moravsky**	**2.07**	**238**	*e*PN	Pn	06 30 13.0	+1.2
KRUC				*e*SG	Sn	06 30 38.8	+0.4
PRU	**Pruhonice**	**2.93**	**268**	*e*SG	Sg	06 31 08.5	-1.4
	comp=Z,2.3nm,0.3s						
KHC	**Kasperske Hory**	**3.73**	**256**	*e*SG	Sg	06 31 33.1	-2.3
	comp=Z,3.3nm,0.5s						

---

*MOS **10** 06:32:16.6±1.2, 18°.40S×69°.51W, h57km, mb6.6/31, MS5.4/20, Error ellipse: s-maj=8.3km s-min=5.7km az=95.6*
*VAO **10** 06:32:18.4±0.6, 18°.50S×69°.57W, h63km±5km, mb6.3*
*SJA **10** 06:32:19.5±0.8, 18°.55S×69°.88W, h103km±4km, ML6.2, MW6.1*
*NEIC **10** 06:32:20.8, 18°.62S×69°.86W, h80km, Moment Tensor Solution. Duration: 7s2 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.67; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$1.78; $M_{r\theta}$1.00; $M_{\theta\phi}$-0.38; $M_{\phi r}$-2.44; Fault plane solution: $M_0$3.18000×10^{18} NP1: ϕ_s339.36000°, δ73.34000°, λ-96.29000°. NP2: ϕ_s180.38000°, δ17.78000°, λ-69.90000°. Principal axes: T 3.2412, Plg28.0000°, Azm74.0000°; N -0.1321, Plg6.0000°, Azm341.0000°; P -3.1091, Plg61.0000°, Azm240.0000°;*
*BJI **10** 06:32:20.3±0.0, 18°.54S×69°.67W, h90km, mB6.1/68, Ms6.0/88, Ms7 6.0/86*
*NEIC **10** 06:32:20.8, 18°.52S×69°.65W, h80km*
*GUC **10** 06:32:20.3±0.8, 18°.49S×69°.74W, h100km±5km, ML6.3*
*NEIC **10** 06:32:21.2±2.8, 18°.57S±0°.04×69°.75W±0°.07, h85km±1km, mb6.4/763, Mwb6.3/84, Mww6.3/33, Mww6.3(GUC), Error ellipse: s-maj=10.9km s-min=7.5km az=269.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-1.71; $M_{\theta\theta}$0.80; $M_{\phi\phi}$0.91; $M_{r\theta}$0.33; $M_{\theta\phi}$0.17; $M_{\phi r}$-3.12; Fault plane solution: $M_0$3.48000×10^{18} NP1: ϕ_s355.88000°, δ78.73000°, λ-93.19000°. NP2: ϕ_s191.82000°, δ11.70000°, λ-74.37000°. Principal axes: T 2.9909, Plg34.0000°, Azm89.0000°; N 0.8238, Plg3.0000°, Azm357.0000°; P -3.8147, Plg56.0000°, Azm262.0000°;*
*NEIC **10** 06:32:21, 18°.53S×69°.64W, h80km*
*IDC **10** 06:32:22.3±0.3, 18°.52S×69°.48W, h99km±2km, mb5.6/38, mbtmp6.0/42, MS5.4/49, Error ellipse: s-maj=7.3km s-min=6.1km az=76.0*
*UCR **10** 06:32:22.7±1.3, 18°.57S×69°.75W, h85km, MW5.9, MW6.3(NEIC)*
*GCMT **10** 06:32:24.2±0.1, 18°.58S×69°.86W, h106km, MW6.3/161, Moment Tensor Solution. s161,c423; s159,c509; Duration: 3s3 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.35±.02; $M_{\theta\theta}$0.28±.02; $M_{\phi\phi}$1.07±.02; $M_{r\theta}$0.72±.01; $M_{\theta\phi}$-0.40±.02; $M_{\phi r}$-2.89±.01; Best double couple: $M_0$3.24700×10^{18} NP1:ϕ_s345.00000°, δ78.00000°, λ-87.00000°. NP2:ϕ_s151.00000°, δ12.00000°, λ-104.00000°. Principal axes: T 3.1800, Plg33.0000°, Azm73.0000°; N 0.1380, Plg3.0000°, Azm165.0000°; P -3.3130, Plg57.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*

ISC 10 06:32:20.8±0.2, 18°.49S±0°.02×69°.57W±0°.03, h92km±1km, h92km:pP-P, n2508, σ2°22/2924, mb6.4/539, 271C-82D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.16**	**20**	Pn	**Pn**	**06 32 36.0**	**+1.4**
PB16	**IPOC Station P**	**0.16**	**20**	⇓*i*P	**Pn**	**06 32 35.7**	**+1.1**
PB16				*e*S	**Sn**	**06 32 47.4**	**+2.5**
PB16				IAML		06 32 49.8	
	comp=E,1184μm,0.4s						
PB16	**IPOC Station P**	**0.16**	**20**	*e*P	**Pn**	**06 32 36.3**	**+1.7**
PB16				*e*S	**Sn**	**06 32 48.5**	**+3.7**
PB16				IAML		06 32 50.0	
	comp=Z,834μm,0.6s						
PB12	**IPOC Station P**	**0.73**	**260**	Pn	**Pn**	**06 32 36.0**	**-1.9**
PB12	**IPOC Station P**	**0.73**	**260**	⇑*i*P	**Pn**	**06 32 35.8**	**-2.1**
PB12				*e*S	**Sn**	**06 32 48.4**	**-2.2**
PB12				IAML		06 32 50.4	
	comp=E,1172μm,0.4s						
PB12	**IPOC Station P**	**0.73**	**260**	*e*P	**Pn**	**06 32 36.1**	**-1.7**
PB12				*e*S	**Sn**	**06 32 48.0**	**-2.6**
PB12				IAML		06 32 50.4	
	comp=Z,470μm,0.3s						
AP01	**Chacalluta**	**0.75**	**279**		**Pn**	**06 32 36.6**	**-1.3**
AP01	**Chacalluta**	**0.75**	**279**	⇑*i*P	**Pn**	**06 32 36.5**	**-1.3**
AP01				*e*S	**Sn**	**06 32 48.8**	**-1.8**
AP01				IAML		06 32 53.5	
	comp=E,1869μm,0.4s						
AP01	**Chacalluta**	**0.75**	**279**	*e*P	**Pn**	**06 32 36.5**	**-1.3**
AP01				IAML		06 32 57.0	
	comp=Z,356μm,0.8s						
PB18	**Visviri**	**0.90**	**5**	Pn	**Pn**	**06 32 43.7**	**+3.6**
PB18	**Visviri**	**0.90**	**5**	⇓*i*P	**Pn**	**06 32 43.9**	**+3.8**
GO01	**Chusmiza**	**1.22**	**163**	Pn	**Pn**	**06 32 45.0**	**+1.2**
GO01	**Chusmiza**	**1.22**	**163**	*e*P	**Pn**	**06 32 44.9**	**+1.2**
GO01				*e*S	**Sn**	**06 33 03.5**	**+2.6**
GO01

PB09	IPOC Station P	3.30 175			Pn	06 33 11.1	+0.4
PB09	IPOC Station P	3.30 175	⇓	iP	Pn	06 33 10.6	0.0
PB09	IPOC Station P	3.30 175	eP		Pn	06 33 10.7	+0.1
PB04	IPOC Station P	3.86 188	Pn		Pn	06 33 16.0	-2.2
PB04	IPOC Station P	3.86 188	⇓	iP	Pn	06 33 15.5	-2.6
LVC	Limon Verde	4.14 172	Pn		Pn	06 33 22.0	-0.2
LVC	Limon Verde	4.14 172	P		Pn	06 33 22.0	-0.2
LVC	Limon Verde	4.14 172	P		Pn	06 33 21.8	-0.4
	comp=E,2μm,0.3s,baz=335,slow=9.3,SNR=1937						
LVC			S		Sn	06 34 06.5	-3.2
	comp=E,20μm,0.5s,baz=341,slow=12,SNR=4.7						
LVC	Limon Verde	4.14 172	⇓	iP	Pn	06 33 22.3	+0.1
LVC			eS		Sn	06 34 08.1	-1.6
LVC	Limon Verde	4.14 172	eP		Pn	06 33 22.4	+0.3
PB06	IPOC Station P	4.20 180	Pn		Pn	06 33 21.4	-1.2
PB06	IPOC Station P	4.20 180	⇓	iP	Pn	06 33 20.5	-2.1
AF01	San Pedro de A	4.63 164			Pn	06 33 29.6	+1.0
AF01	San Pedro de A	4.63 164	eP		Pn	06 33 29.8	+1.1
PB15	IPOC Station P	4.70 179			Pn	06 33 28.5	-1.0
PB15	IPOC Station P	4.70 179	⇓	iP	Pn	06 33 27.5	-2.0
PB15	IPOC Station P	4.70 179	eP		Pn	06 33 28.7	-0.8
PB14	IPOC Station P	6.16 187			Pn	06 33 45.4	-4.1
PB14	IPOC Station P	6.16 187	P		Pn	06 33 41.5	-7.9
GO02	Mina Guanaco	6.64 180	⇓	P	Pn	06 33 52.8	-3.2
AC02	Maricunga	8.32 177	Pn		Pn	06 34 16.4	-2.6
SIV	San Ignacio	8.49 74	P		Pn	06 34 21.4	+0.4
	comp=E,4μm,0.7s,baz=253,slow=12,SNR=954						
SIV			S		Sn	06 35 54.0	-1.1
	comp=E,830nm,0.8s,baz=189,slow=13,SNR=1.2						
GO03	Copiap	9.08 184	Pn		Pn	06 34 24.3	-4.8
GO03	Copiap	9.08 184	⇑	P	Pn	06 34 23.6	-5.5
ETMB	Extrema	9.21 21	Pn		Pn	06 34 32.0	+1.1
NNA	Nana	9.54 312	Pn		Pn	06 34 33.8	-1.6
NNA	Nana	9.54 312	P		Pn	06 34 33.8	-1.6
NNA	Nana	9.54 312	eP		Pn	06 34 34.2	-1.2
NNA	Nana	9.54 312	P		Pn	06 34 33.5	-1.9
	comp=E,245nm,0.4s,baz=126,slow=12,SNR=80						
NNA			S		Sn	06 36 24.8	+3.9
	comp=E,1μm,0.6s,baz=227,slow=21,SNR=2.3						
NNA			LR		LR	06 38 19.3	
	comp=E,26μm,18.7s,baz=164,slow=37						
PTLB	Pontes e Lacer	10.43 75	Pn		Pn	06 34 48.3	+0.9
LCO	Las Campanas	10.53 185	Pn		Pn	06 34 44.1	-4.8
LCO	Las Campanas	10.53 185	P		Pn	06 34 44.1	-4.8
LCO	Las Campanas	10.53 185	⇑	P	Pn	06 34 42.3	-6.6
VILB	Vilhena	10.56 60	Pn		Pn	06 34 50.3	+1.0
CZSB	Cruzeiro do Su	11.12 344			Pn	06 34 53.2	-3.7
CZSB	Cruzeiro do Su	11.12 344	eP		Pn	06 34 53.8	-3.1
SAML	Samuel	11.33 34	Pn		Pn	06 34 59.3	-0.3
SAML	Samuel	11.33 34	P		Pn	06 34 59.3	-0.3
SAML	Samuel	11.33 34	⇑	iP	Pn	06 34 59.4	-0.3
SAML	Samuel	11.33 34	⇑	P	Pn	06 34 59.2	-0.5
GO04	Tololo Observa	11.69 185	⇑	P	Pn	06 34 58.1	-6.5
CO06	Fray Jorge	12.28 188			Pn	06 35 10.6	-1.7
CO03	El Pedregal	12.34 188	Pn		Pn	06 35 06.7	-6.5
ZON	Zonda	13.03 177	⇑	P	Pn	06 35 18.0	-4.3
CFA	Coronel Fontan	13.11 175	P		Pn	06 35 18.5	-5.0
	comp=E,77nm,0.3s,baz=6.1,slow=15,SNR=215						
CFA			S		Sn	06 37 44.9	-2.8
	comp=E,332nm,0.7s,baz=321,slow=24,SNR=1.5						
CFA			LR		LR	06 40 49.0	
	comp=E,24μm,21.5s,baz=334,slow=39						
ANTJ	Antonio Joao (	13.20 108	eP		Pn	06 35 23.1	-1.6
AQDB	Aquidauana	13.23 101	Pn		Pn	06 35 24.3	-0.7
AQDB	Aquidauana	13.23 101	eP		Pn	06 35 24.1	-0.9
SALV	Santo Antonio	13.50 81	eP		Pn	06 35 27.2	-1.5
CPUP	Villa Florida	13.74 127	Pn		Pn	06 35 30.4	-1.3
CPUP	Villa Florida	13.74 127	P		Pn	06 35 30.4	-1.3
CPUP	Villa Florida	13.74 127	⇑	P	Pn	06 35 30.0	-1.6
CPUP	Villa Florida	13.74 127	eP		Pn	06 35 30.3	-1.3
CPUP	Villa Florida	13.74 127	P		Pn	06 35 30.2	-1.4
	comp=E,597nm,1.0s,baz=306,slow=11,SNR=131						
CPUP			S		Sn	06 37 58.4	-4.4
	comp=E,94nm,0.9s,baz=303,slow=11,SNR=1.4						
CPUP			LR		LR	06 41 49.6	
	comp=E,15μm,18.6s,baz=310,slow=42						
PP1B	Ponte de Pedra	14.00 89	eP		Pn	06 35 33.8	-1.3
PDRB	Porto dos Gac	14.15 63	eP		Pn	06 35 34.8	-2.4
ATAH	Atahualpa	14.19 322	P		Pn	06 35 38.5	+0.5
	comp=E,162nm,1.0s,baz=140,slow=13,SNR=36						
ATAH			S		Sn	06 38 17.5	+3.1
	comp=E,173nm,0.8s,baz=78,slow=23,SNR=2.6						
TBTG	Tabatinga, AM	14.22 359	Pn		Pn	06 35 36.4	-1.6
TBTG	Tabatinga, AM	14.22 359	eP		Pn	06 35 35.9	-2.0
TBTG	Tabatinga, AM	14.22 359	eP		Pn	06 35 34.8	-3.2
ROC1	El Roble	14.48 185	Pn		Pn	06 35 39.8	-1.8
PEL	Peldehue	14.63 184	⇑	P	Pn	06 35 40.4	-2.8
MT02	Curacav	14.78 185	Pn		Pn	06 35 42.9	-2.1
MT05	Renca	14.88 184	Pn		Pn	06 35 44.9	-1.4
MECA	Mercedes	14.96 138	eP		Pn	06 35 46.1	-1.3
CLDB	Colider	15.31 62	eP		Pn	06 35 49.9	-2.1
MCR1	Marechal Candi	15.62 115	eP		Pn	06 35 56.1	+0.2
C2SB	Chapadao do Su	15.86 94	eP		Pn	06 35 59.1	+0.8
ITQB	Itaqui	16.22 136	eP		Pn	06 36 01.7	-1.4
BO02	Sierra Bellavi	16.27 184	⇓	P	Pn	06 36 01.4	-2.5
GO05	Huala	16.59 187	⇓	P	Pn	06 36 01.3	-6.5
CRSM	Crissiumal (Br	16.86 125	eP		Pn	06 36 10.7	-0.4
UNIS	Unistalda (Bra	16.92 131	eP		Pn	06 36 11.0	-0.9
FRBT	Francisco Belt	16.99 119	eP		Pn	06 36 12.6	-0.2
H03N1	Juan Fernandez	17.08 208	P		P	06 36 14.3	+0.5
	baz=109,slow=14,SNR=1630						
H03N2	Juan Fernandez	17.09 208	P		P	06 36 14.1	+0.2
	baz=109,slow=14,SNR=1310						
H03N3	Juan Fernandez	17.10 208	P		P	06 36 14.0	-0.1
	baz=109,slow=14,SNR=1534						
VA04	Juan Fernndez	17.22 207	P		Pn	06 36 12.8	-2.7
VA04	Juan Fernndez	17.22 207	⇓	P	Pn	06 36 12.2	-3.2
MCRA	Macar, Loja	17.32 323	P		Pn	06 36 16.4	-0.5
MCRA	Macar, Loja	17.32 323	eP		P	06 36 17.4	+0.4
PTGB	Pitanga	17.41 114	eP		Pn	06 36 18.8	+0.8
H03S3	Juan Fernandez	17.41 207	P		Pn	06 36 18.5	+1.0
	baz=27,slow=19,SNR=552						
H03S1	Juan Fernandez	17.42 207	P		Pn	06 36 18.7	+1.1
	baz=27,slow=19,SNR=367						
H03S2	Juan Fernandez	17.43 207	P		Pn	06 36 18.2	+0.5
	baz=27,slow=19,SNR=650						
MACA	Manacapuru-AM	17.54 31	P		Pn	06 36 19.6	0.0
BOSC	San Juan Bosco	17.57 329	P		P	06 36 18.3	-1.6
RODS	Rosario do Sul	17.60 135	eP		P	06 36 17.8	-2.1
LDASE	Londrina, Braz	17.91 109	eP		Pn	06 36 24.0	0.0
NPGB	Novo Progresso	17.91 52	eP		Pn	06 36 24.4	+0.4
ITRB	Iturama	18.19 97	eP		Pn	06 36 28.5	+1.0
ITAB	Concordia	18.26 122	P		P	06 36 27.1	0.0
ITAB	Concordia	18.26 122	eP		P	06 36 27.1	0.0
ALGR	Alto Alegre (B	18.28 127	eP		P	06 36 27.5	+0.1
SGCB	SÃo Gabriel d	18.42 8	eP		P	06 36 29.2	+0.2
COHC	Cochancay	18.54 328	eP		Pn	06 36 32.7	+1.2
CPSB	Cacapava Do Su	18.85 132	eP		P	06 36 33.0	-0.6
PTLC	Puerto Leguiza	19.24 344	eP		P	06 36 30.7	-7.3
FRTB	Fartura	19.29 108	eP		P	06 36 38.9	+0.3
LPA	La Plata	19.35 150	i	P	P	06 36 30.9	-8.1
LPA			pP		pP	06 36 53.6	-4.3
LPA			sP		sP	06 37 18.2	+8.1
LPA			S		S	06 40 14.0	+1.0
LPA			sS		sS	06 40 36.3	-7.5
LPA			PCP		PcP	06 40 45.8	-12
LPA			SCS		ScS	06 47 59.8	-7.4
LPA			PKIKP		PKiKP	06 49 03.8	+16
LPA			SKIKP			06 52 20.4	
LPA			PKIKS			06 52 26.7	
LPA			SKIKS			06 55 47.1	
PIAT	Ana Tenorio	19.37 333	eP		Pn	06 36 41.9	+0.1
ITTB	Itaituba	19.49 46	eP		P	06 36 41.5	+0.8
PLTB	Pedras Altas	19.55 136	P		P	06 36 40.7	-0.5
PLTB	Pedras Altas	19.55 136	eP		P	06 36 40.3	-0.9
BB19B	Bebedouro	19.96 101	eP		P	06 36 45.5	-0.3
CNLB	Canela	20.19 126	eP		P	06 36 46.2	-2.0
BONI	La Bonita	20.39 337	⇑	iP	Pn	06 36 52.5	-1.1
OTAV	Otavalo	20.56 334	P		P	06 36 54.0	+1.3
OTAV	Otavalo	20.56 334	P		P	06 36 54.0	+1.3
OTAV	Otavalo	20.56 334	eP		Pn	06 36 54.5	-1.2
OTAV	Otavalo	20.56 334	⇑	P	Pn	06 36 54.3	-1.4
OTAV	Otavalo	20.56 334	eP		Pn	06 36 54.7	-1.0
TRQA	Tornquist	20.59 163	P		P	06 36 52.2	-0.3
TRQA	Tornquist	20.59 163	P		P	06 36 52.2	-0.3
TRQA	Tornquist	20.59 163	eP		P	06 36 50.2	-2.2
PAC1	Pacto, Paraso	20.73 333	eP		P	06 36 55.8	+1.5
TULM	Tulcn-Chalpat	20.73 336	eP		Pn	06 36 56.9	-0.9
BDFB	Brasilia	20.80 85	P		P	06 36 54.9	0.0
BDFB	Brasilia	20.80 85	P		P	06 36 54.9	0.0
BDFB	Brasilia	20.80 85	P		P	06 36 54.4	-0.6
	comp=E,630nm,0.8s,baz=261,slow=11,SNR=105						
BDFB			S		S	06 40 42.6	+0.5
	comp=E,85nm,0.8s,baz=236,slow=18,SNR=1.7						
	comp=E,630nm,0.8s						
FLOC	Florencia	20.83 343	eP		P	06 36 52.3	-2.8
MACC	Macarena, Meta	20.93 348	eP		P	06 36 51.5	-4.8
CMBC	Cumbal	20.95 336	eP		Pn	06 36 59.4	-0.9
RCLB	Rio Claro- Sao	21.01 104	eP		P	06 36 56.4	-0.7
GCUF	Volcan Galeras	21.03 338	⇑	iP	P	06 37 00.2	+2.4
GO06	Curarrehue	21.09 184	P		P	06 36 57.4	-0.4
GO06	Curarrehue	21.09 184	⇓	P	P	06 36 57.5	-0.4
GUVC	San Jose del G	21.12 351	eP		P	06 36 59.2	+0.9
CRUC	La Cruz	21.21 339	eP		P	06 37 02.0	+2.4
GARC	Garzon, Huila	21.36 344	eP		P	06 36 58.4	-2.7
PET01	Itanhaem-SP	21.53 109	eP		P	06 37 01.4	-1.2
LR04	Corral	21.58 188	P		P	06 37 02.2	-0.7
VAO	Valinhos	21.60 106	eP		P	06 37 01.6	-1.8
BBAC	Balboa, Cauca	21.74 339	i	P	P	06 37 06.3	+1.2
BETC	Betania	21.82 344	eP		P	06 37 05.7	-0.1
PMNB	Patos De Minas	21.93 94	eP		P	06 37 05.9	-1.2
POPC	Popayan, Colom	22.04 341	eP		P	06 37 08.0	-0.3
TUMC	Tumaco	22.11 335	eP		P	06 37 09.7	+0.9
PLCA	Paso Flores	22.18 182	⇓	P	P	06 37 08.7	-0.8
PLCA	Paso Flores	22.18 182	eP		P	06 37 08.7	-0.8
PLCA	Paso Flores	22.18 182	P		P	06 37 08.9	-0.5
	comp=E,2μm,1.0s,baz=4.0,slow=12,SNR=285						
PLCA			S		S	06 41 04.3	-3.7
	comp=E,45nm,1.0s,baz=14,slow=13,SNR=1.1						
	comp=E,2μm,1.0s						
MALB	Monte Alegre	22.33 44	eP		P	06 37 10.1	-1.0
BOAV	Boa Vista	22.58 24	P		P	06 37 14.2	+0.4
BOAV	Boa Vista	22.58 24	⇑	iP	P	06 37 14.3	+0.4
BOAV	Boa Vista	22.58 24	eP		P	06 37 14.1	+0.4
JAMC	Jamundi, Valle	22.68 341	eP		P	06 37 13.1	-1.9
PRAC	Prado	22.68 346	eP		P	06 37 11.7	-3.2
PTGC	Puerto Gaitan,	22.69 353	eP		P	06 37 12.3	-2.5
PRPB	Parauapebas	22.82 60	eP		P	06 37 16.3	0.0
VILC	Villavicencio,	22.82 349	eP		P	06 37 14.7	-1.7
ORTC	Ortega, Tolima	22.95 345	eP		P	06 37 15.0	-2.6
GR1C	Gorgona, Isla	22.98 338	eP		P	06 37 17.9	+0.2
YOTC	Yotoco, Valle	23.31 343	eP		P	06 37 19.0	-2.1
CHIC	Chingaza	23.34 349	⇑	iP	P	06 37 16.6	-5.0
SMTB	Santa Maria do	23.38 69	eP		P	06 37 21.7	+0.1
BSCB	Bom Sucesso	23.46 100	eP		P	06 37 21.9	-0.5
ANIL	Santa Ana	23.55 345	eP		P	06 37 22.6	-0.8
MALC	Bahia Malaga	23.64 340	eP		P	06 37 25.1	+1.2
ROSC	El Rosal	23.65 348	P		P	06 37 24.0	-0.4
ROSC	El Rosal	23.65 348	eP		P	06 37 21.8	-2.6
ROSC	El Rosal	23.65 348	P		P	06 37 24.1	-0.4
	comp=E,94nm,0.7s,baz=153,slow=5.8,SNR=45						
ROSC			S		S	06 41 35.5	+2.8
	comp=E,23nm,0.6s,baz=213,slow=21,SNR=1.0						
ROSC			LR		LR	06 46 23.1	
	comp=E,26μm,20.2s,baz=204,slow=36						
	comp=E,94nm,0.7s						
ESAR	Angra dos Reis	23.91 105	eP		P	06 37 25.3	-1.0
LL01	San Ignacio de	23.94 185	⇓	P	P	06 37 25.6	-0.7
RECRC	Villamaria, Ca	23.99 346	eP		P	06 37 28.9	+1.2
NIZA	Niza - Manizal	24.11 345	eP		P	06 37 31.9	+3.5
PLMC	San Jos del P	24.17 343	eP		P	06 37 27.0	-1.7
GUY2C	Guyana, Caldas	24.25 346	eP		P	06 37 28.7	-1.2
SPBC	San Pablo de B	24.40 349	eP		P	06 37 28.6	-2.2
JANB	Januaria	24.41 86	eP		P	06 37 30.9	0.0
NORC	Norcasia	24.47 347	eP		P	06 37 30.5	-0.9
RUSC	La Rusia	24.48 352	⇑	iP	P	06 37 32.0	+0.1
SDBA	SAO DESIDERIO	24.51 79	eP		P	06 37 31.6	-0.2
DIAM	Diamantina, MG	24.57 94	eP		P	06 37 32.6	+0.1
LL02	Futaleuf	24.70 184	⇓	P	P	06 37 32.5	-0.8
VAS01	Vassouras-RJ	24.76 103	eP		P	06 37 34.3	+0.2
GO07	Milladeo Hill,	24.79 187	IAmb		IAmb	06 37 36.4	
	comp=Z,2μm,0.9s						
TAMC	Tame, Arauca	24.86 355	⇑	iP	P	06 37 34.9	-0.1
MCPB	Macapa, AP	24.91 46	eP		P	06 37 35.7	+0.3
BARC	Barichara	25.18 352	eP		P	06 37 36.4	-1.6
DUB01	Friburgo-RJ	25.74 103	eP		P	06 37 42.8	-0.2
PAMC	Pamplona, Colo	25.85 353	eP		P	06 37 43.1	-1.4
AY01	Puyuhuapi	25.98 185	IAmb		IAmb	06 37 45.5	
	comp=Z,957nm,1.1s						
DBBC	Dabeiba	26.18 345	eP		P	06 37 47.5	+0.6
ZARC	Zaragoza, Cauc	26.34 348	⇑	iP	P	06 37 46.5	-1.8
TMAB	Tom-Au,PA,Br	26.44 55	eP		P	06 37 50.1	+0.8
UREC	San Jos de Ur	26.73 347	eP		P	06 37 50.0	-1.9
PTAC	Punta Ardita,	26.74 342	eP		P	06 37 52.9	+0.9
PAYG	Puerto Ayora	26.97 309	P		P	06 37 52.9	-1.1
PAYG	Puerto Ayora	26.97 309	eP		P	06 37 53.9	-0.2
COYC	Coyhaique	27.09 184	IAmb		IAmb	06 37 56.1	
	comp=Z,1μm,1.2s						
COYC	Coyhaique	27.09 184	⇓	P	P	06 37 54.4	-0.4
APAC	Apartado, Choc	27.12 345	⇑	iP	P	06 37 56.2	+0.8
SDV	Santo Domingo	27.22 358	P		P	06 37 55.5	-1.0
SDV	Santo Domingo	27.22 358	⇑	iP	P	06 37 55.2	-1.2
SDV	Santo Domingo	27.22 358	eP		P	06 37 55.3	-1.2
ALF01	Guarapari-ES	27.25 99	eP		P	06 37 56.0	-0.4
RIB01	Linhares ES	27.60 96	eP		P	06 37 59.3	-0.3
CACAO	El Cacao, Vera	27.98 336	eP		P	06 38 06.3	+3.3
LCBC	Los crdobas,	27.99 346	⇑	eP	P	06 38 03.8	+0.7
AY02	Valle Explorad	28.08 185	IAmb		IAmb	06 38 43.0	
	comp=Z,2μm,1.2s						
AZU	Azuero	28.17 337	eP		P	06 38 07.1	+2.4
AZU	Azuero	28.17 337	eP		P	06 38 06.7	+2.0
GUA01	Guaratinga, BA	28.43 91	eP		P	06 38 06.9	-0.1
ARGC	Ariguani, Magd	28.54 350	eP		P	06 38 06.4	-1.6
SJCC	San Jacinto, C	28.75 348	⇑	iP	P	06 38 07.8	-2.1
MDP	Montagnes des	28.77 37	P		P	06 38 09.6	-0.5
	comp=Z,94nm,0.9s,baz=213,slow=9.8,SNR=80						
MDP			S		S	06 42 48.3	-4.9
	comp=Z,24nm,0.9s,baz=247,slow=19,SNR=1.2						
MDP			LR		LR	06 51 15.3	
	comp=Z,4μm,21.8s,baz=219,slow=39						
	comp=Z,94nm,0.9s						
PCRV	Puerto La Cruz	28.90 10	LR		LR	06 51 07.4	
	comp=Z,29μm,18.1s,slow=39						
UPA	Univ. de Panam	29.02 339	⇑	iP	P	06 38 14.4	+2.2
BCIP	Isla Barro Col	29.29 339	IAmb		IAmb	06 38 20.4	
	comp=Z,3μm,1.8s						
BCIP	Isla Barro Col	29.29 339	i	P	P	06 38 16.6	+2.0
BCIP	Isla Barro Col	29.29 339	⇑	P	P	06 38 16.7	+2.0
BCIP	Isla Barro Col	29.29 339	eP		P	06 38 16.9	+2.3
ROSB	Rosrio	29.34 61	eP		P	06 38 15.4	+0.3
SMRC	Santa Marta, M	29.82 351	eP		P	06 38 16.5	-2.8
CDITO	Canoas	29.93 333	IAmb		IAmb	06 38 27.1	
	comp=Z,1μm,1.4s						
BRU2	Volcan	30.05 333	eP		P	06 38 23.8	+2.3
TRN	Trinidad (W)	30.05 16	eP		P	06 38 20.1	-1.3
JIME	Puerto Jimenez	30.09 332	eP		P	06 38 24.4	+2.7
FITO	Golfito	30.09 332	eP		P	06 38 23.9	+2.1
URIC	Uribia, Colomb	30.09 355	⇑	iP	P	06 38 17.1	-4.6
EDAD	Golfito	30.12 332	eP		P	06 38 24.6	+2.5
EDSV	San Vito	30.19 333	eP		P	06 38 25.9	+3.2
POTG	Potrero Grande	30.46 333	eP		P	06 38 27.4	+2.4
HATO	Hato, Curacao	30.48 1	IAmb		IAmb	06 38 27.0	
	comp=Z,329nm,0.7s						
EDBA	Buenos Aires	30.63 333	eP		P	06 38 29.4	+2.8
DRK0	Durika	30.70 333	IAmb		IAmb	06 38 34.3	
	comp=Z,2μm,1.7s						
ZELE	Perez Zeledon	31.00 332	eP		P	06 38 32.7	+2.8
BUS1	Rivas	31.18 332	eP		P	06 38 34.4	+2.5
CDM	Cerro de Muert	31.19 332	eP		P	06 38 34.0	+2.1
LLNJ	Naranjito	31.27 332	eP		P	06 38 35.3	+3.1
RAZU	San Marcos de	31.40 332	eP		P	06 38 35.9	+2.5
GRGR	Grenville	31.41 15	⇑	iP	P	06 38 32.7	-0.6
GRGR	Grenville	31.41 15	⇑	P	P	06 38 33.0	-0.3
GRGR	Grenville	31.41 15	eP		P	06 38 33.1	-0.3
RIMA	Rio Macho	31.42 332	IAmb		IAmb	06 38 40.5	
	comp=Z,1μm,1.7s						
RIMA	Rio Macho	31.42 332	eP		P	06 38 35.7	+2.0
ABE2	San Pablo	31.45 332	eP		P	06 38 36.3	+2.3
BATAN	Batan	31.51 333	IAmb		IAmb	06 38 41.0	
	comp=Z,1μm,1.6s						
VERB	Verbena	31.51 333	eP		P	06 38 37.2	+2.9
RVSTA	Santa Teresita	31.51 333	eP		P	06 38 37.2	+2.8
PCAYA	Pacayas	31.53 332	eP		P	06 38 37.6	+2.9
VTCV	VTCV, Calle Va	31.55 333	eP		P	06 38 37.9	+3.1
IRES	Siquirres	31.56 333	eP		P	06 38 37.7	+3.0
RAFA	San Farael, Vo	31.57 332	eP		P	06 38 37.6	+2.4
ACOS	Acosta	31.58 332	eP		P	06 38 37.4	+2.4
CVTV	Tajo	31.58 333	eP		P	06 38 37.9	+2.7
CVTQ	Turrialba Volc	31.59 333	eP		P	06 38 37.9	+2.6
VTLA	Turrialba Volc	31.59 333	eP		P	06 38 38.1	+2.7
VTRT	Volcan Turrial	31.60 332	eP		P	06 38 38.1	+2.6
CVTR	Volcan Turrial	31.60 333	eP		P	06 38 38.3	+2.8
TRIO	Tres Rios	31.60 332	eP		P	06 38 37.6	+2.4
VICA	Volcano Irazu	31.61 332	eP		P	06 38 38.0	+2.4
VTLO	VTLO	31.61 333	eP		P	06 38 38.1	+2.6
AMPA	Desamparados	31.63 332	eP		P	06 38 37.9	+2.5
LUJA	Lujan	31.66 332	eP		P	06 38 39.3	+3.6
SJS3	Mercedes San J	31.66 332	eP		P	06 38 39.1	+3.4
SJS	Escuela Geolog	31.66 332	eP		P	06 38 38.9	+3.2
CORON	Coronado	31.67 332	eP		P	06 38 38.9	+3.1
LUPE	Guadalupe	31.67 332	eP		P	06 38 38.7	+2.9
CVIMO	Finca Echandi	31.69 332	eP		P	06 38 38.9	+2.9
JACO	JACO, Garabito	31.69 331	IAmb		IAmb	06 38 41.9	
	comp=Z,589nm,1.3s						
JACO	JACO, Garabito	31.69 331	eP		P	06 38 37.9	+2.1
SANTA	Santa Ana	31.71 332	eP		P	06 38 38.9	+2.7
DOMI	Santo Domingo	31.71 332	eP		P	06 38 39.5	+3.3
HDC	Heredia	31.74 332	⇑	P	P	06 38 39.5	+3.0
HDC	Heredia	31.74 332	eP		P	06 38 39.1	+2.7
HDC	Heredia	31.74 332	P		P	06 38 39.4	+3.0
HDC			pP		pP	06 39 00.8	+2.3
HDC3	Heredia 3	31.74 332	eP		P	06 38 39.1	+2.7
EDIA	Heredia	31.75 332	eP		P	06 38 39.4	+2.9
BELE	Belen	31.75 332	eP		P	06 38 39.0	+2.5
GCMP	Grenada, Carri	31.81 15	eP		P	06 38 34.7	-2.2
CARI	Cariari	31.90 333	eP		P	06 38 40.8	+3.2
SARCI	Sarchi	31.93 332	eP		P	06 38 41.5	+3.5
VPTE	Poasito	31.93 332	eP		P	06 38 40.4	+2.2
RIFO	Rio Frio, Sara	31.94 333	eP		P	06 38 40.6	+2.6
VPS6	Volcano Poas	31.96 332	eP		P	06 38 41.8	+3.2
RAMO	San Ramon	31.98 331	eP		P	06 38 41.8	+3.3
SRA1	San Ramn	31.98 331	eP		P	06 38 41.0	+2.5
ARZA	Esparza	31.98 331	eP		P	06 38 41.4	+3.0
TRT1	Tortuguero	32.09 333	eP		P	06 38 42.0	+2.7
SARA	Sarapiqu	32.10 332	eP		P	06 38 41.8	+2.4
CPMI	Catarata Coope	32.11 332	eP		P	06 38 41.8	+2.0
ITAL	Pital	32.21 332	eP		P	06 38 42.7	+2.3
NYURE	Nandayure	32.26 330	eP		P	06 38 43.1	+2.2
INDI	Punta índio, G	32.27 330	eP		P	06 38 42.7	+1.8
SOCE	Pocosol	32.31 331	IAmb		IAmb	06 38 47.7	
	comp=Z,2μm,1.4s						
SOCE	Pocosol	32.31 331	eP		P	06 38 43.9	+2.6
POPE	POPE, Guanacas	32.33 330	eP		P	06 38 43.4	+2.1
JUNT	Juntas	32.37 331	eP		P	06 38 43.5	+1.7
JTS	Las Juntas de	32.38 331	P		P	06 38 41.8	-0.1
JTS	Las Juntas de	32.38 331	d	iP	P	06 38 44.6	+2.7
JTS	Las Juntas de	32.38 331	eP		P	06 38 44.5	+2.6
JTS	Las Juntas de	32.38 331	⇑	P	P	06 38 43.6	+1.7
JTS	Las Juntas de	32.38 331	eP		P	06 38 43.8	+1.9
JTS	Las Juntas de	32.38 331	P		P	06 38 44.4	+2.5
NARJA	Naranjal	32.38 330	eP		P	06 38 43.3	+1.4
TUNA	La Fortuna	32.39 331	eP		P	06 38 45.1	+3.1
VACR	Volcan Arenal	32.41 331	eP		P	06 38 45.0	+2.8
ARE1	Arenal

comp=Z,796nm,1.3s
RPN Rapa Nui 37.53 249 P P 06 39 27.0 +0.9
RPN pP **pP 06 39 48.3 +0.7**
RPN sP **sP 06 39 58.6 +0.3**
VA02 Isla de Pascua 37.62 249 P P 06 39 27.3 +0.5
VA02 IAmb IAmb 06 39 28.3
comp=Z,1µm,1.4s
MTO3 Montecristo 38.06 328 IAmb IAmb 06 39 35.0
comp=Z,711nm,1.6s
ESQI Esquipulas 38.19 328 P P 06 39 33.2 +1.4
ESQI IAmb IAmb 06 39 41.2
comp=Z,µm,1.4s
GTBY Guantanamo Bay 38.56 352 ⇑*i*P **P 06 39 33.5 -1.2**
GTBY Guantanamo Bay 38.56 352 ⇑P **P 06 39 33.8 -1.0**
CCIG Comitan 41.08 326 ⇑P **P 06 39 57.1 +1.2**
TEIG Tepich 42.63 334 P P 06 40 07.4 -0.8
TEIG IAmb IAmb 06 40 12.9
comp=Z,658nm,1.4s
TEIG Tepich 42.63 334 *e*P **P 06 40 08.6 +0.4**
TEIG Tepich 42.63 334 ⇑P **P 06 40 08.6 +0.4**
TEIG Tepich 42.63 334 P **P 06 40 08.8 +0.5**
TEIG pP **pP 06 40 30.9 -0.3**
SOR Soroa 43.08 342 IAmb IAmb 06 40 14.3
comp=Z,701nm,1.0s
HOPE Hope Point 43.81 152 P P 06 40 18.5 +1.1
HOPE IAmb IAmb 06 40 23.0
comp=Z,643nm,1.1s
HOPE Hope Point 43.81 152 P P 06 40 18.5 +1.1
HOPE pmax pmax
comp=Z,643nm,1.1s
HOPE Hope Point 43.81 152 ⇑P **P 06 40 19.1 +1.8**
HOPE Hope Point 43.81 152 P **P 06 40 19.4 +2.0**
HOPE pP **pP 06 40 41.4 +1.1**
HOPE sP **sP 06 40 51.9 +0.6**
061Z Ochoppi 45.45 346 S **S 06 47 04.9 -0.5**
baz=165
ORCD Orcadas 45.76 163 P P 06 40 30.8 -1.9
ORCD IAmb IAmb 06 40 34.3
comp=Z,818nm,0.9s
TLIG Tlapa 45.79 320 ⇓P **P 06 40 35.6 +1.9**
PMSA Palmer Station 46.40 177 P P 06 40 39.1 +1.5
PMSA IAmb IAmb 06 40 40.9
comp=Z,793nm,1.4s
PMSA Palmer Station 46.40 177 ⇓P **P 06 40 39.2 +1.5**
PMSA Palmer Station 46.40 177 *e*P **P 06 40 39.3 +1.6**
PMSA Palmer Station 46.40 177 LR LR 06 59 25.0
comp=Z,5µm,22.0s,baz=348,slow=35
PMSA Palmer Station 46.40 177 ⇓P **P 06 40 39.3 +1.6**
060A Indiantown 46.45 347 P P 06 40 39.4 +0.8
baz=166,SNR=7.7
UNM Universidad Na 47.51 321 ⇓P **P 06 40 50.0 +2.7**
DWPF Disney Wildern 47.73 346 P P 06 40 48.9 +0.5
DWPF IAmb IAmb 06 40 49.8
comp=Z,659nm,0.9s
DWPF Disney Wildern 47.73 346 P P 06 40 49.3 +0.9
baz=165
DWPF S **S 06 47 32.5 -5.4**
baz=165
DWPF Disney Wildern 47.73 346 P P 06 40 49.2 +0.7
baz=165,SNR=28
DWPF S **S 06 47 31.9 -6.0**
baz=165
DWPF Disney Wildern 47.73 346 ⇑P **P 06 40 49.0 +0.5**
DWPF Disney Wildern 47.73 346 ⇑P **P 06 40 49.1 +0.7**
656A Willston 49.20 345 P P 06 41 00.7 +1.0
baz=164,SNR=51
656A S **S 06 47 55.5 -3.1**
baz=164
SMAI San Martin Ant 49.65 179 IAmb IAmb 06 41 05.5
comp=Z,538nm,1.0s
553A Crawfordville 50.47 343 P P 06 41 10.8 +1.5
baz=162,SNR=149
553A S **S 06 48 15.1 -1.1**
baz=162
BBSR BB Station 50.79 5 P P 06 41 10.4 -1.2
BBSR IAmb IAmb 06 41 11.7
comp=Z,264nm,0.9s
BBSR BB Station 50.79 5 P P 06 41 11.0 -0.7
baz=186,SNR=15
BBSR S **S 06 48 16.1 -4.5**
baz=186
BBSR BB Station 50.79 5 ⇑P **P 06 41 10.6 -1.1**
BBSR BB Station 50.79 5 P P 06 41 10.9 -0.7
451A Vernon 51.24 342 P P 06 41 16.1 +1.0
baz=160,SNR=41
451A S **S 06 48 25.6 -1.3**
baz=160
257A Skidaway Islan 51.37 348 P P 06 41 16.9 +0.9
baz=166,SNR=18
257A S **S 06 48 28.2 -0.3**
baz=166
TIGA Tifton 51.44 345 P P 06 41 17.3 +0.7
baz=163,SNR=152
TIGA S **S 06 48 25.8 -3.8**
baz=163
TIGA Tifton 51.44 345 P P 06 41 17.3 +0.7
baz=163,SNR=152
TIGA S **S 06 48 27.7 -1.9**
baz=163
255A Hazlehurst 51.63 346 P P 06 41 19.0 +0.9
baz=164,SNR=138
255A S **S 06 48 29.6 -2.7**
baz=164
352A Blakely 51.83 343 P P 06 41 20.1 +0.7
baz=162,SNR=236
352A S **S 06 48 32.9 -2.0**
baz=162
BRAL Brewton 52.15 341 P P 06 41 22.6 +0.7
baz=159,SNR=40
BRAL S **S 06 48 37.0 -2.4**
baz=159
BRAL Brewton 52.15 341 P P 06 41 22.6 +0.7
baz=159,SNR=40
BRAL S **S 06 48 38.4 -1.0**
baz=159
BRAL Brewton 52.15 341 ⇑P **P 06 41 22.8 +0.8**
ZAIG Zacatecas 52.17 320 ⇓P **P 06 41 24.3 +1.8**
545B Wilberts Farm, 52.30 337 P P 06 41 24.3 +1.3
baz=155
545B S **S 06 48 45.2 +3.9**
baz=155
NHSC New Hope 52.30 349 P P 06 41 23.7 +0.8
baz=167,SNR=110
NHSC S **S 06 48 39.5 -1.8**
baz=167
NHSC New Hope 52.30 349 P P 06 41 23.8 +0.8
baz=167,SNR=110
NHSC S **S 06 48 38.5 -2.8**
baz=167
NHSC New Hope 52.30 349 ⇑P **P 06 41 23.8 +0.8**
154A Montrose 52.44 346 P P 06 41 24.6 +0.6
baz=164,SNR=230
154A S **S 06 48 40.1 -3.2**
baz=164
250A Grady 52.67 342 P P 06 41 25.9 +0.1
baz=160,SNR=170
250A S **S 06 48 42.5 -4.0**
baz=160
HAW Hawthorne Fire 52.83 347 P P 06 41 27.6 +0.7
baz=166,SNR=176
HAW S **S 06 48 45.1 -3.4**
baz=166
Y60A Bolivia 52.85 351 IAmb IAmb 06 41 28.4
comp=Z,645nm,1.2s
Y60A Bolivia 52.85 351 P P 06 41 26.9 -0.1
baz=170,SNR=13
Y60A P **P 06 41 26.9 -0.1**
baz=170,SNR=13
Y60A S **S 06 48 48.5 -0.3**
baz=170
Y60A S **S 06 48 48.5 -0.3**
baz=170
152A Waverly Hall 52.90 344 P P 06 41 27.5 +0.1
baz=162,SNR=150
152A S **S 06 48 45.2 -4.3**
baz=162
Y58A Scranton 52.98 349 IAmb IAmb 06 41 29.2
comp=Z,520nm,1.0s
Y58A Scranton 52.98 349 P P 06 41 28.2 +0.2
baz=168,SNR=41
Y58A P **P 06 41 28.2 +0.2**
baz=168,SNR=41
Y58A S **S 06 48 49.5 -1.1**
baz=168
Y58A S **S 06 48 49.5 -1.1**
baz=168

TRIS Tristan da Cun 53.14 123 P P 06 41 29.9 +0.5
TRIS Tristan da Cun 53.14 123 ⇑*i*P **P 06 41 29.8 +0.5**
TRIS IAmb IAmb 06 41 31.7
comp=Z,717nm,1.1s
346A Big Creek Wild 53.15 339 IAmb IAmb 06 41 33.2
comp=Z,503nm,1.0s
346A Big Creek Wild 53.15 339 P P 06 41 29.5 +0.3
baz=156,SNR=42
346A S **S 06 48 50.8 -2.2**
baz=156
Y57A Sumter 53.22 349 P P 06 41 30.4 +0.7
baz=167,SNR=40
Y57A P **P 06 41 30.4 +0.7**
baz=167,SNR=40
Y57A S **S 06 48 50.4 -3.4**
baz=167
Y57A S **S 06 48 50.4 -3.4**
baz=167
GOGA Godfrey 53.29 345 IAmb IAmb 06 41 33.0
comp=Z,906nm,1.5s
GOGA Godfrey 53.29 345 P P 06 41 30.5 +0.2
baz=164,SNR=142
GOGA S **S 06 48 46.1 -8.7**
baz=164
GOGA Godfrey 53.29 345 P P 06 41 30.5 +0.2
baz=164,SNR=142
GOGA S **S 06 48 51.2 -3.6**
baz=164
GOGA Godfrey 53.29 345 ⇑P **P 06 41 30.3 0.0**
HBVL Hebbronville 53.36 327 IAmb IAmb 06 41 35.6
comp=Z,492nm,1.1s
KVTX Kingsville 53.36 328 P P 06 41 32.7 +1.8
baz=146,SNR=35
KVTX S **S 06 48 57.1 +1.1**
baz=146
KVTX Kingsville 53.36 328 ⇑P **P 06 41 32.9 +2.0**
X58A Rowland 53.56 350 S **S 06 48 54.3 -4.1**
baz=169
X58A S **S 06 48 54.3 -4.1**
baz=169
Z51A Franklin 53.63 344 P P 06 41 33.0 +0.2
baz=162,SNR=72
Z51A S **S 06 48 54.1 -5.4**
baz=162
JSC Jenkinsville 53.65 348 P P 06 41 33.5 +0.6
baz=166,SNR=113
344A Westbrook Farm 53.65 337 IAmb IAmb 06 41 37.8
comp=Z,532nm,1.4s
344A Westbrook Farm 53.65 337 P P 06 41 33.6 +0.7
baz=155,SNR=50
344A S **S 06 48 56.2 -3.6**
baz=155
BIRD Birdtown, Kers 53.85 349 P P 06 41 34.8 +0.5
baz=167,SNR=146
BIRD S **S 06 48 58.7 -3.6**
baz=167
Y52A Lilburn 53.87 345 IAmb IAmb 06 41 38.8
comp=Z,1µm,1.6s
Y52A Lilburn 53.87 345 P P 06 41 34.7 +0.2
baz=163,SNR=106
Y52A P **P 06 41 34.7 +0.2**
baz=163,SNR=106
Y52A S **S 06 48 57.8 -4.8**
baz=163
Y52A S **S 06 48 57.8 -4.8**
baz=163
LRAL Lakeview Retre 53.88 342 IAmb IAmb 06 41 36.4
comp=Z,308nm,1.1s
LRAL Lakeview Retre 53.88 342 P P 06 41 34.5 0.0
baz=160,SNR=108
LRAL S **S 06 48 59.2 -3.6**
baz=160
LRAL Lakeview Retre 53.88 342 P P 06 41 34.6 0.0
baz=160,SNR=108
LRAL Lakeview Retre 53.88 342 ⇑P **P 06 41 34.3 -0.3**
441A DeRidder 53.97 335 IAmb IAmb 06 41 40.6
comp=Z,1µm,1.5s
441A DeRidder 53.97 335 P P 06 41 37.3 +2.0
baz=152
CNNC Cliffs of the 54.01 352 IAmb IAmb 06 41 37.0
comp=Z,755nm,1.6s
CNNC Cliffs of the 54.01 352 P P 06 41 35.5 0.0
baz=170,SNR=16
CNNC Cliffs of the 54.01 352 P P 06 41 35.5 0.0
baz=170,SNR=16
CNNC Cliffs of the 54.01 352 ⇑P **P 06 41 35.5 0.0**
W59A Clinton 54.02 351 IAmb IAmb 06 41 36.5
comp=Z,336nm,1.2s
W59A Clinton 54.02 351 P P 06 41 35.7 +0.1
baz=170,SNR=18
146A Union 54.15 340 IAmb IAmb 06 41 39.6
comp=Z,854nm,1.3s
146A Union 54.15 340 P P 06 41 36.9 +0.3
baz=157,SNR=47
W57A Gilead 54.26 349 P P 06 41 37.7 +0.4
baz=168,SNR=85
W57A P **P 06 41 37.7 +0.4**
baz=168,SNR=85
VBMS Vicksburg 54.27 338 P P 06 41 37.9 +0.4
baz=156,SNR=24
VBMS S **S 06 49 05.0 -3.1**
baz=156
VBMS Vicksburg 54.27 338 P P 06 41 37.5 +0.1
baz=156,SNR=24
VBMS Vicksburg 54.27 338 ⇑P **P 06 41 37.7 +0.3**
Z47A Carrollton 54.35 341 IAmb IAmb 06 41 41.4
comp=Z,1µm,1.6s
Z47A Carrollton 54.35 341 P P 06 41 37.8 -0.2
baz=158,SNR=92
V61A Roper 54.39 353 P P 06 41 38.0 -0.2
baz=172,SNR=15
V61A P **P 06 41 38.0 -0.2**
baz=172,SNR=15
735A Kenedy 54.41 329 P P 06 41 39.6 +1.1
baz=147,SNR=31
HKT Hockley 54.41 332 P P 06 41 39.4 +1.0
HKT IAmb IAmb 06 41 43.4
comp=Z,860nm,1.6s
HKT Hockley 54.41 332 *c i*P **P 06 41 39.4 +1.0**
HKT pmax pmax
comp=Z,232nm,1.2s
HKT MLR MLR
comp=Z,4µm,22.0s
HKT Hockley 54.41 332 P P 06 41 39.6 +1.2
baz=149
HKT Hockley 54.41 332 ⇑P **P 06 41 39.5 +1.0**
HKT Hockley 54.41 332 P P 06 41 39.6 +1.2
HKT sP **sP 06 42 11.6 -1.3**
Y49A Blount Mountai 54.48 343 IAmb IAmb 06 41 40.5
comp=Z,367nm,1.2s
Y49A Blount Mountai 54.48 343 P P 06 41 38.6 -0.3
baz=160,SNR=66
KMSC Kings Mountain 54.49 348 IAmb IAmb 06 41 40.5
comp=Z,628nm,1.0s
KMSC Kings Mountain 54.49 348 P P 06 41 39.8 +0.7
baz=166,SNR=181
KMSC S **S 06 49 06.9 -4.1**
baz=166
KMSC Kings Mountain 54.49 348 P P 06 41 39.9 +0.9
baz=166,SNR=181
ASCN Ascension 54.58 87 P P 06 41 41.0 +0.9
CASEE Lake Jocassee 54.68 347 P P 06 41 41.0 +0.6
baz=165,SNR=95
X51A Calhoun 54.73 345 P P 06 41 40.9 +0.1
baz=162,SNR=95
X51A P **P 06 41 40.9 +0.1**
baz=162,SNR=95
V58A Windy Hill, Pi 54.74 350 P P 06 41 41.0 +0.2
baz=169,SNR=65
V58A P **P 06 41 41.0 +0.2**
baz=169,SNR=65
833A Chaparral WMA, 54.76 328 P P 06 41 42.1 +1.0
baz=145,SNR=187
833A S **S 06 49 13.5 -1.3**
baz=145
833A Chaparral WMA, 54.76 328 P P 06 41 41.7 +0.6
baz=145,SNR=187
HNVL Huntsville, TX 54.94 333 IAmb IAmb 06 41 47.5
comp=Z,2µm,1.5s
W52A Murphy 55.01 346 P P 06 41 43.4 +0.6
baz=164,SNR=146
143A Socs Landing, 55.02 337 IAmb IAmb 06 41 49.5
comp=Z,491nm,1.3s
143A Socs Landing, 55.02 337 P P 06 41 43.0 +0.1
baz=155,SNR=35
U59A Littleton 55.10 352 IAmb IAmb 06 41 44.9
comp=Z,1µm,1.9s
U59A Littleton 55.10 352 P P 06 41 43.4 +0.1

baz=171,SNR=63
U59A P **P 06 41 43.4 +0.1**
baz=171,SNR=63
X48A Hartselle 55.21 342 P P 06 41 44.3 +0.1
baz=160,SNR=143
V53A Saluda 55.31 347 P P 06 41 45.5 +0.5
baz=165,SNR=115
V53A P **P 06 41 45.5 +0.5**
baz=165,SNR=115
Y45A Yeager Farm, C 55.44 340 P P 06 41 46.2 +0.3
baz=157,SNR=71
W50A Signal Mountai 55.45 344 IAmb IAmb 06 41 49.6
comp=Z,709nm,1.2s
W50A Signal Mountai 55.45 344 P P 06 41 46.1 +0.2
baz=162,SNR=135
NATX Nacogdoches 55.46 334 P P 06 41 47.5 +1.5
baz=151,SNR=46
NATX S **S 06 49 25.1 +1.0**
baz=151
NATX Nacogdoches 55.46 334 P P 06 41 47.7 +1.6
baz=151,SNR=46
NATX Nacogdoches 55.46 334 ⇑P **P 06 41 47.5 +1.5**
CPCT Cooper Cave 55.49 345 IAmb IAmb 06 41 49.9
comp=Z,1µm,1.6s
U56A King 55.49 349 P P 06 41 47.3 +1.1
baz=168,SNR=184
U56A P **P 06 41 47.3 +1.1**
baz=168,SNR=184
TKL Tuckaleechee C 55.51 346 IAmb IAmb 06 41 49.9
comp=Z,497nm,1.0s
TKL Tuckaleechee C 55.51 346 P P 06 41 46.7 +0.3
baz=164,SNR=186
TKL Tuckaleechee C 55.51 346 LR LR 07 08 16.6
comp=Z,3µm,18.4s,baz=161,slow=39
SWET Sewanee 55.62 344 IAmb IAmb 06 41 50.5
comp=Z,419nm,0.8s
V52A Sevierville 55.65 346 P P 06 41 47.7 +0.4
baz=164,SNR=253
T59A Double "B" Far 55.67 352 IAmb IAmb 06 41 49.0
comp=Z,789nm,1.3s
T59A Double "B" Far 55.67 352 P P 06 41 47.7 +0.2
baz=171,SNR=94
T59A P **P 06 41 47.7 +0.2**
baz=171,SNR=94
HNDO Hondo 55.68 328 IAmb IAmb 06 41 52.1
comp=Z,719nm,0.8s
T60A Surry 55.74 353 IAmb IAmb 06 41 49.5
comp=Z,1µm,1.4s
T60A Surry 55.74 353 P P 06 41 48.1 +0.2
baz=172,SNR=14
T60A P **P 06 41 48.1 +0.2**
baz=172,SNR=14
V51A Loudon 55.78 345 IAmb IAmb 06 41 53.4
comp=Z,562nm,1.3s
V51A Loudon 55.78 345 P P 06 41 48.3 0.0
baz=163,SNR=106
435B Jarrell 55.91 331 IAmb IAmb 06 41 53.6
comp=Z,243nm,0.8s
435B Jarrell 55.91 331 P P 06 41 50.1 +0.8
baz=148
435B S **S 06 49 28.2 -1.9**
baz=148
435B Jarrell 55.91 331 P P 06 41 50.1 +0.8
baz=148,SNR=33
U54A Nelsons Funny 55.92 348 P P 06 41 50.1 +0.8
baz=166,SNR=248
U54A P **P 06 41 50.1 +0.8**
baz=166,SNR=248
T57A Hurt 55.94 351 P P 06 41 49.9 +0.6
baz=169,SNR=87
T57A P **P 06 41 49.9 +0.6**
baz=169,SNR=87
OXF Oxford 55.99 340 IAmb IAmb 06 41 51.6
comp=Z,481nm,1.0s
OXF Oxford 55.99 340 P P 06 41 48.9 -0.9
baz=157,SNR=113
OXF S **S 06 49 26.9 -4.1**
baz=157
OXF Oxford 55.99 340 P P 06 41 48.9 -0.9
baz=157,SNR=113
OXF Oxford 55.99 340 ⇑P **P 06 41 48.7 -1.1**
PLAL Pickwick Lake 56.01 342 IAmb IAmb 06 41 51.8
comp=Z,966nm,1.8s
Z41A Richland Creek 56.04 337 P P 06 41 50.0 -0.1
baz=153,SNR=41
Z41A P **P 06 41 50.0 -0.1**
baz=153,SNR=41
237A Washetta, Mont 56.15 333 P P 06 41 52.6 +1.6
baz=150,SNR=30
237A S **S 06 49 33.4 +0.1**
baz=150
S61A Accomac 56.16 354 IAmb IAmb 06 41 52.3
comp=Z,680nm,1.0s
S61A Accomac 56.16 354 P P 06 41 50.9 0.0
baz=173,SNR=6.1
S61A P **P 06 41 50.9 0.0**
baz=173,SNR=6.1
S61A S **S 06 49 32.4 -0.8**
baz=173
S61A S **S 06 49 32.4 -0.8**
baz=173
SACV Santiago Islan 56.17 57 P P 06 41 51.4 -0.1
SACV IAmb IAmb 06 41 54.4
comp=Z,603nm,1.2s
CCAR Cane Creek 56.25 338 IAmb IAmb 06 41 55.8
comp=Z,466nm,1.0s
CCAR Cane Creek 56.25 338 P P 06 41 52.1 +0.5
baz=155,SNR=69
CCAR S **S 06 49 32.2 -2.2**
baz=155
DRIO Del Rio 56.27 327 IAmb IAmb 06 41 56.3
comp=Z,485nm,1.2s
TZTN Tazewell 56.31 346 P P 06 41 52.2 +0.2
baz=164,SNR=98
TZTN S **S 06 49 29.9 -5.3**
baz=164
TZTN Tazewell 56.31 346 P P 06 41 52.2 +0.2
baz=164,SNR=98
TZTN S **S 06 49 31.1 -4.1**
baz=164
TZTN Tazewell 56.31 346 ⇑P **P 06 41 51.9 -0.1**
BLA Blacksburg 56.34 350 P P 06 41 53.3 +1.1
baz=168,SNR=100
BLA S **S 06 49 33.4 -2.3**
baz=168
BLA Blacksburg 56.34 350 P P 06 41 53.3 +1.1
baz=168,SNR=100
BLA S **S 06 49 33.6 -2.1**
baz=168
BLA Blacksburg 56.34 350 ⇑P **P 06 41 53.1 +0.8**
V48A Smith Brothers 56.36 343 P P 06 41 52.5 +0.1
baz=160,SNR=196
V48A S **S 06 49 30.4 -5.5**
baz=160
CLTN Cedars of Leba 56.56 344 IAmb IAmb 06 41 57.2
comp=Z,949nm,1.4s
S57A Dark Hollow, R 56.64 351 P P 06 41 55.1 +0.8
baz=169,SNR=108
S57A P **P 06 41 55.1 +0.8**
baz=169,SNR=108
S57A S **S 06 49 36.9 -2.6**
baz=169
S57A S **S 06 49 36.9 -2.6**
baz=169
R58B Mineral 56.69 352 IAmb IAmb 06 41 55.9
comp=Z,286nm,1.1s
R58B Mineral 56.69 352 P P 06 41 55.3 +0.6
baz=171,SNR=92
R58B P **P 06 41 55.3 +0.6**
baz=171,SNR=92
R58B S **S 06 49 36.1 -4.1**
baz=171
R58B S **S 06 49 36.1 -4.1**
baz=171
JCT Junction City 56.72 329 P P 06 41 55.4 +0.3
JCT IAmb IAmb 06 41 59.2
comp=Z,334nm,1.0s
JCT Junction City 56.72 329 P P 06 41 55.4 +0.3
JCT pmax pmax
comp=Z,334nm,1.0s
JCT Junction City 56.72 329 P P 06 41 55.5 +0.5
baz=145,SNR=108
JCT S **S 06 49 38.6 -2.3**
baz=145
JCT Junction City 56.72 329 P P 06 41 55.6 +0.5
baz=145,SNR=108
JCT S **S 06 49 39.0 -2.0**
baz=145

JCT	Junction City	56.72 329	⇑P	P	06 41 55.7 +0.6
R61A	Willards	56.78 355	P	P	06 41 55.7 +0.4
	baz=174,SNR=6.2				
R61A			P	P	06 41 55.7 +0.4
	baz=174,SNR=6.2				
U49A	Red Boiling Sp	56.81 344	IAmb	IAmb	06 41 58.9
	comp=Z,1μm,1.8s				
U49A	Red Boiling Sp	56.81 344	P	P	06 41 55.4 -0.2
	baz=162,SNR=94				
U49A			S	S	06 49 36.8 -5.0
	baz=162				
CBN	Corbin Frederi	56.87 353	IAmb	IAmb	06 41 56.9
	comp=Z,279nm,1.0s				
CBN	Corbin Frederi	56.87 353	P	P	06 41 56.2 +0.3
	baz=171,SNR=14				
CBN			S	S	06 49 37.2 -5.3
	baz=171				
CBN	Corbin Frederi	56.87 353	P	P	06 41 56.0 +0.1
	baz=171,SNR=14				
CBN	Corbin Frederi	56.87 353	⇑P	P	06 41 56.1 +0.3
WHTX	Lake Whitney,	56.87 332	P	P	06 41 56.8 +0.7
	baz=148,SNR=56				
WHTX			S	S	06 49 41.7 -1.1
	baz=148				
WHTX	Lake Whitney,	56.87 332	P	P	06 41 56.5 +0.4
	baz=148,SNR=56				
WHTX			S	S	06 49 41.9 -0.9
	baz=148				
Z38A	Mt. Pleasant	56.90 335	P	P	06 41 57.4 +1.1
	baz=151,SNR=44				
Z38A			S	S	06 49 43.6 +0.5
	baz=151				
BRDY	Brady	56.99 330	IAmb	IAmb	06 42 00.8
	comp=Z,309nm,1.2s				
WVT	Waverly	57.01 342	P	P	06 41 56.3 -0.6
WVT			IAmb	IAmb	06 41 58.2
	comp=Z,382nm,0.9s				
WVT	Waverly	57.01 342	P	P	06 41 56.3 -0.6
WVT			pmax	pmax	
	comp=Z,382nm,1.0s				
WVT	Waverly	57.01 342	P	P	06 41 56.4 -0.6
	baz=159				
WVT			S	S	06 49 39.4 -5.0
	baz=159				
WVT	Waverly	57.01 342	P	P	06 41 56.4 -0.6
	baz=159,SNR=274				
WVT			S	S	06 49 39.3 -5.1
	baz=159				
WVT	Waverly	57.01 342	⇑P	P	06 41 56.2 -0.7
WVT	Waverly	57.01 342	⇑P	P	06 41 56.3 -0.6
WVT			pP	pP	06 42 19.0 -1.9
WVT			sP	sP	06 42 28.9 -2.8
FW16	Waxahatchie	57.04 332	IAmb	IAmb	06 42 01.9
	comp=Z,583nm,1.1s				
T50A	Nancy	57.06 345	S	S	06 49 40.5 -4.6
	baz=163				
T50A			S	S	06 49 40.5 -4.6
	baz=163				
S54A	Dingess, Beckl	57.07 349	P	P	06 41 58.0 +0.6
	baz=167,SNR=150				
S54A			P	P	06 41 58.0 +0.6
	baz=167,SNR=150				
S54A			S	S	06 49 41.8 -3.4
	baz=167				
S54A			S	S	06 49 41.8 -3.4
	baz=167				
FW14	Alvarado	57.10 332	IAmb	IAmb	06 42 02.2
	comp=Z,496nm,1.0s				
HPIG		57.14 321	⇑P	P	06 41 59.3 +0.9
HPIG			⇑P	P	06 41 59.5 +1.1
X40A	Basin Creek Fa	57.15 337	P	P	06 41 57.8 -0.2
	baz=154,SNR=27				
X40A			P	P	06 41 57.8 -0.2
	baz=154,SNR=27				
X40A			S	S	06 49 42.7 -3.6
	baz=154				
X40A			S	S	06 49 42.7 -3.6
	baz=154				
FW13	Cleburne	57.16 332	IAmb	IAmb	06 42 02.4
	comp=Z,788nm,1.4s				
UALR	University of	57.23 338	IAmb	IAmb	06 42 02.8
	comp=Z,502nm,1.2s				
R55A	Marlinton	57.33 350	P	P	06 42 00.6 +1.3
	baz=168,SNR=152				
R55A			P	P	06 42 00.6 +1.3
	baz=168,SNR=152				
R55A			S	S	06 49 47.5 -1.3
	baz=168				
R55A			S	S	06 49 47.5 -1.3
	baz=168				
HBAR	Harrisburg	57.35 340	IAmb	IAmb	06 42 06.1
	comp=Z,339nm,0.8s				
HBAR	Harrisburg	57.35 340	P	P	06 41 59.1 -0.3
	baz=156				
HBAR			S	S	06 49 45.0 -3.9
	baz=156				
S51A	Beattyville	57.37 347	P	P	06 41 59.5 0.0
	baz=164,SNR=66				
S51A			P	P	06 41 59.5 0.0
	baz=164,SNR=66				
S51A			S	S	06 49 43.5 -5.6
	baz=164				
S51A			S	S	06 49 43.5 -5.6
	baz=164				
MIAR	Mount Ida	57.48 337	P	P	06 42 00.1 -0.2
MIAR			IAmb	IAmb	06 42 04.1
	comp=Z,308nm,1.0s				
MIAR	Mount Ida	57.48 337	P	P	06 42 00.1 -0.2
MIAR			pmax	pmax	
	comp=Z,308nm,1.0s				
MIAR	Mount Ida	57.48 337	P	P	06 42 00.5 +0.3
	baz=153,SNR=147				
MIAR			S	S	06 49 47.4 -3.3
	baz=153				
MIAR	Mount Ida	57.48 337	P	P	06 42 00.7 +0.3
	baz=153,SNR=147				
MIAR			S	S	06 49 44.0 -6.6
	baz=153				
MIAR	Mount Ida	57.48 337	⇑P	P	06 42 00.6 +0.3
LNXT	Lenox	57.48 341	P	P	06 42 00.1 -0.1
	baz=158,SNR=15				
LNXT			S	S	06 49 46.1 -4.5
	baz=158				
SAND	Sanderson	57.48 326	IAmb	IAmb	06 42 04.8
	comp=Z,630nm,1.4s				
SLBS	Sierra La Lagu	57.53 315	P	P	06 42 01.5 +0.5
SLBS			IAmb	IAmb	06 42 06.3
	comp=Z,464nm,1.4s				
T47A	Sharon Grove	57.61 343	P	P	06 42 01.1 -0.1
	baz=160,SNR=315				
T47A			S	S	06 49 48.1 -4.2
	baz=160				
FW07	Weatherford	57.62 332	IAmb	IAmb	06 42 05.5
	comp=Z,371nm,0.7s				
R53A	Hurricane	57.70 348	P	P	06 42 02.3 +0.5
	baz=166,SNR=87				
R53A			P	P	06 42 02.3 +0.5
	baz=166,SNR=87				
OZNA	Ozona	57.74 328	IAmb	IAmb	06 42 06.1
	comp=Z,772nm,1.4s				
FW06	Azle	57.75 332	IAmb	IAmb	06 42 06.7
	comp=Z,503nm,0.9s				
TXAR	Lajitas Array	57.82 325	P	P	06 42 03.3 +0.3
	comp=Z,22nm,0.5s,baz=141,slow=8.1,SNR=98				
TXAR			LR	LR	07 06 13.5
	comp=Z,3μm,21.9s,baz=136,slow=35				
TXAR			PKPPKP	P'P'df	07 11 43.0 -2.0
	comp=Z,0.7nm,0.7s,baz=302,slow=2.0,SNR=3.6				
TXAR			PKP2ab	P'P'ab	07 12 13.8 +1.5
	comp=Z,5.5nm,1.1s,baz=327,slow=4.5,SNR=4.3				
	comp=Z,22nm,0.5s				
TX31	Lajitas Ar. Si	57.82 325	P	P	06 42 03.6 +0.6
	baz=141,SNR=119				
TX31			S	S	06 49 54.8 -0.8
	baz=141				
TX32	Lajitas Array	57.82 325	IAmb	IAmb	06 42 07.1
	comp=Z,360nm,1.5s				
Z35A	Perchaven, San	57.92 333	P	P	06 42 04.3 +0.9
	baz=149,SNR=104				
Z35A			S	S	06 49 56.8 +0.3
	baz=149				
Q56A	Snyder Ridge,	57.93 351	P	P	06 42 04.7 +1.3
	baz=169,SNR=118				
Q56A			P	P	06 42 04.7 +1.3
	baz=169,SNR=118				
Q56A			S	S	06 49 54.6 -1.9
	baz=169				
Q56A			S	S	06 49 54.6 -1.9
	baz=169				
LCAR	Lake Charles	57.98 339	IAmb	IAmb	06 42 07.0
	comp=Z,262nm,1.1s				
LCAR	Lake Charles	57.98 339	P	P	06 42 03.4 -0.4
	baz=156,SNR=158				
LCAR			S	S	06 49 52.2 -5.0
	baz=156				
FW03	Perrin-Whitt E	58.03 332	IAmb	IAmb	06 42 08.7
	comp=Z,1μm,1.7s				
P61A	Hammonton	58.06 355	P	P	06 42 04.5 +0.3
	baz=174				
P61A			P	P	06 42 04.5 +0.3
	baz=174				
T45B	Paducah	58.07 342	P	P	06 42 04.1 -0.3
	baz=159,SNR=28				
T45B			S	S	06 49 54.0 -4.3
	baz=159				
Q54A	Coxs Mills	58.14 350	IAmb	IAmb	06 42 06.7
	comp=Z,575nm,0.9s				
Q54A	Coxs Mills	58.14 350	P	P	06 42 05.4 +0.6
	baz=168,SNR=145				
Q54A			P	P	06 42 05.4 +0.6
	baz=168,SNR=145				
Q54A			S	S	06 49 56.4 -2.7
	baz=168				
Q54A			S	S	06 49 56.4 -2.7
	baz=168				
R50A	Paris	58.15 346	P	P	06 42 04.9 -0.1
	baz=164,SNR=123				
R50A			P	P	06 42 04.9 -0.1
	baz=164,SNR=123				
R50A			S	S	06 49 54.8 -4.4
	baz=164				
R50A			S	S	06 49 54.8 -4.4
	baz=164				
FCAR	Ozark Folk Cen	58.15 338	P	P	06 42 04.4 -0.6
P57A	Homestead Farm	58.21 352	P	P	06 42 06.3 +1.0
	baz=171,SNR=87				
P57A			P	P	06 42 06.3 +1.0
	baz=171,SNR=87				
P57A			S	S	06 49 56.6 -3.4
	baz=171				
P57A			S	S	06 49 56.6 -3.4
	baz=171				
X37A	Clayton	58.21 335	P	P	06 42 06.5 +1.1
	baz=151,SNR=212				
X37A			S	S	06 49 58.1 -2.1
	baz=151				
GEDE	Greenville	58.27 355	P	P	06 42 05.8 +0.1
	baz=173,SNR=40				
R49A	Shelbyville	58.35 346	P	P	06 42 05.9 -0.5
	baz=163,SNR=91				
R49A			P	P	06 42 05.9 -0.5
	baz=163,SNR=91				
R49A			S	S	06 49 56.2 -5.7
	baz=163				
R49A			S	S	06 49 56.2 -5.7
	baz=163				
PSUB	Penn St. - Bra	58.37 355	P	P	06 42 06.6 +0.2
	baz=174				
PSUB			S	S	06 49 55.8 -6.3
	baz=174				
Q52A	Bidwell	58.38 348	IAmb	IAmb	06 42 07.5
	comp=Z,452nm,1.1s				
Q52A	Bidwell	58.38 348	P	P	06 42 06.7 +0.2
	baz=166,SNR=94				
Q52A			P	P	06 42 06.7 +0.2
	baz=166,SNR=94				
Q52A			S	S	06 49 59.2 -3.0
	baz=166				
Q52A			S	S	06 49 59.2 -3.0
	baz=166				
WUPA	West Chester U	58.39 355	IAmb	IAmb	06 42 08.2
	comp=Z,1μm,2.0s				
PBMO	Poplar Bluff	58.40 340	IAmb	IAmb	06 42 10.7
	comp=Z,833nm,1.4s				
PBMO	Poplar Bluff	58.40 340	P	P	06 42 06.7 0.0
	baz=157,SNR=211				
PBMO			S	S	06 49 57.6 -4.9
	baz=157				
ABTX	Abilene, Hawle	58.41 330	P	P	06 42 07.5 +0.5
	baz=146,SNR=119				
ABTX			S	S	06 50 02.1 -0.8
	baz=146				
ABTX	Abilene, Hawle	58.41 330	P	P	06 42 07.5 +0.5
	baz=146,SNR=119				
ABTX			S	S	06 50 01.9 -1.1
	baz=146				
LOOK	Love County	58.45 333		P	06 42 07.9 +0.8
LOOK			IAmb	IAmb	06 42 12.3
	comp=Z,459nm,1.0s				
MVL	Millersville	58.53 354	IAmb	IAmb	06 42 08.8
	comp=Z,305nm,1.0s				
WCI	Wyandotte Cave	58.56 345	P	P	06 42 07.5 -0.4
WCI	Wyandotte Cave	58.56 345	P	P	06 42 07.5 -0.4
WCI			pmax	pmax	
	comp=Z,824nm,1.3s				
WCI	Wyandotte Cave	58.56 345	P	P	06 42 07.4 -0.4
	baz=162				
WCI			S	S	06 50 00.8 -3.9
	baz=162				
WCI	Wyandotte Cave	58.56 345	P	P	06 42 07.5 -0.4
	baz=162,SNR=132				
WCI			S	S	06 50 00.1 -4.6
	baz=162				
WCI	Wyandotte Cave	58.56 345	⇑P	P	06 42 07.4 -0.4
WCI	Wyandotte Cave	58.56 345	⇑P	P	06 42 07.4 -0.4
WCI			pP	pP	06 42 30.5 -1.4
WCI			sP	sP	06 42 41.7 -0.9
TUPA	Temple Univers	58.59 355	P	P	06 42 08.2 +0.3
	baz=174,SNR=55				
TUPA			S	S	06 49 59.8 -5.0
	baz=174				
ALPN	Alpine	58.62 325	IAmb	IAmb	06 42 12.4
	comp=Z,1μm,1.8s				
MCWV	Mont Chateau	58.64 351	IAmb	IAmb	06 42 10.1
	comp=Z,583nm,0.9s				
MCWV	Mont Chateau	58.64 351	P	P	06 42 09.4 +1.1
	baz=169,SNR=135				
MCWV			S	S	06 50 04.3 -1.3
	baz=169				
MCWV	Mont Chateau	58.64 351	P	P	06 42 09.4 +1.1
	baz=169,SNR=135				
MCWV			S	S	06 50 03.6 -1.9
	baz=169				
MCWV	Mont Chateau	58.64 351	⇑P	P	06 42 09.2 +0.9
Q51A	Peebles	58.65 347	IAmb	IAmb	06 42 09.8
	comp=Z,336nm,1.1s				
Q51A	Peebles	58.65 347	P	P	06 42 08.5 +0.1
	baz=165,SNR=58				
Q51A			P	P	06 42 08.5 +0.1
	baz=165,SNR=58				
Q51A			S	S	06 50 01.3 -4.5
	baz=165				
Q51A			S	S	06 50 01.3 -4.5
	baz=165				
P53A	Whipple	58.72 349	P	P	06 42 09.7 +0.8
	baz=167,SNR=294				
P53A			P	P	06 42 09.7 +0.8
	baz=167,SNR=294				
P53A			S	S	06 50 03.8 -2.9
	baz=167				
P53A			S	S	06 50 03.8 -2.9
	baz=167				
PANJ	Princeton	58.76 355	P	P	06 42 09.8 +0.7
	baz=174,SNR=54				
PANJ			S	S	06 50 03.6 -3.5
	baz=174				
WTFS	Witchita Falls	58.82 332	IAmb	IAmb	06 42 13.9
	comp=Z,534nm,0.9s				
U40A	Yellville	58.83 338	P	P	06 42 09.6 -0.2
	baz=154,SNR=162				
U40A			P	P	06 42 09.6 -0.2
	baz=154,SNR=162				
U40A			S	S	06 50 04.4 -3.8
	baz=154				
U40A			S	S	06 50 04.4 -3.8
	baz=154				
T42A	Van Buren	58.84 340	P	P	06 42 09.1 -0.6
	baz=156,SNR=115				
T42A			S	S	06 50 02.8 -5.5
	baz=156				
S44A	Carbondale	58.88 342	P	P	06 42 10.0 0.0
	baz=158,SNR=217				
S44A			S	S	06 50 04.7 -4.0
	baz=158				
P52A	Corning	59.00 349	IAmb	IAmb	06 42 11.7
	comp=Z,508nm,1.0s				
P52A	Corning	59.00 349	P	P	06 42 11.1 +0.2
	baz=166,SNR=112				
P52A			S	S	06 50 05.8 -4.5
	baz=166				
P51A	Williamsport	59.03 348	P	P	06 42 11.0 -0.1
	baz=165,SNR=68				
P51A			P	P	06 42 11.0 -0.1
	baz=165,SNR=68				
P51A			S	S	06 50 06.9 -3.8
	baz=165				
P51A			S	S	06 50 06.9 -3.8
	baz=165				
PABK	Blue Knob Stat	59.05 352	P	P	06 42 12.1 +0.9
	baz=170				
PABK			S	S	06 50 08.5 -2.5
	baz=170				
CPNY	Central Park	59.12 356	IAmb	IAmb	06 42 12.3
	comp=Z,235nm,1.0s				
HHAR	Hobbs	59.15 337	P	P	06 42 11.7 -0.3
HHAR			IAmb	IAmb	06 42 16.3
	comp=Z,719nm,1.5s				
HHAR	Hobbs	59.15 337	S	S	06 50 09.6 -2.8
	baz=153				
FOR	Fordham	59.18 356	P	P	06 42 12.0 0.0
	baz=175,SNR=18				
FOR			S	S	06 50 07.3 -5.3
	baz=175				
SN01	Snyder 1	59.20 329	IAmb	IAmb	06 42 16.4
	comp=Z,435nm,0.7s				
N62A	Caumsett State	59.23 357	IAmb	IAmb	06 42 13.7
	comp=Z,437nm,0.8s				
N62A	Caumsett State	59.23 357	P	P	06 42 12.5 +0.2
	baz=176,SNR=7.3				
N62A			P	P	06 42 12.5 +0.2
	baz=176,SNR=7.3				
O54A	Avella	59.23 350	P	P	06 42 13.0 +0.6
	baz=168,SNR=86				
O54A			P	P	06 42 13.0 +0.6
	baz=168,SNR=86				
O54A			S	S	06 50 10.9 -2.4
	baz=168				
O54A			S	S	06 50 10.9 -2.4
	baz=168				
PAL	Palisades	59.33 356	P	P	06 42 13.1 +0.1
	baz=175,SNR=26				
PAL			S	S	06 50 09.2 -5.2
	baz=175				
PAL	Palisades	59.33 356	P	P	06 42 13.2 +0.1
	baz=175,SNR=26				
PAL			S	S	06 50 10.1 -4.3
	baz=175				
SSPA	Standing Stone	59.33 353	P	P	06 42 13.0 0.0
SSPA	Standing Stone	59.33 353	P	P	06 42 13.8 +0.7
	baz=171				
SSPA			S	S	06 50 11.0 -3.5
	baz=171				
SSPA	Standing Stone	59.33 353	P	P	06 42 13.8 +0.7
	baz=171,SNR=70				
SSPA			S	S	06 50 12.0 -2.5
	baz=171				
SSPA	Standing Stone	59.33 353	⇑P	P	06 42 13.8 +0.7
SSPA			PcP	PcP	06 43 01.6 +1.5
MGMO	Mountain Grove	59.34 339	IAmb	IAmb	06 42 16.6
	comp=Z,543nm,1.3s				
O52A	Adamsville	59.41 349	P	P	06 42 14.0 +0.3
	baz=167,SNR=93				
O52A			P	P	06 42 14.0 +0.3
	baz=167,SNR=93				
O52A			S	S	06 50 12.1 -3.5
	baz=167				
O52A			S	S	06 50 12.1 -3.5
	baz=167				
ODSA	Odessa	59.42 328	IAmb	IAmb	06 42 17.6
	comp=Z,2μm,1.9s				
P49A	Miami Univ. Ec	59.43 346	P	P	06 42 13.4 -0.4
	baz=163,SNR=96				
P49A			S	S	06 50 11.6 -4.3
	baz=163				
P49A	Miami Univ. Ec	59.43 346	P	P	06 42 13.4 -0.4
	baz=163,SNR=96				
P49A			S	S	06 50 10.6 -5.3
	baz=163				
O53A	New Philadelph	59.43 350	P	P	06 42 14.3 +0.5
	baz=167,SNR=135				
O53A			S	S	06 50 13.2 -2.6
	baz=167				
ODNJ	Ogdensburg	59.45 356	IAmb	IAmb	06 42 15.7
	comp=Z,1μm,2.0s				
ODNJ	Ogdensburg	59.45 356	P	P	06 42 14.0 +0.1
	baz=175,SNR=32				
ODNJ			S	S	06 50 12.7 -3.4
	baz=175				
U38A	Gravette	59.46 337	P	P	06 42 14.1 0.0
	baz=153,SNR=95				
U38A			S	S	06 50 13.7 -2.7
	baz=153				
UPAO	U. Pittsburgh	59.47 351	S	S	06 50 14.1 -2.2
	baz=169				
TRNY	Table Rock, Ra	59.49 356	IAmb	IAmb	06 42 18.1
	comp=Z,652nm,1.8s				
FVM	French Village	59.50 341	IAmb	IAmb	06 42 17.9
	comp=Z,520nm,0.9s				
FVM	French Village	59.50 341	P	P	06 42 14.2 -0.1
	baz=157,SNR=158				
FVM			S	S	06 50 14.1 -2.8
	baz=157				
OLIL	Olney	59.52 343	IAmb	IAmb	06 42 17.4
	comp=Z,671nm,1.5s				
OLIL	Olney	59.52 343	P	P	06 42 13.5 -0.8
	baz=160,SNR=45				
OLIL			S	S	06 50 11.9 -5.1
	baz=160				
PECS	Pecos	59.52 326	IAmb	IAmb	06 42 18.8
	comp=Z,653nm,1.5s				
P48A	Milroy	59.52 346	IAmb	IAmb	06 42 14.4
	comp=Z,272nm,1.1s				
P48A	Milroy	59.52 346	P	P	06 42 13.8 -0.6
	baz=163,SNR=74				
P48A			P	P	06 42 13.8 -0.6
	baz=163,SNR=74				
P48A			S	S	06 50 11.0 -6.0
	baz=163				
P48A			S	S	06 50 11.0 -6.0
	baz=163				
TUL3	Leonard	59.53 335		P	06 42 15.1 +0.5
TUL3	Leonard	59.53 335	P	P	06 42 15.2 +0.6
	baz=151,SNR=118				
TUL3			S	S	06 50 15.8 -1.6
	baz=151				
TUL3	Leonard	59.53 335	P	P	06 42 14.9 +0.3
	baz=151,SNR=118				
TUL3			S	S	06 50 15.7 -1.6
	baz=151				
YLE	Yale	59.58 357	P	P	06 42 15.4 +0.6
M63A	Gales Ferry	59.63 358	P	P	06 42 15.6 +0.5
	baz=177,SNR=18				
M63A			P	P	06 42 15.6 +0.5
	baz=177,SNR=18				
POST	Post	59.66 329	IAmb	IAmb	06 42 19.3
	comp=Z,476nm,1.0s				
425A	Indio Mountain	59.67 325	IAmb	IAmb	06 42 19.8
	comp=Z,875nm,1.4s				
BRNY	Black Rk. Fore	59.74 356	P	P	06 42 16.2 +0.3
	baz=175,SNR=22				
ACSO	Alum Creek Sta	59.74 348	P	P	06 42 16.0 +0.1
	baz=165,SNR=157				
ACSO			S	S	06 50 14.4 -5.4
	baz=165				
ACSO	Alum Creek Sta	59.74 348	P	P	06 42 16.0 +0.1
	baz=165,SNR=157				
ACSO			S	S	06 50 15.3 -4.5
	baz=165				
ACSO	Alum Creek Sta	59.74 348	⇑P	P	06 42 15.9 0.0
M65A	Busby, Falmout	59.75 359	P	P	06 42 16.0 +0.1
	baz=179				
M65A			S	S	06 50 14.0 -5.9
	baz=179				
WMOK	Wichita Mounta	59.78 332	IAmb	IAmb	06 42 19.9
	comp=Z,539nm,1.9s				
WMOK	Wichita Mounta	59.78 332	P	P	06 42 16.4 +0.1
	baz=148,SNR=27				
WMOK			S	S	06 50 18.0 -2.6
	baz=148				
WMOK	Wichita Mounta	59.78 332	P	P	06 42 16.2 -0.1
	baz=148,SNR=27				
WMOK			S	S	06 50 17.1 -3.5
	baz=148				
WMOK	Wichita Mounta	59.78 332	⇑P	P	06 42 16.2 -0.1

PSWB	**Penn State Wil**	**59.79 354**	P	**P**	**06 42 17.1**	**+0.9**
	baz=173					
PSWB			S	**S**	**06 50 20.5**	**0.0**
	baz=173					
CCM	**Cathedral Cave**	**59.82 340**	P	**P**	**06 42 16.3**	**-0.2**
CCM			IAmb	IAmb	06 42 22.5	
	comp=Z,252nm,1.1s					
CCM	**Cathedral Cave**	**59.82 340**	P	**P**	**06 42 16.3**	**-0.2**
CCM			pmax	pmax		
	comp=Z,252nm,1.1s					
CCM	**Cathedral Cave**	**59.82 340**	P	**P**	**06 42 16.2**	**-0.3**
	baz=156					
CCM			S	**S**	**06 50 17.9**	**-3.0**
	baz=156					
CCM	**Cathedral Cave**	**59.82 340**	P	**P**	**06 42 16.5**	**0.0**
	baz=156,SNR=116					
CCM			S	**S**	**06 50 16.9**	**-4.1**
	baz=156					
CCM	**Cathedral Cave**	**59.82 340**	⇑P	**P**	**06 42 16.3**	**-0.3**
CCM	**Cathedral Cave**	**59.82 340**	⇑P	**P**	**06 42 16.3**	**-0.3**
CCM			PcP	**PcP**	**06 43 03.0**	**+0.8**
N53A	**Lisbon**	**59.91 350**	P	**P**	**06 42 18.0**	**+0.8**
	baz=168,SNR=162					
N53A			P	**P**	**06 42 18.0**	**+0.8**
	baz=168,SNR=162					
N53A			S	**S**	**06 50 18.7**	**-3.4**
	baz=168					
N53A			S	**S**	**06 50 18.7**	**-3.4**
	baz=168					
PSDB	**Penn State Uni**	**59.92 352**	P	**P**	**06 42 18.1**	**+1.0**
	baz=170					
PSDB			S	**S**	**06 50 20.4**	**-1.8**
	baz=170					
PAMR	**Moraine State**	**59.93 351**	P	**P**	**06 42 18.2**	**+1.0**
	baz=169					
PAMR			S	**S**	**06 50 20.0**	**-2.2**
	baz=169					
Q44A	**Meyer Farm, Va**	**59.93 343**	IAmb	IAmb	06 42 19.1	
	comp=Z,578nm,1.1s					
Q44A	**Meyer Farm, Va**	**59.93 343**	P	**P**	**06 42 16.5**	**-0.7**
	baz=159,SNR=91					
Q44A			S	**S**	**06 50 16.7**	**-5.6**
	baz=159					
M57A	**Sunshine Farm,**	**59.93 353**	IAmb	IAmb	06 42 18.9	
	comp=Z,467nm,1.1s					
M57A	**Sunshine Farm,**	**59.93 353**	P	**P**	**06 42 18.3**	**+1.1**
	baz=172,SNR=89					
M57A			P	**P**	**06 42 18.3**	**+1.1**
	baz=172,SNR=89					
M57A			S	**S**	**06 50 19.5**	**-2.8**
	baz=172					
M57A			S	**S**	**06 50 19.5**	**-2.8**
	baz=172					
O49A	**Covington**	**59.98 347**	P	**P**	**06 42 17.3**	**-0.2**
	baz=164,SNR=97					
O49A			P	**P**	**06 42 17.3**	**-0.2**
	baz=164,SNR=97					
O49A			S	**S**	**06 50 17.9**	**-5.0**
	baz=164					
O49A			S	**S**	**06 50 17.9**	**-5.0**
	baz=164					
KSPA	**Keystone Colle**	**60.02 355**	IAmb	IAmb	06 42 22.0	
	comp=Z,715nm,1.5s					
KSPA	**Keystone Colle**	**60.02 355**	P	**P**	**06 42 18.2**	**+0.5**
	baz=173,SNR=46					
KSPA			S	**S**	**06 50 19.1**	**-4.2**
	baz=173					
SLM	**Saint Louis**	**60.04 341**	P	**P**	**06 42 17.6**	**-0.3**
SLM	**Saint Louis**	**60.04 341**	P	**P**	**06 42 17.7**	**-0.3**
SLM			pmax	pmax		
	comp=Z,1μm,2.0s					
SLM	**Saint Louis**	**60.04 341**	P	**P**	**06 42 17.5**	**-0.4**
	baz=157,SNR=15					
SLM			S	**S**	**06 50 20.0**	**-3.8**
	baz=157					
NPNY	**Mohonk Preserv**	**60.09 356**	P	**P**	**06 42 18.7**	**+0.4**
	baz=175,SNR=29					
P46A	**Rosedale**	**60.11 344**	IAmb	IAmb	06 42 21.3	
	comp=Z,678nm,1.4s					
P46A	**Rosedale**	**60.11 344**	P	**P**	**06 42 17.7**	**-0.7**
	baz=161,SNR=57					
P46A			S	**S**	**06 50 17.4**	**-7.2**
	baz=161					
OK029	**Liberty Lake**	**60.11 334**	IAmb	IAmb	06 42 22.1	
	comp=Z,441nm,0.7s					
QUOK	**Quay**	**60.13 335**		**P**	**06 42 19.3**	**+0.6**
BRYW	**Bryant College**	**60.13 358**	P	**P**	**06 42 19.0**	**+0.5**
L64A	**Middleborough**	**60.13 359**	P	**P**	**06 42 17.2**	**-1.3**
L64A	**Middleborough**	**60.13 359**	P	**P**	**06 42 18.8**	**+0.3**
	baz=179,SNR=18					
L64A			P	**P**	**06 42 18.8**	**+0.3**
	baz=179,SNR=18					
L64A			S	**S**	**06 50 20.3**	**-4.4**
	baz=179					
L64A			S	**S**	**06 50 20.3**	**-4.4**
	baz=179					
S39A	**Bolivar**	**60.19 338**	IAmb	IAmb	06 42 22.5	
	comp=Z,255nm,0.7s					
S39A	**Bolivar**	**60.19 338**	P	**P**	**06 42 18.8**	**-0.2**
	baz=154,SNR=250					
S39A			S	**S**	**06 50 21.3**	**-4.4**
	baz=154					
O48B	**Farmland**	**60.22 346**	P	**P**	**06 42 18.9**	**-0.3**
	baz=163,SNR=94					
O48B			S	**S**	**06 50 21.4**	**-4.6**
	baz=163					
O48B	**Farmland**	**60.22 346**	P	**P**	**06 42 18.9**	**-0.3**
	baz=163,SNR=94					
O48B			S	**S**	**06 50 20.5**	**-5.5**
	baz=163					
N51A	**Ashland**	**60.29 349**	IAmb	IAmb	06 42 20.4	
	comp=Z,438nm,1.0s					
N51A	**Ashland**	**60.29 349**	P	**P**	**06 42 19.6**	**-0.1**
	baz=166,SNR=62					
N51A			P	**P**	**06 42 19.6**	**-0.1**
	baz=166,SNR=62					
R40A	**Maddies Statio**	**60.37 340**	IAmb	IAmb	06 42 23.4	
	comp=Z,852nm,1.6s					
R40A	**Maddies Statio**	**60.37 340**	P	**P**	**06 42 20.2**	**-0.1**
	baz=155,SNR=152					
R40A			S	**S**	**06 50 24.7**	**-3.2**
	baz=155					
PAOC	**Oil Creek Stat**	**60.43 351**	P	**P**	**06 42 21.3**	**+0.7**
	baz=169					
PAOC			S	**S**	**06 50 25.6**	**-3.1**
	baz=169					
M53A	**WI Miller and**	**60.51 350**	P	**P**	**06 42 21.9**	**+0.7**
	baz=168,SNR=138					
M53A			S	**S**	**06 50 27.2**	**-2.4**
	baz=168					
QUA2	**Belchertown**	**60.52 358**	IAmb	IAmb	06 42 22.1	
	comp=Z,217nm,1.0s					
QUA2	**Belchertown**	**60.52 358**	P	**P**	**06 42 21.5**	**+0.3**
	baz=177,SNR=16					
MNTX	**Cornudas Mount**	**60.58 325**	P	**P**	**06 42 22.1**	**+0.3**
	baz=141,SNR=101					
MNTX			S	**S**	**06 50 29.5**	**-1.5**
	baz=141					
MNTX	**Cornudas Mount**	**60.58 325**	P	**P**	**06 42 21.7**	**-0.2**
	baz=141,SNR=101					
MNTX			S	**S**	**06 50 30.2**	**-0.8**
	baz=141					
MNTX	**Cornudas Mount**	**60.58 325**	⇓P	**P**	**06 42 22.2**	**+0.3**
L59A	**Walton**	**60.59 355**	P	**P**	**06 42 22.5**	**+0.8**
	baz=174,SNR=72					
L59A			P	**P**	**06 42 22.5**	**+0.8**
	baz=174,SNR=72					
L59A			S	**S**	**06 50 27.3**	**-3.4**
	baz=174					
L59A			S	**S**	**06 50 27.3**	**-3.4**
	baz=174					
WES	**Weston**	**60.59 359**	IAmb	IAmb	06 42 22.8	
	comp=Z,290nm,1.0s					
WES	**Weston**	**60.59 359**	P	**P**	**06 42 22.0**	**+0.4**
	baz=178,SNR=19					
ALLY	**Alegheny Colle**	**60.63 351**	P	**P**	**06 42 22.6**	**+0.6**
ALLY	**Alegheny Colle**	**60.63 351**	P	**P**	**06 42 22.8**	**+0.9**
	baz=169,SNR=76					
ALLY			S	**S**	**06 50 29.1**	**-2.1**
	baz=169					
N49A	**Columbus Grove**	**60.65 347**	P	**P**	**06 42 22.1**	**0.0**
	baz=164,SNR=178					
N49A			P	**P**	**06 42 22.1**	**0.0**
	baz=164,SNR=178					
N49A			S	**S**	**06 50 25.8**	**-5.6**
	baz=164					
N49A			S	**S**	**06 50 25.8**	**-5.6**
	baz=164					
BINY	**Binghamton**	**60.67 355**	IAmb	IAmb	06 42 23.9	
	comp=Z,586nm,1.0s					
BINY	**Binghamton**	**60.67 355**	P	**P**	**06 42 23.1**	**+0.8**
	baz=173,SNR=102					
BINY			S	**S**	**06 50 27.4**	**-4.3**
	baz=173					
BINY	**Binghamton**	**60.67 355**	P	**P**	**06 42 23.1**	**+0.8**
	baz=173,SNR=102					
BINY			S	**S**	**06 50 28.6**	**-3.1**
	baz=173					
BINY	**Binghamton**	**60.67 355**	⇑P	**P**	**06 42 22.9**	**+0.7**
T35B	**Sooner Cattle**	**60.69 335**	P	**P**	**06 42 23.2**	**+0.7**
	baz=151,SNR=74					
T35B			S	**S**	**06 50 30.9**	**-1.3**
	baz=151					
L61B	**Northampton**	**60.70 357**	P	**P**	**06 42 22.9**	**+0.5**
	baz=177,SNR=38					
L61B			S	**S**	**06 50 28.3**	**-3.7**
	baz=177					
L61B	**Northampton**	**60.70 357**	P	**P**	**06 42 22.8**	**+0.4**
	baz=177,SNR=38					
M52A	**Chesterland**	**60.72 350**	P	**P**	**06 42 22.9**	**+0.4**
	baz=167,SNR=78					
M52A			P	**P**	**06 42 22.9**	**+0.4**
	baz=167,SNR=78					
M52A			S	**S**	**06 50 28.5**	**-3.8**
	baz=167					
M52A			S	**S**	**06 50 28.5**	**-3.8**
	baz=167					
HRV	**Adam Dziewonsk**	**60.72 358**	⇑P	**P**	**06 42 23.2**	**+0.7**
HRV			sP	**sP**	**06 42 55.7**	**-1.8**
SHEL	**Horse Pasture**	**60.73 98**	P	**P**	**06 42 24.2**	**+0.9**
SHEL	**Horse Pasture**	**60.73 98**	P	**P**	**06 42 24.2**	**+0.9**
SHEL			pmax	pmax		
	comp=Z,2μm,1.3s					
SHEL	**Horse Pasture**	**60.73 98**	⇑*iP*	**P**	**06 42 25.0**	**+1.7**
SHEL			IAmb	IAmb	06 42 26.6	
	comp=Z,10μm,2.2s					
SHEL	**Horse Pasture**	**60.73 98**	⇑P	**P**	**06 42 25.2**	**+1.9**
SHEL			⇑P	**P**	**06 42 25.3**	**+2.0**
SHEL	**Horse Pasture**	**60.73 98**	P	**P**	**06 42 25.0**	**+1.7**
SHEL			pP	**pP**	**06 42 49.0**	**+1.3**
P43A	**Skaggs, Pawnee**	**60.76 342**	IAmb	IAmb	06 42 24.8	
	comp=Z,555nm,0.8s					
P43A	**Skaggs, Pawnee**	**60.76 342**	P	**P**	**06 42 22.7**	**-0.2**
	baz=158,SNR=69					
P43A			S	**S**	**06 50 27.4**	**-5.4**
	baz=158					
L56A	**Greenwood**	**60.77 353**	IAmb	IAmb	06 42 24.3	
	comp=Z,442nm,1.0s					
L56A	**Greenwood**	**60.77 353**	P	**P**	**06 42 23.6**	**+0.6**
	baz=171,SNR=90					
L56A			P	**P**	**06 42 23.6**	**+0.6**
	baz=171,SNR=90					
L56A			S	**S**	**06 50 32.4**	**-0.6**
	baz=171					
L56A			S	**S**	**06 50 32.4**	**-0.6**
	baz=171					
SFIN	**Lafayette**	**60.80 345**	IAmb	IAmb	06 42 25.7	
	comp=Z,349nm,1.1s					
SFIN	**Lafayette**	**60.80 345**	P	**P**	**06 42 22.4**	**-0.8**
	baz=161,SNR=86					
SFIN			S	**S**	**06 50 26.9**	**-6.5**
	baz=161					
SFIN	**Lafayette**	**60.80 345**	P	**P**	**06 42 22.3**	**-0.8**
	baz=161,SNR=86					
SFIN			S	**S**	**06 50 26.4**	**-6.9**
	baz=161					
M50A	**Fremont**	**60.88 348**	P	**P**	**06 42 23.6**	**0.0**
	baz=166,SNR=46					
M50A			P	**P**	**06 42 23.6**	**0.0**
	baz=166,SNR=46					
M50A			S	**S**	**06 50 29.4**	**-5.0**
	baz=166					
M50A			S	**S**	**06 50 29.4**	**-5.0**
	baz=166					
K62A	**Royalston**	**60.90 358**	P	**P**	**06 42 24.4**	**+0.6**
	baz=177,SNR=23					
K62A			P	**P**	**06 42 24.4**	**+0.6**
	baz=177,SNR=23					
K62A			S	**S**	**06 50 31.2**	**-3.3**
	baz=177					
K62A			S	**S**	**06 50 31.2**	**-3.3**
	baz=177					
CROK	**Carrier**	**60.94 334**	IAmb	IAmb	06 42 28.0	
	comp=Z,564nm,1.0s					
N47A	**Urbana**	**60.94 346**	P	**P**	**06 42 23.6**	**-0.5**
	baz=163,SNR=112					
N47A			P	**P**	**06 42 23.6**	**-0.5**
	baz=163,SNR=112					
N47A			S	**S**	**06 50 29.1**	**-6.0**
	baz=163					
N47A			S	**S**	**06 50 29.1**	**-6.0**
	baz=163					
O44A	**Mansfield**	**60.94 343**	IAmb	IAmb	06 42 27.5	
	comp=Z,283nm,0.8s					
O44A	**Mansfield**	**60.94 343**	P	**P**	**06 42 23.1**	**-1.0**
	baz=160,SNR=59					
O44A			S	**S**	**06 50 28.3**	**-6.9**
	baz=160					
MSTX	**Muleshoe**	**61.02 329**	IAmb	IAmb	06 42 27.6	
	comp=Z,548nm,1.0s					
MSTX	**Muleshoe**	**61.02 329**	P	**P**	**06 42 25.2**	**+0.3**
	baz=144,SNR=106					
MSTX			S	**S**	**06 50 34.8**	**-1.8**
	baz=144					
MSTX	**Muleshoe**	**61.02 329**	P	**P**	**06 42 24.9**	**0.0**
	baz=144,SNR=106					
MSTX			S	**S**	**06 50 34.2**	**-2.4**
	baz=144					
TRY	**Troy**	**61.03 357**	IAmb	IAmb	06 42 26.3	
	comp=Z,510nm,1.0s					
TRY	**Troy**	**61.03 357**	P	**P**	**06 42 25.6**	**+1.0**
	baz=176,SNR=69					
TRY			S	**S**	**06 50 37.8**	**+1.6**
	baz=176					
HCNY	**Howe Caverns**	**61.04 356**	P	**P**	**06 42 25.2**	**+0.4**
	baz=175,SNR=50					
ERPA	**Erie**	**61.07 351**	P	**P**	**06 42 25.8**	**+0.8**
	baz=169,SNR=127					
ERPA			S	**S**	**06 50 33.5**	**-3.2**
	baz=169					
ERPA	**Erie**	**61.07 351**	P	**P**	**06 42 25.7**	**+0.8**
	baz=169,SNR=127					
ERPA			S	**S**	**06 50 34.0**	**-2.7**
	baz=169					
ERPA	**Erie**	**61.07 351**	⇑P	**P**	**06 42 25.6**	**+0.8**
ELIS	**Ellis County**	**61.17 333**	IAmb	IAmb	06 42 30.1	
	comp=Z,403nm,1.2s					
AMTX	**Amarillo**	**61.23 330**	P	**P**	**06 42 26.2**	**0.0**
AMTX			IAmb	IAmb	06 42 29.9	
	comp=Z,512nm,1.5s					
AMTX	**Amarillo**	**61.23 330**	P	**P**	**06 42 26.4**	**+0.1**
	baz=145					
AMTX			S	**S**	**06 50 37.2**	**-2.0**
	baz=145					
AMTX	**Amarillo**	**61.23 330**	P	**P**	**06 42 26.1**	**-0.2**
	baz=145,SNR=25					
AMTX	**Amarillo**	**61.23 330**	⇑P	**P**	**06 42 26.4**	**+0.1**
K57A	**Scipio Center**	**61.25 354**	P	**P**	**06 42 26.6**	**+0.5**
	baz=173,SNR=78					
K57A			S	**S**	**06 50 36.1**	**-2.9**
	baz=173					
KIDD	**KIDD Seismic O**	**61.26 324**	P	**P**	**06 42 27.0**	**+0.5**
	baz=140,SNR=20					
U32A	**Winter Ranch,**	**61.26 333**	IAmb	IAmb	06 42 30.4	
	comp=Z,548nm,1.1s					
U32A	**Winter Ranch,**	**61.26 333**	P	**P**	**06 42 26.7**	**+0.3**
	baz=148,SNR=49					
U32A			S	**S**	**06 50 38.8**	**-0.7**
	baz=148					
MBO	**M'Bour**	**61.28 61**	P	**P**	**06 42 27.8**	**+1.0**
MBO	**M'Bour**	**61.28 61**	⇑P	**P**	**06 42 28.4**	**+1.5**
MBO	**M'Bour**	**61.28 61**	P	**P**	**06 42 28.4**	**+1.5**
UNH	**University of**	**61.29 359**	P	**P**	**06 42 26.6**	**+0.3**
	baz=179,SNR=20					
UNH			S	**S**	**06 50 36.0**	**-3.4**
	baz=179					
P40A	**Paris**	**61.42 340**	IAmb	IAmb	06 42 30.6	
	comp=Z,408nm,1.1s					
P40A	**Paris**	**61.42 340**	P	**P**	**06 42 27.3**	**0.0**
	baz=156,SNR=112					
P40A			S	**S**	**06 50 36.9**	**-4.3**
	baz=156					
NOKA	**Waynoka**	**61.45 333**	IAmb	IAmb	06 42 33.2	
	comp=Z,507nm,1.1s					
HDIL	**Hopedale**	**61.54 343**	IAmb	IAmb	06 42 30.9	
	comp=Z,362nm,0.8s					
HDIL	**Hopedale**	**61.54 343**	P	**P**	**06 42 27.6**	**-0.6**
	baz=159,SNR=95					
HDIL			S	**S**	**06 50 37.2**	**-5.6**
	baz=159					
HDIL	**Hopedale**	**61.54 343**	P	**P**	**06 42 27.6**	**-0.6**
	baz=159,SNR=95					
HDIL			S	**S**	**06 50 37.0**	**-5.7**
	baz=159					
HDIL	**Hopedale**	**61.54 343**	⇑P	**P**	**06 42 27.3**	**-0.9**
J61A	**Chester**	**61.59 358**	IAmb	IAmb	06 42 31.1	
	comp=Z,409nm,1.2s					
J61A	**Chester**	**61.59 358**	P	**P**	**06 42 29.6**	**+1.2**
	baz=177,SNR=25					
J61A			P	**P**	**06 42 29.6**	**+1.2**
	baz=177,SNR=25					
J61A			S	**S**	**06 50 41.1**	**-2.1**
	baz=177					
J61A			S	**S**	**06 50 41.1**	**-2.1**
	baz=177					
L48A	**N Adams**	**61.68 347**	P	**P**	**06 42 28.9**	**-0.1**
	baz=164,SNR=71					
L48A			P	**P**	**06 42 28.9**	**-0.1**
	baz=164,SNR=71					
L48A			S	**S**	**06 50 39.8**	**-4.7**
	baz=164					
L48A			S	**S**	**06 50 39.8**	**-4.7**
	baz=164					
ACCN	**Adirondack Com**	**61.68 357**	P	**P**	**06 42 29.8**	**+0.8**
	baz=176,SNR=38					
ACCN			S	**S**	**06 50 43.3**	**-1.1**
	baz=176					
FFD	**Franklin Falls**	**61.68 358**	P	**P**	**06 42 30.1**	**+1.1**
	baz=178,SNR=24					
FFD			S	**S**	**06 50 42.2**	**-2.2**
	baz=178					
J58A	**Remsen**	**61.77 355**	IAmb	IAmb	06 42 31.9	
	comp=Z,791nm,1.5s					
J58A	**Remsen**	**61.77 355**	P	**P**	**06 42 30.3**	**+0.7**
	baz=174,SNR=56					
J58A			P	**P**	**06 42 30.3**	**+0.7**
	baz=174,SNR=56					
J58A			S	**S**	**06 50 42.7**	**-2.8**
	baz=174					
J58A			S	**S**	**06 50 42.7**	**-2.8**
	baz=174					
BELA	**Belgrano 2**	**61.80 172**	P	**P**	**06 42 30.6**	**+1.1**
BELA			IAmb	IAmb	06 42 32.4	
	comp=Z,442nm,1.3s					
J59A	**Piesco**	**61.81 356**	P	**P**	**06 42 30.4**	**+0.4**
J59A	**Piesco**	**61.81 356**	P	**P**	**06 42 30.9**	**+0.9**
	baz=175,SNR=106					
J59A			P	**P**	**06 42 30.9**	**+0.9**
	baz=175,SNR=106					
J59A			S	**S**	**06 50 43.8**	**-2.3**
	baz=175					
J59A			S	**S**	**06 50 43.8**	**-2.3**
	baz=175					
J56A	**Wolcott**	**61.82 354**	IAmb	IAmb	06 42 30.9	
	comp=Z,436nm,1.1s					
J56A	**Wolcott**	**61.82 354**	P	**P**	**06 42 30.0**	**+0.1**
	baz=172,SNR=45					
J56A			P	**P**	**06 42 30.0**	**+0.1**
	baz=172,SNR=45					
J56A			S	**S**	**06 50 42.7**	**-3.5**
	baz=172					
J56A			S	**S**	**06 50 42.7**	**-3.5**
	baz=172					
HSIG		**61.87 319**	⇓P	**P**	**06 42 31.7**	**+1.1**
HSIG			⇑P	**P**	**06 42 32.3**	**+1.7**
HSIG			⇓P	**P**	**06 42 34.2**	**+3.6**
AAM	**Ann Arbor**	**61.87 348**	IAmb	IAmb	06 42 33.0	
	comp=Z,1μm,1.6s					
AAM	**Ann Arbor**	**61.87 348**	P	**P**	**06 42 30.2**	**0.0**
	baz=165,SNR=17					
AAM			S	**S**	**06 50 41.4**	**-5.4**
	baz=165					
AAM	**Ann Arbor**	**61.87 348**	P	**P**	**06 42 30.3**	**0.0**
	baz=165,SNR=17					
AAM			S	**S**	**06 50 42.7**	**-4.1**
	baz=165					
AAM	**Ann Arbor**	**61.87 348**	⇑P	**P**	**06 42 30.2**	**0.0**
J57A	**Williamstown**	**61.88 355**	IAmb	IAmb	06 42 31.5	
	comp=Z,342nm,1.0s					
J57A	**Williamstown**	**61.88 355**	P	**P**	**06 42 30.8**	**+0.5**
	baz=173,SNR=66					
J57A			P	**P**	**06 42 30.8**	**+0.5**
	baz=173,SNR=66					
J57A			S	**S**	**06 50 43.6**	**-3.2**
	baz=173					
J57A			S	**S**	**06 50 43.6**	**-3.2**
	baz=173					
J55A	**Hilton**	**61.91 353**	P	**P**	**06 42 30.7**	**+0.2**
	baz=171,SNR=38					
J55A			P	**P**	**06 42 30.7**	**+0.2**
	baz=171,SNR=38					
J55A			S	**S**	**06 50 43.9**	**-3.5**
	baz=171					
J55A			S	**S**	**06 50 43.9**	**-3.5**
	baz=171					
HNH	**Hanover**	**61.94 358**	P	**P**	**06 42 31.5**	**+0.7**
HNH	**Hanover**	**61.94 358**	P	**P**	**06 42 31.8**	**+1.1**
	baz=177,SNR=37					
HNH			S	**S**	**06 50 46.4**	**-1.2**
	baz=177					
M44A	**Midewin, Midew**	**61.99 344**	P	**P**	**06 42 30.3**	**-0.8**
	baz=160,SNR=21					
M44A			S	**S**	**06 50 40.6**	**-7.7**
	baz=160					
P38A	**Dawn**	**62.00 339**	P	**P**	**06 42 31.2**	**0.0**
	baz=154,SNR=96					
P38A			S	**S**	**06 50 43.1**	**-5.4**
	baz=154					
J54A	**Appleton**	**62.02 353**	IAmb	IAmb	06 42 32.5	
	comp=Z,357nm,1.1s					
J54A	**Appleton**	**62.02 353**	P	**P**	**06 42 31.8**	**+0.5**
	baz=170,SNR=27					
J54A			P	**P**	**06 42 31.8**	**+0.5**
	baz=170,SNR=27					
J54A			S	**S**	**06 50 45.3**	**-3.3**
	baz=170					
J54A			S	**S**	**06 50 45.3**	**-3.3**
	baz=170					
I62A	**Tamworth**	**62.08 359**	P	**P**	**06 42 32.5**	**+0.9**
	baz=178,SNR=22					
I62A			P	**P**	**06 42 32.5**	**+0.9**
	baz=178,SNR=22					
I62A			S	**S**	**06 50 47.8**	**-1.6**
	baz=178					
I62A			S	**S**	**06 50 47.8**	**-1.6**
	baz=178					
N41A	**Harden Midland**	**62.13 342**	IAmb	IAmb	06 42 34.1	
	comp=Z,496nm,1.1s					
N41A	**Harden Midland**	**62.13 342**	P	**P**	**06 42 31.3**	**-0.8**
	baz=157,SNR=42					
N41A			S	**S**	**06 50 44.5**	**-5.7**
	baz=157					
K50A	**Casco**	**62.13 349**	P	**P**	**06 42 32.1**	**+0.1**
	baz=166,SNR=85					
K50A			P	**P**	**06 42 32.1**	**+0.1**
	baz=166,SNR=85					
K50A			S	**S**	**06 50 45.5**	**-4.7**
	baz=166					
K50A			S	**S**	**06 50 45.5**	**-4.7**
	baz=166					
L46A	**Eue Claire**	**62.15 346**	P	**P**	**06 42 31.8**	**-0.5**
	baz=162,SNR=41					
L46A			P	**P**	**06 42 31.8**	**-0.5**
	baz=162,SNR=41					
L46A			S	**S**	**06 50 43.9**	**-6.5**
	baz=162					
L46A			S	**S**	**06 50 43.9**	**-6.5**
	baz=162					
MCVT	**Middlebury Col**	**62.22 357**	P	**P**	**06 42 33.8**	**+1.2**
	baz=176,SNR=70					
MCVT			S	**S**	**06 50 49.4**	**-1.7**
	baz=176					
I63A	**Otisfield**	**62.24 359**	IAmb	IAmb	06 42 37.6	
	comp=Z,1μm,1.8s					
I63A	**Otisfield**	**62.24 359**	P	**P**	**06 42 33.9**	**+1.2**
	baz=179,SNR=25					
I63A			P	**P**	**06 42 33.9**	**+1.2**
	baz=179,SNR=25					
I63A			S	**S**	**06 50 49.6**	**-1.8**
	baz=179					
I63A			S	**S**	**06 50 49.6**	**-1.8**
	baz=179					
NCB	**Newcomb**	**62.30 356**	P	**P**	**06 42 33.6**	**+0.5**
NCB			IAmb	IAmb	06 42 36.8	

	comp=Z,536nm,1.4s					
NCB	**Newcomb**	**62.30 356**	P	**P**	**06 42 34.0 +0.8**	
	baz=175,SNR=47					
NCB			S	**S**	**06 50 49.6 -2.6**	
	baz=175					
HQIL	**Hanson Quary C**	**62.33 345**	IAmb	IAmb	06 42 36.8	
	comp=Z,246nm,0.8s					
WCNY	**West Carthage**	**62.41 355**	P	**P**	**06 42 34.6 +0.7**	
	baz=174,SNR=50					
WCNY			S	**S**	**06 50 50.3 -3.2**	
	baz=174					
LBNH	**Lisbon**	**62.46 358**	IAmb	IAmb	06 42 36.1	
	comp=Z,426nm,1.1s					
LBNH	**Lisbon**	**62.46 358**	P	**P**	**06 42 35.2 +1.0**	
	baz=178,SNR=45					
LBNH			S	**S**	**06 50 52.4 -1.8**	
	baz=178					
LBNH	**Lisbon**	**62.46 358**	P	**P**	**06 42 35.4 +1.2**	
	baz=178,SNR=45					
LBNH			S	**S**	**06 50 52.6 -1.5**	
	baz=178					
LBNH	**Lisbon**	**62.46 358**	⇑P	**P**	**06 42 35.1 +1.0**	
121A	**Cookes Peak, D**	**62.54 324**	IAmb	IAmb	06 42 40.3	
	comp=Z,1μm,1.6s					
121A	**Cookes Peak, D**	**62.54 324**	P	**P**	**06 42 37.3 +2.1**	
	baz=139,SNR=169					
121A			S	**S**	**06 50 56.5 +0.4**	
	baz=139					
121A	**Cookes Peak, D**	**62.54 324**	P	**P**	**06 42 36.9 +1.6**	
	baz=139,SNR=169					
121A			S	**S**	**06 50 54.7 -1.4**	
	baz=139					
319A	**Douglas**	**62.54 322**	IAmb	IAmb	06 42 40.1	
	comp=Z,388nm,0.9s					
VT1	**Waterbury**	**62.58 357**	P	**P**	**06 42 35.8 +0.7**	
	baz=177,SNR=31					
KSU1	**Kansas State U**	**62.63 337**	IAmb	IAmb	06 42 39.1	
	comp=Z,432nm,1.1s					
KSU1	**Kansas State U**	**62.63 337**	P	**P**	**06 42 35.6 +0.2**	
	baz=151,SNR=66					
KSU1			S	**S**	**06 50 54.7 -1.9**	
	baz=151					
KSU1	**Kansas State U**	**62.63 337**	P	**P**	**06 42 35.7 +0.2**	
	baz=151,SNR=66					
KSU1			S	**S**	**06 50 54.2 -2.4**	
	baz=151					
KSU1	**Kansas State U**	**62.63 337**	⇑P	**P**	**06 42 35.6 +0.2**	
L44A	**Lake County Fo**	**62.70 345**	P	**P**	**06 42 35.3 -0.5**	
	baz=160,SNR=8.9					
L44A			S	**S**	**06 50 50.6 -6.6**	
	baz=160					
L44A	**Lake County Fo**	**62.70 345**	P	**P**	**06 42 35.3 -0.5**	
	baz=160,SNR=8.9					
L44A			S	**S**	**06 50 50.3 -6.9**	
	baz=160					
WVL	**Waterville**	**62.75 360**	IAmb	IAmb	06 42 37.8	
	comp=Z,329nm,1.1s					
WVL	**Waterville**	**62.75 360**	P	**P**	**06 42 37.1 +1.0**	
	baz=180,SNR=24					
H62A	**Milan**	**62.77 359**	P	**P**	**06 42 37.4 +1.1**	
	baz=178,SNR=25					
H62A			P	**P**	**06 42 37.4 +1.1**	
	baz=178,SNR=25					
H62A			S	**S**	**06 50 57.5 -0.6**	
	baz=178					
H62A			S	**S**	**06 50 57.5 -0.6**	
	baz=178					
R32A	**Long Quarter,**	**62.87 335**	IAmb	IAmb	06 42 42.0	
	comp=Z,356nm,0.8s					
R32A	**Long Quarter,**	**62.87 335**	P	**P**	**06 42 37.8 +0.7**	
	baz=149,SNR=84					
R32A			S	**S**	**06 50 58.4 -1.2**	
	baz=149					
EMMW	**East Machias**	**62.92 2**	P	**P**	**06 42 38.1 +0.9**	
EMMW			IAmb	IAmb	06 42 38.8	
	comp=Z,326nm,1.0s					
EMMW	**East Machias**	**62.92 2**	P	**P**	**06 42 37.8 +0.6**	
	baz=182,SNR=21					
EMMW			S	**S**	**06 50 57.3 -2.5**	
	baz=182					
N38A	**Joes South For**	**62.95 340**	IAmb	IAmb	06 42 43.7	
	comp=Z,428nm,1.4s					
N38A	**Joes South For**	**62.95 340**	P	**P**	**06 42 37.3 -0.2**	
	baz=155,SNR=19					
N38A			S	**S**	**06 50 55.6 -4.9**	
	baz=155					
LONY	**Lake Ozonia**	**62.97 356**	P	**P**	**06 42 38.0 +0.5**	
LONY	**Lake Ozonia**	**62.97 356**	P	**P**	**06 42 38.5 +0.8**	
	baz=175,SNR=83					
LONY			S	**S**	**06 50 58.2 -2.3**	
	baz=175					
LONY	**Lake Ozonia**	**62.97 356**	⇑P	**P**	**06 42 38.1 +0.5**	
L42A	**Oliver, Polo**	**62.99 343**	IAmb	IAmb	06 42 40.9	
	comp=Z,1μm,1.6s					
L42A	**Oliver, Polo**	**62.99 343**	P	**P**	**06 42 37.4 -0.4**	
	baz=159,SNR=48					
L42A			S	**S**	**06 50 54.8 -6.2**	
	baz=159					
J47A	**Sunmer**	**63.00 348**	P	**P**	**06 42 37.6 -0.2**	
	baz=164,SNR=103					
J47A			P	**P**	**06 42 37.6 -0.2**	
	baz=164,SNR=103					
J47A			S	**S**	**06 50 55.7 -5.3**	
	baz=164					
J47A			S	**S**	**06 50 55.7 -5.3**	
	baz=164					
HAL	**Halifax**	**63.06 5**	IAmb	IAmb	06 42 39.6	
	comp=Z,515nm,1.0s					
VNA3	**Neumayer Olymp**	**63.11 162**	⇑P	**P**	**06 42 40.0 +1.7**	
	comp=Z,89nm,0.8s					
FRNY	**Flat Rock**	**63.12 357**	P	**P**	**06 42 39.4 +0.8**	
	baz=176,SNR=84					
FRNY			S	**S**	**06 51 00.4 -2.1**	
	baz=176					
DELO	**Deloro Mine**	**63.13 354**	IAmb	IAmb	06 42 39.8	
	comp=Z,356nm,1.1s					
Y22A	**Socorro**	**63.15 326**	P	**P**	**06 42 40.9 +1.6**	
	baz=140,SNR=126					
Y22A			S	**S**	**06 51 04.5 +0.9**	
	baz=140					
BMNY	**Brushton-Moira**	**63.18 356**	P	**P**	**06 42 39.7 +0.7**	
	baz=175,SNR=116					
BMNY			S	**S**	**06 51 00.8 -2.4**	
	baz=175					
Y22D	**IRIS PASSCAL I**	**63.23 326**	IAmb	IAmb	06 43 20.4	
	comp=Z,482nm,1.4s					
Y22D	**IRIS PASSCAL I**	**63.23 326**	P	**P**	**06 42 41.5 +1.8**	
	baz=140,SNR=26					
Y22D			S	**S**	**06 51 06.1 +1.6**	
	baz=140					
Y22D	**IRIS PASSCAL I**	**63.23 326**	P	**P**	**06 42 41.6 +1.8**	
	baz=140,SNR=26					
Y22D			S	**S**	**06 51 06.0 +1.4**	
	baz=140					
Y22F	**Passcal Instru**	**63.23 326**	P	**P**	**06 42 41.6 +1.9**	
	baz=140,SNR=25					
Y22F			S	**S**	**06 51 06.1 +1.6**	
	baz=140					
DUN6	**Lazy B Ranch**	**63.29 323**	P	**P**	**06 42 41.6 +1.5**	
K43A	**Burlington**	**63.30 345**	IAmb	IAmb	06 42 42.0	
	comp=Z,698nm,1.1s					
K43A	**Burlington**	**63.30 345**	P	**P**	**06 42 39.4 -0.4**	
	baz=160,SNR=35					
K43A			S	**S**	**06 50 59.4 -5.4**	
	baz=160					
VNA1	**Neumayer--Stat**	**63.31 161**	⇑P	**P**	**06 42 41.5 +1.9**	
	comp=Z,150nm,0.9s					
GGN	**Saint George**	**63.35 2**	IAmb	IAmb	06 42 42.4	
	comp=Z,1μm,1.6s					
G62A	**West of Eustis**	**63.41 359**	IAmb	IAmb	06 42 43.2	
	comp=Z,919nm,1.1s					
G62A	**West of Eustis**	**63.41 359**	P	**P**	**06 42 41.6 +1.2**	
	baz=179,SNR=130					
G62A			P	**P**	**06 42 41.6 +1.2**	
	baz=179,SNR=130					
G62A			S	**S**	**06 51 04.6 -1.4**	
	baz=179					
G62A			S	**S**	**06 51 04.6 -1.4**	
	baz=179					
G65A	**Princeton**	**63.41 2**	IAmb	IAmb	06 42 42.1	
	comp=Z,399nm,0.9s					
G65A	**Princeton**	**63.41 2**	P	**P**	**06 42 41.3 +0.9**	
	baz=182,SNR=47					
G65A			P	**P**	**06 42 41.3 +0.9**	
	baz=182,SNR=47					
G65A			S	**S**	**06 51 02.5 -3.4**	
	baz=182					
G65A			S	**S**	**06 51 02.5 -3.4**	
	baz=182					
PKME	**Peaks-Kenny Pk**	**63.45 0**	IAmb	IAmb	06 42 42.3	
	comp=Z,415nm,1.0s					
PKME	**Peaks-Kenny Pk**	**63.45 0**	P	**P**	**06 42 41.6 +0.8**	
	baz=180,SNR=37					
PKME			S	**S**	**06 51 04.3 -2.1**	
	baz=180					
PKME	**Peaks-Kenny Pk**	**63.45 0**	P	**P**	**06 42 41.7 +1.0**	
	baz=180,SNR=37					
PKME			S	**S**	**06 51 03.7 -2.7**	
	baz=180					
PKME	**Peaks-Kenny Pk**	**63.45 0**	⇑P	**P**	**06 42 41.5 +0.8**	
L40A	**Anamosa**	**63.49 342**	IAmb	IAmb	06 42 43.4	
	comp=Z,442nm,1.1s					
L40A	**Anamosa**	**63.49 342**	P	**P**	**06 42 40.6 -0.5**	
	baz=157,SNR=90					
L40A			S	**S**	**06 51 01.9 -5.2**	
	baz=157					
SADO	**Sadowa**	**63.56 352**	IAmb	IAmb	06 42 42.5	
	comp=Z,424nm,1.1s					
SADO	**Sadowa**	**63.56 352**	⇑P	**P**	**06 42 41.6 +0.1**	
SADO	**Sadowa**	**63.56 352**	LR	LR	07 11 22.5	
	comp=Z,2μm,21.2s,baz=179,slow=37					
CBKS	**Cedar Bluff**	**63.63 334**	IAmb	IAmb	06 42 48.5	
	comp=Z,468nm,0.9s					
CBKS	**Cedar Bluff**	**63.63 334**	P	**P**	**06 42 43.1 +1.0**	
	baz=148,SNR=47					
CBKS			S	**S**	**06 51 06.8 -2.3**	
	baz=148					
CBKS	**Cedar Bluff**	**63.63 334**	P	**P**	**06 42 43.0 +0.9**	
	baz=148,SNR=47					
CBKS			S	**S**	**06 51 08.1 -1.0**	
	baz=148					
CBKS	**Cedar Bluff**	**63.63 334**	⇑P	**P**	**06 42 43.0 +0.9**	
ANMO	**Albuquerque**	**63.66 327**	P	**P**	**06 42 43.6 +1.1**	
ANMO			IAmb	IAmb	06 42 47.3	
	comp=Z,499nm,1.4s					
ANMO	**Albuquerque**	**63.66 327** *d*	*i*P	**P**	**06 42 43.8 +1.2**	
ANMO			pmax	pmax		
	comp=Z,395nm,1.5s					
ANMO			MLR	MLR		
	comp=Z,3μm,19.0s					
ANMO	**Albuquerque**	**63.66 327**	P	**P**	**06 42 43.8 +1.2**	
	baz=141					
ANMO			S	**S**	**06 51 07.4 -2.5**	
	baz=141					
ANMO	**Albuquerque**	**63.66 327**	P	**P**	**06 42 43.7 +1.1**	
	baz=141,SNR=261					
ANMO			S	**S**	**06 51 08.8 -1.1**	
	baz=141					
ANMO	**Albuquerque**	**63.66 327**	⇑P	**P**	**06 42 43.7 +1.1**	
ANMO	**Albuquerque**	**63.66 327**	P	**P**	**06 42 43.7 +1.1**	
	comp=Z,60nm,0.7s,baz=221,slow=9.1,SNR=186					
ANMO			S	**S**	**06 51 05.6 -4.3**	
	comp=Z,0.7nm,0.6s,baz=277,slow=23,SNR=0.7					
	comp=Z,60nm,0.7s					
ANMO	**Albuquerque**	**63.66 327**	P	**P**	**06 42 43.7 +1.1**	
ANMO			pP	**pP**	**06 43 05.5 -1.5**	
ANMO			sP	**sP**	**06 43 15.3 -2.2**	
VNA2	**Neumayer--Watz**	**63.68 161**	⇑P	**P**	**06 42 43.4 +1.3**	
	comp=Z,146nm,0.9s,baz=290,slow=8.0					
N35A	**Tabor**	**63.83 338**	P	**P**	**06 42 43.6 +0.3**	
	baz=152,SNR=88					
N35A			S	**S**	**06 51 08.0 -3.4**	
	baz=152					
F63A	**Nahmakanta, Br**	**63.89 0**	IAmb	IAmb	06 42 46.1	
	comp=Z,598nm,1.6s					
F63A	**Nahmakanta, Br**	**63.89 0**	P	**P**	**06 42 44.3 +0.7**	
	baz=181,SNR=27					
F63A			P	**P**	**06 42 44.3 +0.7**	
	baz=181,SNR=27					
F63A			S	**S**	**06 51 08.8 -3.2**	
	baz=181					
F63A			S	**S**	**06 51 08.8 -3.2**	
	baz=181					
SCIA	**State Center**	**63.95 341**	IAmb	IAmb	06 42 50.4	
	comp=Z,774nm,1.4s					
SCIA	**State Center**	**63.95 341**	P	**P**	**06 42 44.4 +0.2**	
	baz=155,SNR=19					
SCIA			S	**S**	**06 51 07.6 -5.3**	
	baz=155					
SCIA	**State Center**	**63.95 341**	P	**P**	**06 42 44.2 +0.1**	
	baz=155,SNR=19					
SCIA			S	**S**	**06 51 08.1 -4.8**	
	baz=155					
SCIA	**State Center**	**63.95 341**	⇑P	**P**	**06 42 44.2 +0.1**	
JFWS	**Jewell Farm**	**64.00 343**	IAmb	IAmb	06 42 47.9	
	comp=Z,332nm,0.8s					
JFWS	**Jewell Farm**	**64.00 343**	P	**P**	**06 42 44.6 +0.2**	
	baz=158,SNR=86					
JFWS			S	**S**	**06 51 09.5 -3.9**	
	baz=158					
JFWS	**Jewell Farm**	**64.00 343**	P	**P**	**06 42 44.4 0.0**	
	baz=158,SNR=86					
JFWS			S	**S**	**06 51 09.0 -4.4**	
	baz=158					
JFWS	**Jewell Farm**	**64.00 343**	⇑P	**P**	**06 42 44.4 0.0**	
F64A	**Sherman**	**64.06 1**	IAmb	IAmb	06 42 46.4	
	comp=Z,420nm,1.0s					
F64A	**Sherman**	**64.06 1**	P	**P**	**06 42 45.6 +0.9**	
	baz=181,SNR=63					
F64A			P	**P**	**06 42 45.6 +0.9**	
	baz=181,SNR=63					
F64A			S	**S**	**06 51 08.9 -5.1**	
	baz=181					
F64A			S	**S**	**06 51 08.9 -5.1**	
	baz=181					
I45A	**Fountain**	**64.06 347**	IAmb	IAmb	06 42 47.7	
	comp=Z,1μm,1.9s					
I45A	**Fountain**	**64.06 347**	P	**P**	**06 42 44.2 -0.6**	
	baz=162,SNR=7.3					
I45A			P	**P**	**06 42 44.2 -0.6**	
	baz=162,SNR=7.3					
I45A			S	**S**	**06 51 07.6 -6.6**	
	baz=162					
I45A			S	**S**	**06 51 07.6 -6.6**	
	baz=162					
F62A	**Pittston Farm,**	**64.08 360**	P	**P**	**06 42 45.6 +0.7**	
	baz=180,SNR=34					
F62A			P	**P**	**06 42 45.6 +0.7**	
	baz=180,SNR=34					
F62A			S	**S**	**06 51 11.2 -3.1**	
	baz=180					
F62A			S	**S**	**06 51 11.2 -3.1**	
	baz=180					
TUC	**Tucson**	**64.10 322**	P	**P**	**06 42 46.4 +1.0**	
TUC			IAmb	IAmb	06 42 50.3	
	comp=Z,857nm,2.0s					
TUC	**Tucson**	**64.10 322**	P	**P**	**06 42 46.4 +1.0**	
TUC			pmax	pmax		
	comp=Z,857nm,2.0s					
TUC	**Tucson**	**64.10 322**	P	**P**	**06 42 46.9 +1.4**	
	baz=136					
TUC			S	**S**	**06 51 15.5 +0.2**	
	baz=136					
TUC	**Tucson**	**64.10 322**	P	**P**	**06 42 46.6 +1.2**	
TUC			pP	**pP**	**06 43 09.8 +0.2**	
GAC	**Glen Almond**	**64.11 355**	⇑P	**P**	**06 42 45.8 +0.8**	
LMN	**Caledonia Moun**	**64.18 4**	IAmb	IAmb	06 42 46.6	
	comp=Z,436nm,1.0s					
T25A	**Trinidad**	**64.35 330**	P	**P**	**06 42 48.4 +1.3**	
	baz=143,SNR=188					
T25A			S	**S**	**06 51 17.7 -0.7**	
	baz=143					
N33B	**J Bar K, Exete**	**64.38 337**	P	**P**	**06 42 47.6 +0.6**	
	baz=151,SNR=37					
N33B			S	**S**	**06 51 15.8 -2.4**	
	baz=151					
N33A	**J Bar K, Exete**	**64.38 337**	IAmb	IAmb	06 42 50.9	
	comp=Z,698nm,0.8s					
K38A	**Parkersburg**	**64.48 341**	IAmb	IAmb	06 42 51.1	
	comp=Z,917nm,1.4s					
K38A	**Parkersburg**	**64.48 341**	P	**P**	**06 42 47.4 -0.2**	
	baz=156,SNR=48					
K38A			S	**S**	**06 51 13.9 -5.5**	
	baz=156					
GLMI	**Grayling**	**64.49 348**	IAmb	IAmb	06 42 48.9	
	comp=Z,1μm,1.1s					
GLMI	**Grayling**	**64.49 348**	P	**P**	**06 42 47.5 -0.1**	
	baz=164,SNR=38					
GLMI			S	**S**	**06 51 15.0 -4.4**	
	baz=164					
GLMI	**Grayling**	**64.49 348**	P	**P**	**06 42 47.4 -0.2**	
	baz=164,SNR=38					
GLMI			S	**S**	**06 51 15.4 -3.9**	
	baz=164					
GLMI	**Grayling**	**64.49 348**	⇑P	**P**	**06 42 47.4 -0.2**	
I42A	**Draeger Farm,**	**64.56 345**	IAmb	IAmb	06 42 51.8	
	comp=Z,351nm,0.8s					
I42A	**Draeger Farm,**	**64.56 345**	P	**P**	**06 42 48.3 +0.3**	
	baz=160,SNR=74					
I42A			S	**S**	**06 51 16.4 -3.8**	
	baz=160					
TRQ	**Mont Tremblant**	**64.56 356**	IAmb	IAmb	06 42 50.0	
	comp=Z,716nm,1.1s					
E63A	**Oxbow**	**64.61 1**	P	**P**	**06 42 49.2 +0.9**	
	baz=181,SNR=41					
E63A			P	**P**	**06 42 49.2 +0.9**	
	baz=181,SNR=41					
E63A			S	**S**	**06 51 18.2 -2.6**	
	baz=181					
E63A			S	**S**	**06 51 18.2 -2.6**	
	baz=181					
E62A	**Clayton Lake**	**64.80 0**	IAmb	IAmb	06 42 51.5	
	comp=Z,402nm,1.0s					
E62A	**Clayton Lake**	**64.80 0**	S	**S**	**06 51 22.4 -0.8**	
	baz=180					
E62A			S	**S**	**06 51 22.4 -0.8**	
	baz=180					
H43A	**Windswept, Lux**	**64.83 346**	IAmb	IAmb	06 42 53.2	
	comp=Z,336nm,0.8s					
H43A	**Windswept, Lux**	**64.83 346**	P	**P**	**06 42 49.7 -0.1**	
	baz=161,SNR=23					
H43A			S	**S**	**06 51 18.8 -4.8**	
	baz=161					
PQI	**Presque Isle**	**64.87 1**	IAmb	IAmb	06 42 52.3	
	comp=Z,1μm,1.8s					
G45A	**Suttons Bay**	**64.90 347**	IAmb	IAmb	06 42 55.3	
	comp=Z,323nm,0.8s					
G45A	**Suttons Bay**	**64.90 347**	P	**P**	**06 42 50.0 -0.2**	
	baz=163,SNR=12					
G45A			P	**P**	**06 42 50.0 -0.2**	
	baz=163,SNR=12					
G45A			S	**S**	**06 51 18.7 -5.7**	
	baz=163					
G45A			S	**S**	**06 51 18.7 -5.7**	
	baz=163					
I40A	**Norwalk**	**65.00 343**	IAmb	IAmb	06 42 53.6	
	comp=Z,2μm,2.0s					
I40A	**Norwalk**	**65.00 343**	P	**P**	**06 42 51.0 0.0**	
	baz=158,SNR=48					
I40A			S	**S**	**06 51 22.0 -3.8**	
	baz=158					
KSCO	**Kaye Shedlock'**	**65.04 332**	P	**P**	**06 42 52.5 +1.1**	
KSCO			IAmb	IAmb	06 42 56.8	
	comp=Z,1μm,1.6s					
KSCO	**Kaye Shedlock'**	**65.04 332**	P	**P**	**06 42 52.8 +1.3**	
	baz=145,SNR=66					
KSCO			S	**S**	**06 51 26.3 -0.3**	
	baz=145					
KSCO	**Kaye Shedlock'**	**65.04 332**	P	**P**	**06 42 52.6 +1.1**	
	baz=145,SNR=66					
KSCO			S	**S**	**06 51 25.9 -0.8**	
	baz=145					
L34A	**Svendsen Farm,**	**65.06 338**	P	**P**	**06 42 51.6 +0.2**	
	baz=152,SNR=116					
L34A			S	**S**	**06 51 22.9 -3.7**	
	baz=152					
214A	**Organ Pipe Nat**	**65.06 320**	IAmb	IAmb	06 42 57.0	
	comp=Z,706nm,1.4s					
214A	**Organ Pipe Nat**	**65.06 320**	P	**P**	**06 42 53.5 +1.8**	
	baz=134,SNR=79					
214A			S	**S**	**06 51 29.6 +2.5**	
	baz=134					
BGNE	**Belgrade**	**65.22 337**	P	**P**	**06 42 53.2 +0.8**	
	baz=150,SNR=155					
BGNE			S	**S**	**06 51 27.6 -0.9**	
	baz=150					
BGNE	**Belgrade**	**65.22 337**	P	**P**	**06 42 53.1 +0.7**	
	baz=150,SNR=155					
BGNE			S	**S**	**06 51 26.8 -1.8**	
	baz=150					
D62A	**Allapoint, All**	**65.27 0**	IAmb	IAmb	06 42 54.9	
	comp=Z,572nm,1.1s					
D62A	**Allapoint, All**	**65.27 0**	P	**P**	**06 42 53.5 +1.0**	
	baz=181,SNR=130					
D62A			P	**P**	**06 42 53.5 +1.0**	
	baz=181,SNR=130					
D62A			S	**S**	**06 51 26.7 -2.1**	
	baz=181					
D62A			S	**S**	**06 51 26.7 -2.1**	
	baz=181					
SNAA	**Sanae**	**65.31 161**	P	**P**	**06 42 54.2 +1.4**	
SNAA	**Sanae**	**65.31 161** *c*	*i*P	**P**	**06 42 53.6 +0.8**	
SNAA			pmax	pmax		
	comp=Z,173nm,1.0s					
SNAA			MLR	MLR		
	comp=Z,3μm,18.0s					
SNAA	**Sanae**	**65.31 161**	⇑*i*P	**P**	**06 42 53.8 +1.1**	
SNAA	**Sanae**	**65.31 161**	⇑P	**P**	**06 42 53.9 +1.2**	
	comp=Z,2μm,0.7s					
SNAA	**Sanae**	**65.31 161**	⇑P	**P**	**06 42 53.6 +0.8**	
SNAA	**Sanae**	**65.31 161**	P	**P**	**06 42 53.8 +1.1**	
	comp=Z,86nm,0.8s,baz=284,slow=6.6,SNR=419					
SNAA			pP	**pP**	**06 43 17.4 +0.4**	
	comp=Z,104nm,0.8s,baz=274,slow=4.5,SNR=7.3					
SNAA			S	**S**	**06 51 28.0 -1.1**	
	comp=Z,2.6nm,1.0s,baz=218,slow=20,SNR=8.6					
SNAA			PKPPKP	**P'P'df**	**07 11 33.4 -1.5**	
	comp=Z,5.1nm,1.1s,baz=95,slow=2.4,SNR=8.3					
SNAA			LR	LR	07 12 07.7	
	comp=Z,3μm,18.9s,baz=286,slow=37					
	comp=Z,86nm,0.8s					
SDCO	**Great Sand Dun**	**65.36 329**	IAmb	IAmb	06 42 59.2	
	comp=Z,753nm,1.4s					
SDCO	**Great Sand Dun**	**65.36 329**	P	**P**	**06 42 55.2 +1.4**	
	baz=142,SNR=634					
SDCO			S	**S**	**06 51 32.1 +1.1**	
	baz=142					
SDCO	**Great Sand Dun**	**65.36 329**	P	**P**	**06 42 55.3 +1.6**	
	baz=142,SNR=634					
SDCO			S	**S**	**06 51 31.4 +0.4**	
	baz=142					
SDCO	**Great Sand Dun**	**65.36 329**	⇑P	**P**	**06 42 55.0 +1.3**	
W18A	**Petrified Fore**	**65.55 324**	P	**P**	**06 42 56.3 +1.4**	
	baz=138,SNR=12					
W18A			S	**S**	**06 51 34.7 +1.6**	
	baz=138					
LATQ	**La Tuque**	**65.63 358**	IAmb	IAmb	06 42 56.5	
	comp=Z,444nm,1.1s					
E46A	**Sault Ste Mari**	**65.91 349**	P	**P**	**06 42 56.8 0.0**	
E46A			IAmb	IAmb	06 43 00.9	
	comp=Z,841nm,1.4s					
E46A	**Sault Ste Mari**	**65.91 349**	P	**P**	**06 42 56.9 +0.1**	
	baz=165,SNR=59					
E46A			S	**S**	**06 51 31.3 -5.4**	
	baz=165					
I37A	**Lemond, Waseca**	**65.92 341**	IAmb	IAmb	06 43 00.5	
	comp=Z,525nm,0.8s					
I37B	**Waseca**	**65.92 341**	P	**P**	**06 42 57.1 +0.3**	
	baz=155,SNR=116					
I37B			S	**S**	**06 51 33.0 -4.0**	
	baz=155					
X16A	**Lo Mia Camp, P**	**66.00 323**	IAmb	IAmb	06 43 03.2	
	comp=Z,574nm,1.5s					
S22A	**4UR Ranch, Cre**	**66.01 328**	P	**P**	**06 42 59.2 +1.2**	
	baz=141					
S22A			S	**S**	**06 51 40.0 +1.1**	
	baz=141					
F42A	**Maple Grove Fa**	**66.13 346**	IAmb	IAmb	06 43 01.8	
	comp=Z,686nm,1.7s					
F42A	**Maple Grove Fa**	**66.13 346**	P	**P**	**06 42 58.3 +0.2**	
	baz=161,SNR=9.9					
F42A			S	**S**	**06 51 34.0 -5.4**	
	baz=161					
Q24A	**Divide**	**66.15 330**	P	**P**	**06 42 59.9 +1.0**	
	baz=143,SNR=67					
Q24A			S	**S**	**06 51 41.6 +1.0**	
	baz=143					
G40A	**Rib Lake**	**66.17 344**	IAmb	IAmb	06 43 02.2	
	comp=Z,627nm,1.8s					
G40A	**Rib Lake**	**66.17 344**	P	**P**	**06 42 58.7 +0.2**	
	baz=159,SNR=29					
G40A			S	**S**	**06 51 35.2 -4.7**	
	baz=159					
OGNE	**Ogallala**	**66.38 334**	IAmb	IAmb	06 43 04.4	
	comp=Z,922nm,1.6s					
OGNE	**Ogallala**	**66.38 334**	P	**P**	**06 43 01.1 +1.1**	
	baz=146,SNR=114					
OGNE			S	**S**	**06 51 44.1 +1.3**	
	baz=146					
OGNE	**Ogallala**	**66.38 334**	P	**P**	**06 43 00.8 +0.8**	
	baz=146,SNR=114					
OGNE			S	**S**	**06 51 41.4 -1.4**	
	baz=146					
OGNE	**Ogallala**	**66.38 334**	⇑P	**P**	**06 43 01.0 +1.1**	

MVCO	**Mesa Verde**	**66.45 327**	P	**P**	**06 43 02.0 +1.3**
	baz=140				
MVCO			S	**S**	**06 51 45.5 +1.4**
	baz=140				
E43A	**Lone Tree Farm**	**66.46 347**	P	**P**	**06 43 00.0 -0.2**
	baz=162,SNR=33				
E43A			S	**S**	**06 51 38.1 -5.2**
	baz=162				
VTX	**Valle De La Tr**	**66.54 318**	IAmb	IAmb	06 43 07.5
	comp=Z,536nm,1.7s				
VLDQ	**Val d'Or**	**66.67 354**	IAmb	IAmb	06 43 03.8
	comp=Z,813nm,1.3s				
COWI	**Conover**	**66.69 345**	IAmb	IAmb	06 43 04.7
	comp=Z,771nm,1.6s				
COWI	**Conover**	**66.69 345**	S	**S**	**06 51 42.1 -4.1**
	baz=160				
COWI	**Conover**	**66.69 345**	⇑P	**P**	**06 43 01.9 +0.2**
ECSD	**EROS Data Cent**	**66.70 339**	P	**P**	**06 43 02.5 +0.6**
ECSD			IAmb	IAmb	06 43 05.8
	comp=Z,1μm,1.6s				
ECSD	**EROS Data Cent**	**66.70 339**	P	**P**	**06 43 02.3 +0.4**
	baz=152,SNR=212				
ECSD			S	**S**	**06 51 44.1 -2.4**
	baz=152				
ECSD	**EROS Data Cent**	**66.70 339**	P	**P**	**06 43 02.3 +0.4**
	baz=152,SNR=212				
ECSD			S	**S**	**06 51 43.8 -2.7**
	baz=152				
ECSD	**EROS Data Cent**	**66.70 339**	⇑P	**P**	**06 43 02.1 +0.3**
WUAZ	**Wupatki**	**66.75 324**	P	**P**	**06 43 04.8 +2.3**
	baz=137,SNR=32				
WUAZ			S	**S**	**06 51 51.5 +3.8**
	baz=137				
SPMN	**Marine on St.**	**66.84 342**	P	**P**	**06 43 02.9 +0.2**
	baz=156,SNR=95				
SPMN			S	**S**	**06 51 45.4 -2.7**
	baz=156				
SPMN	**Marine on St.**	**66.84 342**	P	**P**	**06 43 02.9 +0.2**
	baz=156,SNR=95				
SPMN			S	**S**	**06 51 44.4 -3.7**
	baz=156				
K30B	**Basset**	**66.86 336**	S	**S**	**06 51 47.3 -1.2**
	baz=149				
TROLL	**Troll, Antarti**	**67.03 161**	⇑P	**P**	**06 43 05.4 +1.6**
	comp=Z,5μm,0.7s				
TROLL	**Troll, Antarti**	**67.03 161**	⇑P	**P'P'df**	**07 11 32.8 +0.7**
	comp=Z,16nm,0.1s				
ISCO	**Idaho Springs**	**67.04 331**	P	**P**	**06 43 05.7 +1.2**
	baz=143,SNR=39				
ISCO			S	**S**	**06 51 52.6 +1.3**
	baz=143				
ISCO	**Idaho Springs**	**67.04 331**	P	**P**	**06 43 05.5 +1.0**
	baz=143,SNR=39				
ISCO			S	**S**	**06 51 52.1 +0.9**
	baz=143				
GLA	**Glamis**	**67.05 320**	IAmb	IAmb	06 43 09.7
	comp=Z,597nm,1.7s				
GLA	**Glamis**	**67.05 320**	P	**P**	**06 43 06.3 +1.9**
	baz=133				
GLA			S	**S**	**06 51 54.2 +3.0**
	baz=133				
BRIGG	**Briggsdale**	**67.07 332**	IAmb	IAmb	06 43 09.6
	comp=Z,1μm,1.5s				
SMCO	**Snowmass**	**67.19 329**	IAmb	IAmb	06 43 10.7
	comp=Z,303nm,0.8s				
D41A	**Chassel**	**67.45 346**	IAmb	IAmb	06 43 10.6
	comp=Z,391nm,0.8s				
D41A	**Chassel**	**67.45 346**	P	**P**	**06 43 07.0 +0.5**
	baz=161,SNR=22				
D41A			S	**S**	**06 51 51.0 -4.3**
	baz=161				
YUH	**Yuha Desert**	**67.46 319**	P	**P**	**06 43 08.8 +1.9**
YUH			IAmb	IAmb	06 43 13.4
	comp=Z,1μm,1.9s				
PDMCI	**Parker Dam,Lak**	**67.49 321**	P	**P**	**06 43 08.7 +1.6**
	baz=134,SNR=23				
PDMCI			S	**S**	**06 51 59.6 +3.3**
	baz=134				
RMX	**La Rumorosa**	**67.53 318**	IAmb	IAmb	06 43 12.7
	comp=Z,418nm,1.3s				
IKP	**In-Ko-Pah, Jac**	**67.58 319**	P	**P**	**06 43 09.7 +2.0**
	baz=132,SNR=91				
IKP			S	**S**	**06 52 01.6 +4.0**
	baz=132				
SWSC	**Sam W. Stewart**	**67.58 319**	P	**P**	**06 43 09.6 +2.0**
	baz=132,SNR=46				
SWSC			S	**S**	**06 52 03.5 +6.1**
	baz=132				
F36A	**Milaca**	**67.63 342**	IAmb	IAmb	06 43 11.3
	comp=Z,362nm,1.0s				
F36A	**Milaca**	**67.63 342**	P	**P**	**06 43 07.8 +0.1**
	baz=156,SNR=161				
F36A			S	**S**	**06 51 54.6 -2.9**
	baz=156				
CBX	**Cerro Bola**	**67.71 318**	P	**P**	**06 43 10.4 +1.7**
E38A	**The Farm, Brul**	**67.77 344**	P	**P**	**06 43 08.5 -0.1**
	baz=158,SNR=45				
E38A			S	**S**	**06 51 55.5 -3.6**
	baz=158				
H07S1	**FLORES T-PHASE**	**67.82 31**	*e*P	**P**	**06 43 10.6 +1.6**
	comp=Z,1μm,1.7s				
BC3	**Big Chuckawall**	**67.84 320**	P	**P**	**06 43 11.3 +1.9**
	baz=133,SNR=130				
BC3			S	**S**	**06 52 03.9 +3.1**
	baz=133				
W13A	**Hualapai Mount**	**67.89 322**	IAmb	IAmb	06 43 15.4
	comp=Z,476nm,1.5s				
U15A	**North Rim**	**67.92 324**	IAmb	IAmb	06 43 15.7
	comp=Z,719nm,1.4s				
MONP2	**Monument Peak**	**67.94 319**	P	**P**	**06 43 12.2 +2.0**
	baz=132,SNR=97				
MONP2			S	**S**	**06 52 05.1 +3.0**
	baz=132				
BAR	**Barrett**	**67.95 318**	IAmb	IAmb	06 43 15.4
	comp=Z,354nm,1.1s				
IRM	**Iron Mountain**	**68.00 320**	P	**P**	**06 43 12.3 +2.0**
	baz=133,SNR=176				
IRM			S	**S**	**06 52 04.3 +1.8**
	baz=133				
N23A	**Red Feather La**	**68.06 331**	P	**P**	**06 43 12.4 +1.5**
	baz=143,SNR=42				
N23A			S	**S**	**06 52 04.4 +1.0**
	baz=143				
NEE2	**Needles Airpor**	**68.10 321**	P	**P**	**06 43 13.1 +2.2**
	baz=134,SNR=20				
NEE2			S	**S**	**06 52 05.6 +2.0**
	baz=134				
H07N1	**FLORES T-PHASE**	**68.10 31**	*e*P	**P**	**06 43 10.6 -0.2**
	comp=Z,316nm,1.1s				
SUSD	**Miller**	**68.14 338**	IAmb	IAmb	06 43 14.7
	comp=Z,338nm,1.0s				
SUSD	**Miller**	**68.14 338**	P	**P**	**06 43 11.5 +0.5**
	baz=150,SNR=28				
SUSD			S	**S**	**06 52 02.9 -0.8**
	baz=150				
SUSD	**Miller**	**68.14 338**	P	**P**	**06 43 11.2 +0.3**
	baz=150,SNR=28				
SUSD			S	**S**	**06 52 03.4 -0.3**
	baz=150				
PHWY	**Pilot Hill**	**68.16 332**	IAmb	IAmb	06 43 17.0
	comp=Z,978nm,1.6s				
LIC	**Lamto**	**68.18 75**	⇑*i*P	**P**	**06 43 12.1 +0.3**
	comp=Z,99nm,0.4s				
LIC	**Lamto**	**68.18 75**	⇑*e*P	**S**	**06 52 02.7 -2.6**
	comp=Z,284nm,1.1s				
DRLN	**Deer Lake**	**68.29 8**	IAmb	IAmb	06 43 13.4
	comp=Z,1μm,1.4s				
TIC	**Toumodi**	**68.35 75**	⇑*i*P	**P**	**06 43 13.3 +0.4**
	comp=Z,35nm,0.3s				
TIC	**Toumodi**	**68.35 75**	⇑*e*P	**S**	**06 52 02.6 -4.8**
	comp=Z,3.2nm,0.2s				
109C	**Camp Elliot, M**	**68.36 318**	P	**P**	**06 43 14.3 +1.7**
	baz=131,SNR=20				
109C			S	**S**	**06 52 07.7 +1.0**
	baz=131				
PMD	**Palm Desert**	**68.41 319**	P	**P**	**06 43 14.4 +1.5**
BELC	**Belle Mtn. Jos**	**68.41 320**	P	**P**	**06 43 15.0 +2.0**
	baz=132,SNR=92				
BELC			S	**S**	**06 52 10.3 +2.7**
	baz=132				
TPFO	**Pinon Flats**	**68.43 319**	P	**P**	**06 43 15.2 +2.0**
	baz=132,SNR=137				
TPFO			S	**S**	**06 52 12.3 +4.5**
	baz=132				
PFO	**Pinyon Flats O**	**68.44 319**	P	**P**	**06 43 14.3 +1.1**
PFO	**Pinyon Flats O**	**68.44 319**	P	**P**	**06 43 14.3 +1.1**
PFO			pmax	pmax	
	comp=Z,273nm,1.2s				
PFO	**Pinyon Flats O**	**68.44 319**	P	**P**	**06 43 15.3 +2.1**
	baz=132,SNR=101				
PFO			S	**S**	**06 52 13.3 +5.4**
	baz=132				
PFO	**Pinyon Flats O**	**68.44 319**	P	**P**	**06 43 15.1 +1.9**
PFO			pP	**PcP**	**06 43 38.0 +0.1**
F33A	**5 Mile Ranch,**	**68.46 340**	IAmb	IAmb	06 43 16.4
	comp=Z,299nm,0.8s				
F33A	**5 Mile Ranch,**	**68.46 340**	P	**P**	**06 43 12.7 -0.1**
	baz=153,SNR=156				
F33A			S	**S**	**06 52 04.3 -3.1**
	baz=153				
HOR	**Horta**	**68.48 34**	*e*P	**P**	**06 43 12.4 -0.8**
	comp=Z,495nm,1.9s				
CALA	**Caldeira**	**68.49 33**	*e*P	**P**	**06 43 13.3 0.0**
	comp=Z,713nm,1.5s				
KIC	**Kosan Boka**	**68.50 75**	⇑*i*P	**P**	**06 43 14.2 +0.4**
	comp=Z,106nm,0.3s				
KIC	**Kosan Boka**	**68.50 75**	⇑*e*P	**S**	**06 52 04.2 -4.9**
	comp=Z,92nm,1.2s				
DBIC	**Dimbokro**	**68.51 75**	IAmb	IAmb	06 43 15.6
	comp=Z,732nm,1.1s				
DBIC	**Dimbokro**	**68.51 75**	⇑*i*P	**P**	**06 43 14.0 +0.2**
DBIC			IAmb	IAmb	06 43 15.0
	comp=Z,983nm,1.1s				
DBIC	**Dimbokro**	**68.51 75**	⇑P	**P**	**06 43 14.1 +0.2**
DBIC			⇑P	**P**	**06 43 14.2 +0.3**
DBIC	**Dimbokro**	**68.51 75**	P	**P**	**06 43 14.1 +0.2**
	comp=Z,446nm,0.9s,baz=236,slow=5.9,SNR=210				
DBIC			pP	**pP**	**06 43 39.9 +1.2**
	comp=Z,314nm,0.8s,baz=228,slow=4.5,SNR=6.2				
DBIC			S	**S**	**06 52 06.7 -2.5**
	comp=Z,49nm,1.1s,baz=104,slow=21,SNR=12				
DBIC			LR	LR	07 11 21.0
	comp=Z,2μm,21.9s,baz=224,slow=34				
DBIC			PKPPKP	**P'P'df**	**07 11 28.7 -1.6**
	comp=Z,3.9nm,1.0s,baz=92,slow=14,SNR=2.1				
	comp=Z,446nm,0.9s				
DBIC	**Dimbokro**	**68.51 75**	⇑P	**P**	**06 43 14.1 +0.2**
DBIC			PcP	**pP**	**06 43 40.0 +1.2**
PCAN	**Candelaria**	**68.51 34**	*e*P	**P**	**06 43 14.2 +0.8**
	comp=Z,588nm,1.7s				
PCED	**Cedros**	**68.52 33**	*e*P	**P**	**06 43 13.3 -0.1**
	comp=Z,723nm,1.6s				
O20A	**White River Ci**	**68.55 329**	P	**P**	**06 43 15.3 +1.5**
	baz=141,SNR=44				
O20A			S	**S**	**06 52 10.5 +1.4**
	baz=141				
PICO	**Pico**	**68.57 34**	*e*P	**P**	**06 43 13.3 -0.5**
	comp=Z,925nm,1.7s				
PPNO	**Prainha do Nor**	**68.63 34**	*e*P	**P**	**06 43 13.7 -0.5**
	comp=Z,696nm,1.3s				
PKCU	**Pink Cliffs**	**68.66 325**	IAmb	IAmb	06 43 22.9
	comp=Z,954nm,1.7s				
PID	**Ribeirinha**	**68.69 34**	*e*P	**P**	**06 43 12.4 -2.1**
	comp=Z,819nm,1.9s				
GMRC	**Granite Mounta**	**68.73 320**	P	**P**	**06 43 17.2 +2.1**
	baz=133,SNR=258				
GMRC			S	**S**	**06 52 13.6 +2.2**
	baz=133				
ROSA	**Rosais**	**68.83 34**	*e*P	**P**	**06 43 16.4 +1.1**
	comp=Z,722nm,1.8s				
ROSA	**Rosais**	**68.83 34**	IAmb	IAmb	06 43 17.8
	comp=Z,783nm,1.6s				
PMAN	**Manadas**	**68.85 34**	*e*P	**P**	**06 43 13.3 -2.1**
	comp=Z,768nm,2.1s				
MURC	**Murrieta**	**68.89 319**	P	**P**	**06 43 17.9 +2.0**
	baz=132,SNR=46				
MURC			S	**S**	**06 52 18.3 +5.2**
	baz=132				
V12A	**Nelson**	**68.90 322**	IAmb	IAmb	06 43 22.1
	comp=Z,632nm,1.4s				
TAOE	**Nuku Hiva Isla**	**68.90 267**	*e*PKP2	P	06 43 10.5 -6.0
	comp=Z,764nm,1.4s				
TAOE			*e*S	**S**	**06 52 22.7 +8.6**
	comp=Z,3μm,32.2s				
TAOE	**Nuku Hiva Isla**	**68.90 267**	*e*LR	LR	07 03 52.4
	comp=Z,17μm,35.8s				
TAOE	**Nuku Hiva Isla**	**68.90 267**	*e*T	T	07 57 19.6
	comp=Z,199nm,0.2s				
TAOE	**Nuku Hiva Isla**	**68.90 267**	⇓P	**P**	**06 43 17.7 +1.2**
EYMN	**Ely**	**68.99 344**	IAmb	IAmb	06 43 20.2
	comp=Z,635nm,1.5s				
EYMN	**Ely**	**68.99 344**	P	**P**	**06 43 16.1 -0.1**
	baz=158,SNR=57				
EYMN			S	**S**	**06 52 10.5 -3.1**
	baz=158				
EYMN	**Ely**	**68.99 344**	P	**P**	**06 43 16.3 +0.2**
	baz=158,SNR=57				
EYMN			S	**S**	**06 52 09.4 -4.2**
	baz=158				
EYMN	**Ely**	**68.99 344**	⇑P	**P**	**06 43 16.0 -0.1**
MTPU	**Mount Pierson**	**69.03 325**	IAmb	IAmb	06 43 25.0
	comp=Z,654nm,1.9s				
Q16A	**Castle Valley**	**69.12 326**	IAmb	IAmb	06 43 22.8
	comp=Z,1μm,1.9s				
BBRC	**Big Bear Solar**	**69.16 319**	P	**P**	**06 43 20.2 +2.4**
	baz=132,SNR=52				
BBRC			S	**S**	**06 52 20.9 +4.3**
	baz=132				
SRBC	**Serra Branca**	**69.17 34**	*e*P	**P**	**06 43 16.8 -0.6**
	comp=Z,2μm,1.5s				
HEC	**Hector,Ludlow**	**69.17 320**	P	**P**	**06 43 19.8 +2.1**
	baz=132,SNR=149				
HEC			S	**S**	**06 52 20.4 +3.9**
	baz=132				
PGRA	**Graciosa**	**69.19 34**	*e*P	**P**	**06 43 18.1 +0.5**
	comp=Z,956nm,1.6s				
SZCU	**Shurtz Canyon**	**69.20 324**	IAmb	IAmb	06 43 24.5
	comp=Z,921nm,1.8s				
MACI	**Morro de la Ar**	**69.22 49**	P	**P**	**06 43 19.5 +1.3**
MACI			IAmb	IAmb	06 43 25.4
	comp=Z,559nm,1.0s				
RWWY	**Rawlins**	**69.27 331**	P	**P**	**06 43 19.0 +0.6**
RWWY			IAmb	IAmb	06 43 22.2
	comp=Z,1μm,1.6s				
PSMA	**Santa Maria**	**69.29 37**	*e*P	**P**	**06 43 16.4 -1.8**
	comp=Z,364nm,1.1s				
P17A	**Butcher Ranch,**	**69.31 327**	P	**P**	**06 43 19.9 +1.4**
P17A			IAmb	IAmb	06 43 23.5
	comp=Z,472nm,1.1s				
ADH	**Angra Heroismo**	**69.32 34**	*e*P	**P**	**06 43 17.7 -0.6**
	comp=Z,901nm,1.2s				
CCUT	**Cedar City**	**69.32 324**	IAmb	IAmb	06 43 24.8
	comp=Z,415nm,1.0s				
PSMN	**Pico do Norte,**	**69.33 37**	*e*P	**P**	**06 43 17.3 -1.2**
	comp=Z,494nm,1.9s				
TUQ	**Turquoise Moun**	**69.33 321**	P	**P**	**06 43 21.0 +2.3**
	baz=133,SNR=40				
TUQ			S	**S**	**06 52 21.1 +2.6**
	baz=133				
SCI2	**San Clemente I**	**69.34 317**	P	**P**	**06 43 20.7 +2.0**
	baz=130,SNR=16				
SCI2			S	**S**	**06 52 24.2 +5.8**
	baz=130				
PSBA	**Serra de Santa**	**69.35 34**	*e*P	**P**	**06 43 18.1 -0.5**
	comp=Z,958nm,1.5s				
PSCM	**Serra do Cume**	**69.41 34**	*e*P	**P**	**06 43 16.8 -2.2**
	comp=Z,748nm,1.4s				
PAGU	**Agualva, Azore**	**69.42 34**	*e*P	**P**	**06 43 16.4 -2.6**
	comp=Z,870nm,2.1s				
PDA	**Ponta Delgada**	**69.52 36**	*e*P	**P**	**06 43 17.3 -2.3**
	comp=Z,853nm,1.9s				
CIS	**Catalina Islan**	**69.53 318**	P	**P**	**06 43 21.9 +2.1**
	baz=130,SNR=15				
CIS			S	**S**	**06 52 24.1 +3.5**
	baz=130				
PSET	**Sete Cidades**	**69.54 36**	*e*P	**P**	**06 43 18.1 -1.7**
	comp=Z,1μm,1.6s				
TCRU	**Three Creeks R**	**69.58 325**	IAmb	IAmb	06 43 25.8
	comp=Z,313nm,0.9s				
BFSC	**Mount Baldy Ra**	**69.60 319**	P	**P**	**06 43 22.4 +2.0**
	baz=131,SNR=61				
BFSC			S	**S**	**06 52 25.1 +3.6**
	baz=131				
CMLA	**Cha da Macela**	**69.61 36**	*e*P	**P**	**06 43 18.1 -2.1**
	comp=Z,556nm,1.5s				
CMLA	**Cha da Macela**	**69.61 36**	P	**P**	**06 43 21.2 +1.1**
CMLA	**Cha da Macela**	**69.61 36**	P	**P**	**06 43 21.3 +1.1**
CMLA			pmax	pmax	
	comp=Z,309nm,1.1s				
CMLA	**Cha da Macela**	**69.61 36**	⇑P	**P**	**06 43 21.3 +1.1**
CMLA			pP	**pP**	**06 43 45.4 +0.2**
CMLA			sP	**sP**	**06 43 55.7 -0.1**
RRX	**Edison Barstow**	**69.61 320**	P	**P**	**06 43 22.6 +2.3**
	baz=132				
RRX			S	**S**	**06 52 25.9 +4.4**
	baz=132				
PCALD	**Caldeiras da R**	**69.65 36**	*e*P	**P**	**06 43 18.1 -2.4**
	comp=Z,765nm,1.6s				
PGRON	**Lagoa das Cont**	**69.70 36**	*e*P	**P**	**06 43 19.0 -1.8**
	comp=Z,769nm,1.1s				
K22A	**Casper**	**69.72 332**	IAmb	IAmb	06 43 26.5
	comp=Z,756nm,1.6s				
K22A	**Casper**	**69.72 332**	P	**P**	**06 43 22.3 +1.4**
	baz=143,SNR=58				
K22A			S	**S**	**06 52 23.1 +0.4**
	baz=143				
K22A	**Casper**	**69.72 332**	P	**P**	**06 43 22.2 +1.2**
	baz=143,SNR=58				
K22A			S	**S**	**06 52 23.4 +0.7**
	baz=143				
GSC	**Goldstone, Bar**	**69.78 320**	IAmb	IAmb	06 43 27.9
	comp=Z,1μm,1.8s				
GSC	**Goldstone, Bar**	**69.78 320**	P	**P**	**06 43 23.5 +2.1**
	baz=132,SNR=133				
GSC			S	**S**	**06 52 22.2 -1.3**
	baz=132				
EOSO	**Osorio**	**69.81 50**	P	**P**	**06 43 22.8 +1.1**
BART	**Pico Bartolome**	**69.82 36**	*e*P	**P**	**06 43 21.7 +0.1**
	comp=Z,585nm,1.5s				
RSSD	**Black Hills**	**69.83 334**	P	**P**	**06 43 23.1 +1.4**
RSSD	**Black Hills**	**69.83 334**	P	**P**	**06 43 23.1 +1.4**
RSSD			pmax	pmax	
	comp=Z,188nm,1.0s				
RSSD	**Black Hills**	**69.83 334**	P	**P**	**06 43 22.9 +1.2**
	baz=145				
RSSD			S	**S**	**06 52 24.5 +0.5**
	baz=145				
RSSD	**Black Hills**	**69.83 334**	P	**P**	**06 43 22.9 +1.2**
	baz=145,SNR=31				
RSSD			S	**S**	**06 52 24.5 +0.5**
	baz=145				
RSSD	**Black Hills**	**69.83 334**	⇑P	**P**	**06 43 22.9 +1.2**
RSSD			⇑P	**P**	**06 43 23.0 +1.4**
RSSD	**Black Hills**	**69.83 334**	P	**P**	**06 43 22.9 +1.2**
D32A	**Dogwood Acres,**	**69.84 340**	IAmb	IAmb	06 43 25.1
	comp=Z,403nm,0.8s				
D32B	**Dogwood Acres,**	**69.84 340**	P	**P**	**06 43 21.7 +0.4**
	baz=152,SNR=25				
D32B			S	**S**	**06 52 20.4 -3.1**
	baz=152				
NVL	**N'lazarevskaya**	**69.85 160**	*e*P	**P**	**06 43 24.0 +2.8**
NVL			*e**PP	**PcP**	**06 43 44.2 +1.1**
NVL			*e*S	**S**	**06 52 26.5 +3.3**
NVL			*e*		06 53 11.0
NVL			*e*SS	**SS**	**06 56 55.2 +2.1**
NVL			pmax	pmax	
	comp=Z,558nm,1.8s				
NVL			smax	smax	
	comp=E,3μm,15.1s				
PASC	**Pasadena Art C**	**69.89 319**	IAmb	IAmb	06 43 27.5
	comp=Z,418nm,1.2s				
B35A	**Bob, Littlefor**	**69.96 343**	IAmb	IAmb	06 43 25.6
	comp=Z,775nm,1.6s				
B35A	**Bob, Littlefor**	**69.96 343**	P	**P**	**06 43 22.2 0.0**
	baz=156,SNR=85				
B35A			S	**S**	**06 52 21.2 -3.7**
	baz=156				
DECC	**Green Verdugo**	**70.03 318**	P	**P**	**06 43 25.1 +2.2**
	baz=131,SNR=14				
DECC			S	**S**	**06 52 30.3 +3.9**
	baz=131				
BSUT	**Blindstream Ca**	**70.11 328**	IAmb	IAmb	06 43 28.9
	comp=Z,420nm,1.3s				
SNCC	**San Nicolas Is**	**70.15 317**	P	**P**	**06 43 25.4 +1.8**
	baz=130,SNR=11				
SNCC			S	**S**	**06 52 31.6 +3.8**
	baz=130				
PRN	**Pahroc Range**	**70.17 323**	P	**P**	**06 43 25.8 +2.0**
PRN			IAmb	IAmb	06 43 29.7
	comp=Z,471nm,1.4s				
EDW2	**Edwards Air Fo**	**70.23 319**	P	**P**	**06 43 25.8 +1.6**
	baz=131,SNR=92				
EDW2			S	**S**	**06 52 31.5 +2.8**
	baz=131				
PSUT	**Pine Spring**	**70.29 324**	P	**P**	**06 43 26.8 +2.1**
CCAC	**Calif City Air**	**70.42 319**	IAmb	IAmb	06 43 30.6
	comp=Z,429nm,1.2s				
LRMC	**Laurel Mtn Rad**	**70.43 320**	P	**P**	**06 43 27.3 +1.8**
	baz=132,SNR=102				
LRMC			S	**S**	**06 52 34.3 +3.1**
	baz=132				
OSI	**Osito Audit: C**	**70.51 319**	P	**P**	**06 43 27.5 +1.7**
	baz=131,SNR=11				
OSI			S	**S**	**06 52 34.8 +2.7**
	baz=131				
TPNV	**Topopah Spring**	**70.56 322**	IAmb	IAmb	06 43 32.1
	comp=Z,526nm,1.2s				
TPNV	**Topopah Spring**	**70.56 322**	P	**P**	**06 43 28.5 +2.3**
	baz=133,SNR=245				
TPNV			S	**S**	**06 52 36.1 +3.4**
	baz=133				
TPNV	**Topopah Spring**	**70.56 322**	⇓P	**P**	**06 43 28.5 +2.3**
TPNV			⇑P	**P**	**06 43 28.6 +2.4**
FURC	**Furnace Creek,**	**70.59 321**	P	**P**	**06 43 28.5 +2.3**
	baz=132,SNR=266				
FURC			S	**S**	**06 52 37.3 +4.5**
	baz=132				
E28A	**Huff**	**70.60 338**	P	**P**	**06 43 27.2 +1.2**
	baz=149,SNR=35				
E28A			S	**S**	**06 52 32.2 -0.3**
	baz=149				
WCT	**Wildcat Mounta**	**70.67 321**	IAmb	IAmb	06 43 32.8
	comp=Z,446nm,1.2s				
SCZ2	**Santa Cruz Isl**	**70.69 318**	P	**P**	**06 43 29.0 +2.1**
	baz=130,SNR=13				
SCZ2			S	**S**	**06 52 37.4 +3.3**
	baz=130				
MPMC	**Manual Prospec**	**70.69 320**	P	**P**	**06 43 28.9 +1.8**
	baz=132,SNR=129				
MPMC			S	**S**	**06 52 38.8 +4.4**
	baz=132				
S11A	**Rachel**	**70.74 323**	IAmb	IAmb	06 43 33.5
	comp=Z,826nm,1.5s				
TCUT	**Toone Canyon**	**70.87 328**	IAmb	IAmb	06 43 33.1
	comp=Z,2μm,2.0s				
SPR3	**Spring Creek 3**	**70.89 324**	IAmb	IAmb	06 43 33.4
	comp=Z,499nm,1.4s				
ARVC	**Arvin**	**70.91 319**	P	**P**	**06 43 30.3 +2.1**
	baz=131,SNR=10				
ARVC			S	**S**	**06 52 39.1 +2.6**
	baz=131				
DUG	**Dugway, Tooele**	**70.92 326**	IAmb	IAmb	06 43 33.8
	comp=Z,412nm,1.1s				
DUG	**Dugway, Tooele**	**70.92 326**	P	**P**	**06 43 30.4 +2.0**
	baz=137,SNR=222				
DUG			S	**S**	**06 52 40.7 +3.9**
	baz=137				
DUG	**Dugway, Tooele**	**70.92 326**	⇑P	**P**	**06 43 30.1 +1.8**
DUG			⇑P	**P**	**06 43 30.3 +2.0**
SBC	**Santa Barbara**	**71.03 318**	P	**P**	**06 43 30.7 +1.8**
	baz=130				
SBC			S	**S**	**06 52 41.7 +3.8**
	baz=130				
ISA	**Isabella, Lake**	**71.04 320**	P	**P**	**06 43 31.2 +2.2**
	baz=131,SNR=111				
ISA			S	**S**	**06 52 42.4 +4.3**
	baz=131				
R11B	**Troy Canyon, C**	**71.13 323**	IAmb	IAmb	06 43 35.5
	comp=Z,688nm,1.6s				
R11B	**Troy Canyon, C**	**71.13 323**	P	**P**	**06 43 32.0 +2.3**
	baz=134,SNR=257				
R11B			S	**S**	**06 52 43.7 +4.4**
	baz=134				
BW06	**Boulder Array**	**71.21 330**	P	**P**	**06 43 30.9 +0.8**
	baz=140,SNR=144				
BW06			S	**S**	**06 52 40.0 -0.2**
	baz=140				
BW06	**Boulder Array**	**71.21 330**	⇑P	**P**	**06 43 30.8 +0.7**
BW06			⇑P	**P**	**06 43 30.8 +0.7**
BW06			⇓P	**P**	**06 43 33.0 +2.9**
PDAR	**Pinedale Array**	**71.21 330**	P	**P**	**06 43 30.6 +0.5**
PDAR	**Pinedale Array**	**71.21 330**	P	**P**	**06 43 30.4 +0.2**
	comp=Z,42nm,0.9s,baz=137,slow=7.8,SNR=61				
PDAR			S	**S**	**06 52 37.9 -2.2**
	comp=Z,0.8nm,0.8s,baz=133,slow=3.8,SNR=1.3				
PDAR			PKPPKP	**P'P'df**	**07 11 22.0 -0.8**
	comp=Z,1.7nm,1.1s,baz=270,slow=0.9,SNR=5.8				
PDAR			LR	LR	07 19 28.9
	comp=Z,1μm,18.3s,baz=138,slow=40				
	comp=Z,42nm,0.9s				
GRAC	**Grapevine Rang**	**71.25 321**	P	**P**	**06 43 32.7 +2.5**
	baz=132,SNR=66				
GRAC			S	**S**	**06 52 45.9 +5.5**

baz=132
CWC Cottonwood Cre 71.31 320 P P 06 43 32.9 +2.2
baz=132
CWC S S 06 52 45.9 +4.5
baz=132
MDND Maddock 71.31 339 P P 06 43 31.6 +1.3
baz=150,SNR=68
MDND S S 06 52 40.9 +0.1
baz=150
MDND Maddock 71.31 339 P P 06 43 31.6 +1.3
baz=150,SNR=68
MDND S S 06 52 39.1 -1.6
baz=150
HWUT Hardware Ranch 71.31 328 P P 06 43 31.9 +1.1
HWUT IAmb IAmb 06 43 35.3
comp=Z,752nm,1.8s
HWUT Hardware Ranch 71.31 328 ⇑P P 06 43 31.7 +1.0
HWUT ⇑P P 06 43 31.8 +1.1
HWUT ⇑P P 06 43 35.0 +4.2
PKM Mcpherson Peak 71.37 318 P P 06 43 33.4 +2.2
baz=130,SNR=101
PKM S S 06 52 46.0 +3.7
baz=130
PMOZ Porto Moniz, M 71.47 45⇑iP P 06 43 32.8 +1.1
comp=Z,350nm,1.1s
PMOZ eS S 06 52 46.3 +3.0
PMOZ Porto Moniz, M 71.47 45 eLR LR 07 06 25.9
comp=Z,1μm,20.0s
PMOZ Porto Moniz, M 71.47 45 P P 06 43 32.5 +0.8
VES Vestal, Richgr 71.53 319 P P 06 43 34.1 +2.2
baz=131,SNR=171
VES S S 06 52 46.3 +2.6
baz=131
SPUT South Promonto 71.54 327 IAmb IAmb 06 43 37.0
comp=Z,606nm,1.5s
PMAR Madeira 71.60 45⇑iP P 06 43 33.7 +1.1
comp=Z,348nm,2.3s
ID09 Alton 71.60 329 IAmb IAmb 06 43 37.1
comp=Z,554nm,1.4s
ID10 Lander Cutoff 71.66 329 IAmb IAmb 06 43 38.2
comp=Z,1μm,1.7s
QSPA South Pole Qui 71.69 180 P P 06 43 34.2 +1.6
QSPA IAmb IAmb 06 43 35.4
comp=Z,579nm,1.3s
QSPA South Pole Qui 71.69 180 P P 06 43 33.4 +0.8
comp=Z,240nm,0.9s,baz=157,slow=0.8,SNR=1435
QSPA S S 06 52 42.1 -2.9
comp=Z,2.1nm,0.9s,baz=144,slow=1.4,SNR=5.4
QSPA PKPPKP P'P'df 07 11 22.0 -2.0
comp=Z,12nm,1.1s,baz=285,slow=0.9,SNR=8.3
QSPA LR LR 07 16 46.0
comp=Z,3μm,21.1s,baz=166,slow=37
comp=Z,240nm,0.9s
QSPA South Pole Qui 71.69 180 ⇓P P 06 43 33.8 +1.2
QSPA pP pP 06 43 58.1 +0.9
SMMC Simmler 71.76 318 P P 06 43 35.7 +2.3
baz=130,SNR=95
SMMC S S 06 52 51.3 +4.9
baz=130
TIN Tinemaha, Big 71.80 321 P P 06 43 36.2 +2.5
baz=132,SNR=14
TIN S S 06 52 52.1 +5.1
baz=132
AHID Auburn Hatcher 71.95 329 ⇑P P 06 43 35.6 +1.1
AHID ⇑P P 06 43 35.7 +1.1
VOG Valley Oaks Go 72.02 320 P P 06 43 35.9 +1.1
baz=130,SNR=9.8
HVU Hansel Valley 72.06 327 IAmb IAmb 06 43 39.8
comp=Z,523nm,1.4s
PMPST Porto Santo, M 72.20 45⇑iP P 06 43 37.5 +1.5
comp=Z,934nm,1.3s
ID07 Smith Canyon R 72.26 328 IAmb IAmb 06 43 41.4
comp=Z,906nm,1.9s
ULM Lac du Bonnet 72.28 343 P P 06 43 36.4 +0.4
ULM IAmb IAmb 06 43 39.5
comp=Z,340nm,0.8s
ULM Lac du Bonnet 72.28 343 P P 06 43 36.4 +0.4
ULM pmax pmax
comp=Z,340nm,0.9s
ULM Lac du Bonnet 72.28 343 P P 06 43 36.0 0.0
comp=Z,155nm,0.5s,baz=154,slow=6.0,SNR=152
ULM pP pP 06 44 02.4 +1.4
comp=Z,123nm,0.6s,baz=154,slow=6.1,SNR=4.4
ULM S S 06 52 47.6 -3.9
comp=Z,3.8nm,0.7s,baz=66,slow=23,SNR=1.9
ULM LR LR 07 18 59.8
comp=Z,2μm,19.7s,baz=147,slow=39
comp=Z,155nm,0.5s
REDW Red Top Meadow 72.28 330 P P 06 43 38.0 +1.5
LOHW Long Hollow 72.35 330 IAmb IAmb 06 43 41.9
comp=Z,569nm,1.6s
KOWA Kowa 72.42 68 P P 06 43 38.2 +0.6
KOWA IAmb IAmb 06 43 40.6
comp=Z,685nm,1.1s
KOWA Kowa 72.42 68 P P 06 43 38.3 +0.6
KOWA Kowa 72.42 68 ⇑P P 06 43 38.0 +0.3
KOWA ⇑P P 06 43 38.0 +0.3
KOWA Kowa 72.42 68 P P 06 43 37.9 +0.3
comp=Z,416nm,0.9s,baz=246,slow=5.2,SNR=322
KOWA pP pP 06 44 03.5 +0.8
comp=Z,191nm,0.6s,baz=245,slow=6.5,SNR=5.2
KOWA LR LR 07 14 33.8
comp=Z,12μm,19.9s,baz=240,slow=35
comp=Z,416nm,0.9s
MOOW Moose Ponds 72.52 330 IAmb IAmb 06 43 42.7
comp=Z,650nm,1.8s
MLAC Mammoth, Mammo 72.54 321 P P 06 43 40.4 +2.2
baz=131,SNR=44
MLAC S S 06 52 57.1 +1.4
baz=131
ELK Elko 72.61 325 ⇑P P 06 43 40.0 +1.5
ELK ⇑P P 06 43 40.1 +1.5
ELK Elko 72.61 325 P P 06 43 40.1 +1.6
comp=Z,52nm,0.9s,baz=128,slow=3.3,SNR=69
ELK LR LR 07 15 19.7
comp=Z,3μm,21.0s,baz=132,slow=36
comp=Z,52nm,0.9s
IMW Indian Meadow 72.72 330 IAmb IAmb 06 43 44.2
comp=Z,560nm,1.4s
FLWY Flagg Ranch 72.75 330 IAmb IAmb 06 43 44.7
comp=Z,588nm,1.1s
NVAR Mina Array Bea 72.75 322 P P 06 43 41.2 +1.8
NVAR Mina Array Bea 72.75 322 P P 06 43 41.5 +2.1
comp=Z,62nm,0.9s,baz=150,slow=6.1,SNR=156
NVAR pP pP 06 44 07.5 +3.3
comp=Z,37nm,0.8s,baz=148,slow=6.0,SNR=4.7
NVAR LR LR 07 16 47.1
comp=Z,2μm,18.7s,baz=125,slow=37
comp=Z,62nm,0.9s
LAO LASA Array 72.81 335 IAmb IAmb 06 43 44.1
comp=Z,762nm,1.4s
LAO LASA Array 72.81 335 P P 06 43 40.7 +1.2
baz=144,SNR=88
LAO S S 06 52 57.5 -0.6
baz=144
LAO LASA Array 72.81 335 P P 06 43 40.5 +1.1
baz=144,SNR=88
LAO S S 06 52 57.8 -0.3
baz=144
LAO LASA Array 72.81 335 ⇑P P 06 43 40.6 +1.2
LAO ⇑P P 06 43 40.7 +1.2
LAO ⇑P P 06 43 43.6 +4.2
PMPB Monarch Peak 72.84 319 IAmb IAmb 06 43 46.2
comp=Z,793nm,1.5s
RLMT Red Lodge 72.88 332 P P 06 43 41.5 +1.4
RLMT IAmb IAmb 06 43 45.0
comp=Z,952nm,1.6s
RLMT Red Lodge 72.88 332 P P 06 43 41.5 +1.4
baz=141,SNR=182
RLMT S S 06 52 59.4 +0.2
baz=141
RLMT Red Lodge 72.88 332 ⇑P P 06 43 41.4 +1.4
RLMT ⇑P P 06 43 41.5 +1.4
H17A Grant Village 72.93 331 P P 06 43 42.5 +2.1
baz=140,SNR=53
H17A S SKiKP 06 53 02.7 -1.9
baz=140
LKWY Lake 72.97 331 IAmb IAmb 06 43 47.6
comp=Z,2μm,2.0s
LKWY Lake 72.97 331 ⇑P P 06 43 43.4 +2.7
LKWY ⇓P P 06 43 43.5 +2.8
SCHQ Schefferville 73.06 2 P P 06 43 41.1 +0.5
SCHQ Schefferville 73.06 2 P P 06 43 40.6 0.0
comp=Z,124nm,0.9s,baz=171,slow=4.8,SNR=59
SCHQ LR LR 07 15 37.2
comp=Z,1μm,21.1s,baz=190,slow=36
comp=Z,124nm,0.9s

ELIB Princess Elisa 73.47 161 dP P 06 43 44.4 +1.3
comp=Z,142nm,1.0s
ELIB dx x 06 44 09.9
ELIB dx x 06 44 19.1
DGMT Dagmar 73.48 337 IAmb IAmb 06 43 48.3
comp=Z,441nm,0.9s
DGMT Dagmar 73.48 337 P P 06 43 44.9 +1.7
baz=146,SNR=78
DGMT S S 06 53 06.1 +0.7
baz=146
DGMT Dagmar 73.48 337 P P 06 43 44.7 +1.4
baz=146,SNR=78
DGMT S S 06 53 06.4 +1.0
baz=146
DGMT Dagmar 73.48 337 ⇑P P 06 43 44.6 +1.4
DGMT ⇑P P 06 43 45.0 +1.7
YHL Hebgen Lake 73.56 330 P P 06 43 46.4 +2.3
YHL IAmb IAmb 06 43 49.9
comp=Z,837nm,1.6s
YERR Yerington 73.67 322 IAmb IAmb 06 43 50.5
comp=Z,595nm,1.5s
TBI Tubuai 73.90 250 eP P 06 43 44.8 -1.5
comp=Z,1μm,1.5s
TBI eS SKiKP 06 53 07.8 +1.3
comp=Z,17μm,36.5s
TBI Tubuai 73.90 250 eLR LR 07 06 15.1
comp=Z,297μm,30.2s
TBI eLR LR 07 06 23.6
comp=Z,152μm,32.8s
TBI Tubuai 73.90 250 eT T 08 03 44.2
comp=Z,10nm,0.2s
MEH Mehetia 73.96 256 ePKP2 P 06 43 43.5 -3.3
comp=Z,168nm,1.5s
MEH Mehetia 73.96 256 eT T 08 03 42.0
comp=Z,76nm,0.2s
HLID Hailey 74.18 328 P P 06 43 49.8 +2.1
HLID Hailey 74.18 328 P P 06 43 49.6 +1.9
baz=136,SNR=278
HLID S S 06 53 14.7 +0.9
baz=136
PAHR Pah Rah Range 74.23 322 IAmb IAmb 06 43 53.7
comp=Z,523nm,1.1s
BOZ Bozeman (W) 74.32 331 P P 06 43 50.0 +1.6
baz=139,SNR=86
BOZ S S 06 53 14.0 -1.3
baz=139
MPK Martis Peak 74.34 322 IAmb IAmb 06 43 54.7
comp=Z,576nm,1.5s
PMOR Pomariorio Ree 74.54 259 eP P 06 43 48.3 -1.8
comp=Z,1μm,1.2s
DLMT Dillon 74.60 330 IAmb IAmb 06 43 55.2
comp=Z,738nm,1.6s
MFID Camas Ranch 74.80 327 IAmb IAmb 06 43 56.8
comp=Z,605nm,1.2s
PLTX Planet X, Gerl 74.94 323 IAmb IAmb 06 43 57.4
comp=Z,554nm,1.2s
TVO Taravao 75.07 256 ePKP2 P 06 43 51.5 -1.8
comp=Z,307nm,1.4s
TVO Taravao 75.07 256 eT T 08 05 09.6
comp=Z,9.6nm,0.2s
TIAR Tiarei 75.22 256 ePKP2 P 06 43 54.6 +0.6
comp=Z,8.4nm,0.9s
TIAR Tiarei 75.22 256 eT T 08 05 17.5
comp=Z,11nm,0.2s
CGR Cap Guir 75.34 50 P P 06 43 57.0 +2.6
EGMT Eagleton 75.34 333 P P 06 43 55.2 +1.1
baz=141,SNR=45
EGMT S S 06 53 26.7 +0.3
baz=141
ORV Oroville 75.38 321 IAmb IAmb 06 44 00.0
comp=Z,591nm,1.2s
PAE Paea 75.41 256 ePKP2 P 06 43 55.3 +0.2
comp=Z,314nm,1.4s
PAE Paea 75.41 256 eT T 08 05 28.9
comp=Z,2.7nm,0.3s
PPT2 Papeete2 75.42 256 ePKP2 P 06 43 55.6 +0.3
comp=Z,486nm,1.4s
PPT2 Papeete2 75.42 256 ePP PP 06 46 24.8 -21
comp=Z,1μm,15.0s
PPT2 eS S 06 53 20.6 -7.9
comp=Z,5μm,33.5s
PPT2 Papeete2 75.42 256 eLR LR 07 06 52.9
comp=Z,13μm,31.2s
PPT2 eLR LR 07 07 01.0
comp=Z,8μm,32.2s
PPT2 Papeete2 75.42 256 eT T 08 05 31.8
comp=Z,5.6nm,0.3s
PPT Papeete 75.43 256 P P 06 43 57.1 +1.9
comp=Z,282nm,1.1s,baz=91,slow=8.3,SNR=14
PPT LR LR 07 10 10.6
comp=Z,1μm,18.9s,baz=111,slow=30
comp=Z,282nm,1.1s
WVOR Wild Horse Val 75.62 325 P P 06 43 57.2 +1.3
WVOR Wild Horse Val 75.62 325 P P 06 43 57.2 +1.3
WVOR pmax pmax
comp=Z,244nm,1.6s
MSO Missoula 76.31 330 IAmb IAmb 06 44 06.0
comp=Z,518nm,1.5s
MSO Missoula 76.31 330 P P 06 44 01.6 +1.9
baz=137,SNR=78
MSO S S 06 53 38.9 +1.8
baz=137
TTIG Tnine Tigouga, 76.35 51 P P 06 44 04.0 +3.6
TOA0 Torodi Ar. Sit 76.95 71 P P 06 44 03.5 -0.3
SNR=195
TORD Torodi Ar. Bea 76.95 71 P P 06 44 03.6 -0.2
TORD IAmb IAmb 06 44 07.7
comp=Z,862nm,1.2s
TORD Torodi Ar. Bea 76.95 71 P P 06 44 03.7 -0.2
comp=Z,394nm,0.9s,baz=266,slow=4.7,SNR=986
TORD pP pP 06 44 31.1 +1.8
comp=Z,296nm,0.9s,baz=266,slow=4.4,SNR=5.3
TORD S S 06 53 40.7 -4.5
comp=Z,46nm,1.1s,baz=269,slow=7.3,SNR=15
TORD LR LR 07 16 19.1
comp=Z,7μm,21.8s,baz=244,slow=34
comp=Z,394nm,0.9s
K05A Summer Lake 77.06 324 IAmb IAmb 06 44 09.9
comp=Z,448nm,1.2s
OUK Oukaimeden 77.12 51 P P 06 44 07.2 +2.3
F10A Beach Ranch, E 77.30 328 P P 06 44 07.2 +1.9
TIO Tiouine 77.42 51 P P 06 44 08.1 +1.8
YBH Yreka Blue Hor 77.47 322 P P 06 44 06.6 +0.3
comp=Z,33nm,0.9s,baz=113,slow=4.1,SNR=26
YBH LR LR 07 15 55.1
comp=Z,956nm,20.5s,baz=128,slow=34
comp=Z,33nm,0.9s
K04D Chiloquin, OR 77.48 323 IAmb IAmb 06 44 11.5
comp=Z,442nm,1.2s
SRHM Skhour des Reh 77.74 50 P P 06 44 10.3 +2.3
OUZM OUZ 77.78 51 P P 06 44 10.5 +2.2
PINE Pine Mountain 77.78 325 IAmb IAmb 06 44 13.9
comp=Z,539nm,1.4s
KRPM Rodgers 77.88 321 IAmb IAmb 06 44 14.3
comp=Z,485nm,1.3s
FFC Flin Flon 78.00 341 P P 06 44 09.5 +0.7
FFC Flin Flon 78.00 341 P P 06 44 09.5 +0.7
FFC pmax pmax
comp=Z,233nm,1.2s
KSXB Camp Six Broad 78.21 322 IAmb IAmb 06 44 16.9
comp=Z,794nm,1.6s
ZGR Zagora 78.24 53 P P 06 44 13.0 +2.1
I05D Terrebonne, OR 78.36 325 IAmb IAmb 06 44 16.7
comp=Z,855nm,1.6s
AVE Averroes 78.52 49 P P 06 44 14.5 +2.3
AVE Averroes 78.52 49 P P 06 44 14.1 +1.9
KOMG Komaggas 78.56 118 eP P 06 44 14.3 +1.7
KOMG IAmb IAmb 06 44 15.3
comp=Z,74μm,2.5s
F07A Phinny Hill Vi 78.63 327 IAmb IAmb 06 44 18.6
comp=Z,1μm,1.9s
DBO Dodson Butte 78.64 323 IAmb IAmb 06 44 18.1
comp=Z,719nm,1.8s
KBO Bosley Butte 78.65 322 IAmb IAmb 06 44 19.5
comp=Z,898nm,1.7s
SBA Scott Base 78.66 190 P P 06 44 14.1 +1.8
SBA Scott Base 78.66 190 P P 06 44 14.1 +1.8
SBA pmax pmax
comp=Z,398nm,1.4s
HAWA Hanford 78.76 327 IAmb IAmb 06 44 18.7
comp=Z,472nm,1.3s
NEW Newport 78.85 330 P P 06 44 14.6 +0.9
baz=135,SNR=41
NEW S S 06 54 04.4 +0.1
baz=135
NEW Newport 78.85 330 P P 06 44 14.5 +0.9
comp=Z,36nm,1.0s,baz=126,slow=5.7,SNR=29

comp=Z,36nm,1.0s
D08A Wollman Farm, 78.89 328 IAmb IAmb 06 44 19.5
comp=Z,671nm,1.6s
G05A Wamic 78.93 326 IAmb IAmb 06 44 20.2
comp=Z,929nm,1.4s
E07A Sunnyside 79.03 327 IAmb IAmb 06 44 20.5
comp=Z,612nm,1.6s
J01E Myrtle Point 79.06 323 P P 06 44 16.7 +1.8
C09A Chrisman Ranch 79.08 329 IAmb IAmb 06 44 20.2
comp=Z,400nm,1.1s
KEBM Edson Butte 79.12 322 IAmb IAmb 06 44 20.9
comp=Z,539nm,1.3s
CER Ceres 79.14 122 eP P 06 44 07.0 -8.8
ZHG ZHG 79.15 49 P P 06 44 17.2 +1.4
BUCK Buck Mountain 79.17 324 IAmb IAmb 06 44 20.6
comp=Z,490nm,1.3s
RTC Rabat Centre 79.27 49 P P 06 44 18.3 +2.1
PFVI Vila Bisbo 79.56 45⇑iP P 06 44 19.7 +1.9
comp=Z,1μm,1.8s
PFVI epP pP 06 44 44.8 +1.5
PFVI eS S 06 54 16.9 +4.7
PFVI Vila Bisbo 79.56 45 IAmb IAmb 06 44 21.3
comp=Z,1μm,1.3s
PFVI Vila Bisbo 79.56 45 P P 06 44 19.8 +2.0
PFVI Vila Bisbo 79.56 45 P P 06 44 19.5 +1.7
COR Corvallis 79.60 324 P P 06 44 19.3 +1.5
COR IAmb IAmb 06 44 23.5
comp=Z,807nm,1.4s
COR Corvallis 79.60 324 P P 06 44 19.3 +1.5
COR pmax pmax
comp=Z,807nm,1.5s
VNDA Vanda 79.69 190 PKKPbc PKKPbc 07 03 03.7 -3.2
baz=298,slow=4.7
MORF Marmelete 79.77 45⇑iP P 06 44 21.0 +2.0
comp=Z,1μm,1.8s
MORF eS S 06 54 18.6 +4.1
MORF Marmelete 79.77 45 IAmb IAmb 06 44 22.6
comp=Z,1μm,1.2s
MORF Marmelete 79.77 45 eP P 06 44 21.0 +2.0
MORF eS S 06 54 18.1 +3.6
MORF pmax pmax
comp=Z,903nm,1.2s
MORF Marmelete 79.77 45 eP P 06 44 21.0 +2.0
MORF IAmb IAmb 06 44 22.3
comp=Z,903nm,1.2s
MORF eS S 06 54 18.1 +3.6
PTEO Sao Teotonio 79.85 45⇑iP P 06 44 21.8 +2.5
comp=Z,3μm,1.7s
LTY Liberty 79.92 327 IAmb IAmb 06 44 24.8
comp=Z,752nm,1.6s
ARF Arif 79.93 52 P P 06 44 22.2 +2.1
F04A Amboy 79.97 326 IAmb IAmb 06 44 24.8
comp=Z,389nm,1.0s
CVNA Calvinia 80.02 120⇑iP P 06 44 22.2 +1.6
CVNA IAmb IAmb 06 44 23.4
comp=Z,1μm,1.4s
CZD Col de Zad 80.10 50 P P 06 44 23.7 +2.5
LIS Lisbon 80.20 44 eP P 06 44 23.2 +2.0
LIS eS S 06 54 22.5 +3.6
LIS pmax pmax
comp=Z,492nm,1.1s
LIS Lisbon 80.20 44 eP P 06 44 23.2 +2.0
LIS IAmb IAmb 06 44 23.8
comp=Z,492nm,1.1s
LIS eS S 06 54 22.5 +3.6
MATJ Matjiesfontein 80.21 122⇑iP P 06 44 23.5 +1.8
MATJ IAmb IAmb 06 44 24.4
comp=Z,926nm,1.2s
PBDV Barranco-do-Ve 80.22 45⇑iP P 06 44 23.5 +2.1
comp=Z,1μm,1.8s
PBDV eS S 06 54 23.3 +4.0
HEBO Mount Hebo 80.24 324 IAmb IAmb 06 44 27.2
comp=Z,796nm,1.4s
PMAFR Mafra 80.25 43⇑iP P 06 44 23.1 +1.6
comp=Z,972nm,1.5s
PMAFR epP pP 06 44 46.9 0.0
PMAFR eS S 06 54 23.3 +3.9
PMAFR Mafra 80.25 43 P P 06 44 23.3 +1.9
IFR Ifrane 80.28 50 P P 06 44 23.9 +1.9
PNCL Nicolau / Gran 80.28 44⇑iP P 06 44 23.3 +1.6
comp=Z,947nm,1.8s
PNCL epP pP 06 44 47.9 +0.7
PNCL eS S 06 54 24.5 +4.7
PNCL Nicolau / Gran 80.28 44 P P 06 44 23.2 +1.5
MDT Midelt 80.31 51 P P 06 44 24.1 +2.1
MDT Midelt 80.31 51 P P 06 44 24.2 +2.1
comp=Z,527nm,1.1s,baz=258,slow=4.6,SNR=669
MDT S S 06 54 21.7 +1.1
comp=Z,6.1nm,1.2s,baz=94,slow=18,SNR=6.4
MDT LR LR 07 18 07.4
comp=Z,890nm,21.3s,baz=261,slow=34
comp=Z,527nm,1.1s
PCVE Castro Verde 80.36 45⇑iP P 06 44 23.9 +1.8
comp=Z,815nm,1.6s
PCVE epP pP 06 44 47.8 +0.2
PCVE eS S 06 54 24.5 +3.9
PCVE Castro Verde 80.36 45 P P 06 44 24.2 +2.1
F04D Rainier, OR 80.38 325 IAmb IAmb 06 44 59.7
comp=Z,903nm,1.6s
PVAQ Vaqueiros 80.45 45⇑iP P 06 44 24.4 +1.8
comp=Z,879nm,2.0s
PVAQ epP pP 06 44 50.1 +2.0
PVAQ eS S 06 54 25.8 +4.2
PVAQ Vaqueiros 80.45 45 eLR LR 07 07 32.0
comp=Z,4μm,20.0s
PVAQ Vaqueiros 80.45 45 P P 06 44 24.4 +1.8
PVAQ Vaqueiros 80.45 45 P P 06 44 24.5 +1.9
PVAQ Vaqueiros 80.45 45 P P 06 44 24.4 +1.8
D05A Enumclaw 80.55 327 IAmb IAmb 06 44 27.8
comp=Z,316nm,0.9s
LCRM LCR 80.56 50 P P 06 44 25.3 +1.8
F03A Seaside 80.58 325 P P 06 44 24.9 +1.8
SUR Sutherland 80.64 121 P P 06 44 25.7 +1.6
SUR IAmb IAmb 06 44 27.4
comp=Z,581nm,1.4s
SUR Sutherland 80.64 121 eP P 06 44 23.6 -0.5
EGRO El Granado 80.68 45 P P 06 44 25.3 +1.5
PBEJ Beja 80.68 45⇑iP P 06 44 25.7 +1.9
comp=Z,661nm,1.8s
EVO Evora 80.85 44⇑iP P 06 44 26.3 +1.6
comp=Z,809nm,1.6s
EVO Evora 80.85 44 P P 06 44 26.2 +1.5
PSBE So Bento 80.87 43⇑iP P 06 44 26.6 +1.8
comp=Z,1μm,1.7s
PSBE epP pP 06 44 50.0 -0.3
PSBE eS S 06 54 30.2 +4.3
CHEFC Chefchaouen 80.92 48 P P 06 44 28.0 +2.7
SFS San Fernando 81.00 47 P P 06 44 27.7 +2.2
PMTG Montargil 81.00 44⇑iP P 06 44 27.0 +1.5
comp=Z,1μm,1.6s
PMTG epP pP 06 44 50.9 -0.1
PMTG eS S 06 54 31.4 +4.2
RADR Rader Ridge 81.02 325 IAmb IAmb 06 44 31.0
comp=Z,464nm,1.2s
MERW Merweville 81.13 121⇑iP P 06 44 27.4 +0.8
MERW IAmb IAmb 06 44 29.2
comp=Z,3μm,2.4s
B06A Marblemount 81.16 328 IAmb IAmb 06 44 30.4
comp=Z,802nm,1.5s
SMIR Smir Dam 81.18 48 P P 06 44 29.0 +2.5
GNW Green Mountain 81.23 327 IAmb IAmb 06 44 31.2
comp=Z,586nm,1.8s
FRAZ Fraserburg 81.25 121⇑iP P 06 44 28.7 +1.5
FRAZ IAmb IAmb 06 44 29.3
comp=Z,628nm,1.2s
IVI Ivigtut 81.26 10 IAmb IAmb 06 44 28.8
comp=Z,633nm,1.2s
IVI Ivigtut 81.26 10 iP P 06 44 27.5 +1.2
IVI IAmb IAmb 06 44 29.4
comp=Z,172nm,1.1s
ECEU Ceuta 81.29 48 P P 06 44 29.1 +2.1
CEU Ceuta 81.29 48 P P 06 44 29.3 +2.2
PESTR Estremoz 81.31 44⇑iP P 06 44 28.9 +1.8
comp=Z,1μm,2.1s
PESTR epP pP 06 44 53.2 +0.5
PESTR eS S 06 54 34.5 +4.0
PESTR Estremoz 81.31 44 IAmb IAmb 06 44 30.6
comp=Z,1μm,1.3s
PESTR Estremoz 81.31 44 P P 06 44 29.0 +1.8
PESTR Estremoz 81.31 44 P P 06 44 28.7 +1.6
PBAR Barrancos 81.31 45⇑iP P 06 44 28.8 +1.6
comp=Z,672nm,1.9s
PBAR epP pP 06 44 54.0 +1.3
PBAR eS S 06 54 34.8 +4.3
PBAR Barrancos 81.31 45 P P 06 44 28.7 +1.6

EMIN Mina Concepcio 81.35 46 P **P 06 44 28.8 +1.5**
PCAS Casmilo, Conde 81.35 43⇑ *i*P **P 06 44 28.8 +1.5**
comp=Z,555nm,2.3s
PCAS Casmilo, Conde 81.35 43 *e*PP **PP 06 47 38.4 +3.8**
PCAS *e*S **S 06 54 34.8 +3.9**
COI Coimbra 81.49 43⇑ *i*P **P 06 44 29.7 +1.7**
comp=Z,996nm,1.4s
COI Coimbra 81.49 43 *e*S **S 06 54 36.6 +4.3**
COI Coimbra 81.49 43 IAmb IAmb 06 44 31.3
comp=Z,886nm,1.2s
TSUM Tsumeb 81.51 107 P **P 06 44 29.8 +0.9**
TSUM IAmb IAmb 06 44 31.5
comp=Z,423nm,1.1s
TSUM Tsumeb 81.51 107 *e*P **P 06 44 28.4 -0.4**
TSUM Tsumeb 81.51 107 LR LR 07 18 36.9
comp=Z,3μm,18.1s,baz=300,slow=34
EBAD Badajoz 81.63 45 P **P 06 44 30.6 +1.7**
PVLZ Peæn de 81.69 49 P **P 06 44 30.0 +0.8**
NRS Narsarsuaq 81.71 12 IAmb IAmb 06 44 30.1
comp=Z,195nm,1.0s
NRS Narsarsuaq 81.71 12 *i*P **P 06 44 28.0 -0.6**
NRS IAmb IAmb 06 44 31.0
comp=Z,78nm,0.9s
PMRV Marv??o 81.74 44⇑ *i*P **P 06 44 30.4 +1.0**
comp=Z,340nm,2.0s
PMRV *e*pP **pP 06 44 54.3 -0.7**
PMRV *e*S **S 06 54 39.1 +4.2**
PMRV Marv??o 81.74 44 *e*LR LR 07 10 48.3
comp=Z,2μm,20.0s
GRAN Grantham 81.76 121⇑ *i*P **P 06 44 31.0 +1.1**
GRAN IAmb IAmb 06 44 32.0
comp=Z,110nm,1.1s
KEIM Keimoes 81.79 117⇑ *i*P **P 06 44 31.6 +1.5**
KEIM IAmb IAmb 06 44 32.7
comp=Z,1μm,1.5s
PTO Porto 81.88 42 *e*P **P 06 44 31.6 +1.6**
comp=Z,1μm,1.8s
PCBR Castelo Branco 81.90 43⇑ *i*P **P 06 44 31.3 +1.1**
comp=Z,615nm,1.6s
PALE Palemas 81.97 49 P **P 06 44 32.0 +1.3**
PVIS Viseu 82.10 42⇑ *i*P **P 06 44 32.2 +0.9**
UPI Upington 82.12 117⇑ *i*P **P 06 44 33.1 +1.2**
UPI IAmb IAmb 06 44 34.3
comp=Z,1μm,1.5s
MTE Manteigas 82.16 43⇑ *i*P **P 06 44 32.8 +1.2**
MTE *e*pP **pP 06 44 58.2 +1.0**
MTE *e*S **S 06 54 43.4 +4.1**
MTE Manteigas 82.16 43 *e*LQ LQ 07 07 08.4
MTE *e*LR LR 07 10 57.7
comp=Z,4μm,18.0s
MTE Manteigas 82.16 43 IAmb IAmb 06 44 33.7
comp=Z,446nm,1.2s
PGC Sidney 82.24 327 P **P 06 44 33.4 +1.7**
PGC IAmb IAmb 06 44 37.0
comp=Z,824nm,1.6s
EMAL Malaga-Limoner 82.38 47 P **P 06 44 34.8 +2.0**
FIGM Figuig 82.48 53 P **P 06 44 35.3 +1.7**
BRAK Brakfontein 82.50 121⇓ *i*P **P 06 44 35.0 +1.2**
BRAK IAmb IAmb 06 44 36.5
comp=Z,980nm,1.8s
PVRL Vila Real 82.51 42⇑ *i*P **P 06 44 34.8 +1.4**
comp=Z,1μm,1.7s
POLO Lamas de Olo 82.52 42⇑ *i*P **P 06 44 34.6 +1.1**
comp=Z,441nm,1.7s
POLO *e*pP **pP 06 44 58.3 -0.8**
POLO *e*S **S 06 54 43.7 +0.7**
PGAV Gavieira, Arco 82.53 41⇑ *i*P **P 06 44 34.9 +1.3**
comp=Z,1μm,1.8s
PGAV *e*pP **pP 06 44 58.9 -0.3**
PGAV *e*S **S 06 54 44.3 +1.2**
PGAV Gavieira, Arco 82.53 41 *e*LR LR 07 11 02.2
comp=Z,4μm,18.0s
JBK JBK 82.54 50 P **P 06 44 35.3 +1.3**
GOG Mont Gurugu 82.65 49 P **P 06 44 35.6 +1.2**
LLLB Lillooet 82.72 329 IAmb IAmb 06 44 38.8
comp=Z,485nm,1.4s
WMELI Melilla 82.72 49 P **P 06 44 35.7 +1.1**
ROOI Rooidraai Farm 82.82 122⇑ *i*P **P 06 44 35.9 +0.5**
ROOI IAmb IAmb 06 44 37.6
comp=Z,553nm,1.4s
TAF Taforalt 82.87 50 P **P 06 44 37.2 +1.7**
MVO Moncorvo 82.89 42⇑ *i*P **P 06 44 36.8 +1.4**
comp=Z,2μm,1.8s
MVO *e*pP **pP 06 45 00.5 -0.6**
MVO *e*S **S 06 54 45.5 -1.3**
MVO Moncorvo 82.89 42 *e*LR LR 07 11 09.3
comp=Z,3μm,20.0s
CHAS Isla Isabel II 83.04 49 P **P 06 44 37.4 +1.2**
BRLDA Berland Lookou 83.08 334 IAmb IAmb 06 44 39.7
comp=Z,473nm,1.2s
ROSN Rosenhof 83.13 124 *e*P **P 06 44 37.9 +1.0**
BFON Badsfontein, M 83.14 121⇓ *i*P **P 06 44 38.5 +1.3**
BFON IAML 06 44 41.4
comp=Z,28nm,0.9s
KROM Kromhout 83.19 124 *e*P **P 06 44 38.0 +0.8**
PBRG Braganca 83.41 42⇑ *i*P **P 06 44 39.4 +1.3**
comp=Z,2μm,1.8s
PBRG *e*pP **pP 06 45 04.0 +0.3**
PBRG *e*S **SKSac 06 54 53.4 +1.2**
NUUK Nuuk 83.56 8 *i*P **P 06 44 38.8 +0.6**
NUUK IAmb IAmb 06 44 41.2
comp=Z,173nm,1.0s
GRAF Camdeboo Natio 83.65 122⇑ *i*P **P 06 44 40.6 +0.9**
GRAF IAmb IAmb 06 44 42.3
comp=Z,698nm,1.2s
RAR Rarotonga 83.67 250 P **P 06 44 41.2 +1.3**
RAR IAmb IAmb 06 44 42.3
comp=Z,588nm,1.6s
RAR Rarotonga 83.67 250 P **P 06 44 41.2 +1.3**
RAR pmax pmax
comp=Z,588nm,1.6s
RAR Rarotonga 83.67 250 P **P 06 44 40.4 +0.5**
comp=Z,97nm,1.1s,baz=125,slow=15,SNR=8.1
RAR LR LR 07 13 37.4
comp=Z,3μm,18.6s,baz=109,slow=30
comp=Z,97nm,1.1s
PAB San Pablo 83.82 45 P **P 06 44 42.0 +1.7**
PAB San Pablo 83.82 45 P **P 06 44 41.7 +1.5**
PAB San Pablo 83.82 45 P **P 06 44 42.0 +1.7**
PAB pmax pmax
comp=Z,1μm,1.3s
TAM Tamanrasset 84.03 64 IAmb IAmb 06 44 44.8
comp=Z,509nm,1.2s
ESDC Sonseca Array 84.14 45 P **P 06 44 43.4 +1.5**
ESDC Sonseca Array 84.14 45 P **P 06 44 43.4 +1.5**
comp=Z,559nm,1.1s,baz=245,slow=5.3,SNR=1099
ESDC S **SKSac 06 55 00.7 +3.6**
comp=Z,0.8nm,0.8s,baz=252,slow=2.1,SNR=4.6
ESDC PKKPbc **PKKPbc 07 02 55.1 -1.6**
comp=Z,1.5nm,0.9s,baz=22,slow=1.7,SNR=5.5
ESDC PKPPKP **P'P'df 07 11 00.1 -0.3**
comp=Z,0.6nm,0.9s,baz=62,slow=3.3,SNR=5.3
ESDC LR LR 07 18 53.2
comp=Z,5μm,21.6s,baz=234,slow=33
comp=Z,559nm,1.1s
SOE Somerset East 84.37 122 *e*P **P 06 44 44.2 +0.8**
SOE IAmb IAmb 06 44 45.6
comp=Z,687nm,1.3s
GRHM Grahamstown, E 84.85 123 P **P 06 44 46.7 +1.0**
GRHM IAmb IAmb 06 44 48.2
comp=Z,699nm,1.4s
GRHM Grahamstown, E 84.85 123⇑ *i*P **P 06 44 46.6 +0.9**
GRHM IAmb IAmb 06 44 47.6
comp=Z,866nm,1.5s
HVD Gariep Dam 84.98 120⇑ *i*P **P 06 44 47.1 +0.5**
HVD IAmb IAmb 06 44 48.7
comp=Z,794nm,1.4s
CART Cartagena 85.18 48 P **P 06 44 47.3 +0.3**
CART Cartagena 85.18 48 P **P 06 44 46.0 -1.0**
BOSA Boshof 85.41 118 IAmb IAmb 06 44 50.7
comp=Z,534nm,1.4s
BOSA Boshof 85.41 118 *i*P **P 06 44 49.4 +0.7**
BOSA Boshof 85.41 118⇓ *i*P **P 06 44 49.4 +0.7**
BOSA IAmb IAmb 06 44 50.9
comp=Z,538nm,1.4s
BOSA Boshof 85.41 118 P **P 06 44 49.4 +0.7**
comp=Z,161nm,1.1s,baz=263,slow=4.8,SNR=70
BOSA pP **pP 06 45 15.3 +0.9**
comp=Z,85nm,1.0s,baz=285,slow=3.7,SNR=5.4
BOSA LR LR 07 21 02.2
comp=Z,4μm,18.0s,baz=259,slow=34
comp=Z,161nm,1.1s
BOSA Boshof 85.41 118 *i*P **P 06 44 49.4 +0.7**
baz=117

HOLB Holberg 85.87 327 IAmb IAmb 06 45 26.9
comp=Z,475nm,1.6s
SWZ Schweizer 85.92 117 *e*P **P 06 44 51.2 -0.1**
SWZ IAmb IAmb 06 44 52.9
comp=Z,603nm,1.5s
SFJD Kangerlussuaq 86.39 7 P **P 06 44 53.0 +0.7**
SFJD IAmb IAmb 06 44 54.2
comp=Z,316nm,1.1s
SFJD Kangerlussuaq 86.39 7 P **P 06 44 53.0 +0.7**
SFJD pmax pmax
comp=Z,316nm,1.2s
SFJD Kangerlussuaq 86.39 7 P **P 06 44 52.6 +0.3**
comp=Z,151nm,1.0s,baz=212,slow=6.4,SNR=33
comp=Z,151nm,1.0s
DY2G Dye2 86.49 9 *i*P **P 06 44 54.0 +0.8**
DY2G IAmb IAmb 06 44 55.5
comp=Z,342nm,0.9s
BBB Bella Bella 86.76 328 P **P 06 44 55.6 +1.1**
comp=Z,64nm,1.1s,baz=136,slow=5.6,SNR=10
BBB LR LR 07 27 46.6
comp=Z,1μm,18.8s,baz=122,slow=38
comp=Z,64nm,1.1s
LBTB Lobatse 86.84 115 IAmb IAmb 06 44 58.1
comp=Z,589nm,1.4s
LBTB Lobatse 86.84 115 *i*P **P 06 44 55.8 0.0**
LBTB Lobatse 86.84 115⇑ *i*P **P 06 44 56.6 +0.8**
LBTB IAmb IAmb 06 44 58.3
comp=Z,476nm,1.4s
LBTB Lobatse 86.84 115 *i*P **P 06 44 55.8 0.0**
baz=113
ISOG Isortoq, Green 86.94 12 *i*P **P 06 44 55.3 +0.3**
ISOG IAmb IAmb 06 44 57.9
comp=Z,163nm,0.8s
ANGG Ammassalik, Gr 87.27 13 IAmb IAmb 06 44 59.1
comp=Z,913nm,1.4s
ANGG Ammassalik, Gr 87.27 13 *i*P **P 06 44 56.6 0.0**
ANGG IAmb IAmb 06 44 59.2
comp=Z,120nm,1.0s
MAW Mawson 87.38 164 P **P 06 44 58.9 +1.6**
MAW Mawson 87.38 164 P **P 06 44 58.8 +1.6**
comp=Z,118nm,0.9s,baz=216,slow=5.6,SNR=24
MAW S **SKSac 06 55 20.8 +4.4**
comp=Z,1.0nm,0.8s,baz=301,slow=16,SNR=1.4
MAW PKKPbc **PKKPbc 07 02 47.5 -1.4**
comp=Z,1.8nm,0.5s,baz=58,slow=6.6,SNR=4.5
MAW LR LR 07 26 48.0
comp=Z,2μm,18.1s,baz=228,slow=37
comp=Z,118nm,0.9s
SNKL Senekal, Frees 87.61 119 *e*P **P 06 44 59.8 +0.3**
SNKL IAmb IAmb 06 45 01.3
comp=Z,1μm,2.1s
KSR Koster 87.68 116 *e*P **P 06 45 00.5 +0.6**
KSR IAmb IAmb 06 45 01.0
comp=Z,40nm,1.3s
WDLM Western Deep L 87.94 117 *e*P **P 06 45 01.2 +0.1**
WDLM IAmb IAmb 06 45 02.9
comp=Z,259nm,1.5s
YKA Yellowknife Ar 88.16 341 P **P 06 45 01.5 +0.6**
YKA Yellowknife Ar 88.16 341 P **P 06 45 01.6 +0.7**
comp=Z,226nm,0.7s,baz=134,slow=4.6,SNR=253
YKA pP **pP 06 45 25.9 -0.6**
comp=Z,103nm,0.7s,baz=134,slow=4.6,SNR=3.7
YKA LR LR 07 27 07.7
comp=Z,2μm,21.5s,baz=122,slow=37
comp=Z,226nm,0.7s
HRAO HartRAO 88.34 117⇑ *i*P **P 06 45 03.4 +0.4**
HRAO IAmb IAmb 06 45 04.6
comp=Z,274nm,1.2s
ILULI Ilulissat 88.46 6 IAmb IAmb 06 45 04.5
comp=Z,585nm,1.3s
ILULI Ilulissat 88.46 6 *i*P **P 06 45 01.8 -0.3**
ILULI IAmb IAmb 06 45 09.7
comp=Z,112nm,1.0s
GRNB Grenville Isla 88.63 329 IAmb IAmb 06 45 09.0
comp=Z,595nm,1.8s
CCA1 Carnmenellis 88.70 35⇑ *e*P **P 06 45 03.9 +0.1**
CCA1 IAmb IAmb 06 45 05.4
comp=Z,567nm,1.4s
SLR Silverton 88.90 117⇑ *i*P **P 06 45 06.3 +0.7**
SLR IAmb IAmb 06 45 07.2
comp=Z,220nm,1.2s
LEPH Lephalale, Lim 89.12 115⇑ *i*P **P 06 45 07.3 +0.7**
LEPH IAmb IAmb 06 45 08.1
comp=Z,355nm,1.2s
HTL Hartland 89.52 35⇑ *e*P **P 06 45 07.2 -0.4**
HTL IAmb IAmb 06 45 09.0
comp=Z,904nm,2.2s
DYA Yadsworthy 89.54 36⇑ *e*P **P 06 45 07.7 0.0**
DYA IAmb IAmb 06 45 09.1
comp=Z,451nm,1.3s
FLDN Fort Liard 89.67 336 IAmb IAmb 06 45 13.1
comp=Z,129nm,0.8s
FLDN Fort Liard 89.67 336 P **P 06 45 09.8 +1.7**
baz=130
FLDN S **S 06 55 50.0 -1.6**
baz=130
DSB Dublin 89.70 32 IAmb IAmb 06 45 10.1
comp=Z,376nm,1.4s
UMMG Ummannaq 89.76 6 *i*P **P 06 45 08.4 +0.1**
UMMG IAmb IAmb 06 45 16.7
comp=Z,88nm,1.3s
KOTAN Kotaneelee Air 89.83 336 P **P 06 45 10.4 +1.5**
baz=130,SNR=42
KOTAN S **S 06 55 50.7 -2.4**
baz=130
RSBS Rosebush, Pemb 89.87 34 *e*P **P 06 45 08.9 -0.3**
MAHO Mahon 89.89 48 IAmb IAmb 06 45 11.8
comp=Z,582nm,1.3s
MAHO Mahon 89.89 48 P **P 06 45 09.7 +0.1**
JSA Saint Aubin 89.92 37⇑ *e*P **P 06 45 09.3 -0.2**
JSA IAmb IAmb 06 45 10.8
comp=Z,656nm,1.8s
ICESG Greenland Ices 89.94 10 *i*P **P 06 45 10.5 +0.9**
ICESG IAmb IAmb 06 45 12.6
comp=Z,178nm,1.0s
ILTH Belurgan, Co L 90.13 32⇑ *e*P **P 06 45 10.5 +0.2**
LIRD Liard River Hi 90.19 335 P **P 06 45 11.6 +1.1**
baz=128
LIRD S **S 06 55 52.8 -3.6**
baz=128
V35K Ketchikan 90.26 330 P **P 06 45 11.7 +0.8**
baz=123
NUUG Nuugaatsiaq 90.50 5 *i*P **P 06 45 13.1 +1.4**
NUUG IAmb IAmb 06 45 14.9
comp=Z,222nm,1.0s
T35M Bob Quinn 90.54 331 P **P 06 45 14.2 +2.0**
baz=124,SNR=16
WLF1 Llynfaes 90.74 33⇑ *e*P **P 06 45 12.9 -0.2**
WLF1 IAmb IAmb 06 45 14.4
comp=Z,392nm,1.3s
WPS Cemaes, Angles 90.74 33 *e*P **P 06 45 13.9 +0.7**
BORG Borgarnes 90.78 19 P **P 06 45 15.0 +1.9**
BORG Borgarnes 90.78 19 P **P 06 45 15.0 +1.9**
BORG pmax pmax
comp=Z,793nm,1.5s
BORG Borgarnes 90.78 19 P **P 06 45 15.3 +2.1**
comp=Z,161nm,1.1s,baz=220,slow=2.4,SNR=15
BORG LR LR 07 24 05.0
comp=Z,878nm,20.6s,baz=238,slow=34
comp=Z,161nm,1.1s
CLGH Cloghs, Cushen 90.81 31⇑ *e*P **P 06 45 13.6 +0.2**
CLGH IAmb IAmb 06 45 15.1
comp=Z,632nm,1.6s
MCH1 Michaelchurch 90.83 35⇑ *e*P **P 06 45 13.4 -0.3**
MCH1 IAmb IAmb 06 45 14.8
comp=Z,543nm,1.8s
MONM Monmouth 90.85 35⇑ *e*P **P 06 45 13.6 -0.2**
MATP Matopo 90.89 112 *i*P **P 06 45 16.5 +1.5**
MATP Matopo 90.89 112 LR LR 07 23 08.9
comp=Z,940nm,22.0s,baz=251,slow=34
MATP Matopo 90.89 112 *i*P **P 06 45 16.5 +1.5**
baz=110
LLW Llanuwychllyn 90.89 34⇑ *e*P **P 06 45 13.5 -0.4**
OLDB Oldbury-Upon-S 90.90 35 *e*P **P 06 45 13.4 -0.6**
WIM Isle of Man 91.03 32⇑ *e*P **P 06 45 14.7 +0.1**
CRAG Craig 91.06 329 P **P 06 45 16.2 +1.6**
baz=122
SBD1 Bryn Du 91.14 34 *e*P P 06 45 05.9 -9.2
IOMK Kirk Michael 91.14 32⇑ *e*P **P 06 45 14.9 -0.2**
IOMK IAmb IAmb 06 45 16.7
comp=Z,1μm,1.5s
HLM1 Long Mynd 91.15 34⇑ *e*P **P 06 45 14.9 -0.3**
HLM1 IAmb IAmb 06 45 16.2
comp=Z,1μm,2.4s
FOEL Foel Wylfa 91.16 34⇑ *e*P **P 06 45 15.1 -0.1**
STRD Stroud 91.17 35⇑ *e*P **P 06 45 14.5 -0.7**

STRD IAmb IAmb 06 45 16.2
comp=Z,2μm,2.4s
POGA Pongola 91.20 119 *e*P **P 06 45 17.3 +1.2**
POGA IAmb IAmb 06 45 17.8
comp=Z,24nm,1.5s
HAGI HAGI 91.22 118 *e*P **P 06 45 18.2 +1.8**
HAGI IAmb IAmb 06 45 19.6
comp=Z,540nm,1.6s
SWN1 Swindon 91.24 35 *e*P **P 06 45 15.6 0.0**
MMAL MMAL 91.25 118 *e*P **P 06 45 17.6 +1.1**
MMAL IAmb IAmb 06 45 19.8
comp=Z,860nm,1.6s
DLBC Dease Lake 91.26 333 IAmb IAmb 06 45 20.6
comp=Z,160nm,1.0s
DLBC Dease Lake 91.26 333 P **P 06 45 17.1 +1.5**
baz=124,SNR=62
DLBC Dease Lake 91.26 333 P **P 06 45 17.1 +1.5**
comp=Z,90nm,0.9s,baz=120,slow=2.9,SNR=63
DLBC LR LR 07 31 12.8
comp=Z,1μm,18.6s,baz=105,slow=39
comp=Z,90nm,0.9s
GAL1 Galloway 91.38 32⇑ *e*P **P 06 45 16.1 -0.1**
GAL1 IAmb IAmb 06 45 17.4
comp=Z,646nm,1.8s
U33K Whale Pass 91.40 330 P **P 06 45 16.9 +0.7**
baz=122
MUSN Musina, Limpop 91.44 114⇑ *i*P **P 06 45 18.9 +1.5**
MUSN IAmb IAmb 06 45 20.6
comp=Z,592nm,1.4s
S34M Telegraph Cree 91.45 332 IAmb IAmb 06 45 21.4
comp=Z,167nm,1.4s
S34M Telegraph Cree 91.45 332 P **P 06 45 17.9 +1.4**
baz=124,SNR=15
UPNV Upernavik 91.49 4 *i*P **P 06 45 16.7 +0.4**
UPNV IAmb IAmb 06 45 25.8
comp=Z,106nm,0.9s
WRGLY Wrigley 91.59 339 P **P 06 45 17.0 +0.1**
baz=130
T33K Petersburg 91.69 331 P **P 06 45 17.5 0.0**
baz=122
WTLY Watson Lake, Y 91.70 335 P **P 06 45 18.6 +1.0**
baz=126,SNR=22
NEWG New Galloway 91.75 31 *e*P **P 06 45 18.0 +0.1**
NEWG IAmb IAmb 06 45 19.2
comp=Z,307nm,1.3s
LAWE Loch Awe, Argy 91.77 30⇑ *e*P **P 06 45 17.4 -0.5**
LAWE IAmb IAmb 06 45 19.2
comp=Z,532nm,1.8s
STNC Stoke 91.78 34⇑ *e*P **P 06 45 18.2 +0.2**
PGBU Glenifferbraes 91.98 31⇑ *e*P **P 06 45 18.5 -0.4**
PGBU IAmb IAmb 06 45 20.4
comp=Z,1μm,2.1s
KEST Kesra 91.99 53 P **P 06 45 20.8 +1.2**
SNR=19
KEST Kesra 91.99 53 P **P 06 45 20.4 +0.7**
comp=Z,67nm,1.0s,baz=238,slow=2.9,SNR=30
KEST PKKPbc **PKKPbc 07 02 37.3 +0.1**
comp=Z,3.6nm,0.7s,baz=57,slow=2.4,SNR=3.5
KEST LR LR 07 26 27.6
comp=Z,3μm,21.0s,baz=208,slow=35
comp=Z,67nm,1.0s
KESW Keswick, Cumbr 92.05 32⇑ *e*P **P 06 45 19.6 +0.3**
KESW IAmb IAmb 06 45 20.9
comp=Z,521nm,1.3s
LEWI Lewis, Hebride 92.08 28 *e*P **P 06 45 19.0 -0.3**
CWF Charnwood Fore 92.09 34⇑ *e*P **P 06 45 19.4 -0.1**
CWF IAmb IAmb 06 45 20.8
comp=Z,402nm,1.7s
HMNX Herstmonceux 92.13 37 *e*P **P 06 45 20.0 +0.3**
HMNX IAmb IAmb 06 45 21.6
comp=Z,730nm,1.3s
LBWR Ladybower, Pea 92.19 34⇑ *e*P **P 06 45 20.2 +0.3**
LBWR IAmb IAmb 06 45 20.9
comp=Z,238nm,1.3s
R33M Jennings River 92.20 333 P **P 06 45 20.9 +0.8**
baz=124,SNR=27
KPL Plockton 92.21 29⇑ *e*P **P 06 45 19.7 -0.2**
KPL IAmb IAmb 06 45 21.1
comp=Z,309nm,1.4s
SSB Saint Sauveur 92.28 43 IAmb IAmb 06 45 23.1
comp=Z,481nm,1.6s
TGTN Hyland Airport 92.32 336 P **P 06 45 22.1 +1.7**
baz=126,SNR=30
MOPA Mopani 92.33 116 *i*P **P 06 45 22.9 +1.4**
MOPA Mopani 92.33 116⇑ *i*P **P 06 45 23.3 +1.8**
MOPA Mopani 92.33 116 *i*P **P 06 45 22.9 +1.4**
baz=114
LSZ Lusaka 92.35 107 P **P 06 45 23.4 +1.6**
LSZ IAmb IAmb 06 49 03.9
comp=Z,290nm,1.7s
LSZ Lusaka 92.35 107 P **P 06 45 23.4 +1.6**
LSZ pmax pmax
comp=Z,290nm,1.7s
LSZ Lusaka 92.35 107 LR LR 07 24 54.3
comp=Z,3μm,19.8s,baz=258,slow=34
ESK Eskdalemuir 92.36 32⇑ *e*P **P 06 45 20.5 -0.2**
ESK IAmb IAmb 06 45 22.0
comp=Z,727nm,1.8s
ESK Eskdalemuir 92.36 32 P **P 06 45 20.1 -0.6**
ESK IAmb IAmb 06 45 22.3
comp=Z,552nm,1.6s
ESK Eskdalemuir 92.36 32 P **P 06 45 20.1 -0.6**
ESK pmax pmax
comp=Z,552nm,1.7s
HMH Humu'ula Sheep 92.37 290 IAmb IAmb 06 45 33.2
comp=Z,533nm,1.8s
EKA Eskdalemuir Ar 92.39 32 P **P 06 45 20.4 -0.4**
comp=Z,71nm,1.1s,baz=232,slow=4.1,SNR=50
EKA PKKPbc **PKKPbc 07 02 36.5 -0.5**
comp=Z,1.0nm,0.5s,baz=79,slow=3.7,SNR=3.5
comp=Z,71nm,1.1s
POHA Pohakuloa 92.47 290 P **P 06 45 22.0 -0.3**
INVG Invergeldie, C 92.50 30 *e*P **P 06 45 20.7 -0.6**
HPK Haverah Park 92.50 33 *e*P **P 06 45 21.1 -0.3**
HPK IAmb IAmb 06 45 23.0
comp=Z,588nm,1.6s
Q32M Nakina River 92.53 333 IAmb IAmb 06 45 26.6
comp=Z,174nm,1.4s
Q32M Nakina River 92.53 333 P **P 06 45 22.6 +0.9**
baz=122,SNR=9.2
EDI Edinburgh 92.67 31⇑ *e*P **P 06 45 21.8 -0.3**
EDI IAmb IAmb 06 45 23.5
comp=Z,535nm,1.8s
ELSH Elham, Standar 92.71 37⇑ *e*P **P 06 45 22.2 -0.2**
ELSH IAmb IAmb 06 45 23.9
comp=Z,587nm,1.4s
HUH Hualalai 92.72 290 IAmb IAmb 06 45 30.0
comp=Z,107nm,0.9s
KHLU Kahalu`u 92.74 290 IAmb IAmb 06 45 25.5
comp=Z,143nm,1.0s
EDMD Edmundbyers 92.75 32⇑ *e*P **P 06 45 22.5 0.0**
EDMD IAmb IAmb 06 45 23.9
comp=Z,812nm,1.6s
S32K Killisnoo 92.79 331 P **P 06 45 23.7 +1.1**
baz=121
LINV Loch Inver, As 92.84 29 *e*P **P 06 45 22.9 +0.1**
LMK Market Rasen 92.95 34⇑ *e*P **P 06 45 23.5 0.0**
LMK IAmb IAmb 06 45 25.1
comp=Z,445nm,1.1s
WACR West Acre 93.13 35⇑ *e*P **P 06 45 23.7 -0.5**
WACR IAmb IAmb 06 45 25.3
comp=Z,528nm,1.5s
GDLE Glaisdale, N Y 93.14 33⇑ *e*P **P 06 45 24.6 +0.3**
GDLE IAmb IAmb 06 45 25.8
comp=Z,326nm,1.4s
R32K Eaglecrest 93.17 331 P **P 06 45 26.1 +1.7**
baz=121,SNR=6.1
KULLO Kullorsuaq 93.19 3 *i*P **P 06 45 25.1 +1.0**
KULLO IAmb IAmb 06 45 33.0
comp=Z,61nm,1.0s
SUMG Summit 93.20 9 *i*P **P 06 45 26.2 +1.5**
P33M Teslin, Yukon 93.43 333 P **P 06 45 27.0 +1.3**
baz=122,SNR=15
MCD Coleburn Disti 93.45 30 *e*P **P 06 45 25.7 0.0**
DRUM Mains of Drumt 93.49 30⇑ *e*P **P 06 45 25.9 +0.1**
DRUM IAmb IAmb 06 45 27.3
comp=Z,369nm,1.5s
P32M Atlin 93.49 333 IAmb IAmb 06 45 31.4
comp=Z,258nm,1.9s
P32M Atlin 93.49 333 P **P 06 45 27.2 +1.3**
baz=121,SNR=8.4
BNI Bardonecchia 93.58 44 IAmb IAmb 06 45 29.4
comp=Z,187nm,1.5s
S31K Pelican 93.80 331 IAmb IAmb 06 46 04.2
comp=Z,208nm,1.9s
S31K Pelican 93.80 331 P **P 06 45 29.9 +2.7**

baz=119
N32M Quiet Lake 94.04 334 P P 06 45 29.7 +1.3
baz=122
MMPY Sheldon Lake, 94.10 336 P P 06 45 29.9 +1.2
baz=123,SNR=6.7
SKAG Skagway 94.13 332 P P 06 45 30.5 +1.8
baz=120,SNR=7.5
DOU Dourbes 94.26 38 *dP* **P 06 45 29.7 +0.1**
comp=Z,48nm,1.6s
RES Resolute Bay 94.36 353 P P 06 45 29.7 +0.3
comp=Z,7.7nm,0.7s,baz=184,slow=8.4,SNR=15
RES LR LR 07 31 01.5
comp=Z,2µm,19.7s,baz=159,slow=37
comp=Z,7.7nm,0.7s
BMRD Maredsous 94.45 38 *dP* **P 06 45 30.5 +0.1**
comp=Z,55nm,1.6s
BMRD *dx* x 06 45 59.4
WHY Whitehorse 94.54 333 P **P 06 45 31.8 +1.1**
baz=120
PLBC Pleasant Camp 94.59 332 P **P 06 45 32.5 +1.6**
baz=119,SNR=6.4
RCHB Rochefort 94.66 39 *dP* **P 06 45 31.1 -0.3**
comp=Z,42nm,1.6s
BGES Gesves 94.67 38 *dP* **P 06 45 31.2 -0.2**
comp=Z,38nm,1.7s
FARO Faro, Yukon 94.71 335 P **P 06 45 32.4 +1.0**
baz=121,SNR=16
BCLA Clavier 94.81 38 *dP* **P 06 45 32.2 +0.1**
comp=Z,28nm,1.8s
WLF Walferdange 95.02 39 *dP* **P 06 45 34.0 +1.0**
comp=Z,85nm,1.5s
WLF Walferdange 95.02 39 *eP* **P 06 45 33.5 +0.5**
comp=Z,620nm,1.6s,baz=251,slow=4.7
BSTI Sart Tilman 95.03 38 *dP* **P 06 45 33.4 +0.3**
ECH Echery 95.08 41 IAmb IAmb 06 45 35.2
comp=Z,263nm,1.5s
O30N Mendenhall 95.11 333 P **P 06 45 34.7 +1.4**
baz=119,SNR=10.0
M31M Drury Creek, Y 95.12 335 P **P 06 45 33.8 +0.5**
M31M Drury Creek, Y 95.12 335 P **P 06 45 34.4 +1.2**
baz=120
BEBN Eben Emael 95.17 38 *dP* **P 06 45 33.9 +0.2**
P30M Million Dollar 95.18 332 P **P 06 45 34.4 +0.8**
baz=118
MSSA Maissana 95.19 45 IAmb IAmb 06 45 35.6
comp=Z,265nm,1.5s
KIP Kipapa 95.19 291⇑ *eP* **P 06 45 38.4 +3.9**
KIP pmax pmax
comp=Z,159nm,2.0s
BHOU Houvegnez 95.20 39 *dP* **P 06 45 34.4 +0.5**
comp=Z,49nm,1.4s
P29M Windy Craggy 95.29 332 P **P 06 45 35.2 +1.1**
baz=118,SNR=6.9
MEM Membach 95.30 38 *dP* **P 06 45 34.7 +0.4**
comp=Z,24nm,1.3s
N31M Braeburn, Yuko 95.33 334 P **P 06 45 35.4 +1.1**
baz=119
BTNL Ternell 95.36 38 *dP* **P 06 45 34.7 0.0**
comp=Z,33nm,1.3s
CASY Casey 95.49 180 P **P 06 45 35.8 +0.8**
CLTB Caltabellotta 95.55 52 IAmb IAmb 06 45 38.5
comp=Z,288nm,1.3s
CASP Castiglione de 95.58 47 IAmb IAmb 06 45 37.9
comp=Z,443nm,2.0s
C36M Paulatuk 95.69 343 P **P 06 45 35.9 +0.3**
baz=129
RTZ Ruatahuna 95.74 226 IAmb IAmb 06 45 40.7
comp=Z,167nm,1.6s
HYT Haines Junctio 95.75 333 P **P 06 45 37.0 +0.7**
baz=118
BKZ Black Stump Fm 95.80 226 IAmb IAmb 06 45 41.1
comp=Z,130nm,1.4s
URZ Urewera 95.82 227 P **P 06 45 38.9 +1.8**
comp=Z,10.0nm,1.0s,baz=105,slow=9.2,SNR=5.4
URZ LR LR 07 19 44.7
comp=Z,6µm,21.3s,baz=224,slow=30
comp=Z,10.0nm,1.0s
TUE Stuetta 95.84 43 IAmb IAmb 06 45 39.2
comp=Z,443nm,1.9s
BFO Black Forest 95.85 41 P **P 06 45 35.5 -1.4**
BFO IAmb IAmb 06 49 29.7
comp=Z,269nm,2.0s
BFO Black Forest 95.85 41 P **P 06 45 35.5 -1.4**
BFO pmax pmax
comp=Z,269nm,2.0s
BFO Black Forest 95.85 41 *eP* **P 06 45 36.8 -0.1**
comp=Z,453nm,2.4s,baz=251,slow=4.7
N30M Aishikik Lake 95.87 334 P **P 06 45 37.7 +0.9**
baz=118,SNR=7.0
AHRW Bad Neuenahr-A 95.90 39 *eP* **P 06 45 35.1 -2.0**
comp=Z,319nm,1.4s,baz=251,slow=4.7
O29M Mount Kennedy 95.97 332 P **P 06 45 37.7 +0.3**
baz=117
PNL Peninsula 96.06 331 P **P 06 45 38.6 +1.0**
baz=116
YUK6 Outpost Mounta 96.17 333 P **P 06 45 39.5 +1.1**
baz=117,SNR=6.6
RAO Raoul Island 96.19 237 LR LR 07 19 37.6
comp=Z,2µm,21.0s,baz=115,slow=30
M30M Minto, Yukon 96.28 335 P **P 06 45 39.5 +0.9**
baz=118
DAVOX Davos/Dischmat 96.29 43 P **P 06 45 39.1 0.0**
comp=Z,32nm,1.1s,baz=245,slow=5.0,SNR=56
DAVOX LR LR 07 25 28.7
comp=Z,897nm,21.7s,baz=253,slow=33
comp=Z,32nm,1.1s
RAFF Raffo Rosso 96.30 53 IAmb IAmb 06 45 42.1
comp=Z,168nm,1.2s
BUG Bochum--Univer 96.35 38 *eP* **P 06 45 39.2 +0.2**
comp=Z,366nm,1.4s,baz=251,slow=4.7
MAYO Mayo, Yukon 96.41 336 P **P 06 45 40.5 +1.5**
baz=119
VAE Valguarnera 96.42 53 P **P 06 45 40.1 +0.3**
comp=Z,18nm,0.6s,baz=301,slow=2.9,SNR=7.2
VAE LR LR 07 30 47.9
comp=Z,2µm,18.3s,baz=234,slow=36
comp=Z,18nm,0.6s
DAVA Damuels 96.46 42 *i* P **P 06 45 40.2 +0.3**
comp=Z,145nm,1.7s,SNR=42
DAVA *eP*P **PP 06 49 32.2 -3.1**
comp=Z,89nm,1.8s
YUK4 Talbot Arm 96.48 333 P **P 06 45 40.4 +0.7**
baz=117,SNR=7.2
STU Stuttgart 96.55 41 IAmb IAmb 06 45 41.7
comp=Z,196nm,1.4s
STU Stuttgart 96.55 41 *eP* **P 06 45 39.9 -0.1**
comp=Z,307nm,1.2s,baz=251,slow=4.7
TNS Taunus Mts 96.60 39 *eP* **P 06 45 40.6 +0.2**
comp=Z,167nm,1.3s,baz=251,slow=4.7
PINM Pinnacle 96.63 332 P **P 06 45 41.7 +1.4**
baz=116
LTZ Lake Taylor 96.69 221 IAmb IAmb 06 45 44.3
comp=Z,87nm,1.1s
CESX Cesi 96.71 47 IAmb IAmb 06 45 43.1
comp=Z,446nm,1.9s
UBR Ueberruh 96.74 42 *eP* **P 06 45 41.5 +0.4**
comp=Z,461nm,1.8s,baz=251,slow=4.7
UBR *eP*P **PP 06 49 34.5 -2.8**
baz=259,slow=7.7
THZ Tophouse 96.83 222 IAmb IAmb 06 45 45.1
comp=Z,217nm,1.3s
AFI Afiamalu 96.87 253 LR LR 07 21 30.3
comp=Z,669nm,18.2s,baz=117,slow=30
MURB Monte Urbino 96.89 47 IAmb IAmb 06 45 42.7
comp=Z,263nm,1.7s
O28M Mount Upton 96.90 332 P **P 06 45 42.0 +0.2**
baz=116
M29M Somme Creek 96.90 334 P **P 06 45 41.1 -0.3**
baz=117,SNR=17
FETA Feichten 96.92 43 *i* P **P 06 45 42.3 +0.3**
comp=Z,121nm,1.6s,SNR=44
FETA *eP*P **PP 06 49 35.2 -3.5**
comp=Z,84nm,1.5s
H31M Peel River 96.92 338 P **P 06 45 42.0 +0.6**
baz=120,SNR=20
RPZ Rata Peaks 96.92 220 IAmb IAmb 06 45 45.4
comp=Z,128nm,1.3s
RPZ Rata Peaks 96.92 220 P **P 06 45 43.1 +1.1**
comp=Z,68nm,1.2s,baz=172,slow=1.3,SNR=9.7
RPZ LR LR 07 19 57.4
comp=Z,4µm,21.7s,baz=114,slow=29
comp=Z,68nm,1.2s
KASTN Kahler Asten 96.93 38 *eP* **P 06 45 41.8 0.0**
comp=Z,142nm,1.4s,baz=251,slow=4.7
YUK8 Steele Glacier 96.94 333 P **P 06 45 41.4 -0.4**
baz=116
IBBN Ibbenburen 96.95 37 *eP* **P 06 45 42.1 +0.3**
comp=Z,420nm,1.5s,baz=251,slow=4.7

TEOL Teolo 96.98 45 IAmb IAmb 06 45 43.1
comp=Z,140nm,1.1s
J30M Hart River 97.05 336 P Pdif 06 45 42.5 +0.3
baz=119,SNR=16
L29M L29M 97.07 335 P Pdif 06 45 42.6 +0.4
baz=117,SNR=34
LBZ Lake Benmore 97.07 219 IAmb IAmb 06 45 46.0
comp=Z,126nm,1.6s
RETA Reutte 97.09 42 *i* P Pdif 06 45 43.0 +0.2
comp=Z,114nm,1.8s,SNR=32
RETA *i* PP **PP 06 49 36.3 -3.7**
comp=Z,75nm,1.8s
K29M Barlow Dome 97.16 336 P Pdif 06 45 42.8 0.0
baz=118,SNR=13
CTI Castel Tesino 97.20 44 IAmb IAmb 06 45 46.1
comp=Z,294nm,1.6s
AQU L'Aquila 97.21 48 IAmb IAmb 06 45 46.6
comp=Z,202nm,1.3s
INZ Inchbonnie 97.23 221 P **P 06 45 43.1 -0.3**
MOTA Moosalm 97.27 43 *i* P Pdif 06 45 43.7 +0.1
comp=Z,179nm,1.6s,SNR=49
MOTA *i* PP **PP 06 49 37.2 -4.2**
comp=Z,33nm,1.3s
CAMP Campotosto 97.27 48 IAmb IAmb 06 49 41.7
comp=Z,278nm,1.6s
SQTA Sankt Quirin 97.29 43 *i* P Pdif 06 45 44.1 +0.4
comp=Z,200nm,1.6s,SNR=41
SQTA *eP*P **PP 06 49 37.6 -4.0**
comp=Z,59nm,1.4s
I30M Mount Dempster 97.38 337 P **P 06 45 43.4 -0.2**
baz=118,SNR=22
MESA MESA 97.44 331 P **P 06 45 43.9 -0.1**
baz=114
YUK3 Moose Creek 97.45 333 P Pdif 06 45 44.1 0.0
baz=115,SNR=7.5
INTR Introdacqua 97.46 48 IAmb IAmb 06 45 46.2
comp=Z,315nm,2.0s
G31M Satah River 97.46 339 P **P 06 45 43.2 -0.5**
baz=120,SNR=14
CTG Chitna Glacier 97.49 332 P **P 06 45 43.9 -0.3**
baz=115
DSZ Denniston Nort 97.54 221 P Pdif 06 45 45.4 +0.4
F31M Tsiigehtchic 97.55 339 P Pdif 06 45 44.8 +0.6
baz=121,SNR=8.3
WATA Walderalm 97.57 43 *i* P Pdif 06 45 45.2 +0.2
comp=Z,162nm,1.5s,SNR=32
WATA *eP*P **PP 06 49 39.7 -4.0**
comp=Z,82nm,1.4s
QRZ Quartz Range 97.57 223 P **P 06 45 44.0 -1.0**
QRZ IAmb IAmb 06 45 46.5
comp=Z,99nm,1.3s
WTTA Wattenberg 97.58 43 *i* P Pdif 06 45 45.4 +0.4
comp=Z,244nm,1.6s,SNR=55
WTTA *eP*P **PP 06 49 40.0 -3.9**
comp=Z,64nm,1.6s
FUR Furstenfeldbru 97.65 42 *eP* Pdif 06 45 45.4 +0.3
comp=Z,1µm,2.4s,baz=251,slow=4.7
FUR *eP*P **PP 06 49 41.8 -2.4**
baz=259,slow=7.7
A36M Sachs Harbour 97.65 345 P **P 06 45 44.1 -0.3**
baz=128
J29N Klondike Camp 97.71 336 P **P 06 45 44.3 -0.7**
baz=117
INK Inuvik 97.92 340 P **P 06 45 45.3 -0.4**
baz=121,SNR=24
INK Inuvik 97.92 340 LR LR 07 33 16.8
comp=Z,2µm,21.7s,baz=116,slow=37
GTTG Gottingen 97.96 38 *eP* Pdif 06 45 46.9 +0.5
comp=Z,195nm,1.4s,baz=251,slow=4.7
STAL STALIGIAL 97.96 44 P **P 06 45 46.5 0.0**
STAL IAmb IAmb 06 49 44.2
comp=Z,250nm,1.9s
ABTA Abfaltersbach 97.99 43 *i* Pdif Pdif 06 45 47.1 +0.3
comp=Z,127nm,1.6s,SNR=34
ABTA *eP*P **PP 06 49 42.8 -4.1**
comp=Z,68nm,1.4s
DAWY Dawson 98.00 335 P **P 06 45 46.2 -0.1**
DAWY Dawson 98.00 335 Pdif Pdif 06 45 46.6 +0.3
baz=116
RETH Rethem/Aller, 98.02 37 *eP* Pdif 06 45 47.5 +1.0
comp=Z,491nm,1.7s,baz=251,slow=4.7
EPYK Eagle Plains 98.05 338 Pdif Pdif 06 45 47.6 +1.1
baz=118
GRF Grafenberg Arr 98.11 40 *eP* Pdif 06 45 47.6 +0.5
comp=Z,157nm,1.5s,baz=251,slow=4.7
GRF *eL* L 07 26 23.1
comp=Z,2µm,21.0s
CLUD Cludinico 98.14 44 IAmb IAmb 06 45 49.0
comp=Z,243nm,1.6s
I29M Ogilvie Camp, 98.16 337 Pdif Pdif 06 45 47.2 +0.2
baz=117
G30M tAoh Zraii Nji 98.16 339 Pdif Pdif 06 45 47.3 +0.4
baz=118
CRQE Cirque 98.19 332 Pdif Pdif 06 45 48.0 +0.6
baz=113
CUC Castrocucco 98.23 51 IAmb IAmb 06 45 49.2
comp=Z,119nm,1.4s
CLZ Clausthal 98.30 38 *eP* Pdif 06 45 48.5 +0.6
comp=Z,225nm,1.4s,baz=251,slow=4.7
M27K Edge Creek, AK 98.30 333 Pdif Pdif 06 45 48.5 +0.6
baz=114
LESA Schwarzleotal 98.30 43 *i* Pdif Pdif 06 45 48.3 +0.1
comp=Z,78nm,1.4s
LESA *eP*P **PP 06 49 45.4 -3.9**
comp=Z,82nm,1.6s
F30M Barrier River 98.31 339 Pdif Pdif 06 45 48.5 +0.9
baz=119
NRDL Niedersach Rie 98.36 37 *eP* Pdif 06 45 49.0 +0.9
comp=Z,285nm,1.6s,baz=251,slow=4.7
MCARA McCarthy VSAT 98.41 332 P Pdif 06 45 49.4 +1.2
MCARA McCarthy VSAT 98.41 332 Pdif Pdif 06 45 49.1 +0.9
baz=113
SABO M.te Sabotino 98.46 44 IAmb IAmb 06 45 51.1
comp=Z,386nm,1.9s
JMIC Jan Mayen 98.47 17 LR LR 07 27 16.1
comp=Z,641nm,21.1s,baz=252,slow=33
KAIM Kayak Island 98.48 331 Pdif Pdif 06 45 48.8 +0.3
baz=112
RJOB Jochberg 98.48 43 *eP* Pdif 06 45 49.1 +0.2
comp=Z,138nm,1.8s,baz=251,slow=4.7
RJOB *eP*P **PP 06 49 47.5 -3.1**
baz=259,slow=7.7
ROBS Robic 98.48 44 *i* Pdif Pdif 06 45 49.0 +0.2
ROBS *i* pPdif pP 06 46 16.1 +1.2
ROBS *eP*P **PP 06 49 47.5 -3.1**
ROBS *i* SKSac **SKSac 06 56 20.0 +1.7**
ROBS *eS*P **SP 06 58 36.9 +2.0**
TRI Trieste 98.49 45 IAmb IAmb 06 45 50.6
comp=Z,157nm,1.6s
BCAR Beaver Creek A 98.55 334 P Pdif 06 45 49.1 +0.2
L27K Beaver Creek, 98.57 334 Pdif Pdif 06 45 49.5 +0.6
baz=114
H29M Whitestone 98.57 338 Pdif Pdif 06 45 49.1 +0.4
baz=117
ASSE Asse, Remlinge 98.57 38 *eP* Pdif 06 45 50.0 +1.0
comp=Z,279nm,1.7s,baz=251,slow=4.7
PRED Cave del Predi 98.58 44 IAmb IAmb 06 45 51.6
comp=Z,300nm,1.9s
KBA Koelnbreinsper 98.63 43 *i* Pdif **P 06 45 49.5 -0.3**
comp=Z,32nm,1.0s
KBA *i* PP **PP 06 49 48.3 -3.6**
comp=Z,76nm,1.5s
MOX Moxa 98.65 40 *eP* Pdif 06 45 50.1 +0.6
comp=Z,180nm,1.9s,baz=251,slow=4.7
MOX *eL* L 07 27 04.8
comp=Z,3µm,21.1s
MYKA Terra Mystica 98.69 44 *i* Pdif Pdif 06 45 50.2 +0.3
comp=Z,91nm,1.6s,SNR=17
MYKA *eP*P **PP 06 49 48.9 -3.4**
comp=Z,110nm,1.6s
ROTZ Rotzenmuhle 98.74 40 *eP* Pdif 06 45 50.5 +0.6
comp=Z,76nm,2.0s,baz=251,slow=4.7
ROTZ *eP*P **PP 06 49 46.8 -5.7**
baz=259,slow=7.7
MANZ Manzenberg 98.75 40 *eP* Pdif 06 45 50.6 +0.6
comp=Z,64nm,1.7s,baz=251,slow=4.7
MANZ *eP*P **PP 06 49 46.7 -5.9**
baz=259,slow=7.7
G29M Pine Creek 98.76 338 Pdif Pdif 06 45 50.5 +0.8
baz=117
M26K Nabesna, AK 98.80 333 Pdif Pdif 06 45 50.8 +0.9
baz=113
I28M Miner Creek 98.81 337 Pdif Pdif 06 45 50.8 +0.8
baz=115
NEUB Neuenburg 98.93 39 *eP* Pdif 06 45 51.4 +0.7
comp=Z,448nm,2.0s,baz=251,slow=4.7
PLN Plauen 98.93 40 *eP* Pdif 06 45 51.4 +0.6
comp=Z,178nm,1.8s,baz=251,slow=4.7

BSEG Bad Segeberg 98.95 36 *eP* Pdif 06 45 51.2 +0.5
comp=Z,500nm,2.3s,baz=251,slow=4.7
BMRM Bremner River 98.95 332 Pdiff Pdif 06 45 51.9 +1.3
baz=112
WET Wettzell 98.96 41 *eP* Pdif 06 45 51.4 +0.4
comp=Z,97nm,1.4s,baz=251,slow=4.7
FLTG Flechtingen 98.96 38 *eP* Pdif 06 45 51.1 +0.3
comp=Z,215nm,1.6s,baz=251,slow=4.7
GUNZ Gunzen 99.00 40 *eP* **Pdif 06 45 51.7 +0.6**
comp=Z,111nm,1.6s,baz=251,slow=4.7
WERN Wernitzgruen 99.00 40 *eP* **Pdif 06 45 51.8 +0.7**
comp=Z,348nm,2.1s,baz=251,slow=4.7
WERN *eP*P **PP 06 49 48.4 -6.0**
baz=259,slow=7.7
BIOA Bad Ischl, Aus 99.01 43 *i* Pdiff **Pdif 06 45 51.2 0.0**
comp=Z,67nm,1.6s,SNR=15
BIOA *eP*P **PP 06 49 50.7 -3.9**
comp=Z,99nm,1.8s
WERD Werda 99.01 40 *eP* **Pdif 06 45 51.6 +0.4**
comp=Z,111nm,1.5s,baz=251,slow=4.7
WERD *eP*P **PP 06 49 49.5 -5.1**
baz=259,slow=7.7
K27K Chicken 99.06 335 Pdiff **Pdif 06 45 52.3 +1.3**
baz=114
SSRD Sdr. Stenderup 99.08 34 *i* P **Pdif 06 45 51.8 +0.5**
SSRD IAmb IAmb 06 45 55.1
comp=Z,59nm,0.8s
TANN Tannenbergstha 99.09 40 *eP* **Pdif 06 45 52.3 +0.8**
comp=Z,185nm,1.6s,baz=251,slow=4.7
TANN *eP*P **PP 06 49 49.5 -5.8**
baz=259,slow=7.7
LJU Ljubljana 99.10 45 *i* Pdiff **Pdif 06 45 52.1 +0.5**
LJU *i* PP **PP 06 49 53.2 -2.1**
LJU *i* SKSac **SKSac 06 56 23.6 +2.1**
LJU *eS*diff **ScS 06 57 07.2 -7.8**
LJU *eS*P **SP 06 58 46.1 +4.5**
LJU *i* PKKP PKKPab 07 02 44.1
LJU *eS*S **SS 07 04 12.2 +6.7**
MUD Monsted U'grnd 99.17 33 *i* P **Pdif 06 45 52.8 +1.3**
L26K Log Cabin Wild 99.19 334 Pdiff **Pdif 06 45 52.3 +0.7**
baz=113
N25K Chitina, Valde 99.19 332 Pdiff **Pdif 06 45 52.7 +1.0**
baz=112
GORT1 Trebel 99.21 37 *eP* **Pdif 06 45 52.7 +0.9**
comp=Z,393nm,1.9s,baz=251,slow=4.7
OBKA Obir 99.25 44 *i* Pdiff **Pdif 06 45 53.0 +0.6**
comp=Z,85nm,1.4s,SNR=19
OBKA *eP*P **PP 06 49 53.4 -3.1**
comp=Z,104nm,1.7s
EYAK Cordova Ski Ar 99.33 331 Pdiff **Pdif 06 45 52.8 +0.6**
baz=111
E29M Blow River 99.38 340 Pdiff **Pdif 06 45 52.9 +0.6**
baz=117
GEC2 GERESS Array S 99.39 42 *eP* **Pdif 06 45 53.0 +0.1**
comp=Z,74nm,1.4s,baz=251,slow=4.7
GERES GERESS Array B 99.39 42 P **Pdif 06 45 52.6 -0.3**
comp=Z,8.4nm,0.9s,baz=263,slow=3.2,SNR=20
GERES PP **PP 06 49 56.9 -0.7**
comp=Z,2.5nm,0.7s,baz=251,slow=6.1,SNR=4.2
GERES PKKPbc **PKKPbc 07 02 16.3 -1.5**
comp=Z,2.2nm,0.7s,baz=70,slow=1.6,SNR=3.6
GERES PKKPab PKKPab 07 02 44.0
comp=Z,1.2nm,0.6s,baz=116,slow=8.8,SNR=4.7
GERES LR LR 07 28 04.2
comp=Z,2µm,21.3s,baz=247,slow=34
comp=Z,8.4nm,0.9s
KHC Kasperske Hory 99.40 41 *eP* **Pdif 06 45 52.7 -0.2**
KHC *e* 06 56 19.9
KHC MLR MLR
comp=Z,2µm,21.5s
KHC Kasperske Hory 99.40 41 *e*PDIFF **Pdif 06 45 52.7 -0.2**
KHC *ex* x 06 46 44.0
KHC *ex* x 06 48 05.0
KHC *eS*KS **SKSac 06 56 19.9 -3.0**
KHC AMS AMS 07 24 50.0
comp=Z,2µm,21.5s
MOA Molln 99.46 43 *i* Pdiff **Pdif 06 45 53.4 +0.2**
comp=Z,67nm,1.4s,SNR=23
MOA *eP*P **PP 06 49 53.7 -4.3**
comp=Z,44nm,1.3s
I27K Kandik River 99.51 336 Pdiff **Pdif 06 45 53.7 +0.7**
baz=114
MBAR Mbarara 99.58 94 LR LR 07 29 22.5
comp=Z,3µm,20.2s,baz=256,slow=34
SOKA Soboth 99.62 44 *i* Pdiff **Pdif 06 45 54.0 0.0**
comp=Z,42nm,1.7s,SNR=17
SOKA *eP*P **PP 06 49 55.9 -3.4**
comp=Z,47nm,1.5s
CRES Cresnjev 99.66 45 *i* Pdiff **Pdif 06 45 54.6 +0.5**
CRES *i* PP **PP 06 49 58.5 -1.1**
CRES *i* SKSac **SKSac 06 56 26.5 +2.2**
CRES *e* 06 58 03.7
CRES *eS*P **SP 06 58 52.7 +5.1**
CRES *i* PKKP PKKPab 07 02 43.3
PERS Pernice 99.66 44 *ep*Pdiff pP 06 46 21.4 +1.1
CLL Collm 99.69 39 *i* P **Pdif 06 45 54.7 +0.6**
CLL *e**PP **pP 06 46 18.0 -2.2**
CLL *i* 06 56 27.6
CLL pmax pmax
comp=Z,114nm,1.5s
CLL MLR MLR
comp=Z,4µm,21.8s
CLL Collm 99.69 39 *eP* **Pdif 06 45 54.7 +0.6**
comp=Z,93nm,1.4s,baz=251,slow=4.7
CLL Collm 99.69 39 *i* Pdif **Pdif 06 45 54.7 +0.6**
comp=Z,114nm,1.5s
CLL *e*Pmax 06 45 55.0
CLL *ep*Pdif **pP 06 46 18.0 -2.2**
CLL *e*PPIp 06 49 50.0
CLL *eP*P **PP 06 49 53.0 -6.6**
comp=Z,128nm,2.0s
CLL *es*PP 06 50 34.0
CLL *e*PPP PPP 06 52 12.0
CLL *i* SKSac **SKSac 06 56 27.6 +3.5**
CLL *es*SKSac **ScS 06 57 10.0 -10**
CLL *eS*P SP 06 58 50.0 +2.3
CLL *ep*PS 06 59 26.0
CLL *eS*PP SPP 06 59 38.0
CLL *i* pPKKPdf 07 02 42.8
comp=Z,40nm,1.7s
CLL *eS*S **SS 07 04 12.0 -1.5**
CLL AMS AMS 07 26 00.0
comp=Z,4µm,21.8s
CLL AMS AMS 07 26 00.0
CLL R2 08 40 00.0
F28M Old Crow 99.71 339 Pdiff **Pdif 06 45 54.6 +0.8**
baz=115
DAG Danmarks Havn 99.73 10 *i* P **PKKPbc 07 02 13.1 -4.5**
HARP HAARP 99.73 333 Pdiff **Pdif 06 45 54.7 +0.7**
baz=111
H27K Steamboat Moun 99.73 337 Pdiff **Pdif 06 45 54.7 +0.7**
baz=114
KLU Klutina 99.74 332 Pdiff **Pdif 06 45 54.3 +0.2**
baz=111
HSKC Hora Svate Kat 99.74 40 *e*PDIFF **Pdif 06 45 55.1 +0.7**
HSKC *eS*KS **SKSac 06 56 24.8 +0.3**
HSKC AMS AMS 07 21 30.0
comp=Z,3µm,31.7s
CKRC Cesky Krumlov 99.77 42 *eP* **Pdif 06 45 54.9 +0.4**
CKRC Cesky Krumlov 99.77 42 *e*PDIFF **Pdif 06 45 54.9 +0.4**
CKRC *eS*KS **SKSac 06 56 18.5 -6.2**
FBE Freiberg 99.79 40 *eP* **Pdif 06 45 55.3 +0.8**
comp=Z,108nm,1.4s,baz=251,slow=4.7
FBE *eP*P **PP 06 49 55.4 -5.0**
baz=259,slow=7.7
SCRK Sand Creek 99.81 334 Pdiff **Pdif 06 45 55.0 +0.5**
baz=112
J26L Joseph Creek 99.84 335 Pdiff **Pdif 06 45 55.7 +1.1**
baz=112
ZVC Zvikov 99.87 41 *e*PDIFF **Pdif 06 45 54.4 -0.6**
ZVC AMS AMS 07 20 20.0
comp=Z,3µm,35.4s
I26K Coal Creek Min 99.99 336 Pdiff **Pdif 06 45 55.5 +0.4**
baz=112
G27K Doyon Strip 100.01 338 Pdiff **Pdif 06 45 55.7 +0.4**
baz=114
E28M Babbage River 100.02 340 Pdiff **Pdif 06 45 55.6 +0.4**
baz=115
GLI Glacier Island 100.06 331 Pdiff **Pdif 06 45 56.2 +0.6**
baz=110
PAX Paxson 100.07 333 Pdiff **Pdif 06 45 55.3 -0.3**
baz=111
M24K Tolsona, Glenn 100.07 332 Pdiff **Pdif 06 45 56.2 +0.6**
baz=110
D28M Stokes Point 100.07 340 Pdiff **Pdif 06 45 56.4 +1.1**
baz=116

ARSA Arzberg 100.10 44 *i* Pdiff **Pdif 06 45 56.3 +0.2**
comp=Z,49nm,1.5s,SNR=17
ARSA *e*PP **PP 06 49 59.4 -3.6**
comp=Z,46nm,1.5s
BRG Berggiesshubel 100.13 40⇓ *i*Pif **Pdif 06 45 57.4 +1.3**
BRG Amp 06 45 60.0
comp=Z,110nm,1.6s
BRG Berggiesshubel 100.13 40 P **Pdif 06 46 05.3 +9.3**
BRG Amp 06 46 06.5
comp=Z,56nm,1.6s
BRG Berggiesshubel 100.13 40 P Pdif 06 46 16.4 +20
BRG Amp 06 46 17.4
comp=Z,12nm,1.1s
BRG Berggiesshubel 100.13 40 P Pdif 06 46 27.1 +31
BRG Amp 06 46 28.8
comp=Z,30nm,1.4s
BRG PP **PP 06 49 58.5 -4.5**
BRG Amp 06 50 00.8
comp=Z,116nm,1.8s
BRG Berggiesshubel 100.13 40 *i* P **Pdif 06 45 57.3 +1.3**
BRG 06 49 58.4
BRG 06 56 32.0
BRG SP SP 06 58 54.0 +1.6
BRG 06 59 47.0
BRG pmax pmax
comp=Z,110nm,1.6s
BRG pmax pmax
comp=Z,116nm,1.8s
BRG Berggiesshubel 100.13 40 *e*P **Pdif 06 45 57.3 +1.3**
comp=Z,129nm,1.6s,baz=251,slow=4.7
BRG *e*PP **PP 06 49 58.1 -4.9**
baz=259,slow=7.7
RICC Richard 100.13 40 *e*PDIFF **Pdif 06 45 56.9 +0.8**
RICC AMS AMS 07 25 50.0
comp=Z,2μm,21.9s
PRA Prague 100.20 41 *e*P **Pdif 06 45 57.6 +1.2**
PRA MLR MLR
comp=Z,2μm,23.6s
PRA Prague 100.20 41 *e*PDIFF **Pdif 06 45 57.6 +1.2**
PRA AMS AMS 07 24 10.0
comp=Z,2μm,23.6s
PRU Pruhonice 100.25 41 *e*P **Pdif 06 45 57.0 +0.4**
PRU *e* 06 56 28.6
PRU Pruhonice 100.25 41 *e*PDIFF **Pdif 06 45 57.0 +0.4**
PRU *e*SKS **SKSac 06 56 28.6 +1.7**
PRU AMS AMS 07 23 50.0
comp=Z,3μm,37.9s
KOGS Kog 100.36 45 *i* Pdiff **Pdif 06 45 57.9 +0.7**
KOGS *i* pPdiff pP 06 46 25.0 +1.7
KOGS *i* SKSac **SKSac 06 56 30.2 +2.5**
KOGS *e*Sdiff SKKSac 06 57 14.5 +12
KOGS *e* 06 58 08.9
KOGS *e*SS **SS 07 04 28.7 +5.6**
GOPC GO Pecny, Ondr 100.38 41 *e*P **Pdif 06 45 57.6 +0.4**
GOPC *e* 06 56 26.1
GOPC GO Pecny, Ondr 100.38 41 *e*PDIFF **Pdif 06 45 57.6 +0.4**
GOPC *e*SKS **SKSac 06 56 26.1 -1.6**
GOPC AMS AMS 07 24 00.0
comp=Z,2μm,34.6s
PVCC Panska Ves 100.42 40 *e*P **Pdif 06 45 58.8 +1.5**
PVCC *e* 06 56 28.6
PVCC Panska Ves 100.42 40 *e*PDIFF **Pdif 06 45 58.8 +1.5**
PVCC *e*SKS **SKSac 06 56 28.6 +0.9**
PVCC AMS AMS 07 22 00.0
comp=Z,3μm,33.9s
KONO Kongsberg 100.42 30 Pdif 06 45 58.5 +1.4
KONO Kongsberg 100.42 30 P **Pdif 06 45 58.5 +1.4**
SCM Sheep Creek Mo 100.49 332 Pdiff **Pdif 06 45 58.4 +0.9**
baz=110
K24K Donnelly Dome 100.49 334 Pdiff **Pdif 06 45 57.9 +0.5**
baz=110
RUE Ruedersdorf 100.49 38 *e*P **PP 06 50 03.1 -2.6**
CONA Conrad Observa 100.51 43 *i* Pdiff **Pdif 06 45 58.4 +0.5**
comp=Z,70nm,1.7s,SNR=29
CONA *e*PP **PP 06 50 02.4 -3.7**
comp=Z,53nm,1.6s
E27K Coleen River 100.54 339 Pdiff **Pdif 06 45 58.8 +1.3**
baz=113
J25K Salcha River, 100.61 335 Pdiff **Pdif 06 45 58.3 +0.3**
baz=111
PWL Port Wells 100.63 331 Pdiff **Pdif 06 45 57.8 -0.3**
baz=109
TREC Trest 100.64 42 *e*P **Pdif 06 45 59.4 +1.0**
TREC MLR MLR
comp=Z,1μm,23.4s
TREC Trest 100.64 42 *e*PDIFF **Pdif 06 45 59.4 +1.0**
TREC AMS AMS 07 22 20.0
comp=Z,1μm,23.4s
M23K Glacier View 100.65 332 Pdiff **Pdif 06 45 58.8 +0.6**
baz=109
RONA Rosalia, Austr 100.73 43 *i* Pdiff **Pdif 06 45 59.3 +0.4**
comp=Z,33nm,1.5s,SNR=16
RONA *e*PP **PP 06 50 04.0 -3.6**
comp=Z,54nm,1.7s
D27M Malcolm River 100.75 340 Pdiff **Pdif 06 45 59.8 +1.3**
baz=114
RGN Rugen 100.82 36 *e*P **PP 06 50 05.9 -2.1**
G26K Porcupine Rive 100.84 337 Pdiff **Pdif 06 46 00.7 +1.8**
baz=112
HCY Hercog Novi 100.85 49⇑ *i*P **Pdif 06 45 59.9 +0.4**
KNK Knik Glacier 100.86 331 Pdiff **Pdif 06 45 59.6 +0.5**
baz=109
SEW Seward 100.91 330 Pdiff **Pdif 06 46 00.3 +1.0**
baz=108
WAT6 Susitna Watana 100.92 333 Pdiff **Pdif 06 46 00.0 +0.5**
baz=109
DHY Denali Highway 100.92 333 Pdiff **Pdif 06 45 59.9 +0.4**
baz=109
SML Sawmill 100.93 332 Pdiff **Pdif 06 46 00.2 +0.8**
baz=109
PRP Porcupine Dome 100.99 336 Pdiff **Pdif 06 46 00.4 +0.7**
baz=110
BUM Brajici-Budva 101.10 49⇑ *i*P **Pdif 06 46 00.1 -0.6**
KRUC Moravsky 101.16 42 *e*PDIFF **Pdif 06 46 00.8 +0.1**
KRUC *e*SKS **SKSac 06 56 33.4 +2.0**
KRUC *e*PKKP PKKPab 07 02 36.4
O22K Cooper Landing 101.16 330 Pdiff **Pdif 06 46 00.5 +0.1**
baz=108
CEME Cevo 101.18 49⇑ *i*P **Pdif 06 46 01.6 +0.6**
HDA Harding Lake 101.18 334 Pdiff **Pdif 06 46 00.5 +0.1**
baz=109
PMR Palmer 101.22 331 Pdiff **Pdif 06 46 01.1 +0.5**
baz=108
F26K Sheenjek River 101.25 338 Pdiff **Pdif 06 46 02.0 +1.3**
baz=111
NKME Niksic 101.26 49⇑ *i*P **Pdif 06 46 01.7 +0.4**
DRME Dracevica, Mon 101.28 49⇑ *i*P **Pdif 06 46 02.6 +1.2**
ILAR Eielson Array 101.28 335 P **Pdif 06 46 00.8 -0.1**
comp=Z,1.2nm,0.6s,baz=127,slow=2.4,SNR=12
ILAR PP **PP 06 50 13.4 +2.2**
comp=Z,8.8nm,0.9s,baz=107,slow=5.8,SNR=7.3
ILAR PKKPbc **PKKPbc 07 02 10.5 -2.4**
comp=Z,0.8nm,0.5s,baz=287,slow=2.9,SNR=10
ILAR PKKPab PKKPab 07 02 35.2
comp=Z,1.5nm,1.0s,baz=287,slow=3.5,SNR=4.6
UPC Upice 101.30 40 *e*P **Pdif 06 46 01.9 +0.6**
UPC Upice 101.30 40 *e*PDIFF **Pdif 06 46 01.9 +0.6**
UPC *e*SKS **SKSac 06 56 27.3 -4.7**
UPC AMS AMS 07 23 20.0
comp=Z,2μm,30.2s
CHVC Chvalec 101.34 40 *e*P **Pdif 06 46 01.7 +0.2**
CHVC Chvalec 101.34 40 *e*PDIFF **Pdif 06 46 01.7 +0.2**
CHVC AMS AMS 07 23 10.0
comp=Z,3μm,36.8s
VRAC Vranov 101.34 42 *e*PDIFF **Pdif 06 46 01.9 +0.4**
VRAC *e*SKS **SKSac 06 56 36.4 +4.0**
VRAC *e*PKKP PKKPab 07 02 35.7
VRAC Vranov 101.34 42 P **Pdif 06 46 01.6 +0.1**
comp=Z,3.7nm,0.5s,baz=254,slow=5.4,SNR=20
VRAC S **SKSac 06 56 36.3 +4.0**
comp=Z,1.9nm,0.6s,baz=264,slow=4.6,SNR=5.5
RC01 Rabbit Creek A 101.35 331 Pdiff **Pdif 06 46 02.4 +1.1**
baz=108
WAT1 Susitna Watana 101.35 333 Pdiff **Pdif 06 46 01.5 +0.2**
baz=108
H25L Birch Creek 101.36 336 Pdiff **Pdif 06 46 02.2 +1.0**
baz=110
ZST Bratislava 101.38 43 *e*P **Pdif 06 46 02.5 +0.8**
ZST Bratislava 101.38 43 *e*PDIFF **Pdif 06 46 02.5 +0.8**
ZST *e*PP **PP 06 50 05.9 -6.6**
PDG Podgorica 101.39 49⇓ P **PP 06 50 11.6 -1.1**
PDG Podgorica 101.39 49⇑ *i*P **Pdif 06 46 02.9 +1.1**
BRSE Bradley Lake S 101.42 329 Pdiff **Pdif 06 46 02.1 +0.5**
baz=107
OSTC Ostas 101.43 40 *e*P **Pdif 06 46 02.9 +1.0**
OSTC Ostas 101.43 40 *e*PDIFF **Pdif 06 46 02.9 +1.0**
OSTC *e*SKS **SKSac 06 56 26.1 -6.6**
OSTC AMS AMS 07 23 20.0
comp=Z,2μm,32.1s
DPC Dobruska-Polom 101.45 41 *e*P **Pdif 06 46 02.7 +0.7**
DPC *e* 06 56 34.8
DPC Dobruska-Polom 101.45 41 *e*PDIFF **Pdif 06 46 02.7 +0.7**
DPC *e*SKS **SKSac 06 56 34.8 +1.9**
DPC AMS AMS 07 23 30.0
comp=Z,2μm,33.3s
MODS Modra-Piesok 101.54 43 *e*P **Pdif 06 46 02.9 +0.5**
MODS Modra-Piesok 101.54 43 *e*PDIFF **Pdif 06 46 02.9 +0.5**
MODS *e*PP **PP 06 50 06.4 -7.3**
KSP Ksiaz 101.56 40 *e*Pdif **Pdif 06 46 03.4 +1.0**
KSP *e*PP **PP 06 50 08.0 -5.8**
KSP *e*SKSac **SKSac 06 56 37.2 +4.0**
KSP *e*SP **SP 06 59 05.2 -2.4**
KSP *e*L L 07 23 05.5
comp=Z,3μm,40.8s
TIR Tirane 101.56 50 *i* P **PP 06 50 11.0 -3.0**
POKR Poker Plat Res 101.61 335 Pdiff **Pdif 06 46 03.3 +1.0**
baz=109
NB2 NORSAR Subarra101.62 29 P **Pdif 06 46 03.2 +0.7**
comp=Z,209nm,2.0s,baz=242,slow=4.3
NB2 PP **PP 06 50 09.5 -4.5**
comp=Z,570nm,2.5s,baz=254,slow=7.4
NB2 PKKP **PKKPbc 07 02 09.8 -2.0**
comp=Z,0.4nm,0.6s,baz=82,slow=4.6
NB2 NORSAR Subarra101.62 29 P **Pdif 06 46 03.2 +0.7**
baz=242,slow=4.3
NOA NORSAR Array B101.62 29 P **Pdif 06 46 02.7 +0.2**
comp=Z,19nm,1.2s,baz=253,slow=4.4,SNR=9.8
NOA PP **PP 06 50 12.2 -1.8**
comp=Z,17nm,1.2s,baz=254,slow=7.5,SNR=7.9
NOA PKKPbc **PKKPbc 07 02 10.2 -1.6**
comp=Z,1.2nm,0.8s,baz=258,slow=2.9,SNR=4.0
G25K Bearman Lake 101.64 337 Pdiff **Pdif 06 46 02.8 +0.5**
baz=110
DEL Delary 101.66 34 *e*P **PP 06 50 12.8 -1.5**
COLA College 101.70 335 Pdiff **Pdif 06 46 01.8 -0.9**
baz=108
PLE Pljevlja 101.71 48⇑ *i*P **Pdif 06 46 04.0 +0.6**
M22K Willow 101.72 331 Pdiff **Pdif 06 46 02.0 -0.8**
baz=107
F25K Christian Rive 101.75 338 Pdiff **Pdif 06 46 03.5 +0.5**
baz=110
KDAK Kodiak Island 101.79 327 Pdiff **Pdif 06 46 04.3 +1.0**
baz=106
KDAK Kodiak Island 101.79 327 P **Pdif 06 46 05.3 +2.0**
comp=Z,3.6nm,0.6s,baz=98,slow=7.1,SNR=4.1
MCK McKinley 101.79 333 Pdiff **Pdif 06 46 03.8 +0.6**
baz=108
BSD Bornholm Skovb 101.86 36 *e*P **PP 06 50 12.8 -3.0**
E25K Arctic Village 101.90 338 Pdiff **Pdif 06 46 05.3 +1.7**
baz=110
JAVC Velka Javorina 101.92 42 *e*PDIFF **Pdif 06 46 05.3 +1.2**
JAVC *e*SKS **SKSac 06 56 40.0 +4.8**
JAVC *e*PKKP PKKPab 07 02 34.0
CAPN Captain Cook N 101.92 330 Pdiff **Pdif 06 46 04.5 +0.8**
baz=106
Q20K Shuyak Island 101.92 328 Pdiff **Pdif 06 46 04.3 +0.5**
baz=106
SUA Susitna One 101.92 331 Pdiff **Pdif 06 46 04.2 +0.3**
baz=107
PVY Plav 101.93 49⇑ *i*P **Pdif 06 46 04.9 +0.4**
IVA Berane 101.95 49⇑ *i*P **Pdif 06 46 05.3 +0.8**
H24K Noodor Dome 102.01 336 Pdiff **Pdif 06 46 04.4 +0.2**
baz=108
KBN Korca 102.06 51 *i* P **PP 06 50 23.2 +5.3**
MORC Moravsky Berou 102.06 41 *e*PDIFF **Pdif 06 46 05.7 +0.9**
MORC *e*PKKP PKKPab 07 02 32.1
SRO Srobarova 102.08 44 *e*PP **PP 06 50 16.6 -1.1**
NEA2 Nenana 102.11 334 Pdiff **Pdif 06 46 04.8 +0.3**
baz=108
G24K Hadweenzic Riv 102.13 337 Pdiff **Pdif 06 46 06.1 +1.5**
baz=108
MAUC Maruska 102.14 42 *e*PDIFF **Pdif 06 46 06.3 +1.2**
MAUC *e*SKS **SKSac 06 56 36.1 -0.1**
MAUC AMS AMS 07 25 20.0
comp=Z,2μm,21.0s
OHR Ohrid 102.18 51 *i* P **Pdif 06 46 07.5 +1.9**
TRF Thorofare Moun 102.29 333 Pdiff **Pdif 06 46 06.5 +0.9**
baz=107
C26K Camden Bay 102.29 340 Pdiff **Pdif 06 46 06.0 +0.8**
baz=110
SII Sitkinak Islan 102.31 326 Pdiff **Pdif 06 46 05.7 +0.1**
baz=105
I23K Minto, Yukon-K 102.39 335 Pdiff **Pdif 06 46 06.3 +0.5**
baz=107
SKT Skwentna 102.43 331 Pdiff **Pdif 06 46 06.4 +0.4**
baz=106
O20K Slope Mountain 102.43 329 Pdiff **Pdif 06 46 05.9 -0.3**
baz=105
OKC Ostrava-Krasne 102.46 41 *e*P **Pdif 06 46 07.5 +1.1**
OKC MLR MLR
comp=Z,1μm,24.1s
OKC Ostrava-Krasne 102.46 41 *e*PDIFF **Pdif 06 46 07.5 +1.1**
OKC *e*SKS 06 56 26.1
OKC AMS AMS 07 29 30.0
comp=Z,1μm,24.1s
N20K Mount Spurr 102.53 331 Pdiff **Pdif 06 46 07.4 +0.8**
baz=106
SPCR Spurr Chakacha 102.53 331 Pdiff **Pdif 06 46 06.7 +0.1**
baz=106
F24K Squaw Lake 102.54 337 Pdiff **Pdif 06 46 07.1 +0.6**
baz=108
HFS Hagfors 102.54 31 P **Pdif 06 46 07.1 +0.5**
comp=Z,7.7nm,1.0s,baz=247,slow=5.5,SNR=6.5
HFS PP **PP 06 50 18.7 -2.1**
comp=Z,45nm,1.2s,baz=228,slow=7.8,SNR=12
D25K Kavik River 102.58 339 Pdiff **Pdif 06 46 07.1 +0.5**
baz=109
VYHS Vyhne 102.58 43 *e*P **Pdif 06 46 07.4 +0.4**
VYHS *e* 06 50 19.0
VYHS Vyhne 102.58 43 *e*PDIFF **Pdif 06 46 07.4 +0.4**
VYHS Vyhne 102.58 43 *e*PP PKiKP 06 50 19.0 -8.7
P19K Oil Pt 102.61 329 Pdiff **Pdif 06 46 06.8 -0.2**
baz=105
Q19K Cape Douglas, 102.64 328 Pdiff **Pdif 06 46 07.0 -0.1**
baz=105
H23K Yukon River 102.66 335 Pdiff **Pdif 06 46 07.9 +0.9**
baz=107
R18K Karluk 102.71 327 Pdiff **Pdif 06 46 07.3 0.0**
baz=104
GKP Gorka Klasztor 102.72 38 *e*Pdif **Pdif 06 46 08.6 +1.1**
GKP *e*SKSac **SKSac 06 56 40.9 +2.3**
GKP *e*SKKSac **SKKSac 06 57 25.2 +6.6**
GKP *e*L L 07 25 07.3
comp=Z,2μm,31.8s
BPAW Bear Paw Mtn. 102.77 334 Pdiff **Pdif 06 46 07.6 +0.1**
baz=106
CHIR Chirikof Islan 102.91 325 Pdiff **Pdif 06 46 07.8 -0.5**
baz=104
MLY Manley 102.92 335 Pdiff **Pdif 06 46 08.8 +0.5**
baz=106
E24K Your Creek 102.92 338 Pdiff **Pdif 06 46 08.7 +0.5**
baz=107
PPLA Purkeypile 102.97 332 Pdiff **Pdif 06 46 08.2 -0.4**
baz=105
CAST Castle Rocks 103.06 333 Pdiff **Pdif 06 46 08.8 -0.1**
baz=105
G23K Bananza Creek 103.10 336 Pdiff **Pdif 06 46 09.0 0.0**
baz=106
M20K Styx River 103.13 331 Pdiff **Pdif 06 46 09.2 -0.1**
baz=104
LANS Liptovska Anna 103.14 42 *e*P **Pdif 06 46 11.3 +1.8**
LANS *e* 06 50 26.3
LANS Liptovska Anna 103.14 42 *e*PDIFF **Pdif 06 46 11.3 +1.8**
LANS Liptovska Anna 103.14 42 *e*PP **PKiKP 06 50 26.3 -2.5**
NOR Nord 103.16 7 *i* P **Pdif 06 46 13.2 +4.3**
NOR IAmb IAmb 06 46 15.8
comp=Z,3.1nm,0.6s
Q18K Katmai Hardscr 103.25 328 Pdiff **Pdif 06 46 10.2 +0.3**
baz=104
CHUM Lake Minchumin 103.28 333 Pdiff **Pdif 06 46 09.3 -0.4**
baz=105
O19K Port Alsworth 103.28 329 Pdiff **Pdif 06 46 09.9 +0.1**
baz=104
COLD Coldfoot 103.31 337 Pdiff **Pdif 06 46 09.3 -0.5**
baz=106
E23K Chandalar 103.33 338 Pdiff **Pdif 06 46 10.7 +0.7**
baz=106
STIP Stip 103.33 50 *i* P **Pdif 06 46 12.8 +2.3**
D24K Happy Valley 103.36 339 Pdiff **Pdif 06 46 10.6 +0.6**
baz=107
H22K Ishtalitna Cre 103.41 335 Pdiff **Pdif 06 46 10.9 +0.6**
baz=105
I21K Tanana 103.47 335 Pdiff **Pdif 06 46 11.2 +0.6**
baz=105
TOLK Toolik Lake Re 103.47 338 Pdiff **Pdif 06 46 11.4 +0.8**
baz=106
C24K Franklin Bluff 103.48 339 Pdiff **Pdif 06 46 11.1 +0.6**
baz=107
N19K Bonanza Creek 103.51 330 Pdiff **Pdif 06 46 10.0 -1.0**
baz=104
P18K Big Mountain, 103.54 328 Pdiff **Pdif 06 46 11.3 +0.2**
baz=103
OJC Ojcow 103.58 41 *e*Pdif **Pdif 06 46 12.6 +1.1**
OJC *e*PP **PP 06 50 25.6 -3.4**
OJC *e*SKSac **SKSac 06 56 41.9 -0.9**
OJC *e*SKKSac **SKKSac 06 57 30.9 +5.8**
OJC *e*SP SP 06 59 26.4 -2.6
OJC *e*SS SS 07 04 46.8 -21
Q17K Contact Creek 103.61 327 Pdiff **Pdif 06 46 11.3 -0.2**
baz=103
O18K Koktuh Hills 103.63 329 Pdiff **Pdif 06 46 11.4 -0.1**
baz=103
MDVR Moldovita 103.67 47⇓ P **PKiKP 06 50 29.0 -0.9**
M19K Big River Lodg 103.72 331 Pdiff **Pdif 06 46 12.4 +0.6**
baz=104
G22K Bettles 103.72 336 Pdiff **Pdif 06 46 12.2 +0.5**
baz=105
NIE Niedzica 103.72 42 *e*Pdif **Pdif 06 46 14.4 +2.3**
NIE *e*PP **PKiKP 06 50 28.4 -1.5**
NIE *e*SKSac **SKSac 06 56 45.7 +2.1**
NIE *e*SKKSac **SKKSac 06 57 30.3 +4.2**
NIE *e*SP SP 06 58 46.1 -45
NIE *e*L L 07 26 49.2
comp=Z,2μm,28.4s
R17K Ugashik Creek 103.74 326 Pdiff **Pdif 06 46 12.1 +0.1**
baz=103
BZS Buzias 103.79 46⇑ P **PKiKP 06 50 25.8 -4.2**
K20K Telida 103.91 332 Pdiff **Pdif 06 46 12.3 -0.3**
baz=103
H21K Melozitna Rive 103.92 335 Pdiff **Pdif 06 46 13.2 +0.6**
baz=104
D23K Nanushuk River 103.95 338 Pdiff **Pdif 06 46 13.4 +0.8**
baz=105
IDI Anoyia 103.98 57⇑ P **PKiKP 06 50 30.7 -0.1**
IDI Anoyia 103.98 57 Pdiff **Pdif 06 46 14.6 +1.0**
comp=Z,16nm,1.0s,baz=286,slow=5.7,SNR=5.4
IDI PP **PKiKP 06 50 30.5 -0.3**
comp=Z,37nm,1.1s,baz=278,slow=5.3,SNR=4.9
L19K White Mountain 103.99 331 Pdiff **Pdif 06 46 13.0 0.0**
baz=103
Q16K King Salmon 104.10 327 Pdiff **Pdif 06 46 13.6 +0.1**
baz=102
P17K Kvichak River 104.10 328 Pdiff **Pdif 06 46 13.0 -0.4**
baz=102
F22K John River 104.12 337 Pdiff **Pdif 06 46 13.4 -0.1**
baz=104
J20K Nowinta River 104.13 333 Pdiff **Pdif 06 46 13.4 -0.1**
baz=103
C23K Itkillik River 104.15 339 Pdiff **Pdif 06 46 14.0 +0.5**
baz=105
N18K Kilae Creek 104.15 330 Pdiff **Pdif 06 46 13.7 0.0**
baz=102
SURR Surduc 104.16 46⇑ P **PKiKP 06 50 26.3 -4.4**
HERR Herculane 104.18 47⇑ P **PKiKP 06 50 31.9 +1.1**
VTS Vitosha 104.29 50 *e*P **Pdif 06 46 15.5 +0.5**
STHS Stebnicka Huta 104.33 42 *e*PP **PKiKP 06 50 32.3 +1.4**
CRVS Cervenica-Dubn 104.36 43 *e*P **Pdif 06 46 16.3 +1.3**
CRVS *e* 06 50 33.5
CRVS Cervenica-Dubn 104.36 43 *e*PDIFF **Pdif 06 46 16.3 +1.3**
CRVS *e*PP **PP 06 50 33.5 -1.3**
CRVS *e* 07 02 22.6
G21K Allakaket 104.40 336 Pdiff **Pdif 06 46 14.5 -0.2**
baz=103
MMB Musomishta 104.45 51 *e*P **Pdif 06 46 15.6 0.0**
BEL Belsk 104.53 40 *e*Pdif **Pdif 06 46 16.6 +1.0**
BEL *e*PP **PP 06 50 33.6 -2.3**
BEL *e*SKSac **SKSac 06 56 49.9 +2.8**
BEL *e*SKKSac **SKKSac 06 57 36.0 +4.4**
GZR Gura Zlata 104.54 47⇑ P **PKiKP 06 50 35.1 +3.6**
F21K Alatna River 104.55 336 Pdiff **Pdif 06 46 15.0 -0.4**
baz=103
O17K Koliganek Bris 104.55 329 Pdiff **Pdif 06 46 14.6 -0.9**
baz=102
D22K Ayikyak River 104.63 338 Pdiff **Pdif 06 46 15.2 -0.5**
baz=103
TTA Tatalina 104.68 332 Pdiff **Pdif 06 46 15.8 -0.3**
baz=102
H20K Anotteneega Mo 104.72 335 Pdiff **Pdif 06 46 16.6 +0.4**
baz=102
J19K Poorman 104.72 333 Pdiff **Pdif 06 46 15.7 -0.5**
baz=102
N17K Nushagak Hills 104.74 329 Pdiff **Pdif 06 46 16.2 -0.2**
baz=101
MPEP Malo Peshtene 104.81 49 *e*P **Pdif 06 46 17.8 +0.7**
L18K Granite Mounta 104.84 331 Pdiff **Pdif 06 46 16.4 -0.3**
baz=101
APE Apeiranthos 104.87 56⇑ P **PKiKP 06 50 28.5 -3.8**
KOLS Kolonicke sedl 104.89 43 *e*PP **PKiKP 06 50 37.1 +5.1**
KOLS *e* 07 02 21.3
CHNA Chernabura Isl 104.91 323 PKiKP **PKiKP 06 50 31.6 -0.1**
baz=101
E21K Killik River 104.99 338 PKiKP **PKiKP 06 50 32.1 +0.5**
baz=102
O16K Kokwok River B 105.01 328 PKiKP **PKiKP 06 50 32.0 +0.2**
baz=101
M17K Holitna River 105.03 330 PKiKP **PKiKP 06 50 32.8 +0.9**
baz=101
J18K Innoko River 105.10 332 PKiKP **PKiKP 06 50 32.0 +0.1**
baz=101
S14K Fog Glacier 105.16 325 PKiKP **PKiKP 06 50 32.1 -0.2**
baz=101
B22K Teshekpuk Lake 105.20 340 PKiKP **PKiKP 06 50 31.9 +0.1**
baz=102
RZN Rozhen 105.20 51 *e*P **Pdif 06 46 19.6 +0.5**
KWP Kalwaria Pacla 105.31 42 *e*Pdif **Pdif 06 46 20.0 +0.8**
KWP *e*PP **PKiKP 06 50 30.9 -1.8**
KWP *e*SKSac **SKSac 06 56 52.1 +1.3**
KWP *e*SKKSac **SKSdf 06 57 32.8 -3.4**
KWP *e*SP **SP 06 59 37.0 -10**
KWP *e*L L 07 27 52.2
comp=Z,3μm,29.7s
F20K Avaraart Lake 105.37 336 PKiKP **PKiKP 06 50 31.8 -0.4**
baz=101
H19K Roundabout Mou 105.37 334 PKiKP **PKiKP 06 50 32.7 +0.4**
baz=101
GCSA Galena City Sc 105.41 334 PKiKP **PKiKP 06 50 31.6 -0.8**
baz=101
C21K Knifeblade Rid 105.43 338 PKiKP **PKiKP 06 50 32.1 -0.3**
baz=101
B21K Ikpikpuk River 105.46 339 PKiKP **PKiKP 06 50 32.4 +0.1**
baz=101
N16K Nishlik Lake 105.50 329 PKiKP **PKiKP 06 50 32.2 -0.6**
baz=100
SDPT Sand Point 105.51 324 PKiKP **PKiKP 06 50 32.7 -0.1**
baz=100
KMBO Kilima Mbogo 105.57 97 *e*P **Pdif 06 46 22.6 +1.2**
KMBO IAmb IAmb 06 46 25.8
comp=Z,89nm,1.9s
KMBO Kilima Mbogo 105.57 97 Pdiff **Pdif 06 46 24.1 +2.6**
comp=Z,1.0nm,0.5s,baz=239,slow=7.0,SNR=5.9
KMBO PP **PP 06 50 45.5 +0.8**
comp=Z,10nm,1.1s,baz=240,slow=9.7,SNR=3.6
KMBO PKKPab **PKKPab 07 02 17.6 +1.2**
comp=Z,1.2nm,0.4s,baz=109,slow=4.3,SNR=3.5
L17K Donlin 105.57 331 PKiKP **PKiKP 06 50 32.6 -0.2**
baz=100
AAL Aland 105.63 31 *e*P **PP 06 50 41.5 -2.2**
K17K Iditarod 105.67 331 PKiKP **PKiKP 06 50 32.8 -0.2**
baz=100
M16K Timber Creek 105.69 330 PKiKP **PKiKP 06 50 32.5 -0.5**
baz=100
G19K Purcell Mounta 105.74 335 PKiKP **PKiKP 06 50 32.1 -0.9**
baz=100
E20K Nigu River 105.77 337 PKiKP **PKiKP 06 50 32.5 -0.6**
baz=100
PVL Pavlikeni 105.79 49 *e*P **Pdif 06 46 21.7 +0.3**
O15K Ungalikthiuk R 105.81 328 PKiKP **PKiKP 06 50 31.9 -1.4**
baz=100
ARR Arges 105.82 47⇓ P **PKiKP 06 50 38.3 +4.5**
A22K Sinclair Lake 105.84 340 PKiKP **PKiKP 06 50 33.1 +0.1**
baz=101
KIBK Kibwezi 105.91 98 PP **PP 06 50 45.6 -1.4**
PBUR Paburge 105.95 36 *e*P **PP 06 50 44.4 -1.9**
D20K Etivluk River 106.00 338 PKiKP **PKiKP 06 50 32.8 -0.6**
baz=100
E19K Redstone River 106.02 336 PKiKP **PKiKP 06 50 33.9 +0.4**
baz=100

L16K	Owhat River	106.05	330		PKiKP	PKiKP	06 50 34.0	+0.4
	baz=99								
H18K	Honhosa River	106.10	334		PKiKP	PKiKP	06 50 34.4	+0.7
	baz=99								
N15K	Kwethluk River	106.10	329		PKiKP	PKiKP	06 50 33.4	-0.4
	baz=99								
VOIR		106.12	47	⇓	P	PP	06 50 43.1	-4.9
F19K	Shaleruckik Mo	106.13	336		PKiKP	PKiKP	06 50 34.2	+0.6
	baz=99								
LVV	L'vov	106.18	42		eP	Pdif	06 46 18.3	-4.7
LVV					e		06 57 38.2	
LVV					ePS	SP	06 59 55.3	-0.8
LVV					MLR	MLR		
	comp=N,1μm,20.0s							
LVV					MLR	MLR		
	comp=E,1μm,20.0s							
LVV					MLR	MLR		
	comp=Z,1μm,20.0s							
G18K	Tagagawik	106.33	335		PKiKP	PKiKP	06 50 34.0	-0.1
	baz=99								
SUW	Suwalki	106.34	38		ePdif	Pdif	06 46 23.9	+0.4
SUW					ePP	PP	06 50 44.5	-4.7
SUW					eSKSac	SKSac	06 56 55.5	+0.5
SUW					eL	L	07 28 02.2	
	comp=Z,3μm,28.4s							
SUW	Suwalki	106.34	38		eP	PP	06 50 46.3	-2.9
SZH	Strazhitsa	106.39	49		eP	Pdif	06 46 24.6	+0.5
B20K	Meade River	106.40	339		PKiKP	PKiKP	06 50 34.6	+0.5
	baz=99								
M15K	Kasigluk River	106.47	329		PKiKP	PKiKP	06 50 34.4	-0.1
	baz=98								
D19K	Kuna River	106.51	337		PKiKP	PKiKP	06 50 34.5	+0.1
	baz=98								
O14K	Tigyukauivet M	106.55	328		PKiKP	PKiKP	06 50 34.6	0.0
	baz=98								
RAF	Rauma	106.62	31		eP	PP	06 50 48.7	-2.3
H17K	Granite Mounta	106.72	334		PKiKP	PKiKP	06 50 34.7	-0.1
	baz=98								
MLR	Muntele Rosu	106.75	47	⇑	P	PP	06 50 48.5	-4.2
MLR	Muntele Rosu	106.75	47		Pdiff	Pdif	06 46 28.3	+2.5
	comp=Z,3.1nm,0.8s,baz=295,slow=18,SNR=3.1								
MLR					PP	PP	06 50 48.8	-3.9
	comp=Z,79nm,1.3s,baz=276,slow=8.9,SNR=7.5								
HSPB	Hornsund (broa	106.78	14		ePdif	Pdif	06 46 27.0	+1.9
HSPB					eSKSac	SKSac	06 56 56.2	+0.1
HSPB					eSKKSac	SKKSac	06 57 45.7	-0.7
HSPB					eSP	SP	06 59 58.1	-2.8
HSPB					eSS	SS	07 05 48.3	-1.4
HSPB					eL	L	07 24 11.0	
	comp=Z,7μm,44.9s							
J16K	Anvik River	106.80	332		PKiKP	PKiKP	06 50 35.4	+0.4
	baz=98								
F18K	Selawik	106.83	335		PKiKP	PKiKP	06 50 35.9	+1.0
	baz=98								
N14K	Kuskokwak Cree	106.86	328		PKiKP	PKiKP	06 50 35.9	+0.7
	baz=98								
I17K	Unalakleet	106.92	332		PKiKP	PKiKP	06 50 35.5	+0.4
	baz=98								
COVR	Voineasa-Covas	106.98	47	⇓	P	PP	06 50 53.7	-0.6
PABE	Paberze	107.01	36		eP	PP	06 50 52.0	-2.1
VSVD	Vaisvydziai	107.05	36		eP	PP	06 50 52.4	-1.9
K15K	Wolf Creek Mou	107.09	331		PKiKP	PKiKP	06 50 35.7	+0.1
	baz=97								
G17K	Kiwalik Mounta	107.10	334		PKiKP	PKiKP	06 50 35.2	-0.3
	baz=97								
M14K	Bethel	107.10	329		PKiKP	PKiKP	06 50 35.8	+0.2
	baz=97								
C19K	Lookout Ridge	107.12	338		PKiKP	PKiKP	06 50 34.6	-0.9
	baz=97								
SPITS	Spitsbergen Ar	107.13	12		PKKPbc	PKKPbc	07 01 53.5	-1.9
	comp=Z,19nm,1.0s,baz=108,slow=7.1,SNR=4.3								
SPITS					PKKP	PKKPdf	07 02 07.5	-0.5
	comp=Z,7.8nm,0.5s,baz=94,slow=8.5,SNR=13								
E18K	Tukpahlearik C	107.30	336		PKiKP	PKiKP	06 50 35.9	+0.1
	baz=96								
MTSE	Matsula	107.34	33		eP	PP	06 50 53.5	-2.9
VRI	Vrincioaia	107.35	47	⇑	P	PKiKP	06 50 32.6	-4.0
F17K	Baldwin Pennin	107.45	335		PKiKP	PKiKP	06 50 34.9	-1.2
	baz=96								
L14K	Kuka Creek	107.52	330		PKiKP	PKiKP	06 50 36.5	+0.2
	baz=96								
AMRR	Amara	107.58	48	⇑	P	PP	06 50 57.4	-1.1
C18K	Ulukok River	107.65	337		PKiKP	PKiKP	06 50 36.6	0.0
	baz=96								
H16K	Elim	107.67	333		PKiKP	PKiKP	06 50 36.9	+0.3
	baz=96								
PETR	Petresti	107.68	47	⇓	P	PP	06 51 19.6	+20
E17K	Hotham Inlet	107.74	336		PKiKP	PKiKP	06 50 37.2	+0.5
	baz=96								
M13K	Dall Lake	107.74	329		PKiKP	PKiKP	06 50 36.5	-0.3
	baz=96								
G16K	Koyuk River	107.79	334		PKiKP	PKiKP	06 50 37.2	+0.4
	baz=96								
MEF	Metsahovi	107.81	32		eP	PP	06 50 59.1	-0.6
B18K	Kokolik River	107.93	338		PKiKP	PKiKP	06 50 37.3	+0.4
	baz=95								
J14K	Nanvaranak Lak	108.07	331		PKiKP	PKiKP	06 50 38.0	+0.7
	baz=95								
CFR	Carcaliu	108.23	48	⇓	P	PKiKP	06 50 38.8	+0.6
ISAL	Salakas	108.23	37		eP	PP	06 51 02.6	-0.4
IIGN	Ignalina	108.27	37		eP	PP	06 51 02.4	-0.8
D17K	Noatak River	108.28	336		PKiKP	PKiKP	06 50 37.6	0.0
	baz=94								
C17K	DeLong Mountai	108.36	337		PKiKP	PKiKP	06 50 37.2	-0.6
	baz=94								
TPGR	Topolog	108.38	48	⇓	P	PP	06 50 57.9	-6.6
G15K	Niukluk	108.47	333		PKiKP	PKiKP	06 50 38.0	-0.1
	baz=94								
K13K	Kusilvak Mount	108.52	330		PKiKP	PKiKP	06 50 38.5	+0.3
	baz=95								
NACGM	Naroch	108.54	37		ePP	PP	06 51 02.6	-2.6
	comp=E,14μm,1.6s								
IDID	Didziasalis	108.56	37		eP	PP	06 51 03.9	-1.4
FINES	FINESS Array B	108.74	30		PP	PP	06 51 06.3	-0.2
	comp=E,21nm,1.0s,baz=282,slow=1.3,SNR=12								
FINES					PKKPbc	PKKPbc	07 01 48.9	-1.0
	comp=E,3.4nm,0.7s,baz=93,slow=4.9,SNR=11								
SORM	Soroca	108.76	44	⇓	P	PP	06 51 02.3	-4.7
VSU	Vasula	108.84	34		eP	PP	06 51 05.7	-1.6
ARCES	ARCESS Array B	108.94	22		PP	PP	06 51 06.0	-1.7
	comp=E,12nm,1.1s,baz=251,slow=7.6,SNR=5.7								
ARCES					PKKPbc	PKKPbc	07 01 47.9	-1.6
	comp=E,4.1nm,0.6s,baz=84,slow=3.8,SNR=30								
MNK	Minsk	109.14	38		i PKP	PKiKP	06 50 39.9	+0.2
	comp=E,9.0nm,1.2s								
MNK					i PKP	PKiKP	06 50 39.9	+0.2
	comp=N,20nm,1.1s								
MNK					i PKP	PKiKP	06 50 39.9	+0.2
	comp=Z,15nm,1.0s,baz=265								
MNK					i pPKP	PP	06 51 00.9	-8.7
MNK					i PP	PP	06 51 07.0	-2.6
MNK					i SKS	SKSdf	06 57 39.5	-3.7
MNK					i sSKS		06 58 29.2	
MNK					i PS	PS	06 59 35.9	-62
MNK					i SS	SS	07 06 16.8	-5.7
MNK					i SSS	SSS	07 10 29.5	
MNK					i LQ	LQ	07 19 37.0	
MNK					i LR	LR	07 24 20.6	
MNK					i LRM	MLR	07 35 03.2	
	comp=E,963nm,22.4s								
MNK					i LRM	MLR	07 35 19.8	
	comp=N,1μm,20.2s								
MNK					i LRM	MLR	07 35 28.0	
	comp=Z,1μm,19.6s								
AKASG	Malin Array Be	109.60	42		PKiKP	PKiKP	06 50 41.6	+1.0
	comp=Z,1.5nm,0.4s,baz=273,slow=2.8,SNR=9.9								
AKASG					PP	PP	06 51 10.1	-3.0
	comp=Z,52nm,1.3s,baz=261,slow=7.6,SNR=4.2								
AKASG					PKKPbc	PKKPbc	07 01 46.2	-0.6
	comp=Z,0.6nm,0.5s,baz=78,slow=2.7,SNR=5.4								
TNA	Tin City	110.12	334		PKiKP	PKiKP	06 50 41.2	+0.1
	baz=90								
LEF	Lefka	110.39	59		eP	PP	06 51 12.9	-6.3
CSS	Mathiatis	110.72	59		eP	PP	06 51 17.6	-4.1
BERE	Bereket-Mersin	110.83	57		eP	PP	06 51 08.8	-14
LFK	Lefkose	110.93	59		eP	PP	06 51 21.3	-1.9
AKKU	Akkuyu-Mersin	111.07	58		eP	PP	06 51 16.9	-7.2
SPIA	Saint Paul Isl	111.11	325		PKiKP	PKiKP	06 50 43.2	-0.1
	baz=92								
AFSR	Afar-Bala (An	111.11	54		eP	PP	06 51 20.6	-3.9
KEBE	Keben-Mersin	111.24	57		eP	PP	06 51 23.9	-1.5
SULT	Sultanhani-AKS	111.31	55		eP	PP	06 51 23.5	-2.4
SILI	Silifke-Mersin	111.39	57		eP	PP	06 51 05.5	-21
BRTR	Keskin Array B	111.58	54		PKiKP	PKiKP	06 50 45.9	+0.9
	comp=Z,9.3nm,1.0s,baz=197,slow=3.8,SNR=11								
BRTR					PP	PP	06 51 28.1	+0.2
	comp=Z,32nm,1.1s,baz=238,slow=6.8,SNR=15								
BRTR					PKKPab	PKKPab	07 01 49.0	+1.1
	comp=Z,7.0nm,0.9s,baz=108,slow=4.0,SNR=11								
KIZK	Mersin	111.58	57		eP	PP	06 51 25.2	-2.6
KAMT	Kaman	111.60	54		eP	PP	06 51 26.3	-1.7
YAYX	Yaylak	111.63	55		eP	PP	06 51 17.4	-11
GAMB	Gambell	111.78	332		PKiKP	PKiKP	06 50 44.3	0.0
	baz=88								
APA	Apatity	111.89	24	⇓	iPKIKP	PKiKP	06 50 42.3	-2.2
APA					i		06 57 19.0	
APA					pmax	pmax		
	comp=Z,9.0nm,1.1s								
MERS	Mersin	111.94	57		eP	PP	06 51 03.9	-27
DZM	Mont Dzumac	111.98	236		eP	Pdif	06 46 38.8	-11
	comp=Z,538nm,24.4s								
DZM	Mont Dzumac	111.98	236		ePP	PP	06 51 19.5	-11
	comp=Z,2μm,24.9s								
DZM	Mont Dzumac	111.98	236		eSS	SS	07 06 54.8	-6.5
	comp=Z,2μm,29.9s								
DZM	Mont Dzumac	111.98	236		eLR	LR	07 23 54.5	
	comp=Z,13μm,33.5s								
MMAI	Mount Meron Ar	112.14	61		PKiKP	PKiKP	06 50 47.3	+1.2
	comp=Z,6.8nm,0.6s,baz=70,slow=1.7,SNR=8.1								
MMAI					PKKPbc	PKKPbc	07 01 39.3	+1.4
	comp=Z,1.1nm,0.4s,baz=71,slow=6.3,SNR=1.9								
MMAI					PKKPab	PKKPab	07 01 47.8	+2.2
	comp=Z,11nm,0.9s,baz=305,slow=10,SNR=7.3								
LVZ	Lovozero	112.33	23	⇓	iPKIKP	PKiKP	06 50 44.7	-0.7
LVZ					pmax	pmax		
	comp=Z,31nm,1.7s								
CORM	Corum	112.39	53		eP	PP	06 51 30.4	-3.2
CMRD	Camardi-Nigde	112.40	56		eP	PP	06 51 27.5	-6.3
KARA	Karaisali	112.41	57		eP	PP	06 51 30.4	-3.3
SIM	Simferopol'	112.42	48		eP	Pdif	06 47 11.2	+20
SIM					ePS	PKKPbc	07 00 56.0	-41
SIM					pmax	pmax		
	comp=Z,500nm,11.8s								
YOZ	Yozgat	112.86	54		eP	PP	06 51 35.6	-1.5
BNN	Bunyan	113.19	55		eP	PP	06 51 28.7	-11
ASF	Jabal al Asfar	113.27	62		PKiKP	PKiKP	06 50 49.8	+1.5
	comp=Z,16nm,0.8s,baz=162,slow=1.5,SNR=12								
ASF					PP	PP	06 51 34.6	-5.5
	comp=Z,44nm,1.2s,baz=278,slow=2.3,SNR=4.3								
SARI	SarD1z-Kayseri	113.60	56		eP	PP	06 51 30.0	-12
TOKT	Tokat	113.86	53		eP	PP	06 51 42.3	-1.7
KMRS	Kahramanmaras	113.89	57		eP	PP	06 51 31.9	-12
GAZ	Gaziantep	114.11	57		eP	PP	06 51 45.6	-0.3
OBN	Obninsk	114.17	37		deP	Pdif	06 47 12.7	+14
OBN					i		06 50 49.4	
OBN					i		06 57 27.7	
OBN					i SS	SS	07 07 30.3	+0.9
OBN					eSSS	SSS	07 11 53.2	
OBN					pmax	pmax		
	comp=Z,118nm,1.7s								
OBN	Obninsk	114.17	37		PKP	PKiKP	06 50 49.7	+0.6
	comp=Z,15nm,0.4s,baz=207,slow=2.3,SNR=9.9								
OBN					PP	PP	06 51 40.0	-5.5
	comp=Z,22nm,0.3s,baz=245,slow=3.3,SNR=6.0								
SVSK	Karacayir	114.18	54		eP	PP	06 51 44.9	-1.2
DARE	Darende-Malaty	114.45	55		eP	PP	06 51 44.5	-3.7
RSDY	Resadiye-TOKAT	114.46	53		eP	PP	06 51 46.3	-1.9
MOS	Moscow	114.75	37		i PKIKP	PKPdf	06 50 50.1	-0.1
MOS					e		06 51 09.3	
MOS					e		06 57 30.8	
MOS					ePS	PS	07 01 20.4	-9.1
MOS					pmax	pmax		
	comp=Z,77nm,1.3s								
ANN	Anapa	114.77	49		i PKIKP	PKiKP	06 50 51.1	+0.5
ANN					e		06 51 10.9	
ANN					e		06 57 31.7	
ANN					eSP	SP	07 01 27.5	+8.7
ANN					eSS	SS	07 07 35.8	-2.0
ANN					pmax	pmax		
	comp=Z,76nm,1.2s								
ARPR	Arapgir-MALATY	115.15	55		eP	PP	06 51 33.4	-20
KLMR	Klimovskoe	115.26	31		SS	SS	07 07 25.7	-18
KLMR	Klimovskoe	115.26	31		ePKIKP	PKiKP	06 50 50.6	-0.5
KLMR							06 57 39.1	
KLMR					eSP	SP	07 01 23.5	+1.2
KLMR					pmax	pmax		
	comp=Z,113nm,1.5s								
KLMR	Klimovskoe	115.26	31		ePKPdf	PKiKP	06 50 50.7	-0.4
KLMR	Klimovskoe	115.26	31		AMP		06 50 53.9	
	comp=Z,113nm,1.5s								
KLMR	Klimovskoe	115.26	31		ePP	PP	06 51 49.0	-4.0
KLMR	Klimovskoe	115.26	31		SKSac	SKSac	06 57 39.1	+7.7
KLMR	Klimovskoe	115.26	31		SKSac	SKSac	06 57 39.1	+7.7
KLMR	Klimovskoe	115.26	31		eSP	SP	07 01 23.6	+1.3
KLMR	Klimovskoe	115.26	31		SS	SS	07 07 25.7	-18
ILIC	ilic-Erzincan	115.35	55		eP	PP	06 51 49.7	-4.9
URFA	Urfa	115.41	57		eP	PP	06 51 51.9	-3.1
LPSR	Galich'ya Gora	115.68	40		ePKIKP	PKPdf	06 50 51.3	-0.8
LPSR					eSP	SP	07 01 28.6	+2.0
LPSR					pmax	pmax		
	comp=Z,90nm,1.4s								
SVRC	Sivrice-ELAZID	115.86	56		eP	PP	06 51 54.9	-3.4
VSR	Storozhevoye	115.90	41		ePKIKP	PKPdf	06 50 50.6	-2.0
VSR					e		06 51 55.5	
VSR					eSP	SP	07 01 28.6	-0.1
VSR					pmax	pmax		
	comp=Z,90nm,2.0s								
VORR	Voronezh	115.90	41		ePKIKP	PKPdf	06 50 50.2	-2.4
VORR					e		06 51 55.5	
VORR					eSP	PS	07 01 45.7	+5.5
VORR					pmax	pmax		
	comp=Z,130nm,0.4s								
PTK	Pertek	115.96	55		eP	PP	06 51 56.0	-3.0
VORD	Divnogorie	115.99	42		ePKIKP	PKPdf	06 50 50.9	-1.9
VORD					e		06 51 56.1	
VORD					eSP	PS	07 01 41.0	0.0
VORD					pmax	pmax		
	comp=Z,20nm,1.0s								
ERZN	Erzincan	116.25	54		eP	PP	06 51 58.3	-2.6
SOC	Sochi	116.38	50		eP	Pdif	06 47 03.9	-4.6
SOC					i		06 50 52.1	
SOC					e		06 51 58.7	
SOC					ePPP	PPP	06 54 28.3	
SOC					e		06 57 34.3	
SOC					ePS	PS	07 01 42.6	-2.3
SOC					eSS	SS	07 07 56.5	-2.6
SOC					pmax	pmax		
	comp=Z,59nm,1.1s								
DYBB	Diyarbakir	116.49	56		eP	PP	06 51 59.0	-3.6
BNGB	Bingl	116.97	55		eP	PP	06 51 50.4	-16
SVAN	Silvan-Diyarba	117.33	56		eP	PP	06 52 01.9	-6.5
VRH	Novokhopyorsk	117.50	41		ePKIKP	PKPdf	06 50 53.2	-2.5
VRH					eSP	SP	07 01 51.4	+8.2
VRH					pmax	pmax		
	comp=Z,80nm,1.2s								
VRTB	Varto-Mus	117.58	55		eP	PP	06 52 07.6	-2.6
KOPR	Koprukoy-ERZUR	117.91	54		eP	PP	06 52 11.7	-0.8
PRGR	Permogore	118.03	29		ePKIKP	PKPdf	06 50 55.5	-0.9
PRGR					e		06 52 12.5	
PRGR					pmax	pmax		
	comp=Z,46nm,1.0s								
SIRT	Sirnak	118.29	57		eP	PP	06 52 10.6	-4.5
MLAZ	Malazgirt-MUS	118.43	55		eP	PP	06 52 15.4	-0.7
KIV	Kislovodsk	118.53	50	⇓	P	PKiKP	06 50 58.9	+0.8
KIV	Kislovodsk	118.53	50		eP	Pdif	06 47 18.8	+0.6
KIV					i		06 50 58.7	
KIV					e		06 52 14.7	
KIV					e		06 57 45.1	
KIV					ePS	PKKPdf	07 02 04.1	+18
KIV					eSS	SS	07 08 26.1	-1.1
KIV					eSSS	SSS	07 12 53.9	
KIV					pmax	pmax		
	comp=Z,42nm,1.1s								
KIV					MLR	MLR		
	comp=Z,853nm,22.0s								
KBZ	Khabaz	118.69	50		c iPKIKP	PKiKP	06 50 59.0	+0.8
KBZ	Khabaz	118.69	50		PKP	PKiKP	06 50 59.3	+1.0
	comp=Z,39nm,1.0s,baz=265,slow=2.5,SNR=37								
KBZ					PP	PP	06 52 15.7	-1.7
	comp=Z,17nm,1.0s,baz=281,slow=8.9,SNR=5.9								
KBZ					PKKPbc	PKKPab	07 01 17.5	+1.4
	comp=Z,4.4nm,0.8s,baz=72,slow=4.9,SNR=6.0								
AKDM	Akdamar-Van	118.74	56		eP	PP	06 52 10.9	-7.4
GOF	Gofitskoye	118.75	48		cePKIKP	PKiKP	06 50 59.3	+0.9
AGRB	Hanur-Agry	118.78	55		eP	PP	06 52 10.9	-7.6
KARS	Kars	118.85	53			PKiKP	06 51 00.4	+1.5
KARS	Kars	118.85	53		PKIKP	PKiKP	06 51 00.4	+1.5
VANB	Van	119.07	56		eP	PP	06 52 17.6	-2.9
CUKT	Cukurca	119.21	57		eP	PP	06 52 17.9	-3.6
ZEI	Tsey	119.44	51		i PKIKP	PKPdf	06 50 59.6	-0.4
ZEI					pmax	pmax		
	comp=Z,41nm,1.3s								
CLDR	Caldiran	119.49	55		eP	PP	06 52 18.4	-5.1
GNI	Garni	120.12	54			PKiKP	06 51 03.1	+1.6
GNI	Garni	120.12	54		c iPKIKP	PKiKP	06 51 02.2	+0.8
GNI					pmax	pmax		
	comp=Z,106nm,1.7s								
GNI	Garni	120.12	54		PKP	PKiKP	06 51 02.3	+0.9
	comp=Z,19nm,0.7s,baz=352,slow=3.7,SNR=13								
GNI					PP	PP	06 52 26.1	-1.6
	comp=Z,20nm,0.7s,baz=115,slow=7.7,SNR=6.8								
KIRV	Kirov	120.62	32		c iPKIKP	PKiKP	06 51 02.2	+0.6
KIRV	Kirov	120.62	32		PKP	PKiKP	06 51 01.9	+0.3
	comp=Z,13nm,0.4s,baz=287,slow=1.1,SNR=18								
KIRV					pPKP	pPKPdf	06 51 28.5	+0.4
	comp=Z,14nm,0.4s,baz=201,slow=6.3,SNR=2.3								
KIRV					PP	PP	06 52 24.6	-5.5
	comp=Z,10nm,0.5s,baz=270,slow=2.4,SNR=8.8								
BELG	Belogornoye	120.99	39		PKP	PKiKP	06 51 02.7	+0.2
	comp=Z,51nm,0.9s,baz=263,slow=2.8,SNR=18								
BELG					pPKP	pPKPdf	06 51 30.7	+1.3
	comp=Z,48nm,0.9s,baz=49,slow=1.8,SNR=3.2								
BELG					PP	PP	06 52 27.2	-5.6
	comp=Z,102nm,1.1s,baz=91,slow=1.5,SNR=14								
STKA	Stephens Creek	121.68	211		PKP	PKiKP	06 51 04.9	+0.2
	comp=Z,13nm,0.5s,baz=114,slow=4.7,SNR=29								
STKA					pPKP	pPKPdf	06 51 30.8	-0.3
	comp=Z,5.9nm,0.5s,baz=130,slow=4.2,SNR=2.3								
STKA					PP	PP	06 52 34.2	-2.9
	comp=Z,24nm,1.1s,baz=141,slow=7.3,SNR=8.3								
STKA					PKKPbc	PKKPbc	07 01 04.2	-0.1
	comp=Z,6.1nm,1.0s,baz=312,slow=6.8,SNR=4.3								
MAK	Makhachkala	122.08	50		eP	Pdif	06 47 34.0	+0.2
MAK					i		06 51 03.9	
MAK					e		06 51 26.5	
MAK					e		06 52 37.1	
MAK					ePPP	PPP	06 55 13.2	
MAK					e		06 57 54.7	
MAK					eSSS	SSS	07 13 44.2	
MAK					pmax	pmax		
	comp=Z,255nm,1.2s								
TIXI	Tiksi	125.74	353			PKiKP	06 51 11.5	+0.1
TIXI	Tiksi	125.74	353		c iPKIKP	PKPdf	06 51 11.0	0.0
TIXI					pmax	pmax		
	comp=Z,24nm,0.8s								
ARU	Arti	125.99	33			PKPdf	06 51 11.8	-0.1
ARU	Arti	125.99	33		i PKIKP	PKiKP	06 51 13.0	+0.7
ARU							06 53 03.6	
ARU							06 58 17.1	
ARU					SP	SP	07 02 58.6	+0.5
WHFO	Wadi Hawf	126.37	81		P	PKiKP	06 51 14.0	-0.2
	SNR=9.5								
JRN	Qarnain Island	126.44	72		P	PKiKP	06 51 14.3	+0.2
RBK	Rabkut	126.70	82		P	PKiKP	06 51 15.4	+0.5
	SNR=8.2								
DOK	Doka	126.82	80		P	PKiKP	06 51 15.2	+0.1
	SNR=13								
MZR	Muzera	126.82	75		i PKiKP	PKiKP	06 51 15.4	+0.4
	SNR=13								
MZR	Muzera	126.82	75		P	PKiKP	06 51 15.8	+0.9
	SNR=14								
SVE	Sverdlovsk	126.88	32		i PKIKP	PKiKP	06 51 14.6	+0.6
SVE					pmax	pmax		
	comp=Z,99nm,1.7s								
SEY	Seymchan	127.10	337	⇓	ePKIKP	PKiKP	06 51 15.8	+1.5
SEY					pmax	pmax		
	comp=Z,78nm,0.8s								
SEY	Seymchan	127.10	337		PKP	PKiKP	06 51 15.2	+0.9
	comp=Z,66nm,0.8s,baz=102,slow=2.5,SNR=40								
SEY					pPKP	pPKPdf	06 51 40.9	+0.5
	comp=Z,24nm,0.7s,baz=123,slow=2.4,SNR=2.9								
SEY					PP	PP	06 53 11.4	-1.9
	comp=Z,13nm,0.7s,baz=59,slow=6.7,SNR=4.5								
DMTO	DMTO	127.44	82		P	PKiKP	06 51 16.2	-0.1
	SNR=11								
AKTO	Aktyubinsk	127.77	40		PKIKP	PKiKP	06 51 16.6	+0.6
AKTO	Aktyubinsk	127.77	40		PKP	PKiKP	06 51 16.4	+0.3
	comp=Z,46nm,1.0s,baz=303,slow=1.9,SNR=73								
AKTO					pPKP	pPKPdf	06 51 42.6	+0.1
	comp=Z,19nm,0.8s,baz=44,slow=0.7,SNR=3.8								
AKTO					PP	PP	06 53 14.8	-3.6
	comp=Z,18nm,0.9s,baz=296,slow=8.4,SNR=5.9								
CTA	Charters Tower	128.00	224		PKP	PKiKP	06 51 17.8	+0.3
	comp=Z,27nm,0.8s,baz=166,slow=1.5,SNR=36								
CTAO	Charters Tower	128.00	224			PKiKP	06 51 17.8	+0.3
CTAO	Charters Tower	128.00	224		PKIKP	PKiKP	06 51 17.8	+0.3
SHAO	Shalim	128.12	81		i PKiKP	PKiKP	06 51 17.9	+0.2
	SNR=5.0								
SHAO	Shalim	128.12	81		P	PKiKP	06 51 18.

BSY	Bisya	130.21	76	P	PKiKP	06 51 21.4	-0.4
	SNR=48						
HOQ	Hoqain	130.38	74	P	PKPdf	06 51 20.6	-0.6
	SNR=28						
GEYT	Alibeck	130.67	56		PKiKP	06 51 22.1	-0.2
GEYT	Alibeck	130.67	56	PKIKP	PKiKP	06 51 22.1	-0.2
GEYT	Alibeck	130.67	56	PKP	PKiKP	06 51 22.4	+0.1
	comp=Z,28nm,1.1s,baz=273,slow=2.5,SNR=36						
GEYT				PP	PP	06 53 37.3	-0.5
	comp=Z,22nm,0.9s,baz=325,slow=6.0,SNR=5.9						
GEYT				SKPbc	SKPab	06 54 38.2	+0.9
	comp=Z,14nm,0.8s,baz=251,slow=4.5,SNR=3.6						
GEYT				SKKPbc	SKKPbc	07 04 16.0	+1.2
	comp=Z,2.6nm,0.4s,baz=48,slow=8.6,SNR=4.6						
GEYT				PKPPKP		07 09 40.7	
	comp=Z,2.1nm,0.4s,baz=37,slow=7.6,SNR=4.0						
GYA0	ALIBECK ARRAY	130.67	56	PKIKP	PKPdf	06 51 21.8	+0.4
MHTO	MHTO	130.73	78	P	PKPdf	06 51 22.3	+0.4
	SNR=31						
JMDO	Jabal Madar	131.00	76	P	PKiKP	06 51 23.0	-0.4
	SNR=22						
SMDO	Samad	131.02	75	P	PKPdf	06 51 22.9	+0.3
	SNR=100						
JASK	Jask - Hormozg	131.03	72	P	PKiKP	06 51 24.0	+0.6
	SNR=9.4						
BIDO	Bidbid	131.12	75	P	PKPdf	06 51 22.8	+0.2
	SNR=49						
WSAR	Wadi Sarin	131.56	75	P	PKiKP	06 51 24.0	-0.5
	SNR=47						
SKR	Severo-Kuril's	131.68	322	*ce*PKIKP	PKiKP	06 51 26.0	+2.2
WBK	Wadi Bani Khal	131.82	76	P	PKiKP	06 51 24.6	-0.5
	SNR=50						
JLN	Jalan Bani Buh	132.19	77	P	PKPdf	06 51 24.7	0.0
	SNR=54						
ASAR	Alice Springs	132.25	210		PKPdf	06 51 24.5	-0.4
ASAR	Alice Springs	132.25	210	PKP	PKPdf	06 51 25.1	+0.2
	comp=Z,30nm,0.6s,baz=136,slow=1.9,SNR=48						
ASAR				PP	PP	06 53 45.2	-1.6
	comp=Z,40nm,1.2s,baz=151,slow=6.1,SNR=10						
ASAR				SKPbc	SKPbc	06 54 43.0	-0.4
	comp=Z,32nm,1.1s,baz=147,slow=4.4,SNR=6.1						
ASAR				PKKP	PKKPdf	07 01 18.8	+0.3
	comp=Z,0.7nm,0.4s,baz=336,slow=1.3,SNR=9.3						
MORW	Morawa	132.41	187		PKPdf	06 51 25.4	+0.3
BRVK	Borovoye	133.56	32		PKiKP	06 51 27.5	-0.2
BRVK	Borovoye	133.56	32	*c i*PKIKP	PKiKP	06 51 27.9	+0.3
BRVK				pmax	pmax		
	comp=Z,153nm,1.7s						
BVA0	Borovoye Array	133.63	32	*i* PKIKP	PKiKP	06 51 28.0	+0.2
BVAR	Borovoye Array	133.63	32	PKP	PKiKP	06 51 28.2	+0.4
	comp=Z,14nm,0.6s,baz=289,slow=3.4,SNR=18						
PMG	Port Moresby	134.38	236		PKPdf	06 51 27.0	-2.0
PMG	Port Moresby	134.38	236	PKIKP	PKPdf	06 51 27.0	-2.0
YAK	Yakutsk	134.46	347	*e*PKIKP	PKPdf	06 51 28.3	+0.6
YAK				pmax	pmax		
	comp=Z,35nm,1.0s						
YAK				pmax	pmax		
	comp=N,13nm,1.4s						
YAK				pmax	pmax		
	comp=E,12nm,1.2s						
YAK				pmax	pmax		
	comp=Z,80nm,1.8s						
YAK				pmax	pmax		
	comp=N,34nm,1.5s						
YAK				pmax	pmax		
	comp=E,17nm,1.3s						
YAK				MLR	MLR		
	comp=Z,1μm,22.0s						
YAK				MLR	MLR		
	comp=N,515nm,22.0s						
YAK				MLR	MLR		
	comp=E,547nm,23.0s						
WR0	Warramunga Arr	135.06	213	PKPdf	PKPdf	06 51 30.5	+0.3
WRA	Warramunga Arr	135.18	213	PKhKP	PKPpre	06 51 14.3	
	comp=E,2.7nm,0.6s,baz=139,slow=3.4,SNR=31						
WRA				PKP	PKiKP	06 51 31.2	-0.8
	comp=E,32nm,0.5s,baz=149,slow=1.6,SNR=40						
WRA				PP	PP	06 54 04.6	-1.0
	comp=E,23nm,1.3s,baz=150,slow=5.2,SNR=8.4						
WRA				SKPbc	SKPbc	06 54 52.7	-0.5
	comp=E,41nm,1.2s,baz=141,slow=2.7,SNR=8.3						
WRA				SKKPbc	SKKPbc	07 03 55.3	-0.9
	comp=E,10nm,1.2s,baz=329,slow=4.9,SNR=5.2						
WRAB	Tennant Creek	135.18	213	PKPdf	PKPdf	06 51 30.3	-0.2
WRAB	Tennant Creek	135.18	213	*d i*PKIKP	PKPdf	06 51 31.0	+0.5
BRZS	Berezniki	136.48	35	*i* PKiKP	PKiKP	06 51 33.0	-0.7
	baz=35						
BRZS	Berezniki	136.48	35	*i* PKIKP	PKiKP	06 51 33.0	-0.7
OTUK	Ortayu	137.20	37	PKIKP	PKPdf	06 51 33.4	+0.1
CHM	Chimkent	138.07	47	*e*PKiKP	PKiKP	06 51 36.6	-0.6
	baz=46						
CHM	Chimkent	138.07	47	*i* PKIKP	PKiKP	06 51 36.5	-0.6
KK31	Karatay Array	138.39	45	*i* PKIKP	PKPdf	06 51 35.3	-0.4
KKAR	Karatay Array	138.39	45		PKiKP	06 51 36.8	-1.0
KKAR	Karatay Array	138.39	45	PKIKP	PKiKP	06 51 36.8	-1.0
IUG	luzhnay	138.43	47	⇑*i*PKIKP	PKiKP	06 51 37.6	-0.5
	baz=47						
IUG				*i* PP	PP	06 54 26.0	-0.8
	baz=47						
IUG	luzhnay	138.43	47	*c i*PKIKP	PKiKP	06 51 37.5	-0.5
IUG				*i*		06 54 25.9	
DZA	Taraz	139.03	45	*e*PKiKP	PKiKP	06 51 38.5	-0.6
	baz=45						
DZA	Taraz	139.03	45	*i* PKIKP	PKiKP	06 51 38.5	-0.6
KURK	Kurchatov	139.11	31		PKPpre	06 51 28.7	
KURK	Kurchatov	139.11	31	PKIKP	PKPdf	06 51 36.9	+0.2
KURBB	Kurchatov Arra	139.13	31	PKhKP	PKPpre	06 51 27.6	
	comp=E,6.6nm,1.1s,baz=299,slow=3.3,SNR=8.5						
KURBB				PKP	PKiKP	06 51 38.0	-1.0
	comp=E,32nm,1.0s,baz=307,slow=2.5,SNR=28						
KURBB				pPKP	pPKPdf	06 52 05.0	+1.6
	comp=E,9.3nm,0.7s,baz=310,slow=2.4,SNR=1.9						
KURBB				PP	PP	06 54 26.6	-3.7
	comp=E,7.8nm,1.0s,baz=311,slow=6.5,SNR=4.1						
KURBB				SKKPbc	SKKPbc	07 03 38.1	-6.0
	comp=E,6.5nm,1.1s,baz=139,slow=3.6,SNR=4.7						
ZALV	Zalesovo Beam	139.47	23	PKhKP	PKPpre	06 51 28.6	
	comp=E,6.0nm,0.8s,baz=317,slow=6.1,SNR=14						
ZALV				PKP	PKiKP	06 51 38.8	-0.8
	comp=E,79nm,0.8s,baz=288,slow=3.2,SNR=35						
ZALV				pPKP	pPKPdf	06 52 04.8	+0.8
	comp=E,65nm,0.8s,baz=290,slow=2.2,SNR=4.2						
MBWA	Marble Bar	139.56	193		PKPpre	06 51 32.1	
BTLS	Baital	139.81	41	⇑*i*PKIKP	PKiKP	06 51 40.0	-0.7
	baz=41						
BTLS	Baital	139.81	41	*c i*PKIKP	PKiKP	06 51 39.9	-0.7
KBL	Kabul	139.96	58		PKPdf	06 51 40.0	+0.9
KBL	Kabul	139.96	58	PKIKP	PKPdf	06 51 40.0	+0.9
KBL	Kabul	139.96	58	P	PKPdf	06 51 40.2	+1.1
	SNR=14						
SEM	Semipalatinsk	140.10	30	*e*PKiKP	PKiKP	06 51 40.1	-1.2
	baz=30						
SEM	Semipalatinsk	140.10	30	*i* PKIKP	PKiKP	06 51 40.1	-1.2
BOD	Bodaibo	140.64	357	*e*PKHKP	PKPpre	06 51 32.2	
BOD				pmax	pmax		
	comp=Z,84nm,1.7s						
EKS2	Erkin-Say	140.75	44	P	PKiKP	06 51 42.6	-0.2
	SNR=15						
AML	Almayashu	140.93	45	P	PKPdf	06 51 35.1	-5.8
	SNR=12						
AML	Almayashu	140.93	45	PKHKP	PKPpre	06 51 33.3	
SGDS	Sogindy	140.94	43	*e*PKP	PKPdf	06 51 40.1	-0.4
	baz=43						
SGDS				⇑*i*PKiKP	PKiKP	06 51 42.2	-0.9
	baz=43						
SGDS				*i* PP	PP	06 54 42.5	+0.5
	baz=43						
SGDS	Sogindy	140.94	43	*ce*PKIKP	PKPdf	06 51 40.0	-0.4
SGDS				*i*		06 54 42.4	
USP	Ospenovka	140.95	43	P	PKPdf	06 51 41.3	+0.9
	SNR=22						
YSS	Yuzh-Sakhalins	141.17	324		PKPpre	06 51 36.2	
YSS	Yuzh-Sakhalins	141.17	324	*e*PKHKP	PKPpre	06 51 33.9	
YSS				*i*		06 51 41.5	
YSS				*e*		06 51 59.9	
YSS				*e*		06 54 45.2	
YSS				*e*PPP	PPP	06 57 59.5	
YSS				*e*PPS	PPS	07 07 11.5	
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
YSS				pmax	pmax		
	comp=Z,70nm,0.6s						
AAK	Ala-Archa	141.24	44	P	PKPdf	06 51 38.2	-2.9
	SNR=9.2						
AAK	Ala-Archa	141.24	44		PKPpre	06 51 36.2	
AAK	Ala-Archa	141.24	44	*i* PKIKP	PKPdf	06 51 40.9	-0.2
CHMS	Chumysh	141.24	43	P	PKiKP	06 51 43.5	-0.2
	SNR=7.8						
UCH	Uchtor	141.43	44	P	PKPpre	06 51 37.5	
	SNR=15						
GRNR	Gornyy	141.74	333	*e*PKHKP	PKPpre	06 51 35.9	
GRNR				MLR	MLR		
	comp=E,870nm,12.0s						
GRNR				MLR	MLR		
	comp=N,590nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,730nm,20.0s						
KUU	Kurty	141.81	41	*e*PKP	PKPdf	06 51 40.6	-1.3
	baz=41						
KUU				*i* PKiKP	PKiKP	06 51 44.2	-0.6
	baz=41						
KUU				*e*PP	PP	06 54 46.2	-0.8
	baz=41						
KUU	Kurty	141.81	41	*e*PKIKP	PKPdf	06 51 40.6	-1.3
KUU				*e*		06 54 46.2	
TKM2	Tokmak 2	141.82	43	P	PKPpre	06 51 38.0	
	SNR=5.3						
TKM2	Tokmak 2	141.82	43	PKHKP	PKPpre	06 51 37.5	
CHKK	Chushkaly	142.23	41	*e*PKiKP	PKiKP	06 51 44.2	-1.5
	baz=41						
CHKK	Chushkaly	142.23	41	*i* PKIKP	PKiKP	06 51 44.1	-1.5
TDK	Taldyqorghan	142.46	38	*i* PKP	PKPdf	06 51 42.5	-0.6
	baz=38						
TDK				*i* PKiKP	PKiKP	06 51 45.6	-0.5
	baz=38						
TDK	Taldyqorghan	142.46	38	*i* PKIKP	PKPdf	06 51 42.4	-0.6
ZEA	Zeya	142.49	344	*e*PKIKP	PKPdf	06 51 39.3	-3.4
ZEA				*e*		06 54 48.9	
ZEA				pmax	pmax		
	comp=N,30nm,1.7s						
ZEA				pmax	pmax		
	comp=Z,50nm,1.5s						
ZEA				pmax	pmax		
	comp=Z,800nm,8.5s						
ZEA				MLR	MLR		
	comp=N,500nm,22.0s						
ZEA				MLR	MLR		
	comp=E,400nm,22.0s						
ZEA				MLR	MLR		
	comp=Z,600nm,22.0s						
AAA	Alma-Ata	142.52	42	*e*PKP	PKPdf	06 51 41.5	-1.7
	baz=42						
AAA	Alma-Ata	142.52	42	*e*PKIKP	PKPdf	06 51 41.5	-1.7
ULHL	Ulahol	142.56	43	P	PKPdf	06 51 41.8	-1.8
	SNR=13						
TNSS	Tian-Shan	142.62	42	*e*PKP	PKPdf	06 51 41.7	-2.2
	baz=42						
TNSS				*e*PKiKP	PKiKP	06 51 45.8	-1.2
	baz=42						
TNSS	Tian-Shan	142.62	42	*e*PKIKP	PKPdf	06 51 41.6	-2.2
MAKZ	Makanchi	143.34	33		PKPbc	06 51 42.4	+0.5
MAKZ	Makanchi	143.34	33	⇓PKIKP	PKPbc	06 51 42.6	+0.8
KPKS	Kokpek	143.48	40	*i* PKP	PKPbc	06 51 42.9	+0.4
	baz=40						
KPKS				*e*PP	PP	06 54 55.0	-2.2
	baz=40						
KPKS	Kokpek	143.48	40	*i* PKIKP	PKPbc	06 51 42.8	+0.4
KPKS				*e*		06 54 55.0	
ZHN	Zhinishke	143.49	41	*e*PKP	PKPbc	06 51 42.6	+0.1
	baz=41						
ZHN	Zhinishke	143.49	41	*e*PKIKP	PKPbc	06 51 42.6	+0.1
MK31	Makanchi Array	143.51	33	*i* PKIKP	PKPbc	06 51 42.0	-0.3
MKAR	Makanchi Array	143.51	33		PKPbc	06 51 42.5	+0.2
MKAR	Makanchi Array	143.51	33	PKP	PKPbc	06 51 42.8	+0.5
	comp=Z,47nm,0.9s,baz=316,slow=3.3,SNR=64						
NIL	Nilore	143.57	58		PKPbc	06 51 42.8	-0.2
NIL	Nilore	143.57	58	PKIKP	PKPbc	06 51 42.8	-0.1
KSH	Kashi	143.62	48	PKP	PKPbc	06 51 43.0	0.0
KSH				sPKP		06 52 19.0	
KSH				PP	PP	06 54 57.8	-0.6
KSH				SKKS		07 01 38.1	
KSH				SS	SS	07 13 32.4	-1.1
KSH				AMB	AMB		
	comp=Z,3μm,10.4s						
KSH				LR	LR		
	comp=Z,2μm,24.4s						
KSH				LR	LR		
	comp=Z,1μm,24.4s						
KSH				LR	LR		
	comp=Z,3μm,20.6s						
JAY	Jayapura	143.62	238	PKP	PKPbc	06 51 44.5	+0.9
DGZ	Jazzator, Alta	143.80	25	*c i*PKIKP	PKPbc	06 51 44.2	+1.0
UZB	Uzynbulak	143.86	40	*i* PKP	PKPbc	06 51 44.4	+0.8
	baz=40						
UZB	Uzynbulak	143.86	40	*i* PKIKP	PKPbc	06 51 44.4	+0.8
BHV	Bhavnagar	143.96	78	*e*P	PKPbc	06 51 45.1	+0.8
GENI	Genyem	144.00	237	PKP	PKPdf	06 51 45.7	-0.9
PDGK	Podgornoye	144.05	40	PKIKP	PKPbc	06 51 44.3	+0.1
SHLS	Shalkode	144.12	40	*i* PKP	PKPdf	06 51 46.7	+0.5
	baz=40						
SHLS				*e*PP	PP	06 55 02.6	+1.4
	baz=40						
SHLS	Shalkode	144.12	40	*i* PKIKP	PKPdf	06 51 46.6	+0.5
SHLS				*e*		06 55 02.5	
ZSN	Zaisan	144.34	30	*i* PKP	PKPdf	06 51 45.8	-0.4
	baz=30						
ZSN	Zaisan	144.34	30	*i* PKIKP	PKPdf	06 51 45.8	-0.4
BOM	Bombay	144.40	83	*e*P	PKPbc	06 51 46.2	+0.4
KLR	Kul'dur	144.84	336	*c i*PKIKP	PKPdf	06 51 46.9	-0.1
KLR	Kul'dur	144.84	336	PKP	PKPdf	06 51 47.0	0.0
	comp=Z,81nm,0.5s,baz=35,slow=4.1,SNR=23						
POO	Poona	145.34	84	*e*P	PKPab	06 51 49.7	+0.6
POO				IAmb	IAmb	06 51 50.8	
	comp=Z,2μm,1.1s						
HEH	HeiHe	145.52	341	PKPbc	PKPab	06 51 48.9	+0.2
HEH				pPKP	pPKPab	06 52 13.8	-0.9
HEH				sPKP		06 52 26.0	
HEH				PP	PP	06 55 10.2	+1.6
HEH				AMB	AMB		
	comp=Z,1μm,5.9s						
SMPI	Sarmi	145.53	237	PKP	PKPab	06 51 50.2	+0.4
TEY	Ternei	145.71	326	⇑*e*PKP2	PKPab	06 51 50.1	+0.5
TEY				*e*		07 13 52.5	
TEY				pmax	pmax		
	comp=Z,40nm,2.3s						
TEY				pmax	pmax		
	comp=E,20nm,1.0s						
TEY				pmax	pmax		
	comp=N,10.0nm,2.2s						
TEY				pmax	pmax		
	comp=E,100nm,3.0s						
TEY				pmax	pmax		
	comp=N,100nm,3.1s						
TEY				pmax	pmax		
	comp=Z,100nm,2.9s						
THN	Thein Dam	145.88	59	*e*P	PKPab	06 51 51.1	+0.4
IRK	Irkutsk	145.97	7	*e*PKP2	PKPab	06 51 50.5	+0.2
IRK				pmax	pmax		
	comp=Z,3μm,2.2s						
TRD	Trivandrum	146.03	102	*e*P	PKPab	06 51 52.8	+1.0
MOY	Mondy	146.06	11	*e*PKP2	PKPab	06 51 51.1	+0.2
MOY				pmax	pmax		
	comp=Z,1μm,2.4s						
AJM	Ajmer	146.07	70	*e*P	PKPdf	06 51 50.4	+0.5
CIT	Chita	146.45	357	*e*PKP2	PKPbc	06 51 51.7	+0.5
CIT				*e*		06 55 21.4	
CIT				pmax	pmax		
	comp=Z,1μm,2.4s						
GUMO	Guam	146.58	267		PKPbc	06 51 51.9	-0.7
GUMO	Guam	146.58	267	PKIKP	PKPbc	06 51 51.9	-0.7
SAUI	Saumlaki	146.60	220	PKP	PKPbc	06 51 52.4	-0.3
SAUI				PKP	PKiKP	06 51 57.3	+1.8
KHET	Khetri	146.89	67	*e*P	PKPdf	06 51 52.1	+0.9
SMLA	Simla	147.42	61	*e*P	PKPbc	06 51 53.6	-0.9
SMLA				IAmb	IAmb	06 51 56.7	
	comp=Z,2μm,1.7s						
KUDL	Kundal	147.47	67	*e*P	PKPbc	06 51 53.6	-1.1
SRPI	Serui, Papua	147.53	234	PKP	PKPab	06 51 59.1	+1.5
ZAK	Zakamensk	147.67	9	*e*PKIKP	PKPdf	06 51 53.1	+1.2
ZAK				pmax	pmax		
	comp=Z,325nm,1.7s						
SONA	Sohna	147.97	66	*e*P	PKiKP	06 51 57.0	-0.8
NDI	New Delhi	148.01	65	*e*P	PKPdf	06 51 54.5	+1.5
NDI	New Delhi	148.01	65	*e*P	PKPbc	06 51 56.0	-0.2
SALM	Salem	148.18	98	*e*P	PKPbc	06 51 55.9	-1.1
KMPI	Kaimana, Papua	148.22	228	PKP	PKiKP	06 51 59.3	+0.5
WMQ	Urumqi	148.32	32	PKPbc	PKPbc	06 51 54.9	-1.7
WMQ				pPKP	pPKPdf	06 52 15.8	-4.1
WMQ				sPKP		06 52 28.2	
WMQ				PP	PP	06 55 25.2	-0.4
WMQ				SKKS		07 02 08.9	
WMQ				SS	SS	07 14 30.0	+4.3
WMQ				AMB	AMB		
	comp=Z,2μm,4.1s						
WMQ				LR	LR		
	comp=Z,1μm,23.5s						
WMQ				LR	LR		
	comp=Z,2μm,26.1s						
WMQ				LR	LR		
	comp=Z,2μm,26.1s						
AKL	Akola	148.47	80	*e*P	PKiKP	06 51 58.8	-0.3
USRK	Ussuriysk Ar.	148.63	329		PKPdf	06 51 54.6	+1.2
USRK	Ussuriysk Ar.	148.63	329	PKIKP	PKPdf	06 51 54.7	+1.2
USRK	Ussuriysk Ar.	148.63	329	PKP	PKPdf	06 51 55.1	+1.6
	comp=Z,71nm,0.7s,baz=10,slow=1.6,SNR=27						
USRK				PKPbc	PKiKP	06 51 58.7	0.0
	comp=Z,71nm,0.7s,baz=20,slow=2.8,SNR=18						
BATI	Baumata	148.64	206	PKP	PKPdf	06 51 55.7	+1.2
BATI				PKP	PKiKP	06 52 00.2	+0.5
SOEI	Soe	148.79	207	PKP	PKPdf	06 51 55.9	+1.1
SOEI				PKP	PKiKP	06 52 00.0	-0.1
SOEI	Soe	148.79	207	PKP	PKPbc	06 51 57.7	-1.0
BHPL	Bhopal	148.84	76	*e*P	PKPdf	06 51 55.7	+1.2
BHPL				IAmb	IAmb	06 52 00.4	
	comp=Z,349nm,1.0s						
MALK	Mahakanadarawa	149.29	105	PKP	PKPdf	06 51 57.4	+1.9
RKPI	Ransiki, Papua	149.33	232	PKP	PKPdf	06 51 57.0	+1.4
RKPI				PKP	PKiKP	06 52 01.3	+0.2
BNX	BinXian	149.39	336	⇓PKPbc	PKPdf	06 51 54.9	+0.2
BNX				pPKP	pPKPdf	06 52 21.8	+0.4
BNX				sPKP		06 52 32.6	
BNX				AMB	AMB		
	comp=Z,1μm,8.8s						
BNX				LR	LR		
	comp=Z,890nm,16.1s						
BNX				LR	LR		
	comp=Z,1μm,13.1s						
BNX				LR	LR		
	comp=Z,1μm,14.3s						
MDJ	Mudanjiang	149.41	333	PKPbc	PKPdf	06 51 55.6	+0.8
MDJ				pPKP	pPKPdf	06 52 21.1	-0.4
MDJ				PP	PP	06 55 33.1	+1.5
MDJ				SS	SS	07 14 41.4	+3.9
MDJ				AMB	AMB		
	comp=Z,1μm,9.2s						
MDJ				LR	LR		
	comp=Z,1μm,22.2s						
MDJ				LR	LR		
	comp=Z,940nm,22.2s						
MDJ				LR	LR		
	comp=Z,3μm,23.2s						
JCJ	Chichijima	149.57	292	PKP	PKPdf	06 51 56.0	+0.5
	comp=Z,124nm,0.4s,baz=153,slow=5.5,SNR=11						
MJAR	Matsushiro Arr	149.66	312	PKP	PKPdf	06 51 56.4	+0.9
	comp=Z,92nm,1.0s,baz=104,slow=1.3,SNR=32						
MJAR				PKPbc	PKiKP	06 52 01.3	+0.1
	comp=Z,98nm,0.8s,baz=82,slow=1.0,SNR=33						
MAJO	Matsushiro	149.67	312	⇓PKP2	PKiKP	06 52 01.3	+0.1
HYB	Hyderabad	149.67	87	*e*P	PKPdf	06 51 56.9	+0.9
HYB				IAmb	IAmb	06 52 07.5	
	comp=Z,1μm,1.5s						
HYB	Hyderabad	149.67	87	*e*PKPdf	PKPdf	06 51 55.8	-0.2
HYB				*e*PKiKP	PKiKP	06 52 02.3	+0.6
HYB				*e*PKPab	PKPab	06 52 06.8	+0.6
HYB				IVmB_BB		06 52 07.9	
	comp=Z,8μm,2.3s						
HYB				*e*SKSdf	SKSdf	06 58 57.0	+0.8
JHNI	Jhansi	149.67	71	*e*P	PKPdf	06 51 56.9	+1.1
FAKI	Fak Fak	149.77	227	PKP	PKPdf	06 51 57.6	+1.3
FAKI				PKP	PKPbc	06 51 58.5	-2.6
BASI	Baing, Sumba	149.77	200	PKP	PKPdf	06 51 57.5	+1.3
BASI				PKP	PKiKP	06 52 03.0	+1.0
JHJ	Hachijo jima 2	149.95	305	PKPbc	PKPbc	06 52 00.3	-0.6
	comp=Z,264nm,0.9s,baz=60,slow=5.8,SNR=7.4						
PTH	Pithoragarh	150.37	62	*e*P	PKiKP	06 52 03.1	0.0
LGTI	Lohaghat	150.42	63	*e*P	PKPdf	06 51 58.5	+1.7
MDRS	Chennai	150.48	96	*e*P	PKPdf	06 51 58.6	+1.3
MDRS				IAmb	IAmb	06 52 30.9	
	comp=Z,1μm,1.6s						
SONM	Songino Array	150.55	6		PKPdf	06 51 58.0	+1.4
SONM	Songino Array	150.55	6	PKIKP	PKPdf	06 51 58.0	+1.4
SONM	Songino Array	150.55	6	PKP	PKPdf	06 51 58.5	+1.9
	comp=Z,45nm,1.1s,baz=319,slow=1.0,SNR=68						
SONM				PKPbc	PKiKP	06 52 03.1	+0.3
	comp=Z,142nm,0.9s,baz=323,slow=1.1,SNR=118						
ULN	Ulaanbaatar	150.57	5		PKPdf	06 51 58.4	+1.7
ULN	Ulaanbaatar	150.57	5	⇓PKIKP	PKPdf	06 51 59.1	+2.4
MMRI	Maumere	150.64	204	PKP	PKPdf	06 51 58.9	+1.3
MMRI				PKP	PKPbc	06 52 03.3	+0.2
INU	Inuyama	151.09	311		PKPdf	06 51 59.4	+1.7
VJD	Vijayawada	151.54	89	*e*P	PKPdf	06 52 01.1	+2.3
CN2	Changchun	151.78	337	PKPbc	PKPdf	06 51 56.1	-2.4
CN2				PP	PP	06 55 44.8	-0.2
CN2				SS	SS	07 15 01.4	-2.0
CN2				LR	LR		
	comp=Z,1μm,22.0s						
CN2				LR	LR		
	comp=Z,1μm,22.0s						
CN2				LR	LR		
	comp=Z,1μm,25.0s						
PLAI	Plampang	151.91	196	PKP	PKPdf	06 52 00.7	+1.2
PLAI				PKP	PKPdf	06 52 00.7	+1.2
PLAI				PKP	PKiKP	06 52 06.7	+0.3
SWI	Sorong	151.91	229	PKP	PKiKP	06 52 06.8	+0.4
TWSI	Taliwang, Sumb	152.21	194	PKP	PKPbc	06 52 05.9	-0.8
IGBI	Denpasar	152.47	190	PKP	PKiKP	06 52 08.2	+0.6
DNP	Denpasar	152.60	190	PKP	PKPab	06 52 13.5	-4.7
NLAI	Namlea	152.88	219	PKP	PKPdf	06 52 02.2	+1.2
NLAI				PKP	PKiKP	06 52 08.6	+0.2
JAGI	Jajag, Banyuwa	152.96	188	PKP	PKPbc	06 52 06.6	-1.8
PYUN	Piuthan	153.09	64	*e*P	PKPdf	06 52 01.8	+0.6
	comp=Z,1μm,1.4

CGJI	**Cibinong**	**154.62**	**169**	PKP	**PKPdf**	**06 52 04.4**	**+0.9**
CGJI				PKP	**PKPbc**	**06 52 09.4**	**-2.6**
SMRI	**Semarang**	**154.62**	**180**		**PKPbc**	**06 52 10.3**	**-1.7**
SMRI	**Semarang**	**154.62**	**180**	PKP	**PKPdf**	**06 52 04.5**	**+1.0**
SMRI				PKP	**PKPbc**	**06 52 10.9**	**-1.1**
LBMI	**Labuha**	**154.65**	**223**	PKP	**PKPdf**	**06 52 04.7**	**+1.2**
LBMI				PKP	**PKPbc**	**06 52 11.9**	**-0.2**
GRJI	**Gresik**	**154.68**	**185**	PKP	**PKPdf**	**06 51 57.6**	**-5.9**
LEM	**Lembang**	**154.69**	**173**	PKP	**PKPdf**	**06 51 58.2**	**-5.6**
DMN	**Daman**	**155.03**	**64**	*eP*	**PKPdf**	**06 52 04.5**	**+0.5**
comp=Z,661nm,1.4s							
PKIN	**Phulchoki**	**155.29**	**64**	*eP*	**PKPdf**	**06 52 04.2**	**-0.1**
comp=Z,946nm,1.7s							
PKI	**Pulchoki**	**155.30**	**64**	*eP*	**PKPdf**	**06 52 04.5**	**+0.1**
comp=Z,976nm,1.7s							
KASI	**Kota Agung**	**155.43**	**166**	PKP	**PKPdf**	**06 52 05.5**	**+0.9**
KASI				PKP	PKPab	06 52 11.2	-19
GUN	**Gumba**	**155.60**	**63**	*eP*	**PKPdf**	**06 52 05.4**	**+0.5**
KSRS	**Korea Array**	**155.67**	**325**	PKP	**PKPdf**	**06 52 06.1**	**+1.9**
comp=Z,26nm,1.0s,baz=72,slow=1.2,SNR=14							
KSAR	**Wonju Array Be**	**155.70**	**325**		**PKPdf**	**06 52 05.1**	**+0.9**
KSAR	**Wonju Array Be**	**155.70**	**325**	PKIKP	**PKPdf**	**06 52 05.1**	**+0.9**
LWLI	**Liwa**	**155.81**	**164**	PKP	**PKPdf**	**06 51 59.9**	**-5.3**
JIRN	**Jiri**	**155.94**	**63**	*eP*	**PKPdf**	**06 52 05.3**	**0.0**
KLI	**Kotabumi**	**156.15**	**166**	PKP	**PKPdf**	**06 52 00.3**	**-5.2**
RAMN	**Ramite**	**156.49**	**65**	*eP*	**PKPdf**	**06 52 06.5**	**+0.6**
comp=Z,454nm,1.0s							
BOK	**Bokaro**	**156.52**	**73**	*eP*	**PKPdf**	**06 52 06.2**	**+0.4**
BOK				IAmb	IAmb	06 52 36.8	
comp=Z,143nm,1.1s							
JNU	**Nakatsue**	**156.59**	**312**	PKP	**PKPdf**	**06 52 07.5**	**+1.9**
comp=Z,8.8nm,0.9s,baz=37,slow=5.1,SNR=5.8							
TTSI	**Tana Toraja**	**156.69**	**204**	PKP	PKPab	06 52 21.3	-14
GTA	**Gaotai**	**157.21**	**22**	PKP	**PKPdf**	**06 52 07.8**	**+1.5**
GTA				pPKP	pPKPdf	06 52 34.4	+1.3
GTA				PKPab	**PKPab**	**06 52 38.6**	**+1.2**
GTA				PP	**PP**	**06 56 14.3**	**-1.3**
GTA				SKKS		07 02 54.3	
GTA				SS	**SS**	**07 16 07.2**	**+4.6**
GTA				AMB	AMB		
comp=Z,2μm,12.7s							
GTA				LR	LR		
comp=Z,690nm,20.7s							
GTA				LR	LR		
comp=Z,760nm,23.5s							
GTA				LR	LR		
comp=Z,2μm,24.7s							
TAPN	**Taplejung**	**157.32**	**63**	*eP*	**PKPdf**	**06 52 07.4**	**+0.4**
DL2	**Dalian**	**157.45**	**337**	PKP	**PKPdf**	**06 52 10.6**	**+4.2**
DL2				PP	**PP**	**06 56 17.3**	**+0.5**
DL2				SS	SS	07 16 03.9	-0.9
DL2				AMB	AMB		
comp=Z,810nm,6.5s							
DL2				LR	LR		
comp=Z,2μm,30.6s							
DL2				LR	LR		
comp=Z,640nm,19.9s							
DL2				LR	LR		
comp=Z,2μm,30.0s							
GOMU	**GeErMu**	**157.61**	**35**	PKP	**PKPdf**	**06 52 09.2**	**+2.0**
GOMU				PP	**PP**	**06 56 17.3**	**-1.3**
GOMU				SKKS		07 03 02.3	
GOMU				SS	**SS**	**07 16 06.2**	**-2.0**
GOMU				AMB	AMB		
comp=Z,2μm,5.1s							
GOMU				LR	LR		
comp=Z,1μm,22.9s							
GOMU				LR	LR		
comp=Z,890nm,21.2s							
GOMU				LR	LR		
comp=Z,2μm,21.6s							
HHC	**Hu-ho-hao-te**	**157.69**	**358**	⇑*i*PKP	**PKPdf**	**06 52 09.0**	**+2.1**
HHC				PP	**PP**	**06 56 17.7**	**-0.2**
HHC				SKKS		07 03 03.1	
HHC				SS	**SS**	**07 16 06.2**	**-0.9**
HHC				AMB	AMB		
comp=Z,4μm,9.5s							
HHC				LR	LR		
comp=Z,2μm,22.8s							
HHC				LR	LR		
comp=Z,1μm,20.6s							
HHC				LR	LR		
comp=Z,4μm,23.0s							
BBKI	**Banjar Baru**	**157.76**	**192**	PKP	**PKPdf**	**06 52 01.0**	**-6.6**
BTO	**Baotou**	**157.96**	**1**	*e*PKP	**PKPdf**	**06 52 05.6**	**-1.6**
BTO				pPKP	**pPKPdf**	**06 52 33.6**	**-0.4**
BTO				PKPab	**PKPab**	**06 52 40.6**	**+0.1**
BTO				SKS	**SKSdf**	**06 59 03.5**	**-1.4**
BTO				SKKS	**SKKSac**	**07 02 59.9**	**-1.2**
BTO				LR	LR		
comp=Z,3μm,23.3s							
BTO				LR	LR		
comp=Z,2μm,21.4s							
BTO				LR	LR		
comp=Z,5μm,19.0s							
BJI	**Beijing**	**157.96**	**348**	PKP	**PKPdf**	**06 52 08.6**	**+1.6**
BJI				sPKP		06 52 40.4	
BJI				PP	**PP**	**06 56 18.7**	**-0.6**
BJI				LR	LR		
comp=Z,550nm,20.5s							
BJI				LR	LR		
comp=Z,360nm,21.5s							
BJI				LR	LR		
comp=Z,760nm,21.8s							
GTK	**Tadong**	**158.08**	**62**	*eP*	**PKPdf**	**06 52 09.4**	**+1.6**
GTK				IAmb	IAmb	06 52 42.9	
comp=Z,497nm,1.6s							
PDSI	**Padang**	**158.37**	**152**	PKP	**PKPdf**	**06 52 14.6**	**+6.2**
SDSI	**Sungai Dareh**	**158.76**	**154**	PKP	**PKPdf**	**06 52 08.9**	**+0.1**
GSI	**Gunungsitoli**	**158.77**	**142**	PKP	**PKPdf**	**06 52 03.6**	**-5.2**
PPBI	**Pangkal Pinang**	**159.05**	**168**	PKP	**PKPdf**	**06 52 14.0**	**+4.8**
LSA	**Lhasa**	**159.19**	**54**	PKP	**PKPdf**	**06 52 10.9**	**+1.4**
LSA				LR	LR		
comp=Z,840nm,22.1s							
LSA				LR	LR		
comp=Z,1μm,30.6s							
LSA				LR	LR		
comp=Z,1μm,28.5s							
LSA	**Lhasa**	**159.19**	**54**	PKPdf	**PKPdf**	**06 52 11.2**	**+1.7**
DHUB	**DHUBRI**	**159.67**	**65**	*eP*	**PKPdf**	**06 52 10.7**	**+1.3**
MPSI	**Mapaga**	**159.71**	**208**	PKP	**PKPdf**	**06 52 12.3**	**+2.4**
BKNI	**Bangkinang**	**159.73**	**152**	PKP	**PKPdf**	**06 52 16.8**	**+6.9**
BKNI	**Bangkinang**	**159.73**	**152**	PKP	**PKPdf**	**06 52 05.2**	**-4.7**
TOLI2	**Tolitoli**	**159.97**	**212**		**PKPdf**	**06 52 10.7**	**+0.5**
KCSI	**Kotacane, Aceh**	**160.64**	**139**	PKP	**PKPdf**	**06 52 12.0**	**+1.0**
TIY	**Taiyuan**	**160.77**	**355**	PKP	**PKPdf**	**06 52 12.0**	**+1.5**
TIY				PP	**PP**	**06 56 35.1**	**+0.5**
TIY				AMB	AMB		
comp=Z,2μm,4.9s							
TIY				LR	LR		
comp=Z,1μm,19.9s							
TIY				LR	LR		
comp=Z,400nm,26.1s							
TIY				LR	LR		
comp=Z,3μm,23.4s							
HNS	**HongShan**	**160.79**	**350**	⇑PKP	**PKPdf**	**06 52 11.8**	**+1.4**
HNS				pPKP	**pPKPdf**	**06 52 37.8**	**+0.6**
HNS				PKPab	**PKPab**	**06 52 53.8**	**+1.0**
HNS				PP	**PP**	**06 56 34.5**	**-0.1**
HNS				SS	SS	07 16 35.7	-4.0
HNS				AMB	AMB		
comp=Z,1μm,7.9s							
HNS				LR	LR		
comp=Z,780nm,22.7s							
HNS				LR	LR		
comp=Z,1μm,23.6s							
HNS				LR	LR		
comp=Z,2μm,25.0s							
GUWA	**GUWAHATI**	**161.06**	**63**	*eP*	**PKPdf**	**06 52 11.7**	**+0.7**
GUWA				IAmb	IAmb	06 52 55.0	
comp=Z,341nm,1.6s							
AGT	**Agartala**	**161.33**	**70**	*eP*	**PKPdf**	**06 52 11.5**	**+0.2**
TIA	**Tai'an**	**161.38**	**343**	⇓PKP	**PKPdf**	**06 52 12.1**	**+1.0**
TIA				pPKP	**pPKPdf**	**06 52 37.6**	**-0.2**
TIA				PKPab	**PKPab**	**06 52 57.0**	**+1.5**
TIA				PP	**PP**	**06 56 37.8**	**-0.2**
TIA				SKKS		07 03 16.7	
TIA				LR	LR		
comp=Z,420nm,18.7s							
TIA				LR	LR		
comp=Z,720nm,16.5s							
TIA				LR	LR		
comp=Z,670nm,18.7s							
DAV	**Davao City (W)**	**161.39**	**234**	⇓*eP*	**PKPdf**	**06 52 13.0**	**+1.3**
SHL	**Shillong**	**161.43**	**64**	*eP*	**PKPdf**	**06 52 12.4**	**+0.7**
LZH	**Lanzhou**	**161.53**	**17**	⇑PKP	**PKPdf**	**06 52 13.5**	**+2.0**
LZH				pPKP	pPKPdf	06 52 39.5	+1.3
LZH				sPKP		06 52 50.5	
LZH				PKS	PP	06 55 44.6	-54
LZH				PP	**PP**	**06 56 38.8**	**-0.1**
LZH				SKKS		07 03 22.6	
LZH				SS	**SS**	**07 16 51.8**	**+3.8**
LZH				AMB	AMB		
comp=Z,2μm,6.6s							
LZH				LR	LR		
comp=Z,1μm,18.5s							
LZH				LR	LR		
comp=Z,1μm,20.6s							
LZH				LR	LR		
comp=Z,3μm,21.0s							
PBA	**Port Blair**	**161.62**	**109**	*eP*	**PKPdf**	**06 52 13.2**	**+1.3**
PBA				IAmb	IAmb	06 52 40.1	
comp=Z,276nm,1.2s							
STKI	**Sintang**	**161.66**	**183**	PKP	**PKPdf**	**06 52 18.9**	**+6.9**
TEZP	**TEZPUR**	**161.83**	**60**	*eP*	**PKPdf**	**06 52 11.6**	**-0.2**
TEZP				IAmb	IAmb	06 52 58.4	
comp=Z,259nm,1.5s							
AZL	**Aizawl**	**162.65**	**69**	*eP*	**PKPdf**	**06 52 14.8**	**+2.0**
SAIH	**SAIHA**	**163.18**	**73**	*eP*	**PKPdf**	**06 52 14.3**	**+0.9**
SAIH				IAmb	IAmb	06 52 42.4	
comp=Z,239nm,1.2s							
MOKO	**MOKOCHONG**	**163.35**	**59**	*eP*	**PKPdf**	**06 52 15.2**	**+1.6**
MOKO				IAmb	IAmb	06 52 42.6	
comp=Z,660nm,1.8s							
IMP	**Imphal**	**163.43**	**65**	*eP*	**PKPdf**	**06 52 14.8**	**+1.3**
KULM	**Kulim**	**163.77**	**143**		**PKPdf**	**06 52 14.5**	**+0.4**
LYN	**LuoYang**	**163.90**	**354**	⇑PKP	**PKPdf**	**06 52 14.6**	**+1.0**
LYN				pPKP	pPKPdf	06 52 41.3	+0.9
LYN				PKPab	**PKPab**	**06 53 11.8**	**+5.3**
LYN				PP	**PP**	**06 56 50.7**	**-0.4**
LYN				SKKS		07 03 34.3	
LYN				SS	**SS**	**07 17 08.6**	**-3.3**
LYN				AMB	AMB		
comp=Z,3μm,4.3s							
LYN				LR	LR		
comp=Z,1μm,22.7s							
LYN				LR	LR		
comp=Z,1μm,22.0s							
LYN				LR	LR		
comp=Z,5μm,26.1s							
LKP	**Lekhapani**	**163.95**	**54**	*eP*	**PKPdf**	**06 52 14.6**	**+0.7**
SSE	**Sheshan**	**164.11**	**324**	PKP	**PKPdf**	**06 52 15.5**	**+1.6**
SSE				PP	**PP**	**06 56 56.2**	**+3.2**
SSE				SS	SS	07 17 17.7	+2.2
SSE				AMB	AMB		
comp=Z,520nm,10.0s							
SSE				LR	LR		
comp=Z,460nm,24.4s							
SSE				LR	LR		
comp=Z,350nm,24.3s							
XAN	**Xi'an**	**164.45**	**5**	⇑PKP	**PKPdf**	**06 52 15.6**	**+1.4**
XAN				pPKP	pPKPdf	06 52 41.8	+0.8
XAN				PP	**PP**	**06 56 54.3**	**+0.3**
XAN				SKKS		07 03 36.4	
XAN				SS	**SS**	**07 17 17.6**	**-0.1**
XAN				AMB	AMB		
comp=Z,3μm,10.3s							
XAN				LR	LR		
comp=Z,2μm,21.6s							
XAN				LR	LR		
comp=Z,1μm,21.0s							
XAN				LR	LR		
comp=Z,2μm,21.6s							
NJ2	**Nanjing**	**164.51**	**332**	*e*PKP	**PKPdf**	**06 52 15.5**	**+1.3**
NJ2				pPKP	**pPKPdf**	**06 52 41.1**	**+0.2**
NJ2				sPKP		06 52 51.9	
NJ2				PKPab	**PKPab**	**06 53 11.6**	**+2.3**
NJ2				PP	**PP**	**06 56 56.9**	**+2.2**
NJ2				SKS	**SKSdf**	**06 59 07.3**	**-3.2**
NJ2				AMB	AMB		
comp=Z,2μm,11.3s							
NJ2				LR	LR		
comp=Z,1μm,24.4s							
NJ2				LR	LR		
comp=Z,920nm,21.1s							
NJ2				LR	LR		
comp=Z,3μm,24.3s							
CD2	**Chengdu**	**166.23**	**25**	PKP	**PKPdf**	**06 52 17.0**	**+1.2**
CD2				pPKP	pPKPdf	06 52 42.2	-0.4
CD2				sPKP		06 52 52.8	
CD2				SS	SS	07 17 36.0	-0.5
CD2				AMB	AMB		
comp=Z,2μm,7.0s							
CD2				LR	LR		
comp=Z,3μm,34.3s							
CD2				LR	LR		
comp=Z,3μm,33.2s							
TNCH	**TengChong**	**167.16**	**57**	PKP	**PKPdf**	**06 52 17.8**	**+1.0**
TNCH				pPKP	pPKPdf	06 52 43.4	-0.2
TNCH				sPKP		06 52 50.9	
TNCH				PKPab	**PKPab**	**06 53 20.3**	**-1.3**
TNCH				PP	**PP**	**06 57 13.2**	**+3.2**
TNCH				SKS	**SKSdf**	**06 59 12.2**	**-0.7**
TNCH				SKKS	**SKKSac**	**07 03 50.9**	**+1.5**
TNCH				AMB	AMB		
comp=Z,2μm,6.5s							
TNCH				LR	LR		
comp=Z,820nm,19.7s							
TNCH				LR	LR		
comp=Z,880nm,18.0s							
TNCH				LR	LR		
comp=Z,1μm,22.5s							
WHN	**Wuhan**	**167.48**	**344**	*i* PKP	**PKPdf**	**06 52 17.7**	**+1.1**
WHN				pPKP	**pPKPdf**	**06 52 43.7**	**+0.2**
WHN				PKPab	**PKPab**	**06 53 20.8**	**-1.6**
WHN				PP	**PP**	**06 57 09.1**	**-0.7**
PZH	**PanZhiHua**	**168.68**	**44**	PKP	**PKPdf**	**06 52 18.4**	**+0.7**
PZH				pPKP	**pPKPdf**	**06 52 44.6**	**0.0**
PZH				PKPab	**PKPab**	**06 53 28.3**	**+0.1**
PZH				PP	**PP**	**06 57 23.1**	**+6.0**
PZH				SKKS		07 03 55.1	
PZH				SS	**SS**	**07 18 03.7**	**+1.0**
PZH				AMB	AMB		
comp=Z,2μm,11.0s							
PZH				LR	LR		
comp=Z,980nm,22.6s							
PZH				LR	LR		
comp=Z,920nm,23.5s							
PZH				LR	LR		
comp=Z,2μm,23.0s							
CMAR	**Chiang Mai Arr**	**169.10**	**88**		**PKPdf**	**06 52 18.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**169.10**	**88**	PKIKP	**PKPdf**	**06 52 18.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**169.10**	**88**	PKP	**PKPdf**	**06 52 18.9**	**+0.8**
comp=Z,5.7nm,0.9s,baz=273,slow=1.9,SNR=48							
CMAR				PKPab	**PKPab**	**06 53 31.1**	**+0.9**
comp=Z,109nm,1.0s,baz=272,slow=5.7,SNR=41							
CHTO	**Chiang Mai**	**169.10**	**86**		**PKPdf**	**06 52 18.0**	**0.0**
CHTO	**Chiang Mai**	**169.10**	**86**	PKIKP	**PKPdf**	**06 52 18.0**	**0.0**
QZH	**Quanzhou**	**170.07**	**312**	*i* PKP	**PKPdf**	**06 52 21.4**	**+3.0**
QZH				pPKP	**pPKPdf**	**06 52 46.6**	**+1.4**
QZH				PKPab	**PKPab**	**06 53 35.8**	**+1.6**
QZH				PP	**PP**	**06 57 24.9**	**+0.9**
QZH				LR	LR		
comp=Z,1μm,20.3s							
QZH				LR	LR		
comp=Z,960nm,17.9s							
QZH				LR	LR		
comp=Z,3μm,41.0s							
CNSH	**ChangSha**	**170.08**	**347**	⇑PKP	**PKPdf**	**06 52 18.5**	**+0.1**
CNSH				PP	**PP**	**06 57 22.7**	**-0.2**
CNSH				SKS	**SKSdf**	**06 59 07.4**	**-6.5**
CNSH				SS	**SS**	**07 18 10.9**	**-3.5**
CNSH				AMB	AMB		
comp=Z,1μm,5.9s							
CNSH				LR	LR		
comp=Z,960nm,16.2s							
CNSH				LR	LR		
comp=Z,2μm,24.0s							
CNSH				LR	LR		
comp=Z,2μm,28.8s							
KMI	**Kunming**	**170.27**	**46**	⇑PKP	**PKPdf**	**06 52 19.7**	**+0.8**
KMI				pPKP	pPKPdf	06 52 46.0	+0.3
KMI				sPKP		06 52 56.0	
GYA	**Guiyang**	**171.34**	**23**	⇑PKP	**PKPdf**	**06 52 20.4**	**+1.1**
GYA				pPKP	pPKPdf	06 52 46.1	0.0
GYA				PKPab	**PKPab**	**06 53 39.1**	**-0.6**
GYA				PP	**PP**	**06 57 31.4**	**+1.8**
GYA				AMB	AMB		
comp=Z,2μm,12.8s							
GYA				LR	LR		
comp=Z,950nm,23.0s							
GYA				LR	LR		
comp=Z,760nm,34.4s							
GYA				LR	LR		
comp=Z,5μm,34.5s							
GULI	**GuiLin**	**173.23**	**1**	PKP	**PKPdf**	**06 52 24.9**	**+4.9**
GULI				PP	**PP**	**06 57 40.3**	**+2.0**
GULI				SS	SS	07 18 43.4	-1.6
GULI				LR	LR		
comp=Z,1μm,14.1s							
GULI				LR	LR		
comp=Z,2μm,24.9s							
GULI				LR	LR		
comp=Z,3μm,30.9s							
GZH	**Guangzhou**	**174.68**	**330**	⇓PKP	**PKPdf**	**06 52 18.1**	**-2.4**
GZH				PP	**PP**	**06 57 42.8**	**-3.2**
GZH				SKS	**SKSdf**	**06 59 10.2**	**-5.4**
GZH				SS	**SS**	**07 18 51.7**	**-8.3**
QIZ	**Qiongzhong**	**179.22**	**46**	PKP	**PKPdf**	**06 52 21.0**	**-0.4**
QIZ				pPKP	**pPKPdf**	**06 52 42.7**	**-5.7**
QIZ				sPKP		06 52 58.1	
QIZ				PP	**PP**	**06 58 07.4**	**-0.8**
QIZ				SKKS		07 04 46.3	
QIZ				AMB	AMB		
comp=Z,5μm,13.7s							
QIZ				LR	LR		
comp=Z,1μm,20.1s							
QIZ				LR	LR		
comp=Z,2μm,22.6s							
QIZ				LR	LR		
comp=Z,4μm,28.4s							

IDC 10 06:34:10.6±2.7, 54°.20N×86°.55E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=22.8km s-min=13.7km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**257**	I	I	06 40 30.0	
baz=76,slow=332,SNR=0.9							
ZALV	**Zalesovo Beam**	**1.05**	**257**	Pg	Pg	06 34 29.1	-1.7
2.2nm,0.3s,baz=74,slow=17,SNR=25							
ZALV				Lg	Lg	06 34 46.1	
4.7nm,0.3s,baz=76,slow=28,SNR=3.9							
KURBB	**Kurchatov Arra**	**6.08**	**237**	Pn	Pn	06 35 42.5	+0.9
0.1nm,0.3s,baz=52,slow=13,SNR=5.4							
KURBB				Lg	Lg	06 37 25.8	
baz=56,slow=33,SNR=2.7							
0.6nm,0.5s							
MKAR	**Makanchi Array**	**7.90**	**202**	Pn	Pn	06 36 07.9	+1.2
0.2nm,0.3s,baz=24,slow=13,SNR=11							
0.3nm,0.4s							

*IDC **10** 06:38:34.0±1.6, 43°.91N×128°.80W, h0km, mb3.7/3, mbtmp3.7/10, ML3.3/7, MS4.5/3, Error ellipse: s-maj=33.1km s-min=13.5km az=39.0*

*NEIC **10** 06:38:38.7±2.2, 44°.00N±0°.09×128°.5W±0°.2, h10km±2km, ML3.5/52, Error ellipse: s-maj=20.5km s-min=14.4km az=250.0*

ISC 10 06:38:37.2±1.2, 44°.03N±0°.10×128°.7W±0°.1, h13km, n60, σ1§33/58, mb3.9/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.36**	**109**	Pn	**Pn**	**06 39 27.7**	**-1.8**
KEBM				IAML		06 40 11.1	
comp=E,147nm,1.3s							
KEBM				IAML		06 40 14.3	
comp=N,105nm,1.2s							
J01E	**Myrtle Point**	**3.55**	**103**		**Pn**	**06 39 30.5**	**-1.5**
J01E				IAML		06 40 20.8	
comp=E,82nm,2.1s							
HEBO	**Mount Hebo**	**3.70**	**70**	Pn	**Pn**	**06 39 33.5**	**-0.7**
HEBO				IAML		06 40 40.4	
comp=N,130nm,2.1s							
KBO	**Bosley Butte**	**3.73**	**118**	Pn	**Pn**	**06 39 33.6**	**-0.9**
KBO				IAML		06 40 34.2	
comp=N,84nm,3.0s							
KBO				IAML		06 41 28.6	
comp=E,78nm,2.7s							
I03D	**Drain, OR**	**3.86**	**93**		**Pn**	**06 39 34.3**	**-1.9**
K02D	**Willamette Mer**	**3.89**	**108**		**Pn**	**06 39 35.6**	**-1.1**
COR	**Corvallis**	**3.89**	**80**		**Pn**	**06 39 37.1**	**+0.4**
COR				IAML		06 40 28.6	
comp=E,138nm,1.7s							
COR				IAML		06 41 14.4	
comp=E,67nm,2.1s							
G03D	**McMinnville, O**	**4.04**	**71**		**Pn**	**06 39 38.5**	**-0.2**
G03D				IAML		06 40 35.3	
comp=E,115nm,1.5s							
DBO	**Dodson Butte**	**4.05**	**101**		**Pn**	**06 39 38.5**	**-0.4**
DBO				IAML		06 40 32.4	
comp=N,44nm,1.5s							
F03A	**Seaside**	**4.09**	**61**		**Pn**	**06 39 39.6**	**+0.1**
BUCK	**Buck Mountain**	**4.10**	**86**	Pn	**Pn**	**06 39 39.1**	**-0.5**
BUCK				IAML		06 40 39.6	
comp=N,74nm,1.7s							
BUCK				IAML		06 41 06.5	
comp=E,66nm,2.1s							
RADR	**Rader Ridge**	**4.19**	**54**		**Pn**	**06 39 42.0**	**+1.2**
RADR				IAML		06 40 37.7	
comp=N,89nm,1.4s							
RADR				IAML		06 41 45.5	
comp=E,75nm,2.3s							
L02F	**Cave Junction**	**4.20**	**115**		**Pn**	**06 39 39.7**	**-1.2**
L02F				IAML		06 40 33.5	
comp=E,51nm,1.9s							
H04D	**Lebanon**	**4.29**	**81**	Pn	**Pn**	**06 39 42.1**	**-0.1**
KRMB	**Red Mountain**	**4.31**	**124**	Pn	**Pn**	**06 39 41.6**	**-1.0**
KRMB				IAML		06 42 04.7	
comp=N,35nm,4.1s							
E03A	**Lebam**	**4.39**	**53**	Pn	**Pn**	**06 39 44.4**	**+0.8**
E03A				IAML		06 40 38.1	
comp=N,86nm,1.1s							
E03A				IAML		06 40 41.6	
comp=E,77nm,2.0s							
F04D	**Rainier, OR**	**4.50**	**61**		**Pn**	**06 39 45.5**	**+0.4**
I04A	**Tendick Farm,**	**4.53**	**91**		**Pn**	**06 39 44.5**	**-1.0**
WISH	**Wishkah**	**4.62**	**46**		**Pn**	**06 39 46.9**	**+0.2**
WISH				IAML		06 40 58.7	
comp=N,47nm,4.5s							
WISH				IAML		06 41 52.1	
comp=E,56nm,4.3s							
H04A	**Detroit Lake**	**4.70**	**80**	Pn	**Pn**	**06 39 47.2**	**-0.5**
H04A				IAML		06 40 49.0	
comp=N,58nm,0.4s							
H04A				IAML		06 40 49.4	
comp=E,46nm,1.1s							
NLWA	**Neilton Lookou**	**4.75**	**43**		**Pn**	**06 39 48.2**	**-0.4**
YBH	**Yreka Blue Hor**	**4.95**	**116**	Pn	**Pn**	**06 39 51.3**	**+0.1**
YBH	**Yreka Blue Hor**	**4.95**	**116**	Pn	**Pn**	**06 39 50.9**	**-0.4**
comp=E,0.3nm,0.3s,baz=303,slow=12,SNR=6.6							
YBH				Sn	**Sn**	**06 40 48.0**	**-0.3**
comp=E,0.1nm,0.3s,baz=89,slow=22,SNR=1.1							
comp=E,2.4nm,0.6s							
L04D	**Klamath Falls**	**5.00**	**109**	Pn	**Pn**	**06 39 52.4**	**+0.3**
I05D	**Terrebonne, OR**	**5.28**	**84**	IAML		06 41 24.4	
comp=E,44nm,2.1s							
B04A	**Port Angeles**	**5.40**	**40**	IAML		06 42 00.1	
comp=N,15nm,4.8s							
CLRS	**Cowichan Lake**	**5.73**	**32**	Pn	**Pn**	**06 40 01.4**	**-0.4**
PGC	**Sidney**	**5.86**	**36**	Pn	**Pn**	**06 40 02.5**	**-1.3**
CBB	**Campbell River**	**6.42**	**19**		**Pn**	**06 40 11.9**	**+0.6**
I07A	**Izee**	**6.61**	**86**		**Pn**	**06 40 13.0**	**-1.1**
B06A	**Marblemount**	**6.70**	**45**		**Pn**	**06 40 15.7**	**+0.5**
E07A	**Sunnyside**	**6.71**	**65**		**Pn**	**06 40 15.8**	**+0.3**
AFDM	**Forest Hills D**	**7.69**	**129**		**Pn**	**06 40 29.4**	**+0.5**
E09A	**Wood Farm, Sta**	**7.83**	**68**		**Pn**	**06 40 31.1**	**+0.3**
BBB	**Bella Bella**	**8.17**	**2**	Pn	**Pn

comp=N,2.2nm,0.8s
NV11 Mina Array Sit 9.69 122 Pn 06 40 58.8 +2.4
HLID Hailey 10.32 88 Pn 06 41 03.6 -1.5
ELK Elko 10.46 104 Pn 06 41 04.9 -2.2
ELK Elko 10.46 104 Pn **Pn 06 41 09.2 +2.1**
comp=N,0.1nm,0.3s,baz=299,slow=13,SNR=12
ELK LR LR 06 44 38.2
comp=N,2μm,20.4s,baz=248,slow=35
comp=N,3.2nm,0.8s
DSP Deep Springs 10.49 126 Pn 06 41 09.8 +2.5
MSO Missoula 10.72 70 Pn 06 41 10.1 -0.4
BCYI Bear Canyon 10.97 83 Pn 06 41 14.7 +0.7
CHMT Chamberlain Mo 11.21 70 Pn 06 41 18.0 +0.8
ISA Isabella, Lake 11.45 133 Pn 06 41 22.3 +1.9
DLMT Dillon 11.52 78 Pn 06 41 23.4 +1.9
SPR3 Spring Creek 3 11.86 110 Pn 06 41 27.3 +1.0
HVU Hansel Valley 11.87 95 Pn 06 41 25.2 -1.1
YHL Hebgen Lake 12.53 80 Pn **Pn 06 41 36.6 +1.3**
PDAR Pinedale Array 13.96 89 Pn **Pn 06 41 58.0 +3.1**
comp=N,0.1nm,0.3s,baz=271,slow=13,SNR=9.0
comp=N,1.9nm,1.0s
DLBC Dease Lake 14.45 357 Pn **Pn 06 42 04.0 +2.6**
baz=174,slow=9.5,SNR=2.0
comp=N,2.1nm,0.8s
YKA Yellowknife Ar 20.23 19 P P 06 43 09.3 -2.4
comp=N,3.6nm,0.8s,baz=211,slow=11,SNR=5.6
ILAR Eielson Array 23.16 340 P **P 06 43 42.1 -0.9**
comp=N,0.4nm,0.7s,baz=160,slow=8.3,SNR=6.7
comp=N,0.4nm,0.7s
RES Resolute Bay 34.20 15 LR LR 06 58 18.6
comp=N,1μm,20.4s,baz=335,slow=34
SONM Songino Array 76.50 325 P P 06 50 25.8 -1.0
comp=N,0.9nm,0.8s,baz=26,slow=3.8,SNR=3.9
comp=N,0.9nm,0.8s
KURBB Kurchatov Arra 82.80 343 P **P 06 50 59.6 -1.2**
comp=N,1.3nm,0.8s,baz=17,slow=5.0,SNR=4.0
comp=N,1.3nm,0.8s

---

*SKHL **10** 06:40:18.0±0.2, 47.°50N×147.°70E, h397km±5km, mb5.0/9, msha5.1/8*
*JMA **10** 06:40:18.7±0.5, 47°N±3°×14°8E±°, h443km, MV4.0/21, SOUTHERN SEA OF OKHOTSK*
*IDC **10** 06:40:19.9±1.4, 47.°72N×147.°54E, h403km±16km, mb3.4/17, mbtmp4.2/24, Error ellipse: s-maj=13.2km s-min=9.3km az=138.0*
ISC 10 06:40:18.5±0.5, 47.°44N±0.°06×147.°69E±0.°06, h400km, n50, σ2§17/61, mb3.8/18, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.21**	**177**	*e*P	**Pn**	**06 41 17.5**	**+1.7**
KUR				AMB	AMB	06 41 17.7	
	80nm,0.4s						
KUR				*e*S	**S**	**06 42 03.7**	**+1.6**
KUR				A	A	06 42 05.3	
	100nm,0.7s						
KUR				A	A	06 42 05.3	
	90nm,0.7s						
YSS	**Yuzh-Sakhalins**	**3.40**	**264**	*e*P	**Pn**	**06 41 26.1**	**+1.1**
YSS				AMB	AMB	06 41 27.2	
	180nm,0.9s						
YSS				*e*S	**S**	**06 42 19.1**	**+0.2**
YSS				A	A	06 42 20.2	
	60nm,0.6s						
YSS				A	A	06 42 20.2	
	50nm,0.6s						
SHO	**Shikotan**	**3.62**	**190**	*i* P	**Pn**	**06 41 26.3**	**-0.8**
SHO				AMB	AMB	06 41 26.6	
	140nm,0.3s						
SHO				*e*S	**S**	**06 42 19.3**	**-3.3**
SHO				A	A	06 42 21.3	
	220nm,0.5s						
SHO				A	A	06 42 21.3	
	440nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.64**	**201**	*i* P	**Pn**	**06 41 28.1**	**+0.9**
YUK				AMB	AMB	06 41 30.6	
	190nm,0.2s						
YUK				*e*S	**S**	**06 42 24.8**	**+1.9**
YUK				A	A	06 42 29.6	
	150nm,0.5s						
YUK				A	A	06 42 29.6	
	400nm,0.5s						
NMR	**Nemuro--Hokkai**	**4.30**	**199**	*i* P	**Pn**	**06 41 32.3**	**-1.2**
NEM2	**Nemuro 2**	**4.30**	**199**	*e*P	**Pn**	**06 41 32.5**	**-1.0**
NEM2				*e*S	**S**	**06 42 31.0**	**-3.3**
JSE	**Soyaes**	**4.33**	**237**	*e*P	**Pn**	**06 41 36.2**	**+2.5**
JTKR	**Abashiri--Toko**	**4.36**	**219**	*e*P	**Pn**	**06 41 35.7**	**+1.6**
JNK	**Nakash**	**4.38**	**210**	*e*P	**Pn**	**06 41 35.1**	**+0.8**
TYV	**Tymovskoe**	**4.76**	**318**	*i* P	**Pn**	**06 41 37.4**	**-0.4**
TYV				AMB	AMB	06 41 37.7	
	50nm,0.6s						
TYV				*e*S	**S**	**06 42 38.4**	**-4.0**
TYV				A	A	06 42 41.0	
	60nm,0.5s						
TYV				A	A	06 42 41.0	
	50nm,0.5s						
ASAJ	**Asahikawa**	**4.87**	**229**	P	**Pn**	**06 41 41.5**	**+2.3**
	7.0nm,0.6s,baz=75,slow=28,SNR=4.0						
JAK	**Akkeshi**	**4.92**	**207**	*e*P	**Pn**	**06 41 39.3**	**-0.4**
JAK				*e*S	**S**	**06 42 42.9**	**-2.8**
JAR	**Ashorobuto**	**4.98**	**215**	*e*P	**Pn**	**06 41 41.4**	**+1.1**
JCH	**Churui**	**5.72**	**214**	*e*P	**Pn**	**06 41 47.6**	**-0.4**
JCH				*e*S	**S**	**06 42 57.3**	**-3.7**
JBT2	**Biratori 2**	**5.99**	**221**	*e*S	**S**	**06 43 05.3**	**-1.1**
JNBK	**Urakawa-nobuka**	**6.24**	**216**	*e*P	**Pn**	**06 41 53.2**	**-0.5**
JEW	**Eniwo**	**6.37**	**226**	*e*S	**S**	**06 43 12.6**	**-1.4**
SKR	**Severo-Kuril's**	**6.42**	**57**	*e*P	**Pn**	**06 41 55.0**	**-0.5**
SKR				AMB	AMB	06 41 57.2	
	210nm,0.7s						
SKR				*e*S	**S**	**06 43 12.8**	**-1.9**
SKR				A	A	06 43 20.0	
	170nm,0.9s						
SKR				A	A	06 43 20.0	
	110nm,0.9s						
PAU	**Pauzhetka**	**7.18**	**52**	*i* P	**P**	**06 42 04.6**	**+0.1**
PAU				AMB	AMB	06 42 04.6	
	100nm,0.7s						
JOT	**Ohata**	**7.70**	**221**	*e*P	**Pn**	**06 42 09.2**	**-0.8**
JOT				*e*S	**S**	**06 43 34.8**	**-6.4**
JOSM	**Okushiri--Mats**	**7.92**	**230**	*e*P	**P**	**06 42 13.6**	**+0.6**
JSI2	**Shiura 2**	**8.24**	**222**	*e*P	**Pn**	**06 42 15.7**	**-0.6**
JSI2				*e*S	**S**	**06 43 46.7**	**-6.0**
JANG	**Nango**	**8.35**	**214**	*e*S	**S**	**06 43 48.3**	**-6.7**
PETK	**Petropavlovsk-**	**8.56**	**45**	P	**Pn**	**06 42 18.4**	**-1.2**
	10nm,0.5s,baz=223,slow=8.8,SNR=26						
PET	**Petropavlovsk**	**8.97**	**47**	*e*P	**P**	**06 42 24.6**	**+0.2**
KLR	**Kul'dur**	**10.76**	**285**	P	**Pn**	**06 42 45.2**	**+0.1**
	6.0nm,0.5s,baz=82,slow=9.5,SNR=20						
USRK	**Ussuriysk Ar.**	**11.42**	**259**	P	**Pn**	**06 42 52.1**	**-0.8**
	9.1nm,0.7s,baz=67,slow=10,SNR=13						
MJAR	**Matsushiro Arr**	**12.96**	**216**	P	**Pn**	**06 43 11.7**	**+0.9**
	4.8nm,0.4s,baz=18,slow=11,SNR=15						
KSRS	**Korea Array**	**17.63**	**243**	P	**P**	**06 44 01.6**	**+2.6**
	3.7nm,0.4s,baz=52,slow=9.7,SNR=13						
JNU	**Nakatsue**	**19.15**	**228**	P	**P**	**06 44 17.1**	**+2.2**
	7.6nm,0.6s,baz=56,slow=7.2,SNR=5.8						
SONM	**Songino Array**	**27.59**	**286**	P	**P**	**06 45 31.5**	**+0.5**
	0.5nm,0.3s,baz=84,slow=7.0,SNR=4.2						
	0.5nm,0.3s						
KDAK	**Kodiak Island**	**36.55**	**51**	P	**P**	**06 46 48.3**	**+0.6**
	5.7nm,0.9s,baz=266,slow=4.1,SNR=5.9						
	5.7nm,0.9s						
ILAR	**Eielson Array**	**38.33**	**39**	P	**P**	**06 47 02.5**	**+0.1**
	2.5nm,0.6s,baz=268,slow=7.9,SNR=19						
	2.5nm,0.6s						
MKAR	**Makanchi Array**	**43.30**	**294**	P	**P**	**06 47 42.1**	**-0.5**
	2.5nm,0.7s,baz=67,slow=8.8,SNR=12						
	2.5nm,0.7s						
KURBB	**Kurchatov Arra**	**43.95**	**301**	P	**P**	**06 47 46.5**	**-1.1**
	1.6nm,0.6s,baz=72,slow=8.8,SNR=7.6						
	1.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**49.01**	**251**	P	**P**	**06 48 29.1**	**+2.3**
	2.6nm,0.3s,baz=39,slow=7.4,SNR=2.2						
	2.6nm,0.3s						
RES	**Resolute Bay**	**51.33**	**18**	P	**P**	**06 48 41.8**	**-1.3**
	2.5nm,0.5s,baz=334,slow=3.7,SNR=6.5						
	2.5nm,0.5s						
AKTO	**Aktyubinsk**	**55.46**	**309**	P	**P**	**06 49 11.9**	**-1.2**
	1.1nm,0.6s,baz=68,slow=6.7,SNR=3.8						
	1.1nm,0.6s						
ARCES	**ARCESS Array B**	**55.93**	**339**	P	**P**	**06 49 14.9**	**-1.2**
	1.0nm,0.7s,baz=34,slow=8.7,SNR=1.3						
	1.0nm,0.7s						
FINES	**FINESS Array B**	**61.77**	**332**	P	**P**	**06 49 54.2**	**-1.6**
	3.9nm,0.9s,baz=21,slow=6.9,SNR=6.6						
	3.9nm,0.9s						
GEYT	**Alibeck**	**63.03**	**297**	P	**P**	**06 50 05.1**	**+0.6**
	2.3nm,0.5s,baz=32,slow=6.8,SNR=3.5						
	2.3nm,0.5s						
NVAR	**Mina Array Bea**	**65.34**	**60**	P	**P**	**06 50 21.0**	**+1.5**
	1.1nm,0.6s,baz=308,slow=6.4,SNR=4.4						
	1.1nm,0.6s						
NOA	**NORSAR Array B**	**66.30**	**339**	P	**P**	**06 50 23.8**	**-1.2**
	0.5nm,0.6s,baz=28,slow=6.5,SNR=1.4						
	0.5nm,0.6s						
HFS	**Hagfors**	**66.44**	**337**	P	**P**	**06 50 24.5**	**-1.3**
	10nm,1.1s,baz=57,slow=10,SNR=3.6						
PDAR	**Pinedale Array**	**67.27**	**51**	P	**P**	**06 50 32.5**	**+0.9**
	1.7nm,0.5s,baz=0.3,slow=0.8,SNR=12						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**68.14**	**194**	P	**P**	**06 50 39.0**	**+2.2**
	1.3nm,0.5s,baz=8.5,slow=6.5,SNR=26						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**71.86**	**193**	P	**P**	**06 51 01.9**	**+2.8**
	0.7nm,0.6s,baz=12,slow=5.9,SNR=9.9						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**80.31**	**57**	P	**P**	**06 51 47.7**	**+1.3**
	1.9nm,0.7s,baz=301,slow=3.9,SNR=6.3						
	1.9nm,0.7s						
PLCA	**Paso Flores**	**151.94**	**90**	PKPbc	**PKiKP**	**06 59 27.6**	**+0.9**
	1.4nm,0.6s,baz=250,slow=3.8,SNR=5.0						
SNAA	**Sanae**	**152.07**	**199**	PKPbc	**PKiKP**	**06 59 26.5**	**+0.5**
	1.1nm,0.9s,baz=170,slow=6.1,SNR=9.0						

---

*NNC **10** 06:45:21.7±2.1, 53.°63N×88.°51E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=14.9km s-min=11.2km az=82.0, Suspected Mining explosion.*
IDC 10 06:45:25.6±3.3, 53.°81N×88.°17E, h0km, mbtmp2.9/2, ML2.5/2, 2C-4D, Error ellipse: s-maj=28.8km s-min=20.0km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**275**	I	I	06 58 40.0	
	baz=92,slow=338,SNR=4.0						
ZAA0	**Zalesovo Array**	**1.99**	**275**	⇓P	Pn	06 45 59.5	-1.0
	2.2nm,0.8s,baz=94,slow=16						
ZAA0				⇑S	Sg	06 46 28.9	-0.6
	12nm,0.8s,baz=98,slow=25						
ZALV	**Zalesovo Beam**	**1.99**	**275**	Pn	Pn	06 46 00.3	-0.1
	1.2nm,0.3s,baz=92,slow=12,SNR=26						
ZALV				Lg	Lg	06 46 29.2	
	3.5nm,0.3s,baz=92,slow=23,SNR=22						
KURK	**Kurchatov**	**6.63**	**246**	⇓Pn	Pn	06 47 02.4	-1.7
	1.1nm,0.4s						
KURK				⇓Lg	Lg	06 48 53.1	
	12nm,1.2s						
KURBB	**Kurchatov Arra**	**6.73**	**246**	⇓Pn	Pn	06 47 03.2	-2.3
	3.3nm,0.9s						
KURBB				⇑Lg	Lg	06 48 58.7	
	14nm,0.9s						
KURBB	**Kurchatov Arra**	**6.73**	**246**	Pn	Pn	06 47 06.0	+0.4
	0.1nm,0.3s,baz=62,slow=14,SNR=4.8						
KURBB				Lg	Lg	06 48 57.0	
	baz=62,slow=33,SNR=8.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.97**	**211**	Pn	Pn	06 47 23.7	+1.1
	0.1nm,0.3s,baz=23,slow=14,SNR=2.0						
MKAR				Lg	Lg	06 49 39.9	
	baz=22,slow=24,SNR=4.0						
	0.4nm,0.6s						

IDC 10 06:54:38.0±2.8, 53.°93N×86.°60E, h0km, mbtmp3.7/2, ML2.6/1, Error ellipse: s-maj=23.2km s-min=13.6km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**272**	I	I	07 01 40.0	
	baz=90,slow=335,SNR=5.4						
ZALV	**Zalesovo Beam**	**1.05**	**272**	Pg	Pg	06 54 57.4	-0.8
	1.7nm,0.3s,baz=90,slow=15,SNR=10						
ZALV				Lg	Lg	06 55 12.9	
	2.6nm,0.3s,baz=91,slow=28,SNR=7.7						
KURBB	**Kurchatov Arra**	**5.96**	**239**	Pn	Pn	06 56 08.4	+1.1
	0.2nm,0.3s,baz=56,slow=13,SNR=2.2						
	2.5nm,0.2s						
MKAR	**Makanchi Array**	**7.66**	**203**	Pn	Pn	06 56 31.7	+1.0
	2.1nm,0.6s,baz=21,slow=12,SNR=5.2						

TRN 10 06:58:21.3, 10.°27N×62.°58W, h84km, MD3.5, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.22**	**72**	*e*P	Pn	06 58 42.8	-0.4
TRN				*e*S	Sn	06 58 59.9	+0.2
GRGR	**Grenville**	**2.06**	**26**	*e*P	Pn	06 58 55.1	+1.0
GRGR				*e*S	Sn	06 59 18.9	-0.3
GRHS	**Sauteurs**	**2.15**	**25**	*e*P	Pn	06 58 54.7	-0.6
GRHS				*e*S	Sn	06 59 20.2	-1.0
GCMP	**Grenada, Carri**	**2.48**	**27**	*e*P	Pn	06 59 00.6	+1.0
GCMP				*e*S	Sn	06 59 27.9	-1.1

---

*IDC **10** 07:04:45.0±1.6, 18.°52S×69.°55W, h81km±15km, mb4.1/13, mbtmp4.4/17, MS4.3/1, Error ellipse: s-maj=14.8km s-min=10.7km az=75.0*
*VAO **10** 07:04:45.6±0.7, 18.°47S×69.°62W, h86km±5km, mb4.4*
*SJA **10** 07:04:45.4±0.7, 18.°69S×69.°81W, h85km±7km, ML4.5, MW4.3*
*NEIC **10** 07:04:46.6±2.5, 18.°60S±0.°05×69.°75W±0.°07, h91km±4km, mb4.4/30, ML4.4(GUC), Error ellipse: s-maj=9.2km s-min=6.6km az=97.0*
*GUC **10** 07:04:47.8±0.8, 18.°62S×69.°78W, h75km±4km, ML4.5*
ISC 10 07:04:45.5±0.6, 18.°58S±0.°03×69.°71W±0.°05, h87km±5km, n150, σ1§43/171, mb4.4/20, 9C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.30**	**38**		**Pn**	**07 05 00.8**	**+1.5**
PB16	**IPOC Station P**	**0.30**	**38**	*e*P	**Pn**	**07 05 00.6**	**+1.3**
PB16				*e*S	**Sn**	**07 05 11.2**	**+1.6**
PB16				IAML		07 05 12.9	
	comp=E,35μm,0.3s						
PB16	**IPOC Station P**	**0.30**	**38**	*e*P	**Pn**	**07 05 00.6**	**+1.3**
PB16				IAML		07 05 13.5	
	comp=Z,23μm,0.4s						
PB12	**IPOC Station P**	**0.59**	**266**		**Pn**	**07 05 00.6**	**-0.2**
PB12	**IPOC Station P**	**0.59**	**266**	⇓*e*P	**Pn**	**07 05 00.4**	**-0.4**
PB12				*e*S	**Sn**	**07 05 10.9**	**-1.3**
PB12				IAML		07 05 13.1	
	comp=N,21μm,0.1s						
PB12	**IPOC Station P**	**0.59**	**266**	*e*P	**Pn**	**07 05 00.4**	**-0.4**
PB12				*e*S	**Sn**	**07 05 11.9**	**-0.4**
PB12				IAML		07 05 14.4	
	comp=Z,7μm,0.1s						
AP01	**Chacalluta**	**0.64**	**289**		**Pn**	**07 05 01.2**	**0.0**
AP01	**Chacalluta**	**0.64**	**289**	⇓*e*P	**Pn**	**07 05 01.1**	**0.0**
AP01				*e*S	**Sn**	**07 05 12.3**	**-0.5**
AP01				IAML		07 05 14.7	
	comp=N,70μm,0.3s						
AP01	**Chacalluta**	**0.64**	**289**	*e*P	**Pn**	**07 05 01.1**	**0.0**
AP01				IAML		07 05 15.8	
	comp=Z,24μm,0.1s						
PB18	**Visviri**	**1.00**	**12**	Pn	Pn	07 05 08.9	+3.3
PB18	**Visviri**	**1.00**	**12**	⇓*e*P	Pn	07 05 08.5	+2.9
PB18				*e*S	**Sn**	**07 05 23.5**	**+2.9**
GO01	**Chusmiza**	**1.19**	**156**		**Pn**	**07 05 09.8**	**+2.1**
GO01	**Chusmiza**	**1.19**	**156**	⇑*e*P	**Pn**	**07 05 09.6**	**+1.9**
GO01				*e*S	**Sn**	**07 05 26.2**	**+1.8**
GO01				IAML		07 05 31.3	
	comp=E,5μm,0.1s						
GO01	**Chusmiza**	**1.19**	**156**	*e*P	**Pn**	**07 05 04.2**	**-3.5**
GO01				*e*S	**Sn**	**07 05 28.1**	**+3.8**
GO01				IAML		07 05 30.5	
	comp=Z,3μm,0.5s						
PB08	**IPOC Station P**	**1.64**	**162**		**Pn**	**07 05 15.5**	**+2.1**
PB08	**IPOC Station P**	**1.64**	**162**	⇑*e*P	**Pn**	**07 05 15.2**	**+1.9**
PB08				*e*S	**Sn**	**07 05 35.7**	**+1.3**
PB08				IAML		07 05 39.5	
	comp=E,4μm,0.5s						
PB08	**IPOC Station P**	**1.64**	**162**	*e*P	**Pn**	**07 05 15.4**	**+2.1**
PB08				*e*S	**Sn**	**07 05 32.1**	**-2.2**
PB08				IAML		07 05 39.1	
	comp=Z,3μm,0.4s						
HMBC	**Humberstone**	**1.70**	**186**	⇑*e*P	**Pn**	**07 05 14.2**	**+0.3**
HMBC				*e*S	**Sn**	**07 05 35.2**	**-0.2**
HMBC				IAML		07 05 41.4	
	comp=E,6μm,0.4s						
HMBC	**Humberstone**	**1.70**	**186**	*e*P	**Pn**	**07 05 14.2**	**+0.3**
HMBC				*e*S	**Sn**	**07 05 36.1**	**+0.7**
HMBC				IAML		07 05 45.8	
	comp=Z,4μm,0.3s						
TA02	**Huaiquique**	**1.73**	**193**		**Pn**	**07 05 14.3**	**+0.2**
TA02	**Huaiquique**	**1.73**	**193**	⇑*e*P	**Pn**	**07 05 14.4**	**+0.3**
TA02				*e*S	**Sn**	**07 05 35.0**	**-0.9**
TA02				IAML		07 05 43.5	
	comp=E,5μm,0.3s						
TA02	**Huaiquique**	**1.73**	**193**	*e*P	**Pn**	**07 05 14.2**	**0.0**
TA02				*e*S	**Sn**	**07 05 38.2**	**+2.4**
TA02				IAML		07 05 41.3	
	comp=Z,2μm,0.6s						
TA01	**Diego Aracena**	**2.03**	**193**	Pn	**Pn**	**07 05 17.8**	**-0.2**
TA01	**Diego Aracena**	**2.03**	**193**	⇑*e*P	**Pn**	**07 05 17.5**	**-0.5**
TA01				*e*S	**Sn**	**07 05 42.4**	**-0.4**
TA01				IAML		07 05 51.2	
	comp=N,4μm,0.3s						
TA01	**Diego Aracena**	**2.03**	**193**	*e*P	**Pn**	**07 05 17.0**	**-1.0**
TA01				*e*S	Sn	07 05 34.3	-8.4
TA01				IAML		07 05 50.7	
	comp=Z,1μm,0.3s						
PATCX	**Punta Patache**	**2.27**	**191**	Pn	**Pn**	**07 05 21.0**	**-0.3**
PATCX	**Punta Patache**	**2.27**	**191**	*e*P	**Pn**	**07 05 20.5**	**-0.8**
PATCX				*e*S	**Sn**	**07 05 48.5**	**-0.2**
PATCX				IAML		07 05 58.3	
	comp=E,3μm,0.3s						
PATCX	**Punta Patache**	**2.27**	**191**	*e*P	**Pn**	**07 05 20.6**	**-0.8**
PATCX				*e*S	Sn	07 05 36.7	-12
PATCX				IAML		07 05 57.9	
	comp=Z,2μm,0.6s						
PB01	**IPOC Station P**	**2.46**	**175**		**Pn**	**07 05 24.9**	**+1.1**
PB01	**IPOC Station P**	**2.46**	**175**	*e*P	**Pn**	**07 05 24.7**	**+0.8**
PB01				*e*S	**Sn**	**07 05 54.1**	**+0.9**
PB01				IAML		07 06 03.8	
	comp=N,3μm,0.1s						
PB01	**IPOC Station P**	**2.46**	**175**	*e*P	**Pn**	**07 05 24.6**	**+0.8**
PB01				*e*S	**Sn**	**07 05 51.1**	**-2.1**
PB01				IAML		07 06 01.7	
	comp=Z,1μm,0.3s						
LPAZ	**La Paz**	**2.73**	**34**	Pn	Pn	07 05 31.6	+3.7
LPAZ	**La Paz**	**2.73**	**34**	*e*P	Pn	07 05 31.6	+3.7
PB02	**IPOC Station P**	**2.74**	**184**		**Pn**	**07 05 30.1**	**+2.6**
PB02	**IPOC Station P**	**2.74**	**184**	*e*P	**Pn**	**07 05 28.1**	**+0.6**
PB02				*e*S	**Sn**	**07 06 00.2**	**+0.5**
PB02				IAML		07 06 11.7	
	comp=N,3μm,0.4s						
PB02	**IPOC Station P**	**2.74**	**184**	*e*P	**Pn**	**07 05 27.2**	**-0.3**
PB02				*e*S	Sn	07 05 46.5	-13
PB02				IAML		07 06 14.1	
	comp=Z,4μm,0.3s						
PB07	**IPOC Station P**	**3.14**	**183**		**Pn**	**07 05 34.4**	**+1.3**
PB07	**IPOC Station P**	**3.14**	**183**	⇑*e*P	**Pn**	**07 05 33.4**	**+0.4**
PB07				*e*S	**Sn**	**07 06 08.3**	**-1.4**
PB07				IAML		07 06 20.9	
	comp=E,2μm,0.4s						
PB07	**IPOC Station P**	**3.14**	**183**	*e*P	**Pn**	**07 05 33.5**	**+0.5**
PB07				*e*S	**Sn**	**07 06 05.2**	**-4.4**
PB07				IAML		07 06 25.8	
	comp=Z,2μm,0.5s						
PB09	**IPOC Station P**	**3.23**	**172**		**Pn**	**07 05 35.5**	**+1.2**
PB09	**IPOC Station P**	**3.23**	**172**	*e*P	**Pn**	**07 05 35.5**	**+1.2**
PB09				*e*S	**Sn**	**07 06 07.2**	**-4.7**
PB09				IAML		07 06 25.4	
	comp=Z,2μm,0.6s						
PB04	**IPOC Station P**	**3.76**	**186**	Pn	**Pn**	**07 05 41.9**	**+0.5**
PB04	**IPOC Station P**	**3.76**	**186**	*e*P	**Pn**	**07 05 41.2**	**-0.2**
PB04				*e*S	**Sn**	**07 06 20.5**	**-4.2**
PB04				IAML		07 06 47.4	
	comp=Z,1μm,0.4s						
LVC	**Limon Verde**	**4.08**	**170**	Pn	**Pn**	**07 05 47.9**	**+1.9**
LVC	**Limon Verde**	**4.08**	**170**	*e*P	**Pn**	**07 05 47.0**	**+1.1**
LVC	**Limon Verde**	**4.08**	**170**	P	**Pn**	**07 05 47.6**	**+1.6**
	comp=Z,212nm,0.6s,baz=1.5,slow=6.8,SNR=29						
LVC				S	**Sn**	**07 06 32.4**	**-0.4**
	comp=Z,270nm,0.5s,baz=60,slow=23,SNR=7.9						
LVC	**Limon Verde**	**4.08**	**170**	*e*P	**Pn**	**07 05 47.4**	**+1.4**
LVC				*e*S	**Sn**	**07 06 38.0**	**+5.2**
LVC				IAML		07 06 44.3	
	comp=Z,465nm,0.8s						
PB06	**IPOC Station P**	**4.11**	**178**	Pn	**Pn**	**07 05 45.8**	**-0.4**
PB06	**IPOC Station P**	**4.11**	**178**	*e*P	**Pn**	**07 05 46.3**	**+0.2**
PB06				*e*S	**Sn**	**07 06 31.6**	**-1.6**
PB06				IAML		07 06 53.4	
	comp=Z,673nm,0.5s						
AF01	**San Pedro de A**	**4.58**	**162**		**Pn**	**07 05 55.6**	**+3.0**
PB15	**IPOC Station P**	**4.62**	**177**		**Pn**	**07 05 53.7**	**+0.7**
PB15	**IPOC Station P**	**4.62**	**177**	*e*P	**Pn**	**07 05 53.2**	**+0.1**
PB15				*e*S	**Sn**	**07 06 42.9**	**-2.6**
PB15				IAML		07 07 06.8	
	comp=Z,1μm,0.4s						
GO02	**Mina Guanaco**	**6.56**	**179**	Pn	**Pn**	**07 06 18.4**	**-1.1**
AC02	**Maricunga**	**8.24**	**176**	Pn	**Pn**	**07 06 42.2**	**-0.4**
SIV	**San Ignacio**	**8.64**	**74**	P	**Pn**	**07 06 47.0**	**-0.7**
	comp=Z,27nm,0.4s,baz=265,slow=9.4,SNR=98						
SIV				S	**Sn**	**07 08 20.9**	**-2.6**
	comp=Z,7.0nm,0.6s,baz=155,slow=21,SNR=1.0						
BBSD	**Serra de San D**	**8.77**	**82**	*e*P	**Pn**	**07 06 48.7**	**-0.9**
ETMB	**Extrema**	**9.34**	**22**	*e*P	**Pn**	**07 06 56.2**	**-1.1**
BBRB	**Robore, Bolivi**	**9.40**	**90**	*e*P	**Pn**	**07 06 55.6**	**-2.5**
NNA	**Nana**	**9.50**	**313**	P	**Pn**	**07 06 58.7**	**-0.9**
	comp=Z,4.9nm,0.3s,baz=176,slow=7.9,SNR=2.7						
NNA				S	**Sn**	**07 08 48.3**	**+3.7**
	comp=Z,8.3nm,0.4s,baz=214,slow=16,SNR=1.5						
PTLB	**Pontes e Lacer**	**10.58**	**74**	Pn	**Pn**	**07 07 14.3**	**+0.1**
PTLB	**Pontes e Lacer**	**10.58**	**74**	*e*P	**Pn**	**07 07 13.7**	**-0.4**
VILB	**Vilhena**	**10.72**	**60**	Pn	**Pn

PLCA IAmb IAmb 07 09 36.0
comp=Z,13nm,0.8s
PLCA Paso Flores 22.09 182 *eP* **P 07 09 34.4 +0.9**
PLCA Paso Flores 22.09 182 P **P 07 09 34.0 +0.5**
comp=Z,12nm,0.9s,baz=358,slow=11,SNR=24
comp=Z,12nm,0.9s
MALB Monte Alegre 22.48 44 *eP* **P 07 09 35.3 -2.5**
BOAV Boa Vista 22.71 24 P **P 07 09 40.0 -0.2**
JANB Januaria 24.55 86 *eP* **P 07 09 56.7 -0.6**
SDBA SAO DESIDERIO 24.66 79 *eP* **P 07 09 57.9 -0.4**
DIAM Diamantina, MG 24.69 94 *eP* **P 07 09 58.9 +0.2**
MCPB Macapa, AP 25.06 46 *eP* **P 07 10 02.0 +0.2**
GDU01 Guandu, BA 29.32 85 *eP* **P 07 10 39.4 -0.7**
RPN Rapa Nui 37.37 249 LR LR 07 23 23.7
comp=Z,429nm,18.3s,baz=116,slow=30
TEIG Tepich 42.65 334 P **P 07 12 33.7 +0.2**
comp=Z,68nm,0.7s,baz=171,slow=7.1,SNR=2.9
SWET Sewanee 55.67 344 P **P 07 14 11.7 -1.0**
HNDO Hondo 55.69 329 P **P 07 14 13.6 +0.7**
HNDO IAmb IAmb 07 14 14.0
comp=Z,9.9nm,0.6s
TXAR Lajitas Array 57.82 325 P **P 07 14 28.2 +0.1**
comp=Z,0.9nm,0.6s,baz=148,slow=10,SNR=3.1
comp=Z,0.9nm,0.6s
S44A Carbondale 58.92 342 P **P 07 14 34.9 -0.6**
SIUC Southern Illin 58.92 342 P **P 07 14 34.9 -0.6**
VNA2 Neumayer--Watz 63.65 161 ⇑P **P 07 15 07.5 +0.6**
comp=Z,4.8nm,0.7s,baz=290,slow=7.0
SNAA Sanae 65.28 161 P **P 07 15 18.5 +0.8**
SNAA IAmb IAmb 07 15 18.9
comp=Z,3.7nm,0.7s
SNAA Sanae 65.28 161 ⇑P **P 07 15 18.1 +0.5**
comp=Z,90nm,0.7s
SNAA Sanae 65.28 161 P **P 07 15 18.3 +0.6**
comp=Z,3.1nm,0.6s,baz=284,slow=8.4,SNR=28
comp=Z,3.1nm,0.6s
SDCO Great Sand Dun 65.36 329 P **P 07 15 19.3 +0.3**
SDCO IAmb IAmb 07 15 20.4
comp=Z,3.1nm,0.8s
TROLL Troll, Antarti 66.99 161 ⇑P **P 07 15 29.5 +0.7**
comp=Z,276nm,0.6s
DBIC Dimbokro 68.66 75 P **P 07 15 38.7 -1.3**
comp=Z,2.6nm,0.5s,baz=242,slow=7.8,SNR=8.3
comp=Z,2.6nm,0.5s
CCUT Cedar City 69.31 324 P **P 07 15 45.0 +1.2**
CCUT IAmb IAmb 07 15 46.6
comp=Z,4.0nm,0.8s
MVU Marysvale 69.37 325 P **P 07 15 44.8 +0.6**
PSUT Pine Spring 70.28 325 P **P 07 15 49.6 -0.1**
PSUT IAmb IAmb 07 15 51.5
comp=Z,9.5nm,1.4s
PDAR Pinedale Array 71.22 330 P **P 07 15 55.0 -0.3**
comp=Z,0.5nm,0.7s,baz=123,slow=6.1,SNR=6.0
comp=Z,0.5nm,0.7s
QSPA South Pole Qui 71.60 180 P **P 07 15 58.3 +1.1**
QSPA South Pole Qui 71.60 180 P **P 07 15 58.0 +0.8**
comp=Z,3.1nm,0.4s,baz=334,slow=1.4,SNR=58
comp=Z,3.1nm,0.4s
ULM Lac du Bonnet 72.32 343 P **P 07 16 00.7 -0.8**
comp=Z,6.3nm,0.6s,baz=147,slow=5.7,SNR=11
comp=Z,6.3nm,0.6s
KOWA Kowa 72.58 68 P **P 07 16 02.9 -0.9**
KOWA IAmb IAmb 07 16 28.2
comp=Z,5.1nm,0.7s
NVAR Mina Array Bea 72.74 322 P **P 07 16 06.0 +1.4**
comp=Z,0.6nm,0.7s,baz=157,slow=7.5,SNR=5.0
comp=Z,0.6nm,0.7s
HLID Hailey 74.18 328 P **P 07 16 14.6 +1.7**
TOA0 Torodi Ar. Sit 77.11 71 P **P 07 16 28.2 -1.7**
TOA0 IAmb IAmb 07 16 33.5
comp=Z,4.3nm,0.7s
TORD Torodi Ar. Bea 77.11 71 P **P 07 16 28.6 -1.3**
TORD IAmb IAmb 07 16 33.4
comp=Z,2.9nm,0.7s
TORD Torodi Ar. Bea 77.11 71 P **P 07 16 28.4 -1.5**
comp=Z,3.0nm,0.4s,baz=254,slow=5.2,SNR=41
comp=Z,3.0nm,0.4s
VNDA Vanda 79.58 190 P **P 07 16 44.7 +2.2**
PAB San Pablo 83.97 45 P **P 07 17 06.7 +0.5**
PAB IAmb IAmb 07 17 07.2
comp=Z,4.2nm,0.7s
ESDC Sonseca Array 84.29 45 P **P 07 17 08.7 +0.9**
ESDC Sonseca Array 84.29 45 P **P 07 17 08.2 +0.3**
comp=Z,1.8nm,0.7s,baz=251,slow=5.2,SNR=14
comp=Z,1.8nm,0.7s
MAW Mawson 87.33 164 P **P 07 17 22.8 +0.5**
comp=Z,2.4nm,0.7s,baz=196,slow=4.8,SNR=5.1
comp=Z,2.4nm,0.7s
YKA Yellowknife Ar 88.19 341 P **P 07 17 26.3 0.0**
comp=Z,5.3nm,0.7s,baz=132,slow=4.6,SNR=26
comp=Z,5.3nm,0.7s
ASAR Alice Springs 132.11 210 PKP **PKPdf 07 23 49.6 -0.2**
comp=Z,1.1nm,0.7s,baz=130,slow=2.0,SNR=15
BVAR Borovoye Array 133.78 32 PKP **PKiKP 07 23 53.1 -0.2**
comp=Z,0.9nm,0.7s,baz=318,slow=1.9,SNR=3.0
WRA Warramunga Arr 135.04 213 PKP **PKPdf 07 23 55.3 -0.2**
comp=Z,2.0nm,0.5s,baz=149,slow=1.8,SNR=18
KURBB Kurchatov Arra 139.27 31 PKP **PKPdf 07 24 02.9 +0.7**
comp=Z,0.6nm,0.6s,baz=300,slow=2.6,SNR=5.5
ZALV Zalesovo Beam 139.60 23 PKP **PKPdf 07 24 02.8 +0.1**
comp=Z,2.8nm,0.7s,baz=320,slow=2.8,SNR=7.4
MKAR Makanchi Array 143.66 33 PKP **PKPdf 07 24 10.2 -0.1**
comp=Z,0.6nm,0.6s,baz=306,slow=2.9,SNR=4.0
USRK Ussuriysk Ar. 148.64 329 PKPbc **PKiKP 07 24 23.1 -0.9**
comp=Z,4.1nm,0.7s,baz=1.7,slow=1.0,SNR=5.4
MJAR Matsushiro Arr 149.62 312 PKPbc **PKiKP 07 24 25.8 -0.5**
comp=Z,1.5nm,0.3s,baz=85,slow=0.4,SNR=4.7
SONM Songino Array 150.64 5 PKPbc **PKiKP 07 24 28.0 -0.2**
comp=Z,3.5nm,0.5s,baz=324,slow=1.7,SNR=26

---

*NNC **10** 07:06:59.9±3.8, 48°.71N×77°.61E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=36.0km s-min=19.2km az=145.0, Suspected Mining explosion.*
IDC 10 07:07:00.3±4.5, 48°.67N×77°.64E, h0km, mbtmp2.6/2, ML2.1/2, 3C-2D, Error ellipse: s-maj=60.4km s-min=15.3km az=78.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.04**	**16**	⇑Pg	Pn	07 07 37.0	+1.1
	5.0nm,0.7s,baz=196,slow=16						
KURBB				⇑Lg	Lg	07 08 04.1	
	10nm,0.7s						
KURBB	**Kurchatov Arra**	**2.04**	**16**	Pg	Pb	07 07 37.4	-0.8
	0.2nm,0.3s,baz=201,slow=16,SNR=6.7						
KURBB				Lg	Lg	07 08 04.3	
	0.2nm,0.3s,baz=210,slow=29,SNR=1.9						
KURK	**Kurchatov**	**2.14**	**17**	⇓Pg	Pn	07 07 38.2	+0.9
	2.9nm,0.7s						
KURK				⇓Lg	Lg	07 08 05.6	
	5.1nm,0.5s						
OTUK	**Ortayu**	**3.55**	**265**	⇑Lg	Lg	07 08 51.1	
	6.2nm,0.9s						
MKAR	**Makanchi Array**	**3.66**	**119**	Pn	Pn	07 07 58.6	+0.4
	0.1nm,0.3s,baz=300,slow=11,SNR=1.8						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**6.94**	**38**	Pn	Pn	07 08 43.7	+0.6
	0.3nm,0.3s,baz=226,slow=12,SNR=2.0						
	0.7nm,0.5s						
I46RU	**ZALESOVO INFRA**	**6.94**	**38**	I	I	07 47 30.0	
	baz=221,slow=326,SNR=4.2						

---

*IDC **10** 07:08:28.0±0.7, 6°.74N×72°.96W, h160km±10km, mb3.4/3, mbtmp4.0/6, Error ellipse: s-maj=31.7km s-min=7.6km az=134.0*
*RSNC **10** 07:08:29.4±1.7, 6°.82N×73°.15W, h152km±7km, ML3.8, Mw4.0*
ISC 10 07:08:28.0±0.8, 6°.84N±0°.03×73°.08W±0°.04, h159km±6km, n42, σ1§47/78, mb3.6/3, 2C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.26**	**202**	⇓*i*P	**Pn**	**07 08 49.9**	**0.0**
BARC				*e*S	**Sn**	**07 09 05.0**	**-1.5**
BARC				*i*		07 09 07.8	
	comp=Z,1μm,0.4s						
PAMC	**Pamplona, Colo**	**0.63**	**37**	*i* P	**Pn**	**07 08 52.6**	**+0.9**
PAMC				*e*S	**Sn**	**07 09 09.7**	**+0.1**
PAMC				*i*		07 09 11.9	
	comp=Z,1μm,0.5s						
RUSC	**La Rusia**	**0.94**	**180**	⇑*i*P	**Pn**	**07 08 53.9**	**+0.1**
RUSC				*e*S	**Sn**	**07 09 13.0**	**-0.5**
RUSC				*i*		07 09 13.7	
	comp=Z,1μm,0.4s						
TAMC	**Tame, Arauca**	**1.34**	**107**	⇓*i*P	**Pn**	**07 08 58.0**	**+1.3**
TAMC				*e*S	**Sn**	**07 09 20.2**	**+1.4**
SPBC	**San Pablo de B**	**1.53**	**220**	⇑*i*P	**Pn**	**07 08 58.7**	**0.0**
SPBC				*e*S	**Sn**	**07 09 21.0**	**-1.3**
SPBC				*i*		07 09 27.1	
	comp=Z,1μm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.88**	**290**	*e*P	**Pn**	**07 09 02.2**	**-0.1**
ZARC				*e*S	**Sn**	**07 09 28.1**	**-0.6**
ZARC				*i*		07 09 33.7	
	comp=Z,1μm,0.3s						
NORC	**Norcasia**	**2.18**	**235**	*e*P	**Pn**	**07 09 05.8**	**-0.1**
NORC				*e*S	**Sn**	**07 09 33.4**	**-1.7**
NORC				*i*		07 09 39.5	
	comp=Z,552nm,0.5s						
CHIC	**Chingaza**	**2.29**	**196**	*e*P	**Pn**	**07 09 07.8**	**+0.4**
CHIC				*e*S	**Sn**	**07 09 37.4**	**-0.5**
CHIC				*i*		07 09 47.1	
	comp=Z,239nm,0.4s						
ROSC	**El Rosal**	**2.33**	**212**	*e*P	**Pn**	**07 09 09.6**	**+1.6**
ROSC				*e*S	**Sn**	**07 09 41.2**	**+2.4**
ROSC				*i*		07 09 45.9	
	comp=Z,528nm,0.3s						
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**07 09 09.6**	**+1.6**
	comp=Z,324nm,0.4s,baz=299,slow=21,SNR=595						
ROSC				S	**Sn**	**07 09 38.8**	**-0.1**
	comp=Z,719nm,0.5s,baz=57,slow=19,SNR=7.4						
UREC	**San Jos de Ur**	**2.59**	**291**	*e*P	**Pn**	**07 09 09.8**	**-0.9**
UREC				*e*S	**Sn**	**07 09 40.7**	**-3.1**
VILC	**Villavicencio,**	**2.77**	**193**	*e*P	**Pn**	**07 09 12.1**	**-1.0**
VILC				*e*P	**Pn**	**07 09 13.6**	**+0.5**
VILC				*e*S	**Sn**	**07 09 48.0**	**0.0**
GUY2C	**Guyana, Caldas**	**2.78**	**235**	*e*P	**Pn**	**07 09 13.9**	**+0.5**
GUY2C				*e*S	**Sn**	**07 09 49.6**	**+1.1**
GUY2C				*i*		07 09 58.7	
	comp=Z,370nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.79**	**160**	⇓*e*P	**Pn**	**07 09 12.9**	**-0.2**
PTGC				*e*S	**Sn**	**07 09 46.0**	**-2.1**
PTGC				*i*		07 09 49.3	
	comp=Z,273nm,0.6s						
LL5C	**La Loma 5 El P**	**2.96**	**348**	*e*P	**Pn**	**07 09 16.6**	**+1.3**
LL5C				*e*S	**Sn**	**07 09 52.8**	**+0.9**
LL5C				*i*		07 09 57.7	
	comp=Z,204nm,0.3s						
DBBC	**Dabeiba**	**3.11**	**273**	*e*P	**Pn**	**07 09 17.5**	**+0.3**
DBBC				*e*S	**Sn**	**07 09 52.5**	**-2.8**
DBBC				*i*		07 09 55.9	
	comp=Z,205nm,0.3s						
SDV	**Santo Domingo**	**3.17**	**50**	*e*P	**Pn**	**07 09 19.4**	**+1.3**
SDV				*e*S	**Sn**	**07 09 56.2**	**-0.6**
SDV				*i*		07 09 59.4	
	comp=Z,119nm,0.3s						
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**07 09 18.9**	**+0.9**
	comp=Z,42nm,0.3s,baz=237,slow=7.8,SNR=19						
SDV				S	**Sn**	**07 09 56.2**	**-0.6**
	comp=Z,118nm,0.3s,baz=306,slow=18,SNR=31						
ARGC	**Ariguani, Magd**	**3.21**	**339**	*e*P	**Pn**	**07 09 20.0**	**+1.5**
ARGC				*e*S	**Sn**	**07 09 58.6**	**+1.0**
ANIL	**Santa Ana**	**3.28**	**225**	*e*P	**Pn**	**07 09 20.7**	**+1.1**
ANIL				*e*S	**Sn**	**07 10 00.5**	**+1.0**
PRAC	**Prado**	**3.58**	**210**	*e*P	**Pn**	**07 09 23.3**	**+0.1**
PRAC				*e*S	**Sn**	**07 10 05.7**	**-0.5**
PRAC				*i*		07 10 11.5	
	comp=Z,375nm,0.2s						
ORTC	**Ortega, Tolima**	**3.62**	**217**	*e*P	**Pn**	**07 09 24.2**	**+0.6**
ORTC				*e*S	**Sn**	**07 10 08.0**	**+1.0**
ORTC				*i*		07 10 14.7	
	comp=Z,166nm,0.4s						
APAC	**Apartado, Choc**	**3.63**	**287**	⇓*i*P	**Pn**	**07 09 23.7**	**0.0**
APAC				*e*S	**Sn**	**07 10 06.1**	**-0.8**
APAC				*i*		07 10 09.5	
	comp=Z,222nm,0.5s						
SJCC	**San Jacinto, C**	**3.68**	**326**	*e*P	**Pn**	**07 09 23.5**	**-1.0**
SJCC				*e*S	**Sn**	**07 10 05.0**	**-3.4**
PLMC	**San Jos del P**	**3.72**	**239**	*e*P	**Pn**	**07 09 25.6**	**+0.7**
PLMC				*e*S	**Sn**	**07 10 08.4**	**-0.8**
LCBC	**Los crdobas,**	**3.82**	**302**	*e*P	**Pn**	**07 09 26.4**	**+0.1**
LCBC				*e*S	**Sn**	**07 10 13.1**	**+1.5**
LCBC				*i*		07 10 14.8	
	comp=Z,133nm,0.3s						
GUVC	**San Jose del G**	**4.29**	**174**	*e*P	**Pn**	**07 09 32.5**	**+0.2**
GUVC				*e*S	**Sn**	**07 10 21.1**	**-1.4**
YOTC	**Yotoco, Valle**	**4.31**	**229**	*e*P	**Pn**	**07 09 33.3**	**+0.6**
YOTC				*e*S	**Sn**	**07 10 19.9**	**-3.2**
SMRC	**Santa Marta, M**	**4.45**	**345**	*e*P	**Pn**	**07 09 35.3**	**+0.9**
SMRC				*e*S	**Sn**	**07 10 23.0**	**-3.1**
SMRC				*i*		07 10 26.2	
	comp=Z,66nm,0.4s						
PTAC	**Punta Ardita,**	**4.70**	**274**	*e*P	**Pn**	**07 09 37.2**	**-0.5**
PTAC				*i*		07 10 19.9	
	comp=Z,32nm,0.4s						
PTAC				*e*S	**Sn**	**07 10 29.5**	**-2.5**
MACC	**Macarena, Meta**	**4.72**	**189**	*e*P	**Pn**	**07 09 36.6**	**-1.4**
MACC				*e*S	**Sn**	**07 10 28.7**	**-3.9**
JAMC	**Jamundi, Valle**	**5.07**	**225**	*e*P	**Pn**	**07 09 43.0**	**+0.2**
JAMC				*e*S	**Sn**	**07 10 40.6**	**-0.6**
JAMC				*i*		07 10 47.2	
	comp=Z,20nm,0.3s						
MALC	**Bahia Malaga**	**5.08**	**237**	*e*P	**Pn**	**07 09 45.1**	**+2.5**
MALC				*i*		07 10 51.9	
	comp=N,76nm,0.3s						
GARC	**Garzon, Huila**	**5.21**	**208**	*e*P	**Pn**	**07 09 43.9**	**-0.7**
GARC				*e*S	**Sn**	**07 10 40.5**	**-3.9**
GARC				*i*		07 10 46.0	
	comp=Z,69nm,0.2s						
FLOC	**Florencia**	**5.81**	**206**	*e*P	**Pn**	**07 09 52.0**	**-0.4**
FLOC				*e*S	**Sn**	**07 10 58.4**	**-0.1**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**07 10 34.8**	**+0.2**
	comp=Z,9.0nm,0.9s,baz=270,slow=1.9,SNR=3.2						
PCRV				S	**Sn**	**07 12 11.7**	**-2.9**
	comp=Z,3.3nm,0.5s,baz=49,slow=19,SNR=1.7						
TXAR	**Lajitas Array**	**36.48**	**312**	P	**P**	**07 15 17.9**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=128,slow=10,SNR=2.5						
	comp=Z,0.6nm,0.5s						
PDAR	**Pinedale Array**	**48.09**	**324**	P	**P**	**07 16 53.0**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=138,slow=9.6,SNR=1.8						
	comp=Z,0.3nm,0.6s						
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**07 16 52.9**	**+1.1**
	comp=Z,3.6nm,0.6s,baz=182,slow=5.3,SNR=5.8						
	comp=Z,3.6nm,0.6s						
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	**PKPdf**	**07 27 03.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=336,slow=3.6,SNR=2.1						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**07 27 57.8**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=107,slow=3.4,SNR=1.9						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**07 28 01.1**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=107,slow=2.7,SNR=4.8						

---

*VAO **10** 07:21:34.9±0.7, 18°.55S×70°.13W, h45km±6km, mb4.7*
*IDC **10** 07:21:42.7±1.7, 18°.45S×69°.54W, h85km±15km, mb3.9/11, mbtmp4.3/15, Error ellipse: s-maj=14.9km s-min=11.6km az=74.0*
*SJA **10** 07:21:42.3±1.3, 18°.62S×69°.81W, h92km±8km, ML4.8, MW4.5*
*GUC **10** 07:21:43.1±0.8, 18°.57S×69°.77W, h90km±5km, ML4.9*
*NEIC **10** 07:21:43.1±1.7, 18°.58S±0°.05×69°.78W±0°.07, h94km±5km, mb4.9/34, Mwr4.8(GUC), Error ellipse: s-maj=10.1km s-min=6.8km az=85.0*
ISC 10 07:21:42.2±0.4, 18°.58S±0°.03×69°.70W±0°.05, h89km±3km, n178, σ1§61/199, mb4.7/25, 3C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.30**	**38**	Pn	**Pn**	**07 21 57.8**	**+1.6**
PB16				Sn	**Sn**	**07 22 08.9**	**+2.3**
PB16	**IPOC Station P**	**0.30**	**38**	⇓*i*P	**Pn**	**07 21 57.7**	**+1.5**
PB16				*e*S	**Sn**	**07 22 08.8**	**+2.3**
PB16	**IPOC Station P**	**0.30**	**38**	*i* P	**Pn**	**07 21 57.8**	**+1.6**
PB16				*i* S	**Sn**	**07 22 09.0**	**+2.5**
PB16				IAML		07 22 10.2	
	comp=Z,18μm,0.8s						
PB12	**IPOC Station P**	**0.59**	**266**	*i* P	**Pn**	**07 21 57.5**	**-0.2**
PB12				*e*S	**Sn**	**07 22 08.9**	**-0.3**
PB12				IAML		07 22 10.9	
	comp=N,31μm,0.2s						
PB12	**IPOC Station P**	**0.59**	**266**	*i* P	**Pn**	**07 21 57.7**	**0.0**
PB12				*i* S	**Sn**	**07 22 09.5**	**+0.3**
PB12				IAML		07 22 10.9	
	comp=Z,16μm,0.6s						
AP01	**Chacalluta**	**0.64**	**289**		**Pn**	**07 21 58.4**	**+0.5**
AP01	**Chacalluta**	**0.64**	**289**	⇑*i*P	**Pn**	**07 21 58.4**	**+0.5**
AP01				*e*S	**Sn**	**07 22 10.9**	**+1.2**
AP01	**Chacalluta**	**0.64**	**289**	*e*P	**Pn**	**07 21 58.5**	**+0.5**
AP01				*e*S	**Sn**	**07 22 10.9**	**+1.2**
AP01				IAML		07 22 17.0	
	comp=Z,15μm,0.4s						
PB18	**Visviri**	**1.00**	**12**	Pn	**Pn**	**07 22 06.1**	**+3.7**
PB18	**Visviri**	**1.00**	**12**	⇓*i*P	**Pn**	**07 22 06.0**	**+3.6**
PB18				*e*S	**Sn**	**07 22 22.9**	**+5.4**
GO01	**Chusmiza**	**1.19**	**156**	Pn	**Pn**	**07 22 06.4**	**+1.9**
GO01	**Chusmiza**	**1.19**	**156**	⇓*i*P	**Pn**	**07 22 06.3**	**+1.8**
GO01				*e*S	**Sn**	**07 22 23.8**	**+2.5**
GO01				IAML		07 22 27.9	
	comp=E,25μm,0.1s						
GO01	**Chusmiza**	**1.19**	**156**	*e*P	**Pn**	**07 22 06.5**	**+1.9**
GO01				*e*S	**Sn**	**07 22 24.1**	**+2.9**
PB08	**IPOC Station P**	**1.64**	**162**		**Pn**	**07 22 11.8**	**+1.7**
PB08	**IPOC Station P**	**1.64**	**162**	⇓*i*P	**Pn**	**07 22 11.8**	**+1.7**
PB08				*e*S	**Sn**	**07 22 33.2**	**+2.0**
PB08				IAML		07 22 35.2	
	comp=E,18μm,0.4s						
PB08	**IPOC Station P**	**1.64**	**162**	*e*P	**Pn**	**07 22 11.8**	**+1.7**
PB08				*i* S	**Sn**	**07 22 33.1**	**+2.0**
PB08				IAML		07 22 35.6	
	comp=Z,10μm,0.5s						
TA02	**Huaiquique**	**1.73**	**193**		**Pn**	**07 22 10.0**	**-0.9**
TA02	**Huaiquique**	**1.73**	**193**	*e*P	**Pn**	**07 22 10.5**	**-0.4**
TA01	**Diego Aracena**	**2.03**	**193**		**Pn**	**07 22 14.5**	**-0.3**
TA01	**Diego Aracena**	**2.03**	**193**	*e*P	**Pn**	**07 22 14.2**	**-0.5**
TA01				IAML		07 22 46.9	
	comp=E,10μm,0.3s						
TA01	**Diego Aracena**	**2.03**	**193**	*e*P	**Pn**	**07 22 15.1**	**+0.3**
TA01				IAML		07 22 44.5	
	comp=Z,5μm,0.5s						
PATCX	**Punta Patache**	**2.27**	**191**		**Pn**	**07 22 17.8**	**-0.3**
PATCX	**Punta Patache**	**2.27**	**191**	*e*P	**Pn**	**07 22 17.8**	**-0.3**
PATCX				IAML		07 22 57.5	
	comp=N,5μm,0.4s						
PATCX	**Punta Patache**	**2.27**	**191**	*i* P	**Pn**	**07 22 18.5**	**+0.4**
PB01	**IPOC Station P**	**2.46**	**175**	*e*P	**Pn**	**07 22 21.2**	**+0.6**
PB01				*e*S	**Sn**	**07 22 50.6**	**+0.6**
PB01				IAML		07 23 00.5	
	comp=E,8μm,0.4s						
PB01	**IPOC Station P**	**2.46**	**175**	*i* P	**Pn**	**07 22 21.8**	**+1.2**
PB01				*i* S	**Sn**	**07 22 49.8**	**-0.2**
PB01				IAML		07 22 57.2	
	comp=Z,4μm,0.2s						
LPAZ	**La Paz**	**2.73**	**34**		**Pn**	**07 22 28.6**	**+3.9**
PB02	**IPOC Station P**	**2.74**	**184**	*e*P	**Pn**	**07 22 24.5**	**+0.2**
PB02				IAML		07 23 08.6	
	comp=E,9μm,0.4s						
PB02	**IPOC Station P**	**2.74**	**184**	*i* P	**Pn**	**07 22 25.6**	**+1.3**
PB07	**IPOC Station P**	**3.14**	**183**	*e*P	**Pn**	**07 22 30.0**	**+0.2**
PB07				IAML		07 23 15.2	
	comp=E,5μm,0.4s						
PB07	**IPOC Station P**	**3.14**	**183**	*i* P	**Pn**	**07 22 31.4**	**+1.6**
PB07				IAML		07 23 21.0	
	comp=Z,4μm,0.5s						
PB09	**IPOC Station P**	**3.23**	**172**	*e*P	**Pn**	**07 22 32.4**	**+1.4**
PB09				IAML		07 23 27.0	
	comp=E,3μm,0.3s						
PB09	**IPOC Station P**	**3.23**	**172**	*i* P	**Pn**	**07 22 32.6**	**+1.6**
PB09				IAML		07 23 27.7	
	comp=Z,3μm,0.3s						
PB04	**IPOC Station P**	**3.76**	**186**	*e*P	**Pn**	**07 22 37.9**	**-0.3**
PB04	**IPOC Station P**	**3.76**	**186**	*i* P	**Pn**	**07 22 38.2**	**0.0**
PB04				IAML		07 23 37.4	
	comp=Z,2μm,0.5s						
LVC	**Limon Verde**	**4.08**	**170**	*e*P	Pn	07 22 35.0	-7.7
LVC	**Limon Verde**	**4.08**	**170**	P	**Pn**	**07 22 44.6**	**+2.0**
	comp=Z,306nm,0.5s,baz=352,slow=8.6,SNR=39						
LVC				S	**Sn**	**07 23 34.2**	**+4.7**
	comp=Z,459nm,0.5s,baz=153,slow=23,SNR=3.1						
LVC	**Limon Verde**	**4.08**	**170**	*e*P	**Pn**	**07 22 44.2**	**+1.5**
LVC	**Limon Verde**	**4.08**	**170**	*e*P	**Pn**	**07 22 44.7**	**+2.0**
LVC				IAML		07 23 43.7	
	comp=Z,1μm,0.6s						
PB06	**IPOC Station P**	**4.11**	**178**	*e*P	**Pn**	**07 22 42.5**	**-0.4**
PB06	**IPOC Station P**	**4.11**	**178**	*i* P	**Pn**	**07 22 43.3**	**+0.4**
PB06				IAML		07 23 45.0	
	comp=Z,1μm,0.4s						
AF01	**San Pedro de A**	**4.58**	**162**		**Pn**	**07 22 51.9**	**+2.4**
PB15	**IPOC Station P**	**4.61**	**177**	*e*P	**Pn**	**07 22 49.2**	**-0.6**
PB15	**IPOC Station P**	**4.61**	**177**	*i* P	**Pn**	**07 22 49.7**	**-0.1**
GO02	**Mina Guanaco**	**6.56**	**179**	Pn	**Pn**	**07 23 14.9**	**-1.4**
AC02	**Maricunga**	**8.24**	**176**	Pn	**Pn**	**07 23 38.7**	**-0.7**
SIV	**San Ignacio**	**8.64**	**74**	P	**Pn**	**07 23 44.0**	**-0.5**
	comp=Z,23nm,0.4s,baz=266,slow=9.1,SNR=143						
SIV				S	**Sn**	**07 25 16.1**	**-4.2**
	comp=Z,4.4nm,0.4s,baz=251,slow=21,SNR=0.7						
ETMB	**Extrema**	**9.34**	**22**	Pn	**Pn**	**07 23 53.8**	**-0.3**
BBRB	**Robore, Bolivi**	**9.40**	**90**	*e*P	**Pn**	**07 23 52.9**	**-2.0**
NNA	**Nana**	**9.50**	**313**	Pn	**Pn**	**07 23 54.8**	**-1.5**
NNA	**Nana**	**9.50**	**313**	P	**Pn**	**07 23 55.6**	**-0.7**
	comp=Z,5.3nm,0.3s,baz=138,slow=11,SNR=4.9						
NNA				S	**Sn**	**07 25 41.9**	**+0.4**
	comp=Z,6.2nm,0.3s,baz=213,slow=17,SNR=1.3						
PTLB	**Pontes e Lacer**	**10.57**	**74**	Pn	**Pn**	**07 24 11.1**	**+0.2**
PTLB	**Pontes e Lacer**	**10.57**	**74**	*e*P	**Pn**	**07 24 09.5**	**-1.4**
VILB	**Vilhena**	**10.72**	**60**	Pn	**Pn**	**07 24 13.7**	**+0.8**
SAML	**Samuel**	**11.47**	**34**	Pn	**Pn**	**07 24 22.4**	**-0.7**
SAML	**Samuel**	**11.47**	**34**	*e*P	**Pn**	**07 24 19.1**	**-4.0**
MURT	**Porto Murtinho**	**11.77**	**107**	*e*P	**Pn**	**07 24 23.7**	**-3.3**
CFA	**Coronel Fontan**	**13.04**	**174**	P	**Pn**	**07 24 39.6**	**-4.4**
	comp=Z,1.6nm,0.3s,baz=2.8,slow=14,SNR=17						
CFA				S	**Sn**	**07 27 08.9**	**+1.5**
	comp=Z,4.1nm,0.5s,baz=326,slow=19,SNR=2.3						
ANTJ	**Antonio Joao (**	**13.30**	**107**	*e*P	**Pn**	**07 24

PTGC	Puerto Gaitan,	22.76	354	eP	P	07 26 30.3	-7.0
YOTC	Yotoco, Valle	23.35	343	eP	P	07 26 44.5	+1.4
GUY2C	Guyana, Caldas	24.30	346	eP	P	07 26 53.1	+1.0
SPBC	San Pablo de B	24.46	349	eP	P	07 26 52.3	-0.8
RUSC	La Rusia	24.54	352	eP	P	07 26 54.6	+0.3
JANB	Januaria	24.55	86	eP	P	07 26 53.7	-0.2
DIAM	Diamantina, MG	24.69	94	eP	P	07 26 54.7	-0.6
MCPB	Macapa, AP	25.06	46	eP	P	07 26 57.2	-1.3
ZARC	Zaragoza, Cauc	26.40	348	eP	P	07 26 58.4	-12
BAUV	El Baul	27.39	4	P	P	07 27 19.0	-0.5
BAUV				IAmb	IAmb	07 27 20.2	
	comp=Z,17nm,0.6s						
NAN01	Guarapari, ES	28.09	93	eP	P	07 27 25.9	+0.1
GDU01	Guandu, BA	29.32	85	eP	P	07 27 36.5	-0.2
ORTG	Ortega, Santa	32.69	330	P	P	07 28 08.5	+2.1
ORTG				IAmb	IAmb	07 28 39.2	
	comp=Z,38nm,1.6s						
FDF	Fort de France	34.16	15	P	P	07 28 18.3	-0.8
FDF				IAmb	IAmb	07 28 21.4	
	comp=Z,23nm,1.0s						
RTAL	Retalhuleu	39.39	325	P	P	07 29 05.2	+1.7
TEIG	Tepich	42.65	334	P	P	07 29 30.7	+0.6
Z47A	Carrollton	54.39	341	P	P	07 30 59.9	-0.1
Z47A				IAmb	IAmb	07 31 50.1	
	comp=Z,31nm,1.6s						
X48A	Hartselle	55.26	343	P	P	07 31 05.8	-0.5
SWET	Sewanee	55.67	344	P	P	07 31 08.9	-0.4
SWET				IAmb	IAmb	07 31 32.8	
	comp=Z,7.2nm,1.0s						
HNDO	Hondo	55.69	329	P	P	07 31 10.8	+1.3
HNDO				IAmb	IAmb	07 31 11.5	
	comp=Z,11nm,0.6s						
DRIO	Del Rio	56.28	327	P	P	07 31 14.7	+1.0
DRIO				IAmb	IAmb	07 31 18.6	
	comp=Z,4.5nm,0.7s						
U49A	Red Boiling Sp	56.86	345	P	P	07 31 17.7	+0.1
U49A				IAmb	IAmb	07 33 20.8	
	comp=Z,34nm,2.0s						
WVT	Waverly	57.05	343	P	P	07 31 18.6	-0.4
WVT				IAmb	IAmb	07 31 42.8	
	comp=Z,10nm,1.4s						
WVT	Waverly	57.05	343	P	P	07 31 18.6	-0.4
WVT				pP	pP	07 31 40.5	-1.4
WVT				sP	sP	07 31 50.1	-2.0
R55A	Marlinton	57.40	350	P	P	07 31 21.4	-0.2
MIAR	Mount Ida	57.50	337	P	P	07 31 22.1	-0.1
MIAR				IAmb	IAmb	07 32 59.7	
	comp=Z,18nm,1.6s						
TXAR	Lajitas Array	57.82	325	P	P	07 31 25.5	+0.8
	comp=Z,0.8nm,0.7s,baz=162,slow=12,SNR=3.0						
	comp=Z,0.8nm,0.7s						
PBMO	Poplar Bluff	58.43	341	P	P	07 31 27.9	-0.8
PBMO				IAmb	IAmb	07 32 05.3	
	comp=Z,5.3nm,0.6s						
T42A	Van Buren	58.87	340	P	P	07 31 32.0	+0.2
T42A				IAmb	IAmb	07 31 54.4	
	comp=Z,10nm,1.5s						
S44A	Carbondale	58.92	342	P	P	07 31 32.5	+0.5
425A	Indio Mountain	59.66	325	P	P	07 31 36.7	-0.9
BRYW	Bryant College	60.21	358	P	P	07 31 41.1	+0.2
S39A	Bolivar	60.22	339	P	P	07 31 40.4	-0.7
S39A				IAmb	IAmb	07 31 44.7	
	comp=Z,14nm,1.7s						
L56A	Greenwood	60.84	353	P	P	07 31 45.0	-0.3
ANMO	Albuquerque	63.66	327	P	P	07 32 05.5	+1.2
ANMO				pP	pP	07 32 27.2	0.0
SNAA	Sanae	65.27	161	P	P	07 32 14.9	+0.7
SNAA	Sanae	65.27	161	⇑P	P	07 32 15.3	+1.0
	comp=Z,38nm,0.7s						
SNAA	Sanae	65.27	161	P	P	07 32 15.2	+1.0
	comp=Z,1.1nm,0.6s,baz=274,slow=8.1,SNR=16						
	comp=Z,1.1nm,0.6s						
SDCO	Great Sand Dun	65.36	329	P	P	07 32 16.8	+1.2
TROLL	Troll, Antarti	66.99	161	⇑P	P	07 32 26.7	+1.4
	comp=Z,108nm,0.5s						
DRLN	Deer Lake	68.39	9	P	P	07 32 34.6	+0.5
PFO	Pinyon Flats O	68.42	319	P	P	07 32 37.2	+2.4
PFO				pP	pP	07 33 00.2	+2.2
DBIC	Dimbokro	68.66	75	P	P	07 32 34.9	-1.7
DBIC				IAmb	IAmb	07 32 36.8	
	comp=Z,34nm,1.4s						
DBIC	Dimbokro	68.66	75	P	P	07 32 36.0	-0.6
	comp=Z,5.3nm,0.5s,baz=244,slow=7.6,SNR=7.8						
	comp=Z,5.3nm,0.5s						
DBIC	Dimbokro	68.66	75	P	P	07 32 35.7	-0.9
DBIC				PcP	PcP	07 33 00.7	-0.3
B35A	Bob, Littlefor	70.01	343	P	P	07 32 44.4	+0.2
B35A				IAmb	IAmb	07 34 48.9	
	comp=Z,27nm,1.6s						
PDAR	Pinedale Array	71.22	330	P	P	07 32 53.3	+1.3
	comp=Z,0.2nm,0.5s,baz=114,slow=7.2,SNR=2.2						
	comp=Z,0.2nm,0.5s						
QSPA	South Pole Qui	71.60	180	P	P	07 32 55.5	+1.6
QSPA				IAmb	IAmb	07 35 29.5	
	comp=Z,24nm,2.0s						
QSPA	South Pole Qui	71.60	180	P	P	07 32 55.3	+1.4
	comp=Z,1.4nm,0.6s,baz=99,slow=0.3,SNR=18						
	comp=Z,1.4nm,0.6s						
QSPA	South Pole Qui	71.60	180	P	P	07 32 55.6	+1.7
QSPA				pP	pP	07 33 18.6	+1.2
QSPA				sP	sP	07 33 28.7	+1.5
ULM	Lac du Bonnet	72.32	343	P	P	07 32 57.2	-0.8
ULM				IAmb	IAmb	07 33 29.1	
	comp=Z,36nm,1.6s						
ULM	Lac du Bonnet	72.32	343	P	P	07 32 58.4	+0.3
	comp=Z,3.3nm,0.5s,baz=164,slow=6.9,SNR=7.0						
	comp=Z,3.3nm,0.5s						
KOWA	Kowa	72.57	68	P	P	07 32 59.5	-0.9
KOWA				IAmb	IAmb	07 33 02.3	
	comp=Z,14nm,1.3s						
NVAR	Mina Array Bea	72.74	322	P	P	07 33 02.8	+1.6
	comp=Z,0.6nm,0.7s,baz=151,slow=5.2,SNR=5.4						
	comp=Z,0.6nm,0.7s						
TOA0	Torodi Ar. Sit	77.10	71	P	P	07 33 25.3	-1.2
TORD	Torodi Ar. Bea	77.10	71	P	P	07 33 25.6	-0.9
TORD	Torodi Ar. Bea	77.10	71	P	P	07 33 25.6	-0.9
	comp=Z,4.3nm,0.4s,baz=254,slow=5.2,SNR=75						
	comp=Z,4.3nm,0.4s						
EDM	Edmonton	80.81	335	P	P	07 33 45.9	0.0
EDM				IAmb	IAmb	07 35 21.1	
	comp=Z,45nm,2.0s						
PAB	San Pablo	83.97	45	P	P	07 34 03.2	+0.4
ESDC	Sonseca Array	84.29	45	P	P	07 34 05.5	+1.0
	comp=Z,2.0nm,0.7s,baz=247,slow=5.3,SNR=16						
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	88.19	341	P	P	07 34 22.8	-0.1
ASAR	Alice Springs	132.11	210	PKP	PKiKP	07 40 47.0	-0.5
	comp=Z,0.4nm,0.6s,baz=140,slow=2.4,SNR=5.8						
WRA	Warramunga Arr	135.04	213	PKP	PKiKP	07 40 52.5	-1.0
	comp=Z,0.4nm,0.6s,baz=148,slow=1.7,SNR=6.7						
KURBB	Kurchatov Arra	139.27	31	PKP	PKiKP	07 40 59.7	-1.4
	comp=Z,0.3nm,0.4s,baz=309,slow=3.0,SNR=2.5						
ZALV	Zalesovo Beam	139.60	23	PKP	PKiKP	07 41 00.5	-1.2
	comp=Z,1.2nm,0.4s,baz=332,slow=2.5,SNR=1.7						
MKAR	Makanchi Array	143.66	33	PKhKP	PKPpre	07 41 01.5	
	comp=Z,0.3nm,0.6s,baz=292,slow=3.9,SNR=2.3						
SONM	Songino Array	150.64	5	PKPbc	PKiKP	07 41 25.1	+0.3
	comp=Z,2.0nm,0.6s,baz=356,slow=1.9,SNR=6.4						

NEIC 10 07:26:18.0±2.3, 43°.5N±0°.1×129°.6W±0°.2, h10km±2km, ML3.5/24, Error ellipse: s-maj=24.8km s-min=18.3km az=247.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.93	98	Pn	Pn	07 27 13.5	-4.9
KEBM				IAML		07 29 30.7	
	comp=N,71nm,3.6s						
J01E	Myrtle Point	4.17	93	Pn	Pn	07 27 19.5	-2.2
J01E				IAML		07 29 38.9	
	comp=E,43nm,4.1s						
K02D	Willamette Mer	4.45	99	Pn	Pn	07 27 25.2	-0.4
HEBO	Mount Hebo	4.54	66	Pn	Pn	07 27 26.4	-0.3
I03D	Drain, OR	4.57	86		Pn	07 27 28.8	+1.8
L02F	Cave Junction	4.68	106	Pn	Pn	07 27 29.9	+1.2
DBO	Dodson Butte	4.68	93		Pn	07 27 30.0	+1.2
DBO				IAML		07 30 25.4	
	comp=E,32nm,3.7s						
COR	Corvallis	4.68	75	Pn	Pn	07 27 27.6	-1.1
COR				IAML		07 28 21.4	
	comp=E,33nm,2.2s						
COR				IAML		07 28 27.2	
	comp=E,41nm,4.3s						
BUCK	Buck Mountain	4.85	80	Pn	Pn	07 27 32.5	+1.4
BUCK				IAML		07 28 06.9	
	comp=E,32nm,3.9s						
BUCK				IAML		07 30 19.1	
	comp=N,41nm,4.4s						
G03D	McMinnville, O	4.86	68		Pn	07 27 31.1	-0.1
G03D				IAML		07 28 46.5	
	comp=E,42nm,2.9s						
G03D				IAML		07 30 25.6	
	comp=N,39nm,2.2s						
F03A	Seaside	4.95	59	Pn	Pn	07 27 31.9	-0.4
RADR	Rader Ridge	5.05	53	Pn	Pn	07 27 33.3	-0.4
H04D	Lebanon	5.07	76		Pn	07 27 33.8	-0.2
I04A	Tendick Farm,	5.25	85	Pn	Pn	07 27 36.8	+0.3
E03A	Lebam	5.25	53		Pn	07 27 35.9	-0.6
E03A				IAML		07 28 40.2	
	comp=N,22nm,3.3s						
E03A				IAML		07 30 35.1	
	comp=E,26nm,2.4s						
WISH	Wishkah	5.47	47	Pn	Pn	07 27 38.6	-0.8
H04A	Detroit Lake	5.48	75		Pn	07 27 39.3	-0.4
L04D	Klamath Falls	5.54	101	Pn	Pn	07 27 44.7	+4.1
C03A	Quillayute Air	5.66	37	Pn	Pn	07 27 40.5	-1.6
F04A	Amboy	5.67	63		Pn	07 27 40.6	-1.7
HOOD	Mount Hood Mea	5.99	70		Pn	07 27 46.9	+0.1
J05D	Fort Rock, OR	6.12	89		Pn	07 27 49.8	+1.1
G05A	Wamic	6.20	71		Pn	07 27 51.2	+1.6
B04A	Port Angeles	6.23	41	Pn	Pn	07 27 49.0	-1.0
GNW	Green Mountain	6.25	48		Pn	07 27 50.2	0.0
PINE	Pine Mountain	6.31	85		Pn	07 27 52.2	+0.9
LON	Longmire	6.40	57		Pn	07 27 52.8	+0.5
K05A	Summer Lake	6.45	94	Pn	Pn	07 27 55.6	+2.5
CLRS	Cowichan Lake	6.52	34	Pn	Pn	07 27 53.6	-0.3
G06A	Carlson Farm,	6.67	72	Pn	Pn	07 27 56.4	+0.3
PGC	Sidney	6.68	38	Pn	Pn	07 27 55.2	-0.8
CBB	Campbell River	7.13	23	Pn	Pn	07 28 03.8	+1.6
LTY	Liberty	7.32	56		Pn	07 28 05.8	+0.8

NEIC 10 07:28:27.2±0.9, 23°.2S±0°.2×175°.96W±0°.03, h166km±12km, mb4.1/12, Error ellipse: s-maj=23.0km s-min=4.3km az=178.0
IDC 10 07:28:34.3±6.0, 23°.30S×177°.09W, h159km±47km, mb3.5/4, mbtmp4.0/5, Error ellipse: s-maj=52.1km s-min=36.4km az=137.0

ISC 10 07:28:26.0±0.6, 23°.27S±0°.09×176°.03W±0°.09, h150km, n27, σ1§60/23, mb4.0/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.06	55	Pn	Pn	07 30 06.8	-0.1
NIUE				Sn	Sn	07 31 25.9	0.0
MSVF	Nonsavu	7.82	314	Pn	Pn	07 30 17.4	+0.2
MSVF	Nonsavu	7.82	314	P	Pn	07 30 16.8	-0.3
	5.3nm,0.5s,baz=160,slow=22,SNR=18						
AFI	Afiamalu	10.14	24	Pn	Pn	07 30 46.6	-1.5
BFZ	Birch Farm	18.54	199	P	P	07 32 32.0	+0.9
CTAO	Charters Tower	35.13	268	P	P	07 35 05.0	-0.4
CTAO				IAmb	IAmb	07 35 49.6	
	comp=Z,10nm,1.3s						
MCQ	Macquarie Isla	36.37	205	P	P	07 35 13.9	-1.6
STKA	Stephens Creek	38.34	248	P	P	07 35 32.2	-0.2
STKA	Stephens Creek	38.34	248	P	P	07 35 32.9	+0.5
	comp=Z,1.4nm,0.5s,baz=101,slow=11,SNR=4.9						
	comp=Z,1.4nm,0.5s						
ASAR	Alice Springs	45.73	259	P	P	07 36 32.0	-0.5
	comp=Z,0.8nm,0.4s,baz=94,slow=7.5,SNR=14						
ASAR				PcP	PcP	07 38 12.2	+4.3
	comp=Z,0.3nm,0.5s,baz=112,slow=3.4,SNR=4.8						
	comp=Z,0.8nm,0.4s						
WB2	Warramunga Arr	46.08	264	P	P	07 36 34.4	-0.9
WB2				IAmb	IAmb	07 37 11.2	
	comp=Z,5.2nm,1.2s						
WB0	Warramunga Arr	46.08	264	P	P	07 36 34.6	-0.7
WB0				IAmb	IAmb	07 36 36.6	
	comp=Z,3.5nm,0.9s						
WRA	Warramunga Arr	46.09	264	P	P	07 36 34.5	-0.9
WRA	Warramunga Arr	46.09	264	P	P	07 36 34.6	-0.8
	comp=Z,1.5nm,0.6s,baz=95,slow=8.2,SNR=32						
WRA				PcP	PcP	07 38 13.4	+4.2
	comp=Z,0.4nm,0.5s,baz=100,slow=2.4,SNR=1.6						
	comp=Z,1.5nm,0.6s						
KNRA	Kununurra	52.34	268	P	P	07 37 21.9	-0.9
CASY	Casey	62.27	206	P	P	07 38 31.3	-0.4
CASY				IAmb	IAmb	07 38 36.7	
	comp=Z,2.5nm,0.8s						
QSPA	South Pole Qui	66.81	180	P	P	07 39 00.7	-0.6
QSPA				IAmb	IAmb	07 39 09.4	
	comp=Z,3.2nm,0.8s						
BELA	Belgrano 2	76.58	172	P	P	07 39 59.0	-0.4
BELA				IAmb	IAmb	07 40 07.2	
	comp=Z,2.1nm,1.2s						
MAW	Mawson	79.58	199	P	P	07 40 15.6	-0.4
H03S2	Juan Fernandez	82.93	124	T	T	09 12 40.7	
	baz=245,slow=74,SNR=12						
H03S1	Juan Fernandez	82.94	124	T	T	09 12 42.4	
	baz=245,slow=74,SNR=16						
H03S3	Juan Fernandez	82.95	124	T	T	09 12 41.5	
	baz=245,slow=74,SNR=18						
H03N2	Juan Fernandez	83.08	123	T	T	09 12 47.6	
	baz=251,slow=73,SNR=7.9						
H03N3	Juan Fernandez	83.08	123	T	T	09 12 43.5	
	baz=251,slow=73,SNR=7.0						
H03N1	Juan Fernandez	83.09	123	T	T	09 12 52.8	
	baz=251,slow=73,SNR=6.7						
SNAA	Sanae	85.20	178	P	P	07 40 51.4	+6.2
	comp=Z,0.3nm,0.5s,baz=172,slow=12,SNR=1.5						
	comp=Z,0.3nm,0.5s						
AKASG	Malin Array Be	146.31	331	PKPbc	PKiKP	07 47 53.8	+2.0
	comp=Z,2.1nm,0.5s,baz=43,slow=4.2,SNR=6.8						

KRSC 10 07:47:15.7±1.3, 54°.91N×167°.16E, h43km±15km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.74	294	eS	Sn	07 47 40.8	+1.0
MKZ	Mys Kozlova	3.17	266	eP	Pn	07 48 06.3	+3.5
MKZ				eS	Sn	07 48 43.6	+4.2
SMKR	Semkarok	3.62	300	eP	Pn	07 48 12.5	+3.2
BZGR	Bezymyannyi-Gr	3.82	288	eP	Pn	07 48 15.9	+3.9
TUMD	Tumrok D	3.90	277	eP	Pn	07 48 16.7	+3.7
TUMD				eS	Sn	07 49 03.1	+5.7
BZMR	Bezymyannaya	3.93	288	eP	Pn	07 48 17.5	+3.9
BZWR	Bezymyannyi-We	3.94	288	eP	Pn	07 48 17.6	+3.9
KZV	Kizimen	3.96	276	eP	Pn	07 48 17.6	+3.7
KMNR	Kamenistaya	4.04	285	eP	Pn	07 48 18.6	+3.6
TUMR	Tumrok	4.04	278	eP	Pn	07 48 19.3	+4.3
TUMR				eS	Sn	07 49 07.0	+5.8
SRDR	Sredinnyy	4.45	292	eP	Pn	07 48 24.8	+4.3
KII	Karymskiy	4.58	262	eP	Pn	07 48 26.5	+4.1
SDLR	Sedlovina	5.13	255	eP	Pn	07 48 34.9	+4.9
SMAR	Somma	5.19	255	eP	Pn	07 48 35.5	+4.6
UGLR	Uglovaya	5.20	254	eP	Pn	07 48 35.5	+4.7
KRER	Koryakskii	5.20	255	eP	Pn	07 48 35.7	+4.7
AVH	Avacha	5.22	255	eP	Pn	07 48 36.1	+4.9
KRX	Arik	5.24	256	eP	Pn	07 48 35.7	+4.2
KOK	Koryaka	5.27	256	eP	Pn	07 48 37.0	+5.2
GNL	Ganaly	5.53	261	eP	Pn	07 48 40.0	+4.5
KRMR	Karymshinskiy	5.73	252	eP	Pn	07 48 42.6	+4.5
KRMR				eS	Sn	07 49 46.8	+4.3
GRL	Gorelyy	5.88	250	eP	Pn	07 48 45.1	+4.8
ASAK	Asacha	6.06	249	eP	Pn	07 48 47.2	+4.5
ASAK				eS	Sn	07 49 54.4	+3.7
KDTR	Khodutka, Kamc	6.26	244	eP	Pn	07 48 49.4	+4.1
KDTR				eS	Sn	07 49 57.9	+2.4

IDC 10 07:53:33.8±1.2, 45°.87N×27°.57W, h0km, mb3.6/7, mbtmp3.6/8, ML3.9/1, MS4.2/3, Error ellipse: s-maj=41.9km s-min=21.7km az=40.0

ISC 10 07:53:35.6±1.2, 45°.8N±0°.2×27°.6W±0°.2, h13km, n18, σ0§62/11, mb3.8/7, MS4.2/3, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	Sonseca Array	18.36	101	P	Pn	07 57 48.7	-1.1
	0.1nm,0.3s,baz=301,slow=11,SNR=4.6						
	0.4nm,0.5s						
MDT	Midelt	21.91	118	P	P	07 58 28.7	+0.1
	1.0nm,0.8s,baz=320,slow=10,SNR=2.5						
	1.0nm,0.8s						
OBN	Obninsk	40.49	53	LR	LR	08 17 20.6	
	comp=Z,323nm,20.0s,baz=62,slow=35						
TORD	Torodi Ar. Bea	40.91	133	P	P	08 01 18.3	+0.7
	2.8nm,1.0s,baz=347,slow=7.3,SNR=11						
	2.8nm,1.0s						
H10N2	ASCENSION HYDR	54.69	164	T	T	09 01 47.9	
	baz=350,slow=75,SNR=8.4						
H10N3	ASCENSION HYDR	54.70	164	T	T	09 01 48.7	
	baz=350,slow=75,SNR=9.2						
H10N1	ASCENSION HYDR	54.71	164	T	T	09 01 49.3	
	baz=350,slow=75,SNR=14						
H10S3	ASCENSION HYDR	55.75	165	T	T	09 03 11.6	
	baz=229,slow=74,SNR=8.4						
H10S2	ASCENSION HYDR	55.76	165	T	T	09 03 09.9	
	baz=351,slow=74,SNR=3.4						
PDAR	Pinedale Array	56.26	299	P	P	08 03 15.2	-0.6
	0.3nm,0.7s,baz=47,slow=9.2,SNR=3.6						
	0.3nm,0.7s						
ILAR	Eielson Array	60.05	334	P	P	08 03 42.0	+0.3
	0.3nm,0.7s,baz=37,slow=7.3,SNR=5.7						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	64.68	43	P	P	08 04 12.9	+0.1
	0.7nm,0.8s,baz=318,slow=6.8,SNR=7.1						
	0.7nm,0.8s						
MKAR	Makanchi Array	69.12	44	P	P	08 04 41.1	-0.1
	0.7nm,0.7s,baz=320,slow=4.7,SNR=4.7						
	0.7nm,0.7s						
KMBO	Kilima Mbogo	73.53	109	LR	LR	08 39 44.5	
	comp=Z,120nm,18.2s,baz=92,slow=38						
SONM	Songino Array	78.38	30	P	P	08 05 36.4	+0.7
	0.6nm,0.6s,baz=343,slow=4.5,SNR=2.0						
	0.6nm,0.6s						
SHEM	Shemya Is, Ala	80.07	347	LR	LR	08 41 35.1	
	comp=Z,175nm,19.9s,baz=285,slow=36						
WRA	Warramunga Arr	150.18	36	PKPbc	PKiKP	08 13 26.6	-0.6
	0.5nm,0.8s,baz=336,slow=3.8,SNR=2.7						
ASAR	Alice Springs	153.27	40	PKPbc	PKiKP	08 13 33.5	0.0
	0.6nm,0.7s,baz=336,slow=1.3,SNR=6.1						
ASAR				PKPab	PKPab	08 13 45.2	0.0
	1.1nm,0.7s,baz=330,slow=4.1,SNR=9.9						

IDC 10 07:55:27.8±9.2, 15°.00N×91°.53W, h0km, mb3.5/3, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=246.7km s-min=117.9km az=29.0
MEX 10 07:55:43.1±0.4, 15°.06N×93°.15W, h66km±17km, MD4.3
NEIC 10 07:55:43.2±2.2, 15°.10N±0°.08×93°.09W±0°.09, h59km±6km, mb4.3/14, Md4.3/13(MEX), Error ellipse: s-maj=16.0km s-min=4.8km az=49.0
GCG 10 07:55:45.6±0.8, 15°.19N×92°.79W, h17km±7km, MD4.0

ISC 10 07:55:41.9±1.0, 15°.02N±0°.05×93°.18W±0°.04, h57km±10km, n58, σ1§62/78, mb4.0/9, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		0.68	357		Pn	07 55 55.7	0.0
PCIG					Sn	07 56 05.7	-0.1
PCIG		0.68	357	i P	Pn	07 55 55.7	0.0
PCIG				eS	Sn	07 56 05.7	-0.1
THIG		0.90	97		Pn	07 55 58.3	-0.2
THIG					Sn	07 56 09.6	-1.0
THIG		0.90	97	eP	Pn	07 55 58.3	-0.2
THIG				eS	Sn	07 56 09.6	-1.0
PATR	El Naranjo	0.92	84	eP	Pn	07 55 58.2	-0.8
PATR				eS	Sn	07 56 10.4	-1.2
PAVE	Pavencul	0.99	80	i P	Pn	07 55 59.8	-0.1
PAVE				i S	Sn	07 56 13.2	+0.1
CHUJ	Union Juarez	1.04	86	eP	Pn	07 56 00.1	-0.5
CHUJ				eS	Sn	07 56 13.4	-1.0
CARR	Arriaga	1.41	330	eP	Pn	07 56 05.6	+0.3
CARR				eS	Sn	07 56 23.4	+0.6
RTAL	Retalhuleu	1.52	109	Pn	Pn	07 56 06.8	0.0
STG3	Santiaguito 3,	1.59	101	eP	Pn	07 56 08.2	+0.3
STG3				eS	Sn	07 56 26.8	-0.7
CCIG	Comitan	1.61	39	eP	Pn	07 56 08.9	+0.8
CCIG				eS	Sn	07 56 29.8	+1.8
HUEH	Huehuetenango	1.65	79	Pn	Pn	07 56 09.6	+0.8
SULM	Suchitepequez,	1.72	114	‖ eP	Pn	07 56 11.1	+1.6
SULM				eS	Sn	07 56 28.0	-2.4
TGBT	Tuxtla Gutierr	1.75	3	i S	Sn	07 56 30.9	-0.2
TGIG		1.75	2		Pn	07 56 09.8	-0.1
TGIG					Sn	07 56 30.6	-0.6
TGIG		1.75	2	eP	Pn	07 56 09.8	-0.1
TGIG				eS	Sn	07 56 30.6	-0.6
NILT	Santiago Nilte	2.06	318	eP	Pn	07 56 14.2	0.0
NILT				eS	Sn	07 56 38.2	-0.6
FUG	Fuego 3	2.34	104	eP	Pn	07 56 19.8	+1.7
FUG				eS	Sn	07 56 45.5	-0.3
UXUV	UXUV	2.46	338	eP	Pn	07 56 19.8	+0.1
HUIG	Huatulco	2.92	285	eS	Sn	07 56 54.0	-5.8
NEUV	Arroyo Zacate	3.67	317	eP	Pn	07 56 38.9	+2.7
NEUV				eS	Sn	07 57 20.1	+1.9
PETF	Flores	3.71	59	Pn	Pn	07 56 37.4	+0.7
ESQI	Esquipulas	3.75	97	Pn	Pn	07 56 37.8	+0.5
MTO3	Montecristo	3.75	99	Pn	Pn	07 56 38.7	+1.2
PMUV	Sontecomapan	3.96	332	eP	Pn	07 56 36.9	-3.4
PMUV				eS	Sn	07 57 19.6	-6.0
VHO	Vista Hermosa	3.98	301	eP	Pn	07 56 35.7	-4.9
VHO				eS	Sn	07 57 26.9	+0.8
SNET	Serv Nac Est T	4.05	109		Pn	07 56 43.6	+2.1
SCIG	Sabancuy	4.36	26	eP	Pn	07 56 45.4	-0.3
SCIG				eS	Sn	07 57 33.5	-1.8
JAUV	Jalcomulco	5.53	322	eP	Pn	07 56 60.0	-1.8
JAUV				eS	Sn	07 58 04.3	+0.2
CXUV	Coxquihui	6.63	321	eP	Pn	07 57 16.1	-0.7

Islands

ISC 10 08:00:07.8±1.0, 19°.9S±0°.2×169°.9E±0°.2, h250km, n15, σ1§30/16, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.36	226	P	Pn	08 00 54.3	+0.7
LIFNC	LIFOU	2.63	249	P	Pn	08 00 56.8	+0.5
YATNC	Mamie plateau,	3.54	231	P	Pn	08 01 06.7	+0.4
OUENC	Ouen Island, N	3.80	227	P	Pn	08 01 10.9	+1.6
DZM	Mont Dzumac	3.88	235	P	Pn	08 01 11.8	+1.5
DZM	Mont Dzumac	3.88	235	P	Pn	08 01 11.9	+1.5
	52nm,0.5s,baz=61,slow=19,SNR=189						
DZM				S	S	08 01 59.9	0.0
	12nm,0.6s,baz=350,slow=18,SNR=1.4						
NOUC	Port Laguerre	4.01	235	P	Pn	08 01 13.2	+1.5
ONTNC	Ouen Toro	4.01	232	P	Pn	08 01 13.4	+1.7
WRA	Warramunga Arr	33.36	264	P	P	08 06 21.6	-1.4
	0.5nm,0.3s,baz=91,slow=8.6,SNR=14						
	0.5nm,0.3s						
ASAR	Alice Springs	33.55	257	P	P	08 06 23.8	-0.8
	3.7nm,0.6s,baz=88,slow=9.2,SNR=47						
	3.7nm,0.6s						
QSPA	South Pole Qui	70.21	180	P	P	08 10 51.7	-1.8
	1.0nm,1.0s,baz=122,slow=8.1,SNR=2.2						
	1.0nm,1.0s						
NVAR	Mina Array Bea	88.77	48	P	P	08 12 35.3	+1.6
	0.6nm,0.7s,baz=226,slow=7.2,SNR=4.7						
	0.6nm,0.7s						
ILAR	Eielson Array	90.64	17	P	P	08 12 41.0	-0.5
	0.3nm,0.7s,baz=246,slow=5.5,SNR=7.2						
	0.3nm,0.7s						
EKA	Eskdalemuir Ar	144.18	353	PKP	PKPab	08 19 12.0	+0.1
	0.6nm,0.3s,baz=354,slow=2.3,SNR=5.5						
GERES	GERESS Array B	145.30	332	PKPbc	PKPdf	08 19 16.3	+0.5
	1.7nm,0.5s,baz=50,slow=2.1,SNR=4.5						

*IDC **10** 08:08:11.8±2.9, 53°.46N×87°.50E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=23.2km s-min=14.0km az=68.0*
*NNC **10** 08:08:11.9±2.6, 53°.38N×87°.58E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=17.2km s-min=11.6km az=99.0, Suspected Mining explosion.*

ISC 10 08:08:11.6±3.3, 53°.5N±0°.1×87°.5E±0°.2, h0km, n8, σ1§46/8, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.67	287	I	I	08 20 00.0	
	baz=102,slow=335,SNR=13						
ZAA0	Zalesovo Array	1.67	287	⇓P	Pb	08 08 42.8	-0.3
	0.3nm,0.4s,baz=104,slow=16						
ZAA0				⇑S	Sg	08 09 06.7	+1.5
	7.1nm,0.8s,baz=109,slow=26						
ZALV	Zalesovo Beam	1.67	287	Pg	Pn	08 08 41.6	-0.5
	1.8nm,0.3s,baz=107,slow=14,SNR=9.5						
ZALV				Lg	Lg	08 09 04.5	
	2.1nm,0.3s,baz=109,slow=26,SNR=13						
KURK	Kurchatov	6.15	247	⇑Lg	Lg	08 11 26.3	
	6.2nm,0.8s						
KURBB	Kurchatov Arra	6.25	246	⇑Pn	Pn	08 09 46.0	+1.0
	0.8nm,0.4s						
KURBB				⇓Lg	Lg	08 11 27.5	
	6.5nm,0.7s						
KURBB	Kurchatov Arra	6.25	246	Pn	Pn	08 09 46.0	+1.0
	0.1nm,0.3s,baz=62,slow=14,SNR=5.0						
KURBB				Sn	Sn	08 10 55.2	-1.8
	baz=43,slow=20,SNR=1.3						
KURBB				Lg	Lg	08 11 29.2	
	0.1nm,0.3s,baz=62,slow=31,SNR=6.7						
	0.4nm,0.4s						
MK31	Makanchi Array	7.50	209	⇓Lg	Lg	08 12 08.8	
	2.9nm,0.8s						
MKAR	Makanchi Array	7.50	209	Pn	Pn	08 10 03.1	+0.9
	0.2nm,0.3s,baz=26,slow=13,SNR=4.2						
MKAR				Sn	Sn	08 11 26.6	-1.4
	0.1nm,0.3s,baz=29,slow=27,SNR=2.3						
MKAR				Lg	Lg	08 12 08.4	
	0.1nm,0.3s,baz=34,slow=28,SNR=5.2						
	0.3nm,0.3s						

*NEIC **10** 08:13:56.4±0.7, 11°.47S±0°.09×166°.5E±0°.2, h93km±8km, mb4.6/12, Error ellipse: s-maj=25.6km s-min=11.5km az=106.0*
*IDC **10** 08:14:02.8±6.2, 11°.98S×166°.33E, h135km±49km, mb3.9/6, mbtmp4.3/7, MS4.2/1, Error ellipse: s-maj=43.8km s-min=25.2km az=46.0*

ISC 10 08:13:58.1±0.9, 11°.72S±0°.09×166°.3E±0°.2, h100km, n23, σ1§26/24, mb4.5/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	Koumac, New Ca	9.00	192	Pn	Pn	08 16 03.8	-1.5
DZM	Mont Dzumac	10.30	179	P	Pn	08 16 24.3	+1.3
	2.4nm,0.4s,baz=313,slow=20,SNR=26						
DZM				S	Sn	08 18 13.9	-2.6
	1.6nm,0.4s,baz=204,slow=20,SNR=1.3						
PINNC	Pines Island,	10.89	175	Pn	Pn	08 16 33.6	+2.7
EIDS	Eidsvold	19.81	225	P	Pn	08 18 23.5	+0.1
BKZ	Black Stump Fm	28.79	163	P	P	08 19 46.8	+0.1
BKZ				IAmb	IAmb	08 20 05.1	
	comp=Z,16nm,1.2s						
MRZ	Mangatainoka R	29.96	166	P	P	08 19 56.5	-0.5
STKA	Stephens Creek	30.37	225	P	P	08 20 01.2	+0.5
STKA	Stephens Creek	30.37	225	P	P	08 20 01.1	+0.5
	comp=Z,2.9nm,0.9s,baz=36,slow=11,SNR=5.6						
	comp=Z,2.9nm,0.9s						
THZ	Tophouse	30.48	170	P	P	08 20 01.9	+0.3
LTZ	Lake Taylor	31.38	172	P	P	08 20 09.9	+0.5
LTZ				IAmb	IAmb	08 20 12.7	
	comp=Z,13nm,0.9s						
WB0	Warramunga Arr	31.73	251	P	P	08 20 12.5	-0.3
WRA	Warramunga Arr	31.81	251	P	P	08 20 13.3	-0.3
	comp=Z,1.8nm,0.8s,baz=83,slow=9.3,SNR=11						
WRA				PcP	PcP	08 23 02.7	+0.1
	comp=Z,0.7nm,0.9s,baz=89,slow=3.1,SNR=4.1						
	comp=Z,1.8nm,0.8s						
TOO	Toolangi	31.81	212	P	P	08 20 14.3	+0.9
TOO				IAmb	IAmb	08 20 27.8	
	comp=Z,10nm,1.3s						
ASAR	Alice Springs	33.02	244	P	P	08 20 24.2	+0.1
	comp=Z,1.5nm,0.8s,baz=75,slow=9.5,SNR=18						
ASAR				PcP	PcP	08 23 05.5	-0.4
	comp=Z,1.0nm,0.9s,baz=59,slow=2.4,SNR=6.1						
	comp=Z,1.5nm,0.8s						
JCJ	Chichijima	45.15	329	LR	LR	08 38 58.8	
	comp=Z,288nm,21.9s,baz=60,slow=33						
PSA00	Pilbara Seismi	45.46	251	P	P	08 22 06.9	-0.7
PSA00				IAmb	IAmb	08 22 36.5	
	comp=Z,14nm,1.2s						
MBWA	Marble Bar	45.54	252	P	P	08 22 08.6	+0.4
VNDA	Vanda	65.84	181	P	P	08 24 33.3	+0.9
CMAR	Chiang Mai Arr	72.91	294	P	P	08 25 19.1	+2.0
	comp=Z,1.9nm,0.5s,baz=125,slow=4.4,SNR=12						
	comp=Z,1.9nm,0.5s						
N18K	Kilae Creek	78.15	18	P	P	08 25 43.5	-2.6
N18K				IAmb	IAmb	08 26 24.7	
	comp=Z,14nm,1.2s						
QSPA	South Pole Qui	78.29	180	P	P	08 25 46.5	-0.6
QSPA				IAmb	IAmb	08 25 48.8	
	comp=Z,12nm,1.2s						
QSPA	South Pole Qui	78.29	180	P	P	08 25 46.4	-0.7
	comp=Z,5.9nm,0.9s,baz=25,slow=1.2,SNR=22						
	comp=Z,5.9nm,0.9s						
MKAR	Makanchi Array	94.41	317	P	P	08 27 07.0	+0.1
	comp=Z,1.7nm,0.6s,baz=86,slow=6.6,SNR=14						
	comp=Z,1.7nm,0.6s						

*SJA **10** 08:16:34.9±0.7, 18°.45S×69°.85W, h108km±4km, ML3.7, MW3.8*
*GUC **10** 08:16:38.1±0.8, 18°.55S×69°.77W, h88km±3km, ML3.6*

ISC 10 08:16:38.3±1.7, 18°.61S±0°.05×69°.93W±0°.06, h89km±11km, n29, σ1§53/53, 2C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	IPOC Station P	0.38	269	⇑iP	Pn	08 16 52.3	+0.1
PB12				eS	Sn	08 17 03.5	+1.0
PB12				IAML		08 17 05.5	
	comp=E,2μm,0.3s						
PB12	IPOC Station P	0.38	269	eP	Pn	08 16 52.3	+0.1
AP01	Chacalluta	0.46	301	eP	Pn	08 16 52.5	-0.2
AP01				eS	Sn	08 17 04.2	+0.9
AP01				IAML		08 17 06.8	
	comp=E,7μm,0.4s						
AP01	Chacalluta	0.46	301	eP	Pn	08 16 52.2	-0.4
AP01				IAML		08 17 06.0	
	comp=Z,3μm,0.2s						
PB16	IPOC Station P	0.48	56	⇓iP	Pn	08 16 52.2	-1.3
PB16				eS	Sn	08 17 03.5	-1.3
PB16				IAML		08 17 05.3	
	comp=E,2μm,0.5s						
PB16	IPOC Station P	0.48	56	eP	Pn	08 16 52.3	-1.3
PB16				eS	Sn	08 17 04.5	-0.4
PB16				IAML		08 17 07.5	
	comp=Z,1μm,0.3s						
PB18	Visviri	1.10	23	iP	Pn	08 17 00.1	+0.4
PB18				eS	Sn	08 17 16.1	+0.4
GO01	Chusmiza	1.27	147	eP	Pn	08 17 01.5	-0.1
GO01				eS	Sn	08 17 19.2	+0.2
GO01				IAML		08 17 22.8	
	comp=E,2μm,0.1s						
GO01	Chusmiza	1.27	147	eP	Pn	08 17 01.4	-0.1
GO01				eS	Sn	08 17 21.4	+2.3
HMBC	Humberstone	1.66	179	⇑iP	Pn	08 17 05.8	-0.4
HMBC				eS	Sn	08 17 28.1	+0.7
HMBC	Humberstone	1.66	179	eP	Pn	08 17 06.1	-0.1
HMBC				eS	Sn	08 17 30.2	+2.9
HMBC				IAML		08 17 33.3	
	comp=Z,556nm,0.5s						
TA02	Huaiquique	1.67	186	iP	Pn	08 17 05.7	-0.4
TA02				eS	Sn	08 17 28.2	+1.0
TA02				IAML		08 17 31.4	
	comp=N,727nm,0.2s						
TA02	Huaiquique	1.67	186	eP	Pn	08 16 54.6	-12
TA02				eS	Sn	08 17 30.0	+2.8
TA02				IAML		08 17 33.6	
	comp=Z,294nm,0.1s						
PB08	IPOC Station P	1.69	154	⇓iP	Pn	08 17 07.1	+0.2
PB08				eS	Sn	08 17 28.1	-0.4
PB08				IAML		08 17 30.8	
	comp=E,1μm,0.5s						
PB08	IPOC Station P	1.69	154	eP	Pn	08 17 07.1	+0.2
PB08				eS	Sn	08 17 30.1	+1.6
PB08				IAML		08 17 30.9	
	comp=Z,524nm,0.3s						
TA01	Diego Aracena	1.96	187	eP	Pn	08 17 09.2	-0.8
TA01				eS	Sn	08 17 32.2	-1.9
TA01	Diego Aracena	1.96	187	eP	Pn	08 17 09.6	-0.4
TA01				eS	Sn	08 17 37.8	+3.6
PATCX	Punta Patache	2.21	185	eP	Pn	08 17 12.9	-0.4
PATCX				iS	Sn	08 17 36.4	-3.7
PATCX	Punta Patache	2.21	185	eP	Pn	08 17 13.2	-0.2
PATCX				eS	Sn	08 17 37.0	-3.1
PATCX				IAML		08 17 50.6	
	comp=Z,166nm,0.7s						
PB01	IPOC Station P	2.46	170	iP	Pn	08 17 16.4	-0.3
PB01				eS	Sn	08 17 46.2	+0.2
PB01				IAML		08 17 55.7	
	comp=E,510nm,0.3s						
PB01	IPOC Station P	2.46	170	eP	Pn	08 17 16.9	+0.2
PB01				eS	Sn	08 17 49.0	+3.0
PB01				IAML		08 17 56.4	
	comp=Z,232nm,0.3s						
PB02	IPOC Station P	2.70	179	iP	Pn	08 17 19.5	-0.4
PB02				eS	Sn	08 17 50.2	-1.6
PB02	IPOC Station P	2.70	179	eP	Pn	08 17 20.2	+0.3
PB02				eS	Sn	08 17 48.0	-3.8
PB02				IAML		08 18 02.7	
	comp=Z,346nm,0.3s						
LPAZ	La Paz	2.88	37	eP	Pn	08 17 23.2	+0.4
PB07	IPOC Station P	3.10	179	iP	Pn	08 17 25.3	-0.1
PB07				eS	Sn	08 18 01.1	-0.6
PB07	IPOC Station P	3.10	179	eP	Pn	08 17 25.6	+0.2
PB07				eS	Sn	08 18 04.5	+2.9
PB07				IAML		08 18 13.3	
	comp=Z,266nm,0.4s						
PB09	IPOC Station P	3.24	169	eP	Pn	08 17 27.7	+0.5
PB09				eS	Sn	08 18 03.0	-1.9
PB09				IAML		08 18 18.5	
	comp=Z,165nm,0.3s						
PB04	IPOC Station P	3.71	183	eP	Pn	08 17 32.9	-0.8
PB04				eS	Sn	08 18 15.5	-0.9
PB04	IPOC Station P	3.71	183	eP	Pn	08 17 33.7	+0.1
PB04				eS	Sn	08 18 29.5	+13
PB04				IAML		08 18 34.1	
	comp=Z,98nm,0.8s						

DJA 10 08:23:50.3±0.4, 8°S±5°×12°4E±°, h10km, M3.9/7, mb4.3/1, MLv3.7/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.33	251	P	Pn	08 24 13.6	-1.3
MMRI				S	Sb	08 24 31.9	-0.5
SOEI	Soe	1.71	154	P	Pn	08 24 20.5	+0.2
BATI	Baumata	1.99	176	P	Pn	08 24 23.7	-0.4
BASI	Baing, Sumba	3.52	235	P	Pn	08 24 43.4	-1.6
BKSI	Bulukumba	4.42	310	P	Pn	08 24 56.4	-1.1
PLAI	Plampang	5.70	263	P	Pn	08 25 18.9	+3.7

*IDC **10** 08:25:50.8±2.7, 52°.70N×179°.48E, h210km±32km, mb2.9/5, mbtmp3.7/8, Error ellipse: s-maj=63.1km s-min=14.6km az=149.0*
*AEIC **10** 08:25:50.1±1.6, 52°.1N±0°.2×179°.81E±0°.07, h204km±6km, Error ellipse: s-maj=30.2km s-min=6.0km az=184.0*
*NEIC **10** 08:25:50.7±1.5, 52°.3N±0°.3×179°.82E±0°.08, h190km±13km, mb4.2/56, ML3.7/6, ML3.4(AEIC), Error ellipse: s-maj=37.2km s-min=6.7km az=185.0*

ISC 10 08:25:49.8±0.7, 52°.3N±0°.1×179°.73E±0°.04, h195km±7km, n87, σ1§16/90, mb4.2/20, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEPE	Semis' Perret	0.34	189		Pn	08 26 16.1	+0.2
CEPE					S	08 26 36.3	+0.4
LSPA	Little Sitkin	0.80	244		Pn	08 26 18.2	+0.5
LSPA					S	08 26 40.2	+1.0
LSSE	Little Sitkin	0.81	243		Pn	08 26 18.2	+0.4
LSNW	Little Sitkin	0.82	246		Pn	08 26 18.1	+0.3
AMKA	Amchitka	0.97	196		Pn	08 26 18.0	-0.8
GANE	Gareloi Northe	1.04	117		Pn	08 26 18.9	-0.4
GANE					S	08 26 41.4	-0.6
GAEA	Gareloi East	1.08	119		Pn	08 26 19.0	-0.5
TASE	Tanaga Southea	1.46	108		Pn	08 26 22.2	-0.5
TAFP	Tanaga Falls P	1.47	105		Pn	08 26 22.0	-0.7
TAFP					S	08 26 47.3	-0.9
KIMD	Kanaga Island	1.95	105		Pn	08 26 26.5	-0.9
KIWB	Kanaga Island	1.98	102		Pn	08 26 27.4	-0.2
ADK	Adak	2.25	99		Pn	08 26 30.0	-0.6
ADK				IAML		08 27 02.2	
	250nm,0.2s						
ADK				IAML		08 27 02.4	
	209nm,0.3s						
GSCK	Great Sitkin C	2.55	95		Pn	08 26 33.5	-0.3
SHEM	Shemya Is, Ala	3.47	279	P	Pn	08 26 43.4	-1.2
	20nm,0.3s,baz=149,slow=4.0,SNR=12						
SHEM				S	S	08 27 26.4	-1.2
	39nm,0.4s,baz=244,slow=20,SNR=9.2						
SMY	Shemya	3.47	279		Pn	08 26 44.4	-0.3
SMY	Shemya	3.47	279	IAML		08 28 00.2	
	comp=N,250nm,3.3s						
ATKA	Atka Island	3.73	89		Pn	08 26 47.1	-0.8
ATKA	Atka Island	3.73	89	IAML		08 28 28.9	
	comp=N,79nm,2.4s						
CHGN	Chignik	13.35	64	Pn	Pn	08 28 51.7	+0.1
PETK	Petropavlovsk-	13.38	282	P	Pn	08 28 51.0	-1.0
	comp=N,1.6nm,0.7s,baz=88,slow=20,SNR=1.1						
N18K	Kilae Creek	15.77	48	P	Pn	08 29 23.5	+2.1
N18K				IAmb	IAmb	08 29 37.1	
	comp=Z,18nm,1.3s						
O18K	Koktuh Hills	15.82	52	P	Pn	08 29 23.2	+1.3
SVW2	Sparrevohn	16.07	47		Pn	08 29 25.9	+1.1
SVW2				IAmb	IAmb	08 29 32.4	
	comp=Z,7.0nm,1.0s						
Q19K	Cape Douglas,	16.36	56	P	Pn	08 29 28.6	+0.2
N19K	Bonanza Creek	16.47	49	P	Pn	08 29 29.8	0.0
N19K				IAmb	IAmb	08 29 35.5	
	comp=Z,8.9nm,0.9s						
KDAK	Kodiak Island	16.71	60	P	P	08 29 29.9	-1.7
	comp=Z,6.0nm,0.7s,baz=0.3,slow=1.7,SNR=19						
KDAK				S	S	08 32 25.8	-10
	comp=Z,12nm,1.2s,baz=25,slow=17,SNR=1.7						
P19K	Oil Pt	16.73	53	P	P	08 29 32.1	+0.3
L19K	White Mountain	16.82	44	P	Pn	08 29 34.2	+0.3
L19K				IAmb	IAmb	08 29 43.5	
	comp=Z,15nm,1.4s						
SYI	Shuyak Island	16.94	57	P	P	08 29 34.2	+0.2
RSO	Redoubt South	17.17	51	P	Pn	08 29 38.5	+0.3
CNPM	China Poot	17.69	54	P	P	08 29 42.8	+0.5
BRLK	Bradley Lake	17.91	54	P	P	08 29 45.1	+0.4
J20K	Nowinta River	18.01	39	P	P	08 29 46.9	+1.2
J20K				IAmb	IAmb	08 30 30.1	
	comp=Z,10nm,1.4s						
SKT	Skwentna	18.20	47	P	Pn	08 29 49.4	-0.7
SKT				IAmb	IAmb	08 29 55.1	
	comp=Z,8.1nm,1.0s						
SUA	Susitna One	18.39	49	P	Pn	08 29 51.5	-1.0
IMAR	Indian Mountai	19.09	34	P	P	08 29 58.2	+0.9
PMR	Palmer	19.17	49	P	P	08 29 58.4	+0.1
PMR				IAmb	IAmb	08 30 02.9	
	comp=Z,12nm,1.4s						
GHO	Glory Hole Cre	19.32	48	P	P	08 30 00.6	+0.6
GHO				IAmb	IAmb	08 30 06.0	
	comp=Z,16nm,1.3s						
PWL	Port Wells	19.38	51	P	P	08 30 00.3	-0.2
PWL				IAmb	IAmb	08 30 34.4	
	comp=Z,14nm,1.0s						
KNK	Knik Glacier	19.44	50	P	P	08 30 01.5	+0.2
KNK				IAmb	IAmb	08 30 35.8	
	comp=Z,21nm,1.5s						
SML	Sawmill	19.60	49	P	P	08 30 02.7	-0.2
SML				IAmb	IAmb	08 30 25.8	
	comp=Z,12nm,1.2s						
RND	Reindeer	19.83	44	P	P	08 30 06.2	+0.7
GLI	Glacier Island	19.98	52	P	P	08 30 07.4	+0.4
SCM	Sheep Creek Mo	20.07	49	P	P	08 30 07.9	0.0
NEA2	Nenana	20.17	40	P	P	08 30 09.3	+0.3
FID	Port Fidalgo	20.25	52	P	P	08 30 09.4	-0.5
I23K	Minto, Yukon-K	20.28	39	P	P	08 30 11.8	+1.7
DHY	Denali Highway	20.37	45	P	P	08 30 12.3	+1.1
DHY				IAmb	IAmb	08 30 14.2	
	comp=Z,4.5nm,0.6s						
KLU	Klutina	20.65	50	P	P	08 30 14.8	+0.6
KLU				IAmb	IAmb	08 30 21.7	
	comp=Z,6.3nm,1.0s						
M24K	Tolsona, Glenn	20.66	48	P	P	08 30 16.2	+1.9
CCB	Clear Creek Bu	20.70	41	P	P	08 30 15.1	+0.5
HDA	Harding Lake	20.96	42	P	P	08 30 17.9	+0.5
ILAR	Eielson Array	21.11	41	P	P	08 30 16.8	-2.1
	comp=Z,0.6nm,0.8s,baz=241,slow=8.7,SNR=14						
	comp=Z,0.6nm,0.8s						
HMT	Hamilton	21.28	54	P	P	08 30 21.6	+0.7
N25K	Chitina, Valde	21.30	50	P	P	08 30 21.8	+0.8
N25K				IAmb	IAmb	08 30 25.9	
	comp=Z,13nm,1.4s						
BERG	Berg Lake	21.57	54		S	08 34 08.5	-0.9
GLB	Gilahina Butte	21.64	51	P	P	08 30 24.5	0.0
GLB				IAmb	IAmb	08 30 33.6	
	comp=Z,7.0nm,1.2s						
J25K	Salcha River,	21.68	42	P	P	08 30 24.9	0.0
CRQM	Cirque	21.88	53	P	P	08 30 27.2	+0.1
CRQM				IAmb	IAmb	08 30 32.2	
	comp=Z,9.1nm,0.8s						
TOLK	Toolik Lake Re	21.90	30	P	P	08 30 27.8	+0.8
TOLK				IAmb	IAmb	08 30 29.1	
	comp=Z,9.5nm,1.2s						
MENT	Mentasta	21.95	47	P	P	08 30 28.9	+1.3
J26L	Joseph Creek	22.39	43	P	P	08 30 31.4	-0.4
GRNC	Granite Creek	22.55	53	P	P	08 30 33.8	+0.3
BARN	Barnard Glacie	22.63	52	P	P	08 30 34.7	+0.6
BARN				IAmb	IAmb	08 30 36.9	
	comp=Z,9.9nm,0.8s						
M27K	Edge Creek, AK	22.68	49	P	P	08 30 35.9	+1.4
M27K				IAmb	IAmb	08 30 37.1	
	comp=Z,6.5nm,1.1s						
CTGM	Chitina Glacie	22.78	52	P	P	08 30 36.3	+0.9
CTGM				IAmb	IAmb	08 30 38.2	
	comp=Z,9.9nm,1.1s						
L27K	Beaver Creek,	22.82	47	P	P	08 30 36.6	+1.0
BCAR	Beaver Creek A	22.84	47	P	P	08 30 37.0	+1.2
LOGN	Logan Glacier	22.93	53	P	P	08 30 37.4	+0.7
LOGN				IAmb	IAmb	08 30 39.5	
	comp=Z,10nm,0.9s						
BMAR	Burnt Mountain	22.98	35	P	P	08 30 38.1	+1.1
DAWY	Dawson	24.07	45	P	P	08 30 48.6	+1.7
DAWY				IAmb	IAmb	08 30 50.2	
	comp=Z,7.0nm,0.6s						
O29M	Mount Kennedy	24.11	54	P	P	08 30 48.8	+1.4
I28M	Miner Creek	24.12	41	P	P	08 30 47.0	-0.4
M29M	Somme Creek	24.27	49	P	P	08 30 53.0	+4.1
M29M				IAmb	IAmb	08 30 54.2	
	comp=Z,3.0nm,0.5s						
HYT	Haines Junctio	24.64	53	P	P	08 30 54.9	+2.7
HYT				IAmb	IAmb	08 30 56.9	
	comp=Z,9.7nm,1.0s						
K29M	Barlow Dome	24.85	46	P	P	08 30 56.1	+2.0
N30M	Ashikik Lake	24.86	51	P	P	08 30 57.8	+3.7
N30M				IAmb	IAmb	08 31 01.7	
	comp=Z,19nm,1.5s						
H29M	Whitestone	24.93	40	P	P	08 30 54.4	-0.3
M30M	Minto, Yukon	25.05	49	P	P	08 30 59.4	+3.5
J30M	Hart River	25.47	44	P	P	08 30 60.0	+0.3
I30M	Mount Dempster	25.54	43	P	P	08 31 00.5	+0.2
I30M				IAmb	IAmb	08 31 20.9	
	comp=Z,8.4nm,1.4s						
H31M	Peel River	26.47	42	P	P	08 31 08.4	-0.1
H31M				IAmb	IAmb	08 31 33.2	
	comp=Z,12nm,1.4s						
Q32M	Nakina River	27.38	57	P	P	08 31 17.9	+1.0
Q32M				IAmb	IAmb	08 31 25.3	
	comp=Z,8.4nm,1.2s						
NVAR	Mina Array Bea	44.34	83	P	P	08 33 42.3	+1.6
	comp=Z,0.6nm,0.6s,baz=300,slow=7.2,SNR=3.6						
	comp=Z,0.6nm,0.6s						
PDAR	Pinedale Array	46.89	72	P	P	08 33 59.5	-1.1
	comp=Z,0.3nm,0.6s,baz=328,slow=4.8,SNR=4.9						
	comp=Z,0.3nm,0.6s						
WRA	Warramunga Arr	82.07	223	P	P	08 37 48.1	-0.1
	comp=Z,0.4nm,0.6s,baz=31,slow=6.0,SNR=3.6						
	comp=Z,0.4nm,0.6s						
ASAR	Alice Springs	85.57	221	P	P	08 38 06.0	+0.1
	comp=Z,0.3nm,0.5s,baz=25,slow=5.2,SNR=7.9						
	comp=Z,0.3nm,0.5s						

*WEL **10** 08:38:32.2±0.6, 39°S±4°×17°6E±°, h55km±5km, M3.5/92, ML3.7/31, MLv3.5/92, Error ellipse: s-maj=0.0km s-min=0.0km az=44.1, confirmed*
*NOU **10** 08:38:32.0, 39°.49S×175°.88E, h49km, MLv3.7/12, North Island, New Zealand*

**ISC 10 08:38:32.1±1.2, 39°.43S±0°.03×175°.80E±0°.03, h69

PNHZ	Pukenui	0.57	148	P	Pn	08 38 45.8 +0.2
HATZ	Hinemaiaia	0.58	23	P	Pn	08 38 45.2 -0.4
BKZ	Black Stump Fm	0.60	64	P	Pn	08 38 45.8 0.0
BKZ	Black Stump Fm	0.60	64	P	Pn	08 38 45.8 0.0
TSZ	Takapari Road	0.64	169	P	Pn	08 38 46.6 +0.3
MCHZ	McNeill Hill	0.69	92	P	Pn	08 38 47.8 +1.0
WAZ	Wanganui	0.71	242	P	Pn	08 38 47.7 +0.7
WATZ	Wairara	0.72	356	P	Pn	08 38 47.1 -0.1
MRHZ	Matea Rd	0.76	39	P	Pn	08 38 47.4 -0.3
WHTZ	Whakaora	0.77	9	P	Pn	08 38 48.2 +0.4
WPHZ	Waipukurau	0.80	142	P	Pn	08 38 48.2 +0.1
NMHZ	Naumai	0.85	67	P	Pn	08 38 49.8 +1.0
OHWZ	Ohakea	0.86	206	P	Pn	08 38 50.1 +1.3
VRZ	Vera Road	0.86	290	P	Pn	08 38 48.8 0.0
KAHZ	Kahuranaki	0.91	114	P	Pn	08 38 51.6 +2.2
DVHZ	Dannevirke	0.91	162	P	Pn	08 38 49.5 0.0
KUTZ	Kaahu Road	0.94	1	P	Pn	08 38 49.7 -0.1
ARHZ	Aropoanui	0.94	80	P	Pn	08 38 50.3 +0.5
WPRZ	Whakapapatarin	0.95	17	P	Pn	08 38 49.8 -0.1
POWZ	Post Office Ro	0.96	181	P	Pn	08 38 50.2 +0.1
ALRZ	Allen Road	0.96	26	P	Pn	08 38 50.0 -0.1
MTHZ	Maungataniwha	0.99	55	P	Pn	08 38 50.7 +0.2
CKHZ	Cape Kidnapper	1.01	103	P	Pn	08 38 52.9 +2.2
PXZ	Pawanui	1.02	127	P	Pn	08 38 50.8 +0.2
PRRZ	Plateau Road	1.04	27	P	Pn	08 38 50.9 -0.1
PRHZ	Porangahau	1.05	143	P	Pn	08 38 51.2 0.0
LREZ	Lake Rotokare	1.08	268	P	Pn	08 38 52.1 +0.5
HRRZ	Handcock Road	1.10	20	P	Pn	08 38 52.5 +0.6
TLZ	Tolley Road	1.12	349	P	Pn	08 38 51.8 -0.3
RAHZ	Arahi	1.12	63	P	Pn	08 38 52.5 +0.4
PRWZ	Pori Road	1.13	173	P	Pn	08 38 52.4 +0.2
ANWZ	Angora Road	1.15	153	P	Pn	08 38 53.0 +0.5
WHHZ	Waihua	1.17	73	P	Pn	08 38 53.0 +0.4
HSRZ	Hossack Road	1.17	17	P	Pn	08 38 52.9 +0.2
HIZ	Hauiti	1.17	321	P	Pn	08 38 52.8 +0.1
HIZ	Hauiti	1.17	321	P	Pn	08 38 52.8 +0.1
MUGZ	Murupara	1.21	39	P	Pn	08 38 52.9 -0.3
RRRZ	Republican Roa	1.22	27	P	Pn	08 38 53.3 -0.1
RTZ	Ruatahuna	1.23	49	P	Pn	08 38 53.6 +0.1
MRZ	Mangatainoka R	1.24	188	P	Pn	08 38 53.3 -0.3
HLRZ	Highlands Stat	1.25	20	P	Pn	08 38 55.4 +1.6
DREZ	Durham Road	1.26	280	P	Pn	08 38 54.9 +1.0
PREZ	Palmer Road	1.27	273	P	Pn	08 38 55.2 +1.2
UTU	Utuhina	1.29	14	P	Pn	08 38 54.5 +0.3
BFZ	Birch Farm	1.30	165	P	Pn	08 38 54.1 -0.2
TARZ	Mount Tarawera	1.31	25	P	Pn	08 38 55.5 +0.9
NEZ	North Egmont	1.33	276	P	Pn	08 38 55.8 +1.0
TIWZ	Tintock	1.35	177	P	Pn	08 38 54.7 -0.3
NGRZ	Ngongotaha	1.36	13	P	Pn	08 38 55.3 +0.2
SNGZ	Shannon Statio	1.36	62	P	Pn	08 38 55.5 +0.3
KHEZ	Kahui Hut	1.39	275	P	Pn	08 38 56.7 +1.1
KHEZ	Kahui Hut	1.39	275	P	Pn	08 38 56.5 +0.9
OMRZ	Omania	1.39	19	P	Pn	08 38 55.9 +0.2
PKE	Pukeiti	1.43	279	P	Pn	08 38 57.2 +1.2
OGWZ	Otaki Gorge	1.47	199	P	Pn	08 38 56.4 -0.2
HOWZ	Holdsworth Sta	1.48	188	P	Pn	08 38 56.1 -0.7
NMEZ	Namu Road	1.49	270	P	Pn	08 38 57.8 +1.0
EDRZ	Edgecumbe	1.51	29	P	Pn	08 38 57.5 +0.3
CPWZ	Castlepoint	1.51	168	P	Pn	08 38 57.2 +0.1
KNZ	Kokohu	1.51	75	P	Pn	08 38 56.6 -0.5
URZ	Urewera	1.55	42	P	Pn	08 38 57.3 -0.4
URZ	Urewera	1.55	42	P	Pn	08 38 57.5 -0.2
RAGZ	Rawiri	1.57	54	P	Pn	08 38 58.8 +0.9
KIW	Kapiti Island	1.58	205	P	Pn	08 38 57.7 -0.4
MARZ	Manawahe	1.59	26	P	Pn	08 38 58.5 +0.2
MHGZ	Mahia Peninsul	1.66	81	P	Pn	08 38 58.9 -0.2
TMWZ	Te Maipa	1.68	178	P	Pn	08 38 58.5 -0.8
OPRZ	Ohinepanea	1.69	21	P	Pn	08 38 59.1 +0.2
RIGZ	Rimuhau	1.69	65	P	Pn	08 38 59.6 +0.1
PRGZ	Paritu Road	1.70	73	P	Pn	08 38 59.5 -0.1
TOZ	Tahuroa Road	1.71	352	P	Pn	08 38 59.8 0.0
MWZ	Matawai	1.73	52	P	Pn	08 38 59.9 -0.3
TGRZ	Tauranga	1.73	12	P	Pn	08 39 00.6 +0.4
MTW	Mount Morrison	1.74	187	P	Pn	08 38 59.1 -1.1
CAW	Cannon Point	1.77	198	P	Pn	08 38 59.7 -0.9
TKGZ	Te Karaka	1.88	59	P	Pn	08 39 02.0 -0.1
TRWZ	Traveller	1.97	182	P	Pn	08 39 02.0 -1.3
PAWZ	Paruwai Farm	1.97	188	P	Pn	08 39 01.9 -1.4
DUWZ	D'Urville Isla	1.99	226	P	Pn	08 39 03.0 -0.6
WEL	Wellington	2.01	203	P	Pn	08 39 02.9 -1.0
SNZO	South Karori	2.06	204	P	Pn	08 39 04.6 +0.2
RUGZ	Raukumara Rang	2.07	46	P	Pn	08 39 04.0 -0.8
CNGZ	Carnagh Statio	2.10	64	P	Pn	08 39 04.8 -0.3
BHW	Baring Head	2.10	199	P	Pn	08 39 03.5 -1.5
TWGZ	Tauwhareparae	2.11	54	P	Pn	08 39 04.8 -0.4
TCW	Tory Channel	2.13	213	P	Pn	08 39 04.3 -1.1
PLWZ	Palliser	2.18	191	P	Pn	08 39 04.4 -1.7
HAZ	Te Kaha	2.28	44	P	Pn	08 39 06.1 -1.3
PUZ	Puketiti	2.35	56	P	Pn	08 39 07.6 -0.9
PKGZ	Pakihiroa	2.35	50	P	Pn	08 39 08.0 -0.5
MKAZ	Moumakai	2.37	348	P	Pn	08 39 08.7 0.0
TUWZ	Tuamarina	2.45	215	P	Pn	08 39 08.5 -1.3
AWAZ	Awhitu Peninsu	2.53	339	P	Pn	08 39 11.4 +0.6
ETAZ	East Tamaki Re	2.56	344	P	Pn	08 39 11.6 +0.3
NNZ	Nelson	2.57	225	P	Pn	08 39 10.5 -0.9
WMGZ	Waiomatatini S	2.60	53	P	Pn	08 39 11.0 -0.8
WTAZ	Waiatarua	2.67	338	P	Pn	08 39 13.6 +0.8
KUZ	Kuaotunu	2.68	359	P	Pn	08 39 13.1 +0.2
KUZ	Kuaotunu	2.68	359	P	Pn	08 39 12.9 0.0
TKNZ	Takaka Hill	2.70	233	P	Pn	08 39 11.7 -1.4
MXZ	Matakaoa Point	2.71	47	P	Pn	08 39 12.9 -0.4
MXZ	Matakaoa Point	2.71	47	P	Pn	08 39 12.8 -0.4
BSWZ	Blackbirch Sta	2.71	212	P	Pn	08 39 12.4 -0.9
MBAZ	Motutapu North	2.75	345	P	Pn	08 39 14.0 +0.2
RVAZ	Riverhead Bore	2.82	340	P	Pn	08 39 15.5 +0.6
QRZ	Quartz Range	2.87	240	P	Pn	08 39 16.0 +0.5
QRZ	Quartz Range	2.87	240	P	Pn	08 39 14.1 -1.4
MRNZ	Matariki Terra	3.04	229	P	Pn	08 39 16.5 -1.3
THZ	Tophouse	3.21	222	P	Pn	08 39 18.7 -1.5
KHZ	Kahutara	3.44	209	P	Pn	08 39 21.2 -2.0
KHZ	Kahutara	3.44	209	P	Pn	08 39 21.0 -2.2
WCZ	Waipu Caves	3.67	341	P	Pn	08 39 27.0 +0.6
DSZ	Denniston Nort	3.82	231	P	Pn	08 39 28.2 -0.3
GVZ	Greta Valley S	4.11	210	P	Pn	08 39 29.4 -2.9
LTZ	Lake Taylor	4.28	217	P	Pn	08 39 31.7 -3.1
OUZ	Omahuta	4.55	337	P	Pn	08 39 39.3 +0.9
OUZ	Omahuta	4.55	337	P	Pn	08 39 39.1 +0.7
INZ	Inchbonnie	4.66	224	P	Pn	08 39 39.7 -0.1
WVZ	Waitaha Valley	5.28	225	P	Pn	08 39 51.4 +3.1
RPZ	Rata Peaks	5.57	218	P	Pn	08 39 51.5 -0.8
GCSZ	Gaunt Creek Bo	5.66	225	P	Pn	08 39 57.1 +3.6
FOZ	Fox Glacier	6.08	226	P	Pn	08 40 01.3 +2.0
CTZ	Chatham Island	7.13	130	P	Pn	08 40 12.5 -1.1
MCQ	Macquarie Isla	18.88	211	P	P	08 42 48.4 +1.8
	97nm,1.9s					

GUC 10 08:57:38.7±0.7, 18°.50S×69°.78W, h87km±5km, ML2.6, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.31**	**57**	*i* P	Pn	08 57 53.0	+0.4
PB16				*e*S	Sn	08 58 03.9	+1.2
PB16				IAML		08 58 04.6	
	comp=E,228nm,0.2s						
PB16	**IPOC Station P**	**0.31**	**57**	*i* P	Pn	08 57 52.9	+0.4
PB16				*e*S	Sn	08 58 04.0	+1.2
PB16				IAML		08 58 04.6	
	comp=E,222nm,0.3s						
PB12	**IPOC Station P**	**0.53**	**258**	⇑*i*P	Pn	08 57 52.8	-0.8
PB12				*e*S	Sn	08 58 04.0	-0.6
PB12				IAML		08 58 06.2	
	comp=N,230nm,0.1s						
PB12	**IPOC Station P**	**0.53**	**258**	*i* P	Pn	08 57 52.8	-0.8
PB12				*e*S	Sn	08 58 04.0	-0.6
PB12				IAML		08 58 06.7	
	comp=E,225nm,0.2s						
AP01	**Chacalluta**	**0.55**	**284**	*e*P	Pn	08 57 53.5	-0.1
AP01				*i* S	Sn	08 58 05.3	+0.7
AP01				IAML		08 58 07.8	
	comp=E,376nm,0.1s						
GO01	**Chusmiza**	**1.28**	**155**	*i* P	Pn	08 58 02.2	+0.1
GO01				*e*S	Sn	08 58 19.6	0.0
GO01				IAML		08 58 24.1	
	comp=E,214nm,0.2s						
GO01	**Chusmiza**	**1.28**	**155**	*i* P	Pn	08 58 02.2	+0.1
GO01				*e*S	Sn	08 58 20.4	+0.8
GO01				IAML		08 58 24.0	
	comp=E,214nm,0.1s						
PB08	**IPOC Station P**	**1.73**	**160**	*i* P	Pn	08 58 07.5	-0.2
PB08				*e*S	Sn	08 58 29.4	-0.2
PB08	**IPOC Station P**	**1.73**	**160**	*i* P	Pn	08 58 07.6	-0.1
PB08				*e*S	Sn	08 58 29.6	0.0
PB08				IAML		08 58 31.0	
	comp=E,93nm,0.2s						
HMBC	**Humberstone**	**1.77**	**183**	⇓*i*P	Pn	08 58 06.5	-1.5
HMBC				*e*S	Sn	08 58 28.1	-2.0
HMBC				IAML		08 58 31.8	
	comp=N,48nm,0.5s						
HMBC	**Humberstone**	**1.77**	**183**	*i* P	Pn	08 58 06.6	-1.4
PB01	**IPOC Station P**	**2.54**	**174**	*i* P	Pn	08 58 17.4	-0.7
PB01				*e*S	Sn	08 58 47.5	-0.8
PB01				IAML		08 58 55.7	
	comp=N,46nm,0.6s						
PB02	**IPOC Station P**	**2.80**	**182**	*i* P	Pn	08 58 21.1	-0.6
PB02				*e*S	Sn	08 58 54.9	+0.3

*LVSN **10** 09:03:48.9±4.4, 59°.09N×21°.24E, h0km±145km, ML1.6*
HEL 10 09:03:47.5±0.1, 62°.90N×21°.50E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**0.56**	**75**	PG	Pg	09 03 57.3	-0.8
	baz=254						
VAF				SG	Sg	09 04 04.6	-0.7
VAF				MSG		09 04 05.2	
	comp=Z,4.6nm,0.2s						
UMAU	**Umeaa**	**1.05**	**340**	PG	Pg	09 04 06.7	-0.9
UMAU				SG	Sg	09 04 19.9	-1.4
HUSU	**Husum**	**1.13**	**294**	SG	Sg	09 04 23.0	-0.6
HEMU	**Hemsoen**	**1.61**	**263**	PG	Pn	09 04 15.7	-1.4
	baz=79						
HEMU				SN	Sn	09 04 37.5	-1.0
BURU	**Burvik**	**1.69**	**358**	PG	Pn	09 04 18.0	-0.2
BURU				SN	Sn	09 04 39.7	-0.8
KEF	**Keuruu**	**1.73**	**114**	PG	Pn	09 04 18.6	-0.2
KEF				MSG		09 04 39.1	
	comp=Z,4.1nm,0.2s						
KEF				SN	Sn	09 04 41.8	+0.3
RAF	**Rauma**	**1.89**	**176**	*e*P	Pn	09 04 21.8	+0.9
RAF				*e*S	Sb	09 04 46.5	-0.4
RAF				AML	AML	09 04 48.9	
	comp=Z,11nm,0.9s						
RAF				AML	AML	09 04 49.2	
	comp=N,6.3nm,0.2s						
RAF				AML	AML	09 04 50.2	
	comp=E,14nm,0.5s						
RAF	**Rauma**	**1.89**	**176**	PG	Pn	09 04 21.6	+0.6
	baz=355						
RAF				MSG		09 04 43.7	
	comp=Z,5.5nm,0.2s						
RAF				SG	Sb	09 04 46.5	-0.4
OBF0	**Syolatti, Pyha**	**2.01**	**36**	MSG		09 04 47.4	
	comp=Z,2.8nm,0.2s						
OBF0				SG	Sb	09 04 50.3	-0.2
OUF	**Merijarvi**	**2.06**	**43**	PG	Pn	09 04 23.8	+0.5
OUF				MSG		09 04 48.7	
	comp=Z,1.7nm,0.2s						
OUF				SG	Sb	09 04 51.2	-0.6
KAF	**Kangasniemi**	**2.37**	**107**	PG	Pn	09 04 29.0	+1.5
KAF				MSG		09 04 57.5	
	comp=Z,2.7nm,0.2s						
KAF				SG	Sb	09 05 00.4	-0.3
OBF4	**Vikkela, Lumij**	**2.50**	**38**	PB	Pn	09 04 30.5	+1.2
OBF4				MSG		09 05 01.1	
	comp=Z,0.6nm,0.2s						
FIA0	**FINESS Array S**	**2.60**	**122**	PB	Pn	09 04 32.3	+1.6
	baz=310						
FIA0				MSG		09 05 04.2	
	comp=Z,0.9nm,0.2s						
FIA0				SG	Sb	09 05 05.9	-1.4
AAL	**Aland**	**2.83**	**195**	PN	Pn	09 04 31.7	-2.2
AAL				SG	Sb	09 05 13.5	-0.3
KALU	**Kalix**	**3.08**	**14**	SN	Sn	09 05 15.7	+0.9
ERTU	**Ertsjaerv**	**3.68**	**4**	SN	Sn	09 05 29.4	-0.2
ARBE	**Arbavere**	**4.10**	**146**	PG	Pb	09 05 01.1	+0.6
KLF	**Kolari**	**4.47**	**12**	SN	Sn	09 05 48.0	-1.2
JOF	**Joensuu**	**4.49**	**85**	PB	Pb	09 05 04.2	-2.9
JOF				SG	Sg	09 06 06.6	-4.9

IDC 10 09:04:48.8±2.5, 54°.60N×83°.26E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=23.0km s-min=13.3km az=165.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.13**	**125**	I	I	09 12 50.0	
	baz=305,slow=328,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.13**	**125**	Pg	Pb	09 05 10.2	-0.4
	5.3nm,0.3s,baz=309,slow=14,SNR=14						
ZALV				Lg	Lg	09 05 24.3	
	3.8nm,0.3s,baz=306,slow=28,SNR=7.3						
KURBB	**Kurchatov Arra**	**4.92**	**218**	Pn	Pn	09 06 02.4	-1.0
	baz=40,slow=13,SNR=1.9						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.84**	**185**	Pn	Pn	09 06 45.0	+1.4
	0.2nm,0.3s,baz=16,slow=13,SNR=2.8						
	0.2nm,0.3s						

DJA 10 09:07:09.8±0.2, 8°.S±3°.×12°.4E±°, h10km, M4.3/9, mb4.5/8, mB5.5/1, MLv4.2/9, Mw(mB)4.9/1, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.33**	**258**	P	Pn	09 07 32.3	-2.1
MMRI				S	Sg	09 07 52.5	-0.1
SOEI	**Soe**	**1.56**	**153**	P	Pg	09 07 39.3	-0.4
BATI	**Baumata**	**1.84**	**177**	P	Pb	09 07 43.3	-0.3
BASI	**Baing, Sumba**	**3.47**	**238**	P	Pn	09 08 02.3	-1.6
BKSI	**Bulukumba**	**4.55**	**311**	P	Pn	09 08 14.7	-4.0
PLAI	**Plampang**	**5.73**	**265**	P	Pn	09 08 35.2	+0.2
	50nm,0.7s,0.2nm						
TTSI	**Tana Toraja**	**6.45**	**325**	P	Pn	09 08 46.6	+1.6
	26nm,0.5s,0.3nm						
TWSI	**Taliwang, Sumb**	**6.61**	**266**	P	Pn	09 08 47.4	+0.4
	41nm,0.9s,0.1nm						
MPSI	**Mapaga**	**9.38**	**337**	P	Pn	09 09 26.1	+1.0
	8.8nm,1.1s						

*SJA **10** 09:15:56.7±0.8, 18°.50S×69°.82W, h101km±4km, ML3.4, MW3.5*
*GUC **10** 09:16:00.9±0.9, 18°.65S×69°.83W, h70km±5km, ML3.3*
ISC 10 09:16:01.1±1.7, 18°.63S±0°.05×69°.86W±0°.05, h72km±13km, n25, σ1°.68/45, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.44**	**272**	*e*P	**Pn**	**09 16 13.2**	**-0.5**
PB12				*e*S	**Sn**	**09 16 22.9**	**-0.1**
PB12				IAML		09 16 26.6	
	comp=N,3μm,0.1s						
PB12	**IPOC Station P**	**0.44**	**272**	*e*P	**Pn**	**09 16 13.3**	**-0.5**
PB12				*e*S	**Sn**	**09 16 25.2**	**+2.1**
PB12				IAML		09 16 26.9	
	comp=Z,1μm,0.1s						
PB16	**IPOC Station P**	**0.45**	**49**	*e*P	**Pn**	**09 16 13.6**	**-0.8**
PB16				*e*S	**Sn**	**09 16 24.2**	**+0.2**
PB16				IAML		09 16 26.3	
	comp=N,2μm,0.2s						
PB16	**IPOC Station P**	**0.45**	**49**	*e*P	**Pn**	**09 16 12.9**	**-1.4**
PB16				*e*S	**Sn**	**09 16 25.0**	**+1.0**
PB16				IAML		09 16 25.6	
	comp=Z,2μm,0.4s						
AP01	**Chacalluta**	**0.52**	**300**	⇓*e*P	**Pn**	**09 16 13.9**	**-0.5**
AP01				*e*S	**Sn**	**09 16 23.9**	**-0.3**
AP01				IAML		09 16 26.5	
	comp=E,5μm,0.1s						
AP01	**Chacalluta**	**0.52**	**300**	*e*P	**Pn**	**09 16 13.2**	**-1.2**
AP01				*e*S	**Sn**	**09 16 26.1**	**+2.0**
AP01				IAML		09 16 30.1	
	comp=Z,3μm,0.1s						
PB18	**Visviri**	**1.10**	**19**	⇑*e*P	**Pn**	**09 16 21.6**	**+0.1**
PB18				*e*S	**Sn**	**09 16 36.8**	**+0.1**
GO01	**Chusmiza**	**1.21**	**149**	⇑*e*P	**Pn**	**09 16 22.8**	**-0.1**
GO01				*e*S	**Sn**	**09 16 39.3**	**+0.2**
GO01				IAML		09 16 47.2	
	comp=N,1μm,0.1s						
GO01	**Chusmiza**	**1.21**	**149**	*e*P	**Pn**	**09 16 22.4**	**-0.5**
GO01				*e*S	**Sn**	**09 16 40.9**	**+1.9**
GO01				IAML		09 16 43.9	
	comp=Z,253nm,0.2s						
HMBC	**Humberstone**	**1.64**	**181**	*e*P	**Pn**	**09 16 27.0**	**-1.1**
HMBC				*e*S	**Sn**	**09 16 46.9**	**-1.6**
HMBC				IAML		09 16 55.4	
	comp=N,428nm,0.5s						
HMBC	**Humberstone**	**1.64**	**181**	*e*P	**Pn**	**09 16 27.0**	**-1.1**
HMBC				*e*S	**Sn**	**09 16 50.2**	**+1.7**
HMBC				IAML		09 16 55.1	
	comp=Z,330nm,0.4s						
PB08	**IPOC Station P**	**1.64**	**156**	⇑*e*P	**Pn**	**09 16 28.2**	**-0.2**
PB08				*e*S	**Sn**	**09 16 48.4**	**-0.6**
PB08				IAML		09 16 51.3	
	comp=N,384nm,0.2s						
TA02	**Huaiquique**	**1.65**	**189**	⇑*e*P	**Pn**	**09 16 27.1**	**-1.0**
TA02				*e*S	**Sn**	**09 16 47.3**	**-1.3**
TA02				IAML		09 16 55.1	
	comp=N,869nm,0.2s						
TA01	**Diego Aracena**	**1.95**	**189**	⇓*e*P	**Pn**	**09 16 30.6**	**-1.6**
TA01				*e*S	**Sn**	**09 16 54.2**	**-1.5**
TA01				IAML		09 17 03.6	
	comp=N,272nm,0.3s						
TA01	**Diego Aracena**	**1.95**	**189**	*e*P	**Pn**	**09 16 30.7**	**-1.4**
TA01				*e*S	**Sn**	**09 17 00.1**	**+4.4**
TA01				IAML		09 17 02.6	
	comp=Z,114nm,0.7s						
PATCX	**Punta Patache**	**2.19**	**187**	⇓*e*P	**Pn**	**09 16 34.4**	**-1.2**
PATCX				*e*S	**Sn**	**09 17 00.2**	**-1.6**
PATCX				IAML		09 17 10.8	
	comp=E,171nm,0.4s						
PATCX	**Punta Patache**	**2.19**	**187**	*e*P	**Pn**	**09 16 34.2**	**-1.4**
PATCX				*e*S	**Sn**	**09 17 08.2**	**+6.4**
PATCX				IAML		09 17 10.2	
	comp=Z,143nm,0.4s						
PB01	**IPOC Station P**	**2.42**	**172**	*e*P	**Pn**	**09 16 37.8**	**-0.9**
PB01				*e*S	**Sn**	**09 17 06.4**	**-1.0**
PB01				IAML		09 17 16.5	
	comp=N,223nm,0.3s						
PB01	**IPOC Station P**	**2.42**	**172**	*e*P	**Pn**	**09 16 38.1**	**-0.6**
PB01				*e*S	**Sn**	**09 17 10.0**	**+2.7**
PB01				IAML		09 17 16.5	
	comp=Z,137nm,0.2s						
PB02	**IPOC Station P**	**2.67**	**181**	*e*P	**Pn**	**09 16 41.2**	**-0.8**
PB02				IAML		09 17 25.0	
	comp=Z,233nm,0.3s						
PB02				*e*S	Sn	09 17 25.0	+12
LPAZ	**La Paz**	**2.86**	**36**	*e*P	Pn	09 16 44.8	-0.2
PB07	**IPOC Station P**	**3.08**	**180**	*e*P	**Pn**	**09 16 46.9**	**-0.7**
PB07				*e*S	**Sn**	**09 17 24.4**	**+1.0**
PB07				IAML		09 17 31.3	
	comp=Z,97nm,0.4s						
PB09	**IPOC Station P**	**3.20**	**170**	*e*P	**Pn**	**09 16 49.2**	**-0.1**
PB09				*e*S	Sn	09 17 35.1	+8.7
PB09				IAML		09 17 39.0	
	comp=Z,95nm,0.7s						
PB04	**IPOC Station P**	**3.69**	**184**	*e*P	**Pn**	**09 16 55.1**	**-0.9**
PB04				*e*S	**Sn**	**09 17 38.7**	**+0.3**
PB04				IAML		09 17 57.6	
	comp=Z,68nm,0.6s						
PB06	**IPOC Station P**	**4.06**	**176**	*e*S	**Sn**	**09 17 48.4**	**+1.0**
PB06				IAML		09 18 16.3	
	comp=Z,33nm,0.4s						

*IDC **10** 09:16:47.7±0.7, 33°.72N×137°.05E, h371km±10km, mb2.9/5, mbtmp3.6/9, Error ellipse: s-maj=19.8km s-min=14.5km az=53.0*
*JMA **10** 09:16:47.6±0.2, 33°.6N±0°.9×137°.0E±0°.8, h369km±1km, MV3.0/41, SE OFF KII PENINSULA*
ISC 10 09:16:47.8±0.8, 33°.73N±0°.09×136°.99E±0°.07, h370km±6km, n23, σ0°.63/33, mb3.0/5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.53**	**58**	*e*P	**Pn**	**09 17 34.5**	**+0.6**
JIE	**Ise**	**0.70**	**340**	P	**Pn**	**09 17 35.2**	**+0.5**
JIE				*e*S	**S**	**09 18 12.1**	**-0.3**
JKN2	**Miekihoku**	**0.79**	**311**	P	**Pn**	**09 17 35.1**	**+0.2**
JKN2				*e*S	**S**	**09 18 11.9**	**-0.9**
JTNC	**Tanabenakahech**	**1.16**	**275**	P	**Pn**	**09 17 36.5**	**+0.2**
JTNC				*e*S	**S**	**09 18 14.4**	**-0.9**
JWY	**Kouya**	**1.26**	**293**	P	**Pn**	**09 17 37.3**	**+0.5**
JWY				*e*S	**S**	**09 18 15.8**	**-0.4**
HMMJ	**Hamamatsu 2**	**1.28**	**28**	P	**Pn**	**09 17 37.1**	**+0.4**
JAO	**Obara**	**1.55**	**8**	*e*P	**Pn**	**09 17 39.0**	**+0.8**
JNY	**Yasuok**	**1.78**	**24**	P	**Pn**	**09 17 39.9**	**+0.3**
JNY				*e*S	**S**	**09 18 21.5**	**+0.2**
JYTA	**Yamagatataniai**	**1.88**	**354**	P	**Pn**	**09 17 40.7**	**+0.7**
JYTA				*e*S	**S**	**09 18 21.8**	**-0.3**
JWT	**Wachi**	**2.03**	**320**	P	**Pn**	**09 17 41.7**	**+0.6**
JWT				*e*S	**S**	**09 18 23.0**	**-1.0**
JAI	**Aioi**	**2.12**	**272**	P	**Pn**	**09 17 41.9**	**+0.2**
JOD2	**Odawara 2**	**2.31**	**48**	P	**Pn**	**09 17 43.0**	**-0.1**
JHJ	**Hachijo jima 2**	**2.41**	**104**	P	**Pn**	**09 17 43.6**	**-0.3**
	45nm,0.4s,baz=281,slow=16,SNR=2.0						
JHJ				S	**S**	**09 18 30.2**	**+1.1**
	52nm,0.6s,baz=43,slow=19,SNR=1.4						
JMN	**Monobe**	**2.60**	**271**	P	**Pn**	**09 17 45.8**	**+0

BER 10 09:30:53.3±1.3, 72°.43N×2°.97E, h2km±15km, mb(Pn)4.0, Confirmed Earthquake, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**5.60**	**135**	*e*P	Pn	09 32 15.1	-2.4
LOF				*e*S	Sn	09 33 17.6	-4.6
LOF				IAML		09 33 20.8	
	comp=Z,3.7nm,1.0s						
HSPB	**Hornsund (broa**	**5.66**	**30**	*e*P	Pn	09 32 15.8	-2.5
TRO	**Tromso**	**5.90**	**111**	*e*P	Pn	09 32 18.9	-2.8
TRO				IAML		09 33 26.6	
	comp=Z,2.4nm,0.4s						
STEI	**Steigen**	**6.14**	**131**	*e*P	Pn	09 32 22.4	-2.5
STEI				*e*S	Sn	09 33 28.6	-7.0
STEI				IAML		09 33 43.2	
	comp=Z,2.4nm,0.8s						
FAUS	**Fauske**	**6.59**	**134**	*e*P	Pn	09 32 27.8	-3.4
FAUS				*e*		09 32 29.5	
FAUS				*e*		09 33 34.5	
FAUS				*i*		09 33 38.1	
FAUS				IAML		09 33 56.8	
	comp=Z,2.4nm,0.8s						
SPA0	**Spitsbergen Ar**	**6.69**	**24**	*e*P	Pn	09 32 29.6	-2.8
HAMF	**Hammerfest**	**6.80**	**95**	*e*P	Pn	09 32 30.4	-3.6
KIF	**Kilpisjarvi**	**6.81**	**111**	*e*P	Pn	09 32 31.7	-2.4
KIF				*e*S	Sn	09 33 44.8	-7.4
KBS	**Kingsbay**	**6.89**	**15**	*e*P	Pn	09 32 32.8	-2.4
KBS				*e*S	Sn	09 33 44.2	-10
KBS				IAML		09 33 49.8	
	comp=Z,2.5nm,1.1s						
KONS	**Konsvik**	**6.93**	**144**	*e*P	Pn	09 32 32.5	-3.2
KONS				*e*S	Sn	09 33 46.3	-8.7
KONS				IAML		09 33 50.1	
	comp=Z,2.9nm,0.6s						
STOK	**Stokkvaagen**	**7.06**	**145**	*e*	Pn	09 32 35.3	-2.2
SALU	**Saltoluokta**	**7.35**	**126**	*e*P	Pn	09 32 39.6	-1.9
MOR8	**Moi Rana**	**7.47**	**142**	*e*P	Pn	09 32 39.5	-3.6
KTK1	**Kautokeino**	**7.51**	**107**	*e*P	Pn	09 32 40.9	-2.8
KTK1				*e*S	Sn	09 33 59.3	-10
KTK1				IAML		09 34 17.3	
	comp=Z,1.3nm,0.7s						
ARA0	**ARCESS Array S**	**7.88**	**101**	*e*P	Pn	09 32 44.9	-3.9
HEF	**Hetta**	**8.00**	**110**	*e*P	Pn	09 32 47.5	-2.9
KEV	**Kevo**	**8.22**	**97**	*e*P	Pn	09 32 50.0	-3.4
VADS	**Vadso**	**8.76**	**92**	*e*P	Pn	09 32 56.5	-4.2

IDC 10 09:42:04.3±2.9, 54°.27N×87°.12E, h0km, mbtmp3.0/2, ML2.4/2, 3C-1D, Error ellipse: s-maj=23.9km s-min=16.5km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**258**	I	I	09 51 25.0	
	baz=78,slow=332,SNR=9.2						
ZAA0	**Zalesovo Array**	**1.39**	**258**	⇑P	Pg	09 42 29.1	-1.9
	0.6nm,0.8s,baz=69,slow=17						
ZAA0				⇓S	Sn	09 42 52.0	+1.9
	1.7nm,0.6s,baz=69,slow=26						
ZALV	**Zalesovo Beam**	**1.39**	**258**	Pg	Pg	09 42 28.7	-2.3
	1.8nm,0.3s,baz=76,slow=16,SNR=12						
ZALV				Lg	Lg	09 42 48.9	
	1.2nm,0.3s,baz=74,slow=27,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.39**	**239**	⇑Pn	Pn	09 43 39.2	-0.5
	2.0nm,0.7s						
KURBB				⇑Lg	Lg	09 45 31.0	
	6.3nm,1.0s						
KURBB	**Kurchatov Arra**	**6.39**	**239**	Pn	Pn	09 43 40.7	+1.0
	0.1nm,0.3s,baz=55,slow=14,SNR=8.3						
KURBB				Sn	Sn	09 44 52.6	-0.7
	baz=46,slow=15,SNR=1.4						
KURBB				Lg	Lg	09 45 27.7	
	baz=48,slow=11,SNR=1.9						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**8.09**	**204**	Pn	Pn	09 44 04.6	+1.6
	baz=21,slow=19,SNR=1.5						
MKAR				Sn	Sn	09 45 34.4	-0.7
	0.1nm,0.3s,baz=25,slow=28,SNR=3.3						
MKAR				Lg	Lg	09 46 20.1	
	0.1nm,0.3s,baz=34,slow=31,SNR=3.0						
	0.2nm,0.3s						

*TIR **10** 09:46:15.0, 41°.10N×20°.19E, h1km±1km, Md3.1, Ml2.9*
*PDG **10** 09:46:15.3±0.1, 41°.08N×20°.18E, h2km, ML2.9/9, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0*
*THE **10** 09:46:16.1, 41°.11N×20°.20E, h0km±3km, ML2.6/5, Error ellipse: s-maj=3.7km s-min=1.1km az=30.0*
*SKO **10** 09:46:16.4, 41°.07N×20°.11E, h10km, ML2.9*
*BEO **10** 09:46:18.0±0.5, 41°.08N×20°.16E, h0km, ML2.5/11*

ISC 10 09:46:16.2±1.1, 41°.08N±0°.02×20°.16E±0°.02, h3km±10km, n52, σ1°.09/88, 7C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.34**	**320**	P	**Pg**	**09 46 22.5**	**-0.4**
TIR				S	**Sg**	**09 46 27.9**	**+0.6**
	792nm,0.3s						
TIR	**Tirane**	**0.34**	**320**	P	**Pg**	**09 46 22.6**	**-0.4**
	baz=316						
TIR				S	**Sg**	**09 46 28.3**	**+1.0**
	baz=316						
TIR				AMP			
	comp=N,3.7nm,0.4s,baz=316						
TIR	**Tirane**	**0.34**	**320**	*e*Pg	**Pg**	**09 46 22.4**	**-0.4**
TIR				*e*Sg	**Sg**	**09 46 28.5**	**+1.2**
OHR	**Ohrid**	**0.48**	**87**	*e*Pg	**Pg**	**09 46 26.0**	**+0.5**
OHR				*e*Sg	**Sb**	**09 46 34.1**	**-0.8**
OHR	**Ohrid**	**0.48**	**87**	*i* Pg	**Pg**	**09 46 25.8**	**+0.4**
OHR				*i* Sg	**Sb**	**09 46 34.2**	**-0.8**
OHR				*e*Lg	Lg	09 46 34.4	
	comp=N,544nm,0.3s						
OHR				*e*Lg	Lg	09 46 34.9	
	comp=E,268nm,0.5s						
KBN	**Korca**	**0.66**	**134**	P	**Pg**	**09 46 28.5**	**-0.3**
KBN				S	**Sb**	**09 46 38.8**	**-1.3**
	comp=E,1μm,0.7s						
KBN	**Korca**	**0.66**	**134**	P	**Pg**	**09 46 28.6**	**-0.3**
	baz=136						
KBN				S	**Sb**	**09 46 38.7**	**-1.4**
	baz=136						
KBN				AMP			
	comp=E,4.4nm,0.3s,baz=136						
NEST	**Nestorio**	**0.95**	**134**	P	**Pg**	**09 46 32.6**	**-1.8**
NEST				S	**Sb**	**09 46 48.7**	**+0.3**
	comp=E,292nm,0.3s						
FNA	**Florina**	**0.97**	**108**	P	**Pg**	**09 46 33.9**	**-0.8**
FNA				S	**Sb**	**09 46 47.7**	**-1.2**
	comp=E,495nm,0.4s						
FNA	**Florina**	**0.97**	**108**	P	**Pg**	**09 46 34.2**	**-0.6**
	baz=108						
FNA				S	**Sb**	**09 46 49.1**	**+0.2**
	baz=108						
FNA	**Florina**	**0.97**	**108**	*e*Pg	**Pb**	**09 46 35.6**	**-0.1**
FNA				*e*Sg	**Sn**	**09 46 50.0**	**-1.1**
FNA	**Florina**	**0.97**	**108**	*i* Pg	**Pg**	**09 46 34.7**	**-0.1**
FNA				*i* Sg	**Sb**	**09 46 47.9**	**-1.0**
LSK	**Leskovik**	**0.99**	**160**	P	**Pg**	**09 46 33.7**	**-1.5**
LSK	**Leskovik**	**0.99**	**160**	P	**Pg**	**09 46 34.0**	**-1.1**
	baz=161						
LSK				S	**Sb**	**09 46 49.1**	**-0.5**
	baz=161						
LSK				AMP			
	comp=N,2.7nm,0.5s,baz=161						
ULC	**Ulcinj**	**1.12**	**322**	*i* Pg	**Pg**	**09 46 36.1**	**-1.5**
ULC	**Ulcinj**	**1.12**	**322**	⇑*i*Pg	**Pg**	**09 46 36.1**	**-1.5**
ULC				*i* Sg	**Sb**	**09 46 53.9**	**+0.8**
SRN	**Sarande**	**1.21**	**186**	P	**Pb**	**09 46 39.6**	**-0.1**
SRN	**Sarande**	**1.21**	**186**	P	**Pn**	**09 46 39.9**	**-0.1**
	baz=187						
SRN				S	**Sn**	**09 46 58.0**	**+1.1**
	baz=187						
SRN				AMP			
	comp=E,0.6nm,0.6s,baz=187						
BCI	**Bajram Curri**	**1.28**	**357**	P	**Pg**	**09 46 39.8**	**-1.0**
	baz=356						
BCI				S	**Sn**	**09 46 59.5**	**+0.7**
	baz=356						
SKO	**Skopje**	**1.31**	**47**	*e*Pg	**Pg**	**09 46 41.1**	**-0.1**
SKO				*e*Sg	**Sn**	**09 46 59.2**	**-0.2**
SKO	**Skopje**	**1.31**	**47**	*i* Pg	**Pg**	**09 46 40.6**	**-0.6**
SKO				*i* Sg	**Sn**	**09 46 59.8**	**+0.4**
DRME	**Dracevica, Mon**	**1.32**	**327**	⇓*i*Pg	**Pg**	**09 46 40.0**	**-1.5**
DRME				*i* Sg	**Sn**	**09 47 01.1**	**+1.3**
KEK	**Kerkira**	**1.40**	**192**	P	**Pb**	**09 46 43.2**	**+0.3**
KEK				S	**Sn**	**09 47 02.8**	**+1.2**
	comp=E,110nm,0.5s						
KPRO	**Kipourio**	**1.45**	**141**	P	**Pn**	**09 46 42.6**	**-0.8**
PDG	**Podgorica**	**1.51**	**334**	*e*Pg	**Pb**	**09 46 44.9**	**+0.1**
PDG				*e*Sg	**Sg**	**09 47 05.8**	**+1.2**
PDG	**Podgorica**	**1.51**	**334**	⇑*i*Pg	**Pn**	**09 46 43.5**	**-0.6**
PDG				*i* Sg	**Sg**	**09 47 07.2**	**+2.6**
PVY	**Plav**	**1.52**	**354**	⇑*i*Pg	**Pn**	**09 46 43.6**	**-0.8**
PVY				*i* Sg	**Sn**	**09 47 07.5**	**+2.7**
BUM	**Brajici-Budva**	**1.54**	**322**	⇑*i*Pg	**Pn**	**09 46 43.9**	**-0.8**
BUM				*i* Sg	**Sg**	**09 47 08.4**	**+2.7**
IGT	**Igoumenitsa**	**1.56**	**175**	P	**Pn**	**09 46 44.5**	**-0.3**
IGT	**Igoumenitsa**	**1.56**	**175**	P	**Pg**	**09 46 45.8**	**-0.2**
	baz=176						
IGT				S	**Sg**	**09 47 08.6**	**+2.4**
	baz=176						
IGT	**Igoumenitsa**	**1.56**	**175**	*i* Pn	**Pg**	**09 46 46.2**	**+0.3**
STIP	**Stip**	**1.64**	**68**	*i* Pn	**Pg**	**09 46 48.7**	**+1.0**
GRG	**Griva**	**1.70**	**94**	P	**Pn**	**09 46 46.2**	**-0.6**
GRG	**Griva**	**1.70**	**94**	*i* Pn	**Pn**	**09 46 46.8**	**0.0**
CEME	**Cevo**	**1.73**	**328**	⇑*i*Pn	**Pn**	**09 46 47.2**	**-0.1**
CEME				*i* Sn	**Sg**	**09 47 13.0**	**+1.2**
IVA	**Berane**	**1.80**	**354**	⇓*i*Pn	**Pn**	**09 46 48.7**	**+0.5**
IVA				*i* Sn	**Sg**	**09 47 14.7**	**+0.8**
PRVS	**Prvonek**	**2.02**	**45**	*e*Pn	**Pb**	**09 46 53.0**	**-0.6**
PRVS				*e*Sn	**Sb**	**09 47 18.6**	**-0.5**
BARS	**Barje**	**2.13**	**35**	*e*Pn	**Pb**	**09 46 55.8**	**+0.4**
BARS				*e*Sn	**Sb**	**09 47 21.6**	**-0.6**
SJES	**Sjenica**	**2.18**	**356**	*e*Pn	**Pb**	**09 46 55.6**	**-0.8**
SJES				*e*Sn	**Sg**	**09 47 25.2**	**-1.0**
DBRK	**Dubrovnik**	**2.18**	**317**	*e*Pn	**Pn**	**09 46 52.4**	**-1.0**
SELS	**Selova**	**2.25**	**18**	*e*Pn	**Pb**	**09 46 56.6**	**-0.9**
SELS				*e*Sn	**Sn**	**09 47 23.7**	**+1.0**
UPM	**Unac-Piva**	**2.31**	**337**	⇑*i*Pn	**Pn**	**09 46 55.7**	**+0.3**
UPM				*i* Sn	**Sb**	**09 47 27.9**	**+0.1**
PLE	**Pljevlja**	**2.32**	**346**	⇑*i*Pn	**Pn**	**09 46 55.8**	**+0.4**
PLE				*i* Sn	**Sn**	**09 47 26.3**	**+1.8**
IVAS	**Ivanjica**	**2.49**	**360**	*e*Pn	**Pb**	**09 47 00.0**	**-1.6**
IVAS				*e*Sn	**Sb**	**09 47 32.7**	**0.0**
VTS	**Vitosha**	**2.76**	**55**	*e*Pn	**Pn**	**09 47 01.8**	**+0.3**
VTS				*e*Sn	**Sn**	**09 47 35.5**	**0.0**
BBLS	**Lazići**	**2.84**	**349**	*e*Pn	**Pb**	**09 47 05.6**	**-1.9**
BBLS				*e*Sn	**Sn**	**09 47 39.8**	**+2.6**
LSTV	**Lastovo**	**2.96**	**306**	*e*Pn	**Pn**	**09 47 02.6**	**-1.5**
RICI	**Ricice**	**3.29**	**318**	*e*Pn	**Pn**	**09 47 06.5**	**-2.2**
KIJV	**Kijevo**	**4.03**	**318**	*e*Pn	**Pn**	**09 47 18.5**	**-0.3**
ZIRJ	**Zirje**	**4.22**	**309**	*e*Pn	**Pn**	**09 47 20.7**	**-0.6**
DUGI	**Dugi Otok**	**4.76**	**309**	*e*Pn	**Pn**	**09 47 28.0**	**-0.8**
VIRC	**Vir**	**4.94**	**312**	*e*Pn	**Pn**	**09 47 30.9**	**-0.4**

WEL 10 09:59:06.9±1.7, 34°.S±11°×17°.9E±1°.9, h33km, M4.1/7, mB4.1/1, ML3.9/6, MLv4.1/7, Mw(mB)3.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=99.5, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.66**	**191**	P	Pn	10 00 02.1	+0.9
HAZ	**Te Kaha**	**3.73**	**198**	P	Pn	10 00 02.7	+0.5
PKGZ	**Pakihiroa**	**3.79**	**194**	P	Pn	10 00 03.5	+0.5
WCZ	**Waipu Caves**	**4.38**	**245**	P	Pn	10 00 11.6	+0.5
URZ	**Urewera**	**4.39**	**203**	P	Pn	10 00 11.1	-0.2
URZ				S	Sn	10 01 03.2	+1.9
MUGZ	**Murupara**	**4.70**	**205**	P	Pn	10 00 15.4	-0.2
MTHZ	**Maungataniwha**	**5.02**	**202**	P	Pn	10 00 18.9	-1.0
MTHZ				S	Sn	10 01 17.2	+0.3
NMHZ	**Naumai**	**5.26**	**201**	P	Pn	10 00 22.0	-1.2
NMHZ				S	Sn	10 01 22.8	+0.1
ARHZ	**Aropaoanui**	**5.36**	**199**	P	Pn	10 00 22.5	-2.0
BKZ	**Black Stump Fm**	**5.42**	**203**	P	Pn	10 00 23.1	-2.3
HIZ	**Hauiti**	**5.57**	**218**	P	Pn	10 00 28.9	+1.5
MCHZ	**McNeill Hill**	**5.61**	**201**	P	Pn	10 00 25.6	-2.4
KWHZ	**Kaweka Forest**	**5.67**	**203**	P	Pn	10 00 26.4	-2.5
OTVZ	**Oturere**	**5.72**	**209**	P	Pn	10 00 27.8	-1.9
TWVZ	**Taurewa**	**5.74**	**211**	P	Pn	10 00 26.1	-3.8
BHHZ	**Black Hill Sta**	**5.85**	**205**	P	Pn	10 00 28.1	-3.3
KAHZ	**Kahuranaki**	**5.89**	**198**	P	Pn	10 00 28.4	-3.4
WNVZ	**Wahianoa**	**5.89**	**209**	P	Pn	10 00 29.8	-2.2
KRHZ	**Kereru**	**5.89**	**202**	P	Pn	10 00 28.3	-3.6
PXZ	**Pawanui**	**6.11**	**198**	P	Pn	10 00 30.9	-4.0
PNHZ	**Pukenui**	**6.19**	**202**	P	Pn	10 00 31.8	-4.3
WPHZ	**Waipukurau**	**6.26**	**200**	P	Pn	10 00 33.0	-3.9
PRHZ	**Porangahau**	**6.39**	**198**	P	Pn	10 00 34.5	-4.3
TSZ	**Takapari Road**	**6.40**	**203**	P	Pn	10 00 35.0	-3.9
DVHZ	**Dannevirke**	**6.55**	**201**	P	Pn	10 00 36.5	-4.5
BFZ	**Birch Farm**	**6.88**	**199**	P	Pn	10 00 41.0	-4.5
MRZ	**Mangatainoka R**	**7.07**	**203**	P	Pn	10 00 42.1	-6.0
TIWZ	**Tintock**	**7.08**	**201**	P	Pn	10 00 43.2	-5.0
HOWZ	**Holdsworth Sta**	**7.30**	**203**	P	Pn	10 00 44.9	-6.4
OGWZ	**Otaki Gorge**	**7.35**	**205**	P	Pn	10 00 45.5	-6.3
TMWZ	**Te Maipa**	**7.38**	**200**	P	Pn	10 00 46.0	-6.3
KIW	**Kapiti Island**	**7.48**	**206**	P	Pn	10 00 46.8	-6.8
MTW	**Mount Morrison**	**7.54**	**202**	P	Pn	10 00 47.8	-6.8
CAW	**Cannon Point**	**7.64**	**205**	P	Pn	10 00 48.6	-7.3
TRWZ	**Traveller**	**7.71**	**200**	P	Pn	10 00 50.2	-6.6
BHW	**Baring Head**	**7.97**	**205**	P	Pn	10 00 52.6	-7.8

*IDC **10** 10:04:49.6±1.0, 3°.48N×126°.43E, h0km, mb3.8/6, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=83.5km s-min=17.8km az=64.0*

ISC 10 10:04:51.2±0.9, 3°.5N±0°.2×126°.5E±0°.3, h10km, n7, σ0°.70/9, mb3.8/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.45**	**132**	P	**Pn**	**10 06 26.9**	**+0.6**
	2.2nm,0.3s,baz=313,slow=17,SNR=6.3						
SIJI				Sn	**Sn**	**10 07 39.2**	**-0.8**
	0.3nm,0.3s,baz=108,slow=20,SNR=1.9						
	7.0nm,0.3s						
WRA	**Warramunga Arr**	**24.54**	**162**	P	**P**	**10 10 10.4**	**-0.8**
	2.1nm,0.7s,baz=342,slow=10,SNR=22						
	2.1nm,0.7s						
ASAR	**Alice Springs**	**27.95**	**165**	P	**P**	**10 10 42.2**	**+0.2**
	0.1nm,0.3s,baz=351,slow=13,SNR=7.5						
ASAR				PcP	**PcP**	**10 13 57.2**	**-0.3**
	0.2nm,0.4s,baz=349,slow=2.0,SNR=1.8						
	0.1nm,0.3s						
STKA	**Stephens Creek**	**38.00**	**159**	P	**P**	**10 12 10.1**	**+0.5**
	1.1nm,0.5s,baz=341,slow=11,SNR=6.1						
	1.1nm,0.5s						
SONM	**Songino Array**	**47.44**	**342**	P	**P**	**10 13 26.3**	**+0.1**
	0.4nm,0.5s,baz=142,slow=7.3,SNR=2.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**57.61**	**325**	P	**P**	**10 14 40.7**	**-0.8**
	0.5nm,0.6s,baz=118,slow=8.8,SNR=4.6						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**61.81**	**328**	P	**P**	**10 15 10.7**	**+0.4**
	1.1nm,0.2s,baz=136,slow=6.1,SNR=1.9						
	1.1nm,0.2s						

IDC 10 10:13:32.8±73.0, 17°.97S×178°.35E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=1301.0km s-min=149.1km az=78.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.91**	**240**	P	P	10 20 35.4	+0.4
	1.7nm,1.0s,baz=79,slow=16,SNR=6.4						
	1.7nm,1.0s						
WRA	**Warramunga Arr**	**41.58**	**260**	P	P	10 21 22.8	0.0
	0.2nm,0.4s,baz=94,slow=8.4,SNR=7.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**41.80**	**254**	P	P	10 21 23.8	-0.8
	0.3nm,0.6s,baz=90,slow=8.8,SNR=7.5						
	0.3nm,0.6s						

ISC 10 10:47:14.6±1.2, 48°.78N±0°.05×18°.11E±0°.04, h9km±12km, n6, σ0°.41/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.30**	**285**	*e*PG	**Pg**	**10 47 20.3**	**-0.2**
JAVC				*e*SG	**Sg**	**10 47 25.0**	**+0.5**
VYHS	**Vyhne**	**0.56**	**120**	*e*PG	**Pg**	**10 47 25.2**	**-0.3**
VYHS				*e*SG	**Sg**	**10 47 33.3**	**+0.4**
MODS	**Modra-Piesok**	**0.69**	**234**	*e*PG	**Pg**	**10 47 27.6**	**-0.2**
MODS				*e*SG	**Sb**	**10 47 38.7**	**+0.4**
LANS	**Liptovska Anna**	**0.97**	**67**	*e*PG	**Pn**	**10 47 34.5**	**+0.1**
MORC	**Moravsky Berou**	**1.06**	**340**	*e*PG	**Pg**	**10 47 34.9**	**-0.1**
MORC				*e*SG	**Sb**	**10 47 49.5**	**+0.3**
VRAC	**Vranov**	**1.13**	**298**	*e*PG	**Pb**	**10 47 35.7**	**-0.5**
VRAC				*e*SG	**Sb**	**10 47 51.1**	**+0.1**

*NNC **10** 10:47:54.6±0.6, 50°.95N×73°.68E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=6.0km s-min=5.0km az=148.0, Suspected Mining explosion.*
*IDC **10** 10:47:56.3±1.4, 50°.81N×73°.73E, h0km, mbtmp2.6/3, ML2.1/3, Error ellipse: s-maj=33.1km s-min=8.6km az=33.0*

ISC 10 10:47:51.9±0.9, 50°.87N±0°.05×73°.72E±0°.04, h0km, n16, σ2°.00/18, 7C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**1.11**	**217**	P	**Pn**	**10 48 15.6**	**+0.8**
	8.5nm,0.1s						
BRZS				S	**Sn**	**10 48 33.6**	**+2.8**
	30nm,0.1s						
OTUK	**Ortayu**	**2.78**	**199**	⇑Pn	**Pb**	**10 48 41.5**	**-1.0**
	3.8nm,0.4s						
OTUK				⇑Lg	Lg	10 49 19.1	
	8.2nm,0.5s						
BVA0	**Borovoye Array**	**2.98**	**318**	⇓Pg	**Pg**	**10 48 48.2**	**-0.9**
	4.2nm,0.8s,baz=133,slow=16,SNR=7.6						
BVA0				⇓Lg	Lg	10 49 27.5	
	9.0nm,0.5s,baz=123,slow=26,SNR=11						
BVAR	**Borovoye Array**	**2.98**	**318**	Pn	**Pb**	**10 48 44.9**	**-1.1**
	0.2nm,0.3s,baz=132,slow=17,SNR=10						
BVAR				Sn	**Sb**	**10 49 22.6**	**-0.4**
	0.4nm,0.3s,baz=120,slow=26,SNR=7.8						
	2.3nm,0.4s						
BRVK	**Borovoye**	**3.05**	**317**	⇑Pg	**Pg**	**10 48 48.5**	**-2.0**
	2.9nm,0.5s						
BRVK				⇑Lg	Lg	10 49 28.2	
	65nm,1.1s						
KURBB	**Kurchatov Arra**	**3.06**	**93**	⇑Pn	**Pb**	**10 48 45.5**	**-1.8**
	3.4nm,0.6s						
KURBB				⇓Pg	**Pg**	**10 48 51.0**	**+0.3**
	8.4nm,0.5s						
KURBB				⇑Lg	Lg	10 49 32.2	
	80nm,0.8s						
KURBB	**Kurchatov Arra**	**3.06**	**93**	Pn	**Pb**	**10 48 46.0**	**-1.3**
	0.2nm,0.3s,baz=280,slow=14,SNR=22						
KURBB				Lg	Lg	10 49 30.9	
	0.5nm,0.3s,baz=277,slow=30,SNR=4.5						
	2.3nm,0.7s						
KURK	**Kurchatov**	**3.11**	**91**	⇓Pg	**Pg**	**10 48 51.2**	**-0.3**
	2.7nm,0.6s						
KURK				⇑Lg	Lg	10 49 33.2	
	24nm,0.8s						
SEM	**Semipalatinsk**	**4.18**	**94**	Pg	**Pg**	**10 49 12.0**	**0.0**
	7.8nm,0.1s						
SEM				Lg	Lg	10 50 10.2	
	35nm,1.0s						
BTLS	**Baital**	**5.84**	**178**	Pg	**Pg**	**10 49 43.2**	**-0.6**
	1.6nm,0.1s						
BTLS				Lg	Lg	10 51 03.4	
	9.0nm,0.4s						
MKAR	**Makanchi Array**	**6.97**	**123**	Pn	**Pn**	**10 49 38.4**	**+3.1**
	0.1nm,0.3s,baz=304,slow=35,SNR=2.3						
MKAR				Sn	**Sn**	**10 50 57.1**	**+1.9**
	0.1nm,0.3s,baz=311,slow=23,SNR=2.7						
MKAR				Lg	Lg	10 51 33.1	
	0.4nm,0.3s,baz=305,slow=33,SNR=6.0						
	0.2nm,0.3s						
ARXS	**Arharly**	**7.21**	**156**	Pg	**Pg**	**10 50 06.4**	**-3.7**
	1.4nm,0.2s						
ARXS				Lg	Lg	10 51 43.4	
	9.4nm,0.4s						
I46RU	**ZALESOVO INFRA**	**7.45**	**61**	I	I	11 30 30.0	
	0.1nm,1.0s,baz=249,slow=325,SNR=5.7						
ZSN	**Zaisan**	**8.07**	**111**	Pg	**Pg**	**10 50 23.3**	**-3.1**
	3.7nm,0.4s						
ZSN				Lg	Lg	10 52 12.8	
	9.2nm,0.6s						
KPKS	**Kokpek**	**8.14**	**154**	Pg	**Pg**	**10 50 26.1**	**-1.7**
	1.4nm,0.1s						
KPKS				Lg	Lg	10 52 17.8	
	11nm,0.7s						
I34MN	**SONGINO INFRAS**	**21.42**	**85**	I	I	12 55 00.0	
	baz=288,slow=330,SNR=0.6						

IDC 10 10:48:25.8±999.0, 57°.67N×25°.38E, h0km, Error ellipse: s-maj=1197.0km s-min=138.7km az=91.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**6.50**	**93**	I	I	11 27 30.0	
	0.1nm,0.7s,baz=283,slow=322,SNR=5.1						
I46RU	**ZALESOVO INFRA**	**32.67**	**71**	I	I	14 06 30.0	
	baz=303,slow=327,SNR=1.4						
I34MN	**SONGINO INFRAS**	**47.21**	**65**	I	I	15 39 10.0	
	baz=312,slow=334,SNR=0.4						

*IDC **10** 10:56:29.2±0.9, 14°.49N×146°.93E, h0km, mb4.1/13, mbtmp4.1/14, ML3.9/1, MS3.2/4, Error ellipse: s-maj=24.2km s-min=17.4km az=111.0*

ISC 10 10:56:34.5±0.8, 14°.5N±0°.1×146°.9E±0°.1, h33km, n21, σ0°.87/21, mb4.1/14, MS3.2/4, 3C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.19**	**245**	Pn	**Pn**	**10 57 07.9**	**-0.8**
	33nm,0.3s,baz=95,slow=4.3,SNR=23	

KIC	Kosan Boka	145.06	305⇑	*e*PKP1	PKPdf	11 16 09.5 -0.1
	7.0nm,0.6s					
TIC	Toumodi	145.11	305⇑	*i*PKP1	PKPdf	11 16 10.5 +0.8
	12nm,0.7s					
LIC	Lamto	145.37	305⇑	*e*PKP1	PKPdf	11 16 10.3 +0.2
	14nm,0.5s					

ROM 10 11:13:02.0±0.2, 38°.925N±0°.006×15°.99E±0°.02, h40km±2km, ML1.3/5, Error ellipse: s-maj=1.2km s-min=0.8km az=104.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOPP	Joppolo	0.33	194	P	Pn	11 13 11.3	+0.7
JOPP				S	Sn	11 13 17.3	+0.6
JOPP				AML	AML		
	comp=E,37μm,0.1s						
JOPP				AML	AML		
	comp=N,56μm,0.1s						
JOPP				AML	AML		
	comp=E,37μm,0.1s						
CAR1	CAROLEI	0.37	28	P	Pn	11 13 11.5	+0.3
CAR1				S	Sn	11 13 18.0	+0.4
CAR1				AML	AML		
	comp=N,33μm,0.3s						
CAR1				AML	AML		
	comp=E,112μm,0.6s						
CAR1				AML	AML		
	comp=E,37μm,0.2s						
SERS	Sersale	0.56	78	P	Pn	11 13 13.9	+0.2
SERS				S	Sn	11 13 22.7	+0.8
PLAC	Placanica	0.59	143	P	Pn	11 13 14.1	+0.1
CET2	Cetraro	0.60	358	P	Pn	11 13 14.9	+0.6
CET2				S	Sn	11 13 23.5	+0.6
CET2				AML	AML		
	comp=N,37μm,0.1s						
CELI	Celico	0.63	40	P	Pn	11 13 15.0	+0.4
TIP	Timpagrande	0.65	67	P	Pn	11 13 15.3	+0.4
CEL	Celeste	0.67	186	P	Pn	11 13 15.1	0.0
GMB	Gambarie	0.77	189	AML	AML		
	comp=E,168μm,0.2s						
GMB				AML	AML		
	comp=N,200μm,0.6s						

*IDC **10** 11:20:46.5±4.5, 21°.18S×127°.83E, h0km, mbtmp3.6/4, ML3.2/4, Error ellipse: s-maj=54.9km s-min=27.7km az=151.0*
*NOU **10** 11:20:50.9, 21°.38S×127°.86E, h0km, mb4.2/20, Western Australia*
*AUST **10** 11:20:51.8±0.9, 21°.23S×127°.93E, h10km, Error ellipse: s-maj=16.7km s-min=9.8km az=91.0*
ISC 10 11:20:50.0±0.8, 21°.45S±0°.05×127°.86E±0°.06, h10km, n43, σ2§58/55, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRKA	Warakurna	3.59	174	P	Pb	11 21 52.2	-1.5
	baz=3.8,SNR=6.6						
WRKA				S	Sb	11 22 37.1	-0.3
	baz=3.8						
KNRA	Kununurra	5.80	9	P	Pn	11 22 17.1	+0.9
	baz=5.6,SNR=86						
KNRA				S	Sn	11 23 19.9	-3.0
	baz=5.6,SNR=6.7						
KNRA	Kununurra	5.80	9	P	Pn	11 22 18.1	+1.9
ASAR	Alice Springs	6.01	113	Pn	Pn	11 22 20.0	+0.9
	0.3nm,0.3s,baz=292,slow=13,SNR=14						
ASAR				Sn	Sn	11 23 28.9	+0.9
	1.4nm,0.3s,baz=299,slow=12,SNR=5.1						
ASAR				Lg	Lg	11 23 51.1	
	4.2nm,0.3s,baz=278,slow=28,SNR=4.3						
	0.5nm,0.4s						
WRA	Warramunga Arr	6.25	77	Pn	Pn	11 22 21.1	-1.3
	0.6nm,0.3s,baz=262,slow=13,SNR=37						
WRA				Sn	Sn	11 23 30.7	-3.3
	4.2nm,0.3s,baz=258,slow=24,SNR=9.1						
WRA				Lg	Lg	11 24 03.5	
	8.3nm,0.3s,baz=244,slow=25,SNR=25						
	0.3nm,0.3s						
WB2	Warramunga Arr	6.26	77	P	Pn	11 22 21.9	-0.7
	baz=6.1						
WB2				S	Sn	11 23 29.5	-4.7
	baz=6.1						
WRAB	Tennant Creek	6.26	77	P	Pn	11 22 22.3	-0.2
PSA00	Pilbara Seismi	7.46	268	P	Pn	11 22 42.5	+3.5
MTN	Manton Dam	9.11	21	P	Pn	11 23 01.6	0.0
	baz=8.9,SNR=9.2						
MTN				S	Sn	11 24 33.1	-11
	baz=8.9						
FORT	Forrest	9.29	179	P	Pn	11 23 08.0	+3.9
	baz=9.5,SNR=10.0						
FORT				S	Sn	11 24 49.4	+0.6
	baz=9.5						
FORT	Forrest	9.29	179	P	Pn	11 23 08.6	+4.5
OOD	Oodnadatta	9.52	133	P	Pn	11 23 10.0	+2.8
	baz=9.6,SNR=4.6						
OOD				S	Sn	11 24 53.2	-1.1
	baz=9.6						
OOD	Oodnadatta	9.52	133	P	Pn	11 23 10.9	+3.7
KDU	Kakadu	9.77	28	P	Pn	11 23 09.4	-1.2
	baz=9.6						
KDU				S	Sn	11 24 50.4	-10
	baz=9.6						
KDU	Kakadu	9.77	28	P	Pn	11 23 11.4	+0.8
MEEK	Meekatharra	9.90	237	P	Pn	11 23 14.6	+2.1
	baz=10,SNR=5.1						
MEEK				S	Sn	11 25 00.7	-3.0
	baz=10						
MEEK	Meekatharra	9.90	237	P	Pn	11 23 16.1	+3.6
QIS	Mount Isa	11.01	87	P	Pn	11 23 28.2	+0.5
	baz=11,SNR=6.1						
QIS	Mount Isa	11.01	87	P	Pn	11 23 28.7	+1.0
KMBL	Kambalda	11.23	207	P	Pn	11 23 33.0	+2.4
	baz=12						
KMBL				S	Sn	11 25 33.9	-2.4
	baz=12						
KMBL	Kambalda	11.23	207	P	Pn	11 23 33.1	+2.4
GIRL	Giralia	12.69	262	P	Pn	11 23 54.1	+3.5
LCRK	Leigh Creek	12.92	136	P	Pn	11 23 56.8	+3.1
	baz=13						
LCRK	Leigh Creek	12.92	136	P	Pn	11 23 55.6	+1.8
MORW	Morawa	13.10	232	P	Pn	11 23 57.1	+0.8
	baz=13,SNR=5.0						
MORW				S	Sn	11 26 15.6	-6.6
	baz=13						
MORW	Morawa	13.10	232	P	Pn	11 23 57.3	+1.0
INKA	Innaminka	13.29	121	P	Pn	11 23 59.6	+0.8
	baz=13						
BBOO	Buckleboo	13.46	149	P	Pn	11 24 03.1	+2.0
	baz=14						
BBOO	Buckleboo	13.46	149	P	Pn	11 24 04.7	+3.6
BLDU	Ballidu	13.55	225	P	Pn	11 24 03.2	+0.9
	baz=14,SNR=8.2						
BLDU	Ballidu	13.55	225	P	Pn	11 24 03.4	+1.1
KLBR	Kellerberrin	13.55	220	P	Pn	11 24 03.8	+1.5
	baz=14						
KLBR	Kellerberrin	13.55	220	P	Pn	11 24 04.3	+2.0
MUN	Mundaring	14.76	222	P	Pn	11 24 19.6	+0.6
	baz=15,SNR=5.4						
MUN	Mundaring	14.76	222	P	Pn	11 24 20.6	+1.7
NWAO	Narrogin (SRO)	14.82	217	P	Pn	11 24 19.5	-0.2
	baz=15						
NWAO				P	Pn	11 24 19.5	-0.2
	baz=15						
NWAO	Narrogin (SRO)	14.82	217	P	Pn	11 24 20.9	+1.2
NWAO	Narrogin (SRO)	14.82	217	Pn	Pn	11 24 19.0	-0.7
	0.6nm,0.3s,baz=46,slow=8.1,SNR=7.5						
NWAO				Sn	Sn	11 26 57.0	-7.0
	1.0nm,0.3s,baz=270,slow=15,SNR=1.6						
	6.5nm,0.9s						
HTT	Hallett	15.44	143	P	Pn	11 24 29.4	+1.3
	baz=16						
HTT	Hallett	15.44	143	P	Pn	11 24 30.4	+2.4
STKA	Stephens Creek	16.07	133	Pn	Pn	11 24 34.6	-1.5
	0.2nm,0.3s,baz=313,slow=14,SNR=4.5						
	2.1nm,0.6s						
CMSA	Cobar Meteorol	18.84	126	P	Pn	11 25 13.2	+2.6
ARPS	Mount Arapiles	19.52	144	P	Pn	11 25 22.0	+3.2

IDC 10 11:28:46.7±812.0, 66°.07N×26°.44E, h0km, Error ellipse: s-maj=259.4km s-min=175.1km az=132.0, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	10.69	146	I	I	12 29 00.0	
	baz=338,slow=331,SNR=1.8						
I31KZ	AKTYUBINSK INF	22.49	119	I	I	13 45 30.0	
	baz=327,slow=330,SNR=0.7						
I46RU	ZALESOVO INFRA	30.36	85	I	I	14 35 50.0	
	baz=317,slow=321,SNR=0.7						

DJA 10 11:29:50.4±1.9, 9°S±4°×111°E±°, h30km±22km, M3.6/12, mb3.7/1, MLv3.5/12, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WOJI	Wonogiri, Jawa	1.02	342	P	Pn	11 30 08.6	-0.2
WOJI				S	Sn	11 30 22.2	+0.1
UGM	Wanagama	1.15	322	P	Pn	11 30 10.4	-0.1
UGM				S	Sn	11 30 25.3	+0.1
YOGI	Yogyakarta	1.37	317	P	Pn	11 30 13.2	-0.3
YOGI				S	Sn	11 30 30.8	+0.2
NGJI	Ngawi	1.46	9	P	Pn	11 30 15.1	+0.4
NGJI				S	Sb	11 30 35.2	+0.1
SMRI	Semarang	1.93	336	P	Pn	11 30 20.7	-0.5
GMJI	Gumukmas	2.25	76	P	Pn	11 30 25.5	-0.1
GMJI				S	Sn	11 30 50.8	-1.5
GRJI	Gresik	2.26	33	P	Pn	11 30 26.6	+0.9
BLJI	Banyuglugur	2.56	66	P	Pn	11 30 29.8	-0.1
KPJI	Karang Pucung	2.72	303	P	Pn	11 30 34.0	+1.9
JAGI	Jajag, Banyuwa	2.90	83	P	Pn	11 30 34.2	-0.4
CMJI	Cimerak	2.95	290	P	Pn	11 30 36.1	+0.9
ABJI	Asem Bagus	3.13	71	P	Pn	11 30 37.0	-0.8
TWSI	Taliwang, Sumb	5.58	90	P	Pn	11 31 11.5	+0.1

*OSPL **10** 11:34:12.4±0.3, 18°.18N×70°.55W, h55km±6km, ML1.7*
*SDD **10** 11:34:13.5±1.5, 18°.23N×70°.54W, h31km±92km, MD3.2, ML2.1*
ISC 10 11:34:13.3±1.6, 18°.28N±0°.09×70°.61W±0°.05, h41km±39km, n7, σ0§64/13, 5C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABDR	Alto Bandera	0.53	358⇑	*e*Pg	Pn	11 34 24.5	-0.4
ABDR				⇓*e*Sg	Sn	11 34 32.8	-0.3
ABDR				IAML		11 34 35.8	
	comp=E,107nm,0.3s						
ABDR				IAML		11 34 36.9	
	comp=N,109nm,0.2s						
PODR	Polo	0.65	260⇑	*e*Pg	Pn	11 34 26.1	-0.2
PODR				⇑*e*Sg	Sn	11 34 36.6	+1.1
PODR				IAML		11 34 39.4	
	comp=N,58nm,0.2s						
PODR				IAML		11 34 41.6	
	comp=E,99nm,0.3s						
PODR	Polo	0.65	260	*i* P	Pn	11 34 26.1	-0.2
PODR				*e*S	Sn	11 34 35.9	+0.3
SDDR	Presa de Saban	0.95	318	*i* P	Pn	11 34 30.1	-0.1
SDDR				*e*S	Sn	11 34 43.4	+0.7
SDDR				IAML		11 34 49.4	
	comp=Z,15nm,0.8s						
LOPE2	Hotel El Peder	1.11	258	*i* P	Pn	11 34 31.3	-1.0
LOPE2				IAML		11 34 51.9	
	comp=Z,21nm,0.4s						
HATOM	Hato Mayor del	1.27	66⇓	*e*Pg	Pn	11 34 34.3	-0.3
HATOM				⇓*e*Sg	Sn	11 34 51.1	+0.7
HATOM				IAML		11 34 51.5	
	comp=N,35nm,0.5s						
HATOM				IAML		11 34 52.1	
	comp=E,29nm,0.2s						
MIDR	Miches	1.64	64⇑	*e*Pg	Pn	11 34 39.4	-0.2
MIDR				IAML		11 34 59.4	
	comp=N,18nm,1.9s						
MIDR				⇑*e*Sg	Sn	11 34 59.7	+0.3
MIDR				IAML		11 35 00.5	
	comp=E,16nm,0.5s						

*IDC **10** 11:42:13.5±1.0, 1°.14S×120°.66E, h0km, mb3.7/6, mbtmp3.7/7, ML3.9/1, MS2.7/2, Error ellipse: s-maj=61.2km s-min=16.9km az=61.0*
*DJA **10** 11:42:16.2±0.3, 1°S±3°×120°E±°, h10km, M4.1/9, MLv4.1/9*
ISC 10 11:42:18.9±0.8, 1°.20S±0°.05×120°.24E±0°.07, h35km, n14, σ1§88/18, mb3.6/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	1.56	347	P	Pn	11 42 43.5	-0.7
TTSI	Tana Toraja	1.89	193	P	Pn	11 42 48.2	-0.4
TTSI				S	Sn	11 43 13.8	+2.6
MRSI	Marisa	2.38	46	P	Pn	11 42 53.2	-2.2
MRSI				S	Sn	11 43 22.0	-1.3
LUWI	Luwuk	2.53	87	P	Pn	11 43 00.3	+2.8
LUWI				S	Sn	11 43 27.7	+0.5
GTOI	Gorontalo	3.31	57	P	Pn	11 43 08.9	+0.7
KAPI	Kappang	3.83	187	Pn	Pn	11 43 14.6	-0.7
	8.5nm,0.3s,baz=41,slow=3.3,SNR=25						
KAPI				Sn	Sn	11 43 59.9	+0.8
	6.5nm,0.3s,baz=0.0,slow=20,SNR=1.9						
KAPI				LR	LR	11 45 02.8	
	comp=Z,149nm,19.8s,baz=316,slow=43						
	21nm,0.4s						
BKSI	Bulukumba	4.10	182	P	Pn	11 43 17.1	-2.0
DAV	Davao City (W)	9.79	33	LR	LR	11 48 56.2	
	comp=Z,31nm,18.4s,baz=221,slow=42						
WRA	Warramunga Arr	23.18	144	P	P	11 47 19.2	-3.5
	1.1nm,0.8s,baz=311,slow=9.2,SNR=9.8						
	1.1nm,0.8s						
ASAR	Alice Springs	25.97	150	P	P	11 47 46.5	-1.9
	0.7nm,0.7s,baz=345,slow=15,SNR=11						
ASAR				PcP	PcP	11 51 17.4	+0.9
	0.3nm,0.8s,baz=347,slow=2.4,SNR=5.2						
	0.7nm,0.7s						
CMAR	Chiang Mai Arr	28.64	314	P	P	11 48 14.7	+2.3
	0.4nm,0.4s,baz=141,slow=7.5,SNR=5.3						
	0.4nm,0.4s						
STKA	Stephens Creek	36.57	149	P	P	11 49 20.5	-1.1
	1.2nm,0.6s,baz=320,slow=7.9,SNR=1.6						
	1.2nm,0.6s						
MKAR	Makanchi Array	58.23	330	P	P	11 52 11.4	+1.6
	1.5nm,0.9s,baz=139,slow=8.1,SNR=7.1						
	1.5nm,0.9s						
KURBB	Kurchatov Arra	62.65	331	P	P	11 52 39.6	-0.2
	0.5nm,0.5s,baz=139,slow=6.5,SNR=5.8						
	0.5nm,0.5s						

*IDC **10** 11:51:14.8±1.6, 58°.90N×151°.55W, h53km±29km, mb3.6/4, mbtmp3.8/8, ML3.6/4, MS3.1/2, Error ellipse: s-maj=40.9km s-min=12.9km az=130.0*
*NEIC **10** 11:51:14.3±1.0, 58°.85N±0°.04×151°.40W±0°.08, h37km±29km, Error ellipse: s-maj=6.9km s-min=3.9km az=129.0*
*AEIC **10** 11:51:14.8±1.0, 58°.86N±0°.04×151°.40W±0°.06, h47km±7km, ML3.3, ML3.5/120(NEIC), Error ellipse: s-maj=6.1km s-min=3.1km az=145.0*
ISC 10 11:51:14.0±0.9, 58°.86N±0°.04×151°.39W±0°.04, h49km±10km, n273, σ0§65/274, mb4.0/4, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYI	Shuyak Island	0.58	245		Pn	11 51 25.8	-0.3
SYI	Shuyak Island	0.58	245		Sn	11 51 33.9	-0.9
Q20K	Shuyak Island	0.58	245	P	Pn	11 51 25.8	-0.4
	baz=63						
Q20K				S	Sn	11 51 34.0	-0.8
	baz=63						
CNPM	China Poot	0.67	7		Pn	11 51 27.4	0.0
CNPM					Sn	11 51 36.9	-0.2
HOM	Homer	0.81	351		Pn	11 51 29.4	+0.3
HOM					Sn	11 51 39.9	-0.3
HOM	Homer	0.81	351	P	Pn	11 51 29.4	+0.3
	baz=171						
HOM				S	Sn	11 51 39.9	-0.3
	baz=171						
BRLK	Bradley Lake	0.94	16		Pn	11 51 30.9	-0.1
BRLK				IAML		11 51 44.0	
	comp=N,934nm,0.8s						
BRLK				IAML		11 51 45.9	
	comp=E,1μm,0.6s						
BRLK	Bradley Lake	0.94	16		Sn	11 51 43.4	0.0
BRSE	Bradley Lake S	0.95	20		Pn	11 51 31.2	+0.2
BRSE					Sn	11 51 44.2	+0.8
BRSE	Bradley Lake S	0.95	20	P	Pn	11 51 31.2	+0.2
	baz=201						
BRSE				S	Sn	11 51 44.4	+1.0
	baz=201						
AU22	Augustine Moun	1.14	298		Pn	11 51 33.6	+0.1
AU22					Sn	11 51 48.7	+0.7
AUQ	Augustine Qik'	1.16	296		Pn	11 51 34.0	+0.2
Q19K	Cape Douglas,	1.17	274	Pn	Pn	11 51 33.7	-0.3
Q19K	Cape Douglas,	1.17	274		Sn	11 51 49.3	+0.3
Q19K	Cape Douglas,	1.17	274	P	Pn	11 51 33.9	-0.1
	baz=92						
Q19K				S	Sn	11 51 49.6	+0.7
	baz=92						
AUCH	Augustine Cone	1.17	296		Pn	11 51 34.4	+0.3
AUCH					Sn	11 51 50.1	+1.0
AUL	Augustine Lava	1.18	297		Pn	11 51 34.6	+0.5
P19K	Oil Pt	1.24	311		Pn	11 51 35.1	+0.2
P19K	Oil Pt	1.24	311	P	Pn	11 51 35.0	+0.2
	baz=129						
KDAK	Kodiak Island	1.25	211	IAML		11 52 00.0	
	comp=E,564nm,0.7s						
KDAK	Kodiak Island	1.25	211	P	Pn	11 51 35.4	+0.3
	comp=E,87nm,0.3s,baz=58,slow=7.6,SNR=514						
KDAK				S	Sn	11 51 51.7	+1.0
	comp=E,196nm,0.5s,baz=279,slow=19,SNR=8.7						
O20K	Slope Mountain	1.38	333		Pn	11 51 37.2	+0.3
O20K					Sn	11 51 55.4	+1.4
O20K	Slope Mountain	1.38	333	P	Pn	11 51 37.3	+0.4
	baz=152						
O20K				S	Sn	11 51 55.4	+1.4
	baz=152						
IVE	Iliamna Volcan	1.43	325		Pn	11 51 37.3	-0.3
ILSW	Iliamna Southw	1.44	322		Pn	11 51 37.6	-0.2
ILSW				IAML		11 51 57.4	
	comp=N,563nm,0.7s						
ILSW				IAML		11 52 02.1	
	comp=E,696nm,0.5s						
KAPH	Katmai Pasha	1.56	262		Pn	11 51 40.2	+0.8
SEW	Seward	1.59	38		Pn	11 51 39.7	0.0
SEW	Seward	1.59	38	P	Pn	11 51 39.7	0.0
	baz=219						
KAHG	Katmai Hook Gl	1.69	259		Pn	11 51 41.4	+0.3
KAHG					Sn	11 52 01.0	-0.6
RED	Redoubt Volcan	1.71	336		Pn	11 51 41.2	-0.3
RDSO	Redoubt South	1.74	337		Pn	11 51 41.7	-0.3
RSO	Redoubt South	1.75	337		Pn	11 51 42.2	+0.1
SLKM	Skilak Lake	1.76	19		Pn	11 51 42.3	+0.3
RDWB	Redoubt West	1.79	336		Pn	11 51 42.3	-0.3
RDT	Redoubt	1.79	344		Pn	11 51 42.4	-0.2
RDT					Sn	11 52 04.3	+0.1
O22K	Cooper Landing	1.83	27		Pn	11 51 42.9	-0.1
O22K	Cooper Landing	1.83	27	P	Pn	11 51 43.2	+0.2
	baz=208						
DFR	Drift River	1.86	340		Pn	11 51 43.2	-0.3
NCT	North Crescent	1.88	336		Pn	11 51 43.8	0.0
RDJH	Redoubt Jeurge	1.88	338		Pn	11 51 43.8	0.0
RDJH					Sn	11 52 06.9	+0.6
KAHC	Katmai Hardscr	1.90	265		Pn	11 51 44.2	+0.2
KAHC	Katmai Hardscr	1.90	265		Pn	11 51 43.9	-0.2
KAHC	Katmai Hardscr	1.90	265	P	Pn	11 51 44.2	+0.2
	baz=82						
Q18K	Katmai Hardscr	1.90	265	P	Pn	11 51 43.9	-0.2
	baz=82						
CAPN	Captain Cook N	1.92	3		Pn	11 51 46.0	+1.8
CAPN	Captain Cook N	1.92	3	P	Pn	11 51 46.0	+1.8
	baz=184						
KAKN	Katmai Knife C	2.00	255		Pn	11 51 45.4	0.0
O19K	Port Alsworth	2.01	313		Pn	11 51 45.2	-0.2
O19K	Port Alsworth	2.01	313	P	Pn	11 51 45.3	0.0
	baz=131						
KABR	Katmai Barrier	2.02	250		Pn	11 51 45.6	0.0
P18K	Big Mountain,	2.05	287	Pn	Pn	11 51 45.7	-0.3
P18K				IAML		11 52 24.4	
	comp=N,317nm,0.6s						
KVTA	Katmai Vly 10	2.10	258		Pn	11 51 46.9	+0.2
ACHA	Angle Creek He	2.16	254		Pn	11 51 47.6	0.0
O18K	Koktuh Hills	2.19	299		Pn	11 51 47.4	-0.6
O18K	Koktuh Hills	2.19	299	IAML		11 52 28.0	
	comp=E,357nm,0.8s						
O18K	Koktuh Hills	2.19	299	P	Pn	11 51 47.5	-0.5
	baz=116						
N20K	Mount Spurr	2.38	350	P	Pn	11 51 51.1	+0.5
	baz=170						
N20K				S	Sn	11 52 19.0	+0.3
	baz=170						
SPCR	Spurr Chakacha	2.38	350		Pn	11 51 51.1	+0.5
SPCR					Sn	11 52 19.0	+0.3
RC01	Rabbit Creek A	2.39	20		Pn	11 51 50.7	+0.1
RC01				IAML		11 52 29.9	
	comp=E,174nm,0.9s						
RC01				IAML		11 52 38.9	
	comp=N,188nm,0.9s						
RC01	Rabbit Creek A	2.39	20	P	Pn	11 51 51.0	+0.4
	baz=201						
SPCN	Chakachatna No	2.41	351		Pn	11 51 51.4	+0.4
CNTC	Contact Creek	2.43	258		Pn	11 51 51.1	-0.1
Q17K	Contact Creek	2.43	258	P	Pn	11 51 51.1	-0.2
	baz=74						
SPCP	Crater Peak Br	2.44	351		Pn	11 51 52.4	+0.9
SPBG	Spurr Blockage	2.46	349		Pn	11 51 52.2	+0.5
SPCG	Spurr Capps Gl	2.46	353		Pn	11 51 52.4	+0.7
N19K	Bonanza Creek	2.51	323	Pn	Pn	11 51 52.0	-0.3
N19K				IAML		11 52 36.3	
	comp=E,148nm,0.8s						
N19K	Bonanza Creek	2.51	323	P	Pn	11 51 52.1	-0.3
	baz=140						
PWL	Port Wells	2.53	36		Pn	11 51 52.7	+0.1
PWL				IAML		11 52 36.1	
	comp=N,298nm,0.6s						
PWL				IAML		11 52 38.9	
	comp=E,252nm,0.7s						
PWL	Port Wells	2.53	36	P	Pn	11 51 52.9	+0.3
	baz=219						
SPNN	North Nagishla	2.60	346		Pn	11 51 54.4	+0.7
SUA	Susitna One	2.63	7		Pn	11 51 54.0	0.0
SUA				IAML		11 52 43.5	
	comp=N,120nm,1.2s						
SUA	Susitna One	2.63	7	P	Pn	11 51 54.5	+0.4
	baz=187						
STLK	Strandline Lak	2.66	355		Pn	11 51 55.1	+0.7
Q23K	Middleton Isla	2.66	75		Pn	11 51 54.6	+0.3
Q23K	Middleton Isla	2.66	75	IAML		11 52 22.2	
	comp=E,225nm,2.0s						
Q23K				IAML		11 53 03.8	
	comp=N,183nm,1.9s						
MID	Middleton Isla	2.67	75		Pn	11 51 54.6	+0.2
MID	Middleton Isla	2.67	75	IAML		11 52 22.2	
	comp=E,205nm,2.0s						
MID				IAML		11 52 50.4	
	comp=N,180nm,2.4s						
MID	Middleton Isla	2.67	75	P	Pn	11 51 56.2	+1.8
Q16K	King Salmon	2.75	268		Pn	11 51 55.5	0.0
Q16K	King Salmon	2.75	268	P	Pn	11 51 55.7	+0.2
	baz=84						
SII	Sitkinak Islan	2.75	214	Pn	Pn	11 51 54.7	-0.9
SII	Sitkinak Islan	2.75	214	P	Pn	11 51 55.3	-0.3
N18K	Kilae Creek	2.92	311		Pn	11 51 58.3	+0.4
N18K	Kilae Creek	2.92	311	IAML		11 52 50.6	
	comp=N,153nm,0.8s						
N18K				IAML		11 52 54.4	
	comp=E,144nm,0.8s						
N18K	Kilae Creek	2.92	311	P	Pn	11 51 58.3	+0.4
	baz=127						
HIN	Hinchinbrook I	2.92	56		Pn	11 51 57.9	-0.1
HIN				IAML		11 52 57.5	
	comp=N,189nm,0.9s						
HIN				IAML		11 52 57.7	
	comp=E,148nm,0.6s						
KNK	Knik Glacier	2.95	29		Pn	11 51 57.6	-0.8
KNK				IAML		11 52 49.2	
	comp=N,133nm,0.6s						
KNK				IAML		11 52 49.4	
	comp=E,179nm,0.8s						
KNK	Knik Glacier	2.95	29	P	Pn	11 51 58.4	+0.1
	baz=211						
PMR	Palmer	2.96	21		Pn	11 51 58.0	-0.5
PMR	Palmer	2.96	21	P	Pn	11 51 58.7	+0.2
PMR

baz=229
M22K Willow 2.97 12 Pn 11 51 58.8 +0.2
M22K Willow 2.97 12 P **Pn 11 51 58.8 +0.2**
baz=193
O17K Koliganek Bris 3.06 290 Pn 11 51 59.6 -0.3
O17K Koliganek Bris 3.06 290 P **Pn 11 51 59.1 -0.7**
baz=105
SVW2 Sparrevohn 3.08 319 Pn 11 51 59.3 -0.8
SVW2 Sparrevohn 3.08 319 IAML 11 52 53.1
comp=N,149nm,0.7s
SVW2 IAML 11 52 53.6
comp=E,183nm,1.1s
SVW2 Sparrevohn 3.08 319 P **Pn 11 51 59.9 -0.2**
FID Port Fidalgo 3.12 51 Pn 11 51 60.0 -0.7
FID IAML 11 52 55.6
comp=E,90nm,0.7s
FID IAML 11 52 59.1
comp=N,128nm,0.9s
SKT Skwentna 3.13 359 Pn 11 52 01.7 +0.9
SKT Skwentna 3.13 359 IAML 11 52 23.6
comp=N,83nm,0.6s
SKT IAML 11 52 55.8
comp=E,100nm,0.8s
SKT Skwentna 3.13 359 P **Pn 11 52 01.7 +0.9**
baz=179
M20K Styx River 3.15 345 Pn 11 52 01.4 +0.2
GHO Glory Hole Cre 3.17 22 Pn 11 52 01.4 0.0
GHO IAML 11 52 59.2
comp=N,144nm,0.7s
GHO IAML 11 53 05.8
comp=E,134nm,0.8s
EYAK Cordova Ski Ar 3.32 57 Pn 11 52 03.5 +0.1
EYAK Cordova Ski Ar 3.32 57 P **Pn 11 52 03.7 +0.3**
EYAK Cordova Ski Ar 3.32 57 P **Pn 11 52 03.5 +0.1**
baz=242
SML Sawmill 3.33 26 Pn 11 52 03.4 -0.2
SML IAML 11 53 03.7
comp=E,115nm,0.7s
SML IAML 11 53 13.8
comp=N,109nm,1.0s
SML Sawmill 3.33 26 P **Pn 11 52 04.0 +0.5**
baz=209
N17K Nushagak Hills 3.38 302 Pn 11 52 03.5 -0.7
M19K Big River Lodg 3.40 335 Pn 11 52 04.5 0.0
M19K Big River Lodg 3.40 335 P **Pn 11 52 04.5 0.0**
baz=153
M23K Glacier View 3.46 30 Pn 11 52 05.8 +0.4
M23K Glacier View 3.46 30 P **Pn 11 52 06.0 +0.7**
baz=213
O16K Kokwok River B 3.52 285 Pn 11 52 05.5 -0.6
CUT Chulitna 3.60 8 Pn 11 52 08.0 +0.8
CUT IAML 11 53 23.9
comp=E,127nm,0.9s
SCM Sheep Creek Mo 3.60 32 Pn 11 52 07.4 0.0
SCM IAML 11 48.2
comp=N,78nm,0.7s
SCM IAML 11 52 50.4
comp=E,101nm,0.5s
SCM Sheep Creek Mo 3.60 32 P **Pn 11 52 07.9 +0.6**
baz=216
DIV Divide 3.63 49 Pn 11 52 08.0 +0.3
KAIM Kayak Island 3.72 70 Pn 11 52 10.1 +1.2
KAIM Kayak Island 3.72 70 IAML 11 54 25.1
comp=N,109nm,2.7s
RAGM Ragged Mountai 3.74 63 Pn 11 52 09.6 +0.5
RAGM Ragged Mountai 3.74 63 IAML 11 52 59.1
comp=N,112nm,1.6s
RAGM IAML 11 53 02.0
comp=E,49nm,0.7s
L19K White Mountain 3.75 334 Pn **Pn 11 52 09.3 0.0**
L19K IAML 11 53 20.3
comp=E,59nm,0.9s
L19K White Mountain 3.75 334 P **Pn 11 52 09.3 0.0**
baz=151
GOAT Goat Mountain 3.79 60 Pn 11 52 10.3 +0.4
KLU Klutina 3.80 44 Pn 11 52 09.9 -0.1
KLU Klutina 3.80 44 P **Pn 11 52 10.6 +0.6**
baz=228
CHIR Chirikof Islan 3.81 219 Pn 11 52 09.4 -0.8
HMT Hamilton 3.92 65 Pn 11 52 12.0 +0.5
HMT Hamilton 3.92 65 IAML 11 53 01.1
comp=E,78nm,0.9s
HMT IAML 11 54 01.3
comp=N,47nm,2.0s
M17K Holitna River 3.96 313 Pn 11 52 12.1 0.0
M17K Holitna River 3.96 313 P **Pn 11 52 12.1 0.0**
baz=128
BMRM Bremner River 4.02 55 Pn 11 52 13.1 +0.1
BMRM Bremner River 4.02 55 P **Pn 11 52 13.1 +0.1**
baz=241
NICHA Nichawak Mount 4.02 67 Pn 11 52 13.6 +0.6
SUCK Suckling Hills 4.07 69 Pn **Pn 11 52 14.9 +1.2**
SUCK IAML 11 54 38.9
comp=N,61nm,3.6s
SUCK IAML 11 55 00.1
comp=E,74nm,2.9s
N16K Nishlik Lake 4.08 297 Pn 11 52 13.9 +0.1
N16K Nishlik Lake 4.08 297 P **Pn 11 52 13.9 +0.1**
baz=110
WAT6 Susitna Watana 4.14 24 Pn 11 52 15.2 +0.4
WAT6 Susitna Watana 4.14 24 P **Pn 11 52 15.2 +0.4**
baz=207
M24K Tolsona, Glenn 4.16 36 Pn 11 52 15.6 +0.7
M24K IAML 11 53 40.1
comp=N,83nm,1.3s
M24K Tolsona, Glenn 4.16 36 P **Pn 11 52 15.9 +1.0**
baz=221
WAT7 Susitna Watana 4.18 16 Pn 11 52 15.8 +0.6
BERG Berg Lake 4.20 65 Pn 11 52 16.0 +0.6
BERG IAML 11 52 48.5
comp=N,58nm,0.7s
WAT1 Susitna Watana 4.22 18 Pn 11 52 16.4 +0.7
WAT1 Susitna Watana 4.22 18 P **Pn 11 52 16.4 +0.7**
baz=201
L18K Granite Mounta 4.27 324 Pn 11 52 16.1 -0.2
L18K Granite Mounta 4.27 324 P **Pn 11 52 16.1 -0.2**
baz=140
N25K Chitina, Valde 4.37 48 Pn 11 52 17.9 +0.1
N25K Chitina, Valde 4.37 48 P **Pn 11 52 18.4 +0.6**
baz=234
O15K Ungalikthiuk R 4.37 278 Pn 11 52 18.7 +0.9
M16K Timber Creek 4.38 303 Pn 11 52 18.1 +0.1
M16K Timber Creek 4.38 303 P **Pn 11 52 18.1 +0.1**
baz=116
SNH Sunshine Point 4.55 69 Pn 11 52 20.9 +0.6
CHGN Chignik 4.57 239 Pn 11 52 20.2 -0.3
CHGN Chignik 4.57 239 IAML 11 53 21.9
comp=E,37nm,1.8s
CRQM Cirque 4.58 62 Pn 11 52 20.9 +0.1
CRQM IAML 11 53 57.3
comp=E,27nm,0.1s
CRQM IAML 11 54 34.1
comp=N,36nm,2.7s
CAST Castle Rocks 4.59 356 Pn **Pn 11 52 22.1 +1.4**
GLB Gilahina Butte 4.59 52 Pn **Pn 11 52 21.1 +0.3**
CRQE Cirque 4.60 62 P **Pn 11 52 21.3 +0.3**
baz=249
N15K Kwethluk River 4.62 290 Pn 11 52 21.6 +0.4
VRDI Verde Repeater 4.63 56 Pn **Pn 11 52 21.4 -0.2**
TRF Thorofare Moun 4.64 6 Pn 11 52 22.0 +0.4
TRF Thorofare Moun 4.64 6 IAML 11 53 31.0
comp=N,32nm,0.7s
TRF IAML 11 53 48.4
comp=E,37nm,1.0s
TRF Thorofare Moun 4.64 6 P **Pn 11 52 22.0 +0.4**
baz=187
DHY Denali Highway 4.66 23 Pn 11 52 22.7 +0.8
DHY IAML 11 53 17.9
comp=E,30nm,0.8s
DHY IAML 11 53 39.9
comp=N,28nm,1.6s
DHY Denali Highway 4.66 23 P **Pn 11 52 22.7 +0.8**
baz=207
HARP HAARP 4.69 38 Pn 11 52 23.3 +1.1
HARP HAARP 4.69 38 P **Pn 11 52 23.1 +0.9**
baz=224
K20K Telida 4.70 345 Pn 11 52 22.3 +0.1
WACK Wrangell Chich 4.70 45 Pn 11 52 23.3 +0.8
TGL Tana Glacier 4.72 63 Pn 11 52 23.1 +0.4
RND Reindeer 4.72 14 Pn 11 52 23.4 +0.7
L17K Donlin 4.74 317 Pn 11 52 22.6 -0.2
L17K Donlin 4.74 317 P **Pn 11 52 23.1 +0.3**
baz=131
BARK Barkley Ridge 4.78 67 Pn 11 52 23.9 +0.5
MCARA McCarthy VSAT 4.89 55 Pn 11 52 25.0 +0.1
MCARA McCarthy VSAT 4.89 55 IAML 11 53 24.8
comp=E,35nm,0.8s
MCARA IAML 11 53 41.5
comp=N,31nm,0.8s
MCARA McCarthy VSAT 4.89 55 P **Pn 11 52 25.0 +0.1**
baz=243
MESA MESA 4.99 71 Pn 11 52 27.1 +0.6
MESA MESA 4.99 71 P **Pn 11 52 27.0 +0.6**
baz=259
MCK McKinley 5.03 13 Pn 11 52 28.1 +1.3
MCK McKinley 5.03 13 P **Pn 11 52 28.1 +1.3**
baz=195
PAX Paxson 5.03 32 Pn 11 52 27.9 +1.0
PAX Paxson 5.03 32 P **Pn 11 52 27.9 +1.0**
baz=218
PTPK Patty Peak 5.05 59 Pn 11 52 27.7 +0.4
O14K Tigyukauivet M 5.11 279 Pn 11 52 28.5 +0.5
K17K Iditarod 5.14 322 Pn 11 52 28.4 +0.1
K17K Iditarod 5.14 322 P **Pn 11 52 28.4 +0.1**
baz=136
GRNC Granite Creek 5.22 65 Pn 11 52 30.4 +0.8
GRNC Granite Creek 5.22 65 IAML 11 53 32.3
comp=N,25nm,0.6s
GRNC IAML 11 53 41.0
comp=E,19nm,2.5s
BARN Barnard Glacie 5.36 62 Pn 11 52 32.1 +0.6
BARN Barnard Glacie 5.36 62 IAML 11 54 07.1
comp=N,16nm,4.7s
M26K Nabesna, AK 5.45 46 Pn 11 52 33.2 +0.6
CTGM Chitina Glacie 5.48 63 Pn 11 52 33.8 +0.6
J20K Nowinta River 5.50 347 Pn 11 52 33.2 0.0
J20K Nowinta River 5.50 347 P **Pn 11 52 33.2 0.0**
baz=165
J19K Poorman 5.54 340 Pn 11 52 33.9 +0.1
J19K Poorman 5.54 340 P **Pn 11 52 33.9 +0.1**
baz=157
MENT Mentasta 5.54 39 Pn 11 52 34.5 +0.6
LOGN Logan Glacier 5.60 65 Pn 11 52 35.5 +0.7
L26K Log Cabin Wild 5.73 40 Pn 11 52 36.8 +0.4
M27K Edge Creek, AK 5.85 49 Pn 11 52 38.7 +0.5
NEA2 Nenana 5.86 10 Pn 11 52 36.8 -1.4
HDA Harding Lake 5.96 19 Pn 11 52 40.0 +0.5
CCB Clear Creek Bu 6.05 15 Pn 11 52 40.7 0.0
BCPM Bancas Point 6.10 75 Pn 11 52 42.1 +0.6
MLY Manley 6.20 3 Pn 11 52 43.6 +0.7
PNL Peninsula 6.21 77 P **Pn 11 52 43.6 +0.7**
SCRK Sand Creek 6.24 32 Pn **Pn 11 52 43.8 +0.3**
COLA College 6.26 14 Pn 11 52 43.8 +0.2
COLA College 6.26 14 P **Pn 11 52 44.2 +0.5**
L27K Beaver Creek, 6.28 44 Pn **Pn 11 52 44.8 +0.8**
J16K Anvik River 6.29 319 Pn 11 52 44.0 -0.1
J16K Anvik River 6.29 319 P **Pn 11 52 44.4 +0.2**
baz=131
BCAR Beaver Creek A 6.30 44 Pn **Pn 11 52 44.8 +0.6**
MDM Murphy Dome 6.30 12 Pn 11 52 44.4 +0.2
IL31 6.30 18 Pn 11 52 44.5 +0.2
ILAR Eielson Array 6.30 18 P **Pn 11 52 44.2 0.0**
comp=N,1.4nm,0.3s,baz=203,slow=14,SNR=81
ILAR S **Sn 11 53 51.2 -3.6**
comp=N,1.4nm,0.3s,baz=231,slow=4.4,SNR=5.5
comp=N,3.4nm,0.4s
I21K Tanana 6.35 358 Pn 11 52 45.5 +0.6
I23K Minto, Yukon-K 6.38 8 Pn 11 52 45.5 +0.2
J25K Salcha River, 6.44 24 Pn 11 52 46.4 +0.2
J25K Salcha River, 6.44 24 P **Pn 11 52 46.4 +0.2**
baz=209
POKR Poker Plat Res 6.55 15 Pn 11 52 48.5 +0.8
O29M Mount Kennedy 6.67 72 Pn 11 52 51.2 +1.8
J26L Joseph Creek 6.77 30 Pn 11 52 50.9 +0.2
J26L Joseph Creek 6.77 30 P **Pn 11 52 51.1 +0.3**
baz=217
K27K Chicken 6.84 37 Pn **Pn 11 52 52.6 +1.1**
H21K Melozitna Rive 6.86 355 Pn 11 52 51.7 -0.1
H21K Melozitna Rive 6.86 355 P **Pn 11 52 51.7 -0.1**
baz=174
P29M Windy Craggy 7.05 78 Pn 11 52 55.1 +0.6
H24K Noodor Dome 7.19 12 Pn **Pn 11 52 57.4 +1.0**
IMAR Indian Mountai 7.23 352 Pn **Pn 11 52 57.4 +0.4**
HYT Haines Junctio 7.27 68 Pn 11 52 58.6 +1.0
M29M Somme Creek 7.30 55 Pn **Pn 11 52 59.1 +1.1**
I26K Coal Creek Min 7.53 27 Pn 11 53 01.9 +0.9
N30M Aishikik Lake 7.59 64 Pn **Pn 11 53 03.0 +1.0**
DAWY Dawson 7.76 43 Pn **Pn 11 53 05.6 +1.4**
O30N Mendenhall 7.95 70 Pn **Pn 11 53 07.6 +0.8**
M30M Minto, Yukon 8.06 56 Pn **Pn 11 53 08.6 +0.2**
N31M Braeburn, Yuko 8.21 65 Pn **Pn 11 53 10.9 +0.4**
FYU Fort Yukon 8.23 17 Pn 11 53 11.5 +0.9
SKAG Skagway 8.28 79 Pn **Pn 11 53 11.9 +0.7**
SKAG Skagway 8.28 79 P **Pn 11 53 12.6 +1.3**
K29M Barlow Dome 8.32 47 Pn **Pn 11 53 12.1 +0.1**
I28M Miner Creek 8.50 34 Pn **Pn 11 53 15.2 +0.8**
WHY Whitehorse 8.53 71 Pn **Pn 11 53 15.8 +1.0**
SIT Sitka 8.73 95 P **Pn 11 53 18.0 +0.5**
BMAR Burnt Mountain 9.13 17 Pn **Pn 11 53 22.5 -0.5**
J30M Hart River 9.15 45 Pn **Pn 11 53 24.5 +1.2**
FARO Faro, Yukon 9.50 62 Pn **Pn 11 53 28.7 +0.6**
P33M Teslin, Yukon 9.53 74 Pn **Pn 11 53 28.6 +0.2**
UNV Unalaska Valle 9.77 246 P **Pn 11 53 31.0 -0.7**
TOLK Toolik Lake Re 9.85 4 Pn **Pn 11 53 33.5 +0.6**
Q32M Nakina River 9.89 81 Pn **Pn 11 53 33.8 +0.3**
U33K Whale Pass 10.21 98 Pn **Pn 11 53 36.2 -1.4**
R33M Jennings River 10.51 78 Pn **Pn 11 53 42.4 +0.6**
MMPY Sheldon Lake, 10.53 61 Pn **Pn 11 53 42.4 +0.2**
DLBC Dease Lake 11.13 83 Pn **Pn 11 53 51.0 +0.6**
DLBC Dease Lake 11.13 83 P **Pn 11 53 51.5 +1.2**
comp=N,0.4nm,0.3s,baz=273,slow=4.4,SNR=8.3
comp=N,1.9nm,0.5s
INK Inuvik 12.31 32 P **Pn 11 54 07.6 +1.3**
baz=340,slow=22,SNR=2.4
comp=N,2.6nm,1.1s
ATKA Atka Island 14.48 253 P **Pn 11 54 35.8 0.0**
YKA Yellowknife Ar 18.21 63 P **Pn 11 55 24.4 +1.6**
comp=N,0.4nm,0.3s,baz=274,slow=10.0,SNR=6.6
comp=N,1.1nm,0.6s
SHEM Shemya Is, Ala 20.18 267 LR LR 12 04 34.0
comp=N,26nm,18.2s,baz=238,slow=40
ANMO Albuquerque 37.87 109 LR LR 12 13 02.3
comp=N,41nm,18.9s,baz=122,slow=34
SONM Songino Array 56.13 308 P **P 12 00 48.3 0.0**
comp=N,0.8nm,0.5s,baz=50,slow=6.8,SNR=4.3
comp=N,0.8nm,0.5s
ZALV Zalesovo Beam 58.78 325 P **P 12 01 07.3 +0.7**
comp=N,0.4nm,0.4s,baz=43,slow=6.5,SNR=2.6
comp=N,0.4nm,0.4s
BVAR Borovoye Array 63.46 333 P **P 12 01 37.7 -0.7**
comp=N,1.0nm,0.5s,baz=22,slow=9.4,SNR=5.4
comp=N,1.0nm,0.5s
MKAR Makanchi Array 65.84 323 P **P 12 01 53.1 -0.8**
comp=N,0.4nm,0.5s,baz=38,slow=6.8,SNR=5.4
comp=N,0.4nm,0.5s

*IDC **10** 12:06:25.8±1.1, 4°.84S×150°.25E, h616km±17km, mb2.8/8, mbtmp3.7/9, Error ellipse: s-maj=47.8km s-min=18.4km az=126.0*

ISC 10 12:06:25.9±1.1, 4°.6S±0°.1×150°.1E±0°.2, h600km, n11, σ0.9 94/12, mb3.2/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.96**	**81**	P		**P**	**12 07 41.0**	**+1.0**
	24nm,0.4s,baz=307,slow=23,SNR=16							
PMG	**Port Moresby**	**5.57**	**211**	P		**P**	**12 08 04.4**	**+1.0**
	3.4nm,0.3s,baz=30,slow=17,SNR=1.3							
PMG				S		**S**	**12 09 23.1**	**+0.1**
	14nm,0.8s,baz=94,slow=19,SNR=2.2							
WRA	**Warramunga Arr**	**21.61**	**224**	P		**P**	**12 10 33.2**	**-1.0**
	0.4nm,0.7s,baz=47,slow=9.2,SNR=8.8							
	0.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**55.36**	**296**	P		**P**	**12 15 05.3**	**+0.4**
	0.5nm,0.4s,baz=134,slow=5.2,SNR=2.1							
	0.5nm,0.4s							
PETK	**Petropavlovsk-**	**57.87**	**5**	P		**P**	**12 15 22.1**	**+0.7**
	2.9nm,1.0s,baz=140,slow=5.4,SNR=2.7							
	2.9nm,1.0s							
SONM	**Songino Array**	**64.76**	**329**	P		**P**	**12 16 07.2**	**+0.7**
	0.6nm,0.5s,baz=154,slow=4.2,SNR=5.4							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**78.42**	**320**	P		**P**	**12 17 26.0**	**+0.2**
	0.3nm,0.5s,baz=115,slow=6.5,SNR=3.9							
	0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**79.52**	**327**	P		**P**	**12 17 30.3**	**-1.0**
	0.5nm,0.4s,baz=111,slow=7.9,SNR=2.0							
	0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**82.00**	**322**	P		**P**	**12 17 43.9**	**-0.2**
	0.5nm,0.7s,baz=108,slow=3.4,SNR=6.0							
	0.5nm,0.7s							
ILAR	**Eielson Array**	**83.03**	**23**	P		**P**	**12 17 47.9**	**-1.1**
	0.4nm,0.7s,baz=248,slow=4.7,SNR=7.2							
	0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**147.67**	**287**	PKPbc		**PKPbc**	**12 25 03.7**	**-1.3**
	0.5nm,0.5s,baz=94,slow=2.9,SNR=4.7							

*RSPR **10** 12:07:50.6±1.6, 19°.05N±0°.04×66°.74W±0°.05, h5km±4km, Error ellipse: s-maj=6.4km s-min=6.3km az=115.0*

NEIC 10 12:07:47.8±0.4, 19°.07N±0°.05×66°.67W±0°.05, h5km±12km, ML3.5/6, Md3.1/5(RSPR), Error ellipse: s-maj=7.7km s-min=5.9km az=208.0, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRSN	**Puerto Rico Se**	**0.96**	**208**			Pg	12 08 06.1	-0.1
PRSN						Sg	12 08 19.1	+0.4
SJG	**San Juan**	**1.07**	**153**	Pg		Pg	12 08 08.4	0.0
SJG	**San Juan**	**1.07**	**153**	IAML			12 08 33.0	
	426nm,0.3s							
PCDR	**Punta Cana, DR**	**1.71**	**251**			Pn	12 08 18.1	-0.2
SDDR	**Presa de Saban**	**4.37**	**270**			Pn	12 08 54.7	-0.2
SDDR				IAML			12 10 14.6	
	80nm,0.9s							
BAUV	**El Baul**	**10.15**	**188**			Pn	12 10 14.0	-0.3

*IDC **10** 12:19:21.6±3.5, 23°.77S×177°.16W, h96km±31km, mb3.5/9, mbtmp3.9/11, Error ellipse: s-maj=29.2km s-min=17.7km az=135.0*

*NEIC **10** 12:19:24.9±1.3, 23°.97S±0°.07×176°.8W±0°.1, h133km±7km, mb4.6/10, Error ellipse: s-maj=20.6km s-min=7.9km az=112.0*

ISC 10 12:19:23.5±0.5, 23°.99S±0°.09×176°.86W±0°.08, h120km, n41, σ1.29/38, mb3.9/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.83**	**322**	Pn		**Pn**	**12 21 17.0**	**+2.1**
MSVF	**Nonsavu**	**7.83**	**322**	P		Pn	12 21 19.3	+4.4
	9.1nm,0.8s,baz=141,slow=13,SNR=5.8							
NIUE	**Niue**	**8.09**	**54**	Pn		**Pn**	**12 21 19.6**	**+1.3**
AFI	**Afiamalu**	**11.11**	**27**	Pn		**Pn**	**12 21 58.0**	**-1.1**
AFI	**Afiamalu**	**11.11**	**27**	P		**Pn**	**12 21 56.7**	**-2.4**
	18nm,0.5s,baz=277,slow=17,SNR=12							
AFI				S		Sn	12 23 49.6	-12
	7.4nm,0.3s,baz=168,slow=19,SNR=1.9							
PINNC	**Pines Island,**	**14.49**	**272**			**P**	**12 22 47.4**	**+1.3**
URZ	**Urewera**	**15.13**	**198**	P		**Pn**	**12 22 50.5**	**-0.4**
	8.5nm,0.9s,baz=42,slow=19,SNR=1.4							
URZ				S		Sn	12 25 25.1	-13
	2.0nm,0.3s,baz=108,slow=20,SNR=0.9							
DZM	**Mont Dzumac**	**15.49**	**274**	P		**P**	**12 23 01.3**	**+3.8**
	2.9nm,0.6s,baz=78,slow=20,SNR=1.5							
RAR	**Rarotonga**	**16.02**	**83**	P		P	12 23 12.4	+9.2
	4.7nm,0.3s,baz=305,slow=22,SNR=1.1							
RAR				S		**Sn**	**12 25 59.6**	**-0.3**
	22nm,0.9s,baz=328,slow=17,SNR=2.1							
CTAO	**Charters Tower**	**34.35**	**269**	P		**P**	**12 25 59.3**	**+0.2**
CTAO				IAmb		IAmb	12 26 00.1	
	comp=Z,12nm,1.1s							
STKA	**Stephens Creek**	**37.36**	**248**	P		**P**	**12 26 23.6**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=18,slow=6.4,SNR=1.1							
	comp=Z,0.7nm,0.4s							
BBOO	**Buckleboo**	**42.05**	**247**	P		**P**	**12 27 02.9**	**-0.6**
BBOO				IAmb		IAmb	12 27 08.8	
	comp=Z,16nm,1.4s							
ASAR	**Alice Springs**	**44.85**	**260**	P		**P**	**12 27 24.9**	**-1.2**
	comp=Z,1.0nm,1.0s,baz=95,slow=7.3,SNR=9.8							
ASAR				PcP		**PcP**	**12 29 05.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=94,slow=4.6,SNR=2.1							
	comp=Z,1.0nm,1.0s							
WRA	**Warramunga Arr**	**45.27**	**265**	P		**P**	**12 27 27.4**	**-2.0**
	comp=Z,0.7nm,0.5s,baz=90,slow=6.2,SNR=18							
WRA				PcP		**PcP**	**12 29 07.2**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=96,slow=3.3,SNR=1.6							
	comp=Z,0.7nm,0.5s							
FORT	**Forrest**	**48.97**	**249**	P		**P**	**12 27 57.5**	**-0.5**
FORT				IAmb		IAmb	12 28 03.3	
	comp=Z,37nm,1.2s							
KNRA	**Kununurra**	**51.56**	**269**	P		**P**	**12 28 16.2**	**-1.4**
KNRA				IAmb		IAmb	12 28 21.1	
	comp=Z,30nm,1.5s							
CASY	**Casey**	**61.30**	**206**	P		**P**	**12 29 26.0**	**+0.1**
CASY				IAmb		IAmb	12 29 43.3	
	comp=Z,7.3nm,1.5s							
QSPA	**South Pole Qui**	**66.10**	**180**	P		**P**	**12 29 57.6**	**0.0**
QSPA				IAmb		IAmb	12 30 17.1	
	comp=Z,4.1nm,1.2s							
QSPA	**South Pole Qui**	**66.10**	**180**	P		**P**	**12 29 59.6**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=90,slow=3.0,SNR=6.4							
	comp=Z,0.5nm,0.6s							
ADK	**Adak**	**75.54**	**0**	P		**P**	**12 30 54.2**	**-0.2**
MAW	**Mawson**	**78.66**	**200**	P		**P**	**12 31 11.9**	**0.0**
MAW	**Mawson**	**78.66**	**200**	P		**P**	**12 31 13.9**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=64,slow=9.8,SNR=1.6							
	comp=Z,0.7nm,0.6s							
NVAR	**Mina Array Bea**	**82.84**	**42**	P		**P**	**12 31 36.2**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=224,slow=7.5,SNR=3.7							
	comp=Z,0.4nm,0.7s							
H03S2	**Juan Fernandez**	**83.17**	**124**	T		T	14 03 59.8	
	baz=245,slow=75,SNR=9.5							
H03S1	**Juan Fernandez**	**83.18**	**124**	T		T	14 04 00.9	
	baz=245,slow=75,SNR=8.1							
H03S3	**Juan Fernandez**	**83.19**	**124**	T		T	14 03 59.7	
	baz=245,slow=75,SNR=9.2							
SNAA	**Sanae**	**84.51**	**178**	P		**P**	**12 31 42.0**	**-0.8**
SUA	**Susitna One**	**87.72**	**12**	P		**P**	**12 31 58.4**	**0.0**
PDAR	**Pinedale Array**	**90.78**	**43**	P		**P**	**12 32 14.4**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=187,slow=0.7,SNR=4.0							
	comp=Z,0.3nm,0.7s							
ILAR	**Eielson Array**	**91.47**	**12**	P		**P**	**12 32 15.9**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=215,slow=5.0,SNR=6.1							
	comp=Z,0.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**92.26**	**289**	P		**P**	**12 32 19.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=116,slow=2.1,SNR=1.3							
	comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**117.30**	**316**	PKP		**PKPdf**	**12 37 53.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=89,slow=1.7,SNR=2.4							
BVAR	**Borovoye Array**	**122.40**	**319**	PKP		**PKPdf**	**12 38 03.2**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=129,slow=4.5,SNR=2.7							
ARCES	**ARCESS Array B**	**132.52**	**350**	PKP		**PKPdf**	**12 38 22.9**	**-0.2**
	comp=Z,4.5nm,1.1s,baz=72,slow=7.8,SNR=4.7							
FINES	**FINESS Array B**	**139.40**	**343**	PKP		**PKPdf**	**12 38 35.5**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=93,slow=3.1,SNR=3.8							
NOA	**NORSAR Array B**	**142.55**	**354**	PKP		**PKPdf**	**12 38 40.0**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=19,slow=2.7,SNR=2.0							
HFS	**Hagfors**	**143.13**	**351**	PKP		PKPbc	12 38 40.6	+0.6
	comp=Z,1.3nm,0.4s,baz=42,slow=4.5,SNR=8.1							
AKASG	**Malin Array Be**	**146.55**	**330**	PKPbc		**PKPdf**	**12 38 49.7**	**+0.7**
	comp=Z,3.3nm,0.4s,baz=42,slow=4.2,SNR=20							
AKBB	**Malin Array Si**	**146.55**	**330**			**PKPbc**	**12 38 49.8**	**-0.9**
EKA	**Eskdalemuir Ar**	**148.34**	**7**	PKPbc		**PKPbc**	**12 38 55.8**	**+0.4**
	comp=Z,7.3nm,1.2s,baz=347,slow=3.4,SNR=3.6							
MMAI	**Mount Meron Ar**	**150.35**	**295**	PKPbc		**PKiKP**	**12 39 01.7**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=98,slow=7.4,SNR=2.7							

*SOME **10** 12:27:00.6, 43°.93N×87°.00E, h5km*

*NNC **10** 12:27:03.5±1.2, 43°.98N×86°.93E, h16km±6km, mb3.6, mpv3.6, Error ellipse: s-maj=8.6km s-min=5.2km az=118.0*

ISC 10 12:27:08.4±5.0, 44°.1N±0°.2×86°.3E±0°.3, h10km, n23, σ1.38/21, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.49**	**344**	Pg		**Pg**	**12 28 14.1**	**-1.1**
	8.8nm,0.4s							
ZSN				Lg		Lg	12 29 07.3	
	14nm,0.6s							
ZSN	**Zaisan**	**3.49**	**344**	*e*Pg		**Pg**	**12 28 14.1**	**-1.1**
	8.8nm,0.4s							
ZSN				*e*Lg		Lg	12 29 07.3	
	14nm,0.6s							
MK31	**Makanchi Array**	**3.89**	**315**	⇑Pn		**Pn**	**12 28 08.9**	**+0.6**
	0.3nm,0.3s,baz=129,slow=14,SNR=8.0							
MK31				⇑Lg		Lg	12 29 20.4	
	3.7nm,0.6s,baz=131,slow=27,SNR=4.7							
MAKZ	**Makanchi**	**4.06**	**313**	⇓Pn		**Pn**	**12 28 10.2**	**-0.5**
	1.1nm,0.5s							
MAKZ				⇓Lg		Lg	12 29 27.2	
	6.6nm,0.8s							
KTMS	**Ketmen**	**4.36**	**263**	Pg		**Pg**	**12 28 31.3**	**-0.4**
	1.2nm,0.3s							

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KTMS				Lg		Lg	12 29 36.8	
	4.8nm,0.4s							
KTMS	**Ketmen**	**4.36**	**263**	*e*Pg		**Pg**	**12 28 31.4**	**-0.4**
	1.2nm,0.3s							
KTMS				*e*Lg		Lg	12 29 36.8	
	4.8nm,0.4s							
DJR	**Jarkent**	**4.68**	**275**	Pg		**Pg**	**12 28 36.6**	**-1.4**
	1.9nm,0.1s							
DJR				Lg		Lg	12 29 45.7	
	6.4nm,1.4s							
DJR	**Jarkent**	**4.68**	**275**	*e*Pg		**Pg**	**12 28 36.6**	**-1.4**
	1.9nm,0.1s							
DJR				*e*Lg		Lg	12 29 45.7	
	6.4nm,1.4s							
PDGK	**Podgornoye**	**4.99**	**263**	Pg		**Pg**	**12 28 41.8**	**-2.2**
	0.8nm,0.5s							
PDGK				Lg		Lg	12 29 54.7	
	3.9nm,0.3s							
PDGK	**Podgornoye**	**4.99**	**263**	⇊Lg		Lg	12 29 54.9	
	8.8nm,0.7s							
SHLS	**Shalkode**	**5.05**	**262**	Pg		**Pb**	**12 28 38.5**	**+1.6**
	3.8nm,0.2s							
SHLS				Lg		Lg	12 29 49.0	
	19nm,0.5s							
SHLS	**Shalkode**	**5.05**	**262**	*e*Pg		**Pb**	**12 28 38.5**	**+1.6**
	3.8nm,0.2s							
SHLS				*e*Lg		Lg	12 29 49.0	
	19nm,0.5s							
KNOS	**Konyrlen**	**5.12**	**275**	Pg		**Pg**	**12 28 44.9**	**-1.5**
	2.4nm,0.3s							
KNOS				Lg		Lg	12 30 00.1	
	7.4nm,0.9s							
UZB	**Uzynbulak**	**5.37**	**262**	Pg		**Pg**	**12 28 49.6**	**-1.5**
	2.2nm,0.1s							
UZB				Lg		Lg	12 30 07.9	
	5.4nm,0.6s							
UZB	**Uzynbulak**	**5.37**	**262**	*e*Pg		**Pg**	**12 28 49.6**	**-1.5**
	2.2nm,0.1s							
UZB				*e*Lg		Lg	12 30 07.9	
	5.4nm,0.6s							
KPKS	**Kokpek**	**5.55**	**266**	Pg		**Pg**	**12 28 53.1**	**-1.5**
	1.2nm,0.1s							
KPKS				Lg		Lg	12 30 14.1	
	6.9nm,0.6s							
KPKS	**Kokpek**	**5.55**	**266**	*e*Pg		**Pg**	**12 28 53.1**	**-1.5**
	1.2nm,0.1s							
KPKS				*e*Lg		Lg	12 30 14.1	
	6.9nm,0.6s							
BLB	**Baldybastay**	**5.63**	**273**	Pg		**Pg**	**12 28 55.2**	**-1.0**
	3.6nm,0.4s							
BLB				Lg		Lg	12 30 17.5	
	3.6nm,0.3s							
TDK	**Taldyqorghan**	**5.71**	**282**	Pg		**Pg**	**12 28 57.5**	**-0.2**
	84nm,0.1s							
TDK				Lg		Lg	12 30 21.5	
	25nm,0.3s							
TDK	**Taldyqorghan**	**5.71**	**282**	*e*Pg		**Pg**	**12 28 57.5**	**-0.2**
	84nm,0.1s							
TDK				*e*Lg		Lg	12 30 21.5	
	25nm,0.3s							
KTBS	**Karatobe**	**6.96**	**270**	Pg		**Pg**	**12 29 20.2**	**-1.3**
	0.6nm,0.4s							
KTBS				Lg		Lg	12 31 00.5	
	4.7nm,0.3s							
KTBS	**Karatobe**	**6.96**	**270**	*e*Pg		**Pg**	**12 29 20.2**	**-1.3**
	0.6nm,0.4s							
KTBS				*e*Lg		Lg	12 31 00.5	
	4.7nm,0.3s							
KURBB	**Kurchatov Arra**	**8.38**	**324**	⇊Lg		Lg	12 31 41.4	
	7.4nm,0.7s							

TAP ***10*** *12:45:01.1,24.°76N×122.°86E,h133km±1km,ML3.3,D*
JMA ***10*** *12:45:01.3±0.2,25.°N±2.°×122.°9E±0.°5,h130km±1km,*
MV2.5/17,NW OFF ISHIGAKIJIMA IS
ISC 10 12:45:01.5±1.4,**24.°75N**±0.°05×**122.°86E**±0.°03,**h129**km±8km,
n89,σ0°**64**/151,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.30**	**166**	P		**Pn**	**12 45 19.6**	**+0.1**
JYNG				S		**Sn**	**12 45 33.1**	**+0.1**
YOJ	**Yonaguni jima**	**0.31**	**155**	*e*P		**Pn**	**12 45 19.7**	**+0.1**
YOJ				*e*S		**Sn**	**12 45 33.4**	**+0.3**
YOJ	**Yonaguni jima**	**0.31**	**155**	*i* P		**Pn**	**12 45 19.7**	**+0.1**
	baz=155							
EOS2	**EOS2**	**0.66**	**241**	*e*P		**Pn**	**12 45 21.5**	**+0.2**
	baz=239							
EOS2				S		**Sn**	**12 45 37.2**	**+1.0**
	baz=239							
EOS3	**EOS3**	**0.68**	**227**	P		**Pn**	**12 45 21.9**	**+0.5**
	baz=226							
EOS3				*e*S		**Sn**	**12 45 37.5**	**+1.1**
	baz=226							
EOS4	**EOS4**	**0.80**	**219**	*e*P		**Pn**	**12 45 22.4**	**+0.3**
	baz=218							
EOS4				*e*S		**Sn**	**12 45 38.5**	**+0.9**
	baz=218							
TWB1	**Santiao Chiao**	**0.84**	**288**	*e*P		**Pn**	**12 45 23.1**	**+0.2**
	baz=287							
TWB1				*e*S		**Sn**	**12 45 39.0**	**+0.1**
	baz=287							
IRIF	**Iriomote-Funau**	**0.89**	**117**	P		**Pn**	**12 45 23.2**	**-0.1**
IRIF				S		**Sn**	**12 45 39.4**	**-0.3**
TWC	**Suao**	**0.93**	**262**	*e*P		**Pn**	**12 45 23.6**	**0.0**
	baz=260							
TWC				*e*S		**Sn**	**12 45 39.3**	**-1.1**
	baz=260							
SXI1	**Grass Mountain**	**0.96**	**291**	P		**Pn**	**12 45 24.0**	**0.0**
	baz=290							
SXI1				*e*S		**Sn**	**12 45 40.7**	**-0.4**
	baz=290							
ENA	**Nanau**	**1.07**	**253**	P		**Pn**	**12 45 25.1**	**+0.1**
	baz=252							
ENA				*e*S		**Sn**	**12 45 42.6**	**-0.1**
	baz=252							
HATJ	**Hateruma jima**	**1.10**	**128**	P		**Pn**	**12 45 25.4**	**+0.1**
HATJ				S		**Sn**	**12 45 43.3**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.16**	**271**	P		**Pn**	**12 45 26.0**	**+0.1**
	baz=270							
FUSB				*e*S		**Sn**	**12 45 43.5**	**-0.9**
	baz=270							
JKRS	**Kuro-shima**	**1.16**	**116**	P		**Pn**	**12 45 26.4**	**+0.6**
JKRS				S		**Sn**	**12 45 44.5**	**+0.2**
ENTT	**Nioudou**	**1.19**	**265**	P		**Pn**	**12 45 26.6**	**+0.5**
	baz=264							
ENTT				*e*S		**Sn**	**12 45 45.0**	**+0.2**
	baz=264							
JIJ	**Ishigaki jima**	**1.23**	**108**	P		**Pn**	**12 45 26.6**	**+0.1**
JIJ				S		**Sn**	**12 45 44.2**	**-1.3**
LATG	**Datong**	**1.23**	**260**	*e*P		**Pn**	**12 45 27.1**	**+0.4**
	baz=259							
LATG				*e*S		**Sn**	**12 45 46.0**	**+0.1**
	baz=259							
NHDH	**Xindian Distri**	**1.23**	**280**	*e*P		**Pn**	**12 45 26.5**	**-0.1**
	baz=279							
NHDH				*e*S		**Sn**	**12 45 45.0**	**-0.7**
	baz=279							
NDT	**Datong Townshi**	**1.24**	**264**	*e*P		**Pn**	**12 45 27.3**	**+0.6**
	baz=262							
NDT				*e*S		**Sn**	**12 45 46.2**	**+0.5**
	baz=262							
NWLT	**Wulai**	**1.24**	**272**	*e*P		**Pn**	**12 45 26.6**	**-0.1**
	baz=271							
NWLT				*e*S		**Sn**	**12 45 45.0**	**-0.8**
	baz=271							
YM01	**YM01**	**1.24**	**289**	*e*P		**Pn**	**12 45 26.8**	**+0.1**
	baz=288							
YM01				*e*S		**Sn**	**12 45 45.6**	**-0.2**
	baz=288							
TWY	**Chenhua**	**1.26**	**295**	*e*P		**Pn**	**12 45 27.0**	**+0.1**
	baz=294							
ETL	**Fush Village**	**1.27**	**243**	*e*P		**Pn**	**12 45 27.3**	**+0.2**
	baz=242							
NACB	**Ninganchiao**	**1.29**	**244**	*e*P		**Pn**	**12 45 26.8**	**-0.4**
	baz=243							
NACB				*e*S		**Sn**	**12 45 46.1**	**-0.6**
	baz=243							
JISG	**Ishigakijimahi**	**1.33**	**97**	P		**Pn**	**12 45 27.4**	**-0.2**
JISG				*e*S		**Sn**	**12 45 46.3**	**-1.1**
TWD	**Chiawan**	**1.33**	**240**	*e*P		**Pn**	**12 45 28.2**	**+0.5**
	baz=239							
TWD				*e*S		**Sn**	**12 45 46.6**	**-0.9**
	baz=239							
YHNB	**Yeheng**	**1.35**	**267**	*e*P		**Pn**	**12 45 28.2**	**+0.3**
	baz=266							
YHNB				S		**Sn**	**12 45 47.7**	**-0.4**
	baz=266							
TWS1	**Kuangyinshan**	**1.36**	**285**	*e*P		**Pn**	**12 45 28.1**	**+0.2**
	baz=284							
ETLH	**Xiulin Townshi**	**1.37**	**247**	*e*P		**Pn**	**12 45 28.0**	**-0.2**
	baz=246							
ETLH				*e*S		**Sn**	**12 45 48.0**	**-0.4**
	baz=246							
NSK	**Sanguang**	**1.37**	**267**	*e*P		**Pn**	**12 45 28.4**	**+0.2**
	baz=266							
NSK				*e*S		**Sn**	**12 45 48.0**	**-0.4**
	baz=266							
NNSB	**Datong**	**1.39**	**257**	*e*P		**Pn**	**12 45 28.8**	**+0.4**
	baz=256							
NNSB				*e*S		**Sn**	**12 45 48.4**	**-0.4**
	baz=256							
NNS	**Nan Shan**	**1.39**	**258**	*e*P		**Pn**	**12 45 29.0**	**+0.6**
	baz=256							
NNS				*e*S		**Sn**	**12 45 48.5**	**-0.4**
	baz=256							
ETM	**Tongmen**	**1.47**	**238**	*e*P		**Pn**	**12 45 28.9**	**-0.3**
	baz=237							
ETM				*e*S		**Sn**	**12 45 49.4**	**-0.8**
	baz=237							
LXIB	**Xiulin Townshi**	**1.51**	**242**	*e*P		**Pn**	**12 45 29.3**	**-0.5**
	baz=241							
LXIB				*e*S		**Sn**	**12 45 49.6**	**-1.6**
	baz=241							
WHF	**Hehuan Shan**	**1.57**	**248**	*e*S		**Sn**	**12 45 52.3**	**-0.8**
	baz=247							
TEGC	**Jichi Village**	**1.59**	**230**	*e*S		**Sn**	**12 45 52.6**	**0.0**
	baz=228							
NFF	**Wufeng Townshi**	**1.59**	**266**	*e*P		**Pn**	**12 45 30.9**	**+0.2**
	baz=265							
NFF				*e*S		**Sn**	**12 45 52.2**	**-0.6**
	baz=265							
TWT	**Tachien**	**1.61**	**253**	*e*S		**Sn**	**12 45 53.7**	**+0.2**
	baz=251							
TDCB	**Techi**	**1.63**	**253**	*e*P		**Pn**	**12 45 31.4**	**+0.2**
	baz=252							
JTJ	**Tarama**	**1.68**	**93**	P		**Pn**	**12 45 31.6**	**+0.1**
JTJ				S		**Sn**	**12 45 54.2**	**-0.2**
LIOB	**Emei**	**1.68**	**267**	*e*P		**Pn**	**12 45 32.1**	**+0.5**
	baz=266							
LIOB				S		**Sn**	**12 45 54.0**	**-0.6**
	baz=266							
CHGB	**Renai**	**1.69**	**246**	*e*P		**Pn**	**12 45 32.3**	**+0.4**
	baz=245							
CHGB				*e*S		**Sn**	**12 45 54.9**	**-0.1**
	baz=245							
EGFH	**Guangfu**	**1.69**	**231**	*e*P		**Pn**	**12 45 31.6**	**-0.2**
	baz=230							
EGFH				*e*S		**Sn**	**12 45 54.4**	**-0.4**
	baz=230							
WARBT	**Fenglin Townsh**	**1.69**	**233**	*e*P		**Pn**	**12 45 31.2**	**-0.5**
	baz=232							
WARBT				*e*S		**Sn**	**12 45 53.4**	**-1.4**
	baz=232							
NSTT	**Nanjuang**	**1.70**	**266**	*e*P		**Pn**	**12 45 32.0**	**+0.2**
	baz=265							
NSTT				S		**Sn**	**12 45 54.1**	**-0.7**
	baz=265							
OWD	**Renai**	**1.73**	**243**	*e*P		**Pn**	**12 45 32.8**	**+0.4**
	baz=242							
OWD				*e*S		**Sn**	**12 45 55.0**	**-0.8**
	baz=242							
WUSB	**Renai**	**1.76**	**245**	P		**Pn**	**12 45 33.2**	**+0.5**
	baz=244							
WUSB				*i* S		**Sn**	**12 45 56.2**	**-0.2**
	baz=244							
WHP	**Taichung City**	**1.81**	**255**	*e*P		**Pn**	**12 45 34.2**	**+1.0**
	baz=254							
WHP				S		**Sn**	**12 45 57.8**	**+0.4**
	baz=254							
HGSD	**Ruisui**	**1.81**	**227**	*e*P		**Pn**	**12 45 33.2**	**0.0**
	baz=226							
HGSD				*e*S		**Sn**	**12 45 57.3**	**0.0**
	baz=226							
VWDT	**VWDT**	**1.86**	**238**	*e*P		**Pn**	**12 45 34.2**	**+0.5**
	baz=237							
VWDT				*e*S		**Sn**	**12 45 57.9**	**-0.3**
	baz=237							
EHY	**Hungye**	**1.87**	**229**	*e*P		**Pn**	**12 45 33.5**	**-0.4**
	baz=228							
EHY				*e*S		**Sn**	**12 45 57.3**	**-1.4**
	baz=228							
NMLH	**Miaoli**	**1.90**	**264**	*e*S		**Sn**	**12 45 58.9**	**-0.3**
	baz=263							
WCS	**Beigang Elemen**	**1.91**	**249**	*e*P		**Pn**	**12 45 35.4**	**+1.1**
	baz=248							
WCS				*e*S		**Sn**	**12 45 59.7**	**+0.4**
	baz=248							
TWQ1	**Liyutan**	**1.94**	**259**	*e*P		**Pn**	**12 45 35.1**	**+0.4**
	baz=257							
TWQ1				*e*S		**Sn**	**12 45 59.9**	**-0.2**
	baz=257							
YULB	**Yu-li**	**1.97**	**227**	*e*P		**Pn**	**12 45 34.6**	**-0.5**
	baz=226							
YULB				*e*S		**Sn**	**12 45 59.4**	**-1.2**
	baz=226							
EYUL	**Yuli**	**1.98**	**226**	*e*P		**Pn**	**12 45 35.9**	**+0.6**
	baz=225							
EYUL				*e*S		**Sn**	**12 46 01.3**	**+0.3**
	baz=225							
SMLT	**Sun Moon Lake**	**1.99**	**245**	*e*P		**Pn**	**12 45 36.1**	**+0.8**
	baz=243							
SMLT				*e*S		**Sn**	**12 46 02.2**	**+0.9**
	baz=243							
SSLB	**Suanglung**	**1.99**	**242**	*e*P		**Pn**	**12 45 36.5**	**+1.2**
	baz=241							
SSLB				*e*S		**Sn**	**12 46 01.3**	**+0.2**
	baz=241							
TWF1	**Yuli**	**2.00**	**226**	*e*P		**Pn**	**12 45 35.8**	**+0.4**
	baz=225							
TYC	**Yuchr**	**2.01**	**246**	*e*P		**Pn**	**12 45 35.9**	**+0.4**
	baz=245							
TYC				*e*S		**Sn**	**12 46 02.6**	**+1.0**
	baz=245							
WDJ	**Dajia District**	**2.06**	**259**	*e*S		**Sn**	**12 46 02.4**	**-0.3**
	baz=258							
JIRB	**Irabujima**	**2.10**	**87**	*e*P		**Pn**	**12 45 36.6**	**0.0**
JIRB				*e*S		**Sn**	**12 46 03.7**	**+0.2**
FULB	**Fuli**	**2.11**	**223**	*e*P		**Pn**	**12 45 36.6**	**-0.1**
	baz=222							
FULB				*e*S		**Sn**	**12 46 03.4**	**-0.4**
	baz=222							
WHYT	**Xinyi Township**	**2.11**	**241**	*e*S		**Sn**	**12 46 05.0**	**+1.1**
	baz=240							
CHKT	**Chengkung**	**2.14**	**220**	*e*S		**Sn**	**12 46 03.2**	**-1.2**
	baz=219							
WJS	**Zhushan**	**2.15**	**245**	*e*P		**Pn**	**12 45 37.5**	**+0.2**
	baz=244							
WJS				*e*S		**Sn**	**12 46 06.6**	**+1.8**
	baz=244							
WNT	**Mingjian**	**2.17**	**247**	*e*P		**Pn**	**12 45 38.0**	**+0.5**
	baz=246							
EHD	**Haiduan**	**2.20**	**224**	*e*P		**Pn**	**12 45 38.1**	**+0.2**
	baz=223							
EHD				*e*S		**Sn**	**12 46 05.5**	**-0.3**
	baz=223							
JMJ2	**Miyako jima3**	**2.24**	**90**	*e*P		**Pn**	**12 45 38.9**	**+0.5**
JMJ2				*e*S		**Sn**	**12 46 07.0**	**+0.3**
ALS	**Alishan**	**2.25**	**237**	*e*P		**Pn**	**12 45 39.6**	**+0.9**
	baz=236							
EDH	**Donghe**	**2.27**	**219**	*e*P		**Pn**	**12 45 38.5**	**-0.3**
	baz=218							
EDH				*e*S		**Sn**	**12 46 06.2**	**-1.2**
	baz=218							
ELDTW	**Lidau**	**2.29**	**228**	*e*P		**Pn**	**12 45 39.4**	**+0.2**
	baz=227							
ELDTW				*e*S		**Sn**	**12 46 07.4**	**-0.7**
	baz=227							
CHN5	**Tsauling**	**2.30**	**241**	*e*P		**Pn**	**12 45 39.8**	**+0.5**
	baz=239							
JOGS	**Gusukube**	**2.31**	**89**	*e*S		**Sn**	**12 46 08.8**	**+0.6**
WRL	**Guolierlin Hig**	**2.42**	**250**	*e*P		**Pn**	**12 45 40.8**	**+0.2**
	baz=249							
WRL				*e*S		**Sn**	**12 46 10.0**	**-0.7**
	baz=249							
LONT	**Longtian**	**2.42**	**221**	*e*P		**Pn**	**12 45 40.8**	**+0.1**
	baz=220							
LONT				*e*S		**Sn**	**12 46 10.0**	**-0.8**
	baz=220							
LDUT	**Ludao**	**2.43**	**212**	*e*P		**Pn**	**12 45 40.4**	**-0.4**
	baz=211							
LDUT				*e*S		**Sn**	**12 46 09.9**	**-0.9**
	baz=211							
WCKO	**Fanlu**	**2.44**	**238**	*e*P		**Pn**	**12 45 41.9**	**+1.0**
	baz=237							
STYH	**Taoyuan**	**2.47**	**231**	*e*P		**Pn**	**12 45 42.6**	**+1.3**
	baz=230							
STYH				*e*S		**Sn**	**12 46 12.6**	**+0.7**
	baz=230							
CHN4	**Tsaushan**	**2.50**	**237**	*e*P		**Pn**	**12 45 42.8**	**+1.1**
	baz=236							
TPUB	**Ta-pu**	**2.50**	**235**	*e*P		**Pn**	**12 45 42.8**	**+1.1**
	baz=234							
TWGBT	**Beinan**	**2.52**	**221**	*e*P		**Pn**	**12 45 41.8**	**-0.2**
	baz=220							
TWG	**Pinlang**	**2.52**	**221**	*e*P		**Pn**	**12 45 41.6**	**-0.3**
	baz=220							
TWG				*e*S		**Sn**	**12 46 12.6**	**-0.5**
	baz=220							
WTP	**Ta-pu**	**2.54**	**234**	*e*P		**Pn**	**12 45 43.3**	**+1.0**
	baz=233							
CHN1	**Nanshi**	**2.64**	**234**	*e*P		**Pn**	**12 45 44.6**	**+1.1**
	baz=233							
SGST	**Jiashian**	**2.67**	**232**	*e*P		**Pn**	**12 45 44.2**	**+0.5**
	baz=231							
SLGT	**Liugui**	**2.68**	**230**	*e*P		**Pn**	**12 45 45.5**	**+1.5**
	baz=229							
MASBT	**Mashibuluo**	**2.95**	**224**	*e*P		**Pn**	**12 45 47.9**	**+0.4**
	baz=223							
LYJJ	**Jianjiangzhen**	**3.33**	**303**	*e*P		**Pn**	**12 45 51.8**	**-0.6**
	baz=302							

IDC ***10*** *12:45:10.3±0.8,16.°72N×99.°41W,h0km,mb3.9/7,*
mbtmp3.9/10,ML3.9/3,MS3.5/19,Error ellipse:
s-maj=33.1km s-min=19.0km az=63.0
NEIC ***10*** *12:45:12.4±1.8,16.°63N±0.°10×99.°58W±0.°08,h12km±6km,*
mb4.2/34,Md4.8/12(MEX),Error ellipse: s-maj=17.3km
s-min=4.1km az=218.0
MEX ***10*** *12:45:14.9±1.0,16.°71N×99.°55W,h15km±9km,MD4.8*
ISC 10 12:45:10.5±1.3,**16.°71N**±0.°03×**99.°48W**±0.°02,**h4**km±8km,
n159,σ2°**10**/201,**mb4.2**/15,**MS3.5**/15,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DAIG	**Los Arroyos**	**0.35**	**332**			**Pb**	**12 45 20.0**	**+0.7**
DAIG						**Sb**	**12 45 24.6**	**-0.6**
DAIG	**Los Arroyos**	**0.35**	**332**	*i* P		**Pb**	**12 45 20.0**	**+0.7**
DAIG				*i* S		**Sb**	**12 45 24.6**	**-0.6**
ACP2	**Acapulco**	**0.42**	**292**			**Pb**	**12 45 21.0**	**+0.5**
ACP2						**Sb**	**12 45 26.4**	**-1.0**
ACP2	**Acapulco**	**0.42**	**292**	*i* P		**Pb**	**12 45 21.0**	**+0.5**
ACP2				*i* S		**Sb**	**12 45 26.4**	**-1.0**
CAIG	**El Cayaco**	**0.82**	**294**			**Pb**	**12 45 26.9**	**-0.5**
CAIG						**Sg**	**12 45 37.1**	**+0.1**
CAIG	**El Cayaco**	**0.82**	**294**	*i* P		**Pb**	**12 45 26.9**	**-0.5**
CAIG				*e*S		**Sg**	**12 45 37.1**	**+0.1**
ATYC	**Atoyac**	**1.04**	**299**	*i* P		**Pg**	**12 45 30.5**	**+0.1**
ATYC				*i* S		**Sg**	**12 45 43.9**	**0.0**
MEIG	**Mezcala**	**1.21**	**354**	*e*P		**Pb**	**12 45 34.2**	**+0.1**
MEIG				*e*S		**Sg**	**12 45 48.9**	**-0.6**
TLIG	**Tlapa**	**1.22**	**46**	*e*P		**Pn**	**12 45 35.0**	**+0.6**
TLIG				*e*S		**Sg**	**12 45 48.0**	**-1.6**
PNIG	**Pinotepa**	**1.33**	**104**	*e*P		**Pb**	**12 45 36.0**	**-0.2**
PNIG				*e*S		**Sg**	**12 45 52.8**	**-0.6**
HMTT	**Tlapaneco**	**1.39**	**39**	*e*P		**Pb**	**12 45 37.4**	**+0.2**
HMTT				*i* S		**Sn**	**12 45 56.3**	**+0.5**
PLIG	**Platanillo**	**1.67**	**359**	*e*P		**Pn**	**12 45 41.3**	**+0.6**
TXIG	**Tlaxiaco**	**1.72**	**72**	*e*P		**Pb**	**12 45 42.5**	**-0.4**
TXIG				*e*S		**Sg**	**12 46 05.5**	**-0.5**
FTIG	**Fresnillo de T**	**1.75**	**47**	*e*P		**Pb**	**12 45 42.5**	**-0.8**
FTIG				*e*S		**Sn**	**12 46 03.3**	**-1.4**
ARIG	**Puente Sto Nin**	**1.77**	**332**	*e*P		**Pn**	**12 45 42.3**	**+0.4**
ARIG				*e*S		**Sn**	**12 46 01.1**	**-3.8**
YOIG	**Yosondua**	**1.86**	**85**	*e*P		**Pb**	**12 45 44.4**	**-0.8**
PET2	**Petatlan**	**1.89**	**296**	*e*P		**Pn**	**12 45 43.7**	**+0.1**
PET2				*i* S		**Sn**	**12 46 07.1**	**-0.9**
HLIG	**Huajuapan de L**	**1.95**	**55**	*e*P		**Pn**	**12 45 45.4**	**+0.7**
HLIG				*e*S		**Sb**	**12 46 11.2**	**-0.3**
ZIIG	**Zihuatanejo**	**2.10**	**295**			**Pn**	**12 45 45.5**	**-1.0**
ZIIG						**Sn**	**12 46 14.2**	**+1.2**
ZIIG	**Zihuatanejo**	**2.10**	**295**	*e*P		**Pn**	**12 45 45.5**	**-1.0**
ZIIG				*e*S		**Sn**	**12 46 14.2**	**+1.2**
YAIG	**Yautepec**	**2.17**	**10**	*e*P		**Pn**	**12 45 48.2**	**+0.5**
YAIG				*e*S		**Sn**	**12 46 14.7**	**-0.4**
TEJU	**Tejupilco**	**2.27**	**344**	*i* P		**Pb**	**12 45 51.2**	**-1.0**
TEJU				*i* S		**Sn**	**12 46 17.3**	**-0.4**
PEIG	**Puerto Escondi**	**2.35**	**107**	*e*P		**Pn**	**12 45 50.6**	**+0.7**
PEIG				*e*S		**Sn**	**12 46 19.5**	**+0.2**
PPM	**Popocatepetl**	**2.48**	**19**	*e*P		**Pn**	**12 45 52.3**	**+0.2**
PPM				*e*S		**Sb**	**12 46 25.4**	**-1.7**
AMVM	**AMECAMECA**	**2.50**	**15**	*e*P		**Pn**	**12 45 53.4**	**+1.2**
AMVM				*e*S		**Sb**	**12 46 28.1**	**+0.8**
TLVM	**San Miguel Top**	**2.50**	**7**	*e*P		**Pn**	**12 45 52.2**	**-0.1**
TLVM				*i* S		**Sn**	**12 46 21.4**	**-2.2**
MPVM	**San Francisco**	**2.52**	**10**	*e*P		**Pn**	**12 45 52.6**	**+0.2**
MPVM				*i* S		**Sn**	**12 46 20.6**	**-3.1**
AOVM	**Tlapan**	**2.55**	**3**	*e*P		**Pn**	**12 45 53.5**	**+0.4**
AOVM				*i* S		**Sn**	**12 46 19.0**	**-5.8**
UON	**La Union**	**2.56**	**300**	*e*P		**Pn**	**12 45 51.4**	**-1.4**
UON				*i* S		**Sn**	**12 46 25.1**	**+0.7**
TOVM	**TOLUCA**	**2.56**	**356**	*e*P		**Pn**	**12 45 55.0**	**+1.8**
TOVM				*e*S		**Sn**	**12 46 20.0**	**-5.0**
INVM	**La Marquesa**	**2.57**	**2**	*e*P		**Pn**	**12 45 55.0**	**+1.8**
INVM				*e*S		**Sn**	**12 46 27.2**	**+2.0**
CNCY	**Coyoacan**	**2.60**	**6**	*e*P		**Pn**	**12 45 54.4**	**+0.7**
CNCY				*i* S		**Sn**	**12 46 26.7**	**+0.7**
UNM	**Universidad Na**	**2.62**	**6**	Pn		**Pb**	**12 45 56.4**	**-1.8**
UNM	**Universidad Na**	**2.62**	**6**	*e*P		**Pn**	**12 45 54.9**	**+1.0**
UNM				*e*S		**Sn**	**12 46 28.4**	**+2.1**
CUP5	**Mexico City**	**2.62**	**6**	*e*P		**Pn**	**12 45 55.8**	**+1.9**
CUP5				*e*S		**Sn**	**12 46 27.2**	**+0.9**
THVM	**De Xico**	**2.63**	**10**	*e*P		**Pn**	**12 45 53.5**	**-0.6**
THVM				*e*S		**Sn**	**12 46 20.7**	**-5.9**
PHPU	**Puebla**	**2.63**	**28**	*e*P		**Pb**	**12 45 56.9**	**-1.6**
PHPU				*i* S		**Sn**	**12 46 24.5**	**-2.2**
TPIG	**Tehuac#an**	**2.64**	**50**	*e*P		**Pn**	**12 45 54.4**	**+0.3**
TPIG		

JRQG Juriquilla Cam 4.08 347 *i* P **Pn 12 46 16.0 +2.1**
JRQG *eS* **Sn 12 47 01.3 -0.9**
LVIG Laguna Verde 4.17 44 *i* P **Pn 12 46 13.3 -1.8**
LVIG *eS* **Sn 12 47 09.4 +5.1**
IGIG Irapuato, Guan 4.38 337 *i* S **Sn 12 47 09.7 -0.1**
NILT Santiago Nilte 4.66 91 *i* P **Pn 12 46 20.8 -1.0**
NILT *i* S **Sn 12 47 14.6 -1.8**
COIG Colima 4.70 302 *eP* **Pn 12 46 24.2 +1.8**
COIG *eS* **Sn 12 47 18.0 +0.6**
JUBC Volcan de Coli 4.79 306 *i* P **Pn 12 46 26.5 +2.8**
EZ5V 4.79 306 *eP* **Pn 12 46 25.5 +1.8**
EZ5V *i* S **Sn 12 47 20.1 +0.1**
MNGA Volcan de Coli 4.80 305 *eP* **Pn 12 46 26.4 +2.6**
MNGA *eS* **Sn 12 47 18.7 -1.4**
INCO Volcan de Coli 4.82 306 *eP* **Pn 12 46 26.4 +2.1**
SOMAC Volcano de Col 4.84 306 *eP* **Pn 12 46 26.6 +2.1**
CDAR Ciudad de Arme 4.85 298 *eP* **Pn 12 46 25.2 +0.8**
CDAR *eS* **Sn 12 47 17.9 -3.2**
CTUV Llano Grande 4.85 12 *eP* **Pn 12 46 27.9 +3.5**
CEGR Campo Tres 4.94 303 *eP* **Pn 12 46 27.6 +1.8**
CEGR *eS* **Sn 12 47 21.3 -2.2**
TUIG Tuzandepetl 5.00 74 *i* P Pn 12 46 20.6 -5.8
UXUV UXUV 5.14 82 *eP* **Pn 12 46 26.8 -1.5**
UXUV *eS* **Sn 12 47 25.9 -2.2**
RPIG Rio Verde 5.17 355 *eP* Pn 12 46 34.6 +5.8
RPIG *eS* **Sn 12 47 35.6 +6.6**
CARR Arriaga 5.36 94 *i* S **Sn 12 47 29.1 -4.6**
AAIG Aguscalientes 5.90 333 *i* P Pn 12 46 45.8 +6.7
AAIG *i* S **Sn 12 47 49.9 +2.6**
CJM Chamela 5.97 298 *eP* **Pn 12 46 40.1 +0.3**
CJM *eS* **Sn 12 47 46.3 -2.4**
TGIG 6.09 88 *eP* Pn 12 46 46.9 +5.4
TGIG *eS* **Sn 12 47 58.2 +6.5**
PCIG 6.10 99 *eP* Pn 12 46 36.6 -4.9
LNIG Linares 8.14 0 *i* P **Pn 12 47 11.4 +1.8**
LNIG *i* S **Sn 12 48 47.1 +4.9**
MTO3 Montecristo 10.02 102 Pn **Pn 12 47 36.6 +1.1**
H06E1 SOCORRO T-PHAS 11.10 282 T T 12 58 55.9
SNR=71
TEIG Tepich 11.19 70 Pn 12 47 53.3 +2.0
TEIG Tepich 11.19 70 Pn **Pn 12 47 51.3 0.0**
6.8nm,0.3s,baz=259,slow=23,SNR=1.7
TEIG Sn **Sn 12 49 50.4 -6.6**
13nm,0.3s,baz=181,slow=21,SNR=1.7
TEIG LR LR 12 53 17.5
comp=Z,2μm,19.4s,baz=8.5,slow=44
33nm,0.5s
TXAR Lajitas Array 13.14 344 Pn **Pn 12 48 19.5 +1.4**
0.1nm,0.3s,baz=165,slow=14,SNR=2.7
TXAR Lg Lg 12 52 09.2
0.1nm,0.3s,baz=273,slow=30,SNR=2.8
TXAR LR LR 12 53 07.0
comp=Z,96nm,19.2s,baz=149,slow=36
0.4nm,0.7s
JTS Las Juntas de 15.50 112 P **P 12 48 55.2 +0.5**
JTS IAmb IAmb 12 49 05.3
comp=Z,13nm,0.8s
JTS Las Juntas de 15.50 112 LR LR 12 53 30.8
comp=Z,54nm,20.0s,baz=311,slow=32
ABTX Abilene, Hawle 15.84 359 P **P 12 48 57.8 -0.6**
ABTX IAmb IAmb 12 49 07.4
comp=Z,15nm,0.8s
FW03 Perrin-Whitt E 16.31 4 P **P 12 49 03.0 -0.6**
FW03 IAmb IAmb 12 49 11.7
comp=Z,64nm,1.1s
POST Post 16.39 354 P **P 12 49 04.0 -0.5**
POST IAmb IAmb 12 49 12.5
comp=Z,22nm,0.9s
APMT Aspermont 16.55 358 P **P 12 49 06.0 -0.2**
APMT IAmb IAmb 12 49 13.8
comp=Z,23nm,1.1s
Z41A Richland Creek 17.54 19 P **P 12 49 17.2 0.0**
WLAR White Oak Lake 17.85 18 P **P 12 49 20.9 +0.3**
MIAR Mount Ida 18.53 15 P **Pn 12 49 29.9 +1.7**
MIAR IAmb IAmb 12 49 44.5
comp=Z,14nm,1.1s
ANMO Albuquerque 19.20 342 P **Pn 12 49 37.2 +0.7**
comp=Z,0.1nm,0.3s,baz=233,slow=12,SNR=4.4
ANMO Lg Lg 12 55 19.5
comp=Z,0.1nm,0.3s,baz=181,slow=14,SNR=1.2
ANMO LR LR 12 58 07.6
comp=Z,245nm,18.7s,baz=250,slow=40
comp=Z,1.1nm,0.7s
OK052 Battle Ridge R 19.35 7 **Pn 12 49 38.3 +0.2**
HHAR Hobbs 20.10 13 Pn 12 49 47.0 -0.1
HHAR IAmb IAmb 12 49 54.1
comp=Z,15nm,1.0s
U38A Gravette 20.16 12 Pn 12 49 47.4 -0.4
U38A IAmb IAmb 12 49 54.1
comp=Z,14nm,0.9s
T35A Sooner Cattle 20.30 7 Pn 12 49 48.6 -0.8
PLAL Pickwick Lake 20.86 27 P **P 12 49 52.8 -0.7**
PLAL IAmb IAmb 12 50 01.3
comp=Z,6.7nm,0.6s
WUAZ Wupatki 21.52 333 P **P 12 50 02.3 +1.4**
T42A Van Buren 21.56 19 P **P 12 50 03.2 +2.2**
T42A IAmb IAmb 12 50 17.1
comp=Z,7.6nm,0.9s
FPAL Fort Paine 21.67 32 P **P 12 50 03.8 +1.4**
FPAL IAmb IAmb 12 50 09.1
comp=Z,12nm,1.1s
MVCO Mesa Verde 21.92 340 P **P 12 50 02.8 -2.4**
MVCO IAmb IAmb 12 50 20.0
comp=Z,10nm,1.3s
S22A 4UR Ranch, Cre 21.93 344 P **P 12 50 05.6 +0.2**
WVT Waverly 21.94 26 P **P 12 50 06.5 +1.3**
WVT IAmb IAmb 12 50 18.3
comp=Z,6.4nm,0.6s
W13A Hualapai Mount 22.38 328 P **P 12 50 12.3 +2.1**
U15A North Rim 22.69 332 P **P 12 50 15.2 +1.7**
HMU Henry Mountain 23.35 337 P **P 12 50 21.8 +1.4**
BG3 Lake Jocassee 23.46 36 P **P 12 50 21.6 +0.5**
BG3 IAmb IAmb 12 50 29.4
comp=Z,9.4nm,0.9s
TKL Tuckaleechee C 23.49 34 P **P 12 50 21.9 +0.4**
TKL Tuckaleechee C 23.49 34 LR LR 13 01 44.2
comp=Z,30nm,18.8s,baz=212,slow=42
ISCO Idaho Springs 23.62 348 P **P 12 50 25.3 +2.3**
MTPU Mount Pierson 24.01 335 P **P 12 50 28.3 +1.4**
MTPU IAmb IAmb 12 51 02.3
comp=Z,7.8nm,1.2s
V53A Saluda 24.02 35 P **P 12 50 27.2 +0.6**
O20A White River Ci 24.55 344 P **P 12 50 32.8 +1.1**
QSM Queen of Sheba 24.63 324 P **P 12 50 32.3 +0.1**
GMN Gold Mountain 25.83 326 P **P 12 50 43.6 +0.3**
NV11 Mina Array Sit 27.14 327 P **P 12 50 55.2 +0.2**
NV11 IAmb IAmb 12 51 04.5
comp=Z,5.2nm,1.2s
NVAR Mina Array Bea 27.22 326 P **P 12 50 56.7 +0.9**
NVAR Mina Array Bea 27.22 326 P **P 12 50 57.6 +1.8**
comp=Z,1.5nm,0.8s,baz=148,slow=9.2,SNR=15
comp=Z,1.5nm,0.8s
BW06 Boulder Array 27.36 344 P **P 12 50 57.1 +0.1**
BW06 IAmb IAmb 12 51 00.5
comp=Z,7.0nm,1.4s
PD31 Pinedale Array 27.36 344 P **P 12 50 56.9 -0.2**
PD31 IAmb IAmb 12 51 00.5
comp=Z,6.3nm,1.4s
PDAR Pinedale Array 27.36 344 P **P 12 50 57.8 +0.7**
PDAR Pinedale Array 27.36 344 P **P 12 50 57.6 +0.5**
comp=Z,0.8nm,0.8s,baz=147,slow=8.7,SNR=9.7
PDAR LR LR 13 03 06.5
comp=Z,345nm,18.9s,baz=168,slow=39
comp=Z,0.8nm,0.8s
ELK Elko 27.56 334 LR LR 13 03 05.9
comp=Z,263nm,20.0s,baz=154,slow=39
LOHW Long Hollow 28.43 343 P **P 12 51 07.0 +0.4**
SDV Santo Domingo 29.16 102 LR LR 13 04 39.2
comp=Z,39nm,18.2s,baz=24,slow=40
ATAH Atahualpa 31.57 137 LR LR 13 01 42.9
comp=Z,65nm,18.1s,baz=301,slow=32
YBH Yreka Blue Hor 31.94 326 LR LR 13 05 51.0
comp=Z,73nm,20.9s,baz=134,slow=39
SADO Sadowa 32.79 27 LR LR 13 06 31.7
comp=Z,32nm,21.4s,baz=115,slow=39
ULM Lac du Bonnet 33.58 4 LR LR 13 06 22.1
comp=Z,93nm,18.9s,baz=96,slow=38
NEW Newport 34.63 339 LR LR 13 07 49.2
comp=Z,124nm,18.5s,baz=160,slow=39
NNA Nana 36.25 140 LR LR 13 04 04.2
comp=Z,72nm,18.4s,baz=320,slow=31
RPN Rapa Nui 44.62 193 LR LR 13 08 11.1
comp=Z,70nm,20.3s,baz=44,slow=31
SCHQ Schefferville 45.58 26 P **P 12 53 30.6 -1.0**
comp=Z,2.3nm,0.5s,baz=252,slow=13,SNR=2.1
comp=Z,2.3nm,0.5s
YKA Yellowknife Ar 46.95 350 LR LR 13 14 39.4
comp=Z,98nm,18.1s,baz=160,slow=38
DLBC Dease Lake 47.38 339 LR LR 13 15 41.7
comp=Z,226nm,18.8s,baz=114,slow=39
H03N2 Juan Fernandez 53.59 159 T T 13 52 12.4
baz=337,slow=77,SNR=243
H03N1 Juan Fernandez 53.60 159 T T 13 52 16.6
baz=337,slow=77,SNR=158
H03N3 Juan Fernandez 53.61 159 T T 13 52 16.7
baz=337,slow=77,SNR=174
ILAR Eielson Array 57.58 338 P **P 12 55 01.1 -0.1**
comp=Z,0.6nm,1.0s,baz=135,slow=5.4,SNR=4.6
ILAR PcP **PcP 12 55 54.5 0.0**
comp=Z,0.4nm,0.7s,baz=140,slow=1.9,SNR=5.4
comp=Z,0.6nm,1.0s
CPUP Villa Florida 59.24 136 LR LR 13 18 25.8
comp=Z,18nm,20.9s,baz=314,slow=34
BDFB Brasilia 60.09 120 P **P 12 55 20.1 +0.5**
comp=Z,2.4nm,0.6s,baz=297,slow=11,SNR=2.1
comp=Z,2.4nm,0.6s
PLCA Paso Flores 63.15 156 P **P 12 55 40.0 +0.3**
comp=Z,3.2nm,1.1s,baz=14,slow=3.6,SNR=3.6
comp=Z,3.2nm,1.1s
ESDC Sonseca Array 83.65 51 P **P 12 57 41.3 +0.6**
comp=Z,0.2nm,0.5s,baz=283,slow=4.7,SNR=2.4
comp=Z,0.2nm,0.5s
FINES FINESS Array B 90.98 23 LR LR 13 40 57.6
comp=Z,24nm,18.4s,baz=232,slow=37
STKA Stephens Creek 122.99 243 PKP **PKPdf 13 04 08.7 -0.1**
comp=Z,1.0nm,0.4s,baz=164,slow=5.3,SNR=4.0
MAW Mawson 127.87 172 PKP **PKiKP 13 04 17.8 +0.2**
comp=Z,0.6nm,0.5s,baz=214,slow=3.6,SNR=1.4
WRA Warramunga Arr 128.99 258 PKP **PKiKP 13 04 20.8 -0.4**
comp=Z,1.0nm,0.6s,baz=87,slow=2.4,SNR=14
ASAR Alice Springs 129.65 253 PKP **PKPdf 13 04 21.5 -0.3**
comp=Z,0.6nm,1.1s,baz=80,slow=2.6,SNR=5.5
CMAR Chiang Mai Arr 140.63 332 PKP **PKPdf 13 04 41.5 -0.9**
comp=Z,0.3nm,0.3s,baz=347,slow=2.0,SNR=1.4

*IDC **10** 13:07:31.3±4.0, 7°.49N×73°.68W, h133km±37km, mbtmp4.1/3, Error ellipse: s-maj=110.1km s-min=16.5km az=136.0*
*RSNC **10** 13:07:35.9±1.5, 6°.79N×73°.14W, h138km±6km, ML3.3, Mw3.8*
ISC 10 13:07:34.2±1.0, 6°.83N±0°.03×73°.09W±0°.04, h145km±7km, n38, σ1§92/71, 2C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**201**	⇓*i*P	**Pn**	**13 07 54.5**	**+0.1**
BARC				*eS*	**Sn**	**13 08 09.4**	**-0.2**
BARC				*i*		13 08 10.8	
	comp=Z,812nm,0.3s						
PAMC	**Pamplona, Colo**	**0.64**	**37**	⇓*i*P	**Pn**	**13 07 57.4**	**+1.0**
PAMC				*eS*	**Sn**	**13 08 14.1**	**+0.9**
PAMC				*i*		13 08 16.4	
	comp=Z,839nm,0.5s						
RUSC	**La Rusia**	**0.93**	**179**	*eP*	**Pn**	**13 07 58.6**	**+0.1**
RUSC				*eS*	**Sn**	**13 08 16.3**	**-0.7**
RUSC				*i*		13 08 18.1	
	comp=Z,326nm,0.4s						
TAMC	**Tame, Arauca**	**1.35**	**107**	⇓*i*P	**Pn**	**13 08 02.9**	**+1.0**
TAMC				*eS*	**Sn**	**13 08 24.3**	**+1.3**
SPBC	**San Pablo de B**	**1.52**	**220**	*eP*	**Pn**	**13 08 03.6**	**-0.1**
SPBC				*eS*	**Sn**	**13 08 25.0**	**-1.3**
SPBC				*i*		13 08 31.0	
	comp=Z,252nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	*eP*	**Pn**	**13 08 07.7**	**+0.1**
ZARC				*eS*	**Sn**	**13 08 32.7**	**-0.5**
ZARC				*i*		13 08 38.6	
	comp=Z,288nm,0.3s						
NORC	**Norcasia**	**2.17**	**235**	*eP*	**Pn**	**13 08 10.6**	**-0.6**
NORC				*eS*	**Sn**	**13 08 38.2**	**-1.2**
NORC				*i*		13 08 44.4	
	comp=Z,110nm,0.2s						
CHIC	**Chingaza**	**2.27**	**196**	*eP*	**Pn**	**13 08 12.9**	**+0.1**
CHIC				*eS*	**Sn**	**13 08 41.6**	**-0.7**
CHIC				*i*		13 08 46.4	
	comp=Z,66nm,0.5s						
ROSC	**El Rosal**	**2.32**	**212**	⇑*i*P	**Pn**	**13 08 14.4**	**+1.0**
ROSC				*eS*	**Sn**	**13 08 43.7**	**+0.4**
ROSC				*i*		13 08 52.4	
	comp=Z,159nm,0.4s						
ROSC	**El Rosal**	**2.32**	**212**	P	**Pn**	**13 08 14.3**	**+1.0**
	comp=Z,153nm,0.5s,baz=53,slow=19,SNR=52						
ROSC				S	**Sn**	**13 08 42.0**	**-1.3**
	comp=Z,92nm,0.4s,baz=90,slow=16,SNR=6.5						
VILC	**Villavicencio,**	**2.76**	**193**	*eP*	**Pn**	**13 08 18.2**	**-0.4**
VILC				*eS*	**Sn**	**13 08 52.0**	**-0.7**
VILC				*i*		13 09 01.2	
	comp=Z,114nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*eP*	**Pn**	**13 08 19.9**	**+1.0**
GUY2C				*eS*	**Sn**	**13 08 51.9**	**-1.3**
GUY2C				*i*		13 09 02.2	
	comp=Z,123nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.78**	**160**	*eP*	**Pn**	**13 08 17.9**	**-0.7**
PTGC				*eS*	**Sn**	**13 08 50.8**	**-2.1**
PTGC				*i*		13 08 53.4	
	comp=Z,145nm,0.4s						
RECRC	**Villamaria, Ca**	**2.91**	**231**	*eP*	**Pn**	**13 08 23.8**	**+2.9**
RECRC				*eS*	**Sn**	**13 08 56.7**	**0.0**
DBBC	**Dabeiba**	**3.10**	**274**	*eP*	**Pn**	**13 08 22.8**	**0.0**
DBBC				*eS*	**Sn**	**13 08 59.3**	**-1.0**
DBBC				*i*		13 09 02.1	
	comp=Z,65nm,0.3s						
SDV	**Santo Domingo**	**3.18**	**50**	*eP*	**Pn**	**13 08 24.2**	**+0.2**
SDV				*eS*	**Sn**	**13 09 01.8**	**-0.6**
SDV				*i*		13 09 05.8	
	comp=Z,99nm,0.7s						
SDV	**Santo Domingo**	**3.18**	**50**	P	**Pn**	**13 08 24.3**	**+0.4**
	comp=Z,25nm,0.3s,baz=250,slow=15,SNR=10						
SDV				S	**Sn**	**13 09 01.7**	**-0.6**
	comp=Z,125nm,0.6s,baz=249,slow=22,SNR=35						
ARGC	**Ariguani, Magd**	**3.22**	**339**	*eP*	**Pn**	**13 08 26.2**	**+1.9**
ARGC				*eS*	**Sn**	**13 09 02.5**	**-0.5**
ARGC				*i*		13 09 11.2	
	comp=Z,40nm,0.4s						
ANIL	**Santa Ana**	**3.27**	**225**	*eP*	**Pn**	**13 08 25.9**	**+0.8**
ANIL				*eS*	**Sn**	**13 09 04.2**	**-0.2**
ANIL				*i*		13 09 10.6	
	comp=Z,223nm,0.3s						
PRAC	**Prado**	**3.57**	**210**	*eP*	**Pn**	**13 08 28.0**	**-0.9**
PRAC				*eS*	**Sn**	**13 09 10.9**	**-0.2**
PRAC				*i*		13 09 16.2	
	comp=Z,96nm,0.7s						
ORTC	**Ortega, Tolima**	**3.60**	**217**	*eP*	**Pn**	**13 08 29.6**	**+0.3**
ORTC				*eS*	**Sn**	**13 09 12.9**	**+0.9**
ORTC				*i*		13 09 17.6	
	comp=Z,59nm,0.6s						
APAC	**Apartado, Choc**	**3.62**	**287**	*eP*	**Pn**	**13 08 28.7**	**-0.7**
APAC				*eS*	**Sn**	**13 09 09.5**	**-2.7**
APAC				*i*		13 09 16.7	
	comp=Z,52nm,0.4s						
SJCC	**San Jacinto, C**	**3.69**	**326**	*eP*	**Pn**	**13 08 29.5**	**-0.9**
SJCC				*eS*	**Sn**	**13 09 10.4**	**-3.5**
SJCC				*i*		13 09 14.1	
	comp=Z,54nm,0.5s						
PLMC	**San Jos del P**	**3.70**	**239**	*eP*	**Pn**	**13 08 30.7**	**+0.1**
PLMC				*eS*	**Sn**	**13 09 12.9**	**-1.3**
PLMC				*i*		13 09 19.5	
	comp=Z,51nm,0.4s						
LCBC	**Los crdobas,**	**3.82**	**302**	*eS*	**Sn**	**13 09 18.1**	**+1.2**
LCBC				*i*		13 09 20.8	
	comp=Z,59nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	*eP*	**Pn**	**13 08 35.3**	**-1.4**
CRJC				*eS*	**Sn**	**13 09 20.5**	**-4.8**
CRJC				*i*		13 09 24.1	
	comp=Z,27nm,0.2s						
GUVC	**San Jose del G**	**4.28**	**174**	*eP*	**Pn**	**13 08 38.0**	**-0.1**
GUVC				*eS*	**Sn**	**13 09 23.5**	**-4.2**
YOTC	**Yotoco, Valle**	**4.30**	**229**	*eP*	**Pn**	**13 08 38.5**	**+0.1**
YOTC				*eS*	**Sn**	**13 09 27.8**	**-0.4**
YOTC				*i*		13 09 35.0	
	comp=Z,13nm,0.4s						
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*	**Pn**	**13 08 39.3**	**-1.1**
SMRC				*eS*	**Sn**	**13 09 28.1**	**-3.7**
MACC	**Macarena, Meta**	**4.71**	**189**	⇓*i*P	**Pn**	**13 08 41.9**	**-1.9**
MACC				*eS*	**Sn**	**13 09 34.1**	**-3.8**
URIC	**Uribia, Colomb**	**4.97**	**13**	⇑*i*P	Pn	13 08 45.2	-1.9
URIC				*eS*	**Sn**	**13 09 39.4**	**-4.6**
URIC				*i*		13 09 49.0	
	comp=Z,9.7nm,0.6s						
JAMC	**Jamundi, Valle**	**5.06**	**225**	*eP*	**Pn**	**13 08 48.2**	**-0.4**
JAMC				*eS*	**Sn**	**13 09 42.3**	**-4.2**
GARC	**Garzon, Huila**	**5.19**	**208**	*eP*	**Pn**	**13 08 49.0**	**-1.4**
GARC				*eS*	**Sn**	**13 09 44.3**	**-5.5**
GARC				*i*		13 09 49.7	
	comp=Z,27nm,0.3s						
FLOC	**Florencia**	**5.80**	**206**	*eP*	**Pn**	**13 08 57.3**	**-1.0**
BBAC	**Balboa, Cauca**	**6.32**	**221**	*eP*	**Pn**	**13 09 05.6**	**+0.2**
BBAC				*eS*	**Sn**	**13 10 14.7**	**-2.0**
PCRV	**Puerto La Cruz**	**9.00**	**68**	P	**Pn**	**13 09 43.4**	**+2.3**
	comp=Z,3.1nm,0.4s,baz=278,slow=2.3,SNR=2.3						
PCRV				S	**Sn**	**13 11 17.6**	**-3.4**
	comp=Z,3.9nm,0.4s,baz=344,slow=16,SNR=1.7						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPdf**	**13 27 04.0**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=111,slow=3.9,SNR=9.5						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPdf**	**13 27 07.2**	**+3.2**
	comp=Z,0.3nm,0.4s,baz=108,slow=2.5,SNR=12						

IDC 10 13:16:15.6±772.0, 52°.53N×33°.03E, h0km, Error ellipse: s-maj=336.7km s-min=101.2km az=34.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.85**	**28**	I	I	13 47 30.0	
	0.1nm,0.8s,baz=212,slow=317,SNR=6.6						
I31KZ	**AKTYUBINSK INF**	**15.70**	**88**	I	I	14 50 40.0	
	baz=288,slow=331,SNR=4.3						
I46RU	**ZALESOVO INFRA**	**30.46**	**66**	I	I	16 20 10.0	
	baz=292,slow=325,SNR=2.6						
I34MN	**SONGINO INFRAS**	**45.37**	**65**	I	I	17 52 10.0	
	baz=306,slow=331,SNR=1.7						
I45RU	**USSURIYSK INFR**	**61.20**	**54**	I	I	19 36 00.0	
	baz=307,slow=332,SNR=2.9						

*IDC **10** 13:52:56.9±1.1, 45°.84N×142°.43E, h334km±17km, mb3.0/6, mbtmp3.7/10, Error ellipse: s-maj=26.5km s-min=20.7km az=177.0*
*JMA **10** 13:52:56.5±0.4, 46°.N±2°.×14°.3E±°., h336km±3km, MV3.3/37, NE OFF HOKKAIDO*
ISC 10 13:52:56.3±0.8, 45°.58N±0°.09×142°.60E±0°.10, h350km, n29, σ1§52/32, mb3.2/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.56**	**242**	*eP*	**Pn**	**13 53 39.8**	**-0.9**
JWK2				*eS*	**S**	**13 54 12.9**	**-3.4**
JSE	**Soyaes**	**0.62**	**181**	*eP*	**Pn**	**13 53 39.9**	**-1.0**
JRR	**Rishiri**	**1.01**	**245**	P	**Pn**	**13 53 41.2**	**-0.8**
JRBN	**Rebuntou**	**1.09**	**262**	*eP*	**Pn**	**13 53 40.8**	**-1.6**
JSS	**Shosan**	**1.29**	**204**	P	**Pn**	**13 53 43.3**	**-0.1**
JYG	**Yagishiri**	**1.42**	**216**	*eP*	**Pn**	**13 53 43.9**	**-0.1**
ASAJ	**Asahikawa**	**1.46**	**180**	P	**Pn**	**13 53 44.5**	**+0.2**
ASAJ	**Asahikawa**	**1.46**	**180**	P	**Pn**	**13 53 44.4**	**+0.1**
	41nm,0.6s,baz=329,slow=5.3,SNR=42						
JMP	**Maruseppu**	**1.66**	**161**	*eP*	**Pn**	**13 53 45.8**	**+0.3**
JKK2	**Kamakawa 2**	**1.71**	**176**	P	**Pn**	**13 53 46.2**	**+0.5**
JTKR	**Abashiri--Toko**	**1.86**	**149**	*eP*	**Pn**	**13 53 47.1**	**+0.5**
JAB	**Ashibetsu**	**2.09**	**188**	*eP*	**Pn**	**13 53 49.1**	**+0.8**
JAR	**Ashorobuto**	**2.43**	**159**	*eP*	**Pn**	**13 53 51.9**	**+1.0**
JEW	**Eniwo**	**2.86**	**197**	*eP*	**Pn**	**13 53 55.8**	**+1.3**
JAK	**Akkeshi**	**2.99**	**149**	*eP*	**Pn**	**13 53 55.6**	**0.0**
JAK				*eS*	**S**	**13 54 42.0**	**-1.2**
JCH	**Churui**	**3.01**	**169**	*eP*	**Pn**	**13 53 55.5**	**-0.4**
JCH				*eS*	**S**	**13 54 40.5**	**-3.2**
NEM2	**Nemuro 2**	**3.15**	**133**	*eS*	**S**	**13 54 42.8**	**-3.2**
JNBK	**Urakawa-nobuka**	**3.30**	**178**	*eP*	**Pn**	**13 53 58.7**	**+0.3**
JOSM	**Okushiri--Mats**	**4.16**	**214**	*eP*	**Pn**	**13 54 07.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**7.66**	**263**	P	**Pn**	**13 54 46.6**	**+0.2**
	6.5nm,0.5s,baz=71,slow=13,SNR=22						
KLR	**Kul'dur**	**8.22**	**300**	P	**Pn**	**13 54 51.8**	**-1.1**
	1.1nm,0.5s,baz=131,slow=7.3,SNR=2.1						
MJAR	**Matsushiro Arr**	**9.61**	**202**	P	**Pn**	**13 55 12.4**	**+2.6**
	1.8nm,0.5s,baz=11,slow=13,SNR=8.5						
SEY	**Seymchan**	**18.27**	**14**	P	**P**	**13 56 44.7**	**-1.0**
	1.5nm,0.3s,baz=177,slow=13,SNR=13						
ILAR	**Eielson Array**	**41.97**	**37**	P	**P**	**14 00 13.9**	**+0.2**
	0.5nm,0.6s,baz=277,slow=8.4,SNR=10						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**61.73**	**331**	P	**P**	**14 02 37.4**	**-0.6**
	1.7nm,0.7s,baz=67,slow=11,SNR=1.8						
	1.7nm,0.7s						
NOA	**NORSAR Array B**	**66.68**	**337**	P	**P**	**14 03 10.2**	**+0.2**
	0.3nm,0.6s,baz=25,slow=3.4,SNR=1.2						
	0.3nm,0.6s						
HFS	**Hagfors**	**66.70**	**335**	P	**P**	**14 03 10.0**	**-0.1**
	0.9nm,0.4s,baz=22,slow=5.6,SNR=6.5						
	0.9nm,0.4s						
NVAR	**Mina Array Bea**	**69.31**	**56**	P	**P**	**14 03 29.3**	**+2.5**
	0.3nm,0.7s,baz=286,slow=3.7,SNR=2.4						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**71.15**	**48**	P	**P**	**14 03 40.6**	**+2.8**
	0.3nm,0.8s,baz=353,slow=3.9,SNR=2.1						
	0.3nm,0.8s						

*IDC **10** 14:10:28.4±0.9, 27°.56N×141°.71E, h48km±10km, mb3.6/9, mbtmp4.0/12, ML3.6/3, MS2.7/2, Error ellipse: s-maj=27.7km s-min=9.9km az=71.0*
*NEIC **10** 14:10:31.8±1.6, 27°.87N±0°.05×142°.2E±0°.1, h38km±9km, mb4.5/35, Error ellipse: s-maj=17.7km s-min=7.7km az=85.0*
*JMA **10** 14:10:33.3±0.2, 27°.6N±1°.0×14°.2E±°., h67km, MD4.2/36, MV4.3/36, NEAR CHICHIJIMA ISLAND*
JMA Felt I J1 at NEAR CHICHIJIMA ISLAND .
ISC 10 14:10:30.3±0.6, 27°.77N±0°.05×142°.0E±0°.1, h50km, n80, σ1§82/84, mb4.4/27, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.68**	**169**	P	**Pn**	**14 10 46.6**	**+2.8**
CBIJ				S	**Sn**	**14 10 56.2**	**+2.7**
CBIJ	**Chichi jima**	**0.68**	**169**	A	A	14 10 46.6	
	comp=E,31nm,0.4s,comp=N,17nm,0.5s						
JCJ	**Chichijima**	**0.68**	**169**		**Pn**	**14 10 46.6**	**+2.8**
JCJ				Sn	**Sn**	**14 10 56.2**	**+2.6**
JCJ	**Chichijima**	**0.68**	**169**	P	**Pn**	**14 10 42.7**	**-1.1**
	comp=N,1μm,0.4s,baz=284,slow=12,SNR=668						
JCJ				S	**Sn**	**14 10 51.9**	**-1.7**
	comp=N,8μm,0.3s,baz=270,slow=20,SNR=60						
JCJ				LR	LR	14 11 08.4	
	comp=N,245nm,20.4s,baz=115,slow=64						
JHH2	**Haha-jima-NKT2**	**1.14**	**174**	P	**Pn**	**14 10 51.6**	**+1.7**
JHH2				*eS*	**Sn**	**14 11 05.9**	**+1.5**
JHH2	**Haha-jima-NKT2**	**1.14**	**174**	A	A	14 10 51.6	
	comp=E,20nm,0.4s,comp=N,16nm,0.4s						
JHCJ	**Hachijojimakas**	**5.63**	**340**	*eP*	**Pn**	**14 11 53.7**	**+2.3**
JHCJ				*eS*	**Sn**	**14 12 53.9**	**-0.9**
JHJ2	**Mitsune**	**5.66**	**341**	Pn	**Pn**	**14 11 51.5**	**-0.3**
JHJ	**Hachijo jima 2**	**5.68**	**340**	P	**Pn**	**14 11 51.8**	**-0.4**
	comp=N,9.3nm,0.3s,baz=90,slow=19,SNR=7.6						
JHJ				S	**Sn**	**14 12 55.9**	**-0.2**
	comp=N,58nm,0.3s,baz=92,slow=23,SNR=5.3						
	comp=N,32nm,0.3s						
BSO1	**Boso 1**	**6.92**	**353**	P	**Pn**	**14 12 11.0**	**+2.3**
BSO1				S	**Sn**	**14 13 26.8**	**+0.9**
BSO3	**Boso 3**	**7

ASAJ LR LR 14 20 34.7
comp=N,13nm,21.6s,baz=167,slow=37
comp=N,8.3nm,0.9s
JKA Kamikawa-asahi 16.32 1 P **P** **14 14 18.6 +0.4**
USA0B Ussuriysk Arra 18.28 336 P **Pn** **14 14 42.0 +1.8**
YHNB Yeheng 18.80 265 **Pn** **14 14 49.6 +2.9**
YHNB IAmb IAmb 14 15 00.8
comp=Z,37nm,1.3s
TGY Tagaytay City 23.90 240 LR LR 14 25 59.1
comp=Z,37nm,18.2s,baz=197,slow=40
H11N2 WAKE ISLAND Hy 24.08 104 T T 14 41 42.9
baz=297,slow=74
H11N1 WAKE ISLAND Hy 24.08 104 T T 14 41 25.2
baz=297,slow=74
H11N3 WAKE ISLAND Hy 24.10 104 T T 14 41 30.2
baz=297,slow=74
WRA Warramunga Arr 48.01 190 P **P** **14 19 01.1 -3.4**
comp=Z,1.0nm,0.3s,baz=16,slow=8.8,SNR=51
comp=Z,1.0nm,0.3s
MAKZ Makanchi 50.17 309 P **P** **14 19 24.2 +3.3**
CHGN Chignik 50.57 38 P **P** **14 19 24.0 +0.4**
ASAR Alice Springs 51.73 190 P **P** **14 19 29.1 -3.7**
comp=Z,0.2nm,0.3s,baz=12,slow=6.8,SNR=20
comp=Z,0.2nm,0.3s
KURBB Kurchatov Arra 52.48 314 P **P** **14 19 35.3 -2.8**
comp=Z,0.4nm,0.4s,baz=92,slow=7.0,SNR=5.6
comp=Z,0.4nm,0.4s
PSA00 Pilbara Seismi 53.54 206 P **P** **14 19 47.7 +1.6**
PSA00 IAmb IAmb 14 19 47.8
comp=Z,3.2nm,0.8s
PSA00 Pilbara Seismi 53.54 206 P **P** **14 19 46.2 +0.1**
J20K Nowinta River 53.99 29 P **P** **14 19 51.1 +2.1**
IMAR Indian Mountai 54.50 27 P **P** **14 19 54.4 +1.8**
I21K Tanana 55.08 28 P **P** **14 19 59.1 +2.3**
I21K IAmb IAmb 14 20 06.3
comp=Z,8.7nm,1.4s
H23K Yukon River 56.18 27 P **P** **14 20 06.3 +1.5**
RND Reindeer 56.21 30 P **P** **14 20 05.8 +0.8**
RND IAmb IAmb 14 20 48.8
comp=Z,4.7nm,1.3s
SML Sawmill 56.33 32 P **P** **14 20 06.8 +0.8**
TOLK Toolik Lake Re 56.58 24 P **P** **14 20 09.9 +2.3**
TOLK IAmb IAmb 14 20 10.6
comp=Z,10nm,1.5s
GLI Glacier Island 56.88 33 P **P** **14 20 10.8 +1.0**
HDA Harding Lake 57.13 29 P **P** **14 20 13.0 +1.5**
ILAR Eielson Array 57.19 29 P **P** **14 20 12.3 +0.5**
comp=Z,0.8nm,0.8s,baz=270,slow=6.1,SNR=9.2
comp=Z,0.8nm,0.8s
BVAR Borovoye Array 57.47 317 P **P** **14 20 11.8 -2.2**
comp=Z,0.8nm,0.6s,baz=89,slow=8.0,SNR=4.7
comp=Z,0.8nm,0.6s
KLU Klutina 57.47 33 P **P** **14 20 14.4 +0.4**
KLU IAmb IAmb 14 20 48.1
comp=Z,6.4nm,1.2s
FYU Fort Yukon 57.99 27 P **P** **14 20 19.8 +2.3**
FYU IAmb IAmb 14 20 20.7
comp=Z,7.3nm,1.1s
RIDG Independent Ri 58.02 30 P **P** **14 20 19.2 +1.4**
BMAR Burnt Mountain 58.31 26 P **P** **14 20 22.1 +2.4**
SCRK Sand Creek 58.41 30 P **P** **14 20 21.4 +0.8**
SCRK IAmb IAmb 14 20 22.4
comp=Z,6.1nm,1.2s
J26L Joseph Creek 58.60 29 P **P** **14 20 22.6 +0.7**
J26L IAmb IAmb 14 20 23.4
comp=Z,2.5nm,0.7s
K27K Chicken 59.25 30 P **P** **14 20 27.5 +1.2**
K27K IAmb IAmb 14 20 43.6
comp=Z,3.3nm,1.2s
STKA Stephens Creek 59.31 180 P **P** **14 20 23.7 -3.3**
comp=Z,1.7nm,0.9s,baz=360,slow=8.5,SNR=3.7
comp=Z,1.7nm,0.9s
BCAR Beaver Creek A 59.40 31 P **P** **14 20 29.4 +2.0**
I28M Miner Creek 60.14 28 P **P** **14 20 33.6 +1.1**
I28M IAmb IAmb 14 20 34.8
comp=Z,1.7nm,0.7s
H29M Whitestone 60.75 27 P **P** **14 20 38.6 +2.0**
H29M IAmb IAmb 14 20 43.0
comp=Z,6.2nm,1.2s
G29M Pine Creek 60.86 26 P **P** **14 20 38.8 +1.5**
G29M IAmb IAmb 14 20 42.9
comp=Z,7.8nm,1.4s
M29M Somme Creek 60.96 32 P **P** **14 20 39.9 +1.7**
M29M IAmb IAmb 14 20 40.9
comp=Z,2.0nm,0.8s
O29M Mount Kennedy 61.10 34 P **P** **14 20 41.6 +2.4**
K29M Barlow Dome 61.27 30 P **P** **14 20 42.1 +1.9**
K29M IAmb IAmb 14 20 42.8
comp=Z,3.3nm,1.0s
EPYK Eagle Plains 61.41 27 P **P** **14 20 42.7 +1.7**
EPYK IAmb IAmb 14 20 43.5
comp=Z,3.7nm,0.8s
I30M Mount Dempster 61.64 28 P **P** **14 20 43.9 +1.1**
N30M Aishikik Lake 61.70 33 P **P** **14 20 44.8 +1.6**
N30M IAmb IAmb 14 21 12.4
comp=Z,7.9nm,1.5s
M30M Minto, Yukon 61.72 31 P **P** **14 20 44.8 +1.6**
J30M Hart River 61.72 29 P **P** **14 20 44.8 +1.5**
INK Inuvik 62.47 25 P **P** **14 20 48.6 +0.5**
M31M Drury Creek, Y 62.88 32 P **P** **14 20 52.5 +1.5**
M31M IAmb IAmb 14 20 53.1
comp=Z,3.1nm,0.8s
Q32M Nakina River 64.47 35 P **P** **14 21 04.1 +2.4**
PINE Pine Mountain 76.04 48 P **P** **14 22 14.1 +1.4**
PINE IAmb IAmb 14 22 55.5
comp=Z,5.4nm,1.1s
FINES FINESS Array B 77.29 334 P **P** **14 22 18.1 -1.0**
comp=Z,1.0nm,0.6s,baz=69,slow=7.6,SNR=6.0
comp=Z,1.0nm,0.6s
NVAR Mina Array Bea 80.20 52 P **P** **14 22 36.5 +0.6**
comp=Z,0.5nm,0.6s,baz=305,slow=5.8,SNR=5.3
comp=Z,0.5nm,0.6s
HFS Hagfors 82.76 337 P **P** **14 22 46.9 -1.8**
comp=Z,2.2nm,0.9s,baz=85,slow=4.8,SNR=5.0
comp=Z,2.2nm,0.9s
ANMO Albuquerque 90.14 50 LR LR 14 57 22.6
comp=Z,173nm,20.4s,baz=272,slow=31

DJA ***10*** *14:16:29.3±0.2,8°S±2°×11°9E±°, h10km, M4.3/15, mb4.3/7, MLv4.3/15*
NEIC ***10*** *14:16:30.8±1.1, 7°.55S±0°.07×119°.28E±0°.07, h27km±5km, mb4.1/13, Error ellipse: s-maj=11.2km s-min=9.1km az=55.0*
IDC ***10*** *14:16:32.7±0.7, 7°.41S×119°.46E, h43km±6km, mb3.9/8, mbtmp4.1/10, ML4.0/2, MS3.1/5, Error ellipse: s-maj=25.3km s-min=9.3km az=86.0*
ISC 10 14:16:31.2±0.5, 7°.59S±0°.04×119°.26E±0°.04, h35km, n73, σ1$40/81, mb4.2/11, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.92**	**230**	P	**Pn**	**14 17 02.4**	**+1.0**
PLAI	**Plampang**	**1.92**	**230**	P	**Pn**	**14 17 02.4**	**+1.0**
PLAI				S	**Sn**	**14 17 24.0**	**-0.3**
BKSI	**Bulukumba**	**2.41**	**21**	P	**Pn**	**14 17 08.2**	**0.0**
BKSI				S	**Sn**	**14 17 34.7**	**-1.8**
KAPI	**Kappang**	**2.60**	**11**	P	**Pn**	**14 17 11.4**	**+0.5**
KAPI	**Kappang**	**2.60**	**11**	P	**Pn**	**14 17 10.8**	**-0.1**
	56nm,0.3s,baz=183,slow=8.7,SNR=45						
KAPI				S	**Sn**	**14 17 38.2**	**-3.1**
	106nm,0.4s,baz=315,slow=20,SNR=9.1						
KAPI				LR	LR	14 18 27.3	
	comp=Z,453nm,18.2s,baz=178,slow=48						
	196nm,0.4s						
TWSI	**Taliwang, Sumb**	**2.62**	**244**	P	**Pn**	**14 17 12.0**	**+0.9**
TWSI				S	**Sn**	**14 17 41.5**	**-0.1**
BASI	**Baing, Sumba**	**2.92**	**154**	P	**Pn**	**14 17 15.8**	**+0.6**
MMRI	**Maumere**	**3.12**	**110**		**Pn**	**14 17 18.2**	**+0.2**
MMRI	**Maumere**	**3.12**	**110**	P	**Pn**	**14 17 18.8**	**+0.8**
MMRI	**Maumere**	**3.12**	**110**	P	**Pn**	**14 17 18.4**	**+0.4**
MMRI				S	**Sn**	**14 17 53.1**	**-1.1**
SRBI	**Singaraja**	**4.04**	**263**	P	**Pn**	**14 17 31.1**	**+0.5**
SRBI				S	**Sn**	**14 18 13.0**	**-3.8**
IGBI	**Denpasar**	**4.25**	**253**	P	**Pn**	**14 17 35.0**	**+1.5**
TTSI	**Tana Toraja**	**4.55**	**7**	P	**Pn**	**14 17 39.5**	**+1.9**
TTSI				S	**Sn**	**14 18 30.7**	**+1.4**
BATI	**Baumata**	**5.07**	**121**	P	**Pn**	**14 17 47.5**	**+2.7**
	46nm,1.5s,0.2nm						
BATI	**Baumata**	**5.07**	**121**	LR	LR	14 20 01.4	
	comp=Z,255nm,20.0s,baz=40,slow=42						
JAGI	**Jajag, Banyuwa**	**5.13**	**260**		**Pn**	**14 17 46.5**	**+0.8**
JAGI	**Jajag, Banyuwa**	**5.13**	**260**	P	**Pn**	**14 17 47.5**	**+1.8**
JAGI	**Jajag, Banyuwa**	**5.13**	**260**	P	**Pn**	**14 17 45.9**	**+0.2**
	56nm,1.0s,0.3nm						
SOEI	**Soe**	**5.40**	**114**	P	**Pn**	**14 17 51.7**	**+2.3**
	61nm,1.1s,0.2nm						
GMJI	**Gumukmas**	**5.80**	**263**	P	**Pn**	**14 17 54.0**	**-0.9**
	26nm,0.6s,0.2nm						
MPSI	**Mapaga**	**7.90**	**5**	P	**Pn**	**14 18 25.3**	**+1.6**
	7.9nm,0.8s,0.2nm						
SANI	**Sanana**	**8.67**	**51**	P	**Pn**	**14 18 35.8**	**+1.5**
SANI	**Sanana**	**8.67**	**51**	P	**Pn**	**14 18 35.1**	**+0.8**
	13nm,0.7s						
TOLI2	**Tolitoli**	**8.77**	**10**	Pn	**Pn**	**14 18 36.0**	**+0.3**
LEM	**Lembang**	**11.58**	**273**	LR	LR	14 24 50.9	
	comp=Z,133nm,18.3s,baz=136,slow=42						
KNRA	**Kununurra**	**12.29**	**132**	Pn	**Pn**	**14 19 22.0**	**-1.9**
KNRA	**Kununurra**	**12.29**	**132**	P	**Pn**	**14 19 23.0**	**-0.9**
MYLDM	**Lahad Datu**	**12.71**	**357**	Pn	**Pn**	**14 19 28.0**	**-1.6**
MTN	**Manton Dam**	**12.79**	**115**	Pn	**Pn**	**14 19 29.3**	**-1.5**
MTN	**Manton Dam**	**12.79**	**115**	P	**Pn**	**14 19 29.7**	**-1.1**
MBWA	**Marble Bar**	**13.50**	**178**	Pn	**Pn**	**14 19 39.7**	**-0.6**
MBWA	**Marble Bar**	**13.50**	**178**	P	**Pn**	**14 19 39.8**	**-0.6**
SIJI	**Sorong**	**13.70**	**61**	LR	LR	14 25 30.1	
	comp=Z,38nm,21.4s,baz=106,slow=40						
KDU	**Kakadu**	**13.95**	**112**	P	**Pn**	**14 19 48.0**	**+1.4**
GIRL	**Giralia**	**15.73**	**197**	P	**P**	**14 20 12.6**	**-1.3**
DAV	**Davao City (W)**	**15.87**	**24**	LR	LR	14 27 16.7	
	comp=Z,38nm,18.4s,baz=238,slow=41						
MEEK	**Meekatharra**	**18.95**	**182**	P	**Pn**	**14 20 51.4**	**+1.0**
WB0	**Warramunga Arr**	**19.02**	**131**	P	**P**	**14 20 50.0**	**-0.3**
WB0				IAmb	IAmb	14 21 04.2	
	comp=Z,4.8nm,0.7s						
WRA	**Warramunga Arr**	**19.09**	**132**	P	**P**	**14 20 50.6**	**-0.5**
WRA	**Warramunga Arr**	**19.09**	**132**	P	**P**	**14 20 50.7**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=307,slow=13,SNR=13						
WRA				S	Sn	14 24 10.4	-15
	comp=Z,1.0nm,1.0s,baz=300,slow=21,SNR=3.7						
	comp=Z,0.8nm,0.5s						
WRAB	**Tennant Creek**	**19.09**	**132**	P	**P**	**14 20 50.8**	**-0.2**
WRAB	**Tennant Creek**	**19.09**	**132**	P	**Pn**	**14 20 51.8**	**-0.3**
WB2	**Warramunga Arr**	**19.10**	**132**	P	**P**	**14 20 50.6**	**-0.6**
WB2				IAmb	IAmb	14 21 11.3	
	comp=Z,6.5nm,0.9s						
WR0	**Warramunga Arr**	**19.25**	**131**	P	**P**	**14 20 52.9**	**0.0**
WR0				IAmb	IAmb	14 20 59.9	
	comp=Z,6.1nm,0.7s						
AS31	**Alice Springs**	**21.28**	**140**	P	**P**	**14 21 15.4**	**+0.5**
AS31				IAmb	IAmb	14 21 34.3	
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**21.28**	**140**	P	**P**	**14 21 16.0**	**+1.1**
ASAR	**Alice Springs**	**21.28**	**140**	P	**P**	**14 21 15.8**	**+1.0**
	comp=Z,2.9nm,0.5s,baz=317,slow=9.6,SNR=32						
ASAR				S	**S**	**14 25 03.4**	**-6.3**
	comp=Z,1.1nm,1.0s,baz=317,slow=20,SNR=5.3						
	comp=Z,2.9nm,0.5s						
BLDU	**Ballidu**	**23.03**	**186**	P	**P**	**14 21 33.9**	**+0.5**
QIS	**Mount Isa**	**23.53**	**125**	P	**P**	**14 21 39.1**	**+0.6**
COEN	**Coen**	**24.32**	**107**	P	**P**	**14 21 45.5**	**-0.4**
COEN	**Coen**	**24.32**	**107**	P	**P**	**14 21 46.5**	**+0.6**
OOD	**Oodnadatta**	**25.41**	**144**	P	**P**	**14 21 57.2**	**+1.6**
MTSU	**Mount Surprise**	**26.54**	**116**	P	**P**	**14 22 07.8**	**+1.7**
BBOO	**Buckleboo**	**29.55**	**150**	P	**P**	**14 22 33.4**	**+0.7**
BBOO	**Buckleboo**	**29.55**	**150**	P	**P**	**14 22 33.9**	**+1.2**
STKA	**Stephens Creek**	**31.89**	**142**	P	**P**	**14 22 54.5**	**+1.1**
STKA	**Stephens Creek**	**31.89**	**142**	P	**P**	**14 22 54.6**	**+1.2**
STKA	**Stephens Creek**	**31.89**	**142**	P	**P**	**14 22 54.5**	**+1.1**
	comp=Z,1.8nm,0.4s,baz=326,slow=7.7,SNR=15						
	comp=Z,1.8nm,0.4s						
MK31	**Makanchi Array**	**63.33**	**332**	P	**P**	**14 26 57.1**	**+0.3**
MKAR	**Makanchi Array**	**63.33**	**332**	P	**P**	**14 26 57.1**	**+0.3**
MKAR	**Makanchi Array**	**63.33**	**332**	P	**P**	**14 26 57.2**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=140,slow=7.8,SNR=25						
MKAR				pP	**sP**	**14 27 09.4**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=143,slow=7.4,SNR=10						
	comp=Z,3.0nm,0.7s						
ZAA0	**Zalesovo Array**	**67.82**	**339**	P	**P**	**14 27 24.3**	**-1.3**
ZAA0				IAmb	IAmb	14 27 25.8	
	comp=Z,2.8nm,1.0s						
ZALV	**Zalesovo Beam**	**67.82**	**339**	P	**P**	**14 27 24.2**	**-1.4**
ZALV	**Zalesovo Beam**	**67.82**	**339**	P	**P**	**14 27 25.0**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=142,slow=5.2,SNR=6.6						
ZALV				pP	**sP**	**14 27 37.9**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=133,slow=4.6,SNR=3.5						
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**67.83**	**333**	P	**P**	**14 27 25.7**	**0.0**
	comp=Z,1.4nm,0.2s,baz=138,slow=5.4,SNR=7.2						
KURBB				pP	**sP**	**14 27 38.8**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=141,slow=5.5,SNR=2.4						
	comp=Z,1.4nm,0.2s						
KURK	**Kurchatov**	**67.86**	**333**	P	**P**	**14 27 25.7**	**-0.2**
KURK				IAmb	IAmb	14 27 27.8	
	comp=Z,1.8nm,0.7s						
MAW	**Mawson**	**70.64**	**200**	P	**P**	**14 27 43.5**	**+0.7**
BVAR	**Borovoye Array**	**73.18**	**332**	P	**P**	**14 27 58.7**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=126,slow=7.3,SNR=4.1						
	comp=Z,0.6nm,0.7s						
VNDA	**Vanda**	**73.33**	**171**	P	**P**	**14 28 00.9**	**+2.0**
VNDA	**Vanda**	**73.33**	**171**	P	**P**	**14 28 00.6**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=302,slow=5.4,SNR=4.4						
	comp=Z,0.5nm,0.5s						
ABKAR	**Akbulak array**	**76.57**	**325**	P	**P**	**14 28 18.1**	**+0.1**
QSPA	**South Pole Qui**	**82.40**	**180**	P	**P**	**14 28 50.8**	**+1.1**
QSPA				IAmb	IAmb	14 29 05.3	
	comp=Z,4.2nm,1.3s						
QSPA	**South Pole Qui**	**82.40**	**180**	P	**P**	**14 28 50.6**	**+1.0**
	comp=Z,1.3nm,1.0s,baz=344,slow=4.8,SNR=5.1						
QSPA				pP	**pwP**	**14 29 04.2**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=308,slow=3.7,SNR=2.9						
	comp=Z,1.3nm,1.0s						

CNRM ***10*** *14:19:16.9, 37°.06N×7°.53W, h11km, ml2.2*
SFS ***10*** *14:19:19.8, 37°.20N×7°.61W, h1km, ML2.3/9, ML2.4/5, MLv2.2/9*
INMG ***10*** *14:19:19.6±1.4, 37°.19N×7°.57W, h2km, ML2.3, Error ellipse: s-maj=2.7km s-min=1.7km az=138.0*
IGIL ***10*** *14:19:19.4, 37°.18N×7°.56W, h7km, ML2.5*
MDD ***10*** *14:19:19.8±0.5, 37°.24N×7°.59W, h8km±4km, mb_Lg2.5/6, Error ellipse: s-maj=4.2km s-min=2.7km az=164.0*
ISC 10 14:19:17.8±0.9, 37°.13N±0°.03×7°.55W±0°.02, h16km±6km, n47, σ0$94/85, 1C-3D, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTAV	**Tavira**	**0.08**	**268**	*e*Sg	**Sg**	**14 19 23.1**	**-0.2**
PTAV				A	A	14 19 23.8	
	452nm,0.1s						
PVAQ	**Vaqueiros**	**0.31**	**334**	‖*i*Pg	**Pg**	**14 19 24.3**	**-0.1**
PVAQ				*e*Sg	**Sg**	**14 19 27.7**	**-1.1**
PVAQ				A	A	14 19 28.1	
	164nm,0.3s						
PVAQ	**Vaqueiros**	**0.31**	**334**	P	**Pg**	**14 19 24.4**	**0.0**
PVAQ				S	**Sg**	**14 19 28.5**	**-0.3**
PVAQ	**Vaqueiros**	**0.31**	**334**	Pg	**Pg**	**14 19 24.3**	**-0.1**
PFARO	**Faro**	**0.31**	**251**	*e*Sg	**Sb**	**14 19 29.9**	**0.0**
PBDV	**Barranco-do-Ve**	**0.32**	**291**	‖*i*Pg	**Pg**	**14 19 24.8**	**+0.1**
PBDV				*e*Sg	**Sg**	**14 19 28.7**	**-0.7**
PBDV				A	A	14 19 31.0	
	104nm,0.2s						
EGRO	**El Granado**	**0.41**	**8**	Pg	**Pg**	**14 19 26.5**	**+0.3**
EGRO				Sg	**Sg**	**14 19 30.9**	**-1.0**
EGRO				*i* Vmb_Lg		14 19 31.6	
EGRO	**El Granado**	**0.41**	**8**	Sg	**Sg**	**14 19 31.3**	**-0.5**
EGRO				Pg	**Pg**	**14 19 26.5**	**+0.3**
PALBU	**Albufeira**	**0.56**	**267**	*e*Sg	**Sb**	**14 19 37.4**	**+0.5**
PCVE	**Castro Verde**	**0.64**	**323**	‖*e*Pg	**Pg**	**14 19 29.9**	**-0.5**
PCVE				*e*Sg	**Sg**	**14 19 38.5**	**-0.4**
PCVE				A	A	14 19 41.1	
	29nm,0.1s						
ARNO	**Arenosillo**	**0.66**	**92**	Sg	**Sn**	**14 19 43.0**	**+0.6**
PPOR	**Portimao**	**0.79**	**271**	*e*S	**Sb**	**14 19 44.6**	**+1.1**
MORF	**Marmelete**	**0.90**	**282**	*e*P	**Pb**	**14 19 35.0**	**0.0**
MORF				*e*S	**Sg**	**14 19 47.1**	**0.0**
MORF				A	A	14 19 50.0	
	90nm,0.1s						
MORF	**Marmelete**	**0.90**	**282**	*e*P	**Pb**	**14 19 35.0**	**0.0**
MORF				*e*S	**Sb**	**14 19 46.9**	**+0.2**
MORF				IAML		14 19 49.3	
	comp=E,118nm,0.2s						
PLAGO	**Lagos**	**0.91**	**268**	*e*S	**Sn**	**14 19 48.8**	**+0.2**
PBEJ	**Beja**	**0.93**	**345**	*e*P	**Pb**	**14 19 35.7**	**+0.1**
PBEJ				*e*S	**Sb**	**14 19 47.4**	**-0.3**
PBEJ				A	A	14 19 49.9	
	comp=E,38nm,0.1s						
EMIN	**Mina Concepcio**	**0.95**	**47**	Pg	**Pn**	**14 19 36.5**	**+0.1**
EMIN				Sg	**Sg**	**14 19 48.6**	**-0.1**
EMIN				*i* Vmb_Lg		14 19 50.5	
PALJ	**Aljezur**	**1.01**	**281**	*e*S	**Sn**	**14 19 51.5**	**+0.3**
PFVI	**Vila Bisbo**	**1.02**	**271**	*e*P	**Pn**	**14 19 37.8**	**+0.4**
PFVI				*e*S	**Sg**	**14 19 51.2**	**+0.2**
PFVI				A	A	14 19 54.0	
	comp=E,34nm,0.3s						
PFVI	**Vila Bisbo**	**1.02**	**271**	P	**Pb**	**14 19 37.3**	**+0.2**
PFVI				S	**Sg**	**14 19 51.0**	**0.0**
PFVI	**Vila Bisbo**	**1.02**	**271**	Sg	**Sg**	**14 19 50.7**	**-0.3**
PFVI				Pg	**Pn**	**14 19 37.7**	**+0.3**
PTEO	**Sao Teotonio**	**1.02**	**294**	*e*P	**Pg**	**14 19 37.9**	**+0.2**
PTEO				*e*S	**Sn**	**14 19 51.5**	**0.0**
PTEO				A	A	14 19 53.0	
	comp=E,47nm,0.4s						
PBAR	**Barrancos**	**1.12**	**21**	*e*P	**Pg**	**14 19 39.7**	**+0.1**
PBAR				*e*S	**Sb**	**14 19 53.8**	**+0.6**
PBAR				A	A	14 19 55.8	
	comp=E,38nm,0.3s						
PBAR	**Barrancos**	**1.12**	**21**	Sg	**Sn**	**14 19 54.0**	**+0.1**
PBAR				Pg	**Pg**	**14 19 39.9**	**+0.3**
PNCL	**Nicolau / Gran**	**1.25**	**322**	*e*P	**Pn**	**14 19 40.6**	**0.0**
PNCL				*e*S	**Sn**	**14 19 57.8**	**+0.7**
PNCL				A	A	14 20 03.3	
	comp=E,16nm,0.3s						
PNCL	**Nicolau / Gran**	**1.25**	**322**	Pg	**Pn**	**14 19 40.4**	**-0.2**
PNCL				Sg	**Sn**	**14 19 57.7**	**+0.5**
EVO	**Evora**	**1.45**	**346**	⇑*i*P	**Pb**	**14 19 44.3**	**-0.1**
EVO				*e*S	**Sn**	**14 20 02.5**	**+0.5**
EVO				A	A	14 20 05.2	
	comp=E,31nm,0.4s						
EVO	**Evora**	**1.45**	**346**	Pn	**Pb**	**14 19 44.3**	**-0.1**
EVO				Sn	**Sb**	**14 20 03.1**	**+0.4**
EBAD	**Badajoz**	**1.68**	**15**	Pg	**Pb**	**14 19 48.5**	**+0.1**
EBAD				Sg	**Sn**	**14 20 08.8**	**+1.1**
EBAD				*i* Vmb_Lg		14 20 11.5	
EBAD	**Badajoz**	**1.68**	**15**	Pn	**Pb**	**14 19 47.9**	**-0.5**
EBAD				Sn	**Sb**	**14 20 09.5**	**+0.3**
PESTR	**Estremoz**	**1.74**	**359**	*e*Pg	**Pb**	**14 19 49.9**	**+0.5**
PESTR				*e*Sn	**Sn**	**14 20 10.4**	**+1.3**
PESTR				A	A	14 20 12.3	
	comp=E,18nm,0.3s						
PESTR	**Estremoz**	**1.74**	**359**	P	**Pb**	**14 19 49.8**	**+0.5**
PESTR				S	**Sb**	**14 20 11.3**	**+0.4**
PESTR	**Estremoz**	**1.74**	**359**	Pn	**Pb**	**14 19 48.6**	**-0.8**
PESTR				Sn	**Sn**	**14 20 10.4**	**+1.3**
ECAB	**El Cabril**	**1.94**	**60**	Pn	**Pb**	**14 19 51.8**	**-1.0**
ECAB				Pg	**Pg**	**14 19 53.9**	**-1.2**
ECAB				Sn	**Sb**	**14 20 17.3**	**+0.5**
ECAB				*i* Vmb_Lg		14 20 20.8	
ECAB	**El Cabril**	**1.94**	**60**	Pn	**Pb**	**14 19 53.0**	**+0.1**
ECAB				Sn	**Sb**	**14 20 17.4**	**+0.6**
PMTG	**Montargil**	**2.01**	**345**	*e*Pn	**Pn**	**14 19 51.4**	**+0.3**
PMTG	**Montargil**	**2.01**	**345**	*e*Pg	**Pb**	**14 19 54.4**	**+0.4**
PMTG				*e*Sn	**Sn**	**14 20 16.5**	**+0.7**
PMTG				*e*Sg	**Sb**	**14 20 19.4**	**+0.7**
PMTG				A	A	14 20 25.5	
	comp=E,16nm,0.6s						
PMRV	**Marv??o**	**2.30**	**3**	*e*Pn	**Pn**	**14 19 55.8**	**+0.7**
PMRV				*e*Sg	**Sb**	**14 20 27.1**	**0.0**
PMRV				A	A	14 20 32.3	
	comp=E,11nm,0.5s						
EADA	**Adamuz**	**2.58**	**65**	Pn	**Pn**	**14 19 59.8**	**+0.8**
EADA				Pg	**Pb**	**14 20 05.4**	**+1.7**
EADA				Sn	**Sn**	**14 20 29.0**	**-1.0**
EADA				Sg	**Sb**	**14 20 37.2**	**+2.0**
EADA				*i* Vmb_Lg		14 20 44.1	
PCBR	**Castelo Branco**	**2.71**	**1**	*e*Sg	**Sg**	**14 20 43.5**	**-1.4**
PCBR				A	A	14 20 51.1	
	comp=E,5.0nm,0.7s						
PCAS	**Casmilo, Conde**	**3.01**	**346**	*e*Sg	**Sg**	**14 20 52.5**	**-2.2**
PCAS				A	A	14 20 56.6	
	comp=E,8.3nm,0.5s						
MTE	**Manteigas**	**3.27**	**0**	*e*Sg	**Sg**	**14 20 59.3**	**-3.5**
MTE				A	A	14 21 02.0	
	comp=E,14nm,0.6s						
PAB	**San Pablo**	**3.49**	**45**	Pn	**Pn**	**14 20 12.4**	**+0.9**
PAB				Sn	**Sn**	**14 20 52.5**	**0.0**
PAB				Sg	**Sb**	**14 21 05.1**	**+3.7**
PAB				*i* Vmb_Lg		14 21 14.3	
MVO	**Moncorvo**	**4.05**	**6**	*e*Sn	**Sn**	**14 21 04.0**	**-2.3**
MVO				A	A	14 21 33.0	
	comp=E,5.2nm,0.4s						
POLO	**Lamas de Olo**	**4.25**	**358**	*e*Sn	**Sn**	**14 21 09.6**	**-1.5**
MD31	**MD31**	**4.83**	**151**	P	**Pn**	**14 20 29.3**	**-0.6**
MD31				S	**Sn**	**14 21 24.2**	**-1.3**
MDT	**Midelt**	**4.94**	**150**	P	**Pn**	**14 20 31.0**	**-0.4**
MDT				S	**Sn**	**14 21 27.1**	**-1.1**

IDC ***10*** *14:30:15.6±2.4, 17°.19S×174°.99W, h261km±36km, mb3.6/5, mbtmp4.3/7, Error ellipse: s-maj=41.0km s-min=35.9km az=142.0*
ISC 10 14:30:14.7±1.0, 17°.1S±0°.3×175°.0W±0°.2, h256km, n7, σ1$30/9, mb3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.45**	**45**	P	**Pn**	**14 31 25.6**	**+1.4**
	38nm,0.2s,baz=247,slow=7.7,SNR=6.4						
AFI				S	**S**	**14 32 17.4**	**-2.1**
	68nm,0.3s,baz=51,slow=19,SNR=11						
DZM	**Mont Dzumac**	**18.16**	**251**	P	**Pn**	**14 34 11.0**	**-1.0**
	4.4nm,0.7s,baz=117,slow=11,SNR=1.8						
URZ	**Urewera**	**22.19**	**197**	P	**P**	**14 34 49.1**	**-0.7**
	3.2nm,0.4s,baz=16,slow=7.4,SNR=1.5						
	3.2nm,0.4s						
CTA	**Charters Tower**	**36.78**	**259**	P	**P**	**14 36 58.8**	**+0.3**
	1.9nm,0.6s,baz=85,slow=11,SNR=2.3						
	1.9nm,0.6s				

ISC 10 14:36:03.5±0.4, 9°13S±0.08×109°69W±0.08, h20km, n190, σ1§82/96, mb5.0/72, MS4.7/61, 3C-1D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**17.90**	**179**	LR	LR	14 45 06.3	
	comp=Z,2μm,18.4s,baz=358,slow=30						
MCRA	**Macar, Loja**	**29.90**	**83**	P	**P**	**14 42 09.9**	**-0.4**
MCRA	**Macar, Loja**	**29.90**	**83**	*e*P	**P**	**14 42 07.3**	**-3.0**
TAOE	**Nuku Hiva Isla**	**30.08**	**268**	*e*LR	LR	14 49 40.5	
	comp=Z,2μm,25.2s						
MTO3	**Montecristo**	**30.88**	**41**	P	**P**	**14 42 19.6**	**+0.6**
MTO3				IAmb	IAmb	14 42 41.1	
	comp=Z,22nm,1.2s						
ORTG	**Ortega, Santa**	**30.93**	**52**	P	**P**	**14 42 18.4**	**-1.0**
ORTG				IAmb	IAmb	14 42 27.8	
	comp=Z,31nm,1.4s						
COHC	**Cochancay**	**30.98**	**80**	P	**P**	**14 42 18.9**	**-0.9**
COHC	**Cochancay**	**30.98**	**80**	*e*P	**P**	**14 42 21.5**	**+1.7**
ATAH	**Atahualpa**	**31.04**	**89**	LR	LR	14 51 28.2	
	comp=Z,1μm,22.0s,baz=265,slow=30						
JTS	**Las Juntas de**	**31.28**	**52**	P	**P**	**14 42 22.5**	**0.0**
JTS				IAmb	IAmb	14 42 31.2	
	comp=Z,50nm,1.5s						
JTS	**Las Juntas de**	**31.28**	**52**	LR	LR	14 51 33.5	
	comp=Z,2μm,21.3s,baz=214,slow=30						
BOAB	**BOACO BROADBAND**	**32.09**	**48**	P	**P**	**14 42 27.3**	**-2.2**
ACON	**Acoyapa**	**32.15**	**50**	P	**P**	**14 42 29.4**	**-0.6**
ACON	**Acoyapa**	**32.15**	**50**	*e*P	**P**	**14 42 33.2**	**+3.2**
MATN	**Matagalpa**	**32.21**	**47**	P	**P**	**14 42 30.3**	**-0.4**
NNA	**Nana**	**32.41**	**98**	LR	LR	14 52 08.1	
	comp=Z,1μm,18.1s,baz=268,slow=30						
GMAL	**Guarumal, Vera**	**32.95**	**60**	*e*P	**P**	**14 42 38.3**	**+1.2**
BONI	**La Bonita**	**33.42**	**75**	*e*P	**P**	**14 42 45.8**	**+4.3**
YOTC	**Yotoco, Valle**	**35.70**	**70**	*e*P	**P**	**14 43 03.7**	**+2.6**
TEIG	**Tepich**	**35.99**	**36**	P	**P**	**14 43 03.7**	**+0.4**
PRAC	**Prado**	**36.97**	**71**	*e*P	**P**	**14 43 12.2**	**+0.3**
GUY2C	**Guyana, Caldas**	**37.07**	**69**	*e*P	**P**	**14 43 14.9**	**+1.7**
H03N2	**Juan Fernandez**	**37.25**	**135**	T	T	15 22 42.0	
	baz=302,slow=77						
H03N3	**Juan Fernandez**	**37.26**	**135**	T	T	15 22 43.7	
	baz=302,slow=77						
H03N1	**Juan Fernandez**	**37.26**	**135**	T	T	15 22 40.1	
	baz=302,slow=77						
HBVL	**Hebbronville**	**37.54**	**16**	P	**P**	**14 43 15.7**	**-0.7**
HBVL				IAmb	IAmb	14 43 28.2	
	comp=Z,41nm,1.5s						
NORC	**Norcasia**	**37.65**	**68**	*e*P	**P**	**14 43 18.2**	**+0.5**
ROSC	**El Rosal**	**37.89**	**70**	LR	LR	14 56 05.3	
	comp=Z,639nm,19.7s,baz=252,slow=31						
ZARC	**Zaragoza, Cauc**	**38.44**	**66**	*e*P	**P**	**14 43 26.1**	**+1.8**
833A	**Chaparral WMA,**	**38.54**	**15**	P	**P**	**14 43 23.4**	**-1.4**
TX31	**Lajitas Ar. Si**	**38.68**	**8**	P	**P**	**14 43 27.0**	**+0.9**
TXAR	**Lajitas Array**	**38.68**	**8**	P	**P**	**14 43 28.7**	**+2.6**
	comp=Z,1.9nm,1.0s,baz=196,slow=9.4,SNR=4.4						
	comp=Z,1.9nm,1.0s						
DRIO	**Del Rio**	**39.32**	**13**	P	**P**	**14 43 31.8**	**+0.4**
DRIO				IAmb	IAmb	14 43 38.6	
	comp=Z,17nm,1.3s						
RUSC	**La Rusia**	**39.42**	**69**	*e*P	**P**	**14 43 34.0**	**+1.0**
SAND	**Sanderson**	**39.54**	**10**	P	**P**	**14 43 33.3**	**+0.1**
SAND				IAmb	IAmb	14 43 45.0	
	comp=Z,22nm,1.2s						
BARC	**Barichara**	**39.60**	**68**	*e*P	**P**	**14 43 36.9**	**+2.7**
PPT	**Papeete**	**39.63**	**254**	LR	LR	14 55 35.2	
	comp=Z,599nm,18.9s,baz=81,slow=30						
PPT2	**Papeete2**	**39.64**	**253**	*e*SS	SS	14 52 36.1	+3.7
	comp=Z,6μm,28.5s						
PPT2				*e*LR	LR	14 54 12.5	
	comp=Z,883nm,26.2s						
PPT2				*e*LR	LR	14 54 30.8	
	comp=Z,1μm,24.2s						
425A	**Indio Mountain**	**39.95**	**6**	P	**P**	**14 43 37.5**	**+0.7**
TBI	**Tubuai**	**40.56**	**245**	*e*S	**S**	**14 49 47.0**	**-3.4**
	comp=Z,902nm,26.2s						
TBI				*e*SS	**SnSn**	**14 53 03.2**	**+6.7**
	comp=Z,20μm,30.2s						
TBI				*e*LR	LR	14 54 56.2	
	comp=Z,29μm,24.5s						
TBI				*e*LR	LR	14 55 05.4	
	comp=Z,7μm,27.0s						
TBI	**Tubuai**	**40.56**	**245**	*e*T	T	15 26 39.3	
	comp=Z,9.5nm,0.3s						
MNTX	**Cornudas Mount**	**40.81**	**6**	P	**P**	**14 43 43.7**	**0.0**
LPAZ	**La Paz**	**41.10**	**104**	*e*P	**P**	**14 43 48.3**	**+1.2**
LVC	**Limon Verde**	**41.30**	**114**	LR	LR	14 56 23.7	
	comp=Z,2μm,19.5s,baz=280,slow=29						
ESJX	**Sierra Juarez**	**41.34**	**352**	P	**P**	**14 43 48.5**	**+0.2**
BRDY	**Brady**	**41.47**	**14**	P	**P**	**14 43 49.4**	**+0.2**
BRDY				IAmb	IAmb	14 43 56.5	
	comp=Z,24nm,1.0s						
YUH	**Yuha Desert**	**41.97**	**352**	P	**P**	**14 43 53.5**	**+0.3**
BAR	**Barrett**	**42.11**	**351**	P	**P**	**14 43 54.7**	**+0.3**
BAR				IAmb	IAmb	14 44 01.2	
	comp=Z,32nm,1.6s						
AC02	**Maricunga**	**42.17**	**120**	P	**P**	**14 43 54.2**	**-1.4**
AC02				IAmb	IAmb	14 44 14.9	
	comp=Z,52nm,1.6s						
URIC	**Uribia, Colomb**	**42.82**	**62**	*e*P	**P**	**14 44 01.8**	**+1.4**
SDV	**Santo Domingo**	**42.82**	**66**	LR	LR	15 00 21.9	
	comp=Z,387nm,18.5s,baz=234,slow=34						
PFO	**Pinyon Flats O**	**42.99**	**352**	P	**P**	**14 44 02.5**	**+0.8**
PFO				IAmb	IAmb	14 44 08.6	
	comp=Z,47nm,1.9s						
APMT	**Aspermont**	**43.19**	**12**	IAmb	IAmb	14 44 08.2	
	comp=Z,20nm,1.4s						
FW03	**Perrin-Whitt E**	**43.38**	**14**	IAmb	IAmb	14 44 11.6	
	comp=Z,57nm,1.2s						
BO01	**Tunca**	**43.38**	**131**	P	**P**	**14 44 04.4**	**-0.4**
BO01				IAmb	IAmb	14 44 07.9	
	comp=Z,42nm,1.4s						
MT13	**San Alfonso**	**43.70**	**130**	P	**P**	**14 44 07.6**	**+0.1**
MT13				IAmb	IAmb	14 44 13.0	
	comp=Z,30nm,1.1s						
BO02	**Sierra Bellavi**	**43.78**	**132**	IAmb	IAmb	14 44 15.9	
	comp=Z,74nm,1.7s						
LMEL	**Las Melosas**	**43.81**	**130**	IAmb	IAmb	14 44 11.7	
	comp=Z,45nm,1.3s						
WTFS	**Witchita Falls**	**43.98**	**14**	P	**P**	**14 44 10.5**	**+1.1**
WTFS				IAmb	IAmb	14 44 16.3	
	comp=Z,34nm,1.1s						
W13A	**Hualapai Mount**	**44.17**	**355**	IAmb	IAmb	14 44 21.3	
	comp=Z,38nm,1.6s						
BAUV	**El Baul**	**45.20**	**68**	P	**P**	**14 44 18.4**	**-1.1**
ISA	**Isabella, Lake**	**45.32**	**350**	IAmb	IAmb	14 44 44.2	
	comp=Z,26nm,1.8s						
QSM	**Queen of Sheba**	**45.36**	**352**	IAmb	IAmb	14 44 33.2	
	comp=Z,20nm,1.5s						
U15A	**North Rim**	**45.38**	**357**	IAmb	IAmb	14 44 31.9	
	comp=Z,26nm,1.9s						
GO06	**Curarrehue**	**45.60**	**138**	P	**P**	**14 44 22.8**	**+0.2**
GO06				IAmb	IAmb	14 44 25.9	
	comp=Z,24nm,1.4s						
SAML	**Samuel**	**45.91**	**94**	P	**P**	**14 44 23.5**	**-1.7**
SAML				IAmb	IAmb	14 44 27.6	
	comp=Z,32nm,1.4s						
SAML	**Samuel**	**45.91**	**94**	*e*P	**P**	**14 44 22.8**	**-2.4**
KNB	**Kanab**	**46.00**	**357**	IAmb	IAmb	14 44 36.7	
	comp=Z,25nm,1.4s						
MIAR	**Mount Ida**	**46.05**	**19**	IAmb	IAmb	14 44 36.8	
	comp=Z,19nm,1.3s						
TPNV	**Topopah Spring**	**46.25**	**353**	IAmb	IAmb	14 44 43.8	
	comp=Z,34nm,1.8s						
OK031	**S. Brethren Rd**	**46.45**	**14**	IAmb	IAmb	14 44 38.7	
	comp=Z,33nm,1.1s						
PRN	**Pahroc Range**	**46.57**	**354**	IAmb	IAmb	14 44 52.5	
	comp=Z,27nm,1.3s						
PLCA	**Paso Flores**	**46.80**	**139**	IAmb	IAmb	14 44 35.5	
	comp=Z,31nm,1.3s						
PLCA	**Paso Flores**	**46.80**	**139**	P	**P**	**14 44 33.2**	**+1.2**
	comp=Z,8.2nm,1.1s,baz=296,slow=9.6,SNR=8.9						
PLCA				LR	LR	14 59 32.6	
	comp=Z,2μm,18.4s,baz=300,slow=30						
	comp=Z,8.2nm,1.1s						
HHAR	**Hobbs**	**47.54**	**17**	IAmb	IAmb	14 44 43.4	
	comp=Z,29nm,1.5s						
U38A	**Gravette**	**47.56**	**17**	IAmb	IAmb	14 44 43.6	
	comp=Z,16nm,1.3s						
FCAR	**Ozark Folk Cen**	**47.74**	**19**	IAmb	IAmb	14 44 45.4	
	comp=Z,29nm,1.7s						
LHV	**Little Huntoon**	**47.85**	**351**	IAmb	IAmb	14 44 53.4	
	comp=Z,44nm,1.8s						
SIV	**San Ignacio**	**47.85**	**103**	LR	LR	15 01 40.4	
	comp=Z,865nm,20.7s,baz=291,slow=32						
NV11	**Mina Array Sit**	**47.97**	**351**	IAmb	IAmb	14 44 56.3	
	comp=Z,13nm,1.4s						
NVAR	**Mina Array Bea**	**47.99**	**351**	P	**P**	**14 44 41.5**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=178,slow=9.5,SNR=14						
NVAR				LR	LR	15 00 21.8	
	comp=Z,1μm,19.8s,baz=180,slow=30						
	comp=Z,1.4nm,0.7s						
SPR3	**Spring Creek 3**	**48.08**	**355**	IAmb	IAmb	14 44 52.2	
	comp=Z,21nm,1.5s						
WAKR	**Walker**	**48.25**	**350**	IAmb	IAmb	14 44 59.2	
	comp=Z,26nm,1.9s						
KVN	**Kaiserville**	**48.57**	**351**	IAmb	IAmb	14 45 00.2	
	comp=Z,14nm,1.3s						
VILB	**Vilhena**	**48.66**	**99**	P	**P**	**14 44 45.4**	**-1.3**
YERR	**Yerington**	**48.69**	**350**	IAmb	IAmb	14 45 08.0	
	comp=Z,13nm,1.2s						
PCRV	**Puerto La Cruz**	**48.77**	**68**	LR	LR	15 02 42.8	
	comp=Z,551nm,21.0s,slow=32						
ISCO	**Idaho Springs**	**48.83**	**4**	IAmb	IAmb	14 45 25.0	
	comp=Z,25nm,1.7s						
EMB	**Emerald Bay**	**48.83**	**349**	IAmb	IAmb	14 45 06.2	
	comp=Z,15nm,1.1s						
MGMO	**Mountain Grove**	**48.86**	**19**	IAmb	IAmb	14 44 54.0	
	comp=Z,34nm,1.4s						
T42A	**Van Buren**	**49.12**	**20**	IAmb	IAmb	14 44 55.9	
	comp=Z,29nm,1.6s						
WVT	**Waverly**	**49.51**	**23**	P	**P**	**14 44 52.2**	**-0.5**
WVT				IAmb	IAmb	14 44 58.7	
	comp=Z,46nm,1.9s						
RAR	**Rarotonga**	**49.61**	**250**	LR	LR	15 00 52.2	
	comp=Z,313nm,19.6s,baz=107,slow=30						
PTLB	**Pontes e Lacer**	**49.70**	**102**	P	**P**	**14 44 53.6**	**-1.0**
PTLB				IAmb	IAmb	14 44 56.8	
	comp=Z,22nm,1.5s						
CGM3	**Cape Girardeau**	**49.86**	**21**	IAmb	IAmb	14 45 01.2	
	comp=Z,39nm,1.6s						
ELK	**Elko**	**49.89**	**354**	LR	LR	15 02 12.0	
	comp=Z,806nm,18.6s,baz=180,slow=32						
CCM	**Cathedral Cave**	**50.01**	**19**	P	**P**	**14 44 55.9**	**-0.6**
CCM				IAmb	IAmb	14 45 02.3	
	comp=Z,51nm,1.6s						
CPCT	**Cooper Cave**	**50.31**	**27**	IAmb	IAmb	14 45 05.8	
	comp=Z,47nm,1.6s						
BG3	**Lake Jocassee**	**50.66**	**29**	IAmb	IAmb	14 45 12.8	
	comp=Z,50nm,1.6s						
U49A	**Red Boiling Sp**	**50.66**	**25**	IAmb	IAmb	14 45 11.3	
	comp=Z,18nm,1.4s						
P38A	**Dawn**	**50.77**	**16**	IAmb	IAmb	14 45 10.6	
	comp=Z,45nm,1.6s						
SJG	**San Juan**	**50.80**	**58**	LR	LR	15 05 14.9	
	comp=Z,368nm,18.6s,baz=243,slow=34						
TKL	**Tuckaleechee C**	**50.82**	**27**	P	**P**	**14 45 04.2**	**+1.5**
	comp=Z,6.2nm,0.7s,baz=184,slow=14,SNR=4.3						
TKL				LR	LR	15 05 45.8	
	comp=Z,315nm,19.3s,baz=201,slow=35						
	comp=Z,6.2nm,0.7s						
P40A	**Paris**	**51.11**	**18**	IAmb	IAmb	14 45 10.3	
	comp=Z,24nm,1.2s						
ID10	**Lander Cutoff**	**51.41**	**359**	IAmb	IAmb	14 45 19.0	
	comp=Z,24nm,1.5s						
PDAR	**Pinedale Array**	**51.65**	**0**	P	**P**	**14 45 08.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=198,slow=8.2,SNR=6.2						
PDAR				LR	LR	15 04 09.9	
	comp=Z,823nm,18.1s,baz=190,slow=33						
	comp=Z,0.7nm,0.8s						
TZTN	**Tazewell**	**51.66**	**27**	IAmb	IAmb	14 45 15.9	
	comp=Z,18nm,0.9s						
YBH	**Yreka Blue Hor**	**52.01**	**348**	LR	LR	15 02 12.2	
	comp=Z,843nm,19.4s,baz=170,slow=30						
CPUP	**Villa Florida**	**52.36**	**116**	P	**P**	**14 45 18.5**	**+4.0**
	comp=Z,1.7nm,0.8s,baz=255,slow=7.3,SNR=3.4						
CPUP				LR	LR	15 03 20.2	
	comp=Z,1μm,21.5s,baz=284,slow=31						
	comp=Z,1.7nm,0.8s						
MFID	**Camas Ranch**	**52.59**	**354**	IAmb	IAmb	14 45 22.4	
	comp=Z,18nm,1.2s						
IMW	**Indian Meadow**	**52.79**	**359**	IAmb	IAmb	14 45 42.5	
	comp=Z,17nm,1.2s						
P46A	**Rosedale**	**52.80**	**22**	IAmb	IAmb	14 45 24.1	
	comp=Z,37nm,0.9s						
FLWY	**Flagg Ranch**	**52.97**	**359**	IAmb	IAmb	14 45 29.6	
	comp=Z,63nm,1.7s						
RSSD	**Black Hills**	**53.25**	**5**	P	**P**	**14 45 20.1**	**-0.9**
LAO	**LASA Array**	**55.66**	**3**	IAmb	IAmb	14 45 44.2	
	comp=Z,36nm,1.5s						
F36A	**Milaca**	**56.63**	**13**	IAmb	IAmb	14 45 50.9	
	comp=Z,36nm,1.4s						
G40A	**Rib Lake**	**56.93**	**16**	IAmb	IAmb	14 45 57.1	
	comp=Z,48nm,1.6s						
NEW	**Newport**	**57.52**	**354**	LR	LR	15 06 22.0	
	comp=Z,607nm,20.3s,baz=180,slow=32						
MDP	**Montagnes des**	**58.59**	**78**	LR	LR	15 08 45.9	
	comp=Z,448nm,21.7s,baz=281,slow=33						
SADO	**Sadowa**	**60.33**	**25**	LR	LR	15 11 44.3	
	comp=Z,441nm,19.3s,baz=170,slow=35						
ULM	**Lac du Bonnet**	**60.35**	**10**	LR	LR	15 10 46.2	
	comp=Z,323nm,18.4s,baz=225,slow=34						
BDFB	**Brasilia**	**60.42**	**103**	LR	LR	15 09 27.5	
	comp=Z,702nm,21.4s,baz=293,slow=33						
AFI	**Afiamalu**	**60.88**	**259**	LR	LR	15 05 30.2	
	comp=Z,253nm,21.9s,baz=83,slow=29						
J58A	**Remsen**	**60.90**	**28**	IAmb	IAmb	14 46 21.7	
	comp=Z,22nm,1.0s						
EDM	**Edmonton**	**62.19**	**358**	P	**P**	**14 46 22.4**	**-1.1**
BBB	**Bella Bella**	**63.09**	**347**	LR	LR	15 08 42.7	
	comp=Z,273nm,20.3s,baz=166,slow=31						
TRQ	**Mont Tremblant**	**63.44**	**27**	P	**P**	**14 46 31.3**	**-0.6**
PMSA	**Palmer Station**	**64.00**	**160**	LR	LR	15 08 01.0	
	comp=Z,467nm,18.6s,baz=320,slow=30						
E62A	**Clayton Lake**	**66.05**	**29**	P	**P**	**14 46 49.1**	**+0.2**
D62A	**Allapoint, All**	**66.61**	**29**	P	**P**	**14 46 51.5**	**-0.9**
RAO	**Raoul Island**	**66.62**	**242**	LR	LR	15 08 13.7	
	comp=Z,414nm,21.8s,baz=109,slow=29						
DLBC	**Dease Lake**	**69.33**	**349**	LR	LR	15 12 52.0	
	comp=Z,508nm,18.2s,baz=154,slow=32						
MSVF	**Nonsavu**	**70.46**	**254**	LR	LR	15 10 42.4	
	comp=Z,379nm,21.2s,baz=102,slow=30						
URZ	**Urewera**	**71.22**	**233**	LR	LR	15 13 53.1	
	comp=Z,621nm,18.0s,baz=199,slow=32						
YKA	**Yellowknife Ar**	**71.51**	**358**	P	**P**	**14 47 22.0**	**-0.5**
	comp=Z,2.3nm,1.1s,baz=173,slow=6.2,SNR=2.0						
YKA				LR	LR	15 15 38.7	
	comp=Z,343nm,18.0s,baz=176,slow=33						
	comp=Z,2.3nm,1.1s						
SCHQ	**Schefferville**	**73.13**	**24**	LR	LR	15 18 49.9	
	comp=Z,670nm,20.1s,baz=263,slow=35						
RCBR	**Riachuelo**	**73.13**	**93**	LR	LR	15 17 08.1	
	comp=Z,414nm,20.4s,baz=251,slow=34						
KDAK	**Kodiak Island**	**75.26**	**338**	LR	LR	15 13 42.0	
	comp=Z,1μm,18.7s,baz=152,slow=30						
K29M	**Barlow Dome**	**75.78**	**348**	P	**P**	**14 47 47.2**	**-0.6**
K29M				IAmb	IAmb	14 47 50.3	
	comp=Z,24nm,1.6s						
RPZ	**Rata Peaks**	**75.99**	**227**	LR	LR	15 16 19.8	
	comp=Z,562nm,18.1s,baz=74,slow=32						
L27K	**Beaver Creek,**	**76.09**	**346**	P	**P**	**14 47 48.9**	**-0.6**
I28M	**Miner Creek**	**77.69**	**348**	IAmb	IAmb	14 48 06.7	
	comp=Z,21nm,1.6s						
BELA	**Belgrano 2**	**78.00**	**168**	P	**P**	**14 47 58.7**	**-1.3**
BELA				IAmb	IAmb	14 48 20.3	
	comp=Z,11nm,1.2s						
ILAR	**Eielson Array**	**78.78**	**345**	P	**P**	**14 48 03.2**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=175,slow=5.8,SNR=6.7						
ILAR				LR	LR	15 15 44.0	
	comp=Z,336nm,20.4s,baz=133,slow=30						
	comp=Z,0.8nm,0.9s						
FRB	**Frobisher Bay**	**79.08**	**17**	LR	LR	15 23 09.1	
	comp=Z,273nm,19.4s,baz=222,slow=36						
INK	**Inuvik**	**79.08**	**351**	LR	LR	15 19 01.0	
	comp=Z,555nm,20.8s,baz=174,slow=33						
VNDA	**Vanda**	**80.81**	**193**	LR	LR	15 16 46.1	
	comp=Z,160nm,19.0s,baz=158,slow=30						
QSPA	**South Pole Qui**	**80.95**	**180**	P	**P**	**14 48 16.4**	**-0.1**
QSPA				IAmb	IAmb	14 48 33.8	
	comp=Z,21nm,1.0s						
QSPA	**South Pole Qui**	**80.95**	**180**	P	**P**	**14 48 17.7**	**+1.3**
	comp=Z,6.5nm,0.9s,baz=116,slow=3.0,SNR=16						
QSPA				LR	LR	15 18 20.2	
	comp=Z,148nm,19.1s,baz=107,slow=31						
	comp=Z,6.5nm,0.9s						
DZM	**Mont Dzumac**	**80.98**	**249**	*e*S	**S**	**14 58 21.4**	**-4.6**
	comp=Z,71nm,28.1s						
DZM	**Mont Dzumac**	**80.98**	**249**	*e*LR	LR	15 13 18.2	
	comp=Z,241nm,23.9s						
DZM	**Mont Dzumac**	**80.98**	**249**	LR	LR	15 17 34.4	
	comp=Z,92nm,18.5s,baz=118,slow=31						
RES	**Resolute Bay**	**84.16**	**4**	LR	LR	15 23 23.0	
	comp=Z,638nm,19.7s,baz=202,slow=34						
VNA3	**Neumayer Olymp**	**84.63**	**161**	⇑P	**P**	**14 48 35.5**	**+0.1**
	comp=Z,13nm,0.7s						
VNA1	**Neumayer--Stat**	**85.21**	**161**	⇑P	**P**	**14 48 39.8**	**+1.6**
	comp=Z,6.6nm,0.9s						
SNAA	**Sanae**	**86.62**	**162**	P	**P**	**14 48 44.9**	**-0.4**
SNAA				IAmb	IAmb	14 49 04.5	
	comp=Z,8.9nm,1.1s						
SNAA	**Sanae**	**86.62**	**162**	⇑P	**P**	**14 48 45.1**	**-0.2**
	comp=Z,73nm,1.0s						
SNAA	**Sanae**	**86.62**	**162**	P	**P**	**14 48 45.0**	**-0.2**
	comp=Z,2.0nm,1.1s,baz=285,slow=1.8,SNR=5.0						
SNAA				LR	LR	15 19 51.0	
	comp=Z,269nm,21.7s,baz=228,slow=30						
	comp=Z,2.0nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**86.86**	**289**	T	T	16 24 40.9	
	baz=101,slow=74,SNR=326						
H11S1	**WAKE ISLAND Hy**	**86.87**	**289**	T	T	16 24 41.5	
	baz=101,slow=74,SNR=182						
SFJD	**Kangerlussuaq**	**86.88**	**20**	LR	LR	15 27 20.0	
	comp=Z,301nm,18.9s,baz=242,slow=35						
H11S3	**WAKE ISLAND Hy**	**86.88**	**289**	T	T	16 24 42.2	
	baz=101,slow=74,SNR=150						
H11N3	**WAKE ISLAND Hy**	**86.90**	**290**	T	T	16 24 45.2	
	baz=102,slow=75,SNR=93						
H11N2	**WAKE ISLAND Hy**	**86.92**	**290**	T	T	16 24 45.5	
	baz=102,slow=75,SNR=111						
H11N1	**WAKE ISLAND Hy**	**86.92**	**290**	T	T	16 24 45.7	
	baz=102,slow=75,SNR=63						
HNR	**Honiara**	**88.88**	**261**	LR	LR	15 20 48.4	
	comp=Z,3μm,19.1s,baz=100,slow=30						
SHEM	**Shemya Is, Ala**	**88.97**	**324**	LR	LR	15 20 48.1	
	comp=Z,952nm,20.7s,baz=110,slow=30						
KRVT	**Keravat (AS076**	**97.48**	**264**	LR	LR	15 27 22.5	
	comp=Z,232nm,18.5s,baz=3.1,slow=32						
BORG	**Borgarnes**	**97.49**	**26**	LR	LR	15 32 52.1	
	comp=Z,216nm,19.0s,baz=270,slow=35						
PETK	**Petropavlovsk-**	**98.80**	**322**	LR	LR	15 25 19.3	
	comp=Z,684nm,21.5s,baz=109,slow=30						
CTA	**Charters Tower**	**99.88**	**248**	LR	LR	15 29 12.4	
	comp=Z,177nm,19.1s,baz=96,slow=32						
MDJ	**Mudanjiang**	**118.07**	**316**	Pdif	**Pdif**	**14 51 10.6**	**+2.8**
MDJ				PP	PP	14 56 13.5	+10
MDJ				AMB	AMB		
	comp=Z,170nm,5.4s						
MDJ				LR	LR		
	comp=Z,350nm,22.2s						
MDJ				LR	LR		
	comp=Z,570nm,21.1s						
MDJ				LR	LR		
	comp=Z,830nm,23.3s						
NJ2	**Nanjing**	**129.67**	**304**	*e*PKP	**PKPdf**	**14 55 11.8**	**0.0**
HNS	**HongShan**	**131.09**	**312**	*e*PKP	**PKiKP**	**14 55 15.2**	**-0.1**
HNS				*e*PP	PP	14 57 39.1	+7.8
HNS				LR	LR		
	comp=Z,230nm,16.0s						
HNS				LR	LR		
	comp=Z,220nm,14.7s						
HNS				LR	LR		
	comp=Z,290nm,18.5s						
BTO	**Baotou**	**132.89**	**318**	*e*PKP	**PKPdf**	**14 55 14.2**	**-3.6**
BTO				sPKP		14 55 28.5	
BTO				PP	**PP**	**14 57 47.9**	**+5.1**
BTO				SKS	**SKSdf**	**15 02 30.4**	**+2.0**
BTO				LR	LR		
	comp=Z,910nm,16.0s						
BTO				LR	LR		
	comp=Z,550nm,17.2s						
BTO				LR	LR		
	comp=Z,700nm,16.5s						
BRTR	**Keskin Array B**	**135.34**	**41**	PKP	**PKPdf**	**14 55 22.4**	**0.0**
	comp=Z,1.0nm,0.5s,baz=231,slow=4.6,SNR=2.0						
BVAR	**Borovoye Array**	**136.23**	**360**	PKP	**PKPdf**	**14 55 23.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=48,slow=2.1,SNR=2.3						
KBZ	**Khabaz**	**138.08**	**30**	PKP	**PKPdf**	**14 55 28.2**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=270,slow=2.0,SNR=3.0						
QIZ	**Qiongzhong**	**140.50**	**289**	PKP	**PKPdf**	**14 55 31.2**	**-1.2**
QIZ				PP	**PP**	**14 58 31.8**	**+0.4**
QIZ				SS	SS	15 16 57.9	+1.8
QIZ				LR	LR		
	comp=Z,520nm,3.6s						
QIZ				LR	LR		
	comp=Z,470nm,2.7s						
QIZ				LR	LR		
	comp=Z,330nm,3.9s						
MKAR	**Makanchi Array**	**141.10**	**347**	PKP	**PKPdf**	**14 55 31.1**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=36,slow=3.5,SNR=2.3						
WMQ	**Urumqi**	**142.27**	**339**	*e*PKP	**PKPdf**	**14 55 34.9**	**-0.1**
WMQ				LR	LR		
	comp=Z,360nm,24.1s						
WMQ				LR	LR		
	comp=Z,270nm,19.7s						
WMQ				LR	LR		
	comp=Z,530nm,26.3s						
GOMU	**GeErMu**	**145.04**	**324**	PKPbc	**PKPbc**	**14 55 36

SAIH eS Sn 14 46 19.2 -0.1
CRAI Chiangrai 9.76 43 Pn Pn 14 44 46.1 +3.2
VIS Vishakhapatnam 10.60 296 eS Sn 14 46 40.7 -11
VIS IAML 14 46 46.0
comp=N,34nm,0.7s
VIS IAML 14 46 46.5
comp=E,24nm,0.7s
HYB Hyderabad 14.82 288 eS Sn 14 48 35.5 +0.4
HYB Hyderabad 14.82 288 eP P 14 45 58.8 +1.3
MKAR Makanchi Array 34.76 347 P P 14 49 11.4 -0.5
MKAR Makanchi Array 34.76 347 P P 14 49 12.3 +0.4
comp=E,1.4nm,0.8s,baz=162,slow=8.4,SNR=11
comp=E,1.4nm,0.8s
MAKZ Makanchi 34.85 346 P P 14 49 12.2 -0.5
SONM Songino Array 36.24 15 P P 14 49 25.6 +0.8
SONM Songino Array 36.24 15 P P 14 49 25.6 +0.8
comp=E,1.1nm,0.8s,baz=200,slow=8.4,SNR=6.2
comp=E,1.1nm,0.8s
KSRS Korea Array 39.21 46 P P 14 49 49.4 -0.4
comp=E,1.6nm,0.7s,baz=247,slow=7.2,SNR=4.3
comp=E,1.6nm,0.7s
KURBB Kurchatov Arra 39.23 345 P P 14 49 49.5 -0.3
comp=E,1.0nm,0.2s,baz=157,slow=7.8,SNR=5.6
comp=E,1.0nm,0.2s
ZAA0 Zalesovo Array 41.22 352 P P 14 50 06.3 +0.1
ZALV Zalesovo Beam 41.22 352 P P 14 50 06.1 -0.1
ZALV Zalesovo Beam 41.22 352 P P 14 50 05.9 -0.3
comp=E,1.7nm,0.6s,baz=179,slow=8.3,SNR=8.5
comp=E,1.7nm,0.6s
BVAR Borovoye Array 43.73 340 P P 14 50 26.4 -0.4
comp=E,0.5nm,0.4s,baz=163,slow=6.2,SNR=4.3
comp=E,0.5nm,0.4s
ABKAR Akbulak array 45.23 330 P P 14 50 38.8 +0.1
AKTO Aktyubinsk 46.94 330 LR LR 15 12 50.3
comp=E,32nm,18.2s,baz=20,slow=39
WRA Warramunga Arr 52.11 128 P P 14 51 29.3 -2.7
comp=E,0.2nm,0.6s,baz=308,slow=8.2,SNR=7.3
WRA PcP PcP 14 52 41.9 -1.9
comp=E,0.2nm,0.5s,baz=314,slow=3.5,SNR=5.8
comp=E,0.2nm,0.6s
WB2 Warramunga Arr 52.12 128 P P 14 51 29.6 -2.5
WB2 IAmb IAmb 14 51 58.5
comp=Z,6.7nm,1.3s
WR0 Warramunga Arr 52.28 128 P P 14 51 29.8 -3.4
WR0 IAmb IAmb 14 52 01.9
comp=Z,5.0nm,1.2s
ASAR Alice Springs 54.03 132 P P 14 51 43.7 -2.4
comp=Z,0.2nm,0.4s,baz=307,slow=6.8,SNR=12
comp=Z,0.2nm,0.4s
FINES FINESS Array B 67.67 331 P P 14 53 17.3 -1.0
comp=Z,1.4nm,0.6s,baz=119,slow=8.4,SNR=5.5
comp=Z,1.4nm,0.6s
ARCES ARCESS Array B 70.02 340 P P 14 53 32.6 -0.2
comp=Z,1.2nm,0.8s,baz=105,slow=6.9,SNR=3.5
comp=Z,1.2nm,0.8s
TOO Toolangi 70.33 138 P P 14 53 32.9 -2.3
HFS Hagfors 73.49 329 P P 14 53 52.8 -1.0
comp=Z,1.4nm,0.6s,baz=92,slow=7.2,SNR=1.2
comp=Z,1.4nm,0.6s
NOA NORSAR Array B 74.73 330 P P 14 53 59.8 -1.3
comp=Z,0.6nm,0.6s,baz=91,slow=5.7,SNR=2.1
comp=Z,0.6nm,0.6s
JMIC Jan Mayen 81.44 341 LR LR 15 34 07.1
comp=Z,92nm,21.9s,baz=122,slow=38
IMAR Indian Mountai 87.07 22 P P 14 55 06.4 -0.4
TOLK Toolik Lake Re 87.25 19 P P 14 55 07.8 +0.2
TOLK IAmb IAmb 14 55 27.1
comp=Z,8.9nm,1.4s
H21K Melozitna Rive 87.57 22 P P 14 55 09.5 +0.4
H21K IAmb IAmb 14 55 26.6
comp=Z,6.7nm,1.3s
J20K Nowinta River 87.71 24 P P 14 55 10.2 +0.4
J20K IAmb IAmb 14 55 35.8
comp=Z,6.6nm,1.3s
H23K Yukon River 88.67 21 P P 14 55 14.8 +0.4
H23K IAmb IAmb 14 55 56.8
comp=Z,2.8nm,1.1s
CAST Castle Rocks 88.87 24 P P 14 55 15.7 +0.3
M20K Styx River 89.15 26 P P 14 55 17.4 +0.5
M20K IAmb IAmb 14 55 29.2
comp=Z,7.6nm,1.3s
BMAR Burnt Mountain 89.49 19 P P 14 55 19.3 +1.0
SKT Skwentna 89.78 25 P P 14 55 19.2 -0.5
ILAR Eielson Array 90.17 22 P P 14 55 20.1 -1.3
comp=Z,0.3nm,0.6s,baz=312,slow=4.7,SNR=4.9
comp=Z,0.3nm,0.6s
KOWA Kowa 93.64 286 LR LR 15 37 59.8
comp=Z,211nm,18.2s,baz=219,slow=36

*MEX **10** 14:43:14.9±1.5, 16°.42N×95°.21W, h45km±29km, MD4.4*
*NEIC **10** 14:43:15.6±2.6, 16°.40N±0°.07×95°.19W±0°.04, h35km±13km, mb4.2/48, Md4.7/24(MEX), Error ellipse: s-maj=10.4km s-min=5.9km az=190.0*
*IDC **10** 14:43:20.7±4.7, 16°.65N×94°.71W, h83km±42km, mb3.5/6, mbtmp3.8/7, Error ellipse: s-maj=34.7km s-min=19.6km az=38.0*
ISC 10 14:43:12.0±1.3, 16°.43N±0°.03×95°.13W±0°.02, h16km±9km, n120, σ1.98/6.86/167, mb4.2/16, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.51**	**75**	*i* P		**Pg**	**14 43 21.8**	**-0.5**
NILT				*i* S		**Sg**	**14 43 29.3**	**+0.1**
HUIG	**Huatulco**	**1.15**	**235**			**Pn**	**14 43 32.1**	**-1.4**
HUIG						**Sb**	**14 43 46.9**	**-1.3**
HUIG	**Huatulco**	**1.15**	**235**	*i* P		**Pn**	**14 43 32.1**	**-1.4**
HUIG					eS	**Sb**	**14 43 46.7**	**-1.4**
CARR	**Arriaga**	**1.19**	**99**	*i* P		**Pn**	**14 43 33.8**	**-0.2**
CARR					*i* S	**Sn**	**14 43 50.4**	**+0.6**
UXUV	**UXUV**	**1.29**	**47**	*i* P		**Pn**	**14 43 34.8**	**-0.7**
UXUV					*i* S	**Sb**	**14 43 52.5**	**+0.2**
NEUV	**Arroyo Zacate**	**1.42**	**333**	*i* P		**Pn**	**14 43 36.0**	**-1.3**
NEUV					*i* S	**Sn**	**14 43 54.1**	**-1.6**
PANG	**Puerto Angel**	**1.50**	**240**	*eP*		**Pn**	**14 43 37.6**	**-0.6**
PANG					*i* S	**Sn**	**14 43 57.1**	**-0.3**
OXLC	**Oaxaca**	**1.63**	**293**	*i* P		**Pn**	**14 43 40.0**	**-0.3**
OXLC					*i* S	**Sn**	**14 44 00.3**	**-0.8**
OXBJ	**Oaxaca**	**1.65**	**293**	*i* P		**Pn**	**14 43 40.6**	**+0.1**
OXBJ					eS	**Sn**	**14 44 01.2**	**-0.3**
OXIG	**Oaxaca**	**1.66**	**293**			**Pn**	**14 43 40.4**	**-0.3**
OXIG						**Sn**	**14 44 01.2**	**-0.6**
VHO	**Vista Hermosa**	**1.66**	**293**	*i* P		**Pn**	**14 43 40.4**	**-0.3**
VHO					eS	**Sn**	**14 44 01.2**	**-0.6**
TUIG	**Tuzandepetl**	**1.73**	**23**	*eP*		**Pn**	**14 43 40.8**	**-0.7**
TUIG					eS	**Sb**	**14 44 05.0**	**0.0**
TGIG		**1.96**	**80**	*eP*		**Pn**	**14 43 45.9**	**+1.3**
TGIG					eS	**Sb**	**14 44 12.3**	**+0.7**
PCIG		**1.98**	**111**			**Pn**	**14 43 45.2**	**+0.3**
PCIG						**Sb**	**14 44 11.5**	**-0.6**
PCIG		**1.98**	**111**	*i* P		**Pn**	**14 43 45.2**	**+0.3**
PCIG					eS	**Sb**	**14 44 11.5**	**-0.6**
PEIG	**Puerto Escondi**	**1.98**	**258**			**Pn**	**14 43 43.4**	**-1.6**
PEIG						**Sn**	**14 44 10.4**	**+0.8**
PEIG	**Puerto Escondi**	**1.98**	**258**	*eP*		**Pn**	**14 43 43.4**	**-1.6**
PEIG					eS	**Sn**	**14 44 10.4**	**+0.8**
TGBT	**Tuxtla Gutierr**	**1.99**	**80**	*i* P		**Pn**	**14 43 44.5**	**-0.5**
TGBT					*i* S	**Sb**	**14 44 13.4**	**+1.0**
PMUV	**Sontecomapan**	**2.10**	**0**	*eP*		**Pn**	**14 43 44.5**	**-2.2**
YOIG	**Yosondua**	**2.35**	**281**	*eP*		**Pn**	**14 43 50.3**	**0.0**
YOIG					eS	**Sn**	**14 44 17.9**	**-1.1**
TOIG	**Toxpalan**	**2.48**	**312**			**Pn**	**14 43 52.9**	**+1.0**
TOIG						**Sn**	**14 44 23.4**	**+1.5**
TOIG	**Toxpalan**	**2.48**	**312**	*eP*		**Pn**	**14 43 52.9**	**+1.0**
TOIG					eS	**Sn**	**14 44 23.4**	**+1.5**
TXIG	**Tlaxiaco**	**2.65**	**288**	*eP*		**Pn**	**14 43 55.6**	**+1.2**
TXIG					eS	**Sn**	**14 44 29.0**	**+2.6**
PNIG	**Pinotepa**	**2.87**	**270**	*eP*		**Pn**	**14 43 56.1**	**-1.1**
PNIG					eS	**Sn**	**14 44 30.6**	**-1.0**
CCIG	**Comitan**	**2.88**	**93**	*eP*		**Pn**	**14 44 00.2**	**+2.8**
CCIG					eS	**Sb**	**14 44 38.6**	**+0.3**
TPIG	**Tehuac#an**	**2.90**	**313**	*eP*		**Pn**	**14 43 59.1**	**+1.4**
TPIG					eS	**Sn**	**14 44 35.2**	**+2.8**
HLIG	**Huajuapan de L**	**2.91**	**299**	*eP*		**Pn**	**14 43 59.8**	**+1.9**
HLIG					eS	**Sn**	**14 44 34.2**	**+1.6**
PATR	**El Naranjo**	**3.08**	**115**	*eP*		**Pn**	**14 44 01.1**	**+0.8**
PATR					eS	**Sn**	**14 44 38.0**	**+1.0**
PAVE	**Pavencul**	**3.10**	**113**	*eP*		**Pn**	**14 44 02.1**	**+1.5**
PAVE					eS	**Sn**	**14 44 39.2**	**+1.8**
THIG		**3.15**	**118**	*eP*		**Pn**	**14 43 59.6**	**-1.4**
THIG					eS	**Sn**	**14 44 39.4**	**+1.0**
CHUJ	**Union Juarez**	**3.20**	**114**	*eP*		**Pn**	**14 44 02.7**	**+0.8**
CHUJ					eS	**Sn**	**14 44 41.8**	**+1.8**
FTIG	**Fresnillo de T**	**3.22**	**298**	*eP*		**Pn**	**14 44 05.3**	**+3.2**
FTIG					eS	**Sb**	**14 44 46.6**	**-1.4**
JAUV	**Jalcomulco**	**3.32**	**332**	*eP*		**Pn**	**14 44 01.0**	**-2.4**
JAUV					eS	**Sn**	**14 44 37.9**	**-4.8**
TLIG	**Tlapa**	**3.47**	**289**	*eP*		**Pn**	**14 44 09.3**	**+3.8**
TLIG					eS	**Sn**	**14 44 44.3**	**-2.1**
LVIG	**Laguna Verde**	**3.49**	**340**	*i* P		**Pn**	**14 44 02.7**	**-3.0**
LVIG					eS	**Sn**	**14 44 41.7**	**-5.1**
PPM	**Popocatepetl**	**4.24**	**309**	*eP*		**Pn**	**14 44 19.6**	**+3.1**
PPM					eS	**Sn**	**14 45 02.5**	**-3.3**
DAIG	**Los Arroyos**	**4.37**	**278**	*eP*		**Pn**	**14 44 16.7**	**-1.1**
DAIG					eS	**Sn**	**14 45 08.2**	**-0.2**
CXUV	**Coxquihui**	**4.39**	**328**	*eP*		**Pn**	**14 44 16.4**	**-1.7**
CXUV					eS	**Sn**	**14 45 08.9**	**-0.1**
YAIG	**Yautepec**	**4.46**	**303**	*eP*		**Pn**	**14 44 21.3**	**+2.1**
YAIG					eS	**Sn**	**14 45 12.5**	**+1.6**
SCIG	**Sabancuy**	**4.53**	**56**	*eP*		**Pn**	**14 44 19.2**	**-0.7**
SCIG					eS	**Sn**	**14 45 09.4**	**-2.9**
MEIG	**Mezcala**	**4.54**	**290**	*eP*		**Pn**	**14 44 21.6**	**+1.4**
MEIG					eS	**Sn**	**14 45 19.1**	**+6.4**
PLIG	**Platanillo**	**4.60**	**296**	*eP*		**Pn**	**14 44 23.2**	**+2.1**
PLIG					eS	**Sn**	**14 45 19.1**	**+4.8**
UNM	**Universidad Na**	**4.81**	**307**	eS		**Sn**	**14 45 20.4**	**+0.8**
CAIG	**El Cayaco**	**4.96**	**278**	*eP*		**Pn**	**14 44 25.0**	**-0.9**
CAIG					eS	**Sn**	**14 45 25.8**	**+2.9**
ARIG	**Puente Sto Nin**	**5.31**	**291**	*eP*		**Pn**	**14 44 31.5**	**+0.8**
ARIG					eS	**Sn**	**14 45 29.4**	**-2.2**
DEIG	**Demacu**	**5.34**	**317**	*i* P		**Pn**	**14 44 30.7**	**-0.7**
DEIG					*i* S	**Sn**	**14 45 35.2**	**+2.5**
MTO3	**Montecristo**	**5.92**	**109**	Pn		**Pn**	**14 44 40.8**	**+1.4**
ZIIG	**Zihuatanejo**	**6.17**	**282**	*eP*		**Pn**	**14 44 42.7**	**+0.2**
ZIIG					*i* S	**Sn**	**14 45 53.4**	**+0.6**
MYIG	**Mrida**	**6.81**	**48**	*eP*		**Pn**	**14 44 53.0**	**+1.7**
MYIG					eS	**Sn**	**14 46 06.0**	**-2.5**
RPIG	**Rio Verde**	**7.10**	**321**	eS		**Sn**	**14 46 12.2**	**-3.7**
TEIG	**Tepich**	**7.53**	**59**	Pn		**Pn**	**14 45 00.4**	**-0.8**
TEIG	**Tepich**	**7.53**	**59**	*eP*		**Pn**	**14 45 00.7**	**-0.5**
TEIG	**Tepich**	**7.53**	**59**	P		**Pn**	**14 45 01.1**	**-0.1**
611nm,0.4s,baz=36,slow=6.1,SNR=114								
TEIG				S		**Sn**	**14 46 20.8**	**-5.4**
761nm,0.4s,baz=292,slow=22,SNR=13								
GTIG	**Gomez Farias**	**7.61**	**331**	*i* S		**Sn**	**14 46 26.5**	**-2.0**
LNIG	**Linares**	**9.35**	**335**	*i* S		**Sn**	**14 47 17.5**	**+6.5**
ORTG	**Ortega, Santa**	**11.18**	**121**	Pn		**Pn**	**14 45 53.8**	**+2.4**
833A	**Chaparral WMA,**	**12.47**	**342**	Pn		**Pn**	**14 46 13.6**	**+4.7**
JCT	**Junction City**	**14.62**	**344**			**P**	**14 46 44.3**	**-0.4**
SAND	**Sanderson**	**14.91**	**336**			**P**	**14 46 48.8**	**+0.9**
TX31	**Lajitas Ar. Si**	**15.05**	**330**			**P**	**14 46 50.6**	**+1.1**
TX31					IAmb	IAmb	14 46 54.4	
comp=Z,34nm,1.4s								
TX32	**Lajitas Array**	**15.05**	**330**			**P**	**14 46 50.8**	**+1.3**
TXAR	**Lajitas Array**	**15.05**	**330**			**P**	**14 46 51.2**	**+1.7**
TXAR	**Lajitas Array**	**15.05**	**330**	P		**P**	**14 46 50.6**	**+1.1**
comp=Z,1.5nm,0.7s,baz=148,slow=10,SNR=6.3								
BRDY	**Brady**	**15.20**	**347**			**P**	**14 46 48.9**	**-2.2**
BRDY					IAmb	IAmb	14 47 00.3	
comp=Z,8.0nm,0.6s								
OZNA	**Ozona**	**15.43**	**340**	P		**P**	**14 46 53.9**	**+0.3**
OZNA					IAmb	IAmb	14 46 58.6	
comp=Z,19nm,0.9s								
WHTX	**Lake Whitney,**	**15.63**	**353**			**Pn**	**14 46 53.8**	**+2.0**
WHTX					IAmb	IAmb	14 47 00.9	
comp=Z,21nm,0.6s								
SLBS	**Sierra La Lagu**	**15.67**	**300**	P		**P**	**14 46 56.1**	**-0.2**
SLBS					IAmb	IAmb	14 47 04.3	
comp=Z,24nm,1.2s								
ALPN	**Alpine**	**15.91**	**332**	P		**P**	**14 47 00.5**	**+1.3**
ALPN					IAmb	IAmb	14 47 03.5	
comp=Z,11nm,0.8s								
BCIP	**Isla Barro Col**	**16.57**	**114**	Pn		**Pn**	**14 47 01.7**	**-2.1**
BCIP					IAmb	IAmb	14 47 02.1	
comp=Z,32nm,1.4s								
PECS	**Pecos**	**16.86**	**333**			**P**	**14 47 11.9**	**+2.2**
PECS					IAmb	IAmb	14 47 15.4	
comp=Z,14nm,0.9s								
ODSA	**Odessa**	**17.01**	**338**			**P**	**14 47 13.4**	**+2.2**
ODSA					IAmb	IAmb	14 47 45.4	
comp=Z,8.3nm,0.8s								
LOOK	**Love County**	**17.58**	**354**			**P**	**14 47 18.9**	**+1.5**
LOOK					IAmb	IAmb	14 47 32.7	
comp=Z,25nm,0.7s								
X37A	**Clayton**	**18.08**	**359**	P		**P**	**14 47 24.1**	**+1.1**
X37A					IAmb	IAmb	14 47 37.7	
comp=Z,14nm,0.7s								
MIAR	**Mount Ida**	**18.09**	**4**			**P**	**14 47 23.3**	**+0.2**
FCAR	**Ozark Folk Cen**	**19.56**	**7**	P		**P**	**14 47 39.1**	**-0.1**
121A	**Cookes Peak, D**	**19.70**	**327**	P		**Pn**	**14 47 42.6**	**+0.1**
121A					IAmb	IAmb	14 47 48.2	
comp=Z,16nm,1.2s								
LCAR	**Lake Charles**	**19.88**	**10**	P		**P**	**14 47 42.0**	**-0.6**
T35A	**Sooner Cattle**	**20.44**	**357**			**P**	**14 47 47.4**	**-1.4**
T35A					IAmb	IAmb	14 47 53.6	
comp=Z,12nm,0.8s								
KAN09	**Caldwell North**	**20.74**	**354**	P		**P**	**14 47 51.9**	**-0.1**
T42A	**Van Buren**	**20.83**	**9**	P		**P**	**14 47 51.6**	**-1.4**
T42A					IAmb	IAmb	14 47 56.5	
comp=Z,7.7nm,0.9s								
ANMO	**Albuquerque**	**21.04**	**333**	P		**P**	**14 47 55.9**	**+0.4**
ANMO	**Albuquerque**	**21.04**	**333**	P		**P**	**14 47 59.6**	**+4.1**
comp=Z,1.9nm,0.7s,baz=230,slow=15,SNR=3.9								
comp=Z,1.9nm,0.7s								
S39A	**Bolivar**	**21.24**	**4**	P		**P**	**14 47 55.9**	**-1.5**
CCM	**Cathedral Cave**	**21.81**	**8**	P		**P**	**14 48 02.1**	**-1.4**
T25A	**Trinidad**	**22.20**	**340**	P		**P**	**14 48 08.1**	**+0.1**
T25A					IAmb	IAmb	14 48 15.8	
comp=Z,11nm,1.1s								
214A	**Organ Pipe Nat**	**22.28**	**317**	P		**P**	**14 48 08.9**	**+0.2**
214A					IAmb	IAmb	14 48 15.0	
comp=Z,8.9nm,1.1s								
P40A	**Paris**	**23.17**	**6**	P		**P**	**14 48 16.2**	**-1.7**
P40A					IAmb	IAmb	14 48 17.6	
comp=Z,10nm,0.9s								
HDIL	**Hopedale**	**24.57**	**11**	P		**P**	**14 48 29.5**	**-1.7**
SMCO	**Snowmass**	**24.91**	**338**	P		**P**	**14 48 36.6**	**+1.8**
SMCO					IAmb	IAmb	14 48 41.5	
comp=Z,8.6nm,1.1s								
ISCO	**Idaho Springs**	**25.01**	**341**	P		**P**	**14 48 37.0**	**+1.4**
OGNE	**Ogallala**	**25.14**	**348**	P		**P**	**14 48 37.7**	**+1.1**
HMU	**Henry Mountain**	**25.45**	**330**	P		**P**	**14 48 40.8**	**+1.1**
HMU					IAmb	IAmb	14 48 47.1	
comp=Z,7.0nm,1.3s								
PFO	**Pinyon Flats O**	**25.72**	**316**	P		**P**	**14 48 42.9**	**+1.0**
ECSD	**EROS Data Cent**	**27.24**	**358**	P		**P**	**14 48 54.4**	**-1.0**
ECSD					IAmb	IAmb	14 48 56.0	
comp=Z,5.6nm,1.0s								
PDAR	**Pinedale Array**	**29.00**	**338**	P		**P**	**14 49 12.3**	**+0.9**
PDAR	**Pinedale Array**	**29.00**	**338**	P		**P**	**14 49 12.1**	**+0.7**
comp=Z,0.6nm,0.8s,baz=150,slow=9.2,SNR=4.2								
comp=Z,0.6nm,0.8s								
NVAR	**Mina Array Bea**	**29.89**	**322**	P		**P**	**14 49 21.2**	**+1.8**
NVAR	**Mina Array Bea**	**29.89**	**322**	P		**P**	**14 49 21.4**	**+2.0**
comp=Z,1.8nm,0.8s,baz=141,slow=9.2,SNR=12								
comp=Z,1.8nm,0.8s								
E43A	**Lone Tree Farm**	**30.62**	**11**	P		**P**	**14 49 22.5**	**-2.8**
EYMN	**Ely**	**31.57**	**5**	P		**P**	**14 49 31.5**	**-2.3**
EYMN					IAmb	IAmb	14 50 07.3	
comp=Z,6.1nm,1.1s								
HLID	**Hailey**	**31.62**	**333**	P		**P**	**14 49 34.6**	**+0.1**
HLID					IAmb	IAmb	14 49 40.7	
comp=Z,3.3nm,1.0s								
ELMT	**Elliston**	**33.30**	**338**	P		**P**	**14 49 50.2**	**+1.0**
J08A	**Circle Bar Ran**	**33.38**	**328**	P		**P**	**14 49 51.1**	**+1.2**
J08A					IAmb	IAmb	14 49 52.0	
comp=Z,3.6nm,0.8s								
LYMT	**Lyon Mountain**	**33.61**	**339**	P		**P**	**14 49 51.2**	**-0.7**
EDM	**Edmonton**	**39.40**	**343**	P		**P**	**14 50 42.7**	**+1.7**
J30M	**Hart River**	**55.58**	**340**	P		**P**	**14 52 47.6**	**+0.9**
J30M					IAmb	IAmb	14 52 49.1	
comp=Z,2.4nm,1.1s								
BCAR	**Beaver Creek A**	**56.61**	**337**	P		**P**	**14 52 55.1**	**+1.0**
INK	**Inuvik**	**57.27**	**344**	P		**P**	**14 52 58.4**	**-0.2**
ILAR	**Eielson Array**	**59.43**	**337**	P		**P**	**14 53 12.9**	**-0.8**
comp=Z,0.5nm,1.0s,baz=116,slow=8.5,SNR=5.0								
comp=Z,0.5nm,1.0s								
SUA	**Susitna One**	**59.54**	**333**	P		**P**	**14 53 15.5**	**+0.8**
RND	**Reindeer**	**59.56**	**335**	P		**P**	**14 53 15.6**	**+0.9**
BMAR	**Burnt Mountain**	**59.99**	**340**	P		**P**	**14 53 18.1**	**+0.6**
SKT	**Skwentna**	**60.09**	**333**	P		**P**	**14 53 19.0**	**+0.7**
H24K	**Noodor Dome**	**60.31**	**338**	P		**P**	**14 53 20.2**	**+0.4**
PLCA	**Paso Flores**	**61.29**	**159**	P		**P**	**14 53 27.7**	**+0.9**
comp=Z,2.6nm,0.9s,baz=338,slow=9.0,SNR=5.1								
comp=Z,2.6nm,0.9s								
M19K	**Big River Lodg**	**61.32**	**332**	P		**P**	**14 53 27.6**	**+0.9**
TOLK	**Toolik Lake Re**	**62.22**	**340**	P		**P**	**14 53 33.0**	**+0.3**
ESDC	**Sonseca Array**	**80.58**	**51**	P		**P**	**14 55 22.9**	**-1.3**
comp=Z,0.8nm,0.9s,baz=282,slow=5.2,SNR=5.0								
comp=Z,0.8nm,0.9s								
ASAR	**Alice Springs**	**133.56**	**253**	PKP		**PKPdf**	**15 02 29.4**	**+0.8**
comp=Z,0.3nm,0.7s,baz=114,slow=1.1,SNR=2.2								
PZH	**PanZhiHua**	**134.28**	**339**	PKP		**PKPdf**	**15 02 27.2**	**-2.9**

*MOS **10** 14:45:55.6±0.0, 42°.52N×46°.58E, h9km, MPVA3.5*
*DRS **10** 14:45:56.6±0.0, 42°.48N×46°.49E, h13km*
*NORS **10** 14:45:57.2±0.0, 42°.53N×46°.54E, h6km, MPVA3.6*
*TIF **10** 14:45:58.1, 42°.55N×46°.36E, h12km±1km*
ISC 10 14:45:57.1±0.9, 42°.52N±0°.02×46°.55E±0°.02, h8km±7km, n34, σ1.25/67, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
XNZR	**Khunzakh**	**0.12**	**80**	*eP*g		**Pg**	**14 46 00.1**	**+0.1**
XNZR					*eS*g	**Sg**	**14 46 02.4**	**+0.4**
UNCR	**Uncukul**	**0.27**	**43**	*eP*g		**Pg**	**14 46 02.5**	**+0.1**
UNCR					*eS*g	**Sg**	**14 46 06.9**	**+0.8**
BTLR	**Botlikh**	**0.28**	**301**	*eP*g		**Pg**	**14 46 02.7**	**0.0**
BTLR					*eS*g	**Sg**	**14 46 06.8**	**+0.4**
GNBR	**Gunib**	**0.34**	**113**	*eP*g		**Pg**	**14 46 04.2**	**+0.4**
GNBR					*eS*g	**Sg**	**14 46 09.4**	**+1.2**
ARKR	**Arakani**	**0.34**	**76**	*eP*g		**Pg**	**14 46 04.1**	**+0.3**
ARKR					*eS*g	**Sg**	**14 46 09.4**	**+1.0**
KRNR	**Karanay**	**0.41**	**41**	*eP*g		**Pg**	**14 46 05.2**	**+0.1**
KRNR					*eS*g	**Sg**	**14 46 11.3**	**+0.8**
BUJR	**Buynaksk**	**0.51**	**53**	*eP*g		**Pg**	**14 46 07.0**	**-0.1**
BUJR					*eS*g	**Sg**	**14 46 14.7**	**+0.8**
DVE	**Vedeno**	**0.54**	**325**	*eP*g		**Pg**	**14 46 07.5**	**0.0**
DVE					*eS*g	**Sb**	**14 46 15.7**	**-1.0**
DBC	**Dubki**	**0.54**	**23**	*eP*g		**Pg**	**14 46 07.9**	**+0.2**
DBC					*eS*g	**Sb**	**14 46 15.9**	**-1.0**
DLMR	**Dylym**	**0.55**	**6**	*eP*g		**Pb**	**14 46 08.4**	**-0.7**
DLMR					*eS*g	**Sb**	**14 46 16.6**	**-0.6**
KMKR	**Kumukh**	**0.56**	**133**	*eP*g		**Pg**	**14 46 08.1**	**0.0**
KMKR					*eS*g	**Sg**	**14 46 16.2**	**+0.7**
LGD	**Lagodekhi**	**0.72**	**198**	*eP*g		**Pg**	**14 46 10.7**	**-0.3**
LGD					*eS*g	**Sg**	**14 46 19.5**	**-0.9**
LGD	**Lagodekhi**	**0.72**	**198**	P		**Pg**	**14 46 10.7**	**-0.3**
LGD					S	**Sg**	**14 46 19.5**	**-0.9**
GROC	**Groznyy**	**0.88**	**321**	*eP*g		**Pn**	**14 46 15.1**	**-0.6**
GROC					*eS*g	**Sn**	**14 46 27.9**	**-0.8**
URKR	**Urkarakh**	**0.88**	**113**	*eP*g		**Pg**	**14 46 14.4**	**+0.3**
URKR					*eS*g	**Sb**	**14 46 26.8**	**+0.1**
SHTL	**Shatili**	**1.04**	**278**	*eP*g		**Pb**	**14 46 15.9**	**-1.5**
SHTL					*eS*g	**Sg**	**14 46 28.6**	**-2.0**
SHTL	**Shatili**	**1.04**	**278**	P		**Pb**	**14 46 15.9**	**-1.5**
SHTL					S	**Sg**	**14 46 28.6**	**-2.0**
DDFL	**Dedoflistskaro**	**1.12**	**197**	P		**Pg**	**14 46 22.3**	**+3.7**
KMGR	**Komgaron**	**1.35**	**294**	*eP*g		**Pg**	**14 46 26.0**	**+3.0**
KMGR					*eS*g	**Sg**	**14 46 43.9**	**+3.4**
AKT	**Akhty**	**1.36**	**139**	*eP*g		**Pn**	**14 46 22.1**	**-0.5**
AKT					*eS*g	**Sb**	**14 46 40.4**	**-0.2**
KSMR	**Kasumkent**	**1.49**	**127**	*eP*g		**Pn**	**14 46 24.4**	**+0.1**
KSMR					*eS*g	**Sg**	**14 46 46.8**	**+1.8**
MTEO	**Meteo**	**1.50**	**277**	P		**Pb**	**14 46 24.8**	**-0.5**
MTEO				S		**Sn**	**14 46 43.4**	**-1.2**
LACR	**Lac**	**1.69**	**281**	*eP*g		**Pb**	**14 46 28.7**	**+0.2**
LACR					*eS*g	**Sg**	**14 46 51.0**	**-0.3**
BTKR	**Batakoyurt**	**1.70**	**301**	*eP*g		**Pg**	**14 46 32.1**	**+2.3**
BTKR					*eS*g	**Sg**	**14 46 54.9**	**+3.2**
ARNR	**Ardon**	**1.79**	**292**	*eP*g		**Pg**	**14 46 31.0**	**-0.4**
ARNR					*eS*g	**Sg**	**14 46 54.1**	**-0.6**
KORR	**Kora**	**1.91**	**288**	*eP*g		**Pg**	**14 46 33.7**	**0.0**
KORR					*i* Sg	**Sg**	**14 46 58.8**	**+0.3**
ZEI	**Tsey**	**1.97**	**279**	*eP*g		**Pb**	**14 46 32.9**	**-0.4**
ZEI					*eS*g	**Sb**	**14 46 58.8**	**+0.7**
STDR	**Stavd-Durt**	**2.01**	**296**	*eP*g		**Pb**	**14 46 33.9**	**0.0**
STDR

UCH	**Uchtor**	**2.42**	**50**⇑	*e*P	**Pb**	**15 04 20.2**	**+0.1**
	baz=50						
UCH			⇑	*e*S	**Sb**	**15 04 51.7**	**+1.8**
	baz=50						
KK31	**Karatay Array**	**2.64**	**336**	⇓P	**Pg**	**15 04 27.9**	**+0.8**
	0.3nm,0.3s,baz=136,slow=18,SNR=3.8						
KK31			⇑S		**Sg**	**15 05 00.0**	**-1.4**
	0.5nm,0.2s,baz=138,slow=27,SNR=5.6						
KTBS	**Karatobe**	**4.59**	**48**	Pg	**Pg**	**15 05 03.0**	**-1.6**
	0.6nm,0.3s						
KTBS				Lg	Lg	15 06 03.0	
	1.7nm,0.2s						
KTBS	**Karatobe**	**4.59**	**48**	*e*Pg	**Pg**	**15 05 03.0**	**-1.6**
	0.6nm,0.3s						
KTBS				*e*Lg	Lg	15 06 03.0	
	1.6nm,0.2s						

*SJA **10** 15:09:09.3±0.6, 18.°49S×69.°86W, h96km±3km, ML3.4, MW3.5*
*GUC **10** 15:09:10.7±0.8, 18.°53S×69.°78W, h91km±4km, ML3.4*
ISC 10 15:09:13.0±1.7,**18.°61S**±0.°05×**69.°90W**±0.°06,**h77**km±13**km,**
n30,σ2°**77**/56,**4C-4D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.41**	**270**⇑	*i*P	**Pn**	**15 09 25.1**	**-0.7**
PB12				*e*S	**Sn**	**15 09 36.5**	**+1.1**
PB12				IAML		15 09 38.0	
	comp=N,3μm,0.2s						
PB12	**IPOC Station P**	**0.41**	**270**	*e*P	**Pn**	**15 09 25.1**	**-0.7**
PB12				*e*S	**Sn**	**15 09 37.0**	**+1.7**
PB12				IAML		15 09 38.9	
	comp=Z,1μm,0.1s						
PB16	**IPOC Station P**	**0.46**	**53**⇓	*i*P	**Pn**	**15 09 25.4**	**-1.4**
PB16				*i* S	**Sn**	**15 09 36.4**	**-0.6**
PB16				IAML		15 09 37.8	
	comp=E,2μm,0.3s						
PB16	**IPOC Station P**	**0.46**	**53**	*e*P	**Pn**	**15 09 25.4**	**-1.4**
PB16				*e*S	**Sn**	**15 09 37.0**	**+0.1**
PB16				IAML		15 09 37.2	
	comp=Z,924nm,0.4s						
AP01	**Chacalluta**	**0.49**	**300**⇑	*i*P	**Pn**	**15 09 25.8**	**-0.6**
AP01				*i* S	**Sn**	**15 09 37.6**	**+1.4**
AP01	**Chacalluta**	**0.49**	**300**	*e*P	**Pn**	**15 09 25.1**	**-1.3**
AP01				IAML		15 09 39.6	
	comp=Z,2μm,0.2s						
PB18	**Visviri**	**1.09**	**21**	*e*P	**Pn**	**15 09 33.5**	**0.0**
PB18				*e*S	**Sn**	**15 09 51.0**	**+2.2**
GO01	**Chusmiza**	**1.24**	**148**	*e*P	**Pn**	**15 09 34.8**	**-0.6**
GO01				*e*S	**Sn**	**15 09 53.0**	**+1.0**
GO01				IAML		15 09 55.3	
GO01	**Chusmiza**	**1.24**	**148**	*e*P	**Pn**	**15 09 35.2**	**-0.2**
GO01				*e*S	**Sn**	**15 09 53.8**	**+1.8**
HMBC	**Humberstone**	**1.66**	**180**⇓	*i*P	**Pn**	**15 09 39.2**	**-1.2**
HMBC				*e*S	**Sn**	**15 10 01.4**	**+0.2**
HMBC				IAML		15 10 06.0	
	comp=E,350nm,0.4s						
HMBC	**Humberstone**	**1.66**	**180**	*e*P	**Pn**	**15 09 39.2**	**-1.2**
HMBC				*e*S	**Sn**	**15 10 03.2**	**+2.1**
TA02	**Huaiquique**	**1.66**	**188**	*e*P	**Pn**	**15 09 40.2**	**-0.2**
TA02				IAML		15 10 06.5	
	comp=Z,231nm,0.1s						
PB08	**IPOC Station P**	**1.67**	**155**⇓	*e*P	**Pn**	**15 09 40.4**	**-0.4**
PB08				*e*S	**Sn**	**15 10 02.0**	**+0.1**
PB08				IAML		15 10 04.6	
	comp=E,448nm,0.3s						
PB08	**IPOC Station P**	**1.67**	**155**	*e*P	**Pn**	**15 09 40.3**	**-0.6**
PB08				*e*S	**Sn**	**15 10 03.2**	**+1.3**
PB08				IAML		15 10 04.7	
	comp=Z,264nm,0.5s						
TA01	**Diego Aracena**	**1.96**	**188**	*e*P	**Pn**	**15 09 42.8**	**-1.5**
TA01				IAML		15 10 16.2	
	comp=N,218nm,0.3s						
TA01	**Diego Aracena**	**1.96**	**188**	*e*P	**Pn**	**15 09 43.0**	**-1.3**
TA01				*e*S	**Sn**	**15 10 04.3**	**-3.8**
TA01				IAML		15 10 12.8	
	comp=Z,120nm,0.3s						
PATCX	**Punta Patache**	**2.21**	**186**	*e*P	**Pn**	**15 09 46.4**	**-1.3**
PATCX				*e*S	**Sn**	**15 10 13.7**	**-0.5**
PATCX				IAML		15 10 22.1	
	comp=E,166nm,0.4s						
PATCX	**Punta Patache**	**2.21**	**186**	*e*P	**Pn**	**15 09 47.5**	**-0.3**
PATCX				*e*S	**Sn**	**15 10 22.3**	**+8.1**
PB01	**IPOC Station P**	**2.45**	**171**⇑	*e*P	**Pn**	**15 09 49.5**	**-1.4**
PB01				*i* S	**Sn**	**15 10 19.0**	**-1.0**
PB01				IAML		15 10 28.4	
	comp=N,188nm,0.1s						
PB01	**IPOC Station P**	**2.45**	**171**	*e*P	**Pn**	**15 09 50.6**	**-0.4**
PB01				*e*S	**Sn**	**15 10 21.8**	**+1.8**
PB01				IAML		15 10 29.1	
	comp=Z,110nm,0.2s						
PB02	**IPOC Station P**	**2.69**	**180**	*e*P	**Pn**	**15 09 52.7**	**-1.6**
PB02				*e*S	**Sn**	**15 10 24.6**	**-1.3**
PB02				IAML		15 10 37.6	
	comp=E,282nm,0.6s						
PB02	**IPOC Station P**	**2.69**	**180**	*e*P	**Pn**	**15 09 54.0**	**-0.3**
PB02				*e*S	**Sn**	**15 10 32.1**	**+6.2**
PB02				IAML		15 10 33.4	
	comp=Z,218nm,0.5s						
PB07	**IPOC Station P**	**3.10**	**180**	*e*P	**Pn**	**15 09 58.1**	**-1.7**
PB07				*e*S	**Sn**	**15 10 32.8**	**-3.1**
PB07	**IPOC Station P**	**3.10**	**180**	*e*P	**Pn**	**15 09 59.2**	**-0.6**
PB07				*e*S	**Sn**	**15 10 43.8**	**+7.9**
PB07				IAML		15 10 47.4	
	comp=Z,156nm,0.3s						
PB09	**IPOC Station P**	**3.23**	**169**	*e*P	**Pn**	**15 10 01.9**	**+0.4**
PB09				*e*S	**Sn**	**15 10 45.0**	**+6.1**
PB09				IAML		15 10 51.3	
	comp=N,69nm,0.5s						
PB09	**IPOC Station P**	**3.23**	**169**	*e*P	**Pn**	**15 10 01.7**	**+0.1**
PB09				*e*S	**Sn**	**15 10 46.6**	**+7.6**
PB09				IAML		15 10 55.1	
	comp=Z,68nm,0.4s						
LVC	**Limon Verde**	**4.08**	**167**	*e*P	**Pn**	**15 10 12.9**	**-0.4**
LVC				⇓*i*S	**Sn**	**15 10 57.4**	**-2.7**
LVC	**Limon Verde**	**4.08**	**167**	*e*P	**Pn**	**15 10 13.2**	**-0.1**
LVC				*e*S	Sn	15 11 15.1	+15
PB06	**IPOC Station P**	**4.08**	**176**⇑	*e*P	**Pn**	**15 10 11.9**	**-1.3**
PB06				*e*S	**Sn**	**15 10 55.1**	**-4.8**
PB15	**IPOC Station P**	**4.59**	**175**	*e*P	**Pn**	**15 10 18.8**	**-1.4**
PB15				*i* S	**Sn**	**15 11 06.9**	**-5.4**

*ATH **10** 15:14:05.6, 39.°32N×23.°58E, h9km±1km, ML3.1/16, Error ellipse: s-maj=1.5km s-min=0.7km az=194.0*
*SOF **10** 15:14:05.9, 39.°46N×23.°72E, h15km, MD3.5*
*THE **10** 15:14:05.5, 39.°34N×23.°59E, h6km±1km, ML3.1/9, Error ellipse: s-maj=1.8km s-min=0.7km az=238.0*
*ISK **10** 15:14:06.3, 39.°44N×23.°50E, h10km, ML3.2/20*
ISC 10 15:14:05.1±0.9,**39.°35N**±0.°02×**23.°59E**±0.°02,**h11**km±8**km,**
n93,σ0°**87**/115,**7C-6D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.29**	**261**	P	**Pg**	**15 14 11.2**	**+0.2**
NEO				S	**Sg**	**15 14 15.1**	**+0.1**
	5μm,0.3s						
NEO	**Neokhori**	**0.29**	**261**	P	**Pg**	**15 14 11.1**	**0.0**
NEO				S	**Sg**	**15 14 15.1**	**+0.1**
NEO				AML	AML	15 14 16.1	
	comp=E,11445μm,0.4s						
NEO				AML	AML	15 14 16.1	
	comp=N,6920μm,0.3s						
ALNA	**Alonissos**	**0.29**	**134**	P	**Pg**	**15 14 11.2**	**+0.1**
ALNA				S	**Sg**	**15 14 15.1**	**0.0**
ALNA				AML	AML	15 14 16.3	
	comp=E,8054μm,0.3s						
ALNA				AML	AML	15 14 16.6	
	comp=N,12444μm,0.2s						
XOR	**Xorichti**	**0.31**	**273**	P	**Pg**	**15 14 11.6**	**+0.2**
XOR				S	**Sg**	**15 14 16.3**	**+0.7**
	comp=N,3μm,0.2s						
XOR	**Xorichti**	**0.31**	**273**	P	**Pg**	**15 14 11.5**	**+0.1**
XOR				S	**Sg**	**15 14 16.4**	**+0.7**
XOR				AML	AML	15 14 17.7	
	comp=E,3915μm,0.2s						
XOR				AML	AML	15 14 18.0	
	comp=N,6285μm,0.2s						
ATAL	**Atalanti**	**0.79**	**214**	P	**Pg**	**15 14 19.9**	**-0.5**
ATAL				S	**Sg**	**15 14 31.1**	**+0.3**
	comp=N,2μm,0.5s						
ATAL	**Atalanti**	**0.79**	**214**	P	**Pg**	**15 14 20.0**	**-0.5**
ATAL				S	**Sg**	**15 14 30.1**	**-0.7**
ATAL				AML	AML	15 14 33.5	
	comp=E,5210μm,0.5s						
ATAL				AML	AML	15 14 33.6	
	comp=N,2474μm,0.5s						
KYMI	**Kymi, Euboea I**	**0.82**	**151**	P	**Pg**	**15 14 20.9**	**0.0**
KYMI				S	**Sg**	**15 14 31.6**	**0.0**
	comp=N,3μm,0.6s						
KYMI	**Kymi, Euboea I**	**0.82**	**151**	P	**Pg**	**15 14 20.2**	**-0.7**
KYMI				S	**Sg**	**15 14 31.6**	**0.0**
KYMI				AML	AML	15 14 33.9	
	comp=E,7452μm,0.7s						
KYMI				AML	AML	15 14 34.0	
	comp=N,4766μm,0.5s						
LKR	**Lokris**	**0.84**	**214**	P	**Pg**	**15 14 20.6**	**-0.7**
LKR				S	**Sg**	**15 14 31.1**	**-1.1**
LKR				AML	AML	15 14 34.6	
	comp=E,4462μm,0.5s						
LKR				AML	AML	15 14 36.0	
	comp=N,1461μm,0.4s						
SKY	**Skiros Island**	**0.88**	**122**	P	**Pg**	**15 14 22.3**	**+0.2**
SKY	**Skiros Island**	**0.88**	**122**	P	**Pg**	**15 14 22.3**	**+0.2**
SKY				S	**Sg**	**15 14 33.6**	**0.0**
SKY				AML	AML	15 14 35.6	
	comp=N,6013μm,0.2s						
SKY				AML	AML	15 14 37.6	
	comp=E,11641μm,0.2s						
AXAR	**Agios Charalam**	**0.93**	**232**	P	**Pg**	**15 14 23.5**	**+0.4**
AXAR				S	**Sg**	**15 14 36.6**	**+1.4**
	comp=E,2μm,0.6s						
AXAR	**Agios Charalam**	**0.93**	**232**	P	**Pg**	**15 14 23.1**	**0.0**
AXAR				S	**Sg**	**15 14 34.0**	**-1.3**
AXAR				AML	AML	15 14 40.9	
	comp=N,5126μm,0.4s						
AXAR				AML	AML	15 14 41.9	
	comp=E,3212μm,0.4s						
OUR	**Ouranopolis**	**1.03**	**17**	Pg	**Pn**	**15 14 25.3**	**-0.1**
OUR				Sg	**Sn**	**15 14 39.2**	**-0.6**
OUR	**Ouranopolis**	**1.03**	**17**	P	**Pn**	**15 14 25.3**	**-0.1**
OUR				S	**Sn**	**15 14 39.7**	**-0.1**
	comp=E,855nm,0.4s						
EFSA	**Agios Efstrati**	**1.10**	**80**	P	**Pg**	**15 14 26.7**	**+0.5**
EFSA				S	**Sn**	**15 14 42.0**	**+0.5**
EFSA				AML	AML	15 14 45.0	
	comp=N,1382μm,0.4s						
EFSA				AML	AML	15 14 45.7	
	comp=E,1435μm,0.3s						
VIL2	**Platees**	**1.17**	**193**	P	**Pn**	**15 14 27.0**	**-0.4**
VIL2				AML	AML	15 14 47.9	
	comp=E,2193μm,0.6s						
VIL2				AML	AML	15 14 48.4	
	comp=N,1659μm,0.8s						
MAKR	**Makrakomi, Fth**	**1.18**	**254**	P	**Pb**	**15 14 27.7**	**+0.1**
MAKR				S	**Sn**	**15 14 45.1**	**+1.3**
	comp=N,2μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.18**	**254**	P	**Pb**	**15 14 27.5**	**-0.1**
MAKR				AML	AML	15 14 47.4	
	comp=N,3194μm,0.5s						
MAKR				AML	AML	15 14 47.6	
	comp=E,3553μm,0.5s						
DLFA	**Delphi**	**1.22**	**225**	P	**Pn**	**15 14 27.3**	**-0.8**
THL	**Klokotos Trika**	**1.24**	**280**	P	**Pn**	**15 14 28.2**	**-0.2**
THL				AML	AML	15 14 54.5	
	comp=E,437μm,0.5s						
THL				AML	AML	15 14 55.3	
	comp=N,449μm,0.6s						
DION	**Dionisos Attik**	**1.30**	**168**	P	**Pn**	**15 14 29.7**	**+0.5**
HORT	**Hortiatis**	**1.30**	**343**	Pn	**Pg**	**15 14 29.3**	**-0.8**
HORT				Sn	**Sn**	**15 14 47.2**	**+0.5**
HORT	**Hortiatis**	**1.30**	**343**	P	**Pg**	**15 14 29.4**	**-0.7**
HORT				S	**Sn**	**15 14 47.3**	**+0.5**
	comp=N,395nm,0.4s						
HORT	**Hortiatis**	**1.30**	**343**	P	**Pb**	**15 14 29.2**	**-0.5**
HORT				S	**Sn**	**15 14 46.8**	**+0.1**
HORT				AML	AML	15 14 48.1	
	comp=E,870μm,0.4s						
HORT				AML	AML	15 14 48.9	
	comp=N,783μm,0.3s						
PTL	**Penteli**	**1.32**	**171**	P	**Pn**	**15 14 30.2**	**+0.8**
LIA	**Limnos Island**	**1.34**	**66**	P	**Pn**	**15 14 29.4**	**-0.4**
LIA				S	**Sg**	**15 14 50.7**	**+2.3**
	comp=N,918nm,0.7s						
LIA	**Limnos Island**	**1.34**	**66**	P	**Pn**	**15 14 29.3**	**-0.5**
LIA				S	**Sg**	**15 14 49.4**	**+1.0**
LIA				AML	AML	15 14 51.5	
	comp=E,1765μm,0.6s						
LIA				AML	AML	15 14 53.5	
	comp=N,1755μm,0.3s						
THE	**Thessaloniki**	**1.37**	**340**	P	**Pg**	**15 14 30.6**	**-0.8**
ATH	**Athens Observa**	**1.38**	**176**	P	**Pn**	**15 14 30.4**	**+0.1**
ATH	**Athens Observa**	**1.38**	**176**	P	**Pn**	**15 14 30.2**	**0.0**
ATHU	**Athens Univers**	**1.39**	**174**	P	**Pn**	**15 14 30.1**	**-0.4**
ATHU	**Athens Univers**	**1.39**	**174**	P	**Pn**	**15 14 30.1**	**-0.4**
ATHU				AML	AML	15 14 51.1	
	comp=E,249μm,0.3s						
ATHU				AML	AML	15 14 52.0	
	comp=N,488μm,0.7s						
LOUT	**Loutraki**	**1.44**	**200**	P	**Pn**	**15 14 30.6**	**-0.6**
LOUT	**Loutraki**	**1.44**	**200**	P	**Pn**	**15 14 30.4**	**-0.8**
EVR	**Evrytania**	**1.45**	**253**	P	**Pn**	**15 14 33.0**	**+1.6**
SOH	**Sokhos**	**1.48**	**353**	P	**Pb**	**15 14 32.1**	**-0.6**
KOKK	**Kokkinochori,**	**1.50**	**12**	P	**Pn**	**15 14 31.7**	**-0.2**
THAL	**Thalero**	**1.50**	**209**	P	**Pn**	**15 14 31.2**	**-0.8**
VLY	**Voula,Athens**	**1.50**	**174**	P	**Pn**	**15 14 31.3**	**-0.7**
VLY				AML	AML	15 14 52.4	
	comp=E,2028μm,0.8s						
VLY				AML	AML	15 14 56.5	
	comp=N,2159μm,0.6s						
ANX	**Ano Chora**	**1.51**	**240**	P	**Pn**	**15 14 32.3**	**+0.2**
ANX	**Ano Chora**	**1.51**	**240**	P	**Pn**	**15 14 32.3**	**+0.2**
THAS	**Thassos island**	**1.52**	**34**	P	**Pn**	**15 14 31.4**	**-0.8**
TRIZ	**Trizonia**	**1.54**	**231**	P	**Pn**	**15 14 32.4**	**-0.1**
LAKA	**Lakka**	**1.68**	**229**	P	**Pn**	**15 14 34.5**	**0.0**
GUR	**Goura**	**1.72**	**215**	P	**Pn**	**15 14 34.7**	**-0.3**
KLV	**Kalavryta, Ach**	**1.73**	**221**	P	**Pn**	**15 14 34.9**	**-0.2**
SIGR	**SIGRI**	**1.76**	**94**	Pn	**Pg**	**15 14 39.3**	**+0.4**
SIGR	**SIGRI**	**1.76**	**94**	P	**Pn**	**15 14 36.2**	**+0.7**
SRS	**Serrai**	**1.76**	**360**	P	**Pn**	**15 14 36.0**	**+0.4**
PVO	**Paravola**	**1.77**	**246**	P	**Pn**	**15 14 35.7**	**+0.1**
GRG	**Griva**	**1.85**	**331**	Pn	**Pn**	**15 14 36.9**	**+0.2**
SMTH	**Samothraki Isl**	**1.86**	**52**	P	**Pn**	**15 14 36.1**	**-0.9**
KNT	**Kendrikon**	**1.89**	**344**	Pn	**Pn**	**15 14 37.9**	**+0.6**
KNT	**Kendrikon**	**1.89**	**344**	P	**Pb**	**15 14 38.4**	**-1.2**
BOZC	**Bozcaada**	**1.96**	**75**	Pn	**Pb**	**15 14 40.4**	**-0.5**
GADA	**Gvkgeada**	**1.96**	**64**	Pn	**Pb**	**15 14 40.9**	**0.0**
CHOS	**Chios island**	**2.15**	**116**	P	**Pn**	**15 14 41.1**	**+0.1**
EZN	**Ezine**	**2.16**	**76**	Pn	**Pb**	**15 14 44.3**	**0.0**
MMB	**Musomishta**	**2.20**	**3**	*i* P	**Pn**	**15 14 41.9**	**+0.3**
FNA	**Florina**	**2.22**	**311**	Pn	**Pn**	**15 14 43.2**	**+1.2**
RDO	**Rodhopi**	**2.33**	**39**	Pn	**Pn**	**15 14 42.9**	**-0.5**
RDO	**Rodhopi**	**2.33**	**39**	P	**Pn**	**15 14 42.8**	**-0.6**
COMU	**Canakkale**	**2.34**	**70**	Pn	**Pb**	**15 14 46.5**	**-0.9**
ENEZ	**Enez**	**2.40**	**54**	Pn	**Pb**	**15 14 46.9**	**-1.5**
ALN	**Alexandroupoli**	**2.43**	**50**	Pn	**Pn**	**15 14 45.5**	**+0.7**
ALN	**Alexandroupoli**	**2.43**	**50**	P	**Pn**	**15 14 44.3**	**-0.5**
GELI	**Tayfur-Gelibol**	**2.45**	**64**	Pn	**Pb**	**15 14 48.2**	**-1.0**
RZN	**Rozhen**	**2.50**	**20**	*i* P	**Pn**	**15 14 46.0**	**+0.1**
KKB	**Krupnik**	**2.51**	**352**	*i* P	**Pn**	**15 14 46.9**	**+1.0**
RFT2	**Karaagac**	**2.54**	**87**	Pn	**Pb**	**15 14 49.8**	**-0.8**
URLA	**Izmir**	**2.54**	**112**	Pn	**Pb**	**15 14 50.3**	**-0.5**
RFT5	**Foca**	**2.55**	**105**	Pn	**Pb**	**15 14 50.4**	**-0.5**
STIP	**Stip**	**2.58**	**336**	*i* Pn	**Pn**	**15 14 47.4**	**+0.7**
ERIK	**Erikli-Kesan**	**2.60**	**59**	Pn	**Pb**	**15 14 49.8**	**-1.9**
LPK	**Lapseki**	**2.64**	**66**	Pn	**Pb**	**15 14 50.5**	**-1.9**
APE	**Apeiranthos**	**2.74**	**146**	⇓P	**Pn**	**15 14 53.1**	**+4.0**
APE	**Apeiranthos**	**2.74**	**146**	Pn	**Pn**	**15 14 49.2**	**+0.1**
VTS	**Vitosha**	**3.27**	**355**	⇑P	**Pn**	**15 14 56.7**	**+0.2**
VTS	**Vitosha**	**3.27**	**355**	*i* P	**Pn**	**15 14 57.2**	**+0.7**
MPEP	**Malo Peshtene**	**4.00**	**2**	*i* P	**Pn**	**15 15 07.1**	**+0.7**
IDI	**Anoyia**	**4.18**	**165**	⇑P	**Pn**	**15 15 12.8**	**+3.8**
BOVS	**Bovan**	**4.51**	**342**	⇓P	**Pn**	**15 15 12.8**	**-0.5**
HERR	**Herculane**	**5.59**	**351**	⇓P	**Pn**	**15 15 28.5**	**+0.3**
MDVR	**Moldovita**	**5.60**	**346**	⇑P	**Pn**	**15 15 27.8**	**-0.6**
GZR	**Gura Zlata**	**6.07**	**355**	⇑P	**Pn**	**15 15 34.6**	**-0.2**
VOIR		**6.18**	**10**	⇑P	**Pn**	**15 15 37.1**	**+0.8**
MLR	**Muntele Rosu**	**6.38**	**15**	⇓P	**Pn**	**15 15 39.7**	**+0.6**
BZS	**Buzias**	**6.43**	**348**	⇓P	**Pn**	**15 15 39.5**	**-0.1**
DOPR	**Dopca**	**6.74**	**11**	⇑P	**Pn**	**15 15 45.0**	**+1.0**
PLOR	**Plostina**	**6.88**	**18**	⇓P	**Pn**	**15 15 46.5**	**+0.6**
VRI	**Vrincioaia**	**6.91**	**19**	⇑P	**Pn**	**15 15 46.6**	**+0.3**

*JSO **10** 15:29:07, 29.°29N×34.°73E, h10km, ML2.5/6*
*GII **10** 15:29:08.0±0.0, 29.°29N×34.°73E, h1km, MD2.5/4, Mm2.5/6*
*HLW **10** 15:29:09.2, 29.°15N×34.°79E, h17km±1km, Md2.0, Ml2.2*
ISC 10 15:29:08.3±1.1,**29.°29N**±0.°04×**34.°59E**±0.°07,**h13**km±9**km,**
n17,σ0°**79**/25,**Egypt**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HBST	**Basata**	**0.14**	**118**	P	**Pg**	**15 29 12.7**	**+0.7**
	baz=322						
NUB	**Nuweibaa**	**0.26**	**168**	P	**Pb**	**15 29 14.4**	**-0.5**
	baz=219						
EIL	**Elat**	**0.50**	**40**	Pg	**Pg**	**15 29 17.4**	**-0.8**
EIL				Sg	**Sg**	**15 29 24.5**	**-0.3**
HDHB	**Dhahab**	**0.56**	**177**	P	**Pg**	**15 29 18.1**	**-1.2**
	baz=200						
MBRI	**Mt Berech**	**0.58**	**29**	Pg	**Pg**	**15 29 19.6**	**-0.2**
MBRI				Sg	**Sb**	**15 29 28.6**	**0.0**
MBRI	**Mt Berech**	**0.58**	**29**	P	**Pg**	**15 29 19.0**	**-0.8**
KRMI	**Paran Flat**	**0.84**	**8**	Pg	**Pb**	**15 29 24.7**	**-0.1**
KRMI				Sg	**Sn**	**15 29 37.6**	**-0.5**
KRMI	**Paran Flat**	**0.84**	**8**	P	**Pg**	**15 29 24.3**	**-0.3**
HKAT	**Jabal Katrina**	**0.92**	**215**	P	**Pg**	**15 29 26.0**	**-0.2**
	baz=229						
HKAT				S	**Sb**	**15 29 39.6**	**+1.1**
	baz=229						
PRNI	**Paran**	**1.12**	**19**	Pg	**Pb**	**15 29 28.9**	**-0.7**
PRNI				Sg	**Sn**	**15 29 45.5**	**+0.4**
PRNI	**Paran**	**1.12**	**19**	P	**Pb**	**15 29 28.5**	**-1.1**
TR2	**Tor 2**	**1.18**	**220**	P	**Pb**	**15 29 30.3**	**-0.2**
	baz=232						
ZFRI	**Zfri**	**1.36**	**22**	Pn	**Pb**	**15 29 33.8**	**+0.1**
ZFRI				Sn	**Sg**	**15 29 52.3**	**0.0**
ZFRI	**Zfri**	**1.36**	**22**	P	**Sn**	**15 29 51.8**	**+0.8**
TR1	**Tor 1**	**1.39**	**204**	P	**Pn**	**15 29 33.3**	**-0.2**
	baz=214						
YTIR	**Yattir**	**2.12**	**12**	Pn	**Pn**	**15 29 44.8**	**+1.2**
YTIR				Sn	**Sb**	**15 30 11.9**	**-1.1**
MSBI	**Mazada**	**2.13**	**18**	Pn	**Pn**	**15 29 44.2**	**+0.7**
MSBI				Sn	**Sn**	**15 30 11.3**	**+1.5**

IDC 10 15:52:27.9±6.7,**28.°77N×88.°20E,h0**km,**mb3.3**/3,
mbtmp3.2/4,**ML3.2**/1,**Error ellipse: s-maj=430.7km**
s-min=25.7km az=64.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.58**	**347**	P	P	15 56 46.0	-0.4
	0.1nm,0.3s,baz=156,slow=12,SNR=1.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**23.02**	**344**	P	P	15 57 34.5	+0.2
	0.2nm,0.5s,baz=168,slow=10,SNR=1.7						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**65.80**	**132**	P	P	16 03 15.3	+0.1
	0.3nm,0.6s,baz=323,slow=6.6,SNR=6.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**68.22**	**135**	P	P	16 03 30.4	-0.1
	0.4nm,0.7s,baz=312,slow=6.3,SNR=6.7						
	0.4nm,0.7s						

*NEIC **10** 16:08:30.3±0.9, 18.°23N±0.°07×68.°47W±0.°06, h90km±7km, ML3.4/6, Md2.6/3(RSPR), Error ellipse: s-maj=12.0km s-min=6.2km az=210.0*
*SDD **10** 16:08:31.8±3.3, 17.°98N×68.°46W, h63km±16km, MD3.7, ML3.2, MW3.4*
*RSPR **10** 16:08:31.1±1.3, 18.°4N±0.°1×68.°42W±0.°06, h92km±4km, Error ellipse: s-maj=18.9km s-min=7.5km az=188.0*
*OSPL **10** 16:08:32.4±3.1, 17.°81N×68.°57W, h69km±94km, ML3.0*
ISC 10 16:08:30.7±1.1,**18.°02N**±0.°06×**68.°49W**±0.°03,**h73**km±9**km,**
n29,σ1°**40**/50,**1C-1D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.32**	**302**⇑	*e*Pg	**Pn**	**16 08 42.9**	**+0.5**
SADR				*e*Sg	**Sn**	**16 08 51.2**	**+0.3**
SADR				IAML		16 08 54.1	
	comp=Z,454nm,0.3s						
PCDR	**Punta Cana, DR**	**0.50**	**12**		**Pn**	**16 08 43.5**	**-0.4**
PCDR					**Sn**	**16 08 53.6**	**+0.1**
PCDR	**Punta Cana, DR**	**0.50**	**12**	*e*Pg	**Pn**	**16 08 43.8**	**0.0**
PCDR				*e*Sg	**Sn**	**16 08 52.9**	**-0.6**
PCDR				IAML		16 08 56.1	
	comp=Z,2μm,0.6s						
HIDR	**Higuey Centro**	**0.61**	**339**	*e*Pg	**Pn**	**16 08 43.9**	**-1.0**
HIDR				*e*Sg	**Sn**	**16 08 54.1**	**-1.2**
HIDR				IAML		16 08 55.2	
	comp=Z,727nm,0.3s						
IDE	**Isla Desecheo**	**1.03**	**69**		**Pn**	**16 08 49.5**	**-0.2**
IDE					**Sn**	**16 09 03.5**	**-0.5**
MIDR	**Miches**	**1.10**	**331**	*e*Pg	**Pn**	**16 08 48.9**	**-1.7**
MIDR				*e*Sg	**Sn**	**16 09 03.1**	**-2.3**
MIDR				IAML		16 09 07.0	
	comp=Z,224nm,0.2s						
HATOM	**Hato Mayor del**	**1.14**	**312**	*e*Pg	**Pn**	**16 08 49.9**	**-1.3**
HATOM				*e*Sg	**Sn**	**16 09 04.2**	**-2.3**
HATOM				IAML		16 09 06.7	

HATO	Hato, Curacao	5.82 185	Pn	Pn	16 09 55.9	+1.3
GTBY	Guantanamo Bay	6.55 288	Pn	Pn	16 10 03.0	-1.4
BAUV	El Baul	9.03 177	Pn	Pn	16 10 40.8	+2.3

*ATH **10** 16:25:00.7, 39°.57N×26°.03E, h15km±4km, ML2.6/11, Manual Solution by A.Papageorgiou First location: 2019/04/19 07:11:34, This location: 2019/04/19 07:10:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
*ISK **10** 16:25:00.5, 39°.57N×26°.00E, h7km, ML3.0/23*
*THE **10** 16:25:01.1, 39°.56N×25°.99E, h10km±1km, ML2.6/8, Error ellipse: s-maj=1.4km s-min=0.6km az=130.0*
*AFAD **10** 16:25:01.0±0.0, 39°.55N×26°.04E, h14km, ML2.6*

ISC 10 16:25:00.9±0.8, 39°.56N±0°.01×26°.01E±0°.02, h15km±5km, n61, σ0s43/101, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.11**	**121**	P			**Pg**	**16 25 04.4**	**+0.1**
KOCA				S			**Sg**	**16 25 06.5**	**0.0**
GPNR	**Gulpinar-Canak**	**0.14**	**139**	Pg			**Pg**	**16 25 04.2**	**-0.4**
GPNR				Sg			**Sg**	**16 25 06.6**	**-0.4**
BOZC	**Bozcaada**	**0.28**	**6**	Pg			**Pg**	**16 25 06.9**	**+0.1**
BOZC	**Bozcaada**	**0.28**	**6**	P			**Pg**	**16 25 07.0**	**+0.1**
BOZC					*i*	AML	AML	16 25 11.0	
	comp=E,850nm,0.4s								
BOZC				S			**Sg**	**16 25 11.4**	**+0.5**
BOZC					*i*	AML	AML	16 25 12.0	
	comp=N,524nm,0.3s								
RFT1	**Sazli**	**0.33**	**95**	Pg			**Pg**	**16 25 08.0**	**+0.3**
RFT1				Sg			**Sb**	**16 25 13.1**	**-0.6**
EZN	**Ezine**	**0.36**	**42**	Pg			**Pg**	**16 25 07.9**	**-0.3**
EZN				Sg			**Sg**	**16 25 13.3**	**+0.2**
EZN	**Ezine**	**0.36**	**42**	P			**Pg**	**16 25 08.1**	**-0.1**
EZN				S			**Sg**	**16 25 13.3**	**+0.2**
	1μm,0.3s								
SIGR	**SIGRI**	**0.37**	**199**	Pg			**Pg**	**16 25 08.4**	**0.0**
SIGR				Sg			**Sg**	**16 25 14.2**	**+0.7**
SIGR	**SIGRI**	**0.37**	**199**	P			**Pg**	**16 25 08.4**	**0.0**
SIGR				S			**Sg**	**16 25 13.7**	**+0.2**
	802nm,0.3s								
SIGR	**SIGRI**	**0.37**	**199**	P			**Pg**	**16 25 08.3**	**-0.1**
SIGR				S			**Sg**	**16 25 13.4**	**-0.1**
PRK	**Paraskevi**	**0.37**	**147**	P			**Pg**	**16 25 08.7**	**+0.3**
PRK				S			**Sg**	**16 25 14.2**	**+0.6**
	3μm,0.2s								
PRK	**Paraskevi**	**0.37**	**147**	P			**Pg**	**16 25 08.6**	**+0.2**
PRK				S			**Sg**	**16 25 13.6**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.45**	**66**	P			**Pg**	**16 25 09.8**	**0.0**
BAYC				S			**Sg**	**16 25 15.9**	**0.0**
BAYC					*i*	AML	AML	16 25 16.0	
	comp=N,466nm,0.1s								
BAYC					*i*	AML	AML	16 25 17.0	
	comp=E,416nm,0.2s								
ECEA	**Canakkale, Ece**	**0.50**	**14**	P			**Pb**	**16 25 11.2**	**-0.2**
ECEA				S			**Sb**	**16 25 18.7**	**+0.2**
ECEA					*i*	AML	AML	16 25 19.0	
	comp=N,331nm,0.2s								
ECEA					*i*	AML	AML	16 25 24.0	
	comp=E,373nm,0.5s								
EAG1	**Polichnitos, L**	**0.50**	**161**	P			**Pg**	**16 25 10.3**	**-0.5**
EAG1				S			**Sg**	**16 25 16.8**	**-0.7**
CNKL	**anakkale-Mer**	**0.58**	**30**	P			**Pg**	**16 25 12.2**	**-0.1**
CNKL				S			**Sb**	**16 25 20.5**	**-0.3**
CNKL					*i*	AML	AML	16 25 21.0	
	comp=N,317nm,0.4s								
CNKL					*i*	AML	AML	16 25 25.0	
	comp=E,268nm,0.5s								
AYVA	**Ayvalik**	**0.58**	**116**	P			**Pb**	**16 25 13.4**	**+0.7**
AYVA				S			**Sn**	**16 25 24.0**	**+0.1**
AYVA					*i*	AML	AML	16 25 27.0	
	comp=N,315nm,0.5s								
AYVA					*i*	AML	AML	16 25 27.0	
	comp=E,180nm,0.4s								
GOKA	**anakkale-Gk**	**0.63**	**353**	P			**Pg**	**16 25 13.3**	**0.0**
GOKA				S			**Sb**	**16 25 22.4**	**+0.1**
GOKA					*i*	AML	AML	16 25 23.0	
	comp=E,421nm,0.2s								
GOKA					*i*	AML	AML	16 25 27.0	
	comp=N,408nm,0.4s								
GADA	**Gvkgeada**	**0.64**	**352**	Pg			**Pg**	**16 25 12.9**	**-0.4**
EAG3	**Mitilini, Lesv**	**0.64**	**138**	P			**Pb**	**16 25 13.7**	**-0.1**
EAG3				S			**Sg**	**16 25 21.6**	**-0.3**
COMU	**Canakkale**	**0.64**	**33**	Pg			**Pg**	**16 25 13.4**	**-0.1**
RFT2	**Karaagac**	**0.67**	**102**	Pg			**Pb**	**16 25 14.5**	**+0.2**
LIA	**Limnos Island**	**0.72**	**298**	P			**Pg**	**16 25 15.1**	**+0.1**
LIA				S			**Sg**	**16 25 24.6**	**+0.1**
	802nm,0.4s								
LIA	**Limnos Island**	**0.72**	**298**	P			**Pg**	**16 25 14.9**	**0.0**
LIA				S			**Sb**	**16 25 25.4**	**+0.5**
EFSA	**Agios Efstrati**	**0.79**	**269**	P			**Pg**	**16 25 16.1**	**-0.1**
EFSA				S			**Sb**	**16 25 27.5**	**+0.6**
BUHA	**Balikesir, Bur**	**0.82**	**94**	P			**Pg**	**16 25 16.7**	**-0.2**
BUHA				S			**Sb**	**16 25 27.9**	**0.0**
BUHA					*i*	AML	AML	16 25 30.0	
	comp=E,230nm,0.3s								
BUHA					*i*	AML	AML	16 25 32.0	
	comp=N,185nm,0.3s								
DKL	**Dikili**	**0.85**	**125**	Pg			**Pn**	**16 25 17.9**	**-0.4**
DKL	**Dikili**	**0.85**	**125**	P			**Pb**	**16 25 17.4**	**+0.2**
DKL				S			**Sb**	**16 25 28.8**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.91**	**23**	Pg			**Pg**	**16 25 18.2**	**-0.3**
CANM	**Can-anakkale**	**0.92**	**60**	Pg			**Pn**	**16 25 19.3**	**0.0**
RFT7	**Candarli**	**0.93**	**130**	Pg			**Pb**	**16 25 18.7**	**0.0**
KARB	**zmir-Karabur**	**0.95**	**161**	P			**Pg**	**16 25 19.3**	**+0.1**
KARB				S			**Sg**	**16 25 32.0**	**+0.4**
KARB					*i*	AML	AML	16 25 34.0	
	comp=N,352nm,0.2s								
KARB					*i*	AML	AML	16 25 34.0	
	comp=E,462nm,0.5s								
SMTH	**Samothraki Isl**	**0.98**	**338**	P			**Pb**	**16 25 19.6**	**0.0**
SMTH				S			**Sg**	**16 25 33.1**	**+0.4**
SMTH	**Samothraki Isl**	**0.98**	**338**	P			**Pb**	**16 25 19.6**	**0.0**
SMTH				S			**Sb**	**16 25 32.1**	**-0.3**
LPK	**Lapseki**	**0.99**	**35**	Pg			**Pb**	**16 25 19.6**	**-0.2**
ZEDA	**zmir-Bergama**	**1.02**	**125**	P			**Pn**	**16 25 20.7**	**0.0**
ZEDA					*i*	AML	AML	16 25 35.0	
	comp=E,96nm,1.0s								
ZEDA					*i*	AML	AML	16 25 37.0	
	comp=N,222nm,0.2s								
RFT5	**Foca**	**1.07**	**147**	Pn			**Pb**	**16 25 21.1**	**+0.1**
PSRA	**Psara**	**1.08**	**199**	P			**Pb**	**16 25 20.8**	**-0.4**
PSRA				S			**Sg**	**16 25 35.9**	**+0.2**
CAVK	**Edirne/Enez-Ca**	**1.14**	**6**	P			**Pb**	**16 25 22.0**	**-0.3**
CAVK				S			**Sn**	**16 25 39.0**	**+1.5**
CAVK					*i*	AML	AML	16 25 47.0	
	comp=E,144nm,0.9s								
CAVK					*i*	AML	AML	16 25 48.0	
	comp=N,114nm,0.6s								
CHOS	**Chios island**	**1.17**	**178**	P			**Pn**	**16 25 22.7**	**-0.1**
CHOS				S			**Sb**	**16 25 38.5**	**+0.6**
	472nm,0.3s								
CHOS	**Chios island**	**1.17**	**178**	P			**Pn**	**16 25 22.9**	**+0.1**
CHOS				S			**Sb**	**16 25 37.9**	**0.0**
ERIK	**Erikli-Kesan**	**1.17**	**19**	Pn			**Pn**	**16 25 22.4**	**-0.4**
ENEZ	**Enez**	**1.18**	**5**	Pn			**Pn**	**16 25 23.0**	**+0.2**
ENEZ	**Enez**	**1.18**	**5**	P			**Pn**	**16 25 23.0**	**+0.2**
ENEZ				S			**Sg**	**16 25 39.1**	**+0.1**
	248nm,0.5s								
BALY	**Balya**	**1.25**	**81**	P			**Pg**	**16 25 24.9**	**-0.1**
BALY				S			**Sg**	**16 25 41.1**	**-0.2**
BALY					*i*	AML	AML	16 25 42.0	
	comp=N,255nm,0.6s								
BALY					*i*	AML	AML	16 25 43.0	
	comp=E,224nm,0.3s								
URLA	**Izmir**	**1.28**	**159**	Pn			**Pn**	**16 25 23.9**	**-0.4**
URLA	**Izmir**	**1.28**	**159**	P			**Pn**	**16 25 23.9**	**-0.4**
URLA				S			**Sb**	**16 25 41.1**	**0.0**
URLA					*i*	AML	AML	16 25 44.0	
	comp=N,197nm,0.4s								
URLA					*i*	AML	AML	16 25 44.0	
	comp=E,122nm,0.5s								
KRBG	**Karabiga-Canak**	**1.29**	**49**	Pn			**Pb**	**16 25 25.1**	**+0.3**
ALEX	**Alexandroupoli**	**1.30**	**356**	P			**Pb**	**16 25 25.2**	**+0.3**
ALEX				S			**Sb**	**16 25 41.6**	**+0.2**
SKY	**Skiros Island**	**1.33**	**239**	P			**Pn**	**16 25 24.1**	**-0.8**
SKY				S			**Sb**	**16 25 42.4**	**+0.1**
ALN	**Alexandroupoli**	**1.33**	**1**	Pn			**Pb**	**16 25 25.5**	**-0.1**
ALN	**Alexandroupoli**	**1.33**	**1**	P			**Pn**	**16 25 25.3**	**+0.3**
ALN				S			**Sn**	**16 25 42.9**	**+0.4**
	95nm,0.5s								
GONE	**Gonen-Balikesi**	**1.38**	**69**	Pn			**Pb**	**16 25 26.5**	**+0.2**
THAS	**Thassos island**	**1.44**	**317**	P			**Pn**	**16 25 26.3**	**-0.1**
THAS				S			**Sn**	**16 25 44.2**	**-0.9**
	95nm,0.2s								
THAS	**Thassos island**	**1.44**	**317**	P			**Pn**	**16 25 26.1**	**-0.3**
THAS				S			**Sn**	**16 25 43.9**	**-1.2**
EDC	**Edincik**	**1.62**	**61**	Pn			**Pb**	**16 25 29.9**	**-0.7**
RDO	**Rodhopi**	**1.62**	**347**	Pn			**Pn**	**16 25 29.7**	**+0.7**
RDO	**Rodhopi**	**1.62**	**347**	P			**Pn**	**16 25 29.5**	**+0.5**
RDO	**Rodhopi**	**1.62**	**347**	P			**Pn**	**16 25 29.3**	**+0.3**
RDO				S			**Sn**	**16 25 48.4**	**-1.2**
UKOP	**Uzunkopru-Edir**	**1.64**	**17**	Pn			**Pb**	**16 25 30.7**	**0.0**
KYMI	**Kymi, Euboea I**	**1.75**	**239**	P			**Pn**	**16 25 30.1**	**-0.6**
KYMI				S			**Sn**	**16 25 54.3**	**+1.5**

*IDC **10** 16:35:37.9±3.7, 6°.10S×147°.84E, h94km±37km, mb3.1/2, mbtmp3.6/5, Error ellipse: s-maj=70.5km s-min=17.0km az=126.0*

ISC 10 16:35:38.0±1.1, 6°.1S±0°.1×147°.8E±0°.2, h100km, n6, σ0s77/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.36**	**191**	P			**Pn**	**16 36 28.5**	**-0.1**
	28nm,0.5s,baz=27,slow=9.0,SNR=22								
PMG				S			**Sn**	**16 37 07.4**	**-0.3**
	23nm,0.4s,baz=213,slow=20,SNR=7.3								
KRVT	**Keravat (AS076**	**4.57**	**68**	P			**Pn**	**16 36 45.0**	**+0.1**
	19nm,0.4s,baz=294,slow=19,SNR=23								
WRA	**Warramunga Arr**	**19.00**	**222**	P			**P**	**16 39 51.7**	**-0.3**
	0.8nm,0.7s,baz=48,slow=11,SNR=22								
WRA				PcP			**PcP**	**16 44 14.4**	**+0.9**
	0.2nm,0.7s,baz=27,slow=2.0,SNR=1.7								
ASAR	**Alice Springs**	**22.01**	**216**	P			**P**	**16 40 25.1**	**+0.8**
	0.5nm,0.3s,baz=51,slow=8.7,SNR=27								
ASAR				PcP			**PcP**	**16 44 20.1**	**+0.9**
	0.3nm,0.8s,baz=32,slow=2.1,SNR=3.2								
	0.5nm,0.3s								
ILAR	**Eielson Array**	**85.25**	**23**	P			**P**	**16 48 02.2**	**-1.0**
	0.2nm,0.7s,baz=241,slow=4.7,SNR=1.7								
	0.2nm,0.7s								
TORD	**Torodi Ar. Bea**	**145.88**	**284**	PKPbc			**PKPbc**	**16 55 07.0**	**+0.1**
	0.3nm,0.4s,baz=66,slow=2.9,SNR=4.3								

IDC 10 16:37:36.3±2.9, 20°.00S×176°.72W, h498km±30km, mb2.8/4, mbtmp3.6/5, Error ellipse: s-maj=36.5km s-min=32.7km az=21.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.44**	**294**	P			P	16 39 07.3	-0.1
	8.8nm,0.6s,baz=189,slow=4.5,SNR=13								
ASAR	**Alice Springs**	**45.80**	**256**	P			P	16 45 13.6	+0.5
	0.5nm,0.6s,baz=85,slow=7.4,SNR=12								
	0.5nm,0.6s								
WRA	**Warramunga Arr**	**45.86**	**261**	P			P	16 45 12.9	-0.7
	0.5nm,0.5s,baz=95,slow=8.3,SNR=11								
	0.5nm,0.5s								
QSPA	**South Pole Qui**	**70.06**	**180**	P			P	16 47 57.4	-0.1
	0.5nm,0.6s,baz=13,slow=0.5,SNR=8.4								
	0.5nm,0.6s								
ILAR	**Eielson Array**	**87.57**	**12**	P			P	16 49 30.5	+0.2
	0.1nm,0.5s,baz=225,slow=4.2,SNR=1.6								
	0.1nm,0.5s								

*MDD **10** 16:44:04.7±0.6, 44°.99N×13°.42W, h0km, Mb4.4/24, M_mb3.8/25, Error ellipse: s-maj=5.2km s-min=3.9km az=89.0*
*LDG **10** 16:44:07.3±0.2, 45°.07N×13°.22W, h2km, Ml3.9/31, Error ellipse: s-maj=3.8km s-min=1.9km az=103.0*
*INMG **10** 16:44:08.3±1.5, 45°.06N×13°.79W, h12km, ML2.8, Error ellipse: s-maj=8.7km s-min=4.9km az=70.0*

ISC 10 16:44:06.2±1.7, 44°.99N±0°.06×12°.88W±0°.09, h10km, n85, σ2s89/146, 19C-5D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.48**	**125**	⇓Pn			**Pn**	**16 45 04.5**	**+4.1**
EMAZ					Sn		**Sb**	**16 45 45.7**	**-4.5**
EAGO	**Agolada(Pontev**	**4.09**	**121**	Pn			**Pn**	**16 45 12.9**	**+4.0**
EAGO					⇑*i*	Vmb_V		16 45 13.4	
	2μm,SNR=37								
EAGO					Sn		**Sn**	**16 46 00.1**	**+3.3**
EZAM	**Zamans**	**4.16**	**132**	⇓Pn			**Pn**	**16 45 13.2**	**+3.4**
EZAM					⇑*i*	Vmb_V		16 45 13.4	
	2μm,SNR=12								
EZAM					Sn		**Sn**	**16 46 01.3**	**+2.9**
EPON	**Pontenova**	**4.44**	**110**	Pn			**Pn**	**16 45 17.8**	**+4.1**
EPON					⇑*i*	Vmb_V		16 45 19.7	
	213nm,SNR=3.1								
EPON					Sn		**Sn**	**16 46 08.7**	**+3.2**
PGAV	**Gavieira, Arco**	**4.51**	**130**	⇓*e*P			**Pn**	**16 45 18.4**	**+3.7**
PGAV					*e*S		**Sn**	**16 46 10.7**	**+3.4**
PGAV					A		A	16 46 14.0	
	20nm,0.2s								
ELOB	**Lobios**	**4.70**	**130**	⇓Pn			**Pn**	**16 45 20.6**	**+3.3**
ELOB					⇑*i*	Vmb_V		16 45 21.2	
	607nm,SNR=16								
ELOB					Sn		**Sn**	**16 46 14.5**	**+2.7**
POLO	**Lamas de Olo**	**5.18**	**132**	⇓*e*P			**Pn**	**16 45 26.8**	**+2.9**
POLO					*e*S		**Sn**	**16 46 26.0**	**+2.2**
POLO					A		A	16 46 29.4	
	4.1nm,0.3s								
PVRL	**Vila Real**	**5.30**	**133**	*e*P			**Pn**	**16 45 29.1**	**+3.7**
PVRL					*e*S		**Sn**	**16 46 29.2**	**+2.7**
PVRL					A		A	16 46 31.5	
	17nm,0.1s								
ECAL	**Calabor**	**5.41**	**122**	Pn			**Pn**	**16 45 31.0**	**+4.0**
ECAL					⇑*i*	Vmb_V		16 45 32.0	
	599nm,SNR=19								
ECAL					Sn		**Sn**	**16 46 32.3**	**+2.9**
ECAL	**Calabor**	**5.41**	**122**	Sn			**Sn**	**16 46 29.8**	**+0.4**
ECAL					Pn		**Pn**	**16 45 31.0**	**+4.0**
PBRG	**Braganca**	**5.49**	**123**	*e*P			**Pn**	**16 45 32.2**	**+4.1**
PBRG					*e*S		**Sn**	**16 46 34.6**	**+3.4**
PBRG					A		A	16 46 39.0	
	10.0nm,0.5s								
PVIS	**Viseu**	**5.63**	**138**	*e*P			**Pn**	**16 45 32.8**	**+2.8**
PVIS					*e*S		**Sn**	**16 46 36.2**	**+1.5**
PVIS					A		A	16 46 37.8	
	5.4nm,0.3s								
MVO	**Moncorvo**	**5.74**	**130**	⇑*i*P			**Pn**	**16 45 34.9**	**+3.3**
MVO					*e*S		**Sn**	**16 46 39.7**	**+2.2**
MVO					A		A	16 46 41.7	
	9.7nm,0.2s								
EARI	**Arriondas**	**5.77**	**104**	Pn			Pn	16 45 36.5	+4.5
EARI					⇑*i*	Vmb_V		16 45 38.1	
	167nm,SNR=2.4								
EARI					Sn		**Sn**	**16 46 40.9**	**+2.8**
PCAS	**Casmilo, Conde**	**5.90**	**145**	*e*P			**Pn**	**16 45 35.9**	**+2.2**
PCAS					*e*S		**Sn**	**16 46 41.3**	**-0.1**
PCAS					A		A	16 46 46.3	
	2.7nm,0.6s								
MTE	**Manteigas**	**6.04**	**138**	*e*S			**Sn**	**16 46 46.1**	**+1.2**
MTE					A		A	16 46 48.1	
	4.4nm,0.3s								
PSBE	**So Bento**	**6.25**	**150**	*e*P			**Pn**	**16 45 40.5**	**+1.9**
PMAFR	**Mafra**	**6.60**	**155**	*e*P			**Pn**	**16 45 44.0**	**+0.7**
PMAFR					*e*S		**Sn**	**16 46 55.2**	**-3.4**
PMAFR	**Mafra**	**6.60**	**155**	Pn			**Pn**	**16 45 44.5**	**+1.2**
PMTG	**Montargil**	**6.86**	**148**	*e*P			**Pn**	**16 45 47.7**	**+0.9**
PMTG					*e*S		**Sn**	**16 47 03.2**	**-1.6**
PMTG					A		A	16 47 08.5	
	1.6nm,0.1s								
PMRV	**Marv??o**	**6.89**	**142**	*e*P			**Pn**	**16 45 48.5**	**+1.2**
PMRV					*e*S		**Sn**	**16 47 05.6**	**-0.1**
PMRV					A		A	16 47 09.9	
	1.6nm,0.2s								
ELAN	**Lanestosa**	**7.02**	**101**	Pn			**Pn**	**16 45 52.7**	**+3.6**
ELAN					⇑*i*	Vmb_V		16 45 55.8	
	97nm,SNR=2.1								
ELAN					Sn		**Sn**	**16 47 10.6**	**+1.6**
EPLA	**Plasencia**	**7.03**	**132**	Pn			**Pn**	**16 45 52.1**	**+2.9**
EPLA					⇑*i*	Vmb_V		16 45 53.2	
	108nm,SNR=0.5								
EPLA					Sn		**Sn**	**16 47 10.1**	**+0.8**
VAL	**Valentia**	**7.17**	**13**	Sn			Sn	16 47 03.8	-8.6
PESTR	**Estremoz**	**7.28**	**145**	*e*P			**Pn**	**16 45 54.0**	**+1.4**
PESTR					*e*S		**Sn**	**16 47 14.1**	**-1.2**
PESTR	**Estremoz**	**7.28**	**145**	Sn			**Sn**	**16 47 12.3**	**-3.0**
PESTR					Pn		**Pn**	**16 45 53.7**	**+1.0**
QUIF	**Quistinic**	**7.32**	**63**	*e*Pn			**Pn**	**16 45 54.9**	**+1.8**
QUIF					*e*Sn		**Sn**	**16 47 14.8**	**-1.3**
	12nm,0.2s								
CCA1	**Carnmenellis**	**7.33**	**42**	Pn			**Pn**	**16 45 54.1**	**+0.8**
ROSF	**Rostrenen**	**7.40**	**60**	*e*Pn			**Pn**	**16 45 56.0**	**+1.7**
ROSF					*e*Sn		**Sn**	**16 47 17.1**	**-1.2**
	13nm,0.2s								
EVO	**Evora**	**7.41**	**149**	Pn			**Pn**	**16 45 54.5**	**+0.1**
EVO					Sn		**Sn**	**16 47 14.0**	**-4.5**
PNCL	**Nicolau / Gran**	**7.61**	**153**	*e*P			**Pn**	**16 45 58.1**	**+1.0**
PNCL					*e*S		**Sn**	**16 47 19.7**	**-3.6**
PNCL					A		A	16 47 21.6	
	2.3nm,0.4s								
PNCL	**Nicolau / Gran**	**7.61**	**153**	Pn			**Pn**	**16 45 57.7**	**+0.6**
EBAD	**Badajoz**	**7.61**	**143**	Pn			**Pn**	**16 45 58.7**	**+1.5**
EBAD					⇑*i*	Vmb_V		16 46 00.2	
	136nm,SNR=3.9								
EBAD					Sn		**Sn**	**16 47 20.4**	**-3.1**
EBAD	**Badajoz**	**7.61**	**143**	Pn			**Pn**	**16 45 58.4**	**+1.2**
GUD	**Guadarrama**	**7.74**	**121**	Pn			Pn	16 46 04.0	+4.9
GUD					⇑*i*	Vmb_V		16 46 05.1	
	264nm,SNR=12								
GUD					Sn		**Sn**	**16 47 28.8**	**+1.8**
SGMF	**Saint Gilles**	**7.82**	**62**	*e*Pn			**Pn**	**16 46 01.7**	**+1.7**
SGMF					*e*Sn		**Sn**	**16 47 26.0**	**-2.4**
	4.3nm,0.2s								
PBAR	**Barrancos**	**8.09**	**145**	*e*P			**Pn**	**16 46 05.3**	**+1.5**
PBAR					*e*S		**Sn**	**16 47 33.9**	**-1.4**
PBAR	**Barrancos**	**8.09**	**145**	Pn			**Pn**	**16 46 05.0**	**+1.3**
DYA	**Yadsworthy**	**8.12**	**45**	Pn			**Pn**	**16 46 05.2**	**+1.1**
DYA					Sn		**Sn**	**16 47 31.7**	**-4.3**
PCVE	**Castro Verde**	**8.20**	**152**	*e*P			**Pn**	**16 46 06.3**	**+1.0**
PCVE					*e*S		**Sn**	**16 47 33.4**	**-4.6**
PCVE					A		A	16 47 37.5	
	2.0nm,0.4s								
PCVE	**Castro Verde**	**8.20**	**152**	Pn			**Pn**	**16 46 06.2**	**+0.9**
PAB	**San Pablo**	**8.34**	**128**	Pn			**Pn**	**16 46 10.9**	**+3.7**
PAB					⇑*i*	Vmb_V		16 46 12.3	
	77nm,SNR=3.0								
PAB					Sn		**Sn**	**16 47 42.2**	**+0.7**
EALK	**Alkurruntz**	**8.37**	**98**	Sn			**Sn**	**16 47 41.7**	**-0.6**
JSA	**Saint Aubin**	**8.42**	**56**	Pn			**Pn**	**16 46 10.0**	**+1.8**
JSA					Sn		**Sn**	**16 47 40.5**	**-2.8**
PFVI	**Vila Bisbo**	**8.43**	**157**	*e*P			**Pn**	**16 46 08.3**	**0.0**
PFVI					*e*S		**Sn**	**16 47 36.8**	**-6.7**
PFVI					A		A	16 47 45.9	
	2.7nm,0.8s								
EGRO	**El Granado**	**8.48**	**150**	Pn			**Pn**	**16 46 10.3**	**+1.2**
EGRO					⇑*i*	Vmb_V		16 46 12.1	
	91nm,SNR=2.1								
EGRO					Sn		**Sn**	**16 47 41.0**	**-3.8**
EGRO	**El Granado**	**8.48**	**150**	Pn			**Pn**	**16 46 10.9**	**+1.8**
PVAQ	**Vaqueiros**	**8.52**	**151**	*e*P			**Pn**	**16 46 10.9**	**+1.3**
PVAQ					*e*S		**Sn**	**16 47 41.9**	**-3.8**
PVAQ					A		A	16 47 44.6	
	1.9nm,0.3s								
PVAQ	**Vaqueiros**	**8.52**	**151**	Pn			**Pn**	**16 46 10.9**	**+1.3**
PVAQ					Sn		**Sn**	**16 47 40.6**	**-5.1**
EMIN	**Mina Concepcio**	**8.59**	**145**	Pn			**Pn**	**16 46 12.1**	**+1.5**
EMIN					⇑*i*	Vmb_V		16 46 15.1	
	84nm,SNR=3.0								
EMIN	**Mina Concepcio**	**8.59**	**145**	Pn			**Pn**	**16 46 12.0**	**+1.4**
EMIN					Sn		**Sn**	**16 47 41.8**	**-5.7**
PBDV	**Barranco-do-Ve**	**8.59**	**153**	*e*P			**Pn**	**16 46 12.5**	**+1.8**
PBDV					*e*S		**Sn**	**16 47 42.3**	**-5.3**
PBDV					A		A	16 47 44.8	
	3.0nm,1.0s								
SJPF	**Ste Jean**	**8.60**	**99**	*e*Pn			Pn	16 46 15.0	+4.3
SJPF					*e*Sn		**Sn**	**16 47 47.5**	**-0.3**
	3.9nm,0.3s								
EORO	**Oroz-Betelu**	**8.61**	**100**	Pn			**Pn**	**16 46 15.1**	**+4.2**
EORO					⇑*i*	Vmb_V		16 46 17.6	
	33nm,SNR=1.9								
EORO					Sn		**Sn**	**16 47 50.8**	**+2.8**
ECAB	**El Cabril**	**8.89**	**138**	Pn			**Pn**	**16 46 17.0**	**+2.3**
ECAB					⇑*i*	Vmb_V		16 46 18.0	
	59nm,SNR=2.4								
ECAB					Sn		**Sn**	**16 47 53.8**	**-1.1**
ECAB	**El Cabril**	**8.89**	**138**	Pn			**Pn**	**16 46 16.9**	**+2.3**
GRR	**Gorron**	**8.93**	**63**	*e*Pn			**Pn**	**16 46 17.4**

*NNC **10** 17:02:16.7±0.8, 37°.61N×57°.20E, h0km, mb3.9, Error ellipse: s-maj=10.8km s-min=3.8km az=167.0*
*TEH **10** 17:12:17.4, 37°.53N×57°.48E, h8km±30km, ML3.7*
*IDC **10** 17:02:19.4±2.1, 37°.64N×57°.27E, h0km, mb3.3/3, mbtmp3.7/9, ML3.3/6, MS2.8/3, Error ellipse: s-maj=29.6km s-min=8.8km az=178.0*

ISC 10 17:02:20.1±0.7, 37°.60N±0°.06×57°.42E±0°.03, h14km, n62, σ1°51/63, 3C-6D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**0.64**	**59**	Pg	**Pg**	**17 02 32.2**	**-0.5**
	42nm,0.3s,baz=228,slow=21,SNR=355						
GEYT				Lg	Lg	17 02 43.3	
	354nm,0.3s,baz=207,slow=25,SNR=40						
GEYT				LR	LR	17 02 48.3	
	comp=Z,68nm,18.2s,baz=141,slow=40						
GYA0B	**ALIBECK ARRAY**	**0.64**	**59**	⇓P	**Pg**	**17 02 32.1**	**-0.5**
GYA0B				⇓S	**Sg**	**17 02 43.4**	**+2.2**
ISFR	**Sfrayin**	**0.72**	**140**	Pg	Pg	17 02 30.5	-3.6
IEMG	**Emamgholi**	**1.00**	**101**	Pg	Pb	17 02 37.0	-2.4
MRVT	**Maraveh tapeh**	**1.06**	**273**	Pg	**Pb**	**17 02 39.5**	**-0.7**
MRVT				Sg	**Sn**	**17 02 55.7**	**+0.6**
SBZV	**Sabzevar**	**1.22**	**173**	Pg	Pn	17 02 40.2	-2.8
IAKL	**Akhelmad**	**1.46**	**133**	Pg	Pn	17 02 43.8	-2.6
IMND	**Minoodasht**	**1.64**	**258**	Pg	**Pn**	**17 02 50.0**	**+1.5**
IMND				Sg	**Sg**	**17 03 12.6**	**-0.2**
IPAY	**Payeh**	**1.71**	**132**	Pg	**Pn**	**17 02 47.9**	**-1.8**
IKRD	**Kardeh**	**1.87**	**116**	Pg	**Pn**	**17 02 51.2**	**-0.7**
IMOG	**Moghan**	**2.15**	**134**	Pn	**Pn**	**17 02 55.6**	**-0.2**
IMYA	**Miami**	**2.49**	**120**	Pn	**Pn**	**17 03 01.6**	**+1.2**
TBHD	**Torbat heydari**	**2.63**	**146**	Pn	**Pn**	**17 03 03.3**	**+1.0**
JRKH	**Jarkhoshk**	**2.90**	**125**	Pn	**Pn**	**17 03 05.9**	**0.0**
IGLO	**Ghaloghah**	**3.08**	**250**	Pn	**Pn**	**17 03 10.5**	**+2.0**
TBJM	**Torbat-e-JAM**	**3.31**	**134**	Pn	**Pn**	**17 03 11.9**	**+0.3**
IANJ	**Anjilo**	**3.54**	**234**	Pn	**Pn**	**17 03 16.3**	**+1.4**
TNSJ	**Nastanj**	**3.69**	**191**	Pn	**Pn**	**17 03 16.3**	**-0.6**
TKDS	**Koohdasht(Taba**	**3.99**	**184**	Pn	**Pn**	**17 03 20.8**	**-0.2**
ILAS	**Lasjerd**	**4.22**	**240**	Pn	**Pn**	**17 03 25.2**	**+0.9**
IFIR	**Firoozkooh**	**4.23**	**244**	Pn	**Pn**	**17 03 26.2**	**+1.7**
IPRN	**Peran**	**4.29**	**253**	Pn	**Pn**	**17 03 27.1**	**+2.0**
AFRZ	**Afriz**	**4.37**	**162**	Pn	**Pn**	**17 03 26.5**	**+0.4**
SHRT	**Shahrakht**	**4.59**	**149**	Pn	**Pn**	**17 03 28.7**	**-0.5**
TPRV	**Parvadeh(Tabas**	**4.61**	**188**	Pn	**Pn**	**17 03 30.0**	**+0.6**
IMON	**Monand**	**4.77**	**157**	Pn	**Pn**	**17 03 33.2**	**+1.4**
ITEG	**Tejag**	**4.82**	**167**	Pn	**Pn**	**17 03 33.1**	**+0.6**
MZPU	**Pul - Mazandar**	**4.82**	**258**	Pn	**Pn**	**17 03 34.6**	**+2.1**
KLST	**Kelardasht - M**	**5.20**	**260**	Pn	**Pn**	**17 03 39.3**	**+1.5**
IDAH	**Dahanechah**	**5.25**	**157**	Pn	**Pn**	**17 03 37.8**	**-0.7**
IVRN	**Varamin**	**5.28**	**242**	Pn	**Pn**	**17 03 39.9**	**+1.2**
ISFB	**Sefidab**	**5.31**	**234**	Pn	**Pn**	**17 03 40.4**	**+1.4**
IKOO	**Kooshah**	**5.33**	**165**	Pn	**Pn**	**17 03 39.8**	**+0.3**
ANAR	**Anarak**	**5.34**	**215**	Pn	**Pn**	**17 03 40.0**	**+0.5**
KRSH	**Karshahi**	**5.62**	**231**	Pn	**Pn**	**17 03 44.5**	**+1.1**
BSRN	**Basiran**	**5.80**	**165**	Pn	**Pn**	**17 03 46.2**	**+0.4**
IGZV	**Ghazvin**	**5.89**	**260**	Pn	**Pn**	**17 03 48.9**	**+1.8**
IBAF	**Bafgh**	**6.19**	**195**	Pn	**Pn**	**17 03 51.7**	**+0.4**
QAMS	**Qamsar**	**6.24**	**234**	Pn	**Pn**	**17 03 53.3**	**+1.3**
IZEF	**Zefreh**	**6.28**	**223**	Pn	**Pn**	**17 03 54.2**	**+1.7**
IKLH	**Kolahrood**	**6.40**	**230**	Pn	**Pn**	**17 03 54.7**	**+0.5**
ISAD	**Sadrabad**	**6.46**	**210**	Pn	**Pn**	**17 03 55.9**	**+0.9**
NHDN	**Nehbandan**	**6.56**	**160**	Pn	**Pn**	**17 03 57.4**	**+1.0**
IRAM	**Ramesheh**	**7.12**	**217**	Pn	**Pn**	**17 04 05.2**	**+1.3**
ISRB	**Sarab**	**7.73**	**275**	Pn	**Pn**	**17 04 13.7**	**+1.2**
KK31	**Karatay Array**	**11.39**	**57**	⇑Pn	**Pn**	**17 05 02.2**	**-0.2**
	0.5nm,0.4s,baz=320,slow=5.2,SNR=4.7						
AB31	**Akbulak array**	**11.79**	**8**	Pn	**Pn**	**17 05 06.5**	**-1.2**
	0.4nm,0.4s,baz=181,slow=13,SNR=13						
AB31				⇓Sn	**Sn**	**17 07 18.6**	**-0.4**
	0.9nm,0.5s,baz=196,slow=23,SNR=3.8						
KBZ	**Khabaz**	**12.60**	**304**	Pn	**Pn**	**17 05 16.9**	**-2.0**
	0.2nm,0.3s,baz=105,slow=16,SNR=2.3						
	0.5nm,0.3s						
KVAR	**Kislovodsk Arr**	**12.83**	**304**	Pn	**Pn**	**17 05 19.6**	**-2.5**
	baz=75,slow=19						
KVAR				Sn	**Sn**	**17 07 40.0**	**-4.7**
	baz=324,slow=14						
	1.6nm,0.6s						
AKTO	**Aktyubinsk**	**12.84**	**2**	⇑Pn	**Pn**	**17 05 22.2**	**+0.2**
	2.0nm,0.8s						
AKTO				⇑Sn	**Sn**	**17 07 44.8**	**+0.2**
	4.3nm,0.8s						
AKTO	**Aktyubinsk**	**12.84**	**2**	Pn	**Pn**	**17 05 23.1**	**+1.0**
	0.4nm,0.3s,baz=166,slow=6.4,SNR=4.3						
AKTO				Sn	**Sn**	**17 07 40.2**	**-4.4**
	0.2nm,0.3s,baz=88,slow=20,SNR=2.0						
	1.0nm,0.3s						
AAK	**Ala-Archa**	**13.99**	**64**	Pn	**Pn**	**17 05 38.7**	**+0.6**
	0.2nm,0.3s,baz=206,slow=10,SNR=4.8						
AAK				LR	LR	17 11 16.3	
	comp=Z,37nm,19.0s,baz=252,slow=38						
	0.5nm,0.3s						
OTUK	**Ortayu**	**15.22**	**41**	⇓Pn	**Pn**	**17 05 54.7**	**+0.2**
	2.9nm,1.0s						
BRVK	**Borovoye**	**17.86**	**26**	⇓Pn	**Pn**	**17 06 27.5**	**-0.5**
	4.8nm,1.2s						
BVA0	**Borovoye Array**	**17.87**	**26**	⇓Pn	**Pn**	**17 06 28.0**	**-0.2**
	7.3nm,1.2s,baz=211,slow=9.6,SNR=13						
BVAR	**Borovoye Array**	**17.87**	**26**	P	**Pn**	**17 06 28.9**	**+0.8**
	baz=222,slow=11,SNR=5.6						
	1.9nm,0.5s						
ARU	**Arti**	**18.85**	**2**	LR	LR	17 14 36.5	
	comp=Z,20nm,20.4s,baz=305,slow=39						
KURBB	**Kurchatov Arra**	**19.89**	**42**	P	**Pn**	**17 06 54.2**	**+1.6**
	baz=239,slow=10,SNR=2.7						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**20.52**	**56**	P	**P**	**17 07 00.7**	**+2.9**
	1.2nm,0.8s,baz=248,slow=12,SNR=6.4						
	1.2nm,0.8s						
AKASG	**Malin Array Be**	**23.93**	**312**	P	**P**	**17 07 35.1**	**+1.6**
	0.3nm,0.4s,baz=108,slow=9.2,SNR=2.6						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**24.92**	**40**	P	**P**	**17 07 45.7**	**+3.2**
	0.7nm,0.6s,baz=255,slow=9.0,SNR=2.9						
	0.7nm,0.6s						
KSRS	**Korea Array**	**54.63**	**67**	LR	LR	17 38 36.3	
	comp=Z,11nm,21.4s,baz=120,slow=40						

*NEIC **10** 17:48:41.2±1.8, 31°.63N±0°.02×116°.00W±0°.03, h9km±1km, Error ellipse: s-maj=3.7km s-min=3.0km az=201.0*
*PAS **10** 17:48:41.5±2.1, 31°.61N±0°.02×116°.01W±0°.02, h6km±4km, ML3.0/57, ML2.7/46(NEIC), Error ellipse: s-maj=3.7km s-min=2.1km az=216.0*
*MEX **10** 17:48:42.0±0.8, 31°.54N×116°.04W, h20km±12km, MD3.0*
*ECX **10** 17:48:42.0±0.4, 31°.62N×115°.98W, h5km±3km, MD2.7, ML2.9*

ISC 10 17:48:41.8±0.9, 31°.60N±0°.02×116°.00W±0°.02, h27km±6km, n83, σ1°27/122, 19C-6D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJX	**San Joaquin**	**0.17**	**12**	⇑iP	**Pb**	**17 48 48.9**	**+1.6**
SJX				*i* S	**Sb**	**17 48 54.5**	**+3.4**
VTX	**Valle De La Tr**	**0.28**	**138**		**Pb**	**17 48 47.2**	**-1.4**
VTX				Sg	**Sb**	**17 48 51.3**	**-2.0**
VTX	**Valle De La Tr**	**0.28**	**138**	⇑iP	**Pb**	**17 48 47.3**	**-1.4**
VTX				eS	**Sb**	**17 48 51.4**	**-1.9**
SV2X	**San Vicente**	**0.33**	**219**	⇓iP	**Pb**	**17 48 48.6**	**-0.7**
SV2X				eS	**Sb**	**17 48 53.5**	**-0.9**
ESJX	**Sierra Juarez**	**0.41**	**6**		**Pb**	**17 48 48.9**	**-1.9**
ESJX				Sg	**Sb**	**17 48 53.8**	**-3.1**
ESJX				IAML		17 48 55.0	
	comp=N,2μm,0.1s						
ALAMX	**Rancho Alamar**	**0.48**	**31**	⇓iP	**Pb**	**17 48 50.2**	**-1.6**
ALAMX				eS	**Sb**	**17 48 56.4**	**-2.2**
ALAMX				IAML		17 48 56.9	
	comp=E,1μm,0.2s						
ALAMX				IAML		17 48 57.1	
	comp=N,1μm,0.3s						
ALAMX				⇑e		17 48 57.1	
CCX	**Cicese**	**0.63**	**296**		**Pb**	**17 48 53.3**	**-0.9**
CCX				Sg	**Sb**	**17 49 01.5**	**-1.2**
CCX				IAML		17 49 02.5	
	comp=E,226nm,0.3s						
CCX	**Cicese**	**0.63**	**296**	⇑eP	**Pb**	**17 48 53.4**	**-0.9**
CCX				eS	**Sb**	**17 49 01.9**	**-0.7**
PBX	**Punta Banda**	**0.64**	**284**	⇑iP	**Pb**	**17 48 53.7**	**-0.7**
PBX				eS	**Sb**	**17 49 02.3**	**-0.6**
SPIG	**San Pedro Mart**	**0.71**	**140**	⇑eP	**Pb**	**17 48 55.0**	**-0.8**
SPIG				eS	**Sb**	**17 49 04.2**	**-1.2**
SPIG	**San Pedro Mart**	**0.71**	**140**	eP	**Pb**	**17 48 55.0**	**-0.8**
SPIG				eS	**Sb**	**17 49 04.3**	**-1.2**
RHX	**Rio Hardy**	**0.81**	**48**	⇓eP	**Pb**	**17 48 56.3**	**-1.1**
RHX				eS	**Sb**	**17 49 06.7**	**-1.2**
ECBX	**El Chinero**	**0.82**	**98**	⇑iP	**Pb**	**17 48 56.9**	**-0.5**
ECBX				eS	**Sb**	**17 49 07.8**	**-0.3**
ECBX				IAML		17 49 10.2	
	comp=N,347nm,0.5s						
ECBX				⇑e		17 49 10.3	
ECBX				IAML		17 49 10.3	
	comp=E,566nm,0.2s						
CBX	**Cerro Bola**	**0.91**	**322**		**Pb**	**17 48 57.6**	**-1.4**
CBX				Sg	**Sb**	**17 49 10.3**	**-0.6**
CBX				IAML		17 49 12.3	
	comp=N,204nm,0.5s						
CBX				IAML		17 49 12.3	
	comp=E,126nm,0.2s						
CBX	**Cerro Bola**	**0.91**	**322**	⇑eP	**Pb**	**17 48 57.8**	**-1.3**
CBX				eS	**Sb**	**17 49 10.4**	**-0.5**
CBX	**Cerro Bola**	**0.91**	**322**	eP	**Pb**	**17 48 57.8**	**-1.3**
CBX				eS	**Sb**	**17 49 08.6**	**-2.3**
JARAX	**Ej. Heriberto**	**1.00**	**21**	⇑iP	**Pn**	**17 49 00.6**	**+0.4**
RMX	**La Rumorosa**	**1.01**	**356**		**Sb**	**17 49 10.8**	**-2.8**
RMX	**La Rumorosa**	**1.01**	**356**		**Pb**	**17 48 58.6**	**-2.1**
RMX	**La Rumorosa**	**1.01**	**356**	IAML		17 49 11.6	
	comp=N,322nm,0.2s						
RMX				IAML		17 49 11.8	
	comp=E,308nm,0.1s						
RMX	**La Rumorosa**	**1.01**	**356**	⇑eP	**Pb**	**17 48 58.7**	**-2.0**
RMX				eS	**Sb**	**17 49 10.8**	**-2.8**
CPBX	**Cerro Prieto**	**1.01**	**36**	Pg	**Pb**	**17 49 00.3**	**-0.4**
CPBX	**Cerro Prieto**	**1.01**	**36**	⇑eP	**Pb**	**17 49 00.8**	**+0.5**
TJIG	**Tijuana**	**1.01**	**326**	⇑eP	**Pb**	**17 48 59.4**	**-1.3**
TJIG				eS	**Sb**	**17 49 12.5**	**-1.2**
TJIG	**Tijuana**	**1.01**	**326**	eP	**Pb**	**17 48 59.4**	**-1.3**
TJIG				eS	**Sb**	**17 49 12.0**	**-1.7**
SQX	**San Quintin**	**1.02**	**174**	⇑eP	**Pb**	**17 49 00.1**	**-0.7**
SQX				eS	**Sb**	**17 49 13.9**	**+0.1**
SQX				⇓e		17 49 16.4	
SQX				IAML		17 49 16.4	
	comp=N,374nm,0.4s						
YUH	**Yuha Desert**	**1.05**	**4**		**Sb**	**17 49 13.4**	**-1.4**
YUH	**Yuha Desert**	**1.05**	**4**		**Pb**	**17 49 00.2**	**-1.2**
YUH				Sg	**Sb**	**17 49 13.2**	**-1.5**
YUH	**Yuha Desert**	**1.05**	**4**	IAML		17 49 14.1	
	comp=N,287nm,0.1s						
YUH				IAML		17 49 14.5	
	comp=E,298nm,0.1s						
YUH2	**Yuha Desert**	**1.05**	**4**	⇑eP	**Pb**	**17 49 00.2**	**-1.2**
GUVIX	**Guadalupe Vict**	**1.06**	**48**	Pg	**Pb**	**17 48 59.4**	**-2.0**
IKP	**In-Ko-Pah, Jac**	**1.06**	**355**		**Pb**	**17 49 00.6**	**-0.9**
IKP					**Sb**	**17 49 13.5**	**-1.5**
IKP	**In-Ko-Pah, Jac**	**1.06**	**355**	⇑eP	**Pb**	**17 49 00.6**	**-0.9**
MBIG	**Mexicali**	**1.06**	**40**	eP	**Pb**	**17 49 00.4**	**-1.1**
MBIG				eS	**Sb**	**17 49 13.9**	**-1.0**
SGL	**Mount Signal**	**1.08**	**12**		**Pb**	**17 49 00.7**	**-1.1**
SGL					**Sb**	**17 49 14.9**	**-0.6**
TKX	**Tecate**	**1.10**	**332**		**Pn**	**17 49 00.9**	**-0.6**
TKX					**Sb**	**17 49 14.9**	**-1.3**
TKX	**Tecate**	**1.10**	**332**	⇓eP	**Pn**	**17 49 01.1**	**-0.5**
TKX				eS	**Sb**	**17 49 14.7**	**-1.5**
SFX	**San Felipe**	**1.13**	**119**		**Pn**	**17 49 02.6**	**+0.7**
SFX				Sg	**Sn**	**17 49 17.7**	**+1.2**
SFX				IAML		17 49 18.7	
	comp=N,87nm,0.6s						
SFX				IAML		17 49 20.1	
	comp=E,94nm,0.4s						
SFX	**San Felipe**	**1.13**	**119**	⇓eP	**Pb**	**17 49 02.8**	**+0.1**
SFX	**San Felipe**	**1.13**	**119**	eP	**Pn**	**17 49 02.6**	**+0.7**
SFX				eS	**Sb**	**17 49 16.4**	**-0.5**
UABX	**UABC, Campus M**	**1.14**	**25**	Pg	**Pb**	**17 49 02.8**	**-0.1**
UABX				Sg	**Sn**	**17 49 17.9**	**+1.1**
WESC	**Westside Schoo**	**1.18**	**11**		**Pb**	**17 49 03.4**	**-0.1**
WESC					**Sn**	**17 49 18.8**	**+1.0**
WESC	**Westside Schoo**	**1.18**	**11**	⇑eP	**Pb**	**17 49 03.5**	**-0.1**
DUZA	**Dulzura**	**1.20**	**327**		**Pn**	**17 49 02.5**	**-0.5**
DUZA					**Sb**	**17 49 18.4**	**-0.8**
BAR	**Barrett**	**1.22**	**332**		**Sb**	**17 49 19.0**	**-0.7**
BAR	**Barrett**	**1.22**	**332**		**Pn**	**17 49 02.7**	**-0.5**
BAR				Sg	**Sb**	**17 49 18.3**	**-1.4**
BAR	**Barrett**	**1.22**	**332**	IAML		17 49 19.2	
	comp=E,280nm,0.2s						
BAR				IAML		17 49 19.9	
	comp=N,186nm,0.2s						
BAR	**Barrett**	**1.22**	**332**	⇑eP	**Pn**	**17 49 02.7**	**-0.5**
COK2	**Cook Ranch 2**	**1.27**	**10**		**Pb**	**17 49 04.8**	**-0.3**
COK2					**Sb**	**17 49 21.7**	**+0.7**
TJX	**Tijuana**	**1.28**	**316**	Pn	**Pb**	**17 49 05.0**	**-0.2**
TJX				IAML		17 49 26.2	
	comp=E,206nm,0.5s						
TJX				IAML		17 49 27.8	
	comp=N,176nm,0.9s						
OLP	**Otay Lakes Par**	**1.28**	**322**		**Pn**	**17 49 03.7**	**-0.3**
OLP					**Sn**	**17 49 20.6**	**+0.3**
OLP	**Otay Lakes Par**	**1.28**	**322**	⇑eP	**Pn**	**17 49 03.7**	**-0.3**
CRR	**Carrizo Plain**	**1.29**	**1**		**Pb**	**17 49 04.8**	**-0.6**
CRR					**Sb**	**17 49 21.2**	**-0.3**
DREC	**Desert Rsrch C**	**1.29**	**21**		**Pn**	**17 49 03.2**	**-0.9**
SWSC	**Sam W. Stewart**	**1.36**	**7**		**Pn**	**17 49 05.2**	**+0.2**
SWSC					**Sb**	**17 49 23.2**	**-0.3**
EML	**El Monte Cty P**	**1.48**	**331**		**Pn**	**17 49 07.2**	**+0.5**
EML					**Sb**	**17 49 26.5**	**-0.5**
JUEM	**Julian Eagle M**	**1.56**	**341**		**Pb**	**17 49 09.4**	**-0.8**
JUEM					**Sb**	**17 49 29.0**	**-0.7**
109C	**Camp Elliot, M**	**1.59**	**324**		**Pn**	**17 49 08.9**	**+0.6**
109C				Sn	**Sb**	**17 49 29.5**	**-0.8**
109C				IAML		17 49 31.5	
	comp=N,94nm,0.3s						
109C				IAML		17 49 32.2	
	comp=E,125nm,0.2s						
SLH	**Sleepy Hollow**	**1.61**	**352**		**Pb**	**17 49 10.8**	**-0.1**
SLH					**Sb**	**17 49 32.0**	**+1.3**
DPP	**Dos Picos Cty**	**1.61**	**331**		**Pb**	**17 49 09.9**	**-1.0**
MATG	**Mataguay Scout**	**1.69**	**341**		**Pb**	**17 49 11.6**	**-0.7**
MATG					**Sb**	**17 49 33.1**	**-0.1**
BORC	**Borrego Spring**	**1.71**	**348**		**Pb**	**17 49 11.6**	**-0.8**
BORC					**Sb**	**17 49 34.4**	**+0.9**
GLA	**Glamis**	**1.76**	**34**	Pn	**Pn**	**17 49 10.6**	**0.0**
PLM	**Palomar**	**1.90**	**338**		**Pb**	**17 49 14.4**	**-1.5**
FRD	**Ford Ranch, An**	**1.96**	**345**		**Pb**	**17 49 16.6**	**-0.3**
XPFO	**Pion Flat**	**2.05**	**349**		**Pn**	**17 49 16.3**	**+1.6**
PFO	**Pinyon Flats O**	**2.05**	**349**		**Pn**	**17 49 15.2**	**+0.6**
PFO				IAML		17 49 45.8	
	comp=E,49nm,0.2s						
PMD	**Palm Desert**	**2.07**	**351**		**Pn**	**17 49 15.7**	**+0.8**
PMD				IAML		17 49 46.0	
	comp=E,60nm,0.5s						
PMD				IAML		17 49 46.2	
	comp=N,37nm,0.2s						
PIX	**Pinacate**	**2.17**	**90**	Pn	**Pn**	**17 49 15.9**	**-0.3**
113A	**Mohawk Valley,**	**2.23**	**58**		**Pn**	**17 49 17.2**	**+0.2**
POB	**Polly Butte**	**2.23**	**340**		**Pb**	**17 49 20.3**	**-1.1**
ELS	**Elsinore Mount**	**2.38**	**330**		**Pn**	**17 49 20.5**	**+1.4**
ELS				IAML		17 49 55.1	
	comp=E,30nm,0.3s						
ELS				IAML		17 49 56.7	
	comp=N,25nm,0.8s						
BBSC	**Beaumont Base**	**2.46**	**341**		**Pn**	**17 49 21.3**	**+1.0**
BLYC	**Blythe**	**2.48**	**30**	Pn	**Pn**	**17 49 20.3**	**-0.3**
BLAC	**Blackrock camp**	**2.49**	**353**		**Pb**	**17 49 26.9**	**+1.0**
214A	**Organ Pipe Nat**	**2.74**	**82**	Pn	**Pn**	**17 49 23.8**	**-0.3**
214A				IAML		17 49 57.9	
	comp=E,18nm,0.4s						
LCGC	**La Cienega, Cu**	**3.12**	**321**		**Pn**	**17 49 32.2**	**+2.9**
W13A	**Hualapai Mount**	**3.92**	**26**	Pn	**Pn**	**17 49 42.3**	**+1.9**
QSM	**Queen of Sheba**	**4.42**	**351**		**Pn**	**17 49 46.5**	**-0.6**
GWY	**Greenwater Val**	**4.61**	**353**	Pn	**Pn**	**17 49 50.7**	**+0.8**
X16A	**Lo Mia Camp, P**	**4.75**	**52**	Pn	**Pn**	**17 49 54.1**	**+2.2**
WCT	**Wildcat Mounta**	**5.21**	**354**		**Pn**	**17 50 01.9**	**+3.9**
U15A	**North Rim**	**5.72**	**32**		**Pn**	**17 50 06.2**	**+0.9**

*IDC **10** 17:54:22.2±2.1, 22°.81N×11°.97W, h0km, mb3.9/6, mbtmp3.9/10, ML3.6/4, Error ellipse: s-maj=61.8km s-min=23.7km az=84.0*

ISC 10 17:54:22.7±1.7, 22°.7N±0°.1×12°.0W±0°.2, h10km, n12, σ0°79/13, mb3.9/6, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	**Kowa**	**11.13**	**136**	Pn	**Pn**	**17 57 03.1**	**+1.1**
	0.8nm,0.3s,baz=315,slow=11,SNR=9.2						
KOWA				Sn	**Sn**	**17 59 05.5**	**-1.2**
	0.5nm,0.3s,baz=168,slow=16,SNR=6.9						
	4.2nm,0.6s						
MDT	**Midelt**	**12.01**	**31**	Pn	**Pn**	**17 57 13.7**	**-0.4**
	0.1nm,0.3s,baz=312,slow=18,SNR=2.2						
MDT				Sn	Sn	17 59 18.1	-10
	0.1nm,0.3s,baz=242,slow=10,SNR=6.7						
MDT				Lg	Lg	18 00 37.4	
	0.2nm,0.3s,baz=316,slow=20,SNR=2.1						
	1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**16.12**	**124**	Pn	**Pn**	**17 58 10.0**	**+0.5**
	0.4nm,0.3s,baz=314,slow=13,SNR=14						
	0.8nm,0.4s						
DBIC	**Dimbokro**	**17.37**	**156**	P	**P**	**17 58 26.2**	**-0.4**
	0.3nm,0.3s,baz=328,slow=13,SNR=3.6						
	2.1nm,0.5s						
KEST	**Kesra**	**22.65**	**50**	P	**P**	**17 59 24.8**	**+0.6**
	2.2nm,0.7s,baz=133,slow=4.6,SNR=2.7						
	2.2nm,0.7s						
GERES	**GERESS Array B**	**33.10**	**32**	P	**P**	**18 00 58.8**	**-0.1**
	1.1nm,0.8s,baz=219,slow=8.3,SNR=3.9						
	1.1nm,0.8s						
HFS	**Hagfors**	**41.52**	**19**	P	**P**	**18 02 08.9**	**-1.1**
	1.6nm,0.6s,baz=207,slow=13,SNR=5.2						
	1.6nm,0.6s						
FINES	**FINESS Array B**	**46.70**	**24**	P	**P**	**18 02 51.8**	**+0.3**
	2.1nm,0.8s,baz=186,slow=6.9,SNR=5.8						
	2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**73.13**	**42**	P	**P**	**18 05 54.0**	**+0.6**
	0.7nm,0.6s,baz=284,slow=6.3,SNR=7.7						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**76.63**	**45**	P	**P**	**18 06 14.6**	**+0.8**
	0.7nm,0.6s,baz=284,slow=5.5,SNR=8.9						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**148.57**	**91**	PKPbc	**PKiKP**	**18 14 11.8**	**-0.4**
	0.6nm,0.8s,baz=288,slow=2.7,SNR=6.1						
ASAR	**Alice Springs**	**148.69**	**99**	PKPbc	**PKiKP**	**18 14 11.8**	**-0.6**
	0.5nm,0.6s,baz=299,slow=2.2,SNR=7.1						

*GCMT **10** 18:18:15.0±0.4, 56°.34S±0°.04×143°.06W±0°.04, h25km±2km, MW5.0/58, Moment Tensor Solution. s23,c28; s58,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.51±.21; $M_{\theta\theta}$2.70±.23; $M_{\phi\phi}$-2.20±.18; $M_{r\theta}$2.39±.56; $M_{\theta\phi}$2.33±.16; $M_{\phi r}$0.27±.39; Best double couple: $M_0$4.00400×10^{16} NP1:ϕ_s112.00000°, δ85.00000°, λ30.00000°. NP2: ϕ_s20.00000°, δ60.00000°, λ175.00000°. Principal axes: T 4.6780, Plg24.0000°, Azm340.0000°; N -1.3540, Plg60.0000°, Azm120.0000°; P -3.3310, Plg17.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

IDC 10 18:18:05.7±1.5, 56°.72S×143°.33W, h0km, mb3.6/3, mbtmp3.6/3, MS3.9/11 Error ellipse: s-maj=460.1km s-min=32.5km az=176.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**31.33**	**275**	LR	LR	18 34 16.9	
	comp=Z,336nm,20.4s,baz=125,slow=31						
URZ	**Urewera**	**31.89**	**288**	LR	LR	18 34 21.1	
	comp=Z,295nm,21.2s,baz=211,slow=31						
QSPA	**South Pole Qui**	**33.44**	**180**	LR	LR	18 36 49.0	
	comp=Z,191nm,18.1s,baz=66,slow=34						
TBI	**Tubuai**	**33.63**	**350**	*e*LR	LR	18 32 30.1	
	comp=Z,3μm,28.0s						
TBI				*e*LR	LR	18 33 03.5	
	comp=Z,9μm,26.8s						
TBI	**Tubuai**	**33.63**	**350**	*e*T	T	18 59 23.5	
	28nm,0.3s						
RAO	**Raoul Island**	**36.65**	**304**	LR	LR	18 38 12.5	
	comp=Z,113nm,19.8s,baz=118,slow=33						
PMSA	**Palmer Station**	**37.09**	**136**	LR	LR	18 36 16.9	
	comp=Z,200nm,19.7s,baz=260,slow=29						
RAR	**Rarotonga**	**37.48**	**334**	LR	LR	18 37 05.4	
	comp=Z,200nm,19.9s,baz=138,slow=30						
RPN	**Rapa Nui**	**38.21**	**54**	LR	LR	18 37 27.6	
	comp=Z,62nm,19.8s,baz=29,slow=30	

TOO	**Toolangi**	**3.09 217**	P		**Pn**	**18 20 53.5**	**+2.3**
MGCD	**Mangrove Creek**	**3.32 56**	P		**Pn**	**18 20 55.9**	**+1.6**
	baz=3.3,SNR=6.6						
MGCD			S		**Sb**	**18 21 44.2**	**+2.4**
	baz=3.3						
MGCD	**Mangrove Creek**	**3.32 56**	P		**Pn**	**18 20 56.3**	**+2.0**
CMSA	**Cobar Meteorol**	**4.02 333**	P		**Pn**	**18 21 04.7**	**+0.8**
	baz=4.0						
CMSA	**Cobar Meteorol**	**4.02 333**	P		**Pn**	**18 21 05.5**	**+1.6**
ARPS	**Mount Arapiles**	**5.14 250**	P		**Pn**	**18 21 20.2**	**+0.9**
	baz=5.2,SNR=9.9						
ARPS			S		**Sn**	**18 22 19.1**	**0.0**
	baz=5.2						
ARPS	**Mount Arapiles**	**5.14 250**	P		**Pn**	**18 21 20.3**	**+0.9**
STKA	**Stephens Creek**	**6.15 300**	P		**Pn**	**18 21 34.2**	**+0.9**
	baz=6.2,SNR=9.3						
STKA			S		**Sn**	**18 22 41.3**	**-2.8**
	baz=6.2						
STKA	**Stephens Creek**	**6.15 300**	Pn		**Pn**	**18 21 33.8**	**+0.5**
	0.7nm,0.3s,baz=118,slow=11,SNR=17						
STKA			Sn		**Sn**	**18 22 41.4**	**-2.6**
	1.6nm,0.3s,baz=44,slow=20,SNR=6.3						
STKA			Lg		Lg	18 23 13.6	
	1.1nm,0.3s,baz=214,slow=23,SNR=3.1						
	1.8nm,0.3s						
INKA	**Innaminka**	**9.54 319**	P		**Pn**	**18 22 20.6**	**+0.7**
	baz=9.6						
ASAR	**Alice Springs**	**16.66 310**	Pn		**P**	**18 23 57.6**	**-0.9**
	0.1nm,0.3s,baz=142,slow=12,SNR=4.7						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**19.27 318**	P		**Pn**	**18 24 28.9**	**+0.6**
	baz=145,slow=8.1,SNR=1.1						
	0.3nm,0.9s						

*NEIC **10** 18:20:41.1±1.1, 15°.42S×0°.08×173°.97W±0°.06, h10km×1km, mb4.5/11, Error ellipse: s-maj=15.3km s-min=7.3km az=150.0*
*IDC **10** 18:20:45.6±3.1, 15°.45S×173°.90W, h46km±29km, mb3.8/8, mbtmp4.0/9, ML4.4/1, MS2.5/1, Error ellipse: s-maj=31.2km s-min=18.8km az=141.0*

ISC 10 18:20:40.4±0.6,**15°.51S**±0°.07×**173°.83W**±0°.08,**h10**km,**n27,**
σ**1**§**69**/31,**mb4.1**/13,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.54**	**52**		**Pn**	**18 21 24.7**	**+2.9**
AFI				Sn	**Sn**	**18 21 49.9**	**-3.0**
AFI	**Afiamalu**	**2.54**	**52**	P	**Pn**	**18 21 25.3**	**+3.5**
	66nm,0.3s,baz=52,slow=1.2,SNR=78						
AFI				S	**Sn**	**18 21 50.3**	**-2.5**
	592nm,0.7s,baz=31,slow=22,SNR=14						
	291nm,0.5s						
NIUE	**Niue**	**5.15**	**134**	Pn	**Pn**	**18 22 00.4**	**+2.8**
NIUE				Sn	**Sn**	**18 22 53.4**	**-3.7**
MSVF	**Nonsavu**	**8.10**	**253**	LR	LR	18 25 18.1	
	comp=Z,29nm,19.0s,baz=145,slow=34						
ARMA	**Armidale**	**34.93**	**239**	P	**P**	**18 27 32.1**	**-0.7**
ARMA				IAmb	IAmb	18 27 56.7	
	comp=Z,9.7nm,1.2s						
COEN	**Coen**	**41.56**	**266**	P	**P**	**18 28 29.3**	**+0.6**
COEN				IAmb	IAmb	18 29 05.2	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**43.63**	**240**	P	**P**	**18 28 44.9**	**-0.3**
WR0	**Warramunga Arr**	**49.23**	**257**	P	**P**	**18 29 28.1**	**-1.3**
WB0	**Warramunga Arr**	**49.38**	**257**	P	**P**	**18 29 29.1**	**-1.5**
WB0				IAmb	IAmb	18 30 12.0	
	comp=Z,9.6nm,1.4s						
WB2	**Warramunga Arr**	**49.41**	**257**	P	**P**	**18 29 29.5**	**-1.4**
WRA	**Warramunga Arr**	**49.42**	**257**	P	**P**	**18 29 29.6**	**-1.4**
WRA	**Warramunga Arr**	**49.42**	**257**	P	**P**	**18 29 30.0**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=90,slow=6.9,SNR=23						
WRA				PcP	**PcP**	**18 30 54.5**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=100,slow=3.5,SNR=2.0						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**49.69**	**252**	P	**P**	**18 29 32.1**	**-0.8**
AS31				IAmb	IAmb	18 29 33.6	
	comp=Z,1.3nm,0.6s						
ASAR	**Alice Springs**	**49.69**	**252**	P	**P**	**18 29 31.6**	**-1.3**
ASAR	**Alice Springs**	**49.69**	**252**	P	**P**	**18 29 32.4**	**-0.5**
	comp=Z,4.5nm,0.6s,baz=86,slow=8.1,SNR=76						
ASAR				PcP	**PcP**	**18 30 54.1**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=87,slow=3.2,SNR=2.1						
	comp=Z,4.5nm,0.6s						
SBA	**Scott Base**	**63.11**	**185**	P	**P**	**18 31 09.8**	**+2.1**
SBA				IAmb	IAmb	18 31 10.9	
	comp=Z,2.8nm,1.0s						
VNDA	**Vanda**	**63.23**	**186**	P	**P**	**18 31 09.8**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=7.5,slow=7.1						
	comp=Z,0.9nm,0.8s						
GSTR	**Great Sitkin T**	**67.34**	**359**	P	**P**	**18 31 35.5**	**0.0**
PEA0B	**Petropavlovsk-**	**72.61**	**342**	P	**P**	**18 32 06.7**	**-1.1**
QSPA	**South Pole Qui**	**74.54**	**180**	P	**P**	**18 32 19.0**	**-0.3**
QSPA				IAmb	IAmb	18 32 21.2	
	comp=Z,7.5nm,1.1s						
QSPA	**South Pole Qui**	**74.54**	**180**	P	**P**	**18 32 19.1**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=3.8,slow=1.5,SNR=9.8						
	comp=Z,2.2nm,0.6s						
NVAR	**Mina Array Bea**	**74.68**	**42**	P	**P**	**18 32 20.7**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=229,slow=9.6,SNR=8.1						
	comp=Z,1.5nm,0.8s						
TXAR	**Lajitas Array**	**81.01**	**56**	P	**P**	**18 32 56.1**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=224,slow=2.5,SNR=4.2						
	comp=Z,0.7nm,0.8s						
PDAR	**Pinedale Array**	**82.62**	**42**	P	**P**	**18 33 03.5**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=224,slow=3.8,SNR=3.3						
	comp=Z,0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.26**	**288**	P	**P**	**18 33 51.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=78,slow=1.9,SNR=4.3						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**145.98**	**321**		**PKPdf**	**18 40 18.9**	**-1.3**
BRTR	**Keskin Array B**	**145.98**	**321**	PKPbc	**PKPdf**	**18 40 20.1**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=119,slow=2.7,SNR=11						

PRU 10 18:34:18.4,50°.18N×19°.05E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.48**	**85**	*e*Pg	Pg	18 34 27.0	-0.6
OJC				*e*Sg	Sg	18 34 33.6	-0.3
OKC	**Ostrava-Krasne**	**0.68**	**240**	*e*SG	Sg	18 34 40.4	+0.3
	comp=Z,5.0nm,0.7s						
MORC	**Moravsky Berou**	**1.05**	**248**	*e*PG	Pg	18 34 38.3	-0.3
MORC				*e*SG	Sg	18 34 51.5	-0.7
LANS	**Liptovska Anna**	**1.07**	**165**	*e*PG	Pb	18 34 39.3	-0.4
LANS				*e*SG	Sb	18 34 54.3	+0.1
LANS				*e*LG	Lg	18 34 56.0	
MAUC	**Maruska**	**1.14**	**225**	*e*PG	Pg	18 34 39.5	-0.7
MAUC				*e*SG	Sg	18 34 53.6	-1.3
	comp=Z,7.1nm,0.3s						
VYHS	**Vyhne**	**1.69**	**185**	*e*PN	Pn	18 34 48.9	-0.3
VYHS				*e*SN	Sb	18 35 12.1	-0.2
DPC	**Dobruska-Polom**	**1.76**	**277**	*e*PG	Pn	18 34 49.2	-1.0
DPC				*e*SG	Sn	18 35 13.1	-0.2
	comp=Z,5.0nm,1.0s						
OSTC	**Ostas**	**1.85**	**283**	*e*SG	Sb	18 35 17.3	+0.4
CHVC	**Chvalec**	**1.96**	**283**	*e*SG	Sg	18 35 21.3	0.0

KRSC 10 18:38:01.2±1.4,**50°.13N**×**157°.05E,h80**km±23km,**MI3.9,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.81**	**313**	*i* P	Pn	18 38 18.5	+0.5
SKR				*e*S	Sn	18 38 30.9	+0.5
PAU	**Pauzhetka**	**1.34**	**354**	*e*P	Pn	18 38 26.7	+2.3
PAU				*e*S	Sn	18 38 45.0	+3.1
KDTR	**Khodutka, Kamc**	**1.80**	**21**	*e*P	Pn	18 38 32.5	+2.2
KDTR				*e*S	Sn	18 38 55.1	+2.7
ASAK	**Asacha**	**2.31**	**13**	*e*P	Pn	18 38 39.6	+2.3
MTVR	**Mutnovka**	**2.46**	**16**	*e*P	Pn	18 38 41.8	+2.5
MTVR				*e*S	Sn	18 39 11.2	+2.8
RUS	**Russkaya**	**2.48**	**21**	*e*P	Pn	18 38 41.0	+1.6
RUS				*e*S	Sn	18 39 10.6	+1.9
GRL	**Gorelyy**	**2.50**	**14**	*e*P	Pn	18 38 42.2	+2.4
GRL				*e*S	Sn	18 39 12.5	+3.0
PET	**Petropavlovsk**	**3.06**	**18**	*e*S	Sn	18 39 24.0	+1.2
DALK	**Dalny**	**3.09**	**19**	*e*P	Pn	18 38 49.5	+1.9
DALK				*e*S	Sn	18 39 25.2	+1.7
UGLR	**Uglovaya**	**3.27**	**19**	*e*P	Pn	18 38 52.8	+2.6
AVH	**Avacha**	**3.31**	**18**	*e*P	Pn	18 38 53.6	+2.9
KOK	**Koryaka**	**3.31**	**17**	*e*P	Pn	18 38 53.9	+3.1
SMAR	**Somma**	**3.32**	**18**	*e*P	Pn	18 38 53.2	+2.3
KRER	**Koryakskii**	**3.35**	**18**	*e*P	Pn	18 38 53.5	+2.2
SDLR	**Sedlovina**	**3.35**	**19**	*e*P	Pn	18 38 53.3	+2.1
KRX	**Arik**	**3.38**	**16**	*e*P	Pn	18 38 54.3	+2.6
SPN	**Mys Shipunski**	**3.50**	**31**	*e*S	Sn	18 39 35.8	+2.4
GNL	**Ganaly**	**3.61**	**8**	*e*P	Pn	18 38 56.2	+1.4
MKZ	**Mys Kozlova**	**5.28**	**31**	*e*P	Pn	18 39 19.4	+2.1
KZV	**Kizimen**	**5.36**	**20**	*e*P	Pn	18 39 23.5	+4.7
TUMD	**Tumrok D**	**5.47**	**21**	*e*P	Pn	18 39 23.0	+2.9
TUMR	**Tumrok**	**5.49**	**19**	*e*P	Pn	18 39 24.3	+3.9

*CNRM **10** 18:44:21.0, 37°.78N×5°.98W, h87km, ml2.3*
*MDD **10** 18:44:28.6±0.3, 38°.81N×8°.96W, h0km, mb_Lg2.2/8, Error ellipse: s-maj=2.5km s-min=2.1km az=91.0*
*IGIL **10** 18:44:28.6, 38°.79N×8°.98W, h11km, ML1.9*
*SFS **10** 18:44:29.3, 38°.80N×8°.99W, h2km, ML2.3/9, ML2.5/6, MLv2.2/9*
*INMG **10** 18:44:29.6±1.1, 38°.79N×8°.99W, h0km, ML1.9, Error ellipse: s-maj=1.6km s-min=0.9km az=89.0*

ISC 10 18:44:28.9±0.8,**38°.80N**±0°.01×**8°.98W**±0°.02,**h11**km±6km,
n53, σ0§**97**/110,**2C-4D,Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INMG	**Instituto de M**	**0.12**	**259**	⇑*i*Pg	**Pg**	**18 44 31.3**	**-0.5**
INMG				*e*Sg	**Sg**	**18 44 33.5**	**-0.5**
INMG				A	A	18 44 36.1	
	403nm,0.5s						
PVFX	**Vila Franca de**	**0.16**	**356**	*e*Pg	**Pg**	**18 44 33.0**	**+0.6**
PVFX				*e*Sg	**Sg**	**18 44 36.5**	**+1.6**
PVFX				A	A	18 44 38.2	
	777nm,0.8s						
LIS	**Lisbon**	**0.16**	**240**	*e*Pg	**Pg**	**18 44 31.8**	**-0.6**
LIS				*e*Sg	**Sg**	**18 44 34.4**	**-0.5**
LIS				A	A	18 44 35.8	
	251nm,0.2s						
LIS	**Lisbon**	**0.16**	**240**	*e*P	**Pg**	**18 44 31.8**	**-0.6**
LIS				*e*S	**Sg**	**18 44 34.2**	**-0.7**
LIS				IAML		18 44 34.8	
	comp=E,318nm,0.1s						
PMAFR	**Mafra**	**0.29**	**303**	⇓*i*Pg	**Pg**	**18 44 34.5**	**-0.2**
PMAFR				*e*Sg	**Sg**	**18 44 38.5**	**-0.1**
PMAFR				A	A	18 44 38.8	
	comp=E,242nm,0.2s						
PMTG	**Montargil**	**0.64**	**65**	*e*Pg	**Pg**	**18 44 41.9**	**+0.5**
PMTG				*e*Sg	**Sb**	**18 44 50.8**	**-0.4**
PMTG				A	A	18 44 54.1	
	comp=E,34nm,0.1s						
PSBE	**So Bento**	**0.73**	**11**	*e*P	**Pg**	**18 44 43.4**	**+0.4**
PSBE				*e*S	**Sb**	**18 44 54.6**	**+0.9**
PSBE				A	A	18 44 56.8	
	comp=E,24nm,0.4s						
PNCL	**Nicolau / Gran**	**0.77**	**153**	⇓*e*P	**Pg**	**18 44 43.4**	**-0.3**
PNCL				*e*S	**Sg**	**18 44 53.9**	**+0.2**
PNCL				A	A	18 44 58.0	
	comp=E,14nm,0.1s						
PNCL	**Nicolau / Gran**	**0.77**	**153**	Sg	**Sg**	**18 44 53.6**	**-0.1**
PNCL				Pg	**Pg**	**18 44 43.4**	**-0.3**
EVO	**Evora**	**0.80**	**109**	*e*P	**Pg**	**18 44 44.6**	**+0.3**
EVO				*e*S	**Sg**	**18 44 55.1**	**+0.4**
EVO				A	A	18 44 58.5	
	comp=E,49nm,0.2s						
EVO	**Evora**	**0.80**	**109**	Pg	**Pg**	**18 44 44.3**	**0.0**
EVO				Sg	**Sg**	**18 44 55.0**	**+0.3**
PESTR	**Estremoz**	**1.08**	**86**	*e*P	**Pb**	**18 44 49.8**	**+0.1**
PESTR				*e*S	**Sb**	**18 45 04.4**	**+0.6**
PESTR				A	A	18 45 06.9	
	comp=E,16nm,0.8s						
PESTR	**Estremoz**	**1.08**	**86**	P	**Pb**	**18 44 49.4**	**-0.2**
PESTR				S	**Sn**	**18 45 10.0**	**+5.0**
PESTR	**Estremoz**	**1.08**	**86**	Sg	**Sg**	**18 45 03.9**	**+0.1**
PESTR				Pg	**Pb**	**18 44 49.8**	**+0.1**
PBEJ	**Beja**	**1.16**	**131**	*e*P	**Pb**	**18 44 50.8**	**-0.2**
PBEJ				*e*S	**Sn**	**18 45 06.8**	**-0.2**
PBEJ				A	A	18 45 10.0	
	comp=E,8.9nm,0.3s						
PTEO	**Sao Teotonio**	**1.27**	**171**	⇑*i*P	**Pb**	**18 44 52.9**	**+0.2**
PTEO				*e*S	**Sg**	**18 45 09.7**	**+0.1**
PTEO				A	A	18 45 12.2	
	comp=E,18nm,0.4s						
PCAS	**Casmilo, Conde**	**1.31**	**16**	⇓*e*P	**Pb**	**18 44 53.5**	**0.0**
PCAS				*e*S	**Sg**	**18 45 11.7**	**+0.7**
PCAS				A	A	18 45 18.4	
	comp=E,16nm,0.4s						
PCVE	**Castro Verde**	**1.38**	**147**	*e*P	**Pn**	**18 44 54.4**	**+0.4**
PCVE				*e*S	**Sn**	**18 45 12.5**	**+0.2**
PCVE				A	A	18 45 15.4	
	comp=E,8.9nm,0.3s						
PCVE	**Castro Verde**	**1.38**	**147**	Sn	**Sb**	**18 45 12.2**	**0.0**
PCVE				Pn	**Pn**	**18 44 54.4**	**+0.4**
PMRV	**Marv??o**	**1.38**	**62**	*e*P	**Pn**	**18 44 53.7**	**-0.5**
PMRV				*e*S	**Sb**	**18 45 12.9**	**+0.4**
PMRV				A	A	18 45 15.3	
	comp=E,9.9nm,0.3s						
COI	**Coimbra**	**1.48**	**17**	*e*Sg	**Sg**	**18 45 16.7**	**+0.4**
MORF	**Marmelete**	**1.51**	**170**	*e*Pg	**Pb**	**18 44 57.3**	**+0.3**
MORF				*e*Sg	**Sg**	**18 45 17.8**	**+0.3**
MORF				A	A	18 45 20.4	
	comp=E,12nm,0.2s						
EBAD	**Badajoz**	**1.53**	**91**	Pg	**Pn**	**18 44 55.7**	**-0.5**
EBAD				Sn	**Sn**	**18 45 15.5**	**-0.6**
EBAD				Sg	**Sb**	**18 45 17.2**	**+0.5**
EBAD	**Badajoz**	**1.53**	**91**	Sg	**Sg**	**18 45 18.4**	**+0.2**
EBAD				Pn	**Pn**	**18 44 55.6**	**-0.5**
PCBR	**Castelo Branco**	**1.56**	**48**	*e*Pg	**Pb**	**18 44 58.4**	**+0.6**
PCBR				*e*Sn	**Sb**	**18 45 18.1**	**+0.6**
PCBR				A	A	18 45 25.0	
	comp=E,8.9nm,0.5s						
PBAR	**Barrancos**	**1.64**	**112**	*e*Pn	**Pn**	**18 44 58.3**	**+0.6**
PBAR				*e*Sg	**Sg**	**18 45 21.6**	**0.0**
PBAR				A	A	18 45 25.1	
	comp=E,12nm,0.6s						
PBAR	**Barrancos**	**1.64**	**112**	Sn	**Sn**	**18 45 19.0**	**+0.2**
PBAR				Pn	**Pn**	**18 44 58.1**	**+0.4**
PFVI	**Vila Bisbo**	**1.67**	**176**	*e*Pn	**Pn**	**18 44 57.8**	**-0.2**
PFVI	**Vila Bisbo**	**1.67**	**176**	*e*Pg	**Pb**	**18 45 00.0**	**+0.4**
PFVI				*e*Sg	**Sg**	**18 45 22.6**	**+0.2**
PFVI				A	A	18 45 25.3	
	comp=E,7.7nm,0.3s						
PFVI	**Vila Bisbo**	**1.67**	**176**	P	**Pn**	**18 44 57.8**	**-0.2**
PFVI				S	**Sg**	**18 45 26.2**	**+3.8**
PFVI	**Vila Bisbo**	**1.67**	**176**	Pn	**Pn**	**18 44 57.5**	**-0.5**
PFVI				Sg	**Sg**	**18 45 22.8**	**+0.3**
PVAQ	**Vaqueiros**	**1.71**	**144**	*e*Pn	**Pn**	**18 44 58.3**	**-0.3**
PVAQ	**Vaqueiros**	**1.71**	**144**	*e*Pg	**Pb**	**18 45 00.6**	**+0.3**
PVAQ				*e*Sg	**Sg**	**18 45 24.1**	**+0.3**
PVAQ				A	A	18 45 26.4	
	comp=E,9.1nm,0.2s						
PVAQ	**Vaqueiros**	**1.71**	**144**	Pn	**Pn**	**18 44 58.2**	**-0.4**
PVAQ				Sn	**Sb**	**18 45 21.7**	**-0.1**
EGRO	**El Granado**	**1.72**	**137**	Pg	**Pb**	**18 45 00.6**	**+0.1**
EGRO				Sg	**Sb**	**18 45 23.0**	**+0.8**
EGRO				*i* Vmb_Lg		18 45 28.3	
EGRO	**El Granado**	**1.72**	**137**	Pn	**Pb**	**18 45 00.3**	**-0.2**
EGRO				Sg	**Sg**	**18 45 25.1**	**+0.8**
PBDV	**Barranco-do-Ve**	**1.76**	**152**	*e*Pn	**Pn**	**18 44 59.7**	**+0.4**
PBDV	**Barranco-do-Ve**	**1.76**	**152**	*e*Pg	**Pb**	**18 45 01.6**	**+0.5**
PBDV				*e*Sg	**Sg**	**18 45 24.9**	**-0.5**
PBDV				A	A	18 45 28.1	
	comp=E,7.7nm,0.4s						
MTE	**Manteigas**	**1.94**	**34**	*e*Pg	**Pb**	**18 45 05.2**	**+0.8**
MTE				*e*Sg	**Sg**	**18 45 31.4**	**0.0**
MTE				A	A	18 45 36.9	
	comp=E,9.4nm,0.6s						
EMIN	**Mina Concepcio**	**2.08**	**119**	Pn	**Pn**	**18 45 03.3**	**-0.5**
EMIN				Sn	**Sn**	**18 45 29.8**	**+0.2**
EMIN				Sg	**Sg**	**18 45 34.7**	**-1.2**
EMIN				*i* Vmb_Lg		18 45 37.5	
PVIS	**Viseu**	**2.09**	**23**	*e*Pg	**Pb**	**18 45 07.9**	**+1.1**
PVIS				*e*Sg	**Sg**	**18 45 36.6**	**+0.6**
PVIS				A	A	18 45 37.9	
	comp=E,5.1nm,0.3s						
EPLA	**Plasencia**	**2.57**	**60**	Sn	**Sn**	**18 45 40.8**	**-1.1**
EPLA				Sg	**Sg**	**18 45 49.9**	**-1.6**
EPLA				*i* Vmb_Lg		18 45 51.5	
POLO	**Lamas de Olo**	**2.73**	**19**	*e*Pn	**Pn**	**18 45 12.6**	**-0.1**
POLO	**Lamas de Olo**	**2.73**	**19**	*e*Pg	**Pg**	**18 45 19.8**	**-1.4**
POLO				*e*Sg	**Sg**	**18 45 56.4**	**-0.1**
POLO				A	A	18 46 00.8	
	comp=E,1.5nm,0.5s						
MVO	**Moncorvo**	**2.80**	**32**	⇓*e*Pn	**Pn**	**18 45 13.6**	**-0.1**
MVO				*e*Sn	**Sn**	**18 45 46.3**	**-1.1**
MVO				*e*Sg	**Sg**	**18 45 57.9**	**-0.8**
MVO				A	A	18 46 01.4	
	comp=E,4.8nm,0.6s						
ECAB	**El Cabril**	**2.88**	**103**	Pn	**Pn**	**18 45 15.0**	**+0.2**
ECAB				Pg	**Pb**	**18 45 20.4**	**0.0**
ECAB				Sn	**Sn**	**18 45 49.1**	**-0.4**
ECAB				Sg	**Sg**	**18 45 58.9**	**-2.6**
ECAB				*i* Vmb_Lg		18 46 07.6	
ELOB	**Lobios**	**3.15**	**13**	Pn	**Pn**	**18 45 18.0**	**-0.5**
ELOB				Sn	**Sn**	**18 45 55.1**	**-0.9**
ELOB				Sg	**Sb**	**18 46 06.3**	**+3.1**
ELOB				*i* Vmb_Lg		18 46 14.4	
PGAV	**Gavieira, Arco**	**3.21**	**9**	*e*Pn	**Pn**	**18 45 19.1**	**-0.3**
PGAV				*e*Sn	**Sn**	**18 45 57.2**	**-0.5**
PGAV				*e*Sg	**Sg**	**18 46 12.0**	**0.0**
PGAV				A	A	18 46 15.4	
	comp=E,3.3nm,0.3s						
PBRG	**Braganca**	**3.46**	**29**	*e*Sn	**Sn**	**18 46 01.4**	**-2.2**
PBRG				*e*Sg	**Sg**	**18 46 19.5**	**-0.3**
EADA	**Adamuz**	**3.51**	**99**	Pn	**Pn**	**18 45 22.9**	**-0.5**
EADA				Sn	**Sn**	**18 46 04.4**	**-0.5**
EADA				Sg	**Sg**	**18 46 21.1**	**-0.4**
EADA				*i* Vmb_Lg		18 46 29.6	
ECAL	**Calabor**	**3.58**	**28**	Pn	**Pn**	**18 45 24.2**	**-0.2**
ECAL				Sn	**Sn**	**18 46 04.7**	**-2.0**
ECAL				*i* Vmb_Lg		18 46 33.7	
ECAL	**Calabor**	**3.58**	**28**	Pn	**Pn**	**18 45 24.1**	**-0.2**
ECAL				Sn	**Sn**	**18 46 05.2**	**-1.4**
PAB	**San Pablo**	**3.67**	**77**	Pn	**Pn**	**18 45 25.8**	**+0.1**
PAB				Sn	**Sn**	**18 46 08.0**	**-1.1**
PAB				Sg	**Sg**	**18 46 24.8**	**-2.0**
PAB				*i* Vmb_Lg		18 46 30.3	

*IDC **10** 18:45:01.5±1.1, 7°.31S×126°.05E, h426km±16km, mb2.9/2, mbtmp4.1/6, Error ellipse: s-maj=25.3km s-min=17.1km az=105.0*
*NEIC **10** 18:45:01.1±1.6, 7°.3S±0°.1×126°.1E±0°.1, h424km±10km, mb4.5/11, Error ellipse: s-maj=17.5km s-min=16.6km az=69.0*
*DJA **10** 18:45:02.2±0.5, 7°.5±5°×12°.6E±°, h402km±7km, M4.2/11, mb4.3/7, mB4.7/4, MLv4.1/11, Mw(mB)3.9/4*

ISC 10 18:44:59.9±0.5,**7°.31S**±0°.06×**126°.07E**±0°.06,**h400**km,**n57,**
σ2§**10**/59,**mb4.5**/6,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.01**	**216**	P	**Pn**	**18 46 02.2**	**-1.2**
SOEI					**S**	**18 46 58.3**	**+3.7**
SOEI	**Soe**	**3.01**	**216**	P	**Pn**	**18 46 06.9**	**+3.6**
SOEI	**Soe**	**3.01**	**216**	P	**Pn**	**18 46 04.6**	**+1.3**
SOEI				S	**S**	**18 46 56.0**	**+1.4**
BATI	**Baumata**	**3.73**	**219**	P	**Pn**	**18 46 12.8**	**+3.3**
BATI	**Baumata**	**3.73**	**219**	P	Pn	18 46 14.3	+4.8
	128nm,0.5s,baz=1.2,slow=0.9,SNR=83						
BATI				S	**S**	**18 47 10.4**	**+4.5**
	143nm,0.5s,baz=155,slow=22,SNR=16						
MMRI	**Maumere**	**4.01**	**251**	P	**Pn**	**18 46 14.8**	**+2.7**
MMRI	**Maumere**	**4.01**	**251**	P	**Pn**	**18 46 15.0**	**+2.9**
MMRI	**Maumere**	**4.01**	**251**	P	**Pn**	**18 46 12.7**	**+0.6**
MMRI				S	**S**	**18 47 12.0**	**+1.3**
NLAI	**Namlea**	**4.17**	**14**	P	Pn	18 46 19.0	+5.3
NLAI				S	**S**	**18 47 16.7**	**+3.2**
SANI	**Sanana**	**5.23**	**359**	P	**Pn**	**18 46 26.5**	**+2.2**
	8.8nm,0.7s,0.0nm						
LBMI	**Labuha**	**6.78**	**12**	P	**Pn**	**18 46 39.5**	**-1.7**
MTN	**Manton Dam**	**7.42**	**138**	P	**P**	**18 46 51.1**	**+2.2**
MTN	**Manton Dam**	**7.42**	**138**	P	**P**	**18 46 51.1**	**+2.2**
FAKI	**Fak Fak**	**7.54**	**55**	P	**Pn**	**18 46 51.0**	**+1.2**
FAKI	**Fak Fak**	**7.54**	**55**	P	**P**	**18 46 52.7**	**+2.4**
FAKI	**Fak Fak**	**7.54**	**55**	P	**P**	**18 46 52.2**	**+1.9**
	89nm,0.6s,2μm0.4nm						
SIJI	**Sorong**	**8.23**	**39**	P	**P**	**18 47 00.4**	**+2.4**
	27nm,0.5s,baz=223,slow=23,SNR=38						
SIJI				S	**S**	**18 48 35.3**	**+1.2**
	3.6nm,0.6s,baz=214,slow=23,SNR=2.2						
SWI	**Sorong**	**8.24**	**39**	P	**P**	**18 47 00.8**	**+2.8**
	38nm,0.6s,634nm0.2nm						
KDU	**Kakadu**	**8.27**	**131**	P	**P**	**18 46 59.7**	**+1.4**
PLAI	**Plampang**	**8.35**	**259**	P	**Pn**	**18 46 58.5**	**-0.4**
PLAI	**Plampang**	**8.35**	**259**	P	Pn	18 46 55.2	-3.7
KNRA	**Kununurra**	**8.72**	**163**	P	**P**	**18 47 05.5**	**+2.2**
KNRA	**Kununurra**	**8.72**	**163**	P	**P**	**18 47 05.5**	**+2.2**
TOLI2	**Tolitoli**	**9.89**	**328**	P	**Pn**	**18 47 19.2**	**+2.5**
RKPI	**Rans

comp=Z,24nm,0.7s
SNAA Sanae 18.17 191 Pn 18 57 39.0 -0.5
SNAA Sanae 18.17 191 ⇑S Sn 19 00 59.2 -2.8
comp=Z,933nm,0.4s
ELIB Princess Elisa 18.89 166 dS Sn 19 01 18.5 -1.0
ELIB Princess Elisa 18.89 166 dP Pn 18 57 49.5 +1.1
comp=Z,1μm,1.5s
TRIS Tristan da Cun 22.36 312 P P 18 58 26.4 +1.0
SUR Sutherland 23.56 27 P P 18 58 38.9 +0.7
GRHM Grahamstown, E 24.50 38 P P 18 58 47.4 +0.6
HOPE Hope Point 25.92 251 P P 18 58 59.5 +0.1
HOPE Hope Point 25.92 251 P P 18 58 59.5 +0.1
BELA Belgrano 2 28.12 198 P P 18 59 18.2 -0.8
BOSA Boshof 28.39 32 i P P 18 59 22.5 +0.6
BOSA Boshof 28.39 32 P P 18 59 22.1 +0.2
comp=Z,9.0nm,0.9s,baz=227,slow=15,SNR=6.9
comp=Z,9.0nm,0.9s
BOSA Boshof 28.39 32 i P P 18 59 22.5 +0.6
baz=336
BOSA Boshof 28.39 32 P P 18 59 22.9 +0.9
CRZF Crozet Islands 28.39 92 P P 18 59 18.1 -3.6
MAW Mawson 28.51 139 ⇓P P 18 59 27.1 +4.6
MAW Mawson 28.51 139 P P 18 59 24.2 +1.6
comp=Z,4.6nm,1.0s,baz=286,slow=6.9,SNR=5.3
comp=Z,4.6nm,1.0s
MAW Mawson 28.51 139 P 18 59 23.1 +0.6
POGA Pongola 31.83 42 P P 18 59 51.9 -0.4
LBTB Lobatse 31.86 30 P P 18 59 52.4 -0.3
LBTB Lobatse 31.86 30 P P 18 59 52.4 -0.3
WIN Windhoek 32.30 15 i P P 18 59 57.0 +0.3
WIN Windhoek 32.30 15 P P 18 59 57.2 +0.6
WIN Windhoek 32.30 15 P P 18 59 57.2 +0.6
TSUM Tsumeb 35.67 15 ⇑P P 19 00 27.0 +1.1
TSUM Tsumeb 35.67 15 P P 19 00 25.9 0.0
MUSN Musina, Limpop 35.76 35 i P P 19 00 25.9 -0.7
MUSN Musina, Limpop 35.76 35 i P P 19 00 25.9 -0.7
baz=352
QSPA South Pole Qui 35.99 180 P P 19 00 28.6 +0.3
comp=Z,18nm,0.8s,baz=231,slow=4.5,SNR=26
comp=Z,18nm,0.8s
QSPA South Pole Qui 35.99 180 P P 19 00 28.6 +0.3
SMAI San Martin Ant 36.34 218 P P 19 00 31.7 +0.7
MATP Matopo 37.06 32 i P P 19 00 39.1 +1.4
MATP Matopo 37.06 32 i P P 19 00 39.1 +1.4
baz=349
PAF Port-aux-Franc 37.42 109 P P 19 00 39.9 -0.4
PAF Port-aux-Franc 37.42 109 P P 19 00 39.9 -0.4
SHEL Horse Pasture 39.78 338 P P 19 00 59.2 -1.3
SHEL Horse Pasture 39.78 338 P P 19 00 59.2 -1.3
LSZ Lusaka 41.82 29 P P 19 01 18.1 +0.6
LSZ Lusaka 41.82 29 P P 19 01 18.1 +0.6
comp=Z,7.3nm,0.8s,baz=200,slow=12,SNR=8.6
comp=Z,7.3nm,0.8s
LSZ Lusaka 41.82 29 P P 19 01 17.4 -0.1
MG01 Puerto William 42.05 237 P P 19 01 18.9 +0.1
VOI Vohitsoka 43.29 57 P P 19 01 28.9 -0.5
MG04 Isla Riesco 45.14 237 P P 19 01 44.9 +1.2
ABPO Ambohimpanom 45.95 55 P P 19 01 49.2 -1.6
ABPO Ambohimpanom 45.95 55 P P 19 01 49.2 -1.6
CASY Casey 46.31 147 ⇓P P 19 01 55.2 +2.4
CASY Casey 46.31 147 P P 19 01 53.2 +0.4
VNDA Vanda 47.46 172 P P 19 02 02.1 +0.5
VNDA Vanda 47.46 172 P P 19 02 03.4 +1.7
baz=226,slow=9.2
SBA Scott Base 47.48 174 P P 19 02 04.3 +2.4
SBA Scott Base 47.48 174 P P 19 02 04.3 +2.4
RER Riviere de l'E 48.53 66 P P 19 02 10.8 0.0
AIS Amsterdam Isla 48.70 100 P P 19 02 11.1 -0.7
LPA La Plata 49.13 265 eP P 19 02 12.0 -3.1
TRQA Tornquist 49.30 259 P P 19 02 17.9 +1.6
TRQA Tornquist 49.30 259 P P 19 02 18.0 +1.6
ASCN Ascension 49.70 330 P P 19 02 20.5 +0.9
AY01 Puyuhuapi 50.97 246 P P 19 02 30.5 +1.6
LL02 Futaleuf 51.36 247 P P 19 02 32.7 +0.8
ITQB Itaqui 52.13 271 P P 19 02 38.4 +0.6
LL01 San Ignacio de 52.22 248 P P 19 02 38.8 +0.5
PLCA Paso Flores 52.32 250 P P 19 02 37.9 -1.3
comp=Z,2.6nm,0.9s,baz=128,slow=7.0,SNR=4.6
comp=Z,2.6nm,0.9s
PLCA Paso Flores 52.32 250 P P 19 02 40.6 +1.4
GO07 Milladeo Hill, 52.40 246 P P 19 02 41.3 +1.7
GO06 Curarrehue 53.62 251 P 19 02 50.1 +1.2
ROCAM Rodrigues Isla 53.85 73 P P 19 02 50.4 -0.2
LR03 Panguipulli 54.07 250 P P 19 02 52.5 +0.5
LR04 Corral 54.49 249 P P 19 02 55.8 +0.7
TRCB Terra Rica 54.99 279 P P 19 02 59.8 +0.9
CPUP Villa Florida 55.03 273 ⇑P P 19 02 58.1 -1.0
CPUP Villa Florida 55.03 273 P P 19 02 57.4 -1.8
comp=Z,13nm,1.1s,baz=104,slow=7.1,SNR=8.6
comp=Z,13nm,1.1s
CPUP Villa Florida 55.03 273 P P 19 02 57.6 -1.5
ML02 Panimavida 56.29 254 P P 19 03 08.6 +0.5
MBAR Mbarara 56.53 27 P P 19 03 10.3 +0.2
BI05 Punta Hualpn 56.58 252 P P 19 03 09.3 -0.8
BO02 Sierra Bellavi 56.63 256 P 19 03 11.4 +0.8
LMEL Las Melosas 56.99 257 P P 19 03 14.3 +1.1
BO01 Tunca 57.09 256 P 19 03 14.5 +0.7
MT13 San Alfonso 57.11 257 P 19 03 15.7 +1.6
BO04 La Punta 57.12 256 P P 19 03 15.4 +1.4
KIBK Kibwezi 57.12 36 P P 19 03 12.6 -1.7
MT08 Bocatoma Ro 57.17 257 P P 19 03 16.1 +1.4
MT03 Universidad Ad 57.42 257 P P 19 03 16.6 +0.4
MT09 Talagante 57.49 256 P P 19 03 17.1 +0.4
MT01 Popeta 57.57 256 P P 19 03 18.2 +1.0
MT05 Renca 57.62 257 P 19 03 18.2 +0.6
PEL Peldehue 57.77 257 P P 19 03 18.5 -0.2
PEL Peldehue 57.77 257 P P 19 03 18.5 -0.2
ZON Zonda 57.79 260 P 19 03 19.8 +1.0
ZON Zonda 57.79 260 P P 19 03 19.8 +1.0
VA05 Santo Domingo 57.93 256 P P 19 03 20.4 +0.7
MT02 Curacav 57.95 256 P P 19 03 20.1 +0.3
KMBO Kilima Mbogo 57.99 35 P P 19 03 19.8 -0.7
BDFB Brasilia 58.05 289 P 19 03 21.9 +1.0
ROC1 El Roble 58.09 257 P P 19 03 21.1 0.0
AQDB Aquidauana 58.58 279 P P 19 03 25.4 +1.1
GO04 Tololo Observa 60.03 259 P 19 03 34.6 0.0
AC02 Maricunga 61.56 263 P 19 03 45.9 +0.5
GO03 Copiap 61.63 262 P 19 03 46.3 +1.0
LODK Lodwar 61.67 31 P P 19 03 46.2 +0.6
DBIC Dimbokro 61.71 345 ⇑P P 19 03 45.8 0.0
DBIC Dimbokro 61.71 345 P P 19 03 45.9 0.0
comp=Z,9.4nm,0.9s,baz=164,slow=6.5,SNR=8.7
comp=Z,9.4nm,0.9s
DBIC Dimbokro 61.71 345 P P 19 03 46.0 +0.3
GO02 Mina Guanaco 63.10 264 P 19 03 55.8 +0.3
AF01 San Pedro de A 63.97 266 P P 19 04 00.7 -0.5
PB14 IPOC Station P 63.98 264 S S 19 12 37.6 0.0
PB14 P P 19 04 08.3 +7.0
PB14 IPOC Station P 63.98 264 P P 19 04 01.0 -0.4
PTLB Pontes e Lacer 64.53 279 P P 19 04 04.5 -0.1
LVC Limon Verde 64.66 266 P P 19 04 05.2 -0.6
comp=Z,3.3nm,0.8s,baz=90,slow=2.0,SNR=1.6
comp=Z,3.3nm,0.8s
LVC Limon Verde 64.66 266 P 19 04 05.8 0.0
PB06 IPOC Station P 64.97 266 P 19 04 07.9 +0.2
SIV San Ignacio 65.23 277 P P 19 04 08.0 -1.2
comp=Z,0.4nm,0.3s,baz=162,slow=6.8,SNR=4.6
comp=Z,0.4nm,0.3s
PB04 IPOC Station P 65.60 265 P 19 04 11.2 -0.5
PB07 IPOC Station P 65.91 266 P P 19 04 13.7 0.0
PATCX Punta Patache 66.77 266 P 19 04 18.9 -0.3
TA01 Diego Aracena 66.98 267 P P 19 04 17.9 -2.5
VILB Vilhena 67.14 280 P P 19 04 21.7 +0.2
TOA0 Torodi Ar. Sit 67.37 353 P P 19 04 22.1 -0.7
TOA0 Torodi Ar. Sit 67.37 353 P P 19 04 23.1 +0.4
SNR=57
TOA0 Torodi Ar. Sit 67.37 353 P P 19 04 23.1 +0.4
SNR=57
TORD Torodi Ar. Bea 67.37 353 P P 19 04 22.6 -0.2
comp=Z,4.2nm,0.9s,baz=168,slow=5.7,SNR=14
comp=Z,4.2nm,0.9s
TORD Torodi Ar. Bea 67.37 353 P P 19 04 21.9 -0.8
PB18 Visviri 68.89 269 P P 19 04 34.0 +0.9
LPAZ La Paz 69.12 271 P P 19 04 35.2 +0.6
comp=Z,11nm,0.8s,baz=96,slow=9.2,SNR=2.0
comp=Z,11nm,0.8s
LPAZ La Paz 69.12 271 P P 19 04 36.0 +1.4
KOWA Kowa 69.29 347 ⇓P P 19 04 35.5 +0.8
KOWA Kowa 69.29 347 P P 19 04 34.9 +0.2
comp=Z,2.8nm,0.6s,baz=142,slow=6.9,SNR=5.4
comp=Z,2.8nm,0.6s
KOWA Kowa 69.29 347 P P 19 04 33.9 -0.8
SAML Samuel 72.08 280 ⇓P P 19 04 51.5 -0.4
SAML Samuel 72.08 280 P P 19 04 50.2 -1.7
SAML Samuel 72.08 280 P P 19 04 50.2 -1.7
ETMB Extrema 73.14 277 P P 19 04 57.5 -0.7
NWAO Narrogin (SRO) 73.79 124 P 19 05 03.0 +1.1
NWAO Narrogin (SRO) 73.79 124 P P 19 05 03.0 +1.1
SACV Santiago Islan 74.17 328 P P 19 05 04.8 +0.8
MACA Manacapuru-AM 75.35 285 P 19 05 10.8 -0.3
MORW Morawa 76.34 121 P P 19 05 16.4 -0.2
TAM Tamanrasset 76.76 357 P P 19 05 19.5 +0.5
TAM Tamanrasset 76.76 357 P P 19 05 19.5 +0.5
TAU Tasmania Unive 77.02 150 P P 19 05 19.8 -0.5
TAU Tasmania Unive 77.02 150 P P 19 05 19.8 -0.5
WHZ Wether Hill Ro 78.72 166 P P 19 05 30.5 +0.8
BOAV Boa Vista 79.83 289 P P 19 05 36.1 0.0
FORT Forrest 80.63 131 P P 19 05 40.6 +0.3
BBOO Buckleboo 82.23 138 P P 19 05 48.0 -0.8
GVZ Greta Valley S 82.27 169 P P 19 05 49.6 +0.8
INZ Inchbonnie 82.31 167 P P 19 05 48.1 -0.8
LTZ Lake Taylor 82.36 168 P P 19 05 47.4 -1.9
KHZ Kahutara 82.87 169 P P 19 05 51.5 -0.3
DSZ Denniston Nort 83.32 168 P P 19 05 53.9 -0.4
THZ Tophouse 83.44 168 P P 19 05 54.1 -0.8
BSWZ Blackbirch Sta 83.60 169 P P 19 05 54.5 -1.2
MRNZ Matariki Terra 83.78 168 P P 19 05 55.1 -1.5
BHW Baring Head 84.01 170 P P 19 05 57.3 -0.5
MBWA Marble Bar 84.73 119 P P 19 06 00.1 -1.7
MRZ Mangatainoka R 84.82 170 P P 19 06 01.6 -0.4
MCRA Macar, Loja 85.56 269 P P 19 06 04.8 -1.2
BKZ Black Stump Fm 86.39 171 P P 19 06 08.4 -1.4
MDT Midelt 87.44 349 P P 19 06 17.1 +2.4
comp=Z,5.2nm,1.0s,baz=157,slow=4.9,SNR=11
comp=Z,5.2nm,1.0s
GRGR Grenville 88.50 293 eP P 19 06 17.9 -2.3
GRGR Grenville 88.50 293 P P 19 06 20.4 +0.3
GRHS Sauteurs 88.57 293 eP P 19 06 17.6 -2.8
GCMP Grenada, Carri 88.67 293 eP P 19 06 22.3 +1.4
BAUV El Baul 89.41 286 P P 19 06 23.8 -0.6
PMOZ Porto Moniz, M 89.51 339 P P 19 06 24.8 +0.3
KEST Kesra 89.61 1 P P 19 06 24.2 -0.7
BIM Bigot 90.17 295 eP P 19 06 27.3 -0.6
FDF Fort de France 90.39 295 eP P 19 06 30.4 +1.4
ABD La Joyeuse, An 92.02 296 eP P 19 06 30.1 -6.3
APE Apeiranthos 92.13 14 ⇑P P 19 06 34.5 -2.0
APE Apeiranthos 92.13 14 ⇑P P 19 06 34.5 -2.0
HYB Hyderabad 92.87 64 IVMs_BB IVMs_BB 19 41 26.0
comp=Z,10μm,17.9s
HYB Hyderabad 92.87 64 eP P 19 06 40.6 +0.2
HYB Hyderabad 92.87 64 ePcP PcP 19 06 41.1 +0.1
HYB Hyderabad 92.87 64 epP pP 19 06 43.8 +1.2
HYB Hyderabad 92.87 64 ePP PP 19 10 22.5 -0.6
HYB Hyderabad 92.87 64 eSKSac SKSac 19 17 14.5 +0.3
HYB Hyderabad 92.87 64 eSKKSac S 19 17 31.7 -14
EVO Evora 93.49 347 P P 19 06 43.9 +1.2
MAHO Mahon 93.84 357 P P 19 06 45.4 +1.1
ESDC Sonseca Array 94.16 350 P P 19 06 46.0 +0.2
MKAR Makanchi Array 118.42 49 PKP PKiKP 19 12 16.0 +1.7
comp=Z,2.2nm,0.9s,baz=191,slow=1.2,SNR=3.2
BVAR Borovoye Array 118.58 37 PKIKP PKiKP 19 12 16.6 +2.2
BVAR Borovoye Array 118.58 37 PKP PKiKP 19 12 16.6 +2.2
comp=Z,24nm,0.9s,baz=220,slow=1.1,SNR=17
KURBB Kurchatov Arra 119.78 44 PKP PKiKP 19 12 17.6 +0.8
comp=Z,1.0nm,0.7s,baz=237,slow=2.4,SNR=4.3
ARCES ARCESS Array B 124.10 7 PKP PKiKP 19 12 26.0 +1.2
comp=Z,37nm,1.1s,baz=180,slow=2.4,SNR=9.1
ZALV Zalesovo Beam 124.83 44 PKP PKiKP 19 12 28.7 +2.1
comp=Z,20nm,1.1s,baz=241,slow=3.1,SNR=19
SCHQ Schefferville 125.05 317 PKP PKiKP 19 12 28.4 +1.3
comp=Z,4.1nm,0.9s,baz=97,slow=2.0,SNR=2.5
TXAR Lajitas Array 126.00 271 PKP PKiKP 19 12 30.0 +0.1
comp=Z,0.4nm,0.3s,baz=45,slow=1.5,SNR=7.5
SFJD Kangerlussuaq 128.76 334 PKIKP PKiKP 19 12 36.0 +1.9
SFJD Kangerlussuaq 128.76 334 PKP PKiKP 19 12 36.0 +1.9
comp=Z,9.8nm,0.9s,baz=165,slow=17,SNR=3.3
AMTX Amarillo 128.84 278 PKPdf PKPdf 19 12 34.6 -0.2
T25A Trinidad 132.00 278 PKPdf PKPdf 19 12 40.2 -0.6
S22A 4UR Ranch, Cre 133.82 277 PKPdf PKPdf 19 12 42.1 -2.3
N23A Red Feather La 135.39 281 PKPdf PKPdf 19 12 45.9 -1.3
ULM Lac du Bonnet 135.57 297 PKP PKiKP 19 12 48.0 -0.3
comp=Z,2.7nm,0.7s,baz=18,slow=3.2,SNR=2.2
RSSD Black Hills 136.34 285 PKPdf 19 12 46.6 -2.2
RSSD Black Hills 136.34 285 PKHKP PKPdf 19 12 46.6 -2.2
RDMU Red Mountain 137.28 278 PKPdf 19 12 49.0 -1.6
PRN Pahroc Range 138.40 270 PKPdf 19 12 52.1 -0.6
GWY Greenwater Val 138.52 267 PKPdf 19 12 49.8 -3.2
PDAR Pinedale Array 138.66 280 PKP PKPdf 19 12 52.4 -0.7
comp=Z,1.6nm,0.7s,baz=125,slow=5.5,SNR=7.2
TPNV Topopah Spring 138.80 268 PKPdf PKPdf 19 12 51.9 -1.6
TPNV Topopah Spring 138.80 268 PKHKP PKPdf 19 12 51.9 -1.6
HWUT Hardware Ranch 139.10 277 PKPdf PKPdf 19 12 51.4 -2.5
LOHW Long Hollow 139.79 280 PKPdf 19 12 54.1 -1.0
RLMT Red Lodge 139.92 283 PKPdf 19 12 53.4 -2.0
FXWY Fox Creek 140.05 280 PKPdf 19 12 53.7 -1.9
ELK Elko 140.70 274 PKPdf PKPdf 19 12 54.3 -2.6
ELK Elko 140.70 274 PKHKP PKPdf 19 12 54.3 -2.6
NVAR Mina Array Bea 141.00 268 PKP PKPdf 19 12 57.5 +0.1
comp=Z,3.2nm,0.7s,baz=148,slow=4.7,SNR=19
KVN Kaiserville 141.29 269 PKPdf 19 12 56.9 -1.0
KVN Kaiserville 141.29 269 PKHKP PKPdf 19 12 56.9 -1.0
EGMT Eagleton 141.85 287 PKPdf 19 12 57.0 -1.6
HLID Hailey 141.96 278 PKPdf 19 12 57.5 -1.5
DLMT Dillon 141.97 281 PKPdf PKPdf 19 12 58.1 -0.8
RES Resolute Bay 144.75 333 PKHKP PKPdf 19 13 02.5 -0.2
RES Resolute Bay 144.75 333 PKP PKPdf 19 13 02.5 -0.2
comp=Z,12nm,0.9s,baz=205,slow=3.8,SNR=5.1
KLR Kul'dur 145.34 75 PKPbc PKiKP 19 13 06.7 -1.7
comp=Z,5.3nm,0.9s,baz=215,slow=3.2,SNR=7.2
J05D Fort Rock, OR 145.78 272 PKPdf 19 13 05.6 0.0
LON Longmire 148.08 277 PKPbc 19 13 10.8 -1.7
LON Longmire 148.08 277 PKHKP PKPbc 19 13 10.8 -1.7
YKA Yellowknife Ar 149.97 309 PKPbc PKPbc 19 13 16.0 -0.6
comp=Z,4.7nm,1.0s,baz=104,slow=1.9,SNR=4.5
YKA Yellowknife Ar 149.97 309 PKPdf PKPdf 19 13 12.5 +0.8
A36M Sachs Harbour 153.59 330 PKPdf PKPdf 19 13 16.6 -0.2
INK Inuvik 157.45 323 PKPdf PKPdf 19 13 22.5 +0.4
G30M tAoh Zraii Nji 158.87 321 PKPdf PKPdf 19 13 23.9 -0.1
P32M Atlin 158.89 300 PKPdf 19 13 23.9 -0.3
I28M Miner Creek 160.81 318 PKPdf PKPdf 19 13 26.8 +0.4
ILAR Eielson Array 163.77 320 PKPdf 19 13 29.7 +0.5

---

*NEIC **10** 18:53:27.8±2.2,54°.26S±0°.08×8°.6E±0°.1,h9km±1km, mb6.3/127,Ms_20 6.5/353,Mwb6.7/43,Mww6.7/14,Error ellipse: s-maj=15.1km s-min=11.8km az=139.0,Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}-0.01; $M_{\theta\theta}$1.37; $M_{\phi\phi}$-1.36; $M_{r\theta}$-0.03; $M_{\theta\phi}$0.26; $M_{\phi r}$0.04; Fault plane solution: $M_0$1.39000×10^{19} NP1: ϕ_s219.61000°,δ87.81000°,λ-179.52000°. NP2: ϕ_s129.60000°,δ89.52000°,λ-2.19000°. Principal axes: T 1.3904, Plg1.0000°, Azm175.0000°; N -0.0060, Plg88.0000°, Azm297.0000°; P -1.3844, Plg2.0000°, Azm85.0000°;*

*NEIC **10** 18:53:28.2,53°.41S×8°.33E,h12km,Moment Tensor Solution. Duration: 12s9 Moment tensor: Scale 10^{19}Nm; M_{rr}0.06; $M_{\theta\theta}$1.48; $M_{\phi\phi}$-1.54; $M_{r\theta}$-0.02; $M_{\theta\phi}$0.22; $M_{\phi r}$-0.19; Fault plane solution: $M_0$1.54000×10^{19} NP1:ϕ_s41.08000°, δ86.33000°,λ-174.19000°. NP2:ϕ_s310.71000°, δ84.21000°,λ-3.69000°. Principal axes: T 1.4980, Plg1.0000°, Azm176.0000°; N 0.0770, Plg83.0000°, Azm73.0000°; P -1.5751, Plg7.0000°, Azm266.0000°;*

*NEIC **10** 18:53:28,54°.30S×8°.63E,h10km*

*NEIC **10** 18:53:28.2,54°.31S×8°.67E,h12km*

*IDC **10** 18:53:32.4±0.4,54°.07S×8°.53E,h0km,mb5.4/26, mbtmp5.4/27,ML5.8/1,MS6.8/16,Error ellipse: s-maj=13.4km s-min=12.7km az=98.0*

*MOS **10** 18:53:33.8±1.6,54°.47S×8°.13E,h11km,mb6.2/24, MS6.5/31,Error ellipse: s-maj=20.4km s-min=8.3km az=85.6*

*BJI **10** 18:53:33.0±0.0,54°.27S×8°.44E,h20km,mB6.2/48, Ms6.8/67,Ms7 6.6/65*

*GCMT **10** 18:53:40.8±0.0,53°.89S×8°.92E,h16km,MW6.7/172, Moment Tensor Solution. s168,c428; s172,c824; Duration: 5s6 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.15±.01; $M_{\theta\theta}$1.55±.01; $M_{\phi\phi}$-1.40±.01; $M_{r\theta}$0.12±.02; $M_{\theta\phi}$0.39±.00; $M_{\phi r}$0.22±.02; Best double couple: $M_0$1.54600×10^{19} NP1:ϕ_s218.00000°,δ87.00000°, λ-170.00000°. NP2:ϕ_s128.00000°,δ80.00000°, λ-3.00000°. Principal axes: T 1.6120, Plg5.0000°, Azm352.0000°; N -0.1350, Plg80.0000°, Azm233.0000°; P -1.4800, Plg9.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 10 18:53:34.4±0.2,54°.14S±0°.03×8°.34E±0°.04,h10km,n1496, σ2°81/1352,mb6.2/131,MS6.5/262,113C-44D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	16.76	176	MLR	MLR		
	comp=Z,161μm,23.0s						
NVL				pmax	pmax		
	comp=Z,2μm,1.2s						
NVL				smax	smax		
	comp=E,9μm,7.8s						
TROLL	**Troll, Antarti**	18.11	186	⇑P	P	18 57 47.1	+0.9
	comp=Z,1256μm,2.5s						
VNA1	**Neumayer--Stat**	18.14	198	⇑P	P	18 57 47.6	+1.2
	comp=Z,27μm,1.8s						
VNA2	**Neumayer--Watz**	18.23	197	⇑P	P	18 57 47.8	+0.5
	comp=Z,6μm,1.3s,baz=26,slow=15						
SNAA	**Sanae**	18.25	191	i P	Pn	18 57 46.1	-1.5
SNAA	**Sanae**	18.25	191	⇑P	P	18 57 48.9	+1.2
	comp=Z,764μm,3.3s						
SNAA	**Sanae**	18.25	191	P	P	18 57 48.4	+0.7
	comp=Z,28nm,0.3s,baz=19,slow=15,SNR=76						
SNAA				T	T	19 15 59.8	
	comp=Z,20nm,0.7s,baz=318,slow=19,SNR=3.8						
	comp=Z,780nm,1.0s						
VNA3	**Neumayer Olymp**	18.89	198	⇑P	Pn	18 57 55.8	+0.5
	comp=Z,16μm,2.5s						
H09W1	**TRISTAN DA CUN**	22.21	312	T	T	19 21 31.1	
	SNR=11						
SUR	**Sutherland**	23.50	27	IAmb	IAmb	18 58 55.2	
	comp=Z,2μm,1.5s						
SUR	**Sutherland**	23.50	27	IAMs_20	IAMs_20	19 05 19.4	
	comp=Z,208μm,18.0s						
SUR	**Sutherland**	23.50	27	P	P	18 58 40.4	-4.2
SUR				P	P	18 58 40.4	-4.2
SUR				P	P	18 58 40.4	-4.2
SUR				S	S	19 02 56.1	-2.2
SUR				S	S	19 02 56.1	-2.2
SUR				S	S	19 02 56.1	-2.2
SUR	**Sutherland**	23.50	27	⇑P	P	18 58 41.4	-3.1
SUR	**Sutherland**	23.50	27	LR	LR	19 05 29.0	
	comp=Z,188μm,20.8s,baz=197,slow=31						
GRHM	**Grahamstown, E**	24.46	39	⇓P	P	18 58 51.9	-1.6
HOPE	**Hope Point**	25.88	251	IAmb	IAmb	18 59 20.0	
	comp=Z,2μm,1.6s						
HOPE	**Hope Point**	25.88	251	pmax	pmax		
	comp=Z,2μm,1.6s						
ARMS	**Ukamas**	27.38	22	i P	P	18 59 17.0	-2.9
AUSN	**Aus**	28.06	15	i P	P	18 59 23.5	-2.6
H04S2	**CROZET ISLANDS**	28.27	93	T	T	19 29 27.3	
	baz=240,slow=75,SNR=1786						
H04S3	**CROZET ISLANDS**	28.27	93	T	T	19 29 24.3	
	baz=240,slow=75,SNR=3314						
H04S1	**CROZET ISLANDS**	28.29	93	T	T	19 29 28.1	
	baz=240,slow=75,SNR=3284						
BOSA	**Boshof**	28.34	33	P	P	18 59 27.6	-0.9
BOSA	**Boshof**	28.34	33	⇑P	P	18 59 26.2	-2.2
BOSA	**Boshof**	28.34	33	P	P	18 59 27.6	-0.9
	comp=Z,23nm,0.8s,baz=202,slow=8.9,SNR=14						
BOSA				S	S	19 04 11.2	-3.8
	comp=Z,17nm,1.0s,baz=156,slow=21,SNR=1.2						
	comp=Z,23nm,0.8s						
BOSA	**Boshof**	28.34	33	IAMs_20	IAMs_20	19 07 58.3	
	comp=Z,120μm,19.0s						
CRZF	**Crozet Islands**	28.47	92	IAmb	IAmb	18 59 41.1	
	comp=Z,482nm,1.3s						
CRZF				IAMs_20	IAMs_20	19 07 11.9	
	comp=Z,152μm,22.0s						
H04N3	**CROZET ISLANDS**	28.56	92	T	T	19 29 52.4	
	baz=240,slow=75,SNR=162						
H04N1	**CROZET ISLANDS**	28.56	92	T	T	19 29 51.0	
	baz=240,slow=75,SNR=89						
H04N2	**CROZET ISLANDS**	28.58	92	T	T	19 29 49.8	
	baz=240,slow=75,SNR=163						
ORCD	**Orcadas**	28.61	235	P	P	18 59 25.8	-4.6
MAW	**Mawson**	28.64	139	P	P	18 59 31.2	+0.6
	baz=29,SNR=27						
MAW	**Mawson**	28.64	139	P	P	18 59 29.7	-0.9
MAW	**Mawson**	28.64	139	P	P	18 59 29.7	-0.9
	comp=Z,37nm,0.9s,baz=268,slow=9.7,SNR=11						
	comp=Z,37nm,0.9s						
POGA	**Pongola**	31.80	42	⇓P	P	18 59 58.8	-0.2
LBTB	**Lobatse**	31.81	31	IAMs_20	IAMs_20	19 11 00.7	
	comp=Z,132μm,18.0s						
LBTB	**Lobatse**	31.81	31	i P	P	18 59 58.3	-0.9
LBTB	**Lobatse**	31.81	31	MLR	MLR		
	comp=Z,132μm,18.0s						
LBTB				pmax	pmax		
	comp=Z,63nm,0.8s						
LBTB	**Lobatse**	31.81	31	⇑P	P	18 59 56.8	-2.4
LBTB	**Lobatse**	31.81	31	i P	P	18 59 58.3	-0.9
	baz=340						
WIN	**Windhoek**	32.22	15	MLR	MLR		
	comp=Z,306μm,21.0s						
WIN				pmax	pmax		
	comp=Z,1μm,1.8s						
TSUM	**Tsumeb**	35.59	15	IAmb	IAmb	19 00 38.5	
	comp=Z,740nm,1.1s						
TSUM	**Tsumeb**	35.59	15	S	S	19 06 05.0	-3.1
	comp=Z,3.8nm,0.7s,baz=316,slow=12,SNR=1.3						
TSUM				LR	LR	19 12 07.9	
	comp=Z,285μm,21.8s,baz=196,slow=31						
QSPA	**South Pole Qui**	36.09	180	IAMs_20	IAMs_20	19 14 17.6	
	comp=Z,64μm,22.0s						
QSPA	**South Pole Qui**	36.09	180	P	P	19 00 36.4	+0.3
	comp=Z,196nm,0.9s,baz=229,slow=5.2,SNR=91						
QSPA				PP	PnPn	19 01 57.1	+0.2
	comp=Z,208nm,1.1s,baz=244,slow=2.8,SNR=4.9						
	comp=Z,196nm,0.9s						
PMSA	**Palmer Station**	36.21	224	P	P	19 00 32.6	-4.3
PMSA				IAmb	IAmb	19 00 43.9	
	comp=Z,776nm,1.4s						
PMSA	**Palmer Station**	36.21	224	⇑P	P	19 00 38.7	+1.9
SMAI	**San Martin Ant**	36.38	218	IAmb	IAmb	19 00 52.5	
	comp=Z,705nm,1.0s						
PAF	**Port-aux-Franc**	37.52	109	IAmb	IAmb	19 01 03.9	
	comp=Z,756nm,1.6s						
PAF	**Port-aux-Franc**	37.52	109	pmax	pmax		
	comp=Z,756nm,1.6s						
EFI	**East Falkland**	38.80	246	P	P	19 00 54.5	-4.4
EFI	**East Falkland**	38.80	246	i P	P	19 00 58.8	-0.1
EFI				pmax	pmax		
	comp=Z,391nm,1.3s						
SHEL	**Horse Pasture**	39.65	338	IAmb	IAmb	19 01 13.2	
	comp=Z,789nm,1.6s						
SHEL	**Horse Pasture**	39.65	338	IAMs_20	IAMs_20	19 12 53.1	
	comp=Z,76μm,20.0s						
SHEL	**Horse Pasture**	39.65	338	MLR	MLR		
	comp=Z,76μm,20.0s						
SHEL				pmax	pmax		
	comp=Z,789nm,1.7s						
ITZ	**Itezhi-Tezhi**	40.72	27	i P	P	19 01 20.5	+5.2
ITZ				i x	x	19 02 01.0	
LSZ	**Lusaka**	41.77	29	P	P	19 01 21.0	-3.0
LSZ				S	S	19 07 36.5	-4.8
LSZ	**Lusaka**	41.77	29	⇓P	P	19 01 22.6	-1.4
LSZ	**Lusaka**	41.77	29	LR	LR	19 16 42.9	
	comp=Z,130μm,18.7s,baz=199,slow=33						
VOI	**Vohitsoka**	43.30	57	IAmb	IAmb	19 01 44.8	
	comp=Z,569nm,1.3s						
VOI				IAMs_20	IAMs_20	19 14 09.0	
	comp=Z,59μm,21.0s						
VOI	**Vohitsoka**	43.30	57	P	P	19 01 36.9	+0.5
VOI	**Vohitsoka**	43.30	57	P	P	19 01 36.9	+0.5
	SNR=34						
VOI	**Vohitsoka**	43.30	57	⇓P	P	19 01 36.3	-0.1
MG02	**Cerro Sombrero**	44.01	239	P	P	19 01 37.6	-4.0

ABPO Ambohimpanom 45.96 56 ⇓P **P 19 01 58.2 +0.5**
MG05 Puerto Natales 46.29 238 **P 19 01 55.9 -3.8**
MG05 IAmb IAmb 19 02 04.6
comp=Z,269nm,1.1s
CASY Casey 46.44 147 IAmb IAmb 19 02 13.6
comp=Z,426nm,1.6s
CASY Casey 46.44 147 IAms_20 IAms_20 19 19 36.3
comp=Z,55µm,19.0s
GO09 Cerro Castillo 46.45 239 P **P 19 01 59.2 -1.9**
GO09 IAmb IAmb 19 02 33.3
comp=Z,334nm,1.5s
VNDA Vanda 47.57 172 P **P 19 02 10.8 +1.3**
VNDA Vanda 47.57 172 P **P 19 02 10.8 +1.3**
baz=224,slow=7.0
SBA Scott Base 47.60 174 MLR MLR
SBA pmax pmax
comp=Z,22µm,20.0s
comp=Z,1µm,1.8s
RER Riviere de l'E 48.56 66 IAmb IAmb 19 02 33.4
comp=Z,452nm,1.2s
RER Riviere de l'E 48.56 66 P **P 19 02 19.7 +1.8**
SNR=9.8
RER Riviere de l'E 48.56 66 ⇓P **P 19 02 19.7 +1.8**
H10S2 ASCENSION HYDR 48.68 329 T T 19 54 29.1
baz=161,slow=74,SNR=169
H10S3 ASCENSION HYDR 48.69 329 T T 19 54 31.4
baz=59,slow=74,SNR=243
PLTB Pedras Altas 48.75 271 P **P 19 02 15.0 -4.3**
AIS Amsterdam Isla 48.79 100 IAmb IAmb 19 02 56.0
comp=Z,422nm,1.2s
AIS IAms_20 IAms_20 19 17 09.0
comp=Z,48µm,21.0s
CNLB Canela 48.93 276 *e*P **P 19 02 21.4 +0.7**
LPA La Plata 49.06 265 SKIKS 19 16 44.9
LPA La Plata 49.06 265 pP pP 19 02 24.7 +1.4
LPA La Plata 49.06 265 sP sP 19 02 34.1 +10
LPA La Plata 49.06 265 PCP PcP 19 03 27.0 -18
LPA La Plata 49.06 265 PP PP 19 04 09.9 -5.0
LPA La Plata 49.06 265 pPP 19 04 18.7
LPA La Plata 49.06 265 PPP PPP 19 04 46.1
LPA La Plata 49.06 265 S **S 19 09 22.9 -3.2**
LPA La Plata 49.06 265 sS sS 19 09 42.6 +14
LPA La Plata 49.06 265 PS 19 09 51.4
LPA La Plata 49.06 265 PKIKP **PKiKP** 19 10 27.7 **-5.5**
LPA La Plata 49.06 265 SCS 19 11 59.5
LPA La Plata 49.06 265 SS SS 19 12 50.7 -6.0
LPA La Plata 49.06 265 SKIKP 19 13 54.8
LPA La Plata 49.06 265 PKIKS 19 14 03.1
LPA La Plata 49.06 265 SSS SSS 19 14 28.6
TRQA Tornquist 49.25 259 IAmb IAmb 19 02 34.9
comp=Z,837nm,1.5s
TRQA Tornquist 49.25 259 MLR MLR
TRQA pmax pmax
comp=Z,25µm,22.0s
comp=Z,837nm,1.5s
ASCN Ascension 49.57 330 IAmb IAmb 19 02 42.0
comp=Z,636nm,1.8s
DUB01 Friburgo-RJ 49.63 290 *e*P **P 19 02 26.3 +0.3**
H10N1 ASCENSION HYDR 49.69 330 T T 19 55 46.1
baz=171,SNR=3.9
H10N3 ASCENSION HYDR 49.70 330 T T 19 55 46.0
baz=171,SNR=12
H10N2 ASCENSION HYDR 49.71 330 T T 19 55 57.2
baz=171,SNR=9.9
AY02 Valle Explorad 49.88 243 P **P 19 02 23.3 -4.3**
AY02 IAmb IAmb 19 02 54.0
comp=Z,664nm,1.2s
COYC Coyhaique 49.89 245 **P 19 02 25.9 -1.8**
COYC IAmb IAmb 19 02 42.9
comp=Z,331nm,1.3s
COYC Coyhaique 49.89 245 ⇑P **P 19 02 28.8 +1.1**
ALF01 Guarapari-ES 49.90 292 *e*S **S 19 09 39.9 +1.9**
ESAR Angra dos Reis 50.04 287 *e*P **P 19 02 29.7 +0.7**
ESAR *e*S **S 19 09 40.9 +0.9**
VAS01 Vassouras-RJ 50.06 288 *e*P **P 19 02 29.5 +0.2**
VAS01 *e*S **S 19 09 41.8 +1.4**
ALGR Alto Alegre (B 50.58 274 *e*P **P 19 02 32.9 -0.4**
PET01 Itanhaem-SP 50.66 283 *e*P **P 19 02 33.7 -0.1**
PET01 *e*S **S 19 09 50.2 +1.6**
RODS Rosario do Sul 50.72 271 *e*P **P 19 02 33.7 -0.5**
RODS *e*S **S 19 09 50.8 +1.5**
RIB01 Linhares ES 50.78 294 *e*P **P 19 02 33.9 -0.8**
RIB01 *e*S **S 19 09 49.7 -0.6**
AY01 Puyuhuapi 50.95 246 IAmb IAmb 19 02 48.8
comp=Z,517nm,1.1s
ABR01 Abrolhos, BA 50.98 296 *e*P **P 19 02 36.8 +0.6**
ABR01 *e*S **S 19 09 53.5 +0.4**
LL02 Futaleuf 51.34 247 IAmb IAmb 19 02 50.5
comp=Z,558nm,1.3s
LL02 Futaleuf 51.34 247 ⇓P P 19 02 33.7 -5.0
VAO Valinhos 51.48 284 *e*P **P 19 02 40.2 +0.1**
VAO *e*S **S 19 10 01.4 +1.3**
UNIS Unistalda (Bra 51.58 272 *e*P **P 19 02 39.6 -1.1**
UNIS *e*S **S 19 10 01.0 -0.4**
SJMB Sao Joao De Ma 51.70 293 *e*P **P 19 02 40.1 -1.5**
BSCB Bom Sucesso 51.83 288 *e*P **P 19 02 42.2 -0.4**
SBV Sambava 52.03 55 P **P 19 02 47.1 +3.0**
SBV Sambava 52.03 55 P **P 19 02 45.9 +1.8**
SNR=18
SBV Sambava 52.03 55 ⇑P **P 19 02 44.2 +0.1**
ITQB Itaqui 52.05 271 IAmb IAmb 19 02 54.7
comp=Z,1µm,1.5s
ITQB Itaqui 52.05 271 *e*P **P 19 02 43.5 -0.6**
ITQB *e*S **S 19 10 08.2 +0.5**
CRSM Crissiumal (Br 52.15 275 *e*P **P 19 02 44.2 -0.7**
CRSM *e*S **S 19 10 10.1 +0.9**
RCLB Rio Claro- Sao 52.26 284 *e*P **P 19 02 46.2 +0.4**
RCLB *e*S **S 19 10 12.4 +1.6**
PLCA Paso Flores 52.28 250 *e*P **P 19 02 45.4 -0.4**
PLCA Paso Flores 52.28 250 ⇑P **P 19 02 44.8 -1.1**
PLCA Paso Flores 52.28 250 *e*P **P 19 02 44.9 -1.0**
PLCA *e*S **S 19 10 12.4 +1.5**
PLCA Paso Flores 52.28 250 P **P 19 02 45.5 -0.4**
comp=Z,40nm,1.1s,baz=137,slow=8.6,SNR=16
PLCA S **S 19 10 14.6 +3.7**
comp=Z,1.7nm,1.1s,baz=72,slow=18,SNR=1.2
comp=Z,40nm,1.1s
GO07 Milladeo Hill, 52.37 246 IAmb IAmb 19 02 56.0
comp=Z,464nm,1.3s
LL07 Hotel Espejo d 52.46 247 P **P 19 02 42.5 -4.5**
LL07 IAmb IAmb 19 02 55.4
comp=Z,673nm,1.5s
FRTB Fartura 52.70 282 *e*P **P 19 02 49.3 +0.1**
FRTB *e*S **S 19 10 16.9 0.0**
GUA01 Guaratinga, BA 52.71 296 *e*P **P 19 02 49.2 +0.1**
FRBT Francisco Belt 52.72 277 *e*P **P 19 02 48.6 -0.7**
FRBT *e*S **S 19 10 17.6 +0.5**
LL06 Loncomilla 52.96 247 P **P 19 02 46.2 -4.5**
LL06 IAmb IAmb 19 03 03.7
comp=Z,929nm,1.8s
LL03 Petrohue 53.03 249 P **P 19 02 46.7 -4.6**
PTGB Pitanga 53.09 279 *e*P **P 19 02 51.4 -0.7**
PTGB *e*S **S 19 10 20.6 -1.7**
MECA Mercedes 53.24 270 *e*P **P 19 02 52.1 -0.9**
MECA *e*S **S 19 10 25.3 +1.3**
DIAM Diamantina, MG 53.39 291 *e*P **P 19 02 53.1 -1.2**
LL05 Los Muermos 53.43 248 P **P 19 02 50.1 -4.2**
LL05 IAmb IAmb 19 03 06.9
comp=Z,892nm,1.9s
LDASE Londrina, Braz 53.56 280 *e*P **P 19 02 55.7 +0.2**
LDASE *e*S **S 19 10 30.4 +1.9**
GO06 Curarrehue 53.59 251 ⇑P **P 19 02 54.3 -1.3**
BB19B Bebedouro 53.89 285 *e*P **P 19 02 57.7 -0.2**
BB19B *e*S **S 19 10 35.1 +2.0**
MCR1 Marechal Candi 54.44 277 *e*P **P 19 03 01.1 -0.8**
MCR1 *e*S **S 19 10 41.2 +0.8**
LR04 Corral 54.46 249 IAmb IAmb 19 03 14.9
comp=Z,776nm,1.6s
PMNB Patos De Minas 54.73 288 *e*P **P 19 03 03.6 -0.4**
PMNB *e*S **S 19 10 44.0 -0.5**
TRCB Terra Rica 54.91 280 IAmb IAmb 19 03 09.9
comp=Z,351nm,1.5s
CPUP Villa Florida 54.95 273 P **P 19 03 04.6 -0.9**
CPUP Villa Florida 54.95 273 P **P 19 03 04.6 -0.9**
comp=Z,176nm,1.0s,baz=132,slow=6.3,SNR=97
CPUP S **S 19 10 48.7 +1.5**
comp=Z,1.6nm,0.9s,baz=298,slow=14,SNR=1.5
CPUP PKPPKP **P'P'df 19 33 22.0 +6.5**
comp=Z,0.7nm,0.4s,baz=112,slow=3.1,SNR=2.9
comp=Z,176nm,1.0s
JANB Januaria 56.39 293 *e*P **P 19 03 15.3 -0.6**
JANB *e*S **S 19 11 06.0 -0.6**
MBAR Mbarara 56.47 27 *i*P **P 19 03 16.6 0.0**
MBAR pmax pmax
comp=Z,161nm,1.8s
MBAR MLR MLR
comp=Z,115µm,16.0s
MBAR Mbarara 56.47 27 *i*P **S 19 11 09.6 +1.8**
MBAR Mbarara 56.47 27 *e*P **P 19 03 13.9 -2.7**
MBAR *e*S **S 19 11 10.8 +3.0**
MBAR Mbarara 56.47 27 P **P 19 03 13.5 -3.2**
MBAR S **S 19 11 07.5 -0.3**
MBAR Mbarara 56.47 27 ⇑P **P 19 03 16.0 -0.6**
MBAR Mbarara 56.47 27 P **P 19 03 14.1 -2.5**
comp=Z,2.5nm,0.2s,baz=127,slow=6.3,SNR=5.1
MBAR LR LR 19 25 21.6
comp=Z,175µm,20.6s,baz=180,slow=34
comp=Z,2.5nm,0.2s
MBAR Mbarara 56.47 27 *i*P **S 19 11 09.6 +1.8**
baz=31
MBAR Mbarara 56.47 27 *e*P **P 19 03 13.9 -2.7**
baz=32
MBAR *e*S **S 19 11 10.8 +3.0**
baz=32
MBAR Mbarara 56.47 27 *e*P **P 19 03 11.9 -4.7**
baz=31
MBAR Mbarara 56.47 27 *e*P **P 19 03 11.9 -4.7**
BI05 Punta Hualpn 56.55 252 IAmb IAmb 19 03 30.6
comp=Z,479nm,1.4s
BO02 Sierra Bellavi 56.59 256 ⇓P **P 19 03 16.8 -0.5**
ESFA Espinillo Form 56.67 273 *e*P **P 19 03 17.2 -0.6**
TICA Tres Isletas 56.70 270 *e*P **P 19 03 17.4 -0.6**
LMEL Las Melosas 56.94 257 IAmb IAmb 19 03 31.9
comp=Z,745nm,1.7s
BO01 Tunca 57.05 256 IAmb IAmb 19 03 30.9
comp=Z,255nm,1.1s
BO04 La Punta 57.07 256 IAmb IAmb 19 03 31.2
comp=Z,254nm,1.1s
GO05 Huala 57.08 255 P P 19 03 15.9 -4.8
KIBK Kibwezi 57.08 36 P **P 19 03 20.4 -0.5**
SNR=60
KIBK Kibwezi 57.08 36 S **S 19 11 22.4 +6.6**
KIBK P **P 19 03 18.9 -2.0**
RPRD Ribas do Rio P 57.32 280 *e*P **P 19 03 22.6 +0.1**
RPRD *e*S **S 19 11 19.1 +0.2**
MT03 Universidad Ad 57.37 257 IAmb IAmb 19 03 54.5
comp=Z,304nm,1.1s
ANTJ Antonio Joao (57.48 277 *e*P **P 19 03 22.2 -1.4**
ANTJ *e*S **S 19 11 20.0 -0.9**
MT01 Popeta 57.52 256 IAmb IAmb 19 03 36.8
comp=Z,725nm,1.8s
PEL Peldehue 57.73 257 MLR MLR
PEL pmax pmax
comp=Z,11µm,21.0s
comp=Z,1µm,1.9s
ZON Zonda 57.74 260 IAmb IAmb 19 03 36.0
comp=Z,511nm,1.6s
ZON Zonda 57.74 260 pmax pmax
comp=Z,511nm,1.6s
VA05 Santo Domingo 57.88 256 IAmb IAmb 19 03 37.6
comp=Z,664nm,1.6s
MT02 Curacav 57.90 257 IAmb IAmb 19 03 39.1
comp=Z,879nm,2.1s
KMBO Kilima Mbogo 57.94 35 *e*P **P 19 03 27.4 +0.3**
KMBO Kilima Mbogo 57.94 35 *i*P **P 19 03 26.0 -1.1**
SNR=25
KMBO Kilima Mbogo 57.94 35 *e*P **P 19 03 27.1 0.0**
KMBO *i*S **S 19 11 34.6 +7.2**
KMBO Kilima Mbogo 57.94 35 *e*P **P 19 03 25.8 -1.4**
KMBO *e*S S 19 11 36.2 +8.8
KMBO Kilima Mbogo 57.94 35 P **P 19 03 24.8 -2.3**
KMBO P **P 19 03 24.8 -2.3**
KMBO S **S 19 11 35.2 +7.8**
KMBO S **S 19 11 35.2 +7.8**
KMBO Kilima Mbogo 57.94 35 ⇑P **P 19 03 27.2 +0.1**
KMBO Kilima Mbogo 57.94 35 P **P 19 03 25.1 -2.1**
comp=Z,4.5nm,0.9s,baz=194,slow=8.7,SNR=14
KMBO S **S 19 11 35.1 +7.8**
comp=Z,0.5nm,0.3s,baz=254,slow=18,SNR=1.6
KMBO LR LR 19 28 08.6
comp=Z,79µm,18.3s,baz=186,slow=36
KMBO PKP2bc **P'P'bc 19 33 19.6 +3.7**
comp=Z,0.5nm,0.2s,baz=0.6,slow=6.3,SNR=5.6
comp=Z,4.5nm,0.9s
KMBO Kilima Mbogo 57.94 35 *e*P **P 19 03 27.1 0.0**
baz=38
KMBO *i*S **S 19 11 34.6 +7.2**
baz=38
KMBO Kilima Mbogo 57.94 35 *e*P **P 19 03 25.8 -1.4**
baz=40
KMBO *e*S S 19 11 36.2 +8.8
baz=40
BDFB Brasilia 57.95 289 IAmb IAmb 19 03 46.4
comp=Z,359nm,1.3s
BDFB Brasilia 57.95 289 P **P 19 03 26.4 -0.6**
BDFB Brasilia 57.95 289 P **P 19 03 26.4 -0.6**
comp=Z,28nm,0.9s,baz=137,slow=7.5,SNR=10
BDFB S **S 19 11 22.3 -4.9**
comp=Z,3.1nm,0.8s,baz=57,slow=26,SNR=1.6
comp=Z,28nm,0.9s
EKNA AfricaArray - 58.17 ⇑*e*P **P 19 03 26.4 -2.0**
C2SB Chapadao do Su 58.17 282 *e*P **P 19 03 29.4 +0.9**
C2SB *e*S **S 19 11 32.2 +2.2**
AQDB Aquidauana 58.49 279 *e*P **P 19 03 29.4 -1.3**
AQDB *e*S **S 19 11 34.5 +0.5**
SDBA SAO DESIDERIO 58.89 294 *e*S **S 19 11 39.2 -0.3**
SDBA SAO DESIDERIO 58.89 294 *e*P **P 19 03 29.9 -3.7**
BDQN Bodoquena, MS 59.12 278 *e*P **P 19 03 33.3 -1.7**
BDQN *e*S **S 19 11 41.1 -1.2**
CO02 Combarbal 59.33 258 ⇑P **P 19 03 36.6 0.0**
RCBR Riachuelo 59.94 307 *e*S **S 19 11 52.8 -0.2**
GO04 Tololo Observa 59.98 259 IAmb IAmb 19 03 51.5
comp=Z,693nm,1.6s
GO04 Tololo Observa 59.98 259 ⇑P **P 19 03 41.0 -0.2**
LIC Lamto 61.18 345 ⇑*e*PKP1 **P 19 03 48.0 -1.1**
comp=Z,339nm,1.1s
KIC Kosan Boka 61.27 345 ⇑*e*PKP1 **P 19 03 48.8 -1.0**
comp=Z,111nm,1.2s
GO03 Copiap 61.58 262 IAmb IAmb 19 04 02.0
comp=Z,393nm,1.5s
GO03 Copiap 61.58 262 ⇓P P 19 03 57.4 +5.5
DBIC Dimbokro 61.59 345 IAmb IAmb 19 03 55.9
comp=Z,248nm,1.1s
DBIC Dimbokro 61.59 345 P **P 19 03 51.2 -0.7**
DBIC Dimbokro 61.59 345 P **P 19 03 51.2 -0.7**
comp=Z,160nm,1.0s,baz=158,slow=7.8,SNR=39
DBIC S **S 19 12 15.4 +1.6**
comp=Z,4.5nm,1.0s,baz=200,slow=20,SNR=2.5
DBIC PKPPKP **P'P'ab 19 33 18.3 +4.1**
comp=Z,14nm,1.2s,baz=332,slow=4.6,SNR=5.5
comp=Z,160nm,1.0s
TIC Toumodi 61.59 345 ⇑*e*PKP1 **P 19 03 49.5 -2.4**
comp=Z,212nm,1.0s
LODK Lodwar 61.62 31 *e*P **P 19 03 51.8 -0.5**
LODK *i*S S 19 12 26.3 +12
LODK Lodwar 61.62 31 *e*P **P 19 03 51.9 -0.3**
LODK *e*S S 19 12 23.7 +9.3
LODK Lodwar 61.62 31 P **P 19 03 53.8 +1.5**
SNR=25
LODK Lodwar 61.62 31 *e*P **P 19 03 51.8 -0.5**
baz=35
LODK *i*S S 19 12 26.3 +12
baz=35
LODK Lodwar 61.62 31 *e*P **P 19 03 51.9 -0.3**
baz=36
LODK *e*S S 19 12 23.7 +9.3
baz=36
MSEY Mahe Island 62.33 56 *i*P **P 19 03 56.5 -0.5**
SNR=10
MSEY Mahe Island 62.33 56 P **P 19 03 56.6 -0.4**
MSEY S **S 19 12 28.2 +4.8**
GO02 Mina Guanaco 63.04 264 IAmb IAmb 19 04 09.1
comp=Z,447nm,1.5s
PB14 IPOC Station P 63.92 264 IAmb IAmb 19 04 17.9
comp=Z,456nm,1.7s
LVC Limon Verde 64.59 266 *e*P **P 19 04 12.3 0.0**
LVC Limon Verde 64.59 266 ⇓P **P 19 04 12.7 +0.4**
LVC Limon Verde 64.59 266 *e*P **P 19 04 12.3 0.0**
LVC Limon Verde 64.59 266 P **P 19 04 13.0 +0.7**
comp=Z,150nm,1.2s,baz=140,slow=6.2,SNR=25
comp=Z,150nm,1.2s
SIV San Ignacio 65.14 277 P **P 19 04 14.6 -0.9**
comp=Z,35nm,1.2s,baz=148,slow=5.9,SNR=27
comp=Z,35nm,1.2s
DILA Dilla 65.38 33 *e*P **P 19 04 19.9 +2.8**
DILA *e*S S 19 13 12.0 +11
DILA Dilla 65.38 33 *e*P **P 19 04 19.5 +2.3**
DILA *i*S S 19 13 12.1 +11
DILA Dilla 65.38 33 *e*P **P 19 04 19.8 -0.4**
DILA *e*S S 19 13 12.0 +11
baz=37
DILA Dilla 65.38 33 *e*P **P 19 04 19.5 +2.3**
baz=38
DILA *i*S S 19 13 12.1 +11
baz=38
PB07 IPOC Station P 65.84 266 P **P 19 04 19.8 -0.4**
PB07 S **S 19 13 11.7 +4.5**
ROSB Rosrio 66.51 300 *e*P **P 19 04 25.0 +0.7**
PB08 IPOC Station P 66.64 268 P **P 19 04 23.9 -1.7**
PB08 S **S 19 13 18.6 +1.3**
VILB Vilhena 67.05 280 IAmb IAmb 19 04 45.4
comp=Z,473nm,1.5s
VILB Vilhena 67.05 280 *e*P **P 19 04 26.9 -0.9**
TOA0 Torodi Ar. Sit 67.26 353 IAmb IAmb 19 04 39.6
comp=Z,177nm,1.2s
TOA0 Torodi Ar. Sit 67.26 353 S **S 19 13 20.4 -3.4**
TOA0 S **S 19 13 20.4 -3.4**
TORD Torodi Ar. Bea 67.26 353 P **P 19 04 28.4 -0.6**
comp=Z,51nm,1.0s,baz=181,slow=4.1,SNR=49
TORD S **S 19 13 17.9 -5.8**
comp=Z,0.8nm,0.9s,baz=309,slow=31,SNR=1.7
TORD LR LR 19 27 38.0
comp=Z,59µm,21.9s,baz=150,slow=30
TORD PKPPKP P'P'df 19 33 00.4 +13
comp=Z,2.0nm,1.1s,baz=6.6,slow=6.2,SNR=6.1
comp=Z,51nm,1.0s
FURI Furi 67.82 33 P **P 19 04 30.1 -2.8**
FURI Furi 67.82 33 *e*P **P 19 04 34.2 +1.2**
FURI *e*S S 19 13 48.1 +17
FURI IAMs_20 IAMs_20 19 30 31.7
comp=Z,81µm,15.9s
FURI Furi 67.82 33 *e*P **P 19 04 33.7 +0.8**
FURI *e*S **S 19 13 37.3 +6.1**
FURI AMP 19 30 29.2
comp=Z,106µm,15.3s
FURI Furi 67.82 33 *e*P **P 19 04 34.2 +1.2**
baz=36
FURI *e*S S 19 13 48.1 +17
baz=36
FURI IAMs_20 IAMs_20 19 30 31.7
comp=Z,81µm,15.9s,baz=36
FURI Furi 67.82 33 *e*P **P 19 04 33.7 +0.8**
baz=37
FURI *e*S **S 19 13 37.3 +6.1**
baz=37
FURI AMP 19 30 29.2
comp=Z,106µm,15.3s,baz=37
H08S1 Diego Carcia H 68.82 73 T T 20 19 52.8
baz=227,slow=76,SNR=4.1
H08S2 Diego Garcia H 68.83 73 T T 20 20 06.9
baz=227,slow=76,SNR=4.0
H08S3 Diego Garcia H 68.84 73 T T 20 20 13.6
baz=227,slow=76,SNR=4.6
GRD1 Great Renaissa 68.86 28 *e*P **P 19 04 40.4 +1.2**
baz=32
GRD1 *i*S **S 19 13 50.5 +7.4**
baz=32
GRD1 *e*S **S 19 13 51.8 +8.7**
baz=32
GRD1 Great Renaissa 68.86 28 *e*P **P 19 04 38.6 -0.5**
baz=33
GRD1 *e*S S 19 13 53.9 +11
baz=33
DGAR Diego Garcia 69.00 73 IAMs_20 IAMs_20 19 27 35.6
comp=Z,34µm,21.0s
TMAB Tom-Au,PA,Br 69.01 297 *e*P **P 19 04 39.9 -0.2**
LPAZ La Paz 69.05 271 *e*P **P 19 04 40.9 -0.2**
LPAZ pmax pmax
comp=Z,63nm,0.9s
LPAZ La Paz 69.05 271 *e*P **P 19 04 40.7 -0.4**
LPAZ La Paz 69.05 271 P **P 19 04 41.0 -0.2**
comp=Z,63nm,0.9s,baz=110,slow=5.3,SNR=46
LPAZ S **S 19 13 45.1 -1.5**
comp=Z,0.7nm,0.7s,baz=266,slow=11,SNR=1.2
comp=Z,63nm,0.9s
NPGB Novo Progresso 69.07 288 *e*P **P 19 04 40.7 +0.2**
KOWA Kowa 69.17 347 IAmb IAmb 19 05 02.4
comp=Z,376nm,1.4s
KOWA Kowa 69.17 347 P **P 19 04 39.7 -1.2**
KOWA Kowa 69.17 347 P **P 19 04 40.1 -0.8**
comp=Z,102nm,1.1s,baz=186,slow=5.8,SNR=37
KOWA S **S 19 13 42.5 -4.1**
comp=Z,2.0nm,1.0s,baz=37,slow=15,SNR=1.7
KOWA LR LR 19 30 05.3
comp=Z,89µm,19.9s,baz=176,slow=32
comp=Z,102nm,1.1s
H01W2 Cape Leeuwin H 70.80 123 T T 20 23 10.3
baz=218,slow=75,SNR=4894
H01W3 Cape Leeuwin H 70.81 123 T T 20 23 11.3
baz=218,slow=75,SNR=4881
H01W1 Cape Leeuwin H 70.81 123 T T 20 23 11.4
baz=218,slow=75,SNR=7083
TEND Ethiopian Broa 71.29 34 *e*P **P 19 04 56.1 +2.1**
baz=37
TEND *i*S S 19 14 21.3 +10
baz=37
TEND Ethiopian Broa 71.29 34 *e*P **P 19 04 54.1 +0.2**
baz=38
TEND *e*S S 19 14 24.1 +13
baz=38
ITTB Itaituba 71.48 289 *e*P **P 19 04 55.6 +0.4**
ATD Arta Tunnel 71.66 36 *e*P **P 19 04 56.1 -0.2**
ATD *e*S **S 19 14 12.4 -3.5**
ATD Arta Tunnel 71.66 36 *e*P **P 19 04 55.4 -0.9**
ATD *i*S **SKiKP 19 14 26.1 -8.8**
ATD Arta Tunnel 71.66 36 P **P 19 04 57.9 +1.7**
SNR=21
ATD Arta Tunnel 71.66 36 ⇑P **P 19 04 56.5 +0.2**
ATD Arta Tunnel 71.66 36 *e*P **P 19 04 56.1 -0.2**
baz=39
ATD *e*S **S 19 14 12.4 -3.5**
baz=39
ATD Arta Tunnel 71.66 36 *e*P **P 19 04 55.4 -0.9**
baz=40
ATD *i*S **SKiKP 19 14 26.1 -8.8**
baz=40
SAML Samuel 71.99 280 IAmb IAmb 19 05 03.5
comp=Z,235nm,1.2s
SAML Samuel 71.99 280 IAMs_20 IAMs_20 19 31 22.3
comp=Z,21µm,20.0s
SAML Samuel 71.99 280 MLR MLR
SAML pmax pmax
comp=Z,21µm,20.0s
comp=Z,235nm,1.2s
JAWL J.Aulia 72.12 25 *i*P **P 19 04 59.7 +0.8**
JAWL *i* 19 05 02.9
baz=310,slow=7.9
MALB Monte Alegre 72.75 292 *e*P **P 19 05 03.5 +0.7**
MCPB Macapa, AP 72.80 294 *e*P **P 19 05 03.7 +0.6**
ETMB Extrema 73.06 277 IAmb IAmb 19 05 19.8
comp=Z,328nm,1.5s
NWAO Narrogin (SRO) 73.91 124 P **P 19 05 10.2 +0.7**
baz=74,SNR=5.3
NWAO P **P 19 05 10.2 +0.7**
baz=74,SNR=5.3
NWAO Narrogin (SRO) 73.91 124 IAmb IAmb 19 05 28.6
comp=Z,573nm,1.2s
NWAO Narrogin (SRO) 73.91 124 P **P 19 05 08.4 -1.1**
NWAO Narrogin (SRO) 73.91 124 P **P 19 05 09.3 -0.2**
NWAO S **S 19 14 41.5 +0.2**
NWAO Narrogin (SRO) 73.91 124 P **P 19 05 08.3 -1.1**
comp=Z,68nm,1.1s,baz=227,slow=5.0,SNR=7.3
comp=Z,68nm,1.1s
SACV Santiago Islan 74.04 328 IAMs_20 IAMs_20 19 29 25.7
comp=Z,30µm,20.0s
MUN Mundaring 74.17 123 P **P 19 05 12.8 +1.8**
baz=74,SNR=10
KLBR Kellerberrin 75.25 124 P **P 19 05 19.9 +2.6**
baz=75,SNR=7.2
MACA Manacapuru-AM 75.25 285 IAmb IAmb 19 05 34.4
comp=Z,752nm,2.0s
MACA Manacapuru-AM 75.25 285 *e*P **P 19 05 17.6 +0.2**
MRWI Hamdab 75.30 23 *i*P **P 19 05 18.4 +0.9**
MRWI *i* 19 05 20.5
baz=39,slow=3.6
BLDU Ballidu 75.53 122 P **P 19 05 19.5 +0.6**
baz=76,SNR=5.9
MORW Morawa 76.45 121 P **P 19 05 24.8 +0.6**
baz=76,SNR=5.8
MORW Morawa 76.45 121 ⇑P **P 19 05 26.8 +2.6**
HMAD Nubian desert 76.63 24 *i*P **P 19 05 24.2 -0.9**
HMAD *i* 19 05 31.1
baz=358,slow=10
TAM Tamanrasset 76.65 357 IAmb IAmb 19 05 30.3
comp=Z,789nm,3.2s

TAM IAMs_20 IAMs_20 19 37 21.5
comp=Z,30µm,19.0s
TAM Tamanrasset 76.65 357 MLR MLR
comp=Z,30µm,19.0s
TAM pmax pmax
comp=Z,789nm,3.2s
TAM Tamanrasset 76.65 357 ⇑P **P 19 05 23.8 -1.6**
TAU Tasmania Unive 77.15 150 IAmb IAmb 19 05 33.9
comp=Z,314nm,1.5s
TAU Tasmania Unive 77.15 150 IAMs_20 IAMs_20 19 36 39.6
comp=Z,16µm,19.0s
TAU Tasmania Unive 77.15 150 MLR MLR
comp=Z,16µm,19.0s
TAU pmax pmax
comp=Z,314nm,1.5s
TAU Tasmania Unive 77.15 150 ⇑P **P 19 05 29.8 +1.9**
KMBL Kambalda 77.42 127 P **P 19 05 31.4 +1.8**
baz=77,SNR=5.3
MOO Moorlands 77.54 150 P **P 19 05 30.9 +0.7**
baz=78,SNR=6.5
NNA Nana 77.57 267 *ce*P **P 19 05 30.2 -0.5**
NNA pmax pmax
comp=Z,465nm,1.8s
NNA Nana 77.57 267 P **P 19 05 30.5 -0.2**
comp=Z,15nm,0.7s,baz=83,slow=6.5,SNR=2.1
NNA S **S 19 15 24.9 +2.7**
comp=Z,4.8nm,0.4s,baz=200,slow=6.9,SNR=1.2
comp=Z,15nm,0.7s
MPGF Montagnes des 77.72 297 ⇓P **P 19 05 34.8 +3.3**
PYZ Puysegur Point 78.38 165 IAMs_20 IAMs_20 19 37 14.5
comp=Z,31µm,22.0s
WHZ Wether Hill Ro 78.84 166 IAmb IAmb 19 06 18.0
comp=Z,1µm,2.6s
COCO West Island 79.35 96 IAMs_20 IAMs_20 19 32 22.8
comp=Z,30µm,21.0s
EAZ Earnscleugh 79.68 166 P **P 19 05 44.4 +2.5**
BOAV Boa Vista 79.72 289 *e*P **P 19 05 42.3 -0.2**
MEEK Meekatharra 79.74 121 P **P 19 05 43.5 +1.0**
baz=80,SNR=8.2
LBZ Lake Benmore 80.63 167 IAMs_20 IAMs_20 19 38 34.0
comp=Z,24µm,22.0s
GIRL Giralia 80.75 116 P **P 19 05 48.3 +0.3**
baz=81,SNR=3.7
ABTO Aybut 80.91 43 P **P 19 05 48.9 +0.1**
SNR=24
ARPS Mount Arapiles 80.98 144 P **P 19 05 50.3 +1.3**
baz=81,SNR=6.0
HMDM Hanimaadhoo 81.16 65 IAMs_20 IAMs_20 19 36 30.7
comp=Z,19µm,18.0s
RPZ Rata Peaks 81.41 167 IAMs_20 IAMs_20 19 39 26.5
comp=Z,16µm,20.0s
RBK Rabkut 81.41 44 P **P 19 05 54.3 +2.9**
SNR=14
TOO Toolangi 81.48 147 P **P 19 05 55.6 +3.9**
baz=81,SNR=5.5
TOO Toolangi 81.48 147 ⇓P **P 19 05 52.0 +0.3**
MQZ McQueen's Vall 81.61 169 IAMs_20 IAMs_20 19 40 06.0
comp=Z,23µm,20.0s
WHFO Wadi Hawf 81.61 43 P **P 19 05 51.3 -1.2**
SNR=25
WHFO S **S 19 16 04.3 -0.3**
DMTO DMTO 81.91 44 P **P 19 05 56.6 +2.7**
SNR=13
OXZ Oxford 81.91 168 IAMs_20 IAMs_20 19 40 02.9
comp=Z,32µm,20.0s
WVZ Waitaha Valley 81.99 167 P **P 19 05 58.3 +4.1**
ATAH Atahualpa 82.36 268 P **P 19 05 59.0 +2.0**
comp=Z,20nm,1.0s,baz=174,slow=2.5,SNR=24
ATAH S **S 19 16 16.7 +3.3**
comp=Z,2.9nm,0.6s,baz=74,slow=5.6,SNR=1.9
ATAH LR LR 19 41 31.7
comp=Z,8µm,21.9s,baz=151,slow=35
comp=Z,20nm,1.0s
BBOO Buckleboo 82.36 138 P **P 19 05 57.8 +1.5**
baz=82,SNR=5.9
BBOO Buckleboo 82.36 138 IAmb IAmb 19 06 18.9
comp=Z,853nm,2.3s
GVZ Greta Valley S 82.38 169 IAmb IAmb 19 06 06.9
comp=Z,718nm,1.6s
GVZ IAMs_20 IAMs_20 19 40 23.4
comp=Z,20µm,21.0s
DOK Doka 82.39 43 P **P 19 05 55.4 -1.0**
SNR=24
DOK S **S 19 16 13.0 +0.6**
CTZ Chatham Island 82.41 176 IAMs_20 IAMs_20 19 38 31.5
comp=Z,19µm,21.0s
INZ Inchbonnie 82.43 168 IAMs_20 IAMs_20 19 41 02.6
comp=Z,30µm,19.0s
SHAO Shalim 82.47 45 *i* P **P 19 05 56.4 -0.5**
SNR=8.2
LTZ Lake Taylor 82.47 168 IAMs_20 IAMs_20 19 41 19.9
comp=Z,28µm,20.0s
LTZ Lake Taylor 82.47 168 P **P 19 05 57.1 +0.3**
HTT Hallett 82.92 140 P **P 19 06 03.1 +3.8**
baz=83,SNR=9.9
HTT Hallett 82.92 140 ⇑P **P 19 06 03.2 +3.9**
KHZ Kahutara 82.98 169 IAmb IAmb 19 06 03.4
comp=Z,542nm,2.2s
KHZ IAMs_20 IAMs_20 19 40 53.4
comp=Z,29µm,21.0s
KHZ Kahutara 82.98 169 ⇑P **P 19 06 01.3 +1.9**
MILA Mila 83.09 149 P **P 19 06 00.4 +0.3**
baz=83,SNR=6.6
MILA Mila 83.09 149 ⇑P **P 19 06 04.4 +4.2**
DSZ Denniston Nort 83.44 168 IAmb IAmb 19 06 15.1
comp=Z,284nm,1.2s
DSZ Denniston Nort 83.44 168 P **P 19 06 00.2 -1.7**
THZ Tophouse 83.56 168 IAmb IAmb 19 06 20.8
comp=Z,209nm,1.1s
THZ IAMs_20 IAMs_20 19 40 39.5
comp=Z,19µm,22.0s
THZ Tophouse 83.56 168 P **P 19 06 02.2 -0.3**
BHW Baring Head 84.12 170 IAmb IAmb 19 06 11.5
comp=Z,291nm,1.3s
BHW IAMs_20 IAMs_20 19 42 10.6
comp=Z,19µm,20.0s
NNZ Nelson 84.15 169 IAMs_20 IAMs_20 19 41 19.2
comp=Z,16µm,21.0s
SNZO South Karori 84.20 170 IAMs_20 IAMs_20 19 43 01.7
comp=Z,19µm,20.0s
QRZ Quartz Range 84.44 168 IAMs_20 IAMs_20 19 42 13.7
comp=Z,18µm,20.0s
EOSO Osorio 84.44 339 P **P 19 06 05.6 -1.3**
TRD Trivandrum 84.64 68 *e*P **P 19 06 07.3 -0.9**
CAN Canberra 84.65 149 ⇓P **P 19 06 08.7 +0.5**
CNB Canberra Magne 84.76 149 P **P 19 06 08.6 -0.2**
baz=85,SNR=7.1
MBWA Marble Bar 84.84 119 IAmb IAmb 19 06 31.4
comp=Z,206nm,1.4s
MBWA Marble Bar 84.84 119 IAMs_20 IAMs_20 19 39 28.4
comp=Z,22µm,19.0s
MBWA Marble Bar 84.84 119 ⇓P **P 19 06 12.2 +3.0**
MRZ Mangatainoka R 84.94 170 IAMs_20 IAMs_20 19 42 38.1
comp=Z,22µm,21.0s
BFZ Birch Farm 84.98 171 IAMs_20 IAMs_20 19 42 52.3
comp=Z,20µm,20.0s
STKA Stephens Creek 85.30 142 P **P 19 06 10.7 -0.8**
baz=85,SNR=24
STKA Stephens Creek 85.30 142 *e*P **P 19 06 10.4 -1.0**
STKA pmax pmax
comp=Z,48nm,1.0s
STKA Stephens Creek 85.30 142 P **P 19 06 10.9 -0.5**
comp=Z,31nm,0.8s,baz=176,slow=4.8,SNR=11
STKA S **S 19 16 40.6 -1.3**
comp=Z,2.3nm,1.0s,baz=216,slow=17,SNR=1.7
STKA PKPPKP **P'P'df 19 32 35.0 +6.7**
comp=Z,5.9nm,1.0s,baz=34,slow=1.4,SNR=4.5
comp=Z,31nm,0.8s
TIO Tiouine 85.79 347 P **P 19 06 09.4 -4.3**
KRHZ Kereru 86.02 171 P **P 19 06 17.1 +2.2**
MZR Muzera 86.09 41 *i* P **P 19 06 13.1 -2.1**
SNR=24
MZR Muzera 86.09 41 P **P 19 06 15.0 -0.2**
SNR=32
MHTO MHTO 86.09 46 P **P 19 06 14.4 -0.8**
SNR=30
TATN Tataouine 86.38 2 ⇑P **P 19 06 17.6 +1.2**
BKZ Black Stump Fm 86.51 171 IAmb IAmb 19 06 23.2
comp=Z,274nm,1.4s
BKZ IAMs_20 IAMs_20 19 43 28.7
comp=Z,24µm,21.0s
MALK Mahakanadarawa 86.52 71 P **P 19 06 14.6 -2.9**
MALK Mahakanadarawa 86.52 71 ⇓P **P 19 06 17.2 -0.4**
EIL Elat 86.58 23 ⇑P **P 19 06 17.1 -0.4**
TRN Trinidad (W) 87.03 293 *e*P **P 19 06 17.4 -2.6**
CMSA Cobar Meteorol 87.06 145 P **P 19 06 19.2 -0.9**
baz=87,SNR=21

MDT Midelt 87.32 349 P **P 19 06 22.2 +1.1**
comp=Z,45nm,1.1s,baz=185,slow=3.4,SNR=25
MDT S **S 19 16 54.6 -6.5**
comp=Z,0.5nm,0.8s,baz=340,slow=2.4,SNR=1.1
MDT LR LR 19 40 11.4
comp=Z,37µm,21.8s,baz=192,slow=32
comp=Z,45nm,1.1s
BSY Bisya 87.33 44 P **P 19 06 21.0 -0.3**
SNR=79
JMDO Jabal Madar 87.37 45 P **P 19 06 23.6 +2.1**
SNR=32
SRHM Skhour des Reh 87.39 346 P P 19 06 27.0 +5.6
CZD Col de Zad 87.58 349 P P 19 06 28.0 +5.4
ARQ Araqi 87.59 43 P **P 19 06 23.4 +0.8**
SNR=36
KZIT Kziot 87.65 22 ⇓P **P 19 06 25.3 +2.8**
JLN Jalan Bani Buh 87.73 46 P **P 19 06 23.6 +0.4**
SNR=60
ALNE Al Ain 87.92 42 *i* P **P 19 06 22.2 -1.9**
SNR=22
ALNE Al Ain 87.92 42 P **P 19 06 24.7 +0.6**
SNR=47
SALM Salem 87.92 67 *e*P **P 19 06 23.4 -0.9**
SALM IAmb IAmb 19 06 38.5
comp=Z,158nm,1.5s
WBK Wadi Bani Khal 87.95 46 P **P 19 06 23.5 -0.8**
SNR=48
WBK S **S 19 17 08.3 +0.9**
SMDO Samad 87.96 45 P **P 19 06 23.8 -0.7**
SNR=58
IFR Ifrane 88.07 349 P **P 19 06 22.3 -2.5**
AJN Ajban 88.08 41 *i* P **P 19 06 22.2 -2.5**
SNR=6.8
BBGH Gun Hill 88.11 295 *e*P **P 19 06 24.7 -0.5**
HOQ Hoqain 88.13 44 P **P 19 06 24.8 -0.3**
SNR=88
AVE Averroes 88.14 347 P **P 19 06 24.0 -0.9**
MXZ Matakaoa Point 88.26 172 IAMs_20 IAMs_20 19 47 20.0
comp=Z,18µm,20.0s
ASUD Al Ashush, Dub 88.27 42 *i* P **P 19 06 23.5 -2.2**
SNR=12
ASUD Al Ashush, Dub 88.27 42 P **P 19 06 27.6 +1.9**
SNR=13
OTAV Otavalo 88.30 273 IAMs_20 IAMs_20 19 42 41.0
comp=Z,14µm,20.0s
OTAV Otavalo 88.30 273 ⇑P **P 19 06 26.3 -0.5**
OTAV Otavalo 88.30 273 ⇑P **P 19 06 27.9 +1.1**
OTAV Otavalo 88.30 273 *e*P **P 19 06 27.2 +0.4**
SOHO SOHO 88.31 43 *i* P **P 19 06 23.6 -2.3**
SNR=48
WSAR Wadi Sarin 88.36 45 P **P 19 06 26.1 -0.1**
SNR=46
GRGR Grenville 88.40 293 ⇓P P 19 06 36.2 +10
BIDO Bidbid 88.41 45 P **P 19 06 27.0 +0.6**
SNR=77
PCRV Puerto La Cruz 88.42 290 LR LR 19 42 08.7
comp=Z,30µm,19.8s,slow=33
FAQ Al Faqa, Dubai 88.48 42 *i* P **P 19 06 24.5 -2.2**
SNR=8.5
FAQ Al Faqa, Dubai 88.48 42 P **P 19 06 30.0 +3.4**
SNR=18
ASHO Ashiyiah 88.61 42 *i* P **P 19 06 25.0 -2.3**
SNR=29
ASHO Ashiyiah 88.61 42 P **P 19 06 28.0 +0.6**
SNR=35
NAZ Nazwa, Dubai 88.72 42 *i* P **P 19 06 25.3 -2.6**
SNR=31
NAZ Nazwa, Dubai 88.72 42 P **P 19 06 31.1 +3.3**
SNR=38
HATD Hatta, Dubai 88.76 42 *i* P **P 19 06 24.3 -3.7**
SNR=26
HATD Hatta, Dubai 88.76 42 P **P 19 06 29.0 +0.9**
SNR=47
GOA Goa 88.81 61 *e*P **P 19 06 27.5 -0.9**
GOA Goa 88.81 61 IAmb IAmb 19 06 47.0
comp=Z,115nm,1.1s
GOA Goa 88.81 61 *e*P **P 19 06 31.9 +3.5**
UOSS Minazif 88.90 42 IAMs_20 IAMs_20 19 50 29.1
comp=Z,25µm,18.0s
UOSS Minazif 88.90 42 *i* P **P 19 06 26.1 -2.6**
SNR=14
UOSS Minazif 88.90 42 ⇑P **P 19 06 27.3 -1.4**
SALP Salfit 88.94 23 ⇑P **P 19 06 32.8 +4.0**
CGJI Cibinong 88.98 100 P **P 19 06 27.8 -1.7**
comp=Z,156nm,2.1s,comp=Z,4µm
TAF Taforalt 89.08 351 P P 19 06 34.1 +4.7
SVB Belmont 89.12 294 *e*P **P 19 06 28.2 -1.8**
FUL Funchal 89.15 339 *e*P **P 19 06 33.0 +3.4**
comp=Z,362nm,1.8s
KASI Kota Agung 89.17 98 P **P 19 06 29.7 -0.6**
comp=Z,149nm,1.0s,comp=Z,3µm
PMAR Madeira 89.22 339 *e*P **P 19 06 30.7 +0.5**
comp=Z,381nm,1.5s
MSFE Esma-Masafi 89.25 42 *i* P **P 19 06 26.8 -3.6**
SNR=8.0
MDH Madha 89.25 42 *i* P **P 19 06 26.8 -3.5**
SNR=11
MDH Madha 89.25 42 P **P 19 06 34.0 +3.6**
SNR=9.5
CNJI Cibinong 89.25 101 P **P 19 06 29.0 -1.7**
comp=Z,129nm,1.7s,comp=Z,2µm
MASF Masafi 89.26 42 P **P 19 06 33.1 +2.7**
SNR=18
BAUV El Baul 89.31 286 *e*P **P 19 06 32.1 +1.2**
BAUV El Baul 89.31 286 *e* **SKSac 19 17 07.9 +6.9**
MCLT Moule a Chique 89.32 295 *e*P **P 19 06 26.6 -4.2**
LWLI Liwa 89.32 98 P P 19 06 37.3 +6.1
SISI Saibi 89.38 91 P P 19 06 37.7 +6.4
PMOZ Porto Moniz, M 89.38 339 *e*P **P 19 06 31.4 +0.5**
comp=Z,610nm,1.7s
PMOZ Porto Moniz, M 89.38 339 *e*S S 19 17 29.4 +8.8
PMOZ Porto Moniz, M 89.38 339 *e*LQ LQ 19 30 10.3
PMOZ *e*LR LR 19 34 55.2
comp=Z,11µm,20.0s
PMOZ Porto Moniz, M 89.38 339 P **P 19 06 30.1 -0.7**
PMPS Porto Santo 89.42 339 *e*P P 19 06 18.1 -13
comp=Z,386nm,1.7s
ASF Jabal al Asfar 89.44 24 LR LR 19 45 33.2
comp=Z,54µm,19.0s,baz=204,slow=35
CHAS Isla Isabel II 89.45 351 P **P 19 06 30.1 -0.8**
PMPST Porto Santo, M 89.45 339 *e*P **P 19 06 31.1 +0.1**
comp=Z,395nm,1.6s
ASAR Alice Springs 89.48 132 P **P 19 06 29.6 -2.2**
ASAR Alice Springs 89.48 132 P **P 19 06 29.6 -2.2**
comp=Z,14nm,0.8s,baz=199,slow=4.5,SNR=2.3
ASAR PP **PP 19 10 07.1 +4.7**
comp=Z,5.1nm,1.1s,baz=216,slow=4.6,SNR=2.4
ASAR PKKPbc PKKPbc 19 24 11.7 +7.9
comp=Z,1.9nm,0.8s,baz=43,slow=1.7,SNR=6.0
ASAR PKPPKP **P'P'df 19 32 18.2 -1.7**
comp=Z,1.7nm,0.9s,baz=37,slow=1.3,SNR=5.3
comp=Z,14nm,0.8s
KEST Kesra 89.51 1 IAmb IAmb 19 06 40.4
comp=Z,311nm,1.3s
KEST Kesra 89.51 1 P **P 19 06 32.4 +1.0**
SNR=50
KEST Kesra 89.51 1 P **P 19 06 29.5 -1.8**
comp=Z,55nm,1.1s,baz=153,slow=2.9,SNR=27
KEST LR LR 19 44 14.5
comp=Z,31µm,18.9s,baz=118,slow=34
comp=Z,55nm,1.1s
KSI Kapahiang 89.56 96 P P 19 06 38.5 +6.2
ROSC El Rosal 89.59 279 P **P 19 06 31.5 -1.2**
ROSC El Rosal 89.59 279 P **P 19 06 31.5 -1.2**
comp=Z,7.5nm,0.3s,baz=116,slow=11,SNR=9.5
comp=Z,7.5nm,0.3s
SLBI Saint Lucia, B 89.60 295 *e*P **P 19 06 30.4 -1.7**
PVLZ Pæen de 89.62 350 P **P 19 06 30.7 -1.1**
PALE Palemas 89.62 350 P P 19 06 38.0 +6.1
WMELI Melilla 89.63 351 P **P 19 06 31.7 -0.1**
GVD Gavdhos 89.66 13 P **P 19 06 34.0 +2.0**
CBJI Citeko 89.81 101 P **P 19 06 31.2 -2.1**
comp=Z,305nm,1.1s,comp=Z,6µm
MPOM Morne Pois Mar 89.89 295 *e*P P 19 06 47.3 +14
MMAI Mount Meron Ar 89.90 22 P **P 19 06 32.1 -1.1**
comp=Z,13nm,1.0s,baz=224,slow=4.0,SNR=5.2
MMAI PP **PP 19 10 06.2 -0.3**
comp=Z,1.9nm,0.6s,baz=225,slow=8.0,SNR=2.0
MMAI LR LR 19 45 21.6
comp=Z,65µm,20.6s,baz=165,slow=35
comp=Z,13nm,1.0s
KLI Kotabumi 89.91 98 P P 19 06 41.0 +7.2
KNDR Palaiochora Ch 90.00 13 P **P 19 06 32.7 -0.8**
ARMA Armidale 90.01 149 P **P 19 06 34.0 -0.2**
baz=90,SNR=4.1
OUZ Omahuta 90.09 168 IAMs_20 IAMs_20 19 43 51.5
comp=Z,31µm,22.0s

OUZ Omahuta 90.09 168 ⇓P **P 19 06 35.3 +0.9**
GEM Giv'at Ha'Em 90.15 23 ⇑P **P 19 06 35.5 +1.2**
ILAM Ilet Lapin Mar 90.17 295 *e*P **P 19 06 33.5 -1.3**
MDRS Chennai 90.21 68 *e*P **P 19 06 34.2 -0.8**
IDI Anoyia 90.21 13 ⇑P **P 19 06 37.8 +3.2**
IDI Anoyia 90.21 13 P **P 19 06 32.8 -1.8**
IDI Anoyia 90.21 13 ⇑P **P 19 06 34.8 +0.2**
IDI Anoyia 90.21 13 LR LR 19 48 35.0
comp=Z,47µm,19.2s,baz=171,slow=37
ZKR Zakros 90.23 15 P **P 19 06 37.9 +3.3**
PRNS Prines Rethymn 90.23 13 P **P 19 06 36.0 +1.4**
SMIR Smir Dam 90.24 349 P P 19 06 41.0 +6.3
EALB Alboran 90.25 351 P **P 19 06 33.4 -1.3**
IMMV Iera Moni Meta 90.26 13 P **P 19 06 36.0 +1.3**
KPJI Karang Pucung 90.27 103 P **P 19 06 33.9 -1.6**
comp=Z,84nm,1.1s,comp=Z,2µm
JASK Jask - Hormozg 90.39 43 P **P 19 06 40.0 +4.3**
SNR=13
CEU Ceuta 90.45 349 P **P 19 06 34.4 -1.2**
ECEU Ceuta 90.45 349 P **P 19 06 35.6 0.0**
PDSI Padang 90.52 92 P **P 19 06 40.9 +4.3**
KAD Karad 90.52 61 *e*P **P 19 06 37.1 +0.7**
KAD IAmb IAmb 19 06 54.4
comp=Z,124nm,1.2s
ANKY Antikythira Is 90.57 12 P **P 19 06 36.5 +0.3**
GSI Gunungsitoli 90.60 89 IAMs_20 IAMs_20 19 39 46.5
comp=Z,24µm,20.0s
GSI Gunungsitoli 90.60 89 P P 19 06 42.9 +5.9
SDV Santo Domingo 90.74 284 IAMs_20 IAMs_20 19 44 53.4
comp=Z,16µm,20.0s
SDV Santo Domingo 90.74 284 *e*P **P 19 06 38.2 +0.4**
KTHA Kythira Island 90.93 12 P **P 19 06 37.8 -0.1**
WOJI Wonogiri, Jawa 91.00 105 P P 19 06 44.8 +5.9
EMIJ Mijas 91.05 349 P **P 19 06 34.2 -4.2**
SDSI Sungai Dareh 91.07 93 P **P 19 06 42.0 +2.8**
SFS San Fernando 91.11 348 P **P 19 06 40.8 +2.1**
EBER Berja 91.19 351 P **P 19 06 38.9 -0.4**
ENIJ Nijar 91.20 352 P **P 19 06 38.6 -0.5**
EMAL Malaga-Limoner 91.20 350 P **P 19 06 37.8 -1.3**
ELGU Los Guajares, 91.23 350 P **P 19 06 37.8 -1.6**
MAGL Barre de l'ile 91.36 296 *e*P **P 19 06 43.3 +3.0**
SMRI Semarang 91.37 104 IAMs_20 IAMs_20 19 38 30.0
comp=Z,21µm,21.0s
SMRI Semarang 91.37 104 P P 19 06 46.6 +6.0
VLI Veliai 91.37 12 P **P 19 06 39.7 -0.2**
POO Poona 91.37 60 *e*P **P 19 06 40.1 -0.3**
POO Poona 91.37 60 IAmb IAmb 19 06 58.1
comp=Z,64nm,0.8s
POO Poona 91.37 60 *e*P **P 19 06 42.0 +1.6**
VAE Valguarnera 91.40 5 LR LR 19 47 00.6
comp=Z,57µm,18.2s,baz=176,slow=35
PYL PYLOS 91.41 11 P **P 19 06 39.2 -0.9**
TDBA Terre de Bas, 91.46 295 *e*P **P 19 06 45.0 +4.2**
TDBA Terre de Bas, 91.46 295 *e* SKSac 19 16 49.3 -24
EGOR Sierra Gorda, 91.52 350 P **P 19 06 38.9 -1.8**
EQTA Presa de Quent 91.55 351 P **P 19 06 38.2 -2.6**
ARG Arkhangelos 91.60 16 P **P 19 06 44.5 +3.5**
ARG Arkhangelos 91.60 16 ⇑P **P 19 06 44.8 +3.9**
KLMT Kalamata 91.60 11 P P 19 06 46.7 +5.8
CBE Ff, Capester 91.63 295 *e*P P 19 06 46.6 +5.0
CART Cartagena 91.71 353 P **P 19 06 45.8 +4.3**
CART Cartagena 91.71 353 P **P 19 06 38.9 -2.5**
ARNO Arenosillo 91.80 348 P **P 19 06 40.2 -1.7**
BKNI Bangkinang 91.85 92 P **P 19 06 39.9 -2.9**
DAT Datca 92.02 15 P **P 19 06 43.9 +0.9**
KRND KRANIDI 92.05 12 P **P 19 06 44.7 +1.7**
GMJI Gumukmas 92.07 107 P **P 19 06 43.2 -0.6**
comp=Z,70nm,1.1s,comp=Z,2µm
PBDV Barranco-do-Ve 92.09 347 *e*P **P 19 06 43.3 0.0**
comp=Z,103nm,1.7s
PBDV Barranco-do-Ve 92.09 347 *e*S **S 19 17 51.4 +6.3**
PBDV *e*SS **SS 19 24 00.2 +4.7**
PFVI Vila Bisbo 92.11 346 *e*P **P 19 06 42.7 -0.6**
comp=Z,147nm,1.5s
PFVI Vila Bisbo 92.11 346 *e*S **S 19 17 50.8 +5.6**
PFVI *e*SS **SS 19 24 05.0 +9.4**
LTHK Lithakia 92.11 10 P **P 19 06 45.2 +1.9**
PVAQ Vaqueiros 92.22 347 *e*P **P 19 06 43.3 -0.5**
comp=Z,116nm,1.9s
PVAQ Vaqueiros 92.22 347 *e*S **SKSac 19 17 11.1 -5.4**
PVAQ *e*SS **SS 19 24 02.0 +4.7**
PVAQ Vaqueiros 92.22 347 *e*LR LR 19 36 30.5
comp=Z,25µm,20.0s
PVAQ Vaqueiros 92.22 347 ⇑P **P 19 06 44.5 +0.7**
MORF Marmelete 92.25 347 *e*P **P 19 06 44.6 +0.6**
comp=Z,108nm,1.6s
MORF Marmelete 92.25 347 *e*S **S 19 17 51.2 +4.7**
MORF *e*SS **SS 19 24 02.6 +4.8**
MORF Marmelete 92.25 347 *e*P P 19 06 39.2 -4.8
MORF *e*SS SS 19 23 56.4 -1.4
MORF Marmelete 92.25 347 *e*P P 19 06 39.2 -4.8
MORF *e*SS SS 19 23 56.4 -1.3
MORF IAMs_20 IAMs_20 19 40 42.5
comp=Z,45µm,25.7s
MORF Marmelete 92.25 347 ⇑P **P 19 06 46.4 +2.4**
BODT Bodrum 92.30 15 P **P 19 06 47.4 +3.2**
ELL Elmali 92.42 17 ⇑P **P 19 06 45.8 +0.9**
HATO Hato, Curacao 92.47 287 IAMs_20 IAMs_20 19 45 58.4
comp=Z,14µm,20.0s
MLYT Lee's Yard 92.48 295 *e*P P 19 06 51.0 +5.4
PSDA Pessada-Kefalo 92.49 10 P **P 19 06 47.0 +2.0**
PCVE Castro Verde 92.49 347 *e*P **P 19 06 44.7 -0.4**
comp=Z,63nm,1.7s
PCVE Castro Verde 92.49 347 *e*S **S 19 17 48.4 -0.2**
PCVE *e*SS **SS 19 24 08.5 +7.4**
KCSI Kotacane, Aceh 92.49 87 P **P 19 06 49.8 +4.0**
PTEO Sao Teotonio 92.50 346 *e*P **P 19 06 44.5 -0.6**
comp=Z,132nm,1.6s
PTEO Sao Teotonio 92.50 346 *e*PP **PP 19 10 25.3 -1.6**
GUR Goura 92.50 11 P **P 19 06 44.6 -0.6**
RPSI Rantau Prapat 92.51 89 IAMs_20 IAMs_20 19 39 26.1
comp=Z,27µm,21.0s
YER Yerkesik 92.52 16 P **P 19 06 45.7 +0.4**
RLS Riolos of Patr 92.53 10 P **P 19 06 45.9 +0.7**
ANBD Bethesda, Anti 92.53 296 *e*P P 19 06 53.9 +8.2
VLS Valsamata 92.55 10 P **P 19 06 44.9 -0.5**
KEF3 Kipouria, Keph 92.56 9 P **P 19 06 48.0 +2.7**
KLV Kalavryta, Ach 92.58 11 P **P 19 06 45.6 0.0**
VLY Voula,Athens 92.59 12 P **P 19 06 45.2 -0.3**
DMLN Damoulianata-K 92.59 9 P **P 19 06 47.4 +1.9**
KEF4 Livadi, Kephal 92.62 9 P **P 19 06 46.4 +0.8**
LOUT Loutraki 92.62 12 P **P 19 06 46.9 +1.2**
THAL Thalero 92.64 11 P **P 19 06 47.8 +2.1**
ATH Athens Observa 92.70 12 P **P 19 06 49.1 +3.1**
ATHU Athens Univers 92.70 12 P **P 19 06 49.2 +3.2**
LAKA Lakka 92.76 11 P **P 19 06 46.4 +0.1**
DION Dionisos Attik 92.83 12 P **P 19 06 49.9 +3.2**
FSK Fiskardo 92.83 10 P **P 19 06 47.5 +0.9**
VILL Villia 92.84 12 P **P 19 06 47.4 +0.7**
PBEJ Beja 92.86 347 *e*P **P 19 06 45.9 -0.8**
comp=Z,56nm,1.7s
TRIZ Trizonia 92.89 11 P **P 19 06 48.8 +1.9**
PBAR Barrancos 92.90 348 *e*P **P 19 06 46.8 -0.1**
comp=Z,90nm,1.4s
PBAR Barrancos 92.90 348 *e*PP **PP 19 10 30.3 +0.2**
PBAR *e*S **S 19 17 54.7 +2.5**
PBAR *e*SS **SS 19 24 12.8 +5.8**
KALE Kalithea 92.93 11 P **P 19 06 49.1 +2.0**
WRA Warramunga Arr 92.93 130 *e*P **P 19 06 50.0 +2.2**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 92.93 130 P **P 19 06 45.2 -2.6**
comp=Z,2.4nm,0.7s,baz=195,slow=2.9,SNR=2.0
WRA PP **PP 19 10 31.7 +2.0**
comp=Z,2.1nm,1.0s,baz=193,slow=9.2,SNR=1.2
WRA PKKPbc **PKKPbc 19 23 57.6 +2.5**
comp=Z,1.5nm,1.0s,baz=18,slow=2.6,SNR=6.1
WRA PKPPKP 19 32 18.1
comp=Z,2.7nm,1.1s,baz=28,slow=2.2,SNR=7.6
comp=Z,2.4nm,0.7s
EFP Efpalio 92.94 11 P **P 19 06 47.8 +0.7**
WRAB Tennant Creek 92.95 130 IAMs_20 IAMs_20 19 43 45.5
comp=Z,19µm,18.0s
EVGI Lefkada island 93.00 10 P **P 19 06 50.8 +3.4**
PNCL Nicolau / Gran 93.03 347 *e*P **P 19 06 47.5 0.0**
comp=Z,75nm,1.7s
PNCL Nicolau / Gran 93.03 347 *e*PP **PP 19 10 30.3 -0.8**
PNCL *e*S **S 19 17 58.4 +5.1**
PNCL *e*SS **SS 19 24 09.7 +0.9**
PVO Paravola 93.08 10 P **P 19 06 47.8 0.0**
NYDR Nydri-Lefkada 93.09 10 P **P 19 06 49.4 +1.6**
ANX Ano Chora 93.10 11 P **P 19 06 48.8 +0.8**

LKD2 Lefkada island 93.17 10 P **P 19 06 48.5 +0.3**
VJD Vijayawada 93.27 66⇑ *e*P **P 19 06 52.1 +3.0**
BHUJ Bhuj 93.31 54 *e*P **P 19 06 53.6 +4.4**
ATAL Atalanti 93.33 11 P **P 19 06 51.1 +2.2**
AXAR Agios Charalam 93.36 11 P **P 19 06 51.0 +1.9**
EVO Evora 93.37 347 *e*P **P 19 06 48.5 -0.6**
comp=Z,56nm,1.7s
LHMI Lhok Sumawe 93.38 86 IAMs_20 IAMs_20 19 40 01.5
comp=Z,16μm,20.0s
KYMI Kymi, Euboea I 93.40 12 P **P 19 06 51.5 +2.3**
EVR Evrytania 93.41 10 P **P 19 06 52.1 +2.7**
CHOS Chios island 93.42 14 P **P 19 06 52.9 +3.5**
MAKR Makrakomi, Fth 93.54 11 P **P 19 06 51.6 +1.7**
PESTR Estremoz 93.65 348 *e*P **P 19 06 50.0 -0.4**
comp=Z,70nm,1.8s
PESTR Estremoz 93.65 348 *e*PP **PP 19 10 32.0 -4.0**
PESTR *e*S **S 19 18 02.8 +4.0**
PESTR *e*SS **SS 19 24 22.1 +4.3**
LIS Lisbon 93.71 346 *e*P P 19 06 45.7 -4.9
LIS *e*SS SS 19 24 17.1 -1.4
LIS Lisbon 93.71 346 *e*P P 19 06 45.8 -4.9
LIS *e*SS SS 19 24 17.1 -1.4
LIS IAMs_20 IAMs_20 19 43 11.5
comp=Z,65μm,22.8s
MAHO Mahon 93.73 357 IAMs_20 IAMs_20 19 44 56.8
comp=Z,26μm,21.0s
IGT Igoumenitsa 93.87 9 P **P 19 06 51.1 -0.3**
PMTG Montargil 93.93 347 *e*P **P 19 06 51.3 -0.4**
comp=Z,84nm,1.6s
PMTG Montargil 93.93 347 *e*PP **PP 19 10 37.9 -0.2**
PMTG *e*S **S 19 18 03.2 +2.0**
PMTG *e*SS **SS 19 24 25.9 +4.2**
KULA Kula-Manisa 93.93 16 P **P 19 06 51.7 -0.1**
PAB San Pablo 93.95 350 IAMs_20 IAMs_20 19 43 59.1
comp=Z,25μm,22.0s
PAB San Pablo 93.95 350 P P 19 06 58.6 +6.7
PAB San Pablo 93.95 350 ⇑P **P 19 06 52.1 +0.2**
PAB San Pablo 93.95 350 ⇑P **P 19 06 51.8 -0.1**
PMAFR Mafra 93.96 346 *e*P **P 19 06 52.1 +0.3**
comp=Z,103nm,1.8s
PMAFR Mafra 93.96 346 *e*PP **PP 19 10 44.7 +6.3**
PMAFR *e*S **S 19 18 03.1 +1.6**
PMAFR *e*SS **SS 19 24 26.3 +4.1**
KEK Kerkira 94.00 9 P **P 19 06 51.6 -0.4**
KEK Kerkira 94.00 9 ⇑P **P 19 06 51.9 0.0**
ESDC Sonseca Array 94.04 351 P **P 19 06 52.7 +0.5**
comp=Z,5.6nm,1.1s,baz=178,slow=4.6,SNR=16
ESDC PP **PP 19 10 31.6 -7.5**
comp=Z,2.2nm,1.0s,baz=164,slow=6.5,SNR=4.2
comp=Z,5.6nm,1.1s
JAN Janina 94.05 10 P **P 19 06 56.1 +3.9**
THL Klokotos Trika 94.07 11 P **P 19 06 52.3 0.0**
PMRV Marv??o 94.18 348 *e*P **P 19 06 52.0 -0.8**
comp=Z,100nm,1.6s
PMRV Marv??o 94.18 348 *e*PP **PP 19 10 37.3 -2.8**
PMRV *e*S **S 19 18 06.9 +3.5**
PMRV *e*SS **SS 19 24 28.9 +3.6**
PMRV Marv??o 94.18 348 *e*LR LR 19 37 03.9
comp=Z,24μm,22.0s
SRN Sarande 94.19 9 P **P 19 06 53.3 +0.5**
SIGRI SIGRI 94.20 14 P **P 19 06 48.9 -4.0**
TYRN Tyrnavos 94.24 11 P **P 19 06 52.1 -0.4**
PRK Paraskevi 94.29 14 P **P 19 06 55.7 +2.4**
KPRO Kipourio 94.39 10 P **P 19 06 56.0 +2.1**
PSBE So Bento 94.44 347 *e*P **P 19 06 54.1 0.0**
comp=Z,69nm,1.6s
PSBE So Bento 94.44 347 *e*PP **PP 19 10 38.4 -3.8**
PSBE *e*S **S 19 18 06.4 +0.6**
PSBE *e*SS **SS 19 24 34.7 +5.6**
LSK Leskovik 94.51 9 P **P 19 06 54.6 +0.2**
EIDS Eidsvold 94.54 147 ⇓P **P 19 06 56.2 +1.1**
PCBR Castelo Branco 94.59 348 *e*P **P 19 06 56.5 +1.8**
comp=Z,34nm,1.6s
PCBR Castelo Branco 94.59 348 *e*PP **PP 19 10 42.6 -0.7**
MATE Matera 94.69 6 ⇓P **P 19 06 57.1 +2.0**
LIA Limnos Island 94.78 13 P **P 19 06 58.2 +2.7**
AKL Akola 94.81 61 *e*P **P 19 06 56.3 +0.1**
NEST Nestorio 94.81 10 P **P 19 06 59.8 +4.0**
EZN Ezine 94.87 14 P **P 19 06 57.4 +1.5**
PCAS Casmilo, Conde 94.93 347 *e*P **P 19 06 56.1 -0.2**
comp=Z,47nm,1.4s
PCAS Casmilo, Conde 94.93 347 *e*PP **PP 19 10 43.7 -2.3**
PCAS *e*S **S 19 18 13.8 +3.8**
PCAS *e*SS **SS 19 24 42.8 +6.8**
KBN Korca 95.00 9 P **P 19 06 59.9 +3.3**
OUR Ouranopolis 95.06 12 P **P 19 06 59.4 +2.6**
MRVN Minervino Murg 95.07 6 ⇓P **P 19 06 58.1 +1.2**
COI Coimbra 95.08 347 *e*P **P 19 06 57.0 +0.1**
comp=Z,59nm,1.5s
COI Coimbra 95.08 347 *e*PP **PP 19 10 45.5 -1.5**
COI *e*S **S 19 18 13.9 +2.8**
COI *e*SS **SS 19 24 42.8 +4.8**
MTE Manteigas 95.15 348 *e*P **P 19 06 57.3 0.0**
comp=Z,52nm,1.6s
MTE Manteigas 95.15 348 *e*PP **PP 19 10 47.1 -0.7**
MTE *e*S **S 19 18 13.9 +1.9**
MTE *e*SS **SS 19 24 43.0 +3.7**
MTE Manteigas 95.15 348 *e*LR LR 19 37 46.7
comp=Z,30μm,18.0s
FNA Florina 95.21 10 P **P 19 07 00.6 +3.0**
FNA Florina 95.21 10 ⇑P **P 19 06 59.3 +1.7**
HORT Hortiatis 95.22 11 P **P 19 07 00.9 +3.3**
PSMN Pico do Norte, 95.24 334 *e*PS PS 19 19 29.7 -1.8
SMTH Samothraki Isl 95.39 13 P **P 19 06 56.8 -1.6**
OHR Ohrid 95.48 9 *i* PKP **P 19 07 00.4 +1.6**
OHR *e*SKS S 19 18 32.6 +18
GRG Griva 95.49 11 P **P 19 06 58.5 -0.3**
PVIS Viseu 95.51 348 *e*P **P 19 06 57.9 -1.0**
PVIS Viseu 95.51 348 *e*PP **PP 19 10 50.5 0.0**
KOKK Kokkinochori, 95.54 12 P **P 19 07 00.3 +1.3**
BNN Bunyan 95.61 21 ⇑P **P 19 06 59.1 -0.5**
KULM Kulim 95.61 89 IAMs_20 IAMs_20 19 41 52.2
comp=Z,23μm,20.0s
ENEZ Enez 95.74 14 P **P 19 07 02.4 +2.5**
KNT Kendrikon 95.75 11 P **P 19 07 02.7 +2.7**
SRS Serrai 95.78 12 P **P 19 07 00.9 +0.8**
MVO Moncorvo 95.85 348 *e*P **P 19 06 59.9 -0.6**
comp=Z,56nm,1.6s
MVO Moncorvo 95.85 348 *e*PP **PP 19 10 50.6 -2.5**
MVO *e*S S 19 18 33.6 +16
MVO *e*SS **SS 19 24 56.1 +7.0**
MVO Moncorvo 95.85 348 *e*LR LR 19 37 56.0
comp=Z,27μm,18.0s
VAY Valandovo 95.87 11 *i* PKP P 19 07 07.1 +6.7
VAY *e*SKS S 19 18 36.8 +19
ALN Alexandroupoli 95.88 13 P **P 19 07 02.9 +2.4**
ANTO Ankara 95.97 19 ⇑P **P 19 07 04.8 +3.7**
ANTO Ankara 95.97 19 ⇑P **P 19 07 04.8 +3.7**
BR131 Keskin Array S 96.00 19 *i* P **P 19 07 01.1 -0.2**
BR131 Keskin Array S 96.00 19 P **P 19 07 03.8 +2.5**
SNR=13
BRTR Keskin Array B 96.00 19 P **P 19 07 01.3 0.0**
BRTR Keskin Array B 96.00 19 P **P 19 07 01.3 0.0**
comp=Z,5.9nm,0.8s,baz=170,slow=7.5,SNR=22
BRTR PP **PP 19 10 48.4 -6.1**
comp=Z,6.9nm,1.1s,baz=203,slow=7.8,SNR=7.7
comp=Z,5.9nm,0.8s
BART Pico Bartolome 96.00 334 *e*PS PS 19 20 01.6 +22
PVRL Vila Real 96.04 348 *e*P **P 19 07 04.2 +2.9**
comp=Z,53nm,1.6s
PVRL Vila Real 96.04 348 *e*PP **PP 19 10 55.7 +1.1**
RDO Rodhopi 96.06 13 P **P 19 07 03.9 +2.6**
RDO Rodhopi 96.06 13 ⇑P **P 19 07 01.5 +0.2**
CMLA Cha da Macela 96.08 334 *e*PS PS 19 19 48.6 +8.0
POLO Lamas de Olo 96.14 348 *e*P **P 19 07 01.8 -0.1**
comp=Z,24nm,1.7s
POLO Lamas de Olo 96.14 348 *e*PP **PP 19 10 51.4 -4.1**
POLO *e*S S 19 18 31.2 +11
POLO *e*SS **SS 19 25 00.8 +7.4**
PSET Sete Cidades 96.19 334 *e*PS PS 19 19 54.5 +13
STIP Stip 96.20 10 *e*PKP **P 19 07 04.8 +2.9**
MMB Musomishta 96.23 12 *e*P **P 19 07 03.7 +1.5**
BCIP Isla Barro Col 96.29 277 IAMs_20 IAMs_20 19 46 46.0
comp=Z,12μm,21.0s
PEHC Pehcevo 96.36 11 *i* PKP **P 19 07 05.5 +2.7**
SKO Skopje 96.40 10 *i* PKP **P 19 07 05.7 +2.8**
SKO *e*SKS S 19 18 40.3 +18
PBRG Braganca 96.44 349 *e*P **P 19 07 03.5 +0.3**
comp=Z,48nm,1.9s
PBRG Braganca 96.44 349 *e*PP **PP 19 10 58.1 +0.4**
PBRG *e*S **S 19 18 31.2 +8.1**
PBRG *e*SS **SS 19 25 05.0 +7.5**

ISK Istanbul-Kandi 96.49 16 P **P 19 07 06.0 +2.7**
RZN Rozhen 96.49 12 *e*P **P 19 07 03.0 -0.6**
KDZ Kurdzhali 96.51 13 *e*P **P 19 07 05.0 +1.6**
SOEI Soe 96.75 117 IAMs_20 IAMs_20 19 42 28.9
comp=Z,25μm,21.0s
PGAV Gavieira, Arco 96.79 348 *e*P **P 19 07 04.8 0.0**
comp=Z,41nm,1.5s
PGAV Gavieira, Arco 96.79 348 *e*PP **PP 19 10 57.5 -2.9**
PGAV *e*S S 19 18 34.9 +8.8
PGAV *e*SS **SS 19 25 08.8 +6.3**
PGAV Gavieira, Arco 96.79 348 *e*LR LR 19 38 35.5
comp=Z,46μm,22.0s
EDRB Edirne 96.91 14 P **P 19 07 07.3 +2.1**
PLD Plovdiv 96.94 12 *e*P **P 19 07 07.4 +2.1**
DIM Dimitrovgrad 96.95 13 *e*P **P 19 07 08.0 +2.7**
BHPL Bhopal 97.13 60 *e*P Pdif 19 07 08.7 +1.9
VTS Vitosha 97.23 11 ⇑P Pdif 19 07 10.5 +3.5
VTS Vitosha 97.23 11 ⇑P **PP 19 10 57.9 -5.9**
VTS Vitosha 97.23 11 ⇑P Pdif 19 07 10.5 +3.6
VTS Vitosha 97.23 11 *e*P **P 19 07 06.0 -0.8**
VTS Vitosha 97.23 11 ⇑P Pdif 19 07 09.6 +2.7
PGB Panagyurishte 97.23 12 *e*P Pdif 19 07 08.8 +2.0
MTLF Montolieu 97.25 356 ⇑P Pdif 19 07 08.3 +1.5
PAGU Agualva, Azore 97.46 333 *e*PS PS 19 20 06.4 +11
JMB Yambol 97.51 13 *e*P Pdif 19 07 09.4 +1.4
PICO Pico 97.55 332 *e*PS PS 19 19 59.2 +2.3
CALA Caldeira 97.71 332 *e*PS PS 19 20 01.6 +3.1
CTAO Charters Tower 97.72 141 IAMs_20 IAMs_20 19 45 23.4
comp=Z,13μm,21.0s
PGRA Graciosa 97.92 332 *e*PS PS 19 20 08.1 +7.4
PVL Pavlikeni 97.95 12 *e*P Pdif 19 07 11.0 +1.1
BOVS Bovan 98.07 10 ⇓P Pdif 19 07 11.8 +1.4
BOVS Bovan 98.07 10 ⇑P **PP 19 11 09.2 -0.9**
DIKM Dikmen 98.17 20 ⇑P Pdif 19 07 13.3 +2.4
SZH Strazhitsa 98.20 13 *e*P **P 19 07 10.8 -0.2**
KAPI Kappang 98.27 110 IAMs_20 IAMs_20 19 42 59.8
comp=Z,19μm,21.0s
KAPI Kappang 98.27 110 *i* P **P 19 07 11.3 -0.8**
PRD Provadia 98.29 14 *e*P Pdif 19 07 14.0 +2.6
AJM Ajmer 98.43 56 *e*P **P 19 07 10.6 -2.0**
VLAD Vladila 98.72 12 ⇑P **PP 19 11 08.3 -6.8**
PSN Preselentsi 98.86 14 *e*P **P 19 07 13.0 -0.9**
GNI Garni 98.99 27 *i* P **P 19 07 16.5 +1.6**
GNI pmax pmax
comp=Z,55nm,1.3s
GNI MLR MLR
comp=Z,32μm,17.0s
GNI Garni 98.99 27 P Pdif 19 07 13.5 -1.3
GNI Garni 98.99 27 LR LR 19 50 33.3
comp=Z,42μm,21.8s,baz=205,slow=35
SSB Saint Sauveur 99.10 357 IAMs_20 IAMs_20 19 52 39.8
comp=Z,15μm,20.0s
H07S1 FLORES T-PHASE 99.17 330 *e*PS PS 19 20 17.7 +3.5
H07S1 FLORES T-PHASE 99.17 330 T T 20 58 42.8
SNR=17
MDVR Moldovita 99.21 10 ⇑P **Pdif 19 07 18.7 +3.2**
SDDR Presa de Saban 99.28 289 IAMs_20 IAMs_20 19 47 14.0
comp=Z,14μm,22.0s
HERR Herculane 99.38 10 ⇑P **Pdif 19 07 19.3 +3.1**
HERR Herculane 99.38 10 ⇑P **PP 19 11 14.3 -5.8**
BCA Borcka 99.40 25 ⇑P **Pdif 19 07 22.1 +5.6**
BOJS Bojanci 99.44 5 *i* Pdiff **Pdif 19 07 19.3 +2.8**
BOJS *e*PP **PP 19 11 20.9 +0.3**
BOJS *i* Sdiff S 19 18 57.4 +9.1
BOJS *e*SP SP 19 20 20.0 +4.2
BOJS *e*SS **SS 19 25 32.2 -7.3**
HARR Harsova 99.86 14 ⇑P **Pdif 19 07 19.1 +0.7**
HARR Harsova 99.86 14 ⇑P **Pdif 19 07 19.1 +0.7**
GZR Gura Zlata 99.92 10 ⇑P **Pdif 19 07 21.7 +3.0**
GZR Gura Zlata 99.92 10 ⇑P PP 19 11 12.7 -12
GZR Gura Zlata 99.92 10 ⇑P **Pdif 19 07 21.7 +3.0**
LJU Ljubljana 99.95 4 *i* Pdiff **Pdif 19 07 22.6 +3.9**
LJU *e*PP **PP 19 11 24.8 +0.3**
LJU *e*Sdiff S 19 19 03.2 +11
LJU *i* SS **SS 19 25 42.3 -4.3**
BZS Buzias 100.02 9 ⇑P **Pdif 19 07 22.1 +3.1**
BZS Buzias 100.02 9 ⇑P **Pdif 19 07 22.1 +3.1**
BZS Buzias 100.02 9 ⇑P **Pdif 19 07 22.2 +3.1**
LOT Lotru 100.08 11 ⇑P PP 19 11 14.2 -11
TPGR Topolog 100.10 14 ⇓P **Pdif 19 07 22.7 +3.2**
TPGR Topolog 100.10 14 ⇑P **PP 19 11 19.5 -6.2**
ARR Arges 100.10 12 ⇓P **Pdif 19 07 20.9 +1.4**
SURR Surduc 100.21 10 ⇑P **Pdif 19 07 23.1 +3.2**
SURR Surduc 100.21 10 ⇑P PP 19 11 15.8 -11
VOIR 100.22 12 ⇓P **Pdif 19 07 21.1 +1.1**
VOIR 100.22 12 ⇑P **PP 19 11 20.1 -6.6**
VOIR 100.22 12 ⇓P **Pdif 19 07 21.1 +1.1**
TUE Stuetta 100.24 1 IAMs_20 IAMs_20 19 56 22.8
comp=Z,21μm,20.0s
MORH Mrgy, Hungar 100.36 7 ⇑P **Pdif 19 07 23.2 +2.6**
NEHR Nehoiu 100.37 13 ⇓P **PP 19 11 26.5 -1.2**
CFR Carcaliu 100.37 14 ⇑P **Pdif 19 07 22.5 +1.9**
CFR Carcaliu 100.37 14 ⇑P **Pdif 19 07 22.5 +1.9**
MLR Muntele Rosu 100.38 12 ⇓P **Pdif 19 07 22.1 +1.3**
MLR Muntele Rosu 100.38 12 ⇑P PP 19 11 17.0 -11
MLR Muntele Rosu 100.38 12 ⇓P **Pdif 19 07 22.1 +1.3**
FUORN Ofenpass-Fuorn 100.40 1 IAMs_20 IAMs_20 19 51 26.9
comp=Z,23μm,20.0s
DEV Deva 100.42 10 ⇑P **PP 19 11 28.0 -0.1**
TBI Tubuai 100.49 201 *e*P **Pdif 19 07 27.7 +5.8**
comp=Z,2μm,37.8s
TBI Tubuai 100.49 201 *e*PP PP 19 11 12.4 -15
comp=Z,6μm,31.5s
TBI *e*S **Sdif 19 19 06.2 +7.7**
comp=Z,19μm,30.8s
TBI *e*SS SS 19 25 26.8 -25
comp=Z,34μm,32.5s
TBI Tubuai 100.49 201 *e*LQ LQ 19 35 36.0
comp=Z,110μm,37.0s
TBI *e*LR LR 19 39 48.1
comp=Z,187μm,37.8s
TBI *e*LR LR 19 39 57.8
comp=Z,166μm,39.0s
MYKA Terra Mystica 100.50 4 Pdiff **Pdif 19 07 22.6 +1.3**
comp=Z,1.7nm,0.4s
MYKA *e*PP **PP 19 11 29.7 +1.0**
comp=Z,37nm,1.6s
PERS Pernice 100.57 5 *i* Pdiff **Pdif 19 07 25.4 +3.9**
PERS *i* Sdiff 19 19 09.0
ABTA Abfaltersbach 100.58 3 *e*Pdiff **Pdif 19 07 22.6 +1.0**
comp=Z,26nm,1.8s,SNR=9.2
ABTA *e*PP **PP 19 11 30.8 +1.5**
comp=Z,20nm,1.7s
SOKA Soboth 100.61 5 *e*Pdiff **Pdif 19 07 23.1 +1.4**
comp=Z,9.0nm,1.3s,SNR=5.4
SOKA *e*PP **PP 19 11 30.0 +0.4**
comp=Z,14nm,1.4s
SIRR Siria 100.67 9 ⇓P PP 19 11 21.4 -8.6
DOPR Dopca 100.78 12 ⇓P **Pdif 19 07 31.4 +9.0**
FETA Feichten 100.81 2 *e*Pdiff **Pdif 19 07 24.3 +1.6**
comp=Z,15nm,1.6s
FETA PP **PP 19 11 29.8 -1.4**
comp=Z,8.4nm,1.3s
PLOR Plostina 100.83 13 ⇑P **Pdif 19 07 26.8 +4.1**
PLOR Plostina 100.83 13 ⇑P **PP 19 11 29.1 -2.1**
PLOR Plostina 100.83 13 ⇑P **Pdif 19 07 26.8 +4.1**
VRI Vrincioaia 100.85 13 ⇑P **Pdif 19 07 24.2 +1.4**
VRI Vrincioaia 100.85 13 ⇑P **PP 19 11 28.3 -3.1**
VRI Vrincioaia 100.85 13 ⇑P **Pdif 19 07 24.2 +1.4**
KBA Koelnbreinsper 100.93 3 *e*PP **PP 19 11 28.2 -3.9**
comp=Z,24nm,1.5s
OZUR 100.96 12 ⇓P **Pdif 19 07 25.5 +2.3**
OZUR 100.96 12 ⇑P **PP 19 11 26.9 -5.3**
SOC Sochi 100.98 23 *e*P **Pdif 19 07 24.2 +0.8**
SOC pmax pmax
comp=Z,30nm,0.9s
SQTA Sankt Quirin 101.02 2 Pdiff **Pdif 19 07 24.9 +1.3**
comp=Z,19nm,1.3s,SNR=5.7
SQTA *e*PP **PP 19 11 32.0 -0.7**
comp=Z,17nm,1.2s
VARL Varlezi 101.04 14 ⇑P **PP 19 11 30.1 -2.6**
DAVA Damuels 101.06 1 *e*Pdiff **Pdif 19 07 25.3 +1.5**
comp=Z,11nm,1.4s
DAVA *e*PP **PP 19 11 33.0 -0.1**
comp=Z,43nm,1.4s
WTTA Wattenberg 101.07 2 *e*Pdiff **Pdif 19 07 25.9 +1.9**
comp=Z,20nm,1.2s
WTTA *e*PP **PP 19 11 34.1 +0.9**
comp=Z,27nm,1.7s
ALBI Allahabad 101.08 62⇑ *e*P **Pdif 19 07 23.2 -1.1**
SONA Sohna 101.10 57 *e*P **Pdif 19 07 27.9 +3.7**
SIM Simferopol' 101.13 18 *i* P **Pdif 19 07 28.4 +4.4**
SIM *e*PS PS 19 20 46.0 +11

SIM pmax pmax
comp=Z,660nm,9.8s
GHRR 101.14 13 ⇑P **PP 19 11 32.7 -0.7**
MOTA Moosalm 101.14 2 *e*Pdiff **Pdif 19 07 24.6 +0.4**
comp=Z,28nm,1.6s,SNR=6.6
MOTA PP **PP 19 11 34.6 +0.9**
comp=Z,32nm,1.7s
WATA Walderalm 101.14 2 *e*Pdiff **Pdif 19 07 25.8 +1.6**
comp=Z,27nm,1.8s,SNR=6.3
WATA *e*PP **PP 19 11 39.7 +6.1**
comp=Z,26nm,1.7s
ARSA Arzberg 101.20 5 *e*Pdiff **Pdif 19 07 25.8 +1.5**
comp=Z,6.0nm,0.9s
ARSA *e*PP **PP 19 11 34.0 +0.1**
comp=Z,24nm,1.2s
GEYT Alibeck 101.22 38 P **Pdif 19 07 26.5 +1.9**
comp=Z,3.5nm,0.9s,baz=191,slow=3.0,SNR=4.3
MARR Marisel-Cluj 101.22 10 ⇑P **Pdif 19 07 27.0 +2.5**
MARR Marisel-Cluj 101.22 10 ⇑P PP 19 11 25.0 -9.2
ZEI Tsey 101.24 26 *e*P **Pdif 19 07 28.6 +3.8**
ZEI pmax pmax
comp=Z,8.0nm,1.2s
LESA Schwarzleotal 101.26 3 *e*Pdiff **Pdif 19 07 24.7 +0.1**
comp=Z,11nm,1.9s
LESA *e*PP **PP 19 11 35.1 +0.7**
comp=Z,17nm,1.1s
RETA Reutte 101.27 2 *e*pPdiff **pPdif 19 07 27.4 +0.5**
comp=Z,19nm,1.5s,SNR=8.0
RETA PP **PP 19 11 32.1 -2.4**
comp=Z,33nm,1.7s
CJR Cluj-Napoca 101.31 11 ⇓P **PP 19 11 31.2 -3.7**
TESR Tescani 101.48 13 ⇓P **Pdif 19 07 34.3 +8.8**
TESR Tescani 101.48 13 ⇑P **PP 19 11 28.8 -7.2**
BIOA Bad Ischl, Aus 101.56 4 *e*Pdiff **Pdif 19 07 27.8 +1.9**
comp=Z,29nm,2.2s
BIOA *e*PP **PP 19 11 38.6 +2.0**
comp=Z,19nm,1.4s
ANN Anapa 101.64 21 *e*P **Pdif 19 07 27.6 +1.4**
RONA Rosalia, Austr 101.69 5 *e*Pdiff **Pdif 19 07 28.3 +1.8**
comp=Z,14nm,1.4s
RONA *e*PP **PP 19 11 43.3 +5.6**
comp=Z,27nm,1.6s
MOA Molln 101.74 4 *e*Pdiff **Pdif 19 07 28.4 +1.8**
comp=Z,10.0nm,1.0s
VASR Vaslui 101.76 14 ⇑P **PP 19 11 32.5 -5.6**
DZM Mont Dzumac 101.79 159 *e*P **Pdif 19 07 28.3 +0.4**
comp=Z,544nm,30.4s
DZM Mont Dzumac 101.79 159 *e*PP **PP 19 11 42.1 +4.6**
comp=Z,2μm,26.6s
DZM Mont Dzumac 101.79 159 *e*SS SS 19 25 53.6 -17
comp=Z,7μm,25.7s
DZM Mont Dzumac 101.79 159 *e*LR LR 19 40 22.8
comp=Z,41μm,24.8s
KBZ Khabaz 101.87 25 P **Pdif 19 07 25.2 -2.1**
KBZ Khabaz 101.87 25 P **Pdif 19 07 25.2 -2.1**
comp=Z,1.5nm,0.9s,baz=233,slow=1.4,SNR=2.1
KBZ PP **PP 19 11 37.2 -1.7**
comp=Z,7.5nm,1.1s,baz=262,slow=6.0,SNR=4.0
CONA Conrad Observa 101.89 5 *e*Pdiff **Pdif 19 07 29.3 +1.9**
comp=Z,11nm,1.4s
CONA *e*PP **PP 19 11 40.8 +1.5**
comp=Z,56nm,1.7s
SRO Srobarova 101.93 7 *e*PP **PP 19 11 37.8 -1.6**
ECH Echery 101.99 359 IAMs_20 IAMs_20 19 51 48.1
comp=Z,20μm,20.0s
KIV Kislovodsk 102.03 25 ⇓P **PP 19 11 39.2 -1.1**
KIV Kislovodsk 102.03 25 *e*P **Pdif 19 07 29.1 +0.9**
KIV *e* 19 11 41.0
KIV *e* 19 18 08.2
KIV *e*SS SS 19 26 16.2 +0.4
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,42μm,20.0s
KIV Kislovodsk 102.03 25 P **Pdif 19 07 28.1 -0.1**
KIV Kislovodsk 102.03 25 ⇑P **Pdif 19 07 30.9 +2.8**
BFO Black Forest 102.10 360 IAMs_20 IAMs_20 19 52 25.9
comp=Z,23μm,20.0s
PSZ Piszkesteto 102.15 8 ⇑P **PP 19 11 34.0 -7.2**
PSZ Piszkesteto 102.15 8 IAMs_20 IAMs_20 19 54 51.9
comp=Z,18μm,21.0s
ZST Bratislava 102.23 6 *e*PP **PP 19 11 40.1 -1.6**
BMR Baia Mare 102.25 10 ⇑P **PP 19 11 40.2 -1.6**
KIS Kishinev 102.25 14 ⇓*i*P **Pdif 19 07 33.0 +4.1**
comp=Z,130nm,4.7s
KIS Kishinev 102.25 14 *e*PP **PP 19 11 41.0 -0.8**
comp=Z,560nm,10.6s
KIS Kishinev 102.25 14 *e*PS PS 19 20 35.0 -12
KIS Kishinev 102.25 14 *d i*P **Pdif 19 07 33.0 +4.1**
KIS *e* 19 11 41.0
KIS pmax pmax
comp=Z,130nm,4.7s
KIS pmax pmax
comp=Z,560nm,10.6s
BOAB BOACO BROADBAND 102.32 274 IAMs_20 IAMs_20 19 50 52.6
comp=Z,24μm,22.0s
MAK Makhachkala 102.37 28 *e*P **Pdif 19 07 29.7 +0.2**
MAK *i* 19 11 47.4
MAK *e*PPP PPP 19 13 55.9
MAK *e* 19 18 07.4
MAK pmax pmax
comp=Z,198nm,1.1s
MAK pmax pmax
comp=Z,788nm,2.4s
BURAR Bucovina Array 102.39 12 ⇑P **Pdif 19 07 33.5 +3.8**
BURAR Bucovina Array 102.39 12 ⇑P **PP 19 11 39.1 -3.9**
BURAR Bucovina Array 102.39 12 ⇑P **Pdif 19 07 33.5 +3.8**
MODS Modra-Piesok 102.42 6 *e*P **Pdif 19 07 35.6 +5.9**
MODS *e* 19 11 43.0
MODS Modra-Piesok 102.42 6 *e*PDIFF **Pdif 19 07 35.6 +5.9**
MODS *e*PP **PP 19 11 43.0 -0.1**
STU Stuttgart 102.54 1 IAMs_20 IAMs_20 20 00 39.7
comp=Z,17μm,19.0s
TRPA Tarpa 102.60 10 ⇑P **Pdif 19 07 32.4 +1.9**
TRPA Tarpa 102.60 10 ⇑P PP 19 11 35.5 -9.0
VYHS Vyhne 102.64 7 *e*P **Pdif 19 07 34.5 +3.8**
VYHS Vyhne 102.64 7 *e*PDIFF **Pdif 19 07 34.5 +3.8**
VYHS Vyhne 102.64 7 *e*PP **PP 19 11 41.9 -2.9**
CKRC Cesky Krumlov 102.71 4 *e*P **Pdif 19 07 30.8 -0.2**
CKRC Cesky Krumlov 102.71 4 *e*PDIFF **Pdif 19 07 30.8 -0.2**
CKRC *e*PP **PP 19 11 42.3 -3.0**
CKRC *e*SS SS 19 26 18.2 -6.7
GERES GERESS Array B 102.71 4 PP **PP 19 11 42.5 -2.9**
comp=Z,14nm,1.2s,baz=167,slow=6.6,SNR=7.0
KECS Kecovo 102.76 8 *e*PP **PP 19 11 43.9 -1.8**
JAVC Velka Javorina 102.93 6 *e*PDIFF **Pdif 19 07 31.4 -0.6**
JAVC *e*SS SS 19 26 21.6 -6.4
WET Wettzell 102.98 3 *e*PP **PP 19 11 45.1 -2.3**
baz=186,slow=7.0
KHC Kasperske Hory 102.99 4 *e*P **Pdif 19 07 30.3 -1.9**
KHC MLR MLR
comp=Z,26μm,25.2s
KHC Kasperske Hory 102.99 4 *e*PDIFF **Pdif 19 07 30.3 -1.9**
KHC *e*PP **PP 19 11 43.7 -3.7**
KHC *e*SS SS 19 26 23.3 -5.5
KHC AMS AMS 19 48 40.0
comp=Z,26μm,25.2s
KRUC Moravsky 103.05 5 *e*PDIFF **Pdif 19 07 32.5 +0.1**
KRUC *e*PP **PP 19 11 45.4 -2.4**
KRUC *e*SS SS 19 26 22.6 -7.0
LIFNC LIFOU 103.21 160 IAMs_20 IAMs_20 19 50 49.7
comp=Z,11μm,20.0s
LUWI Luwuk 103.22 111 IAMs_20 IAMs_20 19 46 41.0
comp=Z,17μm,20.0s
TREC Trest 103.24 5 *e*P **Pdif 19 07 31.5 -1.8**
TREC MLR MLR
comp=Z,18μm,19.4s
TREC Trest 103.24 5 *e*PDIFF **Pdif 19 07 31.5 -1.8**
TREC *e*PP **PP 19 11 47.5 -1.7**
TREC *e*SS SS 19 26 14.1 -18
TREC AMS AMS 19 52 30.0
comp=Z,18μm,19.4s
CRVS Cervenica-Dubn 103.27 9 *e*P **Pdif 19 07 41.6 +8.2**
CRVS *e* 19 11 48.2
CRVS Cervenica-Dubn 103.27 9 *e* **Pdif 19 07 41.6 +8.2**
CRVS *e*PP **PP 19 11 48.2 -1.2**
SORM Soroca 103.30 14 ⇑P **PP 19 11 46.4 -3.3**
VRAC Vranov 103.31 6 *e*PDIFF **Pdif 19 07 32.7 -0.9**
VRAC *e*PP **PP 19 11 47.7 -2.1**
VRAC *e*SS SS 19 26 24.7 -8.4
ZVC Zvikov 103.32 4 *e*PDIFF **Pdif 19 07 34.7 +1.1**
ZVC *e*PP **PP 19 11 44.5 -5.4**
ZVC *e*SS SS 19 26 27.6 -5.7
ZVC AMS AMS 19 47 50.0

comp=Z,21µm,25.4s
LANS Liptovska Anna 103.34 7 *e*P **Pdif 19 07 38.5 +4.7**
LANS *e* 19 11 49.2
LANS Liptovska Anna 103.34 7 *e*PDIFF **Pdif 19 07 38.5 +4.7**
LANS Liptovska Anna 103.34 7 *e* 19 07 50.2
LANS Liptovska Anna 103.34 7 *e*PP **PKiKP 19 11 49.2 -3.5**
KOLS Kolonicke sedl 103.37 9 *e*P **Pdif 19 07 38.4 +4.5**
KOLS *e* 19 11 49.0
KOLS Kolonicke sedl 103.37 9 *e*PDIFF **Pdif 19 07 38.4 +4.5**
KOLS *e*PP **PP 19 11 49.0 -1.2**
MAUC Maruska 103.44 6 *e*PDIFF **Pdif 19 07 35.5 +1.3**
MAUC *e*PP **PP 19 11 47.5 -3.3**
MAUC *e*SS SS 19 26 25.0 -10
MAUC AMS AMS 19 49 50.0
comp=Z,29µm,23.1s
GRF Grafenberg Arr 103.49 2 *e*L L 19 53 52.2
comp=Z,39µm,19.8s
NIE Niedzica 103.68 8 *e*Pdif **Pdif 19 07 38.9 +3.6**
NIE *e*PP **PP 19 11 50.1 -2.5**
NIE *e*SKKSac **Sdif 19 19 36.2 +13**
NIE *e*SP SP 19 21 01.2 +0.4
NIE *e*SS SS 19 26 22.0 -16
NIE *e*L L 19 52 12.7
comp=Z,12µm,23.1s
NIL Nilore 103.76 51 IAMs_20 IAMs_20 19 53 44.0
comp=Z,13µm,22.0s
MANZ Manzenberg 103.80 3 *e*PP **PP 19 11 51.5 -2.0**
baz=186,slow=7.0
GOPC GO Pecny, Ondr 103.82 4 *e*P **Pdif 19 07 39.6 +3.7**
GOPC MLR MLR
comp=Z,23µm,25.1s
GOPC GO Pecny, Ondr 103.82 4 *e*PDIFF **Pdif 19 07 39.6 +3.7**
GOPC *e*PP **PP 19 11 51.5 -2.1**
GOPC *e*SS SS 19 26 29.0 -11
GOPC AMS AMS 19 47 20.0
comp=Z,23µm,25.1s
MORC Moravsky Berou 103.83 6 *e*PDIFF **Pdif 19 07 36.3 +0.3**
MORC *e*PP **PP 19 11 51.8 -1.9**
MORC *e*SS SS 19 26 32.1 -8.3
PRU Pruhonice 103.89 4 *e*P **Pdif 19 07 35.4 -0.7**
PRU Pruhonice 103.89 4 *e*PDIFF **Pdif 19 07 35.4 -0.7**
PRU *e*PP **PP 19 11 52.2 -1.8**
PRU *e*SS SS 19 26 30.1 -11
PRU AMS AMS 19 48 20.0
comp=Z,23µm,27.1s
OKC Ostrava-Krasne 103.93 7 *e*P **Pdif 19 07 36.6 +0.3**
OKC *e* 19 11 55.0
OKC MLR MLR
comp=Z,15µm,22.6s
OKC Ostrava-Krasne 103.93 7 *e*PDIFF **Pdif 19 07 36.6 +0.3**
OKC *e*PP **PP 19 11 55.0 +0.6**
OKC *e*SS SS 19 26 27.9 -14
OKC AMS AMS 19 50 30.0
comp=Z,15µm,22.6s
PRA Prague 103.97 4 *e*P **Pdif 19 07 33.6 -2.9**
PRA MLR MLR
comp=Z,20µm,22.3s
PRA Prague 103.97 4 *e*PDIFF **Pdif 19 07 33.6 -2.9**
PRA *e*PP PKiKP 19 11 44.4 -9.3
PRA *e*SS SS 19 26 30.8 -11
PRA AMS AMS 19 49 40.0
comp=Z,20µm,22.3s
NKC Novy Kostel 104.06 3 *e*P **Pdif 19 07 40.7 +3.8**
NKC Novy Kostel 104.06 3 *e*PDIFF **Pdif 19 07 40.7 +3.8**
NKC *e*PP **PKiKP 19 11 53.2 -0.8**
NKC *e*SS SS 19 26 29.1 -14
NKC *e*SS **SS 19 26 37.7 -5.7**
NKC AMS AMS 19 45 10.0
comp=Z,42µm,31.1s
KWP Kalwaria Pacla 104.11 10 *e*Pdif **Pdif 19 07 41.1 +4.0**
KWP *e*PP **PKiKP 19 11 50.4 -3.6**
KWP *e*SKKSac **Sdif 19 19 32.2 +5.2**
KWP *e*SP SP 19 21 07.5 +2.3
KWP *e*SS **SS 19 26 45.9 +1.8**
KWP *e*L L 19 44 04.4
comp=Z,39µm,39.6s
DPC Dobruska-Polom 104.33 5 *e*P **Pdif 19 07 40.7 +2.5**
DPC MLR MLR
comp=Z,16µm,22.5s
DPC Dobruska-Polom 104.33 5 *e*PDIFF **Pdif 19 07 40.7 +2.5**
DPC *e*PP **PKiKP 19 11 47.6 -6.9**
DPC *e*SS SS 19 26 29.6 -18
DPC AMS AMS 19 50 10.0
comp=Z,16µm,22.5s
RICC Richard 104.42 4 *e*PP **PP 19 11 58.6 +0.6**
RICC *e*SS SS 19 26 37.7 -11
RICC AMS AMS 19 53 50.0
comp=Z,17µm,19.7s
LVV L'vov 104.43 10 *e*P **Pdif 19 07 47.4 +8.9**
LVV *e* 19 11 57.5
LVV *e* 19 18 17.4
LVV *e*S **Sdif 19 19 36.7 +7.0**
LVV *e*PS PS 19 21 15.8 +6.0
LVV MLR MLR
comp=N,12µm,21.0s
LVV MLR MLR
comp=Z,15µm,21.0s
PVCC Panska Ves 104.43 4 *e*P **Pdif 19 07 40.5 +2.0**
PVCC *e* 19 12 00.8
PVCC MLR MLR
comp=Z,20µm,26.4s
PVCC Panska Ves 104.43 4 *e*PDIFF **Pdif 19 07 40.5 +2.0**
PVCC *e*PP **PP 19 12 00.8 +2.7**
PVCC *e*SS SS 19 26 45.2 -3.2
PVCC AMS AMS 19 47 40.0
comp=Z,20µm,26.4s
OJC Ojcow 104.43 8 *e*Pdif **Pdif 19 07 40.2 +1.6**
OJC *e*PP **PKiKP 19 11 55.1 +0.5**
OJC *e*SKKSac **Sdif 19 19 40.9 +11**
OJC *e*SP SP 19 21 10.6 +2.0
OJC *e*SS SS 19 26 37.7 -11
OJC *e*L L 19 48 48.5
comp=Z,14µm,26.5s
MOX Moxa 104.45 2 *e*L L 19 54 48.6
comp=Z,33µm,18.9s
HSKC Hora Svate Kat 104.46 3 *e*PDIFF **Pdif 19 07 41.7 +3.0**
HSKC *e*PP **PP 19 11 56.1 -2.3**
HSKC *e*SS SS 19 26 45.1 -3.9
HSKC AMS AMS 19 52 20.0
comp=Z,22µm,20.9s
UPC Upice 104.47 5 *e*P **Pdif 19 07 42.8 +4.1**
UPC MLR MLR
comp=Z,20µm,23.6s
UPC Upice 104.47 5 *e*PDIFF **Pdif 19 07 42.8 +4.1**
UPC *e*PP **PKiKP 19 11 47.4 -7.3**
UPC *e*SS SS 19 26 38.4 -11
UPC AMS AMS 19 50 20.0
comp=Z,20µm,23.6s
OSTC Ostas 104.53 5 *e*P **Pdif 19 07 38.6 -0.4**
OSTC *e* 19 11 59.4
OSTC MLR MLR
comp=Z,19µm,23.9s
OSTC Ostas 104.53 5 *e*PDIFF **Pdif 19 07 38.6 -0.4**
OSTC *e*PP **PP 19 11 59.4 +0.5**
OSTC *e*SS SS 19 26 41.1 -8.9
OSTC AMS AMS 19 50 10.0
comp=Z,19µm,23.9s
CHVC Chvalec 104.56 5 *e*P **Pdif 19 07 42.5 +3.4**
CHVC *e* 19 12 00.1
CHVC *e*SS SS 19 26 51.6 +1.3
CHVC MLR MLR
comp=Z,18µm,23.2s
CHVC Chvalec 104.56 5 *e*PDIFF **Pdif 19 07 42.5 +3.4**
CHVC *e*PP **PP 19 12 00.1 +1.0**
CHVC *e*SS SS 19 26 51.6 +1.3
CHVC AMS AMS 19 50 10.0
comp=Z,18µm,23.2s
CCA1 Carnmenellis 104.58 351 *e*P **Pdif 19 07 46.9 +7.7**
CCA1 IAMs_20 IAMs_20 19 47 36.1
comp=Z,39µm,24.9s
BRG Berggiesshubel 104.75 4⇓ *e*Pif 19 07 45.6
BRG Amp 19 07 49.3
comp=Z,4.0nm,1.0s
BRG PP **PP 19 12 00.2 -0.2**
BRG Amp 19 12 01.8
comp=Z,45nm,1.6s
BRG Berggiesshubel 104.75 4 SP SP 19 21 12.0 +0.1
BRG PKKP 19 23 47.5
BRG Amp 19 23 49.9
comp=Z,9.2nm,1.2s
BRG Berggiesshubel 104.75 4 SS SS 19 26 46.0 -6.8
BRG Amp 19 55 54.0
comp=E,16nm,17.7s
BRG Amp 19 56 00.0
comp=N,13nm,19.0s
BRG Amp 19 56 04.0
comp=Z,21nm,19.1s
BRG Berggiesshubel 104.75 4 *e*P **Pdif 19 07 45.6 +5.7**
BRG 19 12 00.1
BRG SP SP 19 21 12.0 +0.1
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,45nm,1.7s
BRG MLR MLR
comp=N,13µm,19.0s
BRG MLR MLR
comp=Z,21µm,19.1s
BRG Berggiesshubel 104.75 4 *e*PP **PP 19 12 00.1 -0.4**
baz=186,slow=7.0
KSP Ksiaz 104.83 5 *e*Pdif **Pdif 19 07 49.1 +8.8**
KSP *e*PP **PP 19 11 58.9 -2.1**
KSP *e*SKKSac **Sdif 19 19 45.1 +12**
KSP *e*SP SP 19 21 07.6 -5.0
KSP *e*SS **SS 19 26 45.6 -8.3**
KSP *e*L L 19 44 25.2
comp=Z,30µm,41.9s
CMAR Chiang Mai Arr 105.09 79 Pdiff **Pdif 19 07 44.8 +2.5**
comp=Z,0.3nm,0.4s,baz=212,slow=4.9,SNR=3.5
CMAR PP **PKiKP 19 11 55.5 -1.3**
comp=Z,5.6nm,1.1s,baz=233,slow=6.6,SNR=8.4
CMAR PKKPbc **PKKPbc 19 23 25.2 +3.8**
comp=Z,1.1nm,1.0s,baz=36,slow=3.0,SNR=5.5
CLL Collm 105.15 3 *e*P **Pdif 19 07 46.0 +4.3**
CLL *e* 19 12 03.0
CLL Collm 105.15 3 *e*Pdif **Pdif 19 07 40.0 -1.7**
CLL *e*Pdifmax 19 07 54.0
CLL *e*x x 19 11 08.0
CLL *e*PKiKP **PKiKP 19 11 53.0 -2.9**
CLL *e*PP **PP 19 11 58.0 -5.4**
comp=N,1µm,15.7s
CLL *e*PP **PP 19 11 58.0 -5.4**
comp=Z,2µm,16.6s
CLL *e*PPmax 19 12 12.0
comp=Z,31nm,1.4s
CLL *e*PPP PPP 19 14 18.0
CLL *e*SKSac **SKSac 19 18 24.0 +3.0**
CLL *e*SKKSac **SKKSac 19 19 06.0 -0.8**
CLL *e*Sdif **Sdif 19 19 41.0 +5.4**
CLL *e*PS PS 19 21 14.0 -3.3
CLL *e*PPS PPS 19 22 13.0
CLL *e*PKKPab **PKKPdf 19 23 31.0 -2.5**
CLL *i* PKKPmax 19 23 44.7
comp=Z,20nm,1.5s
CLL *e*SS **SS 19 26 58.0 -0.3**
CLL *e*SSS SSS 19 30 56.0
CLL AMS AMS 19 54 00.0
comp=Z,26µm,19.0s
CLL AMS AMS 19 54 00.0
KKM Kota Kinabalu 105.32 101 IAMs_20 IAMs_20 19 51 14.5
comp=Z,10µm,21.0s
GTTG Gottingen 105.32 1 *e*PP **PP 19 12 02.4 -2.3**
baz=186,slow=7.0
AKASG Malin Array Be 105.93 14 Pdiff **Pdif 19 07 47.2 +2.0**
comp=Z,0.3nm,0.4s,baz=204,slow=5.6,SNR=1.7
AKASG PP **PP 19 12 05.1 -4.1**
comp=Z,12nm,0.9s,baz=201,slow=7.4,SNR=12
AKASG PKKP **PKKPab 19 23 33.8 +1.0**
comp=Z,0.7nm,0.5s,baz=9.0,slow=4.8,SNR=5.1
ELMS Elmsett, Ipswi 106.04 355 *e*P **Pdif 19 07 50.0 +4.4**
ELMS IAMs_20 IAMs_20 19 55 52.0
comp=Z,29µm,18.0s
PPT2 Papeete2 106.09 202 *e*P **Pdif 19 07 48.2 +1.2**
comp=Z,736nm,39.2s
PPT2 Papeete2 106.09 202 *e*PP **PKiKP 19 11 52.0 -6.9**
comp=Z,1µm,28.8s
PPT2 *e*S **Sdif 19 19 41.1 -4.5**
comp=Z,6µm,29.0s
PPT2 *e*SS SS 19 26 52.0 -18
comp=Z,13µm,28.2s
PPT2 Papeete2 106.09 202 *e*LQ LQ 19 38 10.0
comp=Z,31µm,34.0s
PPT2 *e*LR LR 19 42 32.6
comp=Z,34µm,37.8s
PPT2 *e*LR LR 19 42 42.1
comp=Z,16µm,39.2s
FLTG Flechtingen 106.13 2 *e*PP **PP 19 12 06.0 -4.6**
baz=186,slow=7.0
NRDL Niedersach Rie 106.28 1 *e*PP **PP 19 12 07.2 -4.4**
baz=186,slow=7.0
RETH Rethem/Aller, 106.51 1 *e*PP **PP 19 12 10.7 -2.6**
baz=186,slow=7.0
HLM1 Long Mynd 106.70 353 IAMs_20 IAMs_20 19 51 39.4
comp=Z,36µm,22.3s
GORT1 Trebel 106.79 2 *e*PP **PP 19 12 11.7 -3.7**
baz=186,slow=7.0
CWF Charnwood Fore 106.81 354 *e*P **Pdif 19 07 50.1 +1.1**
CWF IAMs_20 IAMs_20 19 55 16.0
comp=Z,46µm,19.4s
FOEL Foel Wylfa 107.09 353 *e*P **Pdif 19 07 56.4 +6.1**
FOEL IAMs_20 IAMs_20 19 55 47.4
comp=Z,34µm,18.1s
GKP Gorka Klasztor 107.30 6 *e*Pdif **Pdif 19 07 48.8 -2.3**
GKP *e*PP **PP 19 12 13.6 -5.6**
GKP *e*SP SP 19 21 39.3 +1.2
GKP *e*SS **SS 19 27 20.5 -7.0**
GKP *e*L L 19 45 39.7
comp=Z,26µm,43.9s
DSB Dublin 107.72 351 IAMs_20 IAMs_20 19 52 24.2
comp=Z,21µm,22.0s
PMG Port Moresby 107.80 137 IAMs_20 IAMs_20 19 56 07.7
comp=Z,11µm,20.0s
HPK Haverah Park 108.05 354 *e*P **Pdif 19 08 06.3 +12**
HPK IAMs_20 IAMs_20 19 52 34.5
comp=Z,59µm,22.3s
VSR Storozhevoye 108.11 20 *e*P **Pdif 19 07 57.0 +2.1**
VSR pmax pmax
comp=Z,10.0nm,1.3s
SUW Suwalki 108.49 9 *e*Pdif **Pdif 19 07 48.8 -7.7**
SUW *e*PP **PP 19 12 24.9 -2.9**
SUW *e*SP SP 19 21 51.5 +1.3
SUW *e*SS **SS 19 27 37.6 -5.9**
SUW *e*L L 19 45 54.1
comp=Z,33µm,46.7s
SUW Suwalki 108.49 9 IAMs_20 IAMs_20 20 00 54.3
comp=Z,14µm,20.0s
SUW Suwalki 108.49 9 *e*P **PP 19 12 30.7 +2.9**
VORR Voronezh 108.55 20 *e*P **Pdif 19 07 57.5 +0.7**
VORR pmax pmax
comp=Z,40nm,0.4s
VRH Novokhopyorsk 108.63 21 *e*P **Pdif 19 07 58.6 +1.5**
VRH pmax pmax
comp=Z,10.0nm,0.5s
SSRD Sdr. Stenderup 109.26 1 IAMs_20 IAMs_20 19 56 51.5
comp=Z,26µm,19.9s
LPSR Galich'ya Gora 109.38 19 *e*P **Pdif 19 08 02.9 +2.4**
LPSR pmax pmax
comp=Z,6.0nm,0.6s
CHM Chimkent 109.42 44 *e*PKiKP **PKiKP 19 12 04.7 +0.5**
baz=44
IUG luzhnay 109.46 44 *e*Pdif **Pdif 19 08 02.2 +1.0**
baz=44
IUG luzhnay 109.46 44 *i* P **Pdif 19 08 02.2 +1.0**
ESK Eskdalemuir 109.51 353 IAMs_20 IAMs_20 20 00 32.4
comp=Z,17µm,19.0s
EKA Eskdalemuir Ar 109.52 353 PP **PP 19 12 34.9 -0.5**
comp=Z,7.3nm,1.1s,baz=157,slow=9.3,SNR=3.4
LSA Lhasa 109.54 66 IAMs_20 IAMs_20 19 50 47.3
comp=Z,17µm,20.0s
NACGM Naroch 109.74 11 *e*P **Pdif 19 08 06.3 +4.3**
comp=Z,29nm,0.9s,baz=192
KSH Kashi 109.83 50 Pdif **Pdif 19 08 03.5 +0.5**
KSH PKP **PKiKP 19 12 01.0 -4.2**
KSH PP **PP 19 12 34.1 -4.0**
KSH SKS **SKSac 19 18 41.7 -0.6**
KSH AMB AMB
comp=Z,620nm,13.3s
KSH LR LR
comp=Z,26µm,19.0s
KSH LR LR
comp=Z,19µm,19.4s
KSH LR LR
comp=Z,24µm,23.2s
TNCH TengChong 109.99 75 PKP PKiKP 19 11 57.7 -8.3
TNCH PP **PP 19 12 35.7 -3.7**
TNCH SS SS 19 27 57.7 -7.1
TNCH AMB AMB
comp=Z,770nm,6.1s
TNCH LR LR
comp=Z,3µm,20.0s
TNCH LR LR
comp=Z,4µm,19.5s
TNCH LR LR
comp=Z,14µm,19.9s
PABE Paberze 110.04 9 IAMs_20 IAMs_20 20 01 48.2
comp=Z,15µm,18.0s
PABE Paberze 110.04 9 *e*P **PP 19 12 38.6 -0.5**
IIGN Ignalina 110.11 11 *e*P **PP 19 12 36.0 -3.7**
IDID Didziasalis 110.14 11 *e*P **PP 19 12 35.3 -4.5**
SLVN Son La 110.22 81 IAMs_20 IAMs_20 19 53 50.1
comp=Z,11µm,20.0s
ISAL Salakas 110.32 11 *e*P **PP 19 12 37.1 -4.1**
OBN Obninsk 111.34 17 IAMs_20 IAMs_20 20 00 04.3
comp=Z,14µm,20.0s
AAK Ala-Archa 111.73 47 IAMs_20 IAMs_20 20 03 38.1
comp=Z,17µm,20.0s
AAK Ala-Archa 111.73 47 *c i*PKIKP **PKiKP 19 12 10.9 +2.2**
AAK pmax pmax
comp=Z,24nm,1.7s
AAK Ala-Archa 111.73 47 PKKPbc **PKKPdf 19 23 14.6 -6.1**
comp=Z,1.5nm,0.7s,baz=54,slow=2.5,SNR=5.3
TAOE Nuku Hiva Isla 111.84 214 *e*P **Pdif 19 08 14.3 +1.6**
comp=Z,147nm,27.8s
TAOE Nuku Hiva Isla 111.84 214 *e*PP PKiKP 19 12 33.4 +24
comp=Z,722nm,27.8s
TAOE *e*S **SKKSac 19 19 53.6 -1.8**
comp=Z,2µm,27.7s
TAOE *e*SS **SS 19 28 24.7 -3.0**
comp=Z,10µm,29.6s
TAOE Nuku Hiva Isla 111.84 214 *e*LR LR 19 45 25.8
comp=Z,9µm,34.7s
QIZ Qiongzhong 111.90 88 Pdif **Pdif 19 08 05.6 -7.0**
QIZ SS SS 19 28 24.1 -5.9
QIZ LR LR
comp=Z,12µm,19.6s
QIZ LR LR
comp=Z,8µm,18.1s
QIZ LR LR
comp=Z,19µm,21.2s
AKTO Aktyubinsk 112.22 32 PKKPbc PKKPdf 19 23 12.0 -7.9
comp=Z,3.9nm,0.9s,baz=20,slow=4.5,SNR=6.5
HNR Honiara 112.28 150 IAMs_20 IAMs_20 19 57 00.7
comp=Z,10µm,20.0s
SGDS Sogindy 112.45 46 *e*PKiKP **PKiKP 19 12 09.5 -0.4**
baz=46
SGDS Sogindy 112.45 46 *i* PKIKP **PKiKP 19 12 09.5 -0.4**
KMI Kunming 112.48 78 ⇑Pdif **Pdif 19 08 26.1 +11**
KMI PP PP **19 12 54.4 -2.9**
VIKU Vikbolandet 112.49 5 *e*P **PP 19 12 59.0 +2.3**
PZH PanZhiHua 112.97 76 Pdif **Pdif 19 08 15.7 -1.6**
PZH PP **PP 19 12 59.8 -0.9**
PZH SKKS 19 19 54.1
PZH LR LR
comp=Z,9µm,23.5s
PZH LR LR
comp=Z,10µm,23.5s
PZH LR LR
comp=Z,8µm,22.6s
TNSS Tian-Shan 113.11 48 *e*PKiKP **PKiKP 19 12 11.6 -0.1**
baz=48
TNSS Tian-Shan 113.11 48 *i* PKIKP **PKiKP 19 12 11.6 -0.1**
AAA Alma-Ata 113.23 48 *e*PKiKP **PKiKP 19 12 11.9 +0.4**
baz=48
AAA Alma-Ata 113.23 48 *i* PKIKP **PKiKP 19 12 11.8 +0.4**
KONO Kongsberg 113.44 1 IAMs_20 IAMs_20 19 58 46.0
comp=Z,18µm,20.0s
BTLS Baital 113.49 45 *e*PKiKP **PKiKP 19 12 11.6 -0.2**
baz=45
BTLS Baital 113.49 45 *i* PKIKP **PKiKP 19 12 11.6 -0.2**
KUU Kurty 113.53 47 *e*PKiKP **PKiKP 19 12 11.7 -0.3**
baz=47
KUU Kurty 113.53 47 *i* PKIKP **PKiKP 19 12 11.6 -0.3**
SATY Saty 113.77 49 *e*PKiKP **PKiKP 19 12 13.0 +0.4**
baz=49
SATY Saty 113.77 49 *i* PKIKP **PKiKP 19 12 12.9 +0.4**
CHKK Chushkaly 113.78 47 *e*PKiKP **PKiKP 19 12 12.4 0.0**
baz=48
CHKK Chushkaly 113.78 47 *i* PKIKP **PKiKP 19 12 12.4 0.0**
ZHN Zhinishke 113.87 49 *e*PKiKP **PKiKP 19 12 12.9 +0.2**
baz=49
ZHN Zhinishke 113.87 49 *i* PKIKP **PKiKP 19 12 12.9 +0.2**
UPP Uppsala 113.89 5 *e*P **PP 19 13 06.2 -0.4**
HFS Hagfors 114.00 3 PP **PP 19 13 02.3 -5.2**
comp=Z,14nm,1.2s,baz=126,slow=15,SNR=4.1
UZB Uzynbulak 114.11 49 *e*PKiKP PKPdf 19 12 13.2 -0.1
baz=49
UZB Uzynbulak 114.11 49 *i* PKIKP PKPdf 19 12 13.1 -0.1
KPKS Kokpek 114.22 49 *e*PKP PKPdf 19 12 12.8 -0.6
baz=49
KPKS Kokpek 114.22 49 *e*PKIKP PKPdf 19 12 12.7 -0.6
SHLS Shalkode 114.32 49 *e*PKP **PKiKP 19 12 13.9 +0.2**
baz=50
SHLS Shalkode 114.32 49 *e*PKIKP **PKiKP 19 12 13.8 +0.2**
NB2 NORSAR Subarra114.86 2 P **PP 19 13 15.5 +2.0**
comp=Z,45nm,1.7s,baz=167,slow=6.9
NB2 NORSAR Subarra114.86 2 PKPdf **PKKPab 19 22 58.7 +5.4**
comp=Z,0.9nm,0.8s,baz=27,slow=1.8
NB2 NORSAR Subarra114.86 2 P **PP 19 13 15.5 +2.0**
baz=167,slow=6.9
NOA NORSAR Array B114.86 2 PP **PP 19 13 12.1 -1.4**
comp=Z,2.9nm,0.9s,baz=186,slow=6.6,SNR=4.0
NOA PKKPbc **PKKPab 19 22 57.9 +4.5**
comp=Z,4.5nm,1.0s,baz=1.8,slow=4.8,SNR=4.1
TDK Taldyqorghan 115.31 48 *e*PKP **PKPdf 19 12 14.9 -0.4**
baz=48
TDK Taldyqorghan 115.31 48 *e*PKIKP **PKPdf 19 12 14.9 -0.4**
GYA Guiyang 115.77 80 *e*PKP **PKPdf 19 12 11.8 -5.1**
GYA SKKS 19 20 15.5
GYA LR LR
comp=Z,3µm,18.9s
GYA LR LR
comp=Z,9µm,20.1s
GYA LR LR
comp=Z,11µm,19.0s
FINES FINESS Array B 116.09 9 PKIKP **PKPdf 19 12 13.8 -2.4**
FINES FINESS Array B 116.09 9 PKP **PKPdf 19 12 13.8 -2.4**
comp=Z,3.1nm,0.8s,baz=217,slow=11,SNR=1.9
FINES PKKPbc **PKKPab 19 22 51.4 +3.6**
comp=Z,1.6nm,0.6s,baz=151,slow=4.4,SNR=3.4
GOMU GeErMu 116.50 64 PKP **PKiKP 19 12 20.1 +1.8**
GOMU AMB AMB
comp=Z,550nm,7.7s
GOMU LR LR
comp=Z,9µm,19.8s
GOMU LR LR
comp=Z,9µm,19.3s
GOMU LR LR
comp=Z,12µm,19.5s
BRZS Berezniki 116.94 41 *e*PKP **PKPdf 19 12 17.5 -0.7**
baz=41
BRZS Berezniki 116.94 41 *e*PKIKP **PKPdf 19 12 17.5 -0.7**
HKPS Hong Kong Po S 116.95 89 IAMs_20 IAMs_20 19 55 01.7
comp=Z,18µm,20.0s
KIRV Kirov 117.16 23 *i* PKIKP **PKiKP 19 12 20.7 +2.4**
KLMR Klimovskoe 117.30 17 *e*PKPdf **PKiKP 19 12 20.8 +2.2**
KLMR AMP 19 12 32.7
comp=Z,51nm,1.6s
KLMR *e*PP **PP 19 13 25.7 -4.9**
KLMR *e*SP SP 19 23 05.2 -6.9
KLMR SS **SS 19 29 35.5 -4.7**
KLMR SS **SS 19 29 35.5 -4.7**
KLMR LQ LQ 19 49 44.3
KLMR LQ LQ 19 49 44.3
KLMR LR LR 19 52 51.5
KLMR AMP 20 08 09.3
comp=Z,21µm,18.5s
KLMR Klimovskoe 117.30 17 *e*PKIKP **PKiKP 19 12 20.7 +2.2**
KLMR pmax pmax
comp=Z,51nm,1.6s
KLMR MLR MLR
comp=Z,21µm,19.0s
GOGA Godfrey 117.30 290 P **PKPdf 19 12 19.0 -0.4**
baz=139
CD2 Chengdu 117.45 75 SKKS 19 20 23.5
CD2 PKP PKPpre 19 12 13.8
CD2 SS **SS 19 29 35.7 -7.4**
CD2 AMB AMB
comp=Z,590nm,7.4s
CD2 LR LR
comp=Z,10µm,20.6s
CD2 LR LR
comp=Z,12µm,22.0s
ARU Arti 117.59 29 *i* PKIKP **PKPdf 19 12 19.1 -0.2**
ARU 19 19 31.2
ARU MLR MLR

comp=Z,25μm,20.0s
BRAL Brewton 117.63 286 IAMs_20 IAMs_20 19 59 43.1
comp=Z,15μm,21.0s
PAL Palisades 117.93 302 P **PKPdf 19 12 18.8 -1.6**
baz=139
QUA2 Belchertown 118.12 304 IAMs_20 IAMs_20 19 55 52.4
comp=Z,9μm,20.0s
MAKZ Makanchi 118.28 48 IAMs_20 IAMs_20 20 08 42.3
comp=Z,17μm,19.0s
MAKZ Makanchi 118.28 48 ⇑PKIKP PKPpre 19 12 13.6
MK31 Makanchi Array 118.41 49 *i* PKIKP **PKiKP 19 12 21.4 +0.1**
MKAR Makanchi Array 118.41 49 *e*PKIKP **PKiKP 19 12 21.5 +0.2**
MKAR pmax pmax
comp=Z,11nm,1.0s
MKAR Makanchi Array 118.41 49 PKP **PKPdf 19 12 20.5 -0.7**
comp=Z,10nm,1.0s,baz=242,slow=2.6,SNR=18
MKAR PKKPbc PKKPab 19 22 47.1 +8.0
comp=Z,1.2nm,0.9s,baz=54,slow=6.2,SNR=4.2
L61B Northampton 118.41 304 IAMs_20 IAMs_20 19 56 10.4
comp=Z,8μm,20.0s
L61B Northampton 118.41 304 P **PKPdf 19 12 20.0 -1.4**
baz=139
SVE Sverdlovsk 118.53 30 *i* PKIKP **PKiKP 19 12 22.3 +1.2**
SVE pmax pmax
comp=Z,23nm,1.3s
SVE MLR MLR
comp=E,22μm,20.0s
SVE MLR MLR
comp=Z,41μm,19.0s
SVE MLR MLR
comp=N,18μm,19.0s
BRVK Borovoye 118.53 37 *c i*PKIKP **PKiKP 19 12 21.9 +0.7**
BRVK pmax pmax
comp=Z,26nm,1.0s
BVAR Borovoye Array 118.54 37 PKKPbc PKKPbc 19 22 40.7 +3.0
comp=Z,3.0nm,0.7s,baz=21,slow=2.3,SNR=7.7
WMQ Urumqi 118.64 54 *e*PKP **PKPdf 19 12 16.6 -5.2**
WMQ PP **PP 19 13 43.9 +3.6**
WMQ AMB AMB
comp=Z,690nm,8.7s
WMQ LR LR
comp=Z,12μm,16.7s
WMQ LR LR
comp=Z,9μm,18.3s
WMQ LR LR
comp=Z,11μm,26.7s
FFD Franklin Falls 118.68 305 IAMs_20 IAMs_20 19 58 34.1
comp=Z,8μm,20.0s
PKME Peaks-Kenny Pk 118.91 308 P **PKPdf 19 12 21.5 -0.7**
baz=139
LRAL Lakeview Retre 118.99 287 IAMs_20 IAMs_20 19 58 14.2
comp=Z,13μm,22.0s
PRGR Permogore 119.14 19 *e*PKIKP **PKiKP 19 12 23.7 +1.6**
PRGR pmax pmax
comp=Z,20nm,1.4s
LBNH Lisbon 119.39 306 P **PKPdf 19 12 21.7 -1.4**
baz=138
PQI Presque Isle 119.39 310 IAMs_20 IAMs_20 19 52 19.4
comp=Z,14μm,22.0s
TZTN Tazewell 119.67 292 P **PKPdf 19 12 21.9 -2.1**
baz=137
SSPA Standing Stone 119.68 299 P **PKPdf 19 12 22.1 -1.7**
baz=138
KURBB Kurchatov Arra 119.76 44 PKP **PKPdf 19 12 22.9 -0.7**
comp=Z,6.1nm,0.9s,baz=227,slow=2.8,SNR=21
KURBB PP **PP 19 13 47.5 -0.4**
comp=Z,1.2nm,0.8s,baz=220,slow=5.9,SNR=5.0
KURBB PKKPbc **PKKPbc 19 22 36.8 +3.7**
comp=Z,3.6nm,0.9s,baz=35,slow=4.4,SNR=17
VT1 Waterbury 119.85 305 IAMs_20 IAMs_20 19 54 17.9
comp=Z,9μm,21.0s
BINY Binghamton 119.86 302 P **PKPdf 19 12 22.6 -1.6**
baz=138
KURK Kurchatov 119.86 44 *c i*PKIKP **PKPdf 19 12 23.0 -0.8**
KURK pmax pmax
comp=Z,20nm,1.3s
ADZR Andozero 120.01 15 *e*PKIKP **PKiKP 19 12 25.1 +1.4**
ADZR *e* 19 13 48.5
ADZR pmax pmax
comp=Z,20nm,0.9s
ZSN Zaisan 120.05 50 *e*PKP **PKiKP 19 12 24.5 0.0**
baz=50
ZSN Zaisan 120.05 50 *e*PKIKP **PKiKP 19 12 24.4 0.0**
ENH Enshi 120.26 79 IAMs_20 IAMs_20 19 58 37.6
comp=Z,11μm,20.0s
SEM Semipalatinsk 120.30 45 *e*PKP **PKPdf 19 12 25.1 0.0**
baz=45
SEM Semipalatinsk 120.30 45 *e*PKIKP **PKPdf 19 12 25.0 0.0**
CNSH ChangSha 120.71 84 ⇓PKP **PKiKP 19 12 32.7 +6.4**
CNSH PP PP 19 14 03.4 +8.8
CNSH SKS **SKSdf 19 19 34.2 -3.8**
CNSH SKKS **SKKSac 19 20 54.4 +0.6**
BORG Borgarnes 120.74 346 IAMs_20 IAMs_20 19 56 18.8
comp=Z,9μm,22.0s
LONY Lake Ozonia 120.95 304 P **PKPdf 19 12 25.6 -0.6**
baz=137
O53A New Philadelph 121.12 297 P **PKPdf 19 12 26.1 -0.5**
baz=137
P52A Corning 121.16 296 P **PKPdf 19 12 24.5 -2.2**
baz=137
LZH Lanzhou 121.32 71 *e*PKP **PKPdf 19 12 27.2 -0.2**
LZH PP **PP 19 13 57.8 -1.2**
LZH PKS 19 15 56.0
LZH SKS **SKSac 19 19 32.1 +6.1**
LZH SKKS **SKKSac 19 20 53.7 -4.1**
LZH SS **SS 19 30 34.8 +1.6**
LZH AMB AMB
comp=Z,1μm,12.0s
LZH LR LR
comp=Z,8μm,20.3s
LZH LR LR
comp=Z,9μm,21.0s
LZH LR LR
comp=Z,16μm,21.9s
OXF Oxford 121.44 286 IAMs_20 IAMs_20 19 59 41.8
comp=Z,12μm,22.0s
OXF Oxford 121.44 286 P **PKPdf 19 12 25.1 -2.3**
baz=137,SNR=5.3
TWG Pinlang 121.44 94 IAMs_20 IAMs_20 19 55 10.3
comp=Z,12μm,22.0s
GTA Gaotai 121.53 65 PKP **PKiKP 19 12 28.2 +0.4**
GTA PP **PP 19 14 03.0 +2.7**
GTA SKS **SKSdf 19 19 33.6 -5.8**
GTA SS **SS 19 30 34.1 -1.7**
GTA AMB AMB
comp=Z,680nm,13.9s
GTA LR LR
comp=Z,12μm,24.6s
GTA LR LR
comp=Z,9μm,24.8s
GTA LR LR
comp=Z,18μm,24.7s
TPUB Ta-pu 121.55 93 IAMs_20 IAMs_20 19 55 56.2
comp=Z,15μm,20.0s
M53A WI Miller and 121.70 298 P **PKPdf 19 12 25.4 -2.3**
baz=136
WVT Waverly 121.73 289 P **PKPdf 19 12 26.6 -1.3**
baz=137
ERPA Erie 121.84 299 P **PKPdf 19 12 26.1 -1.8**
baz=136
YULB Yu-li 122.01 94 IAMs_20 IAMs_20 19 55 39.4
comp=Z,16μm,22.0s
ACSO Alum Creek Sta 122.05 295 P **PKPdf 19 12 27.3 -1.1**
baz=136
SSLB Suanglung 122.11 93 IAMs_20 IAMs_20 19 56 25.1
comp=Z,16μm,22.0s
WCI Wyandotte Cave 122.39 292 P **PKPdf 19 12 27.8 -1.4**
baz=136
NATX Nacogdoches 122.43 280 P **PKPdf 19 12 28.2 -1.2**
baz=137
P49A Miami Univ. Ec 122.47 294 P **PKPdf 19 12 28.4 -0.9**
baz=136
NRS Narsarsuaq 122.58 332 IAMs_20 IAMs_20 19 57 16.5
comp=Z,12μm,22.0s
XAN Xi'an 122.70 76 PKP **PKiKP 19 12 30.7 +0.6**
XAN PP **PP 19 14 05.1 -3.1**
XAN SKS **SKSac 19 19 35.0 +4.5**
XAN AMB AMB
comp=Z,1μm,11.7s
XAN LR LR
comp=Z,8μm,20.8s
XAN LR LR
comp=Z,10μm,19.2s
XAN LR LR
comp=Z,14μm,22.1s
NACB Ninganchiao 122.78 94 IAMs_20 IAMs_20 19 57 16.9
comp=Z,17μm,21.0s

APA Apatity 122.83 11 ⇓*i*PKIKP **PKiKP 19 12 33.5 +4.3**
APA *i* 19 16 50.0
APA *i* 19 19 30.0
APA *i* PS PS 19 24 05.0 +1.9
DGZ Jazzator, Alta 122.86 49 *i* PKIKP **PKiKP 19 12 30.6 +0.5**
O48B Farmland 123.22 294 P **PKPdf 19 12 30.1 -0.5**
baz=135
WHN Wuhan 123.29 83 *e*PKP **PKiKP 19 12 33.7 +2.4**
WHN PP **PP 19 14 13.2 +1.1**
WHN LR LR
comp=Z,27μm,16.9s
WHN LR LR
comp=Z,26μm,15.4s
WHN LR LR
comp=Z,48μm,19.6s
SADO Sadowa 123.31 302 PKP **PKiKP 19 12 32.0 +1.1**
comp=Z,12nm,1.1s,baz=115,slow=4.8,SNR=4.2
TATO Taipei 123.33 93 IAMs_20 IAMs_20 19 56 11.5
comp=Z,17μm,22.0s
435B Jarrell 123.42 277 P PKPpre 19 12 25.8
baz=138
MIAR Mount Ida 123.83 284 IAMs_20 IAMs_20 20 03 12.0
comp=Z,9μm,21.0s
MIAR Mount Ida 123.83 284 P **PKPdf 19 12 30.2 -1.8**
baz=136
ARCES ARCESS Array B 124.00 7 *e*PKIKP **PKPdf 19 12 29.9 -1.3**
ARCES pmax pmax
comp=Z,37nm,1.1s
ARCES ARCESS Array B 124.00 7 PKP **PKPdf 19 12 31.1 -0.1**
comp=Z,37nm,1.1s,baz=222,slow=1.6,SNR=14
ARCES PP **PP 19 14 15.9 -0.5**
comp=Z,40nm,1.2s,baz=203,slow=5.3,SNR=4.4
ARCES PKKPbc **PKKPbc 19 22 22.7 +5.5**
comp=Z,2.6nm,0.8s,baz=350,slow=5.0,SNR=3.8
WHTX Lake Whitney, 124.22 279 P **PKPdf 19 12 30.6 -2.2**
baz=137
SFIN Lafayette 124.36 293 P **PKPdf 19 12 30.7 -2.1**
baz=135
ANGG Ammassalik, Gr 124.46 339 IAMs_20 IAMs_20 20 00 59.7
comp=Z,13μm,20.0s
JCT Junction City 124.49 276 P **PKPdf 19 12 30.9 -2.6**
baz=138
ZALV Zalesovo Beam 124.81 44 *e*PKIKP **PKPdf 19 12 32.6 -0.6**
ZALV pmax pmax
comp=Z,20nm,1.1s
ZALV Zalesovo Beam 124.81 44 PKKPbc PKKPbc 19 22 25.9 +12
comp=Z,0.6nm,0.5s,baz=28,slow=3.5,SNR=4.1
SCHQ Schefferville 124.92 317 PKP **PKiKP 19 12 35.1 +1.4**
comp=Z,20nm,0.9s,baz=183,slow=1.8,SNR=9.3
CCM Cathedral Cave 125.01 288 P **PKPdf 19 12 31.8 -2.3**
baz=135
LYN LuoYang 125.10 78 *e*PKP **PKiKP 19 12 36.8 +2.0**
LYN PP **PP 19 14 21.7 -2.6**
LYN AMB AMB
comp=Z,1μm,8.2s
LYN LR LR
comp=Z,7μm,18.2s
LYN LR LR
comp=Z,6μm,18.9s
LYN LR LR
comp=Z,16μm,19.2s
HDIL Hopedale 125.68 292 P **PKPdf 19 12 32.9 -2.5**
baz=134
TXAR Lajitas Array 125.92 272 PKIKP **PKiKP 19 12 37.5 +0.8**
TXAR Lajitas Array 125.92 272 PKP **PKiKP 19 12 37.5 +0.8**
comp=Z,19nm,0.9s,baz=160,slow=4.0,SNR=44
ABTX Abilene, Hawle 125.95 277 P **PKPdf 19 12 33.4 -2.8**
baz=136
TUL3 Leonard 126.07 283 P **PKPdf 19 12 33.7 -2.6**
baz=135
GLMI Grayling 126.13 298 IAMs_20 IAMs_20 20 11 46.4
comp=Z,8μm,22.0s
SCO Scoresbysund 126.21 348 IAMs_20 IAMs_20 19 57 58.4
comp=Z,14μm,21.0s
OK031 S. Brethren Rd 126.70 282 IAMs_20 IAMs_20 20 06 02.0
comp=Z,10μm,22.0s
OK052 Battle Ridge R 126.71 282 IAMs_20 IAMs_20 20 06 02.2
comp=Z,10μm,22.0s
OK033 Mehan 126.82 282 IAMs_20 IAMs_20 20 05 54.3
comp=Z,9μm,22.0s
WMOK Wichita Mounta 126.96 280 P **PKPdf 19 12 37.2 -0.8**
baz=135
PATS Pohnpei 126.97 142 IAMs_20 IAMs_20 20 01 41.7
comp=Z,8μm,20.0s
NJ2 Nanjing 127.02 85 PP **PP 19 14 33.7 -3.3**
NJ2 *e*PKP PKPpre 19 12 32.1
NJ2 PKS **PKSdf 19 16 09.4 -5.3**
NJ2 SS SS 19 31 46.0 +1.2
NJ2 AMB AMB
comp=Z,900nm,10.3s
NJ2 LR LR
comp=Z,12μm,20.8s
NJ2 LR LR
comp=Z,14μm,20.8s
NJ2 LR LR
comp=Z,18μm,19.4s
OK048 Pawnee Station 127.09 283 IAMs_20 IAMs_20 20 03 58.3
comp=Z,10μm,22.0s
OK051 EO350 and S346 127.09 283 IAMs_20 IAMs_20 20 05 49.3
comp=Z,10μm,22.0s
DY2G Dye2 127.14 336 *i* P **PKiKP 19 12 38.0 -0.2**
DY2G IAMs_20 IAMs_20 19 54 25.0
comp=Z,23μm,28.3s
TIY Taiyuan 127.31 75 PKP **PKiKP 19 12 41.5 +2.3**
TIY AMB AMB
comp=Z,980nm,9.2s
TIY LR LR
comp=Z,4μm,19.6s
TIY LR LR
comp=Z,6μm,20.6s
TIY LR LR
comp=Z,8μm,21.4s
SSE Sheshan 127.70 88 PKP **PKiKP 19 12 42.1 +2.1**
SSE PP **PP 19 14 42.1 +0.6**
SSE AMB AMB
comp=Z,170nm,6.1s
SSE LR LR
comp=Z,6μm,19.2s
SSE LR LR
comp=Z,4μm,19.9s
JFWS Jewell Farm 127.82 293 P **PKPdf 19 12 37.6 -1.7**
baz=133
ICESG Greenland Ices 127.83 340 *i* P **PKPdf 19 12 38.7 -0.3**
ICESG IAMs_20 IAMs_20 19 58 09.2
comp=Z,22μm,21.7s
BTO Baotou 127.95 71 *e*PKP **PKiKP 19 12 42.1 +1.7**
BTO SKS **SKSac 19 19 47.2 +0.5**
BTO LR LR
comp=Z,30μm,19.6s
BTO LR LR
comp=Z,9μm,21.6s
BTO LR LR
comp=Z,15μm,19.6s
KAN09 Caldwell North 127.98 283 PKPpre 19 12 17.1
OK032 Salt Plains WL 128.09 282 IAMs_20 IAMs_20 20 06 43.7
comp=Z,9μm,22.0s
HNS HongShan 128.39 77 ⇓PKP **PKPdf 19 12 38.6 -2.0**
HNS PP **PP 19 14 43.8 -2.2**
HNS SKS **SKSac 19 19 45.7 -2.2**
HNS SKKS **SKKSac 19 21 41.1 -1.4**
HNS AMB AMB
comp=Z,810nm,7.4s
HNS LR LR
comp=Z,4μm,21.0s
HNS LR LR
comp=Z,9μm,20.2s
HNS LR LR
comp=Z,11μm,21.0s
SFJD Kangerlussuaq 128.63 334 IAMs_20 IAMs_20 20 01 02.2
comp=Z,15μm,21.0s
SFJD Kangerlussuaq 128.63 334 *i* P **PKiKP 19 12 40.8 0.0**
SFJD IAMs_20 IAMs_20 19 54 20.3
comp=Z,27μm,31.4s
SFJD IAMs_20 IAMs_20 19 54 23.7
comp=Z,27μm,32.0s
SFJD Kangerlussuaq 128.63 334 PKP **PKiKP 19 12 41.7 +1.0**
comp=Z,51nm,1.1s,baz=181,slow=3.5,SNR=12
MNTX Cornudas Mount 128.65 272 P **PKPdf 19 12 41.0 -0.4**
baz=137
MSTX Muleshoe 128.74 276 P **PKPdf 19 12 41.2 -0.4**
baz=135
KSU1 Kansas State U 128.76 285 IAMs_20 IAMs_20 20 03 01.6
comp=Z,8μm,22.0s
KSU1 Kansas State U 128.76 285 P **PKPdf 19 12 41.0 -0.2**
baz=133
SCIA State Center 128.76 290 IAMs_20 IAMs_20 20 02 42.8
comp=Z,10μm,22.0s

SCIA State Center 128.76 290 P **PKPdf 19 12 40.2 -1.0**
baz=132
TIA Tai'an 128.96 80 ⇓PKP **PKiKP 19 12 43.8 +1.3**
TIA AMB AMB
comp=Z,630nm,6.9s
TIA LR LR
comp=Z,13μm,19.4s
TIA LR LR
comp=Z,4μm,15.1s
TIA LR LR
comp=Z,17μm,19.4s
HHC Hu-ho-hao-te 128.97 72 *e*PKP **PKPdf 19 12 41.9 +0.1**
HHC SS SS 19 32 11.9 +2.7
HHC AMB AMB
comp=Z,2μm,8.5s
HHC LR LR
comp=Z,14μm,21.1s
HHC LR LR
comp=Z,6μm,20.1s
HHC LR LR
comp=Z,21μm,19.5s
CBKS Cedar Bluff 130.34 283 IAMs_20 IAMs_20 20 05 19.5
comp=Z,11μm,22.0s
CBKS Cedar Bluff 130.34 283 P **PKPdf 19 12 43.8 -0.6**
baz=133
MOY Mondy 130.51 55 *e*PKIKP **PKPdf 19 12 44.0 -0.3**
MOY pmax pmax
comp=Z,154nm,2.1s
SUMG Summit 130.52 343 *i* P **PKiKP 19 12 45.6 +0.7**
121A Cookes Peak, D 130.66 271 P **PKPdf 19 12 44.7 -0.7**
baz=136,SNR=7.2
SPMN Marine on St. 130.73 294 P **PKPdf 19 12 44.4 -0.5**
baz=130
SONM Songino Array 130.77 62 *e*PKIKP **PKiKP 19 12 46.3 +0.4**
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 130.77 62 PKP **PKPdf 19 12 42.9 -2.1**
comp=Z,3.5nm,0.7s,baz=212,slow=2.2,SNR=14
SONM PP PP 19 15 10.2 +8.5
comp=Z,4.9nm,1.1s,baz=226,slow=5.6,SNR=5.2
SONM PKKP **PKKPdf 19 22 47.6 +3.4**
comp=Z,1.8nm,1.0s,baz=31,slow=6.1,SNR=4.2
ZAK Zakamensk 130.81 57 *e*PKIKP **PKiKP 19 12 45.5 -0.3**
ZAK pmax pmax
comp=Z,56nm,1.8s
BJT Baijiatuau 131.01 76 IAMs_20 IAMs_20 20 05 51.3
comp=Z,10μm,20.0s
BJI Beijing 131.03 76 PP **PP 19 15 00.8 -2.4**
BJI PKP PKPpre 19 12 40.4
BJI LR LR
comp=Z,3μm,20.4s
BJI LR LR
comp=Z,2μm,21.1s
BJI LR LR
comp=Z,6μm,20.8s
ULN Ulaanbaatar 131.13 62 *i* PKIKP **PKiKP 19 12 46.4 -0.2**
BGNE Belgrade 131.18 287 P **PKPdf 19 12 43.9 -1.9**
baz=132
Y22D IRIS PASSCAL I 131.25 273 P **PKPdf 19 12 45.5 -0.9**
baz=135
Y22F Passcal Instru 131.25 273 P **PKPdf 19 12 45.9 -0.5**
baz=135
ANMO Albuquerque 131.59 274 PKIKP **PKiKP 19 12 47.6 -0.5**
ANMO Albuquerque 131.59 274 P **PKPdf 19 12 47.4 +0.3**
baz=135
ANMO Albuquerque 131.59 274 PKP **PKiKP 19 12 47.6 -0.5**
comp=Z,24nm,1.2s,baz=250,slow=4.9,SNR=15
DAG Danmarks Havn 131.77 352 *i* P **PKPdf 19 12 46.0 +0.2**
DAG IAMs_20 IAMs_20 20 01 35.1
comp=Z,22μm,23.1s
EYMN Ely 131.77 297 IAMs_20 IAMs_20 20 03 12.5
comp=Z,11μm,21.0s
EYMN Ely 131.77 297 P **PKPdf 19 12 46.1 -0.6**
baz=129
ECSD EROS Data Cent 131.84 290 IAMs_20 IAMs_20 20 06 14.4
comp=Z,8μm,22.0s
ECSD EROS Data Cent 131.84 290 P **PKPdf 19 12 46.6 -0.4**
baz=130
T25A Trinidad 131.91 278 P **PKPdf 19 12 48.0 +0.3**
baz=133
KSCO Kaye Shedlock' 132.14 281 P **PKPdf 19 12 47.0 -0.9**
baz=132
SPITS Spitsbergen Ar 132.15 2 PKIKP **PKPdf 19 12 44.6 -2.0**
SPITS Spitsbergen Ar 132.15 2 PKP **PKPdf 19 12 44.6 -2.0**
comp=Z,8.5nm,1.0s,baz=125,slow=10,SNR=1.8
TUC Tucson 132.27 268 P **PKPdf 19 12 48.8 +0.5**
baz=136
IRK Irkutsk 132.46 56 *e*PKIKP **PKiKP 19 12 50.7 +1.7**
IRK pmax pmax
comp=Z,122nm,2.4s
KBS Kingsbay 132.83 1 *c i*PKIKP **PKiKP 19 12 51.3 +2.3**
KBS pmax pmax
comp=Z,29nm,1.3s
KBS Kingsbay 132.83 1 *i* P **PKiKP 19 12 49.8 +0.9**
SDCO Great Sand Dun 132.96 278 P **PKiKP 19 12 50.6 -0.3**
baz=133
OGNE Ogallala 133.08 284 IAMs_20 IAMs_20 20 08 01.9
comp=Z,9μm,22.0s
OGNE Ogallala 133.08 284 P **PKiKP 19 12 50.2 -0.5**
baz=131
214A Organ Pipe Nat 133.21 266 P **PKPdf 19 12 49.9 -0.1**
baz=137
DL2 Dalian 133.41 81 PP **PP 19 15 14.6 -3.9**
DL2 *e*PKP PKPpre 19 12 44.2
DL2 SS SS 19 32 58.9 -4.4
DL2 AMB AMB
comp=Z,450nm,4.4s
DL2 LR LR
comp=Z,8μm,21.4s
DL2 LR LR
comp=Z,3μm,20.4s
DL2 LR LR
comp=Z,10μm,26.0s
XLT XiLinHaoTe 133.50 72 *e*PKP **PKiKP 19 12 53.5 +2.0**
XLT sPKP 19 13 06.1
XLT PP **PP 19 15 13.9 -5.2**
SUSD Miller 133.59 289 P **PKiKP 19 12 51.6 0.0**
baz=129
W18A Petrified Fore 133.64 272 P **PKPdf 19 12 51.2 +0.2**
baz=134
S22A 4UR Ranch, Cre 133.73 277 PKPpre PKPpre 19 12 25.9
S22A 4UR Ranch, Cre 133.73 277 P **PKPdf 19 12 50.3 -0.8**
baz=133
BRIGG Briggsdale 134.16 282 IAMs_20 IAMs_20 20 07 41.3
comp=Z,9μm,22.0s
MVCO Mesa Verde 134.35 275 P **PKPdf 19 12 52.1 -0.2**
baz=133
ISCO Idaho Springs 134.39 280 IAMs_20 IAMs_20 20 10 42.5
comp=Z,10μm,21.0s
ISCO Idaho Springs 134.39 280 P **PKPdf 19 12 52.0 -0.4**
baz=131
SMCO Snowmass 134.77 278 IAMs_20 IAMs_20 20 12 10.5
comp=Z,7μm,20.0s
WUAZ Wupatki 134.88 271 P **PKPdf 19 12 53.0 -0.2**
baz=134
GLA Glamis 135.18 266 P **PKPdf 19 12 53.7 +0.1**
baz=136
PHWY Pilot Hill 135.28 282 IAMs_20 IAMs_20 20 11 18.0
comp=Z,9μm,21.0s
N23A Red Feather La 135.30 281 PKPpre PKPpre 19 12 30.3
N23A Red Feather La 135.30 281 P **PKPdf 19 12 52.6 -1.3**
baz=130
INCN Inchon 135.38 86 IAMs_20 IAMs_20 20 06 02.0
comp=Z,14μm,21.0s
ULM Lac du Bonnet 135.46 297 PKIKP **PKPdf 19 12 53.6 +0.1**
ULM Lac du Bonnet 135.46 297 PKP **PKPdf 19 12 53.6 +0.1**
comp=Z,16nm,0.9s,baz=134,slow=3.4,SNR=6.2
ULM PP **PP 19 15 33.0 +1.7**
comp=Z,25nm,1.3s,baz=117,slow=3.3,SNR=6.0
PDMCI Parker Dam,Lak 135.66 268 P **PKPdf 19 12 54.4 0.0**
baz=135
SWSC Sam W. Stewart 135.67 265 P **PKPdf 19 12 54.2 -0.3**
baz=136
BC3 Big Chuckawall 135.97 266 P **PKPdf 19 12 54.4 -0.8**
baz=136
MDND Maddock 136.03 293 P **PKPdf 19 12 55.2 +0.5**
baz=126
KSRS Korea Array 136.12 87 PKIKP **PKPdf 19 12 52.0 -3.2**
KSRS Korea Array 136.12 87 PKP **PKPdf 19 12 52.0 -3.2**
comp=Z,0.8nm,0.6s,baz=183,slow=2.6,SNR=2.2
KSRS PP **PP 19 15 36.6 +1.0**
comp=Z,5.8nm,1.1s,baz=246,slow=6.6,SNR=4.6
O20A White River Ci 136.14 278 P **PKPdf 19 12 55.6 +0.2**
baz=131
IRM Iron Mountain 136.15 267 P **PKiKP 19 12 56.4 -0.7**
baz=135
NOR Nord 136.17 355 *i* P **PKPdf 19 12 51.6 -2.5**

NOR				IAMs_20	IAMs_20	19 59 48.0		
	comp=Z,24μm,32.7s							
NOR				IAMs_20	IAMs_20	19 59 49.5		
	comp=Z,25μm,34.0s							
RSSD	**Black Hills**	**136.24**	**286**	IAMs_20	IAMs_20	20 07 02.7		
	comp=Z,7μm,21.0s							
RSSD	**Black Hills**	**136.24**	**286**	MLR	MLR			
	comp=Z,7μm,21.0s							
RSSD	**Black Hills**	**136.24**	**286**	P	**PKPdf**	**19 12 54.8**	**-0.7**	
	baz=128							
NEEM	**North Greenlan**	**136.34**	**344**	*i* P	**PKiKP**	**19 12 57.5**	**+1.0**	
NEEM				IAMs_20	IAMs_20	20 02 28.1		
	comp=Z,21μm,24.2s							
SNY	**Shenyang**	**136.45**	**79**	⇓PKP	**PKiKP**	**19 13 03.1**	**+5.7**	
SNY				PP	PP	19 15 46.3	+8.6	
SNY				SKKS		19 22 37.5		
TPFO	**Pinon Flats**	**136.52**	**265**	P	**PKPdf**	**19 12 54.5**	**-1.7**	
	baz=136							
PFO	**Pinyon Flats O**	**136.53**	**265**	P	**PKPdf**	**19 12 54.4**	**-1.9**	
	baz=136							
BELC	**Belle Mtn. Jos**	**136.54**	**266**	P	**PKPdf**	**19 12 55.4**	**-0.9**	
	baz=135							
RWWY	**Rawlins**	**136.54**	**281**	IAMs_20	IAMs_20	20 10 35.3		
	comp=Z,7μm,22.0s							
K22A	**Casper**	**136.75**	**282**	P	**PKPdf**	**19 12 55.5**	**-1.0**	
	baz=129							
GMRC	**Granite Mounta**	**136.89**	**267**	P	**PKPdf**	**19 12 54.8**	**-2.1**	
	baz=135,SNR=7.0							
CIT	**Chita**	**136.98**	**61**	*e*PKIKP	**PKiKP**	**19 12 59.4**	**+1.2**	
CIT				pmax	pmax			
	comp=Z,72nm,1.6s							
RDMU	**Red Mountain**	**137.19**	**278**	PKPpre	PKPpre	19 12 36.2		
HEC	**Hector,Ludlow**	**137.32**	**266**	P	**PKPdf**	**19 12 55.4**	**-2.3**	
	baz=135							
TUQ	**Turquoise Moun**	**137.50**	**267**	P	**PKPdf**	**19 12 56.3**	**-1.7**	
	baz=134							
CIS	**Catalina Islan**	**137.53**	**263**	P	**PKPdf**	**19 12 58.5**	**+0.5**	
	baz=136							
BFSC	**Mount Baldy Ra**	**137.68**	**265**	P	**PKPdf**	**19 12 59.2**	**+0.8**	
	baz=135							
GSC	**Goldstone, Bar**	**137.92**	**266**	P	**PKiKP**	**19 13 01.1**	**+0.3**	
	baz=134							
SNCC	**San Nicolas Is**	**138.06**	**262**	P	**PKPdf**	**19 12 58.8**	**-0.2**	
	baz=136							
EDW2	**Edwards Air Fo**	**138.32**	**265**	P	**PKPdf**	**19 12 59.9**	**+0.5**	
	baz=135,SNR=6.6							
PRN	**Pahroc Range**	**138.33**	**270**	PKPpre	PKPpre	19 12 42.7		
LRMC	**Laurel Mtn Rad**	**138.56**	**266**	P	**PKPdf**	**19 12 57.6**	**-2.4**	
	baz=134,SNR=5.5							
BW06	**Boulder Array**	**138.57**	**280**	IAMs_20	IAMs_20	20 12 23.1		
	comp=Z,7μm,22.0s							
BW06	**Boulder Array**	**138.57**	**280**	P	**PKPdf**	**19 12 59.2**	**-0.7**	
	baz=128							
PDAR	**Pinedale Array**	**138.57**	**280**	PKP	**PKPdf**	**19 13 00.1**	**+0.2**	
	comp=Z,16nm,0.8s,baz=120,slow=3.4,SNR=21							
SCZ2	**Santa Cruz Isl**	**138.66**	**263**	P	**PKPdf**	**19 12 59.3**	**-0.8**	
	baz=136							
TPNV	**Topopah Spring**	**138.72**	**269**	PKPpre	PKPpre	19 12 42.6		
TPNV				IAMs_20	IAMs_20	20 27 52.5		
	comp=Z,7μm,21.0s							
TPNV	**Topopah Spring**	**138.72**	**269**	MLR	MLR			
	comp=Z,7μm,21.0s							
TPNV	**Topopah Spring**	**138.72**	**269**	P	**PKPdf**	**19 13 00.7**	**+0.4**	
	baz=133							
HIA	**Hailar**	**138.73**	**68**	IAMs_20	IAMs_20	20 24 23.0		
	comp=Z,13μm,20.0s							
CN2	**Changchun**	**138.75**	**78**	PKP	**PKiKP**	**19 13 01.9**	**-0.1**	
CN2				PP	**PP**	**19 15 51.2**	**-0.8**	
CN2				AMB	AMB			
	comp=Z,300nm,6.0s							
CN2				LR	LR			
	comp=Z,9μm,20.0s							
CN2				LR	LR			
	comp=Z,8μm,20.0s							
CN2				LR	LR			
	comp=Z,5μm,19.0s							
FURC	**Furnace Creek,**	**138.76**	**268**	P	**PKPdf**	**19 12 58.2**	**-1.9**	
	baz=133							
MPMC	**Manual Prospec**	**138.84**	**267**	P	**PKPdf**	**19 12 59.4**	**-1.2**	
	baz=134							
DUG	**Dugway, Tooele**	**138.85**	**275**	IAMs_20	IAMs_20	20 13 44.2		
	comp=Z,8μm,21.0s							
DUG	**Dugway, Tooele**	**138.85**	**275**	P	**PKPdf**	**19 13 00.3**	**-0.1**	
	baz=130							
DGMT	**Dagmar**	**138.90**	**291**	IAMs_20	IAMs_20	20 15 41.2		
	comp=Z,6μm,20.0s							
DGMT	**Dagmar**	**138.90**	**291**	P	**PKPdf**	**19 13 01.1**	**+1.0**	
	baz=124							
LAO	**LASA Array**	**139.01**	**287**	IAMs_20	IAMs_20	20 11 04.1		
	comp=Z,8μm,21.0s							
LAO	**LASA Array**	**139.01**	**287**	P	**PKPdf**	**19 13 00.2**	**-0.1**	
	baz=125							
HWUT	**Hardware Ranch**	**139.01**	**278**	IAMs_20	IAMs_20	20 11 07.7		
	comp=Z,9μm,22.0s							
ISA	**Isabella, Lake**	**139.15**	**265**	P	**PKPdf**	**19 12 58.7**	**-2.3**	
	baz=134,SNR=6.9							
ID10	**Lander Cutoff**	**139.19**	**279**	IAMs_20	IAMs_20	20 10 39.5		
	comp=Z,9μm,20.0s							
ID09	**Alton**	**139.20**	**279**	IAMs_20	IAMs_20	20 11 30.6		
	comp=Z,11μm,22.0s							
R11B	**Troy Canyon, C**	**139.27**	**271**	IAMs_20	IAMs_20	20 14 43.1		
	comp=Z,7μm,22.0s							
R11B	**Troy Canyon, C**	**139.27**	**271**	P	**PKPdf**	**19 13 00.4**	**-0.8**	
	baz=132							
PKM	**Mcpherson Peak**	**139.40**	**263**	P	**PKPdf**	**19 13 00.6**	**-1.0**	
	baz=135							
GRAC	**Grapevine Rang**	**139.41**	**268**	P	**PKPdf**	**19 13 01.5**	**+0.1**	
	baz=133							
CWC	**Cottonwood Cre**	**139.45**	**267**	P	**PKPdf**	**19 13 02.0**	**+0.3**	
	baz=134							
AHID	**Auburn Hatcher**	**139.47**	**279**	IAMs_20	IAMs_20	20 13 20.7		
	comp=Z,6μm,21.0s							
ID06	**Fossil Canyon**	**139.56**	**279**	IAMs_20	IAMs_20	20 13 51.2		
	comp=Z,8μm,21.0s							
SNOW	**Snow King Moun**	**139.69**	**280**	IAMs_20	IAMs_20	20 24 06.7		
	comp=Z,9μm,21.0s							
LOHW	**Long Hollow**	**139.69**	**281**	IAMs_20	IAMs_20	20 24 01.8		
	comp=Z,8μm,20.0s							
TPAW	**Teton Pass**	**139.82**	**280**	IAMs_20	IAMs_20	20 24 10.3		
	comp=Z,8μm,21.0s							
RLMT	**Red Lodge**	**139.83**	**283**	IAMs_20	IAMs_20	20 11 04.5		
	comp=Z,10μm,22.0s							
RLMT	**Red Lodge**	**139.83**	**283**	P	**PKPdf**	**19 13 02.1**	**0.0**	
	baz=126							
MOOW	**Moose Ponds**	**139.86**	**281**	IAMs_20	IAMs_20	20 10 57.2		
	comp=Z,8μm,22.0s							
ID07	**Smith Canyon R**	**139.89**	**278**	IAMs_20	IAMs_20	20 11 26.0		
	comp=Z,10μm,22.0s							
FXWY	**Fox Creek**	**139.95**	**280**	IAMs_20	IAMs_20	20 23 14.7		
	comp=Z,7μm,21.0s							
ID08	**Devils Gate**	**139.97**	**279**	IAMs_20	IAMs_20	20 12 24.2		
	comp=Z,9μm,21.0s							
INU	**Inuyama**	**140.02**	**97**	IAMs_20	IAMs_20	20 14 00.4		
	comp=Z,10μm,20.0s							
FLWY	**Flagg Ranch**	**140.03**	**281**	IAMs_20	IAMs_20	20 11 45.8		
	comp=Z,10μm,22.0s							
IMW	**Indian Meadow**	**140.06**	**281**	IAMs_20	IAMs_20	20 10 41.5		
	comp=Z,9μm,22.0s							
H17A	**Grant Village**	**140.15**	**282**	P	**PKPdf**	**19 13 02.7**	**-0.1**	
	baz=127							
BOD	**Bodaibo**	**140.18**	**54**	*e*PKHKP	PKPpre	19 12 55.5		
BOD				pmax	pmax			
	comp=Z,103nm,1.9s							
MLAC	**Mammoth, Mammo**	**140.71**	**267**	P	**PKPdf**	**19 13 03.0**	**-1.0**	
	baz=132							
ALE	**Alert**	**140.90**	**349**	IAMs_20	IAMs_20	20 11 49.3		
	comp=Z,12μm,20.0s							
NVAR	**Mina Array Bea**	**140.92**	**269**	PKP	**PKPdf**	**19 13 05.6**	**+1.3**	
	comp=Z,14nm,0.8s,baz=125,slow=2.1,SNR=29							
FFC	**Flin Flon**	**141.00**	**300**	IAMs_20	IAMs_20	20 09 41.7		
	comp=Z,13μm,21.0s							
BNX	**BinXian**	**141.02**	**77**	PKP	**PKiKP**	**19 13 11.3**	**+4.7**	
BNX				pPKP	sPKPdf	19 13 21.1	+14	
BNX				sPKP		19 14 23.1		
BNX				PP	PP	19 16 15.1	+9.1	
BNX				AMB	AMB			
	comp=Z,1μm,9.9s							
BNX				LR	LR			
	comp=N,11μm,20.0s							
BNX				LR	LR			
	comp=E,8μm,22.2s							
BNX				LR	LR			
	comp=Z,14μm,20.1s							
BOZ	**Bozeman (W)**	**141.46**	**283**	IAMs_20	IAMs_20	20 23 27.6		
	comp=Z,7μm,20.0s							
BOZ	**Bozeman (W)**	**141.46**	**283**	P	**PKPdf**	**19 13 04.8**	**-0.2**	
	baz=125							
MAJO	**Matsushiro**	**141.54**	**96**	IAMs_20	IAMs_20	20 10 37.5		
	comp=Z,10μm,20.0s							
MAT	**Matsushiro**	**141.54**	**96**	P	**PKPdf**	**19 13 00.2**	**-5.0**	
MJAR	**Matsushiro Arr**	**141.54**	**96**	PKhKP	PKPpre	19 13 01.2		
	comp=Z,4.0nm,1.0s,baz=228,slow=3.2,SNR=9.8							
MJA0	**Matsu Arr-Jizo**	**141.57**	**96**	*e*PKIKP	**PKPdf**	**19 13 01.2**	**-4.1**	
JRY	**Ryogami san**	**141.59**	**98**	P	**PKPdf**	**19 13 01.5**	**-3.8**	
MDJ	**Mudanjiang**	**141.63**	**80**	PKP	**PKPdf**	**19 12 59.3**	**-5.7**	
MDJ				PP	**PP**	**19 16 09.8**	**+0.1**	
MDJ				AMB	AMB			
	comp=Z,790nm,6.5s							
MDJ				LR	LR			
	comp=Z,7μm,21.1s							
MDJ				LR	LR			
	comp=Z,11μm,20.6s							
MDJ				LR	LR			
	comp=Z,15μm,22.8s							
MDJ	**Mudanjiang**	**141.63**	**80**	IAMs_20	IAMs_20	20 11 17.9		
	comp=Z,13μm,22.0s							
EGMT	**Eagleton**	**141.75**	**287**	IAMs_20	IAMs_20	20 10 33.5		
	comp=Z,13μm,22.0s							
EGMT	**Eagleton**	**141.75**	**287**	P	**PKPdf**	**19 13 04.5**	**-0.8**	
	baz=123							
HLID	**Hailey**	**141.88**	**278**	IAMs_20	IAMs_20	20 24 58.5		
	comp=Z,6μm,20.0s							
HLID	**Hailey**	**141.88**	**278**	P	**PKPdf**	**19 13 05.1**	**-0.7**	
	baz=127							
DLMT	**Dillon**	**141.88**	**282**	IAMs_20	IAMs_20	20 23 50.7		
	comp=Z,7μm,20.0s							
MFID	**Camas Ranch**	**142.61**	**277**	IAMs_20	IAMs_20	20 25 37.9		
	comp=Z,6μm,20.0s							
USRK	**Ussuriysk Ar.**	**142.77**	**82**	PKIKP	**PKPdf**	**19 13 04.2**	**-2.9**	
USRK	**Ussuriysk Ar.**	**142.77**	**82**	PKP	**PKPdf**	**19 13 04.2**	**-2.9**	
	comp=Z,2.3nm,0.5s,baz=246,slow=3.3,SNR=5.5							
MCCM	**Marconi Confer**	**143.42**	**264**	IAMs_20	IAMs_20	20 28 17.5		
	comp=Z,6μm,19.0s							
HEH	**HeiHe**	**143.47**	**70**	PKP	PKPab	19 13 04.7	+0.3	
HEH				pPKP	**PKiKP**	**19 13 11.7**	**+0.2**	
HEH				sPKP		19 13 17.2		
HEH				PP	**PP**	**19 16 21.6**	**+0.8**	
HEH				SS	SS	19 34 58.4	-3.5	
HEH				AMB	AMB			
	comp=Z,1μm,9.6s							
HEH				LR	LR			
	comp=Z,10μm,21.4s							
HEH				LR	LR			
	comp=Z,10μm,21.4s							
HEH				LR	LR			
	comp=Z,19μm,18.5s							
MSO	**Missoula**	**143.48**	**283**	IAMs_20	IAMs_20	20 14 33.0		
	comp=Z,10μm,22.0s							
MSO	**Missoula**	**143.48**	**283**	P	PKPbc	19 13 06.2	+0.4	
	baz=123							
ORV	**Oroville**	**143.54**	**267**	IAMs_20	IAMs_20	20 16 47.9		
	comp=Z,6μm,22.0s							
EUNU	**Eureka**	**143.59**	**343**		PKPab	19 13 01.2	-3.0	
WVOR	**Wild Horse Val**	**143.67**	**273**	IAMs_20	IAMs_20	20 24 41.6		
	comp=Z,7μm,21.0s							
PLID	**Pearl Lake**	**143.69**	**279**	IAMs_20	IAMs_20	20 16 13.5		
	comp=Z,7μm,22.0s							
JMM	**Marumori**	**143.96**	**97**	P	**PKPdf**	**19 13 08.8**	**-0.6**	
BMO	**Blue Mountains**	**144.32**	**278**	IAMs_20	IAMs_20	20 15 36.0		
	comp=Z,7μm,22.0s							
RES	**Resolute Bay**	**144.62**	**333**	PKP	**PKPab**	**19 13 07.0**	**-1.1**	
	comp=Z,187nm,1.0s,baz=122,slow=3.3,SNR=12							
ZEA	**Zeya**	**145.03**	**65**	*e*PKP2	**PKPbc**	**19 13 09.9**	**-0.3**	
ZEA				pmax	pmax			
	comp=Z,1μm,7.1s							
ZEA				pmax	pmax			
	comp=N,100nm,2.1s							
ZEA				pmax	pmax			
	comp=E,40nm,2.1s							
ZEA				pmax	pmax			
	comp=Z,110nm,1.9s							
JOM	**Ohasama**	**145.31**	**95**	P	**PKPbc**	**19 13 11.2**	**-0.3**	
KLR	**Kul'dur**	**145.38**	**74**	*i* PKIKP	**PKPab**	**19 13 11.9**	**+0.2**	
KLR	**Kul'dur**	**145.38**	**74**	PKPbc	**PKPbc**	**19 13 10.6**	**-0.9**	
	comp=Z,105nm,1.1s,baz=269,slow=4.3,SNR=68							
TEY	**Ternei**	**145.95**	**84**	⇓*e*PKP2	**PKPab**	**19 13 13.7**	**-0.2**	
TEY				pmax	pmax			
	comp=Z,40nm,0.9s							
JTM	**Tennmabayashi**	**146.03**	**93**	P	**PKPbc**	**19 13 14.0**	**+0.3**	
NEW	**Newport**	**146.07**	**283**	P	**PKPdf**	**19 13 11.8**	**-0.9**	
	baz=121							
JSH	**Shimam**	**146.57**	**90**	P	**PKPab**	**19 13 16.1**	**-0.2**	
JEW	**Eniwo**	**147.52**	**91**	P	**PKiKP**	**19 13 19.8**	**-0.3**	
COR	**Corvallis**	**147.68**	**273**	IAMs_20	IAMs_20	20 32 36.7		
	comp=Z,8μm,22.0s							
ERM	**Erimo**	**148.02**	**94**	IAMs_20	IAMs_20	20 27 31.2		
	comp=Z,7μm,21.0s							
ERM	**Erimo**	**148.02**	**94**	*c i* PKP2	**PKPab**	**19 13 23.7**	**+1.6**	
ERM				pmax	pmax			
	comp=Z,179nm,1.3s							
JEM	**Erimo**	**148.02**	**94**	P	**PKiKP**	**19 13 20.5**	**-0.6**	
GRNR	**Gornyy**	**148.77**	**75**	⇑*i* PKP2	**PKPbc**	**19 13 21.6**	**+0.6**	
GRNR				pmax	pmax			
	comp=Z,70nm,1.1s							
GRNR				MLR	MLR			
	comp=E,5μm,20.0s							
GRNR				MLR	MLR			
	comp=N,5μm,20.0s							
GRNR				MLR	MLR			
	comp=Z,5μm,19.0s							
ASAJ	**Asahikawa**	**148.94**	**90**	P	**PKPbc**	**19 13 20.3**	**-1.3**	
YAK	**Yakutsk**	**149.02**	**51**		**PKPdf**	**19 13 16.0**	**-1.1**	
YAK	**Yakutsk**	**149.02**	**51**	*e*PKIKP	**PKPbc**	**19 13 20.6**	**-0.6**	
YAK				*e*		19 16 54.1		
YAK				pmax	pmax			
	comp=Z,168nm,1.1s							
YAK				pmax	pmax			
	comp=N,10.0nm,1.4s							
YAK				pmax	pmax			
	comp=E,39nm,1.2s							
YAK				pmax	pmax			
	comp=Z,247nm,2.5s							
YAK				pmax	pmax			
	comp=N,75nm,1.8s							
YAK				pmax	pmax			
	comp=E,229nm,3.2s							
JMP	**Maruseppu**	**149.33**	**91**	P	**PKPbc**	**19 13 21.5**	**-1.1**	
YKA	**Yellowknife Ar**	**149.85**	**309**		**PKPbc**	**19 13 21.1**	**-2.2**	
YKA	**Yellowknife Ar**	**149.85**	**309**	PKHKP	PKPpre	19 13 21.1		
YKA	**Yellowknife Ar**	**149.85**	**309**	PKPbc	**PKPbc**	**19 13 21.1**	**-2.2**	
	comp=E,44nm,1.0s,baz=98,slow=2.4,SNR=12							
PGC	**Sidney**	**149.91**	**280**	PKPab	**PKPbc**	**19 13 21.9**	**-2.0**	
YSS	**Yuzh-Sakhalins**	**150.59**	**85**		**PKPdf**	**19 13 22.6**	**+2.6**	
YSS				IAMs_20	IAMs_20	20 31 17.9		
	comp=Z,12μm,21.0s							
YSS	**Yuzh-Sakhalins**	**150.59**	**85**	*i* PKIKP	**PKiKP**	**19 13 27.1**	**+0.9**	
YSS				*e*		19 13 32.9		
YSS				*e*SS	SS	19 36 26.7	+4.1	
YSS				pmax	pmax			
	comp=Z,110nm,1.2s							
UGL	**Uglegorsk**	**151.24**	**81**	*e*PKIKP	**PKiKP**	**19 13 30.6**	**+3.1**	
UGL				*e*		19 17 04.0		
UGL				*e*SS	SS	19 36 26.7	-3.0	
UGL				pmax	pmax			
	comp=Z,230nm,1.0s							
UGL				pmax	pmax			
	comp=Z,2μm,2.5s							
NKL	**Nikolayevsk**	**152.15**	**72**	*i* PKIKP	**PKiKP**	**19 13 31.5**	**+2.3**	
NKL				*e*		19 17 11.1		
A36M	**Sachs Harbour**	**153.47**	**330**		**PKPdf**	**19 13 26.0**	**+2.4**	
A36M				IAMs_20	IAMs_20	20 13 48.8		
	comp=Z,11μm,22.0s							
A36M	**Sachs Harbour**	**153.47**	**330**	P	**PKPdf**	**19 13 23.1**	**-0.5**	
	baz=72							
MIDW	**Midway**	**153.76**	**169**	IAMs_20	IAMs_20	20 14 47.5		
	comp=Z,6μm,21.0s							
DLBC	**Dease Lake**	**156.78**	**298**	PKP	**PKPdf**	**19 13 26.4**	**-2.3**	
	comp=Z,0.6nm,0.3s,baz=164,slow=5.4,SNR=1.6							
DLBC				PP	**PP**	**19 17 42.1**	**+4.6**	
	comp=Z,4.0nm,1.1s,baz=165,slow=6.1,SNR=1.4							
V35K	**Ketchikan**	**157.07**	**289**	IAMs_20	IAMs_20	20 25 38.6		
	comp=Z,7μm,21.0s							
V35K	**Ketchikan**	**157.07**	**289**	P	**PKPdf**	**19 13 34.9**	**+5.9**	
	baz=104							
S34M	**Telegraph Cree**	**157.29**	**296**	P	**PKPdf**	**19 13 32.4**	**+3.2**	
	baz=98							
INK	**Inuvik**	**157.32**	**323**		**PKPab**	**19 13 56.6**	**-3.7**	
INK	**Inuvik**	**157.32**	**323**	PKIKP	**PKPdf**	**19 13 27.9**	**-1.1**	
INK	**Inuvik**	**157.32**	**323**	P	**PKPdf**	**19 13 30.1**	**+1.2**	
	baz=70							
INK	**Inuvik**	**157.32**	**323**	PKP	**PKPdf**	**19 13 27.9**	**-1.1**	
	comp=Z,2.7nm,0.9s,baz=61,slow=8.5,SNR=5.1							
R33M	**Jennings River**	**157.37**	**300**	P	**PKPdf**	**19 13 31.4**	**+1.9**	
	baz=94							
MMPY	**Sheldon Lake,**	**157.54**	**308**	P	**PKPdf**	**19 13 33.8**	**+4.3**	
	baz=86							
Q32M	**Nakina River**	**158.00**	**299**	P	**PKPdf**	**19 13 33.8**	**+3.5**	
	baz=94							
G31M	**Satah River**	**158.03**	**320**	P	**PKPdf**	**19 13 33.2**	**+3.4**	
	baz=72							
U33K	**Whale Pass**	**158.07**	**291**	P	**PKPdf**	**19 13 34.5**	**+4.3**	
	baz=101							
P33M	**Teslin, Yukon**	**158.34**	**302**	P	**PKPdf**	**19 13 32.6**	**+2.0**	
	baz=91							
F30M	**Barrier River**	**158.36**	**322**	P	**PKPdf**	**19 13 31.9**	**+1.6**	
	baz=69							
H31M	**Peel River**	**158.37**	**317**	P	**PKPdf**	**19 13 30.9**	**+0.5**	
	baz=75							
N32M	**Quiet Lake**	**158.47**	**305**	IAMs_20	IAMs_20	20 34 26.4		
	comp=Z,11μm,21.0s							
N32M	**Quiet Lake**	**158.47**	**305**	P	**PKPdf**	**19 13 33.8**	**+3.1**	
	baz=88							
D28M	**Stokes Point**	**158.63**	**328**	P	**PKPdf**	**19 13 28.9**	**-1.6**	
	baz=61							
G30M	**tAoh Zraii Nji**	**158.74**	**321**		**PKPab**	**19 14 02.5**	**-4.2**	
G30M	**tAoh Zraii Nji**	**158.74**	**321**	P	**PKPdf**	**19 13 31.8**	**+1.0**	
	baz=70							
E29M	**Blow River**	**158.79**	**325**	P	**PKPdf**	**19 13 28.1**	**-2.7**	
	baz=64,SNR=5.8							
M31M	**Drury Creek, Y**	**159.03**	**308**	P	**PKPdf**	**19 13 35.0**	**+3.7**	
	baz=84							
S32K	**Killisoo**	**159.07**	**294**	IAMs_20	IAMs_20	20 18 26.5		
	comp=Z,9μm,20.0s							
R32K	**Eaglecrest**	**159.12**	**296**	P	**PKPdf**	**19 13 32.4**	**+0.9**	
	baz=94							
EPYK	**Eagle Plains**	**159.13**	**320**	P	**PKPdf**	**19 13 32.3**	**+1.0**	
	baz=70							
E28M	**Babbage River**	**159.23**	**327**	P	**PKPdf**	**19 13 32.4**	**+1.1**	
	baz=61							
I30M	**Mount Dempster**	**159.34**	**316**	P	**PKPdf**	**19 13 34.2**	**+2.5**	
	baz=74							
WHY	**Whitehorse**	**159.36**	**303**	P	**PKPdf**	**19 13 33.2**	**+1.4**	
	baz=88							
D27M	**Malcolm River**	**159.36**	**329**	P	**PKPdf**	**19 13 33.1**	**+1.6**	
	baz=58							
G29M	**Pine Creek**	**159.43**	**322**	P	**PKPdf**	**19 13 30.1**	**-1.5**	
	baz=67,SNR=5.8							
J30M	**Hart River**	**159.49**	**315**	P	**PKPdf**	**19 13 33.3**	**+1.4**	
	baz=76							
SKAG	**Skagway**	**159.60**	**300**	P	**PKPdf**	**19 13 35.1**	**+3.2**	
	baz=91							
N31M	**Braeburn, Yuko**	**159.75**	**306**	IAMs_20	IAMs_20	20 39 51.2		
	comp=Z,10μm,20.0s							
N31M	**Braeburn, Yuko**	**159.75**	**306**	P	**PKPdf**	**19 13 34.7**	**+2.6**	
	baz=85							
F28M	**Old Crow**	**159.80**	**324**	P	**PKPdf**	**19 13 32.5**	**+0.5**	
	baz=63							
H29M	**Whitestone**	**159.81**	**320**	P	**PKPdf**	**19 13 30.8**	**-1.3**	
	baz=69,SNR=6.1							
O30N	**Mendenhall**	**159.95**	**304**	P	**PKPdf**	**19 13 32.2**	**-0.2**	
	baz=86							
S31K	**Pelican**	**160.00**	**295**	P	**PKPdf**	**19 13 33.4**	**+1.0**	
	baz=94							
I29M	**Ogilvie Camp,**	**160.07**	**317**	P	**PKPdf**	**19 13 31.1**	**-1.3**	
	baz=71,SNR=7.1							
M30M	**Minto, Yukon**	**160.09**	**309**	P	**PKPdf**	**19 13 35.1**	**+2.6**	
	baz=80							
C26K	**Camden Bay**	**160.10**	**333**	P	**PKPdf**	**19 13 32.8**	**+0.6**	
	baz=50							
E27K	**Coleen River**	**160.10**	**327**	P	**PKPdf**	**19 13 33.9**	**+1.6**	
	baz=59							
K29M	**Barlow Dome**	**160.16**	**313**	P	**PKPdf**	**19 13 35.2**	**+2.5**	
	baz=76							
N30M	**Aishikik Lake**	**160.38**	**306**	P	**PKPdf**	**19 13 37.1**	**+4.2**	
	baz=83							
P30M	**Million Dollar**	**160.41**	**302**	P	**PKPdf**	**19 13 34.9**	**+2.0**	
	baz=87							
L29M	**L29M**	**160.59**	**311**	P	**PKPdf**	**19 13 36.2**	**+3.2**	
	baz=78							
HYT	**Haines Junctio**	**160.64**	**304**	P	**PKPdf**	**19 13 32.4**	**-0.9**	
	baz=85							
I28M	**Miner Creek**	**160.69**	**318**	P	**PKPdf**	**19 13 34.0**	**+0.9**	
	baz=69							
G27K	**Doyon Strip**	**160.78**	**323**	P	**PKPdf**	**19 13 36.4**	**+3.2**	
	baz=63							
M29M	**Somme Creek**	**160.87**	**309**	P	**PKPdf**	**19 13 32.1**	**-1.4**	
	baz=79							
D25K	**Kavik River**	**160.88**	**332**	P	**PKPdf**	**19 13 36.4**	**+3.2**	
	baz=49							
DAWY	**Dawson**	**160.91**	**314**	P	**PKPdf**	**19 13 32.6**	**-0.7**	
	baz=73							
H27K	**Steamboat Moun**	**160.99**	**321**	P	**PKPdf**	**19 13 32.1**	**-1.3**	
	baz=64							
YUK6	**Outpost Mounta**	**161.04**	**304**	P	**PKPdf**	**19 13 36.2**	**+2.3**	
	baz=84							
YUK4	**Talbot Arm**	**161.13**	**306**	P	**PKPdf**	**19 13 33.9**	**+0.1**	
	baz=82							
F26K	**Sheenjek River**	**161.18**	**327**	P	**PKPdf**	**19 13 35.6**	**+2.1**	
	baz

baz=71
M26K Nabesna, AK 162.94 310 P PKPdf 19 13 34.9 -0.6
baz=74,SNR=7.3
C21K Knifeblade Rid 163.05 339 P PKPdf 19 13 30.2 -5.1
baz=35
J25K Salcha River, 163.14 319 P PKPdf 19 13 34.3 -1.3
baz=63
E22K Anaktuvuk Pass 163.14 334 P PKPdf 19 13 34.2 -1.3
baz=43
MCARA McCarthy VSAT 163.20 307 P PKPdf 19 13 37.2 +1.5
baz=77
RIDG Independent Ri 163.29 316 P PKPdf 19 13 35.6 -0.2
baz=67
COLD Coldfoot 163.33 330 P PKPdf 19 13 37.8 +2.1
baz=48
E21K Killik River 163.44 337 P PKPdf 19 13 37.3 +1.5
baz=38
H24K Noodor Dome 163.44 324 P PKPdf 19 13 37.4 +1.5
baz=56
G23K Bananza Creek 163.61 329 P PKPdf 19 13 39.7 +3.7
baz=49
ILAR Eielson Array 163.64 320 PKPab PKPab 19 14 26.3 -1.8
ILAR Eielson Array 163.64 320 PKIKP PKPdf 19 13 34.8 -1.2
ILAR 19 14 27.9
ILAR Eielson Array 163.64 320 PKP PKPdf 19 13 34.8 -1.2
comp=Z,2.8nm,1.0s,baz=326,slow=3.2,SNR=6.4
ILAR PKPab **PKPab 19 14 27.9 -0.2**
comp=Z,19nm,1.0s,baz=26,slow=2.9,SNR=20
ILAR PP **PP 19 18 15.5 +1.3**
comp=Z,3.4nm,1.1s,baz=16,slow=4.7,SNR=2.0
K24K Donnelly Dome 163.64 317 P PKPdf 19 13 39.2 +3.1
baz=65
POKR Poker Plat Res 163.67 322 P PKPdf 19 13 38.1 +2.1
baz=58
F22K John River 163.69 333 P PKPdf 19 13 39.2 +3.2
baz=43
D20K Ettivluk River 163.79 340 P PKPdf 19 13 34.3 -1.8
baz=32
PAX Paxson 163.84 314 P PKPdf 19 13 34.4 -2.0
baz=68
HDA Harding Lake 163.84 319 P PKPdf 19 13 33.8 -2.4
baz=61
N25K Chitina, Valde 163.88 308 P PKPdf 19 13 35.6 -0.9
baz=74
HARP HAARP 163.90 311 P PKPdf 19 13 34.5 -1.9
baz=70
G22K Bettles 163.92 331 P PKPdf 19 13 32.2 -4.0
baz=46
H23K Yukon River 164.01 326 P PKPdf 19 13 35.1 -1.3
baz=53
BMRM Bremner River 164.04 306 P PKPdf 19 13 35.2 -1.4
baz=76
E20K Nigu River 164.08 339 P PKPdf 19 13 33.4 -3.0
baz=34
F21K Alatna River 164.25 333 P PKPdf 19 13 31.4 -5.2
baz=42
D19K Kuna River 164.26 341 P PKPdf 19 13 34.7 -1.9
baz=29
I23K Minto, Yukon-K 164.34 324 P PKPdf 19 13 38.7 +2.1
baz=55
M24K Tolsona, Glenn 164.44 311 P PKPdf 19 13 35.0 -1.9
baz=70
KLU Klutina 164.52 309 P PKPdf 19 13 33.9 -3.1
baz=73
NEA2 Nenana 164.54 322 P PKPdf 19 13 32.2 -4.6
baz=57
H22K Ishtalitna Cre 164.56 328 P PKPdf 19 13 37.8 +1.0
baz=49
DHY Denali Highway 164.60 315 P PKPdf 19 13 37.3 +0.2
baz=65
EYAK Cordova Ski Ar 164.69 305 P PKPdf 19 13 32.4 -4.6
baz=76
G21K Allakaket 164.77 332 P PKPdf 19 13 36.3 -0.7
baz=43
MLY Manley 164.89 324 P PKPdf 19 13 34.2 -3.0
baz=53
MCK McKinley 164.93 319 P PKPdf 19 13 38.2 +0.9
baz=60
F20K Avaraart Lake 164.95 336 P PKPdf 19 13 36.4 -0.7
baz=37
WAT6 Susitna Watana 164.95 314 P PKPdf 19 13 37.1 -0.4
baz=66
E19K Redstone River 164.97 338 P PKPdf 19 13 39.8 +2.6
baz=33
SCM Sheep Creek Mo 165.05 311 P PKPdf 19 13 41.1 +3.6
baz=69
H21K Melozitna Rive 165.16 328 P PKPdf 19 13 40.5 +3.2
baz=47
WAT1 Susitna Watana 165.19 315 P PKPdf 19 13 40.6 +3.1
baz=64
GLI Glacier Island 165.24 307 P PKPdf 19 13 42.9 +5.4
baz=73
M23K Glacier View 165.24 311 P PKPdf 19 13 42.4 +4.8
baz=69
SML Sawmill 165.50 311 P PKPdf 19 13 38.1 +0.3
baz=68
BPAW Bear Paw Mtn. 165.51 322 P PKPdf 19 13 39.2 +1.5
baz=55
TRF Thorofare Moun 165.60 319 P PKPdf 19 13 39.3 +1.3
baz=59
F19K Shaleruckik Mo 165.60 338 P PKPdf 19 13 37.5 -0.1
baz=33
P23K Montague Islan 165.61 304 P PKPdf 19 13 34.9 -3.0
baz=76
E18K Tukpahlearik C 165.66 343 P PKPdf 19 13 40.3 +2.6
baz=26
KNK Knik Glacier 165.70 310 P PKPdf 19 13 36.0 -1.9
baz=69
PWL Port Wells 165.83 308 P PKPdf 19 13 39.5 +1.4
baz=71
H20K Anotleneega Mo 165.90 330 P PKPdf 19 13 39.5 +1.5
baz=43
G19K Purcell Mounta 166.00 335 P PKPdf 19 13 37.3 -0.7
baz=37
CUT Chulitna 166.09 315 P PKPdf 19 13 39.1 +1.0
baz=62
CHUM Lake Minchumin 166.12 322 P PKPdf 19 13 39.1 +1.0
baz=53
E17K Hotham Inlet 166.18 344 P PKPdf 19 13 36.8 -1.3
baz=24
I20K Naaghedeneel 166.26 328 P PKPdf 19 13 39.8 +1.6
baz=46
CAST Castle Rocks 166.30 320 P PKPdf 19 13 39.8 +1.5
baz=55
M22K Willow 166.31 312 P PKPdf 19 13 39.3 +1.0
baz=65
H19K Roundabout Mou 166.31 332 P PKPdf 19 13 39.8 +1.6
baz=40
RC01 Rabbit Creek A 166.39 310 P PKPdf 19 13 40.5 +2.0
baz=68
J20K Nowinta River 166.57 325 P PKPdf 19 13 38.3 -0.2
baz=49
G18K Tagagawik 166.58 337 P PKPdf 19 13 40.5 +2.0
baz=34
SEW Seward 166.58 305 P PKPdf 19 13 37.3 -1.3
baz=73
PPLA Purkeypile 166.62 319 P PKPdf 19 13 38.4 -0.4
baz=57
F17K Baldwin Pennin 166.65 342 P PKPdf 19 13 36.1 -2.4
baz=26
SUA Susitna One 166.70 312 P PKPdf 19 13 37.4 -1.5
baz=65
SKT Skwentna 166.81 315 P PKPdf 19 13 38.6 -0.2
baz=62
GCSA Galena City Sc 167.02 331 P PKPdf 19 13 40.9 +2.1
baz=41
K20K Telida 167.06 323 P PKPdf 19 13 40.4 +1.5
baz=52
H18K Honhosa River 167.11 334 P PKPdf 19 13 39.8 +0.9
baz=36
J19K Poorman 167.18 327 P PKPdf 19 13 40.5 +1.5
baz=46
BRSE Bradley Lake S 167.31 305 P PKPdf 19 13 42.3 +3.1
baz=72
G17K Kiwalik Mounta 167.36 339 P PKPdf 19 13 44.5 +5.4
baz=30
N20K Mount Spurr 167.45 312 P PKPdf 19 13 42.4 +3.0
baz=64
SPCR Spurr Chakacha 167.45 312 P PKPdf 19 13 44.6 +5.3
baz=64
M20K Styx River 167.52 316 P PKPdf 19 13 40.2 +0.8
baz=59
H17K Granite Mounta 167.67 336 P PKPdf 19 13 44.1 +4.8
baz=33
G16K Koyuk River 167.80 341 P PKPdf 19 13 43.1 +3.7
baz=25
F15K North Star Dit 167.89 346 P PKPdf 19 13 42.6 +3.1
baz=18
J18K Innoko River 167.90 326 P PKPdf 19 13 44.9 +5.4
baz=45
TTA Tatalina 168.02 324 P PKPdf 19 13 43.3 +3.6
baz=49
M19K Big River Lodg 168.02 317 P PKPdf 19 13 41.7 +2.0
baz=56
L19K White Mountain 168.05 319 P PKPdf 19 13 42.8 +3.1
baz=54
F14K Arctic Creek 168.32 349 P PKPdf 19 13 36.7 -3.0
baz=14
K17K Iditarod 168.94 326 P PKPdf 19 13 46.1 +5.9
baz=44
N18K Kilae Creek 169.28 314 P PKPdf 19 13 46.9 +6.3
baz=58
L17K Donlin 169.34 324 P PKPdf 19 13 45.9 +5.4
baz=46
P18K Big Mountain, 169.57 307 P PKPdf 19 13 49.0 +8.3
baz=66
Q18K Katmai Hardscr 169.73 303 P PKPdf 19 13 42.2 +1.2
baz=70
N17K Nushagak Hills 169.91 315 P PKPdf 19 13 39.8 -1.1
baz=56
K15K Wolf Creek Mou 170.25 331 P PKPdf 19 13 43.4 +2.4
baz=36
O17K Koliganek Bris 170.26 311 P PKPdf 19 13 46.4 +5.4
baz=60
Q17K Contact Creek 170.29 302 P PKPdf 19 13 43.5 +2.2
baz=71
M16K Timber Creek 170.31 320 P PKPdf 19 13 46.9 +5.8
baz=49
J14K Nanvaranak Lak 170.39 337 P PKPdf 19 13 45.9 +4.9
baz=28
Q16K King Salmon 170.53 305 P PKPdf 19 13 44.1 +2.9
baz=67
N16K Nishlik Lake 170.58 318 P PKPdf 19 13 42.1 +0.8
baz=52
L15K Ungalak Mounta 170.72 329 P PKPdf 19 13 43.2 +1.9
baz=38

---

*BJI **10** 18:56:37.3±0.0,6°.85S×130°.75E,h57km,mb4.7/39,*
mB5.0/16,Ms5.6/1,Ms7 5.4/2
*IDC **10** 18:56:40.7±1.8,6°.66S×130°.92E,h66km±16km,mb4.0/11,*
mbtmp4.4/13,Error ellipse: s-maj=16.1km s-min=15.7km
az=139.0
*NEIC **10** 18:56:41.1±2.6,6°.60S±0°.02×130°.76E±0°.07,h73km±7km,*
mb4.6/41,Error ellipse: s-maj=10.5km s-min=3.0km
az=87.0
*DJA **10** 18:56:41.3±0.2,7°S±2°×13°1E±°,h96km±3km,M4.9/38,*
mb4.8/38,mB5.3/18,MLv5.3/15,Mw(mB)4.8/18,
MwMwp5.5/1,Mwp5.7/1
ISC 10 18:56:39.3±0.3,6°.71S±0°.04×130°.94E±0°.05,h62km,n159,
σ2°S16/174,mb4.7/41,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.32**	**164**		**Pn**	**18 57 06.4**	**+4.7**
SAUI				Sn	**Sn**	**18 57 20.9**	**+2.5**
SAUI	**Saumlaki**	**1.32**	**164**	P	Pn	18 57 06.7	+5.0
SAUI	**Saumlaki**	**1.32**	**164**	P	**Pn**	**18 57 06.3**	**+4.7**
SAUI				S	**Sn**	**18 57 20.7**	**+2.3**
BNDI	**Bandanaira**	**2.40**	**335**	P	**Pn**	**18 57 20.9**	**+4.6**
BNDI				S	**Sn**	**18 57 49.5**	**+4.9**
FAKI	**Fak Fak**	**3.98**	**19**	Pn	**Pn**	**18 57 40.1**	**+2.2**
FAKI				Sn	**Sn**	**18 58 21.1**	**-2.3**
FAKI	**Fak Fak**	**3.98**	**19**	P	**Pn**	**18 57 40.4**	**+2.5**
FAKI				S	**Sn**	**18 58 23.2**	**-0.2**
KMPI	**Kaimana, Papua**	**4.09**	**42**	P	**Pn**	**18 57 42.4**	**+3.0**
KMPI				S	**Sn**	**18 58 25.6**	**-0.4**
NLAI	**Namlea**	**5.15**	**312**	P	**Pn**	**18 57 58.4**	**+4.5**
	109nm,1.0s,0.3nm						
SIJI	**Sorong**	**5.81**	**3**	P	**Pn**	**18 58 04.2**	**+1.2**
	244nm,0.3s,baz=202,slow=23,SNR=848						
SIJI				S	**Sn**	**18 59 04.8**	**-3.4**
	194nm,0.2s,baz=20,slow=21,SNR=15						
SWI	**Sorong**	**5.81**	**3**	P	**Pn**	**18 58 04.2**	**+1.2**
	303nm,0.5s,21μm29μm2.7nm						
SWI				S	**Sn**	**18 59 04.1**	**-4.3**
	303nm,0.5s,21μm29μm2.7nm						
RKPI	**Ransiki, Papua**	**6.09**	**32**	P	**Pn**	**18 58 10.0**	**+3.2**
	2μm,0.7s,20μm5.7nm						
MTN	**Manton Dam**	**6.10**	**178**	Pn	**Pn**	**18 58 08.5**	**+1.5**
MTN				Sn	**Sn**	**18 59 11.5**	**-3.9**
MTN	**Manton Dam**	**6.10**	**178**	P	**Pn**	**18 58 09.5**	**+2.5**
KDU	**Kakadu**	**6.13**	**166**	P	**Pn**	**18 58 08.9**	**+1.5**
SANI	**Sanana**	**6.76**	**313**	P	Pn	18 58 21.9	+5.9
SANI	**Sanana**	**6.76**	**313**	P	**Pn**	**18 58 20.6**	**+4.6**
	85nm,0.8s,739nm0.2nm						
LBMI	**Labuha**	**6.94**	**330**	P	**Pn**	**18 58 21.9**	**+3.5**
	88nm,0.6s,2μm0.9nm						
SOEI	**Soe**	**7.26**	**245**	Pn	**Pn**	**18 58 24.9**	**+1.9**
SOEI				Sn	**Sn**	**18 59 42.3**	**-1.9**
SOEI	**Soe**	**7.26**	**245**	P	**Pn**	**18 58 26.0**	**+2.9**
SOEI	**Soe**	**7.26**	**245**	P	**Pn**	**18 58 25.9**	**+2.9**
	185nm,0.8s,3μm3.0nm						
BATI	**Baumata**	**7.99**	**244**	P	**Pn**	**18 58 35.3**	**+2.4**
	160nm,0.6s,4μm						
BATI	**Baumata**	**7.99**	**244**	P	**Pn**	**18 58 35.5**	**+2.6**
	129nm,0.4s,baz=356,slow=0.7,SNR=80						
BATI				S	**Sn**	**19 00 00.9**	**-1.0**
	312nm,0.6s,baz=265,slow=24,SNR=15						
TNTI	**Ternate**	**8.24**	**334**		**Pn**	**18 58 34.7**	**-1.6**
TNTI	**Ternate**	**8.24**	**334**	P	**Pn**	**18 58 40.9**	**+4.6**
TNTI	**Ternate**	**8.24**	**334**	P	**Pn**	**18 58 37.6**	**+1.3**
	23nm,0.8s						
MMRI	**Maumere**	**8.84**	**257**	Pn	**Pn**	**18 58 46.0**	**+1.6**
MMRI	**Maumere**	**8.84**	**257**	P	**Pn**	**18 58 47.9**	**+3.5**
	68nm,1.2s						
SMPI	**Sarmi**	**9.05**	**59**	P	**Pn**	**18 58 49.6**	**+2.2**
	67nm,1.0s,993nm						
KNRA	**Kununurra**	**9.17**	**193**	Pn	**Pn**	**18 58 48.6**	**-0.3**
KNRA	**Kununurra**	**9.17**	**193**	P	**Pn**	**18 58 49.6**	**+0.7**
LUWI	**Luwuk**	**9.90**	**304**	Pn	**Pn**	**18 58 55.9**	**-3.1**
GENI	**Genyem**	**10.06**	**66**	P	**Pn**	**18 59 05.4**	**+4.2**
GENI	**Genyem**	**10.06**	**66**	P	**Pn**	**18 59 03.0**	**+1.8**
	94nm,0.6s,1μm						
JAY	**Jayapura**	**10.59**	**67**	P	**Pn**	**18 59 09.4**	**+1.0**
	29nm,1.0s						
JAY	**Jayapura**	**10.59**	**67**	P	**Pn**	**18 59 10.0**	**+1.7**
	23nm,0.7s,baz=235,slow=10,SNR=12						
JAY				S	**Sn**	**19 01 03.5**	**-1.9**
	42nm,0.8s,baz=70,slow=9.2,SNR=5.6						
BASI	**Baing, Sumba**	**10.83**	**250**	P	**Pn**	**18 59 14.6**	**+3.0**
	252nm,1.1s						
BKSI	**Bulukumba**	**10.85**	**277**	P	**Pn**	**18 59 16.0**	**+4.1**
	22nm,0.8s						
KAPI	**Kappang**	**11.26**	**278**	Pn	**Pn**	**18 59 13.9**	**-3.5**
MRSI	**Marisa**	**11.47**	**308**	P	**Pn**	**18 59 23.5**	**+3.1**
	6nm,0.7s,467nm						
TTSI	**Tana Toraja**	**11.66**	**288**	P	**Pn**	**18 59 26.4**	**+3.4**
	16nm,0.7s						
TOLI2	**Tolitoli**	**12.77**	**307**	Pn	**Pn**	**18 59 34.2**	**-3.9**
TOLI2	**Tolitoli**	**12.77**	**307**	P	**P**	**18 59 44.1**	**-3.0**
MPSI	**Mapaga**	**13.05**	**302**	P	**Pn**	**18 59 45.0**	**+3.0**
	14nm,1.0s						
PLAI	**Plampang**	**13.21**	**260**	P	**Pn**	**18 59 42.3**	**-1.9**
WB0	**Warramunga Arr**	**13.41**	**166**	Pn	**Pn**	**18 59 42.8**	**-4.1**
WRA	**Warramunga Arr**	**13.56**	**166**		Pn	18 59 43.9	-5.1
WRA	**Warramunga Arr**	**13.56**	**166**	P	**Pn**	**18 59 45.2**	**-3.7**
	17nm,0.4s,baz=349,slow=13,SNR=102						
WRA				S	Sn	19 02 05.8	-12
	45nm,0.7s,baz=351,slow=23,SNR=9.3						
WB2	**Warramunga Arr**	**13.57**	**166**	Pn	**Pn**	**18 59 45.1**	**-3.9**
WR0	**Warramunga Arr**	**13.63**	**165**		**Pn**	**18 59 46.1**	**-3.7**
COEN	**Coen**	**14.02**	**122**	Pn	**Pn**	**18 59 52.7**	**-2.4**
COEN	**Coen**	**14.02**	**122**	P	**Pn**	**18 59 55.2**	**+0.1**
TWSI	**Taliwang, Sumb**	**14.08**	**261**	P	**Pn**	**18 59 56.9**	**+1.1**
	16nm,1.5s						
DAV	**Davao City (W)**	**14.69**	**339**		**Pn**	**19 00 00.2**	**-3.7**
QIS	**Mount Isa**	**16.13**	**149**	P	**Pn**	**19 00 21.0**	**-1.2**
PMG	**Port Moresby**	**16.28**	**101**	Pn	**P**	**19 00 26.6**	**+0.5**
PMG				IAmb	IAmb	19 00 51.7	
	comp=Z,43nm,1.1s						
BBKI	**Banjar Baru**	**16.35**	**281**	P	**P**	**19 00 29.2**	**+2.2**
	comp=Z,254nm,0.8s,comp=Z,2μm						
JAGI	**Jajag, Banyuwa**	**16.73**	**263**	Pn	**Pn**	**19 00 25.9**	**-4.0**
JAGI				IAmb	IAmb	19 00 31.6	
	comp=Z,57nm,1.4s						
JAGI	**Jajag, Banyuwa**	**16.73**	**263**	P	**Pn**	**19 00 28.6**	**-1.2**
	comp=Z,28nm,0.8s						
MTKI	**Muara Teweh, K**	**17.00**	**289**	P	**P**	**19 00 35.8**	**+1.7**
	comp=Z,33nm,0.8s						
AS31	**Alice Springs**	**17.10**	**171**	P	**Pn**	**19 00 32.4**	**-2.0**
AS31				IAmb	IAmb	19 00 39.0	
	comp=Z,17nm,0.5s						
ASAR	**Alice Springs**	**17.10**	**171**	P	**Pn**	**19 00 32.5**	**-1.9**
ASAR	**Alice Springs**	**17.10**	**171**	P	**Pn**	**19 00 33.1**	**-1.3**
	comp=Z,21nm,0.4s,baz=341,slow=8.4,SNR=235						
ASAR				S	Sn	19 03 30.1	-14
	comp=Z,26nm,0.7s,baz=346,slow=25,SNR=6.3						
MYLDM	**Lahad Datu**	**17.13**	**313**	P	**Pn**	**19 00 29.6**	**-5.2**
MTSU	**Mount Surprise**	**17.30**	**132**	P	**P**	**19 00 37.8**	**+0.4**
MBWA	**Marble Bar**	**18.00**	**216**	P	**P**	**19 00 43.2**	**-1.9**
MBWA				IAmb	IAmb	19 00 45.6	
	comp=Z,31nm,0.7s						
MBWA	**Marble Bar**	**18.00**	**216**	P	**P**	**19 00 44.5**	**-0.7**
PSA00	**Pilbara Seismi**	**18.26**	**215**	P	**P**	**19 00 46.9**	**-1.1**
PSA00				IAmb	IAmb	19 00 49.6	
	comp=Z,27nm,0.8s						
PSA00	**Pilbara Seismi**	**18.26**	**215**	P	**P**	**19 00 46.7**	**-1.3**
PSA00				IAmb	IAmb	19 00 50.7	
	comp=Z,8.8nm,0.8s						
PSA00	**Pilbara Seismi**	**18.26**	**215**	P	**Pn**	**19 00 48.9**	**+0.4**
WRKA	**Warakurna**	**18.40**	**188**	P	**P**	**19 00 48.9**	**-0.7**
KKM	**Kota Kinabalu**	**19.40**	**310**	P	**P**	**19 00 59.4**	**-1.2**
CTA	**Charters Tower**	**19.95**	**133**	P	**Pn**	**19 01 08.7**	**+0.1**
	comp=Z,8.5nm,0.9s,baz=310,slow=12,SNR=10						
CTA				S	S	19 04 34.9	-13
	comp=Z,4.0nm,0.9s,baz=89,slow=5.3,SNR=3.0						
CTAO	**Charters Tower**	**19.95**	**133**	P	**Pn**	**19 01 09.0**	**+0.4**
STKI	**Sintang**	**20.55**	**288**	P	Pn	19 01 19.5	+3.7
SBUM	**Sibu**	**20.78**	**295**	P	**P**	**19 01 12.8**	**-2.7**
KPJI	**Karang Pucung**	**21.85**	**267**	P	**P**	**19 01 27.3**	**+0.3**
	comp=Z,19nm,0.6s						
KSM	**Kuching**	**22.14**	**291**	P	**P**	**19 01 28.0**	**-2.1**
LEM	**Lembang**	**23.16**	**268**	P	**P**	**19 01 39.5**	**-1.4**
	comp=Z,34nm,0.8s						
FORT	**Forrest**	**24.10**	**186**	P	**P**	**19 01 50.1**	**+0.9**
CGJI	**Cibinong**	**25.08**	**269**	P	**P**	**19 01 56.7**	**-1.6**
	comp=Z,40nm,1.1s						
STKA	**Stephens Creek**	**26.95**	**160**	P	**P**	**19 02 16.1**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=316,slow=8.4,SNR=4.5						
	comp=Z,1.0nm,0.5s						
TOO	**Toolangi**	**33.45**	**159**		**PcP**	**19 05 51.0**	**-1.6**
NJ2	**Nanjing**	**40.23**	**344**	*eP*	**P**	**19 04 11.4**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CM31	**Chiang Mai Arr**	**40.27**	**309**	P	**P**	**19 04 09.6**	**-1.0**
CM31				IAmb	IAmb	19 04 12.1	
	comp=Z,9.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.27**	**309**	P	**P**	**19 04 08.6**	**-2.0**
CMAR				PcP	**PcP**	**19 06 13.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**40.27**	**309**	P	**P**	**19 04 11.2**	**+0.6**
	comp=Z,6.2nm,0.7s,baz=138,slow=7.5,SNR=70						
CMAR				PcP	**PcP**	**19 06 15.2**	**+1.8**
	comp=Z,1.3nm,1.0s,baz=158,slow=1.9,SNR=4.7						
CMAR				ScP	**ScP**	**19 09 56.2**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=152,slow=4.4,SNR=5.8						
	comp=Z,6.2nm,0.7s						
CHTO	**Chiang Mai**	**40.47**	**309**	P	**P**	**19 04 10.2**	**-2.1**
PZH	**PanZhiHua**	**43.49**	**321**	P	**P**	**19 04 37.5**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,70nm,6.5s						
MJAR	**Matsushiro Arr**	**43.56**	**9**	P	**P**	**19 04 37.3**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=162,slow=9.1,SNR=2.5						
	comp=Z,1.5nm,0.8s						
XAN	**Xi'an**	**45.57**	**334**	P	**P**	**19 04 53.2**	**-0.1**
XAN				pmax	pmax		
	comp=Z,16nm,1.1s						
SAIH	**SAIHA**	**47.14**	**309**	*eP*	**P**	**19 05 05.8**	**-0.1**
SAIH				IAmb	IAmb	19 05 06.6	
	comp=Z,33nm,0.7s						
IMP	**Imphal**	**47.75**	**312**	*eP*	**P**	**19 05 09.1**	**-1.5**
IMP				IAmb	IAmb	19 05 10.2	
	comp=Z,4.8nm,0.7s						
AZL	**Aizawl**	**48.06**	**310**	*eP*	**P**	**19 05 12.9**	**-0.1**
AZL				IAmb	IAmb	19 05 13.6	
	comp=Z,12nm,0.8s						
KOHI	**KOHIMA**	**48.16**	**313**	*eP*	**P**	**19 05 13.0**	**-0.8**
KOHI				IAmb	IAmb	19 05 13.8	
	comp=Z,29nm,0.6s						
MOKO	**MOKOCHONG**	**48.23**	**314**	*eP*	**P**	**19 05 13.8**	**-0.5**
LZH	**Lanzhou**	**49.59**	**331**	*eP*	**P**	**19 05 26.0**	**+1.4**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
TEZP	**TEZPUR**	**49.64**	**313**	*eP*	**P**	**19 05 24.6**	**-0.3**
SHL	**Shillong**	**49.70**	**312**	P	**P**	**19 05 22.1**	**-3.5**
SHL				PcP	**PcP**	**19 06 45.6**	**-0.5**
DCZ	**Deep Cove**	**49.73**	**147**	P	**P**	**19 05 28.3**	**+3.0**
MLZ	**Mavora Lakes**	**50.20**	**146**	P	**P**	**19 05 31.9**	**+2.9**
WKZ	**Wanaka**	**50.37**	**145**	P	**P**	**19 05 32.0**	**+1.8**
HHC	**Hu-ho-hao-te**	**50.56**	**341**	*eP*	**P**	**19 05 33.2**	**+1.4**
HHC				pmax	pmax		
	comp=Z,17nm,0.8s						
HHC				pmax	pmax		
	comp=Z,230nm,5.7s						
USRK	**Ussuriysk Ar.**	**50.68**	**1**	P	**P**	**19 05 33.0**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=184,slow=5.7,SNR=4.9						
	comp=Z,1.5nm,0.4s						
LBZ	**Lake Benmore**	**50.77**	**144**	P	**P**	**19 05 35.2**	**+1.9**
BTO	**Baotou**	**50.86**	**339**	*eP*	P	19 05 39.2	+5.1
BTO				PcP	**PcP**	**19 06 51.3**	**+1.3**
BTO				PP	**PP**	**19 07 31.7**	**+0.7**
BTO				S	**S**	**19 12 52.1**	**+6.2**
BTO				pmax	pmax		
	comp=Z,15nm,0.5s						
BTO				pmax	pmax		
	comp=Z,150nm,4.3s						
BTO				LR	LR		
	comp=Z,2μm,14.3s						
BTO				LR	LR		
	comp=Z,2μm,15.3s						
BTO				LR	LR		
	comp=Z,4μm,13.7s						
RPZ	**Rata Peaks**	**50.90**	**143**	P	**P**	**19 05 35.9**	**+1.7**
DHUB	**DHUBRI**	**51.36**	**311**	*eP*	**P**	**19 05 38.9**	**+1.0**
BHW	**Baring Head**	**52.08**	**139**	P	**P**	**19 05 44.0**	**+0.9**
BFZ	**Birch Farm**	**52.66**	**137**	P	**P**	**19 05 49.4**	**+2.0**
GTK	**Tadong**	**53.11**	**311**	*eP*	**P**	**19 05 50.7**	**-0.4**
GTK				IAmb	IAmb	19 05 52.9	
	comp=Z,8.5nm,0.7s						
ODAN	**Odare**	**53.77**	**310**	*eP*	**P**	**19 05 56.2**	**+0.1**
	comp=Z,24nm,0.7s						
TAPN	**Taplejung**	**53.79**	**311**	*eP*	**P**	**19 05 56.3**	**0.0**
	comp=Z,10nm,0.4s						
GTA	**Gaotai**	**54.17**	**330**	P	**P**	**19 05 59.9**	**+1.3**
GTA				pP	pP	19 06 10.8	-2.1
GTA				PcP	**PcP**	**19 07 04.0**	**+1.5**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RAMN	**Ramite**	**54.42**	**310**	*eP*	**P**	**19 06 01.5**	**+0.7**
	comp=Z,39nm,0.6s						
JIRN	**Jiri**	**55.10**	**310**	*eP*	**P**	**19 06 06.4**	**+0.5**
	comp=Z,17nm,0.5s						
GUN	**Gumba**	**55.47**	**310**	*eP*	**P**	**19 06 09.0**	**+0.5**
	comp=Z,47nm,0.7s						
PKI	**Pulchoki**	**55.65**	**310**	*eP*	**P**	**19 06 09.9**	**+0.1**
	comp=Z,11nm,0.6s						
PKIN	**Phulchoki**	**55.66**	**310**	*eP*	**P**	**19 06 09.9**	**+0.1**
	comp=Z,9.6nm,0.5s						
TRD	**Trivandrum**	**55.90**	**285**	*eP*	**P**	**19 06 12.5**	**+1.2**
DMN	**Daman**	**55.90**	**310**	*eP*	**P**	**19 06 11.9**	**+0.4**
GKN	**Gorkha**	**56.46**	**310**	*eP*	**P**	**19 06 15.8**	**+0.5**
	comp=Z,32nm,0.5s						
KOLN	**Koldanda**	**57.14**	**309**	*eP*	**P**	**19 06 20.4**	**+0.2**
	comp=Z,56nm,1.0s						
DANN	**Dangsing**	**57.30**	**310**	*eP*	**P**	**19 06 21.3**	**-0.1**
PYUN	**Piuthan**	**57.77**	**309**	*eP*	**P**	**19 06 25.1**	**+0.5**
	comp=Z,41nm,0.6s						
ULN	**Ulaanbaatar**	**58.28**	**341**	P	**P**	**19 06 27.5**	**-0.3**
ULN				IAmb	IAmb	19 06 30.3	
	comp=Z,3.1nm,0.8s						
SONM	**Songino Array**	**58.47**	**341**	P	**P**	**19 06 30.5**	**+1.5**
	comp=Z,0.6nm,0.4s,baz=152,slow=7.8,SNR=7.7						
	comp=Z,0.6nm,0.4s						
LGTI	**Lohaghat**	**60.53**	**309**	*eP*	**P**	**19 06 43.5**	**+0.1**
PTH	**Pithoragarh**	**60.59**	**309**	*eP*	**P**	**19 06 42.9**	**-1.3**
KUDL	**Kundal**	**62.90**	**306**	*eP*	**P**	**19 06 57.7**	**-1.7**
SMLA	**Simla**	**63.66**	**309**	*eP*	**P**	**19 07 05.0**	**+0.7**
SMLA				IAmb	IAmb	19 07 06.5	
	comp=Z,20nm,0.6s						
WMQ	**Urumqi**	**63.66**	**326**	*eP*	**P**	**19 07 05.9**	**+1.6**
WMQ				pP	pP	19 07 20.0	+1.1
WMQ				pmax	pmax		
	com

DHRM DHARAMSHALA 64.82 310 *e*P **P** **19 07 12.6 +0.4**
DHRM IAmb IAmb 19 07 13.9
comp=Z,8.5nm,0.6s
PRZ Przheval'sk 68.36 321 P **P** **19 07 35.2 +0.6**
PRZ IAmb IAmb 19 07 37.7
comp=Z,12nm,1.2s
MK31 Makanchi Array 68.50 326 P **P** **19 07 35.1 0.0**
MK31 IAmb IAmb 19 07 37.1
comp=Z,6.7nm,0.8s
MKAR Makanchi Array 68.50 326 P **P** **19 07 34.4 -0.8**
MKAR Makanchi Array 68.50 326 P **P** **19 07 36.2 +1.1**
comp=Z,10nm,0.6s,baz=115,slow=7.9,SNR=132
comp=Z,10nm,0.6s
MAKZ Makanchi 68.68 326 P **P** **19 07 35.6 -0.7**
NRN Naryn 69.36 319 P **P** **19 07 39.6 -1.4**
NRN IAmb IAmb 19 07 42.8
comp=Z,7.0nm,1.1s
BOOM Boomskoye usch 69.92 320 P **P** **19 07 42.9 -1.3**
BOOM IAmb IAmb 19 07 46.5
comp=Z,14nm,1.2s
AAK Ala-Archa 70.92 319 P **P** **19 07 48.8 -1.5**
AAK IAmb IAmb 19 07 52.9
comp=Z,6.6nm,0.9s
KBL Kabul 71.29 310 P **P** **19 07 50.5 -2.3**
ZAA0 Zalesovo Array 71.74 333 P **P** **19 07 53.1 -1.7**
ZALV Zalesovo Beam 71.74 333 P **P** **19 07 53.6 -1.2**
ZALV Zalesovo Beam 71.74 333 P **P** **19 07 54.5 -0.2**
comp=Z,2.8nm,0.8s,baz=107,slow=5.0,SNR=11
comp=Z,2.8nm,0.8s
BTK Batken 72.22 316 P **P** **19 07 55.5 -2.6**
KURBB Kurchatov Arra 72.75 328 P **P** **19 08 01.1 +0.2**
comp=Z,5.7nm,0.9s,baz=128,slow=4.8,SNR=30
comp=Z,5.7nm,0.9s
KURK Kurchatov 72.76 328 P **P** **19 08 00.6 -0.3**
KURK IAmb IAmb 19 08 02.5
comp=Z,5.5nm,0.9s
KK31 Karatay Array 73.74 318 P **P** **19 08 06.7 -0.3**
KK31 IAmb IAmb 19 08 30.4
comp=Z,9.1nm,1.2s
KKAR Karatay Array 73.74 318 P **P** **19 08 06.9 -0.1**
KKAR Karatay Array 73.74 318 P **P** **19 08 06.3 -0.6**
KKAR IAmb IAmb 19 08 30.4
comp=Z,9.1nm,1.2s
BVAR Borovoye Array 78.32 328 P **P** **19 08 33.0 +0.3**
comp=Z,3.5nm,0.7s,baz=125,slow=8.0,SNR=22
comp=Z,3.5nm,0.7s
BRVK Borovoye 78.39 328 P **P** **19 08 32.8 -0.3**
BRVK IAmb IAmb 19 08 34.5
comp=Z,5.8nm,1.0s
GEYT Alibeck 80.74 310 P **P** **19 08 47.4 +1.1**
comp=Z,6.0nm,0.7s,baz=119,slow=5.2,SNR=6.9
comp=Z,6.0nm,0.7s
ARU Arti 85.95 328 P **P** **19 09 11.2 -1.4**
ARU IAmb IAmb 19 09 13.5
comp=Z,5.0nm,1.0s
ELIB Princess Elisa 89.05 197 *d*P **P** **19 09 27.5 +0.1**
ILAR Eielson Array 92.69 25 P **P** **19 09 43.0 -1.2**
comp=Z,0.2nm,0.5s,baz=246,slow=4.2,SNR=2.8
comp=Z,0.2nm,0.5s
TORD Torodi Ar. Bea 129.67 281 PKP **PKPdf** **19 15 42.8 +0.3**
comp=Z,1.4nm,0.7s,baz=54,slow=2.9,SNR=5.0
KOWA Kowa 135.12 284 PKP **PKPdf** **19 15 53.0 +0.2**
comp=Z,0.7nm,0.4s,baz=169,slow=2.7,SNR=4.2
CPUP Villa Florida 146.19 167 PKPbc **PKPab** **19 16 14.7 +0.5**
comp=Z,7.4nm,1.2s,baz=249,slow=4.6,SNR=6.0

---

*SJA **10** 18:58:42.4±0.7,23°.94S×68°.13W,h142km±6km,ML3.2, MW3.6*
*IDC **10** 18:58:43.6±4.3,23°.85S×67°.88W,h120km±37km,mb3.7/2, mbtmp4.2/4,MS4.3/1,Error ellipse: s-maj=63.2km s-min=24.8km az=169.0*
*GUC **10** 18:58:43.4±0.9,23°.93S×68°.06W,h128km±7km,ML3.7*
ISC 10 18:58:43.3±0.8,23°.90S±0°.03×68°.16W±0°.05,h137km±8km, n40,σ1§43/61,3C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.95**	**359**	⇓*i*P	**Pn**	**18 59 05.9**	**-0.8**
AF01				*i* S	**Sn**	**18 59 22.8**	**-1.7**
AF01				IAML		18 59 24.5	
comp=N,2μm,0.4s							
PB15	**IPOC Station P**	**1.39**	**300**	⇑*i*P	**Pn**	**18 59 11.3**	**+0.4**
PB15				*i* S	**Sn**	**18 59 32.3**	**+0.4**
PB15	**IPOC Station P**	**1.39**	**300**	*e*P	**Pn**	**18 59 11.4**	**+0.5**
PB15				*e*S	**Sn**	**18 59 32.6**	**+0.8**
PB15				IAML		18 59 35.9	
comp=Z,1μm,0.1s							
LVC	**Limon Verde**	**1.46**	**332**	P	**Pn**	**18 59 12.6**	**+0.7**
comp=Z,80nm,0.5s,baz=156,slow=7.3,SNR=105							
LVC				S	**Sn**	**18 59 33.3**	**-0.3**
comp=Z,242nm,0.5s,baz=108,slow=5.6,SNR=7.1							
LVC	**Limon Verde**	**1.46**	**332**	*e*P	**Pn**	**18 59 12.4**	**+0.5**
LVC				*i* S	**Sn**	**18 59 33.9**	**+0.3**
LVC				IAML		18 59 36.0	
comp=Z,2μm,0.5s							
LVC	**Limon Verde**	**1.46**	**332**	*e*P	**Pn**	**18 59 12.5**	**+0.7**
LVC				*e*S	**Sn**	**18 59 34.8**	**+1.2**
LVC				IAML		18 59 37.3	
comp=Z,251nm,0.4s							
PB06	**IPOC Station P**	**1.76**	**312**	⇑*i*P	**Pn**	**18 59 15.7**	**+0.7**
PB06				*i* S	**Sn**	**18 59 39.1**	**-0.1**
PB06				IAML		18 59 41.3	
comp=E,356nm,0.1s							
PB06	**IPOC Station P**	**1.76**	**312**	*e*P	**Pn**	**18 59 16.0**	**+0.9**
PB06				*e*S	**Sn**	**18 59 40.8**	**+1.5**
PB06				IAML		18 59 42.6	
comp=Z,247nm,0.1s							
GO02	**Mina Guanaco**	**1.81**	**226**	⇑*i*P	**Pn**	**18 59 15.7**	**+0.1**
GO02				*i* S	**Sn**	**18 59 41.6**	**+1.2**
GO02				IAML		18 59 44.6	
comp=E,581nm,0.1s							
GO02	**Mina Guanaco**	**1.81**	**226**	*e*P	**Pn**	**18 59 15.8**	**+0.1**
GO02				*e*S	**Sn**	**18 59 41.7**	**+1.2**
PB14	**IPOC Station P**	**2.17**	**250**	*e*P	**Pn**	**18 59 19.5**	**-0.6**
PB14				*e*S	**Sn**	**18 59 47.4**	**-0.8**
PB14				IAML		18 59 51.8	
comp=Z,223nm,0.4s							
PB09	**IPOC Station P**	**2.32**	**334**	*e*P	**Pn**	**18 59 23.1**	**+1.3**
PB09				*i* S	**Sn**	**18 59 52.3**	**+1.0**
PB09				IAML		18 59 54.9	
comp=N,147nm,0.4s							
PB09	**IPOC Station P**	**2.32**	**334**	*e*P	**Pn**	**18 59 23.3**	**+1.5**
PB09				*e*S	**Sn**	**18 59 53.4**	**+2.0**
PB09				IAML		18 59 59.6	
comp=Z,109nm,0.6s							
PB04	**IPOC Station P**	**2.41**	**310**	*e*P	**Pn**	**18 59 23.3**	**+0.4**
PB04				*i* S	**Sn**	**18 59 51.0**	**-2.1**
PB04				IAML		18 59 57.2	
comp=N,189nm,0.2s							
PB04	**IPOC Station P**	**2.41**	**310**	*e*P	**Pn**	**18 59 23.8**	**+1.0**
PB04				*e*S	**Sn**	**18 59 51.4**	**-1.8**
PB04				IAML		18 59 58.0	
comp=Z,191nm,0.1s							
SLA	**San Lorenzo**	**2.56**	**109**	*e*P	**Pn**	**18 59 24.8**	**+0.1**
SLA				*e*S	Sn	19 00 12.1	+16
SLA				IAML		19 00 15.5	
comp=Z,14nm,2.4s							
HJA	**Humahuaca**	**2.62**	**75**	*e*P	**Pn**	**18 59 26.4**	**+0.7**
HJA				IAML		19 00 01.0	
comp=Z,13nm,0.6s							
PB07	**IPOC Station P**	**2.69**	**323**	*e*P	**Pn**	**18 59 26.7**	**+0.3**
PB07				*i* S	**Sn**	**18 59 59.3**	**-0.3**
PB07				IAML		19 00 01.5	
comp=E,175nm,0.3s							
PB07	**IPOC Station P**	**2.69**	**323**	*e*P	**Pn**	**18 59 26.5**	**+0.1**
PB07				IAML		19 00 01.1	
comp=Z,137nm,0.4s							
AZAP	**Zapla**	**2.85**	**97**	*e*P	**Pn**	**18 59 28.3**	**-0.1**
AZAP				IAML		19 00 17.7	
comp=Z,26nm,3.6s							
FSA	**Cafayete**	**2.96**	**138**	*e*P	**Pn**	**18 59 29.8**	**0.0**
YJA	**Yavi**	**2.98**	**55**	*e*P	**Pn**	**18 59 31.1**	**+0.7**
YJA				IAML		19 00 09.0	
comp=Z,2.5nm,0.4s							
PB02	**IPOC Station P**	**3.03**	**328**	*e*P	**Pn**	**18 59 30.8**	**0.0**
PB02				*e*S	**Sn**	**19 00 07.4**	**+0.1**
PB02				IAML		19 00 13.3	
comp=E,266nm,0.4s							
PB02	**IPOC Station P**	**3.03**	**328**	*e*P	**Pn**	**18 59 31.2**	**+0.4**
PB02				IAML		19 00 11.5	
comp=Z,147nm,0.5s							
AC02	**Maricunga**	**3.05**	**197**	*e*P	**Pn**	**18 59 31.6**	**+0.3**
AC02				IAML		19 00 10.6	
comp=Z,36nm,1.5s							
PB01	**IPOC Station P**	**3.10**	**336**	*e*P	**Pn**	**18 59 31.7**	**+0.1**
PB01				*i* S	**Sn**	**19 00 08.6**	**-0.3**
PB01				IAML		19 00 11.4	
comp=E,135nm,0.5s							
PB01	**IPOC Station P**	**3.10**	**336**	*e*P	**Pn**	**18 59 32.2**	**+0.6**
PB01				IAML		19 00 12.9	
comp=Z,61nm,0.6s							
AC01	**Pan de Azucar**	**3.15**	**224**	*e*P	**Pn**	**18 59 30.7**	**-1.3**
AC01				IAML		19 00 17.9	
comp=Z,66nm,0.5s							
PATCX	**Punta Patache**	**3.58**	**329**	*e*P	**Pn**	**18 59 38.0**	**+0.2**
PATCX				*e*S	**Sn**	**19 00 13.3**	**-6.7**
PATCX				IAML		19 00 31.4	
comp=Z,59nm,0.6s							
TA01	**Diego Aracena**	**3.81**	**330**	*e*P	**Pn**	**18 59 43.4**	**+2.5**
TA01				IAML		19 00 43.9	
comp=Z,41nm,0.6s							
PB08	**IPOC Station P**	**3.86**	**346**	*e*P	**Pn**	**18 59 42.7**	**+1.0**
PB08				IAML		19 00 35.0	
comp=Z,28nm,0.6s							
GO03	**Copiap**	**4.12**	**207**	*e*P	**Pn**	**18 59 43.3**	**-1.6**
GO03				*e*S	**Sn**	**19 00 30.9**	**-1.9**
VCA	**Vinchina**	**4.81**	**180**	*e*P	**Pn**	**18 59 54.6**	**+0.4**
VCA				*e*S	**Sn**	**19 00 50.5**	**+1.2**
VCA				IAML		19 00 51.9	
comp=Z,17nm,1.3s							
LPAZ	**La Paz**	**7.58**	**0**	P	**Pn**	**19 00 32.8**	**+1.0**
comp=Z,1.9nm,0.4s,baz=191,slow=3.6,SNR=7.9							
SIV	**San Ignacio**	**10.31**	**42**	P	**Pn**	**19 01 04.1**	**-3.7**
comp=Z,13nm,0.5s,baz=238,slow=10,SNR=67							
SIV				LR	LR	19 04 49.4	
comp=Z,2μm,21.2s,baz=294,slow=36							
BDFB	**Brasilia**	**20.64**	**70**	P	**P**	**19 03 12.0**	**-0.4**
comp=Z,5.2nm,0.6s,baz=238,slow=14,SNR=7.5							
comp=Z,5.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**77.53**	**69**	P	**P**	**19 10 24.6**	**+0.1**
comp=Z,0.9nm,0.4s,baz=267,slow=6.3,SNR=11							
comp=Z,0.9nm,0.4s							
ASAR	**Alice Springs**	**128.09**	**206**	PKP	**PKiKP**	**19 17 35.8**	**+1.2**
comp=Z,0.5nm,0.8s,baz=162,slow=2.7,SNR=2.2							
WRA	**Warramunga Arr**	**131.21**	**209**	PKP	**PKiKP**	**19 17 42.1**	**+1.2**
comp=Z,0.5nm,0.9s,baz=154,slow=1.9,SNR=7.0							
MKAR	**Makanchi Array**	**147.12**	**39**	PKPbc	**PKPab**	**19 18 12.7**	**+0.5**
comp=Z,0.3nm,0.6s,baz=271,slow=1.5,SNR=1.2							

---

*IDC **10** 19:29:30.5±3.1,45°.59S×76°.71W,h0km,mb4.1/3, mbtmp4.0/4,ML3.8/1,Error ellipse: s-maj=100.5km s-min=27.6km az=110.0*
*NEIC **10** 19:29:31.5±1.6,45°.81S±0°.05×76°.2W±0°.1,h10km±1km, mb4.3/9,ML3.9(GUC),Error ellipse: s-maj=18.4km s-min=6.6km az=250.0*
*GUC **10** 19:29:34.0±0.6,45°.79S×76°.00W,h21km±16km,ML3.9*
ISC 10 19:29:31.6±0.9,45°.79S±0°.07×76°.19W±0°.09,h10km,n57, σ1§21/54,mb4.0/3,1C,Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AY02	**Valle Explorad**	**2.20**	**110**		**Pn**	**19 30 07.5**	**-0.7**
AY02	**Valle Explorad**	**2.20**	**110**	*e*P	**Pn**	**19 30 08.0**	**-0.1**
AY02				*i* S	**Sn**	**19 30 33.8**	**-1.6**
AY02				IAML		19 30 38.3	
comp=E,1μm,0.5s							
AY01	**Puyuhuapi**	**2.86**	**63**	Pn	**Pn**	**19 30 17.0**	**-0.1**
AY01	**Puyuhuapi**	**2.86**	**63**	⇑*i*P	**Pn**	**19 30 17.1**	**0.0**
AY01				*i* S	**Sn**	**19 30 49.6**	**-2.0**
AY01				IAML		19 31 08.6	
comp=N,440nm,0.4s							
AY03	**Cochrane**	**2.89**	**122**	*e*P	**Pn**	**19 30 17.7**	**+0.1**
AY03				*i* S	**Sb**	**19 30 60.0**	**+1.4**
COYC	**Coyhaique**	**2.89**	**87**		**Pn**	**19 30 17.3**	**-0.4**
GO07	**Milladeo Hill,**	**3.23**	**35**		**Pn**	**19 30 22.3**	**0.0**
LL07	**Hotel Espejo d**	**3.54**	**34**	Pn	**Pn**	**19 30 25.8**	**-0.7**
LL07	**Hotel Espejo d**	**3.54**	**34**	*e*P	**Pn**	**19 30 27.6**	**+1.1**
LL07				IAML		19 31 55.4	
comp=E,179nm,0.7s							
LL06	**Loncomilla**	**4.02**	**28**		**Pn**	**19 30 33.8**	**+0.6**
LL06	**Loncomilla**	**4.02**	**28**	*e*P	**Pn**	**19 30 34.9**	**+1.8**
LL02	**Futaleuf**	**4.05**	**52**	Pn	**Pn**	**19 30 33.3**	**-0.3**
LL01	**San Ignacio de**	**4.36**	**40**		**Pn**	**19 30 38.6**	**+0.8**
LL01	**San Ignacio de**	**4.36**	**40**	*e*P	**Pn**	**19 30 39.0**	**+1.2**
LL05	**Los Muermos**	**4.80**	**25**		**Pn**	**19 30 44.2**	**+0.3**
LL03	**Petrohue**	**5.40**	**32**		**Pn**	**19 30 53.6**	**+1.5**
GO09	**Cerro Castillo**	**6.06**	**156**	Pn	**Pn**	**19 31 00.4**	**-0.7**
LR04	**Corral**	**6.24**	**20**		**Pn**	**19 31 05.4**	**+1.7**
MG05	**Puerto Natales**	**6.38**	**159**	Pn	**Pn**	**19 31 06.5**	**+0.9**
PLCA	**Paso Flores**	**6.51**	**41**	Pn	**Pn**	**19 31 07.9**	**+0.3**
PLCA	**Paso Flores**	**6.51**	**41**	Pn	**Pn**	**19 31 08.4**	**+0.9**
comp=E,0.4nm,0.3s,baz=221,slow=12,SNR=18							
comp=E,4.6nm,0.7s							
LR03	**Panguipulli**	**6.77**	**26**		**Pn**	**19 31 11.4**	**+0.5**
GO06	**Curarrehue**	**7.11**	**31**	Pn	**Pn**	**19 31 16.9**	**+1.3**
BI05	**Punta Hualpn**	**9.31**	**15**	Pn	**Pn**	**19 31 47.7**	**+2.0**
GO05	**Huala**	**11.24**	**18**		**Pn**	**19 32 13.8**	**+1.6**
BO02	**Sierra Bellavi**	**11.73**	**22**	Pn	**Pn**	**19 32 19.2**	**+0.2**
BO01	**Tunca**	**12.03**	**21**	Pn	**Pn**	**19 32 22.6**	**-0.4**
H03S1	**Juan Fernandez**	**12.11**	**349**	T	T	19 45 00.8	
baz=166,slow=74,SNR=651							
H03S2	**Juan Fernandez**	**12.12**	**349**	T	T	19 45 08.2	
baz=166,slow=74,SNR=496							
H03S3	**Juan Fernandez**	**12.12**	**349**	T	T	19 45 09.4	
baz=166,slow=74,SNR=645							
MT01	**Popeta**	**12.49**	**19**		**Pn**	**19 32 29.1**	**-0.3**
BO04	**La Punta**	**12.53**	**22**		**Pn**	**19 32 29.5**	**-0.4**
MT09	**Talagante**	**12.64**	**20**		**Pn**	**19 32 30.7**	**-0.8**
LMEL	**Las Melosas**	**12.77**	**23**		**Pn**	**19 32 33.8**	**+0.4**
MT13	**San Alfonso**	**12.85**	**23**		**Pn**	**19 32 33.9**	**-0.4**
TRQA	**Tornquist**	**13.09**	**59**		**Pn**	**19 32 38.6**	**+1.1**
MT02	**Curacav**	**13.10**	**19**	Pn	**Pn**	**19 32 37.4**	**-0.3**
PEL	**Peldehue**	**13.32**	**20**		**Pn**	**19 32 39.3**	**-1.3**
ROC1	**El Roble**	**13.40**	**19**		**Pn**	**19 32 40.2**	**-1.7**
CO02	**Combarbal**	**15.11**	**17**		**Pn**	**19 33 03.8**	**-1.3**
ZON	**Zonda**	**15.37**	**25**	Pn	**Pn**	**19 33 06.6**	**-1.9**
ZON				IAmb	IAmb	19 33 18.9	
comp=Z,28nm,1.4s							
CO03	**El Pedregal**	**15.53**	**18**		**Pn**	**19 33 10.5**	**-0.2**
CO03				IAmb	IAmb	19 33 49.2	
comp=Z,16nm,1.1s							
CO01	**Juntas del Tor**	**16.49**	**19**	P	**Pn**	**19 33 22.9**	**-0.3**
LCO	**Las Campanas**	**17.30**	**16**	P	**Pn**	**19 33 32.0**	**-1.4**
LCO				IAmb	IAmb	19 33 33.6	
comp=Z,35nm,1.4s							
AC05	**El Transito**	**17.55**	**17**	P	**Pn**	**19 33 36.9**	**+0.5**
CPUP	**Villa Florida**	**24.58**	**44**	P	**P**	**19 34 51.5**	**-0.2**
CPUP				IAmb	IAmb	19 34 55.6	
comp=Z,17nm,1.4s							
CPUP	**Villa Florida**	**24.58**	**44**	P	**P**	**19 34 53.3**	**+1.6**
comp=Z,5.5nm,0.7s,baz=222,slow=9.0,SNR=14							
comp=Z,5.5nm,0.7s							
BDFB	**Brasilia**	**38.22**	**47**	P	**P**	**19 36 53.4**	**+1.6**
comp=Z,1.0nm,0.3s,baz=200,slow=15,SNR=1.3							
comp=Z,1.0nm,0.3s							
SNAA	**Sanae**	**42.18**	**153**	P	**P**	**19 37 23.7**	**-0.2**
SNAA				IAmb	IAmb	19 37 50.8	
comp=Z,3.8nm,1.2s							
SNAA	**Sanae**	**42.18**	**153**	P	**P**	**19 37 27.0**	**+3.1**
comp=Z,1.7nm,0.8s,baz=250,slow=4.5,SNR=6.0							
comp=Z,1.7nm,0.8s							
ROSC	**El Rosal**	**50.43**	**2**	P	**P**	**19 38 29.2**	**-0.5**
H11S2	**WAKE ISLAND Hyl**	**21.85**	**264**	T	T	22 02 43.2	
baz=134,slow=75,SNR=22							
H11S1	**WAKE ISLAND Hyl**	**21.87**	**264**	T	T	22 02 48.5	
baz=134,slow=75,SNR=13							
H11S3	**WAKE ISLAND Hyl**	**21.87**	**264**	T	T	22 02 44.5	
baz=134,slow=75,SNR=9.5							
CMAR	**Chiang Mai Arr**	**152.45**	**170**	PKPbc	**PKiKP**	**19 49 29.1**	**+0.8**
comp=Z,0.4nm,0.6s,baz=207,slow=3.6,SNR=2.3							
PZH	**PanZhiHua**	**160.69**	**174**	PKP	**PKPdf**	**19 49 30.1**	**-1.7**
HHC	**Hu-ho-hao-te**	**172.50**	**232**	*e*P	**PKPdf**	**19 49 37.4**	**-3.0**

IDC 10 19:34:06.5±2.6,4°.41N×124°.20E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=301.3km s-min=28.8km az=64.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.17**	**158**	P	P	19 39 43.1	+0.2
0.3nm,0.3s,baz=337,slow=9.4,SNR=13							
0.3nm,0.3s							
ASAR	**Alice Springs**	**29.47**	**162**	P	P	19 40 12.2	-0.3
0.2nm,0.5s,baz=338,slow=7.7,SNR=5.3							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**55.58**	**326**	P	P	19 43 43.9	0.0
0.4nm,0.7s,baz=131,slow=8.1,SNR=2.5							
0.4nm,0.7s							

---

*IDC **10** 19:43:12.3±1.4,10°.66N×126°.02E,h0km,mb3.8/7, mbtmp3.8/7,Error ellipse: s-maj=63.9km s-min=25.9km az=67.0*
ISC 10 19:43:19.5±1.3,10°.6N±0°.2×125°.9E±0°.4,h51km,n7, σ0§84/7,mb3.5/7,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.22**	**290**	P	**P**	**19 48 59.0**	**+0.1**
0.7nm,0.9s,baz=91,slow=6.6,SNR=5.9							
0.7nm,0.9s							
ASAR	**Alice Springs**	**34.92**	**167**	P	**P**	**19 50 06.8**	**+0.2**
0.2nm,0.4s,baz=351,slow=7.7,SNR=5.8							
0.2nm,0.4s							
SONM	**Songino Array**	**40.61**	**340**	P	**P**	**19 50 55.6**	**+1.1**
0.3nm,0.5s,baz=140,slow=7.7,SNR=2.0							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**51.56**	**323**	P	**P**	**19 52 20.6**	**0.0**
0.4nm,0.5s,baz=119,slow=7.8,SNR=4.4							
0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**55.62**	**325**	P	**P**	**19 52 49.6**	**-0.5**
0.3nm,0.6s,baz=128,slow=6.5,SNR=5.6							
0.3nm,0.6s							
ARCES	**ARCESS Array B**	**83.78**	**340**	P	**P**	**19 55 42.1**	**-0.9**
3.3nm,1.1s,baz=59,slow=7.5,SNR=4.8							
3.3nm,1.1s							
FINES	**FINESS Array B**	**85.45**	**332**	P	**P**	**19 55 50.8**	**-0.7**
6.0nm,1.1s,baz=89,slow=4.0,SNR=9.6							
6.0nm,1.1s							

---

*IDC **10** 19:46:49.0±1.5,37°.84N×22°.12E,h0km,mb3.2/4, mbtmp3.3/4,Error ellipse: s-maj=63.6km s-min=25.9km az=153.0*
*ATH **10** 19:46:50.9,37°.97N×22°.03E,h18km±1km,ML3.4/23, Manual Solution by A.Papageorgiou First location: 2019/04/18 11:15:09, This location: 2019/04/18 11:13:46 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **10** 19:46:51.6,37°.98N×22°.02E,h11km±1km,ML3.3/21,Error ellipse: s-maj=1.2km s-min=0.6km az=39.0*
ISC 10 19:46:51.3±0.8,37°.99N±0°.02×22°.03E±0°.01,h17km±5km, n83,σ0§72/137,mb3.3/3,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.12**	**59**	P	**Pb**	**19 46 55.2**	**+0.1**
KLV				S	**Sb**	**19 46 58.0**	**+0.3**
14μm,0.3s							
KLV	**Kalavryta, Ach**	**0.12**	**59**	P	**Pb**	**19 46 55.1**	**+0.1**
KLV				S	**Sb**	**19 46 57.9**	**+0.2**
DRO	**Drossia**	**0.25**	**263**	P	**Pg**	**19 46 56.9**	**0.0**
GUR	**Goura**	**0.26**	**101**	P	**Pg**	**19 46 57.0**	**0.0**
GUR				S	**Sg**	**19 47 00.8**	**-0.1**
GUR	**Goura**	**0.26**	**101**	P	**Pg**	**19 46 56.8**	**-0.2**
GUR				S	**Sb**	**19 47 01.4**	**-0.3**
LAKA	**Lakka**	**0.26**	**352**	P	**Pg**	**19 46 57.0**	**0.0**
LAKA				S	**Sg**	**19 47 01.0**	**+0.1**
14μm,0.2s							
LAKA	**Lakka**	**0.26**	**352**	P	**Pg**	**19 46 56.8**	**-0.2**
LAKA				S	**Sg**	**19 47 00.8**	**-0.1**
ALIK	**Aliki, Aigiali**	**0.28**	**14**	P	**Pg**	**19 46 57.5**	**+0.1**
ALIK				S	**Sg**	**19 47 02.2**	**+0.6**
PATG	**Patra B**	**0.35**	**317**	P	**Pb**	**19 46 58.9**	**-0.1**
PATG				S	**Sb**	**19 47 04.0**	**-0.2**
PATC	**Patra C**	**0.35**	**324**	P	**Pb**	**19 46 59.7**	**+0.6**
PATC				S	**Sb**	**19 47 04.5**	**0.0**
UPR	**University Cam**	**0.35**	**328**	P	**Pg**	**19 46 58.7**	**+0.1**
UPR				S	**Sb**	**19 47 04.4**	**0.0**
RIOA	**Rio**	**0.36**	**329**	P	**Pg**	**19 46 58.7**	**0.0**
RIOA				S	**Sg**	**19 47 04.0**	**+0.2**
TRIZ	**Trizonia**	**0.38**	**6**	P	**Pg**	**19 46 58.9**	**-0.2**
TRIZ				S	**Sg**	**19 47 04.8**	**+0.3**
3μm,0.3s							
KALE	**Kalithea**	**0.41**	**13**	P	**Pg**	**19 46 59.5**	**-0.3**
KALE				S	**Sb**	**19 47 06.8**	**+0.5**
6μm,0.2s							
KALE	**Kalithea**	**0.41**	**13**	P	**Pg**	**19 46 59.4**	**-0.3**
KALE				S	**Sb**	**19 47 06.8**	**+0.5**
RLS	**Riolos of Patr**	**0.45**	**280**	P	**Pg**	**19 46 59.7**	**-0.6**
RLS				S	**Sg**	**19 47 06.2**	**-0.2**
2μm,0.2s							
RLS	**Riolos of Patr**	**0.45**	**280**	P	**Pg**	**19 46 59.6**	**-0.6**
RLS				S	**Sg**	**19 47 06.4**	**+0.1**
EFP	**Efpalio**	**0.45**	**348**	P	**Pg**	**19 47 00.2**	**-0.2**
EFP				S	**Sb**	**19 47 07.6**	**+0.3**
5μm,0.3s							
EFP	**Efpalio**	**0.45**	**348**	P	**Pg**	**19 47 00.0**	**-0.3**
EFP				S	**Sg**	**19 47 07.0**	**+0.4**
THAL	**Thalero**	**0.51**	**84**	P	**Pg**	**19 47 01.2**	**-0.2**
THAL				S	**Sb**	**19 47 08.8**	**-0.1**
11μm,0.4s							
THAL	**Thalero**	**0.51**	**84**	P	**Pg**	**19 47 01.4**	**0.0**
THAL				S	**Sb**	**19 47 08.7**	**-0.1**
KIAA	**Kiato**	**0.57**	**87**	P	**Pg**	**19 47 02.7**	**+0.1**
KIAA				S	**Sb**	**19 47 11.0**	**+0.3**
ZARO	**Zacharo**	**0.58**	**211**	P	**Pg**	**19 47 02.5**	**-0.3**
ZARO				S	**Sb**	**19 47 11.0**	**+0.1**
LCHA	**Lechaina**	**0.60**	**266**	P	**Pg**	**19 47 03.2**	**0.0**
LCHA				S	**Sb**	**19 47 11.5**	**-0.1**
ANX	**Ano Chora**	**0.61**	**352**	P	**Pg**	**19 47 02.8**	**-0.6**
ANX				S	**Sb**	**19 47 12.7**	**+0.7**
5μm,0.4s							
ANX	**Ano Chora**	**0.61**	**352**	P	**Pg**	**19 47 02.7**	**-0.7**
ANX				S	**Sb**	**19 47 12.8**	**+0.7**
DLFA	**Delphi**	**0.62**	**37**	P	**Pg**	**19 47 02.8**	**-0.7**
DLFA		

PYL			S		Sg	19 47 29.0	+1.7
	892nm,0.5s						
PSDA	**Pessada-Kefalo**	**1.15 277**	P		**Pn**	**19 47 11.4**	**-1.1**
PSDA			S		**Sg**	**19 47 29.4**	**+1.1**
	2μm,0.2s						
PSDA	**Pessada-Kefalo**	**1.15 277**	P		**Pn**	**19 47 11.4**	**-1.1**
PSDA			S		**Sb**	**19 47 27.2**	**0.0**
VLS	**Valsamata**	**1.15 280**	P		**Pn**	**19 47 11.3**	**-1.3**
VLS			S		**Sg**	**19 47 29.4**	**+0.9**
	780nm,0.2s						
VLS	**Valsamata**	**1.15 280**	P		**Pn**	**19 47 11.6**	**-1.0**
VLS			S		**Sb**	**19 47 27.6**	**+0.3**
MTHA	**Methoni**	**1.19 192**	P		**Pn**	**19 47 13.0**	**-0.2**
MTHA			S		**Sn**	**19 47 28.6**	**-0.4**
VSK1	**VASILIKIADES**	**1.23 291**	P		**Pn**	**19 47 12.9**	**-0.8**
VSK1			S		**Sg**	**19 47 32.3**	**+1.3**
	848nm,0.2s						
FSK	**Fiskardo**	**1.25 293**	P		**Pn**	**19 47 13.1**	**-0.8**
FSK			S		**Sb**	**19 47 29.8**	**-0.3**
EVGI	**Lefkada island**	**1.25 301**	P		**Pn**	**19 47 13.5**	**-0.5**
EVGI	**Lefkada island**	**1.25 301**	P		**Pn**	**19 47 13.6**	**-0.5**
EVGI			S		**Sb**	**19 47 29.7**	**-0.6**
KEF4	**Livadi, Kephal**	**1.29 283**	P		**Pn**	**19 47 14.0**	**-0.5**
KEF4			S		**Sg**	**19 47 34.8**	**+1.8**
	5μm,0.2s						
DMLN	**Damoulianata-K**	**1.33 281**	P		**Pn**	**19 47 14.7**	**-0.4**
KEF3	**Kipouria, Keph**	**1.34 280**	P		**Pn**	**19 47 14.5**	**-0.7**
LKD2	**Lefkada island**	**1.34 307**	P		**Pn**	**19 47 14.9**	**-0.4**
TSLK	**Tsoukalades, L**	**1.36 308**	P		**Pn**	**19 47 15.5**	**-0.1**
ATHU	**Athens Univers**	**1.39 90**	P		**Pn**	**19 47 11.7**	**-4.2**
VLY	**Voula,Athens**	**1.41 95**	P		Pn	19 47 11.2	-4.9
VLI	**Veliai**	**1.46 150**	P		**Pb**	**19 47 17.7**	**-0.3**
DION	**Dionisos Attik**	**1.51 86**	P		**Pn**	**19 47 15.8**	**-1.8**
THL	**Klokotos Trika**	**1.58 360**	P		**Pb**	**19 47 19.4**	**-0.6**
XOR	**Xorichti**	**1.65 33**	P		**Pn**	**19 47 19.4**	**-0.2**
KPRO	**Kipourio**	**2.03 346**	P		**Pb**	**19 47 28.2**	**+0.4**
DBRK	**Dubrovnik**	**5.54 329**	*e*Pn		**Pn**	**19 48 12.3**	**-0.6**
DBRK			Sn		**Sn**	**19 49 14.0**	**-2.2**
STON	**Ston**	**5.89 327**	*e*Pn		**Pn**	**19 48 17.3**	**-0.5**
LSTV	**Lastovo**	**6.18 322**	*e*Pn		**Pn**	**19 48 21.1**	**-0.6**
RICI	**Ricice**	**6.64 328**	*e*Pn		**Pn**	**19 48 27.9**	**-0.1**
HVAR	**Hvar**	**6.70 322**	*e*Pn		**Pn**	**19 48 28.4**	**-0.5**
KIJV	**Kijevo**	**7.36 327**	*e*Pn		**Pn**	**19 48 38.1**	**+0.2**
MORI	**Morici**	**7.57 323**	*e*Pn		**Pn**	**19 48 40.9**	**+0.1**
DUGI	**Dugi Otok**	**7.98 321**	*e*Pn		**Pn**	**19 48 46.5**	**+0.1**
NVLJ	**Novalja**	**8.49 323**	*e*Pn		**Pn**	**19 48 53.8**	**+0.3**
ESDC	**Sonseca Array**	**20.30 283**	P		Pn	19 51 27.5	-0.8
	0.6nm,0.9s,baz=82,slow=11,SNR=4.8						
	0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**30.65 222**	P		**P**	**19 53 04.7**	**-0.2**
	0.4nm,0.8s,baz=30,slow=11,SNR=2.6						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**41.39 53**	P		**P**	**19 54 36.7**	**+0.3**
	0.3nm,1.0s,baz=272,slow=8.7,SNR=1.4						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**44.39 59**	P		**P**	**19 55 01.3**	**+0.5**
	0.3nm,0.5s,baz=267,slow=8.3,SNR=4.3						
	0.3nm,0.5s						

*IDC **10** 19:54:47.7±3.4, 8°.63S×118°.13E, h131km±22km, mb3.4/5, mbtmp3.8/8, Error ellipse: s-maj=65.6km s-min=13.0km az=56.0*

ISC 10 19:54:49.2±0.8, 8°.65S±0°.08×118°.30E±0°.07, h150km, n18, σ1§88/23, mb3.6/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.54**	**251**	P	**Pn**	**19 55 09.2**	**-1.5**
KAPI	**Kappang**	**3.89**	**22**	P	**Pn**	**19 55 47.8**	**-0.3**
KAPI	**Kappang**	**3.89**	**22**	P	**Pn**	**19 55 47.7**	**-0.3**
	12nm,0.4s,baz=165,slow=5.7,SNR=7.5						
MMRI	**Maumere**	**3.90**	**90**	P	**Pn**	**19 55 47.8**	**-0.3**
JAGI	**Jajag, Banyuwa**	**4.10**	**272**	P	**Pn**	**19 55 50.0**	**-0.8**
BATI	**Baumata**	**5.52**	**107**	P	**Pn**	**19 56 08.8**	**-0.7**
	18nm,0.3s,baz=280,slow=3.4,SNR=19						
BATI				S	**Sn**	**19 57 08.7**	**-3.6**
	25nm,0.3s,baz=132,slow=22,SNR=11						
SOEI	**Soe**	**6.00**	**101**	P	**Pn**	**19 56 16.0**	**0.0**
KNRA	**Kununurra**	**12.38**	**125**	P	**Pn**	**19 57 38.7**	**-1.8**
MBWA	**Marble Bar**	**12.51**	**174**	P	**Pn**	**19 57 41.9**	**-0.2**
MTN	**Manton Dam**	**13.28**	**109**	P	**Pn**	**19 57 49.7**	**-2.4**
KDU	**Kakadu**	**14.50**	**107**	P	**Pn**	**19 58 07.6**	**+0.2**
FAKI	**Fak Fak**	**15.00**	**69**	P	**Pn**	**19 58 13.1**	**-0.7**
WRA	**Warramunga Arr**	**19.15**	**128**	P	**P**	**19 59 01.6**	**+0.5**
	0.9nm,0.4s,baz=302,slow=13,SNR=42						
WRA				S	**S**	**20 02 28.3**	**-2.1**
	0.5nm,0.5s,baz=302,slow=26,SNR=4.2						
WRA				ScP	**ScP**	**20 06 42.5**	**+1.6**
	0.4nm,0.7s,baz=322,slow=2.7,SNR=2.6						
ASAR	**Alice Springs**	**21.12**	**137**	P	**P**	**19 59 23.6**	**+1.3**
	2.0nm,0.5s,baz=309,slow=8.9,SNR=85						
ASAR				S	**S**	**20 03 13.9**	**+5.0**
	0.6nm,0.9s,baz=308,slow=21,SNR=2.5						
ASAR				ScP	**ScP**	**20 06 47.9**	**+2.4**
	0.3nm,0.8s,baz=315,slow=2.0,SNR=4.1						
	2.0nm,0.5s						
STKA	**Stephens Creek**	**31.66**	**140**	P	**P**	**20 01 00.6**	**+2.2**
	1.6nm,0.6s,baz=334,slow=10,SNR=4.1						
	1.6nm,0.6s						
SONM	**Songino Array**	**57.22**	**350**	P	**P**	**20 04 20.9**	**+0.1**
	0.3nm,0.5s,baz=173,slow=7.9,SNR=2.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**63.84**	**333**	P	**P**	**20 05 05.4**	**-0.1**
	0.6nm,0.9s,baz=144,slow=6.6,SNR=4.3						
	0.6nm,0.9s						
ZALV	**Zalesovo Beam**	**68.47**	**339**	P	**P**	**20 05 34.9**	**-0.1**
	0.4nm,0.4s,baz=129,slow=4.1,SNR=2.5						
	0.4nm,0.4s						

*MOS **10** 19:59:22.7±1.1, 36°.98N×27°.34E, h4km, mb4.6/14, Error ellipse: s-maj=6.7km s-min=4.4km az=89.2*
*IDC **10** 19:59:23.3±0.6, 36°.86N×27°.35E, h0km, mb4.2/17, mbtmp4.0/26, ML3.6/8, Error ellipse: s-maj=15.8km s-min=11.3km az=151.0*
*AFAD **10** 19:59:24.0±0.0, 36°.92N×27°.30E, h8km±7km, MW4.2*
*ISK **10** 19:59:24.4, 36°.98N×27°.36E, h13km, ML4.1/29*
*NEIC **10** 19:59:24.4±1.7, 36°.93N±0°.04×27°.32E±0°.04, h6km±4km, mb4.4/51, Error ellipse: s-maj=6.4km s-min=4.3km az=212.0*
*ATH **10** 19:59:25.3, 36°.95N×27°.38E, h9km±1km, ML4.2/23, Error ellipse: s-maj=1.2km s-min=0.6km az=237.0*
*THE **10** 19:59:25.2, 36°.96N×27°.39E, h3km±1km, ML4.2/8, Error ellipse: s-maj=1.5km s-min=0.4km az=297.0*
*GII **10** 19:59:31.5±0.0, 36°.47N×27°.66E, h10km, Mm4.2/9*
*NAO **10** 20:00:13.0, 39°.81N×19°.35E, h33km, mb3.3*

ISC 10 19:59:24.8±0.7, 36°.93N±0°.02×27°.35E±0°.02, h11km±4km, n395, σ1§45/454, mb4.3/47, 31C-9D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTB	**Kemer-Bodrum**	**0.07**	**298**	Pg	**Pg**	**19 59 27.6**	**+0.5**
BODT	**Bodrum**	**0.14**	**346**	Pg	**Pg**	**19 59 27.8**	**-0.3**
BODT				Sg	**Sg**	**19 59 30.1**	**-0.3**
BODT	**Bodrum**	**0.14**	**346**	P	**Pg**	**19 59 27.9**	**-0.2**
BODT				S	**Sg**	**19 59 29.9**	**-0.5**
BDRM	**Kayabasi**	**0.15**	**29**	P	**Pg**	**19 59 28.1**	**-0.3**
BDRM				S	**Sg**	**19 59 30.5**	**-0.3**
BDRM				*i* AML	AML	19 59 31.0	
	comp=E,6μm,0.6s						
DAT	**Datca**	**0.27**	**138**	Pg	**Pg**	**19 59 31.0**	**+0.7**
DAT	**Datca**	**0.27**	**138**	P	**Pg**	**19 59 31.1**	**+0.7**
DAT				S	**Sg**	**19 59 34.9**	**+0.8**
DAT	**Datca**	**0.27**	**138**	P	**Pg**	**19 59 31.1**	**+0.7**
DAT				S	**Sb**	**19 59 35.9**	**-0.6**
DAT				*i* AML	AML	19 59 38.0	
	comp=N,2μm,0.4s						
DAT				*i* AML	AML	19 59 39.0	
	comp=E,1μm,0.5s						
RFTD	**Palamutbuku-Ka**	**0.27**	**155**	Pg	**Pb**	**19 59 31.2**	**-0.5**
KLNA	**Kalymnos**	**0.30**	**275**	P	**Pg**	**19 59 31.6**	**+0.6**
KLNA				S	**Sb**	**19 59 36.2**	**-1.1**
KLNA				AML	AML	19 59 36.9	
KLNA				AML	AML	19 59 37.5	
RFTAA	**Mazikoy-Bodrum**	**0.32**	**78**	Pg	**Pg**	**19 59 31.1**	**-0.2**
RFTAA				Sg	**Sg**	**19 59 36.2**	**+0.6**
KOSK	**Kos Island**	**0.35**	**239**	Pg	**Pb**	**19 59 32.7**	**-0.3**
KOSK				Sg	**Sb**	**19 59 38.3**	**-0.2**
KOSK	**Kos Island**	**0.35**	**239**	P	**Pb**	**19 59 32.6**	**-0.4**
KOSK				S	**Sb**	**19 59 38.6**	**+0.1**
	57μm,0.3s						
KOSK	**Kos Island**	**0.35**	**239**	P	**Pb**	**19 59 32.7**	**-0.3**
KOSK				S	**Sb**	**19 59 37.6**	**-1.0**
KOSK				AML	AML	19 59 39.5	
KOSK				AML	AML	19 59 43.9	
NISR	**Nisiros**	**0.36**	**209**	P	**Pb**	**19 59 33.1**	**-0.2**
NISR				S	**Sb**	**19 59 39.4**	**+0.4**
	64μm,0.2s						
NISR	**Nisiros**	**0.36**	**209**	P	**Pb**	**19 59 32.8**	**-0.5**
NISR				S	**Sb**	**19 59 38.7**	**-0.3**
NISR				AML	AML	19 59 40.1	
NISR				AML	AML	19 59 40.4	
RFTC	**Emecik-Datca**	**0.40**	**112**	Pg	**Pg**	**19 59 33.2**	**+0.4**
MLSB	**Milas**	**0.50**	**43**	Pg	**Pg**	**19 59 33.8**	**-0.8**
DDIM	**Aydin, Didim**	**0.53**	**351**	P	**Pg**	**19 59 34.8**	**-0.4**
DDIM				S	**Sb**	**19 59 43.8**	**-0.1**
DDIM				*i* AML	AML	19 59 44.0	
	comp=E,1μm,0.4s						
DDIM				*i* AML	AML	19 59 48.0	
	comp=N,2μm,0.5s						
TURN	**Turunc**	**0.73**	**102**	Pg	**Pg**	**19 59 38.9**	**-0.1**
TURN				Sg	**Sb**	**19 59 50.2**	**+0.6**
TURN	**Turunc**	**0.73**	**102**	P	**Pg**	**19 59 39.0**	**0.0**
TURN				S	**Sn**	**19 59 51.2**	**-1.1**
TURN				*i* AML	AML	19 59 52.0	
	comp=N,9μm,0.3s						
TURN				*i* AML	AML	19 59 53.0	
	comp=E,8μm,0.3s						
YER	**Yerkesik**	**0.77**	**74**	Pg	**Pg**	**19 59 39.5**	**-0.2**
YER	**Yerkesik**	**0.77**	**74**	P	**Pg**	**19 59 39.6**	**-0.2**
GCAM	**G?zelcaml?**	**0.78**	**353**	Pg	**Pg**	**19 59 38.8**	**-1.0**
GCAM	**G?zelcaml?**	**0.78**	**353**	P	**Pg**	**19 59 39.1**	**-0.7**
GCAM				S	**Sb**	**19 59 51.5**	**+0.7**
GCAM				*i* AML	AML	19 59 54.0	
	comp=E,1μm,0.5s						
GCAM				*i* AML	AML	19 59 55.0	
	comp=N,1μm,0.5s						
MULA	**Mugla, Merkez-**	**0.84**	**67**	P	**Pg**	**19 59 40.8**	**-0.2**
MULA				S	**Sn**	**19 59 55.1**	**-0.1**
MULA				*i* AML	AML	19 59 57.0	
	comp=E,5μm,1.2s						
MULA				*i* AML	AML	20 00 04.0	
	comp=N,2μm,0.7s						
AYDN	**Tasoluk**	**0.84**	**30**	P	**Pg**	**19 59 40.3**	**-0.8**
AYDN				S	**Sg**	**19 59 52.1**	**0.0**
AYDN				*i* AML	AML	19 59 56.0	
	comp=E,8μm,0.8s						
AYDN				*i* AML	AML	19 59 59.0	
	comp=N,8μm,0.5s						
SMG	**Samos**	**0.88**	**332**	P	**Pg**	**19 59 41.3**	**-0.5**
SMG				S	**Sb**	**19 59 54.5**	**+0.6**
	32μm,0.4s						
SMG	**Samos**	**0.88**	**332**	P	**Pg**	**19 59 41.0**	**-0.8**
SMG				S	**Sb**	**19 59 53.5**	**-0.3**
SMG				AML	AML	19 59 56.9	
	comp=E,77809μm,0.4s						
SMG				AML	AML	19 59 58.4	
	comp=N,48999μm,0.5s						
ARG	**Arkhangelos**	**0.95**	**139**	Pg	**Pn**	**19 59 43.7**	**-0.4**
ARG	**Arkhangelos**	**0.95**	**139**	P	**Pg**	**19 59 42.9**	**-0.1**
ARG				S	**Sn**	**19 59 57.9**	**+0.3**
	comp=N,14μm,0.8s						
ARG	**Arkhangelos**	**0.95**	**139**	Pg	**Pg**	**19 59 42.7**	**-0.4**
ARG				Sg	**Sb**	**19 59 55.7**	**0.0**
ARG	**Arkhangelos**	**0.95**	**139**	P	**Pg**	**19 59 42.5**	**-0.5**
ARG				S	**Sn**	**19 59 57.0**	**-0.6**
ARG				AML	AML	19 59 59.1	
	comp=E,22738μm,0.8s						
ARG				AML	AML	20 00 00.2	
	comp=N,33250μm,0.6s						
DALY	**Dalyan (Mula)**	**1.05**	**96**	Pg	**Pg**	**19 59 45.1**	**+0.1**
IKRA	**Agios-Kirikos-**	**1.08**	**309**	P	**Pg**	**19 59 45.7**	**0.0**
IKRA				S	**Sn**	**20 00 01.0**	**0.0**
IKRA				AML	AML	20 00 05.7	
	comp=N,53163μm,0.5s						
IKRA				AML	AML	20 00 05.8	
	comp=E,29567μm,0.5s						
TAVA	**DENIZLI_Tavas**	**1.36**	**66**	P	**Pb**	**19 59 50.4**	**+0.1**
TAVA				S	**Sg**	**20 00 11.6**	**+3.1**
TAVA				*i* AML	AML	20 00 15.0	
	comp=E,760nm,0.6s						
TAVA				*i* AML	AML	20 00 19.0	
	comp=E,1μm,0.8s						
KARP	**Karpathos**	**1.39**	**186**	Pn	**Pn**	**19 59 50.1**	**-0.1**
KARP	**Karpathos**	**1.39**	**186**	P	**Pn**	**19 59 50.0**	**-0.1**
KARP				S	**Sg**	**20 00 09.6**	**+0.1**
	comp=E,6μm,0.6s						
KARP	**Karpathos**	**1.39**	**186**		**Pn**	**19 59 49.9**	**-0.3**
KARP				Sn	**Sn**	**20 00 08.4**	**-0.2**
KARP	**Karpathos**	**1.39**	**186**	P	**Pn**	**19 59 50.0**	**-0.1**
KARP				S	**Sb**	**20 00 08.7**	**+0.1**
KARP				AML	AML	20 00 14.8	
	comp=E,9366μm,0.5s						
KARP				AML	AML	20 00 20.6	
	comp=N,12845μm,0.6s						
FETY	**Fethiye**	**1.42**	**101**	Pn	**Pb**	**19 59 51.2**	**-0.2**
APE	**Apeiranthos**	**1.46**	**276**	Pn	**Pn**	**19 59 50.9**	**-0.3**
APE	**Apeiranthos**	**1.46**	**276**	P	**Pn**	**19 59 51.3**	**+0.1**
APE	**Apeiranthos**	**1.46**	**276**	*i* P	**Pn**	**19 59 51.1**	**-0.1**
APE	**Apeiranthos**	**1.46**	**276**	P	**Pn**	**19 59 51.1**	**-0.1**
APE				S	**Sn**	**20 00 09.6**	**-0.8**
APE				AML	AML	20 00 15.6	
	comp=N,6568μm,0.5s						
APE				AML	AML	20 00 18.0	
	comp=E,5635μm,0.5s						
ZEYE	**Izmir, Urla-Ze**	**1.47**	**333**	P	**Pn**	**19 59 50.8**	**-0.5**
ZEYE				S	**Sg**	**20 00 12.7**	**+0.6**
DNIZ	**Denizli-Tavas-**	**1.52**	**62**	P	**Pb**	**19 59 53.1**	**+0.1**
DNIZ				S	**Sg**	**20 00 16.9**	**+3.3**
DNIZ				*i* AML	AML	20 00 22.0	
	comp=E,2μm,0.3s						
DNIZ				*i* AML	AML	20 00 26.0	
	comp=E,2μm,0.9s						
URLA	**Izmir**	**1.55**	**337**	Pn	**Pn**	**19 59 51.6**	**-0.8**
URLA	**Izmir**	**1.55**	**337**	P	**Pn**	**19 59 52.1**	**-0.3**
URLA				S	**Sg**	**20 00 16.1**	**+1.5**
CAME	**Cameli-Denizli**	**1.56**	**89**	Pn	**Pg**	**19 59 54.9**	**+0.1**
IZZE	**Mula-Seydike**	**1.58**	**108**	P	**Pg**	**19 59 54.9**	**-0.3**
IZZE				S	**Sg**	**20 00 18.1**	**+2.3**
IZZE				*i* AML	AML	20 00 20.0	
	comp=E,8μm,0.5s						
IZZE				*i* AML	AML	20 00 20.0	
	comp=E,3μm,0.3s						
CAEL	**Denizli, Camel**	**1.59**	**82**	P	**Pg**	**19 59 55.2**	**-0.1**
CAEL				S	**Sg**	**20 00 20.0**	**+4.1**
THR8	**Santorini-Mono**	**1.59**	**251**	P	**Pn**	**19 59 53.1**	**+0.1**
SANT	**Santorini**	**1.62**	**250**	⇑P	**Pg**	**19 59 57.7**	**+1.8**
SANT	**Santorini**	**1.62**	**250**	Pn	**Pb**	**19 59 54.5**	**-0.3**
SANT	**Santorini**	**1.62**	**250**	P	**Pb**	**19 59 54.4**	**-0.3**
SANT	**Santorini**	**1.62**	**250**		**Pb**	**19 59 54.3**	**-0.4**
SANT				Sn	**Sn**	**20 00 14.0**	**-0.2**
SANT	**Santorini**	**1.62**	**250**	P	**Pb**	**19 59 54.2**	**-0.5**
SANT				AML	AML	20 00 23.9	
	comp=N,2977μm,0.2s						
SANT				AML	AML	20 00 25.2	
	comp=E,8842μm,0.5s						
CESE	**eme**	**1.63**	**329**	Pn	**Pn**	**19 59 51.4**	**-2.0**
CMBO	**Columbo, Santo**	**1.63**	**254**	P	**Pb**	**19 59 55.2**	**+0.3**
CMBO	**Columbo, Santo**	**1.63**	**254**	P	**Pn**	**19 59 53.3**	**-0.2**
CMBO				AML	AML	20 00 24.3	
	comp=N,19963μm,0.5s						
CMBO				AML	AML	20 00 27.8	
	comp=E,16367μm,0.5s						
APMY	**Acipayam-Deniz**	**1.65**	**70**	Pn	**Pn**	**19 59 54.1**	**+0.3**
THR6	**Thira Island,**	**1.67**	**251**	P	**Pn**	**19 59 54.8**	**+0.8**
THR9	**Santorini-Faro**	**1.70**	**251**	P	**Pn**	**19 59 54.1**	**-0.3**
CHOS	**Chios island**	**1.78**	**325**	Pn	**Pn**	**19 59 54.8**	**-0.8**
CHOS	**Chios island**	**1.78**	**325**	P	**Pn**	**19 59 55.4**	**-0.2**
CHOS				S	**Sn**	**20 00 18.7**	**+0.4**
	comp=E,5μm,0.7s						
CHOS	**Chios island**	**1.78**	**325**	P	**Pn**	**19 59 55.2**	**-0.5**
CHOS				S	**Sn**	**20 00 17.2**	**-1.1**
CHOS				AML	AML	20 00 28.4	
	comp=E,9902μm,0.7s						
CHOS				AML	AML	20 00 28.4	
	comp=N,9296μm,0.8s						
RFT5	**Foca**	**1.79**	**345**	Pn	**Pn**	**19 59 54.9**	**-0.8**
GOLH	**Golhisar**	**1.79**	**80**	P	**Pb**	**19 59 58.3**	**+0.6**
GOLH				*i* AML	AML	20 00 38.0	
	comp=N,1μm,1.0s						
GOLH				*i* AML	AML	20 00 41.0	
	comp=N,979nm,0.7s						
MANT	**Manisa**	**1.83**	**31**	Pn	**Pn**	**19 59 56.3**	**-0.1**
MANT	**Manisa**	**1.83**	**31**	P	**Pn**	**19 59 56.8**	**+0.4**
GOMA	**Golmarmara-Man**	**1.83**	**14**	Pn	**Pn**	**19 59 55.7**	**-0.5**
TNSA	**Tinos**	**1.85**	**290**	P	**Pn**	**19 59 56.4**	**-0.1**
TNSA				AML	AML	20 00 20.8	
	comp=E,3728μm,0.3s						
TNSA				AML	AML	20 00 21.4	
	comp=N,2698μm,0.4s						
EAG2	**Marmaro, Chios**	**1.89**	**329**	P	**Pn**	**19 59 57.1**	**+0.1**
EAG2				AML	AML	20 00 31.2	
	comp=E,53071μm,0.4s						
EAG2				AML	AML	20 00 33.1	
	comp=N,28451μm,0.5s						
KULA	**Kula-Manisa**	**1.89**	**33**	Pn	**Pn**	**19 59 57.2**	**0.0**
KULA	**Kula-Manisa**	**1.89**	**33**	P	**Pn**	**19 59 57.0**	**-0.2**
AKAS	**Kas**	**1.94**	**110**	Pn	**Pb**	**19 59 59.1**	**-1.2**
AKS	**Akhisar**	**1.98**	**10**	Pn	**Pn**	**19 59 58.0**	**-0.3**
ZKR	**Zakros**	**2.03**	**207**	Pn	**Pn**	**19 59 59.4**	**+0.4**
ZKR	**Zakros**	**2.03**	**207**	P	**Pn**	**20 00 00.4**	**+1.4**
ZKR	**Zakros**	**2.03**	**207**	P	**Pn**	**20 00 00.0**	**+1.0**
ZKR				AML	AML	20 00 36.1	
	comp=N,1202μm,0.6s						
ZKR				AML	AML	20 00 38.6	
	comp=E,4747μm,0.8s						
RFT7	**Candarli**	**2.05**	**351**	Pn	**Pn**	**19 59 58.6**	**-0.7**
ELL	**Elmali**	**2.06**	**94**		**Pb**	**20 00 02.4**	**+0.1**
ELL	**Elmali**	**2.06**	**94**	P	**Pb**	**20 00 02.4**	**+0.1**
PSRA	**Psara**	**2.14**	**319**	P	**Pn**	**20 00 00.6**	**+0.1**
DKL	**Dikili**	**2.17**	**351**	Pn	**Pn**	**19 59 59.8**	**-1.0**
EAG3	**Mitilini, Lesv**	**2.24**	**344**	P	**Pn**	**20 00 02.3**	**+0.5**
EAG3				AML	AML	20 00 44.9	
	comp=E,16851μm,0.8s						
EAG3				AML	AML	20 00 50.2	
	comp=N,5481μm,0.6s						
FRMA	**Ierapetra Chan**	**2.32**	**215**	P	**Pn**	**20 00 03.2**	**+0.3**
FRMA	**Ierapetra Chan**	**2.32**	**215**	P	**Pn**	**20 00 03.4**	**+0.5**
FRMA				AML	AML	20 00 38.9	
	comp=N,2681μm,0.7s						
FRMA				AML	AML	20 00 40.1	
	comp=E,2760μm,0.4s						
EAG1	**Polichnitos, L**	**2.33**	**338**	P	**Pn**	**20 00 03.0**	**-0.1**
EAG1				AML	AML	20 00 48.8	
	comp=N,14469μm,0.8s						
EAG1				AML	AML	20 00 50.8	
	comp=E,12885μm,0.7s						
HRKL	**Herakleio**	**2.43**	**229**	P	**Pn**	**20 00 05.5**	**+1.0**
HRKL				AML	AML	20 00 52.7	
	comp=N,7912μm,0.9s						
HRKL				AML	AML	20 00 53.0	
	comp=E,11477μm,0.6s						
PRK	**Paraskevi**	**2.46**	**340**	P	**Pn**	**20 00 04.7**	**-0.2**
PRK	**Paraskevi**	**2.46**	**340**	P	**Pn**	**20 00 04.5**	**-0.4**
PRK				AML	AML	20 00 50.0	
	comp=E,7565μm,1.1s						
PRK				AML	AML	20 00 58.1	
	comp=N,6337μm,0.7s						
SIGR	**SIGRI**	**2.56**	**333**	P	**Pn**	**20 00 06.0**	**-0.3**
SIGR	**SIGRI**	**2.56**	**333**	P	**Pn**	**20 00 06.2**	**-0.1**
IDI	**Anoyia**	**2.58**	**231**	⇑P	**Pn**	**20 00 07.1**	**+0.6**
IDI	**Anoyia**	**2.58**	**231**	P	**Pn**	**20 00 06.9**	**+0.3**
IDI	**Anoyia**	**2.58**	**231**		**Pn**	**20 00 06.7**	**+0.1**
IDI	**Anoyia**	**2.58**	**231**	Pn	**Pn**	**20 00 07.2**	**+0.6**
	comp=N,8.8nm,0.3s,baz=72,slow=9.3,SNR=34						
IDI				Sn	**Sn**	**20 00 38.0**	**0.0**
	comp=N,25nm,0.3s,baz=310,slow=22,SNR=5.7						
	comp=N,30nm,0.4s						
IDI	**Anoyia**	**2.58**	**231**	P	**Pn**	**20 00 06.4**	**-0.2**
IDI				AML	AML	20 00 54.3	
	comp=N,1156μm,0.5s						
IDI				AML	AML	20 00 54.6	
	comp=E,1489μm,0.6s						
SKY	**Skiros Island**	**2.95**	**312**	P	**Pn**	**20 00 12.1**	**+0.6**
DION	**Dionisos Attik**	**2.95**	**294**	P	**Pn**	**20 00 13.1**	**+1.4**
DION	**Dionisos Attik**	**2.95**	**294**	P	**Pn**	**20 00 13.1**	**+1.4**
DION				AML	AML	20 00 48.1	
	comp=N,1100μm,0.9s						
DION				AML	AML	20 00 50.3	
	comp=E,1957μm,0.7s						
VLY	**Voula,Athens**	**2.98**	**289**	P	**Pn**	**20 00 12.6**	**+0.6**
VLY	**Voula,Athens**	**2.98**	**289**	P	**Pn**	**20 00 12.8**	**+0.8**
PTL	**Penteli**	**2.99**	**293**	P	**Pn**	**20 00 13.8**	**+1.6**
EZN	**Ezine**	**3.00**	**345**	P	**Pn**	**20 00 11.6**	**-0.7**
ATHU	**Athens Univers**	**3.02**	**291**	P	**Pn**	**20 00 13.0**	**+0.4**
ATHU	**Athens Univers**	**3.02**	**291**	P	**Pn**	**20 00 13.3**	**+0.7**
ATH	**Athens Observa**	**3.07**	**291**	P	**Pn**	**20 00 14.3**	**+1.0**
KYMI	**Kymi, Euboea I**	**3.09**	**304**	P	**Pn**	**20 00 14.1**	**+0.6**
KYMI	**Kymi, Euboea I**	**3.09**	**304**	P	**Pn**	**20 00 13.9**	**+0.4**
IMMV	**Iera Moni Meta**	**3.10**	**243**	P	**Pn**	**20 00 15.1**	**+1.5**
IMMV	**Iera Moni Meta**	**3.10**	**243**	P	**Pn**	**20 00 15.0**	**+1.5**
EFSA	**Agios Efstrati**	**3.20**	**325**	P	**Pn**	**20 00 15.6**	**

GEM Giv'at Ha'Em 7.76 116 Pn **Pn 20 01 18.6 +0.9**
GEM Sn **Sn 20 02 42.0 -3.5**
NATI Neve Ativ 7.79 116 Pn **Pn 20 01 19.6 +1.6**
NATI Sn **Sn 20 02 42.3 -3.9**
NATI Neve Ativ 7.79 116 P **Pn 20 01 19.0 +1.0**
HUMR Humele 7.80 347 ⇓P **Pn 20 01 18.9 +0.7**
SLTI Sal'it 7.88 124 Pn **Pn 20 01 20.4 +1.1**
SLTI Sn **Sn 20 02 44.7 -3.8**
GAZ Gaziantep 7.89 85 Pn **Pn 20 01 20.1 +0.5**
TPGR Topolog 7.96 5 ⇑P **Pn 20 01 16.6 -3.8**
BOVS Bovan 7.96 329 ⇑P **Pn 20 01 21.1 +0.6**
KSHT Keshet 7.98 117 Pn **Pn 20 01 21.8 +1.0**
KSHT Sn **Sn 20 02 48.2 -3.0**
MMLI Mount Malkishu 8.02 122 Pn **Pn 20 01 22.2 +1.0**
MMLI Sn **Sn 20 02 48.2 -3.7**
SALP Salfit 8.09 125 Pn **Pn 20 01 23.0 +0.8**
SALP Sn **Sn 20 02 49.6 -4.0**
SHMJ Saham 8.09 119 P **Pn 20 01 24.8 +2.6**
QRNJ Al-Qirein 8.18 122 P **Pn 20 01 24.1 +0.7**
HMDT Nahal Hemdat 8.20 122 Pn **Pn 20 01 24.6 +0.9**
HMDT Sn **Sn 20 02 52.5 -3.8**
HMDT Nahal Hemdat 8.20 122 P **Pn 20 01 26.3 +2.6**
AMAZ Amatzia 8.26 128 Pn **Pn 20 01 25.4 +0.8**
AMAZ Sn **Sn 20 02 54.0 -3.9**
CFR Carcaliu 8.26 4 ⇑P **Pn 20 01 23.1 -1.4**
CFR Carcaliu 8.26 4 ⇑P **Pn 20 01 23.1 -1.4**
KZIT Kziot 8.39 134 Pn **Pn 20 01 26.8 +0.5**
KZIT Sn **Sn 20 02 55.9 -5.1**
KZIT Kziot 8.39 134 P **Pn 20 01 25.7 -0.6**
YTIR Yattir 8.50 129 Pn **Pn 20 01 28.3 +0.4**
YTIR Sn **Sn 20 02 59.5 -4.4**
NEHR Nehoiu 8.53 355 ⇓P Pn 20 01 43.1 +15
DJES Djerdap 8.55 336 Pn **Pn 20 01 27.7 -0.8**
MLR Muntele Rosu 8.62 353 ⇑P **Pn 20 01 32.6 +3.0**
MLR Muntele Rosu 8.62 353 Pn **Pn 20 01 30.1 +0.5**
MLR Muntele Rosu 8.62 353 ⇑P **Pn 20 01 32.6 +3.0**
MLR Muntele Rosu 8.62 353 Pn **Pn 20 01 31.4 +1.9**
comp=N,0.3nm,0.3s,baz=209,slow=7.3,SNR=6.5
comp=N,1.8nm,0.6s
VOIR 8.67 349 ⇑P **Pn 20 01 31.2 +0.9**
VOIR 8.67 349 ⇑P **Pn 20 01 31.2 +0.9**
ARR Arges 8.68 347 ⇑P **Pn 20 01 34.3 +4.1**
MDBI Mazsada 8.68 128 Pn **Pn 20 01 30.9 +0.6**
MDBI Sn **Sn 20 03 03.1 -5.1**
HERR Herculane 8.78 336 ⇑P Pn 20 01 24.2 -7.4
WALJ Wala 8.81 125 P **Pn 20 01 33.6 +1.5**
GHAJ Ghor Haditha 8.82 127 **Pn 20 01 33.2 +0.9**
GHAJ Ghor Haditha 8.82 127 Pn **Pn 20 01 33.1 +0.9**
GHAJ Sn **Sn 20 03 07.3 -4.4**
GHAJ Ghor Haditha 8.82 127 P **Pn 20 01 35.1 +2.8**
MDVR Moldovita 8.93 333 ⇑P **Pn 20 01 34.8 +1.1**
PLOR Plostina 8.93 357 ⇑P **Pn 20 01 37.0 +3.3**
PLOR Plostina 8.93 357 ⇑P **Pn 20 01 37.0 +3.3**
VRI Vrincioaia 8.94 357 ⇑P **Pn 20 01 33.4 -0.5**
VRI Vrincioaia 8.94 357 ⇑P **Pn 20 01 33.4 -0.5**
COVR Voineasa-Covas 8.95 355 ⇑P Pn 20 01 44.3 +10
DIVS Divibare 9.09 324 Pn **Pn 20 01 37.0 +1.0**
ZFRI Zfri 9.10 132 Pn **Pn 20 01 36.5 +0.4**
ZFRI Zfri 9.10 132 P **Pn 20 01 35.8 -0.3**
GZR Gura Zlata 9.13 339 ⇑P **Pn 20 01 37.1 +0.6**
GZR Gura Zlata 9.13 339 ⇑P **Pn 20 01 37.1 +0.6**
PRNI Paran 9.15 134 Pn **Pn 20 01 36.8 0.0**
PRNI Sn **Sn 20 03 14.7 -5.1**
PRNI Paran 9.15 134 P **Pn 20 01 35.6 -1.2**
KRMI Paran Flat 9.16 136 Pn **Pn 20 01 36.7 -0.3**
KRMI Sn **Sn 20 03 15.0 -5.2**
ASF Jabal al Asfar 9.19 118 P **Pn 20 01 41.2 +3.8**
ASF Jabal al Asfar 9.19 118 Pn **Pn 20 01 41.7 +4.2**
comp=N,1.0nm,0.3s,baz=321,slow=5.7,SNR=8.7
OZUR 9.23 353 ⇑P **Pn 20 01 38.2 +0.3**
HRFI Mount Harif 9.40 135 Pn **Pn 20 01 40.4 +0.1**
HRFI Sn **Sn 20 03 20.8 -5.2**
MBRI Mt Berech 9.52 136 Pn **Pn 20 01 41.8 -0.1**
MBRI Sn **Sn 20 03 23.8 -5.1**
MBRI Mt Berech 9.52 136 P **Pn 20 01 42.3 +0.4**
CUC Castrocucco 9.55 292 Pn **Pn 20 01 44.0 +1.7**
TESR Tescani 9.59 357 ⇑P **Pn 20 01 41.5 -1.3**
EIL Elat 9.63 137 Pn **Pn 20 01 43.2 -0.2**
EIL Sn **Sn 20 03 26.3 -5.4**
EIL Elat 9.63 137 P **Pn 20 01 43.2 -0.2**
SURR Surduc 9.65 338 ⇑P **Pn 20 01 42.9 -0.7**
BZS Buzias 9.69 335 ⇓P **Pn 20 01 44.9 +0.8**
BZS Buzias 9.69 335 ⇓P **Pn 20 01 44.9 +0.8**
SGRT San Giovanni R 10.20 302 Pn **Pn 20 01 51.1 -0.1**
MARR Marisel-Cluj 10.24 343 ⇑P **Pn 20 01 52.4 +0.7**
RAFF Raffo Rosso 10.38 276 Pn **Pn 20 01 53.1 -0.6**
PAOL Paolisi 10.76 296 Pn **Pn 20 01 58.8 0.0**
BURAR Bucovina Array 10.79 352 ⇓P **Pn 20 01 58.7 -0.6**
BURAR Bucovina Array 10.79 352 Pn **Pn 20 02 00.2 +0.9**
BURAR Bucovina Array 10.79 352 ⇓P **Pn 20 01 58.7 -0.6**
BUR08 Bucovina Ar. S 10.82 352 **Pn 20 01 59.8 +0.1**
MORH Mrgy, Hungar 11.33 328 ⇓P **Pn 20 02 08.5 +1.9**
INTR Introdacqua 11.56 300 **Pn 20 02 09.8 0.0**
PSZ Piszkesteto 12.28 336 Pn **Pn 20 02 20.1 +0.5**
PSZ Piszkesteto 12.28 336 P **Pn 20 02 20.1 +0.5**
NRCA Norcia 12.42 303 Pn **Pn 20 02 18.8 -2.8**
KIV Kislovodsk 13.61 54 *eP* **Pn 20 02 36.8 -1.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 13.66 55 Pn **P 20 02 44.0 -3.2**
comp=Z,0.1nm,0.3s,baz=307,slow=5.1,SNR=2.1
comp=Z,1.0nm,0.9s
AKASG Malin Array Be 13.83 5 P **Pn 20 02 41.0 +0.3**
AKASG Malin Array Be 13.83 5 Pn **Pn 20 02 41.0 +0.3**
comp=Z,0.5nm,0.3s,baz=194,slow=10,SNR=1.6
comp=Z,0.2nm,0.2s
CONA Conrad Observa 13.87 326 *eP* **P 20 02 49.4 -0.3**
comp=Z,3.7nm,1.4s
STAL STALIGIAL 14.36 315 P **P 20 02 51.8 -3.3**
CLUD Cludinico 14.38 316 P **P 20 02 53.2 -2.1**
ZCCA Zocca 14.46 306 P **P 20 02 55.0 -1.2**
KBA Koelnbreinsper 14.51 319 *eP* **P 20 02 57.1 +0.2**
comp=Z,6.3nm,1.0s
KRUC Moravsky 14.52 330 *eP* **P 20 02 58.2 +1.4**
KEST Kesra 14.57 271 P **P 20 02 57.3 -0.2**
KEST Kesra 14.57 271 Pn **Pn 20 02 52.4 +1.4**
comp=Z,0.1nm,0.3s,baz=207,slow=8.1,SNR=2.5
comp=Z,2.4nm,0.9s
VRAC Vranov 14.63 331 *eP* **P 20 02 59.8 +1.7**
VRAC Vranov 14.63 331 Pn **P 20 02 59.3 +1.2**
comp=Z,0.1nm,0.3s,baz=170,slow=7.6,SNR=5.7
ABTA Abfaltersbach 14.76 316 *eP* **P 20 02 59.9 +0.3**
comp=Z,2.1nm,0.6s
CTI Castel Tesino 14.86 313 P **P 20 03 00.2 -0.4**
CTI Castel Tesino 14.86 313 P **P 20 03 00.3 -0.4**
LESA Schwarzleotal 15.08 319 *eP* **P 20 03 03.4 +0.2**
comp=Z,1.0nm,0.5s
SALO Salr 15.32 310 P **P 20 03 03.6 -2.1**
SALO IAmb IAmb 20 03 13.1
comp=Z,15nm,0.9s
MSSA Maissana 15.40 304 P **Pn 20 03 04.3 +2.2**
MSSA IAmb IAmb 20 03 12.8
comp=Z,8.8nm,1.0s
GEC2 GERESS Array S 15.52 324 P **P 20 03 06.3 -1.7**
GERES GERESS Array B 15.52 324 P **Pn 20 03 05.7 +2.0**
GERES GERESS Array B 15.52 324 Pn **P 20 03 06.4 -1.7**
comp=Z,0.5nm,0.5s,baz=151,slow=12,SNR=1.6
WTTA Wattenberg 15.55 317 *eP* **P 20 03 08.2 -0.3**
comp=Z,7.4nm,1.3s
DPC Dobruska-Polom 15.59 333 *eP* **P 20 03 09.3 +0.6**
DPC Dobruska-Polom 15.59 333 *eP* **P 20 03 09.3 +0.6**
WATA Walderalm 15.62 317 *eP* **P 20 03 08.7 -0.6**
comp=Z,3.4nm,0.8s
ZVC Zvikov 15.73 327 *eP* **P 20 03 12.7 +2.4**
SQTA Sankt Quirin 15.76 316 *epP* **P 20 03 11.8 +1.0**
comp=Z,4.4nm,0.9s
KHC Kasperske Hory 15.78 325 P **Pn 20 03 08.0 +1.0**
KHC Kasperske Hory 15.78 325 *eP* **P 20 03 10.7 -0.2**
KHC Kasperske Hory 15.78 325 *eP* **P 20 03 10.7 -0.2**
OSTC Ostas 15.79 333 *eP* **P 20 03 12.6 +1.6**
OSTC Ostas 15.79 333 *eP* **P 20 03 12.6 +1.6**
MOTA Moosalm 15.89 316 *eP* **P 20 03 11.9 -0.3**
comp=Z,1.9nm,0.7s
FETA Feichten 15.92 314 *epP* **P 20 03 13.8 +1.2**
comp=Z,12nm,1.1s
FUORN Ofenpass-Fuorn 15.98 313 P **Pn 20 03 11.4 +1.7**
PRU Pruhonice 15.99 329 *eP* **P 20 03 14.8 +1.6**
PRU Pruhonice 15.99 329 *eP* **P 20 03 14.8 +1.6**
DAVOX Davos/Dischmat 16.29 313 Pn **Pn 20 03 14.3 +0.7**
comp=Z,0.1nm,0.3s,baz=7.1,slow=17,SNR=1.9
comp=Z,0.9nm,0.5s
TUE Stuetta 16.45 311 P **Pn 20 03 16.3 +0.6**

DAVA Damuels 16.55 314 *epP* **P 20 03 21.6 +2.0**
comp=Z,5.9nm,0.8s
VSR Storozhevoye 16.58 27 *eP* **Pn 20 03 17.5 +0.4**
VSR pmax pmax
comp=Z,3.0nm,0.6s
SUW Suwalki 17.33 352 P **P 20 03 27.5 -0.3**
SUW IAmb IAmb 20 03 29.8
comp=Z,24nm,1.2s
SUW Suwalki 17.33 352 P **P 20 03 27.5 -0.3**
SUW pmax pmax
comp=Z,24nm,1.2s
BNI Bardonecchia 17.56 304 P **P 20 03 30.4 -0.3**
BNI Bardonecchia 17.56 304 P **P 20 03 30.4 -0.3**
BNI pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 17.64 329 P **Pn 20 03 30.7 +0.3**
CLL Collm 17.64 329 P **Pn 20 03 30.7 +0.3**
CLL pmax pmax
comp=Z,4.0nm,0.8s
SENIN Lac Senin/Sane 17.66 309 P **P 20 03 33.2 +1.3**
SENIN IAmb IAmb 20 03 44.7
comp=Z,47nm,0.9s
NACGM Naroch 17.98 359 *eP* **P 20 03 39.6 +4.5**
comp=Z,27nm,1.0s,baz=179
OBN Obninsk 19.25 16⇓*eP* **P 20 03 49.1 +0.1**
OBN S **S 20 07 30.0 +3.2**
OBN pmax pmax
comp=Z,15nm,1.5s
OBN MLR MLR
comp=Z,4μm,16.0s
BELG Belogornoye 21.03 36 P **P 20 04 09.5 +1.1**
comp=Z,25nm,1.0s,baz=245,slow=2.7,SNR=8.1
comp=Z,25nm,1.0s
CLF Chambon-Foret 21.48 309 P **P 20 04 12.9 -0.3**
CLF IAmb IAmb 20 04 18.1
comp=Z,22nm,0.9s
TAM Tamanrasset 23.52 239 P **P 20 04 35.4 +0.2**
TAM Tamanrasset 23.52 239 P **P 20 04 35.4 +0.2**
TAM pmax pmax
comp=Z,2.0nm,1.0s
GEYT Alibeck 24.40 78 P **P 20 04 42.9 -0.4**
GEYT IAmb IAmb 20 05 08.0
comp=Z,2.5nm,0.7s
GEYT Alibeck 24.40 78 P **P 20 04 43.4 +0.1**
comp=Z,0.7nm,0.5s,baz=246,slow=11,SNR=2.8
comp=Z,0.7nm,0.5s
FIA0 FINESS Array S 24.55 359 P **P 20 04 44.2 -0.1**
FIA0 FINESS Array S 24.55 359 P **P 20 04 44.2 -0.1**
FINES FINESS Array B 24.55 359 P **P 20 04 44.4 +0.1**
FINES FINESS Array B 24.55 359 P **P 20 04 44.7 +0.4**
comp=Z,4.1nm,0.8s,baz=153,slow=17,SNR=4.3
FINES PcP **PcP 20 08 21.6 -0.4**
comp=Z,5.9nm,1.1s,baz=140,slow=4.2,SNR=5.2
comp=Z,4.1nm,0.8s
ESBB Sonseca Array 24.66 286 P **P 20 04 45.5 -0.2**
ESBB IAmb IAmb 20 04 47.2
comp=Z,5.3nm,0.9s
ESDC Sonseca Array 24.66 286 P **P 20 04 45.4 -0.2**
ESDC Sonseca Array 24.66 286 P **P 20 04 45.6 -0.1**
comp=Z,4.4nm,1.0s,baz=80,slow=9.3,SNR=31
comp=Z,4.4nm,1.0s
HFS Hagfors 24.82 344 P **P 20 04 46.8 +0.1**
comp=Z,2.7nm,0.6s,baz=138,slow=11,SNR=9.4
comp=Z,2.7nm,0.6s
PAB San Pablo 24.97 286 P **P 20 04 48.5 +0.1**
PAB San Pablo 24.97 286 P **P 20 04 48.5 +0.1**
PAB pmax pmax
comp=Z,3.0nm,1.0s
NC602 NORSAR Array S 25.86 342 P **P 20 04 56.0 -0.2**
KIRV Kirov 26.03 27*ceP* **P 20 04 57.9 +0.2**
NAO01 NORSAR Array S 26.11 342 P **P 20 04 58.4 -0.1**
NB201 NORSAR Array S 26.19 342 P **P 20 04 58.3 -0.9**
NB2 NORSAR Subarra 26.20 342 P **P 20 05 02.2 +2.9**
comp=Z,1.0nm,0.7s,baz=163,slow=11
NOA NORSAR Array B 26.20 342 P **P 20 05 01.1 +1.8**
comp=Z,1.1nm,0.8s,baz=164,slow=11,SNR=3.8
comp=Z,1.1nm,0.8s
ABKAR Akbulak array 26.58 52 P **P 20 05 02.7 -0.1**
ABKAR Akbulak array 26.58 52 P **P 20 05 02.4 -0.5**
PRGR Permogore 27.25 19 *eP* **P 20 05 08.1 -0.6**
PRGR *e* 20 05 48.8
PRGR pmax pmax
comp=Z,23nm,1.4s
ARU Arti 28.58 37 P **P 20 05 20.9 +0.3**
ARU S **S 20 10 10.7 +2.2**
TOA0 Torodi Ar. Sit 32.98 231 P **P 20 05 59.3 -0.5**
TOA0 IAmb IAmb 20 06 05.9
comp=Z,5.0nm,0.8s
TORD Torodi Ar. Bea 32.98 231 P **P 20 05 59.2 -0.7**
TORD IAmb IAmb 20 06 06.3
comp=Z,3.2nm,0.9s
TORD Torodi Ar. Bea 32.98 231 P **P 20 06 00.5 +0.6**
comp=Z,3.4nm,0.6s,baz=34,slow=9.2,SNR=21
comp=Z,3.4nm,0.6s
KK31 Karatay Array 33.34 66 P **P 20 06 02.2 -0.6**
KK31 IAmb IAmb 20 06 04.5
comp=Z,4.6nm,1.3s
KK31 Karatay Array 33.34 66 P **P 20 06 02.2 -0.6**
KK31 pmax pmax
comp=Z,5.0nm,1.3s
KKAR Karatay Array 33.34 66 P **P 20 06 01.7 -1.1**
KKAR Karatay Array 33.34 66 P **P 20 06 02.9 +0.1**
KKAR IAmb IAmb 20 06 04.5
comp=Z,4.6nm,1.3s
KKAR Karatay Array 33.34 66 P **P 20 06 02.9 +0.1**
KKAR pmax pmax
comp=Z,5.0nm,1.3s
BRVK Borovoye 33.79 48 P **P 20 06 06.0 -0.6**
BRVK IAmb IAmb 20 06 08.9
comp=Z,6.8nm,1.4s
BRVK Borovoye 33.79 48*ceP* **P 20 06 06.7 +0.2**
BRVK pmax pmax
comp=Z,5.0nm,1.4s
BVAR Borovoye Array 33.84 48 P **P 20 06 07.8 +0.8**
comp=Z,2.1nm,0.9s,baz=258,slow=5.9,SNR=10
comp=Z,2.1nm,0.9s
NRN Naryn 37.58 68 P **P 20 06 38.2 -1.5**
NRN Naryn 37.58 68 P **P 20 06 38.2 -1.5**
NRN pmax pmax
comp=Z,2.0nm,1.0s
KURBB Kurchatov Arra 38.63 53 P **P 20 06 48.9 +0.9**
comp=Z,5.5nm,0.8s,baz=278,slow=8.9,SNR=26
comp=Z,5.5nm,0.8s
KURK Kurchatov 38.69 52 P **P 20 06 48.6 +0.2**
KURK IAmb IAmb 20 06 50.4
comp=Z,8.6nm,1.1s
KURK Kurchatov 38.69 52*ceP* **P 20 06 49.9 +1.4**
KURK pmax pmax
comp=Z,10.0nm,1.1s
KIBK Kibwezi 40.32 163 P **P 20 07 02.9 +0.4**
KIBK IAmb IAmb 20 07 09.3
comp=Z,3.4nm,1.0s
MAKZ Makanchi 41.11 58 P **P 20 07 09.6 +0.9**
MAKZ IAmb IAmb 20 07 13.6
comp=Z,7.6nm,1.1s
MAKZ Makanchi 41.11 58 P **P 20 07 09.6 +0.9**
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
MK31 Makanchi Array 41.33 58 P **P 20 07 11.2 +0.7**
MK31 IAmb IAmb 20 07 18.1
comp=Z,5.2nm,1.1s
MK31 Makanchi Array 41.33 58 *i* P **P 20 07 10.8 +0.3**
MKAR Makanchi Array 41.33 58 P **P 20 07 11.0 +0.5**
MKAR Makanchi Array 41.33 58 P **P 20 07 11.3 +0.8**
comp=Z,4.1nm,0.8s,baz=273,slow=8.3,SNR=27
comp=Z,4.1nm,0.8s
SPITS Spitsbergen Ar 41.62 357 P **P 20 07 13.6 +1.2**
SPITS pmax pmax
comp=Z,43nm,1.4s
DBIC Dimbokro 42.05 232 P **P 20 07 16.6 -0.1**
DBIC IAmb IAmb 20 07 56.2
comp=Z,21nm,1.4s
DBIC Dimbokro 42.05 232 P **P 20 07 16.8 +0.1**
comp=Z,4.7nm,0.8s,baz=18,slow=5.9,SNR=4.6
comp=Z,4.7nm,0.8s
ZAA0 Zalesovo Array 42.50 48 P **P 20 07 19.7 -0.2**
ZAA0 IAmb IAmb 20 07 21.3
comp=Z,4.2nm,0.7s
ZALV Zalesovo Beam 42.50 48 P **P 20 07 19.6 -0.3**
ZALV Zalesovo Beam 42.50 48 P **P 20 07 20.7 +0.8**
comp=Z,3.5nm,0.6s,baz=266,slow=8.9,SNR=16
comp=Z,3.5nm,0.6s
DGZ Jazzator, Alta 44.40 54 *i* P **P 20 07 36.2 +0.7**
DGZ pmax pmax
comp=Z,8.0nm,1.7s
WMQ Urumqi 45.59 62 *eP* **P 20 07 46.5 +1.5**

WMQ pmax pmax
comp=Z,20nm,0.6s
SUMG Summit 47.98 338 P **P 20 08 04.3 +0.7**
SUMG Summit 47.98 338 P **P 20 08 04.4 +0.7**
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SONM Songino Array 57.00 52 P **P 20 09 11.2 +0.7**
SONM Songino Array 57.00 52 P **P 20 09 11.9 +1.3**
comp=Z,0.4nm,0.5s,baz=292,slow=7.7,SNR=4.9
comp=Z,0.4nm,0.5s
ULN Ulaanbaatar 57.40 52 P **P 20 09 13.3 -0.1**
ULN IAmb IAmb 20 09 18.4
comp=Z,3.8nm,1.2s
ULN Ulaanbaatar 57.40 52 P **P 20 09 13.3 -0.1**
ULN pmax pmax
comp=Z,4.0nm,1.3s
LBTB Lobatse 61.63 182 P **P 20 09 42.6 0.0**
LBTB IAmb IAmb 20 09 48.4
comp=Z,3.9nm,0.8s
LBTB Lobatse 61.63 182 P **P 20 09 42.6 0.0**
LBTB pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 62.41 345 P **P 20 09 46.3 -0.9**
RES Resolute Bay 62.41 345 P **P 20 09 46.3 -0.9**
RES pmax pmax
comp=Z,10.0nm,1.3s
PZH PanZhiHua 62.69 76 P **P 20 09 51.0 +1.0**
PZH pmax pmax
comp=Z,10.0nm,1.4s
HHC Hu-ho-hao-te 63.19 58 *eP* **P 20 09 52.6 -0.5**
HHC pmax pmax
comp=Z,21nm,0.6s
CM31 Chiang Mai Arr 64.63 85 P **P 20 10 02.2 -0.5**
CM31 IAmb IAmb 20 10 17.2
comp=Z,7.8nm,1.4s
CMAR Chiang Mai Arr 64.63 85 P **P 20 10 02.5 -0.3**
CMAR Chiang Mai Arr 64.63 85 P **P 20 10 02.8 0.0**
comp=Z,0.6nm,0.2s,baz=294,slow=8.0,SNR=8.8
comp=Z,0.6nm,0.2s
BOSA Boshof 65.23 182 P **P 20 10 08.1 +1.7**
BOSA Boshof 65.23 182 P **P 20 10 08.1 +1.7**
BOSA pmax pmax
comp=Z,17nm,1.5s
HEH HeiHe 68.36 43 *eP* **P 20 10 27.0 +0.9**
HEH pmax pmax
comp=Z,11nm,0.9s
SUR Sutherland 69.22 186 P **P 20 10 32.8 +1.0**
USA0B Ussuriysk Arra 74.34 46 P **P 20 11 01.1 -1.2**
USA0B IAmb IAmb 20 11 04.0
comp=Z,7.0nm,0.9s
USA0B Ussuriysk Arra 74.34 46 P **P 20 11 01.1 -1.2**
USA0B pmax pmax
comp=Z,7.0nm,0.9s
USRK Ussuriysk Ar. 74.34 46 P **P 20 11 00.6 -1.7**
USRK Ussuriysk Ar. 74.34 46 P **P 20 11 02.7 +0.4**
comp=Z,5.1nm,0.9s,baz=291,slow=4.0,SNR=5.3
comp=Z,5.1nm,0.9s
BMAR Burnt Mountain 75.78 357 P **P 20 11 11.9 +1.5**
KSRS Korea Array 75.80 54 P **P 20 11 11.6 +0.6**
comp=Z,1.6nm,0.5s,baz=307,slow=4.8,SNR=6.6
comp=Z,1.6nm,0.5s
G29M Pine Creek 75.88 354 P **P 20 11 10.5 -0.3**
M57A Sunshine Farm, 75.95 311 P **P 20 11 11.1 -0.7**
H29M Whitestone 76.59 354 P **P 20 11 14.5 -0.4**
H29M IAmb IAmb 20 11 19.1
comp=Z,4.8nm,1.0s
R61A Willards 76.64 308 P **P 20 11 15.3 -0.3**
IMAR Indian Mountai 77.41 0 P **P 20 11 19.9 +0.4**
I29M Ogilvie Camp, 77.43 354 P **P 20 11 18.8 -0.8**
I29M IAmb IAmb 20 11 20.9
comp=Z,8.8nm,1.2s
H23K Yukon River 77.55 359 P **P 20 11 19.4 -0.9**
H23K IAmb IAmb 20 11 22.5
comp=Z,8.0nm,1.2s
J30M Hart River 78.01 353 P **P 20 11 22.8 -0.3**
J30M IAmb IAmb 20 11 24.3
comp=Z,4.7nm,0.8s
ILAR Eielson Array 78.53 357 P **P 20 11 25.7 -0.1**
ILAR Eielson Array 78.53 357 P **P 20 11 25.8 0.0**
comp=Z,1.0nm,1.0s,baz=12,slow=4.1,SNR=6.2
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 115.03 97 PKP **PKPdf 20 18 04.1 -2.2**
comp=Z,0.3nm,0.8s,baz=291,slow=5.7,SNR=2.1
ASAR Alice Springs 116.62 101 PKP **PKPdf 20 18 08.0 -1.3**
comp=Z,0.2nm,0.7s,baz=338,slow=1.0,SNR=1.5
QSPA South Pole Qui 126.78 180 PKP **PKPdf 20 18 26.9 -0.6**
comp=Z,0.7nm,0.7s,baz=272,slow=5.2,SNR=6.1

---

*IPEC **10** 19:59:35.8±0.2,50°.06N×18°.46E,h1km,ML1.1/4,Error ellipse: s-maj=2.0km s-min=1.1km az=161.0*
PRU 10 19:59:36.8,50°.07N×18°.41E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.29**	**216**	*e*Pg	Pg	19 59 41.9	-0.4
OKC				*e*SG	Sg	19 59 46.5	+0.5
comp=Z,15nm,0.7s							
MORC	**Moravsky Berou**	**0.63**	**243**	*e*Pg	Pg	19 59 48.3	-0.6
baz=65							
MORC				*e*Sg	Sg	19 59 56.3	-0.8
3.4nm,0.3s,baz=65							
MORC	**Moravsky Berou**	**0.63**	**243**	*e*PG	Pg	19 59 48.4	-0.5
MORC				*e*SG	Sg	19 59 56.4	-0.7
MAUC	**Maruska**	**0.80**	**208**	*e*PG	Pg	19 59 51.8	-0.3
MAUC				*e*SG	Sg	20 00 02.3	-0.2
LANS	**Liptovska Anna**	**1.15**	**143**	*e*PG	Pg	19 59 58.1	-0.7
LANS				*e*SG	Sb	20 00 14.5	-0.5
LANS				*e*LG	Lg	20 00 16.9	
DPC	**Dobruska-Polom**	**1.37**	**283**	*e*PG	Pg	20 00 01.8	-1.2
DPC				*e*SG	Sg	20 00 21.0	+0.2
comp=Z,5.1nm,0.4s							
VRAC	**Vranov**	**1.41**	**238**	*e*Pg	Pn	20 00 02.0	-1.7
baz=58							
VRAC				*e*Sg	Sg	20 00 20.5	-1.4
1.7nm,0.2s,baz=58							
OSTC	**Ostas**	**1.49**	**290**	*e*PG	Pn	20 00 03.7	-1.1
OSTC				*e*SG	Sg	20 00 24.5	-0.1
CHVC	**Chvalec**	**1.60**	**290**	*e*PG	Pn	20 00 04.8	-1.5
CHVC				*e*SG	Sn	20 00 27.4	-0.2
KRUC	**Moravsky**	**1.66**	**233**	*e*Pn	Pn	20 00 06.1	-1.0
baz=53							
KRUC				*e*Sg	Sn	20 00 28.2	-0.8
1.0nm,0.2s,baz=53							
KHC	**Kasperske Hory**	**3.28**	**255**	*e*SG	Sg	20 01 20.9	-1.2

---

*NEIC **10** 20:14:58.5±0.9,43°.11N±0°.01×110°.893W±0°.007, h4km±5km,ML2.9/82,ML2.9/20(BUT),Error ellipse: s-maj=1.5km s-min=0.8km az=178.0*
BUT 10 20:14:59.3±0.9,43°.13N±0°.01×110°.92W±0°.02,h3km±4km, Error ellipse: s-maj=2.6km s-min=1.5km az=104.0, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REDW	**Red Top Meadow**	**0.24**	**12**		Pg	20 15 04.2	+0.2
ECR	**Eagle Creek**	**0.34**	**258**		Pg	20 15 06.5	+0.7
SNOW	**Snow King Moun**	**0.36**	**20**		Pg	20 15 06.2	0.0
SNOW	**Snow King Moun**	**0.36**	**20**	IAML		20 15 12.4	
1μm,0.5s							
SNOW				IAML		20 15 13.7	
850nm,0.3s							
TPAW	**Teton Pass**	**0.36**	**356**		Pg	20 15 06.5	+0.1
TPAW	**Teton Pass**	**0.36**	**356**	IAML		20 15 12.5	
1μm,0.3s							
TPAW				IAML		20 15 12.9	
2μm,0.5s							
AHID	**Auburn Hatcher**	**0.38**	**200**		Pg	20 15 06.6	-0.1
AHID					Sg	20 15 12.4	+0.7
AHID	**Auburn Hatcher**	**0.38**	**200**	IAML		20 15 12.6	
2μm,0.3s							
AHID				IAML		20 15 16.9	
2μm,0.3s							
FXWY	**Fox Creek**	**0.52**	**351**		Pg	20 15 09.0	-0.2
FXWY					Sg	20 15 16.5	+0.5
LOHW	**Long Hollow**	**0.54**	**25**		Pg	20 15 09.3	-0.3
LOHW	**Long Hollow**	**0.54**	**25**	IAML		20 15 17.0	
421nm,0.6s							
LOHW				IAML		20 15 17.4	
580nm,0.3s							
ID10	**Lander Cutoff**	**0.61**	**178**		Pg	20 15 10.2	-0.7
ID10				IAML		20 15 21.6	
576nm,0.3s							
ID10				IAML		20 15 22.3	

	619nm,0.2s					
ID05	**Sulphur Canyon**	**0.62 220**		Pg	20 15 11.2	-0.1
ID05			IAML		20 15 21.2	
	922nm,0.5s					
ID05			IAML		20 15 23.2	
	835nm,0.4s					
MOOW	**Moose Ponds**	**0.64 12**		Pg	20 15 11.1	-0.4
MOOW	**Moose Ponds**	**0.64 12**	IAML		20 15 20.3	
	169nm,0.2s					
MOOW			IAML		20 15 21.6	
	152nm,0.2s					
ID06	**Fossil Canyon**	**0.67 216**		Pg	20 15 12.1	0.0
ID08	**Devils Gate**	**0.71 251**		Pg	20 15 12.9	0.0
ID08			IAML		20 15 24.1	
	599nm,0.6s					
ID08			IAML		20 15 24.0	
	789nm,0.4s					
IMW	**Indian Meadow**	**0.77 359**		Pg	20 15 13.7	-0.4
IMW	**Indian Meadow**	**0.77 359**	IAML		20 15 29.4	
	797nm,0.4s					
IMW			IAML		20 15 30.1	
	1µm,0.4s					
ID09	**Alton**	**0.90 193**		Pg	20 15 16.1	-0.5
ID09			IAML		20 15 30.0	
	338nm,0.6s					
ID09			IAML		20 15 30.1	
	363nm,0.4s					
FLWY	**Flagg Ranch**	**0.97 9**		Pg	20 15 17.4	-0.5
ID07	**Smith Canyon R**	**1.04 236**		Pg	20 15 18.6	-0.5
ID07			IAML		20 15 34.5	
	288nm,0.3s					
ID07			IAML		20 15 34.7	
	207nm,0.4s					
BW06	**Boulder Array**	**1.06 109**		Pg	20 15 18.6	-1.0
PD31	**Pinedale Array**	**1.06 109**		Pg	20 15 18.5	-1.2
PDAR	**Pinedale Array**	**1.06 109**		Pg	20 15 18.4	-1.2
MCID	**Moose Creek**	**1.08 350**		Pg	20 15 19.7	-0.3
YPP	**Pitchstone Pla**	**1.15 4**		Pg	20 15 21.0	-0.3
YMS	**Mount Sheridan**	**1.17 14**		Pg	20 15 21.5	-0.3
H17A	**Grant Village**	**1.29 11**		Pg	20 15 23.1	-0.9
H17A			IAML		20 15 42.3	
	comp=N,170nm,0.3s					
H17A			IAML		20 15 46.3	
	comp=E,111nm,0.6s					
YTP	**The Promontory**	**1.35 20**		Pg	20 15 24.1	-1.0
YPWB	**West Boundary**	**1.48 355**		Pn	20 15 26.8	-0.3
LKWY	**Lake**	**1.49 14**		Pn	20 15 27.0	-0.2
LKWY			IAML		20 15 54.2	
	comp=E,88nm,0.5s					
CMI	**Centennial Mou**	**1.49 340**		Pn	20 15 26.1	-1.0
HWUT	**Hardware Ranch**	**1.59 198**		Pn	20 15 28.1	-0.4
HWUT			IAML		20 15 52.2	
	comp=E,136nm,0.7s					
HWUT			IAML		20 15 52.5	
	comp=E,128nm,0.9s					
YNR	**Norris Junctio**	**1.60 6**		Pn	20 15 28.4	-0.3
YHH	**Holmes Hill**	**1.66 2**		Pn	20 15 29.0	-0.6
YMP	**Mirror Lake Pl**	**1.71 19**		Pn	20 15 29.2	-1.0
HVU	**Hansel Valley**	**1.92 226**		Pn	20 15 32.7	-0.3
HVU			IAML		20 16 05.7	
	comp=N,173nm,0.6s					
HVU			IAML		20 16 07.3	
	comp=E,120nm,0.4s					
TCUT	**Toone Canyon**	**2.04 190**		Pn	20 15 34.1	-0.6
SPUT	**South Promonto**	**2.14 213**		Pn	20 15 35.9	-0.2
SPUT			IAML		20 16 08.0	
	comp=E,48nm,0.5s					
SPUT			IAML		20 16 09.6	
	comp=N,86nm,0.3s					
RLMT	**Red Lodge**	**2.32 30**		Pn	20 15 38.9	+0.2
RLMT			IAML		20 16 15.5	
	comp=N,38nm,0.6s					
CTU	**Camp Tracy**	**2.51 195**		Pn	20 15 42.6	+1.5
CTU			IAML		20 16 25.5	
	comp=N,57nm,0.5s					
CTU			IAML		20 16 29.4	
	comp=E,64nm,0.8s					
BOZ	**Bozeman (W)**	**2.52 349**		Pn	20 15 42.4	+1.1
BOZ			IAML		20 16 18.2	
	comp=E,33nm,0.4s					
DLMT	**Dillon**	**2.54 332**		Pn	20 15 43.5	+2.0
DLMT			IAML		20 16 20.8	
	comp=E,41nm,0.8s					
DLMT			IAML		20 16 23.6	
	comp=E,39nm,0.8s					
HLID	**Hailey**	**2.59 281**		Pn	20 15 43.8	+1.6
BSUT	**Blindstream Ca**	**2.59 177**		Pn	20 15 41.8	-0.6
BGU	**Big Grassy Mou**	**2.70 216**		Pn	20 15 44.1	+0.3
RDMU	**Red Mountain**	**2.75 158**		Pn	20 15 43.8	-0.6
RWWY	**Rawlins**	**3.10 116**	Pn	Pn	20 15 48.8	-0.6
K22A	**Casper**	**3.27 97**		Pn	20 15 51.6	0.0
NLU	**North Lily Min**	**3.29 196**		Pn	20 15 52.1	+0.3
P18A	**Preston Nutter**	**3.53 172**	Pn	Pn	20 15 56.1	+0.8
ELMT	**Elliston**	**3.58 342**		Pn	20 15 54.4	-1.4
MFID	**Camas Ranch**	**3.60 276**	Pn	Pn	20 15 56.1	+0.1
MFID			IAML		20 17 00.6	
	comp=E,20nm,1.0s					
MFID			IAML		20 17 03.9	
	comp=E,13nm,1.1s					
O20A	**White River Ci**	**3.60 145**		Pn	20 15 57.0	+0.8
HRY	**Holter Researc**	**3.64 350**	Pn	Pn	20 15 53.7	-2.9
P17A	**Butcher Ranch,**	**3.65 178**		Pn	20 15 57.6	+0.8
BPMT	**Black Pine Rid**	**3.77 332**		Pn	20 15 58.5	0.0
TMUT	**Trail Mountain**	**3.83 183**		Pn	20 15 58.8	-0.6
LYMT	**Lyon Mountain**	**3.96 346**		Pn	20 16 00.8	-0.4
ELK	**Elko**	**4.00 235**	Pn	Pn	20 16 03.0	+1.3
SRU	**San Rafael Swe**	**4.02 176**		Pn	20 16 01.6	-0.3
CHMT	**Chamberlain Mo**	**4.13 337**	Pn	Pn	20 16 04.5	+1.1
PLID	**Pearl Lake**	**4.15 300**	Pn	Pn	20 16 05.0	+1.3
PLID			IAML		20 17 14.6	
	comp=E,8.0nm,3.1s					
PLID			IAML		20 17 14.8	
	comp=E,8.6nm,2.2s					
OVMT	**Ovando**	**4.20 340**		Pn	20 16 05.2	+0.8
MSO	**Missoula**	**4.28 331**	Pn	Pn	20 16 05.8	+0.4
MSO			IAML		20 17 17.1	
	comp=E,18nm,0.8s					
MSO			IAML		20 17 23.2	
	comp=E,13nm,1.6s					
N23A	**Red Feather La**	**4.33 119**		Pn	20 16 06.8	+0.6
PHWY	**Pilot Hill**	**4.45 112**		Pn	20 16 06.7	-1.2
MSU	**Marysvale**	**4.71 192**	Pn	Pn	20 16 10.4	-0.9
PV21	**Cone Mtn., Par**	**4.79 161**	Pn	Pn	20 16 12.6	0.0
PV22	**Blue Mesa, Par**	**4.86 160**	Pn	Pn	20 16 14.0	+0.5
LAO	**LASA Array**	**4.88 42**	Pn	Pn	20 16 14.6	+1.0
PV23	**Carpenter Ridg**	**4.89 162**	Pn	Pn	20 16 14.7	+0.8
SMCO	**Snowmass**	**4.94 142**		Pn	20 16 13.8	-1.0
PV10	**Paradox Valley**	**4.96 163**	Pn	Pn	20 16 14.7	-0.2
PV14	**Lion Creek, Pa**	**4.96 162**	Pn	Pn	20 16 14.1	-0.8
PV04	**Paradox Valley**	**4.97 161**	Pn	Pn	20 16 14.9	0.0
PV07	**Paradox Valley**	**4.99 159**	Pn	Pn	20 16 14.4	-0.9
PV20	**West Nyswonger**	**5.00 162**	Pn	Pn	20 16 15.9	+0.5
PV19	**Morning Glory**	**5.03 162**	Pn	Pn	20 16 15.8	0.0
PV16	**Nyswonger Mesa**	**5.04 162**	Pn	Pn	20 16 16.0	0.0
PV17	**East Wray Mesa**	**5.07 162**	Pn	Pn	20 16 17.1	+0.8
PV12	**Saucer Basin,**	**5.07 161**	Pn	Pn	20 16 16.5	+0.2
PV11	**David Mesa, Pa**	**5.07 161**	Pn	Pn	20 16 16.7	+0.4
RSSD	**Black Hills**	**5.10 76**		Pn	20 16 15.8	-0.9
PSUT	**Pine Spring**	**5.10 207**	Pn	Pn	20 16 18.0	+1.2
PV18	**Skein Mesa, Pa**	**5.11 162**	Pn	Pn	20 16 16.3	-0.6
PV03	**Paradox Valley**	**5.12 161**	Pn	Pn	20 16 16.7	-0.2
PV15	**Paradox Valley**	**5.13 158**	Pn	Pn	20 16 16.9	-0.3
HMU	**Henry Mountain**	**5.18 178**		Pn	20 16 17.8	-0.2
PV02	**Paradox Valley**	**5.19 161**	Pn	Pn	20 16 17.5	-0.5
ISCO	**Idaho Springs**	**5.19 128**		Pn	20 16 17.4	-0.7
ISCO			IAML		20 17 46.6	
	comp=E,4.3nm,0.5s					
ISCO			IAML		20 17 48.5	
	comp=E,4.7nm,1.4s					
PV13	**Radium Mtn., P**	**5.21 161**	Pn	Pn	20 16 18.2	-0.1
PV05	**Paradox Valley**	**5.23 164**	Pn	Pn	20 16 17.2	-1.4
J08A	**Circle Bar Ran**	**5.52 275**		Pn	20 16 22.9	+0.5

*IDC **10** 20:26:14.6±2.6, 3°.08S×128°.82E, h0km, mb3.4/2, mbtmp3.4/3, Error ellipse: s-maj=194.4km s-min=29.6km az=68.0*

*DJA **10** 20:26:18.0±1.2, 3°.S±4°.×12°.9E±°, h35km±24km, M3.1/8, MLv3.1/8*

ISC 10 20:26:17.8±1.1, 2°.77S±0°.10×129°.45E±0°.06, h35km, n8, σ1§15/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**2.39**	**259**	P	**Pn**	**20 26 55.4**	**+0.9**
SWI	**Sorong**	**2.62**	**44**	P	**Pn**	**20 26 57.9**	**+0.3**
FAKI	**Fak Fak**	**2.80**	**93**	P	**Pn**	**20 26 59.2**	**-0.9**
LBMI	**Labuha**	**2.88**	**317**	P	**Pn**	**20 27 00.1**	**-1.1**
SANI	**Sanana**	**3.53**	**282**	P	**Pn**	**20 27 08.7**	**-1.5**
SANI				S	**Sn**	**20 27 50.3**	**-0.4**
WRA	**Warramunga Arr**	**17.73**	**165**	P	**Pn**	**20 30 21.5**	**-0.5**
	0.3nm,0.4s,baz=346,slow=13,SNR=1.4						
ASAR	**Alice Springs**	**21.22**	**169**	P	**P**	**20 31 00.4**	**-0.3**
	1.3nm,0.6s,baz=345,slow=10,SNR=19						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**64.42**	**326**	P	**P**	**20 36 52.1**	**+1.5**
	0.3nm,0.8s,baz=116,slow=5.3,SNR=1.9						
	0.3nm,0.8s						

*ISK **10** 21:06:17.4, 39°.50N×28°.79E, h3km, ML3.2/40*

*AFAD **10** 21:06:17.9±0.0, 39°.52N×28°.80E, h7km±2km, ML2.8*

*THE **10** 21:06:21.4, 39°.43N×28°.74E, h26km±4km, ML2.9/3, Error ellipse: s-maj=4.4km s-min=0.5km az=276.0*

ISC 10 21:06:18.2±0.9, 39°.50N±0°.02×28°.80E±0°.02, h11km±7km, n60, σ0§44/76, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.17**	**306**	Pg	**Pg**	**21 06 21.9**	**-0.1**
DST				Sg	**Sg**	**21 06 24.7**	**0.0**
DURS	**Dursunbey**	**0.27**	**291**	P	**Pg**	**21 06 24.0**	**+0.2**
DURS				S	**Sg**	**21 06 27.8**	**+0.2**
DURS				*i* AML	AML	21 06 28.0	
	comp=N,2µm,0.3s						
DURS				*i* AML	AML	21 06 29.0	
	comp=E,2µm,0.1s						
SIMA	**Simav-Kutahya**	**0.44**	**161**	Pg	**Pb**	**21 06 27.4**	**-0.6**
SIMA				Sg	**Sg**	**21 06 33.5**	**+0.8**
DEMI	**Demirci**	**0.46**	**188**	P	**Pb**	**21 06 27.7**	**-0.7**
DEMI				S	**Sg**	**21 06 33.9**	**+0.4**
DEMI				*i* AML	AML	21 06 36.0	
	comp=N,477nm,0.4s						
DEMI				*i* AML	AML	21 06 36.0	
	comp=E,520nm,0.2s						
TVSB	**Tavsanli**	**0.51**	**96**	Pg	**Pg**	**21 06 28.2**	**0.0**
ORLT	**Orhaneli**	**0.55**	**8**	Pg	**Pg**	**21 06 28.7**	**-0.2**
GEDZ	**Gediz**	**0.66**	**134**	Pg	**Pg**	**21 06 30.7**	**-0.2**
ULDT	**Uludag**	**0.69**	**22**	P	**Pg**	**21 06 31.3**	**-0.3**
ULDT				S	**Sg**	**21 06 40.4**	**-0.2**
ULDT				*i* AML	AML	21 06 41.0	
	comp=N,578nm,0.1s						
ULDT				*i* AML	AML	21 06 45.0	
	comp=E,820nm,0.2s						
BKES	**Balkesir-Mer**	**0.71**	**289**	P	**Pb**	**21 06 32.0**	**-0.6**
BKES				S	**Sb**	**21 06 41.6**	**-0.8**
BKES				*i* AML	AML	21 06 46.0	
	comp=N,264nm,0.3s						
BKES				*i* AML	AML	21 06 46.0	
	comp=E,443nm,0.2s						
USAK	**Uak-Merkez**	**0.81**	**168**	P	**Pb**	**21 06 33.9**	**-0.3**
USAK				S	**Sg**	**21 06 44.4**	**+0.1**
USAK				*i* AML	AML	21 06 48.0	
	comp=N,252nm,0.3s						
USAK				*i* AML	AML	21 06 48.0	
	comp=E,505nm,0.4s						
IGD	**Bursa**	**0.82**	**22**	P	Pn	21 06 44.3	+8.6
IGD				S	**Sn**	**21 06 48.1**	**+0.3**
KCTX	**Karacabey (Bur**	**0.83**	**336**	Pg	**Pg**	**21 06 34.3**	**0.0**
ANDZ	**Kutahya, Merke**	**0.85**	**89**	P	**Pg**	**21 06 34.1**	**-0.5**
ANDZ				S	**Sg**	**21 06 46.2**	**+0.6**
ANDZ				*i* AML	AML	21 06 50.0	
	comp=N,381nm,0.5s						
ANDZ				*i* AML	AML	21 06 50.0	
	comp=E,393nm,0.3s						
MDNY	**Mudanya-Bursa**	**0.87**	**4**	Pg	**Pg**	**21 06 34.7**	**-0.2**
BALY	**Balya**	**0.94**	**285**	P	**Pb**	**21 06 36.6**	**+0.1**
BALY				S	**Sb**	**21 06 49.3**	**+0.2**
BALY				*i* AML	AML	21 06 52.0	
	comp=N,386nm,0.5s						
BALY				*i* AML	AML	21 06 52.0	
	comp=E,329nm,0.4s						
GEMT	**Gemlik**	**0.98**	**18**	Pg	**Pb**	**21 06 37.3**	**+0.2**
GEMT				Sg	**Sn**	**21 06 52.1**	**+0.4**
AKHS	**Akhisar**	**0.99**	**231**	P	**Pb**	**21 06 37.3**	**0.0**
AKS	**Akhisar**	**0.99**	**231**	Pg	**Pb**	**21 06 37.4**	**+0.1**
KULA	**Kula-Manisa**	**0.99**	**186**	Pg	**Pb**	**21 06 37.5**	**+0.1**
KULA	**Kula-Manisa**	**0.99**	**186**	P	**Pb**	**21 06 37.4**	**0.0**
KULA				S	**Sg**	**21 06 49.7**	**-0.5**
BAND	**Balkesir-Ban**	**1.01**	**328**	P	**Pb**	**21 06 37.5**	**-0.1**
BAND				S	**Sb**	**21 06 50.9**	**-0.1**
BAND				*i* AML	AML	21 06 53.0	
	comp=N,278nm,0.2s						
BAND				*i* AML	AML	21 06 53.0	
	comp=E,559nm,0.3s						
GONE	**Gonen-Balikesi**	**1.02**	**303**	Pg	**Pb**	**21 06 37.8**	**0.0**
MANT	**Manisa**	**1.03**	**191**	P	**Pb**	**21 06 38.2**	**0.0**
MANT				S	**Sg**	**21 06 51.2**	**-0.2**
MANT				*i* AML	AML	21 06 53.0	
	comp=E,400nm,0.4s						
MANT				*i* AML	AML	21 06 54.0	
	comp=N,262nm,0.5s						
GOMA	**Golmarmara-Man**	**1.05**	**221**	Pg	**Pb**	**21 06 38.5**	**+0.2**
ARMT	**Armutlu**	**1.06**	**2**	Pg	**Pg**	**21 06 38.3**	**-0.3**
CAVI	**Cavuskoy**	**1.06**	**49**	Pg	**Pg**	**21 06 38.1**	**-0.5**
EDC	**Edincik**	**1.11**	**320**	Pn	**Pg**	**21 06 39.2**	**-0.3**
YLV	**Yalova**	**1.15**	**22**	Pn	**Pg**	**21 06 40.0**	**-0.3**
ADVT	**Abdulvahap**	**1.18**	**37**	Pn	**Pg**	**21 06 40.1**	**-0.7**
KNL	**Balıkesir**	**1.25**	**308**	P	**Pb**	**21 06 41.2**	**-0.5**
KNL				S	**Sn**	**21 06 58.6**	**+0.3**
KNL				*i* AML	AML	21 07 05.0	
	comp=N,194nm,0.6s						
KNL				*i* AML	AML	21 07 05.0	
	comp=E,199nm,0.4s						
OSMT	**Osmaniye**	**1.30**	**32**	Pn	**Pg**	**21 06 42.9**	**-0.2**
BUHA	**Balikesir, Bur**	**1.33**	**270**	P	**Pb**	**21 06 43.1**	**-0.1**
BUHA				S	**Sn**	**21 07 01.0**	**+0.5**
BUHA				*i* AML	AML	21 07 02.0	
	comp=N,376nm,0.4s						
BUHA				*i* AML	AML	21 07 02.0	
	comp=E,550nm,0.4s						
GPA	**Golpazari**	**1.40**	**55**	Pn	**Pb**	**21 06 44.3**	**-0.1**
KRBG	**Karabiga-Canak**	**1.46**	**308**	Pn	**Pb**	**21 06 45.1**	**-0.2**
HRT	**Hereke**	**1.48**	**26**	Pn	**Pb**	**21 06 44.7**	**0.0**
AVCI	**Avcilar-stanb**	**1.49**	**358**	Pn	**Pb**	**21 06 46.1**	**+0.2**
RFT2	**Karaagac**	**1.50**	**267**	Pn	**Pn**	**21 06 45.3**	**+0.3**
SRCK	**Saricakaya, Es**	**1.50**	**68**	Pn	**Pg**	**21 06 46.7**	**-0.4**
DKL	**Dikili**	**1.53**	**254**	Pn	**Pn**	**21 06 45.4**	**0.0**
RFT7	**Candarli**	**1.56**	**250**	Pn	**Pn**	**21 06 46.3**	**+0.5**
KAVV	**Kandilli-Istan**	**1.57**	**7**	Pn	**Pb**	**21 06 47.7**	**+0.5**
ISK	**Istanbul-Kandi**	**1.57**	**7**	Pn	**Pb**	**21 06 47.3**	**0.0**
ISK	**Istanbul-Kandi**	**1.57**	**7**	P	**Pb**	**21 06 47.7**	**+0.4**
ISK				S	**Sg**	**21 07 08.2**	**-0.6**
	390nm,0.5s						
GULT	**Gulveren**	**1.61**	**54**	Pn	**Pb**	**21 06 48.1**	**+0.1**
BGKT	**Bogazkoy**	**1.68**	**359**	Pn	**Pb**	**21 06 48.7**	**-0.3**
SAUV	**Serdivan-Sakar**	**1.70**	**43**	Pn	**Pb**	**21 06 49.2**	**-0.2**
CTKS	**Kestanelik-??a**	**1.75**	**353**	Pn	**Pn**	**21 06 48.4**	**0.0**
KLYT	**Kilyos**	**1.76**	**6**	Pn	**Pb**	**21 06 49.9**	**-0.5**
SILS	**Sile**	**1.77**	**21**	Pn	**Pb**	**21 06 50.4**	**-0.2**
SLVT	**Silivri**	**1.78**	**346**	Pn	**Pn**	**21 06 49.1**	**+0.2**
LPK	**Lapseki**	**1.79**	**300**	Pn	**Pb**	**21 06 50.1**	**-0.9**
RFT5	**Foca**	**1.81**	**243**	Pn	**Pn**	**21 06 48.9**	**-0.3**
CRLT	**Corlu**	**1.82**	**334**	Pn	**Pn**	**21 06 50.3**	**+0.9**
RFT1	**Sazli**	**1.83**	**272**	Pn	**Pn**	**21 06 50.5**	**+1.0**
COMU	**Canakkale**	**1.89**	**289**	Pn	**Pb**	**21 06 51.6**	**-1.1**
EZN	**Ezine**	**1.94**	**280**	Pn	**Pb**	**21 06 52.3**	**-1.2**
SIGR	**SIGRI**	**2.30**	**264**	P	**Pn**	**21 06 56.2**	**+0.2**
ENEZ	**Enez**	**2.38**	**302**	P	**Pn**	**21 06 57.7**	**+0.7**
ALN	**Alexandroupoli**	**2.53**	**304**	P	**Pn**	**21 06 59.5**	**+0.4**
SMTH	**Samothraki Isl**	**2.69**	**292**	P	**Pn**	**21 07 01.9**	**+0.5**

ATH 10 21:06:51.9, 39°.01N×27°.43E, h10km±3km, ML2.6/4, Manual Solution by A.Papageorgiou First location: 2019/04/22 12:54:35, This location: 2019/12/31 10:56:29 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DKL	**Dikili**	**0.41**	**279**	P	Pg	21 06 59.4	-0.6
DKL				S	Sg	21 07 05.5	+0.1
EAG3	**Mitilini, Lesv**	**0.67**	**277**	P	Pg	21 07 04.6	-0.3
EAG3				S	Sg	21 07 13.7	0.0
PRK	**Paraskevi**	**0.93**	**285**	P	Pg	21 07 09.8	0.0
PRK				S	Sg	21 07 21.5	-0.4
EAG1	**Polichnitos, L**	**0.94**	**275**	P	Pb	21 07 10.2	-0.1
EAG1				S	Sg	21 07 22.1	-0.2
SIGR	**SIGRI**	**1.24**	**280**	P	Pn	21 07 15.2	0.0
SIGR				S	Sb	21 07 31.2	-0.2
CHOS	**Chios island**	**1.24**	**240**	P	Pn	21 07 15.1	-0.3
SMG	**Samos**	**1.38**	**200**	P	Pn	21 07 17.5	+0.3
SMG				S	Sb	21 07 35.5	0.0

*ANF **10** 21:28:18.5±0.5, 32°.99N×115°.56W, h10km, ML3.0/13, Error ellipse: s-maj=5.1km s-min=2.5km az=130.0*

*ECX **10** 21:28:19.4±0.8, 32°.96N×115°.56W, h17km±3km, MD2.9, ML3.1*

*NEIC **10** 21:28:19.2±2.3, 32°.964N±0°.008×115°.58W±0°.01, h10km±1km, Error ellipse: s-maj=2.3km s-min=1.4km az=66.0*

*PAS **10** 21:28:19.1±2.2, 32°.956N±0°.007×115°.54W±0°.01, h12km±2km, ML3.1/198, ML2.9/50(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=73.0*

ISC 10 21:28:18.3±0.8, 32°.95N±0°.01×115°.55W±0°.01, h18km±2km, n111, σ0§67/158, 10C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMPE	**Imperial**	**0.05**	**194**		**Pg**	**21 28 21.1**	**-0.5**
IMPE					**Sg**	**21 28 23.5**	**-0.3**
WEMD	**Westmorland, C**	**0.09**	**341**		**Sg**	**21 28 24.8**	**+0.5**
WEMD	**Westmorland, C**	**0.09**	**341**	⇓*i* P	**Pg**	**21 28 21.9**	**0.0**
WEMD				*i* S	**Sg**	**21 28 24.8**	**+0.5**
SNR	**Schaffner Ranc**	**0.13**	**134**		**Pg**	**21 28 22.6**	**+0.3**
SNR					**Sg**	**21 28 26.0**	**+1.0**
DREC	**Desert Rsrch C**	**0.17**	**150**		**Pg**	**21 28 23.6**	**+0.8**
DREC					**Sg**	**21 28 27.8**	**+2.0**
DREC	**Desert Rsrch C**	**0.17**	**150**	*e*P	**Pg**	**21 28 23.4**	**+0.6**
CLI2	**Calipatria 2**	**0.17**	**351**		**Pg**	**21 28 23.5**	**+0.6**
CLI2					**Sg**	**21 28 27.8**	**+1.8**
COK2	**Cook Ranch 2**	**0.18**	**237**		**Pg**	**21 28 23.6**	**+0.6**
COK2					**Sg**	**21 28 27.4**	**+1.3**
COK2	**Cook Ranch 2**	**0.18**	**237**	*e*P	**Pg**	**21 28 23.6**	**+0.6**
COK2				*e*S	**Sg**	**21 28 27.4**	**+1.3**
SWSC	**Sam W. Stewart**	**0.21**	**269**		**Pg**	**21 28 23.7**	**+0.2**
SWSC					**Sg**	**21 28 27.2**	**+0.2**
SWSC	**Sam W. Stewart**	**0.21**	**269**	⇑*i* P	**Pg**	**21 28 23.7**	**+0.2**
SWSC				*e*S	**Sb**	**21 28 27.0**	**+0.2**
SWSC	**Sam W. Stewart**	**0.21**	**269**	P	**Pg**	**21 28 23.7**	**+0.2**
	baz=87,SNR=153						
SWSC				S	**Sb**	**21 28 26.9**	**+0.2**
	baz=87						
SUP	**Superstition M**	**0.23**	**271**		**Sb**	**21 28 27.7**	**+0.1**
WESC	**Westside Schoo**	**0.25**	**219**		**Pb**	**21 28 24.6**	**+0.5**
WESC					**Sb**	**21 28 29.3**	**+1.3**
WESC	**Westside Schoo**	**0.25**	**219**	*e*P	**Pb**	**21 28 24.2**	**0.0**
5053	**Calexico**	**0.28**	**171**		**Pb**	**21 28 25.3**	**+0.5**
5053					**Sb**	**21 28 31.0**	**+1.8**
ERRC	**Elmore Ranch**	**0.28**	**306**		**Pb**	**21 28 25.5**	**+0.6**
ERRC					**Sb**	**21 28 30.7**	**+1.5**
UABX	**UABC, Campus M**	**0.33**	**164**		**Pb**	**21 28 26.3**	**+0.6**
UABX					**Sb**	**21 28 32.2**	**+1.5**
UABX			IAML			21 28 32.7	
	comp=E,3µm,0.8s						
UABX			IAML			21 28 34.0	
	comp=N,3µm,0.6s						
SGL	**Mount Signal**	**0.34**	**207**		**Pb**	**21 28 25.8**	**0.0**
SGL					**Sb**	**21 28 30.7**	**-0.2**
SGL	**Mount Signal**	**0.34**	**207**	*e*P	**Pb**	**21 28 25.8**	**0.0**
SGL				*e*S	**Sb**	**21 28 30.7**	**-0.2**
CRR	**Carrizo Plain**	**0.36**	**260**		**Pb**	**21 28 26.3**	**+0.1**
CRR					**Sb**	**21 28 31.6**	**0.0**
CRR	**Carrizo Plain**	**0.36**	**260**	⇑*e*P	**Pb**	**21 28 26.3**	**+0.1**
COA	**Coachella**	**0.37**	**104**		**Pb**	**21 28 26.4**	**+0.1**
COA					**Sb**	**21 28 32.7**	**+0.9**
COA	**Coachella**	**0.37**	**104**	⇑*i* P	**Pb**	**21 28 26.4**	**+0.1**
COA				*e*S	**Sb**	**21 28 32.7**	**+0.9**
YUH	**Yuha Desert**	**0.44**	**226**		**Pg**	**21 28 27.5**	**+0.2**
YUH					**Sg**	**21 28 33.5**	**+0.2**
YUH	**Yuha Desert**	**0.44**	**226**	IAML		21 28 35.3	
	comp=N,458nm,0.5s						
YUH			IAML			21 28 35.5	
	comp=E,561nm,0.1s						
YUH2	**Yuha Desert**	**0.44**	**226**	⇓*e*P	**Pg**	**21 28 27.5**	**+0.2**
YUH2				*e*S	**Sg**	**21 28 33.5**	**+0.2**
BOMB	**Bombay Beach**	**0.44**	**340**		**Pg**	**21 28 27.6**	**+0.2**
RUN	**Ruthven**	**0.48**	**87**		**Pg**	**21 28 28.0**	**0.0**
RUN					**Sg**	**21 28 34.8**	**+0.2**
SALN	**Salton City**	**0.49**	**312**		**Pg**	**21 28 28.0**	**-0.3**
SALN					**Sb**	**21 28 36.0**	**+0.7**
EMSC	**East Mesa**	**0.52**	**114**		**Pg**	**21 28 28.8**	**+0.1**
EMSC					**Sn**	**21 28 38.3**	**-0.8**
EMSC	**East Mesa**	**0.52**	**114**	*e*P	**Pb**	**21 28 29.2**	**+0.3**
EMSC				*e*S	**Sb**	**21 28 37.3**	**+1.3**
EMSC			IAML			21 28 38.9	
	comp=E,2µm,0.2s						
IKP	**In-Ko-Pah, Jac**	**0.56**	**238**		**Pb**	**21 28 29.9**	**+0.3**
IKP					**Sb**	**21 28 37.4**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.56**	**238**	⇑*e*P	**Pb**	**21 28 29.9**	**

BORC	Borrego Spring	0.80 294			Pb	21 28 32.4 -1.2
BORC					Sb	21 28 44.5 +0.4
RHX	Rio Hardy	0.84 165	eP		Pb	21 28 33.8 -0.6
JUEM	Julian Eagle M	0.89 279			Pb	21 28 35.2 -0.1
JUEM					Sb	21 28 47.5 +0.5
ALAMX	Rancho Alamar	0.95 188	‖eP		Pb	21 28 35.7 -0.5
ALAMX			eS		Sg	21 28 49.1 -0.3
MATG	Mataguay Scout	0.96 285			Pb	21 28 35.5 -1.0
TKX	Tecate	0.97 247			Pb	21 28 36.6 -0.1
TKX				IAML		21 28 51.4
	comp=E,334nm,0.3s					
PMD	Palm Desert	0.98 315			Pb	21 28 36.2 -0.7
PMD				IAML		21 28 50.7
	comp=E,293nm,0.6s					
BAR	Barrett	0.98 254			Pb	21 28 36.2 -0.7
BAR				IAML		21 28 50.5
	comp=E,490nm,0.5s					
BAR	Barrett	0.98 254			Sb	21 28 50.0 +0.4
ESJX	Sierra Juarez	1.00 200			Pb	21 28 37.0 -0.3
ESJX				IAML		21 28 51.4
	comp=E,179nm,0.2s					
ESJX	Sierra Juarez	1.00 200			Sg	21 28 51.2 +0.1
TPFO	Pinon Flats	1.00 311	S		Sb	21 28 50.1 0.0
	baz=130					
XPFO	Pion Flat	1.01 311			Pb	21 28 36.9 -0.4
PFO	Pinyon Flats O	1.01 311			Pb	21 28 36.5 -0.9
PFO				IAML		21 28 51.8
	comp=E,199nm,0.7s					
PFO				IAML		21 28 59.5
	comp=E,259nm,0.8s					
PFO	Pinyon Flats O	1.01 311	P		Pb	21 28 36.6 -0.7
	baz=130,SNR=49					
PFO			S		Sb	21 28 50.6 +0.2
	baz=130					
FRD	Ford Ranch, An	1.04 302			Pb	21 28 37.1 -0.7
FRD	Ford Ranch, An	1.04 302			Pb	21 28 37.1 -0.7
FRD					Sg	21 28 52.5 +0.3
SNDA	J Saunders Pla	1.08 304			Pb	21 28 38.0 -0.5
BZNA	Buzz No.'s Pla	1.08 300			Pg	21 28 39.8 +0.4
BZNA					Sg	21 28 54.1 +0.5
DUZA	Dulzura	1.09 252			Pb	21 28 38.6 -0.1
EML	El Monte Cty P	1.09 267	eP		Pb	21 28 37.9 -0.8
DNR	Dunn Ranch,Anz	1.10 304			Pg	21 28 39.7 0.0
DNR					Sg	21 28 55.0 +0.9
BELC	Belle Mtn. Jos	1.11 340	P		Pn	21 28 38.1 -1.1
	baz=160,SNR=21					
BELC			S		Sb	21 28 53.0 -0.3
	baz=160					
CBX	Cerro Bola	1.14 236			Pn	21 28 39.5 0.0
CBX				IAML		21 28 56.2
	comp=E,512nm,0.7s					
CBX				IAML		21 28 58.7
	comp=N,500nm,0.7s					
CBX	Cerro Bola	1.14 236			Sn	21 28 54.9 +0.3
BLYC	Blythe	1.17 47	Pn		Pn	21 28 39.3 -0.5
CRY	Cary Ranch	1.17 302			Sg	21 28 56.5 +0.1
PLM	Palomar	1.17 290			Pn	21 28 39.4 -0.6
OLP	Otay Lakes Par	1.22 254			Sb	21 28 55.9 -0.2
IRM	Iron Mountain	1.25 15			Pb	21 28 41.6 +0.2
IRM	Iron Mountain	1.25 15	P		Pn	21 28 40.1 -0.8
	baz=195,SNR=160					
109C	Camp Elliot, M	1.31 268			Pn	21 28 41.2 -0.5
109C	Camp Elliot, M	1.31 268	P		Pn	21 28 41.1 -0.6
	baz=87					
109C			Sb		Sb	21 28 59.6 +0.6
	baz=87					
CPE	Camp Elliot	1.31 268			Sb	21 28 59.2 +0.3
TJX	Tijuana	1.34 251			Pn	21 28 42.5 +0.3
POB	Polly Butte	1.37 303			Pg	21 28 45.0 +0.2
DGR	Domenigoni Val	1.41 300			Pg	21 28 45.5 0.0
BACC	Bachelor Mtn.	1.42 298			Pg	21 28 45.6 0.0
CCX	Cicese	1.44 222			Pb	21 28 44.2 -0.3
113A	Mohawk Valley,	1.51 96	Pn		Pn	21 28 43.8 -0.7
113A				IAML		21 29 13.6
	comp=N,89nm,0.7s					
MURC	Murrieta	1.52 296	P		Pn	21 28 44.1 -0.7
	baz=114					
ELS	Elsinore Mount	1.72 294			Pn	21 28 47.6 +0.2
PDMCI	Parker Dam,Lak	1.79 41	Sb		Sb	21 29 14.0 +1.4
	baz=221					
DSCC	Desert Studies	2.23 348			Pb	21 28 57.4 -0.8
PIX	Pinacate	2.25 128	Pn		Pn	21 28 53.3 -1.3
214A	Organ Pipe Nat	2.52 112			Pn	21 28 57.3 -1.0
214A				IAML		21 29 47.9
	comp=N,34nm,0.9s					
214A	Organ Pipe Nat	2.52 112	P		Pn	21 28 57.4 -0.9
	baz=294,SNR=5.4					
W13A	Hualapai Mount	2.55 32	Pn		Pn	21 28 58.4 -0.5
W13A				IAML		21 29 42.0
	comp=E,50nm,0.6s					
W13A				IAML		21 29 50.4
	comp=N,48nm,1.0s					
CCAC	Calif City Air	3.00 318			Pn	21 29 05.9 +0.8
CCAC				IAML		21 29 57.2
	comp=N,58nm,0.7s					
CCAC				IAML		21 30 04.3
	comp=E,45nm,1.4s					
GWY	Greenwater Val	3.36 344			Pn	21 29 11.1 +1.1
SHPR	Sheep Range	3.56 5			Pn	21 29 14.6 +1.7
ISA	Isabella, Lake	3.63 319			Pn	21 29 13.8 +0.1
X16A	Lo Mia Camp, P	3.72 66	Pn		Pn	21 29 15.5 +0.4
X16A				IAML		21 30 31.3
	comp=E,29nm,1.0s					
X16A				IAML		21 30 32.4
	comp=N,26nm,0.7s					
BCW	Bitter Crk WRg	3.78 303			Pn	21 29 16.9 +1.1
TUC	Tucson	4.07 98	Pn		Pn	21 29 19.1 -0.6
U15A	North Rim	4.38 37	Pn		Pn	21 29 25.3 +1.0
U15A				IAML		21 30 48.0
	comp=E,23nm,1.3s					
U15A				IAML		21 30 48.0
	comp=N,15nm,0.8s					
LCMT	Little Creek M	4.47 24			Pn	21 29 25.5 +0.2

IDC 10 21:36:30.0±3.8, 5°59S×153°62E, h0km, mb3.3/2, mbtmp3.3/2, MS3.8/1, Error ellipse: s-maj=181.3km s-min=50.7km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.56	231	P	P	21 41 42.6	+0.2
	0.6nm,0.7s,baz=56,slow=9.9,SNR=4.8						
	0.6nm,0.7s						
ASAR	Alice Springs	26.14	225	P	P	21 42 05.9	-0.3
	0.3nm,0.6s,baz=58,slow=8.4,SNR=6.3						
	0.3nm,0.6s						
JCJ	Chichijima	34.33	342	LR	LR	21 55 51.2	
	comp=Z,163nm,20.1s,baz=120,slow=34						
TORD	Torodi Ar. Bea	151.32	287	PKPbc	PKPbc	21 56 26.6	-0.1
	0.4nm,1.0s,baz=86,slow=2.1,SNR=4.5						

IDC 10 21:48:50.5±3.2, 33°09S×178°33W, h0km, mb3.5/2, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=74.1km s-min=36.7km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	6.35	214	Pn	Pn	21 50 25.3	-0.1
	0.8nm,0.3s,baz=326,slow=7.0,SNR=7.7						
URZ				Sn	Sn	21 51 37.7	-0.9
	2.5nm,0.3s,baz=286,slow=22,SNR=9.0						
	13nm,0.9s						
ASAR	Alice Springs	42.76	270	P	P	21 56 50.1	+0.2
	0.6nm,1.0s,baz=110,slow=7.7,SNR=5.5						
	0.6nm,1.0s						
WRA	Warramunga Arr	43.99	275	P	P	21 56 59.7	-0.1
	0.3nm,0.3s,baz=115,slow=7.9,SNR=11						
	0.3nm,0.3s						
FINES	FINESS Array B	147.55	338	PKPbc	PKPbc	22 08 35.0	-0.9
	2.7nm,0.8s,baz=56,slow=3.5,SNR=4.8						

*IDC **10** 22:07:51.3±0.7, 48°27S×31°69E, h0km, mb4.5/11, mbtmp4.5/12, ML4.4/1, MS4.3/2, Error ellipse: s-maj=26.1km s-min=15.9km az=62.0*

*NEIC **10** 22:07:52.4±0.8, 48°23S±0°09×31°7E±0°2, h10km±1km, mb4.7/30, Error ellipse: s-maj=22.4km s-min=15.8km az=81.0*

*PRE **10** 22:07:55.7±3.6, 48°18S×29°81E, h10km, mb4.7*

ISC 10 22:07:52.4±0.5, 48°23S±0°06×31°7E±0°1, h10km, n73, σ0°85/69, mb4.7/31, 7C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	CROZET ISLANDS	13.73	92	T	T	22 24 58.4	
	baz=258,slow=76,SNR=160						
H04S3	CROZET ISLANDS	13.73	92	T	T	22 24 50.8	
	baz=258,slow=76,SNR=203						
H04S1	CROZET ISLANDS	13.75	92	T	T	22 24 55.6	
	baz=258,slow=76,SNR=102						
GRHM	Grahamstown, E	15.46	343		Pn	22 11 27.7	-2.8
ROOI	Rooidraai Farm	16.87	336	eP	Pn	22 11 48.1	-0.6
ROOI				IAmb	IAmb	22 11 53.9	
	comp=Z,743nm,3.0s						
MATJ	Matjiesfontein	17.12	327	eP	Pn	22 11 52.2	+0.5
MATJ				IAmb	IAmb	22 11 54.3	
	comp=Z,86nm,0.7s						
MERW	Merweville	17.32	330	eP	Pn	22 11 54.3	0.0
MERW				IAmb	IAmb	22 11 59.2	
	comp=Z,112nm,1.7s						
BFON	Badsfontein, M	17.49	337	eP	Pn	22 11 56.3	-0.2
BFON				IAmb	IAmb	22 12 13.9	
	comp=Z,1μm,3.7s						
CER	Ceres	17.52	323	eP	Pn	22 11 56.1	-0.6
CER				IAmb	IAmb	22 11 58.9	
	comp=Z,27nm,1.2s						
KSTD	Kokstad	17.68	353	eP	P	22 12 01.0	+1.2
KSTD				IAmb	IAmb	22 12 02.3	
	comp=Z,80nm,1.4s						
BRAK	Brakfontein	17.73	335	eP	P	22 12 01.4	+1.2
BRAK				IAmb	IAmb	22 12 05.4	
	comp=Z,2μm,4.0s						
SUR	Sutherland	17.83	329	P	Pn	22 12 00.2	-0.6
SUR	Sutherland	17.83	329	eP	P	22 12 01.4	-0.1
SUR	Sutherland	17.83	329	P	P	22 12 01.3	-0.1
	comp=Z,1.6nm,0.3s,baz=140,slow=12,SNR=28						
SUR				S	Sn	22 15 02.6	-17
	comp=Z,4.6nm,0.8s,baz=258,slow=18,SNR=1.6						
	comp=Z,21nm,0.8s						
HVD	Gariep Dam	18.22	343	eP	P	22 12 07.2	+1.4
HVD				IAmb	IAmb	22 12 24.6	
	comp=Z,102nm,1.6s						
CVNA	Calvinia	19.02	327	eP	Pn	22 12 15.8	+0.7
CVNA				IAmb	IAmb	22 12 17.1	
	comp=Z,59nm,1.2s						
BOSA	Boshof	20.20	343	P	P	22 12 26.9	-0.5
BOSA	Boshof	20.20	343	eP	P	22 12 26.6	-0.8
BOSA	Boshof	20.20	343	P	P	22 12 28.4	+1.0
	comp=Z,18nm,1.0s,baz=169,slow=11,SNR=21						
	comp=Z,18nm,1.0s						
KEIM	Keimoes	21.18	333	eP	P	22 12 38.4	+0.5
KEIM				IAmb	IAmb	22 12 38.9	
	comp=Z,2μm,5.0s						
KOMG	Komaggas	21.39	324	eP	P	22 12 40.0	-0.1
UPI	Upington	21.41	334	⇑iP	P	22 12 41.0	+0.5
UPI				IAmb	IAmb	22 12 41.2	
	comp=Z,26nm,0.7s						
SWZ	Schweizer	21.58	344	eP	P	22 12 43.1	+0.7
SWZ				IAmb	IAmb	22 12 49.5	
	comp=Z,31nm,1.0s						
HRAO	HartRAO	22.52	351	eP	P	22 12 54.0	+1.7
HRAO				IAmb	IAmb	22 12 55.4	
	comp=Z,120nm,1.7s						
SLR	Silverton	22.61	352	eP	P	22 12 55.8	+2.4
SLR				IAmb	IAmb	22 12 56.8	
	comp=Z,29nm,1.1s						
LBTB	Lobatse	23.66	346	P	P	22 13 03.8	-0.3
LBTB				IAmb	IAmb	22 13 14.1	
	comp=Z,17nm,1.0s						
LEPH	Lephalale, Lim	24.51	351	eP	P	22 13 13.1	+1.0
LEPH				IAmb	IAmb	22 13 16.3	
	comp=Z,2μm,4.6s						
MAW	Mawson	25.05	152	P	P	22 13 16.9	+0.6
MAW	Mawson	25.05	152	P	P	22 13 17.2	+0.8
	comp=Z,48nm,1.0s,baz=298,slow=9.7,SNR=56						
MAW				LR	LR	22 20 56.4	
	comp=Z,584nm,19.4s,baz=284,slow=31						
	comp=Z,48nm,1.0s						
MUSN	Musina, Limpop	25.92	356	eP	P	22 13 26.5	+1.7
MUSN				IAmb	IAmb	22 13 37.0	
	comp=Z,822nm,4.0s						
TROLL	Troll, Antarti	27.35	199	⇑P	P	22 13 37.2	-0.1
	comp=Z,661nm,0.7s						
WIN	Windhoek	28.12	330	P	P	22 13 44.5	-0.2
WIN				IAmb	IAmb	22 14 01.3	
	comp=Z,28nm,1.5s						
SNAA	Sanae	28.39	202	P	P	22 13 46.3	-0.3
SNAA				IAmb	IAmb	22 13 58.1	
	comp=Z,8.2nm,0.8s						
SNAA	Sanae	28.39	202	⇑iP	P	22 13 46.5	0.0
SNAA	Sanae	28.39	202	⇑P	P	22 13 46.6	0.0
	comp=Z,92nm,1.0s						
SNAA	Sanae	28.39	202	P	P	22 13 46.5	0.0
	comp=Z,3.5nm,0.9s,baz=63,slow=6.6,SNR=15						
	comp=Z,3.5nm,0.9s						
VOI	Vohitsoka	28.92	30	P	P	22 13 49.4	-2.3
VNA2	Neumayer--Watz	29.20	205	⇑P	P	22 13 53.7	+0.1
	comp=Z,10nm,0.7s,baz=55,slow=9.0						
VNA1	Neumayer--Stat	29.31	206	⇑P	P	22 13 55.5	+0.9
	comp=Z,15nm,0.8s						
VNA3	Neumayer Olymp	30.00	205	⇑P	P	22 14 00.3	-0.4
	comp=Z,2.0nm,0.7s						
ABPO	Ambohimpanom	31.76	29	P	P	22 14 16.1	-0.8
ABPO				IAmb	IAmb	22 14 53.1	
	comp=Z,12nm,1.2s						
LSZ	Lusaka	32.98	354	P	P	22 14 27.4	-0.2
LSZ				IAmb	IAmb	22 14 29.9	
	comp=Z,7.1nm,0.7s						
BELA	Belgrano 2	38.41	198	P	P	22 15 12.9	-0.5
QSPA	South Pole Qui	41.99	180	P	P	22 15 43.3	-0.2
QSPA	South Pole Qui	41.99	180	P	P	22 15 43.5	+0.1
	comp=Z,57nm,0.8s,baz=240,slow=4.2,SNR=179						
	comp=Z,57nm,0.8s						
CASY	Casey	42.93	144	P	P	22 15 51.1	+0.3
CASY				IAmb	IAmb	22 15 53.1	
	comp=Z,13nm,0.9s						
MBAR	Mbarara	47.45	359	P	P	22 16 27.9	+0.5
SMAI	San Martin Ant	49.37	209	P	P	22 16 40.9	-0.5
SMAI				IAmb	IAmb	22 16 56.3	
	comp=Z,12nm,1.0s						
SBA	Scott Base	51.22	169	P	P	22 16 55.1	-0.2
SBA				IAmb	IAmb	22 16 58.1	
	comp=Z,17nm,1.1s						
DBIC	Dimbokro	63.39	319	P	P	22 18 21.4	-0.6
DBIC	Dimbokro	63.39	319	P	P	22 18 22.9	+0.9
	comp=Z,3.8nm,0.7s,baz=143,slow=7.4,SNR=4.8						
	comp=Z,3.8nm,0.7s						
PLTB	Pedras Altas	64.12	251	P	P	22 18 26.8	0.0
PLTB				IAmb	IAmb	22 18 56.0	
	comp=Z,7.8nm,1.2s						
TRQA	Tornquist	64.98	240	P	P	22 18 32.0	-0.4
TOA0	Torodi Ar. Sit	66.66	328	P	P	22 18 43.5	+0.3
TOA0				IAmb	IAmb	22 18 56.4	
	comp=Z,4.6nm,0.9s						
TORD	Torodi Ar. Bea	66.66	328	P	P	22 18 43.8	+0.6
TORD	Torodi Ar. Bea	66.66	328	P	P	22 18 44.4	+1.2
	comp=Z,1.3nm,0.5s,baz=162,slow=6.7,SNR=21						
	comp=Z,1.3nm,0.5s						
PLCA	Paso Flores	67.93	233	P	P	22 18 51.8	+0.6
PLCA	Paso Flores	67.93	233	P	P	22 18 51.9	+0.6
	comp=Z,1.1nm,0.7s,baz=131,slow=7.4,SNR=4.0						
	comp=Z,1.1nm,0.7s						
KOWA	Kowa	70.06	323	P	P	22 19 04.3	-0.2
KOWA				IAmb	IAmb	22 19 17.5	
	comp=Z,9.7nm,1.1s						
CPUP	Villa Florida	70.21	252	P	P	22 19 05.2	-0.3
CPUP				IAmb	IAmb	22 19 20.7	
	comp=Z,13nm,1.4s						
CPUP	Villa Florida	70.21	252	P	P	22 19 05.8	+0.3
	comp=Z,2.8nm,0.7s,baz=159,slow=4.3,SNR=5.3						
	comp=Z,2.8nm,0.7s						
CO01	Juntas del Tor	75.44	241	P	P	22 19 36.5	-0.3
CO01				IAmb	IAmb	22 19 52.6	
	comp=Z,13nm,1.2s						
STKA	Stephens Creek	78.64	125	P	P	22 19 55.6	+1.1
	comp=Z,2.0nm,0.8s,baz=243,slow=4.5,SNR=3.8						
	comp=Z,2.0nm,0.8s						
ASAR	Alice Springs	80.39	115	P	P	22 20 03.6	-0.6
ASAR	Alice Springs	80.39	115	P	P	22 20 04.2	-0.1
	comp=Z,2.4nm,0.8s,baz=219,slow=5.0,SNR=16						
	comp=Z,2.4nm,0.8s						
WRA	Warramunga Arr	83.45	112	P	P	22 20 20.0	-0.3
WRA	Warramunga Arr	83.45	112	P	P	22 20 20.2	-0.1
	comp=Z,3.3nm,1.1s,baz=213,slow=4.2,SNR=11						
	comp=Z,3.3nm,1.1s						
WB2	Warramunga Arr	83.45	113	P	P	22 20 19.3	-1.0
PB16	IPOC Station P	83.72	250	P	P	22 20 21.9	-0.4
PB16				IAmb	IAmb	22 20 47.7	
	comp=Z,7.1nm,1.1s						
HRA	Herat	86.67	25	P	P	22 20 36.7	+0.5
HRA				IAmb	IAmb	22 20 44.1	
	comp=Z,4.2nm,0.9s						
GEYT	Alibeck	88.95	21	P	P	22 20 46.9	+0.1
GEYT				IAmb	IAmb	22 21 09.0	
	comp=Z,7.7nm,1.4s						
MLR	Muntele Rosu	93.47	356	LR	LR	23 02 12.7	
	comp=Z,173nm,21.1s,baz=223,slow=35						
PDAR	Pinedale Array	152.49	273	PKPbc	PKPbc	22 27 48.3	-0.3
	comp=Z,0.6nm,0.7s,baz=142,slow=3.1,SNR=4.4						

*NEIC **10** 22:15:24.7±1.8, 43°05N±0°04×140°7E±0°1, h164km±9km, mb4.1/17, Error ellipse: s-maj=15.1km s-min=4.3km az=109.0*

*IDC **10** 22:15:25.1±1.1, 43°06N×140°72E, h163km±11km, mb3.5/14, mbtmp3.9/16, Error ellipse: s-maj=17.7km s-min=13.8km az=89.0*

*JMA **10** 22:15:25.3±0.1, 43°1N±0°5×140°7E±0°7, h158km±1km, MV3.0/37, SHIRIBESHI REGION*

ISC 10 22:15:24.8±0.6, 43°05N±0°05×140°72E±0°05, h165km±5km, n64, σ0°68/75, mb4.0/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	Shakotan	0.35	330	eP	Pn	22 15 46.8	-0.4
JSK				eS	Sn	22 16 03.1	-1.4
JISS	Ishikarishitsu	0.56	66	eS	Sn	22 16 06.0	+0.1
JEW	Eniwo	0.58	111	eP	Pn	22 15 48.6	+0.4
JEW				eS	Sn	22 16 06.2	+0.1
JNB	Noboribetsu	0.62	158	eP	Pn	22 15 48.4	-0.1
JSH	Shimam	0.64	231	eP	Pn	22 15 48.5	0.0
JSH				eS	Sn	22 16 05.9	-0.8
JHST	Hiyamasetana	0.88	225	eS	Sn	22 16 09.6	+0.2
JYM2	Yakumo 2	0.96	196	eP	Pn	22 15 50.9	+0.1
JYM2				eS	Sn	22 16 10.3	-0.3
JIAM	Iburiatsuma	0.98	115	eP	Pn	22 15 51.3	+0.5
JIAM				eS	Sn	22 16 12.0	+1.3
JHR	Hokuryu	1.01	46	eP	Pn	22 15 51.3	+0.3
JHR				eS	Sn	22 16 11.3	0.0
JAB	Ashibetsu	1.19	67	eP	Pn	22 15 53.0	+0.5
JOSM	Okushiri--Mats	1.33	224	eP	Pn	22 15 54.0	+0.1
JOSM				eS	Sn	22 16 16.0	-0.2
JSS	Shosan	1.58	31	eP	Pn	22 15 56.7	+0.4
JOMM	Oshimamatsumae	1.61	199	eP	Pn	22 15 57.3	+0.6
JOT	Ohata	1.68	172	eP	Pn	22 15 57.5	+0.1
JNBK	Urakawa-nobuka	1.69	116	eP	Pn	22 15 57.3	-0.1
JNBK				eS	Sn	22 16 23.9	+1.4
JKK2	Kamakawa 2	1.69	60	eP	Pn	22 15 57.8	+0.4
JKK2				eS	Sn	22 16 22.6	-0.2
ASAJ	Asahikawa	1.73	51	P	Pn	22 15 58.1	+0.2
	15nm,0.5s,baz=237,slow=14,SNR=10						
ASAJ				S	Sn	22 16 23.1	-0.4
	4.6nm,0.3s,baz=252,slow=20,SNR=2.2						
JKA	Kamikawa-asahi	1.73	51	Pn	Pn	22 15 57.9	0.0
JCH	Churui	1.99	102	eP	Pn	22 15 59.5	-1.2
ERM	Erimo	2.08	119	Pn	Pn	22 16 01.5	-0.2
JAR	Ashorobuto	2.25	83	eP	Pn	22 16 03.5	-0.2
JAR				eS	Sn	22 16 32.8	-0.8
JTM	Tenmabayashi	2.27	173	Pn	Pn	22 16 03.8	-0.2
YSS	Yuzh-Sakhalins	4.16	20		Pn	22 16 27.4	-0.1
JMM	Marumori	5.18	179	Pn	Pn	22 16 39.2	-1.6
JSD	Sado	5.34	201	Pn	Pn	22 16 43.6	+0.6
MJB9	Matsu-Tunnel	6.78	197		Pn	22 17 01.8	-0.1
MAJO	Matsushiro	6.78	197		Pn	22 17 01.0	-1.0
MJAR	Matsushiro Arr	6.78	197	P	Pn	22 17 03.0	+1.0
	1.9nm,0.5s,baz=13,slow=13,SNR=6.2						
KLR	Kul'dur	8.77	318	P	Pn	22 17 29.0	+0.8
	3.5nm,0.9s,baz=129,slow=14,SNR=4.2						
SONM	Songino Array	24.42	293		P	22 20 27.3	-0.8
SONM	Songino Array	24.42	293	P	P	22 20 28.3	+0.2
	0.9nm,0.6s,baz=76,slow=8.6,SNR=8.4						
	0.9nm,0.6s						
ZAA0	Zalesovo Array	37.67	307	P	P	22 22 23.3	-0.5
ZAA0				IAmb	IAmb	22 22 25.2	
	comp=Z,2.9nm,0.6s						
ZALV	Zalesovo Beam	37.67	307		P	22 22 22.9	-0.8
ZALV	Zalesovo Beam	37.67	307	P	P	22 22 24.2	+0.5
	comp=Z,4.3nm,0.6s,baz=85,slow=8.7,SNR=17						
	comp=Z,4.3nm,0.6s						
MK31	Makanchi Array	40.72	296	P	P	22 22 48.1	-1.1
MK31				IAmb	IAmb	22 23 12.3	
	comp=Z,2.7nm,1.1s						
MKAR	Makanchi Array	40.72	296	P	P	22 22 47.6	-1.6
MKAR	Makanchi Array	40.72	296	P	P	22 22 49.5	+0.4
	comp=Z,0.8nm,0.7s,baz=85,slow=5.2						
	comp=Z,0.8nm,0.7s						
IMAR	Indian Mountai	41.85	34	P	P	22 22 57.4	-0.7
KURK	Kurchatov	42.00	303		P	22 22 59.4	-0.1
KURK				IAmb	IAmb	22 23 00.5	
	comp=Z,3.8nm,0.7s						
KURBB	Kurchatov Arra	42.08	303	P	P	22 23 00.5	+0.3
	comp=Z,3.2nm,0.5s,baz=76,slow=8.8,SNR=9.6						
	comp=Z,3.2nm,0.5s						
KDAK	Kodiak Island	43.14	46	P	P	22 23 09.7	+1.1
ILAR	Eielson Array	44.80	35	P	P	22 23 23.3	+1.6
	comp=Z,0.6nm,0.8s,baz=280,slow=9.1,SNR=5.2						
	comp=Z,0.6nm,0.8s						
BMAR	Burnt Mountain	45.40	32	P	P	22 23 27.5	+1.0
SCRK	Sand Creek	46.17	36	P	P	22 23 31.8	-0.8
SCRK				IAmb	IAmb	22 23 45.0	
	comp=Z,6.8nm,1.5s						
BVAR	Borovoye Array	46.28	308	P	P	22 23 34.1	+0.6
	comp=Z,1.4nm,0.3s,baz=78,slow=9.8,SNR=14						
	comp=Z,1.4nm,0.3s						
BOOM	Boomskoye usch	46.47	293	P	P	22 23 36.1	+0.9
I28M	Miner Creek	47.58	34	P	P	22 23 44.3	+0.8
I28M				IAmb	IAmb	22 24 09.8	
	comp=Z,4.0nm,1.2s						
BARN	Barnard Glacie	47.88	40	P	P	22 23 46.5	+0.6
BARN				IAmb	IAmb	22 23 57.4	
	comp=Z,6.5nm,1.2s						
INK	Inuvik	49.34	29	P	P	22 23 56.9	+0.2
INK				IAmb	IAmb	22 24 07.2	
	comp=Z,8.9nm,1.5s						
ABKAR	Akbulak array	53.78	307	P	P	22 24 30.6	+0.5
ABKAR	Akbulak array	53.78	307	P	P	22 24 30.5	+0.5
SPITS	Spitsbergen Ar	54.53	348	P	P	22 24 34.9	-0.1
	comp=Z,4.5nm,0.8s,baz=70,slow=7.4,SNR=6.2						
	comp=Z,4.5nm,0.8s						
RES	Resolute Bay	56.93	15	P	P	22 24 51.6	-0.5
RES				IAmb	IAmb	22 25 07.3

comp=Z,142nm,0.2s
RUSC La Rusia 0.97 178 ⇑iP Pn 22 20 15.3 -1.0
RUSC eS Sn 22 20 33.8 -1.3
RUSC i 22 20 35.4
comp=Z,134nm,0.3s
TAMC Tame, Arauca 1.39 108 eP Pn 22 20 19.7 -0.1
TAMC eS Sn 22 20 41.4 +0.1
TAMC i 22 20 42.8
comp=Z,85nm,0.5s
SPBC San Pablo de B 1.53 218 eP Pn 22 20 20.3 -1.0
SPBC eS Sn 22 20 43.3 -0.7
SPBC i 22 20 47.5
comp=Z,187nm,0.2s
ZARC Zaragoza, Cauc 1.83 290 eP Pn 22 20 24.5 0.0
ZARC eS Sn 22 20 49.4 -0.3
ZARC i 22 20 56.1
comp=Z,146nm,0.2s
NORC Norcasia 2.16 233 eP Pn 22 20 27.6 -0.9
NORC eS Sn 22 20 55.4 -1.4
NORC i 22 21 00.5
comp=Z,111nm,0.3s
CHIC Chingaza 2.30 195 eP Pn 22 20 29.3 -1.1
CHIC eS Sn 22 20 59.3 -1.1
CHIC i 22 21 06.1
comp=Z,76nm,0.5s
ROSC El Rosal 2.34 211 eP Pn 22 20 31.2 +0.4
ROSC eS Sn 22 21 01.7 +0.6
ROSC i 22 21 08.1
comp=Z,125nm,0.3s
UREC San Jos de Ur 2.55 290 eP Pn 22 20 32.3 -0.7
UREC eS Sn 22 21 02.6 -2.5
GUY2C Guyana, Caldas 2.76 234 eP Pn 22 20 35.8 -0.4
GUY2C eS Sn 22 21 11.3 +0.7
GUY2C i 22 21 18.0
comp=Z,65nm,0.6s
VILC Villavicencio, 2.79 192 eP Pn 22 20 35.2 -1.1
VILC eS Sn 22 21 09.7 -1.2
VILC i 22 21 13.4
comp=Z,108nm,0.4s
PTGC Puerto Gaitan, 2.83 160 eP Pn 22 20 34.5 -2.0
PTGC eS Sn 22 21 07.7 -3.7
PTGC i 22 21 10.6
comp=Z,46nm,0.3s
LL6C La Loma 6 Bece 2.86 357 eP Pn 22 20 36.6 -0.4
LL6C eS Sn 22 21 11.3 -0.8
LL6C i 22 21 18.5
comp=Z,26nm,0.3s
RECRC Villamaria, Ca 2.91 230 eS Sn 22 21 16.9 +2.8
DBBC Dabeiba 3.07 273 eP Pn 22 20 39.1 -0.5
DBBC eS Sn 22 21 15.0 -1.9
DBBC i 22 21 16.4
comp=Z,28nm,0.2s
ARGC Ariguani, Magd 3.17 340 eP Pn 22 20 41.4 +0.4
ARGC eS Sn 22 21 19.9 +0.5
ARGC i 22 21 27.1
comp=Z,18nm,0.2s
SDV Santo Domingo 3.18 51 eP Pn 22 20 41.0 -0.3
SDV eS Sn 22 21 18.6 -1.1
SDV i 22 21 24.3
comp=Z,13nm,0.6s
ANIL Santa Ana 3.27 224 eP Pn 22 20 42.8 +0.3
ANIL eS Sn 22 21 23.7 +1.8
APAC Apartado, Choc 3.58 287 eP Pn 22 20 45.4 -0.8
APAC eS Sn 22 21 27.6 -0.9
APAC i 22 21 33.7
comp=Z,18nm,0.4s
PRAC Prado 3.59 209 eP Pn 22 20 45.0 -1.4
PRAC eS Sn 22 21 27.6 -1.4
PRAC i 22 21 36.4
comp=Z,60nm,0.4s
ORTC Ortega, Tolima 3.62 216 eP Pn 22 20 46.4 -0.3
ORTC eS Sn 22 21 29.0 -0.6
ORTC i 22 21 36.6
comp=Z,47nm,0.7s
SJCC San Jacinto, C 3.63 326 eP Pn 22 20 45.2 -1.8
SJCC eS Sn 22 21 26.8 -3.2
SJCC i 22 21 31.1
comp=Z,26nm,0.5s
PLMC San Jos del P 3.69 238 eP Pn 22 20 47.0 -0.8
PLMC eS Sn 22 21 30.1 -1.3
PLMC i 22 21 40.9
comp=Z,19nm,0.3s
CRJC Cerrejon, Guaj 4.14 3 eP Pn 22 20 51.3 -2.3
CRJC eS Sn 22 21 39.0 -2.9
CRJC i 22 21 49.0
comp=Z,25nm,0.2s
YOTC Yotoco, Valle 4.30 228 eP Pn 22 20 54.3 -1.4
YOTC eS Sn 22 21 44.0 -1.7
YOTC i 22 21 56.8
comp=Z,5.3nm,0.5s
SMRC Santa Marta, M 4.41 346 eP Pn 22 20 56.9 -0.1
SMRC eS Sn 22 21 44.4 -3.7
MACC Macarena, Meta 4.74 189 eS Sn 22 21 51.2 -4.9
URIC Uribia, Colomb 4.94 13 eP Pn 22 21 02.2 -1.8
URIC eS Sn 22 21 56.3 -4.3
URIC i 22 22 03.9
comp=Z,6.4nm,0.7s
GARC Garzon, Huila 5.21 207 eP Pn 22 21 06.4 -1.6
GARC eS Sn 22 22 03.3 -4.3
GARC i 22 22 07.9
comp=Z,15nm,0.3s

---

*TIR **10** 22:38:43.1,39°.45N×20°.66E, h20km±1km, Md3.2*
*ATH **10** 22:38:44.4,39°.52N×20°.71E, h19km±3km, ML1.3/10, Manual Solution by A.Papageorgiou First location: 2019/04/22 15:04:25, This location: 2019/04/22 15:03:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
ISC 10 22:38:44.0±1.0,39°.50N±0°.02×20°.69E±0°.03, h19km±3km, n18,σ0s54/36, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.20**	**37**	P	**Pg**	**22 38 49.2**	**+0.1**
JAN				S	**Sg**	**22 38 53.3**	**+0.7**
IGT	**Igoumenitsa**	**0.28**	**278**	P	**Pg**	**22 38 50.1**	**-0.1**
	baz=288						
IGT				S	**Sg**	**22 38 55.4**	**+0.9**
	baz=288						
ARTB	**Arta**	**0.41**	**146**	P	**Pb**	**22 38 53.0**	**+0.4**
ARTB				S	**Sb**	**22 38 59.5**	**+1.1**
SRN	**Sarande**	**0.66**	**306**	P	**Pb**	**22 38 56.7**	**-0.1**
	baz=311						
SRN				S	**Sg**	**22 39 06.8**	**+1.0**
	baz=311						
LSK	**Leskovik**	**0.66**	**354**	P	**Pg**	**22 38 57.2**	**+0.2**
	baz=357						
LSK				S	**Sn**	**22 39 07.8**	**-0.5**
	baz=357						
TSLK	**Tsoukalades, L**	**0.67**	**182**	P	**Pn**	**22 38 57.6**	**-0.9**
TSLK				S	**Sn**	**22 39 08.3**	**-0.2**
KPRO	**Kipourio**	**0.69**	**48**	P	**Pb**	**22 38 57.3**	**-0.2**
KPRO				S	**Sg**	**22 39 07.6**	**+0.7**
LKD2	**Lefkada island**	**0.71**	**182**	P	**Pn**	**22 38 58.4**	**-0.7**
LKD2				S	**Sn**	**22 39 09.5**	**0.0**
KEK	**Kerkira**	**0.72**	**288**	P	**Pb**	**22 38 57.7**	**-0.3**
KEK				S	**Sn**	**22 39 09.4**	**-0.5**
NYDR	**Nydri-Lefkada**	**0.78**	**180**	P	**Pn**	**22 38 59.4**	**-0.6**
NYDR				S	**Sn**	**22 39 11.4**	**+0.2**
DRAG	**Dragano-Lefkad**	**0.81**	**186**	P	**Pn**	**22 39 00.2**	**-0.3**
DRAG				S	**Sn**	**22 39 12.7**	**+0.6**
EVGI	**Lefkada island**	**0.87**	**182**	P	**Pn**	**22 39 01.2**	**-0.1**
EVGI				S	**Sn**	**22 39 14.3**	**+0.8**
NEST	**Nestorio**	**0.96**	**17**	P	**Pn**	**22 39 02.3**	**-0.3**
NEST				S	**Sg**	**22 39 15.1**	**-0.2**
THL	**Klokotos Trika**	**1.03**	**86**	P	**Pb**	**22 39 03.0**	**-0.2**
THL				S	**Sb**	**22 39 16.2**	**0.0**
FSK	**Fiskardo**	**1.04**	**186**	P	**Pg**	**22 39 03.7**	**-0.4**
FSK				S	**Sg**	**22 39 18.4**	**+0.6**
EVR	**Evrytania**	**1.04**	**123**	P	**Pg**	**22 39 04.9**	**+0.6**
EVR				S	**Sg**	**22 39 18.1**	**+0.2**
PVO	**Paravola**	**1.09**	**143**	P	**Pg**	**22 39 04.7**	**-0.5**
PVO				S	**Sg**	**22 39 19.4**	**-0.1**
ANX	**Ano Chora**	**1.31**	**133**	P	**Pb**	**22 39 08.0**	**-0.2**
ANX				S	**Sg**	**22 39 26.0**	**-0.6**

---

*IDC **10** 22:56:52.0±3.3, 14°.85N×94°.25W, h0km, mb3.9/5, mbtmp3.8/6, ML4.1/1, MS3.8/3, Error ellipse: s-maj=85.0km s-min=34.8km az=13.0*
*MEX **10** 22:56:59.2±0.7, 15°.08N×94°.41W, h16km±9km, MD4.4*
*NEIC **10** 22:57:00.6±1.9, 15°.28N±0°.08×94°.33W±0°.05, h47km±15km, mb4.2/34, Md4.4/20(MEX), Error ellipse: s-maj=12.0km s-min=6.4km az=185.0*
*GCG **10** 22:57:04.0±0.9, 15°.22N×94°.11W, h50km±415km, MD4.4*
ISC 10 22:56:56.9±2.0, 15°.13N±0°.05×94°.41W±0.03, h24km±16km, n115,σ1s83/147, mb4.2/15, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CARR	**Arriaga**	**1.21**	**23**	eP	**Pn**	**22 57 18.3**	**-0.1**
CARR				i S	**Sn**	**22 57 32.6**	**-1.5**
PCIG		**1.28**	**63**		**Pn**	**22 57 19.2**	**-0.1**
PCIG					**Sn**	**22 57 34.4**	**-1.3**
PCIG		**1.28**	**63**	eP	**Pn**	**22 57 19.2**	**-0.1**
PCIG				i S	**Sn**	**22 57 34.5**	**-1.3**
NILT	**Santiago Nilte**	**1.44**	**352**	i P	**Pn**	**22 57 21.3**	**-0.3**
NILT				i S	**Sn**	**22 57 38.8**	**-1.1**
HUIG	**Huatulco**	**1.76**	**291**		**Pn**	**22 57 25.5**	**-0.5**
HUIG					**Sn**	**22 57 44.2**	**-3.4**
HUIG	**Huatulco**	**1.76**	**291**	eP	**Pn**	**22 57 25.5**	**-0.5**
HUIG				i S	**Sn**	**22 57 44.2**	**-3.4**
TGIG		**2.06**	**37**		**Pn**	**22 57 31.3**	**+1.2**
TGIG					**Sb**	**22 57 57.8**	**-1.0**
TGIG		**2.06**	**37**	i P	**Pn**	**22 57 31.3**	**+1.2**
TGIG				i S	**Sb**	**22 57 57.8**	**-1.0**
PANG	**Puerto Angel**	**2.06**	**285**	i P	**Pn**	**22 57 29.5**	**-0.6**
PANG				i S	**Sn**	**22 57 51.1**	**-4.0**
TGBT	**Tuxtla Gutierr**	**2.07**	**38**	eP	**Pn**	**22 57 31.4**	**+1.1**
TGBT				eS	**Sn**	**22 57 56.1**	**+0.7**
THIG		**2.08**	**96**	eP	**Pn**	**22 57 27.7**	**-2.7**
THIG				eS	**Sn**	**22 57 52.3**	**-3.3**
PATR	**El Naranjo**	**2.10**	**90**	i P	**Pn**	**22 57 30.6**	**-0.3**
PATR				i S	**Sn**	**22 57 54.7**	**-1.7**
PAVE	**Pavencul**	**2.16**	**88**	eP	**Pn**	**22 57 31.7**	**+0.1**
PAVE				i S	**Sn**	**22 57 56.2**	**-1.5**
UXUV	**UXUV**	**2.19**	**7**	eP	**Pn**	**22 57 33.5**	**+1.6**
UXUV				eS	**Sn**	**22 57 57.6**	**-0.8**
CHUJ	**Union Juarez**	**2.22**	**91**	eP	**Pn**	**22 57 32.3**	**-0.3**
CHUJ				i S	**Sn**	**22 57 58.3**	**-1.1**
CCIG	**Comitan**	**2.47**	**62**	Pn	**Pn**	**22 57 37.5**	**+1.6**
CCIG	**Comitan**	**2.47**	**62**	eP	**Pn**	**22 57 37.2**	**+1.3**
CCIG				eS	**Sb**	**22 58 07.6**	**-3.2**
RTAL	**Retalhuleu**	**2.69**	**103**		**Pn**	**22 57 39.6**	**+0.8**
STG3	**Santiaguito 3,**	**2.77**	**98**	eP	**Pn**	**22 57 41.4**	**+1.3**
STG3				eS	**Sn**	**22 58 13.6**	**+0.7**
PEIG	**Puerto Escondi**	**2.78**	**289**		**Pn**	**22 57 40.0**	**0.0**
PEIG					**Sn**	**22 58 06.7**	**-6.1**
PEIG	**Puerto Escondi**	**2.78**	**289**	i P	**Pn**	**22 57 40.0**	**0.0**
PEIG				i S	**Sn**	**22 58 06.7**	**-6.1**
HUEH	**Huehuetenango**	**2.81**	**86**	Pn	**Pn**	**22 57 42.6**	**+2.0**
SULM	**Suchitepequez,**	**2.87**	**106**	eP	**Pn**	**22 57 43.6**	**+2.4**
SULM				eS	**Sn**	**22 58 15.4**	**+0.4**
TUIG	**Tuzandepetl**	**2.89**	**360**	eP	**Pn**	**22 57 42.2**	**+0.7**
NEUV	**Arroyo Zacate**	**2.90**	**333**	eP	**Pn**	**22 57 39.6**	**-2.0**
NEUV				eS	**Sn**	**22 58 12.9**	**-2.8**
OXLC	**Oaxaca**	**2.93**	**311**	i P	**Pn**	**22 57 44.7**	**+2.5**
OXLC				eS	**Sn**	**22 58 17.2**	**+0.4**
OXBJ	**Oaxaca**	**2.95**	**311**	i P	**Pn**	**22 57 44.4**	**+1.9**
OXBJ				eS	**Sn**	**22 58 17.6**	**+0.4**
OXIG	**Oaxaca**	**2.96**	**311**		**Pn**	**22 57 45.1**	**+2.5**
OXIG					**Sn**	**22 58 18.2**	**+0.8**
VHO	**Vista Hermosa**	**2.96**	**311**	i P	**Pn**	**22 57 45.1**	**+2.5**
VHO				i S	**Sn**	**22 58 18.2**	**+0.8**
PMUV	**Sontecomapan**	**3.47**	**349**	eP	**Pn**	**22 57 48.6**	**-0.9**
PMUV				eS	**Sn**	**22 58 30.7**	**+0.8**
YOIG	**Yosondua**	**3.47**	**300**	eP	**Pn**	**22 57 50.8**	**+1.0**
YOIG				eS	**Sn**	**22 58 29.2**	**-1.1**
FUG	**Fuego 3**	**3.52**	**101**	eP	**Pn**	**22 57 54.2**	**+3.9**
FUG				eS	**Sn**	**22 58 31.5**	**+0.3**
TXIG	**Tlaxiaco**	**3.86**	**304**	eP	**Pn**	**22 57 57.2**	**+2.1**
TXIG				eS	**Sn**	**22 58 38.7**	**-1.1**
TOIG	**Toxpalan**	**3.90**	**320**	eP	**Pn**	**22 57 56.6**	**+1.1**
TOIG				eS	**Sn**	**22 58 39.7**	**-0.9**
NBG	**Las Nubes**	**3.96**	**97**	eP	Pn	22 58 01.4	+4.9
HLIG	**Huajuapan de L**	**4.22**	**310**	eP	**Pn**	**22 58 02.1**	**+2.0**
TPIG	**Tehuac#an**	**4.33**	**320**	eP	**Pn**	**22 58 01.9**	**+0.5**
TPIG				eS	**Sn**	**22 58 51.4**	**+0.1**
FTIG	**Fresnillo de T**	**4.52**	**308**		**Pn**	**22 58 07.5**	**+3.5**
FTIG					**Sn**	**22 58 56.1**	**+0.3**
FTIG	**Fresnillo de T**	**4.52**	**308**	i P	**Pn**	**22 58 07.5**	**+3.5**
FTIG				i S	**Sn**	**22 58 56.1**	**+0.3**
TLIG	**Tlapa**	**4.67**	**302**	Pn	**Pn**	**22 58 08.9**	**+2.8**
JAUV	**Jalcomulco**	**4.80**	**332**	eP	**Pn**	**22 58 06.7**	**-1.1**
JAUV				eS	**Sn**	**22 58 59.6**	**-3.1**
ESQI	**Esquipulas**	**4.93**	**96**	Pn	**Pn**	**22 58 11.0**	**+1.3**
MTO3	**Montecristo**	**4.94**	**98**	Pn	**Pn**	**22 58 10.9**	**+1.0**
LVIG	**Laguna Verde**	**4.96**	**338**	eP	**Pn**	**22 58 08.8**	**-1.2**
PPM	**Popocatepetl**	**5.62**	**315**	eP	**Pn**	**22 58 22.9**	**+3.4**
PPM				eS	**Sn**	**22 59 26.2**	**+2.6**
TGUH	**Tegucigalpa,Un**	**6.99**	**98**	Pn	**Pn**	**22 58 40.4**	**+2.4**
TEIG	**Tepich**	**7.74**	**48**	Pn	**Pn**	**22 58 47.7**	**-0.4**
	256nm,0.3s,baz=114,slow=19,SNR=57						
TEIG				Sn	**Sn**	**23 00 12.7**	**-2.3**
	100nm,0.3s,baz=199,slow=21,SNR=6.8						
TEIG				LR	LR	23 02 24.6	
	comp=Z,2μm,18.4s,baz=352,slow=43						
CNGN	**Cerro Negro**	**7.93**	**108**	Pn	**Pn**	**22 58 52.5**	**+1.6**
MATN	**Matagalpa**	**8.52**	**104**	Pn	**Pn**	**22 58 59.9**	**+0.9**
BOAB	**BOACO BROADBAN**	**8.90**	**106**	Pn	**Pn**	**22 59 06.2**	**+2.1**
ORTG	**Ortega, Santa**	**9.93**	**117**		**Pn**	**22 59 20.9**	**+2.5**
DUNO	**Dulce Nombre,**	**10.04**	**119**		**Pn**	**22 59 22.0**	**+2.2**
JTS	**Las Juntas de**	**10.40**	**116**	Pn	**Pn**	**22 59 28.4**	**+3.6**
RIMA	**Rio Macho**	**11.59**	**116**		**Pn**	**22 59 43.5**	**+2.3**
SRBA	**San Rafael, Bu**	**12.28**	**117**		**Pn**	**22 59 52.2**	**+1.6**
DRK0	**Durika**	**12.37**	**117**	Pn	**Pn**	**22 59 54.1**	**+2.3**
SOR	**Soroa**	**13.20**	**53**	Pn	**Pn**	**23 00 01.3**	**-1.7**
833A	**Chaparral WMA,**	**13.92**	**341**	Pn	**Pn**	**23 00 12.9**	**+0.1**
HNDO	**Hondo**	**15.02**	**343**	Pn	**Pn**	**23 00 29.2**	**+1.4**
435B	**Jarrell**	**15.85**	**350**	Pn	**Pn**	**23 00 38.4**	**-0.3**
435B				IAmb	IAmb	23 00 53.3	
	comp=Z,22nm,1.0s						
SAND	**Sanderson**	**16.38**	**336**	P	**P**	**23 00 47.4**	**-0.7**
SAND				IAmb	IAmb	23 00 50.6	
	comp=Z,3.8nm,0.9s						
TX32	**Lajitas Array**	**16.52**	**330**	P	**P**	**23 00 48.7**	**-1.0**
TXAR	**Lajitas Array**	**16.52**	**330**		**P**	**23 00 49.4**	**-0.3**
TXAR	**Lajitas Array**	**16.52**	**330**	Pn	**P**	**23 00 50.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=154,slow=12,SNR=6.5						
	comp=Z,0.8nm,0.6s						
BRDY	**Brady**	**16.62**	**346**	P	**P**	**23 00 51.4**	**+0.6**
BRDY				IAmb	IAmb	23 01 08.9	
	comp=Z,5.6nm,0.8s						
OZNA	**Ozona**	**16.89**	**340**		**P**	**23 00 53.7**	**0.0**
OZNA				IAmb	IAmb	23 01 08.4	
	comp=Z,17nm,0.6s						
WHTX	**Lake Whitney,**	**17.02**	**351**		**P**	**23 00 56.0**	**+0.9**
WHTX				IAmb	IAmb	23 01 11.7	
	comp=Z,12nm,0.7s						
ABTX	**Abilene, Hawle**	**18.06**	**346**	P	**P**	**23 01 07.2**	**+0.6**
Z47A	**Carrollton**	**18.89**	**17**	P	**P**	**23 01 15.4**	**-0.3**
Z47A				IAmb	IAmb	23 01 17.4	
	comp=Z,9.0nm,0.7s						
GTBY	**Guantanamo Bay**	**19.01**	**73**	P	**P**	**23 01 16.6**	**-0.6**
MIAR	**Mount Ida**	**19.35**	**2**	P	**P**	**23 01 20.4**	**-0.3**
MIAR				IAmb	IAmb	23 01 27.8	
	comp=Z,13nm,1.2s						
WMOK	**Wichita Mounta**	**19.92**	**349**	P	**Pn**	**23 01 27.9**	**-0.9**
W35A	**Tecumseh**	**20.06**	**354**		**P**	**23 01 27.2**	**-1.3**
W35A				IAmb	IAmb	23 01 34.6	
	comp=Z,20nm,1.1s						
PLMC	**San Jos del P**	**20.52**	**118**	eP	Pn	23 01 35.9	-0.1
ZARC	**Zaragoza, Cauc**	**20.60**	**109**	eP	**P**	**23 01 31.9**	**-2.7**
GOGA	**Godfrey**	**20.73**	**27**	P	**P**	**23 01 35.7**	**-0.1**
FCAR	**Ozark Folk Cen**	**20.78**	**5**	P	**P**	**23 01 35.7**	**-0.6**
FCAR				IAmb	IAmb	23 01 40.0	
	comp=Z,8.8nm,0.6s						
OK031	**S. Brethren Rd**	**20.85**	**354**	P	**P**	**23 01 36.9**	**-0.2**
OK031				IAmb	IAmb	23 01 41.3	
	comp=Z,12nm,0.8s						
YOTC	**Yotoco, Valle**	**20.95**	**120**	eP	**P**	**23 01 40.0**	**+1.5**
HHAR	**Hobbs**	**21.07**	**1**	P	**P**	**23 01 40.2**	**+0.7**
HHAR				IAmb	IAmb	23 01 42.4	
	comp=Z,10nm,0.5s						
JAMC	**Jamundi, Valle**	**21.11**	**122**	eP	**P**	**23 01 38.7**	**-1.6**
GUY2C	**Guyana, Caldas**	**21.15**	**116**	eP	**P**	**23 01 43.2**	**+2.2**
121A	**Cookes Peak, D**	**21.18**	**327**	P	**P**	**23 01 42.2**	**+1.4**
U38A	**Gravette**	**21.23**	**0**	P	**P**	**23 01 42.1**	**+0.9**
U38A				IAmb	IAmb	23 01 44.0	
	comp=Z,5.9nm,0.6s						
BBAC	**Balboa, Cauca**	**21.36**	**126**	eP	**P**	**23 01 44.7**	**+1.7**
NORC	**Norcasia**	**21.42**	**114**	eP	**P**	**23 01 45.3**	**+1.8**
POPC	**Popayan, Colom**	**21.50**	**124**	eP	**P**	**23 01 44.7**	**+0.2**
WVT	**Waverly**	**21.73**	**15**	P	**P**	**23 01 45.6**	**-0.9**
MGMO	**Mountain Grove**	**22.02**	**5**	P	**P**	**23 01 50.2**	**+0.5**
MGMO				IAmb	IAmb	23 01 51.8	
	comp=Z,4.8nm,0.6s						
SPBC	**San Pablo de B**	**22.09**	**113**	eP	**P**	**23 01 45.2**	**-5.5**
ROSC	**El Rosal**	**22.24**	**115**	P	**P**	**23 01 54.0**	**+1.4**
PRAC	**Prado**	**22.32**	**119**	eP	**P**	**23 01 52.9**	**-0.2**
S39A	**Bolivar**	**22.50**	**2**	P	**P**	**23 01 54.5**	**-0.3**
S39A				IAmb	IAmb	23 01 56.1	
	comp=Z,5.4nm,0.7s						
PAMC	**Pamplona, Colo**	**22.64**	**108**	eP	**P**	**23 01 57.1**	**+0.1**
U49A	**Red Boiling Sp**	**22.65**	**18**	P	**P**	**23 01 54.6**	**-1.7**
U49A				IAmb	IAmb	23 02 16.8	
	comp=Z,5.1nm,0.8s						
CHIC	**Chingaza**	**22.86**	**115**	eP	**P**	**23 02 01.5**	**+2.3**
RUSC	**La Rusia**	**22.86**	**111**	eP	**P**	**23 01 59.5**	**+0.1**
CCM	**Cathedral Cave**	**23.01**	**6**	P	**P**	**23 01 58.6**	**-1.5**
CCM				IAmb	IAmb	23 02 00.1	
	comp=Z,5.8nm,0.7s						
TZTN	**Tazewell**	**23.43**	**22**	P	**P**	**23 02 02.5**	**-1.9**
TZTN				IAmb	IAmb	23 02 22.6	
	comp=Z,7.9nm,1.0s						
P40A	**Paris**	**24.40**	**4**	P	**P**	**23 02 11.9**	**-1.6**
N38A	**Joes South For**	**25.59**	**2**	P	**P**	**23 02 24.1**	**-0.2**
O49A	**Covington**	**26.47**	**17**	P	**P**	**23 02 30.2**	**-2.1**
O49A				IAmb	IAmb	23 02 33.0	
	comp=Z,15nm,1.2s						
BAUV	**El Baul**	**26.49**	**100**	P	**P**	**23 02 32.5**	**-0.2**
BAUV				IAmb	IAmb	23 02 43.4	
	comp=Z,3.9nm,0.7s						
L40A	**Anamosa**	**26.98**	**5**	P	**P**	**23 02 35.9**	**-0.9**
ECSD	**EROS Data Cent**	**28.57**	**357**	P	**P**	**23 02 50.9**	**-0.2**
ECSD				IAmb	IAmb	23 02 51.6	
	comp=Z,3.5nm,0.8s						
PCRV	**Puerto La Cruz**	**29.45**	**96**	LR	LR	23 14 24.5	
	comp=Z,92nm,21.2s,slow=36						
SPMN	**Marine on St.**	**30.03**	**2**	P	**P**	**23 03 02.7**	**-1.3**
NVAR	**Mina Array Bea**	**31.35**	**322**	P	**P**	**23 03 17.9**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=145,slow=9.9,SNR=1.2						
	comp=Z,0.1nm,0.3s						
EYMN	**Ely**	**32.81**	**4**	P	**P**	**23 03 26.9**	**-1.6**
ULM	**Lac du Bonnet**	**35.05**	**358**	P	**P**	**23 03 46.6**	**-1.3**
ILAR	**Eielson Array**	**60.90**	**337**	P	**P**	**23 07 07.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=120,slow=5.5,SNR=4.4						
	comp=Z,0.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**78.42**	**36**	P	**P**	**23 08 55.3**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=270,slow=5.0,SNR=4.3						
	comp=Z,3.6nm,0.8s						
ESDC	**Sonseca Array**	**80.84**	**51**	P	**P**	**23 09 07.9**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=295,slow=5.8,SNR=8.9						
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**84.26**	**28**	P	**P**	**23 09 27.2**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=291,slow=5.0,SNR=6.3						
	comp=Z,1.7nm,0.8s						
GERES	**GERESS Array B**	**90.21**	**39**	LR	LR	23 48 57.8	
	comp=Z,36nm,20.5s,baz=44,slow=35						

---

*KRSC **10** 22:59:22.2±1.1, 51°.96N×159°.62E, h44km±15km, Ml5.2*
*MOS **10** 22:59:23.7±0.9, 51°.96N×159°.43E, h51km, mb4.9/52, MS3.8/5, Error ellipse: s-maj=6.8km s-min=3.0km az=93.1*
*NEIC **10** 22:59:27.4±1.2, 52°.17N±0°.07×159°.4E±0°.1, h62km±5km, mb4.8/134, Error ellipse: s-maj=10.7km s-min=9.7km az=201.0*
*IDC **10** 22:59:28.2±1.4, 52°.14N×159°.21E, h69km±11km, mb4.2/30, mbtmp4.5/34, MS3.9/19, Error ellipse: s-maj=12.2km s-min=9.9km az=146.0*
ISC 10 22:59:26.7±0.4, 52°.07N±0°.04×159°.39E±0°.04, h61km±3km, h61km:pP-P, n769,σ1s01/801, mb4.7/143, 45C-21D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.65**	**305**	PN	**Pn**	**22 59 38.2**	**-2.2**
RUS				S	**Sn**	**22 59 48.7**	**-1.7**
RUS	**Russkaya**	**0.65**	**305**	i P	**Pn**	**22 59 38.2**	**-2.2**
RUS				eS	**Sn**	**22 59 48.7**	**-1.7**
MTVR	**Mutnovka**	**0.85**	**300**	PN	**Pn**	**22 59 41.7**	**-1.3**
MTVR	**Mutnovka**	**0.85**	**300**	i P	**Pn**	**22 59 41.7**	**-1.3**
KDTR	**Khodutka, Kamc**	**0.85**	**253**	PN	**Pn**	**22 59 40.6**	**-2.2**
KDTR				S	**Sn**	**22 59 52.8**	**-1.9**
KDTR	**Khodutka, Kamc**	**0.85**	**253**	eP	**Pn**	**22 59 40.6**	**-2.2**
KDTR				eS	**Sn**	**22 59 52.8**	**-1.9**
GRL	**Gorelyy**	**0.94**	**301**	PN	**Pn**	**22 59 43.5**	**-0.6**
GRL	**Gorelyy**	**0.94**	**301**	eP	**Pn**	**22 59 43.5**	**-0.6**
ASAK	**Asacha**	**0.97**	**290**	PN	**Pn**	**22 59 43.8**	**-0.6**
ASAK	**Asacha**	**0.97**	**290**	eP	**Pn**	**22 59 43.8**	**-0.6**
DALK	**Dalny**	**1.04**	**338**	PN	**Pn**	**22 59 43.6**	**-1.6**
DALK				S	**Sn**	**22 59 58.3**	**-0.7**
DALK	**Dalny**	**1.04**	**338**	eP	**Pn**	**22 59 43.6**	**-1.6**
DALK				eS	**Sn**	**22 59 58.3**	**-0.7**
PET	**Petropavlovsk**	**1.06**	**335**		**Pn**	**22 59 44.0**	**-1.4**
PET				Sn	**Sn**	**22 59 57.0**	**-2.4**
PET	**Petropavlovsk**	**1.06**	**335**	⇑iPN	**Pn**	**22 59 44.1**	**-1.4**
PET				eS	**Sn**	**22 59 58.8**	**-0.6**
PET				pmax	pmax		
	comp=Z,7μm,0.5s						
PET				smax	smax		
	comp=E,10μm,0.7s						
PET				smax	smax		
	comp=N,19μm,0.5s						
PET	**Petropavlovsk**	**1.06**	**335**	i P	**Pn**	**22 59 44.0**	**-1.4**
PET				eS	**Sn**	**22 59 59.4**	**-0.1**
KRMR	**Karymshinskiy**	**1.08**	**315**	PN	**Pn**	**22 59 44.8**	**-1.0**
KRMR	**Karymshinskiy**	**1.08**	**315**	eP	**Pn**	**22 59 44.8**	**-1.0**
SPN	**Mys Shipunski**	**1.10**	**20**	PN	**Pn**	**22 59 44.1**	**-2.0**
SPN				S	**Sn**	**22 59 59.6**	**-0.9**
SPN	**Mys Shipunski**	**1.10**	**20**	eP	**Pn**	**22 59 44.1**	**-2.0**
SPN				eS	**Sn**	**22 59 59.6**	**-0.9**
NLC	**Nalytchevo**	**1.10**	**359**	PN	**Pn**	**22 59 45.1**	**-1.0**
NLC	**Nalytchevo**

SKR	Severo-Kuril's	2.48	237	eP	Pn	23 00 03.2	-1.4
SKR				eS	Sn	23 00 32.7	-1.0
MKZ	Mys Kozlova	2.86	28	PN	Pn	23 00 07.5	-2.4
MKZ	Mys Kozlova	2.86	28	eP	Pn	23 00 07.5	-2.4
KZV	Kizimen	3.10	10	PN	Pn	23 00 12.8	-0.5
KZV	Kizimen	3.10	10	eP	Pn	23 00 12.8	-0.5
TUMD	Tumrok D	3.20	10	eP	Pn	23 00 13.7	-0.8
TUMD				eS	Sn	23 00 52.8	+1.5
TUMR	Tumrok	3.25	8	PN	Pn	23 00 13.7	-1.6
TUMR				S	Sn	23 00 52.8	0.0
TUMR	Tumrok	3.25	8	eP	Pn	23 00 15.9	+0.6
KMNR	Kamenistaya	3.73	7	PN	Pn	23 00 24.3	+2.5
KMNR	Kamenistaya	3.73	7	eP	Pn	23 00 24.2	+2.5
ESO	Esso	3.89	354	PN	Pn	23 00 25.8	+1.9
ESO	Esso	3.89	354	eP	Pn	23 00 25.8	+1.9
BZMR	Bezymyannaya	3.93	9	PN	Pn	23 00 25.4	+0.8
BZMR	Bezymyannaya	3.93	9	eP	Pn	23 00 25.4	+0.8
KIRR	Kirishev	3.93	8	PN	Pn	23 00 25.3	+0.7
KIRR	Kirishev	3.93	8	eP	Pn	23 00 25.3	+0.7
KPT	Kopyto	3.94	7	PN	Pn	23 00 25.3	+0.7
KPT	Kopyto	3.94	7	eP	Pn	23 00 25.3	+0.7
BZGR	Bezymyannyi-Gr	3.96	11	PN	Pn	23 00 26.5	+1.6
BZGR	Bezymyannyi-Gr	3.96	11	eP	Pn	23 00 26.5	+1.6
BZWR	Bezymyannyi-We	3.96	9	PN	Pn	23 00 26.1	+1.1
BZWR	Bezymyannyi-We	3.96	9	eP	Pn	23 00 26.1	+1.1
KOZ	Kozyrevsk	4.01	4	PN	Pn	23 00 26.4	+0.8
KOZ	Kozyrevsk	4.01	4	eP	Pn	23 00 26.4	+0.8
CIRR	Tsirk	4.13	11	PN	Pn	23 00 28.2	+0.8
CIRR	Tsirk	4.13	11	eP	Pn	23 00 28.2	+0.8
SRDR	Sredinnyy	4.26	2	PN	Pn	23 00 29.9	+0.8
SRDR	Sredinnyy	4.26	2	eP	Pn	23 00 29.9	+0.8
KLY	Klyuchi	4.32	9	PN	Pn	23 00 31.2	+1.4
KLY	Klyuchi	4.32	9	eP	Pn	23 00 31.2	+1.4
KBG	Krutoberegovo	4.63	24	PN	Pn	23 00 33.2	-0.8
KBG	Krutoberegovo	4.63	24	eP	Pn	23 00 33.2	-0.8
BDR	Baidarnaya	4.63	13	PN	Pn	23 00 35.4	+1.2
BDR	Baidarnaya	4.63	13	eP	Pn	23 00 35.4	+1.2
SMKR	Semkarok	4.68	14	PN	Pn	23 00 35.5	+0.6
SMKR	Semkarok	4.68	14	eP	Pn	23 00 35.5	+0.6
MA2	Magadan	8.95	331	LR	LR	23 05 34.5	
	comp=Z,452nm,19.8s,baz=148,slow=42						
SHEM	Shemya Is, Ala	9.02	80	P	Pn	23 01 36.9	+2.8
	comp=Z,51nm,0.8s,baz=285,slow=12,SNR=1.7						
SHEM				S	Sn	23 03 02.6	-11
	comp=Z,27nm,0.5s,baz=97,slow=20,SNR=1.2						
SHEM				LR	LR	23 04 55.6	
	comp=Z,314nm,21.7s,baz=310,slow=36						
SMY	Shemya	9.02	80	Pn	Pn	23 01 33.8	-0.3
SMY	Shemya	9.02	80	PN	Pn	23 01 33.8	-0.3
SEY	Seymchan	11.52	344	P	Pn	23 02 08.1	0.0
	comp=Z,3.7nm,0.2s,baz=10.0,slow=23,SNR=1.4						
SEY				LR	LR	23 07 08.2	
	comp=Z,743nm,18.8s,baz=158,slow=40						
YSS	Yuzh-Sakhalins	11.95	251	ePN	Pn	23 02 13.4	-0.7
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
JKA	Kamikawa-asahi	13.73	241	Pn	Pn	23 02 38.3	0.0
ASAJ	Asahikawa	13.73	241	P	Pn	23 02 38.3	0.0
ASAJ	Asahikawa	13.73	241	P	Pn	23 02 38.6	+0.3
	comp=Z,12nm,0.8s,baz=48,slow=14,SNR=11						
GRNR	Gornyy	14.38	274	i P	P	23 02 51.8	-0.4
GRNR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GRNR				MLR	MLR		
	comp=E,3μm,15.0s						
GRNR				MLR	MLR		
	comp=N,760nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,300nm,16.0s						
ERM	Erimo	14.92	234	Pn	Pn	23 02 50.0	-3.9
ERM	Erimo	14.92	234	P	Pn	23 02 50.0	-3.9
KLR	Kul'dur	17.71	272	ceP	P	23 03 31.4	+2.3
KLR				pmax	pmax		
	comp=Z,11nm,1.3s						
KLR	Kul'dur	17.71	272	P	P	23 03 31.8	+2.7
	comp=Z,6.0nm,0.7s,baz=61,slow=11,SNR=13						
KLR				LR	LR	23 11 01.4	
	comp=Z,233nm,18.6s,baz=81,slow=39						
YAK	Yakutsk	18.81	314	P	P	23 03 41.3	+0.4
YAK				IAmb	IAmb	23 03 47.3	
	comp=Z,29nm,0.5s						
YAK	Yakutsk	18.81	314	eP	P	23 03 39.6	-1.4
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,117nm,3.5s						
YAK				pmax	pmax		
	comp=N,148nm,4.3s						
YAK				pmax	pmax		
	comp=E,110nm,4.7s						
YAK				MLR	MLR		
	comp=Z,299nm,15.0s						
YAK				MLR	MLR		
	comp=E,183nm,19.0s						
YAK				MLR	MLR		
	comp=N,208nm,23.0s						
JMM	Marumori	19.28	230	P	P	23 03 47.4	+1.1
JMM				IAmb	IAmb	23 03 50.2	
	comp=Z,78nm,1.4s						
USA0B	Ussuriysk Arra	19.82	257	P	P	23 03 52.5	+0.4
USA0B	Ussuriysk Arra	19.82	257	P	P	23 03 52.6	+0.4
USA0B				pmax	pmax		
	comp=Z,10.0nm,1.1s						
USRK	Ussuriysk Ar.	19.82	257	P	P	23 03 51.8	-0.4
USRK	Ussuriysk Ar.	19.82	257	P	P	23 03 52.2	0.0
	comp=Z,4.8nm,0.7s,baz=54,slow=11,SNR=3.1						
USRK				LR	LR	23 11 35.6	
	comp=Z,238nm,20.5s,baz=58,slow=37						
HEH	HeiHe	20.05	278	eP	P	23 03 54.5	-0.1
HEH				pP	pP	23 04 09.7	+2.0
HEH				pmax	pmax		
	comp=Z,31nm,0.7s						
HEH				pmax	pmax		
	comp=Z,170nm,5.1s						
HEH				LR	LR		
	comp=N,330nm,11.4s						
HEH				LR	LR		
	comp=E,260nm,11.6s						
HEH				LR	LR		
	comp=Z,510nm,13.8s						
JSD	Sado	20.38	235	P	P	23 03 58.2	-0.1
JSD				IAmb	IAmb	23 04 03.3	
	comp=Z,41nm,0.9s						
MJB9	Matsu-Tunnel	21.57	232	P	P	23 04 11.2	+0.1
MJB9				IAmb	IAmb	23 04 18.4	
	comp=Z,33nm,0.6s						
MAJO	Matsushiro	21.57	232	P	P	23 04 10.7	-0.4
MAJO				IAmb	IAmb	23 04 17.4	
	comp=Z,34nm,0.7s						
MAJO	Matsushiro	21.57	232	i P	P	23 04 11.5	+0.4
MJAR	Matsushiro Arr	21.57	232	P	P	23 04 11.5	+0.3
	comp=Z,9.8nm,0.6s,baz=27,slow=9.0,SNR=28						
MJAR				LR	LR	23 13 59.7	
	comp=Z,119nm,19.6s,baz=4.5,slow=40						
	comp=Z,9.8nm,0.6s						
L14K	Kuka Creek	22.48	51	P	P	23 04 19.5	-1.1
	baz=263						
M14K	Bethel	22.77	52	P	P	23 04 23.0	-0.6
	baz=265						
N14K	Kuskokwak Cree	22.85	55	P	P	23 04 23.3	-1.2
	baz=268						
INU	Inuyama	23.11	232	P	P	23 04 26.8	-0.5
INU				IAmb	IAmb	23 04 34.0	
	comp=Z,27nm,0.7s						
K15K	Wolf Creek Mou	23.15	49	P	P	23 04 26.2	-1.3
	baz=262						
H16K	Elim	23.30	43	P	P	23 04 27.7	-1.2
	baz=256						
M15K	Kasigluk River	23.39	53	P	P	23 04 27.9	-1.8
	baz=267,SNR=5.1						
N15K	Kwethluk River	23.66	54	P	P	23 04 31.8	-0.5
	baz=268						
J16K	Anvik River	23.73	46	P	P	23 04 32.9	0.0
	baz=261						
O15K	Ungalikthiuk R	23.78	57	P	P	23 04 33.1	-0.3
	baz=271						
TIXI	Tiksi	23.84	337	P	P	23 04 31.5	-2.3
TIXI	Tiksi	23.84	337	i P	P	23 04 34.0	+0.2
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
D17K	Noatak River	23.93	35	P	P	23 04 33.6	-1.1
D17K	Noatak River	23.93	35	P	P	23 04 34.1	-0.6
	baz=248						
L16K	Owhat River	24.05	50	P	P	23 04 36.0	+0.3
	baz=265						
G17K	Kiwalik Mounta	24.16	41	P	P	23 04 36.9	+0.1
	baz=256						
E17K	Hotham Inlet	24.17	37	P	P	23 04 37.1	+0.3
	baz=251						
F17K	Baldwin Pennin	24.19	38	P	P	23 04 37.7	+0.7
	baz=253						
M16K	Timber Creek	24.25	52	P	P	23 04 38.2	+0.5
	baz=267						
N16K	Nishlik Lake	24.32	53	P	P	23 04 37.7	-0.6
	baz=269						
CHNA	Chernabura Isl	24.34	67	P	P	23 04 38.9	+0.4
	baz=281						
H17K	Granite Mounta	24.34	42	P	P	23 04 37.9	-0.5
	baz=258						
L17K	Donlin	24.64	49	P	P	23 04 40.9	-0.2
	baz=266						
E18K	Tukpahlearik C	24.73	36	P	P	23 04 42.3	+0.4
	baz=252						
CHGN	Chignik	24.76	63	P	P	23 04 43.2	+0.9
	baz=278						
C18K	Utukok River	24.94	33	P	P	23 04 44.7	+0.8
	baz=248						
M17K	Holitna River	25.00	51	P	P	23 04 44.9	+0.4
	baz=268,SNR=6.2						
B18K	Kokolik River	25.02	32	P	P	23 04 45.2	+0.7
	baz=246						
H18K	Honhosa River	25.02	42	P	P	23 04 45.2	+0.5
	baz=259						
R16K	Pilot Point	25.06	60	P	P	23 04 45.0	0.0
	baz=276						
G18K	Tagagawik	25.06	40	P	P	23 04 45.4	+0.4
	baz=257						
HIA	Hailar	25.07	279	P	P	23 04 43.3	-1.9
HIA	Hailar	25.07	279	P	P	23 04 43.3	-1.9
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
N17K	Nushagak Hills	25.11	53	P	P	23 04 45.7	+0.3
	baz=270						
O17K	Koliganek Bris	25.16	55	P	P	23 04 46.1	+0.1
	baz=272						
L18K	Granite Mounta	25.40	49	P	P	23 04 47.9	-0.1
	baz=267						
Q16K	King Salmon	25.45	58	P	P	23 04 49.0	+0.5
	baz=274						
J18K	Innoko River	25.48	46	P	P	23 04 49.0	+0.2
	baz=264						
P17K	Kvichak River	25.52	56	P	P	23 04 49.3	+0.2
	baz=274						
F19K	Shaleruckik Mo	25.63	38	P	P	23 04 50.4	+0.4
	baz=256						
G19K	Purcell Mounta	25.74	40	P	P	23 04 51.0	-0.1
	baz=258						
N18K	Kilae Creek	25.75	53	P	P	23 04 51.4	+0.2
	baz=271						
H19K	Roundabout Mou	25.88	42	P	P	23 04 52.7	+0.4
	baz=260						
Q17K	Contact Creek	25.89	58	P	P	23 04 52.7	+0.1
	baz=276						
D19K	Kuna River	25.96	35	P	P	23 04 53.1	+0.1
	baz=252						
JMN	Monobe	25.96	235	P	P	23 04 55.0	+1.6
JMN				IAmb	IAmb	23 05 03.7	
	comp=Z,16nm,0.8s						
E19K	Redstone River	25.99	37	P	P	23 04 52.5	-0.8
	baz=256						
J19K	Poorman	26.02	45	P	P	23 04 53.6	0.0
	baz=264						
O18K	Koktuh Hills	26.11	55	P	P	23 04 54.0	-0.5
	baz=273						
P18K	Big Mountain,	26.13	56	P	P	23 04 53.7	-1.1
	baz=274						
Q18K	Katmai Hardscr	26.31	57	P	P	23 04 55.3	-1.2
	baz=276						
N19K	Bonanza Creek	26.43	53	P	P	23 04 57.2	-0.3
	baz=272						
KSRS	Korea Array	26.44	249	P	P	23 04 58.0	+0.4
	comp=Z,3.6nm,0.7s,baz=42,slow=9.6,SNR=9.4						
	comp=Z,3.6nm,0.7s						
F20K	Avaraart Lake	26.46	38	P	P	23 04 57.7	+0.1
	baz=258						
M19K	Big River Lodg	26.47	50	P	P	23 04 57.3	-0.4
	baz=270						
H20K	Anotleneega Mo	26.52	42	P	P	23 04 57.6	-0.6
	baz=262						
D20K	Etivluk River	26.55	35	P	P	23 04 58.2	-0.2
	baz=254						
E20K	Nigu River	26.57	36	P	P	23 04 58.3	-0.4
	baz=255						
K20K	Telida	26.66	47	P	P	23 04 58.4	-1.1
	baz=267						
J20K	Nowinta River	26.68	45	P	P	23 04 59.0	-0.6
	baz=265						
Q19K	Cape Douglas,	26.98	57	P	P	23 05 01.4	-1.1
	baz=276						
IMAR	Indian Mountai	27.05	41	P	P	23 05 03.1	+0.2
M20K	Styx River	27.07	50	P	P	23 05 02.1	-1.1
	baz=271						
G21K	Allakaket	27.23	40	P	P	23 05 03.7	-0.9
	baz=261						
C21K	Knifeblade Rid	27.31	34	P	P	23 05 04.5	-0.7
	baz=255						
B21K	Ikpikpuk River	27.49	33	P	P	23 05 06.1	-0.7
	baz=254						
CAST	Castle Rocks	27.56	47	P	P	23 05 06.3	-1.2
	baz=269						
KDAK	Kodiak Island	27.69	59	P	P	23 05 07.6	-1.1
KDAK	Kodiak Island	27.69	59	P	P	23 05 07.6	-1.1
KDAK				pmax	pmax		
	comp=Z,63nm,1.5s						
JTU	Tsushima	27.71	243	P	P	23 05 09.3	+0.2
JTU				IAmb	IAmb	23 05 14.4	
	comp=Z,27nm,1.0s						
F22K	John River	27.90	38	P	P	23 05 09.3	-1.2
	baz=261						
D22K	Ayikyak River	27.98	35	P	P	23 05 10.1	-1.1
	baz=258						
JNU	Nakatsue	27.99	239	P	P	23 05 11.8	+0.2
JNU				IAmb	IAmb	23 05 24.4	
	comp=Z,19nm,0.7s						
H22K	Ishtalitna Cre	28.01	41	P	P	23 05 10.8	-0.8
	baz=265						
E22K	Anaktuvuk Pass	28.14	37	P	P	23 05 12.2	-0.6
	baz=260						
MLY	Manley	28.21	43	P	P	23 05 12.5	-0.8
	baz=267						
SUA	Susitna One	28.22	51	P	P	23 05 12.5	-1.0
	baz=274						
BRSE	Bradley Lake S	28.37	55	P	P	23 05 13.3	-1.5
	baz=277						
COLD	Coldfoot	28.62	39	P	P	23 05 15.6	-1.3
	baz=263						
G23K	Bananza Creek	28.63	40	P	P	23 05 15.0	-2.0
	baz=265						
D23K	Nanushuk River	28.70	35	P	P	23 05 16.2	-1.4
	baz=260						
RC01	Rabbit Creek A	28.73	52	P	P	23 05 16.0	-1.9
	baz=275						
H23K	Yukon River	28.76	42	P	P	23 05 18.1	-0.1
H23K	Yukon River	28.76	42	P	P	23 05 16.9	-1.2
	baz=267						
O22K	Cooper Landing	28.80	53	P	P	23 05 17.6	-0.9
	baz=276						
I23K	Minto, Yukon-K	28.80	43	P	P	23 05 17.5	-0.9
	baz=268						
C23K	Itkillik River	28.89	33	P	P	23 05 17.9	-1.4
	baz=258						
NEA2	Nenana	28.91	44	P	P	23 05 19.0	-0.5
	baz=269						
E23K	Chandalar	28.95	37	P	P	23 05 18.4	-1.5
	baz=262						
MCK	McKinley	28.97	46	P	P	23 05 17.8	-2.3
	baz=271						
SEW	Seward	28.97	54	P	P	23 05 18.0	-2.0
	baz=277						
RND	Reindeer	29.01	47	P	P	23 05 19.1	-1.4
RND	Reindeer	29.01	47	P	P	23 05 19.1	-1.4
RND				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TOLK	Toolik Lake Re	29.05	36	P	P	23 05 19.9	-0.8
	baz=262						
WAT1	Susitna Watana	29.17	48	P	P	23 05 20.5	-1.4
	baz=273						
KNK	Knik Glacier	29.32	51	P	P	23 05 22.5	-0.6
KNK				IAmb	IAmb	23 05 23.9	
	comp=Z,28nm,1.5s						
KNK	Knik Glacier	29.32	51	P	P	23 05 22.5	-0.6
	baz=276						
SML	Sawmill	29.34	50	P	P	23 05 23.2	-0.2
SML				IAmb	IAmb	23 05 24.8	
	comp=Z,12nm,0.7s						
SML	Sawmill	29.34	50	P	P	23 05 22.5	-0.9
	baz=275,SNR=6.2						
E24K	Your Creek	29.37	37	P	P	23 05 22.8	-0.8
	baz=264						
PWL	Port Wells	29.43	52	P	P	23 05 23.2	-1.0
PWL				IAmb	IAmb	23 05 28.4	
	comp=Z,47nm,2.0s						
PWL	Port Wells	29.43	52	P	P	23 05 23.0	-1.2
	baz=277						
H24K	Noodor Dome	29.44	42	P	P	23 05 23.2	-1.0
	baz=268						
CCB	Clear Creek Bu	29.45	44	P	P	23 05 24.0	-0.3
F24K	Squaw Lake	29.54	38	P	P	23 05 24.1	-1.0
	baz=265						
POKR	Poker Plat Res	29.61	43	P	P	23 05 24.3	-1.4
	baz=270						
M23K	Glacier View	29.63	50	P	P	23 05 24.8	-1.1
	baz=276						
G24K	Hadweenzic Riv	29.64	40	P	P	23 05 24.8	-1.2
	baz=267,SNR=5.4						
DHY	Denali Highway	29.70	47	P	P	23 05 26.5	-0.1
DHY	Denali Highway	29.70	47	P	P	23 05 26.4	-0.3
	baz=274						
XLT	XiLinHaoTe	29.73	271	eP	P	23 05 30.2	+3.1
XLT				pmax	pmax		
	comp=Z,14nm,0.9s						
XLT				pmax	pmax		
	comp=Z,91nm,5.8s						
XLT				LR	LR		
	comp=N,23nm,14.1s						
XLT				LR	LR		
	comp=E,260nm,18.4s						
XLT				LR	LR		
	comp=Z,240nm,17.3s						
SCM	Sheep Creek Mo	29.81	50	P	P	23 05 27.2	-0.4
SCM				IAmb	IAmb	23 05 28.4	
	comp=Z,51nm,1.7s						
SCM	Sheep Creek Mo	29.81	50	P	P	23 05 27.2	-0.4
SCM				pmax	pmax		
	comp=Z,51nm,1.7s						
SCM	Sheep Creek Mo	29.81	50	P	P	23 05 27.1	-0.4
	baz=276						
HDA	Harding Lake	29.83	45	P	P	23 05 27.2	-0.5
	baz=272						
IL31		29.85	44	P	P	23 05 27.8	0.0
ILAR	Eielson Array	29.85	44	P	P	23 05 27.6	-0.2
	comp=Z,3.7nm,0.8s,baz=261,slow=7.7,SNR=38						
	comp=Z,3.7nm,0.8s						
P23K	Montague Islan	30.01	54	P	P	23 05 29.0	-0.2
	baz=279						
GLI	Glacier Island	30.03	52	P	P	23 05 29.1	-0.4
	baz=278						
G25K	Bearman Lake	30.19	40	P	P	23 05 30.9	+0.2
	baz=268						
D25K	Kavik River	30.28	35	P	P	23 05 31.0	-0.6
	baz=264						
H25L	Birch Creek	30.29	41	P	P	23 05 31.3	-0.4
	baz=269						
M24K	Tolsona, Glenn	30.33	49	P	P	23 05 31.2	-0.9
	baz=276						
K24K	Donnelly Dome	30.37	46	P	P	23 05 32.1	-0.3
	baz=274						
F25K	Christian Rive	30.41	38	P	P	23 05 32.5	-0.3
	baz=267						
PRP	Porcupine Dome	30.41	42	P	P	23 05 32.4	-0.5
	baz=271						
E25K	Arctic Village	30.46	37	P	P	23 05 32.5	-0.8
	baz=266						
J25K	Salcha River,	30.50	44	P	P	23 05 32.4	-1.3
	baz=273						
RIDG	Independent Ri	30.79	46	P	P	23 05 35.8	-0.4
	baz=274						
BMAR	Burnt Mountain	30.81	39	P	P	23 05 36.7	+0.4
C26K	Camden Bay	30.86	34	P	P	23 05 35.4	-1.2
	baz=264						
F26K	Sheenjek River	30.98	38	P	P	23 05 37.5	-0.3
	baz=268						
G26K	Porcupine Rive	31.11	40	P	P	23 05 38.4	-0.5
	baz=270						
N25K	Chitina, Valde	31.13	50	P	P	23 05 38.7	-0.5
	baz=278						
SCRK	Sand Creek	31.15	45	P	P	23 05 38.7	-0.7
SCRK	Sand Creek	31.15	45	P	P	23 05 37.6	-1.8
	baz=275,SNR=10						
BMRM	Bremner River	31.23	51	P	P	23 05 39.5	-0.5
	baz=279						
KAIM	Kayak Island	31.50	53	P	P	23 05 41.3	-1.1
	baz=281						
M26K	Nabesna, AK	31.77	48	P	P	23 05 43.4	-1.4
	baz=278,SNR=7.9						
E27K	Coleen River	31.95	37	P	P	23 05 45.2	-1.2
	baz=270						
G27K	Doyon Strip	31.95	40	P	P	23 05 45.3	-1.1
	baz=272						
CRQM	Cirque	31.97	51	P	P	23 05 46.6	-0.1
CRQM				IAmb	IAmb	23 05 48.2	
	comp=Z,19nm,1.2s						
K27K	Chicken	31.98	45	P	P	23 05 46.3	-0.3
	baz=276						
CRQE	Cirque	31.99	51	P	P	23 05 45.8	-1.0
	baz=281						
H27K	Steamboat Moun	32.03	41	P	P	23 05 46.8	-0.2
	baz=273						
I27K	Kandik River	32.03	42	P	P	23 05 46.4	-0.7
	baz=274						
D27M	Malcolm River	32.19	35	P	P	23 05 48.2	-0.2
	baz=269						
L27K	Beaver Creek,	32.21	47	P	P	23 05 48.4	-0.2
	baz=278,SNR=22						
BCAR	Beaver Creek A	32.23	47	P	P	23 05 48.9	+0.1
M27K	Edge Creek, AK	32.29	48	P	P	23 05 49.4	-0.1
	baz=279,SNR=6.7						
F28M	Old Crow	32.62	38	P	P	23 05 52.0	-0.1
	baz=273						
BARN	Barnard Glacie	32.62	51	P	P	23 05 52.9	+0.4
E28M	Babbage River	32.71	36	P	P	23 05 52.4	-0.6
	baz=271						
I28M	Miner Creek	32.74	42	P	P	23 05 52.7	-0.7
	baz=276,SNR=7.9						
CTG	Chitna Glacier	32.79	51	P	P	23 05 53.0	-0.8
	baz=282						
H11N2	WAKE ISLAND Hy	32.80	167	T	T	23 41 02.8	
	baz=351,slow=76,SNR=239						
H11N3	WAKE ISLAND Hy	32.82	167	T	T	23 41 03.9	
	baz=351,slow=76,SNR=193						
H11N1	WAKE ISLAND Hy	32.82	167	T	T	23 41 04.0	
	baz=351,slow=76,SNR=304						
LOGN	Logan Glacier	32.98	51	P	P	23 05 55.6	0.0
LOGN				IAmb	IAmb	23 05 56.8	
	comp=Z,10nm,1.0s						
YUK3	Moose Creek	33.05	49	P	P	23 05 55.5	-0.7
	baz=281,SNR=5.4						
DAWY	Dawson	33.15	45	P	P	23 05 57.2	+0.4
	baz=278						
H29M	Whitestone	33.31	41	P	P	23 05 57.9	-0.2
	baz=276						
ULN	Ulaanbaatar	33.32	284	ceP	P	23 05 59.9	+1.3
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
E29M	Blow River	33.32	37	P	P	23 05 58.4	+0.2
	baz=273						
G29M	Pine Creek	33.38	40	P	P	23 05 58.7	-0.1
	baz=275,SNR=5.6						
O28M	Mount Upton	33.38	51	P	P	23 05 58.9	-0.3
	baz=283,SNR=6.7						
I29M	Ogilvie Camp,	33.43	42	P	P	23 05 59.7	+0.4
	baz=277,SNR=5.3						
YUK8	Steele Glacier	33.48	50	P	P	23 05 59.4	-0.5
	baz=282						
PINM	Pinnacle	33.51	52	P	P	23 05 59.6	-0.4
	baz=284						
SONM	Songino Array	33.73	284	P	P	23 06 01.6	-0.5
SONM	Songino Array	33.73	284	P	P	23 06 01.6	-0.5
SONM				pmax	pmax		
	comp=Z,8.0nm,1.9s						
SONM	Songino Array	33.73	284	P	P	23 06 01.8	-0.3
	comp=Z,0.8nm,0.3s,baz=65,slow=8.1,SNR=16						

SONM LR LR 23 21 13.7
comp=Z,270nm,18.2s,baz=50,slow=39
comp=Z,0.8nm,0.3s
M29M Somme Creek 33.84 48 P **P 23 06 02.8 -0.1**
baz=282,SNR=9.9
L29M L29M 33.86 46 P **P 23 06 03.4 +0.3**
baz=281,SNR=25
EPYK Eagle Plains 33.95 40 P **P 23 06 04.8 +1.0**
baz=277
H11S1 WAKE ISLAND Hy 33.98 168 T T 23 42 29.6
baz=351,slow=76,SNR=86
YUK4 Talbot Arm 33.99 50 P **P 23 06 04.1 -0.2**
baz=283
H11S3 WAKE ISLAND Hy 33.99 168 T T 23 42 30.5
baz=351,slow=76,SNR=261
H11S2 WAKE ISLAND Hy 34.00 168 T T 23 42 31.0
baz=351,slow=76,SNR=172
K29M Barlow Dome 34.00 45 P **P 23 06 04.1 -0.2**
baz=280
PNL Peninsula 34.03 53 P **P 23 06 03.8 -0.7**
baz=285
G30M tAoh Zraii Nji 34.08 39 P **P 23 06 04.7 -0.2**
baz=277
F30M Barrier River 34.18 38 P **P 23 06 05.3 -0.4**
baz=276
YUK6 Outpost Mounta 34.22 50 P **P 23 06 06.1 -0.3**
baz=284
I30M Mount Dempster 34.26 42 P **P 23 06 06.6 +0.1**
baz=279
JOW Kunigami 34.37 235 P **P 23 06 07.6 -0.1**
J30M Hart River 34.38 44 P **P 23 06 07.2 -0.5**
baz=280
M30M Minto, Yukon 34.57 47 P **P 23 06 08.6 -0.5**
baz=283
HYT Haines Junctio 34.65 50 P **P 23 06 10.1 +0.1**
HYT IAmb IAmb 23 06 11.9
comp=Z,13nm,1.0s
HYT Haines Junctio 34.65 50 P **P 23 06 09.0 -1.0**
baz=285,SNR=7.4
N30M Aishikik Lake 34.69 49 P **P 23 06 10.2 0.0**
baz=284
MAYO Mayo, Yukon 34.76 45 P **P 23 06 10.5 -0.3**
baz=282
G31M Satah River 34.85 39 P **P 23 06 11.0 -0.4**
baz=278
P29M Windy Craggy 34.85 52 P **P 23 06 11.8 +0.2**
baz=286
INK Inuvik 34.95 37 P **P 23 06 11.9 -0.3**
INK IAmb IAmb 23 06 13.4
comp=Z,9.3nm,1.1s
INK Inuvik 34.95 37 P **P 23 06 12.0 -0.3**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 34.95 37 P **P 23 06 12.5 +0.2**
baz=277,SNR=5.8
F31M Tsiigehtchic 34.98 38 P **P 23 06 12.4 -0.1**
baz=278
H31M Peel River 35.00 41 P **P 23 06 13.2 +0.5**
baz=280
P30M Million Dollar 35.10 51 P **P 23 06 14.4 +0.7**
baz=286
N31M Braeburn, Yuko 35.29 49 P **P 23 06 15.2 -0.2**
baz=285
BTO Baotou 35.30 271 *e*P **P 23 06 18.0 +2.2**
BTO pP **pP 23 06 32.2 +1.7**
BTO sP **sP 23 06 40.5 +3.0**
BTO PP **PnPn 23 07 31.3 -4.1**
BTO S **S 23 11 49.0 +3.6**
BTO sS **sS 23 12 12.6 +3.3**
BTO SS **SnSn 23 14 02.8 -5.5**
BTO pmax pmax
comp=Z,10.0nm,0.6s
BTO pmax pmax
comp=Z,220nm,4.4s
BTO LR LR
comp=N,470nm,13.8s
BTO LR LR
comp=E,470nm,14.5s
BTO LR LR
comp=Z,690nm,16.1s
O30N Mendenhall 35.34 50 P **P 23 06 15.3 -0.4**
baz=286,SNR=6.6
M31M Drury Creek, Y 35.75 47 P **P 23 06 19.2 -0.1**
baz=285,SNR=11
WHY Whitehorse 35.94 50 P **P 23 06 20.4 -0.6**
WHY IAmb IAmb 23 06 23.4
comp=Z,14nm,1.0s
WHY Whitehorse 35.94 50 P **P 23 06 21.6 +0.6**
baz=287,SNR=8.0
SKAG Skagway 36.08 52 P **P 23 06 23.2 +1.1**
baz=288,SNR=7.8
FARO Faro, Yukon 36.21 47 P **P 23 06 23.4 +0.2**
baz=286
N32M Quiet Lake 36.64 49 P **P 23 06 27.0 +0.2**
baz=287
P32M Atlin 36.82 51 P **P 23 06 28.5 +0.1**
baz=289
R32K Eaglecrest 36.86 54 P **P 23 06 29.2 +0.5**
baz=290
MMPY Sheldon Lake, 37.04 46 P **P 23 06 30.4 +0.1**
baz=287,SNR=6.2
P33M Teslin, Yukon 37.05 50 P **P 23 06 30.2 -0.2**
baz=289,SNR=7.1
LYN LuoYang 37.61 261 ⇑P **P 23 06 37.5 +2.1**
LYN pmax pmax
comp=Z,16nm,0.6s
LYN pmax pmax
comp=Z,100nm,4.0s
Q32M Nakina River 37.73 52 P **P 23 06 35.7 -0.6**
baz=290
R33M Jennings River 38.20 51 P **P 23 06 40.2 -0.1**
baz=291,SNR=8.3
CRAG Craig 38.62 57 P **P 23 06 43.2 -0.4**
baz=294
S34M Telegraph Cree 38.67 53 P **P 23 06 43.9 -0.1**
baz=292
TGTN Hyland Airport 38.72 47 P **P 23 06 44.9 +0.5**
baz=290
DLBC Dease Lake 39.01 52 P **P 23 06 46.3 -0.6**
baz=292,SNR=5.3
DLBC Dease Lake 39.01 52 LR LR 23 25 14.1
comp=Z,149nm,19.0s,baz=1.5,slow=40
V35K Ketchikan 39.46 57 P **P 23 06 50.7 +0.1**
baz=295
T35M Bob Quinn 39.47 54 P **P 23 06 50.2 -0.5**
baz=294,SNR=6.4
KOTAN Kotaneelee Air 41.16 48 P **P 23 07 04.5 -0.1**
baz=294
GTA Gaotai 42.30 277 *e*P **P 23 07 14.2 -0.1**
GTA pP pP 23 07 18.9 -10
GTA pmax pmax
comp=Z,4.0nm,1.1s
ENH Enshi 42.39 259 P **P 23 07 13.9 -1.2**
ZALV Zalesovo Beam 42.97 303 P **P 23 07 18.2 -1.2**
comp=Z,0.5nm,0.3s,baz=61,slow=8.3,SNR=3.5
ZALV PcP **PcP 23 09 08.1 -0.7**
comp=Z,0.8nm,0.5s,baz=83,slow=3.3,SNR=5.3
ZALV LR LR 23 26 37.4
comp=Z,239nm,18.2s,baz=73,slow=38
comp=Z,0.5nm,0.3s
DGZ Jazzator, Alta 43.74 297 *i*P **P 23 07 25.1 -0.8**
DGZ pmax pmax
comp=Z,4.0nm,0.9s
ALE Alert 43.99 7 P **P 23 07 27.4 +0.1**
ALE pP **pP 23 07 42.9 +1.1**
YKA Yellowknife Ar 44.21 42 *i*P **P 23 07 29.7 +0.4**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 44.21 42 P **P 23 07 29.5 +0.2**
comp=Z,2.5nm,0.7s,baz=297,slow=7.9,SNR=4.7
comp=Z,2.5nm,0.7s
RES Resolute Bay 44.44 21 P **P 23 07 30.9 0.0**
RES Resolute Bay 44.44 21 P **P 23 07 30.9 0.0**
RES pmax pmax
comp=Z,6.0nm,0.9s
NOR Nord 46.56 359 *i*P **P 23 07 45.9 -1.7**
NOR IAmb IAmb 23 08 29.4
comp=Z,97nm,2.5s
KURK Kurchatov 47.91 302 P **P 23 07 55.9 -2.6**
KURK Kurchatov 47.91 302 *i*P **P 23 07 56.8 -1.7**
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 47.91 302 P **P 23 07 57.0 -1.5**
KURK pP **pP 23 08 12.9 -0.6**
KURBB Kurchatov Arra 48.01 302 P **P 23 07 57.9 -1.4**
comp=Z,2.4nm,0.5s,baz=62,slow=7.7,SNR=21
comp=Z,2.4nm,0.5s

SPB5 Spitsbergen Ar 48.07 350 P **P 23 07 59.5 +0.1**
SPITS Spitsbergen Ar 48.08 350 P **P 23 07 59.4 -0.1**
comp=Z,3.6nm,0.4s,baz=57,slow=9.1,SNR=25
comp=Z,3.6nm,0.4s
MK31 Makanchi Array 48.22 296 P **P 23 07 59.4 -1.5**
MK31 Makanchi Array 48.22 296 *d i*P **P 23 07 59.3 -1.6**
MKAR Makanchi Array 48.22 296 P **P 23 07 59.0 -1.9**
MKAR Makanchi Array 48.22 296 P **P 23 07 59.5 -1.5**
comp=Z,2.5nm,0.5s,baz=57,slow=6.7,SNR=46
MKAR LR LR 23 29 44.5
comp=Z,177nm,18.9s,baz=357,slow=38
comp=Z,2.5nm,0.5s
NEEM North Greenlan 49.36 8 *i*P **P 23 08 08.3 -1.4**
NEEM IAmb IAmb 23 08 26.6
comp=Z,18nm,0.7s
EDM Edmonton 49.73 52 P **P 23 08 12.7 +0.2**
EDM Edmonton 49.73 52 P **P 23 08 12.7 +0.2**
EDM pmax pmax
comp=Z,21nm,0.9s
C09A Chrisman Ranch 50.47 60 P **P 23 08 18.2 +0.1**
C09A IAmb IAmb 23 08 19.5
comp=Z,7.0nm,0.7s
BVAR Borovoye Array 50.69 309 P **P 23 08 17.9 -1.7**
comp=Z,4.2nm,0.5s,baz=57,slow=7.8,SNR=27
BVAR PcP **PcP 23 09 36.2 +0.1**
comp=Z,1.2nm,0.4s,baz=46,slow=3.0,SNR=4.1
BVAR LR LR 23 31 54.4
comp=Z,250nm,18.8s,baz=45,slow=38
comp=Z,4.2nm,0.5s
BRVK Borovoye 50.72 309 P **P 23 08 18.3 -1.6**
BRVK Borovoye 50.72 309 *i*P **P 23 08 17.8 -2.1**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 50.72 309 P **P 23 08 18.2 -1.7**
BRVK pP **pP 23 08 34.2 -0.6**
NEW Newport 50.80 59 P **P 23 08 20.1 -0.5**
NEW IAmb IAmb 23 08 22.0
comp=Z,11nm,1.1s
NEW Newport 50.80 59 P **P 23 08 20.1 -0.5**
NEW pmax pmax
comp=Z,11nm,1.2s
NEW Newport 50.80 59 P **P 23 08 21.4 +0.8**
baz=308,SNR=7.1
E09A Wood Farm, Sta 51.33 61 P **P 23 08 24.1 -0.4**
E09A IAmb IAmb 23 08 26.0
comp=Z,12nm,0.9s
DAG Danmarks Havn 51.43 359 *i*P **P 23 08 25.0 +0.2**
DAG IAmb IAmb 23 08 44.5
comp=Z,257nm,2.5s
L04D Klamath Falls 51.71 68 P **P 23 08 28.1 +0.4**
BMO Blue Mountains 52.83 62 P **P 23 08 35.8 0.0**
BMO IAmb IAmb 23 08 37.7
comp=Z,13nm,1.4s
BMO Blue Mountains 52.83 62 P **P 23 08 35.8 0.0**
BMO pmax pmax
comp=Z,13nm,1.4s
MSO Missoula 53.38 59 P **P 23 08 40.2 +0.4**
MSO Missoula 53.38 59 P **P 23 08 40.3 +0.5**
baz=310,SNR=7.9
PLID Pearl Lake 53.39 61 P **P 23 08 40.6 +0.4**
PLID IAmb IAmb 23 08 41.9
comp=Z,8.5nm,0.8s
WVOR Wild Horse Val 53.65 66 P **P 23 08 42.9 +0.9**
WVOR IAmb IAmb 23 08 44.4
comp=Z,14nm,1.3s
WVOR Wild Horse Val 53.65 66 P **P 23 08 42.9 +0.9**
WVOR pmax pmax
comp=Z,14nm,1.3s
CHMT Chamberlain Mo 53.68 58 P **P 23 08 42.3 +0.1**
ARU Arti 53.86 317 P **P 23 08 41.5 -1.5**
ARU IAmb IAmb 23 08 43.0
comp=Z,7.7nm,1.2s
ARU Arti 53.86 317 *c i*P **P 23 08 41.0 -2.1**
ARU *PP **pP 23 08 53.1 -5.0**
ARU S **S 23 16 11.3 -1.9**
ARU SS **SKiKP 23 19 51.4 +1.4**
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 53.86 317 P **P 23 08 41.6 -1.5**
ARCES ARCESS Array B 54.13 342 P **P 23 08 45.4 +0.5**
comp=Z,6.8nm,0.9s,baz=33,slow=9.1,SNR=11
ARCES LR LR 23 37 37.1
comp=Z,82nm,18.5s,baz=61,slow=42
comp=Z,6.8nm,0.9s
BOOM Boomskoye usch 54.44 295 P **P 23 08 46.9 -0.8**
BOOM Boomskoye usch 54.44 295 P **P 23 08 46.9 -0.8**
BOOM pmax pmax
comp=Z,6.0nm,1.5s
FCC Fort Churchill 54.55 38 P **P 23 08 48.1 +0.1**
FCC Fort Churchill 54.55 38 P **P 23 08 48.1 +0.1**
FCC pmax pmax
comp=Z,59nm,1.3s
EGMT Eagleton 54.77 55 P **P 23 08 49.5 -0.4**
baz=311
PAHR Pah Rah Range 55.02 69 P **P 23 08 52.4 +0.4**
PAHR IAmb IAmb 23 08 53.7
comp=Z,8.1nm,0.8s
SUMG Summit 55.03 6 P **P 23 08 51.9 +0.1**
SUMG Summit 55.03 6 P **P 23 08 51.9 +0.1**
SUMG pmax pmax
comp=Z,28nm,1.2s
SUMG Summit 55.03 6 *i*P **P 23 08 51.0 -0.9**
SUMG IAmb IAmb 23 09 10.6
comp=Z,14nm,0.9s
AAK Ala-Archa 55.15 296 P **P 23 08 51.9 -0.9**
AAK Ala-Archa 55.15 296 *ce*P **P 23 08 52.4 -0.4**
AAK pmax pmax
comp=Z,5.0nm,1.7s
HLID Hailey 55.25 62 P **P 23 08 53.9 +0.3**
HLID Hailey 55.25 62 P **P 23 08 53.5 -0.1**
baz=312,SNR=5.5
CRAI Chiangrai 55.33 258 P **P 23 08 54.4 +0.2**
BOZ Bozeman (W) 55.40 59 P **P 23 08 55.4 +0.8**
baz=312,SNR=6.2
CMB Columbia Colle 55.56 71 P **P 23 08 56.3 +0.5**
CMB IAmb IAmb 23 08 58.0
comp=Z,10nm,1.2s
CMB Columbia Colle 55.56 71 P **P 23 08 56.3 +0.5**
CMB pmax pmax
comp=Z,10.0nm,1.3s
KIRV Kirov 55.96 324 LR LR 23 35 55.8
comp=Z,140nm,18.6s,baz=317,slow=39
NVAR Mina Array Bea 56.51 69 P **P 23 09 03.1 +0.4**
NVAR Mina Array Bea 56.51 69 P **P 23 09 04.2 +1.5**
comp=Z,4.5nm,0.7s,baz=302,slow=7.0,SNR=35
comp=Z,4.5nm,0.7s
NV11 Mina Array Sit 56.59 69 P **P 23 09 03.4 +0.2**
NV11 IAmb IAmb 23 09 05.6
comp=Z,14nm,1.4s
ELK Elko 56.68 65 P **P 23 09 04.4 +0.5**
ELK Elko 56.68 65 P **P 23 09 04.4 +0.5**
ELK pmax pmax
comp=Z,3.0nm,0.9s
H17A Grant Village 56.75 59 P **P 23 09 04.6 +0.1**
baz=313
RLMT Red Lodge 56.95 58 P **P 23 09 05.7 0.0**
RLMT Red Lodge 56.95 58 P **P 23 09 07.4 +1.7**
baz=313,SNR=11
KK31 Karatay Array 57.01 299 P **P 23 09 04.4 -1.5**
KK31 Karatay Array 57.01 299 P **P 23 09 04.4 -1.5**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 57.01 299 P **P 23 09 04.3 -1.6**
KKAR Karatay Array 57.01 299 P **P 23 09 04.3 -1.6**
CHTO Chiang Mai 57.27 258 P **P 23 09 08.7 +0.6**
CHTO Chiang Mai 57.27 258 P **P 23 09 08.7 +0.6**
HVU Hansel Valley 57.34 63 P **P 23 09 09.0 +0.5**
HVU IAmb IAmb 23 09 11.2
comp=Z,10nm,1.1s
HVU Hansel Valley 57.34 63 P **P 23 09 09.0 +0.5**
HVU pmax pmax
comp=Z,10.0nm,1.1s
TPH Tonopah 57.37 69 P **P 23 09 09.5 +0.7**
TPH Tonopah 57.37 69 P **P 23 09 09.5 +0.7**
TPH pmax pmax
comp=Z,120nm,1.4s
LAO LASA Array 57.44 55 P **P 23 09 10.4 +1.4**
baz=313
CM31 Chiang Mai Arr 57.55 258 P **P 23 09 09.3 -0.7**
CM31 IAmb IAmb 23 09 12.2
comp=Z,7.8nm,0.9s
CMAR Chiang Mai Arr 57.55 258 *ce*P **P 23 09 11.6 +1.6**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 57.55 258 P **P 23 09 10.1 +0.1**

comp=Z,4.9nm,0.8s,baz=27,slow=7.1,SNR=23
comp=Z,4.9nm,0.8s
SIJI Sorong 57.83 214 P **P 23 09 12.6 +0.7**
comp=Z,2.5nm,0.4s,baz=139,slow=20,SNR=7.4
comp=Z,2.5nm,0.4s
TAPN Taplejung 57.85 274 *e*P **P 23 09 12.1 -0.3**
comp=Z,14nm,0.6s
CWC Cottonwood Cre 58.00 71 P **P 23 09 13.4 +0.2**
baz=314
R11B Troy Canyon, C 58.12 67 P **P 23 09 14.0 0.0**
baz=314,SNR=9.6
ABKAR Akbulak array 58.13 310 P **P 23 09 12.4 -1.3**
ABKAR Akbulak array 58.13 310 P **P 23 09 12.1 -1.6**
AKTO Aktyubinsk 58.20 312 LR LR 23 36 59.9
comp=Z,295nm,18.1s,baz=47,slow=39
ISA Isabella, Lake 58.30 71 P **P 23 09 15.8 +0.6**
baz=314
ICESG Greenland Ices 58.34 8 *i*P **P 23 09 14.2 -1.1**
ICESG IAmb IAmb 23 10 05.7
comp=Z,2μm,4.4s
DUG Dugway, Tooele 58.40 64 P **P 23 09 16.6 +0.7**
DUG Dugway, Tooele 58.40 64 P **P 23 09 16.6 +0.7**
DUG pmax pmax
comp=Z,12nm,1.1s
DUG Dugway, Tooele 58.40 64 P **P 23 09 17.1 +1.2**
baz=314,SNR=9.0
BW06 Boulder Array 58.41 60 P **P 23 09 16.7 +0.7**
baz=314,SNR=18
PD31 Pinedale Array 58.41 60 P **P 23 09 16.4 +0.4**
PDAR Pinedale Array 58.41 60 P **P 23 09 16.2 +0.2**
PDAR Pinedale Array 58.41 60 P **P 23 09 17.2 +1.2**
comp=Z,13nm,0.9s,baz=310,slow=2.9,SNR=70
comp=Z,13nm,0.9s
JIRN Jiri 58.56 276 *e*P **P 23 09 16.5 -0.9**
comp=Z,8.5nm,0.7s
GUN Gumba 58.57 276 *e*P **P 23 09 16.8 -0.7**
comp=Z,9.3nm,0.6s
MPMC Manual Prospec 58.60 70 P **P 23 09 18.5 +1.1**
baz=314,SNR=5.4
FURC Furnace Creek, 58.68 70 P **P 23 09 18.9 +1.3**
baz=314
TPNV Topopah Spring 58.70 69 P **P 23 09 19.6 +1.6**
baz=314,SNR=7.0
LRMC Laurel Mtn Rad 58.90 71 P **P 23 09 20.5 +1.1**
baz=315
BTK Batken 58.93 296 P **P 23 09 18.2 -1.2**
BTK IAmb IAmb 23 09 19.7
comp=Z,5.7nm,0.7s
BTK Batken 58.93 296 P **P 23 09 18.2 -1.2**
BTK pmax pmax
comp=Z,6.0nm,0.7s
PKI Pulchoki 59.11 276 *e*P **P 23 09 20.4 -0.8**
comp=Z,6.2nm,0.4s
PKIN Phulchoki 59.11 276 *e*P **P 23 09 20.4 -0.7**
comp=Z,8.5nm,0.4s
EDW2 Edwards Air Fo 59.13 72 P **P 23 09 21.9 +1.0**
baz=315,SNR=6.2
DMN Daman 59.27 276 *e*P **P 23 09 21.9 -0.3**
comp=Z,12nm,0.4s
GKN Gorkha 59.27 277 *e*P **P 23 09 21.5 -0.6**
comp=Z,9.5nm,0.6s
DANN Dangsing 59.56 278 *e*P **P 23 09 23.9 -0.3**
comp=Z,12nm,0.6s
BFSC Mount Baldy Ra 59.78 72 P **P 23 09 26.6 +1.2**
baz=315
MDND Maddock 59.86 50 P **P 23 09 26.8 +1.1**
baz=316
TUQ Turquoise Moun 59.95 70 P **P 23 09 27.2 +0.6**
baz=315
K22A Casper 60.09 58 P **P 23 09 28.0 +0.5**
baz=315
HEC Hector,Ludlow 60.14 71 P **P 23 09 29.3 +1.5**
baz=315
PYUN Piuthan 60.21 278 *e*P **P 23 09 27.7 -0.9**
comp=Z,8.2nm,0.4s
RSSD Black Hills 60.34 55 P **P 23 09 30.1 +0.9**
baz=315
RSSD Black Hills 60.34 55 P **P 23 09 30.2 +0.9**
RSSD pP **pP 23 09 46.1 +1.7**
RSSD sP **sP 23 09 53.2 +2.3**
MURC Murrieta 60.50 72 P **P 23 09 31.4 +1.1**
baz=316
GMRC Granite Mounta 60.56 70 P **P 23 09 31.8 +0.9**
baz=315
FIA1 FINESS Array S 60.89 336 P **P 23 09 32.1 -0.3**
FINES FINESS Array B 60.89 336 P **P 23 09 31.9 -0.5**
FINES FINESS Array B 60.89 336 P **P 23 09 32.3 -0.1**
comp=Z,3.8nm,0.4s,baz=36,slow=7.7,SNR=49
comp=Z,3.8nm,0.4s
SIMJ Simiganj 60.91 296 P **P 23 09 32.0 -1.2**
BELC Belle Mtn. Jos 60.92 71 P **P 23 09 33.3 0.0**
baz=316
PFO Pinyon Flats O 60.92 72 LR LR 23 32 29.5
comp=Z,62nm,20.6s,baz=5.5,slow=32
O20A White River Ci 60.95 61 P **P 23 09 33.5 0.0**
O20A IAmb IAmb 23 09 35.6
comp=Z,11nm,1.1s
O20A White River Ci 60.95 61 P **P 23 09 34.0 +0.5**
baz=315
IRM Iron Mountain 61.30 70 P **P 23 09 36.4 +0.6**
baz=316
W13A Hualapai Mount 61.37 69 P **P 23 09 36.2 -0.2**
BC3 Big Chuckawall 61.48 71 P **P 23 09 37.6 +0.6**
baz=316
N23A Red Feather La 61.64 59 P **P 23 09 39.1 +0.9**
N23A Red Feather La 61.64 59 P **P 23 09 39.4 +1.1**
baz=316,SNR=9.1
NIL Nilore 62.06 290 P **P 23 09 40.3 -0.5**
NIL Nilore 62.06 290 P **P 23 09 40.3 -0.5**
NIL pmax pmax
comp=Z,10.0nm,0.7s
GLA Glamis 62.28 71 P **P 23 09 43.3 +0.9**
baz=316
RAF Rauma 62.28 338 *e*P **P 23 09 41.7 -0.1**
WUAZ Wupatki 62.50 67 P **P 23 09 45.9 +1.9**
baz=316
ISCO Idaho Springs 62.60 60 P **P 23 09 45.8 +1.1**
ISCO IAmb IAmb 23 09 47.4
comp=Z,11nm,0.9s
ISCO Idaho Springs 62.60 60 P **P 23 09 45.8 +1.1**
ISCO pmax pmax
comp=Z,11nm,0.9s
ISCO Idaho Springs 62.60 60 P **P 23 09 46.5 +1.8**
baz=316,SNR=16
F33A 5 Mile Ranch, 62.88 50 P **P 23 09 46.2 +0.2**
MVCO Mesa Verde 62.90 64 P **P 23 09 47.8 +1.1**
baz=316
OBN Obninsk 63.15 327⇑ *e*P **P 23 09 48.0 +0.4**
OBN pmax pmax
comp=Z,3.0nm,0.7s
OBN MLR MLR
comp=Z,124nm,16.0s
OBN Obninsk 63.15 327 LR LR 23 39 01.9
comp=Z,80nm,20.9s,baz=356,slow=38
X16A Lo Mia Camp, P 63.25 68 P **P 23 09 49.6 +0.6**
X16A IAmb IAmb 23 09 51.6
comp=Z,10.0nm,1.2s
S22A 4UR Ranch, Cre 63.43 62 P **P 23 09 51.7 +1.5**
baz=317,SNR=6.9
AAL Aland 63.44 339 *e*P **P 23 09 49.2 -0.3**
Q24A Divide 63.45 60 P **P 23 09 51.7 +1.3**
baz=317
EYMN Ely 63.48 45 P **P 23 09 51.2 +1.2**
baz=320
OGNE Ogallala 63.65 57 P **P 23 09 53.0 +1.6**
baz=317,SNR=6.6
W18A Petrified Fore 63.72 66 P **P 23 09 53.0 +1.0**
baz=317
KBL Kabul 63.83 293 P **P 23 09 50.8 -2.0**
KBL Kabul 63.83 293 P **P 23 09 50.8 -2.0**
KBL pmax pmax
comp=Z,3.0nm,0.6s
SDCO Great Sand Dun 64.15 61 P **P 23 09 54.6 -0.3**
SDCO IAmb IAmb 23 09 57.4
comp=Z,13nm,1.4s
SDCO Great Sand Dun 64.15 61 P **P 23 09 56.8 +1.8**
baz=317,SNR=6.5
214A Organ Pipe Nat 64.25 71 P **P 23 09 56.4 +1.1**
baz=317
UPP Uppsala 64.25 340 *e*P **P 23 09 55.1 +0.3**
NC204 NORSAR Array S 64.26 344 P **P 23 09 54.8 -0.2**
ECSD EROS Data Cent 64.30 51 P **P 23 09 55.3 -0.2**
ECSD IAmb IAmb 23 09 56.7
comp=Z,10.0nm,0.9s
ECSD EROS Data Cent 64.30 51 P **P 23 09 55.7 +0.2**
baz=318
NB2 NORSAR Subarra 64.41 343 P **P 23 09 55.8 -0.1**

comp=Z,9.1nm,0.9s,baz=20,slow=6.9
NOA NORSAR Array B 64.41 343 P P 23 09 56.1 +0.2
comp=Z,3.8nm,0.6s,baz=21,slow=6.7,SNR=20
NOA LR LR 23 43 32.0
comp=Z,30nm,18.6s,baz=10.0,slow=41
comp=Z,3.8nm,0.6s
HFS Hagfors 64.79 342 P P 23 09 58.5 +0.1
comp=Z,8.0nm,0.5s,baz=55,slow=5.6,SNR=67
comp=Z,8.0nm,0.5s
KSM Kuching 64.89 237 P P 23 10 00.5 +0.9
TUC Tucson 65.16 69 P P 23 10 01.9 +0.5
baz=317
T25A Trinidad 65.19 61 P P 23 10 03.1 +1.5
baz=318,SNR=6.0
BGNE Belgrade 65.28 54 P P 23 10 02.3 +0.4
baz=319
ANMO Albuquerque 65.68 64 P P 23 10 05.0 +0.2
ANMO Albuquerque 65.68 64 P P 23 10 05.0 +0.2
ANMO pmax pmax
comp=Z,8.0nm,1.2s
ANMO Albuquerque 65.68 64 P P 23 10 05.4 +0.6
baz=318
ANMO Albuquerque 65.68 64 P P 23 10 06.2 +1.4
VIKU Vikbolandet 65.68 340 *e*P **P 23 10 04.4 +0.3**
IDID Didziasalis 66.02 333 *e*P **P 23 10 06.8 +0.5**
IIGN Ignalina 66.13 333 *e*P **P 23 10 08.1 +1.0**
MNK Minsk 66.39 332 *i* P **P 23 10 09.2 +0.4**
comp=E,9.0nm,1.4s
MNK *i* P **P 23 10 09.2 +0.4**
comp=N,20nm,1.3s
MNK *i* P **P 23 10 09.2 +0.4**
comp=Z,32nm,1.1s,baz=31
MNK *i* pP **pP 23 10 23.3 -0.9**
MNK *i* PP **PP 23 12 35.4 +0.5**
MNK *i* PPP PPP 23 14 10.4
MNK *i* S **S 23 18 52.7 -1.0**
MNK *i* sS **sS 23 19 19.5 -1.8**
MNK *i* SS **SS 23 23 13.2 +3.1**
MNK *i* SSS SSS 23 26 22.9
MNK *i* LQ LQ 23 34 31.4
MNK *i* LR LR 23 38 05.1
MNK *i* LRM MLR 23 42 56.5
comp=Z,178nm,18.5s
MNK *i* LRM MLR 23 45 32.4
comp=E,154nm,24.5s
MNK *i* LRM MLR 23 46 08.5
comp=N,523nm,25.8s
MNK Minsk 66.39 332 *e*P **P 23 10 09.2 +0.4**
CBKS Cedar Bluff 66.41 57 P P 23 10 10.5 +1.2
baz=319
PABE Paberze 66.62 334 P P 23 10 10.1 -0.1
PABE Paberze 66.62 334 *e*P **P 23 10 09.9 -0.3**
121A Cookes Peak, D 66.71 67 P P 23 10 12.1 +0.7
baz=318
SCHQ Schefferville 66.76 27 P P 23 10 10.8 -0.4
SCHQ Schefferville 66.76 27 P P 23 10 11.2 0.0
comp=N,7.3nm,0.8s,baz=5.6,slow=10,SNR=5.8
comp=N,7.3nm,0.8s
GEYT Alibeck 67.28 303 P P 23 10 13.5 -1.3
GEYT Alibeck 67.28 303 P P 23 10 14.6 -0.2
comp=N,2.5nm,0.7s,baz=65,slow=15,SNR=6.2
comp=N,2.5nm,0.7s
SCIA State Center 67.31 51 P P 23 10 14.7 -0.1
SCIA State Center 67.31 51 P P 23 10 15.3 +0.4
baz=320
SUW Suwalki 68.15 334 *e*P **P 23 10 19.3 -0.7**
DEL Delary 68.16 340 *e*P **P 23 10 19.7 -0.2**
AMTX Amarillo 68.34 61 P P 23 10 21.2 -0.3
AMTX Amarillo 68.34 61 P P 23 10 22.4 +0.8
baz=319
MSTX Muleshoe 68.43 62 P P 23 10 22.4 +0.3
MSTX Muleshoe 68.43 62 P P 23 10 23.2 +1.0
baz=319,SNR=6.1
MNTX Cornudas Mount 68.69 66 P P 23 10 24.0 +0.3
MNTX IAmb IAmb 23 10 26.0
comp=Z,13nm,1.1s
MNTX Cornudas Mount 68.69 66 P P 23 10 25.0 +1.3
baz=319,SNR=10
AKASG Malin Array Be 69.27 329 P P 23 10 26.5 -0.4
AKASG IAmb IAmb 23 10 27.8
comp=Z,13nm,1.4s
AKASG Malin Array Be 69.27 329*ce*P **P 23 10 26.3 -0.6**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 69.27 329 P P 23 10 26.4 -0.4
comp=Z,11nm,0.7s,baz=30,slow=6.0,SNR=26
comp=Z,11nm,0.7s
AKBB Malin Array Si 69.27 329 P P 23 10 26.1 -0.8
AKBB Malin Array Si 69.27 329*ce*P **P 23 10 26.3 -0.6**
KIV Kislovodsk 69.89 317 *e*P **P 23 10 29.8 -1.2**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,95nm,17.0s
KBZ Khabaz 69.98 316*ce*P **P 23 10 31.2 -0.2**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 69.98 316 P P 23 10 30.7 -0.7
comp=Z,2.2nm,0.8s,baz=86,slow=5.0,SNR=5.8
comp=Z,2.2nm,0.8s
WMOK Wichita Mounta 70.00 59 P P 23 10 31.9 +0.2
WMOK IAmb IAmb 23 10 33.3
comp=Z,18nm,1.1s
WMOK Wichita Mounta 70.00 59 P P 23 10 31.9 +0.2
WMOK pmax pmax
comp=Z,18nm,1.1s
WMOK Wichita Mounta 70.00 59 P P 23 10 32.5 +0.8
baz=320,SNR=17
HDIL Hopedale 70.21 49 P P 23 10 33.4 +0.5
baz=322
TUL3 Leonard 70.66 56 P P 23 10 35.8 +0.1
TUL3 Leonard 70.66 56 P P 23 10 36.2 +0.5
baz=321
BEL Belsk 70.75 334 *e*P **P 23 10 37.0 +1.0**
ABTX Abilene, Hawle 71.16 61 P P 23 10 39.0 +0.2
ABTX IAmb IAmb 23 10 40.5
comp=Z,15nm,0.9s
ABTX Abilene, Hawle 71.16 61 P P 23 10 39.6 +0.8
baz=320
CCM Cathedral Cave 71.26 52 P P 23 10 38.9 -0.4
CCM Cathedral Cave 71.26 52 P P 23 10 38.9 -0.4
CCM pmax pmax
comp=Z,7.0nm,0.9s
CCM Cathedral Cave 71.26 52 P P 23 10 39.6 +0.3
baz=322
CCM Cathedral Cave 71.26 52 P P 23 10 39.5 +0.3
HHAR Hobbs 71.31 55 P P 23 10 39.1 -0.6
HHAR IAmb IAmb 23 10 40.3
comp=Z,14nm,0.8s
TX31 Lajitas Ar. Si 71.44 66 P P 23 10 41.1 +0.5
TXAR Lajitas Array 71.44 66 P P 23 10 41.1 +0.5
TXAR Lajitas Array 71.44 66 P P 23 10 41.2 +0.5
TXAR Lajitas Array 71.44 66 P P 23 10 41.7 +1.0
comp=Z,8.2nm,0.8s,baz=294,slow=4.5,SNR=40
comp=Z,8.2nm,0.8s
MGMO Mountain Grove 71.46 53 P P 23 10 39.8 -0.8
LVV L'vov 71.64 331 *e*P **P 23 10 41.1 -0.3**
SORM Soroca 71.78 328 ⇓P **P 23 10 41.5 -0.7**
SORM Soroca 71.78 328 ⇓P **P 23 10 41.5 -0.7**
EKA Eskdalemuir Ar 71.99 350 P P 23 10 43.9 +0.5
comp=Z,0.8nm,0.4s,baz=14,slow=5.1,SNR=8.2
comp=Z,0.8nm,0.4s
LMQ La Malbaie 72.04 33 P P 23 10 43.8 -0.1
LMQ IAmb IAmb 23 12 32.8
comp=Z,11nm,1.1s
KWP Kalwaria Pacla 72.20 332 *e*P **P 23 10 45.5 +0.8**
KWP Kalwaria Pacla 72.20 332 P P 23 10 45.0 +0.2
KWP Kalwaria Pacla 72.20 332 P P 23 10 45.0 +0.2
KWP pmax pmax
comp=Z,55nm,1.1s
OJC Ojcow 72.48 334 *e*P **P 23 10 46.9 +0.5**
OJC *e*pP **pP 23 11 02.4 +0.4**
OJC Ojcow 72.48 334 P P 23 10 46.6 +0.1
OJC IAmb IAmb 23 10 47.9
comp=Z,9.9nm,0.9s
OJC Ojcow 72.48 334 P P 23 10 46.6 +0.1
OJC pmax pmax
comp=Z,10.0nm,0.9s
FCAR Ozark Folk Cen 72.53 54 P P 23 10 46.6 -0.3
FCAR IAmb IAmb 23 10 47.5
comp=Z,14nm,0.8s
JCT Junction City 72.72 63 P P 23 10 48.7 +0.5
baz=321
KSP Ksiaz 72.81 337 *e*P **P 23 10 49.0 +0.6**
MIAR Mount Ida 72.85 56 P P 23 10 49.2 +0.3
baz=322

KOLS Kolonicke sedl 72.95 332 *e*P **P 23 10 49.9 +0.6**
KOLS pmax pmax
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 72.95 332 *e*P **P 23 10 49.9 +0.6**
LONY Lake Ozonia 73.06 37 P P 23 10 50.6 +0.7
baz=329
NIE Niedzica 73.07 333 *e*P **P 23 10 51.4 +1.4**
OSTC Ostas 73.10 336 *e*P **P 23 10 51.8 +1.7**
OSTC Ostas 73.10 336 *e*P **P 23 10 51.8 +1.7**
CHVC Chvalec 73.11 337 *e*P **P 23 10 49.2 -1.0**
CHVC Chvalec 73.11 337 *e*P **P 23 10 49.2 -1.0**
E62A Clayton Lake 73.12 33 P P 23 10 49.7 -0.6
E62A IAmb IAmb 23 12 38.6
comp=Z,18nm,1.3s
PRAR RASCA 73.15 329 ⇓P **P 23 10 50.7 +0.2**
CLL Collm 73.16 339 P P 23 10 50.2 -0.2
CLL IAmb IAmb 23 11 06.8
comp=Z,9.7nm,0.8s
CLL Collm 73.16 339 *i* P **P 23 10 50.8 +0.4**
CLL *i* *PP **pP 23 11 05.7 -0.3**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 73.16 339 *i* P **P 23 10 50.8 +0.4**
comp=Z,10.0nm,1.1s
CLL *i* pP **pP 23 11 05.7 -0.3**
comp=Z,12nm,0.9s
CRVS Cervenica-Dubn 73.21 332 *e*P **P 23 10 51.6 +0.8**
CRVS Cervenica-Dubn 73.21 332 *e*P **P 23 10 51.6 +0.8**
BUR08 Bucovina Ar. S 73.22 330 P P 23 10 50.6 -0.4
BUR08 IAmb IAmb 23 10 52.0
comp=Z,12nm,0.7s
BURAR Bucovina Array 73.24 330 ⇑P **P 23 10 51.4 +0.3**
BURAR Bucovina Array 73.24 330 P P 23 10 51.2 +0.1
DPC Dobruska-Polom 73.26 336 *e*P **P 23 10 51.6 +0.5**
DPC *e* 23 11 06.5
DPC Dobruska-Polom 73.26 336 *e*P **P 23 10 51.6 +0.5**
DPC *e*pP **pP 23 11 06.5 -0.3**
VASR Vaslui 73.27 327 ⇑P **P 23 10 51.4 +0.3**
M53A WI Miller and 73.32 43 P P 23 10 51.7 +0.2
baz=326
ACSO Alum Creek Sta 73.32 45 P P 23 10 52.0 +0.4
baz=325
BRG Berggiesshubel 73.35 338 *e*P **P 23 10 53.2 +1.7**
BRG Amp 23 10 54.2
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 73.35 338 P P 23 10 58.6 +7.1
BRG Amp 23 10 59.6
comp=Z,3.3nm,1.0s
BRG Berggiesshubel 73.35 338 *e*P **P 23 10 53.2 +1.7**
BRG 23 11 07.8
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG pmax pmax
comp=Z,5.0nm,1.1s
WCI Wyandotte Cave 73.46 48 P P 23 10 52.6 +0.2
baz=324
MORC Moravsky Berou 73.48 335 ⇓P **P 23 10 53.3 +0.9**
MORC Moravsky Berou 73.48 335 P P 23 10 52.3 -0.1
MORC IAmb IAmb 23 10 54.7
comp=Z,17nm,1.3s
MORC Moravsky Berou 73.48 335 *e*P **P 23 10 53.0 +0.6**
MORC Moravsky Berou 73.48 335 ⇓P **P 23 10 53.3 +0.9**
LANS Liptovska Anna 73.54 334 *e*P **P 23 10 54.7 +1.9**
LANS pmax pmax
comp=Z,8.0nm,0.8s
LANS Liptovska Anna 73.54 334 *e*P **P 23 10 54.7 +1.9**
TRPA Tarpa 73.60 331 ⇓P **P 23 10 54.1 +1.1**
HSKC Hora Svate Kat 73.71 338 *e*P **P 23 10 54.7 +1.0**
BMR Baia Mare 73.72 331 ⇑P **P 23 10 54.7 +0.9**
BMR Baia Mare 73.72 331 ⇑P **P 23 10 54.7 +0.9**
TESR Tescani 73.76 328 ⇑P **P 23 10 53.8 -0.2**
KECS Kecovo 73.87 333 *e*P **P 23 10 55.9 +1.3**
KECS Kecovo 73.87 333 *e*P **P 23 10 55.9 +1.3**
VLDR Vladesti 73.87 327 ⇓P **P 23 10 55.1 +0.4**
VARL Varlezi 73.90 327 ⇑P **P 23 10 55.5 +0.6**
GHRR 73.91 327 ⇑P **P 23 10 55.8 +1.0**
ARCR ARCALIA 73.98 330 ⇑P **P 23 10 56.5 +1.1**
PRU Pruhonice 74.03 337 *e*P **P 23 10 56.0 +0.5**
PRU *e* 23 11 11.7
PRU Pruhonice 74.03 337 *e*P **P 23 10 56.0 +0.5**
PRU *e*pP **pP 23 11 11.7 +0.5**
O53A New Philadelph 74.07 44 P P 23 10 55.6 -0.4
baz=326
VRAC Vranov 74.16 336 *e*P **P 23 10 57.2 +0.9**
TLCR 74.20 326 ⇑P **P 23 10 56.9 +0.3**
TLCR 74.20 326 ⇑P **P 23 10 56.9 +0.3**
IZVR Izvoarele 74.24 327 ⇓P **P 23 10 57.0 +0.2**
ODBI Odobesti 74.29 327 ⇑P **P 23 10 58.0 +0.9**
JAVC Velka Javorina 74.29 335 *e*P **P 23 10 58.7 +1.5**
VRI Vrincioaia 74.31 328 ⇓P **P 23 10 57.5 +0.2**
VRI Vrincioaia 74.31 328 ⇓P **P 23 10 57.5 +0.2**
VYHS Vyhne 74.31 334 *e*P **P 23 10 58.3 +1.0**
VYHS pmax pmax
comp=Z,7.0nm,0.9s
VYHS Vyhne 74.31 334 *e*P **P 23 10 58.3 +1.0**
PLOR Plostina 74.34 328 ⇑P **P 23 10 57.6 +0.1**
PLOR Plostina 74.34 328 ⇑P **P 23 10 57.6 +0.1**
KRUC Moravsky 74.43 336 *e*P **P 23 10 58.7 +0.8**
WVT Waverly 74.44 51 P P 23 10 58.5 +0.4
baz=324
CFR Carcaliu 74.44 326 ⇑P **P 23 10 57.7 -0.2**
CFR Carcaliu 74.44 326 ⇑P **P 23 10 57.7 -0.2**
COVR Voineasa-Covas 74.50 328 ⇑P **P 23 10 59.4 +1.0**
CBBR Cluj-Babes-Bol 74.51 330 ⇓P **P 23 10 59.6 +1.2**
JURR Jurilovca 74.54 326 ⇓P **P 23 10 59.1 +0.5**
PSZ Piszkesteto 74.55 333 P P 23 10 58.9 +0.2
PSZ IAmb IAmb 23 11 00.6
comp=Z,9.0nm,0.9s
PSZ Piszkesteto 74.55 333 P P 23 10 58.9 +0.2
PSZ pmax pmax
comp=Z,9.0nm,0.9s
CJR Cluj-Napoca 74.55 330 ⇓P **P 23 10 59.6 +0.9**
833A Chaparral WMA, 74.61 64 P P 23 11 00.0 +0.8
baz=321
TPGR Topolog 74.62 326 ⇓P **P 23 10 59.4 +0.3**
ZVC Zvíkov 74.63 337 *e*P **P 23 10 59.6 +0.6**
ZVC *e*pP **pP 23 11 14.9 +0.2**
MARR Marisel-Cluj 74.73 330 ⇑P **P 23 10 59.6 -0.2**
WB0 Warramunga Arr 74.79 204 P P 23 11 00.6 +0.4
WB0 IAmb IAmb 23 11 01.4
comp=Z,7.5nm,0.8s
MODS Modra-Piesok 74.84 335 *e*P **P 23 11 01.8 +1.5**
MODS pmax pmax
comp=Z,14nm,1.1s
MODS Modra-Piesok 74.84 335 *e*P **P 23 11 01.8 +1.5**
MLR Muntele Rosu 74.89 328 ⇑P **P 23 11 01.6 +0.8**
MLR Muntele Rosu 74.89 328 P P 23 11 00.7 -0.1
MLR IAmb IAmb 23 11 02.8
comp=Z,12nm,0.7s
MLR Muntele Rosu 74.89 328 ⇑P **P 23 11 01.6 +0.8**
MLR Muntele Rosu 74.89 328 LR LR 23 48 25.7
comp=Z,122nm,18.9s,baz=50,slow=39
HARR Harsova 74.94 326 ⇑P **P 23 11 01.3 +0.4**
WRAB Tennant Creek 74.96 204*ce*P **P 23 11 02.7 +1.6**
WRAB pmax pmax
comp=Z,16nm,2.5s
OXF Oxford 74.97 53 P P 23 11 01.5 +0.3
baz=324
WRA Warramunga Arr 74.97 204 P P 23 11 01.6 +0.4
WRA Warramunga Arr 74.97 204 *i* P **P 23 11 01.3 +0.1**
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 74.97 204 P P 23 11 01.4 +0.2
comp=Z,4.7nm,0.7s,baz=18,slow=6.0,SNR=31
comp=Z,4.7nm,0.7s
TIRR Tirgusor 74.97 326 ⇓P **P 23 11 01.3 +0.2**
TIRR Tirgusor 74.97 326 P P 23 11 01.2 +0.2
TIRR Tirgusor 74.97 326 ⇓P **P 23 11 01.3 +0.2**
KHC Kasperske Hory 75.06 338 P P 23 11 01.6 0.0
KHC IAmb IAmb 23 11 18.8
comp=Z,8.9nm,1.0s
KHC Kasperske Hory 75.06 338 P P 23 11 01.6 0.0
KHC pmax pmax
comp=Z,9.0nm,1.0s
KHC Kasperske Hory 75.06 338 *e*P **P 23 11 02.1 +0.5**
KHC *e*pP **pP 23 11 18.1 +0.9**
SRO Srobarova 75.08 334 *e*P **P 23 11 03.7 +2.1**
SRO Srobarova 75.08 334 *e*P **P 23 11 03.7 +2.1**
CKRC Cesky Krumlov 75.17 337 *e*P **P 23 11 02.4 +0.2**
CKRC Cesky Krumlov 75.17 337 *e*P **P 23 11 02.4 +0.2**
VOIR 75.23 329 ⇓P **P 23 11 03.5 +0.8**

VOIR 75.23 329 ⇓P **P 23 11 03.5 +0.8**
GEC2 GERESS Array S 75.30 337 P P 23 11 03.4 +0.4
GEC2 IAmb IAmb 23 11 04.6
comp=Z,13nm,1.4s
GERES GERESS Array B 75.30 337 P P 23 11 03.4 +0.4
GERES GERESS Array B 75.30 337 P P 23 11 03.4 +0.4
GERES GERESS Array B 75.30 337 P P 23 11 03.5 +0.5
comp=Z,2.0nm,0.5s,baz=41,slow=5.8,SNR=8.8
comp=Z,2.0nm,0.5s
ARR Arges 75.43 329 ⇑P **P 23 11 05.3 +1.5**
CONA Conrad Observa 75.62 336 *e*P **P 23 11 06.0 +1.2**
comp=Z,7.0nm,1.2s
RONA Rosalia, Austr 75.72 335 *e*P **P 23 11 06.5 +1.1**
comp=Z,7.7nm,1.2s
SURR Surduc 75.86 331 ⇑P **P 23 11 06.1 -0.1**
GZR Gura Zlata 75.99 330 ⇑P **P 23 11 07.4 +0.4**
GZR Gura Zlata 75.99 330 ⇑P **P 23 11 07.4 +0.4**
MOA Molln 76.09 337 *e*P **P 23 11 08.4 +0.9**
comp=Z,2.0nm,0.7s
BZS Buzias 76.14 331 ⇑P **P 23 11 07.2 -0.5**
BZS Buzias 76.14 331 ⇑P **P 23 11 07.2 -0.5**
MARD Mardin 76.16 314 P P 23 11 08.3 +0.2
MARD IAmb IAmb 23 11 10.0
comp=Z,11nm,0.6s
ARSA Arzberg 76.33 336 *e*P **P 23 11 09.8 +0.9**
comp=Z,10nm,1.6s
MORH Mrgy, Hungar 76.45 333 ⇓P **P 23 11 09.3 -0.2**
HERR Herculane 76.56 330 ⇓P **P 23 11 09.8 -0.3**
MDVR Moldovita 76.86 331 ⇑P **P 23 11 11.5 -0.5**
LESA Schwarzleotal 76.87 337 *e*P **P 23 11 13.2 +1.2**
comp=Z,12nm,1.7s
BNN Bunyan 76.99 318 P P 23 11 12.9 +0.1
SOKA Soboth 76.99 336 *e*P **P 23 11 13.5 +0.8**
comp=Z,12nm,1.2s,SNR=8.1
KBA Koelnbreinsper 77.03 337 *e*pP **P 23 11 14.5 +1.5**
comp=Z,24nm,0.9s
BR131 Keskin Array S 77.13 320 P P 23 11 12.8 -0.8
BR131 IAmb IAmb 23 11 14.6
comp=Z,6.0nm,0.7s
BR131 Keskin Array S 77.13 320 P P 23 11 12.8 -0.8
BR131 pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 77.13 320 P P 23 11 13.0 -0.6
BRTR Keskin Array B 77.13 320*ce*P **P 23 11 14.0 +0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 77.13 320 P P 23 11 13.7 0.0
comp=Z,3.0nm,0.8s,baz=58,slow=3.3,SNR=12
comp=Z,3.0nm,0.8s
WATA Walderalm 77.21 338 *e*P **P 23 11 14.9 +1.0**
comp=Z,11nm,1.5s
RETA Reutte 77.25 339 *e*P **P 23 11 14.5 +0.4**
comp=Z,2.9nm,1.1s
WTTA Wattenberg 77.26 338 *e*P **P 23 11 15.4 +1.1**
comp=Z,10nm,1.4s,SNR=7.4
MOTA Moosalm 77.31 339 *e*P **P 23 11 15.2 +0.7**
comp=Z,12nm,1.4s
SQTA Sankt Quirin 77.40 338 *e*P **P 23 11 15.8 +0.8**
comp=Z,15nm,1.3s
EIDS Eidsvold 77.45 188 P P 23 11 16.2 +1.0
EIDS IAmb IAmb 23 11 48.0
comp=Z,26nm,1.9s
ABTA Abfaltersbach 77.54 337 *e*P **P 23 11 16.2 +0.4**
comp=Z,5.5nm,0.8s
PRED Cave del Predi 77.58 337 P P 23 11 16.0 +0.1
PRED IAmb IAmb 23 11 32.3
comp=Z,7.2nm,0.8s
GCIS Gornji Cirnik 77.59 335 *i* P **P 23 11 16.6 +0.7**
DAVA Damuels 77.64 339 *e*pP **P 23 11 18.7 +2.4**
comp=Z,5.0nm,1.1s
CRES Cresnjev 77.67 335 *i* P **P 23 11 16.9 +0.5**
CRES *i* pP **pP 23 11 32.0 -0.1**
FETA Feichten 77.70 339 *e*P **P 23 11 17.6 +0.9**
comp=Z,4.1nm,0.9s
TEKS Tekeris 77.72 332 *e*P P 23 11 30.9 +14
BOVS Bovan 77.90 330 ⇑P **P 23 11 16.8 -0.9**
DIVS Divibare 78.00 331 P P 23 11 17.9 -0.5
DIVS IAmb IAmb 23 11 19.8
comp=Z,12nm,1.1s
DIVS Divibare 78.00 331 *e*P **P 23 11 17.7 -0.6**
CEY Cerknica 78.02 336 *e*P **P 23 11 18.6 +0.3**
GBRS Gornja Briga 78.11 335 *i* P **P 23 11 19.3 +0.5**
GBRS *i* pP **pP 23 11 34.6 -0.1**
DAVOX Davos/Dischmat 78.11 339 LR LR 23 48 27.5
comp=Z,35nm,22.0s,baz=50,slow=38
FUORN Ofenpass-Fuorn 78.18 339 P P 23 11 19.9 +0.4
FUORN IAmb IAmb 23 11 43.6
comp=Z,9.7nm,1.2s
BLY Banja Luka 78.20 334 *e*P **P 23 11 18.6 -0.7**
UOSS Minazif 78.34 296 P P 23 11 19.7 -0.7
UOSS IAmb IAmb 23 11 20.3
comp=Z,7.0nm,0.5s
VTS Vitosha 78.34 329 ⇑P **P 23 11 21.2 +0.9**
VTS Vitosha 78.34 329 ⇑P **P 23 11 21.2 +0.9**
BBLS Lazići 78.39 332 *e*P **P 23 11 20.7 +0.2**
CTI Castel Tesino 78.41 338 P P 23 11 20.3 -0.3
CTI IAmb IAmb 23 11 24.3
comp=Z,16nm,1.4s
CTI Castel Tesino 78.41 338 P P 23 11 20.3 -0.3
CTI pmax pmax
comp=Z,16nm,1.4s
TUE Stuetta 78.52 339 P P 23 11 21.2 -0.1
TUE IAmb IAmb 23 11 24.4
comp=Z,8.3nm,0.8s
RUDO Rudo 78.62 332 *e*P **P 23 11 21.3 -0.4**
ASAR Alice Springs 78.64 204 P P 23 11 22.5 +0.6
ASAR Alice Springs 78.64 204 P P 23 11 22.5 +0.6
ASAR Alice Springs 78.64 204 P P 23 11 22.9 +1.0
comp=Z,3.1nm,0.7s,baz=14,slow=5.6,SNR=30
comp=Z,3.1nm,0.7s
SJES Sjenica 78.77 331 *e*P **P 23 11 23.3 +0.7**
SRKY Kupres RS 78.84 333 *e*P **P 23 11 23.7 +0.7**
RDO Rodhopi 78.89 326 P P 23 11 23.7 +0.5
RDO IAmb IAmb 23 11 24.6
comp=Z,13nm,0.9s
ALN Alexandroupoli 78.94 326 P P 23 11 23.3 -0.1
ALN IAmb IAmb 23 11 24.5
comp=Z,10nm,1.0s
ALN Alexandroupoli 78.94 326 P P 23 11 23.3 -0.1
ALN pmax pmax
comp=Z,10.0nm,1.0s
KIJV Kijevo 79.11 334 *i* P **P 23 11 24.5 +0.1**
UPM Unac-Piva 79.14 332 *e*P **P 23 11 24.2 -0.5**
PEHC Pehcevo 79.20 328 *i* P **P 23 11 24.8 -0.2**
VIRC Vir 79.20 335 *i* P **P 23 11 24.7 -0.1**
STIP Stip 79.51 329 *i* P **P 23 11 26.1 -0.5**
VAY Valandovo 79.72 328 *i* P **P 23 11 28.6 +0.9**
PDG Podgorica 79.74 331 *e*P **P 23 11 27.0 -0.8**
STON Ston 79.79 332 *i* P **P 23 11 26.7 -1.3**
STON Ston 79.79 332 *e*P **P 23 11 26.9 -1.1**
HCY Herceg Novi 79.95 332 *e*P **P 23 11 28.3 -0.6**
DRME Dracevica, Mon 79.99 331 *e*P **P 23 11 28.1 -1.0**
SSB Saint Sauveur 80.64 342 P P 23 11 32.8 +0.1
SSB IAmb IAmb 23 11 50.2
comp=Z,20nm,1.5s
SSB Saint Sauveur 80.64 342 P P 23 11 32.8 +0.1
SSB pmax pmax
comp=Z,20nm,1.5s
KBN Korca 80.92 329 P P 23 11 34.3 +0.1
KBN IAmb IAmb 23 11 35.7
comp=Z,9.9nm,0.9s
KBN Korca 80.92 329 P P 23 11 34.3 +0.1
KBN pmax pmax
comp=Z,10.0nm,0.9s
CSS Mathiatis 81.35 318 P P 23 11 36.4 -0.1
CSS IAmb IAmb 23 11 37.4
comp=Z,11nm,0.7s
MMAI Mount Meron Ar 82.14 315 P P 23 11 41.5 +0.6
comp=Z,6.3nm,0.5s,baz=36,slow=6.2,SNR=26
comp=Z,6.3nm,0.5s
GHAJ Ghor Haditha 83.53 314 P P 23 11 47.4 -0.5
ESDC Sonseca Array 87.49 347 P P 23 12 07.5 -0.1
ESDC Sonseca Array 87.49 347 P P 23 12 07.8 +0.3
comp=Z,2.7nm,0.8s,baz=1.8,slow=4.0,SNR=33
comp=Z,2.7nm,0.8s
PAB San Pablo 87.67 347 P P 23 12 07.9 -0.6
PAB San Pablo 87.67 347 P P 23 12 07.9 -0.6
PAB pmax pmax
comp=Z,4.0nm,0.9s
H03N2 Juan Fernandez 134.63 89 T T 01 49 11.9
baz=314,slow=77,SNR=219
H03N1 Juan Fernandez 134.65 89 T T 01 49 13.3
baz=314,slow=77,SNR=230
H03N3 Juan Fernandez 134.65 89 T T 01 49 05.5
baz=314,slow=77,SNR=204

QSPA South Pole Qui 141.81 180 PKhKP PKPpre 23 18 45.2
comp=Z,1.3nm,0.6s,baz=35,slow=2.4,SNR=6.3
PLCA Paso Flores 144.42 92 PKP PKPbc 23 18 54.7 +0.7
comp=Z,5.9nm,0.9s,baz=305,slow=4.0,SNR=11

*IDC **10** 23:07:52.2±0.8, 8°.86S×126°.73E, h0km, mb4.4/7, mbtmp4.4/7, MS3.9/2, Error ellipse: s-maj=51.5km s-min=17.5km az=105.0*
*NEIC **10** 23:07:54.7±1.1, 49°.0S±0°.1×126°.5E±0°.2, h10km±1km, mb4.5/10, Error ellipse: s-maj=25.9km s-min=17.1km az=109.0*
ISC 10 23:07:53.7±0.5, **48°.92S**±0°.09×**126°.6E**±0°.2, **h10**km, **n48**, σ0**9**0/41, **mb4.5**/11, **5C, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.75**	**322**	T	T	23 28 53.6	
	baz=148,slow=74,SNR=158						
H01W2	**Cape Leeuwin H**	**16.75**	**322**	T	T	23 28 43.7	
	baz=148,slow=74,SNR=164						
H01W3	**Cape Leeuwin H**	**16.76**	**322**	T	T	23 28 48.3	
	baz=148,slow=74,SNR=139						
FORT	**Forrest**	**18.15**	**4**	Pn	**Pn**	**23 12 05.6**	**-0.1**
FORT				IAmb	IAmb	23 12 09.0	
	comp=Z,60nm,1.2s						
CASY	**Casey**	**19.30**	**200**	P	**P**	**23 12 14.7**	**-3.7**
STKA	**Stephens Creek**	**20.45**	**39**	P	**P**	**23 12 30.8**	**-0.4**
STKA	**Stephens Creek**	**20.45**	**39**	P	**P**	**23 12 30.5**	**-0.7**
	comp=Z,4.2nm,0.7s,baz=153,slow=8.1,SNR=3.6						
	comp=Z,4.2nm,0.7s						
ASAR	**Alice Springs**	**25.86**	**16**	P	**P**	**23 13 24.1**	**-1.3**
ASAR	**Alice Springs**	**25.86**	**16**	P	**P**	**23 13 24.4**	**-1.1**
	comp=Z,11nm,0.7s,baz=189,slow=9.2,SNR=95						
ASAR				LR	LR	23 23 11.7	
	comp=Z,579nm,19.2s,baz=323,slow=36						
	comp=Z,11nm,0.7s						
AS31	**Alice Springs**	**25.86**	**16**	P	**P**	**23 13 24.5**	**-1.0**
AS31				IAmb	IAmb	23 13 26.3	
	comp=Z,4.9nm,0.9s						
ARMA	**Armidale**	**26.52**	**55**	P	**P**	**23 13 31.4**	**0.0**
ARMA				IAmb	IAmb	23 13 52.9	
	comp=Z,8.8nm,1.1s						
WRA	**Warramunga Arr**	**29.57**	**15**	P	**P**	**23 13 59.4**	**+0.7**
WB0	**Warramunga Arr**	**29.75**	**15**	P	**P**	**23 14 01.0**	**+0.7**
VNDA	**Vanda**	**31.71**	**166**	P	**P**	**23 14 17.5**	**+0.5**
MAW	**Mawson**	**36.27**	**215**	P	**P**	**23 14 56.6**	**0.0**
MAW	**Mawson**	**36.27**	**215**	P	**P**	**23 14 57.6**	**+1.0**
	comp=Z,7.1nm,1.0s,baz=81,slow=10.0,SNR=9.2						
MAW				LR	LR	23 26 37.3	
	comp=Z,104nm,21.3s,baz=75,slow=31						
	comp=Z,7.1nm,1.0s						
QSPA	**South Pole Qui**	**41.21**	**180**	P	**P**	**23 15 38.8**	**+0.5**
QSPA				IAmb	IAmb	23 15 40.7	
	comp=Z,8.0nm,1.1s						
QSPA	**South Pole Qui**	**41.21**	**180**	P	**P**	**23 15 38.9**	**+0.6**
	comp=Z,5.3nm,1.0s,baz=339,slow=4.7,SNR=12						
	comp=Z,5.3nm,1.0s						
TROLL	**Troll, Antarti**	**53.16**	**199**	⇑P	**P**	**23 17 11.8**	**+0.5**
	comp=Z,126nm,0.6s						
SNAA	**Sanae**	**54.52**	**197**	P	**P**	**23 17 21.8**	**+0.7**
SNAA				IAmb	IAmb	23 17 23.5	
	comp=Z,13nm,1.1s						
SNAA	**Sanae**	**54.52**	**197**	⇑P	**P**	**23 17 21.9**	**+0.7**
	comp=Z,181nm,1.2s						
SNAA	**Sanae**	**54.52**	**197**	P	**P**	**23 17 21.9**	**+0.7**
	comp=Z,9.6nm,1.1s,baz=138,slow=7.5,SNR=21						
	comp=Z,9.6nm,1.1s						
VNA2	**Neumayer--Watz**	**56.00**	**197**	⇑P	**P**	**23 17 32.3**	**+0.6**
	comp=Z,4.5nm,0.8s,baz=160,slow=5.0						
VNA3	**Neumayer Olymp**	**56.15**	**196**	⇑P	**P**	**23 17 33.3**	**+0.4**
	comp=Z,3.5nm,0.9s						
VNA1	**Neumayer--Stat**	**56.39**	**196**	⇑P	**P**	**23 17 35.3**	**+0.8**
	comp=Z,10.0nm,1.2s						
H08S2	**Diego Garcia H**	**61.12**	**294**	T	T	00 24 06.1	
	baz=142,slow=76,SNR=13						
H08S1	**Diego Carcia H**	**61.13**	**294**	T	T	00 24 05.5	
	baz=142,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**61.14**	**294**	T	T	00 24 07.6	
	baz=142,slow=76,SNR=12						
PMSA	**Palmer Station**	**66.35**	**175**	P	**P**	**23 18 42.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**71.44**	**332**	P	**P**	**23 19 14.8**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=185,slow=5.6,SNR=5.3						
	comp=Z,1.3nm,0.9s						
MJAR	**Matsushiro Arr**	**85.71**	**9**	P	**P**	**23 20 32.6**	**+0.2**
	comp=Z,3.7nm,1.1s,baz=167,slow=5.8,SNR=2.9						
	comp=Z,3.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**122.50**	**251**	PKPdf	**PKPdf**	**23 26 49.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**122.50**	**251**	PKP	**PKPdf**	**23 26 48.6**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=182,slow=10,SNR=5.0						
BURAR	**Bucovina Array**	**129.88**	**300**	PKPdf	**PKiKP**	**23 27 03.6**	**+0.1**
L27K	**Beaver Creek,**	**132.65**	**38**	PKPdf	**PKiKP**	**23 27 09.8**	**+1.4**
BCAR	**Beaver Creek A**	**132.67**	**38**	PKPdf	**PKiKP**	**23 27 08.7**	**+0.1**
ESDC	**Sonseca Array**	**143.97**	**274**	PKP	PKPbc	23 27 27.5	+0.8
	comp=Z,0.4nm,1.0s,baz=70,slow=3.7,SNR=4.3						
RSSD	**Black Hills**	**145.38**	**78**		**PKPbc**	**23 27 31.0**	**-0.4**
W35A	**Tecumseh**	**145.41**	**97**		**PKPab**	**23 27 31.7**	**0.0**
OK029	**Liberty Lake**	**145.42**	**96**	PKPdf	**PKPbc**	**23 27 31.1**	**-0.3**
OK033	**Mehan**	**145.90**	**96**	PKPdf	**PKPab**	**23 27 33.9**	**+0.5**
KAN06	**Argonia West S**	**145.99**	**93**	PKPdf	**PKPbc**	**23 27 33.1**	**-0.1**
KAN09	**Caldwell North**	**146.08**	**94**	PKPdf	**PKPbc**	**23 27 33.2**	**-0.2**
RES	**Resolute Bay**	**148.86**	**20**	PKPdf	**PKPbc**	**23 27 38.6**	**-1.3**
EKA	**Eskdalemuir Ar**	**149.06**	**301**	PKPbc	**PKPbc**	**23 27 41.1**	**+0.1**
	comp=Z,7.8nm,0.9s,baz=110,slow=1.8,SNR=8.1						
S39A	**Bolivar**	**149.22**	**96**	PKPbc	**PKPbc**	**23 27 41.5**	**-0.5**
LCAR	**Lake Charles**	**149.69**	**101**	PKPbc	**PKPbc**	**23 27 42.9**	**-0.3**
PLAL	**Pickwick Lake**	**151.00**	**106**	PKPbc	**PKPbc**	**23 27 45.7**	**-0.6**

*IDC **10** 23:10:15.3±0.5, 8°.13S×123°.31E, h0km, mb4.4/18, mbtmp4.4/21, ML4.4/3, MS3.9/28, Error ellipse: s-maj=25.6km s-min=11.4km az=81.0*
*NEIC **10** 23:10:15.4±2.0, 8°.31S±0°.05×123°.42E±0°.05, h10km±1km, mb4.8/40, Error ellipse: s-maj=9.8km s-min=7.7km az=34.0*
*DJA **10** 23:10:17.1±0.1, 8°.S±2°×12°.4E±°, h10km, M4.8/41, mb5.0/41, mB5.3/22, MLv4.9/15, Mw(mB)4.7/22*
ISC 10 23:10:16.0±0.3, **8°.28S**±0°.04×**123°.50E**±0°.04, **h10**km, **n207**, σ**2**8**20**/190, **mb4.7**/41, **MS4.0**/25, **1D, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.30**	**254**	Pn	**Pg**	**23 10 40.1**	**-0.8**
MMRI	**Maumere**	**1.30**	**254**	P	**Pg**	**23 10 40.5**	**-0.5**
MMRI	**Maumere**	**1.30**	**254**	P	**Pg**	**23 10 40.1**	**-0.8**
MMRI				S	**Sn**	**23 10 58.4**	**+0.8**
SOEI	**Soe**	**1.65**	**153**	Pn	**Pb**	**23 10 45.9**	**-0.8**
SOEI	**Soe**	**1.65**	**153**	P	**Pg**	**23 10 47.4**	**-0.4**
SOEI	**Soe**	**1.65**	**153**	P	**Pb**	**23 10 46.1**	**-0.6**
BATI	**Baumata**	**1.92**	**175**	P	**Pg**	**23 10 52.5**	**-0.5**
BATI	**Baumata**	**1.92**	**175**	Pn	**Pg**	**23 10 52.8**	**-0.2**
	141nm,0.3s,baz=19,slow=0.9,SNR=44						
BATI				Sn	**Sg**	**23 11 20.6**	**+2.7**
	227nm,0.3s,baz=222,slow=19,SNR=5.7						
	3μm,0.8s						
BBSI	**Bau Bau**	**2.92**	**342**	P	**Pn**	**23 11 01.8**	**-0.8**
BASI	**Baing, Sumba**	**3.47**	**236**	P	**Pn**	**23 11 09.3**	**-0.8**
BKSI	**Bulukumba**	**4.46**	**311**	P	**Pn**	**23 11 22.3**	**-1.4**
KAPI	**Kappang**	**4.94**	**311**	Pn	**Pn**	**23 11 30.6**	**+0.3**
KAPI	**Kappang**	**4.94**	**311**	P	**Pn**	**23 11 31.0**	**+0.7**
KAPI	**Kappang**	**4.94**	**311**	Pn	**Pn**	**23 11 30.1**	**-0.2**
	12nm,0.3s,baz=131,slow=5.2,SNR=24						
KAPI				Sn	**Sn**	**23 12 25.3**	**-2.2**
	12nm,0.3s,baz=45,slow=14,SNR=1.8						
KAPI				LR	LR	23 13 31.6	
	comp=Z,4μm,18.7s,baz=114,slow=42						
PLAI	**Plampang**	**5.68**	**264**	P	**Pn**	**23 11 43.5**	**+2.9**
PLAI	**Plampang**	**5.68**	**264**	P	**Pn**	**23 11 42.9**	**+2.3**
	366nm,0.7s,4μm1.8nm						
PLAI				S	**Sn**	**23 12 49.5**	**+3.5**
	366nm,0.7s,4μm1.8nm						
NLAI	**Namlea**	**6.16**	**36**	P	**Pn**	**23 11 48.5**	**+1.4**
	51nm,0.6s,0.2nm						
TTSI	**Tana Toraja**	**6.36**	**325**	P	**Pn**	**23 11 51.6**	**+1.7**
	220nm,1.0s,2μm0.8nm						
TWSI	**Taliwang, Sumb**	**6.56**	**266**	P	**Pn**	**23 11 53.8**	**+1.2**
	229nm,1.1s,3μm0.7nm						
SANI	**Sanana**	**6.67**	**22**	P	**Pn**	**23 11 55.6**	**+1.5**
SANI	**Sanana**	**6.67**	**22**	P	**Pn**	**23 11 55.2**	**+1.1**
	55nm,0.7s,738nm0.2nm						
LUWI	**Luwuk**	**7.22**	**354**	Pn	**Pn**	**23 12 02.5**	**+0.7**
LUWI	**Luwuk**	**7.22**	**354**	P	**Pn**	**23 12 04.2**	**+2.4**
LUWI	**Luwuk**	**7.22**	**354**	P	**Pn**	**23 12 03.3**	**+1.5**
	309nm,1.0s,4μm1.0nm						
BNDI	**Bandanaira**	**7.38**	**60**	P	**Pn**	**23 12 02.7**	**-1.2**
	329nm,0.7s,12μm1.2nm						
LBMI	**Labuha**	**8.57**	**28**	P	**Pn**	**23 12 22.3**	**+2.0**
MTN	**Manton Dam**	**8.77**	**122**	P	**Pn**	**23 12 23.1**	**+0.1**
	baz=8.7,SNR=102						
MTN	**Manton Dam**	**8.77**	**122**	Pn	**Pn**	**23 12 22.4**	**-0.6**
MTN	**Manton Dam**	**8.77**	**122**	P	**Pn**	**23 12 23.6**	**+0.6**
KBKI	**Kotabaru**	**8.81**	**304**	P	**Pn**	**23 12 25.4**	**+1.8**
	23nm,0.9s						
MRSI	**Marisa**	**8.84**	**350**	P	**Pn**	**23 12 24.1**	**+0.2**
	53nm,0.9s,997nm						
GTOI	**Gorontalo**	**8.87**	**357**	P	**Pn**	**23 12 26.3**	**+1.9**
	19nm,0.8s,182nm						
KNRA	**Kununurra**	**8.98**	**145**	P	**Pn**	**23 12 25.3**	**-0.5**
	baz=8.9,SNR=34						
KNRA	**Kununurra**	**8.98**	**145**	Pn	**Pn**	**23 12 24.5**	**-1.3**
KNRA	**Kununurra**	**8.98**	**145**	P	**Pn**	**23 12 26.0**	**+0.2**
JAGI	**Jajag, Banyuwa**	**9.25**	**268**	P	**Pn**	**23 12 30.6**	**+1.0**
	56nm,0.8s						
MPSI	**Mapaga**	**9.28**	**337**	P	**Pn**	**23 12 30.5**	**+0.5**
	54nm,0.9s,860nm						
TOLI2	**Tolitoli**	**9.71**	**344**	Pn	**Pn**	**23 12 36.9**	**+0.9**
TOLI2	**Tolitoli**	**9.71**	**344**	P	**Pn**	**23 12 38.9**	**+3.0**
TNTI	**Ternate**	**9.78**	**23**	Pn	**Pn**	**23 12 39.1**	**+2.1**
TNTI	**Ternate**	**9.78**	**23**	P	**Pn**	**23 12 40.1**	**+3.2**
TNTI	**Ternate**	**9.78**	**23**	P	**Pn**	**23 12 39.0**	**+2.1**
	140nm,1.2s,2μm						
KDU	**Kakadu**	**9.85**	**117**	P	**Pn**	**23 12 38.2**	**+0.3**
	baz=9.8,SNR=22						
KDU	**Kakadu**	**9.85**	**117**	P	**Pn**	**23 12 38.3**	**+0.4**
FAKI	**Fak Fak**	**10.21**	**59**	Pn	**Pn**	**23 12 43.9**	**+1.2**
FAKI	**Fak Fak**	**10.21**	**59**	P	**Pn**	**23 12 46.6**	**+3.9**
FAKI	**Fak Fak**	**10.21**	**59**	P	**Pn**	**23 12 43.9**	**+1.2**
	87nm,2.1s,1μm						
SIJI	**Sorong**	**10.68**	**47**	Pn	**Pn**	**23 12 50.2**	**+1.0**
	0.7nm,0.3s,baz=204,slow=7.2,SNR=23						
SIJI				LR	LR	23 17 07.8	
	comp=Z,2μm,20.0s,baz=229,slow=38						
	70nm,1.1s						
SWI	**Sorong**	**10.68**	**47**	P	**Pn**	**23 12 50.3**	**+1.1**
	154nm,1.3s,2μm						
WOJI	**Wonogiri, Jawa**	**12.46**	**271**	P	Pn	23 13 17.1	+3.5
	83nm,2.0s,2μm						
SMRI	**Semarang**	**13.00**	**274**	Pn	**Pn**	**23 13 19.6**	**-1.4**
SMRI	**Semarang**	**13.00**	**274**	P	**Pn**	**23 13 23.2**	**+2.2**
SMRI	**Semarang**	**13.00**	**274**	P	Pn	23 13 26.3	+5.3
	102nm,1.1s						
MBWA	**Marble Bar**	**13.31**	**195**	Pn	**Pn**	**23 13 22.6**	**-2.6**
MBWA	**Marble Bar**	**13.31**	**195**	P	**Pn**	**23 13 26.7**	**+1.5**
PSA00	**Pilbara Seismi**	**13.68**	**195**		**Pn**	**23 13 28.7**	**-1.5**
PSA00	**Pilbara Seismi**	**13.68**	**195**	P	**Pn**	**23 13 32.0**	**+1.8**
MYLDM	**Lahad Datu**	**14.27**	**339**	Pn	**Pn**	**23 13 37.0**	**-1.3**
DAV	**Davao City (W)**	**15.39**	**8**	LR	LR	23 20 29.2	
	comp=Z,335nm,18.7s,baz=204,slow=40						
WB0	**Warramunga Arr**	**15.55**	**138**	Pn	**Pn**	**23 13 51.9**	**-3.7**
WB0				IAmb	IAmb	23 14 12.0	
	comp=Z,56nm,0.9s						
WRA	**Warramunga Arr**	**15.64**	**139**	Pn	**Pn**	**23 13 52.9**	**-3.8**
WRA				IAmb	IAmb	23 14 09.0	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**15.64**	**139**	Pn	**Pn**	**23 13 52.8**	**-4.0**
	comp=Z,1.9nm,0.3s,baz=318,slow=13,SNR=105						
WRA				Sn	**Sn**	**23 16 40.2**	**-10**
	comp=Z,1.1nm,0.3s,baz=309,slow=24,SNR=9.4						
WRA				LR	LR	23 21 20.1	
	comp=Z,806nm,18.1s,baz=308,slow=42						
WRAB	**Tennant Creek**	**15.64**	**139**	Pn	**Pn**	**23 13 53.0**	**-3.8**
WRAB				IAmb	IAmb	23 14 09.0	
	comp=Z,76nm,1.1s						
WB2	**Warramunga Arr**	**15.65**	**139**	Pn	**Pn**	**23 13 53.5**	**-3.3**
WB2				IAmb	IAmb	23 14 09.1	
	comp=Z,87nm,1.1s						
WC3	**Warramunga Arr**	**15.67**	**139**	P	**Pn**	**23 13 53.5**	**-3.7**
	baz=16						
WR0	**Warramunga Arr**	**15.79**	**139**	Pn	**Pn**	**23 13 54.5**	**-4.1**
WR0				IAmb	IAmb	23 14 09.2	
	comp=Z,56nm,0.8s						
LEM	**Lembang**	**15.81**	**274**	P	**P**	**23 14 02.2**	**-0.7**
	comp=Z,48nm,1.0s						
LEM	**Lembang**	**15.81**	**274**	Pn	**Pn**	**23 13 57.1**	**-2.0**
	comp=Z,6.1nm,0.3s,baz=330,slow=20,SNR=1.6						
LEM				LR	LR	23 22 20.6	
	comp=Z,1μm,18.4s,baz=74,slow=46						
	comp=Z,15nm,0.3s						
WRKA	**Warakurna**	**17.28**	**165**	P	**Pn**	**23 14 16.9**	**-0.8**
	baz=17,SNR=25						
JAY	**Jayapura**	**18.06**	**72**	LR	LR	23 24 16.7	
	comp=Z,636nm,19.2s,baz=262,slow=46						
AS31	**Alice Springs**	**18.26**	**148**		**Pn**	**23 14 27.3**	**-2.5**
ASAR	**Alice Springs**	**18.26**	**148**	Pn	**Pn**	**23 14 27.1**	**-2.7**
ASAR	**Alice Springs**	**18.26**	**148**	P	**Pn**	**23 14 28.5**	**-1.3**
	comp=Z,22nm,0.8s,baz=317,slow=10,SNR=27						
ASAR				S	**Sn**	**23 17 44.1**	**-10**
	comp=Z,9.1nm,0.8s,baz=317,slow=20,SNR=6.4						
PPBI	**Pangkal Pinang**	**18.32**	**288**	P	P	23 14 48.8	+18
MEEK	**Meekatharra**	**18.84**	**194**	P	**Pn**	**23 14 37.1**	**+0.4**
	baz=19,SNR=14						
MEEK	**Meekatharra**	**18.84**	**194**	P	**Pn**	**23 14 40.2**	**+3.4**
QIS	**Mount Isa**	**19.78**	**130**	P	**P**	**23 14 47.2**	**+0.5**
	baz=20,SNR=22						
QIS	**Mount Isa**	**19.78**	**130**	P	**Pn**	**23 14 47.6**	**-0.6**
COEN	**Coen**	**20.11**	**108**	P	Pn	23 14 51.4	-0.6
	baz=20						
COEN	**Coen**	**20.11**	**108**	P	**P**	**23 14 50.2**	**0.0**
COEN				IAmb	IAmb	23 15 00.3	
	comp=Z,61nm,1.1s						
COEN	**Coen**	**20.11**	**108**	P	Pn	23 14 53.3	+1.2
DSRI	**Dabo**	**20.38**	**291**	P	Pn	23 14 56.1	+0.9
	comp=Z,47nm,1.5s						
MORW	**Morawa**	**21.84**	**198**	P	**P**	**23 15 09.3**	**+0.5**
	baz=22,SNR=7.4						
MORW	**Morawa**	**21.84**	**198**	P	**P**	**23 15 07.7**	**-1.1**
MORW	**Morawa**	**21.84**	**198**	P	**P**	**23 15 09.3**	**+0.5**
MTSU	**Mount Surprise**	**22.49**	**118**	P	**P**	**23 15 17.6**	**+1.7**
	baz=22,SNR=20						
MTSU	**Mount Surprise**	**22.49**	**118**	P	**P**	**23 15 20.4**	**+4.5**
OOD	**Oodnadatta**	**22.57**	**151**	P	**P**	**23 15 20.9**	**+4.2**
FORT	**Forrest**	**22.79**	**170**	P	**P**	**23 15 16.7**	**-2.3**
FORT	**Forrest**	**22.79**	**170**	P	**P**	**23 15 21.3**	**+2.4**
KMBL	**Kambalda**	**23.02**	**184**	P	**P**	**23 15 21.9**	**+0.5**
	baz=23						
KMBL	**Kambalda**	**23.02**	**184**	P	**P**	**23 15 23.6**	**+2.2**
BLDU	**Ballidu**	**23.11**	**195**	P	**P**	**23 15 22.9**	**+0.6**
	baz=23,SNR=12						
BLDU	**Ballidu**	**23.11**	**195**	P	**P**	**23 15 23.2**	**+0.9**
SDSI	**Sungai Dareh**	**23.16**	**287**	P	**P**	**23 15 23.8**	**+0.8**
	comp=Z,22nm,1.2s,comp=Z,2μm						
PMG	**Port Moresby**	**23.41**	**95**	P	**P**	**23 15 25.0**	**-0.4**
PMG	**Port Moresby**	**23.41**	**95**	P	**P**	**23 15 30.1**	**+4.7**
PMG	**Port Moresby**	**23.41**	**95**	P	**P**	**23 15 29.6**	**+4.2**
PMG	**Port Moresby**	**23.41**	**95**	LR	LR	23 27 12.4	
	comp=Z,654nm,18.0s,baz=259,slow=43						
KLBR	**Kellerberrin**	**23.80**	**192**	P	**P**	**23 15 29.3**	**+0.1**
	baz=24,SNR=7.0						
KLBR	**Kellerberrin**	**23.80**	**192**	P	**P**	**23 15 31.2**	**+2.0**
MULG	**Mulgathing**	**24.02**	**157**	P	**P**	**23 15 34.4**	**+3.2**
MUN	**Mundaring**	**24.54**	**195**	P	**P**	**23 15 36.4**	**+0.5**
	baz=25,SNR=3.2						
CTA	**Charters Tower**	**24.95**	**120**	P	**P**	**23 15 44.1**	**+4.2**
CTA	**Charters Tower**	**24.95**	**120**	LR	LR	23 26 40.4	
	comp=Z,581nm,18.4s,baz=291,slow=39						
CTAO	**Charters Tower**	**24.95**	**120**	P	**P**	**23 15 37.6**	**-2.2**
CTAO	**Charters Tower**	**24.95**	**120**	P	**P**	**23 15 44.1**	**+4.2**
TV1H	**Townsville Har**	**25.09**	**118**	P	**P**	**23 15 44.3**	**+3.2**
NWAO	**Narrogin (SRO)**	**25.20**	**192**	P	**P**	**23 15 43.5**	**+1.5**
	baz=25,SNR=8.6						
NWAO				P	**P**	**23 15 43.5**	**+1.5**
	baz=25,SNR=8.6						
NWAO	**Narrogin (SRO)**	**25.20**	**192**	P	**P**	**23 15 40.0**	**-2.0**
NWAO	**Narrogin (SRO)**	**25.20**	**192**	P	**P**	**23 15 42.1**	**+0.1**
	comp=Z,9.1nm,0.4s,baz=21,slow=7.7,SNR=11						
NWAO				LR	LR	23 26 04.8	
	comp=Z,411nm,20.6s,baz=10,slow=38						
	comp=Z,9.1nm,0.4s						
INKA	**Innaminka**	**25.31**	**142**	P	**P**	**23 15 48.0**	**+5.0**
QLP	**Quilpie**	**26.81**	**135**	P	**P**	**23 16 01.6**	**+5.0**
BBOO	**Buckleboo**	**27.05**	**156**	P	**P**	**23 15 59.6**	**+0.9**
	baz=27,SNR=15						
BBOO	**Buckleboo**	**27.05**	**156**	P	**P**	**23 15 58.0**	**-0.6**
HTT	**Hallett**	**28.80**	**153**	P	**P**	**23 16 15.8**	**+1.4**
	baz=29,SNR=5.0						
STKA	**Stephens Creek**	**28.89**	**147**	P	**P**	**23 16 16.8**	**+1.6**
	baz=29,SNR=5.8						
STKA	**Stephens Creek**	**28.89**	**147**	P	**P**	**23 16 13.5**	**-1.7**
STKA	**Stephens Creek**	**28.89**	**147**	P	**P**	**23 16 19.2**	**+4.0**
STKA	**Stephens Creek**	**28.89**	**147**	P	**P**	**23 16 16.9**	**+1.7**
	comp=Z,9.5nm,1.0s,baz=328,slow=9.6,SNR=8.4						
STKA				LR	LR	23 30 09.6	
	comp=Z,294nm,19.0s,baz=322,slow=41						
	comp=Z,9.5nm,1.0s						
CMSA	**Cobar Meteorol**	**31.03**	**141**	P	**P**	**23 16 36.1**	**+2.0**
	baz=31,SNR=7.9						
CMSA	**Cobar Meteorol**	**31.03**	**141**	P	**P**	**23 16 36.7**	**+2.6**
ARPS	**Mount Arapiles**	**32.90**	**152**	P	**P**	**23 16 51.5**	**+1.0**
	baz=33,SNR=11						
ARPS	**Mount Arapiles**	**32.90**	**152**	P	**P**	**23 16 52.8**	**+2.3**
KNMB	**Chin-men Tao**	**32.92**	**351**	P	**P**	**23 16 49.2**	**-1.5**
YNG	**Young**	**34.57**	**142**	P	**P**	**23 17 07.9**	**+2.8**
JOW	**Kunigami**	**35.21**	**7**	LR	LR	23 31 53.7	
	comp=Z,166nm,21.8s,baz=346,slow=37						
TOO	**Toolangi**	**35.31**	**149**	P	**P**	**23 17 15.4**	**+3.9**
CMAR	**Chiang Mai Arr**	**35.96**	**318**	P	**P**	**23 17 16.6**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=144,slow=6.8,SNR=7.0						
	comp=Z,1.0nm,0.4s						
JCJ	**Chichijima**	**39.56**	**27**	LR	LR	23 33 14.4	
	comp=Z,99nm,21.1s,baz=106,slow=35						
NJ2	**Nanjing**	**40.35**	**354**	*e*P	**P**	**23 17 55.4**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH	**PanZhiHua**	**40.52**	**329**	P	**P**	**23 17 57.4**	**+1.8**
PZH				S	**S**	**23 24 05.3**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,120nm,5.3s						
PZH				LR	LR		
	comp=Z,140nm,15.2s						
PZH				LR	LR		
	comp=Z,180nm,18.1s						
PZH				LR	LR		
	comp=Z,210nm,19.6s						
JNU	**Nakatsue**	**41.77**	**9**	LR	LR	23 35 32.7	
	comp=Z,54nm,21.5s,baz=12,slow=36						
LYN	**LuoYang**	**43.86**	**347**	*e*P	**P**	**23 18 24.5**	**+1.9**
LYN				pmax	pmax		
	comp=Z,15nm,0.8s						
LYN				pmax	pmax		
	comp=Z,110nm,5.3s						
XAN	**Xi'an**	**44.30**	**343**	P	**P**	**23 18 26.1**	**-0.1**
XAN				pP	sP	23 18 30.4	+0.2
XAN				pmax	pmax		
	comp=Z,12nm,0.8s						
XAN				LR	LR		
	comp=Z,250nm,13.1s						
XAN				LR	LR		
	comp=Z,240nm,13.7s						
XAN				LR	LR		
	comp=Z,320nm,19.2s						
KSRS	**Korea Array**	**45.68**	**5**	LR	LR	23 39 14.6	
	comp=Z,83nm,20.3s,baz=350,slow=38						
NFK	**Norfolk Island**	**46.54**	**122**	P	**P**	**23 18 44.7**	**+0.6**
	baz=46						
MJAR	**Matsushiro Arr**	**46.68**	**16**	P	**P**	**23 18 44.4**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=186,slow=8.8,SNR=5.5						
	comp=Z,1.0nm,0.5s						
LZH	**Lanzhou**	**47.85**	**338**	*e*P	**P**	**23 18 55.8**	**+1.5**
LZH				pP	sP	23 19 00.1	+1.8
LZH				sP	pP	23 19 02.7	+5.5
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
JIRN	**Jiri**	**50.79**	**316**	*e*P	**P**	**23 19 17.9**	**+0.7**
	comp=Z,22nm,0.9s						
GUN	**Gumba**	**51.16**	**316**	*e*P	**P**	**23 19 21.2**	**+1.2**
	comp=Z,46nm,1.0s						
PKI	**Pulchoki**	**51.27**	**315**	*e*P	**P**	**23 19 20.3**	**-0.5**
	comp=Z,11nm,0.7s						
GKN	**Gorkha**	**52.07**	**315**	*e*P	**P**	**23 19 26.7**	**+0.1**
	comp=Z,33nm,1.2s						
KOLN	**Koldanda**	**52.66

KURK	**Kurchatov**	**70.40**	**332**	P	**P**	**23 21 28.6**	**-1.6**
KURK				IAmb	IAmb	23 21 35.4	
comp=Z,8.6nm,1.2s							
H04N2	**CROZET ISLANDS**	**71.40**	**224**	T	T	00 39 14.5	
baz=81,slow=75,SNR=65							
H04N3	**CROZET ISLANDS**	**71.42**	**224**	T	T	00 39 13.5	
baz=81,slow=75,SNR=63							
H04N1	**CROZET ISLANDS**	**71.42**	**224**	T	T	00 39 13.9	
baz=81,slow=75,SNR=59							
MAW	**Mawson**	**71.45**	**201**	P	**P**	**23 21 35.8**	**-0.5**
MAW	**Mawson**	**71.45**	**201**	P	**P**	**23 21 37.5**	**+1.1**
comp=Z,3.3nm,0.8s,baz=63,slow=6.5,SNR=5.7							
MAW				LR	LR	23 50 46.9	
comp=Z,99nm,18.1s,baz=52,slow=34							
comp=Z,3.3nm,0.8s							
VNDA	**Vanda**	**72.03**	**172**	P	**P**	**23 21 41.8**	**+2.0**
baz=328,slow=7.2							
SEY	**Seymchan**	**74.38**	**13**	P	**P**	**23 21 54.7**	**+0.9**
comp=Z,2.0nm,0.3s,baz=218,slow=9.4,SNR=4.9							
comp=Z,2.0nm,0.3s							
RAR	**Rarotonga**	**74.73**	**110**	LR	LR	23 53 56.6	
comp=Z,30nm,21.4s,baz=360,slow=35							
BVAR	**Borovoye Array**	**75.83**	**330**	P	**P**	**23 22 02.2**	**-0.2**
comp=Z,2.2nm,1.0s,baz=163,slow=5.4,SNR=3.5							
comp=Z,2.2nm,1.0s							
BRVK	**Borovoye**	**75.90**	**330**	P	**P**	**23 22 02.8**	**+0.1**
BRVK				IAmb	IAmb	23 22 27.9	
comp=Z,6.9nm,1.1s							
GEYT	**Alibeck**	**76.20**	**312**	P	**P**	**23 22 02.1**	**-2.8**
GEYT	**Alibeck**	**76.20**	**312**	P	**P**	**23 22 05.3**	**+0.4**
comp=Z,0.6nm,0.6s,baz=66,slow=3.5,SNR=1.8							
GEYT				LR	LR	00 00 09.3	
comp=Z,79nm,21.7s,baz=74,slow=39							
comp=Z,0.6nm,0.6s							
GYA0B	**ALIBECK ARRAY**	**76.20**	**312**	P	**P**	**23 22 02.5**	**-2.4**
GYA0B				IAmb	IAmb	23 22 21.6	
comp=Z,4.8nm,0.8s							
TIXI	**Tiksi**	**79.84**	**2**	P	**P**	**23 22 24.0**	**-0.3**
TIXI				IAmb	IAmb	23 22 52.8	
comp=Z,8.8nm,1.0s							
AKTO	**Aktyubinsk**	**81.22**	**324**	P	**P**	**23 22 32.1**	**0.0**
comp=Z,3.8nm,0.9s,baz=112,slow=4.8,SNR=5.9							
AKTO				LR	LR	00 02 07.9	
comp=Z,78nm,21.4s,baz=46,slow=38							
comp=Z,3.8nm,0.9s							
QSPA	**South Pole Qui**	**81.71**	**180**	P	**P**	**23 22 34.9**	**+0.2**
QSPA	**South Pole Qui**	**81.71**	**180**	P	**P**	**23 22 36.8**	**+2.1**
comp=Z,9.7nm,1.0s,baz=317,slow=2.5,SNR=15							
comp=Z,9.7nm,1.0s							
ELIB	**Princess Elisa**	**85.32**	**198**	*d*P	**P**	**23 22 52.4**	**-0.8**
comp=Z,7.5nm,1.1s							
KMBO	**Kilima Mbogo**	**86.12**	**269**	LR	LR	23 55 51.1	
comp=Z,98nm,22.0s,baz=97,slow=32							
BELG	**Belogornoye**	**87.99**	**324**	LR	LR	00 07 45.3	
comp=Z,83nm,21.2s,baz=153,slow=39							
KIRV	**Kirov**	**88.83**	**330**	LR	LR	00 08 33.9	
comp=Z,62nm,19.9s,baz=111,slow=40							
KBZ	**Khabaz**	**88.93**	**314**	LR	LR	00 09 42.7	
comp=Z,32nm,21.7s,baz=62,slow=40							
SNAA	**Sanae**	**92.86**	**195**	P	**P**	**23 23 27.5**	**-1.3**
SNAA				IAmb	IAmb	23 23 39.9	
comp=Z,6.0nm,1.2s							
SNAA	**Sanae**	**92.86**	**195**	P	**P**	**23 23 30.5**	**+1.6**
comp=Z,1.0nm,0.8s,baz=42,slow=2.8,SNR=5.1							
comp=Z,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**122.71**	**280**	PKP	**PKPdf**	**23 29 12.2**	**-1.1**
comp=Z,0.4nm,0.6s,baz=68,slow=3.1,SNR=2.6							
CPUP	**Villa Florida**	**145.59**	**179**	PKPbc	**PKiKP**	**23 29 57.5**	**-2.0**
comp=Z,5.4nm,0.9s,baz=164,slow=4.1,SNR=7.6							
LPAZ	**La Paz**	**153.01**	**155**	PKPbc	**PKiKP**	**23 30 18.4**	**+2.6**
comp=Z,2.0nm,0.8s,baz=141,slow=5.4,SNR=4.7							

*IDC **10** 23:31:45.2±1.2, 37.°09N×105.°03W, h0km, mbtmp3.3/4, ML3.2/4, Error ellipse: s-maj=29.0km s-min=10.6km az=80.0*

*ANF **10** 23:31:45.4±0.3, 37.°06N×104.°97W, h0km, ML4.0/19, Error ellipse: s-maj=3.4km s-min=3.0km az=117.0*

*NEIC **10** 23:31:45.4±2.0, 37.°04N±0.°03×104.°90W±0.°06, h6km±7km, mb_Lg3.4/125, ML3.4/84, Mwr3.4/7(SLM), Error ellipse: s-maj=7.3km s-min=4.0km az=116.0*

*NEIC **10** 23:31:45, 37.°03N×104.°90W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.03; $M_{\theta\theta}$0.64; $M_{\phi\phi}$0.39; $M_{r\theta}$-0.25; $M_{\theta\phi}$-0.67; $M_{\phi r}$0.85; Fault plane solution: $M_0$1.43000×10^{14} NP1:ϕ_s289.00000°, δ32.00000°, λ-126.00000°. NP2:ϕ_s150.00000°, δ65.00000°, λ-70.00000°. Principal axes: T 1.4297, Plg18.0000°, Azm225.0000°; N 0.0002, Plg18.0000°, Azm321.0000°; P -1.4299, Plg64.0000°, Azm94.0000°;*

ISC 10 23:31:44.7±1.3, 37.°09N±0.°03×104.°93W±0.°02, h1km±11km, n149, σ1§50/151, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.42**	**83**	Pg	**Pg**	**23 31 53.9**	**+1.1**
T25A				Sg	**Sb**	**23 31 59.6**	**-2.4**
T25A				IAML		23 32 00.1	
comp=N,6μm,0.4s							
T25A	**Trinidad**	**0.42**	**83**	P	**Pg**	**23 31 53.8**	**+1.1**
baz=254							
T25A				S	**Sb**	**23 31 59.8**	**-2.1**
baz=254							
SDCO	**Great Sand Dun**	**0.80**	**325**	Pg	**Pg**	**23 31 60.0**	**0.0**
SDCO				Sg	**Sg**	**23 32 10.6**	**+0.3**
SDCO	**Great Sand Dun**	**0.80**	**325**	P	**Pg**	**23 31 60.0**	**0.0**
baz=146,SNR=149							
SDCO				S	**Sg**	**23 32 10.8**	**+0.5**
baz=146							
SDCO	**Great Sand Dun**	**0.80**	**325**	P	**Pg**	**23 32 00.1**	**+0.2**
baz=146,SNR=149							
SDCO				S	**Sg**	**23 32 10.9**	**+0.6**
baz=146							
S22A	**4UR Ranch, Cre**	**1.65**	**294**	Pn	**Pn**	**23 32 15.0**	**-0.1**
S22A				IAML		23 32 42.3	
comp=E,310nm,0.6s							
S22A	**4UR Ranch, Cre**	**1.65**	**294**	P	**Pn**	**23 32 15.4**	**+0.3**
baz=115,SNR=386							
S22A				S	**Sn**	**23 32 36.8**	**-0.3**
baz=115							
Q24A	**Divide**	**1.88**	**355**	P	**Pn**	**23 32 20.1**	**+1.8**
baz=174							
Q24A				S	**Sb**	**23 32 44.8**	**+0.7**
baz=174							
ANMO	**Albuquerque**	**2.48**	**211**	Pn	**Pn**	**23 32 26.1**	**-0.2**
ANMO	**Albuquerque**	**2.48**	**211**	P	**Pn**	**23 32 26.7**	**+0.3**
baz=31							
ANMO	**Albuquerque**	**2.48**	**211**	P	**Pn**	**23 32 26.7**	**+0.3**
baz=31,SNR=73							
ANMO				S	**Sn**	**23 32 59.1**	**+1.7**
baz=31							
ANMO	**Albuquerque**	**2.48**	**211**	Pn	**Pn**	**23 32 26.6**	**+0.3**
comp=E,11nm,0.3s,baz=105,slow=13,SNR=56							
ANMO				Sn	**Sn**	**23 32 58.3**	**+1.0**
comp=E,10nm,0.3s,baz=193,slow=12,SNR=3.6							
comp=E,30nm,0.3s							
SMCO	**Snowmass**	**2.63**	**323**	Pn	**Pn**	**23 32 30.5**	**+1.8**
SMCO				IAML		23 33 14.1	
comp=E,194nm,0.4s							
SMCO				IAML		23 33 17.6	
comp=E,152nm,0.6s							
KSCO	**Kaye Shedlock'**	**2.64**	**43**	Pn	**Pn**	**23 32 28.6**	**0.0**
KSCO	**Kaye Shedlock'**	**2.64**	**43**	P	**Pb**	**23 32 31.5**	**-1.4**
baz=223							
KSCO				Sb	**Sb**	**23 33 07.9**	**+2.1**
baz=223							
KSCO	**Kaye Shedlock'**	**2.64**	**43**	P	**Pb**	**23 32 31.8**	**-1.1**
baz=223,SNR=14							
KSCO				S	**Sb**	**23 33 08.0**	**+2.1**
baz=223							
ISCO	**Idaho Springs**	**2.76**	**349**	Pn	**Pn**	**23 32 32.1**	**+1.7**
ISCO	**Idaho Springs**	**2.76**	**349**	P	**Pn**	**23 32 33.2**	**+2.9**
baz=168							
ISCO				Sb	**Sb**	**23 33 11.6**	**+2.2**
baz=168							
ISCO	**Idaho Springs**	**2.76**	**349**	P	**Pn**	**23 32 33.2**	**+2.9**
baz=168,SNR=43							
ISCO				S	**Sb**	**23 33 11.6**	**+2.2**
baz=168							
MVCO	**Mesa Verde**	**2.85**	**273**	Pn	**Pn**	**23 32 33.0**	**+1.4**
MVCO	**Mesa Verde**	**2.85**	**273**	P	**Pn**	**23 32 32.7**	**+1.0**
baz=92,SNR=110							
MVCO				Sb	**Sb**	**23 33 13.4**	**+1.2**
baz=92							
Y22F	**Passcal Instru**	**3.42**	**209**	Sb	**Sb**	**23 33 29.4**	**+1.1**
baz=28							
Y22D	**IRIS PASSCAL I**	**3.42**	**209**	Pn	**Pn**	**23 32 38.8**	**-0.5**
Y22D	**IRIS PASSCAL I**	**3.42**	**209**	Sb	**Sb**	**23 33 29.7**	**+1.4**
baz=28							
Y22D	**IRIS PASSCAL I**	**3.42**	**209**	Sb	**Sb**	**23 33 29.8**	**+1.4**
baz=28							
AMTX	**Amarillo**	**3.43**	**129**	Pn	**Pn**	**23 32 40.1**	**+0.6**
AMTX				IAmb_Lg		23 33 39.0	
comp=Z,105nm,0.7s							
AMTX	**Amarillo**	**3.43**	**129**	P	**Pn**	**23 32 40.1**	**+0.6**
baz=310							
AMTX				Sb	**Sb**	**23 33 29.8**	**+1.1**
baz=310							
AMTX	**Amarillo**	**3.43**	**129**	P	**Pn**	**23 32 40.4**	**+1.0**
baz=310,SNR=8.0							
AMTX				Sb	**Sb**	**23 33 29.8**	**+1.1**
baz=310							
BRIGG	**Briggsdale**	**3.52**	**8**	Pn	**Pn**	**23 32 42.9**	**+2.2**
BRIGG				IAmb_Lg		23 33 45.0	
comp=Z,77nm,0.8s							
Y22A	**Socorro**	**3.56**	**208**	P	**Pn**	**23 32 41.3**	**0.0**
baz=28,SNR=44							
MSTX	**Muleshoe**	**3.58**	**150**	Pn	**Pn**	**23 32 40.9**	**-0.6**
MSTX				IAmb_Lg		23 33 45.0	
comp=Z,86nm,0.8s							
MSTX	**Muleshoe**	**3.58**	**150**	Sb	**Sb**	**23 33 33.6**	**+0.7**
baz=331							
MSTX	**Muleshoe**	**3.58**	**150**	Sb	**Sb**	**23 33 33.4**	**+0.5**
baz=331							
O20A	**White River Ci**	**4.00**	**321**	Pn	**Pn**	**23 32 49.4**	**+2.1**
O20A				IAML		23 33 40.0	
comp=E,29nm,0.6s							
O20A				IAML		23 33 40.0	
comp=N,31nm,0.8s							
O20A	**White River Ci**	**4.00**	**321**	P	**Pn**	**23 32 50.6**	**+3.3**
baz=139							
W18A	**Petrified Fore**	**4.36**	**245**	Sb	**Sb**	**23 33 56.0**	**+0.5**
baz=63							
CBKS	**Cedar Bluff**	**4.45**	**66**	Pn	**Pn**	**23 32 54.4**	**+1.1**
CBKS	**Cedar Bluff**	**4.45**	**66**	P	**Pn**	**23 32 54.0**	**+0.7**
baz=248,SNR=5.3							
CBKS				Sb	**Sb**	**23 34 01.5**	**+3.7**
baz=248							
CBKS	**Cedar Bluff**	**4.45**	**66**	P	**Pn**	**23 32 54.6**	**+1.2**
baz=248,SNR=5.3							
CBKS				S	**Sn**	**23 33 46.6**	**+0.7**
baz=248							
OGNE	**Ogallala**	**4.46**	**29**	Pn	**Pn**	**23 32 55.2**	**+1.6**
OGNE				IAmb_Lg		23 34 11.0	
comp=Z,89nm,0.8s							
OGNE	**Ogallala**	**4.46**	**29**	P	**Pn**	**23 32 55.4**	**+1.9**
baz=211,SNR=8.3							
OGNE				Sb	**Sb**	**23 34 00.6**	**+2.4**
baz=211							
OGNE	**Ogallala**	**4.46**	**29**	P	**Pn**	**23 32 56.2**	**+2.7**
baz=211,SNR=8.3							
ELIS	**Ellis County**	**4.55**	**101**	Pn	**Pn**	**23 32 55.8**	**+1.0**
DKNS	**Dickens**	**4.73**	**135**	Pn	**Pn**	**23 32 58.0**	**+0.7**
DKNS				IAML		23 34 15.2	
comp=Z,194nm,0.8s							
DKNS				IAML		23 34 17.0	
comp=Z,191nm,0.6s							
DKNS				IAmb_Lg		23 34 20.4	
comp=Z,66nm,0.7s							
U32A	**Winter Ranch,**	**4.81**	**97**	Pn	**Pn**	**23 32 58.5**	**+0.2**
U32A	**Winter Ranch,**	**4.81**	**97**	P	**Pn**	**23 32 59.7**	**+1.3**
baz=280							
X18A	**Snowflake**	**4.82**	**239**	Pn	**Pn**	**23 32 59.5**	**+0.9**
X18A				IAML		23 34 19.9	
comp=E,58nm,0.8s							
NOKA	**Waynoka**	**4.83**	**94**	Pn	**Pn**	**23 32 59.3**	**+0.7**
NOKA				IAmb_Lg		23 34 31.8	
comp=Z,55nm,0.8s							
POST	**Post**	**4.90**	**144**	Pn	**Pn**	**23 32 58.9**	**-0.7**
POST				IAmb_Lg		23 34 31.2	
comp=Z,36nm,0.7s							
OK035	**E0210 Rd and N**	**5.00**	**93**	Pn	**Pn**	**23 33 01.1**	**+0.1**
OK035				IAmb_Lg		23 34 27.6	
comp=Z,80nm,0.7s							
RDMU	**Red Mountain**	**5.02**	**315**	Pn	**Pn**	**23 33 01.8**	**+0.4**
RDMU				IAML		23 34 32.2	
comp=E,12nm,0.6s							
R32A	**Long Quarter,**	**5.10**	**73**	Pn	**Pn**	**23 33 02.9**	**+0.6**
121A	**Cookes Peak, D**	**5.12**	**208**	Pn	**Pn**	**23 33 01.6**	**-1.1**
121A				IAML		23 34 39.8	
comp=E,27nm,1.5s							
121A				IAML		23 34 39.8	
comp=N,29nm,1.3s							
121A	**Cookes Peak, D**	**5.12**	**208**	P	**Pn**	**23 33 03.0**	**+0.3**
baz=27							
121A	**Cookes Peak, D**	**5.12**	**208**	P	**Pn**	**23 33 02.9**	**+0.1**
baz=27,SNR=18							
CSTR	**Hydro, Custer**	**5.24**	**104**	Pn	**Pn**	**23 33 02.4**	**-1.8**
ODSA	**Odessa**	**5.33**	**158**	Pn	**Pn**	**23 33 04.2**	**-1.4**
ODSA				IAmb_Lg		23 34 42.4	
comp=Z,40nm,1.1s							
SN01	**Snyder 1**	**5.37**	**141**	Pn	**Pn**	**23 33 05.1**	**-0.9**
SN01				IAML		23 34 39.7	
comp=Z,126nm,0.6s							
SN01				IAML		23 34 40.4	
comp=Z,103nm,0.7s							
SN01				IAmb_Lg		23 34 48.7	
comp=Z,28nm,0.8s							
OK032	**Salt Plains WL**	**5.39**	**91**	Pn	**Pn**	**23 33 05.7**	**-0.5**
OK032				IAmb_Lg		23 34 48.1	
comp=Z,46nm,0.7s							
MNTX	**Cornudas Mount**	**5.39**	**184**	Sb	**Sb**	**23 34 28.4**	**+3.4**
baz=4.1							
WUAZ	**Wupatki**	**5.44**	**255**	Pn	**Pn**	**23 33 06.7**	**-0.3**
WUAZ	**Wupatki**	**5.44**	**255**	P	**Pn**	**23 33 07.5**	**+0.4**
baz=72,SNR=7.0							
WUAZ				Sb	**Sb**	**23 34 29.8**	**+3.4**
baz=72							
APMT	**Aspermont**	**5.44**	**132**	IAmb_Lg		23 34 39.7	
comp=Z,127nm,0.9s							
WMOK	**Wichita Mounta**	**5.51**	**113**	Pn	**Pn**	**23 33 08.0**	**0.0**
WMOK	**Wichita Mounta**	**5.51**	**113**	Sb	**Sb**	**23 34 33.9**	**+5.4**
baz=296							
KAN08	**Anthony NE Sta**	**5.56**	**87**	Pn	**Pn**	**23 33 08.4**	**-0.2**
KAN08				IAmb_Lg		23 34 54.7	
comp=Z,66nm,0.8s							
KAN14	**Manchester OK**	**5.58**	**89**	Pn	**Pn**	**23 33 08.9**	**+0.1**
CROK	**Carrier**	**5.60**	**94**	Pn	**Pn**	**23 33 07.8**	**-1.4**
CROK				IAmb_Lg		23 34 51.6	
comp=Z,77nm,0.9s							
KAN05	**Bluff City Nor**	**5.64**	**88**	Pn	**Pn**	**23 33 08.3**	**-1.4**
KAN05				IAmb_Lg		23 34 50.9	
comp=Z,65nm,0.8s							
KAN06	**Argonia West S**	**5.65**	**86**	Pn	**Pn**	**23 33 07.6**	**-2.2**
KAN06				IAmb_Lg		23 34 48.0	
comp=Z,72nm,1.0s							
GC02	**Grant County #**	**5.67**	**90**	Pn	**Pn**	**23 33 08.6**	**-1.5**
KAN17	**Caldwell West**	**5.73**	**88**	Pn	**Pn**	**23 33 09.1**	**-1.8**
KAN01	**Argonia South**	**5.73**	**87**	Pn	**Pn**	**23 33 09.7**	**-1.2**
PECS	**Pecos**	**5.78**	**171**	Pn	**Pn**	**23 33 09.8**	**-1.8**
PECS				IAmb_Lg		23 34 55.1	
comp=Z,37nm,0.9s							
MTPU	**Mount Pierson**	**5.84**	**282**	Pn	**Pn**	**23 33 12.7**	**-0.1**
KAN09	**Caldwell North**	**5.84**	**87**	Pn	**Pn**	**23 33 12.0**	**-0.4**
KAN09				IAmb_Lg		23 34 59.3	
comp=Z,82nm,1.0s							
KS20	**Mayfield South**	**5.89**	**86**	Pn	**Pn**	**23 33 13.1**	**0.0**
KS20				IAmb_Lg		23 34 53.4	
comp=Z,82nm,0.8s							
PKCU	**Pink Cliffs**	**5.90**	**276**	Pn	**Pn**	**23 33 13.2**	**-0.4**
MSU	**Marysvale**	**5.91**	**286**	Pn	**Pn**	**23 33 13.5**	**-0.1**
KS23	**Northwest Mank**	**5.92**	**60**	Pn	**Pn**	**23 33 11.8**	**-1.8**
X16A	**Lo Mia Camp, P**	**5.93**	**245**	Pn	**Pn**	**23 33 12.6**	**-1.2**
U15A	**North Rim**	**5.95**	**266**	Pn	**Pn**	**23 33 14.9**	**+0.7**
KAN13	**South Haven SW**	**5.96**	**89**	Pn	**Pn**	**23 33 13.2**	**-0.9**
KAN13				IAmb_Lg		23 35 03.6	
comp=Z,74nm,0.9s							
SGCY	**Sterling City**	**6.04**	**148**	Pn	**Pn**	**23 33 14.1**	**-1.2**
SGCY				IAmb_Lg		23 35 10.6	
comp=Z,41nm,0.7s							
TCRU	**Three Creeks R**	**6.14**	**287**	Pn	**Pn**	**23 33 18.3**	**+1.5**
ABTX	**Abilene, Hawle**	**6.22**	**134**	Pn	**Pn**	**23 33 16.5**	**-1.3**
ABTX				IAmb_Lg		23 35 12.7	
comp=Z,46nm,1.0s							
ABTX	**Abilene, Hawle**	**6.22**	**134**	Sb	**Sb**	**23 34 53.8**	**+4.9**
baz=317							
WTFS	**Witchita Falls**	**6.23**	**120**	Pn	**Pn**	**23 33 17.2**	**-0.7**
WTFS				IAmb_Lg		23 35 07.9	
comp=Z,30nm,0.9s							
OKCSW	**OKLAHOMA CITY**	**6.28**	**103**	Pn	**Pn**	**23 33 18.1**	**-0.4**
NLU	**North Lily Min**	**6.29**	**299**	Pn	**Pn**	**23 33 17.5**	**-1.3**
425A	**Indio Mountain**	**6.29**	**180**	Pn	**Pn**	**23 33 17.5**	**-1.3**
OK048	**Pawnee Station**	**6.45**	**94**	Pn	**Pn**	**23 33 19.1**	**-1.6**
OK033	**Mehan**	**6.51**	**97**	Pn	**Pn**	**23 33 20.8**	**-0.9**
OK051	**E0350 and S346**	**6.52**	**93**	IAmb_Lg		23 35 17.4	
comp=Z,65nm,0.9s							
SZCU	**Shurtz Canyon**	**6.52**	**277**	Pn	**Pn**	**23 33 23.4**	**+1.4**
OK031	**S. Brethren Rd**	**6.61**	**97**	Pn	**Pn**	**23 33 22.9**	**-0.2**
OK031				IAmb_Lg		23 35 28.8	
comp=Z,47nm,1.2s							
OK052	**Battle Ridge R**	**6.63**	**97**	Pn	**Pn**	**23 33 22.2**	**-1.2**
LCMT	**Little Creek M**	**6.65**	**272**	Pn	**Pn**	**23 33 24.0**	**+0.3**
QUOK	**Quay**	**6.67**	**95**	Pn	**Pn**	**23 33 22.6**	**-1.3**
PDAR	**Pinedale Array**	**6.69**	**329**	Pn	**Pn**	**23 33 26.3**	**+1.9**
PDAR	**Pinedale Array**	**6.69**	**329**	Pn	**Pn**	**23 33 27.4**	**+3.1**
comp=Z,0.2nm,0.3s,baz=136,slow=17,SNR=5.6							
PDAR				Pg	Pg	23 33 49.3	-3.6
comp=Z,0.5nm,0.3s,baz=138,slow=16,SNR=14							
PDAR				Lg	Lg	23 35 14.1	
comp=Z,0.2nm,0.3s,baz=130,slow=26,SNR=2.5							
comp=Z,0.4nm,0.3s							
T35A	**Sooner Cattle**	**6.74**	**89**	Pn	**Pn**	**23 33 24.9**	**+0.1**
T35A				IAmb_Lg		23 35 21.8	
comp=Z,70nm,0.9s							
ALPN	**Alpine**	**6.79**	**171**	IAmb_Lg		23 35 26.2	
comp=Z,45nm,1.2s							
W35A	**Tecumseh**	**6.80**	**104**	IAmb_Lg		23 35 29.1	
comp=Z,38nm,1.0s							
N33A	**J Bar K, Exete**	**6.87**	**56**	Pn	**Pn**	**23 33 26.5**	**-0.2**
DEOK	**Depew**	**6.91**	**98**	Pn	**Pn**	**23 33 24.9**	**-2.2**
OZNA	**Ozona**	**6.92**	**152**	IAmb_Lg		23 35 29.7	
comp=Z,40nm,1.0s							
FW03	**Perrin-Whitt E**	**6.93**	**124**	Pn	**Pn**	**23 33 26.3**	**-1.1**
FW03				IAmb_Lg		23 35 35.5	
comp=Z,16nm,0.7s							
LOOK	**Love County**	**7.03**	**114**	Pn	**Pn**	**23 33 29.2**	**+0.4**
LOOK				IAmb_Lg		23 35 42.3	
comp=Z,33nm,0.8s							
RSSD	**Black Hills**	**7.05**	**5**	Pn	**Pn**	**23 33 29.6**	**+0.3**
RSSD				IAmb_Lg		23 35 35.5	
comp=Z,34nm,0.9s							
RSSD	**Black Hills**	**7.05**	**5**	P	**Pn**	**23 33 31.0**	**+1.7**
baz=186							
FW06	**Azle**	**7.31**	**122**	IAmb_Lg		23 35 39.8	
comp=Z,29nm,1.0s							
Z35A	**Perchaven, San**	**7.32**	**119**	IAmb_Lg		23 35 48.7	
comp=Z,28nm,0.9s							
FW07	**Weatherford**	**7.32**	**125**	IAmb_Lg		23 35 52.9	
comp=Z,18nm,0.9s							
AHID	**Auburn Hatcher**	**7.39**	**322**	Pn	**Pn**	**23 33 34.6**	**+0.7**
TUL3	**Leonard**	**7.45**	**96**	Pn	**Pn**	**23 33 34.6**	**0.0**
TUL3	**Leonard**	**7.45**	**96**	P	**Pn**	**23 33 35.4**	**+0.8**
baz=281							
SAND	**Sanderson**	**7.49**	**161**	Pn	**Pn**	**23 33 34.8**	**-0.4**
SAND				IAmb_Lg		23 35 53.8	
comp=Z,28nm,0.8s							
W13A	**Hualapai Mount**	**7.52**	**257**	Pn	**Pn**	**23 33 36.4**	**+0.7**
BRDY	**Brady**	**7.59**	**138**	Pn	**Pn**	**23 33 35.2**	**-1.4**
BRDY				IAmb_Lg		23 35 57.0	
comp=Z,30nm,0.9s							
FW13	**Cleburne**	**7.77**	**125**	IAmb_Lg		23 36 08.4	
comp=Z,15nm,0.7s							
TX31	**Lajitas Ar. Si**	**7.81**	**172**	Pn	**Pn**	**23 33 39.0**	**-0.6**
TX32	**Lajitas Array**	**7.81**	**172**	Pn	**Pn**	**23 33 39.5**	**-0.1**
TXAR	**Lajitas Array**	**7.81**	**172**	Pn	**Pn**	**23 33 37.2**	**-2.4**
TXAR	**Lajitas Array**	**7.81**	**172**	Pn	**Pn**	**23 33 41.5**	**+1.9**
comp=Z,0.2nm,0.3s,baz=359,slow=12,SNR=6.8							
TXAR				Pg	**Pb**	**23 34 00.6**	**-0.4**
comp=Z,0.4nm,0.3s,baz=356,slow=11,SNR=7.6							
TXAR				Lg	Lg	23 35 46.4	
comp=Z,1.2nm,0.3s,baz=347,slow=27,SNR=12							
comp=Z,0.2nm,0.3s							
JCT	**Junction City**	**7.85**	**146**	IAmb_Lg		23 36 06.1	
comp=Z,41nm,0.8s							
FW14	**Alvarado**	**7.90**	**124**	IAmb_Lg		23 36 07.1	
comp=Z,26nm,0.9s							
WHTX	**Lake Whitney,**	**7.99**	**127**	IAmb_Lg		23 36 18.1	
comp=Z,32nm,1.1s							
RLO	**Rose Lookout**	**8.02**	**94**	Pn	**Pn**	**23 33 41.3**	**-1.1**
RLO				IAmb_Lg		23 36 19.8	
comp=Z,26nm,0.8s							
FW16	**Waxahatchie**	**8.05**	**122**	IAmb_Lg		23 35 56.9	
comp=Z,31nm,0.8s							
V12A	**Nelson**	**8.12**	**263**	Pn	**Pn**	**23 33 43.3**	**-0.5**
N35A	**Tabor**	**8.15**	**60**	Pn	**Pn**	**23 33 42.9**	**-1.3**
X37A	**Clayton**	**8.15**	**105**	Pn	**Pn**	**23 33 42.8**	**-1.4**
X37A				IAmb_Lg		23 36 24.1	
comp=Z,48nm,0.8s							
DRIO	**Del Rio**	**8.46**	**154**	IAmb_Lg		23 36 28.8	
comp=Z,41nm,1.1s							
U38A	**Gravette**	**8.49**	**91**	Pn	**Pn**	**23 33 48.2**	**-0.6**
R11B	**Troy Canyon, C**	**8.54**	**282**	Pn	**Pn**	**23 33 50.0**	**+0.4**
HNDO	**Hondo**	**8.90**	**146**	IAmb_Lg		23 36 44.4	
comp=Z,34nm,1.0s							
237A	**Washetta, Mont**	**9.07**	**121**	IAmb_Lg		23 36 44.7	
comp=Z,42

comp=N,20nm,0.7s
TPAW IAML 23 38 10.8
comp=N,28nm,1.1s
FXWY Fox Creek 4.33 274 Pn **Pn 23 36 41.3 +0.6**
DGMT Dagmar 4.99 7 Pn **Pn 23 36 49.6 0.0**
EGMT Eagleton 5.58 326 Pn **Pn 23 36 57.6 0.0**
MDND Maddock 5.78 40 Pn **Pn 23 37 02.2 +1.7**
ELMT Elliston 6.06 302 Pn **Pn 23 37 03.5 -0.9**
LYMT Lyon Mountain 6.16 307 Pn **Pn 23 37 04.9 -0.9**
CHMT Chamberlain Mo 6.71 303 Pn **Pn 23 37 12.1 -1.2**
I10CA LAC DU BONNET 9.11 40 I I 00 27 45.0
comp=N,0.1nm,1.4s,baz=223,slow=313,SNR=5.8
ULM Lac du Bonnet 9.22 40 Pn **Pn 23 37 46.5 -1.0**
comp=N,1.4nm,0.3s,baz=232,slow=10,SNR=8.3
ULM Lg Lg 23 40 23.9
comp=N,0.2nm,0.3s,baz=127,slow=11,SNR=3.0
comp=N,3.3nm,0.3s

*IDC **10** 23:55:45.6±0.9, 15°.81N×92°.65W, h103km±7km, mb3.9/11, mbtmp4.3/12, MS3.4/6, Error ellipse: s-maj=27.4km s-min=11.6km az=60.0*
*NEIC **10** 23:55:45.6±2.4, 15°.59N±0°.05×93°.23W±0°.05, h96km±7km, mb4.7/186, Md4.6/24(MEX), Error ellipse: s-maj=8.3km s-min=6.4km az=220.0*
*MEX **10** 23:55:45.5±0.6, 15°.59N×93°.30W, h101km±10km, MD4.6*
*GCG **10** 23:55:52.7±1.1, 15°.94N×92°.36W, h30km±309km, MD4.5*
ISC 10 23:55:44.9±0.5, 15°.59N±0°.04×93°.28W±0°.03, h100km±4km, h101km; pP-P, n482, σ1.87/478, mb4.6/70, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.13**	**25**				**Pn**	**23 55 58.2**	**-0.9**
PCIG							**Sn**	**23 56 09.7**	**+0.2**
PCIG		**0.13**	**25**	*i*	P		**Pn**	**23 55 58.2**	**-0.9**
PCIG				*i*	S		**Sn**	**23 56 09.7**	**+0.2**
CARR	**Arriaga**	**0.90**	**317**	*i*	P		**Pn**	**23 56 05.3**	**+1.0**
CARR				*i*	S		**Sn**	**23 56 20.6**	**+1.7**
PATR	**El Naranjo**	**1.11**	**115**	*e*	P		**Pn**	**23 56 06.5**	**-0.3**
PATR				*i*	S		**Sn**	**23 56 22.8**	**-0.6**
PAVE	**Pavencul**	**1.13**	**110**	*e*	P		**Pn**	**23 56 06.8**	**-0.3**
PAVE				*e*	S		**Sn**	**23 56 23.3**	**-0.4**
THIG		**1.19**	**125**	*e*	P		**Pn**	**23 56 06.7**	**-0.8**
THIG				*e*	S		**Sn**	**23 56 23.8**	**-0.7**
TGIG		**1.19**	**7**				**Pn**	**23 56 07.9**	**+0.2**
TGIG							**Sn**	**23 56 24.2**	**-0.6**
TGIG		**1.19**	**7**	*e*	P		**Pn**	**23 56 07.9**	**+0.2**
TGIG				*e*	S		**Sn**	**23 56 24.2**	**-0.6**
TGBT	**Tuxtla Gutierr**	**1.20**	**9**				**Pn**	**23 56 07.8**	**+0.2**
TGBT							**Sn**	**23 56 24.1**	**-0.6**
TGBT	**Tuxtla Gutierr**	**1.20**	**9**	*i*	P		**Pn**	**23 56 07.8**	**+0.2**
TGBT				*i*	S		**Sn**	**23 56 24.1**	**-0.6**
CHUJ	**Union Juarez**	**1.23**	**113**	*e*	P		**Pn**	**23 56 07.7**	**-0.5**
CHUJ				*i*	S		**Sn**	**23 56 25.3**	**-0.5**
CCIG	**Comitan**	**1.29**	**58**	Pn			**Pn**	**23 56 08.6**	**-0.4**
CCIG				Sn			**Sn**	**23 56 25.5**	**-1.6**
CCIG	**Comitan**	**1.29**	**58**	*e*	P		**Pn**	**23 56 08.4**	**-0.6**
CCIG				*e*	S		**Sn**	**23 56 26.9**	**-0.2**
NILT	**Santiago Nilte**	**1.61**	**307**	*i*	P		**Pn**	**23 56 14.2**	**+1.6**
NILT				*i*	S		**Sn**	**23 56 35.8**	**+2.1**
HUEH	**Huehuetenango**	**1.73**	**99**	Pn			**Pn**	**23 56 14.6**	**+0.3**
RTAL	**Retalhuleu**	**1.86**	**124**				**Pn**	**23 56 15.6**	**-0.1**
RTAL				Sn			**Sn**	**23 56 38.0**	**-1.1**
ST03	**Santiaguito 3,**	**1.86**	**118**	*e*	P		**Pn**	**23 56 16.9**	**+0.9**
UXUV	**UXUV**	**1.91**	**334**	*e*	P		**Pn**	**23 56 15.6**	**-0.9**
UXUV				*e*	S		**Sn**	**23 56 38.6**	**-1.8**
SULM	**Suchitepequez,**	**2.09**	**127**	*e*	P		**Pn**	**23 56 19.5**	**+0.8**
SULM				*e*	S		**Sn**	**23 56 44.4**	**-0.1**
FUG	**Fuego 3**	**2.61**	**115**	*e*	P		**Pn**	**23 56 27.1**	**+1.3**
FUG				*e*	S		**Sn**	**23 56 52.6**	**-4.4**
TUIG	**Tuzandepetl**	**2.67**	**336**	*e*	P		Pn	23 56 21.8	-4.5
TUIG				*e*	S		**Sn**	**23 56 52.1**	**-6.1**
HUIG	**Huatulco**	**2.73**	**274**				**Pn**	**23 56 26.4**	**-0.8**
HUIG							**Sn**	**23 56 55.2**	**-4.4**
HUIG	**Huatulco**	**2.73**	**274**	*e*	P		**Pn**	**23 56 26.4**	**-0.8**
HUIG				*i*	S		**Sn**	**23 56 55.2**	**-4.4**
NBG	**Las Nubes**	**3.00**	**109**	*e*	P		**Pn**	**23 56 32.5**	**+1.5**
NBG				*e*	S		**Sn**	**23 56 59.8**	**-6.6**
PANG	**Puerto Angel**	**3.08**	**272**	*e*	S		**Sn**	**23 57 04.1**	**-3.9**
NEUV	**Arroyo Zacate**	**3.21**	**311**	*e*	P		**Pn**	**23 56 34.8**	**+1.2**
NEUV				*e*	S		Sn	23 57 03.4	-7.7
PMUV	**Sontecomapan**	**3.43**	**329**	*e*	S		**Sn**	**23 57 11.5**	**-4.9**
OXLC	**Oaxaca**	**3.60**	**295**	*e*	P		**Pn**	**23 56 38.3**	**-0.7**
OXLC				*e*	S		Sn	23 57 13.2	-7.6
OXBJ	**Oaxaca**	**3.62**	**294**	*e*	P		**Pn**	**23 56 38.3**	**-1.0**
OXBJ				*e*	S		**Sn**	**23 57 14.0**	**-7.3**
VHO	**Vista Hermosa**	**3.63**	**294**	*e*	P		**Pn**	**23 56 37.1**	**-2.3**
VHO				*e*	S		**Sn**	**23 57 20.8**	**-0.7**
PEIG	**Puerto Escondi**	**3.75**	**277**				**Pn**	**23 56 40.1**	**-0.7**
PEIG							**Sn**	**23 57 21.7**	**-2.3**
PEIG	**Puerto Escondi**	**3.75**	**277**	*i*	P		**Pn**	**23 56 40.1**	**-0.7**
PEIG				*i*	S		**Sn**	**23 57 21.7**	**-2.3**
SCIG	**Sabancuy**	**3.91**	**30**	*e*	P		**Pn**	**23 56 41.8**	**-1.2**
SCIG				*e*	S		**Sn**	**23 57 26.4**	**-1.4**
MTO3	**Montecristo**	**3.96**	**107**	Pn			**Pn**	**23 56 42.9**	**-0.9**
YOIG	**Yosondua**	**4.29**	**288**	*e*	P		**Pn**	**23 56 46.5**	**-1.8**
YOIG				*e*	S		**Sn**	**23 57 33.2**	**-4.3**
SNET	**Serv Nac Est T**	**4.35**	**115**	Pn			**Pn**	**23 56 49.4**	**+0.4**
TOIG	**Toxpalan**	**4.40**	**305**	*e*	P		**Pn**	**23 56 47.9**	**-1.8**
TOIG				*e*	S		**Sn**	**23 57 37.9**	**-2.1**
TXIG	**Tlaxiaco**	**4.62**	**292**	*e*	P		**Pn**	**23 56 53.8**	**+1.0**
TXIG				*e*	S		**Sn**	**23 57 45.2**	**-0.2**
PNIG	**Pinotepa**	**4.73**	**280**	*e*	P		**Pn**	**23 56 53.6**	**-0.5**
PNIG				*e*	S		**Sn**	**23 57 43.1**	**-4.8**
TPIG	**Tehuac#an**	**4.82**	**306**	*e*	P		**Pn**	**23 56 55.9**	**+0.6**
TPIG				*e*	S		**Sn**	**23 57 50.8**	**+0.7**
HLIG	**Huajuapan de L**	**4.88**	**298**	*e*	P		**Pn**	**23 56 57.6**	**+1.4**
JAUV	**Jalcomulco**	**5.04**	**319**	*e*	P		**Pn**	**23 56 57.8**	**-0.5**
JAUV				*e*	S		**Sn**	**23 57 51.4**	**-4.0**
LVIG	**Laguna Verde**	**5.09**	**324**	*e*	P		**Pn**	**23 56 56.4**	**-2.4**
LVIG				*e*	S		**Sn**	**23 57 50.7**	**-5.7**
FTIG	**Fresnillo de T**	**5.19**	**297**	*e*	P		**Pn**	**23 57 00.3**	**-0.1**
FTIG				*e*	S		**Sn**	**23 57 58.6**	**-0.6**
TLIG	**Tlapa**	**5.44**	**292**	Pn			Pn	23 57 08.4	+4.6
TLIG	**Tlapa**	**5.44**	**292**	*e*	P		**Pn**	**23 57 04.1**	**+0.4**
TGUH	**Tegucigalpa,Un**	**6.00**	**104**	Pn			**Pn**	**23 57 11.9**	**+0.5**
PPM	**Popocatepetl**	**6.17**	**305**	*e*	P		**Pn**	**23 57 13.3**	**-0.7**
PPM				*e*	S		**Sn**	**23 58 23.1**	**-0.4**
DAIG	**Los Arroyos**	**6.29**	**284**	*e*	P		**Pn**	**23 57 13.1**	**-2.0**
DAIG				*e*	S		**Sn**	**23 58 20.1**	**-5.5**
MYIG	**Mrida**	**6.31**	**32**	*e*	P		**Pn**	**23 57 13.6**	**-1.8**
MYIG				*e*	S		**Sn**	**23 58 23.8**	**-2.3**
YAIG	**Yautepec**	**6.42**	**301**	*e*	P		**Pn**	**23 57 19.7**	**+2.6**
YAIG				*e*	S		**Sn**	**23 58 28.4**	**-0.7**
MEIG	**Mezcala**	**6.51**	**292**	*e*	P		**Pn**	**23 57 19.9**	**+1.6**
MEIG				*e*	S		**Sn**	**23 58 28.2**	**-2.9**
PLIG	**Platanillo**	**6.58**	**296**	*e*	P		**Pn**	**23 57 21.7**	**+2.5**
PLIG				*e*	S		**Sn**	**23 58 32.0**	**-0.8**
TEIG	**Tepich**	**6.63**	**45**	Pn			**Pn**	**23 57 17.7**	**-2.1**
TEIG	**Tepich**	**6.63**	**45**	P			**Pn**	**23 57 18.0**	**-1.8**
	3μm,0.4s,baz=21,slow=3.0,SNR=407								
TEIG				S			**Sn**	**23 58 25.5**	**-8.4**
	2μm,0.5s,baz=192,slow=19,SNR=1.8								
TEIG				LR			LR	00 00 28.8	
	comp=Z,2μm,19.5s,baz=2.0,slow=47								
CAIG	**El Cayaco**	**6.87**	**283**	*e*	P		**Pn**	**23 57 23.0**	**-0.1**
CAIG				*e*	S		**Sn**	**23 58 33.0**	**-6.8**
CNGN	**Cerro Negro**	**7.08**	**115**	Pn			**Pn**	**23 57 24.6**	**-1.4**
DEIG	**Demacu**	**7.21**	**311**	*e*	P		**Pn**	**23 57 28.3**	**+0.3**
ARIG	**Puente Sto Nin**	**7.28**	**293**	*e*	P		**Pn**	**23 57 28.9**	**+0.2**
ARIG				*e*	S		**Sn**	**23 58 48.9**	**-0.9**
CTUV	**Llano Grande**	**7.58**	**321**	*e*	P		**Pn**	**23 57 32.8**	**0.0**
CTUV				*e*	S		**Sn**	**23 58 53.9**	**-3.2**
MATN	**Matagalpa**	**7.60**	**109**	Pn			**Pn**	**23 57 33.0**	**-0.1**
BOAB	**BOACO BROADBAN**	**8.02**	**112**	Pn			**Pn**	**23 57 39.2**	**+0.5**
ZIIG	**Zihuatanejo**	**8.10**	**285**	*e*	P		**Pn**	**23 57 39.0**	**-0.8**
ZIIG				*e*	S		Sn	23 59 01.3	-8.5
ACON	**Acoyapa**	**8.65**	**114**	Pn			**Pn**	**23 57 47.2**	**-0.2**
ORTG	**Ortega, Santa**	**9.22**	**123**	Pn			**Pn**	**23 57 55.9**	**+0.7**
GTIG	**Gomez Farias**	**9.29**	**324**	*e*	P		**Pn**	**23 57 56.0**	**0.0**
GTIG				*e*	S		**Sn**	**23 59 34.6**	**-4.1**
DUNO	**Dulce Nombre,**	**9.36**	**125**	Pn			**Pn**	**23 57 55.8**	**-1.1**
JTS	**Las Juntas de**	**9.67**	**122**	Pn			**Pn**	**23 58 01.0**	**-0.3**
ARE1	**Arenal 1**	**9.77**	**120**	Pn			**Pn**	**23 58 00.5**	**-2.1**
SOCE	**Pocosol**	**9.89**	**120**	Pn			**Pn**	**23 58 03.2**	**-1.1**
JACO	**JACO, Garabito**	**10.26**	**124**	Pn			**Pn**	**23 58 10.2**	**+0.9**
SOR	**Soroa**	**12.06**	**52**	Pn			**Pn**	**23 58 30.6**	**-2.8**
833A	**Chaparral WMA,**	**13.88**	**337**	Pn			**Pn**	**23 58 57.4**	**+0.1**
833A	**Chaparral WMA,**	**13.88**	**337**	P			**Pn**	**23 58 59.4**	**+2.1**
	baz=155,SNR=11								
HKT	**Hockley**	**14.49**	**351**	Pn			**Pn**	**23 59 06.2**	**+1.1**
HNDO	**Hondo**	**14.94**	**339**	Pn			**Pn**	**23 59 10.5**	**-0.4**
441A	**DeRidder**	**15.09**	**0**				**Pn**	**23 59 12.6**	**-0.3**
DRIO	**Del Rio**	**15.34**	**335**	Pn			**Pn**	**23 59 16.9**	**+0.9**
DRIO				IAmb			IAmb	23 59 53.8	
	comp=Z,15nm,0.8s								
435B	**Jarrell**	**15.63**	**346**	Pn			**Pn**	**23 59 20.1**	**+0.5**
435B				IAmb			IAmb	23 59 56.3	
	comp=Z,38nm,0.8s								
435B	**Jarrell**	**15.63**	**346**	P			**Pn**	**23 59 21.3**	**+1.7**
	baz=164								
JCT	**Junction City**	**15.99**	**339**	Pn			**Pn**	**23 59 24.1**	**0.0**
JCT				IAmb			IAmb	00 00 03.1	
	comp=Z,25nm,0.8s								
JCT	**Junction City**	**15.99**	**339**	P			**P**	**23 59 26.3**	**+0.6**
	baz=156								
NATX	**Nacogdoches**	**16.15**	**356**	P			**Pn**	**23 59 27.2**	**+1.1**
	baz=175								
SAND	**Sanderson**	**16.45**	**332**				**Pn**	**23 59 30.9**	**+1.0**
SAND				IAmb			IAmb	23 59 34.7	
	comp=Z,28nm,0.8s								
BRDY	**Brady**	**16.48**	**342**	Pn			**Pn**	**23 59 30.1**	**-0.1**
BRDY				IAmb			IAmb	00 00 12.2	
	comp=Z,14nm,0.8s								
BRAL	**Brewton**	**16.52**	**19**	Pn			**Pn**	**23 59 30.0**	**-0.6**
BRAL	**Brewton**	**16.52**	**19**	P			**Pn**	**23 59 30.5**	**-0.1**
	baz=201								
DWPF	**Disney Wildern**	**16.60**	**39**	Pn			**Pn**	**23 59 28.9**	**-2.7**
DWPF	**Disney Wildern**	**16.60**	**39**	P			**Pn**	**23 59 30.2**	**-1.4**
	baz=224								
TX32	**Lajitas Array**	**16.70**	**327**				**P**	**23 59 35.3**	**+1.7**
TXAR	**Lajitas Array**	**16.70**	**327**				**P**	**23 59 35.2**	**+1.6**
TXAR	**Lajitas Array**	**16.70**	**327**	P			**P**	**23 59 36.2**	**+2.6**
	comp=Z,14nm,0.9s,baz=151,slow=11,SNR=57								
TX31	**Lajitas Ar. Si**	**16.70**	**327**				**P**	**23 59 35.6**	**+2.0**
TX31				IAmb			IAmb	23 59 39.9	
	comp=Z,48nm,0.9s								
VBMS	**Vicksburg**	**16.75**	**8**	Pn			**Pn**	**23 59 32.9**	**-0.5**
VBMS	**Vicksburg**	**16.75**	**8**	P			**Pn**	**23 59 33.4**	**+0.1**
	baz=189								
WHTX	**Lake Whitney,**	**16.77**	**348**				**Pn**	**23 59 34.3**	**+0.6**
WHTX				IAmb			IAmb	00 00 11.3	
	comp=Z,29nm,0.9s								
WHTX	**Lake Whitney,**	**16.77**	**348**	P			**P**	**23 59 35.9**	**+1.7**
	baz=166								
OZNA	**Ozona**	**16.87**	**336**				**P**	**23 59 36.9**	**+1.5**
OZNA				IAmb			IAmb	00 00 11.2	
	comp=Z,29nm,0.8s								
FW14	**Alvarado**	**17.11**	**349**				**Pn**	**23 59 38.7**	**+0.8**
FW14				IAmb			IAmb	00 00 19.9	
	comp=Z,32nm,0.9s								
FW13	**Cleburne**	**17.11**	**348**				**Pn**	**23 59 38.6**	**+0.7**
FW13				IAmb			IAmb	00 00 12.5	
	comp=Z,24nm,0.8s								
ALPN	**Alpine**	**17.52**	**329**	IAmb			IAmb	23 59 47.2	
	comp=Z,11nm,0.8s								
FW06	**Azle**	**17.74**	**348**	Pn			**Pn**	**23 59 47.0**	**+1.5**
FW06				IAmb			IAmb	23 59 54.9	
	comp=Z,19nm,0.8s								
SGCY	**Sterling City**	**17.76**	**338**	IAmb			IAmb	23 59 47.9	
	comp=Z,41nm,0.5s								
FW03	**Perrin-Whitt E**	**17.91**	**347**	IAmb			IAmb	00 00 22.3	
	comp=Z,61nm,1.1s								
ABTX	**Abilene, Hawle**	**17.92**	**342**	IAmb			IAmb	00 00 22.4	
	comp=Z,23nm,0.8s								
ABTX	**Abilene, Hawle**	**17.92**	**342**	P			**Pn**	**23 59 49.3**	**+1.6**
	baz=160,SNR=12								
WLAR	**White Oak Lake**	**18.02**	**0**				**P**	**23 59 48.7**	**+0.7**
WLAR				IAmb			IAmb	23 59 51.6	
	comp=Z,38nm,0.8s								
TIGA	**Tifton**	**18.09**	**28**	P			**P**	**23 59 48.4**	**-0.4**
	baz=211								
LRAL	**Lakeview Retre**	**18.28**	**17**	P			**P**	**23 59 50.5**	**-0.4**
LRAL	**Lakeview Retre**	**18.28**	**17**	P			**P**	**23 59 51.2**	**+0.3**
	baz=199,SNR=19								
PECS	**Pecos**	**18.45**	**330**	IAmb			IAmb	23 59 57.7	
	comp=Z,17nm,0.8s								
ODSA	**Odessa**	**18.50**	**334**	P			**Pn**	**23 59 55.4**	**+0.7**
ODSA				IAmb			IAmb	23 59 58.6	
	comp=Z,26nm,0.7s								
SN01	**Snyder 1**	**18.53**	**339**	IAmb			IAmb	00 00 02.0	
	comp=Z,37nm,0.7s								
425A	**Indio Mountain**	**18.54**	**327**	P			**Pn**	**23 59 56.5**	**+1.2**
LOOK	**Love County**	**18.66**	**350**	P			**P**	**23 59 55.5**	**+0.4**
LOOK				IAmb			IAmb	00 00 32.2	
	comp=Z,37nm,0.9s								
WTFS	**Witchita Falls**	**18.70**	**346**	IAmb			IAmb	00 00 38.4	
	comp=Z,26nm,0.8s								
APMT	**Aspermont**	**18.72**	**342**	IAmb			IAmb	00 00 42.0	
	comp=Z,26nm,0.8s								
MIAR	**Mount Ida**	**18.88**	**359**	P			**P**	**23 59 57.3**	**-0.1**
MIAR				IAmb			IAmb	00 00 03.0	
	comp=Z,46nm,0.8s								
MIAR	**Mount Ida**	**18.88**	**359**	P			**P**	**23 59 58.0**	**+0.6**
	baz=179,SNR=40								
POST	**Post**	**18.93**	**338**	IAmb			IAmb	00 00 07.0	
	comp=Z,19nm,0.8s								
X37A	**Clayton**	**19.02**	**355**	IAmb			IAmb	00 00 07.1	
	comp=Z,28nm,0.7s								
UALR	**University of**	**19.13**	**2**	P			**P**	**23 59 59.2**	**-0.8**
UALR				IAmb			IAmb	00 00 36.0	
	comp=Z,53nm,1.1s								
OXF	**Oxford**	**19.16**	**10**	P			**P**	**23 59 59.3**	**-1.2**
OXF	**Oxford**	**19.16**	**10**	P			**P**	**00 00 01.5**	**+1.0**
	baz=191,SNR=6.2								
Y49A	**Blount Mountai**	**19.22**	**18**	P			**P**	**23 59 59.6**	**-1.5**
DKNS	**Dickens**	**19.28**	**340**	IAmb			IAmb	00 00 10.3	
	comp=Z,39nm,0.7s								
MNTX	**Cornudas Mount**	**19.47**	**328**	P			**P**	**00 00 05.2**	**+1.3**
MNTX	**Cornudas Mount**	**19.47**	**328**	P			**Pn**	**00 00 06.3**	**+0.2**
	baz=143,SNR=10								
WMOK	**Wichita Mounta**	**19.70**	**346**	IAmb			IAmb	00 00 43.4	
	comp=Z,47nm,1.4s								
WMOK	**Wichita Mounta**	**19.70**	**346**	P			**P**	**00 00 06.9**	**+0.6**
	baz=164								
GOGA	**Godfrey**	**19.84**	**25**	IAmb			IAmb	00 00 22.2	
	comp=Z,36nm,1.1s								
GOGA	**Godfrey**	**19.84**	**25**	P			**P**	**00 00 06.8**	**-1.1**
	baz=209								
PLAL	**Pickwick Lake**	**19.87**	**13**	P			**P**	**00 00 06.6**	**-1.6**
PLAL				IAmb			IAmb	00 00 13.4	
	comp=Z,24nm,1.0s								
Y52A	**Lilburn**	**20.01**	**23**	P			**P**	**00 00 09.2**	**-0.5**
FPAL	**Fort Paine**	**20.09**	**19**	P			**P**	**00 00 09.3**	**-1.3**
MSTX	**Muleshoe**	**20.21**	**337**	IAmb			IAmb	00 00 17.1	
	comp=Z,26nm,0.7s								
MSTX	**Muleshoe**	**20.21**	**337**	P			**P**	**00 00 12.9**	**+0.9**
	baz=153,SNR=10								
FCAR	**Ozark Folk Cen**	**20.25**	**3**	IAmb			IAmb	00 00 51.4	
	comp=Z,27nm,0.7s								
TUL3	**Leonard**	**20.36**	**354**	P			**P**	**00 00 14.8**	**+1.3**
	baz=173,SNR=5.9								
DEOK	**Depew**	**20.38**	**352**	P			**P**	**00 00 13.5**	**-0.1**
DEOK				IAmb			IAmb	00 00 49.1	
	comp=Z,52nm,1.1s								
RLO	**Rose Lookout**	**20.55**	**356**	P			**P**	**00 00 15.6**	**+0.1**
RLO				IAmb			IAmb	00 00 24.7	
	comp=Z,33nm,0.9s								
HHAR	**Hobbs**	**20.62**	**358**	IAmb			IAmb	00 00 54.8	
	comp=Z,24nm,0.9s								
SWET	**Sewanee**	**20.63**	**17**	IAmb			IAmb	00 00 51.9	
	comp=Z,27nm,0.9s								
AMTX	**Amarillo**	**20.65**	**340**	P			**P**	**00 00 17.1**	**+0.5**
AMTX	**Amarillo**	**20.65**	**340**	P			**P**	**00 00 18.0**	**+1.4**
	baz=156								
WVT	**Waverly**	**21.03**	**12**	P			**P**	**00 00 19.5**	**-1.1**
WVT	**Waverly**	**21.03**	**12**	P			**P**	**00 00 20.5**	**-0.1**
	baz=195								
NHSC	**New Hope**	**21.10**	**32**	P			**P**	**00 00 20.8**	**-0.6**
	baz=217								
ELIS	**Ellis County**	**21.12**	**346**	P			**P**	**00 00 22.2**	**+0.6**
OTAV	**Otavalo**	**21.14**	**135**	P			**P**	**00 00 23.4**	**+0.9**
CROK	**Carrier**	**21.25**	**349**	P			**P**	**00 00 22.7**	**-0.4**
PULU	**Pululahua**	**21.26**	**135**	P			**P**	**00 00 25.0**	**+1.3**
CLTN	**Cedars of Leba**	**21.34**	**16**	IAmb			IAmb	00 00 57.7	
	comp=Z,23nm,0.9s								
121A	**Cookes Peak, D**	**21.41**	**325**	P			**P**	**00 00 27.1**	**+2.1**
	baz=139,SNR=14								
T35A	**Sooner Cattle**	**21.44**	**353**	P			**P**	**00 00 25.1**	**+0.1**
BG3	**Lake Jocassee**	**21.44**	**24**	P			**P**	**00 00 25.0**	**0.0**
319A	**Douglas**	**21.46**	**320**	P			**P**	**00 00 28.9**	**+3.4**
MGMO	**Mountain Grove**	**21.50**	**2**	IAmb			IAmb	00 01 03.3	
	comp=Z,52nm,1.0s								
JSC	**Jenkinsville**	**21.53**	**28**	IAmb			IAmb	00 00 49.6	
	comp=Z,24nm,1.1s								
NOKA	**Waynoka**	**21.56**	**348**	P			**P**	**00 00 27.6**	**+1.3**
OK032	**Salt Plains WL**	**21.58**	**349**	P			**P**	**00 00 26.0**	**-0.6**
TKL	**Tuckaleechee C**	**21.72**	**21**	P			**P**	**00 00 25.0**	**-3.0**
	comp=Z,1.8nm,0.5s,baz=164,slow=15,SNR=3.2								
TKL				pP			**pP**	**00 00 44.6**	**-3.0**
	comp=Z,36nm,0.9s,baz=194,slow=12,SNR=21								
TKL				LR			LR	00 09 39.3	
	comp=Z,55nm,18.1s,baz=204,slow=39								
	comp=Z,1.8nm,0.5s								
KAN17	**Caldwell West**	**21.74**	**350**	P			**P**	**00 00 27.5**	**-0.7**
KAN17				IAmb			IAmb	00 01 01.6	
	comp=Z,42nm,1.1s								
KAN05	**Bluff City Nor**	**21.82**	**350**	P			**P**	**00 00 29.3**	**+0.2**
KAN05				IAmb			IAmb	00 00 31.0	
	comp=Z,24nm,0.5s								
SLOR	**San Lorenzo -**	**21.82**	**137**	P			**P**	**00 00 33.8**	**+4.0**
KAN01	**Argonia South**	**21.85**	**350**	IAmb			IAmb	00 01 03.4	
	comp=Z,74nm,1.4s								
KS20	**Mayfield South**	**21.89**	**351**	IAmb			IAmb	00 01 03.9	
	comp=Z,58nm,1.3s								
KAN08	**Anthony NE Sta**	**21.95**	**350**	IAmb			IAmb	00 00 32.4	
	comp=Z,27nm,0.5s								
T47A	**Sharon Grove**	**22.01**	**13**	IAmb			IAmb	00 00 50.9	
	comp=Z,31nm,0.7s								
V53A	**Saluda**	**22.08**	**23**	IAmb			IAmb	00 00 51.9	
	comp=Z,54nm,1.1s								
CHSH	**Refugio Sur-Vo**	**22.16**	**139**	P			**P**	**00 00 36.1**	**+2.7**
CHSH				IAmb			IAmb	00 00 38.1	
	comp=Z,30nm,0.8s								
DUN6	**Lazy B Ranch**	**22.17**	**322**	P			**P**	**00 00 36.0**	**+3.0**
DUN6				IAmb			IAmb	00 00 46.3	
	comp=Z,41nm,1.0s								
KMSC	**Kings Mountain**	**22.23**	**27**	P			**P**	**00 00 32.3**	**-1.0**
KMSC				IAmb			IAmb	00 00 51.9	
	comp=Z,25nm,0.8s								
KMSC	**Kings Mountain**	**22.23**	**27**	P			**P**	**00 00 32.4**	**-0.9**
	baz=212								
CCM	**Cathedral Cave**	**22.45**	**4**	P			**P**	**00 00 34.9**	**-0.8**
	baz=185								
TZTN	**Tazewell**	**22.60**	**21**	P			**P**	**00 00 36.2**	**-1.0**
	baz=205								
ANMO	**Albuquerque**	**22.62**	**331**	P			**P**	**00 00 38.9**	**+1.2**
ANMO	**Albuquerque**	**22.62**	**331**	P			**P**	**00 00 38.9**	**+1.2**
	baz=145								
R40A	**Maddies Statio**	**22.63**	**2**	P			**P**	**00 00 35.9**	**-1.7**
R40A				IAmb			IAmb	00 01 12.9	
	comp=Z,38nm,0.8s								
TUC	**Tucson**	**23.03**	**319**	P			**P**	**00 00 43.5**	**+1.9**
	baz=132								
SDV	**Santo Domingo**	**23.09**	**104**	LR			LR	00 10 41.9	
	comp=Z,65nm,19.8s,baz=336,slow=40								
WCI	**Wyandotte Cave**	**23.38**	**14**	P			**P**	**00 00 43.9**	**-0.9**
	baz=197								
KSU1	**Kansas State U**	**23.61**	**354**	P			**P**	**00 00 45.2

baz=125
ID09 Alton 30.71 333 P **P 00 01 51.8 +1.2**
ID09 IAmb IAmb 00 01 53.6
comp=Z,15nm,0.8s
DSP Deep Springs 30.80 319 P **P 00 01 53.4 +2.2**
ID10 Lander Cutoff 30.81 334 IAmb IAmb 00 01 54.9
comp=Z,11nm,0.6s
CZSB Cruzeiro do Su 30.86 137 P **P 00 01 53.1 +1.2**
HVU Hansel Valley 31.05 331 P **P 00 01 55.2 +1.6**
HVU IAmb IAmb 00 01 57.5
comp=Z,7.3nm,0.8s
AHID Auburn Hatcher 31.10 334 P **P 00 01 54.5 +0.5**
AHID IAmb IAmb 00 01 56.7
comp=Z,7.1nm,0.8s
ID05 Sulphur Canyon 31.15 334 IAmb IAmb 00 01 57.0
comp=Z,12nm,0.6s
ID07 Smith Canyon R 31.34 333 IAmb IAmb 00 01 59.6
comp=Z,12nm,1.1s
ECR Eagle Creek 31.45 334 P **P 00 01 58.8 +1.7**
E28A Huff 31.51 350 P **P 00 01 56.8 -0.6**
NV11 Mina Array Sit 31.58 321 IAmb IAmb 00 02 24.7
comp=Z,10nm,1.0s
LOHW Long Hollow 31.60 336 IAmb IAmb 00 02 01.2
comp=Z,14nm,0.7s
TPAW Teton Pass 31.64 335 IAmb IAmb 00 02 01.8
comp=Z,14nm,0.7s
NVAR Mina Array Bea 31.67 321 P **P 00 02 02.1 +3.1**
comp=Z,5.8nm,1.1s,baz=134,slow=8.0,SNR=17
NVAR pP **pP 00 02 25.1 +3.3**
comp=Z,11nm,0.9s,baz=135,slow=9.0,SNR=19
NVAR PcP **PcP 00 04 49.6 +0.8**
comp=Z,1.1nm,0.7s,baz=141,slow=3.4,SNR=5.6
comp=Z,5.8nm,1.1s
MOOW Moose Ponds 31.77 336 IAmb IAmb 00 02 02.9
comp=Z,9.7nm,0.8s
FXWY Fox Creek 31.79 335 P **P 00 02 01.5 +1.4**
FXWY IAmb IAmb 00 02 02.9
comp=Z,7.7nm,0.8s
IMW Indian Meadow 31.97 336 IAmb IAmb 00 02 05.1
comp=Z,10nm,0.7s
FLWY Flagg Ranch 32.03 336 IAmb IAmb 00 02 05.8
comp=Z,9.7nm,0.7s
H17A Grant Village 32.25 336 P **P 00 02 05.3 +1.2**
H17A Grant Village 32.25 336 P **P 00 02 06.2 +2.1**
baz=148
RLMT Red Lodge 32.39 339 IAmb IAmb 00 02 07.3
comp=Z,5.8nm,0.7s
RLMT Red Lodge 32.39 339 P **P 00 02 06.6 +1.4**
baz=150,SNR=7.8
MDND Maddock 32.59 352 P **P 00 02 06.5 -0.2**
baz=169
LAO LASA Array 32.84 343 P **P 00 02 10.7 +1.7**
baz=156
GCMT Greycliff 33.11 339 P **P 00 02 11.8 +0.3**
HLID Hailey 33.20 331 P **P 00 02 15.0 +2.7**
baz=141,SNR=8.6
MCMT McKenzie Canyo 33.52 334 P **P 00 02 17.6 +2.4**
BOZ Bozeman (W) 33.66 336 IAmb IAmb 00 02 19.1
comp=Z,5.1nm,0.8s
BOZ Bozeman (W) 33.66 336 P **P 00 02 18.1 +1.8**
baz=147
DLMT Dillon 33.85 335 IAmb IAmb 00 02 21.2
comp=Z,14nm,0.9s
DGMT Dagmar 34.00 347 P **P 00 02 20.0 +1.0**
baz=161
LRM Limekiln Ridge 34.17 336 P **P 00 02 22.9 +2.1**
ULM Lac du Bonnet 34.64 357 P **P 00 02 22.5 -2.0**
comp=Z,3.6nm,0.5s,baz=172,slow=10,SNR=11
ULM LR LR 00 17 39.0
comp=Z,26nm,18.6s,baz=281,slow=38
comp=Z,3.6nm,0.5s
ELMT Elliston 34.77 337 P **P 00 02 26.8 +0.9**
J08A Circle Bar Ran 35.05 327 P **P 00 02 30.0 +1.8**
LYMT Lyon Mountain 35.06 337 P **P 00 02 29.7 +1.3**
EGMT Eagleton 35.09 341 P **P 00 02 30.1 +1.7**
baz=152,SNR=7.4
PLID Pearl Lake 35.10 332 IAmb IAmb 00 02 31.5
comp=Z,6.8nm,0.8s
MSO Missoula 35.59 335 IAmb IAmb 00 02 35.7
comp=Z,9.6nm,1.1s
MSO Missoula 35.59 335 P **P 00 02 34.7 +1.9**
baz=144,SNR=5.6
F10A Beach Ranch, E 36.33 331 P **P 00 02 40.3 +1.1**
ETMB Extrema 36.82 132 P **P 00 02 42.3 -1.2**
ETMB IAmb IAmb 00 03 08.2
comp=Z,16nm,1.5s
C09A Chrisman Ranch 38.18 333 P **P 00 02 55.3 +0.7**
C09A IAmb IAmb 00 03 19.5
comp=Z,8.1nm,0.8s
SAML Samuel 38.51 127 P **P 00 02 55.6 -2.2**
SAML IAmb IAmb 00 02 56.5
comp=Z,7.4nm,0.8s
LPAZ La Paz 40.24 141 P **P 00 03 12.3 -0.5**
comp=Z,3.1nm,0.7s,baz=333,slow=11,SNR=7.7
comp=Z,3.1nm,0.7s
PB16 IPOC Station P 41.04 144 P **P 00 03 19.7 +0.4**
PB16 IAmb IAmb 00 03 20.8
comp=Z,8.7nm,1.1s
VILB Vilhena 43.30 129 IAmb IAmb 00 03 36.9
comp=Z,16nm,0.9s
SCHQ Schefferville 44.19 22 LR LR 00 23 45.2
comp=Z,55nm,19.4s,baz=269,slow=38
YKA Yellowknife Ar 49.21 347 P **P 00 04 22.3 -0.4**
comp=Z,3.5nm,0.7s,baz=162,slow=11,SNR=12
comp=Z,3.5nm,0.7s
KOTAN Kotaneelee Air 49.79 340 P **P 00 04 28.4 +1.2**
baz=140
T35M Bob Quinn 49.84 334 P **P 00 04 30.3 +2.7**
baz=131
DLBC Dease Lake 50.71 336 P **P 00 04 36.5 +2.2**
DLBC Dease Lake 50.71 336 P **P 00 04 37.4 +3.1**
baz=132,SNR=6.8
S34M Telegraph Cree 50.81 335 P **P 00 04 37.3 +2.4**
baz=130
R33M Jennings River 51.71 337 IAmb IAmb 00 04 45.2
comp=Z,5.3nm,0.8s
R33M Jennings River 51.71 337 P **P 00 04 44.5 +2.6**
baz=131
Q32M Nakina River 51.94 336 P **P 00 04 46.1 +2.5**
Q32M Nakina River 51.94 336 P **P 00 04 46.2 +2.6**
baz=130,SNR=5.6
TGTN Hyland Airport 52.22 340 P **P 00 04 48.4 +3.0**
baz=136
R32K Eaglecrest 52.44 334 P **P 00 04 49.8 +2.8**
baz=127
P32M Atlin 52.91 336 IAmb IAmb 00 04 54.1
comp=Z,12nm,1.1s
P32M Atlin 52.91 336 P **P 00 04 53.2 +2.6**
baz=128
P33M Teslin, Yukon 52.96 337 P **P 00 04 53.2 +2.3**
baz=130
N32M Quiet Lake 53.66 337 P **P 00 04 58.0 +1.9**
baz=130
MMPY Sheldon Lake, 53.99 339 P **P 00 05 00.2 +1.8**
MMPY IAmb IAmb 00 05 01.4
comp=Z,9.4nm,0.8s
MMPY Sheldon Lake, 53.99 339 P **P 00 05 00.8 +2.4**
baz=133,SNR=10
WHY Whitehorse 54.03 336 P **P 00 05 00.4 +1.6**
baz=128
CPUP Villa Florida 54.38 140 P **P 00 05 00.3 -1.3**
comp=Z,3.3nm,0.8s,baz=317,slow=9.6,SNR=7.7
comp=Z,3.3nm,0.8s
BDFB Brasilia 54.41 123 P **P 00 04 59.8 -2.4**
comp=Z,3.1nm,0.5s,baz=311,slow=11,SNR=5.3
comp=Z,3.1nm,0.5s
FARO Faro, Yukon 54.45 338 P **P 00 05 02.4 +0.6**
FARO IAmb IAmb 00 05 04.6
comp=Z,4.1nm,0.8s
FARO Faro, Yukon 54.45 338 P **P 00 05 03.6 +1.8**
baz=130
P30M Million Dollar 54.54 335 P **P 00 05 05.2 +2.7**
baz=125
O30N Mendenhall 54.58 336 P **P 00 05 05.1 +2.4**
baz=126
M31M Drury Creek, Y 54.81 338 P **P 00 05 06.5 +2.2**
baz=129
N31M Braeburn, Yuko 54.89 337 P **P 00 05 06.6 +1.7**
baz=127
HYT Haines Junctio 55.17 335 P **P 00 05 09.6 +2.5**
baz=125
O29M Mount Kennedy 55.31 335 P **P 00 05 10.4 +2.3**
baz=124
N30M Aishikik Lake 55.38 336 P **P 00 05 10.8 +2.3**
baz=126
YUK6 Outpost Mounta 55.58 335 P **P 00 05 12.6 +2.5**
baz=124
PINM Pinnacle 55.91 334 P **P 00 05 15.4 +3.1**
baz=122
YUK4 Talbot Arm 55.92 336 P **P 00 05 15.3 +2.8**
baz=124
M30M Minto, Yukon 55.93 337 IAmb IAmb 00 05 14.8
comp=Z,6.9nm,1.2s
M30M Minto, Yukon 55.93 337 P **P 00 05 14.3 +1.9**
baz=127
YUK8 Steele Glacier 56.34 335 P **P 00 05 18.2 +2.6**
baz=123
M29M Somme Creek 56.48 337 P **P 00 05 17.6 +1.3**
M29M Somme Creek 56.48 337 P **P 00 05 18.7 +2.3**
baz=125,SNR=14
L29M L29M 56.74 337 P **P 00 05 20.0 +1.9**
baz=126
YUK3 Moose Creek 56.89 335 P **P 00 05 21.6 +2.2**
baz=122
K29M Barlow Dome 56.95 338 P **P 00 05 21.0 +1.3**
baz=127
J30M Hart River 56.99 339 IAmb IAmb 00 05 23.4
comp=Z,3.3nm,0.7s
J30M Hart River 56.99 339 P **P 00 05 21.5 +1.6**
baz=128,SNR=6.2
H31M Peel River 57.13 341 P **P 00 05 22.1 +1.3**
baz=131
I30M Mount Dempster 57.41 340 IAmb IAmb 00 05 24.1
comp=Z,13nm,1.2s
I30M Mont Dempster 57.41 340 P **P 00 05 23.9 +1.0**
baz=129
MCARA McCarthy VSAT 57.74 334 P **P 00 05 27.4 +2.3**
baz=120
M27K Edge Creek, AK 57.76 336 P **P 00 05 26.6 +1.2**
baz=121
G31M Satah River 57.85 342 P **P 00 05 26.8 +1.1**
baz=132,SNR=5.3
F31M Tsiigehtchic 58.05 343 P **P 00 05 27.5 +0.4**
baz=132
BCAR Beaver Creek A 58.10 336 P **P 00 05 28.5 +0.9**
L27K Beaver Creek, 58.11 336 IAmb IAmb 00 05 30.3
comp=Z,4.5nm,0.8s
L27K Beaver Creek, 58.11 336 P **P 00 05 28.9 +1.2**
baz=122,SNR=6.6
I29M Ogilvie Camp, 58.13 340 P **P 00 05 28.5 +0.7**
I29M IAmb IAmb 00 05 29.7
comp=Z,4.3nm,0.7s
I29M Ogilvie Camp, 58.13 340 P **P 00 05 29.0 +1.2**
baz=127
BMRM Bremner River 58.21 333 P **P 00 05 29.0 +0.5**
baz=118
M26K Nabesna, AK 58.23 335 P **P 00 05 30.4 +1.8**
baz=120
EPYK Eagle Plains 58.24 341 P **P 00 05 29.0 +0.4**
baz=129
G30M tAoh Zraii Nji 58.47 342 P **P 00 05 31.2 +1.0**
baz=130
N25K Chitina, Valde 58.51 334 P **P 00 05 31.7 +1.1**
N25K IAmb IAmb 00 05 33.9
comp=Z,4.9nm,0.7s
N25K Chitina, Valde 58.51 334 P **P 00 05 32.9 +2.4**
baz=118
EYAK Cordova Ski Ar 58.52 333 P **P 00 05 33.6 +3.1**
baz=116
INK Inuvik 58.58 344 P **P 00 05 31.7 +0.9**
baz=133,SNR=6.7
H29M Whitestone 58.67 340 P **P 00 05 32.4 +0.9**
baz=127
K27K Chicken 58.72 337 P **P 00 05 33.6 +1.7**
baz=122
I28M Miner Creek 58.74 339 P **P 00 05 32.7 +0.6**
baz=125
F30M Barrier River 58.75 342 P **P 00 05 33.3 +1.3**
baz=130,SNR=5.1
G29M Pine Creek 58.98 341 IAmb IAmb 00 05 35.4
comp=Z,5.4nm,0.8s
G29M Pine Creek 58.98 341 P **P 00 05 34.9 +1.2**
baz=128,SNR=5.1
KLU Klutina 59.02 334 P **P 00 05 36.0 +1.9**
baz=117
HARP HAARP 59.11 335 P **P 00 05 37.0 +2.3**
baz=118
M24K Tolsona, Glenn 59.40 334 P **P 00 05 38.5 +1.8**
baz=117
I27K Kandik River 59.40 339 P **P 00 05 38.5 +1.8**
baz=123,SNR=5.9
SCRK Sand Creek 59.41 337 P **P 00 05 38.8 +2.0**
baz=120
PAX Paxson 59.51 335 P **P 00 05 38.5 +1.0**
PAX IAmb IAmb 00 05 39.7
comp=Z,4.9nm,0.7s
PAX Paxson 59.51 335 P **P 00 05 39.3 +1.9**
baz=118,SNR=5.3
J26L Joseph Creek 59.52 337 P **P 00 05 39.6 +2.1**
baz=121
RIDG Independent Ri 59.63 336 P **P 00 05 40.4 +2.1**
baz=119
H27K Steamboat Moun 59.72 340 P **P 00 05 41.0 +2.2**
baz=124
SCM Sheep Creek Mo 59.77 334 P **P 00 05 40.8 +1.5**
baz=115
I26K Coal Creek Min 59.79 338 P **P 00 05 39.9 +0.7**
baz=122
E29M Blow River 59.86 342 P **P 00 05 41.0 +1.4**
baz=128,SNR=7.3
PLCA Paso Flores 59.87 160 P **P 00 05 40.5 +0.3**
PLCA Paso Flores 59.87 160 P **P 00 05 40.5 +0.3**
comp=Z,8.4nm,0.9s,baz=339,slow=8.4,SNR=13
comp=Z,8.4nm,0.9s
M23K Glacier View 59.92 333 P **P 00 05 42.2 +2.0**
baz=115
F28M Old Crow 59.98 341 P **P 00 05 40.7 +0.2**
F28M Old Crow 59.98 341 P **P 00 05 42.1 +1.6**
baz=126,SNR=14
K24K Donnelly Dome 60.02 336 P **P 00 05 42.9 +2.0**
baz=118,SNR=6.3
KNK Knik Glacier 60.08 333 P **P 00 05 42.9 +1.6**
baz=114
G27K Doyon Strip 60.09 340 P **P 00 05 41.9 +0.6**
baz=124
SML Sawmill 60.19 333 P **P 00 05 43.1 +1.0**
baz=114
J25K Salcha River, 60.25 337 P **P 00 05 43.7 +1.1**
J25K IAmb IAmb 00 05 45.3
comp=Z,3.2nm,0.8s
J25K Salcha River, 60.25 337 P **P 00 05 43.6 +1.1**
baz=119
WAT6 Susitna Watana 60.27 334 P **P 00 05 44.4 +1.7**
baz=115
DHY Denali Highway 60.33 335 P **P 00 05 44.4 +1.2**
baz=116
E28M Babbage River 60.47 342 P **P 00 05 44.9 +1.0**
baz=127,SNR=8.2
BRSE Bradley Lake S 60.48 331 P **P 00 05 45.1 +1.0**
baz=111
D28M Stokes Point 60.68 343 P **P 00 05 46.3 +1.0**
baz=128
WAT1 Susitna Watana 60.71 334 P **P 00 05 47.2 +1.6**
baz=115
PRP Porcupine Dome 60.75 338 P **P 00 05 47.4 +1.5**
PRP Porcupine Dome 60.75 338 P **P 00 05 47.6 +1.7**
baz=119,SNR=5.2
HDA Harding Lake 60.76 336 P **P 00 05 46.9 +1.0**
baz=117
E27K Coleen River 60.84 341 P **P 00 05 47.9 +1.4**
baz=124,SNR=9.6
G26K Porcupine Rive 60.87 340 P **P 00 05 48.2 +1.7**
baz=122,SNR=6.0
IL03 Eielson Array 60.89 337 P **P 00 05 47.6 +0.8**
IL31 60.90 337 P **P 00 05 47.7 +0.9**
IL31 IAmb IAmb 00 05 49.3
comp=Z,5.4nm,0.7s
ILAR Eielson Array 60.90 337 P **P 00 05 47.5 +0.7**
ILAR Eielson Array 60.90 337 P **P 00 05 47.9 +1.1**
comp=Z,3.7nm,0.7s,baz=128,slow=5.2,SNR=34
ILAR pP **pP 00 06 11.6 -0.4**
comp=Z,2.0nm,0.9s,baz=122,slow=5.3,SNR=5.3
comp=Z,3.7nm,0.7s
RND Reindeer 61.08 335 P **P 00 05 49.5 +1.4**
SUA Susitna One 61.11 332 P **P 00 05 50.5 +2.0**
baz=112
H25L Birch Creek 61.22 338 P **P 00 05 50.7 +1.8**
baz=119
MCK McKinley 61.25 335 P **P 00 05 50.9 +1.6**
baz=115
CUT Chulitna 61.26 334 P **P 00 05 51.0 +1.7**
baz=113
D27M Malcolm River 61.27 343 P **P 00 05 50.6 +1.3**
baz=126
POKR Poker Plat Res 61.27 337 P **P 00 05 50.8 +1.5**
baz=117
COLA College 61.32 337 P **P 00 05 50.2 +0.7**
F26K Sheenjek River 61.38 340 P **P 00 05 51.5 +1.4**
baz=122
BMAR Burnt Mountain 61.39 340 P **P 00 05 50.7 +0.6**
G25K Bearman Lake 61.57 339 P **P 00 05 52.9 +1.7**
baz=119
SKT Skwentna 61.65 333 P **P 00 05 53.9 +2.0**
baz=111
NEA2 Nenana 61.66 336 P **P 00 05 53.6 +1.6**
baz=115
TRF Thorofare Moun 61.68 335 P **P 00 05 53.0 +0.7**
TRF Thorofare Moun 61.68 335 P **P 00 05 53.5 +1.2**
baz=113
H24K Noodor Dome 61.76 338 P **P 00 05 54.3 +1.7**
baz=117
F25K Christian Rive 61.82 340 P **P 00 05 55.0 +1.9**
baz=120,SNR=7.4
I23K Minto, Yukon-K 62.01 337 P **P 00 05 55.3 +1.0**
I23K Minto, Yukon-K 62.01 337 P **P 00 05 56.1 +1.8**
baz=115,SNR=8.1
G24K Hadweenzic Riv 62.02 339 P **P 00 05 56.0 +1.7**
baz=118
E25K Arctic Village 62.06 340 P **P 00 05 56.3 +1.6**
baz=120
H23K Yukon River 62.37 337 P **P 00 05 57.9 +1.2**
baz=115
CAST Castle Rocks 62.42 334 P **P 00 05 58.8 +1.7**
baz=112
MLY Manley 62.50 336 P **P 00 05 59.6 +2.0**
baz=114
F24K Squaw Lake 62.54 339 P **P 00 05 59.6 +1.7**
baz=118
Q17K Contact Creek 62.55 328 P **P 00 06 00.0 +1.9**
baz=105
N19K Bonanza Creek 62.60 331 P **P 00 05 59.8 +1.4**
baz=108
R17K Ugashik Creek 62.64 327 P **P 00 06 00.9 +2.3**
baz=105
O18K Koktuh Hills 62.65 330 P **P 00 06 00.9 +2.2**
baz=107
C26K Camden Bay 62.79 342 P **P 00 06 01.4 +2.0**
baz=122
D25K Kavik River 62.93 341 P **P 00 06 02.3 +1.9**
baz=120
G23K Bananza Creek 62.93 338 P **P 00 06 02.3 +1.9**
baz=115
E24K Your Creek 63.00 340 P **P 00 06 02.6 +1.7**
baz=117
H22K Ishtalitna Cre 63.09 337 P **P 00 06 02.9 +1.5**
baz=113
COLD Coldfoot 63.21 339 P **P 00 06 04.4 +2.1**
baz=115
K20K Telida 63.23 334 P **P 00 06 03.9 +1.4**
baz=110
R16K Pilot Point 63.25 327 P **P 00 06 02.5 -0.1**
baz=104
E23K Chandalar 63.37 340 P **P 00 06 05.1 +1.7**
baz=116
CHGN Chignik 63.41 326 P **P 00 06 05.2 +1.5**
baz=102
H21K Melozitna Rive 63.54 336 P **P 00 06 06.0 +1.6**
baz=112
J20K Nowinta River 63.54 335 P **P 00 06 05.6 +1.2**
baz=110
O17K Koliganek Bris 63.55 330 P **P 00 06 06.1 +1.6**
baz=105
G22K Bettles 63.55 338 P **P 00 06 06.1 +1.6**
baz=114
D24K Happy Valley 63.61 341 P **P 00 06 05.6 +0.7**
baz=118
TOLK Toolik Lake Re 63.62 340 P **P 00 06 06.4 +1.5**
baz=116
I20K Naaghedeneel 63.89 335 P **P 00 06 07.9 +1.2**
baz=110
TTA Tatalina 63.93 333 P **P 00 06 08.3 +1.1**
baz=108
F22K John River 64.03 339 P **P 00 06 08.8 +1.2**
baz=113
J19K Poorman 64.10 334 P **P 00 06 09.6 +1.5**
baz=108
D23K Nanushuk River 64.12 340 P **P 00 06 10.2 +2.0**
baz=116
G21K Allakaket 64.12 337 P **P 00 06 09.9 +1.7**
baz=112
E22K Anaktuvuk Pass 64.15 339 P **P 00 06 10.1 +1.6**
baz=114
F21K Alatna River 64.38 338 P **P 00 06 11.6 +1.6**
baz=112
C23K Itkillik River 64.48 341 P **P 00 06 12.0 +1.6**
baz=116
D22K Ayikyak River 64.75 340 P **P 00 06 13.8 +1.5**
baz=114
H19K Roundabout Mou 64.92 336 P **P 00 06 15.1 +1.7**
baz=108
E21K Killik River 65.01 339 P **P 00 06 15.6 +1.6**
baz=112
F20K Avaraart Lake 65.14 337 P **P 00 06 16.6 +1.8**
baz=110
B22K Teshekpuk Lake 65.57 341 P **P 00 06 18.4 +1.0**
baz=113
B21K Ikpikpuk River 65.67 340 P **P 00 06 19.9 +1.8**
baz=112
E20K Nigu River 65.71 339 P **P 00 06 19.7 +1.1**
baz=110
F19K Shaleruckik Mo 65.83 337 P **P 00 06 20.5 +1.2**
baz=108
D20K Etivluk River 66.02 339 P **P 00 06 22.1 +1.6**
baz=110
M14K Bethel 66.13 330 P **P 00 06 23.0 +1.8**
baz=101
B20K Meade River 66.63 340 P **P 00 06 26.6 +2.3**
baz=110
M13K Dall Lake 66.75 329 P **P 00 06 26.9 +1.8**
baz=100
A21K Barrow 66.92 342 P **P 00 06 29.2 +3.1**
baz=110
C19K Lookout Ridge 67.16 339 P **P 00 06 30.6 +2.8**
baz=107
E17K Hotham Inlet 67.44 337 P **P 00 06 31.3 +1.9**
baz=104
UNV Unalaska Valle 67.67 322 P **P 00 06 32.3 +1.1**
baz=94
F14K Arctic Creek 68.91 335 P **P 00 06 37.5 -1.2**
baz=99
EKA Eskdalemuir Ar 77.41 36 pP pP 00 07 53.0 -2.1
comp=Z,5.1nm,0.9s,baz=282,slow=4.2,SNR=4.7
ESDC Sonseca Array 79.70 52 P **P 00 07 38.6 -3.3**
comp=Z,0.6nm,0.8s,baz=272,slow=5.6,SNR=5.6
ESDC pP **pP 00 08 05.7 -2.7**
comp=Z,0.5nm,0.9s,baz=314,slow=6.6,SNR=4.6
comp=Z,0.6nm,0.8s
DBIC Dimbokro 86.72 84 LR LR 00 39 44.5
comp=Z,556nm,21.7s,baz=132,slow=31
ELIB Princess Elisa 112.85 162 *d*PKiKP **PKiKP 00 14 10.3 +0.7**
ELIB *dp*PKiKP **pPKiKP 00 14 38.3 +1.1**
KURBB Kurchatov Arra 113.69 6 PKiKP **PKiKP 00 14 10.5 -1.1**
comp=Z,0.3nm,0.4s,baz=328,slow=1.8,SNR=5.2
MKAR Makanchi Array 117.78 3 PKP **PKPdf 00 14 18.8 -0.9**
comp=Z,0.6nm,0.8s,baz=29,slow=3.3,SNR=3.2
WRA Warramunga Arr 134.56 257 PKhKP PKPpre 00 14 44.0
comp=Z,0.3nm,0.6s,baz=92,slow=3.6,SNR=7.0
WRA PKP **PKPdf 00 14 52.8 +0.4**
comp=Z,1.7nm,0.7s,baz=83,slow=2.1,SNR=21
ASAR Alice Springs 135.00 252 PKhKP PKPpre 00 14 43.9
comp=Z,0.4nm,0.5s,baz=104,slow=3.7,SNR=8.4
ASAR PKP **PKPdf 00 14 53.5 +0.3**
comp=Z,0.6nm,0.5s,baz=71,slow=2.2,SNR=7.0
CMAR Chiang Mai Arr 144.09 340 PKP **PKPab 00 15 08.4 +0.9**
comp=Z,2.1nm,0.8s,baz=332,slow=3.3,SNR=9.5

IDC 11 00:07:33.3±4.0, 24°.85S×177°.44W, h0^km, mb4.2/3, mbtmp4.2/3, MS2.8/1, Error ellipse: s-maj=175.5km s-min=40.0km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.41**	**186**	LR	LR		00 10 16.0	
	comp=Z,114nm,20.5s,baz=100,slow=37							
STKA	**Stephens Creek**	**36.56**	**249**	P	P		00 14 39.7	-1.3
	3.7nm,0.7s,baz=63,slow=6.8,SNR=5.9							
	3.7nm,0.7s							
ASAR	**Alice Springs**	**44.19**	**261**	P	P		00 15 45.5	+1.1
	0.7nm,0.3s,baz=97,slow=6.9,SNR=10							
	0.7nm,0.3s							
WRA	**Warramunga Arr**	**44.68**	**266**	P	P		00 15 47.9	-0.3
	3.1nm,0.6s,baz=103,slow=8.3,SNR=61							

3.1nm,0.6s
HFS Hagfors 143.90 351 PKP PKPdf 00 27 09.7 -0.4
1.2nm,0.3s,baz=34,slow=2.9,SNR=9.4
EKA Eskdalemuir Ar 149.26 6 PKPab PKPab 00 27 27.4 -0.6
0.3nm,0.3s,baz=348,slow=3.1,SNR=3.8

---

*IDC **11** 00:08:23.0±0.5,54°.40S×8°.22E,h0km,mb4.5/14, mbtmp4.5/14,ML4.5/1,MS4.9/41,Error ellipse: s-maj=20.4km s-min=18.0km az=61.0*
*NEIC **11** 00:08:26.7,54°.21S×8°.22E,h22km*
*NEIC **11** 00:08:26.7,54°.21S×8°.73E,h22km,Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.69; $M_{\theta\theta}$3.65; $M_{\phi\phi}$-2.95; $M_{r\theta}$1.22; $M_{\theta\phi}$0.08; $M_{\phi r}$0.57; Fault plane solution: $M_0$3.54000×10^{17} NP1:ϕ_s44.97000°, δ89.63000°,λ159.08000°. NP2:ϕ_s135.11000°,δ69.08000°, λ0.40000°. Principal axes: T 3.9769, Plg15.0000°, Azm358.0000°; N -0.8785, Plg69.0000°, Azm224.0000°; P -3.0984, Plg14.0000°, Azm92.0000°;*
*NEIC **11** 00:08:26.3±1.8,54°.3S±0°.1×8°.3E±0°.2,h10km±1km, mb5.2/62,Ms_20 5.2/148,Mww5.6/12 Error ellipse: s-maj=19.3km s-min=16.5km az=122.0*
*GCMT **11** 00:08:31.3±0.1,54°.10S±0°.01×8°.63E±0°.01,h15km, MW5.7/164,Moment Tensor Solution. s111,c157; s164,c351; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.98±.05; $M_{\theta\theta}$3.88±.05; $M_{\phi\phi}$-2.91±.04; $M_{r\theta}$-0.10±.15; $M_{\theta\phi}$0.73±.04; $M_{\phi r}$1.16±.17; Best double couple: $M_0$3.73900×10^{17} NP1:ϕ_s222.00000°,δ73.00000°, λ-162.00000°. NP2:ϕ_s126.00000°,δ73.00000°, λ-18.00000°. Principal axes: T 3.9580, Plg0.0000°, Azm354.0000°; N -0.4440, Plg65.0000°, Azm263.0000°; P -3.5210, Plg25.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 00:08:25.9±0.3,54°.56S±0°.05×8°.07E±0°.07,h10km,n305, σ2s78/198,**mb5.2**/53,**MS5.2**/133,**7C-6D,Bouvet Island region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TROLL	**Troll, Antarti**	**17.68**	**186**	⇑P	**P**	**00 12 36.4**	**+3.5**
	comp=Z,6μm,0.5s						
TROLL				⇓S	**Sn**	**00 15 41.0**	**-7.8**
	comp=Z,2μm,0.4s						
VNA1	**Neumayer--Stat**	**17.70**	**198**	⇑P	**P**	**00 12 37.1**	**+4.2**
	comp=Z,316nm,1.0s						
VNA1				⇑S	**Sn**	**00 15 45.8**	**-3.1**
	comp=Z,16nm,0.7s						
VNA2	**Neumayer--Watz**	**17.78**	**197**	⇑P	**P**	**00 12 37.2**	**+3.3**
	comp=Z,206nm,0.8s,baz=24,slow=13						
VNA2				⇓S	**Sn**	**00 15 41.1**	**-10**
	comp=Z,6.1nm,0.3s,baz=30,slow=23						
SNAA	**Sanae**	**17.82**	**191**		**P**	**00 12 37.8**	**+3.5**
SNAA				IAmb	IAmb	00 12 40.7	
	comp=Z,210nm,1.0s						
SNAA	**Sanae**	**17.82**	**191**	⇑P	**P**	**00 12 38.2**	**+3.9**
	comp=Z,3μm,0.8s						
SNAA				⇓S	**Sn**	**00 15 43.0**	**-9.0**
	comp=Z,200nm,0.4s						
SNAA	**Sanae**	**17.82**	**191**	P	**P**	**00 12 35.2**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=18,slow=14,SNR=218						
SNAA				S	**Sn**	**00 15 42.1**	**-10**
	comp=Z,6.2nm,0.4s,baz=12,slow=20,SNR=2.4						
SNAA				LR	LR	00 18 12.1	
	comp=Z,7μm,20.7s,baz=19,slow=33						
VNA3	**Neumayer Olymp**	**18.45**	**198**	⇑P	**Pn**	**00 12 45.4**	**+4.1**
	comp=Z,195nm,0.9s						
VNA3				⇓S	Sn	00 15 55.3	-12
	comp=Z,2.4nm,0.3s						
ELIB	**Princess Elisa**	**18.65**	**165**	*d*P	**Pn**	**00 12 47.2**	**+3.4**
	comp=Z,132nm,0.9s						
ELIB				*d*S	**Sn**	**00 16 05.4**	**-6.7**
CER	**Ceres**	**22.62**	**25**	*e*P	**P**	**00 13 25.2**	**-1.6**
CER				IAmb	IAmb	00 13 31.4	
	comp=Z,23nm,1.3s						
MATJ	**Matjiesfontein**	**23.05**	**28**	*e*P	**P**	**00 13 30.7**	**-0.6**
MATJ				IAmb	IAmb	00 14 01.0	
	comp=Z,167nm,1.6s						
SUR	**Sutherland**	**23.94**	**27**	P	**P**	**00 13 37.7**	**-2.6**
SUR				IAmb	IAmb	00 13 51.3	
	comp=Z,195nm,1.9s						
SUR	**Sutherland**	**23.94**	**27**	IAMs_20	IAMs_20	00 20 16.2	
	comp=Z,6μm,19.0s						
SUR	**Sutherland**	**23.94**	**27**	*e*P	**P**	**00 13 40.0**	**-0.3**
SUR	**Sutherland**	**23.94**	**27**	LR	LR	00 20 25.2	
	comp=Z,6μm,20.9s,baz=198,slow=30						
GRAN	**Grantham**	**24.40**	**30**	*e*P	**P**	**00 13 42.0**	**-2.4**
GRAN				IAmb	IAmb	00 14 06.4	
	comp=Z,13nm,1.2s						
CVNA	**Calvinia**	**24.53**	**25**	*e*P	**P**	**00 13 44.3**	**-1.3**
CVNA				IAmb	IAmb	00 13 48.7	
	comp=Z,45nm,1.3s						
FRAZ	**Fraserburg**	**24.53**	**28**	*e*P	**P**	**00 13 44.5**	**-1.1**
FRAZ				IAmb	IAmb	00 14 28.0	
	comp=Z,187nm,2.4s						
ROOI	**Rooidraai Farm**	**24.64**	**33**	*e*P	**P**	**00 13 44.1**	**-2.5**
ROOI				IAmb	IAmb	00 14 03.2	
	comp=Z,147nm,2.2s						
GRHM	**Grahamstown, E**	**24.89**	**39**	P	**P**	**00 13 45.0**	**-3.8**
SOE	**Somerset East**	**25.11**	**37**	*e*P	**P**	**00 13 49.1**	**-1.6**
SOE				IAmb	IAmb	00 14 26.8	
	comp=Z,238nm,2.6s						
GRAF	**Camdeboo Natio**	**25.14**	**34**	*e*P	**P**	**00 13 52.0**	**+1.0**
GRAF				IAmb	IAmb	00 14 01.0	
	comp=Z,97nm,1.8s						
KOMG	**Komaggas**	**25.66**	**19**	*e*P	**P**	**00 13 54.6**	**-1.1**
UPI	**Upington**	**27.88**	**25**	*e*P	**P**	**00 14 14.1**	**-1.7**
UPI				IAmb	IAmb	00 14 23.9	
	comp=Z,157nm,2.5s						
H04S2	**CROZET ISLANDS**	**28.41**	**93**	T	T	00 44 22.3	
	baz=240,slow=75,SNR=1906						
H04S3	**CROZET ISLANDS**	**28.41**	**93**	T	T	00 44 22.1	
	baz=240,slow=75,SNR=1335						
H04S1	**CROZET ISLANDS**	**28.43**	**93**	T	T	00 44 15.6	
	baz=240,slow=75,SNR=1043						
MAW	**Mawson**	**28.43**	**139**	P	**P**	**00 14 21.9**	**+1.7**
MAW	**Mawson**	**28.43**	**139**	P	**P**	**00 14 19.7**	**-0.5**
	comp=Z,5.7nm,1.0s,baz=257,slow=7.0,SNR=10						
MAW				LR	LR	00 23 41.3	
	comp=Z,2μm,21.4s,baz=284,slow=32						
	comp=Z,5.7nm,1.0s						
H04N3	**CROZET ISLANDS**	**28.71**	**91**	T	T	00 44 45.8	
	baz=241,slow=75,SNR=19						
H04N1	**CROZET ISLANDS**	**28.71**	**91**	T	T	00 44 48.9	
	baz=241,slow=75,SNR=19						
H04N2	**CROZET ISLANDS**	**28.73**	**91**	T	T	00 44 49.6	
	baz=241,slow=75,SNR=38						
BOSA	**Boshof**	**28.77**	**33**	P	**P**	**00 14 19.8**	**-4.0**
BOSA	**Boshof**	**28.77**	**33**	P	**P**	**00 14 20.3**	**-3.5**
	comp=Z,5.6nm,1.0s,baz=200,slow=11,SNR=5.4						
BOSA				LR	LR	00 23 47.2	
	comp=Z,3μm,19.4s,baz=200,slow=32						
	comp=Z,5.6nm,1.0s						
LBTB	**Lobatse**	**32.25**	**31**	P	**P**	**00 14 52.1**	**-2.4**
LBTB				IAmb	IAmb	00 15 25.4	
	comp=Z,77nm,2.0s						
WIN	**Windhoek**	**32.66**	**16**	P	**P**	**00 14 55.1**	**-3.2**
WIN				IAmb	IAmb	00 15 09.5	
	comp=Z,42nm,1.4s						
QSPA	**South Pole Qui**	**35.68**	**180**	P	**P**	**00 15 26.5**	**+2.5**
QSPA	**South Pole Qui**	**35.68**	**180**	IAMs_20	IAMs_20	00 29 23.2	
	comp=Z,5μm,20.0s						
QSPA	**South Pole Qui**	**35.68**	**180**	P	**P**	**00 15 26.6**	**+2.5**
	comp=Z,32nm,0.7s,baz=230,slow=4.8,SNR=97						
QSPA				LR	LR	00 29 44.0	
	comp=Z,5μm,19.8s,baz=223,slow=36						
PMSA	**Palmer Station**	**35.80**	**224**	P	**P**	**00 15 28.3**	**+3.6**
PMSA				IAmb	IAmb	00 15 33.3	
	comp=Z,41nm,1.1s						
PMSA	**Palmer Station**	**35.80**	**224**	LR	LR	00 26 37.7	
	comp=Z,616nm,21.9s,baz=101,slow=30						
SMAI	**San Martin Ant**	**35.95**	**218**	P	**P**	**00 15 29.2**	**+3.2**
TSUM	**Tsumeb**	**36.04**	**15**	P	**P**	**00 15 24.4**	**-3.0**
TSUM				IAmb	IAmb	00 15 38.7	
	comp=Z,63nm,1.1s						
TSUM	**Tsumeb**	**36.04**	**15**	LR	LR	00 27 03.6	
	comp=Z,7μm,21.9s,baz=192,slow=31						
MATP	**Matopo**	**37.44**	**33**	LR	LR	00 29 01.8	
	comp=Z,1μm,19.2s,baz=198,slow=33						
SHEL	**Horse Pasture**	**39.98**	**339**	IAMs_20	IAMs_20	00 27 33.9	
	comp=Z,3μm,21.0s						
LSZ	**Lusaka**	**42.21**	**30**	P	**P**	**00 16 16.5**	**-2.6**
LSZ				IAMs_20	IAMs_20	00 31 18.1	
	comp=Z,4μm,18.0s						
LSZ	**Lusaka**	**42.21**	**30**	LR	LR	00 31 39.3	
	comp=Z,3μm,18.9s,baz=199,slow=33						
VOI	**Vohitsoka**	**43.65**	**57**	P	**P**	**00 16 27.5**	**-3.3**
VOI				IAmb	IAmb	00 16 32.9	
	comp=Z,33nm,1.0s						
VOI	**Vohitsoka**	**43.65**	**57**	P	**P**	**00 16 31.8**	**+1.0**
CASY	**Casey**	**46.17**	**147**	P	**P**	**00 16 51.4**	**+1.2**
CASY				IAmb	IAmb	00 16 60.0	
	comp=Z,53nm,1.6s						
CASY	**Casey**	**46.17**	**147**	IAMs_20	IAMs_20	00 33 32.0	
	comp=Z,2μm,20.0s						
ABPO	**Ambohimpanom**	**46.32**	**56**	P	**P**	**00 16 50.7**	**-1.4**
ABPO				IAmb	IAmb	00 16 57.5	
	comp=Z,23nm,1.2s						
SBA	**Scott Base**	**47.20**	**174**	P	**P**	**00 17 01.4**	**+3.3**
SBA	**Scott Base**	**47.20**	**174**	IAMs_20	IAMs_20	00 36 14.2	
	comp=Z,2μm,18.0s						
H10S2	**ASCENSION HYDR**	**48.96**	**330**	T	T	01 09 20.2	
	baz=161,slow=74,SNR=27						
H10S3	**ASCENSION HYDR**	**48.97**	**330**	T	T	01 09 21.1	
	baz=59,slow=74,SNR=88						
TRQA	**Tornquist**	**49.01**	**259**	P	**P**	**00 17 14.1**	**+1.5**
TRQA				IAmb	IAmb	00 17 18.9	
	comp=Z,18nm,0.9s						
COYC	**Coyhaique**	**49.57**	**245**	P	**P**	**00 17 18.9**	**+2.2**
COYC				IAmb	IAmb	00 17 38.5	
	comp=Z,40nm,1.3s						
AY01	**Puyuhuapi**	**50.63**	**246**	P	**P**	**00 17 27.9**	**+3.1**
AY01				IAmb	IAmb	00 17 34.9	
	comp=Z,36nm,1.0s						
LL02	**Futaleuf**	**51.03**	**248**	P	**P**	**00 17 29.2**	**+1.4**
LL02				IAmb	IAmb	00 17 39.9	
	comp=Z,30nm,1.1s						
ITQB	**Itaqui**	**51.90**	**271**	P	**P**	**00 17 36.3**	**+1.8**
ITQB				IAmb	IAmb	00 17 44.6	
	comp=Z,54nm,1.3s						
PLCA	**Paso Flores**	**52.00**	**251**	P	**P**	**00 17 33.4**	**-1.8**
	comp=Z,1.9nm,1.1s,baz=54,slow=19,SNR=1.9						
	comp=Z,1.9nm,1.1s						
LL03	**Petrohue**	**52.73**	**249**	P	**P**	**00 17 43.3**	**+2.8**
CPUP	**Villa Florida**	**54.81**	**273**	P	**P**	**00 17 55.6**	**-0.3**
CPUP	**Villa Florida**	**54.81**	**273**	P	**P**	**00 17 55.4**	**-0.5**
	comp=Z,5.1nm,0.7s,baz=134,slow=6.6,SNR=14						
CPUP				LR	LR	00 37 08.6	
	comp=Z,581nm,21.5s,baz=141,slow=31						
	comp=Z,5.1nm,0.7s						
BO02	**Sierra Bellavi**	**56.33**	**256**	P	**P**	**00 18 08.5**	**+1.7**
MT08	**Bocatoma Ro**	**56.88**	**258**	P	**P**	**00 18 12.4**	**+1.4**
MT08				IAmb	IAmb	00 18 26.7	
	comp=Z,51nm,1.5s						
MBAR	**Mbarara**	**56.91**	**27**	P	**P**	**00 18 08.9**	**-2.4**
MBAR	**Mbarara**	**56.91**	**27**	*e*P	**P**	**00 18 15.6**	**+4.4**
MBAR				*e*S	**S**	**00 26 12.1**	**+7.0**
MBAR	**Mbarara**	**56.91**	**27**	*e*P	**P**	**00 18 15.6**	**+4.4**
	baz=45						
MBAR				*e*S	**S**	**00 26 12.1**	**+7.0**
	baz=45						
MT03	**Universidad Ad**	**57.12**	**257**	P	**P**	**00 18 13.3**	**+0.7**
MT03				IAmb	IAmb	00 18 28.9	
	comp=Z,39nm,0.9s						
MT09	**Talagante**	**57.19**	**257**	P	**P**	**00 18 15.3**	**+2.2**
CFA	**Coronel Fontan**	**57.21**	**260**	LR	LR	00 38 51.8	
	comp=Z,988nm,21.9s,baz=132,slow=32						
PEL	**Peldehue**	**57.48**	**257**	P	**P**	**00 18 16.8**	**+1.9**
ZON	**Zonda**	**57.51**	**260**	P	**P**	**00 18 17.2**	**+2.0**
ZON				IAmb	IAmb	00 18 28.1	
	comp=Z,80nm,1.9s						
KIBK	**Kibwezi**	**57.51**	**36**	P	**P**	**00 18 13.6**	**-1.8**
KIBK				IAmb	IAmb	00 18 35.4	
	comp=Z,27nm,1.3s						
KIBK				IAMs_20	IAMs_20	00 39 57.5	
	comp=Z,2μm,19.0s						
BDFB	**Brasilia**	**57.93**	**289**	P	**P**	**00 18 18.4**	**0.0**
BDFB				IAmb	IAmb	00 18 28.1	
	comp=Z,28nm,1.1s						
BDFB	**Brasilia**	**57.93**	**289**	P	**P**	**00 18 17.6**	**-0.8**
	comp=Z,11nm,0.8s,baz=160,slow=9.1,SNR=6.9						
BDFB				LR	LR	00 38 14.3	
	comp=Z,1μm,19.1s,baz=142,slow=31						
	comp=Z,11nm,0.8s						
KMBO	**Kilima Mbogo**	**58.38**	**35**	P	**P**	**00 18 19.2**	**-2.5**
KMBO	**Kilima Mbogo**	**58.38**	**35**	IAMs_20	IAMs_20	00 42 53.8	
	comp=Z,2μm,18.0s						
KMBO	**Kilima Mbogo**	**58.38**	**35**	*e*P	**P**	**00 18 23.0**	**+1.4**
KMBO				*e*S	**S**	**00 26 31.0**	**+6.5**
KMBO	**Kilima Mbogo**	**58.38**	**35**	P	**P**	**00 18 19.4**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=221,slow=19,SNR=1.9						
	comp=Z,0.7nm,0.8s						
KMBO	**Kilima Mbogo**	**58.38**	**35**	*e*P	**P**	**00 18 23.0**	**+1.4**
	baz=52						
KMBO				*e*S	**S**	**00 26 31.0**	**+6.5**
	baz=52						
AQDB	**Aquidauana**	**58.39**	**279**	P	**P**	**00 18 21.4**	**-0.1**
RCBR	**Riachuelo**	**60.06**	**307**	LR	LR	00 37 30.4	
	comp=Z,454nm,22.0s,baz=148,slow=29						
DBIC	**Dimbokro**	**61.95**	**345**	P	**P**	**00 18 43.5**	**-2.3**
	comp=Z,17nm,0.8s,baz=160,slow=8.3,SNR=14						
	comp=Z,17nm,0.8s						
LODK	**Lodwar**	**62.06**	**31**	P	**P**	**00 18 43.6**	**-3.0**
LODK				IAmb	IAmb	00 18 59.5	
	comp=Z,30nm,1.9s						
LODK				IAMs_20	IAMs_20	00 43 59.3	
	comp=Z,2μm,18.0s						
LODK	**Lodwar**	**62.06**	**31**	*e*P	**P**	**00 18 50.1**	**+3.4**
LODK	**Lodwar**	**62.06**	**31**	*e*P	**P**	**00 18 50.1**	**+3.4**
	baz=51						
PB15	**IPOC Station P**	**64.27**	**266**	P	**P**	**00 19 02.6**	**+1.1**
PTLB	**Pontes e Lacer**	**64.35**	**280**	P	**P**	**00 19 01.3**	**-0.5**
PTLB				IAmb	IAmb	00 19 09.9	
	comp=Z,20nm,1.1s						
LVC	**Limon Verde**	**64.41**	**267**	P	**P**	**00 19 02.2**	**-0.4**
LVC				IAmb	IAmb	00 19 17.4	
	comp=Z,24nm,1.2s						
LVC	**Limon Verde**	**64.41**	**267**	LR	LR	00 43 26.9	
	comp=Z,472nm,21.7s,baz=140,slow=33						
SIV	**San Ignacio**	**65.04**	**278**	LR	LR	00 43 42.4	
	comp=Z,1μm,18.9s,baz=146,slow=33						
PB07	**IPOC Station P**	**65.66**	**266**	P	**P**	**00 19 11.3**	**+0.8**
VILB	**Vilhena**	**66.96**	**280**	P	**P**	**00 19 19.9**	**+1.2**
VILB				IAmb	IAmb	00 19 29.1	
	comp=Z,39nm,1.3s						
TOA0	**Torodi Ar. Sit**	**67.65**	**353**	P	**P**	**00 19 20.1**	**-2.8**
TOA0				IAmb	IAmb	00 19 33.2	
	comp=Z,22nm,1.4s						
TORD	**Torodi Ar. Bea**	**67.65**	**353**	P	**P**	**00 19 20.2**	**-2.7**
TORD	**Torodi Ar. Bea**	**67.65**	**353**	P	**P**	**00 19 19.3**	**-3.6**
	comp=Z,4.0nm,0.8s,baz=182,slow=4.9,SNR=14						
	comp=Z,4.0nm,0.8s						
PB16	**IPOC Station P**	**68.09**	**269**	P	**P**	**00 19 26.7**	**+0.2**
FURI	**Furi**	**68.25**	**33**	*e*P	P	00 19 36.4	+9.2
FURI				IAMs_20	IAMs_20	00 45 27.6	
	comp=Z,2μm,16.3s						
FURI	**Furi**	**68.25**	**33**	*e*P	P	00 19 36.4	+9.2
	baz=48						
FURI				IAMs_20	IAMs_20	00 45 27.6	
	comp=Z,2μm,16.3s,baz=48						
LPAZ	**La Paz**	**68.90**	**271**	P	**P**	**00 19 30.7**	**-0.9**
LPAZ	**La Paz**	**68.90**	**271**	LR	LR	00 45 55.1	
	comp=Z,593nm,22.0s,baz=58,slow=33						
KOWA	**Kowa**	**69.54**	**348**	P	**P**	**00 19 32.8**	**-1.9**
KOWA				IAmb	IAmb	00 19 35.9	
	comp=Z,8.9nm,0.8s						
H01W2	**Cape Leeuwin H**	**70.70**	**123**	T	T	01 38 00.4	
	baz=218,slow=75,SNR=1838						
H01W3	**Cape Leeuwin H**	**70.72**	**123**	T	T	01 38 01.3	
	baz=218,slow=75,SNR=2014						
H01W1	**Cape Leeuwin H**	**70.72**	**123**	T	T	01 37 57.9	
	baz=218,slow=75,SNR=1343						
TEND	**Ethiopian Broa**	**71.72**	**34**	*e*P	**P**	**00 19 47.6**	**-0.5**
	baz=49						
TEND				*e*S	**S**	**00 29 15.3**	**+7.3**
	baz=49						
SAML	**Samuel**	**71.90**	**280**	P	**P**	**00 19 48.9**	**-0.4**
SAML				IAmb	IAmb	00 19 57.5	
	comp=Z,46nm,1.4s						
SAML	**Samuel**	**71.90**	**280**	IAMs_20	IAMs_20	00 46 19.6	
	comp=Z,1μm,21.0s						
ATD	**Arta Tunnel**	**72.09**	**36**	P	**P**	**00 19 48.4**	**-1.9**
ATD				IAmb	IAmb	00 20 13.8	
	comp=Z,14nm,1.1s						
ATD				IAMs_20	IAMs_20	00 48 23.4	
	comp=Z,1μm,19.0s						
ATD	**Arta Tunnel**	**72.09**	**36**	LR	LR	00 48 34.6	
	comp=Z,44nm,21.3s,baz=188,slow=34						
ETMB	**Extrema**	**72.95**	**277**	P	**P**	**00 19 56.7**	**+1.2**
ETMB				IAmb	IAmb	00 20 09.7	
	comp=Z,42nm,1.6s						
TAM	**Tamanrasset**	**77.06**	**358**	P	**P**	**00 20 18.1**	**-0.9**
NNA	**Nana**	**77.39**	**267**	LR	LR	00 52 14.8	
	comp=Z,529nm,21.6s,baz=146,slow=34						
MDP	**Montagnes des**	**77.75**	**297**	LR	LR	00 50 43.7	
	comp=Z,805nm,19.8s,baz=143,slow=33						
CZSB	**Cruzeiro do Su**	**78.39**	**273**	P	**P**	**00 20 28.1**	**+1.4**
CZSB				IAmb	IAmb	00 20 38.7	
	comp=Z,69nm,1.8s						
BOAV	**Boa Vista**	**79.70**	**289**	P	**P**	**00 20 33.4**	**-0.4**
RPZ	**Rata Peaks**	**81.03**	**168**	LR	LR	00 54 44.5	
	comp=Z,1μm,21.0s,baz=196,slow=34						
ATAH	**Atahualpa**	**82.19**	**269**	LR	LR	00 56 04.1	
	comp=Z,393nm,21.8s,baz=151,slow=35						
RPN	**Rapa Nui**	**82.55**	**233**	LR	LR	00 47 57.4	
	comp=Z,127nm,21.1s,baz=102,slow=29						
STKA	**Stephens Creek**	**85.07**	**142**	P	**P**	**00 20 58.9**	**-2.8**
	comp=Z,7.2nm,1.1s,baz=288,slow=9.6,SNR=3.7						
	comp=Z,7.2nm,1.1s						
MCRA	**Macar, Loja**	**85.32**	**269**	P	**P**	**00 21 04.8**	**+1.5**
BOSC	**San Juan Bosco**	**85.45**	**271**	P	**P**	**00 21 03.4**	**-0.6**
BHHZ	**Black Hill Sta**	**85.76**	**171**	P	**P**	**00 21 05.6**	**+0.4**
MOVZ	**Moawhango**	**85.81**	**170**	P	**P**	**00 21 08.9**	**+3.5**
DREZ	**Durham Road**	**85.87**	**169**	P	P	00 21 20.9	+15
WHVZ	**Whangaehu Hut**	**85.92**	**170**	P	**P**	**00 21 06.2**	**+0.1**
FWVZ	**Far West T-bar**	**85.94**	**170**	P	**P**	**00 21 06.6**	**+0.3**
SNVZ	**South Ngauruho**	**86.02**	**170**	P	**P**	**00 21 04.9**	**-1.7**
NGZ	**Ngauruhoe**	**86.03**	**170**	P	**P**	**00 21 04.9**	**-1.6**
OTVZ	**Oturere**	**86.05**	**170**	P	**P**	**00 21 04.4**	**-2.2**
NNVZ	**North Ngauruho**	**86.07**	**170**	P	**P**	**00 21 02.7**	**-4.1**
ETVZ	**East Tongariro**	**86.08**	**170**	P	**P**	**00 21 04.5**	**-2.3**
WTVZ	**West Tongariro**	**86.08**	**170**	P	**P**	**00 21 04.6**	**-2.2**
TMVZ	**Te Maari**	**86.10**	**170**	P	**P**	**00 21 04.4**	**-2.5**
KRVZ	**Karewarewa**	**86.11**	**170**	P	**P**	**00 21 04.3**	**-2.7**
KATZ	**Kakaramea**	**86.23**	**170**	P	**P**	**00 21 06.7**	**-0.9**
COHC	**Cochancay**	**86.45**	**271**	P	**P**	**00 21 09.2**	**+0.4**
HIZ	**Hauiti**	**86.61**	**170**	P	P	00 21 19.8	+11
RTZ	**Ruatahuna**	**86.71**	**171**	IAMs_20	IAMs_20	00 57 38.0	
	comp=Z,919nm,21.0s						
URZ	**Urewera**	**87.08**	**171**	LR	LR	00 59 18.2	
	comp=Z,1μm,18.7s,baz=216,slow=35						
TOZ	**Tahuroa Road**	**87.45**	**170**	IAMs_20	IAMs_20	00 58 25.4	
	comp=Z,915nm,18.0s						
MDT	**Midelt**	**87.70**	**349**	LR	LR	00 55 05.0	
	comp=Z,1μm,21.9s,baz=191,slow=32						
OTAV	**Otavalo**	**88.16**	**273**	P	**P**	**00 21 16.4**	**-1.2**
OTAV	**Otavalo**	**88.16**	**273**	IAMs_20	IAMs_20	00 57 28.3	
	comp=Z,784nm,22.0s						
PCRV	**Puerto La Cruz**	**88.41**	**290**	LR	LR	00 56 56.4	
	comp=Z,1μm,19.9s,slow=33						
WSAR	**Wadi Sarin**	**88.77**	**45**	P	**P**	**00 21 18.4**	**-1.2**
	comp=Z,10.0nm,0.9s,baz=224,slow=3.3,SNR=9.0						
WSAR				LR	LR	00 53 37.6	
	comp=Z,437nm,22.0s,baz=230,slow=31						
	comp=Z,10.0nm,0.9s						
BAUV	**El Baul**	**89.28**	**286**	P	**P**	**00 21 21.1**	**-1.1**
UOSS	**Minazif**	**89.31**	**43**	P	**P**	**00 21 22.0**	**-0.1**
UOSS				IAmb	IAmb	00 21 46.6	
	comp=Z,10nm,0.9s						
UOSS	**Minazif**	**89.31**	**43**	IAMs_20	IAMs_20	00 58 31.1	
	comp=Z,653nm,18.0s						
ASAR	**Alice Springs**	**89.33**	**132**	P	**P**	**00 21 21.6**	**-0.9**
ASAR	**Alice Springs**	**89.33**	**132**	P	**P**	**00 21 21.1**	**-1.4**
	comp=Z,3.3nm,1.1s,baz=207,slow=3.9,SNR=11						
ASAR				LR	LR	00 55 44.4	
	comp=Z,333nm,18.6s,baz=212,slow=32						
	comp=Z,3.3nm,1.1s						
ROSC	**El Rosal**	**89.50**	**279**	LR	LR	00 58 20.6	
	comp=Z,1μm,20.6s,baz=178,slow=34						
ASF	**Jabal al Asfar**	**89.88**	**24**	LR	LR	01 00 28.7	
	comp=Z,1μm,19.1s,baz=208,slow=35						
KEST	**Kesra**	**89.93**	**1**	P	**P**	**00 21 23.6**	**-1.1**
KEST				IAmb	IAmb	00 21 39.8	
	comp=Z,23nm,1.1s						
KEST	**Kesra**	**89.93**	**1**	P	**P**	**00 21 25.2**	**+0.4**
	comp=Z,14nm,1.0s,baz=255,slow=4.3,SNR=11						
KEST				LR	LR	00 59 37.4	
	comp=Z,1μm,18.6s,baz=150,slow=34						
LEM	**Lembang**	**90.00**	**102**	LR	LR	00 52 16.6	
	comp=Z,623nm,21.5s,baz=162,slow=29						
MMAI	**Mount Meron Ar**	**90.35**	**23**	LR	LR	01 00 17.3	
	comp=Z,2μm,20.7s,baz=167,slow=34						
IDI	**Anoyia**	**90.65**	**14**	LR	LR	01 03 31.0	
	comp=Z,1μm,19.4s,baz=185,slow=37						
SDV	**Santo Domingo**	**90.69**	**284**	LR	LR	00 58 38.9	
	comp=Z,681nm,21.4s,baz=150,slow=33						
PMBI	**Palembang**	**91.53**	**97**	IAMs_20	IAMs_20	00 52 29.3	
	comp=Z,757nm,21.0s						
CSS	**Mathiatis**	**91.78**	**21**	IAMs_20	IAMs_20

PSZ	**Piszkesteto**	**102.59**	**8**	IAMs_20	IAMs_20	01 14 50.3	
	comp=Z,497nm,18.0s						
CKRC	**Cesky Krumlov**	**103.14**	**4**	*e*SP	SP	00 35 41.5	-5.0
CKRC				*e*SS	**SS**	**00 41 14.6**	**-7.6**
CKRC				AMS	AMS	01 17 10.0	
	comp=Z,600nm,19.2s						
KHC	**Kasperske Hory**	**103.42**	**4**	*e*SP	SP	00 35 44.8	-4.7
KHC				*e*SS	SS	00 41 15.1	-11
KHC				AMS	AMS	01 15 10.0	
	comp=Z,700nm,17.8s						
ZVC	**Zvikov**	**103.75**	**4**	AMS	AMS	01 11 50.0	
	comp=Z,800nm,17.8s						
PRU	**Pruhonice**	**104.31**	**4**	AMS	AMS	01 12 20.0	
	comp=Z,500nm,18.5s						
PRA	**Prague**	**104.39**	**4**	AMS	AMS	01 09 40.0	
	comp=Z,600nm,19.0s						
TGUH	**Tegucigalpa,Un**	**104.41**	**274**	IAMs_20	IAMs_20	01 08 21.7	
	comp=Z,470nm,18.0s						
NKC	**Novy Kostel**	**104.48**	**3**	AMS	AMS	01 07 20.0	
	comp=Z,700nm,18.4s						
KWP	**Kalwaria Pacla**	**104.54**	**10**	IAMs_20	IAMs_20	01 13 09.0	
	comp=Z,834nm,18.0s						
DPC	**Dobruska-Polom**	**104.76**	**5**	AMS	AMS	01 17 00.0	
	comp=Z,400nm,18.7s						
RICC	**Richard**	**104.85**	**4**	AMS	AMS	01 14 50.0	
	comp=Z,600nm,20.0s						
HSKC	**Hora Svate Kat**	**104.89**	**4**	AMS	AMS	01 10 00.0	
	comp=Z,800nm,19.8s						
UPC	**Upice**	**104.90**	**5**	AMS	AMS	01 07 10.0	
	comp=Z,600nm,22.1s						
OSTC	**Ostas**	**104.96**	**5**	AMS	AMS	01 13 00.0	
	comp=Z,500nm,21.5s						
CHVC	**Chvalec**	**104.99**	**5**	AMS	AMS	01 07 30.0	
	comp=Z,600nm,20.5s						
CLL	**Collm**	**105.57**	**3**	IAMs_20	IAMs_20	01 10 04.4	
	comp=Z,698nm,19.0s						
CLL	**Collm**	**105.57**	**3**	*e*PS	PS	00 36 14.0	+0.8
CLL				*e*PPS	PPS	00 37 06.0	
CLL				*e*SS	SS	00 41 47.0	-8.5
CLL				*e*SSS	SSS	00 45 48.0	
CLL				AMS	AMS	01 09 00.0	
	comp=Z,700nm,18.6s						
PPT2	**Papeete2**	**105.65**	**202**	*e*SS	SS	00 42 16.2	+21
	comp=Z,431nm,26.8s						
PPT2	**Papeete2**	**105.65**	**202**	*e*LQ	LQ	00 52 53.9	
	comp=Z,895nm,32.5s						
PPT2				*e*LR	LR	00 57 16.3	
	comp=Z,1μm,24.0s						
PPT2				*e*LR	LR	00 57 26.0	
	comp=Z,792nm,24.8s						
RGN	**Rugen**	**108.83**	**3**	IAMs_20	IAMs_20	01 15 30.4	
	comp=Z,912nm,20.0s						
SUW	**Suwalki**	**108.92**	**9**	IAMs_20	IAMs_20	01 12 07.9	
	comp=Z,569nm,22.0s						
MNK	**Minsk**	**109.92**	**12**	*i* Pdif	**Pdif**	**00 22 56.6**	**+2.4**
MNK				*i* Pdif	**Pdif**	**00 22 56.6**	**+2.4**
	baz=192						
MNK				*i* Pdif	**Pdif**	**00 22 56.7**	**+2.4**
MNK				*i* PKiKP	**PKiKP**	**00 26 59.3**	**+3.2**
MNK				*i* PKiKP	**PKiKP**	**00 26 59.3**	**+3.2**
MNK				*i* PKiKP	PP	00 26 59.4	-30
MNK				*i* PP	**PP**	**00 27 30.9**	**+1.2**
MNK				*i* PPP	PPP	00 29 50.5	
MNK				*i* SKS	**SKSdf**	**00 34 10.9**	**+3.4**
MNK				*i* SS	**SS**	**00 42 56.4**	**+2.1**
MNK				*i* SSS	SSS	00 47 01.8	
MNK				*i* LQ	LQ	01 06 34.8	
MNK				*i* LR	LR	01 10 28.8	
MNK				*i* LRM	MLR	01 12 17.7	
	comp=N,470nm,19.9s						
MNK				*i* LRM	MLR	01 12 20.6	
	comp=Z,553nm,20.9s						
MNK				*i* LRM	MLR	01 12 38.6	
	comp=E,64nm,15.6s						
NACGM	**Naroch**	**110.18**	**11**	*e*Pdif	**Pdif**	**00 22 51.2**	**-4.2**
	comp=Z,24nm,0.9s,baz=192						
KSH	**Kashi**	**110.22**	**50**	Pdif	**Pdif**	**00 23 03.7**	**+7.5**
KSH	**Kashi**	**110.22**	**50**	SS	SS	00 42 58.2	-0.9
KSH				LR	LR		
	comp=N,290nm,19.6s						
KSH				LR	LR		
	comp=E,310nm,19.9s						
KSH				LR	LR		
	comp=Z,480nm,25.1s						
PABE	**Paberze**	**110.47**	**10**	IAMs_20	IAMs_20	01 13 35.9	
	comp=Z,566nm,21.0s						
TAOE	**Nuku Hiva Isla**	**111.41**	**214**	*e*LR	LR	01 00 13.3	
	comp=Z,348nm,26.0s						
QIZ	**Qiongzhong**	**112.08**	**88**	Pdif	**Pdif**	**00 23 04.9**	**+0.1**
QIZ				PP	**PP**	**00 27 45.1**	**-0.5**
QIZ				SS	SS	00 43 26.0	+2.3
QIZ				LR	LR		
	comp=Z,470nm,17.7s						
QIZ				LR	LR		
	comp=Z,550nm,22.1s						
PZH	**PanZhiHua**	**113.22**	**77**	PKP	**PKiKP**	**00 27 03.8**	**+0.3**
PZH				PP	**PP**	**00 28 00.3**	**+6.4**
PZH				AMB	AMB		
	comp=Z,100nm,5.2s						
PZH				LR	LR		
	comp=Z,220nm,23.7s						
PZH				LR	LR		
	comp=Z,260nm,21.2s						
PZH				LR	LR		
	comp=Z,270nm,21.0s						
BRAL	**Brewton**	**117.59**	**286**	IAMs_20	IAMs_20	01 14 31.1	
	comp=Z,699nm,21.0s						
ARU	**Arti**	**118.03**	**29**	IAMs_20	IAMs_20	01 20 12.3	
	comp=Z,761nm,21.0s						
MAKZ	**Makanchi**	**118.68**	**49**	IAMs_20	IAMs_20	01 23 37.9	
	comp=Z,453nm,19.0s						
MKAR	**Makanchi Array**	**118.80**	**49**	PKPdf	**PKPdf**	**00 27 12.5**	**-0.9**
MKAR	**Makanchi Array**	**118.80**	**49**	PKP	**PKPdf**	**00 27 12.9**	**-0.5**
	comp=Z,2.2nm,1.0s,baz=218,slow=7.4,SNR=5.3						
BRVK	**Borovoye**	**118.96**	**38**	PKPdf	**PKiKP**	**00 27 14.0**	**+0.5**
BRVK	**Borovoye**	**118.96**	**38**	IAMs_20	IAMs_20	01 19 54.3	
	comp=Z,430nm,19.0s						
LRAL	**Lakeview Retre**	**118.96**	**287**	IAMs_20	IAMs_20	01 13 15.3	
	comp=Z,531nm,21.0s						
BVAR	**Borovoye Array**	**118.97**	**38**	PKP	**PKPdf**	**00 27 11.5**	**-2.0**
	comp=Z,1.9nm,0.6s,baz=227,slow=2.0,SNR=4.5						
WMQ	**Urumqi**	**119.01**	**55**	*e*PKP	**PKiKP**	**00 27 15.6**	**+1.6**
WMQ				LR	LR		
	comp=Z,240nm,20.7s						
WMQ				LR	LR		
	comp=Z,300nm,20.7s						
KURBB	**Kurchatov Arra**	**120.17**	**44**	PKP	**PKPdf**	**00 27 14.9**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=234,slow=2.6,SNR=6.4						
KURK	**Kurchatov**	**120.28**	**44**	IAMs_20	IAMs_20	01 23 16.7	
	comp=Z,445nm,19.0s						
OXF	**Oxford**	**121.40**	**286**	IAMs_20	IAMs_20	01 16 36.8	
	comp=Z,452nm,21.0s						
GTA	**Gaotai**	**121.85**	**66**	*e*PKPbc	PKiKP	00 27 29.5	+10
GTA				LR	LR		
	comp=N,280nm,22.2s						
GTA				LR	LR		
	comp=E,140nm,19.3s						
GTA				LR	LR		
	comp=Z,340nm,21.4s						
XAN	**Xi'an**	**122.96**	**76**	⇑PKP	**PKiKP**	**00 27 25.1**	**+3.0**
XAN				LR	LR		
	comp=Z,290nm,20.3s						
XAN				LR	LR		
	comp=Z,270nm,19.7s						
XAN				LR	LR		
	comp=Z,460nm,20.6s						
WHN	**Wuhan**	**123.50**	**83**	PKP	**PKPdf**	**00 27 22.8**	**-0.1**
ARCES	**ARCESS Array B**	**124.43**	**7**	PKP	**PKPdf**	**00 27 21.7**	**-1.8**
	comp=Z,3.5nm,0.8s,baz=201,slow=4.0,SNR=2.5						
ZAA0	**Zalesovo Array**	**125.22**	**45**	PKPdf	**PKiKP**	**00 27 25.9**	**+0.1**
ZALV	**Zalesovo Beam**	**125.22**	**45**	PKPdf	**PKPdf**	**00 27 25.1**	**-0.4**
ZALV	**Zalesovo Beam**	**125.22**	**45**	PKP	**PKPdf**	**00 27 23.3**	**-2.1**
	comp=Z,0.8nm,0.6s,baz=290,slow=4.4,SNR=6.4						
TXAR	**Lajitas Array**	**125.77**	**271**	PKP	**PKPdf**	**00 27 26.0**	**-1.4**
	comp=Z,0.1nm,0.5s,baz=170,slow=5.5,SNR=3.5						
OK031	**S. Brethren Rd**	**126.63**	**282**	IAMs_20	IAMs_20	01 19 36.0	
	comp=Z,382nm,20.0s						
OK052	**Battle Ridge R**	**126.64**	**282**	IAMs_20	IAMs_20	01 19 27.2	
	comp=Z,439nm,20.0s						
OK033	**Mehan**	**126.75**	**282**	IAMs_20	IAMs_20	01 19 43.2	
	comp=Z,503nm,20.0s						
OK029	**Liberty Lake**	**126.87**	**282**	IAMs_20	IAMs_20	01 19 46.8	
	comp=Z,404nm,21.0s						
NJ2	**Nanjing**	**127.22**	**85**	*e*PKP	**PKiKP**	**00 27 30.9**	**+0.4**
OK032	**Salt Plains WL**	**128.02**	**282**	IAMs_20	IAMs_20	01 21 41.0	
	comp=Z,397nm,21.0s						
BTO	**Baotou**	**128.23**	**71**	*e*PKP	**PKPdf**	**00 27 29.7**	**-2.1**
BTO				sPKP		00 27 45.0	
BTO				PP	**PP**	**00 29 38.4**	**+1.8**
BTO				SKS	**SKSac**	**00 34 38.6**	**-0.4**
BTO				SKKS	**SKKSac**	**00 36 29.0**	**-4.1**
BTO				LR	LR		
	comp=Z,270nm,9.4s						
BTO				LR	LR		
	comp=Z,390nm,16.7s						
SONM	**Songino Array**	**131.11**	**62**	PKP	**PKPdf**	**00 27 35.2**	**-1.9**
	comp=Z,0.1nm,0.4s,baz=309,slow=5.5,SNR=2.9						
Y22D	**IRIS PASSCAL I**	**131.11**	**273**	IAMs_20	IAMs_20	01 19 40.2	
	comp=Z,436nm,22.0s						
ANMO	**Albuquerque**	**131.46**	**274**	PKPdf	**PKPdf**	**00 27 37.7**	**-0.6**
ULN	**Ulaanbaatar**	**131.47**	**63**	IAMs_20	IAMs_20	01 19 37.6	
	comp=Z,394nm,20.0s						
ECSD	**EROS Data Cent**	**131.83**	**290**	IAMs_20	IAMs_20	01 21 15.5	
	comp=Z,446nm,21.0s						
OGNE	**Ogallala**	**133.02**	**283**	IAMs_20	IAMs_20	01 29 09.9	
	comp=Z,514nm,20.0s						
ISCO	**Idaho Springs**	**134.30**	**280**	IAMs_20	IAMs_20	01 25 19.8	
	comp=Z,435nm,19.0s						
SMCO	**Snowmass**	**134.67**	**278**	IAMs_20	IAMs_20	01 24 33.8	
	comp=Z,497nm,21.0s						
MVU	**Marysvale**	**137.26**	**273**	PKPdf	**PKPdf**	**00 27 47.6**	**-1.5**
BW06	**Boulder Array**	**138.49**	**280**	IAMs_20	IAMs_20	01 23 28.5	
	comp=Z,334nm,19.0s						
PDAR	**Pinedale Array**	**138.49**	**280**	PKPdf	**PKPdf**	**00 27 51.0**	**-0.2**
PDAR	**Pinedale Array**	**138.49**	**280**	PKP	**PKPdf**	**00 27 49.5**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=95,slow=2.0,SNR=5.2						
HWUT	**Hardware Ranch**	**138.91**	**277**	PKPdf	**PKPdf**	**00 27 51.4**	**-0.6**
HWUT				IAMs_20	IAMs_20	01 27 58.1	
	comp=Z,507nm,19.0s						
HIA	**Hailar**	**139.03**	**68**	IAMs_20	IAMs_20	01 39 29.4	
	comp=Z,365nm,20.0s						
AHID	**Auburn Hatcher**	**139.37**	**279**	IAMs_20	IAMs_20	01 28 11.1	
	comp=Z,385nm,20.0s						
LOHW	**Long Hollow**	**139.61**	**280**	PKPdf	**PKPdf**	**00 27 53.7**	**+0.5**
RLMT	**Red Lodge**	**139.77**	**283**	IAMs_20	IAMs_20	01 25 21.4	
	comp=Z,499nm,21.0s						
MOOW	**Moose Ponds**	**139.78**	**280**	PKPdf	**PKPdf**	**00 27 53.8**	**+0.3**
IMW	**Indian Meadow**	**139.98**	**281**	PKPpre	PKPpre	00 27 48.1	
IMW				IAMs_20	IAMs_20	01 21 37.9	
	comp=Z,446nm,21.0s						
NVAR	**Mina Array Bea**	**140.75**	**268**	PKP	**PKPdf**	**00 27 52.4**	**-3.0**
	comp=Z,0.7nm,0.8s,baz=138,slow=3.9,SNR=6.3						
BOZ	**Bozeman (W)**	**141.39**	**282**	IAMs_20	IAMs_20	01 24 53.5	
	comp=Z,400nm,20.0s						
MJAR	**Matsushiro Arr**	**141.66**	**97**	PKP	**PKPdf**	**00 27 53.4**	**-3.5**
	comp=Z,0.7nm,0.3s,baz=192,slow=4.7,SNR=1.7						
MDJ	**Mudanjiang**	**141.86**	**80**	IAMs_20	IAMs_20	01 26 01.5	
	comp=Z,385nm,22.0s						
LYMT	**Lyon Mountain**	**142.55**	**284**	PKPpre	PKPpre	00 27 52.6	
CHMT	**Chamberlain Mo**	**143.07**	**283**	PKPdf	**PKPdf**	**00 28 00.2**	**+0.9**
MSO	**Missoula**	**143.41**	**282**	PKPdf	**PKPdf**	**00 27 58.8**	**-0.9**
MSO				IAMs_20	IAMs_20	01 29 36.0	
	comp=Z,488nm,20.0s						
PLID	**Pearl Lake**	**143.60**	**279**	PKPdf	**PKPdf**	**00 28 00.9**	**+0.6**
EUNU	**Eureka**	**143.94**	**343**	PKPdf	**PKPdf**	**00 27 59.9**	**+0.2**
J08A	**Circle Bar Ran**	**144.00**	**274**	PKPdf	**PKPdf**	**00 28 01.9**	**+1.0**
BMO	**Blue Mountains**	**144.21**	**277**	PKPdf	**PKPdf**	**00 28 01.1**	**-0.1**
F10A	**Beach Ranch, E**	**144.81**	**279**	PKPdf	**PKPab**	**00 28 01.0**	**-0.3**
RES	**Resolute Bay**	**144.92**	**333**	PKPdf	**PKPdf**	**00 28 01.7**	**+0.3**
K05A	**Summer Lake**	**145.02**	**272**		**PKPdf**	**00 28 02.6**	**-0.2**
I07A	**Izee**	**145.03**	**275**		**PKPdf**	**00 28 02.5**	**-0.2**
G08A	**Pilot Rock**	**145.42**	**277**	PKPdf	**PKPab**	**00 28 04.1**	**+0.6**
YBH	**Yreka Blue Hor**	**145.47**	**269**	PKPdf	**PKPdf**	**00 28 03.0**	**-0.4**
J05D	**Fort Rock, OR**	**145.56**	**272**	PKPdf	**PKPab**	**00 28 04.7**	**+0.5**
E09A	**Wood Farm, Sta**	**145.64**	**279**	PKPdf	**PKPab**	**00 28 04.2**	**0.0**
PINE	**Pine Mountain**	**145.69**	**273**	PKPdf	**PKPdf**	**00 28 03.4**	**-0.6**
NEW	**Newport**	**146.00**	**282**	PKPdf	**PKPdf**	**00 28 03.9**	**-0.2**
E08A	**Dider Farm, El**	**146.15**	**278**	PKPdf	**PKPdf**	**00 28 04.5**	**+0.2**
EDM	**Edmonton**	**146.31**	**292**	PKPdf	**PKPdf**	**00 28 05.0**	**+0.6**
LON	**Longmire**	**147.88**	**277**		**PKPbc**	**00 28 09.8**	**-0.6**
LLLB	**Lillooet**	**149.86**	**283**	PKPbc	**PKPbc**	**00 28 15.3**	**+0.1**
TIXI	**Tiksi**	**149.94**	**33**	PKPdf	**PKPdf**	**00 28 11.2**	**+1.4**
TIXI				IAMs_20	IAMs_20	01 40 11.7	
	comp=Z,531nm,21.0s						
YKA	**Yellowknife Ar**	**149.99**	**309**		**PKPbc**	**00 28 14.5**	**-0.6**
YKA	**Yellowknife Ar**	**149.99**	**309**	PKPbc	**PKPbc**	**00 28 14.6**	**-0.4**
	comp=Z,10nm,0.8s,baz=95,slow=2.4,SNR=18						
G30M	**tAoh Zraii Nji**	**158.96**	**320**	IAMs_20	IAMs_20	01 30 58.4	
	comp=Z,458nm,21.0s						
ILAR	**Eielson Array**	**163.86**	**319**	PKPdf	**PKPdf**	**00 28 28.8**	**+1.1**
ILAR				PKPab	**PKPab**	**00 29 19.6**	**-0.8**
ILAR	**Eielson Array**	**163.86**	**319**	PKPab	**PKPab**	**00 29 19.5**	**-1.0**
	comp=Z,1.3nm,0.9s,baz=47,slow=4.6,SNR=9.3						

IDC ***11*** *00:12:12.8±0.6, 42°.00N×48°.41E, h0km, mb4.0/20, mbtmp4.1/27, ML4.1/7, MS2.9/4, Error ellipse: s-maj=12.8km s-min=8.1km az=146.0*
MOS ***11*** *00:12:17.3±1.5, 42°.50N×48°.92E, h11km, mb4.2/7, Error ellipse: s-maj=4.5km s-min=3.1km az=20.4*
NEIC ***11*** *00:12:20.0±1.9, 42°.34N±0°.09×48°.63E±0°.08, h44km±8km, mb4.1/31, Error ellipse: s-maj=13.1km s-min=8.1km az=180.0*
TEH ***11*** *00:12:20.8, 42°.42N×48°.77E, h60km, ML4.1*
AZER ***11*** *00:12:22.6±0.2, 42°.28N×48°.29E, h60km±4km, Error ellipse: s-maj=3.9km s-min=1.5km az=2.0*
DRS ***11*** *00:12:24.0±0.0, 42°.41N×48°.95E, h23km*
NNC ***11*** *00:12:31.6±8.8, 42°.44N×49°.46E, h45km±135km, mb4.1, Error ellipse: s-maj=86.2km s-min=35.0km az=77.0*
ISC 11 00:12:21.7±0.5, 42°.26N±0°.03×48°.61E±0°.03, h68km±4km, n457, σ2°50/603, mb4.1/39, 39C-24D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.31**	**222**	*i* Pg	**Pn**	**00 12 34.5**	**+1.8**
DRN				*i* Sg	**Sn**	**00 12 43.4**	**+2.7**
DRN	**Derbent**	**0.31**	**222**	⇓*i*PG	**Pn**	**00 12 34.5**	**+1.8**
DRN				*i* S	**Sn**	**00 12 43.4**	**+2.7**
URKR	**Urkarakh**	**0.73**	**263**	*i* Pg	**Pn**	**00 12 38.5**	**+1.5**
URKR				*e*Sg	**Sn**	**00 12 50.8**	**+2.6**
URKR	**Urkarakh**	**0.73**	**263**	⇑*i*PG	**Pn**	**00 12 38.5**	**+1.5**
URKR				*e*S	**Sn**	**00 12 50.8**	**+2.6**
SGKR	**Sergokala**	**0.73**	**286**	*e*Pg	**Pn**	**00 12 38.7**	**+1.8**
SGKR				*e*Sg	**Sn**	**00 12 50.7**	**+2.6**
SGKR	**Sergokala**	**0.73**	**286**	⇓*i*PG	**Pn**	**00 12 38.6**	**+1.7**
SGKR				S	**Sn**	**00 12 49.8**	**+1.7**
SGKR				pmax	pmax		
	comp=Z,180nm,0.4s						
SGKR				smax	smax		
	comp=E,21μm,0.3s						
KSMR	**Kasumkent**	**0.75**	**209**	*i* Pg	**Pn**	**00 12 39.5**	**+2.3**
KSMR				*i* Sg	**Sn**	**00 12 51.7**	**+3.3**
KSMR	**Kasumkent**	**0.75**	**209**	*e*PG	**Pn**	**00 12 39.4**	**+2.3**
KSMR				*e*S	**Sn**	**00 12 52.6**	**+4.2**
KSMR				pmax	pmax		
	comp=Z,2μm,0.4s						
KSMR				smax	smax		
	comp=E,65μm,0.3s						
QSAR	**Qusar**	**0.79**	**199**	P	**Pn**	**00 12 40.0**	**+2.5**
	SNR=1159						
QSAR				S	**Sn**	**00 12 52.5**	**+3.3**
QSAR	**Qusar**	**0.79**	**199**	Pg	**Pn**	**00 12 40.0**	**+2.5**
QUB	**Quba**	**0.90**	**192**	Pg	**Pn**	**00 12 41.7**	**+2.8**
QUBA	**Quba, Azerbaij**	**0.91**	**185**	P	**Pn**	**00 12 41.8**	**+2.8**
	SNR=1059						
QUBA				S	**Sn**	**00 12 55.7**	**+3.9**
AKT	**Akhty**	**1.02**	**220**	*e*Pg	**Pn**	**00 12 42.8**	**+2.4**
AKT				*e*Sg	**Sn**	**00 12 59.7**	**+5.3**
AKT	**Akhty**	**1.02**	**220**	⇓*i*PG	**Pn**	**00 12 42.9**	**+2.4**
AKT				S	**Sn**	**00 12 57.9**	**+3.5**
AKT				pmax	pmax		
	comp=Z,2μm,0.4s						
AKT				smax	smax		
	comp=N,9μm,0.3s						
MAK	**Makhachkala**	**1.07**	**311**	*i* Pg	**Pn**	**00 12 43.1**	**+2.2**
MAK				*i* Sg	**Sn**	**00 12 58.8**	**+3.4**
MAK	**Makhachkala**	**1.07**	**311**	⇓*i*PG	**Pn**	**00 12 43.2**	**+2.2**
MAK				*i* S	**Sn**	**00 12 58.8**	**+3.4**
KMKR	**Kumukh**	**1.13**	**264**	*e*Pg	**Pn**	**00 12 44.1**	**+2.2**
KMKR				*e*Sg	**Sn**	**00 13 02.9**	**+5.9**
KMKR	**Kumukh**	**1.13**	**264**	*e*PG	**Pn**	**00 12 44.0**	**+2.1**
KMKR				*e*S	**Sn**	**00 13 01.2**	**+4.2**
KMKR				pmax	pmax		
	comp=Z,891nm,0.2s						
KMKR				smax	smax		
	comp=N,15μm,0.3s						
XNQ	**Khinaliq**	**1.14**	**198**	P	**Pn**	**00 12 44.2**	**+2.1**
	SNR=1813						
XNQ				S	**Sn**	**00 13 00.4**	**+3.1**
XNQ	**Khinaliq**	**1.14**	**198**	Pg	**Pn**	**00 12 44.3**	**+2.1**
SIZA	**Siyzn**	**1.20**	**169**	P	**Pn**	**00 12 45.8**	**+2.9**
	SNR=79						
SIZA				S	**Sn**	**00 13 04.6**	**+6.1**
SIZA	**Siyzn**	**1.20**	**169**	Pg	**Pn**	**00 12 45.7**	**+2.9**
GNBR	**Gunib**	**1.23**	**277**	*i* Pg	**Pn**	**00 12 45.5**	**+2.5**
GNBR				*e*Sg	**Sn**	**00 13 02.9**	**+3.9**
GNBR	**Gunib**	**1.23**	**277**	⇑*i*PG	**Pn**	**00 12 45.5**	**+2.5**
GNBR				*e*S	**Sn**	**00 13 02.9**	**+3.9**
ARKR	**Arakani**	**1.24**	**287**	*e*Pg	**Pn**	**00 12 45.7**	**+2.4**
ARKR				*e*Sg	**Sn**	**00 13 02.5**	**+3.1**
ARKR	**Arakani**	**1.24**	**287**	*e*PG	**Pn**	**00 12 45.7**	**+2.4**
ARKR				*e*S	**Sn**	**00 13 02.5**	**+3.1**
BUJR	**Buynaksk**	**1.24**	**298**	*e*Pg	**Pn**	**00 12 45.7**	**+2.5**
BUJR				*e*Sg	**Sn**	**00 13 04.9**	**+5.5**
BUJR	**Buynaksk**	**1.24**	**298**	*e*PG	**Pn**	**00 12 45.3**	**+2.0**
BUJR				*e*S	**Sn**	**00 13 03.8**	**+4.4**
BUJR				pmax	pmax		
	comp=Z,1μm,0.3s						
BUJR				smax	smax		
	comp=N,11μm,0.4s						
KANR	**Karaman**	**1.25**	**319**	*i* Pg	**Pn**	**00 12 46.4**	**+3.2**
KANR				*e*Sg	**Sn**	**00 13 04.0**	**+4.6**
KANR	**Karaman**	**1.25**	**319**	*i* PG	**Pn**	**00 12 46.4**	**+3.2**
KANR				*e*S	**Sn**	**00 13 04.0**	**+4.6**
KRNR	**Karanay**	**1.38**	**295**	*e*Pg	**Pn**	**00 12 47.8**	**+2.7**
KRNR				*e*Sg	**Sn**	**00 13 06.1**	**+3.5**
KRNR	**Karanay**	**1.38**	**295**	*e*PG	**Pn**	**00 12 47.4**	**+2.3**
KRNR				*e*S	**Sn**	**00 13 06.9**	**+4.2**
KRNR				pmax	pmax		
	comp=Z,734nm,0.3s						
KRNR				smax	smax		
	comp=E,3μm,0.4s						
UNCR	**Uncukul**	**1.42**	**289**	*i* Pg	**Pn**	**00 12 48.3**	**+2.8**
UNCR				*i* Sg	**Sn**	**00 13 07.2**	**+3.8**
UNCR	**Uncukul**	**1.42**	**289**	*e*PG	**Pn**	**00 12 48.1**	**+2.6**
UNCR				*e*S	**Sn**	**00 13 07.8**	**+4.3**
UNCR				pmax	pmax		
	comp=Z,780nm,0.5s						
UNCR				smax	smax		
	comp=N,5μm,0.9s						
ATGJ	**Altiaghaj**	**1.42**	**170**	P	**Pn**	**00 12 48.8**	**+3.2**
	SNR=550						
ATGJ				S	**Sn**	**00 13 09.2**	**+5.6**
ATGJ	**Altiaghaj**	**1.42**	**170**	Pg	**Pn**	**00 12 48.8**	**+3.2**
HNZR	**Khunzah**	**1.43**	**283**	*e*PN	**Pn**	**00 12 49.0**	**+3.1**
HNZR				*e*S	**Sn**	**00 13 08.0**	**+4.0**
QBL	**Gabala**	**1.43**	**204**	P	**Pn**	**00 12 48.0**	**+2.2**
	SNR=132						
QBL				S	**Sn**	**00 13 07.2**	**+3.3**
QBL	**Gabala**	**1.43**	**204**	Pg	**Pn**	**00 12 47.9**	**+2.2**
XNZR	**Khunzakh**	**1.44**	**282**	*e*Pg	**Pn**	**00 12 49.0**	**+3.0**
XNZR				*e*Sg	**Sn**	**00 13 08.0**	**+3.8**
PQL	**Pirkuli**	**1.47**	**180**	P	**Pn**	**00 12 49.1**	**+2.7**
	SNR=279						
PQL				S	**Sn**	**00 13 09.4**	**+4.6**
PQL	**Pirkuli**	**1.47**	**180**	Pg	**Pn**	**00 12 49.0**	**+2.7**
SEKA	**Sheki**	**1.49**	**226**	P	**Pn**	**00 12 48.3**	**+1.8**
	SNR=158						
SEKA				S	**Sn**	**00 13 04.3**	**-0.9**
SEKA	**Sheki**	**1.49**	**226**	PN	**Pn**	**00 12 48.3**	**+1.8**
SEKA	**Sheki**	**1.49**	**226**	Pg	**Pn**	**00 12 48.3**	**+1.8**
IML	**Ismayilli**	**1.50**	**192**	P	**Pn**	**00 12 49.0**	**+2.3**
	SNR=49						
IML				S	**Sn**	**00 13 08.0**	**+2.6**
IML	**Ismayilli**	**1.50**	**192**	Pg	**Pn**	**00 12 48.9**	**+2.3**
DBC	**Dubki**	**1.52**	**301**	*e*Pg	**Pn**	**00 12 48.8**	**+1.9**
DBC				*i* Sg	**Sn**	**00 13 08.6**	**+2.7**
DBC	**Dubki**	**1.52**	**301**	*e*PG	**Pn**	**00 12 49.0**	**+2.1**
DBC				*e*S	**Sn**	**00 13 09.4**	**+3.5**
DBC				pmax	pmax		
	comp=Z,1μm,0.3s						
DBC				smax	smax		
	comp=E,4μm,0.4s						
ZKT	**Zaqatala**	**1.57**	**248**	Pg	**Pn**	**00 12 50.2**	**+2.7**
ZKTA	**Zakatala**	**1.61**	**248**	P	**Pn**	**00 12 50.2**	**+2.2**
	SNR=311						
ZKTA				S	**Sn**	**00 13 08.2**	**+0.3**
DLMR	**Dylym**	**1.67**	**300**	*e*Pg	**Pn**	**00 12 51.9**	**+3.0**
DLMR				*e*Sg	**Sn**	**00 13 14.3**	**+4.9**
DLMR	**Dylym**	**1.67**	**300**	*e*PN	**Pn**	**00 12 52.1**	**+3.

GUDG Gudauri 3.07 275 P **Pn 00 13 10.7 +2.7**
BTKR Batakoyurt 3.19 292 *e*Pn **Pn 00 13 11.6 +2.1**
BTKR *e*Sn **Sn 00 13 52.3 +5.9**
BTKR Batakoyurt 3.19 292 *e*PN **Pn 00 13 11.6 +2.1**
BTKR *e*S **Sn 00 13 52.3 +5.9**
TRKR Terskaya 3.20 299 *e*Pn **Pn 00 13 12.7 +3.2**
TRKR *e*Sn **Sn 00 13 48.8 +2.4**
TRKR Terskaya 3.20 299 *e*PN **Pn 00 13 12.7 +3.2**
TRKR *e*S **Sn 00 13 48.8 +2.4**
LACR Lac 3.24 282 *e*Pn **Pn 00 13 11.4 +1.2**
LACR *e*Sn **Sn 00 13 53.1 +5.5**
LACR Lac 3.24 282 *e*PN **Pn 00 13 11.4 +1.2**
LACR *e*S **Sn 00 13 53.1 +5.5**
ARNR Ardon 3.32 288 *e*Pn **Pn 00 13 13.2 +2.0**
ARNR *e*Sn **Sn 00 13 53.0 +3.6**
ARNR Ardon 3.32 288 *e*PN **Pn 00 13 13.2 +2.0**
ARNR *e*S **Sn 00 13 53.0 +3.6**
YRD Yardimli 3.35 185 P **Pn 00 13 12.7 +0.9**
SNR=257
YRD S **Sn 00 13 51.1 +0.5**
DMNI Dmanisi 3.43 256 P **Pn 00 13 13.3 +0.4**
TRLG Trialeti 3.44 259 PN **Pn 00 13 13.5 +0.5**
TRLG Trialeti 3.44 259 P **Pn 00 13 13.5 +0.5**
KORR Kora 3.45 285 *e*Pn **Pn 00 13 14.7 +1.7**
KORR *i*Sn **Sn 00 13 55.9 +3.2**
KORR Kora 3.45 285 *e*PN **Pn 00 13 14.7 +1.7**
KORR *i*S **Sn 00 13 55.9 +3.2**
GRMI Germi 3.49 189 Pn **Pn 00 13 14.9 +1.2**
PRTR Priterechnaya 3.51 297 *e*Pn **Pn 00 13 15.8 +2.1**
PRTR *e*Sn **Sn 00 13 58.0 +4.0**
PRTR Priterechnaya 3.51 297 *e*PN **Pn 00 13 15.8 +2.1**
PRTR *e*S **Sn 00 13 58.0 +4.0**
ZEI Tsey 3.52 280 *e*Pn **Pn 00 13 15.6 +1.5**
ZEI *e*Sn **Sn 00 13 59.0 +4.4**
ZEI Tsey 3.52 280 *e*PN **Pn 00 13 15.6 +1.5**
ZEI *e*S **Sn 00 13 59.0 +4.4**
STDR Stavd-Durt 3.52 290 *e*Pn **Pn 00 13 15.8 +1.8**
STDR *e*Sn **Sn 00 13 57.0 +2.5**
STDR Stavd-Durt 3.52 290 *e*PN **Pn 00 13 15.8 +1.8**
STDR *e*S **Sn 00 13 57.0 +2.5**
LKRN Lenkeran, Azer 3.55 178 P **Pn 00 13 14.9 +0.5**
SNR=4.9
LKRN S **Sn 00 13 55.8 +0.8**
LKRN Lenkeran, Azer 3.55 178 PN **Pn 00 13 14.8 +0.5**
GNI Garni 3.60 235 Pn **Pn 00 13 16.6 +1.4**
GNI Garni 3.60 235 *i*Pn **Pn 00 13 18.4 +3.2**
GNI *e*Sn **Sn 00 13 59.9 +3.3**
GNI Garni 3.60 235 *i*PN **Pn 00 13 18.4 +3.2**
GNI Garni 3.60 235 P **Pn 00 13 17.3 +2.1**
GNI Garni 3.60 235 Pg **Pn 00 13 15.9 +0.7**
comp=Z,3.8nm,0.3s,baz=352,slow=2.1,SNR=22
GNI Sn **Sn 00 13 54.0 -2.5**
comp=Z,15nm,0.3s,baz=43,slow=7.8,SNR=4.7
LRK Lerik 3.62 183 P **Pn 00 13 16.1 +0.6**
SNR=53
LRK S **Sn 00 13 57.8 +0.7**
LSNR Lesken 3.67 288 *e*Pn **Pn 00 13 17.6 +1.7**
LSNR *e*Sn **Sn 00 14 00.6 +2.6**
LSNR Lesken 3.67 288 *e*PN **Pn 00 13 17.6 +1.7**
LSNR *e*S **Sn 00 14 00.6 +2.6**
SBZ Shahbuz 3.68 220 P **Pn 00 13 17.5 +1.2**
SNR=12
SBZ S **Sn 00 14 00.1 +1.6**
ALIG Mtskhetisjvari 3.69 269 PN **Pn 00 13 17.3 +1.0**
ALIG Mtskhetisjvari 3.69 269 P **Pn 00 13 17.3 +1.0**
ASTR Astara 3.70 178 P **Pn 00 13 16.8 +0.5**
SNR=79
ASTR S **Sn 00 13 58.6 -0.1**
HYR Heyderabad 3.81 229 P **Pn 00 13 19.7 +1.7**
HYR S **Sn 00 14 01.9 +0.3**
GAS1 Astara - Iran 3.87 177 Pn **Pn 00 13 18.8 0.0**
ORD Ordubad 3.88 212 P **Pn 00 13 20.3 +1.3**
SNR=5.7
ORD S **Sn 00 14 03.5 +0.2**
NCK Nalchik 3.89 290 *e*Pn **Pn 00 13 20.2 +1.2**
NCK *e*Sn **Sn 00 14 07.0 +3.7**
NCK Nalchik 3.89 290 *e*PN **Pn 00 13 20.2 +1.2**
NCK *e*S **Sn 00 14 07.1 +3.7**
AKH Akhalkalaki 3.92 259 Pn **Pn 00 13 20.6 +1.1**
AKH Akhalkalaki 3.92 259 PN **Pn 00 13 20.6 +1.1**
IHRS Heris 4.11 197 Pn **Pn 00 13 23.6 +1.3**
KBTC Kuba-Taba 4.12 294 *e*Pn **Pn 00 13 23.0 +0.8**
KBTC *e*Sn **Sn 00 14 10.6 +1.5**
KBTC Kuba-Taba 4.12 294 *e*PN **Pn 00 13 23.0 +0.8**
KBTC *e*S **Sn 00 14 10.6 +1.5**
MAKU Maku 4.16 227 Pn **Pn 00 13 24.3 +1.4**
PYA1 Pyatigorsk 4.42 296 *e*Pn **Pn 00 13 27.0 +0.8**
PYA1 *e*Sn **Sn 00 14 15.6 -0.7**
PYA1 Pyatigorsk 4.42 296 *e*PN **Pn 00 13 26.9 +0.7**
KBZ Khabaz 4.44 291 *e*Pn **Pn 00 13 27.1 +0.6**
KBZ *e*Sn **Sn 00 14 18.1 +1.4**
KBZ Khabaz 4.44 291 *ce*PN **Pn 00 13 26.3 -0.1**
KBZ Khabaz 4.44 291 Pn **Pn 00 13 23.6 -2.9**
comp=Z,7.5nm,0.3s,baz=133,slow=7.7,SNR=83
KBZ Sn **Sn 00 14 08.7 -8.1**
comp=Z,8.6nm,0.3s,baz=229,slow=9.3,SNR=1.6
comp=Z,6.5nm,0.3s
ITBZ Tabriz 4.44 206 Pn **Pn 00 13 28.9 +2.2**
KARS Kars 4.46 250 Pn **Pn 00 13 24.3 -2.7**
KARS Kars 4.46 250 PN **Pn 00 13 24.3 -2.7**
ISRB Sarab 4.49 190 Pn **Pn 00 13 29.1 +1.7**
ISHB Shabestar 4.58 211 Pn **Pn 00 13 30.4 +1.7**
BEYR Belyy Ugol+ 4.59 294 *e*Pn **Pn 00 13 28.9 +0.4**
BEYR *e*Sn **Sn 00 14 20.7 +0.2**
BEYR Belyy Ugol+ 4.59 294 *e*PN **Pn 00 13 28.9 +0.4**
BEYR *e*S **Sn 00 14 20.7 +0.2**
SHA1 Shidzhatmaz 4.61 291 *e*Pn **Pn 00 13 28.7 -0.3**
SHA1 *e*Sn **Sn 00 14 22.4 +1.1**
SHA1 Shidzhatmaz 4.61 291 *e*PN **Pn 00 13 28.7 -0.3**
SHA1 *e*S **Sn 00 14 22.4 +1.1**
KVAR Kislovodsk Arr 4.65 293 Sn **Sn 00 14 19.9 -2.3**
baz=172,slow=19
KIV Kislovodsk 4.66 293 Pn **Pn 00 13 28.4 -1.1**
KIV Kislovodsk 4.66 293 *e*Pn **Pn 00 13 30.5 +1.0**
KIV *e*Sn **Sn 00 14 22.9 +0.6**
KIV Kislovodsk 4.66 293 *e*PN **Pn 00 13 30.5 +1.0**
KIV *e*S **Sn 00 14 22.9 +0.6**
KIV Kislovodsk 4.66 293 P **Pn 00 13 30.0 +0.5**
KIV Kislovodsk 4.66 293 Pn **Pn 00 13 29.9 +0.4**
ALER Alexandrovskoy 4.84 303 *e*Pn **Pn 00 13 32.5 +0.5**
ALER *e*Sn **Sn 00 14 25.8 -0.9**
ALER Alexandrovskoy 4.84 303 *e*PN **Pn 00 13 32.5 +0.5**
ALER *e*S **Sn 00 14 25.8 -0.9**
GOF Gofitskoye 4.91 307 *e*Pn **Pn 00 13 34.2 +1.2**
GOF *e*Sn **Sn 00 14 28.3 -0.1**
GOF Gofitskoye 4.91 307 *ce*PN **Pn 00 13 34.6 +1.7**
GOF *e*S **Sn 00 14 28.3 -0.1**
IAZR Azarshahr 5.00 205 Pn **Pn 00 13 36.7 +2.2**
IHSH Hashtrud 5.05 192 Pn **Pn 00 13 36.6 +1.4**
DOMR Dombai 5.24 284 *e*Pn **Pn 00 13 42.1 +4.5**
DOMR *e*Sn **Sn 00 14 36.4 -0.4**
DOMR Dombai 5.24 284 *e*P **Pn 00 13 42.1 +4.5**
DOMR *e*S **Sn 00 14 36.4 -0.4**
NVNR Nevinnomyssk 5.38 298 *e*Pn **Pn 00 13 39.4 +0.1**
NVNR *e*Pn **Sn 00 14 41.4 +1.5**
NVNR Nevinnomyssk 5.38 298 *e*P **Pn 00 13 39.4 +0.1**
JIR1 Jirandeh 5.62 170 Pn **Pn 00 13 42.2 -0.6**
QSDN Sirdan 5.76 175 Pn **Pn 00 13 44.6 -0.3**
AHMR Akhmetovskaya 5.84 291 *e*Pn **Pn 00 13 47.6 +1.9**
AHMR *e*Sn **Sn 00 14 50.7 -0.6**
AHMR Akhmetovskaya 5.84 291 *e*P **Pn 00 13 47.6 +1.9**
IGZV Ghazvin 6.00 167 Pn **Pn 00 13 48.0 0.0**
KLST Kelardasht - M 6.04 161 Pn **Pn 00 13 48.5 -0.2**
GURO Guroymak-BITLI 6.24 236 Pn **Pn 00 13 49.4 -1.8**
MZPU Pul - Mazandar 6.25 157 Pn **Pn 00 13 51.2 -0.3**
RPOR Krasnaya Polya 6.29 286 *i*Pn **Pn 00 13 55.7 +3.9**
RPOR *e*Sn **Sn 00 15 00.7 -1.5**
RPOR Krasnaya Polya 6.29 286 *c i*P **Pn 00 13 55.1 +3.3**
GUZR Guzeripl' 6.45 288 *i*P **Pn 00 13 57.0 +3.0**
SOC Sochi 6.66 284 *e*P **Pn 00 13 57.7 +0.9**
SOC *e* 00 15 15.4
SOC MLR MLR
comp=Z,50nm,15.0s
IPRN Peran 6.67 153 Pn **Pn 00 13 57.1 0.0**
SIRT Sirnak 6.71 227 Pn **Pn 00 13 56.9 -0.8**
IMHD Mahdasht 6.76 166 Pn **Pn 00 14 00.1 +1.8**
ERBR Yeremizino-Bor 6.80 303 *e*Pn **Pn 00 13 59.6 +0.8**
ERBR *e*Sn **Sn 00 15 12.9 -1.8**
ERBR Yeremizino-Bor 6.80 303 *e*P **Pn 00 13 59.6 +0.8**
IRAZ Razeghan 6.92 171 Pn **Pn 00 14 01.1 +0.4**
GOYR Goytkh 7.03 290 *i*Pn **Pn 00 14 03.4 +1.5**
GOYR *e*Sn **Sn 00 15 19.8 -0.4**
GOYR Goytkh 7.03 290 *i*P **Pn 00 14 03.3 +1.5**
GOYR *e*S **Sn 00 15 19.8 -0.4**
IGLO Ghaloghah 7.03 143 Pn **Pn 00 14 01.5 -0.6**
IHSB Hasanabad 7.12 162 Pn **Pn 00 14 06.3 +3.0**
IMND Minoodasht 7.24 131 Pn **Pn 00 14 05.5 +0.7**
IFIR Firoozkooh 7.35 153 Pn **Pn 00 14 07.8 +1.1**
MRVT Maraveh tapeh 7.36 126 Pn **Pn 00 14 06.3 -0.2**
ISHM Shahmirzad 7.40 149 Pn **Pn 00 14 08.0 +0.7**
HAGD Aghdareh 7.44 177 Pn **Pn 00 14 08.9 +1.2**
IQOM Qom 7.65 165 Pn **Pn 00 14 11.1 +0.4**
IVRN Varamin 7.65 160 Pn **Pn 00 14 12.1 +1.5**
ILAS Lasjerd 7.66 152 Pn **Pn 00 14 12.2 +1.4**
IDHR Dehrash 7.75 194 Pn **Pn 00 14 15.0 +3.0**
HSAM Samen 8.04 180 Pn **Pn 00 14 18.4 +2.5**
ISFB Sefidab 8.39 159 Pn **Pn 00 14 22.4 +1.7**
GEYT Alibeck 8.47 118 Pn **Pn 00 14 19.5 -2.2**
GEYT Alibeck 8.47 118 P **Pn 00 14 19.5 -2.2**
GEYT Alibeck 8.47 118 Pn **Pn 00 14 21.5 -0.2**
comp=Z,7.2nm,0.3s,baz=298,slow=15,SNR=65
GEYT Sn **Sn 00 15 51.8 -4.0**
comp=Z,3.9nm,0.3s,baz=272,slow=16,SNR=1.9
GYA0 ALIBECK ARRAY 8.47 118 P **Pn 00 14 21.9 +0.2**
GYA0 S **Sn 00 15 51.7 -4.1**
GYA0B ALIBECK ARRAY 8.47 118 ⇓P **Pn 00 14 21.9 +0.2**
GYA0B ⇑S **Sn 00 15 51.8 -4.0**
GYA0B ALIBECK ARRAY 8.47 118 Pn **Pn 00 14 19.9 -1.8**
ANN Anapa 8.51 291 *i*P **Pn** 00 14 27.1 +5.0
KRSH Karshahi 8.73 160 Pn **Pn 00 14 26.3 +1.0**
QAMS Qamsar 8.79 165 Pn **Pn 00 14 27.4 +1.2**
SBZV Sabzevar 9.11 127 Pn **Pn 00 14 31.5 +0.9**
IEMG Emamgholi 9.11 119 Pn **Pn 00 14 30.4 -0.3**
IKLH Kolahrood 9.23 164 Pn **Pn 00 14 34.4 +2.1**
IAKL Akhelmad 9.67 122 Pn **Pn 00 14 39.1 +0.8**
IZEF Zefreh 9.80 161 Pn **Pn 00 14 42.1 +2.0**
ANAR Anarak 9.92 154 Pn **Pn 00 14 42.8 +1.3**
IKRD Kardeh 10.05 119 Pn **Pn 00 14 43.8 +0.4**
VRH Novokhopyorsk 10.11 335 *e*P **Pn 00 14 42.5 -1.4**
VRH pmax pmax
comp=Z,30nm,0.6s
BELG Belogornoye 10.16 357 *i*P **Pn 00 14 44.1 -0.5**
BELG Belogornoye 10.16 357 Pn **Pn 00 14 43.6 -1.0**
comp=Z,26nm,0.3s,baz=27,slow=1.6,SNR=59
BELG Sn **Sn 00 16 29.1 -7.7**
comp=Z,23nm,0.3s,baz=270,slow=23,SNR=16
AKTO Aktyubinsk 10.44 35 ⇑P **Pn 00 14 49.3 +0.9**
comp=Z,2.5nm,0.3s
AKTO ⇓S **Sn 00 16 36.6 -7.1**
comp=Z,12nm,0.4s
AKTO Aktyubinsk 10.44 35 P **Pn 00 14 48.9 +0.5**
AKTO S **Sn 00 16 36.4 -7.3**
AKTO Aktyubinsk 10.44 35 Pn **Pn 00 14 46.8 -1.7**
comp=Z,1.6nm,0.3s,baz=210,slow=9.9,SNR=12
AKTO Sn Sn 00 16 33.5 -10
comp=Z,2.4nm,0.3s,baz=235,slow=13,SNR=2.0
AKTO LR LR 00 19 41.7
comp=Z,40nm,18.9s,baz=174,slow=42
comp=Z,4.2nm,0.3s
AB31 Akbulak array 10.56 45 ⇑P **Pn 00 14 50.3 +0.3**
comp=Z,1.0nm,0.3s,baz=222,slow=12,SNR=81
AB31 ⇑S **Sn 00 16 40.7 -5.9**
comp=Z,10nm,0.3s,baz=232,slow=26,SNR=11
AB31 Akbulak array 10.56 45 P **Pn 00 14 50.3 +0.3**
AB31 S **Sn 00 16 40.7 -5.9**
AB31 Akbulak array 10.56 45 Pn **Pn 00 14 50.0 -0.1**
ABKAR Akbulak array 10.56 45 Pn **Pn 00 14 48.4 -1.6**
VSR Storozhevoye 11.05 327 *e*P **Pn 00 14 55.2 -1.5**
VSR *e*S **Sn 00 16 59.7 +1.3**
VSR pmax pmax
comp=Z,10.0nm,0.4s
VSR smax smax
comp=E,50nm,1.1s
TPRV Parvadeh(Tabas 11.21 143 Pn **Pn 00 15 00.2 +1.0**
VORR Voronezh 11.39 329 *e*P **Pn 00 14 59.5 -1.8**
VORR *e*S **Sn 00 17 01.4 -5.3**
VORR pmax pmax
comp=Z,31nm,1.0s
VORR smax smax
comp=N,229nm,0.9s
TBJM Torbat-e-JAM 11.50 124 Pn **Pn 00 15 04.3 +1.1**
BRTR Keskin Array B 11.59 262 *ce*P **Pn 00 15 09.1 +4.7**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 11.59 262 Pn **Pn 00 15 05.2 +0.9**
comp=Z,0.3nm,0.3s,baz=84,slow=10,SNR=3.9
AFRZ Afriz 12.05 134 Pn **Pn 00 15 10.9 +0.2**
LPSR Galich'ya Gora 12.23 331 *e*P **Pn 00 15 08.3 -4.6**
LPSR pmax pmax
comp=Z,20nm,0.6s
ITEG Tejag 12.32 136 Pn **Pn 00 15 15.1 +0.8**
IKOO Kooshah 12.83 137 Pn **Pn 00 15 21.6 +0.2**
IDAH Dahanechah 13.04 133 Pn **Pn 00 15 24.6 +0.4**
HRA Herat 13.27 122 Pn **Pn 00 15 25.9 -1.3**
MMAI Mount Meron Ar 13.94 233 Pn **Pn 00 15 35.6 -0.4**
comp=Z,0.2nm,0.3s,baz=59,slow=8.6,SNR=2.0
MMAI LR LR 00 21 46.5
comp=Z,46nm,18.2s,baz=10.0,slow=42
TLCR 14.61 288 ⇑P **P 00 15 48.9 -0.3**
TLCR 14.61 288 ⇑P **P 00 15 48.9 -0.3**
MANR Mangalia 14.72 283 ⇓P **P 00 15 50.6 +0.1**
MFTR Murfatlar 14.84 284 ⇑P **P 00 15 51.8 0.0**
TIRR Tirgusor 14.85 285 P **P 00 15 51.6 -0.3**
TIRR Tirgusor 14.85 285 P **P 00 15 51.6 -0.3**
CFR Carcaliu 15.09 288 ⇑P **P 00 15 54.7 +0.2**
CFR Carcaliu 15.09 288 ⇓P **Pn 00 15 51.0 +0.3**
OBN Obninsk 15.09 333 Pn **Pn 00 15 48.1 -2.6**
OBN Obninsk 15.09 333 *i*P **Pn 00 15 47.6 -3.1**
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN Obninsk 15.09 333 Pn **Pn 00 15 45.5 -5.2**
comp=Z,4.1nm,0.3s,baz=86,slow=5.4,SNR=4.8
comp=Z,17nm,0.5s
VLDR Vladesti 15.18 291 ⇓P **P 00 15 54.7 -0.9**
HARR Harsova 15.21 286 ⇓P **P 00 15 55.9 0.0**
HARR Harsova 15.21 286 ⇓P **P 00 15 55.9 0.0**
MOS Moscow 15.27 336 *e*P **Pn 00 15 53.2 +0.2**
MOS *e*S **Sn 00 18 34.6 -6.3**
SORM Soroca 15.42 299 ⇑P **P 00 15 57.0 -1.2**
SORM Soroca 15.42 299 ⇑P **P 00 15 57.0 -1.2**
ELL Elmali 15.44 255 Pn **Pn 00 15 54.1 -1.4**
ELL Elmali 15.44 255 P **Pn 00 15 54.1 -1.4**
ELL pmax pmax
comp=Z,63nm,0.9s
ARU Arti 15.57 21 Pn **Pn 00 15 54.3 -2.5**
ARU Arti 15.57 21 *c i*P **Pn 00 15 54.4 -2.5**
ARU S **Sn 00 18 42.4 -5.9**
ARU pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 15.57 21 Pn **Pn 00 15 52.9 -4.0**
comp=Z,1.8nm,0.3s,baz=227,slow=15,SNR=8.5
ARU Sn Sn 00 18 32.8 -15
comp=Z,3.1nm,0.3s,baz=235,slow=15,SNR=8.8
comp=Z,4.0nm,0.3s
AKASG Malin Array Be 15.76 309 P **P 00 16 02.0 +0.1**
AKASG Malin Array Be 15.76 309 *ce*P **Pn 00 15 58.4 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 15.76 309 Pn **Pn 00 15 56.9 -2.5**
comp=Z,3.7nm,0.3s,baz=115,slow=11,SNR=11
AKBB Malin Array Si 15.76 309 Pn **Pn 00 15 56.7 -2.7**
AKBB IAmb IAmb 00 16 02.9
comp=Z,18nm,1.0s
AKBB Malin Array Si 15.76 309 *i*P **Pn 00 15 57.6 -1.7**
VRI Vrincioaia 16.13 290 ⇑P **P 00 16 06.7 +0.6**
VRI Vrincioaia 16.13 290 ⇑P **P 00 16 06.7 +0.6**
KK31 Karatay Array 16.13 80 P **Pn 00 16 04.0 -0.1**
comp=Z,0.7nm,0.2s,baz=280,slow=15,SNR=25
KK31 ⇑S **Sn 00 18 54.1 -7.9**
comp=Z,9.0nm,0.5s,baz=276,slow=24,SNR=6.7
KK31 Karatay Array 16.13 80 Pn **Pn 00 16 02.5 -1.5**
KK31 IAmb IAmb 00 16 16.8
comp=Z,9.6nm,0.9s
KK31 Karatay Array 16.13 80 P **Pn 00 16 02.5 -1.5**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 16.13 80 Pn **Pn 00 16 03.4 -0.6**
KKAR IAmb IAmb 00 16 16.8
comp=Z,9.6nm,0.9s
KKAR Karatay Array 16.13 80 P **Pn 00 16 03.4 -0.6**
KKAR pmax pmax
comp=Z,10.0nm,0.9s
PLOR Plostina 16.18 290 ⇑P **P 00 16 07.8 +1.1**
PLOR Plostina 16.18 290 ⇓P **Pn 00 16 05.0 +0.3**
LOZB Loznitsa 16.19 281 ⇑P **P 00 16 08.5 +1.7**
ISR Istrita 16.21 288 ⇑P **P 00 16 08.9 +1.9**
ISR Istrita 16.21 288 ⇓P **P 00 16 09.4 +2.4**
KIRV Kirov 16.35 2 *ce*P **Pn 00 16 05.2 -1.5**
KIRV Kirov 16.35 2 Pn **Pn 00 16 02.4 -4.3**
comp=Z,2.3nm,0.3s,baz=168,slow=6.9,SNR=4.9
KIRV Sn Sn 00 18 55.8 -11
comp=Z,3.2nm,0.3s,baz=214,slow=20,SNR=3.0
comp=Z,12nm,0.7s
NEHR Nehoiu 16.40 289 ⇑P **P 00 16 10.3 +1.2**
COVR Voineasa-Covas 16.49 290 ⇓P **P 00 16 11.6 +1.5**
SVE Sverdlovsk 16.50 24 *e*P **Pn 00 16 08.1 -0.4**
SVE *e*S Sn 00 18 58.6 -12
SVE pmax pmax
comp=Z,15nm,0.6s
MLR Muntele Rosu 16.65 289 Pn **Pn 00 16 09.5 -1.1**
MLR Muntele Rosu 16.65 289 P **Pn 00 16 09.5 -1.1**
MLR pmax pmax
comp=Z,7.0nm,0.8s
BTK Batken 16.86 90 **Pn 00 16 13.0 -0.3**
BTK IAmb IAmb 00 16 26.9
comp=Z,9.9nm,0.8s
BTK Batken 16.86 90 P **Pn 00 16 13.0 -0.3**
BTK pmax pmax
comp=Z,10.0nm,0.8s
COPA Copaceanca 17.15 284 ⇑P **P 00 16 18.5 +1.1**
RDO Rodhopi 17.26 274 Pn **Pn 00 16 16.8 -1.2**
VOIR 17.27 289 ⇓P **P 00 16 19.7 +0.9**
VOIR 17.27 289 ⇓P **P 00 16 19.7 +0.9**
BURAR Bucovina Array 17.38 296 ⇓P **P 00 16 20.5 +0.5**
BURAR Bucovina Array 17.38 296 Pn **Pn 00 16 17.8 -1.8**
BURAR IAmb IAmb 00 16 24.1
comp=Z,7.8nm,0.7s
BURAR Bucovina Array 17.38 296 ⇑P **Pn 00 16 19.0 -0.6**
BUR08 Bucovina Ar. S 17.39 296 Pn **Pn 00 16 18.3 -1.5**
ARR Arges 17.56 288 ⇑P **P 00 16 23.2 +1.2**
KBL Kabul 17.75 109 **P 00 16 24.1 -0.2**
KBL Kabul 17.75 109 P **P 00 16 24.1 -0.2**
KBL pmax pmax
comp=Z,6.0nm,1.1s
ARCR ARCALIA 17.89 294 ⇑P **Pn 00 16 26.8 +1.1**
MASF Masafi 17.96 157 P **Pn 00 16 29.7 +2.9**
KARP Karpathos 17.96 255 **Pn 00 16 26.8 0.0**
MSFE Esma-Masafi 17.97 157 P **Pn 00 16 29.4 +2.5**
MDH Madha 18.07 157 P **Pn 00 16 29.7 +1.6**
BRVK Borovoye 18.09 46 ⇑P **Pn 00 16 30.3 +2.3**
comp=Z,14nm,0.8s
BRVK Borovoye 18.09 46 **P 00 16 26.7 -1.0**
BRVK IAmb IAmb 00 16 46.6
comp=Z,16nm,0.9s
BRVK Borovoye 18.09 46 *i*P **P 00 16 26.0 -1.6**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BVA0 Borovoye Array 18.13 46 ⇓P **Pn 00 16 33.1 +4.5**
comp=Z,5.8nm,0.6s,baz=233,slow=12,SNR=15
BVA0 Borovoye Array 18.13 46 P **Pn 00 16 33.3 +4.7**
BVA0 *e*S **Sn 00 19 39.8 -10**
BVAR Borovoye Array 18.13 46 P **Pn 00 16 28.9 +0.3**
comp=Z,0.1nm,0.3s,baz=236,slow=15,SNR=5.8
BVAR S **Sn 00 19 41.9 -8.3**
comp=Z,8.3nm,0.7s,baz=242,slow=22,SNR=9.7
comp=Z,1.2nm,0.3s
NAZ Nazwa, Dubai 18.19 159 P **Pn 00 16 31.7 +2.3**
MNK Minsk 18.34 319 *i*P **Pn 00 16 30.8 -0.3**
comp=E,8.0nm,1.2s
MNK *i*P **Pn 00 16 30.8 -0.3**
comp=N,8.0nm,0.9s
MNK *i*P **Pn 00 16 30.8 -0.3**
comp=Z,11nm,0.8s,baz=122
MNK *i*PP **pP 00 16 42.1 -2.3**
MNK *i*PPP PPP 00 16 49.7
MNK *i*S **Sn 00 19 54.7 -0.5**
MNK *i*SS **SnSn 00 20 09.6 -0.3**
MNK *i*SSS SSS 00 20 22.1
MNK *i*LQ LQ 00 21 40.1
MNK *i*LR LR 00 23 05.5
MNK *i*LRM MLR 00 25 15.1
comp=Z,57nm,15.5s
MNK *i*LRM MLR 00 25 28.9
comp=N,40nm,13.8s
MNK *i*LRM MLR 00 25 30.9
comp=E,30nm,16.4s
MNK Minsk 18.34 319 *i*P **Pn 00 16 30.7 -0.3**
MNK *i*S **Sn 00 19 54.6 -0.5**
MNK pmax pmax
comp=E,8.0nm,1.2s
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK MLR MLR
comp=Z,57nm,15.0s
MNK MLR MLR
comp=N,40nm,14.0s
MNK MLR MLR
comp=E,30nm,16.0s
FAQ Al Faqa, Dubai 18.40 159 P **Pn 00 16 32.7 +0.6**
FAQ Al Faqa, Dubai 18.40 159 P **Pn 00 16 33.2 +1.1**
AJN Ajban 18.42 161 P **Pn 00 16 33.5 +1.2**
ASUD Al Ashush, Dub 18.45 160 P **Pn 00 16 34.8 +2.2**
ASUD Al Ashush, Dub 18.45 160 P **Pn 00 16 34.7 +2.2**
HATD Hatta, Dubai 18.47 158 P **Pn 00 16 34.5 +1.6**
HATD Hatta, Dubai 18.47 158 P **Pn 00 16 35.8 +3.0**
ASHO Ashiyiah 18.58 158 P **P 00 16 33.8 +0.5**
ASHO Ashiyiah 18.58 158 P **Pn 00 16 34.9 +0.7**
VTS Vitosha 18.72 280 ⇓P **Pn 00 16 36.4 +0.5**
VTS Vitosha 18.72 280 ⇓P **Pn 00 16 36.4 +0.5**
GZR Gura Zlata 18.87 288 ⇑P **P 00 16 36.4 0.0**
AAK Ala-Archa 19.09 80 P **Pn 00 16 40.5 +0.2**
AAK IAmb IAmb 00 17 00.5
comp=Z,12nm,1.3s
AAK Ala-Archa 19.09 80 *ce*P **Pn 00 16 43.1 +2.8**
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 19.09 80 P **Pn 00 16 41.6 +1.3**
comp=Z,3.8nm,0.8s,baz=264,slow=10,SNR=14
AAK LR LR 00 24 51.1
comp=Z,39nm,18.0s,baz=328,slow=39
PEHC Pehcevo 19.09 277 *i*P **P 00 16 39.1 +0.4**
PEHC Pehcevo 19.09 277 *i*P **P 00 16 39.2 +0.4**
NACGM Naroch 19.09 319 *e*P **P 00 16 38.5 -0.1**
comp=Z,30nm,0.9s,baz=122
ALNE Al Ain 19.10 160 P **Pn 00 16 41.4 +1.0**
ALNE Al Ain 19.10 160 P **Pn 00 16 42.4 +2.0**
SOHO SOHO 19.24 158 P **Pn 00 16 42.8 +0.7**
TRPA Tarpa 19.24 297 ⇓P **P 00 16 41.0 +0.7**
SURR Surduc 19.34 289 ⇑P **P 00 16 42.0 +0.6**
IDID Didziasalis 19.34 320 *e*P **Pn 00 16 42.2 -0.8**
KLMR Klimovskoe 19.43 347 *e*Pn **P 00 16 40.2 -2.0**
KLMR *e*Pn **P 00 16 40.2 -2.0**
KLMR *e*Pn **P 00 16 40.2 -2.0**
KLMR AMP 00 16 46.0
comp=Z,11nm,0.5s
KLMR *e*Sn S 00 20 05.7 -12
KLMR *e*Sn S 00 20 05.7 -12
KLMR Klimovskoe 19.43 347 *e*P **P 00 16 40.2 -2.0**
KLMR *e* 00 20 05.6
KLMR pmax pmax
comp=Z,11nm,0.5s
PRGR Permogore 19.49 356 ⇓*i*P **P 00 16 43.3 +0.4**
PRGR *e* 00 20 06.5
PRGR pmax pmax
comp=Z,16nm,0.6s
KOLS Kolonicke sedl 19.54 299 *e*P **Pn 00 16 46.7 +1.3**
KOLS Kolonicke sedl 19.54 299 *e*P **Pn 00 16 46.7 +1.3**
IIGN Ignalina 19.61 320 *e*P **P 00 16 45.1 +0.9**
MZR Muzera 19.63 167 P **Pn 00 16 47.0 +0.3**
MZR Muzera 19.63 167 P **Pn 00 16 47.1 +0.3**
STIP Stip 19.63 277 *i*P **P 00 16 43.6 -1.1**
STIP Stip 19.63 277 *i*P **P 00 16 43.5 -1.1**
MDVR Moldovita 19.64 287 ⇑P **P 00 16 45.0 +0.3**
BOVS Bovan 19.71 283 ⇑P **P 00 16 46.0 +0.5**
BOVS ⇓P **Pn 00 16 46.4 -1.1**
IDI Anoyia 19.72 257 P **P 00 16 42.5 -3.3**
comp=Z,2.6nm,0.3s,baz=16,slow=13,SNR=36
comp=Z,6.2nm,0.3s
ISAL Salakas 19.77 320 *e*P **P 00 16 46.9 +0.9**
HOQ Hoqain 19.98 156 P **P 00 16 49.5 +0.9**
FNA Florina 20.41 275 P **P 00 16 53.1 -0.1**
FNA Florina 20.41 275 P **P 00 16 53.1 -0.1**
FNA pmax pmax
comp=Z,2.0nm,0.6s
SUW Suwalki 20.52 314 P **P 00 16 52.7 -1.4**

SUW	**Suwalki**	**20.52**	**314**	P	**P**	**00 16 52.7**	**-1.4**
SUW				pmax	pmax		
comp=Z,42nm,1.0s							
SUW	**Suwalki**	**20.52**	**314**	*e*P	**P**	**00 16 54.8**	**+0.7**
SMDO	**Samad**	**20.70**	**155**	P	Pn	00 16 59.3	-0.1
WSAR	**Wadi Sarin**	**20.73**	**153**	P	**P**	**00 16 53.3**	**-3.3**
comp=Z,1.2nm,0.7s,baz=25,slow=4.5,SNR=2.0							
comp=Z,1.2nm,0.7s							
BSY	**Bisya**	**20.74**	**157**	P	Pn	00 16 58.8	-1.0
PABE	**Paberze**	**20.79**	**318**	*e*P	**P**	**00 16 58.0**	**+1.1**
KSH	**Kashi**	**20.84**	**88**	P	**P**	**00 16 59.0**	**+1.2**
KSH				sP	pP	00 17 14.7	+2.7
KSH				PP	**sP**	**00 17 21.0**	**+0.6**
KSH				S	**S**	**00 20 39.9**	**-6.6**
KSH				sS	Sn	00 20 50.2	-5.4
KSH				pmax	pmax		
comp=Z,8.0nm,0.6s							
DIVS	**Divibare**	**20.91**	**285**	P	**P**	**00 16 57.3**	**-1.2**
DIVS				IAmb	IAmb	00 17 03.3	
comp=Z,6.1nm,0.9s							
NIL	**Nilore**	**21.19**	**106**	P	**P**	**00 17 03.5**	**+1.9**
NIL				IAmb	IAmb	00 17 06.3	
comp=Z,9.7nm,1.1s							
NIL	**Nilore**	**21.19**	**106**	P	**P**	**00 17 03.5**	**+1.9**
NIL				pmax	pmax		
comp=Z,10.0nm,1.1s							
VSU	**Vasula**	**21.24**	**327**	*e*P	**P**	**00 17 02.3**	**+0.5**
OJC	**Ojcow**	**21.36**	**302**	P	**P**	**00 17 03.5**	**+0.4**
OJC				IAmb	IAmb	00 17 10.1	
comp=Z,6.3nm,0.4s							
OJC	**Ojcow**	**21.36**	**302**	P	**P**	**00 17 03.5**	**+0.4**
OJC				pmax	pmax		
comp=Z,6.0nm,0.4s							
JMDO	**Jabal Madar**	**21.37**	**155**	P	**P**	**00 17 05.1**	**+1.6**
JMDO				P	**P**	**00 17 05.1**	**+1.6**
WBK	**Wadi Bani Khal**	**21.42**	**153**	P	**P**	**00 17 04.7**	**+0.7**
PDG	**Podgorica**	**21.65**	**280**	P	**P**	**00 17 06.4**	**0.0**
PDG				IAmb	IAmb	00 17 09.3	
comp=Z,11nm,0.9s							
VYHS	**Vyhne**	**21.73**	**297**	*e*P	**P**	**00 17 10.0**	**+2.7**
VYHS	**Vyhne**	**21.73**	**297**	*e*P	**P**	**00 17 09.9**	**+2.7**
MORH	**Mrgy, Hungar**	**21.76**	**291**	⇓P	**P**	**00 17 08.2**	**+0.7**
JLN	**Jalan Bani Buh**	**22.00**	**152**	P	**P**	**00 17 12.5**	**+2.3**
SRO	**Srobarova**	**22.03**	**295**	*e*P	**P**	**00 17 13.8**	**+3.4**
SRO	**Srobarova**	**22.03**	**295**	*e*P	**P**	**00 17 13.8**	**+3.4**
PBUR	**Paburge**	**22.05**	**318**	*e*P	**P**	**00 17 11.1**	**+0.6**
KURBB	**Kurchatov Arra**	**22.13**	**58**	P	**P**	**00 17 13.5**	**+2.0**
comp=Z,1.3nm,0.7s,baz=264,slow=11,SNR=11							
KURBB				S	**S**	**00 21 15.3**	**+4.3**
comp=Z,0.4nm,0.6s,baz=265,slow=22,SNR=2.4							
comp=Z,1.3nm,0.7s							
KURK	**Kurchatov**	**22.20**	**57**	P	**P**	**00 17 12.7**	**+0.5**
KURK				IAmb	IAmb	00 17 31.4	
comp=Z,9.4nm,0.8s							
KURK	**Kurchatov**	**22.20**	**57**	P	**P**	**00 17 13.5**	**+1.3**
ADZR	**Andozero**	**22.52**	**348**	*e*P	**P**	**00 17 17.0**	**+1.6**
ADZR				*e*		00 21 15.1	
ADZR				pmax	pmax		
comp=Z,21nm,0.4s							
MHTO	**MHTO**	**22.63**	**157**	P	**P**	**00 17 20.2**	**+3.2**
MHTO				P	**P**	**00 17 20.2**	**+3.2**
RICI	**Ricice**	**23.03**	**284**	*i* P	**P**	**00 17 19.6**	**-1.4**
KIJV	**Kijevo**	**23.49**	**285**	*i* P	**P**	**00 17 24.7**	**-0.6**
FINES	**FINESS Array B**	**23.50**	**332**	*i* P	**P**	**00 17 27.8**	**+2.6**
FINES				pmax	pmax		
comp=Z,6.0nm,0.3s							
FINES	**FINESS Array B**	**23.50**	**332**	P	**P**	**00 17 25.1**	**0.0**
comp=Z,5.6nm,0.3s,baz=140,slow=11,SNR=26							
comp=Z,5.6nm,0.3s							
HVAR	**Hvar**	**23.57**	**283**	*i* P	**P**	**00 17 24.7**	**-1.3**
DPC	**Dobruska-Polom**	**23.58**	**301**	*e*P	**P**	**00 17 26.8**	**+0.7**
DPC	**Dobruska-Polom**	**23.58**	**301**	*e*P	**P**	**00 17 26.8**	**+0.7**
CHVC	**Chvalec**	**23.78**	**302**	*e*P	**P**	**00 17 27.0**	**-0.9**
CHVC	**Chvalec**	**23.78**	**302**	*e*P	**P**	**00 17 27.0**	**-0.9**
ARSA	**Arzberg**	**23.91**	**293**	*e*P	**P**	**00 17 30.3**	**+1.3**
comp=Z,2.8nm,0.7s							
MORI	**Morici**	**24.01**	**285**	*i* P	**P**	**00 17 28.9**	**-1.0**
DOK	**Doka**	**24.03**	**167**	P	**P**	**00 17 31.7**	**+1.4**
ZIRJ	**Zirje**	**24.08**	**285**	*i* P	**P**	**00 17 29.5**	**-1.1**
SOKA	**Soboth**	**24.25**	**292**	*e*P	**P**	**00 17 32.6**	**+0.3**
comp=Z,8.5nm,1.1s							
MK31	**Makanchi Array**	**24.32**	**68**	P	**P**	**00 17 34.2**	**+1.4**
MK31				IAmb	IAmb	00 17 53.4	
comp=Z,3.7nm,0.8s							
MK31	**Makanchi Array**	**24.32**	**68**	P	**P**	**00 17 34.2**	**+1.4**
MK31				pmax	pmax		
comp=Z,4.0nm,0.8s							
MKAR	**Makanchi Array**	**24.32**	**68**	P	**P**	**00 17 33.8**	**+1.0**
MKAR	**Makanchi Array**	**24.32**	**68**	*ce*P	**P**	**00 17 35.7**	**+2.9**
MKAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	**24.32**	**68**	P	**P**	**00 17 34.3**	**+1.5**
comp=Z,2.7nm,0.6s,baz=269,slow=9.6,SNR=19							
comp=Z,2.7nm,0.6s							
VIRC	**Vir**	**24.42**	**286**	*i* P	**P**	**00 17 32.5**	**-1.1**
DUGI	**Dugi Otok**	**24.46**	**286**	*i* P	**P**	**00 17 33.2**	**-0.8**
WHFO	**Wadi Hawf**	**24.66**	**168**	P	**P**	**00 17 37.7**	**+1.6**
CKRC	**Cesky Krumlov**	**24.75**	**297**	*e*P	**P**	**00 17 34.6**	**-2.1**
CKRC				MLR	MLR		
comp=Z,600nm,19.2s							
CKRC	**Cesky Krumlov**	**24.75**	**297**	*e*P	**P**	**00 17 34.6**	**-2.1**
SHAO	**Shalim**	**24.89**	**164**	P	**P**	**00 17 40.5**	**+2.4**
DMTO	**DMTO**	**25.05**	**166**	P	**P**	**00 17 42.0**	**+2.4**
DMTO				P	**P**	**00 17 42.0**	**+2.4**
RBK	**Rabkut**	**25.13**	**167**	P	**P**	**00 17 43.5**	**+3.1**
RBK				P	**P**	**00 17 43.5**	**+3.1**
ABTO	**Aybut**	**25.14**	**169**	P	**P**	**00 17 41.8**	**+1.3**
ABTO				P	**P**	**00 17 41.8**	**+1.3**
GEC2	**GERESS Array S**	**25.15**	**297**	P	**P**	**00 17 39.8**	**-0.7**
GEC2				IAmb	IAmb	00 17 43.6	
comp=Z,2.9nm,0.6s							
GERES	**GERESS Array B**	**25.15**	**297**	P	**P**	**00 17 40.0**	**-0.4**
GERES	**GERESS Array B**	**25.15**	**297**	P	**P**	**00 17 39.7**	**-0.7**
comp=Z,2.3nm,0.4s,baz=102,slow=9.7,SNR=15							
comp=Z,2.3nm,0.4s							
BIOA	**Bad Ischl, Aus**	**25.18**	**294**	*e*P	**P**	**00 17 42.2**	**+1.5**
comp=Z,1.3nm,0.2s							
KHC	**Kasperske Hory**	**25.25**	**298**	*e*P	**P**	**00 17 41.5**	**+0.3**
KHC				MLR	MLR		
comp=Z,700nm,17.8s							
KHC	**Kasperske Hory**	**25.25**	**298**	*e*P	**P**	**00 17 41.5**	**+0.3**
PRED	**Cave del Predi**	**25.27**	**292**	P	**P**	**00 17 41.1**	**-0.4**
BLEU	**Blekinge**	**25.30**	**315**	*i* P	**P**	**00 17 41.5**	**0.0**
KBA	**Koelnbreinsper**	**25.40**	**293**	*e*P	**P**	**00 17 44.7**	**+2.0**
comp=Z,4.0nm,0.4s							
BSD	**Bornholm Skovb**	**25.41**	**312**	*i* P	**P**	**00 17 41.0**	**-1.6**
BSD				IAmb	IAmb	00 18 05.9	
comp=Z,1.4nm,0.3s							
LESA	**Schwarzleotal**	**25.84**	**294**	*e*P	**P**	**00 17 46.2**	**-0.4**
comp=Z,1.9nm,0.4s							
NRCA	**Norcia**	**26.04**	**283**	P	**P**	**00 17 48.9**	**+0.4**
NRCA				IAmb	IAmb	00 17 50.4	
comp=Z,4.7nm,0.8s							
DEL	**Delary**	**26.37**	**315**	*i* P	**P**	**00 17 51.5**	**+0.3**
MURB	**Monte Urbino**	**26.39**	**285**	P	**P**	**00 17 51.7**	**+0.1**
WTTA	**Wattenberg**	**26.55**	**294**	*e*P	**P**	**00 17 53.2**	**0.0**
comp=Z,1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**26.56**	**51**	P	**P**	**00 17 54.6**	**+1.6**
comp=Z,0.8nm,0.4s,baz=262,slow=11,SNR=4.4							
ZALV				LR	LR	00 29 47.9	
comp=Z,27nm,18.5s,baz=304,slow=39							
comp=Z,0.8nm,0.4s							
BJUU	**Bjuv**	**26.71**	**313**	*i* P	**P**	**00 17 53.4**	**-0.8**
BORU	**Boraas**	**27.31**	**317**	*i* P	**P**	**00 17 59.7**	**0.0**
ONAU	**Onsala**	**27.68**	**316**	*i* P	**P**	**00 18 02.2**	**-0.6**
DGZ	**Jazzator, Alta**	**27.74**	**61**	*i* P	**P**	**00 18 04.9**	**+1.1**
DGZ				pmax	pmax		
comp=Z,3.0nm,1.6s							
HFS	**Hagfors**	**27.78**	**322**	P	**P**	**00 18 03.9**	**+0.1**
comp=Z,3.6nm,0.4s,baz=113,slow=9.3,SNR=36							
comp=Z,3.6nm,0.4s							
TJOU	**Tjoern**	**28.02**	**317**	*i* P	**P**	**00 18 04.9**	**-1.0**
SSRD	**Sdr. Stenderup**	**28.43**	**311**	*i* P	**P**	**00 18 06.8**	**-2.8**
SSRD				IAmb	IAmb	00 18 08.3	
comp=Z,3.3nm,0.4s							
WMQ	**Urumqi**	**28.43**	**73**	*e*P	**P**	**00 18 11.9**	**+2.0**
WMQ				pP	pP	00 18 19.1	-6.9
WMQ				sP	sP	00 18 21.0	-13
WMQ				pmax	pmax		
comp=Z,12nm,0.6s							
STRU	**Stroemstad**	**28.56**	**319**	*i* P	**P**	**00 18 09.9**	**-0.8**
NB2	**NORSAR Subarra**	**29.27**	**323**	P	**P**	**00 18 17.0**	**-0.1**
comp=Z,1.8nm,0.6s,baz=115,slow=8.6							
NOA	**NORSAR Array B**	**29.27**	**323**	P	**P**	**00 18 16.7**	**-0.4**
comp=Z,1.9nm,0.9s,baz=117,slow=8.4,SNR=15							
comp=Z,1.9nm,0.9s							
HOMB	**Homborsund**	**29.67**	**317**	*i* P	**P**	**00 18 20.8**	**+0.2**
ARCES	**ARCESS Array B**	**29.85**	**344**	P	**P**	**00 18 22.6**	**+0.5**
comp=Z,0.7nm,0.4s,baz=119,slow=7.1,SNR=1.8							
comp=Z,0.7nm,0.4s							
KEST	**Kesra**	**31.00**	**271**	P	**P**	**00 18 31.7**	**-1.0**
KEST	**Kesra**	**31.00**	**271**	P	**P**	**00 18 32.1**	**-0.6**
comp=Z,6.5nm,0.8s,baz=152,slow=0.9,SNR=14							
comp=Z,6.5nm,0.8s							
EKA	**Eskdalemuir Ar**	**35.67**	**310**	P	**P**	**00 19 12.8**	**-0.3**
comp=Z,2.6nm,0.4s,baz=87,slow=7.1,SNR=27							
comp=Z,2.6nm,0.4s							
SPITS	**Spitsbergen Ar**	**38.27**	**350**	P	**P**	**00 19 35.3**	**+0.5**
comp=Z,3.2nm,0.6s,baz=137,slow=12,SNR=10							
comp=Z,3.2nm,0.6s							
ESDC	**Sonseca Array**	**39.26**	**284**	P	**P**	**00 19 42.2**	**-1.4**
comp=Z,0.4nm,0.4s,baz=63,slow=8.4,SNR=11							
comp=Z,0.4nm,0.4s							
SONM	**Songino Array**	**40.38**	**62**	P	**P**	**00 19 54.7**	**+1.8**
comp=Z,0.2nm,0.6s,baz=294,slow=11,SNR=2.0							
SONM				PcP	**PcP**	**00 21 56.2**	**+1.4**
comp=Z,0.6nm,0.5s,baz=284,slow=3.3,SNR=3.8							
comp=Z,0.2nm,0.6s							
TAM	**Tamanrasset**	**40.68**	**255**	P	**P**	**00 19 56.3**	**+0.7**
TAM				IAmb	IAmb	00 20 22.2	
comp=Z,4.8nm,1.2s							
BORG	**Borgarnes**	**44.40**	**325**	*i* P	**P**	**00 20 21.4**	**-3.7**
XLT	**XiLinHaoTe**	**48.04**	**64**	*e*P	**P**	**00 20 57.1**	**+3.0**
XLT				pP	pP	00 21 04.4	-6.7
XLT				sP	sP	00 21 07.3	-12
XLT				PP	**PP**	**00 22 46.7**	**+0.2**
XLT				pmax	pmax		
comp=Z,7.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**48.65**	**103**	*ce*P	**P**	**00 21 03.5**	**+4.5**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**48.65**	**103**	P	**P**	**00 20 58.8**	**-0.2**
comp=Z,0.6nm,0.3s,baz=308,slow=8.7,SNR=1.2							
comp=Z,0.6nm,0.3s							
TORD	**Torodi Ar. Bea**	**49.80**	**249**	P	**P**	**00 21 06.6**	**-1.1**
comp=Z,2.3nm,0.6s,baz=41,slow=8.1,SNR=22							
comp=Z,2.3nm,0.6s							
HEH	**HeiHe**	**52.68**	**52**	*e*P	**P**	**00 21 31.3**	**+2.5**
HEH				pmax	pmax		
comp=Z,7.0nm,0.8s							
HEH				pmax	pmax		
comp=Z,130nm,4.9s							
WHN	**Wuhan**	**52.99**	**80**	P	**P**	**00 21 35.1**	**+3.7**
DBIC	**Dimbokro**	**58.92**	**249**	P	**P**	**00 22 13.4**	**-0.5**
comp=Z,1.1nm,0.3s,baz=42,slow=6.1,SNR=7.1							
comp=Z,1.1nm,0.3s							
SCHQ	**Schefferville**	**68.78**	**326**	P	**P**	**00 23 17.5**	**-0.7**
comp=Z,3.8nm,0.7s,baz=48,slow=9.0,SNR=5.0							
comp=Z,3.8nm,0.7s							
ILAR	**Eielson Array**	**72.62**	**7**	P	**P**	**00 23 42.4**	**+1.1**
comp=Z,0.2nm,0.7s,baz=274,slow=12,SNR=1.7							
comp=Z,0.2nm,0.7s							
YKA	**Yellowknife Ar**	**74.73**	**352**	*ce*P	**P**	**00 23 54.2**	**+0.5**
YKA				pmax	pmax		
comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**74.73**	**352**	P	**P**	**00 23 53.7**	**0.0**
comp=Z,0.8nm,0.7s,baz=41,slow=1.2,SNR=4.6							
comp=Z,0.8nm,0.7s							
JAY	**Jayapura**	**93.23**	**90**	LR	LR	01 08 21.7	
comp=Z,434nm,21.8s,baz=200,slow=36							
LPAZ	**La Paz**	**120.50**	**276**	PKP	**PKiKP**	**00 31 07.7**	**+1.1**
comp=Z,0.9nm,0.6s,baz=58,slow=1.0,SNR=2.5							
QSPA	**South Pole Qui**	**132.08**	**180**	PKP	**PKPdf**	**00 31 25.9**	**-0.5**
comp=Z,0.6nm,0.7s,baz=280,slow=0.5,SNR=5.5							

IGIL ***11*** *00:33:11.9, 39°.17N×10°.74W, h31km, ML2.5*
MDD ***11*** *00:33:11.2±0.7, 39°.17N×10°.74W, h34km±3km, mb_Lg2.7/17, Error ellipse: s-maj=6.3km s-min=2.9km az=78.0*
INMG ***11*** *00:33:12.4±1.0, 39°.15N×10°.70W, h42km, ML1.9, Error ellipse: s-maj=4.2km s-min=1.8km az=85.0*
CNRM ***11*** *00:33:13.2, 38°.96N×10°.47W, h88km*

ISC 11 00:33:09.5±1.8, 39°.15N±0°.03×10.74W±0°.09, h35km, n65, σ1§57/126, 2C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**1.15**	**99**	*e*P		**Pn**	**Sn**	**00 33 30.7**	**+1.6**
PMAFR				*e*S		**Sn**	**Sn**	**00 33 44.7**	**+1.1**
PMAFR				A		A	A	00 33 46.6	
32nm,0.2s									
PMAFR	**Mafra**	**1.15**	**99**	Sn		**Sn**	**Sn**	**00 33 44.6**	**+1.1**
PMAFR				Pn		**Pn**	**Sn**	**00 33 30.6**	**+1.5**
PCDRA	**Caldas da Rain**	**1.27**	**78**	*e*S		**Sn**	**Sn**	**00 33 48.3**	**+1.8**
LIS	**Lisbon**	**1.31**	**109**	*e*S		**Sn**	**Sn**	**00 33 48.5**	**+1.0**
PVFX	**Vila Franca de**	**1.37**	**98**	*e*S		**Sn**	**Sn**	**00 33 50.8**	**+1.7**
PSBE	**So Bento**	**1.55**	**76**	⇓*e*P		**Pn**	**Sn**	**00 33 36.3**	**+1.7**
PSBE				*e*S		**Sn**	**Sn**	**00 33 54.1**	**+0.6**
PSBE				A		A	A	00 34 00.0	
11nm,0.6s									
PCAS	**Casmilo, Conde**	**1.95**	**62**	*e*P		**Pn**	**Sn**	**00 33 41.6**	**+1.5**
PCAS				*e*S		**Sn**	**Sn**	**00 34 03.3**	**-0.1**
PCAS				A		A	A	00 34 16.4	
3.2nm,0.6s									
PMTG	**Montargil**	**1.95**	**92**	*e*P		**Pn**	**Sn**	**00 33 41.7**	**+1.6**
PMTG				*e*S		**Sn**	**Sn**	**00 34 03.5**	**+0.1**
PMTG				A		A	A	00 34 04.6	
5.3nm,0.1s									
PNCL	**Nicolau / Gran**	**2.02**	**120**	*e*P		**Pn**	**Sn**	**00 33 42.1**	**+1.1**
PNCL				*e*S		**Sn**	**Sn**	**00 34 04.8**	**-0.1**
PNCL				A		A	A	00 34 09.5	
2.7nm,0.4s									
PNCL	**Nicolau / Gran**	**2.02**	**120**	Sn		**Sn**	**Sn**	**00 34 04.9**	**-0.1**
PNCL				Pn		**Pn**	**Sn**	**00 33 42.0**	**+1.1**
COI	**Coimbra**	**2.08**	**59**	*e*S		**Sn**	**Sn**	**00 34 06.4**	**-0.2**
EVO	**Evora**	**2.21**	**105**	*e*P		**Pn**	**Sn**	**00 33 44.9**	**+1.2**
EVO				*e*S		**Sn**	**Sn**	**00 34 09.9**	**+0.1**
EVO				A		A	A	00 34 11.9	
7.7nm,0.1s									
EVO	**Evora**	**2.21**	**105**	Pn		**Pn**	**Sn**	**00 33 44.8**	**+1.2**
EVO				Sn		**Sn**	**Sn**	**00 34 09.0**	**-0.9**
PTEO	**Sao Teotonio**	**2.25**	**135**	*e*P		**Pn**	**Sn**	**00 33 45.5**	**+1.3**
PTEO				*e*S		**Sn**	**Sn**	**00 34 10.9**	**+0.2**
PTEO				A		A	A	00 34 16.8	
2.7nm,0.2s									
MORF	**Marmelete**	**2.47**	**138**	⇑*i* P		**Pn**	**Sn**	**00 33 48.3**	**+1.1**
MORF				*e*S		**Sn**	**Sn**	**00 34 16.1**	**0.0**
MORF				A		A	A	00 34 19.2	
14nm,0.2s									
MORF	**Marmelete**	**2.47**	**138**	*e*P		**Pn**	**Sn**	**00 33 48.3**	**+1.1**
MORF				*e*S		**Sn**	**Sn**	**00 34 14.6**	**-1.5**
MORF				IAML				00 34 16.7	
comp=N,21nm,0.2s									
PESTR	**Estremoz**	**2.47**	**96**	*e*P		**Pn**	**Sn**	**00 33 48.5**	**+1.3**
PESTR				*e*S		**Sn**	**Sn**	**00 34 15.6**	**-0.5**
PESTR				A		A	A	00 34 29.7	
comp=N,3.5nm,0.5s									
PESTR	**Estremoz**	**2.47**	**96**	P		**Pn**	**Sn**	**00 33 48.9**	**+1.6**
PESTR				S		**Sn**	**Sn**	**00 34 16.1**	**0.0**
PESTR	**Estremoz**	**2.47**	**96**	Sn		**Sn**	**Sn**	**00 34 15.2**	**-0.9**
PESTR				Pn		**Pn**	**Sn**	**00 33 48.5**	**+1.3**
PBEJ	**Beja**	**2.51**	**116**	*e*P		**Pn**	**Sn**	**00 33 49.0**	**+1.2**
PBEJ				*e*S		**Sn**	**Sn**	**00 34 17.0**	**-0.2**
PFVI	**Vila Bisbo**	**2.51**	**143**	*e*P		**Pn**	**Sn**	**00 33 48.9**	**+1.0**
PFVI				*e*S		**Sn**	**Sn**	**00 34 16.7**	**-0.6**
PFVI				A		A	A	00 34 21.7	
comp=N,3.6nm,0.2s									
PFVI	**Vila Bisbo**	**2.51**	**143**	P		**Pn**	**Sn**	**00 33 46.6**	**-1.2**
PFVI				S		**Sn**	**Sn**	**00 34 17.2**	**-0.1**
PFVI	**Vila Bisbo**	**2.51**	**143**	Sn		**Sn**	**Sn**	**00 34 16.7**	**-0.6**
PFVI				Pn		**Pn**	**Sn**	**00 33 48.9**	**+1.0**
PCVE	**Castro Verde**	**2.60**	**125**	*e*P		**Pn**	**Sn**	**00 33 50.3**	**+1.2**
PCVE				*e*S		**Sn**	**Sn**	**00 34 19.0**	**-0.5**
PCVE				A		A	A	00 34 22.5	
comp=N,2.5nm,0.2s									
PCVE	**Castro Verde**	**2.60**	**125**	Pn		**Pn**	**Sn**	**00 33 50.4**	**+1.3**
PCVE				Sn		**Sn**	**Sn**	**00 34 19.5**	**+0.1**
PMRV	**Marv??o**	**2.61**	**83**	⇓*e*P		**Pn**	**Sn**	**00 33 50.5**	**+1.3**
PMRV				*e*S		**Sn**	**Sn**	**00 34 18.9**	**-0.8**
PMRV				A		A	A	00 34 20.3	
comp=N,4.5nm,0.3s									
PCBR	**Castelo Branco**	**2.61**	**74**	*e*P		**Pn**	**Sn**	**00 33 50.6**	**+1.4**
PCBR				*e*S		**Sn**	**Sn**	**00 34 19.1**	**-0.6**
PCBR				A		A	A	00 34 20.5	
comp=N,3.0nm,0.1s									
PVIS	**Viseu**	**2.69**	**53**	⇑*i* P		**Pn**	**Sn**	**00 33 51.9**	**+1.6**
PVIS				*e*S		**Sn**	**Sn**	**00 34 20.1**	**-1.5**
PVIS				A		A	A	00 34 22.4	
comp=N,5.8nm,1.4s									
MTE	**Manteigas**	**2.76**	**62**	*e*P		**Pn**	**Sn**	**00 33 52.4**	**+1.1**
MTE				*e*S		**Sn**	**Sn**	**00 34 22.5**	**-0.9**
MTE				A		A	A	00 34 25.0	
comp=N,8.9nm,0.2s									
PBDV	**Barranco-do-Ve**	**2.92**	**130**	*e*P		**Pn**	**Sn**	**00 33 55.3**	**+1.9**
PBDV				*e*S		**Sn**	**Sn**	**00 34 27.2**	**0.0**
PBDV				A		A	A	00 34 30.3	
comp=N,2.5nm,0.1s									
EBAD	**Badajoz**	**2.93**	**97**	Pn		**Pn**	**Sn**	**00 33 54.6**	**+1.0**
EBAD				Sn		**Sn**	**Sn**	**00 34 26.1**	**-1.3**
EBAD				*i* Vmb_Lg				00 34 28.8	
EBAD	**Badajoz**	**2.93**	**97**	Pn		**Pn**	**Sn**	**00 33 54.5**	**+1.0**
EBAD				Sn		**Sn**	**Sn**	**00 34 26.0**	**-1.5**
PVAQ	**Vaqueiros**	**2.95**	**125**	*e*P		**Pn**	**Sn**	**00 33 55.0**	**+1.2**
PVAQ				*e*S		**Sn**	**Sn**	**00 34 26.8**	**-1.1**
PVAQ				A		A	A	00 34 30.3	
comp=N,4.0nm,0.2s									
PVAQ	**Vaqueiros**	**2.95**	**125**	P		**Pn**	**Sn**	**00 33 54.0**	**+0.2**
PVAQ				S		**Sn**	**Sn**	**00 34 26.5**	**-1.4**
PVAQ	**Vaqueiros**	**2.95**	**125**	Pn		**Pn**	**Sn**	**00 33 54.8**	**+1.0**
PVAQ				Sn		**Sn**	**Sn**	**00 34 28.1**	**+0.2**
EGRO	**El Granado**	**3.02**	**121**	Pn		**Pn**	**Sn**	**00 33 56.2**	**+1.3**
EGRO				Sn		**Sn**	**Sn**	**00 34 29.6**	**-0.2**
EGRO				*i* Vmb_Lg				00 34 32.9	
EGRO	**El Granado**	**3.02**	**121**	Pn		**Pn**	**Sn**	**00 33 56.2**	**+1.3**
EGRO				Sn		**Sn**	**Sn**	**00 34 29.3**	**-0.5**
PBAR	**Barrancos**	**3.05**	**107**	*e*P		**Pn**	**Sn**	**00 33 56.8**	**+1.6**
PBAR				*e*S		**Sn**	**Sn**	**00 34 29.6**	**-0.9**
PBAR				A		A	A	00 34 31.6	
comp=N,1.6nm,0.2s									
PBAR	**Barrancos**	**3.05**	**107**	Pn		**Pn**	**Sn**	**00 33 56.7**	**+1.4**
PBAR				Sn		**Sn**	**Sn**	**00 34 29.1**	**-1.4**
PVRL	**Vila Real**	**3.14**	**46**	*e*P		**Pn**	**Sn**	**00 33 57.9**	**+1.4**
PVRL				*e*S		**Sn**	**Sn**	**00 34 31.4**	**-1.4**
PVRL				A		A	A	00 34 34.8	
comp=N,3.8nm,0.1s									
POLO	**Lamas de Olo**	**3.16**	**44**	*e*P		**Pn**	**Sn**	**00 33 58.3**	**+1.4**
POLO				*e*S		**Sn**	**Sn**	**00 34 31.5**	**-1.9**
POLO				A		A	A	00 34 35.2	
comp=N,0.6nm,0.4s									
EZAM	**Zamans**	**3.38**	**27**	Pn		**Pn**	**Sn**	**00 34 00.9**	**+1.2**
EZAM				Sn		**Sn**	**Sn**	**00 34 36.4**	**-2.1**
EZAM				*i* Vmb_Lg				00 34 39.4	
PGAV	**Gavieira, Arco**	**3.38**	**33**	*e*P		**Pn**	**Sn**	**00 34 01.7**	**+1.8**
PGAV				*e*S		**Sn**	**Sn**	**00 34 37.7**	**-1.1**
PGAV				A		A	A	00 34 40.6	
comp=N,2.1nm,0.1s									
ELOB	**Lobios**	**3.40**	**36**	Pn		**Pn**	**Sn**	**00 34 01.5**	**+1.5**
ELOB				Sn		**Sn**	**Sn**	**00 34 37.2**	**-1.9**
ELOB				*i* Vmb_Lg				00 34 40.4	
EMIN	**Mina Concepcio**	**3.48**	**112**	Pn		**Pn**	**Sn**	**00 34 02.4**	**+1.3**
EMIN				Sn		**Sn**	**Sn**	**00 34 40.4**	**-0.6**
EMIN				*i* Vmb_Lg				00 34 42.7	
EMIN	**Mina Concepcio**	**3.48**	**112**	Pn		**Pn**	**Sn**	**00 34 02.7**	**+1.7**
EMIN				Sn		**Sn**	**Sn**	**00 34 39.5**	**-1.5**
MVO	**Moncorvo**	**3.48**	**53**	*e*P

YOIG Yosondua 3.87 307 *i* P **Pn 00 42 16.1 +1.8**
YOIG *i* S **Sn 00 42 57.8 -1.5**
PMUV Sontecomapan 4.05 349 *eP* **Pn 00 42 17.1 +0.6**
TXIG Tlaxiaco 4.28 309 *eP* **Pn 00 42 20.6 +0.7**
TXIG *eS* **Sn 00 43 04.7 -4.6**
TOIG Toxpalan 4.41 323 *eP* **Pn 00 42 20.7 -0.8**
TOIG *eS* **Sn 00 43 09.3 -3.0**
HLIG Huajuapan de L 4.69 315 *eP* **Pn 00 42 27.2 +1.8**
HLIG *eS* **Sn 00 43 15.3 -3.9**
MTO3 Montecristo 4.79 91 Pn **Pn 00 42 26.4 -0.5**
ESQI Esquipulas 4.80 89 Pn **Pn 00 42 25.8 -1.1**
TPIG Tehuac#an 4.84 323 *eP* Pn 00 42 24.9 -2.6
TPIG *eS* **Sn 00 43 22.2 -0.7**
FTIG Fresnillo de T 4.97 313 *eP* **Pn 00 42 31.4 +2.2**
FTIG *eS* **Sn 00 43 24.6 -1.4**
SNET Serv Nac Est T 5.00 99 Pn **Pn 00 42 28.6 -0.9**
TLIG Tlapa 5.08 307 **Pn 00 42 32.7 +2.0**
JAUV Jalcomulco 5.35 334 *eP* **Pn 00 42 32.8 -1.6**
PPM Popocatepetl 6.11 318 *eP* **Pn 00 42 46.2 +1.0**
TGUH Tegucigalpa,Un 6.83 93 **Pn 00 42 54.1 -0.8**
TEIG Tepich 8.06 45 Pn **Pn 00 43 10.8 -0.8**
TEIG Tepich 8.06 45 Pn **Pn 00 43 08.6 -3.0**
50nm,0.3s,baz=171,slow=2.1,SNR=29
TEIG Sn Sn 00 44 34.1 -7.9
baz=156,slow=20
MATN Matagalpa 8.30 100 Pn **Pn 00 43 15.3 +0.3**
ORTG Ortega, Santa 9.59 115 Pn **Pn 00 43 33.9 +1.3**
DUNO Dulce Nombre, 9.69 116 Pn **Pn 00 43 34.8 +0.9**
ARE1 Arenal 1 10.20 112 Pn **Pn 00 43 43.0 +1.9**
435B Jarrell 16.44 350 Pn **Pn 00 45 06.2 +1.1**
435B IAmb IAmb 00 45 23.8
comp=Z,14nm,0.8s
TXAR Lajitas Array 17.07 331 P **Pn 00 45 14.2 +0.9**
baz=126,slow=9.1,SNR=2.6
comp=Z,0.7nm,0.9s
TX31 Lajitas Ar. Si 17.07 331 **Pn 00 45 14.5 +1.3**
TX31 IAmb IAmb 00 45 30.2
comp=Z,21nm,1.4s
TX32 Lajitas Array 17.07 331 **Pn 00 45 14.6 +1.4**
BRDY Brady 17.21 346 **Pn 00 45 17.0 +2.2**
BRDY IAmb IAmb 00 45 42.2
comp=Z,6.1nm,0.8s
OZNA Ozona 17.46 340 **Pn 00 45 19.8 +1.8**
OZNA IAmb IAmb 00 45 31.6
comp=Z,7.2nm,0.9s
ALPN Alpine 17.94 333 **Pn 00 45 26.2 +2.2**
ALPN IAmb IAmb 00 45 33.9
comp=Z,9.0nm,1.1s
SGCY Sterling City 18.38 341 P **P 00 45 31.1 +1.9**
SGCY IAmb IAmb 00 45 55.7
comp=Z,9.5nm,0.9s
ABTX Abilene, Hawle 18.64 346 P **P 00 45 32.7 +0.7**
425A Indio Mountain 18.91 331 P **Pn 00 45 37.8 +2.0**
SN01 Snyder 1 19.19 343 P **P 00 45 39.7 +1.5**
SN01 IAmb IAmb 00 45 50.7
comp=Z,8.2nm,1.1s
Z47A Carrollton 19.41 16 P **P 00 45 39.6 -0.9**
Z47A IAmb IAmb 00 45 53.5
comp=Z,9.9nm,0.8s
POST Post 19.56 342 P **P 00 45 43.4 +1.2**
POST IAmb IAmb 00 45 55.0
comp=Z,10nm,1.1s
MIAR Mount Ida 19.92 2 P **P 00 45 44.8 -1.2**
MIAR IAmb IAmb 00 45 52.1
comp=Z,6.2nm,0.7s
DKNS Dickens 19.96 344 P **P 00 45 47.9 +1.3**
DKNS IAmb IAmb 00 45 54.2
comp=Z,11nm,1.1s
JAMC Jamundi, Valle 20.72 121 *eP* **P 00 45 57.3 +2.2**
MSTX Muleshoe 20.80 340 P **P 00 45 57.1 +1.4**
MSTX IAmb IAmb 00 46 14.3
comp=Z,10nm,1.1s
GUY2C Guyana, Caldas 20.81 115 *eP* **P 00 45 59.5 +3.1**
OKCSW OKLAHOMA CITY 20.96 353 P **P 00 45 57.5 +0.2**
POPC Popayan, Colom 21.10 123 *eP* **P 00 46 02.2 +3.0**
NORC Norcasia 21.10 113 *eP* **P 00 46 01.4 +2.4**
PULU Pululahua 21.28 131 P **P 00 46 01.0 -0.3**
AMTX Amarillo 21.31 343 P **P 00 46 01.7 +0.5**
AMTX IAmb IAmb 00 46 10.4
comp=Z,11nm,0.7s
IMBA Imbabura, San 21.33 130 P **P 00 46 02.8 +0.9**
FCAR Ozark Folk Cen 21.34 5 P **P 00 46 01.3 -0.1**
FCAR IAmb IAmb 00 46 05.0
comp=Z,7.9nm,0.7s
OK029 Liberty Lake 21.35 353 P **P 00 46 01.2 -0.2**
FPAL Fort Paine 21.40 20 P **P 00 46 00.6 -1.5**
FPAL IAmb IAmb 00 46 18.8
comp=Z,22nm,1.3s
ORTC Ortega, Tolima 21.55 118 *eP* **P 00 46 06.7 +2.7**
HHAR Hobbs 21.64 1 P **P 00 46 05.3 +0.6**
HHAR IAmb IAmb 00 46 07.0
comp=Z,6.1nm,0.6s
121A Cookes Peak, D 21.71 328 P **P 00 46 07.5 +1.9**
121A IAmb IAmb 00 46 15.1
comp=Z,11nm,0.8s
U38A Gravette 21.80 360 P **P 00 46 05.8 -0.5**
ELIS Ellis County 21.91 349 P **P 00 46 07.1 -0.5**
ELIS IAmb IAmb 00 46 21.5
comp=Z,8.8nm,0.8s
ROSC El Rosal 21.91 114 P **P 00 46 07.7 -0.5**
ROSC IAmb IAmb 00 46 16.8
comp=Z,13nm,1.1s
ROSC El Rosal 21.91 114 P **P 00 46 08.9 +0.7**
comp=Z,3.7nm,0.5s,baz=316,slow=22,SNR=1.4
PRAC Prado 21.96 117 *eP* **P 00 46 06.0 -2.3**
OK051 E0350 and S346 21.98 355 P **P 00 46 07.8 -0.5**
OK051 IAmb IAmb 00 46 10.8
comp=Z,18nm,1.2s
PIAT Ana Tenorio 22.15 133 *eP* **P 00 46 14.1 +3.3**
OK035 E0210 Rd and N 22.42 351 P **P 00 46 13.5 +0.5**
OK032 Salt Plains WL 22.44 352 P **P 00 46 14.2 +1.1**
OK032 IAmb IAmb 00 46 15.8
comp=Z,11nm,0.8s
W52A Murphy 22.49 23 P **P 00 46 10.8 -3.0**
CHIC Chingaza 22.53 114 *eP* **P 00 46 17.5 +2.7**
KAN14 Manchester OK 22.55 352 P **P 00 46 14.9 +0.5**
RUSC La Rusia 22.57 110 *eP* **P 00 46 13.6 -1.7**
MGMO Mountain Grove 22.59 4 P **P 00 46 14.2 -0.5**
MGMO IAmb IAmb 00 46 16.1
comp=Z,6.5nm,0.9s
KAN09 Caldwell North 22.69 353 P **P 00 46 15.9 +0.1**
KAN09 IAmb IAmb 00 46 17.4
comp=Z,9.0nm,0.8s
KAN05 Bluff City Nor 22.69 353 P **P 00 46 14.5 -1.4**
KS20 Mayfield South 22.77 353 P **P 00 46 17.9 +1.2**
KS20 IAmb IAmb 00 46 18.2
comp=Z,9.2nm,0.7s
S39A Bolivar 23.07 2 P **P 00 46 19.1 -0.6**
S39A IAmb IAmb 00 46 20.9
comp=Z,10nm,0.8s
ANMO Albuquerque 23.07 334 P **P 00 46 22.3 +2.3**
comp=Z,0.9nm,0.6s,baz=239,slow=5.9,SNR=3.6
comp=Z,0.9nm,0.6s
T47A Sharon Grove 23.25 15 P **P 00 46 19.5 -2.1**
T47A IAmb IAmb 00 46 21.4
comp=Z,9.0nm,0.8s
R32A Long Quarter, 24.10 351 P **P 00 46 28.9 -0.9**
CBKS Cedar Bluff 24.64 350 P **P 00 46 35.4 +0.6**
P40A Paris 24.96 4 P **P 00 46 36.0 -1.7**
P38A Dawn 24.99 1 P **P 00 46 36.2 -1.6**
P38A IAmb IAmb 00 46 37.7
comp=Z,5.7nm,0.8s
X16A Lo Mia Camp, P 25.12 325 P **P 00 46 41.7 +2.4**
N38A Joes South For 26.16 2 P **P 00 46 47.1 -1.4**
PFO Pinyon Flats O 27.63 317 LR LR 00 58 10.2
comp=Z,102nm,18.2s,baz=118,slow=36
SPMN Marine on St. 30.60 2 P **P 00 47 26.6 -1.4**
PDAR Pinedale Array 31.04 338 P **P 00 47 31.2 -1.0**
comp=Z,0.2nm,0.7s,baz=167,slow=4.5,SNR=2.5
comp=Z,0.2nm,0.7s
NV11 Mina Array Sit 31.78 323 P **P 00 47 41.3 +2.6**
NV11 IAmb IAmb 00 47 57.5
comp=Z,5.1nm,1.2s
NVAR Mina Array Bea 31.86 323 P **P 00 47 41.4 +1.9**
NVAR Mina Array Bea 31.86 323 P **P 00 47 42.6 +3.1**
comp=Z,1.1nm,0.8s,baz=141,slow=7.6,SNR=8.7
comp=Z,1.1nm,0.8s
TPAW Teton Pass 32.18 337 P **P 00 47 44.1 +1.8**
TPAW IAmb IAmb 00 48 01.2
comp=Z,3.5nm,1.1s
PLID Pearl Lake 35.55 333 P **P 00 48 13.1 +1.6**
PLID IAmb IAmb 00 48 25.4
comp=Z,4.2nm,0.9s
ULM Lac du Bonnet 35.63 358 P **P 00 48 10.9 -0.9**
comp=Z,2.3nm,0.6s,baz=172,slow=12,SNR=4.9
comp=Z,2.3nm,0.6s
ETMB Extrema 36.90 129 P **P 00 48 24.0 +0.8**
YKA Yellowknife Ar 50.00 348 P **P 00 50 08.3 +0.2**
comp=Z,1.2nm,0.8s,baz=123,slow=7.5,SNR=2.3
comp=Z,1.2nm,0.8s
ILAR Eielson Array 61.46 337 P **P 00 51 31.9 +1.6**
ILAR Eielson Array 61.46 337 P **P 00 51 31.5 +1.1**
comp=Z,0.8nm,0.9s,baz=160,slow=3.8,SNR=8.3
comp=Z,0.8nm,0.9s
BMAR Burnt Mountain 62.02 340 P **P 00 51 35.2 +1.1**
EKA Eskdalemuir Ar 78.83 36 P **P 00 53 14.8 -2.1**
comp=Z,2.0nm,0.7s,baz=297,slow=3.7,SNR=4.5
comp=Z,2.0nm,0.7s
ESDC Sonseca Array 81.12 51 P **P 00 53 29.0 -0.7**
ESDC Sonseca Array 81.12 51 P **P 00 53 29.0 -0.7**
comp=Z,1.1nm,0.9s,baz=294,slow=5.6,SNR=9.8
comp=Z,1.1nm,0.9s
NB2 NORSAR Subarra 84.72 28 P **P 00 53 49.4 +1.5**
comp=Z,25nm,2.0s,baz=296,slow=5.3
NOA NORSAR Array B 84.72 28 P **P 00 53 46.9 -1.0**
comp=Z,0.6nm,0.7s,baz=216,slow=8.0,SNR=1.9
comp=Z,0.6nm,0.7s
TORD Torodi Ar. Bea 92.42 76 P **P 00 54 23.8 -1.7**
comp=Z,0.5nm,0.9s,baz=321,slow=3.7,SNR=1.8
comp=Z,0.5nm,0.9s
PZH PanZhiHua 136.31 339 PKP **PKPdf 01 00 36.8 +0.2**
CMAR Chiang Mai Arr 144.70 338 PKP **PKPab 01 00 49.8 -0.5**
comp=Z,0.8nm,0.3s,baz=0.6,slow=5.3,SNR=4.2

NNC 11 01:01:17.2±7.1, 37°.55N×70°.98E, h0km, mb3.8, mpv3.5, 3C-2D, Error ellipse: s-maj=76.6km s-min=38.8km az=143.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.03**	**24**	⇓P	Pn	01 02 34.8	+0.4
AML	1.6nm,0.6s			⇑S	Sn	01 03 33.6	+0.2
	0.7nm,0.3s						
KK31	**Karatay Array**	**5.56**	**356**	⇓P	Pn	01 02 43.0	+1.7
KK31	5.3nm,0.4s,baz=178,slow=12,SNR=57			⇑S	Sn	01 03 49.4	+3.5
	2.1nm,0.3s,baz=184,slow=24,SNR=4.8						
AB31	**Akbulak array**	**14.17**	**329**	P	Pn	01 04 35.8	-3.3
	0.6nm,0.5s,baz=132,slow=12,SNR=30						
AKTO	**Aktyubinsk**	**15.88**	**328**	⇑P	Pn	01 05 00.8	-1.1
	1.6nm,0.9s						

IDC 11 01:02:41.4±1.9, 3°.23S×141°.68E, h0km, mb3.2/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=38.2km s-min=23.7km az=65.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.21**	**306**	Pn	Pg	01 03 04.8	+0.2
	0.9nm,0.3s,baz=140,slow=17,SNR=2.9						
JAY				Sn	Sn	01 03 24.8	+2.1
	2.9nm,0.3s,baz=130,slow=17,SNR=3.4						
WRA	**Warramunga Arr**	**18.09**	**203**	P	P	01 06 54.8	0.0
	0.2nm,0.3s,baz=29,slow=12,SNR=14						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**21.67**	**200**	P	P	01 07 33.6	-0.1
	0.5nm,0.8s,baz=30,slow=10.0,SNR=5.5						
	0.5nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**32.75**	**48**	T	T	01 43 07.8	
	baz=231,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**32.76**	**48**	T	T	01 42 56.3	
	baz=231,slow=75,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**32.77**	**48**	T	T	01 42 58.9	
	baz=231,slow=75,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**33.66**	**46**	T	T	01 44 08.3	
	baz=230,slow=76,SNR=36						
H11N2	**WAKE ISLAND Hy**	**33.68**	**46**	T	T	01 44 02.9	
	baz=230,slow=76,SNR=31						
H11N3	**WAKE ISLAND Hy**	**33.68**	**46**	T	T	01 44 07.3	
	baz=230,slow=76,SNR=18						
ILAR	**Eielson Array**	**85.08**	**24**	P	P	01 15 19.0	+0.2
	0.3nm,0.7s,baz=258,slow=3.4,SNR=2.6						
	0.3nm,0.7s						

EAF 11 01:03:50.4, 14°.11N×41°.07E, h0km
AAE 11 01:03:52.9±21.0, 13°.77N×40°.58E, h31km±565km, Ms2.7, MW3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEND	**Ethiopian Broa**	**2.01**	**168**	*e*P	Pn	01 04 20.2	-4.6
	baz=182						
TEND				*e*S	Sn	01 04 38.7	-10
	baz=182						
ATD	**Arta Tunnel**	**3.14**	**135**	*e*P	Pn	01 04 40.2	-0.2
ATD				*e*S	Sn	01 05 16.4	-0.4
ATD	**Arta Tunnel**	**3.14**	**135**	*e*P	Pn	01 04 40.2	-0.2
	baz=146						
ATD				*e*S	Sn	01 05 16.4	-0.4
	baz=146						
FURI	**Furi**	**5.19**	**201**	*e*P	Pb	01 05 23.4	+0.2
FURI				*e*S	Sn	01 06 10.1	+2.2
FURI				IAMs_20	IAMs_20	01 06 53.3	
	comp=Z,206nm,14.2s						
FURI	**Furi**	**5.19**	**201**	*e*P	Pb	01 05 23.4	+0.2
	baz=200						
FURI				*e*S	Sn	01 06 10.1	+2.2
	baz=200						
FURI				IAMs_20	IAMs_20	01 06 53.3	
	206nm,14.2s,baz=200						

NEIC 11 01:18:54.2±1.2, 23°.4S±0°.2×179°.57W±0°.08, h564km±10km, mb4.2/19, Error ellipse: s-maj=24.0km s-min=7.8km az=197.0
IDC 11 01:18:56.1±2.6, 23°.06S×179°.77W, h590km±33km, mb3.4/4, mbtmp4.3/5, Error ellipse: s-maj=42.8km s-min=35.6km az=14.0
ISC 11 01:18:53.0±1.1, 23°.4S±0°.1×179°.6W±0°.2, h550km, n32, σ1s00/32, mb4.2/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.08**	**338**	P	P	01 20 33.8	+1.1
MSVF	**Nonsavu**	**6.08**	**338**	P	P	01 20 34.2	+1.6
	5.2nm,0.4s,baz=168,slow=23,SNR=5.8						
PINNC	**Pines Island,**	**11.98**	**271**	P	P	01 21 32.3	+0.8
KHZ	**Kahutara**	**19.79**	**195**	P	P	01 22 46.5	-0.4
MLZ	**Mavora Lakes**	**24.08**	**202**	P	P	01 23 27.0	+1.6
EIDS	**Eidsvold**	**26.78**	**260**	P	P	01 23 49.5	0.0
EIDS				IAmb	IAmb	01 24 14.2	
	comp=Z,2.9nm,1.0s						
CTAO	**Charters Tower**	**31.87**	**269**	P	P	01 24 34.4	+0.7
TOO	**Toolangi**	**33.04**	**237**	P	P	01 24 43.8	+0.4
TOO				IAmb	IAmb	01 25 04.3	
	comp=Z,8.7nm,1.1s						
STKA	**Stephens Creek**	**35.27**	**248**	P	P	01 25 02.6	+0.5
STKA	**Stephens Creek**	**35.27**	**248**	P	P	01 25 01.7	-0.4
	comp=Z,2.6nm,0.4s,baz=96,slow=10,SNR=6.6						
	comp=Z,2.6nm,0.4s						
BBOO	**Buckleboo**	**39.99**	**246**	P	P	01 25 40.2	-0.5
BBOO				IAmb	IAmb	01 26 01.0	
	comp=Z,12nm,1.1s						
AS31	**Alice Springs**	**42.50**	**260**	P	P	01 26 00.1	-0.5
ASAR	**Alice Springs**	**42.50**	**260**	P	P	01 26 00.0	-0.7
ASAR	**Alice Springs**	**42.50**	**260**	P	P	01 26 00.2	-0.4
	comp=Z,3.5nm,0.5s,baz=99,slow=7.2,SNR=38						
	comp=Z,3.5nm,0.5s						
WR0	**Warramunga Arr**	**42.65**	**266**	P	P	01 26 01.1	-0.7
WR0				IAmb	IAmb	01 26 01.8	
	comp=Z,3.6nm,0.9s						
WB2	**Warramunga Arr**	**42.82**	**265**	P	P	01 26 02.3	-0.9
WB2				IAmb	IAmb	01 26 03.1	
	comp=Z,5.4nm,0.5s						
WB0	**Warramunga Arr**	**42.83**	**266**	P	P	01 26 02.5	-0.7
WB0				IAmb	IAmb	01 26 03.4	
	comp=Z,6.8nm,0.6s						
WRAB	**Tennant Creek**	**42.83**	**265**	P	P	01 26 03.1	-0.1
WRAB				IAmb	IAmb	01 26 14.9	
	comp=Z,9.3nm,0.8s						
WRA	**Warramunga Arr**	**42.83**	**265**	P	P	01 26 02.8	-0.6
WRA	**Warramunga Arr**	**42.83**	**265**	P	P	01 26 02.7	-0.6
	comp=Z,4.3nm,0.5s,baz=92,slow=8.4,SNR=138						
	comp=Z,4.3nm,0.5s						
FORT	**Forrest**	**46.85**	**249**	P	P	01 26 33.0	-0.9
KNRA	**Kununurra**	**49.09**	**269**	P	P	01 26 50.7	0.0
KNRA				IAmb	IAmb	01 27 19.2	
	comp=Z,14nm,1.1s						
PSA00	**Pilbara Seismi**	**55.64**	**259**	P	P	01 27 36.5	-1.2
MBWA	**Marble Bar**	**55.84**	**260**	P	P	01 27 38.3	-0.8
MBWA				IAmb	IAmb	01 27 49.2	
	comp=Z,10.0nm,1.1s						
MORW	**Morawa**	**57.41**	**250**	P	P	01 27 48.8	-0.9
MORW				IAmb	IAmb	01 27 50.5	
	comp=Z,7.3nm,0.9s						
QSPA	**South Pole Qui**	**66.66**	**180**	P	P	01 28 51.1	+1.9
	comp=Z,1.1nm,0.6s,baz=35,slow=1.4,SNR=2.4						
	comp=Z,1.1nm,0.6s						
JNU	**Nakatsue**	**73.43**	**318**	P	P	01 29 29.3	-0.4
JNU				IAmb	IAmb	01 29 50.2	
	comp=Z,3.9nm,0.9s						
TSUM	**Tsumeb**	**134.45**	**203**	PKPdf	**PKPdf**	01 37 07.8	-2.1
HFS	**Hagfors**	**142.16**	**349**	PKP	**PKPdf**	01 37 20.2	-2.2
	comp=Z,2.4nm,0.8s,baz=29,slow=3.3,SNR=4.0						
MMAI	**Mount Meron Ar**	**147.86**	**295**	PKPab	**PKiKP**	01 37 39.1	+0.8
	comp=Z,2.6nm,0.8s,baz=69,slow=8.0,SNR=1.3						
GRA1	**Grafenberg Arr**	**152.44**	**345**	PKPdf	**PKPdf**	01 37 39.6	+0.1
GRFO	**Grafenberg**	**152.44**	**345**	PKPdf	**PKPdf**	01 37 39.3	-0.3

IDC 11 01:24:23.6±0.5, 42°.44N×111°.35W, h0km, mb3.9/11, mbtmp3.8/20, ML3.2/9, Error ellipse: s-maj=10.0km s-min=6.6km az=148.0
UUSS 11 01:24:25.9±1.2, 42°.55N±0°.01×111°.42W±0°.02, h10km±2km, Error ellipse: s-maj=2.0km s-min=1.5km az=223.0
NEIC 11 01:24:25.6±1.4, 42°.546N±0°.007×111°.42W±0°.02, h10km±1km, mb4.2/20, ML4.3/112, Mwr4.1/91, ML4.4/25(UUSS), Error ellipse: s-maj=2.6km s-min=2.3km az=312.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.65; $M_{\theta\theta}$-1.16; $M_{\phi\phi}$1.81; $M_{r\theta}$-0.82; $M_{\theta\phi}$0.87; $M_{\phi r}$-0.27; Fault plane solution: $M_0$2.01000×10^{15} NP1:ϕ_s55.07000°, δ75.29000°, λ-31.26000°. NP2: ϕ_s153.83000°, δ59.88000°, λ-162.93000°. Principal axes: T 2.1321, Plg10.0000°, Azm107.0000°; N -0.2790, Plg56.0000°, Azm212.0000°; P -1.8530, Plg32.0000°, Azm11.0000°;
NEIC 11 01:24:25.7, 42°.55N×111°.42W, h11km
ANF 11 01:24:27.7±0.2, 42°.54N×111°.32W, h10km, ML4.4/12, Error ellipse: s-maj=3.3km s-min=2.4km az=109.0
ISC 11 01:24:25.7±0.8, 42°.53N±0°.02×111°.36W±0°.02, h12km±5km, n171, σ1s97/194, mb4.2/18, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ID06	**Fossil Canyon**	**0.08**	**307**		**Pg**	**01 24 28.3**	**-0.2**
ID06				Sg	**Sg**	**01 24 29.7**	**-1.0**
ID05	**Sulphur Canyon**	**0.13**	**326**	Pg	**Pg**	**01 24 28.9**	**-0.3**
ID05				Sg	**Sg**	**01 24 31.0**	**-0.7**
ID05				IAML		01 24 31.3	
	154μm,0.5s						
AHID	**Auburn Hatcher**	**0.30**	**40**	Pg	**Pb**	**01 24 32.8**	**-0.3**
AHID				Sg	**Sb**	**01 24 37.1**	**-1.1**
ID09	**Alton**	**0.32**	**157**	Pg	**Pb**	**01 24 33.2**	**-0.2**
ID09				Sg	**Sb**	**01 24 38.0**	**-0.6**
ID09				IAML		01 24 39.2	
	42μm,0.6s						
ID10	**Lander Cutoff**	**0.35**	**92**	Pg	**Pb**	**01 24 33.8**	**-0.1**
ID10				Sg	**Sb**	**01 24 39.2**	**-0.3**
ID10				IAML		01 24 40.4	
	40μm,0.5s						
ID10				IAML		01 24 40.8	
	24μm,0.5s						
GRRI	**Grays Lake**	**0.41**	**354**		**Pg**	**01 24 33.9**	**+0.1**
ID08	**Devils Gate**	**0.51**	**316**	Sg	**Sg**	**01 24 41.8**	**-0.6**
ECR	**Eagle Creek**	**0.52**	**359**	Pg	**Pg**	**01 24 36.0**	**+0.1**
BEI	**Bear River Ran**	**0.52**	**217**		**Pg**	**01 24 36.1**	**+0.2**
ID07	**Smith Canyon R**	**0.53**	**270**	Pg	**Pg**	**01 24 35.4**	**-0.7**
ID07				Sg	**Sg**	**01 24 41.9**	**-1.3**
L17A	**Cokeville**	**0.57**	**140**		**Pb**	**01 24 37.8**	**+0.1**
L17A					**Sb**	**01 24 46.9**	**+1.2**
BMUT	**Black Mountain**	**0.58**	**171**		**Pg**	**01 24 37.4**	**+0.3**
MLI	**Malad Range**	**0.76**	**228**		**Pg**	**01 24 40.3**	**-0.2**
HDU	**Hyde Park**	**0.79**	**203**		**Pg**	**01 24 41.0**	**0.0**
REDW	**Red Top Meadow**	**0.91**	**24**	Pg	**Pg**	**01 24 43.2**	**-0.1**
PTU	**Portage**	**0.94**	**230**		**Pg**	**01 24 43.6**	**-0.2**
HWUT	**Hardware Ranch**	**0.94**	**189**	Pg	**Pg**	**01 24 43.9**	**+0.1**
HWUT				IAML		01 25 04.8	
	5μm,0.8s						
NPI	**North Pocatell**	**0.94**	**246**		**Pg**	**01 24 43.1**	**-0.7**
TPAW	**Teton Pass**	**1.00**	**17**	Pg	**Pg**	**01 24 44.9**	**-0.1**
TPAW				IAML		01 24 48.0	
	5μm,0.4s						
TPAW				IAML		01 25 03.0	
	6μm,0.6s						
WVUT	**Wellsville**	**1.02**	**206**		**Pg**	**01 24 45.5**	**0.0**
FXWY	**Fox Creek**	**1.13**	**12**	Pg	**Pg**	**01 24 47.1**	**-0.4**
FXWY				IAML		01 25 03.4	
	3μm,0.3s						
LTU	**Little Mountai**	**1.15**	**215**		**Pb**	**01 24 47.3**	**-0.3**
HVU	**Hansel Valley**	**1.29**	**235**	Pn	**Pn**	**01 24 49.0**	**-0.7**
MOOW	**Moose Ponds**	**1.29**	**20**	Pn	**Pn**	**01 24 49.4**	**-0.4**
BW06	**Boulder Array**	**1.35**	**79**	Pn	**Pn**	**01 24 50.7**	**+0.1**
BW06				IAML		01 25 14.3	
	3μm,1.2s						
BW06				IAML		01 25 14.6	
	3μm,1.1s						
BW06	**Boulder Array**	**1.35**	**79**	P	**Pb**	**01 24 51.2**	**+0.1**
	baz=262,SNR=1000						
BW06				S	**Sg**	**01 25 10.3**	**+1.1**
	baz=262						
PD31	**Pinedale Array**	**1.35**	**79**	Pn	**Pn**	**01 24 51.0**	**+0.4**
PDAR	**Pinedale Array**	**1.35**	**79**	Pn	**Pn**	**01 24 51.0**	**+0.4**
PDAR	**Pinedale Array**	**1.35**	**79**	Pg	**Pb**	**01 24 51.3**	**+0.2**
	206nm,0.3s,baz=255,slow=13,SNR=2897						
PDAR				Lg	Lg	01 25 10.7	
	290nm,0.3s,baz=272,slow=18,SNR=39						
IMW	**Indian Meadow**	**1.40**	**13**	Pn	**Pn**	**01 24 51.3**	**0.0**
IMW				IAML		01 25 21.9	
	5μm,0.6s						
TCUT	**Toone Canyon**	**1.42**	**181**	Pn	**Pn**	**01 24 51.8**	**+0.3**
SPUT	**South Promonto**	**1.47**	**214**	Pn	**Pn**	**01 24 51.8**	**-0.4**
SPUT				IAML		01 25 15.3	
	comp=E,6μm,0.6s						
SPUT				IAML		01 25 17.8	
	comp=N,4μm,0.6s						
FLWY	**Flagg Ranch**	**1.62**	**17**	Pn	**Pn**	**01 24 54.0**	**-0.3**
FLWY				IAML		01 25 31.5	
	comp=N,2μm,1.1s						
FLWY				IAML		01 25 32.0	
	comp=N,2μm,1.1s						
CTU	**Camp Tracy**	**1.86**	**189**	Pn	**Pn**	**01 24 57.5**	**-0.1**
CTU				IAML		01 25 29.1	
	comp=N,4μm,0.8s						
CTU				IAML		01 25 32.5	
	comp=E,4μm,0.8s						
H17A	**Grant Village**	**1.95**	**17**	Pn	**Pn**	**01 24 58.3**	**-0.5**
H17A	**Grant Village**	**1.95**	**17**	P	**Pb**	**01 25 00.3**	**-0.9**
	baz=199,SNR=741						
H17A				Sb	**Sg**	**01 25 28.5**	**+0.2**
	baz=199						
BSUT	**Blindstream Ca**	**2.05**	**167**	Pn	**Pn**	**01 25 00.8**	**+0.5**
LKWY	**Lake**	**2.15**	**19**	Pn	**Pn**	**01 25 02.1**	**+0.5**
LKWY				IAML		01 25 15.3	
	comp=E,1μm,0.7s						
YNR	**Norris Junctio**	**2.24**	**13**	Pn	**Pn**	**01 25 02.6**	**-0.2**
YNM	**Yellowstone No**	**2.24**	**12**	Pn	**Pn**	**01 25 02.5**	**-0.3**
YHH	**Holmes Hill**	**2.28**	**9**	Pn	**Pn**	**01 25 03.6**	**+0.1**
YMP	**Mirror Lake Pl**	**2.37**	**21**	Pn	**Pn**	**01 25 04.8**	**0.0**
RDMU	**Red Mountain**	**2.38**	**145**	Pn	**Pn**	**01 25 05.4**	**+0.6**
RDMU				IAML		01 25 41.7	
	comp=N,2μm,0.8s						
RDMU				IAML		01 25 41.7	
	comp=E,2μm,1.1s						
HLID	**Hailey**	**2.46**	**296**	Pn	**Pn**	**01 25 05.5**	**-0.3**
HLID				IAML		01 25 43.4	
	comp=E,1μm,0.8s						
HLID				IAML		01 25 46.9	
	comp=E,1μm,0.8s						
HLID	**

DUG Sb **Sg** **01 25 48.1 -0.5**
baz=24
NLU North Lily Min 2.63 192 Pn **Pn** **01 25 08.4 +0.2**
DLMT Dillon 2.96 343 Pn **Pn** **01 25 12.8 +0.1**
DLMT IAML 01 26 02.5
comp=E,992nm,1.6s
DLMT IAML 01 26 03.8
comp=E,728nm,1.5s
RLMT Red Lodge 3.00 30 Pn **Pn** **01 25 13.8 +0.6**
RLMT IAML 01 26 03.0
comp=E,238nm,0.5s
RLMT IAML 01 26 04.1
comp=E,212nm,0.5s
RLMT Red Lodge 3.00 30 P **Pn** **01 25 15.6 +2.3**
baz=212,SNR=91
RLMT S **Sn** **01 25 50.3 +1.1**
baz=212
P18A Preston Nutter 3.02 163 Pn **Pn** **01 25 14.5 +0.8**
P18A IAML 01 26 01.4
comp=E,1μm,0.9s
P18A IAML 01 26 06.6
comp=N,1μm,0.6s
BOZ Bozeman (W) 3.07 356 Pn **Pn** **01 25 13.3 -0.8**
BOZ Bozeman (W) 3.07 356 P **Pn** **01 25 16.7 +2.5**
baz=177,SNR=412
BOZ Sb **Sb** **01 26 00.7 +2.9**
baz=177
RWWY Rawlins 3.20 104 Pn **Pn** **01 25 16.7 +0.6**
RWWY IAML 01 26 17.0
comp=N,1μm,0.8s
TMUT Trail Mountain 3.24 178 Pn **Pn** **01 25 16.9 +0.3**
O20A White River Ci 3.36 135 Pn **Pn** **01 25 18.6 +0.4**
O20A White River Ci 3.36 135 P **Pn** **01 25 21.6 +3.4**
baz=316,SNR=204
O20A Sb **Sg** **01 26 10.7 -2.7**
baz=316
MFID Camas Ranch 3.39 287 Pn **Pn** **01 25 17.9 -0.7**
MFID IAML 01 26 18.7
comp=N,1μm,0.8s
MFID IAML 01 26 18.7
comp=N,797nm,0.9s
ELK Elko 3.41 240 Pn **Pn** **01 25 19.0 +0.1**
ELK Elko 3.41 240 Pn **Pn** **01 25 17.4 -1.5**
comp=N,2.9nm,0.3s,baz=46,slow=9.8,SNR=56
ELK Sn **Sn** **01 25 56.5 -3.0**
comp=N,17nm,0.3s,baz=18,slow=11,SNR=4.7
ELK Lg Lg 01 26 09.9
comp=N,58nm,0.3s,baz=163,slow=14,SNR=11
comp=N,6.5nm,0.4s
K22A Casper 3.57 87 Pn **Pn** **01 25 22.6 +1.5**
K22A IAML 01 26 22.3
comp=N,1μm,0.3s
K22A IAML 01 26 24.2
comp=E,1μm,0.6s
K22A Casper 3.57 87 P **Pn** **01 25 24.6 +3.5**
baz=270,SNR=353
K22A Sb **Sb** **01 26 15.4 +3.1**
baz=270
Q16A Castle Valley 3.62 178 Pn **Pn** **01 25 22.6 +0.9**
Q16A IAML 01 26 19.4
comp=N,562nm,0.7s
Q16A IAML 01 26 20.0
comp=E,817nm,0.9s
TCRU Three Creeks R 4.01 192 Pn **Pn** **01 25 27.7 +0.6**
TCRU IAML 01 26 47.1
comp=E,404nm,1.0s
TCRU IAML 01 26 47.7
comp=N,363nm,0.9s
MSU Marysvale 4.07 189 Pn **Pn** **01 25 28.8 +0.9**
ELMT Elliston 4.07 349 Pn **Pn** **01 25 28.4 +0.4**
MVU Marysvale 4.08 189 Pn **Pn** **01 25 29.4 +1.3**
MVU IAML 01 26 48.3
comp=E,789nm,0.6s
BPMT Black Pine Rid 4.18 340 Pn **Pn** **01 25 29.9 +0.4**
SPR3 Spring Creek 3 4.19 214 Pn **Pn** **01 25 30.4 +0.7**
SPR3 IAML 01 26 41.4
comp=N,220nm,0.7s
SPR3 IAML 01 26 42.3
comp=E,190nm,0.8s
PLID Pearl Lake 4.22 309 Pn **Pn** **01 25 30.6 +0.6**
PLID IAML 01 26 40.9
comp=E,246nm,1.1s
PLID IAML 01 26 41.7
comp=E,262nm,1.2s
BEMT Mount Belmont 4.27 351 Pn **Pn** **01 25 31.9 +1.2**
N23A Red Feather La 4.37 110 Pn **Pn** **01 25 32.9 +0.7**
N23A Red Feather La 4.37 110 P **Pn** **01 25 35.6 +3.4**
baz=294,SNR=264
PSUT Pine Spring 4.42 206 Pn **Pn** **01 25 34.2 +1.4**
PSUT IAML 01 26 57.0
comp=E,210nm,0.9s
PSUT IAML 01 26 58.3
comp=N,215nm,0.9s
LYMT Lyon Mountain 4.48 352 Pn **Pn** **01 25 35.3 +1.7**
MTPU Mount Pierson 4.53 188 Pn **Pn** **01 25 36.2 +1.7**
MTPU IAML 01 26 53.5
comp=E,204nm,0.8s
MTPU IAML 01 26 57.8
comp=N,166nm,0.9s
PHWY Pilot Hill 4.57 104 Pn **Pn** **01 25 36.2 +1.3**
PHWY IAML 01 26 54.9
comp=N,479nm,0.7s
CHMT Chamberlain Mo 4.58 344 Pn **Pn** **01 25 35.6 +0.6**
HMU Henry Mountain 4.62 174 Pn **Pn** **01 25 36.7 +1.1**
MSO Missoula 4.67 338 Pn **Pn** **01 25 37.4 +1.2**
MSO IAML 01 26 58.6
comp=N,371nm,0.7s
MSO IAML 01 27 06.4
comp=N,264nm,0.9s
MSO Missoula 4.67 338 P **Pn** **01 25 39.0 +2.9**
baz=156,SNR=16
MSO Sb **Sb** **01 26 49.6 +5.8**
baz=156
OVMT Ovando 4.68 346 Pn **Pn** **01 25 37.2 +1.0**
SMCO Snowmass 4.72 134 Pn **Pn** **01 25 39.2 +2.0**
BMO Blue Mountains 4.89 300 Pn **Pn** **01 25 40.0 +0.9**
BMO IAML 01 27 09.5
comp=N,202nm,1.2s
BMO IAML 01 27 13.6
comp=N,148nm,1.4s
ISCO Idaho Springs 5.13 120 Pn **Pn** **01 25 44.3 +1.8**
ISCO Idaho Springs 5.13 120 P **Pn** **01 25 45.3 +2.7**
baz=304,SNR=22
R11B Troy Canyon, C 5.28 219 Pn **Pn** **01 25 45.6 +1.0**
R11B IAML 01 27 17.6
comp=E,139nm,1.4s
R11B IAML 01 27 17.6
comp=N,124nm,0.5s
R11B Troy Canyon, C 5.28 219 P **Pn** **01 25 47.2 +2.7**
baz=36,SNR=28
R11B Sb **Sb** **01 27 07.3 +5.9**
baz=36
LAO LASA Array 5.54 40 Pn **Pn** **01 25 49.4 +1.4**
LAO LASA Array 5.54 40 P **Pn** **01 25 50.7 +2.7**
baz=224,SNR=17
RSSD Black Hills 5.57 71 Pn **Pn** **01 25 49.2 +0.5**
RSSD Black Hills 5.57 71 P **Pn** **01 25 50.4 +1.8**
baz=256
RSSD Sb **Sb** **01 27 14.1 +4.3**
baz=256
EGMT Eagleton 5.61 11 P **Pn** **01 25 51.1 +2.2**
baz=193,SNR=27
MVCO Mesa Verde 5.75 157 Pn **Pn** **01 25 51.1 0.0**
MVCO Mesa Verde 5.75 157 P **Pn** **01 25 53.4 +2.3**
baz=338,SNR=47
MVCO Sb **Sb** **01 27 21.8 +6.7**
baz=338
S22A 4UR Ranch, Cre 5.91 143 Pn **Pn** **01 25 55.0 +1.7**
S22A 4UR Ranch, Cre 5.91 143 P **Pn** **01 25 55.8 +2.4**
baz=325,SNR=71
S22A Sb **Sb** **01 27 27.7 +8.0**
baz=325
SDCO Great Sand Dun 6.56 135 P **Pn** **01 26 05.2 +3.0**
baz=319,SNR=27
NVAR Mina Array Bea 6.69 235 Pn **Pn** **01 26 03.4 -0.6**
comp=N,0.7nm,0.3s,baz=43,slow=12,SNR=27
NVAR Lg Lg 01 27 49.3
comp=N,0.3nm,0.3s,baz=28,slow=15,SNR=1.5
comp=N,0.6nm,0.6s
TPNV Topopah Spring 6.73 216 P **Pn** **01 26 07.6 +3.1**
baz=32,SNR=16
WUAZ Wupatki 7.01 180 P **Pn** **01 26 11.1 +2.8**
baz=360,SNR=21
NEW Newport 7.02 327 P **Pn** **01 26 11.1 +2.9**
baz=143,SNR=8.1
NEW Sb **Sb** **01 27 59.2 +8.0**
baz=143
NEW Newport 7.02 327 Pn **Pn** **01 26 10.5 +2.2**
comp=N,0.4nm,0.3s,baz=148,slow=15,SNR=14
NEW Lg Lg 01 27 59.5
comp=N,6.7nm,0.3s,baz=62,slow=21,SNR=14
comp=N,7.6nm,0.7s
OGNE Ogallala 7.16 100 P **Pn** **01 26 11.9 +1.7**
baz=286
C09A Chrisman Ranch 7.18 320 Pn **Pn** **01 26 09.1 -1.4**
GRAC Grapevine Rang 7.21 222 Pn **Pn** **01 26 10.2 -0.7**
KSCO Kaye Shedlock 7.50 115 Pn **Pn** **01 26 17.0 +2.0**
T25A Trinidad 7.59 133 P **Pn** **01 26 19.3 +2.9**
baz=317,SNR=8.6
DGMT Dagmar 7.78 38 P **Pn** **01 26 20.9 +2.2**
baz=223,SNR=8.2
MPMC Manual Prospec 8.02 218 P **Pn** **01 26 26.7 +4.5**
baz=34
GMRC Granite Mounta 8.44 205 P **Pn** **01 26 31.6 +3.7**
baz=22,SNR=8.0
YBH Yreka Blue Hor 8.47 268 Pn **Pn** **01 26 31.4 +3.1**
comp=N,0.2nm,0.3s,baz=87,slow=8.6,SNR=14
YBH Lg Lg 01 28 49.7
comp=N,0.1nm,0.3s,baz=112,slow=19,SNR=1.6
comp=N,4.7nm,0.8s
ANMO Albuquerque 8.49 152 P **Pn** **01 26 31.6 +3.0**
baz=335
ANMO Albuquerque 8.49 152 Pn **Pn** **01 26 26.8 -1.8**
comp=N,0.1nm,0.3s,baz=24,slow=12,SNR=2.0
ANMO Sn **Sn** **01 27 57.0 -7.5**
comp=N,0.4nm,0.3s,baz=87,slow=14,SNR=1.7
ANMO Lg Lg 01 28 47.2
comp=N,1.5nm,0.3s,baz=355,slow=22,SNR=7.4
comp=N,0.4nm,0.3s
BELC Belle Mtn. Jos 9.27 205 P **Pn** **01 26 43.8 +4.6**
baz=21,SNR=5.9
PFO Pinyon Flats O 9.77 206 Pn **Pn** **01 26 47.1 +1.0**
comp=N,0.1nm,0.3s,baz=136,slow=12,SNR=1.7
PFO Lg Lg 01 29 33.4
comp=N,0.1nm,0.3s,baz=104,slow=10,SNR=2.1
comp=N,1.0nm,0.5s
N33A J Bar K, Exete 10.57 95 Pn **Pn** **01 26 54.8 -2.1**
KAN06 Argonia West S 11.63 112 Pn **Pn** **01 27 11.8 +0.3**
KAN05 Bluff City Nor 11.70 113 Pn **Pn** **01 27 12.4 0.0**
KAN14 Manchester OK 11.72 114 Pn **Pn** **01 27 12.7 0.0**
OK048 Pawnee Station 12.70 114 Pn **Pn** **01 27 25.4 -0.7**
ULM Lac du Bonnet 13.17 49 Pn **Pn** **01 27 30.6 -1.8**
ULM Lac du Bonnet 13.17 49 Pn **Pn** **01 27 28.0 -4.3**
comp=N,0.2nm,0.3s,baz=241,slow=13,SNR=4.2
ULM Lg Lg 01 31 07.9
comp=N,0.2nm,0.3s,baz=154,slow=16,SNR=2.9
comp=N,2.7nm,0.5s
F36A Milaca 13.22 69 Pn **Pn** **01 27 31.9 -1.3**
B35A Bob, Littlefor 13.67 59 Pn **Pn** **01 27 40.7 +1.5**
OZNA Ozona 14.19 141 P **P** **01 27 55.3 +1.3**
TX31 Lajitas Ar. Si 14.56 152 Pn **Pn** **01 27 51.8 +0.2**
TXAR Lajitas Array 14.56 152 Pn **Pn** **01 27 54.0 +2.3**
comp=N,0.1nm,0.3s,baz=339,slow=11,SNR=18
TXAR Lg Lg 01 31 59.0
baz=3.3,slow=32,SNR=2.8
comp=N,2.1nm,0.8s
SAND Sanderson 14.59 146 P **P** **01 27 56.7 -1.7**
S39A Bolivar 14.62 103 Pn **Pn** **01 27 51.9 -0.4**
HHAR Hobbs 14.83 109 Pn **Pn** **01 27 55.8 +0.5**
P40A Paris 14.88 95 Pn **Pn** **01 27 54.3 -1.6**
BRDY Brady 14.94 135 Pn **Pn** **01 27 56.1 -0.6**
R40A Maddies Statio 15.14 100 Pn **Pn** **01 27 58.6 -0.8**
R40A IAmb IAmb 01 28 35.2
comp=Z,9.5nm,0.6s
JCT Junction City 15.18 139 Pn **Pn** **01 27 58.7 -1.3**
JCT IAmb IAmb 01 28 16.2
comp=Z,9.6nm,0.9s
N41A Harden Midland 15.45 90 Pn **Pn** **01 28 03.0 -0.3**
MGMO Mountain Grove 15.61 104 Pn **Pn** **01 28 05.8 +0.3**
MGMO IAmb IAmb 01 28 18.6
comp=Z,14nm,0.9s
DRIO Del Rio 15.69 143 Pn **Pn** **01 28 06.5 -0.1**
DRIO IAmb IAmb 01 28 13.8
comp=Z,11nm,0.9s
FCAR Ozark Folk Cen 16.30 108 Pn **Pn** **01 28 13.9 -0.5**
HILA High Level 16.43 349 Pn **Pn** **01 28 14.2 -1.7**
X40A Basin Creek Fa 16.56 113 Pn **Pn** **01 28 16.4 -1.2**
P43A Skaggs, Pawnee 16.71 93 Pn **Pn** **01 28 20.5 +0.9**
P43A IAmb IAmb 01 28 42.5
comp=Z,16nm,0.8s
LCAR Lake Charles 16.90 106 Pn **Pn** **01 28 21.6 -0.4**
Q44A Meyer Farm, Va 17.31 95 Pn **Pn** **01 28 26.3 -0.8**
WVT Waverly 19.26 102 P **P** **01 28 49.2 -0.9**
DLBC Dease Lake 19.75 330 P **P** **01 28 55.6 +0.3**
comp=Z,0.1nm,0.3s,baz=148,slow=6.3,SNR=1.4
comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 20.08 356 P **P** **01 28 58.4 -0.3**
comp=Z,1.6nm,0.8s,baz=174,slow=12,SNR=5.4
comp=Z,1.6nm,0.8s
R33M Jennings River 20.78 331 P **P** **01 29 06.0 -0.5**
R50A Paris 20.98 93 P **P** **01 29 06.2 -2.5**
R50A IAmb IAmb 01 29 39.5
comp=Z,10.0nm,0.9s
T50A Nancy 21.07 96 P **P** **01 29 08.4 -1.3**
T50A IAmb IAmb 01 29 23.3
comp=Z,9.7nm,0.9s
Y49A Blount Mountai 21.38 106 P **P** **01 29 11.8 -1.2**
Y49A IAmb IAmb 01 29 19.0
comp=Z,9.0nm,1.0s
LRAL Lakeview Retre 21.40 108 P **P** **01 29 12.5 -0.8**
LRAL IAmb IAmb 01 29 29.2
comp=Z,7.0nm,0.9s
V51A Loudon 21.94 99 P **P** **01 29 17.3 -1.7**
V51A IAmb IAmb 01 29 31.0
comp=Z,11nm,0.8s
TKL Tuckaleechee C 22.42 99 P **P** **01 29 23.2 -1.0**
comp=Z,1.5nm,0.8s,baz=270,slow=18,SNR=1.6
comp=Z,1.5nm,0.8s
J54A Appleton 23.90 77 P **P** **01 29 37.0 -2.2**
V58A Windy Hill, Pi 25.79 94 P **P** **01 29 56.7 +0.2**
V58A IAmb IAmb 01 30 08.2
comp=Z,5.2nm,0.8s
ILAR Eielson Array 29.96 330 P **P** **01 30 34.3 +0.8**
comp=Z,0.6nm,0.8s,baz=115,slow=9.0,SNR=6.7
comp=Z,0.6nm,0.8s
P18K Big Mountain, 31.64 317 P **P** **01 30 46.3 -2.1**
PETK Petropavlovsk- 57.99 315 P **P** **01 34 19.1 +1.2**
comp=Z,3.4nm,0.8s,baz=74,slow=15,SNR=3.8
comp=Z,3.4nm,0.8s
NOA NORSAR Array B 66.75 27 P **P** **01 35 15.5 -0.9**
comp=Z,1.5nm,1.0s,baz=298,slow=8.3,SNR=1.5
comp=Z,1.5nm,1.0s
FINES FINESS Array B 70.78 20 P **P** **01 35 41.7 +0.2**
comp=Z,4.2nm,1.0s,baz=339,slow=7.4,SNR=2.1
comp=Z,4.2nm,1.0s
ESDC Sonseca Array 75.06 50 P **P** **01 36 08.1 +0.7**
comp=Z,0.3nm,0.7s,baz=275,slow=7.6,SNR=2.7
comp=Z,0.3nm,0.7s
XLT XiLinHaoTe 84.03 328 *e*P **P** **01 36 53.8 -2.3**
XLT pP PcP 01 36 58.0 -2.0
XLT sP sP 01 37 01.7 -0.6
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,110nm,6.8s
SONM Songino Array 84.03 335 P **P** **01 36 57.4 +1.4**
comp=Z,0.3nm,0.4s,baz=116,slow=3.4,SNR=2.1
comp=Z,0.3nm,0.4s
BVAR Borovoye Array 84.81 359 P **P** **01 37 00.4 +0.7**
comp=Z,0.9nm,0.6s,baz=343,slow=4.5,SNR=4.8
comp=Z,0.9nm,0.6s
KURBB Kurchatov Arra 86.82 354 P **P** **01 37 09.7 0.0**
comp=Z,0.6nm,0.9s,baz=6.1,slow=5.5,SNR=4.1
comp=Z,0.6nm,0.9s
HHC Hu-ho-hao-te 88.38 329 *e*P **P** **01 37 16.6 -1.0**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,220nm,5.5s
MKAR Makanchi Array 90.23 351 P **P** **01 37 24.6 -1.5**
comp=Z,1.3nm,1.0s,baz=10,slow=7.4,SNR=3.9
comp=Z,1.3nm,1.0s
WMQ Urumqi 92.35 346 *e*P **P** **01 37 36.6 +0.6**
WMQ pmax pmax
comp=Z,28nm,0.7s
WRA Warramunga Arr 120.97 271 PKP **PKPdf** **01 43 18.5 +0.2**
comp=Z,0.6nm,1.1s,baz=62,slow=1.9,SNR=2.2

*IDC **11** 01:43:07.2±1.2, 35°.35N×27°.13E, h0km, mb3.6/6, mbtmp3.5/8, ML3.3/2, Error ellipse: s-maj=35.3km s-min=14.7km az=165.0*

*NIC **11** 01:43:08.6, 35°.24N×27°.18E, h4km±2km, Ml3.6/11*
*AFAD **11** 01:43:08.2±0.0, 35°.44N×26°.57E, h20km±3km, ML3.2*
*ISK **11** 01:43:09.9, 35°.30N×27°.07E, h7km, ML3.4/22*
*ATH **11** 01:43:10.0, 35°.29N×27°.11E, h9km±2km, ML3.5/15, Manual Solution by A.Papageorgiou First location: 2019/04/22 17:39:55, This location: 2019/04/22 17:38:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*
*THE **11** 01:43:10.2, 35°.29N×27°.13E, h1km±1km, ML3.3/5, Error ellipse: s-maj=3.7km s-min=1.0km az=139.0*

ISC 11 01:43:09.0±1.1, 35°.23N±0°.03×27°.15E±0°.02, h9km±7km, n94, σ1.9 s 17/126, mb3.5/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPA	**Karpathos**	**0.28**	**10**	P	**Pg**	**01 43 14.8**	**0.0**
KRPA				S	**Sg**	**01 43 18.4**	**-0.2**
KARP	**Karpathos**	**0.32**	**2**	Pg	**Pg**	**01 43 15.4**	**0.0**
KARP				Sg	**Sg**	**01 43 19.7**	**0.0**
KARP	**Karpathos**	**0.32**	**2**	P	**Pg**	**01 43 15.4**	**0.0**
KARP				S	**Sg**	**01 43 20.1**	**+0.4**
	20μm,0.2s						
KARP	**Karpathos**	**0.32**	**2**	P	**Pg**	**01 43 15.4**	**0.0**
KARP				S	**Sg**	**01 43 20.0**	**+0.3**
KARP				AML	AML	01 43 21.3	
	36nm,0.2s						
KARP				AML	AML	01 43 22.4	
	44nm,0.3s						
KARP	**Karpathos**	**0.32**	**2**	P	**Pg**	**01 43 15.3**	**-0.1**
KARP				S	**Sg**	**01 43 19.8**	**0.0**
ZKR	**Zakros**	**0.77**	**262**	Pg	**Pg**	**01 43 24.2**	**+0.3**
ZKR	**Zakros**	**0.77**	**262**	P	**Pg**	**01 43 24.2**	**+0.3**
ZKR				S	**Sb**	**01 43 37.6**	**+2.5**
	2μm,0.6s						
ZKR	**Zakros**	**0.77**	**262**	P	**Pg**	**01 43 24.3**	**+0.4**
ZKR				S	**Sb**	**01 43 36.8**	**+1.7**
ZKR				AML	AML	01 43 38.2	
	5.4nm,0.7s						
ZKR				AML	AML	01 43 46.8	
	1.4nm,0.6s						
ZKR	**Zakros**	**0.77**	**262**	P	**Pg**	**01 43 24.6**	**+0.8**
AGNA	**Agios Nikolaos**	**1.17**	**269**	P	**Pn**	**01 43 32.7**	**+1.2**
FRMA	**Ierapetra Chan**	**1.18**	**260**	P	**Pg**	**01 43 29.1**	**-2.5**
FRMA				S	**Sg**	**01 43 46.6**	**-0.3**
	665nm,0.6s						
FRMA	**Ierapetra Chan**	**1.18**	**260**	P	**Pg**	**01 43 29.6**	**-2.1**
FRMA				S	**Sg**	**01 43 45.5**	**-1.5**
ARG	**Arkhangelos**	**1.27**	**39**	Pn	**Pn**	**01 43 34.2**	**+1.3**
ARG				Sn	**Sn**	**01 43 52.1**	**+2.1**
ARG	**Arkhangelos**	**1.27**	**39**	P	**Pb**	**01 43 32.8**	**-0.3**
ARG				S	**Sn**	**01 43 50.5**	**+0.5**
	2μm,0.7s						
ARG	**Arkhangelos**	**1.27**	**39**	P	**Pb**	**01 43 33.3**	**+0.2**
ARG				S	**Sn**	**01 43 50.6**	**+0.5**
ARG				AML	AML	01 43 56.5	
	5.1nm,0.9s						
ARG				AML	AML	01 43 57.4	
	4.5nm,0.5s						
ARG	**Arkhangelos**	**1.27**	**39**	P	**Pb**	**01 43 33.3**	**+0.2**
ARG				S	**Sn**	**01 43 50.4**	**+0.4**
NISR	**Nisiros**	**1.38**	**359**	P	**Pg**	**01 43 35.3**	**-0.3**
ASTA	**Astypalaia**	**1.47**	**334**	P	**Pn**	**01 43 35.1**	**-0.5**
ASTA				S	**Sb**	**01 43 54.0**	**-1.1**
RODB	**Rodos**	**1.50**	**35**	P	**Pb**	**01 43 37.4**	**+0.4**
RODB				S	**Sb**	**01 43 56.1**	**0.0**
KOSK	**Kos Island**	**1.53**	**355**	Pn	**Pb**	**01 43 37.3**	**-0.2**
KOSK				Sn	**Sg**	**01 43 57.1**	**-1.1**
KOSK	**Kos Island**	**1.53**	**355**	P	**Pn**	**01 43 35.8**	**-0.6**
KOSK				S	**Sn**	**01 43 55.8**	**-0.6**
	790nm,0.5s						
KOSK	**Kos Island**	**1.53**	**355**	P	**Pb**	**01 43 37.5**	**0.0**
KOSK				S	**Sb**	**01 43 56.2**	**-0.7**
DAT	**Datca**	**1.54**	**13**	Pn	**Pb**	**01 43 37.6**	**-0.2**
DAT	**Datca**	**1.54**	**13**	P	**Pn**	**01 43 36.7**	**0.0**
DAT				S	**Sg**	**01 43 57.5**	**-1.1**
DAT	**Datca**	**1.54**	**13**	P	**Pn**	**01 43 36.8**	**0.0**
DAT				S	**Sg**	**01 43 58.0**	**-0.5**
DAT				*i* AML	AML	01 44 01.0	
	comp=N,476nm,0.3s						
DAT				*i* AML	AML	01 44 01.0	
	comp=E,444nm,0.4s						
HRKL	**Herakleio**	**1.68**	**273**	P	**Pb**	**01 43 40.7**	**+0.7**
HRKL	**Herakleio**	**1.68**	**273**	P	**Pn**	**01 43 39.9**	**+1.4**
KLNA	**Kalymnos**	**1.73**	**355**	P	**Pn**	**01 43 39.3**	**+0.1**
TURN	**Turunc**	**1.78**	**30**	Pn	**Pb**	**01 43 41.4**	**-0.4**
TURN	**Turunc**	**1.78**	**30**	P	**Pn**	**01 43 40.9**	**+0.9**
TURN				S	**Sg**	**01 44 07.3**	**+1.0**
TURN				*i* AML	AML	01 44 09.0	
	comp=N,299nm,0.3s						
TURN				*i* AML	AML	01 44 14.0	
	comp=E,369nm,0.5s						
SANT	**Santorini**	**1.79**	**310**	Pn	**Pn**	**01 43 40.4**	**+0.4**
SANT	**Santorini**	**1.79**	**310**	P	**Pn**	**01 43 40.5**	**+0.4**
SANT				S	**Sn**	**01 44 03.1**	**+0.3**
THR8	**Santorini-Mono**	**1.80**	**311**	P	**Pn**	**01 43 40.8**	**+0.7**
THR6	**Thira Island,**	**1.81**	**309**	P	**Pn**	**01 43 40.3**	**-0.1**
BODT	**Bodrum**	**1.84**	**4**	Pn	**Pn**	**01 43 41.5**	**+0.8**
BODT	**Bodrum**	**1.84**	**4**	P	**Pn**	**01 43 41.1**	**+0.4**
THR3	**Thira Island,**	**1.85**	**310**	P	**Pn**	**01 43 41.3**	**+0.5**
IDI	**Anoyia**	**1.85**	**273**	P	**Pb**	**01 43 43.0**	**+0.1**
IDI	**Anoyia**	**1.85**	**273**	Pg	**Pn**	**01 43 42.1**	**+1.1**
	5.5nm,0.3s,baz=95,slow=16,SNR=45						
IDI				Sn	**Sn**	**01 44 04.5**	**+0.1**
	14nm,0.3s,baz=42,slow=23,SNR=6.2						
IDI				LR	LR	01 44 23.4	
	comp=Z,84nm,21.7s,baz=72,slow=42						
IDI	**Anoyia**	**1.85**	**273**	P	**Pb**	**01 43 43.1**	**+0.1**
IDI				S	**Sn**	**01 44 05.9**	**+1.5**
BDRM	**Kayabasi**	**1.85**	**7**	P	**Pn**	**01 43 41.2**	**+0.3**
BDRM				*i* AML	AML	01 44 22.0	
	comp=E,108nm,0.6s						
CMBO	**Columbo, Santo**	**1.88**	**312**	P	**Pn**	**01 43 41.8**	**+0.5**
CMBO	**Columbo, Santo**	**1.88**	**312**	P	**Pn**	**01 43 41.4**	**+0.1**
CMBO				S	**Sn**	**01 44 04.2**	**-0.9**
THR5	**Thira Island,**	**1.88**	**310**	P	**Pn**	**01 43 41.5**	**+0.2**
AMGA	**Amorgos Island**	**1.90**	**328**	P	**Pn**	**01 43 42.0**	**+0.5**
AMGA				S	**Sn**	**01 44 05.4**	**-0.1**
DALY	**Dalyan (Mula)**	**2.00**	**37**	Pn	**Pb**	**01 43 44.9**	**-0.7**
IZZE	**Mula-Seydike**	**2.08**	**54**	P	**Pn**	**01 43 45.1**	**+1.1**
IZZE				*i* AML	AML	01 44 26.0	
	comp=E,205nm,0.4s						
IZZE				*i* AML	AML	01 44 34.0	
	comp=N,365nm,0.5s						
FETY	**Fethiye**	**2.11**	**48**	Pn	**Pb**	**01 43 46.5**	**-0.9**
YER	**Yerkesik**	**2.11**	**25**	Pn	**Pn**	**01 43 45.7**	**+1.1**
YER	**Yerkesik**	**2.11**	**25**	P	**Pn**	**01 43 44.7**	**+0.1**
MLSB	**Milas**	**2.13**	**14**	Pn	**Pn**	**01 43 46.0**	**+1.3**
KSL	**Kastellorizon**	**2.19**	**64**	P	**Pn**	**01 43 46.7**	**+1.2**
KSL				S	**Sn**	**01 44 13.4**	**+0.7**
MULA	**Mugla, Merkez-**	**2.24**	**25**	P	**Pb**	**01 43 48.2**	**-1.4**
MULA				S	**Sb**	**01 44 17.7**	**+0.2**
MULA				*i* AML	AML	01 44 29.0	
	comp=N,111nm,0.5s						
MULA				*i* AML	AML	01 44 29.0	
	comp=E,159nm,0.8s						
AKAS	**Kas**	**2.24**	**63**	Pn	**Pb**	**01 43 48.8**	**-0.9**
APE	**Apeiranthos**	**2.26**	**325**	Pn	**Pn**	**01 43 47.0**	**+0.4**
APE	**Apeiranthos**	**2.26**	**325**	P	**Pn**	**01 43 46.9**	**+0.4**
APE	**Apeiranthos**	**2.26**	**325**	P	**Pn**	**01 43 46.5**	**0.0**
APE				S	**Sn**	**01 44 14.1**	**-0.4**
CAME	**Cameli-Denizli**	**2.45**	**45**	Pn	**Pb**	**01 43 51.9**	**-1.3**
GCAM	**G?zelcaml?**	**2.47**	**2**	Pn	**Pn**	**01 43 50.6**	**+1.2**
GCAM	**G?zelcaml?**	**2.47**	**2**	P	**Pn**	**01 43 51.2**	**+1.8**
GCAM				*i* AML	AML	01 44 52.0	
	comp=E,47nm,0.6s						
GCAM				*i* AML	AML	01 44 53.0	
	comp=N,58nm,0.6s						
SMG	**Samos**	**2.49**	**354**	P	**Pn**	**01 43 49.6**	**-0.1**
IMMV	**Iera Moni Meta**	**2.60**	**276**	P	**Pn**	**01 43 52.6**	**+1.4**
IMMV	**Iera Moni Meta**	**2.60**	**276**	P	**Pn**	**01 43 52.8**	**+1.6**
TAVA	**DENIZLI_Tavas**	**2.65**	**32**	P	**Pn**	**01 43 54.2**	**+2.3**
TAVA				S	**Sb**	**01 44 29.4**	**0.0**
TAVA				*i* AML	AML	01 44 35.0	
	comp=E,144nm,0.6s						
TAVA				*i* AML	AML	01 44 40.0	
	comp=N,123nm,0.6s						
MHLO	**Agia Marina, M**	**2.66**	**304**	P	**Pn**	**01 43 52.0**	**-0.1**
ELL	**Elmali**	**2.71**	**55**	Pn	**Pn**	**01 43 55.1**	**+2.3**
ELL	**Elmali**	**2.71**	**55**	P	**Pn**	**01 43 54.0**	**+1.2**
ELL				AML	AML	01 44 48.2	
	0.6nm,1.2s						

ELL AML AML 01 44 51.5
0.9nm,1.3s
ELL Elmali 2.71 55 P **Pn 01 43 54.4 +1.6**
APMY Acipayam-Deniz 2.84 37 Pn **Pn 01 43 56.6 +2.1**
URLA Izmir 3.16 352 Pn **Pn 01 44 00.4 +1.5**
ANKY Antikythira Is 3.20 283 P **Pn 01 44 00.8 +1.4**
CHOS Chios island 3.27 345 Pn **Pn 01 44 02.1 +1.6**
KULA Kula-Manisa 3.50 20 Pn **Pn 01 44 05.6 +2.0**
VLI Veliai 3.73 295 P **Pn 01 44 07.4 +0.7**
DKL Dikili 3.84 357 Pn **Pn 01 44 10.1 +1.8**
AKMS Akamas 4.26 91 P **Pn 01 44 14.8 +0.8**
AKMS AML AML 01 45 11.5
0.2nm,0.5s
AKMS AML AML 01 45 13.0
0.2nm,0.8s
ALFC Alefka 4.46 89 P **Pn 01 44 16.6 -0.3**
ALFC AML AML 01 45 10.9
0.4nm,0.7s
ALFC AML AML 01 45 19.6
0.2nm,0.4s
NATA Nata 4.47 94 P **Pn 01 44 17.8 +0.8**
NATA AML AML 01 45 12.1
0.6nm,0.8s
NATA AML AML 01 45 18.0
0.6nm,0.6s
TROD Troodos 4.70 92 P **Pn 01 44 20.8 +0.5**
TROD AML AML 01 45 24.1
0.2nm,0.4s
TROD AML AML 01 45 24.7
0.1nm,0.6s
ASGA Asgata 5.03 93 P **Pn 01 44 24.7 +0.1**
ASGA AML AML 01 45 25.5
0.2nm,1.0s
ASGA AML AML 01 45 28.3
0.2nm,0.8s
CSS Mathiatis 5.08 91 P **Pn 01 44 25.3 +0.1**
CSS AML AML 01 45 26.6
0.1nm,0.7s
CSS AML AML 01 45 27.1
0.1nm,0.7s
MVOU Mavrovouni 5.32 90 P **Pn 01 44 29.2 +0.7**
MVOU AML AML 01 45 35.6
0.1nm,0.9s
MVOU AML AML 01 45 41.6
0.1nm,0.5s
BRTR Keskin Array B 6.84 47 Pn **Pn 01 44 50.3 +0.7**
0.3nm,0.3s,baz=210,slow=15,SNR=6.0
BRTR Sn **Sn 01 46 09.2 +1.6**
baz=207,slow=28
0.6nm,0.5s
MMAI Mount Meron Ar 7.19 106 Pn **Pn 01 44 53.0 -1.4**
1.3nm,0.3s,baz=307,slow=12,SNR=11
MMAI Sn **Sn 01 46 15.0 -1.3**
3.3nm,0.3s,baz=297,slow=17,SNR=6.3
0.8nm,0.3s
MLR Muntele Rosu 10.29 355 Pn **Pn 01 45 41.1 +4.1**
0.1nm,0.3s,baz=149,slow=16,SNR=3.3
CKRC Cesky Krumlov 16.56 329 *eP* **P 01 47 05.6 +1.7**
DPC Dobruska-Polom 17.05 336 *eP* **P 01 47 09.7 +0.4**
KHC Kasperske Hory 17.11 328 *eP* **P 01 47 14.8 +4.8**
ESDC Sonseca Array 25.02 289 P **P 01 48 30.6 -2.8**
0.3nm,0.6s,baz=81,slow=10,SNR=1.7
0.3nm,0.6s
FINES FINESS Array B 26.25 359 P **P 01 48 42.5 -1.6**
2.0nm,0.9s,baz=197,slow=12,SNR=3.4
2.0nm,0.9s
TORD Torodi Ar. Bea 31.80 233 P **P 01 49 34.4 +0.4**
0.4nm,0.6s,baz=38,slow=8.6,SNR=5.3
0.4nm,0.6s
KURBB Kurchatov Arra 39.81 51 P **P 01 50 40.8 -1.5**
0.2nm,0.3s,baz=275,slow=8.5,SNR=2.6
0.2nm,0.3s
MKAR Makanchi Array 42.38 57 P **P 01 51 03.3 -0.2**
0.7nm,0.7s,baz=275,slow=7.1,SNR=3.8
0.7nm,0.7s
SONM Songino Array 58.18 51 P **P 01 53 03.3 -0.1**
0.5nm,0.6s,baz=326,slow=7.0,SNR=2.8
0.5nm,0.6s

---

*DJA **11** 01:48:30.6±0.5, 8°.5N×4°.12°.3E±°, h10km, M3.5/6, MLv3.5/6*
*IDC **11** 01:48:33.5±1.6, 8°.48S×124°.20E, h0km, mb3.5/2,*
mbtmp3.4/4, ML2.4/2, Error ellipse: s-maj=54.6km
s-min=21.7km az=86.0
ISC 11 01:48:37.6±1.2, 8°.37S±0°.09×123°.26E±0°.08, h10km, n10,
σ2°01/8, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.04**	**255**	P	**Pg**	**01 48 55.8**	**-1.9**
MMRI				S	**Sg**	**01 49 13.5**	**+2.2**
SOEI	**Soe**	**1.70**	**144**	P	Pn	01 49 03.8	-3.7
SOEI				S	**Sn**	**01 49 30.0**	**+0.6**
BATI	**Baumata**	**1.87**	**168**	P	**Pn**	**01 49 08.9**	**-0.8**
BATI				S	**Sn**	**01 49 36.3**	**+2.9**
BATI	**Baumata**	**1.87**	**168**	Pn	Pn	01 49 05.3	-4.4
	3.6nm,0.3s,baz=31,slow=5.9,SNR=1.4						
BATI				Sn	**Sn**	**01 49 32.1**	**-1.3**
	7.6nm,0.3s,baz=359,slow=18,SNR=1.9						
BASI	**Baing, Sumba**	**3.22**	**235**	P	Pn	01 49 25.7	-2.6
BKSI	**Bulukumba**	**4.34**	**314**	P	Pn	01 49 35.3	-8.4
WRA	**Warramunga Arr**	**15.73**	**138**	Pn	Pn	01 52 05.5	-14
	baz=313,slow=14,SNR=2.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**18.31**	**147**	P	Pn	01 52 43.0	-9.0
	0.1nm,0.3s,baz=322,slow=12,SNR=3.6						
	0.6nm,0.8s						
SONM	**Songino Array**	**57.92**	**347**	P	**P**	**01 58 30.8**	**+0.7**
	0.3nm,0.6s,baz=146,slow=8.0,SNR=2.1						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**65.90**	**330**	P	**P**	**01 59 23.9**	**+0.1**
	0.3nm,0.4s,baz=130,slow=6.3,SNR=2.7						
	0.3nm,0.4s						

---

*UUSS **11** 01:53:54.6±0.6, 42°.55N±0°.01×111°.42W±0°.02, h8km±3km,*
Error ellipse: s-maj=2.0km s-min=1.5km az=101.0
NEIC 11 01:53:54.5±0.6, 42°.562N±0°.007×111°.42W±0°.01,
h6km±1km, ML2.8/52, ML2.8/10(UUSS), Error ellipse:
s-maj=1.7km s-min=0.8km az=63.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ID06	**Fossil Canyon**	**0.03**	**319**		Pg	01 53 56.7	+0.6
ID06				IAML		01 53 57.0	
	4μm,0.2s						
ID06				IAML		01 53 57.8	
	5μm,0.2s						
ID06				Sg	Sg	01 53 58.1	+0.9
ID05	**Sulphur Canyon**	**0.09**	**343**	Pg	Pg	01 53 57.3	+0.6
ID05				Sg	Sg	01 53 58.8	+0.5
ID05				IAML		01 53 59.6	
	12μm,0.5s						
AHID	**Auburn Hatcher**	**0.31**	**50**	Sg	Sg	01 54 05.9	+1.0
ID09	**Alton**	**0.36**	**152**	Sg	Sg	01 54 06.8	+0.4
GRRI	**Grays Lake**	**0.38**	**0**		Pg	01 54 02.6	+0.7
ID10	**Lander Cutoff**	**0.40**	**96**	Sg	Sg	01 54 08.0	+0.4
ID08	**Devils Gate**	**0.45**	**318**	Pg	Pg	01 54 03.5	+0.2
ID08				Sg	Sg	01 54 09.9	+0.6
ID08				IAML		01 54 10.7	
	1μm,0.4s						
ID08				IAML		01 54 10.9	
	2μm,0.4s						
ID07	**Smith Canyon R**	**0.48**	**267**	Pg	Pg	01 54 03.9	-0.1
ID07				IAML		01 54 11.2	
	495nm,0.5s						
ID07				IAML		01 54 12.0	
	462nm,0.4s						
ECR	**Eagle Creek**	**0.49**	**5**	Pg	Pg	01 54 04.4	+0.3
BEI	**Bear River Ran**	**0.52**	**211**		Pg	01 54 04.8	+0.2
L17A	**Cokeville**	**0.62**	**138**		Pg	01 54 06.4	0.0
L17A					Sg	01 54 15.3	+0.8
BMUT	**Black Mountain**	**0.62**	**167**		Pg	01 54 06.3	-0.2
MLI	**Malad Range**	**0.75**	**224**		Pg	01 54 08.9	0.0
HDU	**Hyde Park**	**0.80**	**199**		Pg	01 54 09.8	-0.1
REDW	**Red Top Meadow**	**0.90**	**28**	Pg	Pg	01 54 11.7	-0.2
NPI	**North Pocatell**	**0.91**	**243**		Pg	01 54 12.0	0.0
PTU	**Portage**	**0.92**	**227**		Pg	01 54 12.0	-0.2
HWUT	**Hardware Ranch**	**0.96**	**186**	Pg	Pg	01 54 11.8	-1.2
HWUT				Sg	Sg	01 54 25.1	-0.3
HWUT				IAML		01 54 36.1	
	134nm,0.7s						
TPAW	**Teton Pass**	**0.99**	**20**	Pg	Pg	01 54 13.4	-0.1
TPAW				IAML		01 54 31.5	
	199nm,0.7s						
SNOW	**Snow King Moun**	**1.02**	**28**	Pg	Pg	01 54 14.0	-0.2
SNOW				IAML		01 54 33.7	
	134nm,0.5s						
WVUT	**Wellsville**	**1.03**	**203**		Pg	01 54 14.3	0.0
FXWY	**Fox Creek**	**1.11**	**15**	Pg	Pg	01 54 15.5	-0.4
LOHW	**Long Hollow**	**1.21**	**30**	Pg	Pg	01 54 17.4	-0.3
LOHW				IAML		01 54 36.9	
	130nm,0.6s						
HVU	**Hansel Valley**	**1.27**	**233**		Pg	01 54 17.8	-1.2
MOOW	**Moose Ponds**	**1.29**	**23**		Pg	01 54 18.2	-1.0
MOOW				IAML		01 54 38.1	
	82nm,0.7s						
IMW	**Indian Meadow**	**1.38**	**15**		Pn	01 54 19.6	-0.9
IMW				IAML		01 54 41.8	
	236nm,0.5s						
BW06	**Boulder Array**	**1.39**	**81**		Pn	01 54 20.4	-0.2
BW06				IAML		01 54 42.7	
	103nm,0.8s						
BW06				IAML		01 54 43.0	
	114nm,0.7s						
PD31	**Pinedale Array**	**1.39**	**81**		Pn	01 54 20.0	-0.7
TCUT	**Toone Canyon**	**1.44**	**180**		Pn	01 54 21.0	-0.4
SPUT	**South Promonto**	**1.47**	**212**		Pn	01 54 21.0	-0.7
SPUT				IAML		01 54 42.9	
	comp=E,104nm,0.4s						
SPUT				IAML		01 54 42.9	
	comp=N,153nm,0.2s						
FLWY	**Flagg Ranch**	**1.61**	**19**		Pn	01 54 22.6	-1.0
BGU	**Big Grassy Mou**	**2.03**	**217**	Pn	Pn	01 54 28.6	-0.7
BGU				IAML		01 55 01.7	
	comp=E,59nm,0.4s						
BGU				IAML		01 55 02.3	
	comp=N,51nm,0.4s						
YHH	**Holmes Hill**	**2.26**	**10**	Pn	Pn	01 54 31.9	-0.8
RDMU	**Red Mountain**	**2.43**	**144**	Pn	Pn	01 54 35.0	0.0
DUG	**Dugway, Tooele**	**2.59**	**204**	Pn	Pn	01 54 36.0	-1.0
DUG				IAML		01 55 21.6	
	comp=N,20nm,0.5s						
DUG				IAML		01 55 23.5	
	comp=N,23nm,1.2s						
NLU	**North Lily Min**	**2.65**	**191**	Pn	Pn	01 54 37.6	-0.4
BOZ	**Bozeman (W)**	**3.04**	**357**	Pn	Pn	01 54 41.5	-1.8
RWWY	**Rawlins**	**3.25**	**104**	Pn	Pn	01 54 45.6	-0.7
TMUT	**Trail Mountain**	**3.27**	**177**	Pn	Pn	01 54 46.0	-0.5
MFID	**Camas Ranch**	**3.34**	**286**	Pn	Pn	01 54 46.9	-0.5
MFID				IAML		01 55 47.1	
	comp=N,26nm,1.0s						
MFID				IAML		01 55 47.1	
	comp=N,25nm,0.9s						
ELK	**Elko**	**3.39**	**239**	Pn	Pn	01 54 47.2	-0.8
O20A	**White River Ci**	**3.41**	**134**	Pn	Pn	01 54 47.7	-0.7
O20A				IAML		01 55 46.4	
	comp=N,47nm,0.4s						
K22A	**Casper**	**3.62**	**87**	Pn	Pn	01 54 51.3	+0.1
K22A				IAML		01 55 56.7	
	comp=E,39nm,0.5s						
N23A	**Red Feather La**	**4.43**	**110**	Pn	Pn	01 55 02.1	-0.3
PSUT	**Pine Spring**	**4.43**	**206**	Pn	Pn	01 55 01.9	-0.5
PHWY	**Pilot Hill**	**4.63**	**104**	Pn	Pn	01 55 05.4	+0.2
PHWY				IAML		01 56 23.3	
	comp=E,17nm,0.6s						
S22A	**4UR Ranch, Cre**	**5.96**	**142**	Pn	Pn	01 55 21.2	-2.3
KVN	**Kaiserville**	**6.16**	**238**	Pn	Pn	01 55 24.9	-1.3
U15A	**North Rim**	**6.16**	**187**	Pn	Pn	01 55 25.7	-0.6

---

*IDC **11** 01:57:05.8±1.7, 6°.62S×129°.24E, h0km, mb3.8/2,*
mbtmp4.0/5, ML4.2/3, Error ellipse: s-maj=53.4km
s-min=28.2km az=78.0
ISC 11 01:57:28.5±1.3, 8°.0S±0°.1×128°.35E±0°.08, h200km, n12,
σ3°49/13, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.11**	**245**	Pn	**Pn**	**01 58 44.2**	**-0.1**
	24nm,0.3s,baz=233,slow=1.8,SNR=7.9						
BATI				Sn	**Sn**	**01 59 45.5**	**+1.3**
	16nm,0.3s,baz=3.9,slow=12,SNR=4.0						
	59nm,0.4s						
MTN	**Manton Dam**	**5.51**	**151**	P	Pn	01 58 50.7	+1.2
KDU	**Kakadu**	**6.15**	**139**	P	**Pn**	**01 58 58.3**	**+0.6**
KNRA	**Kununurra**	**7.61**	**177**	P	**Pn**	**01 59 18.9**	**+2.2**
WRAB	**Tennant Creek**	**13.19**	**154**	P	**P**	**02 00 29.5**	**-1.8**
WRA	**Warramunga Arr**	**13.19**	**155**	Pn	**P**	**02 00 28.0**	**-3.4**
	0.8nm,0.3s,baz=341,slow=13,SNR=25						
WRA				Sn	**Sn**	**02 02 50.2**	**-5.4**
	1.8nm,0.3s,baz=329,slow=23,SNR=10						
	0.7nm,0.4s						
COEN	**Coen**	**15.69**	**113**	P	**P**	**02 01 02.7**	**+3.6**
ASAR	**Alice Springs**	**16.44**	**162**	P	**Pn**	**02 01 11.3**	**+3.2**
	0.5nm,0.3s,baz=340,slow=11,SNR=22						
ASAR				S	**Sn**	**02 04 08.9**	**-4.2**
	0.4nm,0.4s,baz=330,slow=18,SNR=2.6						
	1.5nm,0.5s						
QIS	**Mount Isa**	**16.54**	**140**	P	**Pn**	**02 01 12.1**	**+2.7**
WRKA	**Warakurna**	**16.92**	**180**	P	**Pn**	**02 01 17.9**	**+4.1**
MKAR	**Makanchi Array**	**68.20**	**328**	P	**P**	**02 08 04.8**	**-2.6**
	0.4nm,0.5s,baz=133,slow=6.8,SNR=3.5						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**72.54**	**329**	P	P	02 08 29.6	-3.9
	0.8nm,0.7s,baz=134,slow=5.1,SNR=9.1						
	0.8nm,0.7s						

---

*IDC **11** 02:44:53.9±1.0, 16°.62N×98°.03W, h0km, mb4.2/10,*
mbtmp4.2/12, ML3.6/2, MS3.6/38, Error ellipse:
s-maj=35.0km s-min=16.9km az=58.0
*MEX **11** 02:44:59.0±1.2, 16°.47N×98°.21W, h24km±11km, MD4.5*
*NEIC **11** 02:45:05.4±1.6, 17°.09N±0°.08×97°.82W±0°.09, h55km±3km,*
mb4.5/268, Md4.5/14(MEX), Error ellipse: s-maj=14.9km
s-min=8.0km az=47.0
ISC 11 02:44:57.5±0.8, 16°.53N±0°.03×98°.18W±0°.03, h24km±6km,
n521, σ1°63/439, mb4.6/100, MS3.6/34, Near coast of
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**159**	*i* P	**Pb**	**02 45 02.2**	**-0.3**
PNIG				*i* S	**Sb**	**02 45 05.7**	**-0.1**
YOIG	**Yosondua**	**0.69**	**62**		**Pb**	**02 45 10.8**	**-0.3**
YOIG					**Sb**	**02 45 20.4**	**0.0**
YOIG	**Yosondua**	**0.69**	**62**	*eP*	**Pb**	**02 45 10.8**	**-0.3**
YOIG				*i* S	**Sb**	**02 45 20.4**	**0.0**
TXIG	**Tlaxiaco**	**0.82**	**29**		**Pb**	**02 45 12.9**	**-0.4**
TXIG					**Sn**	**02 45 24.6**	**-0.9**
TXIG	**Tlaxiaco**	**0.82**	**29**	*eP*	**Pb**	**02 45 12.9**	**-0.4**
TXIG				*eS*	**Sn**	**02 45 24.8**	**-0.6**
TLIG	**Tlapa**	**1.09**	**340**	*eP*	**Pn**	**02 45 16.7**	**-0.7**
PEIG	**Puerto Escondi**	**1.12**	**118**	*eP*	**Pn**	**02 45 16.5**	**-1.3**
PEIG				*eS*	**Sb**	**02 45 31.5**	**-1.0**
HMTT	**Tlapaneco**	**1.32**	**344**	*eP*	**Pn**	**02 45 20.4**	**-0.1**
HMTT				*eS*	**Sn**	**02 45 38.2**	**+0.8**
HLIG	**Huajuapan de L**	**1.35**	**15**		**Pn**	**02 45 21.1**	**+0.1**
HLIG	**Huajuapan de L**	**1.35**	**15**	*eP*	**Pn**	**02 45 21.1**	**+0.1**
FTIG	**Fresnillo de T**	**1.38**	**2**		**Pn**	**02 45 21.5**	**+0.2**
FTIG	**Fresnillo de T**	**1.38**	**2**	*eP*	**Pn**	**02 45 21.5**	**+0.2**
VHO	**Vista Hermosa**	**1.49**	**68**	*eP*	**Pb**	**02 45 23.6**	**-1.0**
VHO				*eS*	**Sn**	**02 45 41.3**	**-0.4**
OXIG	**Oaxaca**	**1.49**	**68**		**Pb**	**02 45 23.6**	**-1.0**
DAIG	**Los Arroyos**	**1.49**	**289**	*eP*	**Pn**	**02 45 21.3**	**-1.5**
ACP2	**Acapulco**	**1.67**	**282**	*i* P	**Pn**	**02 45 23.6**	**-1.6**
ACP2				*i* S	**Sn**	**02 45 48.1**	**+2.2**
TOIG	**Toxpalan**	**1.89**	**34**		**Pn**	**02 45 28.4**	**0.0**
TOIG	**Toxpalan**	**1.89**	**34**	*eP*	**Pn**	**02 45 28.4**	**0.0**
MEIG	**Mezcala**	**1.96**	**316**	*eP*	**Pn**	**02 45 29.3**	**0.0**
MEIG				*eS*	**Sn**	**02 45 49.3**	**-3.8**
TPIG	**Tehuac#an**	**2.04**	**22**	*eP*	**Pb**	**02 45 33.1**	**-0.9**
TPIG				*eS*	**Sb**	**02 46 00.1**	**+1.1**
CAIG	**El Cayaco**	**2.06**	**285**	*eP*	**Pn**	**02 45 29.2**	**-1.5**
CAIG				*eS*	**Sn**	**02 45 56.0**	**+0.3**
HUIG	**Huatulco**	**2.13**	**110**		**Pn**	**02 45 31.0**	**-0.6**
HUIG	**Huatulco**	**2.13**	**110**	*eP*	**Pn**	**02 45 31.0**	**-0.6**
PLIG	**Platanillo**	**2.24**	**326**	*eP*	**Pn**	**02 45 33.9**	**+0.6**
PLIG				*eS*	**Sb**	**02 46 04.5**	**-0.3**
ATYC	**Atoyac**	**2.26**	**288**	*i* P	**Pn**	**02 45 31.9**	**-1.5**
ATYC				*i* S	**Sn**	**02 46 03.8**	**+3.3**
YAIG	**Yautepec**	**2.47**	**340**	*eP*	**Pn**	**02 45 37.3**	**+0.8**
YAIG				*eS*	**Sb**	**02 46 12.2**	**+0.8**
PPM	**Popocatepetl**	**2.56**	**351**	*eP*	**Pn**	**02 45 39.3**	**+1.3**
PPM				*eS*	**Sb**	**02 46 12.7**	**-1.7**
ARIG	**Puente Sto Nin**	**2.71**	**310**	*eP*	**Pn**	**02 45 39.6**	**+0.1**
ARIG				*eS*	**Sn**	**02 46 11.2**	**-0.4**
UNM	**Universidad Na**	**2.94**	**341**	Pn	**Pn**	**02 45 44.8**	**+1.8**
UNM	**Universidad Na**	**2.94**	**341**	*eP*	**Pn**	**02 45 38.7**	**-4.3**
UNM				*eS*	**Sn**	**02 46 21.5**	**+3.7**
TEJU	**Tejupilco**	**3.02**	**322**	*eP*	**Pn**	**02 45 43.5**	**-0.5**
TEJU				*i* S	**Sn**	**02 46 21.5**	**+1.9**
PET2	**Petatlan**	**3.12**	**289**	*eS*	**Sb**	**02 46 27.4**	**-2.4**
ZIIG	**Zihuatanejo**	**3.32**	**289**	*eP*	**Pn**	**02 45 47.9**	**0.0**
ZIIG				*i* S	**Sn**	**02 46 31.3**	**+4.6**
PMUV	**Sontecomapan**	**3.54**	**55**	*eP*	**Pn**	**02 45 49.6**	**-1.5**
UON	**La Union**	**3.76**	**293**	*i* P	**Pn**	**02 45 52.4**	**-1.5**
UON				*i* S	Sn	02 46 30.4	-7.0
DEIG	**Demacu**	**3.84**	**348**	*i* P	**Pn**	**02 45 58.8**	**+3.5**
DEIG				*eS*	**Sn**	**02 46 45.6**	**+5.8**
TUIG	**Tuzandepetl**	**3.89**	**67**	*eP*	**Pn**	**02 45 56.0**	**+0.2**
UXUV	**UXUV**	**3.94**	**78**	*eP*	**Pn**	**02 45 56.3**	**-0.2**
UXUV				*eS*	**Sn**	**02 46 39.7**	**-2.3**
PCIG		**4.84**	**99**	*eP*	**Pn**	**02 46 08.3**	**-0.5**
PCIG				*eS*	**Sn**	**02 47 01.7**	**-2.4**
TGIG		**4.86**	**86**	*i* P	**Pn**	**02 46 05.7**	**-3.5**
TGIG				*eS*	**Sn**	**02 47 10.6**	**+5.9**
IGIG	**Irapuato, Guan**	**5.16**	**325**	*i* P	**Pn**	**02 46 15.2**	**+1.8**
MMIG	**Aquila**	**5.23**	**290**	*eP*	**Pn**	**02 46 14.5**	**+0.2**
MMIG				*eS*	**Sn**	**02 47 11.2**	**-2.7**
RPIG	**Rio Verde**	**5.60**	**343**	*eP*	**Pn**	**02 46 20.3**	**+1.0**
RPIG				*i* S	**Sn**	**02 47 23.7**	**+0.7**
CCIG	**Comitan**	**5.81**	**92**	*i* P	Pn	02 46 28.9	+6.6
CCIG				*i* S	**Sn**	**02 47 35.3**	**+7.0**
THIG		**5.92**	**105**	*i* S	**Sn**	**02 47 38.4**	**+7.6**
HUEH	**Huehuetenango**	**6.54**	**100**	Pn	Pn	02 46 37.6	+5.2
RTAL	**Retalhuleu**	**6.56**	**107**	Pn	Pn	02 46 37.5	+4.9
AAIG	**Aguscalientes**	**6.71**	**324**	*eP*	**Pn**	**02 46 34.0**	**-0.8**
AAIG				*eS*	**Sn**	**02 47 48.9**	**-1.8**
SCIG	**Sabancuy**	**7.09**	**69**	*eP*	**Pn**	**02 46 38.3**	**-1.5**
CJM	**Chamela**	**7.17**	**295**	*eP*	**Pn**	**02 46 42.4**	**+1.5**
CJM				*eS*	**Sn**	**02 47 59.0**	**-2.5**
ZAIG	**Zacatecas**	**7.46**	**327**	*i* P	**Pn**	**02 46 48.9**	**+3.7**
MTO3	**Montecristo**	**8.76**	**103**	Pn	**Pn**	**02 47 04.4**	**+1.4**
TEIG	**Tepich**	**10.10**	**67**	Pn	**Pn**	**02 47 19.2**	**-1.9**
TEIG	**Tepich**	**10.10**	**67**	Pn	**Pn**	**02 47 18.8**	**-2.3**
	35nm,0.3s,baz=192,slow=19,SNR=22						
TEIG				Sn	**Sn**	**02 49 04.9**	**-8.7**
	146nm,0.3s,baz=165,slow=19,SNR=8.8						
TEIG				LR	LR	02 51 36.2	
	comp=Z,2μm,21.0s,baz=5.5,slow=40						
833A	**Chaparral WMA,**	**11.79**	**355**	Pn	**Pn**	**02 47 43.8**	**-0.5**
833A	**Chaparral WMA,**	**11.79**	**355**	P	**Pn**	**02 47 45.1**	**+0.8**
	baz=172,SNR=6.6						
HNDO	**Hondo**	**12.98**	**356**	Pn	**Pn**	**02 47 59.1**	**-1.4**
DRIO	**Del Rio**	**13.03**	**351**	Pn	**Pn**	**02 48 01.2**	**0.0**
TXAR	**Lajitas Array**	**13.71**	**339**	Pn	**Pn**	**02 48 10.9**	**+0.4**
TXAR	**Lajitas Array**	**13.71**	**339**	Pn	**Pn**	**02 48 11.6**	**+1.0**
	baz=154,slow=13,SNR=8.9						
TXAR				Lg	Lg	02 52 07.6	
	baz=194,slow=40,SNR=2.0						
TXAR				LR	LR	02 54 02.7	
	comp=Z,937nm,18.2s,baz=146,slow=40						
	1.0nm,0.8s						
TX31	**Lajitas Ar. Si**	**13.71**	**339**	Pn	**Pn**	**02 48 10.5**	**0.0**
TX32	**Lajitas Array**	**13.71**	**339**	Pn	**Pn**	**02 48 10.0**	**-0.6**
ORTG	**Ortega, Santa**	**13.80**	**115**	Pn	**Pn**	**02 48 15.7**	**+3.8**
SAND	**Sanderson**	**13.85**	**346**	Pn	**Pn**	**02 48 13.9**	**+1.6**
DUNO	**Dulce Nombre,**	**13.91**	**116**	Pn	**P**	**02 48 17.8**	**-3.4**
JCT	**Junction City**	**13.97**	**354**	Pn	**Pn**	**02 48 12.9**	**-1.1**
JCT	**Junction City**	**13.97**	**354**	P	**Pn**	**02 48 13.9**	**-0.1**
	baz=172						
435B	**Jarrell**	**14.20**	**2**	Pn	**Pn**	**02 48 17.3**	**+0.2**
JTS	**Las Juntas de**	**14.28**	**114**	Pn	**P**	**02 48 23.6**	**-1.7**
JTS	**Las Juntas de**	**14.28**	**114**	LR	LR	02 52 15.2	
	comp=Z,41nm,21.9s,baz=310,slow=31						
ARE1	**Arenal 1**	**14.41**	**113**	Pn	**P**	**02 48 27.1**	**+0.4**
OZNA	**Ozona**	**14.58**	**350**	Pn	**Pn**	**02 48 22.3**	**-0.2**
ALPN	**Alpine**	**14.66**	**341**	Pn	**Pn**	**02 48 23.3**	**-0.3**
BRDY	**Brady**	**14.71**	**357**	Pn	**Pn**	**02 48 23.3**	**-0.8**
WHTX	**Lake Whitney,**	**15.41**	**2**	Pn	**Pn**	**02 48 33.0**	**-0.4**
WHTX	**Lake Whitney,**	**15.41**	**2**	P	**Pn**	**02 48 33.3**	**-0.1**
	baz=181,SNR=6.3						
425A	**Indio Mountain**	**15.50**	**338**	Pn	**Pn**	**02 48 35.2**	**+0.5**
NATX	**Nacogdoches**	**15.50**	**11**	Pn	**Pn**	**02 48 31.7**	**-2.9**
NATX	**Nacogdoches**	**15.50**	**11**	P	**Pn**	**02 48 33.5**	**-1.1**
	baz=192						
SGCY	**Sterling City**	**15.55**	**351**	Pn	**Pn**	**02 48 33.4**	**-1.9**
SGCY				IAmb	IAmb	02 48 41.9	
	comp=Z,100nm,1.0s						
PECS	**Pecos**	**15.66**	**342**	Pn	**Pn**	**02 48 34.4**	**-2.4**
PECS				IAmb	IAmb	02 48 42.9	
	comp=Z,26nm,0.7s						
FW13	**Cleburne**	**15.77**	**2**	Pn	**Pn**	**02 48 33.5**	**-4.6**
FW13				IAmb	IAmb	02 48 42.9	
	comp=Z,21nm,0.9s						
FW16	**Waxahatchie**	**15.93**	**4**	Pn	**Pn**	**02 48 38.5**	**-1.6**
FW16				IAmb	IAmb	02 48 58.4	
	comp=Z,36nm,0.7s						
ODSA	**Odessa**	**16.02**	**346**	Pn	**Pn**	**02 48 40.7**	**-0.7**
ODSA				IAmb	IAmb	02 48 47.4	
	comp=Z,11nm,0.7s						
ABTX	**Abilene, Hawle**	**16.08**	**356**	Pn	**Pn**	**02 48 40.3**	**-1.8**
ABTX				IAmb	IAmb	02 48 58.2	
	comp=Z,59nm,1.1s						
ABTX	**Abilene, Hawle**	**16.08**	**356**	P	**Pn**	**02 48 42.8**	**+0.7**
	baz=174,SNR=21						
FW07	**Weatherford**	**16.11**	**1**	Pn	**Pn**	**02 48 40.5**	**-1.9**
FW07				IAmb	IAmb	02 48 58.1	
	comp=Z,40nm,1.0s						
FW06	**Azle**	**16.39**	**2**		**Pn**	**02 48 45.3**	**-0.6**
FW06				IAmb	IAmb	02 48 49.9	
	comp=Z,34nm,0.8s						
FW03	**Perrin-Whitt E**	**16.44**	**0**	Pn	**Pn**	**02 48 45.5**	**-1.2**
FW03				IAmb	IAmb

Y45A IAmb IAmb 02 49 28.3
comp=Z,44nm,0.9s
CSTR Hydro, Custer 19.05 359 P P 02 49 17.5 -0.5
LRAL Lakeview Retre 19.30 30 P P 02 49 19.9 -0.7
baz=214
DEOK Depew 19.30 4 P P 02 49 19.1 -1.6
DEOK IAmb IAmb 02 49 32.2
comp=Z,52nm,1.0s
OK031 S. Brethren Rd 19.39 3 IAmb IAmb 02 49 32.3
comp=Z,36nm,0.9s
TUL3 Leonard 19.42 6 P P 02 49 21.4 -0.7
baz=186,SNR=9.3
OK052 Battle Ridge R 19.43 3 P P 02 49 21.0 -1.1
OK052 IAmb IAmb 02 49 32.8
comp=Z,36nm,0.9s
TUC Tucson 19.43 326 P Pn 02 49 24.3 +0.7
TUC IAmb IAmb 02 49 35.9
comp=Z,39nm,1.2s
TUC Tucson 19.43 326 P Pn 02 49 24.7 +1.2
baz=139
ELIS Ellis County 19.49 357 P P 02 49 22.1 -0.8
OXF Oxford 19.56 22 P P 02 49 23.1 -0.5
baz=205
QUOK Quay 19.61 4 IAmb IAmb 02 49 36.8
comp=Z,23nm,1.0s
ANMO Albuquerque 19.78 340 P P 02 49 26.9 +0.7
ANMO Albuquerque 19.78 340 P P 02 49 26.9 +0.7
baz=154
ANMO Albuquerque 19.78 340 P P 02 49 26.6 +0.3
comp=Z,0.4nm,0.3s,baz=247,slow=9.9,SNR=25
ANMO Lg Lg 02 55 23.0
comp=Z,0.1nm,0.3s,baz=75,slow=13,SNR=1.5
ANMO LR LR 02 57 38.7
comp=Z,702nm,18.1s,baz=250,slow=39
comp=Z,8.6nm,0.9s
OK048 Pawnee Station 19.84 3 P P 02 49 24.8 -1.9
TIGA Tifton 19.92 39 P P 02 49 26.7 -0.8
baz=225
OK051 E0350 and S346 19.94 3 IAmb IAmb 02 49 37.5
comp=Z,43nm,1.1s
FCAR Ozark Folk Cen 20.03 14 IAmb IAmb 02 49 40.5
comp=Z,15nm,0.7s
OK032 Salt Plains WL 20.20 360 IAmb IAmb 02 49 32.9
comp=Z,37nm,0.9s
GC02 Grant County # 20.25 1 P P 02 49 30.1 -0.9
214A Organ Pipe Nat 20.31 322 P P 02 49 33.2 +1.4
214A Organ Pipe Nat 20.31 322 P Pn 02 49 34.3 +0.4
baz=134
KAN13 South Haven SW 20.42 2 IAmb IAmb 02 49 45.1
comp=Z,43nm,1.1s
KAN17 Caldwell West 20.44 1 IAmb IAmb 02 49 45.2
comp=Z,26nm,1.1s
PLAL Pickwick Lake 20.48 24 P P 02 49 32.0 -1.7
PLAL IAmb IAmb 02 49 46.3
comp=Z,18nm,1.0s
KAN09 Caldwell North 20.54 1 IAmb IAmb 02 49 43.9
comp=Z,17nm,0.7s
KS20 Mayfield South 20.63 1 P P 02 49 33.7 -1.5
KS20 IAmb IAmb 02 50 06.2
comp=Z,35nm,1.2s
X18A Snowflake 20.80 332 IAmb IAmb 02 49 41.1
comp=Z,40nm,1.3s
154A Montrose 21.04 38 P P 02 49 38.4 -1.3
154A IAmb IAmb 02 49 59.7
comp=Z,32nm,0.8s
FPAL Fort Paine 21.19 30 P P 02 49 40.6 -0.7
MGMO Mountain Grove 21.20 13 IAmb IAmb 02 49 55.4
comp=Z,31nm,0.9s
T25A Trinidad 21.26 346 IAmb IAmb 02 49 48.8
comp=Z,32nm,1.1s
T25A Trinidad 21.26 346 P P 02 49 42.6 +0.4
baz=162,SNR=26
PBMO Poplar Bluff 21.31 17 P P 02 49 41.8 -0.8
GOGA Godfrey 21.42 36 IAmb IAmb 02 50 04.0
comp=Z,13nm,0.6s
GOGA Godfrey 21.42 36 P P 02 49 42.7 -1.0
baz=222,SNR=6.5
X16A Lo Mia Camp, P 21.43 329 IAmb IAmb 02 49 47.6
comp=Z,26nm,0.8s
S39A Bolivar 21.52 11 P P 02 49 43.2 -1.5
S39A IAmb IAmb 02 49 58.8
comp=Z,19nm,0.9s
WVT Waverly 21.59 23 P P 02 49 43.1 -2.4
WVT IAmb IAmb 02 49 48.0
comp=Z,19nm,0.7s
WVT Waverly 21.59 23 P P 02 49 44.3 -1.2
baz=208
SWET Sewanee 21.59 28 IAmb IAmb 02 49 56.3
comp=Z,18nm,0.7s
V48A Smith Brothers 21.65 26 IAmb IAmb 02 49 55.8
comp=Z,14nm,0.8s
SDCO Great Sand Dun 22.10 344 P P 02 49 50.9 -0.5
SDCO Great Sand Dun 22.10 344 P P 02 49 51.6 +0.3
baz=160,SNR=18
CBKS Cedar Bluff 22.25 357 P P 02 49 52.6 -0.1
baz=175
WUAZ Wupatki 22.28 331 P P 02 49 54.0 +0.9
WUAZ IAmb IAmb 02 50 07.6
comp=Z,21nm,1.0s
WUAZ Wupatki 22.28 331 P P 02 49 54.5 +1.3
baz=143,SNR=17
GLA Glamis 22.29 321 P P 02 49 55.9 +2.7
baz=132
R40A Maddies Statio 22.30 12 IAmb IAmb 02 50 06.2
comp=Z,19nm,0.8s
CCM Cathedral Cave 22.30 15 P P 02 49 51.0 -2.2
CCM IAmb IAmb 02 50 08.2
comp=Z,22nm,0.8s
CCM Cathedral Cave 22.30 15 P P 02 49 53.1 -0.1
baz=197
CPCT Cooper Cave 22.45 30 IAmb IAmb 02 50 04.8
comp=Z,17nm,0.8s
W52A Murphy 22.46 32 P P 02 49 52.7 -2.2
W52A IAmb IAmb 02 50 05.0
comp=Z,23nm,0.8s
S22A 4UR Ranch, Cre 22.47 342 P P 02 49 57.0 +1.6
baz=157,SNR=15
S44A Carbondale 22.51 19 P P 02 49 54.1 -1.3
KSU1 Kansas State U 22.53 3 P P 02 49 53.8 -1.9
KSU1 IAmb IAmb 02 50 06.5
comp=Z,18nm,0.8s
KSU1 Kansas State U 22.53 3 P P 02 49 55.2 -0.4
baz=183
MVCO Mesa Verde 22.53 338 P P 02 49 56.1 +0.2
MVCO IAmb IAmb 02 49 59.7
comp=Z,27nm,0.9s
MVCO Mesa Verde 22.53 338 P P 02 49 57.4 +1.4
baz=152,SNR=22
SIUC Southern Illin 22.54 19 P P 02 49 54.1 -1.6
SIUC IAmb IAmb 02 50 11.5
comp=Z,16nm,0.8s
BLYC Blythe 22.60 322 P P 02 49 57.9 +1.5
T47A Sharon Grove 22.62 24 IAmb IAmb 02 49 57.8
comp=Z,20nm,0.9s
KSCO Kaye Shedlock' 22.74 351 IAmb IAmb 02 50 08.9
comp=Z,20nm,0.9s
KSCO Kaye Shedlock' 22.74 351 P P 02 49 58.0 +0.1
baz=168
PDMCI Parker Dam,Lak 22.77 324 P P 02 50 01.1 +2.8
baz=136,SNR=7.9
V51A Loudon 22.81 30 IAmb IAmb 02 50 09.8
comp=Z,20nm,1.1s
SWSC Sam W. Stewart 22.82 319 P P 02 50 01.8 +3.1
baz=130
IKP In-Ko-Pah, Jac 22.82 318 P P 02 50 01.8 +3.0
baz=129
TKL Tuckaleechee C 22.98 31 IAmb IAmb 02 50 01.9
comp=Z,16nm,1.2s
TKL Tuckaleechee C 22.98 31 LR LR 03 00 31.4
comp=Z,36nm,21.5s,baz=234,slow=41
BC3 Big Chuckawall 23.08 321 P P 02 50 03.9 +2.3
baz=132,SNR=14
NHSC New Hope 23.17 41 P P 02 50 00.8 -1.4
NHSC New Hope 23.17 41 P P 02 50 02.2 -0.1
baz=229
Q24A Divide 23.17 346 IAmb IAmb 02 50 05.5
comp=Z,16nm,1.0s
Q24A Divide 23.17 346 P P 02 50 03.8 +1.1
baz=162,SNR=7.9
MONP2 Monument Peak 23.18 318 P P 02 50 05.1 +2.4
baz=129
IRM Iron Mountain 23.25 322 P P 02 50 04.6 +1.5
baz=133
JSC Jenkinsville 23.31 38 P P 02 50 02.4 -1.3
P38A Dawn 23.37 9 IAmb IAmb 02 50 47.4
comp=Z,12nm,0.8s
U15A North Rim 23.45 330 IAmb IAmb 02 50 10.1
comp=Z,22nm,1.1s
P40A Paris 23.54 12 P P 02 50 03.5 -2.4
P40A IAmb IAmb 02 50 07.0
comp=Z,25nm,1.1s
T50A Nancy 23.58 27 IAmb IAmb 02 50 16.9
comp=Z,17nm,1.2s
PMD Palm Desert 23.65 319 P P 02 50 09.2 +2.1
BELC Belle Mtn. Jos 23.65 321 P P 02 50 09.3 +2.1
baz=132,SNR=7.6
TPFO Pinon Flats 23.67 319 P P 02 50 09.4 +2.0
baz=130
PFO Pinyon Flats O 23.67 319 P P 02 50 07.9 +0.5
PFO Pinyon Flats O 23.67 319 P P 02 50 09.1 +1.7
baz=130
PFO Pinyon Flats O 23.67 319 LR LR 02 58 59.1
comp=Z,80nm,18.2s,baz=143,slow=36
Q44A Meyer Farm, Va 23.70 18 IAmb IAmb 02 50 29.0
comp=Z,20nm,0.8s
TZTN Tazewell 23.79 30 IAmb IAmb 02 50 19.1
comp=Z,18nm,1.1s
TZTN Tazewell 23.79 30 P P 02 50 07.6 -0.8
baz=217
SMCO Snowmass 23.84 343 IAmb IAmb 02 50 14.6
comp=Z,19nm,1.2s
KMSC Kings Mountain 23.89 36 IAmb IAmb 02 50 20.7
comp=Z,21nm,0.9s
KMSC Kings Mountain 23.89 36 P P 02 50 09.0 -0.3
baz=223
GMRC Granite Mounta 23.99 323 P P 02 50 12.4 +1.9
baz=134
WCI Wyandotte Cave 24.02 23 P P 02 50 09.0 -1.5
WCI Wyandotte Cave 24.02 23 P P 02 50 10.1 -0.4
baz=209
Y58A Scranton 24.02 40 P P 02 50 09.9 -0.6
HMU Henry Mountain 24.03 335 P P 02 50 11.8 +0.9
ISCO Idaho Springs 24.08 346 P P 02 50 11.8 +0.4
ISCO IAmb IAmb 02 50 24.3
comp=Z,18nm,0.8s
ISCO Idaho Springs 24.08 346 P P 02 50 12.5 +1.1
baz=161,SNR=29
MURC Murrieta 24.13 318 P P 02 50 14.0 +2.4
baz=129
KNB Kanab 24.18 330 IAmb IAmb 02 50 26.3
comp=Z,28nm,1.3s
V12A Nelson 24.21 325 P P 02 50 13.7 +1.2
PKCU Pink Cliffs 24.29 332 IAmb IAmb 02 50 17.5
comp=Z,22nm,1.0s
N35A Tabor 24.35 5 IAmb IAmb 02 50 24.7
comp=Z,16nm,0.7s
HEC Hector,Ludlow 24.42 322 P P 02 50 17.1 +2.7
baz=132,SNR=5.5
BRIGG Briggsdale 24.55 349 IAmb IAmb 02 50 27.6
comp=Z,19nm,0.9s
OGNE Ogallala 24.56 353 P P 02 50 16.0 +0.4
baz=170
TUQ Turquoise Moun 24.60 323 P P 02 50 18.7 +2.7
baz=134,SNR=19
S51A Beattyville 24.66 29 IAmb IAmb 02 50 26.9
comp=Z,30nm,1.2s
W57A Gilead 24.66 38 IAmb IAmb 02 50 27.8
comp=Z,27nm,1.2s
MTPU Mount Pierson 24.72 333 P P 02 50 19.0 +1.6
CIS Catalina Islan 24.80 316 P P 02 50 20.4 +2.6
baz=126
BFSC Mount Baldy Ra 24.84 319 P P 02 50 20.6 +2.4
baz=129
GSC Goldstone, Bar 25.02 322 P P 02 50 22.2 +2.4
baz=132
O20A White River Ci 25.10 342 P P 02 50 21.2 +0.7
O20A White River Ci 25.10 342 P P 02 50 22.7 +2.2
baz=156,SNR=26
MVU Marysvale 25.12 333 P P 02 50 22.0 +1.2
HDIL Hopedale 25.16 16 IAmb IAmb 02 50 22.0
comp=Z,18nm,0.8s
HDIL Hopedale 25.16 16 P P 02 50 21.0 +0.1
baz=200
N23A Red Feather La 25.20 346 IAmb IAmb 02 50 24.8
comp=Z,19nm,0.9s
N23A Red Feather La 25.20 346 P P 02 50 23.0 +1.5
baz=161,SNR=16
DECC Green Verdugo 25.28 318 P P 02 50 23.7 +1.6
baz=128
U56A King 25.29 35 IAmb IAmb 02 50 59.2
comp=Z,8.7nm,0.6s
P18A Preston Nutter 25.31 338 IAmb IAmb 02 50 26.4
comp=Z,21nm,0.9s
TMUT Trail Mountain 25.38 336 IAmb IAmb 02 50 35.9
comp=Z,8.8nm,0.8s
P48A Milroy 25.42 23 IAmb IAmb 02 51 00.8
comp=Z,23nm,1.4s
EDW2 Edwards Air Fo 25.46 320 P P 02 50 25.9 +2.1
baz=130
PHWY Pilot Hill 25.48 347 IAmb IAmb 02 50 26.7
comp=Z,12nm,1.1s
QSM Queen of Sheba 25.52 323 P P 02 50 25.9 +1.7
QSM IAmb IAmb 02 50 39.1
comp=Z,14nm,1.2s
PRN Pahroc Range 25.58 328 IAmb IAmb 02 50 39.6
comp=Z,14nm,1.2s
V58A Windy Hill, Pi 25.62 38 IAmb IAmb 02 50 26.9
comp=Z,14nm,0.9s
SFIN Lafayette 25.64 20 P P 02 50 24.6 -0.6
baz=205
SCIA State Center 25.65 9 P P 02 50 25.5 +0.2
baz=190
LRMC Laurel Mtn Rad 25.67 321 P P 02 50 27.5 +1.8
baz=131
P49A Miami Univ. Ec 25.76 24 P P 02 50 25.4 -0.9
baz=211,SNR=13
FURC Furnace Creek, 25.87 324 P P 02 50 29.8 +2.4
baz=134
TPNV Topopah Spring 25.88 325 IAmb IAmb 02 50 42.7
comp=Z,14nm,1.2s
TPNV Topopah Spring 25.88 325 P P 02 50 29.9 +2.3
baz=136,SNR=9.2
BLA Blacksburg 25.90 34 IAmb IAmb 02 50 40.0
comp=Z,29nm,1.2s
BLA Blacksburg 25.90 34 P P 02 50 27.1 -0.6
baz=222
RDMU Red Mountain 25.91 340 IAmb IAmb 02 50 40.4
comp=Z,21nm,1.0s
MPMC Manual Prospec 25.95 322 P P 02 50 30.5 +2.1
baz=132,SNR=6.1
R53A Hurricane 25.98 30 P P 02 50 27.0 -1.4
R53A IAmb IAmb 02 50 41.1
comp=Z,15nm,0.8s
ROSC El Rosal 26.12 114 LR LR 02 59 54.6
comp=Z,31nm,19.0s,baz=18,slow=35
L40A Anamosa 26.14 12 P P 02 50 28.0 -1.7
L40A IAmb IAmb 02 50 41.4
comp=Z,19nm,0.9s
ARVC Arvin 26.15 319 P P 02 50 33.4 +3.5
baz=129
O48B Farmland 26.21 23 P P 02 50 29.8 -0.7
baz=209
ISA Isabella, Lake 26.27 320 P P 02 50 32.7 +1.6
ISA Isabella, Lake 26.27 320 P P 02 50 33.6 +2.5
baz=130
NLU North Lily Min 26.29 335 P P 02 50 32.6 +1.2
NLU IAmb IAmb 02 50 44.2
comp=Z,10nm,1.0s
BSUT Blindstream Ca 26.30 338 IAmb IAmb 02 50 45.1
comp=Z,13nm,1.1s
P51A Williamsport 26.41 27 IAmb IAmb 02 50 42.0
comp=Z,18nm,0.8s
K38A Parkersburg 26.44 9 P P 02 50 31.6 -0.8
K38A IAmb IAmb 02 50 42.6
comp=Z,22nm,0.8s
GRAC Grapevine Rang 26.53 324 P P 02 50 35.8 +2.4
baz=134
CWC Cottonwood Cre 26.56 322 P P 02 50 35.6 +1.8
baz=132
R11B Troy Canyon, C 26.58 328 P P 02 50 36.3 +2.3
baz=139
PKM Mcpherson Peak 26.62 317 P P 02 50 36.7 +2.3
baz=127
VES Vestal, Richgr 26.76 320 P P 02 50 37.9 +2.5
baz=129
DUG Dugway, Tooele 26.79 335 IAmb IAmb 02 50 48.8
comp=Z,8.7nm,0.9s
DUG Dugway, Tooele 26.79 335 P P 02 50 38.3 +2.4
baz=146,SNR=8.1
R55A Marlinton 26.86 33 IAmb IAmb 02 50 51.9
comp=Z,14nm,1.1s
P52A Corning 26.94 28 P P 02 50 36.0 -1.1
baz=216
K22A Casper 27.00 346 P P 02 50 38.1 +0.4
K22A Casper 27.00 346 P P 02 50 39.2 +1.5
baz=161,SNR=8.7
SMMC Simmler 27.00 318 P P 02 50 40.1 +2.4
baz=127
Q54A Coxs Mills 27.04 31 P P 02 50 37.4 -0.5
Q54A IAmb IAmb 02 50 38.5
comp=Z,24nm,1.4s
ACSO Alum Creek Sta 27.06 26 P P 02 50 37.6 -0.5
baz=213
ECSD EROS Data Cent 27.15 2 IAmb IAmb 02 50 52.9
comp=Z,11nm,1.0s
ECSD EROS Data Cent 27.15 2 P P 02 50 38.5 -0.4
baz=183
JFWS Jewell Farm 27.16 13 P P 02 50 38.6 -0.3
baz=196
BGU Big Grassy Mou 27.50 335 P P 02 50 42.5 +0.3
BOSC San Juan Bosco 27.58 133 P P 02 50 49.2 +6.0
SDV Santo Domingo 27.90 102 LR LR 03 01 54.0
comp=Z,85nm,21.8s,baz=309,slow=37
BW06 Boulder Array 27.90 342 IAmb IAmb 02 50 58.0
comp=Z,21nm,1.3s
BW06 Boulder Array 27.90 342 P P 02 50 47.3 +1.4
baz=155,SNR=7.2
PD31 Pinedale Array 27.90 342 P P 02 50 45.9 0.0
PD31 IAmb IAmb 02 50 58.0
comp=Z,19nm,1.3s
PDAR Pinedale Array 27.90 342 P P 02 50 44.8 -1.1
comp=Z,2.1nm,0.9s,baz=138,slow=11,SNR=16
PDAR PcP **PcP 02 54 00.5 -0.7**
comp=Z,0.2nm,0.6s,baz=160,slow=2.9,SNR=2.2
PDAR LR LR 03 02 59.6
comp=Z,277nm,18.4s,baz=171,slow=39
comp=Z,2.1nm,0.9s
RSSD Black Hills 27.95 351 P P 02 50 46.9 +0.6
baz=167
ID09 Alton 27.96 339 IAmb IAmb 02 51 18.3
comp=Z,9.0nm,0.6s
NV11 Mina Array Sit 27.99 325 IAmb IAmb 02 50 50.1
comp=Z,8.0nm,1.0s
NVAR Mina Array Bea 28.07 325 P P 02 50 48.3 +0.9
NVAR Mina Array Bea 28.07 325 P P 02 50 48.0 +0.6
comp=Z,5.3nm,0.8s,baz=149,slow=9.9,SNR=39
NVAR PcP **PcP 02 54 02.8 +1.1**
comp=Z,0.1nm,0.5s,baz=154,slow=6.5,SNR=2.5
NVAR LR LR 03 02 37.3
comp=Z,114nm,20.4s,baz=103,slow=38
comp=Z,5.3nm,0.8s
ID10 Lander Cutoff 28.10 340 P P 02 50 47.2 -0.5
ID10 IAmb IAmb 02 51 00.9
comp=Z,11nm,1.3s
ELK Elko 28.29 332 P P 02 50 50.9 +1.5
REDW Red Top Meadow 28.84 341 P P 02 50 55.1 +0.9
SPMN Marine on St. 28.97 8 IAmb IAmb 02 51 05.7
comp=Z,17nm,0.8s
SPMN Marine on St. 28.97 8 P P 02 50 54.9 -0.2
baz=190
TPAW Teton Pass 28.99 341 IAmb IAmb 02 51 10.8
comp=Z,13nm,1.1s
LOHW Long Hollow 28.99 341 P P 02 50 56.0 +0.5
LOHW IAmb IAmb 02 51 08.0
comp=Z,24nm,1.4s
M53A WI Miller and 29.05 28 P P 02 50 54.7 -1.1
baz=216
FXWY Fox Creek 29.15 341 P P 02 50 57.2 +0.2
MOOW Moose Ponds 29.16 341 IAmb IAmb 02 51 09.5
comp=Z,13nm,1.5s
H17A Grant Village 29.69 342 P P 02 51 03.0 +1.2
baz=154
ERPA Erie 29.90 28 P P 02 51 02.7 -0.7
baz=217
RLMT Red Lodge 29.99 344 P P 02 51 06.2 +1.8
baz=157,SNR=7.3
HLID Hailey 30.28 336 P P 02 51 07.9 +1.0
baz=147
GLMI Grayling 30.44 19 P P 02 51 07.8 -0.3
baz=206
E38A The Farm, Brul 30.50 9 P P 02 51 07.3 -1.3
E38A IAmb IAmb 02 51 20.2
comp=Z,15nm,1.2s
ATAH Atahualpa 30.59 139 LR LR 03 01 00.2
comp=Z,95nm,21.2s,baz=314,slow=32
LAO LASA Array 30.81 349 P P 02 51 11.9 +0.5
baz=164
BOZ Bozeman (W) 31.10 342 P P 02 51 16.4 +2.4
DLMT Dillon 31.19 340 P P 02 51 15.7 +0.8
WVOR Wild Horse Val 31.20 330 IAmb IAmb 02 51 18.4
comp=Z,12nm,1.1s
MDND Maddock 31.26 358 P P 02 51 15.0 -0.3
baz=177
EYMN Ely 31.81 9 P P 02 51 19.1 -1.1
baz=192
J08A Circle Bar Ran 31.83 331 P P 02 51 22.1 +1.6
BINY Binghamton 31.88 32 P P 02 51 19.7 -1.2
baz=223
B35A Bob, Littlefor 31.96 6 IAmb IAmb 02 51 32.4
comp=Z,9.4nm,1.0s
PAL Palisades 32.16 36 P P 02 51 23.5 +0.2
baz=228
PLID Pearl Lake 32.17 336 IAmb IAmb 02 51 26.1
comp=Z,16nm,1.4s
DGMT Dagmar 32.24 352 P P 02 51 24.7 +0.8
baz=168
SADO Sadowa 32.40 26 LR LR 03 07 39.2
comp=Z,46nm,18.4s,baz=283,slow=42
LYMT Lyon Mountain 32.53 342 P P 02 51 27.0 +0.2
YBH Yreka Blue Hor 32.79 325 LR LR 03 05 22.6
comp=Z,135nm,19.6s,baz=164,slow=38
EGMT Eagleton 32.82 346 P P 02 51 28.9 -0.2
EGMT Eagleton 32.82 346 P P 02 51 30.3 +1.2
baz=158
MSO Missoula 32.93 340 P P 02 51 31.4 +1.3
baz=150
PCRV Puerto La Cruz 33.21 97 LR LR 03 05 45.4
comp=Z,51nm,21.5s,slow=38
F10A Beach Ranch, E 33.39 336 IAmb IAmb 02 51 41.8
comp=Z,7.2nm,1.0s
ULM Lac du Bonnet 33.69 3 P P 02 51 35.1 -1.4
comp=Z,2.8nm,0.8s,baz=174,slow=7.3,SNR=4.6
ULM LR LR 03 06 17.8
comp=Z,76nm,19.6s,baz=344,slow=38
comp=Z,2.8nm,0.8s
LONY Lake Ozonia 34.35 30 P P 02 51 41.4 -1.0
baz=223
HOOD Mount Hood Mea 34.81 331 P P 02 51 47.8 +1.3
NEW Newport 35.26 338 P P 02 51 51.2 +0.9
baz=146
NEW Newport 35.26 338 LR LR 03 07 58.7
comp=Z,408nm,18.0s,baz=157,slow=39
C09A Chrisman Ranch 35.30 336 IAmb IAmb 02 51 53.1
comp=Z,5.7nm,0.8s
NNA Nana 35.33 142 LR LR 03 03 22.8
comp=Z,86nm,21.4s,baz=326,slow=31
LBNH Lisbon 35.43 33 P P 02 51 51.2 -0.5
baz=227
LTY Liberty 35.84 334 IAmb IAmb 02 51 57.9
comp=Z,13nm,1.4s
FFC Flin Flon 38.23 356 P P 02 52 15.2 -0.2
LLLB Lillooet 38.97 336 IAmb IAmb 02 52 34.1
comp=Z,9.7nm,1.1s
BBB Bella Bella 42.73 333 LR LR 03 11 23.7
comp=Z,83nm,18.3s,baz=165,slow=37
HILA High Level 44.22 346 P P 02 53 04.3 -0.2
RPN Rapa Nui 44.72 194 LR LR 03 06 57.3
comp=Z,40nm,20.3s,baz=336,slow=30
SCHQ Schefferville 45.21 25 LR LR 03 16 02.6
comp=Z,24nm,18.9s,baz=288,slow=42
MDP Montagnes des 46.04 99 LR LR 03 14 56.9
comp=Z,42nm,18.5s,baz=328,slow=39
V35K Ketchikan 46.41 334 P P 02 53 23.5 +1.6
baz=132
T35M Bob Quinn 47.03 337 P P 02 53 28.2 +1.4
baz=135
YKA Yellowknife Ar 47.35 350 P P 02 53 27.6 -1.6
comp=Z,2.2nm,0.7s,baz=156,slow=7.3,SNR=6.4
YKA LR LR 03 15 25.9
comp=Z,68nm,20.9s,baz=174,slow=39
comp=Z,2.2nm,0.7s
KOTAN Kotaneelee Air 47.41 343 P P 02 53 30.9 +1.2
baz=145
DLBC Dease Lake 48.01 338 P P 02 53 35.1 +0.7
DLBC Dease Lake 48.01 338 P P 02 53 36.2 +1.7
baz=136
DLBC Dease Lake 48.01 338 LR LR 03 15 56.8
comp=Z,213nm,18.1s,baz=106,slow=39
S34M Telegraph Cree 48.03 337 P P 02 53 35.3 +0.7
baz=135
LVC Limon Verde 48.31 143 LR LR 03 11 39.7
comp=Z,66nm,18.9s,baz=310,slow=33

SIV	San Ignacio	48.83 130	LR	LR	03 13 48.3	
	comp=Z,50nm,18.8s,baz=107,slow=36					
R33M	Jennings River	49.04 338	P	P	02 53 44.5	+2.0
R33M			IAmb	IAmb	02 53 45.5	
	comp=Z,5.1nm,0.8s					
R33M	Jennings River	49.04 338	P	P	02 53 44.4	+1.9
	baz=136					
TGTN	Hyland Airport	49.77 342	P	P	02 53 49.4	+1.5
	baz=140					
WRGLY	Wrigley	49.85 345	P	P	02 53 49.9	+1.5
	baz=147					
S31K	Pelican	50.07 335	P	P	02 53 51.9	+1.8
	baz=129					
P32M	Atlin	50.17 337	P	P	02 53 52.7	+1.7
	baz=133					
P33M	Teslin, Yukon	50.28 338	P	P	02 53 53.2	+1.3
	baz=134					
FRB	Frobisher Bay	51.39 16	LR	LR	03 17 12.0	
	comp=Z,82nm,19.8s,baz=184,slow=38					
MMPY	Sheldon Lake,	51.52 341	P	P	02 54 03.1	+2.0
MMPY			IAmb	IAmb	02 54 04.5	
	comp=Z,6.8nm,1.0s					
MMPY	Sheldon Lake,	51.52 341	P	P	02 54 03.4	+2.3
	baz=137,SNR=6.0					
P30M	Million Dollar	51.75 336	P	P	02 54 04.5	+1.7
	baz=129					
O30N	Mendenhall	51.85 337	P	P	02 54 04.3	+0.7
	baz=131					
FARO	Faro, Yukon	51.90 340	P	P	02 54 05.5	+1.6
	baz=135					
N31M	Braeburn, Yuko	52.22 338	P	P	02 54 07.7	+1.4
	baz=132					
M31M	Drury Creek, Y	52.23 339	P	P	02 54 07.7	+1.3
	baz=134					
HYT	Haines Junctio	52.41 337	P	P	02 54 09.5	+1.7
	baz=129					
H03N2	Juan Fernandez	52.98 160	T	T	03 51 05.9	
	baz=337,slow=77,SNR=237					
H03N1	Juan Fernandez	52.98 160	T	T	03 51 06.8	
	baz=337,slow=77,SNR=288					
H03N3	Juan Fernandez	52.99 160	T	T	03 51 05.9	
	baz=337,slow=77,SNR=292					
YUK4	Talbot Arm	53.17 337	P	P	02 54 15.4	+1.8
	baz=128					
M30M	Minto, Yukon	53.30 339	P	P	02 54 15.9	+1.6
	baz=131					
YUK8	Steele Glacier	53.55 337	P	P	02 54 18.0	+1.5
	baz=127					
M29M	Somme Creek	53.80 338	IAmb	IAmb	02 54 21.2	
	comp=Z,3.8nm,0.8s					
M29M	Somme Creek	53.80 338	P	P	02 54 19.8	+1.8
	baz=129,SNR=5.8					
L29M	L29M	54.12 339	P	P	02 54 22.3	+2.0
	baz=130,SNR=8.4					
K29M	Barlow Dome	54.39 340	P	P	02 54 23.9	+1.5
	baz=131					
J30M	Hart River	54.51 341	P	P	02 54 24.6	+1.4
	baz=133					
CRQE	Cirque	54.56 335	P	P	02 54 25.5	+1.9
	baz=123					
MCARA	McCarthy VSAT	54.89 335	P	P	02 54 27.6	+1.7
	baz=124					
I30M	Mount Dempster	54.97 341	IAmb	IAmb	02 54 28.4	
	comp=Z,6.2nm,1.2s					
I30M	Mount Dempster	54.97 341	P	P	02 54 27.1	+0.6
	baz=133					
M27K	Edge Creek, AK	55.00 337	P	P	02 54 28.1	+1.3
	baz=125					
DAWY	Dawson	55.16 339	P	P	02 54 27.9	0.0
	baz=129					
Q23K	Middleton Isla	55.25 332	P	P	02 54 29.6	+1.1
	baz=119					
BCAR	Beaver Creek A	55.39 338	P	P	02 54 30.4	+0.8
L27K	Beaver Creek,	55.40 338	IAmb	IAmb	02 54 32.3	
	comp=Z,7.4nm,1.2s					
L27K	Beaver Creek,	55.40 338	P	P	02 54 31.2	+1.6
	baz=126,SNR=5.3					
M26K	Nabesna, AK	55.45 337	IAmb	IAmb	02 54 32.8	
	comp=Z,3.7nm,0.9s					
M26K	Nabesna, AK	55.45 337	P	P	02 54 31.9	+1.9
	baz=124					
EYAK	Cordova Ski Ar	55.56 334	P	P	02 54 32.5	+1.9
	baz=120					
G31M	Satah River	55.57 344	P	P	02 54 31.4	+0.8
	baz=136					
N25K	Chitina, Valde	55.64 335	P	P	02 54 32.2	+0.9
	baz=122					
I29M	Ogilvie Camp,	55.66 341	IAmb	IAmb	02 54 42.9	
	comp=Z,3.8nm,1.1s					
I29M	Ogilvie Camp,	55.66 341	P	P	02 54 31.9	+0.5
	baz=131					
F31M	Tsiigehtchic	55.81 344	P	P	02 54 32.8	+0.4
	baz=137					
CFA	Coronel Fontan	55.82 149	LR	LR	03 13 19.0	
	comp=Z,56nm,20.4s,baz=348,slow=30					
EPYK	Eagle Plains	55.87 342	P	P	02 54 33.6	+0.7
	baz=133					
P23K	Montague Islan	56.00 333	P	P	02 54 33.8	-0.1
	baz=118					
K27K	Chicken	56.07 338	P	P	02 54 36.1	+1.8
	baz=126					
KLU	Klutina	56.12 335	P	P	02 54 35.8	+1.0
	baz=121					
G30M	tAoh Zraii Nji	56.15 343	P	P	02 54 35.1	+0.2
	baz=134					
I28M	Miner Creek	56.23 340	P	P	02 54 36.3	+0.7
	baz=129					
H29M	Whitestone	56.25 342	P	P	02 54 36.3	+0.8
	baz=131					
HARP	HAARP	56.29 336	P	P	02 54 37.2	+1.3
	baz=122					
INK	Inuvik	56.41 345	P	P	02 54 36.6	0.0
INK	Inuvik	56.41 345	P	P	02 54 37.4	+0.8
	baz=138,SNR=6.8					
INK	Inuvik	56.41 345	LR	LR	03 21 34.4	
	comp=Z,130nm,19.6s,baz=164,slow=39					
F30M	Barrier River	56.48 344	P	P	02 54 37.7	+0.5
	baz=135					
M24K	Tolsona, Glenn	56.54 335	P	P	02 54 38.7	+0.9
	baz=121					
G29M	Pine Creek	56.62 342	P	P	02 54 38.9	+0.7
	baz=132					
PAX	Paxson	56.72 336	P	P	02 54 40.9	+1.9
	baz=122					
SCRK	Sand Creek	56.72 338	IAmb	IAmb	02 54 41.7	
	comp=Z,4.2nm,0.9s					
SCRK	Sand Creek	56.72 338	P	P	02 54 40.9	+1.8
	baz=124					
I27K	Kandik River	56.88 340	P	P	02 54 41.6	+1.5
	baz=128					
J26L	Joseph Creek	56.88 338	P	P	02 54 42.2	+2.0
	baz=125					
RIDG	Independent Ri	56.91 337	P	P	02 54 42.1	+1.7
	baz=123					
M23K	Glacier View	57.01 334	P	P	02 54 43.9	+2.8
	baz=119					
I26K	Coal Creek Min	57.21 339	P	P	02 54 43.3	+1.0
	baz=126					
SML	Sawmill	57.27 334	P	P	02 54 44.1	+1.2
	baz=118					
K24K	Donnelly Dome	57.29 337	P	P	02 54 43.4	+0.4
	baz=122					
WAT6	Susitna Watana	57.41 335	P	P	02 54 44.6	+0.5
	baz=119					
KDAK	Kodiak Island	57.47 329	LR	LR	03 19 21.0	
	comp=Z,89nm,18.7s,baz=139,slow=36					
PMR	Palmer	57.50 334	P	P	02 54 45.8	+1.3
	baz=117					
DHY	Denali Highway	57.52 336	P	P	02 54 45.5	+0.8
	baz=120					
J25K	Salcha River,	57.58 338	P	P	02 54 47.0	+1.9
J25K			IAmb	IAmb	02 55 23.3	
	comp=Z,4.3nm,1.1s					
J25K	Salcha River,	57.58 338	P	P	02 54 46.2	+1.1
	baz=123					
E29M	Blow River	57.59 344	P	P	02 54 45.6	+0.6
	baz=133					
F28M	Old Crow	57.62 342	IAmb	IAmb	02 54 47.2	
	comp=Z,7.3nm,1.0s					
F28M	Old Crow	57.62 342	P	P	02 54 46.0	+0.7
	baz=130,SNR=6.3					
G27K	Doyon Strip	57.64 341	P	P	02 54 46.2	+0.7
	baz=128					
SII	Sitkinak Islan	57.84 327	P	P	02 54 47.2	+0.2
	baz=109					
WAT1	Susitna Watana	57.86 335	P	P	02 54 47.9	+0.8
	baz=119					
SUA	Susitna One	58.13 333	P	P	02 54 50.0	+0.9
	baz=116					
E28M	Babbage River	58.19 343	P	P	02 54 49.7	+0.5
	baz=131					
RES	Resolute Bay	58.20 1	LR	LR	03 20 25.4	
	comp=Z,55nm,18.1s,baz=13,slow=37					
ILAR	Eielson Array	58.22 338	P	P	02 54 50.1	+0.6
ILAR	Eielson Array	58.22 338	P	P	02 54 50.0	+0.5
	comp=Z,3.6nm,1.1s,baz=145,slow=4.7,SNR=26					
ILAR			LR	LR	03 21 00.7	
	comp=Z,72nm,18.7s,baz=92,slow=37					
	comp=Z,3.6nm,1.1s					
RND	Reindeer	58.26 336	P	P	02 54 50.9	+1.0
G26K	Porcupine Rive	58.39 341	P	P	02 54 51.1	+0.5
	baz=126					
MCK	McKinley	58.45 336	P	P	02 54 51.5	+0.3
	baz=119					
E27K	Coleen River	58.49 342	P	P	02 54 51.8	+0.5
	baz=129					
POKR	Poker Plat Res	58.60 338	P	P	02 54 52.7	+0.5
	baz=121					
H25L	Birch Creek	58.66 340	P	P	02 54 53.5	+1.0
	baz=123					
SKT	Skwentna	58.70 334	P	P	02 54 53.7	+0.8
	baz=115					
TRF	Thorofare Moun	58.85 336	P	P	02 54 55.0	+0.9
TRF	Thorofare Moun	58.85 336	P	P	02 54 54.9	+0.7
	baz=117,SNR=5.6					
BDFB	Brasilia	58.92 120	P	P	02 54 55.0	-0.2
	comp=Z,2.2nm,0.7s,baz=270,slow=7.7,SNR=4.1					
	comp=Z,2.2nm,0.7s					
NEA2	Nenana	58.93 337	P	P	02 54 54.5	0.0
	baz=119					
D27M	Malcolm River	59.00 344	P	P	02 54 55.6	+0.6
	baz=130					
G25K	Bearman Lake	59.03 340	P	P	02 54 55.2	+0.1
	baz=123					
SFJD	Kangerlussuaq	59.05 20	LR	LR	03 22 10.2	
	comp=Z,48nm,19.9s,baz=228,slow=38					
H24K	Noodor Dome	59.13 339	IAmb	IAmb	02 55 11.2	
	comp=Z,4.8nm,1.0s					
H24K	Noodor Dome	59.13 339	P	P	02 54 56.2	+0.3
	baz=121					
Q17K	Contact Creek	59.28 329	P	P	02 54 58.5	+1.4
	baz=109					
I23K	Mio, Yukon-K	59.31 337	P	P	02 54 58.3	+1.3
	baz=119,SNR=6.2					
M20K	Styx River	59.34 333	P	P	02 54 58.4	+0.9
	baz=114					
F25K	Christian Rive	59.35 341	P	P	02 54 57.6	+0.2
	baz=124					
G24K	Hadweenzic Riv	59.45 340	P	P	02 54 58.6	+0.6
	baz=122					
N19K	Bonanza Creek	59.52 332	P	P	02 54 59.2	+0.5
	baz=112					
CAST	Castle Rocks	59.55 335	P	P	02 54 58.9	+0.1
CAST	Castle Rocks	59.55 335	P	P	02 54 59.2	+0.4
	baz=115,SNR=6.1					
MLY	Manley	59.77 337	P	P	02 55 00.7	+0.3
MLY	Manley	59.77 337	P	P	02 55 00.9	+0.6
	baz=118					
M19K	Big River Lodg	59.90 333	P	P	02 55 02.2	+1.0
	baz=112					
N18K	Kilae Creek	60.11 331	P	P	02 55 02.8	+0.1
G23K	Bananza Creek	60.33 339	P	P	02 55 04.4	+0.3
	baz=119					
K20K	Telida	60.34 335	P	P	02 55 03.6	-0.6
K20K	Telida	60.34 335	P	P	02 55 04.6	+0.4
	baz=113					
H22K	Ishtalitna Cre	60.41 338	P	P	02 55 05.0	+0.3
	baz=117					
E24K	Your Creek	60.52 341	P	P	02 55 05.9	+0.5
	baz=122					
D25K	Kavik River	60.57 342	P	P	02 55 06.4	+0.7
	baz=124					
J20K	Nowinta River	60.71 335	P	P	02 55 07.3	+0.6
	baz=114					
H21K	Melozitna Rive	60.83 337	P	P	02 55 07.5	0.0
H21K			IAmb	IAmb	02 55 47.4	
	comp=Z,4.9nm,1.1s					
E23K	Chandalar	60.88 340	P	P	02 55 09.7	+1.8
	baz=120					
G22K	Bettles	60.95 339	P	P	02 55 08.9	+0.6
	baz=118					
L18K	Granite Mounta	61.02 333	P	P	02 55 09.1	+0.3
	baz=110					
TOLK	Toolik Lake Re	61.16 341	P	P	02 55 09.7	-0.1
TOLK			IAmb	IAmb	02 55 11.0	
	comp=Z,3.8nm,0.8s					
TOLK	Toolik Lake Re	61.16 341	P	P	02 55 10.5	+0.7
	baz=121					
J19K	Poorman	61.23 335	P	P	02 55 10.9	+0.7
	baz=112,SNR=5.2					
IMAR	Indian Mountai	61.32 337	P	P	02 55 10.3	-0.5
J18K	Innoko River	61.48 334	P	P	02 55 12.7	+0.7
	baz=111					
E22K	Anaktuvuk Pass	61.63 340	P	P	02 55 13.3	+0.4
	baz=118					
D23K	Nanushuk River	61.68 341	P	P	02 55 14.5	+1.3
	baz=120					
F21K	Alatna River	61.77 339	P	P	02 55 15.1	+1.3
	baz=116					
D22K	Ayikyak River	62.27 341	P	P	02 55 17.9	+0.8
	baz=118					
PLCA	Paso Flores	62.48 157	P	P	02 55 26.9	+7.9
PLCA	Paso Flores	62.48 157	P	P	02 55 19.7	+0.7
	comp=Z,1.4nm,1.0s,baz=331,slow=10,SNR=2.1					
PLCA			LR	LR	03 17 38.1	
	comp=Z,63nm,18.8s,baz=332,slow=31					
	comp=Z,1.4nm,1.0s					
E21K	Killik River	62.48 340	P	P	02 55 19.2	+0.5
	baz=116					
F20K	Avaraart Lake	62.49 338	P	P	02 55 19.2	+0.6
	baz=114					
G18K	Tagagawik	63.13 336	P	P	02 55 24.2	+1.2
	baz=110					
E20K	Nigu River	63.15 339	P	P	02 55 23.4	+0.3
	baz=114					
B22K	Teshekpuk Lake	63.19 342	P	P	02 55 24.0	+0.8
	baz=118					
K15K	Wolf Creek Mou	63.19 332	P	P	02 55 24.2	+0.8
L14K	Kuka Creek	63.47 331	P	P	02 55 26.1	+0.9
	baz=104					
D20K	Etivluk River	63.48 340	P	P	02 55 25.8	+0.5
	baz=114					
D19K	Kuna River	63.90 339	P	P	02 55 28.6	+0.5
	baz=112					
B20K	Meade River	64.19 341	P	P	02 55 30.6	+0.8
	baz=114					
J14K	Nanvaranak Lak	64.22 332	P	P	02 55 31.2	+1.1
	baz=104					
C18K	Utukok River	65.01 339	P	P	02 55 35.0	-0.3
SUMG	Summit	65.47 17	P	P	02 55 37.1	-1.5
SUMG			IAmb	IAmb	02 55 37.8	
	comp=Z,11nm,1.5s					
SPITS	Spitsbergen Ar	78.79 11	P	P	02 56 57.1	-0.7
	comp=Z,9.5nm,1.0s,baz=254,slow=10,SNR=1.9					
SPITS			LR	LR	03 33 35.8	
	comp=Z,60nm,18.3s,baz=280,slow=37					
	comp=Z,9.5nm,1.0s					
EKA	Eskdalemuir Ar	79.40 35	P	P	02 57 01.1	-0.4
	comp=Z,2.5nm,0.8s,baz=286,slow=4.2,SNR=3.6					
	comp=Z,2.5nm,0.8s					
ESDC	Sonseca Array	82.80 51	P	P	02 57 19.6	-0.4
	comp=Z,0.5nm,0.8s,baz=318,slow=5.8,SNR=5.1					
	comp=Z,0.5nm,0.8s					
MDT	Midelt	84.14 58	LR	LR	03 30 29.0	
	comp=Z,21nm,19.6s,baz=244,slow=33					
NOA	NORSAR Array B	84.73 27	LR	LR	03 37 31.5	
	comp=Z,14nm,18.4s,baz=295,slow=37					
VRAC	Vranov	92.83 37	LR	LR	03 43 38.2	
	comp=Z,26nm,18.1s,baz=311,slow=38					
AKASG	Malin Array Be	98.76 31	LR	LR	03 47 54.3	
	comp=Z,17nm,18.3s,baz=18,slow=38					
WRA	Warramunga Arr	130.16 258	PKP	PKPdf	03 04 06.0	-0.3
	comp=Z,0.3nm,0.6s,baz=83,slow=2.9,SNR=4.6					
PZH	PanZhiHua	133.05 335	PKP	PKiKP	03 04 12.9	-0.1

*IDC **11** 02:48:14.1±1.1, 7°.99S×123°.89E, h0km, mb3.8/4, mbtmp3.8/8, ML3.6/4, MS3.3/10, Error ellipse: s-maj=44.5km s-min=17.2km az=71.0*
*DJA **11** 02:48:15.7±0.3, 8°S±3°×12°3E±°, h10km, M4.3/9, mb4.6/6, mB6.3/1, MLv4.2/9, Mw(mB)6.0/1*
ISC 11 02:48:16.1±0.8, **8°12S**±0°.06×**123°.55E**±0°.08, **h10km, n30,** σ2S26/23, **mb3.9**/4, **MS3.5**/6, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	1.40	248	P	Pn	02 48 41.9	+0.2
MMRI	Maumere	1.40	248	P	Pn	02 48 39.8	-1.9
MMRI				S	Sb	02 48 59.3	-0.9
SOEI	Soe	1.78	156	P	Pn	02 48 49.4	+2.3
SOEI	Soe	1.78	156	P	Pn	02 48 47.9	+0.8
BATI	Baumata	2.08	177	P	Pn	02 48 53.8	+2.6
BATI	Baumata	2.08	177	Pn	Pn	02 48 53.7	+2.6
	41nm,0.3s,baz=3.5,slow=5.6,SNR=25						
BATI				Sn	Sn	02 49 20.1	+3.0
	14nm,0.3s,baz=342,slow=20,SNR=9.8						
	236nm,0.5s						
BASI	Baing, Sumba	3.60	234	P	Pn	02 49 10.1	-2.0
BKSI	Bulukumba	4.39	309	P	Pn	02 49 22.4	-0.5
KAPI	Kappang	4.87	309	P	Pn	02 49 33.6	+4.1
KAPI	Kappang	4.87	309	Pn	Pn	02 49 29.3	-0.3
	1.4nm,0.3s,baz=131,slow=18,SNR=2.5						
KAPI				Sn	Sn	02 50 30.0	+4.0
	2.9nm,0.3s,baz=168,slow=20,SNR=2.0						
KAPI				LR	LR	02 51 31.5	
	comp=Z,470nm,18.2s,baz=121,slow=39						
	3.4nm,0.3s						
PLAI	Plampang	5.75	263	P	Pn	02 49 37.6	-4.1
PLAI	Plampang	5.75	263	P	Pn	02 49 40.5	-1.2
	65nm,0.8s,0.3nm						
TWSI	Taliwang, Sumb	6.62	264	P	Pn	02 49 52.2	-1.4
	36nm,1.0s,0.1nm						
KNRA	Kununurra	9.08	146	P	Pn	02 50 26.9	-0.5
MPSI	Mapaga	9.15	336	P	Pn	02 50 26.9	-1.5
	9.2nm,0.8s						
JAGI	Jajag, Banyuwa	9.31	267	P	Pn	02 50 23.8	-6.7
	27nm,1.2s						
SIJI	Sorong	10.53	47	LR	LR	02 55 07.7	
	comp=Z,142nm,20.1s,baz=92,slow=41						
DAV	Davao City (W)	15.22	8	LR	LR	02 58 50.2	
	comp=Z,43nm,19.5s,baz=301,slow=42						
WRA	Warramunga Arr	15.73	139	Pn	Pn	02 51 54.1	-3.9
	0.2nm,0.3s,baz=316,slow=13,SNR=23						
WRA				Sn	Sn	02 54 39.6	-13
	0.1nm,0.3s,baz=317,slow=20,SNR=5.0						
	2.1nm,0.6s						
ASAR	Alice Springs	18.37	148	P	Pn	02 52 28.0	-3.3
	0.2nm,0.3s,baz=320,slow=11,SNR=14						
ASAR				LR	LR	02 59 15.7	
	comp=Z,77nm,20.9s,baz=331,slow=36						
	1.5nm,0.7s						
CTA	Charters Tower	24.99	121	LR	LR	03 03 51.8	
	comp=Z,44nm,19.6s,baz=268,slow=38						
CMAR	Chiang Mai Arr	35.87	318	LR	LR	03 12 03.4	
	comp=Z,22nm,20.4s,baz=140,slow=40						
URZ	Urewera	56.67	131	LR	LR	03 21 49.0	
	comp=Z,28nm,20.3s,baz=32,slow=36						
SONM	Songino Array	57.74	346	P	P	02 58 06.8	-0.6
	0.9nm,0.9s,baz=158,slow=5.9,SNR=2.7						
	0.9nm,0.9s						
MKAR	Makanchi Array	65.83	330	P	P	02 59 01.7	-0.1
	0.9nm,0.8s,baz=131,slow=5.9,SNR=4.5						
	0.9nm,0.8s						
ZALV	Zalesovo Beam	69.91	337	P	P	02 59 27.6	+0.3
	0.4nm,0.4s,baz=157,slow=4.7,SNR=4.0						
	0.4nm,0.4s						
QSPA	South Pole Qui	81.87	180	P	P	03 00 36.3	+0.7
	0.7nm,0.5s,baz=323,slow=2.1,SNR=2.2						
	0.7nm,0.5s						
BELG	Belogornoye	87.89	324	LR	LR	03 45 19.1	
	comp=Z,34nm,18.5s,baz=148,slow=39						
KIRV	Kirov	88.72	330	LR	LR	03 43 04.5	
	comp=Z,27nm,21.1s,baz=350,slow=37						
SNAA	Sanae	93.03	195	LR	LR	03 42 34.3	
	comp=Z,36nm,18.2s,baz=58,slow=35						

IDC 11 02:54:05.3±9.6, **17°.14S**×**176°.28W**, **h0km**, **mb3.7**/3, **mbtmp3.7**/3, **Error ellipse: s-maj=426.1km s-min=37.5km az=141.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.77	259	P	P	03 02 36.1	-0.9
	0.1nm,0.3s,baz=95,slow=8.2,SNR=5.5						
	0.1nm,0.3s						
ASAR	Alice Springs	46.95	253	P	P	03 02 38.8	+0.5
	0.8nm,0.4s,baz=88,slow=7.9,SNR=11						
	0.8nm,0.4s						
ILAR	Eielson Array	84.70	12	P	P	03 06 40.6	0.0
	1.0nm,1.2s,baz=224,slow=3.8,SNR=5.8						
	1.0nm,1.2s						

*REN **11** 03:01:25.9±1.6, 41°.98N±0°.03×118°.58W±0°.05, h11km±6km, ML3.5/4, ML3.2/124(NEIC), Error ellipse: s-maj=5.7km s-min=4.1km az=66.0*
*NEIC **11** 03:01:25.7±1.4, 41°.97N±0°.03×118°.61W±0°.04, h12km±6km, Error ellipse: s-maj=5.7km s-min=3.1km az=224.0*
*ANF **11** 03:01:26.1±1.4, 41°.96N×118°.51W, h10km, ML3.8/6, Error ellipse: s-maj=20.5km s-min=7.1km az=108.0*
ISC 11 03:01:26.2±0.9, **41°.97N**±0°.03×**118°.59W**±0°.04, **h12**km, **n104**, σ0S99/115, **Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WVOR	Wild Horse Val	0.47	356		Pg	03 01 34.6	-0.9
WVOR					Sg	03 01 41.3	-0.4
WVOR	Wild Horse Val	0.47	356	IAML		03 01 41.5	
	1μm,0.5s						
WVOR				IAML		03 01 41.6	
	2μm,0.6s						
LKVW	Lakeview	1.34	282		Pn	03 01 49.9	-1.0
J08A	Circle Bar Ran	1.39	4		Pn	03 01 50.2	-1.4
J08A	Circle Bar Ran	1.39	4	IAML		03 02 11.3	
	comp=E,660nm,0.3s						
PLTX	Planet X, Gerl	1.42	208		Pn	03 01 51.1	-0.9
PLTX					Sb	03 02 11.0	+0.2
K05A	Summer Lake	1.87	295	Pn	Pn	03 01 57.7	-0.4
I07A	Izee	2.22	343	Pn	Pn	03 02 02.2	-0.7
LASM	Arnica Sink	2.26	262		Pn	03 02 02.4	-1.2
LTIM	Timbered Crate	2.31	251		Pn	03 02 03.5	-0.8
PAHR	Pah Rah Range	2.34	195	Pn	Pn	03 02 03.7	-0.9
PAHR				IAML		03 02 40.2	
	comp=E,100nm,0.9s						
PAHR				IAML		03 02 41.4	
	comp=N,84nm,0.7s						
J05D	Fort Rock, OR	2.35	305	Pn	Pn	03 02 04.5	-0.3
K04D	Chiloquin, OR	2.44	287		Pn	03 02 05.2	-0.7
K04D				IAML		03 02 57.5	
	comp=N,232nm,1.0s						
K04D				IAML		03 03 04.6	
	comp=E,237nm,1.0s						
MFID	Camas Ranch	2.50	54	Pn	Pn	03 02 06.0	-0.8
PINE	Pine Mountain	2.51	317		Pn	03 02 07.1	0.0
PINE				IAML		03 02 55.9	
	comp=N,84nm,1.2s						
PINE				IAML		03 03 03.9	
	comp=E,91nm,0.8s						
L04D	Klamath Falls	2.77	276	Pn	Pn	03 02 09.3	-1.3
ELK	Elko	2.80	115	Pn	Pn	03 02 08.9	-2.2
ELK				IAML		03 02 52.0	
	comp=E,109nm,0.3s						
ELK				IAML		03 02 52.3	
	comp=E,160nm,0.5s						
MPK	Martis Peak	2.88	203		Pn	03 02 10.8	-1.5
MPK				IAML		03 03 00.2	
	comp=E,115nm,0.9s						
MPK				IAML		03 03 01.7	
	comp=N,109nm,0.6s						
KVN	Kaiserville	2.94	173		Pn	03 02 11.9	-0.9
KVN				IAML		03 02 57.4	
	comp=E,130nm,0.6s						
KVN				IAML		03 03 00.7	
	comp=N,153nm,0.7s						
PNTR	Pine Nut	2.98	195		Pn	03 02 13.9	+0.4
PNTR				IAML		03 03 05.1	
	comp=N,116nm,0.6s						
PNTR				IAML		03 03 10.7	
	comp=E,124nm,1.1s						
YERR	Yerington	3.02	190		Pn	03 02 13.3	-0.7
YERR				IAML		03 03 03.5	
	comp=N,116nm,0.8s						
BMO	Blue Mountains	3.03	18	Pn	Pn	03 02 13.4	-0.7
BMO				IAML		03 03 03.1	
	comp=N,58nm,0.3s						
BMO				IAML		03 03 05.6	
	comp=N,54nm,0.7s						
YBH	Yreka Blue Hor	3.09	267	Pn	Pn	03 02 13.7	-1.2
I05D	Terrebonne, OR	3.11	321		Pn	03 02 14.1	-1.0

I05D				IAML		03 03 12.1	
	comp=N,49nm,1.5s						
I05D				IAML		03 03 25.0	
	comp=E,44nm,2.6s						
EMB	**Emerald Bay**	**3.20 202**		Pn	**Pn**	**03 02 16.3**	**-0.3**
EMB				IAML		03 03 13.2	
	comp=N,55nm,0.8s						
EMB				IAML		03 03 13.5	
	comp=E,48nm,1.1s						
ORV	**Oroville**	**3.27 223**			**Pn**	**03 02 15.9**	**-1.3**
Q09A	**Carvers**	**3.31 161**	Pn		**Pn**	**03 02 17.4**	**-0.6**
G08A	**Pilot Rock**	**3.33 356**	Pn		**Pn**	**03 02 15.4**	**-2.8**
I04A	**Tendick Farm,**	**3.35 304**	Pn		**Pn**	**03 02 17.5**	**-0.9**
HLID	**Hailey**	**3.46 61**	Pn		**Pn**	**03 02 19.3**	**-0.8**
HLID				IAML		03 03 14.3	
	comp=E,97nm,0.9s						
HLID	**Hailey**	**3.46 61**	P		**Pn**	**03 02 19.3**	**-0.8**
	baz=244						
HLID				S	**Sn**	**03 03 01.4**	**+0.2**
	baz=244						
WAKR	**Walker**	**3.52 191**			**Pn**	**03 02 21.4**	**+0.5**
AFDM	**Forest Hills D**	**3.52 212**			**Pn**	**03 02 21.1**	**+0.3**
NVAR	**Mina Array Bea**	**3.54 176**			**Pn**	**03 02 21.1**	**-0.1**
NV11	**Mina Array Sit**	**3.55 174**			**Pn**	**03 02 20.8**	**-0.5**
NV11				IAML		03 03 22.9	
	comp=N,34nm,1.0s						
NV11				IAML		03 03 33.5	
	comp=E,35nm,1.8s						
G06A	**Carlson Farm,**	**3.59 336**	Pn		**Pn**	**03 02 20.8**	**-0.9**
DBO	**Dodson Butte**	**3.62 290**	Pn		**Pn**	**03 02 22.2**	**0.0**
DBO				IAML		03 02 58.9	
	comp=E,35nm,4.0s						
DBO				IAML		03 03 14.4	
	comp=N,34nm,4.7s						
PLID	**Pearl Lake**	**3.64 30**			**Pn**	**03 02 21.4**	**-1.3**
L02F	**Cave Junction**	**3.71 274**			**Pn**	**03 02 23.0**	**-0.4**
LHV	**Little Huntoon**	**3.71 179**			**Pn**	**03 02 22.6**	**-0.7**
H04A	**Detroit Lake**	**3.77 317**	Pn		**Pn**	**03 02 24.6**	**+0.4**
G05A	**Wamic**	**3.83 330**	Pn		**Pn**	**03 02 24.2**	**-0.7**
G05A				IAML		03 02 50.8	
	comp=N,37nm,4.3s						
G05A				IAML		03 03 44.0	
	comp=E,36nm,3.6s						
K02D	**Willamette Mer**	**3.83 283**	Pn		**Pn**	**03 02 24.9**	**-0.2**
I03D	**Drain, OR**	**3.90 298**	Pn		**Pn**	**03 02 26.6**	**+0.7**
I03D				IAML		03 03 20.0	
	comp=N,23nm,4.2s						
I03D				IAML		03 03 42.0	
	comp=E,27nm,3.5s						
H04D	**Lebanon**	**3.96 312**	Pn		**Pn**	**03 02 25.9**	**-0.9**
KHMM	**Horse Mountain**	**4.02 256**	Pn		**Pn**	**03 02 26.6**	**-1.1**
KHMM				IAML		03 04 21.8	
	comp=E,35nm,4.2s						
KHMM				IAML		03 04 23.4	
	comp=N,33nm,3.2s						
TPH	**Tonopah**	**4.03 164**	Pn		**Pn**	**03 02 26.9**	**-1.0**
F10A	**Beach Ranch, E**	**4.12 13**	Pn		**Pn**	**03 02 28.6**	**-0.5**
F10A				IAML		03 03 50.5	
	comp=E,36nm,1.3s						
F10A				IAML		03 03 53.5	
	comp=N,24nm,0.8s						
CMB	**Columbia Colle**	**4.16 200**	Pn		**Pn**	**03 02 30.2**	**+0.6**
R11B	**Troy Canyon, C**	**4.29 147**			**Pn**	**03 02 32.5**	**+1.1**
R11B				IAML		03 03 42.0	
	comp=N,18nm,0.6s						
R11B				IAML		03 03 42.6	
	comp=E,19nm,0.9s						
R11B	**Troy Canyon, C**	**4.29 147**	P		**Pn**	**03 02 31.6**	**+0.2**
	baz=329						
R11B				S	**Sn**	**03 03 21.3**	**-0.1**
	baz=329						
BGU	**Big Grassy Mou**	**4.31 102**			**Pn**	**03 02 30.9**	**-0.8**
BGU				IAML		03 03 41.6	
	comp=N,36nm,0.8s						
BGU				IAML		03 03 43.5	
	comp=E,53nm,0.6s						
MLAC	**Mammoth, Mammo**	**4.34 183**	P		**Pn**	**03 02 32.2**	**0.0**
	baz=2.5						
MDPB	**Devils Postpil**	**4.35 185**	Pn		**Pn**	**03 02 31.8**	**-0.6**
HVU	**Hansel Valley**	**4.35 91**			**Pn**	**03 02 31.9**	**-0.3**
OMMB	**Old Mammoth Mi**	**4.36 184**	Pn		**Pn**	**03 02 31.9**	**-0.7**
SPR3	**Spring Creek 3**	**4.40 131**			**Pn**	**03 02 31.6**	**-1.4**
SPR3				IAML		03 03 48.8	
	comp=N,26nm,1.1s						
SPR3				IAML		03 03 54.7	
	comp=E,22nm,0.7s						
HAWA	**Hanford**	**4.47 352**	Pn		**Pn**	**03 02 32.2**	**-1.6**
HAWA				IAML		03 03 56.5	
	comp=E,21nm,0.8s						
DSP	**Deep Springs**	**4.62 174**	Pn		**Pn**	**03 02 35.7**	**-0.1**
DSP				IAML		03 03 54.8	
	comp=E,15nm,0.8s						
SPUT	**South Promonto**	**4.65 96**			**Pn**	**03 02 37.0**	**+0.6**
DUG	**Dugway, Tooele**	**4.71 110**			**Pn**	**03 02 36.6**	**-0.6**
DUG	**Dugway, Tooele**	**4.71 110**	P		**Pn**	**03 02 36.7**	**-0.6**
	baz=294						
DUG				S	**Sn**	**03 03 30.1**	**-1.7**
	baz=294						
GMN	**Gold Mountain**	**4.77 167**			**Pn**	**03 02 36.0**	**-2.2**
GMN				IAML		03 03 57.1	
	comp=N,36nm,0.7s						
GMN				IAML		03 04 04.0	
	comp=E,18nm,0.9s						
S11A	**Rachel**	**4.84 152**	Pn		**Pn**	**03 02 37.1**	**-1.9**
PSUT	**Pine Spring**	**4.99 132**			**Pn**	**03 02 40.9**	**-0.2**
GRAC	**Grapevine Rang**	**5.05 169**	P		**Pn**	**03 02 42.0**	**+0.1**
	baz=350						
GRAC				S	**Sn**	**03 03 40.1**	**-0.1**
	baz=350						
HWUT	**Hardware Ranch**	**5.26 92**			**Pn**	**03 02 44.7**	**-0.2**
HWUT				IAML		03 04 12.5	
	comp=E,23nm,1.0s						
PRN	**Pahroc Range**	**5.31 148**			**Pn**	**03 02 45.1**	**-0.3**
NLU	**North Lily Min**	**5.33 110**	Pn		**Pn**	**03 02 45.4**	**-0.3**
NLU				IAML		03 04 18.6	
	comp=N,15nm,0.9s						
NLU				IAML		03 04 23.4	
	comp=E,18nm,0.9s						
TPNV	**Topopah Spring**	**5.33 159**	Pn		**Pn**	**03 02 44.7**	**-1.1**
TPNV	**Topopah Spring**	**5.33 159**	P		**Pn**	**03 02 45.3**	**-0.4**
	baz=341						
TPNV				S	**Sn**	**03 03 48.3**	**+1.2**
	baz=341						
WCT	**Wildcat Mounta**	**5.39 163**	Pn		**Pn**	**03 02 46.6**	**+0.1**
DLMT	**Dillon**	**5.51 50**			**Pn**	**03 02 48.7**	**+0.4**
CWC	**Cottonwood Cre**	**5.53 176**	P		**Pn**	**03 02 48.2**	**-0.3**
	baz=356						
FURC	**Furnace Creek,**	**5.65 166**	P		**Pn**	**03 02 50.6**	**+0.6**
	baz=347						
FURC				S	**Sn**	**03 03 56.4**	**+1.6**
	baz=347						
BPMT	**Black Pine Rid**	**5.80 38**	Pn		**Pn**	**03 02 53.1**	**+0.9**
TPAW	**Teton Pass**	**5.83 72**	Pn		**Pn**	**03 02 52.6**	**-0.1**
MSO	**Missoula**	**5.89 33**	P		**Pn**	**03 02 53.0**	**-0.4**
	baz=216						
MSO				S	**Sn**	**03 04 02.2**	**+1.4**
	baz=216						
IMW	**Indian Meadow**	**5.94 68**	Pn		**Pn**	**03 02 53.2**	**-1.0**
MPMC	**Manual Prospec**	**5.96 171**	P		**Pn**	**03 02 55.3**	**+0.8**
	baz=352						
SNOW	**Snow King Moun**	**5.96 73**	Pn		**Pn**	**03 02 53.7**	**-0.8**
GWY	**Greenwater Val**	**5.96 165**	Pn		**Pn**	**03 02 53.9**	**-0.6**
CCUT	**Cedar City**	**5.97 136**	Pn		**Pn**	**03 02 54.2**	**-0.4**
MOOW	**Moose Ponds**	**6.04 70**	Pn		**Pn**	**03 02 54.5**	**-1.0**
SHPR	**Sheep Range**	**6.07 153**	Pn		**Pn**	**03 02 55.6**	**-0.3**
BSUT	**Blindstream Ca**	**6.07 101**	Pn		**Pn**	**03 02 54.0**	**-2.1**
LOHW	**Long Hollow**	**6.10 72**	Pn		**Pn**	**03 02 56.6**	**+0.2**
QSM	**Queen of Sheba**	**6.14 167**	Pn		**Pn**	**03 02 57.2**	**+0.4**
BOZ	**Bozeman (W)**	**6.21 52**	P		**Pn**	**03 02 58.0**	**+0.2**
	baz=237						
BOZ				S	**Sn**	**03 04 09.2**	**+0.5**
	baz=237						
TMUT	**Trail Mountain**	**6.22 113**	Pn		**Pn**	**03 02 58.6**	**+0.6**
CHMT	**Chamberlain Mo**	**6.25 36**			**Pn**	**03 02 58.2**	**-0.2**
ISA	**Isabella, Lake**	**6.30 179**	P		**Pn**	**03 02 59.1**	**+0.2**
	baz=359						
ISA				S	**Sn**	**03 04 10.2**	**-0.6**
	baz=359						
ELMT	**Elliston**	**6.32 42**	Pn		**Pn**	**03 02 59.4**	**+0.1**
H17A	**Grant Village**	**6.34 65**	P		**Pn**	**03 02 59.6**	**-0.1**
	baz=250						
H17A				S	**Sn**	**03 04 14.7**	**+2.5**
	baz=250						
NEW	**Newport**	**6.38 9**	P		**Pn**	**03 02 59.6**	**-0.5**
	baz=190						
NEW				S	**Sn**	**03 04 16.7**	**+3.9**
	baz=190						
LCMT	**Little Creek M**	**6.45 138**	Pn		**Pn**	**03 03 00.8**	**-0.3**
PKCU	**Pink Cliffs**	**6.62 131**	Pn		**Pn**	**03 03 02.1**	**-1.5**
KNB	**Kanab**	**6.66 136**	Pn		**Pn**	**03 03 04.7**	**+0.6**
LYMT	**Lyon Mountain**	**6.73 40**	Pn		**Pn**	**03 03 04.5**	**-0.5**
BW06	**Boulder Array**	**6.74 80**	P		**Pn**	**03 03 05.7**	**+0.6**
	baz=266						
V12A	**Nelson**	**6.88 154**	Pn		**Pn**	**03 03 06.4**	**-0.6**
RDMU	**Red Mountain**	**6.94 99**	Pn		**Pn**	**03 03 06.6**	**-1.3**
U15A	**North Rim**	**7.38 136**	Pn		**Pn**	**03 03 14.6**	**+0.5**
W13A	**Hualapai Mount**	**7.79 150**	Pn		**Pn**	**03 03 18.4**	**-1.2**

NOU ***11*** *03:42:02.2, 41.°30S×172.°66E, h165km, MLv3.9/8, South Island, New Zealand*
WEL ***11*** *03:42:04.8±1.2, 41.°S±7.°×17.°3E±.°, h110km±8km, M3.1/13, MLv3.1/13, Error ellipse: s-maj=0.0km s-min=0.0km az=154.2, confirmed*
ISC 11 03:42:03.0±1.6, **41.°29S**±0.°05×**172.°66E**±0.°05, **h134**km±8km, **n58**, σ1°**10**/66, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRNZ	**Matariki Terra**	**0.14**	**146**	P	**Pn**	**03 42 21.7**	**+0.5**
MRNZ				S	**Sn**	**03 42 34.4**	**-0.6**
TKNZ	**Takaka Hill**	**0.34**	**42**	P	**Pn**	**03 42 21.9**	**+0.1**
TKNZ				S	**Sn**	**03 42 35.1**	**-0.9**
QRZ	**Quartz Range**	**0.47**	**348**	P	**Pn**	**03 42 22.4**	**+0.1**
QRZ				S	**Sn**	**03 42 35.5**	**-1.5**
THZ	**Tophouse**	**0.51**	**159**	P	**Pn**	**03 42 23.6**	**+0.9**
THZ				S	**Sn**	**03 42 38.1**	**+0.5**
NNZ	**Nelson**	**0.55**	**83**	P	**Pn**	**03 42 23.2**	**+0.4**
NNZ				S	**Sn**	**03 42 37.1**	**-0.6**
DSZ	**Denniston Nort**	**0.79**	**234**	P	**Pn**	**03 42 25.1**	**+0.6**
DSZ				S	**Sn**	**03 42 39.8**	**-1.0**
TUWZ	**Tuamarina**	**0.98**	**99**	P	**Pn**	**03 42 26.6**	**+0.6**
TUWZ				S	**Sn**	**03 42 43.5**	**0.0**
BSWZ	**Blackbirch Sta**	**1.01**	**115**	P	**Pn**	**03 42 27.0**	**+0.7**
DUWZ	**D'Urville Isla**	**1.07**	**64**	P	**Pn**	**03 42 27.4**	**+0.4**
DUWZ				S	**Sn**	**03 42 44.8**	**-0.4**
TCW	**Tory Channel**	**1.22**	**87**	P	**Pn**	**03 42 28.8**	**+0.5**
KHZ	**Kahutara**	**1.31**	**150**	P	**Pn**	**03 42 30.3**	**+1.1**
KHZ	**Kahutara**	**1.31**	**150**	P	**Pn**	**03 42 30.3**	**+1.1**
LTZ	**Lake Taylor**	**1.52**	**191**	P	**Pn**	**03 42 32.8**	**+1.2**
SNZO	**South Karori**	**1.54**	**92**	P	**Pn**	**03 42 34.9**	**+3.1**
BHW	**Baring Head**	**1.67**	**95**	P	**Pn**	**03 42 33.1**	**-0.2**
INZ	**Inchbonnie**	**1.70**	**212**	P	**Pn**	**03 42 34.3**	**+0.8**
GVZ	**Greta Valley S**	**1.70**	**171**	P	**Pn**	**03 42 34.8**	**+1.2**
KIW	**Kapiti Island**	**1.76**	**77**	P	**Pn**	**03 42 33.8**	**-0.4**
CAW	**Cannon Point**	**1.83**	**85**	P	**Pn**	**03 42 34.5**	**-0.5**
OGWZ	**Otaki Gorge**	**1.96**	**77**	P	**Pn**	**03 42 36.0**	**-0.6**
PLWZ	**Palliser**	**1.98**	**99**	P	**Pn**	**03 42 36.0**	**-0.8**
OXZ	**Oxford**	**2.09**	**192**	P	**Pn**	**03 42 38.5**	**+0.3**
PAWZ	**Paruwai Farm**	**2.09**	**94**	P	**Pn**	**03 42 37.5**	**-0.8**
MTW	**Mount Morrison**	**2.15**	**88**	P	**Pn**	**03 42 37.6**	**-1.3**
HOWZ	**Holdsworth Sta**	**2.20**	**81**	P	**Pn**	**03 42 38.4**	**-1.1**
KHEZ	**Kahui Hut**	**2.25**	**28**	P	**Pn**	**03 42 41.0**	**+0.7**
LREZ	**Lake Rotokare**	**2.26**	**37**	P	**Pn**	**03 42 41.1**	**+0.8**
WVZ	**Waitaha Valley**	**2.29**	**218**	P	**Pn**	**03 42 41.3**	**+0.7**
MRZ	**Mangatainoka R**	**2.30**	**75**	P	**Pn**	**03 42 39.5**	**-1.3**
WAZ	**Wanganui**	**2.34**	**50**	P	**Pn**	**03 42 42.4**	**+1.0**
MHCZ	**Mount Hutt**	**2.38**	**199**	P	**Pn**	**03 42 42.2**	**+0.3**
MQZ	**McQueen's Vall**	**2.42**	**180**	P	**Pn**	**03 42 42.5**	**+0.2**
TMWZ	**Te Maipa**	**2.45**	**87**	P	**Pn**	**03 42 41.7**	**-1.0**
OKCZ	**Okains Bay**	**2.45**	**173**	P	**Pn**	**03 42 43.6**	**+0.8**
RACZ	**Rakaia**	**2.47**	**189**	P	**Pn**	**03 42 42.5**	**-0.4**
GCSZ	**Gaunt Creek Bo**	**2.66**	**220**	P	**Pn**	**03 42 45.9**	**+0.6**
VRZ	**Vera Road**	**2.69**	**37**	P	**Pn**	**03 42 46.0**	**+0.2**
RPZ	**Rata Peaks**	**2.70**	**205**	P	**Pn**	**03 42 46.0**	**+0.2**
RPZ	**Rata Peaks**	**2.70**	**205**	P	**Pn**	**03 42 46.0**	**+0.2**
BFZ	**Birch Farm**	**2.78**	**79**	P	**Pn**	**03 42 46.0**	**-0.9**
BFZ	**Birch Farm**	**2.78**	**79**	P	**Pn**	**03 42 45.6**	**-1.3**
PKVZ	**Pokaka**	**2.87**	**47**	P	**Pn**	**03 42 48.2**	**+0.1**
ARCZ	**Arundel**	**2.87**	**202**	P	**Pn**	**03 42 47.9**	**-0.1**
WNVZ	**Wahianoa**	**2.98**	**50**	P	**Pn**	**03 42 52.3**	**+2.7**
MOVZ	**Moawhango**	**3.02**	**53**	P	**Pn**	**03 42 49.4**	**-0.7**
FOZ	**Fox Glacier**	**3.08**	**222**	P	**Pn**	**03 42 50.8**	**+0.2**
HIZ	**Hauiti**	**3.25**	**32**	P	**Pn**	**03 42 52.5**	**-0.4**
HIZ	**Hauiti**	**3.25**	**32**	P	**Pn**	**03 42 52.4**	**-0.4**
KRHZ	**Kereru**	**3.27**	**61**	P	**Pn**	**03 42 53.4**	**+0.1**
TMZ	**Timaru**	**3.32**	**201**	P	**Pn**	**03 42 53.8**	**-0.1**
BKZ	**Black Stump Fm**	**3.62**	**55**	P	**Pn**	**03 42 59.2**	**+1.3**
BKZ	**Black Stump Fm**	**3.62**	**55**	P	**Pn**	**03 43 00.5**	**+2.7**
MRHZ	**Matea Rd**	**3.79**	**51**	P	**Pn**	**03 43 01.2**	**+1.1**
NMHZ	**Naumai**	**3.86**	**57**	P	**Pn**	**03 43 05.3**	**+4.3**
JCZ	**Jackson Bay**	**3.99**	**224**	P	**Pn**	**03 43 02.8**	**+0.1**
JCZ	**Jackson Bay**	**3.99**	**224**	P	**Pn**	**03 43 02.8**	**+0.1**
ODZ	**Otahua Downs**	**4.03**	**201**	P	**Pn**	**03 43 03.2**	**0.0**
ODZ	**Otahua Downs**	**4.03**	**201**	P	**Pn**	**03 43 03.1**	**0.0**

TEH ***11*** *03:58:19.3, 30.°71N×57.°38E, h9km±32km, ML3.8*
DSN ***11*** *03:58:57.5±1.1, 28.°13N×57.°56E, h15km, ML2.7/7, Error ellipse: s-maj=30.4km s-min=10.6km az=115.0*
ISC 11 03:58:20.0±0.9, **30.°74N**±0.°04×**57.°42E**±0.°03, **h10**km, **n34**, σ2°**21**/32, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.80**	**287**	Pg	**Pb**	**03 58 35.2**	**-0.9**
CHMN	**Cheshme madani**	**0.88**	**173**	Pg	**Pb**	**03 58 37.1**	**-0.4**
KHGB	**Koh Gabri**	**0.89**	**247**	Pg	**Pb**	**03 58 36.8**	**-0.9**
TVBK	**TV Kerman**	**0.94**	**218**	Pg	**Pn**	**03 58 38.4**	**-1.2**
NGRK	**Negar Kerman**	**1.24**	**209**	Pg	**Pn**	**03 58 43.8**	**0.0**
NGRK				Sg	**Sn**	**03 59 01.4**	**+0.6**
IBAF	**Bafgh**	**1.81**	**299**	Pg	**Pg**	**03 58 53.3**	**-1.3**
KBAM	**BAM**	**1.83**	**150**	Pn	**Pg**	**03 58 53.7**	**-1.4**
BSRN	**Basiran**	**1.90**	**49**	Pn	**Pb**	**03 58 55.6**	**+0.6**
IKOO	**Kooshah**	**2.16**	**38**	Pn	**Pb**	**03 58 58.7**	**-0.6**
NHDN	**Nehbandan**	**2.35**	**73**	Pn	**Pb**	**03 59 02.6**	**+0.1**
TPRV	**Parvadeh(Tabas**	**2.37**	**345**	Pn	**Pb**	**03 59 01.6**	**-1.3**
ITEG	**Tejag**	**2.43**	**27**	Pn	**Pb**	**03 59 02.3**	**-1.7**
IMEH	**Mehriz**	**2.50**	**286**	Pn	**Pb**	**03 59 02.9**	**-2.2**
TKDS	**Koohdasht(Taba**	**2.88**	**355**	Pn	**Pn**	**03 59 08.4**	**+2.2**
AFRZ	**Afriz**	**3.00**	**26**	Pn	**Pb**	**03 59 10.8**	**-2.9**
ZHDN	**Zahedan**	**3.22**	**114**	Pn	**Pb**	**03 59 14.0**	**-3.4**
TNSJ	**Nastanj**	**3.29**	**348**	Pn	**Pn**	**03 59 13.8**	**+2.1**
ISAD	**Sadrabad**	**3.41**	**291**	Pn	**Pn**	**03 59 15.7**	**+2.2**
SHRT	**Shahrakht**	**3.79**	**39**	Pn	**Pn**	**03 59 21.7**	**+3.2**
IRAM	**Ramesheh**	**4.45**	**285**	Pn	**Pn**	**03 59 30.3**	**+2.6**
SHME	**Shamm**	**4.80**	**194**	P	Pn	03 59 37.0	+4.6
IZEF	**Zefreh**	**4.84**	**298**	Pn	**Pn**	**03 59 35.2**	**+2.0**
KLNJ	**Kolanjah**	**5.02**	**275**	Pn	**Pn**	**03 59 38.1**	**+2.4**
TBJM	**Torbat-e-JAM**	**5.14**	**28**	Pn	**Pn**	**03 59 39.2**	**+2.0**
MSFE	**Esma-Masafi**	**5.47**	**192**	P	**Pn**	**03 59 45.2**	**+3.6**
MSFE				S	Sn	04 00 22.0	-23
MDH	**Madha**	**5.51**	**191**	P	**Pn**	**03 59 44.6**	**+2.5**
SBZV	**Sabzevar**	**5.64**	**2**	Pn	**Pn**	**03 59 47.2**	**+3.0**
ISFB	**Sefidab**	**5.67**	**311**	Pn	**Pn**	**03 59 46.3**	**+1.9**
UOSS	**Minazif**	**5.87**	**191**	P	Pn	03 59 51.0	+3.9
NAZ	**Nazwa, Dubai**	**5.93**	**196**	P	Pn	03 59 52.4	+4.4
ASHO	**Ashiyiah**	**6.15**	**192**	P	**Pn**	**03 59 54.3**	**+3.4**
FAQ	**Al Faqa, Dubai**	**6.18**	**196**	P	**Pn**	**03 59 54.8**	**+3.4**
SOHO	**SOHO**	**6.62**	**187**	P	**Pn**	**03 59 59.3**	**+1.9**
WBK	**Wadi Bani Khal**	**8.21**	**170**	Pn	**Pn**	**04 00 20.3**	**+1.0**

IDC ***11*** *03:59:52.8±1.1, 36.°85N×27.°66E, h0km, mb3.6/4, mbtmp3.5/7, ML3.2/3, MS2.9/3, Error ellipse: s-maj=38.1km s-min=17.0km az=155.0*
ISK ***11*** *03:59:54.0, 36.°98N×27.°65E, h5km, ML3.3/24*
THE ***11*** *03:59:54.1, 36.°97N×27.°69E, h5km±1km, ML3.3/8, Error ellipse: s-maj=1.4km s-min=0.5km az=186.0*
AFAD ***11*** *03:59:54.1±0.0, 36.°97N×27.°68E, h7km±1km, ML3.3*
ATH ***11*** *03:59:55.5, 36.°93N×27.°55E, h30km±3km, ML3.3/8, Manual Solution by A.Papageorgiou First location: 2019/05/02 10:19:55, This location: 2019/05/02 10:19:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 4 km*
ISC 11 03:59:54.8±0.8, **36.°96N**±0.°02×**27.°64E**±0.°02, **h14**km±5km, **n70**, σ1°**09**/99, **mb3.5**/4, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.19**	**303**	P	**Pg**	**04 00 00.1**	**+0.8**
BDRM				S	**Sg**	**04 00 02.3**	**0.0**
BDRM				*i* AML	AML	04 00 04.0	
	comp=E,1μm,0.4s						
DAT	**Datca**	**0.24 193**		Pg	**Pg**	**03 59 59.4**	**-0.7**
DAT				Sg	**Sg**	**04 00 03.7**	**+0.1**
DAT	**Datca**	**0.24 193**		P	**Pg**	**03 59 59.3**	**-0.8**
DAT				S	**Sg**	**04 00 03.3**	**-0.3**
DAT	**Datca**	**0.24 193**		P	**Pg**	**04 00 00.1**	**0.0**
DAT				S	**Sg**	**04 00 03.9**	**+0.3**
DAT				*i* AML	AML	04 00 06.0	
	comp=N,2μm,0.2s						
DAT				*i* AML	AML	04 00 06.0	
	comp=E,2μm,0.2s						
BODT	**Bodrum**	**0.28 291**		Pg	**Pg**	**04 00 00.2**	**-0.6**
BODT				Sg	**Sg**	**04 00 04.5**	**-0.4**
BODT	**Bodrum**	**0.28 291**		P	**Pg**	**04 00 00.2**	**-0.6**
BODT				S	**Sg**	**04 00 05.4**	**+0.5**
MLSB	**Milas**	**0.35 18**		Pg	**Pg**	**04 00 00.7**	**-1.3**
MLSB				Sg	**Sg**	**04 00 06.1**	**-0.8**
TURN	**Turunc**	**0.52 111**		Pg	**Pg**	**04 00 03.5**	**-1.5**
TURN	**Turunc**	**0.52 111**		P	**Pg**	**04 00 03.7**	**-1.3**
TURN				*i* AML	AML	04 00 14.0	
	comp=N,1μm,0.3s						
TURN				*i* AML	AML	04 00 18.0	
	comp=E,4μm,0.3s						
KLNA	**Kalymnos**	**0.54 270**		P	**Pg**	**04 00 04.7**	**-0.6**
KLNA				S	**Sg**	**04 00 13.1**	**+0.6**
NISR	**Nisiros**	**0.54 230**		P	**Pb**	**04 00 05.7**	**-0.3**
NISR				S	**Sb**	**04 00 14.2**	**+0.6**
	3μm,0.3s						
YER	**Yerkesik**	**0.54 71**		Pg	**Pg**	**04 00 04.5**	**-1.0**
YER	**Yerkesik**	**0.54 71**		P	**Pg**	**04 00 04.0**	**-1.5**
YER				S	**Sg**	**04 00 11.5**	**-1.2**
KOSK	**Kos Island**	**0.57 249**		Pg	**Pg**	**04 00 05.8**	**-0.3**
KOSK	**Kos Island**	**0.57 249**		P	**Pg**	**04 00 05.7**	**-0.3**
KOSK				S	**Sb**	**04 00 15.3**	**+0.8**
	2μm,0.5s						
KOSK	**Kos Island**	**0.57 249**		P	**Pg**	**04 00 05.7**	**-0.3**
KOSK				S	**Sg**	**04 00 13.5**	**-0.1**
DDIM	**Aydin, Didim**	**0.59 327**		P	**Pg**	**04 00 05.4**	**-1.0**
DDIM				S	**Sb**	**04 00 14.7**	**-0.4**
DDIM				*i* AML	AML	04 00 24.0	
	comp=E,2μm,0.7s						
DDIM				*i* AML	AML	04 00 27.0	
	comp=N,2μm,0.7s						
MULA	**Mugla, Merkez-**	**0.62 61**		P	**Pg**	**04 00 05.6**	**-1.4**
MULA				*i* AML	AML	04 00 14.0	
	comp=N,1μm,0.3s						
MULA				S	**Sg**	**04 00 14.1**	**-1.1**
MULA				*i* AML	AML	04 00 17.0	
	comp=E,1μm,0.5s						
RODB	**Rodos**	**0.69 138**		P	**Pn**	**04 00 10.9**	**+0.8**
RODB				S	**Sb**	**04 00 19.6**	**+1.6**
AYDN	**Tasoluk**	**0.72 15**		P	**Pg**	**04 00 07.8**	**-1.1**
AYDN				S	**Sg**	**04 00 18.1**	**-0.4**
AYDN				*i* AML	AML	04 00 22.0	
	comp=E,3μm,0.4s						
AYDN				*i* AML	AML	04 00 23.0	
	comp=N,6μm,0.3s						
GCAM	**G?zelcaml?**	**0.81 336**		Pg	**Pb**	**04 00 10.2**	**-0.4**
GCAM	**G?zelcaml?**	**0.81 336**		P	**Pg**	**04 00 09.5**	**-0.9**
GCAM				S	**Sb**	**04 00 21.6**	**+0.3**
GCAM				*i* AML	AML	04 00 22.0	
	comp=N,1μm,0.5s						
GCAM				*i* AML	AML	04 00 26.0	
	comp=E,2μm,0.7s						
DALY	**Dalyan (Mula)**	**0.82 100**		Pg	**Pb**	**04 00 10.4**	**-0.4**
ARG	**Arkhangelos**	**0.84 152**		Pg	**Pb**	**04 00 10.9**	**-0.2**
ARG	**Arkhangelos**	**0.84 152**		P	**Pg**	**04 00 10.0**	**-1.1**
ARG				S	**Sb**	**04 00 22.4**	**+0.2**
	3μm,0.5s						
ARG	**Arkhangelos**	**0.84 152**		P	**Pg**	**04 00 10.1**	**-0.9**
ARG				S	**Sb**	**04 00 23.6**	**+1.3**
SMG	**Samos**	**0.98 320**		P	**Pg**	**04 00 12.9**	**-1.0**
SMG				S	**Sb**	**04 00 27.6**	**+1.1**
	2μm,0.4s						
SMG	**Samos**	**0.98 320**		P	**Pg**	**04 00 13.2**	**-0.6**
SMG				S	**Sg**	**04 00 26.2**	**-0.5**
FETY	**Fethiye**	**1.20 105**		Pn	**Pn**	**04 00 17.7**	**+0.5**
IKRA	**Agios-Kirikos-**	**1.26 302**		P

MA2	Magadan	72.99	26	LR	LR	04 47 54.9
	comp=Z,10nm,18.3s,baz=326,slow=39					

AFAD 11 04:23:06.0±0.0, 36°.96N×27°.30E, h7km±1km, ML1.4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	Kayabasi	0.16	47	P	Pg	04 23 09.5	+0.2
BDRM				S	Sg	04 23 11.6	+0.1
BDRM				i AML	AML	04 23 12.0	
	comp=E,119nm,0.2s						
DAT	Datca	0.32	136	P	Pg	04 23 12.5	+0.2
DAT				S	Sg	04 23 17.7	+1.2
DAT				i AML	AML	04 23 18.0	
	comp=N,44nm,0.2s						
DAT				i AML	AML	04 23 18.0	
	comp=E,38nm,0.2s						
GCAM	G?zelcaml?	0.74	356	P	Pg	04 23 20.5	+0.2
GCAM				i AML	AML	04 23 31.0	
	comp=N,23nm,1.2s						
GCAM				S	Sn	04 23 33.2	-1.2
GCAM				i AML	AML	04 23 48.0	
	comp=E,22nm,1.4s						
TURN	Turunc	0.78	103	P	Pg	04 23 20.3	-0.7
TURN				i AML	AML	04 23 31.0	
	comp=E,18nm,1.2s						
TURN				S	Sb	04 23 32.5	-0.1
TURN				i AML	AML	04 23 33.0	
	comp=N,17nm,0.2s						
AYDN	Tasoluk	0.84	33	P	Pg	04 23 22.1	-0.1
AYDN				S	Sg	04 23 33.2	+0.1
AYDN				i AML	AML	04 23 37.0	
	comp=E,9.3nm,0.3s						
AYDN				i AML	AML	04 23 53.0	
	comp=N,21nm,1.1s						

IDC 11 04:23:24.4±1.5, 10°.80N×142°.58E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=43.5km s-min=32.9km az=104.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	31.61	195	P	P	04 29 49.0	-0.2
	0.2nm,0.6s,baz=15,slow=9.5 0.2nm,0.6s						
CMAR	Chiang Mai Arr	42.82	285	P	P	04 31 25.1	+0.5
	0.5nm,0.3s,baz=83,slow=5.8,SNR=4.7 0.5nm,0.3s						
MKAR	Makanchi Array	61.98	317	P	P	04 33 45.7	-0.8
	0.6nm,0.6s,baz=87,slow=8.6,SNR=4.4 0.6nm,0.6s						
ZALV	Zalesovo Beam	62.62	326	P	P	04 33 50.7	+0.2
	0.7nm,0.5s,baz=115,slow=6.5,SNR=1.9 0.7nm,0.5s						
ILAR	Eielson Array	72.03	25	P	P	04 34 50.2	+0.2
	0.5nm,0.6s,baz=257,slow=5.9,SNR=7.3 0.5nm,0.6s						

ISK 11 04:23:36.5, 35°.31N×27°.15E, h5km, ML2.2/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.24	2	Pg	Pg	04 23 41.9	+0.8
KARP				Sg	Sg	04 23 46.5	+2.2
ZKR	Zakros	0.79	256	Pg	Pb	04 23 52.8	+0.1
ARG	Arkhangelos	1.20	41	Pn	Pn	04 24 00.7	+0.7
ARG				Sn	Sn	04 24 18.3	+1.6
DAT	Datca	1.46	14	Pn	Pg	04 24 04.9	+0.5
TURN	Turunc	1.71	31	Pn	Pg	04 24 08.9	-0.4
IDI	Anoyia	1.85	270	Pn	Pb	04 24 10.7	-0.1
DALY	Dalyan (Mula)	1.93	39	Pn	Pb	04 24 11.7	-0.5
YER	Yerkesik	2.04	26	Pn	Pb	04 24 13.1	-0.9
FETY	Fethiye	2.05	49	Pn	Pb	04 24 13.4	-0.8
APE	Apeiranthos	2.19	324	Pn	Pb	04 24 15.9	-0.7
AKAS	Kas	2.20	65	Pn	Pb	04 24 15.4	-1.4
CAME	Cameli-Denizli	2.38	46	Pn	Pn	04 24 18.0	+1.6
APMY	Acipayam-Deniz	2.77	38	Pn	Pn	04 24 23.8	+2.2

JMA 11 04:50:26.7±0.3, 46°.6N±0°.8×14°.2E±°, h0km, MV2.6/5, SOUTH SAKHALIN
SKHL 11 04:50:28.2±0.7, 46°.45N×141°.89E, h10km, mb3.6/3
ISC 11 04:50:27.4±1.5, 46°.57N±0°.08×141°.7E±0°.1, h10km, n4, σ0.30/8, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLM	Kholmsk	0.54	26	ePg	Pn	04 50 41.4	+0.2
KHLM				AMB	AMB	04 50 41.5	
	41nm,0.2s						
KHLM				eSg	Sn	04 50 50.4	+0.1
KHLM				A	A	04 50 50.8	
	231nm,0.2s						
KHLM				A	A	04 50 50.8	
	182nm,0.2s						
YSS	Yuzh-Sakhalins	0.82	62	ePg	Pg	04 50 43.0	-0.2
YSS				AMB	AMB	04 50 43.8	
	7.0nm,0.2s						
YSS				eSg	Sg	04 50 53.8	-0.1
YSS				A	A	04 50 55.3	
	140nm,0.4s						
YSS				A	A	04 50 55.3	
	80nm,0.4s						
JRBN	Rebuntou	1.23	201	eP	Pn	04 50 50.3	-0.3
JRBN				eS	Sb	04 51 06.7	+0.1
JWK2	Keihoku	1.26	174	eP	Pb	04 50 51.2	0.0
JWK2				eS	Sn	04 51 08.5	+0.5

IDC 11 04:53:41.7±5.7, 36°.06N×86°.70E, h0km, mb3.1/1, mbtmp3.3/5, ML3.2/4, MS2.9/5, Error ellipse: s-maj=79.3km s-min=45.6km az=32.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	11.22	344	Pn	Pn	04 56 21.6	-1.8
	0.2nm,0.3s,baz=156,slow=14,SNR=4.2						
MKAR				Lg	Lg	04 59 38.8	
	0.1nm,0.3s,baz=162,slow=29,SNR=1.9 0.3nm,0.4s						
AAK	Ala-Archa	11.50	309	LR	LR	05 01 48.8	
	comp=Z,68nm,19.9s,baz=116,slow=42						
KURBB	Kurchatov Arra	15.71	340	Pn	Pn	04 57 20.4	-3.8
	0.1nm,0.3s,baz=157,slow=15,SNR=2.3 0.4nm,0.2s						
ZALV	Zalesovo Beam	17.94	356	P	P	04 57 53.9	+0.9
	0.3nm,0.3s,baz=175,slow=12,SNR=2.2 0.3nm,0.4s						
SONM	Songino Array	18.73	45	P	P	04 58 01.7	-0.3
	0.2nm,0.3s,baz=255,slow=11,SNR=1.5						
SONM				LR	LR	05 05 23.0	
	comp=Z,42nm,20.9s,baz=335,slow=37 0.2nm,0.3s						
BVAR	Borovoye Array	20.48	331	P	P	04 58 21.3	+0.4
	0.4nm,0.3s,baz=134,slow=10,SNR=4.4 0.4nm,0.3s						
CMAR	Chiang Mai Arr	20.60	145	LR	LR	05 06 41.4	
	comp=Z,8.6nm,18.4s,baz=170,slow=38						
AKTO	Aktyubinsk	25.16	314	LR	LR	05 10 21.8	
	comp=Z,42nm,20.4s,baz=190,slow=40						
ARU	Arti	27.84	326	LR	LR	05 11 40.2	
	comp=Z,28nm,19.2s,baz=94,slow=39						

IDC 11 05:02:52.2±18.0, 19°.24S×175°.41W, h256km±90km, mb3.5/3, mbtmp4.1/5, Error ellipse: s-maj=214.6km s-min=112.3km az=101.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.38	283	P	Pn	05 04 25.2	-0.1
	4.7nm,0.5s,baz=111,slow=18,SNR=7.3						
DZM	Mont Dzumac	17.21	257	P	P	05 06 36.2	+0.1
	7.2nm,0.7s,baz=99,slow=21,SNR=7.3						
STKA	Stephens Creek	40.53	243	P	P	05 10 07.0	+0.3
	1.4nm,0.7s,baz=93,slow=16,SNR=3.1 1.4nm,0.7s						
ASAR	Alice Springs	47.19	255	P	P	05 10 59.6	-0.1
	2.9nm,0.6s,baz=91,slow=8.2,SNR=32 2.9nm,0.6s						
WRA	Warramunga Arr	47.20	260	P	P	05 10 59.5	-0.3
	1.2nm,0.5s,baz=97,slow=7.6,SNR=27 1.2nm,0.5s						

IDC 11 05:02:53.3±5.7, 35°.74N×71°.37E, h102km±38km, mb3.6/4, mbtmp3.9/9, Error ellipse: s-maj=70.0km s-min=26.7km az=150.0
NNC 11 05:03:03.9±13.0, 37°.17N×70°.21E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=139.9km s-min=69.4km az=156.0
ISC 11 05:02:59.4±0.8, 36°.48N±0°.05×71°.13E±0°.09, h100km, n17, σ1.40/21, mb3.8/3, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.73	166	P	Pn	05 03 42.1	+0.5
CEP				S	Sn	05 04 14.0	-0.1
CHCP	Chirah Chowk	3.32	147	P	Pn	05 03 50.3	+0.9
THW	Thamme Wali	3.71	172	P	Pn	05 03 54.2	-0.5
KSH	Kashi	4.88	50	Pn	Pn	05 04 10.7	+0.1
KSH				Sn	Sn	05 05 02.8	-3.1
KSH				pmax	pmax		
	comp=Z,50nm,0.7s						
KSH				smax	smax		
	comp=N,250nm,0.9s						
KSH				smax	smax		
	comp=E,140nm,1.0s						
AML	Almayashu	5.98	19	⇑P	Pn	05 04 27.6	+1.9
	comp=E,0.2nm,0.2s						
AML				⇓S	Sn	05 05 35.1	+2.0
	comp=E,0.8nm,0.3s						
KK31	Karatay Array	6.63	356	P	Pn	05 04 35.0	+0.8
	comp=E,1.7nm,0.3s,baz=176,slow=12,SNR=38						
KK31				⇑S	Sn	05 05 46.0	-2.3
	comp=E,2.0nm,0.3s,baz=189,slow=23,SNR=4.5						
AAK	Ala-Archa	6.68	22	P	Pn	05 04 36.1	+1.2
	comp=E,2.4nm,0.3s,baz=190,slow=6.1,SNR=3.6						
AAK				S	Sn	05 05 51.7	+2.2
	comp=E,2.9nm,0.3s,baz=163,slow=19,SNR=4.2						
GEYT	Alibeck	10.48	282	P	Pn	05 05 26.6	0.0
	comp=E,1.8nm,0.5s,baz=96,slow=12,SNR=1.9						
GEYT				S	Sn	05 07 12.6	-9.4
	comp=E,1.5nm,0.3s,baz=87,slow=32,SNR=2.2						
MKAR	Makanchi Array	13.25	35	P	Pn	05 06 03.3	-0.1
	comp=E,0.8nm,0.8s,baz=221,slow=13,SNR=2.0						
KURBB	Kurchatov Arra	15.11	18	P	P	05 06 29.1	-1.0
	comp=E,0.8nm,0.2s,baz=208,slow=11,SNR=2.2						
AB31	Akbulak array	15.15	331	⇓P	Pn	05 06 26.4	-1.4
	comp=E,0.2nm,0.2s,baz=170,slow=10,SNR=18						
AKTO	Aktyubinsk	16.85	330	⇑P	P	05 06 49.5	+0.2
	comp=E,0.8nm,0.6s						
AKTO	Aktyubinsk	16.85	330	P	P	05 06 49.6	+0.2
	comp=E,1.4nm,0.5s,baz=136,slow=9.1,SNR=5.6						
ZALV	Zalesovo Beam	19.89	24	P	P	05 07 23.7	+1.1
	comp=E,3.8nm,0.5s,baz=223,slow=11,SNR=17 comp=E,3.8nm,0.5s						
FINES	FINESS Array B	37.56	326	P	P	05 10 03.6	+0.1
	comp=E,8.3nm,1.0s,baz=119,slow=11,SNR=4.1 comp=E,8.3nm,1.0s						
HFS	Hagfors	43.15	322	P	P	05 10 49.3	-0.3
	comp=E,0.8nm,0.5s,baz=114,slow=14,SNR=1.5 comp=E,0.8nm,0.5s						
TORD	Torodi Ar. Bea	65.82	269	P	P	05 13 28.5	-5.8
	comp=E,0.4nm,0.9s,baz=64,slow=7.4,SNR=1.9 comp=E,0.4nm,0.9s						

IGQ 11 05:08:10±0.3, 2°S±2°×7°.8W±°, h184km
VAO 11 05:08:11.9±0.6, 1°.66S×77°.50W, h170km, mb4.2
NEIC 11 05:08:12.2±2.0, 1°.67S±0°.06×77°.70W±0°.09, h179km±9km, mb4.4/38, Error ellipse: s-maj=13.0km s-min=8.8km az=90.0
IDC 11 05:08:13.5±2.1, 1°.50S×77°.43W, h200km±21km, mb3.5/12, mbtmp4.2/17, Error ellipse: s-maj=19.0km s-min=10.7km az=67.0
ISC 11 05:08:10.9±0.5, 1°.72S±0°.04×77°.68W±0°.05, h182km±5km, n162, σ1.18/167, mb4.2/28, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	Puyo, Santa Ro	0.41	303	P	Pn	05 08 36.0	+0.3
PUYO				S	Sn	05 08 54.0	-0.8
TAIS	Taisha	0.68	165	P	Pn	05 08 38.0	+1.2
TAIS				S	Sn	05 08 58.0	+1.1
ARDO	Archidona, Ten	0.73	350	P	Pn	05 08 36.0	-1.1
ARDO				S	Sn	05 08 56.0	-1.5
BULB	Ulba Tungurahu	0.78	291	P	Pn	05 08 38.0	+0.2
BULB				S	Sn	05 08 59.0	+0.6
ARRY	Arrayan	0.80	285	P	Pn	05 08 38.0	+0.1
ARRY				S	Sn	05 08 58.0	-0.6
BRUN	Tungurahua Vol	0.80	292	P	Pn	05 08 38.0	+0.1
BRUN				S	Sn	05 08 59.0	+0.4
RETU	Refugio	0.81	289	P	Pn	05 08 38.0	-0.1
POND	Pondoa	0.83	291	P	Pn	05 08 38.0	0.0
BMAS	Trigal station	0.83	285	P	Pn	05 08 38.0	-0.1
TUYU	Q. Yuibug Volc	0.83	286	P	Pn	05 08 38.0	-0.1
JUI6	Juive	0.84	290	P	Pn	05 08 38.0	-0.1
PIAT	Ana Tenorio	0.92	321	P	Pn	05 08 39.0	+0.3
PIAT				S	Sn	05 08 59.0	-1.2
APSY	Ecuador-Napo A	0.94	322	P	Pn	05 08 39.0	+0.2
PIS1	Pisayambo	0.96	313	P	Pn	05 08 39.0	-0.1
PIS1				S	Sn	05 09 01.0	+0.1
IGUA	Igualata	0.98	283	P	Pn	05 08 40.0	+0.6
TAMH	Tambohuasha Ch	1.11	279	P	Pn	05 08 40.0	-0.2
PORT	Chimborazo Vol	1.12	283	P	Pn	05 08 41.0	+0.6
PORT				S	Sn	05 09 03.0	-0.1
VCES	Cotopaxi	1.16	322	P	Pn	05 08 41.0	+0.3
VCES				S	Sn	05 09 04.0	+0.4
CHSH	Refugio Sur-Vo	1.21	281		Pn	05 08 41.0	-0.1
CHSH	Refugio Sur-Vo	1.21	281	P	Pn	05 08 41.0	-0.1
BRRN	Barrancas-Volc	1.22	319	P	Pn	05 08 41.0	-0.1
BRRN				S	Sn	05 09 05.0	+0.6
TAMB	Tambo	1.23	326	P	Pn	05 08 41.0	-0.2
BMOR	Cotopaxi Volca	1.25	322	P	Pn	05 08 41.0	-0.5
BMOR				S	Sn	05 09 05.0	-0.1
BTAM	Cotopaxi Volca	1.26	325	P	Pn	05 08 41.0	-0.5
SLOR	San Lorenzo -	1.28	320	Pn	Pn	05 08 41.9	+0.4
SLOR	San Lorenzo -	1.28	320	P	Pn	05 08 42.0	+0.4
BVC2	Cotopaxi Volca	1.28	325	P	Pn	05 08 42.0	+0.3
BREF	Cotopaxi Volca	1.29	324	P	Pn	05 08 42.0	+0.1
VC1	Cotopaxi 1	1.29	326	P	Pn	05 08 42.0	+0.2
ANTM	Antisana-La Mi	1.29	335	P	Pn	05 08 42.0	+0.2
ANTS	Antisana-Sarah	1.31	338	P	Pn	05 08 42.0	0.0
SRAM	San Ramn-Vol	1.31	317	P	Pn	05 08 42.0	+0.3
BNAS	Cotopaxi Volca	1.31	322	P	Pn	05 08 43.0	+1.1
CAMI	Rancho Maria	1.32	321	P	Pn	05 08 42.0	0.0
ANTG	Antisana-Guama	1.34	335	P	Pn	05 08 42.0	-0.2
SUCR	Mariscal Sucre	1.35	323	P	Pn	05 08 42.0	-0.2
ANTI	Antisana	1.35	339	P	Pn	05 08 42.0	-0.3
PITA	Cotopaxi Volc	1.38	327	P	Pn	05 08 43.0	+0.6
PAST	Pastocalle	1.40	317	P	Pn	05 08 43.0	+0.4
TOMA	Boca Toma-Volc	1.43	328	P	Pn	05 08 43.0	+0.2
ILLI	Illinizas Sur	1.45	314	P	Pn	05 08 43.0	-0.1
AZOG	Ecuador-Azogue	1.56	229	P	Pn	05 08 44.0	+0.1
REVS	Reventador Sur	1.60	2	P	Pn	05 08 44.0	-0.3
TING	Casa Alexandra	1.62	332	P	Pn	05 08 44.0	-0.6
BOSC	San Juan Bosco	1.64	210	Pn	Pn	05 08 45.2	+0.6
BOSC	San Juan Bosco	1.64	210	P	Pn	05 08 45.0	+0.4
COHC	Cochancay	1.74	245	Pn	Pn	05 08 45.2	-0.2
GGPT	Toaza - Volcan	1.76	328	P	Pn	05 08 45.0	-1.0
JUA2	San Juan 2	1.76	328	P	Pn	05 08 45.0	-1.1
ANGU	Angureal	1.78	349	P	Pn	05 08 46.0	-0.5
TERV	Terraza Guagua	1.79	329	P	Pn	05 08 46.0	-0.5
CAYA	Cayambe	1.81	350	P	Pn	05 08 46.0	-0.7
PINO	Pino	1.81	329	P	Pn	05 08 46.0	-0.7
CASC	Dorado de Casc	1.87	10	P	Pn	05 08 46.0	-0.9
PULU	Pululahua	1.91	335		Pn	05 08 47.4	-0.2
PULU	Pululahua	1.91	335	P	Pn	05 08 47.0	-0.6
IMBA	Imbabura, San	2.05	345		Pn	05 08 50.0	+0.9
IMBA	Imbabura, San	2.05	345	P	Pn	05 08 50.0	+0.9
OTAV	Otavalo	2.09	338	Pn	Pn	05 08 49.2	-0.4
OTAV	Otavalo	2.09	338	eP	Pn	05 08 48.8	-0.8
CUSW	Cuicocha Oeste	2.10	341	P	Pn	05 08 50.0	+0.4
YAHU	Yahuarcocha	2.11	349	P	Pn	05 08 50.0	+0.2
CUIC	Cuicocha-Domo	2.12	341	P	Pn	05 08 49.0	-0.9
CUSE	Cuicocha Este	2.13	340	P	Pn	05 08 49.0	-1.1
COTA	Cotacachi	2.14	342	P	Pn	05 08 49.0	-1.2
BONI	La Bonita	2.16	4	P	Pn	05 08 50.0	-0.2
URCU	Urcuqui	2.22	345	P	Pn	05 08 51.0	0.0
PAC1	Pacto, Paraso	2.26	331	P	Pn	05 08 50.0	-1.2
TULM	Tulcn-Chalpat	2.42	357	Pn	Pn	05 08 53.2	-0.1
TULM	Tulcn-Chalpat	2.42	357	P	Pn	05 08 53.0	-0.3
LNGL	El Angel-Carch	2.46	352	P	Pn	05 08 53.0	-0.9
CHL1	Volcn Chiles	2.51	354	P	Pn	05 08 54.0	-0.4
ECEN	Cerro Negro	2.54	353	P	Pn	05 08 55.0	+0.2
LITE1	Lita	2.59	345	P	Pn	05 08 53.0	-1.9
CHMA	Chilma	2.59	351	P	Pn	05 08 55.0	-0.1
ACH2	Ecuador-Machal	2.62	234	P	Pn	05 08 53.0	-2.2
ISPG	Isla Puna-Puer	2.78	243	P	Pn	05 08 56.0	-1.1
MORR	Playas El Morr	2.81	251	P	Pn	05 08 56.0	-1.4
CABP	Cabo Pasado	3.05	296	P	Pn	05 09 00.0	-0.3
SNLR	San Lorenzo-Es	3.21	339	P	Pn	05 09 01.0	-1.2
SALI	Salinas	3.34	262		Pn	05 09 01.9	-1.9
SALI	Salinas	3.34	262	P	Pn	05 09 01.0	-2.8
AATC	Ecuador-Atacam	3.37	320	P	Pn	05 09 03.0	-1.2
PTGL	Punta Galera	3.42	317	P	Pn	05 09 03.0	-1.8
ISPT	Isla de la Pla	3.42	278	P	Pn	05 09 02.0	-2.9
AMCR	Ecuador-Macara	3.48	221	P	Pn	05 09 04.0	-1.6
MCRA	Macar, Loja	3.48	221	Pn	Pn	05 09 04.1	-1.5
MCRA	Macar, Loja	3.48	221	P	Pn	05 09 03.0	-2.6
BBAC	Balboa, Cauca	3.74	7	P	Pn	05 09 09.0	0.0
FLOC	Florencia	3.85	32	P	Pn	05 09 10.0	-0.3
ATAH	Atahualpa	5.43	188	P	Pn	05 09 32.8	+1.9
	87nm,0.5s,baz=25,slow=9.1,SNR=179						
ATAH				S	Sn	05 10 31.1	-2.6
	181nm,0.7s,baz=27,slow=11,SNR=18						
ROSC	El Rosal	7.33	27	P	Pn	05 09 55.4	-0.4
	2.6nm,0.3s,baz=270,slow=20,SNR=1.5						
CZSB	Cruzeiro do Su	7.76	140	Pn	Pn	05 10 01.6	+0.5
CZSB	Cruzeiro do Su	7.76	140	eP	Pn	05 10 01.6	+0.5
NNA	Nana	10.24	175	Pn	Pn	05 10 36.8	+3.2
NNA	Nana	10.24	175	P	Pn	05 10 37.1	+3.5
	13nm,0.4s,baz=346,slow=7.5,SNR=10						
NNA				S	Sn	05 12 20.9	-6.7
	8.1nm,0.3s,baz=262,slow=23,SNR=2.9						
SGCB	São Gabriel d	10.77	82	eP	Pn	05 10 38.7	-1.8
SDV	Santo Domingo	12.66	34	Pn	Pn	05 11 06.0	+1.0
SDV	Santo Domingo	12.66	34	eP	Pn	05 11 05.3	+0.3
SDV	Santo Domingo	12.66	34	P	Pn	05 11 03.9	-1.1
	11nm,0.4s,baz=227,slow=11,SNR=5.0						
ETMB	Extrema	13.95	126	Pn	Pn	05 11 19.6	-1.4
ETMB	Extrema	13.95	126	eP	Pn	05 11 19.1	-2.0
BAUV	El Baul	14.30	42	Pn	Pn	05 11 24.7	-0.7
SAML	Samuel	16.11	117		Pn	05 11 47.8	+0.1
SAML	Samuel	16.11	117	eP	Pn	05 11 48.0	+0.3
HATO	Hato, Curacao	16.30	32	P	P	05 11 49.1	-0.3
MACA	Manacapuru-AM	17.04	95		P	05 11 57.6	-0.1
MACA	Manacapuru-AM	17.04	95	eP	P	05 11 56.9	-0.7
LPAZ	La Paz	17.26	148	P	Pn	05 12 02.1	+0.1
LPAZ	La Paz	17.26	148	eP	Pn	05 12 01.8	-0.2
LPAZ	La Paz	17.26	148	P	Pn	05 12 03.5	+1.5
	5.4nm,0.5s,baz=330,slow=8.1,SNR=27						
PCRV	Puerto La Cruz	17.56	47	P	P	05 12 03.2	-0.1
	8.2nm,0.4s,baz=263,slow=2.2,SNR=22						
BOAV	Boa Vista	17.63	77	P	P	05 12 04.4	+0.2
BOAV	Boa Vista	17.63	77	eP	P	05 12 04.0	-0.1
GO01	Chusmiza	19.68	156	P	Pn	05 12 29.9	-0.5
GO01				IAmb	IAmb	05 12 36.3	
	comp=Z,12nm,0.9s						
MTDJ	Mount Denham	19.82	0	P	P	05 12 30.1	+2.2
VILB	Vilhena	20.59	124	P	P	05 12 37.4	+1.2
VILB				IAmb	IAmb	05 12 44.0	
	comp=Z,13nm,1.2s						
SIV	San Ignacio	21.66	132	P	P	05 12 48.0	+0.7
	comp=Z,1.3nm,0.4s,baz=309,slow=12,SNR=11 comp=Z,1.3nm,0.4s						
ITTB	Itaituba	22.07	97	eP	P	05 12 51.7	+0.2
LVC	Limon Verde	22.45	158	P	P	05 12 54.2	-1.1
LVC				IAmb	IAmb	05 13 20.0	
	comp=Z,20nm,1.4s						
BBSD	Serra de San D	22.76	134	eP	P	05 12 59.5	+1.7
PTLB	Pontes e Lacer	22.82	128	P	P	05 12 59.9	+1.5
NPGB	Novo Progresso	22.87	104	eP	P	05 12 58.7	-0.2
PDRB	Porto dos Gac	22.99	116	eP	P	05 13 01.0	+1.0
MALB	Monte Alegre	23.40	91	eP	P	05 13 04.6	+0.9
CLDB	Colider	23.55	114	eP	P	05 13 06.6	+1.4
TEIG	Tepich	24.16	335	P	P	05 13 11.1	+0.6
MCPB	Macapa, AP	25.65	87	eP	P	05 13 24.1	-0.1
SNDB	Serra Nova Dou	28.07	112	eP	P	05 13 46.4	+0.6
ROC1	El Roble	31.72	169	P	P	05 14 20.3	+2.4
MT09	Talagante	32.50	170	P	P	05 14 26.5	+1.8
GO05	Hualá	33.55	171	P	P	05 14 35.3	+1.7
GOGA	Godfrey	35.37	352	P	P	05 14 49.5	+0.3
GOGA				IAmb	IAmb	05 15 21.9	
	comp=Z,5.5nm,1.1s						
LRAL	Lakeview Retre	35.67	347	P	P	05 14 51.7	0.0
LRAL				IAmb	IAmb	05 14 52.4	
	comp=Z,6.5nm,1.1s						
JSC	Jenkinsville	35.97	355	P	P	05 14 55.4	+1.1
JSC				IAmb	IAmb	05 14 55.5	
	comp=Z,5.9nm,0.7s						
Y49A	Blount Mountai	36.33	348	P	P	05 14 57.0	-0.4
Y49A				IAmb	IAmb	05 15 01.1	
	comp=Z,13nm,1.4s						
KMSC	Kings Mountain	36.83	355	IAmb	IAmb	05 15 02.9	
	comp=Z,7.1nm,0.9s						
DRIO	Del Rio	37.95	326	P	P	05 15 11.5	+0.3
DRIO				IAmb	IAmb	05 15 13.9	
	comp=Z,7.0nm,0.9s						
V48A	Smith Brothers	38.23	348	IAmb	IAmb	05 15 13.7	
	comp=Z,12nm,0.7s						
U54A	Nelsons Funny	38.24	355	IAmb	IAmb	05 15 14.6	
	comp=Z,8.8nm,0.6s						
T57A	Hurt	38.55	358	P	P	05 15 15.9	0.0
T57A				IAmb	IAmb	05 15 16.7	
	comp=Z,6.1nm,0.8s						
PLCA	Paso Flores	39.37	171	P	P	05 15 25.1	+2.3
	comp=Z,2.7nm,0.7s,baz=333,slow=13,SNR=5.8 comp=Z,2.7nm,0.7s						
LCAR	Lake Charles	39.64	343	P	P	05 15 24.3	-0.7
LCAR				IAmb	IAmb	05 15 25.0	
	comp=Z,5.5nm,0.7s						
TXAR	Lajitas Array	39.64	323	P	P	05 15 26.8	+1.5
	comp=Z,0.4nm,0.6s,baz=143,slow=7.4,SNR=6.4 comp=Z,0.4nm,0.6s						
SGCY	Sterling City	40.16	328	P	P	05 15 30.6	+1.0
SGCY				IAmb	IAmb	05 15 31.4

σ1⁹31/30, **New South Wales**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNG	**Young**	**1.12**	**136**	P	**Pb**	**05 09 49.9**	**-0.7**
	baz=1.1						
YNG				S	**Sg**	**05 10 04.3**	**-1.0**
	baz=1.1						
YNG	**Young**	**1.12**	**136**	P	**Pb**	**05 09 50.0**	**-0.7**
AUDCS	**Dubbo College**	**1.59**	**38**	P	**Pb**	**05 09 57.7**	**-1.0**
	baz=1.5						
AUDCS				S	**Sb**	**05 10 18.0**	**-0.9**
	baz=1.5						
AUMTS	**Mt Stromlo**	**2.23**	**146**	P	**Pn**	**05 10 07.3**	**+1.1**
	baz=2.2						
AUMTS				S	**Sb**	**05 10 36.4**	**-0.8**
	baz=2.2						
CAN	**Canberra**	**2.23**	**146**	P	**Pb**	**05 10 08.8**	**-0.7**
AUMHS	**Melrose High S**	**2.30**	**145**	P	**Pn**	**05 10 08.4**	**+1.2**
	baz=2.3						
AUMHS				S	**Sb**	**05 10 38.6**	**-0.7**
	baz=2.3						
CNB	**Canberra Magne**	**2.41**	**140**	P	**Pn**	**05 10 09.2**	**+0.5**
	baz=2.4						
CNB				S	**Sb**	**05 10 40.4**	**-2.0**
	baz=2.4						
CNB	**Canberra Magne**	**2.41**	**140**	P	**Pn**	**05 10 09.5**	**+0.8**
CMSA	**Cobar Meteorol**	**2.45**	**322**	P	**Pn**	**05 10 10.0**	**+0.8**
	baz=2.5,SNR=15						
CMSA	**Cobar Meteorol**	**2.45**	**322**	P	**Pb**	**05 10 11.0**	**-2.4**
MGCD	**Mangrove Creek**	**3.07**	**86**	P	**Pn**	**05 10 18.8**	**+1.1**
	baz=3.0						
MGCD				S	**Sn**	**05 10 55.6**	**+1.2**
	baz=3.0						
MGCD	**Mangrove Creek**	**3.07**	**86**	P	**Pn**	**05 10 19.2**	**+1.5**
TOO	**Toolangi**	**4.38**	**201**	P	**Pn**	**05 10 37.7**	**+2.0**
	baz=4.4						
TOO	**Toolangi**	**4.38**	**201**	P	**Pn**	**05 10 37.3**	**+1.5**
ARMA	**Armidale**	**4.68**	**50**	P	**Pn**	**05 10 41.5**	**+1.5**
	baz=4.6						
ARMA				S	**Sn**	**05 11 35.5**	**+1.0**
	baz=4.6						
ARMA	**Armidale**	**4.68**	**50**	P	**Pn**	**05 10 41.9**	**+1.9**
STKA	**Stephens Creek**	**5.20**	**286**	P	**Pn**	**05 10 48.5**	**+1.4**
	baz=5.2						
STKA	**Stephens Creek**	**5.20**	**286**	P	**Pn**	**05 10 48.8**	**+1.8**
ARPS	**Mount Arapiles**	**5.65**	**233**	P	**Pn**	**05 10 54.0**	**+0.8**
	baz=5.7,SNR=26						
ARPS	**Mount Arapiles**	**5.65**	**233**	P	**Pn**	**05 10 54.0**	**+0.8**
HTT	**Hallett**	**7.14**	**268**	P	**Pn**	**05 11 14.2**	**+0.5**
	baz=7.2						
HTT	**Hallett**	**7.14**	**268**	P	**Pn**	**05 11 14.1**	**+0.4**
LCRK	**Leigh Creek**	**8.42**	**289**	P	**Pn**	**05 11 32.7**	**+1.5**

IDC 11 05:30:09.2±3.5, 54°.32N×86°.76E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=29.1km s-min=17.2km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**253**	I	I	05 38 20.0	
	baz=73,slow=336,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.20**	**253**	Pg	Pg	05 30 30.9	-1.4
	0.9nm,0.3s,baz=71,slow=16,SNR=8.6						
ZALV				Lg	Lg	05 30 48.6	
	1.1nm,0.3s,baz=70,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**6.24**	**237**	Pn	Pn	05 31 43.6	+1.1
	baz=54,slow=14,SNR=5.7						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**8.05**	**202**	Pn	Pn	05 32 08.4	+1.1
	0.1nm,0.3s,baz=15,slow=13,SNR=1.8						
	0.4nm,0.7s						

IDC 11 05:34:56.3±1.8, 17°.88S×178°.68W, h593km±20km, mb3.2/8, mbtmp4.1/9, Error ellipse: s-maj=33.1km s-min=21.0km az=162.0

ISC 11 05:34:56.7±0.9, 17°.8S±0°.2×178°.7W±0°.2, h600km, n9, σ0⁹61/11, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.06**	**271**	P	**P**	**05 36 15.5**	**-0.8**
	32nm,0.7s,baz=112,slow=5.1,SNR=18						
STKA	**Stephens Creek**	**38.39**	**241**	P	**P**	**05 41 29.0**	**+0.7**
	2.9nm,0.5s,baz=83,slow=8.3,SNR=7.8						
	2.9nm,0.5s						
WRA	**Warramunga Arr**	**44.34**	**259**	P	**P**	**05 42 15.1**	**-0.2**
	1.7nm,0.4s,baz=93,slow=7.1,SNR=35						
WRA				PcP	**PcP**	**05 43 46.1**	**0.0**
	0.2nm,0.3s,baz=90,slow=3.5,SNR=2.1						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**44.51**	**254**	P	**P**	**05 42 16.9**	**+0.3**
	15nm,0.6s,baz=88,slow=8.3,SNR=239						
ASAR				PcP	**PcP**	**05 43 47.0**	**+0.4**
	0.6nm,0.4s,baz=102,slow=4.1,SNR=4.1						
	15nm,0.6s						
QSPA	**South Pole Qui**	**72.22**	**180**	P	**P**	**05 45 22.0**	**+0.1**
	1.0nm,0.8s,baz=357,slow=1.1,SNR=6.1						
	1.0nm,0.8s						
MAW	**Mawson**	**83.83**	**200**	P	**P**	**05 46 23.9**	**+0.2**
	0.9nm,0.5s,baz=135,slow=7.1,SNR=2.3						
	0.9nm,0.5s						
TXAR	**Lajitas Array**	**86.22**	**58**	P	**P**	**05 46 37.0**	**+0.8**
	0.4nm,0.8s,baz=217,slow=6.1,SNR=4.9						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	**87.51**	**44**	P	**P**	**05 46 41.7**	**-0.4**
	0.2nm,0.6s,baz=232,slow=4.4,SNR=2.6						
	0.2nm,0.6s						
SNAA	**Sanae**	**90.68**	**179**	P	**P**	**05 46 55.2**	**-0.9**
	0.6nm,0.8s,baz=187,slow=9.4,SNR=6.2						
	0.6nm,0.8s						

IDC 11 05:37:40.7±3.6, 54°.40N×86°.89E, h0km, mbtmp3.1/2, ML2.5/2, Error ellipse: s-maj=31.9km s-min=19.5km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**251**	I	I	05 46 30.0	
	baz=71,slow=334,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.30**	**251**	Pg	Pg	05 38 03.7	-1.8
	0.6nm,0.3s,baz=72,slow=14,SNR=5.6						
ZALV				Lg	Lg	05 38 22.6	
	0.7nm,0.3s,baz=68,slow=27,SNR=4.8						
KURBB	**Kurchatov Arra**	**6.35**	**237**	Pn	Pn	05 39 16.2	+0.8
	0.1nm,0.3s,baz=52,slow=14,SNR=4.2						
	0.7nm,0.2s						
MKAR	**Makanchi Array**	**8.15**	**203**	Pn	Pn	05 39 41.9	+1.6
	0.1nm,0.3s,baz=24,slow=15,SNR=1.6						
	0.7nm,0.9s						

IDC 11 05:39:12.6±0.9, 0°.81N×127°.25E, h0km, mb4.0/7, mbtmp4.0/8, ML3.4/1, MS3.0/3, Error ellipse: s-maj=52.0km s-min=17.2km az=66.0

DJA 11 05:39:14.4±0.4, 1°.N±3°.×12°.8E±°, h10km, M4.1/10, mb4.5/6, mB5.3/2, MLv3.9/10, Mw(mB)4.7/2

ISC 11 05:39:15.5±1.8, 0°.90N±0°.07×127°.5E±0°.1, h19km±6km, n19, σ0⁹97/18, mb4.2/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.21**	**233**	P	**Pg**	**05 39 20.2**	**-0.5**
TNTI				S	**Sg**	**05 39 24.6**	**+0.4**
LBMI	**Labuha**	**1.53**	**181**	P	**Pb**	**05 39 43.1**	**-0.1**
LBMI				S	**Sg**	**05 40 05.3**	**+0.4**
SANI	**Sanana**	**3.31**	**208**	P	**Pn**	**05 40 06.4**	**+0.1**
SIJI	**Sorong**	**4.12**	**115**	Pn	**Pn**	**05 40 19.1**	**+1.6**
	1.9nm,0.3s,baz=317,slow=19,SNR=1.7						
	6.3nm,0.3s						
GTOI	**Gorontalo**	**4.53**	**267**	P	**Pn**	**05 40 25.1**	**+2.0**
LUWI	**Luwuk**	**5.14**	**248**	P	**Pn**	**05 40 31.8**	**+0.3**
	87nm,0.9s,9μm0.8nm						
MRSI	**Marisa**	**5.61**	**266**	P	**Pn**	**05 40 38.3**	**+0.3**
	30nm,0.6s,906nm0.1nm						
TTSI	**Tana Toraja**	**8.65**	**243**	P	**Pn**	**05 41 20.0**	**+0.2**
	35nm,0.5s						
BKSI	**Bulukumba**	**9.64**	**230**	P	**Pn**	**05 41 34.9**	**+1.5**
KAPI	**Kappang**	**9.74**	**233**	LR	LR	05 46 08.2	
	comp=Z,30nm,22.0s,baz=54,slow=44						
WRA	**Warramunga Arr**	**21.76**	**163**	P	**P**	**05 44 06.6**	**+0.4**
	2.6nm,0.5s,baz=341,slow=11,SNR=15						
	2.6nm,0.5s						
ASAR	**Alice Springs**	**25.19**	**166**	P	**P**	**05 44 40.5**	**+0.4**
	2.8nm,1.0s,baz=350,slow=9.6,SNR=11						
	2.8nm,1.0s						
JNU	**Nakatsue**	**32.21**	**5**	LR	LR	06 00 57.1	
	comp=Z,12nm,18.6s,baz=201,slow=40						
SONM	**Songino Array**	**50.22**	**342**	P	**P**	**05 48 10.5**	**+0.1**
	0.8nm,0.6s,baz=155,slow=7.9,SNR=3.9						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**60.33**	**326**	P	**P**	**05 49 23.2**	**0.0**
	1.2nm,0.5s,baz=119,slow=8.5,SNR=8.4						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**64.54**	**328**	P	**P**	**05 49 50.5**	**-0.8**
	1.8nm,0.8s,baz=128,slow=6.0,SNR=15						
	1.8nm,0.8s						
BVAR	**Borovoye Array**	**70.12**	**327**	P	**P**	**05 50 26.5**	**-0.1**
	1.4nm,0.7s,baz=121,slow=6.6,SNR=4.9						
	1.4nm,0.7s						
MAW	**Mawson**	**81.40**	**201**	P	**P**	**05 51 29.1**	**-1.6**
	1.8nm,0.6s,baz=58,slow=13,SNR=5.4						
	1.8nm,0.6s						
OBN	**Obninsk**	**89.82**	**325**	LR	LR	06 36 18.4	
	comp=Z,36nm,18.5s,baz=177,slow=38						

IDC 11 05:52:22.0±0.7, 1°.03S×24°.56W, h0km, mb4.0/8, mbtmp4.1/9, ML4.1/1, MS3.5/38, Error ellipse: s-maj=32.8km s-min=19.2km az=146.0

ISC 11 05:52:25.2±0.7, 1°.1S±0°.2×24°.6W±0°.1, h22km, n48, σ0⁹99/12, mb4.0/8, MS3.5/37, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**12.12**	**124**	T	T	06 07 39.1	
	baz=303,slow=74,SNR=194						
H10N2	**ASCENSION HYDR**	**12.12**	**124**	T	T	06 07 36.1	
	baz=303,slow=74,SNR=184						
H10N1	**ASCENSION HYDR**	**12.14**	**124**	T	T	06 07 40.4	
	baz=303,slow=74,SNR=219						
RCBR	**Riachuelo**	**12.22**	**247**	Pn	**Pn**	**05 55 16.4**	**-1.6**
	1.2nm,0.3s,baz=74,slow=13,SNR=10						
RCBR				Sn	Sn	05 57 21.7	-12
	0.1nm,0.3s,baz=144,slow=14,SNR=1.3						
RCBR				LR	LR	05 58 55.6	
	comp=Z,193nm,21.1s,baz=72,slow=32						
	5.2nm,0.4s						
H10S3	**ASCENSION HYDR**	**12.63**	**129**	T	T	06 08 17.9	
	baz=273,slow=74,SNR=84						
H10S2	**ASCENSION HYDR**	**12.65**	**129**	T	T	06 08 18.5	
	baz=307,slow=74,SNR=27						
DBIC	**Dimbokro**	**21.16**	**68**	P	**P**	**05 57 08.8**	**-0.4**
	9.9nm,1.0s,baz=249,slow=8.9,SNR=3.8						
DBIC				LR	LR	06 03 29.3	
	comp=Z,198nm,21.0s,baz=286,slow=32						
	9.9nm,1.0s						
BDFB	**Brasilia**	**27.25**	**237**	LR	LR	06 08 25.5	
	comp=Z,228nm,18.6s,baz=68,slow=35						
TORD	**Torodi Ar. Bea**	**29.67**	**61**	P	**P**	**05 58 29.4**	**-0.3**
	1.6nm,0.9s,baz=262,slow=6.6,SNR=5.6						
TORD				LR	LR	06 08 39.6	
	comp=Z,143nm,21.1s,baz=278,slow=33						
	1.6nm,0.9s						
MDT	**Midelt**	**38.63**	**27**	LR	LR	06 14 55.1	
	comp=Z,84nm,19.4s,baz=236,slow=35						
SIV	**San Ignacio**	**38.88**	**246**	LR	LR	06 15 44.5	
	comp=Z,100nm,18.4s,baz=106,slow=36						
CPUP	**Villa Florida**	**40.26**	**229**	LR	LR	06 16 30.1	
	comp=Z,69nm,18.1s,baz=54,slow=36						
PCRV	**Puerto La Cruz**	**41.36**	**287**	LR	LR	06 16 00.1	
	comp=Z,27nm,20.7s,slow=34						
ESDC	**Sonseca Array**	**44.74**	**23**	P	**P**	**06 00 37.9**	**+0.8**
	1.6nm,1.1s,baz=215,slow=9.4,SNR=8.2						
ESDC				LR	LR	06 16 57.0	
	comp=Z,26nm,21.1s,baz=268,slow=33						
	1.6nm,1.1s						
SJG	**San Juan**	**45.08**	**297**	LR	LR	06 15 40.8	
	comp=Z,44nm,19.7s,baz=146,slow=31						
TSUM	**Tsumeb**	**45.09**	**116**	LR	LR	06 15 31.9	
	comp=Z,54nm,19.4s,baz=157,slow=31						
LPAZ	**La Paz**	**45.45**	**248**	P	**P**	**06 00 45.3**	**+1.6**
	1.7nm,0.7s,baz=61,slow=7.1,SNR=7.9						
LPAZ				LR	LR	06 19 30.5	
	comp=Z,71nm,18.5s,baz=71,slow=36						
	1.7nm,0.7s						
SDV	**Santo Domingo**	**46.90**	**283**	LR	LR	06 18 27.0	
	comp=Z,36nm,21.6s,baz=97,slow=33						
LVC	**Limon Verde**	**48.06**	**240**	LR	LR	06 22 36.1	
	comp=Z,45nm,18.9s,baz=74,slow=38						
KEST	**Kesra**	**48.40**	**37**	LR	LR	06 22 36.6	
	comp=Z,175nm,18.1s,baz=316,slow=38						
ROSC	**El Rosal**	**50.00**	**277**	LR	LR	06 21 49.8	
	comp=Z,77nm,18.7s,baz=117,slow=35						
CFA	**Coronel Fontan**	**51.16**	**229**	LR	LR	06 22 59.4	
	comp=Z,36nm,18.2s,baz=270,slow=36						
SUR	**Sutherland**	**52.87**	**131**	LR	LR	06 20 53.2	
	comp=Z,23nm,18.1s,baz=320,slow=32						
NNA	**Nana**	**52.91**	**256**	LR	LR	06 23 21.7	
	comp=Z,115nm,21.7s,baz=42,slow=35						
ATAH	**Atahualpa**	**53.95**	**262**	LR	LR	06 24 21.5	
	comp=Z,74nm,21.6s,baz=82,slow=36						
LSZ	**Lusaka**	**53.97**	**108**	LR	LR	06 21 02.3	
	comp=Z,31nm,19.6s,baz=312,slow=32						
BOSA	**Boshof**	**54.87**	**125**	LR	LR	06 20 28.6	
	comp=Z,36nm,21.9s,baz=243,slow=31						
MBAR	**Mbarara**	**55.35**	**90**	LR	LR	06 22 47.6	
	comp=Z,107nm,19.3s,baz=284,slow=33						
PLCA	**Paso Flores**	**57.29**	**220**	LR	LR	06 24 42.2	
	comp=Z,24nm,19.7s,baz=52,slow=34						
JTS	**Las Juntas de**	**61.08**	**282**	LR	LR	06 29 55.1	
	comp=Z,24nm,18.3s,baz=100,slow=37						
KMBO	**Kilima Mbogo**	**61.85**	**91**	LR	LR	06 27 17.4	
	comp=Z,113nm,18.0s,baz=270,slow=34						
MLR	**Muntele Rosu**	**64.30**	**37**	LR	LR	06 30 53.6	
	comp=Z,63nm,20.6s,baz=216,slow=36						
BORG	**Borgarnes**	**65.70**	**2**	LR	LR	06 25 09.4	
	comp=Z,18nm,21.0s,baz=281,slow=30						
MMAI	**Mount Meron Ar**	**65.81**	**53**	LR	LR	06 34 05.7	
	comp=Z,17nm,18.8s,baz=242,slow=38						
TKL	**Tuckaleechee C**	**66.00**	**310**	LR	LR	06 25 50.3	
	comp=Z,45nm,21.7s,baz=102,slow=30						
AKASG	**Malin Array Be**	**68.85**	**33**	P	**P**	**06 03 26.9**	**-1.0**
	3.1nm,0.8s,baz=238,slow=7.0,SNR=8.4						
AKASG				LR	LR	06 34 43.2	
	comp=Z,26nm,18.8s,baz=322,slow=37						
	3.1nm,0.8s						
SNAA	**Sanae**	**71.86**	**173**	LR	LR	06 30 36.6	
	comp=Z,12nm,19.3s,baz=94,slow=32						
GNI	**Gasi**	**75.03**	**48**	LR	LR	06 38 31.0	
	comp=Z,13nm,19.7s,baz=296,slow=37						
TXAR	**Lajitas Array**	**80.98**	**300**	P	**P**	**06 04 39.5**	**+0.7**
	0.5nm,0.8s,baz=122,slow=6.4,SNR=4.6						
	0.5nm,0.8s						
ANMO	**Albuquerque**	**83.92**	**305**	LR	LR	06 35 14.6	
	comp=Z,30nm,20.5s,baz=210,slow=31						
WSAR	**Wadi Sarin**	**84.21**	**67**	LR	LR	06 42 18.6	
	comp=Z,27nm,19.6s,baz=234,slow=36						
PDAR	**Pinedale Array**	**87.00**	**313**	P	**P**	**06 05 09.1**	**-0.2**
	0.6nm,0.9s,baz=106,slow=4.6,SNR=3.2						
PDAR				LR	LR	06 38 37.5	
	comp=Z,30nm,21.0s,baz=81,slow=32						
	0.6nm,0.9s						
QSPA	**South Pole Qui**	**89.01**	**180**	P	**P**	**06 05 19.2**	**+1.0**
	3.9nm,0.9s,baz=188,slow=1.4,SNR=13						
	3.9nm,0.9s						
YKA	**Yellowknife Ar**	**90.94**	**332**	LR	LR	06 41 02.6	
	comp=Z,30nm,20.1s,baz=91,slow=32						
NVAR	**Mina Array Bea**	**93.55**	**308**	LR	LR	06 41 33.1	
	comp=Z,14nm,21.0s,baz=88,slow=32						
STKA	**Stephens Creek**	**144.72**	**159**	PKP	**PKPdf**	**06 12 00.4**	**-0.6**
	3.6nm,0.7s,baz=162,slow=6.4,SNR=4.5						
ASAR	**Alice Springs**	**147.74**	**141**	PKPbc	**PKPbc**	**06 12 09.0**	**-0.2**
	2.2nm,0.7s,baz=204,slow=2.4,SNR=17						
WRA	**Warramunga Arr**	**150.64**	**136**	PKPbc	**PKPbc**	**06 12 16.3**	**-0.2**
	1.7nm,0.9s,baz=241,slow=2.1,SNR=8.2						

AEIC 11 06:05:20.6±2.6, 61°.59N±0°.02×141°.08W±0°.04, h10km±4km, ML3.9, mb4.1/10(NEIC), ML4.0/183(NEIC), Mwr4.3(OTT), Mwr3.9/88(NEIC), Error ellipse: s-maj=2.6km s-min=2.2km az=114.0

NEIC 11 06:05:21.4, 61°.58N×141°.10W, h1km

NEIC 11 06:05:21.7±2.2, 61°.573N±0°.010×141°.08W±0°.03, h4km±4km, Error ellipse: s-maj=2.4km s-min=1.2km az=112.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr0.87; Mθθ-1.11; Mφφ0.24; Mrθ-0.17; Mθφ0.00; Mφr-0.12; Fault plane solution: M0 1.03000×10¹⁵ NP1:ϕs260.29000°, δ50.67000°, λ76.73000°. NP2: ϕs100.70000°, δ41.16000°, λ105.65000°. Principal axes: T 0.9032, Plg79.0000°, Azm115.0000°; N 0.2196, Plg10.0000°, Azm269.0000°; P -1.1228, Plg5.0000°, Azm360.0000°;

IDC 11 06:05:21.4±0.6, 61°.71N×140°.91W, h0km, mb3.9/14, mbtmp3.9/21, ML3.5/7, MS3.0/5 Error ellipse: s-maj=16.6km s-min=8.6km az=42.0

NEIC 11 06:05:22.2, 61°.58N×141°.10W, h6km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr3.60; Mθθ-3.83; Mφφ-0.86; Mrθ0.66; Mφθ0.37; Mφr-0.40; Fault plane solution: M0 3.90000×10¹⁵ NP1:ϕs101.00000°, δ51.00000°, λ95.00000°. NP2:ϕs273.00000°, δ40.00000°, λ84.00000°. Principal axes: T 4.0500, Plg83.0000°, Azm43.0000°; N -0.4756, Plg4.0000°, Azm278.0000°; P -3.5744, Plg5.0000°, Azm188.0000°;

ANF 11 06:05:22.3±0.1, 61°.56N×141°.03W, h10km, ML4.2/85 Error ellipse: s-maj=2.0km s-min=1.4km az=63.0

PGC 11 06:05:22.2, 61°.58N×141°.10W, h5km, ML4.1/34, Mw4.3, 212km Wnw of Haines Jct., Yt Southern Alaska

ISC 11 06:05:21.9±0.9, 61°.58N±0°.01×141°.06W±0°.01, h8km±6km, n450, σ1⁹35/515, mb4.2/17, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK2	**White River**	**0.23**	**26**		**Pg**	**06 05 26.3**	**-0.3**
YUK2					**Sg**	**06 05 30.0**	**+0.2**
YUK2	**White River**	**0.23**	**26**	P	**Pg**	**06 05 26.4**	**-0.3**
YUK2				S	**Sg**	**06 05 29.8**	**0.0**
YUK3	**Moose Creek**	**0.35**	**55**		**Pg**	**06 05 28.5**	**-0.3**
YUK3					**Sg**	**06 05 33.7**	**+0.2**
YUK3	**Moose Creek**	**0.35**	**55**	P	**Pg**	**06 05 28.5**	**-0.3**
	baz=237,SNR=1000						
YUK3				S	**Sg**	**06 05 33.7**	**+0.2**
	baz=237						
YUK3	**Moose Creek**	**0.35**	**55**	P	**Pg**	**06 05 28.5**	**-0.3**
YUK3				S	**Sg**	**06 05 33.6**	**+0.2**
BARN	**Barnard Glacie**	**0.60**	**209**		**Pg**	**06 05 32.3**	**-1.2**
BARN				Sg	**Sg**	**06 05 40.5**	**-0.7**
CTGM	**Chitina Glacie**	**0.63**	**192**	Sg	**Sg**	**06 05 42.7**	**+0.4**
CTGM	**Chitina Glacie**	**0.63**	**192**		**Pg**	**06 05 33.0**	**-1.0**
CTGM	**Chitina Glacie**	**0.63**	**192**	P	**Pg**	**06 05 33.1**	**-1.0**
CTGM				S	**Sg**	**06 05 41.7**	**-0.6**
CTG	**Chitna Glacier**	**0.63**	**193**	P	**Pg**	**06 05 33.1**	**-1.0**
	baz=12						
CTG				S	**Sg**	**06 05 41.8**	**-0.5**
	baz=12						
YUK8	**Steele Glacier**	**0.69**	**115**		**Pg**	**06 05 34.9**	**-0.3**
YUK8					**Sg**	**06 05 43.9**	**-0.2**
YUK8	**Steele Glacier**	**0.69**	**115**	P	**Pg**	**06 05 34.8**	**-0.4**
	baz=296,SNR=1000						
YUK8				S	**Sg**	**06 05 44.0**	**-0.2**
	baz=296						
YUK8	**Steele Glacier**	**0.69**	**115**	P	**Pg**	**06 05 34.9**	**-0.3**
YUK8				S	**Sg**	**06 05 44.0**	**-0.2**
LOGN	**Logan Glacier**	**0.76**	**178**		**Pg**	**06 05 35.5**	**-0.9**
LOGN	**Logan Glacier**	**0.76**	**178**		**Sg**	**06 05 46.5**	**+0.2**
LOGN	**Logan Glacier**	**0.76**	**178**	P	**Pg**	**06 05 35.6**	**-0.9**
LOGN				S	**Sg**	**06 05 46.1**	**-0.1**
PTPK	**Patty Peak**	**0.78**	**241**		**Pg**	**06 05 35.9**	**-1.0**
PTPK					**Sg**	**06 05 46.8**	**-0.3**
PTPK	**Patty Peak**	**0.78**	**241**	P	**Pg**	**06 05 36.0**	**-1.0**
PTPK				S	**Sg**	**06 05 46.0**	**-1.2**
BVCY	**Beaver Creek**	**0.84**	**6**	P	**Pg**	**06 05 37.6**	**-0.5**
BVCY				S	**Sg**	**06 05 48.8**	**-0.3**
M27K	**Edge Creek, AK**	**0.87**	**334**		**Pg**	**06 05 37.8**	**-1.0**
M27K				IAML		06 05 50.8	
	comp=N,10μm,0.5s						
M27K				IAML		06 05 51.0	
	comp=E,7μm,0.9s						
M27K	**Edge Creek, AK**	**0.87**	**334**		**Sg**	**06 05 49.4**	**-0.6**
M27K	**Edge Creek, AK**	**0.87**	**334**	P	**Pg**	**06 05 37.7**	**-1.0**
	baz=154,SNR=1000						
M27K				S	**Sg**	**06 05 49.5**	**-0.6**
	baz=154						
M27K	**Edge Creek, AK**	**0.87**	**334**	P	**Pg**	**06 05 37.7**	**-1.0**
M27K				S	**Sg**	**06 05 49.4**	**-0.6**
O28M	**Mount Upton**	**0.91**	**152**		**Pg**	**06 05 38.3**	**-1.1**
O28M					**Sg**	**06 05 50.0**	**-1.3**
O28M	**Mount Upton**	**0.91**	**152**	P	**Pg**	**06 05 38.3**	**-1.1**
	baz=333,SNR=1000						
O28M				S	**Sg**	**06 05 51.1**	**-0.2**
	baz=333						
O28M	**Mount Upton**	**0.91**	**152**	P	**Pg**	**06 05 38.4**	**-1.1**
O28M				S	**Sg**	**06 05 50.5**	**-0.7**
GRNC	**Granite Creek**	**0.91**	**202**		**Pg**	**06 05 38.1**	**-1.4**
GRNC				Sg	**Sg**	**06 05 50.9**	**-0.4**
GRNC	**Granite Creek**	**0.91**	**202**	P	**Pg**	**06 05 38.1**	**-1.4**
GRNC				S	**Sg**	**06 05 51.1**	**-0.2**
MCARA	**McCarthy VSAT**	**0.96**	**259**		**Pg**	**06 05 39.3**	**-1.1**
MCARA					**Sg**	**06 05 52.7**	**-0.2**
MCARA				IAML		06 05 53.5	
	comp=N,6μm,0.6s						
MCARA				IAML		06 05 53.6	
	comp=E,6μm,0.2s						
MCARA	**McCarthy VSAT**	**0.96**	**259**	P	**Pg**	**06 05 39.2**	**-1.2**
	baz=77,SNR=1000						
MCARA				S	**Sg**	**06 05 52.8**	**-0.1**
	baz=77						
YUK4	**Talbot Arm**	**1.18**	**100**	P	**Pg**	**06 05 43.7**	**-0.8**
	baz=278,SNR=1000						
YUK4	**Talbot Arm**	**1.18**	**100**	P	**Pg**	**06 05 44.0**	**-0.6**
YUK4				S	**Sb**	**06 06 00.4**	**+0.2**
TGL	**Tana Glacier**	**1.19**	**227**		**Pg**	**06 05 42.8**	**-1.9**
TGL					**Sg**	**06 05 58.5**	**-1.7**
TGL				IAML		06 06 04.1	
	comp=N,2μm,1.2s						
VRDI	**Verde Repeater**	**1.20**	**254**	Pn	**Pg**	**06 05 43.3**	**-1.7**
M26K	**Nabesna, AK**	**1.23**	**313**	Pn	**Pg**	**06 05 43.6**	**-1.9**
M26K	**Nabesna, AK**	**1.23**	**313**	P	**Pg**	**06 05 43.6**	**-1.9**
	baz=131,SNR=1000	

WACK Wrangell Chich 1.61 286 Pn Pn 06 05 50.8 0.0
SNH Sunshine Point 1.65 213 Pb 06 05 52.0 -0.6
SNH IAML 06 06 19.5
comp=N,1µm,0.9s
CYK Cape Yakataga 1.66 206 Pb 06 05 52.3 -0.3
N25K Chitina, Valde 1.69 273 Pn 06 05 51.5 -0.4
N25K Chitina, Valde 1.69 273 P **Pn 06 05 51.4 -0.4**
baz=89
BERG Berg Lake 1.75 228 Pn 06 05 53.2 +0.6
BERG IAML 06 06 21.5
comp=E,2µm,0.8s
BERG IAML 06 06 23.5
comp=N,2µm,0.6s
O29M Mount Kennedy 1.76 135 Pn 06 05 53.6 +0.7
O29M IAML 06 06 24.3
comp=N,1µm,1.3s
O29M IAML 06 06 26.3
comp=E,1µm,0.8s
O29M Mount Kennedy 1.76 135 P **Pn 06 05 53.2 +0.4**
baz=318,SNR=543
O29M Mount Kennedy 1.76 135 Pn **Pn 06 05 53.5 +0.7**
O29M Sg **Sg 06 06 18.5 0.0**
YUK7 Dusty Glacier 1.77 125 Pn **Pb 06 05 54.1 -0.6**
YUK7 Sg **Sg 06 06 18.6 0.0**
BCPM Bancas Point 1.77 156 Pb 06 05 54.0 -0.6
BCPM IAML 06 06 24.0
comp=N,1µm,0.8s
L26K Log Cabin Wild 1.80 325 Pn 06 05 53.5 +0.1
L26K Log Cabin Wild 1.80 325 P **Pn 06 05 53.4 +0.1**
baz=143,SNR=340
BMRM Bremner River 1.82 252 Pn 06 05 53.1 -0.5
BMRM Bremner River 1.82 252 P **Pn 06 05 52.9 -0.6**
baz=68
BGLC Bering Glacier 1.82 218 Pb 06 05 55.5 0.0
BGLC Bering Glacier 1.82 218 P **Pn 06 05 53.2 -0.3**
baz=35
MENT Mentasta 1.85 319 Pn 06 05 54.2 +0.3
MENT IAML 06 06 26.6
comp=N,2µm,0.6s
MENT IAML 06 06 27.2
comp=E,2µm,0.7s
MENT Mentasta 1.85 319 P **Pb 06 05 55.2 -0.7**
HYT Haines Junctio 1.88 112 Pn **Pn 06 05 54.8 +0.4**
HYT IAML 06 06 25.1
comp=N,1µm,0.9s
HYT IAML 06 06 28.6
comp=E,1µm,0.8s
HYT Haines Junctio 1.88 112 P **Pn 06 05 54.4 0.0**
baz=295,SNR=858
HYT Haines Junctio 1.88 112 Pn **Pn 06 05 55.1 +0.6**
HYT Sg **Sg 06 06 21.8 -0.5**
N30M Aishikik Lake 1.91 92 Pn 06 05 54.2 -0.5
N30M IAML 06 06 27.8
comp=N,2µm,0.9s
N30M Aishikik Lake 1.91 92 P **Pn 06 05 54.2 -0.5**
baz=276,SNR=721
N30M Aishikik Lake 1.91 92 Pn **Pn 06 05 54.3 -0.5**
N30M Sg **Sb 06 06 21.9 +0.9**
NICHA Nichawak Mount 1.96 228 Pb 06 05 57.0 -0.7
HMT Hamilton 2.00 233 Pb 06 05 57.8 -0.7
HMT IAML 06 06 30.4
comp=N,2µm,0.6s
SUCK Suckling Hills 2.01 223 Pb 06 05 58.0 -0.7
SUCK IAML 06 06 30.2
comp=N,2µm,1.3s
SUCK IAML 06 06 35.7
comp=E,1µm,1.0s
GOAT Goat Mountain 2.04 242 Pn 06 05 57.2 +0.5
L29M L29M 2.06 40 P **Pn 06 05 57.0 +0.2**
baz=223,SNR=1000
L29M Sb **Sb 06 06 26.5 +1.3**
baz=223
L29M L29M 2.06 40 Pn **Pn 06 05 57.0 +0.2**
L29M Sg **Sb 06 06 26.4 +1.2**
PNL Peninsula 2.08 156 Pn 06 05 58.4 +1.2
PNL Peninsula 2.08 156 P **Pb 06 05 59.3 -0.6**
PNL Peninsula 2.08 156 P **Pn 06 05 58.0 +0.8**
baz=338,SNR=181
PNL Peninsula 2.08 156 Pn **Pn 06 05 58.5 +1.3**
PNL Sg **Sg 06 06 28.3 -0.4**
HARP HAARP 2.10 295 P **Pn 06 05 57.9 +0.5**
baz=111
RAGM Ragged Mountai 2.13 237 Pb 06 06 00.1 -0.6
RAGM IAML 06 06 37.5
comp=E,1µm,0.7s
YKU2 Yakutat 2.18 161 Pn 06 05 59.7 +1.2
YKU2 Yakutat 2.18 161 P **Pb 06 06 01.9 +0.3**
M30M Minto, Yukon 2.24 62 Pn **Pn 06 06 00.5 +1.1**
M30M IAML 06 06 34.4
comp=N,1µm,0.7s
M30M IAML 06 06 37.6
comp=E,903nm,0.5s
M30M Minto, Yukon 2.24 62 P **Pn 06 05 59.2 -0.2**
baz=246,SNR=1000
M30M Sb **Sb 06 06 32.4 +1.8**
baz=246
M30M Minto, Yukon 2.24 62 Pn **Pn 06 05 59.2 -0.2**
M30M Pg **Pb 06 06 02.8 +0.1**
M30M Sg **Sb 06 06 32.1 +1.5**
DIV Divide 2.31 261 Pg **Pb 06 06 02.2 -1.7**
DIV Sg **Sb 06 06 33.7 +1.0**
KLU Klutina 2.33 270 Pb 06 06 02.6 -1.6
KLU IAML 06 06 40.0
comp=E,551nm,0.7s
KLU Klutina 2.33 270 P **Pn 06 06 01.2 +0.6**
baz=86
KLU Sb **Sg 06 06 34.8 -1.9**
baz=86
KAIM Kayak Island 2.34 226 Pb 06 06 02.6 -1.6
KAIM IAML 06 06 38.3
comp=E,615nm,1.0s
KAIM IAML 06 06 38.8
comp=N,532nm,1.0s
KAIM Kayak Island 2.34 226 P **Pn 06 06 00.5 -0.2**
baz=43
P30M Million Dollar 2.48 124 Pn 06 06 03.3 +0.7
P30M Million Dollar 2.48 124 P **Pn 06 06 02.3 -0.3**
baz=308
P30M Million Dollar 2.48 124 Pn **Pn 06 06 03.3 +0.7**
P30M Sg **Sg 06 06 40.1 -1.4**
M24K Tolsona, Glenn 2.48 285 Pn 06 06 04.5 +1.8
M24K Tolsona, Glenn 2.48 285 P **Pn 06 06 03.9 +1.2**
baz=100
PAX Paxson 2.49 306 Pn 06 06 04.6 +1.7
PAX Paxson 2.49 306 P **Pn 06 06 03.9 +1.0**
baz=122
EYAK Cordova Ski Ar 2.50 248 Pn 06 06 04.8 +2.0
EYAK Cordova Ski Ar 2.50 248 P **Pb 06 06 05.8 -1.3**
EYAK Cordova Ski Ar 2.50 248 P **Pn 06 06 02.8 -0.1**
baz=63
K27K Chicken 2.50 350 Pn 06 06 03.0 +0.1
K27K Chicken 2.50 350 IAML 06 06 43.0
comp=E,569nm,0.7s
K27K Chicken 2.50 350 P **Pn 06 06 03.0 +0.1**
baz=169
K27K Chicken 2.50 350 Pn **Pn 06 06 02.8 -0.1**
K27K Sn **Sn 06 06 34.3 +0.6**
N31M Braeburn, Yuko 2.53 90 Pn 06 06 03.5 +0.2
N31M Braeburn, Yuko 2.53 90 P **Pn 06 06 03.2 -0.1**
baz=275,SNR=60
N31M Braeburn, Yuko 2.53 90 Pn **Pn 06 06 03.3 0.0**
N31M Sg **Sg 06 06 41.7 -1.4**
O30N Mendenhall 2.54 106 Pn 06 06 03.3 -0.2
O30N IAML 06 06 50.3
comp=N,553nm,0.7s
O30N IAML 06 06 51.1
comp=E,435nm,0.6s
O30N Mendenhall 2.54 106 P **Pn 06 06 02.9 -0.5**
baz=291,SNR=74
P29M Windy Craggy 2.55 139 Pn 06 06 04.8 +1.3
P29M IAML 06 06 44.7
comp=E,823nm,1.2s
P29M IAML 06 06 45.2
comp=N,676nm,1.2s
P29M Windy Craggy 2.55 139 P **Pn 06 06 04.9 +1.3**
baz=322,SNR=36
P29M Windy Craggy 2.55 139 Pn **Pn 06 06 05.4 +1.8**
P29M Sg **Sb 06 06 41.3 +1.9**
DAWY Dawson 2.61 16 Pn 06 06 04.5 +0.1
DAWY IAML 06 06 44.1
comp=E,907nm,0.3s
DAWY IAML 06 06 52.9
comp=N,1µm,0.8s
DAWY Dawson 2.61 16 P **Pn 06 06 04.6 +0.1**
baz=198,SNR=477
DAWY Dawson 2.61 16 Pn **Pn 06 06 04.4 -0.1**
DAWY Sg **Sb 06 06 42.3 +1.1**
FID Port Fidalgo 2.75 255 Pb 06 06 09.1 -2.2
FID IAML 06 06 55.1
comp=N,420nm,0.9s
SCRK Sand Creek 2.76 332 Pn 06 06 06.3 -0.3
SCRK IAML 06 06 52.4
comp=N,448nm,1.0s
SCRK IAML 06 06 57.0
comp=E,450nm,0.7s
SCRK Sand Creek 2.76 332 P **Pn 06 06 06.2 -0.3**
baz=150,SNR=305
RIDG Independent Ri 2.79 323 IAML 06 06 53.3
comp=E,797nm,0.8s
RIDG IAML 06 06 56.0
comp=N,659nm,1.0s
RIDG Independent Ri 2.79 323 P **Pn 06 06 06.5 -0.4**
baz=140
K29M Barlow Dome 2.80 34 Pn 06 06 07.5 +0.4
K29M Barlow Dome 2.80 34 IAML 06 06 51.0
comp=N,591nm,0.7s
K29M IAML 06 06 58.1
comp=E,597nm,0.5s
K29M Barlow Dome 2.80 34 P **Pn 06 06 07.7 +0.6**
baz=217,SNR=273
K29M Barlow Dome 2.80 34 Pn **Pn 06 06 07.7 +0.6**
K29M Sg **Sb 06 06 49.2 +2.6**
HIN Hinchinbrook I 2.91 248 Pn 06 06 10.0 +1.5
HIN IAML 06 06 54.1
comp=E,450nm,0.9s
HIN IAML 06 07 11.7
comp=N,353nm,1.0s
SCM Sheep Creek Mo 3.00 278 Pn 06 06 11.5 +1.7
SCM Sheep Creek Mo 3.00 278 IAML 06 07 05.4
comp=N,338nm,1.2s
SCM Sheep Creek Mo 3.00 278 P **Pn 06 06 11.2 +1.5**
baz=92
GLI Glacier Island 3.00 259 Pn 06 06 11.5 +1.7
GLI Glacier Island 3.00 259 P **Pn 06 06 11.3 +1.5**
baz=74
K24K Donnelly Dome 3.12 318 P **Pn 06 06 12.3 +0.9**
baz=134
MAYO Mayo, Yukon 3.13 47 Pn 06 06 12.3 +0.7
MAYO Mayo, Yukon 3.13 47 P **Pn 06 06 11.5 0.0**
baz=232,SNR=6.4
MAYO Mayo, Yukon 3.13 47 Pn **Pn 06 06 12.3 +0.7**
MAYO Sg **Sg 06 06 60.0 -2.4**
WHY Whitehorse 3.14 104 Pn **Pn 06 06 11.7 0.0**
WHY IAML 06 07 11.6
comp=E,279nm,0.8s
WHY IAML 06 07 13.9
comp=N,425nm,0.7s
WHY Whitehorse 3.14 104 P **Pn 06 06 11.5 -0.2**
baz=290,SNR=138
WHY Whitehorse 3.14 104 Pn **Pn 06 06 11.7 0.0**
WHY Sg **Sg 06 07 00.3 -2.3**
PLBC Pleasant Camp 3.15 130 Pn 06 06 12.9 +1.1
PLBC Pleasant Camp 3.15 130 P **Pn 06 06 12.4 +0.6**
baz=315,SNR=19
PLBC Pleasant Camp 3.15 130 Pn **Pn 06 06 11.6 -0.2**
PLBC Sg **Sg 06 07 01.1 -1.8**
J26L Joseph Creek 3.15 340 IAML 06 07 10.2
comp=N,654nm,0.7s
J26L Joseph Creek 3.15 340 P **Pn 06 06 11.9 +0.1**
baz=158,SNR=102
J29N Klondike Camp 3.16 23 P **Pn 06 06 12.6 +0.6**
baz=206,SNR=14
M23K Glacier View 3.19 277 P **Pn 06 06 13.4 +1.1**
baz=91
M31M Drury Creek, Y 3.22 76 Pn 06 06 12.8 0.0
M31M Drury Creek, Y 3.22 76 IAML 06 07 07.2
comp=E,636nm,0.5s
M31M IAML 06 07 08.0
comp=N,587nm,0.6s
M31M Drury Creek, Y 3.22 76 P **Pn 06 06 13.0 +0.2**
baz=262,SNR=16
M31M Drury Creek, Y 3.22 76 Pn **Pn 06 06 12.8 0.0**
M31M Sg **Sg 06 07 03.1 -2.1**
WAT6 Susitna Watana 3.30 291 Pn 06 06 16.1 +2.1
WAT6 Susitna Watana 3.30 291 P **Pn 06 06 15.8 +1.8**
baz=105
DHY Denali Highway 3.31 300 Pn 06 06 15.2 +1.1
DHY Denali Highway 3.31 300 P **Pn 06 06 16.3 +2.2**
baz=114
MID Middleton Isla 3.39 233 P **Pn 06 06 18.0 +3.0**
SML Sawmill 3.47 277 Pn 06 06 17.8 +1.5
SML Sawmill 3.47 277 P **Pn 06 06 16.6 +0.3**
baz=90
P23K Montague Islan 3.49 246 Pn 06 06 18.1 +1.7
P23K Montague Islan 3.49 246 P **Pn 06 06 17.4 +0.9**
baz=60
SKAG Skagway 3.54 124 Pn 06 06 18.5 +1.4
SKAG IAML 06 07 23.0
comp=E,224nm,1.2s
SKAG IAML 06 07 24.1
comp=N,180nm,1.0s
SKAG Skagway 3.54 124 P **Pn 06 06 18.7 +1.6**
SKAG Skagway 3.54 124 P **Pn 06 06 18.5 +1.4**
baz=309,SNR=13
KNK Knik Glacier 3.55 271 Pn 06 06 19.2 +1.9
KNK Knik Glacier 3.55 271 IAML 06 07 17.9
comp=N,216nm,1.0s
KNK IAML 06 07 20.2
comp=E,197nm,1.2s
KNK Knik Glacier 3.55 271 P **Pn 06 06 19.3 +2.0**
baz=84
PWL Port Wells 3.59 262 Pn 06 06 19.8 +1.9
PWL Port Wells 3.59 262 IAML 06 07 15.3
comp=N,194nm,0.9s
PWL Port Wells 3.59 262 P **Pn 06 06 19.7 +1.8**
baz=75
J25K Salcha River, 3.62 329 Pn 06 06 18.1 -0.3
J25K IAML 06 07 18.8
comp=N,312nm,0.7s
J25K IAML 06 07 22.4
comp=E,291nm,0.9s
J25K Salcha River, 3.62 329 P **Pn 06 06 18.0 -0.3**
baz=145
J30M Hart River 3.70 33 Pn 06 06 19.8 +0.4
J30M IAML 06 07 21.3
comp=N,331nm,0.3s
J30M Hart River 3.70 33 P **Pn 06 06 20.5 +1.1**
baz=218,SNR=1000
J30M Hart River 3.70 33 Pn **Pn 06 06 20.6 +1.1**
J30M Sn **Sn 06 07 02.2 -1.0**
J30M Sg **Sg 06 07 17.5 -3.0**
FARO Faro, Yukon 3.71 76 Pn 06 06 19.2 -0.2
FARO Faro, Yukon 3.71 76 P **Pn 06 06 19.2 -0.2**
baz=263,SNR=27
FARO Faro, Yukon 3.71 76 Pn **Pn 06 06 19.6 +0.2**
FARO Sg **Sg 06 07 17.9 -2.9**
WAT1 Susitna Watana 3.73 293 Pn 06 06 22.1 +2.4
WAT1 Susitna Watana 3.73 293 P **Pn 06 06 22.4 +2.7**
baz=106
GHO Glory Hole Cre 3.75 276 Pn 06 06 21.9 +1.7
GHO Glory Hole Cre 3.75 276 IAML 06 07 25.0
comp=E,165nm,0.9s
GHO IAML 06 07 25.5
comp=N,205nm,1.0s
PMR Palmer 3.86 274 Pn 06 06 23.2 +1.8
PMR Palmer 3.86 274 P **Pn 06 06 24.2 +2.7**
PMR Palmer 3.86 274 P **Pn 06 06 22.2 +0.7**
baz=86
I26K Coal Creek Min 3.86 347 Pn 06 06 22.5 +1.0
I26K Coal Creek Min 3.86 347 P **Pn 06 06 22.3 +0.8**
baz=165
WAT7 Susitna Watana 3.86 292 Pn 06 06 23.5 +1.9
N32M Quiet Lake 3.86 93 Pn 06 06 21.9 +0.3
N32M Quiet Lake 3.86 93 P **Pn 06 06 21.2 -0.5**
baz=280
N32M Quiet Lake 3.86 93 Pn **Pn 06 06 21.6 -0.1**
N32M Sg **Sg 06 07 24.0 -1.8**
HDA Harding Lake 3.91 319 Pn 06 06 21.9 -0.3
HDA IAML 06 07 33.3
comp=N,287nm,0.7s
HDA IAML 06 07 38.1
comp=E,192nm,0.6s
HDA Harding Lake 3.91 319 P **Pn 06 06 21.7 -0.5**
baz=134
I28M Miner Creek 3.92 7 Pn 06 06 22.7 +0.2
I28M Miner Creek 3.92 7 IAML 06 07 30.1
comp=N,402nm,0.6s
I28M Miner Creek 3.92 7 P **Pn 06 06 22.7 +0.2**
baz=188,SNR=228
I28M Miner Creek 3.92 7 Pn **Pn 06 06 22.6 +0.2**
I28M Sn **Sn 06 07 07.3 -1.3**
I28M Sg **Sg 06 07 25.3 -2.3**
I29M Ogilvie Camp, 3.99 17 Pn 06 06 24.0 +0.6
I29M Ogilvie Camp, 3.99 17 P **Pn 06 06 24.0 +0.6**
baz=199,SNR=57
I29M Ogilvie Camp, 3.99 17 Pn **Pn 06 06 23.9 +0.5**
I29M Sn **Sn 06 07 11.7 +1.3**
I29M Sg **Sg 06 07 27.2 -2.8**
I27K Kandik River 4.05 357 P **Pn 06 06 24.8 +0.6**
baz=176,SNR=222
I27K Kandik River 4.05 357 Pn **Pn 06 06 24.7 +0.6**
I27K Sn **Sn 06 07 12.2 +0.4**
I27K Sg **Sg 06 07 30.4 -1.4**
RND Reindeer 4.05 300 Pn 06 06 27.5 +3.2
P32M Atlin 4.13 116 Pn 06 06 26.5 +1.1
P32M Atlin 4.13 116 IAML 06 07 44.0
comp=E,168nm,1.2s
P32M IAML 06 07 44.0
comp=N,142nm,1.4s
P32M Atlin 4.13 116 P **Pn 06 06 25.8 +0.5**
baz=302
P32M Atlin 4.13 116 Pn **Pn 06 06 26.5 +1.1**
P32M Sg **Sg 06 07 30.1 -4.4**
ILAR Eielson Array 4.15 323 Pn **Pn 06 06 24.2 -1.3**
comp=N,2.4nm,0.3s,baz=145,slow=12,SNR=68
ILAR Lg Lg 06 07 29.6
comp=N,22nm,0.3s,baz=115,slow=26,SNR=7.9
ILAR LR LR 06 07 56.0
comp=N,106nm,19.1s,baz=78,slow=38
comp=N,5.2nm,0.4s
RC01 Rabbit Creek A 4.21 267 P **Pn 06 06 28.4 +2.0**
baz=79
I30M Mount Dempster 4.22 28 Pn 06 06 26.9 +0.3
I30M Mount Dempster 4.22 28 P **Pn 06 06 27.9 +1.3**
baz=212,SNR=262
I30M Mount Dempster 4.22 28 Pn **Pn 06 06 27.2 +0.6**
I30M Sn **Sn 06 07 17.1 +1.0**
MCK McKinley 4.23 304 Pn 06 06 29.4 +2.8
MCK McKinley 4.23 304 P **Pn 06 06 29.3 +2.7**
baz=117
P33M Teslin, Yukon 4.25 105 Pn 06 06 26.7 -0.3
P33M Teslin, Yukon 4.25 105 IAML 06 07 43.2
comp=E,152nm,0.8s
P33M IAML 06 07 44.6
comp=N,230nm,0.8s
P33M Teslin, Yukon 4.25 105 P **Pn 06 06 25.8 -1.2**
baz=292,SNR=59
P33M Teslin, Yukon 4.25 105 Pn **Pn 06 06 26.7 -0.3**
P33M Sg **Sg 06 07 36.1 -2.3**
WRH Wood River Hil 4.32 315 IAML 06 07 41.4
comp=E,134nm,0.7s
WRH IAML 06 07 46.6
comp=N,134nm,1.1s
BESE Bessie Mountai 4.32 131 Pn 06 06 28.6 +0.7
BESE Bessie Mountai 4.32 131 Pn **Pn 06 06 28.0 0.0**
BESE Sg **Sg 06 07 36.5 -4.1**
M22K Willow 4.32 276 IAML 06 07 57.4
comp=N,212nm,1.1s
M22K IAML 06 08 01.0
comp=E,210nm,0.7s
M22K Willow 4.32 276 P **Pn 06 06 28.5 +0.7**
baz=88
O22K Cooper Landing 4.36 259 Pn 06 06 30.4 +2.1
O22K Cooper Landing 4.36 259 P **Pn 06 06 29.3 +0.9**
baz=72
SEW Seward 4.37 254 Pn 06 06 29.5 +1.1
SEW Seward 4.37 254 P **Pn 06 06 29.3 +0.9**
baz=66
CUT Chulitna 4.42 285 Pn 06 06 31.4 +2.2
CUT Chulitna 4.42 285 IAML 06 07 50.8
comp=E,247nm,0.9s
CUT IAML 06 07 59.6
comp=N,211nm,1.1s
CUT Chulitna 4.42 285 P **Pn 06 06 30.3 +1.0**
baz=97
PRP Porcupine Dome 4.43 335 Pn 06 06 30.3 +0.8
PRP Porcupine Dome 4.43 335 P **Pn 06 06 29.3 -0.1**
baz=151
COLA College 4.51 320 Pn 06 06 32.4 +2.0
COLA College 4.51 320 P **Pn 06 06 31.9 +1.4**
COLA College 4.51 320 P **Pn 06 06 31.2 +0.8**
baz=134
POKR Poker Plat Res 4.57 324 Pn 06 06 30.9 -0.3
POKR Poker Plat Res 4.57 324 IAML 06 07 49.7
comp=N,216nm,0.8s
POKR IAML 06 07 51.9
comp=E,209nm,1.2s
POKR Poker Plat Res 4.57 324 P **Pn 06 06 31.6 +0.4**
baz=138
SLKM Skilak Lake 4.58 260 Pn 06 06 33.2 +1.7
SUA Susitna One 4.64 273 Pn 06 06 32.9 +0.5
SUA IAML 06 07 54.4
comp=E,94nm,0.9s
BWN Browne 4.64 308 Pn 06 06 34.6 +2.3
BWN Browne 4.64 308 IAML 06 07 57.0
comp=E,237nm,1.1s
R32K Eaglecrest 4.67 132 Pn 06 06 33.5 +0.8
R32K Eaglecrest 4.67 132 P **Pn 06 06 33.5 +0.8**
baz=318,SNR=15
TRF Thorofare Moun 4.67 298 IAML 06 07 57.9
comp=N,109nm,1.4s
TRF IAML 06 08 08.7
comp=E,121nm,1.4s
TRF Thorofare Moun 4.67 298 P **Pn 06 06 34.3 +1.4**
baz=110
H27K Steamboat Moun 4.68 358 Pn 06 06 33.3 +0.6
H27K Steamboat Moun 4.68 358 P **Pn 06 06 33.5 +0.7**
baz=177,SNR=99
H27K Steamboat Moun 4.68 358 Pn **Pn 06 06 33.2 +0.4**
H27K Sn **Sn 06 07 27.6 +0.4**
MDM Murphy Dome 4.69 319 Pn 06 06 32.4 -0.6
MDM Murphy Dome 4.69 319 IAML 06 07 51.2
comp=N,127nm,1.1s
MDM IAML 06 07 59.1
comp=E,115nm,1.1s
MMPY Sheldon Lake, 4.72 73 Pn 06 06 33.4 0.0
MMPY Sheldon Lake, 4.72 73 P **Pn 06 06 33.5 +0.2**
baz=262,SNR=93
MMPY Sheldon Lake, 4.72 73 Pn **Pn 06 06 33.3 -0.1**
MMPY Sg **Sg 06 07 49.2 -4.1**
NEA2 Nenana 4.73 313 Pn 06 06 34.7 +1.1
NEA2 Nenana 4.73 313 IAML 06 07 58.7
comp=E,99nm,0.9s
NEA2 IAML 06 08 05.3
comp=N,89nm,1.6s
NEA2 Nenana 4.73 313 P **Pn 06 06 33.4 -0.1**
baz=126
H29M Whitestone 4.81 13 P **Pn 06 06 34.3 -0.3**
baz=196,SNR=253
H29M Whitestone 4.81 13 Pn **Pn 06 06 34.2 -0.3**
H29M Sn **Sn 06 07 28.3 -2.0**
KTH Kantishna Hill 4.97 298 IAML 06 08 10.3
comp=E,122nm,1.5s
KTH IAML 06 08 11.5
comp=N,135nm,1.0s
SKT Skwentna 4.99 279 Pn 06 06 39.0 +2.0
SKT Skwentna 4.99 279 IAML 06 08 15.9
comp=N,64nm,1.2s
SKT Skwentna 4.99 279 P **Pn 06 06 37.8 +0.7**
baz=90
Q32M Nakina River 5.10 117 Pn 06 06 39.3 +0.5
Q32M Nakina River 5.10 117 IAML 06 08 18.8
comp=N,135nm,0.9s
Q32M Nakina River 5.10 117 Pn **Pn 06 06 39.1 +0.4**
Q32M Sn **Sn 06 07 35.6 -2.3**
Q32M Sg **Sg 06 07 59.5 -6.1**
BRSE Bradley Lake S 5.11 253 Pn 06 06 39.5 +0.8
BRSE Bradley Lake S 5.11 253 P **Pn 06 06 39.4 +0.7**
baz=64
H25L Birch Creek 5.15 338 Pn 06 06 40.2 +1.0
H25L Birch Creek 5.15 338 P **Pn 06 06 40.2 +1.0**
baz=154
STLK Strandline Lak 5.16 274 Pn 06 06 41.2 +1.8
I23K Minto, Yukon-K 5.17 317 Pn 06 06 39.8 +0.2
I23K Minto, Yukon-K 5.17 317 IAML 06 08 17.8
comp=E,109nm,1.3s
I23K Minto, Yukon-K 5.17 317 P **Pn 06 06 40.3 +0.8**
baz=130
EPYK Eagle Plains 5.18 20 P **Pn 06 06 39.7 +0.1**
baz=204
EPYK Eagle Plains 5.18 20 Pn **Pn 06 06 40.0 +0.4**
EPYK Sn **Sn 06 07 38.4 -1.1**
H31M Peel River 5.19 32 Pn 06 06 40.2 +0.4
H31M Peel River 5.19 32 P **Pn 06 06 40.4 +0.6**
baz=218,SNR=25

H31M	**Peel River**	**5.19 32**	Pn	**Pn**	**06 06 40.2**	**+0.4**
H31M			Sn	**Sn**	**06 07 40.3**	**+0.5**
BPAW	**Bear Paw Mtn.**	**5.21 303**		**Pn**	**06 06 42.1**	**+2.1**
BPAW	**Bear Paw Mtn.**	**5.21 303**	IAML		06 08 11.6	
	comp=N,63nm,1.9s					
BPAW	**Bear Paw Mtn.**	**5.21 303**	P	**Pn**	**06 06 41.5**	**+1.5**
	baz=115					
H24K	**Noodor Dome**	**5.24 328**		**Pn**	**06 06 40.2**	**-0.2**
H24K	**Noodor Dome**	**5.24 328**	P	**Pn**	**06 06 40.3**	**-0.2**
	baz=142					
G27K	**Doyon Strip**	**5.26 357**		**Pn**	**06 06 41.4**	**+0.6**
G27K	**Doyon Strip**	**5.26 357**	P	**Pn**	**06 06 41.5**	**+0.8**
	baz=177,SNR=107					
G27K	**Doyon Strip**	**5.26 357**	Pn	**Pn**	**06 06 41.2**	**+0.4**
G27K			Sg	**Sg**	**06 08 08.3**	**-2.3**
S32K	**Killisnoo**	**5.28 138**		**Pn**	**06 06 41.5**	**+0.5**
S32K	**Killisnoo**	**5.28 138**	IAML		06 08 11.5	
	comp=E,56nm,1.3s					
S32K			IAML		06 08 23.1	
	comp=N,55nm,2.2s					
S32K	**Killisnoo**	**5.28 138**	P	**Pn**	**06 06 41.2**	**+0.2**
	baz=324					
FYU	**Fort Yukon**	**5.33 342**		**Pn**	**06 06 42.7**	**+1.0**
PPLA	**Purkeypile**	**5.37 289**		**Pn**	**06 06 44.4**	**+2.0**
PPLA	**Purkeypile**	**5.37 289**	P	**Pn**	**06 06 44.2**	**+1.8**
	baz=99					
N20K	**Mount Spurr**	**5.37 271**	P	**Pn**	**06 06 43.5**	**+1.1**
	baz=81					
SIT	**Sitka**	**5.40 145**	P	**Pn**	**06 06 45.5**	**+2.8**
CAST	**Castle Rocks**	**5.43 295**		**Pn**	**06 06 45.0**	**+1.9**
CAST	**Castle Rocks**	**5.43 295**	P	**Pn**	**06 06 43.8**	**+0.6**
	baz=105					
R33M	**Jennings River**	**5.45 109**		**Pn**	**06 06 43.9**	**+0.4**
R33M	**Jennings River**	**5.45 109**	P	**Pn**	**06 06 42.0**	**-1.4**
	baz=298,SNR=7.0					
R33M	**Jennings River**	**5.45 109**	Pn	**Pn**	**06 06 43.9**	**+0.4**
R33M			Sg	**Sg**	**06 08 12.1**	**-4.6**
G29M	**Pine Creek**	**5.52 13**	P	**Pn**	**06 06 43.7**	**-0.6**
	baz=195,SNR=121					
G29M	**Pine Creek**	**5.52 13**	Pn	**Pn**	**06 06 43.7**	**-0.6**
G26K	**Porcupine Rive**	**5.52 349**	P	**Pn**	**06 06 45.0**	**+0.7**
	baz=166,SNR=88					
MLY	**Manley**	**5.57 313**	P	**Pn**	**06 06 45.0**	**0.0**
	baz=124					
G25K	**Bearman Lake**	**5.65 339**	P	**Pn**	**06 06 47.0**	**+0.9**
	baz=155					
CHUM	**Lake Minchumin**	**5.67 299**	P	**Pn**	**06 06 46.6**	**+0.3**
	baz=109					
H23K	**Yukon River**	**5.69 322**	P	**Pn**	**06 06 46.9**	**+0.3**
	baz=135					
M20K	**Styx River**	**5.75 278**		**Pn**	**06 06 49.2**	**+1.7**
M20K	**Styx River**	**5.75 278**	P	**Pn**	**06 06 48.4**	**+0.9**
	baz=88					
G30M	**tAoh Zraii Nji**	**5.82 19**	P	**Pn**	**06 06 48.3**	**-0.2**
	baz=204,SNR=31					
G30M	**tAoh Zraii Nji**	**5.82 19**	Pn	**Pn**	**06 06 48.2**	**-0.2**
G30M			Sn	**Sn**	**06 07 54.1**	**-1.1**
G24K	**Hadweenzic Riv**	**5.86 334**	P	**Pn**	**06 06 49.5**	**+0.5**
	baz=148					
F28M	**Old Crow**	**6.08 4**	P	**Pn**	**06 06 52.9**	**+0.9**
	baz=185,SNR=20					
F28M	**Old Crow**	**6.08 4**	Pn	**Pn**	**06 06 52.5**	**+0.5**
F28M			Sn	**Sn**	**06 07 58.6**	**-3.1**
TGTN	**Hyland Airport**	**6.11 85**	P	**Pn**	**06 06 52.2**	**-0.3**
	baz=276					
TGTN	**Hyland Airport**	**6.11 85**	Pn	**Pn**	**06 06 54.2**	**+1.7**
TGTN			Sg	**Sg**	**06 08 35.0**	**-2.9**
G31M	**Satah River**	**6.12 26**	P	**Pn**	**06 06 52.2**	**-0.4**
	baz=212,SNR=71					
WTLY	**Watson Lake, Y**	**6.17 98**	Pn	**Pn**	**06 06 55.0**	**+1.7**
WTLY			Sg	**Sg**	**06 08 36.5**	**-3.3**
S34M	**Telegraph Cree**	**6.22 122**		**Pn**	**06 06 54.8**	**+0.9**
S34M	**Telegraph Cree**	**6.22 122**	P	**Pn**	**06 06 54.1**	**+0.2**
	baz=310					
S34M	**Telegraph Cree**	**6.22 122**	Pn	**Pn**	**06 06 55.4**	**+1.5**
S34M			Sg	**Sg**	**06 08 33.4**	**-7.9**
F26K	**Sheenjek River**	**6.28 349**	P	**Pn**	**06 06 55.7**	**+0.9**
	baz=166,SNR=422					
K20K	**Telida**	**6.29 292**		**Pn**	**06 06 56.5**	**+1.6**
K20K	**Telida**	**6.29 292**	P	**Pn**	**06 06 55.6**	**+0.7**
	baz=101					
H22K	**Ishtalitna Cre**	**6.30 318**		**Pn**	**06 06 55.0**	**0.0**
H22K	**Ishtalitna Cre**	**6.30 318**	P	**Pn**	**06 06 55.1**	**0.0**
	baz=129					
M19K	**Big River Lodg**	**6.34 279**	P	**Pn**	**06 06 56.0**	**+0.4**
	baz=87					
F25K	**Christian Rive**	**6.35 344**	P	**Pn**	**06 06 56.8**	**+1.0**
	baz=160,SNR=111					
DLBC	**Dease Lake**	**6.36 115**	P	**Pn**	**06 06 55.4**	**-0.6**
	baz=304					
DLBC	**Dease Lake**	**6.36 115**	Pn	**Pn**	**06 06 56.0**	**0.0**
	comp=N,0.3nm,0.3s,baz=280,slow=15,SNR=6.3					
DLBC			Lg	Lg	06 08 40.4	
	comp=N,2.9nm,0.3s,baz=333,slow=2.3,SNR=4.4					
	comp=N,1.6nm,0.5s					
DLBC	**Dease Lake**	**6.36 115**	Pn	**Pn**	**06 06 56.2**	**+0.2**
DLBC			Sg	**Sg**	**06 08 40.8**	**-5.2**
SYI	**Shuyak Island**	**6.40 247**		**Pn**	**06 06 58.8**	**+2.4**
F30M	**Barrier River**	**6.46 18**	P	**Pn**	**06 06 56.8**	**-0.4**
	baz=203,SNR=18					
G23K	**Bananza Creek**	**6.47 327**		**Pn**	**06 06 57.3**	**-0.1**
G23K	**Bananza Creek**	**6.47 327**	P	**Pn**	**06 06 57.1**	**-0.3**
	baz=139					
J20K	**Nowinta River**	**6.53 299**	P	**Pn**	**06 06 58.9**	**+0.8**
	baz=108					
L19K	**White Mountain**	**6.55 281**	P	**Pn**	**06 06 59.0**	**+0.5**
	baz=89					
E27K	**Coleen River**	**6.64 358**		**Pn**	**06 07 00.2**	**+0.5**
E27K	**Coleen River**	**6.64 358**	P	**Pn**	**06 07 00.2**	**+0.5**
	baz=178,SNR=64					
E27K	**Coleen River**	**6.64 358**	Pn	**Pn**	**06 07 00.1**	**+0.5**
E27K			Sn	**Sn**	**06 08 12.7**	**-2.8**
H21K	**Melozitna Rive**	**6.64 313**		**Pn**	**06 07 01.2**	**+1.5**
H21K	**Melozitna Rive**	**6.64 313**	P	**Pn**	**06 07 00.7**	**+1.0**
	baz=123					
F24K	**Squaw Lake**	**6.65 337**	P	**Pn**	**06 07 00.5**	**+0.7**
	baz=151					
F31M	**Tsiigehtchic**	**6.67 25**	P	**Pn**	**06 06 59.1**	**-1.0**
	baz=212,SNR=9.8					
F31M	**Tsiigehtchic**	**6.67 25**	Pn	**Pn**	**06 06 59.5**	**-0.6**
F31M			Sn	**Sn**	**06 08 13.6**	**-2.6**
Q19K	**Cape Douglas,**	**6.80 253**		**Pn**	**06 07 03.3**	**+1.3**
E25K	**Arctic Village**	**6.84 346**	P	**Pn**	**06 07 03.4**	**+0.9**
	baz=162,SNR=131					
I20K	**Naaghedeneel**	**6.87 304**	P	**Pn**	**06 07 02.5**	**-0.3**
	baz=112					
COLD	**Coldfoot**	**6.91 329**	P	**Pn**	**06 07 03.7**	**+0.3**
	baz=141					
COLD	**Coldfoot**	**6.91 329**	Pn	**Pn**	**06 07 03.7**	**+0.3**
COLD			Sn	**Sn**	**06 08 21.2**	**-0.8**
KDAK	**Kodiak Island**	**6.96 242**	Pn	**Pn**	**06 07 05.3**	**+1.2**
	comp=N,2.2nm,0.3s,baz=70,slow=8.2,SNR=16					
	comp=N,7.2nm,0.4s					
E29M	**Blow River**	**6.97 10**	P	**Pn**	**06 07 04.2**	**0.0**
	baz=193,SNR=76					
G22K	**Bettles**	**7.03 324**	P	**Pn**	**06 07 04.7**	**-0.2**
	baz=135					
E28M	**Babbage River**	**7.09 5**	P	**Pn**	**06 07 05.9**	**+0.1**
	baz=186,SNR=103					
J19K	**Poorman**	**7.10 296**	P	**Pn**	**06 07 07.0**	**+1.0**
	baz=103					
T35M	**Bob Quinn**	**7.20 125**		**Pn**	**06 07 08.3**	**+0.9**
T35M	**Bob Quinn**	**7.20 125**	Pn	**Pn**	**06 07 08.5**	**+1.1**
E24K	**Your Creek**	**7.25 337**	P	**Pn**	**06 07 09.0**	**+1.0**
	baz=151					
H20K	**Anotleneega Mo**	**7.31 308**		**Pn**	**06 07 10.4**	**+1.5**
H20K	**Anotleneega Mo**	**7.31 308**	P	**Pn**	**06 07 09.7**	**+0.8**
	baz=116					
G21K	**Allakaket**	**7.36 318**	P	**Pn**	**06 07 09.9**	**+0.3**
	baz=126					
E23K	**Chandalar**	**7.45 334**	P	**Pn**	**06 07 11.9**	**+1.0**
	baz=147					
INK	**Inuvik**	**7.47 22**		**Pn**	**06 07 11.6**	**+0.6**
INK	**Inuvik**	**7.47 22**	P	**Pn**	**06 07 10.9**	**-0.1**
	baz=209,SNR=22					
INK	**Inuvik**	**7.47 22**	Pn	**Pn**	**06 07 10.0**	**-1.0**
	comp=N,0.9nm,0.3s,baz=202,slow=20,SNR=20					
INK			Lg	Lg	06 09 07.2	
	comp=N,1.6nm,0.3s,baz=236,slow=3.6,SNR=3.4					
INK			LR	LR	06 10 28.0	
	comp=N,60nm,19.6s,baz=176,slow=42					
	comp=N,2.7nm,0.4s					
INK	**Inuvik**	**7.47 22**	Pn	**Pn**	**06 07 10.7**	**-0.2**
INK			Sn	**Sn**	**06 08 29.5**	**-6.2**
J18K	**Innoko River**	**7.49 291**	P	**Pn**	**06 07 12.2**	**+0.9**
	baz=98					
F22K	**John River**	**7.63 326**	P	**Pn**	**06 07 13.6**	**+0.4**
	baz=136					
D27M	**Malcolm River**	**7.70 0**	P	**Pn**	**06 07 15.2**	**+0.9**
	baz=180,SNR=118					
LIRD	**Liard River Hi**	**7.70 100**	Pn	**Pn**	**06 07 14.6**	**+0.4**
LIRD			Sg	**Sg**	**06 09 26.0**	**-2.7**
F21K	**Alatna River**	**7.80 322**	P	**Pn**	**06 07 16.0**	**+0.4**
	baz=131					
D28M	**Stokes Point**	**7.84 6**	P	**Pn**	**06 07 17.0**	**+0.8**
	baz=188,SNR=60					
N17K	**Nushagak Hills**	**7.90 269**	P	**Pn**	**06 07 18.4**	**+1.5**
	baz=75					
H19K	**Roundabout Mou**	**7.92 307**		**Pn**	**06 07 18.9**	**+1.7**
H19K	**Roundabout Mou**	**7.92 307**	P	**Pn**	**06 07 18.8**	**+1.7**
	baz=113					
TOLK	**Toolik Lake Re**	**7.94 337**		**Pn**	**06 07 19.5**	**+2.0**
TOLK	**Toolik Lake Re**	**7.94 337**	P	**Pn**	**06 07 19.5**	**+2.0**
	baz=149					
E22K	**Anaktuvuk Pass**	**8.01 330**	P	**Pn**	**06 07 19.8**	**+1.3**
	baz=140					
D25K	**Kavik River**	**8.08 346**	P	**Pn**	**06 07 21.3**	**+1.8**
	baz=162,SNR=14					
K17K	**Iditarod**	**8.15 286**	P	**Pn**	**06 07 21.2**	**+0.8**
	baz=90					
L17K	**Donlin**	**8.17 281**	P	**Pn**	**06 07 21.1**	**+0.4**
	baz=86					
D24K	**Happy Valley**	**8.26 340**	P	**Pn**	**06 07 23.6**	**+1.7**
	baz=153					
WRGLY	**Wrigley**	**8.33 71**		**Pn**	**06 07 21.8**	**-1.1**
TOAD	**Toad River Com**	**8.34 102**	Sg	**Sg**	**06 09 48.6**	**-0.6**
F20K	**Avaraart Lake**	**8.39 317**	P	**Pn**	**06 07 25.9**	**+2.3**
	baz=124					
G19K	**Purcell Mounta**	**8.41 310**		**Pn**	**06 07 26.5**	**+2.5**
G19K	**Purcell Mounta**	**8.41 310**	P	**Pn**	**06 07 25.9**	**+1.9**
	baz=116					
KOTAN	**Kotaneelee Air**	**8.43 92**	P	**Pn**	**06 07 24.9**	**+0.7**
	baz=287					
D23K	**Nanushuk River**	**8.43 336**	P	**Pn**	**06 07 26.6**	**+2.4**
	baz=147					
C26K	**Camden Bay**	**8.52 351**	P	**Pn**	**06 07 27.8**	**+2.4**
	baz=168,SNR=66					
FLDN	**Fort Liard**	**8.67 91**	Pn	**Pn**	**06 07 29.9**	**+2.5**
NBC1	**NorthernBC 1**	**8.69 95**	Pn	**Pn**	**06 07 29.8**	**+2.1**
C24K	**Franklin Bluff**	**8.76 342**	P	**Pn**	**06 07 30.3**	**+1.7**
	baz=155					
D22K	**Ayikyak River**	**8.79 331**	P	**Pn**	**06 07 30.6**	**+1.5**
	baz=141					
C23K	**Itkillik River**	**9.16 339**		**Pn**	**06 07 36.4**	**+2.2**
C23K	**Itkillik River**	**9.16 339**	P	**Pn**	**06 07 36.6**	**+2.4**
	baz=150					
NBC2	**NorthernBC 2**	**9.28 93**	Pn	**Pn**	**06 07 37.0**	**+1.0**
NBC2			Sg	Sn	06 10 13.9	+54
FNSB	**Fort Nelson**	**9.53 99**	Pn	**Pn**	**06 07 39.9**	**+0.6**
FNSB			Sn	**Sn**	**06 09 24.9**	**-1.6**
NBC5	**NorthernBC 5**	**10.16 105**	Pn	**Pn**	**06 07 48.5**	**+0.5**
NBC5			Sg		06 10 46.5	
C36M	**Paulatuk**	**10.47 35**		**Pn**	**06 07 53.5**	**+1.4**
C36M	**Paulatuk**	**10.47 35**	P	**Pn**	**06 07 50.8**	**-1.4**
	baz=230					
C36M	**Paulatuk**	**10.47 35**	Pn	**Pn**	**06 07 50.7**	**-1.4**
BBB	**Bella Bella**	**11.75 137**	Pn	**Pn**	**06 08 11.7**	**+2.0**
	comp=N,0.2nm,0.3s,baz=1.3,slow=13,SNR=1.7					
BBB			LR	LR	06 12 01.3	
	comp=N,70nm,20.0s,baz=81,slow=34					
	comp=N,10nm,0.9s					
YKA	**Yellowknife Ar**	**12.42 74**	Pn	**Pn**	**06 08 17.1**	**-1.5**
	comp=N,0.2nm,0.3s,baz=286,slow=16,SNR=2.4					
YKA			Lg	Lg	06 11 45.5	
	comp=N,0.1nm,0.3s,baz=276,slow=26,SNR=2.3					
	comp=N,0.5nm,0.4s					
EDM	**Edmonton**	**16.99 107**	P	**Pn**	**06 09 20.8**	**+1.1**
NEW	**Newport**	**19.00 124**	P	**Pn**	**06 09 45.2**	**+0.8**
	comp=N,0.1nm,0.3s,baz=345,slow=7.9,SNR=6.0					
	comp=N,3.4nm,0.9s					
RES	**Resolute Bay**	**20.83 33**	P	**P**	**06 10 03.1**	**-0.4**
	comp=N,2.4nm,0.9s,baz=253,slow=9.9,SNR=2.1					
	comp=N,2.4nm,0.9s					
CHMT	**Chamberlain Mo**	**21.66 120**	P	**P**	**06 10 15.0**	**+2.2**
LYMT	**Lyon Mountain**	**22.01 118**	P	**P**	**06 10 19.1**	**+2.4**
EGMT	**Eagleton**	**22.29 113**	P	**P**	**06 10 20.5**	**+1.0**
EGMT			IAmb	IAmb	06 10 26.1	
	comp=Z,11nm,1.0s					
YBH	**Yreka Blue Hor**	**22.75 142**	LR	LR	06 17 55.1	
	comp=Z,73nm,19.1s,baz=325,slow=33					
HLID	**Hailey**	**23.95 127**	IAmb	IAmb	06 10 40.3	
	comp=Z,4.8nm,1.4s					
FXWY	**Fox Creek**	**25.23 122**	P	**P**	**06 10 47.2**	**-1.0**
FXWY			IAmb	IAmb	06 10 54.8	
	comp=Z,10nm,1.4s					
TPAW	**Teton Pass**	**25.39 122**	P	**P**	**06 10 48.7**	**-1.1**
REDW	**Red Top Meadow**	**25.53 122**	P	**P**	**06 10 51.2**	**+0.2**
BW06	**Boulder Array**	**26.56 121**	P	**P**	**06 10 59.3**	**-1.0**
BW06			IAmb	IAmb	06 11 06.5	
	comp=Z,5.4nm,1.3s					
PD31	**Pinedale Array**	**26.56 121**	P	**P**	**06 10 59.3**	**-1.0**
PD31			IAmb	IAmb	06 11 06.5	
	comp=Z,4.7nm,1.3s					
PDAR	**Pinedale Array**	**26.56 121**	P	**P**	**06 11 02.0**	**+1.8**
PDAR	**Pinedale Array**	**26.56 121**	P	**P**	**06 11 01.9**	**+1.6**
	comp=Z,2.3nm,1.1s,baz=317,slow=6.1,SNR=8.4					
	comp=Z,2.3nm,1.1s					
NVAR	**Mina Array Bea**	**27.12 138**	P	**P**	**06 11 06.8**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=326,slow=7.2,SNR=3.7					
	comp=Z,0.4nm,0.7s					
TXAR	**Lajitas Array**	**40.54 125**	P	**P**	**06 13 03.4**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=327,slow=6.5,SNR=2.4					
TXAR			PcP	**PcP**	**06 15 04.1**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=301,slow=1.9,SNR=3.0					
	comp=Z,0.2nm,0.6s					
TKL	**Tuckaleechee C**	**43.93 99**	P	**P**	**06 13 28.7**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=337,slow=11,SNR=2.8					
	comp=Z,1.7nm,0.7s					
FINES	**FINESS Array B**	**56.91 7**	P	**P**	**06 15 06.8**	**0.0**
	comp=Z,3.0nm,0.9s,baz=7.4,slow=14,SNR=2.4					
	comp=Z,3.0nm,0.9s					
EKA	**Eskdalemuir Ar**	**58.81 27**	P	**P**	**06 15 19.7**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=358,slow=6.5,SNR=2.6					
	comp=Z,2.8nm,0.8s					
ZALV	**Zalsovo Beam**	**59.24 330**	P	**P**	**06 15 22.9**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=26,slow=7.2,SNR=4.2					
	comp=Z,1.2nm,0.7s					
BVAR	**Borovoye Array**	**63.05 339**	P	**P**	**06 15 49.3**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=44,slow=8.7,SNR=9.5					
	comp=Z,2.3nm,0.8s					
KURBB	**Kurchatov Arra**	**63.76 333**	P	**P**	**06 15 52.9**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=24,slow=6.0,SNR=6.0					
	comp=Z,1.2nm,0.8s					
MKAR	**Makanchi Array**	**66.48 329**	P	**P**	**06 16 11.6**	**0.0**
	comp=Z,0.5nm,0.7s,baz=40,slow=4.7,SNR=3.8					
	comp=Z,0.5nm,0.7s					
AKASG	**Malin Array Be**	**67.80 7**	P	**P**	**06 16 19.7**	**0.0**
	comp=Z,2.9nm,0.5s,baz=354,slow=6.2,SNR=11					
	comp=Z,2.9nm,0.5s					
ESDC	**Sonseca Array**	**73.27 33**	P	**P**	**06 16 53.7**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=328,slow=4.6,SNR=2.5					
	comp=Z,0.3nm,0.5s					
KBZ	**Khabaz**	**75.00 357**	P	**P**	**06 17 03.5**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=18,slow=6.3,SNR=2.8					
	comp=Z,2.9nm,0.8s					
CMAR	**Chiang Mai Arr**	**87.17 305**	LR	LR	07 00 44.9	
	comp=Z,10.0nm,18.6s,baz=190,slow=38					
BOSA	**Boshof**	**145.80 22**	PKPbc	**PKPdf**	**06 25 00.5**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=276,slow=2.9,SNR=1.4					
QSPA	**South Pole Qui**	**151.40 180**	PKPbc	**PKiKP**	**06 25 15.1**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=67,slow=9.5,SNR=19					

*IDC **11** 06:16:47.6±2.4, 28°.45N×143°.02E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=72.5km s-min=32.3km az=81.0*

ISC 11 06:16:52.1±2.2, 28°.4N±0°.2×143°.2E±0°.4, h34km, n6, σ1§53/6, mb4.0/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**41.57**	**266**	P	**P**	**06 24 37.9**	**+1.1**
	0.8nm,0.3s,baz=53,slow=8.0,SNR=2.8						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**48.84**	**191**	P	**P**	**06 25 34.0**	**-0.4**
	0.5nm,1.0s,baz=0.3,slow=7.6,SNR=2.1						
	0.5nm,1.0s						
MKAR	**Makanchi Array**	**50.31**	**309**	P	**P**	**06 25 43.4**	**-2.0**
	0.3nm,0.3s,baz=91,slow=11,SNR=4.1						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**52.74**	**314**	P	**P**	**06 26 02.9**	**-0.6**
	1.5nm,0.4s,baz=91,slow=8.2,SNR=16						
	1.5nm,0.4s						
BVAR	**Borovoye Array**	**57.66**	**317**	P	**P**	**06 26 39.1**	**+0.2**
	2.2nm,0.4s,baz=88,slow=7.9,SNR=11						
	2.2nm,0.4s						
FINES	**FINESS Array B**	**77.13**	**334**	P	**P**	**06 28 43.0**	**+1.2**
	1.4nm,0.8s,baz=79,slow=7.2,SNR=5.9						
	1.4nm,0.8s						

IDC 11 06:22:20.1±27.0, 21°.87S×175°.64W, h194km±180km, mb3.7/2, mbtmp4.1/3, ML5.0/1, MS2.9/2, Error ellipse: s-maj=304.2km s-min=45.0km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.23**	**304**	P	Pn	06 24 03.3	-0.1
	0.8nm,0.3s,baz=138,slow=15,SNR=5.8						
MSVF				LR	LR	06 26 35.6	
	comp=Z,38nm,20.9s,baz=140,slow=35						
	3.2nm,0.5s						
ASAR	**Alice Springs**	**46.37**	**258**	P	P	06 30 27.4	+0.1
	3.4nm,0.8s,baz=91,slow=8.3,SNR=29						
	3.4nm,0.8s						
JAY	**Jayapura**	**46.57**	**288**	LR	LR	06 49 06.2	
	comp=Z,32nm,20.8s,baz=346,slow=34						
WRA	**Warramunga Arr**	**46.61**	**263**	P	P	06 30 28.8	-0.3
	2.4nm,0.7s,baz=102,slow=8.0,SNR=19						
	2.4nm,0.7s						
AKASG	**Malin Array Be**	**145.26**	**332**	PKPbc	PKPdf	06 41 33.7	-0.7
	0.9nm,0.5s,baz=37,slow=3.5,SNR=6.1						

*SOF **11** 06:22:37.1, 40°.62N×21°.68E, h3km, MD3.4*
*TIR **11** 06:22:39.6, 40°.64N×21°.67E, h22km±2km, Ml4.0*
*ATH **11** 06:22:39.3, 40°.68N×21°.64E, h24km±3km, ML3.5/16, Manual Solution by A.Papageorgiou First location: 2019/05/02 10:39:54, This location: 2019/05/02 10:39:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km*
*THE **11** 06:22:39.3, 40°.63N×21°.73E, h0km±1km, ML3.3/15, Error ellipse: s-maj=1.0km s-min=0.3km az=353.0*
*SKO **11** 06:22:40.1, 40°.61N×21°.71E, h5km, ML3.3*
*BEO **11** 06:22:40.9±0.5, 40°.68N×21°.75E, h4km±2km, ML3.0/8*
*PDG **11** 06:22:40.4±0.6, 40°.71N×21°.74E, h5km±1km, ML3.4/9, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
*NAO **11** 06:22:53.6, 41°.09N×19°.66E, h33km, mb3.6*

ISC 11 06:22:39.5±1.0, 40°.62N±0°.02×21°.71E±0°.01, h3km±9km, n164, σ1§04/229, 12C-11D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NASA	**Naoussa**	**0.27**	**88**	P	**Pb**	**06 22 48.0**	**+1.0**
NASA				S	**Sb**	**06 22 52.2**	**+0.2**
FNA	**Florina**	**0.30**	**302**	P	**Pg**	**06 22 45.0**	**-0.4**
FNA				S	**Sg**	**06 22 50.1**	**+0.7**
	10μm,0.4s						
FNA	**Florina**	**0.30**	**302**	P	**Pg**	**06 22 45.0**	**-0.4**
	baz=304						
FNA				S	**Sg**	**06 22 50.4**	**+1.0**
	baz=304						
FNA	**Florina**	**0.30**	**302**	*e*Pg	**Pg**	**06 22 45.0**	**-0.4**
FNA				*e*Sg	**Sb**	**06 22 51.3**	**-1.7**
FNA	**Florina**	**0.30**	**302**	*i*Pg	**Pg**	**06 22 45.0**	**-0.4**
FNA				*i*Sg	**Sg**	**06 22 50.4**	**+1.0**
FNA	**Florina**	**0.30**	**302**	P	**Pg**	**06 22 44.8**	**-0.6**
FNA				S	**Sg**	**06 22 50.1**	**+0.7**
KTI	**Kastanea**	**0.38**	**127**	P	**Pg**	**06 22 46.8**	**-0.1**
VERN	**Vergina**	**0.48**	**106**	P	**Pg**	**06 22 49.8**	**+1.0**
VERN				S	**Sb**	**06 22 58.6**	**+0.5**
NEST	**Nestorio**	**0.55**	**248**	P	**Pg**	**06 22 49.6**	**-0.5**
NEST				S	**Sg**	**06 22 58.5**	**+1.3**
	3μm,0.4s						
NEST	**Nestorio**	**0.55**	**248**	P	**Pg**	**06 22 50.5**	**+0.4**
NEST				S	**Sg**	**06 22 58.4**	**+1.2**
PENT	**Pentalofos**	**0.61**	**226**	P	**Pg**	**06 22 50.5**	**-0.8**
PENT	**Pentalofos**	**0.61**	**226**	P	**Pg**	**06 22 51.2**	**-0.1**
PENT				S	**Sb**	**06 23 00.9**	**-1.1**
GRG	**Griva**	**0.62**	**57**	P	**Pg**	**06 22 51.1**	**-0.3**
GRG				S	**Sg**	**06 22 59.8**	**+0.3**
	3μm,0.4s						
GRG	**Griva**	**0.62**	**57**	*i*Pg	**Pg**	**06 22 51.2**	**-0.2**
GRG				*i*Sg	**Sb**	**06 23 01.2**	**-0.9**
GRG	**Griva**	**0.62**	**57**	P	**Pg**	**06 22 51.5**	**+0.1**
GRG				S	**Sg**	**06 22 60.0**	**+0.5**
KBN	**Korca**	**0.70**	**270**	P	**Pg**	**06 22 52.4**	**-0.7**
KBN				S	**Sb**	**06 23 03.8**	**-0.8**
	4μm,0.5s						
KBN	**Korca**	**0.70**	**270**	P	**Pg**	**06 22 52.3**	**-0.7**
	baz=270						
KBN				S	**Sg**	**06 23 03.1**	**+0.9**
	baz=270						
KPRO	**Kipourio**	**0.72**	**202**	P	**Pg**	**06 22 52.5**	**-0.8**
KPRO				S	**Sb**	**06 23 04.2**	**-0.8**
	4μm,0.5s						
KPRO	**Kipourio**	**0.72**	**202**	P	**Pg**	**06 22 53.0**	**-0.3**
KPRO				S	**Sb**	**06 23 05.2**	**+0.1**
OHR	**Ohrid**	**0.85**	**305**	*e

SKO			eLg	Lg	06 23 24.6	
	comp=E,29nm,0.7s					
SKO			eLg	Lg	06 23 25.0	
	comp=N,32nm,0.5s					
SRN	**Sarande**	**1.51 241**	P	**Pn**	**06 23 07.0**	**-0.4**
SRN			S	**Sg**	**06 23 28.7**	**+0.8**
	comp=N,1μm,0.9s					
SRN	**Sarande**	**1.51 241**	P	**Pg**	**06 23 09.6**	**+1.1**
	baz=240					
SRN			S	**Sg**	**06 23 28.0**	**0.0**
	baz=240					
SRN			AMP			
	comp=N,4.3nm,0.6s,baz=240					
SRS	**Serrai**	**1.51 70**	P	**Pn**	**06 23 06.6**	**-0.8**
SRS			S	**Sb**	**06 23 27.6**	**0.0**
SRS	**Serrai**	**1.51 70**	*e*Pg	**Pn**	**06 23 06.6**	**-0.8**
SRS			*e*Sg	**Sn**	**06 23 27.2**	**-0.4**
SRS	**Serrai**	**1.51 70**	*i* Pn	**Pn**	**06 23 06.6**	**-0.8**
SRS	**Serrai**	**1.51 70**	P	**Pn**	**06 23 06.4**	**-1.0**
IGT	**Igoumenitsa**	**1.52 225**	P	**Pn**	**06 23 07.4**	**-0.2**
IGT			S	**Sg**	**06 23 28.7**	**+0.3**
	comp=N,515nm,0.5s					
TIR	**Tirane**	**1.58 298**	⇑P	**Pg**	**06 23 09.9**	**+0.2**
TIR			⇑S	**Sg**	**06 23 31.4**	**+1.2**
TIR	**Tirane**	**1.58 298**	P	**Pn**	**06 23 07.5**	**-0.8**
TIR	**Tirane**	**1.58 298**	P	**Pg**	**06 23 09.6**	**-0.2**
	baz=298					
TIR	**Tirane**	**1.58 298**	P	**Pn**	**06 23 06.0**	**-2.4**
KKB	**Krupnik**	**1.62 41**	*i* Pn	**Pn**	**06 23 08.7**	**-0.2**
KKB			eLg	Lg	06 23 15.0	
KKB	**Krupnik**	**1.62 41**	*i* P	**Pn**	**06 23 08.7**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.64 169**	P	**Pn**	**06 23 09.6**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.64 169**	P	**Pn**	**06 23 08.7**	**-0.6**
XOR	**Xorichti**	**1.69 137**	P	**Pn**	**06 23 09.0**	**-1.0**
XOR			S	**Sb**	**06 23 33.4**	**+0.4**
	comp=N,1μm,0.5s					
XOR	**Xorichti**	**1.69 137**	P	**Pn**	**06 23 09.3**	**-0.7**
VLO	**Vlora**	**1.70 265**	P	**Pg**	**06 23 12.5**	**+0.5**
	baz=265					
VLO			S	**Sg**	**06 23 35.0**	**+0.9**
	baz=265					
VLO			AMP			
	comp=N,6.9nm,0.5s,baz=265					
EVR	**Evrytania**	**1.71 178**	P	**Pn**	**06 23 09.8**	**-0.4**
KEK	**Kerkira**	**1.73 239**	P	**Pn**	**06 23 10.1**	**-0.3**
KOKK	**Kokkinochori,**	**1.75 83**	P	**Pn**	**06 23 10.3**	**-0.4**
NEO	**Neokhori**	**1.75 138**	P	**Pn**	**06 23 09.8**	**-1.0**
OUR	**Ouranopolis**	**1.75 99**	P	**Pn**	**06 23 10.5**	**-0.3**
OUR	**Ouranopolis**	**1.75 99**	P	**Pn**	**06 23 10.1**	**-0.7**
NVR	**Nevrokopi**	**1.78 65**	P	**Pn**	**06 23 10.7**	**-0.5**
NVR	**Nevrokopi**	**1.78 65**	P	**Pn**	**06 23 10.2**	**-1.0**
MMB	**Musomishta**	**1.79 58**	*i* Pn	**Pn**	**06 23 11.0**	**-0.4**
MMB	**Musomishta**	**1.79 58**	*i* P	**Pn**	**06 23 10.8**	**-0.6**
PRVS	**Prvonek**	**1.90 8**	*e*Pg	**Pn**	**06 23 13.1**	**+0.2**
PRVS			*e*Sg	**Sb**	**06 23 38.4**	**-0.6**
BOSS	**Bosilegrad**	**1.96 17**	*e*Pg	**Pn**	**06 23 13.6**	**0.0**
BOSS			*e*Sg	**Sn**	**06 23 39.0**	**+0.3**
TSLK	**Tsoukalades, L**	**1.97 205**	P	**Pn**	**06 23 13.9**	**+0.1**
LKD2	**Lefkada island**	**2.01 204**	P	**Pn**	**06 23 14.1**	**-0.2**
LKD2	**Lefkada island**	**2.01 204**	P	**Pb**	**06 23 16.0**	**-0.6**
	baz=204					
ANX	**Ano Chora**	**2.03 175**	P	**Pn**	**06 23 14.3**	**-0.4**
NYDR	**Nydri-Lefkada**	**2.06 203**	P	**Pn**	**06 23 14.6**	**-0.4**
BCI	**Bajram Curri**	**2.14 325**	P	**Pb**	**06 23 17.4**	**-1.5**
	baz=326					
BCI			S	**Sb**	**06 23 45.0**	**-0.8**
	baz=326					
KAVA	**Kavala**	**2.16 79**	P	**Pn**	**06 23 15.9**	**-0.4**
ATAL	**Atalanti**	**2.18 152**	P	**Pn**	**06 23 17.0**	**+0.4**
BARS	**Barje**	**2.19 2**	*e*Pn	**Pn**	**06 23 17.0**	**+0.2**
BARS	**Barje**	**2.19 2**	*i* Pn	**Pn**	**06 23 17.1**	**+0.2**
EFP	**Efpalio**	**2.20 176**	P	**Pn**	**06 23 17.4**	**+0.5**
KALE	**Kalithea**	**2.25 171**	P	**Pn**	**06 23 16.8**	**-0.9**
TRIZ	**Trizonia**	**2.27 173**	P	**Pn**	**06 23 18.4**	**+0.5**
THAS	**Thassos island**	**2.29 89**	P	**Pn**	**06 23 17.1**	**-1.0**
ULC	**Ulcinj**	**2.29 307**	*e*Pn	**Pn**	**06 23 19.6**	**+1.4**
ULC			*i* Sn	**Sb**	**06 23 50.1**	**-0.2**
VTS	**Vitosha**	**2.30 29**	⇓P	**Pn**	**06 23 19.7**	**+1.3**
VTS			⇓S	**Sn**	**06 23 48.2**	**+1.0**
VTS	**Vitosha**	**2.30 29**	*e*Pn	**Pn**	**06 23 18.8**	**+0.4**
VTS			*e*Sn	**Sn**	**06 23 46.9**	**-0.3**
VTS	**Vitosha**	**2.30 29**	*i* Pn	**Pn**	**06 23 18.8**	**+0.4**
VTS	**Vitosha**	**2.30 29**	*i* P	**Pn**	**06 23 18.5**	**+0.1**
FSK	**Fiskardo**	**2.34 203**	P	**Pn**	**06 23 18.7**	**-0.1**
PVY	**Plav**	**2.37 327**	*e*Pn	**Pn**	**06 23 20.3**	**+0.9**
PVY			*i* Sn	**Sb**	**06 23 51.4**	**-1.2**
LAKA	**Lakka**	**2.39 175**	P	**Pn**	**06 23 19.1**	**-0.5**
DRME	**Dracevica, Mon**	**2.46 310**	*e*Pn	**Pb**	**06 23 22.5**	**-1.9**
DRME	**Dracevica, Mon**	**2.46 310**	⇓*i*Pn	**Pb**	**06 23 22.4**	**-1.9**
DRME			*e*Sn	**Sb**	**06 23 54.2**	**-0.9**
SCTE	**Santa Cesarea**	**2.54 259**	P	**Pn**	**06 23 22.2**	**+0.6**
	baz=259					
SCTE			S	**Sn**	**06 23 53.9**	**+0.8**
	baz=259					
PDG	**Podgorica**	**2.58 315**	⇓P	**Pb**	**06 23 24.5**	**-1.9**
PDG			⇓S	**Sb**	**06 23 58.2**	**-0.4**
PDG	**Podgorica**	**2.58 315**	*e*Pn	**Pn**	**06 23 24.0**	**+1.8**
PDG	**Podgorica**	**2.58 315**	*e*Pn	**Pn**	**06 23 23.8**	**+1.6**
PDG			*i* Sn	**Sb**	**06 23 56.6**	**-1.9**
DMLN	**Damoulianata-K**	**2.60 204**	P	**Pn**	**06 23 23.1**	**+0.7**
KLV	**Kalavryta, Ach**	**2.60 172**	P	**Pn**	**06 23 22.3**	**-0.2**
IVA	**Berane**	**2.63 329**	⇑*i*Pn	**Pn**	**06 23 23.6**	**+0.7**
IVA			*e*Sn	**Sb**	**06 23 57.3**	**-2.7**
SELS	**Selova**	**2.63 350**	*e*Pn	**Pn**	**06 23 22.5**	**-0.4**
GUR	**Goura**	**2.73 170**	P	**Pn**	**06 23 23.7**	**-0.6**
CEME	**Cevo**	**2.84 313**	⇓*i*Pn	**Pn**	**06 23 27.4**	**+1.5**
CEME			*e*Sn	**Sb**	**06 24 03.0**	**-3.2**
KDZ	**Kurdzhali**	**2.92 69**	*e*P	**Pn**	**06 23 25.7**	**-1.1**
SJES	**Sjenica**	**2.94 334**	*e*Pn	**Pn**	**06 23 29.5**	**+2.3**
SJES	**Sjenica**	**2.94 334**	*e*Pn	**Pn**	**06 23 28.6**	**+1.4**
BOVS	**Bovan**	**3.01 360**	⇓P	**Pn**	**06 23 27.7**	**-0.3**
BOVS	**Bovan**	**3.01 360**	*e*Pn	**Pn**	**06 23 27.4**	**-0.7**
HCY	**Herceg Novi**	**3.03 308**	*e*Pn	**Pn**	**06 23 29.8**	**+1.5**
HCY	**Herceg Novi**	**3.03 308**	*e*Pn	**Pn**	**06 23 29.8**	**+1.5**
HCY			*e*Sn	**Sn**	**06 24 07.7**	**+2.6**
IVAS	**Ivanjica**	**3.17 339**	*e*Pn	**Pn**	**06 23 31.1**	**+0.8**
ZAGS	**Zajecar**	**3.21 7**	*e*Pn	**Pn**	**06 23 30.6**	**-0.2**
PLE	**Pljevlja**	**3.21 328**	*e*Pn	**Pn**	**06 23 31.9**	**+0.9**
PLE			*i* Sn	**Sn**	**06 24 11.8**	**+2.0**
TREB	**Trebinje**	**3.27 311**	*e*Pn	**Pn**	**06 23 32.9**	**+1.2**
ALN	**Alexandroupoli**	**3.30 84**	P	**Pn**	**06 23 31.7**	**-0.4**
UPM	**Unac-Piva**	**3.32 322**	*e*Pn	**Pn**	**06 23 34.8**	**+2.2**
UPM	**Unac-Piva**	**3.32 322**	⇓*i*Pn	**Pn**	**06 23 34.7**	**+2.2**
UPM			*e*Sn	**Sn**	**06 24 14.3**	**+1.7**
GRUS	**Gruza**	**3.35 348**	*e*Pn	**Pn**	**06 23 32.7**	**0.0**
DBRK	**Dubrovnik**	**3.37 309**	*e*Pn	**Pn**	**06 23 33.6**	**+0.7**
RUDO	**Rudo**	**3.46 331**	*e*Pn	**Pn**	**06 23 35.2**	**+0.9**
BBLS	**Laziói**	**3.67 333**	*e*Pn	**Pn**	**06 23 38.2**	**+1.1**
BBLS	**Laziói**	**3.67 333**	*e*Pn	**Pn**	**06 23 37.1**	**0.0**
DIVS	**Divibare**	**3.70 340**	*e*Pn	**Pn**	**06 23 38.0**	**+0.3**
DIVS	**Divibare**	**3.70 340**	*e*Pn	**Pn**	**06 23 37.9**	**+0.3**
TRUS	**Trudelj**	**3.73 345**	*e*Pn	**Pn**	**06 23 38.1**	**+0.2**
STON	**Ston**	**3.75 308**	*e*Pn	**Pn**	**06 23 40.5**	**+2.3**
STON	**Ston**	**3.75 308**	*e*Pn	**Pn**	**06 23 41.0**	**+2.8**
NEVS	**Nevesinje**	**3.79 316**	*e*Pn	**Pn**	**06 23 40.4**	**+1.5**
MATE	**Matera**	**3.81 272**	⇑P	**Pn**	**06 23 41.3**	**+2.2**
MDVR	**Moldovita**	**4.16 360**	⇑P	**Pn**	**06 23 45.1**	**+1.2**
LSTV	**Lastovo**	**4.20 302**	*e*Pn	**Pn**	**06 23 44.2**	**-0.2**
TEKS	**Tekeris**	**4.24 338**	*e*Pn	**Pn**	**06 23 44.8**	**-0.2**
HERR	**Herculane**	**4.29 7**	⇑P	**Pn**	**06 23 46.6**	**+1.0**
MAKA	**Makarska**	**4.40 309**	*e*Pn	**Pn**	**06 23 48.1**	**+1.0**
RICI	**Ricice**	**4.46 312**	*e*Pn	**Pn**	**06 23 48.6**	**+0.6**
APE	**Apeiranthos**	**4.63 139**	⇑P	**Pn**	**06 23 50.7**	**+0.2**
HVAR	**Hvar**	**4.69 305**	*e*Pn	**Pn**	**06 23 49.8**	**-1.3**
SRKY	**Kupres RS**	**4.82 317**	*e*Pn	**Pn**	**06 23 53.6**	**+0.6**
GZR	**Gura Zlata**	**4.83 9**	⇑P	**Pn**	**06 23 54.1**	**+1.0**
BZS	**Buzias**	**4.99 359**	⇓P	**Pn**	**06 23 56.5**	**+1.2**
MGRS	**Mrkonjic Grad**	**5.11 319**	*e*Pn	**Pn**	**06 23 59.2**	**+2.3**
KIJV	**Kijevo**	**5.19 312**	*e*Pn	**Pn**	**06 23 59.2**	**+1.2**
BLY	**Banja Luka**	**5.30 322**	*e*Pn	**Pn**	**06 24 02.4**	**+2.8**
VOIR		**5.40 26**	⇑P	**Pn**	**06 24 02.0**	**+1.1**
ZIRJ	**Zirje**	**5.43 306**	*e*Pn	**Pn**	**06 24 01.1**	**-0.3**
ZIRJ			Sn	**Sn**	**06 25 01.9**	**-2.5**
MORI	**Morici**	**5.51 308**	*e*Pn	**Pn**	**06 24 03.0**	**+0.6**
MLR	**Muntele Rosu**	**5.77 31**	⇓P	**Pn**	**06 24 07.5**	**+1.4**
UDBI	**Udbina**	**5.87 314**	*e*Pn	**Pn**	**06 24 10.3**	**+2.8**
DUGI	**Dugi Otok**	**5.97 306**	*e*Pn	**Pn**	**06 24 09.0**	**+0.3**
DUGI			Sn	**Sn**	**06 25 16.3**	**-1.3**
MORH	**Mrgy, Hungar**	**6.02 339**	⇑P	**Pn**	**06 24 10.4**	**+1.1**
VIRC	**Vir**	**6.14 309**	*e*Pn	**Pn**	**06 24 10.7**	**-0.3**
MOSL	**Moslavina**	**6.17 326**	*e*Pn	**Pn**	**06 24 13.0**	**+1.5**
VRI	**Vrincioaia**	**6.39 33**	⇑P	**Pn**	**06 24 15.5**	**+0.9**
CEY	**Cerknica**	**7.38 316**	*e*Pn	**Pn**	**06 24 28.5**	**+0.4**
VYHS	**Vyhne**	**8.13 346**	*e*PN	**Pn**	**06 24 40.2**	**+1.8**
MODS	**Modra-Piesok**	**8.37 339**	*e*PN	**Pn**	**06 24 43.8**	**+2.1**
NB2	**NORSAR Subarra**	**21.44 346**	P	**P**	**06 27 30.0**	**+1.4**
	comp=Z,3.1nm,0.9s,baz=162,slow=11					

IDC 11 06:49:02.1±2.2, 14°.51S×177°.28W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=129.4km s-min=29.5km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.41**	**256**	P	P	06 57 31.1	+0.3
	0.1nm,0.4s,baz=93,slow=8.3,SNR=1.9						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**46.84**	**251**	P	P	06 57 33.9	-0.3
	3.2nm,0.5s,baz=85,slow=8.2,SNR=60						
	3.2nm,0.5s						
ILAR	**Eielson Array**	**82.35**	**13**	P	P	07 01 25.1	-0.4
	0.6nm,0.8s,baz=229,slow=5.9,SNR=5.5						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**83.27**	**58**	P	P	07 01 31.6	+0.5
	0.2nm,0.8s,baz=210,slow=5.2,SNR=2.0						
	0.2nm,0.8s						

FUNV 11 06:50:57.8, 9°.41N×70°.72W, h5km, MW3.2

ISC 11 06:50:56.4±1.4, 9°.42N±0°.04×70°.73W±0°.02, h10km±11km, n21, σ1°.21/39, 2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.54**	**170**	⇓*i*P	**Pg**	**06 51 07.0**	**0.0**
SDV				*e*S	**Sg**	**06 51 14.4**	**+0.3**
SDV				*i*		06 51 15.2	
	comp=Z,230nm,0.3s						
CURV	**Curarigua**	**0.96**	**52**	*e*P	**Pb**	**06 51 14.9**	**-0.3**
CURV				*e*S	**Sb**	**06 51 28.5**	**+0.4**
SOCV	**Socops**	**1.14**	**186**	*e*P	**Pb**	**06 51 17.8**	**-0.5**
SOCV				*e*S	**Sg**	**06 51 33.9**	**+0.8**
SANV	**Sanarito**	**1.18**	**86**	*e*P	**Pn**	**06 51 19.5**	**+0.4**
SANV				*e*S	**Sb**	**06 51 35.1**	**+0.6**
SIQV	**Siquisique**	**1.52**	**37**	*e*P	**Pn**	**06 51 24.8**	**+1.0**
SIQV				*e*S	**Sb**	**06 51 45.7**	**+1.5**
TEPV	**Terepaima**	**1.61**	**70**	*e*P	**Pb**	**06 51 27.1**	**+0.8**
TEPV				*e*S	**Sb**	**06 51 47.8**	**+1.1**
MCQV	**Machiques**	**1.89**	**290**	*e*P	**Pn**	**06 51 29.8**	**+1.0**
MCQV				*e*S	**Sb**	**06 51 55.0**	**+0.3**
CAPV	**Capacho**	**2.20**	**226**	*e*P	**Pn**	**06 51 34.8**	**+1.5**
CAPV				*e*S	**Sn**	**06 52 01.6**	**+0.9**
LL6C	**La Loma 6 Bece**	**2.53**	**277**	*e*P	**Pb**	**06 51 41.6**	**-0.3**
LL6C				*e*S	**Sb**	**06 52 11.1**	**-2.0**
LL6C				*i*		06 52 16.1	
	comp=Z,17nm,0.3s						
URIC	**Uribia, Colomb**	**2.58**	**331**	*e*P	**Pn**	**06 51 36.3**	**-2.1**
URIC				*e*S	**Sb**	**06 52 14.6**	**-0.2**
URIC				*i*		06 52 17.1	
	comp=Z,36nm,0.5s						
CRJC	**Cerrejon, Guaj**	**2.65**	**307**	*e*P	**Pn**	**06 51 38.2**	**-1.2**
CRJC				*e*S	**Sn**	**06 52 13.0**	**+1.4**
CRJC				*i*		06 52 18.7	
	comp=Z,45nm,0.2s						
BAUV	**El Baul**	**2.69**	**100**	*e*P	**Pn**	**06 51 40.8**	**+0.9**
BAUV				*e*S	**Sn**	**06 52 12.7**	**+0.1**
PAMC	**Pamplona, Colo**	**2.84**	**223**	*e*P	**Pn**	**06 51 43.3**	**+0.9**
TURV	**Turiamo**	**3.02**	**70**	*e*P	**Pn**	**06 51 45.7**	**+1.2**
TURV				*e*S	**Sn**	**06 52 21.1**	**+0.4**
BENV	**Beln**	**3.13**	**80**	*e*P	**Pn**	**06 51 47.4**	**+1.4**
BENV				*e*S	**Sn**	**06 52 23.5**	**-0.1**
TACV	**Tcata**	**3.72**	**79**	*e*P	**Pn**	**06 51 54.5**	**+0.4**
TACV				*e*S	**Sn**	**06 52 37.6**	**-0.4**
FUNV	**FUNVISIS**	**4.00**	**75**	*e*P	**Pn**	**06 51 58.6**	**+0.7**
FUNV				*e*S	**Sn**	**06 52 43.6**	**-1.4**
RUSC	**La Rusia**	**4.21**	**214**	*e*P	**Pn**	**06 52 02.2**	**+1.0**
SJCC	**San Jacinto, C**	**4.41**	**277**	*e*P	**Pn**	**06 52 04.4**	**+0.8**
SJCC				*e*S	**Sn**	**06 52 54.9**	**-0.3**
SJCC				*i*		06 53 03.8	
	comp=Z,2.8nm,0.5s						
CACV	**CAICARA DEL OR**	**4.54**	**114**	⇓*i*P	**Pb**	**06 52 12.9**	**-3.3**
CACV				*e*S	**Sb**	**06 53 08.4**	**-2.6**
SPBC	**San Pablo de B**	**5.00**	**222**	*e*P	**Pn**	**06 52 12.7**	**+1.0**

KRSC 11 06:53:28.7±1.8, 49°.34N×157°.30E, h16km±33km, Ml4.3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.55**	**331**	*e*P	Pn	06 53 55.0	-0.6
SKR				*e*S	Sn	06 54 13.3	-2.0
PAU	**Pauzhetka**	**2.15**	**352**	*e*P	Pb	06 54 06.9	-0.4
PAU				*e*S	Sb	06 54 33.2	-0.6
KDTR	**Khodutka, Kamc**	**2.52**	**11**	*e*P	Pb	06 54 12.0	-1.7
KDTR				*e*S	Sb	06 54 42.1	-2.4
ASAK	**Asacha**	**3.07**	**7**	*e*P	Pb	06 54 20.2	-2.8
ASAK				*e*S	Sb	06 54 57.3	-3.1
RUS	**Russkaya**	**3.19**	**14**	*e*P	Pn	06 54 21.3	+3.0
RUS				*e*S	Sn	06 54 58.6	+2.6
MTVR	**Mutnovka**	**3.20**	**10**	*e*P	Pn	06 54 21.9	+3.3
MTVR				*e*S	Sn	06 54 59.9	+3.5
GRL	**Gorelyy**	**3.26**	**8**	*e*P	Pb	06 54 23.1	-3.1
GRL				*e*S	Sn	06 55 01.4	+3.7
KRMR	**Karymshinskiy**	**3.54**	**8**	*e*P	Pn	06 54 26.7	+3.7
KRMR				*e*S	Sb	06 55 09.7	-3.9
APC	**Apacha**	**3.59**	**359**	*e*P	Pn	06 54 26.0	+2.2
PET	**Petropavlovsk**	**3.79**	**13**	*e*P	Pn	06 54 29.8	+3.4
PET				*e*S	Sn	06 55 14.8	+4.2
DALK	**Dalny**	**3.81**	**13**	*e*P	Pn	06 54 30.1	+3.4
DALK				*e*S	Sn	06 55 15.1	+3.9
UGLR	**Uglovaya**	**3.99**	**13**	*e*P	Pn	06 54 33.4	+4.0
AVH	**Avacha**	**4.04**	**12**	*e*P	Pn	06 54 34.5	+4.5
AVH				*e*S	Sn	06 55 21.7	+4.8
KOK	**Koryaka**	**4.05**	**11**	*e*P	Pn	06 54 34.7	+4.6
SDLR	**Sedlovina**	**4.07**	**14**	*e*P	Pn	06 54 33.0	+2.6
KRER	**Koryakskii**	**4.08**	**12**	*e*P	Pn	06 54 34.9	+4.3
KRER				*e*S	Sn	06 55 23.0	+4.9
KRX	**Arik**	**4.12**	**11**	*e*P	Pn	06 54 35.3	+4.2
KRX				*e*S	Sn	06 55 24.4	+5.4
SPN	**Mys Shipunski**	**4.14**	**23**	*e*S	Sn	06 55 22.8	+3.5
GNL	**Ganaly**	**4.38**	**5**	*e*P	Pn	06 54 38.6	+3.8
GNL				*e*S	Sn	06 55 30.1	+4.6
MKZ	**Mys Kozlova**	**5.90**	**26**	*e*P	Pn	06 54 58.8	+3.4
KZV	**Kizimen**	**6.07**	**17**	*e*P	Pn	06 55 02.9	+4.9

OSPL 11 06:58:11.6±2.4, 19°.79N×70°.62W, h0km±8km, ML2.9
SDD 11 06:58:12.6±2.5, 19°.74N×70°.65W, h20km±14km, MD3.5, ML2.7, MW3.5

ISC 11 06:58:12.3±1.1, 19°.72N±0°.03×70°.65W±0°.02, h16km±7km, n27, σ1°.23/53, 7C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.30**	**194**	⇑*e*Pg	**Pg**	**06 58 18.3**	**-0.4**
SC01				*e*Sg	**Sg**	**06 58 23.9**	**+0.9**
SC01				IAML		06 58 27.7	
	comp=Z,1μm,0.4s						
SC01	**Santiago de lo**	**0.30**	**194**	*i* P	**Pg**	**06 58 18.4**	**-0.3**
SC01				*e*S	**Sg**	**06 58 23.9**	**+0.9**
SC01				IAML		06 58 27.7	
	comp=Z,1μm,0.4s						
SC02	**Santiago aerop**	**0.32**	**172**	⇓*e*Pg	**Pg**	**06 58 18.8**	**-0.2**
SC02				*e*Sg	**Sb**	**06 58 25.2**	**+0.8**
LUDR	**Luperon**	**0.33**	**301**	⇑*e*Pg	**Pg**	**06 58 19.2**	**0.0**
LUDR				*e*Sg	**Sb**	**06 58 25.8**	**+1.0**
LUDR				IAML		06 58 30.5	
	comp=Z,644nm,0.5s						
MADR	**Mao Valverde**	**0.45**	**250**	*e*Pg	**Pg**	**06 58 20.8**	**-0.6**
MADR				*e*Sg	**Sb**	**06 58 29.2**	**+0.9**
MADR				IAML		06 58 32.0	
	comp=Z,659nm,1.1s						
CADR	**Cabrera**	**0.67**	**94**	⇓*e*Pg	**Pg**	**06 58 24.9**	**-0.6**
CADR				*e*Sg	**Sg**	**06 58 33.6**	**-0.8**
CADR				IAML		06 58 43.7	
	comp=Z,390nm,0.6s						
LONA1	**Toro Cenizo, N**	**0.81**	**114**	*e*S	**Sg**	**06 58 37.7**	**-1.2**
LONA1				IAML		06 58 46.9	
	comp=Z,1μm,1.8s						
NADR	**Nagua**	**0.83**	**116**	⇑*e*Pg	**Pg**	**06 58 27.8**	**-0.7**
NADR				*e*Sg	**Sb**	**06 58 39.9**	**+0.6**
NADR				IAML		06 58 48.0	
	comp=Z,548nm,0.3s						
ABDR	**Alto Bandera**	**0.90**	**179**	⇑*e*Pg	**Pg**	**06 58 28.1**	**-1.8**
ABDR				*e*Sg	**Sg**	**06 58 41.2**	**-0.7**
ABDR				IAML		06 58 41.8	
	comp=Z,161nm,0.4s						
SDDR	**Presa de Saban**	**0.95**	**219**	*e*Pg	**Pg**	**06 58 28.2**	**-2.5**
SDDR				*e*Sg	**Sg**	**06 58 41.8**	**-1.4**
SDDR				IAML		06 58 42.8	
	comp=Z,138nm,0.2s						
SDDR	**Presa de Saban**	**0.95**	**219**	*i* P	**Pg**	**06 58 28.7**	**-2.0**
SDDR				*e*S	**Sg**	**06 58 41.8**	**-1.4**
SDDR				IAML		06 58 42.8	
	comp=Z,138nm,0.2s						
DR08	**Loma La Naviza**	**0.96**	**142**	*e*Pg	**Pg**	**06 58 28.9**	**-2.0**
DR08				*e*Sg	**Sg**	**06 58 42.8**	**-0.7**
LODA1	**ITESIL, Dajabo**	**1.01**	**260**	*i* P	**Pg**	**06 58 30.5**	**-1.3**
LODA1				*e*S	**Sg**	**06 58 44.8**	**-0.2**
LODA1				IAML		06 58 48.0	
	comp=Z,1μm,3.5s						
BANI	**BANI**	**1.35**	**168**	⇓*e*Pg	**Pn**	**06 58 35.9**	**-0.6**
BANI				*e*Sg	**Sb**	**06 58 55.6**	**+1.3**
BANI				IAML		06 58 57.2	
	comp=Z,243nm,0.3s						
NEDR	**Neiba UASD**	**1.43**	**211**	⇓*e*Pg	**Pn**	**06 58 37.5**	**0.0**
NEDR				*e*Sg	**Sn**	**06 58 55.2**	**-0.7**
NEDR				IAML		06 59 01.3	
	comp=Z,63nm,0.8s						
SDD	**Santo Domingo**	**1.44**	**151**	*e*Pg	**Pn**	**06 58 36.6**	**-1.0**
SDD				*e*Sg	**Sn**	**06 58 56.2**	**+0.1**
SDD				IAML		06 59 02.9	
	comp=Z,48nm,0.3s						
SDD	**Santo Domingo**	**1.44**	**151**	*i* P	**Pn**	**06 58 36.6**	**-1.0**
SDD				*e*S	**Sn**	**06 58 56.2**	**+0.1**
HATOM	**Hato Mayor del**	**1.52**	**127**	*e*Pg	**Pn**	**06 58 38.2**	**-0.5**
HATOM				*e*Sg	**Sn**	**06 58 58.7**	**+0.5**
HATOM				IAML		06 59 00.9	
	comp=Z,165nm,0.2s						
PODR	**Polo**	**1.66**	**201**	*e*Pg	**Pn**	**06 58 41.3**	**+0.5**
PODR				*e*Sg	**Sb**	**06 59 04.9**	**+1.7**
PODR				IAML		06 59 07.8	
	comp=Z,59nm,0.7s						
PODR	**Polo**	**1.66**	**201**	*i* P	**Pn**	**06 58 41.6**	**+0.8**
PODR				*e*S	**Sn**	**06 59 04.3**	**+2.5**
JIDR	**Jimani**	**1.67**	**223**	⇓*e*Pg	**Pn**	**06 58 41.4**	**+0.6**
JIDR				*e*Sg	**Sb**	**06 59 04.7**	**+1.4**
JIDR				IAML		06 59 07.1	
	comp=Z,106nm,0.3s						
MIDR	**Miches**	**1.68**	**116**	⇓*e*Pg	**Pn**	**06 58 40.9**	**0.0**
MIDR				*e*Sg	**Sb**	**06 59 04.3**	**+0.6**
MIDR				IAML		06 59 11.4	
	comp=Z,45nm,0.4s						
LOPE2	**Hotel El Peder**	**1.97**	**212**	*i* P	**Pn**	**06 58 47.2**	**+2.2**
LOPE2				*e*S	**Sn**	**06 59 10.9**	**+1.5**
HIDR	**Higuey Centro**	**2.15**	**121**	⇑*e*Pg	**Pn**	**06 58 48.6**	**+1.2**
HIDR				*e*Sg	**Sb**	**06 59 16.8**	**-0.3**
HIDR				IAML		06 59 24.6	
	comp=Z,63nm,0.6s						
SADR	**Isla Saona**	**2.33**	**130**	⇑*e*Pg	**Pn**	**06 58 52.6**	**+2.6**
SADR				*e*Sg	**Sb**	**06 59 22.9**	**+0.4**
SADR				IAML		06 59 34.4	
	comp=Z,46nm,0.9s						
PCDR	**Punta Cana, DR**	**

R11B				Sb	07 58 36.0	-0.3
R11B	**Troy Canyon, C**	**0.99 116**	P	**Pb**	**07 58 22.7**	**-0.4**
	baz=299					
R11B			S	**Sb**	**07 58 35.9**	**-0.3**
	baz=299					
KVN	**Kaiserville**	**1.11 284**		**Pb**	**07 58 24.4**	**-0.8**
KVN				Sb	07 58 39.2	-0.7
NV11	**Mina Array Sit**	**1.19 253**		**Pn**	**07 58 26.0**	**-0.6**
NV11				Sb	07 58 42.5	+0.4
NV11	**Mina Array Sit**	**1.19 253**	IAML		07 58 45.3	
	comp=N,223nm,0.9s					
MZP	**Montezuma Peak**	**1.21 206**		**Pg**	**07 58 27.2**	**+0.3**
NVAR	**Mina Array Bea**	**1.30 254**		**Pn**	**07 58 27.9**	**-0.4**
NV08	**Mina Array Sit**	**1.32 253**		**Pn**	**07 58 28.2**	**-0.2**
NV09	**Mina Array Sit**	**1.32 255**		**Pn**	**07 58 28.3**	**-0.2**
S11A	**Rachel**	**1.38 146**		**Pg**	**07 58 29.7**	**-0.3**
LHV	**Little Huntoon**	**1.51 250**		**Pb**	**07 58 31.6**	**-0.2**
LHV	**Little Huntoon**	**1.51 250**	IAML		07 58 55.8	
	comp=E,228nm,0.4s					
GMN	**Gold Mountain**	**1.55 196**		**Pg**	**07 58 33.5**	**+0.1**
GMN	**Gold Mountain**	**1.55 196**	IAML		07 58 57.5	
	comp=N,112nm,0.3s					
GMN			IAML		07 59 00.2	
	comp=E,102nm,0.5s					
DSP	**Deep Springs**	**1.73 215**		**Pb**	**07 58 34.8**	**-0.9**
BENR	**Benton**	**1.82 234**		**Pn**	**07 58 35.9**	**+0.4**
SGV	**South Grapevin**	**1.83 188**		**Pb**	**07 58 36.2**	**-1.2**
GRAC	**Grapevine Rang**	**1.87 196**	Pn	**Pg**	**07 58 39.0**	**-0.4**
GRAC			IAML		07 59 08.4	
	comp=E,159nm,0.4s					
GRAC	**Grapevine Rang**	**1.87 196**	P	**Pn**	**07 58 36.3**	**+0.4**
	baz=16					
GRAC			S	**Sb**	**07 59 00.3**	**-1.2**
	baz=16					
TPNV	**Topopah Spring**	**1.88 169**		**Pb**	**07 58 36.9**	**-1.4**
TPNV	**Topopah Spring**	**1.88 169**	IAML		07 59 06.5	
	comp=E,142nm,0.3s					
TPNV	**Topopah Spring**	**1.88 169**	P	**Pn**	**07 58 35.9**	**-0.2**
	baz=349					
TPNV			S	**Sb**	**07 59 00.4**	**-1.5**
	baz=349					
PRN	**Pahroc Range**	**1.91 136**	Pn	**Pn**	**07 58 36.1**	**-0.4**
PRN			IAML		07 59 15.7	
	comp=N,151nm,0.4s					
PRN			IAML		07 59 20.1	
	comp=E,126nm,0.6s					
CPY	**CP-1**	**1.93 164**		**Pn**	**07 58 37.4**	**+0.5**
YERR	**Yerington**	**1.98 276**		**Pn**	**07 58 37.3**	**-0.3**
YERR	**Yerington**	**1.98 276**	IAML		07 59 06.6	
	comp=N,162nm,0.8s					
WCT	**Wildcat Mounta**	**2.00 178**		**Pn**	**07 58 38.4**	**+0.7**
WCT	**Wildcat Mounta**	**2.00 178**	IAML		07 59 10.5	
	comp=N,81nm,0.6s					
WCT			IAML		07 59 12.7	
	comp=E,120nm,0.4s					
MLAC	**Mammoth, Mammo**	**2.04 236**	P	**Pn**	**07 58 37.6**	**-0.8**
	baz=54					
TIN	**Tinemaha, Big**	**2.11 215**	P	**Pn**	**07 58 39.0**	**-0.3**
	baz=34					
TIN			S	**Sn**	**07 59 06.4**	**+0.7**
	baz=34					
OMMB	**Old Mammoth Mi**	**2.15 238**	Pn	**Pb**	**07 58 42.0**	**-1.1**
WAKR	**Walker**	**2.15 263**		**Pn**	**07 58 40.2**	**+0.2**
WAKR	**Walker**	**2.15 263**	IAML		07 59 12.9	
	comp=E,62nm,0.7s					
WAKR			IAML		07 59 14.4	
	comp=N,80nm,0.5s					
SDH	**Striped Hills**	**2.16 172**		**Pn**	**07 58 40.8**	**+0.8**
MDPB	**Devils Postpil**	**2.20 239**	Pn	**Pb**	**07 58 44.3**	**+0.5**
PSUT	**Pine Spring**	**2.25 96**	Pn	**Pn**	**07 58 41.2**	**-0.1**
ELK	**Elko**	**2.25 30**		**Pn**	**07 58 40.6**	**-0.8**
ELK	**Elko**	**2.25 30**	IAML		07 59 16.8	
	comp=N,50nm,0.4s					
PAHR	**Pah Rah Range**	**2.27 295**		**Pb**	**07 58 43.6**	**-1.3**
PNTR	**Pine Nut**	**2.27 278**		**Pb**	**07 58 44.2**	**-0.8**
PNTR	**Pine Nut**	**2.27 278**	IAML		07 59 18.9	
	comp=E,121nm,0.6s					
PNTR			IAML		07 59 18.9	
	comp=N,122nm,0.6s					
FURC	**Furnace Creek,**	**2.33 183**	P	**Pn**	**07 58 42.7**	**+0.6**
	baz=2.8					
FURC			S	**Sn**	**07 59 11.8**	**+1.0**
	baz=2.8					
AMDNV	**Amargosa**	**2.36 172**		**Pn**	**07 58 43.9**	**+1.3**
CWC	**Cottonwood Cre**	**2.59 205**	P	**Pn**	**07 58 46.0**	**+0.1**
	baz=24					
SHPR	**Sheep Range**	**2.59 151**		**Pn**	**07 58 46.6**	**+0.6**
GWY	**Greenwater Val**	**2.60 179**		**Pn**	**07 58 47.4**	**+1.3**
GWY	**Greenwater Val**	**2.60 179**	IAML		07 59 34.6	
	comp=N,53nm,0.9s					
GWY			IAML		07 59 40.5	
	comp=E,59nm,0.6s					
MPK	**Martis Peak**	**2.63 282**	Pn	**Pn**	**07 58 47.4**	**+0.7**
MPK			IAML		07 59 27.0	
	comp=N,69nm,0.7s					
MPK			IAML		07 59 32.0	
	comp=E,61nm,0.9s					
EMB	**Emerald Bay**	**2.65 275**	Pn	**Pn**	**07 58 47.2**	**+0.4**
EMB			IAML		07 59 21.2	
	comp=E,44nm,0.6s					
EMB			IAML		07 59 30.5	
	comp=N,70nm,0.6s					
ICU	**Indian Springs**	**2.75 126**		**Pn**	**07 58 47.5**	**-0.6**
MPMC	**Manual Prospec**	**2.80 193**	P	**Pn**	**07 58 48.5**	**-0.3**
	baz=12					
MPMC			S	**Sn**	**07 59 23.2**	**+0.3**
	baz=12					
CMB	**Columbia Colle**	**2.98 256**	Pn	**Pn**	**07 58 52.5**	**+1.2**
BEKR	**Beckworth**	**3.03 292**		**Pn**	**07 58 52.4**	**+0.4**
DUG	**Dugway, Tooele**	**3.32 64**	Pn	**Pn**	**07 58 58.2**	**+2.2**
DUG			IAML		07 59 48.3	
	comp=N,49nm,0.8s					
DUG	**Dugway, Tooele**	**3.32 64**	P	**Pn**	**07 58 55.4**	**-0.6**
	baz=247					
DUG			S	**Sn**	**07 59 35.8**	**+0.1**
	baz=247					
AFDM	**Forest Hills D**	**3.33 274**		**Pn**	**07 58 56.3**	**+0.3**
V12A	**Nelson**	**3.40 154**		**Pn**	**07 58 58.0**	**+1.0**
V12A			IAML		07 59 54.1	
	comp=E,18nm,0.8s					
V12A			IAML		08 00 01.5	
	comp=N,19nm,0.8s					
TUQ	**Turquoise Moun**	**3.41 169**	P	**Pn**	**07 58 57.3**	**+0.1**
	baz=350					
TUQ			S	**Sn**	**07 59 38.2**	**+0.4**
	baz=350					
MTPC	**Mountain Pass**	**3.43 164**		**Pn**	**07 58 59.8**	**+2.4**
GSC	**Goldstone, Bar**	**3.48 181**	P	**Pn**	**07 58 57.9**	**-0.3**
	baz=1.2					
GSC			S	**Sn**	**07 59 40.7**	**+1.1**
	baz=1.2					
VES	**Vestal, Richgr**	**3.50 213**	P	**Pn**	**07 58 57.2**	**-1.1**
	baz=32					
MVU	**Marysvale**	**3.53 93**	Pn	**Pn**	**07 58 59.6**	**+0.6**
BGU	**Big Grassy Mou**	**3.54 52**	Pn	**Pn**	**07 58 59.2**	**+0.1**
BGU			IAML		07 59 56.8	
	comp=E,34nm,0.4s					
MSU	**Marysvale**	**3.56 93**		**Pn**	**07 58 58.4**	**-1.0**
MTPU	**Mount Pierson**	**3.63 101**	Pn	**Pn**	**07 58 59.8**	**-0.6**
MTPU			IAML		07 59 59.8	
	comp=N,18nm,0.6s					
PKCU	**Pink Cliffs**	**3.72 110**	Pn	**Pn**	**07 59 03.1**	**+1.5**
PKCU			IAML		08 00 03.0	
	comp=N,34nm,0.5s					
NLU	**North Lily Min**	**3.77 71**	Pn	**Pn**	**07 59 04.9**	**+2.6**
NLU			IAML		08 00 05.7	
	comp=E,20nm,0.7s					
NLU			IAML		08 00 07.2	
	comp=N,18nm,0.5s					
SPUT	**South Promonto**	**4.12 51**	Pn	**Pn**	**07 59 08.3**	**+1.3**
SPUT			IAML		08 00 15.2	
	comp=N,18nm,0.7s					
SPUT			IAML		08 00 15.9	
	comp=E,11nm,0.8s					
HVU	**Hansel Valley**	**4.24 44**		**Pn**	**07 59 08.2**	**-0.4**
W13A	**Hualapai Mount**	**4.33 148**	Pn	**Pn**	**07 59 10.3**	**+0.5**
K05A	**Summer Lake**	**5.05 322**	Pn	**Pn**	**07 59 20.2**	**+0.4**

IDC 11 08:20:40.2±5.6, 21°.49N×93°.22E, h0km, mb3.5/2, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=100.0km s-min=66.7km az=133.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.17 118**		Pn	Pn	08 22 12.6	0.0
	0.8nm,0.3s,baz=295,slow=13,SNR=15						
	2.5nm,0.5s						
WRA	**Warramunga Arr**	**57.55 133**		P	P	08 30 31.7	-0.2
	0.5nm,0.6s,baz=319,slow=7.5,SNR=8.8						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**59.85 136**		P	P	08 30 48.0	+0.1
	0.2nm,0.6s,baz=316,slow=6.5,SNR=2.2						
	0.2nm,0.6s						

NNC 11 08:24:48.2±4.9, 54°.38N×87°.28E, h0km, mb2.8, mpv2.6, Error ellipse: s-maj=47.1km s-min=29.4km az=176.0, Suspected Mining explosion.
IDC 11 08:24:52.5±2.9, 54°.14N×87°.19E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=23.5km s-min=16.7km az=61.0

ISC 11 08:24:46.9±1.8, 52°.82N±0°.06×86°.5E±0°.1, h0km, n8, σ1§82/13, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.50 320**		⇑P	**Pn**	**08 25 13.8**	**-1.3**
	0.3nm,0.5s						
ZAA0				⇓S	**Sn**	**08 25 37.2**	**+1.8**
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**1.50 320**		Pg	**Pb**	**08 25 16.9**	**+1.3**
	1.5nm,0.3s,baz=77,slow=14,SNR=5.1						
ZALV				Lg	Lg	08 25 38.7	
	3.4nm,0.3s,baz=83,slow=28,SNR=7.6						
I46RU	**ZALESOVO INFRA**	**1.50 320**		I	I	08 34 20.0	
	baz=81,slow=335,SNR=3.8						
KURK	**Kurchatov**	**5.31 250**		⇓Pn	**Pg**	**08 26 26.6**	**-1.9**
	0.5nm,0.6s						
KURK				⇓Sn	**Sg**	**08 27 38.9**	**+1.6**
	1.7nm,0.8s						
KURK				⇑Lg	Lg	08 28 14.2	
	6.2nm,1.3s						
KURBB	**Kurchatov Arra**	**5.40 249**		⇑Pn	**Pg**	**08 26 29.3**	**-0.9**
	0.5nm,0.2s						
KURBB				⇑Sn	**Sg**	**08 27 41.3**	**+1.1**
	3.3nm,0.7s						
KURBB				⇓Lg	Lg	08 28 15.7	
	5.6nm,0.8s						
KURBB	**Kurchatov Arra**	**5.40 249**		Pn	**Pg**	**08 26 28.1**	**-2.2**
	0.1nm,0.3s,baz=55,slow=14,SNR=4.9						
KURBB				Sn	**Sg**	**08 27 39.4**	**-0.8**
	baz=65,slow=37,SNR=1.9						
KURBB				Lg	Lg	08 28 12.8	
	baz=57,slow=32,SNR=6.2						
	0.4nm,0.3s						
MK31	**Makanchi Array**	**6.61 206**		Pn	**Pg**	**08 26 52.1**	**-1.3**
	0.1nm,0.2s,baz=26,slow=13,SNR=5.1						
MK31				⇓Sn	**Sg**	**08 28 21.4**	**+2.5**
	0.6nm,0.5s,baz=22,slow=25,SNR=3.5						
MK31				⇑Lg	Lg	08 29 02.9	
	3.8nm,1.1s						
MKAR	**Makanchi Array**	**6.61 206**		Pn	**Pg**	**08 26 51.7**	**-1.6**
	0.2nm,0.3s,baz=26,slow=14,SNR=4.7						
MKAR				Sn	**Sg**	**08 28 20.4**	**+1.5**
	0.2nm,0.3s,baz=22,slow=26,SNR=5.7						
MKAR				Lg	Lg	08 29 03.4	
	baz=28,slow=28						
	0.3nm,0.4s						

IDC 11 08:28:22.5±1.8, 7°.90S×124°.15E, h0km, mb3.7/1, mbtmp3.7/4, ML3.5/3, MS2.9/4, Error ellipse: s-maj=67.4km s-min=26.7km az=72.0
DJA 11 08:28:24.3±1.8, 8°.5S±5°.×12°.3E±°, h15km±16km, M3.6/6, MLv3.6/6

ISC 11 08:28:23.4±1.1, 8°.10S±0°.08×123°.50E±0°.08, h10km, n11, σ2§23/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.36 247**		P	**Pn**	**08 28 47.9**	**-0.6**
MMRI				S	**Sb**	**08 29 06.6**	**+0.2**
SOEI	**Soe**	**1.81 155**		P	**Pn**	**08 28 55.8**	**+1.0**
BATI	**Baumata**	**2.10 176**		P	**Pn**	**08 28 59.4**	**+0.7**
BATI	**Baumata**	**2.10 176**		Pn	**Pn**	**08 29 02.2**	**+3.5**
	19nm,0.3s,baz=344,slow=1.4,SNR=6.8						
BATI				LR	LR	08 29 50.7	
	comp=Z,251nm,18.4s,baz=160,slow=38						
	80nm,0.5s						
BKSI	**Bulukumba**	**4.34 309**		P	**Pn**	**08 29 30.0**	**+0.5**
BKSI				S	**Sn**	**08 30 20.8**	**+0.6**
SIJI	**Sorong**	**10.56 48**		LR	LR	08 35 04.3	
	comp=Z,52nm,18.7s,baz=199,slow=40						
DAV	**Davao City (W)**	**15.21 8**		LR	LR	08 39 27.2	
	comp=Z,32nm,18.6s,baz=229,slow=44						
WRA	**Warramunga Arr**	**15.78 139**		Pn	**Pn**	**08 32 01.8**	**-4.0**
	0.1nm,0.3s,baz=316,slow=12,SNR=8.9						
WRA				Sn	Sn	08 34 47.9	-13
	baz=316,slow=25,SNR=4.6						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**18.42 148**		P	**P**	**08 32 38.0**	**-1.0**
	0.2nm,0.3s,baz=318,slow=11,SNR=17						
	1.1nm,0.5s						
CTA	**Charters Tower**	**25.04 121**		LR	LR	08 44 39.4	
	comp=Z,42nm,19.9s,baz=262,slow=40						
MKAR	**Makanchi Array**	**65.79 330**		P	**P**	**08 39 10.4**	**+1.7**
	0.7nm,0.7s,baz=116,slow=8.2,SNR=4.5						
	0.7nm,0.7s						

IDC 11 08:35:26.2±0.9, 36°.79N×140°.57E, h0km, mb3.7/7, mbtmp3.8/8, ML3.1/1, MS2.9/3, Error ellipse: s-maj=21.6km s-min=14.1km az=169.0
JMA 11 08:35:28.1±0.0, 36°.9N±0°.1×140°.6E±0°.2, h8km, MV3.8/20, NORTHERN IBARAKI PREF
JMA Felt II J1 at NORTHERN IBARAKI PREF .
NIED 11 08:35:28.1, 36°.89N×140°.56E, h8km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=2.39; $M_{\theta\theta}$=0.05; $M_{\phi\phi}$=2.44; $M_{r\theta}$=0.85; $M_{\theta\phi}$=0.11; $M_{\phi r}$=2.28; Fault plane solution: M_0=3.43000×10^14^ NP1: ϕ_s=195.00000°, δ=68.00000°, λ=-80.00000°. NP2: ϕ_s=351.00000°, δ=24.00000°, λ=-113.00000°.

ISC 11 08:35:27.6±0.9, 36°.88N±0°.03×140°.58E±0°.04, h11km±6km, n31, σ0§83/29, mb3.8/7, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.21 357**		P	**Pg**	**08 35 32.3**	**+0.1**
JFFD				S	**Sg**	**08 35 35.1**	**-0.1**
JHO	**Hitachi**	**0.27 181**		⇓iP	**Pg**	**08 35 33.6**	**+0.5**
JHO				⇓S	**Sg**	**08 35 37.6**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.28 39**		*i* P	**Pg**	**08 35 33.7**	**+0.2**
ONAJ				S	**Sg**	**08 35 37.9**	**+0.5**
JSB	**Shiboa**	**0.53 280**		*i* P	**Pb**	**08 35 38.9**	**-0.1**
JSB				S	**Sb**	**08 35 46.7**	**0.0**
JFK	**Kawauchi**	**0.54 26**		*i* P	**Pg**	**08 35 38.1**	**-0.1**
JFK				S	**Sg**	**08 35 44.5**	**-0.9**
JOTO	**OTAMA OYAMA**	**0.71 344**		*i* P	**Pg**	**08 35 41.5**	**+0.2**
JOTO				S	**Sg**	**08 35 51.0**	**+0.4**
JYT	**Yasato**	**0.72 205**		*i* P	**Pb**	**08 35 41.7**	**-0.4**
JYT				S	**Sb**	**08 35 51.3**	**-0.7**
JFY	**Yanaizu**	**0.87 307**		*i* P	**Pg**	**08 35 44.2**	**-0.2**
JFY				S	**Sg**	**08 35 55.7**	**-0.2**
JMM	**Marumori**	**1.00 10**		⇓*i*P	**Pg**	**08 35 46.2**	**-0.7**
JMM				⇓S	**Sg**	**08 35 59.4**	**-0.5**
JAG	**Ashikaga**	**1.01 244**		*i* P	**Pb**	**08 35 46.5**	**-0.6**
JAG				S	**Sb**	**08 35 59.9**	**-0.5**
MJAR	**Matsushiro Arr**	**1.93 261**		Pg	**Pn**	**08 36 00.3**	**-0.1**
	9.4nm,0.3s,baz=80,slow=16,SNR=257						
MJAR				Lg	Lg	08 36 26.4	
	13nm,0.3s,baz=47,slow=17,SNR=5.9						
MJAR				LR	LR	08 36 26.6	
	comp=Z,38nm,19.3s,baz=10,slow=32						
JHJ	**Hachijo jima 2**	**3.81 190**		Pn	**Pn**	**08 36 23.8**	**-2.4**
	4.4nm,0.3s,baz=44,slow=18,SNR=2.8						
	88nm,0.8s						
JCJ	**Chichijima**	**9.85 172**		LR	LR	08 41 44.6	
	comp=Z,142nm,21.3s,baz=108,slow=39						
KSRS	**Korea Array**	**10.12 277**		LR	LR	08 41 32.5	
	comp=Z,27nm,21.9s,baz=75,slow=36						
SONM	**Songino Array**	**27.32 304**		P	**P**	**08 41 14.2**	**+1.8**
	1.2nm,0.7s,baz=98,slow=9.0,SNR=6.0						
	1.2nm,0.7s						
H11N2	**WAKE ISLAND Hy 28.65 119**			T	T	09 11 12.3	
	baz=313,slow=75,SNR=122						
H11N1	**WAKE ISLAND Hy 28.66 119**			T	T	09 11 12.8	
	baz=313,slow=75,SNR=101						
H11N3	**WAKE ISLAND Hy 28.67 119**			T	T	09 11 13.5	
	baz=313,slow=75,SNR=85						
H11S1	**WAKE ISLAND Hy 29.35 122**			T	T	09 12 03.2	
	baz=314,slow=76,SNR=233						
H11S3	**WAKE ISLAND Hy 29.35 122**			T	T	09 12 05.2	
	baz=314,slow=76,SNR=148						
H11S2	**WAKE ISLAND Hy 29.36 122**			T	T	09 12 03.7	
	baz=314,slow=76,SNR=116						
KURBB	**Kurchatov Arra**	**45.57 308**		P	**P**	**08 43 46.8**	**-0.5**
	0.5nm,0.3s,baz=80,slow=7.3,SNR=5.5						
	0.5nm,0.3s						
AAK	**Ala-Archa**	**49.97 298**		LR	LR	09 06 53.0	
	comp=Z,18nm,18.7s,baz=126,slow=38						
ILAR	**Eielson Array**	**49.98 32**		P	**P**	**08 44 21.7**	**+0.3**
	0.2nm,0.6s,baz=270,slow=8.0,SNR=1.7						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**56.82 187**		P	**P**	**08 45 11.8**	**-0.3**
	1.4nm,0.8s,baz=3.5,slow=7.3,SNR=9.4						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**60.55 187**		P	**P**	**08 45 38.2**	**+0.2**
	0.6nm,0.7s,baz=11,slow=5.5,SNR=6.1						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**75.62 53**		P	**P**	**08 47 14.7**	**+1.8**
	0.5nm,0.7s,baz=277,slow=5.5,SNR=4.4						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**90.75 52**		P	**P**	**08 48 30.9**	**-0.1**
	0.7nm,1.1s,baz=282,slow=6.3,SNR=3.5						
	0.7nm,1.1s						
H03N2	**Juan Fernandez**	**147.68 96**		T	T	11 40 03.6	
	baz=291,slow=76,SNR=4.1						
H03N3	**Juan Fernandez**	**147.69 96**		T	T	11 40 05.0	
	baz=291,slow=76,SNR=4.9						
H03N1	**Juan Fernandez**	**147.69 96**		T	T	11 40 03.9	
	baz=291,slow=76,SNR=4.7						

IDC 11 08:57:19.1±2.1, 19°.48S×177°.84W, h585km±26km, mb2.8/6, mbtmp3.8/7, Error ellipse: s-maj=33.1km s-min=22.2km az=159.0

ISC 11 08:57:19.9±0.9, 19°.4S±0°.2×178°.0W±0°.2, h600km, n7, σ0§94/7, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.12 293**		P	**P**	**08 58 45.4**	**-1.0**
	11nm,0.4s,baz=132,slow=15,SNR=40						
WRA	**Warramunga Arr**	**44.79 261**		P	**P**	**09 04 42.5**	**+0.6**
	0.7nm,0.4s,baz=97,slow=7.7,SNR=17						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**44.80 256**		P	**P**	**09 04 43.2**	**+1.1**
	0.7nm,0.4s,baz=86,slow=8.1,SNR=25						
	0.7nm,0.4s						
QSPA	**South Pole Qui**	**70.66 180**		P	**P**	**09 07 36.2**	**+0.2**
	1.9nm,0.8s,baz=36,slow=2.9,SNR=9.8						
	1.9nm,0.8s						
NVAR	**Mina Array Bea**	**80.22 43**		P	**P**	**09 08 29.7**	**+0.2**
	0.1nm,0.5s,baz=232,slow=10,SNR=1.6						
	0.1nm,0.5s						
TXAR	**Lajitas Array**	**86.44 57**		P	**P**	**09 09 00.8**	**+0.3**
	0.2nm,0.6s,baz=215,slow=7.7,SNR=3.5						
	0.2nm,0.6s						
SNAA	**Sanae**	**89.10 178**		P	**P**	**09 09 11.1**	**-0.9**
	0.6nm,0.8s,baz=192,slow=9.3,SNR=1.9						
	0.6nm,0.8s						

IDC 11 09:00:37.2±4.4, 18°.59S×178°.19W, h607km±33km, mb2.7/4, mbtmp3.7/5, Error ellipse: s-maj=191.4km s-min=22.4km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.67 283**		P	P	09 02 01.1	0.0
	6.8nm,0.3s,baz=108,slow=13,SNR=30						
WRA	**Warramunga Arr**	**44.71 260**		P	P	09 07 58.4	+0.1
	0.5nm,0.3s,baz=97,slow=7.6,SNR=16						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**44.81 255**		P	P	09 07 58.6	-0.4
	0.5nm,0.4s,baz=83,slow=8.8,SNR=9.6						
	0.5nm,0.4s						
NVAR	**Mina Array Bea**	**79.77 44**		P	P	09 11 43.7	-0.2
	0.3nm,0.8s,baz=232,slow=6.7,SNR=2.1						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**86.19 58**		P	P	09 12 16.1	+0.2
	0.5nm,0.8s,baz=214,slow=4.2,SNR=4.0						
	0.5nm,0.8s						

LVSN 11 09:01:49.3±3.4, 56°.69N×25°.96E, h0km±8km, ML2.6

ISC 11 09:01:49.7±1.1, 56°.74N±0°.04×25°.91E±0°.07, h10km, n12, σ1§79/14, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISAL	**Salakas**	**1.18 174**		*e*P	**Pb**	**09 02 11.8**	**-0.3**
ISAL				IAML		09 02 38.3	
	comp=Z,5.9nm,0.4s						
IIGN	**Ignalina**	**1.40 173**		*e*P	**Pn**	**09 02 14.6**	**-0.8**
IIGN				IAML		09 02 40.9	
	comp=Z,11nm,0.3s						
PABE	**Paberze**	**1.65 222**		*e*P	**Pn**	**09 02 18.5**	**-0.2**
PABE				*e*S	**Sg**	**09 02 43.5**	**+0.8**
PABE				AML	AML	09 02 44.5	
	comp=N,81nm,0.4s						
PABE				AML	AML	09 02 46.1	
	comp=E,53nm,0.4s						
PABE				AML	AML	09 02 50.1	
	comp=Z,19nm,0.4s						
PABE	**Paberze**	**1.65 222**		*e*P	**Pn**	**09 02 20.0**	**+1.4**
VSU	**Vasula**	**1.78 14**		*e*S	**Sb**	**09 02 48.2**	**+3.3**
VSU				AML	AML	09 02 53.6	
	comp=Z,56nm,0.2s						
VSU				AML	AML	09 02 54.5	
	comp=E,103nm,0.3s						
VSU				AML	AML	09 02 54.6	
	comp=N,97nm,0.4s						
SLIT	**Slitere, Latvi**	**2.16 296**		*e*P	**Pb**	**09 02 28.4**	**-0.5**
SLIT				*e*S	**Sg**	**09 02 59.2**	**0.0**
SLIT				AML	AML	09 03 01.0	
	comp=E,150nm,0.4s						
SLIT				AML	AML	09 03 04.6	
	comp=Z,132nm,0.6s						
SLIT				AML	AML	09 03 04.7	
	comp=N,133nm,0.4s						
SLIT	**Slitere, Latvi**	**2.16 296**		*e*P	Pg	09 02 38.3	+7.2
MTSE	**Matsula**	**2.28 331**		*e*P	**Pb**	**09 02 31.8**	**+1.0**
MTSE				*e*S	**Sg**	**09 03 02.9**	**+0.1**
PBUR	**Paburge**	**2.33 254**		*e*P	**Pg**	**09 02 34.1**	**-0.2**
ARBE	**Arbavere**	**2.71 1**		*e*S	**Sb**	**09 03 13.6**	**+2.2**
ARBE				AML	AML	09 03 17.7	
	comp=Z,66nm,0.6s						
ARBE				AML	AML	09 03 18.0	
	comp=E,74nm,0.3s						
ARBE				AML	AML	09 03 19.3	
	comp=N,104nm,0.4s						
AAL	**Aland**	**4.64 320**		*e*P	**Pg**	**09 03 15.6**	**-3.0**
RAF	**Rauma**	**4.80 335**		*

Error ellipse: s-maj=66.4km s-min=46.7km az=25.0, Suspected Mining explosion.

ISC 11 09:21:59.5±3.2,53°.6N±0°.1×87°.7E±0°.2,h0km,n10, σ1§27/14,9C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**282**	I	I	09 34 50.0	
	baz=100,slow=317,SNR=0.9						
ZAA0	**Zalesovo Array**	**1.74**	**282**	⇑Pn	**Pb**	**09 22 31.9**	**-0.4**
	1.5nm,0.5s						
ZAA0				⇑Sn	**Sg**	**09 22 56.7**	**+1.4**
	4.4nm,0.3s						
ZALV	**Zalesovo Beam**	**1.74**	**282**	Pg	**Pn**	**09 22 31.1**	**+0.2**
	6.9nm,0.3s,baz=104,slow=14,SNR=43						
ZALV				Lg	Lg	09 22 58.1	
	11nm,0.3s,baz=99,slow=27,SNR=17						
KURK	**Kurchatov**	**6.29**	**246**	⇑Pn	**Pn**	**09 23 34.4**	**+0.9**
	1.5nm,0.6s						
KURK				⇑Sn	**Sn**	**09 24 46.0**	**0.0**
	1.8nm,0.6s						
KURK				⇓Lg	Lg	09 25 20.1	
	9.8nm,0.7s						
KURBB	**Kurchatov Arra**	**6.39**	**246**	⇑Pn	**Pn**	**09 23 35.8**	**+1.0**
	4.7nm,0.3s						
KURBB				⇑Sn	**Sn**	**09 24 48.0**	**-0.4**
	8.2nm,0.5s						
KURBB				⇑Lg	Lg	09 25 24.6	
	24nm,0.7s						
KURBB	**Kurchatov Arra**	**6.39**	**246**	Pn	**Pn**	**09 23 36.0**	**+1.3**
	0.5nm,0.3s,baz=62,slow=14,SNR=20						
KURBB				Lg	Lg	09 25 24.0	
	0.1nm,0.3s,baz=63,slow=32,SNR=9.4						
	3.8nm,0.4s						
MK31	**Makanchi Array**	**7.65**	**209**	Pn	**Pn**	**09 23 53.4**	**+1.2**
	0.4nm,0.4s,baz=32,slow=14,SNR=19						
MK31				⇑Sn	**Sn**	**09 25 18.7**	**-0.9**
	1.2nm,0.6s,baz=34,slow=26						
MK31				⇑Lg	Lg	09 25 58.0	
	8.4nm,0.9s,baz=30,slow=30,SNR=5.0						
MKAR	**Makanchi Array**	**7.65**	**209**	Pn	**Pn**	**09 23 52.5**	**+0.3**
	0.7nm,0.3s,baz=30,slow=14,SNR=20						
MKAR				Sn	**Sn**	**09 25 18.9**	**-0.6**
	0.3nm,0.3s,baz=27,slow=26,SNR=3.5						
MKAR				Lg	Lg	09 26 01.2	
	0.2nm,0.3s,baz=32,slow=30,SNR=7.6						
	0.9nm,0.3s						
BVAR	**Borovoye Array**	**10.38**	**274**	Pn	**Pn**	**09 24 30.5**	**+1.1**
	baz=84,slow=13,SNR=2.5						
BVAR				Sn	**Sn**	**09 26 23.4**	**-2.9**
	0.1nm,0.3s,baz=79,slow=20,SNR=3.0						
	0.5nm,0.4s						
I34MN	**SONGINO INFRAS**	**13.19**	**109**	I	I	10 35 10.0	
	baz=302,slow=325,SNR=1.3						

*IDC **11** 09:22:47.4±0.8,4°.52N×96°.42E,h0km,mb4.1/12, mbtmp4.1/12,MS3.6/16,Error ellipse: s-maj=34.4km s-min=16.7km az=53.0*

*NEIC **11** 09:22:50.5±1.8,4°.44N±0°.01×96°.44E±0°.07,h10km±1km, mb4.2/15,Error ellipse: s-maj=12.1km s-min=3.1km az=271.0*

ISC 11 09:22:53.1±0.5,4°.46N±0°.05×96°.47E±0°.08,h33km,n65, σ1§50/49,mb4.2/21,MS3.6/17,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.90**	**32**		**Pn**	**09 23 08.3**	**-1.1**
LHMI				Sg	**Sn**	**09 23 20.9**	**-0.3**
RPSI	**Rantau Prapat**	**3.02**	**126**		**Pn**	**09 23 38.5**	**-0.1**
GSI	**Gunungsitoli**	**3.33**	**161**		**Pn**	**09 23 42.5**	**-0.4**
KULM	**Kulim**	**4.25**	**79**		**Pn**	**09 23 54.5**	**-1.1**
SRIT	**Nakonsritamara**	**5.15**	**37**		**Pn**	**09 24 07.9**	**-0.1**
BKNI	**Bangkinang**	**6.14**	**132**	Pn	**Pn**	**09 24 20.1**	**-1.6**
MYKOM	**Kota Tinggi**	**7.83**	**110**	Pn	**Pn**	**09 24 43.6**	**-1.2**
CM31	**Chiang Mai Arr**	**14.12**	**10**	Pn	**Pn**	**09 26 14.4**	**+3.5**
CMAR	**Chiang Mai Arr**	**14.12**	**10**	Pn	**Pn**	**09 26 11.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**14.12**	**10**	Pn	**Pn**	**09 26 13.8**	**+2.9**
	baz=203,slow=14						
CMAR				Lg	Lg	09 30 16.0	
	0.3nm,0.3s,baz=161,slow=37,SNR=1.4						
CMAR				LR	LR	09 32 18.0	
	comp=Z,242nm,18.5s,baz=175,slow=41						
CHTO	**Chiang Mai**	**14.47**	**9**	Pn	**Pn**	**09 26 12.2**	**-3.4**
SBUM	**Sibu**	**15.85**	**97**	Pn	**Pn**	**09 26 32.9**	**-1.0**
CRAI	**Chiangrai**	**16.12**	**13**	Pn	**Pn**	**09 26 37.8**	**+0.3**
CRAI				IAmb	IAmb	09 26 46.1	
	comp=Z,11nm,1.2s						
QIZ	**Qiongzhong**	**19.50**	**41**	P	**P**	**09 27 17.7**	**+0.1**
QIZ				S	**Sn**	**09 30 57.2**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,27nm,2.3s						
QIZ				LR	LR		
	comp=N,510nm,19.6s						
QIZ				LR	LR		
	comp=E,400nm,17.7s						
PZH	**PanZhiHua**	**22.49**	**12**	P	**P**	**09 27 52.6**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,120nm,5.1s						
H08S2	**Diego Garcia H**	**26.78**	**243**	T	T	09 55 54.9	
	baz=64,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**26.78**	**243**	T	T	09 55 56.0	
	baz=64,slow=76,SNR=103						
H08S1	**Diego Carcia H**	**26.79**	**243**	T	T	09 55 55.3	
	baz=64,slow=76,SNR=5.5						
LYN	**LuoYang**	**33.42**	**24**	*eP*	**P**	**09 29 31.5**	**+2.7**
LYN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LYN				LR	LR		
	comp=N,210nm,18.9s						
LYN				LR	LR		
	comp=E,340nm,19.5s						
LYN				LR	LR		
	comp=Z,180nm,17.2s						
MORW	**Morawa**	**38.28**	**152**	P	**P**	**09 30 11.6**	**+1.0**
MORW				IAmb	IAmb	09 30 46.7	
	comp=Z,10.0nm,1.1s						
MTN	**Manton Dam**	**38.49**	**117**	P	**P**	**09 30 11.8**	**-0.8**
MTN				IAmb	IAmb	09 30 19.6	
	comp=Z,19nm,1.2s						
HHC	**Hu-ho-hao-te**	**38.68**	**18**	*eP*	**P**	**09 30 15.5**	**+1.5**
HHC				sP	pP	09 30 24.7	+0.7
HHC				*eS*	**S**	**09 36 07.6**	**-1.2**
HHC				pmax	pmax		
	comp=Z,32nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,5.4s						
HHC				LR	LR		
	comp=N,250nm,14.9s						
HHC				LR	LR		
	comp=E,490nm,17.3s						
HHC				LR	LR		
	comp=Z,160nm,17.7s						
WMQ	**Urumqi**	**39.95**	**350**	*eP*	**P**	**09 30 27.6**	**+3.1**
WSAR	**Wadi Sarin**	**41.01**	**301**	P	**P**	**09 30 32.3**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=146,slow=5.0,SNR=1.8						
	comp=Z,1.3nm,0.6s						
NWAO	**Narrogin (SRO)**	**42.08**	**154**	LR	LR	09 49 35.1	
	comp=Z,53nm,18.0s,baz=226,slow=38						
AAK	**Ala-Archa**	**42.74**	**336**	LR	LR	09 50 46.8	
	comp=Z,88nm,18.0s,baz=157,slow=39						
JNU	**Nakatsue**	**42.92**	**44**	LR	LR	09 49 56.3	
	comp=Z,74nm,18.1s,baz=230,slow=38						
XLT	**XiLinHaoTe**	**42.92**	**21**	*eP*	**P**	**09 30 48.7**	**-0.1**
XLT				pP	pP	09 30 53.2	-5.8
XLT				sP	sP	09 30 55.0	-8.0
XLT				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,98nm,5.0s						
KSRS	**Korea Array**	**43.64**	**37**	P	**P**	**09 30 53.5**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=225,slow=8.1,SNR=2.0						
	comp=Z,0.6nm,0.5s						
MK31	**Makanchi Array**	**43.92**	**346**	P	**P**	**09 30 55.2**	**-1.5**
MK31				IAmb	IAmb	09 31 31.5	
	comp=Z,3.1nm,1.1s						
MKAR	**Makanchi Array**	**43.92**	**346**	P	**P**	**09 30 55.4**	**-1.4**
MKAR	**Makanchi Array**	**43.92**	**346**	P	**P**	**09 30 55.2**	**-1.6**
	comp=Z,1.7nm,0.7s,baz=162,slow=8.4,SNR=8.0						
MKAR				LR	LR	09 54 38.3	
	comp=Z,42nm,18.3s,baz=198,slow=44						
	comp=Z,1.7nm,0.7s						
SONM	**Songino Array**	**44.04**	**10**	P	**P**	**09 30 58.3**	**+0.4**
SONM				IAmb	IAmb	09 31 19.1	
	comp=Z,2.4nm,1.1s						
SONM	**Songino Array**	**44.04**	**10**	P	**P**	**09 30 57.9**	**0.0**
	comp=Z,0.8nm,0.5s,baz=193,slow=5.9,SNR=3.7						
	comp=Z,0.8nm,0.5s						
ULN	**Ulaanbaatar**	**44.19**	**10**	P	**P**	**09 30 59.7**	**+0.6**
ULN				IAmb	IAmb	09 31 16.8	
	comp=Z,4.5nm,1.1s						
WB0	**Warramunga Arr**	**44.38**	**124**	P	**P**	**09 30 59.9**	**-0.9**
WRA	**Warramunga Arr**	**44.42**	**124**	P	**P**	**09 31 01.2**	**0.0**
WRA	**Warramunga Arr**	**44.42**	**124**	P	**P**	**09 31 00.9**	**-0.2**
	comp=Z,11nm,0.7s,baz=302,slow=9.3,SNR=60						
WRA				PcP	**PcP**	**09 32 44.4**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=320,slow=2.9,SNR=2.6						
WRA				ScP	**ScP**	**09 36 37.4**	**+2.9**
	comp=Z,0.9nm,0.8s,baz=313,slow=2.8,SNR=5.1						
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**44.43**	**124**	P	**P**	**09 31 01.2**	**-0.1**
AS31	**Alice Springs**	**45.97**	**129**	P	**P**	**09 31 12.4**	**-1.1**
AS31				IAmb	IAmb	09 31 29.3	
	comp=Z,2.1nm,0.9s						
ASAR	**Alice Springs**	**45.97**	**129**	P	**P**	**09 31 13.4**	**-0.1**
ASAR	**Alice Springs**	**45.97**	**129**	P	**P**	**09 31 12.8**	**-0.7**
	comp=Z,2.3nm,0.4s,baz=303,slow=7.6,SNR=35						
ASAR				LR	LR	09 51 05.0	
	comp=Z,75nm,20.2s,baz=296,slow=37						
	comp=Z,2.3nm,0.4s						
KURBB	**Kurchatov Arra**	**48.41**	**345**	P	**P**	**09 31 30.3**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=165,slow=6.8,SNR=7.0						
KURBB				LR	LR	09 54 57.4	
	comp=Z,67nm,21.9s,baz=166,slow=40						
	comp=Z,0.9nm,0.8s						
MJAR	**Matsushiro Arr**	**49.84**	**45**	LR	LR	09 53 38.8	
	comp=Z,44nm,20.4s,baz=257,slow=37						
BVAR	**Borovoye Array**	**52.95**	**341**	P	**P**	**09 32 04.3**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=108,slow=9.5,SNR=4.8						
	comp=Z,1.2nm,0.7s						
ABKAR	**Akbulak array**	**54.31**	**331**	P	**P**	**09 32 17.3**	**+1.1**
CTA	**Charters Tower**	**54.65**	**118**	LR	LR	09 57 46.5	
	comp=Z,49nm,18.6s,baz=269,slow=38						
GNI	**Garni**	**58.47**	**315**	LR	LR	10 02 06.5	
	comp=Z,16nm,18.9s,baz=192,slow=40						
KMBO	**Kilima Mbogo**	**59.43**	**266**	LR	LR	09 57 17.3	
	comp=Z,33nm,18.1s,baz=90,slow=35						
H04N2	**CROZET ISLANDS**	**64.07**	**213**	T	T	10 41 22.1	
	baz=51,slow=75,SNR=44						
H04N1	**CROZET ISLANDS**	**64.08**	**213**	T	T	10 41 25.9	
	baz=51,slow=75,SNR=37						
H04N3	**CROZET ISLANDS**	**64.09**	**213**	T	T	10 41 40.1	
	baz=51,slow=75,SNR=30						
H04S1	**CROZET ISLANDS**	**64.44**	**212**	T	T	10 41 50.4	
	baz=51,slow=75,SNR=12						
H04S3	**CROZET ISLANDS**	**64.45**	**212**	T	T	10 41 41.7	
	baz=51,slow=75,SNR=16						
H04S2	**CROZET ISLANDS**	**64.46**	**212**	T	T	10 42 03.6	
	baz=51,slow=75,SNR=16						
BRTR	**Keskin Array B**	**66.40**	**312**	P	**P**	**09 33 37.8**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=128,slow=9.6,SNR=4.7						
	comp=Z,1.1nm,0.7s						
PETK	**Petropavlovsk-**	**69.45**	**34**	LR	LR	10 06 01.4	
	comp=Z,45nm,19.0s,baz=186,slow=37						
MAW	**Mawson**	**75.71**	**193**	P	**P**	**09 34 36.1**	**+1.2**
BOSA	**Boshof**	**75.79**	**239**	LR	LR	10 05 01.6	
	comp=Z,18nm,18.6s,baz=89,slow=33						
ARCES	**ARCESS Array B**	**79.24**	**340**	P	**P**	**09 34 53.7**	**-1.0**
	comp=Z,3.0nm,1.0s,baz=91,slow=7.6,SNR=1.2						
	comp=Z,3.0nm,1.0s						
NOA	**NORSAR Array B**	**83.82**	**331**	LR	LR	10 17 45.6	
	comp=Z,31nm,18.3s,baz=340,slow=39						
URZ	**Urewera**	**85.41**	**129**	LR	LR	10 13 44.8	
	comp=Z,50nm,21.0s,baz=31,slow=36						
TORD	**Torodi Ar. Bea**	**93.63**	**283**	P	**P**	**09 36 06.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=80,slow=4.7,SNR=3.0						
	comp=Z,0.4nm,0.6s						
QSPA	**South Pole Qui**	**94.39**	**180**	P	**P**	**09 36 10.1**	**+0.6**
	comp=Z,1.3nm,1.1s,baz=237,slow=2.2,SNR=1.7						
	comp=Z,1.3nm,1.1s						
ILAR	**Eielson Array**	**96.99**	**23**	LR	LR	10 24 38.6	
	comp=Z,34nm,19.4s,baz=339,slow=38						

*IDC **11** 09:23:14.9±3.8,35°.15N×72°.15E,h68km±32km,mb3.6/12, mbtmp4.0/16,ML4.2/3,MS3.2/4,Error ellipse: s-maj=24.6km s-min=19.1km az=175.0*

*NNC **11** 09:23:17.1±1.3,35°.35N×72°.00E,h79km±18km,mb3.6, mpv3.9,Error ellipse: s-maj=16.8km s-min=9.2km az=115.0*

*DMN **11** 09:24:46.0±13.0,31°.80N×79°.72E,h60km,Mb4.7/6,Error ellipse: s-maj=344.5km s-min=21.1km az=131.0*

ISC 11 09:23:11.6±0.8,35°.08N±0°.07×72°.18E±0°.08,h35km,n39, σ1§56/41,mb3.9/11,2C-5D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**7.14**	**9**	P	**Pn**	**09 24 56.1**	**+2.2**
	SNR=85						
AML	**Almayashu**	**7.14**	**9**	⇓P	**Pn**	**09 24 56.2**	**+2.2**
	1.1nm,0.4s						
AML				⇑S	**Sn**	**09 26 14.0**	**0.0**
	4.7nm,0.7s						
EKS2	**Erkin-Say**	**7.68**	**9**	P	**Pn**	**09 25 03.4**	**+2.5**
	SNR=9.6						
AAK	**Ala-Archa**	**7.76**	**13**	P	**Pn**	**09 25 05.0**	**+2.8**
	SNR=15						
AAK	**Ala-Archa**	**7.76**	**13**	P	**Pn**	**09 25 05.0**	**+2.8**
	8.6nm,0.3s,baz=151,slow=3.4,SNR=38						
AAK				S	**Sn**	**09 26 30.9**	**+2.0**
	9.3nm,0.6s,baz=319,slow=23,SNR=8.3						
AAK				LR	LR	09 28 18.6	
	comp=Z,63nm,19.3s,baz=190,slow=40						
	18nm,0.3s						
KK31	**Karatay Array**	**8.12**	**351**	P	**Pn**	**09 25 08.5**	**+1.6**
	7.9nm,0.3s,baz=169,slow=11,SNR=245						
KK31				⇓S	**Sn**	**09 26 35.7**	**-1.8**
	4.1nm,0.4s,baz=168,slow=20,SNR=5.4						
CHMS	**Chumysh**	**8.16**	**13**	P	**Pn**	**09 25 10.3**	**+2.8**
	SNR=7.1						
TKM2	**Tokmak 2**	**8.27**	**18**	P	**Pn**	**09 25 11.6**	**+2.4**
	SNR=8.9						
TKM2	**Tokmak 2**	**8.27**	**18**	⇑P	**Pn**	**09 25 11.4**	**+2.1**
	2.9nm,0.6s						
TKM2				⇓S	**Sn**	**09 26 42.0**	**+0.5**
	5.2nm,0.5s						
PYUN	**Piuthan**	**11.54**	**124**	*eP*	**Pn**	**09 25 55.9**	**+1.9**
	17nm,0.4s						
GEYT	**Alibeck**	**11.67**	**288**	P	**Pn**	**09 25 58.2**	**+2.6**
	1.7nm,0.5s,baz=89,slow=12,SNR=1.2						
DANN	**Dangsing**	**11.92**	**121**	*eP*	**Pn**	**09 25 59.6**	**+0.3**
	14nm,0.4s						
PKIN	**Phulchoki**	**13.54**	**120**	*eP*	**Pn**	**09 26 21.6**	**+0.2**
	16nm,0.5s						
PKI	**Pulchoki**	**13.55**	**120**	*eP*	**Pn**	**09 26 22.0**	**+0.4**
	9.1nm,0.3s						
GUN	**Gumba**	**13.69**	**118**	*eP*	**Pn**	**09 26 23.5**	**0.0**
	11nm,0.4s						
MKAR	**Makanchi Array**	**13.96**	**30**	P	**P**	**09 26 32.6**	**-1.9**
	0.6nm,0.4s,baz=213,slow=12,SNR=4.4						
MKAR				LR	LR	09 32 07.9	
	comp=Z,42nm,18.4s,baz=220,slow=38						
JIRN	**Jiri**	**14.06**	**118**	*eP*	**Pn**	**09 26 28.1**	**-0.5**
	17nm,0.3s						
RAMN	**Ramite**	**14.77**	**119**	*eP*	**Pn**	**09 26 38.2**	**+0.1**
	14nm,0.4s						
TAPN	**Taplejung**	**15.35**	**116**	*eP*	**Pn**	**09 26 46.1**	**+0.3**
	14nm,0.4s						
KURBB	**Kurchatov Arra**	**16.21**	**15**	P	**Pn**	**09 26 57.7**	**+1.3**
	0.3nm,0.3s,baz=205,slow=10,SNR=5.9						
	1.6nm,0.7s						
AB31	**Akbulak array**	**16.79**	**331**	⇓P	**Pn**	**09 27 02.7**	**-1.2**
	0.5nm,0.3s,baz=139,slow=14,SNR=27						
BVAR	**Borovoye Array**	**17.99**	**356**	P	**Pn**	**09 27 16.3**	**-2.4**
	3.8nm,0.8s,baz=161,slow=13,SNR=11						
AKTO	**Aktyubinsk**	**18.49**	**330**	⇓P	**Pn**	**09 27 23.7**	**-1.1**
	4.6nm,0.8s						
AKTO	**Aktyubinsk**	**18.49**	**330**	P	**Pn**	**09 27 24.5**	**-0.3**
	0.7nm,0.3s,baz=141,slow=8.9,SNR=10						
	3.4nm,0.6s						
ZALV	**Zalesovo Beam**	**20.85**	**21**	P	**P**	**09 27 49.7**	**-0.5**
	3.7nm,0.4s,baz=206,slow=11,SNR=9.6						
	3.7nm,0.4s						
ARU	**Arti**	**23.29**	**341**	P	**P**	**09 28 15.7**	**-0.2**
	4.8nm,0.2s,baz=156,slow=10,SNR=4.1						
	4.8nm,0.2s						
SONM	**Songino Array**	**28.39**	**53**	P	**P**	**09 29 01.6**	**-1.0**
	0.6nm,0.7s,baz=297,slow=9.8,SNR=5.4						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**39.20**	**327**	P	**P**	**09 30 35.2**	**-0.7**
	3.7nm,0.8s,baz=126,slow=8.0,SNR=7.9						
	3.7nm,0.8s						
ARCES	**ARCESS Array B**	**42.82**	**338**	P	**P**	**09 31 05.2**	**-0.5**
	1.7nm,0.7s,baz=121,slow=8.8,SNR=10						
	1.7nm,0.7s						
HFS	**Hagfors**	**44.78**	**323**	P	**P**	**09 31 20.5**	**-0.9**
	1.5nm,0.6s,baz=93,slow=10,SNR=4.4						
	1.5nm,0.6s						
NB2	**NORSAR Subarra**	**46.09**	**324**	P	**P**	**09 31 30.4**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**46.09**	**324**	P	**P**	**09 31 30.9**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=103,slow=7.3,SNR=2.0						
	comp=Z,1.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**49.09**	**347**	LR	LR	09 56 19.9	
	comp=Z,54nm,18.5s,baz=282,slow=40						
TORD	**Torodi Ar. Bea**	**66.66**	**270**	P	**P**	**09 33 58.3**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=46,slow=6.0,SNR=9.4						
	comp=Z,1.2nm,0.6s						
TSUM	**Tsumeb**	**74.81**	**233**	LR	LR	10 10 47.6	
	comp=Z,27nm,18.9s,baz=331,slow=38						
INK	**Inuvik**	**75.15**	**10**	P	**P**	**09 34 49.5**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=318,slow=4.6,SNR=21						
	comp=Z,1.8nm,0.4s						
ILAR	**Eielson Array**	**75.88**	**16**	P	**P**	**09 34 53.5**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=307,slow=5.0,SNR=4.3						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**80.42**	**122**	P	**P**	**09 35 20.6**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=325,slow=5.0,SNR=1.4						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**82.65**	**125**	P	**P**	**09 35 31.2**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=303,slow=5.1,SNR=1.7						
	comp=Z,0.2nm,0.7s						

*PGC **11** 09:26:05.1±0.4,48°.16N×128°.28W,h10km,mb4.5, MLSn3.8/31,Mw4.5,205km Wsw of Tofino, Bc Vancouver Island, Canada Region*

*NEIC **11** 09:26:05.1,48°.16N×128°.28W,h4km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.20; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$2.58; $M_{r\theta}$-3.48; $M_{\theta\phi}$-0.74; $M_{\phi r}$-5.17; Fault plane solution: $M_0$6.90000×10^{15} NP1:ϕ_s27.00000°, δ80.00000°,λ-75.00000°. NP2:ϕ_s152.00000°,δ18.00000°, λ-144.00000°. Principal axes: T 6.1753, Plg33.0000°, Azm104.0000°; N 1.2937, Plg14.0000°, Azm204.0000°; P -7.4690, Plg53.0000°, Azm314.0000°;*

*IDC **11** 09:26:06.6±1.0,48°.30N×127°.94W,h0km,mb4.0/8, mbtmp4.2/18,ML4.0/9,MS3.6/47 Error ellipse: s-maj=21.6km s-min=8.6km az=59.0*

*NEIC **11** 09:26:07.8±1.9,48°.38N±0°.05×127°.94W±0°.04,h10km±1km, mb4.5/86,Mwr4.5(OTT),Error ellipse: s-maj=8.7km s-min=4.6km az=197.0*

*GCMT **11** 09:26:09.1±0.4,48°.10N±0°.02×128°.33W±0°.04,h23km±2km, MW4.8/75,Moment Tensor Solution. s7,c7; s75,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.04±.13; $M_{\theta\theta}$-1.34±.10; $M_{\phi\phi}$1.38±.09; $M_{r\theta}$0.01±.14; $M_{\theta\phi}$-0.88±.08; $M_{\phi r}$0.62±.15; Best double couple: $M_0$1.72600×10^{16} NP1:ϕ_s29.00000°,δ83.00000°,λ18.00000°. NP2: ϕ_s297.00000°,δ73.00000°,λ172.00000°. Principal axes: T 1.8280, Plg18.0000°, Azm254.0000°; N -0.1990, Plg71.0000°, Azm51.0000°; P -1.6240, Plg7.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 09:26:06.2±1.3,48°.36N±0°.03×127°.96W±0°.03,h1km±9km, n602,σ1§26/550,mb4.6/27,MS3.6/41,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NC27	**ODP1027**	**0.61**	**167**	P	**Pg**	**09 26 15.1**	**-2.8**
NC27				S	**Sg**	**09 26 21.2**	**-4.6**
NCHR	**NEPTUNE Canada**	**0.84**	**243**	P	Pg	09 26 14.8	-7.6
NCHR				S	Sg	09 26 20.1	-13
KEMF	**NEPTUNE Canada**	**0.87**	**242**	P	Pg	09 26 15.1	-7.7
KEMF				S	Sg	09 26 20.6	-13
NCBC	**Barkley Canyon**	**1.19**	**86**	Pn	**Pb**	**09 26 29.2**	**-0.4**
ETB	**Estevan Point**	**1.39**	**42**		**Pn**	**09 26 33.0**	**+0.3**
ETB	**Estevan Point**	**1.39**	**42**	Pn	**Pn**	**09 26 33.0**	**+0.3**
TOFB	**Tofino**	**1.57**	**59**	Pn	**Pn**	**09 26 34.9**	**-0.4**
TOFB				Sn	**Sb**	**09 26 56.6**	**+0.1**
TOFB	**Tofino**	**1.57**	**59**	Pn	**Pn**	**09 26 34.9**	**-0.4**
TOFB				Sn	**Sb**	**09 26 56.4**	**-0.1**
EDB	**Eliza Dome**	**1.61**	**20**		**Pn**	**09 26 35.4**	**-0.5**
EDB				Sn	**Sn**	**09 26 56.9**	**-0.5**
EDB	**Eliza Dome**	**1.61**	**20**	Pn	**Pn**	**09 26 35.4**	**-0.5**
EDB				Sn	**Sn**	**09 26 56.7**	**-0.7**
B012	**Ucluelet**	**1.70**	**70**	Pn	**Pn**	**09 26 36.4**	**-0.7**
B012				Sn	**Sn**	**09 26 59.1**	**-0.3**
B012	**Ucluelet**	**1.70**	**70**	Pn	**Pn**	**09 26 36.4**	**-0.7**
B012				Sn	**Sn**	**09 26 59.2**	**-0.2**
GDR	**Gold River**	**1.91**	**41**		**Pn**	**09 26 40.2**	**+0.3**
GDR	**Gold River**	**1.91**	**41**	Pn	**Pn**	**09 26 40.2**	**+0.3**
BFSB	**Bamfield**	**1.93**	**75**	Pn	**Pn**	**09 26 39.7**	**-0.6**
BFSB				Sn	**Sn**	**09 27 05.3**	**+0.1**
BFSB	**Bamfield**	**1.93**	**75**	Pn	**Pn**	**09 26 39.6**	**-0.6**
BFSB				Sn	**Sn**	**09 27 05.3**	**+0.1**
B928	**Bamfield**	**1.94**	**75**	Pn	**Pn**	**09 26 39.6**	**-0.6**
B928				Sn	**Sn**	**09 27 04.5**	**-0.6**
B928	**Bamfield**	**1.94**	**75**	Pn	**Pn**	**09 26 39.6**	**-0.6**
B928				Sn	**Sn**	**09 27 05.0**	**-0.2**
WOSB	**Woss**	**2.02**	**26**		**Pn**	**09 26 42.0**	**+0.4**
WOSB				Sn	**Sn**	**09 27 07.8**

E03A	Lebam	3.49 120	Pn	Pn	09 27 01.4	-0.2
E03A	Lebam	3.49 120	Pn	Pn	09 27 00.7	-0.9
E03A			Sn	Sn	09 27 40.0	-3.5
GNW	Green Mountain	3.54 101	Pn	Pn	09 27 02.1	-0.2
GNW	Green Mountain	3.54 101	Pn	Pn	09 27 01.8	-0.6
CPW	Capitol Peak	3.54 111	Pn	Pn	09 27 01.1	-1.3
CPW			Sn	Sn	09 27 41.9	-3.1
SVOH	Skagit Valley	3.56 89	Pn	Pn	09 27 02.8	+0.3
BBB	Bella Bella	3.83 359	Pn	Pn	09 27 06.5	+0.1
	49nm,0.3s,baz=200,slow=6.2,SNR=1391					
BBB			Sn	Sn	09 27 49.9	-2.1
	27nm,0.3s,baz=286,slow=20,SNR=21					
BBB			LR	LR	09 28 00.4	
	comp=Z,166nm,20.8s,baz=241,slow=29					
	321nm,0.7s					
BBB	Bella Bella	3.83 359	Pn	Pn	09 27 06.2	-0.1
BBB			Sn	Sn	09 27 49.8	-2.3
F03A	Seaside	3.86 127	Pn	Pn	09 27 06.6	-0.2
CMW	Cultus Mountai	3.89 87	Pn	Pn	09 27 07.9	+0.6
JCW	Jim Creek	4.03 90	Pn	Pn	09 27 09.6	+0.5
MBW	Mount Baker	4.05 82	Pn	Pn	09 27 10.6	+1.1
D05A	Enumclaw	4.19 104		Pn	09 27 11.4	+0.1
D05A	Enumclaw	4.19 104	Pn	Pn	09 27 12.0	+0.7
C05A	Tolt Reservoir	4.26 97	Pn	Pn	09 27 12.9	+0.6
HEBO	Mount Hebo	4.27 136	Pn	Pn	09 27 10.2	-2.2
RPW	Rockport	4.29 86	Pn	Pn	09 27 13.5	+0.7
B06A	Marblemount	4.31 85		Pn	09 27 13.2	+0.2
B06A	Marblemount	4.31 85	Pn	Pn	09 27 13.8	+0.9
HOPB	Hope	4.44 74	Pn	Pn	09 27 15.4	+0.8
HG4B	Hotspring	4.45 333	Pn	Pn	09 27 14.1	-0.8
LON	Longmire	4.46 109		Pn	09 27 14.6	-0.5
LON	Longmire	4.46 109	Pn	Pn	09 27 15.4	+0.2
LON			Sn	Sn	09 28 06.8	-0.9
FMW	Mount Fremont	4.48 106	Pn	Pn	09 27 15.7	+0.2
F04A	Amboy	4.49 121		Pn	09 27 16.0	+0.6
LLLB	Lillooet	4.56 58	Pn	Pn	09 27 17.8	+1.4
LLLB	Lillooet	4.56 58	Pn	Pn	09 27 18.0	+1.6
GPW	Glacier Peak	4.57 90	Pn	Pn	09 27 17.5	+0.8
BUTB	Butedale	4.72 356	Pn	Pn	09 27 18.7	0.0
BUTB			Sn	Sn	09 28 11.2	-2.9
LTY	Liberty	5.03 100		Pn	09 27 24.2	+1.3
LTY	Liberty	5.03 100	Pn	Pn	09 27 23.8	+0.9
LTY			Sn	Sn	09 28 20.3	-1.5
BNKB	Banks Island	5.13 347	Pn	Pn	09 27 23.5	-0.7
BNKB			Sn	Sn	09 28 20.1	-3.9
UBRB	Upper Baezaeko	5.17 27	Pn	Pn	09 27 25.5	+0.7
H04D	Lebanon	5.27 135		Pn	09 27 25.8	-0.3
HWKB	Hawksbury Isla	5.30 352	Pn	Pn	09 27 26.3	-0.3
HWKB			Sn	Sn	09 28 25.0	-3.3
BUCK	Buck Mountain	5.40 139	Pn	Pn	09 27 28.2	+0.2
BNAB	Bonilla	5.41 343	Pn	Pn	09 27 27.1	-1.0
H04A	Detroit Lake	5.42 131	Pn	Pn	09 27 28.4	+0.1
G05A	Wamic	5.52 122		Pn	09 27 31.3	+1.7
PNT	Penticton	5.59 77	Pn	Pn	09 27 31.4	+0.9
GRNB	Grenville Isla	5.64 348	Pn	Pn	09 27 30.6	-0.5
GRNB	Grenville Isla	5.64 348	Pn	Pn	09 27 31.2	0.0
GRNB			Sn	Sn	09 28 32.7	-3.9
I03D	Drain, OR	5.66 144		Pn	09 27 31.4	0.0
MBLB	Minette Bay Lo	5.70 356	Pn	Pn	09 27 32.8	+0.8
KITB	Kitimat	5.74 356	Pn	Pn	09 27 33.4	+0.8
KITB			Sn	Sn	09 28 37.1	-2.0
E07A	Sunnyside	5.78 105	Pn	Pn	09 27 34.1	+0.9
G06A	Carlson Farm,	5.92 119		Pn	09 27 36.0	+0.9
HAWA	Hanford	6.05 106		Pn	09 27 37.7	+0.8
I05D	Terrebonne, OR	6.09 129	Pn	Pn	09 27 37.2	-0.3
RUBB	Prince Rupert	6.15 347	Pn	Pn	09 27 38.3	+0.2
RUBB	Prince Rupert	6.15 347	Pn	Pn	09 27 38.3	+0.2
RUBB			Sn	Sn	09 28 45.8	-3.2
DBO	Dodson Butte	6.19 146	Pn	Pn	09 27 38.7	-0.1
D08A	Wollman Farm,	6.24 99		Pn	09 27 38.9	-0.5
C09A	Chrisman Ranch	6.51 91		Pn	09 27 43.0	-0.2
C09A	Chrisman Ranch	6.51 91	Pn	Pn	09 27 43.1	-0.2
FSJB	Fort St James	6.53 19	Pn	Pn	09 27 45.3	+1.9
BLBC	Blue River	6.70 53	Pn	Pn	09 27 48.0	+2.0
G08A	Pilot Rock	6.89 113		Pn	09 27 49.5	+1.0
SLEB	Sale Mountain	6.96 62	Pn	Pn	09 27 51.2	+1.7
L02F	Cave Junction	6.96 152		Pn	09 27 49.9	+0.5
KSXB	Camp Six Broad	7.14 155	Pn	Pn	09 27 52.4	+0.5
NEW	Newport	7.23 87	P	Pn	09 27 52.6	-0.5
	baz=273,SNR=53					
NEW	Newport	7.23 87	Pn	Pn	09 27 53.2	+0.2
	6.0nm,0.3s,baz=274,slow=12,SNR=89					
NEW			LR	LR	09 30 52.4	
	comp=Z,952nm,20.8s,baz=268,slow=40					
	29nm,0.5s					
MNB	Mounoet Dainar	7.24 54	Pn	Pn	09 27 55.6	+2.2
L04D	Klamath Falls	7.32 145	Pn	Pn	09 27 55.4	+1.0
V35K	Ketchikan	7.34 343	Pn	Pn	09 27 54.9	+0.4
V35K	Ketchikan	7.34 343	P	Pn	09 27 55.0	+0.6
	baz=163,SNR=12					
KRMB	Red Mountain	7.41 156		Pn	09 27 56.1	+0.4
K05A	Summer Lake	7.50 136	Pn	Pn	09 28 00.2	+3.3
YBH	Yreka Blue Hor	7.59 149	Pn	Pn	09 27 59.8	+1.6
YBH	Yreka Blue Hor	7.59 149	Pn	Pn	09 27 60.0	+1.8
	1.3nm,0.3s,baz=346,slow=7.5,SNR=44					
YBH			Sn	Sn	09 29 21.5	-3.4
	baz=343,slow=11					
	30nm,0.7s					
F10A	Beach Ranch, E	7.69 104		Pn	09 28 00.4	+0.9
CRAG	Craig	7.80 338	Pn	Pn	09 28 01.4	+0.5
CRAG	Craig	7.80 338	P	Pn	09 28 01.7	+0.9
	baz=156					
BMO	Blue Mountains	8.13 112		Pn	09 28 06.5	+1.1
U33K	Whale Pass	8.39 340	P	Pn	09 28 10.0	+1.2
	baz=158					
BMTB	Bullhead Mount	8.49 23	Pn	Pn	09 28 13.6	+3.3
BDMTA	Bald Mountain	8.57 38	Pn	Pn	09 28 14.6	+3.2
KMRM	Mail Ridge	8.69 158	Pn	Pn	09 28 15.9	+2.9
T35M	Bob Quinn	8.75 352	Pn	Pn	09 28 15.7	+1.8
T35M	Bob Quinn	8.75 352	P	Pn	09 28 14.9	+1.1
	baz=172,SNR=15					
T35M	Bob Quinn	8.75 352	Pn	Pn	09 28 16.6	+2.8
BSMT	Bassoo Peak	8.83 88	Pn	Pn	09 28 15.1	-0.1
PLID	Pearl Lake	8.84 107	Pn	Pn	09 28 16.3	+0.9
T33K	Petersburg	9.00 342	P	Pn	09 28 17.7	+0.6
	baz=160					
JTMT	Jette	9.19 89	Pn	Pn	09 28 19.4	-0.6
YBMT	Yellow Bay	9.35 88	Pn	Pn	09 28 21.8	-0.4
HSPGA	Hill Springs,	9.49 79	Pn	Pn	09 28 25.9	+1.9
MSO	Missoula	9.60 94	Pn	Pn	09 28 24.8	-0.8
MSO	Missoula	9.60 94	P	Pn	09 28 25.4	-0.2
	baz=283,SNR=9.5					
S34M	Telegraph Cree	9.76 350	Pn	Pn	09 28 29.8	+2.2
S34M	Telegraph Cree	9.76 350	P	Pn	09 28 28.9	+1.2
	baz=169,SNR=11					
S34M	Telegraph Cree	9.76 350	Pn	Pn	09 28 30.4	+2.7
SIT	Sitka	9.79 336	P	Pn	09 28 29.5	+1.5
	baz=152					
S32K	Killisnoo	9.96 339	P	Pn	09 28 31.9	+1.6
	baz=155					
HOPS	Hopland Field	10.01 158		Pn	09 28 33.2	+2.1
CHMT	Chamberlain Mo	10.04 93	Pn	Pn	09 28 30.8	-0.9
OVMT	Ovando	10.17 92		Pn	09 28 32.1	-1.4
OVMT	Ovando	10.17 92	P	Pn	09 28 32.6	-0.9
DLBC	Dease Lake	10.17 354	P	Pn	09 28 34.6	+1.2
	baz=174,SNR=15					
DLBC	Dease Lake	10.17 354	Pn	Pn	09 28 36.5	+3.1
	1.7nm,0.3s,baz=192,slow=12,SNR=45					
DLBC			LR	LR	09 32 18.9	
	comp=Z,391nm,21.6s,baz=176,slow=36					
	14nm,0.6s					
DLBC	Dease Lake	10.17 354	P	Pn	09 28 36.4	+3.0
EDM	Edmonton	10.45 57	Pn	Pn	09 28 37.5	+0.3
HLID	Hailey	10.58 112	P	Pn	09 28 39.3	+0.3
	baz=300,SNR=7.1					
PAHR	Pah Rah Range	10.62 141	Pn	Pn	09 28 42.3	+2.7
LYMT	Lyon Mountain	10.66 92	P	Pn	09 28 38.6	-1.7
R32K	Eaglecrest	10.67 341	P	Pn	09 28 40.4	+0.3
	baz=157					
AFDM	Forest Hills D	10.68 149	Pn	Pn	09 28 43.0	+2.7
S31K	Pelican	10.82 336	P	Pn	09 28 42.3	+0.2
	baz=151					
FNSB	Fort Nelson	10.91 15	P	Pn	09 28 48.8	+5.4
Q32M	Nakina River	10.92 348		Pn	09 28 46.5	+2.8
Q32M	Nakina River	10.92 348	P	Pn	09 28 43.9	+0.1
	baz=166,SNR=12					
Q32M	Nakina River	10.92 348	P	Pn	09 28 46.5	+2.8
DLMT	Dillon	10.94 100	Pn	Pn	09 28 43.5	-0.5
BESE	Bessie Mountai	11.03 341	P	Pn	09 28 48.1	+3.1
PNTR	Pine Nut	11.06 144	Pn	Pn	09 28 49.0	+3.3
R33M	Jennings River	11.20 352	Pn	Pn	09 28 50.5	+3.0
R33M	Jennings River	11.20 352	P	Pn	09 28 48.9	+1.4
	baz=171,SNR=18					
R33M	Jennings River	11.20 352	P	Pn	09 28 50.4	+3.0
BOZ	Bozeman (W)	11.49 98	P	Pn	09 28 51.9	+0.3
	baz=289,SNR=12					
P32M	Atlin	11.75 345	P	Pn	09 28 56.3	+1.4
	baz=162,SNR=7.0					
P32M	Atlin	11.75 345	P	Pn	09 28 58.4	+3.5
WTLY	Watson Lake, Y	11.79 358	P	Pn	09 28 57.1	+1.6
	baz=178,SNR=6.5					
ELK	Elko	11.83 125	Pn	Pn	09 28 59.9	+3.5
	1.5nm,0.7s,baz=336,slow=11,SNR=6.8					
SKAG	Skagway	11.93 342	P	Pn	09 28 59.3	+2.0
	baz=157,SNR=8.3					
KOTAN	Kotaneelee Air	12.01 9	P	Pn	09 28 59.9	+1.4
	baz=193					
NVAR	Mina Array Bea	12.15 141	Pn	Pn	09 29 03.8	+3.2
	0.1nm,0.3s,baz=317,slow=12,SNR=80					
NVAR			LR	LR	09 33 48.9	
	comp=Z,297nm,18.3s,baz=317,slow=38					
	17nm,1.0s					
EGMT	Eagleton	12.16 85	P	Pn	09 29 01.9	+1.4
	baz=278,SNR=7.8					
PLBC	Pleasant Camp	12.16 339	P	Pn	09 29 02.3	+1.8
	baz=154					
PLBC	Pleasant Camp	12.16 339	P	Pn	09 29 02.4	+1.8
FLDN	Fort Liard	12.19 11	P	Pn	09 29 02.7	+1.9
	baz=195					
P33M	Teslin, Yukon	12.21 348	P	Pn	09 29 03.2	+2.0
	baz=166,SNR=12					
P33M	Teslin, Yukon	12.21 348	P	Pn	09 29 03.9	+2.7
SAO	San Andreas Ge	12.54 155		Pn	09 29 06.6	+0.9
H17A	Grant Village	12.64 102	P	Pn	09 29 08.8	+1.4
	baz=293					
P29M	Windy Craggy	12.65 337	P	Pn	09 29 08.8	+1.6
	baz=150					
P30M	Million Dollar	12.89 339	P	Pn	09 29 11.8	+1.3
	baz=153					
P30M	Million Dollar	12.89 339	P	Pn	09 29 14.3	+3.8
WHY	Whitehorse	12.96 345	P	Pn	09 29 12.9	+1.4
	baz=160,SNR=8.3					
WHY	Whitehorse	12.96 345	P	Pn	09 29 13.6	+2.2
PNL	Peninsula	13.15 334	P	Pn	09 29 16.3	+2.3
	baz=146,SNR=6.6					
PNL	Peninsula	13.15 334	P	Pn	09 29 16.9	+2.9
N32M	Quiet Lake	13.15 349	P	Pn	09 29 16.1	+2.0
	baz=166					
N32M	Quiet Lake	13.15 349	P	Pn	09 29 18.4	+4.3
TGTN	Hyland Airport	13.20 359	P	Pn	09 29 15.8	+1.1
	baz=180,SNR=18					
TGTN	Hyland Airport	13.20 359	P	Pn	09 29 19.9	+5.2
RLMT	Red Lodge	13.22 97	P	Pn	09 29 16.5	+1.3
	baz=290					
O30N	Mendenhall	13.29 342	P	Pn	09 29 16.6	+0.7
	baz=157,SNR=12					
R11B	Troy Canyon, C	13.44 134	P	Pn	09 29 19.4	+1.1
	baz=321,SNR=7.7					
O29M	Mount Kennedy	13.45 337	P	Pn	09 29 18.6	+0.4
	baz=149,SNR=9.9					
O29M	Mount Kennedy	13.45 337	P	Pn	09 29 22.3	+4.1
HYT	Haines Junctio	13.64 340	P	Pn	09 29 21.3	+0.5
	baz=153,SNR=5.7					
HYT	Haines Junctio	13.64 340	P	Pn	09 29 24.0	+3.2
PINM	Pinnacle	13.75 333	P	Pn	09 29 22.3	0.0
	baz=144,SNR=7.1					
PCA	Pinnacle	13.75 333	P	Pn	09 29 25.8	+3.5
GRAC	Grapevine Rang	13.75 142	P	Pn	09 29 23.3	+0.9
	baz=328					
N31M	Braeburn, Yuko	13.89 344	P	Pn	09 29 24.6	+0.6
	baz=159					
N31M	Braeburn, Yuko	13.89 344	P	Pn	09 29 27.5	+3.5
SAMH	Samovar Hills	13.94 333	P	Pn	09 29 27.7	+2.9
YUK6	Outpost Mounta	13.95 339	P	Pn	09 29 26.2	+1.1
	baz=151,SNR=5.7					
CWC	Cottonwood Cre	13.95 145	P	Pn	09 29 26.7	+1.5
	baz=331					
YUK5	Granite Creek	13.99 340	P	Pn	09 29 28.5	+2.8
BW06	Boulder Array	14.04 107	P	Pn	09 29 26.6	+0.1
	baz=299					
PDAR	Pinedale Array	14.04 107	Pn	Pn	09 29 29.6	+3.2
	0.1nm,0.3s,baz=307,slow=10,SNR=21					
PDAR			LR	LR	09 35 14.8	
	comp=Z,507nm,18.2s,baz=297,slow=39					
	2.4nm,0.8s					
N30M	Aishikik Lake	14.12 342	P	Pn	09 29 25.5	-1.8
	baz=155,SNR=9.4					
N30M	Aishikik Lake	14.12 342	P	Pn	09 29 30.3	+3.0
VES	Vestal, Richgr	14.12 149	P	Pn	09 29 28.5	+1.1
	baz=334,SNR=9.2					
FARO	Faro, Yukon	14.23 350	P	Pn	09 29 28.6	-0.2
	baz=166,SNR=20					
FARO	Faro, Yukon	14.23 350	P	P	09 29 32.8	-3.5
RKAV	Rock Avalanche	14.25 332	P	Pn	09 29 31.2	+2.0
TPNV	Topopah Spring	14.27 139	P	Pn	09 29 30.1	+0.6
	baz=326,SNR=27					
O28M	Mount Upton	14.28 335	P	Pn	09 29 30.0	+0.2
	baz=146,SNR=9.8					
O28M	Mount Upton	14.28 335	P	Pn	09 29 31.6	+1.8
SMMC	Simmler	14.31 153	P	Pn	09 29 30.7	+0.7
	baz=337,SNR=7.9					
M31M	Drury Creek, Y	14.34 348	P	Pn	09 29 29.5	-0.7
	baz=164,SNR=11					
MESA	MESA	14.35 331	P	Pn	09 29 29.5	-1.0
	baz=141					
YUK4	Talbot Arm	14.37 339	P	Pn	09 29 31.3	+0.5
	baz=152					
MMPY	Sheldon Lake,	14.41 354	P	Pn	09 29 31.0	-0.2
	baz=172,SNR=12					
MMPY	Sheldon Lake,	14.41 354	P	P	09 29 35.5	-2.9
FURC	Furnace Creek,	14.41 141	P	Pn	09 29 31.6	+0.3
	baz=328,SNR=18					
ISA	Isabella, Lake	14.50 148	P	Pn	09 29 32.9	+0.3
	baz=333,SNR=8.7					
MPMC	Manual Prospec	14.52 144	P	Pn	09 29 32.9	-0.1
	baz=330,SNR=17					
LOGN	Logan Glacier	14.56 334	P	Pn	09 29 36.0	+2.6
YUK8	Steele Glacier	14.60 337	P	Pn	09 29 33.4	-0.5
	baz=148,SNR=8.6					
YUK8	Steele Glacier	14.60 337	P	Pn	09 29 36.6	+2.6
GRNC	Granite Creek	14.71 333	P	Pn	09 29 38.0	+2.5
PKM	Mcpherson Peak	14.76 153	P	Pn	09 29 36.5	+0.2
	baz=337,SNR=6.0					
CTGM	Chitina Glacie	14.77 334	P	Pn	09 29 39.0	+2.8
CTG	Chitna Glacier	14.77 334	P	Pn	09 29 35.2	-1.1
	baz=144,SNR=11					
LAO	LASA Array	14.78 88	P	Pn	09 29 35.4	-0.9
	baz=284,SNR=6.0					
ARVC	Arvin	14.86 150	P	Pn	09 29 37.4	0.0
	baz=335					
LRMC	Laurel Mtn Rad	14.95 146	P	Pn	09 29 38.9	+0.1
	baz=332					
KAIM	Kayak Island	15.02 327	P	Pn	09 29 39.0	-0.4
	baz=134					
M30M	Minto, Yukon	15.08 344	P	Pn	09 29 39.5	-0.8
	baz=158,SNR=8.1					
M30M	Minto, Yukon	15.08 344	P	P	09 29 43.2	-2.6
WRGLY	Wrigley	15.11 8	P	Pn	09 29 39.9	-0.8
	baz=192					
CRQE	Cirque	15.15 331	P	Pn	09 29 40.9	-0.5
	baz=139					
YUK3	Moose Creek	15.19 337	P	Pn	09 29 41.2	-0.7
	baz=148,SNR=6.7					
YUK3	Moose Creek	15.19 337	P	Pn	09 29 43.7	+1.8
SBC	Santa Barbara	15.20 153	P	Pn	09 29 43.7	+1.7
	baz=338					
PTPK	Patty Peak	15.29 333	P	Pn	09 29 45.2	+2.0
M29M	Somme Creek	15.29 341		P	09 29 46.1	-2.2
M29M			IAmb	IAmb	09 29 47.0	
	comp=Z,18nm,1.2s					
M29M	Somme Creek	15.29 341	P	Pn	09 29 42.9	-0.3
	baz=154,SNR=8.0					
M29M	Somme Creek	15.29 341	P	Pn	09 29 45.4	+2.2
YUK2	White River	15.30 336	P	Pn	09 29 45.5	+2.2
OSI	Osito Audit: C	15.36 150	P	Pn	09 29 44.5	+0.3
	baz=335					
EDW2	Edwards Air Fo	15.37 148	P	Pn	09 29 45.6	+1.3
	baz=333,SNR=9.9					
GSC	Goldstone, Bar	15.45 144	P	Pn	09 29 45.4	0.0
	baz=330,SNR=19					
MCARA	McCarthy VSAT	15.61 332	IAmb	IAmb	09 29 55.0	
	comp=Z,30nm,1.0s					
MCARA	McCarthy VSAT	15.61 332	P	Pn	09 29 47.2	-0.1
	baz=141,SNR=7.3					
SCZ2	Santa Cruz Isl	15.64 154	P	Pn	09 29 47.9	+0.1
	baz=338					
TUQ	Turquoise Moun	15.69 141	P	Pn	09 29 49.0	+0.4
	baz=328,SNR=13					
RRX	Edison Barstow	15.74 145	P	Pn	09 29 49.2	0.0
	baz=331					
DGMT	Dagmar	15.77 81	P	Pn	09 29 47.7	-1.8
	baz=278,SNR=18					
BMRM	Bremner River	15.82 329	P	Pn	09 29 49.0	-1.0
	baz=137					
DECC	Green Verdugo	15.82 149	P	Pn	09 29 50.1	0.0
	baz=335					
L29M	L29M	15.82 343	P	Pn	09 29 48.9	-1.2
	baz=155					
L29M	L29M	15.82 343	P	P	09 29 52.4	-1.6
EYAK	Cordova Ski Ar	15.93 327	P	Pn	09 29 51.3	-0.1
	baz=133					
YKA	Yellowknife Ar	16.01 23	Pn	Pn	09 29 49.5	-3.0
	comp=Z,0.2nm,0.3s,baz=215,slow=13,SNR=5.3					
YKA			LR	LR	09 35 06.3	
	comp=Z,86nm,20.9s,baz=209,slow=34					
	comp=Z,3.9nm,0.8s					
HEC	Hector,Ludlow	16.05 143	P	Pn	09 29 52.9	-0.2
	baz=330					
M27K	Edge Creek, AK	16.05 336	IAmb	IAmb	09 30 00.1	
	comp=Z,30nm,1.1s					
M27K	Edge Creek, AK	16.05 336	P	Pn	09 29 52.4	-0.7
	baz=146					
M27K	Edge Creek, AK	16.05 336	P	P	09 29 55.2	-1.5
K22A	Casper	16.05 103	IAmb	IAmb	09 29 55.8	
	comp=Z,43nm,1.4s					
K22A	Casper	16.05 103	P	Pn	09 29 51.6	-1.7
	baz=297,SNR=6.7					
BFSC	Mount Baldy Ra	16.07 148	P	Pn	09 29 53.6	+0.1
	baz=334					
N25K	Chitina, Valde	16.28 331	P	P	09 29 57.9	-1.3
N25K			IAmb	IAmb	09 29 58.9	
	comp=Z,37nm,1.4s					
N25K	Chitina, Valde	16.28 331	P	Pn	09 29 54.7	-1.3
	baz=138,SNR=7.4					
O20A	White River Ci	16.31 113	P	Pn	09 29 56.1	-0.6
	baz=306					
BBRC	Big Bear Solar	16.32 146	P	Pn	09 29 57.1	+0.3
	baz=332					
GMRC	Granite Mounta	16.36 141	P	Pn	09 29 57.2	0.0
	baz=329,SNR=17					
SNCC	San Nicolas Is	16.37 154	P	Pn	09 29 58.2	+1.0
	baz=339					
K29M	Barlow Dome	16.38 345	P	Pn	09 29 56.5	-0.8
	baz=158,SNR=5.5					
K29M	Barlow Dome	16.38 345	P	P	09 30 00.1	-0.2
M26K	Nabesna, AK	16.39 335	P	Pn	09 29 57.1	-0.4
	baz=143					
CIS	Catalina Islan	16.57 151	P	Pn	09 30 00.6	+0.8
	baz=336					
L27K	Beaver Creek,	16.62 338	IAmb	IAmb	09 30 06.4	
	comp=Z,23nm,1.1s					
L27K	Beaver Creek,	16.62 338	P	Pn	09 30 00.1	-0.2
	baz=147,SNR=11					
L27K	Beaver Creek,	16.62 338	P	P	09 30 04.3	+1.5
KLU	Klutina	16.64 329	P	Pn	09 29 59.3	-1.3
	baz=135					
GLI	Glacier Island	16.65 326	P	Pn	09 29 58.9	-1.7
	baz=131					
ELS	Elsinore Mount	16.68 148	IAmb	IAmb	09 30 06.6	
	comp=Z,45nm,1.5s					
MURC	Murrieta	16.81 147	P	Pn	09 30 03.4	+0.5
	baz=334					
NEE2	Needles Airpor	16.82 139	P	Pn	09 30 03.4	+0.5
	baz=327					
J30M	Hart River	16.88 347	P	Pn	09 30 03.4	-0.2
	baz=161,SNR=9.2					
J30M	Hart River	16.88 347	P	P	09 30 07.8	+2.0
BELC	Belle Mtn. Jos	16.90 144	P	Pn	09 30 04.6	+0.5
	baz=331,SNR=13					
DAWY	Dawson	16.93 343	P	Pn	09 30 04.5	+0.3
	baz=154,SNR=8.6					
DAWY	Dawson	16.93 343	P	P	09 30 06.1	-0.2
L26K	Log Cabin Wild	16.99 336	P	Pn	09 30 06.0	+1.0
	baz=144					
HARP	HAARP	17.04 332	P	Pn	09 30 05.6	0.0
	baz=139					
RSSD	Black Hills	17.06 95	P	Pn	09 30 06.4	+0.2
	baz=292					
PFO	Pinyon Flats O	17.07 145		Pn	09 30 06.4	+0.2
PFO	Pinyon Flats O	17.07 145	P	Pn	09 30 06.8	+0.5
	baz=332,SNR=8.1					
PFO	Pinyon Flats O	17.07 145	P	Pn	09 30 06.6	+0.4
	comp=Z,0.1nm,0.3s,baz=307,slow=7.3,SNR=13					
	comp=Z,6.0nm,0.8s					
TPFO	Pinon Flats	17.08 145	P	Pn	09 30 06.5	+0.2
	baz=332,SNR=7.1					
PWL	Port Wells	17.11 325	P	Pn	09 30 07.0	+0.6
	baz=129					
SEW	Seward	17.11 321	P	Pn	09 30 06.6	+0.1
	baz=125					
IRM	Iron Mountain	17.11 141	P	Pn	09 30 07.0	+0.3
	baz=329,SNR=7.9					
M24K	Tolsona, Glenn	17.16 330	P	Pn	09 30 06.5	-0.6
	baz=136					
FFC	Flin Flon	17.31 59		Pn	09 30 08.7	-0.3
FFC			IAmb	IAmb	09 30 13.2	
	comp=Z,60nm,1.0s					
FFC	Flin Flon	17.31 59	P	Pn	09 30 09.3	+0.3
N23A	Red Feather La	17.32 107	P	Pn	09 30 08.9	-0.5
	baz=302					
SCM	Sheep Creek Mo	17.36 328	IAmb	IAmb	09 30 17.1	
	comp=Z,31nm,1.3s					
SCM	Sheep Creek Mo	17.36 328	P	Pn	09 30 09.2	-0.4
	baz=133					
PHWY	Pilot Hill	17.41 106	IAmb	IAmb	09 30 15.3	
	comp=Z,32nm,0.8s					
PDMCI	Parker Dam,Lak	17.42 139	P	Pn	09 30 10.7	+0.2
	baz=327					
BC3	Big Chuckawall	17.42 143	P	Pn	09 30 11.5	+0.8
	baz=330,SNR=8.0					
O22K	Cooper Landing	17.43 322	P	Pn	09 30 10.6	+0.1
	baz=125					
KDAK	Kodiak Island	17.45 312	P	Pn	09 30 11.4	+0.7
	baz=113					
M23K	Glacier View	17.48 328	P	P	09 30 11.9	-0.5
	baz=132					
109C	Camp Elliot, M	17.48 148	P	Pn	09 30 11.6	+0.3
	baz=334					
K27K	Chicken	17.49 339	P	Pn	09 30 11.4	+0.2
	baz=148					
K27K	Chic

I28M	Miner Creek	18.28 344	P	Pn	09 30 19.9	-1.1
	baz=155					
I28M	Miner Creek	18.28 344	P	P	09 30 23.8	+2.6
K24K	Donnelly Dome	18.29 334	P	Pn	09 30 20.9	-0.2
	baz=140					
R18K	Karluk	18.32 310	P	Pn	09 30 19.7	-1.7
	baz=110					
M22K	Willow	18.34 325	P	Pn	09 30 20.7	-0.9
	baz=128					
SUA	Susitna One	18.41 324	P	Pn	09 30 20.7	-1.9
	baz=126					
Q19K	Cape Douglas,	18.42 315	P	P	09 30 21.7	-1.0
	baz=115					
WAT1	Susitna Watana	18.46 329	P	Pn	09 30 23.7	+0.5
	baz=133					
O20K	Slope Mountain	18.46 319	P	P	09 30 20.7	-2.5
	baz=119					
CHIR	Chirikof Islan	18.47 304	P	P	09 30 22.6	-0.7
	baz=103					
E28A	Huff	18.49 85	IAmb	IAmb	09 30 25.3	
	comp=Z,54nm,1.2s					
P19K	Oil Pt	18.53 317	P	Pn	09 30 24.3	+0.2
	baz=117					
EPYK	Eagle Plains	18.63 349	P	P	09 30 24.1	-0.9
	baz=162,SNR=6.5					
S22A	4UR Ranch, Cre	18.67 117	P	Pn	09 30 26.5	+0.3
	baz=311,SNR=11					
H29M	Whitestone	18.72 347	P	P	09 30 25.3	-0.7
	baz=159,SNR=7.3					
H29M	Whitestone	18.72 347	P	Pn	09 30 26.9	+0.6
I27K	Kandik River	18.74 342	P	P	09 30 26.0	-0.2
	baz=152,SNR=5.7					
I27K	Kandik River	18.74 342	P	Pn	09 30 27.5	+0.9
CUT	Chulitna	18.79 327	P	Pn	09 30 27.6	+0.5
	baz=129					
J25K	Salcha River,	18.80 336	IAmb	IAmb	09 30 30.9	
	comp=Z,38nm,1.5s					
J25K	Salcha River,	18.80 336	P	P	09 30 26.5	-0.5
	baz=143,SNR=10					
I26K	Coal Creek Min	18.82 340	P	P	09 30 27.3	+0.2
	baz=148					
N20K	Mount Spurr	18.85 322	P	P	09 30 27.9	+0.4
	baz=123					
G31M	Satah River	18.90 352	P	Pn	09 30 28.5	+0.1
	baz=168,SNR=6.7					
MDND	Maddock	18.91 81	P	P	09 30 28.0	-0.2
	baz=282					
W18A	Petrified Fore	18.91 128	P	Pn	09 30 29.6	+0.6
	baz=319					
Q24A	Divide	18.93 111	P	P	09 30 28.0	-0.8
	baz=306					
RND	Reindeer	18.95 330	IAmb	IAmb	09 30 32.7	
	comp=Z,19nm,1.1s					
Q18K	Katmai Hardscr	18.97 313	P	Pn	09 30 29.9	+0.4
	baz=112					
SKT	Skwentna	19.01 325	P	Pn	09 30 30.1	+0.2
	baz=126					
G30M	tAoh Zraii Nji	19.16 350	P	Pn	09 30 31.8	+0.2
	baz=164					
G30M	tAoh Zraii Nji	19.16 350	P	Pn	09 30 32.5	+0.9
MCK	McKinley	19.20 331	P	P	09 30 31.8	+0.5
	baz=134,SNR=9.9					
O19K	Port Alsworth	19.27 318	P	P	09 30 32.0	+0.1
	baz=117					
H27K	Steamboat Moun	19.28 343	P	Pn	09 30 33.6	+0.5
	baz=152					
H27K	Steamboat Moun	19.28 343	P	Pn	09 30 33.8	+0.7
G29M	Pine Creek	19.32 348	P	Pn	09 30 33.1	-0.4
	baz=160,SNR=9.4					
G29M	Pine Creek	19.32 348	P	Pn	09 30 34.2	+0.7
R17K	Ugashik Creek	19.33 309	P	Pn	09 30 34.4	+0.6
	baz=107					
ILAR	Eielson Array	19.34 335	P	Pn	09 30 33.9	+0.1
	comp=Z,0.1nm,0.3s,baz=144,slow=10,SNR=38					
ILAR			S	Sn	09 34 06.3	-4.6
	comp=Z,0.2nm,0.4s,baz=92,slow=28,SNR=7.5					
ILAR			LR	LR	09 37 10.4	
	comp=Z,221nm,22.0s,baz=102,slow=34					
	comp=Z,7.5nm,1.0s					
F31M	Tsiigehtchic	19.36 353	IAmb	IAmb	09 30 44.3	
	comp=Z,25nm,1.3s					
F31M	Tsiigehtchic	19.36 353	P	P	09 30 32.1	-0.9
	baz=169					
F31M	Tsiigehtchic	19.36 353	P	Pn	09 30 34.6	+0.6
TRF	Thorofare Moun	19.46 329	P	Pn	09 30 35.2	-0.3
	baz=131					
WRH	Wood River Hil	19.46 333	IAmb	IAmb	09 30 40.3	
	comp=Z,39nm,1.3s					
SDCO	Great Sand Dun	19.47 115	P	P	09 30 33.4	-1.3
	baz=310,SNR=8.2					
CCB	Clear Creek Bu	19.51 334	IAmb	IAmb	09 30 38.1	
	comp=Z,25nm,1.4s					
O18K	Koktuh Hills	19.52 316	P	P	09 30 33.8	-1.0
	baz=115					
PRP	Porcupine Dome	19.56 338	P	Pn	09 30 37.6	+1.1
PRP			IAmb	IAmb	09 30 39.9	
	comp=Z,14nm,1.0s					
PRP	Porcupine Dome	19.56 338	P	P	09 30 33.5	-1.8
	baz=144					
M20K	Styx River	19.59 323	P	P	09 30 35.2	-0.4
	baz=123					
N19K	Bonanza Creek	19.62 319	P	P	09 30 36.7	+0.8
	baz=118					
COLA	College	19.69 334	P	Pn	09 30 37.6	-0.3
	baz=138					
F30M	Barrier River	19.72 351	P	P	09 30 37.0	+0.1
	baz=165,SNR=9.0					
POKR	Poker Plat Res	19.75 335	P	Pn	09 30 38.1	-0.6
	baz=140					
Q16K	King Salmon	19.79 312	P	Pn	09 30 38.6	-0.5
	baz=110					
PPLA	Purkeypile	19.79 326	P	P	09 30 38.4	+0.5
	baz=127					
G27K	Doyon Strip	19.81 344	P	Pn	09 30 39.1	-0.3
	baz=153					
G27K	Doyon Strip	19.81 344	P	Pn	09 30 39.5	+0.1
OGNE	Ogallala	19.82 102	P	Pn	09 30 39.3	-0.4
	baz=300					
NEA2	Nenana	19.85 333	P	P	09 30 38.8	+0.5
	baz=136					
214A	Organ Pipe Nat	20.00 139	P	Pn	09 30 41.4	-0.5
	baz=329					
M19K	Big River Lodg	20.11 322	P	P	09 30 41.8	+0.6
	baz=121					
BPAW	Bear Paw Mtn.	20.12 330	IAmb	IAmb	09 30 46.2	
	comp=Z,12nm,0.8s					
BPAW	Bear Paw Mtn.	20.12 330	P	P	09 30 41.4	+0.1
	baz=132					
N18K	Kilae Creek	20.18 318	P	P	09 30 42.0	+0.1
	baz=116					
INK	Inuvik	20.20 354	P	P	09 30 41.8	-0.3
INK			IAmb	IAmb	09 30 46.9	
	comp=Z,26nm,1.3s					
INK	Inuvik	20.20 354	P	Pn	09 30 43.4	-0.6
	baz=170,SNR=6.5					
INK	Inuvik	20.20 354	P	Pn	09 30 43.1	-0.8
	comp=Z,13nm,1.1s,baz=162,slow=8.0,SNR=12					
INK			LR	LR	09 38 43.3	
	comp=Z,274nm,18.4s,baz=186,slow=37					
	comp=Z,13nm,1.1s					
INK	Inuvik	20.20 354	P	P	09 30 40.7	-1.4
SVW2	Sparrevohn	20.22 319	P	P	09 30 42.6	+0.1
SVW2			IAmb	IAmb	09 30 48.5	
	comp=Z,37nm,1.5s					
H25L	Birch Creek	20.24 339	P	Pn	09 30 43.5	-0.9
	baz=145,SNR=9.8					
F28M	Old Crow	20.24 347	P	Pn	09 30 44.6	+0.1
	baz=157,SNR=7.4					
SUSD	Miller	20.32 90	P	P	09 30 43.4	-0.2
	baz=291					
I23K	Minto, Yukon-K	20.33 334	P	P	09 30 43.7	+0.2
	baz=136,SNR=14					
G26K	Porcupine Rive	20.35 342	P	P	09 30 43.1	-0.6
	baz=149,SNR=24					
O17K	Koliganek Bris	20.37 315	P	P	09 30 44.6	+0.5
	baz=112					
H24K	Noodor Dome	20.42 336	IAmb	IAmb	09 30 50.1	
	comp=Z,25nm,1.1s					
H24K	Noodor Dome	20.42 336	P	P	09 30 43.3	-1.3
	baz=140,SNR=17					
CHUM	Lake Minchumin	20.44 328	P	P	09 30 42.4	-2.3
	baz=129					
L19K	White Mountain	20.44 323	P	P	09 30 44.6	-0.2
L19K			IAmb	IAmb	09 30 49.5	
	comp=Z,27nm,1.2s					
L19K	White Mountain	20.44 323	P	P	09 30 43.3	-1.5
	baz=121,SNR=10					
KSCO	Kaye Shedlock'	20.48 108	IAmb	IAmb	09 30 53.9	
	comp=Z,38nm,1.3s					
KSCO	Kaye Shedlock'	20.48 108	P	P	09 30 45.9	+0.4
	baz=305					
P16K	Nushagak River	20.56 313	P	Pn	09 30 47.3	-0.9
	baz=109					
CHNA	Chernabura Isl	20.56 300	P	P	09 30 46.0	-0.1
	baz=96					
TUC	Tucson	20.62 135	P	P	09 30 47.3	+0.2
TUC	Tucson	20.62 135	P	P	09 30 47.9	+0.8
	baz=325					
MLY	Manley	20.66 332	P	Pn	09 30 48.8	-0.7
	baz=134					
E29M	Blow River	20.70 350	P	P	09 30 47.8	+0.3
	baz=162,SNR=26					
N17K	Nushagak Hills	20.70 317	P	P	09 30 47.0	-0.6
	baz=114					
G25K	Bearman Lake	20.71 340	P	Pn	09 30 49.2	-0.7
	baz=145					
K20K	Telida	20.76 326	P	P	09 30 48.7	+0.4
	baz=125					
O16K	Kokwok River B	20.79 314	P	P	09 30 48.3	-0.2
	baz=110					
ANMO	Albuquerque	20.83 122	P	P	09 30 48.9	-0.5
ANMO	Albuquerque	20.83 122	P	P	09 30 49.8	+0.4
	baz=316					
ANMO	Albuquerque	20.83 122	P	P	09 30 50.3	+0.9
	comp=Z,2.3nm,1.0s,baz=43,slow=8.9,SNR=6.1					
ANMO			LR	LR	09 38 32.4	
	comp=Z,82nm,19.6s,baz=40,slow=36					
	comp=Z,2.3nm,1.0s					
H23K	Yukon River	20.87 335	P	P	09 30 49.6	+0.1
	baz=137					
ULM	Lac du Bonnet	20.92 73	P	P	09 30 49.1	-1.0
ULM			IAmb	IAmb	09 30 54.0	
	comp=Z,33nm,1.1s					
ULM	Lac du Bonnet	20.92 73	P	P	09 30 50.5	+0.4
	comp=Z,21nm,1.0s,baz=283,slow=10,SNR=15					
ULM			LR	LR	09 39 11.9	
	comp=Z,556nm,19.0s,baz=282,slow=38					
	comp=Z,21nm,1.0s					
ULM	Lac du Bonnet	20.92 73	P	P	09 30 50.6	+0.5
BMAR	Burnt Mountain	20.93 342	P	P	09 30 50.5	+0.5
G24K	Hadweenzic Riv	20.99 338	P	P	09 30 50.4	-0.3
	baz=142,SNR=5.3					
E27K	Coleen River	21.04 346	P	P	09 30 50.7	-0.5
	baz=155					
E27K	Coleen River	21.04 346	P	P	09 30 52.5	+1.3
F26K	Sheenjek River	21.07 343	P	P	09 30 51.8	+0.3
	baz=150,SNR=15					
E28M	Babbage River	21.11 348	P	P	09 30 51.3	-0.7
	baz=159,SNR=11					
M17K	Holitna River	21.16 319	P	P	09 30 52.7	+0.1
	baz=116					
L18K	Granite Mounta	21.21 321	P	P	09 30 53.0	0.0
	baz=118,SNR=9.5					
J20K	Nowinta River	21.26 328	P	P	09 30 51.9	-1.7
	baz=126					
TTA	Tatalina	21.28 324	IAmb	IAmb	09 30 55.3	
	comp=Z,16nm,1.0s					
TTA	Tatalina	21.28 324	P	P	09 30 53.6	-0.3
	baz=121,SNR=6.5					
F25K	Christian Rive	21.29 341	P	P	09 30 55.0	+1.1
	baz=147,SNR=16					
H22K	Ishtalitna Cre	21.45 333	P	P	09 30 56.4	+0.7
	baz=134,SNR=9.4					
G23K	Bananza Creek	21.65 336	P	P	09 30 58.6	+0.7
	baz=138,SNR=5.6					
J19K	Poorman	21.69 326	P	P	09 30 59.0	+0.8
	baz=124					
M16K	Timber Creek	21.69 317	P	P	09 30 56.8	-1.5
	baz=112					
E25K	Arctic Village	21.71 342	P	P	09 30 58.8	+0.3
	baz=148					
H21K	Melozitna Rive	21.73 332	P	P	09 30 59.7	+1.0
	baz=132,SNR=6.1					
F24K	Squaw Lake	21.73 339	P	P	09 30 58.6	-0.1
	baz=143					
I20K	Naaghedeneel	21.74 329	P	P	09 30 58.4	-0.3
	baz=127					
J18K	Innoko River	21.82 324	P	P	09 31 00.5	+0.8
	baz=121,SNR=8.6					
L17K	Donlin	21.85 320	P	P	09 31 00.3	+0.4
	baz=116					
D27M	Malcolm River	21.91 348	P	P	09 31 00.8	+0.2
	baz=157					
COLD	Coldfoot	22.08 337	P	P	09 31 03.9	+1.5
	baz=139					
K17K	Iditarod	22.10 322	P	P	09 31 02.7	0.0
	baz=117					
319A	Douglas	22.11 133	IAmb	IAmb	09 31 12.7	
	comp=Z,20nm,1.2s					
BGNE	Belgrade	22.14 97	P	P	09 31 04.5	+1.3
	baz=298					
ECSD	EROS Data Cent	22.15 90	IAmb	IAmb	09 31 07.1	
	comp=Z,14nm,0.8s					
ECSD	EROS Data Cent	22.15 90	P	P	09 31 04.4	+1.0
	baz=293,SNR=15					
L16K	Owhat River	22.18 319	P	P	09 31 03.2	-0.3
	baz=113					
G22K	Bettles	22.21 335	P	P	09 31 05.0	+1.2
	baz=136					
H20K	Anotteneega Mo	22.30 330	P	P	09 31 05.1	+0.3
	baz=128					
E24K	Your Creek	22.31 340	P	P	09 31 06.7	+1.8
	baz=143,SNR=7.8					
M15K	Kasigluk River	22.37 316	P	P	09 31 06.0	+0.4
	baz=110					
EPLO	Experimental L	22.38 74	P	P	09 31 05.5	-0.3
CBKS	Cedar Bluff	22.45 105	P	P	09 31 05.8	-0.9
CBKS			IAmb	IAmb	09 31 10.5	
	comp=Z,26nm,1.1s					
CBKS	Cedar Bluff	22.45 105	P	P	09 31 05.7	-0.9
	baz=304,SNR=5.7					
G21K	Allakaket	22.51 333	P	P	09 31 07.7	+0.7
	baz=132					
E23K	Chandalar	22.57 339	P	P	09 31 10.2	+2.5
	baz=141,SNR=5.3					
B35A	Bob, Littlefor	22.64 77	P	P	09 31 06.9	-1.7
B35A			IAmb	IAmb	09 31 10.4	
	comp=Z,28nm,1.1s					
F22K	John River	22.82 336	P	P	09 31 11.7	+1.4
	baz=136					
H19K	Roundabout Mou	22.85 329	P	P	09 31 10.9	+0.4
	baz=126					
D25K	Kavik River	22.89 343	P	P	09 31 11.3	+0.3
	baz=148					
F21K	Alatna River	22.98 335	P	P	09 31 12.9	+0.9
	baz=133					
M14K	Bethel	22.99 315	P	P	09 31 11.6	-0.5
	baz=108					
TOLK	Toolik Lake Re	23.01 340	IAmb	IAmb	09 31 15.8	
	comp=Z,17nm,1.4s					
TOLK	Toolik Lake Re	23.01 340	P	P	09 31 11.3	-1.0
	baz=142					
C26K	Camden Bay	23.13 345	P	P	09 31 12.6	-0.9
	baz=151					
E22K	Anaktuvuk Pass	23.17 337	P	P	09 31 12.2	-1.8
	baz=137					
D24K	Happy Valley	23.25 341	P	P	09 31 16.2	+1.5
	baz=144					
J16K	Anvik River	23.30 322	P	P	09 31 16.0	+0.8
	baz=115					
R32A	Long Quarter,	23.33 104	IAmb	IAmb	09 31 26.4	
	comp=Z,21nm,0.9s					
SOLO	Sioux Lookout	23.37 72	P	P	09 31 16.2	+0.1
F36A	Milaca	23.45 83	IAmb	IAmb	09 31 20.0	
	comp=Z,17nm,0.9s					
C24K	Franklin Bluff	23.68 342	P	P	09 31 18.8	-0.2
	baz=145					
MNTX	Cornudas Mount	23.86 126	P	P	09 31 23.0	+2.0
	baz=320					
ATKO	Atikokan Iron	23.91 75	P	P	09 31 22.7	+1.2
E21K	Killik River	23.95 336	P	P	09 31 23.0	+1.3
	baz=135					
SPMN	Marine on St.	24.14 84	P	P	09 31 23.4	-0.3
	baz=290,SNR=7.3					
EYMN	Ely	24.19 77	P	P	09 31 23.8	-0.3
EYMN	Ely	24.19 77	P	P	09 31 22.5	-1.6
	baz=284,SNR=10					
EYMN	Ely	24.19 77	P	P	09 31 25.4	+1.3
KAN08	Anthony NE Sta	24.50 106	IAmb	IAmb	09 31 30.1	
	comp=Z,15nm,0.9s					
OK032	Salt Plains WL	24.60 107		P	09 31 29.1	+1.2
KAN17	Caldwell West	24.75 106	IAmb	IAmb	09 31 31.9	
	comp=Z,11nm,0.9s					
T35A	Sooner Cattle	25.63 105		P	09 31 37.0	-0.2
T35A			IAmb	IAmb	09 31 40.6	
	comp=Z,16nm,0.9s					
OK031	S. Brethren Rd	26.00 107	P	P	09 31 41.9	+1.3
OK031			IAmb	IAmb	09 31 47.5	
	comp=Z,10nm,0.8s					
TXAR	Lajitas Array	26.62 127	LR	LR	09 42 23.7	
	comp=Z,121nm,20.0s,baz=316,slow=37					
GTO	Geraldton	26.67 71	P	P	09 31 47.9	+1.4
GTOO	Geraldton	26.67 71	P	P	09 31 47.9	+1.3
RES	Resolute Bay	29.91 17	LR	LR	09 44 47.7	
	comp=Z,113nm,19.5s,baz=327,slow=37					
O48B	Farmland	31.34 89	P	P	09 32 28.2	+0.1
	baz=299					
OXF	Oxford	31.68 102	P	P	09 32 31.5	+0.3
	baz=307,SNR=7.3					
WVT	Waverly	31.76 98	P	P	09 32 31.7	-0.2
	baz=305					
P49A	Miami Univ. Ec	31.99 90	P	P	09 32 34.3	+0.5
	baz=300					
PLAL	Pickwick Lake	32.27 100	IAmb	IAmb	09 32 39.1	
	comp=Z,6.6nm,1.0s					
M53A	Wi Miller and	33.76 84	P	P	09 32 49.6	+0.3
	baz=298					
O53A	New Philadelph	33.97 86	P	P	09 32 50.7	-0.5
	baz=299					
FPAL	Fort Paine	34.16 98	IAmb	IAmb	09 32 55.0	
	comp=Z,12nm,1.0s					
TKL	Tuckaleechee C	34.72 95	LR	LR	09 47 38.5	
	comp=Z,183nm,19.2s,baz=302,slow=37					
FRB	Frobisher Bay	35.09 42	LR	LR	09 46 55.6	
	comp=Z,179nm,19.0s,baz=215,slow=36					
V53A	Saluda	35.36 94	IAmb	IAmb	09 33 06.0	
	comp=Z,12nm,1.1s					
152A	Waverly Hall	35.90 100	IAmb	IAmb	09 33 09.8	
	comp=Z,14nm,1.4s					
SSPA	Standing Stone	35.99 83	P	P	09 33 08.1	-0.5
	baz=299					
GOGA	Godfrey	36.26 98	P	P	09 33 10.7	-0.3
	baz=308					
KMSC	Kings Mountain	36.65 94	IAmb	IAmb	09 33 15.8	
	comp=Z,17nm,1.4s					
KMSC	Kings Mountain	36.65 94	P	P	09 33 14.7	+0.4
	baz=306					
SCHQ	Schefferville	37.43 56	P	P	09 33 21.5	+0.7
	comp=Z,11nm,1.1s,baz=296,slow=6.6,SNR=3.8					
SCHQ			LR	LR	09 48 01.9	
	comp=Z,168nm,20.2s,baz=284,slow=35					
	comp=Z,11nm,1.1s					
ODNJ	Ogdensburg	37.94 81	IAmb	IAmb	09 33 26.3	
	comp=Z,13nm,1.0s					
LBNH	Lisbon	38.20 75	P	P	09 33 27.8	+0.5
	baz=296					
PAL	Palisades	38.43 80	P	P	09 33 29.1	-0.2
	baz=300					
L61B	Northampton	38.54 78	P	P	09 33 28.8	-1.4
	baz=298					
SFJD	Kangerlussuaq	42.05 35	LR	LR	09 50 42.6	
	comp=Z,99nm,18.5s,baz=285,slow=35					
TEIG	Tepich	42.43 117	LR	LR	09 53 28.4	
	comp=Z,685nm,21.9s,baz=168,slow=39					
MA2	Magadan	46.14 316	LR	LR	09 52 06.9	
	comp=Z,39nm,18.7s,baz=76,slow=34					
JTS	Las Juntas de	52.25 122	LR	LR	09 59 48.7	
	comp=Z,51nm,18.6s,baz=328,slow=39					
SJG	San Juan	58.00 99	LR	LR	10 01 12.5	
	comp=Z,34nm,22.0s,baz=284,slow=36					
H11N2	WAKE ISLAND Hy	59.06 265	T	T	10 39 46.6	
	baz=45,slow=75,SNR=444					
H11N3	WAKE ISLAND Hy	59.06 265	T	T	10 39 51.6	
	baz=45,slow=75,SNR=411					
H11N1	WAKE ISLAND Hy	59.08 265	T	T	10 39 47.7	
	baz=45,slow=75,SNR=270					
H11S1	WAKE ISLAND Hy	60.05 264	T	T	10 40 58.7	
	baz=44,slow=75,SNR=30					
H11S2	WAKE ISLAND Hy	60.06 264	T	T	10 41 05.1	
	baz=44,slow=75,SNR=54					
H11S3	WAKE ISLAND Hy	60.07 264	T	T	10 41 03.1	
	baz=44,slow=75,SNR=19					
KLR	Kul'dur	61.02 312	LR	LR	10 03 08.6	
	comp=Z,40nm,18.2s,baz=358,slow=36					
SDV	Santo Domingo	61.96 110	LR	LR	10 08 31.0	
	comp=Z,32nm,18.2s,baz=300,slow=41					
PCRV	Puerto La Cruz	64.81 104	LR	LR	10 09 32.3	
	comp=Z,34nm,18.1s,slow=40					
NOA	NORSAR Array B	66.09 20	LR	LR	10 03 45.7	
	comp=Z,40nm,20.4s,baz=340,slow=34					
HFS	Hagfors	67.47 20	LR	LR	10 04 43.0	
	comp=Z,33nm,18.4s,baz=324,slow=34					
FINES	FINESS Array B	68.57 13	LR	LR	10 04 34.7	
	comp=Z,18nm,21.9s,baz=13,slow=34					
ATAH	Atahualpa	70.28 127	LR	LR	10 07 25.7	
	comp=Z,49nm,19.6s,baz=339,slow=35					
XLT	XiLinHaoTe	72.31 317	eP	P	09 37 34.2	+0.8
XLT			sP		09 37 43.0	
XLT			PcP	PcP	09 37 53.9	+2.4
XLT			pP	PP	09 40 13.0	-0.5
XLT			pmax	pmax		
	comp=Z,13nm,1.0s					
XLT			pmax	pmax		
	comp=Z,130nm,5.1s					
SONM	Songino Array	73.22 325	P	P	09 37 39.0	+0.2
	comp=Z,0.6nm,0.7s,baz=34,slow=5.6,SNR=4.1					
SONM			LR	LR	10 10 19.2	
	comp=Z,45nm,18.9s,baz=21,slow=36					
	comp=Z,0.6nm,0.7s					
ZALV	Zalesovo Beam	74.36 341	LR	LR	10 14 05.5	
	comp=Z,38nm,18.5s,baz=35,slow=39					
NNA	Nana	75.17 128	LR	LR	10 10 15.8	
	comp=Z,28nm,18.7s,baz=326,slow=35					
MDP	Montagnes des	76.46 98	LR	LR	10 17 13.4	
	comp=Z,31nm,18.3s,baz=340,slow=40					
HHC	Hu-ho-hao-te	76.77 318	eP	P	09 37 58.7	-0.7
HHC			pmax	pmax		
	comp=Z,12nm,0.7s					
HHC			pmax	pmax		
	comp=Z,190nm,5.9s					
RPN	Rapa Nui	76.97 163	LR	LR	10 03 12.2	
	comp=Z,35nm,20.8s,baz=40,slow=29					
BVAR	Borovoye Array	77.80 349	LR	LR	10 14 02.5	
	comp=Z,29nm,22.0s,baz=34,slow=37					
KURBB	Kurchatov Arra	78.81 343	P	P	09 38 10.5	0.0
	comp=Z,0.1nm,0.3s,baz=21,slow=5.5,SNR=2.0					
	comp=Z,0.1nm,0.3s					
ESDC	Sonseca Array	79.28 41	LR	LR	10 09 25.9	
	comp=Z,38nm,20.5s,baz=330,slow=33					
AKASG	Malin Array Be	79.39 15	P	P	09 38 13.2	-0.4
	comp=Z,0.9nm,0.6s,baz=345,slow=5.5,SNR=4.5					
AKASG			LR	LR	10 13 05.7	
	comp=Z,62nm,20.4s,baz=359,slow=36					
	comp=Z,0.9nm,0.6s					
NJ2	Nanjing	80.18 308	eP	P	09 38 17.2	-1.0
NJ2			pP		09 38 19.5	
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,310nm,3.5s					
AKTO	Aktyubinsk	81.45 356	LR	LR	10 19 00.8	
	comp=Z,30nm,18.1s,baz=58,slow=39					
MSVF	Nonsavu	81.48 231	LR	LR	10 08 04.5	
	comp=Z,17nm,18.5s,baz=36,slow=31					
MKAR	Makanchi Array	81.63 340	LR	LR	10 17 00.3	
	comp=Z,44nm,20.9s,baz=30,slow=37					
WMQ	Urumqi	83.00 335	eP	P	09 38 34.8	+1.7
MLR	Muntele Rosu	83.78 18	LR	LR	10 14 54.1	
	comp=Z,92nm,18.3s,baz=87,slow=35					
HNR	Honiara	85.35 250	LR	LR	10 10 25.2	
	comp=Z,533nm,18.8s,baz=345,slow=31					
KRVT	Keravat (AS076	86.57 260	LR	LR	10 12 45.0	
	comp=Z,32nm,18.7s,baz=167,slow=32					
AAK	Ala-Archa	87.25 344	LR	LR	10 22 45.4	
	comp=Z,20nm,18.1s,baz=7.0,slow=39					
KBZ	Khabaz	87.94 7	P	P	09 38 57.9	+0.4
	comp=Z,1.9nm,0.8s,baz=126,slow=3.9,SNR=3.7					
	comp=Z,1.9nm,0.8s					
DZM	Mont Dzumac	91.30 238	LR	LR	10 10 29.2	
	comp=Z,36nm,21.5s,baz=238,slow=29					
GNI	Garni	91.64 6	LR	LR	10 22 25.3	
	comp=Z,20nm,22.0s,baz=246,slow=37					
PZH	PanZhiHua	93.20 317	P	P	09 39 22.4	-0.2
PZH			pmax	pmax		
	comp=Z,8.0nm,0.9s					
PZH			pmax	pmax		
	comp=Z,110nm,5.0s					
IDI	Anoyia	93.27 22	LR	LR	10 21 03.6	
	comp=Z,13nm,21.6s,baz=208,slow=35					
GEYT	Alibeck	93.92 355	LR	LR	10 25 11.8	
	comp=Z,30nm,20.5s,baz=144,slow=38					
DAV	Davao City (W)	95.54 287	LR	LR	10 15 48.1	
	comp=Z,22nm,20.6s,baz=176,slow=31					
CPUP	Villa Florida	97.48 121	LR	LR	10 28 00

comp=Z,20nm,18.4s,baz=2.5,slow=38

IDC 11 09:26:08.9±3.0, 12°.72N×87°.62W, h45km±23km, mb3.8/9, mbtmp4.1/9, MS3.3/12, Error ellipse: s-maj=44.6km s-min=24.6km az=68.0
SNET 11 09:26:10.0±1.0, 12°.52N×88°.18W, h30km, ML4.6
NEIC 11 09:26:12.2±1.5, 12°.57N±0°.08×88°.01W±0°.06, h65km±12km, mb4.3/90, Error ellipse: s-maj=12.4km s-min=7.6km az=211.0
ISC 11 09:26:10.3±1.0, 12°.52N±0°.06×88°.15W±0°.06, h55km±8km, n230, σ1§12/217, mb4.3/47, MS3.3/9, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.82	22	eP	Pn	09 26 25.9	-0.1
LCND	La Caada	0.83	18	eP	Pn	09 26 25.9	-0.1
LCND				eP		09 26 25.9	
LCND				eS	Sn	09 26 37.4	-0.1
ALJI	Alcalda de J	0.90	333	‖eP	Pn	09 26 26.7	-0.3
LCY	Lacayo	0.91	351	eP	Pn	09 26 27.0	-0.2
VSM	San Miguel	0.91	352	eP	Pn	09 26 27.3	0.0
RANC	El Ranchito	0.92	352	eP	Pn	09 26 27.3	-0.1
RANC				eS	Sn	09 26 40.0	+0.2
CNRM	Centro Naciona	0.95	359	eP	Pn	09 26 27.5	-0.1
PACA	Pacayal	0.96	350	eP	Pn	09 26 27.9	0.0
PACA				eS	Sn	09 26 40.9	+0.2
TECA	Tecapa	1.03	341	eP	Pn	09 26 28.5	-0.3
COEB	Comit de Eme	1.04	339	‖eP	Pn	09 26 28.7	-0.2
CRIN	San Cristobal	1.09	80		Pn	09 26 29.7	+0.2
TECO	Alcaldia de Te	1.19	329	eP	Pn	09 26 30.3	-0.5
UESV	Universidad de	1.27	331	eP	Pn	09 26 31.8	-0.1
SCLA	Alcaldia de Sa	1.31	335	eP	Pn	09 26 32.8	+0.4
COEG	Centro de Oper	1.31	327	eP	Pn	09 26 32.1	-0.3
COEG				eS	Sn	09 26 47.9	-1.0
SJTE	Alcalda de S	1.37	323	eP	Pn	09 26 32.9	-0.5
LFRS	El Faro	1.41	321	eP	Pn	09 26 33.4	-0.5
PAVA	Las Pavas	1.42	327	eP	Pn	09 26 34.0	0.0
CNGN	Cerro Negro	1.42	91		Pn	09 26 32.2	-1.7
LBRS	Las Brisas	1.49	324	eP	Pn	09 26 35.3	+0.3
LALI	Alcalda de L	1.50	310	eP	Pn	09 26 34.1	-0.8
AEIL	Aeropuerto Ilo	1.50	321	eP	Pn	09 26 35.2	+0.1
UDBS	Universidad Do	1.54	321	eP	Pn	09 26 35.5	-0.1
LFU	La Fuente	1.54	323	eP	Pn	09 26 35.8	+0.2
IGN	Direccin Gen	1.55	320	eP	Pn	09 26 35.3	-0.4
UTEC	Universidad Te	1.56	319	eP	Pn	09 26 35.8	-0.1
SNET	Serv Nac Est T	1.57	318	Pn	Pn	09 26 35.9	0.0
SNET	Serv Nac Est T	1.57	318	eP	Pn	09 26 35.5	-0.5
SEMO	Seminario San	1.58	319	eP	Pn	09 26 35.9	-0.2
ITCA	Escuela Especi	1.59	316	eP	Pn	09 26 36.0	-0.3
UEES	Universidad Ev	1.60	318	eP	Pn	09 26 36.2	-0.1
MAGS	Ministerio de	1.60	316	eP	Pn	09 26 36.2	-0.2
BOQS	Boqueron	1.64	318	eP	Pn	09 26 37.1	+0.1
BOQS				eS	Sn	09 26 57.9	+0.8
PMON	Piamonte	1.64	316	eP	Pn	09 26 36.8	-0.2
JAYA	Jayaque - finc	1.70	312	eP	Pn	09 26 37.1	-0.7
JAYA				eS	Sn	09 26 57.1	-1.4
QUEZ	Alcaldia de Qu	1.71	320	eP	Pn	09 26 38.0	+0.2
TGUH	Tegucigalpa,Un	1.75	29		Pn	09 26 39.2	+0.7
TGUH	Tegucigalpa,Un	1.75	29	eP	Pn	09 26 39.2	+0.7
CEDA	San Andres	1.76	317	eP	Pn	09 26 38.5	0.0
CEVE	Cerro Verde	1.94	312	eP	Pn	09 26 41.3	+0.1
SBLS	San Blas	1.95	313	eP	Pn	09 26 41.4	+0.2
SNJE	San Jose	1.95	314	eP	Pn	09 26 41.3	0.0
UNIC	Universidad Ca	1.99	317	eP	Pn	09 26 41.9	+0.2
RTR	El Retiro	2.00	313	eP	Pn	09 26 42.3	+0.3
NUBE	Las Nubes	2.10	311	eP	Pn	09 26 43.2	0.0
SLOZ	Alcaldia de Sa	2.19	314	eP	Pn	09 26 44.8	+0.5
MATN	Matagalpa	2.21	79		Pn	09 26 43.4	-1.3
MTO3	Montecristo	2.21	328		Pn	09 26 45.4	+0.5
ESQI	Esquipulas	2.34	330	Pn	Pn	09 26 47.6	+1.1
BOAB	BOACO BROADBAN	2.43	91		Pn	09 26 46.9	-0.7
ACON	Acoyapa	2.96	100		Pn	09 26 53.9	-1.0
ACON	Acoyapa	2.96	100	eP	Pn	09 27 00.3	+5.5
ELI1	Hacienda Flor	3.15	126	eP	Pn	09 26 59.6	+2.1
LAPC	Finca la Perla	3.18	123	eP	Pn	09 26 55.9	-2.0
GB1A	Borinquen Arri	3.18	122	eP	Pn	09 26 57.6	-0.4
GB1A				eP		09 26 59.5	
BUEV	Buena Vista	3.18	122	eP	Pn	09 26 59.7	+1.7
ALIBA	Liberia Airpor	3.19	127	eP	Pn	09 26 59.4	+1.4
GPS3	Bodega del ICE	3.24	122	eP	Pn	09 26 56.9	-1.9
GPS1	Guardaparques	3.24	122	eP	Pn	09 27 01.2	+2.3
GPS2	Hotel Rincn d	3.25	122	eP	Pn	09 27 01.3	+2.3
HATIL	Hatillo	3.26	132	eP	Pn	09 26 58.8	-0.2
DELF	Filadelfia	3.27	129	eP	Pn	09 26 59.6	+0.5
LIM1	Limonal	3.37	122	eP	Pn	09 26 59.6	-0.9
GUAB	Guayabo de Bag	3.38	122	eP	Pn	09 27 01.4	+0.7
CLARA	Aguas Claras	3.38	120	eP	Pn	09 27 00.3	-0.4
MESS	Mesas	3.39	121	eP	Pn	09 27 00.3	-0.5
ORTG	Ortega, Santa	3.40	129		Pn	09 27 01.5	+0.5
ORTG	Ortega, Santa	3.40	129	eP	Pn	09 27 01.4	+0.5
HORNC	Hornillas	3.42	121	eP	Pn	09 27 00.9	-0.4
VMAR	Armenia, Volca	3.42	119	eP	Pn	09 27 01.4	+0.1
VMAR				eP	Pn	09 27 01.4	+0.1
COLC	Colonia	3.42	122	eP	Pn	09 27 02.7	+1.4
BAGA	Bagaces	3.45	125	eP	Pn	09 27 03.4	+1.7
CUI	Cuipilapa	3.46	122	eP	Pn	09 27 02.0	+0.2
CUI				eP		09 27 02.1	
CANAL	Canalete	3.46	119	eP	Pn	09 27 01.7	-0.1
JUD3	Juan Diaz 3	3.47	132	eP	Pn	09 27 01.9	0.0
PLVR	Palo Verde	3.49	128	eP	Pn	09 27 03.0	+0.7
MOTZ	Rio Naranjo	3.52	121	eP	Pn	09 27 02.3	-0.4
NICO	Nicoya	3.55	131	eP	Pn	09 27 02.8	-0.2
DUNO	Dulce Nombre,	3.56	133	Pn	Pn	09 27 03.4	+0.3
DUNO	Dulce Nombre,	3.56	133	eP	Pn	09 27 03.4	+0.3
ACAL	Aguas Claras	3.58	121	eP	Pn	09 27 04.4	+0.9
NARJA	Naranjal	3.60	134	eP	Pn	09 27 03.8	+0.1
VERA	Finca Concepci	3.61	117	eP	Pn	09 27 03.5	-0.3
INDI	Punta indio, G	3.70	135	eP	Pn	09 27 05.0	0.0
POPE	POPE, Guanacas	3.74	130	eP	Pn	09 27 06.1	+0.6
ESPN	Las Esperanzas	3.78	94		Pn	09 27 05.8	-0.2
NYURE	Nandayure	3.79	131	eP	Pn	09 27 06.5	+0.2
JTS	Las Juntas de	3.84	125		Pn	09 27 07.4	+0.4
JTS	Las Juntas de	3.84	125	LR	LR	09 27 55.9	
	comp=Z,41nm,21.0s,baz=300,slow=30						
JTS	Las Juntas de	3.84	125	eP	Pn	09 27 08.0	+1.0
JUNT	Juntas	3.84	125	eP	Pn	09 27 08.2	+1.3
CEDE	Laguna Cedeo	3.94	120	eP	Pn	09 27 09.9	+1.6
ARE1	Arenal 1	3.94	121		Pn	09 27 09.0	+0.7
ARE1	Arenal 1	3.94	121	eP	Pn	09 27 10.0	+1.7
RTAL	Retalhuleu	3.98	300	Pn	Pn	09 27 10.0	+1.1
SOCE	Pocosol	4.06	121	Pn	Pn	09 27 10.6	+0.6
SOCE	Pocosol	4.06	121	eP	Pn	09 27 11.3	+1.2
COVE	Coope Vega, Sa	4.08	116	Pn	Pn	09 27 10.1	-0.2
COVE	Coope Vega, Sa	4.08	116	eP	Pn	09 27 11.6	+1.3
ARZA	Esparza	4.24	126	eP	Pn	09 27 14.6	+2.2
HUEH	Huehuetenango	4.28	311	Pn	Pn	09 27 14.5	+1.3
CPMI	Catarata Coope	4.31	121	eP	Pn	09 27 14.9	+1.3
SRA1	San Ramn	4.34	123	eP	Pn	09 27 16.6	+2.7
JACO	JACO, Garabito	4.45	129		Pn	09 27 16.7	+1.4
JACO	JACO, Garabito	4.45	129	eP	Pn	09 27 17.1	+1.8
BELE	Belen	4.63	123	eP	Pn	09 27 20.5	+2.5
HDC	Heredia	4.68	122	Pn	Pn	09 27 19.2	+0.6
ABE2	San Pablo	4.90	124	eP	Pn	09 27 23.7	+2.0
VICA	Volcano Irazu	4.92	120	eP	Pn	09 27 23.8	+1.7
RAZU	San Marcos de	4.95	125	eP	Pn	09 27 24.6	+2.3
RAFA	San Farael, Vo	4.96	120	eP	Pn	09 27 24.4	+1.8
CDM	Cerro de Muert	5.22	124	eP	Pn	09 27 28.6	+2.4
BUS1	Rivas	5.23	124	eP	Pn	09 27 28.6	+2.2
BATAN	Batan	5.26	117	Pn	Pn	09 27 26.8	+0.4
BATAN	Batan	5.26	117	eP	Pn	09 27 27.8	+1.3
ZELE	Perez Zeledon	5.37	125	eP	Pn	09 27 29.9	+2.0
DRK0	Durika	5.80	123		Pn	09 27 36.4	+2.3
DRK0	Durika	5.80	123	eP	Pn	09 27 36.4	+2.3
EDPN	Palmar Norte	5.81	127	eP	Pn	09 27 35.5	+1.5
EDPN				eP		09 27 36.7	
EDBA	Buenos Aires	5.83	124	eP	Pn	09 27 35.7	+1.3
POTG	Potrero Grande	6.02	124	eP	Pn	09 27 38.9	+1.9
JIME	Puerto Jimenez	6.18	129	eP	Pn	09 27 40.5	+1.5
CDITO	Canoas	6.50	127		Pn	09 27 45.5	+2.0
BRU2	Volcan	6.52	124	Pn	Pn	09 27 46.9	+3.1
BRU2	Volcan	6.52	124	eP	Pn	09 27 45.4	+1.6
TEIG	Tepich	7.67	359	P	Pn	09 28 02.5	+3.1
	78nm,0.4s,baz=67,slow=0.4,SNR=8.5						
TEIG				LR	LR	09 31 24.5	
	comp=Z,1µm,19.7s,baz=1.5,slow=42						
BCIP	Isla Barro Col	8.82	111		Pn	09 28 14.2	-1.0
FSCY	Frank Sound, G	9.52	44	Pn	Pn	09 28 24.0	-0.7
MTDJ	Mount Denham	11.70	60	Pn	Pn	09 28 57.4	+2.7
TULM	Tulcn-Chalpat	15.59	138	Pn	Pn	09 29 45.1	-2.0
ROSC	El Rosal	15.65	118	LR	LR	09 36 01.0	
	comp=Z,73nm,19.4s,baz=234,slow=39						
IMBA	Imbabura, San	15.66	140	Pn	Pn	09 29 48.7	+0.6
COHC	Cochancay	17.31	149	P	Pn	09 30 08.6	+0.3
SDV	Santo Domingo	17.59	100	LR	LR	09 36 57.7	
	comp=Z,48nm,21.6s,baz=250,slow=38						
833A	Chaparral WMA,	18.91	328	P	P	09 30 27.8	+1.2
352A	Blakely	19.11	8	P	Pn	09 30 30.1	+0.1
352A				IAmb	IAmb	09 30 35.4	
	comp=Z,22nm,0.9s						
TIGA	Tifton	19.30	12	P	P	09 30 30.6	-0.1
VBMS	Vicksburg	19.73	354	P	Pn	09 30 37.3	0.0
HNDO	Hondo	19.84	330	P	P	09 30 37.5	+0.8
HNDO				IAmb	IAmb	09 30 42.9	
	comp=Z,6.4nm,0.7s						
255A	Hazlehurst	20.01	14	P	P	09 30 39.6	+1.1
146A	Union	20.04	358	P	P	09 30 40.0	+1.1
146A				IAmb	IAmb	09 30 43.7	
	comp=Z,24nm,1.1s						
BAUV	El Baul	20.07	98	P	P	09 30 37.2	-2.2
435B	Jarrell	20.16	336	P	P	09 30 40.1	-0.1
435B				IAmb	IAmb	09 31 09.5	
	comp=Z,16nm,1.2s						
152A	Waverly Hall	20.30	8	P	P	09 30 43.0	+1.3
DRIO	Del Rio	20.43	327	P	P	09 30 44.2	+1.1
DRIO				IAmb	IAmb	09 30 49.5	
	comp=Z,5.2nm,0.7s						
LRAL	Lakeview Retre	20.45	3	P	P	09 30 43.7	+0.5
154A	Montrose	20.53	12	P	Pn	09 30 45.8	-1.0
Z47A	Carrollton	20.59	0	P	P	09 30 46.3	+1.5
JCT	Junction City	20.88	331		P	09 30 48.2	+0.2
JCT				IAmb	IAmb	09 30 52.8	
	comp=Z,6.6nm,0.6s						
Z41A	Richland Creek	21.08	349	P	P	09 30 50.7	+0.7
BRDY	Brady	21.19	334		P	09 30 51.6	+0.2
BRDY				IAmb	IAmb	09 31 12.5	
	comp=Z,5.5nm,1.0s						
GOGA	Godfrey	21.23	11	P	P	09 30 53.0	+1.3
Y49A	Blount Mountai	21.30	4	P	P	09 30 53.6	+1.1
Y49A				IAmb	IAmb	09 31 01.1	
	comp=Z,9.3nm,0.8s						
WLAR	White Oak Lake	21.56	349	P	P	09 30 58.2	+3.1
WLAR				IAmb	IAmb	09 30 59.3	
	comp=Z,14nm,0.9s						
Y52A	Lilburn	21.57	9	P	P	09 30 56.4	+1.0
Y52A				IAmb	IAmb	09 30 58.9	
	comp=Z,9.4nm,0.9s						
ATAH	Atahualpa	21.80	153	LR	LR	09 39 03.5	
	comp=Z,46nm,19.1s,baz=314,slow=36						
FPAL	Fort Paine	22.05	6	P	P	09 31 01.2	+0.7
FPAL				IAmb	IAmb	09 31 18.7	
	comp=Z,6.9nm,0.7s						
TXAR	Lajitas Array	22.09	322	P	P	09 31 02.0	+0.9
TXAR	Lajitas Array	22.09	322	P	P	09 31 02.5	+1.4
	comp=Z,5.7nm,0.5s,baz=136,slow=10,SNR=106						
TXAR				ScP	ScP	09 38 31.6	+1.6
	comp=Z,0.4nm,0.7s,baz=161,slow=5.6,SNR=5.9						
	comp=Z,5.7nm,0.5s						
TX31	Lajitas Ar. Si	22.09	322	P	P	09 31 02.4	+1.3
TX32	Lajitas Array	22.09	322	P	P	09 31 02.4	+1.3
TX32				IAmb	IAmb	09 31 03.2	
	comp=Z,6.9nm,0.7s						
MIAR	Mount Ida	22.48	348	P	P	09 31 05.7	+0.6
MIAR				IAmb	IAmb	09 31 07.6	
	comp=Z,11nm,0.8s						
UALR	University of	22.48	351	P	P	09 31 04.6	-0.5
UALR				IAmb	IAmb	09 31 07.8	
	comp=Z,8.1nm,0.7s						
Y57A	Sumter	22.54	17	P	P	09 31 06.8	+1.1
Y57A				IAmb	IAmb	09 31 07.9	
	comp=Z,16nm,1.0s						
JSC	Jenkinsville	22.56	15	P	P	09 31 07.0	+1.1
JSC				IAmb	IAmb	09 31 07.7	
	comp=Z,12nm,0.9s						
ABTX	Abilene, Hawle	22.62	334	P	P	09 31 07.4	+0.8
ABTX				IAmb	IAmb	09 31 23.8	
	comp=Z,10nm,1.1s						
SWET	Sewanee	22.69	5	P	P	09 31 07.3	0.0
SGCY	Sterling City	22.70	330	P	P	09 31 06.7	-0.8
SGCY				IAmb	IAmb	09 31 24.8	
	comp=Z,12nm,1.0s						
W50A	Signal Mountai	22.73	6	IAmb	IAmb	09 31 18.8	
	comp=Z,7.5nm,0.8s						
ALPN	Alpine	22.83	324		P	09 31 09.3	+0.2
ALPN				IAmb	IAmb	09 31 11.8	
	comp=Z,3.2nm,0.7s						
BG3	Lake Jocassee	22.87	11	P	P	09 31 08.7	-0.6
BG3				IAmb	IAmb	09 31 10.7	
	comp=Z,9.0nm,0.6s						
CPCT	Cooper Cave	23.07	8	P	P	09 31 10.9	-0.3
BIRD	Birdtown, Kers	23.11	16	P	P	09 31 11.6	0.0
BIRD				IAmb	IAmb	09 31 12.4	
	comp=Z,10nm,0.7s						
KMSC	Kings Mountain	23.36	14	P	P	09 31 14.0	0.0
KMSC				IAmb	IAmb	09 31 14.9	
	comp=Z,9.5nm,0.7s						
SN01	Snyder 1	23.37	332	P	P	09 31 14.1	-0.2
SN01				IAmb	IAmb	09 31 30.5	
	comp=Z,11nm,0.7s						
TKL	Tuckaleechee C	23.38	9	P	P	09 31 14.2	0.0
TKL				IAmb	IAmb	09 31 15.8	
	comp=Z,8.4nm,0.8s						
GNAR	Gosnell	23.41	356	P	P	09 31 13.4	-1.0
APMT	Aspermont	23.43	334	P	P	09 31 14.5	-0.2
APMT				IAmb	IAmb	09 31 40.1	
	comp=Z,4.6nm,0.8s						
V51A	Loudon	23.44	8	P	P	09 31 14.1	-0.6
WVT	Waverly	23.51	1	P	P	09 31 15.2	-0.2
CLTN	Cedars of Leba	23.53	4	P	P	09 31 15.4	-0.2
PEBM	Pemiscott Bayo	23.55	357	P	P	09 31 15.7	0.0
FCAR	Ozark Folk Cen	23.55	352	P	P	09 31 14.9	-0.8
FCAR				IAmb	IAmb	09 31 32.9	
	comp=Z,19nm,1.5s						
V53A	Saluda	23.55	11	P	P	09 31 16.5	+0.6
V53A				IAmb	IAmb	09 31 18.4	
	comp=Z,8.7nm,0.7s						
X34A	Smith Ranch, M	23.68	340		P	09 31 17.8	+0.8
W57A	Gilead	23.72	17	P	P	09 31 17.1	-0.2
W57A				IAmb	IAmb	09 31 18.0	
	comp=Z,8.2nm,0.7s						
POST	Post	23.82	331	IAmb	IAmb	09 31 35.1	
	comp=Z,12nm,0.8s						
DKNS	Dickens	24.06	333	IAmb	IAmb	09 31 37.7	
	comp=Z,13nm,0.8s						
HHAR	Hobbs	24.23	349	P	P	09 31 21.9	-0.2
HHAR				IAmb	IAmb	09 31 23.5	
	comp=Z,9.0nm,0.6s						
PBMO	Poplar Bluff	24.25	356	IAmb	IAmb	09 31 41.6	
	comp=Z,8.7nm,1.1s						
TZTN	Tazewell	24.28	9	P	P	09 31 22.1	-0.4
TZTN				IAmb	IAmb	09 31 43.1	
	comp=Z,8.8nm,1.1s						
TUL3	Leonard	24.29	345	P	P	09 31 22.4	-0.2
U54A	Nelsons Funny	24.57	12	P	P	09 31 24.4	-0.8
V58A	Windy Hill, Pi	24.57	18	P	P	09 31 24.9	-0.2
T50A	Nancy	24.58	6	P	P	09 31 25.6	+0.5
OK052	Battle Ridge R	24.64	343	IAmb	IAmb	09 31 47.6	
	comp=Z,14nm,1.0s						
OK029	Liberty Lake	24.66	342		P	09 31 25.7	-0.2
OK029				IAmb	IAmb	09 31 26.0	
	comp=Z,11nm,0.9s						
CGM3	Cape Girardeau	24.71	357	P	P	09 31 26.0	-0.4
U56A	King	24.74	15	P	P	09 31 26.4	-0.2
U56A				IAmb	IAmb	09 31 31.5	
	comp=Z,18nm,1.3s						
CCM	Cathedral Cave	25.58	354	P	P	09 31 33.5	-0.8
CCM				IAmb	IAmb	09 31 34.2	
	comp=Z,6.0nm,0.7s						
WCI	Wyandotte Cave	25.66	3	P	P	09 31 34.0	-1.0
WCI				IAmb	IAmb	09 31 34.8	
	comp=Z,7.4nm,0.6s						
KAN01	Argonia South	26.00	342	IAmb	IAmb	09 31 40.2	
	comp=Z,8.6nm,0.6s						
Q51A	Peebles	26.75	8	IAmb	IAmb	09 31 45.0	
	comp=Z,9.2nm,0.8s						
NNA	Nana	26.81	155	LR	LR	09 40 34.2	
	comp=Z,28nm,20.2s,baz=322,slow=32						
Q54A	Coxs Mills	27.15	13	IAmb	IAmb	09 31 49.1	
	comp=Z,7.7nm,0.8s						
HDIL	Hopedale	27.95	358	P	P	09 31 54.3	-1.2
ETMB	Extrema	31.10	135	P	P	09 32 23.6	-0.1
ETMB				IAmb	IAmb	09 32 26.7	
	comp=Z,6.0nm,0.8s						
SAML	Samuel	32.72	130	P	P	09 32 37.2	-0.7
SAML				IAmb	IAmb	09 32 38.3	
	comp=Z,4.7nm,0.8s						
PDAR	Pinedale Array	35.39	332	P	P	09 33 01.4	+0.2
	comp=Z,0.7nm,0.6s,baz=124,slow=10.0,SNR=5.5						
PDAR				PcP	PcP	09 35 29.1	-1.1
	comp=Z,0.2nm,0.5s,baz=157,slow=4.9,SNR=2.4						
	comp=Z,0.7nm,0.6s						
HWUT	Hardware Ranch	35.46	329	IAmb	IAmb	09 33 05.1	
	comp=Z,4.0nm,0.8s						
LOHW	Long Hollow	36.53	332	IAmb	IAmb	09 33 27.0	
	comp=Z,3.7nm,0.9s						
MOOW	Moose Ponds	36.70	332	IAmb	IAmb	09 33 28.2	
	comp=Z,2.3nm,0.8s						
NVAR	Mina Array Bea	37.20	319	P	P	09 33 18.9	+2.3
	comp=Z,0.6nm,0.7s,baz=126,slow=8.1,SNR=5.3						
NVAR				PcP	PcP	09 35 35.5	-0.1
	comp=Z,0.4nm,0.6s,baz=151,slow=3.3,SNR=4.1						
NVAR				ScP	ScP	09 39 19.2	+1.0
	comp=Z,0.6nm,0.7s,baz=120,slow=4.5,SNR=5.7						
NVAR				LR	LR	09 50 37.9	
	comp=Z,47nm,18.1s,baz=99,slow=39						
	comp=Z,0.6nm,0.7s						
ULM	Lac du Bonnet	38.16	352	P	P	09 33 22.1	-2.0
	comp=Z,5.6nm,0.8s,baz=160,slow=8.1,SNR=4.1						
	comp=Z,5.6nm,0.8s						
LVC	Limon Verde	39.68	152	LR	LR	09 48 46.7	
	comp=Z,30nm,18.9s,baz=310,slow=34						
YBH	Yreka Blue Hor	41.86	320	LR	LR	09 51 59.7	
	comp=Z,20nm,20.0s,baz=212,slow=37						
RPN	Rapa Nui	44.45	207	LR	LR	09 48 00.4	
	comp=Z,51nm,21.0s,baz=20,slow=29						
SCHQ	Schefferville	45.41	17	P	P	09 34 21.0	-2.5
	comp=Z,4.6nm,0.4s,baz=223,slow=7.2,SNR=14						
	comp=Z,4.6nm,0.4s						
BDFB	Brasilia	48.58	124	LR	LR	09 57 17.3	
	comp=Z,32nm,19.6s,baz=208,slow=39						
YKA	Yellowknife Ar	53.37	345	LR	LR	09 59 29.8	
	comp=Z,30nm,19.1s,baz=163,slow=38						
PLCA	Paso Flores	55.43	164	P	P	09 35 39.6	+0.3
PLCA				IAmb	IAmb	09 36 06.2	
	comp=Z,3.3nm,1.1s						
PLCA	Paso Flores	55.43	164	P	P	09 35 39.4	+0.2
	comp=Z,1.9nm,0.7s,baz=333,slow=8.5,SNR=2.9						
	comp=Z,1.9nm,0.7s						
DLBC	Dease Lake	55.56	335	P	P	09 35 40.0	0.0
	comp=Z,2.9nm,0.9s,baz=136,slow=9.7,SNR=4.0						
	comp=Z,2.9nm,0.9s						
INK	Inuvik	62.94	343	P	P	09 36 30.0	-0.7
	comp=Z,1.1nm,0.8s,baz=134,slow=6.5,SNR=2.1						
	comp=Z,1.1nm,0.8s						
ILAR	Eielson Array	65.68	336	P	P	09 36 47.6	-1.1
	comp=Z,0.3nm,0.5s,baz=171,slow=5.1,SNR=9.4						
	comp=Z,0.3nm,0.5s						
PPT	Papeete	67.61	245	LR	LR	10 00 09.9	
	comp=Z,73nm,21.5s,baz=70,slow=30						
WRA	Warramunga Arr	138.63	254	PKhKP	PKPpre	09 45 22.0	
	comp=Z,1.0nm,1.2s,baz=82,slow=2.0,SNR=2.6						
WRA				PKP	PKPdf	09 45 32.1	+1.2
	comp=Z,0.8nm,0.5s,baz=90,slow=2.4,SNR=13						
ASAR	Alice Springs	138.66	248	PKhKP	PKPpre	09 45 23.5	
	comp=Z,0.5nm,0.9s,baz=106,slow=3.2,SNR=2.6						
ASAR				PKP	PKPdf	09 45 32.3	+1.3
	comp=Z,0.4nm,0.6s,baz=77,slow=1.9,SNR=6.1						
PZH	PanZhiHua	140.04	346	PKP	PKPdf	09 45 32.7	-0.9
CMAR	Chiang Mai Arr	148.44	347	PKPbc	PKPdf	09 45 50.9	+2.7
	comp=Z,0.8nm,0.3s,baz=354,slow=3.9,SNR=5.2						

EAF 11 09:32:11.6, 25°.80S×30°.33E, h10km, MC3.4
BUL 11 09:32:13.1±1.0, 25°.74S×30°.19E, h10km, MD3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	2.47	27	iP	Pn	09 32 51.1	-2.3
MOPA	Mopani	2.47	27	iP	Pn	09 32 51.1	-2.3
	baz=23						
MUSN	Musina, Limpop	3.45	355	iP	Pn	09 33 06.9	-0.1
MUSN				iS	Sn	09 33 45.8	-2.2
MUSN	Musina, Limpop	3.45	355	iP	Pn	09 33 06.9	-0.1
	baz=353						
MUSN				iS	Sn	09 33 45.8	-2.2
	baz=353						
LBTB	Lobatse	4.22	279	iP	Pn	09 33 17.4	-0.2
LBTB	Lobatse	4.22	279

	comp=N,53nm,2.9s						
UTMT				IAML		09 38 15.6	
	comp=E,65nm,2.7s						
CGM3	**Cape Girardeau**	**0.63 350**			Pg	09 38 07.2	-0.4
CGM3				IAML		09 38 15.6	
	comp=E,39nm,0.2s						
PBMO	**Poplar Bluff**	**0.74 278**			Sg	09 38 18.9	-0.5
HALT	**Halls**	**0.78 169**		Pg	Pg	09 38 10.0	-0.3
HALT				IAML		09 38 26.5	
	comp=E,37nm,1.4s						
HALT				IAML		09 38 30.9	
	comp=N,46nm,2.1s						
T45A	**Paducah**	**0.78 64**		Pg	Pg	09 38 09.7	-0.8
T45A				IAML		09 38 21.7	
	comp=N,29nm,0.8s						
T45A				IAML		09 38 34.0	
	comp=E,33nm,0.7s						
GNAR	**Gosnell**	**0.82 210**			Pb	09 38 10.8	-0.2
GNAR				IAML		09 38 16.2	
	comp=E,34nm,3.0s						
GNAR				IAML		09 38 24.5	
	comp=N,40nm,1.8s						
S44A	**Carbondale**	**1.04 12**			Pb	09 38 14.6	-0.2
S44A				IAML		09 38 29.7	
	comp=E,20nm,0.1s						
T42A	**Van Buren**	**1.31 286**		Pn	Pn	09 38 18.7	-0.2
LCAR	**Lake Charles**	**1.45 246**		Pn	Pn	09 38 20.8	0.0
WVT	**Waverly**	**1.47 111**		Pn	Pn	09 38 21.2	+0.1
FVM	**French Village**	**1.49 331**		Pn	Pn	09 38 21.4	-0.1
Z51A	**Franklin**	**4.89 132**			Pn	09 39 12.2	+4.0

*JMA **11** 09:41:41.3±0.1, 24°N±3°×123°.0E±0°.6, h46km±2km,*
MV2.2/11, NW OFF ISHIGAKIJIMA IS
*TAP **11** 09:41:41.5, 24°.42N×122°.89E, h43km, ML2.7, C*

ISC 11 09:41:41.6±1.2, 24°.37N±0°.05×122°.96E±0°.02, h46km±7km, n55, σ1§19/102, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.08**	**349**	*i* P	**Pn**	**09 41 48.8**	**-0.1**
JYNG				*i* S	**Sn**	**09 41 54.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.10**	**26**	P	**Pn**	**09 41 48.9**	**0.0**
YOJ				S	**Sn**	**09 41 54.2**	**+0.2**
YOJ	**Yonaguni jima**	**0.10**	**26**	⇓*i*P	**Pn**	**09 41 48.9**	**0.0**
	baz=65						
YOJ				*i* S	**Sn**	**09 41 54.0**	**-0.1**
	baz=65						
EOS3	**EOS3**	**0.59**	**262**	*i* P	**Pn**	**09 41 53.7**	**+0.1**
	baz=257						
EOS3				*i* S	**Sn**	**09 42 03.1**	**+0.8**
	baz=257						
EOS4	**EOS4**	**0.64**	**247**	P	**Pn**	**09 41 53.5**	**-0.5**
	baz=243						
EOS4				S	**Sn**	**09 42 02.0**	**-1.0**
	baz=243						
EOS2	**EOS2**	**0.67**	**274**	*i* P	**Pn**	**09 41 54.4**	**-0.3**
	baz=272						
EOS2				S	**Sn**	**09 42 04.6**	**+0.6**
	baz=272						
IRIF	**Iriomote-Funau**	**0.70**	**93**	P	**Pn**	**09 41 54.8**	**-0.4**
IRIF				S	**Sn**	**09 42 04.7**	**-0.3**
JKRS	**Kuro-shima**	**0.96**	**98**	P	**Pn**	**09 41 58.9**	**+0.2**
JKRS				S	**Sn**	**09 42 11.5**	**+0.2**
TWC	**Suao**	**1.04**	**283**	P	**Pn**	**09 41 59.1**	**-0.7**
	baz=281						
TWC				S	**Sn**	**09 42 11.0**	**-2.2**
	baz=281						
JIJ	**Ishigaki jima**	**1.08**	**90**	P	**Pn**	**09 41 59.8**	**-0.4**
JIJ				S	**Sn**	**09 42 13.2**	**-0.9**
SXI1	**Grass Mountain**	**1.22**	**306**	P	**Pn**	**09 42 01.6**	**-0.8**
	baz=306						
SXI1				S	**Sn**	**09 42 14.9**	**-2.9**
	baz=306						
JISG	**Ishigakijimahi**	**1.25**	**80**	P	**Pn**	**09 42 02.4**	**-0.2**
JISG				S	**Sn**	**09 42 18.2**	**0.0**
NACB	**Ninganchiao**	**1.26**	**261**	P	**Pn**	**09 42 01.8**	**-1.0**
	baz=259						
NACB				*e*S	**Sn**	**09 42 17.7**	**-1.0**
	baz=259						
ENTT	**Nioudou**	**1.30**	**282**	P	**Pn**	**09 42 04.4**	**+1.0**
	baz=288						
ENTT				S	**Sn**	**09 42 19.3**	**-0.3**
	baz=288						
FUSB	**Fushanzhiwuyua**	**1.31**	**287**	P	**Pn**	**09 42 03.7**	**+0.2**
	baz=295						
FUSB				S	**Sn**	**09 42 18.7**	**-1.2**
	baz=295						
LATG	**Datong**	**1.32**	**277**	P	**Pn**	**09 42 04.2**	**+0.5**
	baz=282						
LATG				S	**Sn**	**09 42 20.3**	**+0.1**
	baz=282						
NDT	**Datong Townshi**	**1.34**	**280**	*e*P	**Pn**	**09 42 04.5**	**+0.6**
	baz=285						
NDT				*e*S	**Sn**	**09 42 20.6**	**+0.1**
	baz=285						
ETLH	**Xiulin Townshi**	**1.36**	**263**	*e*P	**Pn**	**09 42 04.7**	**+0.4**
	baz=261						
ETLH				S	**Sn**	**09 42 22.1**	**+0.9**
	baz=261						
NWLT	**Wulai**	**1.39**	**287**	*e*P	**Pn**	**09 42 05.7**	**+1.2**
	baz=286						
NWLT				*e*S	**Sn**	**09 42 20.3**	**-1.5**
	baz=286						
ETM	**Tongmen**	**1.40**	**254**	P	**Pn**	**09 42 03.9**	**-0.8**
	baz=242						
ETM				S	**Sn**	**09 42 20.5**	**-1.5**
	baz=242						
NNSB	**Datong**	**1.44**	**273**	*e*P	**Pn**	**09 42 04.8**	**-0.6**
	baz=276						
NNSB				*e*S	**Sn**	**09 42 23.8**	**+0.6**
	baz=276						
LXIB	**Xiulin Townshi**	**1.46**	**256**	P	**Pn**	**09 42 05.0**	**-0.6**
	baz=254						
LXIB				S	**Sn**	**09 42 22.6**	**-1.0**
	baz=254						
ESL	**Shilin**	**1.50**	**249**	P	**Pn**	**09 42 05.1**	**-1.0**
	baz=234						
ESL				S	**Sn**	**09 42 22.6**	**-2.0**
	baz=234						
WHF	**Hehuan Shan**	**1.57**	**262**	P	**Pn**	**09 42 07.4**	**0.0**
	baz=260						
WHF				S	**Sn**	**09 42 25.9**	**-0.7**
	baz=260						
EGFH	**Guangfu**	**1.57**	**244**	*e*S	**Sn**	**09 42 24.5**	**-1.7**
	baz=241						
WARBT	**Fenglin Townsh**	**1.58**	**246**	P	**Pn**	**09 42 05.7**	**-1.5**
	baz=233						
WARBT				S	**Sn**	**09 42 24.4**	**-2.1**
	baz=233						
JTJ	**Tarama**	**1.61**	**80**	S	**Sn**	**09 42 27.6**	**+0.5**
TDCB	**Techi**	**1.65**	**266**	*e*P	**Pn**	**09 42 08.7**	**+0.5**
	baz=265						
TDCB				*e*S	**Sn**	**09 42 28.9**	**+0.6**
	baz=265						
HGSD	**Ruisui**	**1.66**	**238**	P	**Pn**	**09 42 07.5**	**-0.7**
	baz=236						
HGSD				S	**Sn**	**09 42 25.6**	**-2.7**
	baz=236						
CHGB	**Renai**	**1.66**	**260**	P	**Pn**	**09 42 08.3**	**-0.2**
	baz=246						
CHGB				S	**Sn**	**09 42 28.0**	**-0.8**
	baz=246						
WUSB	**Renai**	**1.73**	**258**	P	**Pn**	**09 42 09.8**	**+0.5**
	baz=256						
WUSB				S	**Sn**	**09 42 29.4**	**-0.9**
	baz=256						
EHY	**Hungye**	**1.73**	**240**	P	**Pn**	**09 42 08.6**	**-0.7**
	baz=229						
EHY				S	**Sn**	**09 42 28.5**	**-1.6**
	baz=229						
VWDT	**VWDT**	**1.77**	**250**	P	**Pn**	**09 42 09.3**	**-0.5**
	baz=237						
VWDT				S	**Sn**	**09 42 30.0**	**-1.2**
	baz=237						
YULB	**Yu-li**	**1.81**	**238**	P	**Pn**	**09 42 08.8**	**-1.5**
	baz=225						
YULB				S	**Sn**	**09 42 30.2**	**-1.9**
	baz=225						
EYUL	**Yuli**	**1.82**	**236**	*e*P	**Pn**	**09 42 08.9**	**-1.5**
	baz=234						
EYUL				*e*S	**Sn**	**09 42 30.2**	**-2.0**
	baz=234						
TWF1	**Yuli**	**1.83**	**237**	*e*P	**Pn**	**09 42 11.1**	**+0.5**
	baz=234						
TWF1				S	**Sn**	**09 42 30.7**	**-1.9**
	baz=234						
WHP	**Taichung City**	**1.84**	**268**	P	**Pn**	**09 42 12.8**	**+1.9**
	baz=266						
WHP				*e*S	**Sn**	**09 42 34.4**	**+1.4**
	baz=266						
WCS	**Beigang Elemen**	**1.90**	**261**	*e*P	**Pn**	**09 42 12.0**	**+0.5**
	baz=250						
FULB	**Fuli**	**1.92**	**233**	*e*P	**Pn**	**09 42 11.9**	**0.0**
	baz=231						
FULB				*e*S	**Sn**	**09 42 35.1**	**+0.2**
	baz=231						
SSLB	**Suanglung**	**1.93**	**253**	P	**Pn**	**09 42 11.9**	**0.0**
	baz=251						
SSLB				*e*S	**Sn**	**09 42 33.6**	**-1.4**
	baz=251						
TYC	**Yuchr**	**1.98**	**257**	*e*P	**Pn**	**09 42 13.6**	**+1.0**
	baz=245						
TYC				*e*S	**Sn**	**09 42 36.0**	**-0.3**
	baz=245						
EHD	**Haiduan**	**2.02**	**233**	*e*P	**Pn**	**09 42 11.8**	**-1.4**
	baz=231						
ECS	**Chishang**	**2.04**	**232**	S	**Sn**	**09 42 36.8**	**-0.9**
	baz=221						
WHYT	**Xinyi Township**	**2.04**	**251**	*e*P	**Pn**	**09 42 14.6**	**+1.0**
	baz=240						
WHYT				*e*S	**Sn**	**09 42 37.0**	**-0.9**
	baz=240						
ALS	**Alishan**	**2.15**	**247**	P	**Pn**	**09 42 16.6**	**+1.3**
	baz=245						
ALS				S	**Sn**	**09 42 42.3**	**+1.4**
	baz=245						
CHN5	**Tsauling**	**2.23**	**250**	P	**Pn**	**09 42 18.5**	**+2.4**
	baz=249						
CHN5				S	**Sn**	**09 42 43.1**	**+0.6**
	baz=249						
STYH	**Taoyuan**	**2.33**	**240**	*e*P	**Pn**	**09 42 18.7**	**+1.2**
	baz=229						
WCKO	**Fanlu**	**2.35**	**247**	*e*P	**Pn**	**09 42 20.3**	**+2.6**
	baz=237						
WCKO				*e*S	**Sn**	**09 42 47.5**	**+2.2**
	baz=237						
TPUB	**Ta-pu**	**2.39**	**244**	P	**Pn**	**09 42 19.4**	**+1.1**
	baz=243						
TPUB				S	**Sn**	**09 42 47.4**	**+1.1**
	baz=243						
WTP	**Ta-pu**	**2.42**	**243**	P	**Pn**	**09 42 20.3**	**+1.5**
	baz=241						
WTP				S	**Sn**	**09 42 48.3**	**+1.0**
	baz=241						
CHN1	**Nanshi**	**2.52**	**243**	P	**Pn**	**09 42 22.1**	**+2.0**
	baz=241						
CHN1				S	**Sn**	**09 42 50.9**	**+1.2**
	baz=241						
SLGT	**Liugui**	**2.53**	**238**	*e*P	**Pn**	**09 42 20.9**	**+0.7**
	baz=229						
SLGT				*e*S	**Sn**	**09 42 50.9**	**+1.1**
	baz=229						
SGST	**Jiashian**	**2.53**	**240**	*e*P	**Pn**	**09 42 22.9**	**+2.7**
	baz=230						
SNST	**Tainan City**	**2.53**	**244**	*e*S	**Sn**	**09 42 51.2**	**+1.3**
	baz=242						
MASBT	**Mashibuluo**	**2.76**	**231**	*e*P	**Pn**	**09 42 23.9**	**+0.5**
	baz=227						
MASBT				*e*S	**Sn**	**09 42 56.5**	**+0.9**
	baz=227						

*IDC **11** 09:44:03.2±3.0, 36°.81N×140°.62E, h0km, mb3.3/2,*
mbtmp3.3/2, Error ellipse: s-maj=51.0km s-min=29.7km
az=30.0
*JMA **11** 09:44:04.9±0.0, 36°.9N±0°.1×140°.6E±0°.2, h7km, MV3.3/20,*
NORTHERN IBARAKI PREF
JMA Felt I J1 at NORTHERN IBARAKI PREF .

ISC 11 09:44:04.3±1.0, 36°.88N±0°.03×140°.58E±0°.04, h12km±9km, n19, σ0§43/24, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFFD	**Fukushimafurud**	**0.21**	**355**	*i* P	**Pg**	**09 44 09.1**	**+0.2**
JFFD				S	**Sg**	**09 44 11.8**	**-0.3**
JHO	**Hitachi**	**0.27**	**183**	*i* P	**Pb**	**09 44 10.5**	**-0.5**
JHO				*e*S	**Sb**	**09 44 14.7**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.28**	**38**	*i* P	**Pg**	**09 44 10.5**	**+0.4**
ONAJ				S	**Sg**	**09 44 14.6**	**+0.5**
JFK	**Kawauchi**	**0.54**	**25**	P	**Pg**	**09 44 14.9**	**+0.1**
JFK				S	**Sg**	**09 44 21.4**	**-0.7**
JSB	**Shiboa**	**0.54**	**280**	*i* P	**Pb**	**09 44 15.7**	**0.0**
JSB				*e*S	**Sb**	**09 44 23.2**	**-0.1**
JOTO	**OTAMA OYAMA**	**0.71**	**344**	*i* P	**Pg**	**09 44 18.4**	**+0.3**
JOTO				S	**Sg**	**09 44 27.7**	**+0.3**
JYT	**Yasato**	**0.72**	**206**	*i* P	**Pg**	**09 44 18.6**	**+0.3**
JYT				S	**Sb**	**09 44 28.6**	**+0.1**
JFY	**Yanaizu**	**0.88**	**307**	*i* P	**Pg**	**09 44 21.1**	**-0.2**
JFY				S	**Sg**	**09 44 32.4**	**-0.4**
JMM	**Marumori**	**1.00**	**10**	⇓*i*P	**Pb**	**09 44 23.0**	**-0.5**
JMM				⇓S	**Sg**	**09 44 36.3**	**-0.3**
JAG	**Ashikaga**	**1.02**	**244**	*i* P	**Pb**	**09 44 23.4**	**-0.4**
JAG				S	**Sb**	**09 44 37.3**	**+0.3**
MJAR	**Matsushiro Arr**	**1.94**	**261**	Pn	**Pn**	**09 44 37.4**	**+0.3**
	1.9nm,0.3s,baz=82,slow=15,SNR=21						
MJAR				Sn	**Sb**	**09 45 03.1**	**-0.6**
	2.4nm,0.3s,baz=80,slow=21,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**28.64**	**119**	T	T	10 19 48.5	
	baz=312,slow=75,SNR=39						
H11N1	**WAKE ISLAND Hy**	**28.65**	**119**	T	T	10 19 48.6	
	baz=312,slow=75,SNR=45						
H11N3	**WAKE ISLAND Hy**	**28.66**	**119**	T	T	10 19 49.2	
	baz=312,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**29.34**	**122**	T	T	10 20 40.2	
	baz=314,slow=76,SNR=64						
H11S3	**WAKE ISLAND Hy**	**29.34**	**122**	T	T	10 20 39.4	
	baz=314,slow=76,SNR=60						
H11S2	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	10 20 40.5	
	baz=314,slow=76,SNR=44						
WRA	**Warramunga Arr**	**56.82**	**187**	P	**P**	**09 53 48.6**	**+0.1**
	0.4nm,0.9s,baz=5.5,slow=7.4,SNR=1.8						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**60.55**	**187**	P	**P**	**09 54 15.0**	**+0.6**
	0.2nm,0.6s,baz=5.0,slow=4.3,SNR=1.5						
	0.2nm,0.6s						

*SOME **11** 09:49:32.7, 42°.38N×75°.55E, h0km*
*KNET **11** 09:49:33.5±0.5, 43°.34N×74°.59E, h11km±3km, ml1.3, Error*
ellipse: s-maj=3.3km s-min=1.8km az=175.0
*NNC **11** 09:49:35.6±1.7, 43°.24N×74°.57E, h0km, mb2.8, mpv2.4,*
Error ellipse: s-maj=13.5km s-min=8.0km az=133.0,
Suspected Mining explosion.

ISC 11 09:49:32.7±1.0, 43°.41N±0°.04×74°.49E±0°.04, h0km, n18, σ1§03/28, 11C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USP	**Ospenovka**	**0.14**	**176**	P	**Pg**	**09 49 36.2**	**+0.9**
	46nm,0.1s,SNR=155						
USP				⇓S	**Sg**	**09 49 38.1**	**+1.0**
	621nm,0.5s						
CHMS	**Chumysh**	**0.45**	**154**	⇑P	**Pg**	**09 49 41.3**	**0.0**
	5.7nm,0.1s,SNR=12						
CHMS				⇓S	**Sg**	**09 49 46.6**	**-0.5**
	9.2nm,0.2s						
CHMS	**Chumysh**	**0.45**	**154**	⇓P	**Pg**	**09 49 41.2**	**-0.1**
	0.9nm,0.2s						
CHMS				⇓S	**Sg**	**09 49 46.4**	**-0.7**
	12nm,0.6s						
AAK	**Ala-Archa**	**0.77**	**180**	⇑P	**Pb**	**09 49 48.0**	**-1.0**
	3.4nm,0.1s,SNR=7.8						
AAK				⇓S	**Sg**	**09 49 58.3**	**+1.0**
	7.2nm,0.2s						
EKS2	**Erkin-Say**	**0.91**	**215**	⇑P	**Pb**	**09 49 51.2**	**-0.1**
	2.0nm,0.1s						
EKS2				⇑S	**Sb**	**09 50 04.2**	**+0.2**
	2.3nm,0.2s						
KRBS	**Karabastau**	**0.91**	**71**	P	**Pn**	**09 49 54.5**	**+1.7**
	1.5nm,0.2s						
KRBS				S	**Sn**	**09 50 09.9**	**+3.2**
	5.0nm,0.1s						
KRBS	**Karabastau**	**0.91**	**71**	*e*P	Pn	09 49 57.7	+4.8
	0.9nm,0.3s						
KRBS				*e*S	Sn	09 50 15.5	+8.8
	2.4nm,0.2s						
TKM2	**Tokmak 2**	**0.94**	**120**	⇑P	**Pg**	**09 49 49.5**	**-1.3**
	1.5nm,0.1s,SNR=12						
TKM2				⇑S	**Sg**	**09 50 02.3**	**-0.7**
	6.6nm,0.1s						
TKM2	**Tokmak 2**	**0.94**	**120**	⇑P	**Pg**	**09 49 49.3**	**-1.5**
	0.2nm,0.1s						
TKM2				⇓S	**Sg**	**09 50 02.3**	**-0.7**
	0.5nm,0.1s						
AML	**Almayashu**	**1.40**	**205**	⇑P	**Pb**	**09 49 59.9**	**-0.1**
	1.2nm,0.2s,SNR=7.5						
AML	**Almayashu**	**1.40**	**205**	⇑P	**Pn**	**09 49 59.4**	**-0.5**
AML				⇑S	**Sn**	**09 50 18.9**	**-0.3**
	0.3nm,0.5s						
KTBS	**Karatobe**	**1.62**	**78**	P	**Pb**	**09 50 02.8**	**-0.8**
	4.7nm,0.2s						
KTBS				S	**Sg**	**09 50 24.9**	**0.0**
	18nm,0.6s						
KTBS	**Karatobe**	**1.62**	**78**	*e*P	**Pb**	**09 50 02.8**	**-0.8**
	4.7nm,0.2s						
KTBS				*e*S	**Sg**	**09 50 24.9**	**0.0**
	18nm,0.6s						
TNSS	**Tian-Shan**	**1.84**	**101**	P	**Pb**	**09 50 06.8**	**-0.5**
	1.2nm,0.1s						
TNSS				S	**Sg**	**09 50 31.1**	**-0.6**
	2.8nm,0.4s						
TNSS	**Tian-Shan**	**1.84**	**101**	*e*P	Pn	09 49 55.8	-10
	0.5nm,0.1s						
TNSS				*e*S	Sn	09 50 12.3	-18
	1.6nm,0.3s						
ARXS	**Arharly**	**2.55**	**70**	*e*Pg	**Pb**	**09 50 18.9**	**-0.5**
	0.5nm,0.2s						
ARXS				*e*Lg	Lg	09 50 51.8	
	3.7nm,0.4s						
KK31	**Karatay Array**	**2.92**	**265**	⇓Pg	**Pg**	**09 50 27.5**	**-1.1**
	0.2nm,0.3s,baz=72,slow=15,SNR=5.7						
KK31				⇑Lg	Lg	09 51 06.6	
	0.6nm,0.3s,baz=89,slow=30,SNR=7.3						
KNOS	**Konyrlen**	**3.52**	**73**	Pg	**Pg**	**09 50 39.5**	**-0.7**
	1.7nm,0.3s						
KNOS				Lg	Lg	09 51 27.2	
	2.1nm,0.5s						

*NNC **11** 09:52:44.8±1.6, 51°.60N×75°.39E, h0km, mb3.1, mpv2.7,*
Error ellipse: s-maj=41.3km s-min=10.0km az=27.0,
Suspected Mining explosion.
*IDC **11** 09:52:46.1±1.0, 51°.69N×75°.55E, h0km, mbtmp2.8/3,*
ML2.2/3, Error ellipse: s-maj=39.9km s-min=8.3km
az=29.0

ISC 11 09:52:46.1±1.1, 51°.7N±0°.1×75°.47E±0°.06, h0km, n9, σ0§69/9, 3C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.21**	**118**	⇑Pg	**Pb**	**09 53 26.4**	**-0.3**
	2.1nm,0.3s						
KURBB				⇓Lg	Lg	09 53 54.9	
	27nm,0.8s						
KURBB	**Kurchatov Arra**	**2.21**	**118**	Pg	**Pn**	**09 53 24.5**	**+0.6**
	0.6nm,0.3s,baz=301,slow=18,SNR=10.0						
KURBB				Lg	Lg	09 53 55.4	
	0.7nm,0.3s,baz=310,slow=34,SNR=6.2						
KURK	**Kurchatov**	**2.21**	**115**	⇑Pg	**Pn**	**09 53 24.7**	**+0.8**
	2.3nm,0.5s						
KURK				⇑Lg	Lg	09 53 53.5	
	5.6nm,0.4s						
BVA0	**Borovoye Array**	**3.39**	**295**	⇓Pg	**Pb**	**09 53 46.6**	**-0.3**
	0.7nm,0.3s,baz=119,slow=17,SNR=6.6						
BVA0				⇓Lg	Lg	09 54 30.7	
	3.5nm,0.5s,baz=115,slow=28,SNR=6.3						
BVAR	**Borovoye Array**	**3.39**	**295**	Pn	**Pn**	**09 53 40.8**	**+0.6**
	0.1nm,0.3s,baz=116,slow=9.8,SNR=3.0						
BVAR				Pg	**Pb**	**09 53 46.3**	**-0.6**
	0.1nm,0.3s,baz=117,slow=18,SNR=8.2						
BVAR				Lg	Lg	09 54 30.6	
	0.3nm,0.3s,baz=114,slow=28,SNR=7.0						
	0.7nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.10**	**65**	I	I	10 27 40.0	
	baz=250,slow=320,SNR=1.5						
ZALV	**Zalesovo Beam**	**6.10**	**65**	Pn	**Pn**	**09 54 17.7**	**+0.4**
	0.5nm,0.3s,baz=241,slow=14,SNR=3.2						
	1.2nm,0.4s						
MK31	**Makanchi Array**	**6.63**	**135**	⇓Sn	**Sn**	**09 55 40.2**	**-0.8**
	0.7nm,0.5s						
MK31				⇓Lg	Lg	09 56 13.1	
	1.5nm,0.5s,baz=326,slow=26,SNR=7.0						
MKAR	**Makanchi Array**	**6.63**	**135**	Pn	**Pn**	**09 54 25.2**	**+0.4**
	0.1nm,0.3s,baz=312,slow=14,SNR=2.1						
MKAR				Lg	Lg	09 56 14.2	
	0.4nm,0.3s,baz=320,slow=26,SNR=5.8						
	0.3nm,0.5s						

*SOME **11** 10:04:03.0, 38°.77N×70°.57E, h15km*
*NNC **11** 10:04:08.3±8.8, 38°.68N×70°.80E, h0km, mb4.0, mpv3.6,*
Error ellipse: s-maj=88.6km s-min=45.9km az=159.0

ISC 11 10:04:17.8±2.0, 39°.7N±0°.1×70°.24E±0°.08, h10km, n15, σ1§35/18, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**2.48**	**356**	*e*Pg	**Pg**	**10 05 04.5**	**-0.9**
	8.5nm,0.3s						
IUG				*e*Lg	Lg	10 05 48.6	
	48nm,0.6s						
KK31	**Karatay Array**	**3.44**	**3**	Pn	**Pb**	**10 05 16.2**	**-2.6**
	9.5nm,0.5s,baz=180,slow=12,SNR=106						
KK31				⇑Sn	**Sg**	**10 06 11.1**	**+2.9**
	24nm,0.7s,baz=178,slow=30,SNR=6.5						
AML	**Almayashu**	**3.59**	**46**	P	**Pn**	**10 05 14.3**	**+0.4**
	SNR=13						
AML	**Almayashu**	**3.59**	**46**	⇑Pn	**Pn**	**10 05 13.0**	**-0.9**
	2.2nm,0.8s						
AML				⇓Sn	**Sb**	**10 06 04.8**	**-0.6**
	13nm,0.8s						
MRKS	**Merke**	**3.81**	**35**	*e*Pg	**Pb**	**10 05 24.3**	**-0.9**
	12nm,0.4s						
MRKS				*e*Lg	Lg	10 06 22.8	
	20nm,0.6s						
AAK	**Ala-Archa**	**4.37**	**46**	P	**Pn**	**10 05 25.4**	**+1.0**
	SNR=10						
KBK	**Karagaybulak**	**4.64**	**48**	P	**Pn**	**10 05 28.7**	**+0.6**
	SNR=17						
USP	**Ospenovka**	**4.81**	**40**	P	**Pn**	**10 05 30.9**	**+0.5**
	SNR=7.0						
TKM2	**Tokmak 2**	**5.18**	**49**	P	**Pn**	**10 05 34.4**	**-1.2**
	SNR=21						
TKM2	**Tokmak 2**	**5.18**	**49**	⇓Pn	**Pn**	**10 05 35.1**	**-0.5**
	7.6nm,0.5s						
TKM2				⇑Sn	**Sn**	**10 06 34.1**	**-1.4**
	7.3nm,0.6s						
DGS	**Degeres**	**5.48**	**48**	*e*Pg	**Pb**	**10 05 53.8**	**+0.2**
	6.2nm,0.6s						
DGS				*e*Lg	Lg	10 07 13.7	
	10nm,0.7s						
TNSS	**Tian-Shan**	**6.06**	**54**	*e*Pg	**Pb**	**10 06 02.6**	**-1.2**
	3.1nm,0.7s						
TNSS				*e*Lg	Lg	10 07 29.3	
	3.7nm,0.5s						
KTBS	**Karatobe**	**6.29**	**48**	*e*Pg	**Pb**	**10 06 08.7**	**+1.3**
	2.0nm,0.8s						
KTBS				*e*Lg	Lg	10 07 38.7	
	8.8nm,0.6s						
AB31	**Akbulak array**	**12.07**	**326**	P	**Pn**	**10 07 10.8**	**+1.0**
	1.2nm,0.5s,baz=163,slow=10,SNR=26						
AKTO	**Aktyubinsk**	**13.79**	**325**	⇑P	**P**	**10 07 42.3**	**+0.6**
	1.5nm,0.7s						

*DJA **11** 10:21:19.5±0.3, 2°S±4°×12°4E±°, h10km, M4.4/12, mb4.7/4,*
mB4.8/2, MLv4.2/12, Mw(mB)4.0/2
*IDC **11** 10:21:26.8±1.7, 2°.43S×124°.87E, h0km, mb3.4/2,*
mbtmp3.6/4, ML3.6/2, MS2.3/1, Error ellipse: s-maj=47.4km
s-min=28.0km az=63.0

ISC 11 10:21:19.6±1.2, 1°.87S±0°.08×124°.16E±0°.07, h10km, n16, σ1§10/15, Southern Molucca Sea

| Code | Station Name | Δ° | AZ

comp=Z,30nm,19.4s,baz=32,slow=38
SIJI Sorong 7.17 82 Pn **Pn 10 23 05.0 +0.2**
10nm,0.3s,baz=236,slow=15,SNR=12
21nm,0.3s
FAKI Fak Fak 8.15 98 P **Pn 10 23 17.8 -0.3**
WRA Warramunga Arr 20.54 152 P **P 10 25 58.2 -0.2**
0.1nm,0.3s,baz=330,slow=11,SNR=7.7
0.8nm,0.8s
ASAR Alice Springs 23.64 157 P **P 10 26 31.8 +0.5**
0.6nm,0.6s,baz=336,slow=13,SNR=13
0.6nm,0.6s
MKAR Makanchi Array 60.80 328 P P 10 31 46.6 +15
0.4nm,0.6s,baz=131,slow=8.5,SNR=1.8
0.4nm,0.6s

---

*IDC **11** 10:22:46.3±1.0, 6°.22S×151°.68E, h0km, mb4.3/4, mbtmp4.3/5, ML2.2/1, MS2.8/1, Error ellipse: s-maj=44.6km s-min=17.4km az=116.0*
*NEIC **11** 10:22:49.2±1.1, 6°.06S±0°.09×151°.45E±0°.08, h10km±1km, mb4.2/15, Error ellipse: s-maj=18.2km s-min=10.4km az=322.0*
ISC 11 10:22:52.3±0.7, 6°.08S±0°.08×151°.4E±0°.1, h41km, n27, σ0§79/28, mb4.2/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.86**	**18**	Pn	**Pn**	**10 23 21.9**	**+0.1**
	100nm,0.3s,baz=279,slow=24,SNR=36						
KRVT				Sn	**Sn**	**10 23 46.7**	**+2.7**
	234nm,0.3s,baz=13,slow=0.2,SNR=6.3						
RABL	**Rabaul**	**2.01**	**21**		**Pn**	**10 23 23.6**	**-0.2**
PMG	**Port Moresby**	**5.37**	**232**		**Pn**	**10 24 11.0**	**+1.0**
PMG	**Port Moresby**	**5.37**	**232**	Pn	**Pn**	**10 24 11.2**	**+1.1**
	5.5nm,0.3s,baz=31,slow=12,SNR=12						
PMG				Sn	**Sn**	**10 25 11.0**	**+0.3**
	2.3nm,0.3s,baz=157,slow=15,SNR=5.6						
	17nm,0.4s						
EIDS	**Eidsvold**	**19.18**	**181**	P	**P**	**10 27 12.8**	**+0.2**
SIJI	**Sorong**	**20.78**	**284**	LR	LR	10 37 44.9	
	comp=Z,24nm,18.8s,baz=188,slow=43						
MTN	**Manton Dam**	**21.11**	**250**	P	**P**	**10 27 33.8**	**+0.1**
MTN				IAmb	IAmb	10 27 40.6	
	comp=Z,17nm,1.1s						
WB0	**Warramunga Arr**	**21.44**	**229**	P	**P**	**10 27 37.3**	**+0.1**
WB0				IAmb	IAmb	10 28 01.5	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**21.44**	**228**	P	**P**	**10 27 37.4**	**+0.1**
WR0				IAmb	IAmb	10 28 01.7	
	comp=Z,6.0nm,0.8s						
DZM	**Mont Dzumac**	**21.52**	**139**	P	**P**	**10 27 38.4**	**+0.3**
DZM				IAmb	IAmb	10 27 49.2	
	comp=Z,9.5nm,1.1s						
WRAB	**Tennant Creek**	**21.57**	**229**	P	**P**	**10 27 38.5**	**-0.1**
WRAB				IAmb	IAmb	10 27 52.5	
	comp=Z,12nm,1.1s						
WB2	**Warramunga Arr**	**21.57**	**229**	P	**P**	**10 27 38.6**	**0.0**
WB2				IAmb	IAmb	10 28 06.5	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**21.58**	**229**	P	**P**	**10 27 37.9**	**-0.8**
WRA	**Warramunga Arr**	**21.58**	**229**	P	**P**	**10 27 38.5**	**-0.3**
	comp=Z,3.5nm,0.6s,baz=56,slow=11,SNR=24						
	comp=Z,3.5nm,0.6s						
KNRA	**Kununurra**	**24.20**	**245**	P	**P**	**10 28 05.6**	**+0.4**
AS31	**Alice Springs**	**24.29**	**222**	P	**P**	**10 28 06.0**	**-0.2**
AS31				IAmb	IAmb	10 28 07.8	
	comp=Z,4.0nm,0.7s						
ASAR	**Alice Springs**	**24.29**	**222**	P	**P**	**10 28 07.0**	**+0.9**
ASAR	**Alice Springs**	**24.29**	**222**	P	**P**	**10 28 06.2**	**+0.1**
	comp=Z,9.9nm,0.7s,baz=54,slow=9.1,SNR=90						
	comp=Z,9.9nm,0.7s						
FORT	**Forrest**	**32.94**	**219**	P	**P**	**10 29 23.2**	**0.0**
MBWA	**Marble Bar**	**34.16**	**241**	P	**P**	**10 29 33.9**	**0.0**
MBWA				IAmb	IAmb	10 29 37.4	
	comp=Z,6.0nm,1.0s						
SBUM	**Sibu**	**40.06**	**281**	P	**P**	**10 30 22.5**	**-1.7**
SBUM				IAmb	IAmb	10 30 29.4	
	comp=Z,2.2nm,0.3s						
SBA	**Scott Base**	**72.18**	**177**	P	**P**	**10 34 11.9**	**-0.6**
ILAR	**Eielson Array**	**83.85**	**22**	P	**P**	**10 35 16.9**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=248,slow=5.2,SNR=18						
	comp=Z,1.2nm,0.7s						
QSPA	**South Pole Qui**	**83.89**	**180**	P	**P**	**10 35 18.1**	**+0.4**
QSPA	**South Pole Qui**	**83.89**	**180**	P	**P**	**10 35 17.6**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=279,slow=0.8,SNR=15						
	comp=Z,2.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**149.37**	**286**	PKPbc	**PKPbc**	**10 42 38.1**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=60,slow=3.2,SNR=9.5						
BDFB	**Brasilia**	**151.07**	**138**	PKPbc	**PKiKP**	**10 42 42.3**	**-0.4**
	comp=Z,1.8nm,0.4s,baz=180,slow=2.0,SNR=4.0						

---

*OSPL **11** 10:23:32.0±1.3, 18°.78N×70°.26W, h111km±11km, ML1.9*
*SDD **11** 10:23:33.8±2.0, 18°.84N×70°.34W, h100km±17km, MD3.1, ML2.3*
ISC 11 10:23:34.0±2.3, 18°.79N±0°.07×70°.31W±0°.04, h87km±17km, n10, σ0§63/18, 7C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABDR	**Alto Bandera**	**0.30**	**275**	⇑*e*Pg	**Pn**	**10 23 47.5**	**0.0**
ABDR				IAML		10 24 00.0	
	comp=N,124nm,0.6s						
DR08	**Loma La Naviza**	**0.33**	**57**	⇑*e*Pg	**Pn**	**10 23 46.9**	**-0.5**
DR08				⇓*e*Sg	**Sn**	**10 23 57.1**	**-0.2**
SDD	**Santo Domingo**	**0.50**	**131**	*e*S	**Sn**	**10 23 59.0**	**-0.2**
NADR	**Nagua**	**0.71**	**37**	⇓*e*Pg	**Pn**	**10 23 50.1**	**-0.3**
NADR				⇑*e*Sg	**Sn**	**10 24 03.7**	**+1.1**
NADR				IAML		10 24 06.1	
	comp=N,268nm,0.2s						
NADR				IAML		10 24 06.3	
	comp=E,300nm,0.2s						
SC01	**Santiago de lo**	**0.75**	**329**	*i* P	**Pn**	**10 23 50.4**	**-0.4**
SC01				*e*S	**Sn**	**10 24 03.9**	**+0.6**
SC01				IAML		10 24 05.7	
	comp=Z,49nm,0.3s						
HATOM	**Hato Mayor del**	**0.88**	**90**	⇑*e*Pg	**Pn**	**10 23 51.8**	**-0.4**
HATOM				⇑*e*Sg	**Sn**	**10 24 06.4**	**+0.5**
HATOM				IAML		10 24 08.9	
	comp=N,32nm,0.7s						
HATOM				IAML		10 24 09.0	
	comp=E,52nm,0.6s						
SDDR	**Presa de Saban**	**0.94**	**282**	*i* P	**Pn**	**10 23 52.3**	**-0.7**
SDDR				*e*S	**Sn**	**10 24 06.9**	**-0.2**
SDDR				IAML		10 24 13.4	
	comp=Z,20nm,0.3s						
PODR	**Polo**	**1.10**	**236**	⇓*e*Pg	**Pn**	**10 23 54.5**	**-0.4**
PODR				⇑*e*Sg	**Sn**	**10 24 11.3**	**+0.6**
PODR				IAML		10 24 15.8	
	comp=E,26nm,1.4s						
PODR				IAML		10 24 25.1	
	comp=N,12nm,1.1s						
PODR	**Polo**	**1.10**	**236**	*i* P	**Pn**	**10 23 54.6**	**-0.4**
PODR				*e*S	**Sn**	**10 24 12.0**	**+1.3**
MIDR	**Miches**	**1.21**	**80**	⇓*e*Pg	**Pn**	**10 23 55.9**	**-0.1**
MIDR				⇑*e*Sg	**Sn**	**10 24 12.8**	**+0.2**
MIDR				IAML		10 24 14.7	
	comp=E,21nm,0.1s						
MIDR				IAML		10 24 14.9	
	comp=N,16nm,0.3s						

HEL 11 10:34:03.3±0.2, 61°.05N×28°.16E, h0km, ML0.9, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.54**	**45**	PG	Pg	10 34 13.1	-0.5
	baz=230						
RUF				SG	Sg	10 34 20.0	-0.6
RUF				MSG		10 34 20.7	
	comp=Z,1.8nm,0.2s						
VJF	**Virojoki**	**0.59**	**211**	PG	Pg	10 34 13.7	-0.8
	baz=26						
VJF				SG	Sg	10 34 21.8	-0.3
VJF				MSG		10 34 22.0	
	comp=Z,2.6nm,0.2s						
FIA0	**FINESS Array S**	**1.08**	**293**	PB	Pg	10 34 22.8	-1.2
FIA0				MSG		10 34 36.5	
	comp=Z,1.8nm,0.2s						
FIA0				SB	Sg	10 34 37.8	-0.3
PVF	**Pernaja**	**1.23**	**247**	PG	Pg	10 34 24.8	-2.1
PVF				MSG		10 34 40.6	
	comp=Z,1.5nm,0.2s						
PVF				SG	Sg	10 34 41.6	-1.3
KAF	**Kangasniemi**	**1.39**	**321**	PN	Pg	10 34 29.0	-0.9
	baz=135						
KAF				MSG		10 34 45.0	
	comp=Z,1.9nm,0.2s						
KEF	**Keuruu**	**1.93**	**307**	PG	Pn	10 34 38.2	+0.8
KEF				MSG		10 35 00.8	
	comp=Z,0.7nm,0.2s						

---

*HEL **11** 10:35:07.0±0.2, 64°.33N×21°.11E, h0km, ML1.2, Explosion*
UPP 11 10:35:07.1±0.1, 64°.33N×21°.11E, h0km, ML2.4, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODEU	**Stanfors**	**0.19**	**295**	P	Pg	10 35 10.9	+0.2
ODEU				S	Sg	10 35 13.6	+0.4
BURU	**Burvik**	**0.28**	**24**	P	Pg	10 35 12.6	+0.1
BURU	**Burvik**	**0.28**	**24**	PN	Pb	10 35 16.0	+1.0
BURU	**Burvik**	**0.28**	**24**	PG	Pg	10 35 12.4	-0.1
BURU				SG	Sg	10 35 16.0	-0.1
UMAU	**Umeaa**	**0.49**	**203**	P	Pg	10 35 16.3	-0.1
UMAU	**Umeaa**	**0.49**	**203**	PG	Pn	10 35 22.8	+1.5
UMAU	**Umeaa**	**0.49**	**203**	PG	Pg	10 35 16.3	0.0
UMAU				SG	Sg	10 35 22.8	+0.1
SVAU	**Svanoeiden**	**0.69**	**284**	P	Pg	10 35 20.1	-0.2
OBF8	**Ulkokalla**	**1.02**	**89**	PG	Pg	10 35 26.1	-0.5
OBF8				SG	Sg	10 35 39.7	0.0
OBF8				MSG		10 35 39.9	
	comp=Z,1.6nm,0.2s						
LILU	**Lilltraesk**	**1.10**	**331**	P	Pg	10 35 27.9	-0.3
BREU	**Bredtraesk**	**1.20**	**250**	P	Pg	10 35 29.6	-0.4
SJUU	**Sjulsmark**	**1.20**	**10**	P	Pg	10 35 30.0	-0.1
HUSU	**Husum**	**1.30**	**221**	P	Pg	10 35 31.4	-0.5
HUSU				S	Sg	10 35 48.6	-0.1
HUSU	**Husum**	**1.30**	**221**	PN	Pg	10 35 31.5	-0.4
HUSU				SB	Sg	10 35 48.4	-0.3
OBF0	**Syolatti, Pyha**	**1.37**	**81**	PG	Pg	10 35 32.6	-0.7
OBF0				MSG		10 35 49.8	
	comp=Z,2.2nm,0.2s						
VAF	**Ylistaro**	**1.47**	**151**	SN	Pn	10 35 34.4	-0.3
VAF	**Ylistaro**	**1.47**	**151**	PG	Pn	10 35 34.4	-0.3
	baz=329						
VAF				MSG		10 35 52.9	
	comp=Z,2.3nm,0.2s						
VAF				SG	Sg	10 35 54.0	-0.2
OUF	**Merijarvi**	**1.58**	**87**	PG	Pn	10 35 36.2	-0.1
OUF				MSG		10 35 56.0	
	comp=Z,2.0nm,0.2s						
OUF				SG	Sn	10 35 56.6	-0.8
OBF4	**Vikkela, Lumij**	**1.79**	**72**	SB	Sb	10 36 03.6	-0.1
OBF4	**Vikkela, Lumij**	**1.79**	**72**	PG	Pn	10 35 39.8	+0.6
	baz=260						
OBF4				MSG		10 36 01.9	
	comp=Z,0.6nm,0.2s						
OBF4				SN	Sb	10 36 03.6	-0.1
KALU	**Kalix**	**1.81**	**31**	P	Pb	10 35 40.4	-0.7
KALU	**Kalix**	**1.81**	**31**	SG	Sb	10 36 04.2	+0.1
HEMU	**Hemsoen**	**2.16**	**221**	PG	Pn	10 35 44.9	+0.7
	baz=39						
HEMU				SG	Sb	10 36 14.5	+0.4
TOF	**Tornio**	**2.22**	**36**	MSG		10 36 13.1	
	comp=Z,0.8nm,0.2s						
TOF				SG	Sb	10 36 16.4	+0.4
ERTU	**Ertsjaerv**	**2.28**	**11**	SG	Sb	10 36 17.7	0.0
PAJU	**Pajala**	**2.83**	**16**	SG	Sb	10 36 34.5	+0.9
HEL1	**Helsinki**	**4.53**	**155**	PG	Pb	10 36 29.0	+1.7
HEL1				SG	Sg	10 37 28.3	-4.0

---

*WEL **11** 10:41:53.9±0.4, 41°.S±3°.×17°.6E±°, h25km±3km, M3.2/42, ML3.5/19, MLv3.2/42, Error ellipse: s-maj=0.0km s-min=0.0km az=123.3, confirmed*
*NOU **11** 10:41:54.6, 40°.82S×175°.49E, h0km, MLv3.5/5, North Island, New Zealand*
ISC 11 10:41:54.4±1.0, 40°.89S±0°.02×175°.53E±0°.03, h33km±3km, n85, σ0§92/93, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOWZ	**Holdsworth Sta**	**0.02**	**227**	P	**Pb**	**10 41 59.8**	**-0.1**
HOWZ				S	**Sb**	**10 42 03.7**	**0.0**
MRZ	**Mangatainoka R**	**0.23**	**9**	P	**Pb**	**10 42 00.9**	**-0.3**
MRZ				S	**Sb**	**10 42 05.5**	**-0.4**
MTW	**Mount Morrison**	**0.27**	**185**	P	**Pb**	**10 42 02.2**	**+0.4**
MTW				S	**Sb**	**10 42 08.0**	**+1.1**
OGWZ	**Otaki Gorge**	**0.28**	**284**	P	**Pb**	**10 42 01.9**	**0.0**
OGWZ				S	**Sb**	**10 42 06.9**	**-0.1**
TIWZ	**Tintock**	**0.29**	**68**	P	**Pb**	**10 42 02.1**	**+0.1**
TIWZ				S	**Sb**	**10 42 07.8**	**+0.6**
TMWZ	**Te Maipa**	**0.35**	**129**	P	**Pb**	**10 42 03.4**	**+0.6**
TMWZ				S	**Sn**	**10 42 10.4**	**+1.5**
CAW	**Cannon Point**	**0.42**	**238**	P	**Pb**	**10 42 03.9**	**+0.3**
PRWZ	**Pori Road**	**0.47**	**45**	P	**Pb**	**10 42 04.8**	**+0.4**
PRWZ				S	**Sn**	**10 42 12.6**	**+0.6**
KIW	**Kapiti Island**	**0.47**	**273**	P	**Pb**	**10 42 04.7**	**+0.2**
PAWZ	**Paruwai Farm**	**0.50**	**189**	P	**Pb**	**10 42 05.4**	**+0.3**
CPWZ	**Castlepoint**	**0.51**	**93**	P	**Pb**	**10 42 05.9**	**+0.8**
POWZ	**Post Office Ro**	**0.53**	**20**	P	**Pb**	**10 42 05.1**	**-0.3**
POWZ				S	**Sb**	**10 42 13.0**	**+0.1**
TRWZ	**Traveller**	**0.53**	**167**	P	**Pb**	**10 42 05.6**	**+0.2**
BFZ	**Birch Farm**	**0.58**	**70**	P	**Pb**	**10 42 06.2**	**0.0**
BFZ	**Birch Farm**	**0.58**	**70**	P	**Pb**	**10 42 06.3**	**0.0**
OHWZ	**Ohakea**	**0.70**	**346**	P	**Pb**	**10 42 08.5**	**+0.3**
WEL	**Wellington**	**0.70**	**235**	P	**Pb**	**10 42 08.4**	**+0.2**
PLWZ	**Palliser**	**0.71**	**197**	P	**Pb**	**10 42 07.9**	**-0.6**
BHW	**Baring Head**	**0.72**	**223**	P	**Pb**	**10 42 08.5**	**-0.1**
SNZO	**South Karori**	**0.76**	**236**	P	**Pb**	**10 42 09.1**	**0.0**
DVHZ	**Dannevirke**	**0.76**	**40**	P	**Pb**	**10 42 08.5**	**-0.7**
ANWZ	**Angora Road**	**0.83**	**60**	P	**Pn**	**10 42 09.5**	**-0.2**
TSZ	**Takapari Road**	**0.89**	**22**	P	**Pn**	**10 42 10.6**	**0.0**
TCW	**Tory Channel**	**1.00**	**251**	P	**Pn**	**10 42 12.3**	**+0.2**
PRHZ	**Porangahau**	**1.04**	**54**	P	**Pn**	**10 42 12.3**	**-0.4**
WPHZ	**Waipukurau**	**1.07**	**40**	P	**Pn**	**10 42 13.1**	**0.0**
PNHZ	**Pukenui**	**1.10**	**28**	P	**Pn**	**10 42 13.4**	**0.0**
WAZ	**Wanganui**	**1.21**	**340**	P	**Pb**	**10 42 16.5**	**-0.1**
DUWZ	**D'Urville Isla**	**1.22**	**273**	P	**Pn**	**10 42 15.8**	**+0.7**
CMWZ	**Cape Campbell**	**1.31**	**229**	P	**Pn**	**10 42 17.5**	**+1.1**
TUWZ	**Tuamarina**	**1.32**	**245**	P	**Pn**	**10 42 16.2**	**-0.2**
PXZ	**Pawanui**	**1.33**	**50**	P	**Pn**	**10 42 15.8**	**-0.8**
KRHZ	**Kereru**	**1.40**	**28**	P	**Pn**	**10 42 17.3**	**-0.2**
BHHZ	**Black Hill Sta**	**1.45**	**16**	P	**Pn**	**10 42 18.7**	**+0.4**
MOVZ	**Moawhango**	**1.49**	**7**	P	**Pn**	**10 42 19.3**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.50**	**236**	P	**Pn**	**10 42 18.9**	**0.0**
KAHZ	**Kahuranaki**	**1.50**	**44**	P	**Pn**	**10 42 18.3**	**-0.6**
MTVZ	**Mangateitei**	**1.50**	**358**	P	**Pn**	**10 42 20.3**	**+1.2**
WNVZ	**Wahianoa**	**1.56**	**2**	P	**Pn**	**10 42 20.8**	**+0.9**
TRVZ	**Turoa**	**1.58**	**0**	P	**Pn**	**10 42 21.5**	**+1.2**
PKVZ	**Pokaka**	**1.60**	**355**	P	**Pn**	**10 42 22.1**	**+1.7**
WHVZ	**Whangaehu Hut**	**1.60**	**2**	P	**Pn**	**10 42 21.6**	**+1.1**
KWHZ	**Kaweka Forest**	**1.61**	**25**	P	**Pn**	**10 42 20.2**	**-0.3**
TUVZ	**Tukino**	**1.62**	**3**	P	**Pn**	**10 42 21.8**	**+1.0**
FWVZ	**Far West T-bar**	**1.63**	**1**	P	**Pn**	**10 42 22.0**	**+1.1**
NNZ	**Nelson**	**1.66**	**258**	P	**Pn**	**10 42 21.7**	**+0.5**
LREZ	**Lake Rotokare**	**1.67**	**328**	P	**Pb**	**10 42 23.8**	**-0.6**
COVZ	**Chateau Observ**	**1.68**	**0**	P	**Pn**	**10 42 22.8**	**+1.2**
MCHZ	**McNeill Hill**	**1.69**	**32**	P	**Pn**	**10 42 21.2**	**-0.4**
SNVZ	**South Ngauruho**	**1.70**	**3**	P	**Pn**	**10 42 23.0**	**+1.2**
NGZ	**Ngauruhoe**	**1.71**	**2**	P	**Pn**	**10 42 23.1**	**+1.2**
ETVZ	**East Tongariro**	**1.75**	**5**	P	**Pn**	**10 42 23.6**	**+1.0**
NNVZ	**North Ngauruho**	**1.75**	**2**	P	**Pn**	**10 42 23.8**	**+1.2**
WTVZ	**West Tongariro**	**1.77**	**1**	P	**Pn**	**10 42 24.1**	**+1.3**
TMVZ	**Te Maari**	**1.77**	**4**	P	**Pn**	**10 42 23.8**	**+1.0**
KRVZ	**Karewarewa**	**1.79**	**3**	P	**Pn**	**10 42 24.4**	**+1.3**
TWVZ	**Taurewa**	**1.81**	**358**	P	**Pn**	**10 42 24.5**	**+1.1**
VRZ	**Vera Road**	**1.86**	**341**	P	**Pn**	**10 42 25.7**	**+1.8**
BKZ	**Black Stump Fm**	**1.87**	**24**	P	**Pn**	**10 42 23.5**	**-0.6**
RITZ	**Rihia Road**	**1.92**	**8**	P	**Pn**	**10 42 25.5**	**+0.7**
TKNZ	**Takaka Hill**	**1.95**	**265**	P	**Pn**	**10 42 24.9**	**-0.3**
NEZ	**North Egmont**	**1.95**	**325**	P	**Pb**	**10 42 28.3**	**-1.1**
KHEZ	**Kahui Hut**	**1.97**	**323**	P	**Pb**	**10 42 28.4**	**-1.3**
KHEZ	**Kahui Hut**	**1.97**	**323**	P	**Pb**	**10 42 28.3**	**-1.3**
ARHZ	**Aropaoanui**	**1.97**	**35**	P	**Pn**	**10 42 24.8**	**-0.7**
DREZ	**Durham Road**	**1.98**	**328**	P	**Pb**	**10 42 28.4**	**-1.3**
RATZ	**Rangitukua**	**2.02**	**5**	P	**Pb**	**10 42 30.8**	**+0.3**
NMHZ	**Naumai**	**2.04**	**29**	P	**Pn**	**10 42 25.9**	**-0.5**
NBEZ	**Newall Road No**	**2.06**	**321**	P	**Pb**	**10 42 29.9**	**-1.2**
KHZ	**Kahutara**	**2.14**	**224**	P	**Pn**	**10 42 26.7**	**-1.0**
KHZ				P	Pb	10 42 27.0	-5.4
MRHZ	**Matea Rd**	**2.16**	**19**	P	**Pn**	**10 42 27.5**	**-0.6**
THZ	**Tophouse**	**2.16**	**245**	P	**Pn**	**10 42 27.7**	**-0.4**
MTHZ	**Maungataniwha**	**2.27**	**27**	P	**Pn**	**10 42 29.8**	**+0.3**
QRZ	**Quartz Range**	**2.28**	**271**	P	**Pb**	**10 42 33.4**	**-1.4**
QRZ	**Quartz Range**	**2.28**	**271**	P	**Pn**	**10 42 30.6**	**+1.0**
HIZ	**Hauiti**	**2.43**	**347**	P	**Pn**	**10 42 33.9**	**+2.2**
HIZ	**Hauiti**	**2.43**	**347**	P	**Pn**	**10 42 34.1**	**+2.4**
SNGZ	**Shannon Statio**	**2.52**	**34**	P	**Pn**	**10 42 32.0**	**-1.1**
GVZ	**Greta Valley S**	**2.79**	**221**	P	**Pn**	**10 42 37.2**	**+0.5**
MWZ	**Matawai**	**2.98**	**32**	P	**Pn**	**10 42 37.0**	**-2.3**
LTZ	**Lake Taylor**	**3.09**	**231**	P	**Pn**	**10 42 39.8**	**-1.0**
RUGZ	**Raukumara Rang**	**3.36**	**30**	P	**Pn**	**10 42 43.0**	**-1.6**
MQZ	**McQueen's Vall**	**3.54**	**216**	P	**Pn**	**10 42 46.0**	**-0.9**
OXZ	**Oxford**	**3.56**	**226**	P	**Pn**	**10 42 46.3**	**-1.0**
TMZ	**Timaru**	**4.83**	**222**	P	**Pn**	**10 43 03.3**	**-1.4**

---

*NEIC **11** 10:43:25.9±1.6, 20°.3S±0°.1×177°.7W±0°.1, h517km±9km, mb4.1/14, Error ellipse: s-maj=20.0km s-min=18.5km az=133.0*
*IDC **11** 10:43:27.1±3.4, 20°.44S×177°.95W, h522km±27km, mb3.4/5, mbtmp4.2/6, Error ellipse: s-maj=62.2km s-min=23.7km az=143.0*
ISC 11 10:43:25.1±0.7, 20°.4S±0°.2×177°.72W±0°.10, h500km, n27, σ1§44/25, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.81**	**303**	P	**P**	**10 44 52.9**	**+2.3**
MSVF	**Nonsavu**	**4.81**	**303**	P	**P**	**10 44 52.4**	**+1.9**
	19nm,0.5s,baz=191,slow=4.3,SNR=72						
NIUE	**Niue**	**7.46**	**81**	P	**P**	**10 45 16.9**	**+0.9**
PINNC	**Pines Island,**	**13.97**	**258**	P	**P**	**10 46 26.1**	**+1.5**
KOUNC	**Koumac, New Ca**	**16.86**	**266**	P	**P**	**10 46 57.0**	**+2.3**
CTAO	**Charters Tower**	**33.76**	**264**	P	**P**	**10 49 24.3**	**-0.5**
CTAO				IAmb	IAmb	10 49 24.8	
	comp=Z,7.2nm,0.9s						
WR0	**Warramunga Arr**	**44.68**	**262**	P	**P**	**10 50 51.3**	**-1.9**
WR0				IAmb	IAmb	10 51 11.5	
	comp=Z,4.2nm,1.2s						
AS31	**Alice Springs**	**44.79**	**257**	P	**P**	**10 50 53.0**	**-0.9**
ASAR	**Alice Springs**	**44.79**	**257**	P	**P**	**10 50 53.0**	**-0.9**
ASAR	**Alice Springs**	**44.79**	**257**	P	**P**	**10 50 52.8**	**-1.2**
	comp=Z,3.5nm,0.5s,baz=97,slow=7.7,SNR=52						
	comp=Z,3.5nm,0.5s						
WB0	**Warramunga Arr**	**44.85**	**262**	P	**P**	**10 50 53.5**	**-0.9**
WB0				IAmb	IAmb	10 50 59.7	
	comp=Z,4.9nm,1.2s						
WB2	**Warramunga Arr**	**44.86**	**262**	P	**P**	**10 50 52.6**	**-1.9**
WB2				IAmb	IAmb	10 51 20.6	
	comp=Z,6.5nm,1.1s						
WRA	**Warramunga Arr**	**44.87**	**262**	P	**P**	**10 50 53.3**	**-1.3**
WRA	**Warramunga Arr**	**44.87**	**262**	P	**P**	**10 50 53.1**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=98,slow=8.6,SNR=17						
	comp=Z,1.2nm,0.5s						
KNRA	**Kununurra**	**50.92**	**266**	P	**P**	**10 51 39.0**	**-1.0**
KNRA				IAmb	IAmb	10 52 07.6	
	comp=Z,28nm,1.4s						
QSPA	**South Pole Qui**	**69.65**	**180**	P	**P**	**10 53 44.7**	**+1.1**
QSPA				IAmb	IAmb	10 54 10.8	
	comp=Z,4.0nm,1.4s						
KSM	**Kuching**	**73.66**	**278**	P	**P**	**10 54 05.6**	**-2.2**
PEA0B	**Petropavlovsk-**	**76.26**	**345**	P	**P**	**10 54 21.0**	**-0.6**
PETK	**Petropavlovsk-**	**76.26**	**345**	P	**P**	**10 54 21.0**	**-0.6**
PETK	**Petropavlovsk-**	**76.26**	**345**	P	**P**	**10 54 20.8**	**-0.8**
	comp=Z,5.9nm,1.0s,baz=132,slow=8.0,SNR=2.3						
	comp=Z,5.9nm,1.0s						
USRK	**Ussuriysk Ar.**	**79.05**	**326**	P	**P**	**10 54 37.0**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=128,slow=4.4,SNR=4.3						
	comp=Z,2.8nm,0.7s						
BELA	**Belgrano 2**	**79.60**	**173**	P	**P**	**10 54 39.1**	**-0.3**
TCRU	**Three Creeks R**	**84.73**	**46**	P	**P**	**10 55 04.4**	**-2.0**
TCRU				IAmb	IAmb	10 55 09.9	
	comp=Z,2.4nm,0.6s						
TCUT	**Toone Canyon**	**86.71**	**44**	P	**P**	**10 55 15.4**	**-0.4**
TCUT				IAmb	IAmb	10 55 15.5	
	comp=Z,6.6nm,0.9s						
TXAR	**Lajitas Array**	**86.80**	**57**	P	**P**	**10 55 17.2**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=205,slow=5.5,SNR=4.7						
	comp=Z,0.3nm,0.7s						
BPMT	**Black Pine Rid**	**88.22**	**39**		pP	10 57 14.5	+1.4
SMCO	**Snowmass**	**88.73**	**47**		pP	10 57 16.1	+0.2

---

*IDC **11** 11:01:00.4±1.0, 15°.52N×94°.52W, h0km, mb4.2/10, mbtmp4.2/11, ML4.8/2, MS3.5/32, Error ellipse: s-maj=30.0km s-min=18.5km az=54.0*
*MEX **11** 11:01:04.6±0.9, 15°.42N×94°.75W, h19km±999km, MD4.6*
*NEIC **11**

HMTT eS Sn 11 02 49.5 -10
LVIG Laguna Verde 4.50 339 eP **Pn 11 02 10.2 -1.4**
LVIG eS **Sn 11 02 59.5 -3.3**
XALA Xalapa 4.52 332 eP **Pn 11 02 12.7 +0.6**
XALA eS **Sn 11 02 58.6 -4.8**
SCIG Sabancuy 4.80 44 eP **Pn 11 02 13.1 -2.7**
SCIG eS **Sn 11 03 03.9 -6.2**
PHPU Puebla 4.83 317 eP **Pn 11 02 17.2 +0.8**
PHPU eS **Sn 11 03 09.9 -1.5**
DAIG Los Arroyos 4.99 288 eP Pn 11 02 16.1 -2.4
DAIG eS Sn 11 03 06.5 -8.4
PPM Popocatepetl 5.16 314 eP **Pn 11 02 20.4 -0.8**
ACP2 Acapulco 5.17 286 / S Sn 11 03 07.8 -12
ESQI Esquipulas 5.26 100 Pn **Pn 11 02 24.2 +2.0**
MTO3 Montecristo 5.27 101 Pn **Pn 11 02 22.6 +0.1**
MEIG Mezcala 5.30 298 eP **Pn 11 02 21.1 -1.6**
MEIG eS **Sn 11 03 18.0 -4.5**
AMVM AMECAMECA 5.31 313 eP **Pn 11 02 21.7 -1.4**
AMVM eS **Sn 11 03 21.8 -1.5**
YAIG Yautepec 5.34 309 eP **Pn 11 02 22.1 -1.3**
YAIG eS **Sn 11 03 20.2 -3.7**
CXUV Coxquihui 5.39 330 eP **Pn 11 02 21.6 -2.4**
CXUV eS **Sn 11 03 24.7 -0.2**
PLIG Platanillo 5.42 303 eP **Pn 11 02 23.2 -1.2**
PLIG eS **Sn 11 03 21.4 -4.2**
CAIG El Cayaco 5.57 287 eP **Pn 11 02 24.4 -1.9**
CAIG eS Sn 11 03 19.8 -9.3
SNET Serv Nac Est T 5.59 108 Pn **Pn 11 02 29.3 +2.6**
UNM Universidad Na 5.72 312 Pn Pn 11 02 33.6 +4.9
UNM Universidad Na 5.72 312 eP **Pn 11 02 28.0 -0.7**
UNM eS **Sn 11 03 32.2 -1.0**
PBVM Pinon 5.73 314 eP **Pn 11 02 29.3 +0.8**
VTVM Tizayuca 5.75 318 eS **Sn 11 03 34.1 0.0**
INVM La Marquesa 5.84 311 eP Pn 11 02 26.0 -4.5
INVM eS **Sn 11 03 34.2 -2.3**
PTVM Pico Tres Padr 5.85 315 eP **Pn 11 02 28.5 -2.0**
PTVM eS **Sn 11 03 34.2 -2.3**
AZVM Cuida Lopez Ma 5.96 313 eS **Sn 11 03 38.0 -1.3**
ZUVM ZUMPANGO 5.99 316 eP **Pn 11 02 32.6 +0.2**
ZUVM eS **Sn 11 03 39.5 -0.3**
TOVM TOLUCA 6.06 309 eP **Pn 11 02 32.9 -0.5**
TOVM eS **Sn 11 03 38.3 -3.4**
ARIG Puente Sto Nin 6.07 298 eP **Pn 11 02 32.1 -1.2**
ARIG eS **Sn 11 03 36.8 -4.8**
DEIG Demacu 6.31 320 eP **Pn 11 02 35.1 -1.6**
DEIG eS **Sn 11 03 47.9 +0.3**
ACIG Acambay 6.65 313 eP Pn 11 02 33.2 -8.0
ZIIG Zihuatanejo 6.82 289 eP **Pn 11 02 42.0 -1.5**
ZIIG eS Sn 11 03 53.3 -6.6
CTUV Llano Grande 6.87 330 eP **Pn 11 02 41.5 -2.7**
MYIG Mrida 7.17 40 eP **Pn 11 02 48.6 +0.3**
MYIG eS **Sn 11 04 06.8 -1.8**
TGUH Tegucigalpa,Un 7.32 100 Pn **Pn 11 02 54.0 +3.5**
TEIG Tepich 7.70 52 Pn **Pn 11 02 55.0 -0.5**
TEIG Tepich 7.70 52 Pn **Pn 11 02 53.5 -2.1**
118nm,0.3s,baz=22,slow=3.5,SNR=55
TEIG Sn **Sn 11 04 18.9 -2.7**
94nm,0.3s,baz=238,slow=23,SNR=2.2
TEIG LR LR 11 06 17.6
comp=Z,3µm,19.4s,baz=1.5,slow=42
CRIN San Cristobal 7.92 110 **Pn 11 03 01.9 +3.2**
RPIG Rio Verde 8.08 322 eP **Pn 11 03 00.1 -0.8**
RPIG eS **Sn 11 04 32.1 +1.0**
GTIG Gomez Farias 8.62 331 eP **Pn 11 03 09.2 +1.0**
MMIG Aquila 8.73 290 eP **Pn 11 03 08.4 -1.3**
MMIG eS **Sn 11 04 44.3 -2.6**
MATN Matagalpa 8.88 106 Pn **Pn 11 03 14.3 +2.4**
ORTG Ortega, Santa 10.35 119 Pn Pn 11 03 36.6 +4.5
DUNO Dulce Nombre, 10.47 120 **Pn 11 03 34.9 +1.3**
CJM Chamela 10.64 293 eP **Pn 11 03 36.0 +0.1**
CJM eS **Sn 11 05 34.7 +0.9**
JTS Las Juntas de 10.82 118 Pn **Pn 11 03 40.3 +1.9**
833A Chaparral WMA, 13.47 342 Pn **Pn 11 04 16.5 +1.9**
833A Chaparral WMA, 13.47 342 P **Pn 11 04 15.5 +0.9**
baz=160,SNR=16
HNDO Hondo 14.58 344 Pn **Pn 11 04 30.4 +0.8**
DRIO Del Rio 14.88 339 Pn **Pn 11 04 33.5 -0.2**
435B Jarrell 15.43 351 Pn **Pn 11 04 40.8 0.0**
435B Jarrell 15.43 351 P **Pn 11 04 41.7 +0.8**
baz=169
JCT Junction City 15.62 343 **Pn 11 04 43.8 +0.5**
JCT IAmb IAmb 11 04 58.9
comp=Z,24nm,0.7s
JCT Junction City 15.62 343 P **Pn 11 04 45.1 +1.8**
baz=161
SAND Sanderson 15.92 336 Pn **Pn 11 04 48.8 +1.7**
SAND IAmb IAmb 11 05 07.4
comp=Z,5.5nm,0.8s
TX31 Lajitas Ar. Si 16.05 330 **Pn 11 04 51.3 +2.3**
TX31 IAmb IAmb 11 05 22.2
comp=Z,22nm,1.2s
TX32 Lajitas Array 16.05 330 **Pn 11 04 50.1 +1.1**
TXAR Lajitas Array 16.05 330 Pn **Pn 11 04 49.4 +0.4**
TXAR Lajitas Array 16.05 330 Pn **Pn 11 04 50.4 +1.5**
comp=Z,0.2nm,0.3s,baz=155,slow=14,SNR=18
TXAR LR LR 11 12 00.2
comp=Z,46nm,18.4s,baz=132,slow=41
comp=Z,2.9nm,0.8s
NATX Nacogdoches 16.17 0 Pn **Pn 11 04 50.9 +0.5**
NATX IAmb IAmb 11 04 54.6
comp=Z,38nm,1.4s
NATX Nacogdoches 16.17 0 P **Pn 11 04 50.0 -0.4**
baz=180
BRDY Brady 16.19 347 Pn **Pn 11 04 51.7 +1.1**
BRDY IAmb IAmb 11 05 04.3
comp=Z,23nm,0.8s
OZNA Ozona 16.43 340 **Pn 11 04 55.1 +1.4**
OZNA IAmb IAmb 11 05 09.4
comp=Z,37nm,0.8s
WHTX Lake Whitney, 16.60 352 P **Pn 11 04 56.7 +1.0**
baz=170
ALPN Alpine 16.92 332 **Pn 11 05 01.3 +1.4**
ALPN IAmb IAmb 11 05 02.7
comp=Z,23nm,1.4s
FW13 Cleburne 16.95 352 **Pn 11 04 59.9 -0.2**
FW13 IAmb IAmb 11 05 17.3
comp=Z,19nm,0.6s
FW07 Weatherford 17.34 351 P **Pn 11 05 04.7 -0.3**
FW07 IAmb IAmb 11 05 19.3
comp=Z,40nm,0.9s
SGCY Sterling City 17.35 341 **Pn 11 05 05.2 0.0**
SGCY IAmb IAmb 11 05 12.2
comp=Z,28nm,1.1s
ABTX Abilene, Hawle 17.62 346 **Pn 11 05 08.9 +0.5**
ABTX IAmb IAmb 11 05 14.4
comp=Z,24nm,0.8s
ABTX Abilene, Hawle 17.62 346 P **P 11 05 10.0 +0.9**
baz=164,SNR=18
Z38A Mt. Pleasant 17.67 359 P **Pn 11 05 09.0 -0.1**
Z38A IAmb IAmb 11 05 19.6
comp=Z,20nm,0.9s
FW03 Perrin-Whitt E 17.72 351 IAmb IAmb 11 05 25.3
comp=Z,26nm,0.6s
PECS Pecos 17.87 334 IAmb IAmb 11 05 37.2
comp=Z,7.2nm,0.8s
Z35A Perchaven, San 17.89 353 IAmb IAmb 11 05 44.5
comp=Z,30nm,1.1s
ODSA Odessa 18.02 338 P **Pn 11 05 13.7 +0.3**
ODSA IAmb IAmb 11 05 36.2
comp=Z,25nm,0.9s
SN01 Snyder 1 18.16 343 **P 11 05 15.2 +0.1**
SN01 IAmb IAmb 11 05 20.7
comp=Z,19nm,0.8s
352A Blakely 18.23 28 P **P 11 05 14.4 -1.3**
352A IAmb IAmb 11 05 18.5
comp=Z,26nm,1.0s
APMT Aspermont 18.40 345 IAmb IAmb 11 05 35.5
comp=Z,18nm,0.9s
WTFS Witchita Falls 18.49 350 IAmb IAmb 11 05 27.9
comp=Z,36nm,0.7s
POST Post 18.54 342 P **P 11 05 19.8 +0.5**
POST IAmb IAmb 11 05 55.0
comp=Z,15nm,0.9s
LRAL Lakeview Retre 18.79 20 P **P 11 05 18.7 -3.3**
baz=203
MNTX Cornudas Mount 18.83 331 P **Pn 11 05 24.8 +1.5**
baz=146,SNR=7.2
DKNS Dickens 18.93 344 P **P 11 05 24.6 +0.9**
DKNS IAmb IAmb 11 05 25.7
comp=Z,19nm,0.9s
MIAR Mount Ida 18.98 3 P **P 11 05 23.5 -0.6**
MIAR Mount Ida 18.98 3 P **P 11 05 23.4 -0.6**
baz=183

X34A Smith Ranch, M 19.22 352 **P 11 05 27.3 +0.7**
UALR University of 19.30 6 P **P 11 05 27.2 -0.3**
WMOK Wichita Mounta 19.49 350 P **P 11 05 29.3 -0.4**
WMOK Wichita Mounta 19.49 350 P **P 11 05 30.5 +0.8**
baz=168
MSTX Muleshoe 19.77 340 P **P 11 05 33.6 +0.8**
MSTX IAmb IAmb 11 05 37.5
comp=Z,14nm,1.0s
MSTX Muleshoe 19.77 340 P **P 11 05 34.3 +1.5**
baz=156
AMTX Amarillo 20.29 343 P **P 11 05 39.3 +0.9**
AMTX IAmb IAmb 11 05 45.2
comp=Z,19nm,0.7s
AMTX Amarillo 20.29 343 P **P 11 05 38.8 +0.4**
baz=160
TUL3 Leonard 20.34 357 P **P 11 05 37.7 -1.2**
baz=177
OK029 Liberty Lake 20.35 354 IAmb IAmb 11 05 44.3
comp=Z,20nm,0.9s
GOGA Godfrey 20.51 28 P **P 11 05 36.1 -4.6**
baz=212
OK033 Mehan 20.55 355 IAmb IAmb 11 05 44.4
comp=Z,30nm,1.1s
HHAR Hobbs 20.70 2 P **P 11 05 42.1 -0.7**
121A Cookes Peak, D 20.70 327 IAmb IAmb 11 05 47.1
comp=Z,17nm,1.1s
121A Cookes Peak, D 20.70 327 P **P 11 05 45.5 +2.5**
baz=141,SNR=13
U38A Gravette 20.84 1 P **P 11 05 44.5 +0.2**
W50A Signal Mountai 21.34 22 IAmb IAmb 11 06 24.5
comp=Z,23nm,1.4s
T35A Sooner Cattle 21.38 356 **P 11 05 48.9 -1.2**
T35A IAmb IAmb 11 06 07.9
comp=Z,21nm,1.0s
WVT Waverly 21.43 15 P **P 11 05 50.3 -0.3**
WVT Waverly 21.43 15 P **P 11 05 48.4 -2.2**
baz=198
OK032 Salt Plains WL 21.43 352 IAmb IAmb 11 05 53.7
comp=Z,26nm,1.1s
Y22D IRIS PASSCAL I 21.52 331 P **P 11 05 53.6 +1.8**
baz=146
Y22F Passcal Instru 21.52 331 P **P 11 05 53.1 +1.3**
baz=143
KAN17 Caldwell West 21.62 353 IAmb IAmb 11 05 55.3
comp=Z,21nm,0.8s
KAN09 Caldwell North 21.69 354 IAmb IAmb 11 05 56.4
comp=Z,27nm,1.3s
KS20 Mayfield South 21.78 354 IAmb IAmb 11 05 56.7
comp=Z,16nm,0.8s
NHSC New Hope 21.91 34 P **P 11 05 51.0 -4.7**
baz=220
ANMO Albuquerque 22.05 333 P **P 11 05 58.4 +0.9**
ANMO Albuquerque 22.05 333 P **P 11 05 59.2 +1.7**
baz=148
ANMO Albuquerque 22.05 333 P **P 11 05 58.8 +1.3**
comp=Z,3.2nm,1.0s,baz=245,slow=12,SNR=10.0
comp=Z,3.2nm,1.0s
BG3 Lake Jocassee 22.09 26 IAmb IAmb 11 06 13.9
comp=Z,16nm,1.1s
S39A Bolivar 22.12 3 P **P 11 05 57.9 -0.2**
PULU Pululahua 22.20 132 P **P 11 06 02.4 +3.0**
TUC Tucson 22.22 322 P **P 11 06 01.1 +1.9**
TUC Tucson 22.22 322 P **P 11 06 01.6 +2.3**
baz=135
TULM Tulcn-Chalpat 22.24 130 P **P 11 06 02.1 +2.0**
TULM IAmb IAmb 11 06 16.1
comp=Z,7.9nm,0.8s
TKL Tuckaleechee C 22.32 24 IAmb IAmb 11 06 16.8
comp=Z,12nm,1.1s
TKL Tuckaleechee C 22.32 24 LR LR 11 17 00.3
comp=Z,39nm,19.1s,baz=180,slow=43
ROSC El Rosal 22.66 116 P **P 11 06 05.3 +0.9**
ROSC IAmb IAmb 11 06 08.0
comp=Z,18nm,0.8s
ROSC El Rosal 22.66 116 P **P 11 06 07.2 +2.8**
comp=Z,6.8nm,0.3s,baz=204,slow=5.2,SNR=7.6
CCM Cathedral Cave 22.66 7 P **P 11 06 01.9 -1.9**
baz=188
V53A Saluda 22.71 26 IAmb IAmb 11 06 13.9
comp=Z,8.8nm,0.8s
KMSC Kings Mountain 22.93 29 P **P 11 06 01.7 -5.0**
baz=215
T25A Trinidad 23.20 340 IAmb IAmb 11 06 21.9
comp=Z,22nm,1.1s
T25A Trinidad 23.20 340 P **P 11 06 10.4 +0.8**
baz=155,SNR=9.9
X18A Snowflake 23.39 327 IAmb IAmb 11 06 24.3
comp=Z,6.2nm,0.8s
CBKS Cedar Bluff 23.63 350 P **P 11 06 13.8 +0.3**
baz=167
W18A Petrified Fore 23.73 328 P **P 11 06 16.7 +2.0**
baz=141
X16A Lo Mia Camp, P 24.12 324 P **P 11 06 19.2 +0.9**
SDCO Great Sand Dun 24.12 339 P **P 11 06 18.1 -0.3**
SDCO IAmb IAmb 11 06 30.2
comp=Z,9.3nm,1.1s
SDCO Great Sand Dun 24.12 339 P **P 11 06 19.3 +0.8**
baz=153,SNR=11
113A Mohawk Valley, 24.39 318 P **P 11 06 21.7 +1.1**
SDV Santo Domingo 24.41 103 LR LR 11 16 47.1
comp=Z,122nm,21.0s,baz=296,slow=39
KSCO Kaye Shedlock' 24.43 345 P **P 11 06 21.4 +0.4**
baz=161
BOSC San Juan Bosco 24.51 138 P **P 11 06 23.5 +1.5**
S22A 4UR Ranch, Cre 24.61 336 IAmb IAmb 11 06 44.0
comp=Z,9.6nm,1.4s
S22A 4UR Ranch, Cre 24.61 336 P **P 11 06 23.4 +0.5**
baz=150
MVCO Mesa Verde 24.84 333 IAmb IAmb 11 06 38.2
comp=Z,8.2nm,1.1s
MVCO Mesa Verde 24.84 333 P **P 11 06 26.8 +1.8**
baz=146
WUAZ Wupatki 24.90 326 IAmb IAmb 11 06 29.6
comp=Z,14nm,0.9s
WUAZ Wupatki 24.90 326 P **P 11 06 27.1 +1.8**
baz=139,SNR=13
BLA Blacksburg 25.05 28 P **P 11 06 22.8 -3.8**
baz=214
Q24A Divide 25.11 341 P **P 11 06 28.1 +0.7**
baz=155
GLA Glamis 25.25 317 P **P 11 06 31.7 +3.2**
baz=129
SWSC Sam W. Stewart 25.83 316 P **P 11 06 36.5 +2.9**
baz=127
IKP In-Ko-Pah, Jac 25.86 315 P **P 11 06 36.6 +2.5**
baz=126
SMCO Snowmass 25.92 338 IAmb IAmb 11 06 49.4
comp=Z,7.6nm,0.9s
ISCO Idaho Springs 26.01 341 P **P 11 06 36.0 +0.4**
ISCO Idaho Springs 26.01 341 P **P 11 06 36.3 +0.7**
baz=155
BC3 Big Chuckawall 26.04 318 P **P 11 06 37.3 +1.6**
baz=128
OGNE Ogallala 26.13 347 P **P 11 06 37.1 +0.7**
baz=163
SCIA State Center 26.33 2 P **P 11 06 36.9 -1.2**
baz=183
HMU Henry Mountain 26.46 331 IAmb IAmb 11 06 44.5
comp=Z,7.5nm,0.8s
BELC Belle Mtn. Jos 26.61 318 P **P 11 06 42.9 +2.0**
baz=128
TPFO Pinon Flats 26.67 316 P **P 11 06 43.2 +1.9**
baz=127
PFO Pinyon Flats O 26.67 316 P **P 11 06 43.0 +1.5**
baz=127
PFO Pinyon Flats O 26.67 316 LR LR 11 17 44.5
comp=Z,138nm,20.6s,baz=123,slow=38
GMRC Granite Mounta 26.89 319 P **P 11 06 44.5 +1.1**
baz=130
SJG San Juan 27.43 81 LR LR 11 17 03.9
comp=Z,45nm,21.9s,baz=242,slow=35
TUQ Turquoise Moun 27.48 320 P **P 11 06 50.2 +1.6**
baz=130
ATAH Atahualpa 27.70 143 LR LR 11 15 56.1
comp=Z,59nm,19.6s,baz=307,slow=32
ECSD EROS Data Cent 28.18 357 IAmb IAmb 11 06 55.3
comp=Z,4.7nm,0.8s
ECSD EROS Data Cent 28.18 357 P **P 11 06 54.1 -0.5**
baz=176,SNR=6.0
TPNV Topopah Spring 28.68 322 P **P 11 07 01.2 +1.9**
baz=132
GRAC Grapevine Rang 29.38 321 P **P 11 07 07.2 +1.8**
baz=130
SPMN Marine on St. 29.66 3 P **P 11 07 06.9 -0.8**
baz=183
VES Vestal, Richgr 29.74 317 P **P 11 07 09.8 +1.2**
baz=126

PDAR Pinedale Array 30.01 338 P **P 11 07 11.8 +0.7**
comp=Z,0.8nm,0.9s,baz=147,slow=8.7,SNR=6.6
PDAR LR LR 11 22 16.3
comp=Z,90nm,18.8s,baz=146,slow=42
comp=Z,0.8nm,0.9s
HVU Hansel Valley 30.48 333 IAmb IAmb 11 07 17.5
comp=Z,3.8nm,0.9s
NVAR Mina Array Bea 30.88 322 P **P 11 07 20.4 +1.6**
comp=Z,1.8nm,0.8s,baz=142,slow=8.9,SNR=14
NVAR LR LR 11 21 32.5
comp=Z,180nm,18.4s,baz=95,slow=40
comp=Z,1.8nm,0.8s
ID08 Devils Gate 31.00 335 IAmb IAmb 11 07 44.2
comp=Z,3.6nm,0.8s
LOHW Long Hollow 31.12 337 IAmb IAmb 11 07 22.9
comp=Z,4.9nm,0.9s
TPAW Teton Pass 31.15 337 IAmb IAmb 11 07 33.4
comp=Z,8.5nm,1.1s
FLWY Flagg Ranch 31.56 338 IAmb IAmb 11 07 28.4
comp=Z,3.4nm,0.9s
RLMT Red Lodge 31.98 340 P **P 11 07 29.2 +0.7**
baz=152
SADO Sadowa 31.99 21 LR LR 11 22 21.4
comp=Z,39nm,19.6s,baz=142,slow=40
NNA Nana 32.54 146 LR LR 11 18 24.1
comp=Z,58nm,21.4s,baz=335,slow=32
HLID Hailey 32.63 333 IAmb IAmb 11 07 36.2
comp=Z,3.6nm,0.9s
HLID Hailey 32.63 333 P **P 11 07 35.6 +1.5**
baz=143,SNR=7.1
DLMT Dillon 33.36 337 IAmb IAmb 11 07 43.1
comp=Z,7.2nm,0.9s
J08A Circle Bar Ran 34.38 329 IAmb IAmb 11 07 51.6
comp=Z,4.5nm,0.7s
ULM Lac du Bonnet 34.66 359 P **P 11 07 50.6 -0.9**
comp=Z,4.7nm,0.9s,baz=187,slow=8.2,SNR=4.1
ULM LR LR 11 24 02.0
comp=Z,52nm,18.1s,baz=128,slow=40
comp=Z,4.7nm,0.9s
EGMT Eagleton 34.72 342 P **P 11 07 53.3 +1.0**
baz=154
YBH Yreka Blue Hor 35.59 323 LR LR 11 23 51.7
comp=Z,124nm,19.4s,baz=158,slow=38
NEW Newport 37.52 335 P **P 11 08 17.2 +1.1**
baz=143
NEW Newport 37.52 335 LR LR 11 25 57.4
comp=Z,74nm,20.4s,baz=146,slow=40
ETMB Extrema 37.80 130 P **P 11 08 18.1 -0.7**
ETMB IAmb IAmb 11 08 18.4
comp=Z,3.4nm,1.0s
MDP Montagnes des 42.56 99 LR LR 11 28 44.7
comp=Z,51nm,18.4s,baz=289,slow=39
SCHQ Schefferville 44.77 23 LR LR 11 30 43.4
comp=Z,84nm,18.8s,baz=306,slow=40
LVC Limon Verde 45.53 146 LR LR 11 27 26.5
comp=Z,40nm,18.5s,baz=352,slow=35
SIV San Ignacio 45.63 132 LR LR 11 27 55.4
comp=Z,86nm,18.9s,baz=108,slow=36
YKA Yellowknife Ar 48.99 348 LR LR 11 33 29.4
comp=Z,29nm,19.0s,baz=162,slow=40
KOTAN Kotaneelee Air 49.41 341 P **P 11 09 52.3 +0.7**
baz=141
DLBC Dease Lake 50.23 337 P **P 11 09 58.8 +0.9**
baz=133
WTLY Watson Lake, Y 50.96 339 P **P 11 10 04.0 +0.6**
baz=136
R33M Jennings River 51.24 337 P **P 11 10 06.4 +0.7**
baz=133
FRB Frobisher Bay 51.47 15 LR LR 11 33 31.9
comp=Z,42nm,18.5s,baz=342,slow=38
TGTN Hyland Airport 51.82 340 P **P 11 10 11.0 +1.2**
baz=137
P33M Teslin, Yukon 52.49 337 P **P 11 10 15.3 +0.5**
baz=131
N32M Quiet Lake 53.21 338 P **P 11 10 22.2 +2.1**
N32M Quiet Lake 53.21 338 P **P 11 10 21.1 +1.0**
baz=131
MMPY Sheldon Lake, 53.58 340 P **P 11 10 22.6 -0.2**
MMPY IAmb IAmb 11 10 25.4
comp=Z,6.1nm,1.0s
MMPY Sheldon Lake, 53.58 340 P **P 11 10 24.3 +1.5**
baz=134
FARO Faro, Yukon 54.02 339 P **P 11 10 26.7 +0.6**
baz=132
M31M Drury Creek, Y 54.37 338 P **P 11 10 29.2 +0.7**
baz=131
N30M Aishikik Lake 54.90 337 P **P 11 10 32.8 +0.4**
baz=127
BDFB Brasilia 55.53 122 P **P 11 10 37.4 -0.3**
comp=Z,2.3nm,0.3s,baz=314,slow=8.2,SNR=3.7
BDFB LR LR 11 34 11.8
comp=Z,37nm,20.8s,baz=75,slow=36
comp=Z,2.3nm,0.3s
M29M Somme Creek 56.01 337 P **P 11 10 41.4 +0.9**
baz=126,SNR=5.1
L29M L29M 56.29 338 P **P 11 10 42.8 +0.4**
baz=127
I30M Mount Dempster 57.01 340 P **P 11 10 47.5 -0.1**
baz=130
M27K Edge Creek, AK 57.27 336 P **P 11 10 47.5 -2.0**
baz=123
DAWY Dawson 57.31 338 P **P 11 10 49.8 +0.2**
baz=126
G31M Satah River 57.51 343 P **P 11 10 50.0 -0.8**
baz=133
L27K Beaver Creek, 57.63 337 P **P 11 10 51.8 -0.1**
baz=123
N25K Chitina, Valde 57.98 334 P **P 11 10 54.2 -0.2**
baz=119
INK Inuvik 58.27 344 P **P 11 10 56.1 0.0**
baz=134
INK Inuvik 58.27 344 LR LR 11 39 49.0
comp=Z,63nm,20.2s,baz=174,slow=40
H29M Whitestone 58.28 341 P **P 11 10 56.3 0.0**
baz=128
F30M Barrier River 58.41 343 P **P 11 10 57.5 +0.3**
baz=132
P23K Montague Islan 58.45 332 P **P 11 10 58.1 +0.6**
baz=116
KLU Klutina 58.48 334 P **P 11 10 58.2 +0.3**
baz=118
G29M Pine Creek 58.61 342 P **P 11 10 58.1 -0.6**
baz=129
I27K Kandik River 58.99 339 P **P 11 11 01.4 +0.1**
baz=125
PAX Paxson 59.01 336 P **P 11 11 01.8 +0.2**
baz=119
RIDG Independent Ri 59.15 337 P **P 11 11 02.7 +0.2**
baz=120
RES Resolute Bay 59.17 360 LR LR 11 38 41.8
comp=Z,36nm,19.3s,baz=2.5,slow=38
M23K Glacier View 59.38 334 P **P 11 11 03.3 -0.8**
baz=116
SEW Seward 59.42 332 P **P 11 11 05.1 +0.8**
baz=114
E29M Blow River 59.52 343 P **P 11 11 04.6 -0.3**
baz=130
K24K Donnelly Dome 59.54 336 P **P 11 11 05.3 +0.2**
baz=119
F28M Old Crow 59.62 342 P **P 11 11 06.0 +0.4**
F28M IAmb IAmb 11 11 07.0
comp=Z,3.6nm,0.8s
F28M Old Crow 59.62 342 P **P 11 11 05.4 -0.1**
baz=127
SML Sawmill 59.65 334 P **P 11 11 06.2 +0.3**
baz=116
G27K Doyon Strip 59.69 340 P **P 11 11 06.5 +0.3**
baz=125
O22K Cooper Landing 59.70 332 P **P 11 11 07.5 +1.2**
baz=114
J25K Salcha River, 59.79 337 P **P 11 11 07.3 +0.4**
baz=120
PMR Palmer 59.90 333 P **P 11 11 07.4 -0.1**
baz=115
E28M Babbage River 60.13 343 P **P 11 11 08.5 -0.5**
baz=126
WAT1 Susitna Watana 60.19 335 P **P 11 11 10.3 +0.7**
baz=116
PLCA Paso Flores 60.28 159 P **P 11 11 10.6 0.0**
comp=Z,2.1nm,0.7s,baz=317,slow=6.7,SNR=4.9
PLCA LR LR 11 31 06.6
comp=Z,28nm,21.3s,baz=303,slow=30
comp=Z,2.1nm,0.7s
HDA Harding Lake 60.28 337 P **P 11 11 10.7 +0.5**
baz=118
ILAR Eielson Array 60.44 337 P **P 11 11 11.9 +0.6**
ILAR Eielson Array 60.44 337 P **P 11 11 11.6 +0.3**
comp=Z,1.8nm,0.9s,baz=141,slow=4.7,SNR=18

ILAR			LR	LR	11 41 01.9	
	comp=Z,64nm,18.6s,baz=120,slow=40					
	comp=Z,1.8nm,0.9s					
G26K	**Porcupine Rive**	**60.47 340**	P	**P**	**11 11 11.8**	**+0.4**
	baz=123					
E27K	**Coleen River**	**60.48 342**	P	**P**	**11 11 12.4**	**+0.9**
	baz=126					
H25L	**Birch Creek**	**60.80 339**	P	**P**	**11 11 14.4**	**+0.8**
	baz=120					
COLA	**College**	**60.85 337**	P	**P**	**11 11 13.9**	**0.0**
	baz=118					
F26K	**Sheenjek River**	**60.99 341**	P	**P**	**11 11 15.4**	**+0.4**
	baz=123					
SKT	**Skwentna**	**61.10 333**	P	**P**	**11 11 16.1**	**+0.3**
	baz=113					
G25K	**Bearman Lake**	**61.15 339**	P	**P**	**11 11 16.1**	**+0.1**
	baz=120					
TRF	**Thorofare Moun**	**61.17 335**	P	**P**	**11 11 16.2**	**-0.3**
	baz=115					
H24K	**Noodor Dome**	**61.31 338**	P	**P**	**11 11 18.1**	**+0.8**
	baz=118					
F25K	**Christian Rive**	**61.42 340**	P	**P**	**11 11 18.0**	**0.0**
	baz=121					
I23K	**Minto, Yukon-K**	**61.54 337**	P	**P**	**11 11 19.4**	**+0.7**
I23K	**Minto, Yukon-K**	**61.54 337**	P	**P**	**11 11 18.6**	**-0.1**
	baz=116					
M20K	**Styx River**	**61.76 333**	P	**P**	**11 11 20.2**	**-0.2**
	baz=111					
Q17K	**Contact Creek**	**61.89 328**	P	**P**	**11 11 21.2**	**-0.2**
	baz=106					
CAST	**Castle Rocks**	**61.90 335**	P	**P**	**11 11 20.8**	**-0.4**
	baz=113					
H23K	**Yukon River**	**61.92 338**	P	**P**	**11 11 20.9**	**-0.4**
	baz=116					
MLY	**Manley**	**62.02 337**	P	**P**	**11 11 22.1**	**+0.1**
	baz=115					
M19K	**Big River Lodg**	**62.33 333**	P	**P**	**11 11 24.6**	**+0.5**
	baz=110					
G23K	**Bananza Creek**	**62.49 338**	P	**P**	**11 11 25.4**	**+0.3**
	baz=116					
D25K	**Kavik River**	**62.56 342**	P	**P**	**11 11 26.0**	**+0.4**
	baz=121					
N18K	**Kilae Creek**	**62.62 331**	P	**P**	**11 11 26.2**	**+0.2**
	baz=108					
H22K	**Ishtalitna Cre**	**62.62 337**	P	**P**	**11 11 25.8**	**-0.2**
	baz=115					
K20K	**Telida**	**62.70 334**	P	**P**	**11 11 26.8**	**+0.2**
	baz=111					
COLD	**Coldfoot**	**62.78 339**	P	**P**	**11 11 27.7**	**+0.6**
	baz=116					
O17K	**Koliganek Bris**	**62.92 330**	P	**P**	**11 11 27.9**	**-0.1**
	baz=106					
E23K	**Chandalar**	**62.97 340**	P	**P**	**11 11 28.8**	**+0.5**
	baz=118					
J20K	**Nowinta River**	**63.03 335**	P	**P**	**11 11 28.6**	**-0.1**
	baz=111					
G22K	**Bettles**	**63.11 338**	P	**P**	**11 11 29.2**	**0.0**
	baz=115					
PPT	**Papeete**	**63.30 241**	LR	LR	11 31 47.8	
	comp=Z,109nm,19.8s,baz=4.5,slow=29					
C24K	**Franklin Bluff**	**63.47 342**	P	**P**	**11 11 32.0**	**+0.5**
	baz=119					
J19K	**Poorman**	**63.57 335**	P	**P**	**11 11 31.8**	**-0.5**
	baz=110					
F22K	**John River**	**63.60 339**	P	**P**	**11 11 33.3**	**+0.9**
	baz=115					
G21K	**Allakaket**	**63.67 338**	P	**P**	**11 11 32.6**	**-0.3**
	baz=113					
D23K	**Nanushuk River**	**63.73 341**	P	**P**	**11 11 33.6**	**+0.3**
	baz=117					
H20K	**Anotleneega Mo**	**63.80 336**	P	**P**	**11 11 34.2**	**+0.4**
	baz=111					
F21K	**Alatna River**	**63.94 338**	P	**P**	**11 11 34.9**	**+0.2**
	baz=113,SNR=7.3					
C23K	**Itkillik River**	**64.11 341**	P	**P**	**11 11 35.8**	**+0.1**
	baz=117					
D22K	**Ayikyak River**	**64.35 340**	P	**P**	**11 11 37.8**	**+0.4**
	baz=115					
H19K	**Roundabout Mou**	**64.43 336**	P	**P**	**11 11 37.3**	**-0.6**
	baz=110					
N15K	**Kwethluk River**	**64.48 330**	P	**P**	**11 11 37.1**	**-1.2**
	baz=104					
L16K	**Owhat River**	**64.57 331**	P	**P**	**11 11 39.2**	**+0.3**
	baz=105					
E21K	**Killik River**	**64.60 339**	P	**P**	**11 11 37.8**	**-1.2**
	baz=113					
F20K	**Avaraart Lake**	**64.69 338**	P	**P**	**11 11 39.6**	**+0.1**
	baz=111					
G19K	**Purcell Mounta**	**64.88 337**	P	**P**	**11 11 40.8**	**0.0**
	baz=109					
H18K	**Honhosa River**	**65.07 335**	P	**P**	**11 11 40.9**	**-1.1**
	baz=108					
FALS	**False Pass**	**65.22 324**	P	**P**	**11 11 44.0**	**+0.8**
	baz=98					
E20K	**Nigu River**	**65.29 339**	P	**P**	**11 11 43.5**	**0.0**
	baz=111					
F19K	**Shaleruckik Mo**	**65.37 337**	P	**P**	**11 11 44.4**	**+0.5**
	baz=109					
D20K	**Etivluk River**	**65.60 339**	P	**P**	**11 11 45.3**	**-0.1**
	baz=111					
L14K	**Kuka Creek**	**65.98 331**	P	**P**	**11 11 49.0**	**+1.0**
	baz=102					
D19K	**Kuna River**	**66.04 339**	P	**P**	**11 11 48.0**	**-0.3**
	baz=109					
E18K	**Tukpahlearik C**	**66.60 337**	P	**P**	**11 11 52.0**	**+0.1**
	baz=106					
E17K	**Hotham Inlet**	**66.97 337**	P	**P**	**11 11 54.4**	**+0.2**
	baz=105					
C17K	**DeLong Mountai**	**67.82 338**	P	**P**	**11 11 59.2**	**-0.4**
	baz=104					
ESDC	**Sonseca Array**	**80.82 51**	P	**P**	**11 13 15.5**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=289,slow=5.6,SNR=22					
ESDC			LR	LR	11 43 38.4	
	comp=Z,33nm,21.5s,baz=318,slow=32					
	comp=Z,3.5nm,0.9s					
MDT	**Midelt**	**81.83 58**	LR	LR	11 43 05.7	
	comp=Z,19nm,20.3s,baz=316,slow=31					
NOA	**NORSAR Array B**	**84.05 28**	P	**P**	**11 13 33.0**	**+0.7**
	comp=Z,2.0nm,1.0s,baz=298,slow=5.4,SNR=2.5					
NOA			LR	LR	11 50 13.3	
	comp=Z,28nm,19.5s,baz=280,slow=35					
	comp=Z,2.0nm,1.0s					
ARCES	**ARCESS Array B**	**85.51 18**	P	**P**	**11 13 38.6**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=299,slow=4.0,SNR=1.2					
	comp=Z,2.1nm,0.8s					
HFS	**Hagfors**	**85.53 28**	LR	LR	11 50 23.4	
	comp=Z,34nm,20.3s,baz=291,slow=35					
FINES	**FINESS Array B**	**90.22 24**	LR	LR	11 54 56.4	
	comp=Z,23nm,18.2s,baz=231,slow=36					
MSVF	**Nonsavu**	**92.09 252**	LR	LR	11 46 15.9	
	comp=Z,32nm,19.1s,baz=100,slow=29					
WRA	**Warramunga Arr**	**133.22 257**	PKP	**PKPdf**	**11 20 18.3**	**0.0**
	comp=Z,0.8nm,1.0s,baz=78,slow=1.5,SNR=6.3					
CMAR	**Chiang Mai Arr**	**143.67 338**	PKhKP	PKPpre	11 20 34.2	
	comp=Z,0.3nm,0.4s,baz=338,slow=3.9,SNR=4.8					

*IDC **11** 11:06:49.3±3.1, 15°.32N×94°.50W, h0km, mb3.6/4, mbtmp3.6/5, ML4.4/2, Error ellipse: s-maj=65.1km s-min=30.5km az=6.0*
*MEX **11** 11:06:54.3±1.3, 15°.37N×94°.77W, h20km±10km, MD4.4*
*NEIC **11** 11:06:56.9±2.9, 15°.52N±0°.07×94°.82W±0°.03, h32km±9km, mb4.2/34, Md4.4/49(MEX), Error ellipse: s-maj=10.9km s-min=4.8km az=174.0*

ISC 11 11:06:53.9±0.8, 15°.40N±0°.05×94°.78W±0°.03, h35km, n92, σ2°.92/92, mb4.2/10, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.17**	**7**	*i* P	**Pn**	**11 07 10.9**	**-2.8**
NILT				*i* S	**Sn**	**11 07 24.0**	**-4.4**
CARR	**Arriaga**	**1.18**	**45**	*i* P	**Pn**	**11 07 11.2**	**-2.7**
CARR				*e*S	**Sn**	**11 07 24.6**	**-4.1**
HUIG	**Huatulco**	**1.33 286**			**Pn**	**11 07 15.1**	**-0.9**
HUIG					**Sn**	**11 07 30.3**	**-2.3**
HUIG	**Huatulco**	**1.33 286**		*i* P	**Pn**	**11 07 15.1**	**-0.9**
HUIG				*i* S	**Sn**	**11 07 30.3**	**-2.3**
PCIG		**1.53**	**79**		**Pn**	**11 07 17.3**	**-1.5**
PCIG		**1.53**	**79**	*i* P	**Pn**	**11 07 17.3**	**-1.5**
PCIG				*i* S	**Sn**	**11 07 34.8**	**-2.6**
PANG	**Puerto Angel**	**1.66 279**			**Pn**	**11 07 19.6**	**-0.8**
PANG	**Puerto Angel**	**1.66 279**		*e*P	**Pn**	**11 07 19.6**	**-0.8**
PANG				*e*S	**Sn**	**11 07 37.3**	**-3.3**
TGIG		**2.10**	**49**		**Pn**	**11 07 26.3**	**-0.3**
TGIG					**Sn**	**11 07 51.8**	**+0.3**
TGIG		**2.10**	**49**	*i* P	**Pn**	**11 07 26.3**	**-0.3**
TGIG				*e*P	**Pn**	**11 07 26.3**	**-0.3**
TGIG				*e*S	**Sn**	**11 07 51.8**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.12**	**50**		**Pn**	**11 07 27.6**	**+0.8**
TGBT					**Sn**	**11 07 50.3**	**-1.6**
TGBT	**Tuxtla Gutierr**	**2.12**	**50**	*e*P	**Pn**	**11 07 27.6**	**+0.8**
TGBT				*e*S	**Sn**	**11 07 50.3**	**-1.6**
PEIG	**Puerto Escondi**	**2.36 285**			**Pn**	**11 07 29.7**	**-0.5**
PEIG	**Puerto Escondi**	**2.36 285**		*i* P	**Pn**	**11 07 29.7**	**-0.5**
PEIG				*i* S	**Sn**	**11 07 54.4**	**-3.6**
PATR	**El Naranjo**	**2.47**	**96**	*i* P	**Pn**	**11 07 30.7**	**-1.2**
PATR				*e*S	**Sn**	**11 07 59.6**	**-1.3**
THIG		**2.47 101**		*e*P	**Pn**	**11 07 27.5**	**-4.2**
THIG				*e*S	**Sn**	**11 07 58.9**	**-1.8**
OXLC	**Oaxaca**	**2.48 312**		*e*P	Pn	11 07 33.9	+1.9
OXLC				*e*S	**Sn**	**11 08 01.4**	**+0.1**
NEUV	**Arroyo Zacate**	**2.50 337**		*e*P	**Pn**	**11 07 31.1**	**-1.0**
NEUV				*e*S	**Sn**	**11 08 01.7**	**+0.3**
OXBJ	**Oaxaca**	**2.50 312**		*e*P	**Pn**	**11 07 32.0**	**-0.2**
OXBJ				*e*S	**Sn**	**11 08 00.7**	**-0.9**
OXIG	**Oaxaca**	**2.51 312**			Pn	11 07 33.9	+1.5
OXIG					**Sn**	**11 08 01.9**	**0.0**
VHO	**Vista Hermosa**	**2.51 312**		*e*P	Pn	11 07 33.9	+1.5
VHO				*e*S	**Sn**	**11 08 01.9**	**0.0**
PAVE	**Pavencul**	**2.52**	**94**	*i* P	**Pn**	**11 07 32.9**	**+0.4**
PAVE				*e*S	**Sn**	**11 08 00.3**	**-1.8**
CHUJ	**Union Juarez**	**2.59**	**96**	*i* P	**Pn**	**11 07 32.8**	**-0.8**
CHUJ				*e*S	**Sn**	**11 08 01.9**	**-2.1**
TUIG	**Tuzandepetl**	**2.64**	**7**	*i* P	**Pn**	**11 07 33.5**	**-0.5**
TUIG				*i* S	**Sn**	**11 08 07.7**	**+2.9**
CCIG	**Comitan**	**2.69**	**71**	Pn	**Pn**	**11 07 36.3**	**+1.5**
CCIG	**Comitan**	**2.69**	**71**	*i* P	**Pn**	**11 07 35.8**	**+1.0**
CCIG				*e*S	**Sn**	**11 08 07.4**	**+1.2**
YOIG	**Yosondua**	**3.03 299**			Pn	11 07 41.3	+1.6
YOIG	**Yosondua**	**3.03 299**		*e*P	Pn	11 07 41.3	+1.6
YOIG				*e*S	**Sn**	**11 08 14.1**	**-0.8**
RTAL	**Retalhuleu**	**3.10 106**		Pn	**Pn**	**11 07 41.8**	**+1.4**
PMUV	**Sontecomapan**	**3.14 354**		*e*P	**Pn**	**11 07 38.9**	**-2.1**
PMUV				*e*S	**Sn**	**11 08 11.6**	**-5.8**
HUEH	**Huehuetenango**	**3.16**	**91**	Pn	Pn	11 07 43.4	+2.0
PNIG	**Pinotepa**	**3.37 287**			**Pn**	**11 07 44.4**	**+0.3**
PNIG	**Pinotepa**	**3.37 287**		*i* P	**Pn**	**11 07 44.4**	**+0.3**
PNIG				*e*S	**Sn**	**11 08 18.6**	**-4.3**
TOIG	**Toxpalan**	**3.46 321**			Pn	11 07 47.7	+2.3
TOIG					**Sn**	**11 08 27.4**	**+2.1**
TOIG	**Toxpalan**	**3.46 321**		*e*P	Pn	11 07 47.7	+2.3
TOIG				*e*S	**Sn**	**11 08 27.4**	**+2.1**
HLIG	**Huajuapan de L**	**3.77 310**			Pn	11 07 51.3	+1.5
HLIG					**Sn**	**11 08 32.3**	**-0.8**
HLIG	**Huajuapan de L**	**3.77 310**		*e*P	Pn	11 07 51.3	+1.5
HLIG				*e*S	**Sn**	**11 08 32.3**	**-0.8**
TPIG	**Tehuac#an**	**3.89 321**			Pn	11 07 54.5	+3.1
TPIG					**Sn**	**11 08 31.8**	**-4.1**
TPIG	**Tehuac#an**	**3.89 321**		*e*P	Pn	11 07 54.5	+3.1
TPIG				*e*S	**Sn**	**11 08 31.8**	**-4.1**
FTIG	**Fresnillo de T**	**4.07 308**			Pn	11 07 56.4	+2.6
FTIG					**Sn**	**11 08 39.4**	**-0.9**
FTIG	**Fresnillo de T**	**4.07 308**		*e*P	Pn	11 07 56.4	+2.6
FTIG				*e*S	**Sn**	**11 08 39.4**	**-0.9**
TLIG	**Tlapa**	**4.22 301**		Pn	Pn	11 07 59.6	+3.7
JAUV	**Jalcomulco**	**4.39 334**		*e*P	**Pn**	**11 07 56.9**	**-1.2**
JAUV				*e*S	**Sn**	**11 08 46.5**	**-1.6**
SCIG	**Sabancuy**	**4.93**	**44**	*e*P	**Pn**	**11 08 04.5**	**-1.1**
SCIG				*e*S	**Sn**	**11 09 01.3**	**-0.1**
ESQI	**Esquipulas**	**5.32**	**98**	Pn	Pn	11 08 14.2	+3.2
MTO3	**Montecristo**	**5.33 100**			Pn	11 08 14.3	+3.1
CXUV	**Coxquihui**	**5.45 331**		*e*P	**Pn**	**11 08 11.2**	**-1.5**
CXUV				*e*S	**Sn**	**11 09 16.0**	**+1.8**
UNM	**Universidad Na**	**5.74 314**		Pn	Pn	11 08 20.7	+3.9
TGUH	**Tegucigalpa,Un**	**7.38**	**99**	Pn	Pn	11 08 42.6	+3.2
TEIG	**Tepich**	**7.83**	**51**	Pn	**Pn**	**11 08 43.5**	**-1.8**
TEIG	**Tepich**	**7.83**	**51**	Pn	**Pn**	**11 08 43.1**	**-2.2**
	45nm,0.3s,baz=72,slow=2.5,SNR=8.5						
TEIG				Sn	**Sn**	**11 10 10.3**	**-2.4**
	86nm,0.3s,baz=117,slow=16,SNR=6.7						
CRIN	**San Cristobal**	**7.96 109**		Pn	Pn	11 08 51.2	+4.0
ORTG	**Ortega, Santa**	**10.37 118**			Pn	11 09 24.6	+4.3
DUNO	**Dulce Nombre,**	**10.48 119**		Pn	Pn	11 09 27.4	+5.6
SOCE	**Pocosol**	**11.09 116**		Pn	Pn	11 09 34.5	+4.4
833A	**Chaparral WMA,**	**13.55 342**		Pn	P	11 10 06.2	-6.1
HNDO	**Hondo**	**14.66 344**		Pn	**P**	**11 10 20.2**	**-4.4**
DRIO	**Del Rio**	**14.96 340**		Pn	**P**	**11 10 25.5**	**-2.4**
435B	**Jarrell**	**15.52 351**		Pn	**P**	**11 10 31.7**	**-2.5**
435B				IAmb	IAmb	11 10 48.6	
	comp=Z,20nm,1.1s						
JCT	**Junction City**	**15.70 344**		P	**P**	**11 10 36.6**	**+0.4**
JCT				IAmb	IAmb	11 10 48.5	
	comp=Z,8.2nm,0.7s						
BCIP	**Isla Barro Col**	**15.85 111**		Pn	**P**	**11 10 38.3**	**+0.4**
BCIP				IAmb	IAmb	11 10 40.3	
	comp=Z,21nm,1.5s						
TXAR	**Lajitas Array**	**16.11 331**		Pn	**P**	**11 10 40.4**	**-0.4**
TXAR	**Lajitas Array**	**16.11 331**		Pn	**P**	**11 10 41.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=13,SNR=8.4						
	comp=Z,1.2nm,0.8s						
BRDY	**Brady**	**16.27 347**			**P**	**11 10 41.9**	**-0.6**
BRDY				IAmb	IAmb	11 10 53.9	
	comp=Z,9.7nm,1.0s						
OZNA	**Ozona**	**16.51 340**			**P**	**11 10 44.9**	**-0.2**
OZNA				IAmb	IAmb	11 10 58.9	
	comp=Z,14nm,0.8s						
WHTX	**Lake Whitney,**	**16.69 352**		Pn	**P**	**11 10 46.2**	**-1.0**
WHTX				IAmb	IAmb	11 11 03.8	
	comp=Z,10nm,0.7s						
SGCY	**Sterling City**	**17.43 342**		P	**P**	**11 10 57.7**	**+2.3**
SGCY				IAmb	IAmb	11 11 01.5	
	comp=Z,15nm,1.2s						
ABTX	**Abilene, Hawle**	**17.71 346**		P	**P**	**11 10 59.5**	**+1.1**
FW03	**Perrin-Whitt E**	**17.81 351**		P	**P**	**11 11 00.6**	**+1.1**
FW03				IAmb	IAmb	11 11 21.7	
	comp=Z,9.9nm,0.6s						
SN01	**Snyder 1**	**18.25 343**			**Pn**	**11 11 07.5**	**+3.0**
SN01				IAmb	IAmb	11 11 09.9	
	comp=Z,6.5nm,0.8s						
APMT	**Aspermont**	**18.49 346**		P	**Pn**	**11 11 08.9**	**+1.5**
APMT				IAmb	IAmb	11 11 09.4	
	comp=Z,11nm,1.2s						
DKNS	**Dickens**	**19.02 344**		P	**Pn**	**11 11 14.6**	**+0.8**
DKNS				IAmb	IAmb	11 11 28.8	
	comp=Z,5.8nm,0.7s						
X34A	**Smith Ranch, M**	**19.31 352**			**Pn**	**11 11 18.2**	**+0.9**
OK052	**Battle Ridge R**	**20.59 355**		P	Pn	11 11 31.5	-0.7
OK052				IAmb	IAmb	11 11 51.1	
	comp=Z,19nm,1.3s						
OK033	**Mehan**	**20.65 355**			Pn	11 11 33.0	+0.1
121A	**Cookes Peak, D**	**20.75 328**		IAmb	IAmb	11 11 37.7	
	comp=Z,5.8nm,0.8s						
QUOK	**Quay**	**20.75 356**		P	Pn	11 11 32.4	-1.9
QUOK				IAmb	IAmb	11 12 01.3	
	comp=Z,7.8nm,0.7s						
OK048	**Pawnee Station**	**21.02 355**				11 11 36.6	
OK048				IAmb	IAmb	11 11 38.1	
	comp=Z,10nm,0.8s						
U32A	**Winter Ranch,**	**21.23 351**		IAmb	IAmb	11 11 41.2	
	comp=Z,12nm,0.9s						
LENM	**Lemitar**	**21.68 332**		P	**P**	**11 11 44.1**	**+2.2**
KAN05	**Bluff City Nor**	**21.79 353**		P	**P**	**11 11 44.1**	**+1.3**
ANMO	**Albuquerque**	**22.11 334**		P	**P**	**11 11 49.0**	**+2.5**
	comp=Z,1.1nm,0.8s,baz=234,slow=11,SNR=4.1						
	comp=Z,1.1nm,0.8s						
IMBA	**Imbabura, San**	**22.23 131**		P	P	11 11 53.6	+5.4
TULM	**Tulcn-Chalpat**	**22.23 129**			P	11 11 54.4	+6.1
TUC	**Tucson**	**22.26 322**		P	**P**	**11 11 51.3**	**+3.3**
WUAZ	**Wupatki**	**24.94 326**		IAmb	IAmb	11 12 19.1	
	comp=Z,4.9nm,0.9s						
NVAR	**Mina Array Bea**	**30.91 322**		P	P	11 13 10.3	+2.7
	comp=Z,0.7nm,0.8s,baz=145,slow=8.8,SNR=5.0						
	comp=Z,0.7nm,0.8s						
SNOW	**Snow King Moun**	**31.12 337**		IAmb	IAmb	11 13 12.1	
	comp=Z,3.8nm,0.8s						
PLID	**Pearl Lake**	**34.59 333**		IAmb	IAmb	11 13 41.9	
	comp=Z,2.7nm,0.8s						
F10A	**Beach Ranch, E**	**35.82 333**		IAmb	IAmb	11 14 03.4	
	comp=Z,2.9nm,0.8s						
ILAR	**Eielson Array**	**60.50 337**		P	P	11 17 01.7	+1.6
	comp=Z,0.5nm,0.9s,baz=155,slow=4.0,SNR=6.2						
	comp=Z,0.5nm,0.9s						
ESDC	**Sonseca Array**	**80.95 51**		P	**P**	**11 19 05.2**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=288,slow=5.7,SNR=6.1						
	comp=Z,1.0nm,0.9s						

ISC 11 11:43:38.9±1.2, 49°.68N±0°.04×17°.78E±0°.03, h3km±13km, n8, σ0°.65/15, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.18 302**		*e*PG	**Pg**	**11 43 42.4**	**0.0**
MORC				*e*SG	**Sg**	**11 43 44.8**	**0.0**
JAVC	**Velka Javorina**	**0.83 185**		*e*PG	**Pn**	**11 43 56.6**	**-0.9**
VRAC	**Vranov**	**0.86 245**		*e*PG	**Pb**	**11 43 56.6**	**+0.1**
VRAC				*e*SG	**Sg**	**11 44 07.4**	**+0.9**
KRUC	**Moravsky**	**1.10 236**		*e*PG	**Pb**	**11 44 00.3**	**-0.2**
KRUC				*e*SG	**Sb**	**11 44 14.9**	**-0.3**
LANS	**Liptovska Anna**	**1.23 115**		*e*PG	**Pg**	**11 44 02.8**	**+0.4**
LANS				*e*SG	**Sn**	**11 44 21.4**	**+1.4**
VYHS	**Vyhne**	**1.38 149**		*e*PG	**Pb**	**11 44 04.8**	**-0.5**
VYHS				*e*SG	**Sg**	**11 44 23.3**	**+0.2**
OJC	**Ojcow**	**1.41**	**67**	*e*Pg	**Pn**	**11 44 05.0**	**-0.4**
OJC				*e*Sg	**Sg**	**11 44 23.9**	**-0.3**
KSP	**Ksiaz**	**1.50 321**		*e*Pg	**Pb**	**11 44 07.4**	**0.0**
KSP				*e*Sg	**Sg**	**11 44 27.6**	**+0.4**

*NEIC **11** 11:46:26.5±0.7, 38°.25N±0°.01×118°.71W±0°.02, h8km, Error ellipse: s-maj=1.9km s-min=1.8km az=184.0*

REN 11 11:46:26.0±0.8, 38°.254N±0°.004×118°.71W±0°.02, h8km±6km, ML2.5/16, ML2.5/40(NEIC), Error ellipse: s-maj=1.8km s-min=0.4km az=90.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHV	**Little Huntoon**	**0.16**	**91**		Pg	11 46 30.1	+0.7
LHV					Sg	11 46 33.1	+1.3
TVH1	**TV Hill, Hawth**	**0.21 348**			Pg	11 46 31.0	+0.6
TVH1					Sg	11 46 34.3	+0.8
NV08	**Mina Array Sit**	**0.34**	**64**		Pg	11 46 33.4	+0.5
NV08					Sg	11 46 38.4	+1.0
NV09	**Mina Array Sit**	**0.35**	**58**		Pg	11 46 33.4	+0.5
NV09					Sg	11 46 38.4	+0.9
NVAR	**Mina Array Bea**	**0.36**	**61**		Pg	11 46 32.7	-0.6
LUL	**Lundy Lake**	**0.42 242**			Pg	11 46 34.9	+0.5
MGNR	**McGee Canyon**	**0.44 179**			Pg	11 46 35.2	+0.5
NV11	**Mina Array Sit**	**0.47**	**68**		Pg	11 46 35.6	+0.4
NV11					Sg	11 46 42.0	+0.6
BENR	**Benton**	**0.55 169**			Pg	11 46 36.8	+0.1
ORC	**Owens River**	**0.62 176**			Pg	11 46 38.2	+0.2
WAKR	**Walker**	**0.62 294**			Pg	11 46 38.4	+0.2
WAKR					Sg	11 46 46.9	+0.6
WAKR				IAML		11 46 48.4	
	comp=E,180nm,0.4s						
WAKR				IAML		11 46 49.0	
	comp=N,175nm,0.3s						
MCBM	**Casa Benchmark**	**0.63 194**			Pg	11 46 38.5	+0.3
OMMB	**Old Mammoth Mi**	**0.68 200**			Pg	11 46 39.4	+0.2
MDPB	**Devils Postpil**	**0.69 205**			Pg	11 46 39.3	0.0
CASR	**Casa Diablo Mo**	**0.69 169**			Pg	11 46 39.6	+0.2
YERR	**Yerington**	**0.84 331**			Pg	11 46 42.2	0.0
SCHCA	**Scheelite**	**0.89 179**			Pg	11 46 43.3	+0.1
KVN	**Kaiserville**	**0.93**	**31**		Pg	11 46 43.9	0.0
KVN					Sg	11 46 56.3	+0.3
KVN				IAML		11 47 00.3	
	comp=E,155nm,0.3s						
BHPR	**Bishop**	**0.97 169**			Pg	11 46 44.7	+0.1
DSP	**Deep Springs**	**1.06 146**			Pg	11 46 46.4	0.0
DSP					Sb	11 47 00.6	0.0
PNTR	**Pine Nut**	**1.09 320**			Pg	11 46 46.7	-0.2
PNTR				IAML		11 47 01.8	
	comp=N,140nm,0.5s						
MZP	**Montezuma Peak**	**1.19 117**			Pn	11 46 49.2	+0.1
MZP				IAML		11 47 08.0	
	comp=E,68nm,0.6s						
MZP				IAML		11 47 08.2	
	comp=N,61nm,0.5s						
TPH	**Tonopah**	**1.19**	**98**		Pg	11 46 48.7	-0.1
EMB	**Emerald Bay**	**1.31 304**			Pb	11 46 51.0	0.0
EMB				IAML		11 47 13.0	
	comp=E,85nm,0.7s						
Q09A	**Carvers**	**1.33**	**64**		Pg	11 46 51.5	-0.1
CMB	**Columbia Colle**	**1.34 261**		Pn	Pn	11 46 50.9	-0.2
CMB				IAML		11 47 08.8	
	comp=E,81nm,0.5s						
CMB				IAML		11 47 08.8	
	comp=N,90nm,0.3s						
MPK	**Martis Peak**	**1.47 316**		Pn	Pb	11 46 53.8	+0.1
MPK				IAML		11 47 16.5	
	comp=N,98nm,0.9s						
MPK				IAML		11 47 20.6	
	comp=E,83nm,1.1s						
GRAC	**Grapevine Rang**	**1.65 139**			Pn	11 46 55.9	+0.6
GRAC	**Grapevine Rang**	**1.65 139**		IAML		11 47 22.6	
	comp=E,71nm,0.5s						
GRAC				IAML		11 47 24.6	
	comp=N,53nm,0.5s						
PEAR	**Peavine Mounta**	**1.67 325**			Pb	11 46 56.4	-0.7
DONR	**Donner Summit**	**1.67 312**			Pb	11 46 57.4	+0.2
LOY	**Loyalton**	**1.84 320**			Pn	11 46 58.9	+0.9
SGV	**South Grapevin**	**1.84 133**			Pn	11 46 58.5	+0.4
BEKR	**Beckworth**	**2.06 322**			Pn	11 47 01.8	+0.7
WCT	**Wildcat Mounta

TNSS	**Tian-Shan**	**1.40 295**	P		**Pb**	**12 09 22.5**	**+0.1**
	2.4nm,0.3s						
TNSS			S		**Sg**	**12 09 41.6**	**+0.2**
	11nm,0.2s						
TNSS	**Tian-Shan**	**1.40 295**	*e*P		**Pb**	**12 09 22.4**	**+0.1**
	baz=94						
TNSS			*e*S		**Sg**	**12 09 41.0**	**-0.3**
	baz=94						
TNSS	**Tian-Shan**	**1.40 295**	*e*P		**Pb**	**12 09 22.4**	**+0.1**
	3.0nm,0.1s						
TNSS			*e*S		**Sg**	**12 09 41.0**	**-0.3**
	6.5nm,0.1s						
KTMS	**Ketmen**	**1.58 51**	P		**Pb**	**12 09 25.7**	**+0.3**
	0.9nm,0.2s						
KTMS			S		**Sg**	**12 09 46.7**	**-0.7**
	3.2nm,0.2s						
KTMS	**Ketmen**	**1.58 51**	*e*P		**Pb**	**12 09 25.7**	**+0.3**
	baz=52						
KTMS			*e*S		**Sg**	**12 09 46.6**	**-0.7**
	baz=52						
KTMS	**Ketmen**	**1.58 51**	*e*P		**Pb**	**12 09 25.7**	**+0.3**
	0.9nm,0.2s						
KTMS			*e*S		**Sg**	**12 09 46.7**	**-0.7**
	3.2nm,0.2s						
IZV	**Izvestkoviy**	**1.62 292**	P		**Pb**	**12 09 26.6**	**+0.6**
	1.2nm,0.2s						
IZV			S		**Sg**	**12 09 48.2**	**-0.3**
	12nm,0.3s						
IZV	**Izvestkoviy**	**1.62 292**	*e*P		**Pb**	**12 09 26.3**	**+0.3**
	baz=91						
IZV			*e*S		**Sg**	**12 09 47.7**	**-0.8**
	baz=91						
IZV	**Izvestkoviy**	**1.62 292**	*e*P		**Pb**	**12 09 26.3**	**+0.3**
	1.2nm,0.2s						
IZV			*e*S		**Sg**	**12 09 47.7**	**-0.8**
	16nm,0.2s						
BLB	**Baldybastay**	**1.65 355**	P		**Pg**	**12 09 27.3**	**-0.7**
	19nm,0.2s						
BLB			S		**Sg**	**12 09 49.4**	**+0.1**
	12nm,0.2s						
MTBS	**Maitube**	**1.78 293**	P		**Pb**	**12 09 29.3**	**+0.6**
	0.7nm,0.1s						
MTBS			S		**Sg**	**12 09 52.7**	**-0.9**
	7.4nm,0.2s						
MTBS	**Maitube**	**1.78 293**	*e*P		**Pb**	**12 09 29.3**	**+0.6**
	baz=92						
MTBS			*e*S		**Sg**	**12 09 52.7**	**-0.9**
	baz=92						
MTBS	**Maitube**	**1.78 293**	*e*P		**Pb**	**12 09 29.3**	**+0.6**
	0.7nm,0.1s						
MTBS			*e*S		**Sg**	**12 09 52.7**	**-0.9**
	7.4nm,0.2s						
ARXS	**Arharly**	**1.86 341**	P		**Pb**	**12 09 30.8**	**+0.7**
	5.3nm,0.2s						
ARXS			S		**Sg**	**12 09 55.9**	**-0.2**
	15nm,0.3s						
ARXS	**Arharly**	**1.86 341**	*e*P		**Pb**	**12 09 30.8**	**+0.7**
	5.3nm,0.2s						
ARXS			*e*S		**Sg**	**12 09 55.4**	**-0.7**
	15nm,0.3s						
KTBS	**Karatobe**	**1.92 311**	Pg		**Pb**	**12 09 31.9**	**+0.8**
	5.1nm,0.3s						
KTBS			Lg		Lg	12 09 57.2	
	14nm,0.3s						
KTBS	**Karatobe**	**1.92 311**	*e*P		**Pb**	**12 09 31.9**	**+0.8**
	5.1nm,0.3s						
KTBS			*e*S		**Sg**	**12 09 57.2**	**-1.0**
	14nm,0.3s						
BOOM	**Boomskoye usch**	**2.02 272**	⇑*i*P		**Pb**	**12 09 32.7**	**-0.1**
	baz=71						
BOOM			⇑*i*S		**Sb**	**12 09 59.0**	**+1.2**
	baz=71						
DJR	**Jarkent**	**2.05 23**	Pg		**Pb**	**12 09 33.9**	**+0.7**
	5.9nm,0.2s						
DJR			Lg		Lg	12 10 01.4	
	16nm,0.3s						
DJR	**Jarkent**	**2.05 23**	*e*Pg		**Pb**	**12 09 33.9**	**+0.7**
	5.9nm,0.2s						
DJR			*e*Lg		Lg	12 10 00.9	
	16nm,0.3s						
KUU	**Kurty**	**2.23 311**	Pg		**Pb**	**12 09 37.2**	**+0.9**
	1.2nm,0.1s						
KUU			Lg		Lg	12 10 06.3	
	12nm,0.3s						
KUU	**Kurty**	**2.23 311**	*e*Pg		**Pb**	**12 09 37.2**	**+0.9**
	1.2nm,0.1s						
KUU			*e*Lg		Lg	12 10 06.3	
	12nm,0.3s						
NRN	**Naryn**	**2.24 244**	⇓*i*P		**Pb**	**12 09 36.5**	**-0.1**
	baz=43						
NRN			⇓*i*S		**Sb**	**12 10 05.5**	**+1.3**
	baz=43						
DGS	**Degeres**	**2.27 291**	Pg		**Pb**	**12 09 37.9**	**+0.8**
	3.1nm,0.4s						
DGS			Lg		Lg	12 10 07.7	
	8.3nm,0.2s						
DGS	**Degeres**	**2.27 291**	*e*Pg		**Pb**	**12 09 37.9**	**+0.8**
	3.1nm,0.4s						
DGS			*e*Lg		Lg	12 10 07.7	
	8.3nm,0.2s						
TKM2	**Tokmak 2**	**2.31 283**	⇑Pg		**Pb**	**12 09 37.6**	**-0.2**
	0.4nm,0.4s						
TKM2			⇓Lg		Lg	12 10 08.4	
	3.6nm,0.4s						
TKM2	**Tokmak 2**	**2.31 283**	⇑*i*P		**Pb**	**12 09 36.9**	**-0.9**
	baz=82						
TKM2			⇑*i*S		**Sb**	**12 10 06.2**	**-0.1**
	baz=82						
KRBS	**Karabastau**	**2.52 301**	Pg		**Pb**	**12 09 41.3**	**+0.1**
	1.1nm,0.3s						
KRBS			Lg		Lg	12 10 13.5	
	13nm,0.3s						
KRBS	**Karabastau**	**2.52 301**	*e*Pg		**Pb**	**12 09 41.3**	**+0.1**
	1.1nm,0.3s						
KRBS			*e*Lg		Lg	12 10 13.5	
	13nm,0.3s						

NEIC ***11*** *12:09:33.6±1.5,20°.4S±0°.1×177°.77W±0°.09,h486km±6km, mb4.3/35,Error ellipse: s-maj=18.9km s-min=4.3km az=141.0*

IDC ***11*** *12:09:36.7±1.8,20°.33S×178°.00W,h527km±18km, mb3.5/12,mbtmp4.3/14,Error ellipse: s-maj=18.2km s-min=13.9km az=115.0*

ISC 11 12:09:37.2±0.4,20°.38S±0°.08×178°.00W±0°.10,h534km, n157,σ0°.86/163,mb4.2/34,16C-8D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.57**	**304**	P	**P**	**12 10 59.8**	**-2.9**
MSVF	**Nonsavu**	**4.57**	**304**	P	**P**	**12 11 02.2**	**-0.5**
	12nm,0.6s,baz=238,slow=23,SNR=31						
NIUE	**Niue**	**7.71**	**82**	P	P	12 11 24.0	-7.6
AFI	**Afiamalu**	**8.76**	**44**	P	P	12 11 36.5	-5.9
GLKZ	**Green Lake**	**8.85**	**180**	P	**P**	**12 11 41.1**	**-1.8**
PINNC	**Pines Island,**	**13.73**	**258**	P	**P**	**12 12 32.2**	**-1.5**
OUZ	**Omahuta**	**16.54**	**205**	P	**P**	**12 13 02.8**	**+0.6**
WCZ	**Waipu Caves**	**16.90**	**202**	P	**P**	**12 13 06.5**	**+0.9**
KUZ	**Kuaotunu**	**17.21**	**197**	P	**P**	**12 13 10.0**	**+1.6**
ETAZ	**East Tamaki Re**	**17.63**	**199**	P	**P**	**12 13 14.8**	**+2.4**
WMGZ	**Waiomatatini S**	**17.66**	**189**	P	**P**	**12 13 13.0**	**+0.5**
HAZ	**Te Kaha**	**17.70**	**191**	P	**P**	**12 13 12.9**	**0.0**
MKAZ	**Moumakai**	**17.70**	**198**	P	**P**	**12 13 13.8**	**+0.9**
WTAZ	**Waiatarua**	**17.72**	**200**	P	**P**	**12 13 15.6**	**+2.3**
PKGZ	**Pakihiroa**	**17.78**	**190**	P	**P**	**12 13 14.9**	**+1.2**
AWAZ	**Awhitu Peninsu**	**17.82**	**200**	P	**P**	**12 13 15.3**	**+1.2**
RUGZ	**Raukumara Rang**	**17.92**	**191**	P	**P**	**12 13 15.3**	**+0.1**
PUZ	**Puketiti**	**17.93**	**190**	P	**P**	**12 13 15.8**	**+0.7**
TWGZ	**Tauwhareparae**	**18.08**	**190**	P	**P**	**12 13 17.0**	**+0.6**
TOZ	**Tahuroa Road**	**18.19**	**197**	P	**P**	**12 13 19.1**	**+1.6**
MWZ	**Matawai**	**18.31**	**191**	P	**P**	**12 13 17.9**	**-0.6**
URZ	**Urewera**	**18.32**	**192**	P	**P**	**12 13 17.2**	**-1.4**
URZ	**Urewera**	**18.32**	**192**	P	**P**	**12 13 17.2**	**-1.4**
	11nm,0.3s,baz=39,slow=1.9,SNR=18						
CNGZ	**Carnagh Statio**	**18.34**	**190**	P	**P**	**12 13 20.0**	**+1.2**
TKGZ	**Te Karaka**	**18.35**	**190**	P	**P**	**12 13 19.0**	**+1.0**
RRRZ	**Republican Roa**	**18.52**	**194**	P	**P**	**12 13 21.0**	**+0.5**
MUGZ	**Murupara**	**18.60**	**193**	P	**P**	**12 13 20.2**	**-1.0**
RIGZ	**Rimuhau**	**18.63**	**190**	P	**P**	**12 13 21.9**	**+0.4**
RTZ	**Ruatahuna**	**18.69**	**192**	P	**P**	**12 13 20.1**	**-1.9**
SNGZ	**Shannon Statio**	**18.78**	**191**	P	**P**	**12 13 22.1**	**-0.7**
NMHZ	**Naumai**	**19.19**	**192**	P	**P**	**12 13 26.8**	**+0.2**
BKZ	**Black Stump Fm**	**19.32**	**193**	P	**P**	**12 13 26.4**	**-1.4**
BKZ	**Black Stump Fm**	**19.32**	**193**	P	**P**	**12 13 25.7**	**-2.1**
OTVZ	**Oturere**	**19.50**	**195**	P	**P**	**12 13 29.6**	**+0.1**
SNVZ	**South Ngauruho**	**19.53**	**195**	P	**P**	**12 13 29.1**	**-0.7**
MCHZ	**McNeill Hill**	**19.54**	**192**	P	**P**	**12 13 29.2**	**-0.5**
KWHZ	**Kaweka Forest**	**19.58**	**193**	P	**P**	**12 13 29.2**	**-1.0**
WNVZ	**Wahianoa**	**19.67**	**195**	P	**P**	**12 13 30.0**	**-1.2**
VRZ	**Vera Road**	**19.70**	**197**	P	**P**	**12 13 33.2**	**+2.0**
BHHZ	**Black Hill Sta**	**19.72**	**194**	P	**P**	**12 13 29.2**	**-2.3**
KRHZ	**Kereru**	**19.80**	**193**	P	**P**	**12 13 31.1**	**-1.0**
KAHZ	**Kahuranaki**	**19.85**	**192**	P	**P**	**12 13 33.5**	**+0.9**
PNHZ	**Pukenui**	**20.10**	**193**	P	**P**	**12 13 34.6**	**-0.2**
THZ	**Tophouse**	**22.67**	**198**	P	**P**	**12 13 56.8**	**-1.2**
CTAO	**Charters Tower**	**33.50**	**264**	P	**P**	**12 15 32.9**	**+0.3**
COEN	**Coen**	**37.58**	**273**	P	**P**	**12 16 06.4**	**-0.2**
COEN				IAmb	IAmb	12 16 34.8	
	comp=Z,16nm,1.2s						
WR0	**Warramunga Arr**	**44.43**	**262**	IAmb	IAmb	12 17 00.2	
	comp=Z,11nm,1.5s						
WR0				P	**P**	**12 17 00.6**	**-0.4**
AS31	**Alice Springs**	**44.55**	**257**	P	**P**	**12 17 02.0**	**+0.2**
ASAR	**Alice Springs**	**44.55**	**257**	P	**P**	**12 17 01.9**	**+0.1**
ASAR	**Alice Springs**	**44.55**	**257**	P	**P**	**12 17 01.8**	**0.0**
	comp=Z,6.7nm,0.7s,baz=96,slow=7.6,SNR=80						
ASAR				PcP	**PcP**	**12 18 33.7**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=108,slow=3.5,SNR=13						
	comp=Z,6.7nm,0.7s						
WB0	**Warramunga Arr**	**44.60**	**262**	P	**P**	**12 17 02.1**	**-0.1**
WB0				IAmb	IAmb	12 17 04.1	
	comp=Z,6.4nm,1.1s						
WB2	**Warramunga Arr**	**44.61**	**262**	P	**P**	**12 17 02.0**	**-0.3**
WB2				IAmb	IAmb	12 17 02.6	
	comp=Z,5.5nm,0.9s						
WRAB	**Tennant Creek**	**44.61**	**262**	P	**P**	**12 17 02.1**	**-0.2**
WRA	**Warramunga Arr**	**44.62**	**262**	P	**P**	**12 17 02.2**	**-0.1**
WRA	**Warramunga Arr**	**44.62**	**262**	P	**P**	**12 17 02.0**	**-0.4**
	comp=Z,3.1nm,0.5s,baz=97,slow=7.0,SNR=169						
WRA				PcP	**PcP**	**12 18 34.0**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=93,slow=3.6,SNR=6.4						
	comp=Z,3.1nm,0.5s						
MTN	**Manton Dam**	**49.16**	**270**	P	**P**	**12 17 36.8**	**+0.1**
MTN				IAmb	IAmb	12 17 51.6	
	comp=Z,17nm,1.1s						
KNRA	**Kununurra**	**50.67**	**266**	P	**P**	**12 17 48.1**	**+0.4**
KNRA				IAmb	IAmb	12 18 08.1	
	comp=Z,29nm,1.4s						
FAKI	**Fak Fak**	**51.47**	**283**	P	**P**	**12 17 54.4**	**+0.7**
FAKI				IAmb	IAmb	12 18 21.2	
	comp=Z,20nm,1.4s						
SOEI	**Soe**	**56.50**	**272**	P	**P**	**12 18 30.3**	**+1.1**
PSA00	**Pilbara Seismi**	**57.70**	**257**	P	**P**	**12 18 37.4**	**+0.2**
PSA00				IAmb	IAmb	12 18 37.8	
	comp=Z,6.9nm,0.8s						
MBWA	**Marble Bar**	**57.88**	**257**	P	**P**	**12 18 38.6**	**+0.1**
MBWA				IAmb	IAmb	12 18 45.5	
	comp=Z,16nm,1.4s						
CASY	**Casey**	**64.07**	**205**	P	**P**	**12 19 19.3**	**+1.0**
QSPA	**South Pole Qui**	**69.69**	**180**	P	**P**	**12 19 54.0**	**+0.9**
QSPA	**South Pole Qui**	**69.69**	**180**	P	**P**	**12 19 54.3**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=180,slow=0.6,SNR=9.1						
	comp=Z,0.5nm,0.5s						
MJAR	**Matsushiro Arr**	**70.11**	**324**	P	**P**	**12 19 54.9**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=173,slow=6.2,SNR=4.7						
	comp=Z,1.2nm,0.6s						
PEA0B	**Petropavlovsk-**	**76.16**	**345**	P	**P**	**12 20 30.4**	**+0.4**
PETK	**Petropavlovsk-**	**76.16**	**345**	P	**P**	**12 20 29.9**	**-0.2**
PETK	**Petropavlovsk-**	**76.16**	**345**	P	**P**	**12 20 30.1**	**0.0**
	comp=Z,2.4nm,0.6s,baz=109,slow=6.0,SNR=9.0						
	comp=Z,2.4nm,0.6s						
CHIR	**Chirikof Islan**	**78.24**	**13**	P	**P**	**12 20 41.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**78.86**	**326**	P	**P**	**12 20 44.8**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=108,slow=6.2,SNR=5.2						
	comp=Z,3.3nm,0.8s						
BELA	**Belgrano 2**	**79.68**	**173**	P	**P**	**12 20 49.1**	**+0.3**
YBH	**Yreka Blue Hor**	**80.19**	**39**	P	**P**	**12 20 52.8**	**+0.7**
YBH				IAmb	IAmb	12 20 54.0	
	comp=Z,5.9nm,0.9s						
HUMO	**Hull Mountain**	**80.60**	**38**	P	**P**	**12 20 54.6**	**+0.4**
HUMO				IAmb	IAmb	12 20 55.5	
	comp=Z,12nm,1.4s						
NVAR	**Mina Array Bea**	**80.94**	**43**	P	**P**	**12 20 56.5**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=225,slow=9.0,SNR=9.2						
	comp=Z,2.0nm,0.8s						
KVN	**Kaiserville**	**81.42**	**43**	P	**P**	**12 20 58.8**	**+0.1**
MAW	**Mawson**	**81.68**	**200**	P	**P**	**12 20 60.0**	**+0.7**
MAW	**Mawson**	**81.68**	**200**	P	**P**	**12 20 59.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=119,slow=10,SNR=1.2						
	comp=Z,0.5nm,0.6s						
K05A	**Summer Lake**	**81.87**	**39**	P	**P**	**12 21 01.5**	**+0.6**
K05A				IAmb	IAmb	12 21 03.1	
	comp=Z,12nm,1.2s						
J05D	**Fort Rock, OR**	**82.01**	**38**	P	**P**	**12 21 02.5**	**+0.9**
PINE	**Pine Mountain**	**82.49**	**38**	P	**P**	**12 21 04.9**	**+0.8**
PINE				IAmb	IAmb	12 21 05.9	
	comp=Z,7.1nm,0.8s						
G08A	**Pilot Rock**	**84.52**	**37**	P	**P**	**12 21 14.3**	**+0.3**
G08A				IAmb	IAmb	12 21 15.3	
	comp=Z,4.5nm,1.0s						
F10A	**Beach Ranch, E**	**85.91**	**38**	IAmb	IAmb	12 21 21.9	
	comp=Z,7.9nm,0.8s						
ELIB	**Princess Elisa**	**86.76**	**187**	*d*P	**P**	**12 21 23.8**	**-0.6**
	comp=Z,3.2nm,0.9s						
TXAR	**Lajitas Array**	**86.99**	**57**	P	**P**	**12 21 27.0**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=220,slow=6.5,SNR=21						
	comp=Z,1.8nm,0.8s						
M27K	**Edge Creek, AK**	**87.29**	**16**	P	**P**	**12 21 26.5**	**-0.4**
M27K				IAmb	IAmb	12 21 28.0	
	comp=Z,6.3nm,0.9s						
XLT	**XiLinHaoTe**	**87.85**	**319**	*e*P	**P**	**12 21 30.6**	**+0.7**
XLT				pP	pP	12 23 25.2	-1.5
XLT				sP	sP	12 24 13.7	-7.0
XLT				PP	**PP**	**12 25 08.7**	**+2.7**
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,140nm,3.7s						
H21K	**Melozitna Rive**	**87.89**	**10**	P	**P**	**12 21 29.5**	**+0.1**
H21K				IAmb	IAmb	12 21 30.6	
	comp=Z,3.4nm,0.7s						
CCB	**Clear Creek Bu**	**87.90**	**13**	P	**P**	**12 21 28.7**	**-0.7**
WHY	**Whitehorse**	**87.94**	**20**	P	**P**	**12 21 30.4**	**+0.5**
WHY				IAmb	IAmb	12 21 34.4	
	comp=Z,6.2nm,1.3s						
ILAR	**Eielson Array**	**88.20**	**13**	P	**P**	**12 21 29.7**	**-1.2**
	comp=Z,4.5nm,0.9s,baz=216,slow=5.4,SNR=45						
	comp=Z,4.5nm,0.9s						
M29M	**Somme Creek**	**88.28**	**17**	P	**P**	**12 21 31.0**	**-0.4**
M29M				IAmb	IAmb	12 21 32.2	
	comp=Z,5.4nm,0.7s						
PDAR	**Pinedale Array**	**88.87**	**43**	P	**P**	**12 21 34.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=214,slow=3.4,SNR=17						
	comp=Z,1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.08**	**290**	P	**P**	**12 21 42.1**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=124,slow=2.8,SNR=13						
	comp=Z,2.0nm,0.8s						
PZH	**PanZhiHua**	**90.65**	**298**	P	**P**	**12 21 43.3**	**0.0**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
ZALV	**Zalesovo Beam**	**110.40**	**321**	PKiKP	**PKiKP**	**12 27 07.2**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=66,slow=1.2,SNR=4.3						
MKAR	**Makanchi Array**	**111.12**	**313**	PKiKP	**PKiKP**	**12 27 08.6**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=222,slow=0.2,SNR=7.7						
KURBB	**Kurchatov Arra**	**113.96**	**317**	PKiKP	**PKiKP**	**12 27 14.1**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=99,slow=1.7,SNR=12						
BVAR	**Borovoye Array**	**118.99**	**320**	PKP	**PKPdf**	**12 27 24.2**	**-0.8**
	comp=Z,3.1nm,0.4s,baz=139,slow=1.2,SNR=16						
ARCES	**ARCESS Array B**	**128.80**	**350**	PKP	**PKPdf**	**12 27 43.2**	**-0.1**
	comp=Z,7.1nm,1.1s,baz=31,slow=2.1,SNR=12						
FINES	**FINESS Array B**	**135.66**	**344**	PKhKP	PKPpre	12 27 46.3	
	comp=Z,4.6nm,0.9s,baz=75,slow=1.6,SNR=3.5						
HFS	**Hagfors**	**139.42**	**351**	PKhKP	PKPpre	12 27 54.4	
	comp=Z,2.3nm,0.6s,baz=45,slow=2.3,SNR=8.7						
AKASG	**Malin Array Be**	**142.91**	**331**	PKhKP	PKPpre	12 28 06.3	
	comp=Z,6.5nm,0.6s,baz=42,slow=4.4,SNR=32						
EKA	**Eskdalemuir Ar**	**144.88**	**5**	PKP	**PKPdf**	**12 28 12.7**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=331,slow=2.4,SNR=8.4						
BRTR	**Keskin Array B**	**146.76**	**312**		**PKPdf**	**12 28 16.7**	**-0.3**
BRTR				PKPbc	**PKPbc**	**12 28 19.7**	**-0.1**
BRTR	**Keskin Array B**	**146.76**	**312**	PKPbc	**PKPbc**	**12 28 19.5**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=143,slow=4.5,SNR=14						
BURAR	**Bucovina Array**	**146.96**	**331**	⇑P	**PKPbc**	**12 28 20.2**	**+0.2**
BURAR	**Bucovina Array**	**146.96**	**331**		**PKPdf**	**12 28 17.8**	**+0.7**
BURAR				PKPbc	**PKPbc**	**12 28 20.8**	**+0.8**
TPGR	**Topolog**	**147.24**	**324**	⇓P	**PKPbc**	**12 28 21.3**	**+0.6**
TIRR	**Tirgusor**	**147.49**	**324**	⇑P	**PKPbc**	**12 28 21.3**	**0.0**
MMAI	**Mount Meron Ar**	**147.76**	**300**	PKPbc	**PKPbc**	**12 28 23.0**	**+0.5**
	comp=Z,5.6nm,0.5s,baz=67,slow=4.9,SNR=10						
OSTC	**Ostas**	**147.85**	**343**	⇑*e*PKP	**PKPbc**	**12 28 22.7**	**+0.6**
CHVC	**Chvalec**	**147.87**	**343**	⇑*e*PKP	**PKPbc**	**12 28 22.4**	**+0.3**
CLL	**Collm**	**147.95**	**347**	*i* PKPdf	**PKPdf**	**12 28 19.6**	**+1.2**
	comp=Z,3.0nm,0.7s						
CLL				*i* PKPbc	**PKPbc**	**12 28 22.3**	**+0.1**
	comp=Z,17nm,0.9s						
CLL				*i* PKPab	**PKPab**	**12 28 26.2**	**-0.6**
	comp=Z,7.0nm,0.8s						
DPC	**Dobruska-Polom**	**148.01**	**343**	⇑*e*PKP	**PKPbc**	**12 28 22.6**	**+0.1**
DPC				*e*PKPAB	**PKPab**	**12 28 27.6**	**+0.4**
DOPR	**Dopca**	**148.07**	**328**	⇑P	**PKPbc**	**12 28 23.5**	**+0.8**
MLR	**Muntele Rosu**	**148.12**	**327**	⇓P	**PKPbc**	**12 28 23.4**	**+0.3**
MLR	**Muntele Rosu**	**148.12**	**327**	PKPbc	**PKPbc**	**12 28 23.0**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=173,slow=4.0,SNR=5.5						
BRG	**Berggiesshubel**	**148.14**	**346**	*e*PKP	**PKPbc**	**12 28 23.6**	**+0.9**
BRG				Amp		12 28 24.7	
	comp=Z,6.4nm,0.5s						
MORC	**Moravsky Berou**	**148.16**	**341**	*e*PKP	**PKPbc**	**12 28 23.1**	**+0.2**
PVCC	**Panska Ves**	**148.31**	**345**	⇑*e*PKP	**PKPbc**	**12 28 23.4**	**+0.2**
MAUC	**Maruska**	**148.43**	**340**	⇑*e*PKP	**PKPbc**	**12 28 24.2**	**+0.6**
MARR	**Marisel-Cluj**	**148.61**	**332**	⇓P	**PKPbc**	**12 28 24.8**	**+0.5**
VOIR		**148.61**	**328**	⇑P	**PKPbc**	**12 28 24.1**	**-0.1**
PRU	**Pruhonice**	**148.82**	**344**	⇑*e*PKP	**PKPbc**	**12 28 24.0**	**-0.5**
GOPC	**GO Pecny, Ondr**	**148.82**	**344**	⇑*e*PKP	**PKPbc**	**12 28 24.8**	**+0.3**
VYHS	**Vyhne**	**148.85**	**338**	*e*PKP	**PKPbc**	**12 28 24.9**	**+0.3**
ARR	**Arges**	**148.87**	**328**	⇓P	**PKPbc**	**12 28 26.1**	**+1.3**
JAVC	**Velka Javorina**	**148.93**	**340**	*e*PKP	**PKPbc**	**12 28 26.0**	**+1.1**
KRUC	**Moravsky**	**149.15**	**341**	*e*PKP	**PKPbc**	**12 28 25.5**	**+0.2**
KRUC				*e*		12 28 31.9	
MODS	**Modra-Piesok**	**149.48**	**340**	*e*PKP	**PKPbc**	**12 28 26.9**	**+0.8**
MEM	**Membach**	**149.67**	**355**	*d*PKP	**PKPbc**	**12 28 25.4**	**-1.1**
BTNL	**Ternell**	**149.68**	**355**	*d*PKP	**PKPbc**	**12 28 26.5**	**-0.1**
GZR	**Gura Zlata**	**149.74**	**330**	⇑P	**PKPbc**	**12 28 26.6**	**-0.4**
KHC	**Kasperske Hory**	**149.85**	**345**	PKPdf	**PKPdf**	**12 28 21.2**	**-0.4**
KHC				PKPbc	**PKPbc**	**12 28 27.2**	**+0.2**
KHC				PKPab	**PKPab**	**12 28 35.4**	**+0.6**
KHC	**Kasperske Hory**	**149.85**	**345**	⇑*e*PKP	**PKPbc**	**12 28 26.9**	**-0.1**
KHC				*e*PKPAB	**PKPab**	**12 28 34.8**	**0.0**
CKRC	**Cesky Krumlov**	**149.95**	**344**	⇑*e*PKP	**PKPbc**	**12 28 27.2**	**-0.1**
BMRD	**Maredsous**	**150.06**	**356**	*d*PKP	**PKPbc**	**12 28 27.4**	**0.0**
GERES	**GERESS Array B**	**150.09**	**344**	PKPbc	**PKPbc**	**12 28 27.5**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=348,slow=3.1,SNR=7.6						
HERR	**Herculane**	**150.29**	**330**	⇑P	**PKPbc**	**12 28 27.8**	**-0.3**
CONA	**Conrad Observa**	**150.32**	**341**	*e*PKiKP	**PKPbc**	**12 28 28.4**	**+0.2**
	comp=Z,5.3nm,0.6s						
RONA	**Rosalia, Austr**	**150.38**	**340**	*e*PKP	**PKPbc**	**12 28 28.5**	**+0.2**
	comp=Z,8.0nm,0.5s						
MDVR	**Moldovita**	**150.69**	**331**	⇑P	**PKPbc**	**12 28 28.9**	**-0.2**
MOA	**Molln**	**150.85**	**343**	*i* PKP	**PKPbc**	**12 28 28.9**	**-0.5**
	comp=Z,2.6nm,0.5s						
RDO	**Rodhopi**	**151.22**	**321**		**PKPbc**	**12 28 29.9**	**-0.5**
LESA	**Schwarzleotal**	**151.66**	**345**	*e*PKP	**PKPbc**	**12 28 31.0**	**-0.3**
	comp=Z,3.3nm,0.4s						
SOKA	**Soboth**	**151.69**	**341**	*e*PKP	**PKPbc**	**12 28 30.8**	**-0.6**
	comp=Z,2.8nm,0.9s						
KBA	**Koelnbreinsper**	**151.81**	**343**	*e*PKP	**PKPbc**	**12 28 31.1**	**-0.7**
	comp=Z,2.7nm,0.5s						
DIVS	**Divibare**	**152.00**	**332**		**PKPbc**	**12 28 32.1**	**0.0**
WTTA	**Wattenberg**	**152.06**	**346**	*e*PKP	**PKPbc**	**12 28 31.9**	**-0.5**
	comp=Z,2.8nm,0.4s						
MYKA	**Terra Mystica**	**152.14**	**343**	*e*PKP	**PKPbc**	**12 28 31.5**	**-0.8**
	comp=Z,2.6nm,0.5s						
VNDS	**Vrh nad Dolski**	**152.31**	**341**	*i* PK

Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.08±.18; $M_{\theta\theta}$0.06±.13; $M_{\phi\phi}$-3.14±.11; $M_{r\theta}$0.64±.20; $M_{\phi\phi}$-0.48±.09; $M_{\phi r}$0.87±.10; Best double couple: $M_0$3.32700×10^{16} NP1:ϕ_s17.00000°,δ54.00000°,λ101.00000°. NP2: ϕ_s179.00000°,δ37.00000°,λ76.00000°. Principal axes: T 3.3000, Plg78.0000°, Azm326.0000°; N 0.0540, Plg9.0000°, Azm191.0000°; P -3.3530, Plg9.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 11 13:15:06.6±0.3,**18°32S**±0°05×**172°11W**±0°05,**h35**km, **n473,**σ1°**82/**420,**mb5.0**/55,**MS4.0**/56,**15C-1D,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.20**	**110**		**Pn**	**13 15 39.3**	**-1.4**
NIUE	**Niue**	**2.20**	**110**	P	**Pn**	**13 15 39.6**	**-1.1**
AFI	**Afiamalu**	**4.40**	**4**	Pn	**Pn**	**13 16 08.4**	**-2.6**
AFI	**Afiamalu**	**4.40**	**4**	P	**Pn**	**13 16 08.8**	**-2.1**
TAVE	**Taveuni**	**7.61**	**281**	P	**Pn**	**13 16 56.9**	**+1.9**
DGTI	**Dogotuki**	**8.04**	**283**	P	**Pn**	**13 17 02.5**	**+1.5**
MSVF	**Nonsavu**	**9.38**	**272**	Pn	**Pn**	**13 17 20.4**	**+1.1**
MSVF	**Nonsavu**	**9.38**	**272**	P	**Pn**	**13 17 21.5**	**+2.1**
MSVF	**Nonsavu**	**9.38**	**272**	Pn	**Pn**	**13 17 20.8**	**+1.5**
	1.6nm,0.3s,baz=161,slow=22,SNR=20						
MSVF				LR	LR	13 20 21.0	
	comp=Z,2μm,21.4s,baz=76,slow=35						
YSA	**Yasawairara**	**9.97**	**278**	P	**Pn**	**13 17 30.9**	**+3.5**
RAR	**Rarotonga**	**11.97**	**106**		**Pn**	**13 17 52.5**	**-2.2**
RAR	**Rarotonga**	**11.97**	**106**	Pn	**Pn**	**13 17 52.9**	**-1.8**
	27nm,0.3s,baz=246,slow=5.0,SNR=41						
RAR				Sn	Sn	13 19 57.9	-9.1
	8.1nm,0.3s,baz=131,slow=21,SNR=2.2						
RAR				LR	LR	13 21 25.2	
	comp=Z,781nm,21.5s,baz=320,slow=32						
RAO	**Raoul Island**	**12.11**	**205**	Sn	Sn	13 19 57.2	-13
	134nm,0.3s,baz=102,slow=21,SNR=6.0						
RAO				LR	LR	13 22 24.6	
	comp=Z,164nm,21.6s,baz=46,slow=37						
GLKZ	**Green Lake**	**12.12**	**205**	P	Pn	13 17 52.8	-3.9
PINNC	**Pines Island,**	**19.62**	**254**	P	**P**	**13 19 29.5**	**-2.6**
PINNC				IAmb	IAmb	13 19 44.5	
	comp=Z,103nm,1.2s						
PINNC	**Pines Island,**	**19.62**	**254**	P	**P**	**13 19 31.2**	**-0.9**
YATNC	**Mamie plateau,**	**20.05**	**256**	P	**P**	**13 19 36.8**	**-0.1**
OUENC	**Ouen Island, N**	**20.14**	**255**	P	**P**	**13 19 37.6**	**-0.3**
DZM	**Mont Dzumac**	**20.47**	**256**	*e*P	**P**	**13 19 36.2**	**-5.3**
	comp=Z,74nm,1.2s						
DZM				*e*S	S	13 23 08.7	-20
	comp=Z,453nm,24.3s						
DZM				*e*LR	LR	13 24 36.3	
	comp=Z,974nm,25.1s						
DZM	**Mont Dzumac**	**20.47**	**256**	P	**P**	**13 19 40.2**	**-1.2**
DZM	**Mont Dzumac**	**20.47**	**256**	P	**P**	**13 19 43.0**	**+1.5**
DZM	**Mont Dzumac**	**20.47**	**256**	P	**P**	**13 19 39.3**	**-2.2**
	comp=Z,18nm,0.7s,baz=76,slow=19,SNR=19						
DZM				LR	LR	13 26 33.1	
	comp=Z,440nm,20.6s,baz=71,slow=34						
	comp=Z,18nm,0.7s						
ONTNC	**Ouen Toro**	**20.48**	**255**	P	**P**	**13 19 41.4**	**-0.1**
MXZ	**Matakaoa Point**	**20.93**	**202**	P	Pn	13 19 51.5	+2.6
GRZ	**Great Barrier**	**20.96**	**209**	P	Pn	13 19 50.0	+0.6
OUZ	**Omahuta**	**21.08**	**214**	P	**P**	**13 19 47.3**	**-0.6**
	comp=Z,64nm,1.1s						
OUZ	**Omahuta**	**21.08**	**214**	P	**P**	**13 19 47.9**	**0.0**
WCZ	**Waipu Caves**	**21.25**	**212**	P	**P**	**13 19 49.5**	**-0.2**
KUZ	**Kuaotunu**	**21.25**	**208**	P	**P**	**13 19 50.7**	**+1.0**
KUZ	**Kuaotunu**	**21.25**	**208**	P	**P**	**13 19 53.8**	**+4.0**
HAZ	**Te Kaha**	**21.29**	**203**	P	**P**	**13 19 51.0**	**+0.9**
PUZ	**Puketiti**	**21.41**	**201**	P	**P**	**13 19 50.9**	**-0.4**
PAE	**Paea**	**21.44**	**92**	*e*T	T	13 41 58.6	
	comp=Z,48nm,0.3s						
PPT2	**Papeete2**	**21.45**	**92**	*e*P	P	13 19 39.8	-12
	comp=Z,128nm,29.0s						
PPT2				*e*S	**S**	**13 23 41.7**	**-6.7**
	comp=Z,475nm,26.0s						
PPT2				*e*LR	LR	13 24 43.3	
	comp=Z,862nm,25.2s						
PPT2				*e*LR	LR	13 25 03.0	
	comp=Z,1μm,23.8s						
PPT2	**Papeete2**	**21.45**	**92**	*e*T	T	13 41 58.7	
	comp=Z,29nm,0.3s						
PPT	**Papeete**	**21.45**	**92**	LR	LR	13 25 57.8	
	comp=Z,458nm,20.1s,baz=295,slow=30						
TVO	**Taravao**	**21.74**	**92**	*e*T	T	13 42 07.3	
	comp=Z,7.2nm,0.2s						
TBI	**Tubuai**	**21.74**	**107**	*e*P	P	13 19 48.0	-7.1
	comp=Z,616nm,32.2s						
TBI				*e*S	**S**	**13 23 50.7**	**-3.2**
	comp=Z,2μm,26.2s						
TBI				*e*LR	LR	13 25 07.2	
	comp=Z,15μm,23.8s						
TBI				*e*LR	LR	13 25 16.1	
	comp=Z,3μm,24.8s						
TBI	**Tubuai**	**21.74**	**107**	*e*T	T	13 42 15.4	
	comp=Z,13nm,0.3s						
URZ	**Urewera**	**21.98**	**203**	P	**P**	**13 19 58.0**	**+0.5**
URZ	**Urewera**	**21.98**	**203**	P	**P**	**13 19 56.1**	**-1.4**
URZ	**Urewera**	**21.98**	**203**	P	**P**	**13 19 56.9**	**-0.6**
	comp=Z,33nm,0.6s,baz=15,slow=2.9,SNR=14						
URZ				S	S	13 23 48.0	-10
	comp=Z,5.8nm,0.4s,baz=160,slow=22,SNR=2.2						
URZ				LR	LR	13 30 41.4	
	comp=Z,84nm,19.5s,baz=40,slow=43						
	comp=Z,33nm,0.6s						
OMRZ	**Omania**	**22.14**	**205**	P	**P**	**13 20 04.1**	**+4.9**
TOZ	**Tahuroa Road**	**22.18**	**207**	P	**P**	**13 20 03.9**	**+4.3**
PRGZ	**Paritu Road**	**22.30**	**201**	P	P	13 20 08.5	+7.5
MUGZ	**Murupara**	**22.30**	**204**	P	**P**	**13 20 04.7**	**+3.8**
RTZ	**Ruatahuna**	**22.34**	**203**	P	**P**	**13 20 01.0**	**-0.5**
RTZ				IAmb	IAmb	13 20 15.4	
	comp=Z,104nm,1.8s						
SNGZ	**Shannon Statio**	**22.36**	**202**	P	P	13 20 09.3	+7.7
KOUNC	**Koumac, New Ca**	**22.36**	**260**	P	**P**	**13 20 02.7**	**+0.9**
KNZ	**Kokohu**	**22.46**	**201**	P	P	13 20 09.1	+6.5
PRRZ	**Plateau Road**	**22.47**	**204**	P	**P**	**13 20 05.9**	**+3.1**
MHGZ	**Mahia Peninsul**	**22.50**	**201**	P	P	13 20 12.1	+9.0
ALRZ	**Allen Road**	**22.54**	**204**	P	**P**	**13 20 05.7**	**+2.2**
RAHZ	**Arahi**	**22.57**	**202**	P	**P**	**13 20 07.4**	**+3.5**
TLZ	**Tolley Road**	**22.66**	**206**	P	**P**	**13 20 09.7**	**+4.8**
NMHZ	**Naumai**	**22.83**	**203**	P	**P**	**13 20 11.5**	**+4.8**
ARHZ	**Aropaoanui**	**22.91**	**202**	P	**P**	**13 20 12.9**	**+5.5**
BKZ	**Black Stump Fm**	**23.01**	**203**	P	**P**	**13 20 08.8**	**+0.3**
BKZ	**Black Stump Fm**	**23.01**	**203**	P	**P**	**13 20 09.0**	**+0.5**
RATZ	**Rangitukua**	**23.03**	**205**	P	**P**	**13 20 11.8**	**+3.1**
HIZ	**Hauiti**	**23.11**	**207**	P	**P**	**13 20 10.3**	**+0.9**
HIZ	**Hauiti**	**23.11**	**207**	P	**P**	**13 20 12.1**	**+2.7**
MCHZ	**McNeill Hill**	**23.18**	**202**	P	**P**	**13 20 14.2**	**+4.1**
KWHZ	**Kaweka Forest**	**23.26**	**203**	P	**P**	**13 20 15.2**	**+4.2**
TMVZ	**Te Maari**	**23.27**	**205**	P	**P**	**13 20 14.5**	**+3.3**
WTVZ	**West Tongariro**	**23.31**	**205**	P	**P**	**13 20 14.6**	**+3.0**
NNVZ	**North Ngauruho**	**23.32**	**205**	P	**P**	**13 20 14.5**	**+2.8**
SNVZ	**South Ngauruho**	**23.36**	**205**	P	**P**	**13 20 14.8**	**+2.8**
NGZ	**Ngauruhoe**	**23.36**	**205**	P	**P**	**13 20 14.9**	**+2.8**
TUVZ	**Tukino**	**23.42**	**204**	P	**P**	**13 20 12.3**	**-0.4**
KAHZ	**Kahuranaki**	**23.43**	**202**	P	P	13 20 19.0	+6.4
FWVZ	**Far West T-bar**	**23.45**	**205**	P	**P**	**13 20 15.0**	**+1.9**
BHHZ	**Black Hill Sta**	**23.45**	**203**	P	**P**	**13 20 12.6**	**-0.3**
WHVZ	**Whangaehu Hut**	**23.46**	**205**	P	**P**	**13 20 15.0**	**+1.9**
KRHZ	**Kereru**	**23.47**	**203**	P	**P**	**13 20 15.1**	**+2.0**
WNVZ	**Wahianoa**	**23.49**	**204**	P	**P**	**13 20 16.0**	**+2.6**
MOVZ	**Moawhango**	**23.50**	**204**	P	**P**	**13 20 16.9**	**+3.5**
PKVZ	**Pokaka**	**23.56**	**205**	P	**P**	**13 20 16.5**	**+2.6**
PXZ	**Pawanui**	**23.64**	**201**	P	**P**	**13 20 18.8**	**+4.2**
VRZ	**Vera Road**	**23.66**	**206**	P	**P**	**13 20 17.5**	**+2.7**
PNHZ	**Pukenui**	**23.77**	**203**	P	**P**	**13 20 20.0**	**+4.0**
WPHZ	**Waipukurau**	**23.82**	**202**	P	**P**	**13 20 22.0**	**+5.6**
TSZ	**Takapari Road**	**23.99**	**203**	P	**P**	**13 20 22.8**	**+4.9**
NEZ	**North Egmont**	**24.07**	**207**	P	P	13 20 25.1	+6.4
DVHZ	**Dannevirke**	**24.12**	**202**	P	**P**	**13 20 23.9**	**+4.7**
POWZ	**Post Office Ro**	**24.35**	**203**	P	**P**	**13 20 25.9**	**+4.7**
HOWZ	**Holdsworth Sta**	**24.89**	**203**	P	**P**	**13 20 29.6**	**+3.5**
OGWZ	**Otaki Gorge**	**24.95**	**203**	P	**P**	**13 20 31.2**	**+4.6**
SNZO	**South Karori**	**25.55**	**203**	P	**P**	**13 20 29.8**	**-2.2**
HNR	**Honiara**	**28.49**	**284**	LR	LR	13 30 29.2	
	comp=Z,4μm,20.3s,baz=158,slow=33						
RPZ	**Rata Peaks**	**29.02**	**206**	LR	LR	13 33 07.6	
	comp=Z,132nm,21.2s,baz=44,slow=38						
TAOE	**Nuku Hiva Isla**	**32.41**	**77**	*e*LR	LR	13 30 01.9	
	comp=Z,855nm,25.7s						
TAOE	**Nuku Hiva Isla**	**32.41**	**77**	*e*T	T	13 55 43.4	
	comp=Z,99nm,0.2s						
EIDS	**Eidsvold**	**34.79**	**252**	P	**P**	**13 21 51.4**	**-2.7**
EIDS				IAmb	IAmb	13 22 02.8	
	comp=Z,24nm,1.5s						
ARMA	**Armidale**	**35.01**	**243**	P	**P**	**13 21 55.2**	**-0.8**
ARMA				IAmb	IAmb	13 22 36.4	
	comp=Z,74nm,1.9s						
CAN	**Canberra**	**38.33**	**236**	P	**P**	**13 22 22.9**	**-1.3**
CAN				IAmb	IAmb	13 22 23.8	
	comp=Z,25nm,1.0s						
CTA	**Charters Tower**	**39.29**	**260**	LR	LR	13 36 23.8	
	comp=Z,248nm,21.9s,baz=92,slow=33						
CTAO	**Charters Tower**	**39.29**	**260**	P	**P**	**13 22 29.6**	**-2.8**
CTAO				IAmb	IAmb	13 22 35.9	
	comp=Z,16nm,0.7s						
PMG	**Port Moresby**	**40.44**	**277**	P	**P**	**13 22 41.1**	**-0.9**
PMG				IAmb	IAmb	13 22 43.2	
	comp=Z,45nm,1.1s						
TOO	**Toolangi**	**41.66**	**234**	P	**P**	**13 22 50.0**	**-1.8**
TOO				IAmb	IAmb	13 22 51.0	
	comp=Z,19nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**42.09**	**329**	T	T	14 08 41.7	
	baz=147,slow=76,SNR=7.0						
TAU	**Tasmania Unive**	**42.09**	**225**	P	**P**	**13 22 53.8**	**-1.4**
TAU				IAmb	IAmb	13 23 54.4	
	comp=Z,56nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**42.10**	**329**	T	T	14 08 40.7	
	baz=147,slow=76,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**42.11**	**329**	T	T	14 08 42.8	
	baz=147,slow=76,SNR=7.3						
H11N3	**WAKE ISLAND Hy**	**43.04**	**330**	T	T	14 09 16.7	
	baz=150,slow=76,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**43.05**	**330**	T	T	14 09 30.2	
	baz=150,slow=76,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**43.06**	**330**	T	T	14 09 18.4	
	baz=150,slow=76,SNR=4.7						
BBOO	**Buckleboo**	**48.48**	**242**	P	**P**	**13 23 43.7**	**-2.4**
JAY	**Jayapura**	**48.80**	**283**	LR	LR	13 43 13.1	
	comp=Z,157nm,20.5s,baz=84,slow=35						
WR0	**Warramunga Arr**	**50.25**	**259**	P	**P**	**13 23 57.4**	**-2.3**
WR0				IAmb	IAmb	13 23 59.0	
	comp=Z,39nm,1.4s						
WRA	**Warramunga Arr**	**50.44**	**259**	P	**P**	**13 23 58.4**	**-2.7**
WRA	**Warramunga Arr**	**50.44**	**259**	P	**P**	**13 23 58.5**	**-2.7**
	comp=Z,16nm,0.7s,baz=98,slow=5.9,SNR=145						
WRA				PcP	**PcP**	**13 25 18.8**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=98,slow=3.1,SNR=2.8						
WRA				S	S	13 31 02.3	-10
	comp=Z,0.4nm,0.8s,baz=96,slow=13,SNR=2.7						
	comp=Z,16nm,0.7s						
AS31	**Alice Springs**	**50.44**	**254**	P	**P**	**13 23 59.5**	**-1.7**
AS31				IAmb	IAmb	13 24 00.5	
	comp=Z,7.7nm,0.8s						
ASAR	**Alice Springs**	**50.44**	**254**	P	**P**	**13 23 58.6**	**-2.6**
	comp=Z,33nm,0.8s,baz=93,slow=7.4,SNR=202						
ASAR				PcP	**PcP**	**13 25 18.7**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=96,slow=5.9,SNR=0.5						
ASAR				S	**S**	**13 31 06.6**	**-6.2**
	comp=Z,1.2nm,0.8s,baz=91,slow=15,SNR=8.2						
ASAR				LR	LR	13 44 10.9	
	comp=Z,148nm,20.4s,baz=98,slow=35						
	comp=Z,33nm,0.8s						
GUMO	**Guam**	**52.96**	**304**	LR	LR	13 43 41.0	
	comp=Z,81nm,21.3s,baz=125,slow=32						
MTN	**Manton Dam**	**54.77**	**267**	P	**P**	**13 24 30.4**	**-2.8**
MTN				IAmb	IAmb	13 24 41.7	
	comp=Z,15nm,0.8s						
KNRA	**Kununurra**	**56.40**	**263**	P	**P**	**13 24 43.3**	**-1.6**
RPN	**Rapa Nui**	**58.06**	**111**	LR	LR	13 43 06.7	
	comp=Z,170nm,18.2s,baz=268,slow=29						
SIJI	**Song**	**58.18**	**281**	LR	LR	13 49 03.7	
	comp=Z,98nm,20.1s,baz=146,slow=35						
SBA	**Scott Base**	**60.46**	**185**	P	**P**	**13 25 13.4**	**+1.0**
SBA				IAmb	IAmb	13 25 15.0	
	comp=Z,12nm,0.8s						
BATI	**Baumata**	**62.51**	**268**	LR	LR	13 54 05.9	
	comp=Z,153nm,18.0s,baz=135,slow=38						
PSA00	**Pilbara Seismi**	**63.59**	**255**	P	**P**	**13 25 32.2**	**-2.1**
PSA00	**Pilbara Seismi**	**63.59**	**255**	P	**P**	**13 25 32.6**	**-1.7**
PSA00				IAmb	IAmb	13 25 33.7	
	comp=Z,18nm,0.9s						
MBWA	**Marble Bar**	**63.77**	**255**	P	**P**	**13 25 33.2**	**-2.2**
NWAO	**Narrogin (SRO)**	**64.30**	**242**	P	**P**	**13 25 37.4**	**-1.4**
NWAO	**Narrogin (SRO)**	**64.30**	**242**	LR	LR	13 51 56.9	
	comp=Z,170nm,18.7s,baz=52,slow=35						
MORW	**Morawa**	**65.79**	**246**	P	**P**	**13 25 46.6**	**-1.9**
MORW				IAmb	IAmb	13 25 49.2	
	comp=Z,19nm,0.9s						
DAV	**Davao City (W)**	**66.43**	**286**	LR	LR	13 52 30.9	
	comp=Z,54nm,20.5s,baz=123,slow=34						
MRSI	**Marisa**	**67.38**	**278**	P	**P**	**13 25 57.0**	**-1.9**
	comp=Z,24nm,1.1s,comp=Z,699nm						
KAPI	**Kappang**	**67.69**	**272**	LR	LR	13 54 16.7	
	comp=Z,38nm,19.9s,baz=105,slow=35						
CASY	**Casey**	**68.29**	**205**	P	**P**	**13 26 02.8**	**-0.9**
CASY				IAmb	IAmb	13 26 13.5	
	comp=Z,7.0nm,1.1s						
TOLI2	**Tolitoli**	**68.69**	**279**	P	**P**	**13 26 06.2**	**-0.9**
MPSI	**Mapaga**	**69.26**	**278**	P	**P**	**13 26 09.6**	**-1.1**
	comp=Z,28nm,0.8s,comp=Z,366nm						
TWSI	**Taliwang, Sumb**	**69.34**	**267**	P	**P**	**13 26 09.0**	**-2.2**
QSPA	**South Pole Qui**	**71.74**	**180**	P	**P**	**13 26 24.9**	**-0.2**
QSPA	**South Pole Qui**	**71.74**	**180**	P	**P**	**13 26 25.2**	**+0.1**
	comp=Z,17nm,0.8s,baz=4.0,slow=0.5,SNR=147						
QSPA				LR	LR	13 54 09.3	
	comp=Z,47nm,18.9s,baz=56,slow=33						
	comp=Z,17nm,0.8s						
MJAR	**Matsushiro Arr**	**71.95**	**320**	P	**P**	**13 26 26.2**	**-0.4**
	comp=Z,4.3nm,1.0s,baz=162,slow=5.5,SNR=7.0						
MJAR				LR	LR	13 52 46.9	
	comp=Z,75nm,21.6s,baz=122,slow=32						
	comp=Z,4.3nm,1.0s						
JAGI	**Jajag, Banyuwa**	**72.01**	**267**	P	**P**	**13 26 25.9**	**-1.5**
JOW	**Kunigami**	**73.20**	**306**	LR	LR	13 53 04.8	
	comp=Z,93nm,19.6s,baz=170,slow=31						
VES	**Vestal, Richgr**	**73.61**	**43**	P	**P**	**13 26 37.9**	**+1.4**
	baz=232						
IKP	**In-Ko-Pah, Jac**	**73.72**	**47**	P	**P**	**13 26 39.7**	**+2.4**
	baz=235						
EDW2	**Edwards Air Fo**	**73.75**	**44**	P	**P**	**13 26 39.1**	**+1.8**
	baz=233						
ISA	**Isabella, Lake**	**73.90**	**43**	P	**P**	**13 26 39.7**	**+1.5**
	baz=233						
PFO	**Pinyon Flats O**	**74.03**	**46**	P	**P**	**13 26 41.3**	**+2.2**
	baz=234						
PFO	**Pinyon Flats O**	**74.03**	**46**	LR	LR	13 51 01.2	
	comp=Z,112nm,19.9s,baz=242,slow=29						
BELC	**Belle Mtn. Jos**	**74.57**	**46**	P	**P**	**13 26 44.1**	**+1.8**
	baz=235						
CWC	**Cottonwood Cre**	**74.62**	**43**	P	**P**	**13 26 43.9**	**+1.4**
	baz=233						
ASAJ	**Asahikawa**	**74.66**	**328**	LR	LR	13 54 27.8	
	comp=Z,58nm,20.5s,baz=160,slow=32						
JNU	**Nakatsue**	**74.68**	**313**	LR	LR	13 53 05.5	
	comp=Z,58nm,21.2s,baz=106,slow=31						
BC3	**Big Chuckawall**	**74.74**	**46**	P	**P**	**13 26 43.1**	**-0.1**
	baz=235						
MPMC	**Manual Prospec**	**74.78**	**43**	P	**P**	**13 26 45.0**	**+1.5**
	baz=233						
GSC	**Goldstone, Bar**	**74.78**	**44**	P	**P**	**13 26 44.6**	**+1.2**
	baz=234						
GLA	**Glamis**	**74.83**	**47**	P	**P**	**13 26 46.3**	**+2.6**
	baz=236						
YBH	**Yreka Blue Hor**	**75.20**	**36**	LR	LR	13 52 14.5	
	comp=Z,135nm,19.9s,baz=220,slow=30						
IRM	**Iron Mountain**	**75.24**	**46**	P	**P**	**13 26 48.1**	**+2.1**
	baz=235						
GMRC	**Granite Mounta**	**75.25**	**45**	P	**P**	**13 26 47.5**	**+1.3**
	baz=235						
GRAC	**Grapevine Rang**	**75.42**	**42**	P	**P**	**13 26 49.2**	**+2.2**
	baz=233						
TUQ	**Turquoise Moun**	**75.44**	**45**	P	**P**	**13 26 48.6**	**+1.3**
	baz=234						
214A	**Organ Pipe Nat**	**75.66**	**49**	P	**P**	**13 26 50.3**	**+1.8**
	baz=237						
NVAR	**Mina Array Bea**	**75.69**	**41**	P	**P**	**13 26 50.5**	**+1.8**
NVAR	**Mina Array Bea**	**75.69**	**41**	P	**P**	**13 26 50.9**	**+2.1**
	comp=Z,3.2nm,0.8s,baz=228,slow=9.9,SNR=19						
	comp=Z,3.2nm,0.8s						
PETK	**Petropavlovsk-**	**75.77**	**342**	P	**P**	**13 26 49.2**	**+0.6**
	comp=Z,6.6nm,0.8s,baz=124,slow=10.0,SNR=4.6						
PETK				LR	LR	13 54 11.0	
	comp=Z,31nm,20.3s,baz=152,slow=31						
	comp=Z,6.6nm,0.8s						
PDMCI	**Parker Dam,Lak**	**76.01**	**46**	P	**P**	**13 26 52.5**	**+2.1**
	baz=236						
TPNV	**Topopah Spring**	**76.11**	**43**	P	**P**	**13 26 52.8**	**+1.7**
	baz=234						
TUC	**Tucson**	**77.30**	**50**	P	**P**	**13 27 00.2**	**+2.4**
	baz=239						
R11B	**Troy Canyon, C**	**77.35**	**42**	P	**P**	**13 26 58.9**	**+0.8**
	baz=234						
KDAK	**Kodiak Island**	**77.54**	**11**	LR	LR	14 00 10.9	
	comp=Z,75nm,18.2s,baz=210,slow=35						
O14K	**Tigyukauivet M**	**77.80**	**6**	P	**P**	**13 27 02.3**	**+2.4**
	baz=190						
CCUT	**Cedar City**	**78.34**	**44**	P	**P**	**13 27 04.9**	**+1.2**
KNB	**Kanab**	**78.40**	**45**	P	**P**	**13 27 05.7**	**+1.7**
KNB				IAmb	IAmb	13 27 07.9	
	comp=Z,15nm,1.5s						
PSUT	**Pine Spring**	**78.57**	**43**	P	**P**	**13 27 05.9**	**+1.0**
WUAZ	**Wupatki**	**78.57**	**47**	P	**P**	**13 27 05.9**	**+1.0**
	baz=238						
LEM	**Lembang**	**78.68**	**267**	LR	LR	14 01 17.7	
	comp=Z,42nm,21.7s,baz=148,slow=35						
ELK	**Elko**	**78.97**	**40**	P	**P**	**13 27 08.1**	**+1.0**
KSRS	**Korea Array**	**79.09**	**315**	P	**P**	**13 27 08.9**	**+1.4**
	comp=Z,5.0nm,1.0s,baz=126,slow=5.5,SNR=8.1						
KSRS				LR	LR	13 55 54.7	
	comp=Z,34nm,21.8s,baz=75,slow=31						
	comp=Z,5.0nm,1.0s						
KSAR	**Wonju Array Be**	**79.11**	**315**	P	**P**	**13 27 07.9**	**+0.3**
N17K	**Nushagak Hills**	**79.49**	**7**	P	**P**	**13 27 12.4**	**+3.2**
	baz=194						
121A	**Cookes Peak, D**	**79.61**	**51**	P	**P**	**13 27 11.8**	**+1.1**
	baz=240						
121A	**Cookes Peak, D**	**79.61**	**51**	P	**P**	**13 27 13.9**	**+3.3**
	baz=240						
O20K	**Slope Mountain**	**79.71**	**10**	P	**P**	**13 27 13.6**	**+3.1**
	baz=199						
M16K	**Timber Creek**	**79.77**	**6**	P	**P**	**13 27 12.3**	**+1.6**
	baz=193						
BBB	**Bella Bella**	**79.95**	**26**	LR	LR	13 58 43.6	
	comp=Z,82nm,18.1s,baz=186,slow=33						
DUG	**Dugway, Tooele**	**80.17**	**42**	P	**P**	**13 27 13.4**	**-0.1**
DUG	**Dugway, Tooele**	**80.17**	**42**	P	**P**	**13 27 14.2**	**+0.7**
	baz=236						
BMO	**Blue Mountains**	**80.22**	**36**	P	**P**	**13 27 14.1**	**+0.5**
USRK	**Ussuriysk Ar.**	**80.44**	**323**	LR	LR	13 57 19.2	
	comp=Z,63nm,21.5s,baz=155,slow=32						
D08A	**Wollman Farm,**	**80.73**	**34**	P	**P**	**13 27 17.3**	**+1.2**
D08A				IAmb	IAmb	13 27 19.0	
	comp=Z,40nm,2.0s						
K15K	**Wolf Creek Mou**	**80.78**	**5**	P	**P**	**13 27 18.4**	**+2.3**
	baz=190						
Y22A	**Socorro**	**80.89**	**50**	P	**P**	**13 27 20.3**	**+2.7**
	baz=241						
MNTX	**Cornudas Mount**	**80.99**	**52**	P	**P**	**13 27 20.1**	**+2.1**
	baz=242						
MNTX	**Cornudas Mount**	**80.99**	**52**	P	**P**	**13 27 20.9**	**+2.9**
	baz=242						
PMSA	**Palmer Station**	**81.02**	**156**	LR	LR	13 54 53.2	
	comp=Z,93nm,20.0s,baz=254,slow=30						
L18K	**Granite Mounta**	**81.20**	**7**	P	**P**	**13 27 20.2**	**+1.9**
	baz=195						
PWL	**Port Wells**	**81.20**	**12**	P	**P**	**13 27 19.3**	**+1.0**
	baz=203						
TX31	**Lajitas Ar. Si**	**81.23**	**55**	P	**P**	**13 27 22.5**	**+3.1**
	baz=243						
TXAR	**Lajitas Array**	**81.23**	**55**	P	**P**	**13 27 21.9**	**+2.6**
	comp=Z,3.6nm,1.0s,baz=224,slow=6.9,SNR=19						
TXAR				LR	LR	13 54 59.1	
	comp=Z,80nm,21.1s,baz=250,slow=29						
	comp=Z,3.6nm,1.0s						
GLI	**Glacier Island**	**81.45**	**12**	P	**P**	**13 27 20.9**	**+1.2**
	baz=204						
KNK	**Knik Glacier**	**81.69**	**11**	P	**P**	**13 27 22.6**	**+1.7**
	baz=203						
M22K	**Willow**	**81.71**	**10**	P	**P**	**13 27 22.0**	**+1.1**
	baz=201						
ANMO	**Albuquerque**	**81.75**	**49**	P	**P**	**13 27 22.8**	**+0.7**
ANMO	**Albuquerque**	**81.75**	**49**	P	**P**	**13 27 24.0**	**+1.9**
	baz=241						
ANMO	**Albuquerque**	**81.75**	**49**	P	**P**	**13 27 24.7**	**+2.6**

BW06 Boulder Array 83.62 41 P P 13 27 32.8 +1.1
BW06 IAmb IAmb 13 27 34.1
comp=Z,5.6nm,0.8s
BW06 Boulder Array 83.62 41 P P 13 27 32.6 +0.9
baz=238
KLR Kul'dur 83.62 327 LR LR 13 58 51.9
comp=Z,47nm,21.6s,baz=146,slow=32
PD31 Pinedale Array 83.62 41 P P 13 27 33.2 +1.5
PD31 IAmb IAmb 13 27 34.1
comp=Z,5.1nm,0.8s
PDAR Pinedale Array 83.62 41 P P 13 27 32.8 +1.1
PDAR Pinedale Array 83.62 41 P P 13 27 33.1 +1.4
comp=Z,5.5nm,0.9s,baz=213,slow=3.3,SNR=36
PDAR LR LR 13 58 06.8
comp=Z,81nm,20.6s,baz=256,slow=31
comp=Z,5.5nm,0.9s
HYT Haines Junctio 83.64 16 P P 13 27 32.8 +1.6
baz=213
Q32M Nakina River 83.64 20 P P 13 27 33.0 +1.6
baz=218
M26K Nabesna, AK 83.68 13 P P 13 27 32.9 +1.5
baz=208
PAX Paxson 83.68 12 P P 13 27 31.6 +0.3
baz=205
P32M Atlin 83.70 19 P P 13 27 32.0 +0.6
baz=216
YUK3 Moose Creek 83.71 15 P P 13 27 32.6 +1.0
baz=210
CHMT Chamberlain Mo 83.72 36 P P 13 27 32.8 +0.7
MCK McKinley 83.75 10 P P 13 27 32.4 +0.7
baz=202
SDCO Great Sand Dun 83.77 47 P P 13 27 33.9 +1.3
baz=241
SDCO Great Sand Dun 83.77 47 P P 13 27 35.1 +2.4
baz=241
BPAW Bear Paw Mtn. 83.77 9 P P 13 27 32.6 +0.9
baz=200
YUK4 Talbot Arm 83.78 16 P P 13 27 32.8 +0.8
baz=212
H17A Grant Village 83.87 39 P P 13 27 34.8 +1.8
baz=237
M27K Edge Creek, AK 83.89 14 P P 13 27 33.9 +1.4
baz=209
BOZ Bozeman (W) 83.91 38 P P 13 27 34.4 +1.4
baz=236
DLBC Dease Lake 83.97 21 P P 13 27 34.3 +1.4
baz=220
O30N Mendenhall 83.98 17 P P 13 27 34.3 +1.5
baz=214
MSTX Muleshoe 83.98 51 P P 13 27 35.7 +2.0
baz=243
L26K Log Cabin Wild 84.16 13 P P 13 27 35.1 +1.4
baz=207
833A Chaparral WMA, 84.18 58 P P 13 27 35.5 +0.9
baz=246
WHY Whitehorse 84.23 17 P P 13 27 33.5 -0.8
baz=215
N30M Aishikik Lake 84.28 16 P P 13 27 35.5 +1.1
baz=213
K24K Donnelly Dome 84.38 11 P P 13 27 36.1 +1.2
baz=205
R33M Jennings River 84.40 20 P P 13 27 36.1 +0.9
baz=219
H19K Roundabout Mou 84.43 6 P P 13 27 36.7 +1.7
baz=195
P33M Teslin, Yukon 84.47 19 P P 13 27 36.1 +0.7
baz=217
RIDG Independent Ri 84.50 12 P P 13 27 36.8 +1.3
baz=206
L27K Beaver Creek, 84.52 13 P P 13 27 36.4 +0.8
baz=209
BCAR Beaver Creek A 84.53 13 P P 13 27 36.7 +1.0
H20K Anotleneega Mo 84.58 7 P P 13 27 37.2 +1.5
baz=196
N31M Braeburn, Yuko 84.66 17 P P 13 27 38.1 +1.8
baz=214
ISCO Idaho Springs 84.68 45 P P 13 27 40.1 +2.8
baz=241
MLY Manley 84.69 9 P P 13 27 36.2 -0.2
baz=200
HDA Harding Lake 84.72 11 P P 13 27 37.0 +0.5
baz=204
HNDO Hondo 84.77 57 P P 13 27 39.0 +1.5
HNDO IAmb IAmb 13 27 41.5
comp=Z,14nm,1.0s
M29M Somme Creek 84.77 15 P P 13 27 37.3 +0.3
baz=212
SCRK Sand Creek 84.88 12 P P 13 27 37.7 +0.2
baz=207
H21K Melozitna Rive 84.99 8 P P 13 27 38.8 +0.9
baz=198
COLA College 84.99 10 P P 13 27 38.9 +1.1
baz=203
I23K Minto, Yukon-K 85.00 9 P P 13 27 38.5 +0.6
baz=202
ILAR Eielson Array 85.06 11 P P 13 27 38.4 +0.2
ILAR Eielson Array 85.06 11 P P 13 27 38.6 +0.4
comp=Z,2.6nm,0.9s,baz=226,slow=5.1,SNR=15
ILAR LR LR 14 03 50.5
comp=Z,48nm,18.1s,baz=175,slow=34
comp=Z,2.6nm,0.9s
N32M Quiet Lake 85.14 18 P P 13 27 40.7 +1.9
baz=217
IMAR Indian Mountai 85.18 7 P P 13 27 40.0 +1.2
J25K Salcha River, 85.19 11 P P 13 27 39.6 +0.6
baz=205
AMTX Amarillo 85.20 51 P P 13 27 40.9 +1.2
baz=244
POKR Poker Plat Res 85.29 10 P P 13 27 39.5 +0.2
baz=203
M30M Minto, Yukon 85.30 16 P P 13 27 40.7 +1.2
M30M IAmb IAmb 13 27 41.8
comp=Z,11nm,1.2s
M30M Minto, Yukon 85.30 16 P P 13 27 40.2 +0.7
baz=213
K27K Chicken 85.32 13 P P 13 27 40.5 +1.0
baz=208
H22K Ishtalitna Cre 85.41 8 P P 13 27 40.3 +0.3
baz=200
L29M L29M 85.42 15 P P 13 27 41.9 +1.8
baz=212
MAW Mawson 85.43 198 P P 13 27 39.8 -0.4
MAW Mawson 85.43 198 P P 13 27 40.0 -0.2
comp=Z,7.0nm,0.9s,baz=118,slow=5.5,SNR=15
MAW LR LR 14 02 49.9
comp=Z,30nm,21.4s,baz=140,slow=34
comp=Z,7.0nm,0.9s
J26L Joseph Creek 85.44 12 P P 13 27 41.7 +1.5
baz=207
F19K Shaleruckik Mo 85.57 6 P P 13 27 42.0 +1.3
baz=194
M31M Drury Creek, Y 85.62 17 P P 13 27 42.0 +0.9
baz=216
SEY Seymchan 85.64 345 P P 13 27 41.6 +0.5
comp=Z,3.7nm,0.9s,baz=106,slow=7.8,SNR=6.1
SEY LR LR 14 01 01.0
comp=Z,60nm,20.0s,baz=158,slow=32
comp=Z,3.7nm,0.9s
APMT Aspermont 85.69 53 P P 13 27 42.6 +0.4
APMT IAmb IAmb 13 27 45.3
comp=Z,18nm,1.1s
BRDY Brady 85.71 55 P P 13 27 43.7 +1.5
BRDY IAmb IAmb 13 27 45.4
comp=Z,8.8nm,1.2s
G21K Allakaket 85.72 7 P P 13 27 42.6 +1.1
baz=198
ABTX Abilene, Hawle 85.77 54 P P 13 27 44.5 +2.0
baz=245
ABTX Abilene, Hawle 85.77 54 P P 13 27 44.7 +2.2
baz=245
H24K Noodor Dome 85.88 10 P P 13 27 43.7 +1.3
baz=203
FARO Faro, Yukon 85.93 17 P P 13 27 43.9 +0.9
baz=217
DAWY Dawson 85.94 14 P P 13 27 43.9 +1.3
baz=211
F20K Avaraart Lake 85.98 6 P P 13 27 44.0 +1.3
baz=196
PRP Porcupine Dome 85.98 11 P P 13 27 43.5 +0.6
PRP Porcupine Dome 85.98 11 P P 13 27 43.7 +0.7
baz=205
K29M Barlow Dome 86.18 15 P P 13 27 45.7 +1.7
baz=213
E19K Redstone River 86.23 6 P P 13 27 45.6 +1.6
baz=194
I26K Coal Creek Min 86.24 12 P P 13 27 45.2 +1.2
baz=207
G23K Bananza Creek 86.37 9 P P 13 27 45.9 +1.2
baz=201
PLCA Paso Flores 86.65 132 LR LR 13 58 39.3
comp=Z,84nm,18.5s,baz=226,slow=30
I27K Kandik River 86.80 12 P P 13 27 48.3 +1.4
baz=209
MMPY Sheldon Lake, 86.83 18 P P 13 27 48.3 +1.2
baz=218
I28M Miner Creek 87.01 13 P P 13 27 48.8 +0.8
baz=210
J30M Hart River 87.08 15 P P 13 27 49.7 +1.3
baz=214
E20K Nigu River 87.11 6 P P 13 27 50.0 +1.7
baz=195
FW03 Perrin-Whitt E 87.15 54 P P 13 27 49.5 +0.2
FW03 IAmb IAmb 13 27 52.8
comp=Z,24nm,0.9s
KOTAN Kotaneelee Air 87.29 22 P P 13 27 50.1 +0.8
baz=225
H27K Steamboat Moun 87.37 12 P P 13 27 50.3 +0.7
baz=209
F24K Squaw Lake 87.43 9 P P 13 27 50.8 +0.9
baz=203
E22K Anaktuvuk Pass 87.47 7 P P 13 27 51.0 +1.0
baz=199
D20K Etivluk River 87.51 6 P P 13 27 50.0 -0.2
baz=195
E21K Killik River 87.52 7 P P 13 27 50.9 +0.6
baz=197
G26K Porcupine Rive 87.59 11 P P 13 27 52.1 +1.5
baz=207
I30M Mount Dempster 87.61 14 P P 13 27 52.0 +1.1
baz=214
C19K Lookout Ridge 87.65 4 P P 13 27 51.8 +1.0
baz=192
E23K Chandalar 87.69 8 P P 13 27 52.2 +1.1
baz=201
RSSD Black Hills 87.78 42 P P 13 27 52.9 +0.6
RSSD Black Hills 87.78 42 P P 13 27 53.4 +1.1
baz=242
F25K Christian Rive 87.85 10 P P 13 27 53.7 +1.8
baz=205
G27K Doyon Strip 87.86 12 P P 13 27 52.8 +0.9
baz=209
E24K Your Creek 87.86 9 P P 13 27 53.0 +1.1
baz=202
BMAR Burnt Mountain 87.88 10 P P 13 27 54.3 +2.3
H29M Whitestone 88.01 13 P P 13 27 53.7 +1.1
baz=212
TOLK Toolik Lake Re 88.24 8 P P 13 27 53.7 0.0
baz=201
HNS HongShan 88.28 310 ⇑P P 13 27 56.1 +1.6
HNS pmax pmax
comp=Z,11nm,0.8s
E25K Arctic Village 88.34 10 P P 13 27 56.2 +2.0
baz=205
BJI Beijing 88.36 313 P P 13 27 56.4 +1.6
BJI pmax pmax
comp=Z,5.0nm,1.4s
D23K Nanushuk River 88.40 8 P P 13 27 55.7 +1.3
baz=200
EPYK Eagle Plains 88.50 14 P P 13 27 55.8 +0.9
baz=213
G29M Pine Creek 88.67 13 P P 13 27 56.6 +0.9
baz=212
F28M Old Crow 88.90 12 P P 13 27 57.5 +0.7
baz=210
E27K Coleen River 89.08 11 P P 13 27 58.5 +0.9
baz=209
G30M tAoh Zraii Nji 89.12 13 P P 13 27 58.2 +0.3
baz=214
ELIB Princess Elisa 89.35 185 dP P 13 27 58.7 -0.6
comp=Z,11nm,1.4s
C24K Franklin Bluff 89.36 8 P P 13 28 00.0 +1.2
baz=202
G31M Satah River 89.51 14 P P 13 28 00.7 +1.1
baz=216
E28M Babbage River 89.82 11 P P 13 28 01.3 +0.2
baz=211
TROLL Troll, Antarti 89.83 178 ⇑P P 13 28 01.3 -0.2
comp=Z,674nm,0.7s
VNA3 Neumayer Olymp 89.85 174 ⇑P P 13 28 00.4 -1.0
comp=Z,10nm,0.6s
RPSI Rantau Prapat 89.85 273 P P 13 28 02.0 -0.5
RPSI IAmb IAmb 13 28 03.4
comp=Z,14nm,1.1s
SNAA Sanae 89.94 177 P P 13 28 01.4 -0.5
SNAA IAmb IAmb 13 28 02.5
comp=Z,14nm,1.0s
SNAA Sanae 89.94 177 ⇑P P 13 28 01.4 -0.5
comp=Z,205nm,0.8s
SNAA Sanae 89.94 177 P P 13 28 01.3 -0.6
comp=Z,11nm,0.9s,baz=207,slow=6.2,SNR=36
SNAA LR LR 14 02 23.2
comp=Z,56nm,21.4s,baz=190,slow=32
comp=Z,11nm,0.9s
F31M Tsiigehtchic 90.05 14 P P 13 28 03.6 +1.5
baz=216
XLT XiLinHaoTe 90.08 317 eP P 13 28 03.8 +0.8
XLT pP PcP 13 28 07.3 +3.1
XLT sP pP 13 28 10.6 -1.8
XLT PP **PP 13 31 34.5 -2.4**
XLT pmax pmax
comp=Z,9.0nm,1.1s
XLT pmax pmax
comp=Z,84nm,4.5s
VNA2 Neumayer--Watz 90.36 175 ⇑P P 13 28 03.9 +0.1
comp=Z,21nm,0.6s,baz=199,slow=4.0
GYA Guiyang 90.49 298 eP P 13 28 07.1 +1.8
GYA pmax pmax
comp=Z,16nm,1.0s
JTS Las Juntas de 90.52 79 LR LR 13 59 08.3
comp=Z,115nm,19.5s,baz=228,slow=29
VNA1 Neumayer--Stat 90.55 175 ⇑P P 13 28 04.6 0.0
comp=Z,16nm,0.8s
TEIG Tepich 90.66 69 LR LR 14 00 53.5
comp=Z,722nm,21.7s,baz=0.0,slow=30
INK Inuvik 90.80 13 P P 13 28 06.5 +0.9
baz=216
INK Inuvik 90.80 13 LR LR 14 06 41.6
comp=Z,81nm,18.0s,baz=175,slow=34
NNA Nana 91.20 103 LR LR 14 01 09.2
comp=Z,50nm,19.4s,baz=284,slow=30
ATAH Atahualpa 91.29 98 LR LR 14 00 59.7
comp=Z,118nm,18.8s,baz=245,slow=30
CFA Coronel Fontan 91.80 124 LR LR 14 00 24.4
comp=Z,93nm,20.2s,baz=242,slow=30
HHC Hu-ho-hao-te 91.90 312 eP P 13 28 12.4 +0.9
HHC pmax pmax
comp=Z,30nm,0.5s
HHC pmax pmax
comp=Z,160nm,4.6s
YKA Yellowknife Ar 92.28 23 LR LR 14 05 22.5
comp=Z,37nm,18.3s,baz=214,slow=33
U40A Yellville 92.38 53 P P 13 28 14.4 +0.7
baz=249
U40A P **P 13 28 14.4 +0.7**
baz=249
ECSD EROS Data Cent 92.45 45 P P 13 28 14.4 +0.5
baz=247
BTO Baotou 92.90 312 eP P 13 28 18.2 +2.1
BTO pP **pP 13 28 22.9 -2.6**
BTO PP **PP 13 32 03.3 +4.1**
BTO S **S 13 39 25.9 +6.3**
BTO pmax pmax
comp=Z,13nm,0.6s
BTO pmax pmax
comp=Z,170nm,4.8s
BTO LR LR
comp=Z,150nm,9.8s
R40A Maddies Statio 93.50 51 P P 13 28 19.7 +0.9
CCM Cathedral Cave 94.17 51 P P 13 28 21.8 -0.1
baz=250
CD2 Chengdu 94.37 301 eP P 13 28 23.5 +0.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LVC Limon Verde 94.65 115 LR LR 14 01 03.8
comp=Z,83nm,21.3s,baz=234,slow=29
PZH PanZhiHua 94.67 296 P P 13 28 26.1 +1.4
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.7s
CMAR Chiang Mai Arr 94.69 288 P P 13 28 24.9 +0.1
CMAR Chiang Mai Arr 94.69 288 P P 13 28 26.1 +1.3
comp=Z,1.0nm,0.3s,baz=105,slow=3.2,SNR=14
CMAR LR LR 14 06 11.0
comp=Z,36nm,21.9s,baz=135,slow=32
comp=Z,1.0nm,0.3s
ULM Lac du Bonnet 95.42 39 LR LR 14 06 32.6
comp=Z,130nm,19.6s,baz=294,slow=32
A36M Sachs Harbour 95.44 13 P P 13 28 27.1 +0.2
baz=224
SONM Songino Array 97.83 318 LR LR 14 07 05.9
comp=Z,54nm,21.9s,baz=132,slow=32
L44A Lake County Fo 97.91 48 P P 13 28 37.8 -1.1
baz=252
ROSC El Rosal 98.89 88 LR LR 14 04 07.1
comp=Z,35nm,19.2s,baz=84,slow=30
TKL Tuckaleechee C 99.14 56 LR LR 14 07 23.2
comp=Z,77nm,20.4s,baz=240,slow=32
MKAR Makanchi Array 113.73 314 PKiKP PKiKP 13 33 41.0 -0.5
comp=Z,0.9nm,0.5s,baz=142,slow=0.7,SNR=8.4
KURBB Kurchatov Arra 116.19 318 PKP PKPdf 13 33 45.4 -0.6
comp=Z,1.2nm,0.3s,baz=81,slow=1.8,SNR=9.4
SPITS Spitsbergen Ar 119.96 358 PKP PKPdf 13 33 52.6 0.0
comp=Z,2.3nm,0.7s,baz=55,slow=5.5,SNR=1.4
BVAR Borovoye Array 120.93 321 PKP PKPdf 13 33 55.0 -0.1
comp=Z,3.9nm,0.6s,baz=80,slow=0.7,SNR=16
ARCES ARCESS Array B 127.65 352 PKP PKPdf 13 34 08.0 +0.5
comp=Z,3.7nm,0.8s,baz=320,slow=3.6,SNR=5.3
GEYT Alibeck 132.21 305 PKP PKPdf 13 34 18.1 +1.0
comp=Z,2.5nm,0.6s,baz=239,slow=4.7,SNR=4.5
FINES FINESS Array B 135.04 348 PKP PKPdf 13 34 22.1 +0.5
comp=Z,1.5nm,0.6s,baz=7.1,slow=7.7,SNR=5.0
NACGM Naroch 140.72 343 *e*PKP PKPdf 13 34 23.8 -8.6
comp=Z,16nm,0.8s,baz=29
AKASG Malin Array Be 143.49 337 PKhKP PKPpre 13 34 33.9
comp=Z,1.3nm,0.5s,baz=36,slow=4.2,SNR=8.8
KMBO Kilima Mbogo 145.25 239 PKPbc PKPbc 13 34 42.1 +0.5
comp=Z,14nm,0.9s,baz=86,slow=3.4,SNR=25
RETH Rethem/Aller, 145.63 358 *e*PKPbc **PKPdf 13 34 42.2 +1.3**
baz=4.8,slow=2.8
FLTG Flechtingen 145.96 356 *e*PKPbc **PKPdf 13 34 42.9 +1.4**
baz=4.8,slow=2.8
IBBN Ibbenburen 146.08 0 *e*PKPbc **PKPbc 13 34 43.8 +1.1**
baz=4.8,slow=2.8
ASSE Asse, Remlinge 146.19 357 *e*PKPbc **PKPbc 13 34 44.1 +1.1**
baz=4.8,slow=2.8
CLZ Clausthal 146.49 357 *e*PKPbc **PKPbc 13 34 45.2 +1.1**
baz=4.8,slow=2.8
OJC Ojcow 146.78 346 *e*PKP **PKPdf 13 34 44.1 +1.0**
CLL Collm 146.84 354 *e*PKPbc **PKPbc 13 34 45.8 +0.8**
baz=4.8,slow=2.8
CLL Collm 146.84 354 *i*PKPbc **PKPbc 13 34 45.9 +0.9**
comp=Z,84nm,1.8s
CLL *e*PKPab **PKPab 13 34 48.0 +1.7**
comp=Z,17nm,1.0s
KSP Ksiaz 146.87 350 *e*PKP **PKPbc 13 34 46.4 +1.3**
OSTC Ostas 147.16 350⇑ *e*PKP **PKPbc 13 34 47.6 +1.7**
STHS Stebnicka Huta 147.16 344 *e*PKP **PKPbc 13 34 47.2 +1.2**
BRG Berggiesshubel 147.16 353 *e*PKP **PKPbc 13 34 47.5 +1.6**
BRG Amp 13 34 48.2
comp=Z,13nm,0.8s
BRG Berggiesshubel 147.16 353 *e*PKPbc **PKPbc 13 34 47.5 +1.6**
baz=4.8,slow=2.8
FBE Freiberg 147.18 354 *e*PKPbc **PKPbc 13 34 47.3 +1.3**
baz=4.8,slow=2.8
KASTN Kahler Asten 147.19 359 *e*PKPbc **PKPbc 13 34 47.1 +1.1**
baz=4.8,slow=2.8
DPC Dobruska-Polom 147.34 350⇑ *e*PKP **PKPbc 13 34 47.9 +1.4**
PVCC Panska Ves 147.43 352⇑ *e*PKP **PKPbc 13 34 48.3 +1.7**
HSKC Hora Svate Kat 147.48 353⇑ *e*PKP **PKPbc 13 34 48.2 +1.3**
MOX Moxa 147.61 356 *e*PKPbc **PKPbc 13 34 48.0 +0.8**
baz=4.8,slow=2.8
MORC Moravsky Berou 147.67 348 *e*PKP **PKPbc 13 34 48.2 +0.8**
PLN Plauen 147.73 355 *e*PKPbc **PKPbc 13 34 48.4 +0.9**
baz=4.8,slow=2.8
WERD Werda 147.75 355 *e*PKPbc **PKPbc 13 34 48.7 +1.1**
baz=4.8,slow=2.8
TANN Tannenbergstha 147.77 355 *e*PKPbc **PKPbc 13 34 48.8 +1.1**
baz=4.8,slow=2.8
GUNZ Gunzen 147.83 355 *e*PKPbc **PKPbc 13 34 49.0 +1.2**
baz=4.8,slow=2.8
WERN Wernitzgruen 147.91 355 *e*PKPbc **PKPbc 13 34 49.2 +1.2**
baz=4.8,slow=2.8
NKC Novy Kostel 147.95 354⇑ *e*PKP **PKPbc 13 34 50.1 +2.0**
PRU Pruhonice 147.96 352⇑ *e*PKP **PKPbc 13 34 49.5 +1.4**
GOPC GO Pecny, Ondr 148.00 352⇑ *e*PKP **PKPbc 13 34 49.1 +0.8**
MAUC Maruska 148.01 348⇑ *e*PKP **PKPbc 13 34 49.6 +1.3**
MANZ Manzenberg 148.23 355 *e*PKPbc **PKPbc 13 34 49.9 +1.0**
baz=4.8,slow=2.8
VRAC Vranov 148.30 349 *e*PKP **PKPbc 13 34 50.0 +0.9**
ROTZ Rotzenmuhle 148.44 355 *e*PKPbc **PKPbc 13 34 50.5 +1.1**
baz=4.8,slow=2.8
JAVC Velka Javorina 148.52 348 *e*PKP **PKiKP 13 34 51.8 +0.5**
KRUC Moravsky 148.57 349 *e*PKP **PKPbc 13 34 50.4 +0.6**
VYHS Vyhne 148.61 346 *e*PKP **PKPbc 13 34 51.2 +1.3**
VYHS *e* 13 34 55.0
WLF Walferdange 148.70 2 *e*PKPbc **PKPbc 13 34 51.8 +1.8**
baz=4.8,slow=2.8
KHC Kasperske Hory 148.92 353⇑ *e*PKP **PKPbc 13 34 51.8 +1.1**
KHC *e*PKPAB **PKPab 13 34 56.0 +1.3**
MODS Modra-Piesok 149.06 348 *e*PKP **PKPbc 13 34 52.5 +1.4**
BRTR Keskin Array B 149.18 319 PKPbc PKPbc 13 34 52.1 +0.3
comp=Z,9.2nm,0.7s,baz=130,slow=2.5,SNR=42
GEC2 GERESS Array S 149.19 352 *e*PKPbc **PKPbc 13 34 52.2 +0.8**
baz=4.8,slow=2.8
GERES GERESS Array B 149.19 352 PKPbc PKPbc 13 34 52.2 +0.8
comp=Z,3.9nm,0.7s,baz=28,slow=3.2,SNR=10.0
ZST Bratislava 149.27 348 *e*PKP **PKiKP 13 34 53.3 +0.6**
CONA Conrad Observa 149.76 349 *i*PKiKP **PKPbc 13 34 54.1 +1.2**
comp=Z,5.8nm,0.7s,SNR=10.0
RONA Rosalia, Austr 149.90 349 *i*PKiKP **PKPbc 13 34 54.4 +1.2**
comp=Z,8.5nm,0.7s,SNR=6.2
BFO Black Forest 150.06 359 *e*PKPbc **PKPbc 13 34 54.7 +1.1**
baz=4.8,slow=2.8
MOA Molln 150.09 351 *e*PKiKP **PKPbc 13 34 54.5 +0.9**
comp=Z,2.8nm,0.5s
FUR Furstenfeldbru 150.10 355 *e*PKPbc **PKPbc 13 34 54.7 +1.1**
baz=4.8,slow=2.8
RJOB Jochberg 150.39 353 *e*PKPbc **PKPbc 13 34 55.3 +0.9**
baz=4.8,slow=2.8
LESA Schwarzleotal 150.71 353 *e*PKiKP **PKPbc 13 34 55.9 +0.7**
WATA Walderalm 150.90 355 *e*PKP **PKPbc 13 34 56.2 +0.4**
comp=Z,5.3nm,0.4s
MOTA Moosalm 150.93 355 *i*PKP **PKPbc 13 34 55.9 +0.1**
comp=Z,1.7nm,0.3s,SNR=5.5
KBA Koelnbreinsper 150.97 352 *e*PKP **PKPbc 13 34 55.9 0.0**
WTTA Wattenberg 150.97 355 *i*PKiKP **PKPbc 13 34 56.8 +0.9**
comp=Z,16nm,0.5s,SNR=11
SQTA Sankt Quirin 151.05 355 *e*PKiKP **PKPbc 13 34 57.0 +1.0**
comp=Z,2.8nm,0.4s
DAVA Damuels 151.06 357 *e*PKiKP **PKiKP 13 34 57.7 +1.0**
comp=Z,0.9nm,0.2s
SOKA Soboth 151.11 350 *i*PKP **PKPbc 13 34 56.3 +0.1**
comp=Z,3.6nm,0.7s,SNR=7.0
FETA Feichten 151.28 356 *e*PKiKP **PKPbc 13 34 57.5 +0.9**
comp=Z,7.6nm,0.9s
MMAI Mount Meron Ar 151.32 306 PKPbc PKPbc 13 34 57.8 +0.7
comp=Z,4.2nm,0.7s,baz=72,slow=6.2,SNR=6.7
MMAI PKPab **PKPab 13 35 06.5 +1.3**
comp=Z,10nm,0.9s,baz=38,slow=5.6,SNR=9.0
MYKA Terra Mystica 151.37 352 *e*PKP **PKPbc 13 34 56.6 -0.1**
ABTA Abfaltersbach 151.39 353 *i*PKP **PKPbc 13 34 57.2 +0.4**
comp=Z,15nm,0.6s,SNR=8.1
DOBS Dobrina 151.55 349 *i*PKPdf **PKPdf 13 34 51.8 +0.9**
DOBS *i*PKPbc **PKPbc 13 34 57.4 +0.3**
LJU Ljubljana 151.81 350 *i*PKPbc **PKPbc 13 34 58.2 +0.6**
CEY Cerknica 152.12 350 *i*PKPdf **PKPdf 13 34 52.7 +0.9**
CEY *i*PKPbc **PKPbc 13 34 58.9 +0.5**
TORD Torodi Ar. Bea 172.13 130 PKP PKPdf 13 35 11.7 -1.0
comp=Z,0.9nm,0.9s,baz=198,slow=0.5,SNR=6.0
TORD PKPab **PKPab 13 36 37.3 +1.3**
comp=Z,0.6nm,0.6s,baz=240,slow=5.2,SNR=2.7

NEIC ***11*** *13:28:44.2±1.6, 18°.88N±0°.02×155°.26W±0°.02, h10km±2km, Error ellipse: s-maj=4.4km s-min=3.0km az=316.0*

HVO 11 13:28:45.5±1.6, 18°.90N±0°.03×155°.36W±0°.02, h12km±5km, ML2.8/19, ML3.1/42(NEIC), Error ellipse: s-maj=4.1km s-min=2.2km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Time ISC	Res ISC
HTC	**Hot Caves**	**0.34**	**355**		Pg	13 28 52.1 -0.2
HLP	**Hilina Pali**	**0.40**	**8**		Pg	13 28 53.0 -0.5
HLP	**Hilina Pali**	**0.40**	**8**		Sg	13 28 59.2 +0.4
KHU	**Kahuku**	**0.42**	**325**		Sg	13 28 59.4 -0.2
KHU	**Kahuku**	**0.42**	**325**	Pg	Pg	13 28 53.8 -0.1
KHU	**Kahuku**	**0.42**	**325**	IAML		13 28 59.8
	comp=E,2μm,0.4s					
KHU				IAML		13 29 08.2
	comp=N,2μm,0.6s					

AIN	**Ainahou**	**0.48**	**349**		Pg	13 28 54.5	-0.5
AIN				IAML		13 29 05.9	
comp=E,2μm,0.3s							
AIN	**Ainahou**	**0.48**	**349**		Sg	13 29 01.5	+0.1
PUH	**Pauahi**	**0.49**	**16**		Pg	13 28 54.6	-0.7
PUH				IAML		13 29 10.7	
comp=E,1μm,0.6s							
SDHHI	**Sand Hill**	**0.49**	**8**		Pg	13 28 54.4	-0.9
SDHHI	**Sand Hill**	**0.49**	**8**	IAML		13 29 12.1	
comp=N,2μm,0.5s							
RIM	**Rim**	**0.50**	**10**		Pg	13 28 54.6	-0.8
RIM	**Rim**	**0.50**	**10**	IAML		13 29 07.2	
comp=E,2μm,0.9s							
RIM				IAML		13 29 09.8	
comp=N,2μm,0.6s							
KKO	**Keanakako`i**	**0.50**	**11**		Pg	13 28 53.8	-1.7
KKO				IAML		13 29 08.5	
comp=E,1μm,0.5s							
WRMHI	**West Rim**	**0.51**	**7**		Pg	13 28 54.6	-0.9
WRMHI	**West Rim**	**0.51**	**7**	IAML		13 29 11.5	
comp=N,2μm,0.7s							
KNHH	**Kane Nui o Ham**	**0.51**	**21**		Pg	13 28 54.6	-1.0
BYL	**Byron's Ledge**	**0.52**	**11**		Pg	13 28 54.8	-1.0
BYL	**Byron's Ledge**	**0.52**	**11**	IAML		13 29 09.7	
comp=E,1μm,0.5s							
BYL				IAML		13 29 09.8	
comp=N,2μm,0.5s							
UWE	**Uwekahuna**	**0.52**	**7**		Pg	13 28 54.7	-1.1
UWB	**Uwekahuna B**	**0.53**	**9**		Pg	13 28 55.0	-0.9
HATHI	**Halema`uma`u T**	**0.53**	**11**		Pg	13 28 54.8	-1.2
HATHI	**Halema`uma`u T**	**0.53**	**11**	IAML		13 29 08.1	
comp=E,2μm,0.6s							
HATHI				IAML		13 29 12.9	
comp=N,1μm,0.7s							
SBLHI	**Steaming Bluff**	**0.53**	**10**		Pg	13 28 54.9	-1.1
SBLHI	**Steaming Bluff**	**0.53**	**10**	IAML		13 29 11.7	
comp=E,1μm,0.6s							
SBLHI				IAML		13 29 13.3	
comp=N,1μm,0.6s							
RSD	**Rainshed**	**0.57**	**8**		Pg	13 28 55.0	-1.6
MLH	**Mauna Loa**	**0.59**	**358**		Pg	13 28 55.8	-1.4
MLH				IAML		13 29 10.1	
comp=E,1μm,0.4s							
MLH				IAML		13 29 12.9	
comp=N,1μm,0.4s							
MWH	**Moku`aweowe**	**0.62**	**339**		Pg	13 28 56.3	-1.5
MWH				IAML		13 29 14.8	
comp=E,1μm,0.8s							
MWH				IAML		13 29 19.4	
comp=N,977nm,0.6s							
JOKA	**Jonika Flow**	**0.63**	**33**		Pg	13 28 56.1	-1.7
MLOA	**Mauna Loa Obse**	**0.66**	**342**		Pg	13 28 56.8	-1.8
MLOA	**Mauna Loa Obse**	**0.66**	**342**		Sg	13 29 05.2	-2.2
ALEP	**Alea Permanent**	**0.69**	**337**		Pg	13 28 57.2	-1.9
ALEP					Sg	13 29 05.9	-2.3
HMH	**Humu`ula Sheep**	**0.71**	**351**		Pg	13 28 57.3	-2.0
HMH				IAML		13 29 16.4	
comp=N,598nm,0.5s							
CPH	**Captain Cook**	**0.79**	**318**		Pg	13 28 59.3	-1.4
KHLU	**Kahalu`u**	**0.85**	**324**		Pg	13 29 00.5	-1.6
KHLU				IAML		13 29 20.6	
comp=E,650nm,0.6s							
KHLU				IAML		13 29 22.9	
comp=N,531nm,0.7s							
HUH	**Hualalai**	**0.90**	**330**		Pg	13 29 01.2	-1.7
HPAH	**Hawaii Prepara**	**1.17**	**344**		Pb	13 29 03.6	-4.1
HPAH					Sb	13 29 16.9	-5.9

*SOME **11** 13:39:55.4, 42°.18N×78°.83E, h15km*
*KRNET **11** 13:39:55.4±0.1, 42°.16N×78°.84E, h17km, mb3.0*
*NNC **11** 13:39:56.1±0.9, 42°.21N×78°.82E, h0km, mb3.5, mpv3.4,*
Error ellipse: s-maj=7.0km s-min=2.7km az=162.0

ISC 11 13:39:54.8±1.6, 42°.16N±0°.06×78°.82E±0°.03, h3km±11km, n50, σ1§56/75, 29C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.45**	**316**	⇑*i*P	**Pg**	**13 40 04.3**	**+0.9**
PRZ	baz=16			⇑*i*S	**Sg**	**13 40 11.2**	**+1.9**
ANVS	**Anan'yevo**	**1.05**	**307**	⇓*i*P	**Pb**	**13 40 15.6**	**-0.2**
ANVS	baz=6.0			⇓*i*S	**Sn**	**13 40 30.3**	**-1.7**
PDGK	**Podgornoye**	**1.27**	**23**	P	**Pn**	**13 40 18.5**	**-1.0**
PDGK	2.0nm,0.2s			S	**Sg**	**13 40 36.1**	**+0.5**
PDGK	**Podgornoye**	**1.27**	**23**	⇑P	**Pb**	**13 40 18.8**	**-0.6**
PDGK	2.6nm,0.3s			⇑S	**Sg**	**13 40 36.1**	**+0.5**
TNSS	**Tian-Shan**	**1.63**	**303**	P	**Pb**	**13 40 25.8**	**0.0**
TNSS	5.3nm,0.2s			S	**Sg**	**13 40 48.0**	**+0.7**
TNSS	**Tian-Shan**	**1.63**	**303**	*e*P	**Pb**	**13 40 25.8**	**0.0**
TNSS	baz=3.0			*e*S	**Sg**	**13 40 48.0**	**+0.7**
TNSS	**Tian-Shan**	**1.63**	**303**	*e*P	**Pb**	**13 40 25.8**	**0.0**
TNSS	5.3nm,0.2s			*e*S	**Sg**	**13 40 48.0**	**+0.7**
KOTS	**Kotyrbulak**	**1.65**	**311**	P	**Pb**	**13 40 26.1**	**+0.1**
KOTS	12nm,0.3s			S	**Sg**	**13 40 48.1**	**+0.3**
KOTS	**Kotyrbulak**	**1.65**	**311**	*e*P	**Pb**	**13 40 26.1**	**+0.1**
KOTS	baz=11			*e*S	**Sg**	**13 40 48.2**	**+0.3**
KOTS	**Kotyrbulak**	**1.65**	**311**	*e*P	**Pb**	**13 40 26.1**	**+0.1**
KOTS	12nm,0.3s			*e*S	**Sg**	**13 40 48.1**	**+0.3**
KTMS	**Ketmen**	**1.71**	**41**	P	**Pb**	**13 40 26.9**	**-0.1**
KTMS	4.7nm,0.2s			S	**Sg**	**13 40 49.3**	**-0.4**
KTMS	**Ketmen**	**1.71**	**41**	*e*P	**Pb**	**13 40 26.9**	**-0.1**
KTMS	baz=40			*e*S	**Sg**	**13 40 49.4**	**-0.4**
KTMS	**Ketmen**	**1.71**	**41**	*e*P	**Pb**	**13 40 26.9**	**-0.1**
KTMS	4.7nm,0.2s			*e*S	**Sg**	**13 40 49.3**	**-0.4**
KNDC	**Almaty**	**1.73**	**308**	⇓Pg	**Pg**	**13 40 28.2**	**+0.4**
KNDC	14nm,0.3s			⇑Lg	Lg	13 40 51.3	
IZV	**Izvestkoviy**	**1.85**	**299**	P	**Pb**	**13 40 29.7**	**+0.3**
IZV	5.8nm,0.2s			S	**Sg**	**13 40 54.0**	**-0.2**
IZV	**Izvestkoviy**	**1.85**	**299**	*e*P	**Pb**	**13 40 29.7**	**+0.3**
IZV	baz=99			*e*S	**Sg**	**13 40 54.0**	**-0.2**
IZV	**Izvestkoviy**	**1.85**	**299**	*e*P	**Pb**	**13 40 29.6**	**+0.3**
IZV	5.8nm,0.2s			*e*S	**Sg**	**13 40 54.0**	**-0.2**
ULHL	**Ulahol**	**1.92**	**273**	⇑*i*P	**Pb**	**13 40 30.5**	**0.0**
ULHL	baz=73			⇑*i*S	**Sg**	**13 40 56.6**	**+0.3**
BLB	**Baldybastay**	**1.95**	**353**	Pg	**Pb**	**13 40 31.4**	**+0.3**
BLB	123nm,0.2s			Lg	Lg	13 40 58.4	
MTBS	**Maitube**	**2.01**	**300**	Pg	**Pb**	**13 40 32.3**	**+0.3**
MTBS	5.3nm,0.2s			Lg	Lg	13 40 58.9	
MTBS	**Maitube**	**2.01**	**300**	*e*P	**Pb**	**13 40 32.3**	**+0.3**
MTBS	baz=99			*e*S	**Sg**	**13 40 58.9**	**-0.5**
MTBS	**Maitube**	**2.01**	**300**	*e*Pg	**Pb**	**13 40 32.3**	**+0.3**
MTBS	5.3nm,0.2s			*e*Lg	Lg	13 40 58.9	
	44nm,0.2s						

BOOM	**Boomskoye usch**	**2.16**	**280**	⇑*e*P	**Pb**	**13 40 34.0**	**-0.6**
BOOM	baz=80			⇑*i*S	**Sb**	**13 41 02.4**	**+0.6**
ARXS	**Arharly**	**2.17**	**341**	Pg	**Pb**	**13 40 35.2**	**+0.4**
ARXS	40nm,0.3s			Lg	Lg	13 41 04.7	
ARXS	**Arharly**	**2.17**	**341**	*e*Pg	**Pb**	**13 40 35.2**	**+0.4**
ARXS	40nm,0.3s			*e*Lg	Lg	13 41 04.2	
KTBS	**Karatobe**	**2.20**	**315**	Pg	**Pb**	**13 40 36.1**	**+0.8**
KTBS	54nm,0.3s			Lg	Lg	13 41 05.6	
KTBS	**Karatobe**	**2.20**	**315**	*e*Pg	**Pb**	**13 40 35.6**	**+0.3**
KTBS	54nm,0.3s			*e*Lg	Lg	13 41 04.2	
NRN	**Naryn**	**2.23**	**252**	⇑*e*P	**Pb**	**13 40 35.4**	**-0.5**
NRN	baz=52			⇑*i*S	**Sb**	**13 41 04.8**	**+0.8**
DJR	**Jarkent**	**2.28**	**18**	Pg	**Pb**	**13 40 36.8**	**+0.1**
DJR	8.9nm,0.2s			Lg	Lg	13 41 06.5	
DJR	**Jarkent**	**2.28**	**18**	*e*Pg	**Pb**	**13 40 36.8**	**+0.1**
DJR	8.9nm,0.2s			*e*Lg	Lg	13 41 06.5	
DGS	**Degeres**	**2.49**	**297**	Pg	**Pb**	**13 40 41.0**	**+0.7**
DGS	9.9nm,0.4s			Lg	Lg	13 41 13.3	
DGS	**Degeres**	**2.49**	**297**	*e*Pg	**Pb**	**13 40 41.0**	**+0.7**
DGS	9.9nm,0.4s			*e*Lg	Lg	13 41 13.3	
TKM2	**Tokmak 2**	**2.50**	**289**	⇑Pg	**Pb**	**13 40 41.0**	**+0.6**
TKM2	2.6nm,0.3s			⇑Lg	Lg	13 41 14.0	
TKM2	**Tokmak 2**	**2.50**	**289**	⇑*i*P	**Pb**	**13 40 38.7**	**-1.7**
TKM2	baz=89			⇑*i*S	**Sb**	**13 41 10.7**	**-1.0**
KUU	**Kurty**	**2.51**	**314**	Pg	**Pb**	**13 40 40.3**	**-0.2**
KUU	10.0nm,0.2s			Lg	Lg	13 41 13.6	
KUU	**Kurty**	**2.51**	**314**	*e*Pg	**Pb**	**13 40 41.0**	**+0.5**
KUU	10.0nm,0.2s			*e*Lg	Lg	13 41 13.7	
KRBS	**Karabastau**	**2.77**	**305**	Pg	**Pb**	**13 40 44.6**	**-0.4**
KRBS	12nm,0.2s			Lg	Lg	13 41 20.4	
KRBS	**Karabastau**	**2.77**	**305**	*e*Pg	**Pb**	**13 40 45.3**	**+0.3**
KRBS	12nm,0.2s			*e*Lg	Lg	13 41 21.0	
KBK	**Karagaybulak**	**2.91**	**281**	⇑*e*P	**Pb**	**13 40 44.6**	**-2.8**
KBK	baz=81			⇑*i*S	**Sb**	**13 41 20.5**	**-2.9**
CHMS	**Chumysh**	**3.12**	**287**	⇓Pg	**Pg**	**13 40 54.9**	**+0.4**
CHMS	2.8nm,0.6s			⇑Lg	Lg	13 41 31.0	
CHMS	**Chumysh**	**3.12**	**287**	⇑*i*P	**Pb**	**13 40 47.4**	**-3.5**
CHMS	baz=87			⇑*i*S	**Sb**	**13 41 25.4**	**-3.9**
AAK	**Ala-Archa**	**3.24**	**280**	⇑*e*P	**Pn**	**13 40 49.1**	**+2.5**
AAK	baz=80			⇑*i*S	**Sb**	**13 41 28.4**	**-4.5**
USP	**Ospenovka**	**3.37**	**291**	⇑*i*P	**Pn**	**13 40 50.6**	**+2.3**
USP	baz=90			⇑*i*S	**Sb**	**13 41 31.6**	**-4.9**
AML	**Almayashu**	**3.81**	**271**	⇑Pg	**Pb**	**13 41 04.8**	**+2.0**
AML	0.9nm,0.8s			⇓Lg	Lg	13 41 55.7	
MRKS	**Merke**	**4.18**	**280**	Pg	**Pb**	**13 41 10.9**	**+1.9**
MRKS	2.8nm,0.2s			Lg	Lg	13 42 04.8	
MRKS	**Merke**	**4.18**	**280**	*e*Pg	**Pb**	**13 41 11.6**	**+2.6**
MRKS	2.8nm,0.2s			*e*Lg	Lg	13 42 06.0	
BTLS	**Baital**	**4.50**	**311**	Pg	**Pg**	**13 41 18.8**	**-2.3**
BTLS	1.6nm,0.3s			Lg	Lg	13 42 18.5	
BTLS	**Baital**	**4.50**	**311**	*e*Pg	**Pb**	**13 41 17.5**	**+3.0**
BTLS	1.1nm,0.2s			*e*Lg	Lg	13 42 16.4	
MK31	**Makanchi Array**	**5.26**	**27**	⇑Pn	Pn	13 41 18.4	+4.1
MK31	0.5nm,0.3s,baz=211,slow=14,SNR=11			⇓Sn	**Sn**	**13 42 19.8**	**+4.4**
MK31	1.3nm,0.6s,baz=107,slow=37,SNR=4.4			⇑Lg	Lg	13 42 37.4	
KK31	**Karatay Array**	**6.20**	**282**	⇑Pg	**Pg**	**13 41 51.6**	**-1.9**
KK31	0.5nm,0.5s,baz=95,slow=17,SNR=5.9			⇑Lg	Lg	13 43 08.7	
	1.0nm,0.5s,baz=104,slow=28,SNR=4.9						

*EAF **11** 13:43:30.2, 26°.30S×29°.36E, h10km, MC3.3*

BUL 11 13:43:31.3±2.4, 26°.28S×29°.27E, h10km, MD3.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.36**	**36**	*i* P	Pn	13 44 19.3	-4.5
MOPA				*i* S	Sn	13 45 00.9	-3.0
MOPA	**Mopani**	**3.36**	**36**	*i* P	Pn	13 44 19.3	-4.5
MOPA	baz=34			*i* S	Sn	13 45 00.9	-3.0
LBTB	**Lobatse**	**3.55**	**290**	*i* P	Pn	13 44 25.4	-1.1
LBTB				*i* S	Sn	13 45 06.8	-1.8
LBTB	**Lobatse**	**3.55**	**290**	*i* P	Pn	13 44 25.4	-1.1
LBTB	baz=290			*i* S	Sn	13 45 06.8	-1.8
MUSN	**Musina, Limpop**	**4.01**	**8**	*i* P	Pn	13 44 33.3	+0.5
MUSN	**Musina, Limpop**	**4.01**	**8**	*i* P	Pn	13 44 33.3	+0.5
BOSA	**Boshof**	**4.26**	**236**	*i* P	Pn	13 44 36.1	-0.3
BOSA				*i* S	Sn	13 45 23.5	-2.8
BOSA	**Boshof**	**4.26**	**236**	*i* P	Pn	13 44 36.1	-0.3
BOSA	baz=237			*i* S	Sn	13 45 23.5	-2.8
MATP	**Matopo**	**5.87**	**353**	*i* P	Pn	13 44 57.4	-1.1
MATP				*i* S	Sn	13 46 00.1	-5.9
MATP	**Matopo**	**5.87**	**353**	*i* P	Pn	13 44 57.4	-1.1
MATP	baz=352			*i* S	Sn	13 46 00.1	-5.9

*IDC **11** 14:11:04.1±0.8, 34°.94N×141°.41E, h0km, mb3.7/8,*
mbtmp3.7/10, ML2.7/2, MS3.1/4, Error ellipse:
s-maj=22.8km s-min=18.7km az=78.0
*JMA **11** 14:11:07.8±0.3, 35°.0N±0°.7×14°.1E±°, h36km±4km,*
MV3.1/34, E OFF BOSO PENINSULA

ISC 11 14:11:06.2±0.7, 35°.00N±0°.05×141°.38E±0°.06, h27km, n32, σ2§45/27, mb3.6/8, MS3.1/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.48**	**224**	P	**Pn**	**14 11 17.6**	**+0.8**
BSO1				X		14 11 25.9	
BSO3	**Boso 3**	**0.74**	**255**	P	**Pn**	**14 11 21.1**	**+0.4**
BSO3				X		14 11 32.5	
BSO4	**Boso 4**	**0.86**	**270**	P	**Pn**	**14 11 22.7**	**+0.3**
BSO4				X		14 11 34.7	

KTR	**Katsuura**	**0.89**	**280**	S	**Sb**	**14 11 33.3**	**-1.2**
JKUC	**kamogawauchiur**	**0.98**	**280**	P	**Pn**	**14 11 24.1**	**-0.2**
JKUC				S	**Sb**	**14 11 34.8**	**-2.4**
JSMT	**Sammumatsuo**	**1.00**	**310**	P	**Pb**	**14 11 26.3**	**+1.4**
JIM2	**Oshima 3**	**1.63**	**261**	S	**Sn**	**14 11 50.2**	**-3.1**
JMYK	**Miyake Tsubota**	**1.78**	**239**	P	**Pn**	**14 11 36.0**	**+0.9**
JMKN	**Mikurajimanish**	**1.85**	**234**	P	**Pn**	**14 11 36.5**	**+0.4**
JOD2	**Odawara 2**	**1.90**	**279**	P	**Pn**	**14 11 36.3**	**-0.6**
JHJ	**Hachijo jima 2**	**2.30**	**216**	Pn	**Pn**	**14 11 42.6**	**+0.3**
JHJ	13nm,0.3s,baz=296,slow=1.3,SNR=1.4			Sn	**Sn**	**14 12 08.3**	**-1.3**
	27nm,0.3s,baz=71,slow=21,SNR=2.3						
	30nm,0.4s						
MJAR	**Matsushiro Arr**	**3.01**	**302**	Pn	**Pn**	**14 11 53.9**	**+1.8**
	0.4nm,0.3s,baz=94,slow=14,SNR=17						
MJAR				Sn	**Sb**	**14 12 32.4**	**-2.9**
	0.3nm,0.3s,baz=134,slow=18,SNR=5.6						
	6.2nm,0.6s						
JCJ	**Chichijima**	**7.91**	**175**	Pn	**Pn**	**14 12 55.5**	**-3.9**
	2.3nm,0.3s,baz=346,slow=18,SNR=2.5						
JCJ				Sn	**Sn**	**14 14 23.3**	**-4.7**
	0.7nm,0.3s,baz=285,slow=19,SNR=1.7						
ASAJ	**Asahikawa**	**9.16**	**5**	Pn	**Pn**	**14 13 14.4**	**-2.1**
	0.4nm,0.3s,baz=330,slow=20,SNR=1.4						
ASAJ				Sn	**Sn**	**14 14 53.1**	**-5.5**
	0.2nm,0.3s,baz=241,slow=17,SNR=1.4						
KSRS	**Korea Array**	**11.15**	**287**	LR	LR	14 18 20.1	
	comp=Z,125nm,18.1s,baz=105,slow=39						
MA2	**Magadan**	**25.35**	**11**	LR	LR	14 28 08.6	
	comp=Z,22nm,19.0s,baz=162,slow=40						
H11N2	**WAKE ISLAND Hy**	**27.18**	**117**	T	T	14 45 23.1	
	baz=309,slow=75,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**27.19**	**117**	T	T	14 45 26.1	
	baz=309,slow=75,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**27.20**	**117**	T	T	14 45 28.1	
	baz=309,slow=75,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**27.82**	**120**	T	T	14 46 14.8	
	baz=312,slow=75,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**27.82**	**120**	T	T	14 46 12.5	
	baz=312,slow=75,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**27.84**	**120**	T	T	14 46 14.8	
	baz=312,slow=75,SNR=5.5						
SONM	**Songino Array**	**28.95**	**307**	LR	LR	14 29 13.5	
	comp=Z,49nm,19.4s,baz=164,slow=38						
JAY	**Jayapura**	**37.32**	**181**	LR	LR	14 32 02.0	
	comp=Z,35nm,20.4s,baz=352,slow=34						
ZALV	**Zalesovo Beam**	**43.29**	**314**	P	**P**	**14 19 07.6**	**+2.3**
	1.4nm,0.7s,baz=94,slow=9.2,SNR=5.1						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**45.20**	**304**	P	**P**	**14 19 22.4**	**+1.6**
	0.5nm,0.7s,baz=81,slow=7.5,SNR=3.1						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**47.26**	**309**	P	**P**	**14 19 39.1**	**+2.3**
	1.7nm,0.7s,baz=85,slow=8.0,SNR=10.0						
	1.7nm,0.7s						
ILAR	**Eielson Array**	**51.23**	**31**	P	**P**	**14 20 08.3**	**+1.2**
	0.3nm,0.6s,baz=275,slow=6.2,SNR=4.1						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**55.04**	**188**	P	**P**	**14 20 37.6**	**+2.1**
	1.9nm,0.6s,baz=4.2,slow=7.3,SNR=36						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**58.77**	**188**	P	**P**	**14 21 03.0**	**+1.1**
	0.2nm,0.5s,baz=358,slow=6.1,SNR=7.9						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**76.23**	**53**	P	**P**	**14 22 55.9**	**+3.3**
	0.5nm,0.7s,baz=291,slow=7.7,SNR=3.7						
	0.5nm,0.7s						
PDAR	**Pinedale Array**	**79.11**	**45**	P	**P**	**14 23 11.3**	**+2.7**
	0.3nm,0.6s,baz=333,slow=3.4,SNR=3.8						
	0.3nm,0.6s						

*IDC **11** 14:20:12.0±1.5, 4°.15N×125°.58E, h129km±21km, mb3.4/3,*
mbtmp4.2/7, Error ellipse: s-maj=33.1km s-min=12.9km
az=70.0
*DJA **11** 14:20:12.4±0.6, 4°N±5°×12°5E±°, h177km±15km, M4.3/12,*
mb4.3/7, mB4.8/5, MLv4.3/12, Mw(mB)4.1/5

ISC 11 14:20:12.9±0.8, 4°.14N±0°.07×125°.52E±0°.10, h150km, n30, σ1§86/34, mb4.2/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.91**	**1**	P	**Pn**	**14 20 55.8**	**-3.3**
	134nm,0.3s,baz=228,slow=4.2,SNR=1.5						
DAV				S	**Sn**	**14 21 33.6**	**-1.3**
	191nm,0.4s,baz=316,slow=21,SNR=1.9						
TNTI	**Ternate**	**3.82**	**151**	P	**Pn**	**14 21 11.9**	**+1.1**
GTOI	**Gorontalo**	**4.29**	**216**	P	**Pn**	**14 21 19.0**	**+2.0**
MRSI	**Marisa**	**5.10**	**225**	P	**Pn**	**14 21 27.5**	**-0.2**
	90nm,0.6s,809nm0.3nm						
LBMI	**Labuha**	**5.14**	**157**	P	**Pn**	**14 21 30.0**	**+1.7**
	31nm,0.5s,2μm0.8nm						
SANI	**Sanana**	**6.17**	**176**	P	**Pn**	**14 21 41.5**	**-0.3**
SANI	**Sanana**	**6.17**	**176**	P	**Pn**	**14 21 41.6**	**-0.3**
	75nm,0.8s,2μm0.5nm						
NLAI	**Namlea**	**7.50**	**168**	P	**Pn**	**14 21 59.4**	**-0.2**
	14nm,0.4s,5μm0.4nm						
SWI	**Sorong**	**7.59**	**131**	P	**Pn**	**14 22 00.7**	**-0.2**
	14nm,0.7s,765nm0.1nm						
SIJI	**Sorong**	**7.60**	**131**	P	**Pn**	**14 21 59.0**	**-2.0**
	8.1nm,0.4s,baz=311,slow=12,SNR=16						
SIJI				S	**Sn**	**14 23 23.5**	**-2.4**
	2.5nm,0.6s,baz=214,slow=22,SNR=1.2						
TTSI	**Tana Toraja**	**9.13**	**219**	P	**Pn**	**14 22 21.2**	**-0.2**
FAKI	**Fak Fak**	**9.72**	**136**	P	**Pn**	**14 22 31.9**	**+2.7**
KAPI	**Kappang**	**10.77**	**212**	P	**Pn**	**14 22 44.7**	**+1.6**
	16nm,0.5s,baz=15,slow=6.8,SNR=9.7						
BATI	**Baumata**	**14.37**	**187**	P	**P**	**14 23 29.8**	**-2.4**
	18nm,0.4s,baz=345,slow=20,SNR=1.6						
MTN	**Manton Dam**	**17.77**	**162**	P	**Pn**	**14 24 12.3**	**+1.2**
	13nm,1.2s						
KDU	**Kakadu**	**18.09**	**158**	P	**Pn**	**14 24 17.4**	**+2.6**
KNRA	**Kununurra**	**19.95**	**171**	P	**Pn**	**14 24 34.7**	**-2.0**
	17nm,1.8s						
WRAB	**Tennant Creek**	**25.45**	**160**	P	**P**	**14 25 28.7**	**+1.7**
WRA	**Warramunga Arr**	**25.45**	**160**	P	**P**	**14 25 27.8**	**+0.7**
	1.6nm,0.7s,baz=331,slow=11,SNR=36						
WRA				S	**S**	**14 29 40.5**	**-2.6**
	0.5nm,0.7s,baz=342,slow=15,SNR=3.3						
	1.6nm,0.7s						
QIS	**Mount Isa**	**28.17**	**151**	P	**P**	**14 25 54.4**	**+3.0**
ASAR	**Alice Springs**	**28.82**	**164**	P	**P**	**14 25 58.7**	**+1.5**
	0.5nm,0.3s,baz=338,slow=7.0,SNR=36						
ASAR				S	**S**	**14 30 34.7**	**-1.5**
	0.4nm,0.8s,baz=341,slow=13,SNR=4.9						
	0.5nm,0.3s						
WRKA	**Warakurna**	**29.13**	**175**	P	**P**	**14 26 01.7**	**+1.8**
MEEK	**Meekatharra**	**31.32**	**192**	P	**P**	**14 26 17.4**	**-1.7**
OOD	**Oodnadatta**	**33.23**	**163**	P	**P**	**14 26 37.0**	**+1.2**
FORT	**Forrest**	**34.81**	**176**	P	**P**	**14 26 50.7**	**+1.4**
	25nm,1.5s						
INKA	**Innaminka**	**34.93**	**156**	P	**P**	**14 26 52.3**	**+1.8**
	14nm,1.1s						
BBOO	**Buckleboo**	**38.09**	**166**	P	**P**	**14 27 18.6**	**+1.5**
	28nm,2.2s						
STKA	**Stephens Creek**	**38.95**	**158**	P	**P**	**14 27 26.2**	**+1.8**
	2.4nm,1.0s						
HTT	**Hallett**	**39.46**	**162**	P	**P**	**14 27 30.9**	**+2.2**
	19nm,2.1s						
MKAR	**Makanchi Array**	**56.53**	**326**	P	**P**	**14 29 40.7**	**+1.0**
	0.2nm,0.4s,baz=106,slow=7.7,SNR=2.1						
	0.2nm,0.4s						

*IDC **11** 14:55:29.2±0.6, 46°.08N×145°.69E, h0km, mb3.7/14,*
mbtmp3.7/22, ML3.3/8, MS3.1/16, Error ellipse:
s-maj=18.0km s-min=13.3km az=134.0
*JMA **11** 14:55:31.7±0.2, 45°.8N±0°.8×14°6E±°, h5km, MV4.2/28,*
SOUTHERN SEA OF OKHOTSK
*NIED **11** 14:55:31.7, 45°.80N×145°.58E, h5km, MW4.1, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}1.29; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$-1.19; $M_{r\theta}$-0.83; $M_{\theta\phi}$0.15; $M_{\phi r}$-0.40;
Fault plane solution: $M_0$1.50000×10^{15} NP1:
ϕ_s199.00000°, δ58.00000°, λ119.00000°. NP2:
ϕ_s332.00000°, δ42.00000°, λ52.00000°.
*SKHL **11** 14:55:32.1±0.7, 46°.00N×145°.90E, h37km±6km, mb5.2/5*
*MOS **11** 14:55:32.2±1.3, 45°.96N×145°.88E, h42km, mb4.2/9, Error*
ellipse: s-maj=10.6km s-min=6.8km az=86.8

ISC 11 14:55:33.7±0.4, 46°.02N±0°.04×145°.80E±0°.03, h35km, n87, σ1§84/109, mb3.8/20, MS3.0/9, 10C-10D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.65**	**118**	*e*PN	**Pn**	**14 55 57.8**	**-2.4**
KUR				*e*S	**Sn**	**14 56 16.8**	**-3.3**

KUR pmax pmax
comp=N,89nm,0.5s
KUR pmax pmax
comp=E,86nm,0.5s
KUR pmax pmax
comp=Z,188nm,0.5s
KUR smax smax
comp=N,494nm,0.3s
KUR smax smax
comp=E,161nm,0.3s
KUR Kuril'sk 1.65 118 *i* P **Pn 14 55 57.7 -2.4**
KUR AMB AMB 14 55 59.1
comp=E,190nm,0.5s
KUR *e*S **Sn 14 56 16.8 -3.3**
KUR A A 14 56 18.9
comp=E,490nm,0.3s
KUR A A 14 56 18.9
comp=E,160nm,0.3s
RUSJ Misakicho 1.95 192⇓ *i*PN **Pn 14 56 02.3 -2.0**
RUSJ *e*S **Sn 14 56 25.9 -1.6**
YUK Yuzh-Kuril'sk 1.98 179*d i*PN **Pn 14 56 02.5 -2.2**
YUK *e*S **Sn 14 56 24.6 -3.7**
YUK pmax pmax
comp=Z,343nm,0.5s
YUK pmax pmax
comp=E,170nm,0.4s
YUK pmax pmax
comp=N,97nm,0.2s
YUK smax smax
comp=N,1μm,0.3s
YUK smax smax
comp=E,573nm,0.6s
YUK Yuzh-Kuril'sk 1.98 179 *i* P **Pn 14 56 01.8 -2.9**
YUK AMB AMB 14 56 04.5
comp=E,340nm,0.3s
YUK *e*S **Sn 14 56 24.0 -4.3**
YUK A A 14 56 27.7
comp=E,1μm,0.4s
YUK A A 14 56 27.7
comp=E,570nm,0.4s
JRA Rausu 2.13 193 *e*P **Pn 14 56 05.4 -1.4**
JRA *e*S **Sn 14 56 30.2 -1.8**
SHO Shikotan 2.27 161⇑ *i*PN **Pn 14 56 07.3 -1.4**
SHO *e*S **Sn 14 56 33.4 -1.9**
SHO pmax pmax
comp=Z,363nm,0.4s
SHO pmax pmax
comp=N,177nm,0.3s
SHO pmax pmax
comp=E,102nm,0.4s
SHO smax smax
comp=E,640nm,0.4s
SHO smax smax
comp=N,698nm,0.5s
SHO Shikotan 2.27 161 *i* P **Pn 14 56 07.3 -1.4**
SHO AMB AMB 14 56 08.1
comp=N,360nm,0.4s
SHO *e*S **Sn 14 56 33.5 -1.9**
SHO A A 14 56 34.8
comp=N,700nm,0.5s
SHO A A 14 56 34.8
comp=N,640nm,0.5s
YSS Yuzh-Sakhalins 2.30 295κ *i*PN **Pn 14 56 07.7 -1.3**
YSS *e*S **Sn 14 56 33.7 -2.4**
YSS pmax pmax
comp=Z,930nm,0.4s
YSS pmax pmax
comp=E,300nm,2.0s
YSS pmax pmax
comp=Z,300nm,2.0s
YSS smax smax
comp=N,1μm,0.7s
YSS smax smax
comp=E,800nm,2.2s
YSS MLR MLR
comp=E,800nm,14.0s
YSS MLR MLR
comp=Z,500nm,14.0s
YSS Yuzh-Sakhalins 2.30 295 *i* P **Pn 14 56 07.7 -1.3**
YSS AMB AMB 14 56 08.1
comp=Z,3μm,0.2s
YSS *e*S **Sn 14 56 33.7 -2.4**
YSS A A 14 56 34.3
comp=Z,430nm,0.5s
YSS A A 14 56 34.3
comp=Z,380nm,0.5s
JNSB Nemuroshibetsu 2.31 194 *e*P **Pn 14 56 08.1 -1.2**
JTKR Abashiri--Toko 2.45 214 *e*P **Pn 14 56 09.1 -2.0**
JTKR *e*S **Sn 14 56 36.7 -3.0**
JSE Soyaes 2.49 246 *e*P **Pn 14 56 10.5 -1.3**
JSE *e*S **Sn 14 56 38.4 -2.5**
JNK Nakash 2.55 198 *e*P **Pn 14 56 10.9 -1.6**
JNK *e*S **Sn 14 56 39.5 -2.8**
NMR Nemuro--Hokkai 2.65 181⇓ *i*PN **Pn 14 56 12.2 -1.7**
NMR *e*S **Sn 14 56 42.5 -2.2**
NMR Nemuro--Hokkai 2.65 181 *i* P **Pn 14 56 12.2 -1.7**
NMR *e*S **Sn 14 56 42.5 -2.2**
JMP Maruseppu 2.65 222 *e*P **Pn 14 56 12.1 -1.8**
JMP *e*S **Sn 14 56 41.5 -3.3**
NEM2 Nemuro 2 2.65 181 *e*P **Pn 14 56 12.2 -1.7**
NEM2 *e*S **Sn 14 56 42.5 -2.3**
JWK2 Keihoku 2.82 257 *e*P **Pn 14 56 16.5 +0.3**
JKA Kamikawa-asahi 2.96 231 *e*P **Pn 14 56 17.3 -0.8**
ASAJ Asahikawa 2.96 231 *e*P **Pn 14 56 17.1 -1.0**
ASAJ *e*S **Sn 14 56 50.8 -1.6**
ASAJ Asahikawa 2.96 231 Pn **Pn 14 56 17.3 -0.8**
comp=Z,8.7nm,0.3s,baz=355,slow=8.8,SNR=129
ASAJ Sn **Sn 14 56 50.7 -1.6**
comp=Z,54nm,0.3s,baz=143,slow=33,SNR=34
ASAJ LR LR 14 57 34.1
comp=Z,422nm,18.9s,baz=58,slow=42
comp=Z,17nm,0.3s
JKK2 Kamakawa 2 3.05 226 *e*P **Pn 14 56 18.2 -1.2**
JKK2 *e*S **Sn 14 56 51.9 -2.7**
JAR Ashorobuto 3.08 209 *e*P **Pn 14 56 19.0 -0.8**
JAK Akkeshi 3.12 195 *e*P **Pn 14 56 19.1 -1.3**
JRBN Rebuntou 3.37 262 *e*P **Pn 14 56 23.1 -0.6**
JRBN *e*S **Sn 14 57 00.4 -2.0**
UGL Uglegorsk 3.97 322⇓ *e*PN Pn 14 56 41.0 +9.0
UGL pmax pmax
comp=Z,60nm,0.5s
UGL pmax pmax
comp=Z,50nm,0.3s
UGL Uglegorsk 3.97 322 *e*P **Pn 14 56 30.6 -1.4**
UGL *e*S **Sn 14 57 16.4 -0.8**
UGL A A 14 57 19.0
comp=Z,120nm,0.4s
UGL A A 14 57 19.0
comp=Z,170nm,0.4s
ERM Erimo 4.43 206⇓ *e*PN **Pn 14 56 39.7 +1.3**
TYV Tymovskoe 5.28 338 *e*PN Pn 14 57 00.7 +11
TYV *e*S Sn 14 58 03.7 +14
TYV pmax pmax
comp=Z,100nm,2.5s
TYV pmax pmax
comp=Z,8.0nm,0.4s
TYV smax smax
comp=N,21nm,1.2s
TYV smax smax
comp=E,29nm,1.2s
TYV smax smax
comp=N,200nm,3.7s
TYV smax smax
comp=E,600nm,3.7s
USRK Ussuriysk Ar. 9.93 264 Pn **Pn 14 57 51.9 -1.9**
comp=E,0.5nm,0.3s,baz=72,slow=14,SNR=9.4
USRK LR LR 15 01 49.8
comp=E,104nm,18.1s,baz=16,slow=39
comp=E,3.1nm,0.5s
KLR Kul'dur 10.01 294⇓ *e*PN **Pn 14 57 56.1 +1.2**
KLR MLR MLR
comp=Z,102nm,12.0s
KLR Kul'dur 10.01 294 *e*P **Pn 14 57 56.1 +1.2**
KLR Kul'dur 10.01 294 Pn **Pn 14 57 53.5 -1.4**
comp=Z,0.2nm,0.3s,baz=101,slow=19,SNR=2.2
KLR Sn **Sn 14 59 38.4 -7.5**
comp=Z,0.4nm,0.3s,baz=325,slow=22,SNR=2.3
KLR LR LR 15 02 14.2
comp=Z,61nm,19.1s,baz=86,slow=41
comp=Z,0.7nm,0.4s
PEA0B Petropavlovsk- 10.48 43⇓ *e*PN **Pn 14 58 01.8 +0.4**
PETK Petropavlovsk- 10.48 43 Pn **Pn 14 58 01.1 -0.3**
comp=Z,0.5nm,0.3s,baz=190,slow=8.4,SNR=23
PETK Sn **Sn 14 59 55.0 -2.4**
comp=Z,0.1nm,0.3s,baz=3.0,slow=12,SNR=5.1
PETK LR LR 15 02 13.8
comp=Z,126nm,19.0s,baz=230,slow=39
comp=Z,2.7nm,0.5s
MJAR Matsushiro Arr 11.05 214 Pn **Pn 14 58 07.8 -1.4**
baz=211,slow=47,SNR=2.4
MJAR LR LR 15 02 25.3
comp=Z,115nm,20.9s,baz=34,slow=38
comp=Z,1.0nm,0.6s
MA2 Magadan 13.90 11 LR LR 15 03 51.9
comp=Z,52nm,18.9s,baz=218,slow=36
ZEA Zeya 14.21 310 *e*P P 14 59 06.8 +7.7
KSRS Korea Array 15.82 244 Pn **Pn 14 59 13.7 0.0**
comp=Z,0.1nm,0.3s,baz=53,slow=15,SNR=2.5
KSRS LR LR 15 04 36.2
comp=Z,65nm,18.6s,baz=55,slow=35
comp=Z,1.8nm,1.0s
JNU Nakatsue 17.23 227 P **P 14 59 32.2 -0.5**
comp=Z,0.1nm,0.3s,baz=344,slow=20,SNR=1.9
comp=Z,4.1nm,0.9s
SEY Seymchan 17.36 10 P **P 14 59 33.0 -1.0**
SEY Seymchan 17.36 10 *e*P **P 14 59 33.0 -1.0**
SEY Seymchan 17.36 10 P **P 14 59 33.0 -1.0**
comp=Z,0.1nm,0.3s,baz=184,slow=21,SNR=1.7
comp=Z,2.8nm,1.0s
HIA Hailar 17.82 290⇑ *e*P **P 14 59 40.7 +1.5**
HIA pmax pmax
comp=Z,11nm,1.1s
BOD Bodaibo 22.65 313 *e*P **P 15 00 31.7 +0.2**
BOD pmax pmax
comp=Z,9.0nm,1.6s
BOD Bodaibo 22.65 313 *e*P **P 15 00 31.7 +0.2**
JOW Kunigami 23.68 222 LR LR 15 10 09.3
comp=Z,50nm,18.1s,baz=103,slow=37
ULN Ulaanbaatar 26.33 288⇓ *e*P **P 15 01 07.1 +0.9**
ULN pmax pmax
comp=Z,5.0nm,1.4s
ULN Ulaanbaatar 26.33 288 *e*P **P 15 01 07.1 +0.9**
SONM Songino Array 26.77 288 *e*P **P 15 01 12.5 +2.3**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 26.77 288 P **P 15 01 11.1 +0.9**
comp=Z,0.8nm,0.7s,baz=85,slow=9.0,SNR=6.0
SONM PcP **PcP 15 04 32.8 +0.3**
comp=Z,0.4nm,0.6s,baz=20,slow=4.6,SNR=2.2
SONM LR LR 15 11 13.9
comp=Z,24nm,20.3s,baz=308,slow=35
comp=Z,0.8nm,0.7s
GTA Gaotai 34.04 276 *e*P **P 15 02 16.1 +1.7**
GTA pmax pmax
comp=Z,4.0nm,1.1s
ZALV Zalesovo Beam 38.89 305 PcP **PcP 15 05 06.7 +1.1**
comp=Z,1.2nm,0.6s,baz=101,slow=4.7,SNR=5.1
ZALV LR LR 15 19 10.9
comp=Z,10nm,18.0s,baz=12,slow=37
ILAR Eielson Array 40.26 38 *e*P **P 15 03 07.6 +0.9**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 40.26 38 P **P 15 03 07.2 +0.6**
comp=Z,1.4nm,0.7s,baz=263,slow=7.2,SNR=21
ILAR LR LR 15 20 13.7
comp=Z,31nm,18.2s,baz=232,slow=37
comp=Z,1.4nm,0.7s
MKAR Makanchi Array 42.72 295 *e*P **P 15 03 27.4 +0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 42.72 295 *e*P **P 15 03 27.4 +0.3**
MKAR Makanchi Array 42.72 295 P **P 15 03 26.1 -1.0**
comp=Z,1.2nm,0.8s,baz=72,slow=8.1,SNR=4.8
MKAR PcP **PcP 15 05 19.3 +1.0**
comp=Z,0.4nm,0.6s,baz=85,slow=5.6,SNR=2.2
MKAR LR LR 15 21 40.3
comp=Z,32nm,20.6s,baz=132,slow=37
comp=Z,1.2nm,0.8s
KURK Kurchatov 43.49 302⇑ *e*P **P 15 03 34.9 +1.6**
KURK pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 43.49 302 *e*P **P 15 03 34.9 +1.6**
KURBB Kurchatov Arra 43.58 302 P **P 15 03 33.5 -0.5**
comp=Z,0.7nm,0.6s,baz=72,slow=9.0,SNR=4.0
KURBB PcP **PcP 15 05 21.7 +0.7**
comp=Z,0.7nm,0.6s,baz=56,slow=4.5,SNR=6.4
comp=Z,0.7nm,0.6s
INK Inuvik 44.95 31 LR LR 15 24 25.1
comp=Z,20nm,19.9s,baz=170,slow=39
CMAR Chiang Mai Arr 47.31 250 P **P 15 04 05.4 +1.5**
comp=Z,0.5nm,0.7s,baz=81,slow=5.9,SNR=4.5
CMAR PcP **PcP 15 05 36.7 +2.2**
comp=Z,0.4nm,0.3s,baz=20,slow=2.9,SNR=5.0
CMAR LR LR 15 24 44.3
comp=Z,21nm,18.3s,baz=215,slow=37
comp=Z,0.5nm,0.7s
BVAR Borovoye Array 47.34 307 P **P 15 04 03.8 0.0**
comp=Z,0.4nm,0.5s,baz=91,slow=8.6,SNR=2.3
BVAR PcP **PcP 15 05 34.0 -0.1**
comp=Z,0.5nm,0.5s,baz=35,slow=5.3,SNR=2.4
comp=Z,0.4nm,0.5s
BRVK Borovoye 47.38 307⇑ *e*P **P 15 04 04.5 +0.4**
BRVK pmax pmax
comp=Z,4.0nm,2.5s
BRVK Borovoye 47.38 307 *e*P **P 15 04 04.5 +0.4**
AAK Ala-Archa 49.54 293⇑ *e*P **P 15 04 22.1 +1.1**
AAK pmax pmax
comp=Z,11nm,3.4s
AAK Ala-Archa 49.54 293 *e*P **P 15 04 22.1 +1.1**
YKA Yellowknife Ar 54.46 34 P **P 15 04 57.2 +0.1**
comp=Z,0.4nm,0.6s,baz=307,slow=7.6,SNR=1.0
comp=Z,0.4nm,0.6s
FINES FINESS Array B 62.42 332 *i* P **P 15 05 53.2 +0.6**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 62.42 332 P **P 15 05 52.0 -0.5**
comp=Z,1.1nm,0.5s,baz=54,slow=9.7,SNR=7.4
comp=Z,1.1nm,0.5s
WRAB Tennant Creek 66.45 192⇑ *e*P **P 15 06 19.5 +0.1**
WRAB pmax pmax
comp=Z,10.0nm,1.8s
WRA Warramunga Arr 66.46 192 P **P 15 06 19.5 +0.1**
comp=Z,2.8nm,0.9s,baz=11,slow=6.7,SNR=17
WRA PcP **PcP 15 06 50.1 +1.3**
comp=Z,0.4nm,0.8s,baz=3.2,slow=4.8,SNR=4.6
comp=Z,2.8nm,0.9s
NVAR Mina Array Bea 67.19 58 P **P 15 06 26.1 +1.7**
comp=Z,0.3nm,0.6s,baz=298,slow=5.8,SNR=2.9
comp=Z,0.3nm,0.6s
FRB Frobisher Bay 67.26 16 LR LR 15 37 41.8
comp=Z,10nm,20.3s,baz=192,slow=38
PDAR Pinedale Array 69.18 50 P **P 15 06 38.1 +1.4**
comp=Z,0.2nm,0.5s,baz=282,slow=4.5,SNR=2.5
comp=Z,0.2nm,0.5s
AKASG Malin Array Be 69.19 323 P **P 15 06 34.9 -1.4**
comp=Z,0.2nm,0.3s,baz=43,slow=7.7,SNR=2.7
comp=Z,0.2nm,0.3s
ASAR Alice Springs 70.19 192 P **P 15 06 43.8 +1.1**
comp=Z,1.2nm,0.7s,baz=8.2,slow=6.3,SNR=19
comp=Z,1.2nm,0.7s
TXAR Lajitas Array 82.18 56 P **P 15 07 52.9 +1.8**
comp=Z,0.7nm,0.9s,baz=284,slow=5.6,SNR=4.9
comp=Z,0.7nm,0.9s
KEST Kesra 89.65 326 LR LR 15 51 33.6
comp=Z,12nm,18.3s,baz=263,slow=38
QSPA South Pole Qui 135.75 180 PKP **PKiKP 15 14 51.5 +0.7**
comp=Z,0.7nm,0.9s,baz=224,slow=2.0,SNR=3.7
TROLL Troll, Antarti 148.79 201⇑PKPdf **PKPab 15 15 17.6 -2.5**
comp=Z,302nm,0.6s
SNAA Sanae 150.30 199⇑PKPdf **PKiKP 15 15 20.6 0.0**
comp=Z,53nm,0.9s
SNAA Sanae 150.30 199 PKPbc **PKiKP 15 15 20.3 -0.2**
comp=Z,1.9nm,0.9s,baz=170,slow=1.6,SNR=7.4
VNA2 Neumayer--Watz 151.86 198⇑PKPdf **PKPbc 15 15 19.7 -3.6**
comp=Z,6.6nm,0.6s,baz=145,slow=1.0
VNA3 Neumayer Olymp 152.10 197⇑PKPdf **PKiKP 15 15 24.9 +0.7**
comp=Z,3.6nm,0.8s

*GUC **11** 15:02:18.9±0.8, 18°.81S×69°.70W, h81km±7km, ML2.5*
ISC 11 15:02:21.3±3.0, 18°.87S±0°.09×69°.76W±0°.07, h57km±39km, n11, σ1°.21/12, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.59**	**24**	⇓ *i*P	**Pn**	**15 02 33.7**	**-0.9**
PB16				*e*S	**Sn**	**15 02 45.2**	**+1.0**
PB16				IAML		15 02 46.8	
comp=E,250nm,0.2s							
PB12	**IPOC Station P**	**0.59**	**296**	*e*P	**Pn**	**15 02 33.3**	**-0.9**
PB12				*e*S	**Sn**	**15 02 44.9**	**+1.4**
PB12				IAML		15 02 46.8	
comp=N,278nm,0.1s							
GO01	**Chusmiza**	**0.96**	**146**	*e*P	**Pn**	**15 02 37.9**	**-1.2**
GO01				*e*S	**Sn**	**15 02 53.5**	**+1.3**
GO01				IAML		15 02 56.0	
comp=N,348nm,0.1s							
PB08	**IPOC Station P**	**1.39**	**156**	*e*P	**Pn**	**15 02 44.0**	**-0.8**
PB08				*e*S	**Sn**	**15 03 02.8**	**+0.5**
PB08				IAML		15 03 03.8	
comp=E,111nm,0.2s							
HMBC	**Humberstone**	**1.40**	**185**	*e*P	**Pn**	**15 02 43.5**	**-1.3**
HMBC				*e*S	**Sn**	**15 03 02.2**	**-0.2**
HMBC				IAML		15 03 10.9	
comp=N,72nm,0.4s							
PB07	**IPOC Station P**	**2.84**	**182**	IAML		15 04 29.5	
comp=Z,63nm,0.4s							
PB07	**IPOC Station P**	**2.84**	**182**	*e*P	**Pn**	**15 03 04.0**	**-0.4**
PB09	**IPOC Station P**	**2.95**	**171**	IAML		15 04 25.0	
comp=Z,73nm,0.8s							
PB09	**IPOC Station P**	**2.95**	**171**	*e*P	**Pn**	**15 03 07.0**	**+1.1**
PB04	**IPOC Station P**	**3.46**	**186**	IAML		15 04 16.3	
comp=Z,86nm,0.4s							
PB04	**IPOC Station P**	**3.46**	**186**	*e*P	Pn	15 03 16.7	+3.8

*SJA **11** 15:02:24.5±0.7, 25°.20S×69°.26W, h106km±4km, ML3.3, MW3.5*
*GUC **11** 15:02:25.8±0.7, 25°.16S×69°.29W, h106km±4km, ML3.4*
ISC 11 15:02:24.9±1.4, 25°.19S±0°.03×69°.31W±0°.06, h113km±9km, n23, σ1°.28/38, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.25**	**275**	⇑ *i*P	**Pn**	**15 02 40.9**	**-0.3**
GO02				*e*P	**Pn**	**15 02 40.9**	**-0.3**
GO02				*e*S	**Sn**	**15 02 52.3**	**-1.2**
GO02	**Mina Guanaco**	**0.25**	**275**	*e*P	**Pn**	**15 02 40.9**	**-0.3**
GO02				*e*S	**Sn**	**15 02 52.8**	**-0.6**
PB14	**IPOC Station P**	**1.14**	**299**	⇑ *i*P	**Pn**	**15 02 48.8**	**+0.7**
PB14				*e*S	**Sn**	**15 03 06.0**	**+0.4**
PB14				IAML		15 03 08.3	
comp=N,387nm,0.2s							
PB14	**IPOC Station P**	**1.14**	**299**	*e*P	**Pn**	**15 02 48.8**	**+0.7**
PB14				*e*S	**Sn**	**15 03 07.1**	**+1.4**
PB14				IAML		15 03 07.8	
comp=Z,393nm,0.2s							
AC01	**Pan de Azucar**	**1.51**	**230**	⇑ *i*P	**Pn**	**15 02 52.8**	**+0.8**
AC01				*e*S	**Sn**	**15 03 13.0**	**+0.5**
AC01				IAML		15 03 14.5	
comp=E,569nm,0.2s							
AC01	**Pan de Azucar**	**1.51**	**230**	*e*P	**Pn**	**15 02 52.5**	**+0.6**
AC01				*e*S	**Sn**	**15 03 13.3**	**+0.7**
AC01				IAML		15 03 13.4	
comp=Z,241nm,0.4s							
AC02	**Maricunga**	**1.65**	**174**	⇑ *i*P	**Pn**	**15 02 55.1**	**+1.0**
AC02				*e*S	**Sn**	**15 03 17.3**	**+0.8**
AC02				IAML		15 03 20.3	
comp=E,526nm,0.1s							
AC02	**Maricunga**	**1.65**	**174**	*e*P	**Pn**	**15 02 55.2**	**+1.0**
AC02				*e*S	**Sn**	**15 03 18.0**	**+1.6**
AC02				IAML		15 03 20.3	
comp=Z,231nm,0.4s							
PB15	**IPOC Station P**	**1.97**	**356**	*e*P	**Pn**	**15 02 58.6**	**+0.6**
PB15				*e*S	**Sn**	**15 03 23.0**	**-0.1**
PB15	**IPOC Station P**	**1.97**	**356**	*e*P	**Pn**	**15 02 58.8**	**+0.8**
PB15				*e*S	**Sn**	**15 03 24.4**	**+1.2**
PB15				IAML		15 03 27.7	
comp=Z,828nm,0.2s							
AC06	**Mina Casimiro**	**2.36**	**203**	*e*P	**Pn**	**15 03 02.8**	**+0.2**
AC06				IAML		15 03 34.5	
comp=N,176nm,0.2s							
AF01	**San Pedro de A**	**2.45**	**25**	*e*P	**Pn**	**15 03 04.6**	**+0.4**
AF01				IAML		15 03 37.2	
comp=E,408nm,0.7s							
PB06	**IPOC Station P**	**2.48**	**354**	*e*P	**Pn**	**15 03 04.8**	**+0.5**
PB06	**IPOC Station P**	**2.48**	**354**	*e*P	**Pn**	**15 03 04.9**	**+0.5**
PB06				*e*S	**Sn**	**15 03 32.1**	**-2.5**
PB06				IAML		15 03 48.1	
comp=Z,93nm,0.1s							
GO03	**Copiap**	**2.54**	**199**	*e*P	**Pn**	**15 03 05.4**	**+0.4**
GO03	**Copiap**	**2.54**	**199**	*e*P	**Pn**	**15 03 05.3**	**+0.4**
GO03				*e*S	**Sn**	**15 03 31.3**	**-4.5**
LVC	**Limon Verde**	**2.59**	**8**	*e*P	**Pn**	**15 03 06.1**	**+0.1**
LVC	**Limon Verde**	**2.59**	**8**	*e*P	**Pn**	**15 03 06.2**	**+0.2**
LVC				*e*S	**Sn**	**15 03 34.5**	**-3.0**
LVC				IAML		15 03 41.6	
comp=Z,82nm,0.5s							
FSA	**Cafayete**	**3.15**	**108**	*e*P	**Pn**	**15 03 13.5**	**+0.4**
PB09	**IPOC Station P**	**3.38**	**1**	⇓ *e*P	**Pn**	**15 03 17.3**	**+1.1**
AC04	**Llanos de Chal**	**3.40**	**207**	*e*P	**Pn**	**15 03 14.8**	**-1.4**
AC04				IAML		15 04 18.2	
comp=Z,40nm,1.9s							
LCO	**Las Campanas**	**4.01**	**198**	*e*P	**Pn**	**15 03 24.9**	**+0.2**
LCO				*e*S	**Sn**	**15 04 10.8**	**-0.1**
LCO				IAML		15 04 23.3	
comp=Z,52nm,0.3s							
YJA	**Yavi**	**4.59**	**50**	*e*P	**Pn**	**15 03 33.8**	**+1.1**

*UCR **11** 15:06:09.7±0.5, 8°.75N×83°.59W, h12km±2km, MW4.2*
*UPA **11** 15:06:09.8±0.9, 8°.71N×83°.53W, h9km±6km, MW4.2*
ISC 11 15:06:08.6±1.1, 8°.72N±0°.04×83°.60W±0°.04, h12km, n48, σ0°.81/52, 2C-20D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPN	**Palmar Norte**	**0.28**	**31**	⇓ *e*P	**Pg**	**15 06 15.1**	**+0.7**
EDPN				*e*S	**Sg**	**15 06 19.7**	**+1.4**
JIME	**Puerto Jimenez**	**0.33**	**124**	⇑ *e*P	**Pb**	**15 06 17.2**	**+0.8**
EDAD	**Golfito**	**0.44**	**99**	*e*P	**Pg**	**15 06 17.5**	**+0.2**
FITO	**Golfito**	**0.45**	**102**	*e*P	**Pg**	**15 06 17.8**	**+0.2**
EDBA	**Buenos Aires**	**0.55**	**36**	⇓ *e*P	**Pg**	**15 06 19.2**	**-0.1**
SRBA	**San Rafael, Bu**	**0.56**	**25**	⇓ *e*P	**Pg**	**15 06 19.6**	**0.0**
POTG	**Potrero Grande**	**0.58**	**55**	⇓ *e*P	**Pg**	**15 06 20.1**	**+0.1**
EDSV	**San Vito**	**0.63**	**81**	*e*P	**Pg**	**15 06 21.4**	**+0.5**
DRK0	**Durika**	**0.64**	**33**	⇓ *e*P	**Pg**	**15 06 21.6**	**+0.3**
CCOL	**Caracol de Cor**	**0.69**	**117**	*e*P	**Pg**	**15 06 22.8**	**+0.7**
CDITO	**Canoas**	**0.74**	**101**	*e*P	**Pg**	**15 06 19.8**	**-3.1**
MLIR3	**Monte Lirio, C**	**0.77**	**85**	*e*P	**Pg**	**15 06 24.1**	**+0.5**
BUS1	**Rivas**	**0.84**	**350**	⇓ *e*P	**Pg**	**15 06 24.6**	**-0.4**
CDM	**Cerro de Muert**	**0.84**	**349**	⇓ *e*P	**Pg**	**15 06 24.6**	**-0.5**
CTCR	**Cotoan**	**0.85**	**78**	⇓ *e*P	**Pg**	**15 06 24.9**	**-0.2**
PTPM	**Petroterminale**	**0.88**	**126**	*e*P	**Pg**	**15 06 26.5**	**+0.8**
BRU2	**Volcan**	**0.90**	**85**	⇓ *i*P	**Pg**	**15 06 25.9**	**-0.2**
BRU2				*e*S	**Sb**	**15 06 39.3**	**+0.9**
BRU2	**Volcan**	**0.90**	**85**	⇓ *e*P	**Pg**	**15 06 25.9**	**-0.2**
BCO2	**Palmira**	**1.06**	**90**	*e*P	**Pg**	**15 06 28.6**	**-0.6**
BCO2				*e*S	**Sb**	**15 06 43.3**	**+0.3**
RIMA	**Rio Macho**	**1.07**	**346**	⇓ *e*P	**Pb**	**15 06 28.3**	**-0.9**
ABE2	**San Pablo**	**1.07**	**335**	*e*P	**Pb**	**15 06 28.4**	**-0.9**
PTAR3	**Potrerillos Ar**	**1.09**	**91**	*e*P	**Pb**	**15 06 29.2**	**-0.4**
LNBQ3	**Los Naranjos,**	**1.15**	**86**	*e*P	**Pb**	**15 06 29.5**	**-1.1**
BRIB1	**Bribri**	**1.16**	**40**	*e*P	**Pb**	**15 06 30.4**	**-0.3**
DVD	**David**	**1.17**	**104**	*e*P	**Pb**	**15 06 29.4**	**-1.5**
DVD				*e*S	**Sb**	**15 06 45.1**	**-0.9**
PCAYA	**Pacayas**	**1.21**	**350**	*e*P	**Pn**	**15 06 31.2**	**-0.4**
VERB	**Verbena**	**1.22**	**356**	⇓ *e*P	**Pn**	**15 06 31.0**	**-0.6**
TRIO	**Tres Rios**	**1.24**	**342**	*e*P	**Pn**	**15 06 31.7**	**-0.3**
VTCV	**VTCV, Calle Va**	**1.26**	**354**	⇓ *e*P	**Pn**	**15 06 31.8**	**-0.5**
VICA	**Volcano Irazu**	**1.28**	**349**	⇓ *e*P	**Pn**	**15 06 32.2**	**-0.6**
CVTV	**Tajo**	**1.28**	**353**	⇓ *e*P	**Pn**	**15 06 32.4**	**-0.3**
CVTQ	**Turrialba Volc**	**1.28**	**353**	⇓ *e*P	**Pn**	**15 06 32.4**	**-0.3**
VTLA	**Turrialba Volc**	**1.28**	**352**	⇓ *e*P	**Pn**	**15 06 32.4**	**-0.3**
RGM0	**Gandoca**	**1.31**	**49**	⇓ *e*P	**Pn**	**15 06 33.5**	**+0.8**
CNI2	**El Empalme, Bo**	**1.32**	**58**	*e*P	**Pn**	**15 06 32.0**	**-0.8**
VTLO	**VTLO**	**1.32**	**355**	⇓ *e*P	**Pn**	**15 06 32.9**	**-0.3**
LCOCO	**El Coco**	**1.35**	**2**	*e*P	**Pn**	**15 06 33.5**	**+0.1**
HDC	**Heredia**	**1.37**	**338**	*e*P	**Pn**	**15 06 33.9**	**+0.2**
BATAN	**Batan**	**1.39**	**9**	*e*P	**Pn**	**15 06 34.0**	**+0.2**
BATAN	**Batan**	**1.39**	**9**	⇓ *e*P	**Pn**	**15 06 34.0**	**+0.2**
JACO	**JACO, Garabito**	**1.40**	**312**	⇓ *e*P	**Pn**	**15 06 33.2**	**-0.9**
CHGR2	**Aguacate**	**1.46**	**81**	*e*P	**Pn**	**15 06 34.2**	**-0.6**
RIFO	**Rio Frio, Sara**	**1.62**	**349**	*e*P	**Pn**	**15 06 37.6**	**+0.6**
TRT1	**Tortuguero**	**1.87**	**357**	*e*P	**Pn**	**15 06 41.2**	**+0.8**
NANC3	**Nancito, Chiri**	**1.91**	**104**	*e*P	**Pn**	**15 06 41.1**	**0.0**
CEDE	**Laguna Cedeo**	**2.06**	**328**	*e*P	**Pn**	**15 06 45.0**	**+1.8**
CANAL	**Canalete**	**2.54**	**326**	*e*P	**Pn**	**15 06 50.9**	**+1.2**
CHIT3	**Chitre**	**3.24**	**103**	*e*P	**Pn**	**15 06 59.4**	**+0.1**

*MOS **11** 15:29:38.9±1.4, 43°.77N×146°.16E, h98km, mb4.1/9, Error ellipse: s-maj=11.7km s-min=8.0km az=94.3*
*NIED **11** 15:29:40.3, 43°.64N×146°.17E, h84km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm;*

M_{rr}0.42; $M_{\theta\theta}$-0.75; $M_{\phi\phi}$0.32; $M_{r\theta}$-3.87; $M_{\theta\phi}$-0.16; $M_{\phi r}$-0.69;
Fault plane solution: $M_0$3.98000×10^{14} NP1:
ϕ_s260.00000°, δ86.00000°, λ89.00000°. NP2:ϕ_s87.00000°,
δ4.00000°, λ97.00000°.
*SKHL **11** 15:29:40.2±0.8, 43°.80N×146°.20E, h95^{km}±8^{km}, mb5.1/5, msha5.5/5*
*JMA **11** 15:29:40.3±0.2, 43°.6N±0°.5×146°.2E±1°.0, h84^{km}±1^{km}, MD3.5/37, MV3.7/37, NEAR KUNASHIRI ISLAND*
JMA Felt I J1 at NEAR KUNASHIRI ISLAND .
*NEIC **11** 15:29:41.8±1.2, 43°.73N±0°.08×146°.0E±0°.1, h102^{km}±9^{km}, mb4.1/20, Error ellipse: s-maj=15.0km s-min=11.4km az=110.0*
*IDC **11** 15:29:41.8±2.5, 43°.84N×146°.09E, h106^{km}±22^{km}, mb3.5/12, mbtmp3.8/15, Error ellipse: s-maj=20.9km s-min=16.6km az=99.0*

ISC 11 15:29:39.2±0.6, 43°.69N±0°.04×146°.14E±0°.04, h86^{km}±5^{km}, n107, σ1§48/119, mb4.1/30, 3C-11D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.40**	**329**	*c iPN*	**Pn**	**15 29 53.6**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**0.40**	**329**	*i P*	**Pn**	**15 29 53.6**	**+0.9**
YUK				AMB	AMB	15 29 53.9	
	4μm,0.2s						
YUK				*e*S	**Sn**	**15 30 03.3**	**+0.6**
YUK				A	A	15 30 04.5	
	9μm,0.5s						
YUK				A	A	15 30 04.5	
	8μm,0.5s						
NEM2	**Nemuro 2**	**0.44**	**222**	P	**Pn**	**15 29 53.9**	**+1.0**
NEM2				*e*S	**Sn**	**15 30 03.7**	**+0.5**
NEM2	**Nemuro 2**	**0.44**	**222**	A	A	15 29 53.9	
	comp=E,2.0nm,0.7s,comp=N,6.0nm,0.6s						
NMR	**Nemuro--Hokkai**	**0.44**	**223**	⇓*i*PN	**Pn**	**15 29 53.9**	**+0.9**
NMR				*e*S	**Sn**	**15 30 03.7**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.44**	**223**	*i P*	**Pn**	**15 29 53.9**	**+0.9**
NMR				*e*S	**Sn**	**15 30 03.7**	**+0.4**
SHO	**Shikotan**	**0.53**	**70**	⇓*i*PN	**Pn**	**15 29 54.6**	**+0.9**
SHO				*e*S	**Sn**	**15 30 05.1**	**+0.6**
SHO				pmax	pmax		
	comp=Z,434nm,0.1s						
SHO				pmax	pmax		
	comp=N,134nm,0.2s						
SHO				pmax	pmax		
	comp=E,128nm,0.2s						
SHO				smax	smax		
	comp=N,2μm,0.1s						
SHO				smax	smax		
	comp=E,5μm,0.3s						
SHO	**Shikotan**	**0.53**	**70**	*i* P	**Pn**	**15 29 54.5**	**+0.9**
SHO				AMB	AMB	15 29 55.2	
	comp=E,560nm,0.4s						
SHO				*e*S	**Sn**	**15 30 04.0**	**-0.5**
SHO				A	A	15 30 05.8	
	comp=E,4μm,0.4s						
SHO				A	A	15 30 05.8	
	comp=E,5μm,0.4s						
RUSJ	**Misakicho**	**0.77**	**303**	⇑*i*PN	**Pn**	**15 29 57.5**	**+1.5**
RUSJ				*e*S	**Sn**	**15 30 10.2**	**+1.7**
JRA	**Rausu**	**0.78**	**289**	P	**Pn**	**15 29 57.6**	**+1.5**
JRA				*e*S	**Sn**	**15 30 10.6**	**+1.9**
JRA	**Rausu**	**0.78**	**289**	A	A	15 29 57.6	
	comp=E,11nm,0.4s,comp=N,7.0nm,0.4s						
JNSB	**Nemuroshibetsu**	**0.83**	**276**	*e*P	**Pn**	**15 29 58.4**	**+1.7**
JNSB				*e*S	**Sn**	**15 30 11.9**	**+2.2**
JKHN	**Kushirohamanak**	**0.94**	**230**	P	**Pn**	**15 29 59.0**	**+1.1**
JKHN				*e*S	**Sn**	**15 30 12.7**	**+0.8**
JNK	**Nakash**	**1.04**	**264**	P	**Pn**	**15 30 00.1**	**+1.1**
JNK				*e*S	**Sn**	**15 30 14.5**	**+0.6**
AKK	**Akkeshi**	**1.17**	**235**	*e*P	**Pn**	**15 30 01.3**	**+0.8**
AKK				*e*S	**Sn**	**15 30 16.9**	**+0.3**
JAK	**Akkeshi**	**1.26**	**237**	P	**Pn**	**15 30 02.7**	**+1.0**
JAK				*e*S	**Sn**	**15 30 19.1**	**+0.4**
JTKR	**Abashiri--Toko**	**1.64**	**280**	P	**Pn**	**15 30 08.2**	**+1.7**
JTKR				*e*S	**Sn**	**15 30 29.4**	**+2.2**
JAR	**Ashorobuto**	**1.77**	**258**	P	**Pn**	**15 30 10.2**	**+2.0**
JAR				*e*S	**Sn**	**15 30 32.7**	**+2.4**
JOB	**Onbets**	**1.86**	**246**	*e*P	**Pn**	**15 30 11.1**	**+1.7**
JOB				*e*S	**Sn**	**15 30 33.7**	**+1.3**
KUR	**Kuril'sk**	**1.97**	**38**	*de*PN	**Pn**	**15 30 13.4**	**+2.6**
KUR	**Kuril'sk**	**1.97**	**38**	*e*P	**Pn**	**15 30 13.3**	**+2.5**
KUR				AMB	AMB	15 30 15.8	
	comp=N,140nm,0.4s						
KUR				*e*S	**Sn**	**15 30 38.0**	**+3.0**
KUR				A	A	15 30 39.2	
	comp=N,240nm,0.4s						
KUR				A	A	15 30 39.2	
	comp=N,560nm,0.4s						
JMP	**Maruseppu**	**2.04**	**280**	*e*P	**Pn**	**15 30 13.6**	**+1.9**
JKA	**Kamikawa-asahi**	**2.59**	**281**		**Pn**	**15 30 21.2**	**+2.1**
JKA	**Kamikawa-asahi**	**2.59**	**281**	*e*P	**Pn**	**15 30 21.9**	**+2.8**
ASAJ	**Asahikawa**	**2.60**	**281**	P	**Pn**	**15 30 21.9**	**+2.7**
	comp=N,52nm,0.4s,baz=79,slow=5.8,SNR=92						
ASAJ				S	Sn	15 31 02.3	+12
	comp=N,22nm,0.5s,baz=16,slow=32,SNR=1.4						
ERM	**Erimo**	**2.76**	**234**	Pn	**Pn**	**15 30 24.9**	**+3.4**
ERM	**Erimo**	**2.76**	**234**	*de*PN	**Pn**	**15 30 24.8**	**+3.4**
YSS	**Yuzh-Sakhalins**	**4.04**	**325**	Pn	**Pn**	**15 30 40.0**	**+1.3**
YSS	**Yuzh-Sakhalins**	**4.04**	**325**	*e*PN	**Pn**	**15 30 41.3**	**+2.6**
YSS				*e*S	**Sn**	**15 31 25.1**	**+0.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				smax	smax		
	comp=E,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.04**	**325**	*e*P	**Pn**	**15 30 39.9**	**+1.3**
YSS				AMB	AMB	15 30 44.0	
	comp=E,20nm,0.3s						
YSS				*e*S	**Sn**	**15 31 24.9**	**+0.1**
YSS				A	A	15 31 28.3	
	comp=E,20nm,0.6s						
YSS				A	A	15 31 28.3	
	comp=E,10.0nm,0.6s						
JTM	**Tenmabayashi**	**4.76**	**234**	Pn	**Pn**	**15 30 49.2**	**+0.8**
JMM	**Marumori**	**7.10**	**217**	Pn	**Pn**	**15 31 20.6**	**+0.3**
MAJO	**Matsushiro**	**9.37**	**223**	⇓*e*PN	**Pn**	**15 31 53.0**	**+1.6**
PETK	**Petropavlovsk-**	**12.14**	**35**	P	**Pn**	**15 32 29.7**	**+0.9**
	comp=E,2.6nm,0.8s,baz=215,slow=14,SNR=1.4						
PET	**Petropavlovsk**	**12.49**	**37**	Pn	**Pn**	**15 32 35.6**	**+2.1**
ZEA	**Zeya**	**15.96**	**316**	*e*P	**Pn**	**15 33 15.2**	**-3.3**
MA2	**Magadan**	**16.15**	**8**	⇓*e*P	**Pn**	**15 33 18.1**	**-2.7**
MA2	**Magadan**	**16.15**	**8**	*e*P	**Pn**	**15 33 18.1**	**-2.7**
SEY	**Seymchan**	**19.61**	**9**	P	**P**	**15 33 58.7**	**-1.7**
	comp=E,1.2nm,0.6s,baz=223,slow=18,SNR=1.2						
YAK	**Yakutsk**	**20.77**	**336**	⇓*e*P	**P**	**15 34 11.9**	**-0.9**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YAK	**Yakutsk**	**20.77**	**338**	*e*P	**P**	**15 34 11.9**	**-0.9**
XLT	**XiLinHaoTe**	**21.65**	**281**	*e*P	**P**	**15 34 19.0**	**-3.6**
XLT				pP	pP	15 34 38.9	-0.8
XLT				PP	**PnPn**	**15 34 45.4**	**-1.9**
XLT				sP	sP	15 34 52.5	+2.0
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,62nm,5.3s						
ULN	**Ulaanbaatar**	**27.37**	**293**	⇓*e*P	**P**	**15 35 16.9**	**+0.5**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.9s						
ULN	**Ulaanbaatar**	**27.37**	**293**	*e*P	**P**	**15 35 16.9**	**+0.5**
SONM	**Songino Array**	**27.82**	**293**	P	**P**	**15 35 19.7**	**-0.6**
SONM	**Songino Array**	**27.82**	**293**	*e*P	**P**	**15 35 20.8**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**27.82**	**293**	P	**P**	**15 35 20.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=100,slow=8.6,SNR=7.0						
	comp=Z,1.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.55**	**137**	T	T	16 06 33.9	
	baz=328,slow=75,SNR=434						
H11N1	**WAKE ISLAND Hy**	**29.56**	**137**	T	T	16 06 38.0	
	baz=328,slow=75,SNR=302						
H11N3	**WAKE ISLAND Hy**	**29.56**	**137**	T	T	16 06 34.8	
	baz=328,slow=75,SNR=237						
H11S1	**WAKE ISLAND Hy**	**30.50**	**139**	T	T	16 07 43.1	
	baz=329,slow=76,SNR=598						
H11S3	**WAKE ISLAND Hy**	**30.50**	**139**	T	T	16 07 43.4	
	baz=329,slow=76,SNR=479						
H11S2	**WAKE ISLAND Hy**	**30.51**	**139**	T	T	16 07 46.3	
	baz=329,slow=76,SNR=492						
J19K	**Poorman**	**38.17**	**37**	P	**P**	**15 36 50.9**	**+1.1**
J20K	**Nowinta River**	**38.82**	**37**	P	**P**	**15 36 56.9**	**+1.6**
J20K				IAmb	IAmb	15 37 26.3	
	comp=Z,3.8nm,1.1s						
IMAR	**Indian Mountai**	**39.10**	**34**	P	**P**	**15 36 57.8**	**+0.2**
H21K	**Melozitna Rive**	**39.47**	**35**	P	**P**	**15 37 01.4**	**+0.6**
PPLA	**Purkeypile**	**39.68**	**39**	P	**P**	**15 37 04.2**	**+1.5**
DGZ	**Jazzator, Alta**	**39.81**	**300**	⇓*e*P	**P**	**15 37 04.7**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,8.0nm,3.2s						
KDAK	**Kodiak Island**	**39.82**	**47**	P	**P**	**15 37 04.4**	**+0.7**
KDAK	**Kodiak Island**	**39.82**	**47**	P	**P**	**15 37 04.4**	**+0.7**
KDAK				pmax	pmax		
	comp=Z,14nm,1.1s						
ZALV	**Zalesovo Beam**	**40.45**	**307**	P	**P**	**15 37 07.7**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=92,slow=7.9,SNR=1.9						
	comp=Z,0.4nm,0.3s						
H23K	**Yukon River**	**40.82**	**35**	P	**P**	**15 37 12.9**	**+1.0**
H23K				IAmb	IAmb	15 37 16.6	
	comp=Z,2.9nm,1.1s						
NEA2	**Nenana**	**41.03**	**36**	P	**P**	**15 37 14.7**	**+1.1**
NEA2				IAmb	IAmb	15 37 15.4	
	comp=Z,2.5nm,0.7s						
ILAR	**Eielson Array**	**41.96**	**36**	*e*P	**P**	**15 37 22.0**	**+0.8**
ILAR	**Eielson Array**	**41.96**	**36**	P	**P**	**15 37 21.8**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=271,slow=8.0,SNR=7.7						
	comp=Z,0.8nm,0.9s						
KLU	**Klutina**	**42.72**	**41**	P	**P**	**15 37 28.2**	**+0.7**
KLU				IAmb	IAmb	15 37 48.8	
	comp=Z,3.6nm,1.0s						
MK31	**Makanchi Array**	**43.96**	**297**	P	**P**	**15 37 37.4**	**-0.2**
MK31				IAmb	IAmb	15 38 02.0	
	comp=Z,4.5nm,1.1s						
MK31	**Makanchi Array**	**43.96**	**297**	P	**P**	**15 37 37.4**	**-0.2**
MK31				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MKAR	**Makanchi Array**	**43.96**	**297**	P	**P**	**15 37 37.5**	**-0.1**
MKAR	**Makanchi Array**	**43.96**	**297**	P	**P**	**15 37 37.9**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=85,slow=12,SNR=6.3						
	comp=Z,0.8nm,0.7s						
K27K	**Chicken**	**44.12**	**37**	P	**P**	**15 37 39.9**	**+1.3**
L27K	**Beaver Creek,**	**44.38**	**38**	P	**P**	**15 37 42.2**	**+1.4**
BCAR	**Beaver Creek A**	**44.40**	**38**	P	**P**	**15 37 42.8**	**+1.9**
I28M	**Miner Creek**	**44.82**	**35**	P	**P**	**15 37 45.8**	**+1.5**
KURK	**Kurchatov**	**44.95**	**304**	⇓*e*P	**P**	**15 37 45.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
KURK	**Kurchatov**	**44.95**	**304**	*e*P	**P**	**15 37 45.3**	**-0.1**
KURBB	**Kurchatov Arra**	**45.04**	**304**	P	**P**	**15 37 44.9**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=69,slow=8.9,SNR=4.2						
	comp=Z,0.6nm,0.5s						
G29M	**Pine Creek**	**45.37**	**33**	P	**P**	**15 37 49.8**	**+1.3**
G29M				IAmb	IAmb	15 37 51.4	
	comp=Z,3.3nm,1.1s						
G30M	**tAoh Zraii Nji**	**46.05**	**32**	P	**P**	**15 37 54.6**	**+0.7**
G30M				IAmb	IAmb	15 38 23.1	
	comp=Z,3.4nm,1.1s						
I30M	**Mount Dempster**	**46.33**	**35**	P	**P**	**15 37 57.3**	**+1.1**
I30M				IAmb	IAmb	15 37 58.4	
	comp=Z,2.6nm,0.7s						
BVAR	**Borovoye Array**	**48.97**	**309**	P	**P**	**15 38 16.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=87,slow=8.8,SNR=2.0						
	comp=Z,0.4nm,0.4s						
KKAR	**Karatay Array**	**53.09**	**297**	P	**P**	**15 38 47.9**	**+0.2**
KKAR	**Karatay Array**	**53.09**	**297**	P	**P**	**15 38 47.9**	**+0.2**
ABKAR	**Akbulak array**	**56.53**	**308**	P	**P**	**15 39 12.4**	**+0.1**
ABKAR				IAmb	IAmb	15 39 13.1	
	comp=Z,1.8nm,0.8s						
SUMG	**Summit**	**63.99**	**2**	P	**P**	**15 40 03.7**	**+0.4**
SUMG	**Summit**	**63.99**	**2**	P	**P**	**15 40 03.7**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WB0	**Warramunga Arr**	**64.06**	**192**	P	**P**	**15 40 03.8**	**-0.2**
WB0				IAmb	IAmb	15 40 27.9	
	comp=Z,3.3nm,1.1s						
WR0	**Warramunga Arr**	**64.23**	**192**	P	**P**	**15 40 05.1**	**+0.1**
WRA	**Warramunga Arr**	**64.24**	**192**	*i* P	**P**	**15 40 06.5**	**+1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**64.24**	**192**	P	**P**	**15 40 05.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=9.9,slow=6.7,SNR=6.8						
	comp=Z,0.4nm,0.5s						
FINES	**FINESS Array B**	**64.59**	**333**	P	**P**	**15 40 06.1**	**-0.8**
FINES	**FINESS Array B**	**64.59**	**333**	*i* P	**P**	**15 40 06.6**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**64.59**	**333**	P	**P**	**15 40 05.4**	**-1.5**
	comp=Z,2.4nm,0.9s,baz=46,slow=6.0,SNR=4.2						
	comp=Z,2.4nm,0.9s						
OBN	**Obninsk**	**64.92**	**323**	*i* P	**P**	**15 40 08.3**	**-0.9**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,34nm,13.0s						
OBN	**Obninsk**	**64.92**	**323**	*e*P	**P**	**15 40 10.5**	**+1.3**
VSU	**Vasula**	**66.52**	**330**	⇓*e*P	**P**	**15 40 16.9**	**-2.5**
VSU				pmax	pmax		
	comp=Z,71nm,1.1s						
AS31	**Alice Springs**	**67.96**	**192**	P	**P**	**15 40 30.0**	**+1.1**
ASAR	**Alice Springs**	**67.97**	**192**	P	**P**	**15 40 29.9**	**+0.9**
ASAR	**Alice Springs**	**67.97**	**192**	P	**P**	**15 40 30.5**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=12,slow=7.0,SNR=21						
	comp=Z,0.9nm,0.6s						
NACGM	**Naroch**	**69.11**	**327**	*e*P	**P**	**15 40 33.3**	**-2.4**
	comp=E,2μm,0.8s						
KIV	**Kislovodsk**	**69.25**	**311**	*e*P	**P**	**15 40 38.3**	**+1.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV	**Kislovodsk**	**69.25**	**311**	*e*P	**P**	**15 40 38.3**	**+1.4**
KBZ	**Khabaz**	**69.29**	**311**	P	**P**	**15 40 38.2**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=92,slow=3.1,SNR=5.9						
	comp=Z,3.0nm,0.8s						
HFS	**Hagfors**	**69.45**	**337**	P	**P**	**15 40 36.2**	**-1.6**
	comp=Z,2.8nm,0.9s,baz=62,slow=3.7,SNR=2.2						
	comp=Z,2.8nm,0.9s						
EKA	**Eskdalemuir Ar**	**77.96**	**343**	P	**P**	**15 41 27.6**	**0.0**
	comp=Z,0.4nm,0.4s,baz=26,slow=5.5,SNR=1.9						
	comp=Z,0.4nm,0.4s						
KHC	**Kasperske Hory**	**78.65**	**330**	⇑*e*P	**P**	**15 41 29.8**	**-1.8**
KHC				pmax	pmax		
	comp=Z,10.0nm,1.8s						

*JMA **11** 15:48:22.3±0.2, 26°.N±1°.×12°.5E±°., h167^{km}, MV3.5/30, NW OFF MIYAKOJIMA ISLAND*
*IDC **11** 15:48:25.4±7.3, 25°.75N×125°.36E, h154^{km}±88^{km}, mb3.1/2, mbtmp3.7/4, Error ellipse: s-maj=94.4km s-min=37.0km az=61.0*

ISC 11 15:48:20.2±1.5, 26°.49N±0°.09×124°.71E±0°.08, h150^{km}, n26, σ1§60/45, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.64**	**163**	*e*P	**Pn**	**15 48 52.7**	**+1.5**
JIKM				S	**Sn**	**15 49 15.6**	**+0.6**
JIRB	**Irabujima**	**1.71**	**166**	P	**Pn**	**15 48 53.2**	**+1.1**
JIRB				*e*S	**Sn**	**15 49 15.6**	**-0.8**
JMJ2	**Miyako jima3**	**1.83**	**162**	P	**Pn**	**15 48 54.6**	**+1.2**
JMJ2				S	**Sn**	**15 49 18.8**	**-0.1**
JOGS	**Gusukube**	**1.84**	**160**	*e*P	**Pn**	**15 48 54.6**	**+1.1**
JOGS				S	**Sn**	**15 49 18.8**	**-0.1**
JTJ	**Tarama**	**1.84**	**180**	P	**Pn**	**15 48 55.0**	**+1.5**
JTJ				*e*S	**Sn**	**15 49 17.9**	**-1.2**
JKE	**Kume jima 2**	**1.87**	**95**	P	**Pn**	**15 48 56.2**	**+2.5**
JKE				S	**Sn**	**15 49 22.0**	**+2.5**
JISG	**Ishigakijimahi**	**1.93**	**191**	P	**Pn**	**15 48 56.0**	**+1.4**
JISG				S	**Sn**	**15 49 20.6**	**-0.3**
JIJ	**Ishigaki jima**	**2.18**	**194**	P	**Pn**	**15 48 58.2**	**+0.7**
JIJ				S	**Sn**	**15 49 24.3**	**-1.9**
JAGN	**Aguni-jima**	**2.27**	**87**	P	**Pn**	**15 49 00.9**	**+2.4**
JAGN				S	**Sn**	**15 49 28.7**	**+0.8**
IRIF	**Iriomote-Funau**	**2.33**	**203**	P	**Pn**	**15 49 00.4**	**+1.2**
IRIF				*e*S	**Sn**	**15 49 29.5**	**+0.3**
JKRS	**Kuro-shima**	**2.33**	**196**	P	**Pn**	**15 49 00.2**	**+0.9**
JKRS				S	**Sn**	**15 49 28.1**	**-1.3**
YOJ	**Yonaguni jima**	**2.54**	**218**	*e*P	**Pn**	**15 49 04.3**	**+2.5**
HATJ	**Hateruma jima**	**2.56**	**199**	P	**Pn**	**15 49 03.6**	**+1.5**
HATJ				*e*S	**Sn**	**15 49 32.4**	**-2.0**
JJT3	**Tamagusuku3**	**2.78**	**97**	P	**Pn**	**15 49 06.5**	**+1.7**
JJT3				*e*S	**Sn**	**15 49 37.9**	**-1.2**
JIH	**Iheya**	**2.96**	**79**	P	**Pn**	**15 49 09.2**	**+2.2**
JIH				S	**Sn**	**15 49 43.6**	**+0.4**
JNTH	**Nagotoyohara**	**2.97**	**89**	*i* P	**Pn**	**15 49 08.5**	**+1.4**
JNTH				*e*S	**Sn**	**15 49 41.4**	**-2.0**
JOW	**Kunigami**	**3.21**	**83**	*i* P	**Pn**	**15 49 11.6**	**+1.4**
JOW				*e*S	**Sn**	**15 49 47.2**	**-1.6**
JOW	**Kunigami**	**3.21**	**83**	P	**Pn**	**15 49 11.6**	**+1.4**
	89nm,0.3s,baz=127,slow=18,SNR=158						
JOW				S	**Sn**	**15 49 46.2**	**-2.6**
	54nm,0.3s,baz=324,slow=27,SNR=24						
JYRO	**Yoronjima**	**3.38**	**80**	P	**Pn**	**15 49 14.0**	**+1.6**
JYRO				S	**Sn**	**15 49 51.0**	**-1.9**
JOKE	**Okinoerabujima**	**3.55**	**75**	*i* P	**Pn**	**15 49 16.1**	**+1.4**
JOKE				S	**Sn**	**15 49 55.2**	**-1.6**
JTK	**Tokunoshima**	**3.99**	**70**	*i* P	**Pn**	**15 49 21.7**	**+1.4**
JTK				S	**Sn**	**15 50 04.3**	**-2.7**
JAMN	**Amaminishikomi**	**4.33**	**65**	*i* P	**Pn**	**15 49 26.1**	**+1.3**
JAMN				*e*S	**Sn**	**15 50 13.8**	**-1.3**
JAM	**Amami Oshima**	**4.75**	**65**	P	**Pn**	**15 49 31.3**	**+1.0**
KSRS	**Korea Array**	**11.26**	**13**	P	P	15 51 09.2	+4.5
	0.7nm,0.6s,baz=195,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**47.09**	**168**	P	P	15 56 35.0	-2.1
	0.5nm,0.7s,baz=349,slow=8.5,SNR=9.1						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**50.65**	**169**	P	**P**	**15 57 02.9**	**-1.3**
	0.4nm,0.4s,baz=353,slow=7.9,SNR=24						
	0.4nm,0.4s						

*IDC **11** 15:50:57.1±3.8, 35°.97N×74°.69E, h0^{km}, mb3.5/2, mbtmp3.4/6, ML3.0/3, MS4.0/1, Error ellipse: s-maj=78.7km s-min=30.5km az=75.0*

ISC 11 15:51:04.4±2.2, 36°.0N±0°.1×75°.3E±0°.3, h35^{km}, n13, σ1§68/13, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.71**	**355**	Pn	**Pn**	**15 52 39.4**	**-1.1**
	0.3nm,0.3s,baz=187,slow=8.1,SNR=2.4						
AAK				Sn	**Sn**	**15 53 59.0**	**+3.3**
	baz=27,slow=7.0						
AAK				Lg	Lg	15 54 30.9	
	0.1nm,0.3s,baz=302,slow=20,SNR=1.6						
	0.6nm,0.3s						
PYUN	**Piuthan**	**10.17**	**138**	*e*P	**Pn**	**15 53 29.9**	**+1.8**
	8.3nm,0.4s						
DANN	**Dangsing**	**10.41**	**134**	*e*P	**Pn**	**15 53 32.4**	**+1.0**
	5.6nm,0.4s						
GKN	**Gorkha**	**11.18**	**133**	*e*P	**Pn**	**15 53 41.8**	**-0.1**
	4.7nm,0.3s						
PKI	**Pulchoki**	**11.96**	**132**	*e*P	**Pn**	**15 53 52.5**	**-0.2**
GUN	**Gumba**	**12.01**	**129**	*e*P	**Pn**	**15 53 52.5**	**-0.9**
	11nm,0.6s						
MKAR	**Makanchi Array**	**12.01**	**24**	Pn	**Pn**	**15 53 52.2**	**-0.8**
	0.1nm,0.3s,baz=209,slow=14,SNR=2.2						
	0.5nm,0.7s						
JIRN	**Jiri**	**12.38**	**129**	*e*P	**Pn**	**15 53 58.4**	**-0.1**
	15nm,0.6s						
KURBB	**Kurchatov Arra**	**14.84**	**8**	Pn	**Pn**	**15 54 29.4**	**-2.1**
	0.7nm,0.9s,baz=196,slow=14,SNR=4.3						
ZALV	**Zalesovo Beam**	**19.17**	**17**	P	**P**	**15 55 23.3**	**-1.3**
	0.2nm,0.3s,baz=217,slow=9.9,SNR=4.3						
	0.6nm,0.4s						
SONM	**Songino Array**	**25.81**	**53**	P	**P**	**15 56 34.1**	**+1.9**
	0.7nm,0.7s,baz=254,slow=12,SNR=4.7						
	0.7nm,0.7s						
JHJ	**Hachijo jima 2**	**52.29**	**73**	LR	LR	16 23 13.8	
	comp=Z,152nm,20.7s,baz=324,slow=37						
ILAR	**Eielson Array**	**74.30**	**17**	P	**P**	**16 02 37.1**	**-0.6**
	0.4nm,0.8s,baz=308,slow=4.4,SNR=4.2						
	0.4nm,0.8s						

*IDC **11** 15:53:41.4±1.1, 33°.64N×90°.27E, h0^{km}, mb3.7/6, mbtmp3.6/9, ML3.1/3, MS3.2/15, Error ellipse: s-maj=35.4km s-min=18.7km az=57.0*

ISC 11 15:53:46.7±0.8, 33°.83N±0°.09×90°.3E±0°.1, h35^{km}, n29, σ1§13/19, mb3.7/5, MS3.2/12, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**6.84**	**200**	*e*P	**Pn**	**15 55 24.8**	**-0.1**
	11nm,0.5s						
GUN	**Gumba**	**7.03**	**214**	*e*P	**Pn**	**15 55 28.4**	**+0.9**
	20nm,0.5s						
JIRN	**Jiri**	**7.11**	**211**	*e*P	**Pn**	**15 55 29.9**	**+1.3**
	25nm,0.4s						
PKI	**Pulchoki**	**7.54**	**215**	*e*P	**Pn**	**15 55 35.7**	**+1.2**
	29nm,0.6s						
PKIN	**Phulchoki**	**7.54**	**216**	*e*P	**Pn**	**15 55 35.7**	**+1.3**
	28nm,0.5s						
RAMN	**Ramite**	**7.58**	**206**	*e*P	**Pn**	**15 55 35.4**	**+0.5**
	31nm,0.4s						
GKN	**Gorkha**	**7.59**	**222**	*e*P	**Pn**	**15 55 35.6**	**+0.6**
	11nm,0.4s						
DMN	**Daman**	**7.66**	**217**	*e*P	**Pn**	**15 55 37.1**	**+1.1**
	16nm,0.5s						
DANN	**Dangsing**	**7.85**	**228**	*e*P	**Pn**	**15 55 38.4**	**-0.2**
	12nm,0.5s

	baz=5.0						
LBTB	**Lobatse**	**3.56**	**281**	*i* P	Pn	16 14 53.5	-0.9
LBTB				*i* S	Sn	16 15 34.4	-2.1
LBTB	**Lobatse**	**3.56**	**281**	*i* P	Pn	16 14 53.5	-0.9
	baz=281						
LBTB				*i* S	Sn	16 15 34.4	-2.1
	baz=281						
BOSA	**Boshof**	**4.71**	**232**	*i* P	Pn	16 15 09.3	-0.9
BOSA				*i* S	Sn	16 16 01.7	-3.2
BOSA	**Boshof**	**4.71**	**232**	*i* P	Pn	16 15 09.3	-0.9
	baz=232						
BOSA				*i* S	Sn	16 16 01.7	-3.2
	baz=232						
MATP	**Matopo**	**5.36**	**350**	*i* P	Pn	16 15 18.0	-1.0
MATP				*i* S	Sn	16 16 16.7	-4.2
MATP	**Matopo**	**5.36**	**350**	*i* P	Pn	16 15 18.0	-1.0
	baz=350						
MATP				*i* S	Sn	16 16 16.7	-4.2
	baz=350						

*DJA **11** 16:30:37.9±0.2, 7°S±4°×10°7E±°, h62km±6km, M4.6/18, mb4.7/7, MLv4.6/18*
*NEIC **11** 16:30:37.1±2.5, 7°11S±0°07×106°61E±0°03, h96km±6km, mb4.3/24, Error ellipse: s-maj=10.3km s-min=3.3km az=191.0*
*IDC **11** 16:30:39.2±0.7, 6°81S×106°88E, h108km±5km, mb3.9/23, mbtmp4.2/24, MS3.1/6, Error ellipse: s-maj=14.9km s-min=9.7km az=52.0*
ISC 11 16:30:37.3±0.4, 7°03S±0°06×106°72E±0°05, h91km, n113, σ1§67/96, mb4.2/31, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.49**	**125**	P	**Pn**	**16 30 51.3**	**-0.7**
CNJI				S	**Sn**	**16 31 01.1**	**-1.9**
LEM	**Lembang**	**0.91**	**77**	P	**Pn**	**16 30 58.0**	**+1.8**
LEM	**Lembang**	**0.91**	**77**	P	**Pn**	**16 30 57.6**	**+1.4**
	3μm,0.4s,baz=272,slow=4.5,SNR=356						
LEM				S	**Sn**	**16 31 13.2**	**+2.8**
	2μm,0.5s,baz=314,slow=19,SNR=8.0						
BBJI	**Bungbulang**	**1.02**	**115**	P	**Pn**	**16 30 56.9**	**-0.4**
CGJI	**Cibinong**	**1.10**	**292**	P	**Pn**	**16 30 59.8**	**+1.6**
JCJI	**Jatiwangi**	**1.63**	**71**	P	**Pn**	**16 31 06.1**	**+1.4**
CMJI	**Cimerak**	**1.87**	**114**	P	**Pn**	**16 31 07.6**	**-0.2**
KPJI	**Karang Pucung**	**2.21**	**98**	P	**Pn**	**16 31 14.2**	**+1.9**
KASI	**Kota Agung**	**2.67**	**304**	P	**Pn**	**16 31 22.0**	**+3.6**
KLI	**Kotabumi**	**2.84**	**319**	P	**Pn**	**16 31 25.1**	**+4.4**
LWLI	**Liwa**	**3.32**	**307**	P	Pn	16 31 32.2	+5.0
XMI	**Christmas Isla**	**3.55**	**197**	P	Pn	16 31 26.4	-3.9
XMIS	**Christmas Isla**	**3.59**	**197**	Pn	Pn	16 31 26.1	-4.7
XMIS	**Christmas Isla**	**3.59**	**197**	P	Pn	16 31 26.5	-4.4
SMRI	**Semarang**	**3.69**	**91**		**Pn**	**16 31 32.0**	**-0.2**
SMRI	**Semarang**	**3.69**	**91**	P	**Pn**	**16 31 35.9**	**+3.7**
UGM	**Wanagama**	**3.87**	**103**	Pn	**Pn**	**16 31 34.5**	**-0.1**
UGM	**Wanagama**	**3.87**	**103**	P	**Pn**	**16 31 35.8**	**+1.2**
UGM	**Wanagama**	**3.87**	**103**	P	**Pn**	**16 31 35.1**	**+0.5**
WOJI	**Wonogiri, Jawa**	**4.24**	**101**	P	**Pn**	**16 31 41.4**	**+1.8**
MNAI	**Manna**	**4.59**	**305**	Pn	**Pn**	**16 31 45.4**	**+1.0**
MNAI	**Manna**	**4.59**	**305**	P	Pn	16 31 50.5	+6.1
MNAI	**Manna**	**4.59**	**305**	P	**Pn**	**16 31 46.6**	**+2.2**
GMJI	**Gumukmas**	**6.78**	**101**	P	**Pn**	**16 32 16.5**	**+2.4**
	73nm,1.8s,0.2nm						
DSRI	**Dabo**	**6.85**	**342**	P	Pn	16 32 19.5	+4.4
	43nm,0.9s,0.1nm						
BLJI	**Banyuglugur**	**6.85**	**96**	P	**Pn**	**16 32 18.0**	**+2.8**
ABJI	**Asem Bagus**	**7.49**	**96**	P	Pn	16 32 29.0	+5.2
JAGI	**Jajag, Banyuwa**	**7.50**	**102**	Pn	**Pn**	**16 32 25.4**	**+1.4**
JAGI	**Jajag, Banyuwa**	**7.50**	**102**	P	**Pn**	**16 32 25.9**	**+1.9**
JAGI	**Jajag, Banyuwa**	**7.50**	**102**	P	**Pn**	**16 32 25.9**	**+1.9**
PPSI	**Pulau Pagai**	**7.92**	**302**	P	**Pn**	**16 32 29.6**	**-0.1**
	214nm,0.9s,0.9nm						
SRBI	**Singaraja**	**8.48**	**98**	P	**Pn**	**16 32 39.2**	**+1.8**
	61nm,0.6s						
SISI	**Saibi**	**9.48**	**306**	P	**Pn**	**16 32 50.5**	**-0.6**
	72nm,0.9s						
TWSI	**Taliwang, Sumb**	**10.21**	**100**	P	**Pn**	**16 32 59.5**	**-1.4**
	9.8nm,0.5s						
PLAI	**Plampang**	**11.09**	**100**	P	**Pn**	**16 33 14.6**	**+1.6**
PLAI	**Plampang**	**11.09**	**100**	P	**Pn**	**16 33 12.7**	**-0.3**
KAPI	**Kappang**	**13.11**	**82**	LR	LR	16 39 29.5	
	comp=Z,32nm,20.6s,baz=232,slow=41						
MMRI	**Maumere**	**15.45**	**97**		**P**	**16 34 12.8**	**-0.1**
MMRI	**Maumere**	**15.45**	**97**	P	**P**	**16 34 13.5**	**+0.7**
	70nm,1.1s						
TOLI2	**Tolitoli**	**16.19**	**61**		**P**	**16 34 20.7**	**-0.3**
TOLI2	**Tolitoli**	**16.19**	**61**	P	**P**	**16 34 27.6**	**+6.6**
BATI	**Baumata**	**17.04**	**102**	P	**Pn**	**16 34 29.6**	**-0.5**
	18nm,0.5s,baz=316,slow=22,SNR=2.1						
BATI				S	**Sn**	**16 37 39.9**	**+0.4**
	15nm,0.7s,baz=83,slow=20,SNR=1.5						
GIRL	**Giralia**	**17.13**	**156**	P	**Pn**	**16 34 28.7**	**-2.3**
SOEI	**Soe**	**17.57**	**100**	P	**P**	**16 34 34.8**	**-1.6**
SOEI				IAmb	IAmb	16 34 47.8	
	comp=Z,28nm,0.8s						
MBWA	**Marble Bar**	**18.86**	**139**	P	**P**	**16 34 51.5**	**+1.2**
MBWA				IAmb	IAmb	16 35 18.7	
	comp=Z,21nm,1.5s						
DLV	**T Lat**	**18.93**	**5**	Pn	**Pn**	**16 34 53.6**	**+0.7**
DLV				IAmb	IAmb	16 34 54.6	
	comp=Z,15nm,0.8s						
KNRA	**Kununurra**	**23.23**	**114**	P	**P**	**16 35 35.9**	**-1.0**
KNRA				IAmb	IAmb	16 36 03.1	
	comp=Z,26nm,1.2s						
DAV	**Davao City (W)**	**23.45**	**54**	LR	LR	16 47 16.0	
	comp=Z,15nm,18.0s,baz=146,slow=43						
MTN	**Manton Dam**	**24.72**	**105**	P	**P**	**16 35 48.6**	**-1.6**
MTN				IAmb	IAmb	16 35 56.2	
	comp=Z,20nm,1.4s						
SIJI	**Sorong**	**25.23**	**77**	P	**P**	**16 35 53.8**	**-1.2**
	comp=Z,4.2nm,0.6s,baz=253,slow=5.5,SNR=5.2						
	comp=Z,4.2nm,0.6s						
FAKI	**Fak Fak**	**25.75**	**82**	P	**P**	**16 35 57.4**	**-2.3**
CMAR	**Chiang Mai Arr**	**26.46**	**343**	P	**P**	**16 36 04.8**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=178,slow=9.2,SNR=6.3						
CMAR				ScP	**ScP**	**16 42 59.6**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=189,slow=4.4,SNR=4.3						
	comp=Z,0.6nm,0.7s						
H01W3	**Cape Leeuwin H**	**28.55**	**167**	T	T	17 06 12.1	
	baz=343,slow=78,SNR=71						
H01W1	**Cape Leeuwin H**	**28.57**	**167**	T	T	17 06 12.1	
	baz=343,slow=78,SNR=63						
H01W2	**Cape Leeuwin H**	**28.57**	**167**	T	T	17 06 13.8	
	baz=343,slow=78,SNR=72						
WB0	**Warramunga Arr**	**29.69**	**118**	P	**P**	**16 36 33.7**	**-1.2**
WRA	**Warramunga Arr**	**29.70**	**118**	P	**P**	**16 36 34.7**	**-0.2**
WRA	**Warramunga Arr**	**29.70**	**118**	P	**P**	**16 36 35.3**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=302,slow=9.0,SNR=16						
WRA				ScP	**ScP**	**16 43 09.5**	**-1.7**
	comp=Z,0.4nm,0.9s,baz=295,slow=2.4,SNR=4.7						
	comp=Z,1.4nm,0.5s						
WB2	**Warramunga Arr**	**29.71**	**118**	P	**P**	**16 36 35.0**	**0.0**
WB2				IAmb	IAmb	16 36 36.0	
	comp=Z,5.3nm,1.1s						
WR0	**Warramunga Arr**	**29.89**	**118**	P	**P**	**16 36 36.3**	**-0.2**
WR0				IAmb	IAmb	16 36 56.1	
	comp=Z,5.0nm,1.1s						
ASAR	**Alice Springs**	**30.90**	**125**	P	**P**	**16 36 46.5**	**+1.0**
ASAR	**Alice Springs**	**30.90**	**125**	P	**P**	**16 36 45.9**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=302,slow=8.2,SNR=19						
ASAR				S	**S**	**16 41 41.4**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=300,slow=16,SNR=4.3						
ASAR				ScP	**ScP**	**16 43 13.8**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=312,slow=3.2,SNR=12						
	comp=Z,1.7nm,0.8s						
AS31	**Alice Springs**	**30.90**	**125**	P	**P**	**16 36 45.1**	**-0.4**
H08S2	**Diego Garcia H**	**33.95**	**267**	T	T	17 12 54.9	
	baz=91,slow=76,SNR=187						
H08S3	**Diego Garcia H**	**33.96**	**267**	T	T	17 12 55.6	
	baz=91,slow=76,SNR=88						
H08S1	**Diego Garcia H**	**33.97**	**267**	T	T	17 12 55.9	
	baz=91,slow=76,SNR=66						
COEN	**Coen**	**36.46**	**104**	P	**P**	**16 37 33.1**	**-0.7**
STKA	**Stephens Creek**	**40.83**	**132**	P	**P**	**16 38 11.1**	**+0.9**
XLT	**XiLinHaoTe**	**51.39**	**9**	*e*P	P	16 39 43.8	+11
XLT				pP	pP	16 39 53.4	-1.7
XLT				sP	sP	16 40 01.8	-3.5
XLT				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,63nm,3.8s						
MJAR	**Matsushiro Arr**	**52.44**	**32**	P	**P**	**16 39 38.0**	**-2.7**
	comp=Z,1.0nm,0.5s,baz=211,slow=7.5,SNR=5.3						
	comp=Z,1.0nm,0.5s						

SONM	**Songino Array**	**54.62**	**360**	P	**P**	**16 39 55.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=191,slow=6.9,SNR=2.6						
SONM				PcP	**PcP**	**16 40 58.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=169,slow=3.9,SNR=4.1						
SONM				ScP	**ScP**	**16 44 47.5**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=171,slow=2.8,SNR=4.0						
	comp=Z,0.3nm,0.3s						
USA0B	**Ussuriysk Arra**	**55.86**	**22**	P	**P**	**16 40 04.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**55.86**	**22**	P	**P**	**16 40 04.9**	**-0.5**
USRK	**Ussuriysk Ar.**	**55.86**	**22**	P	**P**	**16 40 04.7**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=195,slow=5.4,SNR=8.6						
	comp=Z,2.3nm,0.5s						
MKAR	**Makanchi Array**	**57.82**	**340**	P	**P**	**16 40 17.2**	**-2.1**
MKAR	**Makanchi Array**	**57.82**	**340**	P	**P**	**16 40 17.5**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=154,slow=8.3,SNR=19						
	comp=Z,1.2nm,0.5s						
CASY	**Casey**	**59.22**	**178**	P	**P**	**16 40 29.1**	**+0.5**
CASY				IAmb	IAmb	16 40 30.3	
	comp=Z,3.4nm,1.1s						
VOI	**Vohitsoka**	**59.54**	**249**	P	**P**	**16 40 34.1**	**+2.3**
H04N2	**CROZET ISLANDS**	**61.06**	**221**	T	T	17 47 08.1	
	baz=68,slow=75,SNR=93						
H04N1	**CROZET ISLANDS**	**61.08**	**221**	T	T	17 47 08.4	
	baz=68,slow=75,SNR=159						
H04N3	**CROZET ISLANDS**	**61.08**	**221**	T	T	17 47 07.1	
	baz=68,slow=75,SNR=174						
H04S1	**CROZET ISLANDS**	**61.25**	**220**	T	T	17 47 18.6	
	baz=67						
H04S3	**CROZET ISLANDS**	**61.26**	**220**	T	T	17 47 15.5	
	baz=67						
H04S2	**CROZET ISLANDS**	**61.26**	**220**	T	T	17 47 17.4	
	baz=67						
KURBB	**Kurchatov Arra**	**62.38**	**340**	P	**P**	**16 40 48.8**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=151,slow=6.4,SNR=9.5						
KURBB				PcP	**PcP**	**16 41 28.8**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=160,slow=4.9,SNR=4.5						
	comp=Z,1.1nm,0.5s						
ZALV	**Zalsovo Beam**	**63.49**	**346**	P	**P**	**16 40 55.4**	**-2.2**
	comp=Z,0.9nm,0.4s,baz=164,slow=6.4,SNR=3.1						
	comp=Z,0.9nm,0.4s						
GEYT	**Alibeck**	**63.60**	**319**	P	**P**	**16 40 58.8**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=111,slow=6.0,SNR=2.1						
	comp=Z,0.7nm,0.3s						
RPZ	**Rata Peaks**	**66.71**	**135**	LR	LR	17 09 14.7	
	comp=Z,22nm,21.1s,baz=254,slow=35						
MAW	**Mawson**	**67.26**	**197**	P	**P**	**16 41 23.0**	**+1.3**
MAW	**Mawson**	**67.26**	**197**	P	**P**	**16 41 23.5**	**+1.7**
	comp=Z,2.9nm,0.6s,baz=68,slow=5.1,SNR=17						
	comp=Z,2.9nm,0.6s						
BVAR	**Borovoye Array**	**67.28**	**337**	P	**P**	**16 41 20.7**	**-1.4**
	comp=Z,1.8nm,0.5s,baz=138,slow=9.0,SNR=12						
	comp=Z,1.8nm,0.5s						
BRVK	**Borovoye**	**67.35**	**337**	P	**P**	**16 41 21.0**	**-1.5**
BRVK				IAmb	IAmb	16 41 35.5	
	comp=Z,1.4nm,0.6s						
ABKAR	**Akbulak array**	**69.30**	**329**	P	**P**	**16 41 33.2**	**-1.6**
URZ	**Urewera**	**70.29**	**128**	LR	LR	17 16 45.0	
	comp=Z,26nm,18.0s,baz=33,slow=39						
PETK	**Petropavlovsk-**	**73.75**	**29**	P	**P**	**16 41 59.7**	**-1.8**
PETK	**Petropavlovsk-**	**73.75**	**29**	P	**P**	**16 41 59.9**	**-1.5**
	comp=Z,3.8nm,0.9s,baz=233,slow=1.6,SNR=6.7						
	comp=Z,3.8nm,0.9s						
GNI	**Garni**	**73.78**	**315**	LR	LR	17 18 14.9	
	comp=Z,19nm,18.0s,baz=324,slow=39						
KBZ	**Khabaz**	**76.48**	**318**	P	**P**	**16 42 17.8**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=140,slow=7.4,SNR=4.3						
KBZ				LR	LR	17 21 21.8	
	comp=Z,13nm,18.3s,baz=130,slow=40						
	comp=Z,2.9nm,0.9s						
SBA	**Scott Base**	**77.07**	**169**	P	**P**	**16 42 22.4**	**+2.3**
SBA				IAmb	IAmb	16 42 23.4	
	comp=Z,6.8nm,1.5s						
MMAI	**Mount Meron Ar**	**78.39**	**306**	P	**P**	**16 42 29.9**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=99,slow=8.9,SNR=2.2						
	comp=Z,0.5nm,0.4s						
BOSA	**Boshof**	**79.20**	**242**	P	**P**	**16 42 33.4**	**+0.5**
BOSA				IAmb	IAmb	16 42 47.5	
	comp=Z,7.0nm,1.1s						
BOSA	**Boshof**	**79.20**	**242**	P	**P**	**16 42 34.1**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=113,slow=4.5,SNR=8.4						
	comp=Z,1.3nm,0.4s						
BRTR	**Keskin Array B**	**81.64**	**312**	P	**P**	**16 42 45.5**	**-0.3**
BRTR	**Keskin Array B**	**81.64**	**312**	P	**P**	**16 42 45.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=143,slow=5.5,SNR=5.7						
	comp=Z,0.9nm,0.6s						
QSPA	**South Pole Qui**	**82.96**	**180**	P	**P**	**16 42 53.3**	**+1.1**
QSPA				IAmb	IAmb	16 42 54.1	
	comp=Z,3.9nm,0.9s						
QSPA	**South Pole Qui**	**82.96**	**180**	P	**P**	**16 42 52.8**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=239,slow=0.5,SNR=27						
	comp=Z,2.2nm,0.6s						
AKASG	**Malin Array Be**	**87.54**	**322**	P	**P**	**16 43 14.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=86,slow=4.9,SNR=5.4						
	comp=Z,0.4nm,0.5s						
SNAA	**Sanae**	**89.42**	**197**	P	**P**	**16 43 25.3**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=143,slow=7.0,SNR=9.5						
	comp=Z,1.8nm,0.6s						
FINES	**FINESS Array B**	**91.66**	**332**	P	**P**	**16 43 33.5**	**-0.6**
	comp=Z,4.3nm,1.1s,baz=113,slow=4.4,SNR=3.8						
	comp=Z,4.3nm,1.1s						
ARCES	**ARCESS Array B**	**93.47**	**340**	P	**P**	**16 43 41.3**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=86,slow=5.5,SNR=4.8						
	comp=Z,2.4nm,0.8s						
CPUP	**Villa Florida**	**143.41**	**204**	PKP	PKPbc	16 50 00.8	+1.5
	comp=Z,1.0nm,0.5s,baz=124,slow=3.6,SNR=2.0						
TXAR	**Lajitas Array**	**143.79**	**48**	PKP	PKPbc	16 50 01.1	+0.6
	comp=Z,0.2nm,0.4s,baz=146,slow=0.5,SNR=3.4						
BDFB	**Brasília**	**146.33**	**228**	PKPbc	**PKPbc**	**16 50 10.2**	**+1.5**
	comp=Z,2.0nm,0.5s,baz=141,slow=6.5,SNR=2.1						

IDC 11 16:39:42.9±999.0, 63°29N×24°76E, h0km, Error ellipse: s-maj=515.9km s-min=172.9km az=121.0, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**9.06**	**131**	I	I	17 34 50.0	
	baz=320,slow=323,SNR=1.7						
I31KZ	**AKTYUBINSK INF**	**21.99**	**110**	I	I	18 48 00.0	
	baz=320,slow=327,SNR=3.7						
I46RU	**ZALESOVO INFRA**	**31.48**	**79**	I	I	19 52 20.0	
	baz=315,slow=324,SNR=0.9						

*IDC **11** 17:34:24.8±7.8, 14°58S×167°17E, h263km±71km, mb3.4/4, mbtmp3.9/5, Error ellipse: s-maj=70.5km s-min=33.0km az=5.0*
ISC 11 17:34:23.4±1.7, 14°5S±0°1×167°2E±0°3, h250km, n6, σ1§11/8, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.58**	**185**	P	**Pn**	**17 36 12.8**	**+1.4**
	4.3nm,0.9s,baz=115,slow=23,SNR=1.4						
DZM				S	**S**	**17 37 36.7**	**-1.6**
	4.6nm,0.8s,baz=205,slow=21,SNR=2.0						
CTA	**Charters Tower**	**20.75**	**251**	P	**P**	**17 38 46.4**	**+0.9**
	1.5nm,0.6s,baz=63,slow=14,SNR=1.5						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**31.82**	**256**	P	**P**	**17 40 24.8**	**-0.4**
	1.1nm,0.5s,baz=86,slow=9.5,SNR=31						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**32.69**	**249**	P	**P**	**17 40 32.2**	**-0.5**
	1.0nm,0.4s,baz=77,slow=9.6,SNR=60						
ASAR				PcP	**PcP**	**17 43 12.6**	**+0.3**
	0.3nm,0.9s,baz=81,slow=2.7,SNR=1.7						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**96.98**	**316**	P	**P**	**17 47 26.3**	**-0.3**
	0.4nm,0.7s,baz=99,slow=7.4,SNR=2.2						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**120.00**	**345**	PKP	**PKPdf**	**17 52 43.1**	**-0.6**
	6.4nm,1.2s,baz=60,slow=2.2,SNR=5.8						

*STR **11** 17:37:55.6±0.5, 43°N±3°×°±°, h5km, MLv1.6/7, Error ellipse: s-maj=0.0km s-min=0.0km az=24.3, preliminary*
*LDG **11** 17:37:55.1±0.0, 43°10N×0°54W, h2km, Md2.5/2, Ml2.5/10, Error ellipse: s-maj=0.8km s-min=0.7km az=168.0*
ISC 11 17:37:54.6±0.9, 43°01N±0°03×0°59W±0°03, h13km±7km, n19, σ1§46/31, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETSF	**Etsaut**	**0.11**	**169**	*e*Pg	**Pb**	**17 37 59.1**	**+0.4**
ETSF				*e*Sg	**Sb**	**17 38 01.8**	**+0.5**
	125nm,0.2s						
ATE	**Arette**	**0.12**	**314**	Pg	**Pg**	**17 37 57.6**	**-0.2**
ATE				Sg	**Sg**	**17 37 59.5**	**-0.6**

CANF	**Canfranc**	**0.25**	**168**	Pg	**Pb**	**17 38 01.6**	**+0.5**
CANF				Sg	**Sb**	**17 38 06.0**	**+0.7**
PYLO	**Lourdes**	**0.41**	**77**	Pg	**Pg**	**17 38 02.8**	**+0.1**
PYLO				Sg	**Sg**	**17 38 08.2**	**0.0**
URDF	**Urds**	**0.43**	**359**	Pg	**Pg**	**17 38 03.1**	**-0.2**
URDF				Sg	**Sg**	**17 38 08.0**	**-1.0**
VIEF	**Viey**	**0.47**	**105**	Pg	**Pg**	**17 38 04.3**	**+0.5**
VIEF				Sg	**Sg**	**17 38 10.3**	**+0.3**
SJPF	**Ste Jean**	**0.48**	**283**	*e*Pg	**Pg**	**17 38 04.5**	**+0.4**
SJPF				*e*Sg	**Sg**	**17 38 11.3**	**+0.8**
	9.2nm,0.2s						
OSSF	**Osses**	**0.55**	**297**	Pg	**Pb**	**17 38 06.1**	**-0.1**
OSSF				Sg	**Sg**	**17 38 12.9**	**0.0**
EPF	**Esparros**	**0.68**	**88**	*e*Pg	**Pg**	**17 38 07.5**	**-0.4**
EPF				*e*Sg	**Sg**	**17 38 16.0**	**-0.9**
	9.6nm,0.2s						
SALF	**Salau**	**1.33**	**100**	Pg	**Pb**	**17 38 20.1**	**+0.7**
SALF				Sg	**Sg**	**17 38 37.8**	**+0.4**
MTLF	**Montolieu**	**2.08**	**80**	*e*Pg	**Pb**	**17 38 32.7**	**+0.5**
MTLF				*e*Sg	**Sb**	**17 38 58.8**	**+0.8**
	3.9nm,0.2s						
LFF	**La Frestale**	**2.16**	**26**	*e*Pg	**Pb**	**17 38 33.4**	**-0.2**
LFF				*e*Sg	**Sb**	**17 38 59.8**	**-0.4**
	8.1nm,0.2s						
RJF	**Les Rejaudoux**	**2.75**	**33**	*e*Pg	**Pb**	**17 38 44.4**	**+0.7**
RJF				*e*Sg	**Sb**	**17 39 18.3**	**+1.0**
	3.7nm,0.2s						
LASF	**Ste Croix**	**3.40**	**70**	*e*Pn	**Pn**	**17 38 46.3**	**-1.2**
LASF	**Ste Croix**	**3.40**	**70**	*e*Pg	Pb	17 38 57.0	+2.2
LASF				*e*Sn	**Sn**	**17 39 24.3**	**-3.4**
LASF				*e*Sg	**Sb**	**17 39 39.7**	**+3.6**
	2.2nm,0.2s						
MFF	**Saint Martin d**	**3.61**	**5**	*e*Pg	Pb	17 39 00.2	+1.9
MFF				*e*Sg	**Sb**	**17 39 45.1**	**+3.1**
	1.9nm,0.3s						
TCF	**Toulx Ste Croi**	**3.84**	**30**	*e*Pg	Pb	17 39 04.5	+2.2
TCF				*e*Sg	**Sb**	**17 39 52.5**	**+3.8**
	2.5nm,0.3s						
VIVF	**Saint-Julien-l**	**4.23**	**62**	*e*Sg	Sb	17 40 04.7	+4.9
	1.6nm,0.3s						
BGF	**Bois d'Agland**	**4.31**	**33**	*e*Pg	Pb	17 39 13.9	+3.6
BGF				*e*Sg	Sb	17 40 07.3	+5.1
	8.0nm,0.4s						

*IDC **11** 18:21:50.5±1.2, 37°29N×144°03E, h0km, mb3.7/7, mbtmp3.8/11, ML3.6/4, MS2.9/3, Error ellipse: s-maj=28.5km s-min=19.1km az=83.0*
*JMA **11** 18:21:55.4±0.3, 37°43N×143°75E, h61km, MV3.8/30, FAR E OFF FUKUSHIMA PREF*
*NIED **11** 18:21:55.4, 37°43N×143°75E, h61km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.77; $M_{\theta\theta}$0.19; $M_{\phi\phi}$3.58; $M_{r\theta}$-1.94; $M_{\theta\phi}$-0.40; $M_{\phi r}$0.43; Fault plane solution: $M_0$4.13000×10^{14} NP1: ϕ_s152.00000°, δ54.00000°, λ-117.00000°. NP2: ϕ_s12.00000°, δ43.00000°, λ-58.00000°.*
ISC 11 18:21:55.2±1.1, 37°39N±0°05×143°85E±0°08, h35km, n33, σ2§35/42, mb3.5/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.09**	**297**	P	**Pn**	**18 22 27.9**	**+0.2**
JIKH				S	**Sn**	**18 22 51.8**	**-0.8**
JIO	**Ouri**	**2.24**	**299**	*e*P	**Pn**	**18 22 30.0**	**+0.2**
JIO				S	**Sn**	**18 22 55.7**	**-0.5**
JKMT	**Kesennumamotoy**	**2.34**	**308**	P	**Pn**	**18 22 31.2**	**-0.1**
JKMT				S	**Sn**	**18 22 57.6**	**-1.2**
JFK	**Kawauchi**	**2.37**	**270**	P	**Pn**	**18 22 31.6**	**0.0**
JFK				S	**Sn**	**18 22 58.5**	**-1.0**
JMST	**Minamisoumatoc**	**2.37**	**279**	P	**Pn**	**18 22 31.3**	**-0.3**
JMST				S	**Sn**	**18 22 58.3**	**-1.2**
JMK	**Ichinoseki**	**2.59**	**308**	P	**Pn**	**18 22 34.9**	**+0.3**
JMK				S	**Sn**	**18 23 04.2**	**-0.6**
JOTO	**OTAMA OYAMA**	**2.80**	**274**	P	**Pn**	**18 22 38.8**	**+1.3**
JOTO				S	**Sn**	**18 23 11.0**	**+0.9**
JOM	**Ohasama**	**2.88**	**317**	P	**Pn**	**18 22 39.0**	**+0.3**
JOM				S	**Sn**	**18 23 11.6**	**-0.5**
JYK	**Kaneyama**	**3.14**	**300**	*e*P	**Pn**	**18 22 43.2**	**+1.0**
JYK				*e*S	**Sn**	**18 23 19.3**	**+0.8**
**J

AAK				Lg	Lg	18 28 43.4	
	0.2nm,0.3s,baz=31,slow=24,SNR=1.9 4.8nm,0.4s						
CHMS	**Chumysh**	**7.41**	**27**	P	**Pn**	**18 26 46.0**	**-0.9**
	SNR=5.7						
USP	**Ospenovka**	**7.56**	**25**	P	**Pn**	**18 26 47.9**	**-1.0**
	SNR=11						
TKM2	**Tokmak 2**	**7.68**	**31**	P	**Pn**	**18 26 50.6**	**0.0**
	SNR=8.3						
GEYT	**Alibeck**	**9.71**	**282**	Pn	Pn	18 27 09.9	-8.2
	0.5nm,0.3s,baz=107,slow=14,SNR=7.7						
GEYT				Sn	Sn	18 28 49.4	-16
	0.9nm,0.3s,baz=95,slow=18,SNR=2.3						
GEYT				Lg	Lg	18 29 56.9	
	baz=202,slow=43 1.0nm,0.2s						
MKAR	**Makanchi Array**	**13.71**	**38**	Pn	**Pn**	**18 28 10.5**	**-1.0**
	0.1nm,0.3s,baz=221,slow=16,SNR=1.9 0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**15.37**	**21**	Pn	**Pn**	**18 28 28.6**	**-4.0**
	baz=211,slow=13,SNR=5.4 0.3nm,0.5s						
AKTO	**Aktyubinsk**	**16.46**	**332**	Pn	Pn	18 28 36.3	-10
	0.1nm,0.3s,baz=136,slow=11,SNR=1.8						
AKTO				Sn	Sn	18 31 33.4	-15
	0.1nm,0.3s,baz=198,slow=20,SNR=1.6						
BVAR	**Borovoye Array**	**16.54**	**1**	Pn	Pn	18 28 40.9	-6.4
	baz=171,slow=11,SNR=1.8 0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**20.22**	**26**	P	**P**	**18 29 29.4**	**+1.2**
	1.8nm,0.4s,baz=211,slow=9.9,SNR=12 1.8nm,0.4s						
ARCES	**ARCESS Array B**	**40.90**	**338**	P	**P**	**18 32 34.0**	**+0.6**
	2.1nm,0.8s,baz=106,slow=8.0,SNR=6.9 2.1nm,0.8s						
HFS	**Hagfors**	**42.66**	**322**	P	**P**	**18 32 49.0**	**+1.2**
	4.3nm,0.9s,baz=98,slow=10,SNR=6.4 4.3nm,0.9s						
NOA	**NORSAR Array B**	**43.98**	**323**	P	**P**	**18 32 58.9**	**+0.4**
	1.3nm,0.9s,baz=100,slow=7.7,SNR=2.4 1.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**46.77**	**60**	LR	LR	18 53 51.9	
	comp=Z,41nm,19.2s,baz=181,slow=37						
MJAR	**Matsushiro Arr**	**53.60**	**68**	LR	LR	18 58 33.5	
	comp=Z,13nm,20.3s,baz=231,slow=38						
SEY	**Seymchan**	**54.81**	**34**	LR	LR	19 01 33.9	
	comp=Z,40nm,19.3s,baz=188,slow=40						
TORD	**Torodi Ar. Bea**	**65.03**	**268**	P	**P**	**18 35 30.1**	**-1.2**
	0.2nm,0.5s,baz=56,slow=5.5,SNR=5.0 0.2nm,0.5s						
WRA	**Warramunga Arr**	**82.56**	**121**	P	**P**	**18 37 14.0**	**+0.5**
	0.3nm,0.9s,baz=332,slow=5.2,SNR=2.0 0.3nm,0.9s						

BUL ***11*** *18:34:56.9±1.1,25°.04S×33°.16E,h10km,MD3.8*
EAF ***11*** *18:34:57.4,24°.89S×33°.02E,h10km,MC3.6*
PRE ***11*** *18:35:04.2±1.3,24°.62S×32°.40E,h10km,ML2.0*

ISC 11 18:35:04.6±2.1,24°.68S±0°.03×32°.35E±0°.09,h7km±11km, n19,σ2s37/38,1C,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**1.31**	**282**	*e*P	**Pg**	**18 35 30.9**	**+1.0**
HOED				*e*S	**Sg**	**18 35 48.2**	**+1.3**
HOED				IAML		18 35 57.1	
	comp=Z,24nm,0.3s						
MOPA	**Mopani**	**1.45**	**323**	*i* P	**Pn**	**18 35 28.8**	**-2.5**
MOPA				*i* S	**Sg**	**18 35 49.9**	**-1.3**
MOPA	**Mopani**	**1.45**	**323**	⇑*i*P	**Pb**	**18 35 30.6**	**-1.3**
MOPA				*e*S	**Sg**	**18 35 50.0**	**-1.2**
MOPA	**Mopani**	**1.45**	**323**	*i* P	**Pn**	**18 35 28.8**	**-2.5**
	baz=312						
MOPA				*i* S	**Sg**	**18 35 49.9**	**-1.3**
	baz=312						
MMAL	**MMAL**	**1.71**	**217**	*e*P	**Pn**	**18 35 36.1**	**+1.2**
MMAL				*e*S	**Sb**	**18 36 00.5**	**+2.4**
MMAL				IAML		18 36 03.0	
	comp=Z,40nm,0.3s						
DULL	**Dullstroom, Mp**	**2.08**	**251**	*e*P	**Pn**	**18 35 41.0**	**+0.8**
DULL				*e*S	**Sn**	**18 36 07.3**	**+0.8**
DULL				IAML		18 36 14.2	
	comp=Z,8.8nm,0.7s						
CRLN	**Carolina, Mapu**	**2.48**	**238**	*e*P	**Pn**	**18 35 45.8**	**+0.3**
CRLN				*e*S	**Sn**	**18 36 17.8**	**+1.7**
CRLN				IAML		18 36 37.0	
	comp=Z,5.8nm,0.4s						
MPHEP	**Siloam, Limpop**	**2.66**	**311**	*e*P	**Pn**	**18 35 49.0**	**+1.0**
MPHEP				*e*S	**Sn**	**18 36 19.2**	**-1.3**
MPHEP				IAML		18 36 29.7	
	comp=Z,34nm,0.4s						
POGA	**Pongola**	**2.71**	**192**	*e*P	**Pn**	**18 35 48.7**	**+0.1**
POGA				*e*S	**Sn**	**18 36 24.7**	**+3.0**
POGA				IAML		18 36 36.7	
	comp=Z,1.8nm,0.3s						
MUSN	**Musina, Limpop**	**3.30**	**316**	*i* P	**Pn**	**18 35 58.2**	**+1.5**
MUSN				*i* S	**Sb**	**18 36 44.2**	**+0.3**
MUSN	**Musina, Limpop**	**3.30**	**316**	*e*P	**Pn**	**18 35 58.1**	**+1.4**
MUSN				*e*S	**Sn**	**18 36 37.7**	**+1.4**
MUSN				IAML		18 36 55.7	
	comp=Z,19nm,0.5s						
MUSN	**Musina, Limpop**	**3.30**	**316**	*i* P	**Pn**	**18 35 58.2**	**+1.5**
	baz=311						
MUSN				*i* S	**Sb**	**18 36 44.2**	**+0.3**
	baz=311						
LEPH	**Lephalale, Lim**	**4.23**	**280**	*e*P	**Pn**	**18 36 10.5**	**+0.9**
LEPH				*e*S	**Sn**	**18 36 58.1**	**-1.2**
LEPH				IAML		18 37 19.2	
	comp=Z,6.3nm,0.5s						
MATP	**Matopo**	**5.53**	**319**	*i* P	**Pn**	**18 36 28.4**	**+0.9**
MATP				*i* S	**Sn**	**18 37 36.0**	**+4.6**
MATP	**Matopo**	**5.53**	**319**	*i* P	**Pn**	**18 36 28.4**	**+0.9**
	baz=316						
MATP				*i* S	**Sn**	**18 37 36.0**	**+4.6**
	baz=316						
LBTB	**Lobatse**	**6.14**	**266**	*e*P	**Pn**	**18 36 37.9**	**+2.1**
LBTB				*e*S	**Sn**	**18 37 44.7**	**-1.7**
LBTB				IAML		18 38 24.9	
	comp=Z,2.8nm,0.6s						
KSTD	**Kokstad**	**6.50**	**204**	*e*P	**Pn**	**18 36 42.0**	**+1.3**
KSTD				*e*S	**Sn**	**18 37 54.3**	**-0.9**
KSTD				IAML		18 37 56.7	
	comp=Z,3.5nm,0.4s						
BOSA	**Boshof**	**7.45**	**237**	*i* P	**Pn**	**18 36 50.2**	**-3.7**
BOSA				*i* S	**Sn**	**18 38 13.6**	**-5.2**
BOSA	**Boshof**	**7.45**	**237**	*i* P	**Pn**	**18 36 50.2**	**-3.7**
	baz=240						
BOSA				*i* S	**Sn**	**18 38 13.6**	**-5.2**
	baz=240						

NOU 11 18:41:17.0,17°.07S×167°.13E,h2km,MLv3.8/10,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.43**	**120**	P	Pn	18 41 44.0	0.0
KOUNC	**Koumac, New Ca**	**4.39**	**217**	P	Pn	18 42 24.8	+0.1
YATNC	**Mamie plateau,**	**4.97**	**183**	P	Pn	18 42 31.6	-1.1
DZM	**Mont Dzumac**	**5.02**	**187**	P	Pn	18 42 33.2	-0.2
NOUC	**Port Laguerre**	**5.07**	**189**	P	Pn	18 42 34.1	+0.1
OUENC	**Ouen Island, N**	**5.33**	**183**	P	Pn	18 42 37.8	+0.2

MOS ***11*** *18:45:18.9±1.0,24°.87N×122°.66E,h121km,mb4.5/24, Error ellipse: s-maj=8.9km s-min=6.0km az=116.3*
BJI ***11*** *18:45:19.3±0.0,24°.80N×122°.53E,h119km,mb4.4/30, mB4.5/13*
IDC ***11*** *18:45:20.9±0.7,24°.88N×122°.62E,h124km±5km,mb4.0/26, mbtmp4.5/30,MS3.2/10,Error ellipse: s-maj=10.9km s-min=9.8km az=33.0*
TAP ***11*** *18:45:20.3,24°.78N×122°.47E,h114km,ML5.2,D*
NEIC ***11*** *18:45:20.5±1.4,24°.84N±0°.08×122°.54E±0°.08, h113km±5km,mb4.5/79,Error ellipse: s-maj=11.7km s-min=9.2km az=148.0*
NIED ***11*** *18:45:20.7,24°.67N×122°.44E,h111km,MW4.4,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr4.68; Mθθ-4.70; Mφφ0.02; Mrθ0.92; Mθφ0.52; Mφr-0.85; Fault plane solution: M₀4.88000×10¹⁵ NP1: φs105.00000°,δ52.00000°,λ101.00000°. NP2: φs267.00000°,δ40.00000°,λ76.00000°.*
JMA ***11*** *18:45:20.7±0.1,24°.7N±0°.9×122°.4E±0°.3,h111km±1km, MD3.9/19,MV4.0/19,NW OFF ISHIGAKIJIMA IS*

ASIES ***11*** *18:45:20.3,24°.78N×122°.47E,h114km,ML5.2,Mw4.4, Moment Tensor Solution. Moment tensor: Scale 10²²Nm; Mrr3.79; Mθθ-4.98; Mφφ-0.50; Mrθ1.62; Mθφ-0.13; Mφr-0.78; Fault plane solution: M₀4.79258×10²² NP1:φs98.26000°, δ55.82000°,λ101.31000°. NP2:φs258.67000°,δ35.79000°, λ73.89000°. Principal axes: T Plg76.1370°, Azm43.6420°; N Plg9.3390°, Azm271.8560°; P Plg10.1540°, Azm180.1680°;*

ISC 11 18:45:20.3±0.4,24°.76N±0°.03×122°.49E±0°.02,h121km±3km, h121km:pP-P,n382,σ1s21/534,mb4.4/89,53C-12D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.41**	**214**	⇑*i*P	**Pn**	**18 45 37.4**	**-0.3**
	baz=216						
EOS2				*i* S	**Sn**	**18 45 50.8**	**0.0**
	baz=216						
EOS3	**EOS3**	**0.50**	**198**	⇑*i*P	**Pn**	**18 45 38.0**	**-0.2**
	baz=207						
EOS3				*i* S	**Sn**	**18 45 51.8**	**+0.2**
	baz=207						
EGS		**0.51**	**280**	⇑*i*P	**Pn**	**18 45 37.9**	**-0.5**
	baz=271						
TWB1	**Santiao Chiao**	**0.51**	**299**	⇑*i*P	**Pn**	**18 45 38.0**	**-0.4**
	baz=288						
TWB1				*i* S	**Sn**	**18 45 50.6**	**-1.5**
	baz=288						
JYNG	**Yonagunijimaku**	**0.52**	**126**	*i* P	**Pn**	**18 45 37.9**	**-0.5**
JYNG				S	**Sn**	**18 45 50.6**	**-1.5**
JYNG	**Yonagunijimaku**	**0.52**	**126**	A	A	18 45 37.9	
	comp=E,18nm,1.8s,comp=N,11nm,1.7s						
YOJ	**Yonaguni jima**	**0.56**	**122**	Pn	**Pn**	**18 45 38.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.56**	**122**	P	**Pn**	**18 45 38.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.56**	**122**	P	**Pn**	**18 45 38.2**	**-0.5**
YOJ	**Yonaguni jima**	**0.56**	**122**	*i* P	**Pn**	**18 45 38.2**	**-0.5**
YOJ				S	**Sn**	**18 45 51.1**	**-1.6**
YOJ	**Yonaguni jima**	**0.56**	**122**	⇑*i*P	**Pn**	**18 45 38.3**	**-0.5**
	baz=129						
YOJ				S	**Sn**	**18 45 51.0**	**-1.6**
	baz=129						
TWC	**Suao**	**0.60**	**256**	⇑*i*P	**Pn**	**18 45 38.1**	**-0.9**
	baz=250						
TWC				*i* S	**Sn**	**18 45 51.0**	**-2.0**
	baz=250						
NTC	**Toucheng**	**0.60**	**279**	*e*P	**Pn**	**18 45 38.5**	**-0.5**
	baz=274						
NTC				*e*S	**Sn**	**18 45 51.1**	**-2.0**
	baz=274						
SXI1	**Grass Mountain**	**0.65**	**301**	⇑*i*P	**Pn**	**18 45 39.1**	**-0.3**
	baz=297						
SXI1				*i* S	**Sn**	**18 45 52.3**	**-1.6**
	baz=297						
EOS4	**EOS4**	**0.66**	**193**	P	**Pn**	**18 45 38.3**	**-0.7**
	baz=199						
EOS4				*e*S	**Sn**	**18 45 52.5**	**-0.6**
	baz=199						
NWF	**Wu-fen Shan**	**0.71**	**296**	⇑*i*P	**Pn**	**18 45 39.7**	**-0.3**
	baz=286						
NWF				*i* S	**Sn**	**18 45 53.4**	**-1.4**
	baz=286						
WFSB	**Wu-fen Shan**	**0.71**	**296**	⇑*i*P	**Pn**	**18 45 39.7**	**-0.1**
	baz=287						
WFSB				S	**Sn**	**18 45 53.2**	**-1.4**
	baz=287						
NDS	**Dongshan**	**0.71**	**260**	⇑*i*P	**Pn**	**18 45 39.4**	**-0.4**
	baz=255						
NDS				S	**Sn**	**18 45 52.9**	**-1.7**
	baz=255						
ENA	**Nanau**	**0.75**	**244**	⇑*i*P	**Pn**	**18 45 39.7**	**-0.4**
	baz=240						
ENA				*i* S	**Sn**	**18 45 53.9**	**-1.3**
	baz=240						
TNOU	**National Taiwa**	**0.75**	**301**	⇑P	**Pn**	**18 45 39.9**	**-0.2**
	baz=299						
TNOU				*e*S	**Sn**	**18 45 53.6**	**-1.6**
	baz=299						
EHP	**Heping Village**	**0.81**	**237**	P	**Pn**	**18 45 40.3**	**-0.4**
	baz=228						
EHP				S	**Sn**	**18 45 55.1**	**-1.0**
	baz=228						
FUSB	**Fushanzhiwuyua**	**0.82**	**270**	⇑*i*P	**Pn**	**18 45 40.3**	**-0.5**
	baz=268						
FUSB				S	**Sn**	**18 45 53.9**	**-2.4**
	baz=268						
ENTT	**Nioudou**	**0.84**	**262**	⇑*i*P	**Pn**	**18 45 40.8**	**-0.1**
	baz=263						
ENTT				*e*S	**Sn**	**18 45 56.1**	**-0.5**
	baz=263						
NHY	**Taipei**	**0.88**	**289**	P	**Pn**	**18 45 41.0**	**-0.2**
	baz=280						
NWLT	**Wulai**	**0.89**	**271**	*e*P	**Pn**	**18 45 41.0**	**-0.5**
	baz=274						
NWLT				*e*S	**Sn**	**18 45 55.8**	**-1.6**
	baz=274						
NHDH	**Xindian Distri**	**0.90**	**283**	⇑P	**Pn**	**18 45 40.9**	**-0.5**
	baz=281						
NHDH				*e*S	**Sn**	**18 45 55.1**	**-2.3**
	baz=281						
NDT	**Datong Townshi**	**0.90**	**260**	⇑P	**Pn**	**18 45 41.6**	**+0.1**
	baz=260						
NDT				S	**Sn**	**18 45 57.0**	**-0.5**
	baz=260						
LATG	**Datong**	**0.90**	**256**	⇑P	**Pn**	**18 45 41.4**	**-0.2**
	baz=248						
LATG				S	**Sn**	**18 45 56.8**	**-0.8**
	baz=248						
YM01	**YM01**	**0.92**	**295**	⇑P	**Pn**	**18 45 41.5**	**-0.2**
	baz=286						
YM01				S	**Sn**	**18 45 56.3**	**-1.5**
	baz=286						
YM08	**YM08**	**0.92**	**298**	⇑P	**Pn**	**18 45 41.2**	**-0.4**
	baz=289						
YM08				S	**Sn**	**18 45 55.9**	**-1.9**
	baz=289						
TATO	**Taipei**	**0.93**	**284**		**Pn**	**18 45 41.1**	**-0.6**
TATO	**Taipei**	**0.93**	**284**	P	**Pn**	**18 45 41.3**	**-0.4**
TAP	**Taipei**	**0.93**	**288**	P	**Pn**	**18 45 41.3**	**-0.4**
	baz=279						
TAP				S	**Sn**	**18 45 56.1**	**-1.9**
	baz=279						
PCYT	**Pengchaiyu**	**0.94**	**337**	*e*P	**Pn**	**18 45 42.4**	**+0.6**
	baz=332						
TWY	**Chenhua**	**0.95**	**303**	P	**Pn**	**18 45 42.0**	**+0.1**
	baz=294						
TWY				S	**Sn**	**18 45 57.5**	**-0.8**
	baz=294						
ANP	**Anpu**	**0.97**	**296**	P	**Pn**	**18 45 41.9**	**-0.4**
	baz=287						
ANP				*e*S	**Sn**	**18 45 57.9**	**-0.9**
	baz=287						
ETL	**Fush Village**	**0.99**	**233**	P	**Pn**	**18 45 41.3**	**-1.0**
	baz=231						
ETL				*e*S	**Sn**	**18 45 56.7**	**-2.3**
	baz=231						
NACB	**Ninganchiao**	**1.00**	**234**		**Pn**	**18 45 41.4**	**-1.1**
NACB	**Ninganchiao**	**1.00**	**234**	P	**Pn**	**18 45 41.8**	**-0.6**
NACB	**Ninganchiao**	**1.00**	**234**	⇑P	**Pn**	**18 45 41.3**	**-1.1**
	baz=228						
NACB				S	**Sn**	**18 45 57.1**	**-2.0**
	baz=228						
YHNB	**Yeheng**	**1.01**	**265**		**Pn**	**18 45 42.1**	**-0.6**
YHNB	**Yeheng**	**1.01**	**265**	P	**Pn**	**18 45 42.7**	**+0.1**
YHNB	**Yeheng**	**1.01**	**265**	P	**Pn**	**18 45 42.8**	**+0.1**
YHNB	**Yeheng**	**1.01**	**265**	⇑*i*P	**Pn**	**18 45 42.4**	**-0.2**
	baz=269						
YHNB				*i* S	**Sn**	**18 45 58.3**	**-1.2**
	baz=269						
NTST	**Danshui**	**1.02**	**293**	P	**Pn**	**18 45 42.6**	**0.0**
	baz=285						
NTST				*e*S	**Sn**	**18 45 58.4**	**-1.1**
	baz=285						
TWS1	**Kuangyinshan**	**1.03**	**290**	⇑*i*P	**Pn**	**18 45 42.5**	**-0.1**
	baz=282						
TWS1				*e*S	**Sn**	**18 45 57.7**	**-1.9**
	baz=282						
NSK	**Sanguang**	**1.03**	**266**	⇑P	**Pn**	**18 45 42.6**	**-0.1**
	baz=269						
NSK				*e*S	**Sn**	**18 45 58.4**	**-1.3**
	baz=269						
NNSB	**Datong**	**1.06**	**252**	⇑P	**Pn**	**18 45 42.9**	**-0.3**
	baz=246						
NNSB				*e*S	**Sn**	**18 45 59.1**	**-1.3**
	baz=246						
TWD	**Chiawan**	**1.06**	**230**	⇑P	**Pn**	**18 45 42.0**	**-1.0**
	baz=228						
TWD				S	**Sn**	**18 45 58.1**	**-2.0**
	baz=228						
NNS	**Nan Shan**	**1.06**	**253**	⇑*i*P	**Pn**	**18 45 42.9**	**-0.2**
	baz=245						
NNS				S	**Sn**	**18 45 59.5**	**-1.0**
	baz=245						
ETLH	**Xiulin Townshi**	**1.07**	**239**	⇑P	**Pn**	**18 45 42.5**	**-0.7**
	baz=232						
ETLH				S	**Sn**	**18 45 58.7**	**-1.8**
	baz=232						
HWA	**Hwalien**	**1.12**	**226**	⇑*i*P	**Pn**	**18 45 43.0**	**-0.7**
	baz=217						
HWA				*i* S	**Sn**	**18 46 00.3**	**-1.0**
	baz=217						
NCU	**National Centr**	**1.20**	**280**	*e*P	**Pn**	**18 45 44.4**	**-0.1**
	baz=284						
NCU				S	**Sn**	**18 46 02.8**	**+0.1**
	baz=284						
NCUH	**Zhongli**	**1.20**	**280**	*e*P	**Pn**	**18 45 44.5**	**0.0**
	baz=284						
NCUH				*e*S	**Sn**	**18 46 03.0**	**+0.2**
	baz=284						
ETM	**Tongmen**	**1.20**	**229**	⇑P	**Pn**	**18 45 43.7**	**-0.8**
	baz=236						
ETM				S	**Sn**	**18 46 00.4**	**-2.5**
	baz=236						
IRIF	**Iriomote-Funau**	**1.21**	**110**	*i* P	**Pn**	**18 45 44.4**	**-0.2**
IRIF				S	**Sn**	**18 46 01.9**	**-1.0**
IRIF	**Iriomote-Funau**	**1.21**	**110**	A	A	18 45 44.4	
	comp=E,7.0nm,2.9s,comp=N,9.0nm,1.0s						
LXIB	**Xiulin Townshi**	**1.22**	**233**	⇑*i*P	**Pn**	**18 45 43.9**	**-1.0**
	baz=224						
LXIB				S	**Sn**	**18 46 01.0**	**-2.5**
	baz=224						
NFF	**Wufeng Townshi**	**1.25**	**264**	*e*P	**Pn**	**18 45 47.7**	**+2.6**
	baz=263						
NFF				*e*S	**Sn**	**18 46 05.3**	**+1.5**
	baz=263						
WHF	**Hehuan Shan**	**1.27**	**241**	P	**Pn**	**18 45 45.4**	**-0.3**
	baz=234						
WHF				*e*S	**Sn**	**18 46 02.9**	**-1.9**
	baz=234						
TWT	**Tachien**	**1.29**	**247**	⇑*i*P	**Pn**	**18 45 46.1**	**+0.4**
	baz=240						
TWT				*i* S	**Sn**	**18 46 04.2**	**-0.7**
	baz=240						
TDCB	**Techi**	**1.31**	**248**	⇑*i*P	**Pn**	**18 45 46.1**	**+0.3**
	baz=241						
TDCB				S	**Sn**	**18 46 03.7**	**-1.5**
	baz=241						
NHW	**Xinwu Township**	**1.33**	**281**	P	**Pn**	**18 45 46.2**	**+0.3**
	baz=283						
NHW				*e*S	**Sn**	**18 46 03.6**	**-1.6**
	baz=283						
LIOB	**Emei**	**1.34**	**265**	⇑P	**Pn**	**18 45 46.0**	**0.0**
	baz=264						
LIOB				S	**Sn**	**18 46 04.7**	**-0.8**
	baz=264						
ESL	**Shilin**	**1.34**	**226**	P	**Pn**	**18 45 44.9**	**-1.2**
	baz=232						
ESL				S	**Sn**	**18 46 02.7**	**-2.9**
	baz=232						
NSTT	**Nanjuang**	**1.36**	**265**	⇑*i*P	**Pn**	**18 45 46.0**	**-0.1**
	baz=263						
NSTT				*i* S	**Sn**	**18 46 04.7**	**-1.1**
	baz=263						
TEGC	**Jichi Village**	**1.36**	**220**	P	**Pn**	**18 45 45.7**	**-0.5**
	baz=212						
TEGC				S	**Sn**	**18 46 04.3**	**-1.4**
	baz=212						
SBCB	**Hsinchu**	**1.36**	**272**	P	**Pn**	**18 45 46.3**	**+0.1**
	baz=270						
SBCB				S	**Sn**	**18 46 05.0**	**-1.0**
	baz=270						
HSN	**Hsinchu**	**1.38**	**272**	⇑*i*P	**Pn**	**18 45 46.2**	**-0.2**
	baz=263						
HSN				*i* S	**Sn**	**18 46 04.8**	**-1.4**
	baz=263						
CHGB	**Renai**	**1.38**	**240**	⇑P	**Pn**	**18 45 46.8**	**+0.1**
	baz=233						
CHGB				*e*S	**Sn**	**18 46 05.1**	**-1.6**
	baz=233						
HATJ	**Hateruma jima**	**1.39**	**120**	P	**Pn**	**18 45 46.8**	**+0.2**
HATJ				*e*S	**Sn**	**18 46 05.4**	**-1.1**
OWD	**Renai**	**1.44**	**236**	P	**Pn**	**18 45 47.0**	**-0.2**
	baz=231						
OWD				*e*S	**Sn**	**18 46 05.8**	**-1.9**
	baz=231						
WARBT	**Fenglin Townsh**	**1.44**	**224**	⇑P	**Pn**	**18 45 45.9**	**-1.3**
	baz=229						
WARBT				*e*S	**Sn**	**18 46 04.4**	**-3.2**
	baz=229						
EGFH	**Guangfu**	**1.45**	**222**	*e*P	**Pn**	**18 45 46.5**	**-0.8**
	baz=215						
EGFH				*e*S	**Sn**	**18 46 04.5**	**-3.3**
	baz=215						
WUSB	**Renai**	**1.46**	**239**	⇑P	**Pn**	**18 45 47.6**	**+0.1**
	baz=233						
WUSB				S	**Sn**	**18 46 06.6**	**-1.6**
	baz=233						
WHP	**Taichung City**	**1.48**	**251**	⇑P	**Pn**	**18 45 48.3**	**+0.7**
	baz=258						
WHP				S	**Sn**	**18 46 08.4**	**0.0**
	baz=258						
JKRS	**Kuro-shima**	**1.48**	**110**	P	**Pn**	**18 45 48.0**	**+0.4**
JKRS				S	**Sn**	**18 46 08.0**	**-0.4**
NMLH	**Miaoli**	**1.56**	**262**	*e*P	**Pn**	**18 45 48.6**	**+0.1**
	baz=260						
NMLH				*e*S	**Sn**	**18 46 09.0**	**-0.9**
	baz=260						
JIJ	**Ishigaki jima**	**1.56**	**104**	*i* P	**Pn**	**18 45 48.5**	**0.0**
JIJ				S	**Sn**	**18 46 08.6**	**-1.3**
VWDT	**VWDT**	**1.58**	**231**	⇑P	**Pn**	**18 45 48.8**	**0.0**
	baz=225						
VWDT				S	**Sn**	**18 46 08.5**	**-1.9**
	baz=225						
HGSD	**Ruisui**	**1.59**	**218**	P	**Pn**	**18 45 48.3**	**-0.6**
	baz=212						
HGSD				*e*S	**Sn**	**18 46 08.4**	**-2.2**
	baz=212						
WCS	**Beigang Elemen**	**1.60**	**244**	*e*P	**Pn**	**18 45 49.7**	**+0.8**
	baz=238						
WCS				*e*S	**Sn**	**18 46 10.6**	**-0.1**
	baz=238						
NSY	**Sanyi**	**1.61**	**258**	P	**Pn**	**18 45 49.6**	**+0.5**
	baz=256						
NSY				*e*S	**Sn**	**18 46 09.3**	**-1.6**
	baz=256						
TWQ1	**Liyutan**	**1.61**	**256**	⇑*i*P	**Pn**	**18 45 49.3**	**+0.1**
	baz=254						
TWQ1				*i* S	**Sn**	**18 46 10.2**	**-0.9**
	baz=254						
EHY	**Hungye**	**1.64**	**221**	P	**Pn**	**18 45 48.0**	**-1.5**
	baz=227						
EHY				S	**Sn**	**18 46 08.2**	**-3.5**
	baz=227						
JISG	**Ishigakijimahi**	**1.67**	**96**	*i* P	**Pn**	**18 45 50.1**	**+0.3**
JISG				S	**Sn**	**18 46 11.5**	**-0.7**
JISG	**Ishigakijimahi**	**1.67**	**96**	A	A	18 45 50.1	
	comp=E,3.0nm,1.8s,comp=N,5.0nm,1.7s						
SMLT	**Sun Moon Lake**	**1.69**	**239**	⇑*i*P	**Pn**	**18 45 50.6**	**+0.4**
	baz=234						
SMLT				S	**Sn**	**18 46 13.5**	**+0.6**
	baz=234						
SSLB	**Suanglung**	**1.70**	**236**	Pn	**Pn**	**18 45 50.1**	**-0.1**
SSLB	**Suanglung**	**1.70**	**236**	P	**Pn**	**18 45 50.6**	**+0.4**
SSLB	**Suanglung**	**1.70**	**236**	P	**Pn**	**18 45 50.1**	**-0.1**
	baz=231						
SSLB				S	**Sn**	**18 46 13.6**	**+0.6**
	baz=231						
ECBN	**Changbin**	**1.72**	**214**	P	**Pn**	**18 45 49.8**	**-0.7**
	baz=208						
ECBN				S	**Sn**

EYUL Yuli 1.77 217 *e*P Pn 18 45 50.3 -0.6
baz=224
EYUL *e*S Sn 18 46 14.0 -0.3
baz=224
TWF1 Yuli 1.77 218 P Pn 18 45 49.9 -1.2
baz=223
TWF1 *e*S Sn 18 46 11.6 -2.9
baz=223
WHYT Xinyi Township 1.83 235 P Pn 18 45 52.8 +1.1
baz=228
WHYT S Sn 18 46 16.6 +0.9
baz=228
WJS Zhushan 1.86 240 *e*P Pn 18 45 52.9 +0.9
baz=248
WJS *e*S Sn 18 46 16.8 +0.6
baz=248
WNT Mingjian 1.86 242 P Pn 18 45 52.6 +0.5
baz=241
WNT *e*S Sn 18 46 16.6 +0.2
baz=241
WCHH Zhanghua 1.88 249 *e*P Pn 18 45 52.7 +0.3
baz=248
WCHH *e*S Sn 18 46 15.9 -0.9
baz=248
FULB Fuli 1.90 215 *e*P Pn 18 45 52.2 -0.4
baz=210
FULB *e*S Sn 18 46 15.9 -1.4
baz=210
CHKT Chengkung 1.94 212 P Pn 18 45 52.1 -1.1
baz=206
CHKT *e*S Sn 18 46 14.8 -3.4
baz=206
ALS Alishan 1.98 231 ⇑P Pn 18 45 54.5 +0.6
baz=225
ALS S Sn 18 46 19.9 +0.6
baz=225
EHD Haiduan 1.99 216 *e*P Pn 18 45 52.4 -1.3
baz=222
EHD *e*S Sn 18 46 16.2 -3.0
baz=222
JTJ Tarama 2.02 93 P Pn 18 45 54.9 +0.8
JTJ *e*S Sn 18 46 20.0 +0.1
ECS Chishang 2.02 215 *e*P Pn 18 45 54.2 0.0
baz=221
ECS *e*S Sn 18 46 18.6 -1.3
baz=221
ELDTW Lidau 2.06 221 P Pn 18 45 53.8 -0.9
baz=220
ELDTW S Sn 18 46 19.1 -1.9
baz=220
WDLH Douliu 2.07 239 *e*P Pn 18 45 55.7 +1.0
baz=238
WDLH *e*S Sn 18 46 21.3 +0.3
baz=238
EDH Donghe 2.08 212 *e*P Pn 18 45 54.0 -0.9
baz=207
EDH *e*S Sn 18 46 18.5 -2.8
baz=207
WRL Guolierlin Hig 2.10 246 *e*P Pn 18 45 53.5 -1.6
baz=252
WRL *e*S Sn 18 46 20.2 -1.6
baz=252
WCKO Fanlu 2.16 233 *e*P Pn 18 45 56.8 +0.9
baz=232
WCKO *e*S Sn 18 46 23.4 +0.3
baz=232
WTK Tuku 2.19 241 *e*P Pn 18 45 56.7 +0.5
baz=240
WTK *e*S Sn 18 46 23.4 -0.3
baz=240
WTCT Ta-ch'eng 2.20 247 *e*P Pn 18 45 56.2 -0.1
baz=245
WTCT S Sn 18 46 22.9 -1.0
baz=245
CHN2 Minshiung 2.21 237 P Pn 18 45 57.2 +0.8
baz=244
CHN2 S Sn 18 46 24.6 +0.6
baz=244
LONT Longtian 2.22 214 *e*P Pn 18 45 55.8 -0.9
baz=213
LONT *e*S Sn 18 46 22.4 -2.1
baz=213
STYH Taoyuan 2.23 225 *e*P Pn 18 45 57.7 +1.1
baz=218
STYH *e*S Sn 18 46 24.1 -0.4
baz=218
CHN4 Tsaushan 2.23 231 ⇓*i*P Pn 18 45 57.4 +0.7
baz=240
CHN4 *i*S Sn 18 46 25.1 +0.6
baz=240
TPUB Ta-pu 2.23 230 Pn 18 45 57.1 +0.4
TPUB Ta-pu 2.23 230 P Pn 18 45 57.7 +0.9
TPUB Ta-pu 2.23 230 P Pn 18 45 57.5 +0.7
TPUB Ta-pu 2.23 230 ⇓*i*P Pn 18 45 57.2 +0.4
baz=228
TPUB S Sn 18 46 23.8 -1.0
baz=228
CHY Chiayi 2.26 237 *e*P Pn 18 45 57.6 +0.5
baz=244
CHY *e*S Sn 18 46 25.1 -0.2
baz=244
LDUT Ludao 2.28 204 *e*P Pn 18 45 56.5 -0.8
baz=204
LDUT *e*S Sn 18 46 23.0 -2.6
baz=204
WTP Ta-pu 2.28 229 ⇓*i*P Pn 18 45 57.7 +0.3
baz=228
WTP S Sn 18 46 26.5 +0.7
baz=228
TWGBT Beinan 2.32 214 P Pn 18 45 57.1 -0.9
TWGBT Beinan 2.32 214 P Pn 18 45 57.0 -0.9
TWGBT Beinan 2.32 214 *e*P Pn 18 45 56.8 -1.1
baz=213
TWGBT *e*S Sn 18 46 23.8 -2.9
baz=213
TWG Pinlang 2.33 214 Pn 18 45 56.6 -1.4
TWG Pinlang 2.33 214 P Pn 18 45 56.6 -1.4
baz=213
TWG S Sn 18 46 24.2 -2.5
baz=213
TTN Taitung 2.34 212 *e*P Pn 18 45 58.5 +0.3
baz=217
TTN *e*S Sn 18 46 26.7 -0.5
baz=217
WSF Szhu 2.35 242 *e*P Pn 18 45 58.3 +0.1
baz=240
WSF S Sn 18 46 26.5 -0.8
baz=240
TWK Hsinying 2.35 231 *e*P Pn 18 45 58.4 +0.1
baz=230
TWK *e*S Sn 18 46 27.4 -0.1
baz=230
SNST Tainan City 2.38 230 *e*P Pn 18 45 59.2 +0.6
baz=229
SNST *e*S Sn 18 46 27.2 -0.7
baz=229
WSL Shuilin Townsh 2.40 240 *e*P Pn 18 45 59.4 +0.5
baz=238
WSL *e*S Sn 18 46 28.1 -0.4
baz=238
SGST Jiashian 2.41 227 ⇓P Pn 18 45 58.7 -0.3
baz=225
SGST S Sn 18 46 28.7 -0.1
baz=225
SLGT Liugui 2.43 224 *e*P Pn 18 46 00.6 +1.3
baz=231
SLGT *e*S Sn 18 46 30.0 +0.7
baz=231
JIRB Irabujima 2.44 88 P Pn 18 46 00.4 +1.0
JIRB *e*S Sn 18 46 29.1 -0.3
ICHU Yijhu 2.45 236 *e*P Pn 18 45 59.9 +0.4
baz=234
ICHU *e*S Sn 18 46 29.3 -0.3
baz=234
CHN8 Yiju 2.51 236 P Pn 18 46 00.5 +0.3
baz=235
CHN8 S Sn 18 46 30.7 -0.3
baz=235
JIKM Ikemajima 2.52 86 *e*P Pn 18 46 01.7 +1.4
JIKM *e*S Sn 18 46 32.1 +1.1
JMJ Miyako jima 2 2.55 88 P Pn 18 46 02.4 +1.6
CHN3 Shinhua 2.56 230 P Pn 18 46 02.1 +1.2
baz=228
CHN3 S Sn 18 46 33.5 +1.3
baz=228
ECL Taimali 2.57 213 P Pn 18 45 59.7 -1.4
baz=208
ECL S Sn 18 46 29.0 -3.4
baz=208
SSHA Shanhua 2.58 232 *e*P Pn 18 46 01.0 -0.2
baz=230
SSHA S Sn 18 46 32.9 +0.4
baz=230
JMJ2 Miyako jima3 2.58 90 P Pn 18 46 02.5 +1.2
JMJ2 S Sn 18 46 33.1 +0.5
SHHT Tainan City 2.61 229 *e*P Pn 18 46 03.0 +1.4
baz=228
SHHT *e*S Sn 18 46 34.1 +0.8
baz=228
SCLT Jiali 2.62 233 P Pn 18 46 01.8 +0.1
baz=240
SCLT S Sn 18 46 33.7 +0.2
baz=240
SSD Sandimen 2.63 221 P Pn 18 46 02.7 +0.9
baz=219
SSD S Sn 18 46 34.5 +0.8
baz=219
TSMG Majia 2.65 220 *e*P Pn 18 46 02.8 +0.7
baz=219
TSMG *e*S Sn 18 46 33.9 -0.4
baz=219
JOGS Gusukube 2.66 89 P Pn 18 46 03.6 +1.4
JOGS *e*S Sn 18 46 35.4 +1.1
MATB Ma-tsu 2.68 302 *e*P Pn 18 46 01.9 -0.5
baz=300
TAI1 Yung-k'ang 2.68 231 *e*S Sn 18 46 35.6 +0.7
baz=239
TWM1 Shoushan 2.70 225 *e*P Pn 18 46 04.5 +1.8
baz=223
TSCK Chigu Township 2.72 234 *e*P Pn 18 46 03.2 +0.2
baz=233
TSCK *e*S Sn 18 46 34.6 -1.2
baz=233
SGLT Jiouru 2.73 222 P Pn 18 46 04.9 +1.8
baz=221
SGLT *e*S Sn 18 46 39.4 +3.3
baz=221
MASBT Mashibuluo 2.73 219 *e*P Pn 18 46 03.8 +0.7
baz=218
MASBT *e*S Sn 18 46 35.2 -0.9
baz=218
TAW Tawu 2.80 212 *e*P Pn 18 46 06.1 +2.0
baz=208
TAW *e*S Sn 18 46 35.0 -2.7
baz=208
EAST Anshuo 2.80 213 P Pn 18 46 03.2 -0.9
baz=208
EAST *e*S Sn 18 46 35.4 -2.4
baz=208
SNJT Kaohsiung City 2.81 225 *e*P Pn 18 46 05.7 +1.5
baz=223
TAWH Dawu Township 2.82 212 *e*P Pn 18 46 03.6 -0.7
baz=208
TAWH *e*S Sn 18 46 36.0 -2.2
baz=208
LAY Lan-yu 2.84 198 *e*P Pn 18 46 03.5 -1.1
baz=198
LYUB Lan-yu 2.87 197 *e*P Pn 18 46 03.2 -1.7
baz=197
PNG Penghu 2.93 247 *e*P Pn 18 46 04.8 -0.9
baz=245
PNG *e*S Sn 18 46 37.7 -2.9
baz=245
SCZT Fangliau 2.93 216 P Pn 18 46 06.4 +0.7
baz=214
PHUB P'eng-hu 2.94 246 *e*P Pn 18 46 04.8 -0.9
baz=244
PHUB *e*S Sn 18 46 37.6 -3.3
baz=244
WDGT Dungji 2.98 241 P Pn 18 46 05.9 -0.5
baz=231
WDGT S Sn 18 46 39.1 -2.8
baz=231
XPSS Dashiqiu 2.99 317 *e*P Pn 18 46 06.0 -0.5
baz=315
LYJJ Jianjiangzhen 3.04 307 *e*P Pn 18 46 06.7 -0.4
baz=305
PTMZ Houxiangcun 3.07 276 *e*P Pn 18 46 06.8 -0.7
baz=282
HEN Hengchun 3.18 211 *e*P Pn 18 46 09.5 +0.5
baz=219
HEN *e*S Sn 18 46 46.4 -0.2
baz=219
VCHM Qimei 3.19 242 *e*P Pn 18 46 08.8 -0.4
baz=232
VCHM *e*S Sn 18 46 44.7 -2.2
baz=232
TWKBT Hengchun 3.20 209 *e*P Pn 18 46 09.3 0.0
baz=203
TWKBT *e*S Sn 18 46 45.0 -2.1
baz=203
MHZQ Yeshan 3.40 294 *e*P Pn 18 46 11.7 -0.1
baz=292
QZH Quanzhou 3.54 274 ⇓*i*P Pn 18 46 13.1 -0.6
QZH S Sn 18 46 51.3 -3.8
QZH smax smax
comp=N,550nm,0.6s
QZH smax smax
comp=N,450nm,0.6s
KNM Kinmen 3.70 266 *e*P Pn 18 46 17.0 +1.1
baz=256
KNM *e*S Sn 18 46 58.3 -0.6
baz=256
KNMB Chin-men Tao 3.74 266 Pn Pn 18 46 15.7 -0.7
KNMB Chin-men Tao 3.74 266 *e*P Pn 18 46 15.7 -0.7
baz=265
AXDP Jialang 4.10 273 *e*P Pn 18 46 21.3 +0.1
baz=271
ZPLA Ao Xicun 4.40 260 *e*P Pn 18 46 24.0 -1.1
baz=259
SXFK Yanhouchang 4.67 291 *e*P Pn 18 46 28.5 -0.3
baz=290
DSXP Dongshan 4.74 258 *e*P Pn 18 46 29.6 -0.1
baz=257
JOW Kunigami 5.61 67 P Pn 18 46 40.8 -0.7
JOW Kunigami 5.61 67 P Pn 18 46 40.8 -0.7
comp=N,47nm,0.3s,baz=112,slow=24,SNR=117
JOW S Sn 18 47 41.2 -3.6
comp=N,41nm,0.4s,baz=141,slow=25,SNR=10
JNU Nakatsue 11.11 39 P Pn 18 47 56.5 +0.9
comp=N,2.5nm,0.7s,baz=289,slow=19,SNR=1.7
TIA Tai'an 12.31 339 *e*P P 18 48 21.3 +2.7
TIA pmax pmax
comp=Z,8.0nm,0.9s
LYN LuoYang 13.07 321 ⇑P P 18 48 29.8 +2.7
LYN pmax pmax
comp=Z,53nm,0.9s
LYN LR LR
comp=N,290nm,5.1s
LYN LR LR
comp=E,330nm,6.4s
JMN Monobe 13.36 45 Pn Pn 18 48 21.4 -3.9
KSAR Wonju Array Be 13.46 19 Pn Pn 18 48 22.9 -3.4
KSAR Wonju Array Be 13.46 19 P Pn 18 48 22.9 -3.4
KSRS Korea Array 13.48 19 P P 18 48 29.6 -1.9
comp=E,22nm,0.6s,baz=197,slow=11,SNR=30
KS19 Wonju Array Si 13.51 19 P P 18 48 30.8 -1.2
HNS HongShan 14.24 334 *e*P P 18 48 42.8 +2.8
JHJ Hachijo jima 2 17.27 57 P P 18 49 13.4 -0.2
comp=E,91nm,0.8s,baz=54,slow=18,SNR=2.1
JCJ Chichijima 17.87 78 P P 18 49 17.4 -2.9
comp=E,139nm,1.1s,baz=99,slow=23,SNR=2.8
JCJ LR LR 18 54 46.6
comp=E,79nm,18.7s,baz=131,slow=32
MAJO Matsushiro 17.89 45 P P 18 49 18.4 -2.0
MAJO Matsushiro 17.89 45 P P 18 49 18.4 -2.0
MAJO pmax pmax
comp=Z,8.0nm,0.9s
MJB9 Matsu-Tunnel 17.89 45 P P 18 49 19.2 -1.1
MJAR Matsushiro Arr 17.89 45 P P 18 49 18.3 -2.1
comp=Z,2.0nm,0.6s,baz=225,slow=9.0,SNR=7.1
DLV T Lat 18.39 229 Pn Pn 18 49 29.3 +1.6
CN2 Changchun 19.15 7 P Pn 18 49 35.5 -0.7
CN2 pmax pmax
comp=Z,20nm,0.7s
LZH Lanzhou 19.61 310 *e*P Pn 18 49 41.5 -0.3
LZH pmax pmax
comp=Z,19nm,1.1s
XLT XiLinHaoTe 19.80 346 *e*P P 18 49 42.1 +0.9
XLT PP pP 18 50 01.5 -1.8
XLT pmax pmax
comp=Z,17nm,0.9s
XLT pmax pmax
comp=Z,130nm,5.0s
USRK Ussuriysk Ar. 20.89 19 P P 18 49 52.9 +0.1
comp=Z,3.8nm,0.5s,baz=196,slow=7.1,SNR=9.9
USRK Ussuriysk Ar. 20.89 19 P P 18 49 52.2 -0.6
comp=Z,3.8nm,0.5s
CRAI Chiangrai 20.91 262 P P 18 49 55.3 +2.0
CHTO Chiang Mai 22.63 259 P P 18 50 11.7 +0.4
CHTO Chiang Mai 22.63 259 P P 18 50 11.7 +0.4
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CMAR Chiang Mai Arr 22.75 259 P P 18 50 13.1 +0.6
CMAR Chiang Mai Arr 22.75 259 P P 18 50 14.2 +1.7
comp=Z,1.5nm,0.5s,baz=58,slow=7.4,SNR=19
CMAR pP pP 18 50 38.0 +2.1
comp=Z,1.0nm,0.8s,baz=67,slow=6.9,SNR=2.5
CMAR PcP PcP 18 54 01.9 +1.6
comp=Z,2.6nm,0.6s,baz=20,slow=0.8,SNR=18
comp=Z,1.5nm,0.5s
GTA Gaotai 24.04 313 *e*P P 18 50 24.6 +0.3
GTA PcP PcP 18 54 04.0 +1.2
GTA pmax pmax
comp=Z,12nm,1.1s
ERM Erimo 24.27 40 ⇓*e*P P 18 50 24.3 -1.8
HEH HeiHe 25.74 7 *e*P P 18 50 40.2 +0.9
HEH pmax pmax
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 26.10 336 P P 18 50 42.9 +0.1
ULN IAmb IAmb 18 50 44.8
comp=Z,8.2nm,0.8s
ULN Ulaanbaatar 26.10 336 *c i*P P 18 50 43.1 +0.2
ULN pmax pmax
comp=Z,19nm,1.3s
SONM Songino Array 26.32 335 P P 18 50 44.8 -0.1
SONM Songino Array 26.32 335 P P 18 50 45.2 +0.3
comp=Z,16nm,0.9s,baz=150,slow=8.8,SNR=76
SONM pP pP 18 51 12.2 +1.3
comp=Z,5.9nm,1.0s,baz=144,slow=8.8,SNR=2.6
SONM PcP PcP 18 54 08.3 +0.5
comp=Z,0.7nm,0.4s,baz=163,slow=3.6,SNR=4.4
SONM LR LR 19 01 18.4
comp=Z,33nm,21.5s,baz=184,slow=36
comp=Z,16nm,0.9s
SHL Shillong 27.68 278 P P 18 50 58.2 +0.9
SHL IAmb IAmb 18 50 59.0
comp=Z,10nm,0.8s
SHL Shillong 27.68 278 P P 18 50 58.2 +0.9
SHL pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 28.24 287 P P 18 51 03.7 +1.1
LSA IAmb IAmb 18 51 05.2
comp=Z,11nm,0.8s
LSA Lhasa 28.24 287 P P 18 51 03.7 +1.1
LSA pmax pmax
comp=Z,11nm,0.8s
ZEA Zeya 29.16 6 *e*P P 18 51 11.5 +1.6
ZEA *e* 18 51 50.6
ZEA pmax pmax
comp=Z,10.0nm,1.9s
TAPN Taplejung 31.29 282 *e*P P 18 51 31.0 +1.6
comp=Z,16nm,0.7s
RAMN Ramite 32.30 282 *e*P P 18 51 38.9 +0.7
comp=Z,11nm,0.5s
JIRN Jiri 32.62 283 *e*P P 18 51 42.2 +1.1
comp=Z,21nm,0.7s
GUN Gumba 32.88 284 *e*P P 18 51 44.0 +0.7
comp=Z,23nm,0.7s
PKI Pulchoki 33.32 283 *e*P P 18 51 47.6 +0.5
comp=Z,6.8nm,0.5s
PKIN Phulchoki 33.33 283 *e*P P 18 51 47.2 +0.1
comp=Z,4.0nm,0.3s
GKN Gorkha 33.97 284 *e*P P 18 51 52.2 -0.4
comp=Z,22nm,0.8s
DANN Dangsing 34.73 285 *e*P P 18 51 58.2 -1.0
comp=Z,28nm,0.8s
PYUN Piuthan 35.42 284 *e*P P 18 52 03.3 -1.8
comp=Z,27nm,0.8s
DGZ Jazzator, Alta 36.87 322 *de*P P 18 52 17.6 +0.5
DGZ pmax pmax
comp=Z,4.0nm,0.8s
YAK Yakutsk 37.58 6 P P 18 52 22.2 -0.5
YAK Yakutsk 37.58 6 *e*P P 18 52 21.1 -1.5
YAK *e**PP pP 18 52 50.7 +1.2
YAK *e* 18 53 49.1
YAK *e* 18 54 35.8
YAK *e*S S 18 57 59.7 -3.1
YAK *e* 19 02 19.4
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.6s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=Z,134nm,6.5s
YAK pmax pmax
comp=N,101nm,5.6s
YAK pmax pmax
comp=E,109nm,5.5s
YAK smax smax
comp=E,50nm,4.0s
YAK smax smax
comp=N,41nm,2.7s
PEA0B Petropavlovsk- 38.73 34 *ce*P P 18 52 29.2 -3.3
PETK Petropavlovsk- 38.73 34 LR LR 19 07 36.0
comp=N,26nm,21.1s,baz=95,slow=35
MK31 Makanchi Array 38.76 315 P P 18 52 33.1 +0.2
MK31 IAmb IAmb 18 52 34.1
comp=Z,6.4nm,0.9s
MK31 Makanchi Array 38.76 315 P P 18 52 33.1 +0.2
MK31 pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 38.76 315 P P 18 52 32.5 -0.4
MKAR PcP PcP 18 54 41.5 -0.5
MKAR Makanchi Array 38.76 315 P P 18 52 33.1 +0.2
comp=Z,4.5nm,0.7s,baz=100,slow=8.9,SNR=31
MKAR PcP PcP 18 54 42.2 +0.2
comp=Z,4.3nm,0.6s,baz=87,slow=5.0,SNR=16
comp=Z,4.5nm,0.7s
MAKZ Makanchi 38.97 315 P P 18 52 34.1 -0.5
MAKZ Makanchi 38.97 315 P P 18 52 34.1 -0.5
MAKZ pmax pmax
comp=Z,13nm,1.0s
MA2 Magadan 40.01 22 LR LR 19 07 24.0
comp=Z,8.5nm,21.8s,baz=171,slow=33
ZAA0 Zalesovo Array 40.42 326 P P 18 52 45.8 -0.7
ZALV Zalesovo Beam 40.42 326 P P 18 52 45.5 -1.0
ZALV Zalesovo Beam 40.42 326 P P 18 52 45.9 -0.6
comp=Z,8.7nm,0.4s,baz=117,slow=8.7,SNR=47
ZALV pP pP 18 53 14.9 +1.2
comp=Z,0.9nm,0.6s,baz=127,slow=9.5,SNR=1.1
ZALV PcP PcP 18 54 46.3 -0.8
comp=Z,2.8nm,0.6s,baz=105,slow=3.8,SNR=6.5
comp=Z,8.7nm,0.4s
ANVS Anan'yevo 40.83 307 P P 18 52 51.6 +1.3
KSH Kashi 41.59 302 P P 18 53 00.8 +4.4
KSH pmax pmax
comp=Z,8.0nm,1.4s
NRN Naryn 41.82 305 P P 18 52 59.8 +1.3
NRN Naryn 41.82 305 P P 18 52 59.8 +1.3
NRN pmax pmax
comp=Z,19nm,1.2s
KURK Kurchatov 42.42 319 P P 18 53 02.2 -0.7
KURK Kurchatov 42.42 319 *c i*P P 18 53 02.6 -0.2
KURK pmax pmax
comp=Z,5.0nm,0.5s
KURBB Kurchatov Arra 42.44 319 P P 18 53 02.9 -0.1
comp=Z,3.1nm,0.4s,baz=110,slow=8.7,SNR=20
KURBB PcP PcP 18 54 52.8 -1.0
comp=Z,1.9nm,0.2s,baz=110,slow=3.2,SNR=9.4
comp=Z,3.1nm,0.4s
SEY Seymchan 43.04 20 ⇑*e*P P 18 53 06.6 -1.0
AAK Ala-Archa 43.11 307 *d i*P P 18 53 10.1 +1.4
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 43.11 307 LR LR 19 11 17.3
comp=Z,17nm,18.1s,baz=110,slow=36
ARLS Aral 43.12 305 P P 18 53 10.6 +1.7
NIL Nilore 43.54 293 P P 18 53 11.6 -0.6
NIL Nilore 43.54 293 P P 18 53 11.6 -0.6
NIL pmax pmax
comp=Z,14nm,1.0s
ARK Arkit 44.87 305 P P 18 53 24.1 +1.4
TRKS Terek-Say 45.45 305 P P 18 53 28.2 +0.7
WB0 Warramunga Arr 45.75 164 P P 18 53 30.4 +0.6
WB0 IAmb IAmb 18 53 31.7
comp=Z,6.2nm,0.7s
WRAB Tennant Creek 45.90 164 P P 18 53 31.6 +0.7
WRAB IAmb IAmb 18 53 32.6

comp=Z,9.6nm,0.9s
WRAB Tennant Creek 45.90 164⇓ *i*P P 18 53 31.8 +0.9
WRAB pmax pmax
comp=Z,11nm,0.9s
WRA Warramunga Arr 45.91 164 P P 18 53 31.8 +0.9
WRA Warramunga Arr 45.91 164 P P 18 53 31.6 +0.7
comp=Z,8.5nm,0.9s,baz=347,slow=8.8,SNR=71
WRA pP **pP** 18 53 58.2 +0.5
comp=Z,2.3nm,0.7s,baz=346,slow=8.4,SNR=4.0
WRA PcP **PcP** 18 55 06.2 +0.2
comp=Z,3.7nm,0.6s,baz=346,slow=3.5,SNR=18
comp=Z,8.5nm,0.9s
WB2 Warramunga Arr 45.91 164 P P 18 53 31.6 +0.6
WR0 Warramunga Arr 45.97 164 P P 18 53 32.1 +0.6
WR0 IAmb IAmb 18 53 33.1
comp=Z,8.5nm,0.8s
KK31 Karatay Array 46.07 307 P P 18 53 32.6 +0.5
KK31 Karatay Array 46.07 307 P P 18 53 32.6 +0.5
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 46.07 307 P P 18 53 32.4 +0.3
KKAR Karatay Array 46.07 307 P P 18 53 32.3 +0.2
KKAR IAmb IAmb 18 53 34.3
comp=Z,1.8nm,0.7s
KKAR Karatay Array 46.07 307 P P 18 53 32.4 +0.3
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KBL Kabul 46.99 295 P P 18 53 39.8 +0.2
KBL Kabul 46.99 295 P P 18 53 39.8 +0.2
KBL pmax pmax
comp=Z,14nm,0.9s
TIXI Tiksi 47.06 3 P P 18 53 37.9 -1.4
TIXI IAmb IAmb 18 54 10.4
comp=Z,4.7nm,1.0s
TIXI Tiksi 47.06 3⇑ *e*P P 18 53 38.2 -1.1
TIXI pmax pmax
comp=Z,13nm,2.5s
BVAR Borovoye Array 47.99 320 P P 18 53 46.7 -0.1
comp=Z,7.3nm,0.5s,baz=104,slow=7.9,SNR=60
BVAR PcP **PcP** 18 55 12.7 -0.3
comp=Z,6.4nm,0.5s,baz=107,slow=2.5,SNR=23
BVAR LR LR 19 15 13.0
comp=Z,18nm,21.9s,baz=335,slow=37
comp=Z,7.3nm,0.5s
BRVK Borovoye 48.06 320 P P 18 53 47.1 -0.2
BRVK IAmb IAmb 18 53 48.1
comp=Z,12nm,1.1s
BRVK Borovoye 48.06 320*c* *i*P P 18 53 47.3 0.0
BRVK pmax pmax
comp=Z,4.0nm,0.9s
AS31 Alice Springs 49.40 166 P P 18 53 58.7 +0.8
ASAR Alice Springs 49.40 166 P P 18 53 58.0 +0.1
ASAR Alice Springs 49.40 166 P P 18 53 59.0 +1.1
comp=Z,3.6nm,0.7s,baz=343,slow=7.0,SNR=32
ASAR PcP **PcP** 18 55 19.0 +0.5
comp=Z,2.7nm,0.6s,baz=339,slow=3.1,SNR=18
comp=Z,3.6nm,0.7s
CTA Charters Tower 50.22 150 PcP **PcP** 18 55 21.9 +0.4
comp=Z,5.1nm,0.9s,baz=14,slow=5.1,SNR=3.5
ABKAR Akbulak array 53.89 314 P P 18 54 31.2 +0.2
ARU Arti 55.37 323 P P 18 54 40.7 -0.9
ARU Arti 55.37 323*c* *i*P P 18 54 40.6 -0.9
ARU 18 55 34.7
ARU 18 56 42.6
ARU S **S** 19 02 16.5 +0.1
ARU SS **SS** 19 06 00.8 -1.5
ARU pmax pmax
comp=Z,7.0nm,0.6s
GEYT Alibeck 55.53 300 P P 18 54 44.5 +1.4
GEYT IAmb IAmb 18 54 45.5
comp=Z,6.4nm,0.9s
GEYT Alibeck 55.53 300 P P 18 54 44.9 +1.7
comp=Z,5.5nm,0.9s,baz=96,slow=3.0,SNR=13
GEYT pP **pP** 18 55 13.6 +1.6
comp=Z,1.5nm,0.7s,baz=119,slow=5.1,SNR=2.9
comp=Z,5.5nm,0.9s
GYA0B ALIBECK ARRAY 55.53 300 P P 18 54 44.5 +1.4
GYA0B IAmb IAmb 18 54 45.5
comp=Z,5.7nm,0.8s
KIRV Kirov 60.43 325*d* *i*P P 18 55 16.4 -0.4
BELG Belogornoye 61.66 318*d* *i*P P 18 55 24.9 -0.3
BELG pmax pmax
comp=Z,2.0nm,0.9s
F21K Alatna River 65.14 25 P P 18 55 49.1 +1.2
J20K Nowinta River 65.14 29 P P 18 55 49.0 +1.0
J20K IAmb IAmb 18 55 49.8
comp=Z,3.7nm,0.8s
G21K Allakaket 65.19 26 P P 18 55 48.9 +0.6
G21K IAmb IAmb 18 55 49.4
comp=Z,4.8nm,1.1s
K20K Telida 65.26 30 P P 18 55 49.3 +0.5
K20K IAmb IAmb 18 56 21.8
comp=Z,11nm,1.4s
M19K Big River Lodg 65.27 31 P P 18 55 48.9 +0.1
D22K Ayikyak River 65.30 23 P P 18 55 50.0 +1.1
H21K Melozitna Rive 65.56 27 P P 18 55 51.1 +0.4
H21K IAmb IAmb 18 55 52.9
comp=Z,4.0nm,0.8s
TOO Toolangi 65.67 160 P P 18 55 51.9 +0.2
TOO Toolangi 65.67 160 P P 18 55 51.9 +0.2
TOO pmax pmax
comp=Z,28nm,1.4s
E22K Anaktuvuk Pass 65.69 24 P P 18 55 52.2 +0.7
E22K IAmb IAmb 18 55 56.0
comp=Z,5.1nm,0.9s
M20K Styx River 65.86 31 P P 18 55 53.2 +0.4
M20K IAmb IAmb 18 56 13.8
comp=Z,12nm,1.5s
C23K Itkillik River 65.94 22 P P 18 55 53.6 +0.6
C23K IAmb IAmb 18 56 18.0
comp=Z,11nm,1.2s
CAST Castle Rocks 66.14 29 P P 18 55 55.4 +0.9
CAST IAmb IAmb 18 56 02.2
comp=Z,4.6nm,1.1s
BPAW Bear Paw Mtn. 66.52 29 P P 18 55 56.9 0.0
BPAW IAmb IAmb 18 55 57.5
comp=Z,7.3nm,1.4s
H23K Yukon River 66.87 27 P P 18 56 00.3 +1.3
H23K IAmb IAmb 18 56 01.2
comp=Z,5.9nm,0.7s
E24K Your Creek 66.93 24 P P 18 56 00.3 +0.9
E24K IAmb IAmb 18 56 01.1
comp=Z,3.6nm,0.7s
SUA Susitna One 67.05 31 P P 18 56 00.6 +0.2
F24K Squaw Lake 67.25 25 P P 18 56 01.7 +0.3
F24K IAmb IAmb 18 56 03.4
comp=Z,6.2nm,0.7s
NEA2 Nenana 67.27 28 P P 18 56 02.0 +0.4
NEA2 IAmb IAmb 18 56 02.8
comp=Z,6.1nm,0.8s
D25K Kavik River 67.48 23 P P 18 56 03.0 +0.1
D25K IAmb IAmb 18 56 04.2
comp=Z,3.1nm,0.8s
G24K Hadweenzic Riv 67.55 25 P P 18 56 04.2 +0.9
G24K IAmb IAmb 18 56 39.2
comp=Z,8.9nm,1.4s
MDM Murphy Dome 67.56 27 P P 18 56 03.8 +0.4
MDM IAmb IAmb 18 56 04.8
comp=Z,5.8nm,0.8s
RND Reindeer 67.57 29 P P 18 56 03.3 -0.3
RND Reindeer 67.57 29 P P 18 56 03.3 -0.3
RND pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 67.78 322 *i*P P 18 56 02.7 -2.2
OBN pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 68.16 27 P P 18 56 05.9 -1.3
comp=Z,0.8nm,0.7s,baz=298,slow=9.0,SNR=11
comp=Z,0.8nm,0.7s
HDA Harding Lake 68.21 28 P P 18 56 06.5 -0.9
HDA IAmb IAmb 18 56 47.1
comp=Z,6.9nm,1.2s
DHY Denali Highway 68.29 29 P P 18 56 07.9 -0.3
DHY IAmb IAmb 18 56 13.6
comp=Z,2.8nm,0.8s
BMAR Burnt Mountain 68.52 24 P P 18 56 10.2 +0.9
SCM Sheep Creek Mo 68.58 31 P P 18 56 10.3 +0.4
SCM Sheep Creek Mo 68.58 31 P P 18 56 10.3 +0.4
SCM pmax pmax
comp=Z,10.0nm,0.8s
M24K Tolsona, Glenn 69.05 30 P P 18 56 13.1 +0.3
SPITS Spitsbergen Ar 69.17 348 P P 18 56 12.9 -0.4
SPITS pmax pmax
comp=Z,21nm,1.2s
SPITS Spitsbergen Ar 69.17 348 P P 18 56 12.4 -0.9
comp=Z,2.4nm,0.5s,baz=84,slow=8.5,SNR=12
comp=Z,2.4nm,0.5s
KLU Klutina 69.31 31 P P 18 56 14.2 -0.3
KLU IAmb IAmb 18 56 16.1
comp=Z,14nm,1.4s
E27K Coleen River 69.43 23 P P 18 56 15.5 +0.5
ARCES ARCESS Array B 69.45 338 P P 18 56 14.8 -0.3
comp=Z,1.0nm,0.4s,baz=80,slow=7.1,SNR=16
comp=Z,1.0nm,0.4s
KBS Kingsbay 69.70 349 *i*P P 18 56 05.6 -11
MENT Mentasta 69.95 29 P P 18 56 18.8 +0.5
MENT IAmb IAmb 18 57 00.1
comp=Z,4.4nm,0.7s
L26K Log Cabin Wild 70.09 29 P P 18 56 19.7 +0.5
F28M Old Crow 70.22 24 P P 18 56 20.6 +0.8
F28M IAmb IAmb 18 56 22.2
comp=Z,6.6nm,1.3s
GLB Gilahina Butte 70.30 31 P P 18 56 20.9 +0.5
GLB IAmb IAmb 18 56 23.6
comp=Z,4.3nm,0.6s
K27K Chicken 70.36 28 P P 18 56 21.2 +0.5
M26K Nabesna, AK 70.41 30 P P 18 56 21.5 +0.3
M26K IAmb IAmb 18 56 22.5
comp=Z,5.6nm,0.7s
L27K Beaver Creek, 70.75 29 P P 18 56 23.6 +0.5
L27K IAmb IAmb 18 56 25.0
comp=Z,2.9nm,0.7s
BCAR Beaver Creek A 70.76 29 P P 18 56 23.9 +0.6
I28M Miner Creek 70.83 26 P P 18 56 24.6 +0.9
M27K Edge Creek, AK 70.93 29 P P 18 56 24.9 +0.5
G29M Pine Creek 71.12 24 P P 18 56 26.1 +0.8
G29M IAmb IAmb 18 56 46.4
comp=Z,7.7nm,1.2s
FINES FINESS Array B 71.55 330 P P 18 56 27.9 0.0
FINES FINESS Array B 71.55 330 *i*P P 18 56 28.0 +0.1
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 71.55 330 P P 18 56 27.6 -0.3
comp=Z,2.3nm,0.8s,baz=61,slow=6.0,SNR=13
FINES LR LR 19 31 21.4
comp=Z,43nm,18.5s,baz=24,slow=39
comp=Z,2.3nm,0.8s
CTGM Chitina Glacie 71.59 31 P P 18 56 28.6 +0.2
CTGM IAmb IAmb 18 56 30.2
comp=Z,6.1nm,0.6s
G30M tAoh Zraii Nji 71.76 24 P P 18 56 29.1 -0.1
G30M IAmb IAmb 18 56 29.8
comp=Z,6.5nm,1.2s
I30M Mount Dempster 72.32 26 P P 18 56 32.7 +0.1
K29M Barlow Dome 72.34 27 P P 18 56 33.1 +0.3
M29M Somme Creek 72.41 29 P P 18 56 34.2 +1.0
AKASG Malin Array Be 73.23 318 P P 18 56 37.7 -0.4
comp=Z,0.6nm,0.4s,baz=60,slow=5.1,SNR=5.9
comp=Z,0.6nm,0.4s
ASF Jabal al Asfar 73.74 298 LR LR 19 34 51.2
comp=Z,94nm,19.9s,baz=288,slow=40
BR131 Keskin Array S 73.78 307 P P 18 56 41.9 +0.1
BR131 IAmb IAmb 18 56 43.3
comp=Z,6.4nm,0.9s
BR131 Keskin Array S 73.78 307⇑ *e*P P 18 56 41.3 -0.5
BRTR Keskin Array B 73.78 307 P P 18 56 41.6 -0.2
BRTR Keskin Array B 73.78 307 P P 18 56 42.0 +0.2
comp=Z,2.2nm,0.8s,baz=96,slow=6.5,SNR=14
BRTR pP **pP** 18 57 13.5 +1.6
comp=Z,0.9nm,0.9s,baz=24,slow=1.5,SNR=2.7
comp=Z,2.2nm,0.8s
MMAI Mount Meron Ar 74.65 300 P P 18 56 47.5 +0.7
comp=Z,2.1nm,0.8s,baz=230,slow=51,SNR=2.2
comp=Z,2.1nm,0.8s
DAG Danmarks Havn 75.98 351 *i*P P 18 56 49.0 -4.5
DAG IAmb IAmb 18 56 53.0
comp=Z,4.2nm,1.0s
BURAR Bucovina Array 76.77 316 P P 18 56 58.0 -0.7
MLR Muntele Rosu 77.10 314 P P 18 57 00.3 -0.3
comp=Z,1.2nm,0.4s,baz=68,slow=6.0,SNR=3.7
comp=Z,1.2nm,0.4s
HFS Hagfors 77.64 331 P P 18 57 02.5 -0.7
comp=Z,2.7nm,0.8s,baz=86,slow=6.1,SNR=6.9
HFS LR LR 19 35 05.0
comp=Z,44nm,18.5s,baz=18,slow=38
comp=Z,2.7nm,0.8s
NEEM North Greenlan 77.95 359 *i*P P 18 57 03.0 -1.9
NEEM IAmb IAmb 18 57 05.7
comp=Z,5.5nm,0.5s
NB2 NORSAR Subarra 78.27 332 P P 18 57 05.7 -0.9
comp=Z,2.0nm,0.6s,baz=61,slow=5.3
NOA NORSAR Array B 78.27 332 P P 18 57 06.0 -0.6
comp=Z,2.7nm,0.8s,baz=56,slow=5.3,SNR=8.2
comp=Z,2.7nm,0.8s
VYHS Vyhne 80.31 319 *e*P P 18 57 18.7 +0.8
VYHS Vyhne 80.31 319 *e* P 18 57 18.7 +0.8
YKA Yellowknife Ar 81.98 23 P P 18 57 26.7 +0.3
comp=Z,1.7nm,0.7s,baz=311,slow=5.3,SNR=6.7
YKA LR LR 19 41 07.8
comp=Z,10.0nm,18.9s,baz=196,slow=41
comp=Z,1.7nm,0.7s
KHC Kasperske Hory 83.08 321⇑ *e*P P 18 57 33.2 +0.7
KHC pmax pmax
comp=Z,14nm,1.4s
GERES GERESS Array B 83.15 321 P P 18 57 32.5 -0.4
comp=Z,1.6nm,0.8s,baz=71,slow=4.8,SNR=6.9
comp=Z,1.6nm,0.8s
KMBO Kilima Mbogo 86.14 267 *i*P P 18 57 51.0 +2.3
KMBO pmax pmax
comp=Z,1.0nm,0.9s
KMBO Kilima Mbogo 86.14 267 P P 18 57 49.9 +1.2
comp=Z,1.6nm,0.8s,baz=30,slow=6.5,SNR=4.2
comp=Z,1.6nm,0.8s
FDMO Fiordimonte 86.45 316 P P 18 57 50.0 +0.5
FDMO IAmb IAmb 18 57 51.0
comp=Z,6.5nm,1.0s
SFJD Kangerlussuaq 88.38 357 *i*P P 18 58 07.0 +8.8
SFJD IAmb IAmb 18 58 11.0
comp=Z,6.5nm,0.8s
NEW Newport 89.85 35 P P 18 58 06.8 +1.2
comp=Z,4.5nm,0.8s,baz=340,slow=3.6,SNR=5.7
comp=Z,4.5nm,0.8s
YBH Yreka Blue Hor 90.53 43 P P 18 58 09.8 +0.8
comp=Z,3.9nm,0.9s,baz=206,slow=7.7,SNR=4.7
comp=Z,3.9nm,0.9s
MBAR Mbarara 91.84 270⇓ *e*P P 18 58 14.4 -1.2
MBAR pmax pmax
comp=Z,5.0nm,1.2s
NVAR Mina Array Bea 95.20 44 P P 18 58 31.9 +1.2
comp=Z,1.8nm,0.8s,baz=274,slow=5.7,SNR=8.5
comp=Z,1.8nm,0.8s
TORD Torodi Ar. Bea 111.05 296 PKiKP **PKiKP** 19 03 39.5 -0.8
comp=Z,0.7nm,0.5s,baz=27,slow=3.3,SNR=5.0
DBIC Dimbokro 119.98 294 PKP **PKPdf** 19 03 57.5 0.0
comp=Z,5.4nm,0.8s,baz=88,slow=4.0,SNR=5.2
SNAA Sanae 124.15 198 PKP **PKPdf** 19 04 02.9 -0.9
comp=Z,0.3nm,0.5s,baz=158,slow=5.4,SNR=6.6

*DNK **11** 18:58:10.1±0.7,51°.52N×15°.81E,h16km±32km,ML1.9*
*IPEC **11** 18:58:10.2±0.2,51°.47N×16°.19E,h1km,ML2.5/4,Error ellipse: s-maj=1.8km s-min=1.0km az=27.0*
*PRU **11** 18:58:12.8,51°.40N×16°.09E,h0km*
*VIE **11** 18:58:13.8±1.2,51°.19N×16°.12E,h0km,mb2.0/1,ml2.5/7, Error ellipse: s-maj=7.4km s-min=6.5km az=25.0 62 km W of Wroclaw Suspected Mining induced.*

ISC 11 18:58:08.3±0.8,51°.57N±0°.03×16°.14E±0°.02,h0km,n38, σ1°45/70,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**173**	*e*Pg	**Pg**	**18 58 22.7**	**+0.3**
KSP				*e*Sg	**Sg**	**18 58 31.3**	**-0.6**
CHVC	**Chvalec**	**0.99**	**183**	*e*PG	**Pg**	**18 58 27.4**	**+0.2**
CHVC				*e*SG	**Sg**	**18 58 39.2**	**-0.8**
comp=Z,43nm,0.6s							
OSTC	**Ostas**	**1.02**	**177**	*e*PG	**Pg**	**18 58 28.3**	**+0.5**
OSTC				*e*SG	**Sg**	**18 58 40.5**	**-0.4**
comp=Z,47nm,0.7s							
UPC	**Upice**	**1.07**	**184**	*e*PG	**Pg**	**18 58 28.9**	**+0.1**
UPC				*e*SG	**Sg**	**18 58 41.7**	**-0.9**
comp=Z,77nm,0.6s							
DPC	**Dobruska-Polom**	**1.23**	**175**	*e*PG	**Pg**	**18 58 31.6**	**-0.2**
DPC				*e*SG	**Sg**	**18 58 46.3**	**-1.4**
comp=Z,42nm,0.5s							
PVCC	**Panska Ves**	**1.44**	**224**	*e*PG	**Pb**	**18 58 36.2**	**+0.2**
PVCC				*e*SG	**Sg**	**18 58 54.7**	**+0.1**
comp=Z,168nm,0.2s							
BRG	**Berggiesshubel**	**1.55**	**244**	Pg	**Pg**	**18 58 39.1**	**+1.1**
BRG				Sg	**Sg**	**18 58 59.1**	**+1.1**
BRG				Amp		18 59 00.6	
comp=Z,80nm,0.4s							
RICC	**Richard**	**1.65**	**232**	*e*SG	**Sn**	**18 59 00.6**	**+0.2**
comp=Z,71nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.87**	**208**	*e*SG	**Sn**	**18 59 06.5**	**+0.6**
PRU	**Pruhonice**	**1.88**	**213**	*e*PG	**Pb**	**18 58 43.4**	**-0.1**
PRU				*e*SG	**Sb**	**18 59 07.1**	**-0.5**
comp=Z,30nm,0.4s							
HSKC	**Hora Svate Kat**	**1.96**	**242**	*e*PG	**Pg**	**18 58 45.6**	**-0.3**
HSKC				*e*SG	**Sb**	**18 59 10.1**	**+0.2**
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**18 58 43.6**	**+0.5**
comp=Z,3.0nm,0.6s							
CLL				*i* Pg	**Pg**	**18 58 46.4**	**+0.1**
CLL				*i* x	x	18 58 49.8	
CLL				*i* Sg	**Sg**	**18 59 12.8**	**+0.8**
comp=Z,12nm,0.3s							
MORC	**Moravsky Berou**	**2.01**	**153**	*e*Pn	**Pn**	**18 58 43.5**	**+0.1**
baz=334							
MORC				*e*Sg	**Sn**	**18 59 09.5**	**+0.3**
comp=Z,25nm,0.4s,baz=334							
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*SG	**Sg**	**18 59 16.7**	**-0.7**
VRAC	**Vranov**	**2.29**	**173**	*e*Pn	**Pn**	**18 58 47.5**	**+0.3**
baz=353							
VRAC				*e*Sg	**Sb**	**18 59 18.3**	**-0.9**
comp=Z,23nm,0.3s,baz=353							
TREC	**Trest**	**2.32**	**191**	*e*SG	**Sb**	**18 59 20.4**	**+0.3**
KRUC	**Moravsky**	**2.52**	**176**	*e*Pn	**Pn**	**18 58 50.8**	**+0.4**
baz=357							
KRUC	**Moravsky**	**2.52**	**176**	*e*Pg	**Pb**	**18 58 54.0**	**-0.3**
baz=357							
KRUC				*e*Sg	**Sb**	**18 59 25.3**	**-0.6**
comp=Z,21nm,0.5s,baz=357							
OJC	**Ojcow**	**2.68**	**119**	*e*Pg	**Pg**	**18 59 00.7**	**+1.1**
OJC				*e*Sg	**Sg**	**18 59 35.5**	**+1.2**
NKC	**Novy Kostel**	**2.70**	**242**	*e*PN	**Pn**	**18 58 54.0**	**+1.1**
NKC				*e*PG	**Pg**	**18 58 59.6**	**-0.3**
NKC				*e*SG	**Sg**	**18 59 35.8**	**+0.9**
comp=Z,35nm,0.3s							
JAVC	**Velka Javorina**	**2.89**	**160**	*e*Pn	**Pn**	**18 58 55.7**	**+0.1**
baz=341							
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN	**Pn**	**18 58 56.3**	**0.0**
KHC				*e*PG	**Pb**	**18 59 02.5**	**+0.9**
KHC				*e*SN	**Sn**	**18 59 30.3**	**-2.1**
KHC				*e*SG	**Sb**	**18 59 39.8**	**+1.6**
comp=Z,14nm,0.7s							
CKRC	**Cesky Krumlov**	**3.00**	**204**	*e*PG	**Pb**	**18 59 03.8**	**+1.3**
CKRC				*e*SG	**Sb**	**18 59 40.7**	**+1.0**
comp=Z,14nm,0.3s							
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PN	**Pn**	**18 59 01.3**	**+1.1**
LANS				*e*PG	**Pg**	**18 59 10.9**	**+0.8**
LANS				*e*SG	**Sg**	**18 59 50.8**	**-1.1**
MODS	**Modra-Piesok**	**3.29**	**167**	*e*PG	**Pg**	**18 59 11.5**	**+0.3**
MODS				*e*SG	**Sg**	**18 59 52.5**	**-1.3**
VYHS	**Vyhne**	**3.54**	**150**	*e*PN	**Pn**	**18 59 03.9**	**-0.5**
VYHS				*e*PG	**Pg**	**18 59 16.9**	**+0.9**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**18 59 05.9**	**+0.3**
BSD				*i* S	**Sn**	**18 59 46.9**	**-2.1**
BSD				IAML		18 59 51.4	
comp=Z,1.1nm,0.4s							
CONA	**Conrad Observa**	**3.65**	**183**	*i* Pn	**Pn**	**18 59 07.9**	**+1.8**
comp=Z,0.3nm,0.1s							
CONA				Sg	**Sg**	**19 00 02.6**	**-3.0**
comp=Z,3.6nm,0.2s							
RONA	**Rosalia, Austr**	**3.88**	**178**	*e*Sg	**Sg**	**19 00 09.7**	**-3.1**
comp=Z,3.4nm,0.3s							
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*PG	**Pg**	**18 59 24.2**	**+1.1**
STHS				*e*SG	**Sg**	**19 00 16.3**	**+2.6**
BIOA	**Bad Ischl, Aus**	**4.21**	**204**	Pn	**Pn**	**18 59 16.3**	**+2.5**
comp=Z,1.0nm,0.2s							
BIOA				Sg	**Sg**	**19 00 21.1**	**-2.4**
comp=Z,16nm,0.6s							
ARSA	**Arzberg**	**4.34**	**186**	*e*Sg	**Sg**	**19 00 24.7**	**-3.1**
comp=Z,12nm,0.7s							
BLEU	**Blekinge**	**4.75**	**358**	*i* P	**Pn**	**18 59 22.7**	**+1.7**
BLEU				*i* S	**Sn**	**19 00 14.7**	**-1.9**
KBA	**Koelnbreinsper**	**4.86**	**203**	*e*Pn	**Pn**	**18 59 24.2**	**+1.5**
comp=Z,0.5nm,0.3s							
KBA				*e*Sg	**Sg**	**19 00 41.1**	**-3.1**
comp=Z,5.8nm,0.7s							
BJUU	**Bjuv**	**4.87**	**339**	*i* S	**Sn**	**19 00 16.4**	**-3.4**
DEL	**Delary**	**5.09**	**346**	*i* P	**Pn**	**18 59 26.0**	**+0.3**
DEL				*i* S	**Sn**	**19 00 21.9**	**-3.2**
WTTA	**Wattenberg**	**5.22**	**216**	Sg	**Sg**	**19 00 58.8**	**+2.9**
comp=Z,5.8nm,0.6s							
ABTA	**Abfaltersbach**	**5.38**	**208**	Sg	**Sg**	**19 00 59.3**	**-1.9**
comp=Z,4.5nm,0.7s							

*DJA **11** 19:06:59.3±0.3,8°.S±4°.×11°.9E±°,h135km±4km,M4.2/11, mB5.2/1,mb4.5/7,MLv4.0/11,Mw(mB)4.5/1*
*IDC **11** 19:07:01.3±2.8,8°.26S×119°.24E,h172km±21km,mb3.0/2, mbtmp3.4/4,Error ellipse: s-maj=60.8km s-min=12.5km az=48.0*

ISC 11 19:06:58.7±0.7,8°.52S±0°.07×118°.91E±0°.06,h156km,n26, σ0°87/30,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.16**	**255**	P	**Pn**	**19 07 25.5**	**+0.1**
PLAI	**Plampang**	**1.16**	**255**	P	**Pn**	**19 07 25.2**	**-0.2**
PLAI				S	**Sn**	**19 07 44.6**	**-1.3**
TWSI	**Taliwang, Sumb**	**2.02**	**264**	P	**Pn**	**19 07 34.4**	**0.0**
BASI	**Baing, Sumba**	**2.36**	**136**	P	**Pn**	**19 07 38.6**	**+0.2**
MMRI	**Maumere**	**3.29**	**92**	P	**Pn**	**19 07 50.8**	**+0.8**
MMRI	**Maumere**	**3.29**	**92**	P	**Pn**	**19 07 50.1**	**+0.1**
BKSI	**Bulukumba**	**3.40**	**21**	P	**Pn**	**19 07 51.8**	**+0.4**
KAPI	**Kappang**	**3.58**	**14**	P	Pn	19 08 05.3	+12
KAPI	**Kappang**	**3.58**	**14**	P	**Pn**	**19 07 54.3**	**+0.5**
17nm,0.6s,baz=196,slow=8.0,SNR=9.7							
SRBI	**Singaraja**	**3.68**	**277**	P	**Pn**	**19 07 55.0**	**0.0**
IGBI	**Denpasar**	**3.73**	**265**	P	**Pn**	**19 07 55.1**	**-0.5**
JAGI	**Jajag, Banyuwa**	**4.71**	**270**	P	**Pn**	**19 08 08.0**	**-0.4**
BATI	**Baumata**	**4.98**	**110**	P	**Pn**	**19 08 12.7**	**+0.7**
BATI	**Baumata**	**4.98**	**110**	P	**Pn**	**19 08 12.9**	**+0.9**
141nm,0.4s,baz=265,slow=11,SNR=94							
BATI				S	**Sn**	**19 09 06.8**	**-2.5**
31nm,0.4s,baz=300,slow=20,SNR=2.0							
GMJI	**Gumukmas**	**5.41**	**272**	P	**Pn**	**19 08 16.7**	**-1.0**
37nm,2.3s,0.2nm							
SOEI	**Soe**	**5.43**	**103**	P	**Pn**	**19 08 18.5**	**+0.4**
SOEI	**Soe**	**5.43**	**103**	P	**Pn**	**19 08 18.2**	**+0.1**
80nm,0.6s,3μm0.5nm							
UGM	**Wanagama**	**8.32**	**274**	P	**Pn**	**19 08 57.6**	**+1.1**
175nm,1.9s							
KNRA	**Kununurra**	**11.97**	**127**	P	**Pn**	**19 09 44.2**	**-0.3**
CGJI	**Cibinong**	**13.24**	**277**	P	**P**	**19 10 04.5**	**-0.5**
22nm,1.2s							
KASI	**Kota Agung**	**14.61**	**281**	P	**Pn**	**19 10 18.8**	**+0.7**
81nm,2.2s							
MEEK	**Meekatharra**	**18.02**	**181**	P	**Pn**	**19 11 00.5**	**+1.0**
WRKA	**Warakurna**	**18.70**	**153**	P	**Pn**	**19 11 08.0**	**+0.4**
WRA	**Warramunga Arr**	**18.76**	**129**	P	**P**	**19 11 06.7**	**+0.8**
0.4nm,0.4s,baz=301,slow=13,SNR=26							
WRA				S	**S**	**19 14 32.7**	**+1.4**
0.3nm,0.4s,baz=317,slow=28,SNR=2.3							
ASAR	**Alice Springs**	**20.81**	**138**	P	**P**	**19 11 29.3**	**+1.3**
0.7nm,0.3s,baz=318,slow=9.1,SNR=18							
ASAR				S	**S**	**19 15 10.8**	**-0.9**
0.9nm,1.1s,baz=308,slow=20,SNR=3.5							
ASAR				ScP	**ScP**	**19 18 52.6**	**-0.2**
0.4nm,0.5s,baz=329,slow=2.7,SNR=4.9							
0.7nm,0.3s							
CMAR	**Chiang Mai Arr**	**33.27**	**324**	P	**P**	**19 13 21.0**	**-0.5**
0.2nm,0.3s,baz=150,slow=7.3,SNR=2.0							
0.2nm,0.3s							

*ASRS **11** 19:10:42.6±0.3,46°.N±2°.×7°.9E±°,h3km,MLh3.7/2,Error ellipse: s-maj=5.5km s-min=3.1km az=118.2,confirmed*
*NNC **11** 19:10:45.3±3.1,46°.40N×78°.89E,h0km,mb3.3,mpv2.6, Error ellipse: s-maj=43.0km s-min=20.1km az=153.0*
*SOME **11** 19:10:46.4,46°.38N×78°.52E,h5km*

ISC 11 19:10:44.7±0.8,46°.38N±0°.03×78°.49E±0°.04,h10km,n31, σ2°99/35,7C-7D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDK	**Taldyqorghan**	**1.38**	**182**	*e*P	Pg	19 11 12.4	+1.3
22nm,0.1s							
TDK				*e*S	**Sn**	**19 11 30.5**	**+2.3**
380nm,0.2s							
ARXS	**Arharly**	**2.21**	**192**	*e*Pg	**Pg**	**19 11 27.6**	**+0.4**
1.5nm,0.1s							
ARXS				*e*Lg	Lg	19 11 55.6	
35nm,0.2s							

DJR	Jarkent	2.24	155	*e*Pg		Pg	19 11 28.6	+0.9
	4.9nm,0.1s							
DJR				*e*Lg		Lg	19 11 57.2	
	19nm,0.1s							
MAKZ	Makanchi	2.44	79	⇓Pn		Pn	19 11 22.7	-1.9
	1.5nm,0.4s							
MAKZ				⇓Pg		Pg	19 11 31.1	-0.4
	4.7nm,0.4s							
MAKZ				⇑Sn		Sn	19 11 49.4	-5.1
	7.2nm,0.5s							
MAKZ				⇑Lg		Lg	19 11 56.4	
	9.4nm,0.4s							
MAKZ	Makanchi	2.44	79	Pn		Pn	19 11 20.3	-4.4
MAKZ				Sg		Sn	19 11 50.2	-4.4
MK31	Makanchi Array	2.65	80	⇓Pn		Pn	19 11 23.6	-3.9
	0.1nm,0.1s,baz=260,slow=14,SNR=146							
MK31				⇓Pg		Pb	19 11 30.3	-2.0
	1.4nm,0.2s,baz=258,slow=15,SNR=26							
MK31				⇑Lg		Lg	19 11 56.3	
	2.7nm,0.2s,baz=267,slow=27,SNR=4.6							
MKAR	Makanchi Array	2.65	80	Pn		Pn	19 11 24.0	-3.5
MKAR				Pg		Pb	19 11 31.7	-0.6
MKAR				Sg		Sn	19 11 57.7	-2.0
KUU	Kurty	2.91	212	*e*Pg		Pg	19 11 40.4	-0.1
	0.7nm,0.1s							
KUU				*e*Lg		Lg	19 12 17.4	
	15nm,0.2s							
KTBS	Karatobe	2.96	206	*e*Pg		Pg	19 11 41.7	+0.3
	0.8nm,0.1s							
KTBS				*e*Lg		Lg	19 12 19.8	
	28nm,0.5s							
KTMS	Ketmen	3.22	155	*e*Pg		Pg	19 11 46.0	-0.3
	1.8nm,0.2s							
KTMS				*e*Lg		Lg	19 12 27.2	
	7.4nm,0.2s							
KOTS	Kotyrbulak	3.29	198	*e*Pg		Pg	19 11 47.8	0.0
	1.0nm,0.2s							
KOTS				*e*Lg		Lg	19 12 30.2	
	21nm,0.2s							
KNDC	Almaty	3.34	199	⇑Lg		Lg	19 12 34.5	
	62nm,0.9s							
KRBS	Karabastau	3.34	218	*e*Pg		Pg	19 11 48.8	+0.1
	1.0nm,0.2s							
KRBS				*e*Lg		Lg	19 12 31.9	
	5.8nm,0.2s							
BTLS	Baital	3.39	248	*e*Pg		Pg	19 11 49.6	0.0
	1.6nm,0.1s							
BTLS				*e*Lg		Lg	19 12 33.8	
	2.7nm,0.2s							
MTBS	Maitube	3.56	205	*e*Pg		Pg	19 11 52.0	-0.9
	1.8nm,0.1s							
MTBS				*e*Lg		Lg	19 12 37.4	
	15nm,0.3s							
ANVS	Anan'yevo	3.64	190	Sg		Sg	19 12 42.0	+0.4
DGS	Degeres	3.68	213	*e*Pg		Pg	19 11 55.1	-0.2
	5.5nm,0.3s							
DGS				*e*Lg		Lg	19 12 42.7	
	19nm,0.5s							
PRZ	Przheval'sk	3.90	181	Sg		Sg	19 12 51.8	+2.1
TKM2	Tokmak 2	4.03	212	⇑Pg		Pg	19 12 01.3	-0.5
	2.1nm,0.6s							
TKM2				⇓Lg		Lg	19 12 55.7	
	7.2nm,0.6s							
KURK	Kurchatov	4.34	1	⇓Lg		Lg	19 13 00.4	
	27nm,1.0s							
KURK	Kurchatov	4.34	1	Pg		Pb	19 12 03.2	+2.2
KURK				Sg		Sg	19 13 00.4	-3.6
OTUK	Ortayu	4.58	296	⇑Lg		Lg	19 13 17.2	
	7.9nm,0.7s							
BRZS	Berezniki	5.30	315	*e*Pg		Pg	19 12 26.1	-0.1
	2.0nm,0.2s							
BRZS				*e*Lg		Lg	19 13 36.0	
	8.6nm,0.4s							
UKR	Ust'-Kan	6.17	40	Pn		Pn	19 12 12.9	-3.0
UKR				Sg		Sb	19 13 52.8	+6.6
KK31	Karatay Array	6.56	243	⇑Lg		Lg	19 14 26.1	
	1.4nm,0.5s,baz=60,slow=13,SNR=3.5							
DGZ	Jazzator, Alta	6.85	58	Pn		Pn	19 12 22.7	-2.7
DGZ				Sg		Sb	19 14 13.8	+8.0
ELDR	Elanda	6.97	43	Pn		Pn	19 12 23.7	-3.1
ELDR				Sg		Sb	19 14 19.1	+10
CHBI	Chibit, Altay	7.18	53	Pn		Pn	19 12 27.9	-1.9
CHBI				Sg		Sb	19 14 24.3	+9.2
AKAR	Aktash	7.25	54	Pn		Pn	19 12 27.9	-2.8
AKAR				Sg		Sb	19 14 28.3	+11
CUR	Chagan-Uzun	7.56	57	Pn		Pn	19 12 32.1	-2.9
CUR				Sg		Sg	19 14 39.1	-8.2
BVA0	Borovoye Array	8.47	325	⇓Lg		Lg	19 15 15.2	
	4.2nm,1.3s,baz=120,slow=26,SNR=5.8							

*NOU **11** 19:15:47.4, 34.′86S×179.′28W, h127^{km}, MLv4.3/6, South of Kermadec Islands*
*WEL **11** 19:15:52.1±1.3, 35.′S±16.′×18.′0W±1.′5, h154^{km}±58^{km}, M4.3/17, ML4.3/9, MLv4.3/17, Error ellipse: s-maj=0.0km s-min=0.0km az=42.1, confirmed*

ISC 11 19:15:48.1±4.0, **34.′9S**±0.′1×**179.′3W**±0.′2, **h100**^{km}, **n45**, σ1§**46**/54, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.27	215	P	Pn	19 16 38.0	+0.5
MXZ	Matakaoa Point	3.27	215	P	Pn	19 16 37.6	+0.1
WMGZ	Waiomatatini S	3.44	212	P	Pn	19 16 41.5	+1.8
PKGZ	Pakihiroa	3.65	215	P	Pn	19 16 43.7	+1.1
HAZ	Te Kaha	3.69	219	P	Pn	19 16 43.7	+0.7
HAZ				S	Sn	19 17 25.9	+0.4
PUZ	Puketiti	3.72	211	P	Pn	19 16 44.7	+1.2
RUGZ	Raukumara Rang	3.90	218	P	Pn	19 16 47.0	+0.9
TWGZ	Tauwhareparae	3.92	213	P	Pn	19 16 46.9	+0.6
CNGZ	Carnagh Statio	4.09	208	P	Pn	19 16 50.2	+1.7
WHRZ	Whale Island	4.20	224	P	Pn	19 16 52.5	+2.5
WHRZ				S	Sn	19 17 39.8	+1.8
MWZ	Matawai	4.26	216	P	Pn	19 16 51.5	+0.6
MYRZ	Mayor Island	4.31	235	P	Pn	19 16 55.2	+3.7
URZ	Urewera	4.41	220	P	Pn	19 16 53.6	+0.7
URZ	Urewera	4.41	220	P	Pn	19 16 53.6	+0.7
URZ				S	Sn	19 17 40.2	-2.9
KUZ	Kuaotunu	4.43	244	P	Pn	19 16 53.0	-0.1
KUZ	Kuaotunu	4.43	244	P	Pn	19 16 53.3	+0.2
RAGZ	Rawiri	4.44	215	P	Pn	19 16 54.0	+0.7
RAGZ				S	Sn	19 17 42.5	-1.5
RIGZ	Rimuhau	4.46	211	P	Pn	19 16 54.5	+1.0
RIGZ				S	Sn	19 17 43.4	-0.9
GRZ	Great Barrier	4.47	251	P	Pn	19 16 53.5	-0.1
PRGZ	Paritu Road	4.59	208	P	Pn	19 16 56.0	+0.7
PRGZ				S	Sn	19 17 46.8	-0.8
MHGZ	Mahia Peninsul	4.79	207	P	Pn	19 16 58.5	+0.6
MTHZ	Maungataniwha	5.00	217	P	Pn	19 17 02.4	+1.6
MTHZ				S	Sn	19 17 57.1	-0.3
TOZ	Tahuroa Road	5.05	235	P	Pn	19 17 02.7	+1.2
NMHZ	Naumai	5.21	215	P	Pn	19 17 05.1	+1.4
NMHZ				S	Sn	19 18 02.2	-0.4
ARHZ	Aropaoanui	5.25	213	P	Pn	19 17 05.4	+1.1
WCZ	Waipu Caves	5.28	257	P	Pn	19 17 04.9	+0.3
BKZ	Black Stump Fm	5.42	217	P	Pn	19 17 07.1	+0.6
BKZ	Black Stump Fm	5.42	217	P	Pn	19 17 08.7	+2.2
BKZ				S	Sn	19 18 04.9	-2.6
MCHZ	McNeill Hill	5.54	214	P	Pn	19 17 09.5	+1.4
KWHZ	Kaweka Forest	5.65	216	P	Pn	19 17 11.6	+1.9
KWHZ				S	Sn	19 18 11.3	-2.0
KAHZ	Kahuranaki	5.75	211	P	Pn	19 17 10.1	-0.9
TMVZ	Te Maari	5.79	222	P	Pn	19 17 14.4	+2.7
ETVZ	East Tongariro	5.80	222	P	Pn	19 17 13.1	+1.3
OUZ	Omahuta	5.83	265	P	Pn	19 17 12.0	0.0
OUZ	Omahuta	5.83	265	P	Pn	19 17 12.1	0.0
KRHZ	Kereru	5.85	215	P	Pn	19 17 12.4	+0.1
NNVZ	North Ngauruho	5.85	222	P	Pn	19 17 15.3	+2.8
BHHZ	Black Hill Sta	5.88	218	P	Pn	19 17 13.6	+0.8
SNVZ	South Ngauruho	5.88	222	P	Pn	19 17 14.6	+1.7
TUVZ	Tukino	5.93	221	P	Pn	19 17 15.6	+2.0
FWVZ	Far West T-bar	5.97	222	P	Pn	19 17 19.7	+5.5
MOVZ	Moawhango	5.97	220	P	Pn	19 17 15.7	+1.6
PNHZ	Pukenui	6.14	214	P	Pn	19 17 16.7	+0.4
PRHZ	Porangahau	6.24	210	P	Pn	19 17 16.7	-0.9
BFZ	Birch Farm	6.75	210	P	Pn	19 17 24.2	-0.4

*IDC **11** 19:40:31.9±48.0, 38.′79S×46.′94E, h0^{km}, mb3.7/3, mbtmp3.7/3, MS2.8/2, Error ellipse: s-maj=1362.0km s-min=80.4km az=78.0*

ISC 11 19:40:37.8±9.7, **38.′7S**±0.′2×**4.′8E**±.′, **h10**^{km}, **n14**, σ0§**48**/9, **mb3.6**/3, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	CROZET ISLANDS	7.98	161	Pn	Pn	19 42 33.2	-0.4
	baz=223,slow=73						
H04N1				T	T	19 50 59.0	
	baz=321,slow=75,SNR=86						
H04N2	CROZET ISLANDS	7.99	161	Pn	Pn	19 42 33.5	-0.2
	baz=223,slow=73						
H04N2				T	T	19 50 56.8	
	baz=321,slow=75,SNR=107						
H04N3	CROZET ISLANDS	7.99	161	Pn	Pn	19 42 33.1	-0.7
	baz=223,slow=73						
H04N3				T	T	19 50 57.3	
	baz=321,slow=75,SNR=113						
H04S3	CROZET ISLANDS	8.63	162	Pn	Pn	19 42 42.3	-0.3
H04S1	CROZET ISLANDS	8.64	162	Pn	Pn	19 42 43.2	+0.5
H04S2	CROZET ISLANDS	8.65	162	Pn	Pn	19 42 43.4	+0.6
BOSA	Boshof	21.39	291	LR	LR	19 51 24.8	
	comp=Z,19nm,19.7s,baz=190,slow=32						
MAW	Mawson	30.14	169	LR	LR	19 55 42.9	
	comp=Z,23nm,21.1s,baz=150,slow=30						
H01W2	Cape Leeuwin H	52.06	108	T	T	20 45 59.0	
	baz=246,slow=75,SNR=24						
H01W3	Cape Leeuwin H	52.07	108	T	T	20 45 60.0	
	baz=246,slow=75,SNR=26						
H01W1	Cape Leeuwin H	52.08	108	T	T	20 46 00.7	
	baz=246,slow=75,SNR=24						
ASAR	Alice Springs	72.56	107	P	P	19 52 05.7	+0.3
	0.5nm,0.8s,baz=232,slow=5.8,SNR=4.3						
	0.5nm,0.8s						
CMAR	Chiang Mai Arr	74.20	50	P	P	19 52 14.7	-0.2
	0.2nm,0.3s,baz=230,slow=6.8,SNR=3.1						
	0.2nm,0.3s						
WRA	Warramunga Arr	75.04	104	P	P	19 52 20.1	+0.2
	0.8nm,0.9s,baz=224,slow=4.7,SNR=5.3						
	0.8nm,0.9s						

*IDC **11** 19:59:05.0±6.2, 36.′44N×70.′56E, h103^{km}±53^{km}, mb3.7/1, mbtmp3.7/6, Error ellipse: s-maj=73.2km s-min=20.8km az=154.0*
*NNC **11** 19:59:06.9±2.9, 36.′53N×70.′45E, h83^{km}±63^{km}, mb3.4, mpv3.7, Error ellipse: s-maj=30.5km s-min=20.2km az=129.0*

ISC 11 19:59:03.3±1.1, **36.′27N**±0.′09×**70.′61E**±0.′07, **h100**^{km}, **n23**, σ1§**33**/27, **2C-5D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.32	21	P	Pn	20 00 35.5	+1.2
	SNR=58						
AML	Almayashu	6.32	21	⇓P	Pn	20 00 35.2	+0.9
	0.9nm,0.3s						
AML				⇓S	Sn	20 01 43.9	-1.3
	3.9nm,0.6s						
KK31	Karatay Array	6.82	359	⇑P	Pn	20 00 41.6	+0.8
	5.7nm,0.5s,baz=185,slow=14,SNR=66						
KK31				S	Sn	20 01 54.7	-2.2
	5.7nm,0.5s,baz=178,slow=20,SNR=9.8						
EKS2	Erkin-Say	6.83	20	P	Pn	20 00 42.0	+1.0
	SNR=11						
AAK	Ala-Archa	7.03	24	P	Pn	20 00 45.1	+1.4
	SNR=9.9						
AAK	Ala-Archa	7.03	24	P	Pn	20 00 44.8	+1.1
	3.6nm,0.3s,baz=190,slow=9.9,SNR=19						
AAK				S	Sn	20 01 59.9	-2.2
	3.4nm,0.6s,baz=152,slow=22,SNR=5.5						
CHMS	Chumysh	7.44	24	P	Pn	20 00 50.1	+1.0
	SNR=6.3						
USP	Ospenovka	7.60	22	P	Pn	20 00 52.3	+1.0
	SNR=24						
TKM2	Tokmak 2	7.67	29	P	Pn	20 00 53.6	+1.2
	SNR=7.9						
TKM2	Tokmak 2	7.67	29	⇑P	Pn	20 00 53.1	+0.6
	3.9nm,0.6s						
TKM2				⇓S	Sn	20 02 19.5	+1.6
	3.5nm,0.8s						
GEYT	Alibeck	10.12	283	P	Pn	20 01 27.1	+1.5
	0.9nm,0.5s,baz=95,slow=11,SNR=4.7						
GEYT				S	Sn	20 03 14.8	-2.4
	0.8nm,0.5s,baz=165,slow=6.2,SNR=2.1						
MKAR	Makanchi Array	13.66	36	P	Pn	20 02 12.6	-0.1
	0.9nm,0.9s,baz=208,slow=34,SNR=2.9						
GKN	Gorkha	14.45	121	*e*P	Pn	20 02 23.2	0.0
	8.5nm,0.3s						
AB31	Akbulak array	15.13	332	⇓P	Pn	20 02 32.4	+0.8
	0.8nm,0.4s,baz=151,slow=13,SNR=39						
PKIN	Phulchoki	15.24	121	*e*P	Pn	20 02 31.8	-1.6
	4.6nm,0.4s						
PKI	Pulchoki	15.26	120	*e*P	Pn	20 02 32.2	-1.4
	5.9nm,0.5s						
GUN	Gumba	15.38	119	*e*P	Pn	20 02 35.4	+0.2
	5.0nm,0.3s						
KURBB	Kurchatov Arra	15.44	19	P	Pn	20 02 34.2	-1.1
	0.3nm,0.5s,baz=208,slow=11,SNR=2.8						
RAMN	Ramite	16.47	120	*e*P	Pn	20 02 44.8	-3.9
	3.9nm,0.3s						
BVAR	Borovoye Array	16.75	360	P	Pn	20 02 52.0	+0.4
	1.1nm,0.6s,baz=165,slow=12,SNR=8.0						
AKTO	Aktyubinsk	16.82	331	⇓P	Pn	20 02 53.1	+0.5
	0.8nm,0.6s						
TAPN	Taplejung	17.02	117	*e*P	Pn	20 02 53.7	-1.8
	7.3nm,0.5s						
ZALV	Zalesovo Beam	20.25	25	P	P	20 03 30.4	-0.1
	3.2nm,0.4s,baz=218,slow=11,SNR=21						
	3.2nm,0.4s						

*WEL **11** 20:02:44.9±0.7, 38.′S±4.′×17.′7E±.′, h48^{km}±8^{km}, M3.1/61, ML3.4/23, MLv3.1/61, Error ellipse: s-maj=0.0km s-min=0.0km az=171.3, confirmed*
*NOU **11** 20:02:47.0, 38.′12S×176.′99E, h26^{km}, MLv3.7/9, North Island, New Zealand*

ISC 11 20:02:45.9±1.3, **38.′29S**±0.′03×**177.′08E**±0.′03, **h54**^{km}±7^{km}, **n116**, σ0§**84**/121, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.04	37	P	Pn	20 02 53.6	-0.4
URZ	Urewera	0.04	37	P	Pn	20 02 53.6	-0.4
URZ				S	Sn	20 02 59.5	-0.3
MUGZ	Murupara	0.31	233	P	Pn	20 02 55.2	-0.3
EDRZ	Edgecumbe	0.33	304	P	Pn	20 02 55.5	-0.2
RAGZ	Rawiri	0.33	128	P	Pn	20 02 55.6	-0.2
RAGZ				S	Sn	20 03 03.7	+0.8
RTZ	Ruatahuna	0.33	194	P	Pn	20 02 55.3	-0.5
MWZ	Matawai	0.35	97	P	Pn	20 02 55.6	-0.3
MWZ				S	Sn	20 03 03.3	+0.2
MARZ	Manawahe	0.44	313	P	Pn	20 02 56.7	-0.1
WHRZ	Whale Island	0.44	349	P	Pn	20 02 56.6	-0.2
RRRZ	Republican Roa	0.45	264	P	Pn	20 02 56.6	-0.3
TARZ	Mount Tarawera	0.46	277	P	Pn	20 02 57.0	0.0
MKRZ	Makatiti	0.51	287	P	Pn	20 02 57.8	+0.2
SNGZ	Shannon Statio	0.53	158	P	Pn	20 02 58.0	+0.2
SNGZ				S	Sn	20 03 08.2	+1.8
RUGZ	Raukumara Rang	0.57	56	P	Pn	20 02 57.5	-0.9
HLRZ	Highlands Stat	0.57	274	P	Pn	20 02 58.2	-0.2
PRRZ	Plateau Road	0.58	249	P	Pn	20 02 57.9	-0.4
OMRZ	Omania	0.59	288	P	Pn	20 02 58.2	-0.3
MTHZ	Maungataniwha	0.59	198	P	Pn	20 02 58.1	-0.4
MTHZ				S	Sn	20 03 07.9	+0.2
OPRZ	Ohinepanea	0.61	317	P	Pn	20 02 58.0	-0.7
LIRZ	Lichensteins R	0.62	297	P	Pn	20 02 58.6	-0.2
TKGZ	Te Karaka	0.62	104	P	Pn	20 02 59.4	+0.6
TKGZ				S	Sn	20 03 10.5	+2.3
RAHZ	Arahi	0.62	180	P	Pn	20 02 59.0	+0.1
HRRZ	Handcock Road	0.64	261	P	Pn	20 02 58.7	-0.4
ALRZ	Allen Road	0.64	245	P	Pn	20 02 58.7	-0.4
HSRZ	Hossack Road	0.66	268	P	Pn	20 02 59.3	0.0
RIGZ	Rimuhau	0.68	128	P	Pn	20 02 59.9	+0.4
UTU	Utuhina	0.71	279	P	Pn	20 03 00.2	+0.3
KARZ	Kaharoa	0.71	292	P	Pn	20 02 59.5	-0.5
TWGZ	Tauwhareparae	0.72	81	P	Pn	20 03 00.1	0.0
NGRZ	Ngongotaha	0.73	285	P	Pn	20 03 00.5	+0.2
MRHZ	Matea Rd	0.75	224	P	Pn	20 03 00.1	-0.5
WPRZ	Whakapapatarin	0.76	252	P	Pn	20 03 00.4	-0.2
GRRZ	Galatos Road	0.77	265	P	Pn	20 03 00.5	-0.2
WIZ	White Island	0.77	6	P	Pn	20 03 00.1	-0.6
HAZ	Te Kaha	0.77	46	P	Pn	20 02 59.7	-1.0
HAZ				S	Sn	20 03 10.0	-1.5
WHHZ	Waihua	0.79	171	P	Pn	20 03 01.6	+0.6
NMHZ	Naumai	0.83	195	P	Pn	20 03 02.0	+0.4
KNZ	Kokohu	0.86	148	P	Pn	20 03 01.6	-0.3
PKGZ	Pakihiroa	0.88	63	P	Pn	20 03 02.2	0.0
PRGZ	Paritu Road	0.89	135	P	Pn	20 03 02.0	-0.3
CNGZ	Carnagh Statio	0.91	103	P	Pn	20 03 02.9	+0.4
PUZ	Puketiti	0.95	77	P	Pn	20 03 03.0	-0.1
WHTZ	Whakaora	0.96	247	P	Pn	20 03 03.3	0.0
ARHZ	Aropaoanui	0.97	184	P	Pn	20 03 04.1	+0.7
BKZ	Black Stump Fm	0.99	208	P	Pn	20 03 03.3	-0.4
KMRZ	Kaimai	1.00	296	P	Pn	20 03 03.1	-0.6
KUTZ	Kaahu Road	1.01	258	P	Pn	20 03 03.5	-0.3
MHGZ	Mahia Peninsul	1.08	143	P	Pn	20 03 04.4	-0.4
WMGZ	Waiomatatini S	1.15	66	P	Pn	20 03 05.8	0.0
RATZ	Rangitukua	1.18	240	P	Pn	20 03 06.0	-0.1
RITZ	Rihia Road	1.18	234	P	Pn	20 03 06.1	-0.1
MCHZ	McNeill Hill	1.19	194	P	Pn	20 03 06.7	+0.4
MXZ	Matakaoa Point	1.21	54	P	Pn	20 03 07.5	+1.0
MXZ	Matakaoa Point	1.21	54	P	Pn	20 03 07.1	+0.5
TLZ	Tolley Road	1.22	268	P	Pn	20 03 06.1	-0.6
KWHZ	Kaweka Forest	1.24	204	P	Pn	20 03 07.2	+0.2
KATZ	Kakaramea	1.28	237	P	Pn	20 03 07.7	0.0
TMVZ	Te Maari	1.36	232	P	Pn	20 03 08.4	-0.3
ETVZ	East Tongariro	1.36	231	P	Pn	20 03 08.5	-0.3
CKHZ	Cape Kidnapper	1.37	180	P	Pn	20 03 07.9	-0.8
TOZ	Tahuroa Road	1.37	294	P	Pn	20 03 08.2	-0.4
KRVZ	Karewarewa	1.38	234	P	Pn	20 03 08.8	-0.2
OTVZ	Oturere	1.41	231	P	Pn	20 03 09.2	-0.2
NNVZ	North Ngauruho	1.42	233	P	Pn	20 03 09.4	-0.1
WTVZ	West Tongariro	1.43	234	P	Pn	20 03 09.5	-0.1
BHHZ	Black Hill Sta	1.44	213	P	Pn	20 03 09.2	-0.4
SNVZ	South Ngauruho	1.44	231	P	Pn	20 03 09.6	-0.2
NGZ	Ngauruhoe	1.46	232	P	Pn	20 03 09.8	-0.2
KRHZ	Kereru	1.46	202	P	Pn	20 03 09.6	-0.3
TUVZ	Tukino	1.48	228	P	Pn	20 03 10.0	-0.3
KAHZ	Kahuranaki	1.51	186	P	Pn	20 03 10.0	-0.6
MOVZ	Moawhango	1.52	223	P	Pn	20 03 10.3	-0.6
WHVZ	Whangaehu Hut	1.53	229	P	Pn	20 03 10.7	-0.4
FWVZ	Far West T-bar	1.53	231	P	Pn	20 03 10.8	-0.4
WNVZ	Wahianoa	1.55	228	P	Pn	20 03 10.9	-0.4
MTVZ	Mangateitei	1.67	229	P	Pn	20 03 12.5	-0.3
PKVZ	Pokaka	1.68	233	P	Pn	20 03 13.0	0.0
PXZ	Pawanui	1.75	186	P	Pn	20 03 12.2	-1.7
PNHZ	Pukenui	1.76	203	P	Pn	20 03 12.9	-1.2
HIZ	Hauiti	1.76	262	P	Pn	20 03 14.3	+0.3
HIZ	Hauiti	1.76	262	P	Pn	20 03 14.3	+0.3
WPHZ	Waipukurau	1.84	195	P	Pn	20 03 15.5	+0.4
KUZ	Kuaotunu	1.88	325	P	Pn	20 03 14.7	-1.0
KUZ	Kuaotunu	1.88	325	P	Pn	20 03 15.0	-0.6
MKAZ	Moumakai	1.93	307	P	Pn	20 03 15.9	-0.4
TSZ	Takapari Road	1.97	206	P	Pn	20 03 16.5	-0.4
VRZ	Vera Road	2.00	245	P	Pn	20 03 17.7	+0.5
PRHZ	Porangahau	2.00	190	P	Pn	20 03 15.0	-2.3
WIAZ	Waiheke Island	2.15	313	P	Pn	20 03 19.2	-0.1
ETAZ	East Tamaki Re	2.17	307	P	Pn	20 03 19.7	+0.2
WAZ	Wanganui	2.19	227	P	Pn	20 03 20.4	+0.5
AWAZ	Awhitu Peninsu	2.29	302	P	Pn	20 03 21.5	+0.2
LREZ	Lake Rotokare	2.40	240	P	Pn	20 03 23.9	+1.2
WTAZ	Waiatarua	2.41	303	P	Pn	20 03 23.2	+0.3
GRZ	Great Barrier	2.41	327	P	Pn	20 03 22.5	-0.4
NEZ	North Egmont	2.53	246	P	Pn	20 03 26.5	+1.9
KHEZ	Kahui Hut	2.60	246	P	Pn	20 03 27.5	+2.0
KHEZ	Kahui Hut	2.60	246	P	Pn	20 03 27.4	+1.8
MRZ	Mangatainoka R	2.64	206	P	Pn	20 03 23.9	-2.1
TIWZ	Tintock	2.65	200	P	Pn	20 03 25.0	-1.2
HOWZ	Holdsworth Sta	2.87	204	P	Pn	20 03 27.6	-1.6
OGWZ	Otaki Gorge	2.92	210	P	Pn	20 03 28.9	-1.0
KIW	Kapiti Island	3.07	212	P	Pn	20 03 29.8	-2.1
MTW	Mount Morrison	3.11	203	P	Pn	20 03 31.8	-0.7
CAW	Cannon Point	3.21	208	P	Pn	20 03 33.2	-0.7
DUWZ	D'Urville Isla	3.50	223	P	Pn	20 03 38.9	+1.0
SNZO	South Karori	3.53	211	P	Pn	20 03 42.2	+4.0
TCW	Tory Channel	3.63	216	P	Pn	20 03 37.4	-2.1
TUWZ	Tuamarina	3.96	217	P	Pn	20 03 42.5	-1.5
OUZ	Omahuta	4.15	317	P	Pn	20 03 47.6	+0.9
OUZ	Omahuta	4.15	317	P	Pn	20 03 47.7	+0.9
QRZ	Quartz Range	4.33	233	P	Pn	20 03 50.9	+1.7
QRZ	Quartz Range	4.33	233	P	Pn	20 03 48.6	-0.7
KHZ	Kahutara	4.93	212	P	Pn	20 04 01.4	+4.0
KHZ	Kahutara	4.93	212	P	Pn	20 03 55.3	-2.1
TMZ	Timaru	7.61	215	P	Pn	20 04 32.7	-1.4

*DSN **11** 20:09:18.3±1.4, 28.′64N×56.′36E, h15^{km}, ML2.9/6, Error ellipse: s-maj=55.9km s-min=12.8km az=93.0*
*TEH **11** 20:09:22.3, 28.′20N×57.′07E, h22^{km}±27^{km}, ML3.3*
*OMAN **11** 20:09:28.4±2.

TWB1				*i* S	**Sn**	**20 26 57.1**	**-0.3**
	baz=285						
EOS2	**EOS2**	**0.40 197**		*e*P	**Pn**	**20 26 45.3**	**+0.7**
EOS2	baz=203			*e*S	**Sn**	**20 26 58.8**	**+1.5**
TWC	**Suao**	**0.50 247**		*i* P	**Pn**	**20 26 45.3**	**-0.1**
TWC	baz=238			S	**Sn**	**20 26 58.0**	**-0.4**
EOS3	**EOS3**	**0.52 184**		*e*P	**Pn**	**20 26 46.2**	**+0.9**
EOS3	baz=194			*e*S	**Sn**	**20 27 00.6**	**+2.3**
SXI1	**Grass Mountain**	**0.53 303**		P	**Pn**	**20 26 45.3**	**-0.3**
SXI1	baz=300			*e*S	**Sn**	**20 26 58.9**	**0.0**
NDS	**Dongshan**	**0.61 254**		*e*P	**Pn**	**20 26 46.1**	**+0.1**
NDS	baz=249			S	**Sn**	**20 26 59.7**	**-0.1**
JYNG	**Yonagunijimaku**	**0.64 123**		P	**Pn**	**20 26 46.3**	**+0.1**
JYNG				S	**Sn**	**20 26 59.9**	**-0.2**
ENA	**Nanau**	**0.68 236**		P	**Pn**	**20 26 47.0**	**+0.4**
ENA	baz=227			S	**Sn**	**20 27 00.8**	**+0.1**
EOS4	**EOS4**	**0.68 183**		*e*P	**Pn**	**20 26 46.5**	**+0.2**
EOS4	baz=181			S	**Sn**	**20 27 00.6**	**+0.5**
YOJ	**Yonaguni jima**	**0.68 120**		P	**Pn**	**20 26 46.7**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.70 267**		P	**Pn**	**20 26 46.7**	**-0.2**
FUSB	baz=266			*e*S	**Sn**	**20 26 59.9**	**-1.3**
ENTT	**Nioudou**	**0.74 257**		P	**Pn**	**20 26 47.5**	**+0.4**
ENTT	baz=253			*e*S	**Sn**	**20 27 02.4**	**+0.8**
NHDH	**Xindian Distri**	**0.77 282**		P	**Pn**	**20 26 47.0**	**-0.4**
NHDH	baz=278			*e*S	**Sn**	**20 27 01.2**	**-0.9**
NWLT	**Wulai**	**0.78 268**		*e*P	**Pn**	**20 26 47.6**	**+0.1**
NWLT	baz=268			*e*S	**Sn**	**20 27 02.0**	**-0.3**
YM01	**YM01**	**0.79 296**		P	**Pn**	**20 26 47.5**	**-0.1**
YM01	baz=287			S	**Sn**	**20 27 01.7**	**-0.8**
NDT	**Datong Townshi**	**0.80 256**		P	**Pn**	**20 26 48.3**	**+0.7**
NDT	baz=251			S	**Sn**	**20 27 03.1**	**+0.6**
YM08	**YM08**	**0.80 299**		P	**Pn**	**20 26 47.4**	**-0.2**
YM08	baz=296			*i* S	**Sn**	**20 27 01.8**	**-0.7**
LATG	**Datong**	**0.80 251**		*e*P	**Pn**	**20 26 48.5**	**+0.7**
LATG	baz=243			*e*S	**Sn**	**20 27 03.5**	**+0.6**
TATO	**Taipei**	**0.81 282**		*e*P	**Pn**	**20 26 47.1**	**-0.6**
TATO	baz=279			S	**Sn**	**20 27 01.1**	**-1.6**
TWS1	**Kuangyinshan**	**0.91 289**		*e*P	**Pn**	**20 26 48.8**	**+0.3**
YHNB	**Yeheng**	**0.91 262**		P	**Pn**	**20 26 48.9**	**+0.2**
YHNB	**Yeheng**	**0.91 262**		P	**Pn**	**20 26 48.8**	**+0.1**
YHNB	baz=258			S	**Sn**	**20 27 04.0**	**-0.4**
NSK	**Sanguang**	**0.92 262**		P	**Pn**	**20 26 49.0**	**+0.2**
NSK	baz=259			S	**Sn**	**20 27 04.2**	**-0.4**
ETL	**Fush Village**	**0.93 226**		*e*P	**Pn**	**20 26 48.7**	**-0.1**
ETL	baz=219			*e*S	**Sn**	**20 27 04.3**	**-0.4**
NACB	**Ninganchiao**	**0.94 228**		P	**Pn**	**20 26 48.8**	**-0.1**
NACB	**Ninganchiao**	**0.94 228**		P	**Pn**	**20 26 48.8**	**-0.1**
NACB	baz=219			*e*S	**Sn**	**20 27 04.3**	**-0.5**
NNSB	**Datong**	**0.96 247**		*i* P	**Pn**	**20 26 49.7**	**+0.4**
NNSB	baz=237			*i* S	**Sn**	**20 27 05.5**	**0.0**
NNS	**Nan Shan**	**0.97 248**		P	**Pn**	**20 26 49.9**	**+0.6**
NNS	baz=238			*i* S	**Sn**	**20 27 05.8**	**+0.2**
ETLH	**Xiulin Townshi**	**1.00 234**		*e*P	**Pn**	**20 26 49.5**	**0.0**
ETLH	baz=223			*e*S	**Sn**	**20 27 05.8**	**-0.2**
TWD	**Chiawan**	**1.00 224**		*e*P	**Pn**	**20 26 49.5**	**0.0**
TWD	baz=218			*i* S	**Sn**	**20 27 05.4**	**-0.5**
HWA	**Hwalien**	**1.07 220**		*e*P	**Pn**	**20 26 49.3**	**-0.9**
HWA	baz=217			*e*S	**Sn**	**20 27 06.8**	**-0.4**
NFF	**Wufeng Townshi**	**1.14 262**		*e*P	**Pn**	**20 26 50.4**	**-0.6**
NFF	baz=259			*e*S	**Sn**	**20 27 07.8**	**-0.8**
ETM	**Tongmen**	**1.15 224**		P	**Pn**	**20 26 50.5**	**-0.6**
ETM	baz=221			*e*S	**Sn**	**20 27 07.0**	**-1.6**
FUSS	**Fushou**	**1.16 242**		P	**Pn**	**20 26 52.0**	**+0.6**
FUSS	baz=239			*e*S	**Sn**	**20 27 09.2**	**-0.1**
LXIB	**Xiulin Townshi**	**1.16 228**		*e*P	**Pn**	**20 26 50.8**	**-0.5**
LXIB	baz=218			*e*S	**Sn**	**20 27 08.2**	**-1.0**
WHF	**Hehuan Shan**	**1.19 237**		*i* P	**Pn**	**20 26 52.6**	**+0.6**
WHF	baz=231			*e*S	**Sn**	**20 27 10.4**	**+0.2**
TWT	**Tachien**	**1.21 243**		P	**Pn**	**20 26 52.6**	**+0.7**
TWT	baz=241			*e*S	**Sn**	**20 27 10.6**	**+0.5**
TDCB	**Techi**	**1.22 244**		P	**Pn**	**20 26 52.6**	**+0.6**
TDCB	baz=241			S	**Sn**	**20 27 10.4**	**0.0**
LIOB	**Emei**	**1.23 263**		*e*P	**Pn**	**20 26 50.7**	**-1.3**
LIOB	baz=260			*e*S	**Sn**	**20 27 09.8**	**-0.4**
NSTT	**Nanjuang**	**1.25 262**		P	**Pn**	**20 26 52.1**	**0.0**
NSTT	baz=260			*e*S	**Sn**	**20 27 10.1**	**-0.5**
SBCB	**Hsinchu**	**1.25 270**		*e*S	**Sn**	**20 27 11.1**	**+0.5**
ESL	**Shilin**	**1.30 221**		*e*P	**Pn**	**20 26 51.9**	**-0.8**
ESL	baz=224			*i* S	**Sn**	**20 27 09.8**	**-1.8**
CHGB	**Renai**	**1.31 236**		*e*P	**Pn**	**20 26 53.7**	**+0.6**
CHGB	baz=239			*e*S	**Sn**	**20 27 12.3**	**+0.1**
IRIF	**Iriomote-Funau**	**1.33 110**		P	**Pn**	**20 26 53.0**	**0.0**
OWD	**Renai**	**1.37 232**		*e*P	**Pn**	**20 26 54.0**	**+0.3**
OWD	baz=225			*e*S	**Sn**	**20 27 13.0**	**-0.3**
WHP	**Taichung City**	**1.39 248**		*e*P	**Pn**	**20 26 54.6**	**+0.8**
WHP	baz=252			*i* S	**Sn**	**20 27 13.5**	**0.0**
WUSB	**Renai**	**1.39 235**		P	**Pn**	**20 26 54.5**	**+0.6**
WUSB	baz=237			*e*S	**Sn**	**20 27 13.7**	**0.0**
WARBT	**Fenglin Townsh**	**1.40 220**		P	**Pn**	**20 26 52.8**	**-1.1**
WARBT	baz=217			S	**Sn**	**20 27 11.7**	**-1.9**
EGFH	**Guangfu**	**1.42 217**		*e*P	**Pn**	**20 26 53.0**	**-1.0**
EGFH	baz=221			*e*S	**Sn**	**20 27 12.4**	**-1.5**
NSY	**Sanyi**	**1.51 255**		*e*S	**Sn**	**20 27 16.2**	**+0.4**
HATJ	**Hateruma jima**	**1.51 119**		*e*P	**Pn**	**20 26 54.9**	**-0.2**
HATJ	baz=253			*e*S	**Sn**	**20 27 16.1**	**+0.2**
TWQ1	**Liyutan**	**1.51 253**		*e*S	**Sn**	**20 27 15.7**	**-0.2**
WCS	**Beigang Elemen**	**1.52 241**		*e*P	**Pn**	**20 26 55.8**	**+0.7**
WCS	baz=246			*e*S	**Sn**	**20 27 16.2**	**+0.3**
DPDB	**Guoxing**	**1.52 240**		*e*P	**Pn**	**20 26 56.2**	**+0.9**
DPDB	baz=245			*e*S	**Sn**	**20 27 17.1**	**+1.1**
VWDT	**VWDT**	**1.53 227**		*e*P	**Pn**	**20 26 55.6**	**+0.4**
VWDT	baz=220			*e*S	**Sn**	**20 27 16.3**	**+0.1**
HGSD	**Ruisui**	**1.56 213**		P	**Pn**	**20 26 55.4**	**-0.4**
HGSD	baz=205			S	**Sn**	**20 27 16.7**	**-0.2**
EHY	**Hungye**	**1.60 216**		*e*P	**Pn**	**20 26 55.7**	**-0.6**
EHY	baz=220			*e*S	**Sn**	**20 27 15.7**	**-2.2**
JKRS	**Kuro-shima**	**1.60 110**		P	**Pn**	**20 26 56.7**	**+0.5**
JKRS				S	**Sn**	**20 27 18.3**	**+0.5**
SMLT	**Sun Moon Lake**	**1.62 236**		*e*P	**Pn**	**20 26 57.3**	**+0.8**
SMLT	baz=238			*e*S	**Sn**	**20 27 19.7**	**+1.4**
SSLB	**Suanglung**	**1.63 232**		P	**Pn**	**20 26 57.4**	**+0.7**
SSLB	**Suanglung**	**1.63 232**		*e*P	**Pn**	**20 26 57.3**	**+0.7**
SSLB	baz=225			*e*S	**Sn**	**20 27 19.5**	**+0.9**
TYC	**Yuchr**	**1.64 237**		P	**Pn**	**20 26 57.5**	**+0.9**
TYC	baz=242			*e*S	**Sn**	**20 27 19.7**	**+1.1**
JIJ	**Ishigaki jima**	**1.68 105**		P	**Pn**	**20 26 57.3**	**+0.1**
JIJ				S	**Sn**	**20 27 18.9**	**-0.6**
YULB	**Yu-li**	**1.71 215**		P	**Pn**	**20 26 57.0**	**-0.5**
YULB	**Yu-li**	**1.71 215**		*e*P	**Pn**	**20 26 56.4**	**-1.2**
YULB	baz=219			S	**Sn**	**20 27 18.3**	**-1.9**
TWF1	**Yuli**	**1.74 214**		*e*P	**Pn**	**20 26 56.7**	**-1.2**
WHYT	**Xinyi Township**	**1.76 232**		*e*P	**Pn**	**20 26 59.2**	**+1.0**
WHYT	baz=239			*i* S	**Sn**	**20 27 22.6**	**+1.2**
WJS	**Zhushan**	**1.78 237**		*e*P	**Pn**	**20 26 59.3**	**+0.9**
WJS	baz=235			*e*S	**Sn**	**20 27 24.1**	**+2.4**
WNT	**Mingjian**	**1.79 239**		P	**Pn**	**20 26 59.1**	**+0.7**
WNT	baz=237			S	**Sn**	**20 27 22.5**	**+0.7**
JISG	**Ishigakijimahi**	**1.79 97**		*e*P	**Pn**	**20 26 58.7**	**+0.2**
JISG				S	**Sn**	**20 27 21.3**	**-0.5**
FULB	**Fuli**	**1.87 212**		*e*P	**Pn**	**20 26 59.5**	**-0.1**
FULB	baz=218			*e*S	**Sn**	**20 27 24.1**	**+0.4**
ALS	**Alishan**	**1.92 228**		*e*P	**Pn**	**20 27 01.2**	**+0.8**
ALS	baz=219			*e*S	**Sn**	**20 27 26.4**	**+1.3**
CHKT	**Chengkung**	**1.93 208**		*e*P	**Pn**	**20 26 59.1**	**-1.1**
CHKT	baz=202			*e*S	**Sn**	**20 27 23.2**	**-1.7**
CHN5	**Tsauling**	**1.95 232**		P	**Pn**	**20 27 01.2**	**+0.7**
CHN5	baz=240			S	**Sn**	**20 27 26.5**	**+0.9**
EHD	**Haiduan**	**1.96 213**		*e*P	**Pn**	**20 27 00.5**	**-0.1**
EHD	baz=211			*e*S	**Sn**	**20 27 25.6**	**0.0**
ECS	**Chishang**	**2.00 212**		*e*P	**Pn**	**20 27 01.0**	**-0.1**
WRL	**Guolierlin Hig**	**2.02 244**		*e*P	**Pn**	**20 27 01.1**	**-0.3**
WRL	baz=243			*e*S	**Sn**	**20 27 25.9**	**-1.0**
ELDTW	**Lidau**	**2.02 218**		*e*P	**Pn**	**20 27 01.0**	**-0.5**
ELDTW	baz=216			*e*S	**Sn**	**20 27 26.5**	**-0.8**
RLNB	**Erlin**	**2.04 244**		*e*P	**Pn**	**20 27 01.6**	**+0.1**
RLNB	baz=243			*e*S	**Sn**	**20 27 27.2**	**-0.1**
EDH	**Donghe**	**2.06 208**		*e*P	**Pn**	**20 27 01.5**	**-0.4**
EDH	baz=203			*e*S	**Sn**	**20 27 26.7**	**-1.3**
WCKO	**Fanlu**	**2.10 230**		*e*P	**Pn**	**20 27 02.7**	**+0.3**
WCKO	baz=228			*e*S	**Sn**	**20 27 30.0**	**+1.2**
WTK	**Tuku**	**2.12 239**		*e*P	**Pn**	**20 27 02.4**	**-0.1**
WTK	baz=237			*e*S	**Sn**	**20 27 28.8**	**-0.3**
JTJ	**Tarama**	**2.14 94**		*e*S	**Sn**	**20 27 29.9**	**+0.3**
CHN4	**Tsaushan**	**2.17 228**		*e*P	**Pn**	**20 27 03.6**	**+0.4**
CHN4	baz=236			*e*S	**Sn**	**20 27 30.9**	**+0.6**
STYH	**Taoyuan**	**2.18 222**		*e*P	**Pn**	**20 27 04.0**	**+0.6**
STYH	baz=220			*e*S	**Sn**	**20 27 31.3**	**+0.8**
TPUB	**Ta-pu**	**2.18 227**		P	**Pn**	**20 27 03.9**	**+0.5**
TPUB	**Ta-pu**	**2.18 227**		*e*P	**Pn**	**20 27 03.4**	**0.0**
LONT	**Longtian**	**2.20 211**		*e*P	**Pn**	**20 27 02.6**	**-1.0**
WTP	**Ta-pu**	**2.23 226**		*e*P	**Pn**	**20 27 04.1**	**+0.1**
CHN1	**Nanshi**	**2.33 226**		*e*P	**Pn**	**20 27 05.3**	**0.0**
CHN1	baz=234			*e*S	**Sn**	**20 27 34.5**	**+0.6**
SGST	**Jiashian**	**2.36 224**		P	**Pn**	**20 27 05.2**	**-0.5**
SGST	baz=222			S	**Sn**	**20 27 35.1**	**+0.3**
SLGT	**Liugui**	**2.39 221**		P	**Pn**	**20 27 06.9**	**+0.8**
SLGT	baz=220			*e*S	**Sn**	**20 27 37.1**	**+1.7**
ECL	**Taimali**	**2.55 211**		*e*P	**Pn**	**20 27 06.7**	**-1.4**
SSD	**Sandimen**	**2.59 218**		*e*P	**Pn**	**20 27 09.1**	**+0.4**
TSMG	**Majia**	**2.62 217**		*e*P	**Pn**	**20 27 09.5**	**+0.6**
MASBT	**Mashibuluo**	**2.70 216**		*e*P	**Pn**	**20 27 10.4**	**+0.3**

*DJA **11** 20:29:15.3±0.6, 1°.N±6°.×12°.6E±°., h64km±21km, M3.9/12, mb4.1/4, mB4.7/1, MLv3.9/12, Mw(mB)3.9/1*
*IDC **11** 20:29:16.9±4.0, 1°.48N×125°.98E, h92km±35km, mb3.6/6, mbtmp3.9/6, Error ellipse: s-maj=86.1km s-min=13.3km az=65.0*
*NEIC **11** 20:29:16.1±1.5, 1°.4N±0°.1×125°.9E±0°.1, h78km±10km, mb4.4/19, Error ellipse: s-maj=20.0km s-min=17.3km az=55.0*
ISC 11 20:29:13.7±0.6, **1°.45N**±0°.07×**125°.90E**±0°.08, **h54**km, **n40**, σ1§**70**/45, **mb4.3**/15, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.61**	**115**		**Pn**	**20 29 42.8**	**+2.9**
TNTI	**Ternate**	**1.61**	**115**	P	**Pn**	**20 29 41.8**	**+1.9**
LBMI	**Labuha**	**2.62**	**142**	P	**Pn**	**20 29 55.8**	**+2.1**
GTOI	**Gorontalo**	**3.00**	**254**	P	**Pn**	**20 30 02.0**	**+3.2**
SANI	**Sanana**	**3.48**	**179**	P	**Pn**	**20 30 05.1**	**-0.3**
LUWI	**Luwuk**	**3.99**	**232**		**Pn**	**20 30 15.5**	**+3.0**
LUWI	**Luwuk**	**3.99**	**232**	P	**Pn**	**20 30 15.7**	**+3.3**
MRSI	**Marisa**	**4.08**	**256**	P	**Pn**	**20 30 15.3**	**+1.7**
NLAI	**Namlea**	**4.81**	**166**	P	**Pn**	**20 30 24.5**	**+0.8**
TOLI2	**Tolitoli**	**5.13**	**266**		**Pn**	**20 30 28.7**	**+0.7**
MPSI	**Mapaga**	**6.10**	**260**	P	**Pn**	**20 30 43.6**	**+2.2**
FAKI	**Fak Fak**	**7.69**	**124**	Pn	**Pn**	**20 31 05.9**	**+2.7**
KAPI	**Kappang**	**8.89**	**224**	Pn	**Pn**	**20 31 20.9**	**+1.4**
MTN	**Manton Dam**	**15.12**	**160**	Pn	**Pn**	**20 32 43.4**	**-0.8**
MTN				IAmb	IAmb	20 33 09.7	
	comp=Z,18nm,1.2s						
KNRA	**Kununurra**	**17.25**	**171**		**Pn**	**20 33 11.3**	**+0.2**
KNRA				IAmb	IAmb	20 33 29.0	
	comp=Z,40nm,1.4s						
WB0	**Warramunga Arr**	**22.68**	**159**	P	**P**	**20 34 09.9**	**-1.0**
WB0				IAmb	IAmb	20 34 11.9	
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**22.81**	**159**	P	**P**	**20 34 10.6**	**-1.7**
WRAB				IAmb	IAmb	20 34 13.4	
	comp=Z,18nm,1.0s						
WRA	**Warramunga Arr**	**22.82**	**159**	P	**P**	**20 34 10.4**	**-1.9**
WRA	**Warramunga Arr**	**22.82**	**159**	P	**P**	**20 34 10.9**	**-1.4**
	comp=Z,7.9nm,0.6s,baz=337,slow=10,SNR=67						
WRA				S	**S**	**20 38 14.3**	**-3.4**
	comp=Z,1.4nm,0.9s,baz=333,slow=21,SNR=4.5						
	comp=Z,7.9nm,0.6s						
WB2	**Warramunga Arr**	**22.82**	**159**	P	**P**	**20 34 11.4**	**-0.9**
WB2				IAmb	IAmb	20 34 13.4	
	comp=Z,19nm,1.1s						
WR0	**Warramunga Arr**	**22.91**	**159**	P	**P**	**20 34 12.1**	**-1.1**
WR0				IAmb	IAmb	20 34 19.7	
	comp=Z,21nm,1.5s						
AS31	**Alice Springs**	**26.15**	**163**	P	**P**	**20 34 43.3**	**+0.1**
ASAR	**Alice Springs**	**26.16**	**163**	P	**P**	**20 34 43.2**	**0.0**
	comp=Z,2.7nm,0.4s,baz=345,slow=16,SNR=34						
ASAR				S	**S**	**20 39 10.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=350,slow=20,SNR=3.1						
	comp=Z,2.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.38**	**304**	P	**P**	**20 35 30.8**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=139,slow=8.4,SNR=2.3						
	comp=Z,0.2nm,0.5s						
FORT	**Forrest**	**32.12**	**177**	P	**P**	**20 35 36.5**	**+0.5**
MKAR	**Makanchi Array**	**58.96**	**326**	P	**P**	**20 39 07.2**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=122,slow=7.7,SNR=15						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**63.21**	**328**	P	**P**	**20 39 35.7**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=132,slow=6.1,SNR=8.2						
	comp=Z,0.8nm,0.6s						
KURK	**Kurchatov**	**63.22**	**328**	P	**P**	**20 39 36.0**	**-0.4**
KURK				IAmb	IAmb	20 39 38.6	
	comp=Z,2.8nm,0.8s						
BVAR	**Borovoye Array**	**68.78**	**328**	P	**P**	**20 40 09.5**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=126,slow=7.4,SNR=2.7						
	comp=Z,0.3nm,0.3s						
TIXI	**Tiksi**	**70.12**	**1**	P	**P**	**20 40 19.7**	**-0.3**
TIXI				IAmb	IAmb	20 40 22.0	
	comp=Z,5.1nm,1.4s						
ABKAR	**Akbulak array**	**73.39**	**321**	P	**P**	**20 40 39.6**	**-0.5**
CNBA	**Chernabura Isl**	**79.92**	**35**	P	**P**	**20 41 14.6**	**-2.2**
H19K	**Roundabout Mou**	**83.57**	**24**	P	**P**	**20 41 35.4**	**-0.4**
H19K				PcP	**PcP**	**20 41 39.0**	**-1.0**
H19K				IAmb	IAmb	20 41 54.0	
	comp=Z,11nm,1.5s						
B20K	**Meade River**	**84.18**	**20**	P	**P**	**20 41 38.9**	**0.0**
B20K				PcP	**PcP**	**20 41 42.1**	**-0.4**
E21K	**Killik River**	**85.02**	**21**	P	**P**	**20 41 42.8**	**-0.4**
E21K				PcP	**PcP**	**20 41 46.0**	**-0.3**
E21K				IAmb	IAmb	20 41 47.8	
	comp=Z,8.3nm,1.5s						
MDM	**Murphy Dome**	**86.94**	**25**	P	**P**	**20 41 52.8**	**+0.1**
BMAR	**Burnt Mountain**	**88.48**	**23**	P	**P**	**20 42 02.9**	**+2.9**
F28M	**Old Crow**	**90.28**	**22**	P	**P**	**20 42 10.7**	**+2.3**
F28M				IAmb	IAmb	20 42 35.4	
	comp=Z,3.2nm,1.2s						
FINES	**FINESS Array B**	**93.43**	**332**	P	**P**	**20 42 25.1**	**+2.0**
BURAR	**Bucovina Array**	**96.13**	**318**	P	**P**	**20 42 36.2**	**+0.2**

*IDC **11** 20:39:29.1±1.9, 13°.01N×92°.34E, h0km, mb3.6/6, mbtmp3.5/7, ML3.4/1, MS2.6/2, Error ellipse: s-maj=60.1km s-min=22.4km az=64.0*
ISC 11 20:39:34.6±1.4, **13°.1N**±0°.1×**92°.5E**±0°.1, **h31**km, **n18**, σ1§**03**/13, **mb3.5**/6, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.12**	**49**	Pn	**Pn**	**20 41 31.9**	**+1.4**
	0.1nm,0.3s,baz=240,slow=15,SNR=2.8						
CMAR				Sn	**Sn**	**20 42 59.9**	**-1.4**
	0.3nm,0.3s,baz=239,slow=29,SNR=6.0						
CMAR				LR	LR	20 44 58.0	
	comp=Z,22nm,21.2s,baz=210,slow=39						
	0.6nm,0.5s						
JIRN	**Jiri**	**15.62**	**339**	*e*P	**Pn**	**20 43 12.8**	**-0.3**
	2.8nm,0.2s						
PKIN	**Phulchoki**	**15.85**	**336**	*e*P	**Pn**	**20 43 14.8**	**-1.0**
	3.8nm,0.3s						
GUN	**Gumba**	**15.96**	**338**	*e*P	**Pn**	**20 43 17.9**	**+0.5**
	2.3nm,0.2s						
GKN	**Gorkha**	**16.53**	**335**	*e*P	**Pn**	**20 43 24.5**	**0.0**
	4.6nm,0.3s						
PYUN	**Piuthan**	**17.35**	**331**	*e*Pg	**Pn**	**20 43 34.8**	**0.0**
	7.8nm,0.7s						
H08S3	**Diego Garcia H**	**28.68**	**225**	T	T	21 15 12.7	
	baz=44,slow=76,SNR=57						
H08S2	**Diego Garcia H**	**28.69**	**225**	T	T	21 15 18.4	
	baz=44,slow=76,SNR=45						
H08S1	**Diego Carcia H**	**28.70**	**225**	T	T	21 15 14.6	
	baz=44,slow=76,SNR=47						
MKAR	**Makanchi Array**	**34.64**	**348**	P	**P**	**20 46 21.6**	**+0.4**
	1.1nm,0.9s,baz=165,slow=7.4,SNR=3.1						
	1.1nm,0.9s						
SONM	**Songino Array**	**36.48**	**16**	P	**P**	**20 46 37.6**	**+0.5**
	0.8nm,0.7s,baz=217,slow=8.4,SNR=6.1						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**39.09**	**346**	P	**P**	**20 46 59.4**	**+0.4**
	0.5nm,0.7s,baz=165,slow=7.9,SNR=4.6						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**41.17**	**353**	P	**P**	**20 47 14.1**	**-2.0**
	0.4nm,0.3s,baz=170,slow=8.8,SNR=2.5						
ZALV				LR	LR	21 06 12.5	
	comp=Z,12nm,19.9s,baz=76,slow=39						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**52.65**	**128**	P	**P**	**20 48 46.4**	**+0.1**
	0.3nm,0.7s,baz=310,slow=7.9,SNR=2.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**54.53**	**132**	P	**P**	**20 48 59.4**	**-0.7**
	0.2nm,0.4s,baz=312,slow=6.8,SNR=5.5						
	0.2nm,0.4s						
H04N2	**CROZET ISLANDS**	**69.47**	**209**	T	T	22 06 19.0	
	baz=43,slow=75,SNR=16						
H04N1	**CROZET ISLANDS**	**69.48**	**209**	T	T	22 06 19.8	
	baz=43,slow=75,SNR=14						
H04N3	**CROZET ISLANDS**	**69.49**	**209**	T	T	22 06 18.4	
	baz=43,slow=75,SNR=16						

SJA 11 20:52:42.9±0.4, **18°.55S**×**64°.31W**, **h12**km, **ML3.5**, **MW3.1**, **Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**4.75**	**256**	*e*P	Pn	20 53 58.4	+3.6
PB08	**IPOC Station P**	**4.84**	**250**	*e*P	Pn	20 53 59.4	+3.4
PB08				*e*S	Sn	20 54 56.3	+4.1
PB08				IAML		20 54 56.4	
	comp=Z,19nm,0.2s						
PB16	**IPOC Station P**	**4.94**	**272**	*e*P	Pb	20 54 11.7	+1.9
PB01	**IPOC Station P**	**5.47**	**242**	*e*P	Pn	20 54 08.0	+3.6
PB01				*e*S	Sn	20 55 12.9	+5.6
PB01				IAML		20 55 13.4	
	comp=Z,29nm,0.2s						
HMBC	**Humberstone**	**5.54**	**251**	*e*P	Pn	20 54 02.1	-3.2
HMBC				*e*S	Sn	20 55 16.7	+7.6
PB09	**IPOC Station P**	**5.65**	**234**	*e*P	Pb	20 54 18.4	-3.1
PB09				IAML		20 55 54.4	
	comp=Z,27nm,3.5s						
PB12	**IPOC Station P**	**5.71**	**268**	*e*P	Pn	20 54 11.5	+3.9
PB12				IAML		20 55 52.4	

comp=Z,14nm,1.6s
PB02 IPOC Station P 5.93 241 *e*S Sn 20 55 22.2 +3.4
PB02 IAML 20 55 27.0
comp=Z,23nm,1.8s
PB07 IPOC Station P 6.12 238 *e*P Pn 20 54 18.5 +5.1
PB07 IAML 20 56 24.6
comp=Z,19nm,2.6s

---

*IDC **11** 20:53:52.3±0.6, 8°37S×159°89E, h56km±5km, mb4.2/22, mbtmp4.5/23, MS3.6/35, Error ellipse: s-maj=12.7km s-min=7.7km az=91.0*
*NEIC **11** 20:53:52.6±2.2, 8°46S±0°07×160°09E±0°09, h60km±5km, mb4.9/116, Error ellipse: s-maj=12.7km s-min=10.0km az=100.0*
ISC 11 20:53:51.5±0.5, 8°44S±0°05×160°14E±0°06, h54km±3km, h54km:pP-P, n395, σ1§17/382, mb4.9/73, MS3.7/32,
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.00**	**191**	P	**Pn**	**20 54 10.3**	**+0.9**
HNR	**Honiara**	**1.00**	**191**	P	**Pn**	**20 54 10.3**	**+0.9**
	98µm,0.3s,baz=310,slow=17,SNR=222						
HNR				S	**Sn**	**20 54 25.6**	**+3.0**
	164µm,0.4s,baz=358,slow=9.9,SNR=7.7						
HNR				LR	LR	20 54 49.7	
	comp=Z,194µm,21.5s,baz=269,slow=54						
RABL	**Rabaul**	**8.98**	**298**		**Pn**	**20 55 59.0**	**+0.4**
KRVT	**Keravat (AS076**	**9.05**	**297**	P	**Pn**	**20 56 01.9**	**+2.4**
	134nm,0.4s,baz=108,slow=20,SNR=15						
KRVT				S	**Sn**	**20 57 44.5**	**+4.4**
	138nm,0.8s,baz=107,slow=24,SNR=1.9						
KOUNC	**Koumac, New Ca**	**12.69**	**162**	Pn	**Pn**	**20 56 49.1**	**-0.1**
PMG	**Port Moresby**	**12.86**	**265**	LR	LR	21 01 44.5	
	comp=Z,629nm,19.6s,baz=106,slow=37						
LIFNC	**LIFOU**	**14.05**	**152**	Pn	**Pn**	**20 57 07.9**	**+0.1**
LIFNC	**LIFOU**	**14.05**	**152**	P	**Pn**	**20 57 09.7**	**+1.9**
DZM	**Mont Dzumac**	**14.85**	**157**	P	**P**	**20 57 24.0**	**+1.0**
DZM	**Mont Dzumac**	**14.85**	**157**	P	**Pn**	**20 57 22.3**	**+3.9**
DZM	**Mont Dzumac**	**14.85**	**157**	P	**Pn**	**20 57 21.5**	**+3.1**
	17nm,0.5s,baz=13,slow=14,SNR=24						
DZM				S	**Sn**	**20 59 57.5**	**-4.3**
	2.8nm,0.7s,baz=107,slow=21,SNR=1.0						
DZM				LR	LR	21 02 14.6	
	comp=Z,306nm,21.7s,baz=335,slow=34						
PATS	**Pohnpei**	**15.29**	**353**	Pn	**Pn**	**20 57 19.5**	**-4.5**
OUENC	**Ouen Island, N**	**15.32**	**156**	P	**P**	**20 57 28.8**	**+0.7**
OUENC	**Ouen Island, N**	**15.32**	**156**	P	**P**	**20 57 29.1**	**+0.9**
PINNC	**Pines Island,**	**15.74**	**154**	P	**P**	**20 57 33.6**	**+0.7**
CTA	**Charters Tower**	**17.73**	**228**	P	**P**	**20 57 56.5**	**+1.6**
	4.6nm,0.6s,baz=48,slow=13,SNR=5.6						
CTA				LR	LR	21 04 10.7	
	comp=Z,212nm,18.4s,baz=74,slow=35						
CTAO	**Charters Tower**	**17.73**	**228**	P	**Pn**	**20 57 54.3**	**-0.4**
EIDS	**Eidsvold**	**18.91**	**206**	Pn	**Pn**	**20 58 09.3**	**+0.3**
MSVF	**Nonsavu**	**19.72**	**120**	P	**P**	**20 58 17.2**	**+0.3**
MSVF				IAmb	IAmb	20 58 23.7	
	comp=Z,89nm,1.9s						
JAY	**Jayapura**	**20.21**	**286**	P	Pn	20 58 23.4	-1.1
	comp=Z,71nm,1.1s,comp=Z,589nm						
JAY	**Jayapura**	**20.21**	**286**	P	Pn	20 58 24.4	-0.1
	comp=Z,12nm,0.6s,baz=172,slow=7.1,SNR=4.3						
GENI	**Genyem**	**20.70**	**285**	P	Pn	20 58 38.6	+8.4
QIS	**Mount Isa**	**23.20**	**237**	P	**P**	**20 58 55.0**	**+1.0**
ARMA	**Armidale**	**23.27**	**199**	P	**P**	**20 58 54.9**	**+0.4**
ARMA	**Armidale**	**23.27**	**199**	P	**P**	**20 58 55.8**	**+1.2**
WR0	**Warramunga Arr**	**27.28**	**242**	P	**P**	**20 59 30.1**	**-1.0**
WB0	**Warramunga Arr**	**27.34**	**243**		**P**	**20 59 31.0**	**-0.6**
WB0				IAmb	IAmb	20 59 51.4	
	comp=Z,34nm,1.1s						
WRAB	**Tennant Creek**	**27.44**	**243**	P	**P**	**20 59 31.8**	**-0.7**
WB2	**Warramunga Arr**	**27.44**	**243**		**P**	**20 59 31.9**	**-0.6**
WB2				IAmb	IAmb	20 59 52.4	
	comp=Z,40nm,1.2s						
WRA	**Warramunga Arr**	**27.45**	**243**	P	**P**	**20 59 32.1**	**-0.5**
WRA	**Warramunga Arr**	**27.45**	**243**	P	**P**	**20 59 31.5**	**-1.1**
	comp=Z,2.7nm,0.3s,baz=67,slow=8.9,SNR=67						
WRA				pP	**pP**	**20 59 45.0**	**-1.2**
	comp=Z,12nm,0.6s,baz=70,slow=9.5,SNR=19						
WRA				S	**S**	**21 04 05.5**	**-4.1**
	comp=Z,2.9nm,0.9s,baz=73,slow=15,SNR=6.1						
	comp=Z,2.7nm,0.3s						
KDU	**Kakadu**	**27.51**	**259**	P	**P**	**20 59 32.0**	**-1.2**
H11S2	**WAKE ISLAND Hy**	**27.54**	**14**	T	T	21 28 11.7	
	baz=194,slow=76,SNR=1749						
H11S3	**WAKE ISLAND Hy**	**27.54**	**14**	T	T	21 28 11.2	
	baz=194,slow=76,SNR=1967						
H11S1	**WAKE ISLAND Hy**	**27.55**	**14**	T	T	21 28 13.7	
	baz=194,slow=76,SNR=1710						
AS31	**Alice Springs**	**29.32**	**236**	P	**P**	**20 59 48.1**	**-1.2**
ASAR	**Alice Springs**	**29.32**	**236**	P	**P**	**20 59 48.1**	**-1.2**
	comp=Z,3.6nm,0.7s,baz=65,slow=8.9,SNR=30						
ASAR				pP	**pP**	**21 00 02.6**	**-0.4**
	comp=Z,4.3nm,0.6s,baz=67,slow=9.6,SNR=11						
ASAR				S	**S**	**21 04 39.1**	**+0.1**
	comp=Z,1.1nm,1.0s,baz=61,slow=16,SNR=3.7						
	comp=Z,3.6nm,0.7s						
SIJI	**Sorong**	**29.72**	**283**	LR	LR	21 10 59.9	
	comp=Z,104nm,21.5s,baz=136,slow=35						
LCRK	**Leigh Creek**	**29.99**	**220**	P	**P**	**20 59 54.8**	**-0.3**
OOD	**Oodnadatta**	**30.06**	**227**	P	**P**	**20 59 56.3**	**+0.6**
KNRA	**Kununurra**	**31.48**	**254**	P	**P**	**21 00 07.1**	**-1.3**
MULG	**Mulgathing**	**32.66**	**225**	P	**P**	**21 00 17.7**	**-0.9**
BBOO	**Buckleboo**	**32.93**	**219**	P	**P**	**21 00 20.6**	**-0.4**
URZ	**Urewera**	**33.40**	**155**	LR	LR	21 13 04.7	
	comp=Z,131nm,19.1s,baz=30,slow=34						
BKZ	**Black Stump Fm**	**33.93**	**157**	P	**P**	**21 00 29.6**	**0.0**
WRKA	**Warakurna**	**34.54**	**238**	P	**P**	**21 00 33.7**	**-1.3**
TUWZ	**Tuamarina**	**35.06**	**162**	P	**P**	**21 00 39.0**	**-0.2**
BFZ	**Birch Farm**	**35.16**	**159**	P	**P**	**21 00 39.7**	**-0.4**
BSWZ	**Blackbirch Sta**	**35.30**	**162**	P	**P**	**21 00 40.5**	**-0.7**
KHZ	**Kahutara**	**35.84**	**163**	P	**P**	**21 00 45.7**	**-0.2**
BATI	**Baumata**	**36.02**	**264**	LR	LR	21 16 41.0	
	comp=Z,133nm,20.2s,baz=118,slow=38						
JCZ	**Jackson Bay**	**36.29**	**169**	P	**P**	**21 00 52.0**	**+2.1**
	comp=Z,37nm,2.2s						
RPZ	**Rata Peaks**	**36.41**	**167**	LR	LR	21 16 11.3	
	comp=Z,194nm,18.1s,baz=340,slow=37						
DAV	**Davao City (W)**	**37.74**	**293**	LR	LR	21 15 36.2	
	comp=Z,26nm,20.9s,baz=100,slow=35						
JCJ	**Chichijima**	**39.38**	**334**	LR	LR	21 15 52.3	
	comp=Z,118nm,19.7s,baz=100,slow=34						
KAPI	**Kappang**	**40.24**	**272**	LR	LR	21 20 29.5	
	comp=Z,35nm,19.7s,baz=100,slow=40						
PSA00	**Pilbara Seismi**	**40.91**	**247**	P	**P**	**21 01 26.5**	**-2.4**
PSA00				IAmb	IAmb	21 01 28.7	
	comp=Z,16nm,0.8s						
PSA00	**Pilbara Seismi**	**40.91**	**247**	P	**P**	**21 01 26.8**	**-2.1**
PSA00				IAmb	IAmb	21 01 28.7	
	comp=Z,9.3nm,0.8s						
MBWA	**Marble Bar**	**40.93**	**247**	P	**P**	**21 01 27.5**	**-1.5**
MBWA				IAmb	IAmb	21 01 28.2	
	comp=Z,16nm,1.0s						
MBWA	**Marble Bar**	**40.93**	**247**	P	**P**	**21 01 27.8**	**-1.3**
MBWA				pP	**pP**	**21 01 41.9**	**-1.2**
MBWA				sP	**sP**	**21 01 48.7**	**-0.7**
JHJ	**Hachijo jima 2**	**45.65**	**336**	LR	LR	21 19 15.7	
	comp=Z,84nm,21.2s,baz=102,slow=34						
NWAO	**Narrogin (SRO)**	**46.50**	**232**	LR	LR	21 22 26.4	
	comp=Z,123nm,18.2s,baz=94,slow=37						
MJAR	**Matsushiro Arr**	**49.26**	**337**	LR	LR	21 21 54.1	
	comp=Z,31nm,21.3s,baz=186,slow=34						
PPT	**Papeete**	**49.70**	**106**	LR	LR	21 20 06.5	
	comp=Z,37nm,18.8s,baz=185,slow=32						
JNU	**Nakatsue**	**49.84**	**328**	P	**P**	**21 02 39.3**	**-0.1**
	comp=Z,6.5nm,0.9s,baz=104,slow=8.3,SNR=3.2						
	comp=Z,6.5nm,0.9s						
LEM	**Lembang**	**52.05**	**268**	LR	LR	21 27 28.1	
	comp=Z,21nm,20.7s,baz=116,slow=39						
ASAJ	**Asahikawa**	**54.67**	**345**	LR	LR	21 25 01.9	
	comp=Z,148nm,20.8s,baz=168,slow=34						
KSRS	**Korea Array**	**54.70**	**329**	P	**P**	**21 03 15.8**	**+0.5**
KSRS				LR	LR	21 25 02.8	
	comp=Z,2.1nm,0.8s,baz=149,slow=8.6,SNR=4.7						
	comp=Z,52nm,20.5s,baz=135,slow=34						
	comp=Z,2.1nm,0.8s						
KSAR	**Wonju Array Be**	**54.72**	**329**	P	**P**	**21 03 15.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**58.26**	**336**	P	**P**	**21 03 40.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**58.26**	**336**	P	**P**	**21 03 40.7**	**+0.3**
	comp=Z,5.3nm,0.8s,baz=160,slow=4.5,SNR=6.1						
USRK				LR	LR	21 26 13.6	
	comp=Z,48nm,21.3s,baz=146,slow=33						
	comp=Z,5.3nm,0.8s						
DRV	**Dumont d'Urvil**	**59.75**	**189**	P	**P**	**21 03 50.1**	**-0.3**
DRV				pP	**pP**	**21 04 04.9**	**-0.1**
PETK	**Petropavlovsk-**	**61.35**	**358**	P	**P**	**21 04 00.1**	**-1.4**
	comp=Z,4.0nm,0.8s,baz=148,slow=8.5,SNR=2.8						
PETK				LR	LR	21 26 53.5	
	comp=Z,84nm,21.2s,baz=128,slow=32						
	comp=Z,4.0nm,0.8s						
KLR	**Kul'dur**	**62.59**	**339**	LR	LR	21 29 49.2	
	comp=Z,47nm,20.1s,baz=155,slow=34						
KMI	**Kunming**	**65.06**	**303**	P	**P**	**21 04 28.3**	**+1.3**
KMI				pP	**pP**	**21 04 43.9**	**+2.0**
CRAI	**Chiangrai**	**65.31**	**297**	P	**P**	**21 04 28.7**	**+0.3**
CRAI				IAmb	IAmb	21 04 30.1	
	comp=Z,18nm,0.9s						
CM31	**Chiang Mai Arr**	**66.01**	**294**	P	**P**	**21 04 33.0**	**+0.1**
CM31				IAmb	IAmb	21 04 34.6	
	comp=Z,12nm,1.0s						
CMAR	**Chiang Mai Arr**	**66.01**	**294**	P	**P**	**21 04 33.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**66.01**	**294**	P	**P**	**21 04 33.4**	**+0.4**
	comp=Z,5.3nm,0.9s,baz=121,slow=4.9,SNR=34						
CMAR				pP	**pP**	**21 04 46.3**	**-1.4**
	comp=Z,4.5nm,0.9s,baz=89,slow=3.0,SNR=10						
CMAR				LR	LR	21 32 46.4	
	comp=Z,14nm,19.7s,baz=165,slow=36						
	comp=Z,5.3nm,0.9s						
CHTO	**Chiang Mai**	**66.12**	**295**	P	**P**	**21 04 33.6**	**-0.1**
CHTO				IAmb	IAmb	21 04 52.1	
	comp=Z,12nm,1.2s						
CASY	**Casey**	**66.87**	**200**	P	**P**	**21 04 36.7**	**-0.9**
CASY	**Casey**	**66.87**	**200**	P	**P**	**21 04 36.4**	**-1.1**
CASY				pP	**pP**	**21 04 51.8**	**-0.7**
CASY				sP	**sP**	**21 04 57.9**	**-0.7**
MA2	**Magadan**	**68.21**	**355**	LR	LR	21 32 46.7	
	comp=Z,33nm,19.8s,baz=139,slow=34						
CCD	**Concordia, Ant**	**69.78**	**190**	P	**P**	**21 04 55.1**	**-1.0**
CCD				pP	**pP**	**21 05 10.4**	**-0.4**
ULN	**Ulaanbaatar**	**73.00**	**326**	P	**P**	**21 05 16.4**	**+0.7**
ULN				IAmb	IAmb	21 05 18.0	
	comp=Z,14nm,1.1s						
SONM	**Songino Array**	**73.36**	**325**	P	**P**	**21 05 18.4**	**+0.6**
SONM	**Songino Array**	**73.36**	**325**	P	**P**	**21 05 18.5**	**+0.7**
	comp=Z,7.6nm,0.9s,baz=139,slow=5.9,SNR=42						
SONM				LR	LR	21 39 03.8	
	comp=Z,20nm,18.0s,baz=151,slow=37						
	comp=Z,7.6nm,0.9s						
YAK	**Yakutsk**	**74.13**	**346**	P	**P**	**21 05 22.1**	**+0.4**
SHL	**Shillong**	**74.43**	**299**	P	**P**	**21 05 24.5**	**0.0**
SHL				IAmb	IAmb	21 05 25.6	
	comp=Z,14nm,1.0s						
M14K	**Bethel**	**75.15**	**18**	P	**P**	**21 05 27.2**	**-0.5**
	baz=219						
M15K	**Kasigluk River**	**75.50**	**19**	P	**P**	**21 05 29.4**	**-0.3**
	baz=220						
N16K	**Nishlik Lake**	**75.96**	**20**	P	**P**	**21 05 31.6**	**-0.9**
	baz=222						
Q18K	**Katmai Hardscr**	**75.98**	**22**	P	**P**	**21 05 31.5**	**-1.2**
	baz=226						
O17K	**Koliganek Bris**	**76.02**	**21**	P	**P**	**21 05 31.9**	**-0.8**
	baz=224						
M16K	**Timber Creek**	**76.31**	**19**	P	**P**	**21 05 34.0**	**-0.4**
	baz=222						
KDAK	**Kodiak Island**	**76.33**	**24**	P	**P**	**21 05 33.6**	**-0.9**
	baz=228						
KDAK	**Kodiak Island**	**76.33**	**24**	LR	LR	21 32 07.3	
	comp=Z,44nm,20.2s,baz=234,slow=30						
P18K	**Big Mountain,**	**76.41**	**22**	P	**P**	**21 05 34.3**	**-0.7**
	baz=226						
K15K	**Wolf Creek Mou**	**76.48**	**17**	P	**P**	**21 05 34.8**	**-0.6**
	baz=219						
N17K	**Nushagak Hills**	**76.53**	**20**	P	**P**	**21 05 33.7**	**-1.9**
	baz=224						
L16K	**Owhat River**	**76.66**	**18**	P	**P**	**21 05 36.0**	**-0.3**
	baz=221						
TNA	**Tin City**	**77.49**	**13**	P	**P**	**21 05 41.2**	**+0.3**
	baz=212						
SVW2	**Sparrevohn**	**77.49**	**20**	P	**P**	**21 05 42.1**	**+1.1**
J16K	**Anvik River**	**77.52**	**17**	P	**P**	**21 05 40.9**	**-0.2**
	baz=220						
F14K	**Arctic Creek**	**77.78**	**14**	P	**P**	**21 05 43.1**	**+0.6**
	baz=214						
L18K	**Granite Mounta**	**77.93**	**19**	P	**P**	**21 05 43.9**	**+0.5**
	baz=224						
M19K	**Big River Lodg**	**78.47**	**20**	P	**P**	**21 05 47.1**	**+0.7**
M19K				IAmb	IAmb	21 06 04.0	
	comp=Z,14nm,1.0s						
L19K	**White Mountain**	**78.50**	**20**	P	**P**	**21 05 47.3**	**+0.7**
L19K	**White Mountain**	**78.50**	**20**	P	**P**	**21 05 47.5**	**+0.9**
	baz=226						
J18K	**Innoko River**	**78.82**	**18**	P	**P**	**21 05 48.0**	**-0.3**
	baz=224						
H17K	**Granite Mounta**	**78.98**	**16**	P	**P**	**21 05 48.9**	**-0.3**
	baz=220						
SUA	**Susitna One**	**79.46**	**22**	P	**P**	**21 05 50.0**	**-2.0**
	baz=230						
SKT	**Skwentna**	**79.51**	**21**	P	**P**	**21 05 51.1**	**-1.1**
	baz=229						
J19K	**Poorman**	**79.54**	**18**	P	**P**	**21 05 53.0**	**+0.8**
	baz=225						
K20K	**Telida**	**79.58**	**19**	P	**P**	**21 05 53.4**	**+0.8**
K20K				IAmb	IAmb	21 06 10.6	
	comp=Z,17nm,1.4s						
K20K	**Telida**	**79.58**	**19**	P	**P**	**21 05 52.8**	**+0.2**
	baz=226						
RC01	**Rabbit Creek A**	**79.59**	**22**	P	**P**	**21 05 52.0**	**-0.5**
	baz=230						
F17K	**Baldwin Pennin**	**79.80**	**15**	P	**P**	**21 05 54.2**	**+0.6**
	baz=219						
PWL	**Port Wells**	**79.98**	**23**	P	**P**	**21 05 54.6**	**-0.1**
	baz=232						
G18K	**Tagagawik**	**80.06**	**16**	P	**P**	**21 05 55.4**	**+0.4**
	baz=221						
J20K	**Nowinta River**	**80.13**	**19**	P	**P**	**21 05 55.5**	**+0.1**
	baz=226						
E17K	**Hotham Inlet**	**80.16**	**14**	P	**P**	**21 05 56.0**	**+0.5**
	baz=218						
KNK	**Knik Glacier**	**80.27**	**22**	P	**P**	**21 05 55.5**	**-0.8**
	baz=232						
CAST	**Castle Rocks**	**80.28**	**20**	P	**P**	**21 05 56.0**	**-0.3**
CAST	**Castle Rocks**	**80.28**	**20**	P	**P**	**21 05 56.2**	**-0.1**
	baz=228						
C16K	**Lisburne Hills**	**80.32**	**12**	P	**P**	**21 05 57.4**	**+1.1**
	baz=215						
D17K	**Noatak River**	**80.35**	**13**	P	**P**	**21 05 57.9**	**+1.4**
	baz=217						
H19K	**Roundabout Mou**	**80.40**	**17**	P	**P**	**21 05 57.7**	**+0.9**
	baz=224						
I20K	**Naaghedeneel**	**80.46**	**18**	P	**P**	**21 05 58.2**	**+1.0**
	baz=226						
CHUM	**Lake Minchumin**	**80.52**	**19**	P	**P**	**21 05 57.6**	**+0.1**
	baz=228						
SML	**Sawmill**	**80.57**	**22**		**P**	**21 05 58.1**	**+0.2**
SML				IAmb	IAmb	21 06 14.2	
	comp=Z,18nm,1.2s						
G19K	**Purcell Mounta**	**80.67**	**16**	P	**P**	**21 05 58.8**	**+0.5**
G19K	**Purcell Mounta**	**80.67**	**16**	P	**P**	**21 05 59.4**	**+1.1**
	baz=223						
E18K	**Tukpahlearik C**	**80.72**	**14**	P	**P**	**21 06 00.1**	**+1.5**
	baz=219						
M23K	**Glacier View**	**80.78**	**22**	P	**P**	**21 05 59.0**	**0.0**
	baz=232						
H20K	**Anotleneega Mo**	**80.83**	**17**	P	**P**	**21 05 59.4**	**+0.2**
	baz=225						
TRF	**Thorofare Moun**	**80.91**	**20**	P	**P**	**21 05 59.3**	**-0.6**
	baz=230						
C17K	**DeLong Mountai**	**80.95**	**13**	P	**P**	**21 06 01.5**	**+1.7**
	baz=217						
SCM	**Sheep Creek Mo**	**80.96**	**22**	P	**P**	**21 05 59.7**	**-0.3**
	baz=233						
F19K	**Shaleruckik Mo**	**81.00**	**16**	P	**P**	**21 06 00.7**	**+0.7**
F19K				IAmb	IAmb	21 06 17.9	
	comp=Z,26nm,1.7s						
F19K	**Shaleruckik Mo**	**81.00**	**16**	P	**P**	**21 06 00.9**	**+0.9**
	baz=222						
BPAW	**Bear Paw Mtn.**	**81.10**	**20**	P	**P**	**21 06 00.1**	**-0.5**
	baz=229						
WAT1	**Susitna Watana**	**81.12**	**21**	P	**P**	**21 06 00.3**	**-0.5**
	baz=231						
WAT6	**Susitna Watana**	**81.26**	**22**	P	**P**	**21 06 02.0**	**+0.2**
	baz=232						
BMRM	**Bremner River**	**81.51**	**24**	P	**P**	**21 06 02.3**	**-0.6**
	baz=235						
IMAR	**Indian Mountai**	**81.51**	**17**	P	**P**	**21 06 01.9**	**-0.8**
QSPA	**South Pole Qui**	**81.54**	**180**	P	**P**	**21 06 03.5**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=346,slow=2.7,SNR=2.7						
	comp=Z,0.9nm,0.3s						
MCK	**McKinley**	**81.56**	**20**	P	**P**	**21 06 03.1**	**0.0**
	baz=231						
M24K	**Tolsona, Glenn**	**81.56**	**23**	P	**P**	**21 06 03.8**	**+0.6**
	baz=234						
H21K	**Melozitna Rive**	**81.57**	**18**	P	**P**	**21 06 03.9**	**+0.8**
	baz=227						
E19K	**Redstone River**	**81.60**	**15**	P	**P**	**21 06 02.9**	**-0.4**
E19K				IAmb	IAmb	21 06 05.7	
	comp=Z,14nm,1.1s						
E19K	**Redstone River**	**81.60**	**15**	P	**P**	**21 06 04.5**	**+1.2**
	baz=223						
DHY	**Denali Highway**	**81.70**	**21**	P	**P**	**21 06 04.4**	**+0.4**
	baz=232						
F20K	**Avaraart Lake**	**81.71**	**16**	P	**P**	**21 06 04.4**	**+0.7**
	baz=224						
MLY	**Manley**	**81.79**	**19**	P	**P**	**21 06 03.9**	**-0.5**
MLY	**Manley**	**81.79**	**19**	P	**P**	**21 06 04.1**	**-0.3**
	baz=229						
G21K	**Allakaket**	**81.95**	**17**	P	**P**	**21 06 05.3**	**+0.2**
	baz=226						
NEA2	**Nenana**	**82.06**	**20**	P	**P**	**21 06 04.6**	**-1.1**
NEA2	**Nenana**	**82.06**	**20**	P	**P**	**21 06 06.3**	**+0.6**
	baz=231						
HARP	**HAARP**	**82.12**	**23**	P	**P**	**21 06 05.8**	**-0.3**
	baz=235						
D19K	**Kuna River**	**82.15**	**14**	P	**P**	**21 06 06.6**	**+0.4**
	baz=222						
H22K	**Ishtalitna Cre**	**82.17**	**18**	P	**P**	**21 06 06.9**	**+0.6**
	baz=228						
WRH	**Wood River Hil**	**82.31**	**20**	P	**P**	**21 06 06.4**	**-0.6**
WRH				IAmb	IAmb	21 06 07.7	
	comp=Z,14nm,1.4s						
I23K	**Minto, Yukon-K**	**82.32**	**19**	P	**P**	**21 06 07.2**	**+0.2**
	baz=230						
F21K	**Alatna River**	**82.45**	**17**	P	**P**	**21 06 08.1**	**+0.3**
	baz=226						
E20K	**Nigu River**	**82.46**	**15**	P	**P**	**21 06 08.6**	**+0.9**
	baz=224						
CCB	**Clear Creek Bu**	**82.52**	**20**	P	**P**	**21 06 07.9**	**-0.1**
TIXI	**Tiksi**	**82.56**	**350**	P	**P**	**21 06 07.5**	**-0.6**
TIXI				IAmb	IAmb	21 06 09.0	
	comp=Z,18nm,1.7s						
MDM	**Murphy Dome**	**82.57**	**20**	P	**P**	**21 06 07.7**	**-0.7**
COLA	**College**	**82.64**	**20**	P	**P**	**21 06 07.6**	**-1.1**
HDA	**Harding Lake**	**82.66**	**20**	P	**P**	**21 06 08.7**	**-0.2**
HDA				IAmb	IAmb	21 06 09.8	
	comp=Z,21nm,1.4s						
HDA	**Harding Lake**	**82.66**	**20**	P	**P**	**21 06 09.1**	**+0.3**
	baz=233						
H23K	**Yukon River**	**82.69**	**19**	P	**P**	**21 06 09.3**	**+0.3**
H23K				IAmb	IAmb	21 06 10.6	
	comp=Z,20nm,1.4s						
H23K	**Yukon River**	**82.69**	**19**	P	**P**	**21 06 09.3**	**+0.3**
	baz=230						
K24K	**Donnelly Dome**	**82.71**	**21**	P	**P**	**21 06 09.2**	**+0.1**
	baz=234						
G22K	**Bettles**	**82.81**	**17**	P	**P**	**21 06 10.2**	**+0.6**
	baz=228						
IL31		**82.91**	**20**	P	**P**	**21 06 09.2**	**-0.8**
ILAR	**Eielson Array**	**82.91**	**20**	P	**P**	**21 06 08.8**	**-1.3**
ILAR	**Eielson Array**	**82.91**	**20**	P	**P**	**21 06 09.5**	**-0.6**
	comp=Z,3.5nm,1.0s,baz=249,slow=5.2,SNR=18						
	comp=Z,3.5nm,1.0s						
POKR	**Poker Plat Res**	**82.93**	**20**	P	**P**	**21 06 09.7**	**-0.5**
	baz=232						
M26K	**Nabesna, AK**	**82.95**	**23**	P	**P**	**21 06 08.8**	**-1.6**
	baz=237						
PNL	**Peninsula**	**83.00**	**26**	P	**P**	**21 06 10.5**	**-0.3**
	baz=240						
RIDG	**Independent Ri**	**83.01**	**22**	P	**P**	**21 06 10.7**	**-0.1**
	baz=235						
F22K	**John River**	**83.02**	**17**	P	**P**	**21 06 11.4**	**+0.8**
	baz=228						
G23K	**Bananza Creek**	**83.12**	**18**	P	**P**	**21 06 11.4**	**+0.2**
	baz=230						
E21K	**Killik River**	**83.17**	**16**	P	**P**	**21 06 12.7**	**+1.3**
	baz=226						
H24K	**Noodor Dome**	**83.23**	**19**	P	**P**	**21 06 11.4**	**-0.5**
H24K	**Noodor Dome**	**83.23**	**19**	P	**P**	**21 06 12.0**	**+0.1**
	baz=232						
J25K	**Salcha River,**	**83.33**	**21**	P	**P**	**21 06 11.9**	**-0.5**
J25K				IAmb	IAmb	21 06 29.2	
	comp=Z,14nm,1.3s						
J25K	**Salcha River,**	**83.33**	**21**	P	**P**	**21 06 12.4**	**0.0**
	baz=234						
M27K	**Edge Creek, AK**	**83.36**	**23**	P	**P**	**21 06 12.7**	**0.0**
M27K				IAmb	IAmb	21 06 32.2	
	comp=Z,10nm,1.1s						
M27K	**Edge Creek, AK**	**83.36**	**23**	P	**P**	**21 06 12.8**	**0.0**
	baz=238						
SCRK	**Sand Creek**	**83.46**	**22**	P	**P**	**21 06 12.8**	**-0.3**
SCRK	**Sand Creek**	**83.46**	**22**	P	**P**	**21 06 13.2**	**+0.1**
	baz=236						
C21K	**Knifeblade Rid**	**83.46**	**15**	P	**P**	**21 06 13.9**	**+1.0**
	baz=225						
E22K	**Anaktuvuk Pass**	**83.54**	**16**	P	**P**	**21 06 14.5**	**+1.1**
	baz=228						
YUK3	**Moose Creek**	**83.62**	**24**	P	**P**	**21 06 13.6**	**-0.5**
	baz=239						
SIT	**Sitka**	**83.67**	**30**	P	**P**	**21 06 13.3**	**-0.8**
	baz=244						
P29M	**Windy Craggy**	**83.72**	**27**	P	**P**	**21 06 14.8**	**+0.3**
	baz=242	

baz=239
K29M Barlow Dome 85.83 23 P P 21 06 25.9 +0.8
K29M IAmb IAmb 21 06 27.5
comp=Z,13nm,1.4s
K29M Barlow Dome 85.83 23 P P 21 06 26.7 +1.6
baz=242
D25K Kavik River 85.83 17 P P 21 06 24.8 -0.1
baz=233
G27K Doyon Strip 85.84 20 P P 21 06 26.3 +1.3
baz=238
YBH Yreka Blue Hor 86.11 47 P P 21 06 28.9 +2.0
YBH IAmb IAmb 21 06 29.9
comp=Z,17nm,1.4s
YBH Yreka Blue Hor 86.11 47 P P 21 06 28.6 +1.7
comp=Z,5.0nm,1.1s,baz=137,slow=1.9,SNR=4.2
YBH LR LR 21 39 45.7
comp=Z,34nm,19.2s,baz=234,slow=32
comp=Z,5.0nm,1.1s
I29M Ogilvie Camp, 86.27 22 P P 21 06 27.4 +0.3
I29M IAmb IAmb 21 06 28.9
comp=Z,11nm,1.2s
I29M Ogilvie Camp, 86.27 22 P P 21 06 28.2 +1.1
baz=241
M31M Drury Creek, Y 86.35 25 P P 21 06 27.9 +0.3
baz=244
SNCC San Nicolas Is 86.59 56 P P 21 06 30.1 +0.8
baz=258
C26K Camden Bay 86.60 16 P P 21 06 30.1 +1.6
baz=234
E27K Coleen River 86.61 19 P P 21 06 30.6 +1.9
baz=238,SNR=5.7
J30M Hart River 86.63 23 P P 21 06 30.1 +1.0
baz=242
SCZ2 Santa Cruz Isl 86.66 55 P P 21 06 31.5 +1.8
baz=258
H29M Whitestone 86.67 21 P P 21 06 30.7 +1.7
baz=241
PKM Mcpherson Peak 86.71 54 P P 21 06 31.4 +1.2
baz=257
FARO Faro, Yukon 86.80 25 P P 21 06 29.5 -0.3
FARO IAmb IAmb 21 06 31.5
comp=Z,14nm,1.4s
FARO Faro, Yukon 86.80 25 P P 21 06 30.8 +1.0
baz=245
DLBC Dease Lake 86.83 30 P P 21 06 31.2 +1.2
baz=248
DLBC Dease Lake 86.83 30 LR LR 21 38 12.4
comp=Z,49nm,19.2s,baz=276,slow=31
F28M Old Crow 86.86 19 P P 21 06 30.9 +1.0
F28M Old Crow 86.86 19 P P 21 06 31.8 +1.8
baz=239
I30M Mount Dempster 86.91 22 P P 21 06 29.8 -0.6
I30M Mount Dempster 86.91 22 P P 21 06 31.8 +1.4
baz=242
G29M Pine Creek 87.13 20 P P 21 06 32.8 +1.5
baz=241
EPYK Eagle Plains 87.33 21 P P 21 06 31.6 -0.7
EPYK IAmb IAmb 21 06 58.1
comp=Z,10nm,1.1s
EPYK Eagle Plains 87.33 21 P P 21 06 33.5 +1.2
baz=242
D27M Malcolm River 87.37 18 P P 21 06 34.1 +1.6
baz=238
E28M Babbage River 87.48 19 P P 21 06 34.7 +1.8
baz=239,SNR=6.0
J05D Fort Rock, OR 87.55 46 P P 21 06 33.1 -0.8
G30M tAoh Zraii Nji 87.79 21 P P 21 06 33.5 -0.9
G30M IAmb IAmb 21 06 53.7
comp=Z,13nm,1.3s
G30M tAoh Zraii Nji 87.79 21 P P 21 06 35.1 +0.6
baz=242
MMPY Sheldon Lake, 87.85 26 P P 21 06 36.1 +1.3
baz=247
MK31 Makanchi Array 87.87 318 P P 21 06 35.6 +0.3
MK31 IAmb IAmb 21 06 36.3
comp=Z,6.4nm,0.8s
MKAR Makanchi Array 87.87 318 P P 21 06 34.9 -0.4
MKAR Makanchi Array 87.87 318 P P 21 06 35.2 -0.1
comp=Z,6.6nm,0.8s,baz=100,slow=5.8,SNR=32
comp=Z,6.6nm,0.8s
E29M Blow River 87.89 19 P P 21 06 35.8 +0.9
baz=241
H31M Peel River 87.93 22 P P 21 06 35.6 +0.5
baz=244
ISA Isabella, Lake 87.94 54 P P 21 06 36.8 +0.8
baz=258
PAHR Pah Rah Range 88.08 50 P P 21 06 38.1 +1.4
PAHR IAmb IAmb 21 06 54.8
comp=Z,13nm,1.3s
EDW2 Edwards Air Fo 88.17 55 P P 21 06 37.9 +0.8
baz=258
F30M Barrier River 88.23 20 P P 21 06 37.7 +1.2
baz=243
ZAA0 Zalesovo Array 88.25 325 P P 21 06 35.1 -1.7
ZALV Zalesovo Beam 88.25 325 P P 21 06 35.1 -1.7
ZALV Zalesovo Beam 88.25 325 P P 21 06 35.3 -1.5
comp=Z,1.3nm,0.7s,baz=130,slow=4.5,SNR=7.0
ZALV LR LR 21 44 56.3
comp=Z,20nm,21.8s,baz=104,slow=35
comp=Z,1.3nm,0.7s
BFSC Mount Baldy Ra 88.31 55 P P 21 06 38.7 +0.9
baz=259
CWC Cottonwood Cre 88.41 53 P P 21 06 39.5 +1.3
baz=258
G31M Satah River 88.45 21 P P 21 06 38.5 +1.1
baz=244
NVAR Mina Array Bea 88.64 51 P 21 06 40.9 +1.5
NVAR Mina Array Bea 88.64 51 P P 21 06 40.4 +1.0
comp=Z,1.5nm,0.8s,baz=231,slow=7.8,SNR=8.4
comp=Z,1.5nm,0.8s
DSP Deep Springs 88.68 52 P P 21 06 40.2 +0.9
MPMC Manual Prospec 88.80 53 P P 21 06 40.7 +0.6
baz=259
MONP2 Monument Peak 89.07 57 P P 21 06 42.7 +1.2
baz=259,SNR=5.7
PFO Pinyon Flats O 89.17 56 P P 21 06 43.0 +1.1
baz=259
PFO Pinyon Flats O 89.17 56 P P 21 06 43.4 +1.5
comp=Z,1.2nm,0.3s,baz=257,slow=6.3,SNR=4.5
PFO LR LR 21 38 31.6
comp=Z,119nm,21.4s,baz=256,slow=30
comp=Z,1.2nm,0.3s
TPFO Pinon Flats 89.17 56 P P 21 06 43.4 +1.6
baz=259
WVOR Wild Horse Val 89.22 47 P P 21 06 42.2 +0.3
WVOR IAmb IAmb 21 06 44.7
comp=Z,11nm,1.1s
PMD Palm Desert 89.25 56 P P 21 06 41.2 -0.9
PMD IAmb IAmb 21 06 44.8
comp=Z,10.0nm,1.1s
QSM Queen of Sheba 89.28 54 P P 21 06 42.5 +0.3
QSM IAmb IAmb 21 09 24.9
comp=Z,6.4nm,1.0s
IKP In-Ko-Pah, Jac 89.28 57 P P 21 06 44.0 +1.6
baz=260
INK Inuvik 89.30 20 LR LR 21 42 00.3
comp=Z,36nm,19.8s,baz=190,slow=32
ESJX Sierra Juarez 89.30 58 P P 21 06 43.6 +1.0
TPH Tonopah 89.40 52 P P 21 06 43.3 +0.4
YUH Yuha Desert 89.44 57 P P 21 06 43.3 +0.3
HEC Hector,Ludlow 89.50 55 P P 21 06 44.8 +1.5
baz=259
SWSC Sam W. Stewart 89.59 57 P P 21 06 45.3 +1.6
baz=260
PRZ Przheval'sk 89.60 313 P P 21 06 44.2 +0.5
BELC Belle Mtn. Jos 89.62 56 P P 21 06 46.3 +2.3
baz=260,SNR=9.4
TARG Taragay, Kyrgy 89.88 312 P P 21 06 45.3 -0.1
TARG IAmb IAmb 21 07 04.8
comp=Z,5.9nm,1.0s
TPNV Topopah Spring 89.95 53 P P 21 06 47.0 +1.5
baz=259
BC3 Big Chuckawall 90.00 56 P P 21 06 47.8 +2.1
baz=260,SNR=9.3
GMRC Granite Mounta 90.03 55 P P 21 06 47.8 +1.9
baz=260,SNR=7.7
KOTAN Kotaneelee Air 90.28 29 P P 21 06 48.1 +1.9
baz=254
IRM Iron Mountain 90.34 56 P P 21 06 49.2 +2.0
baz=260,SNR=13
GLA Glamis 90.42 57 P P 21 06 49.6 +2.0
baz=260
R11B Troy Canyon, C 90.72 51 P P 21 06 49.7 +0.6
R11B IAmb IAmb 21 06 51.8
comp=Z,8.0nm,1.2s
R11B Troy Canyon, C 90.72 51 P P 21 06 50.4 +1.3
baz=260

SHPR Sheep Range 90.73 53 P P 21 06 49.3 +0.2
SHPR IAmb IAmb 21 06 52.2
comp=Z,5.7nm,1.1s
BLYC Blythe 90.78 56 P P 21 06 47.6 -1.6
V12A Nelson 90.85 54 P P 21 06 48.0 -1.7
F10A Beach Ranch, E 90.92 44 P P 21 06 48.8 -1.0
PRN Pahroc Range 90.97 52 P P 21 06 51.8 +1.6
NRN Naryn 91.16 312 P P 21 06 51.3 +0.1
KURBB Kurchatov Arra 91.17 321 P P 21 06 50.0 -0.6
comp=Z,1.2nm,0.9s,baz=112,slow=2.9,SNR=8.2
comp=Z,1.2nm,0.9s
PDMCI Parker Dam,Lak 91.19 56 P P 21 06 53.1 +2.0
baz=261
113A Mohawk Valley, 91.25 57 P P 21 06 52.4 +1.0
113A IAmb IAmb 21 06 54.2
comp=Z,6.6nm,0.9s
BOOM Boomskoye usch 91.39 313 P P 21 06 51.1 -0.9
BOOM IAmb IAmb 21 06 53.3
comp=Z,5.8nm,0.8s
ELK Elko 91.40 49 P P 21 06 53.5 +1.3
ELK IAmb IAmb 21 06 55.0
comp=Z,4.8nm,1.2s
ELK Elko 91.40 49 P P 21 06 54.0 +1.8
comp=Z,2.7nm,1.1s,baz=47,slow=1.8,SNR=6.6
comp=Z,2.7nm,1.1s
NEW Newport 91.43 42 LR LR 21 39 44.3
comp=Z,48nm,20.5s,baz=221,slow=30
W13A Hualapai Mount 91.52 55 P P 21 06 54.4 +1.4
PLID Pearl Lake 91.61 45 P P 21 06 53.3 +0.2
PLID IAmb IAmb 21 06 54.6
comp=Z,4.1nm,0.9s
SPR3 Spring Creek 3 91.80 51 P P 21 06 54.9 +0.7
214A Organ Pipe Nat 91.92 58 P P 21 06 57.0 +2.4
baz=261
NIL Nilore 92.04 304 P 21 06 53.8 -1.3
NIL IAmb IAmb 21 06 55.7
comp=Z,3.7nm,0.8s
CCUT Cedar City 92.32 53 P P 21 06 58.0 +1.5
CCUT IAmb IAmb 21 06 59.4
comp=Z,6.7nm,1.1s
LCMT Little Creek M 92.33 53 P P 21 06 56.2 -0.3
LCMT IAmb IAmb 21 06 59.5
comp=Z,8.7nm,1.2s
HLID Hailey 92.47 46 P P 21 06 57.8 +0.7
HLID IAmb IAmb 21 06 60.0
comp=Z,7.3nm,1.2s
HLID Hailey 92.47 46 P P 21 06 58.3 +1.2
baz=261
SZCU Shurtz Canyon 92.55 53 P P 21 06 59.3 +1.7
U15A North Rim 93.01 54 P P 21 06 57.9 -1.9
U15A IAmb IAmb 21 07 04.0
comp=Z,7.8nm,1.2s
BGU Big Grassy Mou 93.08 49 P P 21 07 00.8 +0.9
BGU IAmb IAmb 21 07 02.5
comp=Z,5.3nm,1.0s
DUG Dugway, Tooele 93.14 50 P P 21 07 01.7 +1.5
baz=262
A36M Sachs Harbour 93.27 17 P P 21 07 02.1 +2.3
baz=253
HVU Hansel Valley 93.40 48 P P 21 07 02.2 +0.9
X16A Lo Mia Camp, P 93.41 56 P P 21 07 02.8 +1.1
X16A IAmb IAmb 21 09 06.2
comp=Z,6.8nm,1.5s
SPUT South Promonto 93.57 49 P P 21 07 03.0 +0.9
SPUT IAmb IAmb 21 07 04.9
comp=Z,4.9nm,1.0s
TUC Tucson 93.68 58 P P 21 07 04.9 +2.1
baz=262
HWUT Hardware Ranch 94.27 49 P P 21 07 06.2 +0.8
HWUT IAmb IAmb 21 07 07.5
comp=Z,3.7nm,0.8s
BOZ Bozeman (W) 94.73 45 P P 21 07 07.6 +0.3
BSUT Blindstream Ca 94.74 50 P P 21 07 09.3 +1.5
BSUT IAmb IAmb 21 07 10.3
comp=Z,6.0nm,1.0s
REDW Red Top Meadow 95.01 47 P P 21 07 13.6 +4.8
IMW Indian Meadow 95.01 47 P P 21 07 06.8 -2.1
IMW IAmb IAmb 21 08 08.6
comp=Z,3.9nm,0.8s
P18A Preston Nutter 95.02 51 P P 21 07 09.9 +0.9
P18A IAmb IAmb 21 07 10.7
comp=Z,4.3nm,0.8s
DUN6 Lazy B Ranch 95.13 58 P P 21 07 11.6 +2.1
YKA Yellowknife Ar 95.23 28 P P 21 07 08.7 -0.3
comp=Z,0.8nm,0.8s,baz=267,slow=4.9,SNR=2.9
YKA LR LR 21 42 54.6
comp=Z,55nm,21.9s,baz=273,slow=31
comp=Z,0.8nm,0.8s
KK31 Karatay Array 95.43 313 P P 21 07 09.2 -1.2
KKAR Karatay Array 95.43 313 P P 21 07 09.4 -1.0
RDMU Red Mountain 95.64 50 P P 21 07 11.3 -0.4
BW06 Boulder Array 95.89 48 P P 21 07 11.1 -1.8
PD31 Pinedale Array 95.89 48 P P 21 07 10.3 -2.5
PDAR Pinedale Array 95.89 48 P P 21 07 12.0 -0.8
PDAR Pinedale Array 95.89 48 P P 21 07 12.6 -0.3
comp=Z,1.3nm,0.6s,baz=226,slow=3.6,SNR=11
PDAR LR LR 21 46 33.7
comp=Z,21nm,18.8s,baz=298,slow=33
comp=Z,1.3nm,0.6s
121A Cookes Peak, D 96.22 58 P P 21 07 16.6 +2.1
baz=264
BVAR Borovoye Array 96.52 323 P P 21 07 14.2 -1.0
comp=Z,3.0nm,0.9s,baz=94,slow=5.8,SNR=12
BVAR LR LR 21 51 46.1
comp=Z,15nm,20.3s,baz=76,slow=36
comp=Z,3.0nm,0.9s
BRVK Borovoye 96.59 323 P P 21 07 14.5 -0.9
BRVK IAmb IAmb 21 07 15.4
comp=Z,4.5nm,1.1s
ANMO Albuquerque 97.55 56 LR LR 21 43 58.9
comp=Z,55nm,21.1s,baz=14,slow=31
TXAR Lajitas Array 99.46 62 P Pdif 21 07 29.9 +0.8
comp=Z,0.2nm,0.7s,baz=206,slow=26,SNR=2.9
comp=Z,0.2nm,0.7s
FINES FINESS Array B 117.29 337 PKP PKPdf 21 12 30.4 -0.1
comp=Z,1.5nm,0.8s,baz=90,slow=5.6,SNR=6.6
AKASG Malin Array Be 121.64 326 PKP PKPdf 21 12 38.7 -0.5
comp=Z,0.8nm,0.5s,baz=54,slow=1.7,SNR=2.2
NB2 NORSAR Subarra 122.67 343 PKPdf PKPdf 21 12 40.5 -0.5
comp=Z,1.0nm,0.7s,baz=38,slow=1.9
NOA NORSAR Array B 122.67 343 PKP PKPdf 21 12 40.4 -0.5
comp=Z,1.9nm,0.8s,baz=38,slow=1.9,SNR=6.1
BRTR Keskin Array B 123.14 312 PKP PKPdf 21 12 42.0 -0.7
comp=Z,0.5nm,0.7s,baz=76,slow=1.8,SNR=3.8
GERES GERESS Array B 130.85 331 PKP PKPdf 21 12 57.4 +0.3
comp=Z,0.9nm,0.7s,baz=95,slow=2.1,SNR=5.8
EKA Eskdalemuir Ar 131.39 347 PKP PKPdf 21 12 58.4 +0.6
comp=Z,3.0nm,1.0s,baz=28,slow=3.2,SNR=1.8
BDFB Brasilia 143.25 131 PKhKP PKPpre 21 13 17.5
comp=Z,1.7nm,0.4s,baz=189,slow=5.3,SNR=4.7
PBRG Braganca 144.81 343 *e*PKP PKPbc 21 13 22.2 +0.3
PGAV Gavieira, Arco 145.08 345 *e*PKP **PKPdf 21 13 23.8 +0.5**
MVO Moncorvo 145.48 343 *e*PKP **PKPab 21 13 25.1 +0.8**
POLO Lamas de Olo 145.50 344 *e*PKP **PKPab 21 13 25.2 +0.8**
PVRL Vila Real 145.57 344 *e*PKP **PKPab 21 13 25.3 +0.7**
ESDC Sonseca Array 145.80 338 PKPbc **PKPdf 21 13 24.7 +0.1**
comp=Z,10nm,0.9s,baz=15,slow=3.1,SNR=62
ESDC pPKPbc **pPKPdf 21 13 41.1 +0.7**
comp=Z,5.0nm,1.0s,baz=13,slow=3.9,SNR=5.9
PTO Porto 145.94 345 *e*PKP **PKPab 21 13 26.5 +0.6**
PVIS Viseu 146.14 344 *e*PKP **PKPab 21 13 26.9 +0.1**
MTE Manteigas 146.33 343 *e*PKP **PKPab 21 13 27.9 +0.4**
PCBR Castelo Branco 146.83 342 *e*PKP **PKPbc 21 13 28.9 +0.8**
PCAS Casmilo, Conde 146.93 344 *e*PKP **PKPbc 21 13 29.1 +0.8**
PMRV Marv??o 147.18 342 *e*PKP **PKPbc 21 13 29.8 +0.7**
PSBE So Bento 147.51 344 *e*PKP **PKPbc 21 13 31.1 +1.1**
PESTR Estremoz 147.76 342 *e*PKP **PKPbc 21 13 31.8 +1.1**
PMTG Montargil 147.76 343 *e*PKP **PKPbc 21 13 31.3 +0.6**
PMAFR Mafra 148.16 344 *e*PKP **PKiKP 21 13 33.0 -0.5**
EVO Evora 148.20 342 *e*PKP **PKPbc 21 13 32.7 +0.9**
PBAR Barrancos 148.22 341 *e*PKP **PKPbc 21 13 32.8 +0.9**
PBEJ Beja 148.62 342 *e*PKP **PKPbc 21 13 33.9 +0.9**
PNCL Nicolau / Gran 148.74 343 *e*PKP **PKPbc 21 13 33.9 +0.7**
PCVE Castro Verde 149.03 342 *e*PKP **PKPbc 21 13 34.9 +0.9**
PVAQ Vaqueiros 149.14 341 *e*PKP **PKPbc 21 13 35.1 +0.8**
PTEO Sao Teotonio 149.32 342 *e*PKP **PKiKP 21 13 35.9 0.0**
PBDV Barranco-do-Ve 149.35 341 *e*PKP **PKPdf 21 13 31.4 +0.9**
MORF Marmelete 149.52 342 *e*PKP **PKiKP 21 13 36.7 +0.3**
TORD Torodi Ar. Bea 158.32 284 PKP PKPdf 21 13 43.6 -0.1
comp=Z,0.6nm,0.8s,baz=24,slow=1.0,SNR=3.3
TORD PKPab **PKPab 21 14 18.0 -0.2**
comp=Z,1.8nm,1.1s,baz=38,slow=5.4,SNR=4.5

*IDC **11** 21:25:01.6±1.4,2°.94S×127°.55E,h0km,mb3.4/3,*
mbtmp3.5/5,ML3.4/2,Error ellipse: s-maj=33.6km
s-min=24.7km az=72.0
*DJA **11** 21:25:03.7±0.6,3°S±4°×12°7E±°,h22km±8km,M2.9/6,*
MLv2.9/6
ISC 11 21:25:02.8±0.9,2°.97S±0°.09×127°.43E±0°.06,h10km,n8,
σ1°62/10,mb3.8/3,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.42**	**231**	P	**Pg**	**21 25 12.4**	**+1.3**
SANI	**Sanana**	**1.71**	**302**	P	**Pn**	**21 25 30.6**	**-2.0**
SANI				S	**Sn**	**21 25 53.8**	**-0.8**
LBMI	**Labuha**	**2.32**	**2**	P	**Pn**	**21 25 42.5**	**+1.4**
SIJI	**Sorong**	**4.37**	**61**	Pn	**Pn**	**21 26 09.2**	**0.0**
	1.6nm,0.3s,baz=218,slow=14,SNR=7.1						
SIJI				Sn	**Sn**	**21 26 58.1**	**-2.2**
	0.9nm,0.3s,baz=14,slow=21,SNR=7.3						
	6.8nm,0.6s						
WRA	**Warramunga Arr**	**18.16**	**159**	P	**Pn**	**21 29 14.7**	**-0.6**
	0.1nm,0.3s,baz=341,slow=12,SNR=7.1						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**21.50**	**164**	P	**P**	**21 29 51.8**	**-0.2**
	0.8nm,0.7s,baz=344,slow=12,SNR=9.9						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**63.48**	**327**	P	**P**	**21 35 35.2**	**+2.1**
	0.7nm,0.8s,baz=116,slow=6.6,SNR=1.7						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**67.76**	**329**	P	**P**	**21 35 59.9**	**-0.7**
	0.3nm,0.5s,baz=134,slow=5.3,SNR=1.7						
	0.3nm,0.5s						

*IDC **11** 21:33:28.8±0.6,48°.87S×121°.47E,h0km,mb4.4/9,*
mbtmp4.4/9,MS4.0/8,Error ellipse: s-maj=39.9km
s-min=14.3km az=101.0
*NEIC **11** 21:33:29.8±1.7,48°.99S±0°.05×121°.7E±0°.3,h10km±1km,*
mb4.4/12,Error ellipse: s-maj=36.4km s-min=5.4km
az=101.0
ISC 11 21:33:29.8±0.5,48°.94S±0°.07×121°.7E±0°.2,h13km,n52,
σ1°12/43,mb4.4/13,MS4.0/7,4C,Western
Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.10**	**336**	T	T	21 52 20.3	
	baz=159,slow=74,SNR=104						
H01W2	**Cape Leeuwin H**	**15.10**	**336**	T	T	21 52 28.0	
	baz=159,slow=74,SNR=124						
H01W3	**Cape Leeuwin H**	**15.11**	**336**	T	T	21 52 21.1	
	baz=159,slow=74,SNR=89						
NWAO	**Narrogin (SRO)**	**16.34**	**347**	Pn	**Pn**	**21 37 18.3**	**-0.5**
NWAO				IAmb	IAmb	21 37 24.1	
	comp=Z,33nm,1.1s						
NWAO	**Narrogin (SRO)**	**16.34**	**347**	Pn	**P**	**21 37 21.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=155,slow=11,SNR=9.3						
NWAO				LR	LR	21 41 59.9	
	comp=Z,571nm,21.0s,baz=229,slow=32						
CASY	**Casey**	**18.33**	**194**		**Pn**	**21 37 40.7**	**-2.7**
ASAR	**Alice Springs**	**27.00**	**25**	P	**P**	**21 39 12.1**	**+0.6**
ASAR	**Alice Springs**	**27.00**	**25**	P	**P**	**21 39 12.9**	**+1.5**
	comp=Z,8.4nm,1.0s,baz=191,slow=9.0,SNR=26						
ASAR				PcP	**PcP**	**21 42 34.0**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=189,slow=2.4,SNR=3.1						
ASAR				LR	LR	21 48 40.9	
	comp=Z,430nm,21.3s,baz=189,slow=34						
	comp=Z,8.4nm,1.0s						
AS31	**Alice Springs**	**27.01**	**25**	P	**P**	**21 39 12.4**	**+0.9**
WRA	**Warramunga Arr**	**30.66**	**24**	P	**P**	**21 39 42.9**	**-1.1**
WRA	**Warramunga Arr**	**30.66**	**24**	P	**P**	**21 39 45.1**	**+1.1**
	comp=Z,5.9nm,1.1s,baz=198,slow=9.4,SNR=14						
WRA				PcP	**PcP**	**21 42 42.7**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=218,slow=2.6,SNR=3.8						
	comp=Z,5.9nm,1.1s						
WB2	**Warramunga Arr**	**30.67**	**24**	P	**P**	**21 39 43.4**	**-0.6**
WB2				IAmb	IAmb	21 39 47.5	
	comp=Z,5.5nm,1.0s						
VNDA	**Vanda**	**32.50**	**165**	P	**P**	**21 40 01.3**	**+1.7**
	baz=328,slow=10						
VNDA				LR	LR	21 51 56.0	
	comp=Z,198nm,20.0s,baz=340,slow=34						
SBA	**Scott Base**	**33.55**	**164**	P	**P**	**21 40 08.1**	**-0.7**
SBA				IAmb	IAmb	21 40 36.1	
	comp=Z,4.0nm,1.1s						
MAW	**Mawson**	**34.38**	**215**	P	**P**	**21 40 16.2**	**+0.1**
MAW				IAmb	IAmb	21 40 24.9	
	comp=Z,2.6nm,1.1s						
MAW	**Mawson**	**34.38**	**215**	P	**P**	**21 40 16.9**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=77,slow=11,SNR=8.6						
MAW				LR	LR	21 52 52.4	
	comp=Z,80nm,18.3s,baz=72,slow=34						
	comp=Z,4.7nm,0.9s						
BATI	**Baumata**	**38.64**	**3**	P	**P**	**21 40 53.7**	**+0.8**
	comp=Z,7.9nm,0.4s,baz=117,slow=2.3,SNR=1.8						
	comp=Z,7.9nm,0.4s						
QSPA	**South Pole Qui**	**41.19**	**180**	P	**P**	**21 41 13.9**	**+0.1**
QSPA	**South Pole Qui**	**41.19**	**180**	P	**P**	**21 41 15.9**	**+2.1**
	comp=Z,6.1nm,0.7s,baz=307,slow=1.4,SNR=42						
QSPA				LR	LR	21 57 30.4	
	comp=Z,203nm,19.8s,baz=352,slow=35						
	comp=Z,6.1nm,0.7s						
KAPI	**Kappang**	**43.80**	**357**	P	**P**	**21 41 36.5**	**+1.3**
	comp=Z,3.8nm,0.3s,baz=220,slow=10,SNR=3.6						
	comp=Z,3.8nm,0.3s						
FAKI	**Fak Fak**	**46.73**	**15**	P	**P**	**21 41 58.7**	**+0.2**
TROLL	**Troll, Antarti**	**52.07**	**200**	⇑P	**P**	**21 42 38.8**	**-0.1**
	comp=Z,90nm,0.8s						
BELA	**Belgrano 2**	**52.62**	**186**	P	**P**	**21 42 42.9**	**+0.2**
BELA				IAmb	IAmb	21 42 51.9	
	comp=Z,8.0nm,1.1s						
SNAA	**Sanae**	**53.49**	**199**	P	**P**	**21 42 49.4**	**+0.1**
SNAA	**Sanae**	**53.49**	**199**	⇑P	**P**	**21 42 50.6**	**+1.3**
SNAA	**Sanae**	**53.49**	**199**	P	**P**	**21 42 50.3**	**+1.0**
	comp=Z,5.7nm,1.1s,baz=140,slow=9.4,SNR=11						
SNAA				LR	LR	22 04 33.3	
	comp=Z,229nm,18.4s,baz=120,slow=35						
	comp=Z,5.7nm,1.1s						
VNA3	**Neumayer Olymp**	**55.22**	**197**	⇑P	**P**	**21 43 03.2**	**+1.4**
VNA1	**Neumayer--Stat**	**55.41**	**198**	⇑P	**P**	**21 43 04.6**	**+1.5**
H08S2	**Diego Garcia H**	**58.23**	**298**	T	T	22 46 03.1	
	baz=145,slow=76,SNR=14						
H08S1	**Diego Garcia H**	**58.24**	**298**	T	T	22 46 07.8	
	baz=145,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**58.25**	**298**	T	T	22 46 09.3	
	baz=145,slow=76,SNR=13						
PMSA	**Palmer Station**	**66.54**	**177**	LR	LR	22 11 56.2	
	comp=Z,96nm,21.4s,baz=181,slow=35						
CMAR	**Chiang Mai Arr**	**70.08**	**337**	P	**P**	**21 44 41.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**70.08**	**337**	P	**P**	**21 44 41.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=180,slow=5.7,SNR=9.6						
	comp=Z,1.1nm,0.8s						
SHL	**Shillong**	**78.80**	**333**	P	**P**	**21 45 31.9**	**-0.4**
SHL				IAmb	IAmb	21 45 41.7	
	comp=Z,4.3nm,0.8s						
MJAR	**Matsushiro Arr**	**86.36**	**13**	P	**P**	**21 46 11.4**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=150,slow=5.6,SNR=2.5						
	comp=Z,0.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**93.19**	**7**	LR	LR	22 35 10.6	
	comp=Z,50nm,18.3s,baz=153,slow=40						
H10S2	**ASCENSION HYDR**	**110.78**	**227**	T	T	23 53 03.4	
	baz=155						
H10S3	**ASCENSION HYDR**	**110.80**	**227**	T	T	23 53 08.7	
	baz=65						
TORD	**Torodi Ar. Bea**	**119.40**	**256**	PKP	**PKPdf**	**21 52 19.0**	**-0.1**
	comp=Z,0.8nm,1.0s,baz=179,slow=2.9,SNR=3.0						
ILAR	**Eielson Array**	**133.34**	**36**	PKP	**PKiKP**	**21 52 45.0**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=242,slow=1.9,SNR=2.5						
NVAR	**Mina Array Bea**	**136.42**	**81**	PKP	**PKPdf**	**21 52 50.5**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=245,slow=3.9,SNR=1.7						
TXAR	**Lajitas Array**	**140.45**	**103**	PKPdf	**PKPdf**	**21 52 55.3**	**-3.3**
TXAR	**Lajitas Array**	**140.45**	**103**	PKiKP	PKPpre	21 52 54.2	
	comp=Z,0.4nm,0.8s,baz=190,slow=4.6,SNR=3.5						
IMW	**Indian Meadow**	**143.98**	**78**	PKPdf	**PKPdf**	**21 53 04.4**	**-0.3**
ELMT	**Elliston**	**144.13**	**73**	PKPdf	**PKPdf**	**21 53 04.6**	**-0.1**
PDAR	**Pinedale Array**	**144.36**	**80**	PKP	**PKPdf**	**21 53 04.8**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=180,slow=3.0,SNR=7.3						
DKNS	**Dickens**	**145.05**	**100**	PKPbc	**PKPbc**	**21 53 05.4**	**-0.6**
APMT	**Aspermont**	**145.35**	**101**		**PKPbc**	**21 53 06.1**	**-0.8**
N23A	**Red Feather La**	**145.81**	**85**	PKPdf	**PKPdf**	**21 53 06.0**	**-1.9**
EKA	**Eskdalemuir Ar**	**146.33**	**302**	PKPbc	**PKPab**	**21 53 09.7**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=52,slow=4.6,SNR=2.5						
YKA	**Yellowknife Ar**	**146.70**	**45**	PKPbc	**PKPbc**	**21 53 10.2**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=281,slow=1.9,SNR=9.1						

*IDC **11** 21:41:38.2±1.5,0°.05S×123°.43E,h109km±14km,mb3.9/18,*
mbtmp4.3/22,MS2.6/2,Error ellipse: s-maj=14.5km

s-min=10.6km az=84.0
NEIC ***11*** *21:41:38.4±2.2, 0°.08S±0°.06×123°.43E±0°.06, h99km±7km, mb4.5/37, Error ellipse: s-maj=9.4km s-min=9.1km az=109.0*
DJA ***11*** *21:41:39.4±0.3, 0°.S±4°×12°.3E±°, h67km±16km, M4.6/14, mb4.8/4, mB4.8/3, MLv4.5/14, Mw(mB)4.0/3*
ISC 11 21:41:38.4±0.7, 0.08S±0.04×123.47E±0.05, h107km±6km, n104, σ1§14/115, mb4.3/35, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.84**	**327**	P		**P**	**Pn**	**21 41 58.1**	**+0.3**
GTOI				S			**Sn**	**21 42 12.5**	**+0.1**
LUWI	**Luwuk**	**1.19**	**216**				**Pn**	**21 42 00.5**	**-0.9**
LUWI				Sn			**Sn**	**21 42 16.4**	**-2.4**
LUWI	**Luwuk**	**1.19**	**216**	P			**Pn**	**21 42 00.5**	**-0.9**
LUWI	**Luwuk**	**1.19**	**216**	P			**Pn**	**21 42 00.1**	**-1.3**
MRSI	**Marisa**	**1.62**	**290**	P			**Pn**	**21 42 04.5**	**-2.0**
TOLI2	**Tolitoli**	**2.93**	**294**				**Pn**	**21 42 22.2**	**-1.3**
TOLI2	**Tolitoli**	**2.93**	**294**	P			**Pn**	**21 42 23.1**	**-0.4**
SANI	**Sanana**	**3.19**	**128**	P			**Pn**	**21 42 25.4**	**-1.6**
MPSI	**Mapaga**	**3.59**	**277**	P			**Pn**	**21 42 33.4**	**+1.1**
TNTI	**Ternate**	**3.99**	**78**				**Pn**	**21 42 37.3**	**-0.3**
TNTI	**Ternate**	**3.99**	**78**	P			**Pn**	**21 42 38.6**	**+1.0**
LBMI	**Labuha**	**4.07**	**98**	P			**Pn**	**21 42 40.0**	**+1.3**
TTSI	**Tana Toraja**	**4.69**	**231**	P			**Pn**	**21 42 46.7**	**-0.4**
NLAI	**Namlea**	**4.80**	**131**	P			**Pn**	**21 42 49.9**	**+1.3**
KAPI	**Kappang**	**6.15**	**217**				**Pn**	**21 43 06.0**	**-0.9**
KAPI	**Kappang**	**6.15**	**217**	P			**Pn**	**21 43 07.2**	**+0.3**
KAPI	**Kappang**	**6.15**	**217**	P			**Pn**	**21 43 07.5**	**+0.6**
	54nm,0.4s,baz=1.0,slow=4.9,SNR=22								
KAPI				S			**Sn**	**21 44 12.9**	**-3.0**
	13nm,0.4s,baz=230,slow=23,SNR=1.0								
KAPI				LR			LR	21 45 57.0	
	comp=Z,89nm,21.2s,baz=86,slow=42								
BKSI	**Bulukumba**	**6.19**	**213**	P			**Pn**	**21 43 07.9**	**+0.5**
	66nm,0.7s,866nm0.2nm								
DAV	**Davao City (W)**	**7.40**	**16**	P			**Pn**	**21 43 24.7**	**+0.8**
	87nm,0.5s,baz=270,slow=19,SNR=1.3								
DAV				S			**Sn**	**21 44 41.6**	**-4.8**
	93nm,0.5s,baz=174,slow=20,SNR=1.3								
DAV				LR			LR	21 46 38.3	
	comp=Z,23nm,18.4s,baz=256,slow=41								
SIJI	**Sorong**	**7.84**	**96**	P			**Pn**	**21 43 30.8**	**+0.9**
	6.0nm,0.3s,baz=260,slow=14,SNR=9.7								
SIJI				S			**Sn**	**21 44 55.8**	**-1.2**
	3.3nm,0.5s,baz=282,slow=22,SNR=1.3								
FAKI	**Fak Fak**	**9.22**	**108**	Pn			**Pn**	**21 43 48.3**	**-0.3**
SOEI	**Soe**	**9.65**	**175**	P			Pn	21 43 46.4	-8.1
BATI	**Baumata**	**10.07**	**179**	P			**Pn**	**21 44 00.9**	**+0.8**
	7.8nm,0.3s,baz=324,slow=6.1,SNR=1.2								
KNRA	**Kununurra**	**16.36**	**162**				**P**	**21 45 23.4**	**+0.5**
BBJI	**Bungbulang**	**17.40**	**245**	P			**Pn**	**21 45 37.1**	**+2.4**
XMIS	**Christmas Isla**	**20.51**	**239**	P			**P**	**21 46 08.8**	**+0.6**
PSA00	**Pilbara Seismi**	**21.66**	**189**	P			**P**	**21 46 19.2**	**-1.3**
WB0	**Warramunga Arr**	**22.31**	**152**	P			**P**	**21 46 26.7**	**-0.6**
WRAB	**Tennant Creek**	**22.43**	**152**	P			**P**	**21 46 28.6**	**0.0**
WRA	**Warramunga Arr**	**22.43**	**152**	P			**P**	**21 46 27.5**	**-1.1**
WRA	**Warramunga Arr**	**22.43**	**152**	P			**P**	**21 46 28.1**	**-0.5**
	3.6nm,0.6s,baz=336,slow=9.9,SNR=48								
WRA				PcP			**PcP**	**21 50 19.6**	**0.0**
	0.2nm,0.5s,baz=336,slow=2.2,SNR=1.6								
WRA				ScP			**ScP**	**21 53 46.0**	**-1.6**
	0.3nm,0.7s,baz=342,slow=2.6,SNR=2.1								
	3.6nm,0.6s								
QIZ	**Qiongzhong**	**23.22**	**326**	P			**P**	**21 46 37.5**	**+1.1**
QIZ				IAmb			IAmb	21 47 03.5	
	comp=Z,35nm,1.3s								
TPUB	**Ta-pu**	**23.40**	**353**	P			**P**	**21 46 38.1**	**+0.2**
TPUB				IAmb			IAmb	21 46 59.8	
	comp=Z,49nm,1.4s								
SSLB	**Suanglung**	**23.84**	**354**	P			**P**	**21 46 42.3**	**+0.3**
SSLB				IAmb			IAmb	21 47 00.5	
	comp=Z,54nm,1.4s								
COEN	**Coen**	**23.89**	**126**	P			**P**	**21 46 42.5**	**0.0**
COEN				IAmb			IAmb	21 46 45.8	
	comp=Z,20nm,1.2s								
WRKA	**Warakurna**	**25.25**	**170**	P			**P**	**21 46 55.4**	**+0.6**
AS31	**Alice Springs**	**25.55**	**157**	P			**P**	**21 46 58.3**	**+0.9**
ASAR	**Alice Springs**	**25.55**	**157**	P			**P**	**21 46 57.9**	**+0.4**
ASAR	**Alice Springs**	**25.55**	**157**	P			**P**	**21 46 58.4**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=339,slow=9.0,SNR=17								
ASAR				PcP			**PcP**	**21 50 26.1**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=351,slow=2.7,SNR=7.0								
	comp=Z,1.6nm,0.7s								
QIS	**Mount Isa**	**25.76**	**143**	P			**P**	**21 47 00.9**	**+1.5**
MORW	**Morawa**	**29.69**	**193**	P			**P**	**21 47 34.0**	**-0.4**
MORW				IAmb			IAmb	21 47 51.5	
	comp=Z,30nm,1.4s								
CRAI	**Chiangrai**	**30.30**	**313**	P			**P**	**21 47 40.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.33**	**309**	P			**P**	**21 47 41.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.33**	**309**	P			**P**	**21 47 40.7**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=132,slow=7.0,SNR=21								
CMAR				PcP			**PcP**	**21 50 38.2**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=158,slow=1.8,SNR=7.2								
	comp=Z,2.2nm,0.6s								
CHTO	**Chiang Mai**	**30.53**	**309**	P			**P**	**21 47 42.5**	**+0.6**
CHTO				IAmb			IAmb	21 47 46.0	
	comp=Z,6.2nm,0.7s								
FORT	**Forrest**	**30.85**	**172**	P			**P**	**21 47 44.4**	**-0.1**
FORT	**Forrest**	**30.85**	**172**	P			**P**	**21 47 45.2**	**+0.7**
BLDU	**Ballidu**	**31.04**	**191**	P			**P**	**21 47 46.1**	**-0.2**
MULG	**Mulgathing**	**31.69**	**162**	P			**P**	**21 47 52.3**	**+0.4**
KLBR	**Kellerberrin**	**31.81**	**189**	P			**P**	**21 47 53.1**	**+0.1**
JCJ	**Chichijima**	**32.46**	**32**	P			**P**	**21 47 58.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**33.20**	**190**	P			**P**	**21 48 04.6**	**-0.5**
NWAO	**Narrogin (SRO)**	**33.20**	**190**	P			**P**	**21 48 05.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**33.20**	**190**	P			**P**	**21 48 05.2**	**+0.1**
	comp=Z,9.1nm,1.0s,baz=347,slow=12,SNR=1.9								
	comp=Z,9.1nm,1.0s								
JMN	**Monobe**	**35.02**	**15**	P			**P**	**21 48 21.7**	**+0.8**
JMN				IAmb			IAmb	21 48 23.8	
	comp=Z,15nm,1.0s								
STKA	**Stephens Creek**	**35.98**	**153**	P			**P**	**21 48 30.3**	**+1.2**
MJAR	**Matsushiro Arr**	**38.92**	**19**	P			**P**	**21 48 53.5**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=196,slow=9.4,SNR=4.4								
	comp=Z,1.3nm,0.7s								
ARMA	**Armidale**	**40.34**	**141**	P			**P**	**21 49 06.6**	**+0.7**
TAPN	**Taplejung**	**43.84**	**311**	*eP*			**P**	**21 49 35.7**	**+1.1**
	comp=Z,19nm,0.6s								
RAMN	**Ramite**	**44.48**	**310**	*eP*			**P**	**21 49 41.4**	**+1.8**
	comp=Z,31nm,0.6s								
USRK	**Ussuriysk Ar.**	**44.73**	**9**	P			**P**	**21 49 39.9**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=197,slow=5.6,SNR=4.2								
	comp=Z,1.2nm,0.4s								
GTA	**Gaotai**	**44.86**	**334**	*eP*			**P**	**21 49 44.7**	**+2.4**
GTA				pmax			pmax		
	comp=Z,6.0nm,0.8s								
JIRN	**Jiri**	**45.15**	**311**	*eP*			**P**	**21 49 46.1**	**+1.0**
	comp=Z,14nm,0.3s								
GUN	**Gumba**	**45.52**	**311**	*eP*			**P**	**21 49 48.9**	**+0.9**
	comp=Z,28nm,0.5s								
PKI	**Pulchoki**	**45.70**	**310**	*eP*			**P**	**21 49 50.3**	**+0.9**
	comp=Z,3.6nm,0.3s								
PKIN	**Phulchoki**	**45.72**	**310**	*eP*			**P**	**21 49 50.3**	**+0.9**
	comp=Z,6.0nm,0.3s								
GKN	**Gorkha**	**46.51**	**310**	*eP*			**P**	**21 49 56.2**	**+0.7**
	comp=Z,20nm,0.7s								
JKA	**Kamikawa-asahi**	**47.19**	**19**	P			**P**	**21 50 01.4**	**+1.1**
KOLN	**Koldanda**	**47.19**	**309**	*eP*			**P**	**21 50 02.0**	**+1.1**
	comp=Z,33nm,0.6s								
DANN	**Dangsing**	**47.35**	**310**	*eP*			**P**	**21 50 02.9**	**+0.6**
	comp=Z,50nm,0.7s								
PYUN	**Piuthan**	**47.83**	**309**	*eP*			**P**	**21 50 06.8**	**+1.0**
	comp=Z,49nm,0.6s								
ULN	**Ulaanbaatar**	**49.84**	**346**	P			**P**	**21 50 21.9**	**+1.1**
ULN				IAmb			IAmb	21 50 22.8	
	comp=Z,2.6nm,0.9s								
SONM	**Songino Array**	**49.98**	**345**	P			**P**	**21 50 22.8**	**+1.0**
SONM				PcP			**PcP**	**21 51 39.8**	**-0.6**
SONM	**Songino Array**	**49.98**	**345**	P			**P**	**21 50 21.9**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=161,slow=8.9,SNR=15								
SONM				PcP			**PcP**	**21 51 39.5**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=166,slow=4.7,SNR=4.7								
	comp=Z,1.7nm,0.5s								
MK31	**Makanchi Array**	**58.92**	**328**	P			**P**	**21 51 26.1**	**-0.3**
MK31				IAmb			IAmb	21 51 35.1	
	comp=Z,3.2nm,1.1s								
MKAR	**Makanchi Array**	**58.92**	**328**	P			**P**	**21 51 25.9**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=122,slow=8.6,SNR=18								
MKAR				PcP			**PcP**	**21 52 13.8**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=147,slow=2.3,SNR=5.6								
	comp=Z,1.0nm,0.5s								
PETK	**Petropavlovsk-**	**60.17**	**23**	P			**P**	**21 51 35.9**	**+1.1**
PETK	**Petropavlovsk-**	**60.17**	**23**	P			**P**	**21 51 35.0**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=197,slow=2.0,SNR=6.0								
	comp=Z,1.4nm,0.5s								
KBL	**Kabul**	**61.34**	**310**	P			**P**	**21 51 42.6**	**-0.8**
KBL				IAmb			IAmb	21 51 45.6	
	comp=Z,4.4nm,0.7s								
BKZ	**Black Stump Fm**	**62.07**	**135**	P			**P**	**21 51 49.1**	**+1.1**
RTZ	**Ruatahuna**	**62.18**	**135**	P			**P**	**21 51 49.5**	**+0.7**
ZALV	**Zalesovo Beam**	**62.57**	**335**	P			**P**	**21 51 50.3**	**-0.7**
ZALV	**Zalesovo Beam**	**62.57**	**335**	P			**P**	**21 51 49.5**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=130,slow=4.6,SNR=7.0								
	comp=Z,1.1nm,0.3s								
KURBB	**Kurchatov Arra**	**63.26**	**330**	P			**P**	**21 51 54.7**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=133,slow=6.6,SNR=13								
	comp=Z,1.2nm,0.5s								
KURK	**Kurchatov**	**63.27**	**330**	P			**P**	**21 51 55.2**	**-0.5**
KURK				IAmb			IAmb	21 51 56.4	
	comp=Z,2.6nm,0.7s								
CASY	**Casey**	**66.70**	**186**	P			**P**	**21 52 17.8**	**+0.2**
CASY				IAmb			IAmb	21 52 20.3	
	comp=Z,6.1nm,1.3s								
BVAR	**Borovoye Array**	**68.79**	**329**	P			**P**	**21 52 29.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=3.8								
	comp=Z,0.3nm,0.3s								
ABKAR	**Akbulak array**	**73.07**	**322**	P			**P**	**21 52 55.8**	**-1.2**
K15K	**Wolf Creek Mou**	**83.12**	**27**	P			**P**	**21 53 54.0**	**+1.8**
D17K	**Noatak River**	**83.83**	**22**	P			**P**	**21 53 57.4**	**+1.7**
D17K				IAmb			IAmb	21 53 58.3	
	comp=Z,8.2nm,0.8s								
L16K	**Owhat River**	**83.94**	**28**	P			**P**	**21 53 57.8**	**+1.4**
L16K				IAmb			IAmb	21 53 58.7	
	comp=Z,5.7nm,0.8s								
IMAR	**Indian Mountai**	**87.12**	**24**	P			**P**	**21 54 12.6**	**+0.5**
SUA	**Susitna One**	**88.04**	**29**	P			**P**	**21 54 16.2**	**-0.5**
SUA				IAmb			IAmb	21 54 45.0	
	comp=Z,7.1nm,1.1s								
BPAW	**Bear Paw Mtn.**	**88.11**	**26**	P			**P**	**21 54 16.9**	**+0.1**
BPAW				IAmb			IAmb	21 54 39.7	
	comp=Z,4.3nm,1.3s								
MLY	**Manley**	**88.28**	**25**	P			**P**	**21 54 17.6**	**-0.1**
MMAI	**Mount Meron Ar**	**88.41**	**303**	P			**P**	**21 54 18.4**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=96,slow=6.8,SNR=3.7								
	comp=Z,1.0nm,0.5s								
QSPA	**South Pole Qui**	**89.86**	**180**	P			**P**	**21 54 25.6**	**+0.5**
QSPA				IAmb			IAmb	21 54 46.5	
	comp=Z,5.2nm,1.5s								
QSPA	**South Pole Qui**	**89.86**	**180**	P			**P**	**21 54 25.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=55,slow=0.5,SNR=10.0								
	comp=Z,0.7nm,0.7s								
ILAR	**Eielson Array**	**89.92**	**25**	P			**P**	**21 54 23.8**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=248,slow=5.5,SNR=7.6								
	comp=Z,0.4nm,0.6s								
ARCES	**ARCESS Array B**	**92.86**	**340**	P			**P**	**21 54 37.0**	**-1.9**
	comp=Z,4.5nm,1.1s,baz=80,slow=5.6,SNR=1.5								
	comp=Z,4.5nm,1.1s								
SPITS	**Spitsbergen Ar**	**93.55**	**349**	P			**P**	**21 54 39.5**	**-2.4**
	comp=Z,3.3nm,0.7s,baz=96,slow=7.7,SNR=5.8								
	comp=Z,3.3nm,0.7s								
FINES	**FINESS Array B**	**93.61**	**331**	P			**P**	**21 54 40.6**	**-1.8**
	comp=Z,3.6nm,1.0s,baz=142,slow=14,SNR=2.5								
	comp=Z,3.6nm,1.0s								
TORD	**Torodi Ar. Bea**	**120.88**	**285**	PKP			**PKPdf**	**22 00 18.4**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=60,slow=2.7,SNR=12								
TXAR	**Lajitas Array**	**126.49**	**53**	PKP			**PKPdf**	**22 00 28.9**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=208,slow=3.7,SNR=2.3								

BJI ***11*** *21:56:50.7±0.0, 5°.79S×146°.54E, h58km, mb5.1/74, mB5.1/41, Ms4.7/36, Ms7 4.4/39*
MOS ***11*** *21:56:52.7±0.7, 5°.64S×146°.07E, h50km, mb5.2/45, Error ellipse: s-maj=9.1km s-min=5.4km az=116.7*
NEIC ***11*** *21:56:54.8±1.6, 5°.65S±0°.04×146°.12E±0°.07, h51km±4km, mb5.1/105, Error ellipse: s-maj=10.2km s-min=4.6km az=69.0*
IDC ***11*** *21:56:55.6±1.3, 5°.72S×146°.18E, h66km±12km, mb4.6/20, mbtmp5.0/26, MS4.3/32, Error ellipse: s-maj=10.5km s-min=7.5km az=101.0*
GCMT ***11*** *21:56:56.8±0.2, 5°.67S±0°.01×146°.16E±0°.01, h44km, MW5.2/103, Moment Tensor Solution. s103,c135; s91,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr6.48±.15; Mθθ-4.81±.11; Mφφ-1.68±.13; Mrθ-0.36±.11; Mθφ3.39±.09; Mφr-0.65±.13; Best double couple: M=6.77500×10^16 NP1:φs130.00000°, δ46.00000°, λ100.00000°. NP2:φs296.00000°, δ45.00000°, λ80.00000°. Principal axes: T 6.5720, Plg83.0000°, Azm121.0000°; N 0.3970, Plg7.0000°, Azm303.0000°; P -6.9790, Plg0.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***11*** *21:56:56.2±0.3, 6°.S±2°×14°.6E±°, h62km±3km, M5.1/52, mB5.5/30, mb5.3/52, MLv5.4/5, Mw(mB)5.0/30, MwMwp4.9/3, Mwp5.2/3*
ISC 11 21:56:54.4±0.3, 5.70S±0.03×146.12E±0.03, h52km±2km, h52km:pP-P, n695, σ1§31/724, mb5.1/139, MS4.3/46, 25C-11D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.82**	**164**	Pn			**Pn**	**21 57 51.7**	**+0.9**
PMG	**Port Moresby**	**3.82**	**164**	P			**Pn**	**21 57 52.2**	**+1.4**
PMG	**Port Moresby**	**3.82**	**164**	*dP*			**Pn**	**21 57 51.8**	**+1.0**
PMG	**Port Moresby**	**3.82**	**164**	P			**Pn**	**21 57 52.0**	**+1.2**
	683nm,1.0s,baz=1.5,slow=6.1,SNR=48								
PMG				S			**Sn**	**21 58 35.4**	**+0.9**
	711nm,0.6s,baz=124,slow=24,SNR=9.3								
MANU	**Manus Island**	**3.84**	**19**	Pn			**Pn**	**21 57 51.2**	**+0.1**
KRVT	**Keravat (AS076**	**6.05**	**77**	P			**Pn**	**21 58 21.4**	**+0.1**
	65nm,0.5s,baz=108,slow=19,SNR=8.7								
KRVT				S			**Sn**	**21 59 28.8**	**-0.6**
	145nm,0.7s,baz=288,slow=0.1,SNR=3.6								
RABL	**Rabaul**	**6.21**	**76**	Pn			**Pn**	**21 58 23.5**	**0.0**
RABL	**Rabaul**	**6.21**	**76**	P			**Pn**	**21 58 28.1**	**+4.5**
JAY	**Jayapura**	**6.26**	**300**	P			**Pn**	**21 58 27.1**	**+2.8**
	99nm,0.9s,2μm1.1nm								
JAY	**Jayapura**	**6.26**	**300**	P			**Pn**	**21 58 27.8**	**+3.5**
	122nm,1.0s,baz=35,slow=3.0,SNR=18								
JAY				S			**Sn**	**21 59 37.4**	**+2.9**
	45nm,0.8s,baz=119,slow=21,SNR=0.7								
GENI	**Genyem**	**6.69**	**297**	P			**Pn**	**21 58 32.3**	**+2.2**
GENI	**Genyem**	**6.69**	**297**	P			Pn	21 58 35.2	+5.1
	358nm,0.8s,5μm5μm5.9nm								
SMPI	**Sarmi**	**8.26**	**296**	P			**Pn**	**21 58 53.6**	**+1.9**
	184nm,1.3s,6μm								
COEN	**Coen**	**8.70**	**199**	P			**Pn**	**21 58 59.5**	**+1.8**
	baz=8.6								
COEN	**Coen**	**8.70**	**199**	Pn			**Pn**	**21 58 58.8**	**+1.1**
COEN	**Coen**	**8.70**	**199**	P			**Pn**	**21 58 59.6**	**+1.9**
MTSU	**Mount Surprise**	**12.48**	**188**	P			**Pn**	**21 59 51.7**	**+2.3**
	baz=12,SNR=24								
MTSU	**Mount Surprise**	**12.48**	**188**	P			**Pn**	**21 59 51.2**	**+1.8**
RKPI	**Ransiki, Papua**	**12.62**	**289**	P			**Pn**	**21 59 53.7**	**+2.4**
	117nm,1.1s								
TV1H	**Townsville Har**	**13.49**	**177**	P			**Pn**	**22 00 05.5**	**+2.3**
FAKI	**Fak Fak**	**14.10**	**281**	Pn			**Pn**	**22 00 12.5**	**+1.0**
FAKI	**Fak Fak**	**14.10**	**281**	P			**Pn**	**22 00 13.0**	**+1.5**
FAKI	**Fak Fak**	**14.10**	**281**	P			**Pn**	**22 00 13.2**	**+1.7**
	48nm,1.0s								
HNR	**Honiara**	**14.20**	**106**	Pn			**Pn**	**22 00 13.8**	**+1.0**
HNR	**Honiara**	**14.20**	**106**	P			**Pn**	**22 00 12.4**	**-0.5**
	799nm,0.3s,baz=252,slow=9.1,SNR=1.7								
HNR				S			**Sn**	**22 02 48.8**	**-0.1**
	774nm,0.3s,baz=316,slow=3.9,SNR=1.4								
CTA	**Charters Tower**	**14.30**	**179**	P			**Pn**	**22 00 17.1**	**+3.0**
CTA	**Charters Tower**	**14.30**	**179**	P			**Pn**	**22 00 16.1**	**+2.0**
	52nm,1.0s,baz=355,slow=13,SNR=22								
CTA				LR			LR	22 05 54.4	
	comp=Z,2μm,19.0s,baz=4.5,slow=38								
CTAO	**Charters Tower**	**14.30**	**179**	Pn			**Pn**	**22 00 14.9**	**+0.8**
CTAO	**Charters Tower**	**14.30**	**179**	P			**Pn**	**22 00 17.1**	**+3.0**
CTAO	**Charters Tower**	**14.30**	**179**	P			**Pn**	**22 00 15.0**	**+0.8**
KDU	**Kakadu**	**15.14**	**242**	P			**Pn**	**22 00 25.6**	**+0.5**
	baz=15,SNR=5.2								
KDU				S			**Sn**	**22 03 06.8**	**-5.1**
	baz=15,SNR=3.1								
KDU	**Kakadu**	**15.14**	**242**	P			**Pn**	**22 00 25.2**	**0.0**
SIJI	**Sorong**	**15.58**	**287**	P			**Pn**	**22 00 31.5**	**+0.7**
	118nm,0.8s,baz=77,slow=9.4,SNR=19								
SIJI				S			**S**	**22 03 31.8**	**-3.8**
	2.8nm,0.4s,baz=218,slow=19,SNR=0.9								
SIJI				LR			LR	22 07 57.3	
	comp=Z,2μm,20.6s,baz=120,slow=42								
SWI	**Sorong**	**15.59**	**287**	P			**Pn**	**22 00 31.3**	**+0.4**
	230nm,0.8s,2μm								
QIS	**Mount Isa**	**16.06**	**203**	P			**Pn**	**22 00 37.0**	**+0.1**
	baz=16,SNR=24								
QIS	**Mount Isa**	**16.06**	**203**	P			**Pn**	**22 00 37.5**	**+0.5**
MTN	**Manton Dam**	**16.39**	**243**	P			**Pn**	**22 00 40.8**	**-0.3**
	baz=16,SNR=7.9								
MTN				S			**Sn**	**22 03 33.9**	**-8.4**
	baz=16,SNR=4.0								
MTN	**Manton Dam**	**16.39**	**243**	Pn			**Pn**	**22 00 40.9**	**-0.3**
MTN	**Manton Dam**	**16.39**	**243**	P			**Pn**	**22 00 41.1**	**-0.1**
WB0	**Warramunga Arr**	**18.04**	**218**				**P**	**22 01 01.7**	**+0.2**
WB0				IAmb			IAmb	22 01 03.8	
	comp=Z,149nm,1.2s								
RK1H	**Rockhampton Ha**	**18.08**	**167**	P			**Pn**	**22 01 04.9**	**+3.0**
WRAB	**Tennant Creek**	**18.19**	**218**	P			**P**	**22 01 03.0**	**-0.1**
WRAB	**Tennant Creek**	**18.19**	**218**	*dP*			**P**	**22 01 03.4**	**+0.3**
WRAB				pmax			pmax		
	comp=Z,80nm,0.8s								
WRA	**Warramunga Arr**	**18.21**	**218**	P			**P**	**22 01 02.7**	**-0.6**
WRA	**Warramunga Arr**	**18.21**	**218**	P			**P**	**22 01 03.1**	**-0.1**
	comp=Z,56nm,0.9s,baz=42,slow=12,SNR=200								
WRA				S			**Sn**	**22 04 27.9**	**+1.8**
	comp=Z,6.4nm,0.9s,baz=42,slow=23,SNR=8.4								
WRA				PcP			**PcP**	**22 05 34.5**	**0.0**
	comp=Z,10nm,0.9s,baz=43,slow=1.8,SNR=6.0								
WRA				LR			LR	22 09 02.4	
	comp=Z,3μm,18.7s,baz=31,slow=40								
NLAI	**Namlea**	**19.11**	**277**	P			**P**	**22 01 14.4**	**+1.2**
	comp=Z,52nm,0.8s,comp=Z,3μm								
GUMO	**Guam**	**19.21**	**356**	LR			LR	22 08 33.4	
	comp=Z,782nm,18.1s,baz=164,slow=36								
LBMI	**Labuha**	**19.25**	**284**	P			**Pn**	**22 01 17.3**	**+1.2**
	comp=Z,271nm,1.4s,comp=Z,3μm								
KNRA	**Kununurra**	**19.70**	**238**	P			**P**	**22 01 18.8**	**-0.8**
	baz=20,SNR=21								
KNRA				S			**S**	**22 04 54.2**	**-5.0**
	baz=20,SNR=4.2								
KNRA	**Kununurra**	**19.70**	**238**	P			**P**	**22 01 19.2**	**-0.5**
KNRA				IAmb			IAmb	22 01 23.0	
	comp=Z,119nm,1.2s								
KNRA	**Kununurra**	**19.70**	**238**	P			**P**	**22 01 19.3**	**-0.4**
TNTI	**Ternate**	**19.80**	**288**	P			**P**	**22 01 20.8**	**+0.1**
TNTI	**Ternate**	**19.80**	**288**	P			**Pn**	**22 01 23.4**	**+0.8**
EIDS	**Eidsvold**	**20.12**	**167**	P			**P**	**22 01 25.8**	**+1.7**
	baz=20,SNR=7.9								
EIDS	**Eidsvold**	**20.12**	**167**	P			**P**	**22 01 25.2**	**+1.0**
EIDS	**Eidsvold**	**20.12**	**167**	P			**P**	**22 01 25.9**	**+1.7**
SANI	**Sanana**	**20.41**	**279**	P			**P**	**22 01 29.3**	**+2.0**
SANI	**Sanana**	**20.41**	**279**	P			**P**	**22 01 29.2**	**+2.0**
	comp=Z,106nm,0.9s,comp=Z,1μm								
RMQ	**Roma**	**20.82**	**173**	P			**P**	**22 01 33.5**	**+1.8**
	baz=21,

H11S2	**WAKE ISLAND Hy**	**31.47**	**40**	T	T	22 36 20.6
	baz=221,slow=74,SNR=22					
H11S1	**WAKE ISLAND Hy**	**31.48**	**40**	T	T	22 36 20.5
	baz=221,slow=74,SNR=25					
TOO	**Toolangi**	**31.73 181**		P	**P**	**22 03 14.1 +0.7**
TOO				IAmb	IAmb	22 03 21.1
	comp=Z,50nm,1.3s					
TOO	**Toolangi**	**31.73 181**		P	**P**	**22 03 14.5 +1.1**
TOO	**Toolangi**	**31.73 181**		P	**P**	**22 03 14.1 +0.7**
TOO				pmax	pmax	
	comp=Z,50nm,1.3s					
BRAT	**Ballarat**	**31.76 183**		P	**P**	**22 03 15.0 +1.4**
TGY	**Tagaytay City**	**31.80 308**		LR	LR	22 17 34.4
	comp=Z,240nm,18.5s,baz=143,slow=39					
JAGI	**Jajag, Banyuwa**	**31.83 263**		P	**P**	**22 03 15.3 +0.6**
JAGI				IAmb	IAmb	22 03 49.0
	comp=Z,67nm,1.3s					
JCJ	**Chichijima**	**32.83 354**		P	**P**	**22 03 22.0 -1.1**
	comp=Z,40nm,0.7s,baz=180,slow=20,SNR=1.2					
	comp=Z,40nm,0.7s					
MSVF	**Nonsavu**	**33.41 114**		P	**P**	**22 03 28.7 +0.2**
MSVF	**Nonsavu**	**33.41 114**		P	**P**	**22 03 30.8 +2.3**
MSVF	**Nonsavu**	**33.41 114**	⇑	*e*P	**P**	**22 03 28.9 +0.4**
MSVF				pmax	pmax	
	comp=Z,67nm,1.4s					
MSVF	**Nonsavu**	**33.41 114**		LR	LR	22 16 11.3
	comp=Z,209nm,20.1s,baz=219,slow=35					
MSVF	**Nonsavu**	**33.41 114**		P	**P**	**22 03 30.3 +1.8**
MEEK	**Meekatharra**	**33.48 229**		P	**P**	**22 03 29.6 +0.6**
	baz=33,SNR=12					
MEEK	**Meekatharra**	**33.48 229**		P	**P**	**22 03 29.7 +0.7**
KMBL	**Kambalda**	**34.17 219**		P	**P**	**22 03 35.7 +0.8**
	baz=34,SNR=9.0					
KMBL	**Kambalda**	**34.17 219**		P	**P**	**22 03 35.3 +0.4**
DGTI	**Dogotuki**	**34.58 110**		P	**P**	**22 03 39.9 +1.3**
STKI	**Sintang**	**35.05 278**		P	**P**	**22 03 44.7 +2.0**
	comp=Z,39nm,0.9s					
UGM	**Wanagama**	**35.40 264**		P	**P**	**22 03 46.5 +0.7**
LKBA	**Tubou, Lakemba**	**36.41 113**		P	**P**	**22 03 55.3 +1.1**
JOW	**Kunigami**	**36.67 333**		LR	LR	22 17 39.3
	comp=Z,515nm,19.3s,baz=193,slow=34					
MORW	**Morawa**	**36.72 227**		P	**P**	**22 03 57.2 +0.5**
KPJI	**Karang Pucung**	**36.97 265**		P	P	22 04 04.1 +5.0
KLBR	**Kellerberrin**	**36.99 222**		P	**P**	**22 03 59.3 +0.2**
	baz=37,SNR=5.0					
YULB	**Yu-li**	**37.73 321**		P	**P**	**22 04 05.0 -0.4**
NACB	**Ninganchiao**	**38.12 322**		P	**P**	**22 04 08.3 -0.3**
NACB	**Ninganchiao**	**38.12 322**		P	**P**	**22 04 09.5 +0.9**
NWAO	**Narrogin (SRO)**	**38.17 221**		LR	LR	22 21 04.0
	comp=Z,2µm,19.1s,baz=56,slow=38					
BBJI	**Bungbulang**	**38.24 265**		P	**P**	**22 04 11.2 +1.3**
LEM	**Lembang**	**38.28 266**		LR	LR	22 25 02.6
	comp=Z,228nm,18.2s,baz=95,slow=44					
YHNB	**Yeheng**	**38.62 322**		P	**P**	**22 04 13.7 +0.8**
TATO	**Taipei**	**38.78 323**		P	**P**	**22 04 13.3 -0.8**
TATO	**Taipei**	**38.78 323**		P	**P**	**22 04 14.8 +0.6**
TATO	**Taipei**	**38.78 323**		P	**P**	**22 04 14.7 +0.6**
QZH	**Quanzhou**	**40.56 320**	⇓	*i*P	**P**	**22 04 29.8 +0.8**
QZH				pmax	pmax	
	comp=Z,95nm,0.9s					
JMN	**Monobe**	**40.89 344**		P	**P**	**22 04 31.0 -0.6**
JMN				IAmb	IAmb	22 04 46.6
	comp=Z,50nm,1.0s					
JMN	**Monobe**	**40.89 344**		P	**P**	**22 04 31.6 0.0**
JNU	**Nakatsue**	**41.23 340**		P	**P**	**22 04 34.9 +0.5**
JNU	**Nakatsue**	**41.23 340**		P	**P**	**22 04 34.0 -0.5**
	comp=Z,13nm,1.0s,baz=169,slow=6.0,SNR=4.9					
	comp=Z,13nm,1.0s					
RAO	**Raoul Island**	**41.25 129**		LR	LR	22 19 03.0
	comp=Z,227nm,20.2s,baz=286,slow=32					
DLV	**T Lat**	**41.33 295**		P	**P**	**22 04 35.2 -0.5**
TOZ	**Tahuroa Road**	**41.61 144**		P	**P**	**22 04 38.8 +1.4**
TOZ				IAmb	IAmb	22 04 46.2
	comp=Z,78nm,1.4s					
DSRI	**Dabo**	**41.78 276**		P	**P**	**22 04 41.2 +2.0**
	comp=Z,27nm,0.8s,comp=Z,3µm					
TPRI	**Tanjung Pinang**	**42.05 278**		P	**P**	**22 04 43.2 +1.8**
	comp=Z,51nm,0.8s					
AFI	**Afiamalu**	**42.23 104**		P	**P**	**22 04 43.4 +0.5**
AFI	**Afiamalu**	**42.23 104**		P	**P**	**22 04 44.1 +1.2**
AFI	**Afiamalu**	**42.23 104**		P	**P**	**22 04 43.4 +0.5**
AFI				pmax	pmax	
	comp=Z,99nm,1.0s					
AFI	**Afiamalu**	**42.23 104**		P	**P**	**22 04 44.0 +1.1**
MJAR	**Matsushiro Arr**	**42.67 351**		P	**P**	**22 04 45.2 -0.9**
	comp=Z,10nm,1.1s,baz=177,slow=6.7,SNR=9.9					
	comp=Z,10nm,1.1s					
MAJO	**Matsushiro**	**42.67 351**		P	**P**	**22 04 45.2 -0.9**
MAJO				IAmb	IAmb	22 04 47.9
	comp=Z,43nm,1.3s					
MAJO	**Matsushiro**	**42.67 351**		P	**P**	**22 04 47.8 +1.7**
MAJO	**Matsushiro**	**42.67 351**	⇓	*e*P	**P**	**22 04 44.6 -1.5**
MAJO				pmax	pmax	
	comp=Z,42nm,1.4s					
MJB9	**Matsu-Tunnel**	**42.68 351**		P	**P**	**22 04 45.7 -0.4**
MJB9				IAmb	IAmb	22 04 48.9
	comp=Z,47nm,1.4s					
URZ	**Urewera**	**42.91 143**		LR	LR	22 22 58.5
	comp=Z,270nm,19.2s,baz=32,slow=36					
JCZ	**Jackson Bay**	**43.09 156**		P	**P**	**22 04 51.9 +2.4**
BKZ	**Black Stump Fm**	**43.16 145**		P	**P**	**22 04 50.8 +0.7**
BKZ				IAmb	IAmb	22 05 12.8
	comp=Z,41nm,1.2s					
BKZ	**Black Stump Fm**	**43.16 145**		P	**P**	**22 04 51.8 +1.7**
QIZ	**Qiongzhong**	**43.37 305**		P	**P**	**22 04 52.1 +0.1**
QIZ				S	**S**	**22 11 17.7 +1.3**
QIZ				pmax	pmax	
	comp=Z,24nm,2.0s					
QIZ				LR	LR	
	comp=Z,270nm,23.1s					
QIZ				LR	LR	
	comp=Z,360nm,19.3s					
QIZ				LR	LR	
	comp=Z,560nm,26.5s					
LTZ	**Lake Taylor**	**43.58 152**		P	**P**	**22 04 54.1 +0.7**
RPZ	**Rata Peaks**	**43.76 154**		LR	LR	22 21 09.6
	comp=Z,844nm,21.7s,baz=302,slow=33					
SDSI	**Sungai Dareh**	**44.85 274**		P	**P**	**22 05 03.7 -0.3**
	comp=Z,36nm,0.8s					
TJN	**Taejon**	**45.40 339**	⇓	*e*P	**P**	**22 05 07.0 -0.9**
BKNI	**Bangkinang**	**45.40 276**		P	**P**	**22 05 08.0 -0.4**
NJ2	**Nanjing**	**45.65 327**	⇓	P	**P**	**22 05 11.0 +1.0**
NJ2				pP	**pP**	**22 05 21.8 -2.0**
NJ2				sP	**sP**	**22 05 31.6 +1.8**
NJ2				pmax	pmax	
	comp=Z,26nm,0.9s					
NJ2				pmax	pmax	
	comp=Z,490nm,3.5s					
KSRS	**Korea Array**	**46.17 340**		P	**P**	**22 05 14.2 +0.3**
	comp=Z,19nm,0.8s,baz=158,slow=9.1,SNR=34					
	comp=Z,19nm,0.8s					
KSAR	**Wonju Array Be**	**46.17 340**		P	**P**	**22 05 13.8 -0.2**
KSAR	**Wonju Array Be**	**46.17 340**		P	**P**	**22 05 13.8 -0.2**
WHN	**Wuhan**	**47.16 322**	⇑	P	**P**	**22 05 22.9 +1.1**
WHN				pP	**pP**	**22 05 33.5 -2.1**
WHN				pmax	pmax	
	comp=Z,100nm,1.0s					
RPSI	**Rantau Prapat**	**47.87 279**		P	**P**	**22 05 26.7 -0.9**
RPSI				IAmb	IAmb	22 05 41.9
	comp=Z,25nm,1.1s					
PSI	**Prapat**	**47.88 279**		P	**P**	**22 05 29.1 +1.2**
PSI	**Prapat**	**47.88 279**		P	**P**	**22 05 26.7 -1.2**
PSI				pmax	pmax	
	comp=Z,25nm,1.1s					
SRIT	**Nakonsritamara**	**48.51 287**		P	**P**	**22 05 32.8 +0.2**
SRIT	**Nakonsritamara**	**48.51 287**		P	**P**	**22 05 33.4 +0.8**
SURA	**Surathani**	**48.63 287**		P	**P**	**22 05 34.4 +0.9**
NAYO	**Nakonayok**	**48.68 295**		P	**P**	**22 05 34.7 +0.8**
GSI	**Gunungsitoli**	**48.97 277**		P	**P**	**22 05 35.4 -0.7**
GSI				IAmb	IAmb	22 05 36.8
	comp=Z,26nm,0.9s					
KCSI	**Kotacane, Aceh**	**49.15 280**		P	**P**	**22 05 37.4 -0.1**
	comp=Z,43nm,1.0s					
SLVN	**Son La**	**49.35 304**		P	**P**	**22 05 39.0 0.0**
SLVN				IAmb	IAmb	22 05 41.0
	comp=Z,15nm,1.0s					
TIA	**Tai'an**	**49.77 329**		P	**P**	**22 05 41.6 -0.3**
TIA				pmax	pmax	
	comp=Z,9.0nm,0.7s					
GYA	**Guiyang**	**49.83 312**		*e*P	**P**	**22 05 43.1 +0.5**
GYA				pmax	pmax	
	comp=Z,12nm,0.9s					
MSHR	**Mys Shultsa**	**49.95 346**	⇑	*e*P	**P**	**22 05 45.3 +2.3**
MSHR				pmax	pmax	
	comp=Z,34nm,1.5s					
ENH	**Enshi**	**50.11 318**		P	**P**	**22 05 44.1 -0.5**
ENH				IAmb	IAmb	22 05 45.6
	comp=Z,25nm,1.0s					
ENH	**Enshi**	**50.11 318**		P	**P**	**22 05 44.4 -0.2**
ENH	**Enshi**	**50.11 318**		P	**P**	**22 05 44.5 -0.2**
ENH				PcP	**PcP**	**22 07 03.1 -0.4**
LHMI	**Lhok Sumawe**	**50.28 282**		P	**P**	**22 05 45.6 -0.5**
MLSI	**Meulaboh, Aceh**	**50.62 280**		P	**P**	**22 05 48.5 -0.2**
	comp=Z,97nm,0.7s					
SRDT	**SRDT**	**50.69 294**		P	**P**	**22 05 50.3 +1.1**
LYN	**LuoYang**	**51.10 324**	⇓	P	**P**	**22 05 52.2 +0.3**
LYN				pmax	pmax	
	comp=Z,33nm,0.7s					
LYN				pmax	pmax	
	comp=Z,220nm,6.0s					
LYN				LR	LR	
	comp=Z,300nm,16.5s					
LYN				LR	LR	
	comp=Z,300nm,13.5s					
LYN				LR	LR	
	comp=Z,500nm,19.4s					
USA0B	**Ussuriysk Arra**	**51.28 347**		P	**P**	**22 05 53.3 +0.2**
USA0B				IAmb	IAmb	22 05 54.9
	comp=Z,53nm,1.5s					
USA0B	**Ussuriysk Arra**	**51.28 347**		P	**P**	**22 05 53.3 +0.2**
USA0B				pmax	pmax	
	comp=Z,53nm,1.5s					
USRK	**Ussuriysk Ar.**	**51.28 347**		P	**P**	**22 05 53.3 +0.2**
USRK	**Ussuriysk Ar.**	**51.28 347**		P	**P**	**22 05 53.3 +0.2**
USRK	**Ussuriysk Ar.**	**51.28 347**		P	**P**	**22 05 54.2 +1.1**
	comp=Z,6.7nm,0.6s,baz=162,slow=6.3,SNR=11					
USRK				LR	LR	22 25 15.3
	comp=Z,155nm,21.8s,baz=155,slow=33					
	comp=Z,6.7nm,0.6s					
CRAI	**Chiangrai**	**51.81 301**		P	**P**	**22 05 57.1 -0.4**
CRAI				IAmb	IAmb	22 05 59.6
	comp=Z,31nm,0.9s					
HNS	**HongShan**	**51.93 328**	⇑	P	**P**	**22 05 57.9 -0.1**
HNS				pP	**pP**	**22 06 08.4 -3.7**
HNS				*e*S	**S**	**22 13 12.8 -4.5**
HNS				pmax	pmax	
	comp=Z,33nm,0.9s					
HNS				LR	LR	
	comp=Z,210nm,14.3s					
HNS				LR	LR	
	comp=Z,220nm,12.6s					
HNS				LR	LR	
	comp=Z,310nm,20.2s					
KMI	**Kunming**	**52.12 308**	⇑	P	**P**	**22 06 01.1 +1.1**
KMI				sP	pP	22 06 18.2 +3.9
KMI				S	**S**	**22 13 20.7 -0.2**
KMI				pmax	pmax	
	comp=Z,16nm,1.1s					
KMI				LR	LR	
	comp=Z,210nm,19.2s					
KMI				LR	LR	
	comp=Z,250nm,21.7s					
KMI				LR	LR	
	comp=Z,380nm,23.3s					
MDJ	**Mudanjiang**	**52.25 345**		P	**P**	**22 06 00.3 0.0**
MDJ				pP	pP	22 06 14.2 -0.2
MDJ				sP	sP	22 06 22.4 +2.1
MDJ				PcP	**PcP**	**22 07 10.4 -0.8**
MDJ				PP	**PP**	**22 07 59.5 +0.2**
MDJ				PcS	**PcS**	**22 11 07.3 -2.1**
MDJ				S	**S**	**22 13 24.0 +2.5**
MDJ				sS	sS	22 13 49.5 +4.8
MDJ				ScS	**ScS**	**22 15 42.3 -3.4**
MDJ				pmax	pmax	
	comp=Z,21nm,1.3s					
MDJ				pmax	pmax	
	comp=Z,240nm,4.1s					
MDJ				LR	LR	
	comp=Z,320nm,13.9s					
MDJ				LR	LR	
	comp=Z,140nm,14.9s					
MDJ				LR	LR	
	comp=Z,270nm,17.9s					
MDJ	**Mudanjiang**	**52.25 345**		P	**P**	**22 06 01.1 +0.8**
CM31	**Chiang Mai Arr**	**52.34 298**		P	**P**	**22 06 01.5 0.0**
CM31	**Chiang Mai Arr**	**52.34 298**		P	**P**	**22 06 02.8 +1.3**
SNR=19						
CMAR	**Chiang Mai Arr**	**52.34 298**		P	**P**	**22 06 01.5 +0.1**
CMAR	**Chiang Mai Arr**	**52.34 298**		*i* P	**P**	**22 06 02.5 +1.1**
CMAR				pmax	pmax	
	comp=Z,31nm,1.0s					
CMAR	**Chiang Mai Arr**	**52.34 298**		P	**P**	**22 06 02.5 +1.1**
	comp=Z,26nm,0.9s,baz=120,slow=5.8,SNR=142					
CMAR				LR	LR	22 26 07.7
	comp=Z,140nm,21.8s,baz=95,slow=33					
	comp=Z,26nm,0.9s					
CHTO	**Chiang Mai**	**52.47 299**		P	**P**	**22 06 02.6 +0.1**
CHTO	**Chiang Mai**	**52.47 299**		P	**P**	**22 06 02.6 +0.1**
CHTO				pmax	pmax	
	comp=Z,1.0nm,1.0s					
YSS	**Yuzh-Sakhalins**	**52.51 357**		*e*P	**P**	**22 06 04.8 +2.6**
YSS				pmax	pmax	
	comp=Z,20nm,1.1s					
CN2	**Changchun**	**52.70 341**		P	**P**	**22 06 04.4 +0.8**
CN2				pmax	pmax	
	comp=Z,10.0nm,1.0s					
CN2				LR	LR	
	comp=Z,300nm,16.0s					
CN2				LR	LR	
	comp=Z,300nm,16.0s					
CN2				LR	LR	
	comp=Z,300nm,18.0s					
XAN	**Xi'an**	**52.90 321**		P	**P**	**22 06 05.2 -0.2**
XAN				pP	pP	22 06 15.8 -3.9
XAN				pmax	pmax	
	comp=Z,54nm,0.9s					
XAN				LR	LR	
	comp=Z,380nm,19.6s					
XAN				LR	LR	
	comp=Z,350nm,20.6s					
XAN				LR	LR	
	comp=Z,420nm,18.6s					
XAN	**Xi'an**	**52.90 321**		P	**P**	**22 06 05.1 -0.2**
XAN				pP	**pP**	**22 06 15.7 -4.0**
BJT	**Baijiatuau**	**53.21 331**		P	**P**	**22 06 06.4 -1.1**
BJT				IAmb	IAmb	22 06 08.3
	comp=Z,15nm,1.0s					
BJT	**Baijiatuau**	**53.21 331**		P	**P**	**22 06 07.6 +0.1**
BJT	**Baijiatuau**	**53.21 331**		P	**P**	**22 06 06.4 -1.1**
BJT				pmax	pmax	
	comp=Z,15nm,1.0s					
BJT	**Baijiatuau**	**53.21 331**		P	**P**	**22 06 07.4 -0.1**
BJT				pP	**pP**	**22 06 18.0 -3.5**
BJT				PcP	**PcP**	**22 07 14.8 -0.1**
BJI	**Beijing**	**53.22 331**		P	**P**	**22 06 07.7 +0.1**
BJI				sP	**sP**	**22 06 27.6 +0.1**
BJI				PcP	**PcP**	**22 07 14.8 -0.1**
BJI				S	**S**	**22 13 34.7 -0.2**
BJI				pmax	pmax	
	comp=Z,7.0nm,0.9s					
BJI				LR	LR	
	comp=Z,150nm,20.3s					
BJI				LR	LR	
	comp=Z,110nm,20.7s					
PZH	**PanZhiHua**	**53.59 309**		P	**P**	**22 06 13.3 +2.6**
PZH				pmax	pmax	
	comp=Z,7.0nm,0.8s					
PZH				pmax	pmax	
	comp=Z,100nm,5.1s					
CD2	**Chengdu**	**54.44 315**		P	**P**	**22 06 16.9 +0.1**
CD2				pmax	pmax	
	comp=Z,40nm,0.6s					
RAR	**Rarotonga**	**54.56 112**		LR	LR	22 26 34.1
	comp=Z,94nm,22.0s,baz=292,slow=33					
TNCH	**TengChong**	**55.44 306**		P	**P**	**22 06 25.0 +0.7**
TNCH				pP	pP	22 06 35.9 -2.7
TNCH				pmax	pmax	
	comp=Z,22nm,1.0s					
HHC	**Hu-ho-hao-te**	**56.12 329**		*e*P	**P**	**22 06 29.0 +0.2**
HHC				pP	pP	22 06 46.9 +3.7
HHC				S	**S**	**22 14 20.9 +6.8**
HHC				ScS	**ScS**	**22 16 07.2 -6.4**
HHC				pmax	pmax	
	comp=Z,41nm,0.8s					
HHC				pmax	pmax	
	comp=Z,220nm,5.1s					
HHC				LR	LR	
	comp=Z,260nm,15.7s					
HHC				LR	LR	
	comp=Z,340nm,14.2s					
HHC				LR	LR	
	comp=Z,510nm,15.3s					
KLR	**Kul'dur**	**56.12 349**		P	**P**	**22 06 28.9 +0.4**
	comp=Z,15nm,1.0s,baz=154,slow=4.6,SNR=29					
	comp=Z,15nm,1.0s					
MND	**Mandalay**	**56.17 301**		P	**P**	**22 06 29.5 +0.2**
XLT	**XiLinHaoTe**	**56.32 334**		*e*P	**P**	**22 06 31.5 +1.4**
XLT				pP	pP	22 06 46.4 +2.2
XLT				sP	sP	22 06 55.6 +5.5
XLT				pmax	pmax	
	comp=Z,14nm,0.8s					
XLT				pmax	pmax	
	comp=Z,140nm,4.5s					
XLT				LR	LR	
	comp=Z,23nm,18.3s					
XLT				LR	LR	
	comp=Z,180nm,14.9s					
XLT				LR	LR	
	comp=Z,280nm,18.3s					
BTO	**Baotou**	**56.76 328**		*e*P	**P**	**22 06 34.2 +0.9**
BTO				pP	**pP**	**22 06 50.0 +2.2**
BTO				sP	**sP**	**22 06 57.5 +3.7**
BTO				PP	**PP**	**22 08 41.7 +1.7**
BTO				S	**S**	**22 14 23.2 +0.7**
BTO				sS	**pS**	**22 14 43.6 +4.2**
BTO				SS	**SS**	**22 18 07.3 -4.1**
BTO				pmax	pmax	
	comp=Z,25nm,1.0s					
BTO				pmax	pmax	
	comp=Z,110nm,3.6s					
BTO				LR	LR	
	comp=Z,260nm,12.2s					
BTO				LR	LR	
	comp=Z,140nm,7.6s					
BTO				LR	LR	
	comp=Z,420nm,15.6s					
LZH	**Lanzhou**	**57.41 320**		*e*P	**P**	**22 06 38.9 +0.8**
LZH				pP	pP	22 06 49.8 -2.8
LZH				pmax	pmax	
	comp=Z,39nm,1.2s					
LZH				pmax	pmax	
	comp=Z,210nm,4.3s					
LZH				LR	LR	
	comp=Z,260nm,13.1s					
LZH				LR	LR	
	comp=Z,190nm,13.6s					
LZH				LR	LR	
	comp=Z,230nm,16.2s					
HEH	**HeiHe**	**58.04 346**		*e*P	**P**	**22 06 41.6 -0.3**
HEH				pmax	pmax	
	comp=Z,17nm,1.1s					
HIA	**Hailar**	**59.38 340**		P	**P**	**22 06 51.2 -0.1**
HIA				IAmb	IAmb	22 06 54.2
	comp=Z,28nm,1.0s					
HIA	**Hailar**	**59.38 340**		P	**P**	**22 06 52.4 +1.1**
HIA	**Hailar**	**59.38 340**		P	**P**	**22 06 51.2 -0.1**
HIA				pmax	pmax	
	comp=Z,28nm,1.0s					
PETK	**Petropavlovsk-**	**59.41**	**8**	P	**P**	**22 06 51.2 -0.2**
PETK	**Petropavlovsk-**	**59.41**	**8**	P	**P**	**22 06 51.2 -0.2**
PETK	**Petropavlovsk-**	**59.41**	**8**	P	**P**	**22 06 51.5 +0.1**
	comp=Z,9.2nm,0.8s,baz=193,slow=9.1,SNR=6.9					
PETK				LR	LR	22 27 59.8
	comp=Z,511nm,22.0s,baz=193,slow=31					
	comp=Z,9.2nm,0.8s					
DRV	**Dumont d'Urvil**	**61.01 183**		P	**P**	**22 07 02.8 +0.7**
DRV				pP	**pP**	**22 07 14.1 -3.0**
DRV				sP	**sP**	**22 07 19.4 -3.7**
SHL	**Shillong**	**61.12 303**		P	**P**	**22 07 03.6 -0.3**
SHL	**Shillong**	**61.12 303**		P	**P**	**22 07 03.6 -0.3**
SHL				pmax	pmax	
	comp=Z,37nm,0.8s					
SHL	**Shillong**	**61.12 303**		P	**P**	**22 07 04.4 +0.5**
SNR=13						
GTA	**Gaotai**	**61.95 321**	⇑	P	**P**	**22 07 09.5 +0.3**
GTA				pP	pP	22 07 20.6 -3.2
GTA				pmax	pmax	
	comp=Z,18nm,1.1s					
GTA				LR	LR	
	comp=Z,110nm,16.4s					
GTA				LR	LR	
	comp=Z,82nm,15.6s					
GTA				LR	LR	
	comp=Z,150nm,15.6s					
LSA	**Lhasa**	**63.36 307**		P	**P**	**22 07 20.1 +0.9**
LSA				pmax	pmax	
	comp=Z,31nm,0.9s					
LSA	**Lhasa**	**63.36 307**		P	**P**	**22 07 19.4 +0.2**
LSA				IAmb	IAmb	22 07 21.3
	comp=Z,20nm,0.8s					
LSA	**Lhasa**	**63.36 307**		P	**P**	**22 07 19.4 +0.2**
LSA				pmax	pmax	
	comp=Z,20nm,0.8s					
LSA	**Lhasa**	**63.36 307**		P	**P**	**22 07 20.5 +1.3**
LSA	**Lhasa**	**63.36 307**		P	**P**	**22 07 20.3 +1.1**
LSA				sP	**pP**	**22 07 36.6 +2.8**
ULN	**Ulaanbaatar**	**63.43 332**		P	**P**	**22 07 19.0 +0.1**
ULN				IAmb	IAmb	22 07 20.7
	comp=Z,15nm,0.8s					
ULN	**Ulaanbaatar**	**63.43 332**	*c*	*i*P	**P**	**22 07 19.2 +0.3**
ULN	**Ulaanbaatar**	**63.43 332**		P	**P**	**22 07 19.7 +0.8**
ULN	**Ulaanbaatar**	**63.43 332**		P	**P**	**22 07 19.6 +0.6**
ULN				pP	**pP**	**22 07 30.4 -3.2**
GOMU	**GeErMu**	**63.56 315**		P	**P**	**22 07 21.0 +0.7**
GOMU				S	**S**	**22 15 55.8 +5.2**
GOMU				pmax	pmax	
	comp=Z,9.0nm,1.0s					
GOMU				pmax	pmax	
	comp=Z,93nm,5.2s					
GOMU				LR	LR	
	comp=Z,85nm,16.0s					
GOMU				LR	LR	
	comp=Z,100nm,15.9s					
GOMU				LR	LR	
	comp=Z,250nm,15.6s					
SONM	**Songino Array**	**63.72 331**		P	**P**	**22 07 20.8 0.0**
SONM				IAmb	IAmb	22 07 22.4
	comp=Z,23nm,1.3s					
SONM	**Songino Array**	**63.72 331**		P	**P**	**22 07 20.8 0.0**
SONM				pmax	pmax	
	comp=Z,23nm,1.3s					
SONM	**Songino Array**	**63.72 331**		P	**P**	**22 07 20.7 -0.1**
	comp=Z,13nm,1.1s,baz=155,slow=7.1,SNR=37					
SONM				LR	LR	22 34 56.2
	comp=Z,320nm,20.2s,baz=150,slow=36					
	comp=Z,13nm,1.1s					
PPT	**Papeete**	**63.82 107**		LR	LR	22 30 43.8
	comp=Z,80nm,21.8s,baz=288,slow=32					
PPT2	**Papeete2**	**63.82 107**		*e*P	**P**	**22 07 19.5 -2.5**
	comp=Z,112nm,27.0s					
PPT2				*e*S	S	22 15 35.8 -18
	comp=Z,127nm,28.8s					
PPT2	**Papeete2**	**63.82 107**		*e*LR	LR	22 26 33.6
	comp=Z,442nm,26.5s					
PPT2				*e*LR	LR	22 26 34.2
	comp=Z,342nm,28.0s					
TBI	**Tubuai**	**64.29 113**		*e*S	S	22 15 42.5 -17
	comp=Z,529nm,27.0s					
TBI	**Tubuai**	**64.29 113**		*e*LR	LR	22 26 33.2
	comp=Z,3µm,34.2s					
TBI				*e*LR	LR	22 26 50.4
	comp=Z,5µm,32.5s					
MA2	**Magadan**	**65.18**	**3**	LR	LR	22 35 17.9
	comp=Z,137nm,19.4s,baz=168,slow=35					
TAPN	**Taplejung**	**65.25 303**		*e*P	**P**	**22 07 31.8 +0.4**
	comp=Z,110nm,1.2s					
CASY	**Casey**	**65.31 195**		P	**P**	**22 07 30.6 0.0**
CASY				IAmb	IAmb	22 07 32.3
	comp=Z,21nm,0.9s					
CASY	**Casey**	**65.31 195**		P	**P**	**22 07 31.1 +0.4**
CASY				pP	**pP**	**22 07 42.4 -3.6**
ODAN	**Odare**	**65.35 303**		*e*P	**P**	**22 07 32.4 +0.4**
	comp=Z,177nm,1.4s					
RAMN	**Ramite**	**66.04 303**		*e*P	**P**	**22 07 36.7 +0.3**
	comp=Z,80nm,1.2s					
JIRN	**Jiri**	**66.63 303**		*e*P	**P**	**22 07 40.5 +0.2**
	comp=Z,32nm,0.7s					
ZAK	**Zakamensk**	**66.96 332**		*e*P	**P**	**22 07 41.4 -0.3**
ZAK				pmax	pmax	
	comp=Z,27nm,1.1s					
GUN	**Gumba**	**66.97 303**		*e*P	**P**	**22 07 42.9 +0.4**
	comp=Z,113nm,0.8s					
PKI	**Pulchoki**	**67.25 303**		*e*P	**P**	**22 07 44.0 -0.2**
	comp=Z,50nm,0.9s					
PKIN	**Phulchoki**	**67.

KKN Kakani 67.43 303 *e*P **P 22 07 45.4 +0.2**
comp=Z,129nm,1.0s
DMN Daman 67.51 303 *e*P **P 22 07 46.3 +0.5**
comp=Z,136nm,0.9s
GKN Gorkha 68.04 303 *e*P **P 22 07 49.1 +0.1**
comp=Z,88nm,0.9s
BOD Bodaibo 68.43 342 *e*P **P 22 07 50.3 -0.3**
BOD pmax pmax
comp=Z,19nm,1.1s
SEY Seymchan 68.61 3⇓ *e*P **P 22 07 52.5 +0.9**
SEY pmax pmax
comp=Z,33nm,2.5s
SEY Seymchan 68.61 3 LR LR 22 37 27.9
comp=Z,145nm,19.4s,baz=173,slow=35
YAK Yakutsk 68.72 352 P **P 22 07 52.2 -0.1**
YAK IAmb IAmb 22 07 53.5
comp=Z,21nm,0.8s
YAK Yakutsk 68.72 352 *e*P **P 22 07 52.5 +0.2**
YAK *e**PP **pP 22 08 07.7 +0.6**
YAK *e* 22 08 16.4
YAK *e* 22 10 19.6
YAK *e*PPP PPP 22 12 04.0
YAK *e*S **S 22 16 51.4 0.0**
YAK *e**SS **sS 22 17 16.4 +1.0**
YAK *e* 22 17 47.9
YAK *e*SS **SS 22 21 11.8 -5.4**
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,154nm,8.1s
YAK pmax pmax
comp=N,136nm,6.8s
YAK pmax pmax
comp=E,141nm,4.0s
YAK smax smax
comp=E,138nm,3.8s
YAK smax smax
comp=N,87nm,3.8s
YAK Yakutsk 68.72 352 P **P 22 07 52.4 +0.2**
KOLN Koldanda 68.83 303 *e*P **P 22 07 54.1 +0.1**
comp=N,136nm,1.1s
DANN Dangsing 68.88 303 *e*P **P 22 07 54.2 -0.2**
comp=N,63nm,0.8s
MOY Mondy 68.90 332 *e*P **P 22 07 53.9 +0.1**
MOY pmax pmax
comp=Z,37nm,2.2s
PYUN Piuthan 69.44 303 *e*P **P 22 07 57.6 -0.2**
comp=Z,97nm,0.8s
HYB Hyderabad 70.53 291 *e*P **P 22 08 04.8 +0.3**
HYB *es*P **PcP 22 08 24.6 -0.9**
HYB *e*S **S 22 17 15.0 +0.5**
CCD Concordia, Ant 70.57 186 P **P 22 08 04.7 +0.6**
CCD pP **pP 22 08 16.2 -3.5**
WMQ Urumqi 72.00 320 *e*P **P 22 08 12.8 -0.1**
WMQ pP pP 22 08 29.0 +1.3
WMQ PcP **PcP 22 08 32.3 +1.1**
WMQ pmax pmax
comp=Z,40nm,1.1s
SBA Scott Base 72.92 176 P **P 22 08 18.5 +0.8**
SBA Scott Base 72.92 176 P **P 22 08 18.5 +0.8**
SBA pmax pmax
comp=Z,15nm,1.2s
TAOE Nuku Hiva Isla 73.11 97 *e*LR LR 22 31 03.5
comp=Z,194nm,22.6s
DGZ Jazzator, Alta 74.89 325 *c i*P **P 22 08 29.7 -0.1**
DGZ pmax pmax
comp=Z,15nm,0.9s
ZSN Zaisan 75.38 322 *e*P **P 22 08 32.2 -0.4**
comp=Z,9.2nm,1.1s,baz=322
ZSN *i* S **S 22 18 07.7 -0.8**
baz=322
ZSN Zaisan 75.38 322 *e*P **P 22 08 32.1 -0.4**
ZSN *i* S **S 22 18 07.7 -0.8**
ZSN pmax pmax
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 76.71 321 *c i*P **P 22 08 39.7 -0.4**
MK31 Makanchi Array 76.71 321 *c i*P **P 22 08 40.0 -0.2**
MKAR Makanchi Array 76.71 321 P **P 22 08 39.8 -0.4**
MKAR Makanchi Array 76.71 321 *i* P **P 22 08 40.0 -0.2**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 76.71 321 P **P 22 08 40.1 0.0**
comp=Z,9.8nm,0.8s,baz=106,slow=6.8,SNR=42
MKAR LR LR 22 44 16.0
comp=Z,60nm,19.3s,baz=133,slow=37
comp=Z,9.8nm,0.8s
M13K Dall Lake 76.81 23 P **P 22 08 41.8 +1.5**
baz=232
O14K Tigyukauivet M 76.96 25 P **P 22 08 42.4 +1.2**
baz=234
N14K Kuskokwak Cree 77.18 24 P **P 22 08 43.2 +0.8**
baz=234
SHLS Shalkode 77.22 316 *e*P **P 22 08 41.4 -1.8**
comp=Z,10nm,0.9s,baz=317
SHLS Shalkode 77.22 316 *e*P **P 22 08 41.4 -1.8**
SHLS pmax pmax
comp=Z,10.0nm,0.9s
K13K Kusilvak Mount 77.27 22 P **P 22 08 43.2 +0.4**
baz=231
UZB Uzynbulak 77.51 316⇑ *i*P **P 22 08 44.9 0.0**
comp=Z,8.6nm,0.7s,baz=316
UZB Uzynbulak 77.51 316 *c i*P **P 22 08 44.9 0.0**
UZB pmax pmax
comp=Z,9.0nm,0.7s
O15K Ungalikthiuk R 77.52 25 P **P 22 08 45.5 +1.2**
baz=236
M14K Bethel 77.56 23 P **P 22 08 45.7 +1.1**
baz=233
L14K Kuka Creek 77.64 23 P **P 22 08 45.6 +0.7**
baz=232
PRZ Przheval'sk 77.72 316 P **P 22 08 46.5 +0.4**
PRZ IAmb IAmb 22 08 48.4
comp=Z,30nm,0.9s
PRZ Przheval'sk 77.72 316 P **P 22 08 46.5 +0.4**
PRZ pmax pmax
comp=Z,30nm,0.9s
KPKS Kokpek 77.86 317⇑ *i*P **P 22 08 46.8 0.0**
comp=Z,8.8nm,1.0s,baz=316
KPKS Kokpek 77.86 317 *c i*P **P 22 08 46.7 0.0**
KPKS pmax pmax
comp=Z,9.0nm,1.0s
TARG Taragay, Kyrgy 77.89 315 P **P 22 08 46.9 -0.5**
TARG Taragay, Kyrgy 77.89 315 P **P 22 08 46.9 -0.5**
TARG pmax pmax
comp=Z,10.0nm,0.8s
SATY Saty 77.91 316⇑ *i*P **P 22 08 47.2 +0.1**
baz=316
SATY Saty 77.91 316 *c i*P **P 22 08 47.1 +0.1**
N15K Kwethluk River 77.97 24 P **P 22 08 47.2 +0.4**
baz=235
TIXI Tiksi 78.03 354 P **P 22 08 45.8 -1.1**
TIXI Tiksi 78.03 354⇓ *i*P **P 22 08 46.0 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,0.9s
M15K Kasigluk River 78.03 24 P **P 22 08 47.6 +0.4**
baz=234
R17K Ugashik Creek 78.21 28 P **P 22 08 48.5 +0.3**
baz=239
ZAA0 Zalesovo Array 78.30 328 P **P 22 08 47.3 -1.5**
ZALV Zalesovo Beam 78.30 328 P **P 22 08 47.2 -1.6**
ZALV Zalesovo Beam 78.30 328 P **P 22 08 47.8 -1.0**
comp=Z,6.1nm,0.8s,baz=110,slow=5.0,SNR=26
ZALV LR LR 22 43 28.6
comp=Z,129nm,20.2s,baz=77,slow=36
comp=Z,6.1nm,0.8s
L15K Ungalak Mounta 78.30 23 P **P 22 08 49.3 +0.6**
baz=234
O16K Kokwok River B 78.49 25 P **P 22 08 50.2 +0.5**
baz=237
KSH Kashi 78.53 312 P **P 22 08 51.9 +1.3**
KSH PcP **PcP 22 09 03.0 +3.5**
KSH pP sP 22 09 11.6 -0.4
KSH sP pP 22 09 18.2 +12
KSH S **S 22 18 49.6 +6.3**
KSH pmax pmax
comp=Z,13nm,0.9s
TDK Taldyqorghan 78.57 318 *e*P **P 22 08 50.6 0.0**
comp=Z,13nm,0.8s,baz=318
TDK Taldyqorghan 78.57 318 *e*P **P 22 08 50.5 0.0**
TDK pmax pmax
comp=Z,13nm,0.8s
K15K Wolf Creek Mou 78.65 22 P **P 22 08 51.8 +1.2**
baz=234
N16K Nishlik Lake 78.69 24 P **P 22 08 52.3 +1.4**
baz=236
ANM Nome 78.72 19 P **P 22 08 51.9 +1.0**
baz=229
Q17K Contact Creek 78.76 27 P **P 22 08 51.5 +0.2**
baz=239
TNSS Tian-Shan 78.91 316 *e*P **P 22 08 53.4 +0.4**
baz=316
TNSS Tian-Shan 78.91 316 *e*P **P 22 08 53.4 +0.4**
M16K Timber Creek 78.92 24 P **P 22 08 53.3 +1.3**
baz=236,SNR=5.4
AAA Alma-Ata 78.99 316 *e*P **P 22 08 53.1 +0.1**
baz=316
AAA Alma-Ata 78.99 316 *e*P **P 22 08 53.1 +0.1**
F14K Arctic Creek 79.01 18 P **P 22 08 53.6 +1.2**
baz=228
O17K Koliganek Bris 79.01 26 P **P 22 08 53.5 +0.9**
baz=238,SNR=7.2
NIL Nilore 79.04 306 P **P 22 08 53.1 -0.3**
NIL Nilore 79.04 306 P **P 22 08 53.1 -0.3**
NIL pmax pmax
comp=Z,65nm,0.8s
NRN Naryn 79.08 314 P **P 22 08 53.5 -0.3**
NRN Naryn 79.08 314 P **P 22 08 53.5 -0.3**
NRN pmax pmax
comp=Z,8.0nm,1.0s
L16K Owhat River 79.10 23 P **P 22 08 54.0 +0.9**
baz=236,SNR=5.3
CHKK Chushkaly 79.14 317 *e*P **P 22 08 53.2 -0.6**
baz=316
CHKK Chushkaly 79.14 317 *e*P **P 22 08 53.1 -0.6**
ULHL Ulahol 79.16 315 P **P 22 08 54.5 +0.4**
SNR=6.2
Q18K Katmai Hardscr 79.35 27 P **P 22 08 54.3 -0.3**
baz=240
BOOM Boomskoye usch 79.44 315 P **P 22 08 55.3 -0.3**
BOOM IAmb IAmb 22 08 57.0
comp=Z,17nm,0.8s
BOOM Boomskoye usch 79.44 315 P **P 22 08 55.3 -0.3**
BOOM pmax pmax
comp=Z,17nm,0.8s
J16K Anvik River 79.58 22 P **P 22 08 57.0 +1.4**
baz=234
KUU Kurty 79.60 316⇑ *i*P **P 22 08 56.0 -0.2**
comp=Z,20nm,0.9s,baz=316
KUU Kurty 79.60 316 *c i*P **P 22 08 56.0 -0.2**
KUU pmax pmax
comp=Z,20nm,0.9s
F15K North Star Dit 79.69 19 P **P 22 08 57.2 +1.0**
baz=230
M17K Holitna River 79.74 24 P **P 22 08 57.2 +0.6**
M17K IAmb IAmb 22 08 59.5
comp=Z,27nm,1.1s
M17K Holitna River 79.74 24 P **P 22 08 57.3 +0.8**
baz=237
L17K Donlin 79.80 23 P **P 22 08 58.1 +1.3**
baz=236
TKM2 Tokmak 2 79.82 315 P **P 22 08 57.6 -0.1**
SNR=13
I17K Unalakleet 79.90 21 P **P 22 08 58.7 +1.3**
baz=234
KDAK Kodiak Island 80.06 28 LR LR 22 39 40.6
comp=Z,154nm,21.5s,baz=276,slow=32
K17K Iditarod 80.12 23 P **P 22 08 59.6 +1.0**
baz=236
KBK Karagaybulak 80.19 315 P **P 22 09 00.2 +0.6**
SNR=5.4
G16K Koyuk River 80.24 19 P **P 22 09 00.1 +1.0**
baz=232
CHMS Chumysh 80.43 315 P **P 22 09 00.8 0.0**
SNR=6.0
KURK Kurchatov 80.45 323 P **P 22 08 59.7 -0.8**
KURK Kurchatov 80.45 323 *c i*P **P 22 09 00.0 -0.6**
KURK pmax pmax
comp=Z,15nm,0.8s
KURK Kurchatov 80.45 323 P **P 22 09 00.4 -0.2**
KURBB Kurchatov Arra 80.47 323 P **P 22 09 00.2 -0.5**
comp=Z,4.3nm,0.2s,baz=110,slow=4.5,SNR=37
comp=Z,4.3nm,0.2s
L18K Granite Mounta 80.48 24 P **P 22 09 01.5 +1.0**
baz=238
AAK Ala-Archa 80.51 315 P **P 22 09 00.8 -0.5**
AAK Ala-Archa 80.51 315 *c i*P **P 22 09 01.3 0.0**
AAK pmax pmax
comp=Z,12nm,1.3s
AAK Ala-Archa 80.51 315 P **P 22 09 01.6 +0.3**
P19K Oii Pt 80.64 27 P **P 22 09 02.1 +0.7**
baz=242
SGDS Sogindy 80.65 316 *e*P **P 22 09 01.5 -0.5**
baz=316
SGDS Sogindy 80.65 316 *e*P **P 22 09 01.5 -0.5**
N19K Bonanza Creek 80.66 25 P **P 22 09 02.4 +0.7**
baz=240
USP Ospenovka 80.69 315 P **P 22 09 02.0 -0.1**
SNR=19
H17K Granite Mounta 80.79 20 P **P 22 09 03.1 +0.9**
baz=235,SNR=8.4
G17K Kiwalik Mounta 80.87 20 P **P 22 09 03.5 +0.9**
baz=234,SNR=6.2
AML Almayashu 80.93 314 P **P 22 09 04.4 +0.5**
SNR=34
EKS2 Erkin-Say 81.02 315 P **P 22 09 04.2 +0.2**
SNR=20
TTA Tatalina 81.12 23 P **P 22 09 04.6 +0.5**
baz=238
J18K Innoko River 81.13 22 P **P 22 09 04.6 +0.6**
baz=238
C16K Lisburne Hills 81.16 16 P **P 22 09 04.8 +0.8**
baz=229
L19K White Mountain 81.20 24 P **P 22 09 04.8 +0.4**
L19K IAmb IAmb 22 09 06.6
comp=Z,18nm,1.1s
L19K White Mountain 81.20 24 P **P 22 09 04.8 +0.4**
baz=240,SNR=6.3
F17K Baldwin Pennin 81.24 19 P **P 22 09 05.4 +1.0**
baz=233
M19K Big River Lodg 81.25 24 P **P 22 09 05.2 +0.6**
baz=240
D17K Noatak River 81.44 17 P **P 22 09 06.5 +1.0**
baz=231
E17K Hotham Inlet 81.44 18 P **P 22 09 06.5 +1.0**
baz=232,SNR=16
CNPM China Poot 81.48 27 P **P 22 09 05.7 -0.2**
CNPM IAmb IAmb 22 09 07.5
comp=Z,45nm,1.1s
BTLS Baital 81.51 317⇑ *i*P **P 22 09 06.3 -0.2**
comp=Z,12nm,1.2s,baz=317
BTLS Baital 81.51 317 *c i*P **P 22 09 06.2 -0.2**
BTLS pmax pmax
comp=Z,12nm,1.2s
M20K Styx River 81.75 25 P **P 22 09 07.9 +0.5**
baz=241
GCSA Galena City Sc 81.76 21 P **P 22 09 08.3 +1.0**
baz=238
G18K Tagagawik 81.78 20 P **P 22 09 07.7 +0.3**
baz=236,SNR=8.9
J19K Poorman 81.83 22 P **P 22 09 08.3 +0.6**
baz=239
C17K DeLong Mountai 81.91 17 P **P 22 09 08.8 +0.8**
baz=231,SNR=6.4
E18K Tukpahlearik C 82.03 18 P **P 22 09 09.2 +0.6**
baz=234,SNR=10
K20K Telida 82.10 23 P **P 22 09 09.8 +0.7**
baz=240,SNR=8.5
MAW Mawson 82.18 203 P **P 22 09 10.1 +0.7**
baz=82,SNR=13
MAW Mawson 82.18 203 P **P 22 09 09.8 +0.3**
MAW Mawson 82.18 203 P **P 22 09 09.8 +0.3**
MAW pmax pmax
comp=Z,2.0nm,1.0s
MAW Mawson 82.18 203 P **P 22 09 09.5 +0.1**
comp=Z,8.2nm,0.9s,baz=64,slow=4.0,SNR=21
MAW LR LR 22 45 54.1
comp=Z,156nm,18.1s,baz=81,slow=36
comp=Z,8.2nm,0.9s
H19K Roundabout Mou 82.33 21 P **P 22 09 10.7 +0.5**
baz=238,SNR=14
G19K Purcell Mounta 82.45 20 P **P 22 09 11.5 +0.6**
baz=237,SNR=13
J20K Nowinta River 82.48 22 P **P 22 09 11.8 +0.7**
baz=240,SNR=8.7
BTK Batken 82.50 312 P **P 22 09 11.3 -0.5**
BTK IAmb IAmb 22 09 24.6
comp=Z,43nm,2.0s
BTK Batken 82.50 312 P **P 22 09 11.3 -0.5**
BTK pmax pmax
comp=Z,43nm,2.0s
SEW Seward 82.55 27 P **P 22 09 11.1 -0.3**
baz=245
SUA Susitna One 82.57 26 P **P 22 09 11.1 -0.7**
SUA Susitna One 82.57 26 P **P 22 09 10.7 -1.0**
baz=244
F19K Shaleruckik Mo 82.60 19 P **P 22 09 11.5 -0.1**
baz=236,SNR=7.8
KBL Kabul 82.64 306 P **P 22 09 11.5 -1.4**
KBL IAmb IAmb 22 09 12.8
comp=Z,12nm,0.8s
KBL Kabul 82.64 306 P **P 22 09 11.5 -1.4**
KBL pmax pmax
comp=Z,12nm,0.9s
KBL Kabul 82.64 306 P **P 22 09 12.2 -0.7**
SNR=7.0
I20K Naaghedeneel 82.67 22 P **P 22 09 13.0 +1.0**
baz=240
DZA Taraz 82.82 314 *e*P **P 22 09 13.1 -0.3**
comp=Z,10nm,0.8s,baz=314
DZA Taraz 82.82 314 *e*P **P 22 09 13.0 -0.3**
DZA pmax pmax
comp=Z,10.0nm,0.8s
RC01 Rabbit Creek A 82.84 26 P **P 22 09 12.8 -0.2**
baz=244,SNR=5.1
B18K Kokolik River 82.85 16 P **P 22 09 14.1 +1.3**
baz=232
H20K Anotleneega Mo 82.87 21 P **P 22 09 13.9 +0.8**
baz=239,SNR=12
CAST Castle Rocks 82.91 24 P **P 22 09 12.8 -0.5**
CAST IAmb IAmb 22 09 14.4
comp=Z,13nm,1.0s
CAST Castle Rocks 82.91 24 P **P 22 09 13.2 -0.1**
baz=242,SNR=11
CHUM Lake Minchumin 83.04 23 P **P 22 09 14.3 +0.4**
baz=242,SNR=18
E19K Redstone River 83.12 19 P **P 22 09 14.7 +0.4**
baz=237,SNR=17
CUT Chulitna 83.19 25 P **P 22 09 14.6 -0.1**
baz=244
C19K Lookout Ridge 83.33 17 P **P 22 09 16.2 +0.8**
baz=234,SNR=11
PWL Port Wells 83.37 27 P **P 22 09 15.6 -0.1**
baz=246
F20K Avaraart Lake 83.39 20 P **P 22 09 16.3 +0.7**
baz=238
D19K Kuna River 83.42 18 P **P 22 09 16.1 +0.3**
baz=236,SNR=8.6
KK31 Karatay Array 83.45 314 P **P 22 09 15.8 -0.8**
KK31 Karatay Array 83.45 314 P **P 22 09 15.8 -0.8**
KK31 pmax pmax
comp=Z,14nm,1.2s
KKAR Karatay Array 83.45 314 P **P 22 09 15.9 -0.7**
KKAR Karatay Array 83.45 314 P **P 22 09 15.9 -0.7**
IMAR Indian Mountai 83.53 21 P **P 22 09 17.1 +0.6**
KNK Knik Glacier 83.54 26 P **P 22 09 16.8 +0.2**
baz=246,SNR=6.0
IUG Iuzhnay 83.57 313 *e*P **P 22 09 17.3 0.0**
comp=Z,8.4nm,0.9s,baz=313
IUG Iuzhnay 83.57 313 *e*P **P 22 09 17.3 0.0**
IUG pmax pmax
comp=Z,8.0nm,0.9s
TRF Thorofare Moun 83.64 24 P **P 22 09 16.4 -0.9**
baz=244
BPAW Bear Paw Mtn. 83.66 23 P **P 22 09 17.5 +0.3**
baz=243,SNR=7.3
H21K Melozitna Rive 83.70 21 P **P 22 09 17.6 +0.2**
H21K IAmb IAmb 22 09 19.3
comp=Z,16nm,1.1s
H21K Melozitna Rive 83.70 21 P **P 22 09 17.7 +0.3**
baz=241,SNR=6.6
SML Sawmill 83.76 26 P **P 22 09 17.4 -0.4**
SML IAmb IAmb 22 09 19.0
comp=Z,32nm,1.0s
SML Sawmill 83.76 26 P **P 22 09 17.7 0.0**
baz=246,SNR=6.0
BRZS Berezniki 83.82 322 *e*P **P 22 09 17.9 -0.4**
comp=Z,14nm,1.1s,baz=322
BRZS Berezniki 83.82 322 *e*P **P 22 09 17.8 -0.4**
BRZS pmax pmax
comp=Z,14nm,1.1s
G21K Allakaket 83.88 21 P **P 22 09 18.7 +0.5**
baz=240,SNR=6.7
E20K Nigu River 83.88 18 P **P 22 09 18.8 +0.5**
baz=238,SNR=13
CHM Chimkent 83.92 314 *e*P **P 22 09 19.0 0.0**
baz=314
CHM Chimkent 83.92 314 *e*P **P 22 09 19.0 0.0**
GLI Glacier Island 83.93 27 P **P 22 09 18.6 0.0**
baz=247
D20K Etivluk River 84.00 18 P **P 22 09 19.2 +0.4**
baz=237
M23K Glacier View 84.02 26 P **P 22 09 18.8 -0.2**
baz=246
WAT1 Susitna Watana 84.09 25 P **P 22 09 19.0 -0.5**
baz=245
MLY Manley 84.18 22 P **P 22 09 19.9 0.0**
MLY IAmb IAmb 22 09 21.2
comp=Z,28nm,1.0s
MLY Manley 84.18 22 P **P 22 09 19.7 -0.1**
baz=243
SCM Sheep Creek Mo 84.20 26 P **P 22 09 19.7 -0.4**
baz=247
F21K Alatna River 84.23 20 P **P 22 09 19.9 -0.1**
baz=240
QSPA South Pole Qui 84.26 180 P **P 22 09 20.3 -0.1**
QSPA IAmb IAmb 22 09 21.6
comp=Z,15nm,0.9s
QSPA South Pole Qui 84.26 180 P **P 22 09 20.3 -0.1**
comp=Z,12nm,0.9s,baz=269,slow=0.7,SNR=41
QSPA LR LR 22 48 03.7
comp=Z,389nm,18.7s,baz=16,slow=36
comp=Z,12nm,0.9s
MCK McKinley 84.31 24 P **P 22 09 20.1 -0.5**
baz=245,SNR=12
WAT6 Susitna Watana 84.33 25 P **P 22 09 20.2 -0.6**
baz=246,SNR=6.7
H22K Ishtalitna Cre 84.34 21 P **P 22 09 21.1 +0.5**
baz=242
EYAK Cordova Ski Ar 84.41 27 P **P 22 09 20.8 -0.2**
baz=248
B20K Meade River 84.54 17 P **P 22 09 21.9 +0.4**
baz=237
NEA2 Nenana 84.63 23 P **P 22 09 21.0 -1.1**
baz=245,SNR=11
DHY Denali Highway 84.68 25 P **P 22 09 22.3 -0.3**
DHY IAmb IAmb 22 09 23.7
comp=Z,21nm,1.0s
DHY Denali Highway 84.68 25 P **P 22 09 22.5 0.0**
baz=246,SNR=12
E21K Killik River 84.68 19 P **P 22 09 22.7 +0.4**
baz=240
KLU Klutina 84.69 27 P **P 22 09 22.7 +0.1**
baz=248,SNR=8.3
I23K Minto, Yukon-K 84.75 23 P **P 22 09 22.1 -0.6**
baz=244
G22K Bettles 84.77 21 P **P 22 09 22.9 +0.2**
baz=242
C21K Knifeblade Rid 84.80 18 P **P 22 09 23.6 +0.8**
baz=239
M24K Tolsona, Glenn 84.81 26 P **P 22 09 23.2 0.0**
baz=248
F22K John River 84.81 20 P **P 22 09 23.6 +0.7**
baz=242
WRH Wood River Hil 84.96 23 P **P 22 09 23.0 -0.7**
WRH IAmb IAmb 22 09 24.0
comp=Z,28nm,1.0s
H23K Yukon River 84.98 22 P **P 22 09 24.0 +0.1**
baz=244,SNR=6.4
B21K Ikpikpuk River 85.09 18 P **P 22 09 24.9 +0.6**
baz=239
BMRM Bremner River 85.09 27 P **P 22 09 24.4 -0.1**
baz=249,SNR=6.8
CCB Clear Creek Bu 85.14 23 P **P 22 09 23.6 -1.0**
CCB IAmb IAmb 22 09 24.8
comp=Z,24nm,1.0s
G23K Bananza Creek 85.20 21 P **P 22 09 25.6 +0.7**
baz=244,SNR=12
COLA College 85.22 23 P **P 22 09 24.4 -0.6**
COLA College 85.22 23 P **P 22 09 24.4 -0.6**
COLA pmax pmax
comp=Z,44nm,0.3s
E22K Anaktuvuk Pass 85.23 19 P **P 22 09 25.7 +0.6**
baz=242,SNR=10
D22K Ayikyak River 85.31 19 P **P 22 09 25.4 0.0**
baz=241,SNR=7.8
N25K Chitina, Valde 85.32 27 P **P 22 09 25.6 -0.1**

baz=249
COLD Coldfoot 85.36 20 P P 22 09 26.6 +0.9
baz=244,SNR=8.2
HARP HAARP 85.36 26 P P 22 09 26.4 +0.5
baz=248
HDA Harding Lake 85.39 24 P P 22 09 24.9 -1.0
HDA Harding Lake 85.39 24 P P 22 09 25.1 -0.8
baz=247,SNR=6.2
PAX Paxson 85.44 25 P P 22 09 25.9 -0.4
baz=248
POKR Poker Plat Res 85.48 23 P P 22 09 25.2 -1.1
baz=246
IL31 85.56 23 P P 22 09 25.2 -1.4
IL31 IAmb IAmb 22 09 26.5
comp=Z,25nm,1.1s
ILAR Eielson Array 85.56 23 P P 22 09 25.3 -1.4
comp=Z,17nm,0.8s,baz=256,slow=4.9,SNR=85
ILAR LR LR 22 44 54.5
comp=Z,201nm,20.1s,baz=257,slow=34
comp=Z,17nm,0.8s
H24K Noodor Dome 85.61 22 P P 22 09 27.2 +0.2
baz=246,SNR=9.6
K24K Donnelly Dome 85.63 24 P P 22 09 27.0 -0.2
baz=248
A22K Sinclair Lake 85.70 16 P P 22 09 28.0 +0.8
baz=239
CRQE Cirque 85.71 28 P P 22 09 27.7 0.0
baz=250
B22K Teshekpuk Lake 85.81 17 P P 22 09 27.4 -0.4
baz=240
E23K Chandalar 85.93 20 P P 22 09 28.8 +0.2
baz=244,SNR=11
MCARA McCarthy VSAT 85.95 27 P P 22 09 28.5 -0.3
baz=250
RIDG Independent Ri 85.99 25 P P 22 09 28.6 -0.4
RIDG Independent Ri 85.99 25 P P 22 09 28.8 -0.2
baz=249,SNR=11
D23K Nanushuk River 85.99 19 P P 22 09 30.0 +1.2
baz=243
BVAR Borovoye Array 86.01 324 P P 22 09 28.4 -0.9
comp=Z,9.1nm,0.9s,baz=106,slow=5.3,SNR=29
comp=Z,9.1nm,0.9s
BRVK Borovoye 86.08 324 P P 22 09 28.6 -1.0
BRVK IAmb IAmb 22 09 30.5
comp=Z,8.5nm,0.9s
BRVK Borovoye 86.08 324c *i*P P 22 09 28.1 -1.5
BRVK pmax pmax
comp=Z,10.0nm,1.0s
J25K Salcha River, 86.10 24 P P 22 09 29.1 -0.4
baz=248,SNR=31
G24K Hadweenzic Riv 86.11 21 P P 22 09 29.3 -0.1
baz=246,SNR=10
TOLK Toolik Lake Re 86.21 19 P P 22 09 30.3 +0.4
TOLK IAmb IAmb 22 09 31.3
comp=Z,30nm,1.3s
TOLK Toolik Lake Re 86.21 19 P P 22 09 30.4 +0.5
baz=244,SNR=5.2
F24K Squaw Lake 86.30 21 P P 22 09 31.1 +0.7
baz=246,SNR=11
M26K Nabesna, AK 86.31 26 P P 22 09 30.6 +0.1
baz=250
E24K Your Creek 86.33 20 P P 22 09 31.1 +0.5
baz=245
L26K Log Cabin Wild 86.37 26 P P 22 09 31.0 +0.3
baz=250,SNR=5.9
PRP Porcupine Dome 86.38 23 P P 22 09 29.8 -1.1
baz=248
C23K Itkillik River 86.41 18 P P 22 09 30.7 -0.1
baz=243,SNR=16
SCRK Sand Creek 86.43 25 P P 22 09 31.0 -0.2
SCRK IAmb IAmb 22 09 32.3
comp=Z,8.9nm,1.0s
SCRK Sand Creek 86.43 25 P P 22 09 31.1 -0.1
baz=249,SNR=6.4
BARN Barnard Glacie 86.47 28 P P 22 09 31.7 +0.1
H25L Birch Creek 86.55 22 P P 22 09 31.6 +0.1
baz=248
CTG Chitna Glacier 86.59 28 P P 22 09 32.5 +0.4
baz=252,SNR=8.6
CTGM Chitina Glacie 86.59 28 P P 22 09 31.8 -0.3
G25K Bearman Lake 86.64 22 P P 22 09 32.8 +0.9
baz=247
D24K Happy Valley 86.67 19 P P 22 09 33.1 +1.0
baz=245
J26L Joseph Creek 86.79 24 P P 22 09 33.2 +0.3
baz=250,SNR=7.8
M27K Edge Creek, AK 86.79 26 P P 22 09 33.8 +0.8
baz=251,SNR=12
PINM Pinnacle 86.84 29 P P 22 09 33.9 +0.7
baz=253
FYU Fort Yukon 86.88 22 P P 22 09 33.7 +0.5
C24K Franklin Bluff 86.96 18 P P 22 09 34.7 +1.2
baz=245
L27K Beaver Creek, 87.03 26 P P 22 09 34.6 +0.6
baz=251,SNR=14
BCAR Beaver Creek A 87.05 26 P P 22 09 34.5 +0.3
O28M Mount Upton 87.07 28 P P 22 09 34.7 +0.1
baz=253,SNR=6.2
F25K Christian Rive 87.12 21 P P 22 09 35.1 +0.7
baz=248
PNL Peninsula 87.13 29 P P 22 09 35.3 +0.7
baz=254
I26K Coal Creek Min 87.23 23 P P 22 09 34.9 0.0
baz=250
K27K Chicken 87.24 25 P P 22 09 36.2 +1.2
baz=251
YUK3 Moose Creek 87.24 27 P P 22 09 35.8 +0.5
baz=253,SNR=10
E25K Arctic Village 87.35 20 P P 22 09 36.4 +0.9
baz=248,SNR=7.8
YUK8 Steele Glacier 87.42 28 P P 22 09 36.7 +0.4
baz=253,SNR=5.0
BMAR Burnt Mountain 87.44 21 P P 22 09 36.3 +0.3
D25K Kavik River 87.54 19 P P 22 09 37.0 +0.6
baz=247
G26K Porcupine Rive 87.56 22 P P 22 09 37.0 +0.6
baz=250,SNR=12
F26K Sheenjek River 87.69 21 P P 22 09 38.2 +1.1
baz=249,SNR=20
O29M Mount Kennedy 87.70 29 P P 22 09 37.6 +0.1
baz=254,SNR=5.0
I27K Kandik River 87.93 23 P P 22 09 39.0 +0.7
baz=252,SNR=18
P29M Windy Craggy 87.93 30 P P 22 09 38.9 +0.4
baz=255
YUK4 Talbot Arm 87.95 28 P P 22 09 39.9 +1.2
baz=254
YUK6 Outpost Mounta 87.98 28 P P 22 09 39.5 +0.7
baz=255
HRA Herat 88.15 305 P P 22 09 39.2 -1.1
HRA IAmb IAmb 22 09 40.8
comp=Z,18nm,1.2s
H27K Steamboat Moun 88.17 23 P P 22 09 40.4 +0.9
baz=252,SNR=19
C26K Camden Bay 88.24 19 P P 22 09 40.6 +0.9
baz=248,SNR=8.1
G27K Doyon Strip 88.30 22 P P 22 09 40.6 +0.6
baz=251,SNR=5.6
M29M Somme Creek 88.33 27 P P 22 09 40.8 +0.4
baz=254,SNR=9.1
HYT Haines Junctio 88.35 28 P P 22 09 40.3 -0.3
HYT IAmb IAmb 22 09 42.5
comp=Z,14nm,1.0s
HYT Haines Junctio 88.35 28 P P 22 09 40.9 +0.3
baz=255,SNR=5.8
DAWY Dawson 88.38 25 P P 22 09 40.7 +0.2
DAWY Dawson 88.38 25 P P 22 09 40.6 +0.2
baz=254,SNR=17
P30M Million Dollar 88.44 29 P P 22 09 41.8 +1.0
baz=256
I28M Miner Creek 88.55 24 P P 22 09 41.7 +0.4
baz=253,SNR=8.0
PLBC Pleasant Camp 88.57 30 P P 22 09 41.3 -0.1
baz=256
L29M L29M 88.66 26 P P 22 09 42.1 +0.2
baz=255,SNR=14
N30M Aishikik Lake 88.71 28 P P 22 09 42.1 0.0
baz=256
E27K Coleen River 88.76 21 P P 22 09 43.2 +1.0
baz=252,SNR=14
J29N Klondike Camp 88.98 25 P P 22 09 44.0 +0.7
baz=255
O30N Mendenhall 89.01 29 P P 22 09 43.2 -0.3
baz=257
S32K Killisnoo 89.04 32 P P 22 09 44.1 +0.5
baz=258
SKAG Skagway 89.08 30 P P 22 09 43.9 +0.1
baz=257
K29M Barlow Dome 89.11 26 P P 22 09 44.7 +0.7
baz=255,SNR=16
M30M Minto, Yukon 89.11 27 P P 22 09 44.0 0.0
baz=256
I29M Ogilvie Camp, 89.18 24 P P 22 09 44.0 -0.2
baz=255,SNR=8.8
F28M Old Crow 89.21 22 P P 22 09 44.5 +0.2
baz=253,SNR=7.6
D27M Malcolm River 89.31 20 P P 22 09 45.6 +0.8
baz=252
N31M Braeburn, Yuko 89.32 28 P P 22 09 45.6 +0.7
baz=257
WBK Wadi Bani Khal 89.54 293 P P 22 09 46.7 -0.1
E28M Babbage River 89.62 21 P P 22 09 46.7 +0.5
baz=253,SNR=6.1
G29M Pine Creek 89.70 22 P P 22 09 47.0 +0.4
baz=255,SNR=6.2
J30M Hart River 89.80 25 P P 22 09 48.0 +0.7
baz=256,SNR=11
WSAR Wadi Sarin 89.92 293 P P 22 09 48.5 -0.1
I30M Mount Dempster 89.93 24 P P 22 09 47.6 -0.2
baz=256,SNR=7.4
EPYK Eagle Plains 90.07 23 P P 22 09 48.0 -0.3
EPYK Eagle Plains 90.07 23 P P 22 09 48.4 0.0
baz=256,SNR=7.8
MHTO MHTO 90.29 291 P P 22 09 49.7 -0.6
SNR=6.7
JMDO Jabal Madar 90.31 292 P P 22 09 49.8 -0.6
G30M tAoh Zraii Nji 90.41 23 P P 22 09 49.2 -0.8
baz=256,SNR=7.0
SMDO Samad 90.43 293 P P 22 09 51.1 0.0
FARO Faro, Yukon 90.61 28 P P 22 09 50.9 -0.1
baz=259
F30M Barrier River 90.72 22 P P 22 09 51.2 -0.1
baz=257
H31M Peel River 90.89 24 P P 22 09 51.8 -0.3
baz=258,SNR=5.1
G31M Satah River 91.15 23 P P 22 09 52.7 -0.6
baz=258,SNR=5.9
HOQ Hoqain 91.16 293 P P 22 09 54.1 -0.2
BSY Bisya 91.18 293 P P 22 09 53.8 -0.7
F31M Tsiigehtchic 91.45 22 P P 22 09 55.0 +0.3
baz=259
MMPY Sheldon Lake, 91.63 27 P P 22 09 55.8 +0.1
baz=261
INK Inuvik 91.70 22 P P 22 09 55.1 -0.7
INK IAmb IAmb 22 09 56.5
comp=Z,12nm,1.2s
INK Inuvik 91.70 22 P P 22 09 55.1 -0.7
INK pmax pmax
comp=Z,13nm,1.3s
INK Inuvik 91.70 22 P P 22 09 55.1 -0.7
baz=259
ABKAR Akbulak array 91.78 319 P P 22 09 54.1 -2.5
ABKAR IAmb IAmb 22 09 55.9
comp=Z,7.6nm,1.1s
ABKAR Akbulak array 91.78 319 P P 22 09 54.4 -2.2
ARQ Araqi 91.86 293 P P 22 09 57.8 +0.2
GEYT Alibeck 91.89 308 P P 22 09 56.7 -0.7
comp=Z,4.6nm,1.0s,baz=96,slow=4.5,SNR=7.6
comp=Z,4.6nm,1.0s
SHAO Shalim 92.20 288 P P 22 10 03.9 +4.6
UOSS Minazif 92.29 295 P P 22 09 58.2 -1.4
UOSS IAmb IAmb 22 09 59.4
comp=Z,10nm,1.2s
MASF Masafi 92.37 295 P P 22 10 00.1 +0.1
SNR=5.8
SHME Shamm 92.45 296 P P 22 09 59.7 -0.5
ELIB Princess Elisa 94.25 195 *d*P P 22 10 07.9 +0.1
comp=Z,8.2nm,1.1s
KOTAN Kotaneelee Air 94.82 30 P P 22 10 10.8 +0.5
baz=267
BELA Belgrano 2 96.54 180 P P 22 10 17.3 -0.7
BELA IAmb IAmb 22 10 19.7
comp=Z,7.7nm,1.1s
PKM Mcpherson Peak 96.56 56 P P 22 10 19.2 +0.1
baz=268
NVAR Mina Array Bea 97.88 52 P P 22 10 24.7 -0.4
comp=Z,1.9nm,0.9s,baz=265,slow=5.7,SNR=9.0
NVAR LR LR 22 46 59.3
comp=Z,199nm,20.9s,baz=274,slow=31
comp=Z,1.9nm,0.9s
CWC Cottonwood Cre 98.02 54 P P 22 10 25.8 +0.1
baz=269
EDW2 Edwards Air Fo 98.06 56 P P 22 10 25.4 -0.3
baz=269
MPMC Manual Prospec 98.49 55 P P 22 10 27.3 -0.5
baz=269
NEW Newport 98.73 42 P Pdif 22 10 29.9 +1.5
baz=271
TROLL Troll, Antarti 98.92 191 ⇑Pdiff P 22 10 27.5 -1.4
comp=Z,94nm,0.8s
PFO Pinyon Flats O 99.31 57 LR LR 22 47 24.3
comp=Z,228nm,21.6s,baz=195,slow=30
YKA Yellowknife Ar 99.32 28 *i* P Pdif 22 10 30.3 -0.3
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKA Yellowknife Ar 99.32 28 P Pdif 22 10 28.9 -1.8
comp=Z,2.2nm,1.1s,baz=275,slow=5.0,SNR=6.3
comp=Z,2.2nm,1.1s
BELC Belle Mtn. Jos 99.69 57 P Pdif 22 10 33.0 -0.2
baz=270
R11B Troy Canyon, C 100.02 52 P Pdif 22 10 35.1 +0.5
baz=271
BC3 Big Chuckawall 100.14 57 P Pdif 22 10 35.6 +0.4
baz=270
IRM Iron Mountain 100.40 56 P Pdif 22 10 36.5 +0.3
baz=270
BOZ Bozeman (W) 102.63 45 P Pdif 22 10 46.2 +0.2
baz=275
EGMT Eagleton 103.66 42 P Pdif 22 10 51.3 +0.9
baz=277
MNTX Cornudas Mount 108.71 59 P PKiKP 22 15 18.0 -0.3
baz=275
JCT Junction City 113.60 59 P PKiKP 22 15 26.5 -1.2
baz=278
CCM Cathedral Cave 118.97 49 P PKPdf 22 15 36.8 -0.9
baz=287
DIVS Divibare 119.42 318 PKPdf PKPdf 22 15 37.4 -1.1
CLL Collm 120.25 328 *e*PKPdf PKPdf 22 15 37.0 -2.7
comp=Z,6.0nm,1.0s
GERES GERESS Array B 121.17 325 PKP PKPdf 22 15 39.4 -2.3
comp=Z,0.9nm,0.8s,baz=85,slow=1.5,SNR=3.6
WVT Waverly 122.15 51 P PKPdf 22 15 42.6 -1.2
baz=288
PLCA Paso Flores 122.85 147 PKPdf PKiKP 22 15 45.9 +0.5
PLCA Paso Flores 122.85 147 PKP PKPdf 22 15 45.8 +0.6
comp=Z,6.9nm,0.9s,baz=214,slow=3.2,SNR=12
STAL STALIGIAL 123.06 323 PKPdf 22 15 43.8 -1.5
LRAL Lakeview Retre 123.73 54 P PKPdf 22 15 46.1 -0.9
baz=287
EKA Eskdalemuir Ar 124.74 339 PKP PKPdf 22 15 48.6 +0.4
comp=Z,1.9nm,0.9s,baz=27,slow=5.6,SNR=1.6
P52A Corning 125.06 45 P PKPdf 22 15 48.1 -1.2
baz=295
TZTN Tazewell 125.25 49 P PKPdf 22 15 48.5 -1.3
baz=292
M53A WI Miller and 125.26 42 P PKPdf 22 15 47.9 -1.8
baz=298
GOGA Godfrey 126.42 52 P PKPdf 22 15 50.4 -1.7
baz=290
BO02 Sierra Bellavi 126.79 142 PKPdf PKPdf 22 15 52.7 -0.2
BLA Blacksburg 127.30 47 P PKPdf 22 15 52.0 -1.7
baz=295
LONY Lake Ozonia 127.44 36 P PKPdf 22 15 52.1 -1.6
baz=305
KMSC Kings Mountain 127.45 50 P PKPdf 22 15 52.5 -1.6
baz=293
SSPA Standing Stone 127.50 42 P PKPdf 22 15 52.3 -1.7
baz=300
LBNH Lisbon 129.19 35 P PKPdf 22 15 56.6 -0.5
baz=308
L61B Northampton 129.82 37 P PKPdf 22 15 58.2 -0.1
baz=306
ESDC Sonseca Array 136.75 326 PKP PKPdf 22 16 10.5 -1.0
comp=Z,0.2nm,0.7s,baz=359,slow=5.4,SNR=1.8
LPAZ La Paz 139.68 123 PKP PKPdf 22 16 16.4 -1.8
comp=Z,4.0nm,0.9s,baz=8.7,slow=9.9,SNR=3.7
ROSC El Rosal 139.73 89 PKP PKPdf 22 16 14.9 -3.3
comp=Z,6.6nm,0.4s,baz=325,slow=20,SNR=2.0
CPUP Villa Florida 140.87 146 PKPdf PKPdf 22 16 19.2 -0.2
CPUP Villa Florida 140.87 146 PKP PKPdf 22 16 18.6 -0.8
comp=Z,12nm,0.9s,baz=253,slow=2.3,SNR=14
TOA0 Torodi Ar. Sit 144.17 285 PKPdf PKPab 22 16 23.2 0.0
TORD Torodi Ar. Bea 144.17 285 PKPab 22 16 23.3 +0.1
TORD Torodi Ar. Bea 144.17 285 PKP PKPab 22 16 23.7 +0.4
comp=Z,30nm,0.9s,baz=57,slow=4.7,SNR=117
ETMB Extrema 144.29 115 PKPdf PKPab 22 16 23.1 -0.7
BAUV El Baul 145.98 83 PKPdf PKPdf 22 16 27.1 -1.5
SJG San Juan 146.18 66 PKPdf 22 16 27.5 -1.3
SJG San Juan 146.18 66 PKIKP PKPdf 22 16 27.5 -1.3
AQDB Aquidauana 146.29 141 PKPdf 22 16 29.6 +0.5
PTLB Pontes e Lacer 147.33 130 PKPdf 22 16 31.6 +0.7
SAML Samuel 147.37 116 PKPdf 22 16 31.9 +0.9
SAML Samuel 147.37 116 PKP2 PKPdf 22 16 31.9 +0.9
VILB Vilhena 147.95 125 PKPdf 22 16 30.5 -1.5
KOWA Kowa 149.36 289 PKPbc 22 16 38.3 -0.3
KIC Kosan Boka 151.01 273⇑*i*PKP1 PKPbc 22 16 42.9 +0.2
comp=Z,86nm,1.1s
DBIC Dimbokro 151.13 273 PKPbc PKPbc 22 16 42.6 -0.4
comp=Z,25nm,1.0s,baz=82,slow=2.2,SNR=10
TIC Toumodi 151.29 273⇓*i*PKP1 PKPbc 22 16 43.9 +0.6
comp=Z,6.3nm,0.3s
LIC Lamto 151.30 273⇑*i*PKP1 PKPbc 22 16 43.4 +0.1
comp=Z,82nm,1.0s
BOAV Boa Vista 153.23 96 PKPbc 22 16 46.1 -1.6
BDFB Brasilia 154.59 147 PKPbc 22 16 49.2 -1.4
BDFB Brasilia 154.59 147 PKP PKPdf 22 16 41.1 -1.1
comp=Z,1.2nm,0.3s,baz=141,slow=6.5,SNR=2.6
BDFB PKPbc **PKPbc 22 16 50.3 -0.4**
comp=Z,18nm,1.0s,baz=166,slow=2.6,SNR=13

---

*JMA **11** 22:04:44.3±0.3, 37°N±1°×14°4E±°, h61km, MV3.2/19, FAR E OFF FUKUSHIMA PREF*
ISC 11 22:04:43.9±3.0, 37°38N±0°07×143°9E±0°2, h35km, n14, σ0°65/18, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.10**	**297**	P	**Pn**	**22 05 17.0**	**+0.4**
JIKH				*e*S	**Sn**	**22 05 41.3**	**-0.3**
JIO	**Ouri**	**2.25**	**299**	*e*P	**Pn**	**22 05 19.1**	**+0.5**
JIO				S	**Sn**	**22 05 44.8**	**-0.3**
JKMT	**Kesennumamotoy**	**2.36**	**308**	*e*P	**Pn**	**22 05 20.4**	**+0.3**
JKMT				*e*S	**Sn**	**22 05 47.1**	**-0.7**
JFK	**Kawauchi**	**2.37**	**271**	*e*S	**Sn**	**22 05 47.6**	**-0.6**
JMST	**Minamisoumatoc**	**2.38**	**279**	*e*P	**Pn**	**22 05 20.4**	**+0.1**
JMST				*e*S	**Sn**	**22 05 47.7**	**-0.6**
OFUJ	**Ofunato**	**2.41**	**315**	P	**Pn**	**22 05 21.1**	**+0.2**
OFUJ				*e*S	**Sn**	**22 05 48.5**	**-0.7**
JOTO	**OTAMA OYAMA**	**2.80**	**275**	*e*S	**Sn**	**22 06 00.0**	**+1.1**
JOM	**Ohasama**	**2.90**	**317**	P	**Pn**	**22 05 28.3**	**+0.7**
JOM				*e*S	**Sn**	**22 06 01.0**	**-0.1**
JANG	**Nango**	**3.50**	**329**	*e*S	**Sn**	**22 06 15.1**	**-0.9**
JRY	**Ryogami san**	**4.20**	**253**	P	**Pn**	**22 05 46.0**	**+0.5**
MJAR	**Matsushiro Arr**	**4.60**	**261**	Sn	**Sn**	**22 06 42.4**	**-0.6**
0.2nm,0.3s,baz=95,slow=24,SNR=1.6							
MJAR	**Matsushiro Arr**	**4.60**	**261**				
2.7nm,0.5s							
MJAR	**Matsushiro Arr**	**4.60**	**261**	Pn	Pn	22 05 52.7	+1.8
0.1nm,0.3s,baz=89,slow=15,SNR=5.4							
JHJ	**Hachijo jima 2**	**5.40**	**219**	Sn	**Sn**	**22 07 02.1**	**-0.8**
6.5nm,0.3s,baz=80,slow=17,SNR=1.3							

---

*JMA **11** 22:04:55.4±0.3, 37°4N±0°9×14°4E±°, h57km, MV3.4/13, FAR E OFF FUKUSHIMA PREF*
*IDC **11** 22:04:56.9±7.8, 36°62N×142°61E, h0km, mb3.5/2, mbtmp3.4/3, ML2.0/1, Error ellipse: s-maj=166.8km s-min=45.9km az=31.0*
ISC 11 22:04:55.4±1.6, 37°40N±0°08×143°8E±0°1, h35km, n8, σ0°97/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**2.22**	**299**	*e*S	**Sn**	**22 05 56.4**	**+0.3**
JKMT	**Kesennumamotoy**	**2.33**	**308**	*e*S	**Sn**	**22 05 58.4**	**-0.2**
JFK	**Kawauchi**	**2.35**	**270**	*e*P	**Pn**	**22 05 31.9**	**+0.3**
JFK				*e*S	**Sn**	**22 05 58.8**	**-0.4**
JOM	**Ohasama**	**2.87**	**317**	*e*S	**Sn**	**22 06 12.5**	**+0.5**
JRY	**Ryogami san**	**4.19**	**252**	*e*P	**Pn**	**22 05 57.0**	**+0.1**
JRY				*e*S	**Sn**	**22 06 42.9**	**-1.7**
JCH	**Churui**	**5.22**	**356**	*e*P	**Pn**	**22 06 10.2**	**-0.7**
WRA	**Warramunga Arr**	**57.73**	**191**	P	**P**	**22 14 42.2**	**-0.6**
0.8nm,0.8s,baz=11,slow=6.7,SNR=5.6							
0.8nm,0.8s							
ASAR	**Alice Springs**	**61.46**	**190**	P	**P**	**22 15 09.9**	**+1.4**
0.3nm,0.7s,baz=14,slow=6.8,SNR=2.1							
0.3nm,0.7s							

---

*SSNC **11** 22:06:54.1±5.5, 18°02N×72°41W, h5km, MD3.2, ML2.8*
*SDD **11** 22:06:57.0±2.4, 20°24N×71°92W, h31km±37km, MD3.9, ML2.9, MW3.1*
*OSPL **11** 22:06:58.8±3.5, 20°04N×71°64W, h136km±37km, ML2.9*
ISC 11 22:06:57.1±1.5, 20°05N±0°05×71°92W±0°03, h3km±11km, n23, σ1°37/43, 3C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUDR	**Luperon**	**0.92**	**99**	*e*Pg	**Pg**	**22 07 14.3**	**-0.5**
LUDR				*e*Sg	**Sb**	**22 07 28.7**	**+0.2**
LUDR				IAML		22 07 33.9	
comp=Z,434nm,0.2s							
SDDR	**Presa de Saban**	**1.22**	**151**	*e*P	**Pg**	**22 07 19.4**	**-1.0**
SDDR				*e*S	**Sg**	**22 07 36.5**	**+0.3**
SDDR	**Presa de Saban**	**1.22**	**151**	*e*Pg	**Pg**	**22 07 20.1**	**-0.3**
SDDR				*e*Sg	**Sn**	**22 07 37.7**	**-0.4**
SDDR				IAML		22 07 41.2	
comp=Z,272nm,0.4s							
SDDR	**Presa de Saban**	**1.22**	**151**	*i* P	**Pg**	**22 07 19.7**	**-0.7**
SDDR				*e*S	**Sn**	**22 07 37.6**	**-0.6**
SDDR				IAML		22 07 41.2	
comp=Z,272nm,0.4s							
SC01	**Santiago de Io**	**1.28**	**119⇑**	*e*Pg	**Pg**	**22 07 21.0**	**-0.6**
SC01				*e*Sg	**Sg**	**22 07 38.5**	**+0.3**
SC01				IAML		22 07 46.9	
comp=Z,226nm,0.5s							
SC01	**Santiago de Io**	**1.28**	**119**	*i* P	**Pg**	**22 07 21.1**	**-0.6**
SC01				*e*S	**Sn**	**22 07 40.2**	**+0.5**
SC01				IAML		22 07 46.9	
comp=Z,226nm,0.5s							
JIDR	**Jimani**	**1.55**	**178**	*e*Pg	**Pn**	**22 07 25.1**	**-0.6**
JIDR				*e*Sg	**Sg**	**22 07 48.9**	**+2.0**
JIDR				IAML		22 07 51.0	
comp=Z,154nm,0.7s							
NEDR	**Neiba UASD**	**1.62**	**163**	*e*Pg	**Pn**	**22 07 25.8**	**-0.9**
NEDR				*e*Sg	**Sn**	**22 07 48.3**	**+0.2**
NEDR				IAML		22 07 56.0	
comp=Z,72nm,0.6s							
ABDR	**Alto Bandera**	**1.73**	**135⇑**	*e*Pg	**Pn**	**22 07 27.7**	**-0.8**
ABDR				*e*Sg	**Sn**	**22 07 51.2**	**-0.1**
ABDR				IAML		22 07 56.7	
comp=Z,75nm,1.1s							
PODR	**Polo**	**1.96**	**162⇑**	*e*Pg	**Pn**	**22 07 32.2**	**+0.7**
PODR				*e*Sg	**Sb**	**22 07 58.9**	**+0.2**
PODR				IAML		22 08 06.0	
comp=Z,45nm,0.3s							
PODR	**Polo**	**1.96**	**162**	*i* P	**Pn**	**22 07 32.0**	**+0.4**
PODR				*e*S	**Sn**	**22 07 56.2**	**-0.7**
LOPE2	**Hotel El Peder**	**2.01**	**175**	*i* P	**Pn**	**22 07 32.2**	**+0.2**
LOPE2				IAML		22 08 13.2	
comp=Z,64nm,0.5s							
NADR	**Nagua**	**2.06**	**109**	*e*Pg	**Pn**	**22 07 31.6**	**-1.1**
NADR				*e*Sg	**Sn**	**22 07 58.3**	**-0.7**
NADR				IAML		22 08 05.3	
comp=Z,190nm,0.5s							
MASC	**Masc**	**2.18**	**274**	*e*P	**Pn**	**22 07 32.6**	**-1.7**
MASC				*e*S	**Sb**	**22 08 05.2**	**+0.6**
MASC				IAML		22 08 09.3	
comp=E,26nm,0.5s							
MASC				IAML		22 08 10.0	
comp=N,25nm,0.4s							
MASC	**Masc**	**2.18**	**274**	*i* P	**Pn**	**22 07 36.4**	**+2.1**
MASC				*e*S	**Sb**	**22 08 06.1**	**+1.5**
MASC				IAML		22 08 17.4	
comp=Z,22nm,0.7s							
HATOM	**Hato Mayor del**	**2.70**	**117**	*e*Pg	**Pn**	**22 07 42.6**	**+1.1**
HATOM				*e*Sg	**Sn**	**22 08 13.7**	**-1.2**
HATOM				IAML		22 08 23.8	
comp=Z,40nm,0.5s							
MIDR	**Miches**	**2.91**	**111**	*e*Pg	**Pn**	**22 07 44.4**	**+0.1**
MIDR				*e*Sg	**Sn**	**22 08 21.0**	**+1.2**
MIDR				IAML		22 08 24.8	
comp=Z,23nm,1.9s							
GTBY	**Guantanamo Bay**	**3.00**	**268**	*e*P	**Pn**	**22 07 42.7**	**-3.0**
GTBY				*e*S	**Sn**	**22 08 20.3**	**-1.9**
GTBY	**Guantanamo Bay**	**3.00**	**268**	*e*Pg	**Pn**	**22 07 46.1**	**+0.4**
GTBY				*e*Sg	**Sn**	**22 08 22.8**	**+0.6**

GTBY				IAML		22 08 35.5	
	comp=Z,5.1nm,1.6s						
GTBY	**Guantanamo Bay**	**3.00 268**	*i* P		**Pn**	**22 07 46.6**	**+1.0**
HIDR	**Higuey Centro**	**3.35 115**	*e*Pg		**Pn**	**22 07 52.5**	**+2.0**
HIDR			*e*Sg		**Sb**	**22 08 35.0**	**-3.5**
HIDR				IAML		22 09 17.6	
	comp=Z,32nm,2.0s						
SADR	**Isla Saona**	**3.50 121**	*e*Pg		**Pn**	**22 07 54.9**	**+2.5**
SADR			*e*Sg		**Sn**	**22 08 37.5**	**+3.1**
SADR				IAML		22 09 02.4	
	comp=Z,28nm,1.4s						
RCC	**Rio Carpintero**	**3.55 270**	*e*P		Pn	22 07 49.0	-4.2
RCC			*e*S		**Sn**	**22 08 35.3**	**-0.5**

IDC ***11*** *22:10:47.8±0.7, 37°.27N×144°.00E, h0km, mb4.0/20, mbtmp4.1/27, ML3.9/6, Error ellipse: s-maj=16.7km s-min=14.9km az=120.0*

NEIC ***11*** *22:10:50.2±1.1, 37°.29N±0°.07×143°.90E±0°.07, h10km±1km, mb4.5/31, Error ellipse: s-maj=12.3km s-min=9.3km az=208.0*

JMA ***11*** *22:10:52.0±0.3, 37°.4N±0°.8×14°4E±°, h54km, MV4.2/28, FAR E OFF NORTH HONSHU*

NIED ***11*** *22:10:52.0, 37°.39N×143°.77E, h54km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.61; Mθθ=0.13; Mφφ=1.47; Mrθ=0.55; Mθφ=0.25; Mφr=0.40; Fault plane solution: M0=1.70000×10^15 NP1: φs=205.00000°, δ=55.00000°, λ=-74.00000°. NP2: φs=357.00000°, δ=38.00000°, λ=-112.00000°.*

ISC 11 22:10:52.2±3.1, 37°.43N±0°.06×143°.91E±0°.06, h23km±21km, n126, σ1§57/137, mb4.4/45, MS3.8/3, 2C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.12 295**		P	**Pn**	**22 11 25.0**	**-1.3**
JIKH				S	**Sn**	**22 11 49.2**	**-2.8**
JIO	**Ouri**	**2.27 298**		*i* P	**Pn**	**22 11 27.2**	**-1.1**
JIO				S	**Sn**	**22 11 53.0**	**-2.4**
JKMT	**Kesennumamotoy**	**2.36 306**		P	**Pn**	**22 11 28.4**	**-1.2**
JKMT				S	**Sn**	**22 11 55.5**	**-2.4**
JFK	**Kawauchi**	**2.41 269**		P	**Pn**	**22 11 28.6**	**-1.8**
JFK				S	**Sn**	**22 11 55.7**	**-3.6**
JMST	**Minamisoumatoc**	**2.42 278**		P	**Pn**	**22 11 28.4**	**-1.9**
JMST				S	**Sn**	**22 11 55.8**	**-3.3**
JMM	**Marumori**	**2.51 281**			**Pn**	**22 11 30.1**	**-1.6**
JMK	**Ichinoseki**	**2.61 307**		P	**Pn**	**22 11 32.2**	**-0.7**
JMK				*e*S	**Sn**	**22 12 01.8**	**-2.1**
JOTO	**OTAMA OYAMA**	**2.84 274**		P	**Pn**	**22 11 35.7**	**-0.6**
JOTO				*e*S	**Sn**	**22 12 08.2**	**-1.6**
JOM	**Ohasama**	**2.89 316**		P	**Pn**	**22 11 36.3**	**-0.7**
JOM				S	**Sn**	**22 12 09.3**	**-1.7**
JYK	**Kaneyama**	**3.17 299**		P	**Pn**	**22 11 40.5**	**-0.2**
JANG	**Nango**	**3.48 328**		*e*P	**Pn**	**22 11 44.3**	**-0.7**
JANG				*e*S	**Sn**	**22 12 22.2**	**-3.3**
JTM	**Tenmabayashi**	**4.01 328**		Pn	**Pn**	**22 11 53.0**	**+0.7**
JRY	**Ryogami san**	**4.26 252**		*i* P	**Pn**	**22 11 53.9**	**-1.9**
JRY				S	**Sn**	**22 12 39.4**	**-5.4**
JSD	**Sado**	**4.52 279**		Pn	**Pn**	**22 11 58.9**	**-0.3**
MJAR	**Matsushiro Arr**	**4.64 261**		Pn	**Pn**	**22 11 60.0**	**-1.0**
	4.4nm,0.3s,baz=91,slow=16,SNR=111						
MJAR				Sn	**Sn**	**22 12 51.6**	**-2.7**
	0.9nm,0.3s,baz=92,slow=26,SNR=3.0						
	36nm,0.5s						
MAJO	**Matsushiro**	**4.65 261**		Pn	**Pn**	**22 12 01.0**	**-0.1**
MJB9	**Matsu-Tunnel**	**4.65 261**			**Pn**	**22 12 01.6**	**+0.6**
JCH	**Churui**	**5.20 356**		P	**Pn**	**22 12 07.1**	**-1.5**
JCH				*e*S	**Sn**	**22 13 03.3**	**-4.4**
JHJ2	**Mitsune**	**5.45 219**		Pn	Pn	22 12 09.6	-2.5
JHJ	**Hachijo jima 2**	**5.46 219**		Pn	Pn	22 12 08.6	-3.7
	31nm,0.3s,baz=338,slow=18,SNR=9.6						
JHJ				Sn	Sn	22 13 05.7	-8.7
	26nm,0.3s,baz=60,slow=20,SNR=2.1						
	56nm,0.3s						
INU	**Inuyama**	**5.93 252**		Pn	**Pn**	**22 12 18.0**	**-0.7**
NEM2	**Nemuro 2**	**6.09 13**		*e*P	Pn	22 12 18.3	-2.6
NEM2				S	**Sn**	**22 13 23.9**	**-6.0**
JTKR	**Abashiri--Toko**	**6.54 0**		P	**Pn**	**22 12 25.5**	**-1.4**
JTKR				S	**Sn**	**22 13 36.4**	**-4.3**
JIE	**Ise**	**6.58 245**		P	**Pn**	**22 12 26.8**	**-0.8**
JKA	**Kamikawa-asahi**	**6.75 352**			**Pn**	**22 12 29.3**	**-0.6**
ASAJ	**Asahikawa**	**6.75 352**		Pn	**Pn**	**22 12 29.7**	**-0.3**
	3.8nm,0.3s,baz=198,slow=9.3,SNR=18						
ASAJ				Sn	**Sn**	**22 13 43.2**	**-2.9**
	baz=81,slow=28						
	15nm,0.5s						
JMN	**Monobe**	**8.96 249**		Pn	**Pn**	**22 12 58.6**	**-1.7**
JCJ	**Chichijima**	**10.40 189**		Pn	Pn	22 13 09.4	-11
	3.4nm,0.3s,baz=325,slow=18,SNR=1.6						
JCJ				Sn	Sn	22 14 56.6	-19
	6.1nm,0.3s,baz=151,slow=20,SNR=1.8						
USA0B	**Ussuriysk Arra**	**11.28 311**		Pn	**Pn**	**22 13 32.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**11.28 311**		Pn	**Pn**	**22 13 32.5**	**+0.6**
USRK	**Ussuriysk Ar.**	**11.28 311**		Pn	**Pn**	**22 13 32.6**	**+0.7**
	0.5nm,0.3s,baz=122,slow=13,SNR=8.9						
	7.2nm,0.8s						
JNU	**Nakatsue**	**11.48 252**		Pn	**Pn**	**22 13 34.1**	**-0.7**
JNU	**Nakatsue**	**11.48 252**		Pn	**Pn**	**22 13 33.1**	**-1.6**
	0.3nm,0.3s,baz=44,slow=12,SNR=10.0						
	20nm,0.9s						
KSRS	**Korea Array**	**12.71 275**		Pn	**Pn**	**22 13 52.9**	**+1.4**
	0.4nm,0.3s,baz=88,slow=14,SNR=15						
	14nm,1.0s						
KLR	**Kul'dur**	**14.72 327**		Pn	Pn	22 14 16.0	-3.0
	0.2nm,0.3s,baz=138,slow=15,SNR=4.1						
PETK	**Petropavlovsk-**	**18.39 27**		P	**P**	**22 15 06.2**	**+0.8**
	6.2nm,1.1s,baz=226,slow=9.9,SNR=1.3						
TIA	**Tai'an**	**21.45 275**		*e*P	**P**	**22 15 38.3**	**-0.6**
TIA				pmax	pmax		
	comp=Z,12nm,0.8s						
XLT	**XiLinHaoTe**	**22.01 296**		*e*P	**P**	**22 15 44.3**	**-0.7**
XLT				pP	pP	22 15 49.7	+0.5
XLT				sP	sP	22 15 53.2	+2.0
XLT				PP	**PnPn**	**22 16 09.5**	**+2.6**
XLT				sS	S	22 19 54.9	+8.2
XLT				PcS	**PcS**	**22 23 21.2**	**+0.1**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,98nm,4.2s						
XLT				LR	LR		
	comp=N,24nm,21.3s						
XLT				LR	LR		
	comp=E,180nm,15.3s						
XLT				LR	LR		
	comp=Z,280nm,18.3s						
HHC	**Hu-ho-hao-te**	**25.24 288**		*e*P	**P**	**22 16 18.0**	**+1.4**
HHC				PP	**PnPn**	**22 16 55.2**	**+4.1**
HHC				*e*S	**S**	**22 20 42.6**	**+1.7**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,230nm,5.2s						
HHC				LR	LR		
	comp=N,340nm,15.5s						
HHC				LR	LR		
	comp=E,360nm,13.1s						
HHC				LR	LR		
	comp=Z,460nm,16.7s						
LYN	**LuoYang**	**25.54 273**		*i* P	**P**	**22 16 19.8**	**+0.6**
LYN				pmax	pmax		
	comp=Z,26nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**26.69 125**		T	T	22 44 15.8	
	baz=320,slow=75						
H11N1	**WAKE ISLAND Hy**	**26.70 125**		T	T	22 44 18.6	
	baz=320						
H11N3	**WAKE ISLAND Hy**	**26.71 125**		T	T	22 44 17.3	
	baz=320,slow=75						
H11S1	**WAKE ISLAND Hy**	**27.46 127**		T	T	22 45 36.2	
	baz=317						
H11S3	**WAKE ISLAND Hy**	**27.46 127**		T	T	22 45 19.0	
	baz=317						
H11S2	**WAKE ISLAND Hy**	**27.47 127**		T	T	22 45 33.9	
	baz=317						
ULN	**Ulaanbaatar**	**28.79 303**		P	**P**	**22 16 48.4**	**-0.1**
ULN				IAmb	IAmb	22 16 56.0	
	comp=Z,6.9nm,1.1s						
SONM	**Songino Array**	**29.23 303**		P	**P**	**22 16 52.3**	**0.0**
SONM				IAmb	IAmb	22 16 57.3	
	comp=Z,5.4nm,1.2s						
SONM	**Songino Array**	**29.23 303**		P	**P**	**22 16 53.0**	**+0.6**
	comp=Z,4.0nm,1.1s,baz=100,slow=7.3,SNR=8.8						
	comp=Z,4.0nm,1.1s						
ENH	**Enshi**	**29.34 266**		P	**P**	**22 16 52.8**	**-0.7**
GTA	**Gaotai**	**34.35 287**		*e*P	**P**	**22 17 38.8**	**+1.4**
GTA				sP	sP	22 17 45.7	+1.9
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				LR	LR		
	comp=N,96nm,16.0s						
GTA				LR	LR		
	comp=E,80nm,15.6s						
GTA				LR	LR		
	comp=Z,150nm,14.9s						
KMI	**Kunming**	**36.98 263**		⇑P	**P**	**22 18 00.3**	**0.0**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
PZH	**PanZhiHua**	**37.12 265**		P	**P**	**22 18 01.7**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
CRAI	**Chiangrai**	**41.41 258**		P	**P**	**22 18 36.5**	**-0.5**
WMQ	**Urumqi**	**42.44 297**		*e*P	**P**	**22 18 48.2**	**+2.9**
ZAA0	**Zalesovo Array**	**43.12 312**		P	**P**	**22 18 50.6**	**+0.1**
ZALV	**Zalesovo Beam**	**43.12 312**		P	**P**	**22 18 50.6**	**0.0**
ZALV	**Zalesovo Beam**	**43.12 312**		P	**P**	**22 18 50.9**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=94,slow=6.1,SNR=7.5						
ZALV				PcP	**PcP**	**22 20 40.0**	**0.0**
	comp=Z,2.7nm,0.6s,baz=100,slow=3.0,SNR=8.1						
	comp=Z,1.1nm,0.6s						
CHTO	**Chiang Mai**	**43.32 257**		P	**P**	**22 18 52.5**	**-0.1**
CHTO				IAmb	IAmb	22 18 54.0	
	comp=Z,5.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**43.52 257**		P	**P**	**22 18 53.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**43.52 257**		P	**P**	**22 18 54.7**	**+0.5**
	comp=Z,2.0nm,0.4s,baz=40,slow=6.7,SNR=11						
CMAR				PcP	**PcP**	**22 20 41.0**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=100,slow=4.9,SNR=1.4						
	comp=Z,2.0nm,0.4s						
P18K	**Big Mountain,**	**44.09 40**		P	**P**	**22 19 00.0**	**+1.7**
IMAR	**Indian Mountai**	**45.30 31**		P	**P**	**22 19 09.4**	**+1.5**
KDAK	**Kodiak Island**	**45.47 42**		P	**P**	**22 19 10.5**	**+1.2**
MK31	**Makanchi Array**	**45.59 302**		P	**P**	**22 19 11.3**	**+0.8**
MK31				IAmb	IAmb	22 19 38.9	
	comp=Z,6.7nm,1.2s						
MKAR	**Makanchi Array**	**45.59 302**		P	**P**	**22 19 11.1**	**+0.6**
MKAR	**Makanchi Array**	**45.59 302**		P	**P**	**22 19 10.7**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=82,slow=8.8,SNR=10.0						
	comp=Z,2.1nm,0.8s						
KURK	**Kurchatov**	**47.25 308**		P	**P**	**22 19 23.3**	**-0.1**
KURK				IAmb	IAmb	22 19 38.8	
	comp=Z,4.4nm,0.8s						
KURBB	**Kurchatov Arra**	**47.33 308**		P	**P**	**22 19 24.3**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=82,slow=8.1,SNR=18						
	comp=Z,2.0nm,0.6s						
MDM	**Murphy Dome**	**47.52 32**		P	**P**	**22 19 27.0**	**+1.6**
MDM				IAmb	IAmb	22 19 29.4	
	comp=Z,6.5nm,1.2s						
ILAR	**Eielson Array**	**48.09 33**		P	**P**	**22 19 30.4**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=262,slow=6.1,SNR=13						
	comp=Z,1.3nm,0.8s						
RAMN	**Ramite**	**48.95 275**		*e*P	**P**	**22 19 37.7**	**+0.5**
	comp=Z,6.4nm,0.6s						
JIRN	**Jiri**	**48.96 276**		*e*P	**P**	**22 19 37.3**	**-0.1**
	comp=Z,4.6nm,0.4s						
GUN	**Gumba**	**49.09 277**		*e*P	**P**	**22 19 39.1**	**+0.7**
	comp=Z,26nm,1.0s						
GKN	**Gorkha**	**50.03 277**		*e*P	**P**	**22 19 45.4**	**+0.1**
	comp=Z,17nm,0.9s						
DANN	**Dangsing**	**50.57 278**		*e*P	**P**	**22 19 50.1**	**+0.6**
	comp=Z,13nm,0.5s						
PYUN	**Piuthan**	**51.29 278**		*e*P	**P**	**22 19 55.3**	**+0.5**
	comp=Z,16nm,1.0s						
BVAR	**Borovoye Array**	**51.77 312**		P	**P**	**22 19 58.2**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=75,slow=8.6,SNR=12						
BVAR				PcP	**PcP**	**22 21 10.8**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=84,slow=5.6,SNR=4.0						
	comp=Z,2.3nm,0.8s						
BRVK	**Borovoye**	**51.83 313**		P	**P**	**22 19 58.2**	**-0.1**
I30M	**Mount Dempster**	**52.50 32**		P	**P**	**22 20 04.6**	**+1.4**
I30M				IAmb	IAmb	22 20 16.6	
	comp=Z,5.3nm,1.1s						
KK31	**Karatay Array**	**54.64 301**		P	**P**	**22 20 19.2**	**+0.1**
KKAR	**Karatay Array**	**54.64 301**		P	**P**	**22 20 19.2**	**+0.1**
BTK	**Batken**	**55.55 297**		P	**P**	**22 20 25.9**	**+0.1**
BTK				IAmb	IAmb	22 20 29.8	
	comp=Z,5.3nm,1.3s						
ARU	**Arti**	**57.38 319**		P	**P**	**22 20 39.0**	**+0.5**
ARU				IAmb	IAmb	22 20 39.6	
	comp=Z,5.6nm,0.7s						
WB0	**Warramunga Arr**	**57.59 191**		P	**P**	**22 20 38.5**	**-1.8**
WR0	**Warramunga Arr**	**57.76 190**		P	**P**	**22 20 39.5**	**-2.0**
WRA	**Warramunga Arr**	**57.77 191**		P	**P**	**22 20 38.9**	**-2.6**
WRA	**Warramunga Arr**	**57.77 191**		P	**P**	**22 20 39.6**	**-1.9**
	comp=Z,4.3nm,0.6s,baz=11,slow=7.4,SNR=44						
	comp=Z,4.3nm,0.6s						
KBL	**Kabul**	**59.12 292**		P	**P**	**22 20 50.6**	**-0.7**
KBL				IAmb	IAmb	22 20 52.3	
	comp=Z,3.4nm,0.9s						
ABKAR	**Akbulak array**	**59.20 311**		P	**P**	**22 20 51.3**	**0.0**
ABKAR	**Akbulak array**	**59.20 311**		P	**P**	**22 20 51.4**	**0.0**
ABKAR				IAmb	IAmb	22 20 52.4	
	comp=Z,3.3nm,0.8s						
EUNU	**Eureka**	**59.50 9**		P	**P**	**22 20 53.9**	**+0.9**
EUNU				IAmb	IAmb	22 21 10.5	
	comp=Z,8.3nm,1.5s						
AS31	**Alice Springs**	**61.49 190**		P	**P**	**22 21 06.1**	**-1.1**
ASAR	**Alice Springs**	**61.49 190**		P	**P**	**22 21 05.3**	**-1.9**
ASAR	**Alice Springs**	**61.49 190**		P	**P**	**22 21 05.2**	**-2.1**
	comp=Z,1.9nm,0.7s,baz=14,slow=7.9,SNR=21						
	comp=Z,1.9nm,0.7s						
RES	**Resolute Bay**	**61.72 15**		P	**P**	**22 21 08.7**	**+0.6**
GEYT	**Alibeck**	**65.37 300**		P	**P**	**22 21 32.6**	**-0.3**
GEYT				IAmb	IAmb	22 21 33.9	
	comp=Z,2.8nm,0.8s						
GEYT	**Alibeck**	**65.37 300**		P	**P**	**22 21 32.3**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=64,slow=3.4,SNR=3.6						
	comp=Z,1.5nm,0.6s						
FINES	**FINESS Array B**	**69.38 333**		P	**P**	**22 21 57.3**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=46,slow=8.2,SNR=3.6						
	comp=Z,0.9nm,0.7s						
KIV	**Kislovodsk**	**72.14 312**		P	**P**	**22 22 16.1**	**+1.0**
KBZ	**Khabaz**	**72.14 312**		P	**P**	**22 22 14.8**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=115,slow=1.6,SNR=7.1						
	comp=Z,4.1nm,0.9s						
NVAR	**Mina Array Bea**	**73.15 54**		P	**P**	**22 22 20.9**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=274,slow=6.8,SNR=4.1						
	comp=Z,0.5nm,0.7s						
NOA	**NORSAR Array B**	**74.58 338**		P	**P**	**22 22 29.4**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=56,slow=4.8,SNR=2.3						
	comp=Z,1.0nm,0.9s						
AKASG	**Mina Array Be**	**75.19 323**		P	**P**	**22 22 32.6**	**0.0**
	comp=Z,1.7nm,0.6s,baz=45,slow=5.9,SNR=8.7						
	comp=Z,1.7nm,0.6s						
PDAR	**Pinedale Array**	**75.96 47**		P	**P**	**22 22 36.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=280,slow=5.4,SNR=2.3						
	comp=Z,0.3nm,0.6s						
BUR08	**Bucovina Ar. S**	**79.20 323**		P	**P**	**22 22 55.7**	**+0.2**
BUR08				IAmb	IAmb	22 23 11.2	
	comp=Z,3.4nm,1.1s						
BURAR	**Bucovina Array**	**79.22 323**		P	**P**	**22 22 56.1**	**+0.6**
OJC	**Ojcow**	**79.80 327**		P	**P**	**22 22 58.7**	**+0.2**
OJC				IAmb	IAmb	22 23 00.6	
	comp=Z,8.3nm,1.1s						
BRTR	**Keskin Array B**	**80.06 313**		P	**P**	**22 23 00.2**	**0.0**
	comp=Z,0.5nm,0.9s,baz=57,slow=5.3,SNR=4.0						
	comp=Z,0.5nm,0.9s						
DPC	**Dobruska-Polom**	**81.16 329**		*e*P	**P**	**22 23 07.0**	**+1.1**
VYHS	**Vyhne**	**81.51 327**		*e*P	**P**	**22 23 09.1**	**+1.4**
PRU	**Pruhonice**	**82.17 330**		*e*P	**P**	**22 23 11.9**	**+0.8**
ZVC	**Zvikov**	**82.74 330**		*e*P	**P**	**22 23 15.0**	**+0.9**
CKRC	**Cesky Krumlov**	**83.18 329**		*e*P	**P**	**22 23 17.4**	**+1.0**
RONA	**Rosalia, Austr**	**83.22 327**		*e*pP	**P**	**22 23 18.2**	**+1.5**
	comp=Z,3.8nm,0.7s						
CONA	**Conrad Observa**	**83.23 328**		*e*pP	**P**	**22 23 18.4**	**+1.6**
	comp=Z,4.4nm,0.9s						
KHC	**Kasperske Hory**	**83.23 330**		*e*P	**P**	**22 23 16.8**	**+0.1**
MMAI	**Mount Meron Ar**	**83.34 307**		P	**P**	**22 23 18.8**	**+1.2**
	comp=Z,0.4nm,0.2s,baz=46,slow=5.0,SNR=3.4						
	comp=Z,0.4nm,0.2s						
GERES	**GERESS Array B**	**83.40 329**		P	**P**	**22 23 17.5**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=32,slow=5.8,SNR=4.2						
	comp=Z,0.6nm,0.4s						
SOKA	**Soboth**	**84.56 327**		*e*P	**P**	**22 23 24.2**	**+0.6**
	comp=Z,2.6nm,0.7s						
RETA	**Reutte**	**85.67 330**		*e*PcP	**P**	**22 23 30.2**	**+1.0**
	comp=Z,5.9nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**86.57 330**		P	**P**	**22 23 34.0**	**+0.1**
FUORN				IAmb	IAmb	22 23 35.4	
	comp=Z,2.3nm,0.7s						
TXAR	**Lajitas Array**	**88.30 54**		P	**P**	**22 23 43.6**	**+1.4**
TXAR	**Lajitas Array**	**88.30 54**		P	**P**	**22 23 42.1**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=264,slow=2.5,SNR=4.5						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**118.43 317**		PKP	**PKPdf**	**22 29 37.4**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=23,slow=1.6,SNR=1.7						
ELIB	**Princess Elisa**	**134.52 202**		*d*PKPdf	**PKPdf**	**22 30 06.0**	**-1.6**

ATH 11 22:49:11.8, 38°.76N×20°.57E, h9km±1km, ML1.3/5, Manual Solution by A.Papageorgiou First location: 2019/05/12 14:41:40, This location: 2019/12/31 10:26:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.07 69**		P	Pg	22 49 14.6	+0.6
LKD2				S	Sg	22 49 15.8	+0.2
DRAG	**Dragano-Lefkad**	**0.08 177**		P	Pg	22 49 14.1	+0.1
DRAG				S	Sg	22 49 15.9	+0.4
TSLK	**Tsoukalades, L**	**0.09 47**		P	Pg	22 49 15.2	+1.0
TSLK				S	Sg	22 49 17.1	+1.2
NYDR	**Nydri-Lefkada**	**0.11 116**		P	Pg	22 49 14.7	+0.3
NYDR				S	Sg	22 49 16.2	-0.1
EVGI	**Lefkada island**	**0.16 154**		P	Pg	22 49 15.4	+0.2
EVGI				S	Sg	22 49 17.7	+0.2
DMLN	**Damoulianata-K**	**0.55 196**		P	Pg	22 49 22.5	+0.1
DMLN				S	Sg	22 49 29.7	+0.1
VLS	**Valsamata**	**0.58 178**		P	Pg	22 49 23.3	+0.1
VLS				S	Sg	22 49 31.0	+0.2
PVO	**Paravola**	**0.76 101**		P	Pg	22 49 26.5	0.0
PVO				S	Sg	22 49 36.9	+0.5

AFAD ***11*** *22:49:41.3±0.0, 39°.14N×24°.19E, h17km±1km, MW5.0*

NAO ***11*** *22:49:42.8, 39°.10N×24°.23E, h10km, mb5.2*

IDC ***11*** *22:49:42.7±0.4, 39°.17N×24°.18E, h0km, mb4.7/29, mbtmp4.7/44, ML4.2/13, MS4.4/70, Error ellipse: s-maj=8.6km s-min=8.5km az=121.0*

ISK ***11*** *22:49:42.9, 39°.16N×24°.26E, h8km, ML5.0/32*

BJI ***11*** *22:49:42.0±0.0, 39°.10N×24°.20E, h7km, mb4.8/63, mB5.1/32, Ms4.8/40, Ms7 4.5/39*

PDG ***11*** *22:49:43.4±0.7, 39°.11N×24°.24E, h17km±1km, ML5.1/11, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*

MED_RC ***11*** *22:49:43.0±0.2, 39°.03N×24°.32E, h16km, MW5.1/68, Moment Tensor Solution.Mantle waves: s68,c129; Duration: 1s4 Moment tensor: Scale 10^16Nm; Mrr=1.56±.18; Mθθ6.97±.17; Mφφ-5.42±.09; Mrθ0.43±.32; Mθφ0.34±.12; Mφr1.74±.23; Best double couple: M0 6.55000×10^16 NP1:φs=225.00000°, δ=78.00000°, λ=-163.00000°. NP2:φs=132.00000°, δ=73.00000°, λ=-13.00000°. Principal axes: T 7.0100, Plg3.0000°, Azm358.0000°; N -0.9300, Plg69.0000°, Azm259.0000°; P -6.0900, Plg21.0000°, Azm89.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

MOS ***11*** *22:49:43.3±1.0, 39°.19N×24°.24E, h14km, mb5.2/55, MS4.4/27 Error ellipse: s-maj=3.8km s-min=2.4km az=89.6*

GCMT ***11*** *22:49:44.8±0.2, 38°.99N±0°.01×24°.27E±0°.01, h18km, MW5.2/133, Moment Tensor Solution. s57,c65; s133,c218; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.23±.02; Mθθ0.78±.02; Mφφ-0.54±.01; Mrθ-0.15±.03; Mθφ-0.01±.01; Mφr0.46±.05; Best double couple: M0 0.84200×10^17 NP1:φs=130.00000°, δ=73.00000°, λ=-34.00000°. NP2:φs=232.00000°, δ=58.00000°, λ=-160.00000°. Principal axes: T 0.8030, Plg10.0000°, Azm184.0000°; N 0.0770, Plg52.0000°, Azm287.0000°; P -0.8800, Plg36.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***11*** *22:49:44.8±1.5, 39°.17N±0°.05×24°.24E±0°.06, h12km±3km, mb5.1/116, Mww5.1/25 Error ellipse: s-maj=7.3km s-min=7.0km az=152.0*

NEIC ***11*** *22:49:44.4, 39°.16N×24°.23E, h14km*

ATH ***11*** *22:49:44.4, 39°.11N×24°.23E, h12km, Mw5.0, Moment Tensor Solution. s11 Moment tensor: Mrr=0.91; Mθθ4.49; Mφφ-3.58; Mrθ-0.27; Mθφ-0.03; Mφr0.72; Fault plane solution: NP1:φs=134.00000°, δ=82.00000°, λ=-12.00000°. NP2:φs=226.00000°, δ=78.00000°, λ=-172.00000°.*

THE ***11*** *22:49:44.0, 39°.10N×24°.23E, h7km±1km, ML5.0/11 Error ellipse: s-maj=1.2km s-min=0.7km az=258.0*

NEIC ***11*** *22:49:44.4, 39°.06N×24°.23E, h14km, Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10^16 Nm; Mrr=1.31; Mθθ5.09; Mφφ-3.78; Mrθ0.97; Mθφ0.59; Mφr2.65; Fault plane solution: M0 5.41000×10^16 NP1: φs=225.46000°, δ=75.70000°, λ=-148.03000°. NP2: φs=126.69000°, δ=59.13000°, λ=-16.72000°. Principal axes: T 5.3491, Plg11.0000°, Azm353.0000°; N 0.1184, Plg55.0000°, Azm247.0000°; P -5.4675, Plg33.0000°, Azm90.0000°;*

TIR ***11*** *22:49:47.6, 39°.33N×24°.06E, h51km±68km, Ml5.2*

GII ***11*** *22:49:53.4±0.0, 38°.47N×24°.80E, h7km±1km*

**ISC 11 22:49:44.1±0.6, 39°.12N±0°.02×24°.23E±0°.01, h8km±3km, n1386, σ1§42/1478, mb5.0/156, MS4.5/84, 97C-74D,

LIA AML AML 22 50 22.1
PTL Penteli 1.10 195 P Pn **22 50 05.8 -0.1**
PTL AML AML 22 50 21.9
PTL AML AML 22 50 23.7
VIL2 Platees 1.18 220 P Pb **22 50 05.8 -0.9**
VIL2 S Sg **22 50 20.8 -1.2**
VIL2 AML AML 22 50 28.1
VIL2 AML AML 22 50 36.3
PSRA Psara 1.19 118 P Pb **22 50 05.6 -1.3**
PSRA AML AML 22 50 26.1
PSRA AML AML 22 50 26.4
ATHU Athens Univers 1.20 197 P Pb **22 50 06.0 -1.1**
ATHU S Sb **22 50 22.5 -0.3**
comp=N,41µm,0.9s
ATHU Athens Univers 1.20 197 P Pb **22 50 06.0 -1.1**
ATHU S Sg **22 50 22.8 +0.1**
ATH Athens Observa 1.21 200 P Pb **22 50 06.3 -1.0**
ATH S Sn **22 50 23.7 -0.2**
comp=N,99µm,0.6s
ATH Athens Observa 1.21 200 P Pb **22 50 06.2 -1.1**
ATH S Sb **22 50 21.6 -1.4**
ATH AML AML 22 50 25.2
ATH AML AML 22 50 26.2
OUR Ouranopolis 1.23 351 Pn Pn **22 50 06.2 -1.4**
OUR Ouranopolis 1.23 351 P Pn **22 50 06.4 -1.2**
OUR S Sb **22 50 23.3 -0.4**
comp=N,37µm,0.8s
OUR Ouranopolis 1.23 351 P Pn **22 50 06.7 -0.9**
OUR AML AML 22 50 24.2
comp=N,68580µm,1.0s
OUR AML AML 22 50 30.8
comp=E,62211µm,0.6s
SIGR SIGRI 1.26 85 Pn Pn **22 50 07.1 -0.9**
SIGR Sn Sg **22 50 24.8 0.0**
SIGR SIGRI 1.26 85 P Pn **22 50 07.2 -0.8**
SIGR S Sn **22 50 26.1 +0.9**
comp=E,45µm,0.7s
SIGR SIGRI 1.26 85 P Pn **22 50 06.9 -1.1**
SIGR S Sg **22 50 24.8 0.0**
SIGR AML AML 22 50 30.5
comp=N,85497µm,0.4s
SIGR AML AML 22 50 31.3
comp=E,83998µm,0.4s
AXAR Agios Charalam 1.28 255 P Pn **22 50 07.3 -1.0**
AXAR S Sn **22 50 26.0 +0.4**
comp=E,69µm,0.8s
AXAR Agios Charalam 1.28 255 P Pn **22 50 07.3 -1.0**
AXAR S Sb **22 50 22.8 -2.1**
AXAR AML AML 22 50 35.6
AXAR AML AML 22 50 39.7
VLY Voula,Athens 1.31 195 P Pn **22 50 07.8 -0.9**
VLY S Sb **22 50 25.8 0.0**
comp=E,122µm,0.7s
VLY Voula,Athens 1.31 195 P Pn **22 50 07.6 -1.1**
VLY S Sb **22 50 25.3 -0.5**
VLY AML AML 22 50 29.4
VLY AML AML 22 50 31.6
AGG Agios Georgios 1.48 267 Pn Pn **22 50 10.7 -0.4**
AGG Sn Sb **22 50 31.2 +0.2**
AGG Agios Georgios 1.48 267 P Pn **22 50 10.3 -0.9**
AGG Agios Georgios 1.48 267 Pn Pn **22 50 10.2 -0.9**
AGG Agios Georgios 1.48 267 P Pn **22 50 10.2 -0.9**
AGG Agios Georgios 1.48 267 P Pn **22 50 10.3 -0.9**
LOUT Loutraki 1.50 222 P Pn **22 50 10.3 -0.9**
LOUT Loutraki 1.50 222 P Pn **22 50 10.4 -0.9**
DLFA Delphi 1.50 245 P Pn **22 50 09.9 -1.5**
DLFA AML AML 22 50 34.3
comp=E,49307µm,0.5s
DLFA AML AML 22 50 35.7
comp=N,39782µm,1.1s
KOCA Canakkale, Ayv 1.53 75 P Pn **22 50 10.8 -0.8**
LRSO Larissa Observ 1.53 292 P Pn **22 50 11.1 -0.6**
LRSO Larissa Observ 1.53 292 P Pn **22 50 10.7 -1.0**
THAS Thassos island 1.54 14 P Pn **22 50 10.6 -1.2**
THAS Thassos island 1.54 14 P Pn **22 50 10.2 -1.6**
EAG1 Polichnitos, L 1.55 90 P Pn **22 50 11.4 -0.6**
EAG2 Marmaro, Chios 1.57 111 P Pn **22 50 11.9 -0.4**
BOZC Bozcaada 1.58 62 Pn Pn **22 50 11.4 -1.1**
BOZC Sn Sn **22 50 32.1 -1.0**
PRK Paraskevi 1.59 85 P Pn **22 50 11.9 -0.6**
PRK Paraskevi 1.59 85 P Pn **22 50 11.6 -0.9**
PRK AML AML 22 50 37.9
PRK AML AML 22 50 51.1
CHOS Chios island 1.60 117 P Pn **22 50 12.2 -0.5**
CHOS Chios island 1.60 117 P Pn **22 50 12.3 -0.4**
THAL Thalero 1.64 229 P Pn **22 50 12.0 -1.2**
THAL Thalero 1.64 229 P Pn **22 50 12.3 -0.9**
THAL AML AML 22 50 42.4
THAL AML AML 22 50 44.4
MAKR Makrakomi, Fth 1.64 267 P Pn **22 50 12.9 -0.4**
MAKR Makrakomi, Fth 1.64 267 P Pn **22 50 12.9 -0.4**
MAKR AML AML 22 50 41.4
comp=N,64175µm,0.5s
MAKR AML AML 22 50 53.2
comp=E,50067µm,1.3s
TYRN Tyrnavos 1.66 292 P Pn **22 50 13.1 -0.4**
TYRN Tyrnavos 1.66 292 P Pn **22 50 13.0 -0.4**
GADA Gvkgeada 1.67 50 Pn Pn **22 50 12.0 -1.7**
GADA Sn Sn **22 50 34.4 -0.9**
GOKA anakkale-Gk 1.68 50 P Pn **22 50 12.8 -1.0**
SMTH Samothraki Isl 1.68 36 P Pn **22 50 12.2 -1.6**
SMTH Samothraki Isl 1.68 36 P Pn **22 50 12.2 -1.6**
KOKK Kokkinochori, 1.71 354 P Pn **22 50 13.2 -1.0**
KOKK Kokkinochori, 1.71 354 P Pn **22 50 13.1 -1.1**
HORT Hortiatis 1.72 330 Pn Pn **22 50 13.8 -0.6**
HORT Hortiatis 1.72 330 P Pn **22 50 14.0 -0.4**
HORT Hortiatis 1.72 330 P Pn **22 50 13.6 -0.8**
TNSA Tinos 1.73 155 P Pn **22 50 13.6 -0.9**
TNSA AML AML 22 50 34.3
comp=E,33876µm,0.7s
TNSA AML AML 22 50 43.9
comp=N,48972µm,0.7s
EPID Epidavros 1.74 211 P Pn **22 50 13.1 -1.5**
EPID Epidavros 1.74 211 P Pn **22 50 13.3 -1.3**
EPID S Sn **22 50 35.0 -1.9**
KARB zmir-Karabur 1.76 104 P Pn **22 50 14.1 -0.8**
KARB S Sb **22 50 38.9 +0.1**
KARB *i* AML AML 22 50 48.0
comp=N,7µm,0.6s
KARB *i* AML AML 22 50 49.0
comp=N,9µm,0.6s
RFT1 Sazli 1.76 76 Pn Pn **22 50 14.3 -0.6**
ECEA Canakkale, Ece 1.76 58 P Pn **22 50 14.1 -0.8**
ECEA S Sb **22 50 38.4 -0.5**
ECEA *i* AML AML 22 50 52.0
comp=N,2µm,1.4s
EZN Ezine 1.77 66 Pn Pn **22 50 13.7 -1.3**
EZN Ezine 1.77 66 P Pn **22 50 13.7 -1.3**
THL Klokotos Trika 1.78 285 P Pn **22 50 14.5 -0.6**
THL Klokotos Trika 1.78 285 P Pn **22 50 14.6 -0.5**
KALE Kalithea 1.79 247 P Pn **22 50 14.2 -1.2**
KALE Kalithea 1.79 247 P Pn **22 50 14.4 -0.9**
KALE AML AML 22 50 50.4
comp=N,57351µm,1.7s
KALE AML AML 22 50 56.8
comp=E,41789µm,1.1s
CESE eme 1.80 115 Pn Pn **22 50 13.3 -2.1**
THE Thessaloniki 1.80 328 P Pn **22 50 15.0 -0.5**
THE Thessaloniki 1.80 328 P Pn **22 50 15.2 -0.3**
baz=328
THE S Sn **22 50 36.1 -2.4**
baz=328
THE Thessaloniki 1.80 328 P Pn **22 50 14.9 -0.5**
EAG3 Mitilini, Lesv 1.82 90 P Pn **22 50 14.5 -1.1**
KVLA Kavala 1.82 4 P Pn **22 50 14.2 -1.6**
KVLA AML AML 22 50 45.5
comp=E,50649µm,0.6s
KVLA AML AML 22 50 45.5
comp=N,21160µm,0.4s
SOH Sokhos 1.83 339 P Pn **22 50 15.4 -0.5**
SOH Sokhos 1.83 339 P Pn **22 50 15.4 -0.5**
SOH Sokhos 1.83 339 P Pn **22 50 15.4 -0.5**
TRIZ Trizonia 1.85 247 P Pn **22 50 15.2 -0.9**
TRIZ Trizonia 1.85 247 P Pn **22 50 15.2 -0.9**
YDRA Hydra 1.86 199 P Pn **22 50 15.0 -1.3**
YDRA AML AML 22 50 47.2
comp=N,93821µm,0.5s
YDRA AML AML 22 50 48.4
ALIK Aliki, Aigiali 1.87 243 P Pn **22 50 16.2 -0.1**
ANX Ano Chora 1.88 255 P Pn **22 50 16.5 -0.1**
ANX Ano Chora 1.88 255 P Pn **22 50 16.1 -0.5**
ANX AML AML 22 50 50.5
comp=N,44940µm,0.6s
ANX AML AML 22 50 52.4
comp=E,54587µm,0.8s
KAVA Kavala 1.89 6 P Pn **22 50 15.4 -1.3**
KAVA Kavala 1.89 6 P Pn **22 50 15.2 -1.5**
GUR Goura 1.90 232 P Pn **22 50 15.9 -0.9**
GUR Goura 1.90 232 P Pn **22 50 15.9 -0.9**
BAYC CANAKKALE_Bayr 1.90 70 P Pn **22 50 15.8 -1.0**
EVR Evrytania 1.90 265 P Pn **22 50 17.2 +0.3**
EVR Evrytania 1.90 265 P Pn **22 50 17.2 +0.3**
EVR AML AML 22 50 57.0
comp=E,16321µm,0.9s
EVR AML AML 22 51 10.6
comp=N,20683µm,1.0s
CNKL anakkale-Mer 1.92 60 P Pn **22 50 16.0 -1.0**
CNKL P Pn **22 50 16.0 -1.0**
KRND KRANIDI 1.93 207 P Pn **22 50 15.8 -1.4**
KRND KRANIDI 1.93 207 P Pn **22 50 15.7 -1.4**
KRND AML AML 22 50 50.2
comp=N,42288µm,0.5s
KRND AML AML 22 50 51.2
comp=E,77370µm,1.0s
EFP Efpalio 1.95 250 P Pn **22 50 17.1 -0.3**
EFP Efpalio 1.95 250 P Pn **22 50 17.1 -0.3**
KLV Kalavryta, Ach 1.95 237 P Pn **22 50 16.5 -1.1**
KLV Kalavryta, Ach 1.95 237 P Pn **22 50 16.6 -1.1**
KLV AML AML 22 50 55.3
comp=E,20406µm,1.2s
KLV AML AML 22 50 55.9
comp=N,24158µm,1.2s
LAKA Lakka 1.97 244 P Pn **22 50 17.2 -0.6**
LAKA AML AML 22 50 56.8
comp=N,67256µm,1.3s
LAKA AML AML 22 50 57.3
comp=E,44310µm,0.7s
ZEYE Izmir, Urla-Ze 1.98 116 P Pn **22 50 17.4 -0.5**
URLA Izmir 2.00 111 Pn Pn **22 50 17.7 -0.4**
RFT5 Foca 2.01 102 Pn Pn **22 50 18.1 -0.3**
SRS Serrai 2.06 346 P Pn **22 50 18.1 -0.9**
SRS Serrai 2.06 346 P Pn **22 50 18.1 -0.9**
SRS Serrai 2.06 346 P Pn **22 50 18.1 -0.9**
RFT2 Karaagac 2.06 81 Pn Pn **22 50 18.5 -0.6**
KTI Kastanea 2.07 309 P Pn **22 50 18.9 -0.4**
DKL Dikili 2.08 90 Pn Pn **22 50 18.8 -0.4**
RFT7 Candarli 2.10 93 Pn Pn **22 50 19.2 -0.3**
GELI Tayfur-Gelibol 2.15 53 Pn Pn **22 50 19.5 -0.7**
CAVK Edirne/Enez-Ca 2.17 43 P Pn **22 50 19.1 -1.3**
PVO Paravola 2.17 258 P Pn **22 50 19.6 -1.0**
ENEZ Enez 2.19 42 Pn Pn **22 50 19.6 -1.2**
ENEZ Enez 2.19 42 P Pn **22 50 19.5 -1.2**
IKRA Agios-Kirikos- 2.21 132 P Pn **22 50 20.2 -0.8**
IKRA AML AML 22 51 04.8
comp=E,41633µm,1.1s
IKRA AML AML 22 51 05.8
comp=N,36068µm,1.0s
ZEDA zmir-Bergama 2.22 93 P Pn **22 50 20.8 -0.4**
BUHA Balikesir, Bur 2.24 79 P Pn **22 50 20.9 -0.5**
NVR Nevrokopi 2.25 353 P Pn **22 50 21.7 0.0**
NVR Nevrokopi 2.25 353 P Pn **22 50 21.6 0.0**
ALN Alexandroupoli 2.26 37 Pn Pn **22 50 21.1 -0.6**
ALN Alexandroupoli 2.26 37 P Pn **22 50 20.3 -1.4**
ALN Alexandroupoli 2.26 37 P Pn **22 50 20.3 -1.4**
ALN Alexandroupoli 2.26 37 *e*P Pn **22 50 20.3 -1.4**
ALN Alexandroupoli 2.26 37 P Pn **22 50 20.3 -1.4**
RDO Rodhopi 2.26 26 Pn Pn **22 50 20.4 -1.4**
RDO Rodhopi 2.26 26 Pn **22 50 20.3 -1.4**
RDO Rodhopi 2.26 26 P Pn **22 50 20.4 -1.4**
APE Apeiranthos 2.29 153 ⇓P Pn **22 50 21.8 -0.4**
APE Apeiranthos 2.29 153 P Pn **22 50 21.4 -0.8**
APE Apeiranthos 2.29 153 Pn Pn **22 50 20.5 -1.7**
APE Apeiranthos 2.29 153 *c i*P Pn **22 50 21.3 -0.8**
APE Apeiranthos 2.29 153 P Pn **22 50 21.4 -0.8**
APE AML AML 22 50 59.7
comp=E,32803µm,0.7s
APE AML AML 22 51 01.5
comp=N,26954µm,1.1s
KNT Kendrikon 2.29 334 Pn Pn **22 50 21.5 -0.6**
KNT Kendrikon 2.29 334 P Pn **22 50 22.1 0.0**
GRG Griva 2.31 323 Pn Pn **22 50 22.3 -0.3**
GRG Griva 2.31 323 P Pn **22 50 22.5 -0.1**
GRG Griva 2.31 323 P Pn **22 50 22.4 -0.1**
LPK Lapseki 2.32 56 Pn Pn **22 50 22.0 -0.5**
DGB zmir 2.33 116 P Pn **22 50 22.5 -0.2**
ERIK Erikli-Kesan 2.34 48 Pn Pn **22 50 22.0 -0.9**
KPRO Kipourio 2.37 292 P Pn **22 50 23.0 -0.4**
KPRO AML AML 22 51 07.9
comp=E,25717µm,1.0s
KPRO AML AML 22 51 08.1
comp=N,27257µm,1.5s
RLS Riolos of Patr 2.41 245 P Pn **22 50 23.8 0.0**
MHLO Agia Marina, M 2.43 177 P Pn **22 50 23.1 -0.9**
SMG Samos 2.48 124 P Pn **22 50 24.4 -0.4**
MNVA Monemvasia 2.60 202 P Pn **22 50 26.5 +0.1**
VLI Veliai 2.60 204 P Pn **22 50 25.5 -1.0**
PENT Pentalofos 2.62 295 P Pn **22 50 26.8 0.0**
KDZ Kurdzhali 2.65 18 Pn Pn **22 50 26.0 -1.1**
JAN Janina 2.68 283 P Pn **22 50 27.7 +0.2**
KRBG Karabiga-Canak 2.68 61 Pn Pn **22 50 27.3 -0.3**
UKOP Uzunkopru-Edir 2.72 42 Pn Pn **22 50 27.8 -0.3**
FNA Florina 2.76 308 Pn Pn **22 50 28.7 +0.1**
FNA Florina 2.76 308 Pn **22 50 28.5 -0.2**
FNA Florina 2.76 308 P Pn **22 50 28.7 +0.1**
baz=307
FNA Florina 2.76 308 P Pn **22 50 28.5 -0.2**
FNA Florina 2.76 308 P Pn **22 50 28.8 +0.1**
NEST Nestorio 2.78 299 P Pn **22 50 29.3 +0.3**
CMBO Columbo, Santo 2.80 160 P Pn **22 50 28.8 -0.4**
CMBO Columbo, Santo 2.80 160 P Pn **22 50 28.8 -0.4**
LKD2 Lefkada island 2.81 264 P Pb **22 50 31.8 -2.7**
baz=260
GONE Gonen-Balikesi 2.82 70 Pn Pn **22 50 29.1 -0.4**
PEHC Pehcevo 2.85 339 ⇑*i*Pn Pn **22 50 29.1 -0.8**
THR3 Thira Island, 2.86 161 P Pn **22 50 29.7 -0.2**
THR8 Santorini-Mono 2.88 160 P Pn **22 50 29.6 -0.7**
DDIM Aydin, Didim 2.89 124 P Pn **22 50 27.3 -3.1**
THR9 Santorini-Faro 2.89 162 P Pn **22 50 30.1 -0.3**
THR6 Thira Island, 2.91 161 P Pn **22 50 30.5 -0.1**
SANT Santorini 2.91 160 Pn **22 50 29.9 -0.8**
SANT Santorini 2.91 160 P Pn **22 50 29.9 -0.8**
BKES Balkesir-Mer 2.93 77 P Pn **22 50 30.8 -0.1**
PYL PYLOS 2.96 222 P Pn **22 50 32.3 +0.9**
LSK Leskovik 2.99 291 P Pn **22 50 33.2 +1.3**
baz=289
LSK S Sn **22 51 07.1 -0.9**
baz=289
LSK AMP
comp=N,27nm,0.7s,baz=289
KTHA Kythira Island 3.00 198 P Pn **22 50 31.0 -1.0**
VLS Valsamata 3.00 253 P Pn **22 50 32.9 +0.8**
STIP Stip 3.01 329 ⇑*i*Pn Pn **22 50 31.3 -0.9**
LTHK Lithakia 3.02 243 P Pn **22 50 33.4 +1.3**
KBN Korca 3.05 301 Pn **22 50 32.1 -0.5**
KBN Korca 3.05 301 P Pn **22 50 33.3 +0.6**
baz=299
KBN S Sn **22 51 10.0 +0.6**
baz=299
KBN AMP
comp=N,34nm,1.5s,baz=299
KBN Korca 3.05 301 P Pn **22 50 32.2 -0.5**
PLD Plovdiv 3.05 7 Pn Pn **22 50 31.9 -0.8**
IGT Igoumenitsa 3.06 279 P Pn **22 50 35.2 +2.5**
baz=276
IGT Igoumenitsa 3.06 279 P Pn **22 50 34.4 +1.7**
EDC Edincik 3.06 65 Pn Pn **22 50 32.3 -0.4**
IZMR zmir-demi 3.07 107 P Pb **22 50 37.5 -1.5**
KEF4 Livadi, Kephal 3.10 255 P Pn **22 50 34.6 +1.3**
KEF3 Kipouria, Keph 3.18 255 P Pn **22 50 35.2 +0.8**
BODT Bodrum 3.18 129 P Pn **22 50 34.4 0.0**
BAND Balkesir-Ban 3.23 66 P Pn **22 50 34.6 -0.5**
OHR Ohrid 3.30 308 *i* Pn Pn **22 50 37.0 +0.8**
ANKY Antikythira Is 3.33 193 P Pn **22 50 35.1 -1.3**
EDRB Edirne 3.33 34 Pn Pn **22 50 36.3 -0.2**
CRLT Corlu 3.35 52 Pn Pn **22 50 36.8 0.0**
SRN Sarande 3.36 284 P Pn **22 50 39.4 +2.5**
baz=282
SRN S Sn **22 51 17.2 +0.2**
baz=282
SRN AMP
comp=N,10.0nm,1.2s,baz=282
MANT Manisa 3.44 99 P Pg **22 50 52.8 +2.8**
MANT S Sg **22 51 34.2 -0.2**
KEK Kerkira 3.49 281 Pn **22 50 39.9 +1.3**
PHSR Pinarhisar 3.55 44 Pn Pn **22 50 39.0 -0.5**
DAT Datca 3.56 131 P Pn **22 50 37.5 -2.2**
SKO Skopje 3.56 324 ⇓*i*Pn Pn **22 50 40.2 +0.5**
VTS Vitosha 3.58 348 ⇑Pn Pn **22 50 40.0 -0.1**
VTS Vitosha 3.58 348 ⇑P Pn **22 50 40.0 -0.1**
CHAN Chania 3.59 182 P Pn **22 50 39.4 -0.7**
IMMV Iera Moni Meta 3.65 183 P Pn **22 50 39.9 -1.0**
MULA Mugla, Merkez- 3.72 119 P Pn **22 50 40.4 -1.5**
USAK Uak-Merkez 3.75 95 P Pn **22 50 41.8 -0.5**
IDI Anoyia 3.86 172 ⇓P Pn **22 50 43.4 -0.5**
IDI Anoyia 3.86 172 Pn Pn **22 50 43.3 -0.5**
IDI Anoyia 3.86 172 P Pn **22 50 43.1 -0.7**
IDI Anoyia 3.86 172 Pn Pn **22 50 43.0 -0.7**
comp=N,55nm,0.3s,baz=346,slow=13,SNR=210
IDI Sn **Sn 22 51 26.1 -3.2**
comp=N,62nm,0.3s,baz=113,slow=22,SNR=6.0
IDI Lg Lg 22 51 41.3
comp=N,27nm,0.3s,baz=292,slow=18,SNR=1.1
comp=N,722nm,0.7s
IDI Anoyia 3.86 172 P Pn **22 50 43.1 -0.7**
VLO Vlora 3.89 292 Pn **22 50 44.9 +0.7**
VLO Vlora 3.89 292 P Pn **22 50 48.0 +3.8**
baz=290
VLO Vlora 3.89 292 P Pn **22 50 44.9 +0.7**
KNDR Palaiochora Ch 3.90 187 P Pn **22 50 43.9 -0.4**
TIR Tirane 4.02 305 ⇑P Pn **22 50 47.9 +2.0**
TIR Tirane 4.02 305 Pn **22 50 45.7 -0.3**
TIR Tirane 4.02 305 P Pn **22 50 48.5 +2.5**
baz=304
TIR Tirane 4.02 305 ⇑P Pn **22 50 47.9 +2.0**
TAVA DENIZLI_Tavas 4.03 113 P Pn **22 50 45.5 -0.7**
DNIZ Denizli-Tavas- 4.06 110 P Pn **22 50 46.2 -0.4**
TMBK Timbaki Herakl 4.06 174 P Pn **22 50 46.9 +0.5**
ARG Arkhangelos 4.23 132 P Pn **22 50 48.4 -0.5**
ARG Arkhangelos 4.23 132 Pn **22 50 49.1 +0.2**
ARG Arkhangelos 4.23 132 P Pn **22 50 49.1 +0.2**
ARG Arkhangelos 4.23 132 P Pn **22 50 48.7 -0.1**
KARP Karpathos 4.26 146 Pn **22 50 49.3 +0.1**
KARP Karpathos 4.26 146 P Pn **22 50 49.4 +0.1**
KARP Karpathos 4.26 146 P Pn **22 50 49.4 +0.1**
GVD Gavdhos 4.27 182 P Pn **22 50 50.5 +1.1**
ZKR Zakros 4.30 158 P Pn **22 50 49.8 0.0**
ANDZ Kutahya, Merke 4.41 83 P Pn **22 50 49.8 -1.6**
CAEL Denizli, Camel 4.48 115 P Pb 22 50 57.8 -5.2
BILE Bilecik/Merkez 4.48 75 P Pn **22 50 53.5 +1.1**
BCI Bajram Curri 4.53 317 P Pn **22 50 54.1 +1.0**
baz=317
BCI S Sn **22 51 45.4 -0.5**
baz=317
BCI AMP
comp=E,7.4nm,1.7s,baz=317
SCTE Santa Cesarea 4.56 284 Pn **22 50 54.1 +0.8**
SCTE Santa Cesarea 4.56 284 P Pn **22 50 55.0 +1.7**
baz=282
SEMS Kocaeli-K¶rfe 4.58 66 P Pn **22 50 53.5 -0.1**
HISA Bilecik-Osmane 4.58 71 P Pn **22 50 53.5 -0.3**
LOZB Loznitsa 4.61 22 ⇑P Pn **22 50 53.6 -0.4**
ZIMR 4.62 10 ⇑P Pn **22 50 54.0 -0.1**
ZIMR 4.62 10 ⇑P Pn **22 50 54.0 -0.1**
KZIL AFYON_Kizioren 4.70 99 P Pn **22 50 56.4 +1.0**
AFYO Afyonkarahisar 4.74 92 P Pn **22 50 57.1 +1.2**
ULC Ulcinj 4.75 308 ⇑*i*Pn Pn **22 50 55.9 -0.1**
ULC *i* Sn Sn **22 51 48.9 -2.3**
PVY Plav 4.75 318 *e*Pn Pn **22 50 56.0 -0.1**
PVY *i* Sn Sn **22 51 49.1 -2.4**
RAZG Razgrad 4.76 20 ⇓P Pn **22 50 56.0 -0.2**
BRDR BURDUR-Merkez 4.79 105 P Pn **22 50 55.7 -1.0**
VLAD Vladila 4.88 1 ⇑P Pn **22 50 57.7 0.0**
DRME Dracevica, Mon 4.92 310 ⇑*i*Pn Pn **22 50 59.4 +1.1**
DRME Dracevica, Mon 4.92 310 ⇓*i*Pn Pn **22 50 58.2 -0.1**
DRME *i* Sn Sn **22 51 52.9 -2.4**
BAIL Bailesti 4.95 353 ⇓P Pn **22 50 58.5 -0.1**
AFYN Afyon-Dinar-K 4.98 98 P Pn **22 51 02.2 +3.0**
IVA Berane 4.99 320 ⇓*i*Pn Pn **22 50 59.1 -0.2**
IVA *i* Sn Sn **22 51 54.7 -2.5**
PDG Podgorica 5.02 313 ⇓P Pn **22 51 02.4 +2.6**
PDG Podgorica 5.02 313 Pn Pn **22 51 00.4 +0.6**
PDG Podgorica 5.02 313 ⇑*i*Pn Pn **22 51 01.1 +1.4**
PDG Podgorica 5.02 313 *e*Pn Pn **22 50 59.7 0.0**
PDG *i* Sn Sn **22 51 55.5 -2.5**
KAYN Sakarya, Kayna 5.04 67 P Pn **22 51 00.0 +0.1**
COPA Copaceanca 5.07 8 ⇑P Pn **22 51 00.5 +0.1**
ELL Elmali 5.07 116 Pn **22 51 02.7 +2.2**
ELL Elmali 5.07 116 P Pn **22 51 02.7 +2.2**
SGAZ Eskisehir, Sey 5.14 83 P Pn **22 50 58.6 -2.8**
BUM Brajici-Budva 5.16 310 *e*Pn Pn **22 51 01.6 0.0**
BUM *i* Sn Sn **22 51 58.8 -2.5**
KURO Afyon-Bolvadin 5.24 92 P Pn 22 50 57.8 -5.0
SJES Sjenica 5.24 324 ⇑*i*Pn Pn **22 51 03.4 +0.5**
PUNG Punghina 5.25 350 ⇑P Pn **22 51 02.2 -0.6**
SGRR Singureni 5.27 14 ⇑P Pn **22 51 03.3 +0.3**
CEME Cevo 5.29 312 ⇓*i*Pn Pn **22 51 03.4 -0.1**
CEME *i* Sn Sn **22 52 01.9 -2.8**
BUC1 Bucharest 5.40 14 ⇓P Pn **22 51 04.4 -0.4**
BUC1 Bucharest 5.40 14 ⇓P Pn **22 51 04.4 -0.4**
NKME Niksic 5.41 314 *e*Pn Pn **22 51 05.0 -0.1**
NKME *i* Sn Sn **22 52 04.8 -2.8**
HUMR Humele 5.44 6 ⇑P Pn **22 51 04.8 -0.6**
HCY Herceg Novi 5.48 309 ⇑*i*Pn Pn **22 51 06.0 -0.1**
HCY *i* Sn Sn **22 52 06.5 -2.8**
MDUB Mudurnu 5.53 74 Pn **22 51 07.2 +0.3**
SUTC Sutluce-Ispart 5.57 105 P Pn **22 51 08.0 +0.7**
PLE Pljevlja 5.57 321 *e*Pn Pn **22 51 07.3 -0.1**
PLE *i* Sn Sn **22 52 08.7 -3.0**
AKUM Antalya-Kumluc 5.59 118 P Pn **22 51 08.0 +0.6**
SRE Strehaia 5.59 352 ⇑P Pn **22 51 06.9 -0.7**
SRE Strehaia 5.59 352 ⇑P Pn **22 51 06.9 -0.7**
RMGR Halanga-Turnu 5.66 349 ⇓P Pn **22 51 07.9 -0.6**
DJES Djerdap 5.69 348 ⇓P Pn **22 51 08.3 -0.7**
DJES Djerdap 5.69 348 Pn Pn **22 51 07.6 -1.3**
TREB Trebinje 5.73 311 *e*Pn Pn **22 51 11.6 +2.2**
UPM Unac-Piva 5.73 317 *e*Pn Pn **22 51 09.3 -0.3**
UPM *i* Sn Sn **22 52 12.5 -3.2**
NOCI Noci 5.76 289 P Pn **22 51 10.1 +0.2**
baz=288
SULR 5.76 15 ⇑P Pn **22 51 10.0 +0.2**
STFAR Stefanesti-Arg 5.77 5 ⇓P Pn **22 51 10.0 0.0**
RUDO Rudo 5.80 322 *e*Pn Pn **22 51 10.1 -0.3**
DBRK Dubrovnik 5.82 310 *e*Pn Pn **22 51 11.0 +0.3**
YIGI Dzce 5.83 69 P Pn **22 51 10.9 0.0**
DIVS Divibare 5.91 329 Pn Pn **22 51 11.8 -0.1**
DIVS Divibare 5.91 329 ⇑*i*Pn Pn **22 51 11.8 -0.1**
DOGA KONYA_Doganhis 5.91 98 P Pn **22 51 09.5 -2.6**
HERR Herculane 5.92 347 ⇓P Pn **22 51 11.3 -0.7**
CVDA Cernavoda 5.94 27 ⇓P Pn **22 51 13.1 +0.8**
PLAR PLOIESTI 5.95 12 ⇑P Pn **22 51 15.9 +3.5**
MFTR Murfatlar 5.95 30 ⇓P Pn **22 51 12.4 -0.1**
EFOR EFORIE 5.95 32 ⇓P Pn **22 51 12.0 -0.5**
BOLU Bolu-Merkez-Mu 5.96 71 P Pn **22 51 09.5 -3.1**
AMRR Amara 5.96 22 ⇓P Pn **22 51 13.5 +1.0**
AMRR Amara 5.96 22 ⇓P Pn **22 51 13.5 +1.0**
MDVR Moldovita 5.96 342 ⇓P Pn **22 51 12.9 +0.1**
BBLS Lazići 5.97 324 ⇑*i*Pn Pn **22 51 13.2 +0.4**
MATE Matera 5.99 287 ⇓P Pn **22 51 13.3 +0.3**
KIBS BOLU 6.01 75 P Pn **22 51 12.4 -1.0**
MTUR Matau 6.14 5 ⇑P Pn **22 51 15.5 +0.4**
MTUR Matau 6.14 5 ⇑P Pn **22 51 15.5 +0.4**
PGOR Pogoanele 6.14 19 ⇓P Pn **22 51 15.3 +0.3**
TIRR Tirgusor 6.18 29 ⇑P Pn **22 51 15.3 -0.3**
TIRR Tirgusor 6.18 29 Pn **22 51 14.8 -0.8**
TIRR Tirgusor 6.18 29 ⇑P Pn **22 51 15.3 -0.3**
STON Ston 6.21 309 *e*Pn Pn **22 51 16.0 +0.1**
STON Ston 6.21 309 ⇑*i*Pn Pn **22 51 15.4 -0.5**
HARR Harsova 6.21 25 ⇑P Pn **22 51 16.0 -0.1**
HARR Harsova 6.21 25 ⇑P Pn **22 51 16.0 -0.1**
NEVS Nevesinje 6.23 314 ⇑*i*Pn Pn **22 51 17.5 +1.1**
ISR Istrita 6.24 15 ⇑P Pn **22 51 17.2 +0.7**
ISR Istrita 6.24 15 ⇑P Pn **22 51 17.2 +0.7**
ARR Arges 6.25 3 ⇑P Pn **22 51 16.2 -0.5**
LOT Lotru 6.34 357 ⇑P Pn **22 51 17.2 -0.7**
VOIR 6.35 5 ⇑P Pn **22 51 17.6 -0.4**
VOIR 6.35 5 ⇑P Pn **22 51 17.6 -0.4**
GZR Gura Zlata 6.37 351 ⇑P Pn **22 51 17.8 -0.4**
GZR Gura Zlata 6.37 351 ⇑P Pn **22 51 17.8 -0.4**
TEKS Tekeris 6.47 329 ⇑*i*Pn Pn **22 51 18.9 -0.7**
KONT Konya--Tatoy 6.48 98 P Pn **22 51 21.9 +2.1**
NEHR Nehoiu 6.49 13 ⇓P Pn **22 51 20.7 +0.8**
MLR Muntele Rosu 6.50 11 ⇑P Pn **22 51 20.5 +0.4**
MLR Muntele Rosu 6.50 11 Pn **22 51 20.3 +0.2**
MLR Muntele Rosu 6.50 11 ⇑P Pn **22 51 20.5 +0.4**

MLR Muntele Rosu 6.50 11 Pn Pn 22 51 19.5 -0.6
comp=E,9.8nm,0.3s,baz=212,slow=4.8,SNR=111
MLR Sn **Sn** 22 52 32.8 -1.6
baz=284,slow=22
MLR Lg Lg 22 53 08.5
baz=99,slow=20
comp=E,156nm,0.6s
KMER Konya-Meram 6.53 99 P Pn 22 51 16.8 -3.7
TPGR Topolog 6.53 27 ⇑P Pn 22 51 20.4 0.0
GRER 6.58 17 ⇓P Pn 22 51 21.2 +0.1
BTIN Bartın 6.62 65 P Pn 22 51 20.4 -1.2
JURR Jurilovca 6.62 30 ⇑P Pn 22 51 21.4 -0.3
LSTV Lastovo 6.65 306 *e*Pn Pn 22 51 21.1 -1.0
ANTO Ankara 6.66 81 ⇓P Pn 22 51 23.0 +0.6
ANTO Ankara 6.66 81 Pn 22 51 22.7 +0.3
ANTO Ankara 6.66 81 ⇓P Pn 22 51 23.0 +0.6
ANTO Ankara 6.66 81 P Pn 22 51 22.9 +0.6
ANTO S **Sn** 22 52 37.3 -1.2
CFR Carcaliu 6.71 24 ⇓P Pn 22 51 22.7 -0.2
CFR Carcaliu 6.71 24 ⇓P Pn 22 51 22.7 -0.2
KKUL Konya-Kulu 6.75 87 P Pn 22 51 26.9 +3.4
BZS Buzias 6.78 344 ⇑P Pn 22 51 23.2 -0.7
BZS Buzias 6.78 344 ⇑P Pn 22 51 23.2 -0.7
ALIN Konya, Altinte 6.81 94 P Pn 22 51 26.9 +2.6
DEV Deva 6.83 352 ⇑P Pn 22 51 24.2 -0.4
DEV Deva 6.83 352 ⇑P Pn 22 51 24.2 -0.4
MAKA Makarska 6.85 310 *e*Pn Pn 22 51 24.6 -0.2
COVR Voineasa-Covas 6.88 12 ⇑P Pn 22 51 26.0 +0.8
DOPR Dopca 6.90 7 ⇑P Pn 22 51 25.9 +0.4
RICI Ricice 6.91 312 *e*Pn Pn 22 51 25.7 +0.1
IZVR Izvoarele 6.94 21 ⇑P Pn 22 51 26.1 +0.1
TLCR 6.95 28 ⇓P Pn 22 51 26.3 +0.1
TLCR 6.95 28 ⇓P Pn 22 51 26.3 +0.1
TUDR 6.95 20 ⇑P Pn 22 51 27.0 +0.8
ODBI Odobesti 6.96 17 ⇓P Pn 22 51 27.5 +1.2
PLOR Plostina 6.96 14 ⇑P Pn 22 51 27.1 +0.7
PLOR Plostina 6.96 14 ⇑P Pn 22 51 27.1 +0.7
SGRT San Giovanni R 6.99 295 Pn Pn 22 51 25.9 -1.0
SGRT San Giovanni R 6.99 295 P Pn 22 51 26.0 -0.9
baz=294
VRI Vrincioaia 6.99 14 ⇑P Pn 22 51 27.9 +1.1
VRI Vrincioaia 6.99 14 ⇑P Pn 22 51 27.4 +0.6
GIUM Giurgiulesti 7.01 24 ⇑P Pn 22 51 27.4 +0.4
MDB Medias 7.02 1 ⇑P Pn 22 51 28.2 +1.0
MDB Medias 7.02 1 ⇑P Pn 22 51 28.2 +1.0
TATR Tatarca 7.07 22 ⇑P Pn 22 51 27.8 0.0
OZUR 7.07 9 ⇑P Pn 22 51 27.8 0.0
PANC Panciu 7.09 17 ⇑P Pn 22 51 28.3 +0.3
KKBE Karaman, Kazim 7.12 103 P Pn 22 51 28.4 -0.2
SCTR Scanteiesti 7.12 22 ⇓P Pn 22 51 29.9 +1.4
HVAR Hvar 7.14 307 *e*Pn Pn 22 51 27.9 -0.9
HVAR Sn **Sn** 22 52 45.0 -5.1
ELDT Eldivan 7.21 76 P Pn 22 51 26.9 -3.0
SRKY Kupres RS 7.25 315 ⇑*i*Pn Pn 22 51 31.1 +0.7
PELI Kastamonı-Ara 7.28 70 P Pn 22 51 27.7 -3.2
VARL Varlezi 7.29 20 ⇓P Pn 22 51 31.7 +0.9
VLDR Vladesti 7.30 22 ⇑P Pn 22 51 31.7 +0.7
BR131 Keskin Array S 7.31 82 Pn 22 51 31.6 +0.4
BR131 Keskin Array S 7.31 82 *d i*P Pn 22 51 32.0 +0.8
BR131 Keskin Array S 7.31 82 P Pn 22 51 32.2 +1.0
SNR=31
BR131 S **Sn** 22 52 51.2 -3.2
BRTR Keskin Array B 7.31 82 Pn 22 51 31.8 +0.6
BRTR Keskin Array B 7.31 82 *i* P Pn 22 51 32.0 +0.8
BRTR pmax pmax
comp=Z,40nm,0.5s
BRTR Keskin Array B 7.31 82 Pn Pn 22 51 32.1 +0.8
comp=Z,11nm,0.3s,baz=263,slow=12,SNR=288
BRTR Sn **Sn** 22 52 51.5 -3.0
baz=260,slow=22
BRTR Lg Lg 22 53 37.7
baz=135,slow=40
BRTR LR LR 22 54 23.4
comp=Z,3μm,21.6s,baz=268,slow=38
comp=Z,36nm,0.5s
GHRR 7.32 18 ⇓P Pn 22 51 32.2 +0.9
SIRR Siria 7.39 346 ⇓P Pn 22 51 32.6 +0.3
TGMR Targu Mures 7.41 2 ⇓P Pn 22 51 32.7 +0.2
BIR Birlad 7.57 18 ⇑P Pn 22 51 34.8 +0.1
BIR Birlad 7.57 18 ⇑P Pn 22 51 34.8 +0.1
MARR Marisel-Cluj 7.60 354 ⇓P Pn 22 51 36.0 +0.8
TESR Tescani 7.60 13 ⇓P Pn 22 51 35.7 +0.6
CJR Cluj-Napoca 7.61 357 ⇑P Pn 22 51 34.8 -0.4
CJR Cluj-Napoca 7.61 357 ⇑P Pn 22 51 34.8 -0.4
KIJV Kijevo 7.63 312 *e*Pn Pn 22 51 35.4 -0.3
KIJV Sn **Sn** 22 52 59.1 -3.2
PAOL Paolisi 7.66 288 Pn 22 51 36.8 +0.8
CBBR Cluj-Babes-Bol 7.67 356 ⇓P Pn 22 51 35.9 -0.1
BLY Banja Luka 7.70 319 ⇑*i*Pn Pn 22 51 37.1 +0.6
ZIRJ Zirje 7.89 308 *e*Pn Pn 22 51 37.6 -1.5
ZIRJ Sn **Sn** 22 53 02.5 -6.0
A252A Venje 7.89 325 *e*Pn Pn 22 51 39.4 +0.3
VAE Valguarnera 7.89 261 Pn Pn 22 51 39.3 +0.1
comp=Z,5.0nm,0.3s,baz=139,slow=4.8,SNR=32
VAE Sn **Sn** 22 53 09.1 +0.3
comp=Z,8.3nm,0.3s,baz=335,slow=18,SNR=1.4
VAE LR LR 22 55 16.4
comp=Z,2μm,19.3s,baz=85,slow=42
comp=Z,33nm,0.6s
LEOM Leova 7.92 21 ⇑P Pn 22 51 40.4 +0.9
LEOM Leova 7.92 21 ⇑P Pn 22 51 40.4 +0.9
VASR Vaslui 7.96 18 ⇑P Pn 22 51 41.3 +1.2
ARCR ARCALIA 7.97 1 ⇓P Pn 22 51 40.2 +0.1
MORI Morici 7.97 309 *e*Pn Pn 22 51 39.8 -0.3
RAFF Raffo Rosso 8.00 259 Pn Pn 22 51 39.1 -1.6
MESR Meseseni 8.09 354 ⇑P Pn 22 51 49.7 +8.0
PRIJ Prijedor 8.10 319 ⇑*i*Pn Pn 22 51 42.1 +0.2
BORR Bors 8.17 348 ⇓P Pn 22 51 43.4 +0.5
MORH Mrgy, Hungar 8.20 332 ⇑P Pn 22 51 42.7 -0.6
UDBI Udbina 8.32 313 *e*Pn Pn 22 51 45.9 +0.9
PRAR RASCA 8.37 9 ⇑P Pn 22 51 46.3 +0.7
CSS Mathiatis 8.37 117 Pn Pn 22 51 45.2 -0.5
CSS Mathiatis 8.37 117 Pn Pn 22 51 46.1 +0.4
CSS Mathiatis 8.37 117 P Pn 22 51 46.9 +1.2
INTR Introdacqua 8.38 293 Pn Pn 22 51 44.9 -1.0
WDD Wied Dalam 8.38 250 Pn 22 51 44.4 -1.5
DUGI Dugi Otok 8.43 308 *e*Pn Pn 22 51 45.6 -0.9
DUGI Sn **Sn** 22 53 16.7 -5.0
LTVH Ltavrtes, Hu 8.44 349 ⇓P Pn 22 51 46.6 0.0
PURM Purcari 8.49 27 ⇓P Pn 22 51 47.7 +0.5
BURAR Bucovina Array 8.53 4 ⇓P Pn 22 51 48.3 +0.4
BURAR Bucovina Array 8.53 4 Pn Pn 22 51 46.5 -1.4
BURAR Bucovina Array 8.53 4 ⇓P Pn 22 51 48.3 +0.4
BUR08 Bucovina Ar. S 8.55 4 Pn 22 51 47.3 -0.9
KIS Kishinev 8.56 22 ⇓*i*P Pn 22 51 48.0 -0.3
comp=Z,260nm,5.5s
KIS *e*S **Sn** 22 53 25.0 0.0
KIS *e*Li 22 53 58.0
comp=Z,1μm,4.5s
KIS *e*Lg Lg 22 54 10.0
comp=Z,4μm,14.6s
KIS LRM MLR 22 55 23.0
comp=Z,2μm,9.7s
KIS Kishinev 8.56 22 ⇑P Pn 22 51 48.9 +0.6
KIS Kishinev 8.56 22 *d i*P Pn 22 51 48.0 -0.3
KIS *e*S **Sn** 22 53 21.0 -4.0
KIS pmax pmax
comp=Z,260nm,5.5s
KIS MLR MLR
comp=Z,2μm,11.0s
KIS MLR MLR
comp=N,2μm,10.0s
BMR Baia Mare 8.57 357 ⇑P Pn 22 51 48.4 0.0
BMR Baia Mare 8.57 357 ⇑P Pn 22 51 48.4 0.0
VIRC Vir 8.59 310 *e*Pn Pn 22 51 48.3 -0.4
PLIT Plitvice 8.61 315 *e*Pn Pn 22 51 48.7 -0.3
CLTB Caltabellotta 8.79 263 Pn 22 51 51.9 +0.3
A254A Petrova Gora 8.80 317 *e*Pn Pn 22 51 51.5 -0.1
AQU L'Aquila 8.84 295 Pn 22 51 51.5 -0.7
AQU L'Aquila 8.84 295 P Pn 22 51 51.5 -0.7
NVLJ Novalja 8.86 311 *e*Pn Pn 22 51 51.3 -1.0
CAMP Campotosto 8.89 296 Pn 22 51 52.1 -0.8
RABC Rab 9.01 312 *e*Pn Pn 22 51 53.9 -0.6
BNN Bunyan 9.05 88 Pn 22 51 56.0 +0.8
KALN Kalnik 9.05 323 *e*Pn Pn 22 51 55.0 -0.1
ZAG Zagreb 9.06 320 *i* Pn Pn 22 51 55.8 +0.7
TRPA Tarpa 9.09 353 ⇑P Pn 22 51 55.0 -0.6
PTJ Puntijarka 9.12 321 *e*Pn Pn 22 51 55.9 -0.2
GUMA Gualdo di Mace 9.12 299 Pn 22 51 55.4 -0.7
YAL Yalta 9.14 51 ⇓*i*P Pn 22 51 54.7 -1.6
YAL *e*S **Sn** 22 53 34.1 -5.2
OZLJ Ozalj 9.18 318 *e*Pn Pn 22 51 56.3 -0.4

NRCA Norcia 9.19 297 Pn 22 51 56.1 -0.9
BOJS Bojanci 9.22 317 *i* Pn Pn 22 51 57.0 -0.2
FDMO Fiordimonte 9.28 299 Pn 22 51 56.9 -1.3
PSZ Piszkesteto 9.34 342 ⇓P Pn 22 51 58.4 -0.7
PSZ Piszkesteto 9.34 342 Pn 22 51 56.9 -2.2
PSZ Piszkesteto 9.34 342 ⇓P Pn 22 51 58.4 -0.7
SIM Simferopol' 9.38 48 *e*P Pn 22 51 58.6 -0.9
SIM *e*S **Sn** 22 53 40.8 -4.3
ALU Alushta 9.40 50 *e*P Pn 22 51 57.2 -2.6
CESX Cesi 9.49 295 Pn 22 52 01.1 0.0
SORM Soroca 9.49 17 ⇑P Pn 22 52 00.4 -0.7
SORM Soroca 9.49 17 ⇑P Pn 22 52 00.4 -0.7
RIY Rijeka 9.53 314 *e*Pn Pn 22 52 02.1 +0.6
SMRN Sveta Marina 9.54 312 *e*Pn Pn 22 52 00.4 -1.3
SRO Srobarova 9.70 336 *e*P Pn 22 52 05.8 +2.0
SRO Srobarova 9.70 336 *e*PN Pn 22 52 05.8 +2.0
BRJN Brijuni 9.71 310 *e*Pn Pn 22 52 03.0 -1.0
KECS Kecovo 9.75 345 *e*P Pn 22 52 07.2 +2.7
KECS Kecovo 9.75 345 *e*PN Pn 22 52 07.2 +2.7
MURB Monte Urbino 9.75 299 Pn 22 52 03.7 -0.9
CEY Cerknica 9.81 316 ⇑*i*Pn Pn 22 52 04.8 -0.7
SUDU Sudak 9.87 51 *e*P Pn 22 52 04.3 -1.9
SUDU *e*S **Sn** 22 53 49.8 -7.3
A253A Karojba, Istri 9.89 312 *e*Pn Pn 22 52 05.6 -0.9
KOLS Kolonicke sedl 9.91 352 *e*P Pn 22 52 08.7 +1.8
KOLS Kolonicke sedl 9.91 352 *e*PN Pn 22 52 08.7 +1.8
LJU Ljubljana 9.95 317 *i* Pn Pn 22 52 06.9 -0.5
LJU *i* 22 52 15.9
CRVS Cervenica-Dubn 9.98 349 *e*P Pn 22 52 07.6 -0.2
CRVS Cervenica-Dubn 9.98 349 *e*PN Pn 22 52 07.5 -0.2
SOKA Soboth 10.13 321 *i* Pn Pn 22 52 10.0 +0.2
comp=N,29nm,1.0s,SNR=42
VYHS Vyhne 10.15 339 *e*P Pn 22 52 11.6 +1.5
VYHS Vyhne 10.15 339 *e*PN Pn 22 52 11.6 +1.5
TRI Trieste 10.16 314 Pn 22 52 08.1 -2.1
TRI Trieste 10.16 314 P Pn 22 52 08.1 -2.1
FEO Feodosiya 10.17 51 *e*P Pn 22 52 10.0 -0.3
FEO *e*S **Sn** 22 53 57.7 -6.8
SOP Sopron 10.22 329 P Pn 22 52 11.7 +0.7
ARSA Arzberg 10.32 325 *i* Pn Pn 22 52 13.4 +1.0
comp=N,23nm,0.6s,SNR=37
RONA Rosalia, Austr 10.34 329 *i* Pn Pn 22 52 13.6 +0.9
comp=N,5.3nm,0.4s,SNR=14
GAZ Gaziantep 10.40 97 Pn 22 52 15.4 +1.7
SABO M.te Sabotino 10.41 315 Pn Pn 22 52 12.1 -1.6
ZST Bratislava 10.44 333 *e*P Pn 22 52 15.5 +1.5
ZST Bratislava 10.44 333 *e*PN Pn 22 52 15.5 +1.5
STHS Stebnicka Huta 10.52 349 *e*P Pn 22 52 17.5 +2.4
STHS Stebnicka Huta 10.52 349 *e*PN Pn 22 52 17.5 +2.4
MODS Modra-Piesok 10.53 334 *e*P Pn 22 52 16.0 +0.7
MODS Modra-Piesok 10.53 334 *e*PN Pn 22 52 16.0 +0.7
KWP Kalwaria Pacla 10.57 355 *e*P Pn 22 52 18.7 +2.9
KWP *e*S Sn 22 54 54.2 +40
KWP Kalwaria Pacla 10.57 355 Pn 22 52 16.5 +0.7
KWP Kalwaria Pacla 10.57 355 P Pn 22 52 16.5 +0.7
LANS Liptovska Anna 10.60 343 *e*P Pn 22 52 19.9 +3.7
LANS Liptovska Anna 10.60 343 *e*PN Pn 22 52 19.9 +3.7
NIE Niedzica 10.68 346 *e*P Pn 22 52 18.7 +1.4
CONA Conrad Observa 10.70 328 *i* Pn Pn 22 52 18.6 +1.0
comp=N,16nm,0.7s,SNR=18
HNTI Hanita 10.70 121 Pn Pn 22 52 17.5 -0.1
HNTI Sn **Sn** 22 54 10.3 -7.3
HNTI Hanita 10.70 121 P Pn 22 52 17.7 +0.1
LVV L'vov 10.70 359 *e*P Pn 22 52 17.7 +0.1
LVV *e*S **Sn** 22 54 17.8 +0.3
LVV pmax pmax
comp=Z,50nm,1.1s
LVV MLR MLR
comp=N,3μm,10.0s
LVV MLR MLR
comp=E,2μm,10.0s
LVV MLR MLR
comp=Z,2μm,10.0s
PRED Cave del Predi 10.72 317 Pn 22 52 16.5 -1.5
MYKA Terra Mystica 10.80 317 *e*Pn Pn 22 52 20.2 +1.1
comp=Z,2.3nm,0.5s
JAVC Velka Javorina 10.82 336 *e*PN Pn 22 52 21.7 +2.4
OFRI `Ofer 10.86 123 Pn Pn 22 52 19.4 -0.5
MMA0B Mount Meron ar 10.89 121 Pn Pn 22 52 20.1 -0.3
MMA0B Sn **Sn** 22 54 15.0 -7.5
MMAI Mount Meron Ar 10.89 121 Pn Pn 22 52 19.8 -0.6
comp=Z,10nm,0.3s,baz=306,slow=11,SNR=94
MMAI Sn **Sn** 22 54 15.6 -6.9
comp=Z,2.7nm,0.3s,baz=307,slow=27,SNR=6.0
comp=Z,6.9nm,0.3s
GEM Giv'at Ha'Em 10.95 119 Pn Pn 22 52 20.8 -0.3
GEM Giv'at Ha'Em 10.95 119 P Pn 22 52 21.0 -0.1
NATI Neve Ativ 10.97 119 Pn Pn 22 52 20.8 -0.6
NATI Sn **Sn** 22 54 16.4 -7.9
NATI Neve Ativ 10.97 119 P Pn 22 52 20.7 -0.6
STAL STALIGIAL 11.08 314 Pn 22 52 21.2 -1.6
CLUD Cludinico 11.10 315 Pn 22 52 22.0 -1.1
SLTI Sal'it 11.14 125 Pn Pn 22 52 24.0 +0.3
SLTI Sal'it 11.14 125 P Pn 22 52 24.2 +0.5
KSHT Keshet 11.19 120 Pn Pn 22 52 24.6 +0.2
MAUC Maruska 11.22 338 *e*P Pn 22 52 28.7 +3.9
KBA Koelnbreinsper 11.25 319 *e*Pn Pn 22 52 25.2 -0.1
comp=Z,7.8nm,0.8s
MMLI Mount Malkishu 11.26 123 Pn Pn 22 52 25.5 +0.1
SHMJ Saham 11.31 121 P Pn 22 52 26.0 0.0
MOA Molln 11.33 324 *i* Pn Pn 22 52 27.6 +1.3
comp=Z,40nm,0.9s,SNR=50
ANN Anapa 11.35 56 *e*P Pn 22 52 24.9 -1.5
ANN *e*S **Sn** 22 54 33.3 0.0
ANN pmax pmax
comp=Z,40nm,1.0s
ANN MLR MLR
comp=E,559nm,15.0s
ANN MLR MLR
comp=Z,1μm,14.0s
ANN MLR MLR
comp=N,481nm,12.0s
SALP Salfit 11.35 125 Pn Pn 22 52 25.9 -0.7
KRUC Moravsky 11.42 333 *e*PN Pn 22 52 26.3 -1.2
QRNJ Al-Qirein 11.43 123 P Pn 22 52 28.1 +0.5
HMDT Nahal Hemdat 11.45 123 Pn Pn 22 52 28.7 +0.8
HMDT Nahal Hemdat 11.45 123 P Pn 22 52 28.5 +0.6
ABTA Abfaltersbach 11.48 315 *i* Pn Pn 22 52 27.7 -0.7
comp=N,17nm,0.6s,SNR=15
ABTA *e*Sn **Sn** 22 54 38.0 +1.2
comp=N,8.6nm,0.7s
BIOA Bad Ischl, Aus 11.52 322 *i* Pn Pn 22 52 29.0 +0.2
comp=N,37nm,0.8s,SNR=42
BIOA *e*Sn **Sn** 22 54 37.8 +0.2
comp=N,6.5nm,0.5s
OJC Ojcow 11.54 346 *e*P Pn 22 52 29.9 +0.8
OJC *e*S Sn 22 54 56.7 +19
OJC Ojcow 11.54 346 Pn 22 52 28.0 -1.1
OJC Ojcow 11.54 346 P Pn 22 52 28.0 -1.1
OKC Ostrava-Krasne 11.56 340 *e*P Pn 22 52 31.2 +1.8
OKC MLR MLR
comp=Z,5μm,12.6s
OKC Ostrava-Krasne 11.56 340 *e*P Pn 22 52 31.2 +1.8
OKC AMS AMS 22 58 10.0
comp=Z,5μm,12.6s
VRAC Vranov 11.56 334 *e*PN Pn 22 52 29.0 -0.4
VRAC Vranov 11.56 334 Pn Pn 22 52 26.3 -3.1
comp=Z,0.2nm,0.3s,baz=164,slow=12,SNR=12
comp=Z,7.0nm,0.9s
CTI Castel Tesino 11.57 311 Pn 22 52 27.5 -2.1
CTI Castel Tesino 11.57 311 P Pn 22 52 27.5 -2.1
KZIT Kziot 11.68 131 Pn Pn 22 52 29.9 -1.1
MORC Moravsky Berou 11.68 338 Pn Pn 22 52 30.9 -0.1
MORC Moravsky Berou 11.68 338 *e*PN Pn 22 52 31.9 +0.9
MORC Moravsky Berou 11.68 338 P Pn 22 52 30.9 -0.1
YTIR Yattir 11.78 128 Pn Pn 22 52 31.9 -0.6
YTIR Yattir 11.78 128 P Pn 22 52 32.5 0.0
PRMA PARMA 11.80 303 Pn 22 52 31.8 -0.8
LESA Schwarzleotal 11.82 318 *e*Pn Pn 22 52 32.7 -0.2
comp=Z,6.0nm,0.6s
TREC Trest 11.95 331 AMS AMS 22 57 50.0
comp=Z,4μm,12.1s
RJOB Jochberg 11.96 320 *e*Pn Pn 22 52 34.7 -0.2
SALO Salr 12.04 307 Pn 22 52 34.1 -1.8
CKRC Cesky Krumlov 12.04 327 *e*P Pn 22 52 36.6 +0.7
CKRC MLR MLR
comp=Z,3μm,13.9s
CKRC Cesky Krumlov 12.04 327 *e*P Pn 22 52 36.6 +0.7
CKRC AMS AMS 22 57 40.0
comp=Z,3μm,13.9s
WALJ Wala 12.08 125 P Pn 22 52 36.1 -0.4
GHAJ Ghor Haditha 12.10 127 P Pn 22 52 49.8 +13

AKASG Malin Array Be 12.11 15 Pn Pn 22 52 35.1 -1.7
comp=Z,2.8nm,0.3s,baz=204,slow=12,SNR=20
AKASG Sn **Sn** 22 54 44.6 -7.3
comp=Z,0.9nm,0.3s,baz=198,slow=21,SNR=1.1
AKASG LR LR 22 57 18.7
comp=Z,2μm,18.2s,baz=192,slow=38
comp=Z,7.0nm,0.5s
AKBB Malin Array Si 12.11 15 Pn Pn 22 52 34.4 -2.4
AKBB Malin Array Si 12.11 15 P Pn 22 52 34.4 -2.4
WTTA Wattenberg 12.27 316 *e*Pn Pn 22 52 39.5 +0.3
comp=Z,5.1nm,0.4s
WTTA *e*Sn **Sn** 22 54 51.9 -4.3
comp=Z,13nm,0.8s
KEST Kesra 12.31 259 Pn 22 52 40.0 +0.3
KEST Kesra 12.31 259 P Pn 22 52 41.6 +1.9
SNR=12
KEST P **Pn** 22 52 41.6 +1.9
SNR=12
KEST Kesra 12.31 259 Pn Pn 22 52 40.1 +0.4
comp=Z,1.3nm,0.3s,baz=345,slow=3.9,SNR=20
KEST Sn **Sn** 22 54 49.4 -7.7
comp=Z,0.1nm,0.3s,baz=128,slow=15,SNR=0.7
KEST LR LR 22 58 08.2
comp=Z,1μm,20.1s,baz=16,slow=41
comp=Z,8.2nm,0.5s
GEC2 GERESS Array S 12.32 326 Pn 22 52 39.3 -0.6
GEC2 GERESS Array S 12.32 326 *e*Pn Pn 22 52 38.7 -1.2
GERES GERESS Array B 12.32 326 Pn 22 52 39.3 -0.6
GERES GERESS Array B 12.32 326 Pn Pn 22 52 39.1 -0.8
comp=Z,0.4nm,0.3s,baz=147,slow=13,SNR=33
GERES Sn **Sn** 22 54 54.6 -2.7
comp=Z,0.2nm,0.3s,baz=163,slow=42,SNR=0.8
GERES LR LR 22 58 15.5
comp=Z,2μm,20.1s,baz=144,slow=42
comp=Z,14nm,0.9s
WATA Walderalm 12.35 316 *e*Pn Pn 22 52 41.2 +1.0
comp=Z,6.9nm,0.4s
WATA *e*Sn **Sn** 22 54 53.7 -4.3
comp=Z,7.7nm,0.6s
ZFRI Zfri 12.39 130 Pn Pn 22 52 39.8 -1.0
ASF Jabal al Asfar 12.41 120 P Pn 22 52 41.3 +0.2
ASF Jabal al Asfar 12.41 120 Pn Pn 22 52 41.3 +0.2
comp=Z,0.6nm,0.3s,baz=307,slow=5.2,SNR=8.6
ASF Sn **Sn** 22 54 52.9 -6.6
comp=Z,0.2nm,0.3s,baz=82,slow=15,SNR=1.7
comp=Z,5.1nm,0.7s
PRNI Paran 12.44 131 Pn Pn 22 52 40.6 -0.8
PRNI Paran 12.44 131 P Pn 22 52 40.0 -1.4
KRMI Paran Flat 12.45 133 Pn Pn 22 52 40.0 -1.6
SWQJ Swaqa 12.45 126 P Pn 22 52 45.1 +3.4
SOC Sochi 12.46 64 *e*P Pn 22 52 40.9 -0.7
SOC *e* 22 55 01.5
SOC pmax pmax
comp=Z,16nm,0.7s
SOC MLR MLR
comp=Z,963nm,18.0s
SQTA Sankt Quirin 12.48 315 *i* Pn Pn 22 52 42.1 0.0
comp=Z,16nm,0.5s,SNR=14
SQTA *e*Sn **Sn** 22 55 00.2 -1.0
comp=Z,12nm,0.7s
DPC Dobruska-Polom 12.55 336 *e*P Pn 22 52 47.4 +4.5
DPC MLR MLR
comp=Z,4μm,11.9s
DPC Dobruska-Polom 12.55 336 *e*P Pn 22 52 47.4 +4.5
DPC AMS AMS 22 58 40.0
comp=Z,4μm,11.9s
ZVC Zvikov 12.57 328 *e*P Pn 22 52 43.0 -0.1
ZVC AMS AMS 22 58 10.0
comp=Z,3μm,13.0s
KHC Kasperske Hory 12.59 326 Pn 22 52 42.8 -0.7
KHC Kasperske Hory 12.59 326 *e*P Pn 22 52 43.9 +0.4
KHC MLR MLR
comp=Z,4μm,10.1s
KHC Kasperske Hory 12.59 326 *e*P Pn 22 52 43.9 +0.4
KHC AMS AMS 22 59 30.0
comp=Z,4μm,10.1s
MOTA Moosalm 12.61 315 *i* Pn Pn 22 52 43.7 -0.2
comp=Z,6.7nm,0.5s,SNR=7.7
MOTA *e*Sn **Sn** 22 54 58.5 -6.0
comp=Z,13nm,0.7s
FETA Feichten 12.63 313 *e*Pn Pn 22 52 43.7 -0.5
comp=Z,4.6nm,0.6s
FETA *e*Sn **Sn** 22 55 01.1 -4.0
comp=Z,4.5nm,0.7s
FUORN Ofenpass-Fuorn 12.69 311 Pn Pn 22 52 44.4 -0.6
HRFI Mount Harif 12.69 132 Pn Pn 22 52 43.9 -1.0
GOPC GO Pecny, Ondr 12.71 331 AMS AMS 22 58 10.0
comp=Z,4μm,11.1s
OSTC Ostas 12.77 336 *e*P Pn 22 52 47.0 +1.2
OSTC MLR MLR
comp=Z,4μm,12.8s
OSTC Ostas 12.77 336 *e*P Pn 22 52 47.0 +1.2
OSTC AMS AMS 22 58 40.0
comp=Z,4μm,12.8s
UPC Upice 12.79 336 *e*P Pn 22 52 47.1 +1.0
UPC MLR MLR
comp=Z,4μm,13.6s
UPC Upice 12.79 336 *e*P Pn 22 52 47.1 +1.0
UPC AMS AMS 22 58 30.0
comp=Z,4μm,13.6s
MBRI Mt Berech 12.80 133 Pn Pn 22 52 45.4 -1.0
MBRI Mt Berech 12.80 133 P Pn 22 52 45.5 -1.0
CHVC Chvalec 12.84 336 *e*P Pn 22 52 49.0 +2.1
CHVC MLR MLR
comp=Z,3μm,14.1s
CHVC Chvalec 12.84 336 *e*P Pn 22 52 49.0 +2.1
CHVC AMS AMS 22 58 40.0
comp=Z,3μm,14.1s
PRU Pruhonice 12.87 331 *e*P Pn 22 52 47.4 +0.2
PRU MLR MLR
comp=Z,4μm,12.8s
PRU Pruhonice 12.87 331 *e*P Pn 22 52 47.4 +0.2
PRU AMS AMS 22 58 20.0
comp=Z,4μm,12.8s
RETA Reutte 12.88 315 *e*Pn Pn 22 52 47.6 +0.1
comp=Z,11nm,0.8s
RETA *e*Sn **Sn** 22 55 08.5 -2.4
comp=Z,11nm,1.0s
WET Wettzell 12.91 325 *e*Pn Pn 22 52 46.9 -0.9
EIL Elat 12.92 134 Pn Pn 22 52 47.0 -1.0
BEL Belsk 12.95 350 *e*P Pn 22 52 49.9 +1.6
PRA Prague 12.97 331 AMS AMS 22 58 30.0
comp=Z,4μm,12.9s
KSP Ksiaz 12.99 337 *e*P Pn 22 52 51.2 +2.3
KSP *e*S Sn 22 55 42.8 +29
DAVOX Davos/Dischmat 13.00 311 Pn Pn 22 52 48.0 -1.2
comp=Z,1.3nm,0.3s,baz=132,slow=18,SNR=17
DAVOX Sn **Sn** 22 55 09.7 -4.3
comp=Z,0.2nm,0.3s,baz=114,slow=20,SNR=1.6
DAVOX LR LR 22 58 06.3
comp=Z,2μm,19.8s,baz=118,slow=39
comp=Z,7.7nm,0.8s
TUE Stuetta 13.16 309 Pn 22 52 49.7 -1.7
DAVA Damuels 13.26 313 *e*Pn Pn 22 52 53.0 +0.2
comp=Z,6.5nm,0.6s
PVCC Panska Ves 13.30 332 *e*P Pn 22 52 52.8 -0.3
PVCC MLR MLR
comp=Z,3μm,11.9s
PVCC Panska Ves 13.30 332 *e*P Pn 22 52 52.8 -0.3
PVCC AMS AMS 22 59 20.0
comp=Z,3μm,11.9s
UBR Ueberruh 13.35 314 *e*Pn Pn 22 52 53.0 -0.9
BCA Borcka 13.48 75 ⇓P Pn 22 52 57.8 +2.1
RICC Richard 13.48 331 AMS AMS 22 58 40.0
comp=Z,3μm,12.0s
HSKC Hora Svate Kat 13.79 330 AMS AMS 22 59 00.0
comp=Z,4μm,12.6s
BRG Berggiesshubel 13.81 332 *e*P Pn 22 53 00.3 +0.2
BRG Amp 22 53 01.1
comp=Z,13nm,1.3s
BRG Amp 22 59 06.0
comp=N,2.8nm,11.2s
BRG Amp 22 59 08.0
comp=E,2.9nm,13.7s
BRG Amp 22 59 14.0
comp=Z,2.6nm,12.1s
BRG Berggiesshubel 13.81 332 *e*P Pn 22 53 00.2 +0.2
BRG pmax pmax
comp=Z,13nm,1.3s
BRG MLR MLR
comp=N,3μm,11.2s
BRG MLR MLR
comp=E,3μm,13.7s
BRG MLR MLR
comp=Z,3μm,12.1s
MANZ Manzenberg 13.87 326 *e*Pn Pn 22 52 59.7 -1.1

GURO Guroymak-BITLI 13.89 87 Pn 22 53 01.7 +0.4
NKC Novy Kostel 13.90 327 *e*P **Pn 22 53 00.7 -0.7**
NKC MLR MLR
comp=Z,3µm,12.1s
NKC Novy Kostel 13.90 327 *e*P **Pn 22 53 00.7 -0.7**
NKC AMS AMS 22 59 40.0
comp=Z,3µm,12.1s
WERN Wernitzgruen 13.97 327 *e*Pn **Pn 22 53 01.7 -0.6**
TANN Tannenbergstha 14.03 327 *e*Pn **Pn 22 53 02.1 -1.1**
GUNZ Gunzen 14.05 327 *e*Pn **Pn 22 53 02.4 -1.0**
GRA1 Grafenberg Arr 14.06 323 Pn 22 53 01.7 -1.8
GRF Grafenberg Arr 14.06 323 P **Pn 22 53 01.7 -1.8**
GRF Grafenberg Arr 14.06 323 *e*Pn **Pn 22 53 02.6 -0.9**
GRFO Grafenberg 14.06 323 Pn 22 53 02.2 -1.3
GRFO Grafenberg 14.06 323 P **Pn 22 53 02.2 -1.3**
WERD Werda 14.12 327 *e*Pn **Pn 22 53 04.3 -0.1**
PLN Plauen 14.21 327 *e*Pn **Pn 22 53 05.2 -0.4**
BNI Bardonecchia 14.31 300 Pn 22 53 06.9 -0.2
BNI Bardonecchia 14.31 300 P **Pn 22 53 06.9 -0.2**
SLE Schleitheim 14.31 312 P **Pn 22 53 08.5 +1.5**
SENIN Lac Senin/Sane 14.38 306 Pn 22 53 07.4 -0.7
SIRT Sirnak 14.39 91 Pn 22 53 08.6 +0.5
STU Stuttgart 14.48 317 Pn **Pn 22 53 08.1 -1.2**
STU Stuttgart 14.48 317 P **Pn 22 53 08.1 -1.2**
CLL Collm 14.51 331 Pn 22 53 08.3 -1.4
CLL Collm 14.51 331 *i* P **Pn 22 53 08.3 -1.4**
CLL pmax pmax
comp=Z,43nm,1.4s
CLL MLR MLR
comp=Z,3µm,14.0s
CLL Collm 14.51 331 *i* P **Pn 22 53 08.3 -1.4**
comp=Z,43nm,1.4s
CLL *i* PP **P 22 53 16.5 +0.1**
CLL *i* x x 22 53 23.9
CLL *e*S **Sn 22 55 48.0 -2.6**
KARS Kars 14.55 78 Pn 22 53 11.0 +0.6
KARS Kars 14.55 78 P **Pn 22 53 11.0 +0.6**
MOX Moxa 14.56 326 *e*Pn **Pn 22 53 07.6 -2.8**
KIV Kislovodsk 14.63 65 Pn 22 53 11.6 +0.1
KIV Kislovodsk 14.63 65 *e*P **Pn 22 53 12.3 +0.8**
KIV *e*S **Sn 22 55 56.6 +2.8**
KIV pmax pmax
comp=Z,146nm,1.1s
KIV MLR MLR
comp=Z,444nm,13.0s
KIV Kislovodsk 14.63 65 *i* P **Pn 22 53 13.1 +1.6**
SNR=19
KIV Kislovodsk 14.63 65 P **Pn 22 53 11.1 -0.4**
KIV P **Pn 22 53 11.1 -0.4**
KVAR Kislovodsk Arr 14.64 65 Pn **Pn 22 53 13.6 +2.0**
comp=Z,6.0nm,1.1s,baz=256,slow=19,SNR=3.5
BFO Black Forest 14.71 314 Pn 22 53 11.7 -0.7
BFO Black Forest 14.71 314 P **Pn 22 53 11.7 -0.7**
BFO Black Forest 14.71 314 *e*Pn **Pn 22 53 12.5 +0.1**
KBZ Khabaz 14.73 66*d i*P **Pn 22 53 14.4 +1.7**
KBZ Khabaz 14.73 66 Pn **Pn 22 53 14.9 +2.2**
comp=Z,14nm,1.0s,baz=273,slow=9.9,SNR=14
AKH Akhalkalaki 14.88 75 Pn 22 53 16.0 +1.1
AKH Akhalkalaki 14.88 75 P **Pn 22 53 16.0 +1.1**
SUW Suwalki 14.92 358 *e*P **Pn 22 53 14.2 -0.9**
SUW Suwalki 14.92 358 Pn 22 53 13.6 -1.6
SUW Suwalki 14.92 358 P **Pn 22 53 13.6 -1.6**
SUW Suwalki 14.92 358 *e*P **Pn 22 53 16.6 +1.5**
GKP Gorka Klasztor 14.95 344 *e*P **Pn 22 53 15.7 +0.1**
GOF Gofitskoye 15.16 61*d i*P **P 22 53 25.0 +1.4**
NCK Nalchik 15.19 67‖*e*P **P 22 53 21.8 -2.2**
NCK pmax pmax
comp=Z,91nm,1.2s
ZEI Tsey 15.30 70 *e*P **Pn 22 53 19.8 -0.8**
ZEI pmax pmax
comp=Z,52nm,1.2s
MAHO Mahon 15.44 279 P **Pn 22 53 23.8 +1.7**
MNK Minsk 15.59 8 *i* P **Pn 22 53 22.1 -1.9**
comp=E,10.0nm,1.0s
MNK *i* P **Pn 22 53 22.1 -1.9**
comp=N,77nm,1.3s
MNK *i* P **Pn 22 53 22.1 -1.9**
comp=Z,60nm,1.0s,baz=191
MNK *i* PP **pP 22 53 30.8 +0.3**
MNK *i* PPP PPP 22 53 38.4
MNK *i* S **Sn 22 56 15.9 -0.9**
MNK *i* SS **SnSn 22 56 30.4 +0.8**
MNK *i* SSS SSS 22 56 43.2
MNK *i* LR LR 22 58 35.3
MNK *i* LR LR 22 59 47.0
MNK *i* LRM MLR 23 00 31.7
comp=E,549nm,11.7s
MNK *i* LRM MLR 23 00 44.9
comp=N,1µm,12.9s
MNK *i* LRM MLR 23 00 48.3
comp=Z,2µm,12.7s
MNK Minsk 15.59 8 *i* P **Pn 22 53 22.1 -1.9**
MNK *i* S **Sn 22 56 15.9 -0.9**
MNK pmax pmax
comp=E,10.0nm,1.0s
MNK pmax pmax
comp=Z,60nm,1.0s
MNK pmax pmax
comp=N,77nm,1.3s
MNK MLR MLR
comp=E,549nm,12.0s
MNK MLR MLR
comp=N,1µm,13.0s
MNK MLR MLR
comp=Z,2µm,13.0s
SSB Saint Sauveur 15.82 299 Pn 22 53 26.9 -0.3
SSB Saint Sauveur 15.82 299 P **Pn 22 53 26.9 -0.3**
SSB pmax pmax
comp=Z,6.0nm,0.9s
GNI Garni 15.84 80 Pn 22 53 28.0 +0.5
GNI IAmb IAmb 22 53 34.8
comp=Z,162nm,1.4s
GNI Garni 15.84 80*d i*P **P 22 53 29.8 -1.5**
GNI pmax pmax
comp=Z,162nm,1.5s
GNI Garni 15.84 80 P **Pn 22 53 28.0 +0.5**
GNI Garni 15.84 80 P **Pn 22 53 28.9 +1.5**
GNI Garni 15.84 80 Pn **Pn 22 53 29.2 +1.7**
comp=Z,0.3nm,0.3s,baz=239,slow=6.2,SNR=12
GNI LR LR 22 59 48.3
comp=Z,2µm,19.9s,baz=292,slow=38
comp=Z,89nm,1.2s
NACGM Naroch 15.89 5 *e*P **Pn 22 53 26.1 -1.7**
comp=E,2µm,0.9s
VORD Divnogorie 15.89 37 *e*P **Pn 22 53 23.6 -4.3**
VORD pmax pmax
comp=Z,50nm,1.2s
VORD MLR MLR
comp=Z,3µm,14.0s
CLZ Clausthal 15.98 327 *i* P **Pn 22 53 28.0 -1.1**
VSR Storozhevoye 16.00 36 *e*P **Pn 22 53 25.9 -3.5**
VSR pmax pmax
comp=Z,50nm,1.1s
VSR MLR MLR
comp=Z,3µm,13.0s
IDID Didziasalis 16.29 5 *e*P **Pn 22 53 32.6 -0.5**
IIGN Ignalina 16.30 4 *e*P **Pn 22 53 32.5 -0.7**
VORR Voronezh 16.34 35 *e*P **Pn 22 53 32.4 -1.2**
VORR pmax pmax
comp=Z,40nm,0.5s
VORR MLR MLR
comp=Z,380nm,6.0s
PABE Paberze 16.40 359 Pn 22 53 33.3 -1.1
PABE Paberze 16.40 359 *e*P **Pn 22 53 34.8 +0.4**
ISAL Salakas 16.51 4 *e*P **Pn 22 53 35.0 -0.8**
ETOS Mallorca 16.56 279 P **P 22 53 41.8 +2.6**
AHRW Bad Neuenahr-A 16.65 319 *e*Pn **Pn 22 53 36.3 -1.3**
IZAR Zarasai 16.70 4 *e*P **Pn 22 53 37.3 -0.9**
GROC Groznyy 16.73 69 *e*P **Pn 22 53 38.0 -0.8**
GROC *e*S **Sn 22 56 46.9 +2.2**
GROC pmax pmax
comp=Z,85nm,1.0s
VSVD Vaisvydziai 16.88 359 *e*P **P 22 53 42.6 0.0**
LPSR Galich'ya Gora 16.88 32 *e*P **Pn 22 53 37.2 -3.4**
LPSR pmax pmax
comp=Z,120nm,1.0s
LPSR MLR MLR
comp=Z,930nm,10.0s
PBUR Paburge 16.99 356 *e*P **P 22 53 42.7 -1.1**
GANJ Ganja 17.02 78 P **P 22 53 44.2 -0.1**
VRH Novokhopyorsk 17.21 40 *e*P **Pn 22 53 41.8 -2.9**
VRH pmax pmax
comp=Z,60nm,0.9s
VRH MLR MLR
comp=Z,660nm,9.0s
ZKTA Zakatala 17.24 74 P **P 22 53 46.6 -0.1**
BCLA Clavier 17.51 316 *d*PP P 22 53 57.3 +7.8
MNGR Mingechevir, A 17.59 77 P **P 22 53 52.2 +1.6**
SEKA Sheki 17.67 76 P **P 22 53 52.4 +0.9**
EIBI Ibiza 17.77 277 P **Pn 22 53 50.3 -1.5**
MAK Makhachkala 17.96 70 *e*P **Pn 22 53 49.4 -4.6**
MAK *e*S **Sn 22 57 11.6 -2.7**
MAK pmax pmax
comp=Z,178nm,1.1s
MAK MLR MLR
comp=Z,742nm,10.0s
OBN Obninsk 18.02 23 Pn 22 53 52.0 -2.7
OBN Obninsk 18.02 23 *i* P **Pn 22 53 51.1 -3.7**
OBN pmax pmax
comp=Z,116nm,1.4s
OBN MLR MLR
comp=Z,797nm,15.0s
OBN Obninsk 18.02 23 P **Pn 22 53 52.2 -2.5**
comp=Z,0.8nm,0.3s,baz=192,slow=19,SNR=1.3
comp=Z,15nm,0.6s
BLEU Blekinge 18.08 345 *i* P **Pn 22 53 54.8 -0.6**
LKRN Lenkeran, Azer 19.09 83 P **Pn 22 54 09.5 +1.6**
VSU Vasula 19.43 4*c i*P **Pn 22 54 12.2 +0.4**
VSU pmax pmax
comp=Z,235nm,1.0s
VSU Vasula 19.43 4 *e*P **P 22 54 10.2 -0.4**
ECHE Chera 19.48 279 S **S 22 57 52.0 +0.3**
ECHE P **Pn 22 54 12.8 +0.1**
MTSE Matsula 19.62 359 *e*P **P 22 54 12.8 +0.1**
CART Cartagena 19.84 274 P **P 22 54 12.9 -2.4**
CART Cartagena 19.84 274 P **P 22 54 13.0 -2.2**
EMUR La Murta 19.97 274 P **P 22 54 15.5 -1.3**
BORU Boraas 19.98 342 *i* P **Pn 22 54 17.7 -0.7**
VIKU Vikbolandet 20.00 348 *e*P **P 22 54 16.6 -0.3**
BELG Belogornoye 20.92 43*d i*P **P 22 54 26.6 -0.3**
BELG pmax pmax
comp=Z,50nm,1.3s
BELG Belogornoye 20.92 43 P **P 22 54 26.8 -0.1**
comp=Z,124nm,0.9s,baz=173,slow=16,SNR=21
BELG LR LR 23 03 49.3
comp=Z,1µm,19.0s,baz=238,slow=40
comp=Z,124nm,0.9s
MEF Metsahovi 21.12 0 *e*P **P 22 54 29.3 +0.3**
UPP Uppsala 21.18 351 *e*P **P 22 54 29.4 -0.2**
AAL Aland 21.25 354 *e*P **P 22 54 30.9 +0.5**
EBER Berja 21.46 273 P **P 22 54 34.1 +1.0**
CHAS Isla Isabel II 21.58 268 P **P 22 54 31.4 -2.8**
TAF Taforalt 21.69 267 P **P 22 54 39.0 +3.5**
HOMB Homborsund 21.70 337 *e*P **P 22 54 35.6 +0.5**
ESBB Sonseca Array 21.77 280 P **P 22 54 34.0 -2.2**
ESDC Sonseca Array 21.77 280 P **P 22 54 34.2 -2.0**
ESDC Sonseca Array 21.77 280 P **P 22 54 35.1 -1.1**
comp=Z,14nm,0.9s,baz=75,slow=9.3,SNR=66
ESDC PcP **PcP 22 58 37.1 +0.6**
comp=Z,1.4nm,1.1s,baz=90,slow=2.6,SNR=2.6
comp=Z,14nm,0.9s
FIGM Figuig 21.82 259 P **P 22 54 38.0 +1.0**
EALB Alboran 21.83 270 P **P 22 54 34.9 -1.9**
JBK JBK 21.97 266 P **P 22 54 42.0 +3.4**
RAF Rauma 21.99 357 *e*P **P 22 54 37.8 -0.4**
HFS Hagfors 22.06 346 P **P 22 54 38.2 -1.0**
comp=Z,9.6nm,0.6s,baz=165,slow=12,SNR=15
HFS LR LR 23 04 13.6
comp=Z,1µm,19.9s,baz=166,slow=40
comp=Z,9.6nm,0.6s
PAB San Pablo 22.08 280 P **P 22 54 38.4 -1.2**
PAB San Pablo 22.08 280 P **P 22 54 43.8 +4.2**
PAB San Pablo 22.08 280 P **P 22 54 38.4 -1.2**
PAB pmax pmax
comp=Z,30nm,1.0s
EGOR Sierra Gorda, 22.36 274 P **P 22 54 43.0 +0.3**
FINES FINESS Array B 22.38 2 P **P 22 54 41.5 -1.0**
FINES FINESS Array B 22.38 2 *i* P **P 22 54 44.2 +1.7**
FINES pmax pmax
comp=Z,17nm,0.9s
FINES FINESS Array B 22.38 2 P **P 22 54 41.8 -0.7**
comp=Z,17nm,0.9s,baz=174,slow=11,SNR=22
FINES PcP **PcP 22 58 36.6 -0.5**
comp=Z,2.0nm,0.8s,baz=149,slow=4.0,SNR=4.0
FINES LR LR 23 04 02.5
comp=Z,2µm,21.1s,baz=176,slow=38
comp=Z,17nm,0.9s
OSL Oslo 22.52 342 *e*P **P 22 54 44.3 +0.2**
KONO Kongsberg 22.55 340 P **P 22 54 43.3 -1.1**
KONO IAmb IAmb 22 54 59.7
comp=Z,64nm,1.1s
KONO Kongsberg 22.55 340 P **P 22 54 43.3 -1.1**
KONO pmax pmax
comp=Z,65nm,1.1s
KONO Kongsberg 22.55 340 *e*P **P 22 54 44.3 -0.1**
EMAL Malaga-Limoner 22.69 273 P **P 22 54 44.3 -1.8**
TAM Tamanrasset 22.78 230 P **P 22 54 46.7 -0.6**
TAM Tamanrasset 22.78 230 P **P 22 54 46.7 -0.6**
TAM pmax pmax
comp=Z,86nm,1.9s
EMIJ Mijas 23.01 273 P **P 22 54 46.7 -2.7**
NC602 NORSAR Array S 23.05 344 P **P 22 54 48.4 -1.2**
NC602 IAmb IAmb 22 54 52.8
comp=Z,78nm,1.0s
NC602 NORSAR Array S 23.05 344 *e*P **P 22 54 49.4 -0.2**
BLS5 Blasjo 23.26 337 *e*P **P 22 54 51.4 -0.4**
NAO01 NORSAR Array S 23.29 343 P **P 22 54 51.5 -0.6**
NC405 NORSAR Array S 23.36 345 P **P 22 54 52.2 -0.5**
NC405 IAmb IAmb 22 55 00.4
comp=Z,61nm,1.1s
NB201 NORSAR Array S 23.39 344 P **P 22 54 52.1 -1.0**
NB201 IAmb IAmb 22 55 01.7
comp=Z,118nm,1.2s
NB2 NORSAR Subarra 23.39 344 P **P 22 54 52.2 -1.0**
comp=Z,196nm,1.7s,baz=154,slow=11
NB2 NORSAR Subarra 23.39 344 P **P 22 54 52.2 -1.0**
baz=154,slow=11
NOA NORSAR Array B 23.39 344 P **P 22 54 51.7 -1.5**
comp=Z,8.8nm,1.0s,baz=148,slow=9.3,SNR=40
NOA PcP **PcP 22 58 39.6 +0.2**
comp=Z,1.4nm,0.9s,baz=129,slow=2.4,SNR=2.8
NOA LR LR 23 05 10.2
comp=Z,625nm,18.1s,baz=160,slow=40
comp=Z,8.8nm,1.0s
PBRG Braganca 23.66 286 *e*P **P 22 54 56.4 +0.4**
comp=Z,71nm,1.6s
PBRG *e*S **S 22 59 09.7 -1.1**
NC204 NORSAR Array S 23.70 344 P **P 22 54 55.1 -1.1**
KLMR Klimovskoe 23.76 19 *e*P **P 22 54 57.4 +0.8**
KLMR *e*P **P 22 54 57.4 +0.8**
KLMR *e*P **P 22 54 57.4 +0.8**
KLMR AMP 22 55 05.5
comp=Z,197nm,1.3s
KLMR S **S 22 59 12.5 +0.6**
KLMR S **S 22 59 12.5 +0.6**
KLMR LQ LQ 23 01 34.1
KLMR LQ LQ 23 01 34.1
KLMR LR LR 23 02 55.7
KLMR AMP 23 04 36.7
comp=Z,1µm,9.5s
KLMR Klimovskoe 23.76 19 *e*P **P 22 54 57.4 +0.8**
KLMR S **S 22 59 12.5 +0.6**
KLMR pmax pmax
comp=Z,197nm,1.3s
KLMR MLR MLR
comp=Z,1µm,10.0s
SKAR Skarslia 23.77 340 *e*P **P 22 54 57.2 +0.3**
MVO Moncorvo 23.93 285 *e*P **P 22 54 57.5 -1.1**
comp=Z,47nm,1.3s
MVO *e*S **S 22 59 18.6 +3.5**
MVO *e*LR LR 23 04 20.3
comp=Z,633nm,20.0s
LCRM LCR 23.98 266 P **P 22 55 03.0 +3.8**
MDT Midelt 24.12 264 P **P 22 55 03.2 +2.7**
SICH Sidi Chahed 24.19 267 P **P 22 55 02.0 +1.0**
IFR Ifrane 24.25 266 P **P 22 55 03.0 +1.2**
IFR S **S 22 59 22.2 +1.5**
CZD Col de Zad 24.37 265 P **P 22 55 07.5 +4.5**
PBAR Barrancos 24.39 278 *e*P **P 22 55 02.4 -0.4**
comp=Z,74nm,1.9s
PBAR *e*S **S 22 59 24.9 +2.5**
ARF Arif 24.39 260 P **P 22 55 06.0 +3.0**
MTE Manteigas 24.40 283 *e*P **P 22 55 03.2 +0.2**
comp=Z,50nm,1.4s
MTE *e*S **S 22 59 25.3 +2.5**
MTE *e*LR LR 23 04 32.8
comp=Z,695nm,18.0s
MTE Manteigas 24.40 283 P **P 22 55 01.9 -1.1**
PMRV Marv??o 24.43 281 *e*P **P 22 55 04.3 +1.2**
comp=Z,52nm,1.5s
PMRV *e*S **S 22 59 25.5 +2.4**
PMRV *e*LR LR 23 06 57.3
comp=Z,594nm,18.0s
PCBR Castelo Branco 24.43 282 *e*P **P 22 55 03.8 +0.7**
comp=Z,45nm,1.5s
PVRL Vila Real 24.43 285 *e*P **P 22 55 04.3 +1.1**
comp=Z,28nm,1.8s
EKA Eskdalemuir Ar 24.45 321 P **P 22 55 02.8 -0.4**
comp=Z,13nm,0.6s,baz=114,slow=9.5,SNR=24
comp=Z,13nm,0.6s
ESK Eskdalemuir 24.46 320 P **P 22 55 02.7 -0.6**
ESK Eskdalemuir 24.46 320 P **P 22 55 02.7 -0.6**
ESK pmax pmax
comp=Z,255nm,1.6s
POLO Lamas de Olo 24.48 286 *e*P **P 22 55 04.3 +0.6**
POLO *e*S **S 22 59 26.4 +2.3**
PVIS Viseu 24.62 284 *e*P **P 22 55 05.6 +0.6**
PESTR Estremoz 24.68 280 *e*P **P 22 55 06.3 +0.9**
comp=Z,44nm,2.1s
PESTR *e*S **S 22 59 23.4 -3.7**
PESTR Estremoz 24.68 280 P **P 22 55 03.7 -1.7**
HYA Hoyanger 24.75 339 *e*P **P 22 55 05.9 +0.1**
DOMB Dombas 24.77 343 *e*P **P 22 55 06.7 +0.7**
PGAV Gavieira, Arco 24.79 287 *e*P **P 22 55 07.0 +0.5**
comp=Z,69nm,1.7s
PGAV *e*S **S 22 59 31.8 +2.8**
PGAV *e*LR LR 23 04 12.9
comp=Z,869nm,16.0s
EGRO El Granado 24.87 276 P **P 22 55 07.8 +0.7**
PBEJ Beja 25.06 278 *e*P **P 22 55 09.9 +1.1**
comp=Z,71nm,1.9s
EVO Evora 25.06 279 *e*P **P 22 55 09.6 +0.7**
comp=Z,30nm,1.7s
EVO Evora 25.06 279 P **P 22 55 09.8 +0.9**
COI Coimbra 25.08 283 *e*P **P 22 55 10.0 +1.0**
comp=Z,53nm,1.4s
COI *e*S **S 22 59 36.2 +2.6**
PVAQ Vaqueiros 25.08 276 *e*P **P 22 55 09.7 +0.6**
comp=Z,70nm,1.8s
PVAQ *e*S **S 22 59 35.9 +2.2**
PVAQ *e*LR LR 23 05 51.4
comp=Z,372nm,16.0s
PVAQ Vaqueiros 25.08 276 P **P 22 55 08.5 -0.6**
PVAQ IAmb IAmb 22 55 13.9
comp=Z,129nm,2.0s
PTO Porto 25.11 285 *e*P **P 22 55 10.1 +0.8**
PMTG Montargil 25.12 280 *e*P **P 22 55 10.4 +1.0**
comp=Z,38nm,1.4s
PMTG *e*S **S 22 59 36.5 +2.2**
PCAS Casmilo, Conde 25.17 283 *e*P **P 22 55 12.0 +2.1**
comp=Z,57nm,1.7s
PCAS *e*S **S 22 59 37.6 +2.5**
PCVE Castro Verde 25.28 277 *e*P **P 22 55 11.4 +0.6**
PCVE *e*S **S 22 59 38.5 +1.7**
PBDV Barranco-do-Ve 25.29 276 *e*P **P 22 55 11.9 +0.9**
comp=Z,109nm,2.1s
PBDV *e*S **S 22 59 39.4 +2.4**
KIRV Kirov 25.31 31*d i*P **P 22 55 10.3 -0.6**
KIRV Kirov 25.31 31 LR LR 23 05 31.9
comp=Z,993nm,20.0s,baz=232,slow=38
AKN Aaknes 25.38 341 *e*P **P 22 55 11.9 +0.3**
PSBE So Bento 25.48 281 *e*P **P 22 55 14.3 +1.6**
comp=Z,64nm,2.2s
PSBE *e*S **S 22 59 41.7 +1.6**
PNCL Nicolau / Gran 25.55 278 *e*P **P 22 55 14.6 +1.3**
comp=Z,64nm,2.3s
PNCL *e*S **S 22 59 44.5 +3.5**
TBLU Trondheim 25.59 345 *e*P **P 22 55 14.8 +1.5**
PTEO Sao Teotonio 25.83 277 *e*P **P 22 55 17.5 +1.7**
MORF Marmelete 25.83 276 *e*S **S 22 59 48.9 +3.3**
PMAFR Mafra 25.95 280 *e*S **S 22 59 52.4 +4.9**
PFVI Vila Bisbo 26.01 276 *e*P **P 22 55 19.2 +1.7**
PFVI *e*S **S 22 59 52.9 +4.6**
PFVI Vila Bisbo 26.01 276 P **P 22 55 17.1 -0.3**
PFVI IAmb IAmb 22 55 36.2
comp=Z,70nm,1.2s
ZGR Zagora 26.06 259 P **P 22 55 21.0 +2.8**
AVE Averroes 26.11 267 P **P 22 55 18.1 -0.3**
AVE IAmb IAmb 22 55 54.7
comp=Z,64nm,1.2s
AVE Averroes 26.11 267 P **P 22 55 18.8 +0.4**
PRGR Permogore 26.11 23 *e*P **P 22 55 18.1 0.0**
PRGR pmax pmax
comp=Z,70nm,0.9s
ADZR Andozero 26.22 14 *e*P **P 22 55 23.0 +4.0**
ADZR pmax pmax
comp=Z,34nm,0.8s
AKTO Aktyubinsk 26.29 53 LR LR 23 09 07.6
comp=Z,947nm,18.8s,baz=269,slow=44
GEYT Alibeck 26.45 82 P **P 22 55 21.2 -0.3**
GEYT IAmb IAmb 22 55 25.8
comp=Z,87nm,1.4s
GEYT Alibeck 26.45 82 P **P 22 55 21.2 -0.3**
GEYT pmax pmax
comp=Z,87nm,1.4s
GEYT Alibeck 26.45 82 P **P 22 55 22.2 +0.7**
comp=Z,41nm,1.1s,baz=286,slow=11,SNR=33
GEYT LR LR 23 08 15.3
comp=Z,408nm,19.1s,baz=308,slow=42
comp=Z,41nm,1.1s
GYA0B ALIBECK ARRAY 26.45 82 P **P 22 55 21.7 +0.2**
GYA0B IAmb IAmb 22 55 25.8
comp=Z,89nm,1.4s
NSS Namsos 26.46 348 *e*P **P 22 55 21.2 0.0**
OUZM OUZ 26.58 262 P **P 22 55 28.0 +5.2**
TIO Tiouine 26.95 262 P **P 22 55 25.2 -1.1**
TIO S S 23 00 22.1 +18
ABKAR Akbulak array 27.31 56 P **P 22 55 28.1 -1.0**
ABKAR Akbulak array 27.31 56 P **P 22 55 28.3 -0.8**
ABKAR IAmb IAmb 22 55 60.0
comp=Z,14nm,1.0s
MOR8 Moi Rana 27.68 351 *e*P **P 22 55 32.8 +0.6**
ARU Arti 28.43 41 P **P 22 55 37.9 -1.2**
ARU Arti 28.43 41*c i*P **P 22 55 39.1 0.0**
ARU 22 56 27.8
ARU 22 58 48.7
ARU S **S 23 00 29.5 +3.3**
ARU SS **SnSn 23 01 50.4 +6.4**
ARU pmax pmax
comp=Z,28nm,1.1s
ARU MLR MLR
comp=Z,1µm,15.0s
ARU Arti 28.43 41 LR LR 23 07 35.1
comp=Z,758nm,18.5s,baz=242,slow=38
STEI Steigen 29.29 353 *e*P **P 22 55 46.8 +0.3**
MZR Muzera 29.59 114 P **P 22 55 49.9 +0.3**
MZR Muzera 29.59 114 P **P 22 55 50.2 +0.5**
SVE Sverdlovsk 29.65 41 *e*P **P 22 55 50.5 +0.7**
SVE *e*S **S 23 00 48.8 +3.5**
SVE pmax pmax
comp=Z,33nm,1.3s
SVE MLR MLR
comp=Z,1µm,14.0s
LOF Lofoten 29.66 352 *e*P **P 22 55 50.1 +0.3**
SHME Shamm 29.71 106 P **P 22 55 50.5 -0.2**
SHME Shamm 29.71 106 P **P 22 55 50.8 +0.1**
SHME P **P 22 55 50.8 +0.1**
KTK1 Kautokeino 29.96 359 *e*P **P 22 55 52.8 +0.3**
NAZ Nazwa, Dubai 29.96 109 P **P 22 55 53.9 +1.0**
NAZ Nazwa, Dubai 29.96 109 P **P 22 55 53.7 +0.8**
SNR=5.5
FAQ Al Faqa, Dubai 30.05 109 P **P 22 55 54.3 +0.6**
MDH Madha 30.25 107 P **P 22 55 55.6 +0.1**
MDH Madha 30.25 107 P **P 22 55 55.9 +0.4**
SNR=6.2
UOSS Minazif 30.39 108 P **P 22 55 56.0 -0.7**
UOSS IAmb IAmb 22 56 54.7
comp=Z,30nm,1.2s
UOSS Minazif 30.39 108 *i* P **P 22 55 56.8 +0.1**
SNR=13
HATD Hatta, Dubai 30.40 108 *i* P **P 22 55 57.1 +0.3**
SNR=9.7
HATD Hatta, Dubai 30.40 108 P **P 22 55 58.0 +1.1**
SNR=11
ASHO Ashiyiah 30.43 109 *i* P **P 22 55 57.4 +0.3**
SNR=19
ASHO Ashiyiah 30.43 109 P **P 22 55 58.0 +0.9**
SNR=12
ARA0 ARCESS Array S 30.49 1 *e*P **P 22 55 58.4 +1.3**
ARCES ARCESS Array B 30.49 1 P **P 22 55 57.5 +0.4**
comp=Z,10nm,0.9s,baz=197,slow=7.6,SNR=9.2
ARCES LR LR 23 09 11.0
comp=Z,1µm,19.4s,baz=177,slow=38

comp=Z,10nm,0.9s
ALNE Al Ain 30.58 110 *i* P **P 22 55 58.8 +0.4**
SNR=9.5
ALNE Al Ain 30.58 110 P **P 22 55 59.0 +0.7**
SNR=6.6
HRA Herat 30.67 87 P **P 22 55 59.4 0.0**
TRO Tromso 30.71 356 *eP* **P 22 55 58.9 -0.1**
SOHO SOHO 31.10 109 *i* P **P 22 56 03.0 0.0**
SNR=25
JASK Jask - Hormozg 31.11 105 P **P 22 56 04.7 +1.7**
SNR=7.0
ARQ Araqi 31.57 110 P **P 22 56 08.0 +0.8**
SNR=9.5
BSY Bisya 32.43 110 P **P 22 56 15.2 +0.5**
SNR=6.1
TOA0 Torodi Ar. Sit 32.66 224 P **P 22 56 16.3 -0.4**
TORD Torodi Ar. Bea 32.66 224 P **P 22 56 16.4 -0.3**
TORD Torodi Ar. Bea 32.66 224 P **P 22 56 16.4 -0.3**
comp=Z,39nm,0.7s,baz=34,slow=8.8,SNR=209
TORD PcP **PcP 22 59 04.8 +2.1**
comp=Z,1.2nm,0.9s,baz=3.1,slow=4.0,SNR=2.2
TORD LR LR 23 10 26.5
comp=Z,555nm,21.1s,baz=34,slow=38
comp=Z,39nm,0.7s
SMDO Samad 32.86 109 P **P 22 56 18.9 +0.4**
SNR=7.7
DOK Doka 32.97 120 P **P 22 56 20.2 +0.7**
SNR=6.4
WSAR Wadi Sarin 33.18 108 LR LR 23 13 36.0
comp=Z,489nm,18.9s,baz=302,slow=43
JMDO Jabal Madar 33.31 110 P **P 22 56 22.7 +0.2**
SNR=8.8
WBK Wadi Bani Khal 33.80 109 P **P 22 56 27.9 +1.2**
SNR=9.6
MHTO MHTO 34.08 112 P **P 22 56 29.8 +0.8**
SNR=7.5
BRVK Borovoye 34.22 51 P **P 22 56 29.7 -0.3**
BRVK IAmb IAmb 22 56 32.0
comp=Z,27nm,1.2s
BRVK Borovoye 34.22 51 *d iP* **P 22 56 30.4 +0.4**
BRVK pmax pmax
comp=Z,36nm,1.7s
CHM Chimkent 34.23 70 *eP* **P 22 56 29.9 -0.4**
baz=70
CHM Chimkent 34.23 70 *eP* **P 22 56 29.8 -0.4**
BVAR Borovoye Array 34.28 51 P **P 22 56 31.1 +0.6**
comp=Z,6.0nm,0.9s,baz=267,slow=5.9,SNR=25
BVAR PP **PnPn 22 57 45.0 +0.4**
comp=Z,4.3nm,0.8s,baz=259,slow=12,SNR=4.0
comp=Z,6.0nm,0.9s
JLN Jalan Bani Buh 34.41 109 P **P 22 56 32.8 +0.8**
SNR=14
IUG Iuzhnay 34.57 70 *eP* **P 22 56 33.4 0.0**
comp=Z,24nm,1.2s,baz=70
IUG Iuzhnay 34.57 70 *eP* **P 22 56 33.3 0.0**
IUG pmax pmax
comp=Z,24nm,1.2s
KK31 Karatay Array 34.75 68 P **P 22 56 34.5 -0.3**
KK31 IAmb IAmb 22 56 36.5
comp=Z,27nm,1.0s
KK31 Karatay Array 34.75 68 P **P 22 56 34.5 -0.3**
KK31 pmax pmax
comp=Z,27nm,1.0s
KKAR Karatay Array 34.75 68 P **P 22 56 34.6 -0.2**
KKAR Karatay Array 34.75 68 P **P 22 56 34.6 -0.2**
KOWA Kowa 34.91 233 P **P 22 56 35.7 -0.6**
KOWA IAmb IAmb 22 56 44.0
comp=Z,56nm,1.7s
KOWA Kowa 34.91 233 P **P 22 56 38.2 +1.9**
DZA Taraz 35.38 68 *eP* **P 22 56 40.3 +0.1**
baz=68
DZA Taraz 35.38 68 *eP* **P 22 56 40.3 +0.1**
BTK Batken 35.59 73 P **P 22 56 41.5 -0.6**
BTK Batken 35.59 73 P **P 22 56 41.5 -0.6**
BTK pmax pmax
comp=Z,74nm,1.3s
KBL Kabul 35.88 83 P **P 22 56 44.5 -0.3**
KBL Kabul 35.88 83 P **P 22 56 44.5 -0.3**
KBL pmax pmax
comp=Z,10.0nm,0.9s
KBL Kabul 35.88 83 P **P 22 56 44.6 -0.3**
SNR=6.1
JMIC Jan Mayen 36.09 342 LR LR 23 12 35.6
comp=Z,486nm,18.3s,baz=106,slow=38
BORG Borgarnes 36.75 329 LR LR 23 12 46.5
comp=Z,624nm,19.7s,baz=121,slow=38
LODK Lodwar 36.94 161 P **P 22 56 53.6 -0.2**
LODK Lodwar 36.94 161 P **P 22 56 56.2 +2.4**
EKS2 Erkin-Say 37.19 68 P **P 22 56 56.9 +1.1**
SNR=29
AML Almayashu 37.24 69 P **P 22 56 57.5 +0.9**
SNR=10
USP Ospenovka 37.59 67 P **P 22 56 59.1 0.0**
SNR=7.6
SGDS Sogindy 37.65 67 *eP* **P 22 56 59.6 0.0**
baz=67
SGDS Sogindy 37.65 67 *eP* **P 22 56 59.6 0.0**
AAK Ala-Archa 37.72 68 P **P 22 57 01.4 +1.1**
SNR=17
AAK Ala-Archa 37.72 68 P **P 22 57 00.6 +0.3**
AAK IAmb IAmb 22 57 02.6
comp=Z,34nm,1.2s
AAK Ala-Archa 37.72 68 *d iP* **P 22 57 01.1 +0.8**
AAK pmax pmax
comp=Z,43nm,1.7s
AAK Ala-Archa 37.72 68 *i* P **P 22 57 01.4 +1.1**
SNR=20
AAK Ala-Archa 37.72 68 P **P 22 57 01.0 +0.8**
AAK Ala-Archa 37.72 68 LR LR 23 16 30.6
comp=Z,428nm,18.1s,baz=278,slow=43
FRU1 Bishkek 37.78 68 P **P 22 57 01.3 +0.6**
FRU1 Bishkek 37.78 68 P **P 22 57 01.3 +0.6**
FRU1 pmax pmax
comp=Z,109nm,1.3s
CHMS Chumysh 37.83 67 P **P 22 57 02.1 +1.1**
SNR=8.5
KBK Karagaybulak 38.04 68 P **P 22 57 04.0 +1.0**
SNR=10
TKM2 Tokmak 2 38.45 67 P **P 22 57 07.0 +0.4**
SNR=10.0
KUU Kurty 38.78 66↓ *i P* **P 22 57 09.8 +0.7**
comp=Z,32nm,1.4s,baz=66
KUU Kurty 38.78 66 *d iP* **P 22 57 09.7 +0.7**
KUU pmax pmax
comp=Z,33nm,1.4s
BOOM Boomskoye usch 38.79 68 P **P 22 57 09.8 +0.4**
BOOM Boomskoye usch 38.79 68 P **P 22 57 09.8 +0.4**
BOOM pmax pmax
comp=Z,26nm,1.1s
ULHL Ulahol 39.06 68 P **P 22 57 12.8 +1.1**
SNR=15
NRN Naryn 39.08 70 P **P 22 57 11.8 -0.2**
NRN IAmb IAmb 22 57 14.4
comp=Z,46nm,1.3s
NRN Naryn 39.08 70 P **P 22 57 11.8 -0.2**
NRN pmax pmax
comp=Z,46nm,1.3s
CHKK Chushkaly 39.25 66 *eP* **P 22 57 12.7 -0.3**
baz=66
CHKK Chushkaly 39.25 66 *eP* **P 22 57 12.7 -0.3**
SPA0 Spitsbergen Ar 39.31 357 *eP* **P 22 57 13.0 -0.1**
SPITS Spitsbergen Ar 39.31 357 P **P 22 57 12.8 -0.3**
comp=Z,7.6nm,0.8s,baz=219,slow=6.7,SNR=2.8
SPITS LR LR 23 14 34.8
comp=Z,805nm,19.2s,baz=136,slow=38
comp=Z,7.6nm,0.8s
KURBB Kurchatov Arra 39.33 55 P **P 22 57 13.7 +0.2**
comp=Z,13nm,0.9s,baz=281,slow=8.7,SNR=75
KURBB PP **PP 22 58 44.6 +1.2**
comp=Z,12nm,1.2s,baz=278,slow=12,SNR=9.0
KURBB LR LR 23 17 33.1
comp=Z,692nm,19.3s,baz=235,slow=42
comp=Z,13nm,0.9s
AAA Alma-Ata 39.33 67 *eP* **P 22 57 14.3 +0.5**
baz=66
AAA Alma-Ata 39.33 67 *eP* **P 22 57 14.2 +0.5**
KURK Kurchatov 39.37 55 P **P 22 57 13.3 -0.6**
KURK Kurchatov 39.37 55 *d iP* **P 22 57 13.8 -0.1**
KURK pmax pmax
comp=Z,30nm,1.3s
KURK Kurchatov 39.37 55 P **P 22 57 11.8 -2.1**
TNSS Tian-Shan 39.39 67 *eP* **P 22 57 14.5 -0.1**
baz=67
TNSS Tian-Shan 39.39 67 *eP* **P 22 57 14.5 -0.1**
NIL Nilore 39.45 82 P **P 22 57 15.1 +0.3**
NIL IAmb IAmb 22 57 17.0
comp=Z,66nm,1.1s
NIL Nilore 39.45 82 P **P 22 57 15.1 +0.3**
NIL pmax pmax
comp=Z,66nm,1.1s
KSH Kashi 39.57 72 P **P 22 57 15.5 -0.3**
KSH sP sP 22 57 24.2 +4.9
KSH S **S 23 03 17.0 -1.8**
KSH pmax pmax
comp=Z,26nm,1.4s
KSH LR LR
comp=Z,310nm,19.7s
KSH LR LR
comp=Z,310nm,22.1s
KSH LR LR
comp=Z,400nm,22.7s
MBAR Mbarara 39.97 170 P **P 22 57 19.1 -0.3**
MBAR Mbarara 39.97 170⇑ *eP* **P 22 57 19.7 +0.3**
MBAR pmax pmax
comp=Z,10.0nm,1.1s
MBAR Mbarara 39.97 170 LR LR 23 16 37.5
comp=Z,744nm,18.2s,baz=342,slow=40
TDK Taldyqorghan 40.01 63 *eP* **P 22 57 19.2 -0.1**
baz=63
TDK Taldyqorghan 40.01 63 *eP* **P 22 57 19.2 -0.1**
KBS Kingsbay 40.23 356 *eP* **P 22 57 20.4 -0.3**
TARG Taragay, Kyrgy 40.32 69 P **P 22 57 22.9 +0.5**
TARG IAmb IAmb 22 57 25.5
comp=Z,49nm,1.4s
TARG Taragay, Kyrgy 40.32 69 P **P 22 57 22.9 +0.5**
TARG pmax pmax
comp=Z,49nm,1.4s
ZHN Zhinishke 40.42 66 *eP* **P 22 57 23.5 +0.5**
baz=66
ZHN Zhinishke 40.42 66 *eP* **P 22 57 23.4 +0.5**
SATY Saty 40.43 66 *eP* **P 22 57 23.9 +0.9**
comp=Z,26nm,1.2s,baz=66
SATY Saty 40.43 66 *eP* **P 22 57 23.8 +0.9**
SATY pmax pmax
comp=Z,26nm,1.2s
KPKS Kokpek 40.53 66 *eP* **P 22 57 24.1 +0.3**
baz=66
KPKS Kokpek 40.53 66 *eP* **P 22 57 24.1 +0.3**
PRZ Przheval'sk 40.56 67 P **P 22 57 24.8 +0.7**
PRZ Przheval'sk 40.56 67 P **P 22 57 24.8 +0.7**
PRZ pmax pmax
comp=Z,24nm,1.1s
UZB Uzynbulak 40.85 66 *eP* **P 22 57 26.5 0.0**
baz=66
UZB Uzynbulak 40.85 66 *eP* **P 22 57 26.4 0.0**
SHLS Shalkode 41.16 66 *eP* **P 22 57 32.0 +3.1**
baz=66
SHLS Shalkode 41.16 66 *eP* **P 22 57 32.0 +3.1**
DBIC Dimbokro 41.60 227 P **P 22 57 32.3 -0.4**
DBIC IAmb IAmb 22 57 39.3
comp=Z,52nm,0.9s
DBIC Dimbokro 41.60 227 P **P 22 57 32.3 -0.4**
comp=Z,25nm,0.8s,baz=29,slow=9.3,SNR=17
DBIC LR LR 23 16 05.9
comp=Z,458nm,18.9s,baz=32,slow=38
comp=Z,25nm,0.8s
TIC Toumodi 41.72 227⇑ *eP* **P 22 57 33.1 -0.5**
comp=Z,14nm,0.4s
KIC Kosan Boka 41.79 226↓ *eP* **P 22 57 34.3 +0.1**
comp=Z,58nm,0.8s
KMBO Kilima Mbogo 41.80 160 P **P 22 57 35.0 +0.5**
KMBO Kilima Mbogo 41.80 160 P **P 22 57 35.0 +0.5**
comp=Z,0.8nm,0.7s,baz=34,slow=13,SNR=2.1
KMBO LR LR 23 16 35.6
comp=Z,344nm,18.2s,baz=277,slow=38
LIC Lamto 42.06 226⇑ *eP* **P 22 57 36.0 -0.5**
comp=Z,96nm,0.6s
MK31 Makanchi Array 42.32 60 P **P 22 57 38.0 -0.4**
MK31 Makanchi Array 42.32 60 P **P 22 57 38.0 -0.4**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 42.32 60 P **P 22 57 38.0 -0.3**
MKAR Makanchi Array 42.32 60 P **P 22 57 38.0 -0.3**
MKAR Makanchi Array 42.32 60 P **P 22 57 38.5 +0.1**
comp=Z,8.3nm,0.7s,baz=273,slow=7.6,SNR=52
MKAR LR LR 23 18 00.8
comp=Z,691nm,21.6s,baz=286,slow=40
comp=Z,8.3nm,0.7s
ZAA0 Zalesovo Array 42.89 49 P **P 22 57 42.5 -0.3**
ZAA0 IAmb IAmb 22 57 43.9
comp=Z,29nm,0.9s
ZALV Zalesovo Beam 42.89 49 P **P 22 57 42.5 -0.3**
ZALV Zalesovo Beam 42.89 49 P **P 22 57 42.5 -0.3**
ZALV Zalesovo Beam 42.89 49 P **P 22 57 42.9 +0.1**
comp=Z,24nm,0.8s,baz=275,slow=9.0,SNR=69
ZALV LR LR 23 17 43.6
comp=Z,368nm,19.0s,baz=268,slow=39
comp=Z,24nm,0.8s
ZSN Zaisan 43.91 59 *eP* **P 22 57 51.6 +0.4**
baz=58
ZSN Zaisan 43.91 59 *eP* **P 22 57 51.6 +0.4**
ICESG Greenland Ices 44.81 333 *i* P **P 22 57 59.4 +0.9**
ICESG IAmb IAmb 22 58 10.3
comp=Z,13nm,0.9s
SUMG Summit 45.03 338 P **P 22 58 00.4 +0.1**
SUMG IAmb IAmb 22 58 12.5
comp=Z,41nm,1.6s
SUMG Summit 45.03 338 P **P 22 58 00.4 +0.1**
SUMG pmax pmax
comp=Z,41nm,1.6s
SUMG Summit 45.03 338 *i* P **P 22 58 02.4 +2.2**
SUMG IAmb IAmb 22 58 04.6
comp=Z,6.1nm,0.9s
DGZ Jazzator, Alta 45.12 55 *d iP* **P 22 58 01.3 +0.4**
DGZ pmax pmax
comp=Z,11nm,0.7s
WMQ Urumqi 46.75 63 *eP* **P 22 58 15.7 +1.9**
WMQ pP sP 22 58 20.7 +3.4
WMQ pmax pmax
comp=Z,6.0nm,0.9s
WMQ LR LR
comp=Z,560nm,14.1s
WMQ LR LR
comp=Z,380nm,15.7s
WMQ LR LR
comp=Z,330nm,17.3s
DY2G Dye2 47.18 329 *i* P **P 22 58 17.3 +0.3**
DY2G IAmb IAmb 22 58 22.9
comp=Z,12nm,1.4s
SFJD Kangerlussuaq 48.88 330 LR LR 23 20 15.0
comp=Z,588nm,18.7s,baz=87,slow=38
PYUN Piuthan 49.39 84 *eP* **P 22 58 34.4 -0.2**
comp=Z,64nm,0.9s
DANN Dangsing 49.87 83 *eP* **P 22 58 38.3 0.0**
comp=Z,108nm,0.9s
KOLN Koldanda 50.02 84 *eP* **P 22 58 38.4 -1.0**
comp=Z,144nm,1.5s
GKN Gorkha 50.71 83 *eP* **P 22 58 44.0 -0.6**
comp=Z,101nm,1.3s
DMN Daman 51.27 84 *eP* **P 22 58 48.5 -0.4**
comp=Z,107nm,1.0s
KKN Kakani 51.31 83 *eP* **P 22 58 48.7 -0.5**
comp=Z,78nm,1.5s
PKIN Phulchoki 51.51 83 *eP* **P 22 58 50.4 -0.3**
comp=Z,48nm,0.9s
PKI Pulchoki 51.52 83 *eP* **P 22 58 49.9 -0.9**
comp=Z,48nm,1.1s
HYB Hyderabad 51.67 99 *eP* **P 22 58 51.6 -0.1**
GUN Gumba 51.72 83 *eP* **P 22 58 51.8 -0.5**
comp=Z,101nm,1.2s
JIRN Jiri 52.08 83 *eP* **P 22 58 54.6 -0.5**
comp=Z,50nm,1.0s
RAMN Ramite 52.75 83 *eP* **P 22 58 59.2 -0.7**
comp=Z,74nm,1.1s
ODAN Odare 53.40 83 *eP* **P 22 59 04.0 -0.7**
comp=Z,105nm,1.6s
TAPN Taplejung 53.41 82 *eP* **P 22 59 04.3 -0.5**
comp=Z,77nm,1.2s
GOMU GeErMu 54.64 69 P **P 22 59 14.6 +0.8**
GOMU pP sP 22 59 18.3 +1.0
GOMU sP pP 22 59 22.0 +5.7
GOMU pmax pmax
comp=Z,5.0nm,1.0s
GOMU pmax pmax
comp=Z,84nm,4.7s
GOMU LR LR
comp=Z,210nm,16.4s
GOMU LR LR
comp=Z,210nm,16.2s
GOMU LR LR
comp=Z,370nm,15.9s
ZAK Zakamensk 54.74 50 *eP* **P 22 59 13.3 -0.7**
ZAK pmax pmax
comp=Z,13nm,1.3s
LSA Lhasa 54.89 78 P **P 22 59 15.2 -0.6**
LSA Lhasa 54.89 78 P **P 22 59 15.4 -0.4**
LSA IAmb IAmb 22 59 22.2
comp=Z,13nm,0.8s
LSA Lhasa 54.89 78 P **P 22 59 15.4 -0.4**
LSA pmax pmax
comp=Z,13nm,0.8s
DRLN Deer Lake 56.77 309 P **P 22 59 28.9 +0.4**
GTA Gaotai 56.81 64 *eP* **P 22 59 29.3 +0.2**
GTA sP sP 22 59 36.2 +3.7
GTA pmax pmax
comp=Z,8.0nm,1.8s
GTA LR LR
comp=Z,290nm,19.3s
GTA LR LR
comp=Z,290nm,19.3s
GTA LR LR
comp=Z,320nm,22.9s
FRB Frobisher Bay 56.91 328 LR LR 23 23 34.2
comp=Z,388nm,20.2s,baz=52,slow=36
SHL Shillong 57.53 82 P **P 22 59 32.8 -1.6**
SHL Shillong 57.53 82 P **P 22 59 32.8 -1.6**
SHL pmax pmax
comp=Z,82nm,1.7s
SHL Shillong 57.53 82 P **P 22 59 33.3 -1.1**
SNR=13
SONM Songino Array 57.60 52 P **P 22 59 34.4 -0.1**
SONM IAmb IAmb 22 59 36.0
comp=Z,23nm,1.4s
SONM Songino Array 57.60 52 P **P 22 59 34.4 -0.1**
SONM pmax pmax
comp=Z,23nm,1.4s
SONM Songino Array 57.60 52 P **P 22 59 34.6 +0.1**
comp=Z,7.8nm,1.1s,baz=278,slow=8.0,SNR=36
SONM LR LR 23 27 05.3
comp=Z,362nm,18.5s,baz=298,slow=39
comp=Z,7.8nm,1.1s
TIXI Tiksi 57.74 21 P **P 22 59 34.8 -0.2**
TIXI Tiksi 57.74 21↓ *eP* **P 22 59 33.9 -1.0**
TIXI pmax pmax
comp=Z,12nm,1.6s
BOD Bodaibo 57.83 39 *eP* **P 22 59 35.0 -0.8**
BOD pmax pmax
comp=Z,20nm,1.8s
ULN Ulaanbaatar 57.99 52 P **P 22 59 37.1 -0.1**
ULN Ulaanbaatar 57.99 52 *d iP* **P 22 59 37.2 -0.1**
ULN pmax pmax
comp=Z,15nm,1.2s
ULN Ulaanbaatar 57.99 52 P P 22 59 28.5 -8.8
TSUM Tsumeb 58.34 187 P **P 22 59 39.7 -0.1**
TSUM Tsumeb 58.34 187 LR LR 23 26 32.7
comp=Z,528nm,21.7s,baz=332,slow=38
BRDH Bariadhala 58.88 85 LR LR 23 30 58.8
comp=Z,384nm,19.2s,baz=240,slow=42
SCHQ Schefferville 59.73 318 P **P 22 59 48.5 -0.5**
SCHQ Schefferville 59.73 318 P **P 22 59 48.7 -0.3**
comp=Z,7.0nm,0.5s,baz=57,slow=6.0,SNR=14
SCHQ LR LR 23 25 21.1
comp=Z,385nm,19.4s,baz=99,slow=36
comp=Z,7.0nm,0.5s
LZH Lanzhou 61.18 65 *eP* **P 23 00 00.3 +0.9**
LZH pP sP 23 00 05.8 +2.9
LZH S **S 23 08 26.7 +7.4**
LZH pmax pmax
comp=Z,12nm,1.2s
LZH LR LR
comp=Z,400nm,15.1s
LZH LR LR
comp=Z,390nm,15.6s
LZH LR LR
comp=Z,540nm,16.5s
MND Mandalay 62.70 83 P **P 23 00 07.4 -2.2**
YAK Yakutsk 62.84 31 P **P 23 00 08.8 -1.1**
YAK IAmb IAmb 23 00 19.2
comp=Z,17nm,0.8s
YAK Yakutsk 62.84 31 *eP* **P 23 00 09.3 -0.7**
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.4s
BTO Baotou 63.20 58 *eP* **P 23 00 11.0 -1.9**
BTO sP **sP 23 00 18.6 +2.3**
BTO PP **PP 23 02 31.0 -0.5**
BTO S **S 23 08 42.0 -2.6**
BTO pmax pmax
comp=E,28nm,1.5s
BTO pmax pmax
comp=E,290nm,5.4s
BTO LR LR
comp=E,520nm,13.2s
BTO LR LR
comp=E,440nm,11.9s
BTO LR LR
comp=E,680nm,20.8s
CD2 Chengdu 63.72 70 P **P 23 00 16.3 -0.1**
CD2 pmax pmax
comp=E,20nm,0.5s
LBTB Lobatse 63.81 179 P **P 23 00 16.7 -0.1**
LBTB IAmb IAmb 23 00 24.6
comp=Z,17nm,0.9s
LBTB Lobatse 63.81 179 P **P 23 00 16.7 -0.1**
LBTB pmax pmax
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 64.09 57⇑ *i iP* **P 23 00 19.5 +0.7**
HHC pP sP 23 00 27.1 +4.8
HHC *e*S **S 23 08 58.5 +2.7**
HHC pmax pmax
comp=Z,40nm,0.6s
HHC pmax pmax
comp=Z,250nm,5.0s
HHC LR LR
comp=Z,520nm,14.9s
HHC LR LR
comp=Z,1μm,14.7s
HHC LR LR
comp=Z,1μm,15.9s
PZH PanZhiHua 64.55 76 P **P 23 00 23.5 +1.5**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.7s
HIA Hailar 64.80 46 P **P 23 00 22.1 -1.0**
HIA IAmb IAmb 23 00 26.9
comp=Z,21nm,1.2s
HIA Hailar 64.80 46 P **P 23 00 22.1 -1.0**
HIA pmax pmax
comp=Z,21nm,1.2s
XLT XiLinHaoTe 65.41 53 *eP* **P 23 00 27.6 +0.3**
XLT pP sP 23 00 31.2 +0.4
XLT pmax pmax
comp=Z,16nm,1.1s
XLT pmax pmax
comp=Z,91nm,3.9s
XAN Xi'an 65.80 65⇑ P **P 23 00 30.1 +0.2**
XAN pP sP 23 00 35.2 +1.8
XAN sP pP 23 00 38.8 +6.3
XAN pmax pmax
comp=Z,22nm,1.2s
XAN LR LR
comp=Z,640nm,19.9s
XAN LR LR
comp=Z,400nm,20.6s
XAN LR LR
comp=Z,520nm,19.2s
KMI Kunming 66.06 76⇑ P **P 23 00 31.8 -0.1**
KMI PcP **PcP 23 01 01.4 -1.0**
KMI pmax pmax
comp=Z,11nm,1.3s
KMI LR LR
comp=Z,130nm,20.7s
KMI LR LR
comp=Z,300nm,18.7s
KMI LR LR
comp=Z,360nm,22.6s
ZEA Zeya 66.34 39 *eP* **P 23 00 33.6 +0.6**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=Z,200nm,16.0s
CHTO Chiang Mai 66.69 84 P **P 23 00 34.7 -1.0**
CHTO Chiang Mai 66.69 84 P **P 23 00 34.7 -1.0**
CHTO pmax pmax

comp=Z,1.0nm,1.3s
CM31 Chiang Mai Arr 66.89 85 P P 23 00 35.9 -1.1
CM31 IAmb IAmb 23 00 42.0
comp=Z,12nm,0.9s
CM31 Chiang Mai Arr 66.89 85 P P 23 00 36.6 -0.4
SNR=7.9
CMAR Chiang Mai Arr 66.89 85 P P 23 00 36.0 -1.0
CMAR Chiang Mai Arr 66.89 85 *i* P **P 23 00 36.2 -0.9**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 66.89 85 P P 23 00 36.5 -0.5
comp=Z,5.6nm,0.8s,baz=301,slow=7.6,SNR=44
CMAR LR LR 23 36 36.8
comp=Z,114nm,19.5s,baz=335,slow=42
comp=Z,5.6nm,0.8s
CRAI Chiangrai 66.98 82 P P 23 00 36.7 -0.9
CRAI IAmb IAmb 23 00 42.9
comp=Z,15nm,0.9s
BOSA Boshof 67.39 179 P P 23 00 40.7 +0.8
BOSA IAmb IAmb 23 00 47.0
comp=Z,15nm,1.0s
BOSA Boshof 67.39 179 P P 23 00 40.7 +0.8
BOSA pmax pmax
comp=Z,15nm,1.0s
BOSA Boshof 67.39 179 P P 23 00 40.8 +0.9
comp=Z,14nm,0.9s,baz=5.8,slow=6.8,SNR=16
BOSA LR LR 23 33 10.9
comp=Z,342nm,19.0s,baz=356,slow=39
comp=Z,14nm,0.9s
BJI Beijing 67.52 56 P P 23 00 40.5 -0.2
BJI PP **PP 23 03 10.1 +1.0**
BJI pmax pmax
comp=Z,6.0nm,1.3s
BJI LR LR
comp=Z,220nm,19.4s
BJI LR LR
comp=Z,160nm,14.9s
BJT Baijiatuau 67.52 56 P P 23 00 40.4 -0.4
BJT IAmb IAmb 23 00 41.8
comp=Z,15nm,1.1s
BJT Baijiatuau 67.52 56 P P 23 00 40.4 -0.4
BJT pmax pmax
comp=Z,15nm,1.1s
HNS HongShan 67.98 59 ⇓P **P 23 00 43.4 -0.3**
HNS *e*S **S 23 09 37.6 -5.3**
HNS pmax pmax
comp=Z,11nm,1.1s
HNS LR LR
comp=Z,240nm,16.8s
HNS LR LR
comp=Z,380nm,18.5s
HNS LR LR
comp=Z,300nm,19.3s
LYN LuoYang 68.00 63 ⇑P **P 23 00 44.1 +0.2**
LYN pmax pmax
comp=Z,15nm,1.5s
LYN pmax pmax
comp=Z,250nm,5.9s
LYN LR LR
comp=Z,560nm,16.7s
LYN LR LR
comp=Z,420nm,13.5s
LYN LR LR
comp=Z,570nm,18.2s
ENH Enshi 68.23 68 P P 23 00 44.4 -1.0
ENH IAmb IAmb 23 00 53.0
comp=Z,23nm,1.3s
GYA Guiyang 68.26 73 *e*P **P 23 00 42.5 -3.3**
GYA pmax pmax
comp=Z,10.0nm,1.6s
TRQ Mont Tremblant 68.30 312 P P 23 00 46.1 +0.5
TRQ IAmb IAmb 23 00 57.0
comp=Z,10.0nm,0.9s
HEH HeiHe 68.41 42 *e*P **P 23 00 46.2 0.0**
HEH pmax pmax
comp=Z,20nm,1.0s
HEH LR LR
comp=Z,1μm,18.1s
HEH LR LR
comp=Z,970nm,19.0s
HEH LR LR
comp=Z,980nm,15.2s
SLVN Son La 69.06 79 P P 23 00 49.6 -1.2
SLVN IAmb IAmb 23 00 56.2
comp=Z,15nm,1.1s
SRDT SRDT 69.43 88 P P 23 00 51.8 -1.2
SEY Seymchan 70.19 22 ⇓*e*P **P 23 00 55.8 -1.1**
SEY pmax pmax
comp=Z,38nm,1.6s
SEY Seymchan 70.19 22 LR LR 23 33 50.0
comp=Z,443nm,20.4s,baz=321,slow=38
TIA Tai'an 70.25 59 ⇓P **P 23 00 57.2 -0.6**
TIA pmax pmax
comp=Z,9.0nm,0.8s
B22K Teshekpuk Lake 70.84 359 P P 23 01 00.9 +0.1
baz=1.9
CN2 Changchun 71.10 49 P P 23 01 02.9 0.0
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,300nm,17.0s
B20K Meade River 71.18 1 P P 23 01 04.4 +1.6
B20K Meade River 71.18 1 P P 23 01 02.8 0.0
baz=359
SUR Sutherland 71.20 183 P P 23 01 04.9 +1.3
SUR Sutherland 71.20 183 LR LR 23 33 57.6
comp=Z,417nm,21.7s,baz=358,slow=37
KLR Kul'dur 71.28 41 LR LR 23 34 12.9
comp=Z,431nm,20.9s,baz=305,slow=38
C23K Itkillik River 71.30 358 P P 23 01 05.0 +1.4
baz=4.2
C24K Franklin Bluff 71.35 357 P P 23 01 04.8 +0.9
baz=5.8
D27M Malcolm River 71.40 354 P P 23 01 05.0 +0.6
baz=12
BINY Binghamton 71.46 310 P P 23 01 05.8 +0.7
baz=54
B21K Ikpikpuk River 71.57 360 P P 23 01 06.1 +0.9
baz=0.9
INK Inuvik 71.60 351 P P 23 01 06.2 +0.8
baz=18
INK Inuvik 71.60 351 LR LR 23 35 16.0
comp=Z,180nm,18.8s,baz=357,slow=38
D25K Kavik River 71.65 356 P P 23 01 05.7 -0.1
baz=7.7
B18K Kokolik River 71.74 2 P P 23 01 06.3 0.0
baz=355
SADO Sadowa 71.77 313 LR LR 23 32 51.7
comp=Z,220nm,19.1s,baz=87,slow=36
E28M Babbage River 71.92 354 P P 23 01 07.4 0.0
baz=13
D24K Happy Valley 71.92 357 P P 23 01 07.2 -0.2
baz=5.7
E29M Blow River 71.98 353 P P 23 01 08.6 +0.9
baz=14
C21K Knifeblade Rid 72.04 360 P P 23 01 08.9 +0.8
baz=0.8
C19K Lookout Ridge 72.06 1 P P 23 01 08.9 +0.7
baz=357
D23K Nanushuk River 72.17 358 P P 23 01 10.2 +1.3
baz=4.2
MA2 Magadan 72.23 25 ⇓*e*P **P 23 01 10.9 +1.5**
MA2 pmax pmax
comp=Z,98nm,1.8s
MA2 Magadan 72.23 25 LR LR 23 35 20.0
comp=Z,283nm,18.9s,baz=307,slow=38
D22K Ayikyak River 72.30 359 P P 23 01 10.2 +0.6
baz=2.5
F31M Tsiigehtchic 72.46 351 P P 23 01 11.6 +1.1
baz=18,SNR=7.8
TOLK Toolik Lake Re 72.46 358 P P 23 01 11.1 +0.4
baz=5.0
C18K Utukok River 72.48 2 P P 23 01 11.6 +0.8
C18K IAmb IAmb 23 01 22.2
comp=Z,18nm,0.8s
C18K Utukok River 72.48 2 P P 23 01 11.3 +0.5
baz=356
D20K Etivluk River 72.49 0 P P 23 01 11.6 +0.8
baz=359
E27K Coleen River 72.49 354 P P 23 01 11.7 +0.8
baz=12
F30M Barrier River 72.52 352 P P 23 01 11.8 +0.8
baz=16

C17K DeLong Mountai 72.58 3 P P 23 01 12.2 +0.9
baz=354
C16K Lisburne Hills 72.69 4 P P 23 01 12.4 +0.5
C16K Lisburne Hills 72.69 4 P P 23 01 12.8 +0.9
baz=352
D19K Kuna River 72.69 1 P P 23 01 12.4 +0.4
baz=358
E21K Killik River 72.75 359 P P 23 01 13.4 +1.0
baz=1.5
E25K Arctic Village 72.81 356 P P 23 01 13.3 +0.5
baz=8.3
F28M Old Crow 72.91 354 P P 23 01 13.2 -0.1
baz=13
E20K Nigu River 72.95 0 P P 23 01 14.1 +0.5
baz=360
SURA Surathani 72.95 92 P P 23 01 13.7 -0.7
MDJ Mudanjiang 72.98 46 P P 23 01 15.8 +1.7
MDJ pP sP 23 01 17.9 +0.3
MDJ PcP **PcP 23 01 33.6 +2.6**
MDJ PP **PP 23 03 55.5 -0.5**
MDJ S **S 23 10 41.0 -0.1**
MDJ SS **SS 23 15 23.1 +2.4**
MDJ pmax pmax
comp=Z,11nm,2.1s
MDJ pmax pmax
comp=Z,180nm,4.6s
MDJ LR LR
comp=Z,500nm,13.4s
MDJ LR LR
comp=Z,540nm,16.9s
MDJ LR LR
comp=Z,400nm,15.3s
E24K Your Creek 72.99 357 P P 23 01 14.7 +0.9
baz=5.9
G31M Satah River 73.02 351 P P 23 01 15.7 +1.8
baz=17
E22K Anaktuvuk Pass 73.03 358 P P 23 01 14.7 +0.6
baz=3.2
E23K Chandalar 73.05 358 P P 23 01 14.8 +0.6
baz=5.0
F26K Sheenjek River 73.15 355 P P 23 01 15.7 +1.0
baz=9.4
G30M tAoh Zraii Nji 73.18 352 P P 23 01 15.3 +0.4
baz=16
F25K Christian Rive 73.34 356 P P 23 01 16.1 +0.2
baz=8.2
D17K Noatak River 73.36 3 P P 23 01 16.8 +0.9
baz=354
G29M Pine Creek 73.43 353 P P 23 01 16.3 -0.1
G29M IAmb IAmb 23 01 25.4
comp=Z,14nm,1.0s
G29M Pine Creek 73.43 353 P P 23 01 16.7 +0.3
baz=14
BMAR Burnt Mountain 73.44 356 P P 23 01 17.1 +0.7
YKA Yellowknife Ar 73.47 341 P P 23 01 16.8 +0.2
YKA Yellowknife Ar 73.47 341 P P 23 01 16.6 0.0
comp=Z,2.3nm,0.8s,baz=31,slow=5.1,SNR=4.7
YKA LR LR 23 34 46.9
comp=Z,214nm,20.0s,baz=34,slow=37
comp=Z,2.3nm,0.8s
F24K Squaw Lake 73.52 357 P P 23 01 18.3 +1.3
baz=6.4
SSPA Standing Stone 73.54 309 P P 23 01 19.5 +2.0
baz=52
F22K John River 73.67 359 P P 23 01 19.6 +1.8
baz=2.9
E18K Tukpahlearik C 73.72 2 P P 23 01 18.8 +0.7
baz=356
E19K Redstone River 73.75 1 P P 23 01 18.7 +0.5
baz=359
NJ2 Nanjing 73.82 62 ⇑P **P 23 01 18.8 -0.4**
NJ2 PP **PP 23 04 01.9 -1.6**
NJ2 pmax pmax
comp=Z,14nm,0.7s
NJ2 pmax pmax
comp=Z,280nm,3.8s
EPYK Eagle Plains 73.82 352 P P 23 01 19.6 +0.9
baz=15
G27K Doyon Strip 73.85 354 P P 23 01 19.3 +0.4
baz=11
G26K Porcupine Rive 73.86 355 P P 23 01 20.2 +1.3
baz=9.7
COLD Coldfoot 73.90 358 P P 23 01 20.2 +1.0
baz=4.5
F21K Alatna River 73.97 359 P P 23 01 20.9 +1.3
baz=1.8
E17K Hotham Inlet 74.03 2 P P 23 01 20.3 +0.5
H31M Peel River 74.10 351 P P 23 01 20.8 +0.4
baz=17
H29M Whitestone 74.14 353 P P 23 01 20.4 -0.1
H29M IAmb IAmb 23 01 28.6
comp=Z,30nm,1.6s
H29M Whitestone 74.14 353 P P 23 01 21.5 +0.9
baz=14,SNR=6.1
F20K Avaraart Lake 74.16 360 P P 23 01 20.8 +0.2
baz=0.0
G25K Bearman Lake 74.19 356 P P 23 01 21.5 +0.7
baz=7.8
G22K Bettles 74.24 358 P P 23 01 22.4 +1.3
baz=3.4
G24K Hadweenzic Riv 74.32 357 P P 23 01 22.8 +1.2
baz=6.7,SNR=7.3
F19K Shaleruckik Mo 74.37 1 P P 23 01 22.7 +0.9
baz=358
G23K Bananza Creek 74.41 358 P P 23 01 23.0 +0.9
baz=4.6
H27K Steamboat Moun 74.41 354 P P 23 01 22.6 +0.4
baz=11
USRK Ussuriysk Ar. 74.58 45 P P 23 01 23.4 -0.1
USRK Ussuriysk Ar. 74.58 45 P P 23 01 23.4 -0.1
USRK Ussuriysk Ar. 74.58 45 P P 23 01 22.9 -0.5
comp=Z,6.9nm,0.8s,baz=282,slow=6.3,SNR=9.6
comp=Z,6.9nm,0.8s
H25L Birch Creek 74.67 356 P P 23 01 24.9 +1.3
baz=8.0
G21K Allakaket 74.68 359 P P 23 01 24.6 +0.9
baz=1.8
I30M Mount Dempster 74.90 352 P P 23 01 26.0 +0.9
baz=16,SNR=9.8
I29M Ogilvie Camp, 74.97 353 P P 23 01 26.3 +0.9
baz=14,SNR=7.5
I27K Kandik River 75.03 354 P P 23 01 26.4 +0.6
baz=11
I28M Miner Creek 75.04 353 P P 23 01 26.9 +1.0
baz=13,SNR=10
G19K Purcell Mounta 75.07 1 P P 23 01 25.8 -0.1
baz=359,SNR=6.0
H24K Noodor Dome 75.20 357 P P 23 01 27.5 +0.7
baz=6.3
IMAR Indian Mountai 75.22 359 P P 23 01 27.1 +0.3
H22K Ishtalitna Cre 75.27 358 P P 23 01 28.0 +0.9
baz=3.5
H23K Yukon River 75.28 357 P P 23 01 27.8 +0.7
baz=5.0
G18K Tagagawik 75.30 1 P P 23 01 27.6 +0.3
baz=358,SNR=8.7
PRP Porcupine Dome 75.39 356 P P 23 01 28.2 +0.2
baz=8.2
F14K Arctic Creek 75.42 5 P P 23 01 28.3 +0.4
baz=352
I26K Coal Creek Min 75.45 355 P P 23 01 28.4 +0.2
baz=10
J30M Hart River 75.52 351 P P 23 01 29.2 +0.5
J30M Hart River 75.52 351 P P 23 01 28.5 -0.2
baz=16,SNR=11
H21K Melozitna Rive 75.53 359 P P 23 01 29.3 +0.7
H21K Melozitna Rive 75.53 359 P P 23 01 29.0 +0.3
baz=2.4,SNR=14
G17K Kiwalik Mounta 75.65 2 P P 23 01 29.5 +0.2
baz=356
H19K Roundabout Mou 75.69 0 P P 23 01 30.0 +0.5
baz=359
G16K Koyuk River 75.70 3 P P 23 01 30.1 +0.6
baz=355
H20K Anotleneega Mo 75.72 360 P P 23 01 30.3 +0.6
baz=0.7
O53A New Philadelph 75.77 310 P P 23 01 31.5 +1.1
baz=50
I23K Minto, Yukon-K 75.95 357 P P 23 01 31.6 +0.6
baz=5.1
H18K Honhosa River 76.05 1 P P 23 01 32.2 +0.7
baz=358
MLY Manley 76.11 358 P P 23 01 33.0 +1.0
baz=4.0
J26L Joseph Creek 76.27 355 P P 23 01 33.7 +0.7
baz=9.7

J25K Salcha River, 76.28 355 P P 23 01 33.3 +0.2
baz=8.3
K29M Barlow Dome 76.36 352 P P 23 01 34.4 +0.9
baz=14
PSI Prapat 76.37 98 P P 23 01 33.6 -0.7
PSI Prapat 76.37 98 P P 23 01 32.9 -1.4
PSI pmax pmax
comp=Z,32nm,1.3s
I20K Naaghedeneel 76.42 359 P P 23 01 35.0 +1.3
baz=1.0
RPSI Rantau Prapat 76.44 98 P P 23 01 32.9 -1.6
RPSI IAmb IAmb 23 01 39.6
comp=Z,32nm,1.3s
KSAR Wonju Array Be 76.45 53 P P 23 01 33.7 -0.6
KSAR Wonju Array Be 76.45 53 P P 23 01 33.7 -0.6
KSRS Korea Array 76.47 53 P P 23 01 33.8 -0.6
comp=Z,7.2nm,0.9s,baz=315,slow=5.4,SNR=13
KSRS LR LR 23 38 54.2
comp=Z,210nm,18.3s,baz=305,slow=39
comp=Z,7.2nm,0.9s
NEA2 Nenana 76.49 357 P P 23 01 34.9 +0.8
baz=5.3,SNR=7.2
HDA Harding Lake 76.58 356 P P 23 01 35.0 +0.4
baz=7.0
MDP Montagnes des 76.62 266 LR LR 23 35 05.2
comp=Z,126nm,19.1s,baz=60,slow=36
K27K Chicken 76.62 354 P P 23 01 35.2 +0.3
baz=11
ULM Lac du Bonnet 76.63 325 P P 23 01 34.7 -0.4
ULM IAmb IAmb 23 01 39.0
comp=Z,19nm,0.8s
ULM Lac du Bonnet 76.63 325 P P 23 01 34.7 -0.4
ULM pmax pmax
comp=Z,19nm,0.8s
ULM Lac du Bonnet 76.63 325 P P 23 01 34.5 -0.6
comp=Z,15nm,0.7s,baz=40,slow=5.5,SNR=16
ULM LR LR 23 34 48.9
comp=Z,302nm,19.6s,baz=45,slow=35
comp=Z,15nm,0.7s
P52A Corning 76.71 310 P P 23 01 36.0 +0.3
baz=50
MMPY Sheldon Lake, 76.71 349 P P 23 01 36.0 +0.6
baz=19
SCRK Sand Creek 76.82 355 P P 23 01 36.4 +0.2
SCRK IAmb IAmb 23 01 41.7
comp=Z,38nm,1.7s
SCRK Sand Creek 76.82 355 P P 23 01 36.8 +0.6
baz=9.4,SNR=6.5
J20K Nowinta River 77.04 359 P P 23 01 37.6 +0.5
baz=1.3
BPAW Bear Paw Mtn. 77.05 358 P P 23 01 36.6 -0.7
BPAW Bear Paw Mtn. 77.05 358 P P 23 01 37.7 +0.4
baz=3.8
K24K Donnelly Dome 77.11 355 P P 23 01 38.1 +0.4
baz=7.9
RIDG Independent Ri 77.12 355 P P 23 01 38.7 +0.9
baz=8.7,SNR=6.1
L29M L29M 77.14 352 P P 23 01 38.1 +0.3
baz=14
J19K Poorman 77.23 360 P P 23 01 38.1 -0.1
baz=0.1,SNR=5.1
I17K Unalakleet 77.26 2 P P 23 01 38.9 +0.5
baz=356
CHUM Lake Minchumin 77.31 358 P P 23 01 39.4 +0.7
baz=2.7
MCK McKinley 77.35 357 P P 23 01 39.8 +0.8
baz=5.4
FARO Faro, Yukon 77.39 349 P P 23 01 39.7 +0.5
baz=18
BCAR Beaver Creek A 77.55 354 P P 23 01 40.0 -0.1
L27K Beaver Creek, 77.56 354 P P 23 01 40.5 +0.4
L27K Beaver Creek, 77.56 354 P P 23 01 40.9 +0.8
baz=11
M31M Drury Creek, Y 77.56 350 P P 23 01 41.3 +1.1
baz=17
TRF Thorofare Moun 77.68 357 P P 23 01 42.0 +1.0
baz=4.3
L26K Log Cabin Wild 77.72 354 P P 23 01 42.0 +1.0
baz=9.8
J18K Innoko River 77.76 0 P P 23 01 42.1 +0.9
baz=359
CAST Castle Rocks 77.77 358 P P 23 01 41.3 0.0
CAST Castle Rocks 77.77 358 P P 23 01 42.1 +0.7
baz=2.9
M29M Somme Creek 77.83 352 P P 23 01 42.9 +1.1
baz=14
MENT Mentasta 77.83 354 P P 23 01 49.8 +8.1
comp=Z,5.3nm,0.7s
K20K Telida 77.86 359 P P 23 01 42.2 +0.4
baz=1.3
J16K Anvik River 77.87 2 P P 23 01 42.7 +0.9
baz=356
PAX Paxson 77.92 355 P P 23 01 42.1 -0.2
baz=8.2
DHY Denali Highway 77.93 356 P P 23 01 43.0 +0.6
baz=6.7
O48B Farmland 78.06 312 P P 23 01 43.4 0.0
baz=48
WAT1 Susitna Watana 78.23 357 P P 23 01 44.7 +0.8
baz=5.7
M27K Edge Creek, AK 78.25 353 P P 23 01 43.9 -0.3
baz=11,SNR=5.6
YSS Yuzh-Sakhalins 78.27 38 ⇓*e*P **P 23 01 44.0 -0.3**
YSS pmax pmax
comp=Z,60nm,1.4s
P49A Miami Univ. Ec 78.29 312 P P 23 01 45.6 +1.0
baz=49
PPLA Purkeypile 78.29 358 P P 23 01 44.9 +0.5
baz=2.8
M26K Nabesna, AK 78.31 354 P P 23 01 45.6 +1.2
baz=10
N31M Braeburn, Yuko 78.44 350 P P 23 01 46.1 +1.1
baz=16
WAT6 Susitna Watana 78.44 356 P P 23 01 45.9 +0.6
baz=6.3
K17K Iditarod 78.49 1 P P 23 01 46.1 +0.8
baz=358
N30M Aishikik Lake 78.63 351 P P 23 01 47.3 +1.1
baz=15
YUK3 Moose Creek 78.69 353 P P 23 01 47.0 +0.3
baz=12
YUK4 Talbot Arm 78.92 352 P P 23 01 48.6 +0.6
baz=14
L18K Granite Mounta 79.01 0 P P 23 01 49.0 +0.8
baz=359
L19K White Mountain 79.05 360 P P 23 01 48.4 0.0
L19K IAmb IAmb 23 01 54.7
comp=Z,31nm,1.2s
L19K White Mountain 79.05 360 P P 23 01 48.8 +0.3
baz=0.7
L17K Donlin 79.08 1 P P 23 01 49.4 +0.8
baz=358
SFIN Lafayette 79.09 314 P P 23 01 50.4 +1.4
baz=47
SJG San Juan 79.09 284 LR LR 23 34 23.4
comp=Z,46nm,20.2s,baz=60,slow=34
YUK8 Steele Glacier 79.10 352 P P 23 01 50.1 +1.1
baz=13
KMSC Kings Mountain 79.11 306 P P 23 01 50.3 +1.1
baz=50
SCM Sheep Creek Mo 79.17 356 P P 23 01 49.2 +0.1
SCM IAmb IAmb 23 01 58.8
comp=Z,15nm,0.9s
SCM Sheep Creek Mo 79.17 356 P P 23 01 49.2 +0.1
SCM pmax pmax
comp=Z,15nm,0.9s
SCM Sheep Creek Mo 79.17 356 P P 23 01 50.7 +1.6
baz=6.7
O30N Mendenhall 79.17 350 P P 23 01 50.5 +1.4
baz=15
SKT Skwentna 79.19 358 P P 23 01 49.1 -0.1
baz=3.3
N25K Chitina, Valde 79.22 355 P P 23 01 50.6 +1.1
baz=8.8
M23K Glacier View 79.23 356 P P 23 01 51.5 +2.1
baz=6.3
P33M Teslin, Yukon 79.24 349 P P 23 01 50.1 +0.5
baz=18
SML Sawmill 79.25 356 P P 23 01 49.1 -0.4
SML IAmb IAmb 23 01 57.0
comp=Z,40nm,1.6s
SML Sawmill 79.25 356 P P 23 01 50.6 +1.0
baz=5.9
YUK6 Outpost Mounta 79.28 351 P P 23 01 51.1 +1.1
baz=14
HYT Haines Junctio 79.29 351 P P 23 01 50.2 +0.3
HYT Haines Junctio 79.29 351 P P 23 01 50.7 +0.8
baz=14

GHO	Glory Hole Cre	79.31 357	P	P	23 01 49.9	0.0
GHO			IAmb	IAmb	23 01 58.0	
comp=Z,25nm,1.1s						
MCARA	McCarthy VSAT	79.31 354	P	P	23 01 50.7	+0.8
baz=10.0						
M19K	Big River Lodg	79.32 359	P	P	23 01 51.6	+1.7
baz=1.1						
M20K	Styx River	79.33 359	P	P	23 01 51.2	+1.1
baz=2.1						
M22K	Willow	79.38 357	P	P	23 01 51.1	+0.9
baz=4.5						
KLU	Klutina	79.42 355	P	P	23 01 51.8	+1.2
baz=7.8						
L15K	Ungalak Mounta	79.45 3	P	P	23 01 51.6	+1.0
baz=356						
TZTN	Tazewell	79.56 309	P	P	23 01 53.7	+2.0
baz=49						
CTG	Chitna Glacier	79.58 353	P	P	23 01 53.0	+1.5
baz=11						
MCPB	Macapa, AP	79.61 261	eP	P	23 01 55.7	+3.6
KNK	Knik Glacier	79.64 356	P	P	23 01 52.0	+0.3
baz=5.8						
O28M	Mount Upton	79.65 352	P	P	23 01 52.5	+0.5
baz=12						
SUA	Susitna One	79.69 358	P	P	23 01 51.7	-0.3
SUA			IAmb	IAmb	23 01 57.1	
comp=Z,47nm,1.5s						
SUA	Susitna One	79.69 358	P	P	23 01 52.6	+0.6
baz=4.0						
PETK	Petropavlovsk-	79.71 26	P	P	23 01 52.4	+0.3
comp=Z,4.7nm,0.8s,baz=158,slow=1.6,SNR=3.8						
PETK			LR	LR	23 39 26.7	
comp=Z,207nm,18.1s,baz=319,slow=38						
comp=Z,4.7nm,0.8s						
R33M	Jennings River	79.72 347	P	P	23 01 53.6	+1.4
baz=19						
M17K	Holitna River	79.82 1	P	P	23 01 53.7	+1.1
baz=359						
GRNC	Granite Creek	79.84 353	P	P	23 01 53.1	+0.1
GRNC			IAmb	IAmb	23 01 58.1	
comp=Z,25nm,1.4s						
BMRM	Bremner River	79.85 354	P	P	23 01 53.6	+0.8
baz=8.8						
O29M	Mount Kennedy	79.93 351	P	P	23 01 54.9	+1.5
baz=14						
CRQE	Cirque	79.94 354	P	P	23 01 53.8	+0.4
baz=10.0						
SPCR	Spurr Chakacha	79.99 358	P	P	23 01 53.5	-0.2
baz=2.8						
N20K	Mount Spurr	79.99 358	P	P	23 01 53.5	-0.1
baz=2.8						
RC01	Rabbit Creek A	80.02 357	P	P	23 01 54.1	+0.4
baz=4.7						
SVW2	Sparrevohn	80.14 360	P	P	23 01 59.2	+4.9
M16K	Timber Creek	80.18 2	P	P	23 01 54.9	+0.4
baz=358						
HDIL	Hopedale	80.19 315	P	P	23 01 55.8	+0.8
baz=46						
ASAJ	Asahikawa	80.23 40	LR	LR	23 42 09.6	
comp=Z,239nm,18.3s,baz=341,slow=39						
TKL	Tuckaleechee C	80.28 308	LR	LR	23 38 09.4	
comp=Z,418nm,18.7s,baz=64,slow=36						
PINM	Pinnacle	80.32 352	P	P	23 01 55.7	+0.3
baz=12						
SKAG	Skagway	80.33 350	P	P	23 01 55.9	+0.6
baz=16						
Q32M	Nakina River	80.34 348	P	P	23 01 56.0	+0.3
baz=18						
N19K	Bonanza Creek	80.42 359	P	P	23 01 56.6	+0.6
baz=1.0						
DLBC	Dease Lake	80.46 347	LR	LR	23 38 17.0	
comp=Z,292nm,19.9s,baz=17,slow=36						
PLBC	Pleasant Camp	80.48 350	P	P	23 01 56.9	+0.8
baz=15						
P29M	Windy Craggy	80.48 351	P	P	23 01 56.6	+0.3
baz=14						
N18K	Kilae Creek	80.56 0	P	P	23 01 56.4	-0.3
N18K	Kilae Creek	80.56 0	P	P	23 01 57.0	+0.4
baz=360						
EDM	Edmonton	80.98 336	P	P	23 01 59.8	+0.7
EDM			IAmb	IAmb	23 02 02.9	
comp=Z,15nm,0.8s						
EDM	Edmonton	80.98 336	P	P	23 01 59.8	+0.7
EDM			pmax	pmax		
comp=Z,15nm,0.8s						
JNU	Nakatsue	81.10 54	LR	LR	23 44 39.6	
comp=Z,87nm,18.1s,baz=322,slow=41						
S34M	Telegraph Cree	81.15 347	P	P	23 02 00.3	+0.5
baz=19						
PRPB	Paraua pebas	81.64 255	eP	P	23 02 05.7	+2.6
ECSD	EROS Data Cent	81.74 321	P	P	23 02 02.9	-0.3
ECSD	EROS Data Cent	81.74 321	P	P	23 02 04.1	+0.9
baz=42						
SMTB	Santa Maria do	81.74 252	eP	P	23 02 06.7	+3.1
SDBA	SAO DESIDERIO	82.16 247	eP	P	23 02 09.1	+3.4
P16K	Nushagak River	82.19 1	P	P	23 02 05.7	+0.4
baz=356						
MALB	Monte Alegre	82.25 261	eP	P	23 02 09.7	+3.4
WVT	Waverly	82.40 311	P	P	23 02 07.1	+0.3
WVT			IAmb	IAmb	23 02 13.2	
comp=Z,40nm,1.8s						
WVT	Waverly	82.40 311	P	P	23 02 07.1	+0.3
WVT			pmax	pmax		
comp=Z,40nm,1.8s						
WVT	Waverly	82.40 311	P	P	23 02 07.8	+1.0
baz=46						
CCM	Cathedral Cave	83.02 314	P	P	23 02 10.4	+0.5
CCM			IAmb	IAmb	23 02 15.0	
comp=Z,16nm,1.1s						
CCM	Cathedral Cave	83.02 314	P	P	23 02 10.5	+0.5
CCM			pmax	pmax		
comp=Z,16nm,1.2s						
CCM	Cathedral Cave	83.02 314	P	P	23 02 11.0	+1.0
baz=45						
MAJO	Matsushiro	83.22 48	⇓eP	P	23 02 08.6	-2.5
MAJO			pmax	pmax		
comp=Z,26nm,1.4s						
MJAR	Matsushiro Arr	83.23 48	P	P	23 02 10.7	-0.5
comp=Z,1.3nm,0.3s,baz=300,slow=4.1,SNR=6.4						
MJAR			LR	LR	23 41 43.9	
comp=Z,228nm,18.2s,baz=328,slow=38						
comp=Z,1.3nm,0.3s						
PLAL	Pickwick Lake	83.33 310	P	P	23 02 11.6	-0.1
PLAL			IAmb	IAmb	23 02 21.7	
comp=Z,13nm,1.2s						
JOW	Kunigami	83.48 61	LR	LR	23 43 17.7	
comp=Z,152nm,21.2s,baz=107,slow=38						
JANB	Januaria	83.53 245	eP	P	23 02 16.1	+3.2
LAO	LASA Array	83.78 328	P	P	23 02 14.1	+0.2
LAO	LASA Array	83.78 328	P	P	23 02 14.1	+0.2
baz=36						
LRAL	Lakeview Retre	84.02 308	P	P	23 02 15.2	0.0
LRAL	Lakeview Retre	84.02 308	P	P	23 02 15.5	+0.3
baz=47						
EGMT	Eagleton	84.09 331	P	P	23 02 15.5	+0.1
baz=34						
BOAV	Boa Vista	84.43 269	eP	P	23 02 20.7	+3.1
SHEM	Shemya Is, Ala	84.86 18	LR	LR	23 45 32.7	
comp=Z,312nm,18.1s,baz=103,slow=40						
RSSD	Black Hills	84.90 325	P	P	23 02 20.0	+0.2
RSSD			IAmb	IAmb	23 02 25.8	
comp=Z,35nm,1.6s						
RSSD	Black Hills	84.90 325	P	P	23 02 20.0	+0.2
RSSD			pmax	pmax		
comp=Z,35nm,1.7s						
RSSD	Black Hills	84.90 325	P	P	23 02 19.9	+0.2
baz=38						
ITTB	Itaituba	84.97 260	eP	P	23 02 21.7	+1.5
FCAR	Ozark Folk Cen	85.05 313	P	P	23 02 19.9	-0.5
KSU1	Kansas State U	85.16 318	P	P	23 02 21.4	+0.5
baz=42						
WHAR	Wooly Hollow	85.57 313	P	P	23 02 23.0	0.0
OVMT	Ovando	86.09 332	P	P	23 02 25.7	+0.1
RLMT	Red Lodge	86.30 329	P	P	23 02 27.1	+0.4
baz=34						
ELMT	Elliston	86.37 332	P	P	23 02 26.9	-0.1
NPGB	Novo Progresso	86.39 258	eP	P	23 02 30.2	+2.9
NEW	Newport	86.47 335	P	P	23 02 28.0	+0.7
baz=29						
NEW	Newport	86.47 335	LR	LR	23 42 01.8	
comp=Z,297nm,21.2s,baz=26,slow=36						
SNDB	Serra Nova Dou	86.52 252	eP	P	23 02 30.2	+2.3
BDFB	Brasilia	86.55 247	P	P	23 02 28.0	-0.1
BDFB	Brasilia	86.55 247	P	P	23 02 28.0	-0.1
comp=Z,6.3nm,1.1s,baz=60,slow=12,SNR=4.5						
BDFB			LR	LR	23 42 39.5	
comp=Z,263nm,18.8s,baz=86,slow=37						
comp=Z,6.3nm,1.1s						
JHJ	Hachijo jima 2	86.55 49	LR	LR	23 44 49.1	
comp=Z,187nm,20.4s,baz=106,slow=38						
MSO	Missoula	86.63 333	P	P	23 02 28.2	0.0
MSO	Missoula	86.63 333	P	P	23 02 28.5	+0.4
baz=31						
BPMT	Black Pine Rid	86.79 332	P	P	23 02 28.7	-0.5
BOZ	Bozeman (W)	86.82 331	P	P	23 02 29.4	+0.2
baz=33						
MIAR	Mount Ida	86.84 313	P	P	23 02 28.4	-0.9
MIAR	Mount Ida	86.84 313	P	P	23 02 28.4	-0.9
MIAR			pmax	pmax		
comp=Z,108nm,2.0s						
MIAR	Mount Ida	86.84 313	P	P	23 02 30.2	+0.9
baz=43						
K22A	Casper	87.17 326	P	P	23 02 29.9	-1.1
K22A			IAmb	IAmb	23 02 37.4	
comp=Z,14nm,0.9s						
PMNB	Patos De Minas	87.38 244	eP	P	23 02 35.5	+3.5
X37A	Clayton	87.82 314	P	P	23 02 34.2	+0.2
SDV	Santo Domingo	88.21 280	eP	P	23 02 38.6	+2.2
SDV	Santo Domingo	88.21 280	LR	LR	23 36 51.6	
comp=Z,73nm,21.6s,baz=88,slow=32						
N23A	Red Feather La	88.32 325	P	P	23 02 36.9	+0.2
baz=36						
PDAR	Pinedale Array	88.36 328	P	P	23 02 36.7	-0.1
comp=Z,0.9nm,0.8s,baz=84,slow=6.1,SNR=5.0						
PDAR			LR	LR	23 42 55.8	
comp=Z,162nm,19.8s,baz=36,slow=36						
comp=Z,0.9nm,0.8s						
ISCO	Idaho Springs	89.05 324	P	P	23 02 39.7	-0.5
ISCO			IAmb	IAmb	23 02 45.5	
comp=Z,24nm,1.5s						
ISCO	Idaho Springs	89.05 324	P	P	23 02 39.7	-0.5
ISCO			pmax	pmax		
comp=Z,24nm,1.5s						
ISCO	Idaho Springs	89.05 324	P	P	23 02 40.2	+0.1
baz=36						
LEM	Lembang	89.15 99	LR	LR	23 47 25.1	
comp=Z,77nm,18.4s,baz=358,slow=39						
ARAG	Araguaiana, MT	89.33 249	eP	P	23 02 45.2	+3.9
WMOK	Wichita Mounta	89.58 316	P	P	23 02 42.5	+0.1
WMOK	Wichita Mounta	89.58 316	P	P	23 02 42.5	+0.1
WMOK			pmax	pmax		
comp=Z,8.0nm,1.0s						
WMOK	Wichita Mounta	89.58 316	P	P	23 02 42.7	+0.4
baz=40						
O20A	White River Ci	89.96 326	P	P	23 02 44.1	-0.2
baz=35						
HWUT	Hardware Ranch	90.15 328	P	P	23 02 45.7	+0.6
HWUT			IAmb	IAmb	23 02 50.4	
comp=Z,13nm,1.4s						
PDRB	Porto dos Gac	90.34 255	eP	P	23 02 49.5	+3.4
T25A	Trinidad	90.60 321	P	P	23 02 47.4	0.0
T25A	Trinidad	90.60 321	P	P	23 02 47.3	0.0
baz=37						
SDCO	Great Sand Dun	90.64 322	P	P	23 02 46.9	-0.7
SDCO			IAmb	IAmb	23 02 51.7	
comp=Z,17nm,1.4s						
SDCO	Great Sand Dun	90.64 322	P	P	23 02 47.3	-0.3
baz=37						
SGCB	Sto Gabriel d	91.06 271	eP	P	23 02 51.8	+2.3
S22A	4UR Ranch, Cre	91.27 323	P	P	23 02 50.1	-0.4
S22A			IAmb	IAmb	23 02 56.0	
comp=Z,15nm,1.2s						
S22A	4UR Ranch, Cre	91.27 323	P	P	23 02 51.4	+0.9
baz=36						
ABTX	Abilene, Hawle	91.65 316	P	P	23 02 52.4	+0.4
baz=40						
BRDY	Brady	92.31 314	P	P	23 02 55.0	-0.1
BRDY			IAmb	IAmb	23 03 01.3	
comp=Z,51nm,1.9s						
JCJ	Chichijima	92.31 52	LR	LR	23 47 59.6	
comp=Z,147nm,21.5s,baz=124,slow=38						
ELK	Elko	92.33 330	LR	LR	23 46 47.1	
comp=Z,322nm,18.2s,baz=14,slow=37						
MVCO	Mesa Verde	92.47 324	P	P	23 02 56.5	+0.5
baz=35						
ANMO	Albuquerque	93.35 321	P	P	23 02 59.9	-0.2
baz=36						
ANMO	Albuquerque	93.35 321	LR	LR	23 44 38.0	
comp=Z,299nm,18.2s,baz=135,slow=35						
ROSC	El Rosal	93.59 279	LR	LR	23 42 23.5	
comp=Z,114nm,19.6s,baz=52,slow=34						
DAV	Davao City (W)	94.30 77	LR	LR	23 50 46.3	
comp=Z,126nm,20.6s,baz=335,slow=39						
MNTX	Cornudas Mount	95.41 319	P	P	23 03 09.7	+0.3
baz=37						
NVAR	Mina Array Bea	95.51 331	P	P	23 03 09.6	-0.4
comp=Z,0.5nm,0.7s,baz=46,slow=4.4,SNR=4.1						
comp=Z,0.5nm,0.7s						
SIV	San Ignacio	96.36 255	LR	LR	23 47 01.9	
comp=Z,138nm,20.1s,baz=104,slow=36						
TXAR	Lajitas Array	96.38 316	P	P	23 03 13.2	-0.7
TXAR	Lajitas Array	96.38 316	P	P	23 03 13.2	-0.7
TXAR	Lajitas Array	96.38 316	P	P	23 03 12.3	-1.5
comp=Z,1.3nm,1.0s,baz=90,slow=5.0,SNR=7.7						
TXAR			LR	LR	23 46 19.4	
comp=Z,193nm,18.8s,baz=40,slow=35						
comp=Z,1.3nm,1.0s						
KAPI	Kappang	97.42 90	LR	LR	23 51 05.7	
comp=Z,61nm,21.9s,baz=291,slow=38						
JTS	Las Juntas de	98.05 290	LR	LR	23 43 27.2	
comp=Z,175nm,18.8s,baz=10,slow=33						
WRA	Warramunga Arr	117.69 94	PKP	PKiKP	23 08 31.5	+0.3
comp=Z,0.2nm,0.8s,baz=251,slow=18,SNR=2.6						
ASAR	Alice Springs	119.40 98	PKP	PKPdf	23 08 32.2	-2.2
comp=Z,0.1nm,0.3s,baz=216,slow=37,SNR=3.1						
BELA	Belgrano 2	121.94 192		PKiKP	23 08 38.8	+1.0
PMSA	Palmer Station	123.90 211	eP	PKiKP	23 08 43.2	+1.3
QSPA	South Pole Qui	128.97 180		PKiKP	23 08 53.9	+1.8
QSPA	South Pole Qui	128.97 180	PKP	PKPdf	23 08 49.9	-1.5
comp=Z,0.8nm,1.1s,baz=323,slow=3.6,SNR=3.7						
DZM	Mont Dzumac	143.61 73	eLR	LR	23 56 31.3	
comp=Z,214nm,25.9s						
TAOE	Nuku Hiva Isla	146.77 331	eLR	LR	23 57 56.4	
comp=Z,334nm,25.6s						
PPT2	Papeete2	157.88 344	eLR	LR	00 02 48.9	
comp=Z,159nm,22.5s						
PPT2			eLR	LR	00 02 52.9	
comp=Z,198nm,34.2s						
TBI	Tubuai	163.39 339	eLR	LR	00 05 22.1	
comp=Z,4μm,21.5s						

*IDC **11** 23:01:07.8±1.7,31°.22S×69°.14W,h107km±10km,mb3.8/5, mbtmp4.1/9,Error ellipse: s-maj=33.5km s-min=15.6km az=96.0*

*SJA **11** 23:01:07.6±0.7,31°.27S×69°.06W,h116km±2km,ML4.0, MW4.0*

*NEIC **11** 23:01:08.9±1.7,31°.31S±0°.05×69°.10W±0°.06,h113km±5km, mb4.2/12,Error ellipse: s-maj=8.0km s-min=7.0km az=46.0*

ISC 11 23:01:07.9±0.6,**31°.24S**±0°.03×**69°.06W**±0°.03,**h114**km±5km, **n120**,σ1§**47**/156,**mb4.2**/11,**7C-2D**,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOCA	Reserva Natura	0.29	356	eP	Pn	23 01 25.1	+0.6
DOCA				eS	Sn	23 01 38.2	+1.2
ZON	Zonda	0.45	133	Pn	Pn	23 01 25.6	+0.8
ZON					Sn	23 01 38.4	+0.8
ZON	Zonda	0.45	133	eP	Pn	23 01 25.6	+0.8
ZON				eS	Sn	23 01 38.3	+0.7
ZON				IAML		23 01 39.8	
comp=Z,7μm,0.3s							
RTLL	Cerro Villicun	0.51	100	⇑iP	Pn	23 01 25.8	+0.6
RTLL				i S	Sn	23 01 39.0	+0.7
RTLL	Cerro Villicun	0.51	100	eP	Pn	23 01 25.8	+0.6
RTLL				eS	Sn	23 01 38.6	+0.3
RTLL				IAML		23 01 40.7	
comp=Z,4μm,0.4s							
RTLS	Leoncito	0.59	200	eP	Pn	23 01 26.8	+0.7
RTLS				IAML		23 01 42.6	
comp=Z,5μm,0.3s							
ACCO	Cerro Coronel	0.65	360	eP	Pn	23 01 28.0	+1.4
ACCO				IAML		23 01 44.9	
comp=Z,2μm,0.3s							
CFA	Coronel Fontan	0.79	118	P	Pn	23 01 28.2	+0.8
comp=Z,945nm,0.3s,baz=246,slow=4.3,SNR=3436							
CFA				S	Sn	23 01 42.8	+0.7
comp=Z,2μm,0.3s,baz=315,slow=20,SNR=79							
CFA	Coronel Fontan	0.79	118	eP	Pn	23 01 28.2	+0.8
CFA				eS	Sn	23 01 43.4	+1.3
CFA				IAML		23 01 44.5	
comp=Z,2μm,0.2s							
ACDV	Cuesta del Vie	1.07	357	eS	Sn	23 01 49.3	+2.2
ACDV				IAML		23 01 50.0	
comp=Z,2μm,0.7s							
AROD	Rodeo	1.13	341	eP	Pn	23 01 32.8	+1.7
ASAL	Salagasta	1.36	172	eP	Pn	23 01 34.5	+1.2
ASAL				eS	Sn	23 01 53.4	+0.7
ASAL				IAML		23 01 55.7	
comp=Z,751nm,0.4s							
CO03	El Pedregal	1.45	286		Pn	23 01 35.6	+1.3
CO03				Sn	Sn	23 01 55.7	+1.1
CO03	El Pedregal	1.45	286	⇓iP	Pn	23 01 35.7	+1.3
CO03				i S	Sn	23 01 55.9	+1.3
CO03				IAML		23 01 57.4	
comp=E,7μm,0.4s							
CO03	El Pedregal	1.45	286	eP	Pn	23 01 35.7	+1.3
CO03				eS	Sn	23 01 56.8	+2.2
CO03				IAML		23 01 58.2	
comp=Z,3μm,0.2s							
AVFE	Valle Fertil	1.50	68	eP	Pn	23 01 36.1	+1.2
AVFE				eS	Sn	23 01 57.1	+1.6
AVFE				IAML		23 01 57.6	
comp=Z,2μm,0.3s							
CO01	Juntas del Tor	1.54	324		Pn	23 01 38.0	+2.4
CO01				Sn	Sn	23 01 59.4	+2.7
CO01	Juntas del Tor	1.54	324	⇓iP	Pn	23 01 38.1	+2.4
CO01				i S	Sn	23 01 59.6	+3.0
CO01				IAML		23 02 01.0	
comp=E,1μm,0.4s							
CO01	Juntas del Tor	1.54	324	eP	Pn	23 01 37.4	+1.7
CO01				IAML		23 02 02.3	
comp=Z,677nm,0.5s							
ARCO	CERRO ARCO	1.60	176	eP	Pn	23 01 37.5	+1.2
ARCO				eS	Sn	23 01 59.7	+1.8
ARCO				IAML		23 02 01.0	
comp=Z,2μm,0.8s							
CO02	Combarbal	1.66	271	Pn	Pn	23 01 37.7	+0.8
CO02				Sn	Sn	23 01 59.9	+0.9
CO02	Combarbal	1.66	271	eP	Pn	23 01 37.7	+0.8
CO02				i S	Sn	23 02 00.1	+1.0
CO02	Combarbal	1.66	271	eP	Pn	23 01 37.8	+0.8
CO02				eS	Sn	23 02 00.6	+1.6
CO02				IAML		23 02 02.4	
comp=Z,3μm,0.2s							
GO04	Tololo Observa	1.84	305		Pn	23 01 40.0	+0.8
GO04	Tololo Observa	1.84	305	eP	Pn	23 01 40.0	+0.8
GO04				eS	Sn	23 02 04.5	+1.4
AAGR	Agrelo	1.85	174	eP	Pn	23 01 40.3	+1.1
AAGR				eS	Sn	23 02 05.2	+2.0
AAGR				IAML		23 02 06.5	
comp=Z,639nm,0.5s							
VA03	San Esteban	1.98	219		Pn	23 01 41.7	+0.9
VA03	San Esteban	1.98	219	⇑iP	Pn	23 01 41.7	+0.9
VA03				i S	Sn	23 02 07.5	+1.5
VA03				IAML		23 02 10.7	
comp=E,2μm,0.1s							
VA03	San Esteban	1.98	219	eP	Pn	23 01 41.8	+0.9
VA03				eS	Sn	23 02 08.6	+2.6
VA03				IAML		23 02 11.5	
comp=Z,713nm,0.2s							
ACHE	Chepes	2.06	88	eP	Pn	23 01 42.7	+0.9
CO06	Fray Jorge	2.28	284		Pn	23 01 44.0	-0.6
CO05	La Serena	2.29	304		Pn	23 01 45.1	+0.4
CO05	La Serena	2.29	304	eP	Pn	23 01 45.1	+0.4
CO05				i S	Sn	23 02 12.2	-0.8
APLL	PUNTA DE LOS L	2.34	70	eP	Pn	23 01 46.7	+1.3
APLL				IAML		23 02 43.8	
comp=Z,28nm,0.6s							
MT08	Bocatoma Ro	2.34	200		Pn	23 01 46.8	+1.2
PEL	Peldehue	2.35	216		Pn	23 01 45.7	+0.3
PEL	Peldehue	2.35	216	⇑iP	Pn	23 01 45.8	+0.3
PEL				i S	Sn	23 02 14.9	+0.6
PEL				IAML		23 02 17.5	
comp=N,634nm,0.5s							
PEL	Peldehue	2.35	216	eP	Pn	23 01 45.9	+0.3
PEL				eS	Sn	23 02 16.2	+2.0
ROC1	El Roble	2.40	223		Pn	23 01 46.3	-0.1
ROC1	El Roble	2.40	223	eP	Pn	23 01 46.1	-0.2
ROC1				eS	Sn	23 02 16.4	+0.6
MT14	Cerro Calıın	2.49	210	eP	Pn	23 01 48.2	+0.9
MT14				i S	Sn	23 02 18.8	+1.2
MT14				IAML		23 02 28.4	
comp=E,1μm,0.6s							
MT03	Universidad Ad	2.56	208		Pn	23 01 49.1	+0.9
MT03	Universidad Ad	2.56	208	eP	Pn	23 01 48.9	+0.6
MT03				eS	Sn	23 02 21.5	+2.2
MT03				IAML		23 02 23.5	
comp=Z,643nm,0.4s							
ACLC	CERRO LA CRUZ	2.57	46	eP	Pn	23 01 49.7	+1.2
ACLC				eS	Sn	23 02 20.6	+0.9
ACLC				IAML		23 02 51.2	
comp=Z,546nm,0.5s							
MT05	Renca	2.57	213		Pn	23 01 48.9	+0.5
MT05	Renca	2.57	213	eP	Pn	23 01 48.5	0.0
MT05				eS	Sn	23 02 21.2	+1.6
MT05				IAML		23 02 22.4	
comp=Z,643nm,0.3s							
VCA	Vinchina	2.60	17	eP	Pn	23 01 50.9	+2.0
VCA				eS	Sn	23 02 27.2	+6.8
VCA				IAML		23 02 35.4	
comp=Z,921nm,0.4s							
AC05	El Transito	2.62	336	Pn	Pn	23 01 51.1	+2.1
AC05	El Transito	2.62	336	eP	Pn	23 01 51.3	+2.2
AC05				eS	Sn	23 02 23.8	+3.1
AC05				IAML		23 02 28.3	
comp=Z,807nm,0.3s							
LCO	Las Campanas	2.64	327		Pn	23 01 50.3	+0.8
LCO	Las Campanas	2.64	327	eP	Pn	23 01 50.4	+1.0
LCO				eS	Sn	23 02 22.6	+1.2
LCO				IAML		23 02 24.0	
comp=Z,9μm,0.4s							
MT02	Curacav	2.67	221		Pn	23 01 49.4	-0.3
MT02	Curacav	2.67	221	eP	Pn	23 01 49.4	-0.3
MT02				eS	Sn	23 02 21.9	0.0
MT02				IAML		23 02 24.6	
comp=Z,216nm,0.5s							
MT13	San Alfonso	2.70	202		Pn	23 01 51.3	+1.1
MT13	San Alfonso	2.70	202	eP	Pn	23 01 51.5	+1.3
MT13				i S	Sn	23 02 25.7	+3.0
MT13				IAML		23 02 30.1	
comp=N,417nm,0.1s							
LMEL	Las Melosas	2.77	200		Pn	23 01 51.6	+0.4
VA01	Torpederas	2.83	230		Pn	23 01 50.8	-0.8
VA01	Torpederas	2.83	230	eP	Pn	23 01 50.1	-1.5
VA01	Torpederas	2.83	230	IAML		23 02 27.2	
comp=Z,200nm,0.5s							
MT09	Talagante	3.01	212		Pn	23 01 53.7	-0.4
BO04	La Punta	3.04	205		Pn	23 01 54.7	+0.2
BO04	La Punta	3.04	205	eP	Pn	23 01 54.8	+0.3
BO04				i S	Sn	23 02 31.1	+0.7
BO04				IAML		23 02 33.3	
comp=N,527nm,0.6s							
MT01	Popeta	3.21	215		Pn	23 01 55.6	-1.1
MT01	Popeta	3.21	215	eP	Pn	23 01 55.5	-1.1
VA05	Santo Domingo	3.24	221		Pn	23 01 55.9	-1.1
VA05	Santo Domingo	3.24	221	eP	Pn	23 01 55.6	-1.5
VA05				IAML		23 02 41.4	
comp=N,750nm,0.2s							
AC04	Llanos de Chal	3.50	329	Pn	Pn	23 02 00.9	+0.3
AC04	Llanos de Chal	3.50	329	IAML		23 02 52.6	
comp=Z,298nm,0.5s							
RFA	San Rafael	3.56	172	eS	Sn	23 02 42.2	-0.6
RFA				IAML		23 02 42.9	
comp=Z,244nm,0.5s							
BO01	Tunca	3.58

comp=Z,3.5nm,0.3s,baz=155,slow=9.8,SNR=17
LVC S **Sn** **23 04 40.7 -4.5**
comp=Z,4.9nm,0.4s,baz=86,slow=19,SNR=2.5
TRQA Tornquist 8.96 141 Pn 23 03 13.3 -0.9
PLCA Paso Flores 9.55 187 Pn Pn **23 03 20.6 -1.7**
PLCA Paso Flores 9.55 187 P **Pn 23 03 21.3 -1.0**
comp=Z,1.0nm,0.5s,baz=4.0,slow=16,SNR=4.9
ITQB Itaqui 10.85 85 Pn **Pn 23 03 36.8 -3.0**
CPUP Villa Florida 11.39 67 Pn **Pn 23 03 44.6 -2.6**
CPUP Villa Florida 11.39 67 P **Pn 23 03 45.2 -2.0**
comp=Z,1.8nm,0.4s,baz=223,slow=13,SNR=6.8
PLTB Pedras Altas 13.20 96 Pn **Pn 23 04 10.1 -0.9**
LPAZ La Paz 14.91 3 Pn **P 23 04 34.5 -1.9**
LPAZ La Paz 14.91 3 P **P 23 04 35.1 -1.2**
comp=Z,4.8nm,0.8s,baz=180,slow=7.7,SNR=16
ITAB Concordia 15.31 79 Pn **P 23 04 39.0 -1.1**
SIV San Ignacio 16.84 27 P **P 23 04 57.0 -0.1**
comp=Z,4.1nm,0.7s,baz=219,slow=11,SNR=18
PTLB Pontes e Lacer 18.15 32 P **Pn 23 05 13.1 +0.5**
VILB Vilhena 19.95 26 P **Pn 23 05 31.6 -2.2**
VILB IAmb IAmb 23 05 35.2
comp=Z,9.6nm,0.6s
ETMB Extrema 21.48 8 P **P 23 05 48.4 +0.9**
ETMB IAmb IAmb 23 05 59.0
comp=Z,7.8nm,1.1s
GO10 Punta Arenas 21.95 183 P **P 23 05 52.9 +0.7**
SAML Samuel 22.84 15 P **P 23 06 01.9 +0.4**
BELA Belgrano 2 49.17 171 P **P 23 09 44.7 +0.9**
BELA IAmb IAmb 23 09 46.3
comp=Z,3.3nm,1.0s
VNA3 Neumayer Olymp 50.99 159 ⇑P **P 23 09 59.1 +1.5**
comp=Z,3.4nm,0.8s
VNA2 Neumayer-Watz 51.61 158 ⇑P **P 23 10 03.7 +1.5**
comp=Z,4.0nm,0.5s,baz=283,slow=8.0
SNAA Sanae 53.22 159 P **P 23 10 15.0 +0.9**
SNAA IAmb IAmb 23 10 16.1
comp=Z,4.0nm,1.1s
SNAA Sanae 53.22 159 ⇑P **P 23 10 15.0 +0.9**
comp=Z,23nm,0.4s
SNAA Sanae 53.22 159 P **P 23 10 14.8 +0.7**
comp=Z,1.3nm,0.5s,baz=294,slow=13,SNR=15
comp=Z,1.3nm,0.5s
TROLL Troll, Antarti 54.93 159 ⇑P **P 23 10 27.6 +1.0**
comp=Z,61nm,0.5s
QSPA South Pole Qui 58.99 180 P **P 23 10 56.6 +1.3**
QSPA South Pole Qui 58.99 180 P **P 23 10 56.6 +1.3**
comp=Z,2.5nm,0.5s,baz=128,slow=1.1,SNR=15
comp=Z,2.5nm,0.5s
DBIC Dimbokro 71.90 70 P **P 23 12 19.9 +1.0**
DBIC Dimbokro 71.90 70 P **P 23 12 20.0 +1.0**
comp=Z,1.7nm,0.5s,baz=246,slow=4.8,SNR=4.4
comp=Z,1.7nm,0.5s
MAW Mawson 75.09 163 P **P 23 12 37.2 +0.4**
comp=Z,1.3nm,0.8s,baz=300,slow=4.1,SNR=3.7
comp=Z,1.3nm,0.8s
KOWA Kowa 77.19 64 P **P 23 12 50.6 +1.0**
BOSA Boshof 79.09 117 P **P 23 12 58.4 -1.8**
comp=Z,2.4nm,0.8s,baz=252,slow=5.9,SNR=3.8
TOA0 Torodi Ar. Sit 80.89 69 P **P 23 13 10.5 +0.7**
TOA0 IAmb IAmb 23 13 12.0
comp=Z,8.6nm,1.4s
TORD Torodi Ar. Bea 80.89 69 P **P 23 13 10.8 +1.0**
TORD IAmb IAmb 23 13 11.8
comp=Z,6.0nm,1.4s
TORD Torodi Ar. Bea 80.89 69 P **P 23 13 10.7 +1.0**
comp=Z,1.1nm,0.7s,baz=276,slow=4.8,SNR=14
comp=Z,1.1nm,0.7s
WRA Warramunga Arr 124.37 207 PKP **PKiKP 23 19 54.1 -0.3**
comp=Z,0.4nm,0.3s,baz=155,slow=1.8,SNR=9.9
ZALV Zalesovo Beam 150.56 32 PKPbc **PKiKP 23 20 47.0 +0.6**
comp=Z,2.2nm,0.5s,baz=313,slow=3.7,SNR=8.3
MKAR Makanchi Array 153.05 47 PKPbc **PKiKP 23 20 51.4 -0.6**
comp=Z,0.8nm,0.8s,baz=294,slow=1.7,SNR=5.3
MKAR PKPab **PKPab 23 21 04.8 +1.1**
comp=Z,0.7nm,0.7s,baz=294,slow=3.6,SNR=4.1

---

*IDC **11** 23:13:29.1±2.8, 28°.71N×54°.26E, h0km, mb3.7/6, mbtmp3.8/6, Error ellipse: s-maj=71.9km s-min=23.4km az=157.0*
*TEH **11** 23:13:33.3, 28°.84N×54°.30E, h18km±45km, ML3.2*
*DSN **11** 23:13:34.3±1.0, 28°.75N×54°.45E, h10km, ML2.9/5, Error ellipse: s-maj=41.0km s-min=8.9km az=72.0*
ISC 11 23:13:32.2±0.8, **28°.84N**±0°.05×**54°.30E**±0°.05, **h10**km, **n48**, σ**1**§**30**/48, **mb3.7**/5, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.71**	**243**	Pg	**Pg**	**23 13 46.9**	**+0.8**
QIR1	**Qir**	**1.16**	**252**	Pg	**Pb**	**23 13 54.9**	**+0.6**
LAR1	**LAR**	**1.16**	**177**	Pg	**Pn**	**23 13 55.9**	**+1.2**
SHI	**Shiraz**	**1.75**	**298**	Pg	**Pn**	**23 14 04.5**	**+1.6**
LMD1	**Lamerd**	**1.79**	**214**	Pn	**Pg**	**23 14 07.4**	**+0.8**
GENO	**Geno**	**2.19**	**130**	Pn	**Pn**	**23 14 10.2**	**+1.4**
NGRK	**Negar Kerman**	**2.28**	**69**	Pn	**Pn**	**23 14 11.4**	**+1.1**
TVBK	**TV Kerman**	**2.44**	**61**	Pn	**Pn**	**23 14 14.4**	**+2.0**
KHGB	**Koh Gabri**	**2.44**	**51**	Pn	**Pn**	**23 14 13.7**	**+1.3**
IMEH	**Mehriz**	**2.56**	**6**	Pn	**Pn**	**23 14 15.7**	**+1.7**
ZRDN	**Zarand Kerman**	**2.88**	**42**	Pn	**Pn**	**23 14 20.2**	**+1.7**
IBAF	**Bafgh**	**2.96**	**22**	Pn	**Pn**	**23 14 20.7**	**+1.2**
CHMN	**Cheshme madani**	**3.01**	**69**	Pn	**Pn**	**23 14 21.7**	**+1.4**
ISAD	**Sadrabad**	**3.11**	**350**	Pn	**Pn**	**23 14 23.4**	**+1.7**
KLNJ	**Kolanjah**	**3.19**	**313**	Pn	**Pn**	**23 14 24.4**	**+1.6**
IRAM	**Ramesheh**	**3.39**	**331**	Pn	**Pn**	**23 14 27.0**	**+1.5**
KBAM	**BAM**	**3.65**	**84**	Pn	**Pn**	**23 14 30.7**	**+1.7**
MASF	**Masafi**	**3.83**	**154**	P	**Pn**	**23 14 32.7**	**+1.3**
MSFE	**Esma-Masafi**	**3.84**	**154**	P	**Pn**	**23 14 32.3**	**+0.8**
MDH	**Madha**	**3.95**	**153**	P	**Pn**	**23 14 32.6**	**-0.4**
MDH	**Madha**	**3.95**	**153**	P	**Pn**	**23 14 33.9**	**+0.9**
NAZ	**Nazwa, Dubai**	**4.02**	**162**	P	**Pn**	**23 14 35.9**	**+2.0**
UOSS	**Minazif**	**4.23**	**156**	P	**Pn**	**23 14 37.7**	**+0.8**
UOSS	**Minazif**	**4.23**	**156**	P	**Pn**	**23 14 38.0**	**+1.1**
ASUD	**Al Ashush, Dub**	**4.29**	**167**	P	**Pn**	**23 14 38.4**	**+0.7**
HATD	**Hatta, Dubai**	**4.32**	**157**	P	**Pn**	**23 14 38.3**	**+0.2**
HATD	**Hatta, Dubai**	**4.32**	**157**	P	**Pn**	**23 14 39.5**	**+1.5**
ANAR	**Anarak**	**4.37**	**354**	Pn	**Pn**	**23 14 39.6**	**+0.8**
IZEF	**Zefreh**	**4.39**	**338**	Pn	**Pn**	**23 14 41.2**	**+2.1**
ASHO	**Ashiyiah**	**4.42**	**159**	P	**Pn**	**23 14 40.2**	**+0.7**
ASHO				S	**Sn**	**23 15 31.4**	**+0.3**
ASHO	**Ashiyiah**	**4.42**	**159**	P	**Pn**	**23 14 40.8**	**+1.3**
	SNR=9.5						
ALNE	**Al Ain**	**4.94**	**164**	P	**Pn**	**23 14 47.0**	**+0.5**
ALNE	**Al Ain**	**4.94**	**164**	P	**Pn**	**23 14 47.7**	**+1.1**
	SNR=5.5						
SOHO	**SOHO**	**5.09**	**156**	P	**Pn**	**23 14 49.1**	**+0.4**
ARQ	**Araqi**	**5.83**	**159**	P	**Pn**	**23 15 00.2**	**+1.4**
HOQ	**Hoqain**	**5.89**	**152**	P	**Pn**	**23 15 00.6**	**+0.9**
BSY	**Bisya**	**6.61**	**156**	P	**Pn**	**23 15 12.1**	**+2.6**
SMDO	**Samad**	**6.67**	**149**	P	**Pn**	**23 15 12.1**	**+1.7**
WSAR	**Wadi Sarin**	**6.80**	**144**	P	**Pn**	**23 15 12.4**	**+0.3**
	SNR=7.8						
JLN	**Jalan Bani Buh**	**8.10**	**144**	P	**Pn**	**23 15 29.6**	**-0.4**
	SNR=11						
MHTO	**MHTO**	**8.49**	**156**	P	**Pn**	**23 15 35.5**	**+0.1**
DOK	**Doka**	**10.17**	**181**	P	Pn	23 15 52.5	-5.9
BRTR	**Keskin Array B**	**20.18**	**308**	P	**P**	**23 18 06.1**	**-1.1**
	1.2nm,0.8s,baz=131,slow=12,SNR=8.6						
	1.2nm,0.8s						
IDI	**Anoyia**	**25.68**	**292**	P	**P**	**23 19 00.7**	**-1.8**
	7.9nm,0.9s,baz=100,slow=11,SNR=1.8						
	7.9nm,0.9s						
BVAR	**Borovoye Array**	**26.93**	**22**	P	**P**	**23 19 13.5**	**-0.1**
	0.8nm,0.7s,baz=210,slow=8.3,SNR=5.3						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**28.25**	**43**	P	**P**	**23 19 24.6**	**-0.9**
	0.3nm,0.5s,baz=232,slow=8.6,SNR=4.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**33.51**	**33**	P	**P**	**23 20 11.1**	**-0.7**
	0.7nm,0.4s,baz=235,slow=11,SNR=4.6						
	0.7nm,0.4s						
TORD	**Torodi Ar. Bea**	**51.13**	**264**	P	**P**	**23 22 33.9**	**-1.7**
	0.7nm,0.8s,baz=55,slow=8.4,SNR=6.3						
	0.7nm,0.8s						

---

*RSNC **11** 23:14:13.3±1.1, 5°.55N×77°.66W, h23km±3km, ML3.0, Mw3.7*
*IDC **11** 23:14:18.8±3.3, 5°.36N×77°.56W, h68km±30km, mb3.3/9, mbtmp3.6/11, ML2.4/2, MS3.0/2, Error ellipse: s-maj=26.1km s-min=18.1km az=48.0*
ISC 11 23:14:11.9±1.5, **5°.54N**±0°.02×**77°.68W**±0°.03, **h11**km±10km, **n46**, σ**1**§**70**/67, **mb3.7**/9, **3D**, **Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**0.66**	**151**	⇓*iP*	**Pg**	**23 14 25.0**	**+0.3**
PIZC				*eS*	**Sb**	**23 14 35.0**	**+0.5**
SOLC	**Bahia Solano**	**0.73**	**22**	*eP*	**Pg**	**23 14 26.2**	**+0.1**
SOLC				*eS*	**Sb**	**23 14 37.1**	**+0.4**
PLMC	**San Jos del P**	**1.53**	**114**	⇓*iP*	**Pn**	**23 14 36.9**	**-2.3**
PLMC				*eS*	**Sn**	**23 14 57.2**	**-2.0**
PLMC				*i*		23 15 01.7	
	comp=Z,412nm,0.4s						
MALC	**Bahia Malaga**	**1.56**	**167**	⇓*iP*	**Pn**	**23 14 38.7**	**-0.8**
MALC				*eS*	**Sn**	**23 14 58.9**	**-0.8**
MALC				*i*		23 15 00.7	
	comp=Z,521nm,0.3s						
PTAC	**Punta Ardita,**	**1.60**	**356**	*eP*	**Pn**	**23 14 39.4**	**-0.7**
PTAC				*eS*	**Sn**	**23 14 59.0**	**-1.8**
PTAC				*i*		23 15 02.3	
	comp=Z,249nm,0.1s						
YOTC	**Yotoco, Valle**	**2.04**	**139**	*eP*	**Pn**	**23 14 44.6**	**-1.7**
YOTC				*eS*	**Sn**	**23 15 10.1**	**-1.8**
YOTC				*i*		23 15 21.6	
	comp=Z,59nm,0.6s						
DBBC	**Dabeiba**	**2.07**	**45**	*eP*	**Pn**	**23 14 44.6**	**-2.1**
DBBC				*eS*	**Sn**	**23 15 10.8**	**-1.7**
DBBC				*i*		23 15 29.6	
	comp=Z,59nm,0.5s						
GUY2C	**Guyana, Caldas**	**2.33**	**98**	*eP*	**Pn**	**23 14 49.8**	**-0.8**
GUY2C				*eS*	**Sn**	**23 15 17.2**	**-2.2**
GUY2C				*i*		23 15 28.1	
	comp=Z,107nm,0.7s						
JAMC	**Jamundi, Valle**	**2.52**	**156**	*eP*	**Pn**	**23 14 51.6**	**-1.4**
JAMC				*eS*	**Sn**	**23 15 20.7**	**-3.1**
JAMC				*i*		23 15 23.9	
	comp=Z,53nm,0.3s						
GR1C	**Gorgona, Isla**	**2.57**	**191**	*eP*	**Pb**	**23 14 58.3**	**+0.3**
GR1C				*eS*	**Sn**	**23 15 26.5**	**+1.8**
NORC	**Norcasia**	**2.80**	**89**	*eP*	**Pn**	**23 14 57.3**	**+0.6**
NORC				*eS*	**Sn**	**23 15 29.2**	**-1.4**
NORC				*i*		23 15 50.1	
	comp=Z,41nm,0.5s						
ORTC	**Ortega, Tolima**	**2.92**	**124**	*eP*	**Pn**	**23 14 59.3**	**+1.0**
ORTC				*eS*	**Sn**	**23 15 31.9**	**-1.5**
ORTC				*i*		23 15 51.6	
	comp=Z,40nm,0.5s						
UREC	**San Jos de Ur**	**3.06**	**44**	*eP*	**Pn**	**23 15 01.7**	**+1.5**
POPC	**Popayan, Colom**	**3.15**	**161**	*eP*	**Pn**	**23 15 01.2**	**-0.4**
POPC				*eS*	**Sn**	**23 15 36.6**	**-2.7**
POPC				*i*		23 15 39.5	
	comp=Z,25nm,0.3s						
PRAC	**Prado**	**3.33**	**123**	*eP*	**Pn**	**23 15 04.8**	**+0.8**
PRAC				*eS*	**Sn**	**23 15 43.5**	**0.0**
PRAC				*i*		23 16 04.1	
	comp=Z,35nm,0.6s						
PTBC	**PUERTO BERRIO,**	**3.36**	**73**	*eP*	**Pn**	**23 15 05.2**	**+0.9**
PTBC				*eS*	**Sn**	**23 15 44.6**	**+0.3**
PTBC				*i*		23 15 59.1	
	comp=Z,28nm,0.7s						
AZU	**Azuero**	**3.41**	**311**	*eP*	**Pn**	**23 15 04.0**	**-1.0**
AZU				*eS*	**Sn**	**23 15 44.4**	**-1.0**
AZU				*i*		23 15 51.3	
	comp=Z,86nm,0.4s						
ZARC	**Zaragoza, Cauc**	**3.41**	**55**	*eP*	**Pn**	**23 15 06.3**	**+1.2**
ZARC				*eS*	**Sn**	**23 15 43.8**	**-1.7**
ZARC				*i*		23 15 59.3	
	comp=Z,34nm,0.5s						
ROSC	**El Rosal**	**3.42**	**102**	*eP*	**Pb**	**23 15 10.7**	**-2.1**
ROSC	**El Rosal**	**3.42**	**102**	P	**Pn**	**23 15 09.2**	**+3.7**
	comp=Z,3.6nm,0.3s,baz=312,slow=22,SNR=3.3						
ROSC				S	**Sb**	**23 15 51.9**	**-2.6**
	comp=Z,39nm,0.8s,baz=11,slow=21,SNR=4.6						
	comp=Z,18nm,0.4s						
BBAC	**Balboa, Cauca**	**3.52**	**173**	*eP*	**Pg**	**23 15 20.0**	**+0.6**
BBAC				*i*		23 15 57.0	
	comp=Z,26nm,0.2s						
BETC	**Betania**	**3.62**	**142**	*eP*	**Pn**	**23 15 10.3**	**+2.4**
CACAO	**El Cacao, Vera**	**3.63**	**300**	*eP*	**Pn**	**23 15 07.0**	**-1.1**
UPA	**Univ. de Panam**	**3.88**	**332**	*eP*	**Pn**	**23 15 11.5**	**0.0**
GARC	**Garzon, Huila**	**3.98**	**147**	*eP*	**Pn**	**23 15 14.8**	**+1.6**
GARC				*eS*	**Sn**	**23 16 00.7**	**+0.6**
GARC				*i*		23 16 02.8	
	comp=Z,39nm,0.3s						
CHIC	**Chingaza**	**4.04**	**103**	*eP*	**Pn**	**23 15 17.0**	**+2.9**
BCIP	**Isla Barro Col**	**4.19**	**329**	*eP*	**Pn**	**23 15 16.3**	**+0.5**
BCIP				*eS*	**Sn**	**23 16 05.6**	**+0.9**
BCIP				*i*		23 16 10.4	
	comp=Z,12nm,0.7s						
VILC	**Villavicencio,**	**4.22**	**109**	*eP*	**Pn**	**23 15 18.5**	**+2.2**
FLOC	**Florencia**	**4.42**	**153**	*eP*	**Pn**	**23 15 20.2**	**+1.1**
FLOC				*eS*	**Sn**	**23 16 11.2**	**+0.6**
RUSC	**La Rusia**	**4.59**	**85**	*eP*	Pb	23 15 27.9	-4.9
RUSC				*eS*	**Sb**	**23 16 25.5**	**-2.8**
RUSC				*i*		23 16 38.8	
	comp=Z,18nm,0.7s						
BARC	**Barichara**	**4.59**	**77**	*eP*	**Pn**	**23 15 22.1**	**+0.6**
BARC				*i*		23 16 26.7	
	comp=Z,38nm,0.6s						
PAMC	**Pamplona, Colo**	**5.26**	**70**	*eP*	Pn	23 15 36.0	+5.0
PAMC				*eS*	**Sn**	**23 16 34.5**	**+2.5**
PAMC				*i*		23 16 43.9	
	comp=Z,16nm,0.6s						
OTAV	**Otavalo**	**5.33**	**188**	*eP*	**Pn**	**23 15 32.8**	**+1.0**
SDV	**Santo Domingo**	**7.74**	**64**	P	**Pn**	**23 16 06.7**	**+1.9**
	comp=Z,1.9nm,0.3s,baz=244,slow=5.9,SNR=5.5						
SDV				S	**Sn**	**23 17 36.9**	**+4.3**
	comp=Z,3.8nm,0.3s,baz=176,slow=19,SNR=1.2						
SDV				LR	LR	23 19 14.1	
	comp=Z,122nm,20.0s,baz=206,slow=38						
	comp=Z,13nm,0.6s						
ATAH	**Atahualpa**	**12.61**	**183**	LR	LR	23 22 22.5	
	comp=Z,73nm,21.1s,baz=354,slow=39						
LPAZ	**La Paz**	**23.66**	**157**	P	**P**	**23 19 22.8**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=269,slow=8.5,SNR=1.5						
	comp=Z,0.5nm,0.3s						
SIV	**San Ignacio**	**26.98**	**143**	P	**P**	**23 19 51.8**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=294,slow=12,SNR=2.5						
	comp=Z,0.4nm,0.3s						
TXAR	**Lajitas Array**	**34.10**	**317**	P	**P**	**23 20 58.8**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=145,slow=9.2,SNR=3.8						
	comp=Z,0.3nm,0.8s						
PDAR	**Pinedale Array**	**46.58**	**328**	P	**P**	**23 22 42.0**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=116,slow=11,SNR=4.8						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**49.25**	**318**	P	**P**	**23 23 03.4**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=108,slow=7.8,SNR=4.7						
	comp=Z,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**62.97**	**342**	P	**P**	**23 24 38.4**	**0.0**
	comp=Z,0.5nm,0.7s,baz=120,slow=7.7,SNR=4.2						
	comp=Z,0.5nm,0.7s						
ESDC	**Sonseca Array**	**73.96**	**50**	P	**P**	**23 25 47.3**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=264,slow=9.3,SNR=4.9						
	comp=Z,0.7nm,0.9s						
ILAR	**Eielson Array**	**76.22**	**336**	P	**P**	**23 26 00.7**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=104,slow=3.7,SNR=3.3						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.44**	**78**	P	**P**	**23 26 12.7**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=291,slow=5.7,SNR=14						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**144.66**	**236**	PKP	**PKPab**	**23 33 48.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=120,slow=3.6,SNR=10						
WRA	**Warramunga Arr**	**145.74**	**242**	PKPbc	**PKPdf**	**23 33 51.2**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=96,slow=2.7,SNR=5.5						

---

*IDC **11** 23:21:45.8±0.5, 36°.35N×137°.22E, h260km±5km, mb3.1/8, mbtmp3.8/14, Error ellipse: s-maj=18.0km s-min=10.8km az=76.0*
*JMA **11** 23:21:45.8±0.1, 36°.4N±0°.6×137°.3E±0°.8, h260km±1km, MV3.1/33, TOYAMA GIFU BORDER REG*
*NEIC **11** 23:21:46.4±1.2, 36°.38N±0°.08×137°.2E±0°.1, h253km±4km, mb4.0/7, Error ellipse: s-maj=14.2km s-min=9.6km az=129.0*
ISC 11 23:21:45.9±0.7, **36°.37N**±0°.06×**137°.19E**±0°.06, **h257**km±5km, **n48**, σ**0**§**75**/57, **mb3.9**/13, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.18**	**146**	P	**Pn**	**23 22 19.3**	**+0.2**
JGN				S	**S**	**23 22 44.9**	**-0.3**
JKG	**Kaga**	**0.70**	**262**	*eP*	**Pn**	**23 22 21.0**	**+0.8**
JKG				*eS*	**S**	**23 22 48.2**	**+1.0**
MJB9	**Matsu-Tunnel**	**0.83**	**78**	Pn	**Pn**	**23 22 21.8**	**+1.0**
MAJO	**Matsushiro**	**0.84**	**78**	Pn	**Pn**	**23 22 21.0**	**+0.2**
MAT	**Matsushiro**	**0.84**	**78**	*eP*	**Pn**	**23 22 21.0**	**+0.2**
MAT				*eS*	**S**	**23 22 48.9**	**+0.6**
MJAR	**Matsushiro Arr**	**0.84**	**78**	P	**Pn**	**23 22 21.0**	**+0.2**
	5.6nm,0.3s,baz=245,slow=5.9,SNR=13						
MJAR				S	**S**	**23 22 49.5**	**+1.2**
	5.0nm,0.8s,baz=253,slow=13,SNR=9.9						
JYTA	**Yamagatataniai**	**0.86**	**206**	P	**Pn**	**23 22 21.2**	**+0.2**
JYTA				S	**S**	**23 22 48.4**	**-0.3**
INU	**Inuyama**	**1.03**	**188**		**Pn**	**23 22 21.1**	**-0.7**
INU				Sn	**S**	**23 22 49.2**	**-1.0**
JSZ	**Suzu**	**1.08**	**7**	P	**Pn**	**23 22 22.4**	**+0.4**
JYN	**Shimob**	**1.40**	**128**	P	**Pn**	**23 22 24.1**	**-0.2**
JRY	**Ryogami san**	**1.43**	**104**	*eS*	**S**	**23 22 54.5**	**-0.2**
JHG	**Hegura jima**	**1.49**	**352**	*eP*	**Pn**	**23 22 25.4**	**+0.7**
JWT	**Wachi**	**1.82**	**234**	*i P*	**Pn**	**23 22 27.6**	**+0.3**
JWT				S	**S**	**23 22 59.8**	**-0.3**
JAG	**Ashikaga**	**1.82**	**88**	*eP*	**Pn**	**23 22 27.0**	**-0.4**
JSD	**Sado**	**1.87**	**27**	Pn	**Pn**	**23 22 27.6**	**-0.1**
JSD	**Sado**	**1.87**	**27**	P	**Pn**	**23 22 28.1**	**+0.4**
JOD2	**Odawara 2**	**1.90**	**125**	P	**Pn**	**23 22 28.2**	**+0.2**
JOD2				*eS*	**S**	**23 23 01.4**	**+0.1**
JIE	**Ise**	**2.02**	**191**	P	**Pn**	**23 22 29.7**	**+0.6**
JWY	**Kouya**	**2.52**	**212**	P	**Pn**	**23 22 34.6**	**+0.7**
TTO1	**TONANKAI O.B.S**	**2.77**	**187**	*eP*	**Pn**	**23 22 37.3**	**+1.2**
JTNC	**Tanabenakahech**	**2.86**	**207**	P	**Pn**	**23 22 37.5**	**+0.2**
JMM	**Marumori**	**3.24**	**62**	Pn	**Pn**	**23 22 41.1**	**-0.2**
JMN	**Monobe**	**3.79**	**227**		**Pn**	**23 22 47.6**	**0.0**
JHJ	**Hachijo jima 2**	**3.88**	**146**	P	**Pn**	**23 22 49.5**	**+0.9**
	22nm,0.3s,baz=330,slow=20,SNR=1.3						
JHJ				S	**S**	**23 23 38.0**	**-0.7**
	48nm,0.5s,baz=231,slow=15,SNR=1.9						
JHJ2	**Mitsune**	**3.91**	**146**	Pn	**Pn**	**23 22 50.2**	**+1.3**
JNU	**Nakatsue**	**6.13**	**240**	Pn	**Pn**	**23 23 16.2**	**+0.4**
JNU	**Nakatsue**	**6.13**	**240**	P	**Pn**	**23 23 15.8**	**0.0**
	5.0nm,0.7s,baz=27,slow=9.0,SNR=2.0						
KSRS	**Korea Array**	**7.50**	**281**	P	**Pn**	**23 23 34.4**	**+1.5**
	2.5nm,0.9s,baz=85,slow=15,SNR=2.9						
ASAJ	**Asahikawa**	**8.77**	**26**	P	**Pn**	**23 23 47.0**	**-1.7**
	10nm,0.4s,baz=232,slow=10,SNR=11						
USRK	**Ussuriysk Ar.**	**8.77**	**335**	P	**Pn**	**23 23 49.0**	**+0.3**
	2.4nm,0.5s,baz=145,slow=11,SNR=5.4						
KLR	**Kul'dur**	**13.45**	**344**	P	**Pn**	**23 24 45.5**	**-1.4**
	3.1nm,0.6s,baz=154,slow=8.3,SNR=8.9						
KURBB	**Kurchatov Arra**	**43.73**	**308**	P	**P**	**23 29 25.7**	**-0.1**
	0.4nm,0.7s,baz=84,slow=8.8,SNR=2.2						
	0.4nm,0.7s						
D17K	**Noatak River**	**45.49**	**28**	P	**P**	**23 29 40.4**	**+1.1**
D17K				IAmb	IAmb	23 30 03.2	
	comp=Z,9.1nm,1.2s						
C18K	**Utukok River**	**46.37**	**26**	P	**P**	**23 29 47.1**	**+0.8**
C18K				IAmb	IAmb	23 29 55.1	
	comp=Z,13nm,1.4s						
C19K	**Lookout Ridge**	**47.03**	**26**	P	**P**	**23 29 52.4**	**+1.0**
D19K	**Kuna River**	**47.46**	**27**	P	**P**	**23 29 55.6**	**+1.0**
D19K				IAmb	IAmb	23 30 08.4	
	comp=Z,7.7nm,1.2s						
BVAR	**Borovoye Array**	**48.50**	**312**	P	**P**	**23 30 02.8**	**0.0**
	comp=Z,0.2nm,0.4s,baz=69,slow=7.9,SNR=1.9						
	comp=Z,0.2nm,0.4s						
B22K	**Teshekpuk Lake**	**49.33**	**25**	P	**P**	**23 30 09.5**	**+0.8**
B22K				IAmb	IAmb	23 30 16.9	
	comp=Z,9.8nm,1.2s						
ILAR	**Eielson Array**	**51.86**	**32**	P	**P**	**23 30 27.6**	**0.0**
	comp=Z,0.4nm,0.8s,baz=277,slow=6.3,SNR=4.4						
	comp=Z,0.4nm,0.8s						
BCAR	**Beaver Creek A**	**54.34**	**34**	P	**P**	**23 30 46.9**	**+1.2**
ABKAR	**Akbulak array**	**55.75**	**309**	P	**P**	**23 30 56.3**	**+0.3**
WB0	**Warramunga Arr**	**55.90**	**183**	P	**P**	**23 30 56.6**	**-0.7**
WB0				IAmb	IAmb	23 30 57.0	
	comp=Z,2.6nm,0.6s						
WRA	**Warramunga Arr**	**56.07**	**183**	P	**P**	**23 30 57.6**	**-0.9**
WRA	**Warramunga Arr**	**56.07**	**183**	P	**P**	**23 30 57.6**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=359,slow=7.6,SNR=39						
	comp=Z,1.7nm,0.4s						
ASAR	**Alice Springs**	**59.80**	**183**	P	**P**	**23 31 23.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=9.1,slow=15,SNR=5.6						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**63.39**	**339**	P	**P**	**23 31 47.3**	**-0.4**
	comp=Z,5.7nm,1.1s,baz=46,slow=7.0,SNR=5.1						
	comp=Z,5.7nm,1.1s						
FINES	**FINESS Array B**	**67.78**	**331**	P	**P**	**23 32 15.2**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=91,slow=10.0,SNR=4.8						
	comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**

OK032				IAML				23 29 24.2	
	comp=E,2μm,0.4s								
GC02	**Grant County #**	**0.54**	**154**	Pg	**Pg**			**23 29 16.4**	**-0.1**
GC02				Sg	**Sg**			**23 29 23.9**	**+0.3**
KAN13	**South Haven SW**	**0.63**	**121**	Pg	**Pg**			**23 29 17.9**	**-0.3**
KAN13				Sg	**Sg**			**23 29 26.3**	**-0.2**
KAN13				IAML				23 29 30.5	
	comp=N,2μm,0.3s								
KAN13				IAML				23 29 31.7	
	comp=E,3μm,0.3s								
OK035	**E0210 Rd and N**	**0.77**	**215**	Pg	**Pg**			**23 29 20.3**	**-0.5**
CROK	**Carrier**	**0.85**	**170**	Pg	**Pg**			**23 29 21.8**	**-0.4**
NOKA	**Waynoka**	**0.94**	**222**	Pg	**Pg**			**23 29 23.4**	**-0.6**
NOKA				IAML				23 29 46.3	
	comp=N,893nm,0.4s								
NOKA				IAML				23 29 56.4	
	comp=E,810nm,0.7s								
BLOK	**Blackwell**	**0.95**	**127**	Pg	**Pg**			**23 29 23.8**	**-0.5**
BLOK				IAML				23 29 39.3	
	comp=E,1μm,0.2s								
BLOK				IAML				23 29 40.6	
	comp=N,1μm,0.6s								
R32A	**Long Quarter,**	**1.17**	**338**	Pg	**Pg**			**23 29 27.2**	**-1.2**
R32A				IAML				23 29 47.8	
	comp=E,583nm,0.3s								
R32A				IAML				23 29 47.8	
	comp=N,640nm,0.2s								
R32A	**Long Quarter,**	**1.17**	**338**	P	**Pg**			**23 29 27.2**	**-1.2**
	baz=157,SNR=78								
R32A				S	**Sg**			**23 29 42.9**	**-0.6**
	baz=157								
U32A	**Winter Ranch,**	**1.17**	**215**	Pg	**Pg**			**23 29 27.8**	**-0.7**
U32A	**Winter Ranch,**	**1.17**	**215**	P	**Pg**			**23 29 27.8**	**-0.7**
	baz=35,SNR=27								
U32A				S	**Sg**			**23 29 43.8**	**+0.1**
	baz=35								
OK048	**Pawnee Station**	**1.34**	**133**	Pg	**Pn**			**23 29 30.6**	**-0.7**
OK048				IAML				23 29 52.6	
	comp=N,659nm,0.2s								
OK051	**E0350 and S346**	**1.35**	**128**	Pg	**Pn**			**23 29 30.9**	**-0.5**
T35A	**Sooner Cattle**	**1.38**	**107**		**Pn**			**23 29 31.4**	**-0.5**
T35B	**Sooner Cattle**	**1.38**	**107**	P	**Pn**			**23 29 31.4**	**-0.5**
	baz=289,SNR=632								
T35B				S	**Sg**			**23 29 49.7**	**-0.7**
	baz=289								
OK029	**Liberty Lake**	**1.64**	**160**		**Pn**			**23 29 35.7**	**+0.3**
OK052	**Battle Ridge R**	**1.73**	**141**	Pn	**Pn**			**23 29 36.8**	**+0.1**
OK031	**S. Brethren Rd**	**1.74**	**142**	Pn	**Pn**			**23 29 36.9**	**+0.1**
CSTR	**Hydro, Custer**	**1.75**	**194**	Pn	**Pn**			**23 29 37.8**	**+0.9**
CBKS	**Cedar Bluff**	**1.93**	**320**	Pn	**Pn**			**23 29 39.9**	**+0.4**
CBKS	**Cedar Bluff**	**1.93**	**320**	P	**Pn**			**23 29 39.7**	**+0.3**
	baz=139								
CBKS				S	**Sn**			**23 30 05.3**	**+1.3**
	baz=139								
CBKS	**Cedar Bluff**	**1.93**	**320**	P	**Pn**			**23 29 39.8**	**+0.3**
	baz=139,SNR=15								
CBKS				S	**Sn**			**23 30 05.2**	**+1.1**
	baz=139								
DEOK	**Depew**	**2.00**	**138**	Pn	**Pn**			**23 29 40.4**	**0.0**
OKCSW	**OKLAHOMA CITY**	**2.02**	**163**	IAmb_Lg				23 30 13.0	
	comp=Z,82nm,0.8s								
KSU1	**Kansas State U**	**2.14**	**34**		**Pn**			**23 29 42.9**	**+0.7**
KSU1	**Kansas State U**	**2.14**	**34**	P	**Pn**			**23 29 42.8**	**+0.5**
	baz=215								
KSU1				S	**Sn**			**23 30 10.4**	**+1.2**
	baz=215								
KSU1	**Kansas State U**	**2.14**	**34**	P	**Pn**			**23 29 43.0**	**+0.7**
	baz=215,SNR=29								
KSU1				S	**Sn**			**23 30 10.5**	**+1.2**
	baz=215								
TUL3	**Leonard**	**2.38**	**126**	P	**Pn**			**23 29 45.9**	**+0.3**
	baz=308								
TUL3				S	**Sn**			**23 30 16.5**	**+1.4**
	baz=308								
TUL3	**Leonard**	**2.38**	**126**	P	**Pn**			**23 29 45.9**	**+0.3**
	baz=308,SNR=16								
TUL3				S	**Sb**			**23 30 19.0**	**+0.1**
	baz=308								
WMOK	**Wichita Mounta**	**2.65**	**191**	P	**Pn**			**23 29 49.7**	**+0.4**
	baz=11								
WMOK				S	**Sn**			**23 30 22.8**	**+1.1**
	baz=11								
WMOK	**Wichita Mounta**	**2.65**	**191**	P	**Pn**			**23 29 49.7**	**+0.4**
	baz=11,SNR=18								
WMOK				S	**Sn**			**23 30 22.8**	**+1.1**
	baz=11								
X34A	**Smith Ranch, M**	**2.75**	**174**	Pn	**Pn**			**23 29 50.9**	**+0.3**
X34A				IAmb_Lg				23 30 39.6	
	comp=Z,73nm,0.9s								
RLO	**Rose Lookout**	**2.78**	**114**	Pn	**Pn**			**23 29 51.2**	**+0.1**
U38A	**Gravette**	**3.15**	**105**	Pn	**Pn**			**23 29 56.7**	**+0.5**
U38A				IAmb_Lg				23 30 51.2	
	comp=Z,83nm,0.8s								
U38A	**Gravette**	**3.15**	**105**	P	**Pn**			**23 29 56.7**	**+0.5**
	baz=288,SNR=49								
LOOK	**Love County**	**3.44**	**166**	IAmb_Lg				23 31 01.5	
	comp=Z,41nm,0.9s								
N33B	**J Bar K, Exete**	**3.44**	**9**	P	**Pn**			**23 29 59.7**	**-0.5**
	baz=189,SNR=11								
N33B				S	**Sn**			**23 30 40.5**	**-0.7**
	baz=189								
N33A	**J Bar K, Exete**	**3.44**	**9**	Pn	**Pn**			**23 29 59.5**	**-0.7**
N33A				IAmb_Lg				23 30 59.8	
	comp=Z,69nm,0.8s								
HHAR	**Hobbs**	**3.55**	**106**	IAmb_Lg				23 31 04.8	
	comp=Z,39nm,0.7s								
X37A	**Clayton**	**3.56**	**140**	Pn	**Pn**			**23 30 02.2**	**+0.4**
X37A	**Clayton**	**3.56**	**140**	P	**Pn**			**23 30 02.2**	**+0.4**
	baz=322,SNR=50								
X37A				S	**Sn**			**23 30 44.4**	**+0.3**
	baz=322								
WTFS	**Witchita Falls**	**3.58**	**184**	Pn	**Pn**			**23 30 02.9**	**+0.9**
WTFS				IAmb_Lg				23 30 57.0	
	comp=Z,15nm,0.7s								
AMTX	**Amarillo**	**3.76**	**230**	Pn	**Pn**			**23 30 05.9**	**+1.2**
AMTX				IAmb_Lg				23 31 08.3	
	comp=Z,44nm,0.8s								
AMTX	**Amarillo**	**3.76**	**230**	P	**Pn**			**23 30 05.4**	**+0.7**
	baz=48								
AMTX				S	**Sn**			**23 30 51.2**	**+1.8**
	baz=48								
AMTX	**Amarillo**	**3.76**	**230**	S	**Sn**			**23 30 50.5**	**+1.2**
	baz=48								
S39A	**Bolivar**	**3.86**	**83**	Pn	**Pn**			**23 30 05.9**	**-0.1**
S39A				IAmb_Lg				23 31 13.0	
	comp=Z,34nm,0.8s								
S39A	**Bolivar**	**3.86**	**83**	P	**Pn**			**23 30 05.9**	**-0.1**
	baz=266,SNR=29								
S39A				S	**Sn**			**23 30 51.0**	**-0.7**
	baz=266								
KSCO	**Kaye Shedlock'**	**3.90**	**297**	Pn	**Pn**			**23 30 08.1**	**+1.5**
KSCO				IAmb_Lg				23 31 16.1	
	comp=Z,39nm,0.8s								
KSCO	**Kaye Shedlock'**	**3.90**	**297**	P	**Pn**			**23 30 06.8**	**+0.2**
	baz=114								
N35A	**Tabor**	**4.02**	**28**	Pn	**Pn**			**23 30 08.2**	**0.0**
N35A	**Tabor**	**4.02**	**28**	S	**Sn**			**23 30 56.7**	**+1.1**
	baz=210								
BGNE	**Belgrade**	**4.06**	**0**	Pn	**Pn**			**23 30 09.0**	**+0.2**
BGNE				IAmb_Lg				23 31 13.3	
	comp=Z,33nm,0.8s								
BGNE	**Belgrade**	**4.06**	**0**	P	**Pn**			**23 30 09.1**	**+0.3**
	baz=180								
BGNE				S	**Sn**			**23 30 57.3**	**+0.6**
	baz=180								
BGNE	**Belgrade**	**4.06**	**0**	P	**Pn**			**23 30 08.9**	**+0.2**
	baz=180,SNR=11								
P38A	**Dawn**	**4.29**	**56**	Pn	**Pn**			**23 30 11.8**	**0.0**
P38A				IAmb_Lg				23 31 21.4	
	comp=Z,50nm,0.8s								
FW03	**Perrin-Whitt E**	**4.29**	**179**	IAmb_Lg				23 31 26.4	
	comp=Z,20nm,0.7s								
DKNS	**Dickens**	**4.30**	**212**	Pn	**Pn**			**23 30 12.6**	**+0.5**
DKNS				IAmb_Lg				23 31 25.7	
	comp=Z,58nm,0.9s								
APMT	**Aspermont**	**4.32**	**202**	IAmb_Lg				23 31 28.8	
	comp=Z,32nm,0.9s								
U40A	**Yellville**	**4.37**	**101**	P	**Pn**			**23 30 13.2**	**+0.2**
	baz=285,SNR=45								
U40A				P	**Pn**			**23 30 13.2**	**+0.2**
	baz=285,SNR=45								
FW06	**Azle**	**4.39**	**173**	IAmb_Lg				23 31 24.9	
	comp=Z,21nm,0.9s								
FW07	**Weatherford**	**4.64**	**176**	IAmb_Lg				23 31 33.8	
	comp=Z,12nm,0.7s								
MIAR	**Mount Ida**	**4.65**	**126**	Pn	**Pn**			**23 30 16.5**	**-0.3**
MIAR				IAmb_Lg				23 31 42.7	
	comp=Z,49nm,1.2s								
MIAR	**Mount Ida**	**4.65**	**126**	P	**Pn**			**23 30 16.8**	**+0.1**
	baz=308								
MIAR				S	**Sn**			**23 31 09.9**	**-1.2**
	baz=308								
MIAR	**Mount Ida**	**4.65**	**126**	P	**Pn**			**23 30 16.9**	**+0.1**
	baz=308,SNR=11								
MIAR				S	**Sn**			**23 31 10.3**	**-0.7**
	baz=308								
OGNE	**Ogallala**	**4.69**	**321**	Pn	**Pn**			**23 30 18.7**	**+1.2**
OGNE				IAmb_Lg				23 31 44.4	
	comp=Z,39nm,0.9s								
OGNE	**Ogallala**	**4.69**	**321**	P	**Pn**			**23 30 18.1**	**+0.7**
	baz=139								
OGNE				S	**Sn**			**23 31 11.9**	**-0.4**
	baz=139								
OGNE	**Ogallala**	**4.69**	**321**	P	**Pn**			**23 30 18.7**	**+1.2**
	baz=139								
MGMO	**Mountain Grove**	**4.70**	**90**	Pn	**Pn**			**23 30 17.8**	**+0.3**
MGMO				IAmb_Lg				23 31 35.5	
	comp=Z,41nm,0.7s								
R40A	**Maddies Statio**	**4.76**	**77**	Pn	**Pn**			**23 30 17.9**	**-0.4**
R40A				IAmb_Lg				23 31 41.6	
	comp=Z,22nm,0.8s								
R40A	**Maddies Statio**	**4.76**	**77**	P	**Pn**			**23 30 18.1**	**-0.2**
	baz=260,SNR=15								
L34A	**Svendsen Farm,**	**4.82**	**16**	Pn	**Pn**			**23 30 18.6**	**-0.6**
ABTX	**Abilene, Hawle**	**4.86**	**195**	Pn	**Pn**			**23 30 19.2**	**-0.5**
ABTX	**Abilene, Hawle**	**4.86**	**195**	P	**Pn**			**23 30 20.6**	**+0.8**
	baz=14								
ABTX				S	**Sn**			**23 31 15.2**	**-1.2**
	baz=14								
T25A	**Trinidad**	**4.99**	**270**	Pn	**Pn**			**23 30 21.7**	**0.0**
T25A				IAmb_Lg				23 31 45.5	
	comp=Z,42nm,0.7s								
T25A	**Trinidad**	**4.99**	**270**	P	**Pn**			**23 30 21.9**	**+0.2**
	baz=86								
SN01	**Snyder 1**	**5.00**	**207**	IAmb_Lg				23 31 54.2	
	comp=Z,29nm,0.9s								
FW13	**Cleburne**	**5.01**	**173**	IAmb_Lg				23 31 56.0	
	comp=Z,30nm,1.2s								
MSTX	**Muleshoe**	**5.04**	**230**	Pn	**Pn**			**23 30 21.9**	**-0.5**
MSTX	**Muleshoe**	**5.04**	**230**	P	**Pn**			**23 30 23.4**	**+1.1**
	baz=47								
FCAR	**Ozark Folk Cen**	**5.07**	**105**	IAmb_Lg				23 31 59.7	
	comp=Z,23nm,0.9s								
N38A	**Joes South For**	**5.15**	**47**	Pn	**Pn**			**23 30 23.6**	**-0.2**
N38A	**Joes South For**	**5.15**	**47**	P	**Pn**			**23 30 24.0**	**+0.3**
	baz=229								
WHAR	**Wooly Hollow**	**5.16**	**112**	Pn	**Pn**			**23 30 23.4**	**-0.4**
X40A	**Basin Creek Fa**	**5.17**	**122**	Pn	**Pn**			**23 30 23.8**	**-0.2**
P40A	**Paris**	**5.27**	**64**	IAmb_Lg				23 31 57.7	
	comp=Z,37nm,0.8s								
WHTX	**Lake Whitney,**	**5.37**	**174**	Pn	**Pn**			**23 30 26.0**	**-0.7**
WHTX	**Lake Whitney,**	**5.37**	**174**	P	**Pn**			**23 30 26.6**	**-0.1**
	baz=354								
WHTX	**Lake Whitney,**	**5.37**	**174**	P	**Pn**			**23 30 26.5**	**-0.1**
	baz=354								
WLAR	**White Oak Lake**	**5.50**	**130**	IAmb_Lg				23 32 03.5	
	comp=Z,30nm,0.7s								
CCM	**Cathedral Cave**	**5.53**	**80**	Pn	**Pn**			**23 30 27.7**	**-1.2**
CCM	**Cathedral Cave**	**5.53**	**80**	P	**Pn**			**23 30 28.4**	**-0.5**
	baz=265								
T42A	**Van Buren**	**5.65**	**91**	Pn	**Pn**			**23 30 29.7**	**-0.9**
T42A				IAmb_Lg				23 32 08.2	
	comp=Z,18nm,0.8s								
T42A	**Van Buren**	**5.65**	**91**	P	**Pn**			**23 30 30.0**	**-0.6**
	baz=275,SNR=6.9								
Q24A	**Divide**	**5.74**	**289**	IAmb_Lg				23 32 12.4	
	comp=Z,20nm,0.7s								
LCAR	**Lake Charles**	**5.77**	**101**	Pn	**Pn**			**23 30 32.0**	**-0.1**
LCAR				IAmb_Lg				23 32 11.4	
	comp=Z,20nm,0.8s								
BRIGG	**Briggsdale**	**5.79**	**306**	IAmb_Lg				23 32 17.2	
	comp=Z,26nm,0.9s								
SGCY	**Sterling City**	**5.94**	**205**	Pn	**Pn**			**23 30 34.5**	**-0.1**
SGCY				IAmb_Lg				23 32 18.5	
	comp=Z,23nm,0.9s								
SCIA	**State Center**	**5.95**	**38**	IAmb_Lg				23 32 22.9	
	comp=Z,38nm,0.8s								
BRDY	**Brady**	**6.08**	**187**	IAmb_Lg				23 32 28.6	
	comp=Z,15nm,0.8s								
FVM	**French Village**	**6.17**	**82**	Pn	**Pn**			**23 30 36.6**	**-1.1**
NATX	**Nacogdoches**	**6.27**	**152**	IAmb_Lg				23 32 37.5	
	comp=Z,16nm,0.8s								
SLM	**Saint Louis**	**6.39**	**76**	IAmb_Lg				23 32 29.3	
	comp=Z,24nm,0.7s								
ECSD	**EROS Data Cent**	**6.49**	**10**	IAmb_Lg				23 32 36.6	
	comp=Z,24nm,1.1s								
435B	**Jarrell**	**6.56**	**176**	IAmb_Lg				23 32 38.1	
	comp=Z,25nm,0.9s								
GNAR	**Gosnell**	**6.69**	**99**	IAmb_Lg				23 32 42.3	
	comp=Z,32nm,0.8s								
K38A	**Parkersburg**	**6.72**	**36**	IAmb_Lg				23 32 55.8	
	comp=Z,32nm,0.9s								
CGM3	**Cape Girardeau**	**6.77**	**88**	IAmb_Lg				23 32 50.5	
	comp=Z,18nm,0.8s								
OZNA	**Ozona**	**6.86**	**202**	IAmb_Lg				23 32 47.5	
	comp=Z,17nm,0.8s								
SIUC	**Southern Illin**	**7.12**	**84**	IAmb_Lg				23 32 52.3	
	comp=Z,30nm,0.8s								
SUSD	**Miller**	**7.12**	**355**	IAmb_Lg				23 32 55.9	
	comp=Z,29nm,0.7s								
HNDO	**Hondo**	**7.85**	**187**	IAmb_Lg				23 33 22.7	
	comp=Z,16nm,0.8s								
SAND	**Sanderson**	**8.07**	**205**	IAmb_Lg				23 33 41.8	
	comp=Z,8.9nm,0.9s								
O44A	**Mansfield**	**8.08**	**67**	IAmb_Lg				23 33 43.5	
	comp=Z,21nm,0.7s								
VBMS	**Vicksburg**	**8.10**	**127**	P	**Pn**			**23 31 03.8**	**-0.3**
	baz=312,SNR=5.1								
RSSD	**Black Hills**	**8.11**	**328**	IAmb_Lg				23 33 32.1	
	comp=Z,13nm,0.7s								
DRIO	**Del Rio**	**8.16**	**195**	IAmb_Lg				23 33 26.7	
	comp=Z,14nm,0.8s								
MNTX	**Cornudas Mount**	**8.20**	**229**	P	**Pn**			**23 31 05.9**	**+0.3**
	baz=45								
F33A	**5 Mile Ranch,**	**8.61**	**9**	IAmb_Lg				23 33 39.5	
	comp=Z,22nm,1.2s								
I40A	**Norwalk**	**8.70**	**39**	IAmb_Lg				23 33 51.5	
	comp=Z,12nm,0.9s								
833A	**Chaparral WMA,**	**9.05**	**187**	IAmb_Lg				23 34 03.3	
	comp=Z,23nm,1.1s								
TX31	**Lajitas Ar. Si**	**9.22**	**212**	P	**Pn**			**23 31 19.2**	**-0.4**
	baz=28								
TXAR	**Lajitas Array**	**9.22**	**212**	Pn	**Pn**			**23 31 18.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=36,slow=10,SNR=14								
TXAR				Pg				23 31 49.6	
	comp=Z,0.2nm,0.3s,baz=31,slow=17,SNR=4.2								
TXAR				Sn	**Sn**			**23 32 59.4**	**-4.4**
	comp=Z,0.2nm,0.3s,baz=24,slow=36,SNR=1.7								
TXAR				Lg	Lg			23 33 52.5	
	comp=Z,0.3nm,0.3s,baz=38,slow=30,SNR=2.3								
	comp=Z,0.4nm,0.3s								
G40A	**Rib Lake**	**9.92**	**35**	IAmb_Lg				23 34 43.8	
	comp=Z,16nm,0.7s								
PDAR	**Pinedale Array**	**10.28**	**305**	Pn	**Pn**			**23 31 33.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=114,slow=13,SNR=7.0								
PDAR				Lg	Lg			23 34 22.0	
	comp=Z,0.2nm,0.3s,baz=118,slow=31,SNR=1.7								
	comp=Z,0.6nm,0.5s								
ULM	**Lac du Bonnet**	**13.01**	**7**	Pn	Pn			23 32 06.0	-5.3
	comp=Z,0.4nm,0.3s,baz=185,slow=11,SNR=1.5								
ULM				Sn	Sn			23 34 23.5	-13
	comp=Z,0.4nm,0.3s,baz=168,slow=21,SNR=1.4								
ULM				Lg	Lg			23 35 45.8	
	comp=Z,0.2nm,0.3s,baz=112,slow=18,SNR=1.7								
	comp=Z,1.4nm,0.4s								
ILAR	**Eielson Array**	**39.55**	**330**	P	**P**			**23 36 39.1**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=108,slow=6.6,SNR=2.6								
	comp=Z,0.2nm,0.5s								

KRNET ***11*** *23:47:41.3±0.1, 39°.70N×72°.51E, h20km, mb3.5*
SOME ***11*** *23:47:41.2, 39°.95N×72°.23E, h5km*
IDC ***11*** *23:47:43.6±2.8, 39°.76N×72°.15E, h0km, mb3.8/2, mbtmp3.5/5, ML2.6/3, Error ellipse: s-maj=70.7km s-min=21.1km az=143.0*
ISU ***11*** *23:47:45.5, 39°.85N×72°.53E, h15km*
NNC ***11*** *23:47:46.5±3.2, 39°.95N×72°.56E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=22.5km s-min=11.1km az=3.0*
ISC 11 23:47:41.9±1.3, 39.73N±0.04×72.51E±0.02, h1km±9km, n60, σ1°73/88, 24C-25D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.60**	**245**	⇑*e*P		**Pg**	**23 47 53.0**	**-0.5**
	baz=48							
DRK				⇑*e*S		**Sg**	**23 48 01.2**	**-0.2**
	baz=48							
SFK	**Sufi-Kurgan**	**0.81**	**70**	⇓*i*P		**Pg**	**23 47 56.9**	**-0.6**
	baz=67							
SFK				⇓*i*S		**Sg**	**23 48 08.1**	**+0.1**
	baz=67							
OHH	**Osh**	**0.82**	**15**	⇑*i*P		**Pg**	**23 47 57.4**	**-0.2**
	baz=14							
OHH				⇑*i*S		**Sb**	**23 48 09.0**	**-1.6**
	baz=14							
TSTA	**Tashata**	**0.84**	**358**	P		**Pb**	**23 47 58.9**	**-0.6**
TSTA				S		**Sg**	**23 48 09.3**	**+0.2**
FRG	**Fergana**	**0.85**	**319**	P		**Pb**	**23 47 59.1**	**-0.4**
FRG				S		**Sb**	**23 48 10.0**	**-1.5**
CHMI	**Chimion**	**0.93**	**305**	P		**Pb**	**23 48 00.4**	**-0.5**
CHMI				P		**Pb**	**23 48 00.4**	**-0.5**
CHMI				S		**Sb**	**23 48 12.8**	**-1.0**
CHMI				S		**Sb**	**23 48 12.8**	**-1.0**
BTK	**Batken**	**1.34**	**284**	⇑*i*P		**Pg**	**23 48 06.0**	**-1.7**
	baz=86							
BTK				⇑*i*S		**Sg**	**23 48 24.1**	**-1.0**
	baz=86							
MINT	**Mingtut**	**1.39**	**302**	P		**Pb**	**23 48 10.4**	**+1.7**
MINT				S		**Sn**	**23 48 29.0**	**+1.5**
NAM	**Namangan**	**1.42**	**333**	P		**Sg**	**23 48 30.2**	**+2.8**
KSNS	**Kasansay**	**1.61**	**332**	P		**Sg**	**23 48 37.4**	**+3.7**
ARSB	**Arslanbob**	**1.63**	**13**	⇓*i*P		**Pn**	**23 48 11.5**	**-0.5**
	baz=12							
ARSB				⇓*i*S		**Sg**	**23 48 33.6**	**-0.7**
	baz=12							
TRKS	**Terek-Say**	**2.08**	**330**	⇓*i*P		**Pn**	**23 48 16.9**	**-1.2**
	baz=30							
TRKS				⇓*i*S		**Sn**	**23 48 42.8**	**-1.9**
	baz=30							
ARK	**Arkit**	**2.10**	**349**	⇑*i*P		**Pn**	**23 48 18.2**	**-0.3**
	baz=49							
ARK				⇑*i*S		**Sn**	**23 48 45.2**	**-0.2**
	baz=49							
ARLS	**Aral**	**2.53**	**32**	⇑*i*P		**Pn**	**23 48 24.1**	**-0.3**
	baz=32							
ARLS				⇑*i*S		**Sn**	**23 48 55.3**	**-0.7**
	baz=32							
AML	**Almayashu**	**2.56**	**20**	⇑Pg		**Pg**	**23 48 29.8**	**-1.2**
	5.4nm,0.6s							
AML				⇓Lg		Lg	23 49 03.6	
	23nm,0.6s							
AML	**Almayashu**	**2.56**	**20**	⇑*i*P		**Pn**	**23 48 24.7**	**-0.2**
	baz=20							
AML				⇑*i*S		**Sn**	**23 48 56.4**	**-0.5**
	baz=20							
CHMG	**Chimgan**	**2.63**	**314**	P		**Sg**	**23 49 06.5**	**+0.1**
MNAS	**Manas**	**2.75**	**360**	⇓*i*P		**Pn**	**23 48 27.2**	**-0.2**
	baz=60							
MNAS				⇓*i*S		**Sn**	**23 49 00.9**	**-0.4**
	baz=60							
TGS	**TashGRES**	**2.83**	**307**	S		**Sg**	**23 49 15.3**	**+2.3**
TAS	**Tashkent**	**2.92**	**304**	P		**Pg**	**23 48 37.3**	**-0.6**
TAS				S		**Sg**	**23 49 15.8**	**0.0**
MRKS	**Merke**	**3.06**	**10**	Pg		**Pb**	**23 48 36.5**	**-0.7**
	4.4nm,0.4s							
MRKS				Lg		Lg	23 49 16.2	
	99nm,0.5s							
MRKS	**Merke**	**3.06**	**10**	*e*Pg		**Pb**	**23 48 34.9**	**-2.3**
	1.2nm,0.1s							
MRKS				*e*Lg		Lg	23 49 13.3	
	57nm,0.5s							
EKS2	**Erkin-Say**	**3.08**	**18**	⇓*i*P		**Pn**	**23 48 31.7**	**-0.1**
	baz=18							
EKS2				⇓*i*S		**Sn**	**23 49 08.7**	**-0.7**
	baz=18							
NRN	**Naryn**	**3.15**	**56**	⇓*i*P		**Pn**	**23 48 32.3**	**-0.8**
	baz=56							
NRN				⇓*i*S		**Sn**	**23 49 09.5**	**-2.0**
	baz=56							
AAK	**Ala-Archa**	**3.26**	**27**	⇓*i*P		**Pn**	**23 48 34.4**	**0.0**
	baz=26							
AAK				⇓*i*S		**Sn**	**23 49 13.1**	**-0.9**
	baz=26							
AAK	**Ala-Archa**	**3.26**	**27**	Sn		**Sb**	**23 49 21.9**	**+0.8**
	5.7nm,0.3s,baz=98,slow=19,SNR=3.9							
DZA	**Taraz**	**3.28**	**345**	Pg		**Pn**	**23 48 37.0**	**+2.5**
	58nm,0.3s							
DZA				Lg		Lg	23 49 17.7	
	88nm,0.3s							
DZA	**Taraz**	**3.28**	**345**	*e*Pg		**Pn**	**23 48 37.0**	**+2.5**
	58nm,0.3s							
DZA				*e*Lg		Lg	23 49 17.7	
	88nm,0.3s							
KBK	**Karagaybulak**	**3.45**	**31**	⇓*i*P		**Pn**	**23 48 37.0**	**0.0**
	baz=31							
KBK				⇓*i*S		**Sn**	**23 49 17.6**	**-1.0**
	baz=31							
FRU1	**Bishkek**	**3.46**	**27**	⇑*i*P		**Pn**	**23 48 37.1**	**0.0**
	baz=27							
FRU1				⇑*i*S		**Sn**	**23 49 18.0**	**-0.8**
	baz=

KOTS	Kotyrbulak	4.92	43	ePg		Pb	23 49 11.7 +2.8
	4.5nm,0.6s						
KOTS				eLg		Lg	23 50 17.4
	20nm,0.6s						
KUU	Kurty	5.04	33	Pg		Pb	23 49 13.1 +2.0
	2.4nm,0.4s						
KUU				Lg		Lg	23 50 19.5
	24nm,0.7s						
KUU	Kurty	5.04	33	ePg		Pb	23 49 13.1 +2.0
	2.4nm,0.4s						
KUU				eLg		Lg	23 50 19.5
	24nm,0.7s						
BTLS	Baital	5.42	12	Pg		Pb	23 49 19.9 +2.4
	1.1nm,0.4s						
BTLS				Lg		Lg	23 50 30.7
	7.3nm,0.4s						
BTLS	Baital	5.42	12	ePg		Pb	23 49 19.9 +2.4
	1.1nm,0.4s						
BTLS				eLg		Lg	23 50 30.6
	7.3nm,0.4s						
ARXS	Arharly	5.98	40	Pg		Pg	23 49 32.3 -4.2
	1.5nm,0.5s						
ARXS				Lg		Lg	23 50 52.1
	6.1nm,0.5s						
ARXS	Arharly	5.98	40	ePg		Pg	23 49 32.3 -4.2
	1.5nm,0.5s						
ARXS				eLg		Lg	23 50 52.1
	6.1nm,0.5s						
BLB	Baldybastay	6.23	44	Pg		Pb	23 49 35.5 +4.3
	1.2nm,0.3s						
BLB				Lg		Lg	23 50 56.8
	6.2nm,0.7s						
MKAR	Makanchi Array	10.03	42	Pn		Pn	23 50 11.8 +4.7
	baz=235,slow=11,SNR=1.3						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	11.68	19	Pn		Pn	23 50 30.7 +1.0
	baz=212,slow=13,SNR=2.0						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	16.49	26	Pn		P	23 51 38.4 +1.3
	0.1nm,0.3s,baz=211,slow=11,SNR=2.5						
	0.6nm,0.5s						
FINES	FINESS Array B	35.54	323	P		P	23 54 40.4 +0.2
	1.7nm,1.0s,baz=117,slow=11,SNR=3.6						
	1.7nm,1.0s						
TORD	Torodi Ar. Bea	67.00	268	P		P	23 58 36.7 -0.1
	0.6nm,0.7s,baz=46,slow=6.0,SNR=8.0						
	0.6nm,0.7s						

BJI **12** *00:01:52.6±0.0,54°.57N×156°.59W,h12km,mb4.8/45, mB5.1/22,Ms5.0/27,Ms7 4.7/27*

AEIC **12** *00:01:54.4±4.9,54°.60N±0°.04×155°.88W±0°.07,h3km±3km, Error ellipse: s-maj=7.2km s-min=5.0km az=139.0*

NEIC **12** *00:01:54.0±1.6,54°.82N±0°.04×156°.08W±0°.08,h10km±1km, mb4.9/115,ML4.4/32,ML4.3(AEIC),Error ellipse: s-maj=8.4km s-min=5.3km az=295.0*

GCMT **12** *00:01:55.0±0.3,54°.65N±0°.02×156°.09W±0°.05,h15km±1km, MW4.9/83,Moment Tensor Solution. s19,c19; s83,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r1.82±.19; $M_{\theta\theta}$-1.51±.14; $M_{\phi\phi}$-0.30±.12; $M_{r\theta}$0.64±.40; $M_{\theta\phi}$-2.00±.09; $M_{\phi r}$-0.71±.46; Best double couple: $M_0$2.75200×10^{16} NP1:ϕ_s84.00000°,δ56.00000°,λ135.00000°. NP2: ϕ_s203.00000°,δ54.00000°,λ44.00000°. Principal axes: T 2.5060, Plg54.0000°, Azm52.0000°; N 0.4960, Plg36.0000°, Azm234.0000°; P -2.9990, Plg1.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC **12** *00:01:58.5±3.3,54°.84N×156°.07W,h37km±26km,mb4.1/29, mbtmp4.4/34,ML4.0/5,MS4.1/62 Error ellipse: s-maj=18.1km s-min=12.0km az=15.0*

ISC 12 00:01:54.2±0.4,54°.80N±0°.05×156°.05W±0°.04,h10km, n694,σ1$22/669,mb4.8/119,MS4.2/69,3C-2D,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	Chirikof Islan	1.06	13		Pg	00 02 13.2	-1.3
CHIR					Sn	00 02 27.4	-2.4
CHIR	Chirikof Islan	1.06	13	P	Pg	00 02 13.3	-1.3
	baz=187,SNR=25						
CHGN	Chignik	2.02	319		Pn	00 02 26.8	-1.5
CHGN	Chignik	2.02	319	P	Pn	00 02 26.5	-1.8
	baz=139,SNR=20						
CNBA	Chernabura Isl	2.05	272	Pn	Pn	00 02 26.5	-2.2
CNBA					Sn	00 02 50.2	-4.1
CHNA	Chernabura Isl	2.05	272	P	Pn	00 02 26.4	-2.3
	baz=95,SNR=7.2						
SII	Sitkinak Islan	2.06	30	Pn	Pn	00 02 27.0	-1.9
SII				IAML		00 03 47.2	
	comp=E,2μm,1.6s						
SII	Sitkinak Islan	2.06	30	P	Pn	00 02 27.6	-1.2
SII	Sitkinak Islan	2.06	30	P	Pn	00 02 27.4	-1.4
	baz=207,SNR=20						
VNSG	Veniaminof 6	2.19	309		Pn	00 02 29.6	-1.0
VNSG					Sn	00 02 56.5	-1.2
ANNE	Aniakchak Nort	2.41	333		Pn	00 02 33.2	-0.5
VNSS	Veniaminof 8	2.41	308		Pn	00 02 32.6	-1.2
VNWF	Veniaminof 8	2.42	306		Pn	00 02 33.2	-0.7
ANON	Aniakchak	2.44	332		Pn	00 02 34.0	-0.1
S14K	Fog Glacier	2.49	308	P	Pn	00 02 34.7	-0.1
	baz=127						
VNFG	Fog Glacier, M	2.49	308		Pn	00 02 34.2	-0.6
SDPT	Sand Point	2.61	284	Pn	Pn	00 02 34.5	-1.8
SDPT				IAML		00 03 43.3	
	comp=N,2μm,1.6s						
SDPT				IAML		00 04 04.5	
	comp=E,2μm,1.9s						
SDPT	Sand Point	2.61	284	P	Pn	00 02 35.1	-1.2
SDPT	Sand Point	2.61	284	P	Pn	00 02 34.5	-1.8
	baz=104,SNR=5.7						
R17K	Ugashik Creek	2.86	356		Pn	00 02 39.4	-0.4
R17K				IAML		00 03 57.4	
	comp=N,1μm,1.8s						
R17K	Ugashik Creek	2.86	356	P	Pn	00 02 40.0	+0.2
	baz=174,SNR=33						
R18K	Karluk	2.92	17		Pn	00 02 39.1	-1.4
R18K				IAML		00 03 21.6	
	comp=E,1μm,0.8s						
R18K				IAML		00 03 56.4	
	comp=N,1μm,1.8s						
R18K	Karluk	2.92	17	P	Pn	00 02 39.8	-0.8
	baz=196						
PS1A	Pavlof South-1	3.33	283		Pn	00 02 45.6	-0.7
PS4A	Pavlof South-4	3.39	282		Pn	00 02 45.3	-1.7
KABR	Katmai Barrier	3.40	10		Pn	00 02 46.9	-0.4
ANCK	Angle Creek	3.43	5		Pn	00 02 47.1	-0.5
ANCK					Sn	00 03 25.6	-2.7
ACHA	Angle Creek He	3.45	6		Pn	00 02 47.5	-0.4
Q17K	Contact Creek	3.48	1	P	Pn	00 02 47.9	-0.5
	baz=180,SNR=12						
CNTC	Contact Creek	3.48	1		Pn	00 02 47.8	-0.6
KCE	Katmai Mt Cerb	3.49	8		Pn	00 02 48.3	-0.2
KABU	Katmai Buttres	3.51	7		Pn	00 02 48.3	-0.5
KAKN	Katmai Knife C	3.55	8		Pn	00 02 49.1	-0.4
KDAK	Kodiak Island	3.56	31		Pn	00 02 48.0	-1.5
KDAK	Kodiak Island	3.56	31	IAML		00 04 51.2	
	comp=N,468nm,1.6s						
KDAK	Kodiak Island	3.56	31	P	Pn	00 02 47.9	-1.6
	baz=211						
KDAK	Kodiak Island	3.56	31	Pn	Pn	00 02 47.4	-2.0
	comp=N,11nm,0.3s,baz=235,slow=7.5,SNR=193						
KDAK				Sn	Sn	00 03 27.4	-4.2
	comp=N,17nm,0.3s,baz=300,slow=4.8,SNR=7.1						
KDAK				LR	LR	00 04 22.2	
	comp=N,826nm,21.7s,baz=318,slow=41						
	comp=N,32nm,0.3s						
KAHG	Katmai Hook Gl	3.80	12		Pn	00 02 52.3	-0.5
KAHC	Katmai Hardscr	3.91	8		Pn	00 02 53.6	-0.7
Q18K	Katmai Hardscr	3.91	8	P	Pn	00 02 53.5	-0.8
	baz=187,SNR=15						
Q20K	Shuyak Island	4.32	26	P	Pn	00 02 58.7	-1.1
	baz=207						
SYI	Shuyak Island	4.32	26	Pn	Pn	00 02 58.6	-1.3
SYI				IAML		00 04 49.3	
	comp=N,331nm,1.9s						
SYI				IAML		00 05 00.8	
	comp=E,336nm,2.9s						
Q19K	Cape Douglas,	4.35	17	Pn	Pn	00 03 00.2	-0.1
Q19K	Cape Douglas,	4.35	17	P	Pn	00 03 00.6	+0.3
	baz=197,SNR=6.8						
P16K	Nushagak River	4.38	347		Pn	00 02 59.5	-1.1
P16K	Nushagak River	4.38	347	P	Pn	00 02 59.2	-1.5
	baz=164						
P17K	Kvichak River	4.42	357		Pn	00 03 00.3	-0.9
P17K	Kvichak River	4.42	357	P	Pn	00 03 00.5	-0.7
	baz=176,SNR=5.2						
P18K	Big Mountain,	4.63	5	Pn	Pn	00 03 03.0	-1.2
P18K				IAML		00 04 49.3	
	comp=E,301nm,3.0s						
P18K				IAML		00 05 41.5	
	comp=N,221nm,3.0s						
P18K	Big Mountain,	4.63	5	P	Pn	00 03 03.4	-0.7
	baz=184						
O15K	Ungalikthiuk R	4.86	336		Pn	00 03 06.1	-1.1
O15K	Ungalikthiuk R	4.86	336	P	Pn	00 03 06.2	-1.0
	baz=153,SNR=7.4						
O16K	Kokwok River B	4.94	348		Pn	00 03 07.9	-0.4
O16K				IAML		00 05 02.8	
	comp=E,229nm,2.3s						
O16K				IAML		00 05 16.0	
	comp=N,208nm,1.7s						
O16K	Kokwok River B	4.94	348	P	Pn	00 03 07.9	-0.4
	baz=166						
O17K	Koliganek Bris	5.03	354		Pn	00 03 08.4	-1.1
O17K	Koliganek Bris	5.03	354	P	Pn	00 03 08.1	-1.4
	baz=172						
O18K	Koktuh Hills	5.09	5		Pn	00 03 09.9	-0.6
O18K				IAML		00 05 16.4	
	comp=N,202nm,1.5s						
O18K				IAML		00 05 39.9	
	comp=E,332nm,2.6s						
O18K	Koktuh Hills	5.09	5	P	Pn	00 03 09.8	-0.7
	baz=184						
P19K	Oil Pt	5.11	16	Pn	Pn	00 03 10.3	-0.4
P19K	Oil Pt	5.11	16	P	Pn	00 03 10.4	-0.2
	baz=197						
O14K	Tigyukauivet M	5.30	330		Pn	00 03 12.4	-0.9
O14K				IAML		00 05 34.2	
	comp=E,284nm,4.3s						
O14K	Tigyukauivet M	5.30	330	P	Pn	00 03 12.8	-0.5
	baz=145						
CNPM	China Poot	5.42	27	Pn	Pn	00 03 13.5	-1.5
ILSW	Iliamna Southw	5.43	16	Pn	Pn	00 03 14.3	-1.0
IVE	Iliamna Volcan	5.49	16		Pn	00 03 15.3	-0.7
O20K	Slope Mountain	5.61	18		Pn	00 03 17.2	-0.5
O20K	Slope Mountain	5.61	18	P	Pn	00 03 17.4	-0.2
	baz=199						
AKSA	Akutan Strait	5.67	267		Pn	00 03 17.2	-1.2
AKUT	Akutan	5.71	267	Pn	Pn	00 03 17.6	-1.3
BRLK	Bradley Lake	5.71	27	Pn	Pn	00 03 17.0	-2.0
BRSE	Bradley Lake S	5.73	28		Pn	00 03 17.5	-1.8
BRSE	Bradley Lake S	5.73	28	P	Pn	00 03 17.8	-1.5
	baz=211,SNR=8.2						
N17K	Nushagak Hills	5.78	354		Pn	00 03 18.8	-1.1
N17K	Nushagak Hills	5.78	354	P	Pn	00 03 19.6	-0.3
	baz=173						
N15K	Kwethluk River	5.81	340	P	Pn	00 03 19.5	-0.9
	baz=156,SNR=6.2						
N16K	Nishlik Lake	5.88	347		Pn	00 03 20.8	-0.5
N16K	Nishlik Lake	5.88	347	P	Pn	00 03 20.2	-1.1
	baz=164,SNR=6.1						
N18K	Kilae Creek	5.90	1	Pn	Pn	00 03 20.9	-0.8
N18K	Kilae Creek	5.90	1	P	Pn	00 03 20.8	-0.8
	baz=180						
RED	Redoubt Volcan	5.91	16		Pn	00 03 20.8	-0.9
RSO	Redoubt South	5.95	16	Pn	Pn	00 03 22.1	-0.3
RDWB	Redoubt West	5.96	15		Pn	00 03 21.9	-0.7
N14K	Kuskokwak Cree	5.98	332		Pn	00 03 22.4	-0.2
N14K	Kuskokwak Cree	5.98	332	P	Pn	00 03 22.0	-0.6
	baz=147						
NCT	North Crescent	6.02	15		Pn	00 03 23.0	-0.3
RDJH	Redoubt Jeurge	6.07	15		Pn	00 03 23.0	-1.0
DFR	Drift River	6.09	16		Pn	00 03 23.6	-0.6
N19K	Bonanza Creek	6.09	7	Pn	Pn	00 03 23.4	-0.9
N19K	Bonanza Creek	6.09	7	P	Pn	00 03 23.6	-0.7
	baz=187,SNR=13						
RDT	Redoubt	6.11	17		Pn	00 03 23.6	-0.9
UNV	Unalaska Valle	6.20	265	P	Pn	00 03 24.3	-1.3
UNV	Unalaska Valle	6.20	265	P	Pn	00 03 23.9	-1.7
	baz=79						
SVW2	Sparrevohn	6.33	2	Pn	Pn	00 03 26.2	-1.3
SVW2	Sparrevohn	6.33	2	P	Pn	00 03 26.1	-1.3
SEW	Seward	6.40	31	P	Pn	00 03 26.8	-1.6
	baz=215,SNR=5.8						
M15K	Kasigluk River	6.42	339		Pn	00 03 28.3	-0.3
M15K	Kasigluk River	6.42	339	P	Pn	00 03 27.9	-0.7
	baz=155						
M16K	Timber Creek	6.43	347	P	Pn	00 03 28.4	-0.5
	baz=164,SNR=10						
CAPN	Captain Cook N	6.54	22	Pn	Pn	00 03 31.0	+0.8
O22K	Cooper Landing	6.63	28	Pn	Pn	00 03 31.4	-0.1
O22K	Cooper Landing	6.63	28	P	Pn	00 03 31.8	+0.2
	baz=212						
M17K	Holitna River	6.67	354	P	Pn	00 03 31.3	-0.8
	baz=172,SNR=6.0						
N20K	Mount Spurr	6.74	16	P	Pn	00 03 32.1	-1.1
	baz=198,SNR=5.7						
SPCR	Spurr Chakacha	6.74	16		Pn	00 03 32.1	-1.1
SPCR	Spurr Chakacha	6.74	16		Pn	00 03 32.0	-1.1
SPCR	Spurr Chakacha	6.74	16	P	Pn	00 03 32.3	-0.8
	baz=198						
M14K	Bethel	6.76	335	P	Pn	00 03 32.0	-1.2
	baz=150						
SPBG	Spurr Blockage	6.77	15		Pn	00 03 32.8	-0.8
SPCP	Crater Peak Br	6.81	16		Pn	00 03 33.4	-0.8
M13K	Dall Lake	6.86	328	P	Pn	00 03 34.1	-0.6
	baz=142						
P23K	Montague Islan	7.00	38	P	Pn	00 03 36.7	+0.1
	baz=224						
Q23K	Middleton Isla	7.03	45	P	Pn	00 03 36.7	-0.3
	baz=231						
MID	Middleton Isla	7.03	45	Pn	Pn	00 03 36.5	-0.6
MID	Middleton Isla	7.03	45	P	Pn	00 03 36.9	-0.1
FIS	Fire Island	7.08	24	Pn	Pn	00 03 36.4	-1.3
RC01	Rabbit Creek A	7.15	25	Pn	Pn	00 03 37.3	-1.4
RC01	Rabbit Creek A	7.15	25	P	Pn	00 03 37.9	-0.7
	baz=209,SNR=11						
L16K	Owhat River	7.17	347	P	Pn	00 03 38.2	-0.7
	baz=164						
M19K	Big River Lodg	7.18	6	P	Pn	00 03 38.8	-0.4
	baz=187						
SUA	Susitna One	7.25	21	Pn	Pn	00 03 38.7	-1.5
SUA	Susitna One	7.25	21	P	Pn	00 03 39.4	-0.8
	baz=204,SNR=18						
M20K	Styx River	7.27	11	P	Pn	00 03 40.2	-0.2
	baz=192						
PWL	Port Wells	7.34	31	Pn	Pn	00 03 39.5	-1.7
PWL	Port Wells	7.34	31	P	Pn	00 03 41.1	-0.2
	baz=216,SNR=44						
L19K	White Mountain	7.43	4	Pn	Pn	00 03 41.8	-0.8
L19K	White Mountain	7.43	4	P	Pn	00 03 42.5	-0.1
	baz=184,SNR=18						
L14K	Kuka Creek	7.45	335	P	Pn	00 03 42.1	-0.6
	baz=149						
L17K	Donlin	7.46	352		Pn	00 03 42.2	-0.7
L17K	Donlin	7.46	352	P	Pn	00 03 42.0	-0.9
	baz=169						
L18K	Granite Mounta	7.46	358	P	Pn	00 03 42.1	-0.8
	baz=176						
L15K	Ungalak Mounta	7.47	340		Pn	00 03 42.4	-0.8
L15K	Ungalak Mounta	7.47	340	P	Pn	00 03 41.9	-1.2
	baz=155						
SKT	Skwentna	7.58	16	Pn	Pn	00 03 43.8	-0.9
SKT	Skwentna	7.58	16	P	Pn	00 03 44.3	-0.4
	baz=199						
HIN	Hinchinbrook I	7.60	38	Pn	Pn	00 03 43.1	-1.8
M22K	Willow	7.64	22	Pn	Pn	00 03 44.1	-1.3
M22K	Willow	7.64	22	P	Pn	00 03 44.4	-1.0
	baz=206						
PMR	Palmer	7.73	25	P	Pn	00 03 45.9	-0.7
	baz=210						
GLI	Glacier Island	7.74	34	Pn	Pn	00 03 44.4	-2.4
GLI	Glacier Island	7.74	34	P	Pn	00 03 44.6	-2.2
	baz=221,SNR=13						
KNK	Knik Glacier	7.75	28	Pn	Pn	00 03 46.1	-0.8
KNK	Knik Glacier	7.75	28	P	Pn	00 03 45.2	-1.8
	baz=213,SNR=11						
FID	Port Fidalgo	7.86	37	Pn	Pn	00 03 45.5	-2.9
GHO	Glory Hole Cre	7.94	25	Pn	Pn	00 03 47.5	-2.0
EYAK	Cordova Ski Ar	7.98	40		Pn	00 03 48.2	-1.8
EYAK	Cordova Ski Ar	7.98	40	P	Pn	00 03 49.7	-0.3
EYAK	Cordova Ski Ar	7.98	40	P	Pn	00 03 48.8	-1.2
	baz=227,SNR=23						
K17K	Iditarod	8.03	353	P	Pn	00 03 49.8	-1.0
	baz=170						
K15K	Wolf Creek Mou	8.05	341	P	Pn	00 03 50.4	-0.6
	baz=156						
SML	Sawmill	8.12	27	Pn	Pn	00 03 50.2	-1.7
SML	Sawmill	8.12	27	P	Pn	00 03 51.6	-0.4
	baz=212,SNR=11						
KAIM	Kayak Island	8.12	46	Pn	Pn	00 03 52.1	+0.2
KAIM	Kayak Island	8.12	46	P	Pn	00 03 52.9	+1.0
	baz=234,SNR=6.2						
TTA	Tatalina	8.16	0	Pn	Pn	00 03 52.1	-0.5
TTA	Tatalina	8.16	0	P	Pn	00 03 51.8	-0.8
	baz=180						
M23K	Glacier View	8.27	29	P	Pn	00 03 54.5	+0.5
	baz=214,SNR=17						
RAGM	Ragged Mountai	8.28	43	Pn	Pn	00 03 52.3	-2.0
PPLA	Purkeypile	8.37	12		Pn	00 03 54.4	-1.1
PPLA	Purkeypile	8.37	12	P	Pn	00 03 54.8	-0.7
	baz=195						
GOAT	Goat Mountain	8.38	42		Pn	00 03 53.0	-2.6
SCM	Sheep Creek Mo	8.41	29	Pn	Pn	00 03 54.5	-1.6
SCM	Sheep Creek Mo	8.41	29	P	Pn	00 03 54.7	-1.4
	baz=216,SNR=34						
HMT	Hamilton	8.42	44	Pn	Pn	00 03 55.6	-0.5
K13K	Kusilvak Mount	8.46	331	P	Pn	00 03 55.1	-1.6
	baz=144						
SUCK	Suckling Hills	8.46	46	Pn	Pn	00 03 56.5	-0.2
KLU	Klutina	8.58	34	P	Pn	00 03 57.1	-1.3
	baz=222,SNR=21						
K20K	Telida	8.65	6	P	Pn	00 03 58.4	-0.8
	baz=187						
BERG	Berg Lake	8.68	45		Pn	00 03 59.1	-0.5
BMRM	Bremner River	8.68	40	P	Pn	00 03 59.0	-0.7
	baz=228,SNR=31						
J18K	Innoko River	8.71	358	P	Pn	00 03 59.2	-0.7
	baz=177,SNR=5.6						
J16K	Anvik River	8.83	346	P	Pn	00 04 00.4	-1.3
	baz=162						
CAST	Castle Rocks	8.88	12	Pn	Pn	00 04 01.2	-1.2
CAST	Castle Rocks	8.88	12	P	Pn	00 04 01.6	-0.9
	baz=194,SNR=14						
WAT6	Susitna Watana	8.92	26	P	Pn	00 04 01.2	-1.9
	baz=212,SNR=15						
WAT1	Susitna Watana	8.94	23	P	Pn	00 04 02.0	-1.3
	baz=208						
M24K	Tolsona, Glenn	8.96	31	Pn	Pn	00 04 02.5	-1.1
M24K	Tolsona, Glenn	8.96	31	P	Pn	00 04 02.8	-0.8
	baz=218,SNR=17						
N25K	Chitina, Valde	9.11	37	P	Pn	00 04 04.4	-1.2
	baz=225,SNR=8.3						
CRQM	Cirque	9.11	44	Pn	Pn	00 04 05.5	-0.3
CRQE	Cirque	9.13	44	P	Pn	00 04 05.6	-0.3
	baz=234,SNR=12						
KTH	Kantishna Hill	9.17	15		Pn	00 04 04.5	-1.9
TRF	Thorofare Moun	9.17	16	Pn	Pn	00 04 04.7	-1.8
TRF	Thorofare Moun	9.17	16	P	Pn	00 04 04.9	-1.6
	baz=200,SNR=8.0						
J19K	Poorman	9.23	1	P	Pn	00 04 06.7	-0.5
	baz=181,SNR=12						
TGL	Tana Glacier	9.24	44		Pn	00 04 07.1	-0.3
VRDI	Verde Repeater	9.28	41	Pn	Pn	00 04 07.0	-1.0
GLB	Gilahina Butte	9.28	39	Pn	Pn	00 04 06.2	-1.7
MESA	MESA	9.30	49		Pn	00 04 07.9	-0.5
MESA	MESA	9.30	49	P	Pn	00 04 08.4	0.0
	baz=239,SNR=9.9						
CHUM	Lake Minchumin	9.31	10	P	Pn	00 04 07.5	-0.8
	baz=193						
DHY	Denali Highway	9.43	25		Pn	00 04 08.8	-1.3
DHY	Denali Highway	9.43	25	P	Pn	00 04 09.3	-0.8
	baz=211,SNR=8.8						
J20K	Nowinta River	9.46	5	Pn	Pn	00 04 08.8	-1.5
J20K	Nowinta River	9.46	5	P	Pn	00 04 09.0	-1.4
	baz=186						
HARP	HAARP	9.50	32	P	Pn	00 04 10.8	0.0
	baz=220,SNR=10						
MCARA	McCarthy VSAT	9.53	41	Pn	Pn	00 04 11.2	-0.2
MCARA	McCarthy VSAT	9.53	41	P	Pn	00 04 12.3	+1.0
	baz=231,SNR=12						
GRNC	Granite Creek	9.67	46		Pn	00 04 12.4	-1.0
MCK	McKinley	9.67	19	P	Pn	00 04 11.9	-1.3
	baz=204						
BPAW	Bear Paw Mtn.	9.68	13	Pn	Pn	00 04 11.2	-2.2
BPAW	Bear Paw Mtn.	9.68	13	P	Pn	00 04 11.8	-1.6
	baz=197						
PAX	Paxson	9.84	29	P	Pn	00 04 15.2	-0.5
	baz=217,SNR=24						
BARN	Barnard Glacie	9.88	45		Pn	00 04 15.8	-0.5
CTG	Chitna Glacier	9.96	46	P	Pn	00 04 17.5	+0.2
	baz=237,SNR=12						
GCSA	Galena City Sc	9.99	358	P	Pn	00 04 16.5	-1.0
	baz=177						
PCA	Pinnacle	10.02	52	Pn	Pn	00 04 17.8	-0.3
PINM	Pinnacle	10.02	52	P	Pn	00 04 18.2	+0.1
	baz=244,SNR=15						
LOGN	Logan Glacier	10.03	47		Pn	00 04 18.4	+0.1
I20K	Naaghedeneel	10.06	4	P	Pn	00 04 17.7	-0.9
	baz=185						
M26K	Nabesna, AK	10.20	36	P	Pn	00 04 20.6	+0.1
	baz=226						
BCPM	Bancas Point	10.24	53		Pn	00 04 20.4	-0.7
PNL	Peninsula	10.25	55	P	Pn	00 04 21.1	-0.1
	baz=248,SNR=23						
MENT	Mentasta	10.34	33		Pn	00 04 21.3	-1.2
O28M	Mount Upton	10.35	48	P	Pn	00 04 23.0	+0.1
	baz=240,SNR=11						
H17K	Granite Mounta	10.36	351	P	Pn	00 04 22.3	-0.3
	baz=167						
K24K	Donnelly Dome	10.43	26	P	Pn	00 04 24.5	+0.8
	baz=214,SNR=23						
NEA2	Nenana	10.43	17		Pn	00 04 20.4	-3.3
NEA2	Nenana	10.43	17	P	Pn	00 04 20.2	-3.4
	baz=202,SNR=13						
H18K	Honhosa River	10.46	355	P	Pn	00 04 23.5	-0.5
	baz=172						
L26K	Log Cabin Wild	10.53	33	P	Pn	00 04 26.0	+1.1
	baz=223,SNR=10						
M27K	Edge Creek, AK	10.57	38	P	Pn	00 04 26.1	+0.4
	baz=230						
MLY	Manley	10.60	12		Pn	00 04 23.1	-2.9
MLY	Manley	10.60	12	P	Pn	00 04 23.8	-2.2
	baz=196						
RIDG	Independent Ri	10.62	28		Pn	00 04 25.0	-1.4
RIDG	Independent Ri	10.62	28	P	Pn	00 04 26.4	+0.1
	baz=217,SNR=17						
HDA	Harding Lake	10.67	22	P	Pn	00 04 26.3	-0.6
	baz=209,SNR=28						
CCB	Clear

IMAR	Indian Mountai	11.28	5		Pn	00 04 33.3	-1.9
YUK4	Talbot Arm	11.29	47	P	Pn	00 04 36.2	+0.7
	baz=241						
H22K	Ishtalitna Cre	11.37	10	P	Pn	00 04 35.1	-1.4
	baz=193						
G19K	Purcell Mounta	11.40	358	P	Pn	00 04 35.3	-1.6
	baz=176						
S31K	Pelican	11.42	66	P	Pn	00 04 36.0	-1.2
	baz=261						
H23K	Yukon River	11.52	14	P	Pn	00 04 36.2	-2.3
	baz=198						
P30M	Million Dollar	11.56	55	P	Pn	00 04 42.3	+3.2
	baz=250						
HYT	Haines Junctio	11.56	51		Pn	00 04 39.3	0.0
HYT	Haines Junctio	11.56	51	P	Pn	00 04 39.3	0.0
	baz=246						
J26L	Joseph Creek	11.57	28	P	Pn	00 04 38.1	-1.2
	baz=218						
K27K	Chicken	11.65	32	P	Pn	00 04 41.0	+0.8
	baz=223						
PLBC	Pleasant Camp	11.65	58	P	Pn	00 04 40.8	+0.5
	baz=254						
H24K	Noodor Dome	11.78	17	P	Pn	00 04 39.7	-2.4
	baz=203,SNR=5.8						
G21K	Allakaket	11.82	5	P	Pn	00 04 41.5	-1.1
	baz=187						
SIT	Sitka	11.83	71	Pn	Pn	00 04 40.0	-2.8
SIT	Sitka	11.83	71	P	Pn	00 04 43.0	+0.2
	baz=267						
M29M	Somme Creek	11.91	43	P	Pn	00 04 44.6	+0.6
	baz=237,SNR=12						
PRP	Porcupine Dome	11.94	22	Pn	Pn	00 04 42.1	-2.3
PRP	Porcupine Dome	11.94	22	P	Pn	00 04 43.7	-0.7
	baz=210,SNR=14						
N30M	Aishikik Lake	12.01	49	P	Pn	00 04 45.6	+0.4
	baz=244						
F19K	Shaleruckik Mo	12.11	357	P	Pn	00 04 46.9	+0.4
	baz=175						
SKAG	Skagway	12.16	59	Pn	Pn	00 04 46.5	-0.7
SKAG	Skagway	12.16	59	P	Pn	00 04 48.5	+1.2
SKAG	Skagway	12.16	59	P	Pn	00 04 47.3	0.0
	baz=255,SNR=6.4						
O30N	Mendenhall	12.19	53	P	Pn	00 04 48.0	+0.3
	baz=248,SNR=5.4						
BESE	Bessie Mountai	12.23	63	Pn	Pn	00 04 47.9	-0.4
S32K	Killisnoo	12.26	69	P	Pn	00 04 49.0	+0.4
	baz=266						
F20K	Avaraart Lake	12.30	1	P	Pn	00 04 48.3	-0.8
	baz=180						
G23K	Bananza Creek	12.30	11	P	Pn	00 04 47.5	-1.7
	baz=196						
I26K	Coal Creek Min	12.32	26	P	Pn	00 04 48.4	-1.0
	baz=216						
G22K	Bettles	12.36	8	P	Pn	00 04 48.5	-1.5
	baz=192						
R32K	Eaglecrest	12.37	65	P	Pn	00 04 50.5	+0.4
	baz=262						
L29M	L29M	12.40	41	P	Pn	00 04 51.8	+1.1
	baz=235,SNR=12						
F21K	Alatna River	12.53	5	P	Pn	00 04 51.0	-1.3
	baz=186,SNR=8.5						
H25L	Birch Creek	12.54	19	P	Pn	00 04 50.2	-2.1
	baz=208						
N31M	Braeburn, Yuko	12.59	50	P	Pn	00 04 53.0	-0.2
	baz=246						
G24K	Hadweenzic Riv	12.64	16	P	Pn	00 04 50.5	-3.3
	baz=203						
M30M	Minto, Yukon	12.65	44	P	Pn	00 04 55.3	+1.4
	baz=240,SNR=5.2						
WHY	Whitehorse	12.71	54		Pn	00 04 53.9	-1.0
WHY	Whitehorse	12.71	54	P	Pn	00 04 54.6	-0.3
	baz=251						
E19K	Redstone River	12.72	358	P	Pn	00 04 54.1	-0.7
	baz=176						
COLD	Coldfoot	12.78	10	P	Pn	00 04 54.4	-1.3
	baz=195						
E18K	Tukpahlearik C	12.86	352	P	Pn	00 04 56.9	+0.2
	baz=168						
F22K	John River	12.89	7	P	Pn	00 04 56.4	-0.8
	baz=190						
G25K	Bearman Lake	12.93	18	P	Pn	00 04 55.7	-2.0
	baz=206						
I27K	Kandik River	12.95	27	P	Pn	00 04 56.6	-1.6
	baz=219,SNR=7.6						
P32M	Atlin	13.00	59	Pn	Pn	00 04 57.6	-1.1
P32M	Atlin	13.00	59	P	Pn	00 04 58.6	-0.1
	baz=257						
K29M	Barlow Dome	13.05	39	P	Pn	00 04 59.6	+0.1
	baz=234						
CRAG	Craig	13.12	78	Pn	Pn	00 05 00.0	-0.3
I28M	Miner Creek	13.31	30	P	Pn	00 05 03.7	+0.7
	baz=224,SNR=7.5						
F24K	Squaw Lake	13.34	14	P	Pn	00 05 01.2	-2.2
	baz=200						
H27K	Steamboat Moun	13.46	26	P	Pn	00 05 05.6	+0.5
	baz=218,SNR=7.7						
M31M	Drury Creek, Y	13.48	48	P	Pn	00 05 06.2	+0.9
	baz=246,SNR=6.9						
E20K	Nigu River	13.51	360	P	Pn	00 05 05.7	0.0
	baz=179						
E22K	Anaktuvuk Pass	13.53	7	P	Pn	00 05 03.8	-2.2
	baz=190						
G26K	Porcupine Rive	13.54	21	P	Pn	00 05 05.2	-0.8
	baz=211						
P33M	Teslin, Yukon	13.57	57	P	Pn	00 05 07.7	+1.1
	baz=256,SNR=6.2						
Q32M	Nakina River	13.62	63	P	Pn	00 05 07.7	+0.3
	baz=262						
E23K	Chandalar	13.65	10	P	Pn	00 05 05.8	-1.8
	baz=195						
E21K	Killik River	13.73	3	P	Pn	00 05 07.6	-1.0
	baz=185						
I29M	Ogilvie Camp,	13.74	33	P	Pn	00 05 10.6	+1.8
	baz=227,SNR=7.8						
F25K	Christian Rive	13.75	17	P	Pn	00 05 06.0	-3.0
	baz=206						
D19K	Kuna River	13.78	357	P	Pn	00 05 07.5	-1.9
	baz=175						
E24K	Your Creek	13.79	12	P	Pn	00 05 07.6	-1.9
	baz=198						
BMAR	Burnt Mountain	13.79	19	Pn	Pn	00 05 05.8	-3.7
G27K	Doyon Strip	13.89	24	P	Pn	00 05 10.1	-0.8
	baz=216						
J30M	Hart River	13.90	37	P	Pn	00 05 11.9	+0.8
	baz=234,SNR=9.4						
FARO	Faro, Yukon	13.94	49	P	Pn	00 05 14.1	+2.4
	baz=247,SNR=14						
D20K	Etivluk River	13.97	359	P	Pn	00 05 12.3	+0.3
	baz=178						
C18K	Utukok River	14.11	352	Pn	Pn	00 05 13.1	-0.8
C18K	Utukok River	14.11	352	P	Pn	00 05 15.8	+2.0
	baz=167						
F26K	Sheenjek River	14.11	19	P	Pn	00 05 12.8	-1.1
	baz=209						
C17K	DeLong Mountai	14.12	349	P	Pn	00 05 15.9	+1.8
	baz=163						
S34M	Telegraph Cree	14.13	67	Pn	Pn	00 05 13.6	-0.6
S34M	Telegraph Cree	14.13	67	P	Pn	00 05 14.5	+0.4
	baz=267						
C16K	Lisburne Hills	14.21	346	P	Pn	00 05 15.9	+0.8
	baz=157						
TOLK	Toolik Lake Re	14.22	10	Pn	Pn	00 05 13.1	-2.2
TOLK	Toolik Lake Re	14.22	10	P	Pn	00 05 13.8	-1.5
	baz=195						
D22K	Ayikyak River	14.22	5	P	Pn	00 05 15.0	-0.3
	baz=188						
E25K	Arctic Village	14.24	16	P	Pn	00 05 14.2	-1.5
	baz=205						
I30M	Mount Dempster	14.27	35	P	Pn	00 05 18.9	+2.7
	baz=231,SNR=11						
H29M	Whitestone	14.31	30	P	Pn	00 05 18.6	+2.0
	baz=225						
R33M	Jennings River	14.34	61	Pn	Pn	00 05 16.2	-1.0
R33M	Jennings River	14.34	61	P	Pn	00 05 18.2	+1.0
	baz=261,SNR=6.7						
C21K	Knifeblade Rid	14.43	2	P	Pn	00 05 17.6	-0.6
	baz=182						
C19K	Lookout Ridge	14.46	355	P	Pn	00 05 16.4	-2.1
	baz=172						
T35M	Bob Quinn	14.61	71	P	Pn	00 05 21.4	+0.7
	baz=271						
DLBC	Dease Lake	14.74	65		Pn	00 05 22.0	-0.5
DLBC	Dease Lake	14.74	65	P	Pn	00 05 23.3	+0.7
	baz=266						
DLBC	Dease Lake	14.74	65	Pn	Pn	00 05 23.1	+0.5
	comp=E,0.4nm,0.3s,baz=261,slow=12,SNR=10						
DLBC				LR	LR	00 10 22.0	
	comp=E,435nm,18.7s,baz=287,slow=34						
	comp=E,5.3nm,0.7s						
D24K	Happy Valley	14.79	10	P	Pn	00 05 22.3	-0.8
	baz=196						
B21K	Ikpikpuk River	14.90	2	P	Pn	00 05 23.3	-1.2
	baz=183						
EPYK	Eagle Plains	14.90	31	P	Pn	00 05 25.1	+0.5
	baz=227,SNR=12						
G29M	Pine Creek	14.90	28	Pn	Pn	00 05 24.8	+0.1
G29M	Pine Creek	14.90	28	P	Pn	00 05 25.2	+0.5
	baz=223						
F28M	Old Crow	14.96	24	Pn	Pn	00 05 23.5	-1.9
F28M	Old Crow	14.96	24	P	Pn	00 05 25.9	+0.5
	baz=218,SNR=23						
MMPY	Sheldon Lake,	14.99	49	Pn	Pn	00 05 26.0	+0.1
MMPY	Sheldon Lake,	14.99	49	P	Pn	00 05 27.0	+1.2
	baz=249,SNR=11						
E27K	Coleen River	15.04	21	P	Pn	00 05 25.5	-0.9
	baz=213						
GRNB	Grenville Isla	15.22	83		Pn	00 05 28.4	-0.6
GRNB				IAmb	IAmb	00 05 37.7	
	comp=Z,80nm,1.6s						
D25K	Kavik River	15.23	13	P	Pn	00 05 27.5	-1.6
	baz=201						
B20K	Meade River	15.28	359	P	Pn	00 05 27.7	-1.9
	baz=177						
C23K	Itkillik River	15.29	7	P	Pn	00 05 28.9	-0.9
	baz=192						
H31M	Peel River	15.30	35	P	Pn	00 05 30.1	+0.1
	baz=234,SNR=15						
C24K	Franklin Bluff	15.34	10	P	Pn	00 05 30.1	-0.4
	baz=196						
G30M	tAoh Zraii Nji	15.46	30	P	Pn	00 05 31.3	-0.7
	baz=227,SNR=9.5						
B22K	Teshekpuk Lake	15.65	3	P	Pn	00 05 35.0	+0.6
	baz=185						
E28M	Babbage River	15.82	22	P	Pn	00 05 36.9	+0.2
	baz=216						
C26K	Camden Bay	15.98	14	P	Pn	00 05 38.0	-0.8
	baz=203						
G31M	Satah River	16.00	32	P	Pn	00 05 39.3	+0.2
	baz=230,SNR=9.6						
F30M	Barrier River	16.02	29	P	Pn	00 05 39.6	+0.4
	baz=226,SNR=8.9						
E29M	Blow River	16.03	25	P	Pn	00 05 40.3	+0.9
	baz=220,SNR=46						
TGTN	Hyland Airport	16.04	54	P	Pn	00 05 40.1	+0.6
	baz=257,SNR=12						
D27M	Malcolm River	16.05	20	P	Pn	00 05 39.4	-0.3
	baz=212						
F31M	Tsiigehtchic	16.49	31	P	Pn	00 05 45.0	-0.2
	baz=230,SNR=12						
D28M	Stokes Point	16.57	22	P	P	00 05 47.9	-0.9
	baz=217,SNR=18						
BBB	Bella Bella	16.78	87	Pn	P	00 05 50.4	-0.8
	comp=Z,0.1nm,0.3s,baz=286,slow=17,SNR=3.6						
BBB				LR	LR	00 10 14.7	
	comp=Z,470nm,20.0s,baz=294,slow=30						
	comp=Z,29nm,1.1s						
INK	Inuvik	17.12	29		Pn	00 05 52.3	-0.8
INK	Inuvik	17.12	29	P	Pn	00 05 53.1	-0.1
	baz=228						
INK	Inuvik	17.12	29	P	Pn	00 05 52.8	-0.4
	comp=Z,0.7nm,0.3s,baz=226,slow=16,SNR=22						
INK				LR	LR	00 12 53.5	
	comp=Z,748nm,19.3s,baz=198,slow=38						
	comp=Z,13nm,0.8s						
KOTAN	Kotaneelee Air	17.90	60	P	P	00 06 04.1	+0.5
	baz=266,SNR=12						
WRGLY	Wrigley	18.59	50	P	Pn	00 06 13.0	+1.7
	baz=257						
C36M	Paulatuk	20.53	32	P	P	00 06 31.3	-0.9
C36M				IAmb	IAmb	00 06 54.9	
	comp=Z,63nm,1.1s						
C36M	Paulatuk	20.53	32	P	P	00 06 32.2	0.0
	baz=240						
B04A	Port Angeles	21.24	95	P	P	00 06 40.5	+0.4
B04A				IAmb	IAmb	00 06 52.6	
	comp=Z,45nm,1.1s						
A36M	Sachs Harbour	21.63	26	P	P	00 06 44.3	+0.2
A36M	Sachs Harbour	21.63	26	P	P	00 06 44.6	+0.5
	baz=233						
GNW	Green Mountain	21.89	96	P	P	00 06 46.6	-0.4
B06A	Marblemount	22.17	92	P	P	00 06 49.5	-0.6
B06A				IAmb	IAmb	00 07 05.7	
	comp=Z,56nm,1.6s						
BRLDA	Berland Lookou	22.30	76	P	P	00 06 51.2	-0.3
BRLDA				IAmb	IAmb	00 07 10.6	
	comp=Z,47nm,1.2s						
YKA	Yellowknife Ar	22.54	53	P	P	00 06 53.8	-0.1
YKA	Yellowknife Ar	22.54	53	P	P	00 06 54.4	+0.5
	comp=Z,4.2nm,1.0s,baz=268,slow=10,SNR=16						
	comp=Z,4.2nm,1.0s						
G05A	Wamic	24.05	99	P	P	00 07 09.4	+0.1
HAWA	Hanford	24.42	95	P	P	00 07 12.7	+0.1
NEW	Newport	24.83	89	P	P	00 07 16.2	-0.1
NEW	Newport	24.83	89	P	P	00 07 17.4	+1.1
	baz=300,SNR=9.2						
NEW	Newport	24.83	89	P	P	00 07 17.6	+1.3
	comp=Z,7.8nm,1.0s,baz=292,slow=8.1,SNR=8.2						
NEW				LR	LR	00 15 17.0	
	comp=Z,254nm,21.5s,baz=296,slow=32						
	comp=Z,7.8nm,1.0s						
EDM	Edmonton	24.86	76	P	P	00 07 16.9	+0.3
EDM				IAmb	IAmb	00 07 19.5	
	comp=Z,46nm,1.3s						
YBH	Yreka Blue Hor	25.48	107	P	P	00 07 23.1	+0.7
YBH				IAmb	IAmb	00 07 28.3	
	comp=Z,28nm,1.4s						
YBH	Yreka Blue Hor	25.48	107	LR	LR	00 15 01.5	
	comp=Z,828nm,20.0s,baz=312,slow=31						
K05A	Summer Lake	25.84	103	P	P	00 07 25.8	+0.1
K05A				IAmb	IAmb	00 07 46.3	
	comp=Z,84nm,1.8s						
BMO	Blue Mountains	26.58	96	P	P	00 07 33.1	+0.8
PETK	Petropavlovsk-	26.89	286	P	P	00 07 35.3	+0.3
PETK	Petropavlovsk-	26.89	286	P	P	00 07 34.3	-0.7
	comp=Z,11nm,1.0s,baz=85,slow=16,SNR=4.9						
PETK				LR	LR	00 17 44.8	
	comp=Z,263nm,21.0s,baz=74,slow=35						
	comp=Z,11nm,1.0s						
SEY	Seymchan	27.18	308	LR	LR	00 19 08.7	
	comp=Z,944nm,19.3s,baz=84,slow=38						
WVOR	Wild Horse Val	27.30	101	P	P	00 07 38.2	-0.7
OVMT	Ovando	27.83	88	P	P	00 07 43.3	-0.3
MA2	Magadan	28.55	302	LR	LR	00 21 17.1	
	comp=Z,520nm,18.5s,baz=96,slow=41						
HLID	Hailey	29.02	95	P	P	00 07 54.6	+0.4
HLID	Hailey	29.02	95	P	P	00 07 55.8	+1.6
	baz=307						
BOZ	Bozeman (W)	29.43	90	P	P	00 07 57.6	-0.2
BOZ	Bozeman (W)	29.43	90	P	P	00 07 59.3	+1.5
	baz=304						
NVAR	Mina Array Bea	30.20	107	P	P	00 08 05.1	+0.3
NVAR	Mina Array Bea	30.20	107	P	P	00 08 06.2	+1.4
	comp=Z,1.4nm,0.7s,baz=295,slow=9.2,SNR=13						
NVAR				LR	LR	00 18 05.8	
	comp=Z,652nm,19.1s,baz=318,slow=32						
	comp=Z,1.4nm,0.7s						
NV11	Mina Array Sit	30.28	107	P	P	00 08 05.1	-0.3
ELK	Elko	30.33	101	LR	LR	00 18 44.4	
	comp=Z,366nm,18.2s,baz=330,slow=33						
RES	Resolute Bay	30.66	27	P	P	00 08 09.8	+1.6
	comp=Z,2.4nm,0.8s,baz=249,slow=10,SNR=6.1						
	comp=Z,2.4nm,0.8s						
TPH	Tonopah	31.05	106	P	P	00 08 12.7	+0.5
BGU	Big Grassy Mou	31.48	98	P	P	00 08 16.6	+0.6
BGU				IAmb	IAmb	00 08 19.4	
	comp=Z,17nm,1.4s						
GRAC	Grapevine Rang	31.74	108	P	P	00 08 18.1	-0.1
	baz=316						
CWC	Cottonwood Cre	31.76	110	P	P	00 08 19.9	+1.5
	baz=317						
R11B	Troy Canyon, C	31.77	104	P	P	00 08 18.0	-0.6
R11B	Troy Canyon, C	31.77	104	P	P	00 08 19.8	+1.3
	baz=314,SNR=7.0						
HWUT	Hardware Ranch	31.88	96	P	P	00 08 18.4	-1.2
DUG	Dugway, Tooele	32.08	99	P	P	00 08 22.8	+1.5
	baz=312,SNR=15						
ISA	Isabella, Lake	32.12	111	P	P	00 08 23.1	+1.6
	baz=318						
DGMT	Dagmar	32.16	79	P	P	00 08 20.6	-1.2
	baz=301						
WCT	Wildcat Mounta	32.30	107	P	P	00 08 23.7	+0.6
WCT				IAmb	IAmb	00 08 27.5	
	comp=Z,22nm,1.7s						
MPMC	Manual Prospec	32.36	109	P	P	00 08 25.5	+1.7
	baz=317,SNR=6.7						
TPNV	Topopah Spring	32.39	107	P	P	00 08 24.2	+0.1
TPNV	Topopah Spring	32.39	107	P	P	00 08 25.5	+1.5
	baz=316,SNR=8.6						
FURC	Furnace Creek,	32.40	108	P	P	00 08 25.6	+1.7
	baz=317						
PSUT	Pine Spring	32.62	102	P	P	00 08 26.1	+0.1
QSM	Queen of Sheba	32.77	109	P	P	00 08 26.8	-0.4
QSM				IAmb	IAmb	00 08 30.6	
	comp=Z,22nm,1.3s						
EUNU	Eureka	33.08	17	P	P	00 08 31.2	+1.7
EUNU				IAmb	IAmb	00 08 32.7	
	comp=Z,14nm,1.2s						
CCUT	Cedar City	33.58	103	P	P	00 08 34.2	-0.3
CCUT				IAmb	IAmb	00 08 37.9	
	comp=Z,18nm,1.5s						
BFSC	Mount Baldy Ra	33.63	112	P	P	00 08 35.9	+1.1
	baz=319						
GMRC	Granite Mounta	34.30	109	P	P	00 08 42.0	+1.4
	baz=318,SNR=5.8						
MURC	Murrieta	34.36	112	P	P	00 08 44.1	+3.0
	baz=320						
BELC	Belle Mtn. Jos	34.71	110	P	P	00 08 44.7	+0.5
	baz=319						
O20A	White River Ci	34.75	95	P	P	00 08 45.9	+1.3
	baz=311,SNR=9.9						
PFO	Pinyon Flats O	34.75	111	P	P	00 08 45.0	+0.5
PFO				IAmb	IAmb	00 08 47.5	
	comp=Z,16nm,1.3s						
PFO	Pinyon Flats O	34.75	111	P	P	00 08 45.1	+0.5
	baz=320						
PFO	Pinyon Flats O	34.75	111	LR	LR	00 20 26.9	
	comp=Z,586nm,18.8s,baz=272,slow=32						
TPFO	Pinon Flats	34.76	111	P	P	00 08 46.5	+1.8
	baz=320						
TIXI	Tiksi	34.87	328	P	P	00 08 45.1	+0.1
TIXI				IAmb	IAmb	00 08 53.2	
	comp=Z,11nm,0.9s						
IRM	Iron Mountain	35.05	109	P	P	00 08 48.2	+1.1
	baz=319,SNR=13						
MDND	Maddock	35.10	77	P	P	00 08 46.1	-1.1
	baz=303						
BC3	Big Chuckawall	35.26	110	P	P	00 08 49.2	+0.2
	baz=319						
MONP2	Monument Peak	35.32	112	P	P	00 08 51.7	+2.1
	baz=320						
PDMCI	Parker Dam,Lak	35.50	108	P	P	00 08 51.6	+0.8
	baz=318						
SWSC	Sam W. Stewart	35.62	111	P	P	00 08 53.5	+1.7
	baz=320						
IKP	In-Ko-Pah, Jac	35.67	112	P	P	00 08 52.4	-0.1
	baz=320						
BLYC	Blythe	35.70	109	P	P	00 08 53.6	+1.1
BLYC				IAmb	IAmb	00 08 56.6	
	comp=Z,33nm,1.3s						
ULM	Lac du Bonnet	35.90	72	P	P	00 08 53.2	-0.9
ULM	Lac du Bonnet	35.90	72	P	P	00 08 54.1	0.0
	comp=Z,3.4nm,0.8s,baz=284,slow=11,SNR=4.7						
ULM				LR	LR	00 23 34.6	
	comp=Z,190nm,18.1s,baz=306,slow=36						
	comp=Z,3.4nm,0.8s						
GLA	Glamis	36.06	110	P	P	00 08 57.0	+1.3
	baz=320						
WUAZ	Wupatki	36.15	104	P	P	00 08 57.3	+0.6
	baz=316						
MVCO	Mesa Verde	36.58	99	P	P	00 09 01.2	+0.8
	baz=314						
X16A	Lo Mia Camp, P	36.91	105	P	P	00 09 03.4	+0.2
S22A	4UR Ranch, Cre	37.17	97	P	P	00 09 05.6	+0.2
S22A	4UR Ranch, Cre	37.17	97	P	P	00 09 06.8	+1.3
	baz=313						
YAK	Yakutsk	37.54	312	P	P	00 09 06.7	-1.1
YAK				IAmb	IAmb	00 09 15.4	
	comp=Z,27nm,0.7s						
SDCO	Great Sand Dun	37.94	95	P	P	00 09 12.8	+0.9
SDCO	Great Sand Dun	37.94	95	P	P	00 09 12.9	+1.0
	baz=313,SNR=11						
PIX	Pinacate	37.95	110	P	P	00 09 12.7	+1.0
214A	Organ Pipe Nat	38.00	109	P	P	00 09 13.3	+1.1
	baz=320,SNR=8.8						
TUC	Tucson	38.85	106	P	P	00 09 19.7	+0.4
TUC	Tucson	38.85	106	P	P	00 09 20.4	+1.0
	baz=319						
T25A	Trinidad	38.98	95	P	P	00 09 21.1	+0.4
T25A				IAmb	IAmb	00 09 24.0	
	comp=Z,31nm,1.3s						
T25A	Trinidad	38.98	95	P	P	00 09 21.5	+0.9
	baz=314,SNR=8.3						
ECSD	EROS Data Cent	39.19	81		P	00 09 21.8	-0.2
ECSD	EROS Data Cent	39.19	81	P	P	00 09 22.5	+0.5
	baz=308						
ANMO	Albuquerque	39.35	99	P	P	00 09 23.5	-0.2
ANMO	Albuquerque	39.35	99	P	P	00 09 25.1	+1.3
	baz=316						
ANMO	Albuquerque	39.35	99	LR	LR	00 24 33.5	
	comp=Z,295nm,18.1s,baz=39,slow=34						
EYMN	Ely	39.57	72	P	P	00 09 24.9	-0.3
	baz=305						
NEEM	North Greenlan	40.29	19	*i* P	P	00 09 30.0	-1.2
NEEM				IAmb	IAmb	00 09 53.5	
	comp=Z,5.5nm,1.2s						
121A	Cookes Peak, D	40.36	103	P	P	00 09 34.1	+2.0
	baz=318,SNR=5.8						
N35A	Tabor	41.56	84	P	P	00 09 42.2	+0.5
N35A				IAmb	IAmb	00 09 45.0	
	comp=Z,57nm,1.2s						
NOR	Nord	42.12	8	*i* P	P	00 09 45.1	-0.6
NOR				IAmb	IAmb	00 09 48.5	
	comp=Z,4.0nm,2.3s						
AMTX	Amarillo	42.14	95	P	P	00 09 47.2	+0.6
AMTX				IAmb	IAmb	00 09 49.4	
	comp=Z,35nm,1.4s						
AMTX	Amarillo	42.14	95	P	P	00 09 47.8	+1.2
	baz=315						
FRB	Frobisher Bay	42.15	41	LR	LR	00 27 55.4	
	comp=Z,311nm,18.9s,baz=308,slow=37						
MSTX	Muleshoe	42.16	97	P	P	00 09 47.5	+0.7
	baz=316						
MNTX	Cornudas Mount	42.34	102	P	P	00 09 48.6	+0.5
MNTX	Cornudas Mount	42.34	102	P	P	00 09 49.4	+1.3
	baz=318,SNR=8.2						
KS20	Mayfield South	42.89	89	P	P	00 09 53.6	+1.0
KS20				IAmb	IAmb	00 09 54.8	
	comp=Z,39nm,1.5s						
KLR	Kul'dur	42.97	294	LR	LR	00 29 56.5	
	comp=Z,256nm,18.3s,baz=56,slow=39						
KAN13	South Haven SW	43.08	89	P	P	00 09 55.1	+1.0
KAN13				IAmb	IAmb	00 09 56.2	
	comp=Z,25nm,1.2s						
JFWS	Jewell Farm	43.32	78	P	P	00 09 55.6	-0.4
	baz=309						
T35A	Sooner Cattle	43.70	89	P	P	00 09 58.7	-0.5
T35A				IAmb	IAmb	00 10 01.3	
	comp=Z,30nm,1.4s						
WMOK	Wichita Mounta	43.92	93		P	00 10 00.8	-0.2
WMOK				IAmb	IAmb	00 10 03.5	
	comp=Z,21nm,1.3s						
WMOK	Wichita Mounta	43.92	93	P	P	00 10 01.6	+0.7
	baz=315,SNR=5.6						
HEH	HeiHe	44.63	297	*e* P	P	00 10 05.6	-0.8
HEH

comp=Z,24nm,1.5s
SUMG Summit 45.85 22 *i* P **P 00 10 16.1 -0.1**
SUMG IAmb IAmb 00 11 00.1
comp=Z,4.8nm,1.1s
USRK Ussuriysk Ar. 45.95 288 P **P 00 10 17.4 +0.5**
comp=Z,1.6nm,0.6s,baz=55,slow=12,SNR=2.2
USRK LR LR 00 31 27.0
comp=Z,143nm,19.4s,baz=49,slow=38
comp=Z,1.6nm,0.6s
DAG Danmarks Havn 45.96 13 *i* P **P 00 10 17.0 +0.4**
DAG IAmb IAmb 00 10 17.5
comp=Z,8.5nm,0.8s
CCM Cathedral Cave 45.97 83 P **P 00 10 17.0 -0.1**
baz=313
H11S1 WAKE ISLAND Hy 46.00 233 T T 00 59 55.7
baz=28,slow=76,SNR=298
H11S2 WAKE ISLAND Hy 46.02 233 T T 00 59 56.2
baz=28,slow=76,SNR=267
H11S3 WAKE ISLAND Hy 46.02 233 T T 00 59 58.6
baz=28,slow=76,SNR=234
BRDY Brady 46.29 96 P **P 00 10 19.2 -0.6**
BRDY IAmb IAmb 00 10 21.8
comp=Z,11nm,1.2s
KBS Kingsbay 46.34 3 *i* P **P 00 10 18.9 -0.7**
JCT Junction City 46.43 98 P **P 00 10 21.0 +0.1**
JCT Junction City 46.43 98 P **P 00 10 22.5 +1.6**
baz=318,SNR=7.5
FCAR Ozark Folk Cen 46.96 86 P **P 00 10 24.1 -0.9**
FCAR IAmb IAmb 00 10 25.6
comp=Z,17nm,1.3s
MDJ Mudanjiang 46.99 290 P **P 00 10 23.3 -1.8**
MDJ pmax pmax
comp=Z,14nm,2.3s
MDJ pmax pmax
comp=Z,200nm,3.6s
MIAR Mount Ida 47.07 89 P **P 00 10 26.0 +0.2**
MIAR Mount Ida 47.07 89 P **P 00 10 27.1 +1.3**
baz=315,SNR=9.4
SPB4 Spitsbergen Ar 47.20 2 P **P 00 10 26.6 +0.2**
SPITS Spitsbergen Ar 47.20 2 P **P 00 10 25.6 -0.8**
comp=Z,4.3nm,0.8s,baz=32,slow=4.9,SNR=4.2
SPITS LR LR 00 30 09.8
comp=Z,197nm,20.7s,baz=310,slow=36
comp=Z,4.3nm,0.8s
MJAR Matsushiro Arr 47.55 276 P **P 00 10 30.8 +1.2**
comp=Z,1.2nm,0.4s,baz=32,slow=12,SNR=4.3
MJAR LR LR 00 31 29.2
comp=Z,93nm,20.6s,baz=50,slow=37
comp=Z,1.2nm,0.4s
O48B Farmland 47.94 77 P **P 00 10 32.1 -0.5**
baz=312
SCHQ Schefferville 47.97 51 P **P 00 10 32.1 -0.5**
comp=Z,3.0nm,0.6s,baz=309,slow=13,SNR=5.9
SCHQ LR LR 00 31 37.6
comp=Z,316nm,18.3s,baz=286,slow=37
comp=Z,3.0nm,0.6s
ICESG Greenland Ices 48.05 26 *i* P **P 00 10 32.3 -1.1**
ICESG IAmb IAmb 00 10 55.1
comp=Z,9.2nm,1.2s
USIN University of 48.08 81 P **P 00 10 33.3 -0.3**
SADO Sadowa 48.27 68 LR LR 00 29 49.1
comp=Z,171nm,20.7s,baz=316,slow=35
833A Chaparral WMA, 48.28 99 P **P 00 10 36.6 +1.2**
baz=320
NATX Nacogdoches 48.45 92 P **P 00 10 37.5 +0.9**
baz=317
P49A Miami Univ. Ec 48.68 77 P **P 00 10 38.4 +0.1**
baz=313
HKT Hockley 49.11 95 P **P 00 10 41.4 -0.1**
HIA Hailar 49.14 300 P **P 00 10 41.5 -0.2**
HIA IAmb IAmb 00 10 44.9
comp=Z,20nm,1.3s
ACSO Alum Creek Sta 49.18 75 P **P 00 10 42.2 +0.1**
baz=313
WVT Waverly 49.26 83 P **P 00 10 42.5 -0.2**
WVT Waverly 49.26 83 P **P 00 10 43.4 +0.6**
baz=315
OXF Oxford 49.50 86 P **P 00 10 44.1 -0.5**
OXF Oxford 49.50 86 P **P 00 10 44.6 0.0**
baz=316,SNR=5.8
PLAL Pickwick Lake 49.94 84 P **P 00 10 47.6 -0.3**
P52A Corning 50.07 75 P **P 00 10 49.5 +0.6**
baz=313
CLTN Cedars of Leba 50.15 82 P **P 00 10 49.3 -0.3**
CLTN IAmb IAmb 00 10 51.7
comp=Z,28nm,1.1s
L56A Greenwood 50.88 70 P **P 00 10 54.6 -0.5**
SWET Sewanee 51.00 82 P **P 00 10 55.8 -0.3**
SWET IAmb IAmb 00 10 58.4
comp=Z,40nm,1.7s
BINY Binghamton 51.69 69 P **P 00 11 00.4 -0.7**
baz=313
SSPA Standing Stone 51.73 72 P **P 00 11 01.3 -0.1**
SSPA Standing Stone 51.73 72 P **P 00 11 01.5 +0.1**
baz=314
TKL Tuckaleechee C 51.92 80 P **P 00 11 02.4 -0.5**
TKL IAmb IAmb 00 11 05.8
comp=Z,15nm,1.2s
TKL Tuckaleechee C 51.92 80 LR LR 00 32 28.1
comp=Z,254nm,18.5s,baz=322,slow=35
JCJ Chichijima 52.15 264 LR LR 00 32 15.3
comp=Z,81nm,21.2s,baz=113,slow=35
BLA Blacksburg 52.72 76 P **P 00 11 08.5 -0.3**
baz=315
KSRS Korea Array 52.78 284 P **P 00 11 09.8 +0.7**
comp=Z,2.9nm,0.7s,baz=49,slow=5.5,SNR=5.5
KSRS LR LR 00 34 05.7
comp=Z,63nm,20.5s,baz=65,slow=36
comp=Z,2.9nm,0.7s
KSAR Wonju Array Be 52.81 284 P **P 00 11 09.0 -0.4**
BG3 Lake Jocassee 52.88 80 P **P 00 11 09.0 -0.9**
BG3 IAmb IAmb 00 11 11.3
comp=Z,18nm,1.3s
KMSC Kings Mountain 53.68 79 P **P 00 11 15.3 -0.6**
KMSC IAmb IAmb 00 11 16.9
comp=Z,20nm,1.3s
KMSC Kings Mountain 53.68 79 P **P 00 11 16.3 +0.4**
baz=316
GOGA Godfrey 53.71 82 P **P 00 11 18.4 +2.3**
baz=317
JNU Nakatsue 54.21 278 LR LR 00 35 26.9
comp=Z,105nm,20.7s,baz=50,slow=37
XLT XiLinHaoTe 54.63 298 *eP* **P 00 11 24.0 +1.2**
XLT pP pwP 00 11 28.8 -0.5
XLT sP sP 00 11 31.1 +5.4
XLT S **S 00 19 03.0 +0.6**
XLT pmax pmax
comp=Z,15nm,1.4s
XLT pmax pmax
comp=Z,150nm,3.5s
XLT LR LR
comp=Z,45nm,9.3s
XLT LR LR
comp=Z,250nm,11.9s
XLT LR LR
comp=Z,490nm,13.8s
KEV Kevo 55.74 359 P **P 00 11 30.1 -0.1**
NHSC New Hope 55.81 80 P **P 00 11 30.5 -0.8**
baz=317
BORG Borgarnes 55.83 22 LR LR 00 37 33.9
comp=Z,122nm,19.1s,baz=332,slow=38
ARCES ARCESS Array B 55.97 359 P **P 00 11 32.4 +0.4**
ARCES ARCESS Array B 55.97 359 P **P 00 11 32.2 +0.2**
comp=Z,6.6nm,1.1s,baz=324,slow=6.0,SNR=5.3
ARCES LR LR 00 38 23.0
comp=Z,95nm,18.2s,baz=344,slow=39
comp=Z,6.6nm,1.1s
ULN Ulaanbaatar 56.23 306 P **P 00 11 33.9 -0.4**
SONM Songino Array 56.56 307 P **P 00 11 37.7 +1.0**
SONM IAmb IAmb 00 11 38.7
comp=Z,19nm,1.6s
SONM Songino Array 56.56 307 P **P 00 11 36.9 +0.3**
comp=Z,3.8nm,0.9s,baz=51,slow=6.5,SNR=16
SONM LR LR 00 37 28.3
comp=Z,507nm,19.5s,baz=36,slow=38
comp=Z,3.8nm,0.9s
HHC Hu-ho-hao-te 59.15 298 *eP* **P 00 11 52.8 -2.1**
HHC pmax pmax
comp=Z,23nm,0.6s
HHC pmax pmax
comp=Z,270nm,5.9s
HHC LR LR
comp=Z,650nm,10.4s
HHC LR LR
comp=Z,840nm,12.7s
HHC LR LR
comp=Z,840nm,11.4s

HNS HongShan 60.06 293 ⇑P **P 00 12 02.1 +1.1**
HNS *eS* **S 00 20 11.9 -1.8**
HNS pmax pmax
comp=Z,15nm,1.0s
HNS LR LR
comp=Z,320nm,13.5s
HNS LR LR
comp=Z,290nm,12.6s
HNS LR LR
comp=Z,440nm,16.1s
BTO Baotou 60.11 299 *eP* **P 00 12 02.4 +0.9**
BTO pP **pwP 00 12 07.0 -1.1**
BTO sP **sP 00 12 09.6 +5.1**
BTO PP **PP 00 14 13.4 -0.3**
BTO S **S 00 20 16.2 +1.6**
BTO SS **SS 00 24 08.9 -1.8**
BTO pmax pmax
comp=Z,23nm,1.1s
BTO pmax pmax
comp=Z,240nm,7.1s
BTO LR LR
comp=Z,500nm,9.8s
BTO LR LR
comp=Z,650nm,10.1s
BTO LR LR
comp=Z,390nm,13.1s
ZAA0 Zalesovo Array 60.60 324 P **P 00 12 05.0 +0.5**
ZAA0 IAmb IAmb 00 12 14.5
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 60.60 324 P **P 00 12 05.0 +0.5**
ZALV Zalesovo Beam 60.60 324 P **P 00 12 04.6 +0.1**
comp=Z,1.7nm,0.4s,baz=24,slow=5.7,SNR=14
ZALV LR LR 00 41 09.5
comp=Z,762nm,18.3s,baz=39,slow=39
comp=Z,1.7nm,0.4s
GUMO Guam 61.34 252 LR LR 00 35 31.3
comp=Z,38nm,19.2s,baz=124,slow=33
NJ2 Nanjing 61.80 286 *eP* **P 00 12 11.1 -1.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,300nm,4.6s
LYN LuoYang 63.39 293 ⇓P **P 00 12 24.6 +1.0**
LYN pmax pmax
comp=Z,24nm,1.2s
KLMR Klimovskoe 64.04 352 *eP* **P 00 12 24.4 -3.0**
KLMR AMP 00 12 28.7
comp=Z,21nm,1.3s
NB2 NORSAR Subarra 64.07 7 P **P 00 12 27.7 0.0**
comp=Z,1.8nm,0.7s,baz=352,slow=6.9
NOA NORSAR Array B 64.07 7 P **P 00 12 27.6 -0.1**
comp=Z,25nm,0.8s,baz=351,slow=6.6,SNR=7.5
NOA LR LR 00 41 58.6
comp=Z,60nm,19.3s,baz=345,slow=38
comp=Z,25nm,0.8s
FINES FINESS Array B 64.09 359 P **P 00 12 27.8 0.0**
FINES FINESS Array B 64.09 359 P **P 00 12 27.2 -0.5**
comp=Z,1.6nm,0.7s,baz=347,slow=7.8,SNR=8.3
FINES LR LR 00 43 21.4
comp=Z,122nm,18.0s,baz=20,slow=39
comp=Z,1.6nm,0.7s
MTO3 Montecristo 64.94 101 P **P 00 12 33.9 -0.3**
MTO3 IAmb IAmb 00 12 35.4
comp=Z,13nm,1.4s
KIRV Kirov 65.13 346 LR LR 00 43 24.5
comp=Z,248nm,22.0s,baz=15,slow=38
HFS Hagfors 65.13 6 P **P 00 12 34.2 -0.3**
comp=Z,3.3nm,0.7s,baz=322,slow=4.2,SNR=7.8
HFS LR LR 00 42 47.6
comp=Z,45nm,18.4s,baz=354,slow=38
comp=Z,3.3nm,0.7s
KURK Kurchatov 65.39 325 P **P 00 12 36.6 +0.2**
KURBB Kurchatov Arra 65.50 325 P **P 00 12 37.3 +0.2**
comp=Z,4.3nm,0.8s,baz=33,slow=7.2,SNR=30
KURBB LR LR 00 44 09.4
comp=Z,347nm,21.9s,baz=160,slow=39
comp=Z,4.3nm,0.8s
ARU Arti 65.60 340 P **P 00 12 37.8 +0.1**
ARU Arti 65.60 340 LR LR 00 44 46.6
comp=Z,234nm,18.9s,baz=24,slow=39
XAN Xi'an 65.67 295 ⇑P **P 00 12 38.9 +0.4**
XAN pP pwP 00 12 46.5 +1.5
XAN pmax pmax
comp=Z,17nm,1.4s
XAN LR LR
comp=Z,480nm,16.1s
XAN LR LR
comp=Z,500nm,18.9s
XAN LR LR
comp=Z,400nm,17.5s
BRVK Borovoye 65.88 331 P **P 00 12 39.8 +0.3**
BRVK IAmb IAmb 00 12 48.7
comp=Z,11nm,0.8s
BVAR Borovoye Array 65.88 331 P **P 00 12 39.3 -0.3**
comp=Z,10nm,0.6s,baz=35,slow=6.5,SNR=56
BVAR LR LR 00 45 16.4
comp=Z,222nm,18.4s,baz=18,slow=40
comp=Z,10nm,0.6s
GTA Gaotai 66.05 305 *eP* **P 00 12 41.1 +0.1**
GTA sP pwP 00 12 47.4 -0.2
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA LR LR
comp=Z,250nm,14.2s
GTA LR LR
comp=Z,360nm,14.2s
GTA LR LR
comp=Z,420nm,18.5s
LZH Lanzhou 66.69 300 *eP* **P 00 12 44.6 -0.6**
LZH sP pwP 00 13 00.3 +8.6
LZH S **S 00 21 38.7 +1.9**
LZH pmax pmax
comp=Z,41nm,1.1s
LZH LR LR
comp=Z,560nm,12.4s
LZH LR LR
comp=Z,320nm,13.1s
LZH LR LR
comp=Z,560nm,13.6s
MK31 Makanchi Array 67.45 321 P **P 00 12 49.4 -0.3**
MK31 IAmb IAmb 00 13 25.3
comp=Z,6.9nm,1.1s
MKAR Makanchi Array 67.45 321 P **P 00 12 49.5 -0.2**
MKAR Makanchi Array 67.45 321 P **P 00 12 49.2 -0.5**
comp=Z,1.7nm,0.6s,baz=43,slow=5.9,SNR=12
MKAR LR LR 00 44 56.4
comp=Z,462nm,19.5s,baz=29,slow=38
comp=Z,1.7nm,0.6s
WMQ Urumqi 67.85 316 *eP* **P 00 12 54.5 +2.2**
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ LR LR
comp=Z,410nm,17.7s
WMQ LR LR
comp=Z,230nm,14.3s
WMQ LR LR
comp=Z,310nm,20.1s
EKA Eskdalemuir Ar 68.00 16 P **P 00 12 53.1 +0.1**
comp=Z,4.3nm,0.9s,baz=326,slow=4.5,SNR=5.2
comp=Z,4.3nm,0.9s
MATN Matagalpa 68.08 99 P **P 00 12 52.9 -1.3**
ENH Enshi 68.29 292 **P 00 12 55.7 +0.4**
BOAB BOACO BROADBAND 68.62 99 P **P 00 12 56.8 -0.6**
PMOR Pomariorio Ree 69.86 172 *eT* T 01 29 08.5
comp=Z,17nm,0.2s
NACGM Naroch 70.64 358 *eP* P 00 13 01.4 -7.9
comp=Z,22nm,0.8s,baz=2.2
MNK Minsk 71.02 358 *i* P **P 00 13 11.7 +0.1**
comp=E,6.0nm,0.9s
MNK *i* P **P 00 13 11.7 +0.1**
comp=N,10.0nm,1.0s
MNK *i* P **P 00 13 11.7 +0.1**
comp=Z,6.0nm,0.8s,baz=183
MNK *i* PcP **PcP 00 13 31.7 -0.2**
MNK *i* PP **PP 00 15 49.0 +0.7**
MNK *i* PPP PPP 00 17 31.9
MNK *i* S **S 00 22 28.7 +1.5**
MNK *i* ScS **ScS 00 23 15.8 +0.5**
MNK *i* SS **SS 00 27 02.8 +3.9**
MNK *i* SSS SSS 00 30 21.8
MNK *i* LQ LQ 00 39 59.0
MNK *i* LR LR 00 44 55.3
MNK *i* LRM MLR 00 46 31.7
comp=Z,99nm,17.8s
MNK *i* LRM MLR 00 46 43.6
comp=N,105nm,18.6s
MNK *i* LRM MLR 00 47 08.2

comp=E,16nm,15.3s
AKTO Aktyubinsk 71.34 338 LR LR 00 46 56.1
comp=E,230nm,20.4s,baz=46,slow=38
BELG Belogornoye 71.38 345 LR LR 00 48 00.0
comp=E,283nm,19.8s,baz=17,slow=39
ABKAR Akbulak array 72.01 336 P **P 00 13 17.7 +0.1**
ABKAR IAmb IAmb 00 13 27.2
comp=Z,8.7nm,0.9s
ABKAR Akbulak array 72.01 336 P **P 00 13 17.7 +0.1**
PPT Papeete 72.28 174 LR LR 00 37 43.6
comp=Z,178nm,19.8s,baz=340,slow=30
PPT2 Papeete2 72.30 174 *e*LR LR 00 35 04.6
comp=Z,143nm,21.5s
PRZ Przheval'sk 72.57 321 P **P 00 13 22.9 +1.5**
PRZ IAmb IAmb 00 13 32.4
comp=Z,5.2nm,0.6s
GYA Guiyang 72.82 291 ⇑*i* P **P 00 13 24.3 +1.3**
GYA pmax pmax
comp=Z,24nm,1.7s
BOOM Boomskoye usch 73.45 323 P **P 00 13 27.2 +0.6**
BOOM IAmb IAmb 00 13 37.5
comp=Z,7.2nm,1.0s
AAK Ala-Archa 73.82 324 P **P 00 13 29.9 +1.1**
AAK IAmb IAmb 00 13 38.6
comp=Z,11nm,1.1s
AAK Ala-Archa 73.82 324 LR LR 00 49 05.8
comp=Z,736nm,18.8s,baz=26,slow=38
CLL Collm 73.87 7 *eP* **P 00 13 28.0 -0.7**
NRN Naryn 74.36 322 P **P 00 13 33.3 +1.2**
NRN IAmb IAmb 00 13 42.9
comp=Z,11nm,1.2s
BRG Berggiesshubel 74.37 7 *eP* **P 00 13 33.1 +1.5**
BRG Amp 00 13 35.0
comp=Z,12nm,1.5s
BRG Berggiesshubel 74.37 7 P P 00 13 46.3 +15
BRG Amp 00 13 47.9
comp=Z,12nm,1.4s
KSP Ksiaz 74.54 5 *eP* **P 00 13 33.7 +1.1**
HSKC Hora Svate Kat 74.60 7 *eP* **P 00 13 34.3 +1.3**
RICC Richard 74.71 7 *eP* P 00 13 41.5 +7.9
RICC *ex* x 00 13 46.7
KK31 Karatay Array 74.73 327 P **P 00 13 34.0 +0.7**
KK31 IAmb IAmb 00 13 43.7
comp=Z,9.8nm,1.1s
KKAR Karatay Array 74.73 327 P **P 00 13 34.5 +0.6**
AKASG Malin Array Be 74.78 357 P **P 00 13 33.5 -0.5**
comp=Z,1.2nm,0.5s,baz=356,slow=4.9,SNR=9.5
comp=Z,1.2nm,0.5s
NKC Novy Kostel 74.90 8 *e*PCP **PcP 00 13 45.2 -3.4**
DPC Dobruska-Polom 75.03 5 *eP* **P 00 13 36.4 +0.9**
DPC *es*P **pwP 00 13 42.8 +0.5**
OJC Ojcow 75.30 3 *eP* **P 00 13 37.8 +0.8**
PZH PanZhiHua 75.40 295 P **P 00 13 37.2 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.5s
MORC Moravsky Berou 75.66 4 *eP* **P 00 13 40.1 +0.9**
RAR Rarotonga 75.76 184 LR LR 00 40 03.3
comp=Z,263nm,19.0s,baz=60,slow=30
ZVC Zvikov 75.81 7 *eP* **P 00 13 40.8 +0.8**
ZVC *ex* x 00 13 49.2
KSH Kashi 76.05 321 P **P 00 13 45.3 +3.6**
KSH PcP **PcP 00 13 53.5 -0.4**
KSH PP **PP 00 16 32.6 +0.9**
KSH pmax pmax
comp=Z,12nm,1.5s
KSH LR LR
comp=Z,570nm,18.1s
KSH LR LR
comp=Z,340nm,16.4s
KSH LR LR
comp=Z,1μm,20.1s
KHC Kasperske Hory 76.08 7 *eP* **P 00 13 41.1 -0.5**
KHC *e*PCP **PcP 00 13 53.9 +0.1**
VRAC Vranov 76.08 5 *eP* **P 00 13 42.5 +1.0**
KRUC Moravsky 76.32 5 *eP* **P 00 13 43.9 +1.0**
GERES GERESS Array B 76.37 7 P **P 00 13 43.2 -0.1**
comp=Z,0.8nm,0.7s,baz=15,slow=4.3,SNR=4.0
comp=Z,0.8nm,0.7s
CKRC Cesky Krumlov 76.44 7 *eP* **P 00 13 43.8 +0.2**
CKRC *ex* x 00 13 56.7
JAVC Velka Javorina 76.58 4 *eP* **P 00 13 45.1 +0.7**
VYHS Vyhne 76.99 3 *eP* **P 00 13 48.4 +1.7**
JAY Jayapura 77.00 246 LR LR 00 43 13.9
comp=Z,79nm,20.9s,baz=278,slow=32
MODS Modra-Piesok 77.05 5 *eP* **P 00 13 49.1 +2.1**
BTK Batken 77.37 325 P **P 00 13 49.9 +0.8**
BTK IAmb IAmb 00 13 51.0
comp=Z,22nm,1.6s
MOA Molln 77.40 7 *i* pP **P 00 13 51.4 +2.4**
comp=Z,7.4nm,1.7s
CONA Conrad Observa 77.42 6 *i* pP **P 00 13 50.6 +1.4**
comp=Z,8.9nm,1.7s
RETA Reutte 77.48 9 *i* pP **P 00 13 52.0 +2.5**
comp=Z,7.1nm,1.4s
BIOA Bad Ischl, Aus 77.52 7 *i* pP **P 00 13 52.1 +2.5**
comp=Z,7.7nm,1.5s
DAV Davao City (W) 77.56 265 LR LR 00 44 39.8
comp=Z,107nm,20.1s,baz=7.5,slow=33
DAVA Damuels 77.60 10 *i* pP **P 00 13 51.6 +1.3**
comp=Z,8.6nm,1.4s
MOTA Moosalm 77.66 9 *i* pP **P 00 13 51.8 +1.1**
comp=Z,11nm,1.3s
RONA Rosalia, Austr 77.67 5 *i* pP **P 00 13 54.2 +3.6**
comp=Z,4.6nm,1.6s
WATA Walderalm 77.71 9 *i* pP **P 00 13 52.8 +1.9**
comp=Z,12nm,1.3s
LESA Schwarzleotal 77.71 8 *i* pP **P 00 13 52.0 +1.2**
comp=Z,8.2nm,1.6s
WTTA Wattenberg 77.78 9 *i* pP **P 00 13 52.8 +1.5**
comp=Z,8.5nm,1.1s
SQTA Sankt Quirin 77.79 9 *i* pP **P 00 13 53.3 +1.9**
FETA Feichten 77.94 9 *i* pP **P 00 13 53.6 +1.4**
comp=Z,6.4nm,1.3s
LSA Lhasa 78.08 305 P **P 00 13 54.6 +1.0**
LSA IAmb IAmb 00 14 10.4
comp=Z,14nm,1.4s
ARSA Arzberg 78.08 6 *i* pP **P 00 13 54.1 +1.3**
comp=Z,7.6nm,1.9s
DAVOX Davos/Dischmat 78.10 10 LR LR 00 51 29.0
comp=Z,38nm,19.0s,baz=54,slow=38
KBA Koelnbreinsper 78.11 7 *i* pP **P 00 13 54.9 +1.8**
comp=Z,17nm,1.6s
FUORN Ofenpass-Fuorn 78.30 10 P **P 00 13 55.2 +0.9**
FUORN IAmb IAmb 00 14 20.9
comp=Z,13nm,1.5s
ABTA Abfaltersbach 78.37 8 *e*pP **P 00 13 55.9 +1.4**
comp=Z,5.1nm,1.2s
SLVN Son La 78.42 290 P **P 00 13 55.2 +0.1**
SLVN IAmb IAmb 00 14 11.7
comp=Z,15nm,1.2s
SOKA Soboth 78.62 6 *e*pP **P 00 13 57.2 +1.4**
comp=Z,11nm,1.3s
PRED Cave del Predi 78.75 7 P **P 00 13 56.8 +0.2**
KVAR Kislovodsk Arr 80.34 346 LR LR 00 52 54.2
comp=Z,88nm,21.8s,baz=279,slow=38
KIV Kislovodsk 80.34 346 P **P 00 14 05.1 -0.2**
KBZ Khabaz 80.53 346 P **P 00 14 07.1 +0.9**
comp=Z,1.0nm,0.8s,baz=11,slow=10,SNR=1.7
KBZ LR LR 00 52 55.4
comp=Z,147nm,21.9s,baz=13,slow=38
comp=Z,1.0nm,0.8s
SHL Shillong 81.18 302 P **P 00 14 09.2 -0.9**
SHL IAmb IAmb 00 14 28.4
comp=Z,9.5nm,0.4s
CRAI Chiangrai 81.23 293 P **P 00 14 10.4 +0.1**
CRAI IAmb IAmb 00 14 13.5
comp=Z,24nm,1.6s
DIVS Divibare 81.42 3 P **P 00 14 11.8 +0.7**
BAUV El Baul 81.61 86 P **P 00 14 11.2 -1.2**
BAUV IAmb IAmb 00 14 12.5
comp=Z,22nm,1.1s
MURB Monte Urbino 81.83 8 P **P 00 14 13.4 +0.2**
MURB IAmb IAmb 00 14 33.6
comp=Z,24nm,1.4s
NIL Nilore 82.26 320 P **P 00 14 16.5 +0.9**
PCRV Puerto La Cruz 82.58 83 LR LR 00 50 17.8
comp=Z,90nm,20.6s,slow=35
ESBB Sonseca Array 82.91 21 P **P 00 14 19.8 +0.9**
ESBB IAmb IAmb 00 14 21.2
comp=Z,22nm,1.4s
ESDC Sonseca Array 82.91 21 P **P 00 14 19.7 +0.8**
ESDC IAmb IAmb 00 14 21.2
comp=Z,20nm,1.4s
ESDC Sonseca Array 82.91 21 P **P 00 14 19.4 +0.5**

comp=Z,5.3nm,0.9s,baz=340,slow=4.8,SNR=27
ESDC LR LR 00 55 30.2
comp=Z,37nm,18.6s,baz=345,slow=39
comp=Z,5.3nm,0.9s
PAB San Pablo 82.95 22 P **P 00 14 20.1 +0.9**
PAB IAmb IAmb 00 14 21.5
comp=Z,22nm,1.6s
DZM Mont Dzumac 83.02 215 *e*LR LR 00 40 03.2
comp=Z,138nm,25.1s
DZM Mont Dzumac 83.02 215 LR LR 00 48 43.6
comp=Z,63nm,18.1s,baz=98,slow=34
GEYT Alibeck 83.10 333 P **P 00 14 21.1 +1.2**
comp=Z,1.4nm,0.7s,baz=29,slow=3.3,SNR=4.6
GEYT LR LR 00 56 48.7
comp=Z,254nm,18.2s,baz=40,slow=40
comp=Z,1.4nm,0.7s
CHTO Chiang Mai 83.15 293 P **P 00 14 20.1 -0.3**
CM31 Chiang Mai Arr 83.44 293 P **P 00 14 22.0 +0.1**
CM31 IAmb IAmb 00 14 37.1
comp=Z,8.7nm,0.7s
CMAR Chiang Mai Arr 83.44 293 P **P 00 14 22.0 +0.1**
CMAR Chiang Mai Arr 83.44 293 P **P 00 14 21.8 -0.1**
comp=Z,4.2nm,0.7s,baz=14,slow=5.2,SNR=22
CMAR LR LR 00 54 45.9
comp=Z,88nm,19.6s,baz=40,slow=38
comp=Z,4.2nm,0.7s
GNI Garni 83.76 344 LR LR 00 56 57.3
comp=Z,210nm,20.1s,baz=27,slow=39
RDO Rodhopi 84.42 359 P **P 00 14 27.4 +0.9**
HRA Herat 85.27 329 P **P 00 14 31.9 +0.6**
HRA IAmb IAmb 00 14 34.2
comp=Z,19nm,1.8s
BRTR Keskin Array B 85.48 353 P **P 00 14 33.2 +1.1**
BRTR Keskin Array B 85.48 353 P **P 00 14 32.9 +0.7**
comp=Z,1.1nm,1.0s,baz=6.0,slow=1.7,SNR=6.5
BRTR LR LR 01 00 33.4
comp=Z,42nm,18.6s,baz=14,slow=41
comp=Z,1.1nm,1.0s
BNN Bunyan 86.17 351 P **P 00 14 37.1 +1.6**
KEST Kesra 88.97 12 LR LR 00 57 12.8
comp=Z,48nm,20.7s,baz=244,slow=37
MDT Midelt 89.35 24 LR LR 00 58 21.0
comp=Z,50nm,18.2s,baz=5.0,slow=38
RPN Rapa Nui 90.91 140 LR LR 00 45 44.4
comp=Z,89nm,21.9s,baz=36,slow=29
MMAI Mount Meron Ar 91.99 350 LR LR 01 04 02.4
comp=Z,29nm,18.1s,baz=353,slow=40
WSAR Wadi Sarin 96.79 328 LR LR 01 05 27.6
comp=Z,86nm,19.6s,baz=52,slow=39
H03N2 Juan Fernandez 109.83 120 T T 02 19 27.5
baz=310
H03N1 Juan Fernandez 109.84 120 T T 02 19 33.8
baz=310
H03N3 Juan Fernandez 109.84 120 T T 02 19 27.1
baz=310
QSPA South Pole Qui 144.58 180 PKP **PKPab 00 21 27.8 -0.2**
comp=Z,6.1nm,1.0s,baz=66,slow=2.0,SNR=8.3
SNAA Sanae 159.54 156 PKPab **PKPab 00 22 27.8 -1.9**
comp=Z,0.9nm,1.0s,baz=238,slow=13,SNR=2.2
ELIB Princess Elisa 162.78 179 *d*PKP **PKPab 00 22 41.4 -2.5**

BUL ***12*** *00:02:47.7±0.7,23°.91S×33°.37E, h10km, MD3.6*
PRE ***12*** *00:02:49.1±1.2,24°.59S×32°.48E, h10km, ML1.2*
EAF ***12*** *00:02:52.0,24°.10S×32°.87E, h10km, MC3.4*
ISC 12 00:02:50.1±2.6,24°.59S±0°.03×32°.45E±0°.09,h13km±14km, n21,σ1°47/38,1C-1D,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**1.39**	**277**	*i* P	**Pb**	**00 03 15.7**	**-0.3**
HOED				*e*S	**Sg**	**00 03 35.2**	**+0.2**
HOED				IAML		00 03 42.1	
comp=Z,3.6nm,0.4s							
MOPA	**Mopani**	**1.44**	**318**	*i* P	**Pn**	**00 03 14.8**	**-1.1**
MOPA				*i* S	**Sn**	**00 03 34.7**	**-0.1**
MOPA	**Mopani**	**1.44**	**318**	*i* P	**Pn**	**00 03 15.5**	**-0.5**
MOPA				*e*S	**Sg**	**00 03 35.9**	**-0.6**
MOPA	**Mopani**	**1.44**	**318**	*i* P	**Pn**	**00 03 14.8**	**-1.1**
baz=293							
MOPA				*i* S	**Sn**	**00 03 34.7**	**-0.1**
baz=293							
PILG	**Pilgrimsrest,**	**1.61**	**258**	*e*P	**Pn**	**00 03 18.9**	**+0.3**
PILG				*e*S	**Sb**	**00 03 40.8**	**+0.4**
PILG				IAML		00 03 42.4	
comp=Z,4.0nm,0.3s							
MMAL	**MMAL**	**1.83**	**218**	*e*P	**Pn**	**00 03 21.9**	**+0.5**
MMAL				*e*S	**Sb**	**00 03 46.0**	**-0.6**
MMAL				IAML		00 03 48.4	
comp=Z,7.2nm,0.2s							
DULL	**Dullstroom, Mp**	**2.20**	**249**	*e*P	**Pn**	**00 03 27.4**	**+0.8**
DULL				*e*S	**Sn**	**00 03 54.6**	**+0.8**
DULL				IAML		00 04 08.9	
comp=Z,1.3nm,0.3s							
CRLN	**Carolina, Mapu**	**2.60**	**237**	*e*P	**Pn**	**00 03 32.3**	**+0.2**
CRLN				*e*S	**Sn**	**00 04 05.0**	**+1.4**
CRLN				IAML		00 04 22.0	
comp=Z,0.8nm,0.2s							
MPHEP	**Siloam, Limpop**	**2.67**	**308**	*e*P	**Pn**	**00 03 34.2**	**+1.2**
MPHEP				*e*S	**Sn**	**00 04 04.8**	**-0.5**
MPHEP				IAML		00 04 14.8	
comp=Z,3.7nm,0.5s							
POGA	**Pongola**	**2.82**	**193**	*e*P	**Pn**	**00 03 36.0**	**+1.1**
POGA				*e*S	**Sn**	**00 04 09.0**	**+0.1**
POGA				IAML		00 04 11.5	
comp=Z,0.3nm,0.6s							
MUSN	**Musina, Limpop**	**3.30**	**314**	*i* P	**Pn**	**00 03 42.9**	**+1.3**
MUSN				*i* S	**Sn**	**00 04 24.5**	**+3.6**
MUSN	**Musina, Limpop**	**3.30**	**314**	*e*P	**Pn**	**00 03 42.4**	**+0.8**
MUSN				*e*S	**Sn**	**00 04 20.3**	**-0.6**
MUSN				IAML		00 04 40.5	
comp=Z,2.5nm,0.5s							
MUSN	**Musina, Limpop**	**3.30**	**314**	*i* P	**Pn**	**00 03 42.9**	**+1.3**
baz=302							
MUSN				*i* S	**Sn**	**00 04 24.5**	**+3.6**
baz=302							
NWCL	**Newcastle**	**3.88**	**216**	*e*P	**Pn**	**00 03 50.0**	**+0.3**
NWCL				*e*S	**Sn**	**00 04 34.2**	**-1.0**
NWCL				IAML		00 04 52.5	
comp=Z,1.1nm,0.4s							
LEPH	**Lephalale, Lim**	**4.31**	**279**	*e*P	**Pn**	**00 03 56.5**	**+1.0**
LEPH				*e*S	**Sn**	**00 04 45.2**	**-0.5**
LEPH				IAML		00 05 09.8	
comp=Z,1.1nm,0.4s							
MATP	**Matopo**	**5.52**	**318**	*i* P	**Pn**	**00 04 11.7**	**-0.6**
MATP				*i* S	**Sn**	**00 05 13.2**	**-2.5**
MATP	**Matopo**	**5.52**	**318**	*i* P	**Pn**	**00 04 11.7**	**-0.6**
baz=311							
MATP				*i* S	**Sn**	**00 05 13.2**	**-2.5**
baz=311							
LBTB	**Lobatse**	**6.24**	**265**	*i* P	Pb	00 04 32.2	-6.5
LBTB	**Lobatse**	**6.24**	**265**	*e*P	**Pn**	**00 04 23.9**	**+1.8**
LBTB				*e*S	**Sn**	**00 05 31.3**	**-2.0**
LBTB				IAML		00 06 10.9	
comp=Z,0.4nm,0.6s							
LBTB	**Lobatse**	**6.24**	**265**	*i* P	Pb	00 04 32.2	-6.5
baz=261							
KSTD	**Kokstad**	**6.61**	**204**	*e*P	**Pn**	**00 04 27.2**	**-0.1**
KSTD				*e*S	**Sn**	**00 05 39.6**	**-3.0**
KSTD				IAML		00 05 41.9	
comp=Z,0.7nm,0.3s							

NEIC ***12*** *00:44:14.9±1.6, 16°.30N±0°.04×97°.89W±0°.04, h20km±3km, mb4.8/137, Md4.4/20(MEX), Error ellipse: s-maj=7.1km s-min=4.3km az=46.0*
MEX ***12*** *00:44:16.7±0.9, 16°.25N×97°.94W, h19km±30km, MD4.8*
IDC ***12*** *00:44:18.4±2.9, 16°.36N×97°.63W, h45km±26km, mb4.1/16, mbtmp4.3/18, ML3.7/2, MS3.9/29, Error ellipse: s-maj=25.0km s-min=11.7km az=56.0*
ISC 12 00:44:14.9±0.8,16°.28N±0°.03×97°.92W±0°.02,h26km±5km, n594,σ1°57/620,mb4.8/85,MS3.8/27,1D,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**298**		**Pb**	**00 44 21.0**	**-0.1**
PNIG					**Sb**	**00 44 25.2**	**-0.1**
PNIG	**Pinotepa**	**0.23**	**298**	*i* P	**Pb**	**00 44 21.0**	**-0.1**
PNIG				*e*S	**Sb**	**00 44 25.2**	**-0.1**
YOIG	**Yosondua**	**0.67**	**32**		**Pb**	**00 44 27.8**	**-0.5**
YOIG					**Sn**	**00 44 38.0**	**-0.9**
YOIG	**Yosondua**	**0.67**	**32**	*i* P	**Pb**	**00 44 27.7**	**-0.5**
YOIG				*i* S	**Sn**	**00 44 37.4**	**-1.4**
PEIG	**Puerto Escondi**	**0.79**	**111**		**Pn**	**00 44 29.3**	**-1.1**
PEIG					**Sb**	**00 44 40.4**	**0.0**
PEIG	**Puerto Escondi**	**0.79**	**111**	*i* P	**Pn**	**00 44 29.3**	**-1.1**
PEIG				*e*S	**Sb**	**00 44 40.2**	**-0.2**
TXIG	**Tlaxiaco**	**0.98**	**8**		**Pn**	**00 44 32.6**	**-0.6**
TXIG					**Sn**	**00 44 45.1**	**-1.3**
TXIG	**Tlaxiaco**	**0.98**	**8**	*i* P	**Pn**	**00 44 32.6**	**-0.6**
TXIG				*i* S	**Sn**	**00 44 45.1**	**-1.3**
VHO	**Vista Hermosa**	**1.38**	**55**	*e*P	**Pn**	**00 44 38.4**	**-0.3**
VHO				*e*S	**Sb**	**00 44 56.8**	**-0.6**
OXBJ	**Oaxaca**	**1.38**	**55**		**Pn**	**00 44 38.7**	**-0.1**
OXBJ					**Sb**	**00 44 56.9**	**-0.7**
OXBJ	**Oaxaca**	**1.38**	**55**	*e*P	**Pn**	**00 44 38.7**	**-0.1**
OXBJ				*e*S	**Sb**	**00 44 56.9**	**-0.7**
OXLC	**Oaxaca**	**1.40**	**56**	*e*P	**Pn**	**00 44 38.8**	**-0.2**
OXLC				*e*S	**Sb**	**00 44 57.4**	**-0.6**
TLIG	**Tlapa**	**1.42**	**334**	Pn	**Pn**	**00 44 39.1**	**-0.1**
TLIG				Sn	**Sn**	**00 44 56.9**	**-0.2**
TLIG	**Tlapa**	**1.42**	**334**	*i* P	**Pn**	**00 44 39.7**	**+0.6**
TLIG				*i* S	**Sn**	**00 44 56.9**	**-0.2**
PANG	**Puerto Angel**	**1.52**	**114**		**Pn**	**00 44 41.6**	**+1.2**
PANG					**Sb**	**00 45 02.0**	**+0.9**
PANG	**Puerto Angel**	**1.52**	**114**	*e*P	**Pn**	**00 44 41.6**	**+1.2**
PANG				*e*S	**Sb**	**00 45 02.0**	**+0.9**
HLIG	**Huajuapan de L**	**1.54**	**4**	*e*P	**Pn**	**00 44 40.8**	**-0.2**
HLIG				*e*S	**Sn**	**00 44 59.8**	**-0.5**
HMTT	**Tlapaneco**	**1.63**	**338**	*e*P	**Pn**	**00 44 42.9**	**+0.9**
HMTT				*i* S	**Sn**	**00 45 02.8**	**+0.6**
FTIG	**Fresnillo de T**	**1.63**	**353**	*e*P	**Pn**	**00 44 42.5**	**+0.4**
FTIG				*e*S	**Sn**	**00 45 02.4**	**0.0**
HUIG	**Huatulco**	**1.81**	**106**		**Pn**	**00 44 43.7**	**-0.8**
HUIG					**Sn**	**00 45 04.0**	**-2.6**
HUIG	**Huatulco**	**1.81**	**106**	*e*P	**Pn**	**00 44 43.7**	**-0.8**
HUIG				*e*S	**Sn**	**00 45 04.0**	**-2.6**
DAIG	**Los Arroyos**	**1.82**	**294**		**Pn**	**00 44 44.3**	**-0.2**
DAIG					**Sn**	**00 45 05.2**	**-1.6**
DAIG	**Los Arroyos**	**1.82**	**294**	*e*P	**Pn**	**00 44 44.3**	**-0.2**
DAIG				*e*S	**Sn**	**00 45 05.2**	**-1.6**
TOIG	**Toxpalan**	**1.98**	**24**	*e*P	**Pn**	**00 44 47.4**	**+0.5**
TOIG				*e*S	**Sb**	**00 45 12.7**	**-1.9**
ACP2	**Acapulco**	**1.98**	**288**	*e*P	**Pn**	**00 44 47.6**	**+0.8**
ACP2				*i* S	**Sn**	**00 45 12.8**	**+2.0**
TPIG	**Tehuac#an**	**2.19**	**14**	*e*P	**Pn**	**00 44 51.7**	**+1.9**
TPIG				*e*S	**Sn**	**00 45 17.5**	**+1.3**
MEIG	**Mezcala**	**2.31**	**315**	*e*P	**Pn**	**00 44 52.0**	**+0.6**
MEIG				*e*S	**Sn**	**00 45 21.1**	**+2.1**
CAIG	**El Cayaco**	**2.38**	**289**	*e*P	**Pn**	**00 44 51.2**	**-1.0**
CAIG				*i* S	**Sb**	**00 45 24.5**	**-1.5**
ATYC	**Atoyac**	**2.58**	**291**	*e*P	**Pb**	**00 45 00.6**	**+0.1**
ATYC				*i* S	**Sn**	**00 45 22.6**	**-3.0**
PLIG	**Platanillo**	**2.59**	**324**	*e*P	**Pn**	**00 44 55.7**	**+0.5**
PLIG				*e*S	**Sn**	**00 45 27.9**	**+2.0**
OZST	**Orizaba**	**2.68**	**17**	*e*P	**Pn**	**00 44 58.5**	**+1.9**
PHPU	**Puebla**	**2.76**	**355**	*e*S	**Sn**	**00 45 29.6**	**-0.8**
YAIG	**Yautepec**	**2.79**	**337**	*e*P	**Pn**	**00 44 59.3**	**+1.2**
PPM	**Popocatepetl**	**2.85**	**346**	*e*P	**Pn**	**00 45 01.7**	**+2.5**
PPM				*e*S	**Sb**	**00 45 40.9**	**+0.8**
ARIG	**Puente Sto Nin**	**3.06**	**311**	*e*P	**Pn**	**00 45 04.8**	**+3.1**
ARIG				*e*S	**Sb**	**00 45 43.1**	**-2.4**
NILT	**Santiago Nilte**	**3.18**	**84**	*e*P	**Pn**	**00 45 03.7**	**+0.5**
NILT				*i* S	**Sb**	**00 45 47.6**	**-1.4**
UNM	**Universidad Na**	**3.26**	**339**		**Pn**	**00 45 04.4**	**-0.2**
UNM	**Universidad Na**	**3.26**	**339**	*e*P	**Pn**	**00 45 07.7**	**+3.0**
UNM				*e*S	**Sb**	**00 45 49.3**	**-2.3**
CUP5	**Mexico City**	**3.26**	**339**	*e*P	**Pn**	**00 45 01.8**	**-2.9**
CUP5				*e*S	**Sn**	**00 45 42.9**	**+0.1**
SCT2	**Benito Juarez**	**3.31**	**339**	*e*S	**Sn**	**00 45 46.2**	**+2.2**
XALA	**Xalapa**	**3.37**	**16**	*e*P	**Pn**	**00 45 09.7**	**+3.6**
XALA				*e*S	**Sn**	**00 45 47.6**	**+2.3**
TEJU	**Tejupilco**	**3.37**	**321**	*e*P	**Pn**	**00 45 07.6**	**+1.5**
TEJU				*i* S	**Sn**	**00 45 45.5**	**+0.1**
PET2	**Petatlan**	**3.44**	**292**	*e*P	**Pb**	**00 45 13.5**	**-1.6**
PET2				*i* S	**Sn**	**00 45 45.0**	**-1.8**
PMUV	**Sontecomapan**	**3.49**	**49**	*e*P	**Pn**	**00 45 05.3**	**-2.3**
MIHL	**Minatitlan**	**3.64**	**62**	*i* S	**Sn**	**00 45 53.6**	**+1.8**
ZIIG	**Zihuatanejo**	**3.64**	**292**	*e*P	**Pn**	**00 45 08.8**	**-0.8**
ZIIG				*e*S	**Sn**	**00 45 48.1**	**-3.8**
LVIG	**Laguna Verde**	**3.71**	**22**	*e*P	**Pn**	**00 45 08.7**	**-1.8**
UXUV	**UXUV**	**3.75**	**74**	*e*P	**Pn**	**00 45 10.0**	**-1.2**
UXUV				*e*S	**Sn**	**00 45 52.6**	**-2.0**
TUIG	**Tuzandepetl**	**3.77**	**62**	*e*P	**Pn**	**00 45 10.1**	**-1.3**
TUIG				*e*S	**Sn**	**00 45 56.1**	**+1.2**
CARR	**Arriaga**	**3.84**	**90**	*e*P	**Pn**	**00 45 11.8**	**-0.6**
CARR				*i* S	**Sn**	**00 45 55.9**	**-0.9**
UON	**La Union**	**4.09**	**295**	*e*S	**Sn**	**00 46 02.5**	**-0.3**
DEIG	**Demacu**	**4.14**	**345**	*e*P	**Pn**	**00 45 20.1**	**+3.4**
DEIG				*e*S	**Sn**	**00 46 02.8**	**-1.6**
PCIG		**4.55**	**97**	*e*P	**Pn**	**00 45 21.9**	**-0.3**
PCIG				*e*S	**Sn**	**00 46 09.7**	**-4.6**
ACAM	**Acambaro**	**4.59**	**325**	*e*S	**Sn**	**00 46 13.5**	**-2.1**
TGIG		**4.62**	**83**	*e*P	**Pn**	**00 45 25.4**	**+2.2**
TGIG				*e*S	**Sn**	**00 46 20.3**	**+4.2**
TGBT	**Tuxtla Gutierr**	**4.66**	**83**	*i* S	**Sn**	**00 46 18.2**	**+1.5**
JRQG	**Juriquilla Cam**	**5.01**	**332**	*i* P	**Pb**	**00 45 38.1**	**-4.0**
JRQG				*e*S	**Sb**	**00 46 34.8**	**-7.1**
IGIG	**Irapuato, Guan**	**5.50**	**324**	*i* P	**Pn**	**00 45 34.4**	**-1.0**
IGIG				*i* S	**Sn**	**00 46 45.0**	**+7.0**
CCIG	**Comitan**	**5.55**	**89**	Pn	**Pn**	**00 45 36.8**	**+0.7**
CCIG	**Comitan**	**5.55**	**89**	*e*P	**Pn**	**00 45 37.2**	**+1.2**
CCIG				*e*S	**Sn**	**00 46 37.1**	**-2.0**
MMIG	**Aquila**	**5.56**	**292**	*e*P	**Pn**	**00 45 36.4**	**+0.4**
MMIG				*e*S	**Sn**	**00 46 36.4**	**-2.7**
THIG		**5.61**	**103**	*e*P	Pb	00 45 47.3	-4.9
RPIG	**Rio Verde**	**5.91**	**341**	*e*P	Pn	00 45 34.3	-6.6
RPIG				*e*S	Sn	00 46 56.4	+8.6
HUEH	**Huehuetenango**	**6.25**	**98**		**Pn**	**00 45 45.5**	**-0.2**
RTAL	**Retalhuleu**	**6.25**	**105**		**Pn**	**00 45 45.5**	**0.0**
COMA	**Comala**	**6.34**	**299**	*i* S	**Sn**	**00 47 03.1**	**+4.7**
GTIG	**Gomez Farias**	**6.85**	**350**	*e*P	**Pn**	**00 45 55.0**	**+1.2**
SCIG	**Sabancuy**	**6.95**	**66**	*e*P	**Pn**	**00 45 59.0**	**+3.9**
CJM	**Chamela**	**7.50**	**296**	*e*P	**Pn**	**00 46 03.8**	**+1.1**
CJM				*e*S	**Sn**	**00 47 30.8**	**+3.8**
ZAIG	**Zacatecas**	**7.80**	**327**	Pn	**Pn**	**00 46 07.6**	**+0.5**
ZAIG	**Zacatecas**	**7.80**	**327**	*e*P	**Pn**	**00 46 09.4**	**+2.3**
ANIG	**Ahuacatlan**	**7.86**	**308**	*e*P	**Pn**	**00 46 12.0**	**+4.3**
ANIG				*i* S	**Sn**	**00 47 28.0**	**-7.8**
ESQI	**Esquipulas**	**8.44**	**101**	Pn	**Pn**	**00 46 15.7**	**-0.1**
MTO3	**Montecristo**	**8.46**	**102**	Pn	**Pn**	**00 46 16.2**	**0.0**
LNIG	**Linares**	**8.69**	**351**	*e*P	**Pn**	**00 46 21.4**	**+2.3**
MYIG	**Mrida**	**9.04**	**58**	*e*P	**Pn**	**00 46 26.9**	**+3.2**
MYIG				*e*S	**Sn**	**00 48 02.1**	**-2.7**
TEIG	**Tepich**	**9.96**	**65**	Pn	**Pn**	**00 46 33.9**	**-2.7**
TEIG	**Tepich**	**9.96**	**65**	*e*P	**Pn**	**00 46 34.0**	**-2.5**
TEIG	**Tepich**	**9.96**	**65**	P	**Pn**	**00 46 34.5**	**-2.0**
116nm,0.4s,baz=29,slow=1.0,SNR=20							
TEIG				S	**Sn**	**00 48 20.7**	**-6.8**
1μm,0.7s,baz=116,slow=22,SNR=12							
TEIG				LR	LR	00 51 18.5	
comp=Z,5μm,18.2s,baz=12,slow=43							
TGUH	**Tegucigalpa,Un**	**10.51**	**101**	Pn	**Pn**	**00 46 42.4**	**-1.8**
CNGN	**Cerro Negro**	**11.50**	**108**	Pn	**Pn**	**00 46 57.3**	**-0.2**
CNGN	**Cerro Negro**	**11.50**	**108**	*e*P	**Pn**	**00 46 57.8**	**+0.2**
833A	**Chaparral WMA,**	**12.06**	**354**	Pn	**Pn**	**00 47 05.5**	**+0.4**
833A	**Chaparral WMA,**	**12.06**	**354**	P	**Pn**	**00 47 08.0**	**+2.8**
baz=173,SNR=5.9							
MATN	**Matagalpa**	**12.07**	**104**	Pn	**Pn**	**00 47 05.0**	**-0.5**
BOAB	**BOACO BROADBAN**	**12.46**	**106**	Pn	**Pn**	**00 47 11.6**	**+0.9**
ACON	**Acoyapa**	**13.08**	**108**	Pn	**Pn**	**00 47 19.4**	**+0.3**
ACON	**Acoyapa**	**13.08**	**108**	*e*P	**Pn**	**00 47 21.2**	**+2.1**
HNDO	**Hondo**	**13.24**	**355**	Pn	**Pn**	**00 47 21.5**	**+0.2**
DRIO	**Del Rio**	**13.31**	**350**	Pn	**Pn**	**00 47 22.5**	**+0.2**
DUNO	**Dulce Nombre,**	**13.57**	**115**	Pn	**Pn**	**00 47 25.5**	**-0.4**
ESPN	**Las Esperanzas**	**13.81**	**105**	Pn	**Pn**	**00 47 29.5**	**+0.4**
JTS	**Las Juntas de**	**13.95**	**114**	Pn	**Pn**	**00 47 30.8**	**-0.2**
JTS	**Las Juntas de**	**13.95**	**114**	*e*P	**P**	**00 47 35.8**	**-3.1**
JTS	**Las Juntas de**	**13.95**	**114**	P	**Pn**	**00 47 32.3**	**+1.2**
2.0nm,0.3s,baz=320,slow=7.3,SNR=7.2							
5.5nm,0.5s							
TXAR	**Lajitas Array**	**14.03**	**339**	Pn	**Pn**	**00 47 29.4**	**-2.7**
TXAR	**Lajitas Array**	**14.03**	**339**	P	**Pn**	**00 47 34.6**	**+2.5**
baz=154,slow=11,SNR=13							
TXAR				LR	LR	00 53 33.6	
comp=Z,1μm,18.0s,baz=148,slow=40							
1.7nm,0.9s							
TX32	**Lajitas Array**	**14.03**	**339**	Pn	**Pn**	**00 47 30.8**	**-1.3**
ARE1	**Arenal 1**	**14.08**	**113**	Pn	**Pn**	**00 47 31.7**	**-1.1**
SOCE	**Pocosol**	**14.20**	**113**	Pn	**Pn**	**00 47 32.8**	**-1.7**
JCT	**Junction City**	**14.24**	**353**	Pn	**Pn**	**00 47 33.9**	**-1.1**
JCT	**Junction City**	**14.24**	**353**	P	**Pn**	**00 47 37.5**	**+2.6**
baz=172							
COVE	**Coope Vega, Sa**	**14.25**	**111**	Pn	**Pn**	**00 47 36.1**	**+0.9**
435B	**Jarrell**	**14.44**	**1**	Pn	**Pn**	**00 47 37.9**	**+0.2**
HDC	**Heredia**	**14.81**	**113**	Pn	**Pn**	**00 47 43.2**	**+0.2**
BRDY	**Brady**	**14.97**	**356**	Pn	**Pn**	**00 47 45.5**	**+0.6**
ALPN	**Alpine**	**14.97**	**341**	Pn	**Pn**	**00 47 45.6**	**+0.5**
RIMA	**Rio Macho**	**15.14**	**114**	Pn	**Pn**	**00 47 47.5**	**+0.1**
SOR	**Soroa**	**15.47**	**63**	Pn	**Pn**	**00 47 50.0**	**-1.4**
WHTX	**Lake Whitney,**	**15.64**	**1**	P	**Pn**	**00 47 55.3**	**+1.6**
baz=182,SNR=7.0							
NATX	**Nacogdoches**	**15.69**	**10**	Pn	**Pn**	**00 47 55.1**	**+0.8**
425A	**Indio Mountain**	**15.82**	**337**	Pn	**Pn**	**00 47 56.8**	**+0.7**
SGCY	**Sterling City**	**15.83**	**350**		**Pn**	**00 47 57.1**	**+0.9**
SGCY				IAmb	IAmb	00 48 03.3	
comp=Z,53nm,0.8s							
PECS	**Pecos**	**15.97**	**341**	P	**P**	**00 48 00.1**	**-1.2**
PECS				IAmb	IAmb	00 48 05.3	
comp=Z,24nm,0.7s							
FW13	**Cleburne**	**16.00**	**1**	Pn	**Pn**	**00 47 58.0**	**-0.3**
FW13				IAmb	IAmb	00 48 07.5	
comp=Z,27nm,1.0s							
FW16	**Waxahatchie**	**16.16**	**3**	Pn	**Pn**	**00 47 59.2**	**-1.0**
FW16				IAmb	IAmb	00 48 06.1	
comp=Z,38nm,0.7s							
PRVC	**Isla de Provid**	**16.26**	**98**	*e*P	**P**	**00 48 03.8**	**-0.7**
ODSA	**Odessa**	**16.32**	**346**	Pn	**Pn**	**00 48 01.9**	**-0.5**
ODSA				IAmb	IAmb	00 48 09.2	
comp=Z,9.5nm,0.8s							
ABTX	**Abilene, Hawle**	**16.35**	**355**		**Pn**	**00 48 03.1**	**+0.4**
ABTX	**Abilene, Hawle**	**16.35**	**355**	P	**P**	**00 48 05.2**	**-0.2**
baz=174,SNR=16							
MNTX	**Cornudas Mount**	**16.79**	**337**	P	**P**	**00 48 09.9**	**-0.4**
MNTX	**Cornudas Mount**	**16.79**	**337**	P	**P**	**00 48 11.3**	**+1.0**
baz=154,SNR=9.3							
APMT	**Aspermont**	**17.09**	**354**		**Pn**	**00 48 12.5**	**+0.5**
APMT				IAmb	IAmb	00 48 20.1	
comp=Z,12nm,0.7s							
Z38A	**Mt. Pleasant**	**17.11**	**8**		**P**	**00 48 12.8**	**-1.0**
VBMS	**Vicksburg**	**17.23**	**22**		**Pn**	**00 48 12.9**	**-0.9**
VBMS				IAmb	IAmb	00 48 22.9	
comp=Z,97nm,1.2s							
VBMS	**Vicksburg**	**17.23**	**22**	P	**P**	**00 48 14.4**	**-0.7**
baz=204							
WTFS	**Witchita Falls**	**17.42**	**358**	Pn	**Pn**	**00 48 15.6**	**-0.5**
WTFS				IAmb	IAmb	00 48 26.3	
comp=Z,40nm,1.1s							
Z41A	**Richland Creek**	**17.52**	**14**	Pn	**Pn**	**00 48 16.5**	**-1.0**
LOOK	**Love County**	**17.65**	**2**		**Pn**	**00 48 18.6**	**-0.4**
WLAR	**White Oak Lake**	**17.86**	**13**	P	**P**	**00 48 21.8**	**-0.3**
MSTX	**Muleshoe**	**18.15**	**347**	P	**Pn**	**00 48 25.2**	**-0.1**
MSTX	**Muleshoe**	**18.15**	**347**	P	**P**	**00 48 25.8**	**+0.4**
baz=165							
X34A	**Smith Ranch, M**	**18.24**	**0**		**P**	**00 48 26.8**	**+0.5**
X34A				IAmb	IAmb	00 48 36.8	
comp=Z,50nm,1.2s							
319A	**Douglas**	**18.25**	**327**	P	**P**	**00 48 27.9**	**+1.4**
WMOK	**Wichita Mounta**	**18.39**	**358**		**P**	**00 48 27.2**	**-0.9**
WMOK	**Wichita Mounta**	**18.39**	**358**	P	**Pn**	**00 48 28.3**	**+0.1**
baz=177,SNR=8.5							
121A	**Cookes Peak, D**	**18.49**	**333**	P	**Pn**	**00 48 31.0**	**+1.5**
baz=149							
MIAR	**Mount Ida**	**18.60**	**11**	P	**P**	**00 48 29.3**	**-1.0**
MIAR				IAmb	IAmb	00 48 41.6	
comp=Z,36nm,0.9s							
MIAR	**Mount Ida**	**18.60**	**11**	P	**Pn**	**00 48 30.4**	**-0.3**
baz=193							
AMTX	**Amarillo**	**18.83**	**350**		**P**	**00 48 32.9**	**0.0**
AMTX				IAmb	IAmb	00 48 45.6	
comp=Z,35nm,0.8s							
AMTX	**Amarillo**	**18.83**	**350**	P	**Pn**	**00 48 34.3**	**+0.8**
baz=169							
UALR	**University of**	**19.08**	**14**	P	**P**	**00 48 35.7**	**+0.1**
AZU	**Azuero**	**19.19**	**114**	*e*P	**P**	**00 48 34.3**	**-2.6**
LRAL	**Lakeview Retre**	**19.38**	**29**	P	**P**	**00 48 37.7**	**-1.2**
LRAL	**Lakeview Retre**	**19.38**	**29**	P	**P**	**00 48 38.7**	**-0.2**
baz=213							
DEOK	**Depew**	**19.52**	**3

baz=183
S22A 4UR Ranch, Cre 22.78 342 P **P 00 49 16.7 +0.8**
S22A IAmb IAmb 00 49 31.4
comp=Z,20nm,1.1s
S22A 4UR Ranch, Cre 22.78 342 P **P 00 49 17.9 +2.1**
baz=157,SNR=16
MVCO Mesa Verde 22.85 338 P **P 00 49 17.8 +1.2**
MVCO IAmb IAmb 00 49 31.4
comp=Z,44nm,1.1s
MVCO Mesa Verde 22.85 338 P **P 00 49 18.5 +1.9**
baz=153,SNR=15
KSCO Kaye Shedlock' 23.02 351 P **P 00 49 18.8 +0.7**
baz=168
SJCC San Jacinto, C 23.02 103 *e*P **P 00 49 18.8 +0.5**
TKL Tuckaleechee C 23.06 31 P **P 00 49 17.3 -1.1**
TKL IAmb IAmb 00 49 29.6
comp=Z,26nm,1.0s
PDMCI Parker Dam,Lak 23.12 324 P **P 00 49 22.1 +3.1**
baz=137
SWSC Sam W. Stewart 23.17 319 P **P 00 49 22.2 +2.7**
baz=132
IKP In-Ko-Pah, Jac 23.17 318 P **P 00 49 22.4 +2.7**
baz=130
NHSC New Hope 23.18 41 P **P 00 49 17.8 -1.9**
NHSC New Hope 23.18 41 P **P 00 49 18.8 -0.9**
baz=228
USIN University of 23.41 21 P **P 00 49 21.3 -0.6**
BC3 Big Chuckawall 23.43 321 P **P 00 49 25.2 +2.9**
baz=133,SNR=6.0
MONP2 Monument Peak 23.53 318 P **P 00 49 26.1 +2.8**
baz=130
IRM Iron Mountain 23.60 322 P **P 00 49 26.5 +2.7**
baz=135,SNR=8.4
TZTN Tazewell 23.88 30 P **P 00 49 24.9 -1.5**
TZTN IAmb IAmb 00 49 38.0
comp=Z,29nm,1.1s
TZTN Tazewell 23.88 30 P **P 00 49 26.6 +0.2**
baz=216
KMSC Kings Mountain 23.93 35 P **P 00 49 25.8 -1.2**
KMSC IAmb IAmb 00 49 39.0
comp=Z,57nm,1.2s
KMSC Kings Mountain 23.93 35 P **P 00 49 26.7 -0.2**
baz=222,SNR=6.2
BELC Belle Mtn. Jos 24.00 321 P **P 00 49 30.8 +3.0**
baz=133
PFO Pinyon Flats O 24.02 319 P **P 00 49 30.9 +3.0**
baz=131
BIRD Birdtown, Kers 24.07 37 P **P 00 49 27.6 -0.6**
BIRD IAmb IAmb 00 49 39.6
comp=Z,29nm,1.1s
WCI Wyandotte Cave 24.14 23 P **P 00 49 28.0 -0.8**
WCI Wyandotte Cave 24.14 23 P **P 00 49 28.7 -0.1**
baz=208
SMCO Snowmass 24.15 343 P **P 00 49 29.7 +0.3**
SMCO IAmb IAmb 00 49 45.9
comp=Z,54nm,1.4s
GMRC Granite Mounta 24.34 323 P **P 00 49 33.8 +3.0**
baz=135
HMU Henry Mountain 24.36 335 P **P 00 49 32.6 +1.4**
ISCO Idaho Springs 24.37 346 P **P 00 49 32.4 +1.1**
ISCO IAmb IAmb 00 49 44.3
comp=Z,31nm,0.9s
ISCO Idaho Springs 24.37 346 P **P 00 49 32.5 +1.1**
baz=162,SNR=40
YOTC Yotoco, Valle 24.46 118 *e*P **P 00 49 33.8 +1.7**
V12A Nelson 24.56 325 P **P 00 49 34.5 +1.6**
JAMC Jamundi, Valle 24.59 120 *e*P **P 00 49 35.6 +2.1**
GUY2C Guyana, Caldas 24.70 114 *e*P **P 00 49 37.7 +3.0**
HEC Hector,Ludlow 24.77 322 P **P 00 49 38.1 +3.4**
baz=134
BBAC Balboa, Cauca 24.80 123 *e*P **P 00 49 37.9 +2.6**
OGNE Ogallala 24.83 353 P **P 00 49 36.2 +1.0**
OGNE IAmb IAmb 00 49 47.9
comp=Z,46nm,1.1s
OGNE Ogallala 24.83 353 P **P 00 49 37.4 +2.2**
baz=170
BRIGG Briggsdale 24.84 348 P **P 00 49 35.8 +0.4**
BRIGG IAmb IAmb 00 49 49.2
comp=Z,32nm,0.9s
PTBC PUERTO BERRIO, 24.92 110 *e*P **P 00 49 37.9 +1.7**
TUQ Turquoise Moun 24.95 323 P **P 00 49 39.5 +3.1**
baz=135,SNR=6.8
OTAV Otavalo 24.95 128 P **P 00 49 37.5 +0.5**
OTAV IAmb IAmb 00 49 41.8
comp=Z,47nm,1.8s
OTAV Otavalo 24.95 128 *e*P **P 00 49 39.9 +2.9**
POPC Popayan, Colom 24.97 121 *e*P **P 00 49 39.2 +2.4**
NORC Norcasia 24.98 113 *e*P **P 00 49 39.0 +2.2**
PULU Pululahua 25.06 128 P **P 00 49 38.1 +0.3**
IMBA Imbabura, San 25.12 127 P **P 00 49 39.7 +1.2**
BFSC Mount Baldy Ra 25.19 319 P **P 00 49 41.5 +3.0**
baz=130
HDIL Hopedale 25.32 15 P **P 00 49 39.4 -0.1**
HDIL Hopedale 25.32 15 P **P 00 49 40.2 +0.7**
baz=200
O20A White River Ci 25.41 341 P **P 00 49 41.7 +1.1**
O20A White River Ci 25.41 341 P **P 00 49 42.4 +1.8**
baz=156,SNR=10
ORTC Ortega, Tolima 25.44 116 *e*P **P 00 49 43.3 +2.3**
N23A Red Feather La 25.49 346 P **P 00 49 43.1 +1.7**
baz=162,SNR=11
SDDR Presa de Saban 25.51 80 P **P 00 49 42.0 +0.4**
URIC Uribia, Colomb 25.55 97 *e*P **P 00 49 46.4 +4.5**
SLOR San Lorenzo - 25.56 130 P **P 00 49 44.1 +1.6**
ROSC El Rosal 25.80 114 P **P 00 49 44.9 +0.4**
ROSC IAmb IAmb 00 49 53.2
comp=Z,47nm,1.2s
ROSC El Rosal 25.80 114 P **P 00 49 43.9 -0.6**
comp=Z,4.5nm,0.4s,baz=300,slow=20,SNR=1.6
comp=Z,4.5nm,0.4s
SSFO Shawnee State 25.80 27 P **P 00 49 43.1 -0.8**
EDW2 Edwards Air Fo 25.81 320 P **P 00 49 46.6 +2.5**
baz=131
SCIA State Center 25.86 8 P **P 00 49 43.9 -0.5**
SCIA State Center 25.86 8 P **P 00 49 44.9 +0.5**
baz=190
P49A Miami Univ. Ec 25.88 24 P **P 00 49 43.7 -0.9**
baz=210,SNR=5.8
PIAT Ana Tenorio 25.91 130 *e*P **P 00 49 48.7 +3.1**
BLA Blacksburg 25.96 33 P **P 00 49 45.2 -0.3**
BLA Blacksburg 25.96 33 P **P 00 49 44.8 -0.7**
baz=221
CNNC Cliffs of the 26.02 40 P **P 00 49 45.6 -0.2**
baz=228
BARC Barichara 26.05 109 *e*P **P 00 49 49.0 +2.3**
SC01 Santiago de lo 26.06 79 P **P 00 49 46.1 -0.3**
PAMC Pamplona, Colo 26.21 107 *e*P **P 00 49 51.1 +2.7**
FURC Furnace Creek, 26.22 324 P **P 00 49 49.9 +2.2**
baz=135
TPNV Topopah Spring 26.22 325 P **P 00 49 49.0 +1.0**
TPNV IAmb IAmb 00 50 06.9
comp=Z,25nm,1.4s
TPNV Topopah Spring 26.22 325 P **P 00 49 50.0 +2.1**
baz=137
MPMC Manual Prospec 26.30 322 P **P 00 49 51.2 +2.5**
baz=134
O48B Farmland 26.34 22 P **P 00 49 48.1 -0.7**
baz=208,SNR=5.5
CHIC Chingaza 26.41 113 *e*P **P 00 49 53.4 +3.2**
RUSC La Rusia 26.43 110 *e*P **P 00 49 52.5 +2.1**
ARVC Arvin 26.50 319 P **P 00 49 53.4 +3.1**
baz=130
RCRC Randolf Colleg 26.74 34 P **P 00 49 52.8 +0.3**
GRAC Grapevine Rang 26.88 324 P **P 00 49 56.1 +2.3**
baz=135
CWC Cottonwood Cre 26.90 322 P **P 00 49 56.3 +2.1**
baz=133
R11B Troy Canyon, C 26.92 328 P **P 00 49 56.2 +1.9**
baz=140
P52A Corning 27.04 28 P **P 00 49 54.9 -0.2**
baz=215
DUG Dugway, Tooele 27.12 334 P **P 00 49 58.1 +2.0**
baz=147
ACSO Alum Creek Sta 27.17 26 P **P 00 49 56.3 0.0**
baz=213
BOSC San Juan Bosco 27.23 133 P **P 00 49 58.0 +0.8**
K22A Casper 27.30 346 P **P 00 49 58.2 +0.6**
K22A IAmb IAmb 00 50 11.2
comp=Z,24nm,1.1s
K22A Casper 27.30 346 P **P 00 49 58.9 +1.3**
baz=162
JFWS Jewell Farm 27.34 12 P **P 00 49 57.7 0.0**
JFWS IAmb IAmb 00 50 12.7
comp=Z,22nm,0.8s
JFWS Jewell Farm 27.34 12 P **P 00 49 57.9 +0.1**
baz=196
ECSD EROS Data Cent 27.39 2 P **P 00 49 57.0 -1.2**
ECSD IAmb IAmb 00 50 13.3
comp=Z,14nm,0.9s
ECSD EROS Data Cent 27.39 2 P **P 00 49 59.1 +0.9**
baz=183
MACC Macarena, Meta 27.54 118 *e*P **P 00 50 02.0 +2.1**
SDV Santo Domingo 27.60 102 P **P 00 50 00.4 -0.2**
SDV IAmb IAmb 00 50 03.0
comp=Z,24nm,0.8s
SDV Santo Domingo 27.60 102 LR LR 01 01 54.6
comp=Z,88nm,19.7s,baz=312,slow=39
PD31 Pinedale Array 28.21 342 P **P 00 50 05.5 -0.4**
PD31 IAmb IAmb 00 50 15.5
comp=Z,14nm,1.4s
PDAR Pinedale Array 28.21 342 P **P 00 50 05.4 -0.4**
PDAR Pinedale Array 28.21 342 P **P 00 50 07.1 +1.2**
comp=Z,0.6nm,0.7s,baz=155,slow=9.0,SNR=7.7
PDAR PcP **PcP 00 53 18.8 -0.4**
comp=Z,0.5nm,0.6s,baz=164,slow=3.6,SNR=3.8
PDAR LR LR 01 02 31.9
comp=Z,337nm,18.7s,baz=168,slow=39
comp=Z,0.6nm,0.7s
BW06 Boulder Array 28.21 342 P **P 00 50 07.7 +1.9**
baz=156
RSSD Black Hills 28.23 351 P **P 00 50 06.8 +0.8**
baz=168
NVAR Mina Array Bea 28.42 325 P **P 00 50 07.8 +0.1**
NVAR Mina Array Bea 28.42 325 P **P 00 50 10.1 +2.4**
comp=Z,3.2nm,0.8s,baz=148,slow=9.6,SNR=23
NVAR PcP **PcP 00 53 20.8 +1.1**
comp=Z,1.2nm,0.8s,baz=156,slow=3.2,SNR=3.9
NVAR LR LR 01 01 26.7
comp=Z,151nm,18.5s,baz=123,slow=36
comp=Z,3.2nm,0.8s
ELK Elko 28.63 332 P **P 00 50 10.0 +0.5**
REDW Red Top Meadow 29.16 340 P **P 00 50 14.1 -0.1**
SPMN Marine on St. 29.17 7 P **P 00 50 14.8 +0.8**
baz=190
LOHW Long Hollow 29.30 341 P **P 00 50 16.1 +0.6**
LOHW IAmb IAmb 00 50 29.2
comp=Z,9.5nm,0.9s
H17A Grant Village 30.00 342 P **P 00 50 22.8 +1.1**
baz=155
BAUV El Baul 30.02 100 P **P 00 50 21.4 -0.5**
ATAH Atahualpa 30.24 139 LR LR 01 00 12.1
comp=Z,195nm,19.3s,baz=322,slow=32
RLMT Red Lodge 30.30 344 P **P 00 50 25.7 +1.4**
baz=158
GLMI Grayling 30.58 19 P **P 00 50 26.7 +0.1**
baz=206
HLID Hailey 30.60 336 P **P 00 50 28.8 +1.8**
baz=148
LAO LASA Array 31.10 349 P **P 00 50 33.0 +1.8**
baz=164
BOZ Bozeman (W) 31.41 341 P **P 00 50 36.0 +2.0**
baz=154
MDND Maddock 31.51 358 P **P 00 50 34.7 0.0**
MDND Maddock 31.51 358 P **P 00 50 35.2 +0.5**
baz=177
BINY Binghamton 31.95 32 P **P 00 50 38.2 -0.5**
baz=222
PAL Palisades 32.21 35 P **P 00 50 40.2 -0.7**
baz=227
DGMT Dagmar 32.51 352 P **P 00 50 44.8 +1.2**
baz=169
EGMT Eagleton 33.12 345 P **P 00 50 50.8 +1.9**
baz=159
YBH Yreka Blue Hor 33.14 325 LR LR 01 07 03.3
comp=Z,113nm,18.1s,baz=160,slow=41
PINE Pine Mountain 33.67 329 P **P 00 50 53.7 -0.2**
PINE IAmb IAmb 00 51 13.1
comp=Z,18nm,1.3s
ULM Lac du Bonnet 33.92 2 P **P 00 50 57.2 +1.4**
comp=Z,4.1nm,0.7s,baz=189,slow=5.1,SNR=3.9
ULM LR LR 01 05 47.9
comp=Z,94nm,21.5s,baz=331,slow=38
comp=Z,4.1nm,0.7s
CZSB Cruzeiro do Su 34.52 132 P **P 00 51 01.2 -0.2**
NNA Nana 34.98 142 LR LR 01 02 25.6
comp=Z,141nm,21.3s,baz=338,slow=31
NEW Newport 35.58 338 P **P 00 51 11.8 +1.6**
baz=147
NEW Newport 35.58 338 LR LR 01 07 21.6
comp=Z,534nm,18.6s,baz=155,slow=39
LON Longmire 36.28 332 P **P 00 51 16.5 +0.2**
LON IAmb IAmb 00 51 34.6
comp=Z,22nm,1.4s
PKME Peaks-Kenny Pk 37.57 34 P **P 00 51 26.9 -0.2**
baz=229
BOAV Boa Vista 39.29 107 P **P 00 51 41.6 -0.4**
BOAV IAmb IAmb 00 51 42.5
comp=Z,24nm,1.8s
ETMB Extrema 40.70 127 P **P 00 51 53.3 -0.4**
ETMB IAmb IAmb 00 51 55.0
comp=Z,24nm,0.9s
SAML Samuel 42.55 124 P **P 00 52 08.0 -0.8**
LPAZ La Paz 43.71 136 P **P 00 52 19.4 +0.5**
LPAZ IAmb IAmb 00 52 31.4
comp=Z,11nm,1.1s
LPAZ La Paz 43.71 136 P **P 00 52 19.3 +0.5**
comp=Z,5.9nm,0.8s,baz=323,slow=10,SNR=15
LPAZ LR LR 01 09 15.9
comp=Z,119nm,18.7s,baz=310,slow=34
comp=Z,5.9nm,0.8s
PB16 IPOC Station P 44.34 140 P **P 00 52 24.3 +0.5**
PB16 IAmb IAmb 00 52 37.4
comp=Z,12nm,1.0s
SCHQ Schefferville 45.32 25 P **P 00 52 30.6 +0.1**
comp=Z,4.9nm,1.0s,baz=236,slow=7.3,SNR=1.8
SCHQ LR LR 01 14 33.0
comp=Z,53nm,18.6s,baz=297,slow=40
comp=Z,4.9nm,1.0s
MDP Montagnes des 45.75 99 LR LR 01 13 52.0
comp=Z,43nm,19.5s,baz=328,slow=39
PB02 IPOC Station P 46.39 143 P **P 00 52 40.1 +0.6**
PB07 IPOC Station P 46.71 143 P **P 00 52 43.0 +0.9**
PB09 IPOC Station P 47.14 143 P **P 00 52 46.5 +1.1**
VILB Vilhena 47.27 126 P **P 00 52 45.7 -0.7**
YKA Yellowknife Ar 47.63 350 P **P 00 52 48.3 -0.3**
comp=Z,1.4nm,0.8s,baz=156,slow=7.5,SNR=7.4
YKA PcP **PcP 00 54 18.4 +0.5**
comp=Z,0.4nm,0.7s,baz=159,slow=5.7,SNR=4.1
comp=Z,1.4nm,0.8s
KOTAN Kotaneelee Air 47.72 343 P **P 00 52 50.5 +1.2**
baz=145
LVC Limon Verde 47.96 143 LR LR 01 08 18.8
comp=Z,32nm,19.9s,baz=319,slow=30
DLBC Dease Lake 48.33 338 P **P 00 52 54.9 +0.8**
baz=137
DLBC Dease Lake 48.33 338 LR LR 01 15 10.3
comp=Z,352nm,18.3s,baz=120,slow=38
SIV San Ignacio 48.48 130 LR LR 01 12 06.7
comp=Z,114nm,18.3s,baz=92,slow=34
R33M Jennings River 49.36 338 P **P 00 53 03.6 +1.4**
baz=136
Q32M Nakina River 49.52 337 P **P 00 53 04.6 +1.2**
baz=135
PTLB Pontes e Lacer 49.59 128 P **P 00 53 03.7 -0.6**
PTLB IAmb IAmb 00 53 05.1
comp=Z,19nm,1.5s
TGTN Hyland Airport 50.08 342 P **P 00 53 08.8 +1.4**
baz=141
P32M Atlin 50.49 337 P **P 00 53 12.3 +1.7**
baz=133
SKAG Skagway 51.02 336 P **P 00 53 14.7 +0.3**
baz=131
AC02 Maricunga 51.17 146 P **P 00 53 17.9 +1.2**
AC02 IAmb IAmb 00 53 19.5
comp=Z,12nm,0.9s
WHY Whitehorse 51.65 338 P **P 00 53 20.2 +0.8**
baz=133
MMPY Sheldon Lake, 51.83 341 P **P 00 53 22.5 +1.9**
baz=138,SNR=6.9
P29M Windy Craggy 52.06 336 P **P 00 53 25.3 +2.9**
baz=129
P30M Million Dollar 52.07 336 P **P 00 53 24.6 +2.1**
baz=130
O30N Mendenhall 52.17 337 P **P 00 53 25.3 +2.2**
baz=131
FARO Faro, Yukon 52.21 340 P **P 00 53 24.8 +1.4**
baz=135
N31M Braeburn, Yuko 52.53 338 P **P 00 53 27.0 +1.1**
baz=132
M31M Drury Creek, Y 52.54 339 P **P 00 53 27.6 +1.7**
baz=134
H03N2 Juan Fernandez 52.66 160 T T 01 49 56.3
baz=338,slow=77,SNR=1370
H03N1 Juan Fernandez 52.67 160 T T 01 49 57.5
baz=338,slow=77,SNR=1177
H03N3 Juan Fernandez 52.68 160 T T 01 49 56.3
baz=338,slow=77,SNR=1234
HYT Haines Junctio 52.73 337 P **P 00 53 29.6 +2.2**
baz=130
N30M Aishikik Lake 52.99 338 P **P 00 53 31.9 +2.6**
baz=131
PINM Pinnacle 53.35 335 P **P 00 53 34.1 +2.2**
baz=126
M30M Minto, Yukon 53.62 339 P **P 00 53 35.2 +1.3**
baz=132
YUK8 Steele Glacier 53.88 336 P **P 00 53 38.3 +2.2**
baz=128
M29M Somme Creek 54.12 338 P **P 00 53 40.0 +2.4**
baz=130,SNR=7.7
CTG Chitna Glacier 54.30 336 P **P 00 53 41.3 +2.3**
baz=126
L29M L29M 54.43 339 P **P 00 53 41.8 +2.0**
baz=130,SNR=9.9
YUK3 Moose Creek 54.44 337 P **P 00 53 41.7 +1.7**
baz=127
K29M Barlow Dome 54.71 340 P **P 00 53 42.8 +1.0**
K29M IAmb IAmb 00 53 44.5
comp=Z,33nm,1.9s
K29M Barlow Dome 54.71 340 P **P 00 53 43.8 +2.0**
baz=131,SNR=5.4
J30M Hart River 54.82 341 P **P 00 53 44.6 +1.9**
baz=133
CRQE Cirque 54.89 335 P **P 00 53 44.7 +1.5**
baz=124
H31M Peel River 55.09 343 P **P 00 53 46.2 +1.8**
baz=136
MCARA McCarthy VSAT 55.21 335 P **P 00 53 47.6 +2.2**
baz=124
AQDB Aquidauana 55.25 130 P **P 00 53 45.5 -0.7**
I30M Mount Dempster 55.28 341 P **P 00 53 46.6 +0.6**
I30M Mount Dempster 55.28 341 P **P 00 53 46.5 +0.6**
baz=133,SNR=5.2
M27K Edge Creek, AK 55.33 337 P **P 00 53 47.9 +1.5**
baz=126
CFA Coronel Fontan 55.48 149 LR LR 01 13 55.6
comp=Z,56nm,18.0s,baz=5.5,slow=32
GLB Gilahina Butte 55.56 335 P **P 00 53 49.9 +2.0**
GLB IAmb IAmb 00 53 51.3
comp=Z,8.0nm,0.9s
BMRM Bremner River 55.63 335 P **P 00 53 50.8 +2.4**
baz=122
BCAR Beaver Creek A 55.71 338 P **P 00 53 50.5 +1.5**
L27K Beaver Creek, 55.72 338 P **P 00 53 50.9 +1.8**
baz=126,SNR=5.5
M26K Nabesna, AK 55.78 336 P **P 00 53 51.1 +1.6**
baz=125
G31M Satah River 55.88 344 P **P 00 53 51.4 +1.4**
baz=136,SNR=7.4
EYAK Cordova Ski Ar 55.89 334 P **P 00 53 50.7 +0.5**
baz=121
N25K Chitina, Valde 55.97 335 P **P 00 53 53.0 +2.1**
baz=122
F31M Tsiigehtchic 56.12 344 P **P 00 53 52.3 +0.6**
baz=137
L26K Log Cabin Wild 56.27 337 P **P 00 53 54.3 +1.3**
baz=125
P23K Montague Islan 56.33 333 P **P 00 53 55.1 +1.7**
baz=119
K27K Chicken 56.39 338 P **P 00 53 56.1 +2.4**
baz=126,SNR=8.3
KLU Klutina 56.45 335 P **P 00 53 56.4 +2.1**
baz=121
I28M Miner Creek 56.55 340 P **P 00 53 55.5 +0.5**
baz=130
H29M Whitestone 56.56 342 P **P 00 53 56.2 +1.2**
H29M IAmb IAmb 00 54 08.1
comp=Z,5.6nm,0.7s
H29M Whitestone 56.56 342 P **P 00 53 55.7 +0.8**
baz=132
HARP HAARP 56.62 336 P **P 00 53 58.0 +2.6**
baz=122
INK Inuvik 56.70 345 P **P 00 53 56.8 +0.8**
INK IAmb IAmb 00 54 08.7
comp=Z,9.6nm,0.9s
INK Inuvik 56.70 345 P **P 00 53 56.5 +0.6**
baz=138
INK Inuvik 56.70 345 LR LR 01 21 14.6
comp=Z,249nm,18.3s,baz=177,slow=39
F30M Barrier River 56.78 344 P **P 00 53 57.9 +1.4**
baz=135,SNR=5.7
IVI Ivigtut 57.02 26 *i* P P 00 53 50.9 -7.4
IVI IAmb IAmb 00 53 53.2
comp=Z,9.2nm,0.9s
SCRK Sand Creek 57.05 338 P **P 00 54 00.7 +2.1**
baz=124
I27K Kandik River 57.19 340 P **P 00 54 01.0 +1.5**
baz=128
J26L Joseph Creek 57.19 338 P **P 00 54 01.5 +1.9**
baz=125
RIDG Independent Ri 57.23 337 P **P 00 54 00.7 +0.9**
RIDG IAmb IAmb 00 54 02.8
comp=Z,13nm,1.0s
RIDG Independent Ri 57.23 337 P **P 00 54 01.9 +2.1**
baz=123,SNR=5.7
SEW Seward 57.29 332 P **P 00 54 00.4 +0.2**
baz=117
M23K Glacier View 57.34 334 P **P 00 54 02.6 +2.0**
baz=119
KNK Knik Glacier 57.46 334 P **P 00 54 03.1 +1.6**
baz=118
I26K Coal Creek Min 57.52 339 P **P 00 54 03.1 +1.3**
baz=126
H27K Steamboat Moun 57.55 341 P **P 00 54 03.2 +1.2**
baz=128
SML Sawmill 57.60 334 P **P 00 54 04.0 +1.6**
baz=119
K24K Donnelly Dome 57.61 337 P **P 00 54 03.3 +0.8**
baz=122
WAT6 Susitna Watana 57.74 335 P **P 00 54 04.2 +0.7**
baz=120
KDAK Kodiak Island 57.80 329 LR LR 01 19 11.9
comp=Z,122nm,18.1s,baz=180,slow=36
PMR Palmer 57.83 334 P **P 00 54 05.5 +1.5**
baz=118
RC01 Rabbit Creek A 57.86 333 P **P 00 54 05.4 +1.2**
baz=117
CPUP Villa Florida 57.88 136 P **P 00 54 04.2 -0.7**
CPUP IAmb IAmb 00 54 05.2
comp=Z,5.9nm,1.1s
CPUP Villa Florida 57.88 136 P **P 00 54 04.3 -0.6**
comp=Z,3.9nm,1.0s,baz=332,slow=8.2,SNR=5.7
comp=Z,3.9nm,1.0s
E29M Blow River 57.90 344 P **P 00 54 05.5 +1.1**
baz=133,SNR=5.3
J25K Salcha River, 57.90 338 P **P 00 54 05.8 +1.2**
baz=123
F28M Old Crow 57.93 342 P **P 00 54 06.5 +1.9**
baz=131,SNR=9.9
G27K Doyon Strip 57.95 341 P **P 00 54 05.3 +0.4**
baz=128
A36M Sachs Harbour 57.98 350 P **P 00 54 06.2 +1.4**
baz=149
WAT1 Susitna Watana 58.19 335 P **P 00 54 07.2 +0.7**
baz=119
CAPN Captain Cook N 58.34 332 P **P 00 54 07.7 +0.2**
baz=115
HDA Harding Lake 58.37 337 P **P 00 54 08.6 +0.9**
HDA Harding Lake 58.37 337 P **P 00 54 08.7 +0.9**
baz=122
RES Resolute Bay 58.43 1 P **P 00 54 07.8 -0.2**
RES IAmb IAmb 00 54 09.0
comp=Z,22nm,1.6s
RES Resolute Bay 58.43 1 LR LR 01 19 31.0
comp=Z,44nm,20.3s,baz=255,slow=36
PRP Porcupine Dome 58.46 339 P **P 00 54 09.3 +0.8**
baz=124
SUA Susitna One 58.46 333 P **P 00 54 10.1 +1.5**
SUA Susitna One 58.46 333 P **P 00 54 10.0 +1.5**
baz=116,SNR=9.2
E28M Babbage River 58.49 343 P **P 00 54 09.4 +0.9**
baz=132,SNR=6.6
IL31 58.54 338 P **P 00 54 09.2 +0.4**
ILAR Eielson Array 58.54 338 P **P 00 54 09.9 +1.1**
ILAR Eielson Array 58.54 338 P **P 00 54 10.0 +1.1**
comp=Z,2.7nm,0.9s,baz=137,slow=4.7,SNR=20
ILAR LR LR 01 21 37.2
comp=Z,267nm,18.4s,baz=96,slow=38
comp=Z,2.7nm,0.9s
BDFB Brasilia 58.58 120 P **P 00 54 10.3 +0.2**
BDFB IAmb IAmb 00 54 11.5
comp=Z,11nm,0.8s

BDFB	Brasilia	58.58	120	P	P	00 54 09.9	-0.2
	comp=Z,11nm,0.8s,baz=274,slow=7.0,SNR=14						
	comp=Z,11nm,0.8s						
RND	Reindeer	58.59	336	P	P	00 54 10.4	+1.1
RND				IAmb	IAmb	00 54 23.2	
	comp=Z,11nm,0.9s						
CUT	Chulitna	58.69	334	P	P	00 54 11.6	+1.6
	baz=117						
G26K	Porcupine Rive	58.70	341	P	P	00 54 11.3	+1.3
	baz=126						
O20K	Slope Mountain	58.72	331	P	P	00 54 11.2	+0.8
	baz=114						
MCK	McKinley	58.78	336	P	P	00 54 12.2	+1.6
	baz=119						
E27K	Coleen River	58.80	342	P	P	00 54 12.2	+1.4
	baz=129,SNR=5.5						
POKR	Poker Plat Res	58.92	338	P	P	00 54 12.0	+0.5
	baz=122						
H25L	Birch Creek	58.98	339	P	P	00 54 12.7	+0.8
	baz=124						
N20K	Mount Spurr	58.99	333	P	P	00 54 13.7	+1.5
	baz=114						
SKT	Skwentna	59.03	334	P	P	00 54 13.6	+1.2
SKT				IAmb	IAmb	00 54 14.4	
	comp=Z,8.9nm,0.8s						
SKT	Skwentna	59.03	334	P	P	00 54 13.8	+1.4
	baz=116						
TRF	Thorofare Moun	59.18	336	P	P	00 54 14.4	+0.9
	baz=118,SNR=12						
SFJD	Kangerlussuaq	59.19	20	LR	LR	01 21 27.6	
	comp=Z,89nm,21.6s,baz=212,slow=38						
BMAR	Burnt Mountain	59.24	341	P	P	00 54 15.0	+1.2
NEA2	Nenana	59.25	337	P	P	00 54 14.7	+0.8
	baz=120						
F26K	Sheenjek River	59.26	341	P	P	00 54 14.9	+0.9
	baz=126						
D27M	Malcolm River	59.30	344	P	P	00 54 14.6	+0.4
	baz=130						
Q18K	Katmai Hardscr	59.31	329	P	P	00 54 15.6	+1.0
	baz=110						
G25K	Bearman Lake	59.35	340	P	P	00 54 15.8	+1.3
	baz=124						
H24K	Noodor Dome	59.45	339	P	P	00 54 16.7	+1.4
	baz=121,SNR=5.7						
KTH	Kantishna Hill	59.48	335	P	P	00 54 16.4	+0.9
KTH				IAmb	IAmb	00 54 28.9	
	comp=Z,11nm,0.8s						
Q17K	Contact Creek	59.62	329	P	P	00 54 17.4	+0.8
	baz=109						
I23K	Minto, Yukon-K	59.64	337	P	P	00 54 17.8	+1.3
	baz=120						
F25K	Christian Rive	59.67	341	P	P	00 54 18.0	+1.2
	baz=125						
R17K	Ugashik Creek	59.67	328	P	P	00 54 18.2	+1.3
	baz=108						
M20K	Styx River	59.67	333	P	P	00 54 18.4	+1.4
	baz=114						
P18K	Big Mountain,	59.68	330	P	P	00 54 16.8	-0.1
	baz=110						
PPLA	Purkeypile	59.70	334	P	P	00 54 18.6	+1.4
	baz=115						
BPAW	Bear Paw Mtn.	59.75	336	P	P	00 54 17.9	+0.5
	baz=117						
G24K	Hadweenzic Riv	59.77	339	P	P	00 54 18.4	+1.0
	baz=122						
O18K	Koktuh Hills	59.84	331	P	P	00 54 19.1	+1.1
	baz=111						
N19K	Bonanza Creek	59.85	332	P	P	00 54 18.9	+0.7
	baz=112,SNR=5.7						
CAST	Castle Rocks	59.88	335	P	P	00 54 18.9	+0.7
CAST				IAmb	IAmb	00 54 19.9	
	comp=Z,11nm,0.8s						
CAST	Castle Rocks	59.88	335	P	P	00 54 19.2	+0.9
	baz=116,SNR=7.6						
E25K	Arctic Village	59.95	341	P	P	00 54 19.5	+0.8
	baz=125						
H23K	Yukon River	60.04	338	P	P	00 54 20.3	+1.0
	baz=120						
MLY	Manley	60.09	337	P	P	00 54 20.7	+1.0
MLY				IAmb	IAmb	00 54 22.0	
	comp=Z,9.4nm,1.0s						
MLY	Manley	60.09	337	P	P	00 54 20.6	+0.9
	baz=118,SNR=7.0						
M19K	Big River Lodg	60.23	333	P	P	00 54 21.7	+1.1
	baz=113						
DY2G	Dye2	60.37	21	*i* P	P	00 54 19.3	-2.5
DY2G				IAmb	IAmb	00 54 22.7	
	comp=Z,9.7nm,0.7s						
N18K	Kilae Creek	60.45	331	P	P	00 54 23.3	+1.1
	baz=111						
L19K	White Mountain	60.54	333	P	P	00 54 23.9	+1.2
	baz=112						
G23K	Bananza Creek	60.65	339	P	P	00 54 24.2	+0.7
	baz=120						
K20K	Telida	60.67	335	P	P	00 54 24.9	+1.3
	baz=114						
O17K	Koliganek Bris	60.70	330	P	P	00 54 25.3	+1.4
	baz=109						
H22K	Ishtalitna Cre	60.73	338	P	P	00 54 24.5	+0.5
	baz=118						
C26K	Camden Bay	60.81	343	P	P	00 54 25.1	+0.7
	baz=126						
E24K	Your Creek	60.84	341	P	P	00 54 25.4	+0.6
	baz=122						
D25K	Kavik River	60.88	342	P	P	00 54 26.1	+1.1
	baz=125						
COLD	Coldfoot	60.96	339	P	P	00 54 27.1	+1.6
	baz=120						
N17K	Nushagak Hills	61.00	331	P	P	00 54 26.7	+0.8
	baz=109						
J20K	Nowinta River	61.03	335	P	P	00 54 26.8	+0.7
J20K				IAmb	IAmb	00 54 28.0	
	comp=Z,11nm,1.1s						
J20K	Nowinta River	61.03	335	P	P	00 54 26.1	0.0
	baz=114						
O16K	Kokwok River B	61.13	330	P	P	00 54 27.7	+0.9
	baz=108						
H21K	Melozitna Rive	61.15	337	P	P	00 54 27.3	+0.5
	baz=116						
E23K	Chandalar	61.19	340	P	P	00 54 28.5	+1.3
	baz=121						
G22K	Bettles	61.26	339	P	P	00 54 28.6	+1.0
	baz=118						
L18K	Granite Mounta	61.35	333	P	P	00 54 29.6	+1.3
	baz=111						
I20K	Naaghedeneel	61.42	336	P	P	00 54 29.3	+0.6
	baz=114						
TOLK	Toolik Lake Re	61.48	341	P	P	00 54 29.4	+0.4
TOLK				IAmb	IAmb	00 54 30.8	
	comp=Z,5.7nm,0.7s						
TOLK	Toolik Lake Re	61.48	341	P	P	00 54 29.9	+0.9
	baz=121						
D24K	Happy Valley	61.51	342	P	P	00 54 29.7	+0.4
	baz=122						
J19K	Poorman	61.56	335	P	P	00 54 30.7	+1.1
	baz=113,SNR=5.7						
IMAR	Indian Mountai	61.64	337	P	P	00 54 30.4	+0.2
N16K	Nishlik Lake	61.72	331	P	P	00 54 31.9	+1.1
	baz=108						
F22K	John River	61.77	339	P	P	00 54 32.3	+1.3
	baz=118						
C24K	Franklin Bluff	61.78	342	P	P	00 54 32.2	+1.2
	baz=122						
G21K	Allakaket	61.78	338	P	P	00 54 32.4	+1.2
	baz=116						
J18K	Innoko River	61.81	334	P	P	00 54 32.2	+0.8
	baz=111						
O15K	Ungalikthiuk R	61.85	329	P	P	00 54 32.0	+0.3
	baz=106						
H20K	Anotleneega Mo	61.86	337	P	P	00 54 32.4	+0.7
	baz=114						
E22K	Anaktuvuk Pass	61.94	340	P	P	00 54 33.0	+0.8
	baz=118						
M16K	Timber Creek	61.98	331	P	P	00 54 33.6	+1.1
	baz=108						
D23K	Nanushuk River	61.99	341	P	P	00 54 33.7	+1.3
	baz=120						
L17K	Donlin	62.03	332	P	P	00 54 33.2	+0.3
	baz=109						
F21K	Alatna River	62.09	339	P	P	00 54 35.0	+1.8
	baz=116,SNR=8.9						
PLCA	Paso Flores	62.16	157	P	P	00 54 34.7	+0.7
PLCA	Paso Flores	62.16	157	P	P	00 54 34.8	+0.7
	comp=Z,9.0nm,0.8s,baz=329,slow=8.3,SNR=18						
PLCA				LR	LR	01 16 06.3	
	comp=Z,73nm,19.8s,baz=341,slow=31						
	comp=Z,9.0nm,0.8s						
K17K	Iditarod	62.23	333	P	P	00 54 34.9	+0.8
	baz=109						
KULLO	Kullorsuaq	62.40	11	*i* P	P	00 54 31.6	-3.5
KULLO				IAmb	IAmb	00 54 33.5	
	comp=Z,21nm,1.0s						
C23K	Itkillik River	62.41	342	P	P	00 54 36.7	+1.4
	baz=120						
L16K	Owhat River	62.43	332	P	P	00 54 36.5	+1.0
	baz=108						
H19K	Roundabout Mou	62.47	336	P	P	00 54 36.8	+1.0
	baz=112						
D22K	Ayikyak River	62.58	341	P	P	00 54 38.2	+1.7
	baz=118,SNR=5.6						
ISOG	Isortoq, Green	62.64	24	*i* P	P	00 54 29.1	-7.7
ISOG				IAmb	IAmb	00 54 37.8	
	comp=Z,19nm,0.9s						
E21K	Killik River	62.80	340	P	P	00 54 39.3	+1.4
	baz=116						
F20K	Avaraart Lake	62.81	338	P	P	00 54 39.3	+1.3
	baz=114						
G19K	Purcell Mounta	62.95	337	P	P	00 54 40.0	+1.1
	baz=112						
L15K	Ungalak Mounta	63.34	331	P	P	00 54 42.4	+0.8
	baz=106						
C21K	Knifeblade Rid	63.38	340	P	P	00 54 42.6	+0.9
	baz=116						
J16K	Anvik River	63.40	333	P	P	00 54 43.2	+1.3
	baz=107						
E20K	Nigu River	63.47	339	P	P	00 54 43.5	+1.1
	baz=114						
F19K	Shaleruckik Mo	63.47	338	P	P	00 54 43.5	+1.2
	baz=112						
B22K	Teshekpuk Lake	63.49	342	P	P	00 54 43.3	+0.9
	baz=118						
E19K	Redstone River	63.51	338	P	P	00 54 43.4	+0.8
	baz=113						
K15K	Wolf Creek Mou	63.52	332	P	P	00 54 43.6	+0.8
	baz=106						
B21K	Ikpikpuk River	63.53	341	P	P	00 54 43.5	+0.8
	baz=116						
H17K	Granite Mounta	63.63	335	P	P	00 54 45.0	+1.6
	baz=109						
TRQA	Tornquist	63.72	149	P	P	00 54 45.0	+0.6
D20K	Etivluk River	63.79	340	P	P	00 54 45.9	+1.4
	baz=114						
ICESG	Greenland Ices	63.81	20	*i* P	P	00 54 42.2	-2.7
PLTB	Pedras Altas	63.93	139	P	P	00 54 45.8	-0.2
D19K	Kuna River	64.22	339	P	P	00 54 47.4	+0.1
	baz=112						
B20K	Meade River	64.50	341	P	P	00 54 50.5	+1.4
	baz=114						
J14K	Nanvaranak Lak	64.55	332	P	P	00 54 50.4	+1.0
	baz=104						
AY01	Puyuhuapi	64.66	160	P	P	00 54 51.5	+1.1
AY01				IAmb	IAmb	00 54 52.8	
	comp=Z,11nm,1.0s						
E18K	Tukpahlearik C	64.71	338	P	P	00 54 51.5	+1.1
	baz=109						
C19K	Lookout Ridge	64.94	340	P	P	00 54 53.1	+1.1
	baz=111						
E17K	Hotham Inlet	65.05	337	P	P	00 54 53.4	+0.7
	baz=108						
G15K	Niukluk	65.33	335	P	P	00 54 55.7	+1.2
	baz=105						
C18K	Utukok River	65.33	339	P	P	00 54 55.1	+0.5
	baz=109						
NEEM	North Greenlan	65.44	10	*i* P	P	00 54 54.3	-1.2
NEEM				IAmb	IAmb	00 54 56.7	
	comp=Z,12nm,0.9s						
SUMG	Summit	65.62	17	*i* P	P	00 54 54.9	-1.9
SUMG				IAmb	IAmb	00 54 58.2	
	comp=Z,6.7nm,0.9s						
F15K	North Star Dit	65.76	335	P	P	00 54 59.3	+1.9
	baz=105						
B18K	Kokolik River	65.77	340	P	P	00 54 59.0	+1.6
	baz=109						
NOR	Nord	72.71	9	*i* P	P	00 55 37.3	-2.9
NOR				IAmb	IAmb	00 55 53.3	
	comp=Z,3.0nm,1.1s						
PTO	Porto	78.97	50	*e*P	P	00 56 16.4	-0.2
	comp=Z,30nm,1.3s						
PCAS	Casmilo, Conde	79.28	51	*e*P	P	00 56 19.2	+0.9
	comp=Z,41nm,1.2s						
EKA	Eskdalemuir Ar	79.45	35	P	P	00 56 18.5	-0.4
	comp=Z,5.2nm,0.8s,baz=270,slow=4.2,SNR=5.7						
	comp=Z,5.2nm,0.8s						
POLO	Lamas de Olo	79.52	50	*e*P	P	00 56 20.0	+0.2
PVIS	Viseu	79.58	51	*e*P	P	00 56 19.2	-0.9
PVRL	Vila Real	79.60	50	*e*P	P	00 56 20.6	+0.5
PTEO	Sao Teotonio	79.64	54	*e*P	P	00 56 21.2	+0.9
PFVI	Vila Bisbo	79.65	54	*e*P	P	00 56 20.3	-0.1
PNCL	Nicolau / Gran	79.67	53	*e*P	P	00 56 19.4	-1.1
	comp=Z,24nm,1.6s						
PMTG	Montargil	79.69	52	*e*P	P	00 56 20.9	+0.3
	comp=Z,25nm,1.6s						
MTE	Manteigas	79.91	51	*e*P	P	00 56 22.1	+0.2
	comp=Z,21nm,1.7s						
MTE	Manteigas	79.91	51	P	P	00 56 21.7	-0.2
EVO	Evora	79.97	53	*e*P	P	00 56 22.6	+0.5
PCBR	Castelo Branco	80.09	51	*e*P	P	00 56 23.5	+0.8
	comp=Z,22nm,1.5s						
MVO	Moncorvo	80.13	50	*e*P	P	00 56 23.6	+0.6
	comp=Z,18nm,1.0s						
PCVE	Castro Verde	80.15	54	*e*P	P	00 56 23.9	+0.8
PBRG	Braganca	80.19	49	*e*P	P	00 56 23.8	+0.5
	comp=Z,19nm,1.9s						
PBEJ	Beja	80.20	53	*e*P	P	00 56 23.9	+0.5
	comp=Z,27nm,1.3s						
PESTR	Estremoz	80.22	52	*e*P	P	00 56 23.8	+0.3
PMRV	Marv??o	80.24	52	*e*P	P	00 56 23.9	+0.3
	comp=Z,19nm,1.0s						
PBDV	Barranco-do-Ve	80.32	54	*e*P	P	00 56 23.3	-0.8
	comp=Z,54nm,1.8s						
PVAQ	Vaqueiros	80.45	54	*e*P	P	00 56 24.8	+0.1
PVAQ	Vaqueiros	80.45	54	P	P	00 56 24.9	+0.1
PVAQ				IAmb	IAmb	00 56 26.4	
	comp=Z,9.5nm,1.1s						
PBAR	Barrancos	80.80	53	*e*P	P	00 56 26.0	-0.6
	comp=Z,19nm,2.4s						
PAB	San Pablo	82.50	51	P	P	00 56 36.1	+0.4
PAB				IAmb	IAmb	00 56 37.3	
	comp=Z,15nm,1.1s						
ESDC	Sonseca Array	82.76	51	P	P	00 56 37.0	+0.1
ESDC				IAmb	IAmb	00 56 38.5	
	comp=Z,6.2nm,1.1s						
ESDC	Sonseca Array	82.76	51	P	P	00 56 36.9	-0.1
	comp=Z,4.4nm,0.9s,baz=295,slow=5.1,SNR=29						
	comp=Z,4.4nm,0.9s						
ESBB	Sonseca Array	82.76	51	P	P	00 56 37.2	+0.3
ESBB				IAmb	IAmb	00 56 38.5	
	comp=Z,9.6nm,1.1s						
MDT	Midelt	84.05	58	LR	LR	01 29 53.3	
	comp=Z,52nm,19.8s,baz=320,slow=33						
NB2	NORSAR Subarra	84.82	27	P	P	00 56 49.1	+2.0
	comp=Z,1.4nm,0.8s,baz=280,slow=5.1						
NOA	NORSAR Array B	84.82	27	P	P	00 56 48.9	+1.8
	comp=Z,1.8nm,0.9s,baz=292,slow=5.0,SNR=4.4						
NOA				LR	LR	01 34 26.5	
	comp=Z,16nm,21.8s,baz=305,slow=36						
	comp=Z,1.8nm,0.9s						
ARCES	ARCESS Array B	85.71	17	LR	LR	01 36 37.8	
	comp=Z,41nm,21.6s,baz=272,slow=37						
KOWA	Kowa	89.65	75	P	P	00 57 11.3	+0.1
FINES	FINESS Array B	90.78	23	LR	LR	01 40 45.2	
	comp=Z,33nm,18.4s,baz=302,slow=37						
TORD	Torodi Ar. Bea	95.35	75	P	P	00 57 36.2	-1.4
	comp=Z,0.9nm,0.7s,baz=304,slow=5.5,SNR=5.4						
	comp=Z,0.9nm,0.7s						
AKASG	Malin Array Be	98.84	31	LR	LR	01 44 50.1	
	comp=Z,21nm,19.0s,baz=354,slow=37						
ELIB	Princess Elisa	114.84	163	*d*PKP	PKPdf	01 02 53.4	+0.6
BOSA	Boshof	126.50	114	PKP	PKPdf	01 03 15.9	-0.5
	comp=Z,6.3nm,1.0s,baz=307,slow=5.1,SNR=3.8						
MAW	Mawson	127.22	171	PKP	PKiKP	01 03 17.0	+0.1
	comp=Z,4.3nm,0.8s,baz=221,slow=4.0,SNR=8.1						
WRA	Warramunga Arr	130.36	257	PKP	PKPdf	01 03 24.4	+0.5
	comp=Z,2.1nm,0.8s,baz=86,slow=2.6,SNR=18						
ASAR	Alice Springs	130.96	253	PKP	PKPdf	01 03 25.1	+0.2
	comp=Z,1.7nm,0.9s,baz=106,slow=2.3,SNR=12						
PZH	PanZhiHua	133.38	335	PKP	PKPdf	01 03 28.3	-1.4
CMAR	Chiang Mai Arr	141.70	334	PKhKP	PKPpre	01 03 40.4	
	comp=Z,0.5nm,0.3s,baz=359,slow=3.2,SNR=6.2						

*JMA **12** 01:19:03.8±0.5, 46°N±1°×14°2E±°, h8km±4km, MV2.9/24, SOUTH SAKHALIN*
*SKHL **12** 01:19:05.1±0.6, 46°13N×142°11E, h5km±3km, mb3.7/2*

ISC 12 01:19:06.2±1.2, 46°18N±0°05×142°1E±0°1, h21km, n6, σ0°84/10, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	Keihoku	0.87	189	*e*P	Pb	01 19 22.2	-0.3
JWK2				*e*S	Sn	01 19 35.3	+0.1
KHLM	Kholmsk	0.88	359	*i* Pg	Pn	01 19 23.6	+0.3
KHLM				AMB	AMB	01 19 24.3	
	93nm,0.3s						
KHLM				*e*Sg	Sn	01 19 35.8	+0.4
YSS	Yuzh-Sakhalins	0.90	31	*e*Pg	Pn	01 19 23.2	-0.5
YSS				AMB	AMB	01 19 27.7	
	29nm,0.4s						
YSS				*e*Sg	Sn	01 19 36.3	+0.2
YSS				A	A	01 19 39.8	
	90nm,0.3s						
YSS				A	A	01 19 39.8	
	90nm,0.3s						
JRBN	Rebuntou	1.04	224	*e*P	Pn	01 19 24.3	-1.2
JRR	Rishiri	1.17	208	*e*P	Pn	01 19 27.5	+0.2
JRR				*e*S	Sn	01 19 44.3	+1.7
JSE	Soyaes	1.27	164	*e*P	Pn	01 19 28.6	0.0

*IDC **12** 01:25:16.3±5.1, 35°09N×72°11E, h49km±36km, mb3.6/5, mbtmp3.7/10, ML3.4/5, Error ellipse: s-maj=61.6km s-min=26.9km az=137.0*
*NNC **12** 01:25:19.7±1.3, 35°55N×72°24E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=14.0km s-min=10.1km az=99.0*

ISC 12 01:25:14.8±0.9, 35°04N±0°08×72°11E±0°09, h35km, n19, σ1°33/23, mb3.9/4, 2C-3D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	7.19	9	⇑P	Pn	01 26 59.7	+1.9
	0.3nm,0.4s						
AML				⇓S	Sn	01 28 17.3	-1.1
	3.7nm,0.9s						
AAK	Ala-Archa	7.81	13	P	Pn	01 27 08.0	+1.9
	3.4nm,0.3s,baz=140,slow=2.9,SNR=27						
AAK				S	Sn	01 28 35.0	+1.6
	2.8nm,0.5s,baz=306,slow=23,SNR=7.0						
	6.7nm,0.3s						
KK31	Karatay Array	8.15	352	P	Pn	01 27 12.1	+1.5
	2.8nm,0.3s,baz=169,slow=11,SNR=62						
KK31				⇓S	Sn	01 28 41.8	+0.3
	2.1nm,0.5s,baz=168,slow=21,SNR=5.7						
TKM2	Tokmak 2	8.33	18	⇓P	Pn	01 27 14.9	+1.7
	0.7nm,0.3s						
TKM2				⇑S	Sn	01 28 45.3	-0.8
	2.1nm,0.8s						
PYUN	Piuthan	11.56	124	*e*P	Pn	01 27 59.7	+2.1
	6.7nm,0.4s						
GEYT	Alibeck	11.63	288	P	Pn	01 27 58.6	+0.3
	0.1nm,0.3s,baz=78,slow=6.8,SNR=1.5						
	0.7nm,0.5s						
DANN	Dangsing	11.95	121	*e*P	Pn	01 28 04.4	+1.5
	6.8nm,0.3s						
GUN	Gumba	13.72	117	*e*P	Pn	01 28 26.3	-0.9
MKAR	Makanchi Array	14.03	30	P	Pn	01 28 31.2	+0.2
	0.1nm,0.3s,baz=214,slow=12,SNR=1.8						
	0.3nm,0.6s						
JIRN	Jiri	14.09	118	*e*P	Pn	01 28 31.7	-0.6
	10.0nm,0.3s						
RAMN	Ramite	14.80	119	*e*P	Pn	01 28 40.8	-1.0
	4.7nm,0.4s						
TAPN	Taplejung	15.38	116	*e*P	Pn	01 28 47.1	-2.4
	5.5nm,0.4s						
BVAR	Borovoye Array	18.03	357	P	Pn	01 29 21.9	-0.5
	baz=181,slow=6.6,SNR=2.9						
	0.9nm,0.6s						
AKTO	Aktyubinsk	18.50	331	P	P	01 29 26.7	-1.1
	0.2nm,0.3s,baz=126,slow=9.9,SNR=2.4						
	1.5nm,0.8s						
ZALV	Zalesovo Beam	20.91	21	P	P	01 29 52.8	-1.2
	1.4nm,0.4s,baz=207,slow=14,SNR=6.0						
	1.4nm,0.4s						
FINES	FINESS Array B	39.20	327	P	P	01 32 39.2	0.0
	2.2nm,0.9s,baz=112,slow=13,SNR=1.9						
	2.2nm,0.9s						
ARCES	ARCESS Array B	42.84	338	P	P	01 33 09.0	0.0
	2.7nm,1.0s,baz=99,slow=7.5,SNR=4.0						
	2.7nm,1.0s						
NOA	NORSAR Array B	46.09	324	P	P	01 33 34.1	-1.1
	0.6nm,0.8s,baz=100,slow=7.2,SNR=2.9						
	0.6nm,0.8s						
TORD	Torodi Ar. Bea	66.60	270	P	P	01 36 02.1	+0.2
	0.6nm,0.5s,baz=47,slow=6.4,SNR=8.3						
	0.6nm,0.5s						

*NEIC **12** 01:29:00.1±0.6, 18°95N±0°09×155°33W±0°04, h33km±11km, Error ellipse: s-maj=13.6km s-min=3.2km az=157.0*

HVO 12 01:29:01.8±1.4, 18°93N±0°03×155°32W±0°02, h10km±8km, ML2.5/3, ML2.6/20(NEIC), Error ellipse: s-maj=4.9km s-min=2.0km az=151.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.31	346		Pg	01 29 08.0	-0.1
HLP	Hilina Pali	0.36	1		Pg	01 29 09.2	+0.1
HLP				IAML		01 29 21.5	
	comp=E,917nm,0.8s						
HLP				IAML		01 29 21.9	
	comp=N,937nm,0.5s						
HLP	Hilina Pali	0.36	1		Sb	01 29 15.2	-1.0
KHU	Kahuku	0.42	318		Pg	01 29 09.6	-0.6
KHU				IAML		01 29 16.1	
	comp=E,752nm,1.7s						
KHU				IAML		01 29 18.2	
	comp=N,409nm,0.8s						
KHU	Kahuku	0.42	318		Sg	01 29 15.4	-0.4
PUH	Pauahi	0.45	12		Pg	01 29 10.0	-0.7
AIN	Ainahou	0.46	343		Pg	01 29 10.5	-0.4
AIN				IAML		01 29 20.2	
	comp=E,646nm,0.3s						
AIN	Ainahou	0.46	343		Sg	01 29 17.4	+0.4
KKO	Keanakako`i	0.47	6		Pg	01 29 10.3	-0.7
KKO	Keanakako`i	0.47	6	IAML		01 29 23.1	
	comp=E,644nm,1.3s						
KNHH	Kane Nui o Ham	0.47	17		Pg	01 29 10.3	-0.7
MLH	Mauna Loa	0.56	353	Pg	Pg	01 29 11.8	-1.1
MLH				IAML		01 29 25.7	
	comp=N,316nm,0.7s						
MWH	Moku'aweowe	0.61	334		Pg	01 29 12.4	-1.4
MWH				IAML		01 29 29.2	
	comp=N,364nm,0.6s						
ALEP	Alea Permanent	0.68	333		Pg	01 29 13.2	-1.9
HMH	Humu'ula Sheep	0.69	347		Pg	01 29 13.6	-1.6
KHLU	Kahalu`u	0.85	320		Pg	01 29 15.5	-2.9
KHLU	Kahalu`u	0.85	320	IAML		01 29 34.0	
	comp=N,198nm,0.6s						
KHLU				IAML		01 29 37.0	
	comp=E,166nm,0.8s						
HUH	Hualalai	0.90	327		Pg	01 29 16.5	-2.6

*IDC **12** 01:41:56.7±7.7, 20°31S×177°99W, h556km±70km, mb2.9/3, mbtmp3.8/4, Error ellipse: s-maj=231.4km s-min=29.2km az=157.0*
*NEIC **12** 01:41:57.2±0.8, 20°2S±0°5×178°0W±0°3, h558km±30km, mb4.1/11, Error ellipse: s-maj=74.8km s-min=29.0km az=199.0*

ISC 12 01:41:57.8±1.3, 20°0S±0°2×178°1W±0°2, h569km, n17, σ0°40/17, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.27	301	P	P	01 43 22.6	-0.6
MSVF	Nonsavu	4.27	301	P	P	01 43 23.2	0.0
	6.6nm,0.4s,baz=144,slow=8.7,SNR=5

ASAR Alice Springs 44.51 256 P P 01 49 20.1 +0.3
comp=Z,2.1nm,0.6s,baz=97,slow=7.6,SNR=30
comp=Z,2.1nm,0.6s
WB0 Warramunga Arr 44.52 262 P P 01 49 19.9 0.0
WB0 IAmb IAmb 01 49 55.4
comp=Z,7.5nm,1.3s
WB2 Warramunga Arr 44.54 262 P P 01 49 20.2 +0.2
WB2 IAmb IAmb 01 49 32.5
comp=Z,5.1nm,1.1s
WRA Warramunga Arr 44.55 262 P P 01 49 20.0 -0.1
WRA Warramunga Arr 44.55 262 P P 01 49 20.2 +0.1
comp=Z,1.3nm,0.6s,baz=98,slow=7.9,SNR=21
comp=Z,1.3nm,0.6s
MTN Manton Dam 49.04 270 P P 01 49 54.5 +0.5
MORW Morawa 59.90 247 P P 01 51 09.4 -0.4
MORW IAmb IAmb 01 51 11.0
comp=Z,26nm,1.5s
CASY Casey 64.35 205 P P 01 51 37.9 0.0
CASY IAmb IAmb 01 52 14.8
comp=Z,6.7nm,1.5s
TXAR Lajitas Array 86.90 57 P P 01 53 43.4 +0.1
comp=Z,0.2nm,0.7s,baz=230,slow=5.6,SNR=3.4
comp=Z,0.2nm,0.7s

---

*IDC **12** 02:04:50.2±2.6, 45°.45N×84°.77E, h0km, mbtmp3.4/5, ML3.0/5, Error ellipse: s-maj=27.4km s-min=20.8km az=28.0*
*NNC **12** 02:04:52.3±1.4, 45°.41N×84°.81E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=10.9km s-min=5.3km az=106.0*
*SOME **12** 02:04:52.3, 45°.60N×84°.57E, h0km*
*ASRS **12** 02:05:01.9±0.6, 46°.N±3°.×8°.5E±°, h9km, MLh3.9/8, Error ellipse: s-maj=6.9km s-min=4.6km az=157.9, confirmed*
ISC 12 02:04:52.7±1.1, 45°.30N±0°.05×84°.48E±0°.04, h10km, n55, σ2°.26/76, 5C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.13**	**315**	⇑Pn	**Pb**	**02 05 31.4**	**0.0**
	7.9nm,0.3s,baz=122,slow=14,SNR=514						
MK31				⇓Sn	**Sb**	**02 06 00.5**	**+2.5**
	325nm,0.8s,baz=122,slow=25,SNR=51						
MKAR	**Makanchi Array**	**2.13**	**315**	Pg	**Pb**	**02 05 31.8**	**+0.3**
MKAR				Sg	**Sg**	**02 06 01.1**	**-0.1**
MKAR	**Makanchi Array**	**2.13**	**315**	Pn	**Pb**	**02 05 30.6**	**-0.8**
	15nm,0.3s,baz=128,slow=17,SNR=300						
MKAR				Lg	Lg	02 06 00.5	
	76nm,0.3s,baz=127,slow=28,SNR=61						
	39nm,0.5s						
ZSN	**Zaisan**	**2.17**	**7**	Pg	**Pn**	**02 05 29.0**	**+0.1**
	136nm,0.5s						
ZSN				Lg	Lg	02 05 56.1	
	136nm,0.3s						
ZSN	**Zaisan**	**2.17**	**7**	*e*P	**Pn**	**02 05 28.9**	**+0.1**
	136nm,0.5s						
ZSN				*e*S	**Sn**	**02 05 56.1**	**+0.2**
	136nm,0.3s						
MAKZ	**Makanchi**	**2.30**	**312**	⇑Pn	**Pb**	**02 05 33.5**	**-0.8**
	9.2nm,0.3s						
MAKZ				⇓Sn	**Sb**	**02 06 05.4**	**+2.6**
	106nm,0.6s						
DJR	**Jarkent**	**3.47**	**255**	Pg	**Pg**	**02 06 01.6**	**+2.4**
	8.2nm,0.4s						
DJR				Lg	Lg	02 06 50.6	
	20nm,0.4s						
KTMS	**Ketmen**	**3.49**	**239**	Pg	**Pg**	**02 06 00.6**	**+1.0**
	4.4nm,0.4s						
KTMS				Lg	Lg	02 06 49.1	
	34nm,0.5s						
KTMS	**Ketmen**	**3.49**	**239**	*e*Pg	**Pg**	**02 06 00.6**	**+1.0**
	2.0nm,0.1s						
KTMS				*e*Lg	Lg	02 06 49.1	
	34nm,0.5s						
PDGK	**Podgornoye**	**4.08**	**243**	Pg	**Pg**	**02 06 11.1**	**+0.2**
	2.6nm,0.3s						
PDGK				Lg	Lg	02 07 07.0	
	22nm,0.7s						
SHLS	**Shalkode**	**4.19**	**241**	Pg	**Pg**	**02 06 10.1**	**-2.8**
	32nm,0.4s						
SHLS				Lg	Lg	02 07 05.2	
	116nm,0.6s						
SHLS	**Shalkode**	**4.19**	**241**	*e*Pg	**Pg**	**02 06 10.1**	**-2.8**
	32nm,0.4s						
SHLS				*e*Lg	Lg	02 07 05.2	
	116nm,0.6s						
TDK	**Taldyqorghan**	**4.30**	**268**	Pg	**Pg**	**02 06 17.5**	**+2.4**
	72nm,0.4s						
TDK				Lg	Lg	02 07 18.9	
	185nm,0.6s						
TDK	**Taldyqorghan**	**4.30**	**268**	*e*Pg	**Pg**	**02 06 15.5**	**+0.4**
	32nm,0.1s						
TDK				*e*Lg	Lg	02 07 14.6	
	146nm,0.4s						
BLB	**Baldybastay**	**4.44**	**256**	Pg	**Pg**	**02 06 18.8**	**+1.0**
	19nm,0.4s						
BLB				Lg	Lg	02 07 21.0	
	50nm,0.6s						
UZB	**Uzynbulak**	**4.47**	**243**	Pg	**Pg**	**02 06 18.0**	**-0.3**
	5.7nm,0.4s						
UZB				Lg	Lg	02 07 18.7	
	20nm,0.7s						
UZB	**Uzynbulak**	**4.47**	**243**	*e*Pg	**Pg**	**02 06 17.4**	**-0.9**
	3.1nm,0.2s						
UZB				*e*Lg	Lg	02 07 18.7	
	20nm,0.7s						
KPKS	**Kokpek**	**4.54**	**248**	Pg	**Pg**	**02 06 19.0**	**-0.6**
	6.2nm,0.3s						
KPKS				Lg	Lg	02 07 20.8	
	59nm,0.4s						
KPKS	**Kokpek**	**4.54**	**248**	*e*Pg	**Pg**	**02 06 19.0**	**-0.6**
	6.2nm,0.3s						
KPKS				*e*Lg	Lg	02 07 20.8	
	59nm,0.4s						
DGZ	**Jazzator, Alta**	**4.84**	**23**	Pn	**Pn**	**02 06 05.0**	**-0.7**
DGZ				Pg	**Pb**	**02 06 17.9**	**+0.3**
DGZ				Sg	**Sb**	**02 07 16.4**	**+0.5**
ARXS	**Arharly**	**4.86**	**259**	Pg	**Pg**	**02 06 25.7**	**-0.1**
	7.3nm,0.4s						
ARXS				Lg	Lg	02 07 33.1	
	36nm,0.6s						
ARXS	**Arharly**	**4.86**	**259**	*e*Pg	**Pg**	**02 06 25.7**	**-0.1**
	7.3nm,0.4s						
ARXS				*e*Lg	Lg	02 07 33.0	
	36nm,0.6s						
KURS	**Kuram**	**4.87**	**250**	Pg	**Pg**	**02 06 27.4**	**+1.5**
	3.3nm,0.6s						
KURS				Lg	Lg	02 07 35.0	
	12nm,0.9s						
KURS	**Kuram**	**4.87**	**250**	*e*Pg	**Pg**	**02 06 26.8**	**+0.9**
	3.3nm,0.6s						
KURS				*e*Lg	Lg	02 07 35.0	
	12nm,0.9s						
SATY	**Saty**	**4.91**	**245**	Pg	**Pg**	**02 06 27.0**	**+0.4**
SATY				Lg	Lg	02 07 34.1	
CHBI	**Chibit, Altay**	**5.42**	**21**	Pn	**Pn**	**02 06 12.3**	**-1.3**
CHBI				Pg	**Pb**	**02 06 30.7**	**+3.3**
CHBI				Sg	**Sb**	**02 07 33.9**	**+1.5**
AKAR	**Aktash**	**5.45**	**22**	Pn	**Pn**	**02 06 14.0**	**-0.1**
AKAR				Pg	**Pb**	**02 06 30.1**	**+2.0**
AKAR				Sg	**Sb**	**02 07 34.6**	**+1.1**
CUR	**Chagan-Uzun**	**5.47**	**27**	Pn	**Pn**	**02 06 12.8**	**-1.6**
CUR				Pg	**Pb**	**02 06 29.4**	**+1.1**
CUR				Sg	**Sb**	**02 07 35.4**	**+1.4**
CHKK	**Chushkaly**	**5.54**	**258**	Pg	**Pg**	**02 06 38.0**	**-0.8**
	2.0nm,0.2s						
CHKK				Lg	Lg	02 07 53.8	
	14nm,0.3s						
CHKK	**Chushkaly**	**5.54**	**258**	*e*Pg	**Pg**	**02 06 38.0**	**-0.8**
	2.0nm,0.2s						
CHKK				*e*Lg	Lg	02 07 53.8	
	14nm,0.3s						
UKR	**Ust'-Kan**	**5.64**	**2**	Pn	**Pn**	**02 06 16.1**	**-0.6**
UKR				Pg	**Pb**	**02 06 33.1**	**+1.8**
UKR				Sg	**Sb**	**02 07 44.9**	**+5.8**
KOTS	**Kotyrbulak**	**5.68**	**251**	Pg	**Pg**	**02 06 41.2**	**-0.2**
	2.7nm,0.6s						
KOTS				Lg	Lg	02 07 58.9	
	28nm,0.6s						
KOTS	**Kotyrbulak**	**5.68**	**251**	*e*Pg	**Pg**	**02 06 40.9**	**-0.5**
	2.7nm,0.6s						
KOTS				*e*Lg	Lg	02 07 58.9	
	28nm,0.6s						
KTBS	**Karatobe**	**5.79**	**257**	Pg	**Pg**	**02 06 42.5**	**-1.2**
	3.1nm,0.7s						
KTBS				Lg	Lg	02 08 00.9	
	26nm,0.7s						
KTBS	**Karatobe**	**5.79**	**257**	*e*Pg	**Pg**	**02 06 42.2**	**-1.4**
	3.1nm,0.7s						
KTBS				*e*Lg	Lg	02 08 00.9	
	26nm,0.7s						
ULGR	**Ulagan, Altay**	**5.82**	**22**	Pg	**Pb**	**02 06 37.9**	**+3.6**
ULGR				Sg	**Sb**	**02 07 50.2**	**+6.2**
SEM	**Semipalatinsk**	**5.85**	**332**	Pg	**Pg**	**02 06 40.7**	**-4.0**
	3.8nm,0.2s						
SEM				Lg	Lg	02 07 57.6	
	14nm,0.5s						
SEM	**Semipalatinsk**	**5.85**	**332**	*e*Pg	**Pb**	**02 06 38.3**	**+3.5**
	4.7nm,0.1s						
SEM				*e*Lg	Lg	02 07 53.9	
	14nm,0.5s						
TNSS	**Tian-Shan**	**5.87**	**250**	Pg	**Pg**	**02 06 43.5**	**-1.6**
	3.7nm,0.4s						
TNSS				Lg	Lg	02 08 02.3	
	3.8nm,0.9s						
TNSS	**Tian-Shan**	**5.87**	**250**	*e*Pg	**Pg**	**02 06 42.9**	**-2.2**
	1.3nm,0.2s						
TNSS				*e*Lg	Lg	02 08 02.3	
	3.8nm,0.9s						
KUU	**Kurty**	**5.98**	**259**	Pg	**Pg**	**02 06 46.1**	**-1.1**
	3.0nm,0.5s						
KUU				Lg	Lg	02 08 06.7	
	14nm,0.5s						
KUU	**Kurty**	**5.98**	**259**	*e*Pg	**Pg**	**02 06 45.5**	**-1.6**
	3.0nm,0.5s						
KUU				*e*Lg	Lg	02 08 06.7	
	14nm,0.5s						
ELDR	**Elanda**	**6.02**	**10**	Pn	**Pn**	**02 06 21.2**	**-0.6**
ELDR				Pg	**Pb**	**02 06 40.4**	**+2.7**
ELDR				Sg	**Sb**	**02 07 53.2**	**+3.5**
DGS	**Degeres**	**6.58**	**255**	Pg	**Pg**	**02 06 57.9**	**-0.7**
	4.8nm,0.4s						
DGS				Lg	Lg	02 08 27.7	
	13nm,0.6s						
DGS	**Degeres**	**6.58**	**255**	*e*Pg	**Pg**	**02 06 57.9**	**-0.7**
	4.8nm,0.4s						
DGS				*e*Lg	Lg	02 08 27.7	
	13nm,0.6s						
KURBB	**Kurchatov Arra**	**6.65**	**325**	⇓Pn	**Pn**	**02 06 30.9**	**+0.4**
	0.7nm,0.3s						
KURBB				⇓Sn	**Sn**	**02 07 47.8**	**+1.5**
	5.3nm,0.6s						
KURBB				⇑Lg	Lg	02 08 22.2	
	93nm,0.8s						
KURBB	**Kurchatov Arra**	**6.65**	**325**	Pn	**Pn**	**02 06 30.6**	**+0.1**
	0.2nm,0.3s,baz=136,slow=13,SNR=7.6						
KURBB				Sn	**Sn**	**02 07 46.5**	**+0.2**
	0.3nm,0.3s,baz=155,slow=27,SNR=3.3						
KURBB				Lg	Lg	02 08 21.7	
	0.6nm,0.3s,baz=133,slow=30,SNR=7.4						
	0.7nm,0.5s						
KURK	**Kurchatov**	**6.69**	**326**	⇓Pn	**Pn**	**02 06 31.1**	**+0.2**
	0.4nm,0.4s						
KURK				⇑Sn	**Sn**	**02 07 46.5**	**-0.7**
	4.9nm,0.5s						
KURK				⇑Lg	Lg	02 08 21.0	
	45nm,0.9s						
KURK	**Kurchatov**	**6.69**	**326**	Sg	**Sg**	**02 08 23.3**	**-4.0**
ARTR	**Artybash**	**6.76**	**15**	Pn	**Pn**	**02 06 30.7**	**-1.3**
ARTR				Pg	Pb	02 06 56.2	+5.9
ARTR				Sg	**Sb**	**02 08 19.6**	**+8.5**
YALR	**Yailyu, Altay**	**6.80**	**17**	Pg	Pg	02 06 57.5	-5.3
YALR				Sg	**Sb**	**02 08 14.9**	**+2.7**
AAK	**Ala-Archa**	**7.68**	**253**	Lg	Lg	02 09 01.1	
	0.2nm,0.3s,baz=54,slow=17,SNR=1.6						
ZALV	**Zalesovo Beam**	**8.66**	**1**	Pn	**Pn**	**02 06 55.9**	**-2.1**
	0.3nm,0.3s,baz=180,slow=15,SNR=3.7						
ZALV				Sn	**Sn**	**02 08 30.3**	**-5.3**
	0.9nm,0.3s,baz=176,slow=24,SNR=6.1						
ZALV				Lg	Lg	02 09 19.6	
	0.6nm,0.3s,baz=182,slow=26,SNR=5.7						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**12.02**	**315**	Pn	**Pn**	**02 07 42.2**	**-1.8**
	baz=118,slow=14,SNR=3.0						
BVAR				Lg	Lg	02 11 14.9	
	baz=111,slow=29,SNR=5.2						
	0.5nm,0.4s						
SONM	**Songino Array**	**15.28**	**73**	Pn	**Pn**	**02 08 26.2**	**-2.3**
	0.4nm,0.3s,baz=263,slow=10.0,SNR=1.7						
	0.2nm,0.3s						

---

*NEIC **12** 02:18:26.6±1.4, 18°.1N±0°.1×145°.2E±0°.2, h158km±10km, mb4.5/20, Error ellipse: s-maj=26.7km s-min=15.4km az=97.0*
*IDC **12** 02:18:29.2±2.5, 17°.96N×145°.57E, h192km±23km, mb3.3/7, mbtmp3.8/8, Error ellipse: s-maj=28.9km s-min=18.8km az=92.0*
ISC 12 02:18:30.0±0.7, 17°.97N±0°.08×145°.2E±0°.2, h200km, n31, σ0°.93/31, mb4.2/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.37**	**184**	P	**Pn**	**02 19 36.7**	**+0.2**
	31nm,0.4s,baz=350,slow=2.6,SNR=2.1						
GUMO				S	**Sn**	**02 20 28.0**	**-0.9**
	19nm,0.3s,baz=18,slow=22,SNR=1.5						
MTN	**Manton Dam**	**33.63**	**205**	P	**P**	**02 24 52.8**	**+0.9**
KNRA	**Kununurra**	**37.16**	**207**	P	**P**	**02 25 22.8**	**+0.8**
WB0	**Warramunga Arr**	**38.98**	**196**	P	**P**	**02 25 37.9**	**+0.8**
WR0	**Warramunga Arr**	**39.13**	**196**	P	**P**	**02 25 38.8**	**+0.5**
WR0				IAmb	IAmb	02 26 19.1	
	comp=Z,8.2nm,1.4s						
WB2	**Warramunga Arr**	**39.16**	**196**	P	**P**	**02 25 38.6**	**0.0**
WB2				IAmb	IAmb	02 26 18.1	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**39.16**	**196**	P	**P**	**02 25 38.8**	**+0.2**
WRA	**Warramunga Arr**	**39.16**	**196**	P	**P**	**02 25 39.2**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=20,slow=8.3,SNR=15						
	comp=Z,0.8nm,0.3s						
ASAR	**Alice Springs**	**42.83**	**195**	P	**P**	**02 26 08.8**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=20,slow=9.5,SNR=12						
	comp=Z,0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**43.86**	**278**	P	**P**	**02 26 14.4**	**-2.5**
CMAR	**Chiang Mai Arr**	**43.86**	**278**	P	P	02 26 19.5	+2.6
	comp=Z,1.0nm,0.3s,baz=65,slow=8.1,SNR=5.0						
	comp=Z,1.0nm,0.3s						
FORT	**Forrest**	**51.20**	**199**	P	**P**	**02 27 13.7**	**+0.6**
MKAR	**Makanchi Array**	**58.63**	**314**	P	**P**	**02 28 07.6**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=116,slow=3.4,SNR=2.5						
	comp=Z,0.2nm,0.5s						
P18K	**Big Mountain,**	**59.32**	**31**	P	**P**	**02 28 09.6**	**-1.2**
KURBB	**Kurchatov Arra**	**61.55**	**318**	P	**P**	**02 28 27.7**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=76,slow=3.9,SNR=1.9						
	comp=Z,0.4nm,0.5s						
CAST	**Castle Rocks**	**61.95**	**27**	P	**P**	**02 28 27.3**	**-1.1**
CAST				IAmb	IAmb	02 28 47.9	
	comp=Z,8.5nm,1.4s						
B20K	**Meade River**	**62.40**	**19**	P	**P**	**02 28 31.6**	**+0.3**
RC01	**Rabbit Creek A**	**62.41**	**30**	P	**P**	**02 28 32.6**	**+1.1**
RC01				IAmb	IAmb	02 29 08.9	
	comp=Z,8.4nm,1.2s						
MLY	**Manley**	**62.97**	**25**	P	**P**	**02 28 35.8**	**+0.6**
D22K	**Ayikyak River**	**63.43**	**21**	P	**P**	**02 28 39.0**	**+0.9**
D22K				IAmb	IAmb	02 29 00.7	
	comp=Z,8.0nm,1.3s						
E22K	**Anaktuvuk Pass**	**63.49**	**22**	P	**P**	**02 28 38.4**	**-0.1**
TOLK	**Toolik Lake Re**	**64.43**	**22**	P	**P**	**02 28 45.3**	**+0.7**
TOLK				IAmb	IAmb	02 28 52.0	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**64.50**	**26**	P	**P**	**02 28 43.5**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=243,slow=9.8,SNR=2.1						
	comp=Z,0.4nm,0.9s						
D24K	**Happy Valley**	**64.84**	**21**	P	**P**	**02 28 47.7**	**+0.4**
D24K				IAmb	IAmb	02 29 06.9	
	comp=Z,12nm,1.5s						
D25K	**Kavik River**	**65.73**	**21**	P	**P**	**02 28 53.2**	**+0.2**
D25K				IAmb	IAmb	02 29 29.1	
	comp=Z,4.8nm,1.3s						
BMAR	**Burnt Mountain**	**65.96**	**23**	P	**P**	**02 28 55.0**	**+0.5**
LOGN	**Logan Glacier**	**66.57**	**31**	P	**P**	**02 28 58.5**	**-0.2**
LOGN				IAmb	IAmb	02 29 34.2	
	comp=Z,15nm,1.3s						
KK31	**Karatay Array**	**66.88**	**310**	P	**P**	**02 29 00.9**	**+0.2**
H31M	**Peel River**	**69.84**	**26**	P	**P**	**02 29 18.9**	**+0.2**
H31M				IAmb	IAmb	02 29 43.7	
	comp=Z,13nm,1.4s						
ABKAR	**Akbulak array**	**73.56**	**317**	P	**P**	**02 29 41.0**	**-0.1**
NVAR	**Mina Array Bea**	**83.95**	**52**	P	**P**	**02 30 37.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=272,slow=5.2,SNR=4.0						
	comp=Z,0.4nm,0.5s						

---

*IDC **12** 02:26:15.2±6.8, 17°.61S×173°.91W, h167km±49km, mb3.9/3, mbtmp4.3/4, MS3.5/3, Error ellipse: s-maj=56.6km s-min=36.1km az=72.0*
ISC 12 02:26:09.8±2.5, 17°.4S±0°.3×173°.4W±0°.5, h150km, n10, σ1°.53/7, mb4.4/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.16**	**266**	P	Pn	02 28 04.4	-1.1
	8.0nm,0.7s,baz=170,slow=23,SNR=3.8						
DZM	**Mont Dzumac**	**19.53**	**253**	LR	LR	02 36 48.1	
	comp=Z,74nm,20.8s,baz=27,slow=33						
URZ	**Urewera**	**22.40**	**200**	P	**P**	**02 30 56.1**	**+0.2**
	6.6nm,0.4s,baz=137,slow=1.5,SNR=6.8						
	6.6nm,0.4s						
HNR	**Honiara**	**27.08**	**284**	LR	LR	02 40 47.5	
	comp=Z,618nm,21.2s,baz=106,slow=33						
CTA	**Charters Tower**	**38.24**	**259**	LR	LR	02 46 22.4	
	comp=Z,20nm,20.8s,baz=84,slow=32						
WRA	**Warramunga Arr**	**49.42**	**258**	P	**P**	**02 34 44.3**	**-0.5**
	1.2nm,0.4s,baz=97,slow=7.0,SNR=53						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**49.52**	**253**	P	**P**	**02 34 45.2**	**-0.4**
	4.9nm,0.5s,baz=88,slow=8.8,SNR=95						
ASAR				PcP	**PcP**	**02 36 07.2**	**+1.8**
	0.4nm,0.8s,baz=98,slow=3.8,SNR=1.2						
	4.9nm,0.5s						
KMBO	**Kilima Mbogo**	**144.64**	**242**	PKP	**PKiKP**	**02 45 31.9**	**-1.8**
	1.0nm,0.6s,baz=149,slow=12,SNR=4.4						
BRTR	**Keskin Array B**	**147.67**	**319**	PKPbc	**PKPab**	**02 45 39.3**	**-0.5**
	1.2nm,0.8s,baz=60,slow=3.1,SNR=7.0						
MMAI	**Mount Meron Ar**	**149.78**	**306**	PKPab	**PKPab**	**02 45 49.8**	**+1.3**
	1.8nm,0.8s,baz=94,slow=8.8,SNR=2.7						

---

*AEIC **12** 02:35:17.9±2.7, 61°.58N±0°.01×141°.10W±0°.03, h9km±4km, ML3.4, ML3.5(OTT), ML3.5/175(NEIC), Error ellipse: s-maj=2.5km s-min=2.1km az=106.0*
*ANF **12** 02:35:18.2±0.1, 61°.57N×141°.09W, h0km, ML3.7/82, ML3.7/81, Error ellipse: s-maj=1.3km s-min=1.0km az=47.0*
*NEIC **12** 02:35:19.4±3.0, 61°.570N±0°.009×141°.07W±0°.04, h10km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=287.0*
*PGC **12** 02:35:19.4, 61°.57N×141°.09W, h4km, ML3.5, ML3.5/34, 212km Wnw of Haines Jct., Yt Southern Alaska*
ISC 12 02:35:19.0±0.9, 61°.58N±0°.01×141°.07W±0°.01, h11km±7km, n396, σ1°.53/478, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK2	**White River**	**0.24**	**27**		**Pg**	**02 35 23.5**	**-0.5**
YUK2					**Sg**	**02 35 27.2**	**-0.2**
YUK2	**White River**	**0.24**	**27**	P	**Pg**	**02 35 23.5**	**-0.5**
YUK2				S	**Sg**	**02 35 27.2**	**-0.2**
YUK3	**Moose Creek**	**0.35**	**55**		**Pg**	**02 35 25.7**	**-0.5**
YUK3					**Sg**	**02 35 30.9**	**0.0**
YUK3	**Moose Creek**	**0.35**	**55**	P	**Pg**	**02 35 25.7**	**-0.5**
	baz=237						
YUK3				S	**Sg**	**02 35 30.9**	**0.0**
	baz=237						
YUK3	**Moose Creek**	**0.35**	**55**	P	**Pg**	**02 35 25.7**	**-0.5**
YUK3				S	**Sg**	**02 35 30.9**	**0.0**
BARN	**Barnard Glacie**	**0.59**	**209**		**Pg**	**02 35 29.4**	**-1.2**
BARN					**Sg**	**02 35 37.6**	**-0.8**
BARN	**Barnard Glacie**	**0.59**	**209**	IAML		02 35 40.8	
	comp=E,4μm,0.4s						
BARN				IAML		02 35 43.4	
	comp=N,2μm,0.5s						
CTGM	**Chitina Glacie**	**0.63**	**192**		**Pg**	**02 35 30.2**	**-1.0**
CTGM					**Sg**	**02 35 39.2**	**-0.2**
CTGM	**Chitina Glacie**	**0.63**	**192**	P	**Pg**	**02 35 30.2**	**-1.0**
CTGM				S	**Sg**	**02 35 39.2**	**-0.2**
CTG	**Chitna Glacier**	**0.63**	**192**	P	**Pg**	**02 35 30.2**	**-1.0**
	baz=11,SNR=1000						
CTG				S	**Sg**	**02 35 39.4**	**-0.1**
	baz=11						
YUK8	**Steele Glacier**	**0.69**	**114**		**Pg**	**02 35 32.2**	**-0.2**
YUK8	**Steele Glacier**	**0.69**	**114**	P	**Pg**	**02 35 32.2**	**-0.2**
	baz=295						
YUK8				S	**Sg**	**02 35 42.6**	**+1.0**
	baz=295						
YUK8	**Steele Glacier**	**0.69**	**114**	P	**Pg**	**02 35 32.2**	**-0.2**
YUK8				S	**Sb**	**02 35 43.3**	**+0.3**
LOGN	**Logan Glacier**	**0.76**	**177**		**Pg**	**02 35 32.8**	**-0.8**
LOGN					**Sg**	**02 35 43.6**	**+0.1**
LOGN	**Logan Glacier**	**0.76**	**177**	P	**Pg**	**02 35 32.8**	**-0.8**
LOGN				S	**Sg**	**02 35 43.6**	**+0.1**
PTPK	**Patty Peak**	**0.78**	**240**		**Pg**	**02 35 33.0**	**-1.0**
PTPK					**Sg**	**02 35 43.6**	**-0.6**
PTPK	**Patty Peak**	**0.78**	**240**	P	**Pg**	**02 35 33.0**	**-1.0**
PTPK				S	**Sg**	**02 35 43.6**	**-0.6**
BVCY	**Beaver Creek**	**0.85**	**7**		**Pg**	**02 35 34.5**	**-0.8**
BVCY	**Beaver Creek**	**0.85**	**7**		**Sg**	**02 35 46.6**	**+0.3**
BVCY	**Beaver Creek**	**0.85**	**7**	P	**Pg**	**02 35 35.0**	**-0.4**
BVCY				S	**Sg**	**02 35 46.6**	**+0.3**
M27K	**Edge Creek, AK**	**0.87**	**334**		**Pg**	**02 35 34.8**	**-1.0**
M27K					**Sg**	**02 35 46.3**	**-0.8**
M27K	**Edge Creek, AK**	**0.87**	**334**	IAML		02 35 46.8	
	comp=E,2μm,0.5s						
M27K				IAML		02 35 47.9	
	comp=N,3μm,0.5s						
M27K	**Edge Creek, AK**	**0.87**	**334**	P	**Pg**	**02 35 34.8**	**-1.0**
	baz=154,SNR=1000						
M27K				S	**Sg**	**02 35 46.4**	**-0.8**
	baz=154						
M27K	**Edge Creek, AK**	**0.87**	**334**	P	**Pg**	**02 35 34.8**	**-1.0**
M27K				S	**Sg**	**02 35 46.3**	**-0.8**
GRNC	**Granite Creek**	**0.91**	**202**		**Pg**	**02 35 35.2**	**-1.4**
GRNC					**Sg**	**02 35 48.3**	**-0.1**
GRNC	**Granite Creek**	**0.91**	**202**	IAML		02 35 51.9	
	comp=E,2μm,0.6s						
GRNC				IAML		02 35 53.1	
	comp=N,2μm,0.8s						
GRNC	**Granite Creek**	**0.91**	**202**	P	**Pg**	**02 35 35.2**	**-1.4**
GRNC				S	**Sg**	**02 35 48.3**	**-0.1**
O28M	**Mount Upton**	**0.91**	**152**		**Pg**	**02 35 35.5**	**-1.1**
O28M					**Sg**	**02 35 48.0**	**-0.5**
O28M	**Mount Upton**	**0.91**	**152**	P	**Pg**	**02 35 35.5**	**-1.1**
	baz=332,SNR=1000						
O28M				S	**Sg**	**02 35 48.3**	**-0.3**
	baz=332						
O28M	**Mount Upton**	**0.91**	**152**	P	**Pg**	**02 35 35.5**	**-1.1**
O28M				S	**Sg**	**02 35 48.0**	**-0.5**
MCARA	**McCarthy VSAT**	**0.96**	**259**		**Pg**	**02 35 36.3**	**-1.1**
MCARA			

YUK6 S Sg 02 36 06.5 +0.6
baz=297
YUK6 Outpost Mounta 1.46 115 Pn Pn 02 35 45.7 +0.2
YUK6 Sg Sn 02 36 05.3 +0.7
SAMH Samovar Hills 1.46 174 Pn Pn 02 35 46.0 +0.6
SAMH Samovar Hills 1.46 174 Pn Pn 02 35 46.0 +0.6
SAMH Sg Sg 02 36 06.3 +0.3
MESA MESA 1.47 197 Pn 02 35 45.9 +0.3
MESA MESA 1.47 197 P Pn 02 35 46.1 +0.5
baz=16,SNR=819
MESA S Sg 02 36 06.4 +0.2
baz=16
MESA MESA 1.47 197 Pn Pn 02 35 46.0 +0.4
MESA Sg Sg 02 36 07.0 +0.8
M29M Somme Creek 1.51 54 Pn 02 35 46.4 +0.3
M29M Somme Creek 1.51 54 IAML 02 36 07.9
comp=N,813nm,0.5s
M29M IAML 02 36 08.7
comp=E,563nm,0.4s
M29M Somme Creek 1.51 54 P Pn 02 35 46.1 0.0
baz=236,SNR=1000
M29M S Sn 02 36 06.6 +0.8
baz=236
M29M Somme Creek 1.51 54 Pn Pn 02 35 46.2 +0.2
M29M Sg Sn 02 36 06.5 +0.7
WASW Wrangell South 1.52 285 Pn 02 35 46.6 +0.3
BCAR Beaver Creek A 1.53 348 Pn 02 35 45.9 -0.4
L27K Beaver Creek, 1.53 347 Pn Pn 02 35 46.3 0.0
L27K IAML 02 36 08.6
comp=E,460nm,0.6s
L27K Beaver Creek, 1.53 347 P Pn 02 35 46.3 0.0
baz=167,SNR=551
L27K S Sn 02 36 06.9 +0.6
baz=167
L27K Beaver Creek, 1.53 347 Pn Pn 02 35 46.3 0.0
L27K Sg Sn 02 36 06.9 +0.6
PCA Pinnacle 1.54 165 Pn 02 35 47.4 +1.0
PCA Pinnacle 1.54 165 Pn Pn 02 35 46.7 +0.3
PCA Sg Sg 02 36 08.4 0.0
PINM Pinnacle 1.54 165 P Pn 02 35 47.1 +0.6
baz=345,SNR=1000
PINM S Sg 02 36 08.8 +0.3
baz=345
WAZA Wrangell Mount 1.54 290 Pn 02 35 47.1 +0.3
WACK Wrangell Chich 1.60 286 Pn 02 35 48.2 +0.7
YUK5 Granite Creek 1.61 105 Pn Pn 02 35 48.0 +0.5
YUK5 Sg Sg 02 36 10.7 -0.1
SNH Sunshine Point 1.65 212 Pb 02 35 49.2 -0.2
SNH Sunshine Point 1.65 212 IAML 02 36 16.4
comp=E,937nm,0.4s
SNH IAML 02 36 16.5
comp=N,725nm,0.7s
CYK Cape Yakataga 1.65 205 Pb 02 35 49.8 +0.4
N25K Chitina, Valde 1.69 273 Pn 02 35 48.5 0.0
N25K Chitina, Valde 1.69 273 P Pn 02 35 48.5 0.0
baz=90
N25K S Sb 02 36 11.5 +0.2
baz=90
BERG Berg Lake 1.75 228 Pn 02 35 50.4 +1.2
O29M Mount Kennedy 1.77 135 Pn 02 35 50.3 +0.6
O29M IAML 02 36 18.5
comp=E,676nm,0.4s
O29M IAML 02 36 20.8
comp=N,470nm,0.5s
O29M Mount Kennedy 1.77 135 P Pn 02 35 50.4 +0.8
baz=317,SNR=542
O29M Mount Kennedy 1.77 135 Pn Pn 02 35 50.5 +0.9
O29M Sg Sg 02 36 15.3 -0.5
YUK7 Dusty Glacier 1.77 125 Pb 02 35 51.3 -0.3
YUK7 Dusty Glacier 1.77 125 Pn Pb 02 35 51.4 -0.2
YUK7 Sg Sg 02 36 15.7 -0.2
BCPM Bancas Point 1.78 156 Pb 02 35 51.5 0.0
BCPM Bancas Point 1.78 156 IAML 02 36 19.1
comp=N,568nm,0.4s
L26K Log Cabin Wild 1.80 325 Pn 02 35 50.6 +0.6
L26K Log Cabin Wild 1.80 325 P Pn 02 35 50.4 +0.4
baz=143,SNR=117
L26K S Sn 02 36 14.1 +1.3
baz=143
BMRM Bremner River 1.81 252 Pn 02 35 49.9 -0.3
BMRM Bremner River 1.81 252 P Pn 02 35 50.1 -0.1
baz=69
BMRM S Sn 02 36 13.3 +0.1
baz=69
BGLC Bering Glacier 1.82 218 P Pn 02 35 50.4 +0.2
baz=35
MENT Mentasta 1.84 319 Pn 02 35 51.1 +0.5
MENT IAML 02 36 19.5
comp=N,506nm,0.5s
MENT IAML 02 36 24.7
comp=E,468nm,0.9s
HYT Haines Junctio 1.89 112 Pn 02 35 52.4 +1.2
HYT Haines Junctio 1.89 112 IAML 02 36 25.7
comp=E,293nm,0.9s
HYT IAML 02 36 26.6
comp=N,334nm,0.8s
HYT Haines Junctio 1.89 112 P Pn 02 35 52.5 +1.2
baz=295
HYT Haines Junctio 1.89 112 Pn Pn 02 35 52.4 +1.2
HYT Sg Sb 02 36 18.9 +1.8
N30M Aishikik Lake 1.91 92 Pn 02 35 51.6 +0.1
N30M Aishikik Lake 1.91 92 IAML 02 36 22.9
comp=E,305nm,0.4s
N30M IAML 02 36 25.0
comp=N,608nm,1.0s
N30M Aishikik Lake 1.91 92 P Pn 02 35 51.5 -0.1
baz=275,SNR=437
N30M S Sn 02 36 17.0 +1.4
baz=275
N30M Aishikik Lake 1.91 92 Pn Pn 02 35 51.7 +0.1
N30M Sg Sb 02 36 19.3 +1.5
HMT Hamilton 1.99 233 Pb 02 35 55.1 -0.2
GOAT Goat Mountain 2.04 242 Pn 02 35 53.9 +0.6
L29M L29M 2.06 40 Pn 02 35 54.1 +0.5
L29M L29M 2.06 40 P Pn 02 35 54.1 +0.5
baz=223,SNR=177
L29M Sb Sb 02 36 23.4 +1.3
baz=223
L29M L29M 2.06 40 Pn Pn 02 35 54.1 +0.5
L29M Sg Sb 02 36 23.5 +1.5
PNL Peninsula 2.08 156 Pn 02 35 55.7 +1.7
PNL Peninsula 2.08 156 Pb Pb 02 35 56.4 -0.4
baz=337,SNR=364
PNL Sb Sg 02 36 25.1 -0.8
baz=337
PNL Peninsula 2.08 156 Pn Pn 02 35 55.6 +1.7
PNL Sg Sb 02 36 23.9 +1.2
HARP HAARP 2.10 295 Pb 02 35 56.1 -0.9
HARP HAARP 2.10 295 Pb Pb 02 35 56.3 -0.8
baz=112
HARP Sb Sg 02 36 25.3 -1.0
baz=112
RAGM Ragged Mountai 2.12 237 Pb 02 35 57.0 -0.5
RAGM Ragged Mountai 2.12 237 IAML 02 36 31.7
comp=E,493nm,0.7s
YKU2 Yakutat 2.19 161 Pn Pn 02 35 54.4 -0.8
M30M Minto, Yukon 2.25 62 Pn Pn 02 35 55.8 -0.3
M30M IAML 02 36 32.4
comp=N,296nm,0.3s
M30M IAML 02 36 33.2
comp=E,231nm,0.4s
M30M Minto, Yukon 2.25 62 P Pn 02 35 56.3 +0.2
baz=246,SNR=552
M30M Sb Sb 02 36 29.2 +1.7
baz=246
M30M Minto, Yukon 2.25 62 Pn Pn 02 35 56.4 +0.2
M30M Pg Pb 02 35 59.9 +0.3
M30M Sg Sb 02 36 29.4 +1.9
DIV Divide 2.31 261 Pb 02 35 59.3 -1.4
DIV Divide 2.31 261 Pn Pn 02 35 58.7 +1.6
DIV Sg Sg 02 36 31.6 -1.6
KLU Klutina 2.33 270 Pb 02 35 59.5 -1.4
KLU IAML 02 36 34.4
comp=N,205nm,0.5s
KLU IAML 02 36 36.1
comp=E,205nm,0.5s
KLU Klutina 2.33 270 Pb Pb 02 36 00.1 -0.9
baz=86
KLU Sb Sb 02 36 31.2 +1.6
baz=86
KAIM Kayak Island 2.33 226 Pb 02 36 00.1 -0.9
KAIM Kayak Island 2.33 226 IAML 02 36 35.2
comp=E,276nm,1.0s
KAIM IAML 02 36 35.8
comp=N,266nm,1.0s

KAIM Kayak Island 2.33 226 Pb Pb 02 36 00.5 -0.5
baz=43
KAIM Sg Sg 02 36 34.9 +1.0
baz=43
M24K Tolsona, Glenn 2.48 285 Pn 02 36 00.7 +1.3
M24K Tolsona, Glenn 2.48 285 Pb Pb 02 36 02.6 -0.9
baz=100
M24K Sb Sb 02 36 36.5 +2.4
baz=100
P30M Million Dollar 2.49 124 P Pn 02 35 59.8 +0.3
baz=308
P30M Sb Sb 02 36 36.4 +2.1
baz=308
P30M Million Dollar 2.49 124 Pn Pn 02 35 58.6 -0.9
P30M Sg Sb 02 36 36.7 +2.4
PAX Paxson 2.49 306 Pn 02 36 01.9 +2.4
PAX Paxson 2.49 306 Pb Pb 02 36 02.2 -1.5
baz=122
PAX Sb Sb 02 36 35.5 +1.2
baz=122
EYAK Cordova Ski Ar 2.50 248 Pn 02 36 02.0 +2.5
EYAK Cordova Ski Ar 2.50 248 Pb Pb 02 36 02.5 -1.4
baz=63
EYAK Sb Sb 02 36 36.3 +1.8
baz=63
K27K Chicken 2.50 350 Pn 02 36 00.1 +0.5
K27K Chicken 2.50 350 IAML 02 36 47.1
comp=E,182nm,0.8s
K27K Chicken 2.50 350 P Pn 02 36 00.3 +0.6
baz=169
K27K S Sn 02 36 31.7 +1.6
baz=169
K27K Chicken 2.50 350 Pn Pn 02 36 00.1 +0.5
K27K Sn Sn 02 36 31.4 +1.3
N31M Braeburn, Yuko 2.54 90 Pn 02 36 00.2 +0.1
N31M Braeburn, Yuko 2.54 90 P Pn 02 36 00.7 +0.5
baz=274
N31M Sb Sg 02 36 39.3 -1.1
baz=274
N31M Braeburn, Yuko 2.54 90 Pn Pn 02 36 00.8 +0.6
N31M Sg Sg 02 36 38.8 -1.6
O30N Mendenhall 2.55 106 Pn 02 35 60.0 -0.3
O30N IAML 02 36 45.7
comp=N,223nm,0.6s
O30N Mendenhall 2.55 106 P Pn 02 36 00.5 +0.2
baz=291,SNR=70
O30N Sb Sb 02 36 38.2 +2.2
baz=291
P29M Windy Craggy 2.55 138 Pn 02 36 02.6 +2.2
P29M Windy Craggy 2.55 138 IAML 02 36 41.8
comp=E,255nm,0.5s
P29M IAML 02 36 41.8
comp=N,234nm,0.9s
P29M Windy Craggy 2.55 138 Pb Pb 02 36 04.9 +0.1
baz=321,SNR=73
P29M Sb Sb 02 36 38.6 +2.5
baz=321
P29M Windy Craggy 2.55 138 Pn Pn 02 36 02.8 +2.4
P29M Sg Sg 02 36 39.2 -1.7
DAWY Dawson 2.61 16 Pn 02 36 01.8 +0.6
DAWY Dawson 2.61 16 IAML 02 36 42.3
comp=N,210nm,0.5s
DAWY IAML 02 36 48.7
comp=E,239nm,0.7s
FID Port Fidalgo 2.75 255 Pn 02 36 03.3 +0.3
FID IAML 02 36 47.5
comp=E,161nm,0.5s
FID IAML 02 36 50.8
comp=N,165nm,0.8s
SCRK Sand Creek 2.76 332 Pn 02 36 03.4 +0.2
SCRK Sand Creek 2.76 332 P Pn 02 36 03.2 -0.1
baz=150,SNR=115
SCRK Sb Sb 02 36 44.5 +2.4
baz=150
RIDG Independent Ri 2.78 323 Pn 02 36 03.4 -0.1
RIDG IAML 02 36 53.7
comp=N,166nm,1.1s
RIDG IAML 02 37 00.3
comp=E,191nm,1.5s
RIDG Independent Ri 2.78 323 P Pn 02 36 03.7 +0.2
baz=140
RIDG Sb Sb 02 36 45.6 +2.8
baz=140
K29M Barlow Dome 2.80 34 Pn Pn 02 36 03.0 -0.9
K29M IAML 02 36 55.2
comp=E,132nm,0.8s
K29M Barlow Dome 2.80 34 P Pn 02 36 04.6 +0.8
baz=218,SNR=147
K29M S Sn 02 36 39.7 +2.0
baz=218
K29M Barlow Dome 2.80 34 Pn Pn 02 36 04.6 +0.8
K29M Sg Sb 02 36 45.9 +2.5
HIN Hinchinbrook I 2.90 248 Pn 02 36 07.1 +2.0
HIN Hinchinbrook I 2.90 248 IAML 02 36 50.8
comp=N,169nm,0.7s
HIN IAML 02 36 54.3
comp=E,201nm,0.8s
SCM Sheep Creek Mo 2.99 278 Pn 02 36 09.0 +2.6
SCM Sheep Creek Mo 2.99 278 IAML 02 37 24.0
comp=E,132nm,0.2s
SCM Sheep Creek Mo 2.99 278 P Pn 02 36 08.4 +2.0
baz=92
GLI Glacier Island 3.00 259 Pn 02 36 06.8 +0.4
GLI IAML 02 36 57.3
comp=E,123nm,0.7s
GLI Glacier Island 3.00 259 P Pn 02 36 08.4 +2.0
baz=74
GLI Sb Sb 02 36 50.6 +1.7
baz=74
K24K Donnelly Dome 3.11 318 Pb Pb 02 36 13.6 -0.7
baz=134
K24K Sb Sb 02 36 54.7 +2.3
baz=134
MAYO Mayo, Yukon 3.14 48 Pn 02 36 08.1 -0.3
MAYO Mayo, Yukon 3.14 48 P Pn 02 36 08.7 +0.4
baz=232
MAYO Mayo, Yukon 3.14 48 Sg Sg 02 36 57.1 -2.6
WHY Whitehorse 3.14 104 Pn 02 36 09.0 +0.5
WHY Whitehorse 3.14 104 IAML 02 37 07.1
comp=N,129nm,0.7s
WHY Whitehorse 3.14 104 P Pn 02 36 09.2 +0.7
baz=290
WHY Whitehorse 3.14 104 Pn Pn 02 36 09.2 +0.7
WHY Sg Sg 02 36 57.6 -2.2
J26L Joseph Creek 3.15 340 Pn 02 36 09.4 +0.8
J26L Joseph Creek 3.15 340 IAML 02 37 00.6
comp=N,148nm,0.6s
J26L Joseph Creek 3.15 340 P Pn 02 36 09.2 +0.6
baz=158,SNR=26
J26L S Sn 02 36 47.9 +1.8
baz=158
PLBC Pleasant Camp 3.15 130 Pn Pn 02 36 10.2 +1.7
PLBC Sg Sg 02 36 58.5 -1.6
J29N Klondike Camp 3.17 23 Pn 02 36 09.9 +1.1
J29N Klondike Camp 3.17 23 P Pn 02 36 09.7 +0.9
baz=206
M23K Glacier View 3.18 277 P Pn 02 36 10.7 +1.8
baz=91
M31M Drury Creek, Y 3.23 76 Pn 02 36 09.7 +0.2
M31M IAML 02 37 07.0
comp=N,142nm,0.3s
M31M IAML 02 37 11.0
comp=E,143nm,0.8s
M31M Drury Creek, Y 3.23 76 Pg Pg 02 36 19.4 -1.3
baz=262
M31M Drury Creek, Y 3.23 76 Pg Pb 02 36 18.3 +2.1
M31M Sg Sg 02 37 00.3 -2.1
WAT6 Susitna Watana 3.29 291 Pn 02 36 12.6 +1.9
WAT6 Susitna Watana 3.29 291 P Pn 02 36 12.9 +2.3
baz=105
DHY Denali Highway 3.30 300 Pn 02 36 13.4 +2.6
DHY Denali Highway 3.30 300 P Pn 02 36 13.2 +2.5
baz=114
DHY Sb Sb 02 36 59.7 +1.8
baz=114
Q23K Middleton Isla 3.38 233 Pn 02 36 13.8 +2.1
Q23K Middleton Isla 3.38 233 IAML 02 36 45.4
comp=N,127nm,1.5s
Q23K IAML 02 37 05.4
comp=E,122nm,1.4s
SML Sawmill 3.47 277 Pn 02 36 15.3 +2.4
SML Sawmill 3.47 277 P Pn 02 36 14.8 +1.9
baz=91
P23K Montague Islan 3.48 246 Pn 02 36 15.3 +2.2
P23K Montague Islan 3.48 246 P Pn 02 36 14.9 +1.8
baz=60

KNK Knik Glacier 3.54 271 Pn 02 36 16.5 +2.5
KNK Knik Glacier 3.54 271 IAML 02 37 10.1
comp=N,112nm,0.9s
KNK IAML 02 37 15.4
comp=E,80nm,1.1s
KNK Knik Glacier 3.54 271 P Pn 02 36 16.5 +2.5
baz=84
SKAG Skagway 3.54 124 Pn 02 36 14.1 +0.2
SKAG Skagway 3.54 124 P Pn 02 36 15.3 +1.4
baz=309,SNR=6.8
PWL Port Wells 3.59 262 Pn 02 36 16.9 +2.4
PWL Port Wells 3.59 262 Pb Pb 02 36 21.3 -1.1
baz=75
J25K Salcha River, 3.62 329 Pn 02 36 15.1 +0.1
J25K Salcha River, 3.62 329 IAML 02 37 15.9
comp=N,72nm,0.7s
J25K IAML 02 37 19.5
comp=E,66nm,1.1s
J25K Salcha River, 3.62 329 P Pn 02 36 15.3 +0.3
baz=146
J30M Hart River 3.70 34 Pn Pn 02 36 16.9 +0.7
J30M IAML 02 37 23.1
comp=E,142nm,0.8s
J30M IAML 02 37 32.7
comp=N,79nm,0.7s
J30M Hart River 3.70 34 P Pn 02 36 17.6 +1.4
baz=218,SNR=711
J30M Hart River 3.70 34 Pn Pn 02 36 17.7 +1.5
J30M Sn Sn 02 36 59.9 +0.1
J30M Sg Sb 02 37 14.0 +4.7
FARO Faro, Yukon 3.71 76 Pn 02 36 16.2 0.0
FARO IAML 02 37 22.0
comp=N,113nm,0.8s
FARO Faro, Yukon 3.71 76 P Pn 02 36 17.4 +1.1
baz=263
FARO Faro, Yukon 3.71 76 Pn Pn 02 36 17.4 +1.1
FARO Sn Sn 02 37 01.1 +1.1
FARO Sg Sg 02 37 15.1 -3.0
WAT1 Susitna Watana 3.72 293 P Pn 02 36 17.8 +1.4
baz=106
GHO Glory Hole Cre 3.75 276 Pn 02 36 15.8 -0.9
GHO IAML 02 37 22.0
comp=E,79nm,0.9s
PMR Palmer 3.85 274 Pn Pn 02 36 16.9 -1.2
PMR Palmer 3.85 274 P Pn 02 36 17.8 -0.3
baz=87
WAT7 Susitna Watana 3.85 292 Pn 02 36 21.0 +2.8
I26K Coal Creek Min 3.86 347 Pn 02 36 19.5 +1.3
I26K Coal Creek Min 3.86 347 P Pn 02 36 19.3 +1.1
baz=165
N32M Quiet Lake 3.87 93 Pn 02 36 19.0 +0.5
N32M Quiet Lake 3.87 93 P Pn 02 36 19.3 +0.8
baz=280
N32M Quiet Lake 3.87 93 Pn Pn 02 36 18.9 +0.5
N32M Sg Sg 02 37 20.4 -2.7
HDA Harding Lake 3.91 319 Pn 02 36 17.8 -1.1
HDA IAML 02 37 30.4
comp=N,60nm,0.7s
HDA IAML 02 37 38.9
comp=E,54nm,0.8s
HDA Harding Lake 3.91 319 P Pn 02 36 19.3 +0.4
baz=134
I28M Miner Creek 3.92 7 Sn Sn 02 37 07.0 +1.9
I29M Ogilvie Camp, 4.00 17 Pn 02 36 19.4 -0.7
I29M IAML 02 37 32.0
comp=E,102nm,0.8s
I29M Ogilvie Camp, 4.00 17 P Pn 02 36 21.0 +0.8
baz=200,SNR=7.4
I29M Ogilvie Camp, 4.00 17 Pn Pn 02 36 20.8 +0.7
RND Reindeer 4.05 300 Pn Pn 02 36 24.4 +3.5
I27K Kandik River 4.05 357 Pn 02 36 22.1 +1.2
I27K Kandik River 4.05 357 P Pn 02 36 22.1 +1.2
baz=176,SNR=46
I27K Kandik River 4.05 357 Pn Pn 02 36 22.1 +1.2
I27K Sn Sn 02 37 09.3 +1.0
P32M Atlin 4.14 116 Pn 02 36 24.4 +2.2
P32M Atlin 4.14 116 IAML 02 37 41.2
comp=N,41nm,1.5s
P32M IAML 02 37 45.1
comp=E,46nm,1.3s
P32M Atlin 4.14 116 P Pn 02 36 24.2 +2.0
baz=302
P32M Atlin 4.14 116 Pn Pn 02 36 24.6 +2.4
P32M Pg Pb 02 36 33.8 +2.0
P32M Sg Sg 02 37 29.1 -2.7
IL31 4.15 323 Pn 02 36 21.0 -1.1
ILAR Eielson Array 4.15 323 Pn Pn 02 36 21.6 -0.6
RC01 Rabbit Creek A 4.20 267 Pn 02 36 21.7 -1.3
RC01 IAML 02 37 37.0
comp=N,45nm,0.9s
RC01 Rabbit Creek A 4.20 267 P Pn 02 36 26.2 +3.2
baz=80
MCK McKinley 4.22 304 P Pn 02 36 26.3 +3.0
baz=117
I30M Mount Dempster 4.22 28 Pn 02 36 24.6 +1.3
I30M Mount Dempster 4.22 28 IAML 02 37 32.1
comp=E,62nm,0.7s
I30M IAML 02 37 32.9
comp=N,83nm,0.8s
I30M Mount Dempster 4.22 28 P Pn 02 36 24.1 +0.8
baz=212,SNR=92
I30M Mount Dempster 4.22 28 Pn Pn 02 36 24.7 +1.3
I30M Sn Sn 02 37 12.0 -0.7
P33M Teslin, Yukon 4.26 105 Pn Pn 02 36 22.7 -1.1
P33M IAML 02 37 43.0
comp=E,45nm,0.5s
P33M IAML 02 37 48.6
comp=N,54nm,0.9s
P33M Teslin, Yukon 4.26 105 P Pn 02 36 24.7 +0.9
baz=292
P33M Teslin, Yukon 4.26 105 Pn Pn 02 36 24.8 +0.9
P33M Sg Sg 02 37 32.9 -2.7
M22K Willow 4.32 276 Pn 02 36 23.5 -1.0
M22K IAML 02 37 34.4
comp=E,75nm,0.8s
M22K IAML 02 37 46.4
comp=N,83nm,0.9s
M22K Willow 4.32 276 P Pn 02 36 23.8 -0.7
baz=88
WRH Wood River Hil 4.32 315 Pn Pn 02 36 24.1 -0.4
BESE Bessie Mountai 4.33 131 Pn Pn 02 36 26.1 +1.4
BESE Sg Sg 02 37 34.3 -3.6
CCB Clear Creek Bu 4.34 318 Pn Pn 02 36 24.0 -0.8
O22K Cooper Landing 4.35 259 Pn Pn 02 36 23.9 -1.0
O22K Cooper Landing 4.35 259 P Pn 02 36 26.3 +1.4
baz=72
SEW Seward 4.36 254 Pn 02 36 26.5 +1.4
SEW Seward 4.36 254 P Pn 02 36 26.4 +1.3
baz=66
CUT Chulitna 4.42 285 Pn Pn 02 36 25.1 -0.7
PRP Porcupine Dome 4.43 335 Pn 02 36 26.8 +0.6
PRP Porcupine Dome 4.43 335 P Pn 02 36 26.9 +0.7
baz=151
COLA College 4.51 320 Pn Pn 02 36 27.0 -0.1
COLA IAML 02 37 48.4
comp=N,79nm,0.6s
POKR Poker Plat Res 4.56 324 Pn Pn 02 36 27.6 -0.3
POKR IAML 02 37 46.8
comp=N,66nm,0.8s
POKR IAML 02 37 49.0
comp=E,52nm,1.2s
SUA Susitna One 4.63 273 Pn Pn 02 36 27.8 -1.2
SUA Susitna One 4.63 273 P Pn 02 36 31.1 +2.1
baz=84
BWN Browne 4.64 308 Pn Pn 02 36 26.9 -2.1
TRF Thorofare Moun 4.67 298 Pn 02 36 32.6 +3.1
TRF Thorofare Moun 4.67 298 IAML 02 37 55.6
comp=N,37nm,1.7s
TRF IAML 02 38 05.8
comp=E,35nm,2.3s
TRF Thorofare Moun 4.67 298 P Pn 02 36 32.6 +3.1
baz=110
R32K Eaglecrest 4.67 132 P Pn 02 36 31.3 +1.9
baz=318
H27K Steamboat Moun 4.68 358 Pn 02 36 30.6 +1.1
H27K Steamboat Moun 4.68 358 P Pn 02 36 30.5 +1.1
baz=178,SNR=68
H27K Steamboat Moun 4.68 358 Pn Pn 02 36 30.6 +1.1
H27K Sn Sn 02 37 24.2 +0.5
MDM Murphy Dome 4.69 320 Pn Pn 02 36 29.0 -0.6
MDM IAML 02 37 48.3
comp=E,30nm,1.3s
MDM IAML 02 37 50.8
comp=N,40nm,1.3s
MMPY Sheldon Lake, 4.73 73 Pn Pn 02 36 29.4 -0.8

MMPY	Sheldon Lake, baz=262,SNR=36	4.73 73	P	Pn	Pn	02 36 30.4 +0.2
MMPY	Sheldon Lake,	4.73 73	Pn	Pn	Pn	02 36 30.7 +0.5
MMPY			Sn	Sn	Sn	02 37 25.2 +0.2
MMPY			Sg	Sg	Sg	02 37 46.3 -4.2
NEA2	Nenana	4.73 313		Pn	Pn	02 36 33.1 +2.9
NEA2	Nenana baz=126	4.73 313	P	Pn	Pn	02 36 33.1 +2.9
H29M	Whitestone	4.81 13	Pn	Pn	Pn	02 36 31.0 -0.3
H29M	comp=N,44nm,1.2s		IAML			02 38 17.7
H29M	Whitestone baz=196,SNR=119	4.81 13	P	Pn	Pn	02 36 31.5 +0.1
H29M	Whitestone	4.81 13	Pn	Pn	Pn	02 36 31.4 +0.1
H29M			Sn	Sn	Sn	02 37 25.3 -1.7
KTH	Kantishna Hill	4.97 298		Pn	Pn	02 36 36.5 +3.0
KTH	Kantishna Hill comp=E,33nm,1.8s	4.97 298	IAML			02 38 08.1
KTH	comp=N,35nm,1.3s		IAML			02 38 14.6
SKT	Skwentna	4.98 279		Pn	Pn	02 36 36.0 +2.3
SKT	Skwentna comp=N,23nm,1.5s	4.98 279	IAML			02 38 08.5
SKT	Skwentna baz=90	4.98 279	P	Pn	Pn	02 36 35.3 +1.6
BRSE	Bradley Lake S	5.10 253		Pn	Pn	02 36 36.8 +1.5
BRSE	Bradley Lake S baz=65	5.10 253	P	Pn	Pn	02 36 36.4 +1.1
Q32M	Nakina River	5.11 117	Pn	Pn	Pn	02 36 35.3 -0.3
Q32M	comp=N,49nm,1.1s		IAML			02 38 10.2
Q32M	Nakina River baz=305,SNR=6.2	5.11 117	P	Pn	Pn	02 36 37.0 +1.4
Q32M	Nakina River	5.11 117	Pn	Pn	Pn	02 36 37.7 +2.1
Q32M			Sg	Sg	Sg	02 38 03.3 +0.5
H25L	Birch Creek baz=154	5.15 338	P	Pn	Pn	02 36 37.5 +1.6
BRLK	Bradley Lake	5.16 254		Pn	Pn	02 36 37.6 +1.5
BRLK	Bradley Lake comp=E,25nm,3.4s	5.16 254	IAML			02 38 02.2
BRLK	comp=N,23nm,2.1s		IAML			02 38 08.3
I23K	Minto, Yukon-K baz=130	5.17 317	P	Pn	Pn	02 36 38.4 +2.2
EPYK	Eagle Plains	5.18 20		Pn	Pn	02 36 37.0 +0.6
EPYK	Eagle Plains baz=204	5.18 20	P	Pn	Pn	02 36 37.6 +1.2
EPYK	Eagle Plains	5.18 20	Sn	Sn	Sn	02 37 35.4 -0.6
H31M	Peel River	5.19 32		Pn	Pn	02 36 37.4 +0.9
H31M	Peel River baz=218,SNR=19	5.19 32	P	Pn	Pn	02 36 37.2 +0.7
H31M	Peel River	5.19 32	Pn	Pn	Pn	02 36 37.1 +0.6
H31M			Sn	Sn	Sn	02 37 37.6 +1.2
BPAW	Bear Paw Mtn.	5.20 303		Pn	Pn	02 36 39.3 +2.6
BPAW	Bear Paw Mtn. comp=N,25nm,2.6s	5.20 303	IAML			02 38 24.8
BPAW	Bear Paw Mtn. baz=115	5.20 303	P	Pn	Pn	02 36 38.6 +1.9
H24K	Noodor Dome	5.24 328		Pn	Pn	02 36 38.0 +0.8
H24K	Noodor Dome baz=142	5.24 328	P	Pn	Pn	02 36 38.2 +1.0
G27K	Doyon Strip	5.26 357		Pn	Pn	02 36 38.5 +1.0
G27K	Doyon Strip comp=E,30nm,1.1s	5.26 357	IAML			02 38 18.8
G27K	comp=N,21nm,1.4s		IAML			02 38 25.8
G27K	Doyon Strip baz=177,SNR=38	5.26 357	P	Pn	Pn	02 36 38.4 +1.0
G27K	Doyon Strip	5.26 357	Pn	Pn	Pn	02 36 38.4 +1.0
G27K			Sn	Sn	Sn	02 37 37.4 -0.6
FYU	Fort Yukon	5.33 342	Pn	Pn	Pn	02 36 38.7 +0.3
PPLA	Purkeypile	5.36 289		Pn	Pn	02 36 41.4 +2.3
PPLA	Purkeypile baz=99	5.36 289	P	Pn	Pn	02 36 40.6 +1.6
N20K	Mount Spurr baz=81	5.37 271	P	Pn	Pn	02 36 39.4 +0.4
SPCR	Spurr Chakacha baz=81	5.37 271	P	Pn	Pn	02 36 39.8 +0.8
CNPM	China Poot	5.42 252		Pn	Pn	02 36 41.2 +1.5
CAST	Castle Rocks	5.43 295		Pn	Pn	02 36 42.3 +2.5
CAST	Castle Rocks baz=105	5.43 295	P	Pn	Pn	02 36 41.7 +1.9
R33M	Jennings River	5.45 109	Pn	Pn	Pn	02 36 40.5 +0.3
R33M	Jennings River baz=298	5.45 109	P	Pn	Pn	02 36 41.5 +1.2
R33M	Jennings River	5.45 109	Pn	Pn	Pn	02 36 40.6 +0.3
R33M			Sg	Sg	Sg	02 38 09.2 -4.7
G26K	Porcupine Rive	5.52 349		Pn	Pn	02 36 42.1 +1.0
G26K	Porcupine Rive baz=166,SNR=28	5.52 349	P	Pn	Pn	02 36 42.2 +1.2
MLY	Manley baz=124	5.57 313	P	Pn	Pn	02 36 42.2 +0.5
RDT	Redoubt	5.59 265		Pn	Pn	02 36 43.6 +1.5
G25K	Bearman Lake	5.65 339		Pn	Pn	02 36 44.0 +1.2
G25K	Bearman Lake baz=155	5.65 339	P	Pn	Pn	02 36 44.3 +1.5
CHUM	Lake Minchumin baz=109	5.66 299	P	Pn	Pn	02 36 42.5 -0.4
H23K	Yukon River baz=135	5.69 322	P	Pn	Pn	02 36 44.6 +1.2
M20K	Styx River	5.74 278	Pn	Pn	Pn	02 36 45.1 +0.9
M20K	Styx River baz=88	5.74 278	P	Pn	Pn	02 36 45.4 +1.2
G30M	tAoh Zraii Nji	5.82 19		Pn	Pn	02 36 45.3 +0.2
G30M	tAoh Zraii Nji baz=204,SNR=36	5.82 19	P	Pn	Pn	02 36 44.8 -0.4
G30M	tAoh Zraii Nji	5.82 19	Pn	Pn	Pn	02 36 44.8 -0.4
G30M			Sn	Sn	Sn	02 37 50.6 -1.3
G24K	Hadweenzic Riv	5.85 334		Pn	Pn	02 36 46.6 +1.0
G24K	Hadweenzic Riv baz=149	5.85 334	P	Pn	Pn	02 36 45.6 0.0
BMAR	Burnt Mountain	6.07 347		Pn	Pn	02 36 48.4 -0.2
F28M	Old Crow	6.08 4		Pn	Pn	02 36 49.7 +1.0
F28M	Old Crow baz=186	6.08 4	P	Pn	Pn	02 36 49.2 +0.4
F28M	Old Crow	6.08 4	Pn	Pn	Pn	02 36 49.0 +0.2
F28M			Sg	Sg	Sg	02 38 29.5 -4.5
TGTN	Hyland Airport	6.12 85	Sg	Sg	Sg	02 38 30.1 -5.1
G31M	Satah River	6.13 26		Pn	Pn	02 36 49.2 -0.1
G31M	Satah River baz=212,SNR=29	6.13 26	P	Pn	Pn	02 36 49.2 -0.1
WTLY	Watson Lake, Y	6.18 98	Sg	Sg	Sg	02 38 30.5 -6.6
S34M	Telegraph Cree	6.22 122	Pn	Pn	Pn	02 36 52.3 +1.6
S34M	Telegraph Cree	6.22 122	Pn	Pn	Pn	02 36 52.7 +2.0
F26K	Sheenjek River	6.28 349		Pn	Pn	02 36 53.1 +1.6
F26K	Sheenjek River baz=167,SNR=143	6.28 349	P	Pn	Pn	02 36 52.9 +1.4
K20K	Telida	6.29 292		Pn	Pn	02 36 53.4 +1.9
K20K	Telida baz=101	6.29 292	P	Pn	Pn	02 36 52.5 +1.0
H22K	Ishtalitna Cre baz=129	6.29 318	P	Pn	Pn	02 36 53.3 +1.7
F25K	Christian Rive	6.35 344		Pn	Pn	02 36 54.0 +1.5
F25K	Christian Rive baz=160,SNR=30	6.35 344	P	Pn	Pn	02 36 53.7 +1.2
DLBC	Dease Lake	6.37 115	Pn	Pn	Pn	02 36 52.9 +0.1
DLBC	Dease Lake	6.37 115	Sg	Sg	Sg	02 38 37.6 -5.7
SYI	Shuyak Island	6.39 247		Pn	Pn	02 36 56.0 +3.0
G23K	Bananza Creek	6.47 327		Pn	Pn	02 36 55.1 +1.0
G23K	Bananza Creek baz=139	6.47 327	P	Pn	Pn	02 36 55.8 +1.7
F30M	Barrier River baz=203,SNR=8.0	6.47 18	P	Pn	Pn	02 36 55.0 +1.0
J20K	Nowinta River	6.52 299		Pn	Pn	02 36 56.9 +2.2
J20K	Nowinta River baz=108	6.52 299	P	Pn	Pn	02 36 56.5 +1.8
H21K	Melozitna Rive baz=123	6.63 313	P	Pn	Pn	02 36 59.1 +2.7
E27K	Coleen River	6.64 358		Pn	Pn	02 36 57.3 +0.8
E27K	Coleen River baz=178,SNR=40	6.64 358	P	Pn	Pn	02 36 57.0 +0.6
E27K	Coleen River	6.64 358	Pn	Pn	Pn	02 36 57.0 +0.6
E27K			Sn	Sn	Sn	02 38 10.5 -1.5
F24K	Squaw Lake	6.64 337		Pn	Pn	02 36 58.0 +1.5
F24K	Squaw Lake baz=151	6.64 337	P	Pn	Pn	02 36 58.3 +1.8
F31M	Tsiigehtchic	6.68 25	Pn	Pn	Pn	02 36 55.8 -1.1
F31M	Tsiigehtchic baz=212	6.68 25	P	Pn	Pn	02 36 56.3 -0.6
F31M	Tsiigehtchic	6.68 25	Pn	Pn	Pn	02 36 56.6 -0.3
F31M			Sn	Sn	Sn	02 38 11.1 -1.7
Q19K	Cape Douglas,	6.80 253		Pn	Pn	02 37 00.5 +1.9
Q19K	Cape Douglas, baz=62	6.80 253	P	Pn	Pn	02 37 01.2 +2.6
E25K	Arctic Village	6.84 346		Pn	Pn	02 37 00.9 +1.8
E25K	Arctic Village baz=162,SNR=46	6.84 346	P	Pn	Pn	02 37 00.8 +1.6
COLD	Coldfoot	6.91 329		Pn	Pn	02 37 01.6 +1.5
COLD	Coldfoot baz=141	6.91 329	P	Pn	Pn	02 37 02.9 +2.8
COLD	Coldfoot	6.91 329	Pn	Pn	Pn	02 37 00.8 +0.7
COLD			Sn	Sn	Sn	02 38 16.0 -2.5
E29M	Blow River	6.97 10		Pn	Pn	02 37 01.3 +0.4
E29M	Blow River baz=193,SNR=25	6.97 10	P	Pn	Pn	02 37 00.9 0.0
G22K	Bettles baz=135	7.02 324	P	Pn	Pn	02 37 02.8 +1.2
E28M	Babbage River	7.09 5		Pn	Pn	02 37 02.8 +0.3
E28M	Babbage River baz=186,SNR=33	7.09 5	P	Pn	Pn	02 37 02.9 +0.3
J19K	Poorman	7.10 296		Pn	Pn	02 37 04.7 +2.0
J19K	Poorman baz=103	7.10 296	P	Pn	Pn	02 37 04.7 +2.0
T35M	Bob Quinn	7.20 125	Pn	Pn	Pn	02 37 04.4 +0.2
E24K	Your Creek	7.24 337		Pn	Pn	02 37 06.3 +1.6
E24K	Your Creek baz=151	7.24 337	P	Pn	Pn	02 37 06.3 +1.6
G21K	Allakaket	7.36 318		Pn	Pn	02 37 07.9 +1.6
G21K	Allakaket baz=127	7.36 318	P	Pn	Pn	02 37 09.6 +3.4
E23K	Chandalar	7.45 334		Pn	Pn	02 37 09.2 +1.6
E23K	Chandalar baz=147	7.45 334	P	Pn	Pn	02 37 08.9 +1.3
INK	Inuvik	7.47 22	Pn	Pn	Pn	02 37 07.2 -0.5
INK			Sn	Sn	Sn	02 38 26.8 -5.5
J18K	Innoko River baz=98	7.48 291	P	Pn	Pn	02 37 09.9 +2.0
F22K	John River baz=136	7.63 326	P	Pn	Pn	02 37 11.5 +1.5
D27M	Malcolm River baz=180,SNR=8.6	7.70 0	P	Pn	Pn	02 37 11.1 +0.1
D28M	Stokes Point baz=188	7.84 6	P	Pn	Pn	02 37 13.6 +0.8
H19K	Roundabout Mou baz=113	7.92 307	P	Pn	Pn	02 37 17.0 +3.1
TOLK	Toolik Lake Re	7.94 337	Pn	Pn	Pn	02 37 13.8 -0.4
TOLK	Toolik Lake Re baz=149	7.94 337	P	Pn	Pn	02 37 17.8 +3.6
P17K	Kvichak River baz=66	7.98 259	P	Pn	Pn	02 37 17.6 +2.9
E22K	Anaktuvuk Pass baz=140	8.00 330	P	Pn	Pn	02 37 18.1 +3.0
D25K	Kavik River baz=162,SNR=28	8.08 346	P	Pn	Pn	02 37 18.4 +2.3
Q17K	Contact Creek baz=60	8.15 253	P	Pn	Pn	02 37 19.9 +2.7
D24K	Happy Valley baz=153	8.26 340	P	Pn	Pn	02 37 21.0 +2.4
Q16K	King Salmon baz=63	8.30 256	P	Pn	Pn	02 37 22.6 +3.4
F20K	Avaraart Lake baz=124	8.39 317	P	Pn	Pn	02 37 22.4 +2.1
D23K	Nanushuk River baz=147	8.43 336	P	Pn	Pn	02 37 24.5 +3.6
C24K	Franklin Bluff baz=155	8.75 342	P	Pn	Pn	02 37 28.0 +2.7
C23K	Itkillik River baz=150	9.16 339	P	Pn	Pn	02 37 33.5 +2.6

MEX ***12*** *02:58:36.6±0.5, 14°.23N×92°.03W, h47km±27km, MD3.8*
GCG ***12*** *02:58:40.9±0.3, 14°.43N×91°.51W, h54km±8km, MD3.2*
ISC 12 02:58:36.6±2.2, 14°.4N±0°.2×92°.0W±0°.1, h64km±16km, n10, σ1§02/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.45	99	*e*P	Pn	02 58 49.3	+0.9
STG3	Santiaguito 3,	0.55	53	*e*P	Pn	02 58 50.9	+1.3
STG3				*e*S	Sn	02 58 58.8	-0.3
THIG		0.58	336	*e*S	Sn	02 58 58.3	-1.0
CHUJ	Union Juarez	0.72	353	*e*P	Pn	02 58 51.1	-0.5
CHUJ				*e*S	Sn	02 59 02.3	-0.2
PATR	El Naranjo	0.76	344	*e*P	Pn	02 58 51.2	-1.0
PATR				*e*S	Sn	02 59 03.1	-0.4
PAVE	Pavencul	0.82	349	*e*P	Pn	02 58 52.5	-0.4
PAVE				*e*S	Sn	02 59 04.9	+0.1
FUG	Fuego 3	1.14	86	*e*P	Pn	02 58 57.7	+0.8
PCG	Pacaya	1.37	89	*e*P	Pn	02 58 58.0	-1.9
PCIG		1.75	319	*e*P	Pn	02 59 04.8	0.0
PCIG				*e*S	Sn	02 59 25.9	-0.3
TGIG		2.61	336	*e*P	Pn	02 59 18.1	+1.6
TGIG				*e*S	Sn	02 59 47.8	+0.6

MOS ***12*** *03:11:26.4±0.0, 43°.41N×40°.93E, h18km, MPVA3.5*
TIF ***12*** *03:11:26.5, 43°.37N×40°.82E, h20km±3km*
ISC 12 03:11:25.7±1.1, 43°.37N±0°.03×40°.92E±0°.02, h18km±6km, n26, σ1§15/52, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXR	Arkhyz	0.32	52	*i*Pg	Pb	03 11 33.2	+0.2
ARXR				*i*Sg	Sb	03 11 38.1	+0.1
DOMR	Dombai	0.52	98	*e*Pg	Pg	03 11 35.8	-0.4
DOMR				*e*Sg	Sg	03 11 43.0	-0.2
RPOR	Krasnaya Polya	0.58	305	*e*Pg	Pn	03 11 37.9	-1.3
RPOR				*e*Sg	Sn	03 11 46.3	-2.0
VSLR	Vesyoloye	0.66	279	*i*Pg	Pn	03 11 39.1	-1.1
VSLR				*e*Sg	Sn	03 11 49.0	-1.1
GUZR	Guzeripl'	0.86	317	*e*Pg	Pn	03 11 42.5	-0.6
GUZR				*e*Sg	Sn	03 11 54.4	-0.8
SOC	Sochi	0.91	284	*e*Pg	Pg	03 11 42.5	-0.8
SOC				*e*Sg	Sn	03 11 55.8	-0.4
SHA1	Shidzhatmaz	1.31	73	*e*Pg	Pg	03 11 50.8	-0.4
SHA1				*e*Sg	Sg	03 12 07.8	-0.5
KIV	Kislovodsk	1.41	65	*e*Pg	Pg	03 11 53.6	+0.7
KIV				*e*Sg	Sb	03 12 10.1	+0.9
GOYR	Goytkh	1.43	309	*e*Pg	Pg	03 11 53.7	+0.5
GOYR				*e*Sg	Sg	03 12 14.6	+2.9
NVNR	Nevinnomyssk	1.46	31	*e*Pg	Pg	03 11 54.0	+0.2
NVNR				*e*Sg	Sg	03 12 14.0	+1.2
KBZ	Khabaz	1.48	75	*e*Pg	Pg	03 11 53.9	-0.4
KBZ				*e*Sg	Sg	03 12 13.3	-0.2
BEYR	Belyy Ugol+	1.52	64	*e*Pg	Pg	03 11 54.1	-0.8
BEYR				*e*Sg	Sg	03 12 14.3	-0.4
TKB	Tkibuli	1.83	123	*e*Pg	Pg	03 12 00.9	0.0
TKB				*e*Sg	Sg	03 12 26.0	+1.3
TKB	Tkibuli	1.83	123	P	Pg	03 12 00.9	0.0
TKB				S	Sg	03 12 26.0	+1.3
BATM	Batumi	1.85	162	*e*Pg	Pb	03 11 59.9	+0.8
BATM				*e*Sg	Sb	03 12 24.4	+2.5
BATM	Batumi	1.85	162	P	Pb	03 11 59.9	+0.8
BATM				S	Sb	03 12 24.4	+2.5
KBTC	Kuba-Taba	1.86	75	*e*Pg	Pg	03 12 01.0	-0.5
KBTC				*e*Sg	Sg	03 12 26.4	+0.7
LSNR	Lesken	2.12	91	*e*Pg	Pn	03 12 01.0	+0.7
LSNR				*e*Sg	Sb	03 12 31.6	+2.0
ABS	Abastumani	2.13	138	*e*Pg	Pb	03 12 04.0	+0.1
ABS				*e*Sg	Sg	03 12 33.8	-0.5
ABS	Abastumani	2.13	138	P	Pb	03 12 04.0	+0.1
ABS				S	Sg	03 12 33.8	-0.5
ALIG	Mtskhetisjvari	2.37	121	*e*Pn	Pb	03 12 07.3	-0.6
ALIG				*e*Sn	Sb	03 12 37.4	+0.5
ALIG	Mtskhetisjvari	2.37	121	P	Pb	03 12 07.3	-0.6
ALIG				S	Sb	03 12 37.4	+0.5
SPGR	Shapsug	2.47	305	*e*Pn	Pb	03 12 09.6	-0.1
SPGR				*e*Sn	Sb	03 12 41.0	+1.2
AZMN	Azmana	2.69	139	P	Pb	03 12 12.6	-0.9
AZMN				S	Sb	03 12 45.3	-1.0
AKH	Akhalkalaki	2.73	135	P	Pg	03 12 17.4	-0.6
AKH				S	Sg	03 12 51.5	-1.9
TRLG	Trialeti	2.98	127	P	Pb	03 12 20.1	+1.8
TRLG				S	Sb	03 12 56.6	+2.2

IDC ***12*** *03:12:21.7±0.4, 56°.14S×24°.42W, h0km, mb4.8/14, mbtmp4.8/15, ML4.7/1, MS3.8/28, Error ellipse: s-maj=17.6km s-min=14.0km az=60.0*
MOS ***12*** *03:12:23.2±1.0, 56°.22S×24°.69W, h16km, mb5.5/17, Error ellipse: s-maj=18.7km s-min=10.6km az=117.1*
NEIC ***12*** *03:12:23.9±1.6, 56°.29S±0°.08×24°.6W±0°.2, h10km±1km, mb5.2/78, Error ellipse: s-maj=15.8km s-min=11.4km az=237.0*
GCMT ***12*** *03:12:28.9±0.3, 56°.29S±0°.04×24°.32W±0°.05, h21km±1km, MW4.9/87, Moment Tensor Solution. s21,c23; s87,c107;*
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.98±.21; $M_{\theta\theta}$1.41±.13; $M_{\phi\phi}$1.57±.12; $M_{r\theta}$0.86±.28; $M_{\theta\phi}$-0.98±.06; $M_{r\phi}$0.26±.22; Best double couple: $M_0$2.84400×10^{16} NP1:ϕ_s304.00000°, δ51.00000°, λ-106.00000°. NP2: ϕ_s149.00000°, δ42.00000°, λ-72.00000°. Principal axes: T 2.5020, Plg4.0000°, Azm46.0000°; N 0.6850, Plg12.0000°, Azm315.0000°; P -3.1870, Plg77.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 12 03:12:24.2±1.3, 56°.26S±0°.06×24°.64W±0°.06, h14km±7km, n433, σ1§13/416, mb5.2/50, MS3.9/31, 9C-10D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.05	281	Pn	Pn	03 14 06.5	-0.4
HOPE	Hope Point	7.05	281	P	Pn	03 14 06.5	-0.4
ORCD	Orcadas	11.41	239		Pn	03 15 06.8	+0.3
VNA1	Neumayer--Stat comp=Z,67nm,0.8s	16.09	160	⇑P	Pn	03 16 10.2	+0.5
VNA3	Neumayer Olymp comp=Z,75nm,0.9s	16.35	163	⇑P	Pn	03 16 12.8	-0.1
VNA3	comp=Z,5.2nm,0.6s			⇓S	Sn	03 19 02.8	-11
VNA2	Neumayer--Watz comp=Z,24nm,0.5s,baz=327,slow=14	16.49	160	⇑P	Pn	03 16 14.7	0.0
VNA2	comp=Z,7.7nm,0.8s,baz=317,slow=19			⇑S	Sn	03 19 03.5	-14
SNAA	Sanae	17.99	158	Pn	Pn	03 16 31.6	-1.9
SNAA	Sanae	17.99	158	*d*P	P	03 16 33.8	-0.2
SNAA	comp=Z,46nm,1.1s			pmax	pmax		
SNAA	Sanae comp=Z,236nm,0.4s	17.99	158	⇑P	P	03 16 34.7	+0.7
SNAA	Sanae comp=Z,2.4nm,0.3s,baz=318,slow=13,SNR=79	17.99	158	P	P	03 16 34.1	0.0
SNAA				S	Sn	03 19 41.5	-12
SNAA	comp=Z,1.9nm,0.7s,baz=179,slow=20,SNR=2.0			PcP	PcP	03 21 08.1	+0.2
SNAA	comp=Z,2.8nm,0.7s,baz=227,slow=1.6,SNR=4.3			LR	LR	03 22 09.7	
SNAA	comp=Z,174nm,19.4s,baz=310,slow=33						
TROLL	comp=Z,17nm,0.7s Troll, Antarti comp=Z,739nm,0.6s	19.44	155	⇑P	Pn	03 16 50.6	-0.6
EFI	East Falkland	20.06	269	P	P	03 16 56.5	-0.2
EFI	comp=Z,115nm,0.7s			IAmb	IAmb	03 16 57.5	
EFI	East Falkland	20.06	269	*d*P	P	03 16 56.5	-0.2
EFI	comp=Z,119nm,0.7s			pmax	pmax		
PMSA	Palmer Station	20.85	230	P	P	03 17 06.2	+1.0
PMSA	Palmer Station	20.85	230	*e*P	P	03 17 06.3	+1.1
PMSA	Palmer Station comp=Z,35nm,0.6s,baz=77,slow=5.2,SNR=31	20.85	230	P	P	03 17 06.2	+1.0
PMSA				LR	LR	03 23 47.5	
PMSA	comp=Z,381nm,19.0s,baz=82,slow=33						
NVL	comp=Z,35nm,0.6s N'lazarevskaya	21.31	147	*e*P	P	03 17 10.7	+0.6
NVL				*e*S	S	03 21 05.6	-0.5
NVL	comp=Z,22nm,1.4s			pmax	pmax		
NVL	comp=E,220nm,17.6s			smax	smax		
BELA	Belgrano 2	21.99	186	P	P	03 17 16.3	-1.1
BELA	comp=Z,55nm,0.8s			IAmb	IAmb	03 17 20.9	
SMAI	San Martin Ant	22.54	221	P	P	03 17 23.1	-0.3
SMAI	comp=Z,63nm,1.0s			IAmb	IAmb	03 17 25.8	
MG01	Puerto William	24.04	255	P	P	03 17 37.2	-1.3
MG01	comp=Z,57nm,0.8s			IAmb	IAmb	03 17 40.2	
ELIB	Princess Elisa comp=Z,22nm,0.7s	25.19	147	*d*P	P	03 17 48.7	-0.3
ELIB				*d*pP	pwP	03 17 59.8	-0.1
ELIB				*d*PcP	PcP	03 21 21.9	-0.2
MG02	Cerro Sombrero	25.76	259	P	P	03 17 53.2	-0.9
MG05	Puerto Natales	28.06	259	P	P	03 18 13.4	-1.4
TRQA	Tornquist	30.72	290	P	P	03 18 38.9	+0.3
TRQA	Tornquist	30.72	290	*e*P	P	03 18 38.9	+0.3
PLTB	Pedras Altas	31.72	308	P	P	03 18 48.4	+0.9
PLTB	comp=Z,26nm,1.1s			IAmb	IAmb	03 19 00.1	
AY01	Puyuhuapi	32.18	271	P	P	03 18 49.1	-2.2
AY01	comp=Z,38nm,1.5s			IAmb	IAmb	03 19 02.6	
CPSB	Cacapava Do Su	32.82	310	*e*P	P	03 18 58.1	+1.1
PLCA	Paso Flores	33.44	278	P	P	03 19 00.7	-1.8
PLCA	comp=Z,45nm,1.9s			IAmb	IAmb	03 19 02.0	
PLCA	Paso Flores	33.44	278	*e*P	P	03 19 01.1	-1.4
PLCA	Paso Flores comp=Z,3.6nm,0.8s,baz=120,slow=7.3,SNR=6.9	33.44	278	P	P	03 19 01.0	-1.5
PLCA				PcP	PcP	03 21 43.4	-0.1
PLCA	comp=Z,2.4nm,0.7s,baz=23,slow=4.0,SNR=4.0			LR	LR	03 32 10.9	
PLCA	comp=Z,84nm,18.9s,baz=140,slow=35						
RODS	comp=Z,3.6nm,0.8s Rosario do Sul	33.63	307	*e*P	P	03 19 05.6	+1.4
QSPA	South Pole Qui	33.99	180	P	P	03 19 08.4	+1.2
QSPA	South Pole Qui comp=Z,104nm,0.6s,baz=180,slow=2.7,SNR=620	33.99	180	P	P	03 19 08.6	+1.5
QSPA				PcP	PcP	03 21 44.9	+0.3
QSPA	comp=Z,12nm,0.7s,baz=211,slow=1.5,SNR=3.8			LR	LR	03 33 02.8	
QSPA	comp=Z,60nm,18.8s,baz=193,slow=36						
ALGR	Alto Alegre (B	34.05	312	*e*P	P	03 19 08.5	+0.7
UNIS	Unistalda (Bra	34.68	309	*e*P	P	03 19 13.2	0.0
GO06	Curarrehue	34.75	279	P	P	03 19 13.7	-0.2
ITQB	Itaqui	34.85	306	P	P	03 19 15.8	+1.1
ITQB	comp=Z,39nm,1.1s			IAmb	IAmb	03 19 16.7	
ITQB	Itaqui	34.85	306	*e*P	P	03 19 15.6	+0.9
ITAB	Concordia	35.06	314	P	P	03 19 17.7	+1.2
ITAB	comp=Z,94nm,1.6s			IAmb	IAmb	03 19 22.2	
ITAB	Concordia	35.06	314	*e*P	P	03 19 17.6	+1.0
CRSM	Crissiumal (Br	35.62	312	*e*P	P	03 19 21.7	+0.3
MECA	Mercedes	35.87	305	*e*P	P	03 19 23.9	+0.4
PET01	Itanhaem-SP	35.96	323	*e*P	P	03 19 23.5	-0.7
FRBT	Francisco Belt	36.56	314	*e*P	P	03 19 30.4	+1.0
VAO	Valinhos	37.05	324	*e*P	P	03 19 35.4	+1.7
PTGB	Pitanga	37.29	316	*e*P	P	03 19 36.6	+0.9
SCCA	San Cayetano,	37.56	305	*e*P	P	03 19 38.5	+0.7
CPUP	Villa Florida	38.04	308	P	P	03 19 42.4	+0.5
CPUP	comp=Z,37nm,1.1s			IAmb	IAmb	03 19 43.1	
CPUP	Villa Florida	38.04	308	P	P	03 19 42.4	+0.5
CPUP				pmax	pmax		
CPUP	comp=Z,37nm,1.2s						
CPUP	Villa Florida	38.04	308	*e*P	P	03 19 42.5	+0.6
CPUP	Villa Florida comp=Z,14nm,0.7s,baz=151,slow=7.7,SNR=31	38.04	308	P	P	03 19 42.1	+0.2
CPUP				LR	LR	03 35 02.9	
CPUP	comp=Z,94nm,20.9s,baz=162,slow=36						
CPUP	comp=Z,14nm,0.7s						
LDASE	Londrina, Braz	38.13	318	*e*P	P	03 19 44.4	+1.6
BSCB	Bom Sucesso	38.26

comp=Z,38nm,0.6s
ZON Zonda 39.24 290 P **P 03 19 51.8 -0.2**
ZON pmax pmax
comp=Z,38nm,0.6s
TRCB Terra Rica 39.25 317 *e*P **P 03 19 53.4 +1.2**
SUR Sutherland 39.33 72 LR LR 03 31 59.6
comp=Z,386nm,20.2s,baz=220,slow=30
ROC1 El Roble 39.36 286 P **P 03 19 53.3 0.0**
TICA Tres Isletas 39.37 304 *e*P **P 03 19 53.6 +0.6**
SJMB Sao Joao De Ma 39.51 335 *e*P **P 03 19 54.9 +0.6**
ESFA Espinillo Form 39.74 308 *e*P **P 03 19 57.5 +1.3**
PCMB Pacaembu 39.82 319 *e*P **P 03 19 58.0 +1.1**
AMBA Amambai (Brazi 40.06 314 *e*P **P 03 19 58.9 +0.1**
DIAM Diamantina, MG 40.52 332 *e*P **P 03 20 03.8 +0.9**
PMNB Patos De Minas 41.08 328 *e*P **P 03 20 08.9 +1.5**
CO01 Juntas del Tor 41.22 290 P **P 03 20 08.6 -0.2**
ANTJ Antonio Joao (41.30 313 *e*P **P 03 20 09.3 +0.2**
RPRD Ribas do Rio P 41.76 317 *e*P **P 03 20 13.6 +0.7**
MURT Porto Murtinho 42.27 311 *e*P **P 03 20 16.5 -0.5**
LCO Las Campanas 42.31 290 P **P 03 20 17.9 +0.3**
LCO Las Campanas 42.31 290 P **P 03 20 17.9 +0.3**
LCO pmax pmax
comp=Z,33nm,1.1s
AQDB Aquidauana 42.54 314 P **P 03 20 19.3 0.0**
AQDB Aquidauana 42.54 314 *e*P **P 03 20 19.1 -0.2**
BDQN Bodoquena, MS 42.99 313 *e*P **P 03 20 22.4 -0.5**
C2SB Chapadao do Su 43.00 319 *e*P **P 03 20 24.6 +1.6**
GO03 Copiap 43.20 292 P **P 03 20 24.5 -0.2**
GO03 IAmb IAmb 03 20 25.7
comp=Z,39nm,0.8s
AC02 Maricunga 43.25 294 P **P 03 20 27.2 +1.6**
AC06 Mina Casimiro 43.46 292 P **P 03 20 25.6 -1.1**
AC06 IAmb IAmb 03 20 27.8
comp=Z,42nm,0.9s
JANB Januaria 43.79 332 *e*P **P 03 20 29.9 +0.4**
BDFB Brasilia 44.28 327 P **P 03 20 33.8 +0.3**
comp=Z,4.3nm,0.9s,baz=121,slow=8.0,SNR=4.1
comp=Z,4.3nm,0.9s
BOSA Boshof 44.65 73 P **P 03 20 35.5 -0.8**
BOSA Boshof 44.65 73 P **P 03 20 35.5 -0.8**
BOSA pmax pmax
comp=Z,23nm,1.1s
BOSA Boshof 44.65 73 P **P 03 20 35.4 -1.0**
comp=Z,13nm,1.0s,baz=198,slow=7.5,SNR=8.7
BOSA LR LR 03 35 35.6
comp=Z,290nm,18.6s,baz=202,slow=31
comp=Z,13nm,1.0s
PP1B Ponte de Pedra 44.83 317 *e*P **P 03 20 38.3 +0.6**
GO02 Mina Guanaco 44.86 295 P **P 03 20 39.1 +0.8**
ARAG Araguaiana, MT 45.46 322 *e*P **P 03 20 44.4 +1.7**
PB14 IPOC Station P 45.72 294 P **P 03 20 44.7 -0.4**
SBA Scott Base 45.97 183 P **P 03 20 47.8 +1.8**
SBA IAmb IAmb 03 20 49.4
comp=Z,41nm,0.9s
SBA Scott Base 45.97 183 P **P 03 20 47.8 +1.8**
SBA pmax pmax
comp=Z,41nm,0.9s
AF01 San Pedro de A 46.00 298 P **P 03 20 47.9 +0.6**
H04S2 CROZET ISLANDS 46.16 112 T T 04 10 48.2
baz=230
H04S3 CROZET ISLANDS 46.16 112 T T 04 10 58.4
baz=230
H04S1 CROZET ISLANDS 46.17 112 T T 04 10 59.3
baz=230
BBRB Robore, Bolivi 46.20 311 *e*P **P 03 20 48.6 0.0**
VNDA Vanda 46.42 182 P **P 03 20 51.4 +1.8**
VNDA IAmb IAmb 03 20 52.5
comp=Z,42nm,0.8s
VNDA Vanda 46.42 182 P **P 03 20 51.4 +1.8**
VNDA pmax pmax
comp=Z,42nm,0.8s
VNDA Vanda 46.42 182 P **P 03 20 51.5 +1.8**
comp=Z,37nm,0.7s,baz=177,slow=6.2
comp=Z,37nm,0.7s
PB15 IPOC Station P 46.43 296 P **P 03 20 50.4 -0.2**
SDBA SAO DESIDERIO 46.48 332 *e*P **P 03 20 51.1 +0.3**
LVC Limon Verde 46.65 297 P **P 03 20 53.2 +0.7**
LVC Limon Verde 46.65 297 P **P 03 20 53.2 +0.7**
LVC pmax pmax
comp=Z,60nm,0.7s
LVC Limon Verde 46.65 297 *e*P **P 03 20 54.1 +1.6**
LVC Limon Verde 46.65 297 LR LR 03 44 45.6
comp=Z,43nm,18.1s,baz=164,slow=42
SALV Santo Antonio 46.69 317 *e*P **P 03 20 52.9 +0.5**
PB06 IPOC Station P 46.90 297 P **P 03 20 53.7 -0.5**
PB04 IPOC Station P 47.50 296 P **P 03 20 58.6 -0.3**
PB09 IPOC Station P 47.50 298 P **P 03 20 59.4 +0.5**
BBSD Serra de San D 47.51 310 *e*P **P 03 20 58.7 -0.1**
LBTB Lobatse 47.72 71 P **P 03 20 59.8 -0.7**
LBTB IAmb IAmb 03 21 13.0
comp=Z,32nm,0.9s
LBTB Lobatse 47.72 71 P **P 03 20 59.8 -0.7**
LBTB pmax pmax
comp=Z,32nm,0.9s
PB07 IPOC Station P 47.88 297 P **P 03 21 01.9 +0.1**
PB02 IPOC Station P 48.22 297 P **P 03 21 05.1 +0.7**
PB01 IPOC Station P 48.26 298 P **P 03 21 05.5 +0.8**
PTLB Pontes e Lacer 48.46 313 P **P 03 21 06.3 +0.2**
PTLB IAmb IAmb 03 21 07.5
comp=Z,40nm,0.9s
PTLB Pontes e Lacer 48.46 313 *e*P **P 03 21 06.5 +0.4**
TSUM Tsumeb 48.56 58 LR LR 03 36 45.9
comp=Z,83nm,20.3s,baz=346,slow=30
SNDB Serra Nova Dou 48.77 324 *e*P **P 03 21 09.6 +1.0**
SIV San Ignacio 48.77 311 LR LR 03 44 16.1
comp=Z,82nm,18.0s,baz=105,slow=39
PB08 IPOC Station P 48.86 299 P **P 03 21 10.5 +0.9**
H10N1 ASCENSION HYDR 48.95 13 T T 04 13 57.5
baz=190,slow=71,SNR=6.9
H10N3 ASCENSION HYDR 48.95 13 T T 04 13 57.8
baz=190,slow=71,SNR=8.7
H10N2 ASCENSION HYDR 48.96 13 T T 04 14 01.3
baz=190,slow=71,SNR=7.0
GO01 Chusmiza 49.28 299 P **P 03 21 14.4 +1.4**
PB16 IPOC Station P 50.57 300 P **P 03 21 24.0 +1.0**
SMTB Santa Maria do 50.59 330 *e*P **P 03 21 23.4 +1.0**
PDRB Porto dos Gac 51.01 318 *e*P **P 03 21 25.6 0.0**
VILB Vilhena 51.14 313 P **P 03 21 26.6 0.0**
VILB IAmb IAmb 03 21 27.7
comp=Z,34nm,1.1s
VILB Vilhena 51.14 313 *e*P **P 03 21 26.6 0.0**
PB18 Visviri 51.19 300 P **P 03 21 27.3 -0.3**
PB18 IAmb IAmb 03 21 46.7
comp=Z,43nm,0.8s
CLDB Colider 51.34 319 *e*P **P 03 21 28.2 +0.1**
LPAZ La Paz 51.67 303 P **P 03 21 31.9 +0.6**
LPAZ IAmb IAmb 03 21 44.9
comp=Z,48nm,0.8s
LPAZ La Paz 51.67 303 P **P 03 21 31.9 +0.6**
LPAZ pmax pmax
comp=Z,48nm,0.8s
LPAZ La Paz 51.67 303 P **P 03 21 32.5 +1.2**
comp=Z,31nm,0.8s,baz=142,slow=5.1,SNR=94
LPAZ LR LR 03 42 41.7
comp=Z,40nm,21.9s,baz=162,slow=35
comp=Z,31nm,0.8s
CASY Casey 53.22 159 P **P 03 21 42.4 +0.9**
CASY IAmb IAmb 03 23 00.6
comp=Z,26nm,0.5s
PRPB Paraupebas 53.79 328 *e*P **P 03 21 47.1 +0.9**
NPGB Novo Progresso 54.74 322 *e*P **P 03 21 53.7 +0.5**
ROSB Rosrio 55.45 336 *e*P **P 03 21 58.8 +0.6**
SAML Samuel 55.98 312 P **P 03 22 02.2 +0.1**
SAML IAmb IAmb 03 22 03.2
comp=Z,40nm,1.4s
SAML Samuel 55.98 312 P **P 03 22 02.2 +0.1**
SAML pmax pmax
comp=Z,40nm,1.5s
SAML Samuel 55.98 312 *e*P **P 03 22 02.1 +0.1**
ETMB Extrema 56.49 308 P **P 03 22 05.8 +0.1**
ETMB IAmb IAmb 03 22 07.1
comp=Z,35nm,1.1s
ETMB Extrema 56.49 308 *e*P **P 03 22 05.6 -0.1**
TMAB Tom-Au,PA,Br 56.93 332 *e*P **P 03 22 09.7 +0.9**
LSZ Lusaka 57.13 66 P **P 03 22 10.1 -0.3**
LSZ IAmb IAmb 03 22 13.0
comp=Z,30nm,1.3s
LSZ Lusaka 57.13 66 P **P 03 22 10.1 -0.3**
LSZ pmax pmax
comp=Z,29nm,1.3s
LSZ Lusaka 57.13 66 LR LR 03 44 49.1
comp=Z,92nm,18.2s,baz=206,slow=34
ITTB Itaituba 57.37 322 *e*P **P 03 22 12.3 +0.4**
MALB Monte Alegre 59.23 325 *e*P **P 03 22 26.0 +1.1**

NNA Nana 59.61 296 *d i*P **P 03 22 28.1 +0.5**
NNA pmax pmax
comp=Z,106nm,1.2s
NNA Nana 59.61 296 LR LR 03 49 49.8
comp=Z,44nm,19.1s,baz=147,slow=38
MCPB Macapa, AP 59.96 328 *e*P **P 03 22 30.7 +0.7**
MACA Manacapuru-AM 60.26 317 P **P 03 22 31.3 -0.8**
MACA IAmb IAmb 03 22 32.2
comp=Z,30nm,0.8s
MACA Manacapuru-AM 60.26 317 *e*P **P 03 22 31.2 -0.9**
CZSB Cruzeiro do Su 61.28 303 P **P 03 22 38.5 -0.5**
CZSB IAmb IAmb 03 22 39.3
comp=Z,14nm,0.8s
CZSB Cruzeiro do Su 61.28 303 *e*P **P 03 22 38.9 -0.1**
TEFE Tefe 61.50 313 *e*P **P 03 22 40.0 -0.5**
TBTG Tabatinga, AM 63.13 307 *e*P **P 03 22 51.0 -0.4**
DBIC Dimbokro 64.79 22 P **P 03 23 01.0 -1.3**
DBIC Dimbokro 64.79 22 P **P 03 23 00.9 -1.3**
comp=Z,3.1nm,0.7s,baz=227,slow=8.8,SNR=4.4
DBIC LR LR 03 44 22.8
comp=Z,86nm,20.1s,baz=155,slow=30
comp=Z,3.1nm,0.7s
RPN Rapa Nui 65.02 258 LR LR 03 48 11.4
comp=Z,52nm,20.0s,baz=46,slow=33
BOAV Boa Vista 65.33 320 P **P 03 23 05.5 -0.3**
BOAV IAmb IAmb 03 23 06.6
comp=Z,19nm,0.9s
BOAV Boa Vista 65.33 320 *e*P **P 03 23 04.7 -1.1**
BOAV Boa Vista 65.33 320 *e*P **P 03 23 05.5 -0.3**
SGCB São Gabriel d 65.55 312 *e*P **P 03 23 05.6 -1.6**
MCRA Macar, Loja 67.70 298 P **P 03 23 20.8 -0.2**
MCRA Macar, Loja 67.70 298 *e*P **P 03 23 20.7 -0.3**
PIAT Ana Tenorio 69.80 301 *e*P **P 03 23 36.1 +1.6**
SLOR San Lorenzo - 70.15 301 P **P 03 23 36.6 -0.2**
MACC Macarena, Meta 70.52 307 *e*P **P 03 23 38.1 -0.4**
OTAV Otavalo 70.97 301 P **P 03 23 42.6 +0.8**
OTAV IAmb IAmb 03 23 46.3
comp=Z,14nm,0.9s
OTAV Otavalo 70.97 301 P **P 03 23 42.6 +0.8**
OTAV pmax pmax
comp=Z,14nm,1.0s
OTAV Otavalo 70.97 301 *e*P **P 03 23 43.4 +1.6**
OTAV Otavalo 70.97 301 *e*P **P 03 23 42.0 +0.2**
MBAR Mbarara 70.99 60 LR LR 03 51 46.8
comp=Z,53nm,19.2s,baz=206,slow=33
GARC Garzon, Huila 71.30 305 *e*P **P 03 23 43.6 +0.1**
BBAC Balboa, Cauca 71.96 303 *e*P **P 03 23 48.0 +0.5**
POPC Popayan, Colom 72.16 304 *e*P **P 03 23 49.4 +0.7**
PRAC Prado 72.38 306 *e*P **P 03 23 48.8 -1.0**
TOA0 Torodi Ar. Sit 72.56 27 P **P 03 23 50.1 -0.6**
TORD Torodi Ar. Bea 72.56 27 P **P 03 23 50.1 -0.6**
TORD Torodi Ar. Bea 72.56 27 P **P 03 23 49.7 -1.0**
comp=Z,3.3nm,0.5s,baz=200,slow=6.1,SNR=50
TORD LR LR 03 48 47.4
comp=Z,58nm,20.7s,baz=160,slow=30
comp=Z,3.3nm,0.5s
CHIC Chingaza 72.68 308 *e*P **P 03 23 50.9 -1.1**
ORTC Ortega, Tolima 72.71 306 *e*P **P 03 23 51.4 -0.3**
JAMC Jamundi, Valle 72.75 304 *e*P **P 03 23 52.2 0.0**
ROSC El Rosal 73.12 307 P **P 03 23 54.6 +0.1**
comp=Z,9.0nm,0.7s,baz=285,slow=6.9,SNR=5.3
comp=Z,9.0nm,0.7s
KIBK Kibwezi 73.17 68 P **P 03 23 54.5 0.0**
RUSC La Rusia 73.52 309 *e*P **P 03 23 55.6 -1.4**
KMBO Kilima Mbogo 73.79 67 ⇓*e*P **P 03 24 02.2 +3.8**
KMBO Kilima Mbogo 73.79 67 LR LR 03 54 14.0
comp=Z,72nm,18.4s,baz=217,slow=34
GUY2C Guyana, Caldas 73.93 307 *e*P **P 03 23 56.9 -2.5**
NORC Norcasia 74.01 307 *e*P **P 03 23 57.8 -1.6**
PLMC San Jos del P 74.06 306 *e*P **P 03 23 59.2 -0.5**
BAUV El Baul 74.19 315 P **P 03 24 00.3 0.0**
BAUV IAmb IAmb 03 24 01.8
comp=Z,42nm,1.0s
PTBC PUERTO BERRIO, 74.70 308 *e*P **P 03 24 00.8 -2.5**
SDV Santo Domingo 75.18 313 P **P 03 24 06.2 -0.1**
SDV IAmb IAmb 03 24 07.7
comp=Z,20nm,0.8s
SDV Santo Domingo 75.18 313 *e*P **P 03 24 06.9 +0.6**
SDV Santo Domingo 75.18 313 LR LR 03 58 49.4
comp=Z,59nm,19.5s,baz=192,slow=37
ZARC Zaragoza, Cauc 75.72 308 *e*P **P 03 24 07.7 -1.5**
SJCC San Jacinto, C 78.01 309 *e*P **P 03 24 22.4 +0.2**
URIC Uribia, Colomb 78.28 313 *e*P **P 03 24 20.6 -2.9**
RPZ Rata Peaks 79.52 192 P **P 03 24 30.1 0.0**
comp=Z,12nm,0.8s,baz=164,slow=7.4,SNR=2.8
RPZ LR LR 03 59 33.0
comp=Z,62nm,18.1s,baz=110,slow=36
comp=Z,12nm,0.8s
SJG San Juan 81.89 320 LR LR 03 59 53.5
comp=Z,28nm,21.7s,baz=153,slow=35
JTS Las Juntas de 82.83 300 P **P 03 24 48.1 +0.1**
JTS IAmb IAmb 03 24 50.9
comp=Z,22nm,1.1s
JTS Las Juntas de 82.83 300 P **P 03 24 48.1 +0.1**
JTS pmax pmax
comp=Z,22nm,1.2s
ARE1 Arenal 1 82.87 301 P **P 03 24 48.4 +0.2**
COVE Coope Vega, Sa 82.94 301 P **P 03 24 48.9 +0.3**
ORTG Ortega, Santa 83.14 300 P **P 03 24 50.0 +0.4**
ORTG IAmb IAmb 03 24 51.7
comp=Z,20nm,1.1s
RTZ Ruatahuna 83.72 197 P **P 03 24 53.0 +0.5**
RTZ IAmb IAmb 03 25 01.1
comp=Z,13nm,0.9s
URZ Urewera 84.05 197 P **P 03 24 53.8 -0.3**
comp=Z,6.1nm,0.6s,baz=153,slow=2.3,SNR=2.4
URZ LR LR 04 00 47.0
comp=Z,56nm,18.0s,baz=211,slow=34
comp=Z,6.1nm,0.6s
ACON Acoyapa 84.39 301 P **P 03 24 55.5 -0.5**
ACON IAmb IAmb 03 24 57.0
comp=Z,27nm,1.2s
BOAB BOACO BROADBAN 85.05 301 P **P 03 24 59.3 +0.1**
BOAB IAmb IAmb 03 25 16.7
comp=Z,35nm,1.1s
MATN Matagalpa 85.59 301 P **P 03 25 01.3 -0.8**
TBI Tubuai 88.04 229 *e*LR LR 03 53 11.9
comp=Z,3µm,24.2s
TBI *e*LR LR 03 53 20.9
comp=Z,850nm,27.8s
MTO3 Montecristo 88.52 299 P **P 03 25 15.9 -0.5**
MDT Midelt 90.34 17 LR LR 04 01 17.9
comp=Z,83nm,19.2s,baz=201,slow=33
PPT2 Papete2 93.19 232 *e*LR LR 03 55 19.0
comp=Z,187nm,31.8s
PPT2 *e*LR LR 03 55 45.9
comp=Z,384nm,31.5s
PPT Papeete 93.21 232 LR LR 03 58 58.8
comp=Z,64nm,19.3s,baz=126,slow=30
KEST Kesra 96.08 27 LR LR 04 02 35.1
comp=Z,92nm,21.7s,baz=241,slow=31
ESDC Sonseca Array 97.16 16 LR LR 04 06 24.9
comp=Z,44nm,19.6s,baz=188,slow=33
ASAR Alice Springs 98.34 160 P **P 03 26 00.5 -1.0**
comp=Z,1.2nm,0.6s,baz=185,slow=3.9,SNR=18
ASAR LR LR 04 09 46.1
comp=Z,27nm,18.5s,baz=179,slow=35
comp=Z,1.2nm,0.6s
DZM Mont Dzumac 101.42 190 *e*LR LR 03 59 05.8
comp=Z,72nm,25.1s
BRAL Brewton 101.88 309 P **Pdif 03 26 20.9 +4.1**
baz=150
WRA Warramunga Arr 102.05 160 P **Pdif 03 26 17.9 -0.1**
comp=Z,0.3nm,0.5s,baz=195,slow=4.3,SNR=5.4
M65A Busby, Falmout 104.92 326 P **PKiKP 03 30 46.8 +2.0**
baz=156
PKME Peaks-Kenny Pk 107.89 329 P **PKiKP 03 30 53.4 +3.3**
baz=156
M53A Wi Miller and 108.22 319 P **PKiKP 03 30 51.8 +0.9**
baz=151
ERPA Erie 108.56 320 P **PKiKP 03 30 52.8 +1.3**
baz=151
SFIN Lafayette 109.78 314 P **PKiKP 03 30 56.1 +2.2**
baz=148
KIV Kislovodsk 114.75 47 *i* PKIKP **PKiKP 03 31 03.5 +0.1**
KIV pmax pmax
comp=Z,4.0nm,1.1s
MNK Minsk 118.42 32 *i* PKP **PKiKP 03 31 10.2 +0.3**
comp=E,8.0nm,0.9s
MNK *i* PKP **PKiKP 03 31 10.2 +0.3**
comp=N,9.0nm,0.9s
MNK *i* PKP **PKiKP 03 31 10.2 +0.3**
comp=Z,2.0nm,0.7s,baz=210
MNK *i* PP **PP 03 32 28.0 +0.3**
MNK *i* PPP PPP 03 34 58.5

MNK *i* SKS **SKSdf 03 38 22.4 +1.4**
MNK *i* SS **SS 03 48 47.7 +4.0**
MNK *i* SSS SSS 03 53 11.0
MNK *i* LQ LQ 04 14 28.6
MNK *i* LR LR 04 21 00.1
MNK *i* LRM MLR 04 21 53.0
comp=N,34nm,13.8s
MNK *i* LRM MLR 04 22 07.4
comp=Z,58nm,15.9s
MNK *i* LRM MLR 04 22 19.0
comp=E,15nm,13.8s
MNK Minsk 118.42 32 *i* PKIKP **PKiKP 03 31 10.2 +0.3**
MNK *i* 03 32 27.9
MNK *i* PPP PPP 03 34 58.5
MNK *i* 03 38 22.3
MNK *i* SS SS 03 48 47.7 +4.0
MNK *i* SSS SSS 03 53 10.9
MNK pmax pmax
comp=Z,2.0nm,0.6s
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=N,34nm,14.0s
MNK MLR MLR
comp=Z,58nm,16.0s
MNK MLR MLR
comp=E,15nm,14.0s
NACGM Naroch 118.45 31 *e*PKP **PKiKP 03 31 11.1 +1.0**
comp=Z,11nm,0.7s,baz=209
O20A White River Ci 119.02 299 P **PKPdf 03 31 10.9 -0.9**
baz=141
GSC Goldstone, Bar 119.64 290 P **PKiKP 03 31 13.4 +0.2**
baz=140
EDW2 Edwards Air Fo 119.95 289 P **PKiKP 03 31 14.0 +0.2**
baz=140
HFS Hagfors 119.95 21 PKKPbc PKKPbc 03 41 21.4 -0.1
comp=Z,0.8nm,0.4s,baz=70,slow=1.7,SNR=4.5
TPNV Topopah Spring 120.61 291 P **PKiKP 03 31 15.5 +0.4**
baz=140
ISA Isabella, Lake 120.80 289 P **PKiKP 03 31 16.7 +1.3**
baz=140
SPR3 Spring Creek 3 121.18 294 **PKiKP 03 31 16.4 +0.1**
DUG Dugway, Tooele 121.32 296 P **PKPdf 03 31 16.2 0.0**
baz=140
BW06 Boulder Array 121.67 300 P **PKPdf 03 31 15.8 -1.2**
baz=139
PDAR Pinedale Array 121.67 300 PKP **PKPdf 03 31 15.5 -1.5**
comp=Z,0.4nm,0.5s,baz=126,slow=5.9,SNR=5.2
PDAR PKKPab **PKKPbc 03 41 15.9 +0.9**
comp=Z,0.4nm,0.6s,baz=19,slow=1.9,SNR=4.6
PYUN Piuthan 122.56 87 *e*P **PKPdf 03 31 17.7 -1.4**
comp=Z,18nm,1.0s
KOLN Koldanda 122.64 88 *e*P **PKPdf 03 31 18.0 -1.3**
comp=Z,22nm,0.7s
NVAR Mina Array Bea 122.80 291 PKP **PKiKP 03 31 19.3 -0.1**
comp=Z,0.5nm,0.5s,baz=140,slow=4.4,SNR=4.7
DANN Dangsing 123.18 88 *e*P **PKPdf 03 31 19.0 -1.4**
comp=Z,24nm,0.7s
DMN Daman 123.36 89 *e*P **PKPdf 03 31 20.1 -0.6**
comp=Z,12nm,0.3s
GKN Gorkha 123.40 89 *e*P **PKPdf 03 31 19.3 -1.3**
comp=Z,6.5nm,0.3s
PKIN Phulchoki 123.49 90 *e*P **PKPdf 03 31 19.6 -1.4**
comp=Z,14nm,0.7s
PKI Pulchoki 123.50 90 *e*P **PKPdf 03 31 19.8 -1.3**
comp=Z,8.1nm,0.6s
KKN Kakani 123.59 89 *e*P **PKPdf 03 31 19.9 -1.2**
comp=Z,18nm,0.5s
CMAR Chiang Mai Arr 123.65 108 *e*PKIKP **PKPdf 03 31 20.9 -0.3**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 123.65 108 PKP **PKPdf 03 31 20.5 -0.7**
comp=Z,4.0nm,0.6s,baz=234,slow=4.2,SNR=19
RAMN Ramite 123.68 91 *e*P **PKPdf 03 31 20.8 -0.5**
comp=Z,26nm,0.8s
FINES FINESS Array B 123.91 27 PKP **PKPdf 03 31 18.7 -1.6**
comp=Z,1.2nm,0.7s,baz=191,slow=3.9,SNR=8.0
JIRN Jiri 124.00 90 *e*P **PKPdf 03 31 21.2 -0.9**
comp=Z,30nm,0.6s
GUN Gumba 124.02 90 *e*P **PKPdf 03 31 21.1 -1.0**
comp=Z,19nm,0.8s
ODAN Odare 124.05 92 *e*P **PKPdf 03 31 21.4 -0.6**
comp=Z,52nm,1.4s
TAPN Taplejung 124.61 92 *e*P **PKPdf 03 31 22.4 -0.8**
comp=Z,9.1nm,0.7s
BOZ Bozeman (W) 124.77 301 P **PKPdf 03 31 22.6 -0.1**
baz=138
PLID Pearl Lake 126.52 298 PKPdf **PKPdf 03 31 26.4 +0.2**
MSO Missoula 126.77 301 P **PKiKP 03 31 26.8 -0.1**
baz=136
KKAR Karatay Array 126.99 66 PKPdf **PKPdf 03 31 26.1 -0.8**
KKAR Karatay Array 126.99 66 PKIKP **PKPdf 03 31 26.1 -0.8**
KSH Kashi 127.26 73 PKP **PKPdf 03 31 27.5 -0.1**
AAK Ala-Archa 128.71 69 *de*PKIKP **PKiKP 03 31 30.8 -0.2**
PRGR Permogore 129.72 36 *e*PKIKP PKiKP 03 31 41.3 +9.2
PRGR pmax pmax
comp=Z,8.0nm,0.6s
ARCES ARCESS Array B 130.62 21 PKP **PKPdf 03 31 31.8 -1.1**
comp=Z,1.8nm,0.8s,baz=250,slow=2.6,SNR=4.3
ARU Arti 130.79 47 *i* PKIKP **PKPdf 03 31 33.1 -0.5**
ARU 03 33 49.1
PZH PanZhiHua 131.68 105 PKP **PKiKP 03 31 37.5 +0.1**
BRVK Borovoye 133.67 56 ⇑*e*PKIKP **PKPdf 03 31 39.0 -0.1**
BVAR Borovoye Array 133.70 56 PKP **PKPdf 03 31 37.0 -2.2**
comp=Z,1.8nm,0.8s,baz=247,slow=1.1,SNR=2.8
MKAR Makanchi Array 135.61 70 PKP **PKPdf 03 31 42.8 -0.2**
comp=Z,0.4nm,0.7s,baz=240,slow=25,SNR=1.3
KURBB Kurchatov Arra 136.11 63 PKP **PKPdf 03 31 42.9 -0.9**
comp=Z,0.8nm,0.6s,baz=233,slow=2.4,SNR=7.0
KURK Kurchatov 136.21 63 PKIKP **PKPdf 03 31 42.9 -1.0**
SPITS Spitsbergen Ar 136.48 11 PKP **PKPdf 03 31 43.7 0.0**
comp=Z,6.6nm,0.8s,baz=177,slow=16,SNR=6.7
WMQ Urumqi 136.56 77 *e*PKP **PKiKP 03 31 46.5 -0.2**
YKA Yellowknife Ar 137.29 317 PKP **PKPdf 03 31 44.9 -0.7**
comp=Z,0.8nm,0.6s,baz=120,slow=1.9,SNR=4.3
DGZ Jazzator, Alta 140.11 70 ⇑*e*PKIKP **PKPdf 03 31 50.6 -0.8**
GTA Gaotai 140.29 91 *e*PKP **PKiKP 03 31 54.4 -0.1**
ZALV Zalesovo Beam 141.19 63 *e*PKIKP **PKiKP 03 31 56.9 +1.2**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 141.19 63 PKhKP PKPpre 03 31 43.6
comp=Z,0.6nm,0.4s,baz=130,slow=43,SNR=2.2
ZALV PKP **PKPdf 03 31 50.8 -2.2**
comp=Z,0.4nm,0.3s,baz=219,slow=3.7,SNR=1.8
XAN Xi'an 141.42 105 PKP **PKiKP 03 31 55.9 -1.0**
WHN Wuhan 141.53 115 PKP **PKiKP 03 31 59.8 +2.6**
R33M Jennings River 142.49 306 P **PKiKP 03 31 58.0 -0.4**
baz=119
Q32M Nakina River 142.87 305 P **PKiKP 03 31 58.4 -0.9**
baz=118
R32K Eaglecrest 143.59 303 P PKPbc 03 31 55.2 +0.6
baz=118
P33M Teslin, Yukon 143.69 307 P PKPbc 03 31 54.9 0.0
baz=117
LYN LuoYang 143.70 108 ⇑PKP **PKPdf 03 31 57.0 -1.1**
P32M Atlin 143.82 305 P PKPbc 03 31 55.6 +0.3
baz=117
MMPY Sheldon Lake, 144.06 311 P PKPbc 03 31 56.5 +0.5
baz=115
N32M Quiet Lake 144.22 308 P PKPbc 03 31 57.2 +0.7
baz=115
S31K Pelican 144.25 302 P PKPbc 03 31 57.0 +0.4
baz=118
SKAG Skagway 144.50 305 P PKPbc 03 31 57.9 +0.6
baz=116
JOW Kunigami 144.74 135 PKP **PKPab 03 31 58.6 -0.4**
comp=Z,34nm,0.8s,baz=222,slow=5.9,SNR=5.2
FARO Faro, Yukon 144.78 310 P **PKPdf 03 31 58.7 -0.4**
baz=114
WHY Whitehorse 144.81 307 P PKPbc 03 31 58.8 +0.3
baz=115
PLBC Pleasant Camp 144.98 304 P **PKPab 03 31 59.1 +0.2**
baz=116
NJ2 Nanjing 145.00 118 PKPbc PKPbc 03 31 59.6 -0.2
A36M Sachs Harbour 145.14 328 **PKPdf 03 31 59.5 +0.1**
A36M Sachs Harbour 145.14 328 P **PKPbc 03 31 58.7 -0.4**
baz=106
M31M Drury Creek, Y 145.22 309 P **PKPbc 03 31 59.0 -0.6**
baz=113
O30N Mendenhall 145.40 306 P **PKPdf 03 31 60.0 -0.3**
baz=114
P30M Million Dollar 145.53 305 P **PKPab 03 32 02.1 +1.1**
baz=114
N31M Braeburn, Yuko 145.55 308 P **PKPab 03 32 01.0 0.0**
baz=113

P29M	Windy Craggy	145.68	304	P	PKPab	03 32 01.4 -0.1
	baz=115					
HYT	Haines Junctio	146.06	306	P	PKPbc	03 32 02.5 +0.1
	baz=113					
N30M	Aishikik Lake	146.12	307	P	PKPbc	03 32 02.2 -0.3
	baz=112					
O29M	Mount Kennedy	146.34	305	P	PKPbc	03 32 03.0 -0.3
	baz=113					
M30M	Minto, Yukon	146.40	309	P	PKPbc	03 32 02.6 -0.6
	baz=111					
H31M	Peel River	146.47	315	P	PKPbc	03 32 03.0 -0.4
	baz=108					
F31M	Tsiigehtchic	146.72	318	P	PKPbc	03 32 03.7 -0.3
	baz=106					
YUK4	Talbot Arm	146.77	307	P	PKPbc	03 32 04.3 -0.3
	baz=112					
G31M	Satah River	146.77	317	P	PKPdf	03 32 02.6 +0.3
	baz=107					
BTO	Baotou	146.79	99	*e*PKPbc	PKPdf	03 32 04.0 +0.6
BTO				PKPab	sPKPab	03 32 10.2 +0.9
BTO				pPKP	pPKPab	03 32 15.0 +6.4
BTO				sPKP		03 32 18.7
BTO				PP	PP	03 35 32.9 +3.1
BTO				SKS	SKSdf	03 39 07.4 -4.1
BTO				LR	LR	
	comp=Z,250nm,7.3s					
BTO				LR	LR	
	comp=Z,260nm,8.9s					
BTO				LR	LR	
	comp=Z,320nm,9.4s					
INK	Inuvik	146.87	320	P	PKPbc	03 32 04.1 -0.2
	baz=105					
J30M	Hart River	146.88	313	P	PKPdf	03 32 03.0 +0.2
	baz=109					
PINM	Pinnacle	147.03	304	P	PKPbc	03 32 04.6 -0.6
	baz=113					
HNS	HongShan	147.04	108	PKPbc	PKPbc	03 32 05.5 -0.3
M29M	Somme Creek	147.08	308	P	PKPbc	03 32 04.9 -0.4
	baz=110					
I30M	Mount Dempster	147.10	314	P	PKPbc	03 32 04.7 -0.6
	baz=108					
K29M	Barlow Dome	147.14	311	P	PKPbc	03 32 05.2 -0.3
	baz=109					
L29M	L29M	147.16	310	P	PKPbc	03 32 04.3 -1.1
	baz=110					
YUK8	Steele Glacier	147.25	306	P	PKPbc	03 32 04.9 -1.1
	baz=111					
O28M	Mount Upton	147.26	305	P	PKPbc	03 32 04.9 -1.2
	baz=112					
F30M	Barrier River	147.52	318	P	PKPbc	03 32 05.9 -0.4
	baz=104					
G30M	tAoh Zraii Nji	147.53	317	PKPdf	PKPbc	03 32 05.5 -0.9
G30M	tAoh Zraii Nji	147.53	317	P	PKPbc	03 32 05.4 -0.9
	baz=105					
EPYK	Eagle Plains	147.56	316	P	PKPbc	03 32 05.7 -0.8
	baz=106					
YUK3	Moose Creek	147.73	307	P	PKPbc	03 32 05.9 -1.3
	baz=110					
CTG	Chitna Glacier	147.85	305	P	PKPdf	03 32 05.7 +1.2
	baz=111					
MESA	MESA	147.85	303	P	PKPdf	03 32 04.1 -0.5
	baz=112					
I29M	Ogilvie Camp,	147.92	314	P	PKPdf	03 32 04.7 +0.4
	baz=106					
DAWY	Dawson	148.00	311	P	PKPdf	03 32 05.9 +1.4
	baz=107					
H29M	Whitestone	148.16	315	P	PKPbc	03 32 06.7 -1.4
	baz=105					
G29M	Pine Creek	148.20	317	PKPdf	PKPdf	03 32 06.4 +1.7
G29M	Pine Creek	148.20	317	P	PKPdf	03 32 06.5 +1.7
	baz=104					
MOY	Mondy	148.40	75	*e*PKP2	PKPbc	03 32 09.0 -0.2
MOY				pmax	pmax	
	comp=Z,34nm,2.0s					
E29M	Blow River	148.47	319	P	PKPbc	03 32 07.8 -0.9
	baz=102					
M27K	Edge Creek, AK	148.56	307	P	PKPbc	03 32 08.6 -0.7
	baz=108					
CRQE	Cirque	148.59	304	P	PKPdf	03 32 07.1 +1.4
	baz=110					
L27K	Beaver Creek,	148.75	309	P	PKPbc	03 32 07.8 -1.9
	baz=107					
MCARA	McCarthy VSAT	148.76	305	P	PKPbc	03 32 08.9 -0.8
	baz=109					
ZAK	Zakamensk	148.98	79	*e*PKIKP	PKPdf	03 32 05.3 -1.4
ZAK				pmax	pmax	
	comp=Z,12nm,1.1s					
F28M	Old Crow	149.05	318	PKPdf	PKPdf	03 32 07.5 +1.4
F28M	Old Crow	149.05	318	P	PKPdf	03 32 07.9 +1.7
	baz=101					
E28M	Babbage River	149.10	320	P	PKPbc	03 32 09.1 -1.3
	baz=100					
K27K	Chicken	149.12	310	P	PKPbc	03 32 08.6 -1.9
	baz=105					
I27K	Kandik River	149.31	314	P	PKPdf	03 32 08.3 +1.6
	baz=103					
SONM	Songino Array	149.32	85	PKP	PKPdf	03 32 06.2 -1.1
	comp=Z,11nm,0.9s,baz=224,slow=2.5,SNR=5.3					
SONM				PKPbc	PKPbc	03 32 11.1 -0.6
	comp=Z,6.6nm,0.7s,baz=233,slow=3.9,SNR=15					
BMRM	Bremner River	149.35	304	P	PKPdf	03 32 08.7 +1.9
	baz=109					
L26K	Log Cabin Wild	149.40	308	P	PKPdf	03 32 08.8 +2.0
	baz=106					
H27K	Steamboat Moun	149.41	315	P	PKPdf	03 32 08.4 +1.7
	baz=102					
N25K	Chitina, Valde	149.55	305	P	PKPdf	03 32 08.8 +1.7
	baz=108					
G27K	Doyon Strip	149.58	316	P	PKPdf	03 32 08.7 +1.7
	baz=101					
ULN	Ulaanbaatar	149.70	85	PKPdf	PKPdf	03 32 08.9 +1.0
ULN	Ulaanbaatar	149.70	85‖	*e*PKHKP	PKPdf	03 32 10.5 +2.5
D27M	Malcolm River	149.71	321	P	PKPdf	03 32 08.2 +1.0
	baz=98					
BJT	Baijiatuau	149.73	106	PKPdf	PKPdf	03 32 09.1 +1.1
BJT	Baijiatuau	149.73	106	PKHKP	PKPdf	03 32 09.1 +1.1
BJI	Beijing	149.75	106	PKPbc	PKPbc	03 32 12.2 -0.6
EYAK	Cordova Ski Ar	149.75	303	P	PKPdf	03 32 09.4 +2.0
	baz=109					
E27K	Coleen River	149.79	319	P	PKPdf	03 32 09.5 +2.2
	baz=99					
J26L	Joseph Creek	149.87	311	P	PKPdf	03 32 09.6 +2.0
	baz=104					
I26K	Coal Creek Min	149.88	313	P	PKPdf	03 32 09.4 +1.9
	baz=102					
SCRK	Sand Creek	149.92	310	P	PKPdf	03 32 09.2 +1.5
	baz=104					
KLU	Klutina	150.12	305	P	PKPdf	03 32 09.7 +1.6
	baz=107					
RIDG	Independent Ri	150.24	309	P	PKPdf	03 32 09.9 +1.8
	baz=104					
PAX	Paxson	150.32	308	P	PKPdf	03 32 10.7 +2.3
	baz=105					
P23K	Montague Islan	150.36	301	P	PKPdf	03 32 10.1 +1.7
	baz=109					
M24K	Tolsona, Glenn	150.41	306	P	PKPdf	03 32 10.2 +1.7
	baz=106					
G26K	Porcupine Rive	150.43	316	P	PKPdf	03 32 10.2 +2.0
	baz=99					
GLI	Glacier Island	150.49	303	P	PKPdf	03 32 10.1 +1.5
	baz=107					
J25K	Salcha River,	150.65	311	P	PKPdf	03 32 09.4 +0.6
	baz=102					
K24K	Donnelly Dome	150.65	309	P	PKPdf	03 32 10.6 +1.8
	baz=103					
F26K	Sheenjek River	150.68	317	P	PKPdf	03 32 11.1 +2.4
	baz=98					
SCM	Sheep Creek Mo	150.86	305	P	PKPdf	03 32 11.1 +1.9
	baz=106					
PRP	Porcupine Dome	150.89	313	P	PKPdf	03 32 10.9 +1.7
	baz=100					
M23K	Glacier View	151.03	305	P	PKPdf	03 32 10.4 +1.0
	baz=105					
H25L	Birch Creek	151.13	314	P	PKPdf	03 32 10.0 +0.6
	baz=99					
C26K	Camden Bay	151.15	322	P	PKPdf	03 32 09.1 -0.2
	baz=93					
DHY	Denali Highway	151.19	307	P	PKPdf	03 32 09.8 0.0
	baz=103					
F25K	Christian Rive	151.23	317	P	PKPdf	03 32 10.1 +0.5
	baz=96					
WAT6	Susitna Watana	151.24	306	P	PKPdf	03 32 10.3 +0.4
	baz=104					
E25K	Arctic Village	151.26	318	P	PKPdf	03 32 11.3 +1.7
	baz=96					
KNK	Knik Glacier	151.27	304	P	PKPdf	03 32 11.0 +1.2
	baz=106					
HDA	Harding Lake	151.28	310	P	PKPdf	03 32 10.6 +0.9
	baz=101					
G25K	Bearman Lake	151.31	315	P	PKPdf	03 32 10.2 +0.6
	baz=98					
SML	Sawmill	151.31	305	P	PKPdf	03 32 10.9 +1.0
	baz=105					
ILAR	Eielson Array	151.32	311	PKPbc	PKPbc	03 32 15.2 -0.6
	comp=Z,9.8nm,0.9s,baz=127,slow=1.8,SNR=67					
JNU	Nakatsue	151.34	134	PKPbc	PKPbc	03 32 16.1 -0.8
	comp=Z,10nm,0.6s,baz=243,slow=2.3,SNR=10					
SEW	Seward	151.37	301	P	PKPdf	03 32 10.5 +0.6
	baz=107					
POKR	Poker Plat Res	151.61	312	P	PKPdf	03 32 11.1 +0.9
	baz=100					
G24K	Hadweenzic Riv	151.85	315	P	PKPdf	03 32 12.6 +2.1
	baz=97					
H24K	Noodor Dome	151.90	313	P	PKPdf	03 32 11.6 +0.9
	baz=98					
MCK	McKinley	152.01	308	P	PKPdf	03 32 12.6 +1.8
	baz=101					
F24K	Squaw Lake	152.09	317	P	PKPdf	03 32 12.5 +1.6
	baz=95					
NEA2	Nenana	152.22	310	P	PKPdf	03 32 13.1 +2.0
	baz=99					
XLT	XiLinHaoTe	152.33	100	*e*P	PKPbc	03 32 18.3 -0.5
XLT				pmax	pmax	
	comp=Z,25nm,0.7s					
XLT				pmax	pmax	
	comp=Z,94nm,5.5s					
CUT	Chulitna	152.34	305	P	PKPdf	03 32 13.3 +2.0
	baz=102					
E24K	Your Creek	152.35	318	P	PKPdf	03 32 13.3 +2.1
	baz=93					
SUA	Susitna One	152.35	303	P	PKPdf	03 32 12.9 +1.3
	baz=104					
I23K	Minto, Yukon-K	152.42	311	P	PKPdf	03 32 11.9 +0.5
	baz=98					
C24K	Franklin Bluff	152.46	321	P	PKPdf	03 32 11.3 0.0
	baz=90					
TRF	Thorofare Moun	152.56	308	PKPab	PKPab	03 32 30.4 +1.0
TRF	Thorofare Moun	152.56	308	P	PKPdf	03 32 11.8 0.0
	baz=100					
TOLK	Toolik Lake Re	152.77	319	P	PKPdf	03 32 12.6 +0.8
	baz=91					
E23K	Chandalar	152.77	318	P	PKPdf	03 32 13.3 +1.4
	baz=92					
SKT	Skwentna	152.83	304	P	PKPdf	03 32 12.7 +0.6
	baz=102					
G23K	Bananza Creek	152.86	315	P	PKPdf	03 32 13.0 +0.9
	baz=94					
BPAW	Bear Paw Mtn.	152.97	309	P	PKPdf	03 32 12.7 +0.4
	baz=99					
MLY	Manley	152.99	311	P	PKPdf	03 32 13.6 +1.3
	baz=97					
H22K	Ishtalitna Cre	153.34	313	P	PKPdf	03 32 14.1 +1.4
	baz=95					
G22K	Bettles	153.46	315	P	PKPdf	03 32 13.8 +1.0
	baz=93					
CHUM	Lake Minchumin	153.51	308	P	PKPdf	03 32 14.8 +1.8
	baz=98					
E22K	Anaktuvuk Pass	153.60	318	P	PKPdf	03 32 14.5 +1.4
	baz=90					
KSRS	Korea Array	153.72	124	PKP	PKPdf	03 32 13.5 -0.6
	comp=Z,1.1nm,0.5s,baz=234,slow=3.4,SNR=1.9					
KSRS				PKPab	PKPab	03 32 32.8 -2.1
	comp=Z,2.8nm,0.8s,baz=186,slow=2.2,SNR=4.5					
F22K	John River	153.73	316	P	PKPdf	03 32 15.3 +2.1
	baz=91					
Q17K	Contact Creek	154.01	295	P	PKPdf	03 32 13.4 -0.6
	baz=107					
J20K	Nowinta River	154.35	309	P	PKPdf	03 32 15.3 +1.1
	baz=96					
B20K	Meade River	155.35	323	P	PKPdf	03 32 16.9 +1.6
	baz=81					
J18K	Innoko River	155.42	307	P	PKPdf	03 32 16.5 +0.8
	baz=96					
CN2	Changchun	157.31	111	*e*PKP	PKPdf	03 32 19.1 +0.3
MDJ	Mudanjiang	160.01	115	PKP	PKPdf	03 32 23.4 +1.4
MDJ				AMB	AMB	
	comp=Z,340nm,4.5s					
KLR	Kul'dur	164.12	106	PKPab	PKPab	03 33 17.4 -2.2
	comp=Z,2.8nm,0.9s,baz=214,slow=7.3,SNR=4.4					

IDC ***12*** *03:15:48.9±0.6, 45°.73N×142°.60E, h319km±8km, mb3.4/22, mbtmp4.2/29, Error ellipse: s-maj=14.8km s-min=10.6km az=170.0*

SKHL ***12*** *03:15:49.0±0.4, 45°.56N×142°.85E, h323km±2km, mb4.7/12, msh3.8/1*

JMA ***12*** *03:15:49.2±0.4, 46°.N±2°.×14°.3E±°, h321km±2km, MV3.7/39, NE OFF HOKKAIDO*

NIED ***12*** *03:15:49.2, 45°.60N×142°.76E, h321km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr0.50; Mθθ0.86; Mφφ-1.36; Mrθ0.55; Mφθ-1.42; Mφr0.01; Fault plane solution: M0 1.92000×1015 NP1:φs69.00000°, δ79.00000°, λ160.00000°. NP2:φs163.00000°, δ71.00000°, λ12.00000°.*

ISC 12 03:15:48.5±0.6, 45°.62N±0°.06×142°.85E±0°.06, h321km±5km, n74, σ1θ06/90, mb3.8/31, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	Soyaes	0.69	196	*e*P	Pn	03 16 30.7	+0.5
JWK2	Keihoku	0.74	246	*e*P	Pn	03 16 30.9	+0.6
JWK2				*e*S	S	03 17 03.0	-0.5
JRR	Rishiri	1.19	247	*e*P	Pn	03 16 32.6	+0.5
JRR				*e*S	S	03 17 06.7	-0.1
JRBN	Rebuntou	1.27	262	*e*P	Pn	03 16 32.4	-0.1
YSS	Yuzh-Sakhalins	1.33	357	*e*P	Pn	03 16 32.9	+0.2
YSS				AMB	AMB	03 16 33.4	
	88nm,0.5s						
YSS				*e*S	S	03 17 07.1	-1.0
YSS				A	A	03 17 08.0	
	230nm,0.9s						
YSS				A	A	03 17 08.0	
	108nm,0.9s						
YSS				A	A	03 17 08.9	
	300nm,3.6s						
JSS	Shosan	1.41	210	*e*P	Pn	03 16 34.0	+0.6
ASAJ	Asahikawa	1.52	187	*e*P	Pn	03 16 34.8	+0.8
ASAJ	Asahikawa	1.52	187	P	Pn	03 16 34.5	+0.5
	292nm,0.7s,baz=3.7,slow=6.1,SNR=182						
ASAJ				S	S	03 17 11.4	+1.1
	26nm,0.6s,baz=68,slow=29,SNR=1.1						
JYG	Yagishiri	1.56	221	*e*P	Pn	03 16 34.6	+0.3
JYG				*e*S	S	03 17 10.3	-0.4
JMP	Maruseppu	1.65	167	*e*P	Pn	03 16 35.7	+0.7
JKK2	Kamakawa 2	1.75	182	*e*P	Pn	03 16 35.2	-0.3
JTKR	Abashiri--Toko	1.81	155	*e*P	Pn	03 16 37.0	+1.1
JTKR				*e*S	S	03 17 13.6	-0.1
JHR	Hokuryu	2.04	204	*e*P	Pn	03 16 38.4	+0.8
JAB	Ashibetsu	2.16	192	*e*P	Pn	03 16 39.2	+0.7
JAR	Ashorobuto	2.42	164	*e*P	Pn	03 16 41.7	+1.1
JAR				*e*S	S	03 17 22.6	+0.3
JAK	Akkeshi	2.94	153	*e*P	Pn	03 16 45.7	+0.4
JAK				*e*S	S	03 17 29.2	-1.5
JEW	Eniwo	2.96	200	*e*P	Pn	03 16 46.4	+0.9
AKK	Akkeshi	2.97	151	*e*P	Pn	03 16 45.4	-0.2
AKK				AMB	AMB	03 16 46.0	
	379nm,1.0s						
AKK				*e*S	S	03 17 28.5	-2.7
AKK				A	A	03 17 30.8	
	2μm,0.6s						
AKK				A	A	03 17 30.8	
	3μm,0.6s						
JCH	Churui	3.03	173	*e*P	Pn	03 16 45.4	-0.7
JCH				*e*S	S	03 17 28.9	-3.4
NMR	Nemuro--Hokkai	3.05	137	*e*P	Pn	03 16 45.7	-0.6
NMR				AMB	AMB	03 16 47.6	
	211nm,1.2s						
NMR				*e*S	S	03 17 29.9	-2.7
NMR				A	A	03 17 34.3	
	950nm,0.6s						
NMR				A	A	03 17 34.3	
	752nm,0.6s						
NEM2	Nemuro 2	3.06	136	*e*S	S	03 17 30.1	-2.6
SHO	Shikotan	3.33	120	*e*P	Pn	03 16 49.7	+0.7
SHO				AMB	AMB	03 16 53.1	
	82nm,1.0s						
SHO				*e*S	S	03 17 35.6	-1.9
SHO				A	A	03 17 38.5	
	140nm,0.3s						
SHO				A	A	03 17 38.5	
	123nm,0.3s						
JNBK	Urakawa-nobuka	3.34	181	*e*P	Pn	03 16 49.2	+0.1
UGL	Uglegorsk	3.50	352	*e*P	Pn	03 16 51.2	+0.7
UGL				AMB	AMB	03 16 52.0	
	143nm,0.8s						
JEM	Erimo	3.61	176	P	Pn	03 16 52.5	+0.6
ERM	Erimo	3.61	176	P	Pn	03 16 52.0	+0.1
JTM	Tenmabayashi	5.00	196	P	Pn	03 17 05.8	-1.2
USRK	Ussuriysk Ar.	7.84	263	P	Pn	03 17 39.5	-0.8
	22nm,0.6s,baz=73,slow=13,SNR=43						
JMM	Marumori	7.90	192	P	Pn	03 17 40.6	-0.5
JSD	Sado	8.31	206	P	Pn	03 17 45.4	-0.8
KLR	Kul'dur	8.35	300	P	Pn	03 17 45.5	-0.9
	8.6nm,0.7s,baz=116,slow=12,SNR=15						
MAJO	Matsushiro	9.72	203	P	Pn	03 18 03.5	+0.3
MJAR	Matsushiro Arr	9.72	203	P	Pn	03 18 02.3	-1.0
	17nm,0.6s,baz=12,slow=12,SNR=56						
INU	Inuyama	11.18	205	P	Pn	03 18 20.9	+0.1
JHJ	Hachijo jima 2	12.71	192	P	Pn	03 18 39.1	-0.1
	33nm,0.3s,baz=36,slow=19,SNR=6.0						
JHJ2	Mitsune	12.71	192	P	P	03 18 40.7	+1.4
MA2	Magadan	14.76	16	P	Pn	03 19 02.6	-0.5
	32nm,0.8s,baz=196,slow=8.7,SNR=11						
JNU	Nakatsue	15.52	221	P	Pn	03 19 14.2	+1.9
JNU	Nakatsue	15.52	221	P	P	03 19 10.5	+0.3
	7.8nm,0.8s,baz=28,slow=9.3,SNR=4.9						
SEY	Seymchan	18.18	14	P	P	03 19 38.3	-0.2
	11nm,0.4s,baz=179,slow=10,SNR=25						
SONM	Songino Array	24.94	288	P	P	03 20 42.8	-0.6
	4.3nm,0.6s,baz=80,slow=8.6,SNR=22						
	4.3nm,0.6s						
ZALV	Zalesovo Beam	37.42	304	P	P	03 22 29.2	-2.2
	0.7nm,0.3s,baz=90,slow=2.9,SNR=1.8						
ZALV				PcP	PcP	03 24 42.2	-0.1
	0.4nm,0.3s,baz=8.5,slow=2.9,SNR=2.3						
	0.7nm,0.3s						
MKAR	Makanchi Array	41.01	294	P	P	03 23 00.1	-0.8
	0.5nm,0.6s,baz=52,slow=7.9,SNR=3.6						
	0.5nm,0.6s						
ILAR	Eielson Array	41.82	37	P	P	03 23 07.4	+0.2
	2.3nm,0.7s,baz=268,slow=5.5,SNR=25						
ILAR				PcP	PcP	03 24 55.9	-0.4
	0.3nm,0.7s,baz=262,slow=1.4,SNR=2.6						
	2.3nm,0.7s						
KURBB	Kurchatov Arra	42.02	301	P	P	03 23 07.8	-1.2
	0.6nm,0.6s,baz=70,slow=8.8,SNR=5.6						
KURBB				PcP	PcP	03 24 57.0	-0.2
	0.5nm,0.6s,baz=75,slow=3.1,SNR=3.5						
	0.6nm,0.6s						
BVAR	Borovoye Array	45.94	307	P	P	03 23 38.4	-1.4
	0.6nm,0.5s,baz=78,slow=9.1,SNR=2.5						
BVAR				PcP	PcP	03 25 10.4	-0.3
	0.9nm,0.5s,baz=33,slow=3.4,SNR=3.1						
	0.6nm,0.5s						
YKA	Yellowknife Ar	55.93	33	P	P	03 24 54.2	+0.7
	3.1nm,0.6s,baz=305,slow=6.8,SNR=12						
	3.1nm,0.6s						
FINES	FINESS Array B	61.78	331	P	P	03 25 32.0	-1.3
	2.7nm,0.6s,baz=53,slow=8.4,SNR=18						
	2.7nm,0.6s						
WRA	Warramunga Arr	65.71	189	P	P	03 26 00.9	+1.6
	0.4nm,0.9s,baz=8.1,slow=6.7,SNR=1.9						
	0.4nm,0.9s						
KBZ	Khabaz	66.25	309	P	P	03 26 02.6	+0.1
	1.7nm,0.7s,baz=61,slow=1.3,SNR=4.1						
	1.7nm,0.7s						
NB2	NORSAR Subarra	66.71	337	P	P	03 26 04.1	-1.1
	comp=Z,1.3nm,0.6s,baz=36,slow=6.5						
NOA	NORSAR Array B	66.71	337	P	P	03 26 04.3	-0.9
	comp=Z,1.8nm,0.7s,baz=38,slow=5.1,SNR=8.2						
	comp=Z,1.8nm,0.7s						
HFS	Hagfors	66.74	335	P	P	03 26 04.2	-1.1
	comp=Z,3.4nm,0.5s,baz=54,slow=7.5,SNR=18						
	comp=Z,3.4nm,0.5s						
NVAR	Mina Array Bea	69.13	56	P	P	03 26 23.1	+2.3
	comp=Z,1.1nm,0.6s,baz=298,slow=6.3,SNR=7.6						
	comp=Z,1.1nm,0.6s						
PDAR	Pinedale Array	70.99	48	P	P	03 26 32.8	+0.8
	comp=Z,1.3nm,0.7s,baz=311,slow=1.5,SNR=13						
	comp=Z,1.3nm,0.7s						
ULM	Lac du Bonnet	71.80	35	P	P	03 26 36.5	+0.2
	comp=Z,2.5nm,0.5s,baz=308,slow=5.2,SNR=4.4						
	comp=Z,2.5nm,0.5s						
BRTR	Keskin Array B	74.02	311	P	P	03 26 48.7	-0.9
BRTR	Keskin Array B	74.02	311	P	P	03 26 48.7	-0.9
	comp=Z,0.7nm,0.7s,baz=55,slow=3.8,SNR=5.1						
	comp=Z,0.7nm,0.7s						
EKA	Eskdalemuir Ar	75.39	341	P	P	03 26 56.7	-0.2
	comp=Z,0.5nm,0.5s,baz=27,slow=5.6,SNR=3.6						
	comp=Z,0.5nm,0.5s						
GERES	GERESS Array B	75.99	328	P	P	03 27 00.1	-0.5
GERES	GERESS Array B	75.99	328	P	P	03 27 00.1	-0.5
	comp=Z,0.5nm,0.5s,baz=32,slow=5.8,SNR=2.6						
	comp=Z,0.5nm,0.5s						
SCHQ	Schefferville	76.80	17	P	P	03 27 05.2	+0.3
	comp=Z,3.4nm,0.8s,baz=338,slow=5.4,SNR=4.2						
	comp=Z,3.4nm,0.8s						
SOKA	Soboth	77.27	326	*e*P	P	03 27 08.6	+0.9
	comp=Z,1.1nm,0.6s						
LESA	Schwarzleotal	77.55	328	*e*P	P	03 27 09.9	+0.7
	comp=Z,2.3nm,0.5s						
KBA	Koelnbreinsper	77.59	327	*e*P	P	03 27 10.4	+0.8
	comp=Z,3.0nm,0.4s						
MYKA	Terra Mystica	77.85	327	*e*P	P	03 27 11.2	+0.3
	comp=Z,3.1nm,0.4s						
MMAI	Mount Meron Ar	77.91	305	P	P	03 27 12.3	+0.9
	comp=Z,0.2nm,0.3s,baz=36,slow=12,SNR=1.5						
	comp=Z,0.2nm,0.3s						
WATA	Walderalm	78.03	328	*e*P	P	03 27 12.3	+0.4
	comp=Z,2.4nm,0.3s						
WTTA	Wattenberg	78.07	328	*e*P	P	03 27 12.9	+0.6
	comp=Z,2.6nm,0.3s						
MOTA	Moosalm	78.20	329	*e*P	P	03 27 13.3	+0.5
	comp=Z,1.8nm,0.4s						
SQTA	Sankt Quirin	78.27	329	*e*P	P	03 27 13.8	+0.6
	comp=Z,1.4nm,0.4s						
FETA	Feichten	78.61	329	*e*P	P	03 27 15.9	+0.8
	comp=Z,0.7nm,0.5s						
TXAR	Lajitas Array	84.09	54	P	P	03 27 45.4	+1.5
	comp=Z,0.7nm,0.5s,baz=295,slow=4.4,SNR=14						
	comp=Z,0.7nm,0.5s						
ESDC	Sonseca Array	90.02	335	P	P	03 28 10.4	-1.7
	comp=Z,0.2nm,0.6s,baz=7.3,slow=3.9,SNR=4.0						
	comp=Z,0.2nm,0.6s						

SKO 12 03:18:18.1, 41°.80N×22°.82E, h0km, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEHC	Pehcevo	0.06	110	*i* Pg	Pg	03 18 18.7	-0.6
PEHC				*i* Sg	Sg	03 18 20.6	+0.4
PEHC				*e*Lg	Lg	03 18 20.7	
	comp=N,5.2nm,0.3s						
PEHC				*e*Lg	Lg	03 18 21.5	
	comp=E,1.3nm,0.6s						
STIP	Stip	0.49	258	*e*Pg	Pg	03 18 23.6	-3.8
STIP				*i* Sg	Sg	03 18 27.0	-6.7
STIP				*e*Lg	Lg	03 18 27.2	
	comp=N,3.5nm,0.2s						
STIP				*e*Lg	Lg	03 18 27.6	
	comp=E,0.7nm,0.2s						
KNT	Kendrikon	0.64	175	*i* Pg	Pg	03 18 29.6	-0.8

UPP 12 03:19:32.8±2.9, 51°.84N×15°.40E, h0km, ML2.1
ISC 12 03:19:26.6±0.7, 51°.66N±0°.03×16°.01E±0°.02, h0km, n94, σ1§63/176, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.83**	**167**	*i* Pg	**Pg**	**03 19 43.3**	**+0.8**
KSP				*e*Sg	**Sg**	03 19 53.2	-0.1
KSP	**Ksiaz**	**0.83**	**167**	*e*Pg	**Pg**	**03 19 43.3**	**+0.8**
KSP				*e*Sg	**Sg**	03 19 53.4	+0.1
CHVC	**Chvalec**	**1.07**	**178**	*e*PG	**Pg**	**03 19 47.5**	**+0.5**
CHVC				*e*SG	**Sg**	03 20 00.5	-0.4
	comp=Z,96nm,0.5s						
OSTC	**Ostas**	**1.11**	**173**	*e*PG	**Pg**	**03 19 48.3**	**+0.5**
OSTC				*e*SG	**Sg**	03 20 02.1	0.0
	comp=Z,85nm,0.3s						
UPC	**Upice**	**1.15**	**180**	*e*PG	**Pg**	**03 19 49.0**	**+0.4**
UPC				*e*SG	**Sg**	03 20 02.5	-0.9
	comp=Z,115nm,0.3s						
DPC	**Dobruska-Polom**	**1.32**	**171**	*e*PG	**Pg**	**03 19 52.0**	**+0.2**
DPC				*e*SG	**Sg**	03 20 07.7	-1.3
	comp=Z,95nm,0.5s						
DPC	**Dobruska-Polom**	**1.32**	**171**	*e*Pg	**Pg**	**03 19 52.0**	**+0.2**
DPC				*e*Sg	**Sg**	03 20 08.0	-1.0
PVCC	**Panska Ves**	**1.45**	**219**	*e*PG	**Pb**	**03 19 54.7**	**+0.3**
PVCC				*e*SG	**Sg**	03 20 13.3	+0.3
	comp=Z,142nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**240**	Pg	**Pg**	**03 19 56.9**	**+1.4**
BRG				Sg	**Sn**	03 20 17.0	+1.7
BRG				Amp		03 20 18.8	
	comp=Z,121nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**240**	*e*Pn	**Pg**	**03 19 56.8**	**+1.2**
BRG				*e*Sg	**Sn**	03 20 16.7	+1.4
RICC	**Richard**	**1.64**	**228**	*e*PG	**Pb**	**03 19 57.5**	**-0.1**
RICC				*e*SG	**Sg**	03 20 19.2	0.0
	comp=Z,78nm,0.4s						
FBE	**Freiberg**	**1.82**	**247**	*e*Pn	**Pg**	**03 20 01.7**	**+0.3**
FBE				*e*Sg	**Sg**	03 20 25.8	+0.8
PRA	**Prague**	**1.87**	**213**	*e*PG	**Pn**	**03 20 00.5**	**+0.7**
PRA				*e*SG	**Sb**	03 20 25.5	-0.1
	comp=Z,53nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.91**	**204**	*e*PG	**Pn**	**03 20 01.0**	**+0.7**
GOPC				*e*SG	**Sb**	03 20 26.4	-0.2
	comp=Z,33nm,0.5s						
CLL	**Collm**	**1.91**	**261**	*i* Pn	**Pn**	**03 20 01.2**	**+0.9**
	comp=Z,15nm,0.5s						
CLL				*e*Pg	**Pg**	**03 20 04.0**	**+0.9**
CLL				*i* x	x	03 20 08.4	
CLL				*e*Sg	**Sg**	**03 20 29.0**	**+1.1**
	comp=Z,24nm,0.5s						
CLL	**Collm**	**1.91**	**261**	*e*Pn	**Pn**	**03 20 01.4**	**+1.0**
CLL				*e*Sg	**Sg**	03 20 28.5	+0.6
PRU	**Pruhonice**	**1.91**	**210**	*e*PG	**Pn**	**03 20 00.9**	**+0.6**
PRU				*e*SG	**Sb**	03 20 26.5	-0.1
	comp=Z,40nm,0.6s						
HSKC	**Hora Svate Kat**	**1.93**	**238**	*e*PG	**Pb**	**03 20 02.3**	**-0.3**
HSKC				*e*SG	**Sb**	03 20 28.0	+0.7
	comp=Z,77nm,0.5s						
MORC	**Moravsky Berou**	**2.12**	**152**	*e*Pn	**Pn**	**03 20 03.6**	**+0.3**
	baz=334						
MORC				*e*Sg	**Sb**	03 20 32.4	-0.3
	comp=Z,53nm,0.5s,baz=334						
MORC	**Moravsky Berou**	**2.12**	**152**	*e*Pn	**Pn**	**03 20 03.7**	**+0.4**
OKC	**Ostrava-Krasne**	**2.27**	**142**	*e*PN	**Pn**	**03 20 05.8**	**+0.4**
OKC				*e*PG	**Pg**	**03 20 09.6**	**-0.5**
OKC				*e*SG	**Sg**	**03 20 38.5**	**-1.0**
	comp=Z,29nm,0.5s						
OKC	**Ostrava-Krasne**	**2.27**	**142**	*e*Pn	**Pn**	**03 20 05.7**	**+0.4**
OKC				*e*Sg	**Sg**	03 20 39.0	-0.5
VRAC	**Vranov**	**2.38**	**171**	*e*Pn	**Pn**	**03 20 07.3**	**+0.5**
	baz=353						
VRAC				*e*Sg	**Sb**	**03 20 41.0**	**+0.9**
	comp=Z,28nm,0.4s,baz=353						
VRAC	**Vranov**	**2.38**	**171**	*e*PN	**Pn**	**03 20 07.4**	**+0.6**
VRAC				*e*SG	**Sb**	03 20 41.1	+0.9
VRAC	**Vranov**	**2.38**	**171**	Pn	**Pn**	**03 20 07.9**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=336,slow=14,SNR=15						
VRAC				Lg	Lg	03 20 41.3	
	comp=Z,6.2nm,0.3s,baz=89,slow=20,SNR=12						
	comp=Z,3.5nm,0.3s						
TREC	**Trest**	**2.39**	**188**	*e*PN	**Pn**	**03 20 07.7**	**+0.8**
TREC				*e*PG	**Pg**	03 20 11.5	-0.8
TREC				*e*SG	**Sg**	03 20 42.2	-1.0
	comp=Z,28nm,0.3s						
ZVC	**Zvikov**	**2.50**	**208**	*e*PN	**Pn**	**03 20 08.9**	**+0.4**
ZVC				*e*PG	**Pb**	03 20 12.8	+0.5
ZVC				*e*SG	**Sg**	03 20 46.0	-0.9
	comp=Z,27nm,0.6s						
TANN	**Tannenbergstha**	**2.56**	**242**	*e*Pn	**Pn**	**03 20 10.6**	**+1.3**
MAUC	**Maruska**	**2.57**	**152**	*e*PN	**Pn**	**03 20 10.5**	**+1.0**
MAUC				*e*PG	**Pb**	03 20 14.1	+0.6
MAUC				*e*SG	**Sg**	03 20 48.4	-0.7
	comp=Z,62nm,0.4s						
KRUC	**Moravsky**	**2.61**	**174**	*e*Pn	**Pn**	**03 20 10.9**	**+1.0**
	baz=356						
KRUC				*e*Sg	**Sb**	03 20 48.3	+1.6
	comp=Z,30nm,0.6s,baz=356						
WERD	**Werda**	**2.63**	**244**	*e*Sg	**Sg**	03 20 50.7	-0.3
NKC	**Novy Kostel**	**2.66**	**239**	*e*PN	**Pn**	03 20 12.2	+1.5
NKC				*e*SG	**Sg**	03 20 53.0	+0.9
	comp=Z,40nm,0.3s						
OJC	**Ojcow**	**2.80**	**119**	*e*Pn	**Pn**	03 20 12.1	-0.4
OJC				*e*Pg	**Pg**	03 20 21.5	+1.3
OJC				*e*Sn	**Sn**	03 20 45.5	-1.4
OJC				*e*Sg	**Sg**	03 20 57.1	+0.7
OJC	**Ojcow**	**2.80**	**119**	*e*Pg	**Pg**	03 20 20.7	+0.6
OJC				*e*Sg	**Sg**	03 20 56.8	+0.5
KHC	**Kasperske Hory**	**2.97**	**213**	*e*PN	**Pn**	03 20 15.6	+0.7
KHC				*e*PG	**Pb**	03 20 21.5	+1.2
KHC				*e*SN	**Sn**	03 20 51.0	-0.2
KHC				*e*SG	**Sg**	03 21 00.1	-1.7
	comp=Z,20nm,0.4s						
MANZ	**Manzenberg**	**2.98**	**237**	*e*Pn	**Pn**	03 20 16.6	+1.5
MANZ				*e*Sg	**Sg**	03 21 02.8	+0.5
JAVC	**Velka Javorina**	**3.00**	**158**	*e*Pn	**Pn**	03 20 15.5	+0.2
	baz=341						
JAVC	**Velka Javorina**	**3.00**	**158**	*e*PN	**Pn**	03 20 15.6	+0.2
CKRC	**Cesky Krumlov**	**3.04**	**202**	*e*PN	**Pn**	03 20 17.2	+1.3
CKRC				*e*PG	**Pb**	03 20 22.9	+1.4
CKRC				*e*SG	**Sg**	03 21 02.2	-2.0
ROTZ	**Rotzenmuhle**	**3.07**	**233**	*e*Sg	**Sg**	03 21 04.1	-0.9
GEC2	**GERESS Array S**	**3.18**	**209**	*e*Pn	**Pn**	03 20 19.1	+1.2
GERES	**GERESS Array B**	**3.18**	**209**	Pn	**Pn**	**03 20 19.3**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=31,slow=13,SNR=22						
GERES				Pg	**Pb**	**03 20 25.3**	**+1.4**
	comp=Z,3.4nm,0.3s,baz=22,slow=19,SNR=21						
GERES				Sn	**Sn**	**03 20 55.5**	**-1.0**
	comp=Z,2.8nm,0.3s,baz=31,slow=21,SNR=6.9						
GERES				Lg	Lg	03 21 04.9	
	comp=Z,4.1nm,0.3s,baz=28,slow=26,SNR=8.7						
	comp=Z,2.3nm,0.3s						
WET	**Wettzell**	**3.21**	**220**	*e*Pn	**Pn**	**03 20 19.2**	**+0.9**
WET				*e*Sg	**Sg**	03 21 08.8	-1.0
LANS	**Liptovska Anna**	**3.35**	**137**	*e*PN	**Pn**	03 20 21.4	+1.3
LANS				*e*PG	**Pg**	03 20 30.5	-0.1
LANS				*e*SG	**Sg**	03 21 13.6	-0.4
MODS	**Modra-Piesok**	**3.39**	**165**	*e*PN	**Pn**	03 20 22.6	+1.9
MODS				*e*PG	**Pg**	03 20 31.1	-0.3
MODS				*e*SG	**Sg**	03 21 15.7	+0.4
CLZ	**Clausthal**	**3.51**	**275**	*e*Pn	**Pn**	03 20 24.9	+2.6
BSD	**Bornholm Skovb**	**3.53**	**350**	*i* P	**Pn**	03 20 24.0	+1.5
BSD				*i* S	**Sn**	03 21 04.1	-0.8
BSD				IAML		03 21 08.5	
	comp=Z,2.6nm,0.2s						
ZST	**Bratislava**	**3.54**	**168**	*e*SG	**Sg**	03 21 21.0	+0.9
NIE	**Niedzica**	**3.54**	**128**	*e*Pn	**Pn**	03 20 24.9	+2.2
NIE				*e*Pg	**Pg**	03 20 35.4	+1.1
NIE				*e*Sg	**Sg**	03 21 20.1	-0.1
GRF	**Grafenberg Arr**	**3.62**	**239**	*e*Pn	**Pn**	03 20 25.7	+1.8
GRF				*e*Sg	**Sg**	03 21 22.7	-0.2
VYHS	**Vyhne**	**3.65**	**149**	*e*PN	**Pn**	03 20 24.9	+0.6
VYHS				*e*PG	**Pg**	03 20 38.6	+2.1
VYHS				*e*SG	**Sg**	03 21 23.0	-0.8
CONA	**Conrad Observa**	**3.73**	**181**	*e*Pn	**Pn**	03 20 26.7	+1.2
	comp=Z,0.8nm,0.2s						
CONA				*e*Sg	**Sg**	03 21 23.9	-2.6
	comp=Z,26nm,0.6s						
RONA	**Rosalia, Austr**	**3.96**	**177**	*e*Pn	**Pn**	03 20 29.7	+1.1
	comp=Z,0.8nm,0.3s						
RONA				*e*Sg	**Sg**	03 21 32.8	-1.0
	comp=Z,9.4nm,0.4s						
MOA	**Molln**	**3.97**	**197**	*e*Pn	**Pn**	03 20 29.9	+1.2
	comp=Z,3.8nm,0.3s						
MOA				*e*Sg	**Sg**	03 21 32.4	-1.8
	comp=Z,8.4nm,0.4s						
STHS	**Stebnicka Huta**	**4.02**	**122**	*e*PN	**Pn**	**03 20 30.0**	**+0.6**
STHS				*e*PG	**Pg**	03 20 43.3	-0.3
STHS				*e*SG	**Sg**	03 21 39.8	+4.1
BIOA	**Bad Ischl, Aus**	**4.26**	**202**	*e*Pn	**Pn**	03 20 35.2	+2.6
	comp=Z,3.2nm,0.3s						
BIOA				*e*Sg	**Sg**	03 21 42.2	-1.0
	comp=Z,23nm,0.5s						
LUNU	**Lund**	**4.26**	**340**	*i* P	**Pn**	03 20 34.5	+1.9
LUNU				*i* S	**Sn**	03 21 22.4	-0.6
KECS	**Kecovo**	**4.29**	**136**	*e*PN	**Pn**	03 20 34.2	+1.1
ARSA	**Arzberg**	**4.42**	**184**	*e*Sg	**Sg**	03 21 47.4	-1.1
	comp=Z,5.4nm,0.4s						
BLEU	**Blekinge**	**4.66**	**359**	P	**Pn**	03 20 40.8	+2.7
BLEU				S	**Sn**	03 21 32.5	-0.3
BLEU	**Blekinge**	**4.66**	**359**	*i* P	**Pn**	03 20 40.6	+2.5
BLEU				*i* S	**Sn**	03 21 32.2	-0.6
BLEU	**Blekinge**	**4.66**	**359**	P	**Pn**	03 20 40.8	+2.7
BLEU				S	**Sn**	03 21 32.5	-0.3
LESA	**Schwarzleotal**	**4.76**	**208**	*e*Pn	**Pn**	03 20 40.2	+0.6
	comp=Z,0.8nm,0.3s						
LESA				*e*Sg	**Sg**	03 21 58.9	-0.4
	comp=Z,4.2nm,0.3s						
BJUU	**Bjuv**	**4.76**	**339**	P	**Pn**	03 20 40.8	+1.3
BJUU				S	**Sn**	03 21 34.0	-1.4
BJUU	**Bjuv**	**4.76**	**339**	*i* P	**Pn**	03 20 40.1	+0.6
BJUU				*i* S	**Sn**	03 21 33.2	-2.2
BJUU	**Bjuv**	**4.76**	**339**	P	**Pn**	03 20 40.8	+1.3
BJUU				S	**Sn**	03 21 34.0	-1.4
KBA	**Koelnbreinsper**	**4.90**	**202**	*e*Pn	**Pn**	03 20 43.1	+1.5
	comp=Z,1.7nm,0.3s						
KBA				*e*Sg	**Sg**	03 22 04.2	+0.4
	comp=Z,11nm,0.6s						
DEL	**Delary**	**4.99**	**346**	P	**Pn**	03 20 44.1	+1.6
DEL	**Delary**	**4.99**	**346**	*i* P	**Pn**	03 20 44.0	+1.4
DEL				*i* S	**Sn**	03 21 39.1	-1.8
DEL	**Delary**	**4.99**	**346**	P	**Pn**	03 20 44.1	+1.6
SOKA	**Soboth**	**5.02**	**188**	*e*Sg	**Sg**	03 22 04.4	-3.4
	comp=Z,3.6nm,0.6s						
WTTA	**Wattenberg**	**5.24**	**215**	*e*Pn	**Pn**	03 20 47.2	+1.0
	comp=Z,1.3nm,0.3s						
WTTA				*e*Sg	**Sg**	03 22 13.5	-1.2
	comp=Z,6.3nm,0.4s						
VXJU	**Vaexsjoe**	**5.31**	**354**	P	**Pn**	03 20 49.6	+2.6
VXJU				S	**Sn**	03 21 47.2	-1.7
VXJU	**Vaexsjoe**	**5.31**	**354**	P	**Pn**	03 20 49.6	+2.6
VXJU				S	**Sn**	03 21 47.2	-1.7
MOTA	**Moosalm**	**5.37**	**218**	*e*Pn	**Pn**	03 20 49.1	+1.1
	comp=Z,0.9nm,0.3s						
RETA	**Reutte**	**5.39**	**221**	*e*Pn	**Pn**	03 20 49.3	+1.0
	comp=Z,0.3nm,0.2s						
ABTA	**Abfaltersbach**	**5.42**	**206**	*e*Pn	**Pn**	03 20 52.3	+3.7
	comp=Z,0.9nm,0.3s						
ABTA				*e*Sg	**Sg**	03 22 20.1	-0.5
	comp=Z,16nm,1.1s						
SQTA	**Sankt Quirin**	**5.43**	**217**	*e*Pn	**Pn**	03 20 51.4	+2.5
	comp=Z,1.7nm,0.2s						
OSKU	**Oskarshamn**	**5.55**	**1**	P	**Pn**	03 20 53.1	+2.8
OSKU	**Oskarshamn**	**5.55**	**1**	P	**Pn**	03 20 53.1	+2.8
BYXU	**Byxelkrok**	**5.68**	**6**	P	**Pn**	03 20 55.3	+3.3
BYXU	**Byxelkrok**	**5.68**	**6**	P	**Pn**	03 20 55.3	+3.3
FETA	**Feichten**	**5.78**	**219**	*e*Pn	**Pn**	03 20 57.1	+3.5
	comp=Z,0.6nm,0.5s						
FETA				*e*Sg	**Sg**	03 22 31.4	-0.7
	comp=Z,1.0nm,0.5s						
GNOU	**Gnosjoe**	**5.80**	**348**	P	**Pn**	03 20 56.0	+2.3
GNOU	**Gnosjoe**	**5.80**	**348**	P	**Pn**	03 20 56.0	+2.3
DAVA	**Damuels**	**5.92**	**225**	*i* Pn	**Pn**	03 20 56.6	+1.0
	comp=Z,1.0nm,0.3s						
CDF	**Champ du Feu**	**6.49**	**243**	*e*Pn	**Pn**	03 21 03.6	+0.2
CDF				*e*Sg	**Sg**	03 22 50.7	-4.3
	comp=Z,7.3nm,0.7s						
HINF	**Hinteralfeld**	**7.07**	**241**	*e*Pn	**Pn**	03 21 08.5	-2.7
HINF				*e*Sg	**Sg**	03 23 06.9	-6.4
	comp=Z,8.4nm,0.7s						
HAU	**Haudompre**	**7.24**	**243**	*e*Pn	**Pn**	03 21 11.8	-1.7
HAU				*e*Sg	**Sg**	03 23 12.3	-6.5
	comp=Z,5.1nm,0.5s						
AKASG	**Malin Array Be**	**8.36**	**91**	Pn	**Pn**	**03 21 29.5**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=282,slow=12,SNR=6.7						
AKASG				Sn	**Sn**	03 23 00.7	-3.3
	comp=Z,0.5nm,0.3s,baz=277,slow=20,SNR=1.1						
	comp=Z,0.3nm,0.2s						
HFS	**Hagfors**	**8.60**	**352**	Pn	**Pn**	**03 21 33.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=174,slow=39,SNR=5.1						
	comp=Z,0.7nm,0.4s						
SSF	**Saint Saulge**	**9.36**	**245**	*e*Pn	**Pn**	**03 21 41.9**	**-0.7**
FINES	**FINESS Array B**	**11.26**	**25**	Pn	**Pn**	**03 22 06.4**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=216,slow=10,SNR=6.8						
FINES				Sn	**Sn**	**03 24 10.7**	**-4.2**
	comp=Z,0.2nm,0.3s,baz=210,slow=19,SNR=2.1						
	comp=Z,0.6nm,0.6s						
EKA	**Eskdalemuir Ar**	**11.98**	**295**	Pn	**Pn**	**03 22 19.4**	**+0.9**
	baz=102,slow=13						
	comp=Z,0.3nm,0.3s						

IDC 12 03:20:32.4±3.8, 29°.54S×177°.36W, h43km±31km, mb3.4/2, mbtmp3.6/2, Error ellipse: s-maj=105.4km s-min=41.4km az=14.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.57**	**301**	P	Pn	03 20 45.0	+0.9
	1μm,0.3s,baz=0.7,slow=19,SNR=37						
RAO				S	Sn	03 20 54.5	+2.0
	2μm,0.3s,baz=98,slow=22,SNR=14						
ASAR	**Alice Springs**	**43.72**	**266**	P	P	03 28 34.0	+0.4
	0.2nm,0.3s,baz=106,slow=7.3,SNR=5.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.63**	**271**	P	P	03 28 40.4	-0.6
	0.5nm,0.4s,baz=110,slow=8.1,SNR=12						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**144.53**	**341**	PKP	PKPbc	03 40 02.8	+0.6
	1.3nm,0.4s,baz=35,slow=3.4,SNR=12						

NEIC 12 03:55:51.1±2.0, 54°.13N±0°.08×162°.50W±0°.06, h43km±25km, mb3.7/9, ML3.5/8, ML3.3(AEIC), Error ellipse: s-maj=12.6km s-min=4.2km az=163.0
AEIC 12 03:55:52.4±1.5, 54°.31N±0°.09×162°.65W±0°.06, h62km±9km, Error ellipse: s-maj=13.7km s-min=3.0km az=164.0
IDC 12 03:55:58.2±8.7, 55°.34N×162°.71W, h98km±56km, mb3.5/4, mbtmp3.7/7, MS2.9/1, Error ellipse: s-maj=95.7km s-min=48.0km az=1.0
ISC 12 03:55:51.7±1.5, 54°.3N±0°.2×162°.55W±0°.08, h77km±16km, n62, σ1§29/60, mb3.8/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.76**	**319**		**Pn**	**03 56 07.2**	**-0.5**
FALS					**Sn**	03 56 18.3	-1.3
BRPK	**Brown Peak**	**0.78**	**298**		**Pn**	03 56 07.8	-0.2
ISLZ	**Isanotski Laza**	**0.81**	**303**		**Pn**	03 56 07.9	-0.4
ISLZ					**Sn**	03 56 19.4	-1.3
DT1	**Dutton Round H**	**0.83**	**11**		**Pn**	03 56 08.6	+0.1
ISNN	**Isanotski Nort**	**0.90**	**308**		**Pn**	03 56 09.3	0.0
ISNN					**Sn**	03 56 21.6	-0.9
HAG	**Hague Volcano**	**1.09**	**20**		**Pn**	03 56 12.5	+0.8
PS4A	**Pavlof South-4**	**1.13**	**21**		**Pn**	03 56 12.7	+0.6
PS4A					**Sn**	03 56 28.0	+0.5
PN7A	**Pavlof North-7**	**1.19**	**15**		**Pn**	03 56 13.7	+0.8
PS1A	**Pavlof South-1**	**1.23**	**22**		**Pn**	03 56 14.0	+0.7
PS1A					**Sn**	03 56 30.6	+1.0
WESP	**Westdahl Peak**	**1.29**	**280**		**Pn**	03 56 14.3	+0.1
WECS	**Westdahl Cape**	**1.32**	**281**		**Pn**	03 56 14.7	+0.1
SDPT	**Sand Point**	**1.60**	**48**		**Pn**	03 56 19.3	+1.2
SDPT	**Sand Point**	**1.60**	**48**	IAML		03 56 39.8	
	comp=E,651nm,0.6s						
AKSA	**Akutan Strait**	**1.85**	**266**		**Pn**	**03 56 22.2**	**+0.7**
AKUT	**Akutan**	**1.90**	**267**		**Pn**	**03 56 22.7**	**+0.7**
AKUT	**Akutan**	**1.90**	**267**	IAML		03 56 46.1	
	comp=N,346nm,0.8s						
AKUT				IAML		03 56 47.5	
	comp=E,389nm,0.5s						
AKLV	**Akutan Long Va**	**2.00**	**268**		**Pn**	**03 56 23.7**	**+0.2**
ZRO	**Akutan Zero**	**2.02**	**266**		**Pn**	**03 56 24.3**	**+0.5**
UNV	**Unalaska Valle**	**2.37**	**261**		**Pn**	**03 56 28.2**	**-0.2**
MTBL	**Makushin Table**	**2.45**	**264**		**Pn**	**03 56 29.9**	**+0.4**
MNAT	**Makushin Natee**	**2.47**	**262**		**Pn**	**03 56 29.8**	**0.0**
MSW	**Makushin Switc**	**2.52**	**263**		**Pn**	**03 56 30.4**	**-0.1**
MGOD	**Makushin Gods**	**2.60**	**261**		**Pn**	**03 56 31.9**	**+0.4**
VNSG	**Veniaminof 6**	**2.71**	**46**		**Pn**	**03 56 34.5**	**+1.5**
CHGN	**Chignik**	**3.11**	**48**		**Pn**	**03 56 39.5**	**+1.2**
R17K	**Ugashik Creek**	**4.82**	**43**		**Pn**	**03 57 02.9**	**+1.3**
R17K	**Ugashik Creek**	**4.82**	**43**	IAML		03 59 28.7	
	comp=N,26nm,4.2s						
ANCK	**Angle Creek**	**5.55**	**42**		**Pn**	**03 57 12.5**	**+0.8**
KABU	**Katmai Buttres**	**5.68**	**42**		**Pn**	**03 57 14.2**	**+0.8**
O16K	**Kokwok River B**	**5.85**	**23**	Pn	**Pn**	**03 57 15.3**	**-0.4**
KAHC	**Katmai Hardscr**	**6.04**	**41**		**Pn**	**03 57 19.2**	**+0.7**
P18K	**Big Mountain,**	**6.50**	**35**	Pn	**Pn**	**03 57 25.2**	**+0.6**
KDAK	**Kodiak Island**	**6.59**	**54**	P	**Pn**	**03 57 25.0**	**-0.8**
	comp=N,2.2nm,0.4s,baz=238,slow=4.7,SNR=49						
KDAK				S	**Sn**	**03 58 33.5**	**-5.8**
	comp=N,5.5nm,0.6s,baz=154,slow=22,SNR=12						
Q19K	**Cape Douglas,**	**6.76**	**43**	Pn	**Pn**	**03 57 28.5**	**+0.3**
O18K	**Koktuh Hills**	**6.86**	**33**		**Pn**	**03 57 31.1**	**+1.6**
M16K	**Timber Creek**	**7.02**	**14**	Pn	**Pn**	**03 57 31.1**	**-0.5**
SYI	**Shuyak Island**	**7.10**	**48**	Pn	**Pn**	**03 57 32.3**	**-0.4**
N18K	**Kilae Creek**	**7.34**	**27**	Pn	**Pn**	**03 57 36.6**	**+0.6**
SVW2	**Sparrevohn**	**7.78**	**26**	Pn	**Pn**	**03 57 42.6**	**+0.7**
N19K	**Bonanza Creek**	**7.84**	**30**	Pn	**Pn**	**03 57 44.3**	**+1.4**
M20K	**Styx River**	**9.09**	**29**	Pn	**Pn**	**03 58 01.2**	**+1.3**
J20K	**Nowinta River**	**10.80**	**20**	Pn	**Pn**	**03 58 22.9**	**-0.2**
BPAW	**Bear Paw Mtn.**	**11.46**	**26**	Pn	**Pn**	**03 58 32.1**	**0.0**
GLB	**Gilahina Butte**	**12.25**	**47**	Pn	**Pn**	**03 58 40.9**	**-1.9**
TGL	**Tana Glacier**	**12.39**	**51**	Pn	**Pn**	**03 58 44.0**	**-0.8**
BARN	**Barnard Glacie**	**13.03**	**50**	Pn	**Pn**	**03 58 52.5**	**-1.0**
ILAR	**Eielson Array**	**13.12**	**31**	P	Pn	03 58 49.6	-5.0
	comp=N,0.4nm,0.6s,baz=225,slow=12,SNR=8.5						
M29M	**Somme Creek**	**14.96**	**47**	Pn	**Pn**	**03 59 17.9**	**-0.8**
F24K	**Squaw Lake**	**15.00**	**22**	Pn	**Pn**	**03 59 19.4**	**+0.4**
F24K				IAmb	IAmb	03 59 49.9	
	comp=Z,6.2nm,1.3s						
D22K	**Ayikyak River**	**15.34**	**14**	Pn	**Pn**	**03 59 25.9**	**+2.5**
D22K				IAmb	IAmb	03 59 32.4	
	comp=Z,6.4nm,1.2s						
TOLK	**Toolik Lake Re**	**15.62**	**18**	Pn	**Pn**	**03 59 28.5**	**+1.6**
TOLK				IAmb	IAmb	03 59 32.0	
	comp=Z,5.2nm,0.8s						
M30M	**Minto, Yukon**	**15.73**	**48**	Pn	**Pn**	**03 59 30.3**	**+1.9**
N31M	**Braeburn, Yuko**	**15.86**	**52**	Pn	**Pn**	**03 59 31.5**	**+1.5**
J30M	**Hart River**	**16.71**	**42**	Pn	**Pn**	**03 59 40.4**	**-0.2**
H29M	**Whitestone**	**16.78**	**35**	Pn	**Pn**	**03 59 40.6**	**-0.8**
H29M				IAmb	IAmb	04 00 13.8	
	comp=Z,7.1nm,1.3s						
MMPY	**Sheldon Lake,**	**18.20**	**50**	P	**P**	**03 59 59.9**	**+1.8**
MMPY				IAmb	IAmb	04 00 02.2	
	comp=Z,4.2nm,0.7s						
INK	**Inuvik**	**19.50**	**33**	P	**P**	**04 00 09.7**	**-2.4**
	comp=Z,0.9nm,0.5s,baz=234,slow=12,SNR=5.1						
YKA	**Yellowknife Ar**	**25.86**	**52**	P	**P**	**04 01 17.0**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=279,slow=5.0,SNR=3.2						
	comp=Z,0.7nm,0.7s						
GUMO	**Guam**	**57.62**	**246**	LR	LR	04 32 45.1	
	comp=Z,9.6nm,18.1s,baz=121,slow=38						
FINES	**FINESS Array B**	**64.41**	**355**	P	P	04 06 16.0	-2.9
	comp=Z,0.9nm,0.8s,baz=23,slow=7.5,SNR=4.4						
	comp=Z,0.9nm,0.8s						
HFS	**Hagfors**	**65.89**	**2**	P	P	04 06 26.1	-2.4
	comp=Z,1.1nm,0.5s,baz=355,slow=3.2,SNR=8.1						
	comp=Z,1.1nm,0.5s						
AKASG	**Malin Array Be**	**74.91**	**352**	P	P	04 07 21.1	-2.5
	comp=Z,0.6nm,

TGBT Sb 04 56 30.0 +0.6
TGBT Tuxtla Gutierr 2.02 79 *eP* **Pb 04 56 04.5 +0.4**
TGBT *i* S **Sb 04 56 30.0 +0.6**
PMUV Sontecomapan 2.12 1 *eP* **Pn 04 56 02.0 -1.0**
PMUV *eS* **Sn 04 56 29.6 0.0**
YOIG Yosondua 2.33 281 Pn 04 56 08.0 +1.8
YOIG **Sn 04 56 35.0 -0.2**
YOIG Yosondua 2.33 281 *eP* **Pn 04 56 08.0 +1.8**
YOIG *eS* **Sn 04 56 35.0 -0.2**
TOIG Toxpalan 2.47 313 *eP* **Pn 04 56 09.4 +1.4**
TOIG *eS* **Sn 04 56 36.3 -2.1**
TXIG Tlaxiaco 2.63 289 *eP* **Pb 04 56 13.9 -0.9**
TXIG *eS* **Sn 04 56 41.6 -1.0**
PNIG Pinotepa 2.85 270 Pn 04 56 12.6 -0.4
PNIG **Sn 04 56 44.1 -3.5**
PNIG Pinotepa 2.85 270 *eP* **Pn 04 56 12.6 -0.4**
PNIG *eS* **Sn 04 56 44.1 -3.5**
HLIG Huajuapan de L 2.89 299 Pn 04 56 16.5 +2.7
HLIG **Sb 04 56 55.5 +0.6**
HLIG Huajuapan de L 2.89 299 *eP* **Pn 04 56 16.5 +2.7**
HLIG *eS* **Sb 04 56 55.5 +0.6**
TPIG Tehuac#an 2.90 314 Pn 04 56 15.7 +1.8
TPIG **Sb 04 56 55.5 +0.5**
TPIG Tehuac#an 2.90 314 *eP* **Pn 04 56 15.7 +1.8**
TPIG *eS* **Sb 04 56 55.5 +0.5**
CCIG Comitan 2.91 92 *eP* **Pb 04 56 16.9 -2.5**
CCIG *eS* **Sb 04 56 56.7 +1.5**
PATR El Naranjo 3.10 114 *eP* **Pn 04 56 16.9 +0.2**
PATR *eS* **Sn 04 56 53.1 -1.0**
PAVE Pavencul 3.12 113 *eP* **Pn 04 56 17.7 +0.7**
PAVE *eS* **Sn 04 56 53.6 -1.0**
THIG 3.17 118 *eP* **Pn 04 56 15.9 -1.5**
THIG *eS* **Sn 04 56 53.0 -2.4**
FTIG Fresnillo de T 3.21 298 *eP* **Pn 04 56 20.3 +2.2**
FTIG *eS* **Sn 04 56 55.6 -0.9**
CHUJ Union Juarez 3.22 114 *eP* **Pn 04 56 18.3 0.0**
CHUJ *eS* **Sn 04 56 54.3 -2.8**
JAUV Jalcomulco 3.33 332 *eP* **Pn 04 56 16.7 -3.0**
JAUV *eS* **Sn 04 56 56.4 -3.0**
MGIG Malinaltepec 3.42 284 Pn 04 56 22.5 +1.4
MGIG **Sn 04 57 01.3 -0.8**
MGIG Malinaltepec 3.42 284 *eP* **Pn 04 56 22.5 +1.4**
MGIG *eS* **Sn 04 57 01.3 -0.8**
TLIG Tlapa 3.45 290 *eP* **Pn 04 56 23.8 +2.3**
TLIG *eS* **Sn 04 57 02.5 -0.2**
LVIG Laguna Verde 3.50 340 *eP* **Pn 04 56 21.9 -0.1**
LVIG *eS* **Sn 04 56 58.5 -5.2**
HUEH Huehuetenango 3.69 107 Pn 04 56 26.4 +1.7
RTAL Retalhuleu 3.83 119 Pn 04 56 28.4 +1.8
PPM Popocatepetl 4.23 309 *eP* **Pn 04 56 34.4 +2.0**
PPM *eS* **Sn 04 57 22.0 -0.3**
DAIG Los Arroyos 4.34 279 *eP* **Pn 04 56 31.4 -2.2**
DAIG *eS* **Sn 04 57 25.9 +1.3**
CXUV Coxquihui 4.39 329 *eP* **Pn 04 56 33.5 -0.8**
CXUV *eS* **Sn 04 57 24.9 -0.8**
YAIG Yautepec 4.45 304 *eP* **Pn 04 56 37.2 +2.0**
YAIG *eS* **Sn 04 57 25.8 -1.6**
MEIG Mezcala 4.52 290 *eP* **Pn 04 56 34.4 -1.7**
MEIG *eS* **Sn 04 57 30.3 +1.4**
SCIG Sabancuy 4.56 56 *eP* **Pn 04 56 36.7 +0.2**
SCIG *eS* **Sn 04 57 27.8 -2.0**
PLIG Platanillo 4.59 296 *eP* **Pn 04 56 37.4 +0.3**
PLIG *eS* **Sn 04 57 31.6 +0.9**
UNM Universidad Na 4.80 308 *eP* **Pn 04 56 44.5 +4.4**
UNM *eS* **Sn 04 57 36.1 -0.1**
ARIG Puente Sto Nin 5.29 291 *eP* **Pn 04 56 48.2 +1.6**
ARIG *eS* **Sn 04 57 48.8 +0.9**
DEIG Demacu 5.34 317 *eP* **Pn 04 56 51.0 +3.5**
CTUV Llano Grande 5.87 329 *eP* **Pn 04 56 58.4 +3.8**
ESQI Esquipulas 5.91 107 Pn 04 56 56.8 +1.6
MTO3 Montecristo 5.94 109 Pn **Pn 04 56 57.6 +1.8**
ZIIG Zihuatanejo 6.15 282 *eP* **Pn 04 56 59.8 +1.4**
ZIIG *eS* **Sn 04 58 07.6 -1.4**
MYIG Mrida 6.84 48 *eP* **Pn 04 57 05.6 -2.3**
MYIG *eS* **Sn 04 58 26.1 +0.1**
TEIG Tepich 7.56 59 Pn **Pn 04 57 17.2 -0.6**
GTIG Gomez Farias 7.62 331 *eP* Pn 04 57 12.6 -6.0
GTIG *eS* **Sn 04 58 49.9 +4.6**
MMIG Aquila 8.04 285 *eP* Pn 04 57 32.5 +8.1
ORTG Ortega, Santa 11.19 121 Pn **Pn 04 58 10.4 +2.7**
833A Chaparral WMA, 12.48 342 Pn **Pn 04 58 25.8 +0.6**
435B Jarrell 14.47 352 Pn **Pn 04 58 51.2 -1.3**
SAND Sanderson 14.91 336 Pn 04 58 58.2 -0.3
BRDY Brady 15.21 347 Pn **Pn 04 59 01.4 -1.1**
BRDY IAmb IAmb 04 59 17.2
comp=Z,4.9nm,0.7s
OZNA Ozona 15.43 340 Pn **Pn 04 59 06.2 +0.8**
OZNA IAmb IAmb 04 59 15.9
comp=Z,26nm,1.0s
WHTX Lake Whitney, 15.65 353 Pn **Pn 04 59 08.9 +0.8**
ALPN Alpine 15.91 332 Pn **Pn 04 59 12.1 +0.3**
ALPN IAmb IAmb 04 59 21.5
comp=Z,23nm,0.8s
FW07 Weatherford 16.39 352 Pn **Pn 04 59 17.5 -0.2**
FW07 IAmb IAmb 04 59 32.5
comp=Z,15nm,0.7s
FW06 Azle 16.63 353 P **Pn 04 59 21.8 +1.1**
FW06 IAmb IAmb 04 59 27.7
comp=Z,12nm,0.7s
ABTX Abilene, Hawle 16.64 347 P **Pn 04 59 21.7 +0.8**
ABTX IAmb IAmb 04 59 29.6
comp=Z,8.2nm,0.7s
FW03 Perrin-Whitt E 16.76 352 P **Pn 04 59 23.5 +1.1**
FW03 IAmb IAmb 04 59 29.8
comp=Z,26nm,1.3s
PECS Pecos 16.87 333 P **P 04 59 25.9 -0.1**
PECS IAmb IAmb 04 59 32.2
comp=Z,23nm,0.9s
425A Indio Mountain 16.89 330 Pn 04 59 24.7 +0.5
Z35A Perchaven, San 16.95 354 P **Pn 04 59 25.1 +0.3**
Z35A IAmb IAmb 04 59 41.2
comp=Z,11nm,0.7s
SN01 Snyder 1 17.18 343 P 04 59 28.8 -0.6
SN01 IAmb IAmb 04 59 34.2
comp=Z,18nm,0.9s
APMT Aspermont 17.42 346 Pn 04 59 31.0 +0.3
APMT IAmb IAmb 04 59 49.1
comp=Z,6.0nm,0.9s
WTFS Witchita Falls 17.53 351 Pn 04 59 32.3 +0.2
WTFS IAmb IAmb 04 59 42.5
comp=Z,14nm,1.1s
MNTX Cornudas Mount 17.83 330 P **Pn 04 59 35.5 -0.3**
DKNS Dickens 17.95 344 P **Pn 04 59 36.0 -1.3**
DKNS IAmb IAmb 04 59 42.9
comp=Z,14nm,1.1s
X37A Clayton 18.10 359 P **Pn 04 59 39.1 0.0**
X37A IAmb IAmb 04 59 58.7
comp=Z,9.4nm,0.7s
MIAR Mount Ida 18.11 4 Pn 04 59 39.3 +0.1
X34A Smith Ranch, M 18.27 353 Pn 04 59 40.5 -0.7
WMOK Wichita Mounta 18.53 351 P **P 04 59 43.8 -0.5**
MSTX Muleshoe 18.77 340 P 04 59 46.8 -0.2
OK031 S. Brethren Rd 19.52 356 P 04 59 54.8 -0.2
OK031 IAmb IAmb 04 59 55.3
comp=Z,8.2nm,0.7s
OK052 Battle Ridge R 19.55 356 P 04 59 54.2 -1.3
OK052 IAmb IAmb 05 00 06.0
comp=Z,14nm,1.1s
FCAR Ozark Folk Cen 19.58 7 P **P 04 59 55.5 -0.3**
FCAR IAmb IAmb 04 59 57.0
comp=Z,6.2nm,0.5s
OK033 Mehan 19.61 356 P 04 59 55.2 -0.9
121A Cookes Peak, D 19.71 327 P **P 04 59 56.9 -0.5**
121A IAmb IAmb 05 00 06.2
comp=Z,9.1nm,0.8s
QUOK Quay 19.72 356 P 04 59 56.3 -1.0
QUOK IAmb IAmb 04 59 57.4
comp=Z,9.4nm,0.7s
OK048 Pawnee Station 19.98 356 P 04 59 59.3 -0.9
OK051 E0350 and S346 20.06 356 P **P 04 59 59.9 -1.2**
OK051 IAmb IAmb 05 00 05.9
comp=Z,11nm,0.8s
DUN6 Lazy B Ranch 20.43 324 P Pn 05 00 06.6 -0.7
T35A Sooner Cattle 20.45 357 P **P 05 00 05.0 -0.3**
MGMO Mountain Grove 20.81 7 P **P 05 00 09.9 +0.7**
MGMO IAmb IAmb 05 00 14.6
comp=Z,8.4nm,1.2s
T42A Van Buren 20.85 9 P **P 05 00 09.4 -0.1**
T42A IAmb IAmb 05 00 12.9
comp=Z,7.2nm,0.8s
ANMO Albuquerque 21.04 333 P **P 05 00 11.1 -0.8**
TUC Tucson 21.24 321 P **P 05 00 14.3 +0.4**
TUC IAmb IAmb 05 00 20.0
comp=Z,5.4nm,0.9s
S39A Bolivar 21.25 4 P **P 05 00 15.2 +1.3**
CCM Cathedral Cave 21.83 8 P **P 05 00 19.1 -1.0**
CCM IAmb IAmb 05 00 25.2
comp=Z,4.3nm,0.7s
T25A Trinidad 22.21 340 P **P 05 00 25.3 +0.9**
T25A IAmb IAmb 05 00 32.5
comp=Z,11nm,1.2s
214A Organ Pipe Nat 22.28 317 P **P 05 00 24.8 -0.3**
214A IAmb IAmb 05 00 31.7
comp=Z,8.8nm,1.2s
PIX Pinacate 22.46 315 P **P 05 00 28.3 +1.4**
PIX IAmb IAmb 05 00 33.3
comp=Z,5.4nm,0.9s
SDCO Great Sand Dun 23.12 339 P **P 05 00 33.1 -1.1**
SDCO IAmb IAmb 05 00 40.8
comp=Z,10nm,1.5s
X16A Lo Mia Camp, P 23.13 324 P **P 05 00 34.4 +0.3**
113A Mohawk Valley, 23.42 317 P **P 05 00 37.4 +0.5**
N38A Joes South For 24.35 4 P **P 05 00 44.9 -0.8**
ISCO Idaho Springs 25.02 341 P **P 05 00 52.9 +0.8**
ISCO IAmb IAmb 05 01 10.9
comp=Z,5.6nm,1.2s

*IDC **12** 05:00:50.4±1.0, 7°.54S×30°.39E, h0km, mb3.9/8, mbtmp4.0/12, ML3.1/3, MS3.2/5, Error ellipse: s-maj=33.5km s-min=14.2km az=106.0*
*PRE **12** 05:00:52.3±1.1, 7°.56S×30°.60E, h10km, ML4.1*
*LSZ **12** 05:00:53.1±0.3, 7°.28S×30°.77E, h10km, MD3.7*
*EAF **12** 05:01:00.2, 7°.94S×29°.50E, h166km, MC4.6*
ISC 12 05:00:51.9±0.5, 7°.60S±0°.04×30°.54E±0°.07, h18km, n43, σ3°.04/51, mb3.9/8, MS3.0/4, 1D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSMZ	**Kasama**		**2.64 165**	*i* P		**Pb**	**05 01 39.9**	**+1.1**
KSMZ				*i*			05 01 40.0	
	baz=351,slow=6.2							
KSMZ				*i* S		**Sb**	**05 02 14.1**	**+3.0**
KSMZ	**Kasama**		**2.64 165**	*i* P		**Pg**	**05 01 42.9**	**+0.2**
KSMZ				‖ *ix*		x	05 01 59.8	
MBAR	**Mbarara**	**6.96**	**2**	*eP*		**Pn**	**05 02 34.5**	**+1.3**
MBAR				*eS*		**Sn**	**05 03 47.4**	**-4.6**
MBAR	**Mbarara**	**6.96**	**2**	*eP*		**Pn**	**05 02 35.6**	**+2.4**
MBAR				*eS*		**Sn**	**05 03 50.2**	**-1.8**
MBAR				IAML			05 04 31.1	
	comp=Z,196nm,0.2s							
MBAR	**Mbarara**	**6.96**	**2**	Pn		**Pn**	**05 02 33.3**	**+0.1**
	comp=Z,38nm,0.3s,baz=331,slow=3.2,SNR=36							
MBAR				Sn		**Sn**	**05 03 49.3**	**-2.7**
	comp=Z,50nm,0.3s,baz=240,slow=23,SNR=2.3							
MBAR				Lg		Lg	05 04 22.4	
	comp=Z,67nm,0.3s,baz=84,slow=22,SNR=11							
MBAR	**Mbarara**	**6.96**	**2**	*eP*		**Pn**	**05 02 34.5**	**+1.3**
	baz=5.0							
MBAR				*eS*		**Sn**	**05 03 47.4**	**-4.6**
	baz=5.0							
LSZ	**Lusaka**		**7.97 197**	Pn		**Pn**	**05 02 48.7**	**+1.7**
	comp=Z,4.6nm,0.3s,baz=358,slow=8.9,SNR=7.5							
LSZ				Sn		**Sn**	**05 04 16.1**	**-0.7**
	comp=Z,10nm,0.3s,baz=128,slow=20,SNR=8.5							
LSZ				Lg		Lg	05 05 05.2	
	comp=Z,18nm,0.3s,baz=102,slow=23,SNR=13							
ITZ	**Itezhi-Tezhi**	**9.22 208**		*i* P		**Pn**	**05 03 08.6**	**+4.3**
ITZ				*i* x		x	05 03 29.1	
ITZ				*i* S		**Sn**	**05 04 48.1**	**+0.3**
KMBO	**Kilima Mbogo**	**9.28**	**46**	*eP*		**Pn**	**05 03 07.0**	**+1.8**
KMBO				*eS*		**Sn**	**05 04 44.8**	**-4.6**
KMBO				IAMs_20		IAMs_20	05 05 57.6	
	comp=Z,544nm,54.7s							
KMBO	**Kilima Mbogo**	**9.28**	**46**	*eP*		**Pn**	**05 03 05.6**	**+0.4**
KMBO				*eS*		**Sn**	**05 04 45.8**	**-3.6**
KMBO				IAML			05 05 43.0	
	comp=Z,120nm,0.4s							
KMBO	**Kilima Mbogo**	**9.28**	**46**	Pn		**Pn**	**05 03 06.1**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=229,slow=16,SNR=16							
KMBO				Sn		**Sn**	**05 04 45.8**	**-3.6**
	comp=Z,3.6nm,0.3s,baz=209,slow=11,SNR=6.8							
KMBO				Lg		Lg	05 05 40.4	
	comp=Z,7.0nm,0.3s,baz=164,slow=23,SNR=3.3							
	comp=Z,3.9nm,0.2s							
KMBO	**Kilima Mbogo**	**9.28**	**46**	*eP*		**Pn**	**05 03 07.0**	**+1.8**
	baz=49							
KMBO				*eS*		**Sn**	**05 04 44.8**	**-4.6**
	baz=49							
KMBO				IAMs_20		IAMs_20	05 05 57.6	
	comp=Z,544nm,54.7s,baz=49							
BLWY	**Bulawayo**	**12.60**	**188**	*i* P		**Pn**	**05 03 47.4**	**-3.2**
BLWY				*i* S		Sn	05 05 58.0	-13
BLWY	**Bulawayo**	**12.60**	**188**	*i* P		**Pn**	**05 03 47.4**	**-3.2**
	baz=185							
BLWY				*i* S		Sn	05 05 58.0	-13
	baz=185							
MATP	**Matopo**	**12.90**	**189**	*i* P		**Pn**	**05 03 51.1**	**-3.5**
MATP				*i* S		Sn	05 06 05.1	-13
MATP	**Matopo**	**12.90**	**189**	Pn		**Pn**	**05 03 55.0**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=6.3,slow=15,SNR=8.7							
MATP				Sn		**Sn**	**05 06 13.4**	**-4.5**
	comp=Z,0.7nm,0.3s,baz=334,slow=5.8,SNR=4.4							
MATP				Lg		Lg	05 07 41.1	
	comp=Z,0.8nm,0.3s,baz=263,slow=22,SNR=6.9							
	comp=Z,1.2nm,0.3s							
MATP	**Matopo**	**12.90**	**189**	*i* P		**Pn**	**05 03 51.1**	**-3.5**
	baz=185							
MATP				*i* S		Sn	05 06 05.1	-13
	baz=185							
MUSN	**Musina, Limpop**	**14.62**	**182**	*i* P		**Pn**	**05 04 14.0**	**-4.0**
MUSN				*i* S		Sn	05 06 47.7	-12
MUSN	**Musina, Limpop**	**14.62**	**182**	*eP*		**P**	**05 04 23.7**	**-0.6**
MUSN	**Musina, Limpop**	**14.62**	**182**	*i* P		**Pn**	**05 04 14.0**	**-4.0**
	baz=179							
MUSN				*i* S		Sn	05 06 47.7	-12
	baz=179							
MPHEP	**Siloam, Limpop**	**15.22**	**181**	*eP*		**P**	**05 04 29.2**	**-1.9**
MOPA	**Mopani**	**15.85**	**177**	*i* P		**Pn**	**05 04 34.6**	**+0.4**
MOPA				*i* S		**Sn**	**05 07 27.2**	**-2.4**
MOPA	**Mopani**	**15.85**	**177**	*eP*		**P**	**05 04 37.5**	**-0.5**
MOPA	**Mopani**	**15.85**	**177**	*i* P		**Pn**	**05 04 34.6**	**+0.4**
	baz=174							
MOPA				*i* S		**Sn**	**05 07 27.2**	**-2.4**
	baz=174							
LEPH	**Lephalale, Lim**	**16.38**	**189**	*eP*		**P**	**05 04 48.5**	**+4.6**
WTBG	**Waterberg Wild**	**16.59**	**185**	*eP*		**P**	**05 04 51.9**	**+5.5**
HOED	**Hoedspruit, Li**	**16.72**	**179**	*eP*		**P**	**05 04 50.3**	**+2.6**
TSUM	**Tsumeb**	**17.07**	**226**	Pn		**Pn**	**05 04 47.9**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=36,slow=11,SNR=3.3							
TSUM				Sn		**Sn**	**05 07 50.0**	**-9.4**
	comp=Z,0.7nm,0.3s,baz=126,slow=21,SNR=2.0							
TSUM				Lg		Lg	05 09 48.6	
	comp=Z,0.5nm,0.3s,baz=62,slow=23,SNR=1.8							
TSUM				LR		LR	05 11 51.8	
	comp=Z,184nm,18.6s,baz=334,slow=39							
	comp=Z,3.0nm,0.4s							
LBTB	**Lobatse**	**17.95**	**195**	*i* P		Pn	05 04 48.9	-12
LBTB	**Lobatse**	**17.95**	**195**	*i* P		Pn	05 04 48.9	-12
	baz=193							
BOSA	**Boshof**	**21.49**	**193**	*i* P		P	05 05 32.1	-7.8
BOSA				*i* S		S	05 09 15.7	-22
BOSA	**Boshof**	**21.49**	**193**	P		**P**	**05 05 42.0**	**+2.1**
	comp=Z,3.8nm,1.0s,baz=26,slow=13,SNR=2.0							
BOSA				LR		LR	05 13 08.7	
	comp=Z,30nm,19.6s,baz=11,slow=34							
	comp=Z,3.8nm,1.0s							
BOSA	**Boshof**	**21.49**	**193**	*i* P		P	05 05 32.1	-7.8
	baz=191							
BOSA				*i* S		S	05 09 15.7	-22
	baz=191							
SUR	**Sutherland**	**26.26**	**199**	LR		LR	05 17 15.9	
	comp=Z,75nm,19.1s,baz=352,slow=38							
TORD	**Torodi Ar. Bea**	**35.30**	**306**	P		**P**	**05 07 45.9**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=103,slow=7.6,SNR=6.0							
	comp=Z,0.8nm,0.7s							
DBIC	**Dimbokro**	**38.04**	**291**	LR		LR	05 24 23.9	
	comp=Z,18nm,19.0s,baz=72,slow=37							
BRTR	**Keskin Array B**	**47.17**	**3**	P		**P**	**05 09 24.6**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=188,slow=11,SNR=8.3							
	comp=Z,1.4nm,0.8s							
ESDC	**Sonseca Array**	**56.84**	**329**	P		**P**	**05 10 37.0**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=143,slow=8.2,SNR=4.6							
	comp=Z,0.4nm,0.7s							
AKASG	**Malin Array Be**	**58.08**	**359**	P		**P**	**05 10 44.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=181,slow=6.4							
	comp=Z,0.8nm,0.5s							
FINES	**FINESS Array B**	**68.92**	**358**	P		**P**	**05 11 56.2**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=159,slow=7.5,SNR=3.5							
	comp=Z,1.6nm,0.8s							
NOA	**NORSAR Array B**	**70.09**	**350**	LR		LR	05 44 55.3	
	comp=Z,9.5nm,19.0s,baz=305,slow=38							
MKAR	**Makanchi Array**	**70.96**	**35**	P		**P**	**05 12 10.3**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=240,slow=4.9,SNR=4.0							
	comp=Z,0.6nm,0.6s							
ARCES	**ARCESS Array B**	**77.04**	**358**	P		**P**	**05 12 44.4**	**+0.9**
	comp=Z,3.0nm,1.0s,baz=165,slow=7.1,SNR=3.7							
	comp=Z,3.0nm,1.0s							

*NEIC **12** 05:03:54.9±0.8, 5°.6S±0°.1×154°.2E±0°.1, h94km±8km, mb4.2/21, Error ellipse: s-maj=19.9km s-min=14.1km az=67.0*
*IDC **12** 05:03:55.7±2.3, 5°.66S×154°.27E, h108km±18km, mb3.9/12, mbtmp4.3/14, MS3.0/5, Error ellipse: s-maj=21.9km s-min=13.0km az=85.0*
ISC 12 05:03:55.0±0.6, 5°.68S±0°.07×154°.24E±0°.09, h100km, n61, σ0°.91/55, mb4.1/18, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**		**2.55 305**	Pn		**Pn**	**05 04 32.7**	**-2.0**
KRVT	**Keravat (AS076**		**2.60 302**	P		**Pn**	**05 04 36.5**	**+1.1**
	75nm,0.4s,baz=342,slow=0.7,SNR=5.6							
KRVT				S		**Sn**	**05 05 08.9**	**+2.5**
	433nm,0.6s,baz=127,slow=0.2,SNR=11							
PMG	**Port Moresby**		**7.94 242**			**Pn**	**05 05 45.7**	**-1.9**
PMG	**Port Moresby**		**7.94 242**	P		**Pn**	**05 05 47.3**	**-0.4**
	91nm,0.7s,baz=55,slow=8.0,SNR=22							
PMG				S		**Sn**	**05 07 16.4**	**+0.5**
	52nm,0.7s,baz=160,slow=22,SNR=3.6							
CTA	**Charters Tower**		**16.29 208**	LR		LR	05 13 11.3	
	comp=Z,43nm,20.2s,baz=80,slow=34							
EIDS	**Eidsvold**		**19.81 188**	P		**Pn**	**05 08 19.2**	**-1.0**
DZM	**Mont Dzumac**		**20.12 145**	P		Pn	05 08 21.8	-2.1
DZM				IAmb		IAmb	05 08 26.3	
	comp=Z,19nm,0.5s							
DZM	**Mont Dzumac**		**20.12 145**	P		Pn	05 08 21.9	-1.9
	comp=Z,13nm,0.4s,baz=243,slow=9.2,SNR=23							
DZM				LR		LR	05 14 13.2	
	comp=Z,65nm,19.4s,baz=340,slow=31							
	comp=Z,13nm,0.4s							
ONTNC	**Ouen Toro**		**20.31 146**	P		Pn	05 08 23.7	-2.3
OUENC	**Ouen Island, N**		**20.62 145**	P		Pn	05 08 27.1	-2.4
OUENC				IAmb		IAmb	05 08 30.2	
	comp=Z,14nm,0.7s							
WR0	**Warramunga Arr**		**23.84 232**	P		**P**	**05 08 58.9**	**-0.3**
WR0				IAmb		IAmb	05 09 15.6	
	comp=Z,7.0nm,1.1s							
WB0	**Warramunga Arr**		**23.85 232**	P		**P**	**05 08 59.3**	**0.0**
WB0				IAmb		IAmb	05 09 00.9	
	comp=Z,4.4nm,0.9s							
WB2	**Warramunga Arr**		**23.98 232**	P		**P**	**05 09 00.5**	**0.0**
WB2				IAmb		IAmb	05 09 17.7	
	comp=Z,3.7nm,0.7s							
WRA	**Warramunga Arr**		**23.99 232**	P		**P**	**05 09 00.3**	**-0.2**
WRA	**Warramunga Arr**		**23.99 232**	P		**P**	**05 09 00.7**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=53,slow=9.6,SNR=33							
WRA				PcP		**PcP**	**05 12 39.9**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=59,slow=2.5,SNR=2.1							
	comp=Z,1.7nm,0.6s							
ARMA	**Armidale**		**24.73 185**	P		**P**	**05 09 08.8**	**+1.6**
ARMA				IAmb		IAmb	05 09 09.2	
	comp=Z,7.3nm,0.8s							
AS31	**Alice Springs**		**26.51 226**	P		**P**	**05 09 23.6**	**+0.2**
ASAR	**Alice Springs**		**26.52 226**	P		**P**	**05 09 23.2**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=56,slow=9.1,SNR=16							
ASAR				PcP		**PcP**	**05 12 46.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=55,slow=2.6,SNR=4.5							
ASAR				LR		LR	05 19 34.5	
	comp=Z,59nm,18.5s,baz=68,slow=35							
	comp=Z,1.5nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**26.98**	**27**	T		T	05 37 29.0	
	baz=207,slow=73,SNR=18							
H11S2	**WAKE ISLAND Hy**	**26.98**	**27**	T		T	05 37 31.1	
	baz=207,slow=73,SNR=14							
H11S1	**WAKE ISLAND Hy**	**27.00**	**27**	T		T	05 37 31.9	
	baz=207,slow=73,SNR=20							
STKA	**Stephens Creek**	**28.62**	**203**	P		**P**	**05 09 42.1**	**0.0**
DAV	**Davao City (W)**	**31.28**	**294**	LR		LR	05 22 08.6	
	comp=Z,27nm,20.9s,baz=345,slow=35							
KAPI	**Kappang**	**34.34**	**269**	LR		LR	05 28 00.0	
	comp=Z,13nm,18.3s,baz=57,slow=42							
FORT	**Forrest**	**35.05**	**221**	P		**P**	**05 10 38.2**	**-0.1**
HAZ	**Te Kaha**	**38.45**	**149**	P		**P**	**05 11 07.3**	**+0.1**
URZ	**Urewera**	**38.51**	**151**	P		**P**	**05 11 08.6**	**+1.0**
RUGZ	**Raukumara Rang**	**38.56**	**150**	P		**P**	**05 11 09.0**	**+0.7**
RTZ	**Ruatahuna**	**38.73**	**151**	P		**P**	**05 11 10.5**	**+1.0**
RTZ	**Ruatahuna**	**38.73**	**151**	P		**P**	**05 11 10.4**	**+0.9**
MWZ	**Matawai**	**38.77**	**150**	P		**P**	**05 11 11.6**	**+1.7**
WMGZ	**Waiomatatini S**	**38.83**	**149**	P		**P**	**05 11 10.9**	**+0.6**
MTHZ	**Maungataniwha**	**38.85**	**151**	P		**P**	**05 11 11.4**	**+0.9**
TWGZ	**Tauwhareparae**	**38.88**	**150**	P		**P**	**05 11 11.0**	**+0.2**
BKZ	**Black Stump Fm**	**38.93**	**152**	P		**P**	**05 11 11.7**	**+0.4**
PUZ	**Puketiti**	**38.94**	**149**	P		**P**	**05 11 11.4**	**+0.2**
NMHZ	**Naumai**	**39.02**	**152**	P		**P**	**05 11 13.6**	**+1.6**
SNGZ	**Shannon Statio**	**39.03**	**151**	P		**P**	**05 11 13.0**	**+1.0**
RIGZ	**Rimuhau**	**39.18**	**150**	P		**P**	**05 11 14.1**	**+0.9**
NNZ	**Nelson**	**39.30**	**157**	P		**P**	05 11 17.0	+2.8
MRZ	**Mangatainoka R**	**39.73**	**154**	P		**P**	**05 11 17.6**	**-0.2**
SNZO	**South Karori**	**39.91**	**156**	P		**P**	**05 11 19.5**	**+0.3**
BFZ	**Birch Farm**	**40.04**	**154**	P		**P**	**05 11 21.0**	**+0.6**
LTZ	**Lake Taylor**	**40.25**	**159**	P		**P**	**05 11 22.8**	**+0.7**
MORW	**Morawa**	**42.93**	**233**	P		**P**	**05 11 43.8**	**-0.4**
MORW				IAmb		IAmb	05 11 44.7	
	comp=Z,7.0nm,0.8s							
KSRS	**Korea Array**		**49.44 332**	P		**P**	**05 12 33.7**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=154,slow=7.8,SNR=1.8							
	comp=Z,0.7nm,0.3s							
PETK	**Petropavlovsk-**		**58.64 2**	P		**P**	**05 13 42.4**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=180,slow=4.0,SNR=2.1							
	comp=Z,2.3nm,0.6s							
CMAR	**Chiang Mai Arr**		**59.55 295**	P		**P**	**05 13 49.6**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=115,slow=5.3,SNR=6.4							
	comp=Z,0.8nm,0.4s							
SONM	**Songino Array**		**67.83 327**	P		**P**	**05 14 42.5**	**-0.1**
SONM				IAmb		IAmb	05 14 46.5	
	comp=Z,1.3nm,0.7s							
SONM	**Songino Array**		**67.83 327**	P		**P**	**05 14 42.8**

0.2nm,0.7s,baz=120,slow=8.4,SNR=1.5
0.2nm,0.7s
TORD Torodi Ar. Bea 80.50 74 P P 05 18 12.6 0.0
0.8nm,0.7s,baz=270,slow=4.6,SNR=5.4
0.8nm,0.7s
ESDC Sonseca Array 83.78 47 P P 05 18 29.6 +0.2
0.3nm,0.7s,baz=272,slow=5.7,SNR=5.0
0.3nm,0.7s

NNC 12 05:19:06.3±21.0, 37°.15N×70°.60E, h223km±746km, mb2.4, mpv3.6, 5C-1D, Error ellipse: s-maj=350.2km s-min=119.1km az=2.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.51**	**25**	⇑P	Pn	05 20 27.4	-0.6
	0.7nm,0.5s						
AML				⇓S	S	05 21 32.1	-0.7
	9.1nm,0.8s						
KK31	**Karatay Array**	**5.94**	**359**	⇑P	Pn	05 20 35.9	+2.8
	3.7nm,0.3s,baz=178,slow=14,SNR=47						
KK31				⇑S	S	05 21 45.3	+3.2
	7.5nm,0.6s,baz=187,slow=25,SNR=14						
TKM2	**Tokmak 2**	**6.92**	**32**	⇑P	Pn	05 20 44.0	-1.8
	4.2nm,0.5s						
TKM2				⇑S	S	05 22 03.8	-1.3
	1.9nm,0.7s						

---

*NEIC **12** 05:36:15.3±2.0, 17°.30N±0°.06×121°.9E±0°.1, h31km±5km, mb4.4/48, Error ellipse: s-maj=14.5km s-min=8.3km az=105.0*
*IDC **12** 05:36:16.7±2.6, 17°.28N×122°.00E, h52km±25km, mb3.9/17, mbtmp4.2/18, ML4.0/2, MS3.2/13, Error ellipse: s-maj=22.9km s-min=12.9km az=71.0*
ISC 12 05:36:14.8±0.5, 17°.26N±0°.06×122.04E±0°.10, h35km, n107, σ1º01/95, mb4.4/38, MS3.0/11, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.32**	**199**	P	**Pn**	**05 37 05.8**	**+1.5**
	99nm,0.3s,baz=31,slow=19,SNR=5.0						
TGY				S	Sn	05 37 53.4	+11
	504nm,0.4s,baz=308,slow=17,SNR=1.3						
TWG	**Pinlang**	**5.60**	**351**	Pn	**Pn**	**05 37 34.9**	**-0.8**
YULB	**Yu-li**	**6.14**	**354**	Pn	**Pn**	**05 37 43.4**	**+0.4**
TPUB	**Ta-pu**	**6.15**	**348**	Pn	**Pn**	**05 37 43.8**	**+0.6**
SSLB	**Suanglung**	**6.57**	**351**	Pn	**Pn**	**05 37 49.6**	**+0.6**
NACB	**Ninganchiao**	**6.89**	**357**	Pn	**Pn**	**05 37 54.0**	**+0.7**
YOJ	**Yonaguni jima**	**7.22**	**7**	Pn	**Pn**	**05 37 59.1**	**+1.3**
YHNB	**Yeheng**	**7.39**	**355**	Pn	**Pn**	**05 37 59.8**	**-0.6**
DAV	**Davao City (W)**	**10.71**	**161**	LR	LR	05 43 33.4	
	comp=Z,294nm,19.6s,baz=358,slow=41						
JOW	**Kunigami**	**11.14**	**30**	P	**Pn**	**05 38 51.7**	**+0.1**
	1.1nm,0.3s,baz=164,slow=15,SNR=1.6						
JOW				LR	LR	05 42 54.8	
	comp=Z,88nm,21.0s,baz=181,slow=36						
	13nm,0.4s						
TOLI2	**Tolitoli**	**16.10**	**185**	P	**P**	**05 40 02.5**	**+0.9**
TOLI2				IAmb	IAmb	05 40 06.6	
	comp=Z,34nm,1.5s						
SBUM	**Sibu**	**17.60**	**214**	Pn	**Pn**	**05 40 16.9**	**-0.6**
JNU	**Nakatsue**	**17.69**	**25**	LR	LR	05 46 25.3	
	comp=Z,58nm,21.6s,baz=206,slow=34						
LYN	**LuoYang**	**19.23**	**335**	⇓P	**Pn**	**05 40 37.5**	**+0.4**
LYN				pmax	pmax		
	comp=Z,23nm,0.7s						
KSM	**Kuching**	**19.48**	**218**	P	**P**	**05 40 38.8**	**-0.1**
KSM				IAmb	IAmb	05 40 42.8	
	comp=Z,23nm,1.1s						
SIJI	**Sorong**	**20.18**	**152**	P	Pn	05 40 49.1	+0.4
	comp=Z,17nm,0.3s,baz=276,slow=22,SNR=14						
SIJI				LR	LR	05 50 20.9	
	comp=Z,36nm,19.9s,baz=42,slow=42						
	comp=Z,17nm,0.3s						
CRAI	**Chiangrai**	**20.72**	**282**	P	**P**	**05 40 52.9**	**+0.5**
KSAR	**Wonju Array Be**	**20.75**	**13**	P	**P**	**05 40 52.6**	**+0.1**
KSRS	**Korea Array**	**20.77**	**13**	P	**P**	**05 40 53.4**	**+0.6**
	comp=Z,16nm,0.7s,baz=195,slow=11,SNR=33						
KSRS				LR	LR	05 49 50.8	
	comp=Z,74nm,19.3s,baz=195,slow=39						
	comp=Z,16nm,0.7s						
KS19	**Wonju Array Si**	**20.80**	**13**	P	**P**	**05 40 51.5**	**-1.6**
CHTO	**Chiang Mai**	**22.01**	**278**	P	**P**	**05 41 05.9**	**-0.4**
CM31	**Chiang Mai Arr**	**22.01**	**277**	P	**P**	**05 41 05.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**22.01**	**277**	P	**P**	**05 41 05.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**22.01**	**277**	P	**P**	**05 41 06.8**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=79,slow=8.5,SNR=16						
CMAR				LR	LR	05 49 59.2	
	comp=Z,37nm,20.1s,baz=120,slow=37						
	comp=Z,2.6nm,0.7s						
KAPI	**Kappang**	**22.25**	**186**	LR	LR	05 50 45.1	
	comp=Z,33nm,18.1s,baz=342,slow=39						
GUMO	**Guam**	**22.31**	**96**	LR	LR	05 48 53.8	
	comp=Z,60nm,20.1s,baz=126,slow=34						
JHJ	**Hachijo jima 2**	**22.46**	**42**	LR	LR	05 48 59.9	
	comp=Z,50nm,21.4s,baz=134,slow=34						
BJT	**Baijiatuau**	**23.24**	**349**	P	**P**	**05 41 17.8**	**-1.2**
BJT				IAmb	IAmb	05 41 19.7	
	comp=Z,4.7nm,0.5s						
MJAR	**Matsushiro Arr**	**23.95**	**34**	LR	LR	05 51 46.2	
	comp=Z,31nm,18.1s,baz=194,slow=39						
KLR	**Kul'dur**	**32.84**	**12**	LR	LR	05 57 25.5	
	comp=Z,70nm,18.8s,baz=200,slow=39						
ULN	**Ulaanbaatar**	**32.90**	**341**	P	**P**	**05 42 45.8**	**0.0**
ULN				IAmb	IAmb	05 42 47.5	
	comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**33.08**	**341**	P	**P**	**05 42 47.1**	**-0.2**
SONM	**Songino Array**	**33.08**	**341**	P	**P**	**05 42 47.9**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=161,slow=10.0,SNR=18						
SONM				LR	LR	05 57 36.9	
	comp=Z,74nm,19.9s,baz=101,slow=39						
	comp=Z,3.3nm,0.7s						
WB0	**Warramunga Arr**	**38.75**	**161**	P	**P**	**05 43 35.1**	**-0.9**
WB0				IAmb	IAmb	05 43 36.6	
	comp=Z,6.2nm,0.8s						
WRAB	**Tennant Creek**	**38.89**	**161**	P	**P**	**05 43 37.0**	**-0.2**
WRAB				IAmb	IAmb	05 43 50.9	
	comp=Z,9.2nm,0.9s						
WRA	**Warramunga Arr**	**38.90**	**161**	P	**P**	**05 43 36.8**	**-0.5**
WRA	**Warramunga Arr**	**38.90**	**161**	P	**P**	**05 43 37.0**	**-0.2**
	comp=Z,5.8nm,0.9s,baz=342,slow=9.0,SNR=42						
	comp=Z,5.8nm,0.9s						
WB2	**Warramunga Arr**	**38.90**	**161**	P	**P**	**05 43 36.5**	**-0.7**
WR0	**Warramunga Arr**	**38.98**	**161**	P	**P**	**05 43 37.6**	**-0.3**
WR0				IAmb	IAmb	05 43 38.6	
	comp=Z,8.8nm,0.9s						
WMQ	**Urumqi**	**39.23**	**320**	*e*P	**P**	**05 43 42.7**	**+2.8**
WMQ				sP	pP	05 43 49.7	-0.7
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
AS31	**Alice Springs**	**42.30**	**164**	P	**P**	**05 44 05.5**	**+0.2**
ASAR	**Alice Springs**	**42.30**	**164**	P	**P**	**05 44 05.9**	**+0.6**
ASAR	**Alice Springs**	**42.30**	**164**	P	**P**	**05 44 05.5**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=337,slow=6.7,SNR=22						
	comp=Z,2.2nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**42.43**	**81**	T	T	06 29 19.1	
	baz=276,slow=74,SNR=581						
H11S1	**WAKE ISLAND Hy**	**42.44**	**81**	T	T	06 29 20.9	
	baz=276,slow=74,SNR=297						
H11S2	**WAKE ISLAND Hy**	**42.45**	**81**	T	T	06 29 20.4	
	baz=276,slow=74,SNR=300						
H11N1	**WAKE ISLAND Hy**	**42.52**	**79**	T	T	06 29 26.4	
	baz=275,slow=75,SNR=22						
H11N2	**WAKE ISLAND Hy**	**42.52**	**79**	T	T	06 29 28.5	
	baz=275,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**42.54**	**79**	T	T	06 29 29.5	
	baz=275,slow=75,SNR=36						
MK31	**Makanchi Array**	**44.02**	**321**	P	**P**	**05 44 19.0**	**0.0**
MKAR	**Makanchi Array**	**44.02**	**321**	P	**P**	**05 44 17.9**	**-1.2**
MKAR	**Makanchi Array**	**44.02**	**321**	P	**P**	**05 44 19.4**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=115,slow=9.3,SNR=9.8						
MKAR				PcP	**PcP**	**05 46 04.5**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=96,slow=4.7,SNR=6.5						
	comp=Z,1.4nm,0.6s						
CTAO	**Charters Tower**	**44.08**	**146**	P	**P**	**05 44 18.6**	**-1.2**
KSH	**Kashi**	**45.59**	**309**	*e*P	**P**	**05 44 35.4**	**+3.6**
HNR	**Honiara**	**45.91**	**122**	LR	LR	06 01 10.3	
	comp=Z,709nm,19.6s,baz=302,slow=32						
ZAA0	**Zalesovo Array**	**46.55**	**330**	P	**P**	**05 44 38.1**	**-0.8**
ZALV	**Zalesovo Beam**	**46.55**	**330**	P	**P**	**05 44 38.0**	**-1.0**
ZALV	**Zalesovo Beam**	**46.55**	**330**	P	**P**	**05 44 38.3**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=98,slow=9.1,SNR=4.1						
ZALV				PcP	**PcP**	**05 46 11.4**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=121,slow=0.8,SNR=1.6						
	comp=Z,1.2nm,0.7s						
AAK	**Ala-Archa**	**47.54**	**312**	LR	LR	06 06 12.0	
	comp=Z,52nm,19.6s,baz=108,slow=38						
KURBB	**Kurchatov Arra**	**48.02**	**324**	P	**P**	**05 44 50.5**	**0.0**
	comp=Z,1.3nm,0.2s,baz=120,slow=7.8,SNR=8.5						
KURBB				PcP	**PcP**	**05 46 16.9**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=77,slow=4.9,SNR=1.5						
	comp=Z,1.3nm,0.2s						
FORT	**Forrest**	**48.12**	**173**	P	**P**	**05 44 50.8**	**-0.5**
KKAR	**Karatay Array**	**50.49**	**312**	P	**P**	**05 45 10.1**	**+0.6**
BVAR	**Borovoye Array**	**53.62**	**324**	P	**P**	**05 45 32.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=108,slow=11,SNR=2.6						
BVAR				PcP	**PcP**	**05 46 38.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=117,slow=5.2,SNR=4.3						
	comp=Z,0.5nm,0.4s						
ARMA	**Armidale**	**55.31**	**149**	P	**P**	**05 45 45.7**	**+0.4**
ABKAR	**Akbulak array**	**58.95**	**317**	P	**P**	**05 46 09.5**	**-1.1**
CAST	**Castle Rocks**	**72.88**	**28**	P	**P**	**05 47 41.6**	**+1.5**
KDAK	**Kodiak Island**	**73.12**	**34**	P	**P**	**05 47 42.5**	**+1.0**
KDAK	**Kodiak Island**	**73.12**	**34**	P	**P**	**05 47 42.1**	**+0.6**
	comp=Z,6.2nm,0.7s,baz=251,slow=4.6,SNR=2.7						
	comp=Z,6.2nm,0.7s						
SKT	**Skwentna**	**73.26**	**29**	P	**P**	**05 47 42.9**	**+0.6**
SKT				IAmb	IAmb	05 47 47.4	
	comp=Z,5.3nm,1.2s						
BPAW	**Bear Paw Mtn.**	**73.31**	**27**	P	**P**	**05 47 44.0**	**+1.4**
BPAW				IAmb	IAmb	05 47 45.0	
	comp=Z,5.0nm,1.0s						
MLY	**Manley**	**73.34**	**26**	P	**P**	**05 47 44.4**	**+1.6**
MLY				IAmb	IAmb	05 47 45.2	
	comp=Z,4.6nm,1.0s						
SUA	**Susitna One**	**73.68**	**30**	P	**P**	**05 47 45.8**	**+0.8**
NEA2	**Nenana**	**74.09**	**27**	P	**P**	**05 47 48.2**	**+1.1**
NEA2				IAmb	IAmb	05 47 49.7	
	comp=Z,4.3nm,0.9s						
RND	**Reindeer**	**74.33**	**28**	P	**P**	**05 47 49.2**	**+0.5**
RND				IAmb	IAmb	05 48 30.3	
	comp=Z,5.2nm,1.2s						
CCB	**Clear Creek Bu**	**74.63**	**27**	P	**P**	**05 47 51.3**	**+1.1**
CCB				IAmb	IAmb	05 47 55.0	
	comp=Z,4.5nm,1.3s						
SML	**Sawmill**	**74.78**	**29**	P	**P**	**05 47 52.1**	**+0.8**
ILAR	**Eielson Array**	**75.00**	**26**	P	**P**	**05 47 52.4**	**0.0**
	comp=Z,0.6nm,0.9s,baz=257,slow=5.4,SNR=6.1						
	comp=Z,0.6nm,0.9s						
HDA	**Harding Lake**	**75.03**	**27**	P	**P**	**05 47 52.5**	**-0.1**
HDA				IAmb	IAmb	05 48 00.1	
	comp=Z,5.0nm,1.3s						
SCM	**Sheep Creek Mo**	**75.25**	**29**	P	**P**	**05 47 54.3**	**+0.3**
BMAR	**Burnt Mountain**	**75.50**	**23**	P	**P**	**05 47 57.3**	**+2.0**
RIDG	**Independent Ri**	**76.05**	**27**	P	**P**	**05 47 58.3**	**-0.2**
RIDG				IAmb	IAmb	05 47 59.9	
	comp=Z,4.1nm,0.9s						
ARCES	**ARCESS Array B**	**76.24**	**339**	P	**P**	**05 47 59.7**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=74,slow=5.4,SNR=3.8						
	comp=Z,2.4nm,0.8s						
SCRK	**Sand Creek**	**76.38**	**27**	P	**P**	**05 48 00.1**	**-0.3**
J26L	**Joseph Creek**	**76.46**	**26**	P	**P**	**05 48 01.1**	**+0.3**
M26K	**Nabesna, AK**	**77.14**	**28**	P	**P**	**05 48 06.0**	**+1.3**
K27K	**Chicken**	**77.19**	**27**	P	**P**	**05 48 05.5**	**+0.7**
K27K				IAmb	IAmb	05 48 07.3	
	comp=Z,3.5nm,1.0s						
F28M	**Old Crow**	**77.23**	**23**	P	**P**	**05 48 06.4**	**+1.3**
F28M				IAmb	IAmb	05 48 07.8	
	comp=Z,3.2nm,0.8s						
L27K	**Beaver Creek,**	**77.52**	**28**	P	**P**	**05 48 08.4**	**+1.6**
L27K				IAmb	IAmb	05 48 34.0	
	comp=Z,4.8nm,1.4s						
BCAR	**Beaver Creek A**	**77.54**	**28**	P	**P**	**05 48 08.7**	**+1.8**
M27K	**Edge Creek, AK**	**77.66**	**28**	P	**P**	**05 48 08.7**	**+1.0**
M27K				IAmb	IAmb	05 48 17.9	
	comp=Z,6.7nm,1.4s						
I28M	**Miner Creek**	**77.75**	**25**	P	**P**	**05 48 08.9**	**+0.8**
I28M				IAmb	IAmb	05 48 10.7	
	comp=Z,3.4nm,0.8s						
FINES	**FINESS Array B**	**77.82**	**331**	P	**P**	**05 48 07.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=66,slow=4.6,SNR=5.9						
	comp=Z,1.2nm,0.6s						
G29M	**Pine Creek**	**78.11**	**23**	P	**P**	**05 48 11.4**	**+1.4**
H29M	**Whitestone**	**78.17**	**24**	P	**P**	**05 48 10.5**	**+0.2**
H29M				IAmb	IAmb	05 48 12.4	
	comp=Z,3.3nm,0.8s						
AKASG	**Malin Array Be**	**78.59**	**320**	P	**P**	**05 48 11.4**	**-1.4**
	comp=Z,0.2nm,0.2s,baz=64,slow=5.3,SNR=1.8						
	comp=Z,0.2nm,0.2s						
M29M	**Somme Creek**	**79.18**	**28**	P	**P**	**05 48 17.8**	**+1.7**
M29M				IAmb	IAmb	05 48 19.0	
	comp=Z,3.0nm,0.8s						
M30M	**Minto, Yukon**	**79.88**	**27**	P	**P**	**05 48 21.6**	**+1.8**
M30M				IAmb	IAmb	05 48 37.6	
	comp=Z,7.7nm,1.4s						
EUNU	**Eureka**	**81.70**	**5**	P	**P**	**05 48 28.7**	**-0.6**
EUNU				IAmb	IAmb	05 48 42.3	
	comp=Z,3.7nm,0.9s						
HFS	**Hagfors**	**83.98**	**331**	P	**P**	**05 48 41.2**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=58,slow=8.7,SNR=4.3						
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**84.70**	**333**	P	**P**	**05 48 43.7**	**-1.3**
	comp=Z,4.4nm,0.9s,baz=63,slow=4.8						
NOA	**NORSAR Array B**	**84.70**	**333**	P	**P**	**05 48 44.1**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=45,slow=6.3,SNR=2.7						
	comp=Z,0.7nm,0.6s						
TXAR	**Lajitas Array**	**116.03**	**44**	PKPdf	**PKPdf**	**05 54 56.1**	**+1.3**
TXAR	**Lajitas Array**	**116.03**	**44**	PKP	**PKiKP**	**05 54 55.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=163,slow=0.9,SNR=3.6						
M65A	**Busby, Falmout**	**120.31**	**11**	PKPdf	**PKiKP**	**05 55 03.9**	**+1.2**
PLAL	**Pickwick Lake**	**120.69**	**29**	PKPdf	**PKPdf**	**05 55 02.9**	**-0.7**
SVN	**Savane Anatole**	**147.94**	**6**	PKPbc	**PKPbc**	**05 55 57.3**	**0.0**
BAUV	**El Baul**	**152.12**	**22**	PKPbc	**PKPbc**	**05 56 07.5**	**-0.1**

TRN 12 05:40:41.8, 9°.95N×60°.88W, h56km, MD3.8, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.86**	**323**	*e*P	Pn	05 40 58.9	+1.1
TRN				*e*S	Sn	05 41 09.4	-0.2
GRGR	**Grenville**	**2.29**	**341**	*e*S	Sn	05 41 43.6	-0.7
GRW	**Mount Saint Ca**	**2.32**	**341**	*e*P	Pn	05 41 17.3	-0.4
GRW				*e*S	Sn	05 41 45.2	+0.1
GCMP	**Grenada, Carri**	**2.57**	**348**	*e*P	Pn	05 41 21.3	+0.3
GCMP				*e*S	Sn	05 41 49.8	-1.4
SVB	**Belmont**	**3.32**	**354**	*e*S	Sn	05 42 09.4	-0.1
MCLT	**Moule a Chique**	**3.73**	**359**	*e*S	Sn	05 42 18.4	-1.2
SLBI	**Saint Lucia, B**	**4.04**	**359**	*e*S	Sn	05 42 25.4	-1.9
BAUV	**El Baul**	**7.13**	**263**	*e*P	Pn	05 42 24.1	+0.6
BAUV	**El Baul**	**7.13**	**263**	*e*S	Sn	05 43 39.5	-3.8

---

*IDC **12** 05:51:16.4±0.8, 57°.99N×156°.61W, h122km±7km, mb3.9/25, mbtmp4.3/29, MS3.0/3, Error ellipse: s-maj=15.0km s-min=10.0km az=18.0*
*NEIC **12** 05:51:16.7±1.4, 57°.79N±0°.04×156°.32W±0°.07, h131km±4km, Error ellipse: s-maj=6.1km s-min=5.3km az=199.0*
*AEIC **12** 05:51:17.8±1.5, 57°.76N±0°.04×156°.35W±0°.07, h124km±4km, ML4.2, mb4.4/23(NEIC), ML4.1/92(NEIC), Error ellipse: s-maj=6.1km s-min=5.6km az=220.0*
ISC 12 05:51:16.6±0.5, 57°.80N±0°.03×156°.35W±0°.03, h129km±4km, n595, σ1º07/645, mb4.2/37, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.12**	**158**		**Pn**	**05 51 34.2**	**+0.1**
PLK3					**Sn**	**05 51 47.8**	**+0.4**
PLK1	**Peulik 1**	**0.14**	**270**		**Pn**	**05 51 34.1**	**0.0**
PLK1					**Sn**	**05 51 47.4**	**+0.1**
R17K	**Ugashik Creek**	**0.16**	**186**		**Pn**	**05 51 34.2**	**0.0**
R17K					**Sn**	**05 51 47.4**	**0.0**
R17K				IAML		05 51 48.1	
	comp=E,6μm,1.0s						
R17K				IAML		05 51 48.2	
	comp=N,4μm,0.5s						
R17K	**Ugashik Creek**	**0.16**	**186**	P	**Pn**	**05 51 34.2**	**0.0**
	baz=11,SNR=725						
R17K				S	**Sn**	**05 51 47.5**	**0.0**
	baz=11						
Q17K	**Contact Creek**	**0.53**	**28**	P	**Pn**	**05 51 35.7**	**-0.1**
	baz=206,SNR=649						
Q17K				S	**Sn**	**05 51 50.1**	**-0.3**
	baz=206						
CNTC	**Contact Creek**	**0.53**	**28**		**Pn**	**05 51 35.6**	**-0.2**
CNTC					**Sn**	**05 51 49.9**	**-0.5**
ANCK	**Angle Creek**	**0.61**	**49**		**Pn**	**05 51 36.4**	**+0.1**
ANCK					**Sn**	**05 51 51.4**	**+0.2**
ACHA	**Angle Creek He**	**0.68**	**53**		**Pn**	**05 51 36.9**	**+0.1**
ACHA					**Sn**	**05 51 52.2**	**+0.1**
R16K	**Pilot Point**	**0.70**	**251**		**Pn**	**05 51 36.8**	**0.0**
R16K				IAML		05 51 53.7	
	comp=E,5μm,1.1s						
R16K	**Pilot Point**	**0.70**	**251**	P	**Pn**	**05 51 36.3**	**-0.4**
	baz=72						
R16K				S	**Sn**	**05 51 52.3**	**+0.3**
	baz=72						
KABU	**Katmai Buttres**	**0.74**	**50**		**Pn**	**05 51 37.5**	**+0.2**
KABU					**Sn**	**05 51 53.4**	**+0.5**
KCE	**Katmai Mt Cerb**	**0.76**	**54**		**Pn**	**05 51 38.0**	**+0.6**
KABR	**Katmai Barrier**	**0.81**	**65**		**Pn**	**05 51 37.5**	**-0.3**
KVTA	**Katmai Vly 10**	**0.81**	**44**		**Pn**	**05 51 37.9**	**+0.2**
KAKN	**Katmai Knife C**	**0.85**	**54**		**Pn**	**05 51 38.1**	**0.0**
KAKN					**Sn**	**05 51 54.8**	**+0.4**
Q16K	**King Salmon**	**0.89**	**350**		**Pn**	**05 51 38.6**	**+0.3**
Q16K					**Sn**	**05 51 55.8**	**+0.9**
Q16K	**King Salmon**	**0.89**	**350**	P	**Pn**	**05 51 38.5**	**+0.2**
	baz=169,SNR=336						
Q16K				S	**Sn**	**05 51 55.4**	**+0.5**
	baz=169						
R18K	**Karluk**	**1.05**	**102**		**Pn**	**05 51 39.6**	**-0.3**
R18K					**Sn**	**05 51 56.9**	**-0.6**
R18K	**Karluk**	**1.05**	**102**	P	**Pn**	**05 51 39.5**	**-0.3**
	baz=282						
R18K				S	**Sn**	**05 51 56.8**	**-0.6**
	baz=282						
KAHC	**Katmai Hardscr**	**1.11**	**39**		**Pn**	**05 51 40.6**	**0.0**
KAHC	**Katmai Hardscr**	**1.11**	**39**		**Pn**	**05 51 40.5**	**0.0**
KAHC					**Sn**	**05 51 58.6**	**-0.2**
Q18K	**Katmai Hardscr**	**1.11**	**39**	P	**Pn**	**05 51 40.6**	**0.0**
	baz=219,SNR=371						
Q18K				S	**Sn**	**05 51 58.5**	**-0.2**
	baz=219						
KAHG	**Katmai Hook Gl**	**1.18**	**53**		**Pn**	**05 51 41.5**	**+0.3**
KAHG					**Sn**	**05 52 00.5**	**+0.5**
ANNE	**Aniakchak Nort**	**1.28**	**227**		**Pn**	**05 51 42.0**	**-0.3**
ANON	**Aniakchak**	**1.32**	**229**		**Pn**	**05 51 44.5**	**+1.8**
KAPH	**Katmai Pasha**	**1.33**	**52**		**Pn**	**05 51 43.1**	**+0.3**
ANPK	**Aniakchak Peak**	**1.36**	**226**		**Pn**	**05 51 42.9**	**-0.2**
P17K	**Kvichak River**	**1.40**	**358**		**Pn**	**05 51 43.7**	**+0.3**
P17K					**Sn**	**05 52 04.3**	**+0.5**
P17K	**Kvichak River**	**1.40**	**358**	P	**Pn**	**05 51 43.7**	**+0.3**
	baz=178,SNR=321						
P17K				S	**Sn**	**05 52 04.4**	**+0.5**
	baz=178						
P16K	**Nushagak River**	**1.50**	**326**		**Pn**	**05 51 44.8**	**+0.2**
P16K	**Nushagak River**	**1.50**	**326**	P	**Pn**	**05 51 44.7**	**+0.2**
	baz=145,SNR=85						
P16K				S	**Sn**	**05 52 06.7**	**+0.8**
	baz=145						
P18K	**Big Mountain,**	**1.70**	**20**		**Pn**	**05 51 46.9**	**0.0**
P18K				Sn	**Sn**	**05 52 09.4**	**-0.7**
P18K				IAML		05 52 10.6	
	comp=E,1μm,1.2s						
P18K				IAML		05 52 11.3	
	comp=N,898nm,2.0s						
P18K	**Big Mountain,**	**1.70**	**20**	P	**Pn**	**05 51 47.0**	**+0.1**
	baz=200,SNR=74						
P18K				S	**Sn**	**05 52 09.8**	**-0.3**
	baz=200						
SII	**Sitkinak Islan**	**1.72**	**136**		**Pn**	**05 51 46.5**	**-0.6**
SII				Sn	**Sn**	**05 52 09.3**	**-1.1**
SII	**Sitkinak Islan**	**1.72**	**136**	P	**Pn**	**05 51 46.3**	**-0.8**
SII	**Sitkinak Islan**	**1.72**	**136**	P	**Pn**	**05 51 46.4**	**-0.8**
	baz=317,SNR=75						
SII				S	**Sn**	**05 52 09.3**	**-1.1**
	baz=317						
Q19K	**Cape Douglas,**	**1.82**	**50**		**Pn**	**05 51 48.7**	**+0.3**
Q19K	**Cape Douglas,**	**1.82**	**50**	P	**Pn**	**05 51 48.6**	**+0.3**
	baz=232,SNR=116						
Q19K				S	**Sn**	**05 52 13.0**	**+0.4**
	baz=232						
CHGN	**Chignik**	**1.88**	**218**		**Pn**	**05 51 48.6**	**-0.3**
CHGN				IAML		05 52 12.9	
	comp=E,2μm,0.4s						
CHGN				IAML		05 52 13.1	
	comp=N,2μm,0.5s						
CHGN	**Chignik**	**1.88**	**218**	P	**Pn**	**05 51 48.7**	**-0.3**
	baz=37,SNR=23						
CHGN				S	**Sn**	**05 52 12.4**	**-1.3**
	baz=37						
O16K	**Kokwok River B**	**2.01**	**334**		**Pn**	**05 51 50.7**	**+0.1**
O16K	**Kokwok River B**	**2.01**	**334**	P	**Pn**	**05 51 50.7**	**+0.1**
	baz=153,SNR=663						
O17K	**Koliganek Bris**	**2.02**	**349**		**Pn**	**05 51 50.6**	**0.0**
O17K	**Koliganek Bris**	**2.02**	**349**	P	**Pn**	**05 51 50.7**	**+0.1**
	baz=169,SNR=272						
O17K				S	**Sn**	**05 52 17.1**	**+0.4**
	baz=169						
KDAK	**Kodiak Island**	**2.02**	**89**		**Pn**	**05 51 50.4**	**-0.3**
KDAK	**Kodiak Island

baz=171,SNR=51
N17K S Sn 05 52 33.5 -0.1
baz=171
IVE Iliamna Volcan 2.82 37 Pn 05 52 01.3 +0.5
N18K Kilae Creek 2.90 5 Pn **Pn 05 52 01.9 +0.1**
N18K Kilae Creek 2.90 5 P **Pn 05 52 01.9 +0.1**
baz=185,SNR=88
N16K Nishlik Lake 2.96 336 Pn 05 52 02.5 -0.1
N16K Nishlik Lake 2.96 336 P **Pn 05 52 02.7 +0.2**
baz=154,SNR=84
O14K Tigyukauivet M 2.96 302 Pn 05 52 03.1 +0.6
O14K IAML 05 52 40.2
comp=N,555nm,1.5s
O14K IAML 05 52 41.7
comp=E,362nm,1.8s
O14K Tigyukauivet M 2.96 302 P **Pn 05 52 03.1 +0.6**
baz=118,SNR=77
O14K S Sn 05 52 38.2 +0.2
baz=118
O20K Slope Mountain 2.99 39 Pn 05 52 04.0 +0.9
O20K Slope Mountain 2.99 39 P **Pn 05 52 03.4 +0.3**
baz=221,SNR=5.7
N15K Kwethluk River 3.06 322 Pn 05 52 04.2 +0.3
N15K Kwethluk River 3.06 322 P **Pn 05 52 04.3 +0.4**
baz=140,SNR=65
HOM Homer 3.08 51 Pn 05 52 04.8 +0.7
HOM Homer 3.08 51 P **Pn 05 52 04.9 +0.7**
baz=234,SNR=5.5
HOM S Sn 05 52 39.7 -1.2
baz=234
N19K Bonanza Creek 3.17 17 Pn 05 52 05.8 +0.4
N19K IAML 05 52 58.8
comp=E,293nm,1.4s
N19K Bonanza Creek 3.17 17 P **Pn 05 52 06.0 +0.6**
baz=198,SNR=97
CNPM China Poot 3.18 55 Pn **Pn 05 52 05.8 +0.3**
CNPM IAML 05 52 43.5
comp=E,371nm,0.3s
CNPM IAML 05 52 43.6
comp=N,492nm,0.6s
RED Redoubt Volcan 3.21 34 Pn 05 52 06.5 +0.6
RDWB Redoubt West 3.25 32 Pn 05 52 06.8 +0.4
RSO Redoubt South 3.25 33 Pn 05 52 07.4 +0.9
NCT North Crescent 3.28 31 Pn 05 52 07.5 +0.7
SVW2 Sparrevohn 3.33 6 Pn 05 52 07.5 +0.2
SVW2 IAML 05 52 42.8
comp=N,260nm,1.4s
SVW2 Sparrevohn 3.33 6 P **Pn 05 52 07.6 +0.2**
SDPT Sand Point 3.35 225 Pn **Pn 05 52 07.2 -0.5**
SDPT IAML 05 52 47.2
comp=N,538nm,0.4s
SDPT IAML 05 52 53.4
comp=E,471nm,0.7s
SDPT Sand Point 3.35 225 P **Pn 05 52 07.2 -0.5**
SDPT Sand Point 3.35 225 P **Pn 05 52 06.9 -0.8**
baz=42
SDPT S Sn 05 52 44.6 -2.6
baz=42
DFR Drift River 3.38 32 Pn 05 52 08.6 +0.6
RDT Redoubt 3.44 34 Pn 05 52 09.6 +0.6
BRLK Bradley Lake 3.46 53 Pn **Pn 05 52 08.8 -0.4**
BRLK IAML 05 52 49.0
comp=E,292nm,0.2s
BRLK IAML 05 52 50.6
comp=N,417nm,0.2s
CHNA Chernabura Isl 3.48 213 P **Pn 05 52 09.3 -0.1**
baz=30
N14K Kuskokwak Cree 3.49 310 Pn 05 52 10.1 +0.6
N14K Kuskokwak Cree 3.49 310 P **Pn 05 52 10.0 +0.6**
baz=126,SNR=33
N14K S Sn 05 52 51.1 +0.7
baz=126
M16K Timber Creek 3.49 339 Pn 05 52 09.8 +0.2
M16K Timber Creek 3.49 339 P **Pn 05 52 09.6 +0.1**
baz=157,SNR=34
BRSE Bradley Lake S 3.51 54 Pn 05 52 09.3 -0.5
BRSE Bradley Lake S 3.51 54 P **Pn 05 52 09.5 -0.3**
baz=238,SNR=11
M17K Holitna River 3.65 352 Pn 05 52 11.6 0.0
M17K IAML 05 53 09.9
comp=N,313nm,1.1s
M17K IAML 05 53 33.7
comp=E,347nm,1.0s
M17K Holitna River 3.65 352 P **Pn 05 52 11.7 0.0**
baz=171,SNR=22
M15K Kasigluk River 3.66 324 Pn 05 52 11.7 +0.1
M15K Kasigluk River 3.66 324 P **Pn 05 52 11.7 +0.1**
baz=141,SNR=27
PS4A Pavlof South-4 3.91 233 Pn 05 52 15.3 +0.2
HAG Hague Volcano 3.95 233 Pn 05 52 16.1 +0.4
N20K Mount Spurr 4.01 30 P **Pn 05 52 16.9 +0.5**
baz=213,SNR=12
SPCR Spurr Chakacha 4.01 30 Pn 05 52 17.5 +1.1
SPCR Spurr Chakacha 4.01 30 P **Pn 05 52 16.7 +0.2**
baz=213,SNR=10
CKT Bend 4.01 30 Pn 05 52 17.6 +1.1
SPBG Spurr Blockage 4.02 29 Pn 05 52 18.0 +1.4
SPNN North Nagishla 4.03 26 Pn 05 52 18.0 +1.2
SPCP Crater Peak Br 4.08 30 Pn 05 52 18.3 +0.8
M14K Bethel 4.12 318 Pn 05 52 18.0 +0.1
M14K IAML 05 53 22.8
comp=N,315nm,1.9s
M14K IAML 05 53 46.3
comp=E,180nm,1.7s
M14K Bethel 4.12 318 P **Pn 05 52 17.9 +0.1**
baz=134,SNR=44
SPCG Spurr Capps Gl 4.14 30 Pn 05 52 18.9 +0.7
SLKM Skilak Lake 4.16 47 Pn 05 52 18.1 -0.3
L16K Owhat River 4.23 339 Pn 05 52 19.1 -0.1
L16K Owhat River 4.23 339 P **Pn 05 52 18.8 -0.4**
baz=157,SNR=9.6
M19K Big River Lodg 4.23 13 Pn 05 52 20.1 +0.8
M19K IAML 05 53 35.6
comp=E,135nm,1.5s
M19K Big River Lodg 4.23 13 P **Pn 05 52 20.0 +0.6**
baz=194
SEW Seward 4.25 54 Pn 05 52 19.0 -0.6
SEW Seward 4.25 54 P **Pn 05 52 19.0 -0.6**
baz=240,SNR=8.5
O22K Cooper Landing 4.34 49 Pn 05 52 20.9 +0.1
O22K Cooper Landing 4.34 49 P **Pn 05 52 20.7 -0.1**
baz=234,SNR=7.1
STLK Strandline Lak 4.36 30 Pn 05 52 22.4 +1.3
M20K Styx River 4.40 20 Pn 05 52 23.3 +1.6
M20K IAML 05 53 46.2
comp=E,140nm,1.1s
M20K Styx River 4.40 20 P **Pn 05 52 23.1 +1.4**
baz=203,SNR=106
L18K Granite Mounta 4.44 358 Pn 05 52 22.8 +0.8
L18K IAML 05 53 49.1
comp=N,136nm,1.4s
L18K Granite Mounta 4.44 358 P **Pn 05 52 22.0 0.0**
baz=178,SNR=43
L17K Donlin 4.46 348 Pn 05 52 22.1 -0.2
L17K Donlin 4.46 348 P **Pn 05 52 22.1 -0.2**
baz=166,SNR=14
M13K Dall Lake 4.46 309 Pn 05 52 22.7 +0.5
M13K IAML 05 53 56.0
comp=N,236nm,2.2s
M13K IAML 05 54 10.9
comp=E,232nm,2.5s
M13K Dall Lake 4.46 309 P **Pn 05 52 22.2 -0.1**
baz=123
L19K White Mountain 4.46 9 Pn **Pn 05 52 23.3 +0.9**
L19K IAML 05 53 42.8
comp=N,126nm,1.2s
L19K IAML 05 53 43.1
comp=E,152nm,1.0s
L19K White Mountain 4.46 9 P **Pn 05 52 22.7 +0.4**
baz=190,SNR=58
FIS Fire Island 4.58 40 Pn 05 52 25.5 +1.5
SUA Susitna One 4.65 35 Pn 05 52 25.4 +0.4
SUA IAML 05 53 17.5
comp=N,200nm,0.8s
SUA Susitna One 4.65 35 P **Pn 05 52 25.1 +0.2**
baz=220,SNR=14
RC01 Rabbit Creek A 4.72 43 Pn 05 52 25.6 -0.1
RC01 Rabbit Creek A 4.72 43 P **Pn 05 52 25.7 -0.1**
baz=228,SNR=8.4
L14K Kuka Creek 4.79 320 Pn 05 52 27.0 +0.2
L14K IAML 05 53 17.6
comp=N,119nm,1.0s
L14K IAML 05 54 05.7
comp=E,130nm,1.5s
L14K Kuka Creek 4.79 320 P **Pn 05 52 26.3 -0.4**
baz=135,SNR=22

SKT Skwentna 4.84 28 Pn 05 52 28.6 +1.1
SKT IAML 05 53 27.0
comp=E,82nm,0.3s
SKT Skwentna 4.84 28 P **Pn 05 52 28.7 +1.2**
baz=212,SNR=11
FALS False Pass 4.92 236 P **Pn 05 52 28.5 +0.1**
FALS False Pass 4.92 236 P **Pn 05 52 28.2 -0.2**
baz=50
K17K Iditarod 5.03 350 Pn 05 52 30.4 +0.5
K17K IAML 05 54 08.4
comp=E,153nm,1.1s
K17K IAML 05 54 18.9
comp=N,93nm,1.1s
K17K Iditarod 5.03 350 P **Pn 05 52 30.1 +0.2**
baz=168,SNR=18
M22K Willow 5.06 36 P **Pn 05 52 29.4 -1.0**
baz=221
PWL Port Wells 5.12 50 Pn 05 52 30.9 -0.4
PWL Port Wells 5.12 50 P **Pn 05 52 30.4 -0.8**
baz=236,SNR=11
ISLZ Isanotski Laza 5.13 236 Pn 05 52 31.1 -0.3
P23K Montague Islan 5.14 61 Pn 05 52 30.9 -0.5
P23K Montague Islan 5.14 61 P **Pn 05 52 31.0 -0.5**
baz=248
TTA Tatalina 5.15 2 Pn 05 52 31.9 +0.3
TTA Tatalina 5.15 2 P **Pn 05 52 31.2 -0.4**
baz=182,SNR=5.9
K15K Wolf Creek Mou 5.20 332 Pn 05 52 33.3 +1.1
K15K Wolf Creek Mou 5.20 332 P **Pn 05 52 33.2 +1.0**
baz=148,SNR=25
PMR Palmer 5.27 41 Pn 05 52 33.2 0.0
PMR IAML 05 53 29.8
comp=N,72nm,0.6s
PMR IAML 05 53 34.3
comp=E,64nm,0.7s
PMR Palmer 5.27 41 P **Pn 05 52 32.9 -0.3**
PMR Palmer 5.27 41 P **Pn 05 52 32.7 -0.5**
baz=227
KNK Knik Glacier 5.40 45 Pn 05 52 34.9 -0.1
KNK Knik Glacier 5.40 45 P **Pn 05 52 34.2 -0.8**
baz=231,SNR=7.8
GHO Glory Hole Cre 5.47 40 Pn 05 52 35.0 -0.9
Q23K Middleton Isla 5.48 68 Pn **Pn 05 52 35.5 -0.5**
Q23K Middleton Isla 5.48 68 P **Pn 05 52 35.5 -0.5**
baz=257
MID Middleton Isla 5.48 68 Pn **Pn 05 52 35.3 -0.7**
MID Middleton Isla 5.48 68 P **Pn 05 52 35.1 -0.9**
PPLA Purkeypile 5.51 20 P **Pn 05 52 39.1 +2.5**
baz=204
CUT Chulitna 5.53 31 P **Pn 05 52 36.0 -0.6**
baz=216
GLI Glacier Island 5.65 53 Pn 05 52 38.0 -0.4
GLI Glacier Island 5.65 53 P **Pn 05 52 37.2 -1.1**
baz=241,SNR=9.3
J18K Innoko River 5.69 358 Pn 05 52 39.9 +1.1
J18K Innoko River 5.69 358 P **Pn 05 52 39.5 +0.8**
baz=178,SNR=50
K20K Telida 5.69 10 Pn 05 52 39.8 +1.0
K20K Telida 5.69 10 P **Pn 05 52 39.5 +0.7**
baz=192,SNR=118
M11K Mekoryuk 5.70 301 P **Pn 05 52 39.5 +0.6**
baz=113
SML Sawmill 5.70 42 Pn 05 52 37.8 -1.3
SML Sawmill 5.70 42 P **Pn 05 52 38.1 -0.9**
baz=228
HIN Hinchinbrook I 5.71 59 Pn 05 52 39.1 +0.1
FID Port Fidalgo 5.86 56 Pn 05 52 40.2 -0.9
J16K Anvik River 5.88 341 Pn 05 52 41.8 +0.3
J16K Anvik River 5.88 341 P **Pn 05 52 42.1 +0.7**
baz=157,SNR=26
M23K Glacier View 5.91 44 Pn 05 52 40.7 -1.1
M23K Glacier View 5.91 44 P **Pn 05 52 41.0 -0.9**
baz=231,SNR=12
CAST Castle Rocks 6.01 19 Pn 05 52 44.3 +1.1
CAST Castle Rocks 6.01 19 P **Pn 05 52 43.5 +0.4**
baz=202
SCM Sheep Creek Mo 6.09 45 P **Pn 05 52 43.3 -0.9**
baz=232,SNR=10
EYAK Cordova Ski Ar 6.11 59 Pn 05 52 44.2 -0.2
EYAK Cordova Ski Ar 6.11 59 P **Pn 05 52 43.6 -0.8**
EYAK Cordova Ski Ar 6.11 59 P **Pn 05 52 43.9 -0.5**
baz=248,SNR=20
J14K Nanvaranak Lak 6.12 327 Pn 05 52 45.5 +1.0
J14K Nanvaranak Lak 6.12 327 P **Pn 05 52 44.9 +0.4**
baz=141
J19K Poorman 6.22 3 Pn 05 52 47.0 +1.1
J19K Poorman 6.22 3 P **Pn 05 52 46.8 +0.9**
baz=184,SNR=91
WAT7 Susitna Watana 6.27 33 Pn 05 52 45.6 -1.1
DIV Divide 6.34 54 Pn 05 52 47.8 +0.1
KTH Kantishna Hill 6.36 23 Pn 05 52 48.3 +0.5
WAT1 Susitna Watana 6.36 34 Pn 05 52 46.4 -1.4
WAT1 Susitna Watana 6.36 34 P **Pn 05 52 46.6 -1.2**
baz=221
AKSA Akutan Strait 6.40 239 Pn 05 52 48.8 +0.4
TRF Thorofare Moun 6.40 25 Pn 05 52 48.8 +0.2
TRF Thorofare Moun 6.40 25 P **Pn 05 52 48.7 +0.2**
baz=210
CHUM Lake Minchumin 6.41 16 P **Pn 05 52 48.5 0.0**
baz=200,SNR=12
WAT6 Susitna Watana 6.43 38 Pn 05 52 47.4 -1.6
WAT6 Susitna Watana 6.43 38 P **Pn 05 52 47.6 -1.4**
baz=225,SNR=9.1
AKUT Akutan 6.44 239 Pn **Pn 05 52 49.3 +0.4**
AKUT Akutan 6.44 239 P **Pn 05 52 48.8 -0.1**
KLU Klutina 6.45 51 Pn 05 52 48.8 -0.4
KLU Klutina 6.45 51 P **Pn 05 52 48.5 -0.6**
baz=239,SNR=44
I17K Unalakleet 6.46 343 P **Pn 05 52 50.0 +0.9**
baz=159,SNR=9.1
J20K Nowinta River 6.49 9 Pn 05 52 50.2 +0.7
J20K Nowinta River 6.49 9 P **Pn 05 52 49.7 +0.2**
baz=190,SNR=30
AKLV Akutan Long Va 6.50 240 Pn 05 52 49.9 +0.1
AKV Akutan Volcano 6.53 240 Pn 05 52 50.0 -0.3
AKBBA Akutan Broad B 6.53 239 Pn 05 52 50.3 +0.1
KAIM Kayak Island 6.55 66 Pn 05 52 50.2 -0.1
KAIM Kayak Island 6.55 66 P **Pn 05 52 50.5 +0.2**
baz=256
RAGM Ragged Mountai 6.55 62 Pn 05 52 50.8 +0.4
ZRO Akutan Zero 6.56 240 Pn 05 52 50.5 0.0
GOAT Goat Mountain 6.59 60 Pn 05 52 50.4 -0.5
M24K Tolsona, Glenn 6.69 46 P **Pn 05 52 51.6 -0.6**
baz=234,SNR=7.3
RND Reindeer 6.72 30 Pn **Pn 05 52 51.4 -1.3**
HMT Hamilton 6.73 63 Pn 05 52 53.0 +0.2
BMRM Bremner River 6.79 57 Pn 05 52 53.1 -0.5
BMRM Bremner River 6.79 57 P **Pn 05 52 52.6 -1.1**
baz=247,SNR=18
BPAW Bear Paw Mtn. 6.84 20 Pn 05 52 53.5 -0.8
BPAW Bear Paw Mtn. 6.84 20 P **Pn 05 52 54.0 -0.2**
baz=205,SNR=33
NICHA Nichawak Mount 6.84 64 Pn 05 52 54.0 -0.4
SUCK Suckling Hills 6.89 65 Pn 05 52 54.2 -0.8
DHY Denali Highway 6.90 36 Pn 05 52 53.7 -1.5
DHY Denali Highway 6.90 36 P **Pn 05 52 53.8 -1.4**
baz=224
UNV Unalaska Valle 6.96 240 Pn 05 52 55.2 -0.6
UNV Unalaska Valle 6.96 240 P **Pn 05 52 55.2 -0.6**
UNV Unalaska Valle 6.96 240 P **Pn 05 52 54.7 -1.2**
baz=51
MTBL Makushin Table 6.96 241 Pn 05 52 56.1 +0.1
MCK McKinley 6.97 28 Pn 05 52 55.5 -0.6
MCK McKinley 6.97 28 P **Pn 05 52 55.4 -0.6**
baz=214,SNR=17
GCSA Galena City Sc 6.97 358 P **Pn 05 52 56.8 +0.8**
baz=178,SNR=24
BERG Berg Lake 7.01 63 Pn 05 52 56.3 -0.4
MNAT Makushin Natee 7.01 240 Pn 05 52 56.2 -0.5
MSW Makushin Switc 7.04 241 Pn 05 52 56.3 -0.7
N25K Chitina, Valde 7.06 52 Pn 05 52 57.8 +0.5
N25K Chitina, Valde 7.06 52 P **Pn 05 52 57.0 -0.4**
baz=242,SNR=24
I20K Naaghedeneel 7.08 7 Pn 05 52 58.7 +1.3
I20K Naaghedeneel 7.08 7 P **Pn 05 52 57.9 +0.5**
baz=188,SNR=6.0
MGOD Makushin Gods 7.16 240 Pn 05 52 58.3 -0.4
MAPS Pakushin South 7.18 241 Pn 05 52 58.6 -0.3
BWN Browne 7.21 25 Pn 05 52 59.2 -0.1
HARP HAARP 7.25 46 Pn 05 52 59.7 -0.1
HARP HAARP 7.25 46 P **Pn 05 53 00.9 +1.2**
baz=235,SNR=6.9
GLB Gilahina Butte 7.33 55 Pn **Pn 05 53 00.7 -0.2**
WACK Wrangell Chich 7.36 50 Pn 05 53 01.6 +0.1

H17K Granite Mounta 7.36 348 P **Pn 05 53 02.1 +0.9**
baz=165,SNR=17
SNH Sunshine Point 7.38 65 Pn 05 53 02.1 +0.6
CRQM Cirque 7.39 61 Pn 05 53 01.9 +0.1
WASW Wrangell South 7.39 51 Pn 05 53 01.8 -0.2
VRDI Verde Repeater 7.40 57 Pn 05 53 02.0 -0.1
CRQE Cirque 7.41 61 P **Pn 05 53 01.2 -0.8**
baz=252,SNR=29
H16K Elim 7.42 340 P **Pn 05 53 03.4 +1.3**
baz=155,SNR=12
H18K Honhosa River 7.44 353 Pn 05 53 03.7 +1.4
H18K Honhosa River 7.44 353 P **Pn 05 53 03.0 +0.7**
baz=172
PAX Paxson 7.47 42 Pn 05 53 03.5 +0.6
PAX Paxson 7.47 42 P **Pn 05 53 02.3 -0.5**
baz=231,SNR=24
WAZA Wrangell Mount 7.47 50 Pn 05 53 03.4 +0.4
TGL Tana Glacier 7.53 61 Pn 05 53 03.7 0.0
BARK Barkley Ridge 7.60 64 Pn 05 53 04.5 -0.1
MCARA McCarthy VSAT 7.66 56 Pn 05 53 05.3 0.0
MCARA McCarthy VSAT 7.66 56 P **Pn 05 53 04.3 -1.0**
baz=248,SNR=24
NEA2 Nenana 7.66 24 Pn 05 53 04.2 -1.2
NEA2 Nenana 7.66 24 P **Pn 05 53 04.1 -1.2**
baz=210,SNR=23
MLY Manley 7.73 18 Pn 05 53 05.1 -1.2
MLY Manley 7.73 18 P **Pn 05 53 06.0 -0.3**
baz=203,SNR=13
H20K Anotleneega Mo 7.75 5 Pn 05 53 07.1 +0.6
H20K Anotleneega Mo 7.75 5 P **Pn 05 53 06.5 -0.1**
baz=186,SNR=27
H19K Roundabout Mou 7.75 360 Pn 05 53 07.0 +0.5
H19K Roundabout Mou 7.75 360 P **Pn 05 53 06.5 0.0**
baz=180,SNR=16
WRH Wood River Hil 7.79 27 Pn 05 53 05.5 -1.5
MESA MESA 7.81 66 Pn 05 53 07.8 +0.3
MESA MESA 7.81 66 P **Pn 05 53 06.8 -0.7**
baz=258,SNR=8.2
PTPK Patty Peak 7.84 59 Pn 05 53 08.0 +0.1
OKFG Magazine Ridge 7.88 241 Pn 05 53 07.2 -1.1
K24K Donnelly Dome 7.93 36 Pn 05 53 08.8 -0.1
K24K Donnelly Dome 7.93 36 P **Pn 05 53 09.4 +0.5**
baz=225,SNR=15
G17K Kiwalik Mounta 7.99 347 Pn 05 53 11.4 +1.7
G17K Kiwalik Mounta 7.99 347 P **Pn 05 53 11.0 +1.2**
baz=163,SNR=8.3
CCB Clear Creek Bu 8.00 27 Pn 05 53 08.2 -1.6
GRNC Granite Creek 8.03 62 Pn 05 53 10.9 +0.3
HDA Harding Lake 8.03 31 Pn 05 53 08.8 -1.5
HDA Harding Lake 8.03 31 P **Pn 05 53 08.4 -2.0**
baz=219,SNR=62
H21K Melozitna Rive 8.06 11 Pn 05 53 11.6 +0.9
H21K Melozitna Rive 8.06 11 P **Pn 05 53 11.0 +0.4**
baz=194,SNR=59
I23K Minto, Yukon-K 8.09 21 Pn 05 53 10.3 -0.8
I23K Minto, Yukon-K 8.09 21 P **Pn 05 53 10.2 -0.8**
baz=207,SNR=22
G15K Niukluk 8.10 336 P **Pn 05 53 12.4 +1.3**
baz=150
M26K Nabesna, AK 8.11 50 Pn 05 53 11.7 +0.3
M26K Nabesna, AK 8.11 50 P **Pn 05 53 11.0 -0.3**
baz=241,SNR=26
RKAV Rock Avalanche 8.13 66 Pn 05 53 12.1 +0.3
G16K Koyuk River 8.13 342 P **Pn 05 53 13.4 +1.8**
baz=157,SNR=9.0
MDM Murphy Dome 8.16 25 Pn 05 53 10.3 -1.8
BARN Barnard Glacie 8.17 60 Pn 05 53 12.8 +0.5
COLA College 8.18 26 Pn 05 53 11.3 -0.9
COLA College 8.18 26 P **Pn 05 53 11.1 -1.1**
COLA College 8.18 26 P **Pn 05 53 10.7 -1.6**
baz=214
RIDG Independent Ri 8.19 39 Pn 05 53 11.9 -0.6
RIDG Independent Ri 8.19 39 P **Pn 05 53 11.7 -0.7**
baz=228,SNR=8.5
G18K Tagagawik 8.20 353 Pn 05 53 13.7 +1.2
G18K Tagagawik 8.20 353 P **Pn 05 53 12.9 +0.4**
baz=171,SNR=17
L26K Log Cabin Wild 8.29 45 Pn 05 53 13.6 -0.1
L26K Log Cabin Wild 8.29 45 P **Pn 05 53 13.7 -0.1**
baz=236,SNR=11
CTG Chitna Glacier 8.29 61 P **Pn 05 53 14.1 +0.2**
baz=254,SNR=25
CTGM Chitina Glacie 8.29 61 Pn 05 53 14.3 +0.3
IMAR Indian Mountai 8.30 7 Pn 05 53 15.2 +1.3
IL31 8.34 29 Pn 05 53 12.8 -1.6
ILAR Eielson Array 8.34 29 Pn **Pn 05 53 12.9 -1.5**
ILAR Eielson Array 8.34 29 P **Pn 05 53 12.6 -1.8**
comp=E,28nm,0.6s,baz=217,slow=13,SNR=386
ILAR S Sn 05 54 41.1 -5.7
comp=E,25nm,0.8s,baz=221,slow=23,SNR=20
SAMH Samovar Hills 8.38 67 Pn 05 53 15.4 +0.3
G19K Purcell Mounta 8.38 358 P **Pn 05 53 14.6 -0.3**
baz=177,SNR=5.5
LOGN Logan Glacier 8.41 62 Pn 05 53 16.1 +0.5
H22K Ishtalitna Cre 8.45 14 P **Pn 05 53 16.6 +0.7**
baz=198
POKR Poker Plat Res 8.48 26 Pn 05 53 15.3 -1.1
POKR Poker Plat Res 8.48 26 P **Pn 05 53 15.0 -1.4**
baz=214,SNR=9.9
M27K Edge Creek, AK 8.55 52 Pn 05 53 17.9 +0.5
M27K Edge Creek, AK 8.55 52 P **Pn 05 53 17.9 +0.5**
baz=244,SNR=6.6
NIKH Nikolski High 8.60 241 P **Pn 05 53 16.7 -1.3**
NIKH Nikolski High 8.60 241 P **Pn 05 53 16.7 -1.3**
baz=51
SCRK Sand Creek 8.63 39 Pn **Pn 05 53 17.2 -1.3**
SCRK Sand Creek 8.63 39 P **Pn 05 53 17.1 -1.4**
baz=230
PINM Pinnacle 8.63 68 P **Pn 05 53 18.3 -0.2**
baz=261,SNR=9.5
J25K Salcha River, 8.64 33 Pn 05 53 16.9 -1.5
J25K Salcha River, 8.64 33 P **Pn 05 53 16.8 -1.7**
baz=223,SNR=24
H23K Yukon River 8.67 19 Pn 05 53 17.5 -1.3
H23K Yukon River 8.67 19 P **Pn 05 53 18.0 -0.9**
baz=205
YUK2 White River 8.77 56 Pn 05 53 20.8 +0.5
O28M Mount Upton 8.79 63 Pn 05 53 21.2 +0.4
O28M Mount Upton 8.79 63 P **Pn 05 53 21.0 +0.3**
baz=257,SNR=94
F15K North Star Dit 8.85 337 P **Pn 05 53 21.6 +0.4**
baz=150
G21K Allakaket 8.85 7 P **Pn 05 53 21.6 +0.4**
baz=190
L27K Beaver Creek, 8.90 48 Pn 05 53 22.1 +0.2
L27K Beaver Creek, 8.90 48 P **Pn 05 53 22.2 +0.2**
baz=240,SNR=8.2
BCAR Beaver Creek A 8.92 48 Pn **Pn 05 53 22.4 +0.1**
BCPM Bancas Point 8.92 69 Pn 05 53 22.3 0.0
YUK3 Moose Creek 8.94 57 Pn 05 53 23.2 +0.5
YUK3 Moose Creek 8.94 57 P **Pn 05 53 22.9 +0.2**
baz=250
F17K Baldwin Pennin 8.97 347 P **Pn 05 53 23.5 +0.7**
baz=163
H24K Noodor Dome 8.99 23 Pn 05 53 21.3 -2.0
H24K Noodor Dome 8.99 23 P **Pn 05 53 21.4 -1.9**
baz=210,SNR=10
PNL Peninsula 9.01 71 Pn 05 53 22.9 -0.7
PNL Peninsula 9.01 71 P **Pn 05 53 23.0 -0.5**
PNL Peninsula 9.01 71 P **Pn 05 53 23.0 -0.5**
baz=265,SNR=8.7
F14K Arctic Creek 9.03 333 P **Pn 05 53 23.2 -0.5**
baz=144
F19K Shaleruckik Mo 9.09 356 P **Pn 05 53 24.6 +0.1**
baz=175,SNR=6.3
YUK8 Steele Glacier 9.11 61 P **Pn 05 53 26.4 +1.3**
baz=255
J26L Joseph Creek 9.12 37 Pn 05 53 23.6 -1.3
J26L Joseph Creek 9.12 37 P **Pn 05 53 23.7 -1.3**
baz=228,SNR=17
PRP Porcupine Dome 9.28 29 P **Pn 05 53 25.5 -1.8**
baz=218,SNR=19
F20K Avaraart Lake 9.29 2 Pn 05 53 28.4 +1.3
F20K Avaraart Lake 9.29 2 P **Pn 05 53 27.8 +0.7**
baz=182,SNR=31
G23K Bananza Creek 9.41 16 P **Pn 05 53 29.5 +0.7**
baz=201,SNR=27
G22K Bettles 9.42 12 P **Pn 05 53 30.1 +1.1**
baz=196
O29M Mount Kennedy 9.49 67 Pn **Pn 05 53 31.2 +1.1**
O29M Mount Kennedy 9.49 67 P **Pn 05 53 30.2 +0.1**
baz=262,SNR=25
F21K Alatna River 9.55 7 P **Pn 05 53 32.0 +1.3**
baz=189,SNR=18
E17K Hotham Inlet 9.65 347 P **Pn 05 53 32.9 +0.9**

baz=162
YUK4 Talbot Arm 9.65 61 P Pn 05 53 34.1 +1.8
baz=256
YUK6 Outpost Mounta 9.70 64 P Pn 05 53 34.2 +1.2
baz=259
E19K Redstone River 9.70 358 P Pn 05 53 33.7 +1.1
baz=177
I26K Coal Creek Min 9.79 34 P Pn 05 53 32.2 -1.7
baz=226
H25L Birch Creek 9.81 26 P Pn 05 53 33.8 -0.4
baz=215
G24K Hadweenzic Riv 9.83 21 P Pn 05 53 32.6 -1.8
baz=209
E18K Tukpahlearik C 9.85 350 P Pn 05 53 35.2 +0.6
baz=167,SNR=7.2
P29M Windy Craggy 9.85 71 P Pn 05 53 35.2 +0.4
baz=267,SNR=7.1
COLD Coldfoot 9.87 14 P Pn 05 53 35.3 +0.3
baz=199
F22K John River 9.93 9 P Pn 05 53 36.3 +0.6
baz=193
M29M Somme Creek 10.05 55 Pn 05 53 38.3 +0.7
M29M Somme Creek 10.05 55 P Pn 05 53 38.0 +0.5
baz=250,SNR=44
HYT Haines Junctio 10.09 65 P Pn 05 53 38.8 +0.6
baz=261
G25K Bearman Lake 10.16 24 P Pn 05 53 37.2 -1.7
baz=213
P30M Million Dollar 10.28 69 P Pn 05 53 41.5 +1.0
baz=265
DAWY Dawson 10.35 46 Pn 05 53 41.6 +0.2
N30M Aishikik Lake 10.41 61 P Pn 05 53 42.1 -0.2
baz=258,SNR=19
L29M L29M 10.43 52 P Pn 05 53 43.2 +0.6
baz=247,SNR=6.2
I27K Kandik River 10.47 36 P Pn 05 53 42.6 -0.4
baz=228,SNR=6.6
F24K Squaw Lake 10.49 18 P Pn 05 53 43.4 +0.2
baz=206
E20K Nigu River 10.50 0 P Pn 05 53 43.9 +0.5
baz=180
PLBC Pleasant Camp 10.55 73 P Pn 05 53 44.4 +0.3
baz=269
E22K Anaktuvuk Pass 10.57 9 P Pn 05 53 45.3 +0.9
baz=193
S31K Pelican 10.71 81 P Pn 05 53 46.9 +0.6
baz=278,SNR=5.8
E23K Chandalar 10.73 14 P Pn 05 53 46.8 +0.2
baz=200,SNR=7.2
E21K Killik River 10.73 5 P Pn 05 53 47.1 +0.5
baz=187
D19K Kuna River 10.76 357 P Pn 05 53 47.9 +0.9
baz=175
O30N Mendenhall 10.77 65 Pn 05 53 48.2 +1.1
O30N Mendenhall 10.77 65 P Pn 05 53 47.5 +0.4
baz=263
M30M Minto, Yukon 10.83 56 Pn 05 53 48.2 +0.4
M30M Minto, Yukon 10.83 56 P Pn 05 53 47.9 0.0
baz=252,SNR=12
G26K Porcupine Rive 10.85 27 P Pn 05 53 45.9 -2.2
baz=218
E24K Your Creek 10.90 16 P Pn 05 53 49.6 +0.8
baz=203,SNR=12
I28M Miner Creek 10.91 39 P Pn 05 53 47.7 -1.4
baz=233
R31K City Hall, Gus 10.92 78 P Pn 05 53 47.9 -1.1
baz=275
H27K Steamboat Moun 10.92 33 P Pn 05 53 47.5 -1.5
baz=226
D20K Etivluk River 10.96 360 P Pn 05 53 49.1 -0.4
baz=179
F25K Christian Rive 10.96 22 P Pn 05 53 47.4 -2.2
baz=211
K29M Barlow Dome 10.98 49 Pn 05 53 50.8 +0.9
K29M Barlow Dome 10.98 49 P Pn 05 53 50.1 +0.1
baz=245
N31M Braeburn, Yuko 11.03 62 Pn 05 53 51.4 +0.9
N31M Braeburn, Yuko 11.03 62 P Pn 05 53 50.6 +0.1
baz=259
SKAG Skagway 11.08 73 Pn 05 53 51.9 +0.8
SKAG Skagway 11.08 73 P Pn 05 53 51.4 +0.3
SKAG Skagway 11.08 73 P Pn 05 53 51.2 +0.1
baz=270
C18K Utukok River 11.10 351 P Pn 05 53 51.7 +0.3
baz=166
C17K DeLong Mountai 11.14 347 P Pn 05 53 52.3 +0.4
baz=161
D22K Ayikyak River 11.24 7 P Pn 05 53 53.9 +0.7
baz=190
TOLK Toolik Lake Re 11.29 13 Pn 05 53 52.5 -1.4
TOLK Toolik Lake Re 11.29 13 P Pn 05 53 54.8 +0.8
baz=199
G27K Doyon Strip 11.29 31 P Pn 05 53 51.9 -2.2
baz=224
WHY Whitehorse 11.35 66 Pn 05 53 56.1 +1.3
WHY Whitehorse 11.35 66 P Pn 05 53 55.7 +0.8
baz=265
SIT Sitka 11.35 85 P Pn 05 53 55.4 +0.6
SIT Sitka 11.35 85 P Pn 05 53 55.6 +0.8
baz=282
F26K Sheenjek River 11.37 24 P Pn 05 53 54.0 -0.9
baz=215
I29M Ogilvie Camp, 11.42 41 Pn 05 53 56.0 +0.4
I29M Ogilvie Camp, 11.42 41 P Pn 05 53 56.6 +0.9
baz=237
C21K Knifeblade Rid 11.42 3 P Pn 05 53 56.0 +0.4
baz=184
C19K Lookout Ridge 11.44 354 P Pn 05 53 57.1 +1.2
baz=171
D23K Nanushuk River 11.48 10 P Pn 05 53 57.5 +1.0
baz=195
MAYO Mayo, Yukon 11.55 51 Pn 05 53 58.4 +1.0
MAYO Mayo, Yukon 11.55 51 P Pn 05 53 57.6 +0.2
baz=249
R32K Eaglecrest 11.57 78 P Pn 05 53 59.5 +1.8
baz=277
ATKA Atka Island 11.66 249 P Pn 05 53 57.4 -1.5
S32K Killisnoo 11.67 82 P Pn 05 54 00.1 +1.2
baz=281
J30M Hart River 11.76 46 Pn 05 54 01.6 +1.4
J30M Hart River 11.76 46 P Pn 05 54 01.7 +1.4
baz=244
M31M Drury Creek, Y 11.81 59 P Pn 05 54 01.2 +0.3
baz=258
B18K Kokolik River 11.85 351 P Pn 05 54 02.2 +0.9
baz=166
D24K Happy Valley 11.87 13 P Pn 05 54 02.3 +0.9
baz=200
B21K Ikpikpuk River 11.89 3 P Pn 05 54 01.9 +0.1
baz=184
H29M Whitestone 11.89 37 P Pn 05 54 02.5 +0.7
baz=233
P32M Atlin 11.90 72 P Pn 05 54 02.2 +0.2
baz=271
I30M Mount Dempster 12.04 44 Pn Pn 05 54 04.7 +0.7
I30M Mount Dempster 12.04 44 P Pn 05 54 04.4 +0.4
baz=241
B20K Meade River 12.26 359 Pn Pn 05 54 07.5 +1.0
B20K Meade River 12.26 359 P Pn 05 54 07.4 +0.8
baz=178,SNR=7.5
FARO Faro, Yukon 12.30 59 P Pn 05 54 07.6 +0.4
baz=259,SNR=6.9
C23K Itkillik River 12.34 9 P Pn 05 54 07.9 +0.3
baz=194
E27K Coleen River 12.34 26 P Pn 05 54 07.2 -0.6
baz=220
P33M Teslin, Yukon 12.35 69 P Pn 05 54 08.3 +0.4
baz=269
F28M Old Crow 12.36 31 P Pn 05 54 05.9 -2.1
baz=225
D25K Kavik River 12.36 17 P Pn 05 54 08.1 +0.1
baz=206
C24K Franklin Bluff 12.42 12 P Pn 05 54 08.7 0.0
baz=199
G29M Pine Creek 12.43 35 Pn 05 54 08.1 -0.7
G29M Pine Creek 12.43 35 P Pn 05 54 08.7 -0.1
baz=231
EPYK Eagle Plains 12.52 39 Pn 05 54 09.9 -0.2
EPYK Eagle Plains 12.52 39 P Pn 05 54 09.4 -0.7
baz=236,SNR=5.9
A19K Wainwright 12.62 353 P Pn 05 54 12.1 +0.9
baz=168
B22K Teshekpuk Lake 12.65 5 P Pn 05 54 11.4 -0.3
baz=187
Q32M Nakina River 12.67 75 Pn 05 54 14.5 +2.3
Q32M Nakina River 12.67 75 P Pn 05 54 13.4 +1.2
baz=275

U33K Whale Pass 12.78 88 P Pn 05 54 13.6 +0.2
baz=287
CRAG Craig 12.98 90 P Pn 05 54 17.1 +1.1
CRAG Craig 12.98 90 P Pn 05 54 16.6 +0.6
baz=290
G30M tAoh Zraii Nji 13.04 37 P Pn 05 54 17.3 +0.6
baz=235
H31M Peel River 13.07 43 P Pn 05 54 17.5 +0.3
baz=242
E28M Babbage River 13.16 28 P Pn 05 54 19.0 +0.7
baz=223
A22K Sinclair Lake 13.27 2 P Pn 05 54 20.9 +1.3
baz=183
R33M Jennings River 13.31 72 P Pn 05 54 21.4 +1.1
baz=274
MMPY Sheldon Lake, 13.32 58 P Pn 05 54 21.8 +1.3
baz=260
E29M Blow River 13.43 30 P Pn 05 54 21.2 -0.6
baz=227
DLBC Dease Lake 13.90 76 P Pn 05 54 29.7 +1.8
comp=E,1.5nm,0.4s,baz=277,slow=12,SNR=13
DLBC S Sn 05 56 58.0 -3.2
comp=E,1.2nm,0.4s,baz=307,slow=8.1,SNR=1.9
INK Inuvik 14.64 35 Pn Pn 05 54 35.3 -1.8
INK Inuvik 14.64 35 P Pn 05 54 35.1 -2.1
comp=E,2.2nm,0.5s,baz=224,slow=16,SNR=13
INK S Sn 05 57 17.8 -1.0
comp=E,1.4nm,0.7s,baz=333,slow=9.1,SNR=1.7
INK ScP ScP 06 03 02.1 +0.4
comp=E,1.3nm,0.6s,baz=180,slow=1.0,SNR=4.7
BBB Bella Bella 17.07 97 LR LR 06 00 48.0
comp=E,32nm,18.9s,baz=0.5,slow=33
YKA Yellowknife Ar 21.01 60 P P 05 55 50.9 +1.4
comp=E,2.2nm,0.8s,baz=275,slow=10,SNR=11
comp=E,2.2nm,0.8s
LTY Liberty 23.85 101 P P 05 56 19.8 +1.9
EDM Edmonton 24.45 82 P P 05 56 25.0 +1.7
EDM IAmb IAmb 05 56 25.6
comp=Z,11nm,0.8s
J01E Myrtle Point 24.99 112 P P 05 56 31.8 +3.7
DBO Dodson Butte 25.36 111 P P 05 56 35.3 +3.7
DBO IAmb IAmb 05 57 02.6
comp=Z,28nm,1.4s
K02D Willamette Mer 25.47 112 P P 05 56 35.6 +3.1
PETK Petropavlovsk- 26.07 280 P P 05 56 36.6 -1.1
comp=Z,4.8nm,0.5s,baz=70,slow=12,SNR=5.2
comp=Z,4.8nm,0.5s
MFID Camas Ranch 28.96 102 P P 05 57 05.7 +2.0
DLMT Dillon 29.35 96 P P 05 57 08.8 +1.5
MCMT McKenzie Canyo 29.57 97 P P 05 57 11.0 +1.7
HLID Hailey 29.60 100 P P 05 57 11.2 +1.7
baz=314
AFDM Forest Hills D 29.64 114 P P 05 57 11.9 +2.2
BOZ Bozeman (W) 29.71 95 P P 05 57 12.5 +2.1
baz=311
PAHR Pah Rah Range 29.84 111 P P 05 57 13.9 +2.3
PAHR IAmb IAmb 05 57 15.1
comp=Z,9.3nm,1.0s
CMB Columbia Colle 30.64 114 P P 05 57 21.0 +2.4
YHH Holmes Hill 30.66 95 P P 05 57 20.8 +1.8
H17A Grant Village 31.07 95 P P 05 57 23.5 +1.0
baz=312
RLMT Red Lodge 31.29 93 P P 05 57 26.4 +2.0
baz=311
NVAR Mina Array Bea 31.36 112 P P 05 57 28.1 +3.0
comp=Z,2.6nm,0.7s,baz=304,slow=8.8,SNR=20
NVAR pP pP 05 57 53.2 +0.4
comp=Z,1.3nm,0.7s,baz=296,slow=8.8,SNR=3.4
NVAR ScP ScP 06 03 47.8 +1.4
comp=Z,0.7nm,0.7s,baz=282,slow=4.5,SNR=3.9
comp=Z,2.6nm,0.7s
TIXI Tiksi 32.26 325 P P 05 57 31.8 -0.5
TIXI IAmb IAmb 05 57 32.2
comp=Z,5.7nm,0.6s
BW06 Boulder Array 32.72 97 P P 05 57 38.1 +1.1
baz=314
PD31 Pinedale Array 32.72 97 P P 05 57 38.4 +1.5
PD31 IAmb IAmb 05 57 39.5
comp=Z,2.6nm,0.6s
PDAR Pinedale Array 32.72 97 P P 05 57 39.0 +2.0
PDAR Pinedale Array 32.72 97 P P 05 57 38.8 +1.9
comp=Z,2.9nm,0.5s,baz=318,slow=4.6,SNR=39
PDAR pP pP 05 58 06.2 +1.5
comp=Z,1.5nm,0.8s,baz=319,slow=6.5,SNR=5.0
PDAR LR LR 06 11 07.4
comp=Z,20nm,19.2s,baz=292,slow=36
comp=Z,2.9nm,0.5s
R11B Troy Canyon, C 32.79 109 P P 05 57 40.0 +2.4
baz=320,SNR=5.1
DUG Dugway, Tooele 32.84 103 P P 05 57 40.2 +2.3
baz=317
GRAC Grapevine Rang 32.94 112 P P 05 57 40.3 +1.6
baz=322
VES Vestal, Richgr 33.01 115 P P 05 57 41.0 +1.7
baz=324
PKM Mcpherson Peak 33.43 117 P P 05 57 45.9 +2.8
baz=325
ISA Isabella, Lake 33.45 115 P P 05 57 44.8 +1.6
baz=324
TPNV Topopah Spring 33.53 111 P P 05 57 46.1 +2.1
baz=321
FURC Furnace Creek, 33.60 112 P P 05 57 46.6 +2.3
baz=322
MPMC Manual Prospec 33.62 113 P P 05 57 46.8 +2.0
baz=323
ARVC Arvin 33.71 116 P P 05 57 47.0 +1.7
baz=324
SBC Santa Barbara 33.84 118 P P 05 57 48.1 +1.6
baz=325
K22A Casper 34.42 94 P P 05 57 51.8 +0.2
baz=314
RSSD Black Hills 34.75 90 P P 05 57 56.5 +2.1
baz=312
BFSC Mount Baldy Ra 34.99 115 P P 05 57 58.8 +2.2
baz=324
ULM Lac du Bonnet 35.22 76 P P 05 57 59.2 +1.1
ULM IAmb IAmb 05 58 23.1
comp=Z,15nm,1.4s
ULM Lac du Bonnet 35.22 76 P P 05 57 58.4 +0.2
comp=Z,2.0nm,0.6s,baz=285,slow=12,SNR=1.7
comp=Z,2.0nm,0.6s
O20A White River Ci 35.28 99 P P 05 58 01.0 +1.9
O20A White River Ci 35.28 99 P P 05 58 01.1 +2.0
baz=316,SNR=7.8
GMRC Granite Mounta 35.53 113 P P 05 58 03.1 +1.9
baz=323
N23A Red Feather La 35.96 96 P P 05 58 06.3 +1.5
baz=315
BELC Belle Mtn. Jos 35.99 114 P P 05 58 06.9 +1.7
baz=324
PFO Pinyon Flats O 36.08 115 P P 05 58 07.7 +1.9
baz=324
PFO Pinyon Flats O 36.08 115 LR LR 06 10 14.0
comp=Z,41nm,18.6s,baz=178,slow=31
TPFO Pinon Flats 36.09 115 P P 05 58 08.0 +2.1
baz=324
IRM Iron Mountain 36.29 113 P P 05 58 09.8 +2.3
baz=324
109C Camp Elliot, M 36.36 116 P P 05 58 11.0 +3.0
baz=325
IKP In-Ko-Pah, Jac 37.04 115 P P 05 58 16.0 +2.1
baz=325
WUAZ Wupatki 37.11 107 P P 05 58 16.1 +1.5
baz=321
MVCO Mesa Verde 37.31 102 P P 05 58 17.7 +1.4
MVCO IAmb IAmb 05 58 18.4
comp=Z,3.1nm,0.7s
MVCO Mesa Verde 37.31 102 P P 05 58 17.0 +0.7
baz=319
GLA Glamis 37.34 113 P P 05 58 18.7 +2.3
baz=324
Q24A Divide 37.77 97 P P 05 58 21.5 +1.2
baz=317
S22A 4UR Ranch, Cre 37.78 100 P P 05 58 22.0 +1.6
baz=318
OGNE Ogallala 38.01 92 P P 05 58 23.4 +1.4
baz=315
SDCO Great Sand Dun 38.48 99 P P 05 58 28.0 +1.7
baz=318,SNR=5.7
ECSD EROS Data Cent 38.98 84 P P 05 58 30.5 +0.5
baz=313
KSCO Kaye Shedlock' 39.08 95 P P 05 58 33.2 +2.2
baz=317
214A Organ Pipe Nat 39.22 112 P P 05 58 34.4 +2.3
baz=324
T25A Trinidad 39.51 99 P P 05 58 36.2 +1.4
baz=319
BGNE Belgrade 39.76 88 P P 05 58 38.5 +2.0

baz=315
TUC Tucson 39.95 110 P P 05 58 40.1 +1.9
baz=324
SPMN Marine on St. 40.00 80 P P 05 58 39.8 +1.4
baz=312
ANMO Albuquerque 40.10 103 P P 05 58 41.1 +1.5
baz=321
121A Cookes Peak, D 41.30 106 P P 05 58 51.3 +1.9
baz=323
AMTX Amarillo 42.66 98 P P 05 59 02.1 +1.7
baz=320
MSTX Muleshoe 42.79 100 P P 05 59 02.5 +1.2
baz=321
U32A Winter Ranch, 42.96 94 P P 05 59 02.6 0.0
MNTX Cornudas Mount 43.20 105 P P 05 59 06.6 +2.0
baz=323,SNR=6.2
WMOK Wichita Mounta 44.31 96 P P 05 59 15.2 +1.7
baz=320
APMT Aspermont 44.68 98 P P 05 59 17.5 +1.0
APMT IAmb IAmb 05 59 18.0
comp=Z,4.8nm,0.6s
TUL3 Leonard 45.02 92 P P 05 59 19.5 +0.4
baz=319
HDIL Hopedale 45.09 82 P P 05 59 20.5 +1.0
baz=316
ABTX Abilene, Hawle 45.48 98 P P 05 59 24.2 +1.4
ABTX Abilene, Hawle 45.48 98 P P 05 59 23.8 +1.0
baz=321
CCM Cathedral Cave 45.87 86 P P 05 59 26.3 +0.7
baz=318
TXAR Lajitas Array 45.97 105 P P 05 59 28.5 +1.8
TXAR Lajitas Array 45.97 105 P P 05 59 28.4 +1.6
comp=Z,2.6nm,0.9s,baz=314,slow=5.9,SNR=24
TXAR pP pP 05 59 57.0 +1.1
comp=Z,0.9nm,0.9s,baz=310,slow=4.6,SNR=2.8
comp=Z,2.6nm,0.9s
BRDY Brady 46.87 99 P P 05 59 35.0 +1.4
BRDY IAmb IAmb 05 59 35.4
comp=Z,4.7nm,0.7s
JCT Junction City 47.08 100 P P 05 59 36.6 +1.4
baz=322
MJAR Matsushiro Arr 47.16 273 P P 05 59 34.9 -1.0
comp=Z,1.4nm,0.4s,baz=35,slow=6.2,SNR=4.6
comp=Z,1.4nm,0.4s
MIAR Mount Ida 47.24 91 P P 05 59 37.3 +0.8
baz=320
DRIO Del Rio 47.48 102 P P 05 59 38.9 +0.5
DRIO IAmb IAmb 05 59 39.8
comp=Z,3.3nm,0.6s
WVT Waverly 49.12 85 P P 05 59 51.6 +0.8
baz=319
KSRS Korea Array 51.94 282 P P 06 00 11.5 -0.4
comp=Z,3.5nm,0.7s,baz=48,slow=7.6,SNR=8.3
comp=Z,3.5nm,0.7s
ARCES ARCESS Array B 52.96 359 P P 06 00 18.1 -1.0
comp=Z,4.2nm,1.0s,baz=9.2,slow=7.3,SNR=4.1
ARCES pP pP 06 00 45.9 -3.2
comp=Z,3.8nm,1.0s,baz=9.8,slow=7.9,SNR=1.1
ARCES PcP PcP 06 01 26.0 0.0
comp=Z,4.6nm,0.7s,baz=11,slow=5.4,SNR=12
comp=Z,4.2nm,1.0s
SONM Songino Array 54.65 305 P P 06 00 31.6 -0.2
SONM Songino Array 54.65 305 P P 06 00 31.9 +0.1
comp=Z,7.4nm,0.7s,baz=42,slow=6.3,SNR=31
comp=Z,7.4nm,0.7s
ZALV Zalesovo Beam 58.09 322 P P 06 00 55.2 -0.6
comp=Z,1.6nm,0.6s,baz=47,slow=6.2,SNR=6.3
comp=Z,1.6nm,0.6s
FINES FINESS Array B 61.08 359 P P 06 01 15.0 -1.2
comp=Z,0.9nm,0.5s,baz=23,slow=7.2,SNR=9.8
FINES PcP PcP 06 01 57.1 -0.8
comp=Z,2.1nm,0.7s,baz=343,slow=2.9,SNR=4.3
comp=Z,0.9nm,0.5s
HFS Hagfors 62.14 6 P P 06 01 22.1 -1.3
comp=Z,0.8nm,0.3s,baz=28,slow=3.5,SNR=6.9
comp=Z,0.8nm,0.3s
KURBB Kurchatov Arra 62.94 324 P P 06 01 27.8 -1.0
comp=Z,0.6nm,0.4s,baz=25,slow=6.5,SNR=5.8
KURBB PcP PcP 06 02 05.0 -0.7
comp=Z,1.8nm,0.6s,baz=33,slow=4.1,SNR=11
comp=Z,0.6nm,0.4s
BVAR Borovoye Array 63.16 330 P P 06 01 29.5 -0.8
comp=Z,2.4nm,0.6s,baz=33,slow=6.9,SNR=12
comp=Z,2.4nm,0.6s
MKAR Makanchi Array 65.02 320 P P 06 01 41.5 -1.1
comp=Z,1.1nm,0.5s,baz=36,slow=6.9,SNR=17
comp=Z,1.1nm,0.5s
EKA Eskdalemuir Ar 65.16 16 P P 06 01 43.0 -0.3
comp=Z,0.7nm,0.5s,baz=324,slow=6.4,SNR=4.5
comp=Z,0.7nm,0.5s
ABKAR Akbulak array 69.19 335 P P 06 02 08.0 -0.8
ABKAR IAmb IAmb 06 02 08.6
comp=Z,3.7nm,0.8s
CLL Collm 70.90 7 *i* P P 06 02 23.8 +4.6
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 71.76 356 P P 06 02 22.8 -1.6
comp=Z,0.9nm,0.3s,baz=4.6,slow=5.5,SNR=6.4
comp=Z,0.9nm,0.3s
KK31 Karatay Array 72.12 326 P P 06 02 26.4 -0.3
KK31 IAmb IAmb 06 02 26.8
comp=Z,3.9nm,0.9s
KKAR Karatay Array 72.12 326 P P 06 02 26.2 -0.5
KKAR IAmb IAmb 06 02 26.8
comp=Z,3.9nm,0.9s
KSH Kashi 73.61 320 P P 06 02 39.0 +3.3
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH LR LR
comp=N,260nm,18.7s
KSH LR LR
comp=E,260nm,17.7s
KBZ Khabaz 77.56 346 P P 06 02 57.8 -0.1
comp=E,3.1nm,0.9s,baz=357,slow=8.2,SNR=4.6
comp=E,3.1nm,0.9s
TAPN Taplejung 79.77 306 *e*P P 06 03 09.5 -1.1
comp=E,9.0nm,0.5s
GUN Gumba 80.06 307 *e*P P 06 03 10.9 -1.4
comp=E,16nm,0.8s
JIRN Jiri 80.15 307 *e*P P 06 03 12.3 -0.5
comp=E,16nm,0.5s
ESDC Sonseca Array 80.16 21 P P 06 03 12.5 +0.2
comp=E,2.0nm,0.8s,baz=343,slow=5.0,SNR=14
comp=E,2.0nm,0.8s
GEYT Alibeck 80.33 333 P P 06 03 12.6 -0.6
comp=E,3.2nm,0.4s,baz=290,slow=2.1,SNR=6.9
comp=E,3.2nm,0.4s
DANN Dangsing 80.57 309 *e*P P 06 03 14.4 -0.5
comp=E,41nm,0.8s
PYUN Piuthan 81.11 310 *e*P P 06 03 17.0 -0.7
comp=E,42nm,1.0s
CMAR Chiang Mai Arr 82.14 292 P P 06 03 22.0 -0.9
comp=E,2.7nm,0.6s,baz=11,slow=5.7,SNR=16
comp=E,2.7nm,0.6s
BRTR Keskin Array B 82.47 352 P P 06 03 23.7 -0.9
comp=E,1.2nm,0.7s,baz=44,slow=3.0,SNR=5.9
comp=E,1.2nm,0.7s
WRA Warramunga Arr 96.22 242 P P 06 04 28.6 -1.4
comp=E,0.5nm,0.6s,baz=32,slow=5.6,SNR=8.0
comp=E,0.5nm,0.6s
ASAR Alice Springs 99.62 241 P Pdif 06 04 45.1 -0.1
comp=E,0.2nm,0.6s,baz=23,slow=4.9,SNR=1.9
comp=E,0.2nm,0.6s
QSPA South Pole Qui 147.59 180 PKPbc PKPbc 06 10 44.1 -0.1
comp=E,4.9nm,0.9s,baz=10,slow=1.2,SNR=16
BOSA Boshof 150.80 357 PKPbc PKPbc 06 10 53.0 -0.5
comp=E,7.5nm,0.8s,baz=4.0,slow=1.9,SNR=11

---

*JMA **12** 06:04:08.3±0.1, 43.°1N±0.°5×145.°8E±0.°6, h46km, MD3.8/40, MV4.0/40, OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
*MOS **12** 06:04:08.0±1.0, 43.°10N×145.°83E, h54km, mb4.3/5, Error ellipse: s-maj=12.8km s-min=8.4km az=92.4*
*NIED **12** 06:04:08.3, 43.°07N×145.°79E, h46km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}5.99; $M_{\theta\theta}$-3.06; $M_{\phi\phi}$-2.93; $M_{r\theta}$3.12; $M_{\theta\phi}$-3.29; $M_{\phi r}$4.10; Fault plane solution: $M_0$8.01000×10^{14} NP1:ϕ_s40.00000°, δ65.00000°, λ85.00000°. NP2:ϕ_s231.00000°, δ25.00000°, λ100.00000°.*
*SKHL **12** 06:04:09.2±0.5, 43.°10N×145.°90E, h55km±2km, mb4.6/3*
*IDC **12** 06:04:11.7±2.8, 43.°15N×145.°72E, h73km±24km, mb3.6/14, mbtmp3.9/17, MS2.9/1, Error ellipse: s-maj=24.5km s-min=21.3km az=11.0*
*NEIC **12** 06:04:11.2±1.3, 43.°1N±0.°1×145.°7E±0.°2, h71km±11km, mb4.1/13, Error ellipse: s-maj=19.0km s-min=12.8km az=136.0*

ISC 12 06:04:08.4±0.8,43°.06N±0°.05×145°.86E±0°.04,h44km±6km, n87,σ1ˢ18/96,mb4.0/22,2C-2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.31**	**345**	*eP*	**Pn**	**06 04 16.9**	**-0.2**
NEM2				*eS*	**Sn**	**06 04 22.9**	**-0.3**
NEM2	**Nemuro 2**	**0.31**	**345**	A	A	06 04 16.9	
	comp=E,19nm,0.5s,comp=N,17nm,0.4s						
NMR	**Nemuro--Hokkai**	**0.32**	**343**	⇓*i*PN	**Pn**	**06 04 16.9**	**-0.3**
NMR				*eS*	**Sn**	**06 04 22.9**	**-0.5**
NMR	**Nemuro--Hokkai**	**0.32**	**343**	*i* P	**Pn**	**06 04 16.9**	**-0.3**
NMR				*eS*	**Sn**	**06 04 22.9**	**-0.5**
JKHN	**Kushirohamanak**	**0.51**	**272**	*i* P	**Pn**	**06 04 19.0**	**-0.4**
JKHN				*eS*	**Sn**	**06 04 26.5**	**-0.8**
JKHN	**Kushirohamanak**	**0.51**	**272**	A	A	06 04 19.0	
	comp=E,11nm,1.4s,comp=N,17nm,0.5s						
AKK	**Akkeshi**	**0.74**	**267**	*eP*	**Pn**	**06 04 21.8**	**-0.7**
JAK	**Akkeshi**	**0.85**	**266**	*eP*	**Pn**	**06 04 23.3**	**-0.7**
JAK				*eS*	**Sn**	**06 04 34.4**	**-1.0**
JAK	**Akkeshi**	**0.85**	**266**	A	A	06 04 23.3	
	comp=E,9.0nm,0.6s,comp=N,7.0nm,0.4s						
JNSB	**Nemuroshibetsu**	**0.94**	**319**	P	**Pn**	**06 04 24.8**	**-0.5**
JNSB				*eS*	**Sn**	**06 04 36.8**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**0.97**	**0***c*	*i*PN	**Pn**	**06 04 25.0**	**-0.6**
YUK				*eS*	**Sn**	**06 04 37.3**	**-1.0**
YUK				pmax	pmax		
	comp=Z,3μm,0.3s						
YUK				pmax	pmax		
	comp=N,417nm,0.4s						
YUK				pmax	pmax		
	comp=E,512nm,0.2s						
YUK				smax	smax		
	comp=N,4μm,0.4s						
YUK				smax	smax		
	comp=E,5μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.97**	**0**	*i* P	**Pn**	**06 04 25.3**	**-0.3**
YUK				AMB	AMB	06 04 26.3	
	comp=E,3μm,0.3s						
YUK				*eS*	**Sn**	**06 04 37.5**	**-0.8**
YUK				A	A	06 04 39.4	
	comp=E,4μm,0.5s						
YUK				A	A	06 04 39.4	
	comp=E,5μm,0.5s						
JNK	**Nakash**	**0.98**	**303**	*eP*	**Pn**	**06 04 25.0**	**-0.7**
JNK				*eS*	**Sn**	**06 04 36.8**	**-1.7**
JNK	**Nakash**	**0.98**	**303**	A	A	06 04 25.0	
	comp=E,5.0nm,0.8s,comp=N,7.0nm,7.2s						
JRA	**Rausu**	**1.02**	**329**	*eP*	**Pn**	**06 04 26.0**	**-0.3**
JRA				*eS*	**Sn**	**06 04 39.1**	**-0.4**
SHO	**Shikotan**	**1.07**	**41**	*e*PN	**Pn**	**06 04 26.4**	**-0.6**
SHO				*eS*	**Sn**	**06 04 39.4**	**-1.4**
SHO				pmax	pmax		
	comp=E,31nm,0.3s						
SHO				pmax	pmax		
	comp=Z,44nm,0.3s						
SHO				pmax	pmax		
	comp=N,25nm,0.2s						
SHO				smax	smax		
	comp=E,834nm,0.2s						
SHO				smax	smax		
	comp=N,499nm,0.4s						
SHO	**Shikotan**	**1.07**	**41**	*eP*	**Pn**	**06 04 26.4**	**-0.6**
SHO				AMB	AMB	06 04 26.9	
	comp=N,30nm,0.2s						
SHO				*eS*	**Sn**	**06 04 39.4**	**-1.4**
SHO				A	A	06 04 40.6	
	comp=N,590nm,0.4s						
SHO				A	A	06 04 40.6	
	comp=N,630nm,0.4s						
RUSJ	**Misakicho**	**1.13**	**337**	⇓*i*PN	**Pn**	**06 04 28.0**	**+0.2**
RUSJ				*eS*	**Sn**	**06 04 43.2**	**+1.1**
JOB	**Onbets**	**1.49**	**265**	*eP*	**Pn**	**06 04 32.1**	**-0.6**
JOB				*eS*	**Sn**	**06 04 49.7**	**-1.2**
JAR	**Ashorobuto**	**1.54**	**279**	*eP*	**Pn**	**06 04 33.2**	**-0.3**
JAR				*eS*	**Sn**	**06 04 51.0**	**-1.3**
JTKR	**Abashiri--Toko**	**1.68**	**303**	*eP*	**Pn**	**06 04 35.7**	**+0.4**
JTKR				*eS*	**Sn**	**06 04 55.5**	**-0.1**
ERM	**Erimo**	**2.25**	**243**		**Pn**	**06 04 44.8**	**+1.6**
ERM	**Erimo**	**2.25**	**243**	⇑*e*PN	**Pn**	**06 04 45.3**	**+2.1**
JKA	**Kamikawa-asahi**	**2.59**	**295**		**Pn**	**06 04 49.2**	**+1.4**
JKA	**Kamikawa-asahi**	**2.59**	**295**	*eP*	**Pn**	**06 04 49.2**	**+1.4**
ASAJ	**Asahikawa**	**2.59**	**295**	P	**Pn**	**06 04 49.2**	**+1.4**
	comp=N,48nm,0.4s,baz=114,slow=11,SNR=20						
ASAJ				S	**Sn**	**06 05 22.5**	**+4.4**
	comp=N,112nm,0.4s,baz=169,slow=20,SNR=12						
ASAJ				LR	LR	06 06 06.0	
	comp=N,228nm,18.8s,baz=157,slow=46						
KUR	**Kuril'sk**	**2.61**	**33**	*e*PN	**Pn**	**06 04 50.2**	**+2.2**
KUR				*i* S	**Sn**	**06 05 19.9**	**+1.4**
KUR				pmax	pmax		
	comp=Z,70nm,0.4s						
KUR				pmax	pmax		
	comp=N,29nm,0.3s						
KUR				pmax	pmax		
	comp=E,28nm,0.2s						
KUR				smax	smax		
	comp=N,227nm,0.6s						
KUR				smax	smax		
	comp=E,120nm,0.4s						
KUR	**Kuril'sk**	**2.61**	**33**	*eP*	**Pn**	**06 04 49.5**	**+1.5**
KUR				AMB	AMB	06 04 51.7	
	comp=E,70nm,0.4s						
KUR				*i* S	**Sn**	**06 05 19.9**	**+1.4**
KUR				A	A	06 05 28.9	
	comp=E,370nm,0.4s						
KUR				A	A	06 05 28.9	
	comp=E,250nm,0.4s						
JTM	**Tenmabayashi**	**4.23**	**239**	Pn	**Pn**	**06 05 11.3**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.47**	**332**	*e*PN	**Pn**	**06 05 15.5**	**+1.9**
YSS				*eS*	**Sn**	**06 06 04.4**	**+0.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax	smax		
	comp=N,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**4.47**	**332**	*e*P	**Pn**	**06 05 15.5**	**+1.9**
YSS				*eS*	**Sn**	**06 06 04.4**	**+0.1**
JMM	**Marumori**	**6.47**	**218**	Pn	**Pn**	**06 05 40.8**	**-0.2**
MJAR	**Matsushiro Arr**	**8.77**	**225**	P	**Pn**	**06 06 15.2**	**+2.5**
	comp=Z,1.0nm,0.3s,baz=25,slow=11,SNR=1.5						
KLR	**Kul'dur**	**11.56**	**307**	P	**Pn**	**06 06 53.7**	**+3.0**
	comp=Z,0.8nm,0.4s,baz=21,slow=9.4,SNR=2.4						
PETK	**Petropavlovsk-**	**12.78**	**34**	Pn	**Pn**	**06 07 09.2**	**+2.0**
PETK	**Petropavlovsk-**	**12.78**	**34**	PN	**Pn**	**06 07 09.3**	**+2.0**
JMN	**Monobe**	**13.22**	**229**	Pn	**Pn**	**06 07 11.8**	**-1.6**
SONM	**Songino Array**	**27.87**	**294**	P	**P**	**06 09 53.0**	**-0.9**
SONM	**Songino Array**	**27.87**	**294**	*e*P	**P**	**06 09 54.6**	**+0.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**27.87**	**294**	P	**P**	**06 09 53.9**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=88,slow=8.9,SNR=6.9						
	comp=Z,1.4nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.23**	**136**	T	T	06 41 01.5	
	baz=328,slow=75,SNR=922						
H11N1	**WAKE ISLAND Hy**	**29.24**	**136**	T	T	06 41 02.4	
	baz=328,slow=75,SNR=849						
H11N3	**WAKE ISLAND Hy**	**29.25**	**136**	T	T	06 41 02.9	
	baz=328,slow=75,SNR=903						
H11S1	**WAKE ISLAND Hy**	**30.16**	**138**	T	T	06 42 09.4	
	baz=329,slow=76,SNR=2382						
H11S3	**WAKE ISLAND Hy**	**30.17**	**138**	T	T	06 42 09.9	
	baz=329,slow=76,SNR=850						
H11S2	**WAKE ISLAND Hy**	**30.18**	**138**	T	T	06 42 11.5	
	baz=329,slow=76,SNR=1293						
H18K	**Honhosa River**	**37.74**	**35**	P	**P**	**06 11 20.4**	**+0.9**
H18K				IAmb	IAmb	06 11 38.8	
	comp=Z,4.3nm,1.0s						
H19K	**Roundabout Mou**	**38.59**	**34**	P	**P**	**06 11 27.4**	**+0.8**
B20K	**Meade River**	**39.09**	**27**	P	**P**	**06 11 30.6**	**-0.1**
IMAR	**Indian Mountai**	**39.74**	**34**	P	**P**	**06 11 37.3**	**+1.0**
G21K	**Allakaket**	**39.88**	**33**	P	**P**	**06 11 38.4**	**+0.9**
G21K				IAmb	IAmb	06 11 42.1	
	comp=Z,2.9nm,1.1s						
D22K	**Ayikyak River**	**40.45**	**29**	P	**P**	**06 11 42.1**	**0.0**
ZALV	**Zalesovo Beam**	**40.66**	**307**	PcP	**PcP**	**06 13 44.1**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=106,slow=3.1,SNR=3.1						
H24K	**Noodor Dome**	**42.14**	**34**	P	**P**	**06 11 57.0**	**+0.9**
ILAR	**Eielson Array**	**42.60**	**36**	*e*P	**P**	**06 12 02.2**	**+2.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**42.60**	**36**	P	**P**	**06 11 59.7**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=272,slow=9.1,SNR=4.7						
	comp=Z,0.5nm,0.8s						
D25K	**Kavik River**	**42.74**	**29**	P	**P**	**06 12 01.4**	**+0.4**
D25K				IAmb	IAmb	06 12 15.9	
	comp=Z,3.5nm,1.1s						
RIDG	**Independent Ri**	**43.57**	**37**	P	**P**	**06 12 08.0**	**+0.3**
RIDG				IAmb	IAmb	06 12 32.8	
	comp=Z,3.7nm,1.2s						
SCRK	**Sand Creek**	**43.92**	**37**	P	**P**	**06 12 10.5**	**-0.1**
SCRK				IAmb	IAmb	06 12 31.9	
	comp=Z,2.3nm,1.0s						
MKAR	**Makanchi Array**	**44.07**	**298**	*e*P	**P**	**06 12 11.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**44.07**	**298**	*e*P	**P**	**06 12 11.7**	**-0.2**
MKAR	**Makanchi Array**	**44.07**	**298**	P	**P**	**06 12 10.5**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=84,slow=9.4,SNR=11						
	comp=Z,1.6nm,0.7s						
KURK	**Kurchatov**	**45.13**	**304**	P	**P**	**06 12 19.9**	**-0.4**
KURK				IAmb	IAmb	06 12 21.9	
	comp=Z,1.9nm,0.7s						
KURK	**Kurchatov**	**45.13**	**304**	P	**P**	**06 12 19.9**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**45.22**	**304**	P	**P**	**06 12 20.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=71,slow=8.9,SNR=9.7						
KURBB				PcP	**PcP**	**06 13 59.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=89,slow=3.4,SNR=3.2						
	comp=Z,1.2nm,0.6s						
BVAR	**Borovoye Array**	**49.21**	**309**	P	**P**	**06 12 51.2**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=66,slow=8.1,SNR=4.4						
	comp=Z,0.8nm,0.4s						
BOOM	**Boomskoye usch**	**49.91**	**295**	P	**P**	**06 12 56.9**	**-0.8**
BOOM	**Boomskoye usch**	**49.91**	**295**	P	**P**	**06 12 56.9**	**-0.8**
BOOM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**56.76**	**309**	P	**P**	**06 13 45.7**	**-1.9**
ABKAR				IAmb	IAmb	06 13 48.0	
	comp=Z,2.4nm,1.1s						
WRA	**Warramunga Arr**	**63.58**	**192**	P	**P**	**06 14 35.2**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=8.0,slow=6.9,SNR=1.3						
	comp=Z,0.2nm,0.7s						
FINES	**FINESS Array B**	**65.05**	**333**	*i* P	**P**	**06 14 43.2**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**65.05**	**333**	P	**P**	**06 14 42.7**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=50,slow=8.0,SNR=6.6						
	comp=Z,1.3nm,0.7s						
NVAR	**Mina Array Bea**	**68.74**	**57**	P	**P**	**06 15 08.7**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=303,slow=6.9,SNR=3.7						
	comp=Z,0.4nm,0.7s						
KBZ	**Khabaz**	**69.54**	**311**	*e*P	**P**	**06 15 12.9**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KBZ	**Khabaz**	**69.54**	**311**	*e*P	**P**	**06 15 12.9**	**+0.5**
KBZ	**Khabaz**	**69.54**	**311**	P	**P**	**06 15 12.1**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=18,slow=4.4,SNR=4.4						
	comp=Z,1.6nm,0.6s						
NB2	**NORSAR Subarra**	**69.90**	**338**	P	**P**	**06 15 13.3**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.90**	**338**	*e*P	**P**	**06 15 13.1**	**-1.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**69.90**	**338**	P	**P**	**06 15 13.4**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=33,slow=6.3,SNR=5.7						
	comp=Z,1.9nm,0.8s						
HFS	**Hagfors**	**69.95**	**337**	P	**P**	**06 15 14.0**	**-0.7**
HFS	**Hagfors**	**69.95**	**337**	P	**P**	**06 15 14.0**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=48,slow=6.6,SNR=7.0						
	comp=Z,4.4nm,0.8s						
AKASG	**Malin Array Be**	**71.57**	**323**	P	**P**	**06 15 23.6**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=40,slow=5.7,SNR=8.5						
	comp=Z,0.8nm,0.4s						
EKA	**Eskdalemuir Ar**	**78.50**	**343**	P	**P**	**06 16 04.3**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=41,slow=5.7,SNR=2.0						
	comp=Z,1.5nm,0.6s						
TXAR	**Lajitas Array**	**83.82**	**55**	P	**P**	**06 16 33.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=297,slow=4.0,SNR=5.1						
	comp=Z,0.3nm,0.7s						
H03N2	**Juan Fernandez**	**143.91**	**90**	T	T	09 04 37.4	
	baz=301,slow=77,SNR=6.1						
H03N3	**Juan Fernandez**	**143.92**	**90**	T	T	09 04 36.1	
	baz=301,slow=77,SNR=8.1						
H03N1	**Juan Fernandez**	**143.93**	**90**	T	T	09 04 38.6	
	baz=301,slow=77,SNR=8.1						

*IDC **12** 06:12:35.1±0.5,36°.68N×141°.99E,h0km,mb4.9/34, mbtmp4.9/40,ML4.3/5,MS4.4/69,Error ellipse: s-maj=13.9km s-min=12.2km az=131.0*

*BJI **12** 06:12:35.7±0.0,36°.83N×141°.78E,h7km,mb5.3/77, mB5.2/54,Ms5.0/78,Ms7 4.8/75*

*NIED **12** 06:12:36.6,36°.69N×142°.14E,h26km,MW5.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.63; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-1.98; $M_{r\theta}$0.84; $M_{\theta\phi}$-1.23; $M_{\phi r}$2.84; Fault plane solution: $M_0$3.62000×10^{16} NP1:ϕ_s16.00000°, δ73.00000°,λ84.00000°. NP2:ϕ_s216.00000°,δ18.00000°, λ109.00000°.*

*JMA **12** 06:12:36.6±0.3,36°.7N±0°.7×14°.2E±°,h26km,MD5.2/34, MW5.1/34,E OFF FUKUSHIMA PREF*

JMA Felt II J1 at E OFF FUKUSHIMA PREF .

*NEIC **12** 06:12:38,36°.77N×142°.07E,h24km,Moment Tensor Solution. Duration: 1ˢ7 Moment tensor: Scale 10^{16}Nm; M_{rr}2.54; $M_{\theta\theta}$-0.77; $M_{\phi\phi}$-1.77; $M_{r\theta}$0.67; $M_{\theta\phi}$-1.16; $M_{\phi r}$2.46; Fault plane solution: $M_0$3.60000×10^{16} NP1:ϕ_s20.89000°, δ67.85000°,λ80.51000°. NP2:ϕ_s224.80000°,δ24.01000°, λ112.05000°. Principal axes: T 3.6640, Plg66.0000°, Azm274.0000°; N -0.1311, Plg9.0000°, Azm24.0000°; P -3.5329, Plg22.0000°, Azm118.0000°;*

*NEIC **12** 06:12:38,36°.77N×142°.07E,h24km*

*NEIC **12** 06:12:38.0±1.4,36°.74N±0°.05×142°.07E±0°.08,h16km±3km, mb5.1/249,Mwr4.9/21,Mww5.0/14,Error ellipse: s-maj=9.6km s-min=7.4km az=81.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.89; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$-0.59; $M_{r\theta}$0.61; $M_{\theta\phi}$-0.83; $M_{\phi r}$2.22; Fault plane solution: $M_0$2.57000×10^{16} NP1:ϕ_s17.01000°, δ78.73000°,λ76.29000°. NP2:ϕ_s248.30000°,δ17.68000°, λ139.93000°. Principal axes: T 2.4963, Plg54.0000°, Azm270.0000°; N 0.1506, Plg13.0000°, Azm20.0000°; P -2.6469, Plg32.0000°, Azm118.0000°;*

*BGR **12** 06:12:38.3,37°.03N×143°.63E,h33km,mb5.3,Ms4.7*

*NEIC **12** 06:12:38,36°.74N×142°.07E,h16km*

*MOS **12** 06:12:40.1±0.9,36°.94N×141°.91E,h33km,mb5.5/69, MS4.9/23,Error ellipse: s-maj=7.4km s-min=3.8km az=122.7*

*GCMT **12** 06:12:43.0±0.2,36°.69N±0°.02×142°.07E±0°.03,h28km±1km, MW5.1/105,Moment Tensor Solution. s57,c68; s105,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.25±.18; $M_{\theta\theta}$-0.73±.11; $M_{\phi\phi}$-2.52±.12; $M_{r\theta}$1.61±.19; $M_{\theta\phi}$-1.30±.06; $M_{\phi r}$3.91±.23; Best double couple: $M_0$5.31900×10^{16} NP1:ϕ_s24.00000°,δ71.00000°, λ87.00000°. NP2:ϕ_s212.00000°,δ19.00000°,λ98.00000°. Principal axes: T 5.3510, Plg64.0000°, Azm289.0000°; N -0.0630, Plg3.0000°, Azm24.0000°; P -5.2870, Plg26.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 06:12:39.5±0.5,36.75N±0°.03×142°.09E±0°.04,h28km±3km, h28km:pP-P,n1063,σ1ˢ46/937,mb5.2/256,MS4.8/118, 61C-47D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.09**	**289**	⇓P	**Pn**	**06 12 56.9**	**-2.1**
ONAJ	**Iwakimizuishiy**	**1.09**	**289**	A	A	06 12 56.9	
	comp=E,85nm,0.3s,comp=N,37nm,0.8s						
JFK	**Kawauchi**	**1.15**	**303**	P	**Pn**	**06 12 58.0**	**-1.8**
JFK				*eS*	**Sn**	**06 13 13.6**	**-0.9**
JFK	**Kawauchi**	**1.15**	**303**	A	A	06 12 58.0	
	comp=E,27nm,2.7s,comp=N,24nm,2.6s						
JHO	**Hitachi**	**1.23**	**264**	⇓P	**Pn**	**06 12 58.6**	**-2.2**
JHO				⇓*e*S	**Sn**	**06 13 15.0**	**-1.5**
JHO	**Hitachi**	**1.23**	**264**	A	A	06 12 58.6	
	comp=E,42nm,1.7s,comp=N,28nm,2.5s						
JFFD	**Fukushimafurud**	**1.27**	**286**	P	**Pn**	**06 12 59.2**	**-2.2**
JFFD				*eS*	**Sn**	**06 13 16.6**	**-1.0**
JFFD	**Fukushimafurud**	**1.27**	**286**	A	A	06 12 59.2	
	comp=E,28nm,1.8s,comp=N,22nm,2.1s						
JHYU	**Hitachinakayam**	**1.28**	**252**	*e*P	**Pn**	**06 12 59.5**	**-1.9**
JHYU				*eS*	**Sn**	**06 13 16.4**	**-1.3**
JHYU	**Hitachinakayam**	**1.28**	**252**	A	A	06 12 59.5	
	comp=E,86nm,2.2s,comp=N,71nm,1.3s						
JMST	**Minamisoumatoc**	**1.36**	**316**	A	A	06 13 01.5	
	comp=E,43nm,2.6s,comp=N,58nm,0.9s						
JIHU	**Itakohorinouch**	**1.48**	**238**	A	A	06 13 02.3	
	comp=E,324nm,2.0s,comp=N,180nm,1.7s						
JMM	**Marumori**	**1.52**	**317**		**Pn**	**06 13 03.7**	**-1.1**
JMM				Sn	**Sn**	**06 13 23.2**	**-0.4**
JMM	**Marumori**	**1.52**	**317**	P	**Pn**	**06 13 04.2**	**-0.6**
JMM	**Marumori**	**1.52**	**317**	⇓*i*P	**Pn**	**06 13 03.7**	**-1.1**
JMM				⇓S	**Sn**	**06 13 22.9**	**-0.7**
JMM	**Marumori**	**1.52**	**317**	A	A	06 13 03.7	
	comp=E,22nm,1.9s,comp=N,33nm,4.1s						
JYT	**Yasato**	**1.61**	**252**	A	A	06 13 04.4	
	comp=E,59nm,0.4s,comp=N,38nm,2.1s						
JOTO	**OTAMA OYAMA**	**1.61**	**300**	*i* P	**Pn**	**06 13 05.7**	**-0.5**
JOTO				S	**Sn**	**06 13 26.8**	**+0.7**
JOTO	**OTAMA OYAMA**	**1.61**	**300**	A	A	06 13 05.7	
	comp=E,82nm,0.6s,comp=N,106nm,0.4s						
JIKH	**Ishinomakikobu**	**1.63**	**343**	A	A	06 13 05.5	
	comp=E,33nm,0.8s,comp=N,24nm,0.7s						
JSMT	**Sammumatsuo**	**1.73**	**231**	A	A	06 13 05.7	
	comp=E,126nm,2.4s,comp=N,118nm,2.5s						
JSB	**Shiboa**	**1.75**	**278**	A	A	06 13 06.9	
	comp=E,142nm,1.0s,comp=N,75nm,2.9s						
JIO	**Ouri**	**1.79**	**341**	*i* P	**Pn**	**06 13 08.3**	**-0.3**
JIO				S	**Sn**	**06 13 31.2**	**+0.8**
JIO	**Ouri**	**1.79**	**341**	A	A	06 13 08.3	
	comp=E,19nm,0.5s,comp=N,12nm,1.6s						
JYAR	**Yonezawaarcadi**	**1.93**	**307**	A	A	06 13 09.8	
	comp=E,84nm,1.4s,comp=N,143nm,0.9s						
JOU	**Okura**	**1.97**	**325**	*i* P	**Pn**	**06 13 11.1**	**+0.1**
JOU				S	**Sn**	**06 13 36.8**	**+2.1**
JOU	**Okura**	**1.97**	**325**	A	A	06 13 11.1	
	comp=E,76nm,0.6s,comp=N,91nm,1.0s						
JFY	**Yanaizu**	**2.01**	**290**	A	A	06 13 10.9	
	comp=E,24nm,2.2s,comp=N,28nm,3.2s						
JCN	**Nagara**	**2.03**	**229**	A	A	06 13 10.0	
	comp=E,126nm,3.5s,comp=N,109nm,3.7s						
I30JP	**ISUMI INFRASON**	**2.04**	**225**	Pn	**Pb**	**06 13 16.0**	**+0.2**
	baz=57,slow=16						
JOFO	**Osakifurukawao**	**2.07**	**334**	A	A	06 13 11.8	
	comp=E,141nm,1.8s,comp=N,176nm,1.5s						
JKMT	**Kesennumamotoy**	**2.11**	**347**	A	A	06 13 12.4	
	comp=E,16nm,1.6s,comp=N,13nm,4.2s						
JAG	**Ashikaga**	**2.14**	**262**	⇓*i*P	**Pn**	**06 13 12.1**	**-1.3**
JAG				⇓*e*S	**Sn**	**06 13 39.0**	**-0.2**
JAG	**Ashikaga**	**2.14**	**262**	A	A	06 13 12.1	
	comp=E,21nm,0.9s,comp=N,26nm,1.7s						
TOK	**Tokyo**	**2.16**	**241**	A	A	06 13 12.2	
	comp=E,86nm,2.6s,comp=N,75nm,2.2s						
JYS	**Shiratake**	**2.17**	**313**	A	A	06 13 13.4	
	comp=E,45nm,0.9s,comp=N,46nm,1.4s						
JKUC	**kamogawauchiur**	**2.21**	**224**	A	A	06 13 12.5	
	comp=E,37nm,4.0s,comp=N,23nm,2.2s						
JKT	**Katashina**	**2.28**	**271**	A	A	06 13 14.4	
	comp=E,32nm,0.5s,comp=N,31nm,1.8s						
BSO1	**Boso 1**	**2.28**	**204**	P	**Pn**	**06 13 13.5**	**-1.4**
BSO1				S	**Sn**	**06 13 41.1**	**-0.7**
JMK	**Ichinoseki**	**2.30**	**343**	P	**Pn**	**06 13 15.9**	**+0.3**
JMK				*eS*	**Sn**	**06 13 44.4**	**+1.5**
JMK	**Ichinoseki**	**2.30**	**343**	A	A	06 13 15.9	
	comp=E,19nm,2.0s,comp=N,13nm,3.6s						
OFUJ	**Ofunato**	**2.34**	**352**	A	A	06 13 15.8	
	comp=E,13nm,2.9s,comp=N,12nm,0.8s						
JHU	**Hanno**	**2.44**	**249**	A	A	06 13 16.3	
	comp=E,19nm,1.4s,comp=N,18nm,2.7s						
JNS	**Sasagawa**	**2.45**	**297**	P	**Pn**	**06 13 18.9**	**+1.2**
JNS				*eS*	**Sn**	**06 13 48.2**	**+1.5**
JNS	**Sasagawa**	**2.45**	**297**	A	A	06 13 18.9	
	comp=E,17nm,2.5s,comp=N,11nm,2.6s						
JUON	**Uonuma**	**2.47**	**281**	A	A	06 13 17.3	
	comp=E,15nm,4.6s,comp=N,10.0nm,3.1s						
TATJ	**Tateyama 2**	**2.48**	**227**	A	A	06 13 16.4	
	comp=E,53nm,2.6s,comp=N,50nm,3.4s						
JYO	**Yokosk**	**2.49**	**233**	A	A	06 13 16.7	
	comp=E,53nm,4.6s,comp=N,49nm,3.7s						
JYK	**Kaneyama**	**2.56**	**328**	P	**Pn**	**06 13 20.8**	**+1.7**
JYK				*eS*	**Sn**	**06 13 52.4**	**+3.1**
JYK	**Kaneyama**	**2.56**	**328**	A	A	06 13 20.8	
	comp=E,19nm,3.2s,comp=N,14nm,4.3s						
JSGW	**Sagamiharawaka**	**2.60**	**245**	A	A	06 13 18.5	
	comp=E,32nm,1.3s,comp=N,28nm,1.2s						
JYA	**Atsumi**	**2.63**	**315**	A	A	06 13 19.9	
	comp=E,24nm,2.3s,comp=N,26nm,1.9s						
JRY	**Ryogami san**	**2.67**	**255**	*i* P	**Pn**	**06 13 19.5**	**-1.2**
JRY				S	**Sn**	**06 13 51.1**	**-1.1**
JRY	**Ryogami san**	**2.67**	**255**	A	A	06 13 19.5	
	comp=E,22nm,0.9s,comp=N,21nm,1.0s						
JGK	**Kuni**	**2.78**	**267**	A	A	06 13 21.5	
	comp=E,34nm,1.8s,comp=N,26nm,3.6s						
JOM	**Ohasama**	**2.79**	**347**	A	A	06 13 22.1	
	comp=E,20nm,4.5s,com

JHHS	**Hirosakihyakuz**	**4.12 341**	A	A	06 13 41.0	
	comp=E,24nm,4.2s,comp=N,40nm,2.2s					
JAO	**Obara**	**4.19 251**	A	A	06 13 41.1	
	comp=E,20nm,1.6s,comp=N,14nm,1.9s					
INU	**Inuyama**	**4.34 253**		**Pn**	**06 13 44.4**	**+0.8**
INU	**Inuyama**	**4.34 253**	P	**Pn**	**06 13 44.6**	**+1.0**
JICN	**Ichinomiyachia**	**4.49 253**	A	A	06 13 45.4	
	comp=E,16nm,2.6s,comp=N,23nm,2.7s					
JAHD	**Aomorihigashid**	**4.54 353**	A	A	06 13 46.9	
	comp=E,21nm,1.0s,comp=N,24nm,1.2s					
ERM	**Erimo**	**5.32 9**		**Pn**	**06 13 55.7**	**-1.3**
ERM	**Erimo**	**5.32 9**	P	**Pn**	**06 13 56.8**	**-0.2**
ERM	**Erimo**	**5.32 9**	*de*P	**Pn**	**06 13 56.4**	**-0.6**
ERM			pmax	pmax		
	comp=Z,151nm,1.0s					
JEM	**Erimo**	**5.32 9**	P	**Pn**	**06 13 58.0**	**+0.9**
NMR	**Nemuro--Hokkai**	**7.17 22**	⇓*i*P	**Pn**	**06 14 20.1**	**-2.4**
NMR			*e*S	**Sn**	**06 15 36.1**	**-6.9**
JMN	**Monobe**	**7.36 248**	Pn	**Pn**	**06 14 25.1**	**-0.1**
JMN	**Monobe**	**7.36 248**	P	**Pn**	**06 14 25.6**	**+0.4**
ASAJ	**Asahikawa**	**7.36 3**	Pn	**Pn**	**06 14 25.1**	**-0.1**
	comp=Z,7.7nm,0.3s,baz=208,slow=6.5,SNR=15					
ASAJ			Sn	**Sn**	**06 15 52.1**	**+4.3**
	comp=Z,6.0nm,0.3s,baz=342,slow=28,SNR=3.6					
	comp=Z,60nm,0.8s					
JKA	**Kamikawa-asahi**	**7.36 3**	Pn	**Pn**	**06 14 24.2**	**-0.9**
RUSJ	**Misakicho**	**7.73 17**	⇑*i*P	**Pn**	**06 14 30.2**	**+0.1**
RUSJ			*e*S	**Sn**	**06 15 52.9**	**-3.7**
YUK	**Yuzh-Kuril'sk**	**7.82 20**	*e*P	**Pn**	**06 14 29.7**	**-1.7**
YUK			*e*S	**Sn**	**06 15 52.8**	**-6.1**
YUK			pmax	pmax		
	comp=E,108nm,0.4s					
YUK			pmax	pmax		
	comp=Z,324nm,0.4s					
YUK			pmax	pmax		
	comp=N,75nm,0.2s					
YUK			MLR	MLR		
	comp=Z,2μm,16.0s					
SHO	**Shikotan**	**7.98 26**	*e*P	**Pn**	**06 14 31.5**	**-2.0**
SHO			*e*S	**Sn**	**06 15 54.7**	**-8.1**
SHO			pmax	pmax		
	comp=Z,29nm,0.4s					
SHO			pmax	pmax		
	comp=E,14nm,0.2s					
SHO			pmax	pmax		
	comp=N,20nm,0.3s					
TEY	**Ternei**	**9.25 335**	⇑*e*P	**Pn**	**06 14 52.2**	**+1.2**
TEY			pmax	pmax		
	comp=N,10.0nm,0.9s					
TEY			pmax	pmax		
	comp=E,10.0nm,0.9s					
TEY			pmax	pmax		
	comp=Z,20nm,0.9s					
TEY			pmax	pmax		
	comp=N,150nm,0.8s					
TEY			pmax	pmax		
	comp=E,70nm,0.8s					
TEY			pmax	pmax		
	comp=Z,110nm,0.8s					
TEY			MLR	MLR		
	comp=N,100nm,12.0s					
TEY			MLR	MLR		
	comp=E,100nm,12.0s					
TEY			MLR	MLR		
	comp=Z,100nm,16.0s					
KUR	**Kuril'sk**	**9.53 25**	P	Pn	06 15 02.4	+7.6
KUR			*e*S	**Sn**	**06 16 34.3**	**-6.6**
KUR			pmax	pmax		
	comp=Z,94nm,0.6s					
KUR			smax	smax		
	comp=E,213nm,0.6s					
KUR			smax	smax		
	comp=N,94nm,0.8s					
JCJ	**Chichijima**	**9.63 179**		Pn	06 14 51.4	-4.9
JCJ	**Chichijima**	**9.63 179**	Pn	Pn	06 14 46.7	-10
	comp=N,11nm,0.3s,baz=290,slow=23,SNR=16					
JCJ			Sn	Sn	06 16 27.7	-16
	comp=N,38nm,0.3s,baz=256,slow=22,SNR=7.5					
JNU	**Nakatsue**	**9.89 252**	Pn	**Pn**	**06 15 00.5**	**+0.6**
JNU	**Nakatsue**	**9.89 252**	P	**Pn**	**06 15 01.2**	**+1.4**
JNU	**Nakatsue**	**9.89 252**	Pn	**Pn**	**06 15 00.8**	**+1.0**
	comp=N,1.7nm,0.3s,baz=72,slow=7.4,SNR=17					
JNU			LR	LR	06 18 58.5	
	comp=N,3μm,18.9s,baz=69,slow=39					
VLA	**Vladivostok**	**10.08 312**	*c i*P	**Pn**	**06 15 04.2**	**+1.8**
YSS	**Yuzh-Sakhalins**	**10.20 3**		**Pn**	**06 15 02.4**	**-1.6**
YSS	**Yuzh-Sakhalins**	**10.20 3**	P	**Pn**	**06 15 04.2**	**+0.2**
	comp=N,92nm,0.9s					
YSS	**Yuzh-Sakhalins**	**10.20 3**	*e*P	**Pn**	**06 15 03.3**	**-0.7**
YSS			*e*S	**Sn**	**06 16 53.3**	**-4.2**
YSS			pmax	pmax		
	comp=Z,90nm,1.0s					
YSS			pmax	pmax		
	comp=Z,500nm,4.1s					
YSS			smax	smax		
	comp=E,300nm,3.6s					
YSS			MLR	MLR		
	comp=Z,2μm,14.0s					
YSS			MLR	MLR		
	comp=N,2μm,12.0s					
YSS			MLR	MLR		
	comp=E,2μm,14.0s					
MSHR	**Mys Shultsa**	**10.23 308**	*c i*P	**Pn**	**06 15 05.6**	**+1.1**
MSHR			pmax	pmax		
	comp=Z,123nm,0.9s					
JTU	**Tsushima**	**10.56 262**	Pn	**Pn**	**06 15 10.0**	**+1.0**
USA0B	**Ussuriysk Arra**	**10.69 317**		**Pn**	**06 15 11.8**	**+1.0**
USA0B	**Ussuriysk Arra**	**10.69 317**	*c i*P	**Pn**	**06 15 13.9**	**+3.2**
USRK	**Ussuriysk Ar.**	**10.69 317**	Pn	**Pn**	**06 15 12.0**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.69 317**	P	**Pn**	**06 15 12.0**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.69 317**	Pn	**Pn**	**06 15 12.7**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=123,slow=12,SNR=26					
USRK			LR	LR	06 19 01.8	
	comp=Z,4μm,19.7s,baz=129,slow=36					
KSRS	**Korea Array**	**11.33 278**	Pn	**Pn**	**06 15 21.9**	**+2.4**
	comp=Z,1.0nm,0.3s,baz=91,slow=14,SNR=38					
KSAR	**Wonju Array Be**	**11.37 278**		**Pn**	**06 15 21.4**	**+1.4**
KSAR	**Wonju Array Be**	**11.37 278**	P	**Pn**	**06 15 21.4**	**+1.4**
KS19	**Wonju Array Si**	**11.38 278**		**Pn**	**06 15 21.2**	**+1.0**
TJN	**Taejon**	**11.85 273**		**Pn**	**06 15 27.6**	**+1.0**
TJN	**Taejon**	**11.85 273**	P	**Pn**	**06 15 28.9**	**+2.3**
TJN	**Taejon**	**11.85 273**	⇓*e*P	**Pn**	**06 15 28.1**	**+1.5**
MDJ	**Mudanjiang**	**12.30 314**	P	**Pn**	**06 15 33.9**	**+1.1**
MDJ			pP	P	06 15 40.3	-4.4
MDJ			sP		06 15 42.8	
MDJ			ScS	ScS	06 28 17.4	-3.1
MDJ			pmax	pmax		
	comp=Z,18nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,360nm,4.1s					
MDJ			LR	LR		
	comp=Z,2μm,22.8s					
MDJ			LR	LR		
	comp=Z,2μm,19.5s					
MDJ			LR	LR		
	comp=Z,4μm,19.0s					
MDJ	**Mudanjiang**	**12.30 314**		**Pn**	**06 15 32.8**	**0.0**
MDJ	**Mudanjiang**	**12.30 314**	P	**Pn**	**06 15 34.8**	**+2.0**
UGL	**Uglegorsk**	**12.32 360**	*e*P	Pn	06 15 38.2	+5.3
UGL			*e*S	**Sn**	**06 17 52.7**	**+3.5**
UGL			pmax	pmax		
	comp=Z,50nm,0.4s					
UGL			smax	smax		
	comp=E,70nm,0.6s					
UGL			smax	smax		
	comp=N,80nm,0.4s					
INCN	**Inchon**	**12.36 278**	Pn	**Pn**	**06 15 31.4**	**-2.2**
INCN	**Inchon**	**12.36 278**	P	**Pn**	**06 15 31.4**	**-2.2**
TYV	**Tymovskoe**	**14.11 1**	*e*P	**P**	**06 16 03.8**	**-0.9**
TYV			pmax	pmax		
	comp=Z,200nm,2.5s					
TYV			pmax	pmax		
	comp=Z,37nm,0.6s					
TYV			MLR	MLR		
	comp=N,4μm,16.0s					
TYV			MLR	MLR		
	comp=Z,2μm,16.0s					
CN2	**Changchun**	**14.51 304**	*e*P	**Pn**	**06 16 01.6**	**-1.3**
CN2			*es*P	P	06 16 10.0	+0.8
CN2			*e*S	**Sn**	**06 18 42.8**	**+0.1**
CN2			pmax	pmax		
	comp=Z,20nm,1.1s					
CN2			pmax	pmax		
	comp=Z,300nm,4.0s					
CN2			LR	LR		
	comp=Z,2μm,14.0s					
CN2			LR	LR		
	comp=Z,3μm,14.0s					
CN2			LR	LR		
	comp=Z,3μm,16.0s					
KLR	**Kul'dur**	**14.56 332**	Pn	**Pn**	**06 16 01.7**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=130,slow=11,SNR=10					
KLR			LR	LR	06 21 36.1	
	comp=Z,3μm,18.8s,baz=146,slow=37					
	comp=Z,2.8nm,0.6s					
GRNR	**Gornyy**	**14.59 346**	⇑*i*P	**Pn**	**06 16 02.0**	**-1.9**
GRNR			pmax	pmax		
	comp=Z,8.0nm,0.8s					
GRNR			MLR	MLR		
	comp=E,1μm,15.0s					
GRNR			MLR	MLR		
	comp=N,1μm,14.0s					
GRNR			MLR	MLR		
	comp=Z,2μm,14.0s					
SNY	**Shenyang**	**15.19 295**	⇓P	**Pn**	**06 16 11.2**	**-0.9**
SNY			pmax	pmax		
	comp=Z,25nm,1.1s					
SNY			pmax	pmax		
	comp=Z,190nm,3.5s					
SNY			LR	LR		
	comp=Z,1μm,13.5s					
SNY			LR	LR		
	comp=Z,4μm,14.7s					
SNY			LR	LR		
	comp=Z,5μm,15.2s					
JOW	**Kunigami**	**15.34 234**		**Pn**	**06 16 12.5**	**-1.6**
JOW	**Kunigami**	**15.34 234**	Pn	**Pn**	**06 16 12.8**	**-1.3**
	comp=Z,2.3nm,0.3s,baz=32,slow=9.5,SNR=3.7					
JOW			LR	LR	06 21 55.7	
	comp=Z,1μm,21.1s,baz=42,slow=37					
	comp=Z,10nm,0.8s					
DL2	**Dalian**	**16.31 284**	P	**Pn**	**06 16 25.4**	**-1.1**
DL2			S	**Sn**	**06 19 23.4**	**-3.1**
DL2			pmax	pmax		
	comp=Z,60nm,0.9s					
DL2			pmax	pmax		
	comp=Z,590nm,11.8s					
DL2			LR	LR		
	comp=Z,2μm,11.9s					
DL2			LR	LR		
	comp=Z,3μm,13.5s					
DL2			LR	LR		
	comp=Z,4μm,17.9s					
OKH	**Okha**	**16.81 2**	*de*P	**Pn**	**06 16 29.8**	**-2.9**
OKH			pmax	pmax		
	comp=Z,100nm,12.7s					
OKH			MLR	MLR		
	comp=N,2μm,15.0s					
OKH			MLR	MLR		
	comp=E,2μm,15.0s					
OKH			MLR	MLR		
	comp=Z,2μm,15.0s					
HEH	**HeiHe**	**17.14 327**	*e*P	**Pn**	**06 16 34.7**	**-2.2**
HEH			pP	**P**	**06 16 40.0**	**+1.6**
HEH			S	**Sn**	**06 19 50.1**	**+3.5**
HEH			pmax	pmax		
	comp=Z,12nm,0.9s					
HEH			pmax	pmax		
	comp=Z,240nm,6.9s					
HEH			LR	LR		
	comp=Z,2μm,16.5s					
HEH			LR	LR		
	comp=Z,2μm,14.9s					
HEH			LR	LR		
	comp=Z,3μm,16.1s					
PETK	**Petropavlovsk-**	**19.66 29**	P	**P**	**06 17 07.3**	**+1.2**
	comp=Z,5.0nm,0.9s,baz=224,slow=4.0,SNR=3.8					
PETK			LR	LR	06 25 00.6	
	comp=Z,522nm,19.8s,baz=213,slow=38					
NJ2	**Nanjing**	**19.72 263**	⇓P	**P**	**06 17 04.5**	**-2.4**
NJ2			pP	**Pn**	**06 17 10.4**	**+2.0**
NJ2			sP	**pP**	**06 17 13.1**	**-0.6**
NJ2			PP	**sP**	**06 17 19.4**	**+2.5**
NJ2			pmax	pmax		
	comp=Z,40nm,0.8s					
NJ2			LR	LR		
	comp=Z,1μm,13.0s					
NJ2			LR	LR		
	comp=Z,3μm,12.8s					
NJ2			LR	LR		
	comp=Z,4μm,14.2s					
ZEA	**Zeya**	**19.87 333**	*e*P	**P**	**06 17 08.3**	**0.0**
ZEA			*e*S	S	06 20 37.2	-13
ZEA			pmax	pmax		
	comp=Z,100nm,1.6s					
ZEA			pmax	pmax		
	comp=N,50nm,0.8s					
ZEA			pmax	pmax		
	comp=E,20nm,0.8s					
ZEA			pmax	pmax		
	comp=Z,80nm,0.9s					
ZEA			smax	smax		
	comp=E,200nm,3.4s					
ZEA			smax	smax		
	comp=N,200nm,4.2s					
ZEA			MLR	MLR		
	comp=E,600nm,15.0s					
ZEA			MLR	MLR		
	comp=N,1μm,16.0s					
ZEA			MLR	MLR		
	comp=Z,1μm,16.0s					
TIA	**Tai'an**	**20.07 276**	P	**P**	**06 17 08.0**	**-2.7**
TIA			pmax	pmax		
	comp=Z,44nm,1.1s					
TIA			pmax	pmax		
	comp=Z,320nm,14.7s					
TIA			LR	LR		
	comp=Z,1μm,16.2s					
TIA			LR	LR		
	comp=Z,3μm,15.7s					
TIA			LR	LR		
	comp=Z,3μm,14.6s					
HIA	**Hailar**	**20.48 315**	P	**P**	**06 17 11.2**	**-3.8**
HIA	**Hailar**	**20.48 315**	P	**P**	**06 17 14.3**	**-0.8**
HIA	**Hailar**	**20.48 315**	P	**P**	**06 17 11.3**	**-3.8**
HIA			pmax	pmax		
	comp=Z,39nm,0.9s					
BJI	**Beijing**	**20.55 287**	P	**P**	**06 17 13.4**	**-2.4**
BJI			pmax	pmax		
	comp=Z,20nm,0.8s					
BJI			pmax	pmax		
	comp=Z,140nm,9.5s					
BJI			LR	LR		
	comp=Z,370nm,14.2s					
BJI			LR	LR		
	comp=Z,620nm,14.8s					
BJI			LR	LR		
	comp=Z,830nm,14.4s					
BJT	**Baijiatuau**	**20.55 287**	P	**P**	**06 17 12.8**	**-3.1**
BJT	**Baijiatuau**	**20.55 287**	P	**P**	**06 17 14.6**	**-1.3**
BJT	**Baijiatuau**	**20.55 287**	P	**P**	**06 17 12.8**	**-3.1**
BJT			pmax	pmax		
	comp=Z,30nm,0.8s					
XLT	**XiLinHaoTe**	**21.02 298**	⇑*i*P	**P**	**06 17 18.3**	**-2.7**
XLT			sP	pP	06 17 26.6	-1.5
XLT			S	**S**	**06 21 10.7**	**-2.9**
XLT			sS	Sn	06 21 16.3	-4.1
XLT			pmax	pmax		
	comp=Z,150nm,1.2s					
XLT			LR	LR		
	comp=Z,3μm,18.0s					
XLT			LR	LR		
	comp=Z,3μm,17.6s					
NACB	**Ninganchiao**	**21.61 240**	P	**P**	**06 17 30.7**	**+3.4**
HNS	**HongShan**	**21.83 280**	⇑P	**P**	**06 17 25.7**	**-3.9**
HNS			PP	**PnPn**	**06 17 53.3**	**+2.1**
HNS			S	**S**	**06 21 26.9**	**-2.6**
HNS			pmax	pmax		
	comp=Z,150nm,1.0s					
HNS			LR	LR		
	comp=Z,3μm,15.1s					
HNS			LR	LR		
	comp=Z,3μm,14.1s					
SSLB	**Suanglung**	**22.30 240**	IAmb	IAmb	06 17 51.4	
	comp=Z,135nm,1.6s					
TPUB	**Ta-pu**	**22.84 240**	P	**P**	**06 17 36.7**	**-3.9**
TPUB			IAmb	IAmb	06 17 52.8	
	comp=Z,72nm,0.9s					
TPUB	**Ta-pu**	**22.84 240**	P	**P**	**06 17 41.5**	**+0.9**
TWGBT	**Beinan**	**22.85 238**	P	**P**	**06 17 43.6**	**+3.0**
GUMO	**Guam**	**23.20 173**	LR	LR	06 25 48.0	
	comp=Z,245nm,21.8s,baz=18,slow=34					
QZH	**Quanzhou**	**23.29 246**	⇑*i*P	**P**	**06 17 45.6**	**+0.5**
MA2	**Magadan**	**23.52 11**	P	**P**	**06 17 46.8**	**-0.2**
MA2			IAmb	IAmb	06 17 49.3	
	comp=Z,46nm,0.8s					
MA2	**Magadan**	**23.52 11**	P	**P**	**06 17 47.9**	**+0.9**
MA2	**Magadan**	**23.52 11**	⇓*e*P	**P**	**06 17 47.3**	**+0.3**
MA2			pmax	pmax		
	comp=Z,70nm,1.3s					
MA2	**Magadan**	**23.52 11**	P	**P**	**06 17 46.9**	**-0.2**
	comp=Z,48nm,0.9s,baz=186,slow=6.9,SNR=16					
MA2			LR	LR	06 29 08.7	
	comp=Z,305nm,18.1s,baz=193,slow=42					
	comp=Z,48nm,0.9s					
TIY	**Taiyuan**	**23.59 281**	*e*P	**P**	**06 17 45.4**	**-2.6**
TIY			pmax	pmax		
	comp=Z,31nm,0.5s					
TIY			pmax	pmax		
	comp=Z,230nm,8.8s					
TIY			LR	LR		
	comp=Z,1μm,14.1s					
TIY			LR	LR		
	comp=Z,3μm,13.7s					
TIY			LR	LR		
	comp=Z,4μm,14.1s					
WHN	**Wuhan**	**23.86 263**	⇑P	**P**	**06 17 48.7**	**-1.8**
WHN			sP	**pP**	**06 17 55.1**	**-2.8**
WHN			S	**S**	**06 22 07.8**	**+2.9**
WHN			pmax	pmax		
	comp=Z,190nm,0.8s					
WHN			LR	LR		
	comp=Z,5μm,11.7s					
WHN			LR	LR		
	comp=Z,2μm,14.2s					
WHN			LR	LR		
	comp=Z,8μm,13.3s					
HHC	**Hu-ho-hao-te**	**24.07 289**	*e*P	**P**	**06 17 50.0**	**-2.6**
HHC			pP	pP	06 17 56.1	-3.8
HHC			S	**S**	**06 22 02.8**	**-5.6**
HHC			sS	pS	06 22 13.0	-3.7
HHC			pmax	pmax		
	comp=Z,59nm,0.7s					
HHC			pmax	pmax		
	comp=Z,340nm,4.6s					
HHC			LR	LR		
	comp=Z,2μm,12.3s					
HHC			LR	LR		
	comp=Z,2μm,11.9s					
HHC			LR	LR		
	comp=Z,2μm,12.1s					
LYN	**LuoYang**	**24.13 274**	⇓*i*P	**P**	**06 17 53.0**	**0.0**
LYN			pP	pP	06 17 58.7	-1.9
LYN			S	**S**	**06 22 08.4**	**-0.7**
LYN			sS	pS	06 22 18.0	+0.4
LYN			SS	**SnSn**	**06 22 56.1**	**+4.7**
LYN			pmax	pmax		
	comp=Z,160nm,1.0s					
LYN			pmax	pmax		
	comp=Z,440nm,5.2s					
LYN			LR	LR		
	comp=Z,1μm,15.1s					
LYN			LR	LR		
	comp=Z,3μm,16.8s					
LYN			LR	LR		
	comp=Z,4μm,16.2s					
BTO	**Baotou**	**25.25 289**	*e*P	**P**	**06 18 01.3**	**-2.0**
BTO			pP	**pP**	**06 18 09.8**	**-0.8**
BTO			PP	**PnPn**	**06 18 33.8**	**-4.2**
BTO			S	**S**	**06 22 25.8**	**-1.5**
BTO			SS	**SnSn**	**06 23 26.0**	**+7.1**
BTO			pmax	pmax		
	comp=Z,490nm,5.9s					
BTO			LR	LR		
	comp=Z,4μm,13.4s					
BTO			LR	LR		
	comp=Z,2μm,16.6s					
BTO			LR	LR		
	comp=Z,3μm,16.6s					
CIT	**Chita**	**25.25 316**	*e*P	**P**	**06 18 04.0**	**+0.9**
CIT			*e*		06 18 11.2	
CIT			*e*		06 18 15.4	
CIT			*e*		06 18 45.0	
CIT			*e*		06 18 51.8	
CIT			pmax	pmax		
	comp=Z,415nm,1.4s					
CNSH	**ChangSha**	**25.96 259**	⇑P	**P**	**06 18 08.4**	**-1.3**
CNSH			S	**S**	**06 22 32.4**	**-6.2**
CNSH			pmax	pmax		
	comp=Z,130nm,1.0s					
CNSH			LR	LR		
	comp=Z,1μm,13.1s					
CNSH			LR	LR		
	comp=Z,1μm,16.5s					
CNSH			LR	LR		
	comp=Z,2μm,14.1s					
YAK	**Yakutsk**	**26.46 347**	P	**P**	**06 18 14.1**	**+0.3**
YAK	**Yakutsk**	**26.46 347**	*c i*P	**P**	**06 18 13.8**	**-0.1**
YAK			*e**PP	**pP**	**06 18 18.5**	**-2.8**
YAK			*e*		06 18 53.7	
YAK			*e*		06 21 33.6	
YAK			*e*S	**S**	**06 22 48.7**	**+3.0**
YAK			*e**SS	**sS**	**06 23 01.3**	**+3.4**
YAK			*e*SS	**SnSn**	**06 23 52.0**	**+4.0**
YAK			pmax	pmax		
	comp=Z,290nm,1.0s					
YAK			pmax	pmax		
	comp=N,90nm,1.1s					
YAK			pmax	pmax		
	comp=E,20nm,1.0s					
YAK			pmax	pmax		
	comp=Z,335nm,4.2s					
YAK			pmax	pmax		
	comp=N,213nm,3.6s					
YAK			pmax	pmax		
	comp=E,107nm,3.8s					
YAK			smax	smax		
	comp=E,203nm,4.1s					
YAK			smax	smax		
	comp=N,170nm,2.7s					
YAK			MLR	MLR		
	comp=Z,2μm,18.0s					
YAK			MLR	MLR		
	comp=N,1μm,16.0s					
YAK			MLR	MLR		
	comp=E,501nm,12.0s					
SEY	**Seymchan**	**26.96 10**	⇓*e*P	**P**	**06 18 20.4**	**+2.0**
SEY			pmax	pmax		
	comp=Z,40nm,1.0s					
SEY	**Seymchan**	**26.96 10**	P	**P**	**06 18 19.7**	**+1.3**
	comp=Z,29nm,0.8s,baz=197,slow=6.6,SNR=36					
SEY			LR	LR	06 30 30.1	
	comp=Z,407nm,19.1s,baz=195,slow=40					
	comp=Z,29nm,0.8s					
XAN	**Xi'an**	**27.10 274**	P	**P**	**06 18 18.6**	**-1.4**
XAN			pP	pP	06 18 28.2	+0.6
XAN			sP	sP	06 18 32.6	+2.0
XAN			S	**S**	**06 23 01.4**	**+4.9**
XAN			pmax	pmax		
	comp=Z,79nm,1.6s					
XAN			pmax	pmax		
	comp=Z,410nm,8.7s					
XAN			LR	LR		
	comp=Z,2μm,14.1s					
XAN			LR	LR		
	comp=Z,2μm,14.1s					
XAN			LR	LR		
	comp=Z,3μm,13.7s					
SHEM	**Shemya Is, Ala**	**27.49 44**	LR	LR	06 27 29.6	
	comp=Z,409nm,19.4s,baz=216,slow=32					
H11N2	**WAKE ISLAND Hy**	**27.54 121**	T	T	06 47 47.3	
	baz=313,slow=75					
H11N1	**WAKE ISLAND Hy**	**27.55 121**	T	T	06 48 02.0	
	baz=313,slow=75					
H11N3	**WAKE ISLAND Hy**	**27.56 121**	T	T	06 47 58.8	
	baz=313,slow=75					
ENH	**Enshi**	**27.85 266**	P	**P**	**06 18 25.5**	**-1.3**
ENH	**Enshi**	**27.85 266**	P	**P**	**06 18 25.5**	**-1.3**
ULN	**Ulaanbaatar**	**27.96 304**	P	**P**	**06 18 27.5**	**-0.2**
ULN	**Ulaanbaatar**	**27.96 304**	*c i*P	**P**	**06 18 27.0**	**-0.7**
ULN			pmax	pmax		
	comp=Z,90nm,1.0s					
ULN	**Ulaanbaatar**	**27.96 304**	P	**P**	**06 18 27.3**	**-0.4**
ULN			P	**P**	**06 18 27.3**	**-0.4**
H11S1	**WAKE ISLAND Hy**	**28.25 123**	T	T	06 48 36.5	
	baz=316,slow=76					
H11S3	**WAKE ISLAND Hy**	**28.26 123**	T	T	06 48 55.5	
	baz=316,slow=76					

H11S2	WAKE ISLAND Hy	28.27	123	T	T	06 49 03.9
	baz=316,slow=76					
SONM	Songino Array	28.39	304	P	P	06 18 31.1 -0.3
SONM	Songino Array	28.39	304	P	P	06 18 31.2 -0.3
SONM				pmax	pmax	
	comp=Z,96nm,0.9s					
SONM	Songino Array	28.39	304	P	P	06 18 31.3 -0.2
	comp=Z,87nm,0.8s,baz=106,slow=8.3,SNR=238					
SONM				LR	LR	06 30 02.4
	comp=Z,912nm,19.0s,baz=112,slow=37					
	comp=Z,87nm,0.8s					
LZH	Lanzhou	30.65	280	eP	P	06 18 51.3 -0.4
LZH				S	S	06 23 57.4 +4.9
LZH				pmax	pmax	
	comp=Z,120nm,1.0s					
LZH				pmax	pmax	
	comp=Z,220nm,4.5s					
LZH				LR	LR	
	comp=Z,2μm,14.4s					
LZH				LR	LR	
	comp=Z,3μm,15.8s					
LZH				LR	LR	
	comp=Z,4μm,16.2s					
IRK	Irkutsk	30.68	312	eP	P	06 18 51.3 -0.4
IRK				pmax	pmax	
	comp=Z,39nm,1.9s					
ZAK	Zakamensk	30.86	309	eP	P	06 18 52.9 -0.5
ZAK				pmax	pmax	
	comp=Z,49nm,1.2s					
GYA	Guiyang	31.71	261⇑	iP	P	06 18 59.3 -1.8
GYA				pP	pP	06 19 07.4 -1.1
GYA				S	S	06 24 05.3 -3.9
GYA				pmax	pmax	
	comp=Z,170nm,1.0s					
GYA				LR	LR	
	comp=Z,850nm,14.9s					
GYA				LR	LR	
	comp=Z,800nm,15.9s					
GYA				LR	LR	
	comp=Z,1μm,20.8s					
CD2	Chengdu	32.22	271	P	P	06 19 04.4 -1.0
CD2				S	S	06 24 15.6 -1.3
CD2				pmax	pmax	
	comp=Z,50nm,0.8s					
CD2				LR	LR	
	comp=Z,2μm,15.9s					
CD2				LR	LR	
	comp=Z,3μm,15.3s					
MOY	Mondy	32.53	310	eP	P	06 19 08.1 +0.1
MOY				pmax	pmax	
	comp=Z,40nm,1.4s					
GTA	Gaotai	33.16	288	eP	P	06 19 13.2 -0.5
GTA				sP	sP	06 19 26.3 +1.9
GTA				PcP	PcP	06 21 57.2 +1.0
GTA				S	S	06 24 32.9 +1.3
GTA				pmax	pmax	
	comp=Z,48nm,1.0s					
GTA				pmax	pmax	
	comp=Z,200nm,5.3s					
GTA				LR	LR	
	comp=Z,1μm,14.9s					
GTA				LR	LR	
	comp=Z,620nm,14.9s					
GTA				LR	LR	
	comp=Z,740nm,16.4s					
QIZ	Qiongzhong	33.31	247	P	P	06 19 06.3 -8.7
QIZ				S	S	06 24 36.4 +2.5
QIZ				pmax	pmax	
	comp=Z,44nm,0.8s					
QIZ				LR	LR	
	comp=N,780nm,12.6s					
QIZ				LR	LR	
	comp=E,470nm,14.3s					
QIZ				LR	LR	
	comp=Z,790nm,11.8s					
QIZ	Qiongzhong	33.31	247	P	P	06 19 14.5 -0.5
QIZ				IAmb	IAmb	06 19 16.6
	comp=Z,39nm,0.9s					
QIZ	Qiongzhong	33.31	247	P	P	06 19 15.6 +0.6
KMI	Kunming	35.45	262	⇓P	P	06 19 33.1 -0.7
KMI				sP	pP	06 19 43.0 +1.7
KMI				pmax	pmax	
	comp=Z,88nm,0.9s					
KMI				pmax	pmax	
	comp=Z,290nm,4.3s					
KMI				LR	LR	
	comp=Z,670nm,14.2s					
KMI				LR	LR	
	comp=Z,1μm,15.4s					
KMI				LR	LR	
	comp=Z,1μm,18.4s					
PZH	PanZhiHua	35.61	265	⇓P	P	06 19 34.3 -0.7
PZH				pP	pP	06 19 42.9 +0.4
PZH				sP	pwP	06 19 46.4 +0.7
PZH				PP	PnPn	06 20 51.4 -3.3
PZH				S	S	06 25 11.8 +2.2
PZH				pmax	pmax	
	comp=Z,90nm,0.7s					
PZH				pmax	pmax	
	comp=Z,110nm,4.9s					
PZH				LR	LR	
	comp=Z,860nm,16.3s					
PZH				LR	LR	
	comp=Z,2μm,15.3s					
PZH				LR	LR	
	comp=Z,2μm,16.7s					
TIXI	Tiksi	35.63	353	P	P	06 19 34.3 -0.2
TIXI	Tiksi	35.63	353	P	P	06 19 34.3 -0.2
TIXI				pmax	pmax	
	comp=Z,11nm,0.8s					
SLVN	Son La	36.48	256	P	P	06 19 41.8 -0.6
SLVN				IAmb	IAmb	06 19 43.4
	comp=Z,54nm,1.2s					
GOMU	GeErMu	37.71	284	P	P	06 19 53.6 +0.5
GOMU				pP	pP	06 19 57.0 -3.6
GOMU				sP	pwP	06 20 01.2 -2.6
GOMU				S	S	06 25 38.5 -3.5
GOMU				pmax	pmax	
	comp=Z,110nm,1.1s					
GOMU				LR	LR	
	comp=Z,810nm,14.6s					
GOMU				LR	LR	
	comp=Z,1μm,14.2s					
GOMU				LR	LR	
	comp=Z,1μm,14.0s					
MYLDM	Lahad Datu	38.14	220	P	P	06 19 57.1 +0.7
TNTI	Ternate	38.31	204	P	P	06 19 55.1 -2.7
TNTI	Ternate	38.31	204	P	P	06 19 59.6 +1.8
TNTI	Ternate	38.31	204	P	P	06 19 57.3 -0.5
	comp=Z,83nm,1.4s,comp=Z,1μm					
TNCH	TengChong	38.87	265	P	P	06 20 04.3 +1.6
TNCH				pP	pP	06 20 07.4 -2.9
TNCH				S	S	06 26 02.4 +3.1
TNCH				pmax	pmax	
	comp=Z,83nm,1.2s					
TNCH				pmax	pmax	
	comp=Z,370nm,3.2s					
TNCH				LR	LR	
	comp=Z,800nm,14.2s					
TNCH				LR	LR	
	comp=Z,1μm,13.8s					
TNCH				LR	LR	
	comp=Z,2μm,15.1s					
NONG	Nongkai	38.93	252	P	P	06 20 04.0 +0.9
DLV	T Lat	39.00	239	P	P	06 20 04.9 +1.0
JAY	Jayapura	39.09	182	LR	LR	06 33 57.8
	comp=Z,204nm,20.7s,baz=351,slow=33					
CRAI	Chiangrai	39.84	257	P	P	06 20 10.5 -0.2
CRAI				IAmb	IAmb	06 20 21.8
	comp=Z,58nm,1.0s					
GTOI	Gorontalo	40.04	211	P	P	06 20 10.9 -1.4
	comp=Z,73nm,1.0s,comp=Z,593nm					
TOLI2	Tolitoli	40.57	214	P	P	06 20 15.9 -0.8
TOLI2				IAmb	IAmb	06 20 27.5
	comp=Z,46nm,1.1s					
TOLI2	Tolitoli	40.57	214	P	P	06 20 17.0 +0.3
MRSI	Marisa	40.63	212	P	P	06 20 16.8 -0.4
	comp=Z,141nm,1.3s,comp=Z,1μm					
DGZ	Jazzator, Alta	40.99	306c	iP	P	06 20 21.0 +0.9
DGZ				pmax	pmax	
	comp=Z,115nm,0.9s					
SANI	Sanana	41.41	205	P	P	06 20 23.7 +0.1
SANI	Sanana	41.41	205	P	P	06 20 22.9 -0.7
	comp=Z,128nm,0.9s,comp=Z,1μm					
WMQ	Urumqi	41.45	297	eP	P	06 20 25.6 +1.8
WMQ				pP	pP	06 20 28.8 -2.6
WMQ				sP	pwP	06 20 33.8 -0.7
WMQ				pmax	pmax	
	comp=Z,14nm,1.5s					
WMQ				LR	LR	
	comp=Z,840nm,14.1s					
WMQ				LR	LR	
	comp=Z,1μm,16.3s					
WMQ				LR	LR	
	comp=Z,830nm,22.9s					
MPSI	Mapaga	41.66	215	P	P	06 20 24.7 -0.9
	comp=Z,27nm,1.0s,comp=Z,940nm					
CHTO	Chiang Mai	41.75	257	P	P	06 20 25.4 -1.0
CHTO	Chiang Mai	41.75	257	P	P	06 20 25.4 -1.0
CHTO				pmax	pmax	
	comp=Z,1.0nm,1.0s					
KRVT	Keravat (AS076	41.89	165	LR	LR	06 38 08.1
	comp=Z,94nm,18.8s,baz=271,slow=37					
CM31	Chiang Mai Arr	41.95	256	P	P	06 20 27.7 -0.4
CM31	Chiang Mai Arr	41.95	256	P	P	06 20 28.0 -0.1
	SNR=9.0					
CM31				P	P	06 20 28.0 -0.1
	SNR=9.0					
CMAR	Chiang Mai Arr	41.95	256	P	P	06 20 27.5 -0.6
CMAR	Chiang Mai Arr	41.95	256	iP	P	06 20 27.7 -0.3
CMAR				pmax	pmax	
	comp=Z,9.0nm,0.7s					
CMAR	Chiang Mai Arr	41.95	256	P	P	06 20 27.8 -0.3
	comp=Z,6.9nm,0.6s,baz=45,slow=7.3,SNR=39					
CMAR				LR	LR	06 39 48.1
	comp=Z,529nm,19.0s,baz=55,slow=39					
	comp=Z,6.9nm,0.6s					
MND	Mandalay	42.27	263	P	P	06 20 30.6 0.0
ZAA0	Zalesovo Array	42.50	313	P	P	06 20 32.1 -0.1
ZAA0				IAmb	IAmb	06 20 33.8
	comp=Z,68nm,1.0s					
ZALV	Zalesovo Beam	42.50	313	iP	P	06 20 32.4 +0.3
ZALV				pmax	pmax	
	comp=Z,66nm,1.0s					
ZALV	Zalesovo Beam	42.50	313	P	P	06 20 31.9 -0.2
	comp=Z,65nm,0.9s,baz=92,slow=6.7,SNR=110					
ZALV				PcP	PcP	06 22 24.2 -0.2
	comp=Z,12nm,0.9s,baz=72,slow=4.7,SNR=4.6					
ZALV				LR	LR	06 38 52.2
	comp=Z,1μm,19.4s,baz=86,slow=37					
	comp=Z,65nm,0.9s					
NAYO	Nakonayok	42.61	249	P	P	06 20 34.7 +1.3
LSA	Lhasa	42.77	276	P	P	06 20 36.6 +1.4
LSA	Lhasa	42.77	276	P	P	06 20 35.5 +0.3
LSA				IAmb	IAmb	06 20 38.9
	comp=Z,44nm,1.0s					
LSA	Lhasa	42.77	276	P	P	06 20 35.5 +0.3
LSA				pmax	pmax	
	comp=Z,44nm,1.0s					
LSA	Lhasa	42.77	276	P	P	06 20 35.8 +0.5
H16K	Elim	42.88	32	P	P	06 20 35.8 +0.7
	baz=257					
ZSN	Zaisan	42.89	303⇑	iP	P	06 20 36.0 +0.6
	comp=Z,69nm,1.1s,baz=303					
ZSN	Zaisan	42.89	303c	iP	P	06 20 36.0 +0.6
ZSN				pmax	pmax	
	comp=Z,69nm,1.1s					
D17K	Noatak River	43.34	27	P	P	06 20 39.9 +1.2
	baz=253					
M16K	Timber Creek	43.77	37	P	P	06 20 43.0 +0.6
	baz=264					
N16K	Nishlik Lake	43.81	38	P	P	06 20 43.4 +0.7
	baz=265					
SBUM	Sibu	43.85	226	P	P	06 20 42.8 -0.7
SBUM				IAmb	IAmb	06 20 55.6
	comp=Z,23nm,1.1s					
H17K	Granite Mounta	43.92	31	P	P	06 20 44.4 +0.9
	baz=259					
SHL	Shillong	43.94	270	P	P	06 20 42.9 -1.5
SHL	Shillong	43.94	270	P	P	06 20 42.9 -1.5
SHL				pmax	pmax	
	comp=Z,54nm,0.8s					
SHL	Shillong	43.94	270	P	P	06 20 43.6 -0.8
	SNR=18					
E18K	Tukpahlearik C	44.19	28	P	P	06 20 46.3 +0.7
	baz=256					
L17K	Donlin	44.21	36	P	P	06 20 46.7 +0.9
	baz=264					
SRDT	SRDT	44.25	251	P	P	06 20 47.1 +0.4
K17K	Iditarod	44.28	35	P	P	06 20 46.8 +0.4
	baz=263					
C18K	Utukok River	44.29	26	P	P	06 20 47.5 +1.0
	baz=254					
M17K	Holitna River	44.54	37	P	P	06 20 49.5 +1.0
	baz=265					
O17K	Koliganek Bris	44.60	39	P	P	06 20 49.8 +0.9
	baz=267					
H18K	Honhosa River	44.60	31	P	P	06 20 50.0 +1.0
	baz=260					
G18K	Tagagawik	44.62	30	P	P	06 20 49.7 +0.6
	baz=259					
MK31	Makanchi Array	44.72	302	P	P	06 20 50.0 -0.2
MK31				IAmb	IAmb	06 20 51.2
	comp=Z,32nm,0.9s					
MK31	Makanchi Array	44.72	302	P	P	06 20 50.0 -0.2
MK31				pmax	pmax	
	comp=Z,32nm,0.9s					
MKAR	Makanchi Array	44.72	302	P	P	06 20 49.8 -0.4
MKAR	Makanchi Array	44.72	302	P	P	06 20 50.1 -0.1
	comp=Z,39nm,1.0s,baz=88,slow=9.2,SNR=107					
MKAR				LR	LR	06 39 50.7
	comp=Z,662nm,21.6s,baz=93,slow=37					
	comp=Z,39nm,1.0s					
MAKZ	Makanchi	44.93	303	P	P	06 20 51.8 -0.1
MAKZ				IAmb	IAmb	06 20 53.0
	comp=Z,34nm,0.9s					
MAKZ	Makanchi	44.93	303	P	P	06 20 51.8 -0.1
MAKZ				pmax	pmax	
	comp=Z,34nm,1.0s					
C19K	Lookout Ridge	44.97	26	P	P	06 20 52.1 +0.2
	baz=255					
N18K	Kilae Creek	45.24	38	P	P	06 20 54.5 +0.3
	baz=267					
G19K	Purcell Mounta	45.29	30	P	P	06 20 55.0 +0.6
	baz=261					
D19K	Kuna River	45.35	27	P	P	06 20 55.7 +0.8
	baz=257					
SVW2	Sparrevohn	45.42	37	P	P	06 20 57.8 +2.3
H19K	Roundabout Mou	45.45	31	P	P	06 20 56.1 +0.4
	baz=262,SNR=6.4					
E19K	Redstone River	45.46	28	P	P	06 20 56.4 +0.6
	baz=259					
BRDH	Bariadhala	45.51	267	LR	LR	06 42 54.3
	comp=Z,2μm,18.4s,baz=104,slow=40					
P18K	Big Mountain,	45.53	40	P	P	06 20 57.2 +0.8
	baz=269					
J19K	Poorman	45.62	33	P	P	06 20 57.6 +0.6
	baz=264					
KSM	Kuching	45.76	227	P	P	06 20 58.0 -0.6
KSM	Kuching	45.76	227	P	P	06 21 00.2 +1.6
L19K	White Mountain	45.82	36	P	P	06 20 59.6 +0.9
	baz=267					
D20K	Etivluk River	45.93	26	P	P	06 21 00.1 +0.6
	baz=259					
F20K	Avaraart Lake	45.97	29	P	P	06 21 01.0 +1.3
	baz=261					
E20K	Nigu River	46.00	27	P	P	06 21 00.8 +0.8
	baz=260					
B20K	Meade River	46.02	25	P	P	06 21 01.9 +1.8
	baz=257					
H20K	Anotleneega Mo	46.10	31	P	P	06 21 01.7 +0.9
	baz=263					
PMG	Port Moresby	46.16	173	P	P	06 21 01.0 -0.8
PMG				IAmb	IAmb	06 21 56.7
	comp=Z,44nm,1.4s					
PMG	Port Moresby	46.16	173	P	P	06 21 01.0 -0.8
PMG				pmax	pmax	
	comp=Z,44nm,1.4s					
I20K	Naaghedeneel	46.20	32	P	P	06 21 02.4 +0.9
	baz=264					
STKI	Sintang	46.22	225	P	P	06 21 03.8 +1.5
K20K	Telida	46.26	34	P	P	06 21 02.8 +0.7
	baz=266,SNR=5.6					
J20K	Nowinta River	46.28	33	IAmb	IAmb	06 21 16.2
	comp=Z,26nm,1.2s					
J20K	Nowinta River	46.28	33	P	P	06 21 03.2 +0.9
	baz=265,SNR=6.6					
TAPN	Taplejung	46.50	275	eP	P	06 21 04.9 +0.1
	comp=Z,230nm,1.2s					
KAPI	Kappang	46.50	211	P	P	06 21 04.4 -0.1
KAPI	Kappang	46.50	211	P	P	06 21 06.2 +1.7
KAPI	Kappang	46.50	211	P	P	06 21 04.4 -0.1
KAPI				pmax	pmax	
	comp=Z,225nm,1.2s					
KURK	Kurchatov	46.53	308	P	P	06 21 04.0 -0.4
KURK	Kurchatov	46.53	308	P	P	06 21 04.0 -0.4
KURK				pmax	pmax	
	comp=Z,91nm,1.0s					
KURBB	Kurchatov Arra	46.60	308	P	P	06 21 04.6 -0.3
	comp=Z,58nm,0.9s,baz=82,slow=8.3,SNR=248					
KURBB				LR	LR	06 41 22.9
	comp=Z,1μm,18.7s,baz=142,slow=37					
	comp=Z,58nm,0.9s					
M20K	Styx River	46.62	36	P	P	06 21 06.0 +0.9
	baz=268					
C21K	Knifeblade Rid	46.67	26	P	P	06 21 06.0 +0.8
	baz=260					
G21K	Allakaket	46.77	30	P	P	06 21 07.0 +0.9
	baz=264					
B21K	Ikpikpuk River	46.81	25	P	P	06 21 06.6 +0.3
	baz=260					
E21K	Killik River	46.84	27	P	P	06 21 07.0 +0.3
	baz=262					
O20K	Slope Mountain	46.86	39	P	P	06 21 07.1 +0.2
	baz=271					
F21K	Alatna River	46.86	29	P	P	06 21 07.6 +0.8
	baz=263					
KDAK	Kodiak Island	46.95	42	LR	LR	06 40 44.7
	comp=Z,289nm,20.9s,baz=264,slow=36					
A22K	Sinclair Lake	46.95	24	P	P	06 21 06.8 -0.6
	baz=258					
ODAN	Odare	46.97	274	eP	P	06 21 08.4 0.0
	comp=Z,270nm,1.1s					
H21K	Melozitna Rive	46.97	31	IAmb	IAmb	06 21 22.0
	comp=Z,21nm,1.3s					
H21K	Melozitna Rive	46.97	31	P	P	06 21 07.8 +0.1
	baz=265,SNR=5.5					
N20K	Mount Spurr	47.05	37	P	P	06 21 09.0 +0.6
	baz=270					
CHUM	Lake Minchumin	47.07	33	P	P	06 21 08.8 +0.4
	baz=267					
PPLA	Purkeypile	47.09	35	P	P	06 21 09.1 +0.4
	baz=268					
CAST	Castle Rocks	47.15	34	IAmb	IAmb	06 21 22.5
	comp=Z,13nm,1.1s					
CAST	Castle Rocks	47.15	34	P	P	06 21 09.3 +0.2
	baz=268					
SURA	Surathani	47.21	245	P	P	06 21 10.9 +0.9
B22K	Teshekpuk Lake	47.34	25	P	P	06 21 10.9 +0.6
	baz=260					
D22K	Ayikyak River	47.37	27	P	P	06 21 11.8 +1.0
	baz=262,SNR=6.4					
SKT	Skwentna	47.38	36	P	P	06 21 11.6 +0.7
	baz=270					
F22K	John River	47.40	28	P	P	06 21 11.7 +0.8
	baz=264					
SHLS	Shalkode	47.44	298	eP	P	06 21 09.2 -2.6
	comp=Z,19nm,0.9s,baz=298					
SHLS	Shalkode	47.44	298	eP	P	06 21 09.2 -2.6
SHLS				pmax	pmax	
	comp=Z,19nm,0.9s					
RAMN	Ramite	47.56	275	eP	P	06 21 13.4 +0.3
	comp=Z,184nm,0.7s					
H22K	Ishtalitna Cre	47.58	31	P	P	06 21 13.2 +0.8
	baz=266					
JIRN	Jiri	47.58	276	eP	P	06 21 13.5 +0.2
	comp=Z,156nm,0.9s					
E22K	Anaktuvuk Pass	47.60	28	P	P	06 21 13.3 +0.8
	baz=264					
G22K	Bettles	47.60	29	P	P	06 21 12.5 0.0
	baz=265					
SRIT	Nakonsritamara	47.61	245	P	P	06 21 14.3 +1.1
BPAW	Bear Paw Mtn.	47.66	33	IAmb	IAmb	06 21 28.1
	comp=Z,28nm,1.7s					
BPAW	Bear Paw Mtn.	47.66	33	P	P	06 21 13.5 +0.4
	baz=268					
KTH	Kantishna Hill	47.68	34	IAmb	IAmb	06 21 27.6
	comp=Z,44nm,1.5s					
GUN	Gumba	47.72	276	eP	P	06 21 14.4 0.0
	comp=Z,265nm,0.9s					
TDK	Taldyqorghan	47.74	301	eP	P	06 21 14.2 +0.2
	baz=301					
TDK				LR	LR	06 41 34.7
	comp=Z,854nm,14.7s,baz=301					
TDK	Taldyqorghan	47.74	301	eP	P	06 21 14.1 +0.2
TDK				MLR	MLR	
	comp=Z,854nm,15.0s					
UZB	Uzynbulak	47.76	298	eP	P	06 21 14.2 -0.1
	baz=298					
UZB	Uzynbulak	47.76	298	eP	P	06 21 14.1 -0.1
MLY	Manley	47.80	32	IAmb	IAmb	06 21 28.0
	comp=Z,12nm,0.9s					
MLY	Manley	47.80	32	P	P	06 21 14.7 +0.6
	baz=268,SNR=7.7					
KPKS	Kokpek	47.92	299	iP	P	06 21 15.3 -0.1
	baz=299					
KPKS	Kokpek	47.92	299	iP	P	06 21 15.3 -0.1
M22K	Willow	48.05	36	P	P	06 21 16.7 +0.7
	baz=271					
D23K	Nanushuk River	48.10	27	P	P	06 21 17.1 +0.7
	baz=264					
COLD	Coldfoot	48.13	29	P	P	06 21 17.4 +0.8
	baz=266					
ZHN	Zhinishke	48.17	298	eP	P	06 21 17.3 -0.2
	baz=298					
ZHN	Zhinishke	48.17	298	eP	P	06 21 17.2 -0.2
G23K	Bananza Creek	48.17	30	P	P	06 21 17.7 +0.7
	baz=267					
SATY	Saty	48.22	298	eP	P	06 21 18.1 +0.2
	baz=298					
SATY	Saty	48.22	298	eP	P	06 21 18.0 +0.2
C23K	Itkillik River	48.22	25	P	P	06 21 18.4 +1.2
	baz=264,SNR=10.0					
PKI	Pulchoki	48.24	276	eP	P	06 21 18.3 -0.1
	comp=Z,164nm,1.2s					
KKN	Kakani	48.25	276	eP	P	06 21 18.4 0.0
	comp=Z,250nm,1.2s					
RC01	Rabbit Creek A	48.26	37	IAmb	IAmb	06 21 37.2
	comp=Z,20nm,1.1s					
RC01	Rabbit Creek A	48.26	37	P	P	06 21 18.2 +0.5
	baz=272					
H23K	Yukon River	48.33	31	IAmb	IAmb	06 21 32.5
	comp=Z,20nm,1.2s					
H23K	Yukon River	48.33	31	P	P	06 21 18.9 +0.7
	baz=268,SNR=8.1					
I23K	Minto, Yukon-K	48.39	32	IAmb	IAmb	06 22 10.2
	comp=Z,40nm,1.7s					
I23K	Minto, Yukon-K	48.39	32	P	P	06 21 19.8 +1.2
	baz=269					
E23K	Chandalar	48.41	28	P	P	06 21 19.8 +0.9
	baz=266,SNR=13					
SEW	Seward	48.44	39	P	P	06 21 20.5 +1.4
	baz=273					
DMN	Daman	48.47	276	eP	P	06 21 20.4 +0.3
	comp=Z,72nm,0.8s					
TOLK	Toolik Lake Re	48.47	27	IAmb	IAmb	06 21 32.5
	comp=Z,12nm,0.9s					
TOLK	Toolik Lake Re	48.47	27	P	P	06 21 20.7 +1.4
	baz=266,SNR=5.9					
NEA2	Nenana	48.51	32	P	P	06 21 20.1 +0.5
	baz=270,SNR=9.8					
PMR	Palmer	48.53	37	IAmb	IAmb	06 21 40.2
	comp=Z,12nm,1.0s					
PMR	Palmer	48.53	37	P	P	06 21 20.3 +0.6
PMR	Palmer	48.53	37	P	P	06 21 20.3 +0.6
	baz=272					
MCK	McKinley	48.57	34	P	P	06 21 20.9 +0.8
	baz=271					
RND	Reindeer	48.61	34	P	P	06 21 21.1 +0.7
RND				IAmb	IAmb	06 21 33.1
	comp=Z,18nm,1.2s					
RND	Reindeer	48.61	34	P	P	06 21 21.1 +0.7
RND				pmax	pmax	
	comp=Z,18nm,1.2s					
GHO	Glory Hole Cre	48.62	36	IAmb	IAmb	06 21 54.6
	comp=Z,16nm,0.8s					
GKN	Gorkha	48.67	277	eP	P	06 21 21.5 0.0
	comp=Z,173nm,0.7s					
WAT1	Susitna Watana	48.76	35	P	P	06 21 21.8 +0.2
	baz=272					
D24K	Happy Valley	48.78	26	P	P	06 21 22.4 +0.8
	baz=266					
E24K	Your Creek	48.84	28	P	P	06 21 22.6 +0.5
	baz=267,SNR=6.9					
KNK	Knik Glacier	48.86	37	P	P	06 21 23.4 +1.1
	baz=273					
MDM	Murphy Dome	48.87	32	IAmb	IAmb	06 21 36.0
	comp=Z,31nm,1.1s					
C24K	Franklin Bluff	48.87	26	P	P	06 21 22.7 +0.5
	baz=266					
SML	Sawmill	48.90	36	IAmb	IAmb	06 22 01.2

comp=Z,18nm,0.9s
SML Sawmill 48.90 36 P P 06 21 23.5 +0.8
baz=273
HNR Honiara 48.91 156 LR LR 06 40 38.4
comp=Z,5µm,20.6s,baz=331,slow=34
PWL Port Wells 48.95 37 P P 06 21 23.1 0.0
baz=274
CHKK Chushkaly 49.01 300 *e*P **P 06 21 23.7 0.0**
baz=300
CHKK Chushkaly 49.01 300 *e*P **P 06 21 23.6 -0.1**
H24K Noodor Dome 49.02 31 IAmb IAmb 06 21 37.7
comp=Z,14nm,1.1s
H24K Noodor Dome 49.02 31 P P 06 21 24.1 +0.6
baz=270,SNR=5.7
COLA College 49.03 32 P P 06 21 25.6 +2.1
COLA College 49.03 32 P P 06 21 24.9 +1.4
baz=270
F24K Squaw Lake 49.04 29 P P 06 21 24.3 +0.6
baz=268
WAT6 Susitna Watana 49.14 35 P P 06 21 25.2 +0.5
baz=273
G24K Hadweenzic Riv 49.19 30 P P 06 21 25.8 +1.1
baz=269,SNR=5.4
M23K Glacier View 49.19 36 P P 06 21 25.5 +0.7
baz=273
SOEI Soe 49.20 203 P P 06 21 27.0 +1.5
POKR Poker Plat Res 49.20 32 IAmb IAmb 06 21 38.8
comp=Z,31nm,1.1s
POKR Poker Plat Res 49.20 32 P P 06 21 25.9 +1.0
baz=271,SNR=5.9
DANN Dangsing 49.22 278 *e*P **P 06 21 26.2 +0.3**
comp=Z,473nm,0.8s
AAA Alma-Ata 49.23 299 *e*P **P 06 21 26.0 +0.4**
baz=299
AAA Alma-Ata 49.23 299 *e*P **P 06 21 25.9 +0.4**
TNSS Tian-Shan 49.25 299 *e*P **P 06 21 26.8 +0.7**
baz=299
TNSS Tian-Shan 49.25 299 *e*P **P 06 21 26.7 +0.7**
DHY Denali Highway 49.28 34 P P 06 21 26.4 +0.7
baz=272
SCM Sheep Creek Mo 49.37 36 IAmb IAmb 06 22 05.2
comp=Z,27nm,1.2s
SCM Sheep Creek Mo 49.37 36 P P 06 21 28.0 +1.7
baz=274
HDA Harding Lake 49.42 33 IAmb IAmb 06 21 39.1
comp=Z,20nm,1.2s
HDA Harding Lake 49.42 33 P P 06 21 28.2 +1.6
baz=272,SNR=5.8
IL31 49.44 32 P P 06 21 27.3 +0.7
IL31 IAmb IAmb 06 21 39.3
comp=Z,14nm,0.9s
ILAR Eielson Array 49.44 32 P P 06 21 26.8 +0.1
comp=Z,5.7nm,0.8s,baz=267,slow=6.3,SNR=48
ILAR LR LR 06 45 56.5
comp=Z,64nm,18.5s,baz=262,slow=40
comp=Z,5.7nm,0.8s
KUU Kurty 49.45 300⇑ *i*P **P 06 21 26.8 -0.4**
comp=Z,36nm,1.4s,baz=300
KUU LR LR 06 42 52.8
comp=Z,1µm,16.5s,baz=300
KUU Kurty 49.45 300*c i*P **P 06 21 26.7 -0.4**
KUU pmax pmax
comp=Z,36nm,1.4s
KUU MLR MLR
comp=Z,1µm,17.0s
P23K Montague Islan 49.48 39 P P 06 21 28.6 +1.6
baz=275
MYKOM Kota Tinggi 49.53 234 P P 06 21 27.8 -0.2
MYKOM IAmb IAmb 06 21 39.8
comp=Z,49nm,1.4s
GLI Glacier Island 49.55 37 P P 06 21 28.6 +0.9
baz=275
KOLN Koldanda 49.60 277 *e*P **P 06 21 28.8 +0.1**
comp=Z,191nm,1.0s
D25K Kavik River 49.66 26 P P 06 21 29.8 +1.4
baz=268,SNR=7.6
G25K Bearman Lake 49.73 30 P P 06 21 30.7 +1.8
baz=270
H25L Birch Creek 49.85 30 P P 06 21 31.4 +1.6
baz=271
F25K Christian Rive 49.91 29 P P 06 21 32.0 +1.7
baz=270,SNR=5.4
E25K Arctic Village 49.94 28 P P 06 21 31.6 +1.1
baz=270
PYUN Piuthan 49.94 278 *e*P **P 06 21 31.4 +0.1**
comp=Z,277nm,0.9s
K24K Donnelly Dome 49.97 33 P P 06 21 32.3 +1.5
baz=273
ULHL Ulahol 49.98 298 P P 06 21 31.7 +0.3
SNR=8.7
PRP Porcupine Dome 49.99 31 P P 06 21 33.0 +2.0
baz=272,SNR=5.1
KDU Kakadu 50.00 192 P P 06 21 30.0 -1.4
Q23K Middleton Isla 50.06 39 P P 06 21 33.8 +2.3
baz=276
KLU Klutina 50.07 37 IAmb IAmb 06 22 17.7
comp=Z,19nm,1.2s
KLU Klutina 50.07 37 P P 06 21 33.7 +2.1
baz=275
J25K Salcha River, 50.10 32 P P 06 21 34.0 +2.2
baz=273
BOOM Boomskoye usch 50.12 298 P P 06 21 32.5 +0.1
BOOM IAmb IAmb 06 21 47.2
comp=Z,23nm,0.7s
BOOM Boomskoye usch 50.12 298 P P 06 21 32.5 +0.1
BOOM pmax pmax
comp=Z,23nm,0.7s
PAX Paxson 50.16 35 P P 06 21 34.0 +1.7
baz=274
C26K Camden Bay 50.19 25 P P 06 21 34.6 +2.3
baz=269
TKM2 Tokmak 2 50.24 299 P P 06 21 34.1 +0.7
SNR=48
TKM2 Tokmak 2 50.24 299 P P 06 21 33.0 -0.3
EYAK Cordova Ski Ar 50.24 38 P P 06 21 34.4 +1.6
baz=276
HARP HAARP 50.35 35 P P 06 21 35.4 +1.7
baz=275
RIDG Independent Ri 50.38 34 P P 06 21 35.0 +1.0
baz=274
NRN Naryn 50.39 297 IAmb IAmb 06 21 44.2
comp=Z,14nm,0.8s
MTN Manton Dam 50.40 194 P P 06 21 33.6 -0.8
MTN Manton Dam 50.40 194 P P 06 21 33.4 -1.0
BRZS Berezniki 50.40 308⇑ *i*P **P 06 21 33.9 -0.4**
comp=Z,40nm,1.6s,baz=308
BRZS Berezniki 50.40 308*c i*P **P 06 21 33.8 -0.4**
BRZS pmax pmax
comp=Z,40nm,1.6s
COEN Coen 50.45 179 P P 06 21 36.2 +1.4
F26K Sheenjek River 50.48 28 P P 06 21 36.4 +1.8
baz=272,SNR=13
G26K Porcupine Rive 50.64 29 P P 06 21 37.5 +1.8
baz=272
N25K Chitina, Valde 50.69 36 P P 06 21 37.5 +1.2
baz=276
SCRK Sand Creek 50.74 33 P P 06 21 36.9 +0.2
SCRK IAmb IAmb 06 21 49.6
comp=Z,17nm,1.1s
SCRK Sand Creek 50.74 33 P P 06 21 37.9 +1.2
baz=275,SNR=8.3
BMRM Bremner River 50.76 37 P P 06 21 38.7 +1.9
baz=277
SGDS Sogindy 50.76 300⇑ *i*P **P 06 21 37.0 -0.1**
baz=300
SGDS Sogindy 50.76 300*c i*P **P 06 21 37.0 -0.1**
PLAI Plampang 50.76 212 P P 06 21 41.1 +3.9
KBK Karagaybulak 50.77 299 P P 06 21 38.0 +0.7
SNR=22
J26L Joseph Creek 50.88 32 IAmb IAmb 06 23 10.2
comp=Z,31nm,2.0s
J26L Joseph Creek 50.88 32 P P 06 21 39.0 +1.2
baz=275
USP Ospenovka 50.91 300 P P 06 21 38.3 +0.1
SNR=12
MENT Mentasta 50.96 35 P P 06 21 41.3 +3.0
I26K Coal Creek Min 51.00 31 P P 06 21 40.0 +1.6
baz=274
KSH Kashi 51.01 295 P P 06 21 43.3 +4.2
KSH sP sP 06 21 55.3 +5.5
KSH PP **PP 06 23 43.1 +7.5**
KSH pmax pmax
comp=Z,25nm,1.4s
KSH LR LR
comp=Z,2µm,16.3s
KSH LR LR
comp=Z,1µm,16.6s
KSH LR LR
comp=Z,3µm,16.3s
AAK Ala-Archa 51.10 299 P P **06 21 40.0 +0.3**
SNR=6.6
AAK Ala-Archa 51.10 299 P P 06 21 39.9 +0.2
AAK IAmb IAmb 06 21 50.6
comp=Z,14nm,0.7s
AAK Ala-Archa 51.10 299 P P 06 21 39.9 +0.2
AAK pmax pmax
comp=Z,14nm,0.7s
AAK Ala-Archa 51.10 299 P P 06 21 39.3 -0.4
AAK Ala-Archa 51.10 299 P P 06 21 39.3 -0.4
comp=Z,8.9nm,0.7s,baz=92,slow=6.5,SNR=14
AAK LR LR 06 44 41.4
comp=Z,2µm,18.7s,baz=90,slow=38
comp=Z,8.9nm,0.7s
L26K Log Cabin Wild 51.12 34 IAmb IAmb 06 21 53.4
comp=Z,17nm,1.1s
L26K Log Cabin Wild 51.12 34 P P 06 21 41.0 +1.6
baz=276,SNR=5.8
BVA0 Borovoye Array 51.16 313 *i*P **P 06 21 38.9 -1.0**
BVAR Borovoye Array 51.16 313 P P 06 21 39.9 0.0
comp=Z,13nm,0.8s,baz=81,slow=9.2,SNR=41
BVAR PcP **PcP 06 22 55.3 +0.2**
comp=Z,11nm,0.8s,baz=104,slow=4.6,SNR=4.0
BVAR LR LR 06 44 29.9
comp=Z,1µm,18.4s,baz=80,slow=37
comp=Z,13nm,0.8s
BRVK Borovoye 51.21 313 P P 06 21 40.0 -0.2
BRVK IAmb IAmb 06 21 51.1
comp=Z,21nm,0.8s
BRVK Borovoye 51.21 313*c i*P **P 06 21 40.1 -0.2**
BRVK pmax pmax
comp=Z,18nm,0.8s
BRVK Borovoye 51.21 313 P P 06 21 40.5 +0.2
BRVK P **P 06 21 40.5 +0.2**
M26K Nabesna, AK 51.35 35 P P 06 21 43.1 +1.9
baz=277
E27K Coleen River 51.42 28 P P 06 21 43.4 +1.8
baz=273
MCARA McCarthy VSAT 51.46 36 P P 06 21 44.0 +2.0
baz=278
G27K Doyon Strip 51.49 29 P P 06 21 44.2 +2.0
baz=274
BGLC Bering Glacier 51.51 38 P P 06 21 43.4 +1.1
baz=278
CRQE Cirque 51.52 37 P P 06 21 44.8 +2.3
baz=278
K27K Chicken 51.58 33 P P 06 21 45.0 +2.2
baz=276
D27M Malcolm River 51.59 26 P P 06 21 44.4 +1.5
baz=273
H27K Steamboat Moun 51.59 30 P P 06 21 45.1 +2.1
baz=275
EKS2 Erkin-Say 51.59 299 P P 06 21 43.7 +0.3
SNR=12
I27K Kandik River 51.61 31 P P 06 21 45.1 +1.9
baz=276
L27K Beaver Creek, 51.80 34 IAmb IAmb 06 21 58.6
comp=Z,18nm,1.1s
L27K Beaver Creek, 51.80 34 P P 06 21 46.3 +1.7
baz=277
AML Almayashu 51.81 298 P P 06 21 46.3 +0.9
SNR=36
M27K Edge Creek, AK 51.87 35 P P 06 21 46.4 +1.1
M27K Edge Creek, AK 51.87 35 P P 06 21 47.2 +2.0
baz=278
F28M Old Crow 52.11 28 P P 06 21 47.3 +0.5
F28M IAmb IAmb 06 22 01.3
comp=Z,20nm,1.2s
F28M Old Crow 52.11 28 P P 06 21 49.1 +2.3
baz=275,SNR=7.3
E28M Babbage River 52.15 27 P P 06 21 49.4 +2.3
baz=275,SNR=5.9
MESA MESA 52.16 38 P P 06 21 47.2 -0.3
baz=279
RPSI Rantau Prapat 52.19 240 IAmb IAmb 06 21 58.6
comp=Z,31nm,1.1s
I28M Miner Creek 52.32 31 P P 06 21 50.1 +1.6
baz=277
BKNI Bangkinang 52.48 236 P P 06 21 50.2 +0.1
BKNI Bangkinang 52.48 236 P P 06 21 50.3 +0.2
E29M Blow River 52.77 27 P P 06 21 53.0 +1.4
baz=277,SNR=8.3
H29M Whitestone 52.86 30 IAmb IAmb 06 22 15.2
comp=Z,32nm,1.3s
H29M Whitestone 52.86 30 P P 06 21 53.7 +1.3
baz=278
G29M Pine Creek 52.91 29 IAmb IAmb 06 22 07.2
comp=Z,45nm,1.1s
G29M Pine Creek 52.91 29 P P 06 21 53.9 +1.2
baz=278,SNR=7.9
I29M Ogilvie Camp, 53.01 31 P P 06 21 53.6 +0.1
I29M IAmb IAmb 06 22 07.2
comp=Z,22nm,1.0s
I29M Ogilvie Camp, 53.01 31 P P 06 21 55.5 +2.1
baz=278,SNR=10.0
DZA Taraz 53.23 300 *e*P **P 06 21 55.8 +0.3**
baz=300
DZA Taraz 53.23 300 *e*P **P 06 21 55.7 +0.3**
M29M Somme Creek 53.43 35 P P 06 21 58.3 +1.6
baz=281
L29M L29M 53.46 34 P P 06 21 58.6 +1.7
baz=280,SNR=6.4
EPYK Eagle Plains 53.50 30 P P 06 21 59.5 +2.4
baz=279,SNR=11
K29M Barlow Dome 53.59 33 IAmb IAmb 06 22 12.1
comp=Z,22nm,1.1s
K29M Barlow Dome 53.59 33 P P 06 21 59.3 +1.3
baz=280
G30M tAoh Zraii Nji 53.60 29 IAmb IAmb 06 22 12.3
comp=Z,40nm,1.2s
G30M tAoh Zraii Nji 53.60 29 P P 06 21 60.0 +2.1
baz=279,SNR=7.5
KNRA Kununurra 53.64 196 P P 06 21 58.3 -0.3
F30M Barrier River 53.67 28 P P 06 22 00.4 +2.2
baz=279
KK31 Karatay Array 53.73 300 P P 06 21 58.7 -0.4
KK31 IAmb IAmb 06 22 01.3
comp=Z,41nm,1.1s
KK31 Karatay Array 53.73 300 P P 06 21 58.7 -0.4
KK31 pmax pmax
comp=Z,41nm,1.1s
KKAR Karatay Array 53.73 300 P P 06 21 59.0 -0.1
KKAR IAmb IAmb 06 22 01.3
comp=Z,41nm,1.1s
KKAR Karatay Array 53.73 300 P P 06 21 59.0 -0.1
KKAR pmax pmax
comp=Z,41nm,1.1s
O29M Mount Kennedy 53.80 37 IAmb IAmb 06 22 27.3
comp=Z,15nm,1.1s
O29M Mount Kennedy 53.80 37 P P 06 22 01.2 +1.8
baz=282
I30M Mount Dempster 53.83 31 IAmb IAmb 06 22 13.6
comp=Z,31nm,1.0s
I30M Mount Dempster 53.83 31 P P 06 22 01.9 +2.3
baz=280,SNR=9.6
J30M Hart River 53.97 32 P P 06 22 01.8 +1.2
J30M Hart River 53.97 32 P P 06 22 02.7 +2.0
baz=281
GSI Gunungsitoli 54.12 240 P P 06 22 01.6 -0.7
GSI Gunungsitoli 54.12 240 P P 06 22 02.5 +0.2
M30M Minto, Yukon 54.16 34 P P 06 22 03.4 +1.4
baz=282
HYT Haines Junctio 54.20 37 IAmb IAmb 06 22 17.7
comp=Z,21nm,1.0s
HYT Haines Junctio 54.20 37 P P 06 22 04.2 +1.8
baz=282
P29M Windy Craggy 54.35 38 IAmb IAmb 06 22 17.5
comp=Z,16nm,0.8s
P29M Windy Craggy 54.35 38 P P 06 22 05.3 +1.9
baz=283
MAYO Mayo, Yukon 54.35 33 IAmb IAmb 06 22 17.5
comp=Z,38nm,1.3s
MAYO Mayo, Yukon 54.35 33 P P 06 22 04.9 +1.5
baz=282
G31M Satah River 54.37 29 P P 06 22 04.4 +1.1
baz=281
IUG Iuzhnay 54.38 300⇑ *i*P **P 06 22 04.4 +0.4**
comp=Z,35nm,1.2s,baz=300
IUG Iuzhnay 54.38 300*c i*P **P 06 22 04.4 +0.4**
IUG pmax pmax
comp=Z,35nm,1.2s
INK Inuvik 54.39 27 IAmb IAmb 06 22 19.9
comp=Z,9.6nm,0.8s
INK Inuvik 54.39 27 P P 06 22 04.1 +0.7
baz=281
INK Inuvik 54.39 27 LR LR 06 48 19.4
comp=Z,220nm,18.7s,baz=208,slow=39
F31M Tsiigehtchic 54.47 28 P P 06 22 05.8 +1.8
baz=281
H31M Peel River 54.56 30 P P 06 22 06.6 +1.8
baz=282,SNR=6.6
BTK Batken 54.56 297 P P 06 22 05.1 -0.2
BTK IAmb IAmb 06 22 10.1
comp=Z,24nm,1.0s
BTK Batken 54.56 297 P P 06 22 05.1 -0.2
BTK pmax pmax
comp=Z,24nm,1.0s
P30M Million Dollar 54.62 37 P P 06 22 07.2 +1.8
baz=283
CHM Chimkent 54.62 300 *e*P **P 06 22 05.8 +0.1**
baz=300
CHM LR LR 06 45 43.6
baz=300
CHM Chimkent 54.62 300 *e*P **P 06 22 05.7 +0.1**
N31M Braeburn, Yuko 54.87 36 P P 06 22 09.2 +2.1
baz=283
O30N Mendenhall 54.89 36 P P 06 22 08.1 +0.8
baz=284
NIL Nilore 55.22 289 P P 06 22 10.6 +0.5
M31M Drury Creek, Y 55.34 34 P P 06 22 11.2 +0.7
baz=284
WHY Whitehorse 55.49 36 P P 06 22 13.5 +1.8
baz=285
SVE Sverdlovsk 55.71 319*de*P **P 06 22 14.0 +0.8**
SVE pmax pmax
comp=Z,81nm,1.1s
SVE MLR MLR
comp=Z,2µm,17.0s
FARO Faro, Yukon 55.80 34 P P 06 22 14.8 +1.0
baz=285
P32M Atlin 56.34 37 P P 06 22 19.1 +1.3
baz=286
P33M Teslin, Yukon 56.60 37 P P 06 22 20.9 +1.3
baz=287
MMPY Sheldon Lake, 56.63 34 P P 06 22 20.5 +0.7
baz=286,SNR=5.3
CTA Charters Tower 56.67 175 LR LR 06 46 03.0
comp=Z,70nm,20.6s,baz=315,slow=36
WB0 Warramunga Arr 56.68 189 P P 06 22 18.9 -1.6
WB0 IAmb IAmb 06 22 35.2
comp=Z,35nm,0.9s
WRAB Tennant Creek 56.85 189 P P 06 22 20.8 -0.9
WRAB Tennant Creek 56.85 189*ce*P **P 06 22 20.1 -1.6**
WRAB pmax pmax
comp=Z,25nm,2.5s
WB2 Warramunga Arr 56.86 189 P P 06 22 20.3 -1.5
WRA Warramunga Arr 56.86 189 P P 06 22 20.5 -1.3
WRA Warramunga Arr 56.86 189 P P 06 22 20.4 -1.3
comp=Z,5.2nm,0.8s,baz=6.6,slow=7.2,SNR=32
comp=Z,5.2nm,0.8s
ARU Arti 56.93 319 P P 06 22 21.5 -0.3
ARU Arti 56.93 319*c i*P **P 06 22 21.8 -0.1**
ARU 06 23 13.9
ARU 06 24 26.3
ARU S **S 06 30 16.3 +2.5**
ARU SS **SS 06 33 56.1 -5.7**
ARU pmax pmax
comp=Z,89nm,1.1s
ARU MLR MLR
comp=Z,1µm,18.0s
ARU Arti 56.93 319 P P 06 22 21.5 -0.3
comp=Z,56nm,0.9s,baz=87,slow=2.7,SNR=59
ARU LR LR 06 48 59.9
comp=Z,1µm,18.6s,baz=66,slow=38
comp=Z,56nm,0.9s
QIS Mount Isa 57.05 183 P P 06 22 26.3 +3.2
Q32M Nakina River 57.24 38 P P 06 22 25.2 +0.9
baz=288
C36M Paulatuk 57.46 25 P P 06 22 26.4 +1.0
baz=288
CRAG Craig 57.91 42 P P 06 22 26.2 -2.6
baz=289
KBL Kabul 58.02 291 P P 06 22 29.6 -0.6
KBL Kabul 58.02 291 P P 06 22 29.6 -0.6
KBL pmax pmax
comp=Z,53nm,1.1s
KBL Kabul 58.02 291 P P 06 22 30.0 -0.2
SNR=19
AB31 Akbulak array 58.53 310 *i*P **P 06 22 32.5 -0.8**
ABKAR Akbulak array 58.53 310 P P 06 22 33.0 -0.3
AKTO Aktyubinsk 59.26 312 P P 06 22 37.6 -0.7
AKTO Aktyubinsk 59.26 312 P P 06 22 37.9 -0.4
comp=Z,29nm,0.9s,baz=71,slow=5.0,SNR=37
comp=Z,29nm,0.9s
LIRD Liard River Hi 60.07 36 P P 06 22 45.6 +1.8
baz=292
EUNU Eureka 60.38 9 IAmb IAmb 06 23 03.9
comp=Z,18nm,1.2s
AS31 Alice Springs 60.59 189 P P 06 22 46.8 -0.8
ASAR Alice Springs 60.59 189 P P 06 22 46.8 -0.9
ASAR Alice Springs 60.59 189 P P 06 22 46.8 -0.9
ASAR Alice Springs 60.59 189 P P 06 22 47.0 -0.7
comp=Z,3.4nm,0.8s,baz=13,slow=6.9,SNR=38
ASAR LR LR 06 47 48.2
comp=Z,173nm,21.6s,baz=7.0,slow=35
comp=Z,3.4nm,0.8s
KIRV Kirov 60.80 323*c i*P **P 06 22 48.8 +0.2**
KIRV Kirov 60.80 323 LR LR 06 51 43.4
comp=Z,401nm,18.7s,baz=66,slow=39
SPITS Spitsbergen Ar 60.90 349 LR LR 06 52 03.4
comp=Z,349nm,19.4s,baz=3.5,slow=39
PRGR Permogore 61.29 327 *e*P **P 06 22 51.9 -0.1**
PRGR pmax pmax
comp=Z,38nm,1.1s
MBWA Marble Bar 61.35 204 P P 06 22 52.1 -0.7
MBWA Marble Bar 61.35 204 P P 06 22 56.2 +3.4
NOR Nord 61.36 357 *i*P **P 06 22 51.4 -0.8**
NOR IAmb IAmb 06 23 05.2
comp=Z,4.8nm,1.1s
PSA00 Pilbara Seismi 61.70 204 P P 06 22 54.3 -0.9
PSA00 IAmb IAmb 06 23 08.6
comp=Z,12nm,0.8s
PSA00 Pilbara Seismi 61.70 204 P P 06 22 54.3 -0.9
BBB Bella Bella 61.89 44 LR LR 06 46 27.9
comp=Z,89nm,20.2s,baz=283,slow=33
RES Resolute Bay 62.74 15 IAmb IAmb 06 23 03.2
comp=Z,16nm,1.1s
WRKA Warakurna 62.82 194 P P 06 23 05.6 +2.9
DZM Mont Dzumac 62.87 155 *e*S S 06 31 41.3 +10
comp=Z,391nm,28.6s
DZM Mont Dzumac 62.87 155 *e*LR LR 06 41 44.7
comp=Z,753nm,21.4s
DZM Mont Dzumac 62.87 155 LR LR 06 48 01.6
comp=Z,499nm,20.7s,baz=12,slow=34
HRA Herat 63.12 294 IAmb IAmb 06 23 15.8
comp=Z,23nm,1.0s
APA Apatity 63.16 336⇓ *i*P **P 06 23 01.3 -3.1**
APA *i* 06 23 37.0
APA pmax pmax
comp=Z,11nm,0.9s
APA MLR MLR
comp=Z,1µm,17.0s
RMQ Roma 63.22 173 P P 06 23 07.4 +2.2
ADZR Andozero 63.27 331 *e*P **P 06 23 07.3 +2.1**
ADZR pmax pmax
comp=Z,17nm,0.6s
YKA Yellowknife Ar 63.78 30 *i*P **P 06 23 11.3 +2.7**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 63.78 30 P P 06 23 09.4 +0.9
comp=Z,2.9nm,1.1s,baz=296,slow=6.1,SNR=4.4
YKA LR LR 06 51 00.8
comp=Z,79nm,21.5s,baz=298,slow=36
comp=Z,2.9nm,1.1s
MSVF Nonsavu 63.95 141 LR LR 06 47 47.4
comp=Z,283nm,18.8s,baz=338,slow=33
KLMR Klimovskoe 64.28 328 *e*P **P 06 23 09.5 -2.4**
KLMR AMP 06 23 20.1
comp=Z,26nm,0.9s
KLMR *e*PP **PP 06 25 30.7 -2.2**
KLMR LQ LQ 06 47 35.1
KLMR LQ LQ 06 47 35.1
KLMR LR LR 06 51 48.0
KLMR AMP 06 53 27.5
comp=Z,713nm,18.4s
KLMR Klimovskoe 64.28 328 *e*P **P 06 23 09.5 -2.4**
KLMR *e* 06 25 30.6
KLMR pmax pmax
comp=Z,26nm,0.9s
KLMR MLR MLR
comp=Z,713nm,18.0s

BELG Belogornoye 64.37 317 *i* P **P 06 23 12.4 -0.2**
BELG pmax pmax
comp=Z,16nm,1.1s
BELG Belogornoye 64.37 317 P **P 06 23 12.2 -0.4**
comp=Z,61nm,1.0s,baz=278,slow=1.3,SNR=11
BELG LR LR 06 53 10.0
comp=Z,649nm,18.1s,baz=116,slow=38
comp=Z,61nm,1.0s
GEYT Alibeck 64.44 299 P **P 06 23 13.2 -0.2**
GEYT Alibeck 64.44 299 P **P 06 23 13.2 -0.2**
GEYT pmax pmax
comp=Z,28nm,0.9s
GEYT Alibeck 64.44 299 P **P 06 23 12.4 -1.1**
comp=Z,22nm,0.8s,baz=64,slow=6.8,SNR=23
GEYT LR LR 06 52 51.4
comp=Z,249nm,21.6s,baz=54,slow=38
comp=Z,22nm,0.8s
GYA0B ALIBECK ARRAY 64.44 299 P **P 06 23 13.4 0.0**
ARCES ARCESS Array B 64.45 340 P **P 06 23 12.8 -0.1**
comp=Z,4.8nm,0.8s,baz=10,slow=8.6,SNR=5.1
ARCES LR LR 06 55 27.6
comp=Z,359nm,18.2s,baz=42,slow=40
comp=Z,4.8nm,0.8s
OOD Oodnadatta 64.49 186 P **P 06 23 15.3 +1.8**
NEEM North Greenlan 65.78 3 *i* P **P 06 23 19.9 -1.9**
NEEM IAmb IAmb 06 23 23.2
comp=Z,11nm,1.0s
DAG Danmarks Havn 66.10 355 *i* P **P 06 23 23.0 -0.5**
DAG IAmb IAmb 06 23 25.6
comp=Z,7.7nm,1.1s
MULG Mulgathing 67.11 188 P **P 06 23 31.7 +1.3**
CMSA Cobar Meteorol 68.02 177 P **P 06 23 38.5 +2.4**
VRH Novokhopyorsk 68.15 318 *e*P **P 06 23 35.8 -1.1**
VRH pmax pmax
comp=Z,30nm,0.6s
KULLO Kullorsuaq 68.20 5 *i* P **P 06 23 36.2 -0.7**
KULLO IAML 06 23 47.0
comp=Z,18nm,1.1s
STKA Stephens Creek 68.28 180 LR LR 06 52 50.9
comp=Z,83nm,21.6s,baz=14,slow=35
FORT Forrest 68.45 193 P **P 06 23 38.5 -0.4**
FORT Forrest 68.45 193 P **P 06 23 39.1 +0.2**
OBN Obninsk 68.64 324 LR LR 06 57 35.1
comp=Z,417nm,18.0s,baz=30,slow=39
LPSR Galich'ya Gora 68.86 320 *e*P **P 06 23 40.5 -0.8**
LPSR pmax pmax
comp=Z,50nm,0.8s
MAK Makhachkala 69.05 308 *e*P **P 06 23 39.2 -3.5**
MAK *e*S **S 06 32 42.0 -3.9**
MAK pmax pmax
comp=Z,57nm,0.6s
VORR Voronezh 69.22 320 *e*P **P 06 23 43.8 +0.2**
VORR pmax pmax
comp=Z,82nm,0.4s
FINES FINESS Array B 69.31 333 P **P 06 23 44.6 +0.6**
FINES FINESS Array B 69.31 333 *i* P **P 06 23 44.4 +0.5**
FINES pmax pmax
comp=Z,14nm,0.8s
FINES FINESS Array B 69.31 333 P **P 06 23 43.6 -0.3**
comp=Z,14nm,0.8s,baz=46,slow=8.2,SNR=25
FINES LR LR 06 56 21.6
comp=Z,615nm,18.3s,baz=32,slow=38
comp=Z,14nm,0.8s
VSR Storozhevoye 69.50 319 *e*P **P 06 23 44.5 -0.8**
VSR pmax pmax
comp=Z,50nm,1.0s
VORD Divnogorie 69.57 319 *e*P **P 06 23 45.3 -0.4**
VORD pmax pmax
comp=Z,40nm,1.0s
NEW Newport 69.95 44 P **P 06 23 48.6 +0.4**
NEW Newport 69.95 44 P **P 06 23 48.6 +0.4**
NEW pmax pmax
comp=Z,10.0nm,1.4s
NEW Newport 69.95 44 P **P 06 23 49.5 +1.2**
baz=303
GROC Groznyy 70.00 309 *e*P **P 06 23 46.6 -1.9**
GROC *e* 06 24 08.0
GROC pmax pmax
comp=Z,24nm,0.5s
YBH Yreka Blue Hor 70.09 52 LR LR 06 45 53.5
comp=Z,92nm,21.5s,baz=293,slow=28
PINE Pine Mountain 70.11 50 IAmb IAmb 06 24 00.7
comp=Z,20nm,1.1s
GOF Gofitskoye 70.68 312 *c*e*P* **P 06 23 52.7 0.0**
MEF Metsahovi 70.73 332 *e*P **P 06 23 53.2 +0.6**
SUMG Summit 70.96 0 P **P 06 23 54.9 +0.5**
SUMG Summit 70.96 0 P **P 06 23 54.9 +0.5**
SUMG pmax pmax
comp=Z,78nm,2.0s
SUMG Summit 70.96 0 *i* P **P 06 23 54.0 -0.4**
SUMG IAmb IAmb 06 23 57.1
comp=Z,10nm,1.1s
VSU Vasula 70.97 330⇓ *e*P **P 06 23 53.8 -0.3**
VSU pmax pmax
comp=Z,111nm,1.1s
VSU Vasula 70.97 330 *e*P **P 06 23 54.7 +0.6**
RAF Rauma 71.16 334 *e*P **P 06 23 56.0 +0.7**
NCK Nalchik 71.19 311⇓ *e*P **P 06 23 55.2 -0.7**
NCK pmax pmax
comp=Z,45nm,0.5s
ZEI Tsey 71.39 310 *e*P **P 06 23 56.2 -1.1**
ZEI pmax pmax
comp=Z,15nm,1.0s
JLN Jalan Bani Buh 71.44 284 P **P 06 23 57.7 +0.1**
WSAR Wadi Sarin 71.46 285 P **P 06 23 58.1 +0.3**
WSAR Wadi Sarin 71.46 285 P **P 06 23 57.0 -0.8**
comp=Z,11nm,0.8s,baz=192,slow=2.7,SNR=7.8
WSAR LR LR 07 00 54.4
comp=Z,212nm,18.5s,baz=51,slow=41
comp=Z,11nm,0.8s
KVAR Kislovodsk Arr 71.49 311 P **P 06 23 57.8 +0.1**
comp=Z,22nm,0.8s,baz=262,slow=23,SNR=5.2
comp=Z,22nm,0.8s
KBZ Khabaz 71.49 311⇑ *i* P **P 06 23 57.1 -0.5**
KBZ pmax pmax
comp=Z,50nm,1.0s
KBZ Khabaz 71.49 311 P **P 06 23 58.1 +0.5**
comp=Z,33nm,0.9s,baz=42,slow=3.2,SNR=57
KBZ LR LR 07 00 05.0
comp=Z,580nm,18.4s,baz=52,slow=40
comp=Z,33nm,0.9s
KIV Kislovodsk 71.50 311⇓ P **P 06 23 58.9 +1.2**
KIV Kislovodsk 71.50 311 P **P 06 23 58.0 +0.2**
KIV Kislovodsk 71.50 311 *e*P **P 06 23 58.2 +0.4**
KIV pmax pmax
comp=Z,86nm,1.1s
KIV MLR MLR
comp=Z,344nm,18.0s
KIV Kislovodsk 71.50 311 *i* P **P 06 23 59.5 +1.7**
SNR=6.5
KIV Kislovodsk 71.50 311 P **P 06 23 59.5 +1.7**
WBK Wadi Bani Khal 71.54 285 P **P 06 23 58.9 +0.7**
SNR=7.3
BIDO Bidbid 71.70 286 P **P 06 23 59.8 +0.6**
SNR=6.0
BMO Blue Mountains 71.72 47 P **P 06 23 59.5 +0.4**
BMO Blue Mountains 71.72 47 P **P 06 23 59.5 +0.4**
BMO pmax pmax
comp=Z,9.0nm,1.2s
SHME Shamm 71.86 289 *i* P **P 06 23 59.9 -0.3**
SNR=18
SHME Shamm 71.86 289 P **P 06 24 00.4 +0.3**
SNR=11
MTSE Matsula 71.96 331 *e*P **P 06 24 00.9 +0.8**
SMDO Samad 72.01 286 P **P 06 24 02.0 +0.9**
SNR=7.6
MDH Madha 72.14 288 P **P 06 24 00.1 -1.8**
MASF Masafi 72.21 289 P **P 06 24 02.7 +0.4**
SNR=7.4
MSFE Esma-Masafi 72.22 289 *i* P **P 06 24 02.6 +0.3**
SNR=9.4
HOQ Hoqain 72.30 286 P **P 06 24 03.0 +0.2**
SNR=10
GNI Garni 72.30 307 *c i* P **P 06 24 03.6 +0.8**
GNI pmax pmax
comp=Z,34nm,1.2s
GNI Garni 72.30 307 P **P 06 24 03.0 +0.2**
comp=Z,6.2nm,0.5s,baz=157,slow=2.6,SNR=6.8
GNI LR LR 06 58 26.8
comp=Z,359nm,19.1s,baz=70,slow=38
comp=Z,6.2nm,0.5s
JMDO Jabal Madar 72.34 285 P **P 06 24 03.3 +0.2**
SNR=6.7
UOSS Minazif 72.41 288 P **P 06 24 03.1 -0.3**
UOSS IAmb IAmb 06 24 04.2
comp=Z,24nm,0.8s
UOSS Minazif 72.41 288 *i* P **P 06 24 03.4 0.0**
SNR=15
UOSS Minazif 72.41 288 P **P 06 24 03.5 +0.1**
HATD Hatta, Dubai 72.53 288 *i* P **P 06 24 03.9 -0.3**
SNR=12
HATD Hatta, Dubai 72.53 288 P **P 06 24 04.6 +0.5**
SNR=12
MSO Missoula 72.54 44 P **P 06 24 05.2 +1.2**
baz=305
SOHO SOHO 72.59 287 *i* P **P 06 24 04.4 -0.1**
SNR=9.7
SOHO SOHO 72.59 287 P **P 06 24 04.7 +0.2**
ASHO Ashiyiah 72.66 288 *i* P **P 06 24 04.1 -0.9**
SNR=14
ASHO Ashiyiah 72.66 288 P **P 06 24 05.2 +0.2**
SNR=12
BSY Bisya 72.83 286 P **P 06 24 06.3 +0.3**
SNR=9.5
FAQ Al Faqa, Dubai 72.98 288 P **P 06 24 06.5 -0.3**
IDID Didziasalis 73.00 327 *e*P **P 06 24 07.2 +0.8**
MNK Minsk 73.03 326 *i* P **P 06 24 05.8 -0.8**
comp=E,15nm,1.0s
MNK *i* P **P 06 24 05.8 -0.8**
comp=N,14nm,0.9s
MNK *i* P **P 06 24 05.8 -0.8**
comp=Z,50nm,0.9s,baz=230
MNK *i* PcP **PcP 06 24 22.2 -1.1**
MNK *i* PP **PP 06 26 48.3 -0.4**
MNK *i* PPP PPP 06 28 32.8
MNK *i* S **S 06 33 32.8 +1.1**
MNK *i* ScS **ScS 06 34 12.6 +0.1**
MNK *i* SSS SSS 06 41 35.5
MNK *i* LQ LQ 06 51 18.5
MNK *i* LR LR 06 56 52.3
MNK *i* LRM MLR 06 59 20.6
comp=E,174nm,16.8s
MNK *i* LRM MLR 06 59 42.5
comp=Z,452nm,14.8s
MNK *i* LRM MLR 06 59 43.8
comp=N,213nm,15.4s
MNK Minsk 73.03 326 *i* P **P 06 24 05.7 -0.8**
MNK *i* 06 24 22.2
MNK *i* 06 26 48.2
MNK *i* PPP PPP 06 28 32.8
MNK *i* S **S 06 33 32.7 +1.1**
MNK *i* 06 34 12.5
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,50nm,0.9s
MNK pmax pmax
comp=E,15nm,1.0s
MNK MLR MLR
comp=E,174nm,17.0s
MNK MLR MLR
comp=Z,452nm,15.0s
MNK MLR MLR
comp=N,213nm,15.0s
ARQ Araqi 73.04 287 P **P 06 24 07.5 +0.3**
SNR=9.4
ISAL Salakas 73.10 328 *e*P **P 06 24 07.9 +0.9**
MHTO MHTO 73.20 284 P **P 06 24 08.3 +0.2**
SNR=21
IIGN Ignalina 73.20 328 *e*P **P 06 24 08.7 +1.1**
ALNE Al Ain 73.24 288 P **P 06 24 08.1 -0.2**
SNR=9.0
ASUD Al Ashush, Dub 73.25 288 P **P 06 24 08.7 +0.3**
ASUD Al Ashush, Dub 73.25 288 P **P 06 24 08.5 +0.1**
NACGM Naroch 73.25 327 *e*P **P 06 24 06.7 -1.2**
comp=Z,58nm,0.9s,baz=49
UPP Uppsala 73.44 334 *e*P **P 06 24 09.0 +0.2**
SOC Sochi 73.48 312 *e*P **P 06 24 08.2 -1.3**
SOC *e* 06 26 48.0
SOC *e*S **S 06 33 37.6 +0.4**
SOC *e*SS **SS 06 38 22.3 +3.0**
SOC pmax pmax
comp=Z,42nm,1.0s
SOC MLR MLR
comp=Z,499nm,19.0s
AJN Ajban 73.54 289 P **P 06 24 09.6 -0.5**
BCA Borcka 73.55 310⇑ P **P 06 24 11.0 +1.0**
FFC Flin Flon 73.65 33 P **P 06 24 10.6 +0.3**
FFC IAmb IAmb 06 24 12.6
comp=Z,11nm,0.9s
FFC Flin Flon 73.65 33 P **P 06 24 10.6 +0.3**
FFC pmax pmax
comp=Z,11nm,1.0s
PABE Paberze 74.06 329 *e*P **P 06 24 13.7 +1.1**
ANN Anapa 74.11 314 *e*P **P 06 24 11.1 -2.0**
ANN *e*S **S 06 33 46.2 +2.0**
ANN pmax pmax
comp=Z,74nm,1.6s
ANN MLR MLR
comp=Z,485nm,18.0s
DLMT Dillon 74.16 45 IAmb IAmb 06 24 41.4
comp=Z,19nm,1.2s
HLID Hailey 74.17 47 P **P 06 24 14.5 +0.8**
baz=306
NC405 NORSAR Array S 74.44 337 IAmb IAmb 06 24 16.4
comp=Z,33nm,1.0s
NC303 NORSAR Array S 74.46 338 IAmb IAmb 06 24 16.0
comp=Z,29nm,1.1s
ICESG Greenland Ices 74.46 1 *i* P **P 06 24 14.4 -0.7**
ICESG IAmb IAmb 06 24 17.2
comp=Z,16nm,0.9s
HFS Hagfors 74.56 336 P **P 06 24 15.6 +0.1**
comp=Z,15nm,0.8s,baz=64,slow=6.8,SNR=16
HFS LR LR 06 59 51.4
comp=Z,1μm,19.5s,baz=29,slow=38
comp=Z,15nm,0.8s
BOZ Bozeman (W) 74.56 44 P **P 06 24 16.6 +0.6**
baz=307
NC204 NORSAR Array S 74.60 338 P **P 06 24 15.7 -0.1**
NC204 IAmb IAmb 06 24 17.4
comp=Z,30nm,0.9s
NB201 NORSAR Array S 74.62 338 IAmb IAmb 06 24 17.4
comp=Z,35nm,1.0s
NB2 NORSAR Subarra 74.65 338 P **P 06 24 16.2 +0.2**
comp=Z,21nm,1.0s,baz=39,slow=5.9
NB2 NORSAR Subarra 74.65 338 P **P 06 24 16.2 +0.2**
baz=39,slow=5.9
NOA NORSAR Array B 74.65 338 P **P 06 24 16.4 +0.3**
comp=Z,12nm,0.8s,baz=39,slow=5.8,SNR=34
NOA LR LR 06 59 33.0
comp=Z,635nm,21.5s,baz=40,slow=38
comp=Z,12nm,0.8s
NVAR Mina Array Bea 74.72 53 P **P 06 24 18.5 +1.4**
comp=Z,1.7nm,0.7s,baz=287,slow=6.5,SNR=13
NVAR LR LR 06 52 08.7
comp=Z,91nm,21.0s,baz=271,slow=32
comp=Z,1.7nm,0.7s
VIKU Vikbolandet 74.76 334 *e*P **P 06 24 17.2 +0.6**
AKASG Malin Array Be 74.85 323 P **P 06 24 17.3 0.0**
comp=Z,19nm,0.7s,baz=45,slow=5.9,SNR=86
AKASG LR LR 07 00 04.4
comp=Z,465nm,18.1s,baz=51,slow=38
comp=Z,19nm,0.7s
GURO Guroymak-BITLI 74.94 307 IAmb IAmb 06 24 20.3
comp=Z,38nm,1.3s
JRN Qarnain Island 74.95 290 P **P 06 24 17.8 -0.5**
SUW Suwalki 75.41 328 *e*P **P 06 24 20.6 +0.1**
SUW Suwalki 75.41 328 P **P 06 24 19.9 -0.6**
SUW Suwalki 75.41 328 P **P 06 24 19.9 -0.6**
SUW pmax pmax
comp=Z,58nm,1.0s
SUW Suwalki 75.41 328 *e*P **P 06 24 21.4 +0.9**
MZR Muzera 75.55 288 P **P 06 24 21.6 -0.2**
VES Vestal, Richgr 75.69 56 P **P 06 24 24.0 +1.6**
baz=305
H17A Grant Village 75.89 45 P **P 06 24 25.3 +1.6**
baz=308
SIM Simferopol' 75.90 316 *e*P **P 06 24 22.6 -0.9**
SIM pmax pmax
comp=Z,74nm,0.8s
SIM MLR MLR
comp=Z,369nm,18.1s
CWC Cottonwood Cre 76.01 55 P **P 06 24 25.1 +0.6**
baz=306
SBC Santa Barbara 76.07 57 P **P 06 24 25.7 +1.1**
baz=305
SFJD Kangerlussuaq 76.12 5 *i* P **P 06 24 21.3 -3.0**
SFJD IAmb IAmb 06 24 25.9
comp=Z,12nm,1.0s
SFJD Kangerlussuaq 76.12 5 LR LR 06 58 44.9
comp=Z,121nm,21.5s,baz=350,slow=36
GRAC Grapevine Rang 76.16 54 P **P 06 24 26.2 +1.1**
baz=306
RLMT Red Lodge 76.17 44 P **P 06 24 26.8 +1.5**
baz=308
MOOW Moose Ponds 76.19 45 IAmb IAmb 06 25 20.9
comp=Z,24nm,1.9s
R11B Troy Canyon, C 76.51 52 P **P 06 24 29.3 +2.0**
baz=306
MPMC Manual Prospec 76.62 55 P **P 06 24 29.7 +1.8**
baz=306
SHAO Shalim 76.68 283 P **P 06 24 28.5 +0.2**
DGMT Dagmar 76.72 39 P **P 06 24 28.2 +0.1**
baz=311
DY2G Dye2 76.90 3 *i* P **P 06 24 27.1 -1.9**
DY2G IAmb IAmb 06 24 31.0
comp=Z,11nm,1.1s
TPNV Topopah Spring 76.91 54 P **P 06 24 30.5 +1.0**
baz=306
FRB Frobisher Bay 76.92 13 LR LR 07 02 32.8
comp=Z,193nm,19.0s,baz=341,slow=39
SORM Soroca 76.95 321⇓ P **P 06 24 29.7 +0.4**
SORM Soroca 76.95 321 P **P 06 24 30.0 +0.7**
GWY Greenwater Val 77.08 54 IAmb IAmb 06 24 43.3
comp=Z,15nm,1.3s
QSM Queen of Sheba 77.08 55 IAmb IAmb 06 24 48.1
comp=Z,13nm,1.0s
DUG Dugway, Tooele 77.13 49 P **P 06 24 32.3 +1.6**
baz=307
DIKM Dikmen 77.28 313⇓ P **P 06 24 32.9 +1.6**
BW06 Boulder Array 77.48 46 P **P 06 24 33.9 +1.2**
baz=309
PDAR Pinedale Array 77.48 46 P **P 06 24 33.8 +1.1**
comp=Z,1.9nm,0.7s,baz=276,slow=1.9,SNR=18
comp=Z,1.9nm,0.7s
DOK Doka 77.51 284 P **P 06 24 33.0 0.0**
SNR=5.6
GSC Goldstone, Bar 77.51 55 P **P 06 24 33.3 +0.4**
baz=306
LVV L'vov 77.92 324 *d i* P **P 06 24 35.0 +0.3**
LVV *e* 06 24 43.9
LVV *e* 06 27 28.4
LVV MLR MLR
comp=E,800nm,16.0s
LVV MLR MLR
comp=N,800nm,17.0s
LVV MLR MLR
comp=Z,1μm,16.0s
BORG Borgarnes 77.99 353 LR LR 07 00 10.6
comp=Z,67nm,18.4s,baz=17,slow=37
MVU Marysvale 78.53 50 IAmb IAmb 06 24 57.0
comp=Z,32nm,1.0s
VLDR Vladesti 78.60 319⇑ P **P 06 24 39.1 +0.6**
GIRR Girov 78.67 321⇓ P **P 06 24 39.9 +0.9**
KWP Kalwaria Pacla 78.67 325 *e*P **P 06 24 39.9 +1.0**
PFO Pinyon Flats O 78.75 57 LR LR 06 52 25.8
comp=Z,243nm,19.9s,baz=249,slow=30
GAZ Gaziantep 78.83 308 P **P 06 24 39.9 -0.2**
RDMU Red Mountain 78.85 47 IAmb IAmb 06 25 01.2
comp=Z,28nm,1.3s
BUR08 Bucovina Ar. S 78.85 322 IAmb IAmb 06 24 41.9
comp=Z,18nm,0.8s
BURAR Bucovina Array 78.86 322⇓ P **P 06 24 41.0 +0.8**
BURAR Bucovina Array 78.86 322 P **P 06 24 39.6 -0.5**
BURAR IAmb IAmb 06 24 42.2
comp=Z,20nm,0.9s
BURAR Bucovina Array 78.86 322 P **P 06 24 40.9 +0.8**
JURR Jurilovca 78.89 318⇓ P **P 06 24 40.7 +0.6**
TESR Tescani 78.89 321⇑ P **P 06 24 40.8 +0.6**
CFR Carcaliu 79.01 319⇑ P **P 06 24 41.0 +0.1**
CFR Carcaliu 79.01 319 P **P 06 24 40.9 +0.1**
KNB Kanab 79.06 52 IAmb IAmb 06 24 60.0
comp=Z,20nm,1.2s
TPGR Topolog 79.08 318⇑ P **P 06 24 41.8 +0.6**
MONP2 Monument Peak 79.20 57 P **P 06 24 42.5 +0.2**
baz=307
K22A Casper 79.27 44 P **P 06 24 43.3 +0.7**
baz=310
VRI Vrincioaia 79.29 320⇑ P **P 06 24 43.3 +0.9**
VRI Vrincioaia 79.29 320 P **P 06 24 44.5 +2.1**
PLOR Plostina 79.34 320⇓ P **P 06 24 43.6 +0.9**
PLOR Plostina 79.34 320 P **P 06 24 43.6 +0.9**
TIRR Tirgusor 79.34 318⇑ P **P 06 24 43.2 +0.6**
TIRR Tirgusor 79.34 318 P **P 06 24 43.2 +0.6**
KOLS Kolonicke sedl 79.36 324 *e*P **P 06 24 43.5 +0.8**
KOLS pmax pmax
comp=Z,17nm,1.0s
KOLS Kolonicke sedl 79.36 324 *e*P **P 06 24 43.5 +0.8**
MDND Maddock 79.41 37 P **P 06 24 43.4 +0.4**
baz=314
ULM Lac du Bonnet 79.44 34 LR LR 06 59 29.7
comp=Z,64nm,21.9s,baz=314,slow=35
BR131 Keskin Array S 79.44 312 P **P 06 24 43.3 -0.2**
BR131 IAmb IAmb 06 24 47.3
comp=Z,30nm,1.1s
BR131 Keskin Array S 79.44 312 *c i* P **P 06 24 43.7 +0.2**
BR131 Keskin Array S 79.44 312 P **P 06 24 44.4 +0.9**
SNR=15
BRTR Keskin Array B 79.44 312 *i* P **P 06 24 44.2 +0.7**
BRTR pmax pmax
comp=Z,14nm,1.0s
BRTR Keskin Array B 79.44 312 P **P 06 24 43.4 -0.1**
comp=Z,13nm,1.0s,baz=103,slow=3.9,SNR=45
BRTR LR LR 07 04 38.6
comp=Z,274nm,18.0s,baz=57,slow=39
comp=Z,13nm,1.0s
HARR Harsova 79.45 319⇓ P **P 06 24 44.1 +0.8**
HARR Harsova 79.45 319 P **P 06 24 44.0 +0.8**
STHS Stebnicka Huta 79.50 325 *e*P **P 06 24 43.6 +0.2**
STHS pmax pmax
comp=Z,15nm,0.9s
STHS Stebnicka Huta 79.50 325 *e*P **P 06 24 43.6 +0.2**
RAR Rarotonga 79.56 126 LR LR 06 55 38.6
comp=Z,317nm,19.3s,baz=288,slow=32
COVR Voineasa-Covas 79.57 320⇑ P **P 06 24 44.8 +0.8**
OJC Ojcow 79.57 326 *e*P **P 06 24 44.6 +0.7**
SWSC Sam W. Stewart 79.58 57 P **P 06 24 45.8 +1.6**
baz=307
OZUR 79.61 321⇓ P **P 06 24 45.4 +1.2**
ARCR ARCALIA 79.65 322⇑ P **P 06 24 45.5 +1.2**
RSSD Black Hills 79.68 42 P **P 06 24 45.0 +0.2**
baz=312
CRVS Cervenica-Dubn 79.76 325 *e*P **P 06 24 45.7 +0.8**
CRVS pmax pmax
comp=Z,113nm,2.2s
CRVS Cervenica-Dubn 79.76 325 *e*P **P 06 24 45.7 +0.8**
HMU Henry Mountain 79.79 50 IAmb IAmb 06 25 06.3
comp=Z,21nm,1.2s
TRPA Tarpa 79.80 324⇑ P **P 06 24 46.4 +1.3**
ANTO Ankara 79.85 312 P **P 06 24 47.0 +1.4**
ANTO IAmb IAmb 06 24 47.5
comp=Z,50nm,1.2s
ANTO Ankara 79.85 312 P **P 06 24 47.0 +1.4**
ANTO pmax pmax
comp=Z,50nm,1.3s
PDMCI Parker Dam,Lak 79.86 55 P **P 06 24 46.9 +1.2**
baz=308
ISR Istrita 79.89 320⇑ P **P 06 24 46.8 +1.1**
ISR Istrita 79.89 320 P **P 06 24 46.8 +1.1**
DOPR Dopca 79.91 321⇑ P **P 06 24 46.6 +0.8**
O20A White River Ci 79.91 47 P **P 06 24 46.6 +0.6**
baz=310
NIE Niedzica 79.92 326 *e*P **P 06 24 47.7 +1.9**
MLR Muntele Rosu 79.94 320⇑ P **P 06 24 47.1 +0.9**
MLR Muntele Rosu 79.94 320 IAmb IAmb 06 24 47.9
comp=Z,32nm,1.5s
MLR Muntele Rosu 79.94 320 P **P 06 24 47.0 +0.9**
MLR Muntele Rosu 79.94 320 LR LR 07 03 20.8
comp=Z,864nm,18.3s,baz=45,slow=38
GLA Glamis 80.17 56 P **P 06 24 48.8 +1.4**
baz=308
CJR Cluj-Napoca 80.28 322⇑ P **P 06 24 49.0 +1.2**
CJR Cluj-Napoca 80.28 322 P **P 06 24 49.0 +1.2**
VOIR 80.44 321⇓ P **P 06 24 49.7 +1.0**
VOIR 80.44 321 P **P 06 24 49.8 +1.1**
LANS Liptovska Anna 80.50 326 *e*P **P 06 24 50.1 +1.2**
LANS pmax pmax
comp=Z,11nm,0.9s
LANS Liptovska Anna 80.50 326 *e*P **P 06 24 50.1 +1.2**
MARR Marisel-Cluj 80.55 322⇓ P **P 06 24 49.8 +0.5**
OKC Ostrava-Krasne 80.58 327 *e*P **P 06 24 50.7 +1.5**
OKC MLR MLR
comp=Z,800nm,18.8s
OKC Ostrava-Krasne 80.58 327 *e*P **P 06 24 50.7 +1.5**
OKC AMS AMS 07 03 30.0
comp=Z,800nm,18.8s
KSP Ksiaz 80.62 329 *e*P **P 06 24 50.4 +0.9**

ARR **Arges** 80.70 321 ⇑P P 06 24 51.3 +1.2
N23A **Red Feather La** 80.75 45 IAmb IAmb 06 25 11.0
comp=Z,21nm,1.4s
N23A **Red Feather La** 80.75 45 P P 06 24 52.0 +1.3
baz=311
OSTC **Ostas** 80.87 328 eP P 06 24 51.2 +0.4
OSTC MLR MLR
comp=Z,700nm,16.4s
OSTC **Ostas** 80.87 328 eP P 06 24 51.2 +0.4
OSTC AMS AMS 07 03 20.0
comp=Z,700nm,16.4s
MORC **Moravsky Berou** 80.89 327 ⇑P P 06 24 51.8 +0.8
MORC **Moravsky Berou** 80.89 327 IAmb IAmb 06 24 53.0
comp=Z,22nm,1.0s
MORC **Moravsky Berou** 80.89 327 eP P 06 24 51.6 +0.6
MORC **Moravsky Berou** 80.89 327 P P 06 24 52.3 +1.3
WUAZ **Wupatki** 80.91 52 P P 06 24 53.0 +1.5
baz=309
CHVC **Chvalec** 80.91 329 eP P 06 24 51.7 +0.6
CHVC MLR MLR
comp=Z,500nm,16.2s
CHVC **Chvalec** 80.91 329 eP P 06 24 51.7 +0.6
CHVC AMS AMS 07 03 30.0
comp=Z,500nm,16.2s
DPC **Dobruska-Polom** 80.98 328 eP P 06 24 52.6 +1.1
DPC MLR MLR
comp=Z,600nm,17.6s
DPC **Dobruska-Polom** 80.98 328 eP P 06 24 52.6 +1.1
DPC AMS AMS 07 03 40.0
comp=Z,600nm,17.6s
UPC **Upice** 80.99 328 eP P 06 24 52.3 +0.8
UPC MLR MLR
comp=Z,600nm,16.3s
UPC **Upice** 80.99 328 eP P 06 24 52.3 +0.8
UPC AMS AMS 07 03 40.0
comp=Z,600nm,16.3s
MAUC **Maruska** 81.07 327 eP P 06 24 51.9 0.0
MAUC AMS AMS 07 03 40.0
comp=Z,1μm,16.7s
PSZ **Piszkesteto** 81.20 325 ⇓P P 06 24 53.7 +1.0
PSZ **Piszkesteto** 81.20 325 P P 06 24 52.6 -0.1
PSZ **Piszkesteto** 81.20 325 P P 06 24 52.6 -0.1
PSZ pmax pmax
comp=Z,41nm,1.1s
BORA **Eskisehir** 81.22 314 P P 06 24 52.9 -0.1
BORA IAmb IAmb 06 24 54.4
comp=Z,28nm,1.2s
VYHS **Vyhne** 81.26 326 eP P 06 24 53.8 +0.9
VYHS pmax pmax
comp=Z,22nm,1.1s
VYHS **Vyhne** 81.26 326 eP P 06 24 53.8 +0.9
URZ **Urewera** 81.35 153 LR LR 06 56 35.5
comp=Z,190nm,19.4s,baz=31,slow=32
SZH **Strazhitsa** 81.45 318 eP P 06 24 54.3 +0.3
FLTG **Flechtingen** 81.49 332 eP P 06 24 54.1 +0.1
comp=Z,38nm,1.2s,baz=36,slow=5.1
JAVC **Velka Javorina** 81.51 327 eP P 06 24 55.8 +1.5
BRG **Berggiesshubel** 81.57 330 i P P 06 24 55.4 +1.0
BRG Amp 06 24 56.8
comp=Z,20nm,1.1s
BRG **Berggiesshubel** 81.57 330 P P 06 25 01.1 +6.6
BRG Amp 06 25 01.7
comp=Z,9.9nm,1.0s
BRG **Berggiesshubel** 81.57 330 P P 06 25 06.7 +12
BRG Amp 06 25 07.7
comp=Z,18nm,1.2s
BRG Amp 07 05 08.0
comp=E,0.4nm,14.5s
BRG Amp 07 05 09.0
comp=N,0.5nm,14.8s
BRG Amp 07 05 11.0
comp=Z,0.8nm,14.2s
BRG **Berggiesshubel** 81.57 330 i P P 06 24 55.4 +1.0
BRG 06 25 06.7
BRG pmax pmax
comp=Z,20nm,1.1s
BRG pmax pmax
comp=Z,10.0nm,1.0s
BRG pmax pmax
comp=Z,18nm,1.3s
BRG MLR MLR
comp=E,398nm,14.5s
BRG MLR MLR
comp=N,533nm,14.8s
BRG MLR MLR
comp=Z,768nm,14.2s
BRG **Berggiesshubel** 81.57 330 eP P 06 24 55.5 +1.0
baz=36,slow=5.1
PVCC **Panska Ves** 81.58 329 eP P 06 24 56.0 +1.5
PVCC MLR MLR
comp=Z,700nm,16.4s
PVCC **Panska Ves** 81.58 329 eP P 06 24 56.0 +1.5
PVCC AMS AMS 07 06 10.0
comp=Z,700nm,16.4s
CLL **Collm** 81.61 330 IAmb IAmb 06 24 56.0
comp=Z,29nm,1.0s
CLL **Collm** 81.61 330⇑ i P P 06 24 54.8 +0.1
CLL i 06 24 59.8
CLL eS S 06 35 07.0 +2.1
CLL pmax pmax
comp=Z,33nm,1.1s
CLL **Collm** 81.61 330 eP P 06 24 54.8 +0.1
comp=Z,29nm,1.0s,baz=36,slow=5.1
CLL **Collm** 81.61 330⇑ i P P 06 24 54.8 +0.1
comp=Z,33nm,1.1s
CLL i pP PcP 06 24 59.8 -0.7
CLL ePP PP 06 28 02.0 +1.4
CLL eS S 06 35 07.0 +2.1
CLL eSS SS 06 40 42.0 +21
GZR **Gura Zlata** 81.62 322 ⇑P P 06 24 55.2 +0.2
GZR **Gura Zlata** 81.62 322 P P 06 24 55.3 +0.3
MVCO **Mesa Verde** 81.63 50 P P 06 24 57.1 +1.7
baz=310
VRAC **Vranov** 81.65 327 ⇑P P 06 24 55.8 +0.8
VRAC **Vranov** 81.65 327 eP P 06 24 55.8 +0.8
VRAC **Vranov** 81.65 327 P P 06 24 55.8 +0.8
VRAC **Vranov** 81.65 327 LR LR 07 04 59.4
comp=Z,483nm,18.8s,baz=41,slow=38
ISCO **Idaho Springs** 81.66 46 P P 06 24 57.3 +1.7
baz=311
RICC **Richard** 81.76 329 eP P 06 24 56.8 +1.3
RICC AMS AMS 07 06 30.0
comp=Z,1μm,17.1s
FBE **Freiberg** 81.77 330 eP P 06 24 56.3 +0.8
comp=Z,34nm,1.1s,baz=36,slow=5.1
KRUC **Moravsky** 81.92 327 eP P 06 24 57.1 +0.7
GOPC **GO Pecny, Ondr** 81.95 329 eP P 06 24 57.4 +0.8
GOPC MLR MLR
comp=Z,700nm,16.9s
GOPC **GO Pecny, Ondr** 81.95 329 eP P 06 24 57.4 +0.8
GOPC AMS AMS 07 04 10.0
comp=Z,700nm,16.9s
HSKC **Hora Svate Kat** 81.98 330 eP P 06 24 56.2 -0.5
HSKC AMS AMS 07 05 00.0
comp=Z,800nm,14.2s
PRA **Prague** 81.98 329 eP P 06 24 56.9 +0.2
PRA MLR MLR
comp=Z,700nm,18.0s
PRA **Prague** 81.98 329 eP P 06 24 56.9 +0.2
PRA AMS AMS 07 04 20.0
comp=Z,700nm,18.0s
PRU **Pruhonice** 82.00 329 eP P 06 24 57.3 +0.5
PRU MLR MLR
comp=Z,600nm,17.0s
PRU **Pruhonice** 82.00 329 eP P 06 24 57.3 +0.5
PRU AMS AMS 07 06 00.0
comp=Z,600nm,17.0s
BZS **Buzias** 82.03 322 ⇑P P 06 24 57.2 +0.2
BZS **Buzias** 82.03 322 P P 06 24 57.2 +0.2
MODS **Modra-Piesok** 82.05 326 eP P 06 24 58.6 +1.5
MODS pmax pmax
comp=Z,38nm,1.1s
MODS **Modra-Piesok** 82.05 326 eP P 06 24 58.6 +1.5
ASF **Jabal al Asfar** 82.11 304 LR LR 07 05 15.4
comp=Z,264nm,18.2s,baz=103,slow=38
TREC **Trest** 82.13 328 AMS AMS 07 04 30.0
comp=Z,600nm,18.9s
HERR **Herculane** 82.16 321 ⇑P P 06 24 57.9 +0.2
S22A **4UR Ranch, Cre** 82.29 48 P P 06 25 00.5 +1.5
baz=311
MMAI **Mount Meron Ar** 82.57 306 P P 06 25 00.2 +0.1
comp=Z,14nm,0.8s,baz=49,slow=6.7,SNR=19
MMAI LR LR 07 05 37.6
comp=Z,365nm,18.2s,baz=16,slow=39
comp=Z,14nm,0.8s

ZVC **Zvikov** 82.57 329 eP P 06 25 00.2 +0.4
ZVC AMS AMS 07 04 40.0
comp=Z,700nm,15.9s
MDVR **Moldovita** 82.58 322 ⇓P P 06 25 00.1 +0.1
WERN **Wernitzgruen** 82.65 330 eP P 06 25 00.8 +0.5
comp=Z,15nm,1.0s,baz=36,slow=5.1
NKC **Novy Kostel** 82.67 330 AMS AMS 07 05 00.0
comp=Z,600nm,16.4s
MOX **Moxa** 82.67 331 eL L 07 06 30.7
comp=Z,350nm,18.0s
PGB **Panagyurishte** 82.92 319 eP P 06 25 02.6 +0.8
RONA **Rosalia, Austr** 82.99 326 i P P 06 25 03.1 +1.1
comp=Z,35nm,1.2s,SNR=13
MANZ **Manzenberg** 82.99 330 eP P 06 25 02.3 +0.3
comp=Z,3.0nm,0.9s,baz=36,slow=5.1
CKRC **Cesky Krumlov** 83.00 328 eP P 06 25 02.4 +0.4
CKRC **Cesky Krumlov** 83.00 328 eP P 06 25 02.4 +0.4
CONA **Conrad Observa** 83.01 327 i PcP P 06 25 03.5 +1.3
comp=Z,26nm,1.1s,SNR=11
MORH **Mrgy, Hungar** 83.03 324 ⇑P P 06 25 02.4 +0.2
ALN **Alexandroupoli** 83.03 317 IAmb IAmb 06 25 04.0
comp=Z,25nm,1.2s
KHC **Kasperske Hory** 83.06 329 IAmb IAmb 06 25 04.2
comp=Z,28nm,1.1s
KHC **Kasperske Hory** 83.06 329c i P P 06 25 02.8 +0.4
KHC pmax pmax
comp=Z,54nm,1.0s
KHC **Kasperske Hory** 83.06 329 eP P 06 25 02.9 +0.5
KHC AMS AMS 07 05 00.0
comp=Z,700nm,18.2s
SDCO **Great Sand Dun** 83.08 48 P P 06 25 04.7 +1.6
baz=312
ROTZ **Rotzenmuhle** 83.13 330 eP P 06 25 03.4 +0.8
comp=Z,6.2nm,1.3s,baz=36,slow=5.1
GEC2 **GERESS Array S** 83.23 329 IAmb IAmb 06 25 04.7
comp=Z,16nm,1.1s
GEC2 **GERESS Array S** 83.23 329 eP P 06 25 03.5 +0.2
comp=Z,14nm,1.0s,baz=36,slow=5.1
GERES **GERESS Array B** 83.23 329 P P 06 25 03.0 -0.4
comp=Z,8.4nm,0.9s,baz=28,slow=6.0,SNR=20
GERES LR LR 07 07 21.1
comp=Z,509nm,18.4s,baz=26,slow=40
comp=Z,8.4nm,0.9s
MANT **Manisa** 83.24 314 P P 06 25 03.9 +0.1
TUC **Tucson** 83.30 55 P P 06 25 05.8 +1.7
baz=310
WET **Wettzell** 83.34 329 eP P 06 25 04.3 +0.5
comp=Z,18nm,1.1s,baz=36,slow=5.1
VTS **Vitosha** 83.34 319 ⇑P P 06 25 04.9 +0.7
VTS **Vitosha** 83.34 319 P P 06 25 04.8 +0.7
VTS **Vitosha** 83.34 319 eP P 06 25 03.7 -0.4
BOVS **Bovan** 83.41 321 ⇑P P 06 25 04.4 +0.2
EKA **Eskdalemuir Ar** 83.57 341 P P 06 25 04.3 -0.5
comp=Z,3.1nm,0.7s,baz=12,slow=4.3,SNR=5.0
comp=Z,3.1nm,0.7s
PMOR **Pomariorio Ree** 83.57 114 eT T 07 57 21.2
comp=Z,7.3nm,0.2s
GRF **Grafenberg Arr** 83.58 330 eL L 07 05 12.6
comp=Z,296nm,18.9s
ARSA **Arzberg** 83.67 327 eP P 06 25 06.1 +0.6
comp=Z,17nm,1.4s
MOA **Molln** 83.76 328 i P P 06 25 06.8 +0.8
comp=Z,17nm,1.2s,SNR=5.5
ECSD **EROS Data Cent** 83.80 39 IAmb IAmb 06 25 07.7
comp=Z,8.6nm,1.1s
ECSD **EROS Data Cent** 83.80 39 P P 06 25 06.5 +0.2
baz=316
MMB **Musomishta** 83.83 318 eP P 06 25 07.1 +0.6
KSCO **Kaye Shedlock'** 83.90 45 P P 06 25 08.1 +1.1
baz=313
DIVS **Divibare** 83.93 322 IAmb IAmb 06 25 08.5
comp=Z,21nm,1.1s
DIVS **Divibare** 83.93 322 eP P 06 25 07.3 +0.3
PPT **Papeete** 84.03 117 LR LR 06 56 53.6
comp=Z,236nm,19.9s,baz=292,slow=32
PPT2 **Papeete2** 84.04 117 eLR LR 06 50 55.7
comp=Z,371nm,32.8s
PPT2 eLR LR 06 51 20.0
comp=Z,537nm,26.2s
T25A **Trinidad** 84.13 47 IAmb IAmb 06 25 21.8
comp=Z,8.1nm,0.9s
T25A **Trinidad** 84.13 47 P P 06 25 09.7 +1.4
baz=312
BIOA **Bad Ischl, Aus** 84.15 328 i P P 06 25 08.7 +0.7
comp=Z,23nm,1.1s,SNR=6.2
RPZ **Rata Peaks** 84.31 159 LR LR 06 57 46.5
comp=Z,176nm,19.1s,baz=332,slow=32
PERS **Pernice** 84.32 326 i P P 06 25 09.2 +0.3
SOKA **Soboth** 84.33 326 i P P 06 25 08.9 0.0
comp=Z,29nm,1.1s,SNR=18
ANMO **Albuquerque** 84.35 50 P P 06 25 08.8 -0.7
ANMO **Albuquerque** 84.35 50⇑ eP P 06 25 11.2 +1.7
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO **Albuquerque** 84.35 50 P P 06 25 11.2 +1.7
baz=311
ANMO **Albuquerque** 84.35 50 LR LR 06 57 21.0
comp=Z,45nm,21.4s,baz=68,slow=32
BBLS **Lazići** 84.39 322 eP P 06 25 09.7 +0.4
RJOB **Jochberg** 84.47 328 eP P 06 25 10.4 +0.7
comp=Z,22nm,1.1s,baz=36,slow=5.1
SPMN **Marine on St.** 84.54 36 P P 06 25 11.3 +1.3
baz=319
STIP **Stip** 84.55 319 i P P 06 25 09.6 -0.5
SJES **Sjenica** 84.55 322 eP P 06 25 10.4 +0.2
GOLS **Golise** 84.57 326 i P P 06 25 10.1 -0.1
RUDO **Rudo** 84.59 322 eP P 06 25 09.9 -0.4
BGNE **Belgrade** 84.68 41 P P 06 25 11.9 +1.1
baz=316
SKO **Skopje** 84.74 320 i P P 06 25 12.1 +1.0
KBA **Koelnbreinsper** 84.75 328 ePcP P 06 25 12.6 +1.3
comp=Z,11nm,0.9s
LESA **Schwarzleotal** 84.77 328 eP P 06 25 11.6 +0.4
comp=Z,17nm,1.2s
BTNL **Ternell** 84.78 334 dP P 06 25 10.9 -0.2
comp=Z,11nm,1.1s
CRES **Cresnjev** 84.79 326 eP P 06 25 10.7 -0.5
MEM **Membach** 84.80 334 dP P 06 25 11.9 +0.7
BLY **Banja Luka** 84.80 324 eP P 06 25 11.8 +0.5
MYKA **Terra Mystica** 84.97 327 eP P 06 25 12.0 -0.2
comp=Z,8.0nm,1.1s
BSTI **Sart Tilman** 84.98 334 dP P 06 25 12.8 +0.7
MGRS **Mrkonjic Grad** 85.10 324 eP P 06 25 13.8 +0.9
121A **Cookes Peak, D** 85.10 53 IAmb IAmb 06 25 34.1
comp=Z,12nm,1.2s
121A **Cookes Peak, D** 85.10 53 P P 06 25 14.1 +0.8
baz=311
UPM **Unac-Piva** 85.12 322 eP P 06 25 12.8 -0.4
BOJS **Bojanci** 85.12 326 i P P 06 25 12.8 -0.1
PRED **Cave del Predi** 85.15 327 IAmb IAmb 06 25 18.4
comp=Z,7.5nm,0.9s
BCLA **Clavier** 85.21 334 dP P 06 25 13.5 +0.2
WATA **Walderalm** 85.30 329 ePcP P 06 25 14.9 +0.9
comp=Z,3.3nm,0.5s
BGES **Gesves** 85.31 334 dP P 06 25 14.1 +0.3
CEY **Cerknica** 85.32 326 eP P 06 25 13.4 -0.5
WTTA **Wattenberg** 85.33 329 ePcP P 06 25 14.5 +0.3
comp=Z,10nm,1.1s
ABTA **Abfaltersbach** 85.37 328 eP P 06 25 13.4 -0.8
comp=Z,11nm,1.2s
CLUD **Cludinico** 85.44 327 IAmb IAmb 06 25 15.0
comp=Z,19nm,1.0s
RCHB **Rochefort** 85.45 334 dP P 06 25 14.0 -0.5
comp=Z,13nm,1.1s
SCHQ **Schefferville** 85.45 16 LR LR 07 04 02.4
comp=Z,150nm,21.8s,baz=296,slow=36
MOTA **Moosalm** 85.49 329 i P P 06 25 15.0 +0.1
comp=Z,19nm,1.2s,SNR=6.1
BMRD **Maredsous** 85.49 334 dP P 06 25 15.1 +0.4
comp=Z,22nm,1.1s
RETA **Reutte** 85.52 329 i PcP P 06 25 15.5 +0.6
comp=Z,30nm,1.1s,SNR=10
PDG **Podgorica** 85.52 321 ⇑P P 06 25 15.2 +0.3
PDG **Podgorica** 85.52 321 eP P 06 25 14.7 -0.2
SQTA **Sankt Quirin** 85.55 329 ePcP P 06 25 15.5 +0.4
comp=Z,5.0nm,0.7s
TAOE **Nuku Hiva Isla** 85.58 104 eLR LR 06 52 10.7
comp=Z,650nm,22.6s
SKDS **Skadanscina** 85.65 326 eP P 06 25 12.7 -2.9
STAL **STALIGIAL** 85.67 327 IAmb IAmb 06 25 25.1
comp=Z,18nm,0.8s
OHR **Ohrid** 85.69 320 i P P 06 25 16.5 +0.6
DOU **Dourbes** 85.73 334 dP P 06 25 15.8 0.0
CIMO **Cimolais** 85.74 328 IAmb IAmb 06 25 15.9
comp=Z,8.9nm,1.1s
BFO **Black Forest** 85.81 331 P P 06 25 16.1 -0.2

BFO **Black Forest** 85.81 331 P P 06 25 16.1 -0.2
BFO pmax pmax
comp=Z,41nm,1.1s
BFO **Black Forest** 85.81 331 eP P 06 25 16.5 +0.1
comp=Z,40nm,1.1s,baz=36,slow=5.1
HCY **Herceg Novi** 85.89 322 eP P 06 25 16.3 -0.5
FETA **Feichten** 85.90 329 i P P 06 25 17.1 +0.1
comp=Z,13nm,1.1s,SNR=6.3
STON **Ston** 85.96 323 eP P 06 25 15.6 -1.5
DAVA **Damuels** 86.04 330 i PcP P 06 25 17.9 +0.3
comp=Z,30nm,1.1s,SNR=9.7
CTI **Castel Tesino** 86.29 328 IAmb IAmb 06 25 34.1
comp=Z,14nm,1.2s
FUORN **Ofenpass-Fuorn** 86.42 329 IAmb IAmb 06 25 21.2
comp=Z,23nm,1.1s
DAVOX **Davos/Dischmat** 86.44 329 LR LR 07 07 34.2
comp=Z,620nm,18.3s,baz=28,slow=38
TUE **Stuetta** 86.91 329 IAmb IAmb 06 25 27.6
comp=Z,23nm,1.3s
MNTX **Cornudas Mount** 87.18 52 P P 06 25 23.5 +0.1
baz=312
JFWS **Jewell Farm** 87.50 36 P P 06 25 24.2 -0.4
baz=321
N38A **Joes South For** 87.66 39 IAmb IAmb 06 25 27.1
comp=Z,22nm,1.1s
TBI **Tubuai** 87.92 121 eLR LR 06 52 39.3
comp=Z,2μm,22.8s
TBI eLR LR 06 53 02.9
comp=Z,10μm,22.5s
MATE **Matera** 88.12 322 ⇓P P 06 25 27.8 +0.2
CAMP **Campotosto** 88.26 325 IAmb IAmb 06 25 29.6
comp=Z,16nm,1.0s
INTR **Introdacqua** 88.44 324 IAmb IAmb 06 25 35.9
comp=Z,10nm,0.8s
GLMI **Grayling** 88.47 31 P P 06 25 30.4 +1.1
baz=324
WMOK **Wichita Mounta** 89.08 46 P P 06 25 33.7 +1.4
baz=316
HDIL **Hopedale** 89.77 37 P P 06 25 35.9 +0.4
baz=321
TX31 **Lajitas Ar. Si** 89.86 53 IAmb IAmb 06 25 49.3
comp=Z,18nm,1.1s
TXAR **Lajitas Array** 89.86 53 P P 06 25 36.4 +0.2
comp=Z,1.6nm,0.8s,baz=299,slow=3.1,SNR=18
TXAR LR LR 07 02 07.8
comp=Z,117nm,18.9s,baz=310,slow=33
comp=Z,1.6nm,0.8s
TUL3 **Leonard** 89.93 43 P P 06 25 36.7 +0.5
baz=317
S39A **Bolivar** 89.94 41 IAmb IAmb 06 25 48.2
comp=Z,7.6nm,0.9s
ABTX **Abilene, Hawle** 90.08 48 P P 06 25 37.7 +0.7
baz=315
U38A **Gravette** 90.31 42 IAmb IAmb 06 25 50.4
comp=Z,8.5nm,0.9s
HHAR **Hobbs** 90.67 42 IAmb IAmb 06 25 51.9
comp=Z,6.5nm,0.9s
SADO **Sadowa** 90.69 28 LR LR 07 08 14.7
comp=Z,92nm,21.8s,baz=346,slow=37
CCM **Cathedral Cave** 90.74 39 P P 06 25 40.1 +0.1
CCM IAmb IAmb 06 25 53.0
comp=Z,20nm,1.3s
CCM **Cathedral Cave** 90.74 39 P P 06 25 40.1 +0.1
CCM pmax pmax
comp=Z,20nm,1.3s
CCM **Cathedral Cave** 90.74 39 P P 06 25 40.6 +0.7
baz=320
MGMO **Mountain Grove** 90.90 40 IAmb IAmb 06 25 53.4
comp=Z,7.5nm,0.8s
BRDY **Brady** 91.41 49 IAmb IAmb 06 25 55.6
comp=Z,5.4nm,0.9s
T42A **Van Buren** 91.60 40 IAmb IAmb 06 25 56.4
comp=Z,6.2nm,0.8s
VAE **Valguarnera** 91.69 321 LR LR 07 11 02.4
comp=Z,310nm,18.2s,baz=48,slow=38
WHTX **Lake Whitney,** 91.82 47 IAmb IAmb 06 25 58.7
comp=Z,12nm,0.9s
WHTX **Lake Whitney,** 91.82 47 P P 06 25 46.1 +0.9
baz=316
FCAR **Ozark Folk Cen** 91.93 41 IAmb IAmb 06 25 58.1
comp=Z,8.3nm,1.0s
O48B **Farmland** 91.94 34 P P 06 25 45.7 +0.2
baz=324
MIAR **Mount Ida** 92.16 43 IAmb IAmb 06 26 00.0
comp=Z,14nm,1.0s
MIAR **Mount Ida** 92.16 43 P P 06 25 47.7 +1.1
baz=319
WHAR **Wooly Hollow** 92.29 42 IAmb IAmb 06 26 00.1
comp=Z,12nm,0.9s
LONY **Lake Ozonia** 92.46 25 P P 06 25 48.5 +0.7
baz=331
PKME **Peaks-Kenny Pk** 93.58 22 P P 06 25 52.5 -0.4
baz=335
BINY **Binghamton** 94.08 27 P P 06 25 56.0 +0.7
baz=330
KEST **Kesra** 95.57 323 LR LR 07 14 52.7
comp=Z,350nm,18.8s,baz=330,slow=39
ESDC **Sonseca Array** 97.78 334 P P 06 26 11.3 -0.9
comp=Z,1.4nm,0.9s,baz=16,slow=3.8,SNR=8.6
ESDC LR LR 07 14 51.9
comp=Z,508nm,20.1s,baz=16,slow=38
comp=Z,1.4nm,0.9s
TORD **Torodi Ar. Bea** 117.91 315 PKP PKPdf 06 31 23.2 -0.8
comp=Z,0.9nm,1.0s,baz=20,slow=4.6,SNR=3.0
QSPA **South Pole Qui** 126.50 180 PKP PKPdf 06 31 38.1 -0.8
comp=Z,1.5nm,0.9s,baz=301,slow=1.6,SNR=2.8
ELIB **Princess Elisa** 133.35 202 dPKP PKiKP 06 31 53.7 +0.5
SNAA **Sanae** 140.64 197 PKhKP PKPpre 06 31 56.9
comp=Z,0.8nm,0.8s,baz=175,slow=11,SNR=2.5
SAML **Samuel** 144.06 46 eP PKPdf 06 32 13.2 +0.1
LPAZ **La Paz** 146.36 61 PKPbc PKPbc 06 32 19.4 +0.4
comp=Z,8.0nm,0.9s,baz=328,slow=4.6,SNR=25
H03N2 **Juan Fernandez** 146.46 97 T T 09 16 38.0
baz=291,slow=74
H03N3 **Juan Fernandez** 146.47 97 T T 09 16 55.9
baz=291
H03N1 **Juan Fernandez** 146.47 97 T T 09 16 36.3
baz=291,slow=74
VILB **Vilhena** 149.00 46 PKPdf 06 32 20.8 -0.6
VILB PKPbc PKPbc 06 32 26.7 +1.2
BO02 **Sierra Bellavi** 153.33 96 PKPdf PKPdf 06 32 27.4 -0.1
BO02 PKPab PKPab 06 32 47.2 0.0
ITAB **Concordia** 164.67 56 eP PKPdf 06 32 41.7 +0.8

IDC 12 06:34:04.8±2.5, 54°.16N×86°.29E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=18.5km s-min=11.5km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**257**	I	I	06 39 32.1	
	baz=75,slow=333,SNR=4.2						
ZALV	**Zalesovo Beam**	**0.90**	**257**	Pg	Pg	06 34 20.7	-1.3
	2.2nm,0.3s,baz=75,slow=17,SNR=11						
ZALV				Lg	Lg	06 34 34.3	
	5.5nm,0.3s,baz=78,slow=31,SNR=22						
KURBB	**Kurchatov Arra**	**5.93**	**236**	Pn	Pn	06 35 34.9	+1.1
	0.1nm,0.3s,baz=53,slow=13,SNR=6.2						
KURBB				Sn	Sn	06 36 43.0	+0.7
	baz=60,slow=25,SNR=1.7						
KURBB				Lg	Lg	06 37 15.4	
	baz=48,slow=30,SNR=2.0						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	06 36 00.4	+0.8
	0.2nm,0.3s,baz=24,slow=11,SNR=6.3						
	0.3nm,0.3s						

---

*IDC **12** 06:42:47.3±3.2, 53°.52N×90°.90E, h0km, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=26.7km s-min=22.6km az=60.0*

*NNC **12** 06:42:53.2±3.6, 53°.43N×90°.43E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=27.8km s-min=17.0km az=66.0, Suspected Mining explosion.*

ISC 12 06:42:51.8±4.2, 53°.6N±0°.1×90°.4E±0°.2, h0km, n8, σ1s58/12, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.33**	**279**	I	I	07 09 10.0	
	0.1nm,1.2s,baz=92,slow=321,SNR=4.0						
ZAA0	**Zalesovo Array**	**3.33**	**279**	⇑Pg	**Pg**	**06 43 55.0**	**-0.6**
	1.2nm,0.5s						
ZAA0				⇓Lg	Lg	06 44 42.4	
	7.1nm,0.9s						
ZALV	**Zalesovo Beam**	**3.33**	**279**	Pn	**Pn**	**06 43 46.0**	**+0.9**

2.3nm,0.3s,baz=94,slow=14,SNR=0.9
ZALV Lg Lg 06 44 40.7
1.4nm,0.3s,baz=90,slow=25,SNR=9.4
KURBB Kurchatov Arra 7.88 253 ⇓Pn **Pn 06 44 46.3 -1.2**
0.6nm,0.3s
KURBB ⇑Sn **Sn 06 46 18.0 +0.8**
17nm,0.7s
KURBB ⇑Lg Lg 06 47 04.3
19nm,0.8s
KURBB Kurchatov Arra 7.88 253 Pn **Pn 06 44 47.4 -0.1**
0.2nm,0.3s,baz=65,slow=14,SNR=11
KURBB Sn **Sn 06 46 17.5 +0.2**
baz=67,slow=25,SNR=5.8
KURBB Lg Lg 06 47 07.8
baz=58,slow=30,SNR=6.6
2.0nm,0.6s
MK31 Makanchi Array 8.54 221 ⇓Pn **Pn 06 44 56.9 +0.3**
0.3nm,0.5s,baz=36,slow=14,SNR=8.0
MK31 ⇓Sn **Sn 06 46 32.9 -0.7**
0.8nm,0.6s,baz=38,slow=21,SNR=6.2
MK31 ⇓Lg Lg 06 47 19.8
5.8nm,0.9s,baz=39,slow=31,SNR=4.2
MKAR Makanchi Array 8.54 221 Pn **Pn 06 44 54.5 -2.1**
0.3nm,0.3s,baz=33,slow=13,SNR=9.6
MKAR Sn **Sn 06 46 32.3 -1.3**
0.1nm,0.3s,baz=38,slow=22,SNR=8.6
MKAR Lg Lg 06 47 23.4
0.1nm,0.3s,baz=43,slow=22,SNR=2.9
0.4nm,0.3s
MAKZ Makanchi 8.65 222 ⇑Pn **Pn 06 45 00.3 +2.1**
0.2nm,0.3s
MAKZ ⇓Sn **Sn 06 46 39.1 +2.8**
0.8nm,0.7s
MAKZ ⇑Lg Lg 06 47 22.1
5.5nm,0.8s

---

*SJA **12** 06:49:22.5±0.9, 33°.11S×71°.88W, h25km±3km, ML3.9, MW3.9*
*GUC **12** 06:49:25.8±0.8, 33°.13S×71°.78W, h34km±2km, ML3.9*
*NEIC **12** 06:49:26.1±1.7, 33°.12S±0°.03×71°.68W±0°.07, h30km±3km, mb3.7/5, ML3.9(GUC), Error ellipse: s-maj=8.2km s-min=4.4km az=105.0*
*IDC **12** 06:49:28.2±3.1, 33°.24S×71°.92W, h56km±29km, mb3.3/3, mbtmp3.6/8, ML3.7/5, MS3.1/2, Error ellipse: s-maj=28.4km s-min=19.8km az=104.0*
ISC 12 06:49:26.0±0.8, **33°.11S**±0°.03×**71°.80W**±0°.04, **h30**km±5km, **n101**, σ1§**50**/113, **mb3.8**/5, **2C-13D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.15**	**56**		**Pb**	**06 49 31.1**	**-0.7**
VA01				Sg	**Sb**	**06 49 35.2**	**-0.4**
VA01	**Torpederas**	**0.15**	**56**	⇑*i* P	**Pb**	**06 49 31.4**	**-0.4**
VA01				*i* S	**Sb**	**06 49 35.3**	**-0.4**
VA01	**Torpederas**	**0.15**	**56**	*e*P	**Pn**	**06 49 30.4**	**-1.8**
VA01				IAML		06 49 35.9	
comp=Z,56μm,1.0s							
VA05	**Santo Domingo**	**0.57**	**165**		**Pn**	**06 49 36.7**	**-1.3**
VA05				Sg	**Sb**	**06 49 44.2**	**-1.2**
VA05	**Santo Domingo**	**0.57**	**165**	*i* P	**Pn**	**06 49 36.7**	**-1.3**
VA05				*i* S	**Sb**	**06 49 44.3**	**-1.2**
VA05				IAML		06 49 45.9	
comp=E,9μm,0.2s							
MT02	**Curacav**	**0.57**	**105**		**Pn**	**06 49 36.6**	**-1.4**
MT02				Sg	**Sb**	**06 49 42.9**	**-2.7**
MT02	**Curacav**	**0.57**	**105**	⇓*i*P	**Pn**	**06 49 36.7**	**-1.4**
MT02	**Curacav**	**0.57**	**105**	*e*P	**Pn**	**06 49 35.6**	**-2.4**
ROC1	**El Roble**	**0.67**	**79**		**Pn**	**06 49 37.5**	**-2.1**
ROC1				Sg	**Sn**	**06 49 44.9**	**-4.3**
ROC1	**El Roble**	**0.67**	**79**	*i* P	**Pn**	**06 49 38.0**	**-1.7**
MT01	**Popeta**	**0.88**	**149**		**Pn**	**06 49 41.5**	**-0.8**
MT01					**Sn**	**06 49 52.6**	**-1.5**
MT01	**Popeta**	**0.88**	**149**	⇓*i*P	**Pn**	**06 49 41.5**	**-0.8**
MT01				*i* S	**Sn**	**06 49 52.9**	**-1.3**
MT01				IAML		06 49 55.4	
comp=E,7μm,0.3s							
MT01	**Popeta**	**0.88**	**149**	*e*P	**Pn**	**06 49 40.5**	**-1.8**
MT01				IAML		06 49 54.5	
comp=Z,3μm,0.3s							
MT05	**Renca**	**0.93**	**108**		**Pn**	**06 49 42.3**	**-0.7**
MT05	**Renca**	**0.93**	**108**	⇓*i*P	**Pn**	**06 49 42.6**	**-0.4**
MT05	**Renca**	**0.93**	**108**	*e*P	**Pn**	**06 49 41.8**	**-1.2**
PEL	**Peldehue**	**0.93**	**92**		**Pn**	**06 49 42.3**	**-0.8**
PEL	**Peldehue**	**0.93**	**92**	⇓*i*P	**Pn**	**06 49 42.8**	**-0.3**
PEL				*i* S	**Sn**	**06 49 54.7**	**-0.7**
PEL	**Peldehue**	**0.93**	**92**	*i* P	**Pn**	**06 49 42.0**	**-1.0**
PEL				*e*S	**Sb**	**06 49 56.7**	**+0.9**
MT09	**Talagante**	**0.95**	**135**		**Pn**	**06 49 42.4**	**-1.0**
MT09	**Talagante**	**0.95**	**135**	⇓*i*P	**Pn**	**06 49 42.7**	**-0.7**
MT09				*i* S	**Sn**	**06 49 55.0**	**-1.0**
MT09				IAML		06 49 59.2	
comp=N,6μm,0.2s							
MT14	**Cerro Calı́n**	**1.09**	**106**	⇓*i*P	**Pn**	**06 49 45.2**	**-0.1**
MT14				*i* S	**Sb**	**06 49 59.9**	**-0.5**
MT14				IAML		06 50 02.9	
comp=N,5μm,0.5s							
VA03	**San Esteban**	**1.10**	**72**		**Pn**	**06 49 44.8**	**-0.6**
VA03	**San Esteban**	**1.10**	**72**	⇓*i*P	**Pn**	**06 49 44.9**	**-0.6**
VA03				*i* S	**Sn**	**06 49 59.2**	**-0.5**
VA03				IAML		06 50 01.9	
comp=E,5μm,0.5s							
VA03	**San Esteban**	**1.10**	**72**	*e*P	**Pn**	**06 49 44.2**	**-1.2**
VA03				IAML		06 50 04.5	
comp=Z,3μm,0.5s							
MT03	**Universidad Ad**	**1.14**	**110**	Pn	**Pn**	**06 49 45.8**	**-0.2**
MT03	**Universidad Ad**	**1.14**	**110**	⇓*i*P	**Pn**	**06 49 46.0**	**0.0**
MT03				*i* S	**Sb**	**06 50 00.5**	**-1.3**
MT03	**Universidad Ad**	**1.14**	**110**	*e*P	**Pn**	**06 49 45.2**	**-0.8**
MT03				IAML		06 50 05.9	
comp=Z,4μm,0.2s							
MT12	**Pirque**	**1.21**	**121**	⇓*i*P	**Pn**	**06 49 47.0**	**0.0**
MT12				*i* S	**Sb**	**06 50 02.8**	**-1.0**
MT12				IAML		06 50 06.2	
comp=E,7μm,0.5s							
FCH	**Farellones**	**1.28**	**100**	*i* P	**Pn**	**06 49 48.1**	**0.0**
FCH				*i* S	**Sb**	**06 50 05.4**	**-0.5**
FCH				IAML		06 50 07.7	
comp=E,2μm,0.2s							
BO04	**La Punta**	**1.32**	**132**	Pn	**Pn**	**06 49 48.1**	**-0.3**
BO04	**La Punta**	**1.32**	**132**	⇓*i*P	**Pn**	**06 49 48.7**	**+0.2**
BO04				*i* S	**Sb**	**06 50 05.6**	**-1.3**
BO04				IAML		06 50 09.1	
comp=N,3μm,0.5s							
BO03	**Pichilemu**	**1.39**	**186**	⇑*i*P	**Pn**	**06 49 48.7**	**-0.6**
BO03				*i* S	**Sn**	**06 50 05.4**	**-1.3**
BO01	**Tunca**	**1.41**	**155**	Pn	**Pn**	**06 49 49.5**	**-0.1**
BO01	**Tunca**	**1.41**	**155**	*i* P	**Pn**	**06 49 49.5**	**-0.1**
BO01	**Tunca**	**1.41**	**155**	*e*P	**Pn**	**06 49 49.5**	**-0.1**
BO01				*e*S	**Sb**	**06 50 08.3**	**-1.0**
MT13	**San Alfonso**	**1.41**	**117**	Pn	**Pn**	**06 49 50.1**	**+0.3**
MT13	**San Alfonso**	**1.41**	**117**	⇓*i*P	**Pb**	**06 49 50.2**	**-1.6**
MT13				*i* S	**Sb**	**06 50 08.1**	**-1.4**
MT13				IAML		06 50 10.7	
comp=E,7μm,0.3s							
LMEL	**Las Melosas**	**1.52**	**119**	Pn	**Pn**	**06 49 51.7**	**+0.4**
LMEL	**Las Melosas**	**1.52**	**119**	⇓*i*P	**Pb**	**06 49 51.9**	**-1.7**
LMEL				*i* S	**Sb**	**06 50 11.9**	**-0.7**
LMEL				IAML		06 50 14.9	
comp=N,4μm,0.1s							
MT08	**Bocatoma Ro**	**1.53**	**103**	⇓*i*P	**Pb**	**06 49 52.2**	**-1.6**
MT08				IAML		06 50 15.5	
comp=E,2μm,0.5s							
BO02	**Sierra Bellavi**	**1.88**	**154**	Pn	**Pn**	**06 49 56.3**	**+0.1**
BO02	**Sierra Bellavi**	**1.88**	**154**	*i* P	**Pn**	**06 49 56.8**	**+0.6**
BO02				*i* S	**Sb**	**06 50 21.1**	**-1.7**
BO02				IAML		06 50 25.9	
comp=N,2μm,0.3s							
BO02	**Sierra Bellavi**	**1.88**	**154**	*e*P	**Pn**	**06 49 56.1**	**0.0**
BO02				IAML		06 50 28.3	
comp=Z,933nm,0.4s							
GO05	**Huala**	**1.90**	**183**	Pn	**Pn**	**06 49 55.7**	**-0.7**
GO05	**Huala**	**1.90**	**183**	*e*P	**Pn**	**06 49 55.0**	**-1.3**
CO02	**Combarbal**	**2.02**	**20**	Pn	**Pn**	**06 49 58.2**	**+0.2**
CO02	**Combarbal**	**2.02**	**20**	*i* P	**Pn**	**06 49 58.3**	**+0.2**
CO02				*e*S	**Sb**	**06 50 25.0**	**-1.8**
CO02				IAML		06 50 30.0	
comp=E,3μm,0.3s							
CO02	**Combarbal**	**2.02**	**20**	*e*P	**Pn**	**06 49 57.7**	**-0.3**
CO02				IAML		06 50 28.6	
comp=Z,937nm,0.3s							
CO06	**Fray Jorge**	**2.43**	**3**	Pn	**Pn**	**06 50 02.9**	**-0.8**
CO03	**El Pedregal**	**2.45**	**23**	Pn	**Pn**	**06 50 04.5**	**+0.6**
CO03	**El Pedregal**	**2.45**	**23**	*i* P	**Pn**	**06 50 03.6**	**-0.4**
CO03	**El Pedregal**	**2.45**	**23**	*e*P	**Pn**	**06 50 03.7**	**-0.3**
CO03				IAML		06 50 42.1	
comp=Z,277nm,0.6s							
RTLS	**Leoncito**	**2.48**	**59**	*i* P	**Pb**	**06 50 07.4**	**-2.8**
RTLS				*e*S	**Sb**	**06 50 37.8**	**-2.6**
AAGR	**Agrelo**	**2.49**	**90**	*e*P	**Pb**	**06 50 10.0**	**-0.1**
ASAL	**Salagasta**	**2.54**	**79**	*e*P	**Pb**	**06 50 09.3**	**-1.7**
ML02	**Panimavida**	**2.67**	**173**	Pn	**Pn**	**06 50 06.7**	**-0.2**
GO04	**Tololo Observa**	**3.05**	**16**	Pn	**Pn**	**06 50 10.9**	**-1.4**
GO04	**Tololo Observa**	**3.05**	**16**	*e*P	**Pn**	**06 50 10.6**	**-1.7**
DOCA	**Reserva Natura**	**3.15**	**48**	*e*P	**Pn**	**06 50 17.3**	**+3.4**
CO05	**La Serena**	**3.21**	**9**	Pn	**Pn**	**06 50 13.9**	**-0.5**
RFA	**San Rafael**	**3.23**	**122**	*e*P	**Pn**	**06 50 16.4**	**+1.7**
RTLL	**Cerro Villicun**	**3.33**	**59**	*e*P	**Pn**	**06 50 19.3**	**+3.3**
RTLL				IAML		06 51 13.3	
comp=Z,164nm,0.5s							
CFA	**Coronel Fontan**	**3.36**	**64**	P	Pb	06 50 20.4	-4.5
comp=Z,20nm,0.3s,baz=244,slow=11,SNR=78							
CFA				S	**Sb**	**06 51 01.8**	**-3.7**
comp=Z,31nm,0.3s,baz=150,slow=20,SNR=1.8							
CFA				LR	LR	06 51 40.3	
comp=Z,80nm,19.9s,baz=50,slow=38							
comp=Z,39nm,0.3s							
CO01	**Juntas del Tor**	**3.44**	**25**	Pn	**Pn**	**06 50 19.1**	**+1.3**
CO01	**Juntas del Tor**	**3.44**	**25**	*e*P	**Pn**	**06 50 18.6**	**+0.9**
CO01				IAML		06 51 13.4	
comp=Z,161nm,0.8s							
AROD	**Rodeo**	**3.54**	**35**	*e*P	**Pn**	**06 50 22.6**	**+3.4**
LCO	**Las Campanas**	**4.19**	**13**	Pn	**Pn**	**06 50 27.5**	**-0.6**
LCO	**Las Campanas**	**4.19**	**13**	*e*P	**Pn**	**06 50 27.4**	**-0.7**
LCO				IAML		06 51 35.3	
comp=Z,191nm,0.5s							
AC04	**Llanos de Chal**	**4.93**	**7**	Pn	**Pn**	**06 50 36.4**	**-1.6**
AC04	**Llanos de Chal**	**4.93**	**7**	*e*P	**Pn**	**06 50 36.1**	**-1.9**
AC04				IAML		06 52 05.9	
comp=Z,67nm,0.8s							
GO03	**Copiap**	**5.66**	**14**	Pn	**Pn**	**06 50 47.4**	**-0.7**
AC06	**Mina Casimiro**	**5.87**	**13**	Pn	**Pn**	**06 50 49.4**	**-1.5**
H03N1	**Juan Fernandez**	**5.97**	**265**	T	T	06 57 12.1	
baz=90,slow=74,SNR=119							
H03N3	**Juan Fernandez**	**5.98**	**265**	T	T	06 57 28.2	
baz=90,slow=74,SNR=152							
H03N2	**Juan Fernandez**	**5.99**	**265**	T	T	06 57 29.6	
baz=90,slow=74,SNR=130							
H03S1	**Juan Fernandez**	**5.99**	**261**	T	T	06 57 00.1	
baz=83,slow=75,SNR=1257							
H03S3	**Juan Fernandez**	**5.99**	**261**	T	T	06 57 06.8	
baz=83,slow=75,SNR=1247							
H03S2	**Juan Fernandez**	**6.00**	**261**	T	T	06 57 03.9	
baz=83,slow=75,SNR=1522							
GO06	**Curarrehue**	**6.47**	**178**	Pn	**Pn**	**06 50 58.3**	**-0.9**
AC02	**Maricunga**	**6.67**	**21**	Pn	**Pn**	**06 51 01.7**	**-0.6**
PLCA	**Paso Flores**	**7.67**	**173**	Pn	**Pn**	**06 51 16.4**	**+0.6**
PLCA	**Paso Flores**	**7.67**	**173**	P	**Pn**	**06 51 15.3**	**-0.4**
comp=Z,0.3nm,0.3s,baz=343,slow=14,SNR=4.4							
comp=Z,1.0nm,0.4s							
LVC	**Limon Verde**	**10.77**	**14**	P	**Pn**	**06 52 01.8**	**+3.4**
comp=Z,0.2nm,0.3s,baz=228,slow=15,SNR=1.6							
LVC				S	**Sn**	**06 54 03.9**	**+5.8**
comp=Z,2.2nm,0.6s,baz=217,slow=20,SNR=1.5							
comp=Z,1.9nm,0.6s							
CPUP	**Villa Florida**	**14.26**	**66**	P	**Pn**	**06 52 48.4**	**+2.6**
comp=Z,0.1nm,0.3s,baz=219,slow=14,SNR=1.0							
comp=Z,0.3nm,0.5s							
LPAZ	**La Paz**	**17.07**	**12**		**P**	**06 53 23.8**	**-0.8**
LPAZ	**La Paz**	**17.07**	**12**	P	**P**	**06 53 24.5**	**-0.2**
comp=Z,0.1nm,0.3s,baz=151,slow=5.8,SNR=4.1							
comp=Z,0.7nm,0.6s							
PTLB	**Pontes e Lacer**	**21.00**	**36**	P	**P**	**06 54 06.3**	**-0.6**
PTLB				IAmb	IAmb	06 54 07.8	
comp=Z,3.5nm,1.0s							
ETMB	**Extrema**	**23.75**	**14**	P	**P**	**06 54 35.8**	**+0.1**
ETMB				IAmb	IAmb	06 54 36.8	
comp=Z,2.3nm,0.9s							
SAML	**Samuel**	**25.32**	**20**	P	**P**	**06 54 51.0**	**+0.8**
SAML				IAmb	IAmb	06 54 52.7	
comp=Z,3.4nm,1.2s							
SJG	**San Juan**	**51.22**	**7**	LR	LR	07 22 18.5	
comp=Z,52nm,20.2s,baz=356,slow=38							
SNAA	**Sanae**	**52.33**	**158**	P	**P**	**06 58 34.1**	**-0.5**
SNAA	**Sanae**	**52.33**	**158**	P	**P**	**06 58 33.9**	**-0.6**
comp=Z,1.2nm,1.1s,baz=306,slow=19,SNR=2.0							
comp=Z,1.2nm,1.1s							
TXAR	**Lajitas Array**	**69.06**	**330**	P	**P**	**07 00 29.3**	**+0.4**
comp=Z,0.1nm,0.5s,baz=153,slow=10,SNR=2.4							
comp=Z,0.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**83.72**	**70**	P	**P**	**07 01 51.2**	**-1.1**
comp=Z,0.6nm,0.8s,baz=250,slow=4.0,SNR=4.1							
comp=Z,0.6nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**25.98**	**270**	T	T	09 27 10.1	
baz=118,slow=75,SNR=54							
H11S1	**WAKE ISLAND Hyl**	**26.00**	**270**	T	T	09 27 07.1	
baz=118,slow=75,SNR=108							
H11S3	**WAKE ISLAND Hyl**	**26.00**	**270**	T	T	09 27 07.3	
baz=118,slow=75,SNR=49							
H11N3	**WAKE ISLAND Hyl**	**26.37**	**271**	T	T	09 27 38.0	
baz=114,slow=78,SNR=8.1							
H11N1	**WAKE ISLAND Hyl**	**26.39**	**271**	T	T	09 27 40.6	
baz=114,slow=78,SNR=7.5							
H11N2	**WAKE ISLAND Hyl**	**26.39**	**271**	T	T	09 27 40.7	
baz=114,slow=78,SNR=10							

---

*NNC **12** 07:15:02.2±2.5, 49°.70N×81°.90E, h0km, mb2.5, mpv2.2, Error ellipse: s-maj=33.0km s-min=5.5km az=55.0, Suspected Mining explosion.*
*IDC **12** 07:15:03.8±1.3, 49°.73N×81°.52E, h0km, mbtmp2.1/1, ML2.3/1, Error ellipse: s-maj=17.8km s-min=8.1km az=57.0*
ISC 12 07:15:00.4±1.3, **49°.70N**±0°.05×**81°.74E**±0°.08, **h0**km, **n7**, σ0§**55**/8, **4C-2D**, **Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.26**	**295**	⇓Pn	**Pb**	**07 15 42.4**	**+0.4**
1.2nm,0.5s							
KURBB				⇑Sn	**Sg**	**07 16 12.7**	**-0.1**
18nm,0.7s							
KURBB	**Kurchatov Arra**	**2.26**	**295**	Pg	**Pb**	**07 15 42.2**	**+0.2**
0.2nm,0.3s,baz=112,slow=19,SNR=16							
KURBB				Lg	Lg	07 16 10.6	
0.5nm,0.3s,baz=116,slow=30,SNR=14							
MAKZ	**Makanchi**	**2.90**	**177**	⇑Pg	**Pb**	**07 15 53.8**	**+0.8**
0.3nm,0.3s							
MAKZ				⇓Lg	Lg	07 16 34.5	
2.5nm,0.7s							
MK31	**Makanchi Array**	**2.94**	**173**	⇑Pg	**Pg**	**07 15 55.9**	**-0.7**
0.2nm,0.3s,baz=346,slow=12,SNR=8.4							
MK31				⇑Lg	Lg	07 16 36.3	
2.5nm,0.7s,baz=355,slow=25,SNR=4.0							
MKAR	**Makanchi Array**	**2.94**	**173**	Pn	**Pb**	**07 15 53.8**	**+0.2**
0.4nm,0.3s,baz=341,slow=12,SNR=6.6							
MKAR				Pg	**Pg**	**07 15 56.4**	**-0.2**
0.4nm,0.3s,baz=353,slow=15,SNR=13							
MKAR				Lg	Lg	07 16 36.8	
0.5nm,0.3s,baz=360,slow=28,SNR=9.2							
0.5nm,0.3s							
ZALV	**Zalesovo Beam**	**4.66**	**23**	Pg	**Pg**	**07 16 29.4**	**-0.3**
0.4nm,0.3s,baz=191,slow=15,SNR=1.8							
ZALV				Lg	Lg	07 17 32.2	
0.3nm,0.3s,baz=198,slow=23,SNR=4.4							
I46RU	**ZALESOVO INFRA**	**4.66**	**23**	I	I	07 42 55.0	
baz=203,slow=329,SNR=5.3							

---

*NNC **12** 07:16:43.8±1.0, 50°.00N×78°.72E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=20.8km s-min=5.0km az=75.0, Suspected Mining explosion.*
*IDC **12** 07:16:44.8±1.5, 50°.02N×78°.70E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=21.9km s-min=8.1km az=70.0*
ISC 12 07:16:41.5±1.2, **49°.96N**±0°.06×**77°.99E**±0°.07, **h0**km, **n8**, σ0§**42**/9, **3C-6D**, **Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.74**	**27**	⇓P	**Pg**	**07 16 55.7**	**-0.1**
11nm,0.3s							
KURBB				⇑S	**Sg**	**07 17 05.3**	**-0.2**
49nm,0.8s							
KURBB	**Kurchatov Arra**	**0.74**	**27**	Pg	**Pg**	**07 16 56.1**	**+0.4**
1.3nm,0.3s,baz=166,slow=19,SNR=3.9							
KURBB				Lg	Lg	07 17 05.2	
1.3nm,0.3s,baz=177,slow=32,SNR=10							
OTUK	**Ortayu**	**4.09**	**247**	⇑Pn	**Pb**	**07 17 54.2**	**-0.3**
0.5nm,0.4s							
OTUK				⇓Lg	Lg	07 19 09.3	
2.0nm,0.8s							
MAKZ	**Makanchi**	**4.13**	**138**	⇓Pg	**Pb**	**07 17 54.3**	**-0.7**
0.4nm,0.4s							
MAKZ				⇓Lg	Lg	07 18 44.6	
2.5nm,0.6s							
MK31	**Makanchi Array**	**4.27**	**136**	⇑Pn	**Pn**	**07 17 48.1**	**+0.3**
baz=207,slow=2.0,SNR=12							
MK31				⇓Pg	**Pb**	**07 17 57.4**	**-0.1**
0.5nm,0.3s,baz=331,slow=16,SNR=8.2							
MK31				⇓Lg	Lg	07 18 50.2	
6.0nm,0.8s,baz=342,slow=28,SNR=9.8							
MKAR	**Makanchi Array**	**4.27**	**136**	Pn	**Pn**	**07 17 48.4**	**+0.5**
0.2nm,0.3s,baz=320,slow=10,SNR=10							
MKAR				Lg	Lg	07 18 49.6	
0.7nm,0.3s,baz=317,slow=28,SNR=9.3							
0.3nm,0.4s							
I46RU	**ZALESOVO INFRA**	**5.81**	**44**	I	I	07 50 50.0	
baz=223,slow=332,SNR=5.5							
ZALV	**Zalesovo Beam**	**5.81**	**44**	Pn	**Pn**	**07 18 09.0**	**+0.1**
0.4nm,0.3s,baz=234,slow=14,SNR=2.1							
ZALV				Lg	Lg	07 19 39.9	
0.2nm,0.3s,baz=232,slow=25,SNR=2.2							
0.8nm,0.2s							

---

*IDC **12** 07:21:36.2±3.4, 6°.02S×149°.01E, h93km±30km, mb3.7/6, mbtmp4.1/8, MS3.6/2, Error ellipse: s-maj=51.2km s-min=21.3km az=111.0*
*NEIC **12** 07:21:37.9±1.9, 5°.91S±0°.09×148°.8E±0°.1, h107km±6km, mb4.3/23, Error ellipse: s-maj=18.2km s-min=9.8km az=121.0*
ISC 12 07:21:37.2±0.6, **5°.94S**±0°.08×**148°.9E**±0°.1, **h100**km, **n47**, σ1§**06**/46, **mb4.2**/17, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.72**	**62**	Pn	**Pn**	**07 22 33.5**	**+0.9**
PMG	**Port Moresby**	**3.84**	**206**		**Pn**	**07 22 35.0**	**+0.8**
PMG	**Port Moresby**	**3.84**	**206**	P	**Pn**	**07 22 34.7**	**+0.4**
PMG	**Port Moresby**	**3.84**	**206**	P	**Pn**	**07 22 34.6**	**+0.3**
102nm,0.3s,baz=8.9,slow=4.9,SNR=48							
PMG				S	**Sn**	**07 23 16.9**	**-1.6**
402nm,0.4s,baz=175,slow=21,SNR=18							
COEN	**Coen**	**9.74**	**215**	Pn	**Pn**	**07 23 53.5**	**-0.9**
COEN	**Coen**	**9.74**	**215**	P	**Pn**	**07 23 54.8**	**+0.3**
QIS	**Mount Isa**	**17.09**	**211**	P	**P**	**07 25 31.7**	**+1.5**
KDU	**Kakadu**	**17.50**	**246**	P	**Pn**	**07 25 37.4**	**+2.4**
EIDS	**Eidsvold**	**19.44**	**174**	P	**P**	**07 25 56.1**	**+0.2**
EIDS				IAmb	IAmb	07 25 59.5	
comp=Z,18nm,1.1s							
WR0	**Warramunga Arr**	**19.70**	**224**		**P**	**07 25 58.7**	**-0.1**
WRA	**Warramunga Arr**	**19.83**	**224**	P	**P**	**07 25 59.4**	**-0.8**
WRA	**Warramunga Arr**	**19.83**	**224**	P	**P**	**07 26 00.5**	**+0.3**
comp=Z,4.4nm,0.5s,baz=49,slow=11,SNR=48							
KNRA	**Kununurra**	**21.97**	**242**	P	**P**	**07 26 23.9**	**+0.8**
KNRA				IAmb	IAmb	07 26 32.3	
comp=Z,15nm,1.2s							
AS31	**Alice Springs**	**22.76**	**218**	P	**P**	**07 26 31.5**	**+0.2**
ASAR	**Alice Springs**	**22.76**	**218**	P	**P**	**07 26 32.0**	**+0.7**
ASAR	**Alice Springs**	**22.76**	**218**	P	**P**	**07 26 31.7**	**+0.4**
comp=Z,2.4nm,0.7s,baz=50,slow=9.6,SNR=30							
comp=Z,2.4nm,0.7s							
DZM	**Mont Dzumac**	**23.37**	**135**	P	**P**	**07 26 35.8**	**-1.4**
DZM				IAmb	IAmb	07 26 37.7	
comp=Z,33nm,1.2s							
DZM	**Mont Dzumac**	**23.37**	**135**	LR	LR	07 33 47.7	
comp=Z,62nm,18.0s,baz=84,slow=32							
ARMA	**Armidale**	**24.49**	**174**	P	**P**	**07 26 46.8**	**-0.5**
OOD	**Oodnadatta**	**25.09**	**208**	P	**P**	**07 26 55.0**	**+2.4**
LCRK	**Leigh Creek**	**26.36**	**201**	P	**P**	**07 27 05.5**	**+1.4**
STKA	**Stephens Creek**	**26.69**	**194**	P	**P**	**07 27 09.4**	**+2.3**
MULG	**Mulgathing**	**27.94**	**208**	P	**P**	**07 27 19.4**	**+1.2**
MYLDM	**Lahad Datu**	**32.26**	**289**	P	**P**	**07 27 54.1**	**-2.4**
PEA0B	**Petropavlovsk-**	**59.29**	**6**	P	**P**	**07 31 29.0**	**+0.7**
PETK	**Petropavlovsk-**	**59.29**	**6**	P	**P**	**07 31 28.8**	**+0.6**
PETK	**Petropavlovsk-**	**59.29**	**6**	P	**P**	**07 31 29.2**	**+1.0**
comp=Z,2.0nm,0.5s,baz=165,slow=5.7,SNR=11							
comp=Z,2.0nm,0.5s							
CASY	**Casey**	**65.82**	**196**	P	**P**	**07 32 10.6**	**-0.9**
CASY				IAmb	IAmb	07 32 30.2	
comp=Z,5.1nm,1.5s							
MKAR	**Makanchi Array**	**78.63**	**320**	P	**P**	**07 33 29.2**	**+1.0**
comp=Z,0.2nm,0.5s,baz=110,slow=8.3,SNR=2.1							
comp=Z,0.2nm,0.5s							
L18K	**Granite Mounta**	**79.62**	**23**	P	**P**	**07 33 33.5**	**+0.4**
ZALV	**Zalesovo Beam**	**79.95**	**327**	P	**P**	**07 33 34.8**	**-0.4**
comp=Z,0.5nm,0.4s,baz=117,slow=5.0,SNR=1.9							
comp=Z,0.5nm,0.4s							
L19K	**White Mountain**	**80.31**	**23**	P	**P**	**07 33 37.4**	**+0.5**
CNPM	**China Poot**	**80.45**	**27**	P	**P**	**07 33 38.0**	**+0.2**
M20K	**Styx River**	**80.84**	**24**	P	**P**	**07 33 40.1**	**+0.3**
M20K				IAmb	IAmb	07 33 44.7	
comp=Z

VLS				S	Sg	07 23 53.2	-1.1
KEF3	**Kipouria, Keph**	**0.84**	**356**	P	Pg	07 23 44.6	+0.6
KEF3				S	Sn	07 23 58.1	-1.0
	2μm,0.4s						
DMLN	**Damoulianata-K**	**0.87**	**357**	P	Pg	07 23 45.1	+0.4
DMLN				S	Sn	07 23 59.2	-0.8
	1μm,0.4s						
DMLN	**Damoulianata-K**	**0.87**	**357**	P	Pg	07 23 45.1	+0.4
RLS	**Riolos of Patr**	**1.08**	**50**	P	Pg	07 23 48.3	-0.2
RLS	**Riolos of Patr**	**1.08**	**50**	P	Pg	07 23 48.3	-0.2
FSK	**Fiskardo**	**1.10**	**6**	P	Pg	07 23 48.6	-0.3
FSK				S	Sn	07 24 06.0	+0.5
	270nm,0.8s						
PYL	**PYLOS**	**1.15**	**114**	P	Pg	07 23 49.2	-0.8
PYL				S	Sg	07 24 05.4	+0.5
	135nm,0.8s						
EVGI	**Lefkada island**	**1.27**	**8**	P	Pg	07 23 51.6	-0.6
EVGI				S	Sn	07 24 11.7	+2.0
	235nm,0.4s						
EVGI	**Lefkada island**	**1.27**	**8**	P	Pg	07 23 51.6	-0.6
DRAG	**Dragano-Lefkad**	**1.32**	**5**	P	Pn	07 23 52.5	-0.6
DRAG	**Dragano-Lefkad**	**1.32**	**5**	P	Pn	07 23 52.4	-0.6
NYDR	**Nydri-Lefkada**	**1.36**	**9**	P	Pn	07 23 53.8	+0.2
NYDR	**Nydri-Lefkada**	**1.36**	**9**	P	Pn	07 23 53.6	0.0
LKD2	**Lefkada island**	**1.43**	**7**	P	Pg	07 23 55.9	+0.5
LKD2	**Lefkada island**	**1.43**	**7**	P	Pn	07 23 54.0	-0.6
TSLK	**Tsoukalades, L**	**1.47**	**7**	P	Pn	07 23 55.5	+0.4
TSLK				S	Sg	07 24 16.6	+1.5
	288nm,0.6s						
TSLK	**Tsoukalades, L**	**1.47**	**7**	P	Pn	07 23 55.5	+0.4
LAKA	**Lakka**	**1.51**	**54**	P	Pn	07 23 56.4	+0.8
LAKA	**Lakka**	**1.51**	**54**	P	Pn	07 23 56.4	+0.8
PVO	**Paravola**	**1.52**	**34**	P	Pn	07 23 55.7	-0.1
PVO	**Paravola**	**1.52**	**34**	P	Pn	07 23 55.8	-0.1
KLV	**Kalavryta, Ach**	**1.53**	**63**	P	Pn	07 23 56.2	+0.3
KLV	**Kalavryta, Ach**	**1.53**	**63**	P	Pn	07 23 56.0	+0.1
EFP	**Efpalio**	**1.58**	**47**	P	Pb	07 23 57.5	-0.1
EFP	**Efpalio**	**1.58**	**47**	P	Pb	07 23 57.6	-0.1
ALIK	**Aliki, Aigiali**	**1.61**	**56**	P	Pn	07 23 57.9	+1.0
GUR	**Goura**	**1.62**	**69**	P	Pn	07 23 57.5	+0.2
GUR	**Goura**	**1.62**	**69**	P	Pn	07 23 57.4	0.0
TRIZ	**Trizonia**	**1.64**	**52**	P	Pb	07 23 58.6	-0.1
KALE	**Kalithea**	**1.70**	**52**	P	Pb	07 23 59.5	-0.2
KALE	**Kalithea**	**1.70**	**52**	P	Pb	07 23 59.6	0.0
ANX	**Ano Chora**	**1.70**	**43**	P	Pb	07 23 59.7	-0.1
ANX				S	Sg	07 24 23.8	+1.2
ANX	**Ano Chora**	**1.70**	**43**	P	Pn	07 23 58.4	0.0
EVR	**Evrytania**	**1.90**	**35**	P	Pb	07 24 02.5	-0.5
EVR	**Evrytania**	**1.90**	**35**	P	Pn	07 24 01.9	+0.9
VLI	**Velíai**	**2.11**	**107**	P	Pn	07 24 04.8	+0.9
MAKR	**Makrakomi, Fth**	**2.12**	**39**	P	Pn	07 24 05.6	+1.5
MAKR	**Makrakomi, Fth**	**2.12**	**39**	P	Pn	07 24 05.0	+0.8
IGT	**Igoumenitsa**	**2.17**	**358**	P	Pn	07 24 05.2	+0.5
THL	**Klokotos Trika**	**2.53**	**29**	P	Pn	07 24 10.7	+1.1
KPRO	**Kipourio**	**2.69**	**16**	P	Pn	07 24 13.2	+1.3
NEST	**Nestorio**	**3.08**	**9**	P	Pn	07 24 18.8	+1.4
FNA	**Florina**	**3.49**	**12**	P	Pn	07 24 23.3	+0.3

*NEIC **12** 07:25:41.5±2.6, 51°.82N±0°.05×169°.96W±0°.09, h10km±2km, mb3.9/14, ML3.6/8, ML3.0(AEIC), Error ellipse: s-maj=10.6km s-min=7.1km az=120.0*
*IDC **12** 07:25:46.2±17.0, 52°.70N×170°.25W, h0km, mb3.9/3, mbtmp3.7/5, ML3.1/2, Error ellipse: s-maj=408.0km s-min=33.0km az=157.0*
*AEIC **12** 07:25:47.4±4.2, 52°.04N±0°.04×169°.57W±0°.09, h10km±6km, Error ellipse: s-maj=7.9km s-min=5.5km az=90.0*

ISC 12 07:25:44.2±1.1, 51°.86N±0°.10×169°.87W±0°.07, h29km, n39, σ1§62/39, mb4.1/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.93**	**5**		**Pb**	**07 26 02.3**	**+0.5**
CLCO					**Sn**	**07 26 13.1**	**-0.6**
CLES	**Cleveland East**	**0.96**	**359**		**Pb**	**07 26 02.8**	**+0.5**
CLES					**Sb**	**07 26 15.5**	**+0.8**
CLES	**Cleveland East**	**0.96**	**359**	IAML		07 26 23.2	
	comp=E,1μm,0.6s						
CLES				IAML		07 26 27.7	
	comp=N,1μm,0.7s						
NIKH	**Nikolski High**	**1.27**	**29**		**Pn**	**07 26 06.6**	**+0.6**
OKFG	**Magazine Ridge**	**1.96**	**37**		**Pn**	**07 26 16.5**	**+1.1**
OKFG					**Sn**	**07 26 38.9**	**-0.1**
MAPS	**Pakushin South**	**2.64**	**41**		**Pn**	**07 26 26.0**	**+1.3**
ATKA	**Atka Island**	**2.70**	**279**	Pn	**Pn**	**07 26 24.8**	**-0.7**
MNAT	**Makushin Natee**	**2.80**	**42**		**Pn**	**07 26 28.8**	**+1.8**
UNV	**Unalaska Valle**	**2.85**	**44**		**Pn**	**07 26 29.2**	**+1.6**
AKBBA	**Akutan Broad B**	**3.27**	**45**		**Pn**	**07 26 35.9**	**+2.5**
AKUT	**Akutan**	**3.36**	**46**	Pn	**Pn**	**07 26 36.4**	**+1.7**
AKUT				IAML		07 27 48.0	
	comp=E,121nm,2.4s						
AKUT				IAML		07 28 08.7	
	comp=N,134nm,3.7s						
ADK	**Adak**	**4.23**	**273**	Pn	**Pn**	**07 26 46.8**	**+0.2**
CHGN	**Chignik**	**8.07**	**52**	Pn	**Pn**	**07 27 41.5**	**+2.3**
KDAK	**Kodiak Island**	**11.58**	**52**	Pn	**Pn**	**07 28 27.5**	**+0.2**
KDAK	**Kodiak Island**	**11.58**	**52**	Pn	**Pn**	**07 28 26.5**	**-0.9**
	comp=N,0.3nm,0.3s,baz=257,slow=5.6,SNR=11						
KDAK				Sn	**Sn**	**07 30 30.2**	**-5.3**
	comp=N,0.1nm,0.3s,baz=294,slow=20,SNR=1.5						
Q19K	**Cape Douglas,**	**11.60**	**46**	Pn	**Pn**	**07 28 29.3**	**+1.6**
HIN	**Hinchinbrook I**	**15.50**	**47**	Pn	**Pn**	**07 29 20.0**	**-0.6**
FID	**Port Fidalgo**	**15.65**	**46**	Pn	**Pn**	**07 29 19.9**	**-2.6**
FID				IAmb	IAmb	07 29 28.4	
	comp=Z,12nm,1.2s						
SCM	**Sheep Creek Mo**	**15.77**	**42**	Pn	**Pn**	**07 29 23.1**	**-1.0**
M24K	**Tolsona, Glenn**	**16.38**	**42**	Pn	**Pn**	**07 29 31.9**	**+0.1**
M24K				IAmb	IAmb	07 30 12.8	
	comp=Z,8.8nm,0.9s						
HMT	**Hamilton**	**16.52**	**49**	Pn	**Pn**	**07 29 33.2**	**-0.4**
HMT				IAmb	IAmb	07 29 48.6	
	comp=Z,16nm,1.2s						
N25K	**Chitina, Valde**	**16.84**	**45**	Pn	**Pn**	**07 29 36.6**	**-1.0**
I23K	**Minto, Yukon-K**	**16.97**	**30**	Pn	**Pn**	**07 29 39.4**	**+0.3**
GLB	**Gilahina Butte**	**17.12**	**46**	Pn	**Pn**	**07 29 40.4**	**-0.7**
GLB				IAmb	IAmb	07 30 16.5	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**17.54**	**34**	Pn	**Pn**	**07 29 42.7**	**-3.6**
	baz=230,slow=12,SNR=1.8						
	comp=Z,0.3nm,0.7s						
I26K	**Coal Creek Min**	**19.16**	**35**	P	**P**	**07 30 04.6**	**-0.3**
I26K				IAmb	IAmb	07 30 16.1	
	comp=Z,7.3nm,1.4s						
TOLK	**Toolik Lake Re**	**19.43**	**22**	P	**P**	**07 30 08.0**	**+0.1**
TOLK				IAmb	IAmb	07 30 25.9	
	comp=Z,7.6nm,1.2s						
P29M	**Windy Craggy**	**19.52**	**54**	P	**P**	**07 30 09.0**	**0.0**
P29M				IAmb	IAmb	07 30 28.0	
	comp=Z,8.7nm,1.1s						
PEA0B	**Petropavlovsk-**	**19.71**	**286**	P	**P**	**07 30 09.9**	**-1.1**
PETK	**Petropavlovsk-**	**19.71**	**286**	P	**P**	**07 30 10.0**	**-1.0**
PETK	**Petropavlovsk-**	**19.71**	**286**	P	**Pn**	**07 30 11.3**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=85,slow=13,SNR=8.1						
	comp=Z,1.6nm,0.5s						
M29M	**Somme Creek**	**19.84**	**46**	P	**P**	**07 30 13.2**	**+0.7**
C23K	**Itkillik River**	**20.14**	**19**	P	**P**	**07 30 15.6**	**0.0**
C23K				IAmb	IAmb	07 30 56.8	
	comp=Z,10nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**38.05**	**218**	T	T	08 14 08.1	
	baz=22						
H11S2	**WAKE ISLAND Hy**	**38.07**	**218**	T	T	08 14 10.5	
	baz=22						
H11S3	**WAKE ISLAND Hy**	**38.07**	**218**	T	T	08 14 10.7	
	baz=22						
MKAR	**Makanchi Array**	**63.93**	**313**	P	**P**	**07 36 17.3**	**+3.1**
	comp=Z,0.2nm,0.5s,baz=60,slow=8.5,SNR=1.8						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**63.94**	**324**	P	**P**	**07 36 14.7**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=42,slow=7.6,SNR=4.2						
	comp=Z,0.9nm,0.5s						
HFS	**Hagfors**	**68.32**	**358**	P	**P**	**07 36 42.7**	**+0.6**
	comp=Z,2.7nm,1.0s,baz=34,slow=5.4,SNR=5.9						
	comp=Z,2.7nm,1.0s						

*IDC **12** 07:33:09.9±1.0, 31°.78N×142°.11E, h0km, mb3.8/7, mbtmp3.8/8, ML2.8/2, MS3.8/2, Error ellipse: s-maj=33.7km s-min=19.7km az=71.0*
*JMA **12** 07:33:11.5±0.5, 32°N±2°×14°2E±°, h45km, MV4.1/25, FAR E OFF IZU ISLANDS*

ISC 12 07:33:12.1±0.8, 31°.76N±0°.06×142°.21E±0°.08, h29km, n24, σ2§85/28, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.19**	**289**	*eP*	**Pb**	**07 33 48.0**	**-3.1**
JHJ2	**Mitsune**	**2.43**	**304**	*eS*	**Sn**	**07 34 18.9**	**+0.2**
JHJ	**Hachijo jima 2**	**2.46**	**304**	Pn	**Pn**	**07 33 49.8**	**-0.6**
	7.5nm,0.3s,baz=78,slow=19,SNR=1.6						
JHJ				Sn	**Sn**	**07 34 16.1**	**-3.2**
	18nm,0.3s,baz=253,slow=19,SNR=2.0						
BSO1	**Boso 1**	**3.07**	**341**	*eP*	**Pn**	**07 33 58.1**	**0.0**
BSO1				*eS*	**Sn**	**07 34 33.4**	**-0.2**
BSO3	**Boso 3**	**3.35**	**335**	P	**Pn**	**07 34 03.2**	**+0.9**
BSO4	**Boso 4**	**3.58**	**335**	*eP*	**Pn**	**07 34 06.3**	**+0.6**
JOD2	**Odawara 2**	**4.36**	**324**	*eP*	**Pn**	**07 34 18.4**	**+1.9**
CBIJ	**Chichi jima**	**4.64**	**180**	P	**Pn**	**07 34 21.9**	**+1.5**
JCJ	**Chichijima**	**4.64**	**180**	Pn	**Pn**	**07 34 17.6**	**-2.7**
	7.7nm,0.3s,baz=4.4,slow=21,SNR=13						
JCJ				Sn	**Sn**	**07 35 07.2**	**-6.1**
	3.9nm,0.3s,baz=276,slow=19,SNR=1.4						
JHO	**Hitachi**	**5.03**	**345**	P	**Pn**	**07 34 24.0**	**-1.6**
JHO				S	**Sn**	**07 35 18.6**	**-4.2**
JRY	**Ryogami san**	**5.06**	**328**	P	**Pn**	**07 34 26.8**	**+0.7**
JAG	**Ashikaga**	**5.19**	**335**	P	**Pn**	**07 34 27.8**	**0.0**
JFK	**Kawauchi**	**5.70**	**349**	P	**Pn**	**07 34 33.9**	**-1.1**
JFK				S	**Sn**	**07 35 34.2**	**-5.2**
MJAR	**Matsushiro Arr**	**5.81**	**326**	Pn	**Pn**	**07 34 36.8**	**+0.5**
	0.2nm,0.3s,baz=139,slow=10,SNR=2.5						
	1.3nm,0.3s						
JMK	**Ichinoseki**	**7.22**	**354**	*eP*	**Pn**	**07 34 55.3**	**-0.4**
JMK				*eS*	**Sn**	**07 36 09.5**	**-7.3**
SHEM	**Shemya Is, Ala**	**31.17**	**38**	LR	LR	07 49 32.5	
	comp=Z,84nm,21.6s,baz=319,slow=32						
MKAR	**Makanchi Array**	**47.63**	**306**	P	**P**	**07 41 46.6**	**+1.1**
	0.5nm,0.5s,baz=92,slow=10,SNR=5.5						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**49.88**	**312**	P	**P**	**07 42 03.9**	**+1.1**
	1.3nm,0.2s,baz=88,slow=7.3,SNR=5.1						
	1.3nm,0.2s						
WRA	**Warramunga Arr**	**51.95**	**189**	P	**P**	**07 42 20.3**	**+1.7**
	0.7nm,0.3s,baz=6.0,slow=7.7,SNR=20						
	0.7nm,0.3s						
ILAR	**Eielson Array**	**53.65**	**30**	P	**P**	**07 42 33.3**	**+2.6**
	0.4nm,0.8s,baz=262,slow=6.3,SNR=2.9						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**54.69**	**315**	P	**P**	**07 42 40.4**	**+2.0**
	0.5nm,0.5s,baz=98,slow=6.0,SNR=2.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**55.68**	**189**	P	**P**	**07 42 48.6**	**+2.8**
	0.4nm,0.4s,baz=11,slow=6.5,SNR=10.0						
	0.4nm,0.4s						
KVAR	**Kislovodsk Arr**	**74.89**	**312**	LR	LR	08 20 22.6	
	comp=Z,141nm,20.1s,baz=280,slow=38						
TXAR	**Lajitas Array**	**92.79**	**53**	P	**P**	**07 46 24.5**	**+2.2**
	0.4nm,0.8s,baz=304,slow=2.8,SNR=4.7						
	0.4nm,0.8s						

*IDC **12** 07:44:01.8±1.8, 4°.37S×153°.05E, h0km, mb3.9/4, mbtmp3.9/4, MS3.2/2, Error ellipse: s-maj=36.6km s-min=20.6km az=22.0*

ISC 12 07:44:08.5±2.3, 4°.3S±0°.4×153°.0E±0°.2, h55km, n8, σ0§80/7, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.92**	**269**	Pn	**Pn**	**07 44 24.9**	**-0.5**
	262nm,0.3s,baz=262,slow=1.0,SNR=74						
KRVT				Sn	**Sn**	**07 44 37.9**	**+0.1**
	314nm,0.3s,baz=94,slow=0.5,SNR=8.6						
HNR	**Honiara**	**8.62**	**127**	LR	LR	07 49 29.9	
	comp=Z,761nm,19.6s,baz=326,slow=39						
SIJI	**Sorong**	**21.92**	**278**	LR	LR	07 57 03.2	
	comp=Z,14nm,18.1s,baz=264,slow=36						
DZM	**Mont Dzumac**	**21.98**	**145**	P	**P**	**07 48 57.2**	**-1.1**
	2.2nm,0.6s,baz=331,slow=18,SNR=1.0						
	2.2nm,0.6s						
WRA	**Warramunga Arr**	**23.89**	**228**	P	**P**	**07 49 17.6**	**+0.2**
	3.1nm,0.5s,baz=52,slow=9.8,SNR=40						
	3.1nm,0.5s						
ASAR	**Alice Springs**	**26.62**	**222**	P	**P**	**07 49 42.3**	**+0.2**
	0.4nm,0.6s,baz=60,slow=8.6,SNR=7.4						
	0.4nm,0.6s						
QSPA	**South Pole Qui**	**85.66**	**180**	P	**P**	**07 56 42.3**	**+1.0**
	0.9nm,0.7s,baz=349,slow=5.2,SNR=2.8						
	0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.29**	**289**	PKPbc	**PKPbc**	**08 03 54.7**	**0.0**
	1.0nm,0.6s,baz=46,slow=4.3,SNR=6.6						

*BGR **12** 07:52:17.4, 29°.45N×95°.79E, h33km, mb5.1*
*IDC **12** 07:52:26.2±0.4, 32°.07N×95°.11E, h0km, mb4.7/31, mbtmp4.7/36, ML4.0/4, MS3.9/36, Error ellipse: s-maj=14.6km s-min=9.8km az=39.0*
*BJI **12** 07:52:27.8±0.0, 31°.96N×95°.13E, h7km, mb4.6/43, mB4.8/20, ML4.3/13, Ms4.6/68, Ms7 4.4/65*
*MOS **12** 07:52:28.5±0.9, 32°.01N×95°.03E, h27km, mb5.3/57, Error ellipse: s-maj=7.0km s-min=3.1km az=127.0*
*NEIC **12** 07:52:28.4±1.5, 32°.07N±0°.08×95°.05E±0°.09, h10km±1km, mb5.1/98, Error ellipse: s-maj=13.7km s-min=12.6km az=15.0*
*GCMT **12** 07:52:29.4±0.3, 31°.88N±0°.04×95°.17E±0°.03, h20km±1km, MW5.0/61, Moment Tensor Solution. s26,c28; s61,c78; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=2.37±.28; Mθθ0.92±.18; Mφφ1.44±.17; Mrθ-2.17±.49; Mrφ1.96±.11; Mθφ-0.19±.33; Best double couple: M0=3.58500×1016 NP1:φs=67.00000°, δ66.00000°, λ-62.00000°. NP2: φs=195.00000°, δ37.00000°, λ-136.00000°. Principal axes: T 3.6110, Plg16.0000°, Azm137.0000°; N -0.0580, Plg25.0000°, Azm235.0000°; P -3.5600, Plg59.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 07:52:28.0±0.5, 32°.05N±0°.03×95°.06E±0°.03, h10km±2km, h10km:pP-P, n752, σ1§52/798, mb5.1/166, MS4.0/57, 36C-11D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.10**	**236**	Pn	**Pn**	**07 53 34.4**	**+3.2**
LSA				LR	LR		
	comp=N,8μm,7.8s						
LSA				LR	LR		
	comp=E,5μm,5.9s						
LSA				LR	LR		
	comp=Z,6μm,9.2s						
LSA	**Lhasa**	**4.10**	**236**		**Pn**	**07 53 33.6**	**+2.4**
LSA	**Lhasa**	**4.10**	**236**	P	**Pn**	**07 53 33.6**	**+2.4**
LSA	**Lhasa**	**4.10**	**236**	P	**Pn**	**07 53 34.6**	**+3.4**
GOMU	**GeErMu**	**4.14**	**357**	Pn	**Pn**	**07 53 36.0**	**+4.3**
GOMU				Sn	**Sb**	**07 54 27.9**	**-3.5**
GOMU				smax	smax		
	comp=N,240nm,1.5s						
GOMU				smax	smax		
	comp=E,250nm,1.1s						
GOMU				LR	LR		
	comp=N,4μm,5.9s						
GOMU				LR	LR		
	comp=E,5μm,5.3s						
GOMU				LR	LR		
	comp=Z,3μm,5.7s						
SHL	**Shillong**	**7.04**	**204**	Pn	**Pn**	**07 54 09.7**	**-1.6**
SHL	**Shillong**	**7.04**	**204**	P	**Pn**	**07 54 09.7**	**-1.6**
SHL	**Shillong**	**7.04**	**204**	P	**Pn**	**07 54 11.6**	**+0.2**
	SNR=41						
CD2	**Chengdu**	**7.52**	**96**	Pn	**Pn**	**07 54 20.9**	**+3.1**
CD2				Sg	**Sg**	**07 56 25.7**	**-3.7**
CD2				smax	smax		
	comp=E,120nm,1.7s						
CD2				LR	LR		
	comp=E,4μm,8.8s						
CD2				LR	LR		
	comp=Z,6μm,9.0s						
TNCH	**TengChong**	**7.63**	**156**	*e*Pn	**Pn**	**07 54 18.5**	**-1.0**
TNCH				Sg	**Sg**	**07 56 27.8**	**-5.3**
TNCH				smax	smax		
	comp=N,490nm,1.1s						
TNCH				smax	smax		
	comp=E,410nm,1.1s						
TNCH				LR	LR		
	comp=N,5μm,5.8s						
TNCH				LR	LR		
	comp=E,2μm,3.9s						
TNCH				LR	LR		
	comp=Z,4μm,6.7s						
TAPN	**Taplejung**	**7.92**	**236**	*e*P	**Pn**	**07 54 25.4**	**+1.8**
	74nm,0.4s						
PZH	**PanZhiHua**	**8.04**	**132**	P	**Pn**	**07 54 21.6**	**-3.5**
PZH				S	**Sn**	**07 55 53.3**	**-2.9**
PZH				pmax	pmax		
	comp=Z,40nm,0.9s						
PZH				pmax	pmax		
	comp=Z,160nm,4.0s						
PZH				LR	LR		
	comp=N,3μm,9.4s						
PZH				LR	LR		
	comp=E,3μm,9.7s						
PZH				LR	LR		
	comp=Z,3μm,9.8s						
GTA	**Gaotai**	**8.30**	**26**	*e*P	**Pn**	**07 54 30.7**	**+2.2**
GTA				pP	pPn	07 54 34.3	+2.2
GTA				sP	sPn	07 54 37.3	+3.1
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
GTA				LR	LR		
	comp=Z,920nm,9.5s						
GTA				LR	LR		
	comp=Z,1μm,9.1s						
GTA				LR	LR		
	comp=Z,560nm,11.3s						
LZH	**Lanzhou**	**8.32**	**59**	*e*P	**Pn**	**07 54 33.4**	**+4.4**
LZH				sP	sPn	07 54 38.8	+4.2
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				LR	LR		
	comp=Z,4μm,7.2s						
LZH				LR	LR		
	comp=Z,3μm,7.2s						
LZH				LR	LR		
	comp=Z,3μm,10.5s						
ODAN	**Odare**	**8.45**	**234**	*e*P	**Pn**	**07 54 32.9**	**+2.1**
	comp=Z,249nm,0.8s						
JIRN	**Jiri**	**8.86**	**243**	*e*P	**Pn**	**07 54 37.0**	**+0.5**
	comp=Z,179nm,1.1s						
RAMN	**Ramite**	**8.95**	**238**	*e*P	**Pn**	**07 54 39.2**	**+1.5**
	comp=Z,81nm,0.5s						
GUN	**Gumba**	**8.96**	**245**	*e*P	**Pn**	**07 54 37.8**	**-0.1**
	comp=Z,116nm,0.5s						
KKN	**Kakani**	**9.49**	**246**	*e*P	**Pn**	**07 54 45.0**	**0.0**
	comp=Z,60nm,0.4s						
PKI	**Pulchoki**	**9.49**	**244**	*e*P	**Pn**	**07 54 45.4**	**+0.2**
	comp=Z,147nm,0.5s						
PKIN	**Phulchoki**	**9.50**	**244**	*e*P	**Pn**	**07 54 45.5**	**+0.3**
	comp=Z,131nm,0.5s						
KMI	**Kunming**	**9.66**	**134**	P	**Pn**	**07 54 47.5**	**+0.2**
KMI				S	**Sn**	**07 56 36.1**	**+0.1**
KMI				smax	smax		
	comp=Z,49nm,2.5s						
KMI				smax	smax		
	comp=Z,43nm,2.6s						
KMI				LR	LR		
	comp=Z,3μm,7.0s						
KMI				LR	LR		
	comp=Z,2μm,6.2s						
KMI				LR	LR		
	comp=Z,3μm,11.4s						
DMN	**Daman**	**9.71**	**245**	*e*P	**Pn**	**07 54 48.2**	**+0.1**
	comp=Z,65nm,0.5s						
BRDH	**Bariadhala**	**9.82**	**199**	Pn	**Pn**	**07 54 49.8**	**+0.5**
	comp=Z,72nm,0.3s,baz=90,slow=8.3,SNR=12						
GKN	**Gorkha**	**9.89**	**249**	*e*P	**Pn**	**07 54 49.7**	**-0.8**
MND	**Mandalay**	**10.04**	**174**	Pn	**Pn**	**07 54 53.0**	**+0.6**
MND	**Mandalay**	**10.04**	**174**	P	**Pn**	**07 54 54.1**	**+1.7**
DANN	**Dangsing**	**10.45**	**252**	*e*P	**Pn**	**07 54 55.9**	**-2.3**
KOLN	**Koldanda**	**10.82**	**250**	*e*P	**Pn**	**07 55 01.6**	**-1.6**
	comp=Z,97nm,0.9s						
PYUN	**Piuthan**	**11.17**	**252**	*e*P	**Pn**	**07 55 05.2**	**-2.8**
GYA	**Guiyang**	**11.56**	**116**	⇓*i*P	**Pn**	**07 55 14.4**	**+1.0**
GYA				S	**Sn**	**07 57 23.0**	**+0.3**
GYA				SS	**SnSn**	**07 57 41.9**	**+7.3**
GYA				LR	LR		
	comp=Z,920nm,7.8s						
GYA				LR	LR		
	comp=Z,830nm,5.4s						
GYA				LR	LR		
	comp=Z,1μm,8.5s						
XAN	**Xi'an**	**11.80**	**77**	⇓P	**Pn**	**07 55 16.4**	**-0.1**
XAN				pP		07 55 19.6	
XAN				sP		07 55 22.5	
XAN				pmax	pmax		
	comp=Z,36nm,1.7s						
XAN				LR	LR		
	comp=Z,5μm,11.3s						
XAN				LR	LR		
	comp=Z,4μm,9.3s						
XAN				LR	LR		
	comp=Z,3μm,13.4s						
ENH	**Enshi**	**12.49**	**94**	Pn	**Pn**	**07 55 26.5**	**+0.6**
ENH	**Enshi**	**12.49**	**94**	P	**Pn**	**07 55 30.1**	**+4.2**
CRAI	**Chiangrai**	**12.70**	**157**		**Pn**	**07 55 28.7**	**-0.2**
WMQ	**Urumqi**	**13.10**	**336**	*e*P	**P**	**07 55 41.9**	**-2.6**
WMQ				pmax	pmax		
	comp=Z,30nm,1.5s						
WMQ				LR	LR		
	comp=Z,1μm,11.3s						
WMQ				LR	LR		
	comp=Z,1μm,12.9s						
WMQ				LR	LR		
	comp=Z,740nm,15.3s						
SLVN	**Son La**	**13.28**	**141**		**Pn**	**07 55 36.7**	**0.0**
CHTO	**Chiang Mai**	**13.64**	**164**		**Pn**	**07 55 41.8**	**+0.1**
CHTO	**Chiang Mai**	**13.64**	**164**	P	**Pn**	**07 55 41.8**	**+0.1**
CM31	**Chiang Mai Arr**	**13.99**	**165**	Pn	**Pn**	**07 55 49.1**	**+2.7**
CMAR	**Chiang Mai Arr**	**13.99**	**165**	Pn	**Pn**	**07 55 47.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**13.99**	**165**	P	**Pn**	**07 55 47.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**13.99**	**165**	Pn	**Pn**	**07 55 46.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=339,slow=10,SNR=1.5						
CMAR				Lg	Lg	07 59 52.3	
	comp=Z,0.4nm,0.3s,baz=353,slow=30,SNR=1.6						
CMAR				LR	LR	08 01 38.5	
	comp=Z,484nm,20.4s,baz=330,slow=40						
	comp=Z,1.0nm,0.3s						
BTO	**Baotou**	**14.76**	**51**	*e*P	**Pn**	**07 55

HNS S **S** **07 59 42.5 -2.5**
HNS pmax pmax
comp=Z,19nm,1.4s
HNS LR LR
comp=Z,1μm,10.4s
HNS LR LR
comp=Z,3μm,11.2s
HNS LR LR
comp=Z,2μm,11.3s
SATY Saty 17.14 315 *e*P **Pn** **07 56 28.5 +0.7**
baz=315
SATY Saty 17.14 315 *e*P **Pn** **07 56 28.4 +0.7**
KSH Kashi 17.16 301 P **P** **07 56 32.6 +2.9**
KSH sP sP 07 56 42.2 +6.3
KSH PP **PnPn** **07 56 47.3 +9.4**
KSH S **S** **07 59 45.4 -3.1**
KSH pmax pmax
comp=Z,19nm,1.2s
KSH pmax pmax
comp=Z,300nm,6.3s
KSH LR LR
comp=Z,340nm,15.4s
KSH LR LR
comp=Z,1μm,15.7s
KSH LR LR
comp=Z,2μm,16.4s
ZHN Zhinishke 17.18 315 *e*P **Pn** **07 56 29.0 +0.7**
baz=315
ZHN Zhinishke 17.18 315 *e*P **Pn** **07 56 29.0 +0.7**
KPKS Kokpek 17.21 316 *e*P **Pn** **07 56 29.1 +0.4**
baz=316
KPKS Kokpek 17.21 316 *e*P **Pn** **07 56 29.0 +0.4**
ZSN Zaisan 17.23 336 *e*P **P** **07 56 29.6 -0.7**
baz=336
ZSN Zaisan 17.23 336 *e*P **P** **07 56 29.6 -0.7**
MK31 Makanchi Array 17.68 330 **Pn** **07 56 34.6 +0.2**
MK31 Makanchi Array 17.68 330 P **Pn** **07 56 34.6 +0.2**
MK31 pmax pmax
comp=Z,12nm,0.9s
MKAR Makanchi Array 17.68 330 **Pn** **07 56 33.9 -0.5**
MKAR Makanchi Array 17.68 330 *i* P **P** **07 56 36.2 +0.9**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 17.68 330 P **Pn** **07 56 34.1 -0.3**
comp=Z,0.7nm,0.3s,baz=150,slow=12,SNR=20
comp=Z,5.5nm,0.7s
MAKZ Makanchi 17.83 329 P **Pn** **07 56 36.4 +0.2**
MAKZ Makanchi 17.83 329 P **Pn** **07 56 36.4 +0.2**
MAKZ pmax pmax
comp=Z,26nm,0.9s
NRN Naryn 17.88 307 P **P** **07 56 37.9 0.0**
NRN Naryn 17.88 307 P **P** **07 56 37.9 0.0**
NRN pmax pmax
comp=Z,36nm,0.8s
SONM Songino Array 17.97 25 P **Pn** **07 56 37.5 -0.5**
comp=Z,0.6nm,0.3s,baz=214,slow=10,SNR=18
SONM LR LR 08 04 13.6
comp=Z,224nm,20.5s,baz=204,slow=39
comp=Z,3.4nm,0.8s
SRDT SRDT 18.01 167 P **P** **07 56 42.0 +2.9**
TNSS Tian-Shan 18.03 313 *i* P **P** **07 56 39.8 +0.3**
baz=313
TNSS Tian-Shan 18.03 313 *i* P **P** **07 56 39.8 +0.3**
AAA Alma-Ata 18.14 313 *e*P **P** **07 56 40.5 0.0**
comp=Z,57nm,0.6s,baz=313
AAA Alma-Ata 18.14 313 *e*P **P** **07 56 40.4 0.0**
AAA pmax pmax
comp=Z,57nm,0.6s
ARXS Arharly 18.15 317 *e*P **P** **07 56 41.6 +1.0**
ULN Ulaanbaatar 18.24 27 P **P** **07 56 41.7 +0.1**
ULN Ulaanbaatar 18.24 27 P **P** **07 56 41.7 +0.1**
ULN pmax pmax
comp=Z,16nm,1.0s
ULN Ulaanbaatar 18.24 27 P **P** **07 56 42.6 +1.0**
TDK Taldyqorghan 18.31 320 *e*P **P** **07 56 42.6 +0.4**
baz=320
TDK LR LR 08 04 29.0
comp=Z,331nm,12.0s,baz=320
TDK Taldyqorghan 18.31 320 *e*P **P** **07 56 42.6 +0.4**
TDK MLR MLR
comp=Z,331nm,12.0s
NIL Nilore 18.39 281 P **Pn** **07 56 41.4 -1.8**
NIL IAmb IAmb 07 56 48.8
comp=Z,97nm,0.7s
NIL Nilore 18.39 281 P **Pn** **07 56 41.4 -1.8**
NIL pmax pmax
comp=Z,97nm,0.7s
NIL Nilore 18.39 281 P **P** **07 56 43.2 0.0**
BOOM Boomskoye usch 18.40 310 P **P** **07 56 44.0 +0.6**
BOOM Boomskoye usch 18.40 310 P **P** **07 56 44.0 +0.6**
BOOM pmax pmax
comp=Z,38nm,0.9s
CHKK Chushkaly 18.44 315 *e*P **Pn** **07 56 43.8 +0.1**
baz=315
CHKK Chushkaly 18.44 315 *e*P **Pn** **07 56 43.8 +0.1**
DGZ Jazzator, Alta 18.53 344 *i* P **Pn** **07 56 46.7 +1.8**
NAYO Nakonayok 18.56 161 P **Pn** **07 56 48.3 +2.9**
QIZ Qiongzhong 18.58 131 P **P** **07 56 38.8 -6.5**
QIZ S **Sn** **08 00 03.9 -9.5**
QIZ LR LR
comp=N,860nm,12.9s
QIZ LR LR
comp=E,640nm,12.6s
QIZ LR LR
comp=Z,1μm,16.7s
TIA Tai'an 18.73 71 P **P** **07 56 45.8 -1.0**
TIA S **S** **08 00 18.8 -1.3**
TIA pmax pmax
comp=Z,20nm,1.3s
TIA LR LR
comp=Z,370nm,9.8s
TIA LR LR
comp=Z,1μm,16.1s
TIA LR LR
comp=Z,1μm,12.9s
BJT Baijiatuau 18.80 59 P **Pn** **07 56 49.4 +1.2**
BJT Baijiatuau 18.80 59 P **Pn** **07 56 51.2 +3.0**
BJT Baijiatuau 18.80 59 P **Pn** **07 56 49.4 +1.2**
BJT pmax pmax
comp=Z,27nm,1.3s
BJI Beijing 18.82 59 P **Pn** **07 56 50.1 +1.8**
BJI pmax pmax
comp=Z,8.0nm,1.2s
BJI LR LR
comp=Z,670nm,9.4s
BJI LR LR
comp=Z,440nm,9.5s
BJI LR LR
comp=Z,670nm,11.5s
TKM2 Tokmak 2 18.83 311 P **Pn** **07 56 50.3 +1.7**
SNR=22
TKM2 Tokmak 2 18.83 311 *i* P **Pn** **07 56 50.0 +1.4**
TKM2 pmax pmax
comp=Z,29nm,1.2s
KUU Kurty 18.86 314⇓ *e*P **P** **07 56 48.2 0.0**
baz=314
KUU LR LR 08 04 34.5
comp=Z,157nm,8.0s,baz=314
KUU Kurty 18.86 314 *de*P **P** **07 56 48.2 0.0**
KUU MLR MLR
comp=Z,157nm,8.0s
KBK Karagaybulak 19.12 309 P Pn 07 56 59.9 +7.7
SNR=22
ARLS Aral 19.20 306 P **Pn** **07 56 54.2 +1.1**
ZAK Zakamensk 19.30 16 *e*P **Pn** **07 56 53.7 -0.5**
ZAK pmax pmax
comp=Z,19nm,1.4s
FRU1 Bishkek 19.40 309 P **Pn** **07 56 56.0 +0.6**
FRU1 Bishkek 19.40 309 P **Pn** **07 56 56.0 +0.6**
FRU1 pmax pmax
comp=Z,36nm,0.7s
AAK Ala-Archa 19.42 309 P **Pn** **07 56 57.2 +1.5**
SNR=16
AAK Ala-Archa 19.42 309 P **Pn** **07 56 56.0 +0.3**
AAK Ala-Archa 19.42 309 P **Pn** **07 56 57.0 +1.4**
AAK Ala-Archa 19.42 309 P **Pn** **07 56 56.0 +0.3**
comp=Z,0.3nm,0.3s,baz=121,slow=12,SNR=29
comp=Z,18nm,0.9s
USP Ospenovka 19.70 310 P **Pn** **07 57 00.6 +1.6**
SNR=22
SGDS Sogindy 19.70 311 *e*P **P** **07 56 58.0 +0.4**
baz=311
SGDS Sogindy 19.70 311 *e*P **P** **07 56 58.0 +0.4**
AML Almayashu 19.74 307 P **Pn** **07 57 00.4 +0.6**
SNR=22
OHH Osh 19.80 301 P **Pn** **07 57 00.5 +0.2**

EKS2 Erkin-Say 19.90 308 P **Pn** **07 57 02.3 +0.8**
SNR=22
MOY Mondy 20.08 11 *e*P Pn 07 57 03.6 +0.2
MOY pmax pmax
comp=Z,42nm,1.9s
NJ2 Nanjing 20.17 84 *e*P Pn 07 57 03.7 -0.8
NJ2 pP pP 07 57 05.6 -1.3
NJ2 sP sP 07 57 08.1 -0.7
NJ2 pmax pmax
comp=Z,16nm,0.7s
NJ2 LR LR
comp=Z,550nm,10.7s
NJ2 LR LR
comp=Z,1μm,11.6s
NJ2 LR LR
comp=Z,1μm,13.3s
XLT XiLinHaoTe 20.30 48⇑ *i*P Pn 07 57 08.2 +2.1
XLT pP sP 07 57 12.6 +2.4
XLT sP pP 07 57 16.7 +8.4
XLT pmax pmax
comp=Z,28nm,1.0s
XLT pmax pmax
comp=Z,110nm,4.5s
XLT LR LR
comp=Z,480nm,10.4s
XLT LR LR
comp=Z,550nm,12.0s
ARK Arkit 20.81 304 P Pn 07 57 10.9 -1.2
HYB Hyderabad 20.86 230 *e*P Pn 07 57 14.5 +1.7
BTK Batken 21.12 299 P **P** **07 57 13.3 +0.3**
BTK IAmb IAmb 07 57 27.8
comp=Z,54nm,0.8s
BTK Batken 21.12 299 P **P** **07 57 13.3 +0.3**
BTK pmax pmax
comp=Z,54nm,0.8s
SEM Semipalatinsk 21.38 333 LR LR 08 05 39.4
comp=Z,116nm,11.8s,baz=333
KBL Kabul 21.87 284 P **P** **07 57 21.0 -0.2**
KBL Kabul 21.87 284 P **P** **07 57 21.0 -0.2**
KBL pmax pmax
comp=Z,188nm,0.9s
KBL Kabul 21.87 284 P **P** **07 57 21.9 +0.7**
SNR=106
KURBB Kurchatov Arra 22.23 331 P **P** **07 57 24.8 +0.1**
comp=Z,23nm,0.8s,baz=137,slow=12,SNR=38
KURBB PcP **PcP** **08 01 20.1 -0.7**
comp=Z,3.5nm,1.0s,baz=152,slow=2.0,SNR=4.3
KURBB LR LR 08 07 01.0
comp=Z,322nm,21.3s,baz=150,slow=39
comp=Z,23nm,0.8s
KURK Kurchatov 22.26 332 P **P** **07 57 25.0 0.0**
KURK Kurchatov 22.26 332 P **P** **07 57 25.0 0.0**
KURK pmax pmax
comp=Z,215nm,1.6s
KK31 Karatay Array 22.28 307 P **P** **07 57 25.8 +0.4**
KK31 Karatay Array 22.28 307 P **P** **07 57 25.8 +0.4**
KK31 pmax pmax
comp=Z,53nm,1.1s
KKAR Karatay Array 22.28 307 P **P** **07 57 25.5 +0.1**
KKAR Karatay Array 22.28 307 P **P** **07 57 25.5 +0.1**
IUG Iuzhnay 22.29 304 *e*P **P** **07 57 25.8 +0.2**
comp=Z,47nm,1.3s,baz=304
IUG Iuzhnay 22.29 304 *e*P **P** **07 57 25.7 +0.2**
IUG pmax pmax
comp=Z,47nm,1.3s
DL2 Dalian 22.64 65 P **P** **07 57 31.0 +1.7**
DL2 S **S** **08 01 43.2 +6.0**
DL2 pmax pmax
comp=Z,42nm,1.0s
DL2 pmax pmax
comp=Z,200nm,5.4s
DL2 LR LR
comp=Z,730nm,15.8s
DL2 LR LR
comp=Z,660nm,13.5s
DL2 LR LR
comp=Z,930nm,13.8s
ZAA0 Zalesovo Array 23.08 344 P **P** **07 57 33.4 -0.3**
ZALV Zalesovo Beam 23.08 344 *i* P **P** **07 57 33.4 -0.3**
ZALV pmax pmax
comp=Z,11nm,1.0s
ZALV Zalesovo Beam 23.08 344 P **P** **07 57 33.1 -0.6**
comp=Z,11nm,1.0s,baz=157,slow=8.0,SNR=26
comp=Z,11nm,1.0s
SURA Surathani 23.17 168 P **P** **07 57 38.0 +3.2**
YHNB Yeheng 24.26 101 P **P** **07 57 45.5 0.0**
YHNB IAmb IAmb 07 58 00.1
comp=Z,84nm,1.4s
BRZS Berezniki 24.46 324 *e*P **P** **07 57 47.8 +0.7**
baz=324
BRZS Berezniki 24.46 324 *e*P **P** **07 57 47.7 +0.7**
NACB Ninganchiao 24.64 102 P **P** **07 57 50.0 +1.1**
NACB IAmb IAmb 07 57 54.1
comp=Z,42nm,1.0s
SNY Shenyang 24.70 59⇓ *i*P **P** **07 57 46.3 -2.9**
SNY pmax pmax
comp=Z,39nm,0.8s
SNY pmax pmax
comp=Z,190nm,3.7s
SNY LR LR
comp=Z,360nm,13.7s
SNY LR LR
comp=Z,310nm,13.5s
SNY LR LR
comp=Z,410nm,13.3s
HIA Hailar 25.25 40 P **P** **07 57 54.3 +0.1**
HIA Hailar 25.25 40 P **P** **07 57 56.1 +1.9**
HIA Hailar 25.25 40 P **P** **07 57 54.3 +0.1**
HIA pmax pmax
comp=Z,19nm,1.0s
INCN Inchon 26.43 69 P **P** **07 58 06.5 +1.5**
INCN Inchon 26.43 69 P **P** **07 58 06.5 +1.5**
INCN pmax pmax
comp=Z,181nm,2.0s
CN2 Changchun 26.54 55 *e*P **P** **07 58 06.0 +0.1**
CN2 *es*P sP 07 58 12.0 -0.4
CN2 *e*S **S** **08 02 36.0 -4.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,600nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,500nm,11.0s
KSRS Korea Array 27.45 70 P **P** **07 58 14.3 +0.1**
comp=Z,12nm,1.0s,baz=259,slow=9.9,SNR=14
comp=Z,12nm,1.0s
HRA Herat 27.48 284 P **P** **07 58 13.4 -1.4**
BVA0 Borovoye Array 27.50 327 *i* P **P** **07 58 14.7 +0.3**
BVAR Borovoye Array 27.50 327 P **P** **07 58 14.9 +0.5**
comp=Z,12nm,0.8s,baz=128,slow=9.9,SNR=22
comp=Z,12nm,0.8s
BRVK Borovoye 27.57 327 P **P** **07 58 15.3 +0.2**
BRVK Borovoye 27.57 327 *ce*P **P** **07 58 15.3 +0.2**
BRVK pmax pmax
comp=Z,16nm,0.7s
BRVK Borovoye 27.57 327 P **P** **07 58 15.6 +0.5**
JOW Kunigami 29.32 92 LR LR 08 11 18.1
comp=Z,511nm,18.3s,baz=202,slow=39
MDJ Mudanjiang 29.63 55 P **P** **07 58 33.6 +0.1**
MDJ PP **PnPn** **07 59 28.4 +0.2**
MDJ PcP **PcP** **08 01 35.6 -2.3**
MDJ S **S** **08 03 31.6 +2.8**
MDJ SS **SnSn** **08 05 02.4 +5.3**
MDJ ScS **ScS** **08 09 13.2 -1.4**
MDJ pmax pmax
comp=Z,10.0nm,0.6s
MDJ pmax pmax
comp=Z,98nm,4.1s
MDJ LR LR
comp=Z,380nm,11.4s
MDJ LR LR
comp=Z,420nm,12.5s
MDJ LR LR
comp=Z,570nm,15.2s
HEH HeiHe 30.07 43 *e*P **P** **07 58 40.6 +3.3**
HEH sP **sP** **07 58 48.6 +4.9**
HEH S **S** **08 03 41.7 +6.1**
HEH pmax pmax
comp=Z,11nm,0.9s
HEH LR LR
comp=Z,290nm,9.0s
HEH LR LR
comp=Z,500nm,9.8s
HEH LR LR

comp=Z,520nm,10.4s
JNU Nakatsue 30.11 78 LR LR 08 11 16.3
comp=Z,316nm,18.0s,baz=284,slow=38
GSI Gunungsitoli 30.68 175 P **P** **07 58 44.4 +1.4**
GSI IAmb IAmb 07 58 45.8
comp=Z,38nm,0.9s
GSI Gunungsitoli 30.68 175 P **P** **07 58 45.2 +2.3**
GSI Gunungsitoli 30.68 175 P **P** **07 58 45.3 +2.3**
comp=Z,39nm,1.2s,comp=Z,13μm
GEYT Alibeck 30.68 291 P **P** **07 58 43.7 +0.7**
GEYT IAmb IAmb 07 58 49.6
comp=Z,34nm,1.1s
GEYT Alibeck 30.68 291 P **P** **07 58 43.7 +0.7**
GEYT pmax pmax
comp=Z,34nm,1.1s
GEYT Alibeck 30.68 291 P **P** **07 58 44.1 +1.1**
comp=Z,11nm,0.9s,baz=171,slow=5.7,SNR=21
comp=Z,11nm,0.9s
GYA0B ALIBECK ARRAY 30.68 291 P **P** **07 58 43.7 +0.8**
GYA0B IAmb IAmb 07 58 49.5
comp=Z,30nm,1.1s
AB31 Akbulak array 31.34 314 *i* P **P** **07 58 49.2 +0.7**
ABKAR Akbulak array 31.34 314 P **P** **07 58 48.8 +0.2**
ZEA Zeya 31.60 37 *e*P **P** **07 58 52.8 +2.0**
ZEA *e* 08 04 07.3
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=N,300nm,9.0s
ZEA MLR MLR
comp=Z,200nm,13.0s
KLR Kul'dur 32.31 47 LR LR 08 13 15.5
comp=Z,320nm,19.0s,baz=251,slow=39
AKTO Aktyubinsk 32.91 315 P **P** **07 59 02.8 +0.5**
comp=Z,14nm,0.8s,baz=111,slow=6.6,SNR=13
comp=Z,14nm,0.8s
JASK Jask - Hormozg 33.00 269 P **P** **07 59 02.5 -0.9**
JLN Jalan Bani Buh 33.10 262 P **P** **07 59 03.8 -0.5**
JLN P **P** **07 59 03.8 -0.5**
WBK Wadi Bani Khal 33.28 263 P **P** **07 59 05.1 -0.8**
WBK P **P** **07 59 05.1 -0.8**
WSAR Wadi Sarin 33.31 264 P **P** **07 59 06.1 -0.1**
WSAR Wadi Sarin 33.31 264 P **P** **07 59 06.3 +0.2**
comp=Z,14nm,0.9s,baz=94,slow=4.6,SNR=8.3
WSAR LR LR 08 13 46.7
comp=Z,193nm,21.0s,baz=85,slow=38
comp=Z,14nm,0.9s
SMDO Samad 33.88 264 P **P** **07 59 11.2 0.0**
SNR=6.4
SMDO P **P** **07 59 11.2 0.0**
SNR=6.4
JMDO Jabal Madar 34.11 263 P **P** **07 59 13.6 +0.5**
JMDO P **P** **07 59 13.6 +0.5**
SVE Sverdlovsk 34.28 327 *e*P **P** **07 59 15.6 +1.4**
SVE pmax pmax
comp=Z,46nm,1.3s
HOQ Hoqain 34.30 265 P **P** **07 59 15.4 +0.7**
HOQ P **P** **07 59 15.4 +0.7**
SHME Shamm 34.41 270 P **P** **07 59 17.9 +2.3**
SHME Shamm 34.41 270 P **P** **07 59 15.3 -0.3**
MSFE Esma-Masafi 34.62 269 P **P** **07 59 19.9 +2.3**
BSY Bisya 34.72 264 P **P** **07 59 18.5 +0.1**
SNR=7.7
BSY P **P** **07 59 18.5 +0.1**
SNR=7.7
UOSS Minazif 34.73 268 P **P** **07 59 21.7 +3.2**
UOSS Minazif 34.73 268 P **P** **07 59 17.8 -0.6**
SOHO SOHO 34.74 267 P **P** **07 59 20.3 +1.7**
SOHO SOHO 34.74 267 P **P** **07 59 19.9 +1.3**
SOHO P **P** **07 59 19.9 +1.3**
MHTO MHTO 34.81 261 P **P** **07 59 18.7 -0.5**
SNR=9.3
MHTO P **P** **07 59 18.7 -0.5**
SNR=9.3
HATD Hatta, Dubai 34.83 268 P **P** **07 59 20.1 +0.7**
ASHO Ashiyiah 34.95 268 P **P** **07 59 21.2 +0.8**
ASHO Ashiyiah 34.95 268 P **P** **07 59 21.5 +1.1**
SNR=12
ASHO P **P** **07 59 21.5 +1.1**
SNR=12
ARQ Araqi 35.06 265 P **P** **07 59 22.7 +1.3**
ARU Arti 35.08 325 P **P** **07 59 21.2 +0.1**
ARU IAmb IAmb 07 59 26.7
comp=Z,43nm,1.3s
ARU Arti 35.08 325 *c i*P **P** **07 59 21.4 +0.3**
ARU 08 00 40.1
ARU 08 01 50.4
ARU S **S** **08 04 57.8 +4.4**
ARU SS **SnSn** **08 07 09.2 0.0**
ARU pmax pmax
comp=Z,30nm,1.3s
ARU MLR MLR
comp=Z,344nm,15.0s
ALNE Al Ain 35.44 267 P **P** **07 59 25.0 +0.4**
ALNE Al Ain 35.44 267 P **P** **07 59 25.1 +0.5**
ALNE P **P** **07 59 25.1 +0.5**
ASUD Al Ashush, Dub 35.59 268 P **P** **07 59 24.2 -1.6**
MJAR Matsushiro Arr 35.71 71 P **P** **07 59 26.3 -0.5**
comp=Z,4.0nm,1.1s,baz=274,slow=8.0,SNR=6.8
MJAR PcP **PcP** **08 01 53.6 -1.4**
comp=Z,3.1nm,0.7s,baz=246,slow=3.6,SNR=4.5
MJAR LR LR 08 14 08.5
comp=Z,145nm,20.0s,baz=280,slow=36
comp=Z,4.0nm,1.1s
YAK Yakutsk 37.33 26 P **P** **07 59 40.4 +0.2**
YAK IAmb IAmb 07 59 48.0
comp=Z,34nm,0.6s
YAK Yakutsk 37.33 26 *e*P **P** **07 59 39.9 -0.3**
YAK *e**PP **sP** **07 59 45.7 -1.0**
YAK *e* 08 02 03.0
YAK *e*S **S** **08 05 28.1 +0.5**
YAK *e*SS **SnSn** **08 08 00.5 -2.9**
YAK pmax pmax
comp=Z,28nm,1.0s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=Z,231nm,5.4s
YAK pmax pmax
comp=N,164nm,5.1s
YAK pmax pmax
comp=E,66nm,3.6s
YAK smax smax
comp=E,157nm,5.2s
YAK smax smax
comp=N,145nm,4.2s
YAK MLR MLR
comp=Z,120nm,17.0s
YAK MLR MLR
comp=N,415nm,26.0s
YAK MLR MLR
comp=E,96nm,19.0s
JHJ Hachijo jima 2 37.49 76 LR LR 08 16 59.3
comp=E,215nm,18.3s,baz=319,slow=39
DAV Davao City (W) 37.76 125 LR LR 08 17 57.4
comp=E,376nm,18.1s,baz=336,slow=41
MZR Muzera 37.77 267 P **P** **07 59 44.2 -0.3**
MZR P **P** **07 59 44.2 -0.3**
LKRN Lenkeran, Azer 37.99 293 P **P** **07 59 48.5 +2.4**
MAK Makhachkala 38.80 300 *e*P P 07 59 47.5 -5.4
MAK *e*S **S** **08 05 43.8 -6.5**
MAK pmax pmax
comp=Z,124nm,1.5s
MAK MLR MLR
comp=Z,145nm,14.0s
ASAJ Asahikawa 38.81 58 LR LR 08 15 55.7
comp=Z,141nm,20.4s,baz=230,slow=36
DMTO DMTO 38.85 258 P **P** **07 59 51.8 -1.8**
DMTO P **P** **07 59 51.8 -1.8**
SEKA Sheki 39.06 297 P **P** **07 59 56.0 +0.8**
YSS Yuzh-Sakhalins 39.08 53 *e*P **P** **07 59 55.9 +0.7**
YSS *e*S **S** **08 05 55.3 +0.8**
YSS *e*SS **SnSn** **08 08 42.9 -3.3**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=Z,400nm,17.0s
DOK Doka 39.10 260 P **P** **07 59 54.4 -1.3**
DOK P **P** **07 59 54.4 -1.3**
DOK P **P** **07 59 55.1 -0.6**
DOK P **P** **07 59 55.1 -0.6**
ZKTA Zakatala 39.48 298 P **P** **08 00 00.5 +1.9**
BELG Belogornoye 39.70 315 *i* P **P** **08 00 00.3 0.0**

BELG pmax pmax
comp=Z,12nm,1.0s
BELG Belogornoye 39.70 315 LR LR 08 20 11.5
comp=Z,31nm,18.4s,baz=183,slow=42
WHFO Wadi Hawf 39.73 259 P **P** **07 59 59.8 -1.3**
SNR=6.0
WHFO P **P** **07 59 59.8 -1.3**
SNR=6.0
GANJ Ganja 39.75 297 P **P** **08 00 02.6 +1.7**
ABTO Aybut 40.40 259 P **P** **08 00 05.9 -0.7**
KIRV Kirov 40.46 325*c*eP **P** **08 00 06.8 +0.3**
KIRV Kirov 40.46 325 LR LR 08 17 42.8
comp=Z,175nm,21.2s,baz=113,slow=38
GNI Garni 40.99 296 *e*P **P** **08 00 11.5 +0.1**
GNI pmax pmax
comp=Z,48nm,1.1s
GNI Garni 40.99 296 P **P** **08 00 14.0 +2.6**
comp=Z,11nm,0.6s,baz=202,slow=15,SNR=4.1
GNI LR LR 08 20 07.6
comp=Z,99nm,19.1s,baz=98,slow=40
JCJ Chichijima 41.03 84 LR LR 08 17 35.2
comp=Z,157nm,19.1s,baz=229,slow=37
KPJI Karang Pucung 41.34 159 P **P** **08 00 18.2 +4.0**
comp=Z,51nm,1.0s
ZEI Tsey 41.45 300 *e*P **P** **08 00 14.5 -0.7**
ZEI pmax pmax
comp=Z,10.0nm,0.7s
AKH Akhalkalaki 41.83 298 P **P** **08 00 19.1 +0.8**
AKH Akhalkalaki 41.83 298 P **P** **08 00 19.1 +0.8**
AKH pmax pmax
comp=Z,116nm,0.8s
TTSI Tana Toraja 42.09 141 P **P** **08 00 23.5 +3.1**
comp=Z,32nm,0.8s
KBZ Khabaz 42.15 301 *i* P **P** **08 00 19.7 -0.9**
KBZ pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 42.15 301 P **P** **08 00 20.9 +0.4**
comp=Z,3.6nm,0.9s,baz=128,slow=4.5,SNR=14
KBZ LR LR 08 22 13.4
comp=Z,102nm,18.1s,baz=79,slow=42
comp=Z,3.6nm,0.9s
KARS Kars 42.21 297 pP **P** **08 00 22.6 +1.2**
KVAR Kislovodsk Arr 42.28 302 P **P** **08 00 22.3 +0.4**
comp=Z,1.7nm,0.4s,baz=103,slow=18,SNR=2.8
comp=Z,1.7nm,0.4s
KIV Kislovodsk 42.29 302 P **P** **08 00 22.2 +0.3**
KIV IAmb IAmb 08 00 27.5
comp=Z,118nm,2.0s
KIV Kislovodsk 42.29 302 *e*P **P** **08 00 22.7 +0.8**
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,123nm,16.0s
KIV Kislovodsk 42.29 302 P **P** **08 00 22.1 +0.2**
KIV P **P** **08 00 22.1 +0.2**
VRH Novokhopyorsk 43.15 312 *e*P **P** **08 00 26.7 -1.9**
VRH pmax pmax
comp=Z,40nm,0.8s
GURO Guroymak-BITLI 43.26 294 P **P** **08 00 29.9 0.0**
PRGR Permogore 43.30 328 *e*P **P** **08 00 29.1 -0.6**
PRGR *e* 08 02 17.9
TIXI Tiksi 43.58 15 P **P** **08 00 31.1 -0.7**
TIXI Tiksi 43.58 15*c*eP **P** **08 00 30.6 -1.2**
TIXI pmax pmax
comp=Z,10.0nm,0.7s
KAPI Kappang 43.72 143 P **P** **08 00 34.8 +1.2**
comp=Z,6.1nm,0.7s,baz=324,slow=18,SNR=2.1
KAPI LR LR 08 19 41.5
comp=Z,96nm,20.9s,baz=318,slow=37
comp=Z,6.1nm,0.7s
SOC Sochi 44.46 301 *e*P **P** **08 00 34.8 -4.5**
SOC *e* 08 02 18.1
SOC *e*PPP PPP 08 02 56.4
SOC *e*S **S** **08 07 09.6 -4.6**
SOC *e*SS **SS** **08 10 31.8 -1.4**
SOC *e*SSS SSS 08 11 14.9
SOC MLR MLR
comp=Z,76nm,16.0s
VORD Divnogorie 44.66 312 *e*P **P** **08 00 39.7 -1.1**
VORD pmax pmax
comp=Z,50nm,0.6s
VSR Storozhevoye 44.76 312 *e*P **P** **08 00 40.0 -1.5**
VSR pmax pmax
comp=Z,20nm,1.3s
VORR Voronezh 44.76 313 *e*P **P** **08 00 40.3 -1.2**
VORR pmax pmax
comp=Z,40nm,0.3s
LPSR Galich'ya Gora 44.99 314 *e*P **P** **08 00 42.3 -1.1**
LPSR pmax pmax
comp=Z,60nm,0.9s
KLMR Klimovskoe 45.91 326 *e*P **P** **08 00 49.0 -1.6**
KLMR AMP 08 00 52.3
comp=Z,68nm,1.2s
KLMR *e*PcP **PcP** **08 02 25.0 -2.4**
KLMR LQ LQ 08 12 57.7
KLMR LQ LQ 08 12 57.7
KLMR LR LR 08 19 30.4
KLMR Klimovskoe 45.91 326 *e*P **P** **08 00 49.0 -1.6**
KLMR *e* 08 02 24.9
KLMR pmax pmax
comp=Z,68nm,1.2s
ANN Anapa 46.00 303 *e*P **P** **08 00 51.8 +0.3**
ANN *e* 08 02 37.9
ANN *e*S **S** **08 07 34.9 -1.6**
ANN pmax pmax
comp=Z,26nm,0.8s
MOS Moscow 46.04 319 *e*P **P** **08 00 51.1 -0.6**
MOS *e* 08 02 41.8
MOS *e*PPP PPP 08 03 22.7
MOS *e*S **S** **08 07 36.7 -0.1**
MOS pmax pmax
comp=Z,41nm,0.6s
MOS MLR MLR
comp=Z,500nm,19.0s
OBN Obninsk 46.58 318*c*eP **P** **08 00 56.2 +0.3**
OBN *e* 08 02 29.1
OBN *e* 08 02 41.9
OBN *e*SS SS 08 11 08.4 -1.9
OBN pmax pmax
comp=Z,66nm,1.7s
OBN MLR MLR
comp=Z,130nm,15.0s
ADZR Andozero 47.20 330 *e*P **P** **08 01 02.5 +1.9**
ADZR pmax pmax
comp=Z,28nm,1.0s
GAZ Gaziantep 47.25 293 P **P** **08 01 01.2 -0.4**
GAZ IAmb IAmb 08 01 07.6
comp=Z,29nm,1.0s
SIJI Sorong 47.38 127 P **P** **08 01 01.7 -0.9**
comp=Z,12nm,0.7s,baz=60,slow=8.7,SNR=5.0
comp=Z,12nm,0.7s
BNN Bunyan 47.98 295 P **P** **08 01 06.7 -0.6**
ASF Jabal al Asfar 48.72 287 P **P** **08 01 13.8 +0.8**
comp=Z,12nm,1.1s,baz=66,slow=3.5,SNR=8.0
ASF LR LR 08 25 17.3
comp=Z,176nm,19.5s,baz=108,slow=40
comp=Z,12nm,1.1s
PETK Petropavlovsk- 48.96 45 P **P** **08 01 14.3 -0.1**
comp=Z,5.3nm,1.0s,baz=284,slow=7.3,SNR=2.2
comp=Z,5.3nm,1.0s
BR131 Keskin Array S 49.49 297 P **P** **08 01 18.0 -0.9**
BR131 IAmb IAmb 08 01 23.8
comp=Z,16nm,1.1s
BR131 Keskin Array S 49.49 297 P **P** **08 01 18.0 -0.9**
BR131 pmax pmax
comp=Z,16nm,1.1s
BR131 Keskin Array S 49.49 297 P **P** **08 01 18.8 -0.1**
SNR=6.6
BRTR Keskin Array B 49.49 297 P **P** **08 01 18.2 -0.7**
BRTR Keskin Array B 49.49 297*c*eP **P** **08 01 20.8 +1.9**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 49.49 297 P **P** **08 01 18.9 -0.1**
comp=Z,9.5nm,1.0s,baz=104,slow=5.2,SNR=16
BRTR PP **PP** **08 03 16.2 +3.3**
comp=Z,3.0nm,0.8s,baz=82,slow=8.9,SNR=5.4
comp=Z,9.5nm,1.0s
LVZ Lovozero 49.64 334 P **P** **08 01 20.1 +0.6**
LVZ Lovozero 49.64 334*c*eP **P** **08 01 20.2 +0.8**
LVZ pmax pmax
comp=Z,30nm,1.3s
MMAI Mount Meron Ar 49.69 288 P **P** **08 01 20.9 +0.5**
comp=Z,2.2nm,0.5s,baz=88,slow=11,SNR=8.3
comp=Z,2.2nm,0.5s
APA Apatity 50.02 334 ⇓*i*P **P** **08 01 23.5 +1.2**
APA pmax pmax
comp=Z,7.0nm,0.9s
APA MLR MLR
comp=Z,500nm,11.0s
SOEI Soe 50.08 141 P **P** **08 01 23.4 -0.1**
SOEI Soe 50.08 141 P **P** **08 01 25.3 +1.8**
ANTO Ankara 50.10 297 P **P** **08 01 24.0 +0.5**
BATI Baumata 50.14 142 LR LR 08 24 42.6
comp=Z,93nm,18.1s,baz=153,slow=39
AKASG Malin Array Be 51.05 312 P **P** **08 01 29.6 -0.7**
comp=Z,13nm,0.7s,baz=75,slow=6.9,SNR=33
comp=Z,13nm,0.7s
AKBB Malin Array Si 51.05 312 P **P** **08 01 29.7 -0.6**
AKBB IAmb IAmb 08 01 34.7
comp=Z,28nm,0.9s
AKBB Malin Array Si 51.05 312*c*eP **P** **08 01 28.4 -1.9**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
MDUB Mudurnu 51.18 298 P **P** **08 01 31.4 -0.2**
MNK Minsk 51.60 317 *i* P **P** **08 01 34.1 -0.2**
comp=E,14nm,0.8s
MNK *i* P **P** **08 01 34.1 -0.2**
comp=N,17nm,0.8s
MNK *i* P **P** **08 01 34.1 -0.2**
comp=Z,33nm,0.8s,baz=267
MNK *i* PP **PP** **08 03 31.7 +0.2**
MNK *i* PPP PPP 08 04 31.7
MNK *i* S **S** **08 08 56.1 +1.0**
MNK *i* SS **SS** **08 12 29.2 -1.7**
MNK *i* SSS SSS 08 14 10.8
MNK *i* LQ LQ 08 19 48.3
MNK *i* LR LR 08 22 24.5
MNK *i* LRM MLR 08 25 49.7
comp=N,359nm,23.8s
MNK *i* LRM MLR 08 26 03.3
comp=E,125nm,24.6s
MNK *i* LRM MLR 08 26 03.3
comp=Z,73nm,15.3s
MNK Minsk 51.60 317 *i* P **P** **08 01 34.1 -0.2**
MNK *i* 08 03 31.7
MNK *i* PPP PPP 08 04 31.6
MNK *i* S **S** **08 08 56.1 +1.0**
MNK *i* SS **SS** **08 12 29.1 -1.7**
MNK *i* SSS SSS 08 14 10.7
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=Z,33nm,0.8s
MNK pmax pmax
comp=E,14nm,0.8s
MNK MLR MLR
comp=N,359nm,24.0s
MNK MLR MLR
comp=E,125nm,25.0s
MNK MLR MLR
comp=Z,73nm,15.0s
SORM Soroca 51.90 309 ⇑P **P** **08 01 36.1 -0.6**
SORM Soroca 51.90 309 P **P** **08 01 36.0 -0.6**
VSU Vasula 52.11 322 *i* P **P** **08 01 36.3 -1.8**
VSU Vasula 52.11 322 *e*P **P** **08 01 38.6 +0.6**
NACGM Naroch 52.21 317 *e*P P 08 01 44.0 +5.0
comp=Z,36nm,0.9s,baz=86
IDID Didziasalis 52.22 318 *e*P **P** **08 01 38.6 -0.3**
TPGR Topolog 52.35 304 ⇑P **P** **08 01 40.0 -0.2**
TIRR Tirgusor 52.43 304 P **P** **08 01 39.9 -0.8**
TIRR IAmb IAmb 08 01 47.0
comp=Z,17nm,0.9s
TIRR Tirgusor 52.43 304 P **P** **08 01 39.9 -0.8**
TIRR pmax pmax
comp=Z,17nm,0.9s
FINES FINESS Array B 52.44 326 *i* P **P** **08 01 41.7 +1.2**
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES FINESS Array B 52.44 326 P **P** **08 01 39.9 -0.6**
comp=Z,3.7nm,0.5s,baz=92,slow=4.8,SNR=38
FINES LR LR 08 24 53.5
comp=Z,101nm,19.7s,baz=89,slow=37
comp=Z,3.7nm,0.5s
CFR Carcaliu 52.50 305 ⇑P **P** **08 01 40.4 -0.8**
CFR Carcaliu 52.50 305 P **P** **08 01 40.3 -0.8**
IIGN Ignalina 52.51 318 *e*P **P** **08 01 41.1 0.0**
ISAL Salakas 52.55 318 *e*P **P** **08 01 41.1 -0.3**
HARR Harsova 52.73 304 ⇑P **P** **08 01 43.7 +0.8**
HARR Harsova 52.73 304 P **P** **08 01 43.7 +0.8**
ARCES ARCESS Array B 53.22 336 P **P** **08 01 46.1 -0.1**
ARCES ARCESS Array B 53.22 336 P **P** **08 01 46.1 -0.1**
ARCES pmax pmax
comp=Z,149nm,2.0s
ARCES ARCESS Array B 53.22 336 P **P** **08 01 46.5 +0.3**
comp=Z,8.3nm,0.7s,baz=80,slow=6.5,SNR=4.7
ARCES LR LR 08 27 20.2
comp=Z,155nm,18.1s,baz=99,slow=39
comp=Z,8.3nm,0.7s
MEF Metsahovi 53.27 324 *e*P **P** **08 01 46.6 0.0**
VRI Vrincioaia 53.35 306 ⇑P **P** **08 01 47.3 -0.2**
VRI Vrincioaia 53.35 306 P **P** **08 01 47.3 -0.2**
PLOR Plostina 53.41 306 ⇑P **P** **08 01 49.0 +1.0**
PLOR Plostina 53.41 306 P **P** **08 01 48.9 +1.0**
ISR Istrita 53.62 305 ⇑P **P** **08 01 50.8 +1.2**
ISR Istrita 53.62 305 P **P** **08 01 50.7 +1.2**
MTSE Matsula 53.63 322 *e*P **P** **08 01 49.1 -0.2**
NEHR Nehoiu 53.73 305 ⇑P **P** **08 01 49.9 -0.4**
PABE Paberze 53.78 318 *e*P **P** **08 01 51.0 +0.5**
OZUR 53.95 306 ⇓P **P** **08 01 52.8 +0.8**
MLR Muntele Rosu 53.96 306 ⇑P **P** **08 01 53.3 +1.2**
MLR Muntele Rosu 53.96 306 P **P** **08 01 52.4 +0.3**
MLR Muntele Rosu 53.96 306 P **P** **08 01 52.4 +0.3**
MLR pmax pmax
comp=Z,48nm,0.9s
MLR Muntele Rosu 53.96 306 LR LR 08 28 54.1
comp=Z,200nm,19.1s,baz=76,slow=40
BURAR Bucovina Array 54.06 308 ⇑P **P** **08 01 52.6 -0.3**
BURAR Bucovina Array 54.06 308 P **P** **08 01 52.2 -0.7**
BURAR IAmb IAmb 08 01 57.9
comp=Z,12nm,0.8s
BURAR Bucovina Array 54.06 308 P **P** **08 01 52.5 -0.3**
BUR08 Bucovina Ar. S 54.07 308 P **P** **08 01 51.6 -1.2**
DOPR Dopca 54.25 306 ⇓P **P** **08 01 54.8 +0.6**
SUW Suwalki 54.39 316 *e*P **P** **08 01 54.4 -0.5**
SUW Suwalki 54.39 316 P **P** **08 01 54.6 -0.4**
SUW Suwalki 54.39 316 P **P** **08 01 54.6 -0.4**
SUW pmax pmax
comp=Z,99nm,0.9s
SUW Suwalki 54.39 316 *e*P **P** **08 01 55.3 +0.4**
LVV L'vov 54.46 311 *e*P **P** **08 01 55.8 +0.2**
LVV pmax pmax
comp=Z,90nm,1.2s
LVV MLR MLR
comp=N,2μm,17.0s
LVV MLR MLR
comp=E,5μm,17.0s
LVV MLR MLR
comp=Z,6μm,17.0s
RAF Rauma 54.54 325 *e*P **P** **08 01 53.9 -2.0**
VOIR 54.59 306 ⇑P **P** **08 01 56.4 -0.2**
VOIR 54.59 306 P **P** **08 01 56.4 -0.2**
ARR Arges 54.89 306 ⇑P **P** **08 01 59.0 +0.2**
RDO Rodhopi 55.21 301 P **P** **08 02 01.5 +0.4**
JAY Jayapura 55.25 120 LR LR 08 26 36.8
comp=Z,60nm,19.8s,baz=24,slow=37
KWP Kalwaria Pacla 55.34 311 *e*P **P** **08 02 02.1 +0.2**
KWP Kalwaria Pacla 55.34 311 P **P** **08 02 01.4 -0.5**
KWP Kalwaria Pacla 55.34 311 P **P** **08 02 01.5 -0.5**
KWP pmax pmax
comp=Z,87nm,0.7s
LOT Lotru 55.47 306 ⇑P **P** **08 02 03.2 +0.2**
TRPA Tarpa 55.73 309 ⇑P **P** **08 02 04.0 -0.8**
KOLS Kolonicke sedl 55.75 310 *e*P **P** **08 02 05.8 +0.9**
KOLS pmax pmax
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 55.75 310 *e*P **P** **08 02 05.8 +0.9**
GZR Gura Zlata 56.16 306 ⇑P **P** **08 02 08.2 +0.2**
CRVS Cervenica-Dubn 56.28 310 *e*P **P** **08 02 10.0 +1.3**
CRVS pmax pmax
comp=Z,24nm,1.3s
CRVS Cervenica-Dubn 56.28 310 *e*P **P** **08 02 10.0 +1.3**
STHS Stebnicka Huta 56.32 311 *e*P **P** **08 02 08.2 -0.8**
STHS pmax pmax
comp=Z,13nm,0.8s
STHS Stebnicka Huta 56.32 311 *e*P **P** **08 02 08.2 -0.8**
VTS Vitosha 56.50 303 ⇑P **P** **08 02 10.9 +0.3**
VTS Vitosha 56.50 303 P **P** **08 02 10.9 +0.3**
HERR Herculane 56.53 306 ⇑P **P** **08 02 09.7 -0.8**
BZS Buzias 56.90 307 ⇑P **P** **08 02 12.5 -0.6**
BZS Buzias 56.90 307 P **P** **08 02 12.5 -0.6**
NIE Niedzica 56.92 311 *e*P **P** **08 02 14.4 +1.1**
MDVR Moldovita 57.04 306 ⇑P **P** **08 02 14.6 +0.4**
OJC Ojcow 57.07 312 *e*P **P** **08 02 14.7 +0.4**
OJC Ojcow 57.07 312 P **P** **08 02 13.7 -0.6**
OJC IAmb IAmb 08 02 20.0
comp=Z,22nm,0.8s
OJC Ojcow 57.07 312 P **P** **08 02 13.7 -0.6**
OJC pmax pmax
comp=Z,22nm,0.8s
BOVS Bovan 57.33 304 ⇑P **P** **08 02 15.7 -0.5**
KNRA Kununurra 57.41 141 P **P** **08 02 18.7 +1.7**
MBWA Marble Bar 57.95 153 P **P** **08 02 21.1 +0.4**
VYHS Vyhne 58.07 310 *e*P **P** **08 02 22.0 +0.6**
VYHS pmax pmax
comp=Z,17nm,1.3s
VYHS Vyhne 58.07 310 *e*P **P** **08 02 22.0 +0.6**
AGG Agios Georgios 58.16 299 P **P** **08 02 21.1 -1.0**
AGG IAmb IAmb 08 02 22.8
comp=Z,29nm,1.5s
AGG Agios Georgios 58.16 299 P **P** **08 02 21.1 -1.0**
AGG pmax pmax
comp=Z,29nm,1.5s
PSA00 Pilbara Seismi 58.37 153 P **P** **08 02 24.3 +0.7**
MAUC Maruska 58.51 312 *e*P **P** **08 02 24.4 -0.1**
MORC Moravsky Berou 58.59 312 ⇑P **P** **08 02 25.4 +0.4**
MORC Moravsky Berou 58.59 312 P **P** **08 02 24.5 -0.6**
MORC IAmb IAmb 08 02 30.3
comp=Z,18nm,1.0s
MORC Moravsky Berou 58.59 312 *e*P **P** **08 02 24.8 -0.2**
MORC Moravsky Berou 58.59 312 P **P** **08 02 24.5 -0.6**
MORC pmax pmax
comp=Z,18nm,1.0s
HFS Hagfors 58.59 325 P **P** **08 02 24.8 0.0**
comp=Z,5.0nm,0.8s,baz=74,slow=11,SNR=6.4
HFS LR LR 08 26 54.5
comp=Z,98nm,19.8s,baz=82,slow=35
comp=Z,5.0nm,0.8s
JAVC Velka Javorina 58.73 311 *e*P **P** **08 02 27.0 +1.0**
MORH Mrgy, Hungar 58.76 308 ⇑P **P** **08 02 25.8 -0.4**
SMOL Smolenice 58.97 311 *e*P **P** **08 02 28.2 +0.5**
MODS Modra-Piesok 59.10 311 *e*P **P** **08 02 29.1 +0.5**
MODS pmax pmax
comp=Z,31nm,1.4s
MODS Modra-Piesok 59.10 311 *e*P **P** **08 02 29.1 +0.5**
KSP Ksiaz 59.11 314 *e*P **P** **08 02 28.7 +0.1**
DPC Dobruska-Polom 59.21 313 *e*P **P** **08 02 29.5 +0.1**
DPC Dobruska-Polom 59.21 313 *e*P **P** **08 02 29.5 +0.1**
OSTC Ostas 59.23 313 *e*P **P** **08 02 29.6 +0.2**
OSTC Ostas 59.23 313 *e*P **P** **08 02 29.6 +0.2**
VRAC Vranov 59.30 312 ⇑P **P** **08 02 30.1 +0.1**
VRAC Vranov 59.30 312 *e*P **P** **08 02 30.0 +0.1**
VRAC Vranov 59.30 312 P **P** **08 02 30.0 +0.1**
VRAC Vranov 59.30 312 LR LR 08 33 07.3
comp=Z,220nm,18.0s,baz=92,slow=41
CHVC Chvalec 59.32 313 *e*P **P** **08 02 30.4 +0.3**
CHVC Chvalec 59.32 313 *e*P **P** **08 02 30.4 +0.3**
UPC Upice 59.37 313 *e*P **P** **08 02 30.8 +0.4**
UPC Upice 59.37 313 *e*P **P** **08 02 30.8 +0.4**
PDG Podgorica 59.39 303 ⇓P **P** **08 02 31.5 +0.9**
PDG Podgorica 59.39 303 P **P** **08 02 29.7 -0.9**
PDG IAmb IAmb 08 02 34.8
comp=Z,16nm,0.9s
KRUC Moravsky 59.49 312 *e*P **P** **08 02 31.5 +0.3**
NC303 NORSAR Array S 59.51 326 P **P** **08 02 30.6 -0.6**
NB2 NORSAR Subarra 59.62 326 P **P** **08 02 31.2 -0.8**
comp=Z,4.8nm,0.7s,baz=78,slow=6.9
NOA NORSAR Array B 59.62 326 P **P** **08 02 31.1 -0.8**
comp=Z,8.8nm,0.8s,baz=78,slow=6.8,SNR=18
NOA LR LR 08 29 27.2
comp=Z,76nm,18.8s,baz=75,slow=37
comp=Z,8.8nm,0.8s
RONA Rosalia, Austr 59.92 310 *i* P **P** **08 02 34.4 +0.2**
comp=Z,14nm,1.3s,SNR=6.7
CONA Conrad Observa 60.14 310 *i* P **P** **08 02 35.8 0.0**
comp=Z,28nm,0.8s,SNR=18
GOPC GO Pecny, Ondr 60.28 313 *e*P **P** **08 02 40.7 +4.0**
GOPC GO Pecny, Ondr 60.28 313 *e*P **P** **08 02 40.7 +4.0**
PRU Pruhonice 60.41 313 *e*P **P** **08 02 37.5 -0.1**
PRU Pruhonice 60.41 313 *e*P **P** **08 02 37.5 -0.1**
ARSA Arzberg 60.55 310 *e*P **P** **08 02 38.3 -0.2**
comp=Z,8.3nm,1.2s
BRG Berggiesshubel 60.55 314 *e*P **P** **08 02 39.4 +1.0**
BRG Amp 08 02 40.7
comp=Z,11nm,1.1s
BRG Berggiesshubel 60.55 314 P **P** **08 02 43.1 +4.7**
BRG Amp 08 02 44.1
comp=Z,15nm,0.9s
BRG Berggiesshubel 60.55 314 *e*P **P** **08 02 39.4 +1.0**
BRG 08 02 43.1
BRG 08 03 24.7
BRG pmax pmax
comp=Z,11nm,1.1s
BRG pmax pmax
comp=Z,15nm,0.9s
BRG pmax pmax
comp=Z,13nm,1.3s
BRG MLR MLR
comp=Z,275nm,11.7s
CKRC Cesky Krumlov 60.88 312 *e*P **P** **08 02 41.0 +0.2**
CKRC Cesky Krumlov 60.88 312 *e*P **P** **08 02 41.0 +0.2**
FBE Freiberg 60.89 314 *e*P **P** **08 02 40.9 +0.1**
comp=Z,14nm,1.0s,baz=74,slow=6.5
HSKC Hora Svate Kat 60.93 314 *e*P **P** **08 02 41.8 +0.7**
PERS Pernice 60.99 309 *i* P **P** **08 02 41.0 -0.6**
PERS *i* pP **pP** **08 02 45.2 -1.3**
CLL Collm 61.00 315 *i* P **P** **08 02 41.1 -0.4**
CLL *i* *PP **pP** **08 02 44.7 -1.6**
CLL pmax pmax
comp=Z,28nm,1.6s
CLL Collm 61.00 315 *i* P **P** **08 02 41.1 -0.4**
comp=Z,28nm,1.6s
CLL *i* pP **pP** **08 02 44.7 -1.6**
CLL *i* sP **sP** **08 02 45.3 -2.9**
comp=Z,13nm,1.1s
CLL *i* PP **PP** **08 04 55.9 +0.4**
CLL *e*(SP) 08 11 15.0
CLL L L 08 32 00.0
comp=Z,200nm,20.7s
SOKA Soboth 61.03 309 *i* P **P** **08 02 42.0 0.0**
comp=Z,18nm,0.9s,SNR=13
MOA Molln 61.19 311 *e*P **P** **08 02 43.2 +0.3**
comp=Z,11nm,1.4s
KHC Kasperske Hory 61.26 312 *i* P **P** **08 02 41.9 -1.5**
KHC pmax pmax
comp=Z,15nm,1.1s
KHC Kasperske Hory 61.26 312 *e*P **P** **08 02 43.4 0.0**
GEC2 GERESS Array S 61.26 312 P **P** **08 02 42.8 -0.6**
GEC2 IAmb IAmb 08 02 48.6
comp=Z,9.9nm,0.8s
GEC2 GERESS Array S 61.26 312 *e*P **P** **08 02 43.5 +0.1**
comp=Z,9.9nm,0.9s,baz=74,slow=6.5
GERES GERESS Array B 61.26 312 P **P** **08 02 42.9 -0.6**
comp=Z,5.8nm,0.7s,baz=64,slow=6.5,SNR=11
GERES LR LR 08 34 35.0
comp=Z,221nm,18.1s,baz=87,slow=41
comp=Z,5.8nm,0.7s
OBKA Obir 61.40 309 *e*P **P** **08 02 44.3 -0.1**
comp=Z,8.7nm,1.1s
NOR Nord 61.56 351 *i* P **P** **08 02 43.0 -1.9**
NOR IAmb IAmb 08 02 44.8
comp=Z,31nm,1.3s
TANN Tannenbergstha 61.58 314 *e*P **P** **08 02 45.4 -0.1**
comp=Z,11nm,0.9s,baz=74,slow=6.5
WERD Werda 61.66 314 *e*P **P** **08 02 46.1 +0.1**
comp=Z,11nm,0.9s,baz=74,slow=6.5
WERN Wernitzgruen 61.67 314 *e*P **P** **08 02 46.2 +0.1**
comp=Z,12nm,1.0s,baz=74,slow=6.5
WET Wettzell 61.69 312 *e*P **P** **08 02 46.2 -0.1**
comp=Z,11nm,0.9s,baz=74,slow=6.5
CEY Cerknica 61.72 308 *i* P **P** **08 02 46.0 -0.5**
CEY *e*pP **pP** **08 02 50.2 -1.2**
ROTZ Rotzenmuhle 61.92 313 *e*P **P** **08 02 48.2 +0.4**
comp=Z,5.2nm,1.0s,baz=74,slow=6.5
MYKA Terra Mystica 61.96 309 *e*pP **P** **08 02 48.9 +0.7**
comp=Z,4.6nm,1.0s
KBA Koelnbreinsper 62.02 310 *e*P **P** **08 02 48.6 -0.1**
comp=Z,8.5nm,1.4s
TRI Trieste 62.17 308 P **P** **08 02 48.8 -0.7**
TRI Trieste 62.17 308 P **P** **08 02 48.8 -0.7**
TRI pmax pmax
comp=Z,39nm,0.9s
SABO M.te Sabotino 62.19 309 P **P** **08 02 49.2 -0.5**
SABO IAmb IAmb 08 02 53.9
comp=Z,25nm,1.0s
LESA Schwarzleotal 62.34 311 *e*P **P** **08 02 50.6 -0.2**

comp=Z,20nm,1.0s
NRDL Niedersach Rie 62.38 317 *e*P **P 08 02 51.3 +0.7**
comp=Z,34nm,1.0s,baz=74,slow=6.5
CLZ Clausthal 62.42 316 *e*P **P 08 02 51.4 +0.3**
comp=Z,27nm,0.9s,baz=74,slow=6.5
CUC Castrocucco 62.62 302 P **P 08 02 51.1 -1.6**
CUC IAmb IAmb 08 02 57.5
comp=Z,18nm,0.8s
ABTA Abfaltersbach 62.66 310 *e*P **P 08 02 52.1 -0.8**
comp=Z,7.3nm,0.9s
STAL STALIGIAL 62.69 309 P **P 08 02 51.3 -1.7**
STAL IAmb IAmb 08 02 56.8
comp=Z,20nm,0.9s
WTTA Wattenberg 63.06 311 *e*P **P 08 02 55.1 -0.6**
comp=Z,10nm,1.1s
WATA Walderalm 63.08 311 *e*P **P 08 02 55.8 +0.1**
comp=Z,10nm,0.7s
INTR Introdacqua 63.29 304 P **P 08 02 56.2 -0.9**
INTR IAmb IAmb 08 03 01.5
comp=Z,18nm,1.0s
SQTA Sankt Quirin 63.35 311 *e*P **P 08 02 56.5 -1.0**
comp=Z,12nm,0.8s
MOTA Moosalm 63.38 311 *e*P **P 08 02 57.0 -0.8**
comp=Z,11nm,0.9s
CAMP Campotosto 63.45 305 P **P 08 02 57.5 -0.8**
CAMP IAmb IAmb 08 03 03.2
comp=Z,16nm,0.8s
RETA Reutte 63.55 311 *e*P **P 08 02 58.6 -0.2**
comp=Z,13nm,1.0s
FETA Feichten 63.73 311 *i*P **P 08 02 59.6 -0.5**
comp=Z,16nm,0.9s,SNR=8.6
KMBO Kilima Mbogo 63.77 251 P **P 08 02 59.7 -1.1**
KMBO IAmb IAmb 08 03 05.4
comp=Z,14nm,1.2s
KMBO Kilima Mbogo 63.77 251 *i*P **P 08 02 59.0 -1.8**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
KMBO Kilima Mbogo 63.77 251 P **P 08 03 00.5 -0.4**
KMBO Kilima Mbogo 63.77 251 P **P 08 02 60.0 -0.9**
comp=Z,6.8nm,1.0s,baz=27,slow=10,SNR=9.0
KMBO LR LR 08 31 55.2
comp=Z,46nm,18.6s,baz=91,slow=37
comp=Z,6.8nm,1.0s
MURB Monte Urbino 63.81 306 P **P 08 03 00.8 +0.2**
WRAB Tennant Creek 63.94 138 P **P 08 03 03.9 +2.4**
WRAB Tennant Creek 63.94 138 *ce*P **P 08 03 02.0 +0.5**
WRAB pmax pmax
comp=Z,39nm,0.8s
WRA Warramunga Arr 63.94 138 P **P 08 03 01.3 -0.2**
WRA Warramunga Arr 63.94 138 *i*P **P 08 03 01.9 +0.4**
WRA pmax pmax
comp=Z,25nm,0.8s
WRA Warramunga Arr 63.94 138 P **P 08 03 00.6 -0.9**
comp=Z,22nm,0.8s,baz=327,slow=7.3,SNR=76
comp=Z,22nm,0.8s
DAVOX Davos/Dischmat 64.36 311 LR LR 08 35 14.0
comp=Z,243nm,19.8s,baz=83,slow=40
ZCCA Zocca 64.48 308 P **P 08 03 05.3 +0.4**
F14K Arctic Creek 64.73 27 P **P 08 03 06.0 -0.1**
baz=292
BFO Black Forest 64.80 313 *e*P **P 08 03 06.4 -0.6**
comp=Z,9.5nm,0.9s,baz=74,slow=6.5
TUE Stuetta 64.81 310 P **P 08 03 06.1 -1.1**
TUE IAmb IAmb 08 03 19.1
comp=Z,14nm,0.9s
B18K Kokolik River 64.82 22 P **P 08 03 07.4 +0.7**
baz=294
WRKA Warakurna 65.04 147 P **P 08 03 12.3 +3.6**
D17K Noatak River 65.07 24 P **P 08 03 08.3 +0.1**
baz=294
C18K Utukok River 65.32 23 P **P 08 03 10.3 +0.3**
baz=295
C19K Lookout Ridge 65.65 22 P **P 08 03 12.2 +0.1**
baz=296
WLF Walferdange 65.67 315 P **P 08 03 12.5 0.0**
WLF Walferdange 65.67 315 P **P 08 03 12.5 0.0**
WLF pmax pmax
comp=Z,31nm,0.8s
B20K Meade River 66.00 21 P **P 08 03 15.0 +0.7**
baz=298
E18K Tukpahlearik C 66.05 24 P **P 08 03 15.0 +0.4**
baz=296
G16K Koyuk River 66.29 27 P **P 08 03 16.2 +0.1**
baz=295
D19K Kuna River 66.40 23 P **P 08 03 16.9 0.0**
baz=298
H16K Elim 66.66 27 P **P 08 03 19.3 +0.7**
baz=296
AS31 Alice Springs 66.70 141 P **P 08 03 19.3 -0.1**
AS31 IAmb IAmb 08 03 22.5
comp=Z,11nm,0.5s
ASAR Alice Springs 66.70 141 P **P 08 03 18.9 -0.5**
ASAR Alice Springs 66.70 141 P **P 08 03 18.9 -0.5**
ASAR Alice Springs 66.70 141 P **P 08 03 19.6 +0.3**
comp=Z,22nm,0.5s,baz=325,slow=6.6,SNR=96
ASAR LR LR 08 33 53.9
comp=Z,64nm,18.5s,baz=351,slow=37
comp=Z,22nm,0.5s
D20K Etivluk River 66.79 22 P **P 08 03 20.6 +1.2**
baz=299
G17K Kiwalik Mounta 66.88 26 P **P 08 03 21.5 +1.6**
baz=297
J14K Nanvaranak Lak 66.94 29 P **P 08 03 20.7 +0.3**
baz=295
B22K Teshekpuk Lake 66.95 20 P **P 08 03 21.0 +0.7**
baz=301
B21K Ikpikpuk River 66.96 21 P **P 08 03 21.0 +0.6**
baz=300
BNI Bardonecchia 67.07 310 P **P 08 03 20.8 -0.9**
BNI Bardonecchia 67.07 310 P **P 08 03 20.8 -0.9**
BNI pmax pmax
comp=Z,45nm,1.9s
C21K Knifeblade Rid 67.14 21 P **P 08 03 22.0 +0.4**
baz=300
E20K Nigu River 67.14 23 P **P 08 03 22.3 +0.6**
baz=299
E19K Redstone River 67.19 23 P **P 08 03 22.3 +0.4**
baz=299
F19K Shaleruckik Mo 67.30 24 P **P 08 03 22.7 +0.1**
baz=298
H17K Granite Mounta 67.42 26 P **P 08 03 24.1 +0.7**
baz=297
G18K Tagagawik 67.44 25 P **P 08 03 22.7 -0.8**
baz=298
QIS Mount Isa 67.50 135 P **P 08 03 26.5 +2.0**
I17K Unalakleet 67.60 28 P **P 08 03 24.3 -0.2**
baz=297
G19K Purcell Mounta 67.88 25 P **P 08 03 26.1 -0.2**
baz=299
H18K Honhosa River 67.89 26 P **P 08 03 27.2 +0.8**
baz=299
F20K Avaraart Lake 67.90 24 P **P 08 03 26.7 +0.3**
baz=300,SNR=5.4
J16K Anvik River 67.91 28 P **P 08 03 26.4 -0.1**
baz=297
L14K Kuka Creek 67.93 31 P **P 08 03 25.8 -0.8**
baz=296
D22K Ayikyak River 67.94 21 P **P 08 03 27.2 +0.5**
baz=302,SNR=6.3
C23K Itkillik River 68.03 20 P **P 08 03 28.3 +1.1**
baz=304,SNR=8.7
H19K Roundabout Mou 68.41 25 P **P 08 03 30.6 +1.0**
baz=300
D23K Nanushuk River 68.50 21 P **P 08 03 30.7 +0.5**
baz=304,SNR=7.4
F21K Alatna River 68.56 23 P **P 08 03 31.2 +0.6**
baz=302,SNR=7.8
E22K Anaktuvuk Pass 68.61 22 P **P 08 03 31.8 +0.9**
baz=303
GCSA Galena City Sc 68.64 26 P **P 08 03 32.0 +1.0**
baz=300
EKA Eskdalemuir Ar 68.65 323 P **P 08 03 31.7 +0.4**
comp=Z,6.2nm,1.0s,baz=55,slow=12,SNR=3.5
comp=Z,6.2nm,1.0s
C24K Franklin Bluff 68.65 20 P **P 08 03 31.3 +0.2**
baz=305
MTSU Mount Surprise 68.68 129 P **P 08 03 34.9 +2.9**
MBAR Mbarara 68.75 255 *i*P **P 08 03 32.6 -0.1**
MBAR pmax pmax
comp=Z,11nm,1.0s
MBAR Mbarara 68.75 255 P **P 08 03 32.6 -0.1**
NEEM North Greenlan 68.83 352 *i*P **P 08 03 30.3 -2.2**
NEEM IAmb IAmb 08 03 37.0
comp=Z,35nm,0.9s
F22K John River 68.83 22 P **P 08 03 32.9 +0.6**
baz=303
G21K Allakaket 68.93 24 P **P 08 03 33.1 +0.2**
baz=302
D24K Happy Valley 68.94 20 P **P 08 03 33.2 +0.3**
baz=305
KEST Kesra 68.98 300 P **P 08 03 33.2 -0.6**
KEST Kesra 68.98 300 ⇑P **P 08 03 34.1 +0.3**
SNR=6.7
KEST Kesra 68.98 300 P **P 08 03 33.1 -0.6**
comp=Z,13nm,0.9s,baz=323,slow=5.5,SNR=10
comp=Z,13nm,0.9s
H20K Anotleneega Mo 68.99 25 P **P 08 03 33.8 +0.5**
baz=301,SNR=5.4
TOLK Toolik Lake Re 69.01 21 P **P 08 03 33.7 +0.3**
TOLK IAmb IAmb 08 03 35.4
comp=Z,24nm,1.1s
TOLK Toolik Lake Re 69.01 21 P **P 08 03 34.3 +0.9**
baz=305,SNR=8.1
K17K Iditarod 69.11 28 P **P 08 03 35.0 +0.9**
baz=300
E23K Chandalar 69.33 21 P **P 08 03 36.4 +0.9**
baz=305,SNR=5.7
G22K Bettles 69.38 23 P **P 08 03 35.6 0.0**
baz=304
L17K Donlin 69.39 29 P **P 08 03 36.8 +0.9**
baz=300
UNV Unalaska Valle 69.42 39 P **P 08 03 35.6 -0.4**
baz=296
J19K Poorman 69.50 26 P **P 08 03 37.6 +1.2**
baz=301,SNR=5.7
I20K Naaghedeneel 69.50 25 P **P 08 03 36.9 +0.5**
baz=302
D25K Kavik River 69.54 19 P **P 08 03 37.6 +0.9**
baz=307,SNR=6.9
COLD Coldfoot 69.63 22 P **P 08 03 38.0 +0.8**
baz=305,SNR=8.8
H21K Melozitna Rive 69.63 24 P **P 08 03 37.9 +0.7**
baz=303,SNR=6.0
E24K Your Creek 69.67 21 P **P 08 03 38.4 +0.9**
baz=306,SNR=14
J20K Nowinta River 69.95 26 P **P 08 03 40.2 +0.9**
J20K IAmb IAmb 08 03 43.9
comp=Z,12nm,0.8s
J20K Nowinta River 69.95 26 P **P 08 03 40.2 +0.9**
baz=302
G23K Bananza Creek 69.98 23 P **P 08 03 40.3 +0.8**
baz=305
H22K Ishtalitna Cre 69.99 24 P **P 08 03 39.4 -0.1**
baz=304
L18K Granite Mounta 70.00 28 P **P 08 03 40.2 +0.6**
baz=301
M17K Holitna River 70.12 29 P **P 08 03 40.6 +0.3**
baz=301
F24K Squaw Lake 70.18 21 P **P 08 03 40.9 +0.3**
baz=307
K20K Telida 70.43 27 P **P 08 03 42.8 +0.6**
baz=303
E25K Arctic Village 70.52 20 P **P 08 03 43.5 +0.9**
baz=308,SNR=5.5
H23K Yukon River 70.65 23 P **P 08 03 44.0 +0.5**
baz=306
N17K Nushagak Hills 70.67 30 P **P 08 03 44.2 +0.6**
baz=301
MLY Manley 70.70 24 P **P 08 03 44.6 +0.7**
baz=305,SNR=9.1
L19K White Mountain 70.75 28 P **P 08 03 45.5 +1.3**
baz=302
CHUM Lake Minchumin 70.79 26 P **P 08 03 44.9 +0.6**
baz=304
G24K Hadweenzic Riv 70.81 22 P **P 08 03 45.3 +0.9**
baz=307
F25K Christian Rive 70.82 21 P **P 08 03 46.0 +1.4**
baz=308,SNR=13
SUMG Summit 70.88 347 *i*P **P 08 03 44.0 -1.3**
SUMG IAmb IAmb 08 03 45.4
comp=Z,28nm,1.2s
OOD Oodnadatta 70.98 142 P **P 08 03 48.5 +2.6**
D27M Malcolm River 71.08 18 P **P 08 03 46.6 +0.5**
baz=312
I23K Minto, Yukon-K 71.11 24 P **P 08 03 46.7 +0.4**
baz=306
CAST Castle Rocks 71.14 26 P **P 08 03 47.1 +0.6**
baz=304
BPAW Bear Paw Mtn. 71.15 25 P **P 08 03 47.5 +0.9**
baz=305,SNR=9.7
G25K Bearman Lake 71.20 22 P **P 08 03 47.5 +0.8**
baz=308
H24K Noodor Dome 71.20 23 P **P 08 03 47.7 +0.8**
baz=307
F26K Sheenjek River 71.20 20 P **P 08 03 47.1 +0.2**
baz=310
BMAR Burnt Mountain 71.25 21 P **P 08 03 47.9 +0.8**
CTA Charters Tower 71.35 129 LR LR 08 39 36.9
comp=Z,26nm,18.0s,baz=258,slow=40
CTAO Charters Tower 71.35 129 P **P 08 03 49.0 +0.6**
CTAO IAmb IAmb 08 03 51.6
comp=Z,11nm,0.8s
CTAO Charters Tower 71.35 129 P **P 08 03 49.0 +0.6**
CTAO pmax pmax
comp=Z,11nm,0.9s
PPLA Purkeypile 71.39 26 P **P 08 03 48.9 +0.7**
baz=304
NEA2 Nenana 71.54 24 P **P 08 03 48.9 0.0**
NEA2 IAmb IAmb 08 03 50.5
comp=Z,18nm,1.1s
NEA2 Nenana 71.54 24 P **P 08 03 49.4 +0.5**
baz=306,SNR=10
H25L Birch Creek 71.60 22 P **P 08 03 49.8 +0.6**
baz=309
M20K Styx River 71.60 28 P **P 08 03 49.2 -0.2**
M20K IAmb IAmb 08 03 54.0
comp=Z,16nm,0.8s
M20K Styx River 71.60 28 P **P 08 03 50.6 +1.2**
baz=304,SNR=7.8
E27K Coleen River 71.61 19 P **P 08 03 50.2 +0.9**
baz=312,SNR=9.9
N19K Bonanza Creek 71.65 29 P **P 08 03 50.3 +0.6**
baz=303
BWN Browne 71.65 25 P **P 08 03 50.8 +1.2**
POKR Poker Plat Res 71.78 23 P **P 08 03 50.6 +0.3**
baz=308
COLA College 71.79 24 P **P 08 03 50.4 +0.1**
COLA IAmb IAmb 08 03 51.9
comp=Z,19nm,0.9s
COLA College 71.79 24 P **P 08 03 50.4 +0.1**
COLA pmax pmax
comp=Z,19nm,1.0s
COLA College 71.79 24 P **P 08 03 50.5 +0.2**
baz=307
G26K Porcupine Rive 71.79 21 P **P 08 03 51.2 +0.9**
baz=310,SNR=9.5
O18K Koktuh Hills 71.87 30 P **P 08 03 50.9 -0.1**
baz=303
Q16K King Salmon 71.87 31 P **P 08 03 50.7 -0.2**
baz=302
E28M Babbage River 71.89 18 P **P 08 03 51.1 +0.1**
baz=313,SNR=13
O19K Port Alsworth 72.05 29 P **P 08 03 52.1 +0.1**
baz=303
KULLO Kullorsuaq 72.07 352 *i*P **P 08 03 50.1 -1.8**
KULLO IAmb IAmb 08 03 52.1
comp=Z,69nm,1.1s
MCK McKinley 72.10 25 P **P 08 03 52.2 -0.1**
baz=307
PRP Porcupine Dome 72.16 22 P **P 08 03 52.9 +0.1**
PRP IAmb IAmb 08 03 54.9
comp=Z,18nm,1.1s
PRP Porcupine Dome 72.16 22 P **P 08 03 53.5 +0.7**
baz=309,SNR=16
SKT Skwentna 72.17 27 P **P 08 03 52.5 -0.2**
baz=305,SNR=5.8
IL31 72.18 23 P **P 08 03 52.2 -0.5**
ILAR Eielson Array 72.18 23 P **P 08 03 52.0 -0.7**
comp=Z,6.4nm,0.9s,baz=293,slow=5.1,SNR=49
ILAR PP PP 08 06 33.1 +0.6
comp=Z,0.6nm,0.8s,baz=300,slow=7.2,SNR=3.7
ILAR LR LR 08 38 00.5
comp=Z,1μm,18.1s,baz=214,slow=38
comp=Z,6.4nm,0.9s
MULG Mulgathing 72.19 145 P **P 08 03 55.6 +2.4**
SPCR Spurr Chakacha 72.35 28 P **P 08 03 54.3 +0.4**
baz=305
N20K Mount Spurr 72.35 28 P **P 08 03 52.6 -1.3**
baz=305
HDA Harding Lake 72.38 24 P **P 08 03 53.4 -0.6**
baz=308
E29M Blow River 72.48 18 P **P 08 03 54.4 -0.1**
baz=315,SNR=9.4
F28M Old Crow 72.48 19 P **P 08 03 54.4 -0.1**
F28M IAmb IAmb 08 03 56.0
comp=Z,13nm,1.1s
F28M Old Crow 72.48 19 P **P 08 03 54.2 -0.4**
baz=313,SNR=11
A36M Sachs Harbour 72.51 12 P **P 08 03 54.1 -0.4**
baz=325
G27K Doyon Strip 72.52 20 P **P 08 03 55.1 +0.3**
baz=312,SNR=8.8
Q18K Katmai Hardscr 72.61 31 P **P 08 03 54.3 -1.3**
baz=303
SUA Susitna One 72.77 27 P **P 08 03 55.9 -0.6**
SUA IAmb IAmb 08 03 60.0
comp=Z,18nm,0.8s
SUA Susitna One 72.77 27 P **P 08 03 55.7 -0.8**
baz=306,SNR=8.5
WAT1 Susitna Watana 72.79 25 P **P 08 03 55.7 -0.7**
baz=307
J25K Salcha River, 72.79 23 P **P 08 03 56.3 -0.1**
baz=309
M22K Willow 72.84 27 P **P 08 03 56.7 +0.1**
baz=306
H27K Steamboat Moun 72.95 21 P **P 08 03 57.8 +0.5**
baz=312,SNR=17
I26K Coal Creek Min 73.06 22 P **P 08 03 58.2 +0.3**
baz=311
DHY Denali Highway 73.06 25 P **P 08 03 57.0 -1.2**
baz=308
K24K Donnelly Dome 73.17 24 P **P 08 03 58.3 -0.4**
baz=309,SNR=12
WAT6 Susitna Watana 73.23 25 P **P 08 03 59.7 +0.5**
baz=308,SNR=5.9
PMR Palmer 73.32 27 P **P 08 03 59.4 -0.1**
PMR IAmb IAmb 08 04 00.6
comp=Z,22nm,1.1s
PMR Palmer 73.32 27 P **P 08 03 59.4 -0.1**
PMR pmax pmax
comp=Z,22nm,1.1s
PMR Palmer 73.32 27 P **P 08 03 58.8 -0.7**
baz=307,SNR=11
I27K Kandik River 73.34 21 P **P 08 03 59.6 -0.1**
baz=312,SNR=17
RC01 Rabbit Creek A 73.39 27 P **P 08 03 59.2 -0.8**
baz=307,SNR=5.7
J26L Joseph Creek 73.46 23 P **P 08 03 59.4 -1.0**
baz=311,SNR=12
G29M Pine Creek 73.49 19 P **P 08 04 00.6 +0.1**
G29M Pine Creek 73.49 19 P **P 08 03 59.7 -0.8**
baz=315
SML Sawmill 73.49 26 P **P 08 04 00.1 -0.5**
baz=308,SNR=15
RIDG Independent Ri 73.53 24 P **P 08 03 59.9 -0.9**
baz=310,SNR=11
F30M Barrier River 73.59 18 P **P 08 04 00.6 -0.5**
baz=317
INK Inuvik 73.65 17 P **P 08 04 01.6 +0.3**
baz=318
INK Inuvik 73.65 17 LR LR 08 41 19.8
comp=Z,1μm,18.4s,baz=202,slow=40
SCRK Sand Creek 73.66 23 P **P 08 04 01.2 -0.4**
SCRK IAmb IAmb 08 04 02.8
comp=Z,19nm,1.0s
SCRK Sand Creek 73.66 23 P **P 08 04 00.8 -0.8**
baz=311,SNR=17
INKA Innaminka 73.67 139 P **P 08 04 05.4 +3.4**
KNK Knik Glacier 73.69 27 P **P 08 04 01.4 -0.3**
baz=308,SNR=7.9
M23K Glacier View 73.73 26 P **P 08 04 02.4 +0.4**
baz=308,SNR=8.9
PAX Paxson 73.80 24 P **P 08 04 01.8 -0.7**
baz=310
ICESG Greenland Ices 73.83 345 *i*P **P 08 04 01.4 -1.4**
ICESG IAmb IAmb 08 04 04.2
comp=Z,29nm,0.8s
SCM Sheep Creek Mo 73.85 26 P **P 08 04 03.1 +0.3**
SCM IAmb IAmb 08 04 07.6
comp=Z,23nm,1.0s
SCM Sheep Creek Mo 73.85 26 P **P 08 04 03.1 +0.3**
SCM pmax pmax
comp=Z,23nm,1.0s
SCM Sheep Creek Mo 73.85 26 P **P 08 04 02.4 -0.4**
baz=308,SNR=5.4
CHIR Chirikof Islan 73.89 34 P **P 08 04 02.6 -0.4**
baz=304
G30M tAoh Zraii Nji 73.94 19 P **P 08 04 03.0 -0.2**
G30M IAmb IAmb 08 04 05.1
comp=Z,25nm,1.1s
G30M tAoh Zraii Nji 73.94 19 P **P 08 04 02.5 -0.6**
baz=316,SNR=12
I28M Miner Creek 73.96 21 P **P 08 04 03.3 -0.1**
I28M Miner Creek 73.96 21 P **P 08 04 03.1 -0.2**
baz=314,SNR=8.6
PWL Port Wells 74.07 27 P **P 08 04 04.0 0.0**
PWL IAmb IAmb 08 04 07.7
comp=Z,17nm,0.7s
PWL Port Wells 74.07 27 P **P 08 04 03.6 -0.5**
baz=308
M24K Tolsona, Glenn 74.10 25 P **P 08 04 04.0 -0.2**
baz=309
EPYK Eagle Plains 74.24 19 P **P 08 04 04.6 -0.3**
baz=316,SNR=5.5
F31M Tsiigehtchic 74.25 18 P **P 08 04 04.3 -0.6**
baz=318
K27K Chicken 74.26 23 P **P 08 04 04.4 -0.6**
baz=312
HARP HAARP 74.28 25 P **P 08 04 04.9 -0.4**
baz=310
G31M Satah River 74.50 18 P **P 08 04 05.8 -0.5**
baz=318,SNR=7.0
L26K Log Cabin Wild 74.50 24 P **P 08 04 06.1 -0.4**
baz=311
I29M Ogilvie Camp, 74.51 20 P **P 08 04 05.3 -1.2**
baz=315
GLI Glacier Island 74.54 27 P **P 08 04 06.0 -0.7**
baz=309
KLU Klutina 74.59 26 P **P 08 04 06.9 -0.2**
baz=310,SNR=10.0
QLP Quilpie 74.81 135 P **P 08 04 12.9 +4.2**
FID Port Fidalgo 74.85 27 P **P 08 04 08.0 -0.5**
FID IAmb IAmb 08 04 12.4
comp=Z,12nm,0.8s
P23K Montague Islan 74.97 27 P **P 08 04 09.1 -0.1**
baz=309
L27K Beaver Creek, 75.00 23 P **P 08 04 09.1 -0.3**
baz=313,SNR=12
N25K Chitina, Valde 75.00 25 P **P 08 04 08.8 -0.7**
baz=311,SNR=7.0
M26K Nabesna, AK 75.04 24 P **P 08 04 11.1 +1.4**
M26K IAmb IAmb 08 04 17.0
comp=Z,37nm,2.0s
M26K Nabesna, AK 75.04 24 P **P 08 04 09.5 -0.2**
baz=312,SNR=5.1
I30M Mount Dempster 75.17 20 P **P 08 04 09.7 -0.8**
baz=317,SNR=17
J29N Klondike Camp 75.18 21 P **P 08 04 10.5 0.0**
baz=315
BBOO Buckleboo 75.24 145 P **P 08 04 13.6 +2.6**
EYAK Cordova Ski Ar 75.26 26 P **P 08 04 10.5 -0.3**
baz=310
H31M Peel River 75.32 19 P **P 08 04 10.6 -0.5**
baz=318,SNR=11
BMRM Bremner River 75.41 26 P **P 08 04 11.9 0.0**
baz=311,SNR=5.8
M27K Edge Creek, AK 75.46 24 P **P 08 04 11.6 -0.5**
baz=313,SNR=8.4
J30M Hart River 75.66 20 P **P 08 04 13.3 0.0**
J30M Hart River 75.66 20 P **P 08 04 12.7 -0.5**
baz=317
MCARA McCarthy VSAT 75.71 25 P **P 08 04 13.1 -0.4**
baz=312,SNR=6.3
K29M Barlow Dome 75.83 21 P **P 08 04 14.1 -0.2**
baz=316,SNR=8.7
CRQE Cirque 76.11 25 P **P 08 04 15.4 -0.5**
baz=312
WHYH Whyalla 76.16 144 P **P 08 04 19.2 +3.0**
L29M L29M 76.17 22 P **P 08 04 15.8 -0.3**
baz=316,SNR=5.7
YUK3 Moose Creek 76.34 24 P **P 08 04 17.5 +0.2**
baz=314
MAYO Mayo, Yukon 76.51 21 P **P 08 04 17.6 -0.4**
baz=317
ESDC Sonseca Array 76.52 308 P **P 08 04 18.1 -0.5**
comp=Z,4.3nm,0.8s,baz=42,slow=6.1,SNR=24
ESDC LR LR 08 42 46.3
comp=Z,84nm,18.6s,baz=81,slow=40
comp=Z,4.3nm,0.8s
M29M Somme Creek 76.54 23 P **P 08 04 18.2 -0.1**
baz=316,SNR=7.3
CTG Chitna Glacier 76.60 25 P **P 08 04 19.0 +0.4**
baz=313,SNR=6.3

CTGM	Chitina Glacie	76.60	25	P	P	08 04 18.7	0.0
CTGM				IAmb	IAmb	08 04 20.6	
	comp=Z,13nm,1.0s						
YUK8	Steele Glacier	76.93	24	P	P	08 04 21.5	+0.8
	baz=315						
M30M	Minto, Yukon	76.98	22	P	P	08 04 20.7	0.0
	baz=317						
O28M	Mount Upton	77.14	24	P	P	08 04 21.4	-0.5
	baz=314						
HTT	Hallett	77.15	144	P	P	08 04 25.1	+3.1
PBRG	Braganca	77.23	311	eP	P	08 04 23.0	+0.5
YUK4	Talbot Arm	77.26	23	P	P	08 04 23.0	+0.5
	baz=316						
STKA	Stephens Creek	77.33	141	P	P	08 04 25.8	+2.9
STKA	Stephens Creek	77.33	141	LR	LR	08 41 49.3	
	comp=Z,58nm,19.0s,baz=313,slow=38						
DY2G	Dye2	77.43	345	i P	P	08 04 23.9	+0.6
DY2G				IAmb	IAmb	08 04 34.0	
	comp=Z,6.3nm,1.7s						
RMQ	Roma	77.51	132	P	P	08 04 28.1	+4.0
PINM	Pinnacle	77.59	25	P	P	08 04 23.7	-0.5
	baz=314						
YUK6	Outpost Mounta	77.65	24	P	P	08 04 24.8	+0.1
	baz=316						
N30M	Aishikik Lake	77.70	23	P	P	08 04 24.9	+0.1
	baz=317						
MVO	Moncorvo	77.75	311	eP	P	08 04 26.0	+0.5
	comp=Z,18nm,0.9s						
M31M	Drury Creek, Y	78.01	21	P	P	08 04 26.5	0.0
	baz=319,SNR=5.5						
HYT	Haines Junctio	78.03	23	P	P	08 04 27.4	+0.7
	baz=316						
O29M	Mount Kennedy	78.03	24	P	P	08 04 26.1	-0.7
	baz=316						
N31M	Braeburn, Yuko	78.11	22	P	P	08 04 27.5	+0.5
N31M				IAmb	IAmb	08 04 35.6	
	comp=Z,24nm,1.2s						
N31M	Braeburn, Yuko	78.11	22	P	P	08 04 26.2	-0.8
	baz=318						
PGAV	Gavieira, Arco	78.12	312	eP	P	08 04 28.2	+0.7
POLO	Lamas de Olo	78.13	311	eP	P	08 04 28.6	+1.0
PNL	Peninsula	78.20	25	P	P	08 04 26.5	-1.0
	baz=315						
EIDS	Eidsvold	78.22	130	P	P	08 04 31.2	+3.2
FARO	Faro, Yukon	78.31	21	P	P	08 04 27.9	-0.2
	baz=320						
MTE	Manteigas	78.49	310	eP	P	08 04 30.4	+0.8
	comp=Z,28nm,1.4s						
O30N	Mendenhall	78.54	23	P	P	08 04 29.4	0.0
	baz=319,SNR=5.8						
PVIS	Viseu	78.55	311	eP	P	08 04 30.3	+0.4
MMPY	Sheldon Lake,	78.63	20	P	P	08 04 30.0	+0.1
	baz=321,SNR=12						
P30M	Million Dollar	78.72	24	P	P	08 04 30.4	0.0
	baz=317						
PCBR	Castelo Branco	78.75	310	eP	P	08 04 31.3	+0.4
	comp=Z,18nm,1.4s						
P29M	Windy Craggy	78.81	24	P	P	08 04 30.0	-0.9
	baz=316						
PMRV	Marv??o	78.91	310	eP	P	08 04 32.0	+0.2
WHY	Whitehorse	79.02	23	P	P	08 04 32.1	0.0
	baz=319						
PESTR	Estremoz	79.34	309	eP	P	08 04 34.5	+0.3
	comp=Z,14nm,1.3s						
CMSA	Cobar Meteorol	79.34	138	P	P	08 04 36.8	+2.8
PBAR	Barrancos	79.35	308	eP	P	08 04 34.2	0.0
PLBC	Pleasant Camp	79.42	24	P	P	08 04 34.6	+0.4
	baz=318						
PMTG	Montargil	79.65	310	eP	P	08 04 36.6	+0.8
	comp=Z,25nm,1.7s						
SKAG	Skagway	79.77	24	P	P	08 04 36.8	+0.8
SKAG				IAmb	IAmb	08 04 38.8	
	comp=Z,35nm,1.1s						
SKAG	Skagway	79.77	24	P	P	08 04 36.7	+0.6
	baz=318,SNR=13						
EVO	Evora	79.80	309	eP	P	08 04 37.4	+0.7
	comp=Z,19nm,0.9s						
PBEJ	Beja	79.98	309	eP	P	08 04 38.6	+1.0
	comp=Z,23nm,2.3s						
P33M	Teslin, Yukon	80.03	22	P	P	08 04 37.9	+0.3
	baz=320						
P32M	Atlin	80.21	23	P	P	08 04 38.4	-0.2
	baz=320						
PVAQ	Vaqueiros	80.22	308	eP	P	08 04 40.3	+1.4
TGTN	Hyland Airport	80.36	19	P	P	08 04 39.6	+0.3
	baz=324						
PNCL	Nicolau / Gran	80.37	309	eP	P	08 04 40.6	+0.9
PBDV	Barranco-do-Ve	80.44	308	eP	P	08 04 40.3	+0.1
	comp=Z,52nm,1.8s						
R32K	Eaglecrest	80.94	24	P	P	08 04 42.6	+0.1
	baz=319						
PFVI	Vila Bisbo	81.10	308	eP	P	08 04 44.5	+0.8
Q32M	Nakina River	81.17	23	P	P	08 04 44.1	+0.2
	baz=321						
ARPS	Mount Arapiles	81.25	144	P	P	08 04 48.6	+4.4
R33M	Jennings River	81.25	22	P	P	08 04 45.2	+0.9
R33M	Jennings River	81.25	22	P	P	08 04 43.7	-0.5
	baz=322,SNR=7.8						
WTLY	Watson Lake, Y	81.34	21	P	P	08 04 45.5	+0.9
	baz=324						
SIT	Sitka	81.58	25	P	P	08 04 45.8	+0.1
	baz=319						
DLBC	Dease Lake	82.31	22	P	P	08 04 50.7	+1.0
	baz=323						
S34M	Telegraph Cree	82.37	23	P	P	08 04 50.4	+0.4
	baz=322						
FLDN	Fort Liard	82.74	18	P	P	08 04 52.5	+0.7
	baz=328						
YKA	Yellowknife Ar	82.81	13	ceP	P	08 04 51.9	-0.3
YKA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YKA	Yellowknife Ar	82.81	13	P	P	08 04 50.8	-1.4
	comp=Z,4.7nm,1.0s,baz=338,slow=4.8,SNR=6.1						
	comp=Z,4.7nm,1.0s						
T35M	Bob Quinn	83.40	23	P	P	08 04 56.1	+0.7
	baz=323						
TOA0	Torodi Ar. Sit	85.94	283	P	P	08 05 07.6	-1.3
TOA0				IAmb	IAmb	08 05 14.2	
	comp=Z,13nm,0.8s						
TOA0	Torodi Ar. Sit	85.94	283	P	P	08 05 08.2	-0.7
TORD	Torodi Ar. Bea	85.94	283	P	P	08 05 08.1	-0.8
TORD				IAmb	IAmb	08 05 13.7	
	comp=Z,20nm,1.1s						
TORD	Torodi Ar. Bea	85.94	283	P	P	08 05 08.4	-0.5
	comp=Z,14nm,0.9s,baz=36,slow=6.3,SNR=27						
TORD				LR	LR	08 48 14.9	
	comp=Z,56nm,19.1s,baz=164,slow=39						
	comp=Z,14nm,0.9s						
PMPS	Porto Santo	88.47	309	eP	P	08 05 20.8	-0.1
	comp=Z,56nm,1.5s						
KOWA	Kowa	89.90	287	P	P	08 05 27.4	-0.5
KOWA				IAmb	IAmb	08 05 32.8	
	comp=Z,19nm,1.1s						
TSUM	Tsumeb	89.92	247	LR	LR	08 45 59.1	
	comp=Z,47nm,21.1s,baz=356,slow=36						
DBIC	Dimbokro	94.83	281	LR	LR	08 54 04.0	
	comp=Z,61nm,18.6s,baz=64,slow=39						
NEW	Newport	95.01	21	P	P	08 05 51.0	0.0
	baz=333						
TXAR	Lajitas Array	116.41	18	PP	PP	08 12 18.5	+1.0
	comp=Z,1.3nm,1.1s,baz=347,slow=3.7,SNR=2.9						
QSPA	South Pole Qui	121.83	180	PKP	PKPdf	08 11 21.1	-0.5
	comp=Z,1.6nm,0.8s,baz=295,slow=0.9,SNR=6.6						
SNAA	Sanae	122.54	202	PKP	PKPdf	08 11 22.8	-0.1
	comp=Z,1.3nm,0.8s,baz=66,slow=1.1,SNR=7.7						
RUSC	La Rusia	140.61	341	eP	PKPdf	08 11 52.0	-7.2
GUY2C	Guyana, Caldas	141.82	344	eP	PKPdf	08 11 53.9	-7.5
CHIC	Chingaza	141.99	342	eP	PKPdf	08 11 54.0	-7.5
POPC	Popayan, Colom	144.71	346	eP	PKPab	08 12 03.2	-1.6
BBAC	Balboa, Cauca	145.33	346	eP	PKPbc	08 12 03.4	-3.5
FLOC	Florencia	145.41	343	eP	PKPbc	08 12 05.3	-1.6
PTLC	Puerto Leguiza	146.54	341	eP	PKPdf	08 12 08.5	-0.5
LPAZ	La Paz	158.10	312	PKP	PKPdf	08 12 26.0	-0.7
	comp=Z,1.4nm,0.9s,baz=355,slow=3.7,SNR=4.0						
LPAZ				PKPab	PKPab	08 12 59.0	-1.1
	comp=Z,1.6nm,0.8s,baz=66,slow=7.8,SNR=5.0						

ROM 12 07:59:32.3±0.1, 42°.806N±0°.003×13°.123E±0°.004, h10km, ML1.4/6, Error ellipse: s-maj=0.4km s-min=0.3km az=229.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.03	347	P	Pg	07 59 34.5	+0.2
NRCA				S	Sg	07 59 35.6	-0.2
NRCA				AML	AML		
	comp=E,724μm,0.1s						
NRCA				AML	AML		
	comp=N,468μm,1.0s						
NRCA				AML	AML		
	comp=N,468μm,1.0s						
NRCA				AML	AML		
	comp=E,766μm,0.2s						
NRCA				AML	AML		
	comp=N,502μm,1.0s						
NRCA				AML	AML		
	comp=N,502μm,1.0s						
NRCA				AML	AML		
	comp=N,468μm,1.0s						
T1214	Arquata del Tr	0.08	127	P	Pg	07 59 35.2	+0.3
T1214				S	Sg	07 59 36.8	+0.1
MC2	Monte Cornacci	0.12	25	P	Pg	07 59 35.9	+0.4
MC2				S	Sg	07 59 38.3	+0.6
MTRA	Matera	0.21	104	P	Pg	07 59 37.2	+0.5
MTRA				S	Sg	07 59 41.1	+1.4
T1221	Campello sul C	0.21	285	P	Pb	07 59 37.5	-0.8
T1221				S	Sg	07 59 41.0	+1.2
LNSS	Leonessa	0.21	197	P	Pg	07 59 37.6	+0.8
LNSS				S	Sg	07 59 41.4	+1.5
FDMO	Fiordimonte	0.23	353	P	Pg	07 59 37.5	+0.3
FDMO				S	Sg	07 59 41.7	+1.3
FDMO				AML	AML		
	comp=E,20μm,1.2s						
FDMO				AML	AML		
	comp=N,17μm,1.4s						
FDMO				AML	AML		
	comp=E,20μm,0.8s						
CSP1	Cessapalombo	0.29	12	P	Pg	07 59 38.9	+0.6
CSP1				S	Sb	07 59 43.8	-0.9
TERO	Teramo	0.40	117	P	Pg	07 59 40.6	+0.4
TERO				S	Sb	07 59 46.6	-1.0

IDC 12 08:07:44.5±1.5, 51°.49N×82°.62E, h0km, mbtmp2.2/3, ML1.8/3, Error ellipse: s-maj=19.3km s-min=12.5km az=121.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	2.72	253	Pn	Pn	08 08 29.8	+0.4
	baz=71,slow=15,SNR=3.9						
KURBB				Lg	Lg	08 09 09.8	
	0.1nm,0.3s,baz=70,slow=33,SNR=2.1						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	2.80	28	Pn	Pn	08 08 29.0	-1.6
	0.9nm,0.3s,baz=216,slow=14,SNR=7.7						
ZALV				Sn	Sn	08 09 04.5	-0.6
	0.2nm,0.3s,baz=202,slow=19,SNR=1.6						
ZALV				Lg	Lg	08 09 15.7	
	0.2nm,0.3s,baz=197,slow=29,SNR=2.3						
	1.9nm,0.3s						
I46RU	ZALESOVO INFRA	2.80	28	I	I	08 24 10.0	
	baz=207,slow=328,SNR=2.2						
MKAR	Makanchi Array	4.71	183	Pn	Pn	08 08 57.9	+1.2
	0.2nm,0.3s,baz=2.4,slow=14,SNR=3.2						
MKAR				Lg	Lg	08 10 14.7	
	0.1nm,0.3s,baz=7.7,slow=28,SNR=8.6						
	0.3nm,0.4s						

NOU 12 08:20:08.9, 18°.95S×178°.28W, h475km, MLv4.0/5, Fiji Islands Region
NEIC 12 08:20:08.9±1.2, 18°.5S±0°.1×178°.6W±0°.1, h496km±9km, mb4.6/27, Error ellipse: s-maj=20.5km s-min=16.7km az=144.0
IDC 12 08:20:10.8±1.1, 18°.69S×178°.80W, h502km±9km, mb3.7/8, mbtmp4.5/11, Error ellipse: s-maj=18.8km s-min=17.6km az=108.0
ISC 12 08:20:09.6±0.5, 18°.59S±0°.08×178°.67W±0°.08, h500km, n57, σ1°33/64, mb4.5/25, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	Taveuni	2.21	328	P	P	08 21 16.4	+0.5
DGTI	Dogotuki	2.74	326	P	P	08 21 19.1	+0.1
MSVF	Nonsavu	3.23	285	P	P	08 21 23.6	+1.3
MSVF	Nonsavu	3.23	285	P	P	08 21 23.2	+0.9
	99nm,0.7s,baz=197,slow=6.3,SNR=58						
MSVF				S	S	08 22 22.8	+1.5
	38nm,1.1s,baz=97,slow=19,SNR=7.0						
FUTU	Fugatoga	4.29	7	P	P	08 21 31.3	+0.8
AFI	Afiamalu	8.09	56	P	P	08 22 03.5	-3.7
NIUE	Niue	8.30	95	P	P	08 22 09.0	-0.1
PINNC	Pines Island,	13.60	251	P	P	08 23 04.1	-0.9
DZM	Mont Dzumac	14.38	254	P	P	08 23 12.5	-0.9
DZM	Mont Dzumac	14.38	254	P	P	08 23 12.4	-1.1
	5.2nm,0.6s,baz=98,slow=20,SNR=6.2						
KOUNC	Koumac, New Ca	16.18	260	P	P	08 23 31.4	-0.7
TOZ	Tahuroa Road	19.74	194	P	P	08 24 04.4	-1.3
TOZ				IAmb	IAmb	08 24 11.4	
	comp=Z,25nm,1.5s						
URZ	Urewera	19.94	190	P	P	08 24 06.6	-0.9
	comp=Z,3.3nm,0.3s,baz=338,slow=2.5,SNR=6.3						
BKZ	Black Stump Fm	20.93	191	P	P	08 24 14.8	-1.7
BKZ				IAmb	IAmb	08 24 22.8	
	comp=Z,24nm,1.2s						
EIDS	Eidsvold	28.80	251	P	P	08 25 26.1	-0.5
EIDS				IAmb	IAmb	08 25 27.7	
	comp=Z,12nm,0.8s						
MLZ	Mavora Lakes	28.87	199	P	P	08 25 27.2	+0.2
ARMA	Armidale	29.39	241	P	P	08 25 32.4	+0.6
ARMA				IAmb	IAmb	08 25 33.5	
	comp=Z,12nm,0.7s						
CTAO	Charters Tower	33.09	262	P	P	08 26 03.0	-0.6
CTAO				IAmb	IAmb	08 26 04.9	
	comp=Z,22nm,0.8s						
CAN	Canberra	33.09	233	P	P	08 26 03.7	+0.2
CAN				IAmb	IAmb	08 26 04.9	
	comp=Z,18nm,1.1s						
TOO	Toolangi	36.55	231	P	P	08 26 32.5	+0.2
TOO				IAmb	IAmb	08 26 34.0	
	comp=Z,20nm,0.8s						
STKA	Stephens Creek	38.09	242	P	P	08 26 45.5	+0.5
	comp=Z,10nm,0.7s,baz=85,slow=11,SNR=11						
	comp=Z,10nm,0.7s						
BBOO	Buckleboo	42.86	242	P	P	08 27 23.0	-0.3
BBOO				IAmb	IAmb	08 27 24.1	
	comp=Z,17nm,0.7s						
WB0	Warramunga Arr	44.23	261	P	P	08 27 33.0	-1.2
WRA	Warramunga Arr	44.27	260	P	P	08 27 33.1	-1.3
WRA	Warramunga Arr	44.27	260	P	P	08 27 33.1	-1.3
	comp=Z,6.9nm,0.6s,baz=96,slow=6.7,SNR=99						
WRA				PcP	PcP	08 29 08.7	+0.5
	comp=Z,2.1nm,1.1s,baz=88,slow=3.9,SNR=4.5						
WRA				ScP	ScP	08 32 14.6	+2.2
	comp=Z,1.1nm,0.9s,baz=83,slow=4.8,SNR=4.9						
	comp=Z,6.9nm,0.6s						
AS31	Alice Springs	44.37	255	P	P	08 27 34.5	-0.7
AS31				IAmb	IAmb	08 27 35.5	
	comp=Z,14nm,0.6s						
ASAR	Alice Springs	44.37	255	P	P	08 27 34.6	-0.6
ASAR	Alice Springs	44.37	255	P	P	08 27 34.9	-0.3
	comp=Z,48nm,0.7s,baz=89,slow=8.4,SNR=698						
ASAR				PcP	PcP	08 29 08.8	+0.3
	comp=Z,1.7nm,0.7s,baz=107,slow=4.0,SNR=4.9						
ASAR				ScP	ScP	08 32 14.7	+1.9
	comp=Z,0.3nm,0.8s,baz=92,slow=5.6,SNR=3.5						
	comp=Z,48nm,0.7s						
FORT	Forrest	49.49	245	P	P	08 28 13.4	-0.4
KNRA	Kununurra	50.17	265	P	P	08 28 17.9	-1.1
KNRA				IAmb	IAmb	08 28 19.3	
	comp=Z,16nm,0.7s						
PSA00	Pilbara Seismi	57.50	256	P	P	08 29 10.2	-0.6
MBWA	Marble Bar	57.67	256	P	P	08 29 11.2	-0.8
NWAO	Narrogin (SRO)	58.67	242	P	P	08 29 18.4	-0.3
MORW	Morawa	59.98	247	P	P	08 29 26.4	-1.2
MORW				IAmb	IAmb	08 29 48.8	
	comp=Z,23nm,1.3s						
CASY	Casey	65.42	205	P	P	08 30 02.7	+0.8
MYLDM	Lahad Datu	66.24	285	P	P	08 30 06.8	-1.2
KIWB	Kanaga Island	70.15	1	P	P	08 30 29.8	-1.2
QSPA	South Pole Qui	71.47	180	P	P	08 30 40.0	+1.1
	comp=Z,4.0nm,0.6s,baz=342,slow=0.9,SNR=46						
	comp=Z,4.0nm,0.6s						
NJ2	Nanjing	78.18	310	eP	P	08 31 17.6	+0.6
NJ2				pmax	pmax		
	comp=Z,12nm,0.9s						
MDJ	Mudanjiang	78.60	325	P	P	08 31 20.6	+1.7
MDJ				pP	pP	08 33 08.2	+1.2
MDJ				PP	PP	08 34 21.6	-4.4
MDJ				S	S	08 40 37.3	+2.9
MDJ				ScS	ScS	08 40 56.8	+3.1
MDJ	Mudanjiang	78.60	325	sS	sS	08 43 47.9	+1.1
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,130nm,6.0s						
O18K	Koktuh Hills	80.47	12	P	P	08 31 26.6	-2.0
O18K				IAmb	IAmb	08 31 30.6	
	comp=Z,20nm,0.9s						
P19K	Oil Pt	80.68	13	P	P	08 31 30.0	+0.4
ILSW	Iliamna Southw	81.00	13	P	P	08 31 29.9	-1.5
ILSW				IAmb	IAmb	08 31 32.7	
	comp=Z,14nm,0.9s						
BRLK	Bradley Lake	81.30	14	P	P	08 31 33.3	+0.5
BRLK				IAmb	IAmb	08 32 00.4	
	comp=Z,30nm,1.4s						
BELA	Belgrano 2	81.52	173	P	P	08 31 33.6	-0.2
CAST	Castle Rocks	84.34	12	P	P	08 31 47.1	-1.0
CAST				IAmb	IAmb	08 31 48.9	
	comp=Z,8.9nm,0.8s						
TXAR	Lajitas Array	86.57	58	P	P	08 32 02.3	+2.5
	comp=Z,1.8nm,0.9s,baz=226,slow=5.3,SNR=15						
	comp=Z,1.8nm,0.9s						
ILAR	Eielson Array	86.61	13	P	P	08 31 58.7	-0.2
	comp=Z,2.1nm,0.8s,baz=225,slow=4.6,SNR=5.6						
	comp=Z,2.1nm,0.8s						
ELIB	Princess Elisa	88.45	187	dP	P	08 32 08.6	+0.8
	comp=Z,5.2nm,0.8s						
CMAR	Chiang Mai Arr	88.88	290	P	P	08 32 11.2	+0.6
	comp=Z,1.1nm,0.3s,baz=75,slow=2.4,SNR=4.5						
	comp=Z,1.1nm,0.3s						
PZH	PanZhiHua	89.25	298	P	P	08 32 12.4	0.0
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
SNAA	Sanae	89.92	179	P	P	08 32 14.3	-0.3
	comp=Z,0.5nm,0.6s,baz=207,slow=7.8,SNR=7.0						
	comp=Z,0.5nm,0.6s						
ARCES	ARCESS Array B	126.94	350	PKP	PKiKP	08 38 16.6	+0.4
	comp=Z,2.2nm,1.0s,baz=15,slow=3.8,SNR=4.6						
BRTR	Keskin Array B	145.08	314	PKPbc	PKPdf	08 38 49.6	-0.4
	comp=Z,0.6nm,0.5s,baz=64,slow=3.4,SNR=2.1						
MMAI	Mount Meron Ar	146.29	302	PKPbc	PKPab	08 38 55.8	-0.7
	comp=Z,0.5nm,0.3s,baz=121,slow=5.6,SNR=1.4						
TORD	Torodi Ar. Bea	174.58	184	PKPab	PKPab	08 40 59.3	+0.3
	comp=Z,0.3nm,0.6s,baz=116,slow=3.4,SNR=1.7						

MOS 12 08:23:00.8±1.0, 51°.97N×170°.08W, h33km, mb5.3/48, MS4.5/9, Error ellipse: s-maj=9.7km s-min=4.8km az=104.3
IDC 12 08:23:01.1±3.3, 52°.05N×170°.07W, h21km±20km, mb4.6/30, mbtmp4.7/32, ML4.2/2, MS4.4/59, Error ellipse: s-maj=15.4km s-min=10.6km az=167.0
BJI 12 08:23:03.5±0.0, 52°.39N×170°.73W, h34km, mb5.1/58, mB5.1/36, Ms5.0/39, Ms7 4.7/39
AEIC 12 08:23:03.9±2.0, 52°.00N±0°.06×170°.05W±0°.09, h45km±4km, Error ellipse: s-maj=10.3km s-min=5.8km az=141.0
NEIC 12 08:23:03.1±2.1, 51°.95N±0°.07×170°.05W±0°.09, h39km±7km, mb4.9/39, ML4.6/8, ML4.4(AEIC), Error ellipse: s-maj=11.0km s-min=6.3km az=147.0
GCMT 12 08:23:04.1±0.2, 51°.85N±0°.01×169°.92W±0°.03, h18km, MW5.1/131, Moment Tensor Solution. s78,c104; s131,c204; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}4.83±.16; $M_{\theta\theta}$-4.66±.12; $M_{\phi\phi}$-0.17±.10; $M_{r\theta}$3.74±.28; $M_{\theta\phi}$-1.25±.07; $M_{\phi r}$1.38±.26; Best double couple: $M_0$6.32300×10^16 NP1:$\phi_0$72.00000°, δ65.00000°, λ87.00000°. NP2:$\phi_0$259.00000°, δ26.00000°, λ97.00000°. Principal axes: T 6.2560, Plg70.0000°, Azm335.0000°; N 0.1340, Plg3.0000°, Azm73.0000°; P -6.3900, Plg20.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
BGR 12 08:23:08.1, 52°.73N×168°.46W, h33km, mb5.0, Ms4.5
ISC 12 08:23:02.8±0.4, 51°.97N±0°.05×170°.04W±0°.03, h35km±1km, h35km: pP-P, n913, σ1°26/932, mb5.2/165, MS4.5/84, 34C-19D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	Concord Point,	0.84	13		Pn	08 23 18.4	+0.3
CLCO					Sb	08 23 30.9	+0.8
CLES	Cleveland East	0.86	6	Pn	Pn	08 23 18.4	0.0
CLES	Cleveland East	0.86	6		Sb	08 23 31.5	+0.9
NIKH	Nikolski High	1.24	35		Pn	08 23 22.7	-0.9
NIKH	Nikolski High	1.24	35		Sn	08 23 39.5	+0.5
NIKH	Nikolski High	1.24	35	P	Pn	08 23 22.9	-0.7
NIKH	Nikolski High	1.24	35	P	Pn	08 23 22.9	-0.7
	baz=209						
OKSP	Okmok Steeple	1.67	39		Pn	08 23 28.8	-0.8
OKCE	Okmok Cone E	1.85	37		Pn	08 23 32.5	+0.4
OKNC	Okmok New Cone	1.89	37		Pn	08 23 33.2	+0.7
OKNC					Sn	08 23 55.4	+0.2
OKER	Okmok East Rim	1.92	38		Pn	08 23 33.3	+0.3
OKFG	Magazine Ridge	1.94	41		Pn	08 23 33.1	-0.2
OKFG					Sn	08 23 57.2	+0.9
KOFP	Korovin Flat P	2.52	279		Pn	08 23 41.8	+0.6
ATKA	Atka Island	2.57	277		Pn	08 23 41.2	-0.7
ATKA	Atka Island	2.57	277		Sn	08 24 11.4	-0.5
ATKA	Atka Island	2.57	277	P	Pn	08 23 41.9	0.0
KOKL	Mount Kliuchef	2.58	279		Pn	08 23 43.2	+1.1
MAPS	Pakushin South	2.63	44		Pn	08 23 42.6	-0.2
MAPS					Sn	08 24 14.7	+1.3
MSW	Makushin Switc	2.77	44		Pn	08 23 44.9	+0.2
MNAT	Makushin Natee	2.79	45		Pn	08 23 44.7	-0.2
UNV	Unalaska Valle	2.85	47	Pn	Pn	08 23 45.6	-0.1
UNV	Unalaska Valle	2.85	47	P	Pn	08 23 45.4	-0.3
UNV	Unalaska Valle	2.85	47	P	Pn	08 23 45.4	-0.3
	baz=226,SNR=34						
MTBL	Makushin Table	2.85	44		Pn	08 23 46.0	+0.2
AKRB	Akutan Reef Bi	3.23	46		Pn	08 23 52.6	+1.7
ZRO	Akutan Zero	3.25	48		Pn	08 23 53.0	+1.8
AKV	Akutan Volcano	3.28	47		Pn	08 23 52.5	+0.8
AKGG	Akutan Green G	3.31	46		Pn	08 23 54.0	+1.9
AKUT	Akutan	3.37	48		Pn	08 23 53.8	+1.0
AKUT				IAML		08 24 56.6	
	comp=E,1μm,1.7s						
AKUT				IAML		08 24 58.0	
	comp=N,1μm,1.2s						
AKUT	Akutan	3.37	48	P	Pn	08 23 54.4	+1.6
AKSA	Akutan Strait	3.40	49		Pn	08 23 55.0	+1.7
GSMY	Great Sitkin M	3.72	273		Pn	08 23 58.4	+0.8
GSTR	Great Sitkin T	3.72	274		Pn	08 23 57.5	-0.1
GSCK	Great Sitkin C	3.78	273		Pn	08 23 59.0

R17K	Ugashik Creek	9.71	49	P		Pn	08 25 20.6 +0.8
	baz=239						
P16K	Nushagak River	9.83	39	P		Pn	08 25 23.2 +1.9
	baz=228						
M14K	Bethel	9.87	24	P		Pn	08 25 23.1 +1.1
	baz=210,SNR=5.1						
N15K	Kwethluk River	9.91	30			Pn	08 25 24.6 +2.0
N15K	Kwethluk River	9.91	30	P		Pn	08 25 23.9 +1.4
	baz=217,SNR=9.2						
Q16K	King Salmon	10.15	43	P		Pn	08 25 26.3 +0.4
	baz=233						
M15K	Kasigluk River	10.16	27	P		Pn	08 25 27.1 +1.2
	baz=214						
O16K	Kokwok River B	10.17	37	P		Pn	08 25 27.2 +1.2
	baz=226,SNR=7.2						
L14K	Kuka Creek	10.22	20	P		Pn	08 25 28.2 +1.4
	baz=206						
Q17K	Contact Creek	10.26	47	P		Pn	08 25 26.6 -0.8
	baz=237						
SII	Sitkinak Islan	10.35	57	P		Pn	08 25 28.0 -0.6
	baz=249						
P17K	Kvichak River	10.55	41	P		Pn	08 25 32.2 +0.9
	baz=232						
N16K	Nishlik Lake	10.57	32	P		Pn	08 25 31.5 0.0
	baz=220						
R18K	Karluk	10.60	52	P		Pn	08 25 31.3 -0.6
	baz=244						
O17K	Koliganek Bris	10.66	38	P		Pn	08 25 31.8 -1.0
	baz=228						
Q18K	Katmai Hardscr	10.85	46	P		Pn	08 25 35.0 -0.5
	baz=237,SNR=6.6						
N17K	Nushagak Hills	11.14	35	P		Pn	08 25 41.4 +2.0
	baz=224,SNR=7.9						
P18K	Big Mountain,	11.17	42	Pn		Pn	08 25 41.1 +1.3
P18K	Big Mountain,	11.17	42	P		Pn	08 25 41.4 +1.6
	baz=234,SNR=17						
K15K	Wolf Creek Mou	11.32	21	P		Pn	08 25 43.5 +1.6
	baz=207,SNR=5.1						
L16K	Owhat River	11.33	26	P		Pn	08 25 42.8 +0.8
	baz=214,SNR=8.9						
O18K	Koktuh Hills	11.45	41			Pn	08 25 43.7 +0.1
O18K	Koktuh Hills	11.45	41	P		Pn	08 25 43.9 +0.3
	baz=232,SNR=9.6						
KDAK	Kodiak Island	11.60	53	*i* P		Pn	08 25 42.8 -2.9
KDAK	Kodiak Island	11.60	53	P		Pn	08 25 43.6 -2.1
	baz=246						
KDAK	Kodiak Island	11.60	53	Pn		Pn	08 25 43.1 -2.5
	comp=N,4.3nm,0.3s,baz=240,slow=8.2,SNR=100						
KDAK				Sn		Sn	08 27 45.7 -8.1
	baz=272,slow=23						
Q19K	Cape Douglas,	11.61	47			Pn	08 25 44.5 -1.2
Q19K	Cape Douglas,	11.61	47	P		Pn	08 25 45.2 -0.6
	baz=239						
M17K	Holitna River	11.70	31	P		Pn	08 25 46.5 -0.4
	baz=221						
N18K	Kilae Creek	11.72	36	Pn		Pn	08 25 47.9 +0.7
N18K	Kilae Creek	11.72	36	P		Pn	08 25 47.1 -0.1
	baz=227						
L17K	Donlin	12.00	27	P		Pn	08 25 50.5 -0.7
	baz=216						
O19K	Port Alsworth	12.01	41	P		Pn	08 25 51.5 +0.2
	baz=233						
Q20K	Shuyak Island	12.04	50	P		Pn	08 25 49.8 -1.8
	baz=243						
P19K	Oil Pt	12.16	44	P		Pn	08 25 53.3 -0.1
	baz=237						
N19K	Bonanza Creek	12.33	38	P		Pn	08 25 57.2 +1.5
	baz=230						
ILSW	Iliamna Southw	12.38	43			Pn	08 25 56.0 -0.3
J16K	Anvik River	12.40	20	P		Pn	08 25 57.6 +1.1
	baz=208						
K17K	Iditarod	12.47	26	P		Pn	08 25 59.4 +1.8
	baz=215						
L18K	Granite Mounta	12.55	30	P		Pn	08 26 00.2 +1.6
	baz=220						
O20K	Slope Mountain	12.65	43	P		Pn	08 25 59.7 -0.4
	baz=237						
RSO	Redoubt South	12.80	42			Pn	08 26 02.8 +0.6
M19K	Big River Lodg	13.08	34	P		Pn	08 26 06.4 +0.5
	baz=227						
L19K	White Mountain	13.11	33	P		Pn	08 26 08.2 +1.9
	baz=225,SNR=13						
TTA	Tatalina	13.29	29	P		Pn	08 26 08.7 -0.1
	baz=220						
BRSE	Bradley Lake S	13.30	47	P		Pn	08 26 06.9 -2.0
	baz=242						
N20K	Mount Spurr	13.45	40	P		Pn	08 26 10.6 -0.3
	baz=234						
SPCR	Spurr Chakacha	13.45	40	P		Pn	08 26 12.1 +1.2
	baz=234						
M20K	Styx River	13.51	36			Pn	08 26 12.9 +1.1
M20K	Styx River	13.51	36	P		Pn	08 26 11.6 -0.2
	baz=230,SNR=11						
H17K	Granite Mounta	14.01	18	P		Pn	08 26 17.1 -1.4
	baz=206						
G16K	Koyuk River	14.03	13	P		Pn	08 26 18.8 +0.1
	baz=200						
SEW	Seward	14.05	47	P		Pn	08 26 17.1 -1.9
	baz=243,SNR=11						
F15K	North Star Dit	14.05	9	P		Pn	08 26 18.7 -0.3
	baz=193						
O22K	Cooper Landing	14.10	45	P		Pn	08 26 17.7 -2.1
	baz=241,SNR=17						
SKT	Skwentna	14.17	38			Pn	08 26 21.6 +0.9
SKT	Skwentna	14.17	38	P		Pn	08 26 20.6 -0.1
	baz=233						
SUA	Susitna One	14.18	40			Pn	08 26 20.4 -0.5
SUA	Susitna One	14.18	40	P		Pn	08 26 20.9 0.0
	baz=236						
K20K	Telida	14.20	30	P		Pn	08 26 21.9 +0.7
	baz=223						
J19K	Poorman	14.22	27	P		Pn	08 26 21.5 +0.1
	baz=218						
G17K	Kiwalik Mounta	14.39	16	P		Pn	08 26 23.5 -0.2
	baz=203						
RC01	Rabbit Creek A	14.39	43			Pn	08 26 22.5 -1.3
RC01	Rabbit Creek A	14.39	43	P		Pn	08 26 22.2 -1.6
	baz=239,SNR=7.3						
PPLA	Purkeypile	14.51	34	P		Pn	08 26 24.9 -0.4
	baz=228,SNR=7.6						
GCSA	Galena City Sc	14.51	23	P		Pn	08 26 26.9 +1.7
	baz=214,SNR=5.3						
H18K	Honhosa River	14.52	20	P		Pn	08 26 21.3 -4.1
	baz=209						
M22K	Willow	14.59	40			Pn	08 26 24.9 -1.4
M22K	Willow	14.59	40	P		Pn	08 26 26.1 -0.2
	baz=236						
J20K	Nowinta River	14.78	28	Pn		Pn	08 26 29.0 0.0
J20K	Nowinta River	14.78	28	P		Pn	08 26 28.9 0.0
	baz=221						
PWL	Port Wells	14.88	45	P		Pn	08 26 27.5 -2.9
	baz=242,SNR=14						
CAST	Castle Rocks	14.89	33	Pn		Pn	08 26 30.7 +0.2
CAST	Castle Rocks	14.89	33	P		Pn	08 26 31.5 +1.1
	baz=227,SNR=23						
CUT	Chulitna	14.90	38	P		Pn	08 26 30.0 -0.5
	baz=234						
PMR	Palmer	14.90	42			Pn	08 26 29.0 -1.5
PMR	Palmer	14.90	42	P		Pn	08 26 29.0 -1.5
PMR	Palmer	14.90	42	P		Pn	08 26 30.8 +0.2
	baz=238						
P23K	Montague Islan	14.94	49	P		Pn	08 26 28.0 -3.1
	baz=247						
KNK	Knik Glacier	15.09	43			Pn	08 26 31.2 -1.9
KNK				IAmb		IAmb	08 26 53.0
	comp=Z,34nm,0.8s						
KNK	Knik Glacier	15.09	43	P		Pn	08 26 30.3 -2.8
	baz=240,SNR=9.9						
G18K	Tagagawik	15.11	18	P		Pn	08 26 34.4 +1.0
	baz=207						
CHUM	Lake Minchumin	15.13	31	P		Pn	08 26 32.8 -0.8
	baz=226,SNR=5.7						
I20K	Naaghedeneel	15.16	26	P		Pn	08 26 33.7 -0.3
	baz=219						
H19K	Roundabout Mou	15.26	22	P		Pn	08 26 35.3 +0.1
	baz=213						
SML	Sawmill	15.34	42	P		Pn	08 26 35.1 -1.3
	baz=239,SNR=14						
KTH	Kantishna Hill	15.37	34			Pn	08 26 36.5 -0.4
KTH				IAmb		IAmb	08 26 57.3
	comp=Z,52nm,1.0s						
GLI	Glacier Island	15.44	46	P		Pn	08 26 34.4 -3.2
	baz=244						
TRF	Thorofare Moun	15.52	35	P		Pn	08 26 39.3 +0.4
	baz=231						
M23K	Glacier View	15.58	42	P		Pn	08 26 37.7 -1.8
	baz=240,SNR=21						
H20K	Anotleneega Mo	15.61	24	P		Pn	08 26 40.7 +0.9
	baz=216,SNR=7.2						
G19K	Purcell Mounta	15.64	20	P		Pn	08 26 42.1 +1.9
	baz=210						
BPAW	Bear Paw Mtn.	15.71	32			Pn	08 26 40.5 -0.6
BPAW				IAmb		IAmb	08 26 44.7
	comp=Z,72nm,0.9s						
BPAW	Bear Paw Mtn.	15.71	32	P		Pn	08 26 42.5 +1.3
	baz=228,SNR=64						
SCM	Sheep Creek Mo	15.77	42	P		Pn	08 26 39.6 -2.4
	baz=241,SNR=37						
WAT1	Susitna Watana	15.79	38	P		Pn	08 26 41.4 -0.9
	baz=236						
EYAK	Cordova Ski Ar	15.91	48	P		Pn	08 26 40.0 -3.7
	baz=248						
WAT6	Susitna Watana	15.97	40	P		Pn	08 26 43.4 -1.3
	baz=238,SNR=16						
RND	Reindeer	16.01	36			Pn	08 26 44.6 -0.5
RND	Reindeer	16.01	36	P		Pn	08 26 44.6 -0.5
RND				pmax		pmax	
	comp=Z,34nm,1.2s						
F19K	Shaleruckik Mo	16.11	18	P		Pn	08 26 45.4 -0.8
	baz=208						
MCK	McKinley	16.18	35	P		Pn	08 26 45.9 -1.2
	baz=232,SNR=11						
E18K	Tukpahlearik C	16.18	13	P		Pn	08 26 46.6 -0.5
	baz=201						
KLU	Klutina	16.21	45	P		Pn	08 26 44.5 -3.1
	baz=244,SNR=22						
H21K	Melozitna River	16.28	26	P		Pn	08 26 47.8 -0.6
	baz=220,SNR=9.9						
KAIM	Kayak Island	16.32	51	P		Pn	08 26 48.6 -0.4
	baz=251						
M24K	Tolsona, Glenn	16.38	42	P		Pn	08 26 48.2 -1.5
	baz=242,SNR=26						
DHY	Denali Highway	16.38	38	P		Pn	08 26 50.3 +0.4
	baz=237,SNR=15						
MLY	Manley	16.42	30	P		Pn	08 26 51.3 +1.0
	baz=226,SNR=48						
BMRM	Bremner River	16.59	47	P		Pn	08 26 49.6 -2.8
	baz=248,SNR=16						
NEA2	Nenana	16.66	33	P		Pn	08 26 53.2 -0.1
	baz=230,SNR=6.8						
F20K	Avaraart Lake	16.70	20	P		Pn	08 26 54.0 +0.3
	baz=212,SNR=6.8						
E19K	Redstone River	16.76	17	P		Pn	08 26 55.3 +0.8
	baz=208						
G21K	Allakaket	16.77	23	P		Pn	08 26 54.8 +0.3
	baz=217						
N25K	Chitina, Valde	16.84	45	P		Pn	08 26 53.8 -1.8
	baz=246,SNR=28						
H22K	Ishtalitna Cre	16.85	27	P		Pn	08 26 56.0 +0.4
	baz=222						
I23K	Minto, Yukon-K	16.93	31			Pn	08 26 56.1 -0.5
I23K				IAmb		IAmb	08 27 16.4
	comp=Z,75nm,1.4s						
I23K	Minto, Yukon-K	16.93	31	P		Pn	08 26 56.5 -0.1
	baz=228,SNR=8.7						
HARP	HAARP	16.93	42	P		Pn	08 26 56.5 -0.2
	baz=243,SNR=18						
PAX	Paxson	17.07	40	P		Pn	08 26 58.5 0.0
	baz=241,SNR=7.6						
CCB	Clear Creek Bu	17.12	34			Pn	08 26 57.4 -1.6
CRQE	Cirque	17.21	49	P		Pn	08 26 58.3 -2.0
	baz=251,SNR=16						
COLA	College	17.25	33	P		Pn	08 26 58.8 -1.8
	baz=231						
C18K	Utukok River	17.26	11	P		P	08 27 03.3 +1.3
	baz=198						
HDA	Harding Lake	17.28	35	P		Pn	08 26 58.0 -3.1
	baz=234,SNR=8.6						
H23K	Yukon River	17.33	29	P		Pn	08 27 00.3 -1.4
	baz=226						
F21K	Alatna River	17.34	22	P		Pn	08 27 02.0 +0.2
	baz=216						
K24K	Donnelly Dome	17.38	38	P		Pn	08 27 01.3 -0.9
	baz=238						
MCARA	McCarthy VSAT	17.45	47	P		Pn	08 27 01.0 -2.2
	baz=249,SNR=17						
ILAR	Eielson Array	17.52	34	P		Pn	08 27 01.4 -2.5
	comp=Z,0.4nm,0.3s,baz=239,slow=9.9,SNR=26						
ILAR				S		Sn	08 30 17.8 +0.2
	comp=Z,0.3nm,0.7s,baz=277,slow=28,SNR=1.4						
ILAR				PcP		PcP	08 31 42.5 +0.1
	comp=Z,0.4nm,0.8s,baz=243,slow=2.9,SNR=1.0						
ILAR				ScP		ScP	08 35 14.9 +0.4
	comp=Z,1.0nm,1.0s,baz=275,slow=3.7,SNR=4.6						
	comp=Z,5.3nm,0.9s						
POKR	Poker Plat Res	17.54	33	P		Pn	08 27 02.9 -1.3
	baz=232						
D19K	Kuna River	17.54	15	P		Pn	08 27 04.1 -0.1
	baz=205						
MESA	MESA	17.58	51	P		Pn	08 27 04.1 -0.9
	baz=254,SNR=11						
E20K	Nigu River	17.66	17	P		Pn	08 27 03.7 -1.9
	baz=209						
G23K	Bananza Creek	17.82	26	P		Pn	08 27 07.6 -0.1
	baz=223,SNR=19						
M26K	Nabesna, AK	17.85	44	P		Pn	08 27 06.8 -1.3
	baz=246,SNR=43						
H24K	Noodor Dome	17.85	30	P		Pn	08 27 07.3 -0.8
H24K	Noodor Dome	17.85	30	P		Pn	08 27 07.5 -0.6
	baz=229,SNR=13						
F22K	John River	17.87	23	P		Pn	08 27 08.9 +0.6
	baz=218,SNR=6.6						
B18K	Kokolik River	17.88	10	P		Pn	08 27 09.0 +0.7
	baz=196						
C19K	Lookout Ridge	17.89	12	P		Pn	08 27 08.9 +0.4
	baz=201						
L26K	Log Cabin Wild	17.96	42	P		Pn	08 27 07.8 -1.6
	baz=244,SNR=19						
J25K	Salcha River,	17.96	36	P		Pn	08 27 07.2 -2.2
	baz=236,SNR=36						
D20K	Etivluk River	17.98	16	P		Pn	08 27 09.8 +0.1
	baz=207						
CTG	Chitna Glacier	18.09	49	P		Pn	08 27 10.5 -0.7
	baz=252,SNR=17						
SCRK	Sand Creek	18.15	38	P		Pn	08 27 09.5 -2.3
	baz=240,SNR=20						
COLD	Coldfoot	18.15	25	P		Pn	08 27 10.5 -1.2
	baz=222,SNR=13						
M27K	Edge Creek, AK	18.31	44	P		P	08 27 12.8 -0.9
	baz=248,SNR=38						
PINM	Pinnacle	18.39	52	P		P	08 27 13.9 -0.6
	baz=256,SNR=7.4						
PRP	Porcupine Dome	18.42	33	P		P	08 27 12.8 -2.1
	baz=234,SNR=12						
E22K	Anaktuvuk Pass	18.45	22	P		P	08 27 13.3 -1.9
	baz=217						
G24K	Hadweenzic Riv	18.54	29	P		P	08 27 16.1 0.0
	baz=228,SNR=13						
J26L	Joseph Creek	18.57	37	P		P	08 27 13.8 -2.7
J26L	Joseph Creek	18.57	37	P		P	08 27 14.2 -2.2
	baz=240,SNR=26						
O28M	Mount Upton	18.58	50	P		P	08 27 15.9 -0.9
	baz=254,SNR=22						
L27K	Beaver Creek,	18.61	42	P		P	08 27 15.3 -1.5
L27K	Beaver Creek,	18.61	42	P		P	08 27 14.9 -1.9
	baz=246						
BCPM	Bancas Point	18.66	53	P		P	08 27 17.9 +0.5
BCPM				IAmb		IAmb	08 27 42.5
	comp=Z,77nm,1.0s						
C21K	Knifeblade Rid	18.70	17	P		Pn	08 27 18.6 +0.3
	baz=210,SNR=9.5						
PNL	Peninsula	18.72	54	P		P	08 27 18.5 +0.4
	baz=259,SNR=11						
H25L	Birch Creek	18.78	31	P		P	08 27 17.8 -0.8
	baz=232						
D22K	Ayikyak River	18.87	20	P		P	08 27 19.4 -0.3
	baz=214,SNR=14						
K27K	Chicken	18.92	40	P		P	08 27 17.2 -3.0
	baz=243,SNR=11						
E23K	Chandalar	18.92	24	P		P	08 27 20.0 -0.3
	baz=221,SNR=14						
F24K	Squaw Lake	18.99	26	P		P	08 27 19.2 -1.8
	baz=225,SNR=12						
G25K	Bearman Lake	19.00	30	P		P	08 27 20.0 -1.1
	baz=230						
B20K	Meade River	19.06	14	P		P	08 27 22.1 +0.4
	baz=205						
B21K	Ikpikpuk River	19.13	17	P		P	08 27 21.7 -0.7
	baz=210						
I26K	Coal Creek Min	19.13	35	P		P	08 27 20.9 -1.6
	baz=238						
FYU	Fort Yukon	19.15	31	P		P	08 27 21.4 -1.2
FYU				IAmb		IAmb	08 27 41.1
	comp=Z,98nm,1.4s						
E24K	Your Creek	19.22	25	P		P	08 27 24.1 +0.6
	baz=223,SNR=7.1						
O29M	Mount Kennedy	19.25	52	P		Pn	08 27 25.4 +0.3
O29M				IAmb		IAmb	08 27 27.8
	comp=Z,82nm,0.8s						
O29M	Mount Kennedy	19.25	52	P		Pn	08 27 25.5 +0.3
	baz=258,SNR=62						
D23K	Nanushuk River	19.37	21	P		P	08 27 24.3 -0.8
	baz=218,SNR=10						
TOLK	Toolik Lake Re	19.37	23			P	08 27 25.3 +0.1
TOLK	Toolik Lake Re	19.37	23	P		P	08 27 25.7 +0.6
	baz=220,SNR=14						
YUK4	Talbot Arm	19.45	49	P		Pn	08 27 28.8 +1.2
	baz=255						
YUK6	Outpost Mounta	19.49	50	P		Pn	08 27 28.3 +0.2
	baz=256						
P29M	Windy Craggy	19.55	54	P		Pn	08 27 29.0 +0.4
	baz=261,SNR=53						
PEA0B	Petropavlovsk-	19.57	286	P		P	08 27 27.4 0.0
PEA0B				IAmb		IAmb	08 27 41.6
	comp=Z,56nm,0.6s						
PEA0B	Petropavlovsk-	19.57	286	*ce*P		P	08 27 27.6 +0.2
PETK	Petropavlovsk-	19.57	286	P		P	08 27 26.4 -1.0
PETK	Petropavlovsk-	19.57	286	P		P	08 27 26.4 -1.0
PETK	Petropavlovsk-	19.57	286	P		P	08 27 27.1 -0.2
	comp=Z,7.2nm,0.3s,baz=86,slow=13,SNR=97						
	comp=Z,25nm,0.5s						
F25K	Christian Rive	19.67	28	P		P	08 27 28.4 -0.1
	baz=229,SNR=20						
I27K	Kandik River	19.84	36	P		P	08 27 30.0 -0.3
	baz=240,SNR=32						
G26K	Porcupine Rive	19.84	31	P		P	08 27 29.4 -0.8
	baz=233,SNR=12						
M29M	Somme Creek	19.84	46	P		P	08 27 30.5 +0.1
M29M				IAmb		IAmb	08 27 33.9
	comp=Z,57nm,1.1s						
M29M	Somme Creek	19.84	46	P		P	08 27 30.4 0.0
	baz=252,SNR=48						
HYT	Haines Junctio	19.88	51	P		P	08 27 31.3 +0.5
	baz=258						
D24K	Happy Valley	19.94	22	P		P	08 27 30.0 -1.3
	baz=221						
B22K	Teshekpuk Lake	19.96	16	P		P	08 27 29.5 -1.9
	baz=211						
P30M	Million Dollar	20.01	53	P		Pn	08 27 34.2 +0.1
	baz=260,SNR=80						
C23K	Itkillik River	20.08	20	P		P	08 27 31.7 -1.0
	baz=216,SNR=17						
S31K	Pelican	20.16	59	P		P	08 27 34.2 +0.5
	baz=267,SNR=6.7						
F26K	Sheenjek River	20.18	29	P		P	08 27 32.8 -1.2
	baz=231,SNR=19						
H27K	Steamboat Moun	20.19	34	P		P	08 27 33.2 -0.8
	baz=238,SNR=33						
L29M	L29M	20.19	44	P		P	08 27 34.5 +0.4
	baz=251,SNR=19						
N30M	Aishikik Lake	20.21	49	P		P	08 27 34.8 +0.4
N30M	Aishikik Lake	20.21	49	P		P	08 27 35.2 +0.9
	baz=256,SNR=125						
PLBC	Pleasant Camp	20.21	55	P		P	08 27 35.5 +1.1
	baz=263						
I28M	Miner Creek	20.38	37	P		P	08 27 33.8 -2.4
	baz=242,SNR=28						
C24K	Franklin Bluff	20.40	21	P		P	08 27 34.7 -1.5
	baz=220						
R31K	City Hall, Gus	20.44	58	P		Pn	08 27 38.8 -0.3
	baz=266						
G27K	Doyon Strip	20.45	33	P		P	08 27 36.0 -0.9
	baz=237,SNR=11						
O30N	Mendenhall	20.55	51	P		P	08 27 38.8 +0.8
O30N	Mendenhall	20.55	51	P		P	08 27 38.9 +0.9
	baz=259,SNR=122						
M30M	Minto, Yukon	20.62	46	P		P	08 27 38.3 -0.5
	baz=254,SNR=15						
J29N	Klondike Camp	20.63	40	P		P	08 27 38.5 -0.4
	baz=247						
D25K	Kavik River	20.66	24	P		P	08 27 38.6 -0.5
	baz=224,SNR=31						
K29M	Barlow Dome	20.69	42	P		P	08 27 39.1 -0.6
K29M				IAmb		IAmb	08 27 45.5
	comp=Z,32nm,0.8s						
K29M	Barlow Dome	20.69	42	P		P	08 27 38.9 -0.8
	baz=250,SNR=30						
SKAG	Skagway	20.74	55	P		P	08 27 40.4 +0.3
	baz=264,SNR=68						
N31M	Braeburn, Yuko	20.83	49	P		P	08 27 41.7 +0.6
	baz=258,SNR=30						
I29M	Ogilvie Camp,	20.95	38	P		P	08 27 40.9 -1.4
	baz=245,SNR=23						
S32K	Killisnoo	21.04	61	P		P	08 27 42.9 -0.3
	baz=270,SNR=6.3						
R32K	Eaglecrest	21.08	59	P		P	08 27 43.9 +0.2
	baz=268						
WHY	Whitehorse	21.11	52	P		P	08 27 45.1 +0.9
	baz=261						
E27K	Coleen River	21.25	29	P		P	08 27 44.8 -0.7
	baz=234,SNR=10						
MAYO	Mayo, Yukon	21.30	44	P		P	08 27 43.6 -2.4
	baz=252						
J30M	Hart River	21.43	41	P		P	08 27 46.8 -0.8
J30M	Hart River	21.43	41	P		P	08 27 45.8 -1.8
	baz=250,SNR=7.7						
C26K	Camden Bay	21.44	24	P		P	08 27 46.8 -0.6
	baz=226						
F28M	Old Crow	21.47	32	P		P	08 27 46.5 -1.4
F28M	Old Crow	21.47	32	P		P	08 27 46.7 -1.1
	baz=238						
P32M	Atlin	21.57	55	P		P	08 27 50.2 +1.1
P32M				IAmb		IAmb	08 28 15.4
	comp=Z,77nm,1.1s						
P32M	Atlin	21.57	55	P		P	08 27 50.4 +1.3
	baz=265,SNR=16						
M31M	Drury Creek, Y	21.62	48	P		P	08 27 49.6 +0.1
M31M				IAmb		IAmb	08 28 11.8
	comp=Z,29nm,0.8s						
M31M	Drury Creek, Y	21.62	48	P		P	08 27 49.6 +0.1
	baz=258,SNR=25						
I30M	Mount Dempster	21.65	39	P		P	08 27 47.6 -2.3
	baz=248,SNR=21						
G29M	Pine Creek	21.74	34	P		P	08 27 49.2 -1.6
G29M				IAmb		IAmb	08 27 50.9
	comp=Z,107nm,1.1s						
G29M	Pine Creek	21.74	34	P		P	08 27 49.6 -1.2
	baz=242,SNR=32						
CRAG	Craig	21.95	66	P		P	08 27 55.3 +2.2
	baz=276						
EPYK	Eagle Plains	21.97	36	P		P	08 27 51.8 -1.5
	baz=245,SNR=32						
N32M	Quiet Lake	22.05	51	P		P	08 27 54.7 +0.5
	baz=262						
D27M	Malcolm River	22.06	27	P		P	08 27 54.5 +0.3
	baz=233,SNR=25						
P33M	Teslin, Yukon	22.08	53	P		P	08 27 55.1 +0.7
	baz=264,SNR=42						
FARO	Faro, Yukon	22.10	48	P		P	08 27 54.6 -0.1
FARO				IAmb		IAmb	08 27 57.7
	comp=Z,33nm,1.0s						
FARO	Faro, Yukon	22.10	48	P		P	08 27 55.0 +0.3
	baz=259,SNR=26						
E28M	Babbage River	22.11	30	P		P	08 27 54.3 -0.4
	baz=236,SNR=14						
Q32M	Nakina River	22.28	57	P		P	08 27 57.6 +0.8
Q32M				IAmb		IAmb	08 28 18.0
	comp=Z,42nm,1.0s						
Q32M	Nakina River	22.28	57	P		P	08 27 55.8 -1.0
	baz=268,SNR=9.7						
G30M	tAoh Zraii Nji	22.41	35	P		P	08 27 56.8 -1.2
G30M				IAmb		IAmb	08 28 17.3
	comp=Z,108nm,1.4s						
G30M	tAoh Zraii Nji	22

MA2	**Magadan**	**23.02**	**305**	*i* P	**P**	**08 28 05.0**	**+0.6**
MA2				pmax	pmax		
	comp=Z,30nm,0.9s						
G31M	**Satah River**	**23.09**	**36**	P	**P**	**08 28 03.4**	**-1.6**
	baz=247						
MMPY	**Sheldon Lake,**	**23.13**	**47**	P	**P**	**08 28 07.1**	**+1.6**
	baz=260,SNR=60						
T35M	**Bob Quinn**	**23.41**	**62**	P	**P**	**08 28 08.6**	**+0.4**
	baz=274,SNR=8.6						
DLBC	**Dease Lake**	**23.45**	**58**	P	**P**	**08 28 10.6**	**+1.9**
	baz=271						
F31M	**Tsiigehtchic**	**23.48**	**35**	P	**P**	**08 28 06.4**	**-2.4**
	baz=246						
INK	**Inuvik**	**23.91**	**33**	P	**P**	**08 28 11.4**	**-1.5**
	baz=245						
WTLY	**Watson Lake, Y**	**24.08**	**54**	P	**P**	**08 28 16.1**	**+1.5**
	baz=268,SNR=11						
TGTN	**Hyland Airport**	**24.40**	**51**	P	**P**	**08 28 18.4**	**+0.8**
	baz=266,SNR=29						
LIRD	**Liard River Hi**	**25.45**	**56**	P	**P**	**08 28 28.2**	**+1.2**
	baz=272						
KOTAN	**Kotaneelee Air**	**26.45**	**54**	P	**P**	**08 28 36.7**	**+0.6**
	baz=272,SNR=23						
FLDN	**Fort Liard**	**26.73**	**54**	P	**P**	**08 28 40.8**	**+2.2**
	baz=273,SNR=9.5						
WRGLY	**Wrigley**	**26.74**	**47**	P	**P**	**08 28 38.3**	**-0.3**
	baz=267						
YSS	**Yuzh-Sakhalins**	**30.65**	**280**	*e*P	**P**	**08 29 13.6**	**+0.1**
YSS				*e*		08 30 27.0	
YSS				*e*S	**S**	**08 34 12.6**	**-0.8**
YSS				pmax	pmax		
	comp=Z,200nm,4.1s						
YSS				MLR	MLR		
	comp=Z,1μm,16.0s						
YKA	**Yellowknife Ar**	**30.82**	**48**	P	**P**	**08 29 15.6**	**+0.7**
YKA	**Yellowknife Ar**	**30.82**	**48***ce*P		**P**	**08 29 15.6**	**+0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**30.82**	**48**	P	**P**	**08 29 14.9**	**+0.1**
	comp=Z,11nm,0.8s,baz=243,slow=8.9,SNR=24						
	comp=Z,11nm,0.8s						
JKA	**Kamikawa-asahi**	**32.13**	**275**	P	**P**	**08 29 26.5**	**-0.1**
JKA				IAmb	IAmb	08 29 32.9	
	comp=Z,38nm,1.1s						
ASAJ	**Asahikawa**	**32.13**	**275**	P	**P**	**08 29 26.5**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,38nm,1.1s						
ASAJ	**Asahikawa**	**32.13**	**275**	LR	LR	08 43 07.8	
	comp=Z,540nm,20.6s,baz=75,slow=38						
GRNR	**Gornyy**	**32.81**	**290** ⇑	*i* P	**P**	**08 29 32.0**	**-0.6**
GRNR				pmax	pmax		
	comp=E,10.0nm,0.9s						
GRNR				pmax	pmax		
	comp=N,10.0nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,30nm,0.9s						
GRNR				MLR	MLR		
	comp=E,500nm,19.0s						
GRNR				MLR	MLR		
	comp=N,390nm,20.0s						
GRNR				MLR	MLR		
	comp=Z,460nm,15.0s						
TIXI	**Tiksi**	**32.87**	**329**	P	**P**	**08 29 31.8**	**-1.0**
TIXI				IAmb	IAmb	08 29 33.5	
	comp=Z,12nm,1.2s						
TIXI	**Tiksi**	**32.87**	**329***ce*P		**P**	**08 29 32.2**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,23nm,2.5s						
TIXI	**Tiksi**	**32.87**	**329**	P	**P**	**08 29 32.3**	**-0.4**
TIXI				pP	**pP**	**08 29 43.4**	**+1.5**
TIXI				PcP	**PcP**	**08 32 16.7**	**+0.3**
YAK	**Yakutsk**	**33.12**	**311**	P	**P**	**08 29 33.5**	**-1.6**
YAK	**Yakutsk**	**33.12**	**311**	*e*P	**P**	**08 29 33.9**	**-1.2**
YAK				*e**PP	**pP**	**08 29 43.8**	**-0.3**
YAK				*e*		08 30 43.1	
YAK				*e*		08 32 16.7	
YAK				*e*S	**S**	**08 34 50.3**	**-1.3**
YAK				*e**SS	**sS**	**08 35 09.8**	**+2.3**
YAK				*e*SS	**SnSn**	**08 36 54.6**	**+2.7**
YAK				*e*		08 39 57.3	
YAK				pmax	pmax		
	comp=Z,26nm,1.1s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,139nm,3.5s						
YAK				pmax	pmax		
	comp=N,100nm,3.5s						
YAK				pmax	pmax		
	comp=E,138nm,3.5s						
YAK				smax	smax		
	comp=E,73nm,3.3s						
YAK				smax	smax		
	comp=N,35nm,2.3s						
YAK				MLR	MLR		
	comp=Z,915nm,18.0s						
YAK				MLR	MLR		
	comp=N,770nm,21.0s						
YAK				MLR	MLR		
	comp=E,563nm,18.0s						
YBH	**Yreka Blue Hor**	**33.40**	**89**	LR	LR	08 41 42.8	
	comp=E,465nm,18.6s,baz=312,slow=34						
NEW	**Newport**	**33.51**	**75**	P	**P**	**08 29 39.6**	**+0.9**
	baz=296						
MSO	**Missoula**	**36.09**	**75**	P	**P**	**08 30 00.1**	**-0.9**
	baz=299						
KLR	**Kul'dur**	**36.20**	**289**	LR	LR	08 46 21.7	
	comp=E,629nm,18.2s,baz=64,slow=39						
BPMT	**Black Pine Rid**	**36.58**	**76**	P	**P**	**08 30 05.8**	**+0.4**
ZEA	**Zeya**	**36.82**	**298**	*e*P	**P**	**08 30 06.2**	**-0.8**
ZEA				*e*S	**S**	**08 35 43.0**	**-5.7**
ZEA				pmax	pmax		
	comp=Z,20nm,1.0s						
ZEA				MLR	MLR		
	comp=E,600nm,17.0s						
ZEA				MLR	MLR		
	comp=Z,700nm,16.0s						
H11N2	**WAKE ISLAND Hy**	**36.88**	**218**	T	T	09 10 06.2	
	baz=24,slow=75,SNR=18						
H11N3	**WAKE ISLAND Hy**	**36.89**	**218**	T	T	09 10 06.3	
	baz=24,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**36.90**	**218**	T	T	09 10 07.6	
	baz=24,slow=75,SNR=9.6						
RES	**Resolute Bay**	**36.91**	**25**	LR	LR	08 50 29.7	
	comp=Z,610nm,18.1s,baz=226,slow=45						
HLID	**Hailey**	**37.49**	**80**	P	**P**	**08 30 13.4**	**+0.3**
	baz=303						
EGMT	**Eagleton**	**37.99**	**71**	P	**P**	**08 30 17.6**	**+0.5**
	baz=299,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**38.07**	**217**	T	T	09 11 22.7	
	baz=23,slow=76,SNR=117						
NVAR	**Mina Array Bea**	**38.08**	**90**	P	**P**	**08 30 19.5**	**+1.4**
	comp=Z,2.3nm,0.9s,baz=289,slow=9.3,SNR=8.8						
NVAR				PcP	**PcP**	**08 32 33.2**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=329,slow=3.2,SNR=2.8						
NVAR				ScP	**ScP**	**08 36 18.4**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=284,slow=4.5,SNR=4.2						
	comp=Z,2.3nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**38.09**	**217**	T	T	09 11 22.6	
	baz=23,slow=76,SNR=101						
H11S3	**WAKE ISLAND Hy**	**38.09**	**217**	T	T	09 11 26.0	
	baz=23,slow=76,SNR=141						
BOZ	**Bozeman (W)**	**38.10**	**76**	P	**P**	**08 30 18.9**	**+0.8**
	baz=301						
HEH	**HeiHe**	**38.23**	**293**	*e*P	**P**	**08 30 17.5**	**-1.5**
HEH				pP	**pP**	**08 30 28.4**	**+0.2**
HEH				pmax	pmax		
	comp=Z,77nm,1.0s						
HEH				LR	LR		
	comp=Z,900nm,18.5s						
HEH				LR	LR		
	comp=Z,690nm,18.8s						
HEH				LR	LR		
	comp=Z,1μm,19.6s						
USRK	**Ussuriysk Ar.**	**38.57**	**282**	P	**P**	**08 30 21.1**	**-0.8**
	comp=Z,4.0nm,0.8s,baz=64,slow=9.2,SNR=4.4						
	comp=Z,4.0nm,0.8s						
MJAR	**Matsushiro Arr**	**39.27**	**268**	P	**P**	**08 30 27.6**	**-0.3**
	comp=Z,7.1nm,1.0s,baz=45,slow=6.7,SNR=9.0						
MJAR				PcP	**PcP**	**08 32 36.2**	**0.0**
	comp=Z,3.0nm,1.0s,baz=51,slow=1.5,SNR=4.0						
MJAR				LR	LR	08 46 14.6	
	comp=Z,720nm,20.8s,baz=54,slow=36						
	comp=Z,7.1nm,1.0s						
MAJO	**Matsushiro**	**39.27**	**268**	*i* P	**P**	**08 30 26.4**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,44nm,1.3s						
MAJO	**Matsushiro**	**39.27**	**268**	P	**P**	**08 30 28.0**	**+0.1**
MAJO				pP	**sP**	**08 30 39.1**	**-1.7**
FFC	**Flin Flon**	**39.28**	**58**	P	**P**	**08 30 28.0**	**+0.2**
RLMT	**Red Lodge**	**39.76**	**75**	P	**P**	**08 30 33.0**	**+0.8**
	baz=302,SNR=7.5						
MDJ	**Mudanjiang**	**39.79**	**284**	P	**P**	**08 30 31.3**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,11nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.0s						
R11B	**Troy Canyon, C**	**39.81**	**88**	P	**P**	**08 30 34.3**	**+1.8**
	baz=308						
MSHR	**Mys Shultsa**	**39.97**	**280**	*i* P	**P**	**08 30 31.7**	**-1.9**
MSHR				pmax	pmax		
	comp=Z,17nm,1.5s						
MPMC	**Manual Prospec**	**40.08**	**92**	P	**P**	**08 30 34.4**	**-0.4**
	baz=310						
FURC	**Furnace Creek,**	**40.20**	**91**	P	**P**	**08 30 37.7**	**+2.2**
	baz=310						
TPNV	**Topopah Spring**	**40.27**	**90**	P	**P**	**08 30 38.3**	**+1.9**
	baz=309						
DUG	**Dugway, Tooele**	**40.40**	**84**	P	**P**	**08 30 37.2**	**-0.2**
	baz=306						
BW06	**Boulder Array**	**40.89**	**78**	P	**P**	**08 30 41.6**	**+0.1**
	baz=304,SNR=8.8						
PDAR	**Pinedale Array**	**40.89**	**78**	P	**P**	**08 30 41.2**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=305,slow=3.7,SNR=29						
PDAR				LR	LR	08 46 00.9	
	comp=Z,318nm,20.4s,baz=322,slow=34						
	comp=Z,4.5nm,0.8s						
DGMT	**Dagmar**	**40.98**	**68**	P	**P**	**08 30 42.0**	**0.0**
	baz=300						
GSC	**Goldstone, Bar**	**40.99**	**93**	P	**P**	**08 30 43.3**	**+1.1**
	baz=311						
ALE	**Alert**	**41.05**	**11**	P	**P**	**08 30 42.2**	**+0.2**
ALE				pP	**sP**	**08 30 53.3**	**-1.8**
BFSC	**Mount Baldy Ra**	**41.16**	**94**	P	**P**	**08 30 44.9**	**+1.1**
	baz=312						
GMRC	**Granite Mounta**	**42.04**	**92**	P	**P**	**08 30 52.3**	**+1.4**
	baz=311						
PFO	**Pinyon Flats O**	**42.32**	**94**	*i* P	**P**	**08 30 52.5**	**-0.7**
PFO				pmax	pmax		
	comp=Z,11nm,1.1s						
PFO	**Pinyon Flats O**	**42.32**	**94**	P	**P**	**08 30 53.3**	**0.0**
	baz=312						
PFO	**Pinyon Flats O**	**42.32**	**94**	LR	LR	08 46 47.7	
	comp=Z,193nm,18.6s,baz=302,slow=34						
TPFO	**Pinon Flats**	**42.33**	**94**	P	**P**	**08 30 52.8**	**-0.5**
	baz=312						
BELC	**Belle Mtn. Jos**	**42.35**	**93**	P	**P**	**08 30 54.3**	**+0.8**
	baz=312						
109C	**Camp Elliot, M**	**42.41**	**95**	P	**P**	**08 30 54.1**	**+0.3**
	baz=313						
IRM	**Iron Mountain**	**42.77**	**92**	P	**P**	**08 30 56.8**	**+0.1**
	baz=312						
K22A	**Casper**	**42.79**	**76**	P	**P**	**08 30 56.5**	**-0.5**
	baz=305						
MONP2	**Monument Peak**	**42.83**	**95**	P	**P**	**08 30 56.9**	**-0.6**
	baz=313						
BC3	**Big Chuckawall**	**42.91**	**93**	P	**P**	**08 30 58.8**	**+0.8**
	baz=312						
HIA	**Hailar**	**43.05**	**295**	P	**P**	**08 30 58.4**	**-0.4**
SWSC	**Sam W. Stewart**	**43.18**	**94**	P	**P**	**08 30 59.9**	**-0.1**
	baz=313						
IKP	**In-Ko-Pah, Jac**	**43.19**	**95**	P	**P**	**08 30 60.0**	**-0.2**
	baz=313						
O20A	**White River Ci**	**43.23**	**81**	P	**P**	**08 31 00.8**	**+0.1**
	baz=307,SNR=9.2						
PDMCI	**Parker Dam,Lak**	**43.29**	**91**	P	**P**	**08 31 00.7**	**-0.2**
	baz=312						
JCJ	**Chichijima**	**43.40**	**254**	LR	LR	08 46 23.0	
	comp=Z,382nm,21.0s,baz=46,slow=32						
RSSD	**Black Hills**	**43.43**	**73**	P	**P**	**08 31 02.0**	**-0.2**
	baz=304						
GLA	**Glamis**	**43.71**	**93**	P	**P**	**08 31 05.0**	**+0.6**
	baz=312						
MDND	**Maddock**	**43.93**	**66**	P	**P**	**08 31 05.2**	**-0.7**
	baz=303						
N23A	**Red Feather La**	**44.17**	**78**	P	**P**	**08 31 07.1**	**-1.2**
	baz=307						
WUAZ	**Wupatki**	**44.21**	**88**	P	**P**	**08 31 10.0**	**+1.5**
WUAZ				IAmb	IAmb	08 31 20.6	
	comp=Z,14nm,0.9s						
WUAZ	**Wupatki**	**44.21**	**88**	P	**P**	**08 31 09.5**	**+1.0**
	baz=311						
ULM	**Lac du Bonnet**	**44.70**	**61**	P	**P**	**08 31 11.1**	**-1.0**
	comp=Z,12nm,0.8s,baz=296,slow=8.6,SNR=8.1						
	comp=Z,12nm,0.8s						
MVCO	**Mesa Verde**	**44.89**	**84**	P	**P**	**08 31 13.2**	**-0.8**
	baz=309						
KSRS	**Korea Array**	**45.04**	**277**	P	**P**	**08 31 15.3**	**+0.5**
	comp=Z,15nm,0.9s,baz=54,slow=7.4,SNR=25						
KSRS				LR	LR	08 48 31.6	
	comp=Z,328nm,21.1s,baz=50,slow=34						
	comp=Z,15nm,0.9s						
ISCO	**Idaho Springs**	**45.04**	**79**	P	**P**	**08 31 15.8**	**+0.6**
	baz=308						
KS19	**Wonju Array Si**	**45.04**	**277**	P	**P**	**08 31 15.5**	**+0.6**
KSAR	**Wonju Array Be**	**45.07**	**277**	P	**P**	**08 31 14.9**	**-0.2**
KSAR	**Wonju Array Be**	**45.07**	**277**	P	**P**	**08 31 14.9**	**-0.2**
NEEM	**North Greenlan**	**45.49**	**16**	*i* P	**P**	**08 31 17.6**	**-0.7**
NEEM				IAmb	IAmb	08 31 19.1	
	comp=Z,171nm,1.3s						
S22A	**4UR Ranch, Cre**	**45.58**	**82**	P	**P**	**08 31 22.6**	**+3.1**
	baz=309						
214A	**Organ Pipe Nat**	**45.70**	**93**	P	**P**	**08 31 21.1**	**+0.9**
	baz=313						
NOR	**Nord**	**45.91**	**5**	*i* P	**P**	**08 31 19.6**	**-1.6**
NOR				IAmb	IAmb	08 31 22.0	
	comp=Z,32nm,1.1s						
JNU	**Nakatsue**	**46.05**	**270**	LR	LR	08 50 32.5	
	comp=Z,453nm,21.3s,baz=42,slow=36						
TJN	**Taejon**	**46.07**	**276***ce*P		**P**	**08 31 22.4**	**-0.6**
SDCO	**Great Sand Dun**	**46.39**	**81**	P	**P**	**08 31 25.4**	**-0.5**
	baz=309						
OGNE	**Ogallala**	**46.50**	**76**	P	**P**	**08 31 28.4**	**+1.9**
	baz=308						
TUC	**Tucson**	**46.71**	**91**	P	**P**	**08 31 29.2**	**+1.0**
	baz=313						
TUC	**Tucson**	**46.71**	**91**	P	**P**	**08 31 29.3**	**+1.0**
TUC				sP	**pwP**	**08 31 44.8**	**+2.6**
KSCO	**Kaye Shedlock'**	**47.34**	**78**	P	**P**	**08 31 35.1**	**+1.9**
	baz=309						
T25A	**Trinidad**	**47.45**	**81**	P	**P**	**08 31 35.4**	**+1.4**
	baz=310						
UPNV	**Upernavik**	**47.52**	**22**	*i* P	**P**	**08 31 30.5**	**-3.4**
UPNV				IAmb	IAmb	08 31 35.5	
	comp=Z,86nm,1.0s						
ANMO	**Albuquerque**	**47.62**	**85**	*i* P	**P**	**08 31 33.9**	**-1.5**
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.4s						
ANMO	**Albuquerque**	**47.62**	**85**	P	**P**	**08 31 36.4**	**+1.0**
	baz=311						
ANMO	**Albuquerque**	**47.62**	**85**	LR	LR	08 49 33.5	
	comp=Z,364nm,19.8s,baz=45,slow=33						
ECSD	**EROS Data Cent**	**48.00**	**69**	P	**P**	**08 31 36.8**	**-1.2**
	baz=307						
XLT	**XiLinHaoTe**	**48.16**	**291**	*e*P	**P**	**08 31 39.1**	**-0.2**
XLT				pP	pP	08 31 49.9	+1.1
XLT				sP	pwP	08 31 52.8	+0.1
XLT				pmax	pmax		
	comp=Z,22nm,1.2s						
XLT				pmax	pmax		
	comp=Z,150nm,5.1s						
XLT				LR	LR		
	comp=Z,56nm,17.3s						
XLT				LR	LR		
	comp=Z,420nm,15.9s						
XLT				LR	LR		
	comp=Z,510nm,18.8s						
EYMN	**Ely**	**48.38**	**62**	P	**P**	**08 31 40.0**	**-0.9**
	baz=306						
121A	**Cookes Peak, D**	**48.41**	**88**	P	**P**	**08 31 42.7**	**+1.2**
	baz=313						
BGNE	**Belgrade**	**48.52**	**73**	P	**P**	**08 31 41.6**	**-0.5**
	baz=308						
CBKS	**Cedar Bluff**	**49.21**	**76**	P	**P**	**08 31 47.6**	**+0.2**
	baz=310						
SPMN	**Marine on St.**	**49.27**	**65**	P	**P**	**08 31 47.6**	**-0.1**
	baz=307						
KBS	**Kingsbay**	**49.36**	**359**	*i* P	**P**	**08 31 48.1**	**+0.1**
KBS				pmax	pmax		
	comp=Z,48nm,1.1s						
KBS	**Kingsbay**	**49.36**	**359**	*e*P	**P**	**08 31 48.3**	**+0.4**
KBS	**Kingsbay**	**49.36**	**359**	*i* P	**P**	**08 31 47.9**	**0.0**
KBS	**Kingsbay**	**49.36**	**359**	P	**P**	**08 31 48.6**	**+0.6**
FRB	**Frobisher Bay**	**49.54**	**35**	LR	LR	08 56 04.3	
	comp=Z,1μm,18.9s,baz=306,slow=40						
IRK	**Irkutsk**	**49.59**	**306**	*e*P	**P**	**08 31 49.4**	**-0.7**
IRK				pmax	pmax		
	comp=Z,50nm,1.5s						
SPA0	**Spitsbergen Ar**	**50.06**	**358**	*e*P	**P**	**08 31 53.2**	**-0.1**
SPITS	**Spitsbergen Ar**	**50.06**	**358**	P	**P**	**08 31 52.6**	**-0.7**
SPITS						08 33 12.4	
SPITS				pmax	pmax		
	comp=Z,74nm,1.2s						
SPITS	**Spitsbergen Ar**	**50.06**	**358**	P	**P**	**08 31 52.9**	**-0.4**
	comp=Z,4.5nm,0.4s,baz=39,slow=5.5,SNR=18						
SPITS				PcP	**PcP**	**08 33 12.4**	**-0.2**
	comp=Z,10nm,0.9s,baz=33,slow=5.5,SNR=1.5						
SPITS				LR	LR	08 54 24.2	
	comp=Z,335nm,18.2s,baz=330,slow=38						
	comp=Z,4.5nm,0.4s						
DAG	**Danmarks Havn**	**50.25**	**8**	*i* P	**P**	**08 31 53.0**	**-1.7**
DAG				IAmb	IAmb	08 31 55.1	
	comp=Z,71nm,1.0s						
MNTX	**Cornudas Mount**	**50.47**	**87**	P	**P**	**08 31 57.7**	**+0.7**
	baz=313,SNR=7.0						
BJI	**Beijing**	**50.50**	**287**	P	**P**	**08 31 57.5**	**+0.4**
BJI				sS	**sS**	**08 39 22.8**	**-1.2**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.7s						
BJI				LR	LR		
	comp=Z,360nm,16.7s						
BJI				LR	LR		
	comp=Z,260nm,14.8s						
BJI				LR	LR		
	comp=Z,400nm,16.5s						
MSTX	**Muleshoe**	**50.53**	**83**	P	**P**	**08 31 58.3**	**+0.6**
	baz=312						
ULN	**Ulaanbaatar**	**50.78**	**300**	P	**P**	**08 31 59.5**	**+0.1**
ULN	**Ulaanbaatar**	**50.78**	**300***c*	*i* P	**P**	**08 31 58.9**	**-0.4**
ULN				pmax	pmax		
	comp=Z,35nm,1.1s						
ULN	**Ulaanbaatar**	**50.78**	**300**	P	**P**	**08 31 59.7**	**+0.3**
ULN				P	**P**	**08 31 59.7**	**+0.3**
ULN	**Ulaanbaatar**	**50.78**	**300**	P	**P**	**08 31 59.2**	**-0.1**
ULN				pP	**pP**	**08 32 10.4**	**+1.6**
ULN				sP	**pwP**	**08 32 15.3**	**+2.3**
SONM	**Songino Array**	**51.15**	**301**	P	**P**	**08 32 02.2**	**+0.1**
SONM	**Songino Array**	**51.15**	**301**	P	**P**	**08 32 02.2**	**+0.1**
	comp=Z,17nm,1.0s,baz=55,slow=7.5,SNR=65						
SONM				PcP	**PcP**	**08 33 17.5**	**+0.2**
	comp=Z,4.0nm,1.0s,baz=93,slow=2.9,SNR=1.9						
SONM				LR	LR	08 55 51.9	
	comp=Z,796nm,18.1s,baz=52,slow=39						
	comp=Z,17nm,1.0s						
ZAK	**Zakamensk**	**51.21**	**305**	*e*P	**P**	**08 32 02.4**	**-0.1**
ZAK				*e*		08 33 18.3	
ZAK				pmax	pmax		
	comp=Z,22nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,14nm,1.4s						
SUMG	**Summit**	**51.28**	**17**	P	**P**	**08 32 03.2**	**+0.1**
SUMG	**Summit**	**51.28**	**17**	P	**P**	**08 32 03.2**	**+0.1**
SUMG				pmax	pmax		
	comp=Z,86nm,0.9s						
SUMG	**Summit**	**51.28**	**17**	*i* P	**P**	**08 32 03.0**	**-0.1**
SUMG				IAmb	IAmb	08 32 05.1	
	comp=Z,118nm,1.1s						
MOY	**Mondy**	**51.56**	**307**	*e*P	**P**	**08 32 04.7**	**-0.4**
MOY				pmax	pmax		
	comp=Z,32nm,1.3s						
JOW	**Kunigami**	**52.05**	**266**	LR	LR	08 53 37.9	
	comp=Z,132nm,20.9s,baz=16,slow=35						
DBG	**Daneborg**	**52.38**	**10**	*i* P	**P**	**08 32 07.9**	**-2.8**
DBG				IAmb	IAmb	08 32 11.4	
	comp=Z,85nm,1.1s						
TIA	**Tai'an**	**52.42**	**283**	P	**P**	**08 32 11.6**	**0.0**
TIA				pmax	pmax		
	comp=Z,35nm,1.1s						
TIA				LR	LR		
	comp=Z,450nm,14.7s						
TIA				LR	LR		
	comp=Z,390nm,13.1s						
TIA				LR	LR		
	comp=Z,680nm,16.8s						
WMOK	**Wichita Mounta**	**52.46**	**80**	P	**P**	**08 32 11.4**	**-0.5**
	baz=312						
SFJD	**Kangerlussuaq**	**52.91**	**25**	*i* P	**P**	**08 32 13.7**	**-1.0**
SFJD				IAmb	IAmb	08 32 15.6	
	comp=Z,45nm,1.0s						
SFJD	**Kangerlussuaq**	**52.91**	**25**	LR	LR	09 00 08.7	
	comp=Z,653nm,18.1s,baz=314,slow=42						
SFJD	**Kangerlussuaq**	**52.91**	**25**	P	**P**	**08 32 15.2**	**+0.4**
SFJD				pP	**sP**	**08 32 26.1**	**-1.8**
SFJD				sP	**pwP**	**08 32 31.4**	**+3.1**
HNS	**HongShan**	**53.09**	**286** ⇑	P	**P**	**08 32 17.4**	**+1.0**
HNS				pmax	pmax		
	comp=Z,43nm,1.1s						
HNS				LR	LR		
	comp=Z,410nm,17.7s						
HNS				LR	LR		
	comp=Z,630nm,19.3s						
HNS				LR	LR		
	comp=Z,750nm,21.6s						
TX32	**Lajitas Array**	**53.17**	**88**	P	**P**	**08 32 17.4**	**+0.1**
TX32				IAmb	IAmb	08 32 28.8	
	comp=Z,12nm,0.9s						
TXAR	**Lajitas Array**	**53.17**	**88**	P	**P**	**08 32 17.3**	**0.0**
TXAR	**Lajitas Array**	**53.17**	**88**	P	**P**	**08 32 16.8**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=299,slow=4.9,SNR=23						
	comp=Z,3.3nm,0.8s						
P40A	**Paris**	**53.30**	**71**	P	**P**	**08 32 18.0**	**0.0**
ABTX	**Abilene, Hawle**	**53.37**	**82**	P	**P**	**08 32 19.7**	**+1.1**
	baz=313						
TUL3	**Leonard**	**53.48**	**76**	P	**P**	**08 32 19.1**	**-0.3**
	baz=312						
BTO	**Baotou**	**53.72**	**292**	*e*P	**P**	**08 32 21.9**	**+0.7**
BTO				pP	**sP**	**08 32 33.2**	**-1.1**
BTO				sP	**pwP**	**08 32 40.5**	**+5.6**
BTO				PP	**PP**	**08 34 24.9**	**+2.9**
BTO				S	**S**	**08 39 53.5**	**+0.6**
BTO				SS	**SKiKP**	**08 43 27.3**	**-4.9**
BTO				pmax	pmax		
	comp=Z,160nm,1.0s						
BTO				pmax	pmax		
	comp=Z,220nm,4.3s						
BTO				LR	LR		
	comp=Z,700nm,16.1s						
BTO				LR	LR		
	comp=Z,730nm,17.9s						
BTO				LR	LR		
	comp=Z,710nm,19.8s						
ICESG	**Greenland Ices**	**53.89**	**20**	*i* P	**P**	**08 32 21.2**	**-1.1**
ICESG				IAmb	IAmb	08 32 23.5	
	comp=Z,64nm,1.1s						
NJ2	**Nanjing**	**54.19**	**278**	*e*P	**P**	**08 32 24.3**	**-0.3**
NJ2				pP	**pP**	**08 32 33.4**	**-0.6**
NJ2				sP	**sP**	**08 32 36.9**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,18nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,320nm,4.9s						
HDIL	**Hopedale**	**54.22**	**68**	P	**P**	**08 32 24.9**	**+0.1**
HDIL				IAmb	IAmb	08 32 35.1	
	comp=Z,17nm,0.8s						
HDIL	**Hopedale**	**54.22**	**68**	P	**P**	**08 32 24.1**	**-0.6**

AAM	**Ann Arbor**	**56.24**	**63**	P		**P**	**08 32 39.0**	**-0.2**
	baz=312							
LYN	**LuoYang**	**56.35**	**285**	⇑P		**P**	**08 32 40.3**	**+0.2**
LYN				pmax		pmax		
	comp=Z,66nm,0.9s							
LYN				pmax		pmax		
	comp=Z,290nm,4.5s							
LYN				LR		LR		
	comp=Z,620nm,17.2s							
LYN				LR		LR		
	comp=Z,540nm,18.9s							
LYN				LR		LR		
	comp=Z,610nm,19.6s							
833A	**Chaparral WMA,**	**56.53**	**86**	P		**P**	**08 32 41.0**	**-0.4**
	baz=316							
JMIC	**Jan Mayen**	**56.64**	**7**	LR		LR	08 57 36.0	
	comp=Z,266nm,19.8s,baz=62,slow=37							
O48B	**Farmland**	**56.78**	**66**	P		**P**	**08 32 41.9**	**-1.2**
	baz=312							
SADO	**Sadowa**	**57.01**	**58**	LR		LR	08 59 38.3	
	comp=Z,258nm,18.0s,baz=310,slow=39							
ANGG	**Ammassalik, Gr**	**57.21**	**21**	*i* P		**P**	**08 32 43.3**	**-2.4**
ANGG				IAmb		IAmb	08 32 46.2	
	comp=Z,111nm,1.2s							
VADS	**Vadso**	**57.41**	**352**	*e*P		**P**	**08 32 46.3**	**-0.7**
ZALV	**Zalesovo Beam**	**57.44**	**317**	*i* P		**P**	**08 32 47.0**	**-0.5**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.4s							
ZALV	**Zalesovo Beam**	**57.44**	**317**	P		**P**	**08 32 46.4**	**-1.2**
	comp=Z,1.8nm,0.4s,baz=15,slow=6.2,SNR=9.2							
ZALV				PcP		**PcP**	**08 33 41.2**	**+0.2**
	comp=Z,12nm,0.8s,baz=46,slow=4.3,SNR=14							
ZALV				LR		LR	09 01 50.7	
	comp=Z,304nm,18.0s,baz=54,slow=41							
	comp=Z,1.8nm,0.4s							
WCI	**Wyandotte Cave**	**57.51**	**68**	P		**P**	**08 32 48.3**	**0.0**
	baz=313							
WCI	**Wyandotte Cave**	**57.51**	**68**	P		**P**	**08 32 47.1**	**-1.2**
P49A	**Miami Univ. Ec**	**57.51**	**66**	P		**P**	**08 32 49.4**	**+1.1**
	baz=313							
HKT	**Hockley**	**57.56**	**82**	*i* P		**P**	**08 32 49.0**	**+0.3**
HKT				pmax		pmax		
	comp=Z,21nm,1.4s							
KEV	**Kevo**	**57.95**	**353**	P		**P**	**08 32 50.7**	**-0.2**
WHN	**Wuhan**	**58.00**	**280**	⇓P		**P**	**08 32 52.2**	**+0.4**
ACSO	**Alum Creek Sta**	**58.01**	**64**	P		**P**	**08 32 52.4**	**+0.6**
	baz=313							
IVI	**Ivigtut**	**58.04**	**29**	*i* P		**P**	**08 32 50.4**	**-1.3**
IVI				IAmb		IAmb	08 32 53.0	
	comp=Z,71nm,1.1s							
IVI	**Ivigtut**	**58.04**	**29**	P		**P**	**08 32 52.3**	**+0.7**
IVI				pP		**sP**	**08 33 03.6**	**-1.3**
IVI				sP		**pwP**	**08 33 08.3**	**+3.0**
WVT	**Waverly**	**58.06**	**71**	P		**P**	**08 32 52.2**	**+0.1**
	baz=314							
OXF	**Oxford**	**58.25**	**73**	P		**P**	**08 32 54.3**	**+0.8**
	baz=314							
ARA0	**ARCESS Array S**	**58.27**	**354**	*e*P		**P**	**08 32 52.9**	**-0.3**
ARCES	**ARCESS Array B**	**58.27**	**354**	P		**P**	**08 32 52.5**	**-0.7**
	comp=Z,20nm,0.9s,baz=9.8,slow=5.9,SNR=17							
ARCES				LR		LR	09 00 42.4	
	comp=Z,336nm,18.4s,baz=356,slow=39							
	comp=Z,20nm,0.9s							
TRO	**Tromso**	**58.53**	**356**	*e*P		**P**	**08 32 55.1**	**+0.1**
JETT	**Jettan, Norway**	**58.55**	**356**	*e*P		**P**	**08 32 55.5**	**+0.4**
XAN	**Xi'an**	**58.81**	**287**	⇑P		**P**	**08 32 57.3**	**-0.3**
XAN				pP		pP	08 33 08.0	+0.9
XAN				sP		pwP	08 33 11.8	+0.5
XAN				pmax		pmax		
	comp=Z,45nm,1.1s							
XAN				LR		LR		
	comp=Z,840nm,18.6s							
XAN				LR		LR		
	comp=Z,850nm,17.9s							
XAN				LR		LR		
	comp=Z,1μm,19.6s							
XAN	**Xi'an**	**58.81**	**287**	P		**P**	**08 32 57.7**	**+0.1**
KTK1	**Kautokeino**	**58.94**	**354**	*e*P		**P**	**08 32 57.9**	**+0.1**
O53A	**New Philadelph**	**58.98**	**63**	P		**P**	**08 32 56.0**	**-2.5**
	baz=314							
LVZ	**Lovozero**	**59.03**	**349**	*ce*P		**P**	**08 32 57.9**	**-0.7**
LVZ				pmax		pmax		
	comp=Z,95nm,1.0s							
LVZ	**Lovozero**	**59.03**	**349**	P		**P**	**08 32 58.1**	**-0.5**
LVZ				pP		**sP**	**08 33 09.9**	**-1.9**
LVZ				sP		**pwP**	**08 33 14.9**	**+2.6**
VBMS	**Vicksburg**	**59.19**	**76**	P		**P**	**08 33 00.5**	**+0.4**
	baz=315							
DGZ	**Jazzator, Alta**	**59.31**	**313**	*i* P		**P**	**08 33 00.9**	**0.0**
DGZ				pmax		pmax		
	comp=Z,22nm,1.2s							
LONY	**Lake Ozonia**	**59.47**	**56**	P		**P**	**08 33 00.3**	**-1.6**
	baz=314							
APA	**Apatity**	**59.49**	**350**	⇓*i*P		**P**	**08 33 03.9**	**+2.3**
APA				pmax		pmax		
	comp=Z,12nm,0.9s							
APA				MLR		MLR		
	comp=Z,700nm,19.0s							
MCWV	**Mont Chateau**	**60.15**	**63**	P		**P**	**08 33 05.0**	**-1.6**
	baz=314							
LOF	**Lofoten**	**60.19**	**358**	*e*P		**P**	**08 33 05.5**	**-0.9**
TZTN	**Tazewell**	**60.25**	**68**	P		**P**	**08 33 07.4**	**0.0**
	baz=315							
GTA	**Gaotai**	**60.29**	**297**	*e*P		**P**	**08 33 07.5**	**-0.3**
GTA				pP		pP	08 33 15.8	-1.6
GTA				pmax		pmax		
	comp=Z,15nm,1.1s							
GTA				LR		LR		
	comp=Z,570nm,17.1s							
GTA				LR		LR		
	comp=Z,970nm,16.4s							
GTA				LR		LR		
	comp=Z,1μm,16.4s							
LZH	**Lanzhou**	**60.35**	**292**	*e*P		**P**	**08 33 09.6**	**+1.4**
LZH				pP		pP	08 33 18.5	+0.7
LZH				pmax		pmax		
	comp=Z,51nm,1.0s							
LZH				pmax		pmax		
	comp=Z,320nm,4.8s							
LZH				LR		LR		
	comp=Z,590nm,16.3s							
LZH				LR		LR		
	comp=Z,810nm,14.9s							
LZH				LR		LR		
	comp=Z,860nm,17.3s							
STEI	**Steigen**	**60.36**	**358**	*e*P		**P**	**08 33 07.4**	**-0.2**
BINY	**Binghamton**	**60.44**	**58**	P		**P**	**08 33 08.9**	**+0.2**
	baz=315							
SSPA	**Standing Stone**	**60.53**	**61**	P		**P**	**08 33 08.4**	**-0.8**
	baz=315							
SSPA	**Standing Stone**	**60.53**	**61**	P		**P**	**08 33 09.0**	**-0.2**
TKL	**Tuckaleechee C**	**60.74**	**69**	LR		LR	09 00 24.3	
	comp=Z,505nm,18.7s,baz=328,slow=37							
FAUS	**Fauske**	**60.90**	**358**	*e*P		**P**	**08 33 11.2**	**-0.1**
BLA	**Blacksburg**	**61.55**	**65**	P		**P**	**08 33 15.5**	**-0.7**
	baz=315							
ZSN	**Zaisan**	**62.12**	**312**	*e*P		**P**	**08 33 20.0**	**+0.2**
	comp=Z,20nm,1.0s,baz=312							
ZSN	**Zaisan**	**62.12**	**312**	*e*P		**P**	**08 33 20.0**	**+0.2**
ZSN				pmax		pmax		
	comp=Z,20nm,1.0s							
MOR8	**Moi Rana**	**62.14**	**358**	*e*P		**P**	**08 33 18.3**	**-1.4**
ADZR	**Andozero**	**62.34**	**346**	*e*P		**P**	**08 33 18.1**	**-2.9**
ADZR				pmax		pmax		
	comp=Z,50nm,0.9s							
KURK	**Kurchatov**	**62.39**	**318**	P		**P**	**08 33 21.9**	**+0.3**
KURK	**Kurchatov**	**62.39**	**318**	P		**P**	**08 33 21.4**	**-0.2**
KURBB	**Kurchatov Arra**	**62.50**	**318**	P		**P**	**08 33 21.9**	**-0.4**
	comp=Z,16nm,0.9s,baz=44,slow=7.1,SNR=76							
KURBB				LR		LR	09 01 39.1	
	comp=Z,391nm,21.2s,baz=36,slow=37							
	comp=Z,16nm,0.9s							
KMSC	**Kings Mountain**	**62.51**	**67**	P		**P**	**08 33 22.1**	**-0.6**
	baz=316							
GOGA	**Godfrey**	**62.52**	**70**	P		**P**	**08 33 22.3**	**-0.4**
	baz=316							
PRGR	**Permogore**	**63.24**	**342**	*e*P		**P**	**08 33 26.3**	**-0.7**
PRGR				*e*			08 34 04.1	
PRGR				pmax		pmax		
	comp=Z,75nm,0.9s							
WMQ	**Urumqi**	**63.45**	**308**	*e*P		**P**	**08 33 29.3**	**+0.5**
WMQ				pP		sP	08 33 41.8	-0.3
WMQ				sP		pwP	08 33 45.2	+2.6
WMQ				ScP			08 38 05.8	
WMQ				pmax		pmax		
	comp=Z,31nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,140nm,4.1s							
WMQ				LR		LR		
	comp=Z,920nm,19.3s							
WMQ				LR		LR		
	comp=Z,700nm,21.5s							
WMQ				LR		LR		
	comp=Z,360nm,20.3s							
MK31	**Makanchi Array**	**63.78**	**313**	*c i*P		**P**	**08 33 29.8**	**-1.1**
MKAR	**Makanchi Array**	**63.78**	**313**	*i* P		**P**	**08 33 30.2**	**-0.7**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.4s							
MKAR	**Makanchi Array**	**63.78**	**313**	P		**P**	**08 33 29.8**	**-1.1**
	comp=Z,2.3nm,0.4s,baz=51,slow=6.2,SNR=41							
MKAR				LR		LR	09 04 18.8	
	comp=Z,608nm,18.6s,baz=46,slow=39							
	comp=Z,2.3nm,0.4s							
BVA0	**Borovoye Array**	**63.78**	**324**	*i* P		**P**	**08 33 30.7**	**-0.1**
BVAR	**Borovoye Array**	**63.78**	**324**	P		**P**	**08 33 30.9**	**+0.1**
	comp=Z,9.9nm,0.3s,baz=54,slow=7.5,SNR=84							
BVAR				LR		LR	09 03 58.1	
	comp=Z,366nm,18.1s,baz=45,slow=39							
	comp=Z,9.9nm,0.3s							
BRVK	**Borovoye**	**63.80**	**324**	*ce*P		**P**	**08 33 30.9**	**0.0**
BRVK				pmax		pmax		
	comp=Z,48nm,1.3s							
BRVK	**Borovoye**	**63.80**	**324**	P		**P**	**08 33 31.5**	**+0.6**
BRVK				P		**P**	**08 33 31.5**	**+0.6**
BRVK	**Borovoye**	**63.80**	**324**	P		**P**	**08 33 31.1**	**+0.2**
BRVK				pP		**sP**	**08 33 42.5**	**-1.6**
NSS	**Namsos**	**63.83**	**359**	*e*P		**P**	**08 33 30.9**	**+0.1**
SVE	**Sverdlovsk**	**63.84**	**332**	*e*P		**P**	**08 33 31.7**	**+0.6**
SVE				pmax		pmax		
	comp=Z,40nm,1.1s							
MAKZ	**Makanchi**	**63.91**	**313**	P		**P**	**08 33 31.1**	**-0.6**
MAKZ				pP		**sP**	**08 33 43.0**	**-2.0**
CD2	**Chengdu**	**64.10**	**288**	P		**P**	**08 33 34.1**	**+0.8**
CD2				pmax		pmax		
	comp=Z,40nm,0.6s							
NHSC	**New Hope**	**64.64**	**68**	P		**P**	**08 33 36.2**	**-0.4**
	baz=317							
ARU	**Arti**	**64.78**	**333**	*c i*P		**P**	**08 33 37.1**	**-0.2**
ARU							08 34 11.9	
ARU				S		**S**	**08 42 15.9**	**+0.7**
ARU				SS		**SS**	**08 46 21.3**	**-4.3**
ARU				pmax		pmax		
	comp=Z,37nm,1.0s							
ARU				MLR		MLR		
	comp=Z,624nm,18.0s							
ARU	**Arti**	**64.78**	**333**	LR		LR	09 06 49.6	
	comp=Z,561nm,18.1s,baz=42,slow=41							
KLMR	**Klimovskoe**	**65.06**	**345**	*e*P		**P**	**08 33 35.5**	**-3.5**
KLMR				AMP			08 33 39.4	
	comp=Z,50nm,1.1s							
KLMR				LQ		LQ	08 54 48.4	
KLMR				LQ		LQ	08 54 48.4	
KLMR				LR		LR	09 02 37.8	
KLMR	**Klimovskoe**	**65.06**	**345**	*e*P		**P**	**08 33 35.5**	**-3.5**
KLMR				pmax		pmax		
	comp=Z,50nm,1.1s							
KIRV	**Kirov**	**65.22**	**338**	*ce*P		**P**	**08 33 40.2**	**+0.1**
KIRV	**Kirov**	**65.22**	**338**	LR		LR	09 07 40.0	
	comp=Z,307nm,18.2s,baz=34,slow=41							
GOMU	**GeErMu**	**65.35**	**298**	P		**P**	**08 33 41.8**	**+0.1**
GOMU				S		**S**	**08 42 18.0**	**-5.4**
GOMU				pmax		pmax		
	comp=Z,17nm,1.1s							
GOMU				pmax		pmax		
	comp=Z,91nm,5.2s							
GOMU				LR		LR		
	comp=Z,470nm,17.3s							
GOMU				LR		LR		
	comp=Z,560nm,17.0s							
GOMU				LR		LR		
	comp=Z,780nm,16.5s							
BRZS	**Berezniki**	**65.36**	**321**	*e*P		**P**	**08 33 40.6**	**-0.5**
	baz=321							
BRZS	**Berezniki**	**65.36**	**321**	*e*P		**P**	**08 33 40.6**	**-0.5**
GYA	**Guiyang**	**65.61**	**282**	P		**P**	**08 33 44.8**	**+1.5**
GYA				pP		sP	08 33 56.0	-0.5
GYA				S		**S**	**08 42 22.5**	**-3.9**
GYA				pmax		pmax		
	comp=Z,35nm,1.1s							
GYA				LR		LR		
	comp=Z,500nm,18.7s							
MOL	**Molde**	**65.79**	**1**	*e*P		**P**	**08 33 43.4**	**-0.2**
TAOE	**Nuku Hiva Isla**	**65.80**	**147**	*e*SS		SS	08 46 49.4	+5.4
	comp=Z,123nm,22.5s							
TAOE				*e*LR		LR	08 53 06.8	
	comp=Z,367nm,28.2s							
AKN	**Aaknes**	**66.17**	**2**	*e*P		**P**	**08 33 46.7**	**+0.5**
FINES	**FINESS Array B**	**66.20**	**352**	*i* P		**P**	**08 33 46.0**	**-0.4**
FINES				pmax		pmax		
	comp=Z,27nm,0.9s							
FINES	**FINESS Array B**	**66.20**	**352**	P		**P**	**08 33 45.8**	**-0.6**
	comp=Z,28nm,0.9s,baz=28,slow=8.6,SNR=38							
FINES				LR		LR	09 06 48.3	
	comp=Z,238nm,18.2s,baz=15,slow=40							
	comp=Z,28nm,0.9s							
DOMB	**Dombas**	**66.33**	**0**	*e*P		**P**	**08 33 47.3**	**+0.1**
TDK	**Taldyqorghan**	**66.89**	**314**	*e*P		**P**	**08 33 50.9**	**-0.2**
	comp=Z,18nm,0.9s,baz=314							
TDK	**Taldyqorghan**	**66.89**	**314**	*e*P		**P**	**08 33 50.9**	**-0.2**
TDK				pmax		pmax		
	comp=Z,18nm,0.9s							
RAF	**Rauma**	**66.96**	**354**	*e*P		**P**	**08 33 50.4**	**-0.8**
NB2	**NORSAR Subarra**	**67.34**	**359**	P		**P**	**08 33 53.5**	**-0.1**
	comp=Z,34nm,1.1s,baz=3.3,slow=6.5							
NB2	**NORSAR Subarra**	**67.34**	**359**	P		**P**	**08 33 53.5**	**-0.1**
	baz=3.3,slow=6.5							
NOA	**NORSAR Array B**	**67.34**	**359**	P		**P**	**08 33 53.6**	**-0.1**
	comp=Z,12nm,0.9s,baz=0.7,slow=6.3,SNR=24							
NOA				LR		LR	09 05 17.7	
	comp=Z,103nm,18.0s,baz=20,slow=38							
	comp=Z,12nm,0.9s							
MEF	**Metsahovi**	**67.56**	**352**	*e*P		**P**	**08 33 55.3**	**+0.3**
NC602	**NORSAR Array S**	**67.64**	**359**	*e*P		**P**	**08 33 55.5**	**0.0**
SKAR	**Skarslia**	**67.69**	**1**	*e*P		**P**	**08 33 56.1**	**+0.2**
ARXS	**Arharly**	**67.77**	**314**	*e*P		**P**	**08 33 55.8**	**-0.9**
SHLS	**Shalkode**	**67.85**	**312**	*e*P		**P**	**08 33 56.4**	**-1.0**
	comp=Z,20nm,0.9s,baz=312							
SHLS	**Shalkode**	**67.85**	**312**	*e*P		**P**	**08 33 56.3**	**-1.0**
SHLS				pmax		pmax		
	comp=Z,21nm,0.9s							
AAL	**Aland**	**67.91**	**355**	*e*P		**P**	**08 33 57.3**	**+0.1**
KPKS	**Kokpek**	**67.97**	**313**	*e*P		**P**	**08 33 58.1**	**0.0**
	comp=Z,12nm,1.1s,baz=313							
KPKS	**Kokpek**	**67.97**	**313**	*e*P		**P**	**08 33 58.0**	**0.0**
KPKS				pmax		pmax		
	comp=Z,12nm,1.1s							
UZB	**Uzynbulak**	**68.06**	**313**	*e*P		**P**	**08 33 58.7**	**-0.1**
	baz=312							
UZB	**Uzynbulak**	**68.06**	**313**	*e*P		**P**	**08 33 58.6**	**-0.1**
HFS	**Hagfors**	**68.21**	**358**	P		**P**	**08 33 58.6**	**-0.5**
	comp=Z,12nm,0.3s,baz=5.2,slow=3.0,SNR=101							
HFS				LR		LR	09 06 00.1	
	comp=Z,197nm,18.3s,baz=360,slow=38							
	comp=Z,12nm,0.3s							
ZHN	**Zhinishke**	**68.31**	**313**	*e*P		**P**	**08 34 00.2**	**0.0**
	baz=313							
ZHN	**Zhinishke**	**68.31**	**313**	*e*P		**P**	**08 34 00.2**	**0.0**
JAY	**Jayapura**	**68.33**	**235**	LR		LR	08 59 59.1	
	comp=Z,164nm,19.5s,baz=2.0,slow=32							
UPP	**Uppsala**	**68.36**	**356**	*e*P		**P**	**08 34 00.3**	**+0.3**
SATY	**Saty**	**68.41**	**313**	*e*P		**P**	**08 34 00.9**	**+0.1**
	baz=313							
SATY	**Saty**	**68.41**	**313**	*e*P		**P**	**08 34 00.9**	**+0.1**
CHKK	**Chushkaly**	**68.42**	**314**	*e*P		**P**	**08 33 60.0**	**-0.8**
	baz=314							
CHKK	**Chushkaly**	**68.42**	**314**	*e*P		**P**	**08 33 59.9**	**-0.8**
PZH	**PanZhiHua**	**68.53**	**286**	P		**P**	**08 34 02.6**	**+0.8**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,100nm,5.5s							
KUU	**Kurty**	**68.68**	**315**	*e*P		**P**	**08 34 01.5**	**-0.8**
	comp=Z,11nm,0.9s,baz=315							
KUU	**Kurty**	**68.68**	**315**	*e*P		**P**	**08 34 01.5**	**-0.8**
KUU				pmax		pmax		
	comp=Z,11nm,0.9s							
KONO	**Kongsberg**	**68.73**	**0**	P		**P**	**08 34 02.1**	**-0.3**
KONO	**Kongsberg**	**68.73**	**0**	P		**P**	**08 34 03.3**	**+0.9**
KONO				pP		**sP**	**08 34 14.4**	**-1.3**
DAV	**Davao City (W)**	**68.80**	**254**	LR		LR	08 59 52.2	
	comp=Z,373nm,21.8s,baz=14,slow=32							
KMI	**Kunming**	**68.96**	**284**	⇓P		**P**	**08 34 05.6**	**+1.0**
KMI				pP		sP	08 34 16.7	-1.2
KMI				sP		pwP	08 34 21.0	+2.2
KMI				pmax		pmax		
	comp=Z,26nm,1.2s							
KMI				LR		LR		
	comp=Z,350nm,20.0s							
KMI				LR		LR		
	comp=Z,330nm,17.0s							
KMI				LR		LR		
	comp=Z,280nm,22.1s							
VSU	**Vasula**	**69.08**	**351**	*e*P		**P**	**08 34 04.3**	**-0.2**
VSU	**Vasula**	**69.08**	**351**	*e*P		**P**	**08 34 05.0**	**+0.5**
TNSS	**Tian-Shan**	**69.08**	**314**	*e*P		**P**	**08 34 05.2**	**-0.2**
	baz=314							
TNSS	**Tian-Shan**	**69.08**	**314**	*e*P		**P**	**08 34 05.2**	**-0.2**
MTSE	**Matsula**	**69.10**	**352**	*e*P		**P**	**08 34 05.2**	**+0.6**
WUS	**Wushi**	**69.50**	**311**	P		**P**	**08 34 08.1**	**+0.5**
WUS				pP		**sP**	**08 34 19.4**	**-1.5**
VIKU	**Vikbolandet**	**69.75**	**356**	*e*P		**P**	**08 34 09.1**	**+0.4**
SGDS	**Sogindy**	**69.78**	**315**	*e*P		**P**	**08 34 09.5**	**+0.3**
	baz=316							
SGDS	**Sogindy**	**69.78**	**315**	*e*P		**P**	**08 34 09.5**	**+0.3**
TKM2	**Tokmak 2**	**69.78**	**315**	P		**P**	**08 34 09.9**	**+0.4**
	SNR=13							
TKM2	**Tokmak 2**	**69.78**	**315**	P		**P**	**08 34 08.0**	**-1.4**
USP	**Ospenovka**	**69.98**	**315**	P		**P**	**08 34 11.0**	**+0.6**
	SNR=20							
ULHL	**Ulahol**	**70.03**	**314**	P		**P**	**08 34 11.4**	**+0.4**
	SNR=8.3							
CHMS	**Chumysh**	**70.09**	**315**	P		**P**	**08 34 11.5**	**+0.4**
	SNR=5.9							
AKTO	**Aktyubinsk**	**70.15**	**330**	P		**P**	**08 34 11.0**	**-0.3**
MSVF	**Nonsavu**	**70.18**	**192**	LR		LR	09 01 59.1	
	comp=Z,174nm,18.4s,baz=102,slow=33							
MOS	**Moscow**	**70.24**	**344**	*e*P		**P**	**08 34 10.6**	**-1.1**
MOS				*e*			08 34 31.8	
MOS				pmax		pmax		
	comp=Z,59nm,0.8s							
KBK	**Karagaybulak**	**70.28**	**315**	P		**P**	**08 34 12.7**	**+0.3**
	SNR=8.3							
SLIT	**Slitere, Latvi**	**70.30**	**353**	*e*P		**P**	**08 34 12.5**	**+0.5**
AAK	**Ala-Archa**	**70.49**	**315**	P		**P**	**08 34 14.3**	**+0.6**
	SNR=17							
AAK	**Ala-Archa**	**70.49**	**315**	LR		LR	09 07 53.8	
	comp=Z,639nm,19.0s,baz=32,slow=38							
AAK	**Ala-Archa**	**70.49**	**315**	P		**P**	**08 34 14.2**	**+0.5**
AAK				pP		**sP**	**08 34 26.2**	**-0.9**
AB31	**Akbulak array**	**70.55**	**328**	*i* P		**P**	**08 34 13.7**	**-0.1**
EKS2	**Erkin-Say**	**70.78**	**315**	P		**P**	**08 34 16.1**	**+0.6**
	SNR=26							
OBN	**Obninsk**	**71.02**	**344**	*ce*P		**P**	**08 34 15.8**	**-0.6**
OBN				*e*			08 34 37.5	
OBN				*e*			08 36 54.6	
OBN				*e*S		**S**	**08 43 34.5**	**+4.9**
OBN				pmax		pmax		
	comp=Z,17nm,0.5s							
OBN				MLR		MLR		
	comp=Z,346nm,18.0s							
OBN	**Obninsk**	**71.02**	**344**	LR		LR	09 10 45.7	
	comp=Z,322nm,18.2s,baz=358,slow=40							
AML	**Almayashu**	**71.25**	**315**	P		**P**	**08 34 19.3**	**+0.7**
	SNR=14							
BELG	**Belogornoye**	**71.29**	**337**	*c i*P		**P**	**08 34 18.2**	**+0.1**
BELG				pmax		pmax		
	comp=Z,27nm,1.0s							
BELG	**Belogornoye**	**71.29**	**337**	LR		LR	09 09 43.4	
	comp=Z,324nm,20.0s,baz=337,slow=39							
PPT	**Papeete**	**71.51**	**159**	LR		LR	09 03 59.0	
	comp=Z,196nm,18.5s,baz=298,slow=34							
PPT2	**Papeete2**	**71.53**	**159**	*e*LR		LR	08 55 44.3	
	comp=Z,492nm,30.5s							
PPT2				*e*LR		LR	08 55 54.5	
	comp=Z,229nm,29.8s							
KK31	**Karatay Array**	**71.81**	**318**	*i* P		**P**	**08 34 21.3**	**-0.2**
DEL	**Delary**	**71.88**	**358**	*e*P		**P**	**08 34 21.8**	**+0.2**
SIJI	**Sorong**	**71.96**	**244**	LR		LR	08 59 16.9	
	comp=Z,87nm,21.4s,baz=356,slow=30							
ISAL	**Salakas**	**71.99**	**350**	*e*P		**P**	**08 34 22.1**	**-0.3**
IDID	**Didziasalis**	**72.18**	**350**	*e*P		**P**	**08 34 22.8**	**-0.7**
IIGN	**Ignalina**	**72.20**	**350**	*e*P		**P**	**08 34 23.0**	**-0.6**
PABE	**Paberze**	**72.26**	**352**	*e*P		**P**	**08 34 24.1**	**+0.2**
KSH	**Kashi**	**72.34**	**312**	P		**P**	**08 34 28.5**	**+3.6**
KSH				pP		pwP	08 34 39.5	+0.7
KSH				sP		PcP	08 34 45.5	+2.7
KSH				pmax		pmax		
	comp=Z,23nm,0.8s							
KSH				LR		LR		
	comp=Z,560nm,19.9s							
KSH				LR		LR		
	comp=Z,880nm,19.3s							
KSH				LR		LR		
	comp=Z,1μm,18.1s							
EKA	**Eskdalemuir Ar**	**72.51**	**8**	P		**P**	**08 34 24.8**	**-0.7**
	comp=Z,2.9nm,0.6s,baz=348,slow=4.6,SNR=10							
	comp=Z,2.9nm,0.6s							
NACGM	**Naroch**	**72.58**	**350**	*e*P		**P**	**08 34 26.2**	**+0.4**
	comp=Z,37nm,1.0s,baz=11							
IUG	**Iuzhnay**	**72.80**	**318**	*e*P		**P**	**08 34 27.9**	**+0.3**
	comp=Z,15nm,0.9s,baz=318							
IUG	**Iuzhnay**	**72.80**	**318**	*e*P		**P**	**08 34 27.8**	**+0.3**
IUG				pmax		pmax		
	comp=Z,15nm,0.9s							
CHM	**Chimkent**	**72.83**	**318**	*e*P		**P**	**08 34 28.0**	**+0.3**
	baz=318							
CHM	**Chimkent**	**72.83**	**318**	*e*P		**P**	**08 34 27.9**	**+0.3**
MNK	**Minsk**	**72.85**	**349**	*i* P		**P**	**08 34 27.1**	**-0.4**
	comp=E,8.0nm,0.8s							
MNK				*i* P		**P**	**08 34 27.1**	**-0.4**
	comp=N,39nm,0.9s							
MNK				*i* P		**P**	**08 34 27.1**	**-0.4**
	comp=Z,70nm,0.9s,baz=192							
MNK				*i* PcP		**PcP**	**08 34 43.8**	**-0.6**
MNK				*i* PP		**PP**	**08 37 09.2**	**+0.2**
MNK				*i* PPP		P

SHL	Shillong	75.00 292	P	P	08 34 40.7	-0.1
	SNR=14					
TAPN	Taplejung	75.98 296	eP	P	08 34 47.0	+0.5
	comp=Z,80nm,1.0s					
FLTG	Flechtingen	76.07 359	eP	P	08 34 46.5	+0.4
	comp=Z,14nm,1.1s,baz=360,slow=5.6					
CM31	Chiang Mai Arr	76.30 282	P	P	08 34 49.5	+1.4
	SNR=7.7					
CMAR	Chiang Mai Arr	76.30 282	P	P	08 34 48.6	+0.6
	comp=Z,12nm,0.8s,baz=27,slow=6.8,SNR=52					
CMAR			LR	LR	09 09 29.4	
	comp=Z,149nm,21.6s,baz=40,slow=37					
	comp=Z,12nm,0.8s					
AKASG	Malin Array Be	76.41 348	P	P	08 34 47.4	-0.7
	comp=Z,2.9nm,0.4s,baz=13,slow=5.6,SNR=41					
	comp=Z,2.9nm,0.4s					
ODAN	Odare	76.54 296	eP	P	08 34 50.1	+0.5
	comp=Z,16nm,0.2s					
DZM	Mont Dzumac	76.55 202	eS	S	08 44 39.4	+6.7
	comp=Z,146nm,23.9s					
DZM	Mont Dzumac	76.55 202	eLR	LR	08 58 34.3	
	comp=Z,200nm,22.8s					
DZM	Mont Dzumac	76.55 202	LR	LR	09 06 30.7	
	comp=Z,175nm,18.6s,baz=40,slow=34					
GUN	Gumba	76.55 298	eP	P	08 34 50.3	+0.5
	comp=Z,99nm,0.9s					
CLZ	Clausthal	76.56 360	eP	P	08 34 50.0	+1.0
	comp=Z,24nm,1.1s,baz=360,slow=5.6					
JIRN	Jiri	76.57 298	eP	P	08 34 50.5	+0.5
	comp=Z,215nm,1.3s					
RAMN	Ramite	76.90 297	eP	P	08 34 52.2	+0.5
	comp=Z,151nm,1.1s					
KKN	Kakani	76.97 298	eP	P	08 34 52.6	+0.6
	comp=Z,115nm,1.5s					
CLL	Collm	77.06 358	i P	P	08 34 52.1	+0.2
CLL			i *PP	PcP	08 35 04.0	+1.3
CLL			pmax	pmax		
	comp=Z,24nm,1.3s					
CLL	Collm	77.06 358	eP	P	08 34 52.3	+0.4
	comp=Z,23nm,1.3s,baz=360,slow=5.6					
CLL	Collm	77.06 358	i P	P	08 34 52.1	+0.2
	comp=Z,24nm,1.3s					
CLL			i PcP	PcP	08 35 02.3	-0.4
CLL			i pP	PcP	08 35 04.0	+1.3
CLL			i sP	pwP	08 35 08.1	+2.0
CLL			ePP	PP	08 37 54.0	+9.3
CLL			ePS	PnS	08 45 21.0	+1.9
CLL			eSS	SS	08 49 36.0	+2.2
CLL			eSSS	SSS	08 53 30.0	
PKI	Pulchoki	77.07 298	eP	P	08 34 53.0	+0.3
	comp=Z,113nm,1.3s					
PKIN	Phulchoki	77.07 298	eP	P	08 34 52.9	+0.3
	comp=Z,127nm,1.4s					
TBI	Tubuai	77.14 161	eLR	LR	08 58 26.2	
	comp=Z,1μm,32.2s					
TBI			eLR	LR	08 58 45.6	
	comp=Z,3μm,23.5s					
GKN	Gorkha	77.15 299	eP	P	08 34 53.1	+0.2
	comp=Z,78nm,1.0s					
DMN	Daman	77.20 298	eP	P	08 34 53.7	+0.3
	comp=Z,152nm,1.5s					
DANN	Dangsing	77.35 300	eP	P	08 34 54.7	+0.5
	comp=Z,110nm,1.0s					
KSP	Ksiaz	77.42 356	eP	P	08 34 54.5	+0.6
FBE	Freiberg	77.44 358	eP	P	08 34 54.9	+0.9
	comp=Z,37nm,1.3s,baz=360,slow=5.6					
BRG	Berggiesshubel	77.48 357	i P	P	08 34 55.5	+1.3
BRG			Amp		08 34 56.7	
	comp=Z,26nm,1.3s					
BRG	Berggiesshubel	77.48 357	P	P	08 35 05.3	+11
BRG			Amp		08 35 06.1	
	comp=Z,14nm,1.2s					
BRG			Amp		09 12 34.0	
	comp=Z,0.2nm,17.0s					
BRG	Berggiesshubel	77.48 357	i P	P	08 34 55.4	+1.3
BRG					08 35 05.2	
BRG			pmax	pmax		
	comp=Z,26nm,1.3s					
BRG			pmax	pmax		
	comp=Z,14nm,1.2s					
BRG			MLR	MLR		
	comp=Z,203nm,17.0s					
BRG	Berggiesshubel	77.48 357	eP	P	08 34 55.3	+1.1
	comp=Z,17nm,1.1s,baz=360,slow=5.6					
CHVC	Chvalec	77.69 356	eP	P	08 34 55.9	+0.5
CHVC	Chvalec	77.69 356	eP	P	08 34 55.9	+0.5
OSTC	Ostas	77.71 356	eP	P	08 34 55.3	-0.2
OSTC	Ostas	77.71 356	eP	P	08 34 55.3	-0.2
MEM	Membach	77.74 3	dP	P	08 34 54.4	-1.3
MOX	Moxa	77.75 359	eL	L	09 20 34.1	
	comp=Z,196nm,18.2s					
BSTI	Sart Tilman	77.75 3	dP	P	08 34 56.5	+0.8
HSKC	Hora Svate Kat	77.76 358	eP	P	08 34 56.6	+0.8
BTNL	Ternell	77.77 2	dP	P	08 34 57.1	+1.3
	comp=Z,11nm,1.0s					
UPC	Upice	77.77 356	eP	P	08 34 56.4	+0.6
UPC	Upice	77.77 356	eP	P	08 34 56.4	+0.6
PVCC	Panska Ves	77.80 357	eP	P	08 34 56.8	+0.8
PVCC	Panska Ves	77.80 357	eP	P	08 34 56.8	+0.8
OJC	Ojcow	77.84 354	eP	P	08 34 56.6	+0.3
OJC			epP	sP	08 35 08.4	-1.3
LVV	L'vov	77.88 351	eP	P	08 34 56.8	+0.3
LVV			e		08 35 08.0	
LVV			eS	S	08 44 46.8	+0.1
LVV			eSS	SS	08 49 52.3	+6.1
LVV			pmax	pmax		
	comp=Z,60nm,1.4s					
KOLN	Koldanda	77.89 300	eP	P	08 34 57.5	+0.3
	comp=Z,212nm,2.1s					
BCLA	Clavier	77.91 3	dP	P	08 34 57.3	+0.7
DPC	Dobruska-Polom	77.91 356	eP	P	08 34 57.5	+0.8
DPC	Dobruska-Polom	77.91 356	eP	P	08 34 57.5	+0.8
BGES	Gesves	77.94 3	dP	P	08 34 57.4	+0.7
	comp=Z,8.9nm,1.1s					
PYUN	Piuthan	77.96 300	eP	P	08 34 57.7	+0.2
	comp=Z,96nm,1.1s					
BMRD	Maredsous	78.01 3	dP	P	08 34 58.1	+1.0
	comp=Z,16nm,1.0s					
WERN	Wernitzgruen	78.10 358	eP	P	08 34 58.6	+0.8
	comp=Z,12nm,1.0s,baz=360,slow=5.6					
RCHB	Rochefort	78.17 3	dP	P	08 34 58.5	+0.5
	comp=Z,12nm,0.9s					
KWP	Kalwaria Pacla	78.19 352	eP	P	08 34 58.6	+0.4
DOU	Dourbes	78.21 4	dP	P	08 34 59.0	+0.7
	comp=Z,10nm,1.0s					
PRU	Pruhonice	78.34 357	eP	P	08 34 59.1	+0.1
PRU	Pruhonice	78.34 357	eP	P	08 34 59.1	+0.1
MANZ	Manzenberg	78.40 359	eP	P	08 35 00.3	+0.9
	comp=Z,2.3nm,1.0s,baz=360,slow=5.6					
GOPC	GO Pecny, Ondr	78.41 357	eP	P	08 35 00.0	+0.6
GOPC	GO Pecny, Ondr	78.41 357	eP	P	08 35 00.0	+0.6
MORC	Moravsky Berou	78.42 355	⇑P	P	08 34 60.0	+0.4
MORC	Moravsky Berou	78.42 355	eP	P	08 34 59.9	+0.4
MORC	Moravsky Berou	78.42 355	P	P	08 34 59.9	+0.4
STHS	Stebnicka Huta	78.53 353	eP	P	08 35 00.8	+0.7
STHS			e		08 35 11.1	
STHS			pmax	pmax		
	comp=Z,13nm,0.9s					
STHS	Stebnicka Huta	78.53 353	eP	P	08 35 00.8	+0.7
STHS			e		08 35 11.1	
NIE	Niedzica	78.61 353	eP	P	08 35 01.9	+1.4
GRF	Grafenberg Arr	78.71 359	eL	L	09 21 12.9	
	comp=Z,196nm,18.9s					
MAUC	Maruska	78.82 355	eP	P	08 35 02.7	+1.0
KOLS	Kolonicke sedl	78.93 352	eP	P	08 35 03.1	+0.8
KOLS			pmax	pmax		
	comp=Z,8.0nm,0.8s					
KOLS	Kolonicke sedl	78.93 352	eP	P	08 35 03.1	+0.8
LANS	Liptovska Anna	78.93 354	eP	P	08 35 04.0	+1.7
LANS			pmax	pmax		
	comp=Z,23nm,1.4s					
LANS	Liptovska Anna	78.93 354	eP	P	08 35 04.0	+1.7
VRAC	Vranov	78.94 356	⇓P	P	08 35 03.1	+0.8
VRAC	Vranov	78.94 356	eP	P	08 35 03.2	+0.8
VRAC	Vranov	78.94 356	P	P	08 35 03.1	+0.8
VRAC	Vranov	78.94 356	LR	LR	09 13 18.4	
	comp=Z,125nm,18.0s,baz=10.0,slow=38					
CRVS	Cervenica-Dubn	79.03 352	eP	P	08 35 03.6	+0.8
CRVS	Cervenica-Dubn	79.03 352	eP	P	08 35 03.6	+0.8
SORM	Soroca	79.04 348	⇓P	P	08 35 03.0	+0.1
SORM	Soroca	79.04 348	P	P	08 35 02.9	+0.1
KRUC	Moravsky	79.20 356	eP	P	08 35 04.3	+0.6
GOF	Gofitskoye	79.23 337	ceP	P	08 35 04.8	+0.8
KHC	Kasperske Hory	79.23 358	c i P	P	08 35 04.6	+0.6
KHC			pmax	pmax		
	comp=Z,44nm,1.2s					
KHC	Kasperske Hory	79.23 358	eP	P	08 35 04.3	+0.3
JAVC	Velka Javorina	79.33 355	eP	P	08 35 06.3	+1.7
GEC2	GERESS Array S	79.51 357	eP	P	08 35 06.1	+0.5
	comp=Z,20nm,1.1s,baz=360,slow=5.6					
GERES	GERESS Array B	79.51 357	P	P	08 35 06.4	+0.8
	comp=Z,6.3nm,0.9s,baz=334,slow=8.9,SNR=11					
	comp=Z,6.3nm,0.9s					
CKRC	Cesky Krumlov	79.52 357	eP	P	08 35 03.0	-2.5
CKRC	Cesky Krumlov	79.52 357	eP	P	08 35 03.0	-2.5
KBL	Kabul	79.57 314	P	P	08 35 05.9	-0.3
	SNR=8.0					
VYHS	Vyhne	79.63 354	eP	P	08 35 06.7	+0.6
VYHS			e		08 35 18.6	
VYHS			pmax	pmax		
	comp=Z,43nm,1.7s					
VYHS	Vyhne	79.63 354	eP	P	08 35 06.7	+0.6
VYHS			e		08 35 18.6	
MODS	Modra-Piesok	79.84 355	eP	P	08 35 08.7	+1.4
MODS			e		08 35 20.3	
MODS			pmax	pmax		
	comp=Z,94nm,1.3s					
MODS	Modra-Piesok	79.84 355	eP	P	08 35 08.7	+1.4
MODS			e		08 35 20.3	
BURAR	Bucovina Array	79.94 350	⇑P	P	08 35 08.2	+0.3
BURAR	Bucovina Array	79.94 350	P	P	08 35 08.2	+0.3
ZST	Bratislava	80.03 355	eP	P	08 35 10.1	+1.9
ZST			pmax	pmax		
	comp=Z,125nm,1.3s					
ZST	Bratislava	80.03 355	eP	P	08 35 10.1	+1.9
BFO	Black Forest	80.07 1	eP	P	08 35 09.0	+0.5
	comp=Z,14nm,1.0s,baz=360,slow=5.6					
PSZ	Piszkesteto	80.13 353	⇓P	P	08 35 09.8	+0.9
PSZ	Piszkesteto	80.13 353	P	P	08 35 09.8	+0.9
CONA	Conrad Observa	80.35 356	i P	P	08 35 11.6	+1.4
	comp=Z,38nm,1.5s,SNR=13					
KIV	Kislovodsk	80.35 337	⇑P	P	08 35 11.8	+1.6
KIV	Kislovodsk	80.35 337	eP	P	08 35 10.5	+0.3
KIV			eS	S	08 45 14.5	+1.2
KIV			eSS	SS	08 50 26.5	+2.8
KIV			pmax	pmax		
	comp=Z,26nm,1.1s					
KIV	Kislovodsk	80.35 337	P	P	08 35 10.5	+0.3
MOA	Molln	80.49 357	eP	P	08 35 11.7	+1.0
	comp=Z,12nm,1.2s					
KBZ	Khabaz	80.51 336	ceP	P	08 35 11.5	+0.6
KBZ			pmax	pmax		
	comp=Z,17nm,1.0s					
KBZ	Khabaz	80.51 336	P	P	08 35 11.9	+1.0
	comp=Z,9.4nm,0.9s,baz=26,slow=1.8,SNR=17					
	comp=Z,9.4nm,0.9s					
NCK	Nalchik	80.56 336	i P	P	08 35 12.0	+0.8
NCK			pmax	pmax		
	comp=Z,49nm,1.0s					
RONA	Rosalia, Austr	80.56 356	i P	P	08 35 12.7	+1.5
	comp=Z,21nm,1.5s,SNR=6.4					
RJOB	Jochberg	80.64 358	eP	P	08 35 12.5	+0.9
	comp=Z,14nm,1.0s,baz=360,slow=5.6					
BIOA	Bad Ischl, Aus	80.67 357	eP	P	08 35 13.1	+1.3
	comp=Z,19nm,1.0s					
UBR	Ueberruh	80.73 360	eP	P	08 35 12.9	+0.8
	comp=Z,48nm,1.5s,baz=360,slow=5.6					
ANN	Anapa	80.74 341	eP	P	08 35 12.3	+0.2
ANN			eS	S	08 45 14.2	-2.8
ANN			e		08 45 28.7	
ANN			pmax	pmax		
	comp=Z,48nm,1.2s					
RETA	Reutte	80.92 359	eP	P	08 35 14.2	+1.0
	comp=Z,15nm,1.2s					
LESA	Schwarzleotal	80.96 358	eP	P	08 35 14.6	+1.2
	comp=Z,29nm,1.6s					
ARSA	Arzberg	81.04 356	i P	P	08 35 15.1	+1.4
	comp=Z,26nm,1.6s,SNR=6.7					
MOTA	Moosalm	81.06 359	i P	P	08 35 15.2	+1.2
	comp=Z,31nm,1.1s,SNR=10					
WATA	Walderalm	81.06 359	i P	P	08 35 15.2	+1.2
	comp=Z,38nm,1.3s,SNR=8.1					
GEYT	Alibeck	81.11 323	P	P	08 35 14.9	+0.7
	comp=Z,5.9nm,0.7s,baz=20,slow=4.7,SNR=10					
GEYT			LR	LR	09 14 59.6	
	comp=Z,367nm,18.3s,baz=49,slow=38					
	comp=Z,5.9nm,0.7s					
DAVA	Damuels	81.12 0	eP cP	P	08 35 16.6	+2.3
	comp=Z,13nm,0.9s					
WTTA	Wattenberg	81.13 359	i P	P	08 35 15.8	+1.3
	comp=Z,30nm,1.2s,SNR=8.5					
ZEI	Tsey	81.14 335	eP	P	08 35 13.5	-1.1
ZEI			pmax	pmax		
	comp=Z,16nm,1.1s					
SQTA	Sankt Quirin	81.18 359	i P	P	08 35 15.9	+1.3
	comp=Z,35nm,1.1s,SNR=9.4					
CTA	Charters Tower	81.25 221	LR	LR	09 05 54.0	
	comp=Z,102nm,20.0s,baz=80,slow=32					
KBA	Koelnbreinsper	81.29 358	eP cP	P	08 35 16.9	+1.6
	comp=Z,55nm,1.0s					
FETA	Feichten	81.39 359	i P	P	08 35 17.1	+1.4
	comp=Z,35nm,1.1s,SNR=14					
ZKTA	Zakatala	81.48 333	P	P	08 35 17.5	+1.3
PLOR	Plostina	81.50 348	⇑P	P	08 35 16.1	-0.1
PLOR	Plostina	81.50 348	P	P	08 35 16.1	-0.1
SOKA	Soboth	81.63 356	i P	P	08 35 18.0	+1.1
	comp=Z,44nm,1.4s,SNR=23					
ABTA	Abfaltersbach	81.64 358	i P	P	08 35 18.1	+1.1
	comp=Z,32nm,1.2s,SNR=9.8					
PERS	Pernice	81.67 356	i P	P	08 35 18.0	+0.9
SEKA	Sheki	81.72 333	P	P	08 35 17.6	+0.1
MYKA	Terra Mystica	81.73 357	eP cP	P	08 35 19.2	+1.7
	comp=Z,14nm,1.1s					
OBKA	Obir	81.82 357	eP	P	08 35 19.2	+1.2
	comp=Z,12nm,0.7s					
KAPI	Kappang	81.92 251	LR	LR	09 07 11.4	
	comp=Z,40nm,21.3s,baz=42,slow=32					
MLR	Muntele Rosu	81.94 349	⇓P	P	08 35 19.7	+0.9
MLR	Muntele Rosu	81.94 349	P	P	08 35 19.6	+0.9
MLR	Muntele Rosu	81.94 349	LR	LR	09 14 50.8	
	comp=Z,323nm,21.0s,baz=14,slow=38					
VOIR		82.10 349	⇑P	P	08 35 20.6	+1.1
VOIR		82.10 349	P	P	08 35 20.6	+1.1
CADS	Cadrg	82.13 357	i P	P	08 35 19.6	0.0
CADS			i pP	sP	08 35 31.3	-1.7
ARR	Arges	82.22 350	⇓P	P	08 35 21.2	+1.1
TPGR	Topolog	82.25 347	⇑P	P	08 35 20.6	+0.5
BZS	Buzias	82.28 352	⇑P	P	08 35 20.4	+0.2
BZS	Buzias	82.28 352	P	P	08 35 20.4	+0.2
GZR	Gura Zlata	82.39 351	⇑P	P	08 35 21.1	+0.1
GZR	Gura Zlata	82.39 351	P	P	08 35 21.0	+0.1
GCIS	Gornji Cirnik	82.42 356	i P	P	08 35 21.4	+0.4
HARR	Harsova	82.48 347	⇑P	P	08 35 22.0	+0.6
HARR	Harsova	82.48 347	P	P	08 35 21.9	+0.6
GANJ	Ganja	82.49 333	P	P	08 35 22.9	+1.4
TIRR	Tirgusor	82.64 347	⇑P	P	08 35 22.5	+0.3
TIRR	Tirgusor	82.64 347	P	P	08 35 22.4	+0.3
MDVR	Moldovita	83.09 352	⇑P	P	08 35 24.8	+0.2
GNI	Garni	83.39 334	⇓P	P	08 35 25.2	-1.1
GNI	Garni	83.39 334	LR	LR	09 20 09.2	
	comp=Z,221nm,18.2s,baz=22,slow=41					
SJG	San Juan	84.17 68	LR	LR	09 15 08.9	
	comp=Z,177nm,18.8s,baz=314,slow=37					
DIKM	Dikmen	84.20 341	⇑P	P	08 35 32.3	+2.1
BOVS	Bovan	84.23 351	⇓P	P	08 35 30.3	0.0
PBRG	Braganca	85.48 12	eP	P	08 35 37.4	+0.6
PDG	Podgorica	85.63 353	⇑P	P	08 35 37.5	+0.1
POLO	Lamas de Olo	85.76 13	eP	P	08 35 39.4	+1.2
MVO	Moncorvo	86.07 13	eP	P	08 35 40.6	+0.9
	comp=Z,25nm,1.5s					
NVR	Nevrokopi	86.27 350	P	P	08 35 41.7	+1.0
RDO	Rodhopi	86.28 348	P	P	08 35 41.5	+0.9
BR131	Keskin Array S	86.38 342	i P	P	08 35 42.2	+0.8
BR131	Keskin Array S	86.38 342	P	P	08 35 42.2	+0.8
	SNR=5.4					
BRTR	Keskin Array B	86.38 342	P	P	08 35 42.1	+0.8
	comp=Z,1.2nm,0.5s,baz=66,slow=2.2,SNR=10					
	comp=Z,1.2nm,0.5s					
PVIS	Viseu	86.39 14	eP	P	08 35 41.9	+0.6
ANTO	Ankara	86.40 343	P	P	08 35 39.3	-2.0
WRAB	Tennant Creek	86.42 231	ceP	P	08 35 43.1	+1.7
WRAB			pmax	pmax		
	comp=Z,10.0nm,2.5s					
WRA	Warramunga Arr	86.43 231	i P	P	08 35 39.0	-2.5
WRA			pmax	pmax		
	comp=Z,1.0nm,1.0s					
WRA	Warramunga Arr	86.43 231	P	P	08 35 40.1	-1.4
	comp=Z,1.2nm,1.0s,baz=33,slow=5.9,SNR=6.6					
	comp=Z,1.2nm,1.0s					
ALN	Alexandroupoli	86.46 348	P	P	08 35 41.7	+0.2
SRS	Serrai	86.53 350	P	P	08 35 42.1	+0.2
KNT	Kendrikon	86.56 350	P	P	08 35 42.9	+0.8
GRG	Griva	86.82 351	P	P	08 35 43.8	+0.5
PCAS	Casmilo, Conde	86.95 14	eP	P	08 35 45.0	+1.0
FNA	Florina	87.09 351	P	P	08 35 42.9	-1.8
OUR	Ouranopolis	87.26 349	P	P	08 35 45.7	+0.3
PCBR	Castelo Branco	87.31 13	eP	P	08 35 46.3	+0.6
KTI	Kastanea	87.41 351	P	P	08 35 46.5	+0.2
NEST	Nestorio	87.49 352	P	P	08 35 46.5	-0.2
LIA	Limnos Island	87.55 348	P	P	08 35 47.0	+0.2
PENT	Pentalofos	87.69 351	P	P	08 35 48.0	+0.3
PMRV	Marv??o	87.73 13	eP	P	08 35 48.5	+0.8
	comp=Z,15nm,2.0s					
LSK	Leskovik	87.79 352	P	P	08 35 48.6	+0.5
KPRO	Kipourio	87.91 351	P	P	08 35 47.3	-1.4
ESDC	Sonseca Array	87.93 11	P	P	08 35 48.8	0.0
	comp=Z,9.6nm,1.0s,baz=349,slow=4.7,SNR=45					
ESDC			PP	PP	08 39 12.4	-1.7
	comp=Z,0.8nm,1.0s,baz=74,slow=4.3,SNR=4.9					
ESDC			LR	LR	09 14 43.4	
	comp=Z,150nm,22.0s,baz=347,slow=35					
	comp=Z,9.6nm,1.0s					
PMTG	Montargil	87.96 14	eP	P	08 35 48.7	-0.1
	comp=Z,18nm,1.4s					
PAB	San Pablo	88.01 11	P	P	08 35 48.8	-0.4
THL	Klokotos Trika	88.24 351	P	P	08 35 48.9	-1.2
PESTR	Estremoz	88.25 14	eP	P	08 35 51.0	+0.8
	comp=Z,19nm,1.2s					
XOR	Xorichti	88.31 350	P	P	08 35 50.4	-0.1
NEO	Neokhori	88.36 350	P	P	08 35 49.2	-1.6
IGT	Igoumenitsa	88.42 352	P	P	08 35 50.0	-1.0
EVO	Evora	88.52 14	eP	P	08 35 51.7	+0.2
	comp=Z,20nm,1.5s					
MAKR	Makrakomi, Fth	88.77 351	P	P	08 35 52.4	-0.3
GUY2C	Guyana, Caldas	88.81 83	eP	P	08 35 53.1	-0.7
SDV	Santo Domingo	88.82 77	LR	LR	09 18 29.5	
	comp=Z,132nm,19.8s,baz=332,slow=38					
NORC	Norcasia	88.85 83	eP	P	08 35 52.8	-0.6
PNCL	Nicolau / Gran	88.85 14	eP	P	08 35 53.7	+0.7
EVR	Evrytania	88.90 351	P	P	08 35 53.7	+0.3
PBAR	Barrancos	89.01 13	eP	P	08 35 54.4	+0.6
	comp=Z,23nm,1.7s					
PBEJ	Beja	89.03 14	eP	P	08 35 54.8	+0.9
	comp=Z,23nm,1.8s					
BARC	Barichara	89.07 81	eP	P	08 35 54.7	0.0
LKD2	Lefkada island	89.13 352	P	P	08 35 53.3	-1.1
NYDR	Nydri-Lefkada	89.20 352	P	P	08 35 55.0	+0.3
ANX	Ano Chora	89.21 351	P	P	08 35 54.6	-0.2
PVO	Paravola	89.22 351	P	P	08 35 51.4	-3.4
EFP	Efpalio	89.37 351	P	P	08 35 55.9	+0.4
LAKA	Lakka	89.55 351	P	P	08 35 55.3	-1.1
PVAQ	Vaqueiros	89.67 14	eP	P	08 35 57.4	+0.5
	comp=Z,34nm,1.9s					
RUSC	La Rusia	89.68 81	eP	P	08 35 55.0	-2.8
KLV	Kalavryta, Ach	89.73 350	P	P	08 35 56.9	-0.3
GUR	Goura	89.81 350	P	P	08 35 57.2	-0.5
ASAR	Alice Springs	89.82 230	P	P	08 35 57.4	-0.2
	comp=Z,4.5nm,0.9s,baz=38,slow=4.3,SNR=27					
ASAR			LR	LR	09 11 28.6	
	comp=Z,93nm,20.4s,baz=30,slow=32					
	comp=Z,4.5nm,0.9s					
EPID	Epidavros	90.05 350	P	P	08 35 56.8	-1.9
URZ	Urewera	90.55 190	LR	LR	09 13 09.7	
	comp=Z,219nm,18.8s,baz=31,slow=33					
JASK	Jask - Hormozg	91.87 318	P	P	08 36 06.9	-0.4
MMAI	Mount Meron Ar	92.48 339	P	P	08 36 10.5	+0.4
	comp=Z,0.7nm,0.3s,baz=64,slow=9.4,SNR=8.6					
MMAI			LR	LR	09 23 17.3	
	comp=Z,120nm,19.1s,baz=2.5,slow=39					
	comp=Z,0.7nm,0.3s					
MASF	Masafi	93.01 319	P	P	08 36 12.4	-0.2
MDH	Madha	93.02 319	P	P	08 36 11.1	-1.6
UMQ	Umm Al-Quwin	93.08 320	P	P	08 36 11.9	-0.9
UOSS	Minazif	93.37 319	P	P	08 36 13.6	-0.7
HATD	Hatta, Dubai	93.51 319	P	P	08 36 14.6	-0.3
	SNR=5.0					
NAZ	Nazwa, Dubai	93.55 319	P	P	08 36 14.9	-0.2
STKA	Stephens Creek	93.62 220	LR	LR	09 14 06.9	
	comp=Z,176nm,19.8s,baz=27,slow=33					
ASHO	Ashiyiah	93.67 319	P	P	08 36 15.4	-0.3
FAQ	Al Faqa, Dubai	93.80 319	P	P	08 36 15.0	-1.3
BIDO	Bidbid	93.84 317	P	P	08 36 16.7	+0.3
WSAR	Wadi Sarin	93.87 316	P	P	08 36 16.6	0.0
WSAR	Wadi Sarin	93.87 316	LR	LR	09 24 17.3	
	comp=Z,298nm,19.1s,baz=54,slow=39					
SOHO	SOHO	93.96 318	P	P	08 36 15.9	-1.0
ASUD	Al Ashush, Dub	94.01 320	P	P	08 36 17.5	+0.3
HOQ	Hoqain	94.13 317	P	P	08 36 17.4	-0.4
AJN	Ajban	94.20 320	P	P	08 36 16.3	-1.7
SMDO	Samad	94.28 317	P	P	08 36 18.2	-0.4
WBK	Wadi Bani Khal	94.28 316	P	P	08 36 19.2	+0.7
ALNE	Al Ain	94.35 319	P	P	08 36 18.7	-0.1
JLN	Jalan Bani Buh	94.49 315	P	P	08 36 20.0	+0.6
	SNR=6.1					
MDT	Midelt	94.61 12	LR	LR	09 23 26.7	
	comp=Z,129nm,18.6s,baz=7.5,slow=38					
ARQ	Araqi	94.67 318	P	P	08 36 20.4	+0.1
	SNR=7.3					
JMDO	Jabal Madar	94.86 316	P	P	08 36 21.3	+0.1
BSY	Bisya	94.92 317	P	P	08 36 21.7	+0.3
RPN	Rapa Nui	94.97 129	LR	LR	09 13 08.7	
	comp=Z,89nm,18.3s,baz=15,slow=32					
MHTO	MHTO	96.14 316	P	P	08 36 26.9	-0.1
	SNR=9.0					
RPZ	Rata Peaks	96.70 194	LR	LR	09 14 44.8	
	comp=Z,70nm,19.5s,baz=10,slow=32					
DOK	Doka	99.87 318	P	Pdif	08 36 42.9	-0.9
WHFO	Wadi Hawf	100.65 318	P	Pdif	08 36 47.3	+0.1
TORD	Torodi Ar. Bea	114.76 9	PKiKP	PKiKP	08 41 38.9	-0.8
	comp=Z,0.2nm,0.4s,baz=335,slow=3.1,SNR=1.6					
TORD			PKKPab	PKKPab	08 52 26.3	+0.7
	comp=Z,1.4nm,0.9s,baz=146,slow=2.0,SNR=3.7					
H03N2	Juan Fernandez	116.17 111	T	T	10 49 12.6	
	baz=325,slow=80,SNR=4.3					
H03N1	Juan Fernandez	116.18 111	T	T	10 49 11.4	
	baz=325,slow=80,SNR=7.1				

baz=310
SCZT Fangliau 0.24 185⇑iP Pb 08 26 01.3 -0.5
SCZT baz=185 iS Sb 08 26 05.9 -0.2
ECL Taimali 0.29 93⇓iP Pb 08 26 02.2 -0.3
ECL baz=93 S Sb 08 26 07.5 +0.3
TWM1 Shoushan 0.29 316⇓iP Pn 08 26 03.5 -0.9
TWM1 baz=325 S Sn 08 26 10.6 +0.6
EAST Anshuo 0.29 140⇑iP Pb 08 26 02.4 -0.3
EAST baz=135 iS Sb 08 26 07.8 +0.3
KAU Kaohsiung 0.31 262 P Pn 08 26 04.2 -0.4
KAU baz=262 S Sn 08 26 11.9 +1.6
SNJT Kaohsiung City 0.32 297 eP Pn 08 26 04.0 -0.6
SNJT baz=297 eS Sn 08 26 11.4 +0.9
TAW Tawu 0.34 137 eP Pb 08 26 02.8 -0.5
TAW baz=133 eS Sb 08 26 08.9 +0.3
TAWH Dawu Township 0.35 140 P Pb 08 26 03.0 -0.5
TAWH baz=133 eS Sb 08 26 09.3 +0.5
WSSB Gushan 0.35 275 P Pn 08 26 04.7 -0.5
WSSB baz=275 S Sn 08 26 12.7 +1.3
TWP Hsiaoliuchiu 0.37 225 P Pn 08 26 05.2 -0.1
TWP baz=224 eS Sn 08 26 14.5 +2.7
SLGT Liugui 0.38 1 eP Pb 08 26 03.9 -0.1
TWG baz=360 **Pinlang 0.45 62⇓iP Pn 08 26 05.2 -1.3**
TWG baz=63 S Sb 08 26 11.8 +0.4
TWGBT Beinan 0.45 63 P Pb 08 26 05.1 0.0
TWGBT Beinan 0.45 63 ⇓P Pb 08 26 05.2 0.0
TWGBT baz=63 S Sb 08 26 11.8 +0.2
SGST Jiashian 0.47 353 P Pb 08 26 05.6 +0.1
SGST baz=360 S Sn 08 26 13.5 -0.9
TTN Taitung 0.49 73 P Pn 08 26 06.6 -0.4
TTN baz=74 eS Sn 08 26 15.6 +0.9
SHHT Tainan City 0.49 327 eP Pn 08 26 07.3 +0.3
SHHT baz=327 eS Sn 08 26 16.3 +1.5
CHN3 Shinhua 0.53 331 eP Pn 08 26 08.0 +0.4
CHN3 baz=343 S Sn 08 26 17.9 +2.1
LONT Longtian 0.54 57 P Pn 08 26 06.7 -1.1
LONT baz=57 eS Sn 08 26 14.5 -1.5
STYT Tauyuan 0.56 11 eP Pn 08 26 07.4 -0.7
STYH baz=19 **Taoyuan 0.57 12 P Pn 08 26 07.5 -0.7**
STYH baz=17 S Sn 08 26 16.6 -0.2
TAI1 Yung-k'ang 0.57 318 eS Sn 08 26 18.6 +1.8
CHN1 baz=319 **Nanshi 0.58 350 P Pn 08 26 07.7 -0.7**
CHN1 baz=350 eS Sn 08 26 17.5 +0.4
HEN Hengchun 0.61 172 P Pn 08 26 08.4 -0.3
HEN baz=162 eS Sn 08 26 18.2 +0.6
SSHA Shanhua 0.62 328 eP Pn 08 26 09.0 +0.2
SSHA baz=328 S Sn 08 26 19.3 +1.5
SNST Tainan City 0.62 348 eP Pn 08 26 08.5 -0.4
SNST baz=348 eS Sn 08 26 18.2 +0.2
WTP Ta-pu 0.63 358 ⇑P Pn 08 26 08.3 -0.8
WTP baz=358 S Sn 08 26 18.4 0.0
TWK Hsinying 0.67 348 eP Pn 08 26 09.2 -0.3
TWK baz=349 eS Sn 08 26 19.7 +0.5
ELDTW Lidau 0.67 31 P Pn 08 26 08.9 -0.8
ELDTW baz=31 eS Sn 08 26 19.1 -0.4
TWK1 Hengchun 0.68 167 eP Pn 08 26 08.9 -0.7
TWKBT Hengchun 0.69 167 eP Pn 08 26 08.9 -0.8
baz=167
TPUB Ta-pu 0.69 359 P Pn 08 26 09.4 -0.4
TPUB Ta-pu 0.69 359 eP Pn 08 26 09.2 -0.6
TPUB baz=359 eS Sn 08 26 19.7 0.0
SCLT Jiali 0.70 324 eP Pn 08 26 09.7 -0.2
SCLT baz=325 eS Sn 08 26 20.7 +0.8
EDH Donghe 0.71 59 P Pn 08 26 09.6 -0.4
EDH baz=60 eS Sn 08 26 19.9 -0.3
ECS Chishang 0.72 48 eP Pn 08 26 10.3 +0.1
ECS baz=48 eS Sn 08 26 21.0 +0.5
CHN4 Tsaushan 0.74 357 P Pn 08 26 09.9 -0.6
CHN4 baz=357 S Sn 08 26 21.4 +0.5
TSCK Chigu Township 0.74 316 eP Pn 08 26 10.0 -0.5
TSCK baz=297 eS Sn 08 26 21.6 +0.6
EHD Haiduan 0.75 44 eP Pn 08 26 09.9 -0.7
EHD baz=50 eS Sn 08 26 20.9 -0.2
LDUT Ludao 0.77 85 eP Pn 08 26 10.2 -0.7
LDUT baz=85 eS Sn 08 26 21.4 -0.2
ICHU Yijhu 0.82 336 eP Pn 08 26 11.4 -0.1
ICHU baz=337 eS Sn 08 26 23.4 +0.5
WCKO Fanlu 0.82 358 eP Pn 08 26 11.4 -0.3
WCKO baz=349 eS Sn 08 26 23.6 +0.5
CHKT Chengkung 0.83 54 eP Pn 08 26 11.6 0.0
CHKT baz=65 eS Sn 08 26 24.1 +1.0
CHN8 Yiju 0.83 332 eS Sn 08 26 24.5 +1.3
FULB Fuli 0.84 46 eP Pn 08 26 12.8 +0.9
CHY Chiayi 0.91 347 eP Pn 08 26 12.3 -0.4
CHY baz=348 eS Sn 08 26 25.9 +0.9
ALS Alishan 0.91 9 P Pn 08 26 12.9 -0.2
ALS baz=360 eS Sn 08 26 26.6 +1.1

baz=360
TWF1 Yuli 0.95 39 P Pn 08 26 13.8 +0.4
TWF1 baz=40 eS Sn 08 26 26.7 +0.5
EYUL Yuli 0.96 40 P Pb 08 26 14.0 +0.3
EYUL baz=41 S Sn 08 26 27.1 +0.7
CHN5 Tasauling 0.98 2 P Pb 08 26 13.9 -0.2
CHN5 baz=2.0 eS Sn 08 26 28.0 +0.9
YULB Yu-li 0.98 38 P Pb 08 26 14.3 +0.2
YULB Yu-li 0.98 38 eP Pb 08 26 14.0 -0.1
YULB baz=38 eS Sn 08 26 27.2 +0.2
WDLH Douliu 1.08 355 eP Pn 08 26 14.7 -0.5
EHY baz=340 **Hungye 1.09 35 eP Pb 08 26 16.1 +0.2**
EHY baz=36 eS Sn 08 26 30.6 +1.0
WSF Szhu 1.09 339 eS Sn 08 26 29.9 +0.3
WHYT baz=341 **Xinyi Township 1.10 10 eP Pb 08 26 15.5 -0.5**
WHYT baz=356 eS Sn 08 26 31.4 +1.5
WTK Tuku 1.10 348 eP Pn 08 26 14.8 -0.6
WTK baz=348 eS Sn 08 26 30.3 +0.6
WDGT Dungji 1.11 306 eP Pb 08 26 16.4 +0.1
HGSD baz=306 **Ruisui 1.14 39 eP Pb 08 26 16.9 +0.2**
HGSD baz=32 eS Sb 08 26 34.0 +3.0
SSLB Suanglung 1.21 14 P Pb 08 26 16.9 -1.0
SSLB Suanglung 1.21 14 eP Pb 08 26 17.1 -0.8
WJS Zhushan 1.21 4 eP Pb 08 26 17.0 -0.9
WJS baz=348 eS Sb 08 26 33.7 +0.6
VWDT VWDT 1.23 22 eP Pb 08 26 17.6 -0.6
VCHM baz=22 **Qimei 1.27 298 eP Pn 08 26 15.9 -1.9**
VCHM baz=299 eS Sn 08 26 31.2 -2.7
SMLT Sun Moon Lake 1.29 11 eP Pb 08 26 18.4 -1.0
SMLT baz=355 eS Sb 08 26 36.2 +0.7
WARBT Fenglin Townsh 1.30 32 eP Pb 08 26 18.7 -0.7
WARBT baz=31 eS Sb 08 26 36.2 +0.5
TYC Yuchr 1.30 9 P Pb 08 26 18.4 -1.1
TYC baz=354 eS Sb 08 26 36.0 +0.2
WRL Guolierlin Hig 1.31 349 eP Pn 08 26 17.9 -0.4
WRL baz=337 eS Sn 08 26 34.7 -0.2
PHUB P'eng-hu 1.33 313 eP Pn 08 26 16.7 -1.9
PHUB baz=313 eS Sn 08 26 32.9 -2.7
ESL Shilin 1.40 31 eP Pb 08 26 20.2 -0.9
OWD Renai 1.43 20 eP Pn 08 26 20.3 +0.2
WUSB Renai 1.44 18 eP Pb 08 26 20.7 -1.3
WUSB baz=18 eS Sb 08 26 38.9 -1.0
WCS Beigang Elemen 1.46 10 eP Pn 08 26 20.3 -0.1
CHGB Renai 1.52 19 eP Pn 08 26 21.7 +0.2
LXIB Xiulin Townshi 1.57 27 eP Pb 08 26 23.0 -1.2
WHP Taichung City 1.68 9 eP Pn 08 26 23.8 +0.3
TDCB Techi 1.70 16 P Pn 08 26 24.1 +0.2
TWT Tachien 1.71 17 P Pn 08 26 24.2 +0.2
TWQ1 Liyutan 1.73 4 eP Pn 08 26 24.7 +0.5
TWQ1 baz=349 eS Sb 08 26 47.6 -0.7
ETLH Xiulin Townshi 1.77 26 eP Pn 08 26 25.3 +0.6
NACB Ninganchiao 1.79 29 P Pb 08 26 26.7 -1.0
NACB Ninganchiao 1.79 29 eP Pn 08 26 24.7 -0.1
LATG Datong 2.08 23 eP Pb 08 26 30.4 -2.5
EOS4 EOS4 2.15 45 eP Pn 08 26 30.4 +0.8
YHNB Yeheng 2.16 18 P Pn 08 26 31.5 +1.4
YHNB Yeheng 2.16 18 eP Pn 08 26 31.0 +0.9
FUSB Fushanzhiwuyua 2.31 22 eP Pn 08 26 33.7 +1.6
baz=4.0

IDC 12 08:26:22.0±5.3, 4°38S×102°61E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=276.2km s-min=26.5km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**30.12**	**262**	T	T	09 03 57.9	
	baz=84						
H08S3	**Diego Garcia H**	**30.13**	**262**	T	T	09 03 56.2	
	baz=84						
H08S1	**Diego Carcia H**	**30.14**	**262**	T	T	09 04 18.0	
	baz=84						
H01W3	**Cape Leeuwin H**	**32.18**	**162**	T	T	09 06 32.9	
	baz=339,slow=76,SNR=5.1						
H01W2	**Cape Leeuwin H**	**32.19**	**162**	T	T	09 06 37.9	
	baz=339,slow=76,SNR=6.4						
H01W1	**Cape Leeuwin H**	**32.19**	**162**	T	T	09 06 40.3	
	baz=339,slow=76,SNR=6.8						
WRA	**Warramunga Arr**	**34.55**	**119**	P	P	08 33 13.7	+1.0
	0.2nm,0.8s,baz=302,slow=8.9,SNR=2.1						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**35.76**	**125**	P	P	08 33 22.1	-0.9
	0.2nm,0.5s,baz=297,slow=8.5,SNR=4.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**54.03**	**343**	P	P	08 35 47.4	-0.7
	0.4nm,0.5s,baz=167,slow=8.9,SNR=1.0						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**60.00**	**348**	P	P	08 36 31.1	+0.8
	1.2nm,0.5s,baz=153,slow=5.6,SNR=3.2						
	1.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.50**	**218**	T	T	09 42 15.2	
	baz=62						
H04N1	**CROZET ISLANDS**	**60.51**	**218**	T	T	09 42 12.7	
	baz=62,slow=74						
H04N3	**CROZET ISLANDS**	**60.52**	**218**	T	T	09 42 13.7	
	baz=62,slow=74						
TXAR	**Lajitas Array**	**144.85**	**42**	PKP	PKPab	08 46 00.5	-0.4
	0.1nm,0.5s,baz=192,slow=1.3,SNR=4.2						

*IDC **12** 08:37:04.0±0.9, 34°01S×72°14W, h0km, mb3.7/8, mbtmp3.7/11, ML3.9/3, MS3.1/3, Error ellipse: s-maj=34.5km s-min=18.6km az=88.0*
*SJA **12** 08:37:04.5±0.6, 34°00S×72°18W, h20km±3km, ML3.7, MW3.9*
*GUC **12** 08:37:07.9±0.8, 34°04S×72°10W, h28km±7km, ML3.7*
ISC 12 08:37:07.7±1.3, 34°07S±0°03×72°08W±0°05, h24km±9km, n59, σ1.9 59/71, mb4.0/7, 4C-12D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.44**	**167**	⇑iP	**Pb**	**08 37 16.9**	**+0.1**
BO03				iS	**Sb**	**08 37 23.6**	**+0.5**
BO03				IAML		08 37 24.3	

comp=E,18μm,0.4s
VA05 Santo Domingo 0.56 44⇓iP Pb 08 37 18.4 -0.5
VA05 iS **Sb 08 37 26.1 -0.5**
VA05 IAML 08 37 30.1
comp=E,10μm,0.4s
MT01 Popeta 0.72 74⇓iP Pb 08 37 20.7 -0.8
MT01 iS **Sb 08 37 30.5 -0.5**
MT01 Popeta 0.72 74 eP Pb 08 37 20.0 -1.6
MT01 IAML 08 37 36.4
comp=Z,1μm,0.5s
BO01 Tunca 0.89 112⇓iP Pn 08 37 23.2 -1.5
BO01 Tunca 0.89 112 eP Pn 08 37 23.2 -1.5
BO01 eS **Sb 08 37 31.5 -4.3**
BO01 IAML 08 37 42.6
comp=Z,1μm,0.3s
GO05 Huala 0.95 172⇑iP Pn 08 37 24.7 -0.9
GO05 iS **Sn 08 37 37.6 -0.8**
GO05 IAML 08 37 41.1
comp=E,6μm,0.3s
GO05 Huala 0.95 172 eP Pn 08 37 24.2 -1.3
MT09 Talagante 0.95 73⇓iP Pn 08 37 24.3 -1.4
VA01 Torpederas 1.10 19⇑iP Pn 08 37 26.6 -1.0
VA01 iS **Sn 08 37 41.0 -1.1**
VA01 Torpederas 1.10 19 eP Pn 08 37 26.0 -1.6
VA01 IAML 08 37 44.0
comp=Z,1μm,0.7s
MT02 Curacav 1.13 45⇓iP Pn 08 37 26.7 -1.3
MT02 iS **Sn 08 37 41.9 -0.8**
MT02 Curacav 1.13 45 eP Pn 08 37 26.0 -2.0
BO04 La Punta 1.23 87⇓iP Pn 08 37 28.9 -0.5
BO02 Sierra Bellavi 1.30 124⇓iP Pn 08 37 30.0 -0.4
BO02 Sierra Bellavi 1.30 124 eP Pn 08 37 30.0 -0.4
BO02 eS **Sb 08 37 50.4 +2.7**
BO02 IAML 08 37 54.2
comp=Z,3μm,0.5s
MT05 Renca 1.31 59 iP Pn 08 37 29.9 -0.6
MT05 iS **Sn 08 37 47.2 -0.1**
MT05 IAML 08 37 58.8
comp=E,2μm,0.5s
MT05 Renca 1.31 59 eP Pn 08 37 29.7 -0.8
MT05 IAML 08 37 57.6
comp=Z,787nm,0.5s
MT12 Pirque 1.32 76 iP Pn 08 37 30.2 -0.5
MT12 IAML 08 37 58.8
comp=E,2μm,0.4s
ROC1 El Roble 1.41 40 eP Pn 08 37 31.5 -0.6
ROC1 eS **Sb 08 37 56.8 +5.8**
MT03 Universidad Ad 1.43 67⇓iP Pn 08 37 31.8 -0.4
MT03 IAML 08 37 57.8
comp=E,2μm,0.4s
MT03 Universidad Ad 1.43 67 eP Pn 08 37 31.2 -1.0
MT03 IAML 08 37 57.8
comp=Z,1μm,0.5s
MT14 Cerro Cal¡n 1.45 63⇓iP Pn 08 37 32.5 0.0
MT14 iS **Sb 08 37 52.1 0.0**
MT14 IAML 08 37 59.5
comp=E,2μm,0.5s
PEL Peldehue 1.48 52 iP Pn 08 37 32.7 -0.2
PEL iS **Sn 08 37 51.0 -0.6**
PEL IAML 08 38 00.6
comp=N,1μm,0.6s
PEL Peldehue 1.48 52 eP Pn 08 37 33.0 0.0
PEL eS **Sb 08 37 59.6 +6.6**
MT13 San Alfonso 1.53 78 iP Pn 08 37 33.7 +0.1
MT13 iS **Sn 08 37 53.8 +1.0**
MT13 IAML 08 37 59.5
comp=E,2μm,0.2s
LMEL Las Melosas 1.58 83⇓iP Pn 08 37 34.5 +0.2
LMEL iS **Sb 08 37 55.3 -0.6**
LMEL IAML 08 37 59.5
comp=N,1μm,0.3s
FCH Farellones 1.67 64⇓iP Pn 08 37 35.6 0.0
FCH iS **Sb 08 37 57.9 -0.7**
FCH IAML 08 38 03.4
comp=N,807nm,0.2s
ML02 Panimavida 1.78 162 iP Pn 08 37 37.8 +0.8
ML02 iS **Sn 08 38 00.6 +1.8**
ML02 IAML 08 38 08.0
comp=N,2μm,0.6s
VA03 San Esteban 1.82 45⇑iP Pn 08 37 38.0 +0.3
VA03 iS **Sn 08 38 00.6 +0.5**
VA03 IAML 08 38 10.2
comp=E,2μm,0.4s
VA03 San Esteban 1.82 45 eP Pn 08 37 37.4 -0.3
VA03 IAML 08 38 10.6
comp=Z,1μm,0.7s
MT08 Bocatoma Ro 1.83 71⇓iP Pn 08 37 38.3 +0.4
CO02 Combarbal 3.00 18 eP Pn 08 37 52.4 -1.5
CO02 IAML 08 38 51.5
comp=Z,341nm,1.1s
RFA San Rafael 3.07 104 eP Pn 08 37 57.1 +2.4
RFA IAML 08 38 48.6
comp=Z,177nm,0.8s
RTLS Leoncito 3.25 47 eP Pn 08 38 00.6 +3.1
RTLS IAML 08 38 59.4
comp=Z,475nm,0.7s
CO03 El Pedregal 3.43 20 eP Pn 08 37 59.2 -0.5
CO03 IAML 08 38 58.4
comp=Z,135nm,0.7s
DOCA Reserva Natura 4.01 40 eP Pn 08 38 09.5 +1.5
GO04 Tololo Observa 4.03 16 eP Pn 08 38 07.4 -0.7
CFA Coronel Fontan 4.06 54 Pn Pn 08 38 09.3 +0.9
comp=Z,4.5nm,0.3s,baz=222,slow=13,SNR=24
CFA Lg Lg 08 39 07.3
comp=Z,9.0nm,0.3s,baz=285,slow=20,SNR=5.5
CFA LR LR 08 39 53.6
comp=Z,196nm,18.9s,baz=274,slow=42
comp=Z,7.5nm,0.4s
CO01 Juntas del Tor 4.41 23 eP Pn 08 38 13.8 +0.4
CO01 IAML 08 39 37.7
comp=Z,54nm,1.4s
LCO Las Campanas 5.17 14 eP Pn 08 38 22.8 -1.1
LCO eS **Sn 08 39 23.4 +0.4**
LCO IAML 08 39 50.9
comp=Z,92nm,2.1s
H03S1 Juan Fernandez 5.67 270 T T 08 44 20.5
baz=92,slow=75,SNR=1776
H03S3 Juan Fernandez 5.68 271 T T 08 44 21.9
baz=92,slow=75,SNR=1651
H03S2 Juan Fernandez 5.69 270 T T 08 44 21.2
baz=92,slow=75,SNR=2285
H03N1 Juan Fernandez 5.72 274 T T 08 44 40.0
baz=98,slow=74,SNR=33
H03N3 Juan Fernandez 5.73 274 T T 08 44 34.1
baz=98,slow=74,SNR=21
H03N2 Juan Fernandez 5.74 274 T T 08 44 32.9
baz=98,slow=74,SNR=30
PLCA Paso Flores 6.77 170 Pn Pn 08 38 46.6 +1.1
comp=Z,0.9nm,0.3s,baz=336,slow=11,SNR=37
PLCA Lg Lg 08 40 34.0
comp=Z,0.2nm,0.3s,baz=273,slow=22,SNR=1.7
PLCA LR LR 08 41 36.0
comp=Z,178nm,18.1s,baz=348,slow=40
comp=Z,2.7nm,0.4s
LVC Limon Verde 11.75 15 LR LR 08 44 47.7
comp=Z,98nm,19.8s,baz=202,slow=40
LPAZ La Paz 18.06 12 P P 08 41 17.4 -0.5
comp=Z,0.1nm,0.3s,baz=180,slow=7.9,SNR=8.3
comp=Z,1.9nm,0.7s
SIV San Ignacio 20.55 32 P P 08 41 42.7 -1.9
comp=Z,0.5nm,0.6s,baz=264,slow=9.2,SNR=1.6
comp=Z,0.5nm,0.6s
SNAA Sanae 51.54 158 P P 08 46 11.5 +0.3
comp=Z,1.7nm,0.8s,baz=329,slow=5.9,SNR=7.2
comp=Z,1.7nm,0.8s
QSPA South Pole Qui 56.17 180 P P 08 46 46.0 +0.7
comp=Z,1.9nm,0.9s,baz=126,slow=19,SNR=3.0
comp=Z,1.9nm,0.9s
TXAR Lajitas Array 69.77 331 P P 08 48 16.4 +0.3
comp=Z,0.2nm,0.5s,baz=152,slow=8.4,SNR=4.7
comp=Z,0.2nm,0.5s
MAW Mawson 73.13 164 P P 08 48 35.9 +0.2
comp=Z,1.5nm,0.8s,baz=213,slow=7.0,SNR=3.6
comp=Z,1.5nm,0.8s
PDAR Pinedale Array 83.81 333 P P 08 49 33.9 -1.2
comp=Z,0.2nm,0.5s,baz=184,slow=7.2,SNR=1.8
comp=Z,0.2nm,0.5s
NVAR Mina Array Bea 83.92 325 P P 08 49 35.8 +0.1
comp=Z,0.4nm,0.8s,baz=142,slow=4.6,SNR=1.9
comp=Z,0.4nm,0.8s
TORD Torodi Ar. Bea 84.27 70 P P 08 49 37.3 -0.5
comp=Z,1.0nm,0.9s,baz=270,slow=2.5,SNR=4.3
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 147.35 43 PKPbc PKPbc 08 56 49.0 +0.2
comp=Z,0.9nm,0.4s,baz=313,slow=6.9,SNR=3.8

IDC 12 08:40:53.7±3.2, 19°.35N×121°.56E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=283.1km s-min=22.4km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.01**	**162**	P	P	08 48 38.4	-0.4
	1.3nm,0.8s,baz=342,slow=9.0,SNR=8.6 1.3nm,0.8s						
MKAR	**Makanchi Array**	**42.14**	**320**	P	P	08 48 47.4	-0.4
	0.6nm,0.7s,baz=107,slow=9.7,SNR=4.1 0.6nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**42.60**	**83**	T	T	09 33 26.6	
	baz=280,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hy**	**42.61**	**83**	T	T	09 33 27.2	
	baz=280,slow=75,SNR=52						
H11S2	**WAKE ISLAND Hy**	**42.62**	**83**	T	T	09 33 27.7	
	baz=280,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**42.62**	**82**	T	T	09 33 26.9	
	baz=278,slow=74,SNR=143						
H11N2	**WAKE ISLAND Hy**	**42.63**	**82**	T	T	09 33 27.2	
	baz=278,slow=74,SNR=111						
H11N3	**WAKE ISLAND Hy**	**42.64**	**82**	T	T	09 33 28.3	
	baz=278,slow=74,SNR=139						
ASAR	**Alice Springs**	**44.42**	**164**	P	P	08 49 06.6	+0.1
	0.7nm,0.7s,baz=336,slow=7.4,SNR=8.0 0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**46.09**	**323**	P	P	08 49 19.5	+0.1
	0.3nm,0.3s,baz=118,slow=7.5,SNR=4.3 0.3nm,0.3s						

IDC 12 08:47:41.4±1.2, 32°.22N×95°.57E, h0km, mb3.5/4, mbtmp3.4/5, ML3.0/1, Error ellipse: s-maj=110.4km s-min=23.9km az=52.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.76**	**329**	P	P	08 51 50.5	-0.4
	0.1nm,0.3s,baz=122,slow=10,SNR=2.6 0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**22.30**	**331**	P	P	08 52 40.1	-0.1
	0.4nm,0.5s,baz=137,slow=12,SNR=3.5 0.4nm,0.5s						
WRA	**Warramunga Arr**	**63.78**	**139**	P	P	08 58 15.2	-0.2
	0.4nm,0.8s,baz=334,slow=6.5,SNR=5.0 0.4nm,0.8s						
ASAR	**Alice Springs**	**66.56**	**142**	P	P	08 58 33.6	+0.2
	0.3nm,0.5s,baz=324,slow=6.8,SNR=7.0 0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**86.32**	**283**	P	P	09 00 25.6	-0.1
	0.6nm,1.1s,baz=44,slow=6.4,SNR=1.4 0.6nm,1.1s						

TRN 12 08:51:27.2, 18°.88N×63°.16W, h87km, MD4.2, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDO	**Antigua, Disas**	**2.16**	**144**	*e*P	Pn	08 52 03.1	+1.6
ANDO				*e*S	Sn	08 52 29.0	+1.3
ANBD	**Bethesda, Anti**	**2.25**	**144**	*e*P	Pn	08 52 04.0	+1.3
ANBD				*e*S	Sn	08 52 30.9	+1.1
MBFL	**Flemmings, Mon**	**2.30**	**157**	*e*P	Pn	08 52 04.5	+1.1
MBFL				*e*S	Sn	08 52 32.1	+1.1
MLYT	**Lee's Yard**	**2.33**	**157**	*e*P	Pn	08 52 06.0	+2.2
MLYT				*e*S	Sn	08 52 33.9	+2.1
CBE	**Ff, Capester**	**3.16**	**152**	*e*	Pn	08 52 12.3	-2.7
CBE				*e*S	Sn	08 52 46.3	-5.4
TDBA	**Terre de Bas,**	**3.34**	**154**	*e*	Pn	08 52 16.6	-0.8
TDBA				*e*S	Sn	08 52 52.8	-3.3
MAGL	**Barre de l'ile**	**3.42**	**148**	*e*P	Pn	08 52 19.6	+1.3
MAGL				*e*S	Sn	08 52 59.4	+1.5

*IDC **12** 09:28:46.0±6.2, 4°.56S×153°.51E, h59km±45km, mb3.6/4, mbtmp3.9/4, Error ellipse: s-maj=48.0km s-min=32.7km az=85.0*

ISC 12 09:28:44.0±1.5, 4°.6S±0°.3×153°.6E±0°.1, h35km, n6, σ2.9s4/7, mb3.6/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.61**	**280**	P	**Pn**	**09 29 10.9**	**+1.0**
	151nm,0.3s,baz=119,slow=19,SNR=47						
KRVT				S	**Sn**	**09 29 29.4**	**-0.1**
	1μm,0.7s,baz=133,slow=0.8,SNR=13						
WRA	**Warramunga Arr**	**24.19**	**229**	P	**P**	**09 33 55.1**	**-2.4**
	0.4nm,0.3s,baz=52,slow=9.6,SNR=3.1 0.4nm,0.3s						
ASAR	**Alice Springs**	**26.85**	**223**	P	**P**	**09 34 21.9**	**+0.3**
	0.3nm,0.3s,baz=49,slow=8.9,SNR=1.9 0.3nm,0.3s						
MKAR	**Makanchi Array**	**80.70**	**319**	P	**P**	**09 40 53.0**	**-0.7**
	0.6nm,0.5s,baz=103,slow=6.8,SNR=5.8 0.6nm,0.5s						
BVAR	**Borovoye Array**	**89.56**	**323**	P	**P**	**09 41 36.2**	**-1.6**
	1.7nm,0.6s,baz=94,slow=4.6,SNR=6.4 1.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**151.01**	**289**	PKPbc	**PKPdf**	**09 48 32.6**	**+4.0**
	1.1nm,0.7s,baz=76,slow=2.0,SNR=6.3						

*IDC **12** 09:30:58.0±3.3, 53°.60N×90°.69E, h0km, mbtmp3.4/3, ML2.8/3, Error ellipse: s-maj=27.7km s-min=22.8km az=57.0*

*NNC **12** 09:31:02.6±3.3, 53°.94N×90°.12E, h5km±17km, mb3.4, mpv3.1, Error ellipse: s-maj=28.5km s-min=21.3km az=20.0, Suspected Mining explosion.*

ISC 12 09:31:01.2±4.4, 54°.1N±0°.2×89°.9E±0°.2, h0km, n9, σ0.88s/10, 6C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.02**	**268**	I	I	09 58 10.0	
	baz=94,slow=330,SNR=4.0						
ZAA0	**Zalesovo Array**	**3.02**	**268**	⇑Pg	**Pg**	**09 31 59.0**	**-0.2**
	0.8nm,0.5s						
ZAA0				⇓Lg	Lg	09 32 44.5	
	12nm,0.8s						
ZALV	**Zalesovo Beam**	**3.02**	**268**	Pn	**Pb**	**09 31 55.6**	**-0.3**
	1.4nm,0.3s,baz=92,slow=15,SNR=20						
ZALV				Lg	Lg	09 32 49.0	
	3.0nm,0.3s,baz=91,slow=25,SNR=13 4.5nm,0.5s						
KURBB	**Kurchatov Arra**	**7.82**	**248**	⇑Pn	**Pn**	**09 32 56.5**	**+0.4**
	1.6nm,0.4s						
KURBB				⇓Sn	**Sn**	**09 34 26.7**	**+1.4**
	12nm,0.6s						
KURBB				⇓Lg	Lg	09 35 11.1	
	66nm,0.9s						
KURBB	**Kurchatov Arra**	**7.82**	**248**	Pn	**Pn**	**09 32 55.7**	**-0.4**
	0.2nm,0.3s,baz=70,slow=14,SNR=4.6						
KURBB				Sn	**Sn**	**09 34 25.3**	**0.0**
	baz=67,slow=25,SNR=1.3						
KURBB				Lg	Lg	09 35 14.7	
	0.1nm,0.3s,baz=58,slow=31,SNR=3.6 2.3nm,0.7s						
MK31	**Makanchi Array**	**8.82**	**217**	⇓Pn	**Pn**	**09 33 10.2**	**+0.3**
	0.4nm,0.4s,baz=38,slow=12,SNR=7.6						
MK31				⇑Sn	**Sn**	**09 34 50.4**	**+0.3**
	2.0nm,0.6s,baz=41,slow=25,SNR=4.1						
MK31				⇑Lg	Lg	09 35 38.7	
	22nm,1.1s,baz=45,slow=32,SNR=4.8						
MKAR	**Makanchi Array**	**8.82**	**217**	Pn	Pn	09 33 05.3	-4.6
	0.3nm,0.3s,baz=37,slow=12,SNR=9.2						
MKAR				Sn	Sn	09 34 42.9	-7.1
	0.2nm,0.3s,baz=33,slow=20,SNR=2.2						
MKAR				Lg	Lg	09 35 34.0	
	0.2nm,0.3s,baz=39,slow=33,SNR=5.4 0.7nm,0.3s						
MAKZ	**Makanchi**	**8.92**	**218**	⇑Pn	**Pn**	**09 33 12.1**	**+0.8**
	0.3nm,0.4s						
MAKZ				⇓Sn	**Sn**	**09 34 50.9**	**-1.5**
	2.1nm,0.6s						
MAKZ				⇑Lg	Lg	09 35 39.5	
	14nm,1.1s						
I34MN	**SONGINO INFRAS**	**12.15**	**115**	I	I	10 36 30.0	
	baz=306,slow=323,SNR=0.8						

*IDC **12** 09:35:57.4±1.3, 39°.02N×142°.81E, h0km, mb3.4/4, mbtmp3.3/5, ML2.5/1, Error ellipse: s-maj=39.3km s-min=26.1km az=118.0*

*NIED **12** 09:36:01.2, 39°.01N×142°.49E, h26km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.70; $M_{\theta\theta}$2.21; $M_{\phi\phi}$-1.50; $M_{r\theta}$-1.10; $M_{\theta\phi}$-0.13; $M_{\phi r}$0.42; Fault plane solution: $M_0$2.15000×10^{14} NP1: ϕ_s132.00000°, δ84.00000°, λ-34.00000°. NP2: ϕ_s226.00000°, δ56.00000°, λ-173.00000°.*

*JMA **12** 09:36:01.2±0.2, 39°.0N±0°.3×142°.5E±0°.7, h26km±1km, MV3.5/38, E OFF IWATE PREF*

ISC 12 09:35:59.4±2.4, 39°.01N±0°.05×142°.48E±0°.08, h12km±14km, n22, σ1.31s/24, mb3.6/4, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.63**	**277**	⇓*i*P	**Pn**	**09 36 13.7**	**-0.5**
OFUJ				⇓S	**Sb**	**09 36 22.3**	**+1.0**
MIYJ	**Miyakonagasawa**	**0.77**	**318**	*i* P	**Pn**	**09 36 15.3**	**-0.8**
MIYJ				S	**Sb**	**09 36 25.2**	**+0.2**
JKMT	**Kesennumamotoy**	**0.81**	**256**	⇓*i*P	**Pn**	**09 36 16.3**	**-0.3**
JKMT				⇓S	**Sb**	**09 36 26.9**	**+0.7**
JMK	**Ichinoseki**	**0.98**	**267**	⇓*i*P	**Pn**	**09 36 19.2**	**+0.2**
JMK				⇓S	**Sb**	**09 36 32.0**	**+0.7**
JOM	**Ohasama**	**1.03**	**297**	⇓*i*P	**Pn**	**09 36 20.1**	**+0.3**
JOM				⇓S	**Sn**	**09 36 33.6**	**-0.6**
JIO	**Ouri**	**1.04**	**238**	⇓*i*P	**Pn**	**09 36 19.5**	**-0.4**
JIO				⇓S	**Sb**	**09 36 32.5**	**-0.4**
JTH	**Tanohata**	**1.05**	**333**	P	**Pn**	**09 36 20.6**	**+0.7**
JKZ	**Kuzumaki**	**1.32**	**318**	*e*S	**Sb**	**09 36 41.1**	**0.0**
JRG	**Rokugo**	**1.48**	**286**	*e*P	**Pg**	**09 36 27.7**	**-0.2**
JANG	**Nango**	**1.55**	**332**	*i* P	**Pb**	**09 36 28.1**	**0.0**
JOU	**Okura**	**1.56**	**246**	*i* P	**Pb**	**09 36 28.1**	**-0.1**
JOU				S	**Sb**	**09 36 47.8**	**0.0**
MJAR	**Matsushiro Arr**	**4.18**	**235**	Pn	**Pn**	**09 37 06.6**	**+3.6**
	0.2nm,0.3s,baz=40,slow=12,SNR=8.8						
MJAR				Sn	**Sb**	**09 37 59.6**	**-3.8**
	baz=69,slow=34,SNR=1.4 1.1nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.52**	**125**	T	T	10 12 25.5	
	baz=317,slow=75,SNR=92						
H11N1	**WAKE ISLAND Hy**	**28.53**	**125**	T	T	10 12 32.7	
	baz=317,slow=75,SNR=51						
H11N3	**WAKE ISLAND Hy**	**28.54**	**125**	T	T	10 12 26.9	
	baz=317,slow=75,SNR=75						
H11S1	**WAKE ISLAND Hy**	**29.30**	**127**	T	T	10 13 30.7	
	baz=318,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**29.31**	**127**	T	T	10 13 29.5	
	baz=318,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	10 13 35.7	
	baz=318,slow=76,SNR=9.3						
KURBB	**Kurchatov Arra**	**45.48**	**307**	P	**P**	**09 44 18.9**	**+0.6**
	0.4nm,0.4s,baz=80,slow=8.6,SNR=2.9 0.4nm,0.4s						
ILAR	**Eielson Array**	**47.38**	**33**	P	**P**	**09 44 32.2**	**-0.9**
	0.4nm,0.9s,baz=274,slow=6.3,SNR=2.1 0.4nm,0.9s						
WRA	**Warramunga Arr**	**59.13**	**189**	P	**P**	**09 45 59.3**	**-0.6**
	0.2nm,0.4s,baz=5.8,slow=7.0,SNR=8.2 0.2nm,0.4s						
ASAR	**Alice Springs**	**62.86**	**189**	P	**P**	**09 46 26.1**	**+0.8**
	0.1nm,0.4s,baz=27,slow=6.3,SNR=1.5 0.1nm,0.4s						

*UPA **12** 09:39:40.4±0.5, 8°.60N×83°.61W, h10km±13km, MW3.5*

*UCR **12** 09:39:41.8±0.7, 8°.74N×83°.57W, h10km±3km, MW3.4*

ISC 12 09:39:38.3±1.9, 8°.61N±0°.07×83°.70W±0°.06, h6km±12km, n27, σ0.81s/36, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIME	**Puerto Jimenez**	**0.38**	**100**	*e*P	**Pb**	**09 39 49.0**	**+1.5**
EDPN	**Palmar Norte**	**0.43**	**34**	*e*P	**Pg**	**09 39 47.2**	**+0.5**
EDAD	**Golfito**	**0.53**	**85**	*e*P	**Pg**	**09 39 49.5**	**+1.0**
FITO	**Golfito**	**0.54**	**88**	*e*P	**Pg**	**09 39 49.8**	**+1.0**
EDBA	**Buenos Aires**	**0.69**	**37**	*e*P	**Pg**	**09 39 51.4**	**-0.4**
EDBA				*e*P	**Pg**	**09 39 51.4**	**-0.4**
POTG	**Potrero Grande**	**0.73**	**52**	*e*P	**Pg**	**09 39 52.2**	**-0.1**
EDSV	**San Vito**	**0.75**	**74**	*e*P	**Pg**	**09 39 53.5**	**+0.7**
EDSV				*e*P	**Pg**	**09 39 53.6**	**+0.7**
DRK0	**Durika**	**0.79**	**35**	*e*P	**Pg**	**09 39 53.6**	**0.0**
CDITO	**Canoas**	**0.82**	**92**	*e*P	**Pg**	**09 39 54.9**	**+0.8**
CDITO				*e*S	**Sb**	**09 40 05.8**	**-0.6**
CDITO	**Canoas**	**0.82**	**92**	*e*P	**Pg**	**09 39 54.8**	**+0.8**
PTPM	**Petroterminale**	**0.91**	**116**	*e*P	**Pg**	**09 39 54.1**	**-1.6**
PTPM				*e*S	**Sn**	**09 40 13.1**	**+2.0**
BUS1	**Rivas**	**0.94**	**357**	*e*P	**Pg**	**09 39 56.6**	**+0.1**
CDM	**Cerro de Muert**	**0.94**	**356**	*e*P	**Pg**	**09 39 56.6**	**+0.1**
BRU2	**Volcan**	**1.02**	**79**	*e*P	**Pg**	**09 39 58.0**	**+0.1**
BRU2				*e*S	**Sb**	**09 40 11.8**	**-0.4**
ABE2	**San Pablo**	**1.15**	**342**	*e*P	**Pg**	**09 40 00.4**	**+0.1**
BCO2	**Palmira**	**1.16**	**84**	*e*P	**Pg**	**09 40 00.6**	**-0.1**
BCO2				*e*S	**Sb**	**09 40 15.9**	**-0.6**
RIMA	**Rio Macho**	**1.16**	**352**	*e*P	**Pg**	**09 40 00.5**	**-0.3**
PTAR3	**Potrerillos Ar**	**1.19**	**86**	*e*S	**Sb**	**09 40 16.7**	**-0.6**
DVD	**David**	**1.25**	**98**	*e*P	**Pb**	**09 40 01.1**	**-1.2**
DVD				*e*S	**Sg**	**09 40 18.6**	**+0.1**
LNBQ3	**Los Naranjos,**	**1.26**	**82**	*e*P	**Pb**	**09 40 02.1**	**-0.6**
LNBQ3				*e*S	**Sb**	**09 40 18.1**	**-1.1**
VERB	**Verbena**	**1.33**	**0**	*e*P	**Pn**	**09 40 03.2**	**-0.5**
RVSTA	**Santa Teresita**	**1.36**	**2**	*e*P	**Pn**	**09 40 03.9**	**-0.2**
VICA	**Volcano Irazu**	**1.38**	**354**	*e*P	**Pn**	**09 40 04.3**	**-0.2**
CORON	**Coronado**	**1.39**	**348**	*e*P	**Pn**	**09 40 05.3**	**+0.8**
CNI2	**El Empalme, Bo**	**1.46**	**56**	*e*P	**Pn**	**09 40 04.0**	**-1.3**
BATAN	**Batan**	**1.52**	**12**	*e*P	**Pn**	**09 40 06.3**	**+0.2**
BATAN				*e*S	**Sb**	**09 40 26.2**	**-0.2**
CHGR2	**Aguacate**	**1.57**	**78**	*e*P	**Pn**	**09 40 06.5**	**-0.4**

ROM 12 10:02:08.9±0.1, 38°.124N±0°.004×15°.208E±0°.006, h10km, ML2.6/9, 4C, Error ellipse: s-maj=0.4km s-min=0.4km az=135.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILZ	**Milazzo**	**0.15**	**7**	⇑P	Pg	10 02 12.9	+0.7
MILZ				S	Sg	10 02 15.5	+1.1
MILZ				AML	AML		
	comp=E,2040μm,0.5s						
MILZ				AML	AML		
	comp=N,1645μm,0.4s						
MILZ				AML	AML		
	comp=E,2040μm,1.5s						
MILZ				AML	AML		
	comp=N,1448μm,0.2s						
MILZ				AML	AML		
	comp=E,2027μm,0.2s						
AIO	**Antillo**	**0.15**	**173**	⇑P	Pg	10 02 12.8	+0.5
AIO				S	Sg	10 02 15.4	+0.7
AIO				AML	AML		
	comp=E,8555μm,0.2s						
AIO				AML	AML		
	comp=N,2615μm,0.7s						
AIO				AML	AML		
	comp=N,2615μm,1.3s						
AIO				AML	AML		
	comp=E,8576μm,0.2s						
AIO				AML	AML		
	comp=N,2384μm,0.2s						
MSRU	**Castanea**	**0.27**	**60**	P	Pg	10 02 15.2	+0.7
MSRU				S	Sb	10 02 19.7	-1.1
MSRU				AML	AML		
	comp=N,7065μm,0.3s						
MSRU				AML	AML		
	comp=E,8710μm,0.8s						
MSRU				AML	AML		
	comp=E,8710μm,1.2s						
MSRU				AML	AML		
	comp=E,2790μm,0.3s						
MSRU				AML	AML		
	comp=N,1904μm,0.3s						
MUCR	**Ucria**	**0.28**	**253**	P	Pg	10 02 14.9	+0.3
MUCR				S	Sg	10 02 19.0	+0.7
MUCR				AML	AML		
	comp=E,4040μm,0.3s						
MUCR				AML	AML		
	comp=N,5985μm,0.5s						
MUCR				AML	AML		
	comp=E,2110μm,0.6s						
MUCR				AML	AML		
	comp=N,4400μm,0.3s						
MUCR				AML	AML		
	comp=E,1395μm,0.3s						
MUCR				AML	AML		
	comp=N,1380μm,0.8s						
MUCR				AML	AML		
	comp=N,1101μm,0.3s						
VPL	**Vulcano Piano**	**0.31**	**325**	P	Pg	10 02 15.8	+0.7
VPL				S	Sb	10 02 21.0	-0.8
VPL				AML	AML		
	comp=E,8050μm,1.6s						
VPL				AML	AML		
	comp=N,16000μm,0.3s						
VPL				AML	AML		
	comp=E,31700μm,0.2s						
VPL				AML	AML		
	comp=N,24300μm,0.2s						
VPL				AML	AML		
	comp=E,7640μm,1.1s						
VPL				AML	AML		
	comp=N,13370μm,0.8s						
VPL				AML	AML		
	comp=E,5284μm,0.3s						
IVGP	**Vulcano Grotta**	**0.34**	**324**	P	Pg	10 02 15.9	+0.4
IVGP				S	Sb	10 02 21.3	-1.1
IVGP				AML	AML		
	comp=E,9240μm,0.1s						
IVGP				AML	AML		
	comp=N,6800μm,0.3s						
IVGP				AML	AML		
	comp=N,6495μm,0.2s						
IVGP				AML	AML		
	comp=E,1756μm,0.2s						
EMSG	**Monte Spagnolo**	**0.36**	**214**	P	Pb	10 02 17.7	+0.1
EMSG				AML	AML		
	comp=N,3070μm,0.3s						
EMSG				AML	AML		
	comp=E,3685μm,0.3s						
EMSG				AML	AML		
	comp=N,1980μm,0.4s						
EMSG				AML	AML		
	comp=E,1640μm,0.8s						
MNO	**Monte Soro**	**0.45**	**245**	P	Pg	10 02 18.3	+0.6
MNO				AML	AML		
	comp=E,2600μm,0.8s						
MNO				AML	AML		
	comp=E,2595μm,0.8s						
MNO				AML	AML		
	comp=N,2505μm,0.4s						
MNO				AML	AML		
	comp=N,2350μm,0.3s						
MNO				AML	AML		
	comp=E,2165μm,1.5s						
GMB	**Gambarie**	**0.49**	**85**	AML	AML		
	comp=N,5440μm,1.1s						
GMB				AML	AML		
	comp=N,5445μm,1.1s						
GMB				AML	AML		
	comp=N,5440μm,0.9s						
GMB				AML	AML		
	comp=E,5565μm,0.8s						
MSFR	**San Fratello**	**0.50**	**260**	⇑P	Pg	10 02 18.9	+0.3
MSFR				S	Sb	10 02 26.3	-0.9
MSFR				AML	AML		
	comp=E,1013μm,0.9s						
MSFR				AML	AML		
	comp=N,1140μm,0.3s						
MSFR				AML	AML		
	comp=E,1013μm,1.1s						
CEL	**Celeste**	**0.56**	**76**	P	Pg	10 02 19.8	0.0
CEL				S	Sb	10 02 28.6	-0.4
CEL				AML	AML		
	comp=E,967μm,0.2s						
CEL				AML	AML		
	comp=N,832μm,1.6s						
CEL				AML	AML		
	comp=N,1070μm,1.6s						
CEL				AML	AML		
	comp=N,832μm,0.4s						
CEL				AML	AML		
	comp=N,1070μm,0.4s						
CEL				AML	AML		
	comp=E,968μm,0.2s						
CEL				AML	AML		
	comp=E,1180μm,0.2s						
IFIL	**Filicudi I Eol**	**0.67**	**311**	P	Pg	10 02 21.9	+0.1
IFIL				AML	AML		
	comp=E,16450μm,0.5s						
IFIL				AML	AML		
	comp=N,7175μm,0.3s						
SOI	**Samo**	**0.67**	**94**	⇑P	Pg	10 02 21.6	-0.2
SOI				AML	AML		
	comp=N,596μm,0.6s						
SOI				AML	AML		
	comp=E,680μm,0.8s						
SOI				AML	AML		
	comp=N,596μm,1.4s						
JOPP	**Joppolo**	**0.72**	**48**	P	Pg	10 02 22.8	0.0
JOPP				S	Sg	10 02 32.8	+0.6
JOPP				AML	AML		
	comp=E,1045μm,1.3s						
JOPP				AML	AML		
	comp=N,1390μm,0.4s						
JOPP				AML	AML		
	comp=E,1045μm,0.7s						
IACL	**Alicudi**	**0.79**	**302**	P	Pg	10 02 23.8	-0.2
IACL				AML	AML		
	comp=E,3525μm,0.2s						
IACL				AML	AML		
	comp=N,3175μm,0.2s						
HLNI	**Lentini**	**0.82**	**199**	AML	AML		
	comp=E,226μm,1.3s						
HLNI				AML	AML		
	comp=N,351μm,0.8s						
HLNI				AML	AML		
	comp=N,338μm,1.0s						
HLNI				AML	AML		
	comp=E,226μm,0.7s						
HAGA	**Augusta**	**0.84**	**183**	AML	AML		
	comp=E,684μm,0.4s						
HAGA				AML	AML		
	comp=N,510μm,0.5s						
HAGA				AML	AML		
	comp=N,510μm,1.5s						
AGST	**Augusta-Monte**	**0.87**	**179**	AML	AML		
	comp=N,1259μm,0.5s						
AGST				AML	AML		
	comp=N,1415μm,0.3s						
AGST				AML	AML		
	comp=N,1259μm,1.5s						
AGST				AML	AML		
	comp=E,954μm,0.5s						
PETRA	**Petralia Sopra**	**0.91**	**252**	P	Pg	10 02 26.7	+0.2
PETRA				AML	AML		
	comp=E,1290μm,0.6s						
PETRA				AML	AML		
	comp=N,1052μm,0.6s						
PETRA				AML	AML		
	comp=E,1290μm,1.4s						
CSLB	**Castelbuono**	**0.93**	**259**	P	Pg	10 02 26.4	-0.3
CSLB				AML	AML		
	comp=E,318μm,0.4s						
CSLB				AML	AML		
	comp=N,373μm,0.5s						
CSLB				AML	AML		
	comp=E,318μm,1.6s						
GIB	**Gibilmanna**	**0.94**	**262**	P	Pg	10 02 27.1	0.0
GIB				AML	AML		
	comp=E,1200μm,0.4s						
GIB				AML	AML		
	comp=N,1146μm,0.5s						
GIB				AML	AML		
	comp=E,1200μm,1.6s						
SSY	**Sortino**	**0.97**	**186**	AML	AML		
	comp=N,1715μm,0.3s						
SSY				AML	AML		
	comp=E,805μm,0.6s						
PLAC	**Placanica**	**1.02**	**71**	P	Pg	10 02 28.4	-0.2
PLAC				AML	AML		
	comp=N,529μm,0.6s						
PLAC				AML	AML		
	comp=E,519μm,0.6s						
PLAC				AML	AML		
	comp=N,558μm,0.4s						
PLAC				AML	AML		
	comp=E,583μm,0.4s						
PLAC				AML	AML		
	comp=E,519μm,1.4s						
PLAC				AML	AML		
	comp=N,529μm,1.4s						
MEU	**Monte Lauro**	**1.04**	**192**	P	Pg	10 02 28.9	-0.1
MEU				AML	AML		
	comp=N,1054μm,0.4s						

MEU				AML	AML		
	comp=E,896μm,0.4s						
CUC	**Castrocucco**	**1.93**	**14**	AML	AML		
	comp=N,98μm,0.5s						
CUC				AML	AML		
	comp=E,99μm,0.5s						
CUC				AML	AML		
	comp=E,99μm,1.5s						

ROM 12 10:02:21.6±0.1, 38°.127N±0°.004×15°.195E±0°.006, h6km, ML2.9/62, 4C, Error ellipse: s-maj=0.5km s-min=0.3km az=298.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MILZ	**Milazzo**	**0.15**	**11**	⇑P	Pg	10 02 25.5	+0.9
MILZ				S	Sg	10 02 28.0	+1.4
MILZ				AML	AML		
	comp=N,14600μm,0.4s						
MILZ				AML	AML		
	comp=E,10900μm,0.3s						
MILZ				AML	AML		
	comp=N,14586μm,0.4s						
MILZ				AML	AML		
	comp=E,10918μm,0.3s						
AIO	**Antillo**	**0.16**	**169**	⇑P	Pg	10 02 25.4	+0.6
AIO				S	Sg	10 02 27.9	+1.0
AIO				AML	AML		
	comp=N,12700μm,0.4s						
AIO				AML	AML		
	comp=E,18700μm,0.5s						
AIO				AML	AML		
	comp=N,12700μm,1.6s						
AIO				AML	AML		
	comp=E,16472μm,0.2s						
AIO				AML	AML		
	comp=N,11182μm,0.1s						
MUCR	**Ucria**	**0.27**	**252**	P	Pg	10 02 27.4	+0.6
MUCR				S	Sg	10 02 31.6	+1.2
MUCR				AML	AML		
	comp=E,4040μm,0.3s						
MUCR				AML	AML		
	comp=N,5985μm,0.5s						
MUCR				AML	AML		
	comp=N,5985μm,1.5s						
MUCR				AML	AML		
	comp=E,4040μm,1.7s						
MUCR				AML	AML		
	comp=N,5985μm,0.5s						
MUCR				AML	AML		
	comp=E,2435μm,0.1s						
MSRU	**Castanea**	**0.28**	**61**	⇑P	Pg	10 02 27.8	+0.7
MSRU				S	Sg	10 02 32.2	+1.3
MSRU				AML	AML		
	comp=N,7065μm,0.3s						
MSRU				AML	AML		
	comp=E,8710μm,0.8s						
MSRU				AML	AML		
	comp=E,8710μm,1.2s						
MSRU				AML	AML		
	comp=N,7064μm,0.3s						
MSRU				AML	AML		
	comp=E,8192μm,0.3s						
VPL	**Vulcano Piano**	**0.30**	**327**	P	Pg	10 02 28.4	+0.9
VPL				S	Sb	10 02 33.7	-0.9
VPL				AML	AML		
	comp=E,38800μm,1.0s						
VPL				AML	AML		
	comp=N,35350μm,0.9s						
VPL				AML	AML		
	comp=N,34782μm,0.2s						
VPL				AML	AML		
	comp=E,36382μm,0.2s						
IVGP	**Vulcano Grotta**	**0.33**	**326**	P	Pg	10 02 28.5	+0.6
IVGP				S	Sb	10 02 33.9	-1.4
IVGP				AML	AML		
	comp=E,9240μm,0.1s						
IVGP				AML	AML		
	comp=N,6800μm,0.3s						
IVGP				AML	AML		
	comp=N,8185μm,0.2s						
IVGP				AML	AML		
	comp=E,9242μm,0.1s						
IVGP				AML	AML		
	comp=N,8189μm,0.2s						
EMSG	**Monte Spagnolo**	**0.36**	**213**	P	Pb	10 02 30.1	-0.3
EMSG				AML	AML		
	comp=N,3555μm,0.4s						
EMSG				AML	AML		
	comp=E,5105μm,0.4s						
EMSG				AML	AML		
	comp=E,5103μm,0.4s						
EMSG				AML	AML		
	comp=N,3553μm,0.4s						
LLI	**Lipari**	**0.37**	**329**	P	Pb	10 02 30.8	+0.2
EPZF	**Pizzo Felice**	**0.40**	**222**	P	Pb	10 02 30.8	-0.4
EPZF				AML	AML		
	comp=E,4325μm,0.4s						
EPZF				AML	AML		
	comp=N,3430μm,0.3s						
EPZF				AML	AML		
	comp=N,3429μm,0.3s						
EPZF				AML	AML		
	comp=E,4324μm,0.4s						
MNO	**Monte Soro**	**0.44**	**244**	P	Pg	10 02 30.9	+0.8
MNO				S	Sb	10 02 38.5	-0.2
MNO				AML	AML		
	comp=E,2595μm,0.8s						
MNO				AML	AML		
	comp=E,2600μm,0.8s						
MNO				AML	AML		
	comp=N,2505μm,0.4s						
MNO				AML	AML		
	comp=N,2505μm,1.6s						
MNO				AML	AML		
	comp=N,2505μm,0.4s						
MNO				AML	AML		
	comp=E,2067μm,0.5s						
MSFR	**San Fratello**	**0.49**	**259**	P	Pg	10 02 31.4	+0.5
MSFR				S	Sb	10 02 38.9	-1.0
MSFR				AML	AML		
	comp=E,1013μm,0.9s						
MSFR				AML	AML		
	comp=N,1140μm,0.3s						
MSFR				AML	AML		
	comp=E,1013μm,1.1s						
MSFR				AML	AML		
	comp=N,1139μm,0.3s						
MSFR				AML	AML		
	comp=E,975μm,0.3s						
CEL	**Celeste**	**0.57**	**76**	P	Pg	10 02 32.8	+0.3
ESML	**S. M. di Licod**	**0.57**	**206**	P	Pb	10 02 33.2	-0.6
EPOZ	**Pozzillo**	**0.62**	**188**	P	Pg	10 02 32.0	-1.4
EPOZ				AML	AML		
	comp=N,3260μm,0.7s						
EPOZ				AML	AML		
	comp=E,1820μm,1.6s						
EPOZ				AML	AML		
	comp=E,1820μm,0.4s						
EPOZ				AML	AML		
	comp=N,3262μm,0.7s						
EPOZ				AML	AML		
	comp=E,1818μm,1.1s						
GALF	**Gagliano Caste**	**0.65**	**230**	P	Pb	10 02 35.7	+0.4
IFIL	**Filicudi I Eol**	**0.66**	**312**	P	Pg	10 02 34.4	+0.1
IFIL				S	Sb	10 02 45.2	+0.4
IFIL				AML	AML		
	comp=E,16450μm,0.5s						
IFIL				AML	AML		
	comp=N,7175μm,0.3s						
IFIL				AML	AML		
	comp=E,16456μm,0.5s						
IFIL				AML	AML		
	comp=N,7177μm,0.3s						
SOI	**Samo**	**0.68**	**94**	P	Pg	10 02 34.2	-0.4
SOI				AML	AML		
	comp=E,680μm,0.8s						
SOI				AML	AML		
	comp=N,596μm,0.6s						
SOI				AML	AML		
	comp=N,596μm,1.4s						
SOI				AML	AML		
	comp=N,570μm,0.4s						
SOI				AML	AML		
	comp=E,680μm,0.8s						
JOPP	**Joppolo**	**0.72**	**48**	P	Pb	10 02 36.5	0.0

IACL	**Alicudi**	**0.78**	**302**	P	Pg	10 02 36.4	0.0
HLNI	**Lentini**	**0.82**	**198**	P	Pg	10 02 37.4	+0.1
HLNI				AML	AML		
	comp=E,226μm,1.3s						
HLNI				AML	AML		
	comp=N,351μm,0.8s						
HLNI				AML	AML		
	comp=E,226μm,0.7s						
HLNI				AML	AML		
	comp=N,351μm,1.2s						
HLNI				AML	AML		
	comp=E,225μm,0.4s						
HLNI				AML	AML		
	comp=N,332μm,0.4s						
HAGA	**Augusta**	**0.84**	**182**	P	Pg	10 02 37.5	-0.1
HAGA				AML	AML		
	comp=E,684μm,0.4s						
HAGA				AML	AML		
	comp=N,578μm,0.4s						
HAGA				AML	AML		
	comp=E,685μm,0.4s						
HAGA				AML	AML		
	comp=N,578μm,0.4s						
AGST	**Augusta-Monte**	**0.87**	**178**	P	Pg	10 02 38.1	-0.1
AGST				AML	AML		
	comp=N,1415μm,0.3s						
AGST				AML	AML		
	comp=E,954μm,0.5s						
AGST				AML	AML		
	comp=N,1415μm,1.7s						
AGST				AML	AML		
	comp=E,954μm,0.5s						
AGST				AML	AML		
	comp=N,1416μm,0.3s						
PETRA	**Petralia Sopra**	**0.90**	**251**	P	Pg	10 02 38.9	0.0
PETRA				AML	AML		
	comp=E,1290μm,0.6s						
PETRA				AML	AML		
	comp=N,1052μm,0.6s						
PETRA				AML	AML		
	comp=E,1290μm,1.4s						
PETRA				AML	AML		
	comp=N,1051μm,0.6s						
PETRA				AML	AML		
	comp=E,1290μm,0.6s						
CSLB	**Castelbuono**	**0.92**	**258**	⇑P	Pg	10 02 38.7	-0.5
CSLB				AML	AML		
	comp=E,318μm,0.4s						
CSLB				AML	AML		
	comp=N,373μm,0.5s						
CSLB				AML	AML		
	comp=E,318μm,1.6s						
CSLB				AML	AML		
	comp=E,318μm,0.4s						
CSLB				AML	AML		
	comp=N,373μm,0.5s						
GIB	**Gibilmanna**	**0.93**	**262**	P	Pg	10 02 39.2	-0.3
GIB				AML	AML		
	comp=E,1200μm,0.4s						
GIB				AML	AML		
	comp=N,1146μm,0.5s						
GIB				AML	AML		
	comp=E,1200μm,1.6s						
GIB				AML	AML		
	comp=N,1149μm,0.5s						
GIB				AML	AML		
	comp=E,1202μm,0.4s						
SSY	**Sortino**	**0.98**	**186**	P	Pb	10 02 40.6	-0.2
SSY				S	Sb	10 02 54.8	+0.8
SSY				AML	AML		
	comp=E,805μm,0.6s						
SSY				AML	AML		
	comp=N,1715μm,0.3s						
SSY				AML	AML		
	comp=N,1716μm,0.3s						
SSY				AML	AML		
	comp=E,610μm,0.4s						
RESU	**Resuttano**	**1.02**	**242**	P	Pb	10 02 41.7	0.0
PLAC	**Placanica**	**1.03**	**71**	P	Pg	10 02 40.8	-0.5
RAFF	**Raffo Rosso**	**1.12**	**216**	P	Pg	10 02 43.1	+0.1
RAFF				AML	AML		
	comp=N,405μm,0.3s						
RAFF				AML	AML		
	comp=E,380μm,1.0s						
RAFF				AML	AML		
	comp=N,405μm,0.3s						
RAFF				AML	AML		
	comp=E,338μm,0.6s						
GRI	**Girifalco**	**1.19**	**54**	P	Pn	10 02 44.7	0.0
HMDC	**Modica**	**1.21**	**196**	P	Pg	10 02 44.0	-0.8
HMDC				AML	AML		
	comp=N,473μm,0.4s						
HMDC				AML	AML		
	comp=E,420μm,0.4s						
HMDC				AML	AML		
	comp=N,473μm,1.6s						
HMDC				AML	AML		
	comp=N,473μm,0.4s						
HMDC				AML	AML		
	comp=E,420μm,0.4s						
HPAC	**Pachino**	**1.43**	**183**	P	Pn	10 02 47.8	-0.2
MPG	**Monte Pellegri**	**1.45**	**272**	P	Pn	10 02 47.4	-0.9
MPG				AML	AML		
	comp=N,86μm,0.6s						
MPG				AML	AML		
	comp=E,93μm,0.9s						
MPG				AML	AML		
	comp=E,90μm,0.8s						
MPG				AML	AML		
	comp=N,87μm,0.6s						
CRJA	**Costa Raja**	**1.76**	**260**	AML	AML		
	comp=E,204μm,1.0s						
CRJA				AML	AML		
	comp=N,89μm,0.7s						
CRJA				AML	AML		
	comp=E,204μm,1.0s						
CRJA				AML	AML		
	comp=N,89μm,0.7s						
CRJA				AML	AML		
	comp=N,89μm,1.3s						
CRJA				AML	AML		
	comp=N,89μm,0.7s						
CRJA				AML	AML		
	comp=E,191μm,0.8s						
CUC	**Castrocucco**	**1.93**	**14**	P	Pn	10 02 53.0	-1.8
CUC				AML	AML		
	comp=E,99μm,0.5s						
CUC				AML	AML		
	comp=N,98μm,0.5s						
CUC				AML	AML		
	comp=E,99μm,1.5s						
CUC				AML	AML		
	comp=N,98μm,0.5s						
CUC				AML	AML		
	comp=E,99μm,0.5s						
CUC				AML	AML		
	comp=E,97μm,0.8s						
CUC				AML	AML		
	comp=N,104μm,1.2s						
MGR	**Morigerati**	**2.03**	**8**	P	Pn	10 02 54.2	-2.0
MGR				AML	AML		
	comp=N,88μm,0.2s						
MGR				AML	AML		
	comp=E,84μm,0.4s						
MGR				AML	AML		
	comp=E,232μm,1.0s						
MGR				AML	AML		
	comp=N,88μm,0.2s						
MGR				AML	AML		
	comp=E,84μm,0.4s						
MGR				AML	AML		
	comp=N,436μm,0.8s						
SIRI	**Monte Sirino -**	**2.12**	**14**	AML	AML		
	comp=N,103μm,0.3s						
SIRI				AML	AML		
	comp=E,116μm,0.3s						
SIRI				AML	AML		
	comp=N,103μm,0.3s						
SIRI				AML	AML		
	comp=N,103μm,0.3s						
SIRI				AML	AML		
	comp=E,116μm,0.3s						
SIRI				AML	AML		
	comp=E,112μm,0.3s						
MTSN	**Montesano sull**	**2.18**	**11**	P	Pn	10 02 57.2	-1.2
MTSN				AML	AML		
	comp=E,68μm,0.5s						

MTSN				AML	AML		
	comp=N,74μm,0.4s						
MTSN				AML	AML		
	comp=E,68μm,0.5s						
MTSN				AML	AML		
	comp=N,74μm,0.4s						
CMPR	**Campora**	**2.19**	**2**	P	Pn	10 02 56.5	-2.0
CMPR				AML	AML		
	comp=N,38μm,0.5s						
CMPR				AML	AML		
	comp=E,67μm,0.3s						
CMPR				AML	AML		
	comp=E,67μm,0.3s						
CMPR				AML	AML		
	comp=N,36μm,0.4s						
VLS	**Valsamata**	**4.25**	**88**	AML	AML		
	comp=N,7μm,0.3s						
VLS				AML	AML		
	comp=E,5μm,0.3s						
VRAC	**Vranov**	**11.22**	**5**	*e*SG	Sn	10 07 11.3	+3.2

*IDC **12** 10:09:52.8±3.2, 0°.29N×122°.13E, h203km±33km, mb3.6/7, mbtmp4.1/8, Error ellipse: s-maj=42.1km s-min=12.9km az=65.0*
*NEIC **12** 10:09:52.6±2.1, 0°.3N±0°.1×122°.0E±0°.2, h189km±10km, mb4.2/13, Error ellipse: s-maj=29.6km s-min=10.0km az=51.0*
*DJA **12** 10:09:53.4±0.4, 0°N±4°×12°2E±°, h160km±5km, M4.0/12, mb4.0/6, mB5.3/1, MLv4.0/12, Mw(mB)4.7/1*
ISC 12 10:09:52.2±0.6, 0°.33N±0°.06×122°.11E±0°.06, h200km, n38, σ1§52/42, mb4.0/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.23**	**310**	P	**Pn**	**10 10 16.1**	**-2.4**
MRSI				S	**Sn**	**10 10 34.2**	**-4.7**
GTOI	**Gorontalo**	**0.95**	**71**	P	**Pn**	**10 10 20.2**	**-1.4**
LUWI	**Luwuk**	**1.51**	**154**		**Pn**	**10 10 24.8**	**-1.2**
LUWI	**Luwuk**	**1.51**	**154**	P	**Pn**	**10 10 23.0**	**-3.0**
TOLI2	**Tolitoli**	**1.54**	**300**		**Pn**	**10 10 24.2**	**-2.1**
MPSI	**Mapaga**	**2.22**	**270**	P	**Pn**	**10 10 31.3**	**-1.6**
TTSI	**Tana Toraja**	**4.06**	**214**	P	**Pn**	**10 10 53.6**	**-1.1**
SANI	**Sanana**	**4.54**	**121**	P	**Pn**	**10 10 59.1**	**-1.6**
LBMI	**Labuha**	**5.47**	**100**	P	**Pn**	**10 11 11.5**	**-1.2**
	60nm,0.9s,0.5nm						
KAPI	**Kappang**	**5.81**	**204**	P	**Pn**	**10 11 16.4**	**-0.6**
	13nm,0.5s,baz=45,slow=10.0,SNR=5.5						
BKSI	**Bulukumba**	**5.96**	**199**	P	**Pn**	**10 11 18.0**	**-0.9**
	29nm,1.0s,0.1nm						
MYLDM	**Lahad Datu**	**6.02**	**323**	Pn	**Pn**	**10 11 17.9**	**-1.8**
NLAI	**Namlea**	**6.12**	**125**	P	**Pn**	**10 11 20.3**	**-0.7**
	10nm,1.0s,4μm0.1nm						
MTN	**Manton Dam**	**15.85**	**146**	P	**Pn**	**10 13 25.6**	**+0.7**
MTN				IAmb	IAmb	10 13 26.2	
	comp=Z,12nm,0.4s						
KNRA	**Kununurra**	**17.21**	**158**	P	**Pn**	**10 13 40.2**	**-0.8**
KNRA				IAmb	IAmb	10 13 42.8	
	comp=Z,12nm,0.9s						
WB0	**Warramunga Arr**	**23.32**	**150**	P	**P**	**10 14 42.5**	**0.0**
WB0				IAmb	IAmb	10 14 43.2	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**23.44**	**150**	P	**P**	**10 14 45.4**	**+1.8**
WRAB				IAmb	IAmb	10 15 22.4	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**23.44**	**150**	P	**P**	**10 14 44.0**	**+0.4**
WRA	**Warramunga Arr**	**23.44**	**150**	P	**P**	**10 14 43.8**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=325,slow=11,SNR=21						
WRA				PcP	**PcP**	**10 18 22.7**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=335,slow=1.9,SNR=1.8						
	comp=Z,1.0nm,0.6s						
WB2	**Warramunga Arr**	**23.45**	**150**	P	**P**	**10 14 43.7**	**0.0**
WB2				IAmb	IAmb	10 15 16.4	
	comp=Z,7.7nm,1.4s						
WR0	**Warramunga Arr**	**23.55**	**150**	P	**P**	**10 14 46.0**	**+1.3**
WR0				IAmb	IAmb	10 15 23.6	
	comp=Z,6.8nm,1.2s						
ASAR	**Alice Springs**	**26.46**	**155**	P	**P**	**10 15 11.5**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=344,slow=14,SNR=26						
ASAR				PcP	**PcP**	**10 18 30.5**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=348,slow=2.1,SNR=5.5						
	comp=Z,0.9nm,0.6s						
FORT	**Forrest**	**31.45**	**170**	P	**P**	**10 15 54.1**	**-0.8**
MJAR	**Matsushiro Arr**	**39.00**	**21**	P	**P**	**10 16 59.0**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=187,slow=9.2,SNR=3.2						
	comp=Z,1.3nm,0.6s						
RAMN	**Ramite**	**43.19**	**311**	*e*P	**P**	**10 17 36.0**	**+2.1**
	comp=Z,5.2nm,0.4s						
CAN	**Canberra**	**43.44**	**147**	P	**P**	**10 17 37.5**	**+2.0**
JIRN	**Jiri**	**43.87**	**311**	*e*P	**P**	**10 17 40.1**	**+0.7**
	comp=Z,7.6nm,0.3s						
GUN	**Gumba**	**44.24**	**311**	*e*P	**P**	**10 17 43.4**	**+1.1**
	comp=Z,9.5nm,0.4s						
DANN	**Dangsing**	**46.06**	**311**	*e*P	**P**	**10 17 57.0**	**+0.4**
	comp=Z,9.9nm,0.6s						
PYUN	**Piuthan**	**46.53**	**310**	*e*P	**P**	**10 18 01.3**	**+1.2**
JKA	**Kamikawa-asahi**	**47.26**	**20**	P	**P**	**10 18 05.9**	**+0.6**
ULN	**Ulaanbaatar**	**49.12**	**347**	P	**P**	**10 18 21.3**	**+1.7**
ULN				IAmb	IAmb	10 18 21.8	
	comp=Z,2.9nm,0.6s						
SONM	**Songino Array**	**49.25**	**346**	P	**P**	**10 18 22.3**	**+1.7**
SONM	**Songino Array**	**49.25**	**346**	P	**P**	**10 18 21.9**	**+1.3**
	comp=Z,2.5nm,0.6s,baz=165,slow=9.0,SNR=8.9						
SONM				PcP	**PcP**	**10 19 39.6**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=144,slow=5.4,SNR=2.0						
	comp=Z,2.5nm,0.6s						
MK31	**Makanchi Array**	**57.87**	**329**	P	**P**	**10 19 24.4**	**+1.3**
MKAR	**Makanchi Array**	**57.87**	**329**	P	**P**	**10 19 24.2**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=128,slow=8.8,SNR=25						
	comp=Z,1.2nm,0.3s						
ZALV	**Zalesovo Beam**	**61.65**	**336**	P	**P**	**10 19 48.4**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=147,slow=8.6,SNR=1.7						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**62.24**	**330**	P	**P**	**10 19 53.0**	**+0.4**
	comp=Z,2.2nm,0.2s,baz=113,slow=5.8,SNR=3.0						
	comp=Z,2.2nm,0.2s						

*EAF **12** 10:10:04.9, 26°.03S×29°.53E, h10km, MC3.6*
*BUL **12** 10:10:05.9±0.2, 26°.01S×29°.45E, h10km, MD3.7*
*PRE **12** 10:10:08.4±1.2, 24°.06S×26°.18E, h5km, ML2.3*
ISC 12 10:10:01.9±1.2, 26°.07S±0°.06×29°.49E±0°.07, h10km, n11, σ2§26/22, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**2.34**	**275**	*e*P	**Pn**	**10 10 41.8**	**+1.2**
KSR				*e*S	**Sn**	**10 11 06.9**	**-2.7**
KSR				IAML		10 11 09.1	
	comp=Z,73nm,0.4s						
MOPA	**Mopani**	**3.08**	**35**	*i* P	**Pn**	**10 10 52.3**	**+1.7**
MOPA				*i* S	**Sn**	**10 11 26.3**	**-1.3**
MOPA	**Mopani**	**3.08**	**35**	*i* P	**Pn**	**10 10 52.3**	**+1.7**
	baz=34						
MOPA				*i* S	**Sn**	**10 11 26.3**	**-1.3**
	baz=34						
LBTB	**Lobatse**	**3.67**	**286**	*i* P	**Pn**	**10 11 01.8**	**+3.0**
LBTB				*i* S	**Sn**	**10 11 42.5**	**+0.3**
LBTB	**Lobatse**	**3.67**	**286**	*i* P	**Pn**	**10 11 01.8**	**+3.0**
	baz=285						
LBTB				*i* S	**Sn**	**10 11 42.5**	**+0.3**
	baz=285						
MUSN	**Musina, Limpop**	**3.78**	**5**	*i* P	**Pn**	**10 11 03.2**	**+2.8**
MUSN				*i* S	**Sn**	**10 11 45.0**	**0.0**
MUSN	**Musina, Limpop**	**3.78**	**5**	*e*P	**Pb**	**10 11 07.9**	**-0.9**
MUSN				*e*S	**Sb**	**10 11 53.6**	**-1.2**
MUSN				IAML		10 12 07.1	
	comp=Z,5.5nm,0.6s						
MUSN	**Musina, Limpop**	**3.78**	**5**	*i* P	**Pn**	**10 11 03.2**	**+2.8**
	baz=5.0						
MUSN				*i* S	**Sn**	**10 11 45.0**	**0.0**
	baz=5.0						
BOSA	**Boshof**	**4.53**	**235**	*i* P	**Pn**	**10 11 14.3**	**+3.5**
BOSA				*i* S	**Sn**	**10 12 04.3**	**+0.7**
BOSA	**Boshof**	**4.53**	**235**	*e*P	**Pb**	**10 11 19.9**	**-1.8**
BOSA				*e*S	**Sb**	**10 12 12.7**	**-3.8**
BOSA				IAML		10 12 26.0	
	comp=Z,7.5nm,0.6s						
BOSA	**Boshof**	**4.53**	**235**	*i* P	**Pn**	**10 11 14.3**	**+3.5**
	baz=235						
BOSA				*i* S	**Sn**	**10 12 04.3**	**+0.7**
	baz=235						

JMA 12 10:11:59.0±0.2,31.°1N±0.°3×129.°0E±0.°8,h6km±1km, MD4.0/31,MV4.1/31,SW OFF KYUSHU
NIED 12 10:11:59.0,31.°12N×129.°04E,h6km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr-0.90; Mθθ0.82; Mφφ0.08; Mrθ-1.13; Mφθ0.23; Mφr-0.56; Fault plane solution: M0 1.54000×10^15 NP1:φs66.00000°, δ72.00000°,λ-95.00000°. NP2:φs262.00000°,δ18.00000°, λ-74.00000°.
IDC 12 10:12:01.3±0.9,31.°11N×129.°00E,h0km,mb3.7/7, mbtmp3.7/11,ML2.6/4,MS3.2/7 Error ellipse: s-maj=29.0km s-min=16.8km az=92.0
ISC 12 10:12:01.6±0.7,31.°10N±0.°04×129.°20E±0.°06,h6km,n30, σ1s04/25,mb3.8/7,MS3.5/4,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.72**	**37**	*e*P	**Pg**	**10 12 14.1**	**-1.4**
JSJ				S	**Sg**	**10 12 24.9**	**0.0**
JSJ	**Shimokoshiki**	**0.72**	**37**	A	A	10 12 14.1	
	comp=E,6.0nm,1.3s,comp=N,6.0nm,1.2s						
JKC	**Kuchinoerabu**	**1.07**	**126**	*e*P	**Pg**	**10 12 21.3**	**-0.7**
JKC				*e*S	**Sg**	**10 12 37.1**	**+1.2**
JKC	**Kuchinoerabu**	**1.07**	**126**	A	A	10 12 21.3	
	comp=E,4.0nm,1.6s,comp=N,5.0nm,0.7s						
JSU	**Suzuyama**	**1.15**	**69**	P	**Pg**	**10 12 22.8**	**-0.8**
JSU				S	**Sn**	**10 12 39.6**	**-0.6**
JNN	**Nakanoshima**	**1.38**	**155**	P	**Pn**	**10 12 25.9**	**-1.5**
JNN	**Nakanoshima**	**1.38**	**155**	A	A	10 12 25.9	
	comp=N,4.0nm,3.9s						
JYAK	**Yakushimahirau**	**1.42**	**127**	P	**Pn**	**10 12 26.3**	**-1.6**
JHD	**Hondo**	**1.58**	**30**	A	A	10 12 28.4	
	comp=N,2.0nm,5.6s						
JZO	**Okuchi**	**1.58**	**49**	A	A	10 12 29.1	
	comp=E,4.0nm,1.6s,comp=N,3.0nm,1.3s						
JTN	**Tanegashima 3**	**1.59**	**106**	P	**Pn**	**10 12 29.4**	**-0.9**
JMTN	**Minamitane**	**1.62**	**115**	P	**Pn**	**10 12 29.9**	**-0.8**
JTZ	**Takazaki**	**1.80**	**63**	P	**Pn**	**10 12 32.5**	**-0.6**
JNAR	**Kushima--Naru**	**1.82**	**76**	A	A	10 12 33.2	
	comp=N,2.0nm,1.2s						
JNKG	**Nichinankitago**	**1.94**	**73**	A	A	10 12 35.0	
	comp=E,4.0nm,2.0s,comp=N,3.0nm,3.8s						
JNU	**Nakatsue**	**2.47**	**35**	Pn	**Pn**	**10 12 43.3**	**+0.9**
	comp=N,0.5nm,0.3s,baz=246,slow=20,SNR=1.5						
JNU				Sn	**Sb**	**10 13 17.2**	**+0.2**
	comp=N,11nm,0.3s,baz=247,slow=8.2,SNR=3.6						
	comp=N,4.0nm,0.3s						
JOW	**Kunigami**	**4.33**	**191**	Pn	**Pn**	**10 13 09.0**	**+1.0**
	comp=N,1.1nm,0.3s,baz=8.6,slow=20,SNR=1.6						
	comp=N,18nm,0.9s						
KSRS	**Korea Array**	**6.42**	**351**	Pn	**Pn**	**10 13 36.2**	**-0.5**
	comp=N,0.2nm,0.3s,baz=166,slow=14,SNR=5.1						
KSRS				Sn	**Sn**	**10 14 48.8**	**-1.6**
	comp=N,0.2nm,0.3s,baz=95,slow=40,SNR=2.3						
KSRS				LR	LR	10 16 02.5	
	comp=N,143nm,21.2s,baz=175,slow=38						
	comp=N,1.5nm,0.6s						
ASAJ	**Asahikawa**	**16.75**	**35**	LR	LR	10 21 14.0	
	comp=N,38nm,21.3s,baz=160,slow=33						
KLR	**Kul'dur**	**18.21**	**5**	P	**P**	**10 16 16.9**	**+1.7**
	comp=N,0.2nm,0.3s,baz=178,slow=7.7,SNR=9.4						
KLR				LR	LR	10 23 06.6	
	comp=N,37nm,18.7s,baz=202,slow=36						
	comp=N,2.9nm,0.8s						
SONM	**Songino Array**	**24.14**	**320**	P	**P**	**10 17 17.3**	**-1.1**
	comp=N,0.9nm,0.8s,baz=141,slow=9.3,SNR=4.3						
	comp=N,0.9nm,0.8s						
MA2	**Magadan**	**31.96**	**21**	LR	LR	10 30 37.7	
	comp=N,21nm,19.0s,baz=0.5,slow=35						
BVAR	**Borovoye Array**	**47.32**	**315**	P	**P**	**10 20 35.7**	**-0.2**
	comp=N,2.3nm,0.8s,baz=110,slow=11,SNR=7.2						
BVAR				PcP	**PcP**	**10 22 06.9**	**+0.1**
	comp=N,1.8nm,0.8s,baz=90,slow=2.9,SNR=5.5						
	comp=N,2.3nm,0.8s						
WRA	**Warramunga Arr**	**50.99**	**174**	P	**P**	**10 21 05.1**	**+0.8**
	comp=N,0.6nm,1.0s,baz=352,slow=7.9,SNR=2.9						
	comp=N,0.6nm,1.0s						
ARU	**Arti**	**54.17**	**320**	LR	LR	10 45 13.7	
	comp=N,33nm,19.8s,baz=49,slow=37						
ASAR	**Alice Springs**	**54.64**	**175**	P	**P**	**10 21 31.4**	**+0.1**
	comp=N,0.3nm,0.8s,baz=355,slow=9.3,SNR=4.4						
	comp=N,0.3nm,0.8s						
AKTO	**Aktyubinsk**	**55.10**	**312**	LR	LR	10 46 56.9	
	comp=N,67nm,18.3s,baz=106,slow=38						
ILAR	**Eielson Array**	**59.77**	**30**	P	**P**	**10 22 08.7**	**+1.6**
	comp=N,0.9nm,0.8s,baz=279,slow=6.7,SNR=5.8						
	comp=N,0.9nm,0.8s						
FINES	**FINESS Array B**	**69.07**	**330**	P	**P**	**10 23 07.9**	**-0.1**
	comp=N,2.2nm,0.9s,baz=75,slow=5.9,SNR=1.6						
FINES				LR	LR	10 55 31.1	
	comp=N,34nm,18.3s,baz=13,slow=38						
	comp=N,2.2nm,0.9s						
BRTR	**Keskin Array B**	**74.75**	**307**	P	**P**	**10 23 42.8**	**+0.1**
	comp=N,0.6nm,0.7s,baz=49,slow=4.8,SNR=4.3						
	comp=N,0.6nm,0.7s						

HEL 12 10:16:58.8±0.6,67.°64N×26.°26E,h0km,ML0.9, Suspected explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGF	**Sodankyl**	**0.23**	**153**	PG	Pg	10 17 02.3	-0.8
SGF				SG	Sg	10 17 04.5	-1.5

HEL 12 10:17:11.1±0.4,67.°18N×20.°75E,h0km,ML1.1,Suspected explosion
UPP 12 10:17:09.9±0.1,67.°19N×20.°70E,h0km,ML2.3, Confirmed Induced event,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**219**	P	Pg	10 17 11.8	+0.3
DUNU				S	Sg	10 17 13.0	+0.5
RATU	**Laukkuluspa**	**0.77**	**327**	P	Pg	10 17 24.4	-0.3
KUA	**Kurravaara**	**0.79**	**350**	P	Pg	10 17 24.5	-0.4
ERTU	**Ertsjaerv**	**0.86**	**137**	P	Pg	10 17 26.0	-0.4
ERTU	**Ertsjaerv**	**0.86**	**137**	PG	Pg	10 17 25.7	-0.7
ERTU				SB	Sg	10 17 38.6	+1.0
SALU	**Saltoluokta**	**0.88**	**284**	P	Pg	10 17 26.2	-0.4
PAJU	**Pajala**	**0.96**	**99**	P	Pg	10 17 27.9	-0.3
PAJU	**Pajala**	**0.96**	**99**	PG	Pg	10 17 27.9	-0.3
	baz=283						
LANU	**Lannavaara**	**1.00**	**29**	P	Pg	10 17 28.7	-0.2
LANU	**Lannavaara**	**1.00**	**29**	PN	Pg	10 17 28.6	-0.4
LANU				SG	Sn	10 17 46.9	+1.0
LANU	**Lannavaara**	**1.00**	**29**	PG	Pg	10 17 28.6	-0.4
LANU				SN	Sn	10 17 46.9	+1.0
HARU	**Harads**	**1.03**	**174**	P	Pg	10 17 28.9	-0.7
KOVU	**Salmi**	**1.06**	**349**	P	Pg	10 17 29.8	-0.4
KLF	**Kolari**	**1.27**	**86**	PG	Pg	10 17 33.5	-0.7
KLF				MSG		10 17 49.0	
	comp=Z,0.9nm,0.2s						
KLF				SN	Sb	10 17 51.7	+0.2
HEF	**Hetta**	**1.66**	**41**	PG	Pn	10 17 40.5	+0.2
HEF				MSG		10 18 00.6	
	comp=Z,0.9nm,0.2s						
HEF				SG	Sn	10 18 02.2	-0.1
KALU	**Kalix**	**1.70**	**140**	P	Pn	10 17 41.0	+0.2
KALU	**Kalix**	**1.70**	**140**	PG	Pn	10 17 41.1	+0.3
	baz=323						
KALU				SN	Sg	10 18 05.4	+0.8
SJUU	**Sjulsmark**	**1.72**	**167**	P	Pn	10 17 41.1	0.0
TOF	**Tornio**	**1.82**	**126**	PG	Pb	10 17 43.3	-0.7
TOF				MSG		10 18 05.0	
	comp=Z,1.1nm,0.2s						
TOF				SN	Sg	10 18 09.1	+0.7
KIF	**Kilpisjarvi**	**1.83**	**1**	PG	Pb	10 17 44.4	+0.2
KIF				SN	Sg	10 18 09.2	+0.6
KIF				MSG		10 18 11.6	
	comp=Z,1.2nm,0.2s						
KIF	**Kilpisjarvi**	**1.83**	**1**	PG	Pb	10 17 44.4	+0.2
KIF				MSG		10 18 06.8	
	comp=Z,1.8nm,0.2s						
KIF				SN	Sg	10 18 09.2	+0.6
KTK1	**Kautokeino**	**2.07**	**26**	PG	Pb	10 17 47.9	-0.3
KTK1				SG	Sb	10 18 15.1	+0.7
RNF	**Rovaniemi**	**2.17**	**103**	PG	Pb	10 17 49.0	-1.1
RNF				SG	Sb	10 18 18.1	+0.6
SGF	**Sodankyl**	**2.27**	**81**	PG	Pn	10 17 50.1	+1.5
SGF				SG	Sg	10 18 21.8	-1.0
ARA0	**ARCESS Array S**	**2.96**	**35**	SN	Pn	10 17 58.8	+0.8
ARA0	**ARCESS Array S**	**2.96**	**35**	PN	Pn	10 17 58.8	+0.8
ARA0				SG	Sg	10 18 43.1	-1.6

DJA 12 10:24:21.6±1.5,10.°5±7.°×11.°9E±.°,h15km±14km,M3.8/6, mb4.3/1,MLv3.6/6,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.40**	**309**	P	Pn	10 24 45.7	-0.9
BASI	**Baing, Sumba**	**1.75**	**107**	P	Pn	10 24 51.2	-0.3
TWSI	**Taliwang, Sumb**	**2.19**	**296**	P	Pn	10 24 57.6	+0.1
TWSI				S	Sn	10 25 24.9	+0.5
IGBI	**Denpasar**	**3.78**	**283**	P	Pn	10 25 19.5	+0.1
BKSI	**Bulukumba**	**4.54**	**16**	P	Pn	10 25 30.0	+0.1
JAGI	**Jajag, Banyuwa**	**4.82**	**285**	P	Pn	10 25 34.0	+0.3
GMJI	**Gumukmas**	**5.55**	**285**	P	Pn	10 25 43.6	-0.1

IDC 12 10:41:00.9±0.8,20.°76S×114.°85W,h0km,mb3.8/5, mbtmp3.8/5,MS3.8/35,Error ellipse: s-maj=41.6km s-min=25.5km az=78.0
ISC 12 10:41:01.7±0.8,20.°8S±0.°2×115.°0W±0.°3,h10km,n47, σ0s86/13,mb3.9/5,MS3.8/34,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**8.18**	**142**	LR	LR	10 45 11.3	
	comp=Z,2μm,18.2s,baz=344,slow=31						
H03N2	**Juan Fernandez**	**34.32**	**119**	T	T	11 23 09.5	
	baz=285,slow=75,SNR=32						
H03N3	**Juan Fernandez**	**34.33**	**119**	T	T	11 23 10.6	
	baz=285,slow=75,SNR=39						
H03N1	**Juan Fernandez**	**34.34**	**119**	T	T	11 23 10.1	
	baz=285,slow=75,SNR=34						
ATAH	**Atahualpa**	**37.89**	**74**	LR	LR	10 59 20.8	
	comp=Z,171nm,21.5s,baz=246,slow=29						
PLCA	**Paso Flores**	**42.54**	**128**	LR	LR	11 01 42.6	
	comp=Z,168nm,20.6s,baz=282,slow=29						
JTS	**Las Juntas de**	**42.71**	**47**	LR	LR	11 01 45.8	
	comp=Z,116nm,20.6s,baz=226,slow=29						
LVC	**Limon Verde**	**42.73**	**101**	LR	LR	11 01 57.2	
	comp=Z,42nm,20.4s,baz=259,slow=30						
CFA	**Conel Fontan**	**43.04**	**114**	LR	LR	11 02 05.4	
	comp=Z,100nm,20.3s,baz=315,slow=30						
LPAZ	**La Paz**	**44.53**	**92**	P	**P**	**10 49 15.1**	**+0.3**
	1.1nm,0.7s,baz=255,slow=8.4,SNR=4.1						
	1.1nm,0.7s						
ROSC	**El Rosal**	**47.32**	**62**	LR	LR	11 04 17.3	
	comp=Z,85nm,19.6s,baz=238,slow=30						
TEIG	**Tepich**	**48.39**	**34**	LR	LR	11 07 15.7	
	comp=Z,578nm,18.3s,baz=330,slow=33						
TXAR	**Lajitas Array**	**50.98**	**13**	LR	LR	11 06 58.4	
	comp=Z,48nm,18.0s,baz=191,slow=31						
SDV	**Santo Domingo**	**52.61**	**60**	LR	LR	11 09 43.6	
	comp=Z,43nm,19.0s,baz=270,slow=33						
CPUP	**Villa Florida**	**52.79**	**108**	LR	LR	11 08 33.9	
	comp=Z,52nm,18.9s,baz=264,slow=31						
PFO	**Pinyon Flats O**	**54.08**	**358**	LR	LR	11 07 24.0	
	comp=Z,66nm,19.3s,baz=212,slow=29						
PMSA	**Palmer Station**	**55.17**	**156**	LR	LR	11 08 08.6	
	comp=Z,146nm,19.5s,baz=232,slow=30						
ANMO	**Albuquerque**	**55.98**	**8**	LR	LR	11 09 41.4	
	comp=Z,52nm,20.6s,baz=287,slow=31						
RAO	**Raoul Island**	**57.08**	**248**	LR	LR	11 12 12.7	
	comp=Z,43nm,19.3s,baz=122,slow=33						
NVAR	**Mina Array Bea**	**58.95**	**357**	P	**P**	**10 51 03.0**	**+1.4**
	0.9nm,0.7s,baz=185,slow=8.7,SNR=6.1						
NVAR				LR	LR	11 12 00.7	
	comp=Z,65nm,20.3s,baz=180,slow=32						
	0.9nm,0.7s						
URZ	**Urewera**	**60.37**	**237**	LR	LR	11 11 57.0	
	comp=Z,78nm,19.2s,baz=211,slow=31						
SJG	**San Juan**	**61.51**	**55**	LR	LR	11 13 45.3	
	comp=Z,37nm,19.4s,baz=224,slow=32						
YBH	**Yreka Blue Hor**	**62.58**	**353**	LR	LR	11 12 15.5	
	comp=Z,98nm,18.9s,baz=198,slow=30						
PDAR	**Pinedale Array**	**63.40**	**4**	P	**P**	**10 51 30.4**	**-1.2**
	0.4nm,0.7s,baz=171,slow=6.1,SNR=4.1						
	0.4nm,0.7s						
TKL	**Tuckaleechee C**	**63.43**	**28**	LR	LR	11 16 18.6	
	comp=Z,40nm,18.5s,baz=186,slow=33						
BDFB	**Brasilia**	**63.44**	**98**	LR	LR	11 15 31.6	
	comp=Z,41nm,19.2s,baz=162,slow=33						
RPZ	**Rata Peaks**	**64.53**	**231**	LR	LR	11 14 23.3	
	comp=Z,124nm,19.7s,baz=74,slow=31						
MDP	**Montagnes des**	**66.32**	**74**	LR	LR	11 17 28.2	
	comp=Z,46nm,18.9s,baz=274,slow=33						
NEW	**Newport**	**68.73**	**358**	LR	LR	11 17 43.2	
	comp=Z,71nm,18.0s,baz=204,slow=32						
QSPA	**South Pole Qui**	**69.38**	**180**	P	**P**	**10 52 10.8**	**+1.1**
	2.6nm,1.0s,baz=90,slow=5.3,SNR=4.3						
QSPA				LR	LR	11 17 51.5	
	comp=Z,52nm,19.8s,baz=72,slow=32						
	2.6nm,1.0s						
DZM	**Mont Dzumac**	**72.32**	**253**	LR	LR	11 16 57.2	
	comp=Z,50nm,19.2s,baz=342,slow=30						
SNAA	**Sanae**	**77.14**	**163**	P	**P**	**10 52 54.2**	**-1.1**
	0.6nm,0.9s,baz=212,slow=13,SNR=1.9						
SNAA				LR	LR	11 25 31.5	
	comp=Z,50nm,18.0s,baz=4.5,slow=35						
	0.6nm,0.9s						
KDAK	**Kodiak Island**	**84.28**	**341**	LR	LR	11 23 42.5	
	comp=Z,67nm,18.1s,baz=182,slow=30						
SCHQ	**Scheffervlle**	**85.76**	**26**	LR	LR	11 28 53.5	
	comp=Z,46nm,22.0s,baz=295,slow=34						
ILAR	**Eielson Array**	**88.73**	**347**	LR	LR	11 27 04.2	
	comp=Z,50nm,18.3s,baz=128,slow=31						
INK	**Inuvik**	**89.84**	**353**	LR	LR	11 28 42.3	
	comp=Z,63nm,18.2s,baz=172,slow=32						
CTA	**Charters Tower**	**90.78**	**248**	LR	LR	11 26 52.0	
	comp=Z,28nm,21.1s,baz=84,slow=30						
FRB	**Frobisher Bay**	**91.65**	**19**	LR	LR	11 30 45.3	
	comp=Z,57nm,19.6s,baz=240,slow=33						
SFJD	**Kangerlussuaq**	**99.49**	**21**	LR	LR	11 37 14.4	
	comp=Z,24nm,19.4s,baz=178,slow=34						
ASAR	**Alice Springs**	**99.70**	**240**	LR	LR	11 33 47.4	
	comp=Z,49nm,19.0s,baz=148,slow=32						
SONM	**Songino Array**	**137.18**	**319**	PKP	**PKiKP**	**11 00 27.0**	**-0.3**
	0.2nm,0.3s,baz=90,slow=1.4,SNR=2.3						
BRTR	**Keskin Array B**	**147.19**	**48**	PKPbc	**PKPbc**	**11 00 46.0**	**+0.4**
	0.4nm,0.4s,baz=346,slow=0.6,SNR=4.0						
BVAR	**Borovoye Array**	**147.52**	**354**	PKPbc	**PKPab**	**11 00 47.7**	**-0.3**
	1.0nm,0.7s,baz=318,slow=2.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**147.99**	**272**	PKPbc	**PKiKP**	**11 00 49.6**	**-0.5**
	1.6nm,0.9s,baz=146,slow=1.0,SNR=6.8						
KURBB	**Kurchatov Arra**	**148.34**	**344**	PKPbc	**PKPbc**	**11 00 47.5**	**-0.7**
	0.7nm,0.3s,baz=19,slow=2.5,SNR=8.7						
MKAR	**Makanchi Array**	**150.46**	**336**	PKPbc	**PKiKP**	**11 00 54.3**	**-0.1**
	2.9nm,0.8s,baz=39,slow=2.7,SNR=14						
MKAR				PKPab	**PKPab**	**11 01 00.7**	**+0.6**
	2.4nm,0.8s,baz=37,slow=3.0,SNR=9.3						
KBZ	**Khabaz**	**150.60**	**34**	PKPbc	**PKiKP**	**11 00 54.9**	**+0.2**
	1.2nm,0.6s,baz=238,slow=3.5,SNR=3.9						

IDC 12 10:58:50.1±720.0,62.°38N×32.°73E,h0km,Error ellipse: s-maj=364.6km s-min=121.9km az=146.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**6.12**	**156**	I	I	11 31 00.0	
	baz=343,slow=313,SNR=1.6						
I31KZ	**AKTYUBINSK INF**	**18.28**	**119**	I	I	12 54 10.4	
	baz=320,slow=323,SNR=7.0						
I46RU	**ZALESOVO INFRA**	**28.00**	**83**	I	I	13 51 40.0	
	baz=313,slow=330,SNR=1.2						

WEL 12 11:06:18.8±1.7,34.°S±12.°×18.°0E±1.°7,h33km,M4.2/6, mB4.9/5,ML4.3/13,MLv4.2/6,Mw(mB)4.1/5,Error ellipse: s-maj=0.0km s-min=0.0km az=94.2,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.10**	**197**	P	Pn	11 07 19.4	+0.2
WMGZ	**Waiomatatini S**	**4.32**	**195**	P	Pn	11 07 22.4	+0.2
HAZ	**Te Kaha**	**4.42**	**201**	P	Pn	11 07 24.0	+0.4
HAZ				S	Sn	11 08 16.1	+2.2
PKGZ	**Pakihiroa**	**4.46**	**198**	P	Pn	11 07 25.4	+1.2
KUZ	**Kuaotunu**	**4.55**	**226**	P	Pn	11 07 27.5	+2.2
RUGZ	**Raukumara Rang**	**4.65**	**201**	P	Pn	11 07 26.5	-0.3
GLKZ	**Green Lake**	**4.78**	**25**	P	Pn	11 07 20.1	-8.5
GLKZ				S	Sn	11 08 11.4	-11
OPRZ	**Ohinepanea**	**4.95**	**211**	P	Pn	11 07 31.9	+1.1
CNGZ	**Carnagh Statio**	**5.00**	**194**	P	Pn	11 07 33.5	+1.9
MARZ	**Manawahe**	**5.02**	**209**	P	Pn	11 07 31.1	-0.7
WCZ	**Waipu Caves**	**5.03**	**241**	P	Pn	11 07 31.5	-0.5
MWZ	**Matawai**	**5.03**	**201**	P	Pn	11 07 30.9	-1.1
TKGZ	**Te Karaka**	**5.04**	**198**	P	Pn	11 07 29.9	-2.2
URZ	**Urewera**	**5.10**	**204**	P	Pn	11 07 31.5	-1.3
URZ				S	Sn	11 08 30.1	-0.5
LIRZ	**Lichensteins R**	**5.16**	**211**	P	Pn	11 07 32.6	-1.1
RAGZ	**Rawiri**	**5.21**	**201**	P	Pn	11 07 34.7	+0.2
MUGZ	**Murupara**	**5.41**	**206**	P	Pn	11 07 36.3	-0.9
RTZ	**Ruatahuna**	**5.46**	**204**	P	Pn	11 07 37.1	-0.9
PRGZ	**Paritu Road**	**5.50**	**196**	P	Pn	11 07 37.9	-0.4
SNGZ	**Shannon Statio**	**5.50**	**200**	P	Pn	11 07 36.1	-2.3
PRRZ	**Plateau Road**	**5.58**	**209**	P	Pn	11 07 38.6	-0.9
MHGZ	**Mahia Peninsul**	**5.71**	**195**	P	Pn	11 07 41.1	-0.2
MTHZ	**Maungataniwha**	**5.72**	**204**	P	Pn	11 07 40.1	-1.4
MRHZ	**Matea Rd**	**5.86**	**207**	P	Pn	11 07 41.5	-1.9
NMHZ	**Naumai**	**5.96**	**203**	P	Pn	11 07 42.0	-2.7
ARHZ	**Aropaoanui**	**6.05**	**201**	P	Pn	11 07 44.5	-1.5
BKZ	**Black Stump Fm**	**6.12**	**205**	P	Pn	11 07 44.2	-2.8
HIZ	**Hauiti**	**6.29**	**218**	P	Pn	11 07 50.5	+1.2
MCHZ	**McNeill Hill**	**6.31**	**202**	P	Pn	11 07 46.9	-2.6
KWHZ	**Kaweka Forest**	**6.38**	**204**	P	Pn	11 07 46.9	-3.7
TMVZ	**Te Maari**	**6.38**	**210**	P	Pn	11 07 48.9	-1.7
KRVZ	**Karewarewa**	**6.39**	**210**	P	Pn	11 07 49.2	-1.5
ETVZ	**East Tongariro**	**6.40**	**210**	P	Pn	11 07 49.0	-1.9
NNVZ	**North Ngauruho**	**6.43**	**210**	P	Pn	11 07 49.7	-1.6
OTVZ	**Oturere**	**6.44**	**210**	P	Pn	11 07 49.3	-2.1
TWVZ	**Taurewa**	**6.46**	**212**	P	Pn	11 07 50.1	-1.5
SNVZ	**South Ngauruho**	**6.47**	**210**	P	Pn	11 07 49.5	-2.4
NGZ	**Ngauruhoe**	**6.47**	**210**	P	Pn	11 07 50.3	-1.7
COVZ	**Chateau Observ**	**6.52**	**210**	P	Pn	11 07 51.0	-1.5
TUVZ	**Tukino**	**6.53**	**209**	P	Pn	11 07 50.5	-2.2
FWVZ	**Far West T-bar**	**6.56**	**210**	P	Pn	11 07 51.0	-2.2
BHHZ	**Black Hill Sta**	**6.56**	**206**	P	Pn	11 07 49.6	-3.5
KAHZ	**Kahuranaki**	**6.58**	**200**	P	Pn	11 07 48.5	-4.7
KRHZ	**Kereru**	**6.59**	**204**	P	Pn	11 07 48.8	-4.7
WNVZ	**Wahianoa**	**6.60**	**209**	P	Pn	11 07 51.0	-2.7
MOVZ	**Moawhango**	**6.61**	**208**	P	Pn	11 07 50.4	-3.3
PXZ	**Pawanui**	**6.80**	**199**	P	Pn	11 07 51.3	-4.9
VRZ	**Vera Road**	**6.81**	**215**	P	Pn	11 07 55.3	-1.1
PNHZ	**Pukenui**	**6.89**	**204**	P	Pn	11 07 51.7	-5.9
PRHZ	**Porangahau**	**7.08**	**200**	P	Pn	11 07 55.7	-4.4
TSZ	**Takapari Road**	**7.10**	**204**	P	Pn	11 07 56.0	-4.5
WAZ	**Wanganui**	**7.22**	**211**	P	Pn	11 07 58.8	-3.2
NEZ	**North Egmont**	**7.25**	**218**	P	Pn	11 08 01.6	-1.0
DVHZ	**Dannevirke**	**7.25**	**202**	P	Pn	11 07 57.9	-4.5
POWZ	**Post Office Ro**	**7.47**	**204**	P	Pn	11 08 00.8	-4.6
BFZ	**Birch Farm**	**7.58**	**201**	P	Pn	11 08 01.6	-5.3
TIWZ	**Tintock**	**7.78**	**202**	P	Pn	11 08 04.3	-5.3
TMWZ	**Te Maipa**	**8.07**	**201**	P	Pn	11 08 07.8	-6.0
TRWZ	**Traveller**	**8.40**	**202**	P	Pn	11 08 11.7	-6.5

EAF 12 11:13:43.8,26.°00S×30.°47E,h22km,MC3.5
BUL 12 11:13:46.3±2.2,25.°92S×30.°25E,h10km±31km,MD3.6
ISC 12 11:13:22.9±2.2,26.°24S±0.°08×30.°5E±0.°1,h10km,n8, σ0s73/14,2D,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.83**	**17**	*i* P	Pg	11 14 25.6	+8.5
MOPA				*i* S	**Sg**	**11 14 53.0**	**-0.8**
MOPA	**Mopani**	**2.83**	**17**	*i* P	Pg	11 14 25.6	+8.5
	baz=19						
MOPA				*i* S	**Sg**	**11 14 53.0**	**-0.8**
	baz=19						
MUSN	**Musina, Limpop**	**3.97**	**352**	⇓*i*P	**Pg**	**11 14 39.2**	**+0.2**
MUSN				*i* S	**Sb**	**11 15 21.9**	**+0.7**
MUSN	**Musina, Limpop**	**3.97**	**352**	⇓*i*P	**Pg**	**11 14 39.2**	**+0.2**
	baz=351						
MUSN				*i* S	**Sb**	**11 15 21.9**	**+0.7**
	baz=351						
LBTB	**Lobatse**	**4.58**	**284**	*i* P	**Pg**	**11 14 51.5**	**+0.8**
LBTB				*i* S	**Sb**	**11 15 37.8**	**-1.0**
LBTB	**Lobatse**	**4.58**	**284**	*i* P	**Pg**	**11 14 51.5**	**+0.8**
	baz=281						
LBTB				*i* S	**Sb**	**11 15 37.8**	**-1.0**
	baz=281						
BOSA	**Boshof**	**5.22**	**242**	*i* P	**Pg**	**11 15 03.0**	**+0.1**
BOSA				*i* S	**Sb**	**11 15 57.4**	**+0.2**
BOSA	**Boshof**	**5.22**	**242**	*i* P	**Pg**	**11 15 03.0**	**+0.1**
	baz=239						
BOSA				*i* S	**Sb**	**11 15 57.4**	**+0.2**
	baz=239						

SOME 12 11:22:31.6,43.°60N×82.°23E,h5km
**NNC 12 11:

comp=N,1μm,0.8s
VNSG Veniaminof 6 1.79 39 Pn Pn 11 40 53.6 +1.7
WESP Westdahl Peak 2.13 265 Pn Pn 11 40 57.0 +0.3
CHGN Chignik 2.17 43 Pn Pn 11 40 58.2 +1.2
CHGN IAML 11 41 37.0
comp=N,317nm,0.6s
CHGN IAML 11 41 38.4
comp=E,563nm,0.6s
AKSA Akutan Strait 2.77 259 Pn Pn 11 41 05.7 +0.5
AKUT Akutan 2.81 259 Pn Pn 11 41 06.2 +0.4
AKUT Akutan 2.81 259 IAML 11 41 45.6
comp=E,183nm,2.2s
AKLV Akutan Long Va 2.91 260 Pn Pn 11 41 07.3 +0.2
AKBBA Akutan Broad B 2.91 259 Pn Pn 11 41 07.6 +0.5
AKGG Akutan Green G 2.92 261 Pn Pn 11 41 07.7 +0.4
CHIR Chirikof Islan 3.30 69 Pn **Pn 11 41 13.7 +1.2**
CHIR IAML 11 41 53.0
comp=N,144nm,1.3s
CHIR IAML 11 42 10.8
comp=E,117nm,0.8s
UNV Unalaska Valle 3.31 256 Pn Pn 11 41 12.2 -0.3
R17K Ugashik Creek 3.91 40 Pn **Pn 11 41 23.3 +2.6**
R17K IAML 11 42 17.6
comp=E,79nm,0.8s
SII Sitkinak Islan 4.30 62 Pn **Pn 11 41 28.6 +3.2**
O14K Tigyukauivet M 4.52 359 Pn **Pn 11 41 30.1 +1.0**
O14K IAML 11 42 31.3
comp=N,58nm,2.9s
O14K IAML 11 43 54.6
comp=E,57nm,2.9s
O16K Kokwok River B 5.12 17 Pn **Pn 11 41 38.1 +0.7**
O16K IAML 11 43 48.0
comp=E,30nm,3.3s
N15K Kwethluk River 5.46 5 Pn **Pn 11 41 43.1 +1.0**
KDAK Kodiak Island 5.62 54 Pn **Pn 11 41 44.4 +0.1**
KDAK Kodiak Island 5.62 54 Pn **Pn 11 41 43.8 -0.5**
comp=E,0.7nm,0.3s,baz=271,slow=11,SNR=43
KDAK Sn **Sn 11 42 45.9 -1.6**
comp=E,0.6nm,0.3s,baz=339,slow=20,SNR=1.1
comp=E,2.6nm,0.3s
Q19K Cape Douglas, 5.84 41 Pn **Pn 11 41 48.9 +1.5**
O18K Koktuh Hills 6.02 29 Pn **Pn 11 41 50.7 +0.9**
M14K Bethel 6.04 356 Pn **Pn 11 41 50.5 +0.6**
M16K Timber Creek 6.39 9 Pn **Pn 11 41 56.0 +1.2**
N18K Kilae Creek 6.56 23 Pn **Pn 11 41 58.8 +1.6**
L14K Kuka Creek 6.66 353 Pn **Pn 11 41 60.0 +1.5**
ILSW Iliamna Southw 6.77 36 Pn **Pn 11 42 03.1 +2.9**
M17K Holitna River 6.94 15 Pn **Pn 11 42 03.3 +0.9**
SVW2 Sparrevohn 7.00 22 Pn **Pn 11 42 05.2 +2.1**
N19K Bonanza Creek 7.02 27 Pn **Pn 11 42 05.8 +2.3**
CNPM China Poot 7.18 44 Pn **Pn 11 42 07.9 +2.3**
RSO Redoubt South 7.26 35 Pn **Pn 11 42 06.8 -0.1**
K15K Wolf Creek Mou 7.57 358 Pn **Pn 11 42 11.1 +0.1**
L18K Granite Mounta 7.83 15 Pn **Pn 11 42 14.8 +0.3**
M19K Big River Lodg 7.99 23 Pn 11 42 18.2 +1.6
K17K Ididarod 8.12 9 Pn **Pn 11 42 18.9 +0.5**
SEW Seward 8.25 45 Pn **Pn 11 42 20.7 +0.5**
SUA Susitna One 8.66 35 Pn **Pn 11 42 26.6 +0.6**
SKT Skwentna 8.81 31 Pn **Pn 11 42 29.6 +1.7**
PWL Port Wells 9.14 43 Pn **Pn 11 42 32.8 +0.3**
K20K Telida 9.35 20 Pn **Pn 11 42 36.4 +1.1**
PPLA Purkeypile 9.37 26 Pn **Pn 11 42 38.6 +2.9**
HIN Hinchinbrook I 9.65 48 Pn **Pn 11 42 39.7 +0.3**
J19K Poorman 9.68 14 Pn **Pn 11 42 40.3 +0.5**
CAST Castle Rocks 9.84 24 Pn **Pn 11 42 43.5 +1.6**
J20K Nowinta River 10.08 18 Pn **Pn 11 42 46.1 +0.8**
SCM Sheep Creek Mo 10.12 40 Pn **Pn 11 42 45.9 0.0**
KLU Klutina 10.46 44 Pn **Pn 11 42 50.7 +0.1**
HMT Hamilton 10.61 51 Pn **Pn 11 42 52.8 +0.2**
M24K Tolsona, Glenn 10.72 41 Pn **Pn 11 42 54.5 +0.5**
DHY Denali Highway 10.92 35 Pn **Pn 11 42 56.0 -0.9**
GLB Gilahina Butte 11.31 47 Pn **Pn 11 43 02.0 -0.1**
H21K Melozitna Rive 11.67 17 Pn **Pn 11 43 08.3 +1.3**
GRNC Granite Creek 11.91 52 Pn **Pn 11 43 10.7 +0.2**
RIDG Independent Ri 12.21 36 Pn **Pn 11 43 14.7 +0.2**
ILAR Eielson Array 12.29 30 Pn **Pn 11 43 12.4 -3.1**
comp=E,0.1nm,0.3s,baz=222,slow=14,SNR=3.5
ILAR Sn **Sn 11 45 26.7 -4.0**
baz=324,slow=33
comp=E,0.2nm,0.3s
BCAR Beaver Creek A 12.94 42 Pn **Pn 11 43 24.2 -0.1**
E22K Anaktuvuk Pass 14.11 14 Pn **Pn 11 43 43.0 +2.8**
INK Inuvik 18.65 33 P **P 11 44 36.5 +0.2**
comp=E,0.1nm,0.3s,baz=221,slow=10,SNR=5.1
INK LR LR 11 52 07.8
comp=E,35nm,18.7s,baz=210,slow=38
comp=E,0.5nm,0.4s
PETK Petropavlovsk- 24.08 283 P **P 11 45 32.5 -1.0**
comp=E,1.6nm,0.5s,baz=81,slow=13,SNR=11
comp=E,1.6nm,0.5s
H11N2 WAKE ISLAND Hy 42.57 228 T T 12 33 23.5
baz=27,slow=76,SNR=6.8
H11N3 WAKE ISLAND Hy 42.58 228 T T 12 33 26.7
baz=27,slow=76,SNR=9.9
H11N1 WAKE ISLAND Hy 42.59 228 T T 12 33 27.8
baz=27,slow=76,SNR=6.8
H11S1 WAKE ISLAND Hy 43.74 227 T T 12 34 42.6
baz=26,slow=75,SNR=8.1
H11S2 WAKE ISLAND Hy 43.75 227 T T 12 34 44.6
baz=26,slow=75,SNR=5.9
H11S3 WAKE ISLAND Hy 43.76 227 T T 12 34 46.0
baz=26,slow=75,SNR=4.3
SONM Songino Array 54.20 304 P **P 11 49 43.5 +0.2**
comp=E,0.3nm,0.4s,baz=25,slow=11,SNR=2.3
comp=E,0.3nm,0.4s
MKAR Makanchi Array 65.58 318 P **P 11 51 00.5 -0.6**
comp=E,0.4nm,0.5s,baz=38,slow=7.3,SNR=4.5
comp=E,0.4nm,0.5s
AKASG Malin Array Be 74.56 353 P **P 11 51 55.3 -0.7**
comp=E,1.5nm,0.4s,baz=8.5,slow=5.4,SNR=5.6
comp=E,1.5nm,0.4s
CMAR Chiang Mai Arr 80.73 289 P **P 11 52 31.1 +0.2**
comp=E,0.4nm,0.4s,baz=15,slow=6.2,SNR=5.2
comp=E,0.4nm,0.4s
ESDC Sonseca Array 83.92 18 P **P 11 52 48.4 +1.1**
comp=E,0.7nm,0.8s,baz=349,slow=4.8,SNR=5.8
comp=E,0.7nm,0.8s
BRTR Keskin Array B 85.05 349 P **P 11 52 54.1 +1.0**
comp=E,0.5nm,0.4s,baz=325,slow=1.5,SNR=5.1
comp=E,0.5nm,0.4s

*DNK **12** 11:48:34.8±0.8,59°.61N×25°.49E, h0km, ML2.4(UPP), Suspected explosion*
*UPP **12** 11:48:37.3±2.9,59°.63N×25°.19E, h0km, ML2.4*
*EST **12** 11:48:40.4±0.0,59°.50N×24°.72E, h0km, ML2.1(HEL), Explosion*
*IDC **12** 11:48:41.2±2.0,59°.57N×24°.81E, h0km, mbtmp3.2/3, ML2.5/3, Error ellipse: s-maj=21.6km s-min=7.8km az=145.0*
*LVSN **12** 11:48:41.5±4.9,59°.53N×24°.87E, h0km±38km, ML2.5*
ISC 12 11:48:38.9±0.7,59°.50N±0°.02×24°.76E±0°.02, h0km, n53, σ0.993/79, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EE02	**Kiisa, Saku**	**0.31**	**186**	*eP*	**Pg**	**11 48 45.8**	**+0.9**
ARBE	**Arbavere**	**0.63**	**95**	*eP*	**Pg**	**11 48 50.9**	**0.0**
ARBE				*eS*	**Sg**	**11 48 59.2**	**+0.2**
ARBE				AML	AML	11 49 07.1	
	comp=N,711nm,0.1s						
ARBE				AML	AML	11 49 08.8	
	comp=E,699nm,0.1s						
ARBE				AML	AML	11 49 14.1	
	comp=Z,210nm,0.5s						
ARBE	**Arbavere**	**0.63**	**95**	*eP*	**Pg**	**11 48 51.0**	**0.0**
EE01	**Perakula, Nova**	**0.65**	**244**	*eP*	**Pg**	**11 48 51.8**	**+0.4**
EE01				*eS*	**Sg**	**11 48 59.7**	**-0.1**
HEL1	**Helsinki**	**0.68**	**5**	*eP*	**Pg**	**11 48 52.9**	**+0.9**
HEL1				*eS*	**Sg**	**11 49 01.7**	**+0.9**
MEF	**Metsahovi**	**0.74**	**346**	*eP*	**Pg**	**11 48 54.0**	**+0.8**
MEF				*eS*	**Sg**	**11 49 03.6**	**+0.8**
MEF				AML	AML	11 49 09.4	
	comp=E,42nm,0.3s						
MEF				AML	AML	11 49 10.7	
	comp=Z,74nm,0.7s						
MEF				AML	AML	11 49 13.3	
	comp=N,57nm,0.6s						
MEF	**Metsahovi**	**0.74**	**346**	*eP*	**Pg**	**11 48 53.9**	**+0.8**
MEF	**Metsahovi**	**0.74**	**346**	*eP*	**Pg**	**11 48 53.8**	**+0.7**
MEF				*eS*	**Sg**	**11 49 03.2**	**+0.5**
EE08	**Sarghaua, Vand**	**0.88**	**163**	*eP*	**Pg**	**11 48 56.4**	**+0.6**
EE08				*eS*	**Sg**	**11 49 07.5**	**+0.3**
MTSE	**Matsula**	**0.93**	**212**	*eP*	**Pg**	**11 48 56.8**	**+0.2**
MTSE				*eS*	**Sg**	**11 49 09.5**	**+0.9**
MTSE	**Matsula**	**0.93**	**212**	*eP*	**Pg**	**11 48 56.9**	**+0.2**
MTSE	**Matsula**	**0.93**	**212**	*eP*	**Pg**	**11 48 56.8**	**+0.2**
MTSE				*eSB*	**Sg**	**11 49 09.2**	**+0.6**
EE03	**Tooma soojaam,**	**1.00**	**128**	*eP*	**Pg**	**11 48 58.5**	**+0.4**
EE03				*eS*	**Sg**	**11 49 11.8**	**+0.7**
NUR	**Nurmijrvi**	**1.01**	**357**	*eP*	**Pg**	**11 48 58.8**	**+0.5**
NUR				MSG		11 49 19.5	
	comp=Z,17nm,0.1s						
PVF	**Pernaja**	**1.19**	**27**	*eP*	**Pg**	**11 49 02.0**	**+0.4**
PVF				MSG		11 49 23.9	
	comp=Z,11nm,0.1s						
VSU	**Vasula**	**1.46**	**135**	*eP*	**Pg**	**11 49 07.0**	**+0.1**
VSU				*eS*	**Sg**	**11 49 25.7**	**-0.1**
VSU				AML	AML	11 49 30.6	
	comp=E,140nm,0.2s						
VSU				AML	AML	11 49 31.0	
	comp=N,148nm,0.5s						
VSU				AML	AML	11 49 32.3	
	comp=Z,108nm,0.2s						
VSU	**Vasula**	**1.46**	**135**	*eP*	**Pn**	**11 49 05.5**	**-1.0**
VSU	**Vasula**	**1.46**	**135**	*eP*	**Pg**	**11 49 06.9**	**0.0**
VSU				*eS*	**Sg**	**11 49 25.6**	**-0.2**
VJF	**Virojoki**	**1.75**	**52**	*eP*	**Pb**	**11 49 11.7**	**-0.2**
VJF				*eSN*	**Sg**	**11 49 35.2**	**+0.2**
VJF				MSG		11 49 37.6	
	comp=Z,23nm,0.1s						
FIA0	**FINESS Array S**	**2.06**	**18**	*ePG*	**Pb**	**11 49 17.3**	**+0.3**
FIA0				*eSG*	**Sb**	**11 49 43.8**	**+0.6**
FIA0				MSG		11 49 45.0	
	comp=Z,8.2nm,0.1s						
FINES	**FINESS Array B**	**2.06**	**18**	Pn	**Pb**	**11 49 17.2**	**+0.1**
	comp=Z,8.5nm,0.3s,baz=199,slow=14,SNR=207						
FINES				Lg	Lg	11 49 43.4	
	comp=Z,6.5nm,0.3s,baz=201,slow=27,SNR=12						
FINES				Rg	Rg	11 49 57.6	
	comp=Z,37nm,0.9s,baz=193,slow=31,SNR=14						
FIA1	**FINESS Array S**	**2.06**	**18**	*ePG*	**Pb**	**11 49 17.4**	**+0.3**
FIA1				*eSG*	**Sb**	**11 49 43.8**	**+0.6**
FIA1				MSG		11 49 45.9	
	comp=Z,15nm,0.1s						
RAF	**Rauma**	**2.13**	**317**	*eP*	**Pb**	**11 49 18.1**	**-0.4**
RAF				*eS*	**Sb**	**11 49 46.0**	**+0.5**
RAF				AML	AML	11 49 48.8	
	comp=N,31nm,0.2s						
RAF				AML	AML	11 49 48.9	
	comp=E,29nm,0.1s						
RAF				AML	AML	11 49 49.1	
	comp=Z,23nm,0.3s						
RAF	**Rauma**	**2.13**	**317**	*eP*	**Pb**	**11 49 18.0**	**-0.4**
RAF	**Rauma**	**2.13**	**317**	*ePB*	**Pb**	**11 49 18.0**	**-0.4**
RAF				*eSG*	**Sb**	**11 49 46.3**	**+0.8**
RAF				MSG		11 49 49.9	
	comp=Z,15nm,0.1s						
EE07	**Piusa Caves, O**	**2.19**	**138**	*ePG*	**Pb**	**11 49 19.4**	**+0.1**
EE07				*eSB*	**Sb**	**11 49 47.2**	**+0.4**
SLIT	**Slitere, Latvi**	**2.28**	**216**	*eP*	**Pb**	**11 49 20.0**	**-0.9**
SLIT				AML	AML	11 49 20.9	
	comp=Z,158nm,0.1s						
SLIT				*eS*	**Sb**	**11 49 50.9**	**+1.3**
SLIT				AML	AML	11 49 51.8	
	comp=N,256nm,0.4s						
SLIT				AML	AML	11 49 52.0	
	comp=E,258nm,0.4s						
SLIT	**Slitere, Latvi**	**2.28**	**216**	*eP*	**Pn**	**11 49 19.4**	**+1.7**
SLIT	**Slitere, Latvi**	**2.28**	**216**	*ePG*	**Pb**	**11 49 20.0**	**-0.9**
SLIT				*eSG*	**Sb**	**11 49 50.6**	**+1.0**
AAL	**Aland**	**2.50**	**288**	P	**Pn**	**11 49 22.1**	**+1.3**
AAL				S	**Sb**	**11 49 55.5**	**-0.4**
AAL	**Aland**	**2.50**	**288**	*eP*	**Pn**	**11 49 21.7**	**+0.9**
AAL	**Aland**	**2.50**	**288**	*eP*	**Pn**	**11 49 21.7**	**+0.9**
AAL				*ePB*	**Pb**	**11 49 23.5**	**-1.1**
AAL				*eSB*	**Sb**	**11 49 55.3**	**-0.6**
AAL	**Aland**	**2.50**	**288**	P	**Pn**	**11 49 22.1**	**+1.3**
AAL				S	**Sb**	**11 49 55.5**	**-0.4**
KPF	**Kankaanpaa**	**2.69**	**332**	*ePB*	**Pb**	**11 49 26.1**	**-1.8**
KPF				*eSB*	**Sb**	**11 50 00.7**	**-0.7**
KPF				MSG		11 50 03.2	
	comp=Z,7.3nm,0.1s						
RUF	**Ruokolahti**	**2.83**	**45**	*eP*	**Pn**	**11 49 26.3**	**+0.9**
RUF				*ePB*	**Pb**	**11 49 29.6**	**-0.8**
RUF				MSG		11 50 07.8	
	comp=Z,4.8nm,0.1s						
NRTU	**Norrtaelje**	**3.12**	**276**	P	**Pn**	**11 49 30.1**	**+0.8**
NRTU	**Norrtaelje**	**3.12**	**276**	P	**Pn**	**11 49 30.1**	**+0.8**
GRAU	**Graesoe**	**3.24**	**288**	P	**Pn**	**11 49 31.2**	**+0.2**
GRAU	**Graesoe**	**3.24**	**288**	P	**Pn**	**11 49 31.2**	**+0.2**
FORU	**Forsmark**	**3.43**	**288**	P	**Pn**	**11 49 34.2**	**+0.7**
FORU	**Forsmark**	**3.43**	**288**	P	**Pn**	**11 49 34.2**	**+0.7**
NYNU	**Nynaeshamn**	**3.50**	**265**	P	**Pn**	**11 49 35.7**	**+1.2**
NYNU	**Nynaeshamn**	**3.50**	**265**	P	**Pn**	**11 49 35.7**	**+1.2**
FLYU	**Flymyra**	**3.53**	**283**	P	**Pn**	**11 49 36.0**	**+1.1**
FLYU	**Flymyra**	**3.53**	**283**	P	**Pn**	**11 49 36.0**	**+1.1**
GOTU	**Gotland**	**3.71**	**243**	P	**Pn**	**11 49 39.2**	**+1.8**
GOTU	**Gotland**	**3.71**	**243**	P	**Pn**	**11 49 39.2**	**+1.8**
VIKU	**Vikbolandet**	**4.29**	**260**	*eP*	**Pn**	**11 49 46.0**	**+0.7**
JOF	**Joensuu**	**4.67**	**40**	*eP*	**Pn**	**11 49 51.5**	**+0.9**
HFS	**Hagfors**	**5.62**	**281**	Pn	**Pn**	**11 50 03.8**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=89,slow=21,SNR=12						
HFS				Sn	**Sn**	**11 51 08.4**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=92,slow=27,SNR=7.9						
HFS				Lg	Lg	11 51 39.4	
	comp=Z,1.3nm,0.3s,baz=96,slow=29,SNR=6.2						
	comp=Z,0.9nm,0.2s						
NOA	**NORSAR Array B**	**6.91**	**289**	Pn	**Pn**	**11 50 21.1**	**-0.3**
	baz=317,slow=13,SNR=5.1						
NOA				Sn	**Sn**	**11 51 36.4**	**-4.3**
	baz=72,slow=14,SNR=1.3						
NOA				Lg	Lg	11 52 10.2	
	comp=Z,0.1nm,0.3s,baz=318,slow=16,SNR=2.2						
	comp=Z,0.3nm,0.4s						
AKASG	**Malin Array Be**	**9.18**	**162**	Lg	Lg	11 53 28.8	
	comp=Z,1.3nm,0.3s,baz=333,slow=24,SNR=8.0						
ARCES	**ARCESS Array B**	**10.08**	**2**	Pn	**Pn**	**11 51 04.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=182,slow=13,SNR=18						
	comp=Z,1.6nm,0.8s						

*IDC **12** 12:10:51.7±1.6,2°.73N×128°.81E, h244km±16km, mb3.4/11, mbtmp4.0/12, Error ellipse: s-maj=25.4km s-min=11.7km az=74.0*
*DJA **12** 12:10:51.4±0.4,3°N±4°×12°8E±°, h211km±5km, M4.2/12, mb4.2/6, MLv4.1/12*
ISC 12 12:10:51.9±0.9,2°.59N±0°.10×128°.4E±0°.1, h250km, n29, σ1.941/28, mb3.7/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.08**	**210**	P	**Pn**	**12 11 34.1**	**-1.0**
TNTI	**Ternate**	**2.08**	**210**	P	**Pn**	**12 11 33.1**	**-2.0**
TNTI				S	**S**	**12 12 06.1**	**-3.1**
LBMI	**Labuha**	**3.33**	**196**	P	**Pn**	**12 11 47.7**	**-0.3**
LBMI				S	**S**	**12 12 31.6**	**-1.0**
SWI	**Sorong**	**4.46**	**140**	P	**Pn**	**12 12 00.0**	**-1.2**
SIJI	**Sorong**	**4.47**	**140**	P	**Pn**	**12 12 00.2**	**-1.1**
	22nm,0.4s,baz=323,slow=15,SNR=23						
SANI	**Sanana**	**5.20**	**208**	P	**Pn**	**12 12 08.8**	**-1.4**
GTOI	**Gorontalo**	**5.73**	**250**	P	**Pn**	**12 12 17.4**	**+0.8**
	17nm,0.6s,0.1nm						
NLAI	**Namlea**	**5.93**	**193**	P	**Pn**	**12 12 20.1**	**+0.9**
	10nm,0.5s,0.1nm						
FAKI	**Fak Fak**	**6.69**	**145**	P	**Pn**	**12 12 28.4**	**-0.3**
FAKI	**Fak Fak**	**6.69**	**145**	P	**Pn**	**12 12 28.2**	**-0.5**
	32nm,0.7s,0.1nm						
MRSI	**Marisa**	**6.79**	**252**	P	**Pn**	**12 12 31.4**	**+1.4**
KDU	**Kakadu**	**15.71**	**165**	P	**Pn**	**12 14 20.0**	**-0.6**
KNRA	**Kununurra**	**18.15**	**179**	P	**Pn**	**12 14 47.7**	**-1.6**
WRAB	**Tennant Creek**	**23.13**	**166**	P	**P**	**12 15 37.6**	**+1.3**
WRA	**Warramunga Arr**	**23.14**	**166**	P	**P**	**12 15 36.5**	**+0.1**
	0.9nm,0.3s,baz=342,slow=10,SNR=45						
WRA				ScP	**ScP**	**12 22 33.9**	**+2.6**
	0.2nm,0.6s,baz=347,slow=3.2,SNR=1.4						
	0.9nm,0.3s						
QIS	**Mount Isa**	**25.49**	**155**	P	**P**	**12 15 59.5**	**+1.8**
ASAR	**Alice Springs**	**26.64**	**169**	P	**P**	**12 16 08.8**	**+0.9**
	1.1nm,0.6s,baz=349,slow=7.5,SNR=36						
ASAR				PcP	**PcP**	**12 19 25.6**	**+0.6**
	0.5nm,0.4s,baz=345,slow=2.5,SNR=7.2						
ASAR				ScP	**ScP**	**12 22 41.8**	**+0.6**
	0.3nm,0.6s,baz=352,slow=3.1,SNR=4.4						
	1.1nm,0.6s						
WRKA	**Warakurna**	**27.46**	**180**	P	**P**	**12 16 16.6**	**+1.4**
OOD	**Oodnadatta**	**31.01**	**167**	P	**P**	**12 16 47.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**32.88**	**301**	P	P	12 17 06.2	+3.2
	1.1nm,0.8s,baz=119,slow=7.0,SNR=8.3						
	1.1nm,0.8s						
MJAR	**Matsushiro Arr**	**34.98**	**14**	P	P	12 17 18.6	-2.1
	1.6nm,0.7s,baz=189,slow=8.9,SNR=5.3						
	1.6nm,0.7s						
PETK	**Petropavlovsk-**	**55.87**	**21**	P	P	12 20 02.9	-0.7
	4.4nm,0.9s,baz=197,slow=5.6,SNR=6.4						
	4.4nm,0.9s						
MKAR	**Makanchi Array**	**59.44**	**325**	P	P	12 20 29.9	+1.3
	0.5nm,0.5s,baz=120,slow=8.3,SNR=5.4						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**63.59**	**327**	P	P	12 20 56.9	+0.8
	0.9nm,0.3s,baz=126,slow=6.2,SNR=6.1						
	0.9nm,0.3s						
BVAR	**Borovoye Array**	**69.18**	**327**	P	P	12 21 32.2	+0.8
	0.5nm,0.5s,baz=125,slow=9.7,SNR=2.2						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**85.41**	**25**	P	**P**	**12 22 59.3**	**-1.7**
	0.2nm,0.5s,baz=258,slow=4.5,SNR=4.9						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**92.09**	**340**	P	**P**	**12 23 32.0**	**-0.4**
	1.1nm,0.8s,baz=73,slow=6.7,SNR=4.2						
	1.1nm,0.8s						
QSPA	**South Pole Qui**	**92.50**	**180**	P	**P**	**12 23 36.1**	**+1.7**
	1.1nm,1.0s,baz=358,slow=8.4,SNR=2.4						
	1.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**124.86**	**288**	PKP	**PKiKP**	**12 29 24.1**	**+0.7**
	0.6nm,0.8s,baz=26,slow=2.8,SNR=3.3						

IDC 12 12:26:45.4±518.0, 66°.80N×47°.64E, h0km, Error ellipse: s-maj=250.4km s-min=142.9km az=163.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASONI**	**1.23**	**211**	I	I	13 33 40.0	
	baz=21,slow=333,SNR=3.8						
I31KZ	**AKTYUBINSK INF**	**17.26**	**157**	I	I	14 09 10.0	
	baz=347,slow=318,SNR=2.4						
I46RU	**ZALESOVO INFRA**	**22.00**	**108**	I	I	14 40 00.0	
	0.1nm,1.4s,baz=323,slow=321,SNR=3.2						
I34MN	**SONGINO INFRAS**	**35.25**	**93**	I	I	16 02 10.0	
	baz=322,slow=329,SNR=1.4						

*IDC **12** 12:28:14.2±0.8,27°.82N×60°.43E, h0km, mb3.9/22, mbtmp4.0/25, ML4.1/3, MS3.4/20, Error ellipse: s-maj=18.3km s-min=13.7km az=177.0*
*NEIC **12** 12:28:15.8±1.4,27°.75N±0°.09×60°.5E±0°.1, h10km±2km, mb4.1/11, Error ellipse: s-maj=20.6km s-min=13.2km az=120.0*
*TEH **12** 12:28:15.3,27°.68N×60°.47E, h7km±11km, ML4.1*
*OMAN **12** 12:28:23.0±0.3,27°.25N×60°.40E, h10km, mb4.5/2, ml3.9/16, Error ellipse: s-maj=6.6km s-min=4.3km az=253.0*
*DSN **12** 12:28:26.9±1.9,26°.64N×60°.31E, h10km, ML3.3/9, Error ellipse: s-maj=51.3km s-min=15.3km az=167.0*
ISC 12 12:28:15.3±0.4,27°.66N±0°.03×60°.53E±0°.05, h10km, n128, σ2.906/132, mb4.0/26, MS3.3/18, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRVN	**Saravan**	**1.68**	**98**	Pg	**Pg**	**12 28 49.1**	**+1.6**
ZHDN	**Zahedan**	**1.75**	**8**	Pg	**Pb**	**12 28 48.0**	**+0.4**
CHBR	**Chabahar**	**2.06**	**181**	Pn	**Pb**	**12 28 53.1**	**+0.3**
KBAM	**BAM**	**2.35**	**309**	Pn	**Pn**	**12 28 55.6**	**+1.5**
NGCH	**Negor - Chabah**	**2.36**	**167**	P	**Pb**	**12 28 57.4**	**-0.5**
	SNR=12						
NGCH				S	**Sb**	**12 29 26.7**	**-0.4**
NGCH	**Negor - Chabah**	**2.36**	**167**	Pn	**Pb**	**12 28 57.2**	**-0.7**
KHNJ	**Kahnooj**	**2.52**	**277**	Pn	**Pn**	**12 28 57.9**	**+1.5**
JASK	**Jask - Hormozg**	**2.98**	**234**	P	**Pn**	**12 29 06.0**	**+3.3**
JASK				S	**Sn**	**12 29 41.7**	**+3.2**
JASK	**Jask - Hormozg**	**2.98**	**234**	Pn	**Pn**	**12 29 05.0**	**+2.3**
CHMN	**Cheshme madani**	**3.42**	**310**	Pn	**Pn**	**12 29 11.1**	**+2.0**
IBND	**Bandar-abas**	**3.55**	**267**	Pn	**Pn**	**12 29 12.2**	**+1.6**
NHDN	**Nehbandan**	**3.74**	**354**	Pn	**Pn**	**12 29 14.8**	**+1.6**
TVBK	**TV Kerman**	**4.04**	**306**	Pn	**Pn**	**12 29 19.9**	**+2.4**
SHME	**Shamm**	**4.24**	**249**	P	**Pn**	**12 29 23.2**	**+3.2**
	SNR=24						
SHME	**Shamm**	**4.24**	**249**	Pn	**Pn**	**12 29 23.6**	**+3.6**
BSRN	**Basiran**	**4.46**	**344**	Pn	**Pn**	**12 29 25.0**	**+1.8**
KHGB	**Koh Gabri**	**4.46**	**308**	Pn	**Pn**	**12 29 25.3**	**+2.0**
MDH	**Madha**	**4.47**	**239**	*i* P	**Pn**	**12 29 24.7**	**+1.6**
	SNR=10.0						
MDH				S	**Sn**	**12 30 12.5**	**-2.7**
MDH	**Madha**	**4.47**	**239**	P	**Pn**	**12 29 24.6**	**+1.6**
	SNR=26						
MDH	**Madha**	**4.47**	**239**	Pn	**Pn**	**12 29 24.7**	**+1.6**
MASF	**Masafi**	**4.54**	**241**	P	**Pn**	**12 29 27.5**	**+3.3**
	SNR=9.6						
MSFE	**Esma-Masafi**	**4.54**	**241**	*i* P	**Pn**	**12 29 26.8**	**+2.6**
	SNR=8.9						
MSFE	**Esma-Masafi**	**4.54**	**241**	Pn	**Pn**	**12 29 27.8**	**+3.6**
BIDO	**Bidbid**	**4.66**	**208**	P	**Pn**	**12 29 27.1**	**+1.3**
	SNR=8.9						
BIDO	**Bidbid**	**4.66**	**208**	Pn	**Pn**	**12 29 27.1**	**+1.3**
WSAR	**Wadi Sarin**	**4.73**	**202**	P	**Pn**	**12 29 28.6**	**+1.8**
	SNR=166						
WSAR				S	**Sn**	**12 30 20.3**	**-1.4**
WSAR	**Wadi Sarin**	**4.73**	**202**	Pn	**Pn**	**12 29 28.2**	**+1.4**
	6.5nm,0.3s,baz=42,slow=9.9,SNR=181						
WSAR				Sn	**Sn**	**12 30 20.3**	**-1.4**
	17nm,0.3s,baz=268,slow=10.0,SNR=8.0						
	20nm,0.4s						
UOSS	**Minazif**	**4.74**	**236**	Pn	**Pn**	**12 29 27.7**	**+0.8**
UOSS	**Minazif**	**4.74**	**236**	*i* P	**Pn**	**12 29 27.6**	**+0.8**
	SNR=16						
UOSS	**Minazif**	**4.74**	**236**	P	**Pn**	**12 29 27.5**	**+0.7**
UOSS				S	**Sn**	**12 30 18.8**	**-3.0**
UOSS	**Minazif**	**4.74**	**236**	Pn	**Pn**	**12 29 27.7**	**+0.8**

HRA	**Herat**	**6.86**	**12**	Pn	**Pn**	**12 29 55.8**	**-0.4**
MHTO	**MHTO**	**7.05**	**200**	P	**Pn**	**12 30 01.5**	**+3.0**
	SNR=14						
MHTO				S	**Sn**	**12 31 17.9**	**-0.9**
TBJM	**Torbat-e-JAM**	**7.58**	**359**	Pn	**Pn**	**12 30 08.2**	**+2.1**
ANAR	**Anarak**	**8.05**	**315**	Pn	**Pn**	**12 30 15.4**	**+2.9**
KLNJ	**Kolanjah**	**8.49**	**295**	Pn	**Pn**	**12 30 21.0**	**+2.4**
GEYT	**Alibeck**	**10.44**	**349**	LR	LR	12 34 43.4	
	comp=Z,66nm,18.5s,baz=162,slow=38						
DOK	**Doka**	**10.76**	**215**	P	**Pn**	**12 30 50.3**	**+0.8**
DOK				S	**Sn**	**12 32 49.1**	**-0.9**
THW	**Thamme Wali**	**10.96**	**59**	P	**Pn**	**12 30 54.7**	**+2.5**
CEP	**Cherat**	**11.55**	**55**	P	**Pn**	**12 31 03.5**	**+3.1**
ABTO	**Aybut**	**12.24**	**215**	P	**Pn**	**12 31 12.0**	**+2.1**
ABTO				S	**Sn**	**12 33 25.1**	**-1.5**
NIL	**Nilore**	**12.46**	**58**	Pn	**Pn**	**12 31 13.0**	**+0.2**
BTK	**Batken**	**15.01**	**32**	Pn	**Pn**	**12 31 46.2**	**-1.4**
KK31	**Karatay Array**	**17.40**	**25**		**Pn**	**12 32 18.0**	**-0.2**
KKAR	**Karatay Array**	**17.40**	**25**	Pn	**Pn**	**12 32 16.8**	**-1.4**
KSH	**Kashi**	**17.44**	**43**	P	**Pn**	**12 32 15.3**	**-3.5**
KSH				PP	**PnPn**	**12 32 29.2**	**+0.2**
KSH				pmax	pmax		
	comp=Z,18nm,0.6s						
KSH				LR	LR		
	comp=N,280nm,15.3s						
KSH				LR	LR		
	comp=E,350nm,13.5s						
KSH				LR	LR		
	comp=Z,510nm,15.3s						
GNI	**Garni**	**18.05**	**318**		**Pn**	**12 32 26.0**	**-0.4**
GNI				IAmb	IAmb	12 32 43.9	
	comp=Z,18nm,1.2s						
GNI	**Garni**	**18.05**	**318**	P	**Pn**	**12 32 26.0**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=338,slow=8.7,SNR=1.6						
	comp=Z,4.0nm,0.3s						
NRN	**Naryn**	**18.69**	**39**	P	**P**	**12 32 32.6**	**-1.5**
AAK	**Ala-Archa**	**18.76**	**34**	P	**P**	**12 32 33.6**	**-1.1**
AAK				IAmb	IAmb	12 32 44.4	
	comp=Z,7.3nm,0.8s						
AAK	**Ala-Archa**	**18.76**	**34**	P	**Pn**	**12 32 35.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=248,slow=1.8,SNR=3.9						
AAK				LR	LR	12 40 54.0	
	comp=Z,214nm,21.2s,baz=237,slow=41						
	comp=Z,3.7nm,0.8s						
BOOM	**Boomskoye usch**	**19.39**	**36**	P	**P**	**12 32 41.1**	**-0.5**
BOOM				IAmb	IAmb	12 32 44.7	
	comp=Z,8.3nm,0.8s						
ASF	**Jabal al Asfar**	**20.96**	**288**	P	**P**	**12 32 57.9**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=82,slow=7.1,SNR=3.2						
	comp=Z,0.9nm,0.5s						
KBZ	**Khabaz**	**21.43**	**323**	P	**P**	**12 33 03.7**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=163,slow=14,SNR=1.4						
	comp=Z,0.6nm,0.4s						
ABKAR	**Akbulak array**	**21.57**	**359**	P	**P**	**12 33 04.9**	**0.0**
ABKAR	**Akbulak array**	**21.57**	**359**	P	**P**	**12 33 04.6**	**-0.2**
ABKAR				IAmb	IAmb	12 33 21.8	
	comp=Z,15nm,1.1s						
MMAI	**Mount Meron Ar**	**22.31**	**290**	P	**P**	**12 33 12.7**	**-0.5**
	comp=Z,0.4nm,0.2s,baz=88,slow=14,SNR=1.6						
MMAI				LR	LR	12 43 28.7	
	comp=Z,64nm,19.9s,baz=78,slow=41						
	comp=Z,0.4nm,0.2s						
AKTO	**Aktyubinsk**	**22.82**	**356**	P	**P**	**12 33 17.5**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=180,slow=6.9,SNR=4.6						
AKTO				LR	LR	12 43 45.0	
	comp=Z,101nm,19.5s,baz=358,slow=41						
	comp=Z,1.2nm,0.4s						
BRTR	**Keskin Array B**	**25.30**	**305**	P	**P**	**12 33 41.4**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=120,slow=8.5,SNR=3.7						
	comp=Z,0.4nm,0.3s						
MAKZ	**Makanchi**	**25.48**	**36**	P	**P**	**12 33 43.6**	**-0.1**
MK31	**Makanchi Array**	**25.64**	**36**	P	**P**	**12 33 44.4**	**-0.6**
MK31				IAmb	IAmb	12 33 46.0	
	comp=Z,2.9nm,0.9s						
MKAR	**Makanchi Array**	**25.64**	**36**	P	**P**	**12 33 43.7**	**-1.3**
MKAR	**Makanchi Array**	**25.64**	**36**	P	**P**	**12 33 44.5**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=218,slow=8.7,SNR=23						
MKAR				LR	LR	12 45 17.3	
	comp=Z,282nm,18.3s,baz=254,slow=40						
	comp=Z,2.1nm,0.6s						
BVAR	**Borovoye Array**	**26.37**	**13**	P	**P**	**12 33 51.2**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=189,slow=8.5,SNR=15						
BVAR				LR	LR	12 45 31.2	
	comp=Z,73nm,18.4s,baz=211,slow=40						
	comp=Z,3.7nm,0.8s						
KURBB	**Kurchatov Arra**	**26.70**	**26**	P	**P**	**12 33 54.5**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=221,slow=8.6,SNR=22						
KURBB				LR	LR	12 46 17.2	
	comp=Z,60nm,18.9s,baz=172,slow=41						
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**26.81**	**26**	P	**P**	**12 33 54.4**	**-1.2**
KURK				IAmb	IAmb	12 34 07.6	
	comp=Z,3.9nm,0.8s						
ARU	**Arti**	**28.78**	**358**	LR	LR	12 47 04.0	
	comp=Z,47nm,18.4s,baz=184,slow=40						
ZAA0	**Zalesovo Array**	**31.74**	**28**	P	**P**	**12 34 38.6**	**-0.7**
ZAA0				IAmb	IAmb	12 34 40.2	
	comp=Z,2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**31.74**	**28**	P	**P**	**12 34 37.9**	**-1.5**
ZALV	**Zalesovo Beam**	**31.74**	**28**	P	**P**	**12 34 38.6**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=233,slow=8.9,SNR=13						
ZALV				LR	LR	12 47 11.9	
	comp=Z,16nm,21.4s,baz=256,slow=36						
	comp=Z,2.2nm,0.4s						
KIRV	**Kirov**	**31.87**	**349**	LR	LR	12 49 50.5	
	comp=Z,116nm,18.6s,baz=149,slow=41						
AKASG	**Malin Array Be**	**33.04**	**323**	P	**P**	**12 34 49.1**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=127,slow=8.5,SNR=4.5						
	comp=Z,1.2nm,0.4s						
AKBB	**Malin Array Si**	**33.04**	**323**	P	**P**	**12 34 49.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**36.38**	**96**	LR	LR	12 53 45.0	
	comp=Z,41nm,18.9s,baz=275,slow=42						
MBAR	**Mbarara**	**40.11**	**230**	LR	LR	12 54 47.2	
	comp=Z,55nm,18.3s,baz=2.0,slow=40						
SONM	**Songino Array**	**40.76**	**48**	P	**P**	**12 35 57.1**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=260,slow=11,SNR=7.1						
SONM				LR	LR	12 55 25.0	
	comp=Z,74nm,19.1s,baz=218,slow=40						
	comp=Z,1.3nm,0.7s						
FINES	**FINESS Array B**	**40.85**	**335**	P	**P**	**12 35 56.2**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=138,slow=8.6,SNR=6.6						
	comp=Z,1.5nm,0.8s						
CLL	**Collm**	**42.66**	**317**	*e*pP	**P**	**12 36 14.0**	**+2.0**
CLL				*ex*	x	12 36 22.0	
HFS	**Hagfors**	**45.29**	**329**	P	**P**	**12 36 31.6**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=119,slow=12,SNR=5.6						
	comp=Z,2.1nm,0.8s						
ARCES	**ARCESS Array B**	**46.55**	**344**	P	**P**	**12 36 40.6**	**-2.2**
	comp=Z,1.1nm,0.5s,baz=137,slow=9.4,SNR=11						
ARCES				LR	LR	12 59 04.2	
	comp=Z,68nm,19.5s,baz=114,slow=40						
	comp=Z,1.1nm,0.5s						
TIA	**Tai'an**	**48.19**	**65**	P	**P**	**12 36 58.4**	**+2.3**
TIA				pmax	pmax		
	comp=Z,12nm,0.8s						
EKA	**Eskdalemuir Ar**	**52.87**	**320**	P	**P**	**12 37 29.6**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=106,slow=8.1,SNR=4.0						
	comp=Z,0.4nm,0.4s						
ESDC	**Sonseca Array**	**53.96**	**301**	P	**P**	**12 37 37.8**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=72,slow=6.8,SNR=9.2						
	comp=Z,0.2nm,0.3s						
MDT	**Midelt**	**55.73**	**292**	LR	LR	13 06 16.6	
	comp=Z,23nm,19.2s,baz=70,slow=41						
TORD	**Torodi Ar. Bea**	**56.53**	**268**	P	**P**	**12 37 58.7**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=60,slow=7.0,SNR=30						
	comp=Z,1.6nm,0.4s						
KSRS	**Korea Array**	**56.56**	**62**	P	**P**	**12 37 59.1**	**+1.0**
	comp=Z,5.8nm,0.8s,baz=274,slow=6.6,SNR=12						
KSRS				LR	LR	13 06 33.8	
	comp=Z,13nm,19.5s,baz=160,slow=41						
	comp=Z,5.8nm,0.8s						
KOWA	**Kowa**	**61.05**	**272**	LR	LR	13 08 19.8	
	comp=Z,31nm,19.2s,baz=335,slow=40						
TSUM	**Tsumeb**	**62.45**	**227**	LR	LR	13 08 25.5	
	comp=Z,33nm,18.1s,baz=336,slow=39						
MJAR	**Matsushiro Arr**	**64.77**	**60**	P	**P**	**12 38 54.2**	**0.0**
	comp=Z,2.5nm,0.9s,baz=293,slow=6.3,SNR=4.8						
	comp=Z,2.5nm,0.9s						
DBIC	**Dimbokro**	**65.15**	**264**	LR	LR	13 09 32.5	
	comp=Z,22nm,18.0s,baz=44,slow=38						
JHJ	**Hachijo jima 2**	**67.05**	**64**	LR	LR	13 10 59.7	
	comp=Z,30nm,18.6s,baz=84,slow=38						
ILAR	**Eielson Array**	**85.42**	**11**	P	**P**	**12 40 51.9**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=313,slow=4.7,SNR=6.2						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**85.63**	**115**	P	**P**	**12 40 55.8**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=310,slow=4.2,SNR=7.5						
	comp=Z,0.9nm,0.9s						
ASAR	**Alice Springs**	**87.22**	**118**	P	**P**	**12 41 04.2**	**+1.8**
	comp=Z,1.0nm,0.9s,baz=307,slow=5.3,SNR=6.7						
	comp=Z,1.0nm,0.9s						

*IDC **12** 12:33:11.0±3.0, 30°.36S×178°.32W, h56km±35km, mb3.9/4, mbtmp4.2/4, Error ellipse: s-maj=30.3km s-min=29.9km az=56.0*

ISC 12 12:33:01.9±2.6, 30.86S±0.09×177.4W±0.4, h35km, n13, σ2°00/8, mb4.3/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.67**	**343**	P	**Pn**	**12 33 30.1**	**+1.4**
	425nm,0.2s,baz=54,slow=23,SNR=5.5						
RAO				S	**Sn**	**12 33 46.1**	**-2.9**
	977nm,0.3s,baz=92,slow=20,SNR=10						
URZ	**Urewera**	**8.67**	**210**	P	**Pn**	**12 35 04.0**	**-0.8**
	2.1nm,0.3s,baz=224,slow=12,SNR=1.0						
URZ				S	**Sn**	**12 36 40.1**	**-1.3**
	7.8nm,0.7s,baz=278,slow=21,SNR=9.8						
STKA	**Stephens Creek**	**34.91**	**257**	P	**P**	**12 39 52.8**	**+2.5**
	5.7nm,0.7s,baz=90,slow=10,SNR=7.1						
	5.7nm,0.7s						
ASAR	**Alice Springs**	**43.63**	**267**	P	**P**	**12 41 03.5**	**+0.2**
	0.7nm,0.6s,baz=105,slow=7.6,SNR=14						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**44.66**	**272**	P	**P**	**12 41 11.2**	**-0.4**
	1.4nm,0.3s,baz=112,slow=8.0,SNR=37						
	1.4nm,0.3s						
QSPA	**South Pole Qui**	**59.25**	**180**	P	P	12 43 10.1	+10
	2.3nm,0.8s,baz=33,slow=0.9,SNR=14						
	2.3nm,0.8s						
H03S2	**Juan Fernandez**	**79.75**	**123**	T	T	14 14 17.5	
	baz=238,slow=74,SNR=22						
H03S1	**Juan Fernandez**	**79.77**	**123**	T	T	14 14 20.0	
	baz=238,slow=74,SNR=22						
H03S3	**Juan Fernandez**	**79.77**	**123**	T	T	14 14 20.9	
	baz=238,slow=74,SNR=26						
H03N3	**Juan Fernandez**	**79.95**	**123**	T	T	14 14 27.0	
	baz=241,slow=72,SNR=11						
H03N2	**Juan Fernandez**	**79.95**	**123**	T	T	14 14 32.6	
	baz=241,slow=72,SNR=15						
H03N1	**Juan Fernandez**	**79.96**	**123**	T	T	14 14 30.7	
	baz=241,slow=72,SNR=18						
FINES	**FINESS Array B**	**145.76**	**340**	PKPbc	**PKiKP**	**12 52 39.0**	**-1.1**
	1.7nm,0.5s,baz=60,slow=4.4,SNR=11						

*NOU **12** 12:43:30.3, 16°.28S×167°.51E, h23km, MLv5.0/16, Vanuatu Islands*
*IDC **12** 12:43:33.6±3.3, 16°.52S×167°.68E, h72km±29km, mb3.8/8, mbtmp4.1/9, MS3.6/11, Error ellipse: s-maj=29.5km s-min=21.0km az=98.0*
*NEIC **12** 12:43:37.7±2.5, 16°.75S±0°.09×167°.3E±0°.1, h70km±7km, mb4.4/15, Error ellipse: s-maj=14.8km s-min=13.1km az=72.0*

ISC 12 12:43:29.0±0.6, 16°.30S±0°.07×167°.47E±0°.08, h20km, n50, σ1°.21/42, mb4.3/14, MS3.6/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.74**	**149**	P	**Pb**	**12 43 59.7**	**-0.6**
LIFNC	**LIFOU**	**4.46**	**183**	Pn	**Pn**	**12 44 35.1**	**-0.4**
MARNC	**Mare, Loyalty**	**5.18**	**174**	Pn	**Pn**	**12 44 45.7**	**+0.3**
KOUNC	**Koumac, New Ca**	**5.20**	**215**		**Pn**	**12 44 47.5**	**+1.9**
KOUNC	**Koumac, New Ca**	**5.20**	**215**	P	**Pn**	**12 44 47.6**	**+1.9**
YATNC	**Mamie plateau,**	**5.75**	**185**	P	**Pn**	**12 44 53.3**	**0.0**
DZM	**Mont Dzumac**	**5.82**	**189**		**Pn**	**12 44 54.9**	**+0.6**
DZM	**Mont Dzumac**	**5.82**	**189**	P	**Pn**	**12 44 55.1**	**+0.7**
DZM	**Mont Dzumac**	**5.82**	**189**	P	**Pn**	**12 44 55.1**	**+0.7**
	23nm,0.3s,baz=50,slow=19,SNR=252						
DZM				S	**Sn**	**12 45 58.9**	**-1.7**
	108nm,0.5s,baz=334,slow=23,SNR=12						
DZM				LR	LR	12 46 55.6	
	comp=Z,141nm,18.2s,baz=14,slow=36						
NOUC	**Port Laguerre**	**5.88**	**191**	P	**Pn**	**12 44 56.4**	**+1.4**
ONTNC	**Ouen Toro**	**6.05**	**189**		**Pn**	**12 44 58.7**	**+1.3**
ONTNC	**Ouen Toro**	**6.05**	**189**	P	**Pn**	**12 44 59.1**	**+1.7**
OUENC	**Ouen Island, N**	**6.11**	**185**		**Pn**	**12 44 59.0**	**+0.7**
OUENC	**Ouen Island, N**	**6.11**	**185**	P	**Pn**	**12 45 00.5**	**+2.2**
PINNC	**Pines Island,**	**6.28**	**180**		**Pn**	**12 45 02.1**	**+1.5**
HNR	**Honiara**	**10.02**	**312**	Pn	Pn	12 46 02.1	+10
HNR	**Honiara**	**10.02**	**312**	P	Pn	12 46 00.2	+8.2
	337nm,0.4s,baz=85,slow=11,SNR=2.3						
HNR				S	**Sn**	**12 47 42.8**	**-1.1**
	178nm,0.3s,baz=160,slow=23,SNR=1.6						
MSVF	**Nonsavu**	**10.22**	**100**	P	**Pn**	**12 45 56.8**	**+2.1**
	10nm,0.9s,baz=280,slow=6.6,SNR=2.7						
MSVF				LR	LR	12 49 14.7	
	comp=Z,466nm,18.3s,baz=183,slow=34						
EIDS	**Eidsvold**	**17.77**	**237**		**Pn**	**12 47 35.7**	**+0.4**
RAO	**Raoul Island**	**18.62**	**136**	LR	LR	12 53 30.8	
	comp=Z,194nm,21.7s,baz=238,slow=33						
AFI	**Afiamalu**	**20.17**	**86**	P	Pn	12 48 09.2	+4.7
ARMA	**Armidale**	**20.19**	**223**	P	**P**	**12 48 02.5**	**-0.1**
ARMA				IAmb	IAmb	12 48 21.7	
	comp=Z,13nm,1.1s						
CTA	**Charters Tower**	**20.50**	**256**	P	**P**	**12 48 07.2**	**+1.2**
	comp=Z,2.7nm,0.6s,baz=80,slow=16,SNR=8.0						
CTA				LR	LR	12 54 51.8	
	comp=Z,101nm,18.6s,baz=84,slow=33						
	comp=Z,2.7nm,0.6s						
CTAO	**Charters Tower**	**20.50**	**256**	P	Pn	12 48 07.9	-0.3
CTAO				IAmb	IAmb	12 48 19.6	
	comp=Z,12nm,1.1s						
URZ	**Urewera**	**23.46**	**161**	LR	LR	12 56 46.5	
	comp=Z,168nm,19.3s,baz=33,slow=34						
NNZ	**Nelson**	**25.35**	**170**	P	**P**	**12 48 55.2**	**+0.5**
NNZ				IAmb	IAmb	12 49 08.7	
	comp=Z,48nm,1.3s						
RPZ	**Rata Peaks**	**27.49**	**174**	LR	LR	12 58 51.4	
	comp=Z,109nm,20.7s,baz=318,slow=34						
STKA	**Stephens Creek**	**28.16**	**232**	P	**P**	**12 49 19.9**	**-0.2**
STKA	**Stephens Creek**	**28.16**	**232**	P	**P**	**12 49 20.3**	**+0.2**
	comp=Z,4.3nm,0.8s,baz=39,slow=7.2,SNR=5.1						
	comp=Z,4.3nm,0.8s						
WB0	**Warramunga Arr**	**31.61**	**259**	P	**P**	**12 49 50.7**	**-0.2**
WB0				IAmb	IAmb	12 49 51.4	
	comp=Z,2.7nm,0.8s						
WB2	**Warramunga Arr**	**31.66**	**258**	P	**P**	**12 49 50.9**	**-0.4**
WB2				IAmb	IAmb	12 50 33.5	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**31.67**	**258**	P	**P**	**12 49 50.7**	**-0.7**
WRA	**Warramunga Arr**	**31.67**	**258**	P	**P**	**12 49 50.5**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=88,slow=8.4,SNR=12						
	comp=Z,1.6nm,0.8s						
AS31	**Alice Springs**	**32.33**	**251**	P	**P**	**12 49 57.0**	**-0.1**
AS31				IAmb	IAmb	12 49 58.5	
	comp=Z,4.3nm,0.8s						
ASAR	**Alice Springs**	**32.33**	**251**	P	**P**	**12 49 57.5**	**+0.4**
ASAR	**Alice Springs**	**32.33**	**251**	P	**P**	**12 49 56.9**	**-0.3**
	comp=Z,11nm,0.8s,baz=76,slow=8.9,SNR=119						
ASAR				PcP	**PcP**	**12 52 43.8**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=106,slow=3.1,SNR=2.7						
ASAR				LR	LR	13 02 27.7	
	comp=Z,124nm,18.7s,baz=96,slow=35						
	comp=Z,11nm,0.8s						
KNRA	**Kununurra**	**37.18**	**265**	P	**P**	**12 50 38.8**	**-0.3**
KNRA				IAmb	IAmb	12 50 52.2	
	comp=Z,24nm,1.4s						
FORT	**Forrest**	**38.69**	**241**	P	**P**	**12 50 50.2**	**-1.5**
SIJI	**Sorong**	**38.83**	**290**	LR	LR	13 06 33.7	
	comp=Z,105nm,21.4s,baz=134,slow=35						
JNU	**Nakatsue**	**60.31**	**325**	P	**P**	**12 53 39.7**	**+3.1**
CASY	**Casey**	**62.16**	**203**	P	**P**	**12 53 48.5**	**-0.1**
CASY				IAmb	IAmb	12 54 00.4	
	comp=Z,2.4nm,0.8s						
PETK	**Petropavlovsk-**	**69.64**	**354**	P	**P**	**12 54 35.9**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=160,slow=4.4,SNR=1.4						
	comp=Z,2.2nm,0.9s						
QSPA	**South Pole Qui**	**73.73**	**180**	P	**P**	**12 55 01.5**	**-0.1**
QSPA				IAmb	IAmb	12 55 12.4	
	comp=Z,3.8nm,1.3s						
QSPA	**South Pole Qui**	**73.73**	**180**	LR	LR	13 24 59.1	
	comp=Z,48nm,18.5s,baz=30,slow=34						
CMAR	**Chiang Mai Arr**	**75.77**	**294**	P	**P**	**12 55 14.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=142,slow=5.2,SNR=5.7						
	comp=Z,0.8nm,0.7s						
MA2	**Magadan**	**76.82**	**351**	LR	LR	13 24 52.2	
	comp=Z,18nm,21.4s,baz=122,slow=32						
BRDH	**Bariadhala**	**83.67**	**296**	LR	LR	13 30 41.3	
	comp=Z,59nm,21.4s,baz=36,slow=34						
SONM	**Songino Array**	**83.87**	**324**	P	**P**	**12 55 57.2**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=156,slow=8.1,SNR=4.0						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**87.95**	**18**	P	**P**	**12 56 15.1**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=233,slow=5.0,SNR=6.8						
	comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**121.81**	**345**	PKP	**PKPdf**	**13 02 19.3**	**-1.8**
	comp=Z,3.8nm,1.1s,baz=90,slow=2.3,SNR=5.9						

*BUL **12** 12:51:30.1±1.5, 26°.04S×29°.58E, h10km±19km, MD3.6*
*EAF **12** 12:51:30.0, 26°.09S×29°.70E, h37km, MC3.5*

ISC 12 12:51:25.6±1.5, 26.07S±0.08×29.63E±0.08, h10km, n8, σ2°.27/16, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.00**	**33**	*i* P	**Pn**	**12 52 15.7**	**+2.3**
MOPA				*i* S	**Sn**	**12 52 46.0**	**-3.4**
MOPA	**Mopani**	**3.00**	**33**	*i* P	**Pn**	**12 52 15.7**	**+2.3**
	baz=31						
MOPA				*i* S	**Sn**	**12 52 46.0**	**-3.4**
	baz=31						
MUSN	**Musina, Limpop**	**3.77**	**3**	*i* P	**Pn**	**12 52 25.6**	**+1.7**
MUSN				*i* S	**Sn**	**12 53 07.1**	**-1.3**
MUSN	**Musina, Limpop**	**3.77**	**3**	*i* P	**Pn**	**12 52 25.6**	**+1.7**
	baz=2.0						
MUSN				*i* S	**Sn**	**12 53 07.1**	**-1.3**
	baz=2.0						
LBTB	**Lobatse**	**3.79**	**285**	*i* P	**Pn**	**12 52 25.8**	**+1.5**
LBTB				*i* S	**Sn**	**12 53 07.5**	**-1.5**
LBTB	**Lobatse**	**3.79**	**285**	*i* P	**Pn**	**12 52 25.8**	**+1.5**
	baz=285						
LBTB				*i* S	**Sn**	**12 53 07.5**	**-1.5**
	baz=285						
BOSA	**Boshof**	**4.65**	**236**	*i* P	**Pn**	**12 52 37.5**	**+1.5**
BOSA				*i* S	**Sn**	**12 53 27.9**	**-2.2**
BOSA	**Boshof**	**4.65**	**236**	*i* P	**Pn**	**12 52 37.5**	**+1.5**
	baz=237						
BOSA				*i* S	**Sn**	**12 53 27.9**	**-2.2**
	baz=237						

*AFAD **12** 13:40:38.0±0.9, 34°.60N×36°.20E, h3km±6km, ML2.9*
*ISK **12** 13:40:38.1, 34°.49N×35°.69E, h5km, ML2.7/4*
*GRAL **12** 13:40:39.0±0.3, 34°.47N×36°.03E, h10km±1km, MD3.0*

ISC 12 13:40:38.0±0.9, 34.48N±0.04×36.05E±0.06, h16km±6km, n16, σ0°.94/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEIL	**Beino**	**0.12**	**62**	*e*P	**Pg**	**13 40 42.1**	**+0.4**
BEIL				*e*S	**Sg**	**13 40 44.5**	**+0.4**
HWQ	**Hawqa**	**0.22**	**203**	*e*P	**Pg**	**13 40 43.0**	**-0.2**
HWQ				*e*S	**Sg**	**13 40 46.1**	**-0.6**
ZAHL	**Zahle**	**0.64**	**193**	*e*P	**Pg**	**13 40 50.4**	**-0.3**
BHL	**Bhannes**	**0.67**	**210**	*e*P	**Pg**	**13 40 50.8**	**-0.3**
BHL				*e*S	**Sg**	**13 40 59.5**	**-0.4**
DQRL	**Deir Qamar**	**0.87**	**207**	*e*P	**Pg**	**13 40 54.2**	**-0.8**
DQRL				*e*S	**Sg**	**13 41 05.5**	**-1.0**
RCY	**Rachaya**	**1.00**	**190**	*e*P	**Pb**	**13 40 56.4**	**-0.7**
RHAN	**Hatay/Reyhanl**	**1.83**	**14**	P	**Pn**	**13 41 07.8**	**-1.0**
RHAN				S	**Sn**	**13 41 31.1**	**-0.6**
RHAN				*i* AML	AML	13 41 38.0	
	comp=N,131nm,0.4s						
RHAN				*i* AML	AML	13 41 40.0	
	comp=E,104nm,0.5s						
MMLI	**Mount Malkishu**	**2.11**	**195**	Pn	**Pn**	**13 41 14.9**	**+2.2**
MMLI				Sn	**Sb**	**13 41 42.6**	**+0.7**
CSS	**Mathiatis**	**2.29**	**283**	Pn	**Pn**	**13 41 14.6**	**-0.6**
KIZK	**Mersin**	**2.53**	**323**	Pn	**Pn**	**13 41 18.9**	**+0.4**
KIZK				Sn	**Sn**	**13 41 49.5**	**+0.5**
KEBE	**Keben-Mersin**	**2.73**	**316**	Pn	**Pn**	**13 41 22.1**	**+0.7**
KEBE				Sn	**Sn**	**13 41 53.9**	**-0.3**
GAZ	**Gaziantep**	**2.84**	**19**	Pn	**Pb**	**13 41 28.1**	**-0.4**
GZT	**Gaziantep**	**3.12**	**23**	P	**Pn**	**13 41 26.0**	**-0.7**
GZT				S	**Sn**	**13 42 03.6**	**-0.1**
SURC	**SANLIURFA_SURC**	**3.17**	**40**	P	Pn	13 41 17.8	-10
SURC				S	**Sn**	**13 42 04.9**	**0.0**
KERG	**Konya-Eregli**	**3.32**	**332**	P	**Pn**	**13 41 30.8**	**+1.3**
KERG				S	**Sn**	**13 42 11.0**	**+2.4**
GAZI	**Gazipasa**	**3.52**	**301**	Pn	**Pn**	**13 41 32.3**	**+0.2**

*SJA **12** 13:45:11.0±0.8, 18°.54S×69°.84W, h108km±5km, ML4.0, MW3.9*
*NEIC **12** 13:45:12.8±1.9, 18°.61S±0°.05×69°.87W±0°.09, h102km±7km, mb4.1/7, ML4

comp=E,520nm,0.4s
PB01 IPOC Station P 2.47 172 *e*P **Pn 13 45 51.6 +0.8**
PB01 IAML 13 46 31.4
comp=Z,278nm,0.2s
PB02 IPOC Station P 2.72 181 Pn 13 45 55.1 +0.9
PB02 IPOC Station P 2.72 181 *e*P **Pn 13 45 55.0 +0.8**
PB02 IAML 13 46 40.2
comp=E,1μm,0.3s
PB02 IPOC Station P 2.72 181 *e*P **Pn 13 45 55.3 +1.1**
PB02 IAML 13 46 38.4
comp=Z,742nm,0.3s
LPAZ La Paz 2.81 36 Pn 13 45 58.4 +2.5
LPAZ La Paz 2.81 36 P **Pn 13 45 59.2 +3.4**
comp=Z,24nm,0.3s,baz=284,slow=2.8,SNR=119
LPAZ LR LR 13 47 01.0
comp=Z,62nm,19.4s,baz=209,slow=40
LPAZ La Paz 2.81 36 *e*P **Pn 13 45 59.4 +3.5**
PB07 IPOC Station P 3.13 181 Pn 13 46 00.7 +1.0
PB07 IPOC Station P 3.13 181 *e*P **Pn 13 46 00.7 +1.0**
PB07 *e*S **Sn 13 46 37.4 +1.0**
PB07 IAML 13 46 48.7
comp=E,539nm,0.5s
PB07 IPOC Station P 3.13 181 *e*P **Pn 13 46 01.0 +1.3**
PB07 IAML 13 46 48.2
comp=Z,816nm,0.4s
PB09 IPOC Station P 3.25 170 Pn 13 46 02.6 +1.4
PB09 IPOC Station P 3.25 170 *e*P **Pn 13 46 03.0 +1.7**
PB09 IAML 13 46 55.0
comp=N,290nm,0.6s
PB09 IPOC Station P 3.25 170 *e*P **Pn 13 46 02.7 +1.4**
PB09 IAML 13 46 50.8
comp=Z,263nm,1.2s
PB04 IPOC Station P 3.74 184 Pn 13 46 08.2 +0.4
PB04 IPOC Station P 3.74 184 *e*P **Pn 13 46 08.7 +0.8**
PB04 IAML 13 47 07.2
comp=Z,228nm,0.7s
LVC Limon Verde 4.10 168 Pn 13 46 15.1 +2.2
LVC Limon Verde 4.10 168 P **Pn 13 46 14.5 +1.6**
comp=Z,8.5nm,0.3s,baz=61,slow=10.0,SNR=23
LVC S **Sn 13 46 59.0 -1.1**
comp=Z,30nm,0.5s,baz=42,slow=18,SNR=6.1
LVC Limon Verde 4.10 168 *e*P **Pn 13 46 14.8 +1.9**
LVC IAML 13 47 16.0
comp=Z,90nm,0.7s
PB06 IPOC Station P 4.11 176 Pn 13 46 13.1 +0.3
PB06 IPOC Station P 4.11 176 *e*P **Pn 13 46 13.2 +0.4**
PB06 IAML 13 47 30.8
comp=Z,144nm,0.5s
PB15 IPOC Station P 4.62 176 Pn 13 46 20.1 +0.4
PB15 IPOC Station P 4.62 176 *e*P **Pn 13 46 20.5 +0.8**
PB15 IAML 13 47 36.5
comp=Z,223nm,0.2s
AC01 Pan de Azucar 7.56 185 Pn **Pn 13 46 57.4 -2.1**
AC02 Maricunga 8.24 176 Pn **Pn 13 47 07.5 -1.7**
SIV San Ignacio 8.77 74 P **Pn 13 47 14.1 -1.9**
comp=Z,7.7nm,0.6s,baz=257,slow=9.8,SNR=30
PTLB Pontes e Lacer 10.71 75 Pn 13 47 41.6 -0.7
VILB Vilhena 10.84 60 Pn 13 47 44.2 0.0
SAML Samuel 11.55 35 Pn 13 47 52.3 -1.5
TRQA Tornquist 20.59 162 P **P 13 49 40.5 -2.2**
TRQA IAmb IAmb 13 50 16.3
comp=Z,6.4nm,1.2s
BDFB Brasilia 21.07 85 P **P 13 49 46.1 -2.1**
comp=Z,3.1nm,0.7s,baz=165,slow=25,SNR=1.9
comp=Z,3.1nm,0.7s
BOAV Boa Vista 22.78 25 P **P 13 50 06.0 0.0**
BAUV El Baul 27.41 4 P **P 13 50 48.2 +0.1**
BAUV IAmb IAmb 13 50 49.7
comp=Z,9.0nm,0.6s
RPN Rapa Nui 37.24 249 LR LR 14 04 37.1
comp=Z,520nm,19.4s,baz=278,slow=31
DBIC Dimbokro 68.79 75 P **P 13 56 05.2 -0.5**
comp=Z,3.1nm,0.7s,baz=161,slow=11,SNR=3.0
comp=Z,3.1nm,0.7s
QSPA South Pole Qui 71.59 180 P **P 13 56 25.4 +3.4**
QSPA IAmb IAmb 13 56 48.5
comp=Z,5.7nm,1.5s
QSPA South Pole Qui 71.59 180 P **P 13 56 25.4 +3.4**
comp=Z,0.7nm,0.6s,baz=233,slow=2.0,SNR=10
comp=Z,0.7nm,0.6s
NVAR Mina Array Bea 72.66 322 P P 13 56 34.4 +5.5
comp=Z,0.2nm,0.5s,baz=166,slow=8.7,SNR=1.9
comp=Z,0.2nm,0.5s
TOA0 Torodi Ar. Sit 77.23 71 P **P 13 56 55.4 0.0**
TOA0 IAmb IAmb 13 56 59.3
comp=Z,9.1nm,1.3s
TORD Torodi Ar. Bea 77.23 71 P **P 13 56 55.2 -0.2**
TORD IAmb IAmb 13 57 24.2
comp=Z,1.4nm,0.9s
TORD Torodi Ar. Bea 77.23 71 P **P 13 56 54.4 -1.0**
comp=Z,1.3nm,0.5s,baz=256,slow=5.6,SNR=14
comp=Z,1.3nm,0.5s
NEW Newport 78.79 330 LR LR 14 37 54.1
comp=Z,31nm,18.6s,baz=200,slow=40
ASAR Alice Springs 132.03 210 PKP **PKPdf 14 04 15.4 +1.0**
comp=Z,0.4nm,1.0s,baz=141,slow=3.1,SNR=2.3
WRA Warramunga Arr 134.96 213 PKP **PKiKP 14 04 21.9 +0.5**
comp=Z,0.3nm,0.9s,baz=126,slow=2.0,SNR=2.1

---

*IDC **12** 13:50:26.0±5.0, 3°.79S×101°.40E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=249.6km s-min=24.0km az=51.0*
*DJA **12** 13:50:33.6±0.9, 4°.S±6°×10°.2E±°, h29km±9km, M3.9/8, MLv3.9/8*
ISC 12 13:50:32.6±1.0, 3°.69S±0°.09×101°.60E±0°.07, h35km, n25, σ1§42/15, mb3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.99**	**88**	P	**Pn**	**13 50 50.8**	**+0.7**
KSI				S	**Sn**	**13 51 03.8**	**+0.8**
MNAI	**Manna**	**1.51**	**116**	P	**Pn**	**13 50 58.2**	**+1.0**
MNAI				S	**Sn**	**13 51 17.2**	**+1.5**
PPSI	**Pulau Pagai**	**1.83**	**300**	P	**Pn**	**13 51 02.2**	**+0.6**
LWLI	**Liwa**	**2.79**	**118**	P	**Pn**	**13 51 16.0**	**+1.1**
PDSI	**Padang**	**2.98**	**338**	P	**Pn**	**13 51 18.9**	**+1.4**
KASI	**Kota Agung**	**3.42**	**122**	P	**Pn**	**13 51 25.2**	**+1.7**
SISI	**Saibi**	**3.43**	**313**	P	**Pn**	**13 51 26.3**	**+2.6**
DSRI	**Dabo**	**4.36**	**43**	P	**Pn**	**13 51 37.6**	**+1.1**
H08S2	**Diego Garcia H**	**29.22**	**261**	T	T	14 26 16.7	
	baz=84,slow=75,SNR=36						
H08S3	**Diego Garcia H**	**29.23**	**261**	T	T	14 26 15.0	
	baz=84,slow=75,SNR=38						
H08S1	**Diego Carcia H**	**29.24**	**261**	T	T	14 26 17.6	
	baz=84,slow=75,SNR=29						
H01W3	**Cape Leeuwin H**	**33.15**	**161**	T	T	14 31 24.1	
	baz=332						
H01W2	**Cape Leeuwin H**	**33.16**	**161**	T	T	14 31 25.5	
	baz=332						
H01W1	**Cape Leeuwin H**	**33.16**	**161**	T	T	14 31 26.1	
	baz=332						
WRA	**Warramunga Arr**	**35.77**	**119**	P	**P**	**13 57 27.8**	**-0.9**
	0.4nm,0.6s,baz=293,slow=9.0,SNR=8.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**36.98**	**125**	P	**P**	**13 57 38.5**	**-0.6**
	0.3nm,0.4s,baz=304,slow=7.9,SNR=14						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**53.08**	**343**	P	**P**	**13 59 45.4**	**-1.2**
	0.2nm,0.4s,baz=161,slow=9.2,SNR=3.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**57.62**	**343**	P	**P**	**14 00 18.0**	**-1.1**
	0.1nm,0.2s,baz=153,slow=7.2,SNR=1.2						
	0.1nm,0.2s						
H04N2	**CROZET ISLANDS**	**60.42**	**218**	T	T	15 05 23.2	
	baz=61,slow=75,SNR=103						
H04N1	**CROZET ISLANDS**	**60.43**	**218**	T	T	15 05 24.5	
	baz=61,slow=75,SNR=83						
H04N3	**CROZET ISLANDS**	**60.44**	**218**	T	T	15 05 22.1	
	baz=61,slow=75,SNR=109						
H04S1	**CROZET ISLANDS**	**60.68**	**217**	T	T	15 05 41.4	
	baz=60,slow=75,SNR=11						
H04S3	**CROZET ISLANDS**	**60.69**	**217**	T	T	15 05 41.1	
	baz=60,slow=75,SNR=22						
H04S2	**CROZET ISLANDS**	**60.70**	**217**	T	T	15 05 42.4	
	baz=60,slow=75,SNR=9.3						
TXAR	**Lajitas Array**	**145.00**	**41**	PKPbc	**PKPab**	**14 10 05.2**	**-1.3**
	0.2nm,0.4s,baz=315,slow=3.0,SNR=4.6						

---

*DJA **12** 14:11:56.0±0.5, 5°.N±4°×9°.7E±°, h134km±5km, M4.2/9, mb4.8/1, MLv4.0/9*
*IDC **12** 14:11:59.4±10.0, 4°.62N×96°.08E, h227km±97km, mb3.1/5, mbtmp3.7/6, Error ellipse: s-maj=102.7km s-min=16.1km az=60.0*

ISC 12 14:11:53.8±0.9, 4°.72N±0°.07×96°.5E±0°.1, h150km, n18, σ1§29/14, mb3.4/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.46**	**193**	P	**Pn**	**14 12 16.2**	**+1.2**
MLSI				S	**Sn**	**14 12 32.1**	**+1.0**
LHMI	**Lhok Sumawe**	**0.67**	**41**	P	**Pn**	**14 12 17.4**	**+1.3**
LHMI				S	**Sn**	**14 12 34.7**	**+1.6**
KCSI	**Kotacane, Aceh**	**1.73**	**133**	P	**Pn**	**14 12 25.4**	**-0.5**
SNSI	**Sinabang, Aceh**	**2.30**	**184**	P	**Pn**	**14 12 33.2**	**+0.7**
GSI	**Gunungsitoli**	**3.56**	**163**	P	**Pn**	**14 12 48.6**	**+0.3**
PBSI	**Pulau Batu**	**5.06**	**159**	P	**Pn**	**14 13 08.9**	**+0.8**
CMAR	**Chiang Mai Arm**	**13.86**	**10**	P	**P**	**14 15 08.4**	**+1.0**
	2.1nm,0.7s,baz=198,slow=11,SNR=14						
H08S2	**Diego Garcia H**	**26.92**	**243**	T	T	14 43 52.1	
	baz=59						
H08S3	**Diego Garcia H**	**26.93**	**243**	T	T	14 43 47.9	
	baz=59						
H08S1	**Diego Carcia H**	**26.94**	**243**	T	T	14 43 56.2	
	baz=59						
MKAR	**Makanchi Array**	**43.68**	**346**	P	**P**	**14 19 41.3**	**-2.4**
	0.4nm,0.4s,baz=144,slow=9.1,SNR=7.0						
	0.4nm,0.4s						
SONM	**Songino Array**	**43.79**	**10**	P	**P**	**14 19 44.1**	**-0.6**
	1.2nm,0.6s,baz=190,slow=9.1,SNR=5.6						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**44.53**	**125**	P	**P**	**14 19 50.8**	**-0.1**
	0.3nm,0.6s,baz=299,slow=8.5,SNR=4.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**46.10**	**129**	P	**P**	**14 20 03.6**	**+0.4**
	0.3nm,0.4s,baz=302,slow=7.7,SNR=20						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**48.18**	**345**	P	**P**	**14 20 17.1**	**-1.7**
	0.5nm,0.4s,baz=167,slow=6.9,SNR=4.0						
	0.5nm,0.4s						
H04N2	**CROZET ISLANDS**	**64.31**	**213**	T	T	15 30 14.6	
	baz=51,slow=75,SNR=5.9						
H04N1	**CROZET ISLANDS**	**64.32**	**213**	T	T	15 30 14.5	
	baz=51,slow=75,SNR=5.7						
H04N3	**CROZET ISLANDS**	**64.32**	**213**	T	T	15 30 11.1	
	baz=51,slow=75,SNR=5.2						

---

*EAF **12** 14:18:42.2, 25°.84S×29°.87E, h11km, MC3.4*
BUL 12 14:18:42.7±2.4, 25°.77S×29°.72E, h4km±44km, MD3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.72**	**35**	*i* P	Pn	14 19 25.0	-2.2
MOPA				*i* S	Sn	14 19 55.3	-5.2
MOPA	**Mopani**	**2.72**	**35**	*i* P	Pn	14 19 25.0	-2.2
	baz=31						
MOPA				*i* S	Sn	14 19 55.3	-5.2
	baz=31						
MUSN	**Musina, Limpop**	**3.47**	**2**	*i* P	Pn	14 19 37.9	+0.3
MUSN				*i* S	Sn	14 20 17.6	-1.6
MUSN	**Musina, Limpop**	**3.47**	**2**	*i* P	Pn	14 19 37.9	+0.3
	baz=360						
MUSN				*i* S	Sn	14 20 17.6	-1.6
	baz=360						
LBTB	**Lobatse**	**3.80**	**281**	*i* P	Pn	14 19 39.8	-2.5
LBTB	**Lobatse**	**3.80**	**281**	*i* P	Pn	14 19 39.8	-2.5
	baz=281						
BOSA	**Boshof**	**4.88**	**234**	*i* P	Pn	14 19 57.7	+0.6
BOSA	**Boshof**	**4.88**	**234**	*i* P	Pn	14 19 57.7	+0.6
	baz=235						

---

*IDC **12** 14:25:15.1±2.1, 35°.85N×140°.50E, h63km±20km, mb3.2/5, mbtmp3.6/8, Error ellipse: s-maj=19.7km s-min=15.3km az=80.0*
*JMA **12** 14:25:17.1±0.2, 35°.8N±0°.5×140°.2E±0°.7, h61km±1km, MV3.1/40, NORTHERN CHIBA PREF*
ISC 12 14:25:16.4±0.8, 35°.83N±0°.04×140°.25E±0°.05, h71km±7km, n30, σ1§34/39, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.25**	**139**	*e*P	**Pn**	**14 25 27.6**	**+0.2**
JSMT				*e*S	**Sn**	**14 25 37.1**	**+1.6**
JIHU	**Itakohorinouch**	**0.26**	**59**	*i* P	**Pn**	**14 25 27.6**	**+0.1**
JIHU				*e*S	**Sn**	**14 25 36.4**	**+0.8**
JYT	**Yasato**	**0.40**	**353**	*i* P	**Pn**	**14 25 28.3**	**-0.2**
JYT				S	**Sn**	**14 25 36.6**	**-0.7**
JCN	**Nagara**	**0.41**	**186**	P	**Pn**	**14 25 28.9**	**+0.4**
JCN				S	**Sn**	**14 25 38.6**	**+1.1**
TOK	**Tokyo**	**0.43**	**251**	P	**Pn**	**14 25 29.1**	**+0.5**
TOK				S	**Sn**	**14 25 38.8**	**+1.2**
JAG	**Ashikaga**	**0.88**	**313**	*i* P	**Pn**	**14 25 33.8**	**+0.3**
JAG				S	**Sn**	**14 25 46.1**	**-0.1**
BSO3	**Boso 3**	**1.05**	**168**	P	**Pn**	**14 25 35.0**	**-0.3**
BSO3				S	**Sn**	**14 25 48.5**	**-0.9**
JOD2	**Odawara 2**	**1.10**	**240**	*i* P	**Pn**	**14 25 35.7**	**-0.6**
JOD2				S	**Sn**	**14 25 49.4**	**-1.8**
JRY	**Ryogami san**	**1.11**	**280**	*i* P	**Pn**	**14 25 36.9**	**+0.5**
JKT	**Katashina**	**1.24**	**319**	*i* P	**Pn**	**14 25 38.7**	**+0.6**
JKT				S	**Sn**	**14 25 55.0**	**+0.7**
JIM2	**Oshima 3**	**1.30**	**211**	P	**Pn**	**14 25 37.5**	**-1.3**
JIM2				S	**Sn**	**14 25 53.1**	**-2.5**
BSO1	**Boso 1**	**1.32**	**153**	P	**Pn**	**14 25 39.0**	**+0.5**
BSO1				S	**Sn**	**14 25 56.1**	**+1.0**
JFNN	**Fujinakano**	**1.43**	**244**	P	**Pn**	**14 25 40.2**	**-0.3**
JFNN				*e*S	**Sn**	**14 25 57.4**	**-1.1**
JYN	**Shimob**	**1.43**	**257**	*i* P	**Pn**	**14 25 40.5**	**0.0**
JYN				S	**Sn**	**14 25 58.3**	**-0.4**
MJAR	**Matsushiro Arr**	**1.80**	**294**	P	**Pn**	**14 25 45.5**	**+0.1**
	42nm,0.4s,baz=102,slow=14,SNR=133						
MJAR				S	**Sn**	**14 26 09.8**	**+2.3**
	24nm,0.5s,baz=300,slow=28,SNR=2.9						
JHJ	**Hachijo jima 2**	**2.73**	**188**	P	**Pn**	**14 25 57.0**	**-0.9**
	49nm,0.3s,baz=329,slow=21,SNR=14						
JHJ				S	**Sn**	**14 26 27.3**	**-2.7**
	52nm,0.3s,baz=28,slow=14,SNR=8.6						
ASAJ	**Asahikawa**	**8.47**	**12**	P	**Pn**	**14 27 13.8**	**-2.5**
	13nm,1.2s,baz=237,slow=9.2,SNR=1.8						
ASAJ				S	**Sn**	**14 28 48.3**	**-1.9**
	3.1nm,0.6s,baz=34,slow=26,SNR=1.0						
JCJ	**Chichijima**	**8.86**	**169**	P	Pn	14 27 14.1	-7.6
	48nm,0.9s,baz=310,slow=20,SNR=1.7						
KSRS	**Korea Array**	**10.04**	**283**	P	**Pn**	**14 27 41.4**	**+3.6**
	2.1nm,0.6s,baz=94,slow=14,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	15 00 50.3	
	baz=310						
H11N1	**WAKE ISLAND Hy**	**28.39**	**117**	T	T	15 00 49.7	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**28.40**	**117**	T	T	15 00 47.5	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**29.04**	**119**	T	T	15 01 38.7	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**29.04**	**119**	T	T	15 01 36.4	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**29.05**	**119**	T	T	15 01 36.4	
	baz=316						
MKAR	**Makanchi Array**	**43.98**	**303**	P	**P**	**14 33 17.2**	**+0.7**
	0.4nm,0.6s,baz=86,slow=8.9,SNR=2.9						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**46.01**	**309**	P	**P**	**14 33 32.4**	**-0.1**
	0.4nm,0.3s,baz=84,slow=7.7,SNR=6.1						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**51.01**	**32**	P	**P**	**14 34 09.6**	**-1.1**
	0.2nm,0.6s,baz=282,slow=5.4,SNR=1.4						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**55.75**	**187**	P	**P**	**14 34 45.0**	**-0.8**
	0.7nm,0.5s,baz=1.2,slow=7.5,SNR=20						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**59.48**	**187**	P	**P**	**14 35 12.5**	**+0.6**
	0.2nm,0.7s,baz=21,slow=11,SNR=8.6						
	0.2nm,0.7s						

IDC 12 14:33:17.1±2.9, 30°.32S×177°.52W, h0km, mb3.6/2, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=63.3km s-min=26.4km az=104.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.12**	**342**	Pn	Pn	14 33 40.7	+0.6
	556nm,0.3s,baz=120,slow=9.3,SNR=27						
RAO				Sn	Sg	14 33 51.9	-1.2
	2μm,0.3s,baz=143,slow=22,SNR=21						
URZ	**Urewera**	**9.08**	**208**	Pn	Pn	14 35 31.3	+1.9
	0.1nm,0.3s,baz=342,slow=6.4,SNR=2.6						
URZ				Sn	Sn	14 37 10.4	-1.8
	0.2nm,0.3s,baz=211,slow=9.5,SNR=1.7						
	10nm,0.9s						
ASAR	**Alice Springs**	**43.52**	**267**	P	P	14 41 22.4	-0.3
	0.2nm,0.4s,baz=106,slow=7.5,SNR=14						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**44.51**	**272**	P	P	14 41 30.1	-0.5
	0.6nm,0.4s,baz=110,slow=8.1,SNR=11						
	0.6nm,0.4s						
H03S2	**Juan Fernandez**	**80.16**	**123**	T	T	16 14 50.6	
	baz=238,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**80.17**	**123**	T	T	16 14 50.7	
	baz=238,slow=74,SNR=9.1						
H03S3	**Juan Fernandez**	**80.18**	**123**	T	T	16 14 50.8	
	baz=238,slow=74,SNR=11						
FINES	**FINESS Array B**	**145.21**	**340**	PKPbc	PKPbc	14 52 54.4	-1.2
	1.2nm,0.3s,baz=51,slow=4.1,SNR=17						

---

*NEIC **12** 14:46:32.0±0.5, 35°.59N±0°.01×97°.40W±0°.02, h5km±2km, Error ellipse: s-maj=3.5km s-min=3.0km az=110.0*
*ANF **12** 14:46:31.5±0.4, 35°.57N×97°.39W, h5km, ML4.2/11, Error ellipse: s-maj=4.7km s-min=3.7km az=135.0*
*TUL **12** 14:46:31.4±0.4, 35°.60N±0°.01×97°.41W±0°.01, h5km±6km, ML3.3, mb_Lg3.1/100(NEIC), ML3.4/34(NEIC), Error ellipse: s-maj=2.1km s-min=1.2km az=145.0*
ISC 12 14:46:31.6±1.3, 35°.60N±0°.02×97°.40W±0°.02, h3km±10km, n126, σ0§71/101, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.20**	**347**	Pg	**Pg**	**14 46 35.8**	**+0.3**
OK029					**Sg**	**14 46 39.3**	**+1.2**
OK029				IAML		14 46 39.4	
	8μm,0.7s						
OKCSW	**OKLAHOMA CITY**	**0.20**	**189**	Pg	**Pg**	**14 46 35.6**	**+0.2**
OK031	**S. Brethren Rd**	**0.57**	**52**	Pg	**Pg**	**14 46 42.7**	**+0.1**
OK031				IAML		14 46 51.4	
	2μm,0.1s						
OK031				IAML		14 46 51.6	
	2μm,0.1s						
OK033	**Mehan**	**0.58**	**40**	Pg	**Pg**	**14 46 43.0**	**+0.2**
OK033				IAML		14 46 51.5	
	2μm,0.2s						
OK033				IAML		14 46 52.2	
	2μm,0.1s						
W35A	**Tecumseh**	**0.62**	**136**	Pg	**Pg**	**14 46 43.4**	**-0.1**
W35A				IAML		14 46 52.4	
	comp=E,1μm,0.4s						
OK052	**Battle Ridge R**	**0.62**	**51**	Pg	**Pg**	**14 46 43.6**	**0.0**
OK052				IAML		14 46 52.9	
	comp=E,2μm,0.2s						
DEOK	**Depew**	**0.77**	**72**	Pg	**Pg**	**14 46 46.0**	**-0.4**
DEOK				IAML		14 46 57.5	
	comp=E,1μm,0.1s						
DEOK				IAML		14 46 59.8	
	comp=N,2μm,0.5s						
QUOK	**Quay**	**0.80**	**44**	Pg	**Pg**	**14 46 46.6**	**-0.3**
QUOK				IAML		14 46 58.4	
	comp=E,2μm,0.2s						
QUOK				IAML		14 46 58.4	
	comp=N,2μm,0.3s						
OK048	**Pawnee Station**	**0.89**	**24**	Pg	**Pg**	**14 46 48.4**	**-0.3**
OK048				IAML		14 47 01.2	
	comp=N,1μm,0.2s						
OK048				IAML		14 47 02.2	
	comp=N,914nm,0.2s						
OK051	**E0350 and S346**	**1.01**	**27**		**Pg**	**14 46 50.4**	**-0.6**
CROK	**Carrier**	**1.02**	**332**		**Pg**	**14 46 50.6**	**-0.6**
CSTR	**Hydro, Custer**	**1.05**	**273**		**Pg**	**14 46 51.3**	**-0.5**
X34A	**Smith Ranch, M**	**1.06**	**200**		**Pg**	**14 46 51.6**	**-0.4**
X34A				IAML		14 47 07.3	
	comp=E,1μm,0.4s						
X34A				IAML		14 47 09.7	
	comp=N,1μm,0.5s						
BLOK	**Blackwell**	**1.17**	**7**		**Pg**	**14 46 53.4**	**-0.6**
GC02	**Grant County #**	**1.30**	**344**		**Pn**	**14 46 55.6**	**-1.2**
TUL3	**Leonard**	**1.34**	**76**		**Pn**	**14 46 55.8**	**-1.5**
TUL3	**Leonard**	**1.34**	**76**	P	**Pn**	**14 46 55.6**	**-1.7**
	baz=257						
TUL3				S	**Sg**	**14 47 14.8**	**0.0**
	baz=257						
TUL3	**Leonard**	**1.34**	**76**	P	**Pn**	**14 46 55.7**	**-1.7**
	baz=257						
TUL3				S	**Sg**	**14 47 14.7**	**0.0**
	baz=257						
OK032	**Salt Plains WL**	**1.37**	**332**		**Pn**	**14 46 56.3**	**-1.4**
KAN13	**South Haven SW**	**1.41**	**357**		**Pn**	**14 46 57.3**	**-0.9**
WMOK	**Wichita Mounta**	**1.42**	**233**		**Pn**	**14 46 56.9**	**-1.6**
WMOK	**Wichita Mounta**	**1.42**	**233**	P	**Pn**	**14 46 56.8**	**-1.6**
	baz=53						
WMOK				S	**Sb**	**14 47 16.0**	**-1.4**
	baz=53						
KAN14	**Manchester OK**	**1.43**	**342**		**Pn**	**14 46 57.6**	**-0.8**
KAN17	**Caldwell West**	**1.47**	**349**		**Pn**	**14 46 58.5**	**-0.5**
T35A	**Sooner Cattle**	**1.49**	**28**		**Pn**	**14 46 58.7**	**-0.7**
T35B	**Sooner Cattle**	**1.49**	**28**	P	**Pn**	**14 46 58.7**	**-0.7**
	baz=208,SNR=257						
T35B				S	**Sb**	**14 47 19.5**	**0.0**
	baz=208						
U32A	**Winter Ranch,**	**1.51**	**301**		**Pn**	**14 46 58.9**	**-0.8**
U32A	**Winter Ranch,**	**1.51**	**301**	P	**Pn**	**14 46 58.9**	**-0.8**
	baz=121,SNR=37						
U32A				S	**Sn**	**14 47 19.6**	**-0.4**
	baz=121						
OK035	**E0210 Rd and N**	**1.53**	**317**		**Pn**	**14 46 58.9**	**-1.0**
KAN09	**Caldwell North**	**1.54**	**353**		**Pn**	**14 46 59.7**	**-0.3**
KAN05	**Bluff City Nor**	**1.55**	**346**		**Pn**	**14 46 59.6**	**-0.6**
KAN01	**Argonia South**	**1.57**	**349**		**Pn**	**14 47 00.0**	**-0.5**
NOKA	**Waynoka**	**1.61**	**310**		**Pn**	**14 47 00.4**	**-0.6**
NOKA				IAmb_Lg		14 47 26.2	
	comp=Z,126nm,0.9s						
LOOK	**Love County**	**1.62**	**174**		**Pn**	**14 47 00.8**	**-0.3**
LOOK				IAmb_Lg		14 47 26.1	
	comp=Z,106nm,0.7s						
KS20	**Mayfield South**	**1.63**	**356**		**Pn**	**14 47 01.1**	**-0.2**
KAN06	**Argonia West S**	**1.68**	**347**		**Pn**	**14 47 01.3**	**-0.7**
KAN08	**Anthony NE Sta**	**1.69**	**344**		**Pn**	**14 47 02.1**	**+0.1**
KS21	**Milan North St**	**1.69**	**353**		**Pn**	**14 47 02.3**	**+0.1**
ELIS	**Ellis County**	**1.70**	**286**		**Pn**	**14 47 02.2**	**-0.1**
X37A	**Clayton**	**1.95**	**121**		**Pn**	**14 47 05.9**	**+0.3**
X37A	**Clayton**	**1.95**	**121**	P	**Pn**	**14 47 05.9**	**+0.3**
	baz=302,SNR=81						
X37A				S	**Sb**	**14 47 31.9**	**-0.5**
	baz=302						
RLO	**Rose Lookout**	**2.01**	**73**		**Pn**	**14 47 06.1**	**-0.4**
WTFS	**Witchita Falls**	**2.03**	**206**		**Pn**	**14 47 07.5**	**+0.7**
Z35A	**Perchaven, San**	**2.27**	**177**	Pn	**Pn**	**14 47 10.2**	**+0.2**
Z35A	**Perchaven, San**	**2.27**	**177**	P	**Pn**	**14 47 10.6**	**+0.5**
	baz=357,SNR=9.2						
Z35A				S	**Sb**	**14 47 41.6**	**-0.1**
	baz=357						
U38A	**Gravette**	**2.58**	**70**		**Pn**	**14 47 14.5**	**+0.1**
U38A	**Gravette**	**2.58**	**70**	P	**Pn**	**14 47 14.5**	**+0.1**
	baz

ABTX	**Abilene, Hawle**	**3.51**	**213**	P	**Pn**	**14 47 26.9**	**-0.2**
	baz=32						
ABTX				S	**Sn**	**14 48 09.1**	**0.0**
	baz=32						
KSU1	**Kansas State U**	**3.55**	**10**	IAmb_Lg		14 48 29.4	
	comp=Z,68nm,0.8s						
KSU1	**Kansas State U**	**3.55**	**10**	P	**Pn**	**14 47 27.7**	**0.0**
	baz=190						
KSU1				S	**Sn**	**14 48 11.3**	**+1.2**
	baz=190						
KSU1	**Kansas State U**	**3.55**	**10**	P	**Pn**	**14 47 27.6**	**0.0**
	baz=190						
KSU1				S	**Sn**	**14 48 11.2**	**+1.0**
	baz=190						
AMTX	**Amarillo**	**3.58**	**260**	P	**Pn**	**14 47 28.4**	**+0.3**
	baz=77						
AMTX				S	**Sn**	**14 48 11.8**	**+0.8**
	baz=77						
WHTX	**Lake Whitney,**	**3.60**	**181**	P	**Pn**	**14 47 27.7**	**-0.7**
	baz=0.8						
WHTX				S	**Sn**	**14 48 11.5**	**+0.1**
	baz=0.8						
WHTX	**Lake Whitney,**	**3.60**	**181**	P	**Pn**	**14 47 28.4**	**0.0**
	baz=0.8						
CBKS	**Cedar Bluff**	**3.71**	**330**	IAmb_Lg		14 48 35.0	
	comp=Z,44nm,0.9s						
CBKS	**Cedar Bluff**	**3.71**	**330**	P	**Pn**	**14 47 29.8**	**-0.1**
	baz=149						
CBKS				S	**Sn**	**14 48 15.8**	**+1.7**
	baz=149						
CBKS	**Cedar Bluff**	**3.71**	**330**	P	**Pn**	**14 47 30.1**	**+0.2**
	baz=149						
U40A	**Yellville**	**3.76**	**77**	P	**Pn**	**14 47 30.2**	**-0.4**
	baz=260,SNR=6.9						
U40A				P	**Pn**	**14 47 30.2**	**-0.4**
	baz=260,SNR=6.9						
237A	**Washetta, Mont**	**3.83**	**159**	P	**Pn**	**14 47 30.9**	**-0.6**
	baz=340						
237A				S	**Sn**	**14 48 16.7**	**-0.3**
	baz=340						
S39A	**Bolivar**	**3.88**	**56**	IAmb_Lg		14 48 39.3	
	comp=Z,35nm,0.8s						
S39A	**Bolivar**	**3.88**	**56**	P	**Pn**	**14 47 31.7**	**-0.5**
	baz=238,SNR=19						
SN01	**Snyder 1**	**3.98**	**228**	IAmb_Lg		14 48 42.8	
	comp=Z,40nm,1.0s						
WLAR	**White Oak Lake**	**4.02**	**117**	IAmb_Lg		14 48 50.2	
	comp=Z,33nm,0.7s						
WHAR	**Wooly Hollow**	**4.18**	**93**		**Pn**	**14 47 34.9**	**-1.5**
WHAR				IAmb_Lg		14 48 54.1	
	comp=Z,57nm,1.0s						
UALR	**University of**	**4.22**	**100**	IAmb_Lg		14 48 48.8	
	comp=Z,56nm,0.7s						
POST	**Post**	**4.23**	**234**	IAmb_Lg		14 48 51.3	
	comp=Z,50nm,1.1s						
FCAR	**Ozark Folk Cen**	**4.30**	**85**		**Pn**	**14 47 37.5**	**-0.4**
FCAR				IAmb_Lg		14 48 50.9	
	comp=Z,54nm,0.8s						
MGMO	**Mountain Grove**	**4.42**	**68**	Pn	**Pn**	**14 47 39.4**	**-0.3**
MGMO				IAmb_Lg		14 48 55.1	
	comp=Z,47nm,0.7s						
BRDY	**Brady**	**4.51**	**198**	Pn	**Pn**	**14 47 40.4**	**-0.5**
BRDY				IAmb_Lg		14 48 59.8	
	comp=Z,35nm,0.7s						
MSTX	**Muleshoe**	**4.71**	**251**	Pn	**Pn**	**14 47 44.4**	**+0.7**
MSTX				IAmb_Lg		14 49 00.5	
	comp=Z,37nm,1.2s						
MSTX	**Muleshoe**	**4.71**	**251**	P	**Pn**	**14 47 43.6**	**-0.2**
	baz=68						
MSTX				S	**Sn**	**14 48 39.3**	**+0.3**
	baz=68						
MSTX	**Muleshoe**	**4.71**	**251**	P	**Pn**	**14 47 44.2**	**+0.4**
	baz=68						
435B	**Jarrell**	**4.81**	**182**	IAmb_Lg		14 49 13.0	
	comp=Z,50nm,0.9s						
435B	**Jarrell**	**4.81**	**182**	P	**Pn**	**14 47 44.2**	**-0.8**
	baz=1.9						
435B				S	**Sn**	**14 48 41.8**	**+0.5**
	baz=1.9						
SGCY	**Sterling City**	**4.81**	**221**	IAmb_Lg		14 49 16.0	
	comp=Z,35nm,0.9s						
R40A	**Maddies Statio**	**4.91**	**55**		**Pn**	**14 47 45.0**	**-1.3**
R40A	**Maddies Statio**	**4.91**	**55**	P	**Pn**	**14 47 45.6**	**-0.8**
	baz=238,SNR=11						
LCAR	**Lake Charles**	**5.09**	**83**	IAmb_Lg		14 49 22.3	
	comp=Z,39nm,0.8s						
N33A	**J Bar K, Exete**	**5.13**	**360**	IAmb_Lg		14 49 21.6	
	comp=Z,48nm,0.9s						
T42A	**Van Buren**	**5.29**	**73**	IAmb_Lg		14 49 33.3	
	comp=Z,27nm,0.7s						
KSCO	**Kaye Shedlock'**	**5.38**	**311**	P	**Pn**	**14 47 52.9**	**0.0**
	baz=128						
KSCO	**Kaye Shedlock'**	**5.38**	**311**	P	**Pn**	**14 47 53.0**	**0.0**
	baz=128						
CCM	**Cathedral Cave**	**5.51**	**62**	IAmb_Lg		14 49 32.9	
	comp=Z,29nm,0.7s						
CCM	**Cathedral Cave**	**5.51**	**62**	P	**Pn**	**14 47 54.4**	**-0.1**
	baz=245						
CCM	**Cathedral Cave**	**5.51**	**62**	P	**Pn**	**14 47 54.6**	**0.0**
	baz=245						
ODSA	**Odessa**	**5.51**	**232**	IAmb_Lg		14 49 40.4	
	comp=Z,12nm,0.8s						
OZNA	**Ozona**	**5.62**	**215**	IAmb_Lg		14 49 31.8	
	comp=Z,29nm,1.0s						
P40A	**Paris**	**5.78**	**46**	IAmb_Lg		14 49 39.9	
	comp=Z,38nm,0.7s						
FVM	**French Village**	**6.08**	**65**	IAmb_Lg		14 49 49.8	
	comp=Z,32nm,1.1s						
HNDO	**Hondo**	**6.26**	**195**	IAmb_Lg		14 49 53.7	
	comp=Z,37nm,0.8s						
OGNE	**Ogallala**	**6.46**	**327**	IAmb_Lg		14 50 13.6	
	comp=Z,30nm,0.8s						
CGM3	**Cape Girardeau**	**6.46**	**73**	IAmb_Lg		14 50 00.1	
	comp=Z,22nm,0.8s						
SLM	**Saint Louis**	**6.47**	**60**	IAmb_Lg		14 49 56.5	
	comp=Z,27nm,0.9s						
OXF	**Oxford**	**6.64**	**97**	IAmb_Lg		14 50 09.6	
	comp=Z,24nm,0.8s						
DRIO	**Del Rio**	**6.74**	**205**	IAmb_Lg		14 50 17.5	
	comp=Z,18nm,0.8s						
SDCO	**Great Sand Dun**	**6.85**	**291**	Pn	**Pn**	**14 48 13.1**	**-0.2**
PECS	**Pecos**	**6.86**	**234**	IAmb_Lg		14 50 14.2	
	comp=Z,17nm,1.1s						
S44A	**Carbondale**	**6.87**	**70**	IAmb_Lg		14 50 11.6	
	comp=Z,37nm,0.8s						
SAND	**Sanderson**	**6.89**	**217**	IAmb_Lg		14 50 23.6	
	comp=Z,18nm,0.8s						
N41A	**Harden Midland**	**7.25**	**43**	IAmb_Lg		14 50 23.0	
	comp=Z,31nm,0.8s						
BRIGG	**Briggsdale**	**7.38**	**314**	IAmb_Lg		14 50 35.6	
	comp=Z,17nm,0.8s						
ALPN	**Alpine**	**7.39**	**227**	IAmb_Lg		14 50 42.9	
	comp=Z,10nm,0.8s						
Q44A	**Meyer Farm, Va**	**7.45**	**61**	IAmb_Lg		14 50 43.0	
	comp=Z,24nm,0.9s						
PLAL	**Pickwick Lake**	**7.65**	**92**	IAmb_Lg		14 50 45.2	
	comp=Z,16nm,0.9s						
MNTX	**Cornudas Mount**	**7.71**	**242**	IAmb_Lg		14 50 34.7	
	comp=Z,14nm,1.1s						
L40A	**Anamosa**	**8.05**	**35**	IAmb_Lg		14 50 54.4	
	comp=Z,22nm,0.7s						
OLIL	**Olney**	**8.05**	**64**	IAmb_Lg		14 50 60.0	
	comp=Z,28nm,0.9s						
O44A	**Mansfield**	**8.39**	**55**	IAmb_Lg		14 51 18.8	
	comp=Z,19nm,0.8s						
N23A	**Red Feather La**	**8.55**	**311**	IAmb_Lg		14 51 10.9	
	comp=Z,24nm,1.1s						
JFWS	**Jewell Farm**	**9.16**	**35**	IAmb_Lg		14 51 30.5	
	comp=Z,18nm,0.7s						
I40A	**Norwalk**	**9.78**	**30**	IAmb_Lg		14 51 50.5	
	comp=Z,12nm,0.9s						
K22A	**Casper**	**9.98**	**318**	IAmb_Lg		14 52 10.3	
	comp=Z,19nm,1.3s						

IDC 12 15:01:05.2±1.6, 11°.03N×142.75E, $h0^{km}$, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=56.3km s-min=32.7km az=90.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**35.55**	**194**	P	P	15 08 04.3	-0.1
	0.1nm,0.7s,baz=24,slow=11,SNR=1.7						
	0.1nm,0.7s						
MKAR	**Makanchi Array**	**61.92**	**317**	P	P	15 11 26.2	-0.7
	0.2nm,0.6s,baz=117,slow=6.4,SNR=2.0						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**65.25**	**321**	P	P	15 11 48.8	0.0
	0.9nm,0.4s,baz=104,slow=6.6,SNR=7.1						
	0.9nm,0.4s						
BVAR	**Borovoye Array**	**70.66**	**322**	P	P	15 12 23.2	+0.5
	1.0nm,0.6s,baz=90,slow=8.3,SNR=6.2						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**71.75**	**25**	P	P	15 12 29.2	0.0
	0.3nm,0.7s,baz=242,slow=6.2,SNR=4.7						
	0.3nm,0.7s						

ISC 12 15:13:29.5±1.3, 26°.95N±0°.09×111°.2W±0°.1, $h10^{km}$, n4, σ0°63/6, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNIRB	**San Nicol¡s**	**0.53**	**221**	*eP*	**Pg**	**15 13 40.3**	**+0.4**
SNIRB				*eS*	**Sg**	**15 13 46.6**	**-0.3**
SNIRB				IAML		15 13 48.3	
	comp=E,418nm,0.4s						
SNIRB				⇑*e*		15 13 48.3	
SNIRB				⇓*e*		15 13 50.9	
SNIRB				IAML		15 13 50.9	
	comp=N,305nm,0.5s						
GUYB	**Guaymas**	**0.98**	**15**	*eP*	**Pg**	**15 13 48.4**	**0.0**
UAGRB	**Rancho Ultima**	**1.38**	**184**	*eP*	**Pn**	**15 13 55.1**	**+0.2**
UAGRB				*eS*	**Sn**	**15 14 12.4**	**-0.8**
NE80	**Navojoa**	**1.72**	**91**	*eP*	**Pn**	**15 13 59.9**	**+0.4**

*IDC **12** 15:21:04.8±1.4, 10°.92N×142°.50E, $h0^{km}$, mb3.7/5, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=38.3km s-min=25.2km az=119.0*

ISC 12 15:21:10.0±1.2, 10°.9N±0°.2×142°.5E±0°.2, $h35^{km}$, n6, σ0°44/7, mb3.7/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.53**	**40**	Pn	**Pn**	**15 22 02.7**	**+0.2**
	7.2nm,0.3s,baz=176,slow=19,SNR=8.2						
GUMO				Sn	**Sn**	**15 22 43.3**	**+0.2**
	4.7nm,0.3s,baz=180,slow=20,SNR=1.7						
	67nm,0.9s						
ASAR	**Alice Springs**	**35.36**	**194**	P	**P**	**15 28 02.6**	**+0.2**
	0.4nm,0.9s,baz=18,slow=13,SNR=4.4						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**61.87**	**317**	P	**P**	**15 31 26.2**	**+0.3**
	0.5nm,0.8s,baz=111,slow=7.9,SNR=2.4						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**65.23**	**321**	P	**P**	**15 31 47.8**	**-0.2**
	1.8nm,0.7s,baz=105,slow=6.6,SNR=13						
	1.8nm,0.7s						
BVAR	**Borovoye Array**	**70.63**	**322**	P	**P**	**15 32 22.0**	**+0.1**
	1.4nm,0.6s,baz=112,slow=7.0,SNR=7.8						
	1.4nm,0.6s						
ILAR	**Eielson Array**	**71.98**	**25**	P	**P**	**15 32 29.1**	**-0.8**
	0.3nm,0.6s,baz=252,slow=5.7,SNR=5.7						
	0.3nm,0.6s						

JMA 12 15:25:57.5±0.3, 37°.5N±0°.8×14°.4E±°, $h54^{km}$, MV3.6/28, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.03**	**294**	*i* P	Pn	15 26 30.3	+1.1
JIKH				*eS*	Sn	15 26 54.5	+1.0
JIO	**Ouri**	**2.17**	**297**	*i* P	Pn	15 26 32.3	+1.1
JIO				*eS*	Sn	15 26 58.1	+1.1
JKMT	**Kesennumamotoy**	**2.27**	**306**	P	Pn	15 26 33.4	+0.9
JKMT				*eS*	Sn	15 26 59.7	+0.4
OFUJ	**Ofunato**	**2.32**	**314**	P	Pn	15 26 33.8	+0.7
OFUJ				S	Sn	15 27 01.0	+0.5
JMST	**Minamisoumatoc**	**2.34**	**277**	P	Pn	15 26 34.2	+0.8
JFK	**Kawauchi**	**2.35**	**268**	*eP*	Pn	15 26 34.6	+1.0
JMK	**Ichinoseki**	**2.51**	**306**	P	Pn	15 26 37.6	+1.8
JMK				S	Sn	15 27 06.6	+1.4
JOTO	**OTAMA OYAMA**	**2.77**	**272**	P	Pn	15 26 41.5	+2.1
JOTO				*eS*	Sn	15 27 14.4	+2.8
JOM	**Ohasama**	**2.80**	**316**	P	Pn	15 26 41.1	+1.4
JOM				S	Sn	15 27 13.1	+0.8
JYK	**Kaneyama**	**3.07**	**299**	*eP*	Pn	15 26 45.6	+2.1
JYK				*eS*	Sn	15 27 21.2	+2.2
JANG	**Nango**	**3.39**	**329**	P	Pn	15 26 47.5	-0.3
JRY	**Ryogami san**	**4.21**	**251**	P	Pn	15 27 00.2	+1.0
JRY				*eS*	Sn	15 27 46.5	-0.6
JOD2	**Odawara 2**	**4.42**	**241**	*eP*	Pn	15 27 02.4	+0.4
JOD2				*eS*	Sn	15 27 51.0	-1.2
JCH	**Churui**	**5.13**	**356**	P	Pn	15 27 10.8	-0.8
JCH				*eS*	Sn	15 28 06.4	-3.1
NEM2	**Nemuro 2**	**6.04**	**13**	*eP*	Pn	15 27 20.8	-3.4
JTKR	**Abashiri--Toko**	**6.47**	**1**	*eP*	Pn	15 27 28.8	-1.2
JTKR				*eS*	Sn	15 28 38.1	-4.3

*IDC **12** 15:49:00.4±4.3, 4°.82S×153°.22E, $h58^{km}$±30^{km}, mb3.7/8, mbtmp4.1/9, ML2.2/1, MS3.2/12, Error ellipse: s-maj=40.9km s-min=18.8km az=77.0*
*NEIC **12** 15:49:00.2±1.1, 4°.82S±0°.05×153°.27E±0°.07, $h52^{km}$±12^{km}, mb4.4/8, Error ellipse: s-maj=11.5km s-min=4.3km az=123.0*

ISC 12 15:48:58.0±0.8, 4°.92S±0°.07×153°.30E±0°.09, $h35^{km}$, n37, σ1°44/28, mb4.3/12, MS3.2/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.34**	**303**		**Pn**	**15 49 21.5**	**+1.2**
RABL				Sn	**Sn**	**15 49 37.6**	**+0.7**
KRVT	**Keravat (AS076**	**1.40**	**296**	P	**Pn**	**15 49 21.9**	**+0.8**
	312nm,0.3s,baz=67,slow=0.6,SNR=118						
KRVT				S	**Sn**	**15 49 38.6**	**+0.2**
	2μm,0.5s,baz=223,slow=0.0,SNR=15						
MANU	**Manus Island**	**6.57**	**296**	Pn	**Pn**	**15 50 36.2**	**+4.0**
PMG	**Port Moresby**	**7.55**	**233**	Pn	**Pn**	**15 50 47.7**	**+2.1**
PMG	**Port Moresby**	**7.55**	**233**	P	**Pn**	**15 50 47.3**	**+1.7**
	2.3nm,0.3s,baz=42,slow=11,SNR=11						
PMG				S	**Sn**	**15 52 07.1**	**-2.9**
	17nm,0.4s,baz=28,slow=17,SNR=1.8						
	12nm,0.5s						
PATS	**Pohnpei**	**12.71**	**23**	Pn	**Pn**	**15 51 56.0**	**-0.3**
COEN	**Coen**	**13.42**	**227**	Pn	**Pn**	**15 52 07.7**	**+1.5**
CTA	**Charters Tower**	**16.56**	**204**	LR	LR	15 58 11.9	
	comp=Z,82nm,19.8s,baz=54,slow=33						
GUMO	**Guam**	**20.20**	**336**	LR	LR	16 00 30.6	
	comp=Z,25nm,21.6s,baz=142,slow=34						
FAKI	**Fak Fak**	**21.09**	**275**	P	**P**	**15 53 39.4**	**-0.3**
DZM	**Mont Dzumac**	**21.28**	**144**	P	**P**	**15 53 43.0**	**+1.2**
DZM				IAmb	IAmb	15 54 06.2	
	comp=Z,23nm,1.2s						
DZM	**Mont Dzumac**	**21.28**	**144**	LR	LR	16 00 54.1	
	comp=Z,95nm,20.4s,baz=242,slow=33						
SIJI	**Sorong**	**22.36**	**280**	P	**P**	**15 53 51.5**	**-1.8**
	comp=Z,4.7nm,0.4s,baz=161,slow=23,SNR=5.7						
	comp=Z,4.7nm,0.4s						
WB0	**Warramunga Arr**	**23.59**	**230**	P	**P**	**15 54 05.8**	**-0.1**
WB0				IAmb	IAmb	15 54 24.0	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**23.73**	**229**	P	**P**	**15 54 07.0**	**-0.1**
WB2				IAmb	IAmb	15 54 25.5	
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**23.74**	**229**	P	**P**	**15 54 07.7**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=51,slow=9.7,SNR=17						
	comp=Z,1.4nm,0.6s						
KNRA	**Kununurra**	**26.36**	**244**	P	**P**	**15 54 30.6**	**-0.6**
AS31	**Alice Springs**	**26.40**	**223**	P	**P**	**15 54 32.5**	**+1.1**
ASAR	**Alice Springs**	**26.40**	**223**	P	**P**	**15 54 32.4**	**+0.9**
ASAR	**Alice Springs**	**26.40**	**223**	P	**P**	**15 54 31.4**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=54,slow=9.0,SNR=21						
	comp=Z,0.4nm,0.4s						
MSVF	**Nonsavu**	**27.36**	**120**	LR	LR	16 04 52.8	
	comp=Z,71nm,18.7s,baz=207,slow=35						
DAV	**Davao City (W)**	**30.11**	**293**	LR	LR	16 06 28.4	
	comp=Z,29nm,21.4s,baz=330,slow=35						
JCJ	**Chichijima**	**33.59**	**342**	LR	LR	16 07 18.0	
	comp=Z,17nm,19.8s,baz=132,slow=33						
URZ	**Urewera**	**39.64**	**150**	LR	LR	16 11 03.9	
	comp=Z,59nm,18.2s,baz=31,slow=33						
RPZ	**Rata Peaks**	**41.70**	**161**	LR	LR	16 12 46.7	
	comp=Z,59nm,18.5s,baz=235,slow=34						
KSRS	**Korea Array**	**48.33**	**333**	LR	LR	16 17 44.1	
	comp=Z,11nm,18.4s,baz=355,slow=36						
PETK	**Petropavlovsk-**	**57.93**	**3**	LR	LR	16 18 43.3	
	comp=Z,20nm,21.9s,baz=80,slow=31						
CMAR	**Chiang Mai Arr**	**58.37**	**295**	P	**P**	**15 58 49.3**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=113,slow=4.9,SNR=9.5						
	comp=Z,1.0nm,0.7s						
MAKZ	**Makanchi**	**80.95**	**319**	P	**P**	**16 01 08.3**	**-0.7**
MAKZ				IAmb	IAmb	16 01 10.4	
	comp=Z,3.9nm,0.9s						
ZALV	**Zalesovo Beam**	**81.52**	**326**	P	**P**	**16 01 10.2**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=121,slow=5.7,SNR=4.0						
	comp=Z,0.9nm,0.6s						
KURK	**Kurchatov**	**84.16**	**322**	P	**P**	**16 01 24.9**	**-0.7**
KURBB	**Kurchatov Arra**	**84.19**	**322**	P	**P**	**16 01 24.9**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=108,slow=4.2,SNR=8.9						
	comp=Z,1.8nm,0.9s						
QSPA	**South Pole Qui**	**85.04**	**180**	P	**P**	**16 01 31.0**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=12,slow=12,SNR=10						
	comp=Z,0.6nm,0.5s						
INK	**Inuvik**	**88.39**	**21**	LR	LR	16 42 55.6	
	comp=Z,23nm,18.0s,baz=354,slow=37						
BVAR	**Borovoye Array**	**89.63**	**323**	P	**P**	**16 01 51.9**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=94,slow=5.9,SNR=11						
	comp=Z,3.5nm,0.8s						
ARU	**Arti**	**96.69**	**326**	LR	LR	16 47 23.1	
	comp=Z,16nm,19.6s,baz=24,slow=36						
TORD	**Torodi Ar. Bea**	**150.81**	**288**	PKPbc	**PKPbc**	**16 08 46.8**	**-1.1**
	comp=Z,3.0nm,0.9s,baz=65,slow=4.3,SNR=11						

*NAO **12** 15:50:33.2±0.9, 71°.34N×4°.41W, ML4.2*
*IDC **12** 15:50:34.9±0.5, 71°.40N×4°.47W, $h0^{km}$, mb4.1/18, mbtmp4.2/22, ML4.0/4, MS3.6/50, Error ellipse: s-maj=14.1km s-min=12.9km az=57.0*
*NEIC **12** 15:50:36.4±1.9, 71°.40N±0°.08×4°.3W±0°.2, $h10^{km}$±1^{km}, mb4.5/97, Error ellipse: s-maj=13.1km s-min=11.6km az=202.0*
*BER **12** 15:50:37.9±2.6, 71°.37N×4°.56W, $h17^{km}$±22^{km}, mb(Pn)4.1, ML4.2(NAO), Confirmed Earthquake*
*BGR **12** 15:50:38.8, 71°.68N×2°.82W, $h10^{km}$, mb4.4*
*DNK **12** 15:50:42.9±5.1, 71°.97N×5°.29W, $h0^{km}$±137^{km}, ML2.5*

ISC 12 15:50:35.9±0.3, 71°.43N±0°.04×4°.39W±0°.04, $h11^{km}$, n345, σ1°69/320, mb4.5/108, MS3.6/47, 10D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**1.41**	**254**	Pn	**Pn**	**15 51 00.2**	**-1.2**
JMIC				Pn	**Pb**	**15 51 00.7**	**-1.4**
JMIC				Lg	Lg	15 51 16.6	
JMIC				Lg	Lg	15 51 20.2	
JMIC	**Jan Mayen**	**1.41**	**254**	*eP*	**Pn**	**15 50 59.8**	**-1.6**
JMIC				*eS*	**Sn**	**15 51 16.7**	**-3.2**
JMIC				IAML		15 51 21.3	
	comp=Z,157nm,0.7s						
JMIC	**Jan Mayen**	**1.41**	**254**	Pn	**Pn**	**15 50 59.4**	**-2.0**
	comp=Z,24nm,0.3s,baz=24,slow=8.3,SNR=3.8						
JMIC				Sn	**Sn**	**15 51 14.8**	**-5.0**
	comp=Z,27nm,0.3s,baz=163,slow=22,SNR=12						
JMI	**Jan Mayen**	**1.50**	**253**	*eP*	**Pn**	**15 51 01.6**	**-1.1**
JMI				*eS*	**Sn**	**15 51 19.7**	**-2.4**
JMI				IAML		15 51 22.4	
	comp=Z,338nm,0.4s						
DBG	**Daneborg**	**5.49**	**309**	Pn	**Pn**	**15 51 55.4**	**-2.0**
DBG				Sn	**Sn**	**15 52 52.6**	**-7.8**
DBG	**Daneborg**	**5.49**	**309**	*eP*	**Pn**	**15 51 55.2**	**-2.2**
DBG				*eS*	**Sn**	**15 52 53.7**	**-6.7**
DBG	**Daneborg**	**5.49**	**309**	*i* P	**Pn**	**15 51 54.6**	**-2.8**
DBG				*i* S	Sn	15 52 52.0	-8.5
DBG				IAML		15 53 02.3	
	comp=Z,30nm,0.7s						
DAG	**Danmarks Havn**	**6.62**	**331**	*i* P	**Pn**	**15 52 11.0**	**-2.0**
DAG				*i* S	Sn	15 53 15.2	-13
DAG				IAML		15 53 23.6	
	comp=Z,22nm,0.8s						
LOF	**Lofoten**	**7.02**	**109**	Pn	**Pn**	**15 52 16.0**	**-2.5**
LOF	**Lofoten**	**7.02**	**109**	*eP*	**Pn**	**15 52 16.0**	**-2.5**
STEI	**Steigen**	**7.66**	**108**	*eP*	**Pn**	**15 52 25.6**	**-1.6**
STEI				*eS*	**Sn**	**15 53 46.6**	**-7.1**
STEI				IAML		15 53 48.0	
	comp=Z,5.0nm,0.5s						
HSPB	**Hornsund (broa**	**7.75**	**35**	Pn	**Pn**	**15 52 28.3**	**-0.1**
HSPB	**Hornsund (broa**	**7.75**	**35**	*eP*	**Pn**	**15 52 28.1**	**-0.3**
TRO	**Tromso**	**7.97**	**92**	*eP*	**Pn**	**15 52 28.4**	**-3.0**
KONS	**Konsvik**	**7.98**	**120**	Pn	**Pn**	**15 52 29.6**	**-2.0**
KONS	**Konsvik**	**7.98**	**120**	*eP*	**Pn**	**15 52 29.4**	**-2.2**
KONS				IAML		15 53 59.1	
	comp=Z,5.3nm,0.6s						
FAUS	**Fauske**	**8.01**	**111**	*eP*	**Pn**	**15 52 29.9**	**-2.1**
STOK	**Stokkvaagen**	**8.07**	**121**	Pn	**Pn**	**15 52 31.2**	**-1.6**
STOK	**Stokkvaagen**	**8.07**	**121**	*eP*	**Pn**	**15 52 31.0**	**-1.9**
STOK				*eS*	Sn	15 53 53.4	-11
BRBA	**Barentsburg A**	**8.21**	**28**	*eP*	**Pn**	**15 52 34.5**	**-0.3**
BRBB	**Barentsburg B**	**8.24**	**28**	*eP*	**Pn**	**15 52 35.3**	**+0.2**
JETT	**Jettan, Norway**	**8.47**	**91**	Pn	**Pn**	**15 52 38.1**	**-0.3**
JETT	**Jettan, Norway**	**8.47**	**91**	Pn	**Pn**	**15 52 38.1**	**-0.3**
KBS	**Kingsbay**	**8.56**	**21**	Pn	**Pn**	**15 52 40.1**	**+0.6**
KBS	**Kingsbay**	**8.56**	**21**	Pn	**Pn**	**15 52 39.3**	**-0.2**
KBS	**Kingsbay**	**8.56**	**21**	*eP*	**Pn**	**15 52 39.4**	**-0.2**
KBS	**Kingsbay**	**8.56**	**21**	*i* P	**Pn**	**15 52 38.8**	**-0.8**
MOR8	**Moi Rana**	**8.59**	**119**	*eP*	**Pn**	**15 52 38.9**	**-1.0**
MOR8				IAML		15 54 15.6	
	comp=Z,4.8nm,0.4s						
SPA0	**Spitsbergen Ar**	**8.62**	**29**	Pn	**Pn**	**15 52 41.1**	**+0.7**
	baz=224,slow=16						
SPA0	**Spitsbergen Ar**	**8.62**	**29**	Pn	**Pn**	**15 52 41.1**	**+0.7**
	baz=224,slow=16						
SPB2	**Spitsbergen Ar**	**8.62**	**29**		**Pn**	**15 52 40.7**

BLS5 Blasjo 12.83 154 *eP* **Pn 15 53 35.6 -2.4**
KONO Kongsberg 13.11 147 Pn **Pn 15 53 40.9 -0.8**
ANGG Ammassalik, Gr 13.34 261 Pn **Pn 15 53 44.3 -0.5**
HFS Hagfors 13.46 138 Pn **Pn 15 53 45.5 -1.0**
baz=331,slow=12
HFS Hagfors 13.46 138 Pn **Pn 15 53 45.5 -1.0**
baz=331,slow=12
HFS Hagfors 13.46 138 Pn **Pn 15 53 45.3 -1.2**
comp=Z,1.1nm,0.3s,baz=335,slow=10,SNR=29
HFS LR LR 15 58 34.9
comp=Z,431nm,20.8s,baz=347,slow=36
comp=Z,6.4nm,0.5s
APA0 Apatity Array 13.46 88 Pn **Pn 15 53 43.1 -3.4**
baz=308,slow=16
APA0 Apatity Array 13.46 88 Pn **Pn 15 53 43.1 -3.4**
baz=308,slow=16
NEEM North Greenlan 13.49 317 *i* P **Pn 15 53 45.2 -1.9**
LVZ Lovozero 13.83 86 **Pn 15 53 48.3 -3.2**
FIA0 FINESS Array S 15.54 115 P **Pn 15 54 12.2 -2.3**
FIA0 FINESS Array S 15.54 115 P **Pn 15 54 12.2 -2.3**
FINES FINESS Array B 15.54 115 Pn **Pn 15 54 12.8 -1.7**
FINES FINESS Array B 15.54 115 Pn **Pn 15 54 12.3 -2.3**
comp=Z,0.3nm,0.3s,baz=304,slow=4.4,SNR=6.9
FINES LR LR 15 59 33.8
comp=Z,342nm,19.4s,baz=306,slow=35
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 16.17 177 P **Pn 15 54 22.2 -0.4**
EKA Eskdalemuir Ar 16.17 177 P **Pn 15 54 22.2 -0.4**
EKA Eskdalemuir Ar 16.17 177 Pn **Pn 15 54 21.8 -0.9**
baz=354,slow=12
comp=Z,3.1nm,0.4s
ESK Eskdalemuir 16.18 178 Pn **Pn 15 54 21.7 -1.2**
ESK IAmb IAmb 15 54 28.6
comp=Z,35nm,0.9s
SFJD Kangerlussuaq 16.63 277 LR LR 15 59 48.5
comp=Z,172nm,21.3s,baz=56,slow=33
PABE Paberze 20.04 128 **P 15 55 06.6 -1.9**
PABE IAmb IAmb 15 55 09.9
comp=Z,42nm,1.0s
PABE Paberze 20.04 128 *eP* **P 15 55 08.8 +0.4**
GKP Gorka Klasztor 20.56 141 *eP* Pn 15 55 15.2 -1.2
GKP Gorka Klasztor 20.56 141 *eP* **P 15 55 14.6 +0.4**
CLZ Clausthal 20.74 154 *eP* Pn 15 55 17.6 -1.0
comp=Z,26nm,1.4s,baz=349,slow=10
IIGN Ignalina 20.76 125 *eP* **P 15 55 16.5 +0.3**
IDID Didziasalis 20.93 124 *eP* **P 15 55 18.5 +0.4**
KASTN Kahler Asten 21.11 157 *eP* **P 15 55 24.1 +4.0**
comp=Z,12nm,1.0s,baz=349,slow=10
SUW Suwalki 21.20 131 *eP* **P 15 55 23.7 +2.7**
SUW Suwalki 21.20 131 P **P 15 55 20.2 -0.8**
SUW Suwalki 21.20 131 *eP* **P 15 55 21.2 +0.2**
NACGM Naroch 21.30 125 *eP* **P 15 55 20.5 -1.6**
comp=E,3µm,0.7s
MEM Membach 21.42 162 *dP* **P 15 55 24.6 +1.2**
comp=Z,16nm,0.8s
BTNL Ternell 21.46 161 *dP* **P 15 55 24.9 +1.0**
BCLA Clavier 21.54 163 *dP* **P 15 55 25.9 +1.1**
comp=Z,8.9nm,1.0s
BGES Gesves 21.55 163 *dP* **P 15 55 28.1 +3.1**
comp=Z,8.8nm,0.7s
NEUB Neuenburg 21.57 152 *eP* **P 15 55 26.4 +1.4**
comp=Z,32nm,1.0s,baz=349,slow=10
BMRD Maredsous 21.61 164 *dP* **P 15 55 26.5 +1.0**
comp=Z,16nm,0.8s
BMRD *d*PP **PnPn 15 55 45.2 -0.6**
CLL Collm 21.66 149 **P 15 55 25.9 -0.1**
CLL IAmb IAmb 15 55 32.2
comp=Z,18nm,1.2s
CLL Collm 21.66 149 *eP* **P 15 55 27.0 +1.0**
comp=Z,11nm,1.0s,baz=349,slow=10
CLL Collm 21.66 149 *i* P **P 15 55 26.5 +0.4**
comp=Z,12nm,1.0s
CLL *i* sP **sP 15 55 29.5 -0.2**
CLL *e*(PP) 15 55 42.0
CLL AMS AMS 16 02 00.0
comp=Z,100nm,21.0s
RCHB Rochefort 21.80 163 *d*PP **PnPn 15 55 47.9 -0.4**
DOU Dourbes 21.80 164 *dP* **P 15 55 28.3 +0.8**
MNK Minsk 21.95 124 *i* P **P 15 55 25.7 -3.4**
comp=E,11nm,0.9s
MNK *i* P **P 15 55 25.7 -3.4**
comp=N,18nm,0.7s
MNK *i* P **P 15 55 25.7 -3.4**
comp=Z,24nm,0.7s,baz=153
MNK *i* PP **PnPn 15 55 47.4 -3.0**
MNK *i* S **S 15 59 27.9 -3.1**
MNK *i* SS **SnSn 15 59 55.2 -1.0**
MNK *i* SSS SSS 16 00 08.2
MNK *i* LQ LQ 16 01 48.2
MNK *i* LR LR 16 02 15.2
MNK *i* LRM MLR 16 03 44.2
comp=N,125nm,14.2s
MNK *i* LRM MLR 16 03 47.4
comp=Z,227nm,16.8s
MNK *i* LRM MLR 16 03 59.0
comp=E,36nm,17.4s
MOX Moxa 22.09 152 *eP* **P 15 55 32.0 +1.3**
comp=E,15nm,1.1s,baz=349,slow=10
MOX *e*L L 16 02 36.0
comp=E,66nm,19.5s
FBE Freiberg 22.10 149 *eP* **P 15 55 31.6 +0.9**
comp=E,29nm,1.1s,baz=349,slow=10
BRG Berggiesshubel 22.24 148 *eP* **P 15 55 33.2 +0.9**
BRG Amp 15 55 36.0
comp=Z,20nm,1.0s
BRG Berggiesshubel 22.24 148 P P 15 55 39.5 +7.2
BRG Amp 15 55 40.7
comp=Z,11nm,1.0s
BRG Berggiesshubel 22.24 148 *eP* **P 15 55 35.3 +3.0**
comp=Z,17nm,1.0s,baz=349,slow=10
PLN Plauen 22.33 151 *eP* **P 15 55 34.2 +0.9**
comp=Z,24nm,0.9s,baz=349,slow=10
WLF Walferdange 22.37 162 *d*PP **PnPn 15 55 56.8 +0.5**
WERD Werda 22.39 151 *eP* **P 15 55 34.6 +0.8**
comp=Z,12nm,0.8s,baz=349,slow=10
HSKC Hora Svate Kat 22.41 149 *eP* **P 15 55 34.6 +0.5**
TANN Tannenbergstha 22.44 151 *eP* **P 15 55 35.5 +1.0**
comp=Z,12nm,0.9s,baz=349,slow=10
WERN Wernitzgruen 22.55 151 *eP* **P 15 55 36.9 +1.3**
comp=Z,15nm,1.1s,baz=349,slow=10
NKC Novy Kostel 22.62 151 *eP* **P 15 55 37.8 +1.5**
BEL Belsk 22.66 137 *eP* **P 15 55 38.1 +1.4**
KSP Ksiaz 22.69 145 *eP* **P 15 55 37.5 +0.5**
MANZ Manzenberg 22.81 152 *eP* **P 15 55 39.4 +1.1**
comp=Z,1.5nm,1.0s,baz=349,slow=10
CHVC Chvalec 22.89 145 *eP* **P 15 55 38.9 -0.3**
UPC Upice 22.96 145 *eP* **P 15 55 40.3 +0.4**
GRA1 Grafenberg Arr 22.96 153 P **P 15 55 40.9 +0.9**
GRF Grafenberg Arr 22.96 153 *eL* L 16 02 35.1
comp=Z,99nm,21.2s
GRFO Grafenberg 22.96 153 P **P 15 55 40.5 +0.6**
GRFO IAmb IAmb 15 55 42.5
comp=Z,33nm,1.3s
DPC Dobruska-Polom 23.16 145 *eP* **P 15 55 42.4 +0.4**
PRU Pruhonice 23.20 148 *eP* **P 15 55 43.8 +1.5**
GOPC GO Pecny, Ondr 23.31 148 *eP* **P 15 55 43.6 +0.1**
ZVC Zvikov 23.67 149 *eP* **P 15 55 48.3 +1.3**
CLF Chambon-Foret 23.68 169 P **P 15 55 47.2 0.0**
KHC Kasperske Hory 23.87 150 P **P 15 55 49.5 +0.5**
KHC Kasperske Hory 23.87 150 *eP* **P 15 55 50.3 +1.3**
OBN Obninsk 23.88 112 P **P 15 55 48.9 -0.1**
ECH Echery 23.91 161 P **P 15 55 50.4 +1.1**
ECH IAmb IAmb 15 55 53.1
comp=Z,11nm,1.0s
BFO Black Forest 23.92 159 P **P 15 55 50.9 +1.4**
BFO IAmb IAmb 15 55 52.2
comp=Z,22nm,1.2s
BFO Black Forest 23.92 159 *eP* **P 15 55 51.2 +1.7**
comp=Z,21nm,1.2s,baz=349,slow=10
MORC Moravsky Berou 23.94 143 P **P 15 55 49.3 -0.4**
MORC IAmb IAmb 15 56 05.1
comp=Z,18nm,1.5s
MORC Moravsky Berou 23.94 143 *eP* **P 15 55 50.1 +0.4**
OJC Ojcow 23.97 140 *eP* **P 15 55 51.6 +1.7**
OJC Ojcow 23.97 140 P **P 15 55 49.8 -0.1**
OJC IAmb IAmb 15 55 54.0
comp=Z,15nm,0.8s
RES Resolute Bay 24.16 320 LR LR 16 04 54.5
comp=Z,184nm,20.6s,baz=8.5,slow=36
GEC2 GERESS Array S 24.16 150 P **P 15 55 53.2 +1.4**
GEC2 IAmb IAmb 15 55 54.6
comp=Z,16nm,1.2s
GEC2 GERESS Array S 24.16 150 *eP* **P 15 55 53.7 +1.9**
comp=Z,18nm,1.2s,baz=349,slow=10
GERES GERESS Array B 24.16 150 P **P 15 55 53.3 +1.5**
GERES GERESS Array B 24.16 150 P **P 15 55 51.7 -0.1**
comp=Z,4.2nm,0.8s,baz=348,slow=11,SNR=7.0
GERES LR LR 16 04 37.7
comp=Z,76nm,20.2s,baz=28,slow=35
comp=Z,4.2nm,0.8s
VRAC Vranov 24.21 145 *eP* **P 15 55 52.4 +0.2**
VRAC Vranov 24.21 145 LR LR 16 05 35.5
comp=Z,71nm,18.4s,baz=344,slow=37
CKRC Cesky Krumlov 24.29 149 *eP* **P 15 55 54.0 +1.1**
MAUC Mauruska 24.39 143 *eP* **P 15 55 55.0 +1.2**
KRUC Moravsky 24.41 146 *eP* **P 15 55 55.1 +1.1**
FRB Frobisher Bay 24.42 284 LR LR 16 04 56.0
comp=Z,200nm,18.4s,baz=13,slow=35
NIE Niedzica 24.84 140 *eP* **P 15 56 00.4 +2.6**
JAVC Velka Javorina 24.85 144 *eP* **P 15 56 00.1 +2.1**
KIRV Kirov 25.03 93 LR LR 16 05 13.4
comp=Z,157nm,18.5s,baz=1.4,slow=35
STHS Stebnicka Huta 25.04 138 *eP* **P 15 56 02.2 +2.6**
RETA Reutte 25.06 155 *i* P **P 15 56 01.9 +2.0**
comp=Z,5.1nm,1.0s
RJOB Jochberg 25.10 152 *eP* **P 15 56 02.2 +1.9**
comp=Z,10nm,0.8s,baz=349,slow=10
DAVA Damuels 25.14 157 *i* pP pP 15 56 03.2 -0.2
comp=Z,8.6nm,0.8s
MOA Molln 25.22 150 *i* P **P 15 56 02.8 +1.4**
comp=Z,10nm,1.2s
MODS Modra-Piesok 25.24 145 *eP* **P 15 56 03.4 +1.9**
MOTA Moosalm 25.24 155 *i* P **P 15 56 03.6 +2.0**
comp=Z,15nm,1.2s,SNR=5.4
BIOA Bad Ischl, Aus 25.28 151 *i* P **P 15 56 03.8 +1.9**
comp=Z,4.8nm,1.0s
WATA Walderalm 25.32 154 *i* P **P 15 56 04.4 +2.0**
comp=Z,16nm,1.1s
SQTA Sankt Quirin 25.38 155 *i* P **P 15 56 05.0 +2.1**
comp=Z,8.0nm,0.7s
LESA Schwarzleotal 25.39 152 *i* pP pP 15 56 05.2 -0.4
comp=Z,4.2nm,0.6s
WTTA Wattenberg 25.39 154 *e*pP pP 15 56 05.4 -0.4
comp=Z,17nm,1.0s,SNR=7.0
CONA Conrad Observa 25.41 147 *eP* **P 15 56 05.0 +1.9**
comp=Z,29nm,1.0s,SNR=12
VYHS Vyhne 25.42 142 *eP* **P 15 56 04.4 +1.3**
FETA Feichten 25.51 156 *i* P **P 15 56 06.0 +1.9**
comp=Z,6.6nm,1.3s
CRVS Cervenica-Dubn 25.57 138 *eP* **P 15 56 07.0 +2.6**
RONA Rosalia, Austr 25.71 147 *eP* **P 15 56 07.6 +1.8**
comp=Z,19nm,0.9s,SNR=8.0
KOLS Kolonicke sedl 25.71 137 *eP* **P 15 56 08.0 +2.2**
AKASG Malin Array Be 25.74 126 P **P 15 56 04.2 -1.7**
AKASG Malin Array Be 25.74 126 P **P 15 56 05.6 -0.3**
comp=Z,8.4nm,0.8s,baz=336,slow=9.4,SNR=25
AKASG LR LR 16 05 54.1
comp=Z,213nm,19.2s,baz=358,slow=36
comp=Z,8.4nm,0.8s
AKBB Malin Array Si 25.74 126 P **P 15 56 05.5 -0.4**
AKBB IAmb IAmb 15 56 06.9
comp=Z,13nm,0.9s
SENIN Lac Senin/Sane 25.75 161 P **P 15 56 07.0 +0.7**
KBA Koelnbreinsper 25.83 151 *i* pP pP 15 56 09.8 +0.2
comp=Z,3.9nm,0.8s
FUORN Ofenpass-Fuorn 25.84 156 P **P 15 56 08.6 +1.4**
TUE Stuetta 25.87 158 P **P 15 56 09.3 +1.8**
SRO Srobarova 25.97 144 *eP* **P 15 56 10.5 +2.4**
ARSA Arzberg 26.01 148 *i* P **P 15 56 10.8 +2.3**
comp=Z,5.3nm,0.8s
ABTA Abfaltersbach 26.03 153 *i* pP pP 15 56 14.9 +3.5
comp=Z,7.7nm,1.1s
PSZ Piszkesteto 26.18 141 P **P 15 56 10.2 +0.1**
PSZ IAmb IAmb 15 56 14.9
comp=Z,10nm,1.1s
MYKA Terra Mystica 26.31 151 *e*pP pP 15 56 12.5 -1.4
comp=Z,0.2nm,0.2s
CLUD Cludinico 26.36 152 P **P 15 56 13.7 +2.0**
CLUD IAmb IAmb 15 56 27.1
comp=Z,7.3nm,1.0s
PRED Cave del Predi 26.48 151 P **P 15 56 12.6 -0.2**
SOKA Soboth 26.48 149 *i* pP pP 15 56 14.1 -1.4
comp=Z,3.6nm,0.9s
STAL STALIGIAL 26.53 153 P **P 15 56 12.6 -0.7**
OBKA Obir 26.57 150 *i* pP pP 15 56 15.6 -0.7
comp=Z,4.2nm,0.9s
SSB Saint Sauveur 26.58 166 P **P 15 56 13.6 0.0**
SSB IAmb IAmb 15 56 17.7
comp=Z,12nm,1.3s
CTI Castel Tesino 26.59 155 P **P 15 56 14.3 +0.4**
CTI IAmb IAmb 15 56 17.1
comp=Z,9.3nm,0.9s
SALO Salr 26.86 156 P **P 15 56 16.9 +0.7**
SALO IAmb IAmb 15 56 53.8
comp=Z,12nm,0.7s
SABO M.te Sabotino 26.94 152 P **P 15 56 16.9 0.0**
SABO IAmb IAmb 15 56 19.1
comp=Z,6.3nm,0.9s
BNI Bardonecchia 26.99 163 P **P 15 56 17.4 -0.1**
BNI IAmb IAmb 15 56 25.1
comp=Z,12nm,1.2s
BUR08 Bucovina Ar. S 27.59 134 P **P 15 56 22.7 -0.1**
BURAR Bucovina Array 27.62 134 P **P 15 56 22.4 -0.6**
OSSC Osservatorio P 29.01 156 P **P 15 56 36.1 +0.7**
OSSC IAmb IAmb 15 56 50.5
comp=Z,13nm,1.3s
MURB Monte Urbino 29.44 154 P **P 15 56 40.1 +0.8**
MURB IAmb IAmb 15 56 49.9
comp=Z,7.0nm,0.8s
BELG Belogornoye 29.61 102 LR LR 16 07 57.4
comp=Z,260nm,18.5s,baz=352,slow=35
CASP Castiglione de 29.69 157 P **P 15 56 40.9 -0.5**
CASP IAmb IAmb 15 57 14.1
comp=Z,6.3nm,0.9s
ARU Arti 29.70 87 P **P 15 56 41.4 0.0**
ARU IAmb IAmb 15 57 20.5
comp=Z,6.9nm,1.0s
MLR Muntele Rosu 29.79 134 P **P 15 56 42.6 +0.2**
MLR Muntele Rosu 29.79 134 LR LR 16 09 08.5
comp=Z,356nm,18.9s,baz=355,slow=37
DJES Djerdap 29.82 140 P **P 15 56 43.4 +0.8**
DIVS Divibare 29.86 143 P **P 15 56 43.8 +0.7**
DIVS IAmb IAmb 15 56 45.2
comp=Z,5.7nm,1.0s
NRCA Norcia 29.95 154 P **P 15 56 44.4 +0.7**
NRCA IAmb IAmb 15 56 48.0
comp=Z,7.8nm,1.1s
CESX Cesi 30.09 155 P **P 15 56 45.4 +0.5**
CESX IAmb IAmb 15 56 46.8
comp=Z,4.7nm,0.6s
POLO Lamas de Olo 30.18 185 *eP* **P 15 56 47.3 +1.5**
MVO Mcorvo 30.37 184 *eP* **P 15 56 49.4 +2.0**
comp=Z,17nm,1.7s
SCHQ Schefferville 30.86 271 LR LR 16 08 20.1
comp=Z,181nm,19.7s,baz=290,slow=34
MTE Manteigas 31.14 185 *eP* **P 15 56 55.8 +1.5**
comp=Z,18nm,1.7s
ESBB Sonseca Array 31.82 179 P **P 15 57 01.0 +0.7**
ESDC Sonseca Array 31.83 179 P **P 15 57 01.6 +1.4**
ESDC Sonseca Array 31.83 179 P **P 15 57 01.7 +1.4**
comp=Z,2.6nm,0.7s,baz=359,slow=8.2,SNR=27
ESDC LR LR 16 08 46.2
comp=Z,44nm,20.4s,baz=325,slow=34
comp=Z,2.6nm,0.7s
MAHO Mahon 31.91 167 P **P 15 57 02.4 +1.5**
PAOL Paolisi 31.92 152 P **P 15 57 01.4 +0.2**
PAB San Pablo 31.95 180 P **P 15 57 03.0 +1.6**
PAB IAmb IAmb 15 57 05.5
comp=Z,9.0nm,1.2s
PMRV Marv??o 32.11 184 *eP* **P 15 57 04.5 +1.8**
PMTG Montargil 32.49 186 *eP* **P 15 57 07.9 +1.9**
comp=Z,21nm,1.9s
PESTR Estremoz 32.67 185 *eP* **P 15 57 09.5 +1.8**
comp=Z,18nm,1.5s
PESTR Estremoz 32.67 185 P **P 15 57 08.7 +1.0**
CUC Castrocucco 33.13 151 **P 15 57 12.0 +0.3**
CUC IAmb IAmb 15 57 19.0
comp=Z,6.2nm,1.4s
FNA Florina 33.33 143 P **P 15 57 13.9 +0.5**
FNA IAmb IAmb 15 57 14.8
comp=Z,5.4nm,0.7s
SCTE Santa Cesarea 33.49 147 P **P 15 57 15.7 +0.9**
RDO Rodhopi 33.83 137 P **P 15 57 18.5 +0.7**
RDO IAmb IAmb 15 57 19.9
comp=Z,6.0nm,0.9s
PCVE Castro Verde 33.92 185 *eP* **P 15 57 20.4 +1.9**
comp=Z,33nm,2.1s
TIXI Tiksi 34.01 24 P **P 15 57 21.1 +2.1**
TIXI IAmb IAmb 15 57 26.6
comp=Z,10.0nm,1.4s
ALN Alexandroupoli 34.18 137 P **P 15 57 21.1 +0.3**
ALN IAmb IAmb 15 57 54.0
comp=Z,5.6nm,1.2s
AKTO Aktyubinsk 34.59 93 LR LR 16 11 07.0
comp=Z,135nm,19.4s,baz=90,slow=36
AGG Agios Georgios 35.22 143 P **P 15 57 29.8 0.0**
KIV Kislovodsk 35.63 115 P **P 15 57 33.5 +0.1**
KIV IAmb IAmb 15 57 36.0
comp=Z,6.6nm,0.8s
KVAR Kislovodsk Arr 35.63 115 LR LR 16 11 16.0
comp=Z,83nm,20.2s,baz=288,slow=35
KBZ Khabaz 35.90 115 P **P 15 57 37.5 +1.9**
comp=Z,3.7nm,0.9s,baz=323,slow=4.2,SNR=8.9
comp=Z,3.7nm,0.9s
ABKAR Akbulak array 36.24 93 P **P 15 57 38.8 +0.3**
ABKAR Akbulak array 36.24 93 P **P 15 57 38.4 0.0**
ABKAR IAmb IAmb 15 57 41.0
comp=Z,7.2nm,1.4s
BRVK Borovoye 36.26 80 P **P 15 57 38.3 -0.2**
BRVK IAmb IAmb 15 57 40.6
comp=Z,7.5nm,1.2s
BVAR Borovoye Array 36.32 80 P **P 15 57 40.2 +1.2**
comp=Z,3.4nm,0.8s,baz=318,slow=8.2,SNR=13
BVAR LR LR 16 12 12.8
comp=Z,63nm,20.5s,baz=3.7,slow=36
comp=Z,3.4nm,0.8s
INK Inuvik 36.47 331 LR LR 16 13 23.3
comp=Z,71nm,18.0s,baz=157,slow=38
KEST Kesra 36.48 161 P **P 15 57 41.5 +0.8**
KEST IAmb IAmb 15 57 44.5
comp=Z,12nm,1.2s
KEST Kesra 36.48 161 P **P 15 57 42.1 +1.3**
comp=Z,6.5nm,1.0s,baz=345,slow=9.4,SNR=5.8
comp=Z,6.5nm,1.0s
BR131 Keskin Array S 37.09 128 P **P 15 57 46.7 +0.8**
BRTR Keskin Array B 37.09 128 P **P 15 57 46.4 +0.4**
BRTR Keskin Array B 37.09 128 P **P 15 57 47.7 +1.7**
comp=Z,2.3nm,0.8s,baz=336,slow=6.5,SNR=12
BRTR LR LR 16 14 54.7
comp=Z,114nm,18.1s,baz=324,slow=39
comp=Z,2.3nm,0.8s
YKA Yellowknife Ar 38.04 315 LR LR 16 12 46.5
comp=Z,112nm,18.0s,baz=38,slow=35
G29M Pine Creek 38.44 333 P **P 15 57 57.4 +0.5**
MDT Midelt 38.67 180 LR LR 16 12 22.3
comp=Z,25nm,19.9s,baz=352,slow=34
BMAR Burnt Mountain 38.85 337 P **P 15 58 03.0 +2.7**
PMPST Porto Santo, M 38.94 196 *eP* **P 15 58 02.3 +0.9**
comp=Z,68nm,1.6s
PMPS Porto Santo 38.96 196 *eP* **P 15 58 03.1 +1.5**
H29M Whitestone 39.14 332 P **P 15 58 03.5 +0.7**
I30M Mount Dempster 39.76 331 P **P 15 58 09.3 +1.2**
ZALV Zalesovo Beam 39.94 67 PcP **PcP 16 00 15.4 +0.8**
comp=Z,0.5nm,0.5s,baz=339,slow=7.9,SNR=3.6
ZALV LR LR 16 17 38.3
comp=Z,43nm,20.9s,baz=304,slow=41
J30M Hart River 40.36 330 P **P 15 58 14.2 +1.2**
KURK Kurchatov 40.88 75 P **P 15 58 17.6 +0.2**
KURBB Kurchatov Arra 40.94 75 P **P 15 58 18.4 +0.5**
comp=Z,3.1nm,0.9s,baz=335,slow=7.1,SNR=14
KURBB PcP **PcP 16 00 18.3 +0.4**
comp=Z,0.6nm,0.8s,baz=324,slow=4.3,SNR=4.3
KURBB LR LR 16 15 52.5
comp=Z,62nm,20.1s,baz=177,slow=37
comp=Z,3.1nm,0.9s
K29M Barlow Dome 41.23 331 P **P 15 58 21.3 +1.0**
IL31 41.68 337 P **P 15 58 25.3 +1.6**
ILAR Eielson Array 41.68 337 P **P 15 58 25.5 +1.8**
ILAR Eielson Array 41.68 337 P **P 15 58 25.3 +1.5**
comp=Z,0.9nm,1.0s,baz=6.5,slow=6.5,SNR=5.6
ILAR PcP **PcP 16 00 20.8 +0.7**
comp=Z,0.3nm,0.8s,baz=0.5,slow=0.5,SNR=4.1
comp=Z,0.9nm,1.0s
M30M Minto, Yukon 42.31 329 P **P 15 58 30.5 +1.5**
BCAR Beaver Creek A 42.61 333 P **P 15 58 33.3 +1.8**
L27K Beaver Creek, 42.62 333 P **P 15 58 33.4 +1.8**
M29M Somme Creek 42.70 330 P **P 15 58 34.6 +2.3**
SADO Sadowa 43.54 274 LR LR 16 16 13.5
comp=Z,135nm,18.1s,baz=4.5,slow=35
ULM Lac du Bonnet 43.87 292 LR LR 16 16 34.7
comp=Z,87nm,18.6s,baz=41,slow=36
MMAI Mount Meron Ar 43.90 129 LR LR 16 18 20.2
comp=Z,42nm,20.7s,baz=266,slow=38
KK31 Karatay Array 45.08 87 P **P 15 58 52.3 +0.8**
KK31 IAmb IAmb 15 58 53.9
comp=Z,3.6nm,0.8s
KKAR Karatay Array 45.08 87 P **P 15 58 52.3 +0.8**
KKAR IAmb IAmb 15 58 53.9
comp=Z,3.6nm,0.8s
KKAR Karatay Array 45.08 87 P **P 15 58 52.5 +1.1**
GEYT Alibeck 45.83 102 P **P 15 58 57.6 +0.1**
GEYT IAmb IAmb 15 58 59.9
comp=Z,6.0nm,0.8s
GEYT Alibeck 45.83 102 P **P 15 58 59.0 +1.6**
comp=Z,4.3nm,0.7s,baz=328,slow=5.4,SNR=8.6
GEYT LR LR 16 19 47.3
comp=Z,149nm,18.2s,baz=336,slow=38
comp=Z,4.3nm,0.7s
AAK Ala-Archa 46.77 84 LR LR 16 18 34.9
comp=Z,55nm,21.8s,baz=332,slow=36
BTK Batken 47.93 88 P **P 15 59 13.3 -0.6**
BTK IAmb IAmb 15 59 17.2
comp=Z,4.2nm,0.8s
NRN Naryn 48.34 83 P **P 15 59 17.4 +0.1**
NRN IAmb IAmb 15 59 32.5
comp=Z,4.8nm,1.2s
KDAK Kodiak Island 49.16 338 LR LR 16 20 58.0
comp=Z,64nm,20.4s,baz=32,slow=37
WMQ Urumqi 49.82 71 *eP* **P 15 59 30.0 +1.6**
WMQ pmax pmax
comp=Z,13nm,0.9s
KSH Kashi 50.07 84 P **P 15 59 33.9 +3.5**
KSH pmax pmax
comp=Z,5.0nm,1.5s
BBB Bella Bella 50.44 318 LR LR 16 21 17.7
comp=Z,69nm,18.0s,baz=58,slow=36
T57A Hurt 50.61 270 P **P 15 59 32.7 -1.7**
SONM Songino Array 51.44 54 P **P 15 59 41.7 +1.1**
comp=Z,1.0nm,1.0s,baz=357,slow=2.9,SNR=4.7
SONM PcP **PcP 16 00 54.7 -0.2**
comp=Z,0.6nm,0.8s,baz=335,slow=6.4,SNR=2.3
SONM LR LR 16 24 20.4
comp=Z,33nm,18.9s,baz=128,slow=39
comp=Z,1.0nm,1.0s
NEW Newport 51.54 308 LR LR 16 21 46.8
comp=Z,119nm,18.4s,baz=344,slow=36
Q44A Meyer Farm, Va 51.99 280 P **P 15 59 45.9 +1.2**
SIUC Southern Illin 53.13 279 P **P 15 59 54.2 +1.1**
TKL Tuckaleechee C 53.29 273 LR LR 16 21 59.2
comp=Z,91nm,18.2s,baz=32,slow=35
CCM Cathedral Cave 53.46 281 P **P 15 59 55.5 -0.1**
R40A Maddies Statio 53.57 282 P **P 15 59 56.9 +0.5**
R40A IAmb IAmb 15 59 58.6
comp=Z,10nm,1.2s
HEH HeiHe 53.90 36 *eP* **P 16 00 00.0 +1.4**
HEH pmax pmax
comp=Z,7.0nm,1.2s
T42A Van Buren 54.35 281 P **P 16 00 02.2 +0.2**
S39A Bolivar 54.45 283 P **P 16 00 03.3 +0.5**
MGMO Mountain Grove 54.61 282 P **P 16 00 03.6 -0.4**
PDAR Pinedale Array 54.61 299 P **P 16 00 05.2 +1.1**
comp=Z,0.9nm,0.9s,baz=14,slow=6.7,SNR=4.8
PDAR LR LR 16 23 33.8
comp=Z,136nm,18.4s,baz=7.0,slow=36
comp=Z,0.9nm,0.9s
FCAR Ozark Folk Cen 55.73 281 P **P 16 00 12.1 +0.1**
FCAR IAmb IAmb 16 00 14.5
comp=Z,7.7nm,1.1s
U38A Gravette 55.93 283 P **P 16 00 13.7 +0.2**
T35A Sooner Cattle 56.15 285 P **P 16 00 16.0 +1.0**
KOWA Kowa 56.91 180 LR LR 16 24 27.3
comp=Z,18nm,18.0s,baz=90,slow=36
GTA Gaotai 57.45 63 *eP* **P 16 00 26.3 +1.9**
GTA pmax pmax
comp=Z,5.0nm,1.4s
W35A Tecumseh 57.89 285 P **P 16 00 28.2 +0.8**
TOA0 Torodi Ar. Sit 58.37 173 P **P 16 00 31.1 +0.3**
TORD Torodi Ar. Bea 58.37 173 P **P 16 00 30.9 0.0**
TORD IAmb IAmb 16 00 32.5
comp=Z,4.4nm,0.8s
TORD Torodi Ar. Bea 58.37 173 P **P 16 00 31.8 +0.9**
comp=Z,7.4nm,0.8s,baz=358,slow=8.4,SNR=35
comp=Z,7.4nm,0.8s
WMOK Wichita Mounta 58.86 286 P **P 16 00 34.8 +0.5**
WMOK IAmb IAmb 16 00 37.4
comp=Z,8.7nm,1.2s
YBH Yreka Blue Hor 59.04 310 LR LR 16 25 37.3

comp=Z,82nm,19.6s,baz=24,slow=36
BTO Baotou 59.11 54 *e*P **P 16 00 34.3 -1.7**
BTO pP **pP 16 00 38.9 0.0**
BTO sP **pwP 16 00 41.7 +0.2**
BTO S **S 16 08 41.4 -1.3**
BTO Baotou 59.11 54 SS SS 16 12 26.9 -9.1
BTO pmax pmax
comp=Z,37nm,0.5s
BTO pmax pmax
comp=Z,400nm,4.4s
BTO LR LR
comp=N,280nm,5.1s
BTO LR LR
comp=E,270nm,5.9s
BTO LR LR
comp=Z,230nm,5.1s
HHC Hu-ho-hao-te 59.28 53 *e*P **P 16 00 38.0 +0.9**
HHC pmax pmax
comp=Z,24nm,0.5s
HHC pmax pmax
comp=Z,130nm,4.2s
MDJ Mudanjiang 59.73 37 P **P 16 00 40.8 +0.8**
MDJ pmax pmax
comp=Z,12nm,1.6s
MDJ pmax pmax
comp=Z,150nm,4.1s
ANMO Albuquerque 60.98 293 LR LR 16 29 23.3
comp=Z,43nm,19.3s,baz=92,slow=38
NVAR Mina Array Bea 61.03 305 LR LR 16 26 33.4
comp=Z,56nm,19.3s,baz=277,slow=35
X16A Lo Mia Camp, P 62.92 297 P **P 16 01 03.5 +1.5**
X16A IAmb IAmb 16 01 13.4
comp=Z,4.7nm,1.2s
ALPN Alpine 64.40 289 P **P 16 01 12.0 +0.3**
ALPN IAmb IAmb 16 01 15.1
comp=Z,5.5nm,1.1s
425A Indio Mountain 64.42 290 P **P 16 01 12.1 +0.2**
425A IAmb IAmb 16 01 15.0
comp=Z,5.5nm,1.3s
DBIC Dimbokro 64.69 181 P **P 16 01 13.6 +0.1**
comp=Z,2.9nm,0.7s,baz=301,slow=8.1,SNR=3.0
DBIC LR LR 16 28 53.1
comp=Z,14nm,20.8s,baz=101,slow=36
comp=Z,2.9nm,0.7s
PFO Pinyon Flats O 65.08 301 LR LR 16 31 49.9
comp=Z,66nm,19.0s,baz=294,slow=38
TXAR Lajitas Array 65.38 289 P **P 16 01 19.4 +1.3**
comp=Z,0.8nm,0.8s,baz=38,slow=6.3,SNR=6.3
TXAR LR LR 16 29 33.7
comp=Z,78nm,19.5s,baz=359,slow=36
comp=Z,0.8nm,0.8s
KSRS Korea Array 66.30 40 P **P 16 01 24.4 +0.6**
comp=Z,0.7nm,0.6s,baz=355,slow=5.7,SNR=2.2
KSRS LR LR 16 34 27.0
comp=Z,18nm,18.6s,baz=0.0,slow=40
comp=Z,0.7nm,0.6s
TEIG Tepich 69.05 271 LR LR 16 30 28.9
comp=Z,748nm,21.9s,baz=167,slow=35
MJAR Matsushiro Arr 69.11 32 P **P 16 01 42.7 +1.1**
comp=Z,4.1nm,1.1s,baz=337,slow=8.1,SNR=4.8
comp=Z,4.1nm,1.1s
NJ2 Nanjing 69.44 49 *e*P **P 16 01 42.6 -1.0**
NJ2 sP **sP 16 01 48.4 +0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
PZH PanZhiHua 70.08 66 P **P 16 01 49.2 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
LODK Lodwar 72.42 138 P **P 16 02 02.1 +0.2**
LODK IAmb IAmb 16 02 04.8
comp=Z,4.6nm,1.0s
BAUV El Baul 73.33 248 P **P 16 02 08.4 +1.1**
SDV Santo Domingo 74.16 250 LR LR 16 29 59.7
comp=Z,22nm,21.8s,baz=318,slow=32
MBAR Mbarara 75.39 144 LR LR 16 36 37.2
comp=Z,15nm,19.8s,baz=223,slow=37
CHTO Chiang Mai 76.49 71 P **P 16 02 25.8 +0.3**
CHTO IAmb IAmb 16 02 27.0
comp=Z,8.3nm,1.1s
CMAR Chiang Mai Arr 76.82 72 P **P 16 02 27.1 -0.3**
CMAR Chiang Mai Arr 76.82 72 P **P 16 02 27.8 +0.3**
comp=Z,1.6nm,0.8s,baz=321,slow=7.2,SNR=16
CMAR LR LR 16 42 54.7
comp=Z,11nm,18.0s,baz=90,slow=41
comp=Z,1.6nm,0.8s
KMBO Kilima Mbogo 77.24 137 LR LR 16 39 58.5
comp=Z,34nm,18.9s,baz=79,slow=38
JTS Las Juntas de 77.30 264 LR LR 16 37 24.9
comp=Z,30nm,18.3s,baz=320,slow=36
TSUM Tsumeb 91.65 159 LR LR 16 45 52.0
comp=Z,11nm,21.9s,baz=172,slow=36
WRA Warramunga Arr 123.21 48 PKP **PKPdf 16 09 31.7 -0.4**
comp=Z,1.4nm,1.1s,baz=340,slow=2.3,SNR=5.0
ASAR Alice Springs 126.69 50 PKP **PKPdf 16 09 38.5 -0.2**
comp=Z,0.5nm,0.5s,baz=347,slow=1.8,SNR=19
ELIB Princess Elisa 144.25 166 *d*PKPdf **PKPab 16 10 06.3 -1.5**
MAW Mawson 145.84 141 PKPbc **PKPab 16 10 13.4 -0.2**
comp=Z,1.9nm,0.6s,baz=265,slow=3.9,SNR=7.8
QSPA South Pole Qui 161.37 180 PKPab **PKPab 16 11 19.5 +0.5**
comp=Z,3.6nm,1.0s,baz=251,slow=2.8,SNR=7.6

---

*IDC **12** 15:51:29.1±4.2,21°.92N×121°.56E,h60km±43km,mb3.3/7,*
mbtmp3.6/8,ML3.8/1,MS2.6/2,Error ellipse: s-maj=27.3km
s-min=17.7km az=56.0
*TAP **12** 15:51:30.2,21°.95N×121°.27E,h48km,ML4.0,D*
*JMA **12** 15:51:30.7±0.1,22°.1N±0°.8×12°1E±°,h63km±2km,*
MV4.7/18,TAIWAN REGION
ISC 12 15:51:29.3±0.8,21°.90N±0°.05×121°.27E±0°.03,h55km±6km,
n142,σ1°29/188,mb3.5/7,3C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu** baz=71	**0.29**	**61**	P		**Pn**	**15 51 39.3**	**+0.4**
LAY	baz=71			*e*S		**Sn**	**15 51 45.4**	**-0.4**
LYUB	**Lan-yu** baz=71	**0.31**	**70**	⇓*i*P		**Pn**	**15 51 39.0**	**+0.1**
LYUB	baz=71			*i* S		**Sn**	**15 51 45.0**	**-0.9**
SMST	**Manzhou Townsh** baz=284	**0.42**	**287**	*i* P		**Pn**	**15 51 40.5**	**+0.5**
SMST	baz=284			S		**Sn**	**15 51 48.6**	**+0.9**
TWKBT	**Hengchun** baz=272	**0.43**	**276**	⇑*i*P		**Pn**	**15 51 40.7**	**+0.6**
TWKBT	baz=272			*i* S		**Sn**	**15 51 48.7**	**+0.8**
TWK1	**Hengchun** baz=272	**0.44**	**276**	⇑*i*P		**Pn**	**15 51 40.7**	**+0.5**
TWK1	baz=272			S		**Sn**	**15 51 48.8**	**+0.7**
HEN	**Hengchun** baz=276	**0.51**	**282**	⇑P		**Pn**	**15 51 41.9**	**+1.0**
HEN	baz=276			*e*S		**Sn**	**15 51 51.1**	**+1.7**
TAWH	**Dawu Township** baz=323	**0.57**	**321**	⇓P		**Pn**	**15 51 41.8**	**+0.1**
TAWH	baz=323			*e*S		**Sn**	**15 51 50.2**	**-0.4**
TAW	**Tawu** baz=325	**0.58**	**323**	⇓*i*P		**Pn**	**15 51 41.8**	**0.0**
TAW	baz=325			S		**Sn**	**15 51 50.3**	**-0.5**
EAST	**Anshuo** baz=325	**0.62**	**321**	⇓*i*P		**Pn**	**15 51 42.5**	**+0.1**
EAST	baz=325			*i* S		**Sn**	**15 51 51.4**	**-0.5**
ECL	**Taimali** baz=336	**0.76**	**337**	⇓*i*P		**Pn**	**15 51 43.6**	**-0.4**
ECL	baz=336			S		**Sn**	**15 51 53.7**	**-1.0**
SCZT	**Fangliau** baz=305	**0.77**	**308**	*e*P		**Pn**	**15 51 44.6**	**+0.4**
SCZT	baz=305			*e*S		**Sn**	**15 51 55.9**	**+0.9**
LDUT	**Ludao** baz=22	**0.79**	**13**	*e*P		**Pn**	**15 51 44.7**	**+0.2**
LDUT	baz=22			*e*S		**Sn**	**15 51 56.2**	**+0.7**
TTN	**Taitung** baz=343	**0.86**	**352**	*e*P		**Pn**	**15 51 46.2**	**+0.9**
TTN	baz=343			*e*S		**Sn**	**15 51 58.4**	**+1.3**
MASBT	**Mashibuluo** baz=318	**0.93**	**320**	P		**Pn**	**15 51 46.9**	**+0.7**
MASBT	baz=318			*e*S		**Sn**	**15 51 59.6**	**+1.0**
TWGBT	**Beinan**	**0.93**	**349**	P		**Pn**	**15 51 45.8**	**-0.5**
TWGBT	**Beinan**	**0.93**	**349**	P		**Pn**	**15 51 46.0**	**-0.3**
TWGBT	**Beinan** baz=341	**0.93**	**349**	⇓*i*P		**Pn**	**15 51 46.0**	**-0.3**
TWGBT	baz=341			S		**Sn**	**15 51 58.4**	**-0.4**
TWG	**Pinlang** baz=341	**0.94**	**349**	⇓*i*P		**Pn**	**15 51 46.0**	**-0.4**
TWG	baz=341			S		**Sn**	**15 51 58.2**	**-0.7**
TSMG	**Majia** baz=326	**0.99**	**324**	*e*P		**Pn**	**15 51 48.0**	**+0.9**
LONT	**Longtian** baz=345	**1.01**	**352**	*e*P		**Pn**	**15 51 47.2**	**-0.2**
LONT	baz=345			*e*S		**Sn**	**15 51 59.6**	**-1.1**
SSD	**Sandimen** baz=324	**1.03**	**325**	⇓P		**Pn**	**15 51 48.2**	**+0.6**
SSD	baz=324			*e*S		**Sn**	**15 52 02.1**	**+0.9**
EDH	**Donghe** baz=354	**1.07**	**1**	*e*P		**Pn**	**15 51 48.2**	**+0.1**
EDH	baz=354			*e*S		**Sn**	**15 52 01.1**	**-0.9**
SGLT	**Jiouru** baz=325	**1.10**	**319**	*e*P		**Pn**	**15 51 50.5**	**+2.0**
ECS	**Chishang** baz=349	**1.19**	**358**	*e*P		**Pn**	**15 51 49.8**	**0.0**
ECS	baz=349			*e*S		**Sn**	**15 52 04.7**	**-0.3**
WSSB	**Gushan** baz=307	**1.20**	**309**	*e*P		**Pn**	**15 51 50.5**	**+0.8**
CHKT	**Chengkung** baz=355	**1.20**	**4**	*e*P		**Pn**	**15 51 50.4**	**+0.6**
CHKT	baz=355			*e*S		**Sn**	**15 52 05.4**	**+0.2**
TWM1	**Shoushan** baz=319	**1.21**	**320**	*e*P		**Pn**	**15 51 51.9**	**+1.9**
SLGT	**Liugui** baz=333	**1.24**	**332**	*e*P		**Pn**	**15 51 51.9**	**+1.5**
EHD	**Haiduan** baz=350	**1.25**	**357**	*e*P		**Pn**	**15 51 49.6**	**-0.9**
EHD	baz=350			*e*S		**Sn**	**15 52 05.2**	**-1.1**
FULB	**Fuli** baz=352	**1.30**	**1**	P		**Pn**	**15 51 51.7**	**+0.5**
FULB	baz=352			*e*S		**Sn**	**15 52 08.0**	**+0.5**
ELDTW	**Lidau** baz=356	**1.31**	**350**	*e*P		**Pn**	**15 51 51.3**	**-0.1**
ELDTW	baz=356			*e*S		**Sn**	**15 52 06.4**	**-1.6**
SGST	**Jiashian** baz=332	**1.34**	**332**	*e*P		**Pn**	**15 51 52.0**	**+0.2**
STYH	**Taoyuan** baz=340	**1.35**	**340**	*e*P		**Pn**	**15 51 52.6**	**+0.8**
SHHT	**Tainan City** baz=310	**1.41**	**323**	*e*P		**Pn**	**15 51 56.7**	**+4.0**
ECBN	**Changbin** baz=359	**1.42**	**7**	*e*P		**Pn**	**15 51 53.9**	**+1.0**
ECBN	baz=359			*e*S		**Sn**	**15 52 11.3**	**+0.8**
EYUL	**Yuli** baz=354	**1.45**	**2**	*e*P		**Pn**	**15 51 53.5**	**+0.4**
EYUL	baz=354			*e*S		**Sn**	**15 52 10.5**	**-0.5**
TWF1	**Yuli** baz=354	**1.45**	**1**	*e*P		**Pn**	**15 51 53.0**	**-0.3**
TWF1	baz=354			*e*S		**Sn**	**15 52 09.6**	**-1.5**
CHN1	**Nanshi** baz=332	**1.46**	**332**	*e*P		**Pn**	**15 51 54.0**	**+0.7**
WTP	**Ta-pu** baz=336	**1.48**	**336**	*e*P		**Pn**	**15 51 54.1**	**+0.5**
YULB	**Yu-li**	**1.49**	**1**	P		**Pn**	**15 51 53.3**	**-0.5**
YULB	**Yu-li**	**1.49**	**1**	P		**Pn**	**15 51 53.5**	**-0.3**
YULB	**Yu-li** baz=355	**1.49**	**1**	*e*P		**Pn**	**15 51 53.1**	**-0.6**
YULB	baz=355			*e*S		**Sn**	**15 52 09.9**	**-2.3**
SNST	**Tainan City** baz=332	**1.50**	**332**	*e*P		**Pn**	**15 51 55.4**	**+1.5**
TPUB	**Ta-pu** baz=325	**1.52**	**337**	P		**Pn**	**15 51 55.0**	**+0.8**
TPUB	**Ta-pu**	**1.52**	**337**	P		**Pn**	**15 51 56.9**	**+2.7**
TPUB	**Ta-pu** baz=325	**1.52**	**337**	*e*P		**Pn**	**15 51 54.0**	**-0.1**
TWK	**Hsinying** baz=333	**1.54**	**332**	*e*P		**Pn**	**15 51 55.0**	**+0.4**
CHN4	**Tsaushan** baz=337	**1.58**	**337**	*e*P		**Pn**	**15 51 55.8**	**+0.8**
HGSD	**Ruisui** baz=16	**1.59**	**5**	P		**Pn**	**15 51 56.0**	**+0.8**
EHY	**Hungye** baz=356	**1.60**	**2**	P		**Pn**	**15 51 55.0**	**-0.3**
WCKO	**Fanlu** baz=339	**1.66**	**338**	*e*P		**Pn**	**15 51 56.5**	**+0.4**
TSCK	**Chigu Township** baz=305	**1.66**	**319**	*e*P		**Pn**	**15 51 55.8**	**-0.3**
ALS	**Alishan** baz=346	**1.66**	**345**	P		**Pn**	**15 51 57.4**	**+1.0**
ICHU	**Yijhu** baz=328	**1.72**	**328**	*e*P		**Pn**	**15 51 56.7**	**-0.2**
EGFH	**Guangfu** baz=358	**1.77**	**5**	*e*P		**Pn**	**15 51 58.8**	**+1.3**
CHY	**Chiayi** baz=335	**1.78**	**334**	*e*P		**Pn**	**15 51 58.0**	**+0.4**
CHN5	**Tsauling** baz=343	**1.78**	**342**	*e*P		**Pn**	**15 51 58.2**	**+0.4**
WARBT	**Fenglin Townsh** baz=5.0	**1.82**	**3**	*e*P		**Pn**	**15 51 58.1**	**-0.1**
WHYT	**Xinyi Township** baz=336	**1.83**	**348**	P		**Pn**	**15 51 59.4**	**+1.0**
VWDT	**VWDT** baz=348	**1.85**	**356**	*e*P		**Pn**	**15 51 59.8**	**+1.1**
VWDT	baz=348			*e*S		**Sn**	**15 52 20.8**	**-0.2**
WSL	**Shuilin Townsh** baz=330	**1.89**	**329**	*e*P		**Pn**	**15 51 59.2**	**+0.1**
SSLB	**Suanglung**	**1.91**	**351**	P		**Pn**	**15 52 01.4**	**+2.0**
SSLB	**Suanglung**	**1.91**	**351**	P		**Pn**	**15 52 01.3**	**+1.9**
SSLB	**Suanglung** baz=352	**1.91**	**351**	*e*P		**Pn**	**15 52 00.3**	**+0.8**
ESL	**Shilin** baz=5.0	**1.91**	**4**	*e*P		**Pn**	**15 52 00.1**	**+0.6**
ESL	baz=5.0			*e*S		**Sn**	**15 52 20.8**	**-1.7**
WTK	**Tuku** baz=336	**1.96**	**336**	*e*P		**Pn**	**15 52 00.3**	**+0.1**
WJS	**Zhushan** baz=347	**1.98**	**345**	*e*P		**Pn**	**15 52 02.2**	**+1.7**
WSF	**Szhu** baz=331	**1.99**	**331**	*e*P		**Pn**	**15 52 00.6**	**+0.1**
WSF	baz=331			*e*S		**Sn**	**15 52 23.6**	**-0.7**
SMLT	**Sun Moon Lake** baz=352	**2.01**	**350**	P		**Pn**	**15 52 02.0**	**+1.1**
WDGT	**Dunqji** baz=313	**2.02**	**313**	*e*P		**Pn**	**15 52 00.2**	**-0.7**
TYC	**Yuchr** baz=351	**2.04**	**349**	*e*P		**Pn**	**15 52 02.1**	**+1.0**
OWD	**Renai** baz=344	**2.05**	**357**	*e*P		**Pn**	**15 51 01.9**	**+0.3**
ETM	**Tongmen** baz=7.0	**2.07**	**6**	*e*P		**Pn**	**15 51 01.6**	**0.0**
WUSB	**Renai** baz=346	**2.09**	**356**	*e*P		**Pn**	**15 52 03.0**	**+0.9**
WUSB	baz=346			*e*S		**Sn**	**15 52 26.9**	**0.0**
LXIB	**Xiulin Townshi** baz=4.0	**2.12**	**3**	*e*P		**Pn**	**15 52 02.6**	**+0.2**
LXIB	baz=4.0			*e*S		**Sn**	**15 52 26.5**	**-1.2**
VCHM	**Qimei** baz=308	**2.15**	**308**	*e*P		**Pn**	**15 52 03.3**	**+0.6**
CHGB	**Renai** baz=345	**2.16**	**358**	*e*P		**Pn**	**15 52 03.5**	**+0.5**
CHGB	baz=345			*e*S		**Sn**	**15 52 30.0**	**+1.3**
WRL	**Guolierlin Hig** baz=339	**2.16**	**338**	*e*P		**Pn**	**15 52 04.1**	**+1.2**
WCS	**Beigang Elemen** baz=353	**2.18**	**351**	*e*P		**Pn**	**15 52 04.0**	**+0.9**
TWD	**Chiawan** baz=1.0	**2.19**	**8**	*e*P		**Pn**	**15 52 03.8**	**+0.5**
TWD	baz=1.0			*e*S		**Sn**	**15 52 29.7**	**+0.4**
WHF	**Hehuan Shan** baz=10.0	**2.24**	**360**	*e*P		**Pn**	**15 52 05.9**	**+1.6**
PHUB	**P'eng-hu** baz=316	**2.25**	**316**	*e*P		**Pn**	**15 52 03.4**	**-0.7**
NACB	**Ninganchiao**	**2.29**	**7**	P		**Pn**	**15 52 06.5**	**+1.9**
NACB	**Ninganchiao**	**2.29**	**7**	P		**Pn**	**15 52 04.7**	**+0.1**
NACB	**Ninganchiao** baz=9.0	**2.29**	**7**	*e*P		**Pn**	**15 52 04.7**	**+0.1**
ETLH	**Xiulin Townshi** baz=6.0	**2.31**	**5**	*e*P		**Pn**	**15 52 05.2**	**+0.2**
TWT	**Tachien** baz=346	**2.35**	**358**	*e*P		**Pn**	**15 52 07.1**	**+1.4**
WHP	**Taichung City** baz=342	**2.39**	**353**	*e*P		**Pn**	**15 52 07.0**	**+0.8**
EOS4	**EOS4** baz=32	**2.41**	**23**	P		**Pn**	**15 52 07.7**	**+1.7**
EOS4	baz=32			*e*S		**Sn**	**15 52 36.0**	**+1.8**
TWQ1	**Liyutan** baz=339	**2.48**	**349**	*e*P		**Pn**	**15 52 08.7**	**+1.4**
NNSB	**Datong** baz=14	**2.52**	**2**	*e*P		**Pn**	**15 52 08.4**	**+0.5**
NNS	**Nan Shan** baz=14	**2.53**	**2**	*e*P		**Pn**	**15 52 09.6**	**+1.5**
ENA	**Nanau** baz=3.0	**2.56**	**10**	*e*P		**Pn**	**15 52 09.2**	**+0.9**
EOS3	**EOS3** baz=21	**2.57**	**22**	*e*P		**Pn**	**15 52 10.2**	**+1.9**
EOS3	baz=21			*e*S		**Sn**	**15 52 40.2**	**+2.0**
LATG	**Datong** baz=15	**2.64**	**5**	*e*P		**Pn**	**15 52 10.6**	**+1.1**
NDT	**Datong Townshi** baz=15	**2.70**	**5**	*e*P		**Pn**	**15 52 13.2**	**+2.9**
NFF	**Wufeng Townshi** baz=346	**2.73**	**357**	*e*P		**Pn**	**15 52 12.2**	**+1.5**
NSTT	**Nanjuang** baz=343	**2.73**	**355**	*e*P		**Pn**	**15 52 13.0**	**+2.3**
ENTT	**Nioudou** baz=8.0	**2.74**	**6**	*e*P		**Pn**	**15 52 11.9**	**+1.1**
LIOB	**Emei** baz=343	**2.75**	**355**	*e*P		**Pn**	**15 52 12.7**	**+1.7**
YHNB	**Yeheng**	**2.76**	**2**	P		**Pn**	**15 52 13.7**	**+2.5**
YHNB	**Yeheng**	**2.76**	**2**	P		**Pn**	**15 52 13.5**	**+2.3**
YHNB	**Yeheng** baz=349	**2.76**	**2**	P		**Pn**	**15 52 13.3**	**+2.1**
NSK	**Sanguang** baz=349	**2.77**	**2**	*e*P		**Pn**	**15 52 13.2**	**+1.9**
TWE	**Neicheng** baz=10.0	**2.83**	**7**	*e*P		**Pn**	**15 52 14.5**	**+2.4**
FUSB	**Fushanzhiwuyua** baz=15	**2.87**	**6**	*e*P		**Pn**	**15 52 14.3**	**+1.7**
NWLT	**Wulai** baz=14	**2.88**	**4**	*e*P		**Pn**	**15 52 14.7**	**+2.0**
YOJ	**Yonaguni jima**	**3.01**	**32**	P		**Pn**	**15 52 15.9**	**+1.4**
YOJ	**Yonaguni jima** baz=42	**3.01**	**32**	*e*P		**Pn**	**15 52 16.0**	**+1.4**
YOJ	baz=42			*e*S		**Sn**	**15 52 50.7**	**+1.3**
TATO	**Taipei**	**3.07**	**4**	P		**Pn**	**15 52 18.5**	**+3.2**
HATJ	**Hateruma jima**	**3.17**	**47**	P		**Pn**	**15 52 18.3**	**+1.6**
HATJ				*e*S		**Sn**	**15 52 54.5**	**+1.1**
WFSB	**Wu-fen Shan** baz=11	**3.19**	**8**	*e*P		**Pn**	**15 52 19.5**	**+2.5**
SXI1	**Grass Mountain** baz=1.0	**3.23**	**10**	*e*P		**Pn**	**15 52 19.9**	**+2.3**
YM01	**YM01** baz=8.0	**3.25**	**5**	*e*P		**Pn**	**15 52 20.5**	**+2.7**
ANP	**Anpu** baz=19	**3.28**	**4**	*e*P		**Pn**	**15 52 19.7**	**+1.4**
YM08	**YM08** baz=8.0	**3.29**	**5**	*e*P		**Pn**	**15 52 19.5**	**+1.1**
IRIF	**Iriomote-Funau**	**3.32**	**43**	P		**Pn**	**15 52 20.3**	**+1.6**
JKRS	**Kuro-shima**	**3.43**	**47**	P		**Pn**	**15 52 22.1**	**+1.8**
JKRS				S		**Sn**	**15 53 00.3**	**+0.6**
JIJ	**Ishigaki jima**	**3.61**	**47**	P		**Pn**	**15 52 24.1**	**+1.4**
JIJ				*e*S		**Sn**	**15 53 04.3**	**+0.3**
KNM	**Kinmen** baz=313	**3.62**	**314**	*e*P		**Pn**	**15 52 24.2**	**+1.4**
KNMB	**Chin-men Tao** baz=315	**3.69**	**314**	*e*P		**Pn**	**15 52 23.2**	**-0.5**
PTMZ	**Houxiangcun** baz=338	**3.70**	**328**	*e*P		**Pn**	**15 52 24.5**	**+0.5**
ZPLA	**Ao Xicun** baz=303	**3.83**	**303**	*e*P		**Pn**	**15 52 25.4**	**-0.3**
JISG	**Ishigakijimahi**	**3.87**	**46**	P		**Pn**	**15 52 27.3**	**+1.0**
JISG				*e*S		**Sn**	**15 53 11.0**	**+0.5**
DSXP	**Dongshan** baz=297	**3.98**	**298**	*e*P		**Pn**	**15 52 27.9**	**+0.1**
JTJ	**Tarama**	**4.17**	**48**	P		**Pn**	**15 52 31.8**	**+1.3**
JTJ				S		**Sn**	**15 53 18.4**	**+0.5**
AXDP	**Jialang** baz=316	**4.26**	**315**	*e*P		**Pn**	**15 52 31.2**	**-0.4**
JIRB	**Irabujima**	**4.62**	**50**	P		**Pn**	**15 52 37.6**	**+1.0**
JIRB				*e*S		**Sn**	**15 53 30.0**	**+1.1**
JMJ2	**Miyako jima3**	**4.68**	**52**	P		**Pn**	**15 52 38.3**	**+0.9**
JMJ2				*e*S		**Sn**	**15 53 31.6**	**+1.2**
JIKM	**Ikemajima**	**4.73**	**50**	*e*S		**Sn**	**15 53 33.5**	**+1.8**
JOGS	**Gusukube**	**4.75**	**52**	*e*S		**Sn**	**15 53 34.4**	**+2.3**
LYJJ	**Jianjiangzhen** baz=346	**4.83**	**344**	*e*P		**Pn**	**15 52 39.5**	**0.0**
JOW	**Kunigami** 3.0nm,0.3s,baz=118,slow=18,SNR=14	**8.05**	**51**	P		**Pn**	**15 53 21.6**	**-2.1**
JOW	14nm,0.7s,baz=286,slow=25,SNR=2.9			S		**Sn**	**15 54 47.7**	**-5.6**
JNU	**Nakatsue** comp=Z,40nm,20.5s,baz=204,slow=37 8.4nm,0.4s	**14.05**	**35**	LR		LR	16 00 03.9	
KSRS	**Korea Array** comp=Z,14nm,18.2s,baz=235,slow=37	**16.54**	**19**	LR		LR	16 01 31.9	
CMAR	**Chiang Mai Arr** 1.0nm,0.9s,baz=67,slow=9.1,SNR=8.0 1.0nm,0.9s	**21.23**	**265**	P		**P**	**15 56 12.9**	**+2.1**
SONM	**Songino Array** 0.8nm,0.7s,baz=162,slow=11,SNR=6.0 0.8nm,0.7s	**28.51**	**339**	P		**P**	**15 57 19.0**	**-0.6**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=113,slow=8.4,SNR=0.1 0.5nm,0.7s	**40.06**	**318**	P		**P**	**15 58 59.7**	**+0.6**
ZALV	**Zalesovo Beam** 1.3nm,0.6s,baz=114,slow=8.3,SNR=4.9 1.3nm,0.6s	**42.22**	**328**	P		**P**	**15 59 16.5**	**-0.3**
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=344,slow=8.9,SNR=2.5	**43.50**	**162**	P		**P**	**15 59 25.5**	**-1.9**
WRA	0.2nm,0.7s,baz=355,slow=3.8,SNR=1.9 0.3nm,0.5s			PcP		**PcP**	**16 01 13.7**	**-1.0**
KURBB	**Kurchatov Arra** 0.6nm,0.5s,baz=117,slow=7.5,SNR=3.1 0.6nm,0.5s	**43.92**	**321**	P		**P**	**15 59 31.8**	**+1.2**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=342,slow=7.0,SNR=9.4	**46.93**	**164**	P		**P**	**15 59 53.5**	**-1.2**
ASAR	0.1nm,0.4s,baz=344,slow=4.3,SNR=1.4 0.2nm,0.5s			PcP		**PcP**	**16 01 25.7**	**-0.8**

---

*NOU **12** 16:47:29.9,36°.92S×177°.94E,h221km,MLv3.8/9,Off E.*
Coast of N. Island, N.Z.
*WEL **12** 16:47:39.1±0.9,37°S±6°×17°8E±°,h138km±8km,M3.5/56,*
ML3.5/8,MLv3.5/56,Error ellipse: s-maj=0.0km
s-min=0.0km az=42.8,confirmed
ISC 12 16:47:34.0±2.3,37°.17S±0°.08×177°.63E±0°.08,
h186km±11km,n110,σ1°77/117,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.60**	**168**	P		**Pn**	**16 48 00.4**	**+0.6**
HAZ				S		**Sn**	**16 48 16.9**	**-3.1**
MXZ	**Matakaoa Point**	**0.67**	**126**	P		**Pn**	**16 48 01.2**	**+1.0**
MXZ	**Matakaoa Point**	**0.67**	**126**	P		**Pn**	**16 48 01.3**	**+1.0**
MXZ				S		**S**	**16 48 18.9**	**-1.5**
RUGZ	**Raukumara Rang**	**0.80**	**177**	P		**Pn**	**16 48 01.5**	**+0.4**
PKGZ	**Pakihiroa**	**0.80**	**154**	P		**Pn**	**16 48 02.7**	**+1.6**
PKGZ				S		**S**	**16 48 20.7**	**-1.4**
WHRZ	**Whale Island**	**0.86**	**217**	P		**Pn**	**16 48 02.4**	**+1.1**
WMGZ	**Waiomatatini S**	**0.90**	**136**	P		**Pn**	**16 48 03.4**	**+1.8**
PUZ	**Puketiti**	**1.03**	**151**	P		**Pn**	**16 48 04.4**	**+1.9**
TWGZ	**Tauwhareparae**	**1.05**	**165**	P		**Pn**	**16 48 04.2**	**+1.5**
TWGZ				S		**S**	**16 48 23.8**	**-1.2**
OPRZ	**Ohinepanea**	**1.09**	**231**	P		**Pn**	**16 48 03.6**	**+0.7**
MYRZ	**Mayor Island**	**1.11**	**264**	P		**Pn**	**16 48 03.4**	**+0.3**
MARZ	**Manawahe**	**1.11**	**223**	P		**Pn**	**16 48 04.1**	**+1.0**

URZ	Urewera	1.17 200	P	Pn	16 48 04.7	+1.2
URZ	Urewera	1.17 200	P	Pn	16 48 04.8	+1.3
URZ			S	S	16 48 25.2	-1.3
MWZ	Matawai	1.17 184	P	Pn	16 48 05.2	+1.6
MWZ			S	S	16 48 25.7	-1.0
EDRZ	Edgecumbe	1.17 217	P	Pn	16 48 05.0	+1.4
TGRZ	Tauranga	1.22 242	P	Pn	16 48 04.9	+0.9
TKGZ	Te Karaka	1.28 172	P	Pn	16 48 06.6	+2.1
RAGZ	Rawiri	1.34 187	P	Pn	16 48 07.1	+2.0
OMRZ	Omania	1.37 226	P	Pn	16 48 06.8	+1.5
TARZ	Mount Tarawera	1.39 219	P	Pn	16 48 07.6	+2.1
KARZ	Kaharoa	1.39 232	P	Pn	16 48 07.0	+1.5
CNGZ	Carnagh Statio	1.39 161	P	Pn	16 48 08.3	+2.8
MUGZ	Murupara	1.47 207	P	Pn	16 48 07.7	+1.5
MUGZ			S	S	16 48 30.1	-1.1
KMRZ	Kaimai	1.50 243	P	Pn	16 48 08.1	+1.6
RTZ	Ruatahuna	1.53 199	P	Pn	16 48 08.2	+1.3
RIGZ	Rimuhau	1.54 176	P	Pn	16 48 09.1	+2.3
KUZ	Kuaotunu	1.58 285	P	Pn	16 48 07.5	+0.3
KUZ	Kuaotunu	1.58 285	P	Pn	16 48 07.6	+0.4
HRRZ	Handcock Road	1.62 221	P	Pn	16 48 09.8	+2.2
SNGZ	Shannon Statio	1.63 188	P	Pn	16 48 09.7	+2.0
PRRZ	Plateau Road	1.65 216	P	Pn	16 48 07.9	0.0
ALRZ	Allen Road	1.72 216	P	Pn	16 48 10.7	+2.0
PRGZ	Paritu Road	1.77 173	P	Pn	16 48 11.4	+2.3
TOZ	Tahuroa Road	1.78 251	P	Pn	16 48 11.0	+1.9
MTHZ	Maungataniwha	1.79 200	P	Pn	16 48 10.9	+1.6
RAHZ	Arahi	1.80 194	P	Pn	16 48 11.7	+2.3
KNZ	Kokohu	1.85 179	P	Pn	16 48 12.1	+2.2
MRHZ	Matea Rd	1.92 209	P	Pn	16 48 12.3	+1.7
WHHZ	Waihua	1.93 189	P	Pn	16 48 13.2	+2.5
KUTZ	Kaahu Road	1.94 227	P	Pn	16 48 13.5	+2.6
GRZ	Great Barrier	1.97 202	P	Pn	16 48 11.9	+0.8
MKAZ	Moumakai	1.97 271	P	Pn	16 48 12.9	+1.7
MHGZ	Mahia Peninsul	2.00 174	P	Pn	16 48 14.2	+2.8
TLZ	Tolley Road	2.02 234	P	Pn	16 48 14.2	+2.4
WIAZ	Waiheke Island	2.03 280	P	Pn	16 48 13.3	+1.5
NMHZ	Naumai	2.03 198	P	Pn	16 48 14.4	+2.5
ARHZ	Aropaoanui	2.15 193	P	Pn	16 48 15.4	+2.4
ETAZ	East Tamaki Re	2.17 275	P	Pn	16 48 15.4	+2.1
BKZ	Black Stump Fm	2.19 204	P	Pn	16 48 15.1	+1.6
BKZ	Black Stump Fm	2.19 204	P	Pn	16 48 15.2	+1.6
MBAZ	Motutapu North	2.22 279	P	Pn	16 48 15.7	+1.9
AWAZ	Awhitu Peninsu	2.39 272	P	Pn	16 48 17.9	+2.2
MCHZ	McNeill Hill	2.39 198	P	Pn	16 48 18.1	+2.4
KWHZ	Kaweka Forest	2.44 202	P	Pn	16 48 18.5	+2.1
WTAZ	Waiatarua	2.45 275	P	Pn	16 48 18.9	+2.4
TMVZ	Te Maari	2.47 217	P	Pn	16 48 19.2	+2.4
RVAZ	Riverhead Bore	2.47 278	P	Pn	16 48 18.8	+2.1
ETVZ	East Tongariro	2.48 217	P	Pn	16 48 19.2	+2.3
NNVZ	North Ngauruho	2.52 218	P	Pn	16 48 19.9	+2.5
CKHZ	Cape Kidnapper	2.52 190	P	Pn	16 48 19.3	+2.0
SNVZ	South Ngauruho	2.55 217	P	Pn	16 48 20.4	+2.6
NGZ	Ngauruhoe	2.56 218	P	Pn	16 48 20.3	+2.4
TWVZ	Taurewa	2.57 222	P	Pn	16 48 20.9	+3.0
HIZ	Hauiti	2.57 238	P	Pn	16 48 21.0	+3.2
HIZ	Hauiti	2.57 238	P	Pn	16 48 21.1	+3.2
TUVZ	Tukino	2.61 216	P	Pn	16 48 20.8	+2.4
BHHZ	Black Hill Sta	2.62 207	P	Pn	16 48 20.2	+1.7
FWVZ	Far West T-bar	2.65 217	P	Pn	16 48 21.3	+2.3
WHVZ	Whangaehu Hut	2.65 217	P	Pn	16 48 21.3	+2.3
KRHZ	Kereru	2.66 201	P	Pn	16 48 20.4	+1.5
MOVZ	Moawhango	2.68 213	P	Pn	16 48 20.6	+1.5
WNVZ	Wahianoa	2.68 216	P	Pn	16 48 21.7	+2.4
KAHZ	Kahuranaki	2.69 192	P	Pn	16 48 21.4	+2.1
MTVZ	Mangateitei	2.79 217	P	Pn	16 48 22.9	+2.4
PXZ	Pawanui	2.92 192	P	Pn	16 48 23.5	+1.6
PNHZ	Pukenui	2.96 202	P	Pn	16 48 23.8	+1.3
VRZ	Vera Road	2.99 228	P	Pn	16 48 26.8	+4.0
WPHZ	Waipukurau	3.04 197	P	Pn	16 48 25.0	+1.6
TSZ	Takapari Road	3.17 204	P	Pn	16 48 26.1	+1.1
PRHZ	Porangahau	3.19 194	P	Pn	16 48 27.1	+1.9
WAZ	Wanganui	3.31 218	P	Pn	16 48 29.0	+2.3
PRWZ	Pori Road	3.62 200	P	Pn	16 48 32.5	+2.0
BFZ	Birch Farm	3.67 197	P	Pn	16 48 32.5	+1.4
BFZ	Birch Farm	3.67 197	P	Pn	16 48 32.5	+1.4
MRZ	Mangatainoka R	3.84 204	P	Pn	16 48 33.9	+0.7
CPWZ	Castlepoint	3.90 196	P	Pn	16 48 35.9	+1.9
HOWZ	Holdsworth Sta	4.07 203	P	Pn	16 48 36.8	+0.6
OGWZ	Otaki Gorge	4.12 207	P	Pn	16 48 37.4	+0.7
TMWZ	Te Maipa	4.16 198	P	Pn	16 48 38.1	+0.8
KIW	Kapiti Island	4.25 209	P	Pn	16 48 38.9	+0.4
MTW	Mount Morrison	4.31 202	P	Pn	16 48 39.5	+0.3
CAW	Cannon Point	4.41 206	P	Pn	16 48 40.6	+0.1
TRWZ	Traveller	4.49 199	P	Pn	16 48 42.1	+0.7
PLWZ	Palliser	4.97 202	P	Pn	16 48 45.0	-0.1
TCW	Tory Channel	4.80 212	P	Pn	16 48 45.3	-0.2
TUWZ	Tuamarina	5.13 213	P	Pn	16 48 50.4	+0.7
NNZ	Nelson	5.22 218	P	Pn	16 48 51.2	+0.4
QRZ	Quartz Range	5.39 226	P	Pn	16 48 54.0	+0.8
QRZ	Quartz Range	5.39 226	P	Pn	16 48 53.0	-0.2
MRNZ	Matariki Terra	5.67 220	P	Pn	16 48 56.7	0.0
THZ	Tophouse	5.87 217	P	Pn	16 48 59.8	+0.5
KHZ	Kahutara	6.11 210	P	Pn	16 49 02.3	-0.2
KHZ	Kahutara	6.11 210	P	Pn	16 49 02.4	-0.1
DSZ	Denniston Nort	6.42 223	P	Pn	16 49 07.2	+0.6
OKCZ	Okains Bay	7.42 207	P	Pn	16 49 19.9	+0.4
MQZ	McQueen's Vall	7.55 209	P	Pn	16 49 19.9	-1.3
ARCZ	Arundel	8.36 214	P	Pn	16 49 32.8	+0.8
TMZ	Timaru	8.78 213	P	Pn	16 49 37.2	-0.3
ODZ	Otahua Downs	9.47 212	P	Pn	16 49 46.4	0.0

EAF ***12*** *16:50:53.8, 26°.38S×29°.95E, h10km, MC3.6*
BUL ***12*** *16:50:55.6±1.4, 26°.35S×29°.81E, h10km, MD3.8*
ISC 12 16:50:43.2±1.7,**26°.39S**±0°.07×**29°.78E**±0°.07,**h10**km,**n8**, σ1§**94**/16,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.22**	**27**	*i* P	**Pb**	16 51 42.0	+1.5
MOPA				*i* S	**Sb**	16 52 18.0	-1.8
MOPA	**Mopani**	**3.22**	**27**	*i* P	**Pb**	16 51 42.0	+1.5
	baz=25						
MOPA				*i* S	**Sb**	16 52 18.0	-1.8
	baz=25						
LBTB	**Lobatse**	**4.02**	**289**	*i* P	**Pb**	16 51 55.5	+1.3
LBTB				*i* S	**Sb**	16 52 42.2	-0.7
LBTB	**Lobatse**	**4.02**	**289**	*i* P	**Pb**	16 51 55.5	+1.3
	baz=288						
LBTB				*i* S	**Sb**	16 52 42.2	-0.7
	baz=288						
MUSN	**Musina, Limpop**	**4.09**	**1**	*i* P	**Pb**	16 51 57.1	+1.8
MUSN				*i* S	**Sb**	16 52 42.5	-2.4
MUSN	**Musina, Limpop**	**4.09**	**1**	*i* P	**Pb**	16 51 57.1	+1.8
	baz=359						
MUSN				*i* S	**Sb**	16 52 42.5	-2.4
	baz=359						
BOSA	**Boshof**	**4.59**	**240**	*i* P	**Pb**	16 52 05.4	+1.5
BOSA				*i* S	**Sb**	16 52 56.9	-2.4
BOSA	**Boshof**	**4.59**	**240**	*i* P	**Pb**	16 52 05.4	+1.5
	baz=241						
BOSA				*i* S	**Sb**	16 52 56.9	-2.4
	baz=241						

NEIC ***12*** *16:56:17.2±2.6, 9°.76S±0°.04×114°.23E±0°.06, h48km±6km, mb4.6/44, Error ellipse: s-maj=9.0km s-min=5.9km az=83.0*
DJA ***12*** *16:56:17.4±0.3, 10°S±3°×11°4E±°, h43km, M4.6/18, mb4.7/10, mB5.1/6, MLv4.7/18, Mw(mB)4.4/6*
IDC ***12*** *16:56:17.1±2.1, 9°.67S×114°.25E, h44km±19km, mb4.0/19, mbtmp4.3/23, ML4.2/4, MS3.6/32, Error ellipse: s-maj=16.0km s-min=9.6km az=43.0*
ISC 12 16:56:17.5±0.5,**9°.87S**±0°.04×**114°.23E**±0°.04,**h56**km±4km, **n180**, σ1§**92**/167,**mb4.4**/39,**MS3.6**/30,**1D**,**South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.38**	**41**	P	**Pn**	16 56 38.9	-1.7
JAGI	**Jajag, Banyuwa**	**1.40**	**357**	Pn	**Pn**	16 56 38.3	-2.5
JAGI	**Jajag, Banyuwa**	**1.40**	**357**	P	**Pn**	16 56 38.8	-2.0
JAGI				S	**Sn**	16 56 55.0	-3.2
DNP	**Denpasar**	**1.53**	**39**	P	**Pn**	16 56 42.0	-0.6
DNP				S	**Sn**	16 57 01.4	0.0
GMJI	**Gumukmas**	**1.77**	**334**	P	**Pn**	16 56 43.6	-2.3
GMJI				S	**Sn**	16 57 03.5	-3.8
SRBI	**Singaraja**	**2.02**	**29**	P	**Pn**	16 56 49.2	-0.1
SRBI				S	**Sn**	16 57 13.3	-0.1
ABJI	**Asem Bagus**	**2.06**	**0**	P	**Pn**	16 56 50.6	+0.7
ABJI				S	**Sn**	16 57 14.5	+0.1
BLJI	**Banyuglugur**	**2.21**	**343**	P	**Pn**	16 56 52.2	+0.4
BLJI				S	**Sn**	16 57 17.8	-0.1
TWSI	**Taliwang, Sumb**	**2.85**	**67**	P	**Pn**	16 57 00.2	-0.3
TWSI				S	**Sn**	16 57 34.5	+0.8
GRJI	**Gresik**	**3.41**	**329**	P	**Pn**	16 57 08.4	+0.1
PLAI	**Plampang**	**3.65**	**74**	P	**Pn**	16 57 12.1	+0.6
PLAI	**Plampang**	**3.65**	**74**	P	**Pn**	16 57 12.1	+0.6
NGJI	**Ngawi**	**3.70**	**312**	P	**Pn**	16 57 12.5	+0.2
WOJI	**Wonogiri, Jawa**	**3.85**	**301**	P	**Pn**	16 57 13.4	-0.8
UGM	**Wanagama**	**4.15**	**298**		**Pn**	16 57 18.1	-0.3
UGM	**Wanagama**	**4.15**	**298**	P	**Pn**	16 57 18.3	-0.2
UGM	**Wanagama**	**4.15**	**298**	P	**Pn**	16 57 18.0	-0.5
UGM				S	**Sn**	16 58 05.7	-0.1
BWJI	**Bawean**	**4.29**	**339**	P	**Pn**	16 57 20.0	-0.4
SMRI	**Semarang**	**4.69**	**306**		**Pn**	16 57 25.2	-0.6
WBSI	**Waikabubak, Su**	**5.09**	**88**	P	**Pn**	16 57 31.5	+0.2
	0.1nm,0.7s,0.0nm						
KPJI	**Karang Pucung**	**5.82**	**295**	P	**Pn**	16 57 40.7	-0.6
	91nm,0.7s,0.6nm						
CMJI	**Cimerak**	**6.08**	**289**	P	**Pn**	16 57 44.8	-0.1
	57nm,0.6s,0.5nm						
BASI	**Baing, Sumba**	**6.26**	**94**	P	**Pn**	16 57 47.6	+0.3
	93nm,1.0s,2μm1.4nm						
BBKI	**Banjar Baru**	**6.40**	**5**	P	**Pn**	16 57 51.4	+2.1
BBJI	**Bungbulang**	**6.94**	**290**	P	**Pn**	16 57 56.5	-0.2
LEM	**Lembang**	**7.21**	**294**	P	**Pn**	16 58 00.6	0.0
	39nm,1.1s,1μm0.3nm						
LEM	**Lembang**	**7.21**	**294**	P	**Pn**	16 57 59.2	-1.4
	1.3nm,0.3s,baz=23,slow=18,SNR=1.6						
	5.9nm,0.4s						
KAPI	**Kappang**	**7.30**	**49**	Pn	**Pn**	16 57 58.6	-3.0
KAPI	**Kappang**	**7.30**	**49**	P	**Pn**	16 58 04.3	+2.7
KAPI	**Kappang**	**7.30**	**49**	P	**Pn**	16 58 00.6	-1.0
	3.9nm,0.3s,baz=231,slow=12,SNR=6.9						
KAPI				S	**Sn**	16 59 19.0	-4.1
	38nm,0.5s,baz=270,slow=20,SNR=9.3						
KAPI				LR	LR	17 01 17.4	
	comp=Z,683nm,19.8s,baz=249,slow=42						
	15nm,0.3s						
BKSI	**Bulukumba**	**7.38**	**53**	P	**Pn**	16 58 02.4	-0.3
	64nm,0.6s,757nm0.4nm						
CNJI	**Cibinong**	**7.47**	**289**	P	**Pn**	16 58 03.6	-0.4
	31nm,0.8s,0.2nm						
MMRI	**Maumere**	**8.00**	**82**	P	Pn	16 58 26.5	+15
XMIS	**Christmas Isla**	**8.47**	**265**	Pn	**Pn**	16 58 14.4	-3.3
XMIS	**Christmas Isla**	**8.47**	**265**	P	**Pn**	16 58 14.7	-3.0
TTSI	**Tana Toraja**	**8.76**	**40**	P	**Pn**	16 58 22.7	+1.0
	51nm,1.2s						
MTKI	**Muara Teweh, K**	**8.90**	**4**	P	**Pn**	16 58 27.1	+3.6
CGJI	**Cibinong**	**9.05**	**290**	P	**Pn**	16 58 24.8	-0.8
BATI	**Baumata**	**9.29**	**93**	P	**Pn**	16 58 29.2	+0.2
	5.3nm,0.3s,baz=340,slow=3.0,SNR=8.6						
BATI				S	**Sn**	17 00 07.1	-5.0
	19nm,0.3s,baz=204,slow=24,SNR=1.7						
	14nm,0.4s						
SOEI	**Soe**	**9.89**	**90**	Pn	**Pn**	16 58 35.6	-1.6
SOEI	**Soe**	**9.89**	**90**	P	**Pn**	16 58 37.7	+0.5
SOEI	**Soe**	**9.89**	**90**	P	**Pn**	16 58 40.4	+3.2
STKI	**Sintang**	**10.25**	**344**	P	**Pn**	16 58 45.1	+3.1
KASI	**Kota Agung**	**10.57**	**293**	P	**Pn**	16 58 47.0	+0.6
MBWA	**Marble Bar**	**12.40**	**155**	Pn	Pn	16 59 06.4	-5.1
SBUM	**Sibu**	**12.40**	**351**	Pn	Pn	16 59 05.6	-5.9
MNAI	**Manna**	**12.46**	**295**	Pn	**Pn**	16 59 09.0	-3.2
MNAI	**Manna**	**12.46**	**295**	P	**Pn**	16 59 11.7	-0.5
GIRL	**Giralia**	**12.70**	**180**	Pn	**Pn**	16 59 11.8	-3.6
GIRL	**Giralia**	**12.70**	**180**	P	**Pn**	16 59 12.3	-3.1
TOLI2	**Tolitoli**	**12.71**	**31**	Pn	**Pn**	16 59 13.4	-2.2
PSA00	**Pilbara Seismi**	**12.82**	**156**		Pn	16 59 10.6	-6.6
PSA00	**Pilbara Seismi**	**12.82**	**156**	Pn	Pn	16 59 10.4	-6.7
PSA00	**Pilbara Seismi**	**12.82**	**156**	P	**Pn**	16 59 14.3	-2.8
GTOI	**Gorontalo**	**13.61**	**40**	P	**P**	16 59 37.8	+2.7
SANI	**Sanana**	**14.03**	**57**	P	P	16 59 48.8	+9.0
KNRA	**Kununurra**	**15.29**	**114**	Pn	**Pn**	16 59 46.8	-3.3
KNRA				IAmb	IAmb	16 59 57.2	
	comp=Z,32nm,0.7s						
KNRA	**Kununurra**	**15.29**	**114**	P	**Pn**	16 59 47.4	-2.7
KKM	**Kota Kinabalu**	**15.94**	**7**		**Pn**	16 59 58.0	-0.4
KKM				IAmb	IAmb	17 00 31.8	
	comp=Z,49nm,1.3s						
LBMI	**Labuha**	**16.07**	**56**	P	P	17 00 16.3	+14
BNDI	**Bandanaira**	**16.43**	**72**	P	P	17 00 21.0	+15
TNTI	**Ternate**	**16.81**	**52**		**Pn**	17 00 07.4	-1.9
TNTI				IAmb	IAmb	17 00 26.4	
	comp=Z,69nm,1.1s						
TNTI	**Ternate**	**16.81**	**52**	P	P	17 00 25.6	+15
MTN	**Manton Dam**	**16.83**	**102**		**Pn**	17 00 08.4	-1.1
MTN	**Manton Dam**	**16.83**	**102**	P	**P**	17 00 10.3	-0.6
MEEK	**Meekatharra**	**17.18**	**167**	P	**Pn**	17 00 11.7	-2.1
SWI	**Sorong**	**19.15**	**63**	P	**Pn**	17 00 37.8	0.0
SIJI	**Sorong**	**19.16**	**63**	P	**P**	17 00 36.9	+0.4
	comp=Z,0.8nm,0.3s,baz=258,slow=5.4,SNR=12						
SIJI				S	**S**	17 04 06.1	-4.8
	comp=Z,1.7nm,0.4s,baz=165,slow=22,SNR=1.7						
SIJI				LR	LR	17 08 38.4	
	comp=Z,106nm,20.2s,baz=114,slow=39						
	comp=Z,22nm,0.9s						
FAKI	**Fak Fak**	**19.18**	**70**	P	**P**	17 00 35.4	-1.4
FAKI				IAmb	IAmb	17 00 49.2	
	comp=Z,29nm,0.7s						
FAKI					**S**	17 04 03.7	-7.7
FAKI	**Fak Fak**	**19.18**	**70**	P	**P**	17 00 35.6	-1.2
FAKI	**Fak Fak**	**19.18**	**70**	P	**Pn**	17 00 41.7	+3.5
GSI	**Gunungsitoli**	**19.96**	**303**		**P**	17 00 42.6	-2.7
KULM	**Kulim**	**20.25**	**317**	P	**P**	17 00 46.9	-1.5
DAV	**Davao City (W)**	**20.27**	**34**	LR	LR	17 09 51.3	
	comp=Z,118nm,18.9s,baz=213,slow=40						
RKPI	**Ransiki, Papua**	**21.50**	**69**	P	P	17 01 16.0	+14
WB0	**Warramunga Arr**	**21.81**	**119**	P	**P**	17 01 05.4	+0.2
WB0				IAmb	IAmb	17 01 26.8	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**21.83**	**120**	P	**P**	17 01 05.3	-0.1
WRA	**Warramunga Arr**	**21.83**	**120**	P	**P**	17 01 06.5	+1.1
	comp=Z,3.5nm,0.6s,baz=296,slow=12,SNR=52						
WRA				S	**S**	17 05 06.4	+2.6
	comp=Z,0.6nm,0.5s,baz=289,slow=24,SNR=4.7						
	comp=Z,3.5nm,0.6s						
WB2	**Warramunga Arr**	**21.84**	**120**	P	**P**	17 01 06.5	+0.9
WR0	**Warramunga Arr**	**22.01**	**119**	P	**P**	17 01 08.6	+1.3
WR0				IAmb	IAmb	17 01 23.5	
	comp=Z,14nm,0.9s						
NWAO	**Narrogin (SRO)**	**23.11**	**174**	P	**P**	17 01 19.4	+0.7
NWAO				IAmb	IAmb	17 01 50.2	
	comp=Z,29nm,1.4s						
NWAO	**Narrogin (SRO)**	**23.11**	**174**	P	**P**	17 01 19.3	+0.6
NWAO				IAmb	IAmb	17 01 50.2	
	comp=Z,96nm,1.4s						
NWAO	**Narrogin (SRO)**	**23.11**	**174**	LR	LR	17 10 16.5	
	comp=Z,207nm,21.1s,baz=280,slow=36						
AS31	**Alice Springs**	**23.25**	**129**	P	**P**	17 01 21.6	+1.2
ASAR	**Alice Springs**	**23.25**	**129**	P	**P**	17 01 21.6	+1.2
ASAR	**Alice Springs**	**23.25**	**129**	P	**P**	17 01 21.8	+1.5
	comp=Z,4.7nm,0.6s,baz=300,slow=8.3,SNR=163						
ASAR				S	**S**	17 05 33.9	+5.5
	comp=Z,1.0nm,1.0s,baz=313,slow=25,SNR=1.6						
ASAR				LR	LR	17 10 47.2	
	comp=Z,124nm,20.9s,baz=302,slow=37						
	comp=Z,4.7nm,0.6s						
FORT	**Forrest**	**24.46**	**150**	P	**P**	17 01 32.0	+0.8
COEN	**Coen**	**28.59**	**101**	P	**P**	17 02 10.3	+1.6
COEN				IAmb	IAmb	17 02 48.1	
	comp=Z,22nm,1.1s						
BBOO	**Buckleboo**	**30.43**	**142**	P	**P**	17 02 25.4	+0.6
CMAR	**Chiang Mai Arr**	**31.94**	**332**	P	**P**	17 02 37.5	-0.7
CMAR	**Chiang Mai Arr**	**31.94**	**332**	P	**P**	17 02 36.5	-1.6
	comp=Z,1.6nm,0.5s,baz=162,slow=10,SNR=16						
CMAR				LR	LR	17 17 19.7	
	comp=Z,93nm,18.1s,baz=165,slow=40						
	comp=Z,1.6nm,0.5s						
CHTO	**Chiang Mai**	**32.25**	**332**	P	**P**	17 02 41.8	+0.9
CTA	**Charters Tower**	**32.50**	**112**	LR	LR	17 17 27.8	
	comp=Z,120nm,18.4s,baz=276,slow=39						
CTAO	**Charters Tower**	**32.50**	**112**	P	**P**	17 02 45.4	+2.3
CRAI	**Chiangrai**	**32.88**	**336**	P	**P**	17 02 47.1	+0.8
STKA	**Stephens Creek**	**33.48**	**135**	LR	LR	17 17 03.2	
	comp=Z,249nm,21.7s,baz=317,slow=37						
PZH	**PanZhiHua**	**38.14**	**342**	P	**P**	17 03 33.1	+1.5
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.4s						
JOW	**Kunigami**	**38.95**	**20**	LR	LR	17 23 37.3	
	comp=Z,28nm,18.9s,baz=158,slow=42						
BRDH	**Bariadhala**	**39.20**	**326**	LR	LR	17 21 35.4	
	comp=Z,121nm,18.2s,baz=90,slow=39						
H08S2	**Diego Garcia H**	**41.30**	**270**	T	T	17 48 07.5	
	baz=95,slow=74,SNR=5.9						
H08S3	**Diego Garcia H**	**41.31**	**270**	T	T	17 48 06.4	
	baz=95,slow=74						
H08S1	**Diego Carcia H**	**41.31**	**270**	T	T	17 48 06.9	
	baz=95						
NJ2	**Nanjing**	**41.92**	**6**	*e*P	**P**	17 04 02.9	+0.2
NJ2				pP	**pP**	17 04 15.8	-0.2
NJ2				sP	**sP**	17 04 22.2	+0.1
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,630nm,4.4s						
ODAN	**Odare**	**44.86**	**325**	*e*P	**P**	17 04 26.7	-0.1
	comp=Z,34nm,1.0s						
TAPN	**Taplejung**	**45.06**	**326**	*e*P	**P**	17 04 28.7	+0.2
	comp=Z,24nm,0.9s						
LSA	**Lhasa**	**45.19**	**331**	P	**P**	17 04 29.6	-0.1
LSA				IAmb	IAmb	17 05 04.2	
	comp=Z,6.9nm,0.9s						
RAMN	**Ramite**	**45.38**	**324**	*e*P	**P**	17 04 30.9	0.0
	comp=Z,6.3nm,0.4s						
JNU	**Nakatsue**	**45.60**	**20**	LR	LR	17 25 23.7	
	comp=Z,27nm,21.3s,baz=223,slow=38						
JCJ	**Chichijima**	**45.67**	**36**	LR	LR	17 24 41.9	
	comp=Z,26nm,18.5s,baz=192,slow=38						
JIRN	**Jiri**	**46.15**	**325**	*e*P	**P**	17 04 37.4	+0.2
	comp=Z,27nm,0.5s						
GUN	**Gumba**	**46.52**	**325**	*e*P	**P**	17 04 40.1	+0.1
	comp=Z,24nm,0.5s						
PKI	**Pulchoki**	**46.53**	**324**	*e*P	**P**	17 04 39.8	-0.3
	comp=Z,7.8nm,0.5s						
PKIN	**Phulchoki**	**46.55**	**324**	*e*P	**P**	17 04 40.1	0.0
	comp=Z,11nm,0.4s						
KKN	**Kakani**	**46.77**	**324**	*e*P	**P**	17 04 41.2	-0.7
	comp=Z,20nm,0.8s						
HNS	**HongShan**	**47.02**	**1**	⦚P	**P**	17 04 45.6	+2.3
GKN	**Gorkha**	**47.31**	**324**	*e*P	**P**	17 04 45.5	-0.5
	comp=Z,19nm,0.3s						
KOLN	**Koldanda**	**47.75**	**322**	*e*P	**P**	17 04 49.0	-0.5
	comp=Z,16nm,0.3s						
DANN	**Dangsing**	**48.08**	**323**	*e*P	**P**	17 04 51.8	-0.3
	comp=Z,23nm,0.6s						
PYUN	**Piuthan**	**48.36**	**322**	*e*P	**P**	17 04 53.9	-0.3
	comp=Z,11nm,0.5s						
KSRS	**Korea Array**	**48.80**	**14**	P	**P**	17 04 56.4	-0.6
	comp=Z,1.3nm,0.8s,baz=209,slow=8.4,SNR=3.7						
KSRS				LR	LR	17 27 35.9	
	comp=Z,16nm,20.6s,baz=180,slow=39						
	comp=Z,1.3nm,0.8s						
BTO	**Baotou**	**50.38**	**356**	*e*P	**P**	17 05 12.6	+3.4
BTO				pP	**pwP**	17 05 28.2	+0.2
BTO				sP	**sP**	17 05 35.3	+6.5
BTO				PP	PP	17 07 13.2	+7.9
BTO				S	**S**	17 12 24.1	+5.8
BTO	**Baotou**	**50.38**	**356**	SS	**SS**	17 15 53.1	+0.1
BTO				pmax	pmax		
	comp=Z,28nm,0.6s						
BTO				pmax	pmax		
	comp=Z,320nm,3.8s						
BTO				LR	LR		
	comp=N,300nm,5.3s						
BTO				LR	LR		
	comp=E,300nm,7.1s						
BTO				LR	LR		
	comp=Z,260nm,8.2s						
HHC	**Hu-ho-hao-te**	**50.53**	**357**	*e*P	**P**	17 05 11.3	+1.0
HHC				pmax	pmax		
	comp=Z,31nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,5.1s						
GTA	**Gaotai**	**50.83**	**346**	*e*P	**P**	17 05 13.4	+0.7
GTA				sP	sP	17 05 33.6	+1.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MJAR	**Matsushiro Arr**	**51.38**	**25**

JOHN	**Johnston Islan**	**79.87**	**71**	P	**P**	**17 08 21.3**	**+0.6**
QSPA	**South Pole Qui**	**80.13**	**180**	P	**P**	**17 08 22.4**	**+1.0**
QSPA				IAmb	IAmb	17 08 26.4	
	comp=Z,6.4nm,1.0s						
QSPA	**South Pole Qui**	**80.13**	**180**	P	**P**	**17 08 23.6**	**+2.1**
	comp=Z,4.4nm,1.0s,baz=202,slow=0.2,SNR=15						
QSPA				LR	LR	17 43 06.4	
	comp=Z,40nm,18.8s,baz=358,slow=35						
	comp=Z,4.4nm,1.0s						
TIXI	**Tiksi**	**81.93**	**5**	P	**P**	**17 08 29.2**	**-1.3**
TIXI				IAmb	IAmb	17 08 43.8	
	comp=Z,5.8nm,0.9s						
KBZ	**Khabaz**	**83.61**	**316**	P	**P**	**17 08 41.0**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=84,slow=9.2,SNR=2.1						
	comp=Z,0.8nm,0.7s						
LSZ	**Lusaka**	**83.67**	**256**	LR	LR	17 39 15.6	
	comp=Z,39nm,19.0s,baz=128,slow=31						
BOSA	**Boshof**	**84.46**	**242**	LR	LR	17 38 39.5	
	comp=Z,53nm,21.5s,baz=168,slow=30						
KIRV	**Kirov**	**85.73**	**332**	LR	LR	17 52 30.0	
	comp=Z,42nm,18.7s,baz=157,slow=39						
MMAI	**Mount Meron Ar**	**86.10**	**304**	LR	LR	17 51 23.6	
	comp=Z,14nm,18.6s,baz=108,slow=38						
SUR	**Sutherland**	**87.65**	**238**	LR	LR	17 42 14.8	
	comp=Z,57nm,19.7s,baz=153,slow=31						
SNAA	**Sanae**	**88.87**	**196**	P	**P**	**17 09 04.1**	**-1.3**
SNAA	**Sanae**	**88.87**	**196**	P	**P**	**17 09 07.7**	**+2.2**
	comp=Z,1.9nm,0.8s,baz=107,slow=20,SNR=8.0						
SNAA				LR	LR	17 43 17.4	
	comp=Z,79nm,20.6s,baz=182,slow=32						
	comp=Z,1.9nm,0.8s						
BR131	**Keskin Array S**	**89.10**	**310**	P	**P**	**17 09 06.4**	**-0.8**
BR131				IAmb	IAmb	17 09 22.5	
	comp=Z,3.6nm,0.9s						
BRTR	**Keskin Array B**	**89.10**	**310**	P	**P**	**17 09 06.7**	**-0.5**
BRTR	**Keskin Array B**	**89.10**	**310**	P	**P**	**17 09 06.4**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=116,slow=5.6,SNR=7.6						
	comp=Z,1.2nm,0.8s						
TSUM	**Tsumeb**	**92.99**	**250**	LR	LR	17 45 56.1	
	comp=Z,41nm,18.5s,baz=156,slow=32						
AKASG	**Malin Array Be**	**94.41**	**321**	P	**P**	**17 09 31.1**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=83,slow=3.3,SNR=2.3						
	comp=Z,0.8nm,0.7s						
FINES	**FINESS Array B**	**97.71**	**331**	P	**P**	**17 09 45.7**	**-0.3**
	comp=Z,6.9nm,1.1s,baz=120,slow=11,SNR=4.1						
FINES				LR	LR	18 02 26.9	
	comp=Z,24nm,18.9s,baz=104,slow=41						
BDFB	**Brasilia**	**149.15**	**215**	PKPbc	**PKiKP**	**17 16 02.2**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=178,slow=3.3,SNR=4.7						

*UPA **12** 16:56:50.3±0.7, 6°.38N×82°.59W, h6km±21km, MW4.4*
*UCR **12** 16:56:53.2±1.3, 6°.32N×82°.76W, h35km±999km, MW3.7*
ISC 12 16:56:53.4±3.5, 6°.4N±0°.2×82°.58W±0°.09, h35km, n18, σ0°81/24, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**1.87**	**351**	*e*P	**Pn**	**16 57 21.7**	**-1.3**
PTPM				*e*S	**Sn**	**16 57 45.3**	**0.0**
CACAO	**El Cacao, Vera**	**1.97**	**60**	*e*P	**Pn**	**16 57 23.6**	**-0.8**
CACAO				*e*S	**Sn**	**16 57 48.3**	**+0.4**
DVD	**David**	**2.08**	**3**	*e*P	**Pn**	**16 57 24.0**	**-1.8**
CDITO	**Canoas**	**2.23**	**352**	*e*P	**Pn**	**16 57 27.3**	**-0.6**
CHGR2	**Aguacate**	**2.61**	**9**	*e*P	**Pn**	**16 57 32.3**	**-0.8**
CHGR2				*e*S	**Sn**	**16 58 04.4**	**+0.8**
AZU	**Azuero**	**2.70**	**58**	*e*P	**Pn**	**16 57 34.4**	**0.0**
AZU				*e*S	**Sn**	**16 58 06.8**	**+1.0**
POTG	**Potrero Grande**	**2.74**	**349**	*e*P	**Pn**	**16 57 35.0**	**0.0**
POTG				*e*S	**Sn**	**16 58 07.9**	**+1.0**
SRBA	**San Rafael, Bu**	**2.97**	**345**	*e*P	**Pn**	**16 57 37.9**	**-0.3**
DRK0	**Durika**	**2.97**	**347**	*e*P	**Pn**	**16 57 38.6**	**+0.3**
EDDO	**Dominical**	**3.15**	**336**	*e*P	**Pn**	**16 57 39.8**	**-0.8**
BUS1	**Rivas**	**3.39**	**340**	*e*P	**Pn**	**16 57 43.7**	**-0.5**
BUS1				*e*S	**Sn**	**16 58 23.9**	**+0.4**
CDM	**Cerro de Muert**	**3.39**	**340**	*e*P	**Pn**	**16 57 44.0**	**-0.3**
RIMA	**Rio Macho**	**3.62**	**340**	*e*P	**Pn**	**16 57 47.0**	**-0.3**
ABE2	**San Pablo**	**3.64**	**336**	*e*P	**Pn**	**16 57 47.3**	**-0.2**
VERB	**Verbena**	**3.74**	**343**	*e*P	**Pn**	**16 57 49.7**	**+0.9**
VTCV	**VTCV, Calle Va**	**3.79**	**343**	*e*P	**Pn**	**16 57 50.2**	**+0.7**
BATAN	**Batan**	**3.81**	**348**	*e*P	**Pn**	**16 57 48.3**	**-1.3**
VICA	**Volcano Irazu**	**3.82**	**341**	*e*P	**Pn**	**16 57 50.5**	**+0.3**

IDC 12 17:08:13.5±747.0, 52°.73N×33°.59E, h0km, Error ellipse: s-maj=309.0km s-min=94.3km az=32.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.52**	**26**	I	I	17 37 57.7	
	baz=210,slow=324,SNR=4.6						
I31KZ	**AKTYUBINSK INF**	**15.36**	**89**	I	I	18 38 20.0	
	baz=289,slow=322,SNR=1.7						
I46RU	**ZALESOVO INFRA**	**30.07**	**67**	I	I	20 11 40.0	
	baz=290,slow=333,SNR=1.8						

*NEIC **12** 17:16:41.6±1.9, 8°.03N±0°.07×137°.2E±0°.1, h10km±1km, mb4.4/6, Error ellipse: s-maj=20.4km s-min=7.9km az=242.0*
*IDC **12** 17:16:41.1±1.8, 8°.10N×137°.44E, h0km, mb3.7/7, mbtmp3.8/8, ML4.3/1, MS2.8/2, Error ellipse: s-maj=80.6km s-min=18.6km az=74.0*
ISC 12 17:16:41.7±0.7, 8°.00N±0°.08×137°.4E±0°.1, h10km, n25, σ1°61/18, mb4.1/10, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**9.22**	**52**	Pn	**Pn**	**17 18 53.6**	**-1.4**
SIJI	**Sorong**	**10.71**	**215**	LR	LR	17 22 33.1	
	comp=Z,59nm,21.0s,baz=53,slow=32						
JAY	**Jayapura**	**10.97**	**162**	Pn	**Pn**	**17 19 21.0**	**+2.1**
	1.9nm,0.3s,baz=356,slow=11,SNR=9.7						
JAY				Sn	**Sn**	**17 21 19.3**	**-2.4**
	1.0nm,0.3s,baz=205,slow=18,SNR=1.3						
	14nm,0.5s						
MYLDM	**Lahad Datu**	**18.95**	**263**	P	**P**	**17 21 00.4**	**-2.8**
MYLDM				IAmb	IAmb	17 21 36.5	
	comp=Z,17nm,1.0s						
KNRA	**Kununurra**	**25.02**	**200**	P	**P**	**17 22 04.7**	**-1.4**
KNRA				IAmb	IAmb	17 22 18.4	
	comp=Z,25nm,1.4s						
WR0	**Warramunga Arr**	**27.93**	**186**	P	**P**	**17 22 31.4**	**-0.9**
WR0				IAmb	IAmb	17 22 44.8	
	comp=Z,9.1nm,1.4s						
WRA	**Warramunga Arr**	**27.93**	**186**	P	**P**	**17 22 34.8**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=5.0,slow=9.9,SNR=4.0						
	comp=Z,0.4nm,0.7s						
CTA	**Charters Tower**	**29.25**	**163**	LR	LR	17 33 01.8	
	comp=Z,14nm,19.3s,baz=274,slow=33						
H11S3	**WAKE ISLAND Hy**	**30.34**	**67**	T	T	17 54 41.3	
	baz=254,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hy**	**30.35**	**67**	T	T	17 54 43.5	
	baz=254,slow=75,SNR=65						
H11S2	**WAKE ISLAND Hy**	**30.35**	**67**	T	T	17 54 41.4	
	baz=254,slow=75,SNR=108						
H11N1	**WAKE ISLAND Hy**	**30.88**	**65**	T	T	17 55 22.5	
	baz=246,slow=75,SNR=9.3						
H11N2	**WAKE ISLAND Hy**	**30.89**	**65**	T	T	17 55 28.2	
	baz=246						
H11N3	**WAKE ISLAND Hy**	**30.90**	**65**	T	T	17 55 31.0	
	baz=246,slow=75						
ASAR	**Alice Springs**	**31.66**	**186**	P	**P**	**17 23 06.6**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=17,slow=12,SNR=9.9						
	comp=Z,0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.74**	**289**	P	**P**	**17 24 07.6**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=95,slow=7.6,SNR=1.3						
	comp=Z,0.1nm,0.4s						
SONM	**Songino Array**	**47.60**	**332**	P	**P**	**17 25 18.2**	**+0.3**
SONM	**Songino Array**	**47.60**	**332**	P	**P**	**17 25 19.1**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=147,slow=8.0,SNR=4.7						
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**60.66**	**320**	P	**P**	**17 26 52.3**	**-0.9**
MKAR	**Makanchi Array**	**60.66**	**320**	P	**P**	**17 26 54.0**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=106,slow=8.6,SNR=8.0						
	comp=Z,0.7nm,0.5s						
KURK	**Kurchatov**	**64.31**	**323**	P	**P**	**17 27 15.6**	**-1.8**
KURBB	**Kurchatov Arra**	**64.34**	**323**	P	**P**	**17 27 18.2**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=112,slow=5.7,SNR=8.6						
	comp=Z,1.3nm,0.6s						
BVAR	**Borovoye Array**	**69.87**	**324**	P	**P**	**17 27 53.3**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=106,slow=8.9,SNR=11						
	comp=Z,1.7nm,0.6s						
BRVK	**Borovoye**	**69.94**	**324**	P	**P**	**17 27 52.6**	**-0.6**
BRVK				IAmb	IAmb	17 28 00.5	
	comp=Z,2.6nm,0.8s						
BMAR	**Burnt Mountain**	**78.07**	**23**	P	**P**	**17 28 41.3**	**+0.8**

*VAO **12** 17:21:04.5±0.9, 19°.45S×69°.15W, h65km±6km, mb4.7*
*SJA **12** 17:21:07.6±0.6, 19°.68S×69°.21W, h108km±2km, ML4.3, MW4.2*
*NEIC **12** 17:21:08.3±1.7, 19°.71S±0°.04×69°.18W±0°.08, h111km±7km, mb4.3/14, ML4.3(GUC), Error ellipse: s-maj=11.7km s-min=5.5km az=77.0*
*GUC **12** 17:21:09.4±0.6, 19°.67S×69°.18W, h99km±2km, ML4.3*
*IDC **12** 17:21:10.1±1.3, 19°.68S×68°.90W, h120km±12km, mb3.8/10, mbtmp4.2/15, MS3.2/5, Error ellipse: s-maj=18.5km s-min=10.5km az=89.0*
ISC 12 17:21:07.7±0.5, 19°.69S±0°.03×69°.15W±0°.05, h106km±5km, n137, σ1°28/147, mb4.2/14, 7C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.05**	**296**	Pn	**Pn**	**17 21 23.5**	**+0.5**
GO01	**Chusmiza**	**0.05**	**296**	*e*P	**Pn**	**17 21 23.5**	**+0.5**
GO01				*i* S	**Sn**	**17 21 34.9**	**+0.4**
GO01	**Chusmiza**	**0.05**	**296**	*e*P	**Pn**	**17 21 23.5**	**+0.5**
GO01				*e*S	**Sn**	**17 21 35.4**	**+0.9**
PB08	**IPOC Station P**	**0.45**	**181**		**Pn**	**17 21 25.1**	**+0.8**
PB08	**IPOC Station P**	**0.45**	**181**	⇑*i*P	**Pn**	**17 21 25.2**	**+0.8**
PB08				*i* S	**Sn**	**17 21 37.5**	**+0.7**
PB08				IAML		17 21 39.0	
	comp=N,21μm,0.4s						
PB08	**IPOC Station P**	**0.45**	**181**	*e*P	**Pn**	**17 21 25.1**	**+0.8**
PB08				*e*S	**Sn**	**17 21 37.9**	**+1.1**
PB08				IAML		17 21 39.6	
	comp=Z,14μm,0.3s						
HMBC	**Humberstone**	**0.91**	**230**	*i* P	**Pn**	**17 21 28.0**	**+0.1**
HMBC				*i* S	**Sn**	**17 21 42.6**	**-0.4**
HMBC				IAML		17 21 44.5	
	comp=N,16μm,0.1s						
HMBC	**Humberstone**	**0.91**	**230**	*e*P	**Pn**	**17 21 28.0**	**+0.1**
HMBC				*e*S	**Sn**	**17 21 43.6**	**+0.5**
TA02	**Huaiquique**	**1.09**	**238**		**Pn**	**17 21 29.9**	**+0.4**
TA02	**Huaiquique**	**1.09**	**238**	⇑*i*P	**Pn**	**17 21 30.0**	**+0.4**
TA02				*i* S	**Sn**	**17 21 46.0**	**-0.1**
TA02				IAML		17 21 46.4	
	comp=E,16μm,0.2s						
TA02	**Huaiquique**	**1.09**	**238**	*e*P	**Pn**	**17 21 30.0**	**+0.4**
TA02				*e*S	**Sn**	**17 21 46.4**	**+0.2**
TA02				IAML		17 21 49.2	
	comp=Z,4μm,0.3s						
TA01	**Diego Aracena**	**1.30**	**228**		**Pn**	**17 21 32.2**	**+0.2**
TA01	**Diego Aracena**	**1.30**	**228**	⇑*i*P	**Pn**	**17 21 32.1**	**+0.2**
TA01				*i* S	**Sn**	**17 21 50.0**	**-0.4**
TA01				IAML		17 21 55.0	
	comp=N,4μm,0.2s						
TA01	**Diego Aracena**	**1.30**	**228**	*e*P	**Pn**	**17 21 32.2**	**+0.2**
TA01				*e*S	**Sn**	**17 21 50.6**	**+0.2**
TA01				IAML		17 21 52.9	
	comp=Z,2μm,0.5s						
PB01	**IPOC Station P**	**1.38**	**193**		**Pn**	**17 21 34.0**	**+0.9**
PB01	**IPOC Station P**	**1.38**	**193**	*e*P	**Pn**	**17 21 33.9**	**+0.9**
PB01				*i* S	**Sn**	**17 21 53.0**	**+0.7**
PB01				IAML		17 21 54.8	
	comp=E,9μm,0.6s						
PB01	**IPOC Station P**	**1.38**	**193**	*e*P	**Pn**	**17 21 33.9**	**+0.9**
PB01				*e*S	**Sn**	**17 21 53.5**	**+1.3**
PB01				IAML		17 21 54.6	
	comp=Z,2μm,0.2s						
PB16	**IPOC Station P**	**1.39**	**346**		**Pn**	**17 21 34.9**	**+1.3**
PB16	**IPOC Station P**	**1.39**	**346**	⇑*i*P	**Pn**	**17 21 35.0**	**+1.3**
PB16				*i* S	**Sn**	**17 21 54.6**	**+1.5**
PB16				IAML		17 21 56.4	
	comp=E,3μm,0.3s						
PB16	**IPOC Station P**	**1.39**	**346**	*e*P	**Pn**	**17 21 35.0**	**+1.3**
PB16				*e*S	**Sn**	**17 21 55.5**	**+2.3**
PB16				IAML		17 21 56.6	
	comp=Z,2μm,1.0s						
PATCX	**Punta Patache**	**1.47**	**220**		**Pn**	**17 21 34.3**	**+0.2**
PATCX	**Punta Patache**	**1.47**	**220**	⇑*i*P	**Pn**	**17 21 34.2**	**+0.1**
PATCX				*i* S	**Sn**	**17 21 53.8**	**-0.2**
PATCX				IAML		17 21 59.7	
	comp=E,5μm,0.5s						
PATCX	**Punta Patache**	**1.47**	**220**	*e*P	**Pn**	**17 21 34.3**	**+0.2**
PATCX				*e*S	**Sn**	**17 21 54.5**	**+0.5**
PB12	**IPOC Station P**	**1.55**	**314**		**Pn**	**17 21 35.0**	**0.0**
PB12	**IPOC Station P**	**1.55**	**314**	*e*P	**Pn**	**17 21 35.0**	**0.0**
PB12				*i* S	**Sn**	**17 21 55.4**	**-0.3**
PB12				IAML		17 21 56.7	
	comp=E,3μm,0.3s						
PB12	**IPOC Station P**	**1.55**	**314**	*e*P	**Pn**	**17 21 35.0**	**0.0**
PB12				*e*S	**Sn**	**17 21 56.2**	**+0.4**
PB12				IAML		17 22 00.3	
	comp=Z,1μm,0.4s						
AP01	**Chacalluta**	**1.73**	**319**		**Pn**	**17 21 37.6**	**+0.4**
AP01	**Chacalluta**	**1.73**	**319**	*e*P	**Pn**	**17 21 37.6**	**+0.4**
AP01				*i* S	**Sn**	**17 21 59.6**	**0.0**
AP01				IAML		17 22 11.8	
	comp=N,6μm,0.3s						
AP01	**Chacalluta**	**1.73**	**319**	*e*P	**Pn**	**17 21 37.4**	**+0.2**
AP01				IAML		17 22 05.6	
	comp=Z,3μm,0.5s						
PB02	**IPOC Station P**	**1.77**	**203**		**Pn**	**17 21 38.2**	**+0.5**
PB02	**IPOC Station P**	**1.77**	**203**	⇓*e*P	**Pn**	**17 21 38.2**	**+0.5**
PB02				IAML		17 22 07.0	
	comp=N,5μm,0.2s						
PB02	**IPOC Station P**	**1.77**	**203**	*e*P	**Pn**	**17 21 38.4**	**+0.7**
PB02				IAML		17 22 11.0	
	comp=Z,6μm,0.3s						
PB09	**IPOC Station P**	**2.10**	**182**		**Pn**	**17 21 43.4**	**+1.4**
PB09	**IPOC Station P**	**2.10**	**182**	*e*P	**Pn**	**17 21 43.6**	**+1.6**
PB09				*i* S	**Sn**	**17 22 07.3**	**-0.8**
PB09				IAML		17 22 15.3	
	comp=E,1μm,0.7s						
PB09	**IPOC Station P**	**2.10**	**182**	*e*P	**Pn**	**17 21 43.5**	**+1.4**
PB09				*e*S	**Sn**	**17 22 11.0**	**+2.8**
PB09				IAML		17 22 14.4	
	comp=Z,1μm,1.2s						
PB18	**Visviri**	**2.11**	**351**		**Pn**	**17 21 43.1**	**+0.5**
PB18	**Visviri**	**2.11**	**351**	*e*P	**Pn**	**17 21 46.2**	**+3.6**
PB07	**IPOC Station P**	**2.14**	**199**		**Pn**	**17 21 43.4**	**+0.8**
PB07	**IPOC Station P**	**2.14**	**199**	*e*P	**Pn**	**17 21 43.6**	**+1.0**
PB07				*i* S	**Sn**	**17 22 08.7**	**-0.4**
PB07				IAML		17 22 16.9	
	comp=E,2μm,0.5s						
PB07	**IPOC Station P**	**2.14**	**199**	*e*P	**Pn**	**17 21 43.5**	**+0.8**
PB07				IAML		17 22 17.5	
	comp=Z,2μm,0.6s						
PB04	**IPOC Station P**	**2.79**	**199**		**Pn**	**17 21 51.2**	**+0.1**
PB04	**IPOC Station P**	**2.79**	**199**	*e*P	**Pn**	**17 21 52.5**	**+1.5**
PB04	**IPOC Station P**	**2.79**	**199**	*e*P	**Pn**	**17 21 51.9**	**+0.8**
PB04				*e*S	Sn	17 22 10.5	-14
PB04				IAML		17 22 34.3	
	comp=Z,954nm,0.4s						
LVC	**Limon Verde**	**2.91**	**176**		**Pn**	**17 21 54.2**	**+1.4**
LVC	**Limon Verde**	**2.91**	**176**	*e*P	**Pn**	**17 21 51.0**	**-1.8**
LVC	**Limon Verde**	**2.91**	**176**	P	**Pn**	**17 21 54.7**	**+1.9**
	comp=Z,84nm,0.5s,baz=357,slow=8.9,SNR=96						
LVC				S	**Sn**	**17 22 24.0**	**-3.5**
	comp=Z,332nm,0.4s,baz=326,slow=7.1,SNR=8.4						
LVC	**Limon Verde**	**2.91**	**176**	*e*P	**Pn**	**17 21 54.8**	**+1.9**
LVC				IAML		17 22 38.8	
	comp=Z,550nm,0.4s						
PB06	**IPOC Station P**	**3.03**	**187**		**Pn**	**17 21 54.5**	**+0.4**
PB06	**IPOC Station P**	**3.03**	**187**	*e*P	**Pn**	**17 21 55.2**	**+1.1**
PB06				IAML		17 22 58.1	
	comp=Z,860nm,0.5s						
AF01	**San Pedro de A**	**3.37**	**165**		**Pn**	**17 22 00.6**	**+1.8**
PB15	**IPOC Station P**	**3.51**	**185**		**Pn**	**17 22 02.2**	**+1.5**
LPAZ	**La Paz**	**3.52**	**16**	P	**Pn**	**17 22 04.3**	**+3.1**
	comp=Z,27nm,0.3s,baz=188,slow=7.5,SNR=124						
LPAZ				S	**Sn**	**17 22 44.8**	**+2.4**
	comp=Z,42nm,0.7s,baz=85,slow=3.8,SNR=5.1						
LPAZ				LR	LR	17 23 42.7	
	comp=Z,108nm,19.9s,baz=234,slow=44						
YJA	**Yavi**	**4.20**	**127**	*e*P	**Pn**	**17 22 13.5**	**+3.4**
PB14	**IPOC Station P**	**5.05**	**193**	Pn	**Pn**	**17 22 21.7**	**+0.2**
PB14	**IPOC Station P**	**5.05**	**193**	*e*P	**Pn**	**17 22 22.0**	**+0.6**
PB14				IAML		17 23 37.5	
	comp=Z,135nm,1.0s						
GO02	**Mina Guanaco**	**5.46**	**184**	Pn	**Pn**	**17 22 27.8**	**+0.7**
AC02	**Maricunga**	**7.11**	**180**	Pn	**Pn**	**17 22 49.6**	**0.0**
SIV	**San Ignacio**	**8.52**	**66**	P	**Pn**	**17 23 06.8**	**-1.6**
	comp=Z,29nm,0.6s,baz=252,slow=11,SNR=170						
BBRB	**Robore, Bolivi**	**8.95**	**82**	*e*P	**Pn**	**17 23 10.4**	**-3.7**
ETMB	**Extrema**	**10.22**	**17**	Pn	**Pn**	**17 23 31.6**	**+0.3**
PTLB	**Pontes e Lacer**	**10.44**	**68**	Pn	**Pn**	**17 23 32.4**	**-2.0**
PTLB	**Pontes e Lacer**	**10.44**	**68**	*e*P	**Pn**	**17 23 29.9**	**-4.4**
TICA	**Tres Isletas**	**10.46**	**131**	*e*P	**Pn**	**17 23 34.1**	**-0.6**
VILB	**Vilhena**	**10.89**	**53**	*e*P	Pn	17 23 35.6	-4.9
MURT	**Porto Murtinho**	**10.97**	**102**	*e*P	**Pn**	**17 23 39.4**	**-2.2**
ESFA	**Espinillo Form**	**11.17**	**120**	*e*P	**Pn**	**17 23 43.3**	**-0.9**
CFA	**Coronel Fontan**	**11.89**	**176**	P	**Pn**	**17 23 54.7**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=341,slow=16,SNR=2.6						
SAML	**Samuel**	**12.14**	**29**	*e*P	Pn	17 23 52.2	-4.9
ANTJ	**Antonio Joao (**	**12.50**	**103**	*e*P	**Pn**	**17 24 00.2**	**-1.7**
AQDB	**Aquidauana**	**12.66**	**96**		**Pn**	**17 24 02.0**	**-2.0**
CPUP	**Villa Florida**	**12.73**	**123**	Pn	**Pn**	**17 24 04.5**	**-0.3**
CPUP	**Villa Florida**	**12.73**	**123**	P	**Pn**	**17 24 04.1**	**-0.8**
	comp=Z,10nm,0.8s,baz=303,slow=12,SNR=14						
CPUP				LR	LR	17 30 19.3	
	comp=Z,34nm,19.4s,baz=243,slow=44						
SALV	**Santo Antonio**	**13.35**	**76**	*e*P	**Pn**	**17 24 10.2**	**-2.9**
PP1B	**Ponte de Pedra**	**13.68**	**84**	*e*P	**Pn**	**17 24 15.2**	**-2.2**
PDRB	**Porto dos Gac**	**14.40**	**58**	*e*P	Pn	17 24 21.5	-5.1
RPRD	**Ribas do Rio P**	**14.53**	**96**	*e*P	**Pn**	**17 24 27.5**	**-0.8**
BO01	**Tunca**	**14.74**	**186**		**P**	**17 24 34.3**	**+0.1**
MCR1	**Marechal Candi**	**14.79**	**111**	*e*P	**Pn**	**17 24 30.9**	**-0.6**
ITQB	**Itaqui**	**15.10**	**134**	*e*P	**P**	**17 24 37.1**	**-0.9**
BO02	**Sierra Bellavi**	**15.11**	**185**		**P**	**17 24 40.1**	**+1.8**
BO02				IAmb	IAmb	17 24 41.7	
	comp=Z,19nm,0.8s						
CLDB	**Colider**	**15.57**	**58**	*e*P	**Pn**	**17 24 39.5**	**-1.9**
CRSM	**Crissiumal (Br**	**15.86**	**122**	*e*P	**P**	**17 24 46.9**	**+0.3**
FRBT	**Francisco Belt**	**16.09**	**116**	*e*P	**P**	**17 24 48.8**	**-0.3**
H03N1	**Juan Fernandez**	**16.23**	**210**	T	T	17 41 17.1	
	baz=32,slow=72,SNR=31						
H03N2	**Juan Fernandez**	**16.24**	**211**	T	T	17 41 21.4	
	baz=32,slow=72,SNR=24						
H03N3	**Juan Fernandez**	**16.25**	**210**	T	T	17 41 15.9	
	baz=32,slow=72,SNR=28						
RODS	**Rosario do Sul**	**16.49**	**133**	*e*P	**P**	**17 24 55.3**	**+1.9**
PTGB	**Pitanga**	**16.59**	**111**	*e*P	**Pn**	**17 24 53.7**	**-0.4**
LDASE	**Londrina, Braz**	**17.17**	**106**	*e*P	**P**	**17 25 00.4**	**-0.7**
ALGR	**Alto Alegre (B**	**17.25**	**125**	*e*P	**Pn**	**17 25 02.5**	**+0.4**
ITAB	**Concordia**	**17.31**	**119**		**Pn**	**17 25 03.4**	**+0.6**
ITRB	**Iturama**	**17.69**	**93**	*e*P	**Pn**	**17 25 07.9**	**+0.4**
CPSB	**Cacapava Do Su**	**17.76**	**130**	*e*P	**P**	**17 25 07.8**	**+0.2**
NPGB	**Novo Progresso**	**18.36**	**49**	*e*P	**P**	**17 25 12.5**	**-1.7**
MCRA	**Macar, Loja**	**18.52**	**324**	P	**Pn**	**17 25 16.7**	**-0.7**
FRTB	**Fartura**	**18.58**	**105**	*e*P	**P**	**17 25 16.4**	**-0.2**
SNDB	**Serra Nova Dou**	**18.80**	**69**	*e*P	**P**	**17 25 18.5**	**-0.6**
BOSC	**San Juan Bosco**	**18.80**	**330**	P	**P**	**17 25 18.7**	**-0.6**
BOSC				IAmb	IAmb	17 25 26.7	
	comp=Z,6.8nm,0.6s						
TRQA	**Tornquist**	**19.33**	**163**	P	**P**	**17 25 24.9**	**+0.3**
BB19B	**Bebedouro**	**19.38**	**98**	*e*P	**P**	**17 25 24.8**	**-0.6**
GO06	**Curarrehue**	**19.93**	**185**	P	**P**	**17 25 31.6**	**+0.4**
GO06				IAmb	IAmb	17 25 33.5	
	comp=Z,7.9nm,0.8s						
ITTB	**Itaituba**	**20.07**	**42**	*e*P	**P**	**17 25 31.2**	**-1.7**
BDFB	**Brasilia**	**20.53**	**82**	P	**P**	**17 25 36.9**	**-1.1**
BDFB				IAmb	IAmb	17 25 41.0	
	comp=Z,11nm,0.9s						
BDFB	**Brasilia**	**20.53**	**82**	P	**P**	**17 25 36.8**	**-1.1**
	comp=Z,11nm,0.5s,baz=258,slow=12,SNR=9.6						
	comp=Z,11nm,0.5s						
SLOR	**San Lorenzo -**	**20.95**	**333**	P	**P**	**17 25 42.3**	**-0.5**
SLOR				IAmb	IAmb	17 25 47.8	
	comp=Z,8.2nm,0.6s						
PLCA	**Paso Flores**	**21.01**	**183**	P	**P**	**17 25 44.3**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=4.5,slow=13,SNR=7.7						
	comp=Z,2.6nm,0.8s						
IMBA	**Imbabura, San**	**21.74**	**335**	P	**P**	**17 25 50.9**	**-0.3**
OTAV	**Otavalo**	**21.80**	**334**	P	**P**	**17 25 50.4**	**-1

BIDO	Bidbid	2.94 202	P	Pb	17 29 07.0	+1.1
BIDO			S	Sb	17 29 43.6	+1.7
KBAM	BAM	2.95 345	Pn	Pn	17 28 59.6	-0.8
MSFE	Esma-Masafi	2.98 253	P	Pb	17 29 07.5	+0.9
SRVN	Saravan	2.98 67	Pn	Pn	17 29 02.3	+1.4
GENO	Geno	3.02 293	Pn	Pb	17 29 05.1	-2.2
WSAR	Wadi Sarin	3.08 192	P	Pb	17 29 09.9	+1.7
WSAR			S	Sb	17 29 46.3	+0.4
UOSS	Minazif	3.10 245	P	Pb	17 29 07.3	-1.2
UOSS	Minazif	3.10 245	P	Pb	17 29 08.2	-0.3
UOSS			S	Sb	17 29 44.2	-2.2
	SNR=11					
HATD	Hatta, Dubai	3.21 244	P	Pb	17 29 10.0	-0.4
HATD			S	Sb	17 29 47.1	-2.5
	SNR=9.5					
HOQ	Hoqain	3.23 215	P	Pb	17 29 10.7	-0.2
	SNR=5.6					
HOQ			S	Sb	17 29 49.6	-0.7
HOQ	Hoqain	3.23 215	Pn	Pb	17 29 11.0	+0.2
SOHO	SOHO	3.29 230	P	Pb	17 29 10.7	-1.2
SOHO	SOHO	3.29 230	P	Pb	17 29 11.3	-0.5
SOHO			S	Sb	17 29 50.1	-1.9
ASHO	Ashiyiah	3.34 242	P	Pb	17 29 12.2	-0.4
ASHO	Ashiyiah	3.34 242	P	Pb	17 29 12.3	-0.3
ASHO			S	Sb	17 29 51.2	-2.1
UMQ	Umm Al-Quwin	3.37 258	P	Pb	17 29 12.6	-0.5
ZHDN	Zahedan	3.39 23	Pn	Pn	17 29 05.4	-1.0
SMDO	Samad	3.40 200	P	Pb	17 29 14.1	+0.4
SMDO			S	Sb	17 29 55.8	+0.7
WBK	Wadi Bani Khal	3.66 185	P	Pb	17 29 17.1	-1.0
	SNR=36					
WBK			S	Sb	17 30 00.3	-2.3
	SNR=9.8					
WBK	Wadi Bani Khal	3.66 185	Pn	Pb	17 29 17.2	-1.0
ARQ	Araqi	3.87 222	P	Pb	17 29 23.1	+1.4
ARQ			S	Sb	17 30 10.8	+2.2
ALNE	Al Ain	3.91 236	P	Pb	17 29 23.0	+0.6
ALNE			S	Sb	17 30 09.5	-0.2
ASUD	Al Ashush, Dub	3.95 246	P	Pb	17 29 23.5	+0.4
ASUD			S	Sb	17 30 10.5	-0.5
BSY	Bisya	4.00 209	P	Pb	17 29 24.2	+0.2
BSY			S	Sb	17 30 13.4	+0.9
JMDO	Jabal Madar	4.04 196	P	Pb	17 29 24.4	-0.1
JMDO			S	Sb	17 30 11.9	-1.6
JLN	Jalan Bani Buh	4.10 179	P	Pb	17 29 22.5	-3.2
JLN			S	Sb	17 30 10.7	-4.6
	SNR=9.1					
MHTO	MHTO	5.40 193	P	Pb	17 29 43.0	-4.8
MHTO			S	Sb	17 30 44.4	-8.3
IKOO	Kooshah	6.14 358	Pn	Pn	17 29 43.5	-0.8
ITEG	Tejag	6.62 356	Pn	Pn	17 29 50.4	-0.5
IRAM	Rameshe	8.20 314	Pn	Pn	17 30 13.6	+1.0

NEIC **12** *17:44:36.4±1.7, 14°.6N±0°.1×91°.6W±0°.1, h97km±4km, mb4.6/214, Error ellipse: s-maj=21.3km s-min=12.0km az=52.0*
GCG **12** *17:44:36.9±2.7, 14°.56N×91°.72W, h96km, MD4.5*
SNET **12** *17:44:38.1±1.0, 14°.45N×91°.40W, h0km±10km, ML4.5*
IDC **12** *17:44:41.5±1.9, 14°.82N×91°.24W, h142km±15km, mb4.0/18, mbtmp4.4/20, MS3.4/14, Error ellipse: s-maj=19.4km s-min=10.9km az=63.0*
ISC 12 17:44:36.9±0.6, 14°.62N±0°.05×91°.59W±0°.06, h109km±5km, n439, σ1$40/408, mb4.6/91, 1C-6D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	Santiaguito 3,	0.09	13	⇓iP	Pn	17 44 50.9	-1.3
RTAL	Retalhuleu	0.14	226	Pn	Pn	17 44 49.7	-2.3
RTAL				Sn	Sn	17 44 59.3	-4.1
RTAL	Retalhuleu	0.14	226	IAML		17 44 50.6	
	comp=Z,37μm,0.2s						
SULM	Suchitepequez,	0.32	175	⇑iP	Pn	17 44 51.4	-1.2
SULM				eS	Sn	17 45 14.9	+11
HUEH	Huehuetenango	0.70	7	P	Pn	17 44 55.8	+0.3
HUEH	Huehuetenango	0.70	7	⇓iP	Pn	17 44 55.9	+0.5
HUEH				eS	Sn	17 45 10.5	+1.2
FUG	Fuego 3	0.75	103	⇓iP	Pn	17 44 55.7	-0.1
FUG				eS	Sn	17 45 14.4	+4.4
PCG	Pacaya	0.98	103	⇓iP	Pn	17 44 58.7	+0.6
NBG	Las Nubes	1.21	92	⇓iP	Pn	17 45 02.1	+1.6
NBG				eS	Sn	17 45 21.3	+2.9
SLOZ	Alcaldia de Sa	1.85	108	eP	Pn	17 45 08.0	0.0
NUBE	Las Nubes	1.90	112	eP	Pn	17 45 08.5	-0.2
RTR	El Retiro	2.02	111	eP	Pn	17 45 10.7	+0.4
CEVE	Cerro Verde	2.06	112	eP	Pn	17 45 11.2	+0.3
SNJE	San Jose	2.07	111	eP	Pn	17 45 10.9	0.0
MTO3	Montecristo	2.17	96	Pn	Pn	17 45 12.7	+0.5
MTO3	Montecristo	2.17	96	⇓iP	Pn	17 45 12.8	+0.5
ESQI	Esquipulas	2.18	91	P	Pn	17 45 13.2	+0.9
ESQI	Esquipulas	2.18	91	eP	Pn	17 45 13.2	+0.9
JAYA	Jayaque - finc	2.29	115	eP	Pn	17 45 13.7	-0.1
JAYA				IAML		17 45 47.5	
	comp=Z,7μm,0.2s						
PMON	Piamonte	2.39	112	eP	Pn	17 45 15.3	+0.4
BOQS	Boqueron	2.41	111	IAML		17 45 55.3	
	comp=Z,2μm,0.3s						
SNET	Serv Nac Est T	2.47	112		Pn	17 45 16.6	+0.5
LALI	Alcalda de L	2.48	117	eP	Pn	17 45 16.2	+0.2
LOMA	Loma Larga	2.54	112	IAML		17 45 55.3	
	comp=Z,4μm,0.2s						
PAVA	Las Pavas	2.73	109	eP	Pn	17 45 20.0	+0.6
COEG	Centro de Oper	2.81	110	eP	Pn	17 45 22.3	+1.8
CNCH	Conchagua	3.89	110	eP	Pn	17 45 36.2	+1.3
TGUH	Tegucigalpa,Un	4.22	97	Pn	Pn	17 45 38.6	-0.8
TGUH	Tegucigalpa,Un	4.22	97	eP	Pn	17 45 39.6	+0.2
CRIN	San Cristobal	4.81	113		Pn	17 45 48.0	+0.7
CRIN	San Cristobal	4.81	113	eP	Pn	17 45 49.5	+2.2
CNGN	Cerro Negro	5.21	113		Pn	17 45 52.5	-0.1
MATN	Matagalpa	5.76	106	Pn	Pn	17 45 58.4	-1.6
BOAB	BOACO BROADBAN	6.15	110	Pn	Pn	17 46 03.7	-1.7
TEIG	Tepich	6.41	29	Pn	Pn	17 46 09.1	+0.3
TEIG	Tepich	6.41	29	eP	Pn	17 46 08.8	0.0
TEIG	Tepich	6.41	29	P	Pn	17 46 09.6	+0.8
	comp=Z,4μm,0.4s,baz=6.2,slow=1.8,SNR=179						
TEIG				S	Sn	17 47 18.1	-2.5
	comp=Z,2μm,0.7s,baz=343,slow=23,SNR=1.2						
ACON	Acoyapa	6.78	112		Pn	17 46 13.4	-0.5
HZTE	Horizontes, Gu	7.02	123		Pn	17 46 19.0	+1.8
ORTG	Ortega, Santa	7.33	125		Pn	17 46 21.7	+0.2
DUNO	Dulce Nombre,	7.47	126		Pn	17 46 22.4	-1.0
JTS	Las Juntas de	7.78	123	Pn	Pn	17 46 28.8	-0.7
JTS	Las Juntas de	7.78	123	P	Pn	17 46 30.3	+2.8
	comp=Z,13nm,0.3s,baz=346,slow=11,SNR=6.6						
ARE1	Arenal 1	7.88	121	Pn	Pn	17 46 26.2	-2.6
COVE	Coope Vega, Sa	8.02	118		Pn	17 46 28.1	-2.6
JACO	JACO, Garabito	8.38	125		Pn	17 46 38.0	+2.4
RIMA	Rio Macho	8.96	122	Pn	Pn	17 46 44.6	+0.8
SRBA	San Rafael, Bu	9.67	123		Pn	17 46 54.1	+0.9
DRK0	Durika	9.75	122		Pn	17 46 51.4	-3.0
SOR	Soroa	11.49	44		Pn	17 47 17.8	+0.1
MTDJ	Mount Denham	13.95	73		P	17 47 54.2	-0.4
MTDJ	Mount Denham	13.95	73	eP	P	17 47 55.2	+0.6
061Z	Ochoppi	15.01	40	Pn	Pn	17 48 03.8	+0.4
833A	Chaparral WMA,	15.44	333	P	P	17 48 12.5	+1.6
	baz=151						
HKT	Hockley	15.75	346	Pn	Pn	17 48 10.0	-2.5
060A	Indiantown	16.19	39	Pn	Pn	17 48 15.7	-2.5
HNDO	Hondo	16.45	336	Pn	Pn	17 48 20.1	-1.2
HNDO				IAmb	IAmb	17 48 43.1	
	comp=Z,33nm,1.0s						
HNVL	Huntsville, TX	16.45	348	Pn	Pn	17 48 18.4	-2.8
HNVL				IAmb	IAmb	17 48 26.6	
	comp=Z,28nm,1.0s						
GTBY	Guantanamo Bay	16.59	69	Pn	Pn	17 48 21.2	-1.9
GTBY				IAmb	IAmb	17 48 28.0	
	comp=Z,34nm,0.9s						
GTBY	Guantanamo Bay	16.59	69	eP	P	17 48 26.2	+2.4
SJCC	San Jacinto, C	16.71	104	eP	Pn	17 48 23.2	-1.4
346A	Big Creek Wild	16.80	6	P	Pn	17 48 26.2	+0.6
553A	Crawfordville	16.84	22		Pn	17 48 25.5	-0.5
656A	Willston	16.89	28	P	P	17 48 28.3	+1.3
DRIO	Del Rio	16.93	332	P	Pn	17 48 25.3	-1.9
DRIO				IAmb	IAmb	17 49 03.6	
	comp=Z,13nm,1.3s						
BRAL	Brewton	16.99	13	Pn	Pn	17 48 25.8	-2.0
435B	Jarrell	17.00	342	P	Pn	17 48 26.2	-1.8
435B				IAmb	IAmb	17 48 47.3	
	comp=Z,49nm,1.2s						
UREC	San Jos de Ur	17.16	112	eP	Pn	17 48 27.4	-2.8
NATX	Nacogdoches	17.29	351	P	P	17 48 30.0	-1.4
NATX				IAmb	IAmb	17 48 35.6	
	comp=Z,34nm,0.9s						
JCT	Junction City	17.50	336		P	17 48 30.2	-3.5
237A	Washetta, Mont	17.72	348	P	P	17 48 35.6	-0.5
352A	Blakely	17.85	19		Pn	17 48 40.4	+2.0
352A				IAmb	IAmb	17 48 42.0	
	comp=Z,50nm,0.9s						
ZARC	Zaragoza, Cauc	17.88	112	eP	P	17 48 36.7	-1.3
BRDY	Brady	17.92	339	P	P	17 48 31.2	-7.1
BRDY				IAmb	IAmb	17 48 40.2	
	comp=Z,17nm,1.1s						
250A	Grady	17.95	15	P	P	17 48 31.4	-7.2
250A				IAmb	IAmb	17 48 43.2	
	comp=Z,42nm,0.9s						
146A	Union	18.08	7	P	P	17 48 35.7	-4.3
146A				IAmb	IAmb	17 48 50.2	
	comp=Z,49nm,0.8s						
SAND	Sanderson	18.09	329	P	P	17 48 37.5	-2.6
SAND				IAmb	IAmb	17 49 06.4	
	comp=Z,5.0nm,0.9s						
WHTX	Lake Whitney,	18.10	344	P	P	17 48 38.3	-2.0
WHTX	Lake Whitney,	18.10	344	P	Pn	17 48 41.8	+0.5
	baz=162						
TIGA	Tifton	18.27	22	P	P	17 48 42.7	+0.5
TIGA	Tifton	18.27	22	P	Pn	17 48 45.1	+1.8
	baz=205						
TX32	Lajitas Array	18.41	325	P	Pn	17 48 46.2	+1.1
TXAR	Lajitas Array	18.41	325		Pn	17 48 46.1	+0.9
TXAR	Lajitas Array	18.41	325	P	Pn	17 48 46.7	+1.5
	comp=Z,3.8nm,0.6s,baz=152,slow=12,SNR=46						
TXAR				PcP	PcP	17 53 11.6	+1.4
	comp=Z,0.4nm,0.5s,baz=152,slow=5.1,SNR=4.1						
TXAR				ScP	ScP	17 56 34.5	-1.4
	comp=Z,0.1nm,0.4s,baz=134,slow=3.9,SNR=1.6						
TX31	Lajitas Ar. Si	18.41	325		Pn	17 48 46.5	+1.4
FW14	Alvarado	18.42	345	P	P	17 48 44.5	+0.8
FW14				IAmb	IAmb	17 48 53.7	
	comp=Z,40nm,0.7s						
OZNA	Ozona	18.43	333	P	P	17 48 39.6	-4.4
OZNA				IAmb	IAmb	17 48 48.0	
	comp=Z,7.4nm,0.6s						
FW13	Cleburne	18.43	344	P	P	17 48 37.5	-6.4
FW13				IAmb	IAmb	17 49 18.0	
	comp=Z,20nm,0.4s						
GUY2C	Guyana, Caldas	18.50	119	eP	Pn	17 48 46.3	-0.3
JAMC	Jamundi, Valle	18.57	126	eP	Pn	17 48 46.3	-1.0
Z41A	Richland Creek	18.59	357	P	P	17 48 43.0	-2.6
PTBC	PUERTO BERRIO,	18.65	114	eP	P	17 48 42.4	-4.1
NORC	Norcasia	18.75	117	eP	P	17 48 46.3	-1.2
Z47A	Carrollton	18.77	9	P	P	17 48 45.1	-2.4
LRAL	Lakeview Retre	18.80	12	P	P	17 48 48.3	+0.4
LRAL				IAmb	IAmb	17 48 54.2	
	comp=Z,29nm,1.1s						
LRAL	Lakeview Retre	18.80	12	P	Pn	17 48 50.5	+0.9
	baz=194,SNR=10						
Z38A	Mt. Pleasant	18.81	351	P	P	17 48 49.4	+1.4
Z38A				IAmb	IAmb	17 48 50.4	
	comp=Z,40nm,0.9s						
FW07	Weatherford	18.86	344	P	P	17 48 47.8	-0.8
FW07				IAmb	IAmb	17 48 51.3	
	comp=Z,24nm,0.7s						
BBAC	Balboa, Cauca	18.91	130	eP	Pn	17 48 52.5	+1.3
POPC	Popayan, Colom	19.00	128	eP	Pn	17 48 51.7	-0.6
152A	Waverly Hall	19.02	18	P	P	17 48 51.4	+1.0
WLAR	White Oak Lake	19.03	356	P	P	17 48 51.2	+0.8
WLAR				IAmb	IAmb	17 49 22.3	
	comp=Z,50nm,1.0s						
FW06	Azle	19.06	344	P	P	17 48 52.1	+1.4
FW06				IAmb	IAmb	17 49 26.6	
	comp=Z,15nm,0.6s						
255A	Hazlehurst	19.13	24	P	P	17 48 52.3	+0.8
ALPN	Alpine	19.20	327	P	P	17 48 54.1	+1.7
ALPN				IAmb	IAmb	17 48 57.3	
	comp=Z,12nm,0.7s						
Y45A	Yeager Farm, C	19.25	5	P	P	17 48 54.0	+1.2
FW03	Perrin-Whitt E	19.26	343	P	P	17 48 53.2	+0.3
FW03				IAmb	IAmb	17 48 55.3	
	comp=Z,42nm,0.9s						
SGCY	Sterling City	19.29	335	P	P	17 48 51.8	-1.6
SGCY				IAmb	IAmb	17 48 55.4	
	comp=Z,8.6nm,0.6s						
ORTC	Ortega, Tolima	19.31	122	eP	P	17 48 54.1	+0.4
Z35A	Perchaven, San	19.32	346	P	P	17 48 54.5	+0.9
Z35A				IAmb	IAmb	17 48 56.1	
	comp=Z,27nm,0.7s						
ABTX	Abilene, Hawle	19.36	339	P	P	17 48 55.2	+1.1
ABTX				IAmb	IAmb	17 48 56.6	
	comp=Z,34nm,1.1s						
ABTX	Abilene, Hawle	19.36	339	P	P	17 48 55.9	+1.8
	baz=156,SNR=7.4						
GCUF	Volcan Galeras	19.38	132	eP	Pn	17 48 56.1	-0.9
CRUC	La Cruz	19.43	131	eP	P	17 48 55.2	-0.1
Z51A	Franklin	19.50	16	P	P	17 48 57.5	+2.0
Z51A				IAmb	IAmb	17 49 01.9	
	comp=Z,31nm,0.9s						
154A	Montrose	19.51	22	P	P	17 48 57.2	+1.7
PRAC	Prado	19.71	122	eP	P	17 48 58.5	+0.4
Y49A	Blount Mountai	19.72	13	P	P	17 48 58.7	+0.8
BONI	La Bonita	19.79	134	eP	Pn	17 49 04.2	+2.6
X40A	Basin Creek Fa	19.81	357	P	P	17 49 00.5	+1.6
PAMC	Pamplona, Colo	19.90	109	eP	P	17 48 58.0	-2.5
OXF	Oxford	19.90	5	P	P	17 49 00.4	+0.5
OXF				IAmb	IAmb	17 49 04.8	
	comp=Z,34nm,0.8s						
OXF	Oxford	19.90	5	P	P	17 49 01.0	+1.2
	baz=186,SNR=5.8						
SDDR	Presa de Saban	19.91	75	P	P	17 48 59.0	-1.2
MIAR	Mount Ida	19.92	355	P	P	17 48 59.7	-0.3
MIAR	Mount Ida	19.92	355	P	P	17 49 00.8	+0.8
	baz=174,SNR=11						
LOOK	Love County	19.94	346	P	P	17 49 02.3	+2.0
LOOK				IAmb	IAmb	17 49 03.0	
	comp=Z,19nm,0.8s						
SN01	Snyder 1	20.03	337	P	P	17 49 02.2	+0.8
SN01				IAmb	IAmb	17 49 03.1	
	comp=Z,50nm,0.5s						
WTFS	Witchita Falls	20.05	343	P	P	17 49 01.9	+0.4
WTFS				IAmb	IAmb	17 49 03.2	
	comp=Z,15nm,0.8s						
UALR	University of	20.08	358	P	P	17 49 01.5	-0.2
GOGA	Godfrey	20.11	20	P	P	17 49 03.8	+1.7
GOGA				IAmb	IAmb	17 49 05.5	
	comp=Z,44nm,0.8s						
GOGA	Godfrey	20.11	20	P	P	17 49 04.2	+2.2
	baz=203,SNR=23						
PECS	Pecos	20.11	328	P	P	17 49 04.1	+1.9
PECS				IAmb	IAmb	17 49 06.1	
	comp=Z,28nm,1.3s						
GARC	Garzon, Huila	20.13	126	eP	Pn	17 49 04.2	-1.4
RUSC	La Rusia	20.16	114	eP	P	17 49 02.2	-1.1
X48A	Hartselle	20.16	11	P	P	17 49 03.4	+0.7
APMT	Aspermont	20.17	339	P	P	17 49 03.6	+0.8
APMT				IAmb	IAmb	17 49 04.6	
	comp=Z,41nm,0.7s						
X37A	Clayton	20.17	351		P	17 49 03.8	+1.0
X37A				IAmb	IAmb	17 49 10.3	
	comp=Z,17nm,0.8s						
CHIC	Chingaza	20.20	118	eP	Pn	17 49 05.1	-1.4
425A	Indio Mountain	20.25	325	P	P	17 49 05.8	+1.9
Y52A	Lilburn	20.33	18	P	P	17 49 06.8	+2.3
FLOC	Florencia	20.39	128	eP	Pn	17 49 06.9	-1.5
POST	Post	20.45	336	P	P	17 49 06.3	+0.4
POST				IAmb	IAmb	17 49 07.4	
	comp=Z,26nm,0.8s						
VILC	Villavicencio,	20.50	119	eP	P	17 49 05.5	-1.0
PLAL	Pickwick Lake	20.52	8	P	P	17 49 06.7	+0.2
PLAL				IAmb	IAmb	17 49 09.5	
	comp=Z,12nm,0.5s						
FPAL	Fort Paine	20.55	14	P	P	17 49 08.1	+1.2
FPAL				IAmb	IAmb	17 49 09.7	
	comp=Z,18nm,0.9s						
WHAR	Wooly Hollow	20.59	358	P	P	17 49 08.7	+1.5
DKNS	Dickens	20.76	338	P	P	17 49 09.4	+0.2
DKNS				IAmb	IAmb	17 49 10.5	
	comp=Z,16nm,0.7s						
X51A	Calhoun	20.77	16	P	P	17 49 10.6	+1.5
X51A				IAmb	IAmb	17 49 17.6	
	comp=Z,26nm,1.1s						
HBAR	Harrisburg	20.86	2	P	P	17 49 10.9	+0.7
W35A	Tecumseh	20.99	348		P	17 49 11.2	-0.4
WMOK	Wichita Mounta	21.05	343	P	P	17 49 12.6	+0.3
WMOK	Wichita Mounta	21.05	343	P	P	17 49 13.5	+1.2
	baz=160						
SWET	Sewanee	21.13	13	P	P	17 49 14.3	+1.2
SWET				IAmb	IAmb	17 49 17.3	
	comp=Z,20nm,0.6s						
MNTX	Cornudas Mount	21.17	326	P	P	17 49 14.4	+0.9
MNTX	Cornudas Mount	21.17	326	P	P	17 49 14.9	+1.4
	baz=140,SNR=17						
FCAR	Ozark Folk Cen	21.18	359	P	P	17 49 13.5	-0.1
FCAR				IAmb	IAmb	17 49 15.9	
	comp=Z,14nm,0.7s						
W50A	Signal Mountai	21.25	14	P	P	17 49 15.9	+1.4
W50A				IAmb	IAmb	17 49 17.2	
	comp=Z,13nm,0.5s						
SDV	Santo Domingo	21.29	103	P	P	17 49 15.4	+0.3
SDV				IAmb	IAmb	17 49 17.5	
	comp=Z,12nm,0.6s						
SDV	Santo Domingo	21.29	103	P	P	17 49 15.7	+0.5
	comp=Z,11nm,0.5s,baz=294,slow=6.0,SNR=6.3						
SDV				LR	LR	17 56 59.3	
	comp=Z,22nm,21.2s,baz=289,slow=35						
	comp=Z,11nm,0.5s						
HALT	Halls	21.29	5	P	P	17 49 15.6	+0.8
GNAR	Gosnell	21.30	4	P	P	17 49 15.2	+0.4
LCAR	Lake Charles	21.36	1	P	P	17 49 15.5	0.0
LCAR				IAmb	IAmb	17 49 18.2	
	comp=Z,36nm,0.7s						
V48A	Smith Brothers	21.46	11	P	P	17 49 17.3	+0.7
V48A				IAmb	IAmb	17 49 19.0	
	comp=Z,21nm,0.7s						
LNXT	Lenox	21.47	5	P	P	17 49 17.6	+0.9
W52A	Murphy	21.52	17	P	P	17 49 18.6	+1.4
GLAT	Glass	21.66	5	P	P	17 49 19.4	+0.8
HHAR	Hobbs	21.67	355	P	P	17 49 18.5	-0.4
RLO	Rose Lookout	21.67	352		P	17 49 18.8	0.0
RLO				IAmb	IAmb	17 49 22.4	
	comp=Z,12nm,0.7s						
WVT	Waverly	21.68	8	P	P	17 49 19.7	+0.8
	baz=190						
JSC	Jenkinsville	21.69	24	P	P	17 49 20.0	+1.0
JSC				IAmb	IAmb	17 49 44.2	
	comp=Z,31nm,1.2s						
CPCT	Cooper Cave	21.69	16	P	P	17 49 20.2	+1.2
CPCT				IAmb	IAmb	17 49 21.4	
	comp=Z,16nm,0.6s						
BG3	Lake Jocassee	21.73	20	P	P	17 49 20.6	+1.1
BG3				IAmb	IAmb	17 49 22.4	
	comp=Z,29nm,0.5s						
OK029	Liberty Lake	21.73	347		P	17 49 18.9	-0.5
OK029				IAmb	IAmb	17 49 19.9	
	comp=Z,21nm,0.5s						
MSTX	Muleshoe	21.76	334	P	P	17 49 20.6	+0.7
MSTX				IAmb	IAmb	17 49 21.6	
	comp=Z,14nm,0.7s						
MSTX	Muleshoe	21.76	334	P	P	17 49 20.1	+0.2
	baz=150,SNR=8.7						
U38A	Gravette	21.87	354	P	P	17 49 20.7	-0.2
CLTN	Cedars of Leba	21.89	11	P	P	17 49 21.4	+0.3
CLTN				IAmb	IAmb	17 49 23.4	
	comp=Z,27nm,0.8s						
V51A	Loudon	22.07	16	P	P	17 49 22.8	-0.2
PBMO	Poplar Bluff	22.09	2	P	P	17 49 22.6	-0.6
TKL	Tuckaleechee C	22.09	17	P	P	17 49 24.4	+1.1
TKL				IAmb	IAmb	17 49 26.1	
	comp=Z,36nm,1.1s						
TKL	Tuckaleechee C	22.09	17	P	P	17 49 24.1	+0.8
	comp=Z,12nm,0.5s,baz=187,slow=13,SNR=18						
TKL				LR	LR	17 59 11.5	
	comp=Z,89nm,19.7s,baz=182,slow=40						
	comp=Z,12nm,0.5s						
AMTX	Amarillo	22.13	338	P	P	17 49 23.5	-0.2
AMTX	Amarillo	22.13	338	P	P	17 49 23.9	+0.2
	baz=153						
OK048	Pawnee Station	22.23	349		P	17 49 24.6	-0.1
OK048				IAmb	IAmb	17 49 42.9	
	comp=Z,16nm,0.7s						
V52A	Sevierville	22.31	17	P	P	17 49 26.6	+1.0
V52A				IAmb	IAmb	17 49 28.1	
	comp=Z,24nm,0.9s						
V53A	Saluda	22.39	19	P	P	17 49 27.8	+1.4
V53A				IAmb	IAmb	17 49 28.6	
	comp=Z,18nm,0.6s						
U49A	Red Boiling Sp	22.41	12	P	P	17 49 26.9	+0.3
U49A				IAmb	IAmb	17 49 28.1	
	comp=Z,19nm,0.6s						
KMSC	Kings Mountain	22.42	22	P	P	17 49 28.1	+1.4
KMSC				IAmb	IAmb	17 49 29.0	
	comp=Z,27nm,0.8s						
KMSC	Kings Mountain	22.42	22	P	P	17 49 28.2	+1.5
	baz=207,SNR=7.7						
MGMO	Mountain Grove	22.45	359	P	P	17 49 26.8	-0.2
MGMO				IAmb	IAmb	17 49 29.2	
	comp=Z,18nm,0.9s						
T45A	Paducah	22.46	6	P	P	17 49 27.3	+0.3
T47A	Sharon Grove	22.63	9	P	P	17 49 28.8	0.0
T47A				IAmb	IAmb	17 49 30.2	
	comp=Z,33nm,0.8s						
CGM3	Cape Girardeau	22.65	4	P	P	17 49 28.6	-0.3
CGM3				IAmb	IAmb	17 49 29.7	
	comp=Z,27nm,0.7s						
TZTN	Tazewell	22.98	17	P	P	17 49 32.8	+0.5
TZTN				IAmb	IAmb	17 49 34.2	
	comp=Z,21nm,0.8s						
TZTN	Tazewell	22.98	17	P	P	17 49 33.2	+1.0
	baz=200,SNR=7.3						
S39A	Bolivar	23.03	356	P	P	17 49 31.9	-0.8
S39A				IAmb	IAmb	17 49 34.7	
	comp=Z,32nm,0.6s						
S44A	Carbondale	23.07	5	P	P	17 49 33.3	+0.3
SIUC	Southern Illin	23.10	5	P	P	17 49 33.2	0.0
T50A	Nancy

baz=131
T57A Hurt 24.85 24 P P 17 49 50.1 +0.9
T57A IAmb IAmb 17 49 51.0
comp=Z,14nm,0.7s
P43A Skaggs, Pawnee 24.99 4 P P 17 49 50.1 -0.4
SSFO Shawnee State 25.10 16 P P 17 49 52.2 +0.7
R53A Hurricane 25.11 18 P P 17 49 52.0 +0.4
R53A IAmb IAmb 17 49 53.6
comp=Z,16nm,1.0s
P46A Rosedale 25.20 8 P P 17 49 53.0 +0.7
P48A Milroy 25.33 11 P P 17 49 53.2 -0.4
P48A IAmb IAmb 17 50 28.0
comp=Z,27nm,0.6s
Q51A Peebles 25.37 15 P P 17 49 54.1 +0.1
Q51A IAmb IAmb 17 49 57.7
comp=Z,26nm,0.7s
P49A Miami Univ. Ec 25.54 12 P P 17 49 54.7 -0.7
baz=196
O44A Mansfield 25.58 6 P P 17 49 55.3 -0.5
O44A IAmb IAmb 17 49 58.2
comp=Z,22nm,0.7s
R55A Marlinton 25.66 21 IAmb IAmb 17 49 58.5
comp=Z,15nm,0.7s
HDIL Hopedale 25.91 4 IAmb IAmb 17 49 59.4
comp=Z,25nm,0.7s
HDIL Hopedale 25.91 4 P P 17 49 58.5 -0.3
baz=185
214A Organ Pipe Nat 25.95 315 P P 17 50 02.0 +2.7
baz=127
SFIN Lafayette 25.96 8 P P 17 49 59.2 0.0
baz=190
Q54A Coxs Mills 26.05 19 IAmb IAmb 17 50 01.8
comp=Z,21nm,0.7s
W18A Petrified Fore 26.13 325 P P 17 50 02.2 +1.1
baz=137
P52A Corning 26.26 17 P P 17 50 02.5 +0.5
baz=201
ACSO Alum Creek Sta 26.60 15 IAmb IAmb 17 50 06.0
comp=Z,17nm,0.6s
ACSO Alum Creek Sta 26.60 15 P P 17 50 05.1 +0.1
baz=199
L42A Oliver, Polo 27.33 3 IAmb IAmb 17 50 13.0
comp=Z,24nm,0.8s
L40A Anamosa 27.34 1 IAmb IAmb 17 50 44.9
comp=Z,14nm,0.8s
P57A Homestead Farm 27.49 23 IAmb IAmb 17 50 15.0
comp=Z,24nm,0.7s
GLA Glamis 27.97 315 IAmb IAmb 17 50 20.9
comp=Z,7.2nm,0.6s
GLA Glamis 27.97 315 P P 17 50 20.4 +3.1
baz=126
BRIGG Briggsdale 28.15 339 IAmb IAmb 17 50 16.3
comp=Z,17nm,0.7s
JFWS Jewell Farm 28.22 2 IAmb IAmb 17 50 22.2
comp=Z,17nm,0.6s
JFWS Jewell Farm 28.22 2 P P 17 50 19.7 +0.3
baz=183
PDMCI Parker Dam,Lak 28.26 318 P P 17 50 23.0 +3.1
baz=129,SNR=5.1
SSPA Standing Stone 28.54 22 P P 17 50 22.8 +0.4
SSPA Standing Stone 28.54 22 P P 17 50 23.2 +0.8
baz=208
BC3 Big Chuckawall 28.74 315 P P 17 50 27.6 +3.3
baz=126,SNR=6.3
IRM Iron Mountain 28.83 317 P P 17 50 28.2 +3.2
baz=127
MONP2 Monument Peak 28.98 313 P P 17 50 29.6 +2.9
baz=123
PHWY Pilot Hill 29.19 338 IAmb IAmb 17 50 33.1
comp=Z,28nm,1.1s
KNB Kanab 29.24 324 IAmb IAmb 17 50 32.5
comp=Z,7.1nm,0.8s
BELC Belle Mtn. Jos 29.31 315 P P 17 50 32.4 +3.0
baz=125
TPFO Pinon Flats 29.40 314 P P 17 50 33.4 +3.2
baz=124
PFO Pinyon Flats O 29.41 314 P P 17 50 33.5 +3.3
baz=124
GMRC Granite Mounta 29.55 317 P P 17 50 34.3 +2.8
baz=127,SNR=7.6
V12A Nelson 29.60 319 P P 17 50 34.9 +3.0
V12A IAmb IAmb 17 50 35.6
comp=Z,12nm,0.7s
HEC Hector,Ludlow 30.02 317 P P 17 50 38.8 +3.2
baz=126
TUQ Turquoise Moun 30.11 318 P P 17 50 39.2 +2.7
baz=128
BINY Binghamton 30.61 23 P P 17 50 41.2 +0.6
baz=211
QSM Queen of Sheba 31.04 318 P P 17 50 45.3 +0.7
TPNV Topopah Spring 31.25 320 P P 17 50 49.2 +2.7
TPNV Topopah Spring 31.25 320 P P 17 50 49.8 +3.3
baz=129
COWI Conover 31.45 3 IAmb IAmb 17 50 48.7
comp=Z,24nm,1.3s
MPMC Manual Prospec 31.50 317 P P 17 50 51.6 +2.8
baz=126,SNR=7.6
R11B Troy Canyon, C 31.75 323 P P 17 50 53.6 +2.7
baz=132,SNR=5.9
SADO Sadowa 31.85 17 P P 17 50 51.1 -0.4
comp=Z,8.3nm,0.7s,baz=201,slow=7.8,SNR=4.0
comp=Z,8.3nm,0.7s
ISA Isabella, Lake 31.93 316 P P 17 50 55.9 +3.5
baz=124
HWUT Hardware Ranch 31.98 331 PcP PcP 17 53 41.1 +0.6
PDAR Pinedale Array 32.02 335 P P 17 50 53.7 +0.4
comp=Z,0.6nm,0.5s,baz=132,slow=11,SNR=9.1
PDAR PcP PcP 17 53 40.9 +0.2
comp=Z,1.0nm,0.7s,baz=169,slow=3.7,SNR=6.7
PDAR ScP ScP 17 57 13.7 -0.7
comp=Z,0.7nm,0.7s,baz=142,slow=5.6,SNR=5.9
comp=Z,0.6nm,0.5s
CWC Cottonwood Cre 32.11 317 P P 17 50 57.0 +2.8
baz=126
ELK Elko 33.19 326 PcP 17 53 44.9 +1.0
LONY Lake Ozonia 33.21 22 IAmb IAmb 17 51 04.3
comp=Z,13nm,0.8s
LONY Lake Ozonia 33.21 22 P P 17 51 03.8 +0.5
baz=211
EYMN Ely 33.23 0 P P 17 51 03.8 +0.3
baz=180
NV11 Mina Array Sit 33.35 320 IAmb IAmb 17 51 09.0
comp=Z,7.1nm,0.8s
NVAR Mina Array Bea 33.44 320 PcP 17 53 45.9 +1.2
NVAR Mina Array Bea 33.44 320 P P 17 51 09.2 +3.4
comp=Z,9.0nm,0.7s,baz=131,slow=8.7,SNR=76
NVAR PcP PcP 17 53 45.7 +1.0
comp=Z,3.5nm,0.8s,baz=131,slow=3.0,SNR=13
NVAR ScP ScP 17 57 20.5 +1.1
comp=Z,0.5nm,0.7s,baz=141,slow=4.0,SNR=4.0
comp=Z,9.0nm,0.7s
LHV Little Huntoon 33.46 320 IAmb IAmb 17 51 10.1
comp=Z,7.7nm,0.6s
KVN Kaiserville 33.70 321 IAmb IAmb 17 51 11.7
comp=Z,9.8nm,1.1s
RLMT Red Lodge 33.88 337 P P 17 51 10.3 +0.9
baz=148
PNTR Pine Nut 34.65 320 IAmb IAmb 17 51 20.4
comp=Z,7.1nm,0.7s
HLID Hailey 34.83 330 P P 17 51 20.4 +2.8
baz=139
ETMB Extrema 34.97 133 P P 17 51 18.7 -0.2
ETMB IAmb IAmb 17 51 19.8
comp=Z,8.5nm,1.0s
BOZ Bozeman (W) 35.20 335 P P 17 51 22.8 +2.1
baz=145
MACA Manacapuru-AM 35.36 118 P P 17 51 21.6 -0.7
ULM Lac du Bonnet 35.70 355 P P 17 51 24.1 -0.7
comp=Z,3.1nm,0.7s,baz=244,slow=6.0,SNR=2.9
comp=Z,3.1nm,0.7s
PKME Peaks-Kenny Pk 35.89 27 P P 17 51 26.6 +0.2
baz=219
WVOR Wild Horse Val 36.20 325 IAmb IAmb 17 51 32.7
comp=Z,5.0nm,0.8s
EGMT Eagleton 36.54 339 P P 17 51 32.8 +0.7
baz=150
SAML Samuel 36.63 128 P P 17 51 31.3 -1.8
SAML IAmb IAmb 17 51 32.4
comp=Z,8.2nm,0.7s
PLID Pearl Lake 36.72 331 IAmb IAmb 17 51 36.7
comp=Z,5.3nm,1.1s
MSO Missoula 37.14 334 P P 17 51 38.5 +1.3
baz=143
F10A Beach Ranch, E 37.96 331 IAmb IAmb 17 51 46.6
comp=Z,11nm,0.7s
LPAZ La Paz 38.48 142 P P 17 51 50.7 +1.4
comp=Z,1.1nm,0.6s,baz=284,slow=6.4,SNR=3.8
LPAZ PcP PcP 17 54 02.2 +1.8
comp=Z,1.0nm,0.7s,baz=329,slow=5.9,SNR=2.7
comp=Z,1.1nm,0.6s
LON Longmire 40.77 328 P P 17 52 08.4 +1.0
LON IAmb IAmb 17 52 10.7
comp=Z,7.9nm,0.9s
VILB Vilhena 41.44 130 P P 17 52 12.7 -0.4
PTLB Pontes e Lacer 43.84 132 P P 17 52 31.3 -1.3
SCHQ Schefferville 44.50 20 P P 17 52 35.9 -1.5
comp=Z,12nm,0.7s,baz=234,slow=6.7,SNR=8.9
SCHQ LR LR 18 12 17.6
comp=Z,80nm,19.5s,baz=286,slow=38
comp=Z,12nm,0.7s
YKA Yellowknife Ar 50.52 346 P P 17 53 23.8 +0.1
comp=Z,4.2nm,0.6s,baz=147,slow=7.3,SNR=21
comp=Z,4.2nm,0.6s
FRB Frobisher Bay 51.62 13 LR LR 18 17 54.9
comp=Z,53nm,19.1s,baz=232,slow=39
DLBC Dease Lake 52.25 336 P P 17 53 38.4 +1.6
baz=130
S34M Telegraph Cree 52.37 335 P P 17 53 38.3 +0.7
baz=129
BDFB Brasilia 52.52 123 P P 17 53 38.7 -0.8
comp=Z,2.7nm,0.5s,baz=249,slow=8.6,SNR=3.8
comp=Z,2.7nm,0.5s
R33M Jennings River 53.24 336 P P 17 53 45.5 +1.2
baz=130
Q32M Nakina River 53.49 335 P P 17 53 46.8 +0.7
baz=128
P33M Teslin, Yukon 54.49 336 P P 17 53 54.6 +1.4
baz=128
MMPY Sheldon Lake, 55.46 339 P P 17 54 01.5 +1.3
baz=132
P29M Windy Craggy 56.16 334 P P 17 54 07.2 +2.0
baz=123
YUK6 Outpost Mounta 57.14 335 P P 17 54 13.3 +1.0
baz=123
M30M Minto, Yukon 57.44 337 P P 17 54 15.3 +1.1
baz=126
YUK4 Talbot Arm 57.47 335 P P 17 54 15.0 +0.4
baz=123
PINM Pinnacle 57.49 334 P P 17 54 16.1 +1.6
baz=120
MAYO Mayo, Yukon 57.71 338 P P 17 54 17.8 +1.8
baz=127
M29M Somme Creek 58.00 336 P P 17 54 18.7 +0.5
M29M IAmb IAmb 17 54 21.4
comp=Z,7.7nm,0.8s
M29M Somme Creek 58.00 336 P P 17 54 19.0 +0.8
baz=124,SNR=9.9
L29M L29M 58.25 337 P P 17 54 20.2 +0.4
baz=124
PLCA Paso Flores 58.43 161 P P 17 54 21.9 +0.6
comp=Z,2.5nm,1.0s,baz=346,slow=10,SNR=4.0
PLCA LR LR 18 13 47.9
comp=Z,64nm,18.7s,baz=188,slow=30
comp=Z,2.5nm,1.0s
SFJD Kangerlussuaq 58.80 18 LR LR 18 22 55.4
comp=Z,54nm,18.5s,baz=188,slow=39
I30M Mount Dempster 58.87 340 P P 17 54 24.7 +0.5
baz=127
M27K Edge Creek, AK 59.31 335 P P 17 54 28.1 +0.9
baz=120
L27K Beaver Creek, 59.65 336 IAmb IAmb 17 54 54.6
comp=Z,5.0nm,1.4s
L27K Beaver Creek, 59.65 336 P P 17 54 29.6 +0.2
baz=120
M26K Nabesna, AK 59.78 335 P P 17 54 31.1 +0.6
baz=119
INK Inuvik 59.96 343 P P 17 54 31.5 +0.1
baz=132
N25K Chitina, Valde 60.08 334 IAmb IAmb 17 54 35.5
comp=Z,5.4nm,0.6s
N25K Chitina, Valde 60.08 334 P P 17 54 34.2 +1.7
baz=117
RES Resolute Bay 60.09 359 LR LR 18 21 07.1
comp=Z,36nm,18.9s,baz=20,slow=36
F30M Barrier River 60.16 342 P P 17 54 33.4 +0.6
baz=129
G29M Pine Creek 60.42 341 P P 17 54 35.1 +0.4
baz=126
KLU Klutina 60.60 333 P P 17 54 37.2 +1.1
baz=116
J26L Joseph Creek 61.03 337 P P 17 54 40.3 +1.3
baz=119
PAX Paxson 61.06 335 P P 17 54 39.8 +0.7
baz=117
H27K Steamboat Moun 61.19 339 P P 17 54 40.7 +0.8
baz=122
E29M Blow River 61.27 342 P P 17 54 40.7 +0.4
baz=127
SCM Sheep Creek Mo 61.35 333 P P 17 54 41.7 +0.6
baz=114
F28M Old Crow 61.41 341 P P 17 54 41.8 +0.4
F28M IAmb IAmb 17 54 44.0
comp=Z,6.7nm,0.7s
F28M Old Crow 61.41 341 P P 17 54 42.1 +0.8
baz=125,SNR=5.0
M23K Glacier View 61.51 333 P P 17 54 42.9 +0.9
baz=114
G27K Doyon Strip 61.55 340 P P 17 54 42.5 +0.2
baz=122
K24K Donnelly Dome 61.56 336 P P 17 54 42.9 +0.5
baz=117
J25K Salcha River, 61.77 337 IAmb IAmb 17 54 46.3
comp=Z,2.7nm,0.7s
J25K Salcha River, 61.77 337 P P 17 54 44.8 +0.9
baz=118
WAT6 Susitna Watana 61.84 334 P P 17 54 45.5 +1.1
baz=114
E28M Babbage River 61.88 342 P P 17 54 44.2 -0.2
baz=126
PRP Porcupine Dome 62.25 338 P P 17 54 47.9 +0.8
baz=118
E27K Coleen River 62.27 341 P P 17 54 47.8 +0.6
baz=123
HDA Harding Lake 62.29 336 P P 17 54 46.9 -0.3
baz=116
ILAR Eielson Array 62.43 337 P P 17 54 48.4 +0.2
comp=Z,1.8nm,0.6s,baz=95,slow=6.3,SNR=23
comp=Z,1.8nm,0.6s
RND Reindeer 62.64 335 P P 17 54 48.8 -0.9
RND IAmb IAmb 17 54 52.4
comp=Z,5.8nm,0.8s
D27M Malcolm River 62.67 342 P P 17 54 49.8 0.0
baz=124
MCK McKinley 62.80 335 P P 17 54 51.5 +0.8
baz=114
F26K Sheenjek River 62.84 340 P P 17 54 51.5 +0.6
baz=120
G25K Bearman Lake 63.05 339 P P 17 54 53.4 +1.2
baz=118
TRF Thorofare Moun 63.25 335 P P 17 54 54.8 +1.0
baz=112
SKT Skwentna 63.25 333 P P 17 54 54.2 +0.5
SKT IAmb IAmb 17 54 55.5
comp=Z,9.5nm,1.2s
SKT Skwentna 63.25 333 P P 17 54 54.4 +0.8
baz=110
H24K Noodor Dome 63.27 337 P P 17 54 54.4 +0.6
baz=116
F25K Christian Rive 63.28 340 P P 17 54 54.6 +0.8
baz=119
N20K Mount Spurr 63.29 332 P P 17 54 55.3 +1.3
baz=109
SPCR Spurr Chakacha 63.29 332 P P 17 54 55.1 +1.1
baz=109
R18K Karluk 63.30 328 P P 17 54 55.4 +1.4
baz=105
RSO Redoubt South 63.30 331 P P 17 54 55.2 +0.9
G24K Hadweenzic Riv 63.50 338 P P 17 54 55.9 +0.6
baz=116
E25K Arctic Village 63.52 340 P P 17 54 55.7 +0.4
baz=119
I23K Minto, Yukon-K 63.54 336 IAmb IAmb 17 54 57.9
comp=Z,4.7nm,0.8s
I23K Minto, Yukon-K 63.54 336 P P 17 54 56.2 +0.8
baz=114
PPLA Purkeypile 63.85 334 P P 17 54 58.0 +0.2
baz=110
Q18K Katmai Hardscr 63.88 329 P P 17 54 59.0 +1.0
baz=105
H23K Yukon River 63.89 337 P P 17 54 58.4 +0.6
baz=114
M20K Styx River 63.93 332 P P 17 54 59.0 +0.8
baz=109
CAST Castle Rocks 63.99 334 P P 17 54 58.8 +0.2
baz=110
MLY Manley 64.03 336 IAmb IAmb 17 55 00.8
comp=Z,5.9nm,0.7s
MLY Manley 64.03 336 P P 17 54 59.2 +0.4
baz=112
N19K Bonanza Creek 64.22 331 P P 17 55 00.8 +0.7
baz=107
O18K Koktuh Hills 64.30 330 P P 17 55 01.2 +0.6
baz=106
R17K Ugashik Creek 64.33 327 P P 17 55 02.3 +1.5
baz=104
G23K Bananza Creek 64.42 338 P P 17 55 01.8 +0.4
baz=114
E24K Your Creek 64.46 340 P P 17 55 02.2 +0.6
baz=116
M19K Big River Lodg 64.50 332 P P 17 55 02.7 +0.8
baz=108
H22K Ishtalitna Cre 64.61 337 P P 17 55 03.3 +0.8
baz=112
COLD Coldfoot 64.70 338 P P 17 55 04.2 +1.2
baz=114
Q16K King Salmon 64.72 328 P P 17 55 04.6 +1.3
baz=104
P17K Kvichak River 64.73 329 P P 17 55 04.4 +1.1
baz=104
K20K Telida 64.81 334 P P 17 55 03.9 +0.1
baz=108
E23K Chandalar 64.84 339 P P 17 55 05.3 +1.2
baz=115
N18K Kilae Creek 64.85 331 P P 17 55 04.7 +0.6
baz=106
H21K Melozitna Rive 65.07 336 P P 17 55 05.6 +0.1
baz=111
TOLK Toolik Lake Re 65.07 340 P P 17 55 06.1 +0.6
baz=115
J20K Nowinta River 65.11 335 P P 17 55 06.0 +0.2
baz=109
C24K Franklin Bluff 65.27 341 P P 17 55 07.4 +0.7
baz=116
F22K John River 65.51 338 P P 17 55 08.9 +0.5
baz=112
E22K Anaktuvuk Pass 65.63 339 P P 17 55 09.5 +0.4
baz=113
G21K Allakaket 65.64 337 P P 17 55 09.9 +0.8
baz=110
J19K Poorman 65.67 334 P P 17 55 09.5 +0.1
baz=107
H20K Anotleneega Mo 65.83 336 P P 17 55 10.6 +0.2
baz=109
F21K Alatna River 65.88 338 P P 17 55 11.6 +0.9
baz=111,SNR=8.1
C23K Itkillik River 65.92 341 P P 17 55 11.6 +0.8
baz=115
J18K Innoko River 65.98 334 P P 17 55 12.3 +0.9
baz=106
D22K Ayikyak River 66.21 340 P P 17 55 13.8 +1.0
baz=112
L17K Donlin 66.34 332 P P 17 55 14.5 +0.9
baz=104
H19K Roundabout Mou 66.46 336 P P 17 55 14.5 +0.1
baz=107
F20K Avaraart Lake 66.65 337 P P 17 55 16.1 +0.6
baz=108
E20K Nigu River 67.20 339 P P 17 55 19.9 +0.8
baz=108
D20K Etivluk River 67.49 339 P P 17 55 21.4 +0.5
baz=108
N14K Kuskokwak Cree 67.50 329 P P 17 55 22.3 +1.3
baz=100
J16K Anvik River 67.64 333 P P 17 55 22.8 +0.9
baz=102
M14K Bethel 67.77 330 P P 17 55 24.3 +1.5
baz=100
K15K Wolf Creek Mou 67.85 332 P P 17 55 24.6 +1.3
baz=101
D19K Kuna River 67.95 339 P P 17 55 24.4 +0.6
baz=107
B20K Meade River 68.08 340 P P 17 55 25.3 +0.8
baz=108
USHA Ushuaia 71.92 166 LR LR 18 23 46.8
comp=Z,711nm,18.4s,baz=274,slow=33
JMIC Jan Mayen 74.03 20 LR LR 18 28 56.0
comp=Z,47nm,18.7s,baz=78,slow=36
EKA Eskdalemuir Ar 77.23 36 P P 17 56 17.4 -1.6
comp=Z,5.5nm,0.5s,baz=274,slow=6.0,SNR=27
comp=Z,5.5nm,0.5s
ESDC Sonseca Array 79.02 52 P P 17 56 27.1 -2.1
comp=Z,0.8nm,0.6s,baz=283,slow=5.8,SNR=8.9
comp=Z,0.8nm,0.6s
SPITS Spitsbergen Ar 79.40 12 P P 17 56 29.8 -0.8
comp=Z,7.4nm,0.9s,baz=186,slow=0.8,SNR=6.9
comp=Z,7.4nm,0.9s
MDT Midelt 79.73 59 LR LR 18 27 09.8
comp=Z,11nm,18.1s,baz=322,slow=32
NB2 NORSAR Subarra 83.41 29 P P 17 56 51.2 -0.8
comp=Z,6.0nm,1.1s,baz=288,slow=5.3
NOA NORSAR Array B 83.41 29 P P 17 56 50.9 -1.2
comp=Z,0.9nm,0.7s,baz=289,slow=5.2,SNR=4.3
NOA LR LR 18 32 36.3
comp=Z,11nm,21.5s,baz=325,slow=35
comp=Z,0.9nm,0.7s
HFS Hagfors 84.87 29 P P 17 56 58.1 -1.2
comp=Z,1.7nm,0.6s,baz=248,slow=11,SNR=4.5
HFS LR LR 18 33 19.7
comp=Z,19nm,20.6s,baz=342,slow=34
comp=Z,1.7nm,0.6s
ARCES ARCESS Array B 85.42 18 P P 17 57 00.9 -1.1
comp=Z,1.4nm,0.6s,baz=298,slow=2.6,SNR=6.7
ARCES LR LR 18 34 27.6
comp=Z,29nm,21.2s,baz=306,slow=35
comp=Z,1.4nm,0.6s
FINES FINESS Array B 89.77 25 LR LR 18 39 34.5
comp=Z,13nm,19.4s,baz=275,slow=37
KURBB Kurchatov Arra 114.46 7 PKP PKiKP 18 03 03.2 -0.9
comp=Z,0.2nm,0.3s,baz=358,slow=2.0,SNR=6.1
KSRS Korea Array 116.26 326 PKP PKPdf 18 03 06.8 -1.1
comp=Z,1.1nm,0.5s,baz=1.5,slow=1.7,SNR=2.9
MKAR Makanchi Array 118.62 5 PKP PKPdf 18 03 11.1 -1.2
comp=Z,0.5nm,0.7s,baz=334,slow=2.7,SNR=2.7
BOSA Boshof 120.26 115 PKP PKPdf 18 03 15.9 -0.1
comp=Z,3.4nm,0.6s,baz=279,slow=2.4,SNR=6.3
MAW Mawson 124.50 168 PKP PKPdf 18 03 23.3 +0.5
comp=Z,1.0nm,0.5s,baz=207,slow=3.0,SNR=7.3
WRA Warramunga Arr 135.93 256 PKP PKPdf 18 03 46.7 +0.7
comp=Z,1.6nm,0.6s,baz=88,slow=2.5,SNR=19
ASAR Alice Springs 136.24 251 PKP PKPdf 18 03 47.0 +0.5
comp=Z,1.1nm,0.8s,baz=103,slow=1.8,SNR=11
CMAR Chiang Mai Arr 145.53 342 PKPbc PKPdf 18 04 03.3 0.0
comp=Z,8.2nm,0.6s,baz=335,slow=3.3,SNR=66

---

*IDC **12** 17:50:17.7±1.2, 13°.98N×145°.56E, h83km±8km, mb3.9/16, mbtmp4.2/16, MS2.7/1, Error ellipse: s-maj=23.2km s-min=14.0km az=93.0*
*NEIC **12** 17:50:19.3±1.2, 14°.0N±0°.1×145°.5E±0°.1, h95km±7km, mb4.4/31, Error ellipse: s-maj=16.9km s-min=14.7km az=159.0*
ISC 12 17:50:19.2±0.5, **13°.89N**±0°.08×**145°.46E**±0°.09, **h100**km, **n71**, σ0.76/66, **mb4.2**/30, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.64**	**242**	P	**Pn**	**17 50 35.8**	**-0.4**
	5μm,0.3s,baz=72,slow=3.2,SNR=2010						
GUMO				LR	LR	17 50 42.1	
	comp=Z,131nm,19.1s,baz=111,slow=32						
GUMO				S	**Sn**	**17 50 47.9**	**-0.9**
	5μm,0.3s,baz=90,slow=22,SNR=12						
PATS	**Pohnpei**	**14.45**	**118**	Pn	**Pn**	**17 53 37.6**	**-1.5**
SIJI	**Sorong**	**20.31**	**225**	P	**P**	**17 54 49.1**	**+1.7**
	42nm,1.1s,baz=31,slow=9.5,SNR=14						
	42nm,1.1s						
DAV	**Davao City (W)**	**20.68**	**253**	LR	LR	18 01 59.8	
	comp=Z,20nm,21.6s,baz=106,slow=34						
H11S3	**WAKE ISLAND Hy**	**20.89**	**75**	T	T	18 16 32.2	
	baz=263,slow=74,SNR=15						
H11S1	**WAKE ISLAND Hy**	**20.91**	**74**	T	T	18 16 55.7	
	baz=263,slow=74,SNR=20						
H11S2	**WAKE ISLAND Hy**	**20.91**	**75**	T	T	18 16 33.2	
	baz=263,slow=74,SNR=12						
FAKI	**Fak Fak**	**21.22**	**219**		**P**	**17 54 58.2**	**+1.0**
FAKI				IAmb	IAmb	17 55 01.4	
	comp=Z,24nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**21.31**	**71**	T	T	18 16 56.9	
	baz=260						
H11N2	**WAKE ISLAND Hy**	**21.32**	**71**	T	T	18 16 58.0	
	baz=260						
H11N3	**WAKE ISLAND Hy**	**21.33**	**71**	T	T	18 16 58.7	
	baz=260						
MJAR	**Matsushiro Arr**	**23.47**	**345**	P	**P**	**17 55 19.6**	**-0.3**

comp=Z,1.3nm,0.6s,baz=182,slow=5.1,SNR=5.4
comp=Z,1.3nm,0.6s
LUWI Luwuk 26.93 238 P P 17 55 49.6 -1.8
KSRS Korea Array 28.19 330 P P 17 56 02.2 -0.1
comp=Z,1.8nm,0.5s,baz=146,slow=9.4,SNR=7.7
comp=Z,1.8nm,0.5s
KNRA Kununurra 33.70 210 P P 17 56 51.4 +0.4
SBUM Sibu 34.75 254 P P 17 56 59.8 -0.4
SBUM IAmb IAmb 17 57 01.2
comp=Z,4.6nm,0.6s
WB0 Warramunga Arr 35.17 198 P P 17 57 04.0 +0.3
WB0 IAmb IAmb 17 57 05.0
comp=Z,5.7nm,0.8s
WR0 Warramunga Arr 35.31 198 P P 17 57 05.2 +0.3
WR0 IAmb IAmb 17 57 06.7
comp=Z,4.0nm,0.6s
WB2 Warramunga Arr 35.35 198 P P 17 57 05.3 +0.1
WB2 IAmb IAmb 17 57 07.1
comp=Z,8.1nm,0.8s
WRA Warramunga Arr 35.35 198 P P 17 57 05.1 -0.2
WRA Warramunga Arr 35.35 198 P P 17 57 06.0 +0.7
comp=Z,4.7nm,0.7s,baz=21,slow=9.8,SNR=46
WRA PcP **PcP 17 59 34.5 +1.0**
comp=Z,0.5nm,0.6s,baz=16,slow=3.3,SNR=4.8
comp=Z,4.7nm,0.7s
JAGI Jajag, Banyuwa 38.19 236 P P 17 57 29.0 -0.4
AS31 Alice Springs 39.00 197 P 17 57 36.6 +0.5
AS31 IAmb IAmb 17 57 39.3
comp=Z,1.5nm,0.6s
ASAR Alice Springs 39.00 197 P P 17 57 36.3 +0.3
ASAR Alice Springs 39.00 197 P P 17 57 36.8 +0.7
comp=Z,1.3nm,0.5s,baz=23,slow=12,SNR=62
comp=Z,1.3nm,0.5s
CMAR Chiang Mai Arr 44.81 282 P P 17 58 24.5 +0.9
CMAR Chiang Mai Arr 44.81 282 P P 17 58 24.1 +0.6
comp=Z,1.6nm,0.6s,baz=85,slow=6.1,SNR=19
CMAR PcP **PcP 18 00 05.3 +1.3**
comp=Z,1.3nm,0.6s,baz=89,slow=1.9,SNR=11
comp=Z,1.6nm,0.6s
STKA Stephens Creek 45.66 185 P P 17 58 29.8 -0.1
SONM Songino Array 46.82 324 P P 17 58 39.1 0.0
SONM Songino Array 46.82 324 P P 17 58 39.4 +0.3
comp=Z,0.6nm,0.3s,baz=147,slow=7.4,SNR=10
comp=Z,0.6nm,0.3s
BBOO Buckleboo 47.30 191 P P 17 58 43.9 +1.2
FORT Forrest 47.46 200 P P 17 58 44.3 +0.3
LSA Lhasa 52.37 297 P P 17 59 21.8 -0.1
TAPN Taplejung 55.25 294 *eP* **P 17 59 42.9 +0.1**
comp=Z,14nm,1.1s
RAMN Ramite 56.23 293 *eP* **P 17 59 49.9 +0.2**
comp=Z,2.6nm,0.4s
JIRN Jiri 56.61 294 *eP* **P 17 59 52.2 -0.3**
comp=Z,4.0nm,0.4s
GUN Gumba 56.89 294 *eP* **P 17 59 54.1 -0.4**
comp=Z,7.9nm,0.4s
PKI Pulchoki 57.30 294 *eP* **P 17 59 56.7 -0.7**
comp=Z,13nm,1.1s
GKN Gorkha 57.99 294 *eP* **P 18 00 01.5 -0.5**
comp=Z,5.7nm,0.4s
DANN Dangsing 58.77 295 *eP* **P 18 00 07.2 -0.4**
comp=Z,7.4nm,0.4s
PYUN Piuthan 59.44 295 *eP* **P 18 00 12.1 0.0**
comp=Z,3.7nm,0.5s
MK31 Makanchi Array 61.67 316 P P 18 00 27.3 +0.5
MK31 IAmb IAmb 18 01 02.3
comp=Z,2.6nm,1.2s
MKAR Makanchi Array 61.67 316 P P 18 00 26.7 0.0
MKAR Makanchi Array 61.67 316 P P 18 00 27.0 +0.2
comp=Z,1.2nm,0.3s,baz=89,slow=8.8,SNR=28
comp=Z,1.2nm,0.3s
ZALV Zalesovo Beam 61.71 324 P P 18 00 26.3 -0.5
ZALV Zalesovo Beam 61.71 324 P P 18 00 27.5 +0.7
comp=Z,0.6nm,0.3s,baz=84,slow=5.5,SNR=4.2
comp=Z,0.6nm,0.3s
KURK Kurchatov 64.72 320 P P 18 00 46.1 -0.7
KURK IAmb IAmb 18 01 23.0
comp=Z,2.7nm,0.8s
KURBB Kurchatov Arra 64.77 320 P P 18 00 47.7 +0.7
comp=Z,1.5nm,0.4s,baz=102,slow=6.7,SNR=20
comp=Z,1.5nm,0.4s
CAST Castle Rocks 65.48 26 P P 18 00 51.7 +0.2
CAST IAmb IAmb 18 00 56.7
comp=Z,5.9nm,1.0s
PWL Port Wells 66.44 29 P P 18 00 57.6 -0.1
PWL IAmb IAmb 18 01 25.3
comp=Z,8.2nm,1.0s
SML Sawmill 66.68 28 P P 18 00 58.9 -0.3
SML IAmb IAmb 18 01 01.6
comp=Z,10nm,1.0s
BWN Browne 66.82 26 P P 18 01 01.1 +1.2
NIL Nilore 67.72 301 P P 18 01 06.3 0.0
NIL IAmb IAmb 18 01 07.2
comp=Z,5.8nm,0.8s
IL31 68.05 25 P P 18 01 06.7 -1.0
IL31 IAmb IAmb 18 01 08.1
comp=Z,9.8nm,1.4s
ILAR Eielson Array 68.05 25 P P 18 01 06.2 -1.5
ILAR Eielson Array 68.05 25 P P 18 01 06.3 -1.4
comp=Z,1.1nm,0.5s,baz=253,slow=5.7,SNR=16
comp=Z,1.1nm,0.5s
J26L Joseph Creek 69.39 26 P P 18 01 16.4 +0.2
J26L IAmb IAmb 18 01 18.1
comp=Z,2.2nm,0.8s
KK31 Karatay Array 69.69 311 P P 18 01 18.3 0.0
KKAR Karatay Array 69.69 311 P P 18 01 17.7 -0.6
L27K Beaver Creek, 69.89 28 P P 18 01 19.9 +0.6
BCAR Beaver Creek A 69.91 28 P P 18 01 20.0 +0.6
BVAR Borovoye Array 70.05 322 P P 18 01 20.6 +0.3
comp=Z,1.4nm,0.3s,baz=99,slow=8.1,SNR=16
comp=Z,1.4nm,0.3s
BRVK Borovoye 70.11 322 P P 18 01 19.9 -0.8
M29M Somme Creek 71.35 28 P P 18 01 29.6 +1.4
M29M IAmb IAmb 18 01 30.1
comp=Z,3.4nm,0.8s
ABKAR Akbulak array 76.70 318 P P 18 01 58.4 -1.1
YKA Yellowknife Ar 82.33 27 P P 18 02 29.3 -0.3
comp=Z,1.4nm,0.7s,baz=171,slow=5.5,SNR=5.4
comp=Z,1.4nm,0.7s
NVAR Mina Array Bea 86.29 51 P P 18 02 52.0 +1.5
comp=Z,0.2nm,0.4s,baz=267,slow=4.5,SNR=3.7
comp=Z,0.2nm,0.4s
ARCES ARCESS Array B 86.97 342 P P 18 02 53.4 +0.4
comp=Z,1.1nm,0.5s,baz=63,slow=7.6,SNR=9.1
comp=Z,1.1nm,0.5s
FINES FINESS Array B 91.13 335 P P 18 03 11.8 -0.8
comp=Z,9.1nm,1.2s,baz=69,slow=3.7,SNR=19
comp=Z,9.1nm,1.2s
TORD Torodi Ar. Bea 135.16 305 PKP PKiKP 18 09 29.3 -0.2
comp=Z,0.4nm,0.6s,baz=35,slow=3.1,SNR=4.6
DBIC Dimbokro 144.14 303 PKP PKPbc 18 09 43.4 +0.8
comp=Z,2.3nm,0.4s,baz=62,slow=2.7,SNR=9.2

*ISN **12** 18:21:47.8±0.3,33°.08N×46°.08E,h10km,ML2.3*
*TEH **12** 18:21:49.2,33°.09N×46°.09E,h10km±990km,ML2.5*
ISC 12 18:21:49.4±1.4,33°.19N±0°.10×46°.0E±0°.1,h5km±23km,n5,σ1§87/7,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.09**	**204**	*e*Pg		**Pg**	**18 21 51.0**	**-0.3**
IBDR	baz=105				*e*Sg	**Sg**	**18 21 53.0**	**+0.4**
IBDR	comp=N,710nm,0.4s				AML	AML	18 21 58.8	
IBDR	comp=E,610nm,0.8s				AML	AML	18 21 59.6	
ILBA	**Ilam Banvizeh**	**0.47**	**24**	Pg		**Pg**	**18 21 56.4**	**-2.1**
IGHG	**Ghaleghazi**	**1.24**	**23**	Pg		**Pg**	**18 22 13.9**	**+0.8**
IDHR	**Dehrash**	**1.54**	**13**	Pg		**Pb**	**18 22 19.0**	**+0.4**
IKOM	**Komasi**	**1.61**	**52**	Pg		**Pb**	**18 22 18.9**	**-0.8**
IKOM				Sg		**Sg**	**18 22 43.3**	**+2.0**

*IDC **12** 18:34:12.9±0.9,25°.19N×98°.12E,h0km,mb3.9/8,*
mbtmp3.9/9,ML3.8/1,MS3.4/9,Error ellipse: s-maj=43.9km
s-min=14.0km az=71.0
*NEIC **12** 18:34:12.5±0.6,25°.06N±0°.03×97°.91E±0°.08,h10km±1km,*
mb4.0/10,Error ellipse: s-maj=12.7km s-min=5.7km
az=102.0
ISC 12 18:34:12.5±0.7,25°.00N±0°.07×97°.88E±0°.09,h10km,n44,σ1§61/37,mb4.0/13,MS3.2/8,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MND	**Mandalay**	**3.39**	**209**			**Pn**	**18 35 06.0**	**+0.6**
CRAI	**Chiangrai**	**5.28**	**154**	Pn		**Pn**	**18 35 31.8**	**+0.3**
SHL	**Shillong**	**5.46**	**277**			**Pn**	**18 35 34.2**	**+0.1**
CHTO	**Chiang Mai**	**6.24**	**171**			**Pn**	**18 35 44.9**	**+0.3**
CM31	**Chiang Mai Arr**	**6.59**	**171**	Pn		**Pn**	**18 35 48.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**6.59**	**171**	Pn		**Pn**	**18 35 49.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**6.59**	**171**	Pn		**Pn**	**18 35 53.4**	**+3.9**
	0.5nm,0.3s,baz=347,slow=13,SNR=9.8							
CMAR					Pg	**Pg**	**18 36 16.1**	**-2.6**
	0.8nm,0.3s,baz=348,slow=18,SNR=14							
CMAR					Lg	Lg	18 37 47.1	
	0.9nm,0.3s,baz=337,slow=28,SNR=6.1							
CMAR					LR	LR	18 38 58.2	
	comp=Z,158nm,18.1s,baz=0.0,slow=42							
	1.0nm,0.5s							
LSA	**Lhasa**	**7.60**	**310**			**Pn**	**18 36 03.3**	**-0.4**
TAPN	**Taplejung**	**9.43**	**287**	*e*P		**Pn**	**18 36 28.9**	**+0.1**
	16nm,0.8s							
RAMN	**Ramite**	**10.34**	**283**	*e*P		**Pn**	**18 36 41.6**	**+0.5**
	16nm,0.7s							
JIRN	**Jiri**	**10.82**	**287**	*e*P		**Pn**	**18 36 48.4**	**+0.6**
	7.5nm,0.6s							
GUN	**Gumba**	**11.14**	**288**	*e*P		**Pn**	**18 36 52.7**	**+0.5**
	13nm,0.7s							
PKI	**Pulchoki**	**11.48**	**286**	*e*P		**Pn**	**18 36 56.4**	**-0.5**
	12nm,0.8s							
PKIN	**Phulchoki**	**11.49**	**286**	*e*P		**Pn**	**18 36 56.7**	**-0.3**
	8.8nm,0.6s							
ENH	**Enshi**	**11.55**	**60**	Pn		**Pn**	**18 36 56.6**	**-0.9**
GKN	**Gorkha**	**12.23**	**287**	*e*P		**Pn**	**18 37 06.7**	**-0.3**
	8.8nm,0.7s							
PYUN	**Piuthan**	**13.68**	**286**	*e*P		**Pn**	**18 37 25.7**	**-1.1**
	4.9nm,0.6s							
TARG	**Taragay, Kyrgy**	**23.56**	**320**	P		**P**	**18 39 19.7**	**-3.9**
TARG					IAmb	IAmb	18 39 32.4	
	comp=Z,4.5nm,0.8s							
SONM	**Songino Array**	**23.76**	**14**	P		**P**	**18 39 25.0**	**-0.2**
SONM	**Songino Array**	**23.76**	**14**	P		**P**	**18 39 24.9**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=196,slow=10,SNR=7.8							
	comp=Z,1.2nm,0.7s							
ULN	**Ulaanbaatar**	**23.95**	**15**	P		**P**	**18 39 26.0**	**-1.0**
ULN					IAmb	IAmb	18 39 29.3	
	comp=Z,3.1nm,0.8s							
NRN	**Naryn**	**24.46**	**317**	P		**P**	**18 39 31.3**	**-0.7**
NRN					IAmb	IAmb	18 39 49.9	
	comp=Z,1.4nm,0.5s							
MK31	**Makanchi Array**	**25.06**	**334**	P		**P**	**18 39 34.8**	**-2.2**
MK31					IAmb	IAmb	18 39 40.7	
	comp=Z,3.5nm,0.9s							
MKAR	**Makanchi Array**	**25.06**	**334**	P		**P**	**18 39 35.0**	**-1.9**
MKAR	**Makanchi Array**	**25.06**	**334**	P		**P**	**18 39 38.1**	**+1.2**
	comp=Z,3.2nm,0.8s,baz=138,slow=9.3,SNR=17							
	comp=Z,3.2nm,0.8s							
KBL	**Kabul**	**26.70**	**298**	P		**P**	**18 39 49.2**	**-3.0**
BTK	**Batken**	**27.18**	**310**	P		**P**	**18 39 55.2**	**-1.1**
BTK					IAmb	IAmb	18 40 03.9	
	comp=Z,3.4nm,0.8s							
KSRS	**Korea Array**	**28.40**	**57**	LR		LR	18 52 36.9	
	comp=Z,43nm,18.4s,baz=245,slow=39							
KURBB	**Kurchatov Arra**	**29.62**	**335**	P		**P**	**18 40 19.2**	**+1.4**
	comp=Z,2.4nm,0.2s,baz=52,slow=13,SNR=4.1							
	comp=Z,2.4nm,0.2s							
JNU	**Nakatsue**	**29.86**	**67**	LR		LR	18 53 13.3	
	comp=Z,60nm,21.1s,baz=224,slow=38							
ZAA0	**Zalesovo Array**	**30.51**	**345**	P		**P**	**18 40 24.9**	**-0.8**
ZALV	**Zalesovo Beam**	**30.51**	**345**	P		**P**	**18 40 24.7**	**-1.0**
ZALV	**Zalesovo Beam**	**30.51**	**345**	P		**P**	**18 40 26.4**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=168,slow=8.8,SNR=12							
	comp=Z,2.2nm,0.6s							
BVAR	**Borovoye Array**	**34.80**	**331**	P		**P**	**18 41 04.8**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=135,slow=9.2,SNR=5.3							
	comp=Z,0.8nm,0.7s							
MJAR	**Matsushiro Arr**	**36.27**	**62**	LR		LR	18 58 32.6	
	comp=Z,30nm,18.2s,baz=97,slow=41							
ABKAR	**Akbulak array**	**38.15**	**319**	P		**P**	**18 41 32.8**	**+0.9**
JCJ	**Chichijima**	**39.71**	**77**	LR		LR	18 58 32.2	
	comp=Z,29nm,18.1s,baz=91,slow=37							
BELG	**Belogornoye**	**46.55**	**320**	LR		LR	19 04 30.0	
	comp=Z,45nm,19.4s,baz=162,slow=39							
KBZ	**Khabaz**	**48.17**	**307**	LR		LR	19 05 58.7	
	comp=Z,26nm,18.5s,baz=54,slow=40							
KVAR	**Kislovodsk Arr**	**48.33**	**307**	LR		LR	19 05 11.6	
	comp=Z,36nm,20.9s,baz=7.0,slow=38							
WRA	**Warramunga Arr**	**57.04**	**138**	P		**P**	**18 44 00.7**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=327,slow=7.5,SNR=10							
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**59.66**	**141**	P		**P**	**18 44 19.5**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=323,slow=7.2,SNR=4.6							
	comp=Z,0.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**90.02**	**284**	P		**P**	**18 47 15.7**	**+2.7**
	comp=Z,0.2nm,0.7s,baz=60,slow=5.1,SNR=1.3							
	comp=Z,0.2nm,0.7s							
KOWA	**Kowa**	**94.39**	**288**	LR		LR	19 33 40.6	
	comp=Z,107nm,20.7s,baz=114,slow=38							

*NEIC **12** 18:36:15.2±0.6, 19°.368N±0°.009×155°.23W±0°.01,*
h3km±2km,Error ellipse: s-maj=1.9km s-min=1.0km
az=60.0
HVO 12 18:36:14.4±0.3,19°.372N±0°.010×155°.220W±0°.009,h3km±2km,ML2.8/25,ML2.1/46(NEIC),Error ellipse: s-maj=1.6km s-min=1.0km az=219.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.01**	**64**	Pg		Pg	18 36 15.3	+0.2
PUH					IAML		18 36 15.6	
	comp=E,5μm,0.2s							
PUH					IAML		18 36 15.7	
	comp=N,5μm,0.1s							
KNHH	**Kane Nui o Ham**	**0.05**	**81**			Pg	18 36 16.1	+0.6
KKO	**Keanakako`i**	**0.05**	**301**	Pg		Pg	18 36 16.2	+0.6
BYL	**Byron's Ledge**	**0.06**	**317**	Pg		Pg	18 36 16.2	+0.6
BYL						Sg	18 36 16.4	-0.1
RIM	**Rim**	**0.06**	**295**			Pg	18 36 16.4	+0.8
RIM					IAML		18 36 17.5	
	comp=N,3μm,0.3s							
HATHI	**Halema'uma'u T**	**0.06**	**323**			Pg	18 36 16.6	+0.8
NPH	**North Pit**	**0.07**	**305**			Pg	18 36 16.5	+0.6
SBLHI	**Steaming Bluff**	**0.07**	**321**			Pg	18 36 16.2	+0.3
SDHHI	**Sand Hill**	**0.07**	**284**			Pg	18 36 16.5	+0.6
SDHHI	**Sand Hill**	**0.07**	**284**			Sg	18 36 18.6	+1.6
OBL	**Observatory Le**	**0.07**	**307**	Pg		Pg	18 36 17.1	+1.1
OBL					IAML		18 36 18.4	
	comp=N,2μm,0.6s							
UWB	**Uwekahuna B**	**0.08**	**314**			Pg	18 36 16.7	+0.7
UWB					IAML		18 36 18.1	
	comp=E,945nm,0.4s							
UWB					IAML		18 36 18.2	
	comp=N,840nm,0.4s							
WRMHI	**West Rim**	**0.08**	**295**			Pg	18 36 16.8	+0.7
WRMHI					IAML		18 36 19.0	
	comp=E,2μm,0.6s							
WRMHI	**West Rim**	**0.08**	**295**			Sg	18 36 18.9	+1.6
WRMHI	**West Rim**	**0.08**	**295**	IAML			18 36 18.9	
	comp=N,3μm,0.8s							
UWE	**Uwekahuna**	**0.08**	**305**			Pg	18 36 16.9	+0.8
UWE						Sg	18 36 18.9	+1.6
UWE	**Uwekahuna**	**0.08**	**305**	IAML			18 36 19.0	
	comp=N,968nm,0.3s							
UWE					IAML		18 36 19.4	
	comp=E,1μm,0.3s							
STCH	**Steam Cracks**	**0.09**	**82**			Pg	18 36 16.9	+0.6
STCH	**Steam Cracks**	**0.09**	**82**	IAML			18 36 19.3	
	comp=N,944nm,0.3s							
STCH					IAML		18 36 19.6	
	comp=E,1μm,0.1s							
RSD	**Rainshed**	**0.11**	**329**	Pg		Pg	18 36 16.8	+0.2
RSD					IAML		18 36 19.5	
	comp=E,1μm,0.9s							
NPOC	**North of Pu'u**	**0.11**	**79**			Pg	18 36 16.8	+0.3
NPOC					IAML		18 36 20.2	
	comp=E,623nm,0.5s							
NPOC					IAML		18 36 20.2	
	comp=N,597nm,0.6s							
HLP	**Hilina Pali**	**0.11**	**228**			Pg	18 36 17.4	+0.8
HLP						Sg	18 36 19.8	+1.6
HLP	**Hilina Pali**	**0.11**	**228**	IAML			18 36 19.9	
	comp=N,2μm,0.2s							
HLP					IAML		18 36 20.0	
	comp=E,2μm,0.3s							
JCUZ	**Jacuzzi**	**0.11**	**84**			Pg	18 36 17.3	+0.7
JCUZ	**Jacuzzi**	**0.11**	**84**	IAML			18 36 19.6	
	comp=E,424nm,0.3s							
JCUZ					IAML		18 36 19.8	
	comp=N,660nm,0.6s							

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.20**	**308**			Pg	18 36 19.0	+0.7
MLH						Sg	18 36 22.5	+1.6
MLH	**Mauna Loa**	**0.20**	**308**	IAML			18 36 22.9	
	comp=N,281nm,0.8s							
MLH					IAML		18 36 23.2	
	comp=E,276nm,0.7s							
JOKA	**Jonika Flow**	**0.21**	**73**			Pg	18 36 18.9	+0.4
HTC	**Hot Caves**	**0.21**	**231**			Pg	18 36 19.2	+0.7
AIN	**Ainahou**	**0.22**	**270**			Pg	18 36 19.5	+0.7
AIN						Sg	18 36 23.2	+1.4
AIN	**Ainahou**	**0.22**	**270**	IAML			18 36 23.9	
	comp=E,338nm,0.3s							
AIN					IAML		18 36 24.0	
	comp=N,442nm,0.3s							
HMH	**Humu'ula Sheep**	**0.34**	**313**			Sg	18 36 26.6	+1.1
HMH	**Humu'ula Sheep**	**0.34**	**313**	Pg		Pg	18 36 21.2	+0.2
HMH	**Humu'ula Sheep**	**0.34**	**313**	IAML			18 36 28.4	
	comp=E,132nm,0.3s							
HMH					IAML		18 36 32.5	
	comp=N,136nm,1.5s							
MLOA	**Mauna Loa Obse**	**0.37**	**296**	Pg		Pg	18 36 21.8	+0.1
MLOA					IAML		18 36 29.3	
	comp=E,136nm,0.2s							
MLOA					IAML		18 36 32.0	
	comp=N,187nm,1.4s							
MWH	**Moku'aweowe**	**0.37**	**288**			Pg	18 36 22.0	+0.3
MWH	**Moku'aweowe**	**0.37**	**288**	IAML			18 36 33.0	
	comp=N,329nm,1.1s							
MWH					IAML		18 36 35.0	
	comp=E,300nm,1.0s							
KHU	**Kahuku**	**0.39**	**251**			Pg	18 36 22.7	+0.7
KHU						Sb	18 36 29.1	-1.6
KHU	**Kahuku**	**0.39**	**251**	IAML			18 36 30.6	
	comp=N,245nm,2.9s							
KHU					IAML		18 36 32.4	
	comp=E,198nm,1.6s							
ALEP	**Alea Permanent**	**0.43**	**293**			Pg	18 36 22.8	0.0
HUH	**Hualalai**	**0.66**	**298**			Pg	18 36 27.1	+0.1
CPH	**Captain Cook**	**0.67**	**280**			Pg	18 36 26.7	-0.5

*IDC **12** 18:56:58.1±2.7,6°.65S×128°.45E,h0km,mb4.4/1,*
mbtmp3.8/3,ML3.7/2,Error ellipse: s-maj=311.5km
s-min=30.3km az=66.0
*NEIC **12** 18:57:12.0±2.5,6°.38S±0°.08×129°.7E±0°.1,h124km±10km,*
mb4.2/7,Error ellipse: s-maj=16.3km s-min=11.3km
az=89.0
ISC 12 18:57:12.7±0.7,6°.52S±0°.08×129°.82E±0°.08,h146km,n30,σ1§91/30,mb4.2/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.06**	**135**	Pn		**Pn**	**18 57 49.3**	**+1.0**
SAUI	**Saumlaki**	**2.06**	**135**	P		**Pn**	**18 57 49.6**	**+1.3**
FAKI	**Fak Fak**	**4.32**	**34**	Pn		**Pn**	**18 58 16.4**	**-0.6**
FAKI	**Fak Fak**	**4.32**	**34**	P		**Pn**	**18 58 16.8**	**-0.2**
SOEI	**Soe**	**6.37**	**239**	Pn		**Pn**	**18 58 43.6**	**-0.8**
SOEI	**Soe**	**6.37**	**239**	P		**Pn**	**18 58 45.6**	**+1.1**
MTN	**Manton Dam**	**6.42**	**168**	Pn		**Pn**	**18 58 43.0**	**-1.9**
MTN	**Manton Dam**	**6.42**	**168**	P		**Pn**	**18 58 43.4**	**-1.5**
KDU	**Kakadu**	**6.66**	**157**	P		**Pn**	**18 58 46.0**	**-2.2**
KNRA	**Kununurra**	**9.16**	**186**	Pn		**Pn**	**18 59 18.6**	**-3.0**
KNRA	**Kununurra**	**9.16**	**186**	P		**Pn**	**18 59 18.8**	**-2.8**
WB0	**Warramunga Arr**	**13.90**	**162**	Pn		**Pn**	**19 00 22.1**	**-1.5**
WRA	**Warramunga Arr**	**14.05**	**162**	Pn		**Pn**	**19 00 24.0**	**-1.4**
WRA	**Warramunga Arr**	**14.05**	**162**	Pn		**Pn**	**19 00 23.3**	**-2.1**
	0.4nm,0.3s,baz=335,slow=13,SNR=5.9							
WRA					Sn	Sn	19 02 47.2	-14
	0.9nm,0.3s,baz=344,slow=21,SNR=7.7							
	0.5nm,0.4s							
WB2	**Warramunga Arr**	**14.05**	**162**	Pn		**Pn**	**19 00 23.8**	**-1.6**
WR0	**Warramunga Arr**	**14.12**	**162**			**Pn**	**19 00 24.5**	**-1.9**
COEN	**Coen**	**15.07**	**120**	Pn		**Pn**	**19 00 35.8**	**-2.5**
COEN				IAmb	IAmb	IAmb	19 01 17.9	
	comp=Z,17nm,1.2s							
COEN	**Coen**	**15.07**	**120**	P		**Pn**	**19 00 37.5**	**-0.7**
QIS	**Mount Isa**	**16.87**	**147**	P		**P**	**19 00 58.1**	**-1.9**
ASAR	**Alice Springs**	**17.50**	**167**	P		**P**	**19 01 06.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=344,slow=9.8,SNR=8.8							
ASAR					S	S	19 04 11.1	-10
	comp=Z,0.5nm,0.5s,baz=321,slow=15,SNR=2.6							
	comp=Z,0.5nm,0.5s							
PSA00	**Pilbara Seismi**	**17.81**	**212**			**P**	**19 01 08.9**	**-1.2**
PSA00					IAmb	IAmb	19 01 23.2	
	comp=Z,15nm,1.3s							
WRKA	**Warakurna**	**18.47**	**184**	P		**P**	**19 01 16.5**	**-1.0**
MULG	**Mulgathing**	**23.97**	**171**	P		**P**	**19 02 12.7**	**-1.0**
CAN	**Canberra**	**33.66**	**151**	P		**P**	**19 03 42.0**	**+2.4**
CASY	**Casey**	**61.15**	**189**	P		**P**	**19 07 14.1**	**+2.9**
CASY				IAmb	IAmb	IAmb	19 07 26.5	
	comp=Z,5.8nm,1.5s							
MK31	**Makanchi Array**	**67.73**	**327**	P		**P**	**19 07 52.9**	**-1.5**
MKAR	**Makanchi Array**	**67.73**	**327**	P		**P**	**19 07 53.5**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=115,slow=8.1,SNR=28							
	comp=Z,1.7nm,0.4s							
MAKZ	**Makanchi**	**67.91**	**327**	P		**P**	**19 07 54.7**	**-0.8**
MAKZ					IAmb	IAmb	19 08 00.2	
	comp=Z,5.1nm,1.2s							
KKAR	**Karatay Array**	**72.87**	**319**	P		**P**	**19 08 24.6**	**-1.2**
SBA	**Scott Base**	**73.83**	**172**	P		**P**	**19 08 35.0**	**+4.3**
SBA				IAmb	IAmb	IAmb	19 08 39.5	
	comp=Z,3.5nm,1.1s							

IDC 12 18:59:08.6±999.0,64°.31N×23°.05E,h0km,Error ellipse: s-maj=437.8km s-min=185.4km az=118.0,Finland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**10.30**	**131**	I		I	19 55 26.8	
	0.1nm,1.8s,baz=326,slow=315,SNR=22							
I31KZ	**AKTYUBINSK INF**	**23.05**	**110**	I		I	21 21 56.2	
	baz=321,slow=322,SNR=4.7							
I46RU	**ZALESOVO INFRA**	**32.02**	**79**	I		I	22 16 30.0	
	baz=314,slow=330,SNR=1.1							

*VAO **12** 18:59:07.5±0.2,31°.04S×65°.78W,h157km,mb5.6*
*NEIC **12** 18:59:07.7,31°.01S×65°.70W,h170km,Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10^17^Nm; Mrr=0.13; Mθθ=0.73; Mφφ0.86; Mrθ=0.72; Mθφ=-2.39; Mφr=-0.10; Fault plane solution: M0=2.62000×10^17^ NP1: φs=99.90000°, δ84.84000°, λ=-164.45000°. NP2:φs=8.46000°, δ74.51000°, λ=-5.35000°. Principal axes: T 2.6245, Plg7.0000°, Azm233.0000°; N -0.0045, Plg74.0000°, Azm118.0000°; P -2.6200, Plg15.0000°, Azm325.0000°;*
*NEIC **12** 18:59:07.7,31°.01S×65°.58W,h170km*
*SJA **12** 18:59:09.5±0.6,31°.05S×65°.70W,h189km±

ACHE	**Chepes**	**0.94 260**	*eP*	**Pn**	**18 59 37.9**	**+1.1**
APLL	**PUNTA DE LOS L**	**1.02 307**	*eP*	**Pn**	**18 59 38.3**	**+1.0**
MRA	**San Martin**	**1.41 185**	*eP*	**Pn**	**18 59 41.8**	**+1.1**
MRA			IAML		19 00 11.8	
	comp=Z,21μm,0.7s					
PIL	**Pilar**	**1.60 115**	*eP*	Pn	18 59 51.5	+9.1
PIL			IAML		19 00 37.4	
	comp=Z,8μm,1.0s					
AVFE	**Valle Fertil**	**1.65 282**	*eP*	**Pn**	**18 59 43.3**	**+0.3**
AVFE			*eS*	**Sn**	**19 00 08.6**	**0.0**
AVFE			AMP		19 00 10.1	
	comp=Z,994μm,0.3s					
AVFE			IAML		19 00 10.2	
	comp=Z,32μm,0.3s					
ACLC	**CERRO LA CRUZ**	**1.97 323**	*eP*	Pn	18 59 38.8	-7.8
ACLC			IAML		19 00 24.2	
	comp=Z,10μm,0.6s					
CFA	**Coronel Fontan**	**2.35 255**	P	**Pn**	**18 59 50.4**	**-0.2**
	comp=Z,13μm,0.6s,baz=68,slow=11					
CFA			S	**Sn**	**19 00 20.2**	**-1.9**
	comp=Z,44μm,0.3s,baz=342,slow=20,SNR=104					
CFA			LR	LR	19 00 39.5	
	comp=Z,6μm,21.2s,baz=272,slow=38					
CFA	**Coronel Fontan**	**2.35 255**	*eP*	**Pn**	**18 59 50.2**	**-0.4**
CFA			*eS*	**Sn**	**19 00 20.6**	**-1.6**
CFA			IAML		19 00 22.8	
	comp=Z,46μm,0.3s					
RTLL	**Cerro Villicun**	**2.50 262**	*eP*	**Pn**	**18 59 52.2**	**-0.2**
RTLL			IAML		19 00 27.5	
	comp=Z,32μm,0.4s					
CYA	**Choya**	**2.56 356**	*eP*	**Pn**	**18 59 54.0**	**+0.8**
CYA	**Choya**	**2.56 356**	*eP*	**Pn**	**18 59 53.8**	**+0.6**
CYA			*eS*	**Sn**	**19 00 27.6**	**+0.8**
CYA			IAML		19 00 28.7	
	comp=Z,14μm,0.8s					
SJA	**San Juan**	**2.60 258**	*eP*	**Pn**	**18 59 53.6**	**0.0**
SJA			*eS*	**Sn**	**19 00 27.6**	**+0.1**
SJA			IAML		19 00 29.8	
	comp=Z,29μm,0.5s					
ZON	**Zonda**	**2.71 258**		**Pn**	**18 59 54.6**	**-0.2**
ZON	**Zonda**	**2.71 258**	P	**Pn**	**18 59 54.6**	**-0.2**
ZON	**Zonda**	**2.71 258**	*eP*	**Pn**	**18 59 54.4**	**-0.4**
ZON			*eS*	**Sn**	**19 00 28.6**	**-1.1**
ZON			IAML		19 00 32.9	
	comp=Z,22μm,0.3s					
AGUA	**GUANDACOL**	**2.94 300**	*eP*	**Pn**	**18 59 58.4**	**+0.7**
AGUA			*eS*	**Sn**	**19 00 37.2**	**+2.4**
AGUA			IAML		19 00 43.2	
	comp=Z,21μm,0.6s					
DOCA	**Reserva Natura**	**3.01 270**	*eP*	**Pn**	**18 59 58.5**	**-0.3**
ACCO	**Cerro Coronel**	**3.03 277**	*eP*	**Pn**	**18 59 59.0**	**0.0**
ACCO			IAML		19 01 19.8	
	comp=Z,2μm,3.4s					
ACDV	**Cuesta del Vie**	**3.16 284**	*eP*	**Pn**	**19 00 00.9**	**+0.3**
ACDV			*eS*	**Sn**	**19 00 38.7**	**-1.2**
ACDV			IAML		19 00 41.8	
	comp=Z,23μm,0.7s					
ASAL	**Salagasta**	**3.19 239**	*eP*	**Pn**	**19 00 00.2**	**-0.6**
ASAL			IAML		19 01 12.4	
	comp=Z,1μm,0.8s					
VCA	**Vinchina**	**3.21 314**	*eP*	**Pn**	**19 00 02.6**	**+1.4**
VCA	**Vinchina**	**3.21 314**	*eP*	**Pn**	**19 00 02.6**	**+1.4**
VCA			IAML		19 00 51.1	
	comp=Z,12μm,1.1s					
RTLS	**Leoncito**	**3.27 255**	*eP*	**Pn**	**19 00 01.9**	**-0.1**
RTLS			*eS*	**Sn**	**19 00 43.9**	**+1.3**
RTLS			IAML		19 00 46.6	
	comp=Z,25μm,0.3s					
ARCO	**CERRO ARCO**	**3.38 236**	*eP*	**Pn**	**19 00 02.7**	**-0.6**
ARCO			*eS*	**Sn**	**19 00 45.1**	**+0.3**
ARCO			IAML		19 00 48.2	
	comp=Z,15μm,0.6s					
TINO	**Tinogasta**	**3.41 329**	*eP*	**Pn**	**19 00 04.4**	**+0.8**
AAGR	**Agrelo**	**3.45 232**	*eP*	**Pn**	**19 00 03.6**	**-0.4**
AAGR			IAML		19 02 11.6	
	comp=Z,2μm,1.0s					
AROD	**Rodeo**	**3.46 283**	*eP*	**Pn**	**19 00 04.8**	**+0.4**
AVIZ	**Vizcacheras**	**3.50 225**	*eP*	**Pn**	**19 00 04.2**	**-0.4**
CO01	**Juntas del Tor**	**4.03 284**		**Pn**	**19 00 12.1**	**+0.6**
CO01			Sn	**Sn**	**19 00 57.9**	**-1.6**
CO01	**Juntas del Tor**	**4.03 284**	*eP*	**Pn**	**19 00 12.3**	**+0.8**
CO01	**Juntas del Tor**	**4.03 284**	*eP*	**Pn**	**19 00 12.2**	**+0.6**
CO01			*eS*	**Sn**	**19 01 01.9**	**+2.4**
CO01			IAML		19 01 05.1	
	comp=Z,7μm,0.4s					
AHML	**Horco Molle**	**4.21 3**	*eP*	**Pn**	**19 00 14.0**	**+0.2**
CO03	**El Pedregal**	**4.39 271**		**Pn**	**19 00 16.0**	**0.0**
CO03			Sn	**Sn**	**19 01 05.3**	**-2.4**
CO03	**El Pedregal**	**4.39 271**	*eP*	**Pn**	**19 00 16.1**	**0.0**
CO03	**El Pedregal**	**4.39 271**	*eP*	**Pn**	**19 00 16.1**	**+0.1**
CO03			*eS*	**Sn**	**19 01 09.7**	**+2.0**
CO03			IAML		19 01 13.7	
	comp=Z,8μm,0.5s					
MT08	**Bocatoma Ro**	**4.47 236**		**Pn**	**19 00 16.5**	**-0.8**
MT08			Sn	**Sn**	**19 01 03.3**	**-6.5**
MT08	**Bocatoma Ro**	**4.47 236**	*eP*	**Pn**	**19 00 16.4**	**-0.8**
VA03	**San Esteban**	**4.57 246**		**Pn**	**19 00 17.5**	**-0.9**
VA03			Sn	**Sn**	**19 01 10.8**	**-1.1**
VA03	**San Esteban**	**4.57 246**	*eP*	**Pn**	**19 00 18.4**	**+0.1**
VA03			*eS*	**Sn**	**19 01 13.8**	**+1.9**
VA03			IAML		19 01 19.4	
	comp=Z,12μm,0.6s					
GO04	**Tololo Observa**	**4.58 279**		**Pn**	**19 00 18.4**	**-0.2**
GO04	**Tololo Observa**	**4.58 279**	*eP*	**Pn**	**19 00 18.4**	**-0.2**
GO04	**Tololo Observa**	**4.58 279**	*eP*	**Pn**	**19 00 18.2**	**-0.3**
GO04			*eS*	**Sn**	**19 01 13.7**	**+1.5**
AC05	**El Transito**	**4.61 297**		**Pn**	**19 00 19.0**	**0.0**
AC05	**El Transito**	**4.61 297**	*eP*	**Pn**	**19 00 20.0**	**+1.1**
AC05	**El Transito**	**4.61 297**	*eP*	**Pn**	**19 00 20.2**	**+1.3**
AC05			*eS*	**Sn**	**19 01 14.1**	**+1.2**
FCH	**Farellones**	**4.61 239**	*eP*	**Pn**	**19 00 18.1**	**-1.0**
CO02	**Combarbal**	**4.65 266**		**Pn**	**19 00 18.5**	**-0.9**
CO02	**Combarbal**	**4.65 266**	*eP*	**Pn**	**19 00 18.9**	**-0.5**
CO02			*eS*	**Sn**	**19 01 14.9**	**+1.1**
LMEL	**Las Melosas**	**4.83 233**		**Pn**	**19 00 20.7**	**-0.9**
LMEL	**Las Melosas**	**4.83 233**	*eP*	**Pn**	**19 00 20.9**	**-0.8**
MT13	**San Alfonso**	**4.83 234**		**Pn**	**19 00 20.3**	**-1.4**
MT13	**San Alfonso**	**4.83 234**	*eP*	**Pn**	**19 00 19.9**	**-1.7**
PEL	**Peldehue**	**4.83 242**		**Pn**	**19 00 20.2**	**-1.4**
PEL	**Peldehue**	**4.83 242**	P	**Pn**	**19 00 20.2**	**-1.4**
PEL	**Peldehue**	**4.83 242**	*eP*	**Pn**	**19 00 20.2**	**-1.4**
MT03	**Universidad Ad**	**4.86 238**		**Pn**	**19 00 20.9**	**-1.2**
MT03	**Universidad Ad**	**4.86 238**	*eP*	**Pn**	**19 00 20.5**	**-1.5**
MT03	**Universidad Ad**	**4.86 238**	*eS*	**Sn**	**19 01 19.3**	**+0.8**
LCO	**Las Campanas**	**4.87 293**		**Pn**	**19 00 21.8**	**-0.6**
LCO	**Las Campanas**	**4.87 293**	P	**Pn**	**19 00 21.8**	**-0.6**
LCO	**Las Campanas**	**4.87 293**	*eP*	**Pn**	**19 00 21.9**	**-0.4**
LCO	**Las Campanas**	**4.87 293**	*eP*	**Pn**	**19 00 22.1**	**-0.3**
LCO			IAML		19 01 58.8	
	comp=Z,19μm,0.6s					
MT05	**Renca**	**4.97 240**		**Pn**	**19 00 22.2**	**-1.4**
CO05	**La Serena**	**5.00 281**		**Pn**	**19 00 22.6**	**-1.3**
CO05	**La Serena**	**5.00 281**	*eP*	**Pn**	**19 00 22.6**	**-1.3**
ROCH	**El Roble**	**5.01 246**	*eP*	**Pn**	**19 00 22.3**	**-1.9**
ROC1	**El Roble**	**5.02 246**		**Pn**	**19 00 22.5**	**-1.7**
BO04	**La Punta**	**5.18 234**		**Pn**	**19 00 24.8**	**-1.5**
AC02	**Maricunga**	**5.19 322**		**Pn**	**19 00 27.7**	**+0.9**
AC02	**Maricunga**	**5.19 322**	*eP*	**Pn**	**19 00 28.1**	**+1.2**
AC02	**Maricunga**	**5.19 322**	*eP*	**Pn**	**19 00 28.1**	**+1.2**
AC02			IAML		19 02 34.8	
	comp=Z,414nm,0.8s					
CO06	**Fray Jorge**	**5.22 272**	Pn	**Pn**	**19 00 24.3**	**-2.3**
CO06	**Fray Jorge**	**5.22 272**	*eP*	**Pn**	**19 00 24.4**	**-2.3**
MT02	**Curacav**	**5.22 243**		**Pn**	**19 00 24.0**	**-2.7**
GO03	**Copiap**	**5.30 309**		**Pn**	**19 00 27.2**	**-0.6**
GO03	**Copiap**	**5.30 309**	*eP*	**Pn**	**19 00 27.6**	**-0.2**
GO03			*eP*	**Pn**	**19 00 27.6**	**-0.2**
MT09	**Talagante**	**5.34 237**		**Pn**	**19 00 25.9**	**-2.5**
VA01	**Torpederas**	**5.53 247**	Pn	**Pn**	**19 00 27.8**	**-2.9**
VA01	**Torpederas**	**5.53 247**	*eP*	**Pn**	**19 00 28.4**	**-2.2**
VA01			IAML		19 01 32.5	
	comp=Z,3μm,0.7s					
VA01			IAML		19 01 32.5	
	comp=Z,3μm,0.7s					
AC06	**Mina Casimiro**	**5.54 310**	Pn	**Pn**	**19 00 29.8**	**-1.0**
AC06	**Mina Casimiro**	**5.54 310**	*eP*	**Pn**	**19 00 30.2**	**-0.6**
AC04	**Llanos de Chal**	**5.54 299**	Pn	**Pn**	**19 00 28.8**	**-2.1**
AC04	**Llanos de Chal**	**5.54 299**	*eP*	**Pn**	**19 00 30.1**	**-0.8**
AC04	**Llanos de Chal**	**5.54 299**	IAML		19 02 09.4	
	comp=Z,2μm,0.8s					
MT01	**Popeta**	**5.57 238**		**Pn**	**19 00 28.1**	**-3.2**
MT01	**Popeta**	**5.57 238**	*eP*	**Pn**	**19 00 28.6**	**-2.8**
MT01			*eP*	**Pn**	**19 00 28.6**	**-2.8**
MT01			IAML		19 01 33.7	
	comp=Z,2μm,0.8s					
MT01			IAML		19 01 33.7	
	comp=Z,2μm,0.8s					
MT01			IAML		19 01 33.7	
	comp=Z,2μm,0.8s					
BO01	**Tunca**	**5.74 233**	Pn	**Pn**	**19 00 30.4**	**-3.0**
BO01	**Tunca**	**5.74 233**	*eP*	**Pn**	**19 00 30.5**	**-3.0**
VA05	**Santa Domingo**	**5.75 241**		**Pn**	**19 00 30.4**	**-3.2**
BO02	**Sierra Bellavi**	**5.78 228**	Pn	**Pn**	**19 00 32.0**	**-2.0**
BO02	**Sierra Bellavi**	**5.78 228**	*eP*	**Pn**	**19 00 31.8**	**-2.2**
BO03	**Pichilemu**	**6.40 235**	*eP*	**Pn**	**19 00 37.6**	**-4.5**
TICA	**Tres Isletas**	**6.48 46**	*eP*	**Pn**	**19 00 44.0**	**+0.7**
AC01	**Pan de Azucar**	**6.55 316**		**Pn**	**19 00 43.1**	**-1.1**
AC01	**Pan de Azucar**	**6.55 316**	*eP*	**Pn**	**19 00 43.5**	**-0.7**
MECA	**Mercedes**	**6.64 77**	*eP*	**Pn**	**19 00 45.7**	**+0.3**
GO05	**Huala**	**6.66 232**		**Pn**	**19 00 41.3**	**-4.3**
ML02	**Panimavida**	**6.80 224**	Pn	**Pn**	**19 00 44.3**	**-3.2**
ML02	**Panimavida**	**6.80 224**	*eP*	**Pn**	**19 00 44.6**	**-2.9**
GO02	**Mina Guanaco**	**6.81 328**	Pn	**Pn**	**19 00 46.9**	**-1.1**
SCCA	**San Cayetano,**	**6.97 62**	*eP*	**Pn**	**19 00 49.8**	**+0.1**
LPA	**La Plata**	**7.51 123**	*eP*	Pn	19 00 44.5	-12
LPA			sP		19 01 53.6	
LPA			S	**Sn**	**19 02 14.6**	**-6.6**
LPA			PCP	PcP	19 07 08.2	-13
LPA			SCS	**ScS**	**19 14 15.8**	**+5.4**
LPA			PKIKP	**PKiKP**	**19 15 23.0**	**+0.4**
LPA			SKIKP		19 18 53.7	
LPA			PKIKS		19 18 59.6	
LPA			SKIKS		19 22 22.5	
TRQA	**Tornquist**	**7.63 158**	Pn	**Pn**	**19 00 57.3**	**-1.1**
TRQA	**Tornquist**	**7.63 158**	P	**Pn**	**19 00 57.3**	**-1.1**
PB14	**IPOC Station P**	**7.66 325**	Pn	**Pn**	**19 00 57.9**	**-1.3**
ITQB	**Itaqui**	**7.86 83**	Pn	**Pn**	**19 01 01.2**	**-0.2**
ITQB	**Itaqui**	**7.86 83**	*eP*	**Pn**	**19 01 01.6**	**+0.2**
AF01	**San Pedro de A**	**8.35 343**	Pn	**Pn**	**19 01 08.5**	**+0.2**
PB15	**IPOC Station P**	**8.51 335**		**Pn**	**19 01 09.2**	**-1.0**
BI05	**Punta Hualpn**	**8.53 226**		Pn	19 01 04.5	-5.7
CPUP	**Villa Florida**	**8.62 59**	Pn	**Pn**	**19 01 10.5**	**-1.0**
CPUP	**Villa Florida**	**8.62 59**	P	**Pn**	**19 01 10.5**	**-1.0**
CPUP	**Villa Florida**	**8.62 59**	*eP*	**Pn**	**19 01 10.5**	**-1.0**
CPUP	**Villa Florida**	**8.62 59**	P	**Pn**	**19 01 10.8**	**-0.7**
	comp=Z,158nm,0.6s,baz=235,slow=11,SNR=224					
ESFA	**Espinillo Form**	**8.70 48**	*eP*	**Pn**	**19 01 12.7**	**+0.2**
LVC	**Limon Verde**	**8.88 340**	Pn	**Pn**	**19 01 14.7**	**-0.6**
LVC	**Limon Verde**	**8.88 340**	P	**Pn**	**19 01 15.6**	**+0.3**
	comp=Z,171nm,0.5s,baz=152,slow=11,SNR=182					
LVC			S	**Sn**	**19 02 51.7**	**-2.9**
	comp=Z,72nm,0.5s,baz=72,slow=23,SNR=1.3					
RODS	**Rosario do Sul**	**8.97 88**	*eP*	**Pn**	**19 01 15.4**	**-0.7**
PB06	**IPOC Station P**	**9.00 336**	Pn	**Pn**	**19 01 15.8**	**-0.9**
UNIS	**Unistalda (Bra**	**9.31 81**	*eP*	**Pn**	**19 01 21.0**	**+0.4**
PB04	**IPOC Station P**	**9.55 334**	Pn	**Pn**	**19 01 23.0**	**-1.0**
PB09	**IPOC Station P**	**9.74 339**		**Pn**	**19 01 25.8**	**-0.7**
GO06	**Curarrehue**	**9.81 208**	Pn	**Pn**	**19 01 24.1**	**-3.1**
PB07	**IPOC Station P**	**10.02 336**		**Pn**	**19 01 28.3**	**-1.8**
LR03	**Panguipulli**	**10.22 211**		Pn	19 01 27.4	-5.0
PLTB	**Pedras Altas**	**10.27 97**	Pn	**Pn**	**19 01 32.0**	**-1.2**
PLTB	**Pedras Altas**	**10.27 97**	*eP*	**Pn**	**19 01 32.4**	**-0.8**
PB02	**IPOC Station P**	**10.39 337**		**Pn**	**19 01 33.2**	**-1.8**
CPSB	**Cacapava Do Su**	**10.47 90**	*eP*	**Pn**	**19 01 34.8**	**-1.0**
PLCA	**Paso Flores**	**10.51 201**	Pn	**Pn**	**19 01 34.1**	**-2.1**
PLCA	**Paso Flores**	**10.51 201**	*eP*	**Pn**	**19 01 34.6**	**-1.6**
PLCA	**Paso Flores**	**10.51 201**	P	**Pn**	**19 01 35.0**	**-1.2**
	comp=Z,66nm,0.8s,baz=12,slow=12,SNR=88					
PLCA			ScP	**ScP**	**19 10 38.0**	**-2.2**
	comp=Z,7.7nm,0.9s,baz=21,slow=3.8,SNR=3.1					
PB01	**IPOC Station P**	**10.53 340**		**Pn**	**19 01 34.8**	**-1.8**
CRSM	**Crissiumal (Br**	**10.67 74**	*eP*	**Pn**	**19 01 38.5**	**+0.2**
LR04	**Corral**	**10.92 214**		Pn	19 01 34.7	-6.7
PATCX	**Punta Patache**	**10.95 337**		**Pn**	**19 01 39.6**	**-2.5**
ALGR	**Alto Alegre (B**	**11.12 82**	*eP*	**Pn**	**19 01 44.5**	**+0.3**
TA01	**Diego Aracena**	**11.19 337**		**Pn**	**19 01 42.1**	**-3.1**
PB08	**IPOC Station P**	**11.29 343**		**Pn**	**19 01 44.4**	**-2.5**
TA02	**Huaiquique**	**11.45 338**		**Pn**	**19 01 46.5**	**-2.1**
VA04	**Juan Fernndez**	**11.51 253**	Pn	**Pn**	**19 01 46.8**	**-2.5**
LL03	**Petrohue**	**11.51 207**		**Pn**	**19 01 45.5**	**-3.7**
H03N1	**Juan Fernandez**	**11.55 254**	P	**Pn**	**19 01 49.9**	**+0.4**
	baz=124,slow=20,SNR=80					
H03N3	**Juan Fernandez**	**11.56 254**	P	**Pn**	**19 01 50.1**	**+0.5**
	baz=124,slow=20,SNR=77					
H03N2	**Juan Fernandez**	**11.56 254**	P	**Pn**	**19 01 49.1**	**-0.6**
	baz=124,slow=20,SNR=92					
H03S1	**Juan Fernandez**	**11.61 252**	P	**Pn**	**19 01 49.0**	**-1.2**
	baz=47,slow=17,SNR=33					
H03S3	**Juan Fernandez**	**11.61 252**	P	**Pn**	**19 01 49.4**	**-0.9**
	baz=47,slow=17,SNR=74					
H03S2	**Juan Fernandez**	**11.62 252**	P	**Pn**	**19 01 49.1**	**-1.3**
	baz=47,slow=17,SNR=45					
MURT	**Porto Murtinho**	**11.73 39**	*eP*	**Pn**	**19 01 52.2**	**0.0**
GO01	**Chusmiza**	**11.75 343**	Pn	**Pn**	**19 01 50.5**	**-2.5**
FRBT	**Francisco Belt**	**12.10 69**	*eP*	**Pn**	**19 01 57.3**	**+0.4**
MCR1	**Marechal Candi**	**12.12 69**	*eP*	**Pn**	**19 01 58.2**	**+0.9**
LL05	**Los Muermos**	**12.17 209**		Pn	19 01 48.2	-9.5
ITAB	**Concordia**	**12.35 76**	Pn	**Pn**	**19 02 00.2**	**+0.1**
ITAB	**Concordia**	**12.35 76**	*eP*	**Pn**	**19 02 01.1**	**+1.0**
AMBA	**Amambai (Brazi**	**12.40 52**	*eP*	**Pn**	**19 02 01.9**	**+1.1**
ANTJ	**Antonio Joao (**	**12.40 46**	*eP*	**Pn**	**19 02 01.9**	**+1.0**
LL01	**San Ignacio de**	**12.60 204**		Pn	19 01 55.9	-7.2
CNLB	**Canela**	**12.86 86**	*eP*	**Pn**	**19 02 07.7**	**+1.0**
LL06	**Loncomilla**	**12.91 208**		Pn	19 01 59.0	-8.1
PB12	**IPOC Station P**	**13.07 340**	Pn	**Pn**	**19 02 06.2**	**-3.2**
PB16	**IPOC Station P**	**13.11 343**		**Pn**	**19 02 07.1**	**-3.3**
LL02	**Futaleuf**	**13.14 201**		**Pn**	**19 02 06.9**	**-3.1**
BDQN	**Bodoquena, MS**	**13.18 39**	*eP*	**Pn**	**19 02 10.6**	**-0.1**
AP01	**Chacalluta**	**13.30 340**	Pn	**Pn**	**19 02 08.8**	**-3.4**
LL07	**Hotel Espejo d**	**13.38 206**		**Pn**	**19 02 09.3**	**-3.7**
PTGB	**Pitanga**	**13.49 66**	*eP*	**Pn**	**19 02 16.1**	**+1.4**
GO07	**Milladeo Hill,**	**13.69 206**		Pn	19 02 10.7	-6.2
BBRB	**Robore, Bolivi**	**13.71 24**	*eP*	**Pn**	**19 02 17.0**	**-0.5**
AQDB	**Aquidauana**	**13.75 43**	Pn	**Pn**	**19 02 16.2**	**-1.7**
AQDB	**Aquidauana**	**13.75 43**	*eP*	**Pn**	**19 02 17.8**	**-0.1**
PB18	**Visviri**	**13.82 344**		**Pn**	**19 02 20.0**	**+0.7**
TRCB	**Terra Rica**	**14.14 58**	P	**Pn**	**19 02 21.7**	**-1.1**
TRCB	**Terra Rica**	**14.14 58**	*eP*	**Pn**	**19 02 23.8**	**+0.9**
BBSD	**Serra de San D**	**14.48 19**	*eP*	**Pn**	**19 02 26.9**	**-0.2**
AY01	**Puyuhuapi**	**14.50 201**	Pn	**Pn**	**19 02 23.3**	**-3.7**
LPAZ	**La Paz**	**14.84 350**		**Pn**	**19 02 29.2**	**-2.8**
LPAZ	**La Paz**	**14.84 350**	*eP*	**Pn**	**19 02 30.8**	**-1.2**
LPAZ	**La Paz**	**14.84 350**	P	**Pn**	**19 02 31.1**	**-0.9**
	comp=Z,180nm,0.5s,baz=162,slow=9.5,SNR=98					
LPAZ			S	**S**	**19 05 19.4**	**-1.3**
	comp=Z,247nm,1.1s,baz=298,slow=19,SNR=8.1					
LDASE	**Londrina, Braz**	**14.93 63**	*eP*	**P**	**19 02 33.5**	**-0.4**
RPRD	**Ribas do Rio P**	**14.97 48**	*eP*	**P**	**19 02 33.7**	**-0.6**
COYC	**Coyhaique**	**15.40 197**		**Pn**	**19 02 36.6**	**-1.5**
SIV	**San Ignacio**	**15.51 16**	P	**Pn**	**19 02 39.0**	**-0.7**
	comp=Z,284nm,0.6s,baz=194,slow=10,SNR=356					
PCMB	**Pacaembu**	**15.88 57**	*eP*	**Pn**	**19 02 44.2**	**+0.1**
FRTB	**Fartura**	**16.16 66**	*eP*	**P**	**19 02 46.3**	**-1.2**
PP1B	**Ponte de Pedra**	**16.52 39**	*eP*	**Pn**	**19 02 52.1**	**+0.2**
AY02	**Valle Explorad**	**16.54 199**	P	**P**	**19 02 49.4**	**-2.0**
PTLB	**Pontes e Lacer**	**16.57 22**		**P**	**19 02 50.3**	**-1.7**
PTLB	**Pontes e Lacer**	**16.57 22**	*eP*	**P**	**19 02 52.1**	**+0.1**
C2SB	**Chapadao do Su**	**16.78 46**	*eP*	**P**	**19 02 53.9**	**-0.3**
PET01	**Itanhaem-SP**	**17.54 72**	*eP*	**Pn**	**19 03 03.6**	**-0.3**
SALV	**Santo Antonio**	**17.55 33**	*eP*	**P**	**19 03 02.8**	**+0.1**
ITRB	**Iturama**	**17.75 54**	*eP*	**P**	**19 03 05.3**	**+0.3**
BB19B	**Bebedouro**	**18.22 61**	*eP*	**P**	**19 03 09.6**	**-0.5**
RCLB	**Rio Claro- Sao**	**18.24 66**	*eP*	**P**	**19 03 10.9**	**+0.6**
VAO	**Valinhos**	**18.39 66**	*eP*	**Pn**	**19 03 13.4**	**-0.8**
VILB	**Vilhena**	**18.64 17**	P	**P**	**19 03 12.7**	**-2.0**
VILB	**Vilhena**	**18.64 17**	*eP*	**P**	**19 03 13.4**	**-1.3**
PARB	**Paraibuna**	**19.32 72**	*eP*	**P**	**19 03 23.0**	**+1.0**
ARAG	**Araguaiana, MT**	**19.76 43**	*eP*	**P**	**19 03 26.6**	**-0.2**
ESAR	**Angra dos Reis**	**20.43 72**	*eP*	**P**	**19 03 34.6**	**+0.9**
GO09	**Cerro Castillo**	**20.86 192**	P	**P**	**19 03 36.5**	**-1.6**
PDRB	**Porto dos Gac**	**20.97 25**	*eP*	**P**	**19 03 37.9**	**-1.7**
ETMB	**Extrema**	**21.09 358**	P	**P**	**19 03 40.7**	**-0.3**
ETMB	**Extrema**	**21.09 358**	*eP*	**P**	**19 03 41.2**	**+0.3**
BSCB	**Bom Sucesso**	**21.16 67**	*eP*	**P**	**19 03 41.7**	**-0.1**
MG05	**Puerto Natales**	**21.28 192**	P	**P**	**19 03 42.3**	**-0.2**
PMNB	**Patos De Minas**	**21.32 59**	*eP*	**P**	**19 03 43.2**	**-0.3**
EFI	**East Falkland**	**21.38 167**	P	**P**	**19 03 43.6**	**-0.1**
EFI	**East Falkland**	**21.38 167**	P	**P**	**19 03 43.6**	**-0.1**
VAS01	**Vassouras-RJ**	**21.59 72**	*eP*	**P**	**19 03 46.6**	**+0.4**
NNA	**Nana**	**21.60 329**	P	**P**	**19 03 45.8**	**-0.7**
NNA	**Nana**	**21.60 329**	*eP*	**P**	**19 03 46.3**	**-0.1**
NNA	**Nana**	**21.60 329**	P	**P**	**19 03 47.3**	**+0.9**
	comp=Z,209nm,1.0s,baz=177,slow=10,SNR=21					
NNA			ScP	**ScP**	**19 11 02.4**	**+0.5**
	comp=Z,4.2nm,0.3s,baz=111,slow=6.3,SNR=3.8					
	comp=Z,209nm,1.0s					
MG02	**Cerro Sombrero**	**21.92 186**	P	**P**	**19 03 49.5**	**+0.3**
SAML	**Samuel**	**22.06 6**		**P**	**19 03 47.4**	**-3.6**
SAML	**Samuel**	**22.06 6**	P	**P**	**19 03 47.4**	**-3.6**
SAML			pmax	pmax		
	comp=Z,369nm,1.2s					
SAML	**Samuel**	**22.06 6**	*eP*	**P**	**19 03 45.7**	**-5.3**
BDFB	**Brasilia**	**22.18 50**	P	**P**	**19 03 50.8**	**-1.5**
BDFB	**Brasilia**	**22.18 50**	P	**P**	**19 03 51.7**	**-0.6**
	comp=Z,209nm,0.6s,baz=228,slow=8.3,SNR=140					
BDFB			ScP	**ScP**	**19 11 03.6**	**+0.2**
	comp=Z,26nm,1.0s,baz=53,slow=2.7,SNR=3.1					
	comp=Z,209nm,0.6s					
MG04	**Isla Riesco**	**22.27 190**	P	**P**	**19 03 53.0**	**+0.4**
GO10	**Punta Arenas**	**22.49 189**	P	**P**	**19 03 54.8**	**0.0**
DUB01	**Friburgo-RJ**	**22.55 72**	*eP*	**P**	**19 03 55.9**	**+0.3**
SNDB	**Serra Nova Dou**	**23.09 38**	*eP*	**P**	**19 03 59.8**	**-0.7**
DIAM	**Diamantina, MG**	**23.54 63**	*eP*	**P**	**19 04 04.3**	**-0.5**
USHA	**Ushuaia**	**23.90 184**	P	**P**	**19 04 08.4**	**+1.0**
	comp=Z,193nm,0.8s,baz=183,slow=1.2,SNR=30					
	comp=Z,193nm,0.8s					
MG01	**Puerto William**	**23.96 183**	P	**P**	**19 04 06.7**	**-1.3**
CZSB	**Cruzeiro do Su**	**24.10 342**	P	**P**	**19 04 08.6**	**-1.1**
CZSB	**Cruzeiro do Su**	**24.10 342**	*eP*	**P**	**19 04 09.3**	**-0.4**
CZSB	**Cruzeiro do Su**	**24.10 342**	*eP*	**P**	**19 04 09.4**	**-0.3**
ALF01	**Guarapari-ES**	**24.60 71**	*eP*	**P**	**19 04 14.1**	**-0.1**
JANB	**Januaria**	**25.13 56**	*eP*	**P**	**19 04 18.1**	**-1.0**
SJMB	**Sao Joao De Ma**	**25.24 67**	*eP*	**P**	**19 04 19.7**	**-0.4**
RIB01	**Linhares ES**	**25.54 69**	*eP*	**P**	**19 04 23.2**	**+0.5**
NPGB	**Novo Progresso**	**25.69 24**	*eP*	**P**	**19 04 22.1**	**-2.0**
SDBA	**SAO DESIDERIO**	**26.59 50**	*eP*	**P**	**19 04 32.1**	**-0.2**
TBTG	**Tabatinga, AM**	**26.99 350**	P	**P**	**19 04 35.3**	**-0.5**
TBTG	**Tabatinga, AM**	**26.99 350**	*eP*	**P**	**19 04 35.5**	**-0.2**
TBTG	**Tabatinga, AM**	**26.99 350**	*eP*	**P**	**19 04 35.8**	**0.0**
TEFE	**Tefe**	**27.37 2**	*eP*	**P**	**19 04 39.4**	**+0.3**
**G

comp=Z,109nm,1.1s
H05S1 Guadeloupe/Mar 45.40 6 P **P 19 07 12.5 +1.2**
SNR=52
MPOM Morne Pois Mar 45.42 6 IAmb IAmb 19 07 13.6
comp=Z,166nm,0.8s
BIM Bigot 45.47 6 *e*P **P 19 07 11.2 -0.6**
FDF Fort de France 45.68 6 P **P 19 07 12.4 -1.1**
FDF Fort de France 45.68 6 P **P 19 07 12.4 -1.1**
FDF pmax pmax
comp=Z,435nm,0.9s
FDF Fort de France 45.68 6 *e*P **P 19 07 12.8 -0.7**
FDF Fort de France 45.68 6 P **P 19 07 12.7 -0.9**
ILAM Ilet Lapin Mar 45.74 6 *e*P **P 19 07 12.6 -1.4**
PRVC Isla de Provid 46.66 339 *e*P P 19 07 09.9 -11
ACON Acoyapa 46.69 333 *e*P P 19 07 16.2 -5.2
MAGL Barre de l'ile 46.87 6 *e*P **P 19 07 22.6 -0.1**
CBE Ff, Capester 46.96 5 IAmb IAmb 19 07 28.9
comp=Z,130nm,0.9s
CBE Ff, Capester 46.96 5 *e*P **P 19 07 25.0 +1.5**
GDSD La Dsirade Is 47.25 6 IAmb IAmb 19 07 26.8
comp=Z,79nm,0.8s
H05N1 Guadeloupe/Mar 47.25 6 P **P 19 07 25.3 -0.5**
SNR=46
BOAB BOACO BROADBAN 47.32 333 IAmb IAmb 19 07 29.4
comp=Z,63nm,0.7s
ABD La Joyeuse, An 47.37 5 IAmb IAmb 19 07 33.7
comp=Z,224nm,1.1s
CNGN Cerro Negro 47.78 332 *e*P P 19 07 24.6 -5.3
MATN Matagalpa 47.86 333 P **P 19 07 29.2 -1.3**
ANBD Bethesda, Anti 47.92 5 *e*P **P 19 07 28.1 -2.8**
SJG San Juan 48.84 359 *e*P **P 19 07 34.8 -3.1**
SJG San Juan 48.84 359 P **P 19 07 36.4 -1.5**
SJG sP **sP 19 08 33.3 -2.7**
BELA Belgrano 2 48.95 172 P **P 19 07 37.8 -0.3**
TGUH Tegucigalpa,Un 49.42 332 P **P 19 07 41.6 -0.9**
TGUH Tegucigalpa,Un 49.42 332 *e*P **P 19 07 42.0 -0.5**
SDDR Presa de Saban 50.00 353 IAmb IAmb 19 07 49.8
comp=Z,88nm,1.0s
SDDR Presa de Saban 50.00 353 *e*P **P 19 07 43.9 -2.8**
VNA3 Neumayer Olymp 50.15 160 ⇓P **P 19 07 48.5 +1.2**
comp=Z,104nm,0.7s
VNA3 ⇓PP **PP 19 09 50.8 +6.9**
comp=Z,14nm,0.7s
VNA3 ⇑ScP **ScP 19 12 42.4 -0.8**
MTDJ Mount Denham 50.28 345 *e*P **P 19 07 46.8 -2.1**
VNA1 Neumayer--Stat 50.37 159 ⇓P **P 19 07 50.5 +1.7**
comp=Z,43nm,0.5s
VNA1 ⇑PP **PP 19 09 50.8 +5.0**
comp=Z,8.9nm,0.7s
VNA1 ⇑ScP **ScP 19 12 44.2 +0.2**
MTO3 Montecristo 50.60 330 IAmb IAmb 19 07 53.0
comp=Z,69nm,0.8s
VNA2 Neumayer--Watz 50.73 159 ⇓P **P 19 07 52.9 +1.3**
comp=Z,103nm,0.6s,baz=292,slow=7.0
VNA2 ⇑PP **PP 19 09 51.3 +2.2**
comp=Z,12nm,0.5s,baz=310,slow=7.0
VNA2 ⇑ScP **ScP 19 12 44.8 -0.9**
baz=300,slow=5.0
ESQI Esquipulas 50.74 330 IAmb IAmb 19 07 54.3
comp=Z,105nm,0.9s
GTBY Guantanamo Bay 51.46 349 P **P 19 07 56.8 -0.8**
GTBY Guantanamo Bay 51.46 349 *e*P **P 19 07 54.7 -2.9**
SNAA Sanae 52.36 159 P **P 19 08 04.0 +0.2**
SNAA Sanae 52.36 159 ⇓*i*P **P 19 08 04.5 +0.8**
SNAA Sanae 52.36 159 ⇓P **P 19 08 04.6 +0.9**
comp=Z,686nm,0.6s
SNAA ⇑PP **PP 19 09 59.1 -4.7**
comp=Z,171nm,0.8s
SNAA ⇑ScP **ScP 19 12 52.0 -0.8**
SNAA Sanae 52.36 159 P **P 19 08 04.8 +1.1**
comp=Z,23nm,0.5s,baz=280,slow=8.4,SNR=295
SNAA ScP **ScP 19 12 52.0 -0.8**
comp=Z,3.6nm,0.7s,baz=286,slow=7.9,SNR=4.2
comp=Z,23nm,0.5s
TROLL Troll, Antarti 54.08 159 ⇓P **P 19 08 17.5 +1.1**
comp=Z,2μm,0.6s
TROLL ⇓PP PP 19 10 06.0 -13
comp=Z,673nm,0.7s
TROLL ⇓ScP **ScP 19 13 00.3 -0.1**
TEIG Tepich 55.41 334 P **P 19 08 25.1 -1.2**
TEIG Tepich 55.41 334 *e*P **P 19 08 25.2 -1.1**
TEIG Tepich 55.41 334 P **P 19 08 25.8 -0.5**
TEIG pP **pP 19 09 06.4 +0.3**
TEIG sP **sP 19 09 24.9 -0.3**
TEIG ScP **ScP 19 13 06.2 -0.5**
SOR Soroa 56.04 341 IAmb IAmb 19 08 32.7
comp=Z,66nm,0.9s
SHEL Horse Pasture 56.28 89 P **P 19 08 34.3 +1.5**
SHEL pP **pP 19 09 14.6 +1.5**
SHEL sP **sP 19 09 33.5 +1.1**
NVL N'lazarevskaya 56.93 157 *e*P **P 19 08 38.8 +2.3**
NVL pmax pmax
comp=Z,30nm,0.8s
061Z Ochoppi 58.42 344 P **P 19 08 47.6 +0.2**
baz=165,SNR=5.8
QSPA South Pole Qui 59.22 180 P **P 19 08 53.0 +0.4**
QSPA South Pole Qui 59.22 180 P **P 19 08 53.8 +1.1**
comp=Z,88nm,0.6s,baz=156,slow=4.4,SNR=193
comp=Z,88nm,0.6s
QSPA South Pole Qui 59.22 180 ⇑P **P 19 08 54.0 +1.3**
QSPA pP **pP 19 09 32.5 -0.5**
QSPA sP **sP 19 09 52.2 0.0**
QSPA ScP **ScP 19 13 22.7 -0.5**
060A Indiantown 59.42 345 S **S 19 16 52.3 +2.8**
baz=165
ELIB Princess Elisa 60.52 159 *d*P **P 19 09 02.2 +0.8**
comp=Z,57nm,0.5s
ELIB *d*PcP **pP 19 09 42.9 +0.9**
ELIB *d*ScP **ScP 19 13 29.3 +0.5**
DWPF Disney Wildern 60.70 344 P **P 19 09 03.1 +0.1**
baz=164
DWPF Disney Wildern 60.70 344 P **P 19 09 03.8 +0.9**
baz=164
656A Willston 62.17 343 P **P 19 09 12.6 -0.2**
baz=164,SNR=7.8
BBSR BB Station 63.04 1 P **P 19 09 18.8 +0.4**
BBSR BB Station 63.04 1 S **S 19 17 40.3 +5.3**
baz=181
BBSR BB Station 63.04 1 P **P 19 09 19.3 +0.9**
BBSR sP **sP 19 10 19.6 +1.5**
456A Hilliard 63.35 344 P **P 19 09 20.9 +0.4**
baz=164,SNR=8.0
553A Crawfordville 63.44 342 P **P 19 09 21.0 -0.1**
baz=162,SNR=15
TIGA Tifton 64.41 343 IAmb IAmb 19 09 29.0
comp=Z,53nm,0.8s
TIGA Tifton 64.41 343 P **P 19 09 27.1 -0.3**
baz=163
255A Hazlehurst 64.61 344 IAmb IAmb 19 09 30.5
comp=Z,112nm,1.1s
255A Hazlehurst 64.61 344 P **P 19 09 28.1 -0.6**
baz=164,SNR=7.6
352A Blakely 64.80 342 P **P 19 09 29.2 -0.8**
352A Blakely 64.80 342 P **P 19 09 29.4 -0.6**
baz=162,SNR=7.4
BRAL Brewton 65.11 340 P **P 19 09 32.0 +0.1**
baz=160,SNR=5.4
BRAL Brewton 65.11 340 P **P 19 09 31.8 -0.2**
baz=160,SNR=5.4
NHSC New Hope 65.25 347 P **P 19 09 33.3 +0.6**
baz=166
NHSC New Hope 65.25 347 P **P 19 09 33.7 +0.9**
baz=166
154A Montrose 65.42 344 P **P 19 09 33.6 -0.3**
baz=164,SNR=5.0
250A Grady 65.64 341 P **P 19 09 34.5 -0.9**
250A IAmb IAmb 19 09 36.8
comp=Z,82nm,0.8s
Y60A Bolivia 65.75 349 P **P 19 09 36.3 +0.3**
baz=168,SNR=5.6
Y60A P **P 19 09 36.3 +0.3**
baz=168,SNR=5.6
HAW Hawthorne Fire 65.79 345 P **P 19 09 36.0 -0.3**
baz=165,SNR=10
HBVL Hebbronville 65.83 328 IAmb IAmb 19 09 39.3
comp=Z,72nm,0.6s
152A Waverly Hall 65.87 342 IAmb IAmb 19 09 38.1
comp=Z,58nm,1.1s
152A Waverly Hall 65.87 342 P **P 19 09 36.0 -0.8**
baz=162,SNR=15
KVTX Kingsville 65.89 329 P **P 19 09 38.9 +1.8**
baz=150,SNR=5.3
Y57A Sumter 66.17 347 P **P 19 09 38.0 -0.7**
Y57A Sumter 66.17 347 P **P 19 09 38.2 -0.5**
baz=166,SNR=5.4
Y57A P **P 19 09 38.2 -0.5**
baz=166,SNR=5.4
GOGA Godfrey 66.26 344 IAmb IAmb 19 09 40.8
comp=Z,40nm,0.8s
GOGA Godfrey 66.26 344 P **P 19 09 38.6 -0.7**
baz=163,SNR=19
GOGA Godfrey 66.26 344 P **P 19 09 38.3 -1.0**
baz=163,SNR=19
344A Westbrook Farm 66.54 337 P **P 19 09 43.4 +2.3**
baz=157
JSC Jenkinsville 66.60 346 IAmb IAmb 19 09 43.5
comp=Z,33nm,0.7s
JSC Jenkinsville 66.60 346 P **P 19 09 41.3 -0.2**
baz=165,SNR=14
Z51A Franklin 66.60 342 IAmb IAmb 19 09 43.1
comp=Z,46nm,0.8s
Z51A Franklin 66.60 342 P **P 19 09 41.0 -0.5**
baz=162,SNR=8.4
BIRD Birdtown, Kers 66.79 347 IAmb IAmb 19 09 44.5
comp=Z,65nm,0.6s
BIRD Birdtown, Kers 66.79 347 P **P 19 09 42.6 0.0**
baz=166,SNR=20
LRAL Lakeview Retre 66.84 341 IAmb IAmb 19 09 44.5
comp=Z,35nm,0.6s
LRAL Lakeview Retre 66.84 341 P **P 19 09 42.3 -0.6**
baz=160,SNR=23
LRAL Lakeview Retre 66.84 341 P **P 19 09 42.1 -0.8**
baz=160,SNR=23
Y52A Lilburn 66.84 343 IAmb IAmb 19 09 44.1
comp=Z,58nm,0.5s
Y52A Lilburn 66.84 343 P **P 19 09 42.3 -0.7**
baz=163,SNR=19
Y52A P **P 19 09 42.3 -0.7**
baz=163,SNR=19
CNNC Cliffs of the 66.91 349 P **P 19 09 43.8 +0.5**
baz=169
CNNC Cliffs of the 66.91 349 P **P 19 09 44.1 +0.8**
baz=169
W59A Clinton 66.93 349 IAmb IAmb 19 09 45.5
comp=Z,202nm,1.6s
W59A Clinton 66.93 349 P **P 19 09 43.8 +0.3**
baz=168
735A Kenedy 66.98 329 P **P 19 09 45.2 +1.2**
baz=150,SNR=7.0
SBA Scott Base 67.05 190 P **P 19 09 44.6 +0.8**
SBA Scott Base 67.05 190 P **P 19 09 44.6 +0.8**
SBA pmax pmax
comp=Z,21nm,0.9s
SBA Scott Base 67.05 190 P **P 19 09 45.5 +1.7**
SBA pP **pP 19 10 27.1 +2.0**
SBA sP **sP 19 10 45.6 +1.6**
146A Union 67.09 339 IAmb IAmb 19 09 46.8
comp=Z,66nm,0.7s
HKT Hockley 67.10 332 P **P 19 09 44.2 -0.5**
HKT IAmb IAmb 19 09 46.9
comp=Z,86nm,1.5s
HKT Hockley 67.10 332 *d i*P **P 19 09 44.5 -0.1**
HKT pmax pmax
comp=Z,71nm,1.6s
HKT Hockley 67.10 332 P **P 19 09 46.0 +1.4**
baz=152
VBMS Vicksburg 67.17 337 P **P 19 09 45.3 +0.2**
baz=157
W57A Gilead 67.19 347 P **P 19 09 45.1 0.0**
baz=167,SNR=37
W57A P **P 19 09 45.1 0.0**
baz=167,SNR=37
833A Chaparral WMA, 67.23 328 P **P 19 09 46.0 +0.5**
baz=149,SNR=42
833A Chaparral WMA, 67.23 328 P **P 19 09 46.1 +0.5**
baz=149,SNR=42
Z47A Carrollton 67.31 340 IAmb IAmb 19 09 47.6
comp=Z,83nm,0.7s
Z47A Carrollton 67.31 340 P **P 19 09 45.4 -0.5**
baz=159,SNR=7.4
Y49A Blount Mountai 67.45 341 IAmb IAmb 19 09 48.8
comp=Z,42nm,0.8s
Y49A Blount Mountai 67.45 341 P **P 19 09 46.4 -0.5**
baz=161,SNR=24
KMSC Kings Mountain 67.45 346 P **P 19 09 46.0 -0.8**
KMSC IAmb IAmb 19 09 48.1
comp=Z,204nm,1.8s
KMSC Kings Mountain 67.45 346 P **P 19 09 46.7 -0.1**
baz=166,SNR=11
KMSC Kings Mountain 67.45 346 P **P 19 09 47.1 +0.4**
baz=166,SNR=11
BG3 Lake Jocassee 67.65 345 IAmb IAmb 19 09 49.5
comp=Z,154nm,1.7s
CASEE Lake Jocassee 67.65 345 P **P 19 09 47.4 -0.7**
baz=164,SNR=16
V58A Windy Hill, Pi 67.66 348 P **P 19 09 48.2 +0.2**
baz=168,SNR=42
V58A P **P 19 09 48.2 +0.2**
baz=168,SNR=42
HNVL Huntsville, TX 67.67 332 IAmb IAmb 19 09 50.8
comp=Z,54nm,0.8s
X51A Calhoun 67.71 343 P **P 19 09 47.9 -0.5**
baz=162,SNR=28
X51A P **P 19 09 47.9 -0.5**
baz=162,SNR=28
FPAL Fort Paine 67.88 342 IAmb IAmb 19 09 51.0
comp=Z,51nm,0.7s
143A Socs Landing, 67.91 337 P **P 19 09 51.0 +1.3**
baz=156,SNR=11
U59A Littleton 67.98 349 IAmb IAmb 19 09 52.0
comp=Z,216nm,1.7s
U59A Littleton 67.98 349 P **P 19 09 50.2 +0.2**
baz=169,SNR=13
U59A P **P 19 09 50.2 +0.2**
baz=169,SNR=13
W52A Murphy 67.98 344 IAmb IAmb 19 09 51.5
comp=Z,160nm,1.7s
W52A Murphy 67.98 344 P **P 19 09 50.0 -0.2**
baz=163,SNR=12
VNDA Vanda 68.04 190 P **P 19 09 51.6 +1.7**
comp=Z,22nm,0.8s,baz=141,slow=5.0,SNR=85
comp=Z,22nm,0.8s
VNDA Vanda 68.04 190 P **P 19 09 51.7 +1.7**
VNDA pP **pP 19 10 32.0 +0.5**
VNDA sP **sP 19 10 50.3 +0.1**
X48A Hartselle 68.18 341 IAmb IAmb 19 09 53.4
comp=Z,124nm,1.1s
X48A Hartselle 68.18 341 P **P 19 09 50.9 -0.5**
baz=160,SNR=40
HNDO Hondo 68.21 329 P **P 19 09 51.0 -0.7**
HNDO IAmb IAmb 19 09 54.3
comp=Z,124nm,0.7s
NATX Nacogdoches 68.24 334 P **P 19 09 52.6 +0.8**
baz=153,SNR=9.4
NATX Nacogdoches 68.24 334 P **P 19 09 52.8 +1.0**
baz=153,SNR=9.4
V53A Saluda 68.27 345 IAmb IAmb 19 09 53.7
comp=Z,62nm,1.1s
V53A Saluda 68.27 345 P **P 19 09 51.4 -0.6**
baz=164,SNR=11
V53A P **P 19 09 51.4 -0.6**
baz=164,SNR=11
Y45A Yeager Farm, C 68.38 339 P **P 19 09 52.6 0.0**
baz=158,SNR=8.8
W50A Signal Mountai 68.42 343 IAmb IAmb 19 09 54.6
comp=Z,78nm,1.1s
W50A Signal Mountai 68.42 343 P **P 19 09 52.5 -0.4**
baz=162,SNR=20
U56A King 68.43 347 IAmb IAmb 19 09 55.5
comp=Z,107nm,0.8s
U56A King 68.43 347 P **P 19 09 53.4 +0.5**
baz=166,SNR=21
U56A P **P 19 09 53.4 +0.5**
baz=166,SNR=21
CPCT Cooper Cave 68.46 343 P **P 19 09 52.0 -1.1**
CPCT IAmb IAmb 19 09 54.7
comp=Z,39nm,0.7s
TKL Tuckaleechee C 68.48 344 P **P 19 09 52.4 -0.9**
baz=163,SNR=15
T59A Double "B" Far 68.55 350 IAmb IAmb 19 09 55.5
comp=Z,150nm,1.7s
T59A Double "B" Far 68.55 350 P **P 19 09 53.9 +0.3**
baz=169,SNR=8.0
T59A P **P 19 09 53.9 +0.3**
baz=169,SNR=8.0
435B Jarrell 68.56 331 IAmb IAmb 19 09 56.2
comp=Z,49nm,0.8s
435B Jarell 68.56 331 P **P 19 09 53.9 +0.1**
baz=151
435B Jarrell 68.56 331 P **P 19 09 54.5 +0.7**
baz=151,SNR=5.0
SWET Sewanee 68.60 342 IAmb IAmb 19 09 55.7
comp=Z,110nm,1.1s
LIC Lamto 68.63 68⇓*e*P **P 19 09 54.1 -0.5**
comp=Z,86nm,0.5s
DRIO Del Rio 68.73 327 P **P 19 09 54.1 -0.8**
DRIO IAmb IAmb 19 09 57.0
comp=Z,37nm,0.8s
V51A Loudon 68.76 344 P **P 19 09 54.3 -0.7**
baz=163,SNR=13
T57A Hurt 68.85 348 IAmb IAmb 19 09 57.3
comp=Z,74nm,1.3s
T57A Hurt 68.85 348 P **P 19 09 55.4 -0.1**
baz=168,SNR=14
T57A P **P 19 09 55.4 -0.1**
baz=168,SNR=14
U54A Nelsons Funny 68.88 346 P **P 19 09 55.5 -0.3**
baz=165,SNR=21
U54A P **P 19 09 55.5 -0.3**
baz=165,SNR=21
TIC Toumodi 68.88 68⇑*i*P **P 19 09 56.2 0.0**
comp=Z,13nm,0.3s
237A Washetta, Mont 68.90 333 P **P 19 09 56.6 +0.7**
baz=152,SNR=12
OXF Oxford 68.93 339 IAmb IAmb 19 09 57.2
comp=Z,74nm,0.7s
OXF Oxford 68.93 339 P **P 19 09 55.3 -0.7**
baz=158
KIC Kosan Boka 68.94 68⇓*e*P **P 19 09 56.3 -0.3**
comp=Z,117nm,0.6s
PLAL Pickwick Lake 68.97 340 IAmb IAmb 19 09 57.7
comp=Z,56nm,0.8s
SLBS Sierra La Lagu 69.02 317 P **P 19 09 56.7 -0.2**
DBIC Dimbokro 69.03 68 P **P 19 09 56.2 -0.9**
DBIC IAmb IAmb 19 09 58.4
comp=Z,73nm,1.0s
DBIC Dimbokro 69.03 68⇓*i*P **P 19 09 56.7 -0.4**
DBIC IAmb IAmb 19 09 58.1
comp=Z,71nm,1.0s
DBIC Dimbokro 69.03 68 P **P 19 09 56.6 -0.5**
comp=Z,46nm,0.6s,baz=219,slow=3.9,SNR=70
comp=Z,46nm,0.6s
DBIC Dimbokro 69.03 68 P **P 19 09 56.6 -0.5**
DBIC pP **pP 19 10 38.7 0.0**
JCT Junction City 69.25 329 IAmb IAmb 19 09 60.0
comp=Z,78nm,0.6s
JCT Junction City 69.25 329 P **P 19 09 58.4 +0.2**
baz=149,SNR=29
JCT Junction City 69.25 329 P **P 19 09 58.2 +0.1**
baz=149,SNR=29
BLA Blacksburg 69.27 347 IAmb IAmb 19 10 00.6
comp=Z,70nm,0.7s
BLA Blacksburg 69.27 347 P **P 19 09 58.6 +0.5**
baz=166,SNR=16
BLA Blacksburg 69.27 347 P **P 19 09 58.2 +0.1**
baz=166,SNR=16
TZTN Tazewell 69.28 345 IAmb IAmb 19 09 59.1
comp=Z,159nm,1.7s
TZTN Tazewell 69.28 345 P **P 19 09 57.5 -0.6**
baz=164,SNR=8.0
TZTN Tazewell 69.28 345 P **P 19 09 56.9 -1.2**
baz=164,SNR=8.0
V48A Smith Brothers 69.33 342 IAmb IAmb 19 10 00.1
comp=Z,67nm,0.7s
V48A Smith Brothers 69.33 342 P **P 19 09 57.4 -1.1**
baz=161,SNR=14
CLTN Cedars of Leba 69.53 342 IAmb IAmb 19 10 00.7
comp=Z,219nm,1.7s
S57A Dark Hollow, R 69.55 349 IAmb IAmb 19 10 02.4
comp=Z,60nm,1.0s
S57A Dark Hollow, R 69.55 349 P **P 19 09 59.7 0.0**
baz=168,SNR=15
S57A P **P 19 09 59.7 0.0**
baz=168,SNR=15
WHTX Lake Whitney, 69.56 331 IAmb IAmb 19 10 02.0
comp=Z,40nm,0.7s
WHTX Lake Whitney, 69.56 331 P **P 19 09 59.6 -0.3**
baz=151,SNR=8.0
WHTX Lake Whitney, 69.56 331 P **P 19 09 60.0 +0.1**
baz=151,SNR=8.0
R58B Mineral 69.57 350 IAmb IAmb 19 10 02.1
comp=Z,183nm,1.6s
R58B Mineral 69.57 350 P **P 19 10 00.9 +1.1**
baz=169,SNR=7.7
R58B P **P 19 10 00.9 +1.1**
baz=169,SNR=7.7
BRDY Brady 69.59 330 P **P 19 09 58.9 -1.3**
BRDY IAmb IAmb 19 10 01.8
comp=Z,66nm,0.6s
Z38A Mt. Pleasant 69.70 334 P **P 19 10 01.6 +0.8**
baz=153,SNR=5.7
CBN Corbin Frederi 69.73 350 P **P 19 10 00.7 -0.1**
baz=169
FW16 Waxahatchie 69.76 332 IAmb IAmb 19 10 03.6
comp=Z,101nm,0.8s
U49A Red Boiling Sp 69.79 343 IAmb IAmb 19 10 02.1
comp=Z,204nm,1.8s
U49A Red Boiling Sp 69.79 343 P **P 19 10 00.2 -1.0**
baz=162,SNR=23
CER Ceres 69.83 117 *e*P **P 19 10 01.7 -0.2**
CER IAmb IAmb 19 10 03.3
comp=Z,35nm,1.3s
FW13 Cleburne 69.86 332 IAmb IAmb 19 10 03.3
comp=Z,42nm,0.7s
SAND Sanderson 69.88 327 P **P 19 10 00.9 -1.1**
SAND IAmb IAmb 19 10 04.1
comp=Z,64nm,0.6s
WVT Waverly 69.97 341 P **P 19 10 00.9 -1.5**
WVT IAmb IAmb 19 10 03.8
comp=Z,89nm,0.8s
WVT Waverly 69.97 341 P **P 19 10 00.9 -1.5**
WVT pmax pmax
comp=Z,89nm,0.9s
WVT Waverly 69.97 341 P **P 19 10 01.6 -0.7**
baz=160
WVT Waverly 69.97 341 P **P 19 10 01.5 -0.9**
baz=160,SNR=63
WVT Waverly 69.97 341 P **P 19 10 01.4 -1.0**
WVT pP **pP 19 10 43.7 -0.3**
WVT sP **sP 19 11 01.0 -1.7**
S54A Dingess, Beckl 70.01 347 IAmb IAmb 19 10 04.6
comp=Z,72nm,0.8s
S54A Dingess, Beckl 70.01 347 P **P 19 10 01.9 -0.7**
baz=166,SNR=14
S54A P **P 19 10 01.9 -0.7**
baz=166,SNR=14
TXAR Lajitas Array 70.11 325 P **P 19 10 03.5 0.0**
comp=Z,15nm,0.5s,baz=152,slow=7.6,SNR=78
comp=Z,15nm,0.5s
TX31 Lajitas Ar. Si 70.11 325 IAmb IAmb 19 10 05.4
comp=Z,64nm,0.6s
TX31 Lajitas Ar. Si 70.11 325 P **P 19 10 03.5 0.0**
baz=146,SNR=34
UALR University of 70.12 337 IAmb IAmb 19 10 05.1
comp=Z,64nm,0.7s
HALT Halls 70.21 340 P **P 19 10 02.1 -1.6**
OZNA Ozona 70.23 328 P **P 19 10 02.7 -1.4**
OZNA IAmb IAmb 19 10 06.1
comp=Z,136nm,0.7s
R55A Marlinton 70.26 348 P **P 19 10 05.0 +0.9**
baz=167,SNR=27
R55A P **P 19 10 05.0 +0.9**
baz=167,SNR=27
FW07 Weatherford 70.31 331 IAmb IAmb 19 10 06.5
comp=Z,59nm,0.9s
S51A Beattyville 70.34 345 P **P 19 10 03.7 -0.9**
baz=164,SNR=10
S51A P **P 19 10 03.7 -0.9**
baz=164,SNR=10
MIAR Mount Ida 70.34 336 IAmb IAmb 19 10 06.9
comp=Z,81nm,1.4s
MIAR Mount Ida 70.34 336 P **P 19 10 04.3 -0.3**
baz=155,SNR=19
MIAR Mount Ida 70.34 336 P **P 19 10 04.3 -0.3**
baz=155,SNR=19
FW06 Azle 70.45 332 IAmb IAmb 19 10 07.7
comp=Z,68nm,1.2s
GNAR Gosnell 70.46 339 P **P 19 10 04.2 -1.2**
WHAR Wooly Hollow 70.57 337 IAmb IAmb 19 10 07.6
comp=Z,216nm,1.7s
T47A Sharon Grove 70.58 342 IAmb IAmb 19 10 07.2
comp=Z,67nm,0.8s
T47A Sharon Grove 70.58 342 P **P 19 10 04.9 -1.2**
baz=161,SNR=18
Z35A Perchaven, San 70.64 332 P **P 19 10 07.0 +0.5**
baz=152,SNR=19
R53A Hurricane 70.65 346 IAmb IAmb 19 10 08.3
comp=Z,43nm,0.7s
R53A Hurricane 70.65 346 P **P 19 10 06.3 -0.2**
baz=165,SNR=10
R53A P **P 19 10 06.3 -0.2**
baz=165,SNR=10

FW03	Perrin-Whitt E	70.72 331	IAmb	IAmb	19 10 09.2		
	comp=Z,134nm,1.0s						
HICK	Hickman	70.76 340	P	P	19 10 06.0	-1.1	
Q56A	Snyder Ridge,	70.83 349	IAmb	IAmb	19 10 47.2		
	comp=Z,96nm,0.8s						
Q56A	Snyder Ridge,	70.83 349	P	P	19 10 08.5	+0.9	
	baz=168,SNR=11						
Q56A			P	P	19 10 08.5	+0.9	
	baz=168,SNR=11						
LCAR	Lake Charles	70.91 338	IAmb	IAmb	19 10 10.4		
	comp=Z,91nm,0.7s						
ALPN	Alpine	70.95 326	IAmb	IAmb	19 10 10.4		
	comp=Z,38nm,0.6s						
CVNA	Calvinia	70.98 116	⇓iP	P	19 10 09.8	+0.8	
CVNA			IAmb	IAmb	19 10 22.8		
	comp=Z,23nm,1.0s						
ABTX	Abilene, Hawle	71.02 330	IAmb	IAmb	19 10 11.0		
	comp=Z,100nm,1.2s						
ABTX	Abilene, Hawle	71.02 330	P	P	19 10 08.4	-0.5	
	baz=150,SNR=10						
ABTX	Abilene, Hawle	71.02 330	P	P	19 10 08.2	-0.7	
	baz=150						
FCAR	Ozark Folk Cen	71.06 337	P	P	19 10 07.5	-1.4	
FCAR			IAmb	IAmb	19 10 10.2		
	comp=Z,66nm,0.6s						
Q54A	Coxs Mills	71.07 347	IAmb	IAmb	19 10 10.7		
	comp=Z,48nm,0.6s						
Q54A	Coxs Mills	71.07 347	P	P	19 10 08.6	-0.3	
	baz=166,SNR=20						
Q54A			P	P	19 10 08.6	-0.3	
	baz=166,SNR=20						
P57A	Homestead Farm	71.08 350	IAmb	IAmb	19 10 12.0		
	comp=Z,62nm,0.7s						
P57A	Homestead Farm	71.08 350	P	P	19 10 09.7	+0.7	
	baz=169,SNR=24						
P57A			P	P	19 10 09.7	+0.7	
	baz=169,SNR=24						
R50A	Paris	71.12 344	IAmb	IAmb	19 10 10.0		
	comp=Z,146nm,1.6s						
R50A	Paris	71.12 344	P	P	19 10 08.8	-0.5	
	baz=163,SNR=12						
R50A			P	P	19 10 08.8	-0.5	
	baz=163,SNR=12						
LOOK	Love County	71.19 333	IAmb	IAmb	19 10 11.5		
	comp=Z,77nm,0.6s						
R49A	Shelbyville	71.33 344	IAmb	IAmb	19 10 11.0		
	comp=Z,154nm,1.6s						
R49A	Shelbyville	71.33 344	P	P	19 10 10.0	-0.5	
	baz=162						
R49A			P	P	19 10 10.0	-0.5	
	baz=162						
Q52A	Bidwell	71.33 346	IAmb	IAmb	19 10 12.2		
	comp=Z,55nm,0.8s						
Q52A	Bidwell	71.33 346	P	P	19 10 10.7	+0.3	
	baz=165,SNR=9.7						
Q52A			P	P	19 10 10.7	+0.3	
	baz=165,SNR=9.7						
PBMO	Poplar Bluff	71.34 339	P	P	19 10 10.0	-0.6	
	baz=158,SNR=15						
MVL	Millersville	71.35 351	IAmb	IAmb	19 10 13.0		
	comp=Z,95nm,1.4s						
SUR	Sutherland	71.40 117	P	P	19 10 11.5	-0.1	
SUR	Sutherland	71.40 117	eP	P	19 10 12.2	+0.6	
SUR	Sutherland	71.40 117	P	P	19 10 12.7	+1.1	
SUR			pP	pP	19 10 55.6	+1.7	
WTFS	Witchita Falls	71.51 332	IAmb	IAmb	19 10 13.8		
	comp=Z,106nm,0.7s						
PANJ	Princeton	71.53 353	P	P	19 10 12.2	+0.5	
	baz=172						
WCI	Wyandotte Cave	71.54 343	P	P	19 10 10.2	-1.6	
WCI			IAmb	IAmb	19 10 12.9		
	comp=Z,88nm,0.8s						
WCI	Wyandotte Cave	71.54 343	P	P	19 10 10.2	-1.6	
WCI			pmax	pmax			
	comp=Z,88nm,0.8s						
WCI	Wyandotte Cave	71.54 343	P	P	19 10 10.6	-1.2	
	baz=161						
WCI	Wyandotte Cave	71.54 343	P	P	19 10 10.9	-0.8	
	baz=161,SNR=20						
WCI	Wyandotte Cave	71.54 343	P	P	19 10 10.6	-1.2	
WCI			pP	pP	19 10 52.7	-0.9	
MCWV	Mont Chateau	71.55 348	IAmb	IAmb	19 10 13.9		
	comp=Z,242nm,1.7s						
MCWV	Mont Chateau	71.55 348	P	P	19 10 12.0	+0.2	
	baz=167,SNR=11						
MCWV	Mont Chateau	71.55 348	P	P	19 10 12.6	+0.8	
	baz=167,SNR=11						
Q51A	Peebles	71.61 345	P	P	19 10 12.0	-0.2	
	baz=164,SNR=9.5						
Q51A			P	P	19 10 12.0	-0.2	
	baz=164,SNR=9.5						
USIN	University of	71.65 342	IAmb	IAmb	19 10 13.3		
	comp=Z,70nm,0.8s						
P53A	Whipple	71.66 347	P	P	19 10 13.0	+0.6	
	baz=166,SNR=13						
P53A			P	P	19 10 13.0	+0.6	
	baz=166,SNR=13						
U40A	Yellville	71.73 337	P	P	19 10 13.0	0.0	
	baz=156,SNR=12						
U40A			P	P	19 10 13.0	0.0	
	baz=156,SNR=12						
SN01	Snyder 1	71.77 329	P	P	19 10 12.9	-0.4	
SN01			IAmb	IAmb	19 10 15.2		
	comp=Z,75nm,0.9s						
APMT	Aspermont	71.83 330	IAmb	IAmb	19 10 15.7		
	comp=Z,182nm,0.6s						
S44A	Carbondale	71.84 340	IAmb	IAmb	19 10 14.7		
	comp=Z,97nm,0.7s						
S44A	Carbondale	71.84 340	P	P	19 10 13.0	-0.6	
	baz=159,SNR=5.2						
PECS	Pecos	71.88 326	IAmb	IAmb	19 10 17.1		
	comp=Z,45nm,0.6s						
ODSA	Odessa	71.89 328	P	P	19 10 13.2	-1.0	
ODSA			IAmb	IAmb	19 10 15.9		
	comp=Z,192nm,0.7s						
PABK	Blue Knob Stat	71.93 350	P	P	19 10 14.8	+0.6	
	baz=168						
P52A	Corning	71.95 347	IAmb	IAmb	19 10 15.7		
	comp=Z,72nm,0.7s						
P52A	Corning	71.95 347	P	P	19 10 13.4	-0.8	
	baz=165,SNR=17						
HHAR	Hobbs	72.03 336	IAmb	IAmb	19 10 16.3		
	comp=Z,68nm,0.9s						
PAL	Palisades	72.07 353	P	P	19 10 16.5	+1.7	
	baz=173						
W35A	Tecumseh	72.10 333	IAmb	IAmb	19 10 16.0		
	comp=Z,49nm,0.6s						
SSPA	Standing Stone	72.19 350	P	P	19 10 15.4	-0.2	
SSPA			IAmb	IAmb	19 10 17.6		
	comp=Z,129nm,1.7s						
SSPA	Standing Stone	72.19 350	P	P	19 10 15.7	+0.2	
	baz=169						
SSPA	Standing Stone	72.19 350	P	P	19 10 15.8	+0.2	
	baz=169,SNR=6.8						
POST	Post	72.21 329	P	P	19 10 15.1	-0.9	
POST			IAmb	IAmb	19 10 17.7		
	comp=Z,45nm,0.9s						
ODNJ	Ogdensburg	72.21 353	P	P	19 10 16.1	+0.4	
	baz=172						
N58A	Sunbury	72.23 351	IAmb	IAmb	19 10 17.9		
	comp=Z,199nm,1.7s						
N58A	Sunbury	72.23 351	P	P	19 10 16.6	+0.8	
	baz=170,SNR=8.9						
N58A			P	P	19 10 16.6	+0.8	
	baz=170,SNR=8.9						
TAOE	Nuku Hiva Isla	72.29 270	P	P	19 10 16.8	-0.2	
RLO	Rose Lookout	72.31 335	IAmb	IAmb	19 10 18.4		
	comp=Z,71nm,0.7s						
U38A	Gravette	72.33 336	IAmb	IAmb	19 10 18.0		
	comp=Z,66nm,0.6s						
U38A	Gravette	72.33 336	P	P	19 10 16.2	-0.3	
	baz=154,SNR=18						
O52A	Adamsville	72.35 347	IAmb	IAmb	19 11 03.5		
	comp=Z,114nm,0.8s						
O52A	Adamsville	72.35 347	P	P	19 10 16.2	-0.4	
	baz=166,SNR=8.9						
O52A			P	P	19 10 16.2	-0.4	
	baz=166,SNR=8.9						
M65A	Busby, Falmout	72.36 356	P	P	19 10 16.1	-0.5	
	baz=176						
TUL3	Leonard	72.36 335	P	P	19 10 16.2	-0.5	
	baz=153,SNR=6.8						
UPAO	U. Pittsburgh	72.38 348	P	P	19 10 17.0	+0.3	
	baz=167						
P49A	Miami Univ. Ec	72.40 345	IAmb	IAmb	19 10 18.1		
	comp=Z,74nm,0.7s						
P49A	Miami Univ. Ec	72.40 345	P	P	19 10 16.3	-0.5	
	baz=163,SNR=17						
P49A	Miami Univ. Ec	72.40 345	P	P	19 10 15.8	-1.1	
	baz=163,SNR=17						
FVM	French Village	72.45 340	IAmb	IAmb	19 10 18.9		
	comp=Z,110nm,0.8s						
FVM	French Village	72.45 340	P	P	19 10 16.6	-0.6	
	baz=158,SNR=18						
DKNS	Dickens	72.47 330	IAmb	IAmb	19 10 19.6		
	comp=Z,70nm,0.6s						
GRAN	Grantham	72.47 117	eP	P	19 10 18.4	+0.6	
GRAN			IAmb	IAmb	19 10 20.4		
	comp=Z,19nm,0.8s						
WMOK	Wichita Mounta	72.49 332		P	19 10 16.3	-1.3	
WMOK	Wichita Mounta	72.49 332	P	P	19 10 16.3	-1.3	
WMOK			pmax	pmax			
	comp=Z,33nm,0.7s						
WMOK	Wichita Mounta	72.49 332	P	P	19 10 17.0	-0.6	
	baz=151,SNR=15						
WMOK	Wichita Mounta	72.49 332	P	P	19 10 17.8	+0.3	
	baz=151,SNR=15						
OLIL	Olney	72.49 342	IAmb	IAmb	19 10 18.4		
	comp=Z,97nm,0.9s						
OLIL	Olney	72.49 342	P	P	19 10 17.2	-0.2	
	baz=160,SNR=12						
BLO	Bloomington	72.49 343	IAmb	IAmb	19 10 18.6		
	comp=Z,104nm,0.7s						
P48A	Milroy	72.50 344	P	P	19 10 16.5	-0.9	
	baz=162,SNR=8.6						
P48A			P	P	19 10 16.5	-0.9	
	baz=162,SNR=8.6						
ACSO	Alum Creek Sta	72.69 346	IAmb	IAmb	19 10 20.1		
	comp=Z,67nm,0.7s						
ACSO	Alum Creek Sta	72.69 346	P	P	19 10 18.1	-0.5	
	baz=164,SNR=12						
ACSO	Alum Creek Sta	72.69 346	P	P	19 10 17.9	-0.7	
	baz=164,SNR=12						
CCM	Cathedral Cave	72.77 339	P	P	19 10 18.6	-0.5	
	baz=157						
CCM	Cathedral Cave	72.77 339	P	P	19 10 18.8	-0.2	
	baz=157,SNR=13						
M57A	Sunshine Farm,	72.77 351	P	P	19 10 19.6	+0.6	
	baz=170,SNR=8.2						
M57A			P	P	19 10 19.6	+0.6	
	baz=170,SNR=8.2						
OK031	S. Brethren Rd	72.79 334	IAmb	IAmb	19 10 20.7		
	comp=Z,86nm,0.7s						
PSDB	Penn State Uni	72.80 350	P	P	19 10 19.3	+0.1	
	baz=168						
OK052	Battle Ridge R	72.81 334	IAmb	IAmb	19 10 20.8		
	comp=Z,64nm,0.6s						
KSPA	Keystone Colle	72.81 352	IAmb	IAmb	19 10 21.9		
	comp=Z,122nm,1.4s						
KSPA	Keystone Colle	72.81 352	P	P	19 10 19.3	0.0	
	baz=171,SNR=7.6						
NPNY	Mohonk Preserv	72.83 353	P	P	19 10 20.3	+1.0	
	baz=172,SNR=9.0						
PAMR	Moraine State	72.84 349	P	P	19 10 19.7	+0.2	
	baz=167						
OK029	Liberty Lake	72.89 333	IAmb	IAmb	19 10 21.8		
	comp=Z,84nm,0.6s						
MNTX	Cornudas Mount	72.89 325	P	P	19 10 18.9	-1.1	
	baz=145,SNR=30						
MNTX	Cornudas Mount	72.89 325	P	P	19 10 19.1	-0.8	
	baz=145,SNR=30						
Q44A	Meyer Farm, Va	72.90 341	IAmb	IAmb	19 10 20.1		
	comp=Z,173nm,1.6s						
Q44A	Meyer Farm, Va	72.90 341	P	P	19 10 18.8	-1.0	
	baz=159,SNR=7.3						
QUOK	Quay	72.93 334	IAmb	IAmb	19 10 21.6		
	comp=Z,72nm,0.6s						
O49A	Covington	72.94 345	IAmb	IAmb	19 10 21.5		
	comp=Z,75nm,1.1s						
O49A	Covington	72.94 345	P	P	19 10 19.9	-0.2	
	baz=163,SNR=8.2						
O49A			P	P	19 10 19.9	-0.2	
	baz=163,SNR=8.2						
P46A	Rosedale	73.08 343	IAmb	IAmb	19 10 21.9		
	comp=Z,113nm,1.1s						
P46A	Rosedale	73.08 343	P	P	19 10 19.5	-1.4	
	baz=161,SNR=15						
S39A	Bolivar	73.10 337	P	P	19 10 20.8	-0.2	
	baz=155,SNR=80						
KEIM	Keimoes	73.12 114	eP	P	19 10 21.7	0.0	
KEIM			IAmb	IAmb	19 10 23.5		
	comp=Z,33nm,1.1s						
O48B	Farmland	73.19 344	IAmb	IAmb	19 10 22.8		
	comp=Z,104nm,0.8s						
O48B	Farmland	73.19 344	P	P	19 10 20.8	-0.7	
	baz=163,SNR=17						
O48B	Farmland	73.19 344	P	P	19 10 20.7	-0.9	
	baz=163,SNR=17						
N51A	Ashland	73.23 347	P	P	19 10 21.2	-0.6	
	baz=165						
N51A			P	P	19 10 21.2	-0.6	
	baz=165						
OK048	Pawnee Station	73.24 334		P	19 10 21.0	-0.8	
OK051	E0350 and S346	73.28 334	IAmb	IAmb	19 10 24.2		
	comp=Z,87nm,0.8s						
R40A	Maddies Statio	73.30 338	IAmb	IAmb	19 10 23.9		
	comp=Z,80nm,0.7s						
R40A	Maddies Statio	73.30 338	P	P	19 10 21.8	-0.4	
	baz=156,SNR=11						
L59A	Walton	73.36 353	IAmb	IAmb	19 10 25.5		
	comp=Z,85nm,0.7s						
L59A	Walton	73.36 353	P	P	19 10 23.5	+1.0	
	baz=172,SNR=14						
L59A			P	P	19 10 23.5	+1.0	
	baz=172,SNR=14						
HRV	Adam Dziewonsk	73.36 355	P	P	19 10 23.6	+1.2	
	baz=175						
L61B	Northampton	73.39 355	P	P	19 10 23.7	+1.1	
	baz=174,SNR=6.8						
L61B	Northampton	73.39 355	P	P	19 10 23.3	+0.7	
	baz=174,SNR=6.8						
M53A	WI Miller and	73.42 348	P	P	19 10 22.7	-0.2	
	baz=167						
ROOI	Rooidraai Farm	73.44 118	eP	P	19 10 23.5	0.0	
ROOI			IAmb	IAmb	19 10 29.3		
	comp=Z,319nm,2.4s						
BINY	Binghamton	73.47 352	P	P	19 10 23.4	+0.3	
	baz=171,SNR=11						
BINY	Binghamton	73.47 352	P	P	19 10 23.7	+0.5	
	baz=171,SNR=11						
UPI	Upington	73.50 113	eP	P	19 10 23.6	-0.3	
UPI			IAmb	IAmb	19 10 25.8		
	comp=Z,27nm,0.9s						
T35A	Sooner Cattle	73.52 335	IAmb	IAmb	19 10 25.8		
	comp=Z,59nm,0.9s						
T35B	Sooner Cattle	73.52 335	P	P	19 10 24.5	+1.0	
	baz=153,SNR=10						
ALLY	Alegheny Colle	73.53 349	IAmb	IAmb	19 12 41.4		
	comp=Z,66nm,0.6s						
MSTX	Muleshoe	73.54 328	IAmb	IAmb	19 10 25.8		
	comp=Z,160nm,1.1s						
MSTX	Muleshoe	73.54 328	P	P	19 10 23.7	-0.1	
	baz=147,SNR=36						
MSTX	Muleshoe	73.54 328	P	P	19 10 23.4	-0.4	
	baz=147,SNR=36						
N49A	Columbus Grove	73.61 345	P	P	19 10 23.4	-0.6	
	baz=164,SNR=26						
N49A			P	P	19 10 23.4	-0.6	
	baz=164,SNR=26						
L56A	Greenwood	73.61 351	P	P	19 10 24.3	+0.3	
	baz=169,SNR=22						
L56A			P	P	19 10 24.3	+0.3	
	baz=169,SNR=22						
BLOK	Blackwell	73.64 334	IAmb	IAmb	19 10 26.5		
	comp=Z,79nm,0.9s						
M52A	Chesterland	73.64 348	IAmb	IAmb	19 10 26.0		
	comp=Z,69nm,0.7s						
M52A	Chesterland	73.64 348	P	P	19 10 24.1	0.0	
	baz=166,SNR=6.7						
M52A			P	P	19 10 24.1	0.0	
	baz=166,SNR=6.7						
CROK	Carrier	73.71 333	IAmb	IAmb	19 10 26.6		
	comp=Z,85nm,0.7s						
P43A	Skaggs, Pawnee	73.73 341	IAmb	IAmb	19 10 26.0		
	comp=Z,176nm,1.1s						
P43A	Skaggs, Pawnee	73.73 341	P	P	19 10 23.9	-0.8	
	baz=159,SNR=13						
TRY	Troy	73.75 354	P	P	19 10 24.8	+0.1	
TRY	Troy	73.75 354	P	P	19 10 25.5	+0.8	
	baz=173,SNR=9.5						
SFIN	Lafayette	73.78 343	IAmb	IAmb	19 10 25.3		
	comp=Z,272nm,1.8s						
SFIN	Lafayette	73.78 343	P	P	19 10 23.7	-1.2	
	baz=161,SNR=14						
SFIN	Lafayette	73.78 343	P	P	19 10 23.6	-1.3	
	baz=161,SNR=14						
HCNY	Howe Caverns	73.79 353	P	P	19 10 26.2	+1.2	
	baz=172,SNR=8.6						
AMTX	Amarillo	73.83 330	IAmb	IAmb	19 10 27.5		
	comp=Z,78nm,0.7s						
AMTX	Amarillo	73.83 330	P	P	19 10 25.5	0.0	
	baz=148						
AMTX	Amarillo	73.83 330	P	P	19 10 25.5	0.0	
	baz=148,SNR=18						
M50A	Fremont	73.83 346	IAmb	IAmb	19 10 26.8		
	comp=Z,62nm,0.7s						
M50A	Fremont	73.83 346	P	P	19 10 24.6	-0.6	
	baz=164,SNR=6.5						
M50A			P	P	19 10 24.6	-0.6	
	baz=164,SNR=6.5						
ELIS	Ellis County	73.89 332	IAmb	IAmb	19 10 28.3		
	comp=Z,174nm,1.2s						
N47A	Urbana	73.91 344	IAmb	IAmb	19 10 26.8		
	comp=Z,120nm,0.9s						
N47A	Urbana	73.91 344	P	P	19 10 24.8	-0.9	
	baz=162,SNR=20						
N47A			P	P	19 10 24.8	-0.9	
	baz=162,SNR=20						
O44A	Mansfield	73.92 342	IAmb	IAmb	19 10 26.6		
	comp=Z,105nm,0.7s						
O44A	Mansfield	73.92 342	P	P	19 10 24.7	-1.1	
	baz=160,SNR=14						
ERPA	Erie	73.97 349	P	P	19 10 26.1	+0.1	
	baz=167,SNR=9.8						
ERPA	Erie	73.97 349	P	P	19 10 26.3	+0.3	
	baz=167,SNR=9.8						
U32A	Winter Ranch,	74.00 332		P	19 10 25.4	-1.0	
U32A	Winter Ranch,	74.00 332	P	P	19 10 26.7	+0.3	
	baz=151,SNR=8.7						
OK032	Salt Plains WL	74.06 333		P	19 10 26.1	-0.6	
OK032			IAmb	IAmb	19 10 28.5		
	comp=Z,81nm,0.6s						
K57A	Scipio Center	74.06 352	P	P	19 10 26.9	+0.4	
	baz=170						
KAN17	Caldwell West	74.10 334		P	19 10 25.8	-1.1	
NOKA	Waynoka	74.19 333		P	19 10 27.2	-0.3	
NOKA			IAmb	IAmb	19 10 29.9		
	comp=Z,57nm,0.7s						
J61A	Chester	74.27 355	IAmb	IAmb	19 10 30.5		
	comp=Z,154nm,1.7s						
J61A	Chester	74.27 355	P	P	19 10 28.2	+0.5	
	baz=174,SNR=6.7						
J61A			P	P	19 10 28.2	+0.5	
	baz=174,SNR=6.7						
KAN06	Argonia West S	74.31 334		P	19 10 27.0	-1.2	
KAN06			IAmb	IAmb	19 10 30.6		
	comp=Z,99nm,0.9s						
KAN08	Anthony NE Sta	74.34 334		P	19 10 26.9	-1.4	
P40A	Paris	74.37 339	P	P	19 10 27.8	-0.6	
	baz=157,SNR=32						
ACCN	Adirondack Com	74.40 354	P	P	19 10 29.9	+1.4	
	baz=173						
MAW	Mawson	74.40 162	P	P	19 10 28.9	+0.6	
	comp=Z,12nm,0.7s,baz=223,slow=8.6,SNR=27						
MAW			pP	pP	19 11 10.7	+0.2	
	comp=Z,12nm,0.7s,baz=225,slow=6.7,SNR=4.0						
	comp=Z,12nm,0.7s						
KOWA	Kowa	74.43 62	P	P	19 10 28.6	-0.7	
KOWA			IAmb	IAmb	19 10 31.0		
	comp=Z,141nm,1.2s						
HDIL	Hopedale	74.52 341	P	P	19 10 28.6	-0.6	
	baz=159,SNR=14						
HDIL	Hopedale	74.52 341	P	P	19 10 28.4	-0.8	
	baz=159,SNR=14						
J58A	Remsen	74.54 353	P	P	19 10 29.7	+0.4	
	baz=171,SNR=7.6						
J58A			P	P	19 10 29.7	+0.4	
	baz=171,SNR=7.6						
J59A	Piesco	74.56 353	IAmb	IAmb	19 10 32.2		
	comp=Z,63nm,1.1s						
J59A	Piesco	74.56 353	P	P	19 10 29.8	+0.4	
	baz=172,SNR=16						
J59A			P	P	19 10 29.8	+0.4	
	baz=172,SNR=16						
HNH	Hanover	74.60 355	IAmb	IAmb	19 10 32.6		
	comp=Z,186nm,1.6s						
J56A	Wolcott	74.64 351	P	P	19 10 30.0	+0.1	
	baz=170,SNR=16						
J56A			P	P	19 10 30.0	+0.1	
	baz=170,SNR=16						
L48A	N Adams	74.64 346	IAmb	IAmb	19 10 31.0		
	comp=Z,62nm,0.7s						
L48A	N Adams	74.64 346	P	P	19 10 29.3	-0.7	
	baz=163,SNR=5.7						
L48A			P	P	19 10 29.3	-0.7	
	baz=163,SNR=5.7						
J57A	Williamstown	74.67 352	IAmb	IAmb	19 10 32.4		
	comp=Z,62nm,0.7s						
J57A	Williamstown	74.67 352	P	P	19 10 30.3	+0.3	
	baz=171,SNR=14						
J57A			P	P	19 10 30.3	+0.3	
	baz=171,SNR=14						
TSUM	Tsumeb	74.68 103	P	P	19 10 31.3	+0.3	
121A	Cookes Peak, D	74.76 324	IAmb	IAmb	19 10 34.3		
	comp=Z,81nm,0.9s						
121A	Cookes Peak, D	74.76 324	P	P	19 10 31.7	+0.7	
	baz=143,SNR=38						
121A	Cookes Peak, D	74.76 324	P	P	19 10 32.1	+1.1	
	baz=143,SNR=38						
J55A	Hilton	74.76 351	P	P	19 10 29.8	-0.7	
AAM	Ann Arbor	74.82 346	P	P	19 10 30.5	-0.5	
	baz=164						
I63A	Otisfield	74.84 356	IAmb	IAmb	19 10 34.7		
	comp=Z,72nm,0.7s						
I63A	Otisfield	74.84 356	P	P	19 10 33.5	+2.6	
	baz=176,SNR=11						
I63A			P	P	19 10 33.5	+2.6	
	baz=176,SNR=11						
SOE	Somerset East	74.86 119	eP	P	19 10 31.9	+0.2	
SOE			IAmb	IAmb	19 10 34.1		
	comp=Z,31nm,1.0s						
P38A	Dawn	74.92 338	P	P	19 10 30.9	-0.6	
	baz=156,SNR=22						
M44A	Midewin, Midew	74.97 343	IAmb	IAmb	19 10 33.0		
	comp=Z,109nm,1.2s						
M44A	Midewin, Midew	74.97 343	P	P	19 10 31.7	-0.1	
	baz=160,SNR=6.3						
NCB	Newcomb	75.03 354	P	P	19 10 32.8	+0.7	
	baz=172,SNR=8.3						
K50A	Casco	75.07 347	P	P	19 10 31.8	-0.5	
	baz=165,SNR=11						
K50A			P	P	19 10 31.8	-0.5	
	baz=165,SNR=11						
N41A	Harden Midland	75.09 340	IAmb	IAmb	19 10 33.9		
	comp=Z,139nm,1.1s						
N41A	Harden Midland	75.09 340	P	P	19 10 31.4	-1.1	
	baz=158,SNR=14						
L46A	Eue Claire	75.13 344	IAmb	IAmb	19 10 33.1		
	comp=Z,80nm,0.8s						
L46A	Eue Claire	75.13 344	P	P	19 10 32.3	-0.4	
	baz=162						
L46A			P	P	19 10 32.3	-0.4	
	baz=162						
WCNY	West Carthage	75.19 352	P	P	19 10 33.4	+0.4	
	baz=171,SNR=21						
GRHM	Grahamstown, E	75.20 120	eP	P	19 10 33.9	+0.2	
GRHM			IAmb	IAmb	19 10 35.9		
	comp=Z,39nm,0.8s						
WVL	Waterville	75.30 357	IAmb	IAmb	19 10 36.8		
	comp=Z,46nm,0.7s						
WVL	Waterville	75.30 357	P	P	19 10 34.6	+1.0	
	baz=176,SNR=7.8						
EMMW	East Machias	75.37 359	IAmb	IAmb	19 10 37.2		
	comp=Z,76nm,0.7s						
EMMW	East Machias	75.37 359	P	P	19 10 35.2	+1.2	
	baz=178,SNR=18						
H62A	Milan	75.39 356	P	P	19 10 35.4	+1.2	
	baz=175,SNR=6.9						
H62A			P	P	19 10 35.4	+1.2	
	baz=175,SNR=6.9						
Y22A	Socorro	75.48 325	P	P	19 10 35.9	+0.8	
	baz=144,SNR=15						
KSU1	Kansas State U	75.49 336	IAmb	IAmb	19 10 36.7		
	comp=Z,137nm,0.9s						
KSU1	Kansas State U	75.49 336	P	P	19 10 34.6	-0.2	
	baz=153,SNR=14						
KSU1	Kansas State U	75.49 336	P	P	19 10 34.3	-0.5	
	baz=153,SNR=14						
Y22D	IRIS PASSCAL I	75.57 326	P	P	19 10 36.5	+1.0	
	baz=144						
Y22F	Passcal Instru	75.57 326	P	P	19 10 36.8	+1.2	
	baz=144						
R32A	Long Quarter,	75.67 334	P	P	19

L44A **Lake County Fo** **75.67 343** IAmb IAmb 19 10 37.2
comp=Z,119nm,0.8s
L44A **Lake County Fo** **75.67 343** P **P** **19 10 35.6 -0.2**
baz=160
LONY **Lake Ozonia** **75.71 353** P **P** **19 10 36.8 +0.8**
baz=172,SNR=7.6
HVD **Gariep Dam** **75.77 117** *e*P **P** **19 10 37.1 0.0**
HVD IAmb IAmb 19 10 39.1
comp=Z,41nm,1.0s
FRNY **Flat Rock** **75.83 354** IAmb IAmb 19 10 38.9
comp=Z,163nm,1.6s
FRNY **Flat Rock** **75.83 354** P **P** **19 10 37.2 +0.6**
baz=173,SNR=19
G65A **Princeton** **75.87 359** P **P** **19 10 37.8 +1.1**
baz=178,SNR=6.4
G65A P **P** **19 10 37.8 +1.1**
baz=178,SNR=6.4
N38A **Joes South For** **75.89 339** P **P** **19 10 36.5 -0.5**
baz=156,SNR=7.2
BMNY **Brushton-Moira** **75.92 353** P **P** **19 10 37.9 +0.8**
baz=172,SNR=15
J47A **Sunmer** **75.96 346** IAmb IAmb 19 10 38.8
comp=Z,69nm,0.8s
J47A **Sunmer** **75.96 346** P **P** **19 10 36.8 -0.6**
baz=163,SNR=6.6
J47A P **P** **19 10 36.8 -0.6**
baz=163,SNR=6.6
L42A **Oliver, Polo** **75.97 342** IAmb IAmb 19 10 38.9
comp=Z,88nm,1.2s
L42A **Oliver, Polo** **75.97 342** P **P** **19 10 37.9 +0.5**
baz=159,SNR=7.9
PKME **Peaks-Kenny Pk** **75.98 357** IAmb IAmb 19 10 40.5
comp=Z,74nm,0.7s
PKME **Peaks-Kenny Pk** **75.98 357** P **P** **19 10 38.6 +1.1**
baz=177,SNR=19
PKME **Peaks-Kenny Pk** **75.98 357** P **P** **19 10 38.5 +1.0**
baz=177,SNR=19
G62A **West of Eustis** **76.00 356** IAmb IAmb 19 10 40.8
comp=Z,75nm,0.7s
G62A **West of Eustis** **76.00 356** P **P** **19 10 38.9 +1.3**
baz=176,SNR=19
G62A P **P** **19 10 38.9 +1.3**
baz=176,SNR=19
ANMO **Albuquerque** **76.05 326** P **P** **19 10 38.5 +0.1**
ANMO IAmb IAmb 19 10 40.9
comp=Z,50nm,0.7s
ANMO **Albuquerque** **76.05 326** *i* P **P** **19 10 38.7 +0.3**
ANMO pmax pmax
comp=Z,50nm,0.7s
ANMO **Albuquerque** **76.05 326** P **P** **19 10 39.0 +0.7**
baz=145
ANMO **Albuquerque** **76.05 326** P **P** **19 10 39.0 +0.7**
baz=145,SNR=51
TUC **Tucson** **76.14 322** P **P** **19 10 38.6 -0.2**
TUC **Tucson** **76.14 322** P **P** **19 10 38.6 -0.2**
TUC pmax pmax
comp=Z,20nm,1.0s
TUC **Tucson** **76.14 322** P **P** **19 10 39.2 +0.5**
baz=141
PPT **Papeete** **76.14 258** P **P** **19 10 40.2 +1.1**
comp=Z,128nm,0.9s,baz=258,slow=22,SNR=4.4
comp=Z,128nm,0.9s
K43A **Burlington** **76.27 343** IAmb IAmb 19 10 40.8
comp=Z,116nm,0.8s
K43A **Burlington** **76.27 343** P **P** **19 10 38.6 -0.6**
baz=160,SNR=9.9
CBKS **Cedar Bluff** **76.40 333** P **P** **19 10 40.4 +0.3**
baz=150,SNR=15
CBKS **Cedar Bluff** **76.40 333** P **P** **19 10 41.7 +1.7**
baz=150,SNR=15
F63A **Nahmakanta, Br** **76.42 357** IAmb IAmb 19 10 43.1
comp=Z,48nm,0.8s
F63A **Nahmakanta, Br** **76.42 357** P **P** **19 10 40.7 +0.8**
baz=177,SNR=16
F63A P **P** **19 10 40.7 +0.8**
baz=177,SNR=16
L40A **Anamosa** **76.45 341** P **P** **19 10 39.7 -0.5**
baz=158,SNR=28
BOSA **Boshof** **76.52 115** *i* P **P** **19 10 39.1 -2.2**
BOSA **Boshof** **76.52 115** ⇓*i* P **P** **19 10 41.2 -0.1**
BOSA IAmb IAmb 19 10 42.1
comp=Z,25nm,0.6s
BOSA **Boshof** **76.52 115** P **P** **19 10 41.1 -0.1**
comp=Z,21nm,0.5s,baz=255,slow=3.9,SNR=150
BOSA pP **pP** **19 11 23.9 -0.2**
comp=Z,37nm,1.0s,baz=233,slow=4.1,SNR=5.5
comp=Z,21nm,0.5s
BOSA **Boshof** **76.52 115** *i* P **P** **19 10 39.1 -2.2**
baz=113
F64A **Sherman** **76.55 358** IAmb IAmb 19 10 43.9
comp=Z,102nm,1.3s
F64A **Sherman** **76.55 358** P **P** **19 10 41.9 +1.3**
baz=178,SNR=9.5
F64A P **P** **19 10 41.9 +1.3**
baz=178,SNR=9.5
F62A **Pittston Farm,** **76.65 357** IAmb IAmb 19 10 44.4
comp=Z,64nm,0.8s
F62A **Pittston Farm,** **76.65 357** P **P** **19 10 42.3 +1.1**
baz=176,SNR=23
F62A P **P** **19 10 42.3 +1.1**
baz=176,SNR=23
N35A **Tabor** **76.73 337** P **P** **19 10 40.8 -1.0**
baz=154,SNR=10
SCIA **State Center** **76.90 339** IAmb IAmb 19 10 44.5
comp=Z,105nm,1.1s
SCIA **State Center** **76.90 339** P **P** **19 10 42.4 -0.3**
baz=156
T25A **Trinidad** **76.92 329** IAmb IAmb 19 10 46.4
comp=Z,76nm,0.8s
T25A **Trinidad** **76.92 329** P **P** **19 10 44.1 +0.9**
baz=147,SNR=38
214A **Organ Pipe Nat** **76.96 320** IAmb IAmb 19 10 46.0
comp=Z,66nm,0.7s
214A **Organ Pipe Nat** **76.96 320** P **P** **19 10 44.1 +0.8**
baz=140,SNR=41
JFWS **Jewell Farm** **76.97 342** IAmb IAmb 19 10 44.8
comp=Z,91nm,0.7s
JFWS **Jewell Farm** **76.97 342** P **P** **19 10 42.9 -0.2**
baz=158,SNR=17
JFWS **Jewell Farm** **76.97 342** P **P** **19 10 42.3 -0.8**
baz=158,SNR=17
H07S1 **FLORES T-PHASE** **76.98 27** *e*P **P** **19 10 47.1 +3.9**
comp=Z,314nm,1.2s
E63A **Oxbow** **77.11 358** P **P** **19 10 44.3 +0.6**
baz=178,SNR=10
E63A P **P** **19 10 44.3 +0.6**
baz=178,SNR=10
SWZ **Schweizer** **77.25 114** *e*P **P** **19 10 44.5 -0.9**
SWZ IAmb IAmb 19 10 46.3
comp=Z,19nm,0.8s
H07N1 **FLORES T-PHASE** **77.28 27** *e*P **P** **19 10 45.3 +0.4**
comp=Z,69nm,0.7s
PCAN **Candelaria** **77.29 29** *e*P **P** **19 10 47.2 +2.2**
comp=Z,107nm,0.7s
E62A **Clayton Lake** **77.35 357** IAmb IAmb 19 10 48.2
comp=Z,57nm,0.7s
E62A **Clayton Lake** **77.35 357** P **P** **19 10 46.3 +1.2**
baz=177,SNR=18
E62A P **P** **19 10 46.3 +1.2**
baz=177,SNR=18
GLMI **Grayling** **77.44 346** P **P** **19 10 45.5 -0.1**
baz=163
K38A **Parkersburg** **77.44 340** IAmb IAmb 19 10 46.7
comp=Z,56nm,0.7s
K38A **Parkersburg** **77.44 340** P **P** **19 10 45.2 -0.5**
baz=156
PSMA **Santa Maria** **77.53 32** *e*P **P** **19 10 47.4 +1.1**
comp=Z,56nm,1.1s
I42A **Draeger Farm,** **77.53 343** IAmb IAmb 19 10 47.9
comp=Z,88nm,0.9s
I42A **Draeger Farm,** **77.53 343** P **P** **19 10 46.1 -0.1**
baz=160,SNR=14
PSMN **Pico do Norte,** **77.56 32** *e*P **P** **19 10 47.1 +0.6**
comp=Z,120nm,0.9s
PMAN **Manadas** **77.59 29** *e*P **P** **19 10 48.6 +2.0**
comp=Z,311nm,0.8s
ROSA **Rosais** **77.60 29** *e*P **P** **19 10 48.5 +1.8**
comp=Z,188nm,1.1s
KSCO **Kaye Shedlock'** **77.73 331** P **P** **19 10 48.0 +0.5**
baz=148,SNR=7.8
KSCO **Kaye Shedlock'** **77.73 331** P **P** **19 10 49.3 +1.7**
baz=148,SNR=7.8
D62A **Allapoint, All** **77.79 358** P **P** **19 10 48.2 +0.7**
baz=177,SNR=14
D62A P **P** **19 10 48.2 +0.7**
baz=177,SNR=14
W18A **Petrified Fore** **77.79 324** P **P** **19 10 48.6 +0.5**
baz=142,SNR=6.0

H43A **Windswept, Lux** **77.80 344** IAmb IAmb 19 10 49.2
comp=Z,76nm,0.6s
H43A **Windswept, Lux** **77.80 344** P **P** **19 10 47.3 -0.4**
baz=161,SNR=8.0
G45A **Suttons Bay** **77.86 346** IAmb IAmb 19 10 54.1
comp=Z,44nm,0.7s
SDCO **Great Sand Dun** **77.91 329** P **P** **19 10 49.3 +0.5**
baz=146,SNR=12
SDCO **Great Sand Dun** **77.91 329** P **P** **19 10 49.6 +0.8**
baz=146,SNR=12
L34A **Svendsen Farm,** **77.96 337** IAmb IAmb 19 10 50.3
comp=Z,128nm,0.8s
L34A **Svendsen Farm,** **77.96 337** P **P** **19 10 49.1 +0.4**
baz=153,SNR=11
I40A **Norwalk** **77.98 342** P **P** **19 10 48.1 -0.6**
baz=158,SNR=11
CMLA **Cha da Macela** **77.98 31** *e*P **P** **19 10 48.0 -0.8**
comp=Z,41nm,0.8s
PSBA **Serra de Santa** **78.03 30** *e*P **P** **19 10 51.1 +2.0**
comp=Z,190nm,1.0s
TOA0 **Torodi Ar. Sit** **78.04 67** IAmb IAmb 19 10 51.3
comp=Z,171nm,1.2s
TORD **Torodi Ar. Bea** **78.04 67** IAmb IAmb 19 10 51.2
comp=Z,139nm,1.1s
TORD **Torodi Ar. Bea** **78.04 67** P **P** **19 10 49.7 0.0**
comp=Z,76nm,0.9s,baz=284,slow=5.8,SNR=542
TORD pP **pP** **19 11 31.7 -0.5**
comp=Z,12nm,0.6s,baz=288,slow=4.7,SNR=2.0
TORD PKKPbc **PKKPbc** **19 29 48.1 +0.4**
comp=Z,0.5nm,0.3s,baz=70,slow=2.0,SNR=13
TORD LR LR 19 42 48.7
comp=Z,135nm,20.7s,baz=240,slow=34
comp=Z,76nm,0.9s
PGRON **Lagoa das Cont** **78.05 32** *e*P **P** **19 10 50.8 +1.5**
comp=Z,94nm,0.7s
BGNE **Belgrade** **78.08 336** P **P** **19 10 49.5 +0.2**
baz=152,SNR=15
BGNE **Belgrade** **78.08 336** P **P** **19 10 49.6 +0.3**
baz=152,SNR=15
PAGU **Agualva, Azore** **78.09 30** *e*P **P** **19 10 50.8 +1.4**
comp=Z,125nm,0.7s
X16A **Lo Mia Camp, P** **78.12 323** IAmb IAmb 19 10 53.1
comp=Z,107nm,1.1s
BART **Pico Bartolome** **78.15 32** *e*P **P** **19 10 50.8 +0.9**
comp=Z,204nm,1.1s
PMOZ **Porto Moniz, M** **78.25 40** *e*P **P** **19 10 51.4 +0.8**
comp=Z,50nm,2.2s
PMAR **Madeira** **78.33 40** *e*P **P** **19 10 52.6 +1.5**
comp=Z,73nm,1.0s
LBTB **Lobatse** **78.49 112** IAmb IAmb 19 10 53.2
comp=Z,16nm,0.6s
LBTB **Lobatse** **78.49 112** *i* P **P** **19 10 48.7 -3.6**
LBTB **Lobatse** **78.49 112** ⇓*i* P **P** **19 10 52.1 -0.1**
LBTB IAmb IAmb 19 10 53.1
comp=Z,17nm,0.6s
LBTB **Lobatse** **78.49 112** *i* P **P** **19 10 48.7 -3.6**
baz=110
S22A **4UR Ranch, Cre** **78.51 328** P **P** **19 10 52.7 +0.6**
baz=145,SNR=18
SNKL **Senekal, Frees** **78.62 116** *e*P **P** **19 10 52.0 -1.0**
SNKL IAmb IAmb 19 11 06.6
comp=Z,50nm,1.3s
MVCO **Mesa Verde** **78.85 326** P **P** **19 10 54.6 +0.6**
baz=144,SNR=46
E46A **Sault Ste Mari** **78.86 347** IAmb IAmb 19 10 55.1
comp=Z,76nm,0.8s
E46A **Sault Ste Mari** **78.86 347** P **P** **19 10 53.3 -0.1**
baz=164,SNR=14
I37B **Waseca** **78.88 340** P **P** **19 10 53.4 -0.1**
baz=156,SNR=18
GLA **Glamis** **78.90 320** P **P** **19 10 54.6 +0.5**
baz=139,SNR=9.2
MRCO **Marico , North** **78.91 113** ⇓*i* P **P** **19 10 54.4 -0.1**
MRCO IAmb IAmb 19 11 00.9
comp=Z,171nm,2.5s
WUAZ **Wupatki** **78.94 323** IAmb IAmb 19 10 57.6
comp=Z,61nm,0.9s
WUAZ **Wupatki** **78.94 323** P **P** **19 10 55.4 +1.1**
baz=141,SNR=22
OGNE **Ogallala** **79.13 333** IAmb IAmb 19 10 58.0
comp=Z,65nm,0.8s
OGNE **Ogallala** **79.13 333** P **P** **19 10 56.6 +1.4**
baz=149,SNR=5.7
OGNE **Ogallala** **79.13 333** P **P** **19 10 56.8 +1.6**
baz=149,SNR=5.7
G40A **Rib Lake** **79.15 343** P **P** **19 10 55.9 +0.8**
baz=159,SNR=9.8
IKP **In-Ko-Pah, Jac** **79.33 318** P **P** **19 10 58.1 +1.7**
baz=138,SNR=13
SWSC **Sam W. Stewart** **79.37 319** P **P** **19 10 57.3 +0.8**
baz=138,SNR=8.4
E43A **Lone Tree Farm** **79.42 345** IAmb IAmb 19 10 58.2
comp=Z,168nm,1.6s
E43A **Lone Tree Farm** **79.42 345** P **P** **19 10 56.6 +0.2**
baz=162,SNR=6.8
PDMCI **Parker Dam,Lak** **79.46 321** P **P** **19 10 58.2 +1.2**
baz=139,SNR=6.3
ECSD **EROS Data Cent** **79.62 338** IAmb IAmb 19 10 59.5
comp=Z,101nm,0.9s
ECSD **EROS Data Cent** **79.62 338** P **P** **19 10 57.4 -0.3**
baz=153,SNR=52
ECSD **EROS Data Cent** **79.62 338** P **P** **19 10 57.3 -0.3**
baz=153,SNR=52
ISCO **Idaho Springs** **79.65 330** P **P** **19 10 59.1 +0.8**
baz=146,SNR=38
ISCO **Idaho Springs** **79.65 330** P **P** **19 10 58.9 +0.7**
baz=146,SNR=38
MONP2 **Monument Peak** **79.68 318** P **P** **19 10 59.4 +0.9**
baz=138,SNR=12
BC3 **Big Chuckawall** **79.70 320** P **P** **19 10 59.2 +0.8**
baz=138,SNR=34
K30B **Basset** **79.71 335** P **P** **19 10 58.9 +0.7**
baz=151,SNR=12
SMCO **Snowmass** **79.74 329** IAmb IAmb 19 11 02.3
comp=Z,61nm,0.7s
BRIGG **Briggsdale** **79.75 331** IAmb IAmb 19 11 01.4
comp=Z,52nm,0.7s
SPMN **Marine on St.** **79.81 341** IAmb IAmb 19 10 59.5
comp=Z,62nm,0.5s
SPMN **Marine on St.** **79.81 341** P **P** **19 10 58.0 -0.5**
baz=157
SPMN **Marine on St.** **79.81 341** P **P** **19 10 57.6 -1.0**
baz=157,SNR=15
NYAT **Nyati, Northwe** **79.88 113** *e*P **P** **19 10 58.9 -0.8**
NYAT IAmb IAmb 19 11 00.3
comp=Z,59nm,1.4s
IRM **Iron Mountain** **79.90 320** P **P** **19 11 00.3 +0.9**
baz=139,SNR=32
W13A **Hualapai Mount** **79.93 322** IAmb IAmb 19 11 02.8
comp=Z,43nm,0.7s
109C **Camp Elliot, M** **80.07 318** P **P** **19 11 01.6 +1.4**
baz=137
NEE2 **Needles Airpor** **80.07 321** P **P** **19 11 01.4 +1.1**
baz=139
TPFO **Pinon Flats** **80.22 319** P **P** **19 11 02.2 +0.9**
baz=138,SNR=17
PFO **Pinyon Flats O** **80.23 319** P **P** **19 11 00.4 -0.9**
PFO **Pinyon Flats O** **80.23 319** *i* P **P** **19 11 01.0 -0.3**
PFO pmax pmax
comp=Z,59nm,0.9s
PFO **Pinyon Flats O** **80.23 319** P **P** **19 11 02.3 +1.0**
baz=138,SNR=17
MTLB **Matlabas, Limp** **80.23 112** ⇓*i* P **P** **19 11 01.9 +0.2**
MTLB IAmb IAmb 19 11 02.4
comp=Z,54nm,1.4s
TSWA **Tswaing Meteor** **80.25 114** *e*P **P** **19 11 02.2 +0.4**
TSWA IAmb IAmb 19 11 04.0
comp=Z,17nm,0.6s
BELC **Belle Mtn. Jos** **80.26 319** P **P** **19 11 02.2 +0.7**
baz=138,SNR=20
SLR **Silverton** **80.26 114** *e*P **P** **19 11 01.6 -0.2**
SLR IAmb IAmb 19 11 03.3
comp=Z,720nm,3.4s
D41A **Chassel** **80.43 344** P **P** **19 11 01.5 -0.3**
baz=160,SNR=18
HMU **Henry Mountain** **80.51 325** IAmb IAmb 19 11 05.7
comp=Z,61nm,0.8s
F36A **Milaca** **80.60 341** P **P** **19 11 02.3 -0.4**
baz=156,SNR=16
MURC **Murrieta** **80.64 318** P **P** **19 11 04.3 +0.9**
baz=137
GMRC **Granite Mounta** **80.65 320** P **P** **19 11 04.4 +0.9**
baz=138,SNR=60
RUST **Rust De Winter** **80.69 114** *e*P **P** **19 11 04.0 -0.1**
RUST IAmb IAmb 19 11 06.0
comp=Z,16nm,0.6s
N23A **Red Feather La** **80.70 330** P **P** **19 11 04.8 +0.9**
baz=146,SNR=15

E38A **The Farm, Brul** **80.74 342** IAmb IAmb 19 11 05.2
comp=Z,69nm,0.8s
E38A **The Farm, Brul** **80.74 342** P **P** **19 11 03.2 -0.4**
baz=158,SNR=11
LEPH **Lephalale, Lim** **80.80 112** ⇓*i* P **P** **19 11 04.5 -0.2**
LEPH IAmb IAmb 19 11 05.9
comp=Z,22nm,0.9s
KNB **Kanab** **80.83 323** IAmb IAmb 19 11 07.9
comp=Z,122nm,0.8s
PKCU **Pink Cliffs** **80.90 324** IAmb IAmb 19 11 07.9
comp=Z,43nm,0.7s
BBRC **Big Bear Solar** **80.97 319** P **P** **19 11 06.4 +1.1**
baz=137
SCI2 **San Clemente I** **80.97 317** P **P** **19 11 06.0 +1.0**
baz=136
SUSD **Miller** **81.03 336** P **P** **19 11 04.9 -0.2**
baz=152
HEC **Hector,Ludlow** **81.06 320** P **P** **19 11 06.3 +0.7**
baz=138,SNR=30
O20A **White River Ci** **81.09 328** IAmb IAmb 19 11 08.9
comp=Z,131nm,1.4s
O20A **White River Ci** **81.09 328** P **P** **19 11 06.3 +0.6**
baz=144,SNR=19
CIS **Catalina Islan** **81.20 318** P **P** **19 11 07.9 +1.6**
baz=136
TUQ **Turquoise Moun** **81.28 321** P **P** **19 11 08.5 +1.6**
baz=138,SNR=21
MTPU **Mount Pierson** **81.30 325** IAmb IAmb 19 11 09.5
comp=Z,40nm,0.6s
SRU **San Rafael Swe** **81.33 326** IAmb IAmb 19 11 09.6
comp=Z,75nm,0.9s
BFSC **Mount Baldy Ra** **81.37 319** P **P** **19 11 08.0 +0.6**
baz=137
F33A **5 Mile Ranch,** **81.40 339** IAmb IAmb 19 11 08.5
comp=Z,107nm,1.4s
RRX **Edison Barstow** **81.46 319** P **P** **19 11 08.7 +1.0**
baz=137
CCUT **Cedar City** **81.52 323** IAmb IAmb 19 11 11.7
comp=Z,66nm,0.8s
P18A **Preston Nutter** **81.61 327** IAmb IAmb 19 11 11.2
comp=Z,72nm,0.7s
GSC **Goldstone, Bar** **81.67 320** P **P** **19 11 09.6 +0.7**
baz=138,SNR=13
P17A **Butcher Ranch,** **81.72 326** IAmb IAmb 19 11 11.8
comp=Z,76nm,1.2s
SNCC **San Nicolas Is** **81.73 317** P **P** **19 11 10.6 +1.5**
baz=136
DECC **Green Verdugo** **81.76 318** P **P** **19 11 10.5 +1.2**
baz=136
RWWY **Rawlins** **81.89 330** IAmb IAmb 19 11 11.6
comp=Z,101nm,0.7s
DULL **Dullstroom, Mp** **81.93 115** *e*P **P** **19 11 11.2 +0.4**
DULL IAmb IAmb 19 11 12.4
comp=Z,12nm,0.8s
EYMN **Ely** **81.97 343** IAmb IAmb 19 11 11.7
comp=Z,60nm,0.7s
EYMN **Ely** **81.97 343** P **P** **19 11 09.7 -0.3**
baz=158,SNR=9.5
EYMN **Ely** **81.97 343** P **P** **19 11 09.7 -0.3**
baz=158,SNR=9.5
EDW2 **Edwards Air Fo** **82.02 319** P **P** **19 11 12.0 +1.3**
baz=137,SNR=8.1
OSI **Osito Audit: C** **82.25 318** P **P** **19 11 12.8 +1.0**
baz=136
LRMC **Laurel Mtn Rad** **82.28 319** P **P** **19 11 13.3 +1.2**
baz=137,SNR=10
PRN **Pahroc Range** **82.28 322** IAmb IAmb 19 11 15.5
comp=Z,81nm,1.1s
SCZ2 **Santa Cruz Isl** **82.33 317** P **P** **19 11 13.4 +1.2**
baz=136,SNR=6.8
K22A **Casper** **82.39 331** IAmb IAmb 19 11 15.7
comp=Z,124nm,1.0s
K22A **Casper** **82.39 331** P **P** **19 11 13.1 +0.6**
baz=146,SNR=35
K22A **Casper** **82.39 331** P **P** **19 11 12.9 +0.4**
baz=146,SNR=35
PSUT **Pine Spring** **82.52 324** IAmb IAmb 19 11 16.3
comp=Z,45nm,0.8s
FURC **Furnace Creek,** **82.56 321** P **P** **19 11 14.9 +1.7**
baz=138,SNR=6.7
PILG **Pilgrimsrest,** **82.56 114** *e*P **P** **19 11 11.9 -2.1**
TPNV **Topopah Spring** **82.58 321** IAmb IAmb 19 11 16.3
comp=Z,39nm,0.7s
TPNV **Topopah Spring** **82.58 321** P **P** **19 11 14.6 +0.9**
baz=138,SNR=48
MPMC **Manual Prospec** **82.60 320** P **P** **19 11 15.1 +1.3**
baz=137,SNR=16
OUK **Oukaimeden** **82.61 47** P **P** **19 11 16.0 +1.8**
RSSD **Black Hills** **82.61 333** P **P** **19 11 13.3 -0.4**
RSSD IAmb IAmb 19 11 15.9
comp=Z,47nm,0.8s
RSSD **Black Hills** **82.61 333** P **P** **19 11 13.3 -0.4**
RSSD pmax pmax
comp=Z,47nm,0.8s
RSSD **Black Hills** **82.61 333** P **P** **19 11 14.2 +0.5**
baz=148
RSSD **Black Hills** **82.61 333** P **P** **19 11 14.0 +0.3**
baz=148,SNR=32
ARVC **Arvin** **82.67 319** P **P** **19 11 15.5 +1.6**
baz=136
SBC **Santa Barbara** **82.69 318** P **P** **19 11 15.5 +1.5**
baz=136
ISA **Isabella, Lake** **82.86 319** P **P** **19 11 16.8 +1.8**
baz=136,SNR=14
BCW **Bitter Crk WRg** **82.87 318** IAmb IAmb 19 11 17.8
comp=Z,50nm,0.8s
B35A **Bob, Littlefor** **82.94 342** IAmb IAmb 19 11 16.8
comp=Z,90nm,0.7s
B35A **Bob, Littlefor** **82.94 342** P **P** **19 11 15.1 +0.1**
baz=156,SNR=24
CASY **Casey** **82.98 178** P **P** **19 11 15.8 +0.7**
HOED **Hoedspruit, Li** **83.00 114** *e*P **P** **19 11 16.4 +0.3**
HOED IAmb IAmb 19 11 16.8
comp=Z,19nm,1.3s
PKM **Mcpherson Peak** **83.07 318** P **P** **19 11 18.3 +2.0**
baz=136,SNR=12
OUZM **OUZ** **83.11 48** P **P** **19 11 18.0 +1.5**
SPR3 **Spring Creek 3** **83.12 324** IAmb IAmb 19 11 19.2
comp=Z,59nm,1.1s
MPHEP **Siloam, Limpop** **83.17 112** *e*P **P** **19 11 16.5 -0.6**
MPHEP IAmb IAmb 19 11 18.3
comp=Z,32nm,1.2s
CWC **Cottonwood Cre** **83.20 320** P **P** **19 11 17.7 +0.8**
baz=137
GRAC **Grapevine Rang** **83.22 321** IAmb IAmb 19 13 57.7
comp=Z,44nm,0.8s
GRAC **Grapevine Rang** **83.22 321** P **P** **19 11 17.9 +1.2**
baz=137,SNR=7.7
MUSN **Musina, Limpop** **83.23 112** *i* P **P** **19 11 16.6 -0.7**
MUSN **Musina, Limpop** **83.23 112** ⇓*i* P **P** **19 11 18.0 +0.7**
MUSN IAmb IAmb 19 11 18.4
comp=Z,36nm,1.3s
MUSN **Musina, Limpop** **83.23 112** *i* P **P** **19 11 16.6 -0.7**
baz=109
R11B **Troy Canyon, C** **83.27 323** IAmb IAmb 19 11 19.8
comp=Z,36nm,0.7s
R11B **Troy Canyon, C** **83.27 323** P **P** **19 11 18.0 +0.8**
baz=139,SNR=86
DUG **Dugway, Tooele** **83.28 326** P **P** **19 11 17.7 +0.6**
baz=141,SNR=18
ZGR **Zagora** **83.31 49** P **P** **19 11 20.0 +2.5**
TCUT **Toone Canyon** **83.33 327** IAmb IAmb 19 11 20.8
comp=Z,53nm,0.7s
VES **Vestal, Richgr** **83.33 319** P **P** **19 11 17.8 +0.5**
baz=136,SNR=14
SMMC **Simmler** **83.47 318** P **P** **19 11 19.1 +1.0**
baz=136,SNR=11
E28A **Huff** **83.49 336** P **P** **19 11 18.2 +0.4**
baz=150,SNR=17
TIN **Tinemaha, Big** **83.73 320** P **P** **19 11 20.5 +1.1**
baz=137
HWUT **Hardware Ranch** **83.78 327** IAmb IAmb 19 11 21.7
comp=Z,59nm,0.8s
PDAR **Pinedale Array** **83.79 329** P **P** **19 11 19.6 -0.2**
comp=Z,23nm,0.7s,baz=128,slow=7.4,SNR=98
comp=Z,23nm,0.7s
BW06 **Boulder Array** **83.79 329** P **P** **19 11 19.8 0.0**
baz=143,SNR=35
MOPA **Mopani** **83.82 114** *i* P **P** **19 11 19.3 -1.0**
MOPA **Mopani** **83.82 114** *e*P **P** **19 11 21.0 +0.7**
MOPA **Mopani** **83.82 114** *i* P **P** **19 11 19.3 -1.0**
baz=111
SPUT **South Promonto** **83.96 326** IAmb IAmb 19 11 22.6
comp=Z,41nm,0.7s
ID09 **Alton** **84.11 328** IAmb IAmb 19 11 23.8
comp=Z,74nm,0.7s
MDND **Maddock** **84.23 338** P **P** **19 11 22.0 +0.4**
baz=151,SNR=14

MDND Maddock 84.23 338 P **P 19 11 21.7 +0.1**
baz=151,SNR=14
AHID Auburn Hatcher 84.48 328 IAmb IAmb 19 11 25.2
comp=Z,42nm,0.8s
MLAC Mammoth, Mammo 84.48 320 P **P 19 11 24.8 +1.4**
baz=136,SNR=10
HVU Hansel Valley 84.48 327 IAmb IAmb 19 11 25.0
comp=Z,37nm,0.7s
ID06 Fossil Canyon 84.50 328 IAmb IAmb 19 11 26.9
comp=Z,159nm,1.4s
ID05 Sulphur Canyon 84.54 328 IAmb IAmb 19 11 26.3
comp=Z,52nm,0.6s
OMMB Old Mammoth Mi 84.56 320 IAmb IAmb 19 11 26.1
comp=Z,44nm,0.7s
PMPB Monarch Peak 84.58 318 IAmb IAmb 19 11 27.1
comp=Z,54nm,1.0s
NVAR Mina Array Bea 84.77 321 P **P 19 11 25.4 +0.5**
comp=Z,9.0nm,0.6s,baz=143,slow=5.1,SNR=29
NVAR PKKPbc **PKKPbc 19 29 33.3 -0.7**
comp=Z,0.5nm,0.5s,baz=267,slow=3.9,SNR=4.5
NVAR PKKPab PKKPab 19 30 20.1
comp=Z,0.6nm,0.8s,baz=307,slow=1.6,SNR=3.8
NVAR LR LR 19 48 04.9
comp=Z,41nm,18.9s,baz=134,slow=35
comp=Z,9.0nm,0.6s
ZHG ZHG 84.88 46 P **P 19 11 27.0 +1.7**
ID08 Devils Gate 84.92 328 IAmb IAmb 19 11 28.0
comp=Z,54nm,1.1s
BBGB Big Mountain B 84.97 318 IAmb IAmb 19 11 30.8
comp=Z,94nm,0.8s
ARF Arif 85.08 49 P **P 19 11 29.0 +2.7**
ULM Lac du Bonnet 85.24 341 IAmb IAmb 19 11 28.4
comp=Z,68nm,0.8s
ULM Lac du Bonnet 85.24 341 P **P 19 11 26.1 -0.4**
comp=Z,55nm,0.7s,baz=150,slow=5.3,SNR=35
comp=Z,55nm,0.7s
IMW Indian Meadow 85.30 329 IAmb IAmb 19 11 30.1
comp=Z,95nm,0.8s
FLWY Flagg Ranch 85.34 329 IAmb IAmb 19 11 30.0
comp=Z,85nm,0.8s
LSZ Lusaka 85.43 105 P **P 19 11 29.6 +1.0**
LSZ Lusaka 85.43 105 P **P 19 11 29.6 +1.0**
LSZ pmax pmax
comp=Z,18nm,0.7s
WAKR Walker 85.44 321 IAmb IAmb 19 11 31.5
comp=Z,63nm,1.0s
SCHQ Schefferville 85.50 359 P **P 19 11 27.3 -0.4**
comp=Z,14nm,0.6s,baz=192,slow=4.0,SNR=11
comp=Z,14nm,0.6s
H17A Grant Village 85.53 329 P **P 19 11 29.6 +1.1**
baz=143,SNR=8.6
RLMT Red Lodge 85.55 331 IAmb IAmb 19 11 31.3
comp=Z,135nm,1.3s
RLMT Red Lodge 85.55 331 P **P 19 11 28.9 +0.3**
baz=144,SNR=42
LAO LASA Array 85.60 333 IAmb IAmb 19 11 30.7
comp=Z,92nm,1.1s
LAO LASA Array 85.60 333 P **P 19 11 29.6 +1.1**
baz=146,SNR=7.2
LAO LASA Array 85.60 333 P **P 19 11 29.8 +1.2**
baz=146,SNR=7.2
CZD Col de Zad 85.61 47 P **P 19 11 31.3 +2.2**
YMP Mirror Lake Pl 85.62 330 IAmb IAmb 19 11 46.7
comp=Z,83nm,1.0s
YFT Old Faithful 85.69 329 IAmb IAmb 19 11 34.6
comp=Z,65nm,0.8s
MDT Midelt 85.74 48 P **P 19 11 31.8 +2.2**
PFVI Vila Bisbo 86.10 42 *eP* **P 19 11 32.4 +1.3**
LCRM LCR 86.15 47 P **P 19 11 34.0 +2.3**
YHL Hebgen Lake 86.16 329 IAmb IAmb 19 11 34.4
comp=Z,58nm,0.7s
PAHR Pah Rah Range 86.27 321 IAmb IAmb 19 11 34.7
comp=Z,53nm,0.8s
MORF Marmelete 86.32 42 *eP* **P 19 11 33.5 +1.3**
DGMT Dagmar 86.34 335 P **P 19 11 32.6 +0.6**
baz=148,SNR=20
DGMT Dagmar 86.34 335 P **P 19 11 32.4 +0.3**
baz=148,SNR=20
PTEO Sao Teotonio 86.44 42 *eP* **P 19 11 33.7 +0.9**
comp=Z,90nm,1.5s
HLID Hailey 86.63 327 IAmb IAmb 19 11 36.9
comp=Z,118nm,1.1s
HLID Hailey 86.63 327 P **P 19 11 34.6 +0.9**
baz=140,SNR=104
PBDV Barranco-do-Ve 86.69 42 *eP* **P 19 11 35.8 +1.8**
comp=Z,144nm,1.5s
CHEFC Chefchaouen 86.79 45 P **P 19 11 37.0 +2.3**
PCVE Castro Verde 86.90 42 *eP* **P 19 11 36.5 +1.5**
comp=Z,52nm,1.0s
PVAQ Vaqueiros 86.92 42 *eP* **P 19 11 36.6 +1.4**
comp=Z,69nm,1.5s
PVAQ Vaqueiros 86.92 42 P **P 19 11 36.5 +1.4**
BOZ Bozeman (W) 86.94 330 IAmb IAmb 19 11 37.1
comp=Z,32nm,0.7s
BOZ Bozeman (W) 86.94 330 P **P 19 11 35.5 +0.2**
baz=142,SNR=47
PNCL Nicolau / Gran 86.95 42 *eP* **P 19 11 36.1 +0.9**
comp=Z,56nm,1.3s
PLTX Planet X, Gerl 87.04 322 IAmb IAmb 19 11 38.5
comp=Z,82nm,1.0s
SMIR Smir Dam 87.15 45 P **P 19 11 38.3 +2.0**
PBEJ Beja 87.27 42 *eP* **P 19 11 38.6 +1.8**
comp=Z,60nm,1.6s
ORV Oroville 87.31 320 IAmb IAmb 19 11 39.9
comp=Z,40nm,0.9s
FIGM Figuig 87.46 50 P **P 19 11 41.0 +3.0**
EVO Evora 87.53 41 *eP* **P 19 11 39.1 +1.1**
comp=Z,38nm,1.6s
PMTG Montargil 87.78 41 *eP* **P 19 11 40.4 +1.3**
comp=Z,72nm,1.1s
PBAR Barrancos 87.84 42 *eP* **P 19 11 40.7 +1.2**
comp=Z,44nm,1.8s
WVOR Wild Horse Val 87.85 324 IAmb IAmb 19 11 42.4
comp=Z,54nm,1.4s
PESTR Estremoz 88.00 41 *eP* **P 19 11 42.2 +2.0**
comp=Z,54nm,1.4s
PESTR Estremoz 88.00 41 IAmb IAmb 19 11 43.3
comp=Z,57nm,1.4s
JBK JBK 88.02 48 P **P 19 11 42.1 +1.5**
EGMT Eagleton 88.08 332 IAmb IAmb 19 11 42.5
comp=Z,93nm,1.1s
EGMT Eagleton 88.08 332 P **P 19 11 41.1 +0.6**
baz=143,SNR=20
PCAS Casmilo, Conde 88.31 40 *eP* **P 19 11 43.9 +2.3**
comp=Z,66nm,1.4s
GOG Mont Gurugu 88.32 47 P **P 19 11 44.0 +2.1**
SYZ Scrubby Hill 88.36 214 P **P 19 11 42.7 +0.7**
TAF Taforalt 88.42 47 P **P 19 11 45.0 +2.6**
PMRV Marv??o 88.50 41 *eP* **P 19 11 43.3 +0.7**
TUZ Tuapeka 88.54 215 P **P 19 11 44.0 +1.2**
MQZ McQueen's Vall 88.56 218 P **P 19 11 44.0 +1.1**
ODZ Otahua Downs 88.67 216 P **P 19 11 44.5 +1.0**
APZ The Paps 88.70 214 P **P 19 11 43.9 +0.2**
PCBR Castelo Branco 88.73 41 *eP* **P 19 11 44.4 +0.8**
comp=Z,30nm,1.6s
GVZ Greta Valley S 88.86 219 P **P 19 11 45.5 +1.1**
MSO Missoula 88.91 329 P **P 19 11 45.0 +0.5**
baz=140,SNR=11
KHZ Kahutara 88.96 219 P **P 19 11 46.2 +1.3**
MRZ Mangatainoka R 88.99 222 IAmb IAmb 19 11 48.3
comp=Z,65nm,1.1s
MRZ Mangatainoka R 88.99 222 P **P 19 11 46.6 +1.6**
KMRM Mail Ridge 89.00 319 IAmb IAmb 19 11 47.9
comp=Z,31nm,0.7s
MTE Manteigas 89.07 40 *eP* **P 19 11 46.2 +0.9**
comp=Z,36nm,2.0s
MTE Manteigas 89.07 40 IAmb IAmb 19 11 47.0
comp=Z,49nm,1.5s
PVIS Viseu 89.10 40 *eP* **P 19 11 46.0 +0.6**
TSZ Takapari Road 89.16 222 P **P 19 11 47.7 +1.8**
EAZ Earnscleugh 89.21 215 P **P 19 11 46.9 +0.8**
TCW Tory Channel 89.36 221 P **P 19 11 48.6 +1.8**
KMPM Mount Pierce 89.36 319 IAmb IAmb 19 11 49.4
comp=Z,29nm,0.8s
LBZ Lake Benmore 89.37 216 P **P 19 11 47.6 +0.8**
RPZ Rata Peaks 89.39 217 IAmb IAmb 19 11 49.5
comp=Z,60nm,0.9s
RPZ Rata Peaks 89.39 217 P **P 19 11 48.2 +1.3**
RPZ Rata Peaks 89.39 217 P **P 19 11 47.9 +1.0**
comp=Z,55nm,0.9s,baz=284,slow=1.3,SNR=11
RPZ LR LR 19 49 10.6
comp=Z,74nm,18.1s,baz=112,slow=34
comp=Z,55nm,0.9s
LTZ Lake Taylor 89.39 219 IAmb IAmb 19 11 50.2
comp=Z,52nm,0.8s
LTZ Lake Taylor 89.39 219 P **P 19 11 48.1 +1.1**
WHZ Wether Hill Ro 89.40 214 IAmb IAmb 19 11 49.0
comp=Z,93nm,1.2s
WHZ Wether Hill Ro 89.40 214 P **P 19 11 48.2 +1.3**
BKZ Black Stump Fm 89.44 223 P **P 19 11 49.2 +1.9**
KHMM Horse Mountain 89.46 320 IAmb IAmb 19 11 49.8
comp=Z,28nm,0.8s
YBH Yreka Blue Hor 89.49 321 IAmb IAmb 19 11 48.5
comp=Z,27nm,0.7s
RTZ Ruatahuna 89.50 224 IAmb IAmb 19 11 51.1
comp=Z,51nm,1.1s
RTZ Ruatahuna 89.50 224 P **P 19 11 49.5 +1.8**
PVRL Vila Real 89.58 40 *eP* **P 19 11 48.5 +0.9**
comp=Z,34nm,1.4s
WKZ Wanaka 89.64 215 P **P 19 11 49.1 +1.0**
MLZ Mavora Lakes 89.70 215 P **P 19 11 49.1 +0.7**
THZ Tophouse 89.75 220 P **P 19 11 50.5 +1.8**
THZ Tophouse 89.75 220 P **P 19 11 50.5 +1.8**
F10A Beach Ranch, E 89.76 327 IAmb IAmb 19 11 55.7
comp=Z,71nm,1.7s
PYZ Puysegur Point 89.81 213 P **P 19 11 49.0 +0.2**
WNVZ Wahianoa 89.86 223 P **P 19 11 51.1 +1.7**
NNZ Nelson 89.86 220 IAmb IAmb 19 11 51.6
comp=Z,63nm,0.9s
NNZ Nelson 89.86 220 P **P 19 11 50.0 +0.9**
INZ Inchbonnie 89.88 218 P **P 19 11 49.6 +0.4**
MVO Moncorvo 89.88 40 *eP* **P 19 11 49.9 +0.8**
comp=Z,32nm,1.7s
ETVZ East Tongariro 89.92 223 P **P 19 11 51.7 +2.1**
TMVZ Te Maari 89.93 223 P **P 19 11 51.9 +2.2**
NGZ Ngauruhoe 89.95 223 P **P 19 11 51.5 +1.7**
NNVZ North Ngauruho 89.97 223 P **P 19 11 52.2 +2.2**
WVZ Waitaha Valley 90.00 218 P **P 19 11 50.5 +0.7**
MRNZ Matariki Terra 90.08 220 P **P 19 11 52.1 +1.9**
TWVZ Taurewa 90.12 223 P **P 19 11 52.2 +1.7**
FOZ Fox Glacier 90.16 217 P **P 19 11 51.1 +0.6**
L02F Cave Junction 90.22 321 IAmb IAmb 19 11 53.0
comp=Z,40nm,0.8s
PAB San Pablo 90.32 43 P **P 19 11 52.1 +0.9**
PAB San Pablo 90.32 43 P **P 19 11 52.5 +1.3**
PAB San Pablo 90.32 43 P **P 19 11 52.1 +0.9**
PAB pmax pmax
comp=Z,20nm,1.4s
DSZ Denniston Nort 90.36 219 P **P 19 11 51.5 0.0**
VRZ Vera Road 90.48 223 P **P 19 11 53.2 +1.2**
TLZ Tolley Road 90.55 224 P **P 19 11 53.9 +1.5**
I05D Terrebonne, OR 90.59 324 IAmb IAmb 19 11 54.9
comp=Z,49nm,0.7s
QRZ Quartz Range 90.59 220 P **P 19 11 52.3 -0.2**
ESDC Sonseca Array, 90.63 43 P **P 19 11 53.5 +1.0**
comp=Z,4.1nm,0.6s,baz=240,slow=4.8,SNR=51
comp=Z,4.1nm,0.6s
G06A Carlson Farm, 90.87 325 IAmb IAmb 19 11 56.1
comp=Z,34nm,1.0s
FFC Flin Flon 90.95 340 P **P 19 11 53.4 -0.2**
FFC IAmb IAmb 19 11 55.7
comp=Z,36nm,1.1s
FFC Flin Flon 90.95 340 P **P 19 11 53.4 -0.2**
FFC pmax pmax
comp=Z,37nm,1.1s
TOZ Tahuroa Road 90.96 224 IAmb IAmb 19 11 56.3
comp=Z,46nm,0.9s
TOZ Tahuroa Road 90.96 224 P **P 19 11 55.5 +1.2**
F07A Phinny Hill Vi 91.00 325 IAmb IAmb 19 11 56.9
comp=Z,20nm,0.8s
HAWA Hanford 91.16 326 IAmb IAmb 19 11 56.9
comp=Z,40nm,1.1s
H04A Detroit Lake 91.27 323 IAmb IAmb 19 11 57.0
comp=Z,31nm,0.8s
D08A Wollman Farm, 91.35 327 IAmb IAmb 19 11 57.5
comp=Z,22nm,0.7s
NEW Newport 91.41 328 P **P 19 11 56.5 +0.6**
baz=138
E07A Sunnyside 91.44 326 IAmb IAmb 19 11 58.5
comp=Z,22nm,0.8s
HOOD Mount Hood Mea 91.44 324 IAmb IAmb 19 11 59.1
comp=Z,71nm,1.4s
C09A Chrisman Ranch 91.59 328 IAmb IAmb 19 11 58.9
comp=Z,51nm,0.8s
LTY Liberty 92.33 326 IAmb IAmb 19 12 02.1
comp=Z,25nm,0.7s
LON Longmire 92.52 325 IAmb IAmb 19 12 02.8
comp=Z,24nm,1.0s
GNW Green Mountain 93.59 325 IAmb IAmb 19 12 07.8
comp=Z,24nm,0.7s
B06A Marblemount 93.60 327 IAmb IAmb 19 12 07.3
comp=Z,35nm,0.8s
FRB Frobisher Bay 94.46 359 LR LR 19 58 19.4
comp=Z,65nm,18.7s,baz=208,slow=38
BRLDA Berland Lookou 95.83 332 IAmb IAmb 19 12 16.6
comp=Z,23nm,1.2s
KEST Kesra 96.68 52 P **P 19 12 20.2 -0.3**
comp=Z,3.0nm,0.7s,baz=122,slow=3.1,SNR=6.0
comp=Z,3.0nm,0.7s
SSB Saint Sauveur 99.03 42 IAmb IAmb 19 12 33.1
comp=Z,14nm,1.4s
YKA Yellowknife Ar 101.10 339 P **Pdif 19 12 39.5 +0.1**
comp=Z,6.9nm,0.6s,baz=138,slow=4.4,SNR=25
EKA Eskdalemuir Ar 101.16 31 P **Pdif 19 12 40.0 +0.1**
EKA Eskdalemuir Ar 101.16 31 P **Pdif 19 12 40.0 +0.1**
comp=Z,1.2nm,0.4s,baz=229,slow=4.9,SNR=8.3
KOTAN Kotaneelee Air 102.65 334 P **Pdif 19 12 47.1 +0.7**
baz=132
GERES GERESS Array B 106.22 43 PKiKP **PKiKP 19 17 13.9 +0.5**
comp=Z,1.6nm,0.6s,baz=336,slow=2.2,SNR=3.5
CLL Collm 107.00 40 *e*Sdif Sdif 19 24 53.0 +0.8
CLL *ex* x 19 25 23.0
CLL *e*SP **SP 19 26 36.0 -0.9**
CLL *e*SPP SPP 19 27 40.0
CLL *e*PPS PPS 19 28 12.0
CLL *e*SS **SS 19 32 18.0 -10**
CLL *ex* x 19 37 54.0
VYHS Vyhne 109.10 44 *e*PKP **PKiKP 19 17 19.3 +0.7**
L29M L29M 109.84 333 P **PKiKP 19 17 20.3 +0.7**
baz=120
NOA NORSAR Array B 110.63 30 PKiKP **PKiKP 19 17 21.6 +0.4**
comp=Z,0.9nm,0.6s,baz=247,slow=2.3,SNR=3.4
NOA PKKPab **PKKPab 19 28 30.1 +0.8**
comp=Z,1.9nm,0.9s,baz=65,slow=4.5,SNR=4.6
EPYK Eagle Plains 110.93 336 P **PKiKP 19 17 22.2 +0.6**
baz=120
I29M Ogilvie Camp, 111.01 335 P **PKiKP 19 17 22.7 +1.0**
baz=119
M27K Edge Creek, AK 111.01 331 P **PKiKP 19 17 22.7 +0.7**
baz=117
KAIM Kayak Island 111.05 328 P **PKiKP 19 17 22.6 +0.7**
baz=116
G30M tAoh Zraii Nji 111.06 337 P **PKiKP 19 17 22.8 +1.0**
baz=120
MCARA McCarthy VSAT 111.06 330 P **PKiKP 19 17 22.5 +0.5**
baz=116
F30M Barrier River 111.23 337 P **PKiKP 19 17 22.9 +0.8**
baz=120
L27K Beaver Creek, 111.31 332 P **PKiKP 19 17 23.1 +0.7**
baz=116
HFS Hagfors 111.34 32 PKiKP **PKiKP 19 17 21.8 -0.6**
comp=Z,3.9nm,0.8s,baz=199,slow=3.1,SNR=7.2
HFS PKKPab **PKKPab 19 28 26.9 +0.7**
comp=Z,6.8nm,0.9s,baz=106,slow=4.8,SNR=4.6
H29M Whitestone 111.44 335 P **PKiKP 19 17 23.3 +0.8**
baz=118
M26K Nabesna, AK 111.50 331 P **PKiKP 19 17 23.4 +0.6**
baz=116
BMRM Bremner River 111.58 329 P **PKiKP 19 17 23.7 +0.7**
baz=115
I28M Miner Creek 111.65 334 P **PKiKP 19 17 23.6 +0.6**
baz=117
K27K Chicken 111.84 333 P **PKiKP 19 17 24.7 +1.4**
baz=116
N25K Chitina, Valde 111.84 330 P **PKiKP 19 17 24.5 +1.0**
baz=115
L26K Log Cabin Wild 111.92 331 P **PKiKP 19 17 25.1 +1.5**
baz=115
E29M Blow River 112.30 338 P **PKiKP 19 17 24.7 +0.6**
baz=118
I27K Kandik River 112.35 334 P **PKiKP 19 17 25.4 +1.1**
baz=116
KLU Klutina 112.37 329 P **PKiKP 19 17 25.3 +0.8**
baz=114
SCRK Sand Creek 112.58 332 P **PKiKP 19 17 25.6 +0.7**
baz=114
H27K Steamboat Moun 112.59 335 P **PKiKP 19 17 25.8 +1.1**
baz=116
F28M Old Crow 112.61 336 P **PKiKP 19 17 25.7 +1.0**
baz=116
GLI Glacier Island 112.65 328 P **PKiKP 19 17 26.1 +1.1**
baz=113
PAX Paxson 112.78 331 P **PKiKP 19 17 26.3 +1.1**
baz=114
SCM Sheep Creek Mo 113.12 329 P **PKiKP 19 17 26.5 +0.6**
baz=112
PWL Port Wells 113.20 328 P **PKiKP 19 17 26.7 +0.7**
baz=112
K24K Donnelly Dome 113.23 332 P **PKiKP 19 17 26.8 +0.8**
baz=113
M23K Glacier View 113.28 329 P **PKiKP 19 17 26.7 +0.6**
baz=112
J25K Salcha River, 113.39 332 P **PKiKP 19 17 26.9 +0.6**
baz=113
KNK Knik Glacier 113.47 329 P **PKiKP 19 17 28.2 +1.7**
baz=112
SML Sawmill 113.56 329 P **PKiKP 19 17 27.7 +1.0**
baz=112
WAT6 Susitna Watana 113.59 330 P **PKiKP 19 17 28.0 +1.1**
baz=112
DHY Denali Highway 113.62 331 P **PKiKP 19 17 28.2 +1.3**
baz=112
D27M Malcolm River 113.68 338 P **PKiKP 19 17 28.5 +1.8**
baz=115
G26K Porcupine Rive 113.71 335 P **PKiKP 19 17 28.0 +1.3**
baz=113
ILAR Eielson Array 114.05 332 PKP PKPdf 19 17 27.1 -0.4
comp=Z,1.0nm,0.5s,baz=0.7,slow=0.9,SNR=11
F26K Sheenjek River 114.13 336 P **PKiKP 19 17 28.8 +1.2**
baz=113
MCK McKinley 114.51 331 P **PKiKP 19 17 29.4 +0.9**
baz=110
MMAI Mount Meron Ar 114.55 65 PKP **PKiKP 19 17 30.1 +0.6**
comp=Z,1.1nm,0.5s,baz=266,slow=3.9,SNR=2.3
MMAI pPKP **pPKiKP 19 18 16.5 +1.1**
comp=Z,1.2nm,0.5s,baz=132,slow=2.1,SNR=2.4
CUT Chulitna 114.62 329 P **PKiKP 19 17 29.9 +1.3**
baz=110
F25K Christian Rive 114.62 335 P **PKiKP 19 17 29.7 +1.1**
baz=112
E25K Arctic Village 114.79 336 P **PKiKP 19 17 30.2 +1.3**
baz=111
H24K Noodor Dome 114.82 333 P **PKiKP 19 17 29.9 +0.9**
baz=110
G24K Hadweenzic Riv 114.97 334 P **PKiKP 19 17 30.3 +1.1**
baz=110
TRF Thorofare Moun 114.98 330 P **PKiKP 19 17 30.7 +1.1**
baz=110
SKT Skwentna 115.04 329 P **PKiKP 19 17 30.2 +0.7**
baz=109
I23K Minto, Yukon-K 115.17 332 P **PKiKP 19 17 30.2 +0.6**
baz=110
C26K Camden Bay 115.22 338 P **PKiKP 19 17 30.2 +0.6**
baz=111
F24K Squaw Lake 115.40 335 P **PKiKP 19 17 31.0 +0.9**
baz=110
BPAW Bear Paw Mtn. 115.49 331 P **PKiKP 19 17 31.2 +0.9**
baz=109
PPLA Purkeypile 115.62 330 P **PKiKP 19 17 31.7 +0.9**
baz=108
BRTR Keskin Array B 115.62 58 PKP **PKPdf 19 17 31.1 -0.4**
comp=Z,1.3nm,0.7s,baz=192,slow=4.6,SNR=8.0
BRTR pPKP **pPKiKP 19 18 17.2 0.0**
comp=Z,1.3nm,0.7s,baz=219,slow=3.8,SNR=4.6
BRTR PKKPab **PKKPab 19 28 08.9 +0.2**
comp=Z,0.8nm,0.6s,baz=47,slow=5.4,SNR=6.0
M20K Styx River 115.72 328 P **PKiKP 19 17 31.1 +0.2**
baz=108
CAST Castle Rocks 115.74 330 P **PKiKP 19 17 31.7 +0.8**
baz=108
G23K Bananza Creek 115.93 334 P **PKiKP 19 17 31.9 +0.8**
baz=108
CHUM Lake Minchumin 115.98 331 P **PKiKP 19 17 32.2 +0.9**
baz=108
R17K Ugashik Creek 116.02 323 P **PKiKP 19 17 32.2 +0.8**
baz=107
COLD Coldfoot 116.16 334 P **PKiKP 19 17 32.8 +1.3**
baz=108
AKASG Malin Array Be 116.19 45 PKP **PKPdf 19 17 31.2 -0.8**
comp=Z,7.3nm,0.7s,baz=261,slow=2.7,SNR=18
AKASG pPKP pPKPdf 19 18 17.3 -0.5
comp=Z,3.1nm,0.6s,baz=260,slow=2.5,SNR=3.9
AKASG PKKPab **PKKPab 19 28 06.5 +1.2**
comp=Z,0.5nm,0.4s,baz=51,slow=2.0,SNR=4.3
AKBB Malin Array Si 116.19 45 *i* PKiKP **PKPdf 19 17 31.0 -1.0**
E23K Chandalar 116.20 335 P **PKiKP 19 17 32.9 +1.2**
baz=108
H22K Ishtalitna Cre 116.20 333 P **PKiKP 19 17 32.9 +1.2**
baz=107
D24K Happy Valley 116.26 337 P **PKiKP 19 17 32.2 +0.5**
baz=108
M19K Big River Lodg 116.30 328 P **PKiKP 19 17 32.6 +0.6**
baz=107
TOLK Toolik Lake Re 116.36 336 PKPdf **PKiKP 19 17 32.4 +0.5**
TOLK Toolik Lake Re 116.36 336 P **PKiKP 19 17 32.8 +0.9**
baz=108
Q16K King Salmon 116.46 324 P **PKiKP 19 17 33.2 +0.9**
baz=106
P17K Kvichak River 116.50 325 P **PKiKP 19 17 33.1 +0.8**
baz=106
MNK Minsk 116.53 41 *i* PKP **PKPdf 19 17 32.5 0.0**
comp=E,4.0nm,0.6s
MNK *i* PKP **PKPdf 19 17 32.5 0.0**
comp=N,21nm,1.2s
MNK *i* PKP **PKPdf 19 17 32.5 0.0**
comp=Z,27nm,0.8s,baz=73
MNK *i* pPKP pPKPdf 19 18 02.5 -16
MNK *i* PP **PP 19 18 38.8 -4.0**
MNK *i* PPP PPP 19 21 06.5
MNK *i* SKS **SKSdf 19 24 34.3 +6.4**
MNK *i* SS **SS 19 34 34.2 -0.1**
MNK *i* SSS SSS 19 38 53.4
MNK *i* LRM MLR 20 07 28.9
comp=Z,68nm,18.7s
MNK Minsk 116.53 41 *i* PKIKP **PKPdf 19 17 32.5 0.0**
MNK *i* 19 18 38.7
MNK *i* SS SS 19 34 34.1 -0.2
MNK *i* SSS SSS 19 38 53.3
MNK pmax pmax
comp=N,21nm,1.3s
MNK pmax pmax
comp=Z,27nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.6s
MNK MLR MLR
comp=Z,68nm,19.0s
G22K Bettles 116.55 334 P **PKiKP 19 17 33.4 +1.2**
baz=107
K20K Telida 116.57 330 P **PKiKP 19 17 32.9 +0.5**
baz=106
H21K Melozitna Rive 116.70 332 P **PKiKP 19 17 33.1 +0.4**
baz=106
J20K Nowinta River 116.83 331 P **PKiKP 19 17 34.0 +1.1**
baz=106
E22K Anaktuvuk Pass 117.01 335 P **PKiKP 19 17 33.8 +0.6**
baz=106
C23K Itkillik River 117.07 337 P **PKiKP 19 17 34.6 +1.4**
baz=106
G21K Allakaket 117.20 333 P **PKiKP 19 17 34.9 +1.3**
baz=105
TTA Tatalina 117.31 329 P **PKiKP 19 17 35.0 +1.0**
baz=105
F21K Alatna River 117.38 334 P **PKiKP 19 17 34.8 +0.9**
baz=105
J19K Poorman 117.41 330 P **PKiKP 19 17 35.0 +1.0**
baz=105
O16K Kokwok River B 117.42 325 P **PKiKP 19 17 35.4 +1.2**
baz=105
L18K Granite Mounta 117.43 328 P **PKiKP 19 17 35.4 +1.3**
baz=105
FINES FINESS Array B 117.48 33 PKP **PKiKP 19 17 34.3 +0.1**
comp=Z,4.4nm,0.6s,baz=166,slow=0.9,SNR=29
FINES PKKPbc **PKKPbc 19 27 57.6 -1.2**
comp=Z,2.9nm,0.7s,baz=77,slow=3.3,SNR=9.6
H20K Anotleneega Mo 117.48 332 P **PKiKP 19 17 34.9 +0.8**
baz=105
D22K Ayikyak River 117.52 336 P **PKiKP 19 17 35.3 +1.1**
baz=105
SDPT Sand Point 117.56 320 P **PKiKP 19 17 35.7 +1.2**
baz=105
M17K Holitna River 117.56 327 P **PKiKP 19 17 35.9 +1.5**
baz=105
J18K Innoko River 117.75 330 P **PKiKP 19 17 36.3 +1.6**
baz=104
L17K Donlin 118.14 328 P **PKiKP 19 17 36.2 +0.7**
baz=104
O15K Ungalikthiuk R 118.17 324 P **PKiKP 19 17 36.5 +0.9**
baz=104
K17K Iditarod 118.28 328 P **PKiKP 19 17 36.5 +0.8**
baz=103
B21K Ikpikpuk River 118.36 337 P **PKiKP 19 17 37.2 +1.5**

baz=103
G19K Purcell Mounta 118.52 332 P **PKiKP 19 17 37.7 +1.6**
baz=102
L16K Owhat River 118.59 327 P **PKiKP 19 17 37.7 +1.4**
baz=103
E20K Nigu River 118.63 335 P **PKiKP 19 17 37.8 +1.4**
baz=102
J17K VABM Dome 118.77 329 P **PKiKP 19 17 38.1 +1.4**
baz=102
H18K Honhosa River 118.83 331 P **PKiKP 19 17 38.4 +1.6**
baz=102
E19K Redstone River 118.85 334 P **PKiKP 19 17 37.8 +1.1**
baz=102
D20K Etivluk River 118.87 335 P **PKiKP 19 17 37.8 +1.0**
baz=101
F19K Shaleruckik Mo 118.93 333 P **PKiKP 19 17 38.3 +1.5**
baz=101
M15K Kasigluk River 118.94 326 P **PKiKP 19 17 38.4 +1.4**
baz=102
ARCES ARCESS Array B 119.05 24 PKP **PKPdf 19 17 36.9 -0.1**
comp=Z,2.3nm,0.5s,baz=248,slow=3.6,SNR=13
ARCES PKKPbc **PKKPab 19 27 51.9 -0.1**
comp=Z,3.5nm,0.7s,baz=82,slow=4.7,SNR=13
FALS False Pass 119.07 319 P **PKiKP 19 17 37.9 +0.5**
baz=103
G18K Tagagawik 119.10 332 P **PKiKP 19 17 38.7 +1.4**
baz=101
N14K Kuskokwak Cree 119.26 325 P **PKiKP 19 17 38.8 +1.1**
baz=102
D19K Kuna River 119.37 335 P **PKiKP 19 17 38.8 +1.0**
baz=100
J16K Anvik River 119.42 329 P **PKiKP 19 17 39.2 +1.2**
baz=101
H17K Granite Mounta 119.43 331 P **PKiKP 19 17 39.4 +1.4**
baz=101
G17K Kiwalik Mounta 119.84 331 P **PKiKP 19 17 40.0 +1.3**
baz=100
ANN Anapa 119.84 53 *i* PKIKP **PKiKP 19 17 40.1 +0.8**
ANN *e* 19 24 24.4
ANN pmax pmax
comp=Z,42nm,0.9s
C19K Lookout Ridge 120.00 336 P **PKiKP 19 17 40.1 +1.1**
baz=98
L14K Kuka Creek 120.02 326 P **PKiKP 19 17 40.3 +1.2**
baz=100
E18K Tukpahlearik C 120.12 334 P **PKiKP 19 17 40.2 +1.0**
baz=99
SOC Sochi 121.12 55 *i* PKIKP **PKiKP 19 17 41.9 0.0**
SOC *e* 19 24 32.1
SOC *e*PS **PS 19 29 04.9 -3.8**
SOC *e*SS SS 19 35 34.4 +0.4
SOC pmax pmax
comp=Z,39nm,0.9s
C17K DeLong Mountai 121.22 335 P **PKiKP 19 17 42.2 +0.8**
baz=96
OBN Obninsk 121.56 41⇑ *e*PKIKP **PKPdf 19 17 42.2 0.0**
OBN *e* 19 19 20.6
OBN pmax pmax
comp=Z,43nm,1.0s
APA Apatity 121.66 26⇓ *i*PKIKP **PKPdf 19 17 39.9 -2.1**
APA pmax pmax
comp=Z,8.0nm,0.8s
APA MLR MLR
comp=Z,2μm,18.0s
LVZ Lovozero 122.16 26 *i* PKIKP **PKPdf 19 17 42.2 -0.9**
VSR Storozhevoye 122.41 46 *e*PKIKP **PKPdf 19 17 42.3 -1.7**
VSR *e**PP **pPKPdf 19 18 28.8 -1.0**
VSR pmax pmax
comp=Z,20nm,1.1s
VORD Divnogorie 122.45 46 *e*PKIKP **PKPdf 19 17 43.6 -0.4**
VORD *e**PP **pPKPdf 19 18 29.5 -0.3**
VORD pmax pmax
comp=Z,10.0nm,1.2s
LPSR Galich'ya Gora 122.51 44 *e*PKIKP **PKPdf 19 17 43.6 -0.5**
LPSR *e**PP **pPKPdf 19 18 30.0 +0.1**
LPSR pmax pmax
comp=Z,30nm,0.6s
ASAR Alice Springs 122.52 201 PKPdf **PKPdf 19 17 43.7 -1.6**
ASAR Alice Springs 122.52 201 PKhKP PKPpre 19 17 38.5
comp=Z,0.2nm,0.5s,baz=148,slow=1.0,SNR=6.3
ASAR PKP **PKPdf 19 17 44.4 -0.9**
comp=Z,6.1nm,0.5s,baz=141,slow=1.7,SNR=127
ASAR pPKP pPKPdf 19 18 30.6 -0.3
comp=Z,10nm,0.9s,baz=146,slow=2.0,SNR=9.6
ASAR PKKPbc **PKKPbc 19 27 39.0 -0.8**
comp=Z,2.1nm,0.6s,baz=341,slow=3.5,SNR=33
ASAR SKKPbc SKKPbc 19 31 15.5 +6.1
comp=Z,0.3nm,0.7s,baz=349,slow=4.7,SNR=2.0
KIV Kislovodsk 123.30 55 PKPdf **PKiKP 19 17 46.4 0.0**
KIV Kislovodsk 123.30 55 *i* PKIKP **PKiKP 19 17 46.7 +0.4**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,23nm,22.0s
KBZ Khabaz 123.39 55 PKP **PKiKP 19 17 46.5 +0.2**
comp=Z,7.8nm,1.0s,baz=194,slow=4.3,SNR=14
KBZ pPKP **pPKPdf 19 18 31.4 -0.4**
comp=Z,6.9nm,0.9s,baz=184,slow=4.8,SNR=5.2
KBZ PKKPbc **PKKPbc 19 27 36.2 0.0**
comp=Z,2.6nm,0.8s,baz=140,slow=2.7,SNR=7.5
ADZR Andozero 123.42 31 *e*PKIKP **PKiKP 19 17 47.8 +2.0**
ADZR pmax pmax
comp=Z,46nm,0.6s
KLMR Klimovskoe 123.81 35 *e*P **PKPdf 19 17 44.3 -2.1**
KLMR AMP 19 17 48.5
comp=Z,52nm,0.8s
KLMR *e* 19 18 32.2
KLMR *e*SKP 19 21 04.1
KLMR Klimovskoe 123.81 35 *e*PKIKP **PKPdf 19 17 44.3 -2.1**
KLMR *e* 19 18 32.2
KLMR pmax pmax
comp=Z,52nm,0.8s
NCK Nalchik 123.84 56 *i* PKIKP **PKiKP 19 17 48.4 +1.1**
ZEI Tsey 123.90 57 *i* PKIKP **PKiKP 19 17 47.9 +0.2**
ZEI *e* 19 18 34.2
ZEI pmax pmax
comp=Z,9.0nm,1.3s
VRH Novokhopyorsk 124.00 46 *e*PKIKP **PKPdf 19 17 45.7 -1.3**
VRH *e**PP **pPKPdf 19 18 32.5 -0.3**
VRH pmax pmax
comp=Z,20nm,0.8s
GAMB Gambell 124.41 329 P **PKiKP 19 17 48.3 +0.5**
baz=91
WRA Warramunga Arr 125.85 203 PKhKP PKPpre 19 17 40.7
comp=Z,0.5nm,0.6s,baz=223,slow=1.3,SNR=5.4
WRA PKP **PKPdf 19 17 51.0 -0.7**
comp=Z,12nm,0.4s,baz=166,slow=1.6,SNR=116
WRA pPKP pPKPdf 19 18 37.5 +0.1
comp=Z,16nm,0.6s,baz=168,slow=1.6,SNR=12
WRA SKPbc SKPbc 19 20 49.9
comp=Z,1.5nm,0.8s,baz=172,slow=3.5,SNR=4.5
WRA PKKPbc **PKKPbc 19 27 26.5 -0.3**
comp=Z,1.0nm,0.5s,baz=342,slow=4.1,SNR=16
WRA SKKPbc **SKKPbc 19 30 58.6 +0.2**
comp=Z,0.9nm,0.8s,baz=346,slow=5.6,SNR=4.8
WRAB Tennant Creek 125.85 203 **PKPdf 19 17 50.8 -0.9**
WRAB Tennant Creek 125.85 203 PKIKP **PKPdf 19 17 50.8 -0.9**
PRGR Permogore 126.78 34 *e*PKIKP **PKPdf 19 17 50.9 -1.1**
PRGR pmax pmax
comp=Z,43nm,0.8s
PSA00 Pilbara Seismi 127.46 186 **PKPdf 19 17 54.2 -0.5**
BELG Belogornoye 127.77 45 *i* PKIKP **PKPdf 19 17 53.4 -0.8**
UOSS Minazif 128.72 82 **PKPdf 19 17 56.4 -0.5**
KIRV Kirov 128.81 38 *i* PKIKP **PKiKP 19 17 56.7 +0.1**
GEYT Alibeck 133.67 65 PKP **PKPdf 19 18 05.6 -0.4**
comp=Z,2.8nm,0.6s,baz=318,slow=2.0,SNR=5.3
GEYT pPKP **pPKPdf 19 18 51.4 -0.4**
comp=Z,4.0nm,0.8s,baz=245,slow=3.1,SNR=3.7
GEYT SKPbc **SKPbc 19 21 18.0 -0.4**
comp=Z,5.9nm,0.9s,baz=225,slow=5.9,SNR=6.7
ARU Arti 133.94 40 PKPdf **PKiKP 19 18 06.6 -0.5**
ARU Arti 133.94 40 *i* PKIKP **PKiKP 19 18 06.6 -0.5**
ARU 19 20 35.4
SOEI Soe 138.38 195 PKP **PKPdf 19 18 15.8 +0.3**
SOEI PKP **PKiKP 19 18 18.9 +1.2**
GENI Genyem 138.55 221 PKP **PKPdf 19 18 15.5 -0.2**
GENI PKP **PKiKP 19 18 17.4 -0.5**
TIXI Tiksi 138.55 353 PKPpre 19 18 02.6
TIXI Tiksi 138.55 353 *i* PKIKP **PKPdf 19 18 14.0 +0.1**
SEY Seymchan 139.95 334 *i* PKIKP **PKPdf 19 18 16.6 -0.1**
SEY Seymchan 139.95 334 SKPbc **SKPbc 19 21 35.7 -0.4**
comp=Z,8.1nm,1.0s,baz=113,slow=6.7,SNR=3.7
TWSI Taliwang, Sumb 140.41 184 PKP **PKPdf 19 18 19.4 +0.3**
TWSI PKP **PKiKP 19 18 21.9 +0.2**
BRVK Borovoye 141.32 42 PKPpre 19 18 15.3
BRVK Borovoye 141.32 42 PKHKP PKPpre 19 18 15.3
BVAR Borovoye Array 141.39 42 PKhKP PKPpre 19 18 15.1
comp=Z,3.8nm,0.5s,baz=310,slow=3.2,SNR=25
BVAR pPKP pPKPdf 19 19 07.6 +2.3
comp=Z,7.9nm,0.7s,baz=298,slow=3.2,SNR=4.2
BVAR SKPbc **SKPbc 19 21 40.9 +0.7**
comp=Z,11nm,0.7s,baz=306,slow=3.5,SNR=11
BVAR SKKPbc **SKKPab 19 30 01.1 -3.6**
comp=Z,4.4nm,1.0s,baz=116,slow=6.8,SNR=8.8
PETK Petropavlovsk- 141.80 318 PKhKP PKPpre 19 18 15.1
comp=Z,7.7nm,0.6s,baz=90,slow=10.0,SNR=16
KBL Kabul 141.93 72 PKPdf **PKPdf 19 18 18.3 -3.2**
KBL Kabul 141.93 72 PKIKP **PKPdf 19 18 18.3 -3.2**
KASI Kota Agung 142.46 164 PKP **PKPdf 19 18 18.6 -4.1**
KASI PKP **PKiKP 19 18 20.2 -5.6**
MA2 Magadan 142.49 330 PKhKP PKPpre 19 18 16.3
comp=Z,10nm,0.7s,baz=87,slow=5.9,SNR=3.6
LWLI Liwa 142.84 163 PKP **PKPdf 19 18 19.4 -4.2**
LWLI PKP **PKiKP 19 18 21.5 -5.3**
IUG Iuzhnay 143.04 60 *i* PKP PKPab 19 18 19.5 +0.7
baz=60
IUG *e*PKiKP **PKiKP 19 18 26.8 +0.5**
baz=60
IUG *e*PP **PP 19 21 33.4 -1.8**
baz=60
IUG Iuzhnay 143.04 60 *i* PKHKP PKPpre 19 18 19.4
IUG *e* 19 21 33.4
BKSI Bulukumba 143.47 190 PKP PKPab 19 18 20.2 -0.9
BKSI PKP PKPbc 19 18 22.4 +0.2
BRZS Berezniki 143.62 46 *i* PKP PKPbc 19 18 22.1 +0.5
baz=46
BRZS Berezniki 143.62 46 *i* PKIKP PKPbc 19 18 22.1 +0.5
KSI Kapahiang 143.73 160 PKP PKPab 19 18 20.9 -1.3
KSI PKP PKPbc 19 18 23.8 +0.7
KAPI Kappang 143.82 189 PKPdf PKPbc 19 18 23.2 0.0
KAPI Kappang 143.82 189 PKIKP PKPbc 19 18 23.2 0.0
NLAI Namlea 143.86 202 PKP PKPab 19 18 21.7 -0.9
NLAI PKP PKPbc 19 18 23.7 +0.3
SWI Sorong 144.49 210 PKP **PKPab 19 18 24.4 -0.6**
SWI PKP PKPbc 19 18 25.1 -0.2
SISI Saibi 144.69 153 PKP **PKPab 19 18 25.2 -0.6**
SISI PKP **PKPdf 19 18 27.9 +1.2**
HYB Hyderabad 144.77 104 *e*PKPdf PKPbc 19 18 26.3 +0.2
HYB *e*PKiKP **PKiKP 19 18 30.2 -0.3**
HYB *e*P **PKPdf 19 18 30.5 +3.8**
HYB *e*pPKiKP pPKPdf 19 19 13.8 +1.3
NIL Nilore 145.28 75 **PKPbc 19 18 27.2 -0.1**
NIL Nilore 145.28 75 PKP2 **PKPbc 19 18 27.2 -0.1**
SANI Sanana 145.33 201 PKP **PKPdf 19 18 27.6 -0.2**
PDSI Padang 145.59 155 PKP **PKPdf 19 18 28.5 +0.2**
PDSI PKP **PKPab 19 18 29.0 -0.2**
BBKI Banjar Baru 145.72 181 PKP **PKPdf 19 18 28.7 +0.2**
BBKI PKP **PKiKP 19 18 34.3 +1.7**
AML Almayashu 145.75 60 P **PKPab 19 18 30.2 +0.6**
SNR=8.6
EKS2 Erkin-Say 145.76 59 P **PKPab 19 18 29.4 +0.1**
SNR=130
SDSI Sungai Dareh 145.92 156 PKP **PKPdf 19 18 29.1 +0.3**
SDSI PKP **PKPbc 19 18 29.2 -0.5**
LBMI Labuha 146.16 204 PKP **PKPdf 19 18 29.4 +0.2**
LBMI PKP **PKPbc 19 18 30.4 0.0**
USP Ospenovka 146.21 57 P **PKPab 19 18 30.4 -0.5**
SNR=91
SGDS Sogindy 146.28 57 *e*PKP **PKPbc 19 18 30.0 0.0**
baz=57
SGDS *i* PKiKP **PKPab 19 18 31.8 +0.7**
baz=57
SGDS Sogindy 146.28 57 *e*PKP2 **PKPbc 19 18 30.0 0.0**
AAK Ala-Archa 146.29 59 P **PKPab 19 18 31.0 -0.4**
SNR=48
AAK Ala-Archa 146.29 59 **PKPbc 19 18 30.4 +0.3**
AAK Ala-Archa 146.29 59 PKP2 **PKPbc 19 18 30.5 +0.3**
GSI Gunungsitoli 146.43 148 PKP **PKPab 19 18 32.7 +0.3**
CHMS Chumysh 146.43 58 P **PKPab 19 18 31.4 -0.3**
SNR=35
KBK Karagaybulak 146.62 58 P **PKPab 19 18 32.3 -0.4**
SNR=85
KURBB Kurchatov Arra 146.96 43 PKPbc **PKPbc 19 18 30.8 -0.8**
comp=Z,40nm,0.6s,baz=296,slow=3.7,SNR=72
KURBB pPKPbc **pPKPdf 19 19 15.3 +0.3**
comp=Z,21nm,0.6s,baz=296,slow=3.3,SNR=4.1
KURBB SKPbc **SKPbc 19 21 53.0 -0.4**
comp=Z,6.6nm,0.8s,baz=302,slow=2.5,SNR=5.1
KURK Kurchatov 146.97 43 **PKPdf 19 18 30.5 +1.1**
KURK Kurchatov 146.97 43 PKIKP **PKPbc 19 18 30.8 -0.8**
KURK 19 19 15.3
TKM2 Tokmak 2 147.06 58 P **PKPbc 19 18 31.8 -0.7**
SNR=92
LUWI Luwuk 147.15 196 PKP **PKPdf 19 18 31.1 +0.3**
LUWI PKP **PKPbc 19 18 33.8 +0.6**
SBSI Sibolga 147.22 150 PKP **PKPdf 19 18 31.4 +0.4**
SBSI PKP **PKPbc 19 18 33.4 -0.1**
DSRI Dabo 147.32 162 PKP **PKPdf 19 18 31.4 +0.3**
DSRI PKP **PKPbc 19 18 34.0 +0.3**
YAK Yakutsk 147.41 347 PKPdf **PKPdf 19 18 29.6 -0.1**
YAK Yakutsk 147.41 347 *e*PKIKP **PKPdf 19 18 30.9 +1.2**
YAK *e* 19 19 14.9
YAK *e* 19 22 01.7
YAK pmax pmax
comp=Z,253nm,1.3s
YAK pmax pmax
comp=N,29nm,1.5s
YAK pmax pmax
comp=E,23nm,1.1s
YAK pmax pmax
comp=Z,218nm,5.1s
YAK pmax pmax
comp=N,110nm,3.0s
YAK pmax pmax
comp=E,89nm,3.6s
KUU Kurty 147.44 56 *e*PKP **PKPdf 19 18 31.3 +0.9**
baz=56
KUU *i* PKiKP **PKiKP 19 18 34.7 -0.6**
baz=56
KUU Kurty 147.44 56 *e*PKIKP **PKPdf 19 18 31.3 +0.9**
KUU *i* 19 18 34.6
TNTI Ternate 147.52 205 **PKPdf 19 18 32.2 +0.7**
TNTI Ternate 147.52 205 PKP **PKPdf 19 18 31.7 +0.2**
TNTI PKP **PKPbc 19 18 33.3 -0.9**
ULHL Ulahol 147.62 59 P **PKPbc 19 18 34.0 0.0**
SNR=34
KSH Kashi 147.68 64 PKPbc **PKPdf 19 18 32.6 +1.5**
KSH pPKP pPKPdf 19 19 16.4 -0.7
KSH PP **PP 19 22 01.7 -1.1**
KSH SKKS 19 28 33.8
CHKK Chushkaly 147.90 56 *e*PKP **PKPbc 19 18 32.9 -1.6**
baz=56
CHKK Chushkaly 147.90 56 *e*PKIKP **PKPbc 19 18 32.8 -1.6**
AAA Alma-Ata 147.97 57 *e*PKiKP **PKiKP 19 18 36.5 0.0**
baz=57
AAA Alma-Ata 147.97 57 *i* PKP2 **PKiKP 19 18 36.4 0.0**
TNSS Tian-Shan 148.02 57 *e*PKP **PKPbc 19 18 33.8 -1.5**
baz=57
TNSS *e*PKiKP **PKiKP 19 18 36.8 -0.1**
baz=57
TNSS Tian-Shan 148.02 57 *e*PKIKP **PKPbc 19 18 33.7 -1.5**
TNSS *i* 19 18 36.8
SEM Semipalatinsk 148.05 43 *e*PKP **PKPdf 19 18 31.9 +0.4**
baz=43
SEM *e*PKiKP **PKiKP 19 18 35.8 -0.7**
baz=43
SEM Semipalatinsk 148.05 43 *e*PKIKP **PKPdf 19 18 31.9 +0.4**
SEM *i* 19 18 35.8
MTKI Muara Teweh, K 148.22 181 PKP **PKPbc 19 18 35.3 -0.8**
MTKI PKP **PKiKP 19 18 36.6 -1.1**
KCSI Kotacane, Aceh 148.47 147 PKP **PKPdf 19 18 33.3 +0.3**
KCSI PKP **PKPbc 19 18 37.3 +0.5**
TPRI Tanjung Pinang 148.64 161 PKP **PKPdf 19 18 34.2 +0.9**
TPRI PKP **PKPbc 19 18 37.1 -0.1**
TDK Taldyqorghan 148.65 53 *e*PKiKP **PKiKP 19 18 37.1 -0.6**
baz=53
TDK Taldyqorghan 148.65 53 *i* PKP2 **PKiKP 19 18 37.1 -0.6**
GTOI Gorontalo 148.71 197 PKP **PKPdf 19 18 35.3 +1.9**
GTOI PKP **PKPbc 19 18 37.0 -0.4**
ZALV Zalesovo Beam 148.74 34 PKPdf **PKPdf 19 18 32.1 -0.1**
ZALV Zalesovo Beam 148.74 34 PKP2 **PKPbc 19 18 36.0 -0.2**
ZALV Zalesovo Beam 148.74 34 PKPbc **PKPbc 19 18 36.0 -0.2**
comp=E,51nm,0.6s,baz=299,slow=2.1,SNR=75
ZALV pPKPbc **pPKPbc 19 19 20.8 -0.8**
comp=E,52nm,0.7s,baz=311,slow=3.9,SNR=5.0
MRSI Marisa 148.81 195 PKP **PKPdf 19 18 33.8 +0.2**
MRSI PKP **PKPbc 19 18 36.4 -1.2**
MPSI Mapaga 149.06 191 PKP **PKPdf 19 18 34.2 +0.2**
MPSI PKP **PKPbc 19 18 37.9 -0.3**
SATY Saty 149.07 57 *i* PKiKP **PKiKP 19 18 38.4 -0.4**
baz=57
SATY Saty 149.07 57 *i* PKP2 **PKiKP 19 18 38.3 -0.4**
ZHN Zhinishke 149.07 57 *e*PKP **PKPdf 19 18 33.8 +0.5**
baz=56
ZHN Zhinishke 149.07 57 *e*PKHKP PKPpre 19 18 33.7
STKI Sintang 149.10 174 PKP **PKiKP 19 18 39.7 +0.2**
KPKS Kokpek 149.19 56 *e*PKiKP **PKiKP 19 18 38.9 -0.1**
baz=56
KPKS Kokpek 149.19 56 *i* PKP2 **PKiKP 19 18 38.8 -0.1**
UZB Uzynbulak 149.49 57 *e*PKiKP **PKiKP 19 18 39.6 -0.1**
baz=56
UZB Uzynbulak 149.49 57 *i* PKP2 **PKiKP 19 18 39.5 -0.1**
SHLS Shalkode 149.81 56 *e*PKiKP **PKiKP 19 18 40.8 +0.5**
baz=56
SHLS *e*PP **PP 19 22 14.7 -0.3**
baz=56
SHLS Shalkode 149.81 56 *i* PKIKP **PKiKP 19 18 40.7 +0.5**
SHLS *e* 19 22 14.6
MAKZ Makanchi 150.49 48 **PKPdf 19 18 35.0 -0.2**
MAKZ Makanchi 150.49 48 PKIKP **PKPdf 19 18 35.0 -0.2**
MKAR Makanchi Array 150.70 48 PKP **PKPdf 19 18 36.3 +0.7**
comp=E,19nm,0.6s,baz=287,slow=1.6,SNR=36
MKAR PKPbc **PKiKP 19 18 41.6 -0.3**
comp=E,58nm,0.8s,baz=274,slow=2.5,SNR=88
MKAR PKPab **PKPab 19 18 49.1 +0.2**
comp=E,14nm,0.4s,baz=288,slow=3.6,SNR=12
MKAR pPKPbc **pPKPbc 19 19 25.6 -1.1**
comp=E,10nm,0.6s,baz=279,slow=3.1,SNR=2.1
ZSN Zaisan 152.06 46 *e*PKiKP **PKiKP 19 18 45.6 +0.9**
baz=45
ZSN *e*PP **PP 19 22 26.1 -1.2**
baz=45
ZSN Zaisan 152.06 46 *i* PKIKP **PKiKP 19 18 45.5 +0.9**
ZSN *e* 19 22 26.1
PYUN Piuthan 152.55 88 *e*P **PKPdf 19 18 40.4 +1.2**
comp=E,119nm,0.9s
KOLN Koldanda 153.00 89 *e*P **PKPdf 19 18 40.5 +0.7**
comp=E,63nm,1.5s
YSS Yuzh-Sakhalins 153.02 314 **PKPbc 19 18 46.3 -0.1**
YSS Yuzh-Sakhalins 153.02 314 *i* PKIKP **PKPbc 19 18 46.2 -0.2**
YSS pmax pmax
comp=Z,80nm,0.7s
DANN Dangsing 153.27 88 *e*P **PKPdf 19 18 41.1 +0.8**
comp=Z,44nm,0.6s
GKN Gorkha 153.94 89 *e*P **PKPdf 19 18 41.7 +0.6**
comp=Z,16nm,0.4s
DMN Daman 154.25 90 *e*P **PKPdf 19 18 42.2 +0.5**
comp=Z,19nm,0.6s
ASAJ Asahikawa 154.25 308 PKPbc **PKiKP 19 18 49.4 +0.2**
comp=Z,26nm,1.0s,baz=277,slow=3.2,SNR=9.2
ASAJ PKPab **PKPab 19 19 04.2 +0.3**
comp=Z,54nm,0.9s,baz=100,slow=16,SNR=13
GRNR Gornyy 154.36 327 *e*PKIKP **PKPbc 19 18 48.5 -0.7**
GRNR MLR MLR
comp=E,90nm,15.0s
KKN Kakani 154.44 90 *e*P **PKPdf 19 18 42.6 +0.7**
comp=E,18nm,0.4s
PKIN Phulchoki 154.49 90 *e*P **PKPdf 19 18 42.4 +0.4**
comp=E,20nm,0.6s
PKI Pulchoki 154.50 90 *e*P **PKPdf 19 18 42.4 +0.3**
comp=E,13nm,0.5s
GUN Gumba 154.99 90 *e*P **PKPdf 19 18 43.2 +0.4**
comp=E,21nm,0.4s
JIRN Jiri 155.19 91 *e*P **PKPdf 19 18 43.6 +0.5**
comp=E,12nm,0.4s
WMQ Urumqi 155.34 51 *e*PKP **PKPdf 19 18 41.9 -0.5**
RAMN Ramite 155.36 92 *e*P **PKPdf 19 18 44.3 +1.1**
comp=E,28nm,0.6s
ZEA Zeya 155.46 341 *e*PKP2 **PKPab 19 19 09.1 +0.4**
ZEA pmax pmax
comp=Z,20nm,1.2s
ODAN Odare 156.01 93 *e*P **PKPdf 19 18 45.2 +1.1**
comp=Z,39nm,0.6s
TAPN Taplejung 156.42 92 *e*P **PKPdf 19 18 45.7 +1.0**
comp=Z,17nm,0.8s
MOY Mondy 157.10 22 *e*PKP2 **PKPab 19 19 17.7 +1.7**
MOY pmax pmax
comp=Z,64nm,1.7s
KLR Kul'dur 157.58 329 PKP **PKPdf 19 18 44.7 -0.4**
comp=Z,4.8nm,0.9s,baz=352,slow=3.5,SNR=12
KLR PKPab **PKPab 19 19 17.8 -0.1**
comp=Z,4.3nm,0.6s,baz=65,slow=3.2,SNR=6.3
HEH HeiHe 158.45 337 PKP **PKPdf 19 18 45.7 -0.4**
HEH PKPab **PKPab 19 19 22.4 +0.7**
HEH AMB AMB
comp=Z,170nm,5.7s
ZAK Zakamensk 158.93 20 *e*PKIKP **PKPdf 19 18 47.6 +0.8**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
MJAR Matsushiro Arr 159.49 292 PKPab **PKPab 19 19 26.3 -0.5**
comp=Z,14nm,0.7s,baz=105,slow=2.3,SNR=21
MAJO Matsushiro 159.49 292 PKPab **PKPab 19 19 26.6 -0.2**
MAJO Matsushiro 159.49 292 PKP2 **PKPab 19 19 26.6 -0.2**
USRK Ussuriysk Ar. 160.89 318 PKPab **PKPab 19 19 32.8 +0.3**
comp=Z,7.9nm,0.8s,baz=60,slow=4.6,SNR=7.0
CMAR Chiang Mai Arr 161.22 128 PKP **PKPdf 19 18 50.2 0.0**
comp=Z,6.4nm,1.0s,baz=248,slow=2.7,SNR=34
CMAR PKPab **PKPab 19 19 34.5 -0.2**
comp=Z,2.2nm,0.7s,baz=229,slow=5.4,SNR=4.7
CHTO Chiang Mai 161.47 127 PKPab **PKPab 19 19 36.0 +0.2**
CHTO Chiang Mai 161.47 127 PKP2 **PKPab 19 19 36.0 +0.2**
MDJ Mudanjiang 161.92 323 PKP **PKPdf 19 18 51.0 +0.9**
MDJ SS SS 19 43 27.4 +2.0
MDJ AMB AMB
comp=Z,260nm,6.5s
SONM Songino Array 162.11 18 PKP **PKPdf 19 18 50.7 +0.3**
comp=Z,3.8nm,0.9s,baz=236,slow=0.8,SNR=21
SONM PKPab **PKPab 19 19 38.1 +0.2**
comp=Z,6.8nm,1.0s,baz=326,slow=2.6,SNR=13
SONM PP **PP 19 23 23.9 +2.0**
comp=Z,2.1nm,1.1s,baz=312,slow=6.6,SNR=4.9
GOMU GeErMu 162.88 67 PKP **PKPdf 19 18 53.3 +1.5**
CN2 Changchun 164.53 329 *e*PKP **PKPdf 19 18 53.0 +0.4**
GTA Gaotai 165.43 51 PKP **PKPdf 19 18 54.5 +0.8**
GTA pPKP pPKPdf 19 19 41.6 +1.8
GTA PKPab **PKPab 19 19 54.1 +1.2**
GTA PP **PP 19 23 40.3 0.0**
XLT XiLinHaoTe 167.06 355 *e*PKP **PKPdf 19 18 53.6 -1.2**
KSRS Korea Array 167.11 304 PKP **PKPdf 19 18 54.8 -0.1**
comp=Z,2.7nm,0.9s,baz=135,slow=0.5,SNR=7.2
KSRS PKPab **PKPab 19 19 59.9 -0.3**
comp=Z,3.2nm,0.6s,baz=56,slow=4.5,SNR=8.7
PZH PanZhiHua 168.01 109 PKP **PKPdf 19 18 54.0 -2.0**
BTO Baotou 169.78 19 *e*PKP **PKPdf 19 18 56.9 +0.2**
BTO pPKP **pPKPdf 19 19 44.5 +1.8**
BTO sPKP 19 19 54.6
BTO PKPab **PKPab 19 20 12.3 +0.4**
BTO PP **PP 19 24 03.4 +2.0**
BTO SKS **SKSdf 19 25 43.3 -0.6**
BTO SS **SS 19 44 46.1 +1.7**
BTO LR LR
comp=Z,250nm,7.4s
BTO LR LR
comp=Z,280nm,5.3s
BTO LR LR
comp=Z,200nm,6.3s
LZH Lanzhou 169.83 57 *e*PKP **PKPdf 19 18 56.1 -0.9**
HNS HongShan 173.62 358 ⇓PKP **PKPdf 19 18 59.5 +1.0**
HNS pPKP **pPKPdf 19 19 46.7 +2.2**
HNS PP **PP 19 24 19.4 -0.6**
TIA Tai'an 174.34 337 ⇓PKP **PKPdf 19 18 59.5 +0.7**
XAN Xi'an 174.46 55 ⇓PKP **PKPdf 19 19 00.4 +1.4**
XAN pPKP pPKPdf 19 19 46.0 +1.0
XAN sPKP 19 19 56.9
NJ2 Nanjing 176.07 287 *e*PKP **PKPdf 19 18 59.0 -0.4**
WHN Wuhan 179.53 173 PKP **PKPdf 19 19 00.5 +0.7**

IDC ***12*** *19:03:24.1±3.5, 43°.70N×105°.12W, h0km, mb3.4/1, mbtmp3.3/2, ML4.3/1, MS2.8/4, Error ellipse: s-maj=66.0km s-min=20.5km az=150.0*
NEIC ***12*** *19:03:30.0±2.4, 43°.58N±0°.02×105°.18W±0°.04, h0km±2km, ML3.2/58, Error ellipse: s-maj=5.0km s-min=3.0km az=58.0*
ISC 12 19:03:27.6±1.1, 43°.57N±0°.05×105°.22W±0°.05, h0km, n34, σ2.33/30, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.02**	**57**	Pg	**Pg**	**19 03 47.0**	**-0.1**
RSSD				IAML		19 04 05.4	
	501nm,0.5s						
K22A	**Casper**	**1.33**	**227**		**Pg**	**19 03 53.2**	**+0.2**
K22A				IAML		19 04 20.6	
	comp=N,371nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.27**	**185**		**Pn**	**19 04 08.4**	**+1.7**
PHWY				IAML		19 04 42.4	
	comp=N,117nm,0.4s						
PHWY				IAML		19 04 42.8	
	comp=N,136nm,0.6s						
RWWY	**Rawlins**	**2.39**	**219**		**Pn**	**19 04 09.9**	**+1.7**
RWWY				Sn	**Sb**	**19 04 41.7**	**0.0**
RWWY				IAML		19 04 48.6	
	comp=N,184nm,0.5s						
N23A	**Red Feather La**	**2.73**	**192**		**Pn**	**19 04 15.2**	**+2.3**
N23A				IAML		19 04 56.8	
	comp=N,132nm,0.5s						
N23A				IAML		19 05 02.5	
	comp=E,116nm,0.5s						
BRIGG	**Briggsdale**	**3.06**	**167**		**Pn**	**19 04 17.6**	**+0.3**
LAO	**LASA Array**	**3.20**	**347**	Pn	**Pn**	**19 04 21.9**	**+2.7**
PD31	**Pinedale Array**	**3.27**	**257**		**Pn**	**19 04 22.1**	**+1.7**
PDAR	**Pinedale Array**	**3.27**	**257**	Pn	**Pn**	**19 04 22.7**	**+2.3**
PDAR	**Pinedale Array**	**3.27**	**257**	Pn	**Pn**	**19 04 21.7**	**+1.3**
	comp=E,3.5nm,0.3s,baz=80,slow=16,SNR=46						
PDAR				Lg	Lg	19 05 08.6	
	comp=E,16nm,0.3s,baz=86,slow=31,SNR=2.5						
PDAR				LR	LR	19 05 37.2	
	comp=E,56nm,20.9s,baz=86,slow=40						
	comp=E,4.0nm,0.4s						
BW06	**Boulder Array**	**3.28**	**257**		**Pn**	**19 04 22.6**	**+2.2**
BW06				IAML		19 05 18.4	
	comp=E,40nm,0.5s						
BW06				IAML		19 05 20.5	
	comp=E,35nm,0.5s						
RLMT	**Red Lodge**	**3.29**	**300**		**Pn**	**19 04 22.3**	**+1.6**
RLMT				IAML		19 05 21.9	
	comp=E,52nm,0.5s						
RLMT				IAML		19 05 22.1	
	comp=E,50nm,0.8s						
OGNE	**Ogallala**	**3.53**	**137**		**Pn**	**19 04 26.8**	**+3.1**
YMP	**Mirror Lake Pl**	**3.74**	**290**		**Pn**	**19 04 30.3**	**+3.4**
ISCO	**Idaho Springs**	**3.78**	**185**		**Pn**	**19 04 29.9**	**+2.5**
LOHW	**Long Hollow**	**3.91**	**272**		**Pn**	**19 04 31.9**	**+2.8**
FLWY	**Flagg Ranch**	**4.00**	**279**		**Pn**	**19 04 32.8**	**+2.5**
FLWY				IAML		19 05 46.2	
	comp=E,38nm,1.2s						
FLWY				IAML		19 07 03.9	
	comp=E,30nm,4.6s						
MOOW	**Moose Ponds**	**4.01**	**274**		**Pn**	**19 04 33.3**	**+2.7**
O20A	**White River Ci**	**4.11**	**214**		**Pn**	**19 04 33.3**	**+1.4**
O20A				IAML		19 06 50.3	
	comp=E,40nm,1.5s						
FXWY	**Fox Creek**	**4.22**	**273**		**Pn**	**19 04 35.9**	**+2.5**
ID10	**Lander Cutoff**	**4.29**	**258**		**Pn**	**19 04 36.6**	**+2.2**
RDMU	**Red Mountain**	**4.41**	**229**		**Pn**	**19 04 37.9**	**+1.9**
RDMU				IAML		19 05 56.7	
	comp=E,33nm,1.5s						
RDMU				IAML		19 06 08.5	
	comp=N,30nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.95**	**156**		**Pn**	**19 04 46.7**	**+3.3**
BOZ	**Bozeman (W)**	**5.01**	**296**	Pn	**Pn**	**19 04 46.2**	**+2.0**
BOZ				IAML		19 07 49.2	
	comp=N,20nm,1.1s						
HWUT	**Hardware Ranch**	**5.08**	**249**		**Pn**	**19 04 47.0**	**+1.8**
HWUT				IAML		19 06 26.3	
	comp=N,20nm,1.3s						
BSUT	**Blindstream Ca**	**5.12**	**236**	Pn	**Pn**	**19 04 47.7**	**+1.9**
BSUT				IAML		19 06 38.4	
	comp=E,17nm,1.2s						
BSUT				IAML		19 06 58.0	
	comp=N,12nm,2.7s						
HVU	**Hansel Valley**	**5.85**	**255**		**Pn**	**19 04 58.0**	**+2.3**
SRU	**San Rafael Swe**	**5.98**	**224**		**Pn**	**19 04 58.2**	**+0.6**
I10CA	**LAC DU BONNET**	**9.14**	**40**	I	I	19 52 13.6	
	comp=N,0.4nm,1.3s,baz=222,slow=310,SNR=9.6						
ULM	**Lac du Bonnet**	**9.24**	**40**	Lg	Lg	19 08 06.2	
	comp=N,0.2nm,0.3s,baz=126,slow=18,SNR=1.8						
NEW	**Newport**	**9.53**	**304**	LR	LR	19 09 55.7	
	comp=N,113nm,19.6s,baz=120,slow=41						
NVAR	**Mina Array Bea**	**11.14**	**247**	LR	LR	19 10 53.0	
	comp=N,77nm,21.1s,baz=95,slow=40						
YBH	**Yreka Blue Hor**	**13.01**	**268**	LR	LR	19 12 01.6	
	comp=N,42nm,18.1s,baz=53,slow=40						
ILAR	**Eielson Array**	**31.44**	**327**	P	**P**	**19 09 46.0**	**-4.3**
	comp=N,0.4nm,0.8s,baz=127,slow=8.2,SNR=3.2						
	comp=N,0.4nm,0.8s						

*PNSN **12** 19:04:20.5,46.°16N×120.°54W,h13km,MD3.4,Fault plane solution: NP1:φs10.00000°,δ10.00000°,λ30.00000°.*
*NEIC **12** 19:04:20.6±1.1,46.°17N±0.°02×120.°54W±0.°03,h15km±5km, Error ellipse: s-maj=4.4km s-min=1.1km az=142.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.74; $M_{\theta\theta}$-0.22; $M_{\phi\phi}$-0.51; $M_{r\theta}$-1.84; $M_{\theta\phi}$-1.30; $M_{\phi r}$~0.81; Fault plane solution: $M_0$2.48000×10^{14} NP1: φs2.50000°,δ27.14000°,λ26.13000°. NP2:φs248.91000°, δ78.41000°,λ114.71000°. Principal axes: T 2.1669, Plg50.0000°, Azm187.0000°; N 0.5353, Plg24.0000°, Azm64.0000°; P -2.7022, Plg29.0000°, Azm319.0000°;*
*NEIC **12** 19:04:20.5,46.°16N×120.°55W,h11km*
SEA 12 19:04:20.5±1.1,46.°16N±0.°03×120.°54W±0.°03,h13km±5km, ML3.4/9,ML3.6/68(NEIC),Mwr3.5/53(NEIC),Error ellipse: s-maj=4.5km s-min=2.2km az=145.0,Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRW	**Toppenish Ridg**	**0.14**	**359**		Pg	19 04 24.2	+0.1
BLTW	**Bickleton**	**0.35**	**133**		Pg	19 04 27.8	+0.2
YA2	**Yakima**	**0.37**	**1**		Pg	19 04 28.3	+0.3
MXC	**Moxie City**	**0.46**	**22**		Pg	19 04 29.9	+0.3
MXC					Sb	19 04 36.9	-0.2
F07A	**Phinny Hill Vi**	**0.50**	**121**		Pg	19 04 30.7	+0.4
F07A					Sb	19 04 38.0	-0.4
F07A	**Phinny Hill Vi**	**0.50**	**121**	IAML		19 04 42.3	
	comp=E,5μm,0.6s						
F07A				IAML		19 04 43.6	
	comp=N,4μm,0.5s						
BRVW	**Black Rock Val**	**0.50**	**49**		Pg	19 04 30.1	-0.4
PRW	**Prosser**	**0.60**	**84**		Pg	19 04 32.5	+0.3
PAT2	**Paterson 2**	**0.61**	**116**		Pg	19 04 32.7	+0.3
NAC	**Naches**	**0.61**	**341**		Pg	19 04 32.2	-0.3
E07A	**Sunnyside**	**0.62**	**49**		Pg	19 04 32.7	0.0
E07A					Sb	19 04 41.8	-0.2
E07A	**Sunnyside**	**0.62**	**49**	IAML		19 04 42.1	
	comp=N,3μm,0.6s						
E07A				IAML		19 04 47.2	
	comp=E,2μm,0.5s						
VGB	**Gordon Butte**	**0.66**	**195**		Pg	19 04 33.3	-0.1
BENWA	**Benson Ranch**	**0.68**	**57**		Pb	19 04 34.0	-0.2
SNIWA	**Snively Ranch**	**0.68**	**63**		Pg	19 04 33.6	-0.2
ASR	**Mount Adams--S**	**0.73**	**270**		Pb	19 04 35.5	+0.2
HAWA	**Hanford**	**0.74**	**71**		Pg	19 04 34.8	-0.1
HAWA					Sb	19 04 45.1	-0.2
EBG	**Ellensburg**	**0.75**	**359**		Pg	19 04 34.8	-0.4
GBB	**Gable Butte**	**0.78**	**54**		Pg	19 04 35.6	0.0
REDWA	**Red Mountain**	**0.78**	**79**		Pg	19 04 35.6	0.0
REDWA					Sb	19 04 46.6	+0.2
BVW	**Beverly**	**0.80**	**35**		Pg	19 04 35.5	-0.5
H2OWA	**Water**	**0.81**	**72**		Pg	19 04 36.0	-0.3
GLK	**Glacier Lake**	**0.84**	**299**		Pg	19 04 36.8	-0.1
GBL	**Gable Mountain**	**0.87**	**59**		Pg	19 04 37.2	-0.2
GBL	**Gable Mountain**	**0.87**	**59**		Pg	19 04 37.2	-0.1
APM	**Augspurger Mou**	**0.90**	**243**		Pg	19 04 37.8	-0.2
MJ2	**May Junction 2**	**0.91**	**63**		Pg	19 04 37.8	-0.4
WIW	**Wooded Island**	**0.91**	**72**		Pg	19 04 37.9	-0.2
WIW					Sb	19 04 50.4	+0.2
WIW	**Wooded Island**	**0.91**	**72**		Pg	19 04 37.9	-0.2
LOCW	**Locke Island**	**0.95**	**53**		Pb	19 04 38.4	-0.5
VTHM	**Trough**	**0.97**	**181**		Pb	19 04 38.7	-0.6
TBM	**Table Mountain**	**1.01**	**358**		Pb	19 04 39.1	-0.9
CDFW	**Cedar Flats**	**1.05**	**268**		Pb	19 04 40.3	-0.3
LON	**Longmire**	**1.06**	**305**		Pb	19 04 40.1	-0.7
G05A	**Wamic**	**1.06**	**211**		Pb	19 04 40.4	-0.4
G05A	**Wamic**	**1.06**	**211**	IAML		19 04 59.2	
	comp=N,1μm,0.5s						
G05A				IAML		19 04 59.3	
	comp=E,2μm,0.7s						
FHE	**Frenchman Hill**	**1.07**	**42**		Pb	19 04 40.4	-0.6
E08A	**Dider Farm, El**	**1.08**	**71**		Pb	19 04 40.2	-0.9
YPT	**Yellepit**	**1.10**	**95**		Pb	19 04 40.7	-0.8
LTY	**Liberty**	**1.11**	**355**		Pb	19 04 40.1	-1.5
LTY	**Liberty**	**1.11**	**355**	IAML		19 04 58.4	
	comp=N,1μm,0.6s						
HOOD	**Mount Hood Mea**	**1.14**	**223**		Pb	19 04 41.6	-0.6
HOOD	**Mount Hood Mea**	**1.14**	**223**	IAML		19 04 57.1	
	comp=N,1μm,0.6s						
HOOD				IAML		19 05 01.6	
	comp=E,2μm,0.6s						
F04A	**Amboy**	**1.33**	**261**		Pn	19 04 44.4	-0.4
F04A				IAML		19 05 04.2	
	comp=N,911nm,0.6s						
F04A				IAML		19 05 05.0	
	comp=E,1μm,0.6s						
G08A	**Pilot Rock**	**1.41**	**127**		Pn	19 04 44.9	-1.1
G08A	**Pilot Rock**	**1.41**	**127**	IAML		19 05 06.1	
	comp=N,1μm,0.7s						
D05A	**Enumclaw**	**1.44**	**317**		Pn	19 04 46.4	+0.1
D05A				IAML		19 05 14.1	
	comp=E,598nm,0.9s						
GHW	**Garrison Hill**	**1.49**	**307**		Pn	19 04 47.1	+0.2
RATT	**Rattlesnake La**	**1.54**	**326**		Pn	19 04 47.5	-0.2
LNOR	**Lincton Mounta**	**1.60**	**99**		Pn	19 04 48.2	-0.3
E09A	**Wood Farm, Sta**	**1.70**	**77**		Pn	19 04 49.5	-0.3
F04D	**Rainier, OR**	**1.72**	**268**		Pn	19 04 50.1	0.0
H04A	**Detroit Lake**	**1.87**	**219**		Pn	19 04 52.2	-0.1
H04A				IAML		19 05 20.7	
	comp=E,862nm,0.5s						
H04A				IAML		19 05 22.6	
	comp=N,819nm,0.4s						
I05D	**Terrebonne, OR**	**1.90**	**198**		Pn	19 04 53.8	+1.1
NLW	**Nelson Butte**	**1.93**	**4**		Pn	19 04 53.6	+0.5
GNW	**Green Mountain**	**2.11**	**313**	Pn	Pn	19 04 55.3	-0.2
F03A	**Seaside**	**2.12**	**265**		Pn	19 04 55.7	+0.1
E03A	**Lebam**	**2.13**	**282**		Pb	19 04 58.2	-0.7
E03A				IAML		19 05 33.0	
	comp=N,456nm,0.9s						
G03D	**McMinnville, O**	**2.13**	**245**		Pn	19 04 56.2	+0.4
G03D				IAML		19 05 27.4	
	comp=N,444nm,0.7s						
G03D				IAML		19 05 33.4	
	comp=E,364nm,0.7s						
H04D	**Lebanon**	**2.25**	**224**		Pn	19 04 58.0	+0.5
RADR	**Rader Ridge**	**2.27**	**278**		Pb	19 05 00.6	-0.9
RADR				IAML		19 05 36.3	
	comp=N,353nm,1.0s						
RADR				IAML		19 05 36.6	
	comp=E,253nm,0.9s						
F10A	**Beach Ranch, E**	**2.31**	**93**		Pn	19 04 58.6	+0.2
PINE	**Pine Mountain**	**2.38**	**187**		Pb	19 05 03.6	+0.2
RPW	**Rockport**	**2.39**	**344**		Pb	19 05 02.3	-1.1
WISH	**Wishkah**	**2.42**	**295**		Pn	19 04 59.5	-0.3
B06A	**Marblemount**	**2.45**	**345**		Pn	19 05 00.1	-0.1
B06A				IAML		19 05 40.8	
	comp=E,413nm,0.7s						
B06A				IAML		19 05 50.0	
	comp=N,396nm,0.8s						
COR	**Corvallis**	**2.50**	**232**	Pn	Pn	19 05 01.1	+0.2
COR				IAML		19 05 39.6	
	comp=N,209nm,1.0s						
CMW	**Cultus Mountai**	**2.51**	**335**		Pb	19 05 04.4	-1.1
NLWA	**Neilton Lookou**	**2.60**	**300**		Pn	19 05 02.4	+0.1
BUCK	**Buck Mountain**	**2.61**	**222**		Pn	19 05 03.7	+1.2
BUCK				IAML		19 05 49.1	
	comp=E,220nm,0.9s						
BUCK				IAML		19 05 51.1	
	comp=N,182nm,0.9s						
BMO	**Blue Mountains**	**2.62**	**119**	IAML		19 05 48.6	
	comp=N,227nm,0.7s						
BMO				IAML		19 05 50.2	
	comp=N,270nm,0.4s						
I04A	**Tendick Farm,**	**2.71**	**210**		Pn	19 05 04.0	+0.2
B04A	**Port Angeles**	**2.78**	**314**		Pb	19 05 08.4	-1.6
J05D	**Fort Rock, OR**	**2.91**	**190**		Pn	19 05 07.2	+0.4
J08A	**Circle Bar Ran**	**3.16**	**152**		Pn	19 05 09.8	-0.3
PLID	**Pearl Lake**	**3.36**	**107**		Pn	19 05 12.6	-0.3
PLID				IAML		19 06 07.6	
	comp=N,93nm,0.8s						
PLID				IAML		19 06 11.1	
	comp=N,90nm,0.8s						
K05A	**Summer Lake**	**3.44**	**184**		Pn	19 05 13.5	-0.5
DBO	**Dodson Butte**	**3.60**	**213**		Pn	19 05 15.8	-0.3
DBO				IAML		19 06 21.3	
	comp=E,104nm,1.1s						
DBO				IAML		19 06 21.3	
	comp=N,105nm,1.0s						
J01E	**Myrtle Point**	**3.85**	**220**		Pn	19 05 20.9	+1.5
WVOR	**Wild Horse Val**	**3.96**	**159**		Pn	19 05 21.1	-0.1
WVOR				IAML		19 06 37.1	
	comp=N,64nm,1.3s						
L04D	**Klamath Falls**	**4.14**	**198**		Pn	19 05 22.9	-0.6
MFID	**Camas Ranch**	**4.33**	**128**		Pn	19 05 26.1	-0.1
VCMT	**Victor**	**4.41**	**84**		Pn	19 05 27.5	+0.2
MSO	**Missoula**	**4.61**	**79**		Pn	19 05 29.5	-0.5
BPMT	**Black Pine Rid**	**4.92**	**84**		Pn	19 05 33.5	-1.0
HLID	**Hailey**	**5.07**	**119**		Pn	19 05 35.6	-0.8
HLID				IAML		19 07 02.4	
	comp=N,32nm,1.2s						
HLID				IAML		19 07 13.1	
	comp=N,34nm,0.8s						
CHMT	**Chamberlain Mo**	**5.09**	**79**		Pn	19 05 36.4	-0.3
OVMT	**Ovando**	**5.28**	**77**		Pn	19 05 38.3	-0.9
ELMT	**Elliston**	**5.58**	**83**		Pn	19 05 42.7	-0.7
DLMT	**Dillon**	**5.62**	**95**		Pn	19 05 44.5	+0.7

*NEIC **12** 19:40:45.7±1.7,7.°8S±0.°1×156.°5E±0.°1,h10km±1km, mb4.3/12,Error ellipse: s-maj=25.1km s-min=12.9km az=39.0*
*IDC **12** 19:40:47.2±1.0,7.°46S×156.°19E,h0km,mb4.0/9, mbtmp4.1/10,ML4.6/1,MS3.3/2,Error ellipse: s-maj=29.3km s-min=25.5km az=66.0*
ISC 12 19:40:45.6±0.6,7.°825±0.°10×156.°54E±0.°08,h10km,n31, σ1°31/29,mb4.2/15,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.73**	**116**		**Pn**	**19 41 43.7**	**+0.4**
HNR	**Honiara**	**3.73**	**116**	Pn	**Pb**	**19 41 53.2**	**+1.6**
	37nm,0.3s,baz=112,slow=4.5,SNR=1.6						
HNR				Sn	**Sg**	**19 42 44.7**	**-0.8**
	117nm,0.3s,baz=290,slow=18,SNR=1.2						
HNR				LR	LR	19 43 03.8	
	comp=Z,442nm,22.0s,baz=274,slow=32						
	430nm,0.6s						
RABL	**Rabaul**	**5.65**	**309**	Pn	**Pn**	**19 42 08.5**	**-1.2**
PATS	**Pohnpei**	**14.67**	**7**		**P**	**19 44 18.2**	**-1.4**
DZM	**Mont Dzumac**	**17.08**	**147**	LR	LR	19 50 18.9	
	comp=Z,101nm,18.2s,baz=120,slow=32						
MARNC	**Mare, Loyalty**	**17.53**	**142**	Pn	**Pn**	**19 44 47.4**	**-2.8**
EIDS	**Eidsvold**	**18.21**	**196**	P	**Pn**	**19 44 58.5**	**-0.2**
WR0	**Warramunga Arr**	**24.49**	**238**	P	**P**	**19 46 04.5**	**-0.7**
WR0				IAmb	IAmb	19 46 15.7	
	comp=Z,4.9nm,1.1s						
WB0	**Warramunga Arr**	**24.53**	**239**	P	**P**	**19 46 06.2**	**+0.6**
WB0				IAmb	IAmb	19 46 14.4	
	comp=Z,7.4nm,1.3s						
WB2	**Warramunga Arr**	**24.64**	**238**	P	**P**	**19 46 06.1**	**-0.5**
WB2				IAmb	IAmb	19 46 29.8	
	comp=Z,5.6nm,1.2s						
WRA	**Warramunga Arr**	**24.65**	**238**	P	**P**	**19 46 05.1**	**-1.6**
WRA	**Warramunga Arr**	**24.65**	**238**	P	**P**	**19 46 08.9**	**+2.2**
	comp=Z,0.8nm,0.5s,baz=62,slow=9.8,SNR=18						
WRA				PcP	**PcP**	**19 49 46.5**	**+2.2**
	comp=Z,0.3nm,0.9s,baz=63,slow=2.5,SNR=6.5						
	comp=Z,0.8nm,0.5s						
MTN	**Manton Dam**	**25.48**	**257**	P	**P**	**19 46 14.0**	**-0.2**
MTN				IAmb	IAmb	19 46 17.6	
	comp=Z,15nm,1.4s						
ASAR	**Alice Springs**	**26.82**	**231**	P	**P**	**19 46 29.4**	**+3.1**
	comp=Z,0.3nm,0.7s,baz=49,slow=9.9,SNR=2.7						
	comp=Z,0.3nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**28.00**	**21**	T	T	20 14 59.9	
	baz=202,slow=75,SNR=101						
H11S2	**WAKE ISLAND Hy**	**28.00**	**21**	T	T	20 15 00.1	
	baz=202,slow=75,SNR=75						
H11S1	**WAKE ISLAND Hy**	**28.02**	**21**	T	T	20 15 01.2	
	baz=202,slow=75,SNR=32						
KNRA	**Kununurra**	**28.27**	**251**	P	**P**	**19 46 40.0**	**+0.7**
FORT	**Forrest**	**35.08**	**226**	P	**P**	**19 47 37.9**	**-1.1**
KSRS	**Korea Array**	**52.39**	**331**	P	**P**	**19 49 58.3**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=130,slow=7.2,SNR=2.5						
	comp=Z,0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**62.52**	**295**	P	**P**	**19 51 10.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=128,slow=5.1,SNR=2.0						
	comp=Z,0.3nm,0.5s						
SONM	**Songino Array**	**70.86**	**327**	P	**P**	**19 52 04.1**	**+1.3**
	comp=Z,3.1nm,0.9s,baz=134,slow=6.1,SNR=17						
	comp=Z,3.1nm,0.9s						
MK31	**Makanchi Array**	**85.03**	**318**	P	**P**	**19 53 21.7**	**+0.1**
MK31				IAmb	IAmb	19 53 23.7	
	comp=Z,3.1nm,0.8s						
MKAR	**Makanchi Array**	**85.03**	**318**	P	**P**	**19 53 21.1**	**-0.5**
MKAR	**Makanchi Array**	**85.03**	**318**	P	**P**	**19 53 22.2**	**+0.7**
	comp=Z,3.7nm,0.7s,baz=99,slow=6.2,SNR=25						
	comp=Z,3.7nm,0.7s						
MAKZ	**Makanchi**	**85.24**	**318**	P	**P**	**19 53 21.3**	**-1.3**
ZAA0	**Zalesovo Array**	**85.72**	**326**	P	**P**	**19 53 24.6**	**-0.2**
ZAA0				IAmb	IAmb	19 53 25.2	
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**85.72**	**326**	P	**P**	**19 53 24.0**	**-0.7**
ZALV	**Zalesovo Beam**	**85.72**	**326**	P	**P**	**19 53 24.9**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=113,slow=5.3,SNR=9.6						
	comp=Z,1.9nm,0.5s						
KURBB	**Kurchatov Arra**	**88.46**	**321**	P	**P**	**19 53 38.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=114,slow=4.6,SNR=2.7						
	comp=Z,0.3nm,0.3s						
BVAR	**Borovoye Array**	**93.87**	**323**	P	**P**	**19 54 03.2**	**0.0**
	comp=Z,0.7nm,0.5s,baz=113,slow=7.3,SNR=5.9						
	comp=Z,0.7nm,0.5s						

*IDC **12** 19:49:56.4±0.9,15.°11N×94.°21W,h0km,mb4.0/12, mbtmp4.0/14,ML5.2/2,MS3.6/22,Error ellipse: s-maj=29.2km s-min=17.5km az=59.0*
*NEIC **12** 19:49:58.6±2.8,15.°05N±0.°06×94.°48W±0.°04,h23km±7km, mb4.6/143,Md4.5/76(MEX),Error ellipse: s-maj=8.9km s-min=5.5km az=182.0*
*MEX **12** 19:50:00.2±0.8,14.°92N×94.°37W,h18km±72km,MD4.5*
*GCG **12** 19:50:30.6±3.1,14.°67N×92.°22W,h9km±17km,MD4.5*
ISC 12 19:49:56.3±2.8,14.°98N±0.°04×94.°41W±0.°03,h9km±18km, n288,σ2°35/326,mb4.5/49,MS3.6/21,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.35**	**21**	*e*P	**Pn**	**19 50 20.4**	**-0.8**
CARR				*e*S	**Sn**	**19 50 34.9**	**-4.3**
PCIG		**1.35**	**58**		**Pn**	**19 50 20.2**	**-1.1**
PCIG					**Sn**	**19 50 36.5**	**-2.9**
PCIG		**1.35**	**58**	*e*P	**Pn**	**19 50 20.2**	**-1.1**
PCIG				*i* S	**Sn**	**19 50 36.5**	**-2.9**
NILT	**Santiago Nilte**	**1.59**	**353**	*e*P	**Pn**	**19 50 23.9**	**-0.6**
NILT				*e*S	**Sn**	**19 50 42.0**	**-3.2**
HUIG	**Huatulco**	**1.82**	**296**		**Pn**	**19 50 28.1**	**+0.4**
HUIG					**Sn**	**19 50 47.7**	**-3.1**
HUIG	**Huatulco**	**1.82**	**296**	*e*P	**Pn**	**19 50 28.1**	**+0.4**
HUIG				*e*S	**Sn**	**19 50 47.7**	**-3.1**
THIG		**2.07**	**92**		**Pn**	**19 50 32.8**	**+1.6**
THIG					**Sn**	**19 50 55.6**	**-1.5**
THIG		**2.07**	**92**	*i* P	**Pn**	**19 50 32.8**	**+1.6**
THIG				*e*S	**Sn**	**19 50 55.6**	**-1.5**
PATR	**El Naranjo**	**2.10**	**86**	*e*P	**Pn**	**19 50 31.5**	**-0.4**
PATR				*i* S	**Sn**	**19 50 55.7**	**-2.6**
PANG	**Puerto Angel**	**2.11**	**289**		**Pn**	**19 50 32.2**	**+0.5**
PANG					**Sn**	**19 50 54.5**	**-3.5**
PANG	**Puerto Angel**	**2.11**	**289**	*e*P	**Pn**	**19 50 32.2**	**+0.5**
PANG				*i* S	**Sn**	**19 50 54.5**	**-3.5**
PAVE	**Pavencul**	**2.17**	**84**	*e*P	**Pn**	**19 50 32.4**	**-0.3**
PAVE				*e*S	**Sn**	**19 50 57.6**	**-2.2**
TGIG		**2.17**	**35**		**Pn**	**19 50 33.7**	**+1.0**
TGIG					**Sn**	**19 50 59.3**	**-0.4**
TGIG		**2.17**	**35**	*e*P	**Pn**	**19 50 33.7**	**+1.0**
TGIG				*e*S	**Sn**	**19 50 59.3**	**-0.4**
TGBT	**Tuxtla Gutierr**	**2.19**	**35**		**Pn**	**19 50 34.1**	**+1.2**
TGBT					**Sn**	**19 50 59.8**	**-0.2**
TGBT	**Tuxtla Gutierr**	**2.19**	**35**	*e*P	**Pn**	**19 50 34.1**	**+1.2**
TGBT				*e*S	**Sn**	**19 50 59.8**	**-0.2**
CHUJ	**Union Juarez**	**2.23**	**87**	*e*P	**Pn**	**19 50 33.3**	**-0.2**
CHUJ				*i* S	**Sn**	**19 50 59.8**	**-1.4**
UXUV	**UXUV**	**2.34**	**6**	*e*P	**Pn**	**19 50 36.5**	**+1.6**
UXUV				*e*S	**Sn**	**19 51 03.3**	**-0.4**
CCIG	**Comitan**	**2.54**	**59**	Pn	**Pn**	**19 50 39.5**	**+1.7**
CCIG	**Comitan**	**2.54**	**59**	*e*P	**Pn**	**19 50 40.1**	**+2.3**
CCIG				*e*S	**Sn**	**19 51 10.1**	**+1.1**
RTAL	**Retalhuleu**	**2.66**	**99**	Pn	**Pn**	**19 50 39.9**	**+0.5**
STG3	**Santiaguito 3,**	**2.76**	**95**	*i* P	**Pn**	**19 50 43.1**	**+2.3**
HUEH	**Huehuetenango**	**2.83**	**83**		**Pn**	**19 50 44.6**	**+2.8**
PEIG	**Puerto Escondi**	**2.83**	**291**		**Pn**	**19 50 42.5**	**+0.8**
PEIG					**Sn**	**19 51 11.7**	**-4.1**
PEIG	**Puerto Escondi**	**2.83**	**291**	*e*P	**Pn**	**19 50 42.5**	**+0.8**
PEIG				*e*S	**Sn**	**19 51 11.7**	**-4.1**
SULM	**Suchitepequez,**	**2.83**	**103**	*i* P	**Pn**	**19 50 44.6**	**+2.9**
SULM				*i* S	**Sn**	**19 51 12.2**	**-3.7**
MIHL	**Minatitlan**	**2.99**	**358**	*i* P	**Pn**	**19 50 45.0**	**+1.1**
MIHL				*e*S	**Sb**	**19 51 25.1**	**-1.3**
OXLC	**Oaxaca**	**3.03**	**314**	*e*P	**Pn**	**19 50 47.6**	**+3.1**
OXLC				*e*S	**Sn**	**19 51 21.5**	**+0.5**
NEUV	**Arroyo Zacate**	**3.03**	**334**	*e*P	**Pn**	**19 50 44.9**	**+0.6**
NEUV				*e*S	**Sn**	**19 51 21.7

MEIG *eS* **Sn** **19 52 27.9 -1.3**
YAIG Yautepec 5.90 312 Pn 19 51 29.0 +5.0
YAIG **Sn** **19 52 29.4 -2.4**
YAIG Yautepec 5.90 312 *eP* Pn 19 51 29.0 +5.0
YAIG *eS* **Sn** **19 52 29.4 -2.4**
PLIG Platanillo 5.94 305 Pn 19 51 29.7 +5.1
PLIG **Sn** **19 52 30.8 -2.0**
PLIG Platanillo 5.94 305 *eP* **Pn** **19 51 26.6 +2.0**
PLIG *eP* Pb 19 51 29.7 -10
PLIG *i S* **Sn** **19 52 30.8 -2.0**
CXUV Coxquihui 5.99 330 *eP* **Pn** **19 51 26.1 +1.0**
CXUV *i S* **Sn** **19 52 29.5 -4.4**
CAIG El Cayaco 6.00 291 **Pn** **19 51 28.0 +2.8**
CAIG **Sn** **19 52 27.2 -6.8**
CAIG El Cayaco 6.00 291 *eP* **Pn** **19 51 28.0 +2.8**
CAIG *eS* **Sn** **19 52 27.2 -6.8**
MPVM San Francisco 6.08 314 *eP* **Pn** **19 51 29.5 +2.9**
MPVM *eS* **Sn** **19 52 42.0 +5.5**
THVM De Xico 6.13 315 *eP* **Pn** **19 51 28.3 +1.0**
TLVM San Miguel Top 6.19 313 *i P* **Pn** **19 51 26.6 -1.6**
VRVM Mexico City 6.30 315 *eP* **Pn** **19 51 30.9 +1.3**
AOVM Tlapan 6.34 313 *eP* **Pn** **19 51 35.0 +4.6**
AOVM *eS* **Sn** **19 52 50.2 +7.0**
ARIG Puente Sto Nin 6.57 301 *eP* **Pn** **19 51 37.3 +4.1**
ARIG *eS* **Sn** **19 52 45.0 -3.2**
DEIG Demacu 6.89 321 *eP* **Pn** **19 51 40.1 +2.4**
ZIIG Zihuatanejo 7.26 292 *eP* **Pn** **19 51 45.6 +3.0**
ZIIG *eS* **Sn** **19 52 57.8 -7.4**
CRIN San Cristobal 7.50 107 **Pn** **19 51 49.1 +3.2**
TEIG Tepich 7.83 47 Pn **Pn** **19 51 50.0 -0.4**
TEIG Tepich 7.83 47 Pn **Pn** **19 51 50.0 -0.4**
291nm,0.3s,baz=40,slow=0.8,SNR=67
TEIG Sn **Sn** **19 53 15.8 -3.4**
322nm,0.3s,baz=115,slow=20,SNR=9.7
TEIG LR LR 19 55 18.9
comp=Z,7µm,18.1s,baz=355,slow=42
CNGN Cerro Negro 7.89 107 **Pn** **19 51 53.2 +1.9**
MATN Matagalpa 8.48 103 Pn **Pn** **19 51 59.9 +0.5**
BOAB BOACO BROADBAN 8.86 105 Pn **Pn** **19 52 06.0 +1.5**
MMIG Aquila 9.18 292 *eP* **Pn** **19 52 12.6 +3.7**
ACON Acoyapa 9.47 107 Pn **Pn** **19 52 14.3 +1.4**
HZTE Horizontes, Gu 9.58 115 Pn **Pn** **19 52 15.3 +0.8**
ORTG Ortega, Santa 9.86 117 Pn **Pn** **19 52 21.0 +2.6**
DUNO Dulce Nombre, 9.97 118 Pn **Pn** **19 52 22.8 +3.0**
ESPN Las Esperanzas 10.21 105 Pn **Pn** **19 52 24.4 +1.3**
JTS Las Juntas de 10.34 116 Pn **Pn** **19 52 23.2 -1.7**
JTS Las Juntas de 10.34 116 Pn **Pn** **19 52 26.7 +1.9**
1.9nm,0.3s,baz=258,slow=21,SNR=1.1
ARE1 Arenal 1 10.46 114 Pn **Pn** **19 52 26.8 +0.2**
SOCE Pocosol 10.59 114 Pn **Pn** **19 52 27.8 -0.5**
COVE Coope Vega, Sa 10.64 112 Pn **Pn** **19 52 28.7 -0.2**
JACO JACO, Garabito 10.89 118 Pn **Pn** **19 52 34.4 +2.0**
ZAIG Zacatecas 10.93 316 Pn **Pn** **19 52 32.2 -1.0**
ZAIG Zacatecas 10.93 316 *eP* Pn 19 52 39.1 +5.9
RIMA Rio Macho 11.53 116 Pn Pn 19 52 37.8 -3.6
SRBA San Rafael, Bu 12.22 117 **Pn** **19 52 52.7 +2.0**
HBVL Hebbronville 12.66 342 Pn **Pn** **19 52 58.0 +1.4**
BRU2 Volcan 13.01 117 Pn **Pn** **19 53 02.1 +0.6**
SOR Soroa 13.29 53 Pn 19 53 01.7 -3.5
833A Chaparral WMA, 14.06 342 Pn **Pn** **19 53 18.1 +2.4**
735A Kenedy 14.16 348 Pn **Pn** **19 53 16.5 -0.6**
HNDO Hondo 15.16 344 Pn **Pn** **19 53 29.5 -1.2**
HNDO IAmb IAmb 19 53 47.1
comp=Z,31nm,0.8s
DRIO Del Rio 15.47 339 **Pn** **19 53 34.7 -0.1**
DRIO IAmb IAmb 19 53 46.7
comp=Z,14nm,0.7s
HNVL Huntsville, TX 15.73 357 Pn **Pn** **19 53 36.9 -1.3**
HNVL IAmb IAmb 19 54 01.6
comp=Z,26nm,0.5s
441A DeRidder 15.73 4 P **Pn** **19 53 39.8 +1.7**
441A IAmb IAmb 19 53 43.8
comp=Z,59nm,1.0s
HPIG 15.86 320 **Pn** **19 53 41.1 +1.1**
435B Jarrell 16.00 350 Pn **Pn** **19 53 40.5 -1.1**
JCT Junction City 16.20 343 Pn **Pn** **19 53 44.5 +0.2**
JCT IAmb IAmb 19 53 56.3
comp=Z,26nm,0.7s
SAND Sanderson 16.51 336 **Pn** **19 53 48.3 +0.1**
SAND IAmb IAmb 19 54 01.3
comp=Z,11nm,0.8s
TX31 Lajitas Ar. Si 16.65 331 P **P** **19 53 52.3 -0.1**
TX31 IAmb IAmb 19 54 02.7
comp=Z,30nm,1.1s
TX32 Lajitas Array 16.65 331 P **P** **19 53 52.6 +0.2**
TXAR Lajitas Array 16.65 331 P **P** **19 53 53.0 +0.6**
TXAR Lajitas Array 16.65 331 Pn **P** **19 53 52.8 +0.4**
comp=Z,0.5nm,0.3s,baz=150,slow=12,SNR=19
TXAR LR LR 20 00 11.0
comp=Z,62nm,18.6s,baz=140,slow=37
comp=Z,4.0nm,0.7s
BRDY Brady 16.77 346 **Pn** **19 53 52.2 +0.8**
BRDY IAmb IAmb 19 54 09.2
comp=Z,25nm,0.7s
237A Washetta, Mont 16.99 356 **Pn** **19 53 52.2 -2.0**
237A IAmb IAmb 19 54 01.3
comp=Z,53nm,1.2s
OZNA Ozona 17.02 340 **P** **19 53 56.7 +0.2**
OZNA IAmb IAmb 19 54 06.6
comp=Z,38nm,0.8s
WHTX Lake Whitney, 17.16 351 **Pn** **19 53 54.0 -2.3**
WHTX IAmb IAmb 19 54 05.7
comp=Z,38nm,0.8s
BRAL Brewton 17.47 21 Pn **Pn** **19 53 57.8 -2.4**
BRAL IAmb IAmb 19 54 19.3
comp=Z,47nm,0.8s
FW13 Cleburne 17.51 351 **Pn** **19 53 58.4 -2.3**
FW13 IAmb IAmb 19 54 10.3
comp=Z,40nm,0.8s
ALPN Alpine 17.51 333 **P** **19 54 03.6 +1.6**
ALPN IAmb IAmb 19 54 07.4
comp=Z,13nm,0.8s
FW14 Alvarado 17.52 352 **Pn** **19 53 59.4 -1.5**
FW14 IAmb IAmb 19 54 11.6
comp=Z,61nm,0.9s
FW07 Weatherford 17.91 351 P **Pn** **19 54 04.4 -1.2**
FW07 IAmb IAmb 19 54 25.3
comp=Z,63nm,0.8s
SGCY Sterling City 17.94 341 **P** **19 54 08.4 +1.7**
SGCY IAmb IAmb 19 54 15.6
comp=Z,64nm,0.8s
FW06 Azle 18.14 351 P **Pn** **19 54 07.1 -1.4**
FW06 IAmb IAmb 19 54 29.6
comp=Z,49nm,0.9s
ABTX Abilene, Hawle 18.20 346 **Pn** **19 54 08.5 -0.7**
ABTX IAmb IAmb 19 54 14.3
comp=Z,34nm,0.9s
Z38A Mt. Pleasant 18.21 358 **Pn** **19 54 09.4 +0.2**
Z38A IAmb IAmb 19 54 16.5
comp=Z,29nm,0.9s
FW03 Perrin-Whitt E 18.28 350 P **Pn** **19 54 10.2 0.0**
FW03 IAmb IAmb 19 54 32.7
comp=Z,35nm,1.0s
Z35A Perchaven, San 18.45 352 **P** **19 54 11.7 -0.5**
Z35A IAmb IAmb 19 54 31.8
comp=Z,42nm,0.9s
PECS Pecos 18.47 334 **P** **19 54 12.0 -0.5**
PECS IAmb IAmb 19 54 28.7
comp=Z,8.9nm,0.8s
425A Indio Mountain 18.48 330 P **Pn** **19 54 15.9 +3.0**
352A Blakely 18.57 26 P **P** **19 54 11.5 -2.0**
352A IAmb IAmb 19 54 21.2
comp=Z,43nm,1.0s
ODSA Odessa 18.61 338 P **Pn** **19 54 15.8 +1.5**
ODSA IAmb IAmb 19 54 23.8
comp=Z,72nm,0.9s
WLAR White Oak Lake 18.66 3 P P 19 54 08.8 -5.7
WLAR IAmb IAmb 19 54 25.2
comp=Z,32nm,0.8s
SN01 Snyder 1 18.75 343 P **P** **19 54 14.2 -1.4**
SN01 IAmb IAmb 19 54 23.8
comp=Z,36nm,0.8s
APMT Aspermont 18.98 345 P **Pn** **19 54 20.2 +1.5**
APMT IAmb IAmb 19 54 36.0
comp=Z,17nm,0.8s
WTFS Witchita Falls 19.06 350 **P** **19 54 16.0 -2.9**
WTFS IAmb IAmb 19 54 29.5
comp=Z,26nm,0.6s
LOOK Love County 19.09 353 **P** **19 54 18.0 -1.3**
POST Post 19.12 342 P **P** **19 54 19.8 +0.2**
POST IAmb IAmb 19 54 27.7
comp=Z,35nm,0.7s
TIGA Tifton 19.14 29 P **P** **19 54 16.1 -3.7**

LRAL Lakeview Retre 19.19 19 **P** **19 54 18.2 -2.1**
CLNB Carlsbad 19.25 335 P **P** **19 54 19.2 -1.9**
HTMS Hat Mesa 19.33 336 P **P** **19 54 21.2 -0.8**
CLN7 Carlsbad 7 19.35 335 P **P** **19 54 22.8 +0.6**
GDL2 Guadalupe Moun 19.40 334 P **P** **19 54 22.0 -0.7**
MNTX Cornudas Mount 19.43 331 P **P** **19 54 20.2 -2.8**
MIAR Mount Ida 19.50 2 P **P** **19 54 22.9 -0.7**
DKNS Dickens 19.52 344 P **P** **19 54 24.2 +0.2**
DKNS IAmb IAmb 19 54 28.5
comp=Z,44nm,0.9s
X37A Clayton 19.54 358 P **P** **19 54 23.2 -0.9**
X37A IAmb IAmb 19 54 38.3
comp=Z,46nm,1.4s
152A Waverly Hall 19.69 25 P **P** **19 54 25.2 -0.6**
152A IAmb IAmb 19 54 43.7
comp=Z,25nm,1.4s
X34A Smith Ranch, M 19.78 352 **P** **19 54 26.6 -0.2**
UALR University of 19.80 5 P **P** **19 54 22.6 -4.3**
WMOK Wichita Mounta 20.06 349 **P** **19 54 29.4 -0.5**
WMOK IAmb IAmb 19 55 04.7
comp=Z,22nm,1.1s
W35A Tecumseh 20.21 354 P **P** **19 54 32.3 +0.8**
W35A IAmb IAmb 19 54 38.6
comp=Z,49nm,1.1s
MSTX Muleshoe 20.36 340 P **P** **19 54 34.9 +1.6**
MSTX IAmb IAmb 19 54 43.2
comp=Z,22nm,0.8s
X48A Hartselle 20.49 18 Pn **P** **19 54 35.2 +0.6**
PLAL Pickwick Lake 20.71 15 P **P** **19 54 35.4 -1.5**
DEOK Depew 20.86 355 P **P** **19 54 36.2 -2.3**
DEOK IAmb IAmb 19 54 53.1
comp=Z,27nm,1.0s
GOGA Godfrey 20.86 26 Pn **P** **19 54 40.2 +1.7**
GOGA IAmb IAmb 19 54 46.2
comp=Z,24nm,0.9s
AMTX Amarillo 20.87 343 P **P** **19 54 38.7 -0.1**
TUL3 Leonard 20.88 357 P **P** **19 54 35.4 -3.3**
OK029 Liberty Lake 20.91 353 P **P** **19 54 36.7 -2.3**
FCAR Ozark Folk Cen 20.92 5 P **P** **19 54 37.5 -1.6**
FCAR IAmb IAmb 19 54 45.0
comp=Z,19nm,0.6s
Y52A Lilburn 21.00 25 P **P** **19 54 37.5 -2.5**
Y52A IAmb IAmb 19 54 48.6
comp=Z,29nm,0.8s
FPAL Fort Paine 21.03 21 Pn **P** **19 54 42.0 +1.6**
FPAL IAmb IAmb 19 54 48.1
comp=Z,22nm,0.8s
OK052 Battle Ridge R 21.04 355 **P** **19 54 39.7 -0.7**
OK052 IAmb IAmb 19 54 44.7
comp=Z,26nm,1.0s
OK033 Mehan 21.10 354 **P** **19 54 39.3 -1.8**
RLO Rose Lookout 21.10 359 **P** **19 54 40.0 -1.1**
RLO IAmb IAmb 19 54 49.0
comp=Z,16nm,1.1s
LCAR Lake Charles 21.20 7 P **P** **19 54 40.5 -1.7**
QUOK Quay 21.20 355 **P** **19 54 40.4 -1.8**
HHAR Hobbs 21.22 1 P **P** **19 54 41.5 -0.9**
HHAR IAmb IAmb 19 54 46.2
comp=Z,28nm,1.3s
319A Douglas 21.25 323 P **P** **19 54 41.3 -1.6**
319A IAmb IAmb 19 55 01.7
comp=Z,20nm,1.3s
121A Cookes Peak, D 21.30 327 P **P** **19 54 44.6 +1.2**
121A IAmb IAmb 19 54 55.8
comp=Z,26nm,1.1s
X51A Calhoun 21.32 22 P **P** **19 54 42.3 -1.2**
X51A IAmb IAmb 19 54 52.2
comp=Z,24nm,0.8s
U38A Gravette 21.37 0 P **P** **19 54 43.3 -0.7**
ELIS Ellis County 21.47 349 P **P** **19 54 45.2 +0.1**
ELIS IAmb IAmb 19 55 04.9
comp=Z,33nm,0.9s
SWET Sewanee 21.54 19 P **P** **19 54 44.6 -1.3**
CROK Carrier 21.67 352 **P** **19 54 48.2 +0.9**
IMBA Imbabura, San 21.68 131 P **P** **19 54 47.6 -0.4**
U32A Winter Ranch, 21.70 350 P **P** **19 54 48.3 +0.7**
W50A Signal Mountai 21.73 20 P **P** **19 54 45.1 -2.8**
W50A IAmb IAmb 19 54 56.2
comp=Z,26nm,0.9s
V48A Smith Brothers 21.76 17 P **P** **19 54 47.5 -0.7**
V48A IAmb IAmb 19 55 07.5
comp=Z,17nm,1.1s
BLOK Blackwell 21.84 354 P **P** **19 54 48.2 -0.8**
WVT Waverly 21.87 14 P **P** **19 54 48.8 -0.5**
T35A Sooner Cattle 21.93 355 **P** **19 54 49.7 -0.3**
T35A IAmb IAmb 19 55 00.7
comp=Z,16nm,0.7s
NOKA Waynoka 21.94 350 **P** **19 54 48.6 -1.5**
PBMO Poplar Bluff 22.00 9 P **P** **19 54 47.7 -3.0**
PBMO IAmb IAmb 19 55 00.1
comp=Z,13nm,0.7s
GC02 Grant County # 22.00 353 P **P** **19 54 50.7 0.0**
DUN6 Lazy B Ranch 22.01 325 P **P** **19 54 52.2 +1.1**
DUN6 IAmb IAmb 19 55 03.7
comp=Z,41nm,1.3s
T42A Van Buren 22.16 7 P **P** **19 54 52.0 -0.4**
MGMO Mountain Grove 22.16 5 P **P** **19 54 53.7 +1.2**
CLTN Cedars of Leba 22.23 18 P **P** **19 54 53.6 +0.4**
CLTN IAmb IAmb 19 55 11.0
comp=Z,18nm,1.2s
KAN08 Anthony NE Sta 22.38 353 **P** **19 54 53.7 -1.2**
JSC Jenkinsville 22.59 29 P **P** **19 54 55.4 -1.6**
JSC IAmb IAmb 19 55 06.3
comp=Z,20nm,0.8s
S39A Bolivar 22.64 2 P **P** **19 54 57.9 +0.3**
ANMO Albuquerque 22.64 334 P **P** **19 54 57.2 -0.7**
TKL Tuckaleechee C 22.69 23 LR LR 20 05 34.8
comp=Z,104nm,19.8s,baz=202,slow=42
TUC Tucson 22.81 322 P **P** **19 54 59.0 -0.5**
T47A Sharon Grove 22.86 15 P **P** **19 54 56.0 -4.0**
T47A IAmb IAmb 19 55 10.7
comp=Z,11nm,0.7s
V52A Sevierville 22.92 23 P **P** **19 54 56.6 -4.0**
V52A IAmb IAmb 19 55 34.5
comp=Z,24nm,1.3s
S44A Carbondale 23.08 10 **P** **19 55 00.5 -1.7**
SIUC Southern Illin 23.11 11 P **P** **19 55 00.7 -1.7**
CCM Cathedral Cave 23.15 6 P **P** **19 55 00.7 -2.3**
R40A Maddies Statio 23.30 4 P **P** **19 55 03.2 -1.2**
R40A IAmb IAmb 19 55 08.9
comp=Z,11nm,0.8s
TZTN Tazewell 23.56 22 P **P** **19 55 06.1 -0.9**
TZTN IAmb IAmb 19 55 29.0
comp=Z,17nm,1.0s
R32A Long Quarter, 23.66 352 P **P** **19 55 07.4 -0.6**
T25A Trinidad 23.80 340 P **P** **19 55 11.1 +1.5**
T25A IAmb IAmb 19 55 22.4
comp=Z,26nm,0.9s
BOSC San Juan Bosco 23.94 138 P **P** **19 55 12.5 +1.4**
SDV Santo Domingo 24.02 102 LR LR 20 06 41.9
comp=Z,159nm,18.0s,baz=314,slow=42
CBKS Cedar Bluff 24.20 350 P **P** **19 55 14.4 +1.2**
Q44A Meyer Farm, Va 24.30 10 P **P** **19 55 11.6 -2.4**
P40A Paris 24.54 4 P **P** **19 55 15.2 -1.1**
P38A Dawn 24.56 2 P **P** **19 55 13.3 -3.1**
P38A IAmb IAmb 19 55 48.5
comp=Z,19nm,1.4s
R49A Shelbyville 24.61 18 P **P** **19 55 14.9 -2.0**
R49A IAmb IAmb 19 55 30.4
comp=Z,8.1nm,0.7s
S22A 4UR Ranch, Cre 25.21 336 P **P** **19 55 19.7 -3.0**
MVCO Mesa Verde 25.44 333 P **P** **19 55 24.3 -0.4**
MVCO IAmb IAmb 19 55 37.6
comp=Z,9.9nm,1.0s
WUAZ Wupatki 25.49 326 **P** **19 55 25.8 +0.7**
WUAZ IAmb IAmb 19 55 45.5
comp=Z,11nm,1.1s
ISCO Idaho Springs 26.60 340 P **P** **19 55 33.7 -1.6**
SCIA State Center 26.85 2 P **P** **19 55 35.7 -1.4**
ATAH Atahualpa 27.11 143 LR LR 20 03 54.0
comp=Z,84nm,21.9s,baz=309,slow=31
L40A Anamosa 27.13 5 P **P** **19 55 37.4 -2.2**
L42A Oliver, Polo 27.24 8 P **P** **19 55 38.1 -2.5**
PFO Pinyon Flats O 27.25 317 LR LR 20 07 49.6
comp=Z,110nm,18.9s,baz=152,slow=39
SJG San Juan 27.25 80 LR LR 20 07 10.0
comp=Z,54nm,19.5s,baz=229,slow=38
V12A Nelson 27.60 322 P **P** **19 55 44.3 +0.2**
K38A Parkersburg 27.61 3 P **P** **19 55 42.7 -1.2**
K38A IAmb IAmb 19 55 43.9
comp=Z,12nm,0.8s
MTPU Mount Pierson 27.84 329 **P** **19 55 46.6 +0.2**
JFWS Jewell Farm 28.07 7 P P 19 55 44.8 -3.3
SHPR Sheep Range 28.32 323 P **P** **19 55 49.0 -1.6**

ECSD EROS Data Cent 28.72 357 P **P** **19 55 52.1 -1.7**
ECSD IAmb IAmb 19 55 56.4
comp=Z,12nm,1.4s
QSM Queen of Sheba 28.98 320 P **P** **19 55 55.1 -1.2**
PSUT Pine Spring 29.06 327 P **P** **19 55 55.7 -1.5**
SPR3 Spring Creek 3 29.66 328 P **P** **19 56 00.0 -2.6**
SPMN Marine on St. 30.18 2 P **P** **19 56 06.1 -0.7**
PDAR Pinedale Array 30.60 338 P **P** **19 56 09.2 -1.6**
PDAR Pinedale Array 30.60 338 P **P** **19 56 11.9 +1.1**
comp=Z,0.4nm,0.6s,baz=140,slow=7.8,SNR=4.0
comp=Z,0.4nm,0.6s
F36A Milaca 30.79 1 P **P** **19 56 10.4 -1.8**
HVU Hansel Valley 31.07 333 P **P** **19 56 14.6 -0.3**
HVU IAmb IAmb 19 56 26.8
comp=Z,4.8nm,0.8s
MDPB Devils Postpil 31.41 321 P **P** **19 56 15.6 -2.5**
MDPB IAmb IAmb 19 56 31.2
comp=Z,9.3nm,0.9s
ELK Elko 31.43 329 P **P** **19 56 17.7 -0.4**
NVAR Mina Array Bea 31.46 322 P **P** **19 56 18.3 -0.2**
NVAR Mina Array Bea 31.46 322 P **P** **19 56 22.0 +3.6**
comp=Z,1.0nm,0.8s,baz=137,slow=7.9,SNR=7.3
comp=Z,1.0nm,0.8s
REDW Red Top Meadow 31.59 337 P **P** **19 56 21.3 +1.7**
E38A The Farm, Brul 31.62 4 P **P** **19 56 16.9 -2.6**
LOHW Long Hollow 31.71 337 P **P** **19 56 20.4 -0.2**
LOHW IAmb IAmb 19 56 31.5
comp=Z,4.0nm,0.8s
NNA Nana 31.95 146 LR LR 20 06 46.5
comp=Z,83nm,20.1s,baz=353,slow=32
HLID Hailey 33.22 333 P **P** **19 56 33.1 -0.7**
HLID IAmb IAmb 19 56 45.4
comp=Z,3.9nm,0.8s
B35A Bob, Littlefor 33.29 1 P **P** **19 56 33.3 -0.8**
DLMT Dillon 33.95 337 P **P** **19 56 39.6 -0.5**
DLMT IAmb IAmb 19 56 52.0
comp=Z,5.9nm,0.8s
WVOR Wild Horse Val 34.40 327 P **P** **19 56 41.7 -2.3**
WVOR IAmb IAmb 19 56 55.0
comp=Z,6.0nm,1.1s
ELMT Elliston 34.90 338 P **P** **19 56 45.9 -2.4**
J08A Circle Bar Ran 34.98 329 P **P** **19 56 49.5 +0.5**
J08A IAmb IAmb 19 56 54.6
comp=Z,10.0nm,1.0s
ULM Lac du Bonnet 35.20 358 P **P** **19 56 50.1 -0.4**
comp=Z,5.3nm,0.8s,baz=167,slow=8.8,SNR=4.5
comp=Z,5.3nm,0.8s
F10A Beach Ranch, E 36.36 333 P **P** **19 56 58.8 -1.9**
F10A IAmb IAmb 19 57 30.8
comp=Z,7.4nm,1.1s
ETMB Extrema 37.26 130 P **P** **19 57 08.2 -0.4**
ETMB IAmb IAmb 19 57 10.1
comp=Z,8.1nm,1.2s
FFC Flin Flon 40.09 353 P **P** **19 57 33.9 +1.9**
FFC IAmb IAmb 19 57 36.8
comp=Z,19nm,1.4s
LPAZ La Paz 40.48 139 P **P** **19 57 37.5 +1.2**
comp=Z,1.6nm,0.7s,baz=290,slow=5.4,SNR=4.8
LPAZ LR LR 20 12 42.7
comp=Z,68nm,19.9s,baz=268,slow=34
comp=Z,1.6nm,0.7s
MDP Montagnes des 42.21 99 LR LR 20 16 24.6
comp=Z,76nm,21.3s,baz=284,slow=38
SCHQ Schefferville 45.16 22 LR LR 20 18 58.0
comp=Z,189nm,19.9s,baz=268,slow=39
YKA Yellowknife Ar 49.56 348 P **P** **19 58 47.8 +0.6**
comp=Z,0.7nm,0.5s,baz=164,slow=12,SNR=3.9
comp=Z,0.7nm,0.5s
FRB Frobisher Bay 51.91 14 LR LR 20 23 25.4
comp=Z,102nm,18.4s,baz=252,slow=39
INK Inuvik 58.85 344 LR LR 20 28 51.3
comp=Z,102nm,18.8s,baz=23,slow=40
SFJD Kangerlussaq 59.31 18 LR LR 20 28 53.2
comp=Z,61nm,18.4s,baz=209,slow=40
PLCA Paso Flores 59.69 159 P **P** **20 00 03.0 +1.8**
comp=Z,2.7nm,0.9s,baz=314,slow=9.9,SNR=4.7
comp=Z,2.7nm,0.9s
RES Resolute Bay 59.70 360 LR LR 20 28 16.6
comp=Z,46nm,18.8s,baz=141,slow=39
ILAR Eielson Array 61.03 337 P **P** **20 00 11.4 +1.4**
comp=Z,0.4nm,0.5s,baz=125,slow=5.2,SNR=12
comp=Z,0.4nm,0.5s
BORG Borgarnes 69.35 26 LR LR 20 30 31.1
comp=Z,28nm,18.7s,baz=299,slow=35
JMIC Jan Mayen 74.61 20 LR LR 20 35 28.0
comp=Z,57nm,19.7s,baz=76,slow=37
EKA Eskdalemuir Ar 78.53 36 P **P** **20 01 57.3 -0.6**
comp=Z,1.1nm,0.5s,baz=270,slow=5.0,SNR=6.3
comp=Z,1.1nm,0.5s
ESDC Sonseca Array 80.94 51 P **P** **20 02 13.0 +1.6**
comp=Z,0.6nm,0.8s,baz=308,slow=6.4,SNR=3.7
comp=Z,0.6nm,0.8s
MDT Midelt 81.87 58 LR LR 20 34 26.3
comp=Z,31nm,19.2s,baz=314,slow=33
NB2 NORSAR Subarra 84.39 28 P **P** **20 02 30.1 +1.3**
comp=Z,0.8nm,0.6s,baz=291,slow=5.1
NOA NORSAR Array B 84.39 28 P **P** **20 02 30.2 +1.3**
comp=Z,0.9nm,0.6s,baz=291,slow=5.0,SNR=4.5
NOA LR LR 20 39 55.9
comp=Z,22nm,19.1s,baz=290,slow=36
comp=Z,0.9nm,0.6s
ARCES ARCESS Array B 85.93 18 P **P** **20 02 36.8 +0.4**
comp=Z,1.6nm,0.8s,baz=266,slow=3.6,SNR=8.5
comp=Z,1.6nm,0.8s
DBIC Dimbokro 87.87 84 LR LR 20 40 55.4
comp=Z,20nm,19.2s,baz=75,slow=35
FINES FINESS Array B 90.59 24 P **P** **20 02 59.4 +0.7**
comp=Z,5.2nm,1.0s,baz=282,slow=1.8,SNR=3.6
FINES LR LR 20 45 06.6
comp=Z,28nm,19.0s,baz=277,slow=37
comp=Z,5.2nm,1.0s
TORD Torodi Ar. Bea 92.41 76 LR LR 20 40 54.5
comp=Z,30nm,20.2s,baz=200,slow=33
AKASG Malin Array Be 98.17 32 LR LR 20 46 38.0
comp=Z,23nm,21.7s,baz=340,slow=35
WRA Warramunga Arr 133.36 257 PKP **PKiKP** **20 09 15.1 +0.2**
comp=Z,0.2nm,0.4s,baz=87,slow=2.5,SNR=2.2
CMAR Chiang Mai Arr 144.26 338 PKP **PKPdf** **20 09 33.3 -0.4**
comp=Z,0.8nm,0.4s,baz=9.0,slow=4.4,SNR=6.0

---

*IDC **12** 19:59:58.5±1.1, 6°.03S×147°.63E, h0km, mb3.9/6, mbtmp4.0/10, ML3.8/3, Error ellipse: s-maj=42.6km s-min=20.3km az=94.0*
*NEIC **12** 20:00:06.7±1.4, 6°.2S±0°.1×147°.6E±0°.2, h59km±7km, mb4.0/13, Error ellipse: s-maj=22.8km s-min=15.2km az=82.0*

ISC 12 19:59:59.2±0.7, 6°.07S±0°.07×147°.73E±0°.10, h10km, n41, σ1 90/46, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.36**	**190**		**Pn**	**20 00 54.6**	**+2.8**
PMG				Sn	**Sn**	**20 01 31.2**	**-0.5**
PMG	**Port Moresby**	**3.36**	**190**	P	**Pn**	**20 00 54.7**	**+2.9**
PMG	**Port Moresby**	**3.36**	**190**	Pn	**Pn**	**20 00 54.7**	**+2.9**
	219nm,0.5s,baz=359,slow=6.0,SNR=84						
PMG				Sn	**Sn**	**20 01 30.8**	**-1.0**
	42nm,0.3s,baz=179,slow=14,SNR=5.6						
RABL	**Rabaul**	**4.80**	**67**	P	**Pn**	**20 01 08.1**	**-3.5**
COEN	**Coen**	**9.03**	**209**	Pn	**Pn**	**20 02 11.2**	**+1.5**
COEN				Sn	**Sn**	**20 03 43.2**	**-8.3**
COEN	**Coen**	**9.03**	**209**	P	**Pn**	**20 02 12.2**	**+2.5**
CTA	**Charters Tower**	**14.01**	**186**	Pn	**Pn**	**20 03 21.1**	**+3.2**
	0.3nm,0.3s,baz=0.4,slow=15,SNR=5.9						
	1.3nm,0.3s						
CTAO	**Charters Tower**	**14.01**	**186**	Pn	**Pn**	**20 03 18.4**	**+0.5**
KDU	**Kakadu**	**16.42**	**245**	P	**P**	**20 03 52.4**	**-0.3**
QIS	**Mount Isa**	**16.42**	**208**	P	**P**	**20 03 51.6**	**-1.1**
SIJI	**Sorong**	**17.22**	**287**	P	**Pn**	**20 04 00.1**	**0.0**
	0.1nm,0.3s,baz=133,slow=23,SNR=1.4						
	0.8nm,0.3s						
WB0	**Warramunga Arr**	**18.80**	**222**	P	**P**	**20 04 19.1**	**+0.1**
WB0				IAmb	IAmb	20 04 41.8	
	comp=Z,7.6nm,1.2s						
WR0	**Warramunga Arr**	**18.84**	**222**	P	**P**	**20 04 18.9**	**-0.5**
WB2	**Warramunga Arr**	**18.95**	**222**	P	**P**	**20 04 20.4**	**-0.2**
WB2				IAmb	IAmb	20 04 52.8	
	comp=Z,5.6nm,1.0s						
WRA	**Warramunga Arr**	**18.96**	**222**	P	**P**	**20 04 18.4**	**-2.3**
WRA	**Warramunga Arr**	**18.96**	**222**	P	**P**	**20 04 20.6**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=47,slow=11,SNR=39						
WRA				S	Sn	20 07 42.1	-12
	comp=Z,0.5nm,0.7s,baz=43,slow=23,SNR=3.0						
WRA				PcP	**PcP**	**20 08 48.1**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=34,slow=1.5,SNR=2.5						

comp=Z,1.5nm,0.4s
EIDS Eidsvold 19.46 171 Pn 20 04 28.4 +1.1
EIDS IAmb IAmb 20 04 30.3
comp=Z,9.7nm,1.2s
KNRA Kununurra 20.91 241 P P 20 04 42.1 0.0
KNRA IAmb IAmb 20 05 11.5
comp=Z,26nm,1.4s
KNRA Kununurra 20.91 241 P P 20 04 43.0 +1.0
AS31 Alice Springs 21.97 216 P P 20 04 53.6 +0.1
AS31 IAmb IAmb 20 05 14.6
comp=Z,3.0nm,1.0s
ASAR Alice Springs 21.98 216 P P 20 04 53.0 -0.5
ASAR Alice Springs 21.98 216 P P 20 04 53.6 +0.1
comp=Z,2.7nm,0.7s,baz=52,slow=8.3,SNR=50
ASAR S **S 20 08 53.4 -2.9**
comp=Z,0.6nm,0.8s,baz=32,slow=25,SNR=4.4
comp=Z,2.7nm,0.7s
INKA Innaminka 22.55 196 P P 20 05 01.4 +1.9
OOD Oodnadatta 24.44 207 P P 20 05 18.6 +0.3
ARMA Armidale 24.50 172 P P 20 05 19.5 +0.6
LCRK Leigh Creek 25.84 199 P P 20 05 31.1 +0.1
STKA Stephens Creek 26.31 192 P P 20 05 34.1 -1.0
STKA Stephens Creek 26.31 192 P P 20 05 35.2 +0.1
STKA Stephens Creek 26.31 192 P P 20 05 35.3 +0.1
comp=Z,1.9nm,0.4s,baz=18,slow=12,SNR=4.2
comp=Z,1.9nm,0.4s
WRKA Warakurna 26.50 223 P P 20 05 36.5 -0.5
MULG Mulgathing 27.30 206 P P 20 05 43.9 -0.3
HTT Hallett 28.43 196 P P 20 05 54.3 +0.1
BBOO Buckleboo 28.74 201 P P 20 05 55.8 -1.2
FORT Forrest 30.74 215 P P 20 06 14.7 0.0
SBUM Sibu 36.45 282 P P 20 07 04.0 -0.7
SBUM IAmb IAmb 20 07 06.8
comp=Z,5.5nm,1.2s
MKAR Makanchi Array 78.01 320 P P 20 11 58.9 +0.9
comp=Z,0.3nm,0.4s,baz=123,slow=7.1,SNR=2.3
comp=Z,0.3nm,0.4s
ZALV Zalesovo Beam 79.46 328 P P 20 12 06.0 +0.2
comp=Z,0.6nm,0.4s,baz=119,slow=8.6,SNR=2.7
comp=Z,0.6nm,0.4s
QSPA South Pole Qui 83.90 180 P P 20 12 29.1 -0.1
QSPA IAmb IAmb 20 12 50.3
comp=Z,5.5nm,1.4s
QSPA South Pole Qui 83.90 180 P P 20 12 29.9 +0.7
comp=Z,0.7nm,0.4s,baz=321,slow=1.0,SNR=7.6
comp=Z,0.7nm,0.4s
ILAR Eielson Array 85.26 23 P P 20 12 36.8 +0.9
comp=Z,0.4nm,0.8s,baz=260,slow=5.4,SNR=2.4
comp=Z,0.4nm,0.8s
TORD Torodi Ar. Bea 145.81 284 PKPbc PKPbc 20 19 39.8 +0.1
comp=Z,4.2nm,0.6s,baz=72,slow=4.7,SNR=26

*IDC **12** 20:03:51.3±0.8, 32°.28N×105°.72E, h0km, mb3.8/10, mbtmp3.8/12, ML4.1/2, Error ellipse: s-maj=37.6km s-min=16.0km az=54.0*
ISC 12 20:03:52.6±0.8, 32°.4N±0°.1×105°.8E±0°.1, h10km, n15, σ1§25/15, mb3.8/10, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.17**	**206**	Pn	**Pn**	**20 07 25.6**	**-1.4**
	0.2nm,0.3s,baz=10,slow=12,SNR=4.9						
	1.3nm,0.9s						
SONM	**Songino Array**	**15.45**	**2**	Pn	**Pn**	**20 07 27.7**	**-3.0**
	0.1nm,0.3s,baz=179,slow=9.9,SNR=6.2						
SONM				Lg	Lg	20 11 53.3	
	0.1nm,0.3s,baz=182,slow=32,SNR=2.9						
WMQ	**Urumqi**	**18.22**	**314**	*e*P	**Pn**	**20 08 04.5**	**-1.1**
WMQ				sP	sP	20 08 11.6	+1.3
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
KSRS	**Korea Array**	**18.83**	**68**	P	**Pn**	**20 08 13.8**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=250,slow=10,SNR=12						
	comp=Z,1.5nm,0.4s						
MKAR	**Makanchi Array**	**23.02**	**316**	P	**P**	**20 08 57.6**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=116,slow=12,SNR=9.1						
	comp=Z,1.5nm,0.7s						
HEH	**HeiHe**	**24.00**	**36**	*e*P	**P**	**20 09 07.1**	**-0.1**
ZALV	**Zalesovo Beam**	**26.25**	**331**	P	**P**	**20 09 29.0**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=125,slow=7.9,SNR=3.0						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**27.14**	**320**	P	**P**	**20 09 36.3**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=125,slow=10,SNR=5.0						
	comp=Z,0.8nm,0.7s						
AKTO	**Aktyubinsk**	**39.35**	**312**	P	**P**	**20 11 23.7**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=106,slow=9.3,SNR=2.3						
	comp=Z,0.7nm,0.5s						
ARCES	**ARCESS Array B**	**56.70**	**335**	P	**P**	**20 13 36.5**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=74,slow=8.9,SNR=5.7						
	comp=Z,3.1nm,0.9s						
FINES	**FINESS Array B**	**57.32**	**326**	P	**P**	**20 13 40.6**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=90,slow=7.6,SNR=6.2						
	comp=Z,2.3nm,0.8s						
AKASG	**Malin Array Be**	**57.57**	**313**	P	**P**	**20 13 43.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=64,slow=6.9,SNR=2.6						
	comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**58.76**	**148**	P	**P**	**20 13 50.8**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=339,slow=7.8,SNR=25						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**61.86**	**151**	P	**P**	**20 14 12.2**	**0.0**
	comp=Z,0.9nm,0.6s,baz=336,slow=6.6,SNR=7.4						
	comp=Z,0.9nm,0.6s						
NOA	**NORSAR Array B**	**64.37**	**327**	P	**P**	**20 14 27.9**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=70,slow=7.1,SNR=1.9						
	comp=Z,0.5nm,0.6s						

IDC 12 20:59:43.0±7.5, 30°.59S×178°.92W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=314.8km s-min=58.3km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.30**	**268**	P	P	21 07 38.4	-0.2
	0.2nm,0.4s,baz=104,slow=7.7,SNR=5.3						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.31**	**273**	P	P	21 07 46.8	-0.1
	0.4nm,0.3s,baz=111,slow=8.1,SNR=9.4						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**145.05**	**339**	PKPbc	PKPbc	21 19 20.1	-0.8
	6.0nm,1.1s,baz=52,slow=5.4,SNR=6.2						

WEL 12 21:12:16.8±0.5, 41°S±2°×17°5E±°, h23km±3km, M2.9/25, ML3.4/12, MLv2.9/25, Error ellipse: s-maj=0.0km s-min=0.0km az=161.3, confirmed, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEL	**Wellington**	**0.09**	**271**	P	Pb	21 12 22.3	+1.2
WEL				S	Sb	21 12 25.9	+1.8
BHW	**Baring Head**	**0.12**	**186**	P	Pn	21 12 22.5	-0.8
BHW				S	Sb	21 12 26.1	+1.5
CAW	**Cannon Point**	**0.22**	**37**	P	Pn	21 12 23.8	-0.9
CAW				S	Sb	21 12 28.4	+1.8
MSWZ	**Moikau Station**	**0.30**	**115**	P	Pn	21 12 25.2	-0.6
MSWZ				S	Sn	21 12 31.2	-0.4
PLWZ	**Palliser**	**0.40**	**136**	P	Pn	21 12 26.5	-0.6
PLWZ				S	Sn	21 12 33.7	-0.2
PAWZ	**Paruwai Farm**	**0.42**	**103**	P	Pn	21 12 26.8	-0.6
PAWZ				S	Sn	21 12 34.0	-0.4
KIW	**Kapiti Island**	**0.42**	**2**	P	Pb	21 12 26.5	+0.8
TCW	**Tory Channel**	**0.47**	**279**	P	Pb	21 12 27.0	+0.6
MTW	**Mount Morrison**	**0.48**	**75**	P	Pn	21 12 27.8	-0.5
OGWZ	**Otaki Gorge**	**0.52**	**25**	P	Pb	21 12 27.8	+0.6
HOWZ	**Holdsworth Sta**	**0.61**	**51**	P	Pn	21 12 29.7	-0.4
TRWZ	**Traveller**	**0.61**	**101**	P	Pn	21 12 29.7	-0.3
CMWZ	**Cape Campbell**	**0.69**	**227**	P	Pn	21 12 30.6	-0.4
TUWZ	**Tuamarina**	**0.72**	**258**	P	Pb	21 12 30.9	+0.1
TMWZ	**Te Maipa**	**0.78**	**77**	P	Pn	21 12 32.0	-0.3
MRZ	**Mangatainoka R**	**0.81**	**40**	P	Pn	21 12 32.8	0.0
BSWZ	**Blackbirch Sta**	**0.87**	**240**	P	Pn	21 12 33.8	+0.2
DUWZ	**D'Urville Isla**	**0.88**	**303**	P	Pn	21 12 33.7	0.0
TIWZ	**Tintock**	**0.91**	**56**	P	Pn	21 12 34.8	+0.6
CPWZ	**Castlepoint**	**1.06**	**70**	P	Pn	21 12 36.0	-0.2
PRWZ	**Pori Road**	**1.10**	**49**	P	Pn	21 12 36.9	+0.2
POWZ	**Post Office Ro**	**1.12**	**37**	P	Pn	21 12 37.1	+0.1
OHWZ	**Ohakea**	**1.13**	**17**	P	Pb	21 12 38.8	+1.2
NNZ	**Nelson**	**1.14**	**273**	P	Pn	21 12 37.5	+0.3
BFZ	**Birch Farm**	**1.19**	**60**	P	Pn	21 12 36.9	-1.1
TSZ	**Takapari Road**	**1.47**	**34**	P	Pn	21 12 41.8	-0.1
TKNZ	**Takaka Hill**	**1.48**	**279**	P	Pn	21 12 42.3	+0.4
KHZ	**Kahutara**	**1.51**	**221**	P	Pn	21 12 41.8	-0.6
WAZ	**Wanganui**	**1.53**	**3**	P	Pb	21 12 45.3	+0.8
THZ	**Tophouse**	**1.56**	**252**	P	Pn	21 12 42.9	-0.3
MRNZ	**Matariki Terra**	**1.61**	**265**	P	Pn	21 12 44.1	+0.4
PNHZ	**Pukenui**	**1.70**	**37**	P	Pn	21 12 44.6	-0.4
QRZ	**Quartz Range**	**1.84**	**284**	P	Pn	21 12 47.7	+0.8
MOVZ	**Moawhango**	**1.99**	**20**	P	Pb	21 12 52.1	-0.3
KRHZ	**Kereru**	**1.99**	**35**	P	Pn	21 12 48.4	-0.7
WNVZ	**Wahianoa**	**2.03**	**16**	P	Pn	21 12 50.7	+1.0
WHVZ	**Whangaehu Hut**	**2.07**	**15**	P	Pn	21 12 51.4	+1.1
KHEZ	**Kahui Hut**	**2.10**	**341**	P	Pb	21 12 53.2	-1.0
TUVZ	**Tukino**	**2.10**	**16**	P	Pb	21 12 54.2	0.0
VRZ	**Vera Road**	**2.16**	**357**	P	Pb	21 12 54.4	-0.8
NGZ	**Ngauruhoe**	**2.18**	**15**	P	Pb	21 12 56.2	+0.6
NNVZ	**North Ngauruho**	**2.22**	**15**	P	Pn	21 12 53.7	+1.4
WTVZ	**West Tongariro**	**2.23**	**14**	P	Pb	21 12 55.9	-0.7
ETVZ	**East Tongariro**	**2.24**	**17**	P	Pb	21 12 55.9	-0.8
TMVZ	**Te Maari**	**2.26**	**16**	P	Pb	21 12 55.8	-1.1
DSZ	**Denniston Nort**	**2.36**	**258**	P	Pn	21 12 53.9	-0.2
LTZ	**Lake Taylor**	**2.46**	**232**	P	Pn	21 12 54.5	-1.0

*KRNET **12** 21:26:57.5±0.1, 40°.06N×77°.87E, mb3.2*
*SOME **12** 21:26:58.7, 40°.20N×78°.13E, h30km*
*NNC **12** 21:27:00.0±1.2, 40°.38N×78°.06E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=8.3km s-min=6.4km az=173.0*
ISC 12 21:26:57.5±2.0, 40°.06N±0°.09×78°.07E±0°.06, h10km, n58, σ1§37/71, 21C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.08**	**312**	⇑*e*P	**Pb**	**21 27 33.5**	**-2.0**
NRN	baz=14			⇑*e*S	**Sb**	**21 28 00.2**	**-1.4**
PRZ	**Przheval'sk**	**2.43**	**6**	⇑*e*P	**Pb**	**21 27 40.5**	**-0.9**
PRZ	baz=9.0			⇑*e*S	**Sb**	**21 28 11.7**	**+0.2**
ULHL	**Ulahol**	**2.58**	**328**	⇑*e*P	**Pb**	**21 27 41.2**	**-2.7**
ULHL	baz=31			⇑*e*S	**Sb**	**21 28 12.9**	**-2.9**
ANVS	**Anan'yevo**	**2.73**	**354**	⇓*e*P	**Pb**	**21 27 44.4**	**-2.2**
ANVS	baz=57			⇓*e*S	**Sb**	**21 28 18.4**	**-1.8**
BOOM	**Boomskoye usch**	**2.91**	**327**	⇓*e*P	**Pn**	**21 27 45.7**	**+1.8**
BOOM	baz=30			⇓*e*S	**Sn**	**21 28 20.6**	**+1.6**
SATY	**Saty**	**3.00**	**5**	*e*Pg	**Pb**	**21 27 50.2**	**-0.9**
SATY	8.5nm,0.4s			*e*Lg	Lg	21 28 27.4	
TNSS	**Tian-Shan**	**3.09**	**345**	Pg	**Pb**	**21 27 51.0**	**-1.8**
TNSS	15nm,0.2s			Lg	Lg	21 28 28.9	
TNSS	**Tian-Shan**	**3.09**	**345**	*e*Pg	**Pb**	**21 27 51.0**	**-1.8**
TNSS	16nm,0.2s			*e*Lg	Lg	21 28 28.9	
ZHN	**Zhinishke**	**3.11**	**5**	Pg	**Pb**	**21 27 52.3**	**-0.7**
ZHN	10nm,0.1s			Lg	Lg	21 28 30.8	
ZHN	**Zhinishke**	**3.11**	**5**	*e*Pg	**Pb**	**21 27 52.1**	**-0.8**
ZHN	10nm,0.1s			*e*Lg	Lg	21 28 30.8	
UZB	**Uzynbulak**	**3.16**	**13**	Pg	**Pb**	**21 27 51.8**	**-2.1**
UZB	6.5nm,0.5s			Lg	Lg	21 28 29.5	
UZB	**Uzynbulak**	**3.16**	**13**	*e*Pg	**Pb**	**21 27 51.3**	**-2.5**
UZB	7.1nm,0.3s			*e*Lg	Lg	21 28 29.5	
IZV	**Izvestkoviy**	**3.16**	**340**	Pg	**Pb**	**21 27 52.8**	**-1.1**
IZV	9.0nm,0.4s			Lg	Lg	21 28 32.0	
IZV	**Izvestkoviy**	**3.16**	**340**	*e*Pg	**Pb**	**21 27 52.8**	**-1.1**
IZV	9.2nm,0.3s			*e*Lg	Lg	21 28 32.0	
KOTS	**Kotyrbulak**	**3.25**	**348**	Pg	**Pb**	**21 27 54.2**	**-1.1**
KOTS	9.8nm,0.3s			Lg	Lg	21 28 34.3	
KOTS	**Kotyrbulak**	**3.25**	**348**	*e*Pg	**Pb**	**21 27 54.2**	**-1.1**
KOTS	9.8nm,0.3s			*e*Lg	Lg	21 28 34.3	
AAA	**Alma-Ata**	**3.26**	**345**	Pg	**Pb**	**21 27 54.9**	**-0.5**
AAA	36nm,0.4s			Lg	Lg	21 28 35.6	
AAA	**Alma-Ata**	**3.26**	**345**	*e*Pg	**Pb**	**21 27 54.9**	**-0.5**
AAA	36nm,0.2s			*e*Lg	Lg	21 28 35.6	
SHLS	**Shalkode**	**3.26**	**18**	Pg	**Pb**	**21 27 55.3**	**-0.2**
SHLS	8.3nm,0.4s			Lg	Lg	21 28 35.6	
SHLS	**Shalkode**	**3.26**	**18**	*e*Pg	**Pb**	**21 27 55.0**	**-0.5**
SHLS	5.8nm,0.2s			*e*Lg	Lg	21 28 35.6	
MTBS	**Maitube**	**3.30**	**339**	Pg	**Pb**	**21 27 54.6**	**-1.5**
MTBS	9.3nm,0.2s			Lg	Lg	21 28 34.9	
MTBS	**Maitube**	**3.30**	**339**	*e*Pg	**Pb**	**21 27 54.6**	**-1.5**
MTBS	9.3nm,0.2s			*e*Lg	Lg	21 28 34.9	
ARLS	**Aral**	**3.36**	**304**	⇓*e*P	**Pn**	**21 27 51.1**	**+1.0**
ARLS	baz=5.0			⇓*e*S	**Sn**	**21 28 30.1**	**0.0**
KST	**Kastek**	**3.37**	**333**	Pg	**Pb**	**21 27 56.4**	**-1.0**
KST	14nm,0.5s			Lg	Lg	21 28 37.8	
KST	**Kastek**	**3.37**	**333**	*e*Pg	**Pb**	**21 27 56.3**	**-1.0**
KST	14nm,0.2s			*e*Lg	Lg	21 28 37.8	
TKM2	**Tokmak 2**	**3.41**	**328**	⇑Pg	**Pn**	**21 27 53.4**	**+2.6**
TKM2	2.7nm,0.3s			⇓Lg	Lg	21 28 40.7	
TKM2	**Tokmak 2**	**3.41**	**328**	⇑*e*P	**Pn**	**21 27 52.7**	**+1.9**
TKM2	baz=30			⇑*e*S	**Sn**	**21 28 32.7**	**+1.3**
KURS	**Kuram**	**3.42**	**1**	Pg	**Pb**	**21 27 57.6**	**-0.6**
KURS	12nm,0.5s			Lg	Lg	21 28 39.9	
KURS	**Kuram**	**3.42**	**1**	*e*Pg	**Pb**	**21 27 57.6**	**-0.6**
KURS	12nm,0.5s			*e*Lg	Lg	21 28 39.9	
KPKS	**Kokpek**	**3.43**	**8**	Pg	**Pb**	**21 27 57.6**	**-0.8**
KPKS	7.8nm,0.3s			Lg	Lg	21 28 39.7	
KPKS	**Kokpek**	**3.43**	**8**	*e*Pg	**Pb**	**21 27 57.6**	**-0.8**
KPKS	7.8nm,0.3s			*e*Lg	Lg	21 28 39.7	
PDGK	**Podgornoye**	**3.43**	**18**	Pg	**Pb**	**21 27 58.3**	**-0.1**
PDGK	3.0nm,0.3s			Lg	Lg	21 28 41.0	
KBK	**Karagaybulak**	**3.50**	**319**	⇑*e*P	**Pn**	**21 27 53.6**	**+1.5**
KBK	baz=21			⇑*e*S	**Sn**	**21 28 34.2**	**+0.6**
SFK	**Sufi-Kurgan**	**3.50**	**271**	⇑*e*P	**Pn**	**21 27 52.9**	**+0.7**
SFK	baz=71			⇑*e*S	**Sn**	**21 28 33.0**	**-0.9**
DGS	**Degeres**	**3.61**	**332**	Pg	**Pb**	**21 28 00.8**	**-0.7**
DGS	16nm,0.4s			Lg	Lg	21 28 45.2	
DGS	**Degeres**	**3.61**	**332**	*e*Pg	**Pb**	**21 28 00.7**	**-0.7**
DGS	16nm,0.4s			*e*Lg	Lg	21 28 45.2	
AAK	**Ala-Archa**	**3.72**	**315**	⇑*e*P	**Pn**	**21 27 56.6**	**+1.5**
AAK	baz=16			⇑*e*S	**Sn**	**21 28 39.6**	**+0.5**
KTMS	**Ketmen**	**3.79**	**26**	Pg	**Pb**	**21 28 01.8**	**-2.6**
KTMS	1.5nm,0.5s			Lg	Lg	21 28 47.1	
KTMS	**Ketmen**	**3.79**	**26**	*e*Pg	**Pb**	**21 28 01.8**	**-2.6**
KTMS	1.5nm,0.5s			*e*Lg	Lg	21 28 47.1	
KTBS	**Karatobe**	**3.79**	**345**	Pg	**Pb**	**21 28 03.1**	**-1.4**
KTBS	6.4nm,0.3s			Lg	Lg	21 28 49.2	
KTBS	**Karatobe**	**3.79**	**345**	*e*Pg	**Pb**	**21 28 03.1**	**-1.4**
KTBS	6.4nm,0.3s			*e*Lg	Lg	21 28 49.2	
CHMS	**Chumysh**	**3.85**	**321**	⇑*e*P	**Pn**	**21 27 58.4**	**+1.7**
CHMS	baz=22			⇑*e*S	**Sn**	**21 28 42.6**	**+0.6**
CHKK	**Chushkaly**	**3.87**	**348**	Pg	**Pb**	**21 28 04.4**	**-1.5**
CHKK	4.8nm,0.3s			Lg	Lg	21 28 51.6	
CHKK	**Chushkaly**	**3.87**	**348**	*e*Pg	**Pb**	**21 28 04.4**	**-1.5**
CHKK	4.8nm,0.3s			*e*Lg	Lg	21 28 51.6	
KUU	**Kurty**	**4.04**	**342**	Pg	**Pb**	**21 28 07.6**	**-1.1**
KUU	2.6nm,0.3s			Lg	Lg	21 28 57.3	
KUU	**Kurty**	**4.04**	**342**	*e*Pg	**Pb**	**21 28 07.6**	**-1.1**
KUU	2.6nm,0.3s			*e*Lg	Lg	21 28 57.4	
BLB	**Baldybastay**	**4.04**	**4**	Pg	**Pb**	**21 28 08.6**	**-0.2**
BLB	7.7nm,0.3s			Lg	Lg	21 28 58.7	
KRBS	**Karabastau**	**4.04**	**335**	Pg	**Pb**	**21 28 08.2**	**-0.6**
KRBS	11nm,0.6s			Lg	Lg	21 28 57.7	
KRBS	**Karabastau**	**4.04**	**335**	*e*Pg	**Pb**	**21 28 07.8**	**-1.1**
KRBS	11nm,0.6s			*e*Lg	Lg	21 28 57.7	
EKS2	**Erkin-Say**	**4.14**	**310**	⇑*e*P	**Pn**	**21 28 02.3**	**+1.4**
EKS2	baz=11			⇑*e*S	**Sn**	**21 28 49.4**	**0.0**
ARXS	**Arharly**	**4.15**	**358**	Pg	**Pb**	**21 28 10.4**	**-0.2**
ARXS	3.5nm,0.2s			Lg	Lg	21 29 01.7	
ARXS	**Arharly**	**4.15**	**358**	*e*Pg	**Pb**	**21 28 10.2**	**-0.4**
ARXS	3.5nm,0.2s			*e*Lg	Lg	21 29 01.7	
USP	**Ospenovka**	**4.17**	**321**	⇑*e*P	**Pn**	**21 28 02.8**	**+1.6**
USP	baz=23			⇑*e*S	**Sn**	**21 28 50.5**	**+0.5**
SGDS	**Sogindy**	**4.25**	**324**	Pg	**Pb**	**21 28 12.0**	**-0.4**
SGDS	4.1nm,0.4s			Lg	Lg	21 29 05.3	
KNOS	**Konyrlen**	**4.37**	**11**	Pg	**Pb**	**21 28 14.8**	**+0.4**
KNOS	5.2nm,0.5s			Lg	Lg	21 29 09.3	
DJR	**Jarkent**	**4.45**	**16**	*e*Pg	**Pb**	**21 28 16.2**	**+0.4**
DJR	1.2nm,0.2s			*e*Lg	Lg	21 29 11.9	
MRKS	**Merke**	**4.52**	**308**	Pg	**Pb**	**21 28 18.2**	**+1.3**
MRKS	2.3nm,0.3s			Lg	Lg	21 29 15.7	
MRKS	**Merke**	**4.52**	**308**	*e*Pg	**Pb**	**21 28 18.2**	**+1.3**
MRKS	2.3nm,0.3s			*e*Lg	Lg	21 29 15.7	

*SJA **12** 22:28:02.2±0.7, 31°.12S×71°.99W, h13km±3km, ML4.3, MW4.1*
*GUC **12** 22:28:06.2±0.7, 31°.12S×71°.78W, h37km±2km, ML4.4*
*NEIC **12** 22:28:06.2±1.8, 31°.09S±0°.02×71°.79W±0°.05, h21km±9km, mb4.1/4, ML4.1(GUC), Error ellipse: s-maj=6.2km s-min=2.7km az=80.0*
*IDC **12** 22:28:09.3±2.8, 31°.14S×71°.89W, h51km±23km, mb4.0/5, mbtmp4.1/11, ML4.0/6, MS3.2/11, Error ellipse: s-maj=21.2km s-min=16.9km az=76.0*
ISC 12 22:28:02.8±1.3, 31°.09S±0°.02×71°.89W±0°.04, h5km±8km, n143, σ1§58/186, mb4.2/8, MS3.4/5, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.47**	**28**	Pg	**Pn**	**22 28 15.3**	**-0.9**
CO06				Sg	**Sb**	**22 28 23.3**	**+2.5**
CO06	**Fray Jorge**	**0.47**	**28**	*e*P	**Pn**	**22 28 16.7**	**+0.5**
CO06				*e*S	**Sb**	**22 28 23.4**	**+2.5**
CO02	**Combarbal**	**0.77**	**99**		**Pb**	**22 28 18.9**	**0.0**
CO02				Sg	**Sg**	**22 28 27.8**	**+0.2**
CO02	**Combarbal**	**0.77**	**99**	⇓*i*P	**Pb**	**22 28 19.0**	**+0.2**
CO02				*e*S	**Sg**	**22 28 27.1**	**-0.5**
CO02	**Combarbal**	**0.77**	**99**	*e*P	**Pb**	**22 28 18.8**	**0.0**
CO02				IAML		22 28 33.5	
	comp=Z,9μm,0.5s						
CO03	**El Pedregal**	**1.06**	**77**		**Pb**	**22 28 23.6**	**-0.1**
CO03				Sg	**Sg**	**22 28 36.2**	**-0.8**
CO03	**El Pedregal**	**1.06**	**77**	⇓*i*P	**Pb**	**22 28 23.7**	**-0.1**
CO03				*e*S	**Sg**	**22 28 36.0**	**-1.0**
CO05	**La Serena**	**1.30**	**26**		**Pg**	**22 28 29.0**	**+1.3**
CO05					**Sn**	**22 28 45.4**	**+0.1**
CO05	**La Serena**	**1.30**	**26**	*e*P	**Pg**	**22 28 29.2**	**+1.5**
CO05				*e*S	**Sn**	**22 28 45.3**	**-0.1**
GO04	**Tololo Observa**	**1.31**	**46**		**Pg**	**22 28 28.8**	**+0.8**
GO04					**Sg**	**22 28 45.1**	**+0.1**
GO04	**Tololo Observa**	**1.31**	**46**	⇓*i*P	**Pg**	**22 28 28.8**	**+0.8**
GO04				*e*S	**Sb**	**22 28 44.7**	**-0.7**
GO04				IAML		22 28 49.1	
	comp=N,22μm,0.5s						
GO04	**Tololo Observa**	**1.31**	**46**	*e*P	**Pg**	**22 28 28.9**	**+0.8**
GO04				*e*S	**Sn**	**22 28 46.6**	**+0.5**
GO04				IAML		22 28 47.7	
	comp=Z,5μm,0.6s						
CO01	**Juntas del Tor**	**1.91**	**55**		**Pn**	**22 28 36.8**	**+0.5**
CO01				Sg	**Sb**	**22 29 01.4**	**-1.0**
CO01	**Juntas del Tor**	**1.91**	**55**	*e*P	**Pb**	**22 28 37.9**	**-0.3**
CO01				*e*S	**Sn**	**22 29 00.7**	**0.0**
CO01	**Juntas del Tor**	**1.91**	**55**	*e*P	**Pb**	**22 28 37.9**	**-0.3**
CO01				*e*S	**Sb**	**22 29 02.6**	**+0.1**
CO01				IAML		22 29 02.9	
	comp=Z,1μm,0.6s						
VA01	**Torpederas**	**1.94**	**174**		**Pb**	**22 28 38.8**	**+0.1**
VA01				Sn	**Sb**	**22 29 02.2**	**-0.9**
ROCH	**El Roble**	**2.02**	**159**	*e*P	**Pn**	**22 28 38.5**	**+0.7**
ROCH				IAML		22 29 08.5	
	comp=E,4μm,0.4s						
VA03	**San Esteban**	**2.02**	**146**		**Pn**	**22 28 38.7**	**+1.0**
VA03				Sn	**Sn**	**22 29 03.7**	**+0.3**
VA03	**San Esteban**	**2.02**	**146**	*e*P	**Pn**	**22 28 38.7**	**+1.0**
VA03				IAML		22 29 12.0	
	comp=N,6μm,0.5s						
VA03	**San Esteban**	**2.02**	**146**	*e*P	**Pn**	**22 28 38.8**	**+1.1**
VA03				*e*S	**Sb**	**22 29 05.8**	**+0.2**
VA03				IAML		22 29 08.5	
	comp=Z,3μm,0.7s						
ROC1	**El Roble**	**2.02**	**159**		**Pn**	**22 28 38.8**	**+0.9**
MT02	**Curacav**	**2.25**	**164**		**Pn**	**22 28 42.0**	**+1.2**
AROD	**Rodeo**	**2.28**	**67**	*e*P	**Pb**	**22 28 44.6**	**-0.1**
AROD				*e*S	**Sb**	**22 29 13.8**	**+0.6**

PEL	**Peldehue**	**2.29**	**154**		**Pn**	**22 28 42.1**	**+0.8**
PEL	**Peldehue**	**2.29**	**154**	*e*P	**Pn**	**22 28 42.5**	**+1.2**
PEL				IAML		22 29 22.1	
	comp=E,2μm,0.6s						
LCO	**Las Campanas**	**2.31**	**27**		**Pn**	**22 28 43.3**	**+1.4**
LCO	**Las Campanas**	**2.31**	**27**	*e*P	**Pn**	**22 28 43.4**	**+1.5**
LCO				*e*S	**Sb**	**22 29 12.5**	**-1.7**
LCO	**Las Campanas**	**2.31**	**27**	*e*P	**Pn**	**22 28 37.8**	**-4.1**
LCO				*e*P	**Pn**	**22 28 43.4**	**+1.5**
LCO				*e*S	**Sb**	**22 29 14.4**	**+0.1**
LCO				IAML		22 29 20.7	
	comp=Z,5μm,0.7s						
RTLS	**Leoncito**	**2.33**	**108**	*e*P	**Pb**	**22 28 45.4**	**0.0**
RTLS				*e*S	**Sg**	**22 29 15.3**	**-2.3**
RTLS				IAML		22 29 16.6	
	comp=Z,4μm,0.7s						
DOCA	**Reserva Natura**	**2.41**	**87**	*e*P	**Pb**	**22 28 45.6**	**-1.4**
DOCA				IAML		22 29 23.1	
	comp=Z,956nm,0.6s						
ACCO	**Cerro Coronel**	**2.48**	**79**	*e*P	**Pb**	**22 28 47.9**	**-0.2**
ACCO				*e*S	**Sg**	**22 29 26.2**	**+3.6**
MT05	**Renca**	**2.49**	**157**		**Pb**	**22 28 46.4**	**-1.8**
MT05	**Renca**	**2.49**	**157**	*e*P	**Pn**	**22 28 45.1**	**+1.0**
MT05				*e*S	**Sn**	**22 29 15.7**	**+0.6**
MT05				IAML		22 29 29.6	
	comp=E,3μm,0.3s						
MT05	**Renca**	**2.49**	**157**	*e*P	**Pn**	**22 28 45.2**	**+1.0**
MT05				*e*S	**Sb**	**22 29 20.0**	**+0.8**
MT05				IAML		22 29 32.5	
	comp=Z,996nm,1.3s						
MT14	**Cerro Calı̣n**	**2.57**	**154**	*i* P	**Pn**	**22 28 47.1**	**+1.9**
MT14				*e*S	**Sn**	**22 29 17.9**	**+1.0**
MT14				IAML		22 29 26.2	
	comp=N,4μm,0.2s						
VA05	**Santo Domingo**	**2.57**	**175**		**Pn**	**22 28 45.8**	**+0.6**
VA05	**Santo Domingo**	**2.57**	**175**	*e*P	**Pn**	**22 28 45.0**	**-0.2**
VA05				IAML		22 29 30.6	
	comp=E,2μm,0.6s						
FCH	**Farellones**	**2.61**	**149⇑**	*i*P	**Pn**	**22 28 47.3**	**+1.3**
FCH				*e*S	**Sn**	**22 29 19.3**	**+1.0**
FCH				IAML		22 29 29.9	
	comp=E,1μm,0.4s						
AC05	**El Transito**	**2.65**	**32**		**Pn**	**22 28 48.0**	**+1.6**
AC05	**El Transito**	**2.65**	**32**	*e*P	**Pn**	**22 28 47.8**	**+1.5**
AC05				*i* S	**Sn**	**22 29 20.6**	**+1.6**
AC05				IAML		22 29 36.2	
	comp=N,3μm,0.6s						
AC05	**El Transito**	**2.65**	**32**	*e*P	**Pn**	**22 28 48.4**	**+2.0**
AC05				*e*S	**Sb**	**22 29 24.1**	**+0.3**
AC05				IAML		22 29 34.2	
	comp=Z,2μm,0.7s						
MT03	**Universidad Ad**	**2.67**	**154**		**Pn**	**22 28 47.9**	**+1.3**
MT03	**Universidad Ad**	**2.67**	**154**	*e*P	**Pn**	**22 28 47.7**	**+1.1**
MT03				IAML		22 29 29.8	
	comp=N,3μm,0.5s						
MT03	**Universidad Ad**	**2.67**	**154**	*e*P	**Pn**	**22 28 47.8**	**+1.1**
MT03				*e*S	**Sn**	**22 29 20.8**	**+1.4**
MT03				IAML		22 29 29.8	
	comp=Z,1μm,0.5s						
MT09	**Talagante**	**2.78**	**164**		**Pn**	**22 28 49.0**	**+0.8**
MT09	**Talagante**	**2.78**	**164⇓**	*i*P	**Pn**	**22 28 49.6**	**+1.4**
MT09				*e*S	**Sn**	**22 29 20.3**	**-2.0**
MT09				IAML		22 29 34.0	
	comp=E,1μm,0.6s						
ZON	**Zonda**	**2.79**	**100**		**Pn**	**22 28 50.1**	**+1.9**
ZON	**Zonda**	**2.79**	**100**	*e*P	**Pb**	**22 28 51.3**	**-1.9**
ZON				*e*S	**Sb**	**22 29 27.8**	**+0.2**
ZON				IAML		22 29 36.6	
	comp=Z,847nm,0.9s						
MT01	**Popeta**	**2.82**	**169**		**Pn**	**22 28 49.4**	**+0.8**
MT01	**Popeta**	**2.82**	**169**	*e*P	**Pn**	**22 28 49.2**	**+0.6**
MT01				IAML		22 29 33.2	
	comp=E,727nm,0.2s						
MT01	**Popeta**	**2.82**	**169**	*e*P	**Pn**	**22 28 49.6**	**+1.0**
MT01				*e*S	**Sn**	**22 29 23.8**	**+0.8**
MT01				IAML		22 29 34.7	
	comp=Z,696nm,0.5s						
MT08	**Bocatoma Ro**	**2.83**	**146**		**Pn**	**22 28 51.0**	**+2.0**
MT08	**Bocatoma Ro**	**2.83**	**146**	*e*P	**Pb**	**22 28 51.6**	**-2.5**
MT08				*e*S	**Sn**	**22 29 24.9**	**+1.2**
MT08				IAML		22 29 33.9	
	comp=E,1μm,0.8s						
MT12	**Pirque**	**2.87**	**157⇑**	*i*P	**Pn**	**22 28 50.4**	**+1.1**
MT12				*i* S	**Sn**	**22 29 21.9**	**-2.4**
MT12				IAML		22 29 34.1	
	comp=N,2μm,0.4s						
RTLL	**Cerro Villicun**	**2.94**	**96**	*e*P	**Pn**	**22 28 52.4**	**+2.2**
AC04	**Llanos de Chal**	**2.96**	**14**		**Pn**	**22 28 52.1**	**+1.5**
AC04	**Llanos de Chal**	**2.96**	**14⇑**	*i*P	**Pn**	**22 28 51.6**	**+1.1**
AC04				*e*S	**Sn**	**22 29 28.2**	**+1.7**
AC04				IAML		22 29 46.2	
	comp=N,834nm,0.6s						
AC04	**Llanos de Chal**	**2.96**	**14**	*e*P	**Pn**	**22 28 51.9**	**+1.3**
AC04				*e*S	**Sb**	**22 29 29.8**	**-2.9**
AC04				IAML		22 29 41.8	
	comp=Z,759nm,0.6s						
MT13	**San Alfonso**	**2.97**	**153**		**Pn**	**22 28 51.6**	**+0.8**
MT13	**San Alfonso**	**2.97**	**153**	*i* P	**Pn**	**22 28 52.1**	**+1.3**
MT13				IAML		22 29 39.5	
	comp=N,1μm,0.2s						
ASAL	**Salagasta**	**3.00**	**121**	*e*P	**Pb**	**22 28 55.3**	**-1.5**
ASAL				*e*S	**Sb**	**22 29 33.8**	**0.0**
ASAL				IAML		22 29 46.0	
	comp=Z,744nm,0.7s						
BO04	**La Punta**	**3.09**	**160**		**Pn**	**22 28 53.5**	**+1.2**
BO04	**La Punta**	**3.09**	**160**	*e*P	**Pn**	**22 28 53.6**	**+1.2**
BO04				IAML		22 29 39.9	
	comp=N,856nm,0.3s						
BO04				IAML		22 29 40.5	
	comp=E,950nm,0.3s						
LMEL	**Las Melosas**	**3.10**	**153**		**Pn**	**22 28 54.3**	**+1.7**
LMEL	**Las Melosas**	**3.10**	**153**	*e*P	**Pn**	**22 28 54.2**	**+1.7**
LMEL				*e*S	**Sn**	**22 29 30.7**	**+0.6**
LMEL				IAML		22 29 41.1	
	comp=N,940nm,0.3s						
CFA	**Coronel Fontan**	**3.17**	**100**	P	**Pb**	**22 28 56.4**	**-3.2**
	comp=N,45nm,0.3s,baz=273,slow=12,SNR=89						
CFA				S	**Sb**	**22 29 34.4**	**-4.2**
	comp=N,364nm,0.4s,baz=15,slow=20,SNR=7.9						
CFA				LR	LR	22 30 09.4	
	comp=N,314nm,18.4s,baz=326,slow=38						
	comp=N,133nm,0.3s						
CFA	**Coronel Fontan**	**3.17**	**100**	*e*P	**Pn**	**22 28 55.9**	**+2.5**
CFA				*e*S	**Sn**	**22 29 33.8**	**+2.2**
AAGR	**Agrelo**	**3.27**	**128**	*e*P	**Pb**	**22 28 59.3**	**-2.2**
AAGR				*e*S	**Sg**	**22 29 47.8**	**-0.2**
AAGR				IAML		22 29 48.9	
	comp=Z,618nm,0.4s						
BO01	**Tunca**	**3.36**	**169**		**Pn**	**22 28 56.9**	**+0.8**
BO01	**Tunca**	**3.36**	**169**	*e*P	**Pn**	**22 28 56.8**	**+0.8**
BO01				IAML		22 29 52.0	
	comp=E,312nm,0.5s						
BO01	**Tunca**	**3.36**	**169**	*e*P	**Pn**	**22 28 57.1**	**+1.1**
BO01				*e*S	**Sn**	**22 29 37.8**	**+1.4**
BO01				IAML		22 30 00.1	
	comp=Z,307nm,0.7s						
GO03	**Copiap**	**3.77**	**23**		**Pn**	**22 29 02.1**	**+0.4**
GO03	**Copiap**	**3.77**	**23**	*i* P	**Pn**	**22 29 02.8**	**+1.1**
GO03				*e*S	**Sn**	**22 29 47.8**	**+1.2**
GO03	**Copiap**	**3.77**	**23**	*e*P	**Pn**	**22 29 03.3**	**+1.5**
GO03				*e*S	**Sg**	**22 30 01.5**	**-2.5**
GO03				IAML		22 30 04.6	
	comp=Z,475nm,0.5s						
BO02	**Sierra Bellavi**	**3.81**	**166**		**Pn**	**22 29 04.0**	**+1.7**
BO02	**Sierra Bellavi**	**3.81**	**166**	*e*P	**Pn**	**22 29 03.8**	**+1.6**
BO02	**Sierra Bellavi**	**3.81**	**166**	*e*P	**Pn**	**22 29 04.0**	**+1.7**
BO02				*e*S	**Sn**	**22 29 48.9**	**+1.4**
BO02				IAML		22 30 00.8	
	comp=Z,431nm,0.9s						
GO05	**Huala**	**3.91**	**180**		**Pn**	**22 29 03.6**	**0.0**
GO05	**Huala**	**3.91**	**180**	*e*P	**Pn**	**22 29 03.4**	**-0.2**
AC06	**Mina Casimiro**	**3.95**	**20**		**Pn**	**22 29 04.8**	**+0.6**
VCA	**Vinchina**	**3.97**	**55**	*e*P	**Pb**	**22 29 08.9**	**-4.4**
VCA				*e*S	**Sb**	**22 29 59.3**	**-2.4**
VCA				*e*S	**Sg**	**22 30 07.0**	**-3.2**
VCA				IAML		22 30 07.3	
	comp=Z,1μm,0.5s						
ACHE	**Chepes**	**4.48**	**92**	*e*P	**Pn**	**22 29 14.1**	**+2.5**
ACHE				*e*S	**Sb**	**22 30 09.3**	**-7.3**
RFA	**San Rafael**	**4.66**	**143**	*e*P	**Pn**	**22 29 16.1**	**+2.1**
RFA				*e*S	**Sb**	**22 30 25.3**	**+3.6**
RFA				IAML		22 30 40.7	
	comp=Z,131nm,0.6s						
APLL	**PUNTA DE LOS L**	**4.67**	**83**	*e*P	**Pn**	**22 29 16.6**	**+2.5**
APLL				*e*S	**Sn**	**22 30 11.3**	**+2.6**
ML02	**Panimavida**	**4.68**	**175**		**Pn**	**22 29 15.0**	**+0.9**
AC02	**Maricunga**	**4.88**	**30**		**Pn**	**22 29 18.1**	**+0.7**
AC02	**Maricunga**	**4.88**	**30**	*e*S	**Sb**	**22 30 26.3**	**-2.1**
AC01	**Pan de Azucar**	**5.05**	**13**	Pn	**Pn**	**22 29 19.3**	**0.0**
AC01	**Pan de Azucar**	**5.05**	**13**	*e*P	**Pn**	**22 29 19.3**	**0.0**
AC01				IAML		22 30 50.2	
	comp=Z,156nm,0.6s						
BI05	**Punta Hualpn**	**5.75**	**190**	Pn	**Pn**	**22 29 29.6**	**+0.9**
H03N1	**Juan Fernandez**	**6.39**	**247**	P	**Pn**	**22 29 39.5**	**+2.1**
	baz=115,slow=80,SNR=21						
H03N1				T	T	22 36 14.1	
	baz=76,slow=72,SNR=2482						
VA04	**Juan Fernndez**	**6.40**	**245**	Pn	**Pn**	**22 29 39.0**	**+1.2**
H03N3	**Juan Fernandez**	**6.41**	**247**	P	**Pn**	**22 29 39.4**	**+1.7**
	baz=115,slow=80,SNR=28						
H03N3				T	T	22 36 13.6	
	baz=76,slow=72,SNR=2415						
H03N2	**Juan Fernandez**	**6.41**	**247**	P	**Pn**	**22 29 40.2**	**+2.5**
	baz=115,slow=80,SNR=25						
H03N2				T	T	22 36 23.0	
	baz=76,slow=72,SNR=2134						
H03S3	**Juan Fernandez**	**6.53**	**243**	P	**Pn**	**22 29 39.5**	**+0.2**
H03S1	**Juan Fernandez**	**6.53**	**243**	P	**Pn**	**22 29 40.1**	**+0.8**
H03S2	**Juan Fernandez**	**6.55**	**243**	P	**Pn**	**22 29 39.8**	**+0.2**
	SNR=5.2						
PB14	**IPOC Station P**	**6.57**	**12**	Pn	**Pn**	**22 29 41.1**	**+0.7**
PB15	**IPOC Station P**	**8.14**	**16**	Pn	**Pn**	**22 30 01.5**	**-0.4**
GO06	**Curarrehue**	**8.48**	**178**	Pn	**Pn**	**22 30 07.3**	**+0.9**
PB06	**IPOC Station P**	**8.60**	**14**	Pn	**Pn**	**22 30 07.6**	**-0.7**
LVC	**Limon Verde**	**8.86**	**18**		**Pn**	**22 30 11.2**	**-0.6**
LVC	**Limon Verde**	**8.86**	**18**	P	**Pn**	**22 30 15.4**	**+3.5**
	comp=Z,0.9nm,0.3s,baz=186,slow=9.2,SNR=3.1						
LVC				LR	LR	22 33 35.4	
	comp=Z,138nm,20.2s,baz=196,slow=37						
	comp=Z,2.1nm,0.4s						
PB04	**IPOC Station P**	**8.86**	**11**	Pn	**Pn**	**22 30 12.9**	**+1.2**
PB07	**IPOC Station P**	**9.50**	**11**	Pn	**Pn**	**22 30 19.4**	**-1.1**
PB09	**IPOC Station P**	**9.55**	**15**	Pn	**Pn**	**22 30 19.3**	**-2.0**
PLCA	**Paso Flores**	**9.68**	**174**	Pn	**Pn**	**22 30 23.8**	**+0.8**
PLCA	**Paso Flores**	**9.68**	**174**	P	**Pn**	**22 30 24.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=329,slow=10,SNR=5.6						
PLCA				LR	LR	22 34 46.7	
	comp=Z,83nm,19.3s,baz=354,slow=41						
	comp=Z,1.9nm,0.9s						
PB02	**IPOC Station P**	**9.89**	**11**	Pn	**Pn**	**22 30 26.2**	**+0.3**
PB01	**IPOC Station P**	**10.23**	**13**	Pn	**Pn**	**22 30 31.7**	**+1.1**
PATCX	**Punta Patache**	**10.35**	**9**	Pn	**Pn**	**22 30 33.3**	**+1.3**
TRQA	**Tornquist**	**10.72**	**133**		**Pn**	**22 30 37.2**	**+0.1**
PB08	**IPOC Station P**	**11.18**	**13**	Pn	**Pn**	**22 30 45.0**	**+1.3**
PB16	**IPOC Station P**	**12.88**	**10**	Pn	**Pn**	**22 31 06.4**	**-0.8**
CPUP	**Villa Florida**	**13.63**	**73**	Pn	**Pn**	**22 31 15.0**	**-1.8**
CPUP	**Villa Florida**	**13.63**	**73**	P	**Pn**	**22 31 19.8**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=300,slow=5.0,SNR=3.3						
CPUP				LR	LR	22 36 55.7	
	comp=Z,113nm,18.1s,baz=237,slow=39						
	comp=Z,1.7nm,0.5s						
LPAZ	**La Paz**	**15.13**	**14**		**Pn**	**22 31 39.4**	**+1.5**
LPAZ	**La Paz**	**15.13**	**14**	P	**Pn**	**22 31 40.2**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=183,slow=6.7,SNR=8.2						
	comp=Z,3.2nm,0.6s						
SIV	**San Ignacio**	**17.99**	**36**	P	**P**	**22 32 14.3**	**0.0**
	baz=202,slow=11,SNR=8.4						
SIV				LR	LR	22 40 25.3	
	comp=Z,55nm,19.6s,baz=294,slow=41						
	comp=Z,1.4nm,0.5s						
NNA	**Nana**	**19.55**	**345**	LR	LR	22 38 16.8	
	comp=Z,35nm,21.2s,baz=172,slow=31						
ETMB	**Extrema**	**21.82**	**15**	P	**P**	**22 32 57.1**	**+1.1**
ETMB				IAmb	IAmb	22 33 00.4	
	comp=Z,9.7nm,1.1s						
SAML	**Samuel**	**23.48**	**22**	P	**P**	**22 33 13.0**	**-0.5**
SAML				IAmb	IAmb	22 33 15.7	
	comp=Z,4.0nm,0.8s						
BDFB	**Brasilia**	**26.69**	**60**	P	**P**	**22 33 41.8**	**-1.4**
	comp=Z,2.8nm,0.8s,baz=241,slow=6.2,SNR=5.1						
PMSA	**Palmer Station**	**34.06**	**174**	LR	LR	22 46 51.8	
	comp=Z,58nm,19.7s,baz=337,slow=33						
BAUV	**El Baul**	**39.98**	**6**	P	**P**	**22 35 38.7**	**+0.2**
MDP	**Montagnes des**	**40.41**	**30**	LR	LR	22 54 43.4	
	comp=Z,40nm,21.1s,baz=260,slow=39						
SNAA	**Sanae**	**54.23**	**159**	⇑P	**P**	**22 37 28.8**	**-0.5**
	comp=Z,40nm,0.6s						
SNAA	**Sanae**	**54.23**	**159**	P	**P**	**22 37 29.0**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=282,slow=7.7,SNR=13						
SNAA				LR	LR	23 01 54.4	
	comp=Z,32nm,18.0s,baz=248,slow=37						
	comp=Z,1.5nm,0.6s						
TROLL	**Troll, Antarti**	**55.94**	**159**	⇑P	**P**	**22 37 41.4**	**-0.3**
	comp=Z,82nm,0.6s						
QSPA	**South Pole Qui**	**59.14**	**180**	P	**P**	**22 38 04.4**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=149,slow=3.9,SNR=6.9						
	comp=Z,2.3nm,0.8s						
TXAR	**Lajitas Array**	**67.27**	**330**	P	**P**	**22 39 00.1**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=153,slow=8.8,SNR=7.0						
	comp=Z,0.7nm,0.8s						
DBIC	**Dimbokro**	**74.14**	**72**	P	**P**	**22 39 40.0**	**-0.7**
	comp=Z,7.2nm,0.8s,baz=224,slow=7.9,SNR=5.5						
	comp=Z,7.2nm,0.8s						
NVAR	**Mina Array Bea**	**81.58**	**325**	LR	LR	23 12 20.2	
	comp=Z,48nm,19.4s,baz=264,slow=32						
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	**22 40 29.4**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=288,slow=6.0,SNR=23						
TORD				LR	LR	23 15 09.3	
	comp=Z,20nm,20.0s,baz=278,slow=34						
	comp=Z,3.2nm,0.8s						
WRA	**Warramunga Arr**	**123.35**	**210**	PKP	**PKPdf**	**22 47 00.6**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=161,slow=1.7,SNR=8.3						
H11S2	**WAKE ISLAND Hyl**	**25.89**	**271**	T	T	01 05 54.9	
	baz=116,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hyl**	**25.90**	**271**	T	T	01 05 49.8	
	baz=116,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hyl**	**25.91**	**271**	T	T	01 05 56.1	
	baz=116,slow=75,SNR=15						
BVAR	**Borovoye Array**	**145.02**	**40**	PKPbc	PKPbc	22 47 40.2	+0.1
	comp=Z,1.1nm,0.4s,baz=327,slow=1.8,SNR=8.8						
KURBB	**Kurchatov Arra**	**150.62**	**40**	PKPbc	**PKPbc**	**22 47 55.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=294,slow=3.1,SNR=8.4						
ZALV	**Zalesovo Beam**	**151.67**	**30**	PKPbc	**PKPbc**	**22 47 57.6**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=293,slow=3.4,SNR=14						
SONM	**Songino Array**	**163.23**	**4**	PKPab	**PKPab**	**22 48 56.7**	**0.0**
	comp=Z,0.5nm,1.0s,baz=45,slow=2.2,SNR=1.7						
PZH	**PanZhiHua**	**172.78**	**128**	PKP	**PKPdf**	**22 48 13.3**	**-0.3**

NEIC ***12*** *22:46:49.1±2.2, 11°.11S±0°.08×161°.83E±0°.04, h10km±1km, mb4.8/37, Error ellipse: s-maj=12.8km s-min=7.6km az=178.0*

IDC ***12*** *22:46:50.2±1.2, 11°.15S×161°.43E, h0km, mb4.2/7, mbtmp4.3/9, ML4.5/2, MS3.6/30, Error ellipse: s-maj=28.6km s-min=23.6km az=88.0*

ISC 12 22:46:50.2±0.6, 11°.17S±0°.07×161°.69E±0°.09, h10km, n82, σ1§43/54, mb4.8/28, MS3.8/26, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.44**	**315**		**Pn**	**22 47 29.2**	**-0.9**
HNR	**Honiara**	**2.44**	**315**	Pn	**Pn**	**22 47 29.3**	**-0.7**
	469nm,0.3s,baz=357,slow=1.8,SNR=9.8						
HNR				Sn	**Sn**	**22 47 58.0**	**-2.0**
	1μm,0.3s,baz=306,slow=11,SNR=11						
	4μm,0.7s						
KOUNC	**Koumac, New Ca**	**9.65**	**165**	Pn	**Pn**	**22 49 08.1**	**-1.1**
DZM	**Mont Dzumac**	**11.75**	**158**	LR	LR	22 52 46.4	
	comp=Z,78nm,18.1s,baz=25,slow=30						
PMG	**Port Moresby**	**14.41**	**276**	LR	LR	22 55 23.7	
	comp=Z,592nm,19.4s,baz=106,slow=36						
MSVF	**Nonsavu**	**17.12**	**114**	LR	LR	22 56 21.6	
	comp=Z,151nm,22.0s,baz=161,slow=33						
CTA	**Charters Tower**	**17.30**	**237**	P	**Pn**	**22 50 51.9**	**-0.2**
	0.4nm,0.3s,baz=70,slow=14,SNR=6.2						
CTA				LR	LR	22 56 31.7	
	comp=Z,301nm,21.3s,baz=82,slow=34						
	13nm,1.1s						
CTAO	**Charters Tower**	**17.30**	**237**		**Pn**	**22 50 51.6**	**-0.4**
EIDS	**Eidsvold**	**17.33**	**214**		**Pn**	**22 50 51.9**	**-0.4**
COEN	**Coen**	**18.29**	**259**		**Pn**	**22 51 03.3**	**-0.9**
ARMA	**Armidale**	**21.31**	**205**	P	**P**	**22 51 36.8**	**-0.6**
CAN	**Canberra**	**26.67**	**204**	P	**P**	**22 52 29.2**	**-0.2**
WR0	**Warramunga Arr**	**27.54**	**248**	P	**P**	**22 52 35.3**	**-2.2**
WR0				IAmb	IAmb	22 52 38.2	
	comp=Z,15nm,1.3s						
WB0	**Warramunga Arr**	**27.63**	**249**	P	**P**	**22 52 36.9**	**-1.3**
WB0				IAmb	IAmb	22 52 39.0	
	comp=Z,24nm,1.2s						
WB2	**Warramunga Arr**	**27.71**	**248**	P	**P**	**22 52 37.3**	**-1.6**
WB2				IAmb	IAmb	22 52 41.0	
	comp=Z,19nm,1.2s						
WRA	**Warramunga Arr**	**27.72**	**248**	P	**P**	**22 52 37.0**	**-2.1**
WRA	**Warramunga Arr**	**27.72**	**248**	P	**P**	**22 52 38.5**	**-0.6**
	comp=Z,12nm,1.1s,baz=80,slow=10,SNR=22						
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**27.73**	**219**	LR	LR	23 02 49.3	
	comp=Z,512nm,19.6s,baz=33,slow=35						
NIUE	**Niue**	**28.47**	**109**	P	**P**	**22 52 43.6**	**-2.1**
AS31	**Alice Springs**	**29.21**	**241**	P	**P**	**22 52 52.0**	**-0.4**
ASAR	**Alice Springs**	**29.21**	**241**	P	**P**	**22 52 50.7**	**-1.7**
ASAR	**Alice Springs**	**29.21**	**241**	P	**P**	**22 52 51.1**	**-1.2**
	comp=Z,4.6nm,1.1s,baz=71,slow=9.8,SNR=16						
ASAR				LR	LR	23 03 55.2	
	comp=Z,222nm,19.5s,baz=74,slow=35						
	comp=Z,4.6nm,1.1s						
GUMO	**Guam**	**29.73**	**325**	LR	LR	23 04 46.5	
	comp=Z,36nm,18.9s,baz=140,slow=36						
URZ	**Urewera**	**30.30**	**155**	LR	LR	23 02 32.1	
	comp=Z,77nm,19.9s,baz=32,slow=31						
SIJI	**Sorong**	**31.90**	**287**	LR	LR	23 06 43.0	
	comp=Z,60nm,21.0s,baz=100,slow=38						
BBOO	**Buckleboo**	**31.91**	**224**	P	**P**	**22 53 16.2**	**+0.1**
KNRA	**Kununurra**	**32.32**	**258**	P	**P**	**22 53 19.1**	**-0.7**
KNRA				IAmb	IAmb	22 53 35.1	
	comp=Z,12nm,0.8s						
GVZ	**Greta Valley S**	**33.18**	**165**	P	**P**	**22 53 27.1**	**+0.1**
RPZ	**Rata Peaks**	**33.42**	**168**	LR	LR	23 04 50.2	
	comp=Z,75nm,19.0s,baz=200,slow=32						
FORT	**Forrest**	**36.76**	**233**	P	**P**	**22 53 59.3**	**+1.2**
FORT				IAmb	IAmb	22 54 00.3	
	comp=Z,24nm,0.8s						
BATI	**Baumata**	**37.37**	**268**	LR	LR	23 10 07.1	
	comp=Z,136nm,18.3s,baz=84,slow=38						
GTOI	**Gorontalo**	**40.20**	**284**	P	**P**	**22 54 28.2**	**+1.0**
	comp=Z,14nm,1.3s						
KAPI	**Kappang**	**41.94**	**275**	LR	LR	23 12 23.8	
	comp=Z,35nm,21.9s,baz=99,slow=37						
JCJ	**Chichijima**	**42.49**	**334**	LR	LR	23 10 12.3	
	comp=Z,130nm,18.9s,baz=104,slow=33						
MORW	**Morawa**	**46.09**	**240**	P	**P**	**22 55 16.1**	**+1.4**
MORW				IAmb	IAmb	22 55 26.9	
	comp=Z,21nm,1.5s						
NWAO	**Narrogin (SRO)**	**46.12**	**235**	P	**P**	**22 55 16.1**	**+1.2**
PPT	**Papeete**	**47.53**	**104**	LR	LR	23 13 49.0	
	comp=Z,148nm,18.6s,baz=170,slow=34						
JHJ	**Hachijo jima 2**	**48.75**	**335**	LR	LR	23 17 29.6	
	comp=Z,30nm,18.1s,baz=240,slow=38						
ASAJ	**Asahikawa**	**57.70**	**344**	LR	LR	23 20 53.5	
	comp=Z,65nm,19.6s,baz=164,slow=36						
KSRS	**Korea Array**	**57.82**	**328**	LR	LR	23 21 08.4	
	comp=Z,20nm,18.2s,baz=115,slow=36						
NJ2	**Nanjing**	**59.38**	**318**	*e*P	**P**	**22 56 54.1**	**+1.2**
NJ2				pP	**sP**	**22 56 57.2**	**+2.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,650nm,3.6s						
VNDA	**Vanda**	**66.34**	**180**	P	**P**	**22 57 38.1**	**-0.5**
CRAI	**Chiangrai**	**67.91**	**297**	P	**P**	**22 57 47.8**	**-1.8**
CRAI				IAmb	IAmb	22 57 52.2	
	comp=Z,4.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**68.54**	**295**	P	**P**	**22 57 52.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**68.54**	**295**	P	**P**	**22 57 54.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=124,slow=4.8,SNR=7.5						
	comp=Z,0.3nm,0.3s						
PZH	**PanZhiHua**	**69.21**	**304**	P	**P**	**22 57 59.5**	**+1.8**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
MA2	**Magadan**	**71.05**	**354**	LR	LR	23 31 59.0	
	comp=Z,23nm,18.0s,baz=138,slow=38						
ULN	**Ulaanbaatar**	**76.11**	**326**	P	**P**	**22 58 37.8**	**-0.6**
ULN				IAmb	IAmb	22 58 54.4	
	comp=Z,8.5n

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SBA	Scott Base	13.46	190			Pn	Pn	23 32 27.9	-0.2
VNDA	Vanda	13.61	195			Pn	Pn	23 32 29.0	-1.1
VNDA	Vanda	13.61	195	Pn		Pn	Pn	23 32 29.5	-0.6
	baz=35,slow=17								
MCQ	Macquarie Isla	14.04	309	Pn		Pn	Pn	23 32 35.6	-0.4
RPZ	Rata Peaks	21.55	347	LR		LR	LR	23 41 12.9	
	comp=Z,228nm,18.8s,baz=170,slow=33								
QSPA	South Pole Qui	25.21	180	P			P	23 34 44.1	+1.2
QSPA				IAmb			IAmb	23 34 49.0	
	comp=Z,17nm,1.0s								
QSPA	South Pole Qui	25.21	180	P			P	23 34 43.6	+0.7
	comp=Z,14nm,1.0s,baz=26,slow=5.7,SNR=15								
QSPA				LR			LR	23 42 44.1	
	comp=Z,222nm,21.0s,baz=46,slow=32								
	comp=Z,14nm,1.0s								
URZ	Urewera	26.66	359	LR			LR	23 43 27.9	
	comp=Z,236nm,20.9s,baz=211,slow=32								
RAO	Raoul Island	35.74	6	LR			LR	23 47 32.2	
	comp=Z,118nm,21.1s,baz=146,slow=31								
BELA	Belgrano 2	36.13	169	P			P	23 36 18.6	-0.2
MAW	Mawson	39.99	213	LR			LR	23 53 26.8	
	comp=Z,410nm,18.1s,baz=146,slow=36								
ONTNC	Ouen Toro	43.21	345	P			P	23 37 19.1	+0.8
TROLL	Troll, Antarti	43.34	182	⇑P			P	23 37 19.7	+0.7
	comp=Z,193nm,0.8s								
DZM	Mont Dzumac	43.45	345	*e*LR			LR	23 49 06.8	
	comp=Z,227nm,26.9s								
DZM	Mont Dzumac	43.45	345	LR			LR	23 52 24.8	
	comp=Z,61nm,21.7s,baz=224,slow=32								
SNAA	Sanae	43.72	180	P			P	23 37 22.1	+0.1
SNAA				IAmb			IAmb	23 37 23.7	
	comp=Z,9.2nm,1.2s								
SNAA	Sanae	43.72	180	⇑P			P	23 37 22.5	+0.5
SNAA	Sanae	43.72	180	P			P	23 37 22.0	+0.1
	comp=Z,4.2nm,1.0s,baz=186,slow=9.1,SNR=9.7								
SNAA				LR			LR	23 54 44.0	
	comp=Z,100nm,21.0s,baz=196,slow=35								
	comp=Z,4.2nm,1.0s								
VNA3	Neumayer Olymp	44.05	177	⇑P			P	23 37 25.5	+0.9
RAR	Rarotonga	46.08	30	LR			LR	23 50 53.7	
	comp=Z,148nm,21.3s,baz=180,slow=28								
TBI	Tubuai	46.64	43	*e*LR			LR	23 50 30.9	
	comp=Z,824nm,29.0s								
TBI	Tubuai	46.64	43	*e*T			T	00 27 11.0	
	comp=Z,32nm,0.3s								
H01W1	Cape Leeuwin H	47.89	277	T			T	00 29 41.0	
	baz=148,slow=76,SNR=64								
H01W2	Cape Leeuwin H	47.90	277	T			T	00 29 43.1	
	baz=148,slow=76,SNR=58								
H01W3	Cape Leeuwin H	47.91	277	T			T	00 29 42.0	
	baz=148,slow=76,SNR=59								
NWAO	Narrogin (SRO)	48.28	281	LR			LR	23 53 52.2	
	comp=Z,68nm,18.1s,baz=168,slow=31								
CTA	Charters Tower	49.42	320	LR			LR	23 56 37.6	
	comp=Z,59nm,18.6s,baz=76,slow=33								
ASAR	Alice Springs	50.00	304	P			P	23 38 13.1	+1.5
	comp=Z,1.1nm,0.9s,baz=157,slow=7.8,SNR=7.3								
ASAR				LR			LR	23 55 15.8	
	comp=Z,41nm,21.9s,baz=146,slow=31								
	comp=Z,1.1nm,0.9s								
TVO	Taravao	51.98	41	*e*T			T	00 33 53.9	
	comp=Z,7.0nm,0.3s								
PPT2	Papeete2	52.07	41	*e*LR			LR	23 52 42.5	
	comp=Z,146nm,27.0s								
PPT2				*e*LR			LR	23 52 57.1	
	comp=Z,177nm,25.5s								
PPTF	Pamatai, Papee	52.07	41	P			P	23 38 26.9	-0.4
PPT	Papeete	52.09	41	LR			LR	23 57 35.0	
	comp=Z,197nm,18.2s,baz=93,slow=33								
MORW	Morawa	52.14	282	P			P	23 38 28.7	+1.0
MORW				IAmb			IAmb	23 38 39.2	
	comp=Z,21nm,1.4s								
WB2	Warramunga Arr	53.27	306	P			P	23 38 35.0	-1.1
WRA	Warramunga Arr	53.28	306	P			P	23 38 35.4	-0.7
	comp=Z,1.2nm,0.9s,baz=159,slow=6.2,SNR=6.2								
	comp=Z,1.2nm,0.9s								
WB0	Warramunga Arr	53.42	306	P			P	23 38 35.8	-1.4
WB0				IAmb			IAmb	23 38 39.8	
	comp=Z,7.1nm,1.3s								
PMOR	Pomariorio Ree	55.00	42	*e*T			T	00 37 50.1	
	comp=Z,3.7nm,0.3s								
PSA00	Pilbara Seismi	57.24	290	P			P	23 39 03.2	-1.4
PSA00				IAmb			IAmb	23 39 07.3	
	comp=Z,21nm,1.2s								
RPN	Rapa Nui	58.50	87	LR			LR	23 58 13.6	
	comp=Z,295nm,19.7s,baz=40,slow=30								
PLCA	Paso Flores	62.07	127	LR			LR	00 02 41.1	
	comp=Z,32nm,18.9s,baz=208,slow=32								
H03S2	Juan Fernandez	65.17	117	T			T	00 51 35.5	
	baz=206,slow=74,SNR=24								
H03S1	Juan Fernandez	65.17	117	T			T	00 51 36.9	
	baz=206,slow=74,SNR=23								
H03S3	Juan Fernandez	65.19	117	T			T	00 51 36.5	
	baz=206,slow=74,SNR=22								
H03N3	Juan Fernandez	65.51	117	T			T	00 52 03.5	
	baz=223,slow=72,SNR=14								
H03N2	Juan Fernandez	65.52	117	T			T	00 52 04.2	
	baz=223,slow=72,SNR=55								
H03N1	Juan Fernandez	65.53	117	T			T	00 52 03.5	
	baz=223,slow=72,SNR=7.9								
MT05	Renca	68.60	123	P			P	23 40 19.4	-0.7
ROC1	El Roble	68.87	123	P			P	23 40 21.4	-0.7
ROC1				IAmb			IAmb	23 40 26.6	
	comp=Z,34nm,1.2s								
VA03	San Esteban	69.23	123	P			P	23 40 23.7	-0.5
VA03				IAmb			IAmb	23 40 25.8	
	comp=Z,30nm,1.3s								
KAPI	Kappang	72.34	297	LR			LR	00 09 43.2	
	comp=Z,37nm,20.3s,baz=38,slow=34								
AC04	Llanos de Chal	73.16	121	P			P	23 40 46.2	-1.7
LVC	Limon Verde	79.05	120	LR			LR	00 11 11.5	
	comp=Z,19nm,18.4s,baz=208,slow=32								
SUR	Sutherland	81.41	200	LR			LR	00 14 54.2	
	comp=Z,91nm,19.5s,baz=163,slow=34								
BOSA	Boshof	84.40	204	LR			LR	00 16 05.4	
	comp=Z,84nm,21.8s,baz=198,slow=33								
NNA	Nana	85.62	109	LR			LR	00 11 27.0	
	comp=Z,21nm,20.8s,baz=193,slow=30								
OPO	Ambohidratompo	88.72	226	LR			LR	00 18 03.9	
	comp=Z,2μm,20.6s,baz=119,slow=33								
ATAH	Atahualpa	89.38	105	LR			LR	00 13 09.3	
	comp=Z,41nm,20.5s,baz=227,slow=30								
H08S2	Diego Garcia H	89.57	253	T			T	01 21 56.5	
	baz=154,slow=76,SNR=53								
H08S1	Diego Garcia H	89.58	253	T			T	01 21 57.2	
	baz=154,slow=76,SNR=73								
H08S3	Diego Garcia H	89.59	253	T			T	01 21 58.2	
	baz=154,slow=76,SNR=91								
TSUM	Tsumeb	94.82	199	LR			LR	00 20 44.5	
	comp=Z,45nm,21.6s,baz=156,slow=33								
LSZ	Lusaka	96.82	209	LR			LR	00 24 47.5	
	comp=Z,54nm,18.8s,baz=170,slow=34								
H02S1	DAWSON INLET Π	23.79	33	T			T	02 04 16.2	
	SNR=8.1								
RSSD	Black Hills	124.34	59				PKiKP	23 48 18.0	+2.1
KBZ	Khabaz	147.30	252	PKPbc			PKPbc	23 49 00.5	+0.6
	comp=Z,1.2nm,0.7s,baz=234,slow=7.0,SNR=3.8								
BRTR	Keskin Array B	147.43	237	PKPbc			PKPbc	23 49 00.2	-0.4
	comp=Z,1.0nm,0.8s,baz=145,slow=4.5,SNR=5.4								

IDC 13 00:00:34.9±7.8, 4°.51S×104°.80E, h0km, mb3.7/3, mbtmp3.8/4, ML3.9/1, MS3.4/1, Error ellipse: s-maj=229.7km s-min=120.4km az=44.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LEM	Lembang	3.63	130	Pn			Pn	00 01 32.6	+0.1
	9.8nm,0.3s,baz=285,slow=20,SNR=11								
	66nm,0.5s								
WRA	Warramunga Arr	32.60	121	P			P	00 07 08.5	0.0
	0.3nm,0.4s,baz=296,slow=9.7,SNR=8.2								
	0.3nm,0.4s								
ASAR	Alice Springs	33.92	127	P			P	00 07 19.5	-0.5
	0.3nm,0.5s,baz=303,slow=8.1,SNR=5.1								
	0.3nm,0.5s								
STKA	Stephens Creek	43.92	133	P			P	00 08 43.9	+0.2
	1.0nm,0.4s,baz=315,slow=10.0,SNR=1.8								
	1.0nm,0.4s								
KLR	Kul'dur	58.43	20	LR			LR	00 35 49.7	
	comp=Z,29nm,18.6s,baz=140,slow=36								
H04N2	CROZET ISLANDS	61.76	219	T			T	01 17 10.1	
	baz=66,slow=74,SNR=13								
H04N1	CROZET ISLANDS	61.77	219	T			T	01 17 10.2	
	baz=66,slow=74,SNR=15								
H04N3	CROZET ISLANDS	61.78	219	T			T	01 17 10.2	
	baz=66,slow=74,SNR=21								

IDC 13 00:49:12.7±0.8, 37°.35N×143°.95E, h0km, mb3.8/11, mbtmp3.9/16, ML3.7/5, MS3.2/13, Error ellipse: s-maj=20.6km s-min=17.5km az=88.0
NIED 13 00:49:16.9, 37°.47N×143°.78E, h51km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=7.86; $M_{\theta\theta}$0.53; $M_{\phi\phi}$7.32; $M_{r\theta}$-2.58; $M_{\theta\phi}$4.16; $M_{\phi r}$-0.06; Fault plane solution: $M_0$9.02000×10^{14} NP1:ϕ_s42.00000°, δ51.00000°, λ-67.00000°. NP2:ϕ_s188.00000°, δ44.00000°, λ-116.00000°.
JMA 13 00:49:16.9±0.3, 37°.5N±0°.8×14°.4E±°, h51km, MV4.0/28, FAR E OFF FUKUSHIMA PREF

ISC 13 00:49:18.0±0.8, 37°.52N±0°.06×143°.77E±0°.08, h35km, n41, σ2°31/49, mb3.8/11, MS3.3/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	Ishinomakikobu	1.99	294	*i*P			Pn	00 49 49.5	+0.4
JIKH				S			Sn	00 50 13.3	+0.5
JKMT	Kesennumamotoy	2.22	306	*i*P			Pn	00 49 52.7	+0.3
JKMT				S			Sn	00 50 19.3	+0.7
OFUJ	Ofunato	2.27	314	*i*P			Pn	00 49 53.3	+0.3
OFUJ				S			Sn	00 50 20.4	+0.6
JMST	Minamisoumatoc	2.30	276	P			Pn	00 49 53.2	-0.2
JMST				*e*S			Sn	00 50 20.5	+0.1
JFK	Kawauchi	2.31	267	*e*P			Pn	00 49 53.4	-0.2
JFK				*e*S			Sn	00 50 20.2	-0.6
JMK	Ichinoseki	2.46	306	P			Pn	00 49 56.5	+0.8
JOTO	OTAMA OYAMA	2.73	272	P			Pn	00 50 00.4	+1.0
JOTO				S			Sn	00 50 32.4	+1.2
JOM	Ohasama	2.75	316	P			Pn	00 50 00.6	+0.9
JOM				S			Sn	00 50 33.0	+1.2
JYK	Kaneyama	3.03	298	P			Pn	00 50 05.1	+1.6
JYK				S			Sn	00 50 40.0	+1.5
JANG	Nango	3.35	329	P			Pn	00 50 08.8	+0.9
JANG				S			Sn	00 50 45.5	-0.8
JRY	Ryogami san	4.19	250	P			Pn	00 50 19.0	-0.4
JRY				S			Sn	00 51 04.8	-2.4
MJAR	Matsushiro Arr	4.56	259	Pn			Pn	00 50 25.9	+1.4
	0.7nm,0.3s,baz=91,slow=15,SNR=16								
MJAR				Sn			Sn	00 51 17.6	+1.4
	0.1nm,0.3s,baz=90,slow=24,SNR=5.1								
MJAR				LR			LR	00 52 34.7	
	comp=Z,174nm,18.8s,baz=64,slow=43								
	3.3nm,0.3s								
JCH	Churui	5.10	357	*i*P			Pn	00 50 30.9	-1.0
JCH				S			Sn	00 51 26.1	-3.3
JHJ	Hachijo jima 2	5.47	218	Pn			Pn	00 50 35.7	-1.3
	7.4nm,0.3s,baz=348,slow=20,SNR=1.4								
JHJ				Sn			Sn	00 51 30.7	-8.0
	17nm,0.3s,baz=264,slow=22,SNR=2.0								
	18nm,0.3s								
NEM2	Nemuro 2	6.03	14	P			Pn	00 50 41.7	-2.9
NEM2				S			Sn	00 51 45.0	-7.3
JHR	Hokuryu	6.41	347	P			Pn	00 50 51.2	+1.3
JTKR	Abashiri--Toko	6.45	1	P			Pn	00 50 49.2	-1.1
JTKR				S			Sn	00 51 57.4	-5.2
ASAJ	Asahikawa	6.65	353	Pn			Pn	00 50 52.9	-0.2
	5.2nm,0.3s,baz=223,slow=19,SNR=13								
ASAJ				Sn			Sn	00 52 04.9	-2.8
	1.5nm,0.3s,baz=64,slow=30,SNR=3.9								
	23nm,0.5s								
JCJ	Chichijima	10.48	188	Pn			Pn	00 51 34.4	-11
	2.2nm,0.3s,baz=306,slow=18,SNR=1.3								
JCJ				Sn			Sn	00 53 21.1	-21
	2.4nm,0.3s,baz=287,slow=20,SNR=2.0								
USRK	Ussuriysk Ar.	11.13	310	Pn			Pn	00 51 56.5	+1.9
	0.3nm,0.3s,baz=112,slow=16,SNR=3.0								
	4.0nm,0.7s								
KSRS	Korea Array	12.59	275	Pn			P	00 52 21.1	-4.5
	0.4nm,0.3s,baz=90,slow=14,SNR=5.2								
KSRS				LR			LR	00 56 43.8	
	comp=Z,59nm,19.3s,baz=85,slow=35								
KLR	Kul'dur	14.59	327	Pn			Pn	00 52 41.2	-0.5
	0.1nm,0.3s,baz=139,slow=15,SNR=3.6								
KLR				LR			LR	00 58 00.2	
	comp=Z,32nm,21.2s,baz=148,slow=36								
	1.1nm,0.7s								
SONM	Songino Array	29.09	303	P			P	00 55 17.5	+2.2
	0.3nm,0.4s,baz=124,slow=9.0,SNR=2.3								
SONM				LR			LR	01 08 28.0	
	comp=Z,35nm,20.6s,baz=33,slow=39								
	0.3nm,0.4s								
ZALV	Zalesovo Beam	42.98	312	P			P	00 57 15.0	+1.5
	0.5nm,0.5s,baz=66,slow=8.3,SNR=4.6								
ZALV				PcP			PcP	00 59 03.5	+0.1
	0.7nm,0.5s,baz=114,slow=3.5,SNR=2.6								
ZALV				LR			LR	01 15 51.3	
	comp=Z,38nm,18.3s,baz=40,slow=37								
	0.5nm,0.5s								
MKAR	Makanchi Array	45.45	302	P			P	00 57 35.1	+1.6
	0.9nm,0.8s,baz=80,slow=9.1,SNR=5.7								
	0.9nm,0.8s								
KURBB	Kurchatov Arra	47.19	308	P			P	00 57 48.5	+1.5
	1.0nm,0.2s,baz=82,slow=8.1,SNR=7.1								
	1.0nm,0.2s								
ILAR	Eielson Array	48.08	33	P			P	00 57 54.4	+0.6
	1.9nm,0.8s,baz=264,slow=6.6,SNR=16								
	1.9nm,0.8s								
BATI	Baumata	51.08	206	LR			LR	01 22 16.2	
	comp=Z,60nm,19.4s,baz=108,slow=39								
BVAR	Borovoye Array	51.63	312	P			P	00 58 22.3	+1.3
	1.1nm,0.7s,baz=97,slow=10,SNR=3.6								
	1.1nm,0.7s								
ARU	Arti	57.24	319	LR			LR	01 25 12.4	
	comp=Z,39nm,18.7s,baz=56,slow=38								
WRA	Warramunga Arr	57.84	190	P			P	00 59 04.4	-1.7
	1.6nm,0.7s,baz=11,slow=7.4,SNR=16								
	1.6nm,0.7s								
ASAR	Alice Springs	61.56	190	P			P	00 59 30.8	-1.0
	0.6nm,0.7s,baz=20,slow=7.2,SNR=6.7								
	0.6nm,0.7s								
STKA	Stephens Creek	69.07	182	LR			LR	01 36 04.7	
	comp=Z,16nm,18.1s,baz=43,slow=41								
FINES	FINESS Array B	69.25	333	LR			LR	01 32 33.8	
	comp=Z,18nm,18.7s,baz=37,slow=37								
NVAR	Mina Array Bea	73.19	54	P			P	01 00 46.1	+0.5
	0.5nm,0.8s,baz=289,slow=5.6,SNR=3.6								
	0.5nm,0.8s								
HFS	Hagfors	74.41	337	LR			LR	01 37 02.9	
	comp=Z,29nm,18.7s,baz=0.5,slow=38								
NOA	NORSAR Array B	74.45	338	LR			LR	01 37 54.4	
	comp=Z,16nm,19.3s,baz=5.0,slow=39								
AKASG	Malin Array Be	75.05	323	P			P	01 00 57.1	+1.2
	1.2nm,0.7s,baz=45,slow=4.5,SNR=5.0								
	1.2nm,0.7s								
PDAR	Pinedale Array	75.98	47	P			P	01 01 02.6	+0.9
	0.3nm,0.7s,baz=305,slow=3.2,SNR=2.3								
	0.3nm,0.7s								
EIL	Elat	85.67	304	LR			LR	01 44 17.8	
	comp=Z,21nm,18.8s,baz=58,slow=38								
ESDC	Sonseca Array	97.66	335	LR			LR	01 50 57.9	
	comp=Z,8.8nm,19.6s,baz=352,slow=38								

ANF 13 00:49:35.8±1.4, 54°.86N×137°.91W, h0km, ML3.6/4, Error ellipse: s-maj=14.1km s-min=8.5km az=21.0, West of Vancouver Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
U33K	Whale Pass	3.00	63	P			Pn	00 50 23.5	-1.1
	baz=247								
U33K				S			Sn	00 51 02.7	+1.6
	baz=247								
S32K	Killisnoo	3.21	34	P			Pn	00 50 27.8	+0.4
	baz=217								
S32K				S			Sn	00 51 07.3	+1.0
	baz=217								
S31K	Pelican	3.25	16	P			Pn	00 50 26.9	-1.0
	baz=197								
S31K				S			Sn	00 51 08.0	+0.8
	baz=197								
PLBC	Pleasant Camp	4.68	10	P			Pn	00 50 48.0	+0.3
	baz=191								
P29M	Windy Craggy	4.78	1	P			Pn	00 50 48.6	-0.4
	baz=181,SNR=8.5								
P29M				S			Sn	00 51 45.4	+0.2
	baz=181								
PNL	Peninsula	4.89	351	P			Pn	00 50 48.8	-1.7
	baz=170								
PNL				S			Sn	00 51 46.6	-1.1
	baz=170								
P30M	Million Dollar	5.30	5	P			Pn	00 50 56.9	+0.7
	baz=186								
PINM	Pinnacle	5.40	347	P			Pn	00 50 55.8	-1.7
	baz=166,SNR=5.5								
O29M	Mount Kennedy	5.47	357	P			Pn	00 50 58.4	-0.2
	baz=176,SNR=69								
O29M				S			Sn	00 52 02.7	+0.5
	baz=176								
HYT	Haines Junctio	5.98	2	P			Pn	00 51 06.3	+0.6
	baz=182,SNR=15								
O30N	Mendenhall	6.00	9	P			Pn	00 51 06.4	+0.5
	baz=190								
WHY	Whitehorse	6.04	14	P			Pn	00 51 07.2	+0.9
	baz=197								
O28M	Mount Upton	6.05	349	P			Pn	00 51 05.5	-1.2
	baz=167,SNR=50								
O28M				S			Sn	00 52 15.6	-1.1
	baz=167								
YUK6	Outpost Mounta	6.10	358	P			Pn	00 51 07.3	-0.1
	baz=178,SNR=22								
CTG	Chitna Glacier	6.39	345	P			Pn	00 51 08.9	-2.3
	baz=162								
YUK4	Talbot Arm	6.51	357	P			Pn	00 51 15.0	+2.0
	baz=177,SNR=36								
YUK8	Steele Glacier	6.51	352	P			Pn	00 51 12.9	-0.1
	baz=170								
N30M	Aishikik Lake	6.63	3	P			Pn	00 51 15.3	+0.9
	baz=184,SNR=13								
M29M	Somme Creek	7.61	358	P			Pn	00 51 28.3	+0.4
	baz=178,SNR=17								
M30M	Minto, Yukon	7.76	4	P			Pn	00 51 30.5	+0.6
	baz=185,SNR=11								
M27K	Edge Creek, AK	7.80	346	P			Pn	00 51 29.6	-0.9
	baz=163								
L29M	L29M	8.27	359	P			Pn	00 51 37.7	+0.7
	baz=179,SNR=14								
K29M	Barlow Dome	9.01	1	P			Pn	00 51 48.3	+1.1
	baz=181,SNR=11								
I30M	Mount Dempster	10.42	4	P			Pn	00 52 08.0	+1.5
	baz=185,SNR=6.5								

NEIC 13 00:56:40.3±0.8, 19°.4S±0°.2×176°.7W±0°.2, h587km±19km, mb4.4/20, Error ellipse: s-maj=28.3km s-min=20.6km az=208.0
IDC 13 00:56:45.9±1.8, 19°.82S×177°.60W, h573km±21km, mb3.1/5, mbtmp4.1/7, Error ellipse: s-maj=28.7km s-min=21.5km az=16.0

ISC 13 00:56:40.1±0.8, 19°.3S±0°.1×176°.7W±0°.1, h600km, n36, σ1°05/35, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.20	287	P			P	00 58 14.5	-0.3
MSVF	Nonsavu	5.20	287	P			P	00 58 14.4	-0.4
	4.6nm,0.5s,baz=146,slow=14,SNR=5.6								
NIUE	Niue	6.42	89	P			P	00 58 24.9	0.0
AFI	Afiamalu	7.16	42	P			P	00 58 30.1	-1.7
RAO	Raoul Island	9.96	186	P			P	00 58 56.8	-1.6
DZM	Mont Dzumac	15.99	257	P			P	00 59 58.1	+0.6
DZM				IAmb			IAmb	01 00 32.7	
	comp=Z,17nm,1.3s								
DZM	Mont Dzumac	15.99	257	P			P	00 59 58.1	+0.6
	comp=Z,1.9nm,0.4s,baz=331,slow=17,SNR=1.5								
KOUNC	Koumac, New Ca	17.90	263	P			P	01 00 15.8	+0.8
KOUNC				IAmb			IAmb	01 00 20.6	
	comp=Z,25nm,1.3s								
MXZ	Matakaoa Point	18.70	192	P			P	01 00 21.6	-0.3
URZ	Urewera	19.64	195	P			P	01 00 29.4	-1.0
	comp=Z,4.1nm,0.3s,baz=2.5,slow=2.7,SNR=8.8								
TCW	Tory Channel	23.15	197	P			P	01 01 02.5	+0.7
QRZ	Quartz Range	23.34	201	P			P	01 01 03.5	0.0
THZ	Tophouse	24.07	199	P			P	01 01 09.9	0.0
THZ				IAmb			IAmb	01 01 39.4	
	comp=Z,39nm,1.3s								
GVZ	Greta Valley S	25.13	198	P			P	01 01 18.6	-0.6
MLZ	Mavora Lakes	28.87	202	P			P	01 01 53.0	+1.0
WHZ	Wether Hill Ro	29.39	202	P			P	01 01 57.4	+1.1
WHZ				IAmb			IAmb	01 01 58.2	
	comp=Z,11nm,0.5s								
PYZ	Puysegur Point	30.08	203	P			P	01 02 02.0	-0.3
ARMA	Armidale	30.68	243	P			P	01 02 07.7	-0.1
ARMA				IAmb			IAmb	01 02 13.8	
	comp=Z,30nm,1.5s								
CTAO	Charters Tower	34.82	262	P			P	01 02 43.3	+0.6
CTAO				IAmb			IAmb	01 03 01.6	
	comp=Z,7.7nm,1.2s								
STKA	Stephens Creek	39.40	243	P			P	01 03 19.9	+0.1
STKA	Stephens Creek	39.40	243	P			P	01 03 20.1	+0.3
	comp=Z,1.5nm,0.5s,baz=104,slow=11,SNR=3.1								
	comp=Z,1.5nm,0.5s								
BBOO	Buckleboo	44.16	243	P			P	01 03 57.6	+0.4
BBOO				IAmb			IAmb	01 04 33.0	
	comp=Z,27nm,1.4s								
WR0	Warramunga Arr	45.78	261	P			P	01 04 10.2	+0.5
WB0	Warramunga Arr	45.94	261	P			P	01 04 11.5	+0.6
WB0				IAmb			IAmb	01 04 30.0	
	comp=Z,7.4nm,1.4s								
WB2	Warramunga Arr	45.96	261	P			P	01 04 11.4	+0.4
WB2				IAmb			IAmb	01 04 26.0	
	comp=Z,5.5nm,1.2s								
WRA	Warramunga Arr	45.97	261	P			P	01 04 11.3	+0.2
WRA	Warramunga Arr	45.97	261	P			P	01

PKI *e*Sn **Sn** **01 36 40.3 -1.7**
32nm,0.3s
PKIN Phulchoki 9.57 303 *e*Pn **Pn** **01 34 57.5 +1.1**
PKIN *e*Sn **Sn** **01 36 40.3 -2.0**
48nm,0.2s
KKN Kakani 9.76 304 *e*Pn **Pn** **01 35 00.1 +1.1**
KKN *e*Sn **Sn** **01 36 45.2 -1.7**
209nm,0.2s
DMN Daman 9.81 302 *e*Pn **Pn** **01 35 03.2 +3.5**
DMN *e*Sn **Sn** **01 36 45.8 -2.3**
19nm,0.2s
GKN Gorkha 10.36 303 *e*Pn **Pn** **01 35 08.1 +1.0**
GKN *e*Sn **Sn** **01 36 59.2 -2.2**
72nm,0.3s
KOLN Koldanda 11.07 300 *e*Pn **Pn** **01 35 17.3 +0.5**
KOLN *e*Sn **Sn** **01 37 15.5 -3.3**
416nm,0.5s
DANN Dangsing 11.21 303 *e*Pn **Pn** **01 35 19.4 +0.7**
DANN *e*Sn **Sn** **01 37 19.1 -3.1**
14nm,0.2s
PYUN Piuthan 11.70 300 *e*Pn **Pn** **01 35 26.5 +1.2**
PYUN *e*Sn **Sn** **01 37 29.8 -4.3**
52nm,0.4s
ENH Enshi 15.48 57 Pn **Pn** **01 36 13.2 -1.1**
ENH IAmb IAmb 01 36 30.7
comp=Z,16nm,1.5s
NIL Nilore 21.64 305 P **P** **01 37 23.5 -0.2**
NIL IAmb IAmb 01 37 41.5
comp=Z,4.6nm,0.8s
BOOM Boomskoye usch 25.12 326 P **P** **01 37 58.4 +1.2**
KBL Kabul 25.20 304 P **P** **01 37 59.9 +1.9**
KBL IAmb IAmb 01 38 08.6
comp=Z,2.4nm,0.5s
MK31 Makanchi Array 26.05 341 P **P** **01 38 06.3 +1.0**
MKAR Makanchi Array 26.05 341 P **P** **01 38 06.5 +1.2**
MKAR Makanchi Array 26.05 341 P **P** **01 38 07.6 +2.3**
comp=Z,1.9nm,0.8s,baz=148,slow=9.9,SNR=11
comp=Z,1.9nm,0.8s
ZALV Zalesovo Beam 32.13 349 P **P** **01 38 59.5 +0.4**
KSAR Wonju Array Be 32.32 55 P **P** **01 38 59.9 -1.0**
ABKAR Abkulak array 38.02 323 P **P** **01 39 50.5 +0.7**
MAJO Matsushiro 40.19 60 P **P** **01 40 06.4 -1.6**
WB0 Warramunga Arr 57.41 134 P **P** **01 42 20.2 +0.3**
WRA Warramunga Arr 57.50 134 P **P** **01 42 21.6 +1.2**
WB2 Warramunga Arr 57.51 134 P **P** **01 42 20.1 -0.4**
ARCES ARCESS Array B 61.66 338 P **P** **01 42 49.8 +1.4**
comp=Z,2.2nm,1.0s,baz=91,slow=8.1,SNR=1.5
comp=Z,2.2nm,1.0s
GRFO Grafenberg 68.80 316 P **P** **01 43 34.6 -0.2**
GRFO IAmb IAmb 01 43 50.8
comp=Z,6.1nm,1.0s
LSZ Lusaka 74.98 246 P **P** **01 44 12.3 -0.1**
LSZ IAmb IAmb 01 44 13.9
comp=Z,5.3nm,1.3s
MLY Manley 79.55 23 P **P** **01 44 34.6 -2.4**
MLY IAmb IAmb 01 44 51.8
comp=Z,3.7nm,0.8s
TSUM Tsumeb 85.77 247 P **P** **01 45 09.9 -0.2**
TSUM IAmb IAmb 01 45 22.3
comp=Z,10nm,1.4s

---

*DJA **13** 01:36:50.8±0.5, 7°S±3°×12°9E±°, h267km±12km, M4.6/14, mb4.6/7, mB5.1/6, MLv4.7/14, Mw(mB)4.5/6*
*IDC **13** 01:36:51.7±1.8, 6°82S×129°04E, h196km±17km, mb3.2/2, mbtmp4.1/6, Error ellipse: s-maj=32.4km s-min=19.7km az=91.0*
ISC 13 01:36:51.3±0.7,**6°76S**±0°06×**128°92E**±0°06,**h200**km,**n27,** σ**2**§**01**/30,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.43**	**24**	P	Pn	01 37 40.7	+6.3
SAUI	**Saumlaki**	**2.65**	**117**	P	**Pn**	**01 37 38.6**	**+1.6**
SAUI	**Saumlaki**	**2.65**	**117**	P	**Pn**	**01 37 39.0**	**+2.0**
NLAI	**Namlea**	**3.94**	**332**	P	**Pn**	**01 37 56.2**	**+3.8**
FAKI	**Fak Fak**	**5.05**	**41**	P	**Pn**	**01 38 06.7**	**+0.2**
FAKI	**Fak Fak**	**5.05**	**41**	P	**Pn**	**01 38 06.4**	**-0.1**
55nm,0.9s,3μm0.8nm							
KMPI	**Kaimana, Papua**	**5.67**	**57**	P	**Pn**	**01 38 15.8**	**+1.4**
220nm,0.4s,6μm2.7nm							
BATI	**Baumata**	**6.23**	**236**	P	**Pn**	**01 38 22.4**	**+0.8**
61nm,0.6s,0.8nm							
BATI	**Baumata**	**6.23**	**236**	P	**Pn**	**01 38 22.0**	**+0.3**
48nm,0.5s,baz=68,slow=2.2,SNR=5.2							
BATI				S	**Sn**	**01 39 31.0**	**-2.1**
102nm,0.3s,baz=91,slow=22,SNR=9.8							
LBMI	**Labuha**	**6.24**	**347**	P	**Pn**	**01 38 24.1**	**+2.3**
70nm,0.9s,2μm0.3nm							
SIJI	**Sorong**	**6.30**	**22**	P	**Pn**	**01 38 23.0**	**+0.5**
36nm,0.3s,baz=233,slow=15,SNR=66							
SIJI				S	**Sn**	**01 39 30.9**	**-4.0**
19nm,0.4s,baz=221,slow=22,SNR=7.0							
SWI	**Sorong**	**6.30**	**22**	P	**Pn**	**01 38 22.6**	**0.0**
MTN	**Manton Dam**	**6.43**	**160**	P	**Pn**	**01 38 24.5**	**+0.3**
KDU	**Kakadu**	**6.85**	**150**	P	**Pn**	**01 38 30.0**	**+0.3**
RKPI	**Ransiki, Papua**	**7.39**	**45**	P	**Pn**	**01 38 36.3**	**-0.4**
87nm,0.7s,18μm2.6nm							
KNRA	**Kununurra**	**8.87**	**181**	P	**Pn**	**01 38 55.4**	**-0.5**
PLAI	**Plampang**	**11.23**	**259**	P	**P**	**01 39 29.3**	**-3.2**
WRA	**Warramunga Arr**	**14.12**	**159**	P	**Pn**	**01 40 00.8**	**-2.1**
1.2nm,0.6s,baz=340,slow=11,SNR=30							
WRA				S	S	01 42 27.7	-12
4.6nm,0.6s,baz=337,slow=22,SNR=7.2							
COEN	**Coen**	**15.73**	**118**	P	**Pn**	**01 40 24.2**	**+1.6**
QIS	**Mount Isa**	**17.19**	**144**	P	**Pn**	**01 40 42.1**	**+2.2**
ASAR	**Alice Springs**	**17.48**	**165**	P	**Pn**	**01 40 43.1**	**-0.2**
5.4nm,0.5s,baz=338,slow=9.5,SNR=51							
ASAR				S	**S**	**01 43 49.9**	**-3.1**
3.0nm,0.8s,baz=347,slow=23,SNR=9.1							
ASAR				ScP	**ScP**	**01 48 27.4**	**-0.8**
0.6nm,0.7s,baz=343,slow=1.9,SNR=3.4							
WRKA	**Warakurna**	**18.19**	**182**	P	**Pn**	**01 40 50.9**	**-0.7**
OOD	**Oodnadatta**	**21.89**	**164**	P	**P**	**01 41 29.7**	**+1.2**
MULG	**Mulgathing**	**23.89**	**169**	P	**P**	**01 41 49.7**	**+2.9**
FORT	**Forrest**	**23.91**	**182**	P	**P**	**01 41 50.2**	**+3.2**
MKAR	**Makanchi Array**	**67.44**	**327**	P	**P**	**01 47 27.1**	**+1.6**
0.5nm,0.5s,baz=126,slow=6.9,SNR=4.8							
0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**71.75**	**329**	P	**P**	**01 47 53.5**	**+1.8**
0.3nm,0.4s,baz=124,slow=4.8,SNR=2.6							
0.3nm,0.4s							

---

*SJA **13** 02:23:29.3±0.7, 20°29S×69°17W, h96km±3km, ML4.1, MW3.9*
*GUC **13** 02:23:30.9±0.8, 20°29S×69°15W, h91km±3km, ML4.0*
*NEIC **13** 02:23:30.1±1.1, 20°31S±0°03×69°14W±0°06, h94km±5km, mb4.0/6, ML4.0(GUC), Error ellipse: s-maj=8.2km s-min=4.4km az=109.0*
*VAO **13** 02:23:31.1±0.7, 20°33S×68°62W, h10km, mb4.3*
*IDC **13** 02:23:31.9±2.0, 20°37S×68°89W, h113km±19km, mb3.4/2, mbtmp3.9/6, Error ellipse: s-maj=43.9km s-min=15.6km az=101.0*
ISC 13 02:23:29.5±0.7,**20°29S**±0°03×**69°18W**±0°05,**h93**km±5km,
n86, σ1§**56**/109,**mb3.8**/3,**5C-3D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.15**	**10**		**Pn**	**02 23 43.9**	**+0.7**
PB08				Sn	**Sn**	**02 23 54.1**	**+0.8**
PB08	**IPOC Station P**	**0.15**	**10**	⇓*i*P	**Pn**	**02 23 44.1**	**+0.9**
PB08				*i* S	**Sn**	**02 23 54.4**	**+1.1**
PB08				IAML		02 23 55.8	
comp=E,13μm,0.1s							
PB08	**IPOC Station P**	**0.15**	**10**	*e*P	**Pn**	**02 23 43.9**	**+0.7**
PB08				*e*S	**Sn**	**02 23 54.8**	**+1.5**
PB08				IAML		02 23 55.6	
comp=Z,4μm,0.3s							
GO01	**Chusmiza**	**0.61**	**359**		**Pn**	**02 23 47.0**	**+0.9**
GO01				Sn	**Sn**	**02 23 59.9**	**+1.5**
GO01	**Chusmiza**	**0.61**	**359**	*e*P	**Pn**	**02 23 47.0**	**+0.9**
GO01				*i* S	**Sn**	**02 23 59.9**	**+1.5**
GO01				IAML		02 24 01.6	
comp=N,22μm,0.2s							
GO01	**Chusmiza**	**0.61**	**359**	*e*P	**Pn**	**02 23 47.0**	**+0.9**
GO01				*e*S	**Sn**	**02 24 00.9**	**+2.6**
GO01				IAML		02 24 02.4	
comp=Z,5μm,0.1s							
HMBC	**Humberstone**	**0.67**	**271**	*e*P	**Pn**	**02 23 45.9**	**-0.2**
PB01	**IPOC Station P**	**0.81**	**201**		**Pn**	**02 23 48.0**	**+0.6**
PB01				Sn	**Sn**	**02 24 01.7**	**+0.8**
PB01	**IPOC Station P**	**0.81**	**201**	⇓*i*P	**Pn**	**02 23 48.0**	**+0.6**
PB01				*i* S	**Sn**	**02 24 01.7**	**+0.8**
PB01				IAML		02 24 03.1	
comp=N,9μm,0.2s							
PB01	**IPOC Station P**	**0.81**	**201**	*e*P	**Pn**	**02 23 48.1**	**+0.6**
PB01				*e*S	**Sn**	**02 24 02.2**	**+1.4**
PB01				IAML		02 24 03.5	
comp=Z,5μm,0.2s							
TA02	**Huaiquique**	**0.89**	**271**		**Pn**	**02 23 49.0**	**+0.8**
TA02				Sn	**Sn**	**02 24 03.4**	**+1.2**
TA02	**Huaiquique**	**0.89**	**271**	⇑*i*P	**Pn**	**02 23 49.1**	**+0.9**
TA02				*i* S	**Sn**	**02 24 03.7**	**+1.4**
TA02	**Huaiquique**	**0.89**	**271**	*e*P	**Pn**	**02 23 49.1**	**+0.9**
TA02				*e*S	**Sn**	**02 24 03.9**	**+1.7**
TA02				IAML		02 24 05.1	
comp=Z,9μm,0.1s							
TA01	**Diego Aracena**	**0.98**	**253**		**Pn**	**02 23 49.6**	**+0.5**
TA01	**Diego Aracena**	**0.98**	**253**	⇑*i*P	**Pn**	**02 23 49.6**	**+0.5**
TA01				*i* S	**Sn**	**02 24 04.7**	**+0.8**
TA01				IAML		02 24 08.3	
comp=E,2μm,0.4s							
TA01	**Diego Aracena**	**0.98**	**253**	*e*P	**Pn**	**02 23 49.8**	**+0.6**
TA01				*e*S	**Sn**	**02 24 06.0**	**+2.0**
PATCX	**Punta Patache**	**1.06**	**240**	Pn	**Pn**	**02 23 50.8**	**+0.7**
PATCX	**Punta Patache**	**1.06**	**240**	⇑*i*P	**Pn**	**02 23 50.9**	**+0.7**
PATCX				*i* S	**Sn**	**02 24 06.7**	**+1.1**
PATCX				IAML		02 24 08.0	
comp=E,6μm,0.2s							
PATCX	**Punta Patache**	**1.06**	**240**	*e*P	**Pn**	**02 23 51.0**	**+0.8**
PATCX				*e*S	**Sn**	**02 24 07.4**	**+1.8**
PATCX				IAML		02 24 08.3	
comp=Z,3μm,0.4s							
PB02	**IPOC Station P**	**1.23**	**213**		**Pn**	**02 23 52.8**	**+0.6**
PB02	**IPOC Station P**	**1.23**	**213**	⇑*i*P	**Pn**	**02 23 53.0**	**+0.8**
PB02				IAML		02 24 16.6	
comp=E,5μm,0.4s							
PB02	**IPOC Station P**	**1.23**	**213**	*e*P	**Pn**	**02 23 53.1**	**+1.0**
PB02				*e*S	**Sn**	**02 24 10.8**	**+1.6**
PB02				IAML		02 24 19.4	
comp=Z,3μm,0.3s							
PB09	**IPOC Station P**	**1.50**	**182**		**Pn**	**02 23 56.8**	**+1.1**
PB09	**IPOC Station P**	**1.50**	**182**	⇓*i*P	**Pn**	**02 23 56.6**	**+1.0**
PB09				*i* S	**Sn**	**02 24 17.4**	**+2.0**
PB09				IAML		02 24 20.3	
comp=E,2μm,0.3s							
PB09	**IPOC Station P**	**1.50**	**182**	*e*P	**Pn**	**02 23 56.8**	**+1.1**
PB09				*e*S	**Sn**	**02 24 18.1**	**+2.7**
PB09				IAML		02 24 19.1	
comp=Z,2μm,0.6s							
PB07	**IPOC Station P**	**1.58**	**205**		**Pn**	**02 23 57.3**	**+0.7**
PB07	**IPOC Station P**	**1.58**	**205**	*e*P	**Pn**	**02 23 57.3**	**+0.7**
PB07				*i* S	**Sn**	**02 24 17.5**	**+0.4**
PB07				IAML		02 24 25.8	
comp=E,2μm,0.1s							
PB07	**IPOC Station P**	**1.58**	**205**	*e*P	**Pn**	**02 23 57.4**	**+0.8**
PB07				*e*S	**Sn**	**02 24 19.6**	**+2.6**
PB07				IAML		02 24 22.9	
comp=Z,2μm,0.2s							
PB16	**IPOC Station P**	**1.96**	**351**		**Pn**	**02 24 04.0**	**+2.0**
PB16	**IPOC Station P**	**1.96**	**351**	⇑*i*P	**Pn**	**02 24 04.3**	**+2.3**
PB16	**IPOC Station P**	**1.96**	**351**	*e*P	**Pn**	**02 24 03.8**	**+1.8**
PB16				*e*S	**Sn**	**02 24 25.6**	**-0.9**
PB16				IAML		02 24 37.6	
comp=Z,575nm,0.4s							
PB12	**IPOC Station P**	**1.98**	**327**	Pn	**Pn**	**02 24 02.6**	**+0.8**
PB12	**IPOC Station P**	**1.98**	**327**	*e*P	**Pn**	**02 24 02.4**	**+0.6**
PB12				*i* S	**Sn**	**02 24 28.2**	**+2.0**
PB12				IAML		02 24 35.5	
comp=E,3μm,0.1s							
PB12	**IPOC Station P**	**1.98**	**327**	*e*P	**Pn**	**02 24 02.7**	**+1.0**
PB12				*e*S	**Sn**	**02 24 28.9**	**+2.7**
PB12				*e*S		02 24 29.7	
PB12				IAML		02 24 33.1	
comp=Z,2μm,0.5s							
AP01	**Chacalluta**	**2.20**	**330**		**Pn**	**02 24 05.9**	**+1.4**
AP01	**Chacalluta**	**2.20**	**330**	*e*P	**Pn**	**02 24 05.8**	**+1.4**
AP01				*e*S	**Sn**	**02 24 29.7**	**-1.4**
AP01				IAML		02 24 43.3	
comp=Z,3μm,0.1s							
PB04	**IPOC Station P**	**2.23**	**204**		**Pn**	**02 24 05.8**	**+0.8**
PB04	**IPOC Station P**	**2.23**	**204**	*e*P	**Pn**	**02 24 05.8**	**+0.8**
PB04				IAML		02 24 41.4	
comp=N,809nm,0.5s							
PB04	**IPOC Station P**	**2.23**	**204**	*e*P	**Pn**	**02 24 06.2**	**+1.1**
PB04				*e*S	Sn	02 24 22.2	-10
PB04				IAML		02 24 45.1	
comp=Z,804nm,0.2s							
LVC	**Limon Verde**	**2.33**	**174**	*e*P	**Pn**	**02 24 08.1**	**+1.5**
LVC	**Limon Verde**	**2.33**	**174**	P	**Pn**	**02 24 08.0**	**+1.5**
comp=Z,77nm,0.5s,baz=0.2,slow=12,SNR=163							
LVC				S	**Sn**	**02 24 36.7**	**+2.0**
comp=Z,313nm,0.4s,baz=114,slow=20,SNR=30							
LVC	**Limon Verde**	**2.33**	**174**	*e*P	**Pn**	**02 24 07.9**	**+1.4**
LVC				*i* S	**Sn**	**02 24 36.9**	**+2.2**
LVC	**Limon Verde**	**2.33**	**174**	*e*P	**Pn**	**02 24 07.9**	**+1.4**
LVC				*e*S	**Sn**	**02 24 37.4**	**+2.6**
LVC				IAML		02 24 43.0	
comp=Z,591nm,0.3s							
PB06	**IPOC Station P**	**2.44**	**189**	Pn	**Pn**	**02 24 08.2**	**+0.5**
PB06	**IPOC Station P**	**2.44**	**189**	*e*P	**Pn**	**02 24 08.6**	**+0.8**
PB06				*e*S	**Sn**	**02 24 38.9**	**+1.9**
PB06				IAML		02 24 45.3	
comp=Z,518nm,0.3s							
PB18	**Visviri**	**2.70**	**354**		**Pn**	**02 24 15.7**	**+4.1**
AF01	**San Pedro de A**	**2.81**	**161**		**Pn**	**02 24 15.8**	**+2.9**
PB15	**IPOC Station P**	**2.92**	**185**		**Pn**	**02 24 15.1**	**+0.9**
PB15	**IPOC Station P**	**2.92**	**185**	*e*P	**Pn**	**02 24 14.8**	**+0.5**
PB15	**IPOC Station P**	**2.92**	**185**	*e*P	**Pn**	**02 24 15.5**	**+1.3**
PB15				*e*S	Sn	02 25 00.1	+11
PB15				IAML		02 25 03.9	
comp=Z,2μm,0.2s							
LPAZ	**La Paz**	**4.10**	**14**		**Pn**	**02 24 33.7**	**+3.1**
LPAZ	**La Paz**	**4.10**	**14**	*e*P	**Pn**	**02 24 34.1**	**+3.6**
LPAZ	**La Paz**	**4.10**	**14**	P	**Pn**	**02 24 34.2**	**+3.6**
comp=Z,14nm,0.4s,baz=182,slow=7.9,SNR=84							
PB14	**IPOC Station P**	**4.46**	**194**		**Pn**	**02 24 34.4**	**-0.9**
GO02	**Mina Guanaco**	**4.87**	**184**		**Pn**	**02 24 40.4**	**-0.3**
AC02	**Maricunga**	**6.52**	**180**		**Pn**	**02 25 02.9**	**-0.4**
BBSD	**Serra de San D**	**8.69**	**71**	*e*P	**Pn**	**02 25 30.1**	**-2.3**
SIV	**San Ignacio**	**8.81**	**62**	P	**Pn**	**02 25 32.6**	**-1.6**
comp=Z,4.6nm,0.4s,baz=255,slow=11,SNR=38							
BBRB	**Robore, Bolivi**	**9.07**	**79**	*e*P	**Pn**	**02 25 34.5**	**-3.2**
CO03	**El Pedregal**	**10.60**	**187**	Pn	**Pn**	**02 25 59.5**	**+1.0**
VILB	**Vilhena**	**11.28**	**51**		**Pn**	**02 26 07.3**	**-0.4**
VILB	**Vilhena**	**11.28**	**51**	*e*P	**Pn**	**02 26 06.8**	**-0.9**
CFA	**Coronel Fontan**	**11.30**	**176**	P	**Pn**	**02 26 04.3**	**-3.7**
comp=Z,0.9nm,0.3s,baz=353,slow=17,SNR=8.7							
CFA				S	Sn	02 28 01.4	-11
comp=Z,1.4nm,0.4s,baz=140,slow=20,SNR=1.6							
BDQN	**Bodoquena, MS**	**11.66**	**93**	*e*P	**Pn**	**02 26 10.3**	**-2.5**
CPUP	**Villa Florida**	**12.44**	**121**	P	**Pn**	**02 26 21.7**	**-1.5**
comp=Z,2.7nm,0.7s,baz=294,slow=14,SNR=5.6							
PDRB	**Porto dos Gac**	**14.75**	**56**	*e*P	**Pn**	**02 26 53.7**	**+0.3**
CRSM	**Crissiumal (Br**	**15.58**	**120**	*e*P	**Pn**	**02 27 04.3**	**+0.3**
FRBT	**Francisco Belt**	**15.87**	**114**	*e*P	**Pn**	**02 27 08.8**	**+1.2**
RODS	**Rosario do Sul**	**16.12**	**131**	*e*P	**P**	**02 27 13.0**	**+0.9**
PTGB	**Pitanga**	**16.42**	**109**	*e*P	**P**	**02 27 16.3**	**+0.6**
LDASE	**Londrina, Braz**	**17.05**	**104**	*e*P	**Pn**	**02 27 22.5**	**+0.2**
ITAB	**Concordia**	**17.06**	**117**		**Pn**	**02 27 21.8**	**-0.5**
TRQA	**Tornquist**	**18.78**	**162**	P	**P**	**02 27 41.3**	**-0.2**
TRQA				IAmb	IAmb	02 28 02.6	
comp=Z,14nm,1.5s							
PLCA	**Paso Flores**	**20.41**	**183**	P	**P**	**02 27 59.5**	**+0.2**
BDFB	**Brasilia**	**20.65**	**81**	P	**P**	**02 28 00.4**	**-1.6**
BDFB				IAmb	IAmb	02 28 17.6	
comp=Z,14nm,1.5s							
BDFB	**Brasilia**	**20.65**	**81**	P	**P**	**02 28 00.8**	**-1.2**
comp=Z,2.6nm,0.7s,baz=270,slow=12,SNR=5.1							
comp=Z,2.6nm,0.7s							
BOAV	**Boa Vista**	**24.09**	**22**	P	**P**	**02 28 36.3**	**-0.3**
BOAV				IAmb	IAmb	02 28 37.7	
comp=Z,4.3nm,1.1s							
SNAA	**Sanae**	**63.50**	**161**	P	**P**	**02 33 49.6**	**+0.1**
SNAA				IAmb	IAmb	02 34 01.1	
comp=Z,2.7nm,1.2s							
TOA0	**Torodi Ar. Sit**	**77.19**	**71**	P	**P**	**02 35 12.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**77.19**	**71**	P	**P**	**02 35 12.5**	**-1.3**
comp=Z,0.5nm,0.5s,baz=254,slow=5.4,SNR=9.3							
comp=Z,0.5nm,0.5s							
H11S2	**WAKE ISLAND Hyl**	**27.47**	**278**	T	T	05 02 15.8	
baz=102,slow=75,SNR=29							
H11S1	**WAKE ISLAND Hyl**	**27.47**	**278**	T	T	05 02 14.3	
baz=102,slow=75,SNR=38							
H11S3	**WAKE ISLAND Hyl**	**27.48**	**278**	T	T	05 02 15.0	
baz=102,slow=75,SNR=35							
H11N3	**WAKE ISLAND Hyl**	**27.52**	**280**	T	T	05 02 21.7	
baz=102,slow=74,SNR=22							
H11N2	**WAKE ISLAND Hyl**	**27.53**	**280**	T	T	05 02 18.7	
baz=102,slow=74,SNR=23							
H11N1	**WAKE ISLAND Hyl**	**27.53**	**280**	T	T	05 02 22.3	
baz=102,slow=74,SNR=28							

---

*MEX **13** 02:32:09.9±0.7, 14°70N×94°44W, h16km±12km, MD4.3*
*NEIC **13** 02:32:13.2±2.0, 14°98N±0°07×94°25W±0°05, h32km±8km, mb4.2/22, Md4.3/9(MEX), Error ellipse: s-maj=11.1km s-min=4.8km az=149.0*
*IDC **13** 02:32:14.6±8.2, 14°89N×93°98W, h58km±60km, mb3.3/5, mbtmp3.5/6, ML4.3/2, MS3.4/7, Error ellipse: s-maj=66.5km s-min=27.6km az=9.0*
*GCG **13** 02:32:14.1±0.6, 15°24N×94°06W, h50km, MD4.4*
ISC 13 02:32:10.8±1.9,**14°91N**±0°06×**94°30W**±0°04,**h24**km±13km,
n73, σ1§**67**/84,**mb4.0**/12,**MS3.2**/6,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.30**	**53**		**Pn**	**02 32 33.3**	**-0.3**
PCIG					**Sb**	**02 32 51.5**	**+0.4**
PCIG		**1.30**	**53**	*i* P	**Pn**	**02 32 33.3**	**-0.3**
PCIG				*i* S	**Sb**	**02 32 51.5**	**+0.4**
CARR	**Arriaga**	**1.38**	**15**	*e*P	**Pn**	**02 32 35.1**	**+0.5**
CARR				*i* S	**Sn**	**02 32 51.9**	**-0.3**
NILT	**Santiago Nilte**	**1.68**	**349**	*e*P	**Pn**	**02 32 38.4**	**-0.2**
NILT				*i* S	**Sn**	**02 33 00.4**	**+1.0**
HUIG	**Huatulco**	**1.95**	**296**	*e*P	Pn	02 32 39.4	-3.0
HUIG				*e*S	**Sn**	**02 33 00.6**	**-5.6**
THIG		**1.96**	**90**	*e*P	**Pn**	**02 32 41.9**	**-0.7**
THIG				*e*S	**Sn**	**02 33 04.6**	**-1.8**
PATR	**El Naranjo**	**2.00**	**84**	*e*P	**Pn**	**02 32 41.9**	**-1.5**
PATR				*e*S	**Sn**	**02 33 07.2**	**-0.6**
PAVE	**Pavencul**	**2.07**	**82**	*e*P	**Pn**	**02 32 43.1**	**-1.1**
PAVE				*e*S	**Sn**	**02 33 08.3**	**-1.0**
CHUJ	**Union Juarez**	**2.12**	**85**	*i* P	**Pn**	**02 32 43.9**	**-1.1**
CHUJ				*e*S	**Sn**	**02 33 08.2**	**-2.6**
TGIG		**2.17**	**31**	*e*P	**Pn**	**02 32 46.7**	**+1.1**
TGIG				*e*S	**Sb**	**02 33 15.1**	**-1.0**
TGBT	**Tuxtla Gutierr**	**2.19**	**32**	*i* P	**Pb**	**02 32 48.6**	**-1.2**
TGBT				*e*S	**Sn**	**02 33 13.6**	**+1.5**
CCIG	**Comitan**	**2.49**	**56**	Pn	**Pn**	**02 32 51.6**	**+1.6**
CCIG	**Comitan**	**2.49**	**56**	*e*P	**Pn**	**02 32 51.6**	**+1.6**
CCIG				*e*S	**Sb**	**02 33 23.6**	**-1.7**
RTAL	**Retalhuleu**	**2.54**	**98**		**Pn**	**02 32 49.9**	**-0.8**
STG3	**Santiaguito 3,**	**2.64**	**94**	*i* P	**Pn**	**02 32 52.1**	**-0.1**
STG3				*i* S	**Sn**	**02 33 22.8**	**-0.7**
SULM	**Suchitepequez,**	**2.71**	**102**	*i* P	**Pn**	**02 32 53.9**	**+1.0**
SULM				*i* S	**Sn**	**02 33 24.3**	**-0.6**
HUEH	**Huehuetenango**	**2.73**	**81**		**Pn**	**02 32 54.0**	**+0.6**
PEIG	**Puerto Escondi**	**2.96**	**292**	*e*P	Pn	02 32 53.2	-3.1
PEIG				*e*S	Sn	02 33 22.9	-8.1
NEUV	**Arroyo Zacate**	**3.14**	**333**	*e*P	**Pn**	**02 33 00.6**	**+1.7**
OXLC	**Oaxaca**	**3.16**	**313**	*e*P	**Pn**	**02 33 01.2**	**+2.0**
OXLC				*e*S	**Sn**	**02 33 32.4**	**-3.8**
YOIG	**Yosondua**	**3.68**	**302**	*e*P	**Pn**	**02 33 06.0**	**-0.5**
YOIG				*e*S	**Sn**	**02 33 46.3**	**-3.0**
PMUV	**Sontecomapan**	**3.70**	**348**	*e*P	**Pn**	**02 33 06.2**	**-0.4**
NBG	**Las Nubes**	**3.83**	**94**	*i* P	**Pn**	**02 33 10.9**	**+2.3**
TOIG	**Toxpalan**	**4.13**	**320**	*e*P	**Pn**	**02 33 15.9**	**+3.3**
TOIG				*e*S	**Sn**	**02 34 01.6**	**+1.3**
TPIG	**Tehuac#an**	**4.56**	**320**	*e*P	**Pn**	**02 33 21.5**	**+3.0**
FTIG	**Fresnillo de T**	**4.74**	**310**	*e*P	**Pn**	**02 33 20.7**	**-0.2**
FTIG				*e*S	**Sn**	**02 34 11.0**	**-4.2**
MTO3	**Montecristo**	**4.80**	**95**		**Pn**	**02 33 21.4**	**-0.5**
ESQI	**Esquipulas**	**4.80**	**94**		**Pn**	**02 33 23.4**	**+1.6**
TLIG	**Tlapa**	**4.88**	**303**	Pn	**Pn**	**02 33 23.4**	**+0.6**
JAUV	**Jalcomulco**	**5.04**	**332**	*e*P	**Pn**	**02 33 25.0**	**0.0**
JAUV				*e*S	**Sn**	**02 34 19.5**	**-3.0**
SNET	**Serv Nac Est T**	**5.06**	**103**	Pn	**Pn**	**02 33 28.7**	**+3.5**
CXUV	**Coxquihui**	**6.11**	**329**	*e*P	**Pn**	**02 33 41.6**	**+1.9**
CXUV				*e*S	**Sn**	**02 34 50.4**	**+1.6**
TEIG	**Tepich**	**7.80**	**46**	P	**Pn**	**02 34 03.0**	**+0.1**
25nm,0.3s,baz=194,slow=3.3,SNR=1.7							
TEIG				S	**Sn**	**02 35 28.9**	**-1.6**
123nm,0.4s,baz=16,slow=21,SNR=1.1							
TEIG				LR	LR	02 37 23.3	
comp=Z,780nm,18.7s,baz=1.0,slow=41							
ORTG	**Ortega, Santa**	**9.73**	**117**		**Pn**	**02 34 30.2**	**+0.6**
JTS	**Las Juntas de**	**10.21**	**116**	Pn	**Pn**	**02 34 38.0**	**+2.1**
SOCE	**Pocosol**	**10.46**	**114**		**Pn**	**02 34 40.4**	**+0

comp=Z,0.5nm,0.9s
WRA Warramunga Arr 133.45 257 PKP **PKPdf 02 51 25.9 -0.1**
comp=Z,0.4nm,0.6s,baz=88,slow=2.5,SNR=7.5
PZH PanZhiHua 135.98 339 PKP **PKPdf 02 51 29.0 -1.8**
CMAR Chiang Mai Arr 144.37 338 PKP PKPbc 02 51 44.6 +0.4
comp=Z,0.7nm,0.3s,baz=347,slow=3.7,SNR=1.8

IDC 13 02:33:49.3±73.0, 20°.92S×178°.83W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1315.0km s-min=176.8km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.91**	**244**	P	P	02 40 59.5	-0.5
	0.9nm,0.4s,baz=78,slow=10,SNR=2.4						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**43.67**	**257**	P	P	02 41 55.7	-0.5
	0.6nm,0.7s,baz=102,slow=7.7,SNR=6.5						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**43.77**	**263**	P	P	02 41 57.7	+0.6
	0.5nm,0.8s,baz=95,slow=8.3,SNR=5.1						
	0.5nm,0.8s						

AFAD ***13*** *02:36:39.0±0.0, 34°.53N×25°.42E, h80km±73km, MW4.0*
ISK ***13*** *02:36:40.7, 34°.74N×25°.47E, h24km, ML3.8/35*
IDC ***13*** *02:36:40.5±1.6, 34°.73N×25°.46E, h34km±11km, mb4.1/19, mbtmp4.2/27, ML4.1/9, MS3.1/14, Error ellipse: s-maj=14.7km s-min=11.1km az=4.0*
ATH ***13*** *02:36:40.9, 34°.64N×25°.45E, h16km±1km, ML3.9/14, Error ellipse: s-maj=2.4km s-min=1.1km az=16.0*
MED_RC ***13*** *02:36:41.0±2.0, 34°.61N×25°.44E, h24km±6km, MW4.1/7, Moment Tensor Solution. Mantle waves: s7, c8; Duration: 1±0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.13±.42; $M_{\theta\theta}$0.96±.32; $M_{\phi\phi}$0.17±.33; $M_{r\theta}$1.35±.27; $M_{\phi\theta}$-0.04±.17; $M_{\phi r}$-0.42±.20; Best double couple: $M_0$1.76000×10^{15} NP1:ϕ_s284.00000°, δ72.00000°, λ-85.00000°. NP2: ϕ_s87.00000°, δ19.00000°, λ-106.00000°. Principal axes: T 1.6600, Plg27.0000°, Azm10.0000°; N 0.2000, Plg5.0000°, Azm102.0000°; P -1.8600, Plg63.0000°, Azm203.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
NEIC ***13*** *02:36:41.3±1.6, 34°.64N±0°.07×25°.39E±0°.07, h40km±8km, mb4.3/44 Error ellipse: s-maj=10.7km s-min=7.5km az=217.0*
THE ***13*** *02:36:42.4, 34°.74N×25°.47E, h13km, ML3.7/8, Error ellipse: s-maj=1.0km s-min=0.4km az=8.0*
GII ***13*** *02:36:44.2±0.0, 34°.43N×26°.04E, h20km, mb4.2/8, MD4.0/9, Mm4.2/3*
NAO ***13*** *02:36:44.4, 35°.08N×24°.47E, h33km, mb3.7*
ISC 13 02:36:39.0±0.8, 34°.53N±0°.04×25°.49E±0°.02, h29km±5km, n372, σ1972/434, mb4.3/35, MS3.0/8, 17C-13D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.53**	**23**	P	**Pn**	**02 36 50.8**	**+0.2**
FRMA				S	**Sb**	**02 36 57.7**	**+0.5**
	7μm,0.3s						
FRMA	**Ierapetra Chan**	**0.53**	**23**	P	**Pn**	**02 36 50.8**	**+0.2**
FRMA				S	**Sn**	**02 36 58.0**	**-0.5**
FRMA				AML	AML	02 37 00.4	
	comp=N,39734μm,0.4s						
FRMA				AML	AML	02 37 02.8	
	comp=E,46587μm,0.4s						
TMBK	**Timbaki Herakl**	**0.81**	**313**	P	**Pn**	**02 36 54.7**	**+0.4**
ZKR	**Zakros**	**0.84**	**45**	Pg	**Pb**	**02 36 55.4**	**+0.4**
ZKR	**Zakros**	**0.84**	**45**	P	**Pb**	**02 36 55.5**	**+0.4**
ZKR				S	**Sn**	**02 37 06.7**	**+0.4**
	comp=E,9μm,0.4s						
ZKR	**Zakros**	**0.84**	**45**	P	**Pb**	**02 36 55.6**	**+0.5**
ZKR				S	**Sn**	**02 37 07.1**	**+0.7**
ZKR				AML	AML	02 37 11.2	
	comp=E,24728μm,0.4s						
ZKR				AML	AML	02 37 11.9	
	comp=N,9712μm,0.4s						
HRKL	**Herakleio**	**0.84**	**338**	P	**Pn**	**02 36 54.8**	**-0.1**
HRKL				S	**Sb**	**02 37 04.6**	**-1.5**
HRKL	**Herakleio**	**0.84**	**338**	P	**Pn**	**02 36 54.8**	**-0.1**
HRKL				S	**Sb**	**02 37 05.1**	**-1.0**
HRKL				AML	AML	02 37 14.0	
HRKL				AML	AML	02 37 18.1	
KSTL	**Kastelli Herak**	**0.85**	**336**	P	**Pn**	**02 36 52.0**	**-2.9**
KSTL				S	**Sb**	**02 37 00.4**	**-5.8**
KSTL				AML	AML	02 37 05.2	
	comp=N,41696μm,0.3s						
KSTL				AML	AML	02 37 05.3	
	comp=E,28563μm,0.3s						
IACM	**Heraklion**	**0.85**	**337**	P	**Pn**	**02 36 54.9**	**-0.1**
IACM				S	**Sb**	**02 37 04.7**	**-1.5**
IACM	**Heraklion**	**0.85**	**337**	P	**Pn**	**02 36 54.7**	**-0.3**
IACM				S	**Sb**	**02 37 04.9**	**-1.4**
IACM				AML	AML	02 37 13.2	
IACM				AML	AML	02 37 14.2	
IDI	**Anoyia**	**0.91**	**327**	⇓P	**Pn**	**02 36 55.4**	**-0.4**
IDI				⇑S	**Sb**	**02 37 07.4**	**-0.5**
IDI	**Anoyia**	**0.91**	**327**	Pg	**Pn**	**02 36 55.5**	**-0.3**
IDI	**Anoyia**	**0.91**	**327**	P	**Pn**	**02 36 55.6**	**-0.3**
IDI				S	**Sb**	**02 37 07.1**	**-0.8**
	comp=E,6μm,0.3s						
IDI	**Anoyia**	**0.91**	**327**	Pn	**Pn**	**02 36 55.0**	**-0.9**
IDI				Sn	**Sb**	**02 37 06.5**	**-1.4**
IDI	**Anoyia**	**0.91**	**327**	P	**Pn**	**02 36 55.4**	**-0.4**
IDI	**Anoyia**	**0.91**	**327**	Pg	**Pn**	**02 36 55.4**	**-0.4**
	comp=E,298nm,0.3s,baz=172,slow=10,SNR=1420						
IDI				Lg	Lg	02 37 06.1	
	comp=E,533nm,0.3s,baz=308,slow=22,SNR=14						
IDI	**Anoyia**	**0.91**	**327**	P	**Pn**	**02 36 55.4**	**-0.4**
IDI				S	**Sb**	**02 37 07.1**	**-0.8**
IDI				AML	AML	02 37 10.4	
	comp=E,13219μm,0.3s						
IDI				AML	AML	02 37 15.3	
	comp=N,12934μm,0.6s						
PRNS	**Prines Rethymn**	**1.16**	**316**	P	**Pb**	**02 37 01.1**	**+0.6**
PRNS				S	**Sb**	**02 37 16.1**	**+0.9**
	comp=N,3μm,0.5s						
GVD	**Gavdhos**	**1.19**	**286**	Pn	**Pb**	**02 37 01.7**	**+0.7**
GVD	**Gavdhos**	**1.19**	**286**	P	**Pb**	**02 37 01.9**	**+0.9**
GVD				S	**Sb**	**02 37 18.6**	**+2.6**
GVD	**Gavdhos**	**1.19**	**286**	P	**Pb**	**02 37 01.3**	**+0.4**
GVD				AML	AML	02 37 24.7	
	comp=N,13096μm,0.4s						
GVD				AML	AML	02 37 27.6	
	comp=E,19326μm,0.7s						
CHAN	**Chania**	**1.54**	**310**	P	**Pb**	**02 37 07.2**	**+0.3**
CHAN				AML	AML	02 37 35.3	
	comp=N,8224μm,0.7s						
CHAN				AML	AML	02 37 41.3	
	comp=E,7044μm,0.6s						
IMMV	**Iera Moni Meta**	**1.55**	**308**	Pn	**Pn**	**02 37 05.5**	**+0.9**
IMMV	**Iera Moni Meta**	**1.55**	**308**	P	**Pb**	**02 37 07.2**	**+0.2**
IMMV				S	**Sb**	**02 37 25.3**	**-0.9**
IMMV	**Iera Moni Meta**	**1.55**	**308**	P	**Pb**	**02 37 06.9**	**-0.1**
IMMV				AML	AML	02 37 32.8	
	comp=N,7154μm,0.4s						
IMMV				AML	AML	02 37 33.0	
	comp=E,8482μm,0.4s						
KARP	**Karpathos**	**1.71**	**53**	Pn	**Pn**	**02 37 08.3**	**+1.4**
KARP	**Karpathos**	**1.71**	**53**	P	**Pb**	**02 37 09.8**	**0.0**
KARP				S	**Sb**	**02 37 29.6**	**-1.3**
	comp=E,3μm,0.6s						
KARP	**Karpathos**	**1.71**	**53**	Pn	**Pb**	**02 37 10.1**	**+0.3**
KARP	**Karpathos**	**1.71**	**53**	P	**Pb**	**02 37 09.3**	**-0.5**
KARP	**Karpathos**	**1.71**	**53**	P	**Pb**	**02 37 09.8**	**0.0**
KARP				AML	AML	02 37 45.6	
	comp=E,4134μm,0.6s						
KARP				AML	AML	02 37 47.3	
	comp=N,5588μm,0.7s						
RODP	**Rodopos**	**1.75**	**307**	Pn	**Pn**	**02 37 08.9**	**+1.5**
RODP	**Rodopos**	**1.75**	**307**	P	**Pb**	**02 37 10.1**	**-0.4**
RODP				S	**Sn**	**02 37 30.2**	**+1.4**
THR6	**Thira Island,**	**1.83**	**358**	P	**Pn**	**02 37 09.3**	**+0.9**
THR9	**Santorini-Faro**	**1.83**	**357**	P	**Pn**	**02 37 09.6**	**+1.1**
SANT	**Santorini**	**1.84**	**359**	⇑P	**Pb**	**02 37 11.2**	**-0.8**
SANT				⇑S	**Sb**	**02 37 37.1**	**+2.4**
SANT	**Santorini**	**1.84**	**359**	Pn	**Pn**	**02 37 08.5**	**-0.2**
SANT	**Santorini**	**1.84**	**359**	P	**Pn**	**02 37 09.5**	**+0.8**
SANT				S	**Sn**	**02 37 30.2**	**-0.8**
	comp=N,2μm,0.4s						
SANT	**Santorini**	**1.84**	**359**	Pn	**Pn**	**02 37 09.2**	**+0.6**
SANT	**Santorini**	**1.84**	**359**	P	**Pn**	**02 37 09.1**	**+0.4**
SANT				S	**Sb**	**02 37 33.1**	**-1.6**
SANT	**Santorini**	**1.84**	**359**	P	**Pn**	**02 37 09.3**	**+0.6**
SANT				AML	AML	02 37 42.9	
	comp=E,5548μm,0.6s						
SANT				AML	AML	02 37 43.4	
	comp=N,2114μm,0.5s						
THR8	**Santorini-Mono**	**1.88**	**360**	P	**Pn**	**02 37 09.8**	**+0.7**
THR3	**Thira Island,**	**1.88**	**358**	P	**Pn**	**02 37 10.0**	**+0.8**
THT2	**Imerovigli**	**1.91**	**358**	P	**Pn**	**02 37 10.6**	**+1.1**
CMBO	**Columbo, Santo**	**1.94**	**358**	P	**Pn**	**02 37 10.8**	**+0.8**
CMBO				S	**Sn**	**02 37 32.9**	**-0.6**
CMBO	**Columbo, Santo**	**1.94**	**358**	P	**Pn**	**02 37 11.0**	**+1.0**
ANKY	**Antikythira Is**	**2.23**	**307**	P	**Pn**	**02 37 16.3**	**+2.3**
ANKY	**Antikythira Is**	**2.23**	**307**	P	**Pb**	**02 37 16.4**	**-2.2**
ANKY				AML	AML	02 37 55.7	
	comp=N,1508μm,0.5s						
ANKY				AML	AML	02 37 57.6	
	comp=E,2535μm,0.8s						
MHLO	**Agia Marina, M**	**2.33**	**338**	P	**Pn**	**02 37 16.4**	**+1.0**
MHLO				S	**Sn**	**02 37 42.3**	**-0.8**
MHLO	**Agia Marina, M**	**2.33**	**338**	P	**Pn**	**02 37 16.4**	**+1.0**
KOSK	**Kos Island**	**2.53**	**28**	Pn	**Pn**	**02 37 18.9**	**+0.8**
KOSK	**Kos Island**	**2.53**	**28**	P	**Pn**	**02 37 19.3**	**+1.2**
KOSK				S	**Sn**	**02 37 48.2**	**+0.2**
KOSK	**Kos Island**	**2.53**	**28**	P	**Pn**	**02 37 19.1**	**+1.0**
APE	**Apeiranthos**	**2.54**	**1**	⇑P	**Pn**	**02 37 19.0**	**+0.7**
APE	**Apeiranthos**	**2.54**	**1**	Pn	**Pn**	**02 37 18.4**	**+0.2**
APE	**Apeiranthos**	**2.54**	**1**	P	**Pn**	**02 37 18.5**	**+0.2**
APE				S	**Sn**	**02 37 47.7**	**-0.5**
APE	**Apeiranthos**	**2.54**	**1**	P	**Pn**	**02 37 18.8**	**+0.5**
KTHA	**Kythira Island**	**2.63**	**312**	Pn	**Pn**	**02 37 20.7**	**+1.2**
KTHA	**Kythira Island**	**2.63**	**312**	P	**Pn**	**02 37 20.5**	**+1.1**
KTHA				S	**Sn**	**02 37 51.4**	**+1.0**
	comp=E,740nm,0.6s						
KTHA	**Kythira Island**	**2.63**	**312**	P	**Pn**	**02 37 20.6**	**+1.1**
KTHA				AML	AML	02 38 09.4	
	comp=N,1293μm,0.4s						
KTHA				AML	AML	02 38 14.8	
	comp=E,1716μm,0.6s						
RFTD	**Palamutbuku-Ka**	**2.71**	**37**	Pn	**Pn**	**02 37 21.7**	**+1.2**
KLNA	**Kalymnos**	**2.71**	**26**	P	**Pn**	**02 37 21.8**	**+1.2**
ARG	**Arkhangelos**	**2.74**	**51**	Pn	**Pn**	**02 37 22.9**	**+1.9**
ARG	**Arkhangelos**	**2.74**	**51**	P	**Pn**	**02 37 23.4**	**+2.4**
ARG	**Arkhangelos**	**2.74**	**51**		**Pn**	**02 37 23.5**	**+2.5**
ARG	**Arkhangelos**	**2.74**	**51**	P	**Pn**	**02 37 23.7**	**+2.7**
ARG				AML	AML	02 38 11.7	
	comp=N,1598μm,0.8s						
ARG				AML	AML	02 38 16.0	
	comp=E,1195μm,0.7s						
DAT	**Datca**	**2.78**	**37**	Pn	**Pn**	**02 37 22.9**	**+1.2**
DAT	**Datca**	**2.78**	**37**	P	**Pn**	**02 37 23.4**	**+1.7**
DAT				S	**Sn**	**02 37 55.2**	**+0.9**
DAT	**Datca**	**2.78**	**37**	P	**Pn**	**02 37 23.1**	**+1.4**
RFTB	**Kemer-Bodrum**	**2.83**	**30**	Pn	**Pn**	**02 37 23.4**	**+1.1**
BODT	**Bodrum**	**2.93**	**30**	Pn	**Pn**	**02 37 24.6**	**+0.9**
BODT	**Bodrum**	**2.93**	**30**	P	**Pn**	**02 37 24.8**	**+1.1**
BODT	**Bodrum**	**2.93**	**30**	P	**Pn**	**02 37 24.8**	**+1.1**
BODT				S	**Sb**	**02 38 06.2**	**+0.2**
RFTC	**Emecik-Datca**	**2.94**	**40**	Pn	**Pn**	**02 37 25.1**	**+1.3**
BDRM	**Kayabasi**	**2.99**	**32**	P	**Pn**	**02 37 25.7**	**+1.2**
VLI	**Veliai**	**3.02**	**317**	P	**Pn**	**02 37 25.3**	**+0.5**
VLI				S	**Sn**	**02 38 00.9**	**+0.9**
	comp=E,348nm,0.6s						
VLI	**Veliai**	**3.02**	**317**	P	**Pn**	**02 37 25.2**	**+0.4**
RFTAA	**Mazikoy-Bodrum**	**3.08**	**36**	Pn	**Pn**	**02 37 26.9**	**+1.3**
TURN	**Turunc**	**3.18**	**44**	Pn	**Pn**	**02 37 28.7**	**+1.7**
TURN	**Turunc**	**3.18**	**44**	P	**Pn**	**02 37 28.8**	**+1.8**
TURN				S	**Sn**	**02 38 04.3**	**+0.4**
MLSB	**Milas**	**3.33**	**33**	Pn	**Pn**	**02 37 30.4**	**+1.2**
KRND	**KRANIDI**	**3.42**	**327**	P	**Pn**	**02 37 31.0**	**+0.7**
DALY	**Dalyan (Mula)**	**3.45**	**48**	Pn	**Pn**	**02 37 33.4**	**+2.7**
YER	**Yerkesik**	**3.46**	**40**	Pn	**Pn**	**02 37 33.0**	**+2.1**
YER	**Yerkesik**	**3.46**	**40**	P	**Pn**	**02 37 33.2**	**+2.3**
GCAM	**G?zelcaml?**	**3.47**	**24**	Pn	**Pn**	**02 37 32.0**	**+1.0**
GCAM	**G?zelcaml?**	**3.47**	**24**	P	**Pn**	**02 37 31.9**	**+0.9**
MULA	**Mugla, Merkez-**	**3.57**	**39**	P	**Pn**	**02 37 35.0**	**+2.6**
VLY	**Voula,Athens**	**3.59**	**338**	P	**Pn**	**02 37 33.5**	**+0.8**
IZZE	**Mula-Seydike**	**3.60**	**57**	P	**Pn**	**02 37 34.1**	**+1.3**
IZZE				S	**Sn**	**02 38 09.1**	**-5.2**
IZZE				*i* AML	AML	02 38 18.0	
	comp=E,277nm,0.4s						
IZZE				*i* AML	AML	02 38 18.0	
	comp=E,248nm,0.3s						
FETY	**Fethiye**	**3.61**	**53**	Pn	**Pn**	**02 37 34.6**	**+1.6**
AYDN	**Tasoluk**	**3.68**	**31**	P	**Pn**	**02 37 35.9**	**+1.9**
DGB	**zmir**	**3.70**	**17**	P	**Pn**	**02 37 35.1**	**+1.0**
DION	**Dionisos Attik**	**3.76**	**341**	P	**Pn**	**02 37 37.2**	**+2.2**
AKAS	**Kas**	**3.77**	**62**	Pn	**Pn**	**02 37 36.9**	**+1.6**
AKAS				Sn	**Sn**	**02 38 19.1**	**+0.3**
AKAS	**Kas**	**3.77**	**62**	Pn	**Pn**	**02 37 37.0**	**+1.7**
AKAS	**Kas**	**3.77**	**62**	P	**Pn**	**02 37 36.5**	**+1.2**
AKAS				S	**Sn**	**02 38 17.8**	**-1.1**
CHOS	**Chios island**	**3.88**	**7**	Pn	**Pn**	**02 37 37.6**	**+0.9**
CHOS	**Chios island**	**3.88**	**7**	P	**Pn**	**02 37 37.3**	**+0.6**
URLA	**Izmir**	**3.93**	**13**	Pn	**Pn**	**02 37 38.4**	**+1.0**
URLA	**Izmir**	**3.93**	**13**	P	**Pn**	**02 37 37.9**	**+0.5**
URLA				S	**Sb**	**02 38 35.1**	**+0.4**
CAME	**Cameli-Denizli**	**3.93**	**51**	Pn	**Pn**	**02 37 39.7**	**+2.2**
TAVA	**DENIZLI_Tavas**	**4.04**	**42**	P	**Pn**	**02 37 40.8**	**+1.9**
TAVA				S	**Sn**	**02 38 22.5**	**-2.9**
CAEL	**Denizli, Camel**	**4.05**	**49**	P	**Pn**	**02 37 41.5**	**+2.3**
DNIZ	**Denizli-Tavas-**	**4.22**	**42**	P	**Pn**	**02 37 43.6**	**+2.1**
DNIZ				S	**Sn**	**02 38 27.1**	**-2.8**
DNIZ				*i* AML	AML	02 38 36.0	
	comp=E,115nm,0.3s						
ELL	**Elmali**	**4.23**	**57**	Pn	**Pn**	**02 37 43.9**	**+2.3**
ELL	**Elmali**	**4.23**	**57**	Pn	**Pn**	**02 37 44.0**	**+2.3**
RFT5	**Foca**	**4.25**	**13**	Pn	**Pn**	**02 37 42.9**	**+1.2**
APMY	**Acipayam-Deniz**	**4.27**	**45**	Pn	**Pn**	**02 37 43.5**	**+1.4**
GOLH	**Golhisar**	**4.28**	**50**	P	**Pn**	**02 37 44.5**	**+2.3**
GOLH				S	**Sn**	**02 38 30.1**	**-1.1**
AKUM	**Antalya-Kumluc**	**4.35**	**64**	P	**Pn**	**02 37 44.8**	**+1.7**
AKUM				S	**Sn**	**02 38 28.8**	**-4.1**
RFT7	**Candarli**	**4.57**	**14**	Pn	**Pn**	**02 37 47.5**	**+1.4**
EAG1	**Polichnitos, L**	**4.59**	**7**	P	**Pn**	**02 37 47.4**	**+1.0**
KORT	**Korkueli**	**4.66**	**57**	P	**Pn**	**02 37 50.9**	**+3.4**
KORT				S	**Sn**	**02 38 40.5**	**-0.3**
MANT	**Manisa**	**4.67**	**31**	P	**Pn**	**02 37 49.4**	**+1.7**
DKL	**Dikili**	**4.68**	**14**	Pn	**Pn**	**02 37 49.1**	**+1.5**
SIGR	**SIGRI**	**4.69**	**4**	Pn	**Pn**	**02 37 48.6**	**+0.9**
KULA	**Kula-Manisa**	**4.73**	**32**	Pn	**Pn**	**02 37 50.4**	**+2.0**
BUCA	**Burdur, Bucak-**	**4.98**	**54**	P	**Pn**	**02 37 54.7**	**+2.9**
BUCA				S	**Sn**	**02 38 47.0**	**-1.4**
KOCA	**Canakkale, Ayv**	**5.00**	**6**	P	**Pn**	**02 37 52.6**	**+0.6**
RFT2	**Karaagac**	**5.01**	**12**	Pn	**Pn**	**02 37 53.3**	**+1.1**
RFT1	**Sazli**	**5.06**	**8**	Pn	**Pn**	**02 37 54.2**	**+1.4**
AGG	**Agios Georgios**	**5.15**	**331**	Pn	**Pn**	**02 37 55.9**	**+1.7**
AGG	**Agios Georgios**	**5.15**	**331**		**Pn**	**02 37 54.3**	**+0.1**
AGG	**Agios Georgios**	**5.15**	**331**	P	**Pn**	**02 37 55.0**	**+0.8**
AGG				S	**Sn**	**02 38 56.6**	**+3.9**
KZIL	**AFYON_Kizioren**	**5.29**	**44**	P	**Pn**	**02 37 57.3**	**+1.1**
SUTC	**Sutluce-Ispart**	**5.35**	**55**	P	**Pn**	**02 37 59.4**	**+2.3**
SUTC				S	**Sn**	**02 38 56.2**	**-1.5**
KEPZ	**Antalya-Kepez**	**5.51**	**63**	P	**Pn**	**02 38 01.1**	**+2.0**
KEPZ				S	**Sn**	**02 38 57.2**	**-4.4**
AFYO	**Afyonkarahisar**	**5.75**	**41**	P	**Pn**	**02 38 02.4**	**-0.1**
SEDI	**Konya, Seydise**	**5.86**	**58**	P	**Pn**	**02 38 06.6**	**+2.6**
SEDI				S	**Sn**	**02 39 11.4**	**+1.1**
ALN	**Alexandroupoli**	**6.38**	**4**		**Pn**	**02 38 11.8**	**+0.9**
CSS	**Mathiatis**	**6.47**	**84**	Pn	**Pn**	**02 38 12.8**	**+0.4**
CSS	**Mathiatis**	**6.47**	**84**	Pn	**Pn**	**02 38 12.4**	**+0.1**
CSS	**Mathiatis**	**6.47**	**84**	P	**Pn**	**02 38 12.9**	**+0.6**
RDO	**Rodhopi**	**6.61**	**0**	Pn	**Pn**	**02 38 15.3**	**+1.1**
BORA	**Eskisehir**	**6.65**	**35**	Pn	**Pn**	**02 38 15.9**	**+1.0**
KDZ	**Kurdzhali**	**7.09**	**359**	P	**Pn**	**02 38 22.0**	**+1.2**
MMB	**Musomishta**	**7.14**	**349**	P	**Pn**	**02 38 22.0**	**+0.5**
RZN	**Rozhen**	**7.18**	**356**	P	**Pn**	**02 38 23.0**	**+0.8**
SCTE	**Santa Cesarea**	**7.87**	**317**	Pn	**Pn**	**02 38 31.0**	**-0.4**
ANTO	**Ankara**	**7.90**	**45**	Pn	**Pn**	**02 38 33.7**	**+1.8**
OFRI	**`Ofer**	**8.15**	**101**	Pn	**Pn**	**02 38 35.4**	**0.0**
OFRI				Sn	**Sn**	**02 40 02.2**	**-4.4**
VTS	**Vitosha**	**8.27**	**348**	⇑P	**Pn**	**02 38 39.4**	**+2.3**
VTS	**Vitosha**	**8.27**	**348**	P	**Pn**	**02 38 38.0**	**+0.9**
SLTI	**Sal'it**	**8.31**	**103**	Pn	**Pn**	**02 38 37.1**	**-0.4**
SLTI				Sn	**Sn**	**02 40 06.2**	**-4.2**
BR131	**Keskin Array S**	**8.32**	**49**	Pn	**Pn**	**02 38 38.6**	**+0.8**
BRTR	**Keskin Array B**	**8.32**	**49**	Pn	**Pn**	**02 38 38.6**	**+0.8**
BRTR	**Keskin Array B**	**8.32**	**49**	Pn	**Pn**	**02 38 38.7**	**+0.8**
	comp=E,0.4nm,0.3s,baz=225,slow=15,SNR=15						
BRTR				Sn	**Sn**	**02 40 10.5**	**-0.4**
	baz=208,slow=26						
BRTR				LR	LR	02 42 40.6	
	comp=E,168nm,18.0s,baz=252,slow=44						
	comp=E,0.9nm,0.4s						
KZIT	**Kziot**	**8.33**	**113**	Pn	**Pn**	**02 38 37.3**	**-0.5**
KZIT				Sn	**Sn**	**02 40 07.2**	**-3.7**
MMA0B	**Mount Meron ar**	**8.39**	**98**	Pn	**Pn**	**02 38 39.2**	**+0.5**
MMAI	**Mount Meron Ar**	**8.39**	**98**	Pn	**Pn**	**02 38 38.6**	**-0.2**
	comp=E,15nm,0.3s,baz=286,slow=12,SNR=53						
MMAI				Sn	**Sn**	**02 40 08.7**	**-3.9**
	comp=E,10nm,0.3s,baz=288,slow=24,SNR=7.5						
	comp=E,7.1nm,0.3s						
AMAZ	**Amatzia**	**8.46**	**108**	Pn	**Pn**	**02 38 39.8**	**+0.2**
AMAZ				Sn	**Sn**	**02 40 10.0**	**-4.2**
SALP	**Salfit**	**8.49**	**104**	Pn	**Pn**	**02 38 39.5**	**-0.5**
MMLI	**Mount Malkishu**	**8.56**	**101**	Pn	**Pn**	**02 38 40.6**	**-0.3**
GEM	**Giv'at Ha'Em**	**8.57**	**96**	Pn	**Pn**	**02 38 40.7**	**-0.3**
GEM				Sn	**Sn**	**02 40 12.1**	**-4.6**
GEM	**Giv'at Ha'Em**	**8.57**	**96**	P	**Pn**	**02 38 41.1**	**+0.1**
SHBL	**Chebaa**	**8.61**	**95**	*e*P	**Pn**	**02 38 41.5**	**-0.2**
NATI	**Neve Ativ**	**8.62**	**96**	Pn	**Pn**	**02 38 41.2**	**-0.5**
NATI				Sn	**Sn**	**02 40 14.5**	**-3.4**
NATI	**Neve Ativ**	**8.62**	**96**	P	**Pn**	**02 38 42.1**	**+0.4**
HWQ	**Hawqa**	**8.65**	**89**	*e*P	**Pn**	**02 38 42.3**	**0.0**
RCY	**Rachaya**	**8.65**	**94**	*e*P	**Pn**	**02 38 41.8**	**-0.6**
YTIR	**Yattir**	**8.69**	**109**	Pn	**Pn**	**02 38 43.1**	**+0.3**
YTIR				Sn	**Sn**	**02 40 15.7**	**-4.1**
YTIR	**Yattir**	**8.69**	**109**	P	**Pn**	**02 38 43.5**	**+0.7**
HMDT	**Nahal Hemdat**	**8.70**	**102**	Pn	**Pn**	**02 38 42.9**	**+0.1**
HMDT				Sn	**Sn**	**02 40 15.9**	**-4.0**
HMDT	**Nahal Hemdat**	**8.70**	**102**	P	**Pn**	**02 38 43.1**	**+0.3**
QRNJ	**Al-Qirein**	**8.71**	**102**	P	**Pn**	**02 38 42.9**	**-0.1**
KSHT	**Keshet**	**8.73**	**97**	Pn	**Pn**	**02 38 44.0**	**+0.6**
UJAP	**Al Uja**	**8.74**	**104**	Pn	**Pn**	**02 38 43.5**	**+0.1**
UJAP				Sn	**Sn**	**02 40 17.4**	**-3.6**
UJAP	**Al Uja**	**8.74**	**104**	P	**Pn**	**02 38 44.1**	**+0.7**
RMNI	**Mount Ramon**	**8.75**	**114**	Pn	**Pn**	**02 38 44.7**	**+1.0**
SHMJ	**Saham**	**8.76**	**99**	P	**Pn**	**02 38 43.9**	**+0.2**
BEIL	**Beino**	**8.83**	**87**	*e*P	**Pn**	**02 38 44.3**	**-0.4**
LOZB	**Loznitsa**	**8.87**	**5**	⇑P	**Pn**	**02 38 44.5**	**-0.7**
MDBI	**Mazsada**	**8.89**	**108**	Pn	**Pn**	**02 38 45.3**	**-0.2**
MDBI				Sn	**Sn**	**02 40 19.7**	**-5.0**
MDBI	**Mazsada**	**8.89**	**108**	P	**Pn**	**02 38 46.0**	**+0.5**
MSBI	**Mazada**	**8.89**	**108**	Pn	**Pn**	**02 38 45.4**	**-0.1**
KRMI	**Paran Flat**	**8.97**	**117**	Pn	**Pn**	**02 38 46.8**	**+0.2**
KRMI				Sn	**Sn**	**02 40 21.9**	**-4.7**
KRMI	**Paran Flat**	**8.97**	**117**	P	**Pn**	**02 38 47.7**	**+1.1**
PRNI	**Paran**	**9.06**	**115**	Pn	**Pn**	**02 38 48.4**	**+0.6**
PRNI				Sn	**Sn**	**02 40 24.6**	**-4.2**
PRNI	**Paran**	**9.06**	**115**	P	**Pn**	**02 38 47.7**	**-0.1**
GHAJ	**Ghor Haditha**	**9.06**	**108**		**Pn**	**02 38 48.5**	**+0.7**
GHAJ	**Ghor Haditha**	**9.06**	**108**	Pn	**Pn**	**02 38 48.7**	**+0.9**
RAZG	**Razgrad**	**9.06**	**5**	⇑P	**Pn**	**02 38 48.5**	**+0.7**
ZFRI	**Zfri**	**9.09**	**113**	P	**Pn**	**02 38 47.7**	**-0.5**
WALJ	**Wala**	**9.16**	**106**	P	**Pn**	**02 38 49.8**	**+0.7**
KARJ	**KARJ**	**9.20**	**109**	P	**Pn**	**02 38 45.2**	**-4.6**
HRFI	**Mount Harif**	**9.24**	**116**	Pn	**Pn**	**02 38 51.3**	**+1.0**

CKRC Cesky Krumlov 16.52 333 *eP* **P 02 40 30.1 -0.7**
WATA Walderalm 16.53 325 *e*Pn **Pn 02 40 29.0 +0.3**
comp=Z,1.9nm,0.5s
SQTA Sankt Quirin 16.62 324 *e*Pn **Pn 02 40 30.1 +0.2**
comp=Z,2.6nm,0.5s
FETA Feichten 16.72 323 *i* Pn **Pn 02 40 32.3 +1.1**
comp=Z,4.4nm,0.9s
MOTA Moosalm 16.76 324 *i* Pn **P 02 40 33.0 -0.7**
comp=Z,1.3nm,0.5s
GERES GERESS Array B 16.77 332 Pn 02 40 32.5 +0.8
GERES GERESS Array B 16.77 332 Pn **Pn 02 40 31.3 -0.4**
comp=Z,0.6nm,0.3s,baz=147,slow=12,SNR=6.8
comp=Z,1.7nm,0.5s
DAVOX Davos/Dischmat 16.99 321 Pn **P 02 40 37.9 +1.6**
comp=Z,0.6nm,0.3s,baz=110,slow=7.8,SNR=8.7
DAVOX LR LR 02 48 03.1
comp=Z,31nm,20.5s,baz=102,slow=41
RETA Reutte 17.02 324 *e*Pn **P 02 40 37.1 +0.6**
comp=Z,2.2nm,0.5s
KHC Kasperske Hory 17.05 332 *e*P **P 02 40 36.3 -0.4**
KHC *ex* x 02 41 21.0
ZVC Zvikov 17.07 334 *e*P **Pn 02 40 35.7 +0.3**
TUE Stuetta 17.08 319 P **P 02 40 37.7 +0.4**
DPC Dobruska-Polom 17.18 340 *e*P **Pn 02 40 36.1 -0.7**
DAVA Damuels 17.33 322 *i* Pn **P 02 40 39.9 0.0**
comp=Z,4.9nm,0.9s
BNI Bardonecchia 17.83 312 Pn 02 40 45.0 0.0
SENIN Lac Senin/Sane 18.16 316 Pn 02 40 48.7 -0.4
SENIN IAmb IAmb 02 40 50.8
comp=Z,24nm,0.6s
BFO Black Forest 18.80 322 P **P 02 40 55.0 -1.0**
CLL Collm 19.06 335 *i* pP pP 02 41 08.6 +2.4
ECH Echery 19.33 321 P **P 02 41 01.0 -0.8**
WLF Walferdange 20.76 323 P **P 02 41 16.7 -0.6**
WLF IAmb IAmb 02 41 22.1
comp=Z,12nm,1.1s
WLF Walferdange 20.76 323 *d*P **P 02 41 16.9 -0.4**
IIGN Ignalina 20.83 1 *e*P **P 02 41 17.5 -0.5**
PABE Paberze 21.01 358 *e*P **P 02 41 17.5 -2.4**
ISAL Salakas 21.05 1 *e*P **P 02 41 19.6 -0.8**
BTNL Ternell 21.37 325 *d*P **P 02 41 24.2 +0.3**
MEM Membach 21.44 324 *d*P **P 02 41 24.8 +0.1**
MEM *dp*P **sP 02 41 35.5 -0.2**
BSTI Sart Tilman 21.64 324 *d*P **P 02 41 27.4 +0.7**
BCLA Clavier 21.66 323 *d*P **P 02 41 26.6 -0.4**
BGES Gesves 21.75 323 *d*P **P 02 41 27.7 -0.2**
DOU Dourbes 21.82 322 *d*P **P 02 41 28.0 -0.6**
BSD Bornholm Skovb 21.86 344 *e*P **P 02 41 25.8 -3.3**
BSD Bornholm Skovb 21.86 344 *e* **P 02 41 25.7 -3.3**
CLF Chambon-Foret 21.95 315 P **P 02 41 29.6 -0.5**
CLF IAmb IAmb 02 41 33.0
comp=Z,21nm,1.2s
BLEU Blekinge 22.77 346 *e*P **P 02 41 33.8 -5.0**
SLIT Slitere, Latvi 23.21 356 *e*P **P 02 41 41.8 -1.5**
DEL Delary 23.34 344 *e*P **P 02 41 41.2 -3.4**
DEL Delary 23.34 344 *i* P **P 02 41 41.0 -3.6**
VSU Vasula 23.96 2 *e*P **P 02 41 49.0 -1.5**
ESBB Sonseca Array 23.98 291 P **P 02 41 51.2 +0.1**
ESDC Sonseca Array 23.98 291 P **P 02 41 50.9 -0.2**
ESDC Sonseca Array 23.98 291 P **P 02 41 51.1 0.0**
comp=Z,1.4nm,0.6s,baz=79,slow=9.4,SNR=24
comp=Z,1.4nm,0.6s
MTSE Matsula 24.22 358 *e*P **P 02 41 51.1 -1.8**
PAB San Pablo 24.28 291 P **P 02 41 53.9 +0.1**
BORU Boraas 24.66 344 *i* P **P 02 41 54.7 -2.2**
VIKU Vikbolandet 24.69 349 *e*P **P 02 41 55.0 -2.3**
MEF Metsahovi 25.71 359 *e*P **P 02 42 05.8 -0.6**
AAL Aland 25.91 354 *e*P **P 02 42 06.7 -1.6**
PBAR Barrancos 26.37 287 *e*P **P 02 42 13.2 +0.5**
comp=Z,17nm,1.7s
MVO Moncorvo 26.41 294 *e*P **P 02 42 13.6 +0.5**
comp=Z,19nm,2.0s
GEYT Alibeck 26.47 73 P **P 02 42 15.7 +2.1**
GEYT IAmb IAmb 02 42 30.8
comp=Z,5.6nm,1.1s
GEYT Alibeck 26.47 73 P **P 02 42 14.3 +0.7**
comp=Z,2.3nm,0.4s,baz=265,slow=11,SNR=9.0
comp=Z,2.3nm,0.4s
RAF Rauma 26.62 356 *e*P **P 02 42 12.5 -2.2**
PMRV Marv??o 26.63 290 *e*P **P 02 42 15.1 +0.1**
HFS Hagfors 26.75 347 P **P 02 42 14.0 -1.8**
comp=Z,1.2nm,0.4s,baz=156,slow=11,SNR=1.7
HFS LR LR 02 53 45.2
comp=Z,48nm,20.2s,baz=86,slow=39
comp=Z,1.2nm,0.4s
FINES FINESS Array B 26.94 1 P **P 02 42 15.2 -2.3**
comp=Z,3.0nm,0.3s,baz=160,slow=11,SNR=61
FINES PcP **PcP 02 45 39.3 +0.5**
comp=Z,2.9nm,0.8s,baz=214,slow=0.5,SNR=4.7
FINES LR LR 02 53 30.3
comp=Z,49nm,18.5s,baz=113,slow=38
comp=Z,3.0nm,0.3s
PVAQ Vaqueiros 26.95 286 P **P 02 42 17.8 -0.1**
PVAQ IAmb IAmb 02 42 27.1
comp=Z,17nm,1.5s
KONO Kongsberg 27.22 342 *e*P **P 02 42 19.5 -0.5**
NC602 NORSAR Array S 27.73 345 P **P 02 42 22.5 -2.2**
NC602 NORSAR Array S 27.73 345 *e*P **P 02 42 22.8 -1.9**
PFVI Vila Bisbo 27.85 285 P **P 02 42 26.0 0.0**
KLMR Klimovskoe 27.86 15 *e*P **P 02 42 22.7 -3.1**
KLMR AMP 02 42 24.7
comp=Z,18nm,1.1s
NB2 NORSAR Subarra 28.08 345 P **P 02 42 25.7 -2.1**
comp=Z,0.7nm,0.5s,baz=156,slow=9.3
NB2 NORSAR Subarra 28.08 345 P **P 02 42 25.7 -2.1**
baz=156,slow=9.3
NOA NORSAR Array B 28.08 345 P **P 02 42 25.2 -2.7**
comp=Z,0.4nm,0.6s,baz=78,slow=7.9,SNR=6.1
NOA LR LR 02 53 49.4
comp=Z,23nm,19.2s,baz=305,slow=37
comp=Z,0.4nm,0.6s
UOSS Minazif 28.24 101 P **P 02 42 31.3 +1.8**
UOSS IAmb IAmb 02 42 46.5
comp=Z,6.6nm,1.1s
EKA Eskdalemuir Ar 28.71 325 P **P 02 42 32.4 -1.0**
comp=Z,0.9nm,0.4s,baz=114,slow=11,SNR=6.0
comp=Z,0.9nm,0.4s
ESK Eskdalemuir 28.73 325 P **P 02 42 32.2 -1.4**
KIRV Kirov 28.85 26 LR LR 02 53 32.7
comp=Z,23nm,18.9s,baz=352,slow=35
ABKAR Akbulak array 29.28 49 P **P 02 42 38.8 +0.2**
ABKAR Akbulak array 29.28 49 P **P 02 42 39.0 +0.5**
TOA0 Torodi Ar. Sit 30.29 231 P **P 02 42 49.0 +1.1**
TOA0 IAmb IAmb 02 43 01.5
comp=Z,3.7nm,0.8s
TORD Torodi Ar. Bea 30.29 231 P **P 02 42 49.2 +1.3**
TORD Torodi Ar. Bea 30.29 231 P **P 02 42 49.8 +2.0**
comp=Z,0.6nm,0.3s,baz=34,slow=8.6,SNR=20
comp=Z,0.6nm,0.3s
NSS Namsos 31.15 349 *e*P **P 02 42 53.6 -1.2**
MOR8 Moi Rana 32.35 352 *e*P **P 02 43 04.4 -1.1**
KONS Konsvik 32.83 351 *e*P **P 02 43 07.9 -1.7**
KOWA Kowa 33.24 240 P **P 02 43 15.1 +1.3**
KOWA IAmb IAmb 02 43 42.4
comp=Z,4.2nm,1.2s
FAUS Fauske 33.43 353 *e*P **P 02 43 13.1 -1.7**
STEI Steigen 33.96 353 *e*P **P 02 43 17.5 -2.0**
KTK1 Kautokeino 34.56 359 *e*P **P 02 43 22.9 -1.8**
ARA0 ARCESS Array S 35.06 0 *e*P **P 02 43 27.1 -1.9**
ARCES ARCESS Array B 35.06 0 P **P 02 43 26.7 -2.3**
ARCES IAmb IAmb 02 43 38.2
comp=Z,6.7nm,1.1s
ARCES ARCESS Array B 35.06 0 P **P 02 43 26.4 -2.6**
comp=Z,1.0nm,0.4s,baz=174,slow=9.6,SNR=26
ARCES PcP **PcP 02 46 00.5 +0.3**
comp=Z,0.3nm,0.3s,baz=198,slow=4.0,SNR=6.5
ARCES LR LR 02 57 19.2
comp=Z,26nm,20.1s,baz=80,slow=36
comp=Z,1.0nm,0.4s
JETT Jettan, Norway 35.20 357 *e*P **P 02 43 27.7 -2.5**
KEV Kevo 35.29 1 P **P 02 43 29.5 -1.4**
KEV IAmb IAmb 02 43 48.4
comp=Z,9.0nm,1.0s
TRO Tromso 35.35 356 *e*P **P 02 43 29.1 -2.3**
VADS Vadso 35.72 2 *e*P **P 02 43 33.0 -1.5**
KK31 Karatay Array 35.75 62 P **P 02 43 36.0 +0.7**
KK31 IAmb IAmb 02 43 37.4
comp=Z,2.2nm,0.6s
KKAR Karatay Array 35.75 62 P **P 02 43 35.8 +0.5**
KKAR IAmb IAmb 02 43 37.4
comp=Z,2.2nm,0.6s
KKAR Karatay Array 35.75 62 P **P 02 43 35.9 +0.6**
BVAR Borovoye Array 36.59 46 LR LR 03 01 47.0
comp=Z,22nm,19.0s,baz=269,slow=41
AAK Ala-Archa 38.70 63 P **P 02 44 01.6 +1.2**
AAK IAmb IAmb 02 44 03.1
comp=Z,6.8nm,1.4s
KURBB Kurchatov Arra 41.31 50 P **P 02 44 22.6 +0.7**
comp=Z,3.4nm,0.5s,baz=269,slow=8.3,SNR=31
comp=Z,3.4nm,0.5s
MAKZ Makanchi 43.69 56 P **P 02 44 40.8 -0.4**
MAKZ IAmb IAmb 02 44 59.5
comp=Z,3.2nm,0.9s
MK31 Makanchi Array 43.90 56 P **P 02 44 43.4 +0.4**
MK31 IAmb IAmb 02 44 58.2
comp=Z,2.8nm,0.8s
MKAR Makanchi Array 43.90 56 P **P 02 44 43.4 +0.5**
MKAR Makanchi Array 43.90 56 P **P 02 44 44.0 +1.0**
comp=Z,2.3nm,0.4s,baz=269,slow=8.1,SNR=25
comp=Z,2.3nm,0.4s
SPITS Spitsbergen Ar 43.93 357 P **P 02 44 41.7 -1.0**
comp=Z,8.2nm,0.9s,baz=156,slow=7.3,SNR=6.2
comp=Z,8.2nm,0.9s
KBS Kingsbay 44.87 356 P **P 02 44 49.0 -1.2**
ZALV Zalesovo Beam 45.25 46 P **P 02 44 53.4 -0.2**
comp=Z,5.5nm,0.4s,baz=269,slow=8.3,SNR=18
comp=Z,5.5nm,0.4s
WMQ Urumqi 48.09 59 *e*P **P 02 45 18.8 +2.7**
PYUN Piuthan 48.99 81 *e*P **P 02 45 23.9 +0.6**
comp=Z,18nm,0.5s
DANN Dangsing 49.52 80 *e*P **P 02 45 29.0 +1.5**
comp=Z,47nm,0.7s
SUMG Summit 49.66 339 P **P 02 45 27.7 -0.4**
SUMG Summit 49.66 339 *i* P **P 02 45 27.0 -1.1**
GKN Gorkha 50.37 80 *e*P **P 02 45 34.0 +0.2**
comp=Z,16nm,0.5s
GUN Gumba 51.41 80 *e*P **P 02 45 42.7 +0.8**
comp=Z,17nm,0.5s
JIRN Jiri 51.77 80 *e*P **P 02 45 44.0 -0.5**
comp=Z,9.3nm,0.4s
ILULI Ilulissat 53.46 334 P **P 02 45 55.7 -0.3**
TSUM Tsumeb 53.95 189 LR LR 03 12 52.5
comp=Z,42nm,18.5s,baz=349,slow=40
SONM Songino Array 59.68 50 P **P 02 46 41.4 +0.6**
SONM Songino Array 59.68 50 P **P 02 46 41.8 +1.0**
comp=Z,1.2nm,0.4s,baz=287,slow=8.0,SNR=9.6
comp=Z,1.2nm,0.4s
EUNU Eureka 59.86 349 P **P 02 46 40.9 -0.5**
EUNU IAmb IAmb 02 46 47.9
comp=Z,9.6nm,1.4s
FRB Frobisher Bay 61.35 330 P **P 02 46 51.9 +0.2**
comp=Z,8.3nm,0.7s,baz=73,slow=6.7,SNR=5.5
comp=Z,8.3nm,0.7s
BOSA Boshof 62.80 180 P **P 02 47 04.0 +2.1**
BOSA Boshof 62.80 180 P **P 02 47 04.7 +2.8**
comp=Z,0.7nm,0.3s,baz=11,slow=5.0,SNR=7.8
BOSA LR LR 03 18 13.2
comp=Z,31nm,19.2s,baz=104,slow=40
comp=Z,0.7nm,0.3s
SCHQ Schefferville 63.84 320 P **P 02 47 08.0 -0.5**
SCHQ Schefferville 63.84 320 P **P 02 47 08.2 -0.4**
comp=Z,4.0nm,0.4s,baz=64,slow=5.2,SNR=17
comp=Z,4.0nm,0.4s
RES Resolute Bay 64.35 345 P **P 02 47 10.9 -0.5**
comp=Z,1.6nm,0.8s,baz=27,slow=6.8,SNR=1.5
comp=Z,1.6nm,0.8s
PZH PanZhiHua 64.78 74 P **P 02 47 18.5 +3.3**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,150nm,5.7s
CMAR Chiang Mai Arr 66.38 83 P **P 02 47 26.7 +1.2**
comp=Z,0.6nm,0.3s,baz=292,slow=7.4,SNR=4.1
comp=Z,0.6nm,0.3s
MVL Millersville 76.64 309 P **P 02 48 26.1 -0.9**
USRK Ussuriysk Ar. 77.10 45 P **P 02 48 29.5 -0.1**
comp=Z,1.3nm,0.5s,baz=299,slow=5.9,SNR=4.5
comp=Z,1.3nm,0.5s
M29M Somme Creek 82.50 353 P **P 02 48 58.0 -0.7**
M29M IAmb IAmb 02 49 00.8
comp=Z,10nm,1.3s
WRA Warramunga Arr 116.25 97 PKP **PKiKP 02 55 20.2 +0.3**
comp=Z,0.2nm,0.6s,baz=317,slow=1.8,SNR=5.3
ASAR Alice Springs 117.67 101 PKP **PKiKP 02 55 23.1 +0.5**
comp=Z,0.2nm,0.4s,baz=318,slow=1.2,SNR=2.0
QSPA South Pole Qui 124.38 180 PKP **PKiKP 02 55 34.8 +0.2**
comp=Z,0.6nm,0.6s,baz=202,slow=5.4,SNR=5.1

*ATH **13** 02:37:25.8, 40.°05N×20.°33E, h13km±4km, ML2.2/5, Error ellipse: s-maj=5.0km s-min=0.9km az=169.0*
*TIR **13** 02:37:25.1, 40.°03N×20.°36E, h5km±5km, Md2.6, Ml2.5*
*THE **13** 02:37:25.8, 40.°02N×20.°36E, h15km±1km, ML2.1/6, Error ellipse: s-maj=1.6km s-min=0.4km az=138.0*
ISC 13 02:37:25.9±0.9, 40.°02N±0.°03×20.°36E±0.°02, h15km±8km, n24, σ0°53/43, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSK	**Leskovik**	**0.23**	**54**	P	**Pg**	**P**	**02 37 30.6**	**-0.5**
LSK				S	**Sg**	**S**	**02 37 34.6**	**+0.1**
895nm,0.3s								
LSK	**Leskovik**	**0.23**	**54**	P	**Pg**	**P**	**02 37 31.0**	**-0.1**
baz=56								
LSK				S	**Sg**	**S**	**02 37 34.9**	**+0.4**
baz=56								
LSK				AMP				
comp=E,3.8nm,0.4s,baz=56								
SRN	**Sarande**	**0.31**	**243**	P	**Pg**	**P**	**02 37 32.1**	**-0.3**
SRN				S	**Sg**	**S**	**02 37 37.3**	**+0.5**
comp=E,355nm,0.2s								
SRN	**Sarande**	**0.31**	**243**	P	**Pg**	**P**	**02 37 32.2**	**-0.2**
baz=243								
SRN				S	**Sb**	**S**	**02 37 38.2**	**+0.2**
baz=243								
SRN				AMP				
comp=N,8μm,0.1s,baz=243								
KASA	**Kassiopi**	**0.43**	**230**	P	**Pg**	**P**	**02 37 34.1**	**-0.4**
KASA				S	**Sg**	**S**	**02 37 40.4**	**+0.1**
IGT	**Igoumenitsa**	**0.49**	**183**	P	**Pg**	**P**	**02 37 35.4**	**-0.2**
IGT				S	**Sb**	**S**	**02 37 43.0**	**-0.1**
comp=N,218nm,0.4s								
IGT	**Igoumenitsa**	**0.49**	**183**	P	**Pg**	**P**	**02 37 35.5**	**-0.2**
baz=183								
IGT				S	**Sb**	**S**	**02 37 43.6**	**+0.5**
baz=183								
IGT	**Igoumenitsa**	**0.49**	**183**	P	**Pg**	**P**	**02 37 35.4**	**-0.2**
IGT				S	**Sb**	**S**	**02 37 43.9**	**+0.8**
IGT				AML	AML	AML	02 37 46.3	
comp=N,550μm,0.5s								
IGT				AML	AML	AML	02 37 47.3	
comp=E,323μm,0.3s								
JAN	**Janina**	**0.52**	**134**	P	**Pg**	**P**	**02 37 35.8**	**-0.5**
JAN				S	**Sb**	**S**	**02 37 43.8**	**-0.4**
JAN	**Janina**	**0.52**	**134**	P	**Pg**	**P**	**02 37 36.1**	**-0.2**
JAN				S	**Sb**	**S**	**02 37 44.5**	**+0.3**
JAN				AML	AML	AML	02 37 46.2	
comp=E,2200μm,0.6s								
JAN				AML	AML	AML	02 37 46.3	
comp=N,1311μm,0.4s								
KEK	**Kerkira**	**0.53**	**235**	P	**Pg**	**P**	**02 37 35.3**	**-1.1**
KEK				S	**Sb**	**S**	**02 37 44.4**	**0.0**
comp=N,325nm,0.3s								
KEK	**Kerkira**	**0.53**	**235**	P	**Pg**	**P**	**02 37 35.5**	**-1.0**
KEK				S	**Sg**	**S**	**02 37 43.7**	**+0.1**
KEK				AML	AML	AML	02 37 46.9	
comp=N,744μm,0.3s								
KEK				AML	AML	AML	02 37 47.3	
comp=E,559μm,0.3s								
PENT	**Pentalofos**	**0.62**	**73**	P	**Pg**	**P**	**02 37 38.0**	**-0.2**
PENT				S	**Sb**	**S**	**02 37 46.9**	**-0.2**
PENT	**Pentalofos**	**0.62**	**73**	P	**Pg**	**P**	**02 37 38.0**	**-0.2**
NEST	**Nestorio**	**0.66**	**53**	P	**Pg**	**P**	**02 37 38.6**	**-0.3**
NEST				S	**Sb**	**S**	**02 37 48.5**	**+0.3**
NEST	**Nestorio**	**0.66**	**53**	P	**Pg**	**P**	**02 37 38.9**	**0.0**
NEST				S	**Sg**	**S**	**02 37 47.7**	**+0.1**
NEST				AML	AML	AML	02 37 50.9	
comp=N,310μm,0.3s								
NEST				AML	AML	AML	02 37 51.4	
comp=E,552μm,0.5s								
KBN	**Korca**	**0.69**	**28**	P	**Pg**	**P**	**02 37 38.1**	**-1.3**
KBN				S	**Sb**	**S**	**02 37 49.1**	**+0.1**
comp=E,95nm,0.5s								
KBN	**Korca**	**0.69**	**28**	P	**Pg**	**P**	**02 37 38.1**	**-1.3**
baz=28								
KPRO	**Kipourio**	**0.77**	**94**	P	**Pg**	**P**	**02 37 40.5**	**-0.5**
KPRO				S	**Sb**	**S**	**02 37 51.7**	**+0.3**
comp=E,198nm,0.4s								
KPRO	**Kipourio**	**0.77**	**94**	P	**Pg**	**P**	**02 37 40.4**	**-0.6**
KPRO				S	**Sb**	**S**	**02 37 52.3**	**+0.9**
KPRO				AML	AML	AML	02 37 54.8	
comp=E,442μm,0.4s								
KPRO				AML	AML	AML	02 37 57.0	
comp=N,296μm,0.7s								
VLO	**Vlora**	**0.80**	**304**	P	**Pg**	**P**	**02 37 41.1**	**-0.4**
VLO				S	**Sb**	**S**	**02 37 53.1**	**+1.0**
FNA	**Florina**	**1.09**	**45**	P	**Pb**	**P**	**02 37 46.2**	**-0.3**
OHR	**Ohrid**	**1.14**	**17**	*i* Pn	**Pg**	**P**	**02 37 48.3**	**+0.4**
TIR	**Tirane**	**1.38**	**344**	P	**Pb**	**P**	**02 37 51.7**	**+0.3**
baz=345								

*IDC **13** 02:49:39.5±14.0, 36.°56N×70.°56E, h228km±173km, mb3.1/2, mbtmp3.5/4, Error ellipse: s-maj=268.6km s-min=71.9km az=132.0*
ISC 13 02:49:43.2±3.6, 37.°0N±0.°2×70.°7E±0.°3, h200km, n6, σ0°69/7, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.60**	**23**	⇑Pn		**Pn**	**02 51 04.8**	**-0.9**
3.5nm,0.6s								
AML				⇓Sn		**Sn**	**02 52 10.9**	**+0.1**
3.2nm,0.5s								
KK31	**Karatay Array**	**6.08**	**359**	⇓Pn		**Pn**	**02 51 11.2**	**-0.3**
2.7nm,0.3s,baz=183,slow=16,SNR=45								
KK31				⇑Sn		**Sn**	**02 52 21.6**	**+0.2**
3.4nm,0.3s,baz=188,slow=22,SNR=11								
MKAR	**Makanchi Array**	**13.01**	**38**	P		**Pn**	**02 52 41.4**	**+0.7**
0.8nm,0.7s,baz=221,slow=11,SNR=4.3								
KURBB	**Kurchatov Arra**	**14.71**	**20**	P		**P**	**02 53 02.6**	**-0.1**
0.1nm,0.4s,baz=215,slow=13,SNR=1.5								
ZALV	**Zalesovo Beam**	**19.54**	**25**	P		**P**	**02 53 54.7**	**-0.7**
1.2nm,0.3s,baz=224,slow=12,SNR=5.3								
1.2nm,0.3s								
TORD	**Torodi Ar. Bea**	**65.50**	**268**	P		P	02 59 57.8	-7.6
0.5nm,0.7s,baz=51,slow=6.0,SNR=5.0								
0.5nm,0.7s								

*CNRM **13** 02:59:10.8, 36.°44N×12.°88W, h71km*
*MDD **13** 02:59:11.3±1.0, 36.°83N×12.°66W, h0km, Mb4.1/8, M_mb3.4/8, Error ellipse: s-maj=8.1km s-min=6.8km az=46.0*
*IGIL **13** 02:59:12.4, 36.°79N×12.°69W, h10km, ML2.1*
*INMG **13** 02:59:13.1±1.1, 36.°66N×13.°02W, h28km, ML2.4, Error ellipse: s-maj=5.2km s-min=3.4km az=88.0*
ISC 13 02:59:08.1±2.7, 36.°72N±0.°06×12.°7W±0.°1, h10km, n63, σ2°19/114, 9C-1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.16**	**81**	*e*P		**Pn**	**02 59 59.7**	**+1.9**
PFVI				*e*S		**Sn**	**03 00 35.3**	**-0.3**
PFVI				A		A	03 00 37.0	
7.9nm,0.3s								
PFVI	**Vila Bisbo**	**3.16**	**81**	P		**Pn**	**02 59 59.7**	**+1.9**
PFVI				S		**Sn**	**03 00 39.2**	**+3.7**
PFVI	**Vila Bisbo**	**3.16**	**81**	Sn		**Sn**	**03 00 35.3**	**-0.3**
PFVI				Pn		**Pn**	**02 59 59.7**	**+1.9**
PTEO	**Sao Teotonio**	**3.31**	**74**	*e*P		**Pn**	**03 00 02.4**	**+2.5**
PTEO				*e*S		**Sn**	**03 00 39.5**	**+0.2**
PTEO				A		A	03 00 41.0	
6.4nm,0.5s								
MORF	**Marmelete**	**3.32**	**79**	*e*P		**Pn**	**03 00 02.4**	**+2.3**
MORF				*e*S		**Sn**	**03 00 39.5**	**-0.1**
MORF				A		A	03 00 42.1	
7.2nm,0.3s								
MORF	**Marmelete**	**3.32**	**79**	*e*P		**Pn**	**03 00 02.2**	**+2.1**
MORF				*e*S		**Sn**	**03 00 38.4**	**-1.2**
MORF				IAML			03 00 40.0	
comp=E,6.5nm,0.1s								
PMAFR	**Mafra**	**3.52**	**50**	⇓*e*P		**Pn**	**03 00 04.9**	**+2.0**
PMAFR				*e*S		**Sn**	**03 00 44.9**	**+0.2**
PMAFR				A		A	03 00 50.9	
comp=E,11nm,0.1s								
PMAFR	**Mafra**	**3.52**	**50**	Sn		**Sn**	**03 00 44.5**	**-0.1**
PMAFR				Pn		**Pn**	**03 00 04.7**	**+1.8**
PNCL	**Nicolau / Gran**	**3.62**	**66**	*e*P		**Pn**	**03 00 06.6**	**+2.4**
PNCL				*e*S		**Sn**	**03 00 46.7**	**-0.3**
PNCL				A		A	03 00 51.7	
comp=E,4.7nm,0.1s								
PNCL	**Nicolau / Gran**	**3.62**	**66**	Sn		**Sn**	**03 00 46.2**	**-0.9**
PNCL				Pn		**Pn**	**03 00 06.0**	**+1.7**
PCVE	**Castro Verde**	**3.86**	**75**	*e*P		**Pn**	**03 00 10.3**	**+2.8**
PCVE				*e*S		**Sn**	**03 00 52.5**	**-0.3**
PCVE				A		A	03 00 54.0	
comp=E,3.2nm,0.3s								
PCVE	**Castro Verde**	**3.86**	**75**	Pn		**Pn**	**03 00 09.9**	**+2.4**
PBDV	**Barranco-do-Ve**	**3.88**	**81**	*e*P		**Pn**	**03 00 10.2**	**+2.4**
PBDV				*e*S		**Sn**	**03 00 54.2**	**+0.8**
PBDV				A		A	03 00 59.4	
comp=E,3.6nm,0.4s								
PVAQ	**Vaqueiros**	**4.07**	**79**	*e*P		**Pn**	**03 00 12.9**	**+2.5**
PVAQ				*e*S		**Sn**	**03 00 57.8**	**-0.3**
PVAQ				A		A	03 01 03.4	
comp=E,4.9nm,0.1s								
PVAQ	**Vaqueiros**	**4.07**	**79**	P		**Pn**	**03 00 12.7**	**+2.3**
PVAQ				S		**Sn**	**03 01 03.0**	**+4.9**
PVAQ	**Vaqueiros**	**4.07**	**79**	Sn		**Sn**	**03 00 56.6**	**-1.4**
PVAQ				Pn		**Pn**	**03 00 12.7**	**+2.3**
PBEJ	**Beja**	**4.09**	**70**	*e*P		**Pn**	**03 00 12.4**	**+1.7**
PBEJ				*e*S		**Sn**	**03 00 58.0**	**-0.6**
PBEJ				A		A	03 01 00.8	
comp=E,3.1nm,0.4s								
EVO	**Evora**	**4.16**	**63**	*e*P		**Pn**	**03 00 12.9**	**+1.3**
EVO				*e*S		**Sn**	**03 00 59.2**	**-1.1**
EVO				A		A	03 01 02.6	
comp=E,7.4nm,0.1s								
EVO	**Evora**	**4.16**	**63**	Pn		**Pn**	**03 00 12.6**	**+1.0**
EVO				Sn		**Sn**	**03 00 58.2**	**-2.1**
PSBE	**So Bento**	**4.17**	**47**	*e*P		**Pn**	**03 00 14.1**	**+2.3**
PSBE				*e*S		**Sn**	**03 01 00.8**	**+0.2**
PSBE				A		A	03 01 04.8	
comp=E,6.1nm,0.9s								
PMTG	**Montargil**	**4.26**	**55**	⇑*e*P		**Pn**	**03 00 14.6**	**+1.5**
PMTG				*e*S		**Sn**	**03 01 02.2**	**-0.7**
PMTG				A		A	03 01 08.7	
comp=E,3.5nm,0.1s								
EGRO	**El Granado**	**4.27**	**78**	Pn		**Pn**	**03 00 16.1**	**+3.0**
EGRO				⇑*i*Vmb_V			03 00 25.3	
comp=E,148nm,SNR=1.8								
EGRO				Sn		**Sn**	**03 01 01.8**	**-1.3**
EGRO	**El Granado**	**4.27**	**78**	Pn		**Pn**	**03 00 15.5**	**+2.4**
EGRO				Sn		**Sn**	**03 01 00.4**	**-2.6**
PESTR	**Estremoz**	**4.60**	**61**	*e*P		**Pn**	**03 00 20.3**	**+2.6**
PESTR				*e*S		**Sn**	**03 01 09.4**	**-1.8**
PESTR				A		A	03 01 13.8	
comp=E,1.7nm,0.1s								
PESTR	**Estremoz**	**4.60**	**61**	P		**Pn**	**03 00 20.7**	**+3.0**
PESTR				S		**Sn**	**03 01 16.4**	**+5.2**
PESTR	**Estremoz**	**4.60**	**61**	Pn		**Pn**	**03 00 19.3**	**+1.6**
PESTR				Sn		**Sn**	**03 01 09.7**	**-1.5**
PCAS	**Casmilo, Conde**	**4.70**	**44**	*e*P		**Pn**	**03 00 21.1**	**+2.0**
PCAS				*e*S		**Sn**	**03 01 12.2**	**-1.5**
PCAS				A		A	03 01 20.4	
comp=E,3.0nm,0.8s								
PBAR	**Barrancos**	**4.76**	**71**	*e*P		**Pn**	**03 00 22.5**	**+2.7**
PBAR				*e*S		**Sn**	**03 01 14.0**	**-1.0**
PBAR				A		A	03 01 19.8	
comp=E,2.1nm,0.2s								
PBAR	**Barrancos**	**4.76**	**71**	Pn		**Pn**	**03 00 22.1**	**+2.3**
EMIN	**Mina Concepcio**	**4.95**	**76**	Pn		**Pn**	**03 00 24.3**	**+1.8**
EMIN				Sn		**Sn**	**03 01 18.5**	**-1.2**
EBAD	**Badajoz**	**4.97**	**64**	Pn		**Pn**	**03 00 24.4**	**+1.7**
EBAD				⇑*i*Vmb_V			03 00 31.2	
comp=E,144nm,SNR=2.7								
EBAD				Sn		**Sn**	**03 01 18.2**	**-2.0**
EBAD	**Badajoz**	**4.97**	**64**	Pn		**Pn**	**03 00 24.5**	**+1.7**
EBAD				Sn		**Sn**	**03 01 18.0**	**-2.2**
**PMRV

MTE				*e*S	Sn	03 01 31.0	-1.9
MTE				A	A	03 01 34.0	
	comp=E,2.4nm,0.1s						
PVIS	**Viseu**	**5.50**	**42**	*e*P	**Pn**	**03 00 31.6**	**+1.6**
PVIS				*e*S	**Sn**	**03 01 30.5**	**-2.8**
PVIS				A	A	03 01 34.4	
	comp=E,3.8nm,0.3s						
SRHM	**Skhour des Reh**	**5.82**	**135**	P	**Pn**	**03 00 33.5**	**-1.1**
SRHM				S	**Sn**	**03 01 40.7**	**-0.7**
ZHG	**ZHG**	**5.97**	**121**	P	**Pn**	**03 00 35.1**	**-1.5**
ZHG				S	**Sn**	**03 01 43.3**	**-1.7**
ECAB	**El Cabril**	**5.98**	**75**	Pn	**Pn**	**03 00 38.7**	**+2.0**
ECAB				⇑*i*Vmb_V		03 00 40.8	
	comp=E,76nm,SNR=1.5						
ECAB				Sn	**Sn**	**03 01 42.9**	**-2.3**
ECAB	**El Cabril**	**5.98**	**75**	Pn	**Pn**	**03 00 38.8**	**+2.1**
ECAB				Sn	**Sn**	**03 01 42.3**	**-2.9**
PVRL	**Vila Real**	**5.99**	**39**	*e*P	**Pn**	**03 00 38.6**	**+1.7**
PVRL				*e*S	**Sn**	**03 01 43.1**	**-2.5**
PVRL				A	A	03 01 49.2	
	comp=E,2.5nm,0.1s						
POLO	**Lamas de Olo**	**6.03**	**38**	*e*P	**Pn**	**03 00 38.4**	**+1.0**
POLO				*e*S	**Sn**	**03 01 43.2**	**-3.3**
POLO				A	A	03 01 46.8	
	comp=E,0.6nm,0.4s						
EPLA	**Plasencia**	**6.20**	**55**	Pn	**Pn**	**03 00 41.2**	**+1.5**
EPLA				⇑*i*Vmb_V		03 00 43.5	
	comp=E,96nm,SNR=1.9						
EPLA				Sn	**Sn**	**03 01 47.7**	**-2.9**
PGAV	**Gavieira, Arco**	**6.27**	**32**	*e*P	**Pn**	**03 00 43.3**	**+2.5**
PGAV				*e*S	**Sn**	**03 01 48.4**	**-4.1**
PGAV				A	A	03 01 54.5	
	comp=E,1.7nm,0.2s						
MVO	**Moncorvo**	**6.28**	**43**	*e*P	**Pn**	**03 00 42.6**	**+1.8**
MVO				*e*S	**Sn**	**03 01 48.8**	**-3.8**
MVO				A	A	03 01 52.8	
	comp=E,2.8nm,0.5s						
ELOB	**Lobios**	**6.29**	**34**	Pn	**Pn**	**03 00 42.6**	**+1.7**
ELOB				⇑*i*Vmb_V		03 00 50.3	
	comp=E,99nm,SNR=0.9						
ELOB				Sn	**Sn**	**03 01 49.1**	**-3.7**
EADA	**Adamuz**	**6.65**	**75**	Pn	**Pn**	**03 00 48.0**	**+2.2**
EADA				⇑*i*Vmb_V		03 00 53.1	
	comp=E,57nm,SNR=1.3						
EADA				Sn	**Sn**	**03 02 00.2**	**-1.5**
EADA	**Adamuz**	**6.65**	**75**	Pn	**Pn**	**03 00 48.0**	**+2.2**
EADA				Sn	**Sn**	**03 01 58.7**	**-2.9**
OUK	**Oukaimeden**	**6.83**	**142**	P	**Pn**	**03 00 48.1**	**-0.5**
OUK				S	**Sn**	**03 02 02.3**	**-4.2**
PBRG	**Braganca**	**6.88**	**41**	*e*S	**Sn**	**03 02 04.4**	**-3.0**
PBRG				A	A	03 02 06.1	
	comp=E,1.5nm,0.5s						
ECAL	**Calabor**	**6.98**	**40**	Pn	**Pn**	**03 00 52.2**	**+1.8**
ECAL				⇑*i*Vmb_V		03 00 52.3	
	comp=E,76nm,SNR=0.8						
ECAL				Sn	**Sn**	**03 02 06.9**	**-3.0**
ECAL	**Calabor**	**6.98**	**40**	Pn	**Pn**	**03 00 51.8**	**+1.4**
IFR	**Ifrane**	**7.00**	**115**	Pn	**Pn**	**03 00 50.8**	**-0.1**
IFR				Sn	Sn	03 02 03.5	-7.2
EAGO	**Agolada(Pontev**	**7.04**	**29**	Pn	**Pn**	**03 00 52.2**	**+0.9**
EAGO				⇑*i*Vmb_V		03 01 00.6	
	comp=E,98nm,SNR=0.7						
EAGO				Sn	**Sn**	**03 02 05.9**	**-5.5**
LCRM	**LCR**	**7.12**	**113**	P	**Pn**	**03 00 53.0**	**+0.6**
LCRM				S	**Sn**	**03 02 11.2**	**-2.4**
CZD	**Col de Zad**	**7.32**	**118**	P	**Pn**	**03 00 55.7**	**+0.5**
CZD				S	**Sn**	**03 02 16.2**	**-2.3**
TIO	**Tiouine**	**7.36**	**140**	Pn	Pn	03 00 53.7	-2.0
TIO				Sn	Sn	03 02 11.9	-7.4
MD31	**MD31**	**7.60**	**118**	P	**Pn**	**03 00 59.3**	**+0.3**
MD31				S	**Sn**	**03 02 24.0**	**-1.3**
OUZM	**OUZ**	**7.64**	**138**	P	**Pn**	**03 00 59.1**	**-0.4**
OUZM				S	**Sn**	**03 02 21.6**	**-4.6**
MDT	**Midelt**	**7.74**	**118**	P	**Pn**	**03 01 01.2**	**+0.3**
MDT				S	**Sn**	**03 02 27.8**	**-0.9**

*UCR **13** 03:03:12.4±0.7, 8°.33N×82°.86W, h12km±4km, MW4.0*
*UPA **13** 03:03:12.3±2.0, 8°.32N×82°.81W, h10km±3km, MW4.2*
ISC 13 03:03:12.1±1.1, 8°.30N±0°.03×82°.84W±0°.03, h19km±3km, n53, σ0s93/73, 2C-8D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.11**	**204**	⇑*i*P	**Pg**	**03 03 15.6**	**-0.4**
PTPM				*e*S	**Sg**	**03 03 19.6**	**+1.1**
CCOL	**Caracol de Cor**	**0.17**	**307**	⇑*i*P	**Pg**	**03 03 16.5**	**-0.2**
DVD	**David**	**0.40**	**71**	⇓*i*P	**Pg**	**03 03 20.0**	**-0.4**
DVD				*e*S	**Sb**	**03 03 26.8**	**+0.3**
LOCO3	**Loma Colorada,**	**0.43**	**76**	⇓*i*P	**Pg**	**03 03 20.4**	**-0.4**
LOCO3				*i* S	**Sb**	**03 03 27.4**	**+0.2**
FITO	**Golfito**	**0.45**	**315**	*e*P	**Pg**	**03 03 19.9**	**-1.3**
EDAD	**Golfito**	**0.48**	**317**	*e*P	**Pg**	**03 03 20.2**	**-1.6**
MLIR3	**Monte Lirio, C**	**0.49**	**1**	*i* P	**Pb**	**03 03 22.1**	**0.0**
MLIR3				*e*S	**Sn**	**03 03 31.5**	**-0.7**
BRU2	**Volcan**	**0.51**	**16**	⇓*i*P	**Pg**	**03 03 22.2**	**-0.2**
BRU2				*i* S	**Sb**	**03 03 30.8**	**+1.2**
BRU2	**Volcan**	**0.51**	**16**	⇓*i*P	**Pg**	**03 03 22.2**	**-0.2**
BCO2	**Palmira**	**0.51**	**36**	⇓*i*P	**Pg**	**03 03 22.2**	**-0.3**
BCO2				*e*S	**Sb**	**03 03 30.4**	**+0.7**
PTAR3	**Potrerillos Ar**	**0.51**	**41**	⇓*i*P	**Pg**	**03 03 22.1**	**-0.3**
PTAR3				*e*S	**Sb**	**03 03 31.1**	**+1.4**
VITO	**San Vito**	**0.53**	**345**	*e*P	**Pg**	**03 03 22.7**	**-0.1**
EDSV	**San Vito**	**0.53**	**345**	*e*P	**Pg**	**03 03 22.3**	**-0.5**
JIME	**Puerto Jimenez**	**0.54**	**296**	*e*P	**Pb**	**03 03 22.3**	**-0.5**
LNBQ3	**Los Naranjos,**	**0.62**	**39**	*i* P	**Pb**	**03 03 23.4**	**-0.9**
LNBQ3				*e*S	**Sg**	**03 03 33.0**	**+0.2**
POTG	**Potrero Grande**	**0.80**	**339**	*e*P	**Pb**	**03 03 26.7**	**-0.6**
EDPN	**Palmar Norte**	**0.90**	**317**	*e*P	**Pb**	**03 03 27.8**	**-1.3**
CHGR2	**Aguacate**	**0.93**	**47**	⇓*i*P	**Pb**	**03 03 28.1**	**-1.5**
CHGR2				*i* S	**Sb**	**03 03 40.2**	**-1.3**
EDBA	**Buenos Aires**	**0.96**	**333**	*e*P	**Pb**	**03 03 30.1**	**0.0**
NANC3	**Nancito, Chiri**	**1.09**	**93**	*e*P	**Pn**	**03 03 30.5**	**-1.9**
NANC3				*e*S	**Sb**	**03 03 45.6**	**-0.7**
CNI2	**El Empalme, Bo**	**1.17**	**18**	⇓*e*P	**Pn**	**03 03 32.5**	**-0.9**
CNI2				*e*S	**Sn**	**03 03 49.0**	**+0.1**
RGM0	**Gandoca**	**1.30**	**10**	*i* P	**Pb**	**03 03 35.9**	**0.0**
BRIBI	**Bribri**	**1.31**	**359**	*e*P	**Pg**	**03 03 37.0**	**-0.5**
EDDO	**Dominical**	**1.39**	**313**	*e*P	**Pn**	**03 03 36.3**	**-0.1**
BUS1	**Rivas**	**1.53**	**324**	*e*P	**Pn**	**03 03 38.2**	**-0.6**
CDM	**Cerro de Muert**	**1.54**	**324**	*e*P	**Pn**	**03 03 38.2**	**-0.8**
RSUS3	**Rio de Jesus,**	**1.69**	**101**	*e*P	**Pn**	**03 03 40.0**	**-0.6**
RSUS3				*e*S	**Sn**	**03 04 01.4**	**-0.4**
VERB	**Verbena**	**1.84**	**333**	*e*P	**Pn**	**03 03 43.1**	**+0.3**
ABE2	**San Pablo**	**1.84**	**319**	*e*P	**Pn**	**03 03 43.3**	**+0.4**
RVSTA	**Santa Teresita**	**1.84**	**334**	*e*P	**Pn**	**03 03 43.2**	**+0.3**
SFRA3	**San Francisco,**	**1.84**	**92**	*e*P	**Pn**	**03 03 42.7**	**-0.1**
SFRA3				*e*S	**Sn**	**03 04 07.0**	**+1.5**
STIA3	**Santiago, Vera**	**1.86**	**96**	*e*P	**Pn**	**03 03 42.6**	**-0.3**
STIA3				*e*S	**Sn**	**03 04 06.6**	**+0.7**
BATAN	**Batan**	**1.86**	**343**	*e*P	**Pn**	**03 03 43.8**	**+0.8**
BATAN				*e*S	**Sb**	**03 04 07.9**	**-0.5**
PCAYA	**Pacayas**	**1.87**	**329**	*e*P	**Pn**	**03 03 43.5**	**+0.2**
RAFA	**San Farael, Vo**	**1.91**	**330**	*e*P	**Pn**	**03 03 44.6**	**+0.7**
LCOCO	**El Coco**	**1.91**	**338**	*e*P	**Pn**	**03 03 44.4**	**+0.8**
CVTQ	**Turrialba Volc**	**1.92**	**331**	*e*P	**Pn**	**03 03 45.5**	**+1.3**
VTLA	**Turrialba Volc**	**1.93**	**331**	*e*P	**Pn**	**03 03 44.5**	**+0.4**
ICR3	**Volcano Irazu**	**1.93**	**329**	*e*P	**Pn**	**03 03 45.5**	**+1.2**
MARI3	**Mariato, Verag**	**1.94**	**109**	*e*P	**Pn**	**03 03 44.2**	**+0.2**
MARI3				*e*S	**Sb**	**03 04 10.8**	**+0.1**
RVLA	**Villa Bonita**	**1.94**	**338**	*e*P	**Pb**	**03 03 46.1**	**-0.8**
VICA	**Volcano Irazu**	**1.94**	**329**	*e*P	**Pn**	**03 03 45.2**	**+0.7**
LUJA	**Lujan**	**2.02**	**323**	*e*P	**Pb**	**03 03 47.8**	**-0.6**
CVIMO	**Finca Echandi**	**2.03**	**327**	*e*P	**Pb**	**03 03 47.2**	**-1.3**
HDC3	**Heredia 3**	**2.11**	**323**	*e*P	**Pn**	**03 03 48.1**	**+1.7**
HDC	**Heredia**	**2.11**	**323**	*e*P	**Pn**	**03 03 48.2**	**+1.7**
BELE	**Belen**	**2.13**	**321**	*e*P	**Pn**	**03 03 48.3**	**+1.5**
CACAO	**El Cacao, Vera**	**2.18**	**116**	*e*P	**Pn**	**03 03 47.1**	**-0.2**
CACAO				*e*S	**Sn**	**03 04 14.9**	**+1.1**
JACO	**JACO, Garabito**	**2.25**	**307**	*e*P	**Pn**	**03 03 47.2**	**-1.2**
CHIT3	**Chitre**	**2.42**	**98**	*e*P	**Pn**	**03 03 51.2**	**+0.6**
CHIT3				*e*S	**Sn**	**03 04 21.7**	**+2.0**
AZU	**Azuero**	**2.59**	**101**	*e*P	**Pn**	**03 03 53.9**	**+0.9**
AZU				*e*S	**Sn**	**03 04 25.4**	**+1.5**
JTS	**Las Juntas de**	**2.88**	**314**	*e*P	**Pn**	**03 03 58.9**	**+2.0**
JTS				*e*S	**Sn**	**03 04 31.7**	**+0.6**
BCIP	**Isla Barro Col**	**3.08**	**74**	*e*P	**Pn**	**03 03 59.8**	**0.0**

*IDC **13** 03:06:15.5±0.6, 55°.45N×166°.52E, h0km, mb4.1/18,*
mbtmp4.2/21, ML4.2/3, MS3.7/56, Error ellipse: s-maj=19.5km s-min=12.4km az=164.0
*KRSC **13** 03:06:16.6±2.1, 55°.32N×166°.41E, h40km±13km, Mc4.9, Ml4.7*
*MOS **13** 03:06:17.7±0.9, 55°.40N×166°.53E, h31km, mb4.7/15, Error ellipse: s-maj=7.3km s-min=5.2km az=158.9*
*NEIC **13** 03:06:20.0±1.6, 55°.4N±0°.2×166°.5E±0°.1, h32km±6km, mb4.5/90, Error ellipse: s-maj=23.9km s-min=10.6km az=185.0*
ISC 13 03:06:18.5±0.4, 55°.37N±0°.05×166°.52E±0°.04, h20km, n473, σ1s22/440, mb4.5/77, MS3.8/55, 5C-1D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.35**	**242**	PN	**Pb**	**03 06 24.7**	**-1.4**
BKI				S	**Sb**	**03 06 30.7**	**-0.5**
BKI	**Bering**	**0.35**	**242**	*e*P	**Pb**	**03 06 24.7**	**-1.4**
BKI				*e*S	**Sb**	**03 06 30.7**	**-0.5**
KBTR	**Krutoberegovo**	**2.25**	**293**	PN	**Pn**	**03 06 51.9**	**-2.7**
KBTR				S	**Sn**	**03 07 18.6**	**-3.2**
KBTR	**Krutoberegovo**	**2.25**	**293**	*e*P	**Pn**	**03 06 51.9**	**-2.7**
KBTR				*e*S	**Sn**	**03 07 18.6**	**-3.2**
KBG	**Krutoberegovo**	**2.33**	**294**	PN	**Pn**	**03 06 53.2**	**-2.4**
KBG				S	**Sn**	**03 07 21.8**	**-1.8**
KBG	**Krutoberegovo**	**2.33**	**294**	*e*P	**Pn**	**03 06 53.2**	**-2.4**
KBG				*e*S	**Sn**	**03 07 21.8**	**-1.8**
MKZ	**Mys Kozlova**	**2.88**	**256**	PN	**Pn**	**03 07 02.0**	**-1.1**
MKZ	**Mys Kozlova**	**2.88**	**256**	*e*P	**Pn**	**03 07 02.0**	**-1.1**
SMKR	**Semkarok**	**3.09**	**295**	PN	**Pn**	**03 07 04.3**	**-1.8**
SMKR	**Semkarok**	**3.09**	**295**	*e*P	**Pn**	**03 07 04.3**	**-1.8**
BDR	**Baidarnaya**	**3.22**	**294**	PN	**Pn**	**03 07 07.3**	**-0.6**
BDR	**Baidarnaya**	**3.22**	**294**	*e*P	**Pn**	**03 07 07.3**	**-0.6**
SRKR	**Sorokina**	**3.27**	**295**	PN	**Pn**	**03 07 08.3**	**-0.3**
SRKR	**Sorokina**	**3.27**	**295**	*e*P	**Pn**	**03 07 08.3**	**-0.3**
ZLN	**Zelenaya**	**3.30**	**284**	PN	**Pn**	**03 07 09.0**	**0.0**
ZLN	**Zelenaya**	**3.30**	**284**	*e*P	**Pn**	**03 07 09.0**	**0.0**
CIRR	**Tsirk**	**3.35**	**285**	PN	**Pn**	**03 07 09.3**	**-0.4**
CIRR	**Tsirk**	**3.35**	**285**	*e*P	**Pn**	**03 07 09.3**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**3.35**	**282**	PN	**Pn**	**03 07 09.9**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**3.35**	**282**	*e*P	**Pn**	**03 07 09.9**	**+0.2**
BZP	**Bezymyannyi-Pe**	**3.43**	**282**	*e*P	**Pn**	**03 07 10.4**	**-0.5**
KLY	**Klyuchi**	**3.44**	**288**	PN	**Pn**	**03 07 09.1**	**-1.8**
KLY				S	**Sn**	**03 07 48.9**	**-2.1**
KLY	**Klyuchi**	**3.44**	**288**	*e*P	**Pn**	**03 07 09.1**	**-1.8**
KLY				*e*S	**Sn**	**03 07 48.9**	**-2.1**
BZMR	**Bezymyannaya**	**3.46**	**282**	PN	**Pn**	**03 07 11.1**	**-0.2**
BZMR	**Bezymyannaya**	**3.46**	**282**	*e*P	**Pn**	**03 07 11.1**	**-0.2**
BZWR	**Bezymyannyi-We**	**3.46**	**282**	PN	**Pn**	**03 07 11.5**	**+0.1**
BZWR	**Bezymyannyi-We**	**3.46**	**282**	*e*P	**Pn**	**03 07 11.5**	**+0.1**
KRSR	**Krestovskiy**	**3.47**	**287**	PN	**Pn**	**03 07 10.5**	**-0.9**
KRSR	**Krestovskiy**	**3.47**	**287**	*e*P	**Pn**	**03 07 10.5**	**-0.9**
TUMD	**Tumrok D**	**3.50**	**270**	*e*P	**Pn**	**03 07 11.6**	**-0.2**
TUMD				*e*S	**Sn**	**03 07 53.6**	**+0.9**
KIRR	**Kirishev**	**3.55**	**282**	PN	**Pn**	**03 07 12.5**	**0.0**
KIRR	**Kirishev**	**3.55**	**282**	*e*P	**Pn**	**03 07 12.5**	**0.0**
KZV	**Kizimen**	**3.57**	**268**	PN	**Pn**	**03 07 12.7**	**-0.2**
KZV	**Kizimen**	**3.57**	**268**	*e*P	**Pn**	**03 07 12.7**	**-0.2**
KMNR	**Kamenistaya**	**3.59**	**279**	PN	**Pn**	**03 07 14.4**	**+1.4**
KMNR	**Kamenistaya**	**3.59**	**279**	*e*P	**Pn**	**03 07 14.4**	**+1.4**
KPT	**Kopyto**	**3.62**	**282**	PN	**Pn**	**03 07 13.5**	**+0.1**
KPT	**Kopyto**	**3.62**	**282**	*e*P	**Pn**	**03 07 13.5**	**+0.1**
TUMR	**Tumrok**	**3.64**	**271**	PN	**Pn**	**03 07 11.6**	**-2.2**
TUMR	**Tumrok**	**3.64**	**271**	*e*P	**Pn**	**03 07 14.3**	**+0.5**
TUMR				*e*S	**Sn**	**03 07 57.9**	**+1.7**
KOZ	**Kozyrevsk**	**3.82**	**283**	PN	**Pn**	**03 07 17.8**	**+1.6**
KOZ	**Kozyrevsk**	**3.82**	**283**	*e*P	**Pn**	**03 07 17.8**	**+1.6**
SRDR	**Sredinnyy**	**3.95**	**287**	PN	**Pn**	**03 07 17.9**	**0.0**
SRDR	**Sredinnyy**	**3.95**	**287**	*e*P	**Pn**	**03 07 17.9**	**0.0**
KII	**Karymskiy**	**4.31**	**255**	PN	**Pn**	**03 07 23.4**	**+0.4**
KII	**Karymskiy**	**4.31**	**255**	*e*P	**Pn**	**03 07 23.4**	**+0.4**
SPN	**Mys Shipunski**	**4.44**	**242**	PN	**Pn**	**03 07 22.7**	**-1.9**
SPN	**Mys Shipunski**	**4.44**	**242**	*e*P	**Pn**	**03 07 22.7**	**-1.9**
SPN				*e*S	**Sn**	**03 08 12.2**	**-3.4**
ESO	**Esso**	**4.46**	**280**	PN	**Pn**	**03 07 25.4**	**+0.4**
ESO	**Esso**	**4.46**	**280**	*e*P	**Pn**	**03 07 25.4**	**+0.4**
SDLR	**Sedlovina**	**4.94**	**248**	PN	**Pn**	**03 07 32.1**	**+0.6**
SDLR	**Sedlovina**	**4.94**	**248**	*e*P	**Pn**	**03 07 32.1**	**+0.6**
SDLR				*e*S	**Sn**	**03 08 28.1**	**0.0**
SMAR	**Somma**	**4.99**	**248**	PN	**Pn**	**03 07 32.8**	**+0.4**
SMAR	**Somma**	**4.99**	**248**	*e*P	**Pn**	**03 07 32.8**	**+0.4**
KRER	**Koryakskii**	**5.00**	**249**	PN	**Pn**	**03 07 33.1**	**+0.7**
KRER	**Koryakskii**	**5.00**	**249**	*e*P	**Pn**	**03 07 33.1**	**+0.7**
UGLR	**Uglovaya**	**5.00**	**248**	PN	**Pn**	**03 07 33.5**	**+1.1**
UGLR	**Uglovaya**	**5.00**	**248**	*e*P	**Pn**	**03 07 33.5**	**+1.1**
AVH	**Avacha**	**5.02**	**248**	PN	**Pn**	**03 07 33.4**	**+0.8**
AVH	**Avacha**	**5.02**	**248**	*e*P	**Pn**	**03 07 33.4**	**+0.8**
AVH				*e*S	**Sn**	**03 08 29.8**	**-0.3**
KRX	**Arik**	**5.02**	**250**	PN	**Pn**	**03 07 33.1**	**+0.3**
KRX	**Arik**	**5.02**	**250**	*e*P	**Pn**	**03 07 33.1**	**+0.3**
KOK	**Koryaka**	**5.06**	**249**	PN	**Pn**	**03 07 33.4**	**+0.1**
KOK	**Koryaka**	**5.06**	**249**	*e*P	**Pn**	**03 07 33.4**	**+0.1**
DALK	**Dalny**	**5.12**	**246**	PN	**Pn**	**03 07 34.1**	**+0.1**
DALK	**Dalny**	**5.12**	**246**	*e*P	**Pn**	**03 07 34.1**	**+0.1**
DALK				*e*S	**Sn**	**03 08 30.9**	**-1.6**
PET	**Petropavlovsk**	**5.18**	**246**		**Pn**	**03 07 34.1**	**-0.6**
PET	**Petropavlovsk**	**5.18**	**246**	*e*PN	**Pn**	**03 07 35.0**	**+0.2**
PET				MLR	MLR		
	comp=Z,400nm,7.0s						
PET				MLR	MLR		
	comp=Z,600nm,8.0s						
PET	**Petropavlovsk**	**5.18**	**246**	*e*P	**Pn**	**03 07 35.5**	**+0.7**
PET				*e*S	**Sn**	**03 08 32.1**	**-1.8**
SHEM	**Shemya Is, Ala**	**5.19**	**118**	Pn	**Pn**	**03 07 33.8**	**-1.1**
	comp=Z,30nm,0.3s,baz=206,slow=7.2,SNR=4.4						
SHEM				Sn	**Sn**	**03 08 31.6**	**-2.5**
	comp=Z,12nm,0.3s,baz=79,slow=21,SNR=1.5						
	comp=Z,68nm,0.4s						
GNL	**Ganaly**	**5.27**	**255**	PN	**Pn**	**03 07 37.2**	**+1.1**
GNL	**Ganaly**	**5.27**	**255**	*e*P	**Pn**	**03 07 37.2**	**+1.1**
KRMR	**Karymshinskiy**	**5.55**	**246**	PN	**Pn**	**03 07 40.0**	**+0.1**
KRMR	**Karymshinskiy**	**5.55**	**246**	*e*P	**Pn**	**03 07 40.0**	**+0.1**
RUS	**Russkaya**	**5.57**	**241**	PN	**Pn**	**03 07 40.2**	**+0.1**
RUS	**Russkaya**	**5.57**	**241**	*e*P	**Pn**	**03 07 40.2**	**+0.1**
PEA0B	**Petropavlovsk-**	**5.65**	**250**	Pn	**Pn**	**03 07 41.8**	**+0.6**
PEA0B	**Petropavlovsk-**	**5.65**	**250**	*e*PN	**Pn**	**03 07 41.9**	**+0.7**
PETK	**Petropavlovsk-**	**5.65**	**250**	Pn	**Pn**	**03 07 41.0**	**-0.2**
PETK	**Petropavlovsk-**	**5.65**	**250**	Pn	**Pn**	**03 07 40.8**	**-0.4**
	comp=Z,19nm,0.3s,baz=76,slow=17,SNR=42						
PETK				Sn	**Sn**	**03 08 46.3**	**+0.9**
	comp=Z,8.1nm,0.3s,baz=86,slow=24,SNR=6.7						
PETK				LR	LR	03 10 06.5	
	comp=Z,720nm,20.0s,baz=37,slow=41						
	comp=Z,46nm,0.5s						
MTVR	**Mutnovka**	**5.71**	**243**	PN	**Pn**	**03 07 42.9**	**+0.7**
MTVR	**Mutnovka**	**5.71**	**243**	*e*P	**Pn**	**03 07 42.9**	**+0.7**
GRL	**Gorelyy**	**5.73**	**244**	PN	**Pn**	**03 07 43.6**	**+1.1**
GRL	**Gorelyy**	**5.73**	**244**	*e*P	**Pn**	**03 07 43.6**	**+1.1**
ASAK	**Asacha**	**5.91**	**243**	PN	**Pn**	**03 07 45.7**	**+0.8**
ASAK	**Asacha**	**5.91**	**243**	*e*P	**Pn**	**03 07 45.7**	**+0.8**
APC	**Apacha**	**6.02**	**250**	PN	**Pn**	**03 07 47.3**	**+1.0**
APC	**Apacha**	**6.02**	**250**	*e*P	**Pn**	**03 07 47.3**	**+1.0**
KDTR	**Khodutka, Kamc**	**6.16**	**238**	PN	**Pn**	**03 07 47.5**	**-0.8**
KDTR	**Khodutka, Kamc**	**6.16**	**238**	*e*P	**Pn**	**03 07 47.5**	**-0.8**
KDTR				*e*S	**Sn**	**03 08 53.3**	**-4.8**
MA2	**Magadan**	**9.47**	**303**	LR	LR	03 12 18.6	
	comp=Z,330nm,18.1s,baz=110,slow=38						
SEY	**Seymchan**	**10.47**	**322**	LR	LR	03 12 55.9	
	comp=Z,553nm,18.2s,baz=124,slow=38						
ATKA	**Atka Island**	**11.83**	**98**	Pn	**Pn**	**03 09 04.2**	**-1.6**
UNV	**Unalaska Valle**	**15.67**	**84**	P	**P**	**03 10 03.1**	**+1.3**
	baz=287						
YSS	**Yuzh-Sakhalins**	**17.05**	**250**	*ce*P	**P**	**03 10 17.7**	**+0.5**
YSS				pmax	pmax		
	comp=Z,27nm,1.3s						
O14K	**Tigyukauivet M**	**17.72**	**64**	P	**P**	**03 10 25.5**	**+1.0**
	baz=272						
K15K	**Wolf Creek Mou**	**17.78**	**54**	P	**P**	**03 10 26.3**	**+1.2**
	baz=262						
M15K	**Kasigluk River**	**18.03**	**59**	P	**P**	**03 10 28.7**	**+0.8**
	baz=268						
S14K	**Fog Glacier**	**18.97**	**73**	P	**Pn**	**03 10 39.6**	**+0.4**
	baz=282						
ASAJ	**Asahikawa**	**19.02**	**244**	P	**Pn**	**03 10 40.6**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=341,slow=5.2,SNR=5.6						
ASAJ				LR	LR	03 17 40.4	
	comp=Z,234nm,19.3s,baz=8.0,slow=36						
	comp=Z,13nm,0.8s						
J17K	**VABM Dome**	**19.06**	**51**	P	**Pn**	**03 10 40.6**	**+0.5**
	baz=261						
L17K	**Donlin**	**19.27**	**55**	P	**Pn**	**03 10 43.4**	**+0.8**
	baz=266						
K17K	**Iditarod**	**19.32**	**53**	P	**Pn**	**03 10 43.3**	**+0.2**
	baz=264						
CHGN	**Chignik**	**19.59**	**73**	P	**Pn**	**03 10 44.4**	**-2.0**
CHGN	**Chignik**	**19.59**	**73**	P	**Pn**	**03 10 46.4**	**0.0**
	baz=282						
M17K	**Holitna River**	**19.64**	**57**	P	**Pn**	**03 10 46.5**	**-0.4**
	baz=268						
H18K	**Honhosa River**	**19.70**	**46**	P	**Pn**	**03 10 47.1**	**-0.6**
	baz=257						
N17K	**Nushagak Hills**	**19.75**	**60**	P	**Pn**	**03 10 49.1**	**+0.8**
	baz=271						
G18K	**Tagagawik**	**19.77**	**44**	P	**Pn**	**03 10 48.2**	**-0.3**
	baz=255						
L18K	**Granite Mounta**	**20.03**	**55**	P	**Pn**	**03 10 51.3**	**-0.3**
	baz=267						
YAK	**Yakutsk**	**20.04**	**304**	*e*P	**P**	**03 10 47.0**	**-2.8**
YAK				pmax	pmax		
	comp=E,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
J18K	**Innoko River**	**20.12**	**51**	P	Pn	03 10 52.3	-0.3
	baz=263,SNR=6.9						
P17K	**Kvichak River**	**20.20**	**64**	P	Pn	03 10 54.3	+0.7
	baz=275						
GCSA	**Galena City Sc**	**20.24**	**48**	P	Pn	03 10 52.6	-1.4
	baz=260						
ERM	**Erimo**	**20.27**	**239**	*i* P	Pn	03 10 54.4	-0.2
TTA	**Tatalina**	**20.39**	**53**	P	Pn	03 10 54.8	-1.1
	baz=266						
R17K	**Ugashik Creek**	**20.43**	**68**	P	Pn	03 10 54.5	-1.8
	baz=280						
H19K	**Roundabout Mou**	**20.57**	**46**	P	Pn	03 10 56.5	-1.4
	baz=258						
Q17K	**Contact Creek**	**20.60**	**66**	P	Pn	03 10 57.2	-1.2
	baz=278						
J19K	**Poorman**	**20.67**	**50**	P	Pn	03 10 57.1	-2.0
	baz=263						
E19K	**Redstone River**	**20.76**	**40**	P	Pn	03 11 00.2	+0.1
	baz=252						
L19K	**White Mountain**	**20.88**	**55**	P	Pn	03 11 00.4	-1.2
	baz=269						
Q18K	**Katmai Hardscr**	**21.00**	**65**	P		03 11 00.8	
	baz=278						
N19K	**Bonanza Creek**	**21.07**	**59**	P	**P**	**03 11 03.3**	**+2.0**
	baz=273						
M19K	**Big River Lodg**	**21.10**	**56**	P	**P**	**03 11 02.2**	**+0.8**
	baz=270						
H20K	**Anotlene

CCB IAmb IAmb 03 11 34.5
comp=Z,23nm,1.1s
H24K Noodor Dome 24.12 46 P **P 03 11 31.2 -1.4**
H24K Noodor Dome 24.12 46 P **P 03 11 32.6 0.0**
baz=266
E24K Your Creek 24.14 40 P **P 03 11 32.6 -0.1**
baz=261
D24K Happy Valley 24.22 38 P **P 03 11 33.3 -0.1**
baz=258
M23K Glacier View 24.26 56 P **P 03 11 33.6 -0.3**
baz=276
POKR Poker Plat Res 24.28 48 P **P 03 11 32.3 -1.7**
POKR IAmb IAmb 03 11 45.3
comp=Z,16nm,1.3s
POKR Poker Plat Res 24.28 48 P **P 03 11 33.7 -0.3**
baz=268
F24K Squaw Lake 24.28 42 P **P 03 11 34.0 -0.1**
baz=263
DHY Denali Highway 24.33 53 P **P 03 11 33.9 -0.7**
DHY Denali Highway 24.33 53 P **P 03 11 34.4 -0.2**
baz=273
G24K Hadweenzic Riv 24.35 44 P **P 03 11 34.7 0.0**
baz=265,SNR=7.0
SCM Sheep Creek Mo 24.44 56 P **P 03 11 34.9 -0.7**
SCM Sheep Creek Mo 24.44 56 P **P 03 11 34.9 -0.7**
SCM pmax pmax
comp=Z,31nm,1.0s
SCM Sheep Creek Mo 24.44 56 P **P 03 11 35.3 -0.3**
baz=276,SNR=7.0
HDA Harding Lake 24.48 50 P **P 03 11 35.4 -0.4**
baz=270,SNR=6.0
IL31 24.50 49 P **P 03 11 35.8 -0.2**
ILAR Eielson Array 24.50 49 P **P 03 11 34.9 -1.1**
comp=Z,17nm,1.0s,baz=260,slow=7.8,SNR=72
ILAR LR LR 03 22 10.8
comp=Z,160nm,18.6s,baz=276,slow=39
comp=Z,17nm,1.0s
P23K Montague Islan 24.65 60 P **P 03 11 37.6 +0.2**
baz=280
GLI Glacier Island 24.67 58 P **P 03 11 40.1 +2.5**
baz=278
USRK Ussuriysk Ar. 24.68 258 LR LR 03 21 31.0
comp=Z,134nm,18.8s,baz=59,slow=37
G25K Bearman Lake 24.90 44 P **P 03 11 38.7 -0.8**
baz=266
M24K Tolsona, Glenn 24.96 55 P **P 03 11 40.5 +0.3**
M24K Tolsona, Glenn 24.96 55 P **P 03 11 39.2 -1.0**
baz=276,SNR=5.8
H25L Birch Creek 24.99 45 P **P 03 11 39.9 -0.5**
baz=267
K24K Donnelly Dome 25.01 51 P **P 03 11 40.1 -0.6**
baz=273
PRP Porcupine Dome 25.09 47 P **P 03 11 41.2 -0.2**
PRP IAmb IAmb 03 11 44.4
comp=Z,16nm,1.0s
PRP Porcupine Dome 25.09 47 P **P 03 11 41.4 -0.1**
baz=269,SNR=6.4
D25K Kavik River 25.11 38 P **P 03 11 41.5 0.0**
baz=260
F25K Christian Rive 25.15 42 P **P 03 11 41.8 -0.1**
baz=265
KLU Klutina 25.15 56 P **P 03 11 41.4 -0.6**
KLU IAmb IAmb 03 11 53.0
comp=Z,17nm,1.2s
KLU Klutina 25.15 56 P **P 03 11 41.7 -0.3**
baz=278
J25K Salcha River, 25.16 49 P **P 03 11 41.1 -0.9**
J25K Salcha River, 25.16 49 P **P 03 11 41.2 -0.9**
baz=271
PAX Paxson 25.20 53 P **P 03 11 42.2 -0.3**
baz=275
FYU Fort Yukon 25.24 44 P **P 03 11 42.9 +0.3**
EYAK Cordova Ski Ar 25.37 59 P **P 03 11 44.4 +0.5**
baz=280
HARP HAARP 25.40 54 P **P 03 11 42.9 -1.3**
baz=276
BMAR Burnt Mountain 25.54 42 P **P 03 11 45.7 +0.2**
F26K Sheenjek River 25.73 42 P **P 03 11 46.3 -0.9**
baz=266
N25K Chitina, Valde 25.76 56 P **P 03 11 47.6 +0.1**
N25K IAmb IAmb 03 11 48.3
comp=Z,7.3nm,0.7s
N25K Chitina, Valde 25.76 56 P **P 03 11 47.6 +0.1**
baz=278
SCRK Sand Creek 25.79 50 P **P 03 11 47.0 -0.8**
baz=274,SNR=5.5
G26K Porcupine Rive 25.83 44 P **P 03 11 48.1 +0.1**
baz=268,SNR=6.5
BMRM Bremner River 25.86 57 P **P 03 11 48.4 +0.1**
baz=280
J26L Joseph Creek 25.94 49 P **P 03 11 49.1 0.0**
baz=273
GLB Gilahina Butte 26.16 56 P **P 03 11 50.6 -0.5**
VRDI Verde Repeater 26.36 57 P **P 03 11 53.0 -0.1**
VRDI IAmb IAmb 03 12 02.6
comp=Z,14nm,1.2s
M26K Nabesna, AK 26.40 54 P **P 03 11 53.4 +0.1**
M26K IAmb IAmb 03 12 18.8
comp=Z,10nm,1.1s
M26K Nabesna, AK 26.40 54 P **P 03 11 53.1 -0.2**
baz=278
MCARA McCarthy VSAT 26.54 56 P **P 03 11 54.9 +0.4**
baz=280
K27K Chicken 26.62 50 P **P 03 11 55.2 0.0**
baz=275
CRQE Cirque 26.62 58 P **P 03 11 55.0 -0.4**
baz=281
G27K Doyon Strip 26.67 44 P **P 03 11 55.6 0.0**
baz=270
I27K Kandik River 26.71 47 P **P 03 11 56.0 -0.1**
baz=273
E27K Coleen River 26.72 41 P **P 03 11 55.8 -0.2**
baz=268
H27K Steamboat Moun 26.73 45 P **P 03 11 56.2 0.0**
baz=272
L27K Beaver Creek, 26.84 52 P **P 03 11 57.4 +0.2**
baz=278,SNR=11
BCAR Beaver Creek A 26.86 52 P **P 03 11 58.1 +0.7**
M27K Edge Creek, AK 26.92 54 P **P 03 11 58.5 +0.4**
M27K Edge Creek, AK 26.92 54 P **P 03 11 58.5 +0.4**
baz=279,SNR=5.6
MAJO Matsushiro 26.94 237 *i* P **P 03 11 58.9 +0.6**
MAJO pmax pmax
comp=Z,14nm,0.8s
MJAR Matsushiro Arr 26.94 237 P **P 03 11 59.9 +1.6**
comp=Z,3.7nm,0.9s,baz=309,slow=18,SNR=3.7
MJAR LR LR 03 23 28.2
comp=Z,67nm,19.0s,baz=42,slow=38
comp=Z,3.7nm,0.9s
D27M Malcolm River 27.01 39 P **P 03 11 58.6 -0.1**
baz=266
BARN Barnard Glacie 27.25 57 P **P 03 12 01.0 -0.1**
BARN IAmb IAmb 03 12 22.5
comp=Z,11nm,1.2s
MESA MESA 27.30 59 P **P 03 12 01.6 0.0**
I28M Miner Creek 27.42 47 P **P 03 12 02.3 -0.1**
baz=274
CTG Chitna Glacier 27.42 57 P **P 03 12 02.7 +0.1**
baz=282
CTGM Chitina Glacie 27.43 57 P **P 03 12 02.6 -0.1**
LOGN Logan Glacier 27.61 57 P **P 03 12 03.9 -0.5**
LOGN IAmb IAmb 03 12 15.8
comp=Z,20nm,1.4s
YUK3 Moose Creek 27.68 55 P **P 03 12 06.0 +1.1**
baz=281
DAWY Dawson 27.79 50 P **P 03 12 05.9 +0.1**
baz=278
H29M Whitestone 28.00 45 P **P 03 12 08.4 +0.8**
H29M IAmb IAmb 03 12 36.1
comp=Z,20nm,1.4s
O28M Mount Upton 28.01 57 P **P 03 12 08.3 +0.2**
baz=283
G29M Pine Creek 28.10 44 P **P 03 12 08.9 +0.5**
G29M Pine Creek 28.10 44 P **P 03 12 09.3 +0.9**
baz=273,SNR=5.4
YUK8 Steele Glacier 28.10 56 P **P 03 12 08.6 -0.2**
baz=282
I29M Ogilvie Camp, 28.11 47 P **P 03 12 08.4 -0.1**
baz=276
M29M Somme Creek 28.47 53 P **P 03 12 11.4 -0.5**
baz=281
L29M L29M 28.50 52 P **P 03 12 12.5 +0.4**
baz=280,SNR=6.4
YUK4 Talbot Arm 28.62 55 P **P 03 12 13.5 +0.2**
baz=283
K29M Barlow Dome 28.64 50 P **P 03 12 12.7 -0.7**
EPYK Eagle Plains 28.66 45 P **P 03 12 13.5 +0.1**
baz=275
PNL Peninsula 28.67 59 P **P 03 12 13.4 -0.2**
baz=286
G30M tAoh Zraii Nji 28.80 43 P **P 03 12 14.2 -0.5**
baz=275
YUK6 Outpost Mounta 28.84 56 P **P 03 12 15.2 -0.2**
baz=284
F30M Barrier River 28.92 42 P **P 03 12 15.6 -0.2**
baz=274
I30M Mount Dempster 28.93 47 P **P 03 12 15.5 -0.5**
I30M Mount Dempster 28.93 47 P **P 03 12 15.7 -0.2**
baz=278
M30M Minto, Yukon 29.20 52 P **P 03 12 18.3 -0.1**
baz=282
HYT Haines Junctio 29.28 56 P **P 03 12 19.5 +0.4**
HYT IAmb IAmb 03 12 20.5
comp=Z,7.8nm,1.1s
HYT Haines Junctio 29.28 56 P **P 03 12 19.0 -0.1**
baz=285
P29M Windy Craggy 29.49 59 P **P 03 12 21.5 +0.6**
P29M Windy Craggy 29.49 59 P **P 03 12 20.9 +0.1**
baz=287
G31M Satah River 29.57 43 P **P 03 12 21.3 -0.1**
baz=276
H31M Peel River 29.68 46 P **P 03 12 22.8 +0.3**
H31M Peel River 29.68 46 P **P 03 12 22.5 0.0**
baz=278
F31M Tsiigehtchic 29.72 42 P **P 03 12 20.8 -1.9**
baz=276
INK Inuvik 29.72 40 P **P 03 12 22.6 -0.1**
INK IAmb IAmb 03 12 34.9
comp=Z,6.7nm,1.1s
INK Inuvik 29.72 40 P **P 03 12 22.6 -0.1**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 29.72 40 LR LR 03 23 57.4
comp=Z,55nm,18.5s,baz=130,slow=36
P30M Million Dollar 29.73 57 P **P 03 12 22.6 -0.4**
baz=286
N31M Braeburn, Yuko 29.92 54 P **P 03 12 25.3 +0.7**
baz=285
O30N Mendenhall 29.96 56 P **P 03 12 24.9 -0.1**
baz=286
M31M Drury Creek, Y 30.38 53 P **P 03 12 29.7 +1.0**
M31M Drury Creek, Y 30.38 53 P **P 03 12 29.3 +0.6**
baz=284
WHY Whitehorse 30.57 56 P **P 03 12 30.9 +0.5**
baz=287
S31K Pelican 30.76 61 P **P 03 12 33.5 +1.4**
baz=290
R31K City Hall, Gus 30.85 60 P **P 03 12 34.2 +1.4**
baz=290
N32M Quiet Lake 31.27 54 P **P 03 12 37.3 +0.8**
baz=287
P32M Atlin 31.45 57 P **P 03 12 39.2 +1.0**
baz=289
R32K Eaglecrest 31.51 60 P **P 03 12 39.5 +0.9**
baz=291
MMPY Sheldon Lake, 31.68 51 P **P 03 12 40.6 +0.5**
MMPY IAmb IAmb 03 12 42.8
comp=Z,9.7nm,1.2s
MMPY Sheldon Lake, 31.68 51 P **P 03 12 40.3 +0.2**
baz=286
P33M Teslin, Yukon 31.68 56 P **P 03 12 40.5 +0.3**
P33M IAmb IAmb 03 12 42.3
comp=Z,7.2nm,1.0s
P33M Teslin, Yukon 31.68 56 P **P 03 12 41.2 +1.0**
baz=289,SNR=5.6
Q32M Nakina River 32.36 58 P **P 03 12 47.3 +0.9**
Q32M IAmb IAmb 03 12 48.6
comp=Z,6.0nm,1.0s
Q32M Nakina River 32.36 58 P **P 03 12 46.9 +0.5**
baz=291
R33M Jennings River 32.83 57 P **P 03 12 51.5 +1.1**
R33M IAmb IAmb 03 12 53.5
comp=Z,8.4nm,1.1s
R33M Jennings River 32.83 57 P **P 03 12 51.0 +0.6**
baz=291
C36M Paulatuk 32.98 38 P **P 03 12 50.6 -0.8**
C36M Paulatuk 32.98 38 P **P 03 12 51.8 +0.4**
baz=281
U33K Whale Pass 33.04 63 P **P 03 12 53.2 +1.1**
baz=295
JNU Nakatsue 33.30 243 LR LR 03 26 06.3
comp=Z,65nm,19.1s,baz=36,slow=36
S34M Telegraph Cree 33.31 59 P **P 03 12 55.4 +1.0**
baz=293
DLBC Dease Lake 33.65 58 P **P 03 12 59.1 +1.6**
baz=293
T35M Bob Quinn 34.12 61 P **P 03 13 02.6 +1.1**
T35M Bob Quinn 34.12 61 P **P 03 13 02.7 +1.1**
baz=295
KOTAN Kotaneelee Air 35.79 53 P **P 03 13 16.7 +0.9**
baz=294
ULN Ulaanbaatar 36.65 284 *i* P **P 03 13 25.1 +1.6**
ULN pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 37.03 284 P **P 03 13 28.1 +1.3**
comp=Z,2.1nm,0.8s,baz=66,slow=8.5,SNR=7.8
SONM LR LR 03 30 06.5
comp=Z,145nm,18.9s,baz=50,slow=39
comp=Z,2.1nm,0.8s
BBB Bella Bella 37.49 67 LR LR 03 28 15.0
comp=Z,105nm,18.2s,baz=277,slow=35
EUNU Eureka 38.79 15 P **P 03 13 41.6 +0.4**
YKA Yellowknife Ar 38.89 47 P **P 03 13 41.6 -0.4**
comp=Z,1.8nm,0.7s,baz=299,slow=9.0,SNR=5.4
comp=Z,1.8nm,0.7s
HNS HongShan 38.96 265 ||P P 03 13 46.5 +3.6
BTO Baotou 39.45 272 *e*P **P 03 13 47.6 +0.5**
BTO pP **pwP 03 13 57.3 +4.1**
BTO sP sP 03 14 01.9 +6.3
BTO PP **PnPn 03 15 26.9 +6.4**
BTO S **S 03 19 48.4 +0.6**
BTO SS **SS 03 22 29.8 -12**
BTO pmax pmax
comp=Z,20nm,0.6s
BTO pmax pmax
comp=Z,430nm,5.2s
BTO LR LR
comp=N,780nm,8.6s
BTO LR LR
comp=E,540nm,8.4s
BTO LR LR
comp=Z,310nm,8.5s
RES Resolute Bay 39.75 24 LR LR 03 33 41.6
comp=Z,31nm,18.3s,baz=16,slow=42
NJ2 Nanjing 40.53 255 *e*P **P 03 13 55.6 -0.4**
NJ2 pP **pP 03 14 01.5 -0.5**
NJ2 sP **sP 03 14 06.0 +1.6**
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,460nm,3.6s
ZALV Zalesovo Beam 44.69 304 LR LR 03 35 49.6
comp=Z,44nm,18.6s,baz=296,slow=40
SPITS Spitsbergen Ar 45.47 352 P **P 03 14 35.5 0.0**
comp=Z,9.0nm,0.9s,baz=56,slow=11,SNR=2.5
comp=Z,9.0nm,0.9s
NEW Newport 45.51 66 P **P 03 14 36.3 +0.1**
baz=309
NEW Newport 45.51 66 LR LR 03 33 41.6
comp=Z,105nm,19.0s,baz=290,slow=36
GTA Gaotai 46.05 279 *e*P **P 03 14 43.6 +2.9**
GTA pP sP 03 14 46.6 -2.7
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=N,220nm,16.0s
GTA LR LR
comp=E,330nm,17.8s
GTA LR LR
comp=Z,210nm,16.4s
L04D Klamath Falls 46.65 75 P **P 03 14 46.2 +0.9**
YBH Yreka Blue Hor 46.75 76 P **P 03 14 45.2 -0.9**
YBH IAmb IAmb 03 14 58.8
comp=Z,9.6nm,1.2s
YBH Yreka Blue Hor 46.75 76 P **P 03 14 45.2 -0.9**
YBH pmax pmax
comp=Z,10.0nm,1.3s
YBH Yreka Blue Hor 46.75 76 LR LR 03 32 35.8
comp=Z,119nm,18.2s,baz=299,slow=34
KURK Kurchatov 49.68 304 P **P 03 15 08.6 +0.1**
WMQ Urumqi 49.72 291 *e*P P 03 15 12.3 +3.3
WMQ sP sP 03 15 20.5 +2.9
WMQ pmax pmax
comp=Z,20nm,0.8s
WMQ LR LR
comp=N,670nm,18.1s
WMQ LR LR
comp=E,420nm,15.9s
WMQ LR LR
comp=Z,120nm,22.7s
KURBB Kurchatov Arra 49.78 304 P **P 03 15 08.6 -0.7**
comp=Z,3.5nm,0.2s,baz=50,slow=7.4,SNR=9.8
KURBB LR LR 03 38 26.2
comp=Z,76nm,19.9s,baz=165,slow=39
comp=Z,3.5nm,0.2s
HLID Hailey 50.02 69 P **P 03 15 11.4 -0.1**
baz=313
BOZ Bozeman (W) 50.10 65 P **P 03 15 11.8 -0.1**
baz=313
MK31 Makanchi Array 50.51 298 P **P 03 15 12.8 -2.1**
MK31 Makanchi Array 50.51 298 P **P 03 15 12.8 -2.1**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 50.51 298 P **P 03 15 12.7 -2.2**
MKAR Makanchi Array 50.51 298 P **P 03 15 13.4 -1.5**
comp=Z,0.6nm,0.4s,baz=58,slow=6.7,SNR=7.3
MKAR LR LR 03 37 21.5
comp=Z,98nm,18.1s,baz=60,slow=37
comp=Z,0.6nm,0.4s
WAKR Walker 50.79 77 P **P 03 15 16.9 -0.5**
WAKR IAmb IAmb 03 15 19.3
comp=Z,7.6nm,1.1s
KVN Kaiserville 51.14 75 P **P 03 15 20.4 +0.4**
KVN Kaiserville 51.14 75 P **P 03 15 20.4 +0.4**
KVN pmax pmax
comp=Z,4.0nm,1.0s
NVAR Mina Array Bea 51.47 76 P **P 03 15 22.7 +0.2**
NVAR Mina Array Bea 51.47 76 P **P 03 15 23.5 +1.0**
comp=Z,1.7nm,0.8s,baz=298,slow=7.3,SNR=14
comp=Z,1.7nm,0.8s
LHV Little Huntoon 51.49 76 P **P 03 15 23.9 +1.6**
LHV IAmb IAmb 03 15 35.4
comp=Z,7.8nm,1.3s
NV11 Mina Array Sit 51.55 76 P **P 03 15 23.4 +0.4**
IMW Indian Meadow 51.62 66 P **P 03 15 23.1 -0.5**
IMW IAmb IAmb 03 15 25.6
comp=Z,4.9nm,1.1s
RLMT Red Lodge 51.64 64 P **P 03 15 23.7 +0.1**
RLMT Red Lodge 51.64 64 P **P 03 15 23.8 +0.1**
baz=314
DGMT Dagmar 51.86 58 P **P 03 15 24.8 -0.2**
baz=314
BVAR Borovoye Array 51.87 310 P **P 03 15 24.5 -0.5**
comp=Z,2.2nm,0.8s,baz=53,slow=7.9,SNR=8.7
BVAR LR LR 03 40 03.2
comp=Z,142nm,18.0s,baz=48,slow=39
comp=Z,2.2nm,0.8s
BRVK Borovoye 51.89 310 P **P 03 15 24.1 -1.0**
BRVK Borovoye 51.89 310 *ce*P **P 03 15 23.0 -2.1**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
LAO LASA Array 52.10 61 P **P 03 15 26.9 +0.1**
baz=314
ARCES ARCESS Array B 52.23 344 LR LR 03 39 51.8
comp=Z,45nm,18.7s,baz=42,slow=39
MZP Montezuma Peak 52.50 76 P **P 03 15 30.1 -0.1**
GMN Gold Mountain 52.85 76 P **P 03 15 33.5 +0.8**
CWC Cottonwood Cre 53.02 78 P **P 03 15 34.4 +0.5**
baz=316
R11B Troy Canyon, C 53.03 74 P **P 03 15 34.1 +0.1**
baz=316
BW06 Boulder Array 53.13 66 P **P 03 15 33.8 -1.0**
BW06 IAmb IAmb 03 15 36.2
comp=Z,5.4nm,1.1s
BW06 Boulder Array 53.13 66 P **P 03 15 34.1 -0.6**
baz=315
PD31 Pinedale Array 53.13 66 P **P 03 15 34.1 -0.7**
PD31 IAmb IAmb 03 15 36.2
comp=Z,4.5nm,1.1s
PDAR Pinedale Array 53.13 66 P **P 03 15 34.3 -0.4**
PDAR Pinedale Array 53.13 66 P **P 03 15 35.0 +0.2**
comp=Z,2.0nm,0.9s,baz=306,slow=3.2,SNR=11
comp=Z,2.0nm,0.9s
SPR3 Spring Creek 3 53.25 73 P **P 03 15 36.2 +0.4**
SPR3 IAmb IAmb 03 15 49.2
comp=Z,4.7nm,1.1s
WCT Wildcat Mounta 53.57 76 P **P 03 15 38.1 +0.3**
MPMC Manual Prospec 53.62 78 P **P 03 15 38.1 -0.2**
baz=317
TPNV Topopah Spring 53.67 76 P **P 03 15 38.2 -0.5**
TPNV IAmb IAmb 03 15 56.6
comp=Z,8.8nm,1.1s
TPNV Topopah Spring 53.67 76 P **P 03 15 38.2 -0.5**
TPNV pmax pmax
comp=Z,9.0nm,1.2s
TPNV Topopah Spring 53.67 76 P **P 03 15 38.6 0.0**
baz=316
FURC Furnace Creek, 53.67 77 P **P 03 15 39.8 +1.3**
baz=317
FRB Frobisher Bay 53.84 27 LR LR 03 42 13.4
comp=Z,63nm,19.6s,baz=341,slow=40
LRMC Laurel Mtn Rad 53.93 78 P **P 03 15 40.6 0.0**
baz=317
GWY Greenwater Val 53.98 77 P **P 03 15 40.6 -0.4**
PRN Pahroc Range 54.00 75 P **P 03 15 41.2 +0.2**
PRN IAmb IAmb 03 15 54.0
comp=Z,6.2nm,1.0s
QSM Queen of Sheba 54.03 77 P **P 03 15 40.6 -0.6**
QSM IAmb IAmb 03 15 47.3
comp=Z,2.9nm,0.8s
ARU Arti 54.20 319 *c i*P **P 03 15 44.0 +1.9**
ARU 03 17 40.8
ARU S **S 03 23 22.5 +4.7**
ARU SS **SS 03 27 00.4 +1.6**
ARU pmax pmax
comp=Z,7.0nm,1.7s
ARU Arti 54.20 319 LR LR 03 41 50.0
comp=Z,105nm,19.0s,baz=42,slow=39
PZH PanZhiHua 54.38 266 P **P 03 15 42.5 -1.4**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,120nm,5.5s
ULM Lac du Bonnet 54.48 51 LR LR 03 40 15.7
comp=Z,121nm,18.5s,baz=345,slow=38
GSC Goldstone, Bar 54.55 78 P **P 03 15 45.2 +0.1**
GSC IAmb IAmb 03 15 46.4
comp=Z,5.9nm,0.9s
GSC Goldstone, Bar 54.55 78 P **P 03 15 45.2 +0.1**
GSC pmax pmax
comp=Z,6.0nm,1.0s
GSC Goldstone, Bar 54.55 78 P **P 03 15 45.4 +0.4**
baz=317
MSU Marysvale 54.77 72 P **P 03 15 46.8 +0.1**
MSU Marysvale 54.77 72 P **P 03 15 46.8 +0.1**
CCUT Cedar City 54.82 73 P **P 03 15 47.4 +0.2**
CCUT IAmb IAmb 03 16 06.9
comp=Z,4.0nm,1.1s
SFJD Kangerlussuaq 54.82 17 LR LR 03 39 20.1
comp=Z,44nm,21.8s,baz=333,slow=36
TUQ Turquoise Moun 54.95 77 P **P 03 15 48.6 +0.6**
baz=317
RSSD Black Hills 55.00 62 P **P 03 15 47.7 -0.6**
baz=316
LCMT Little Creek M 55.28 74 P **P 03 15 51.2 +0.9**
LCMT IAmb IAmb 03 16 08.7
comp=Z,3.9nm,1.0s
V12A Nelson 55.33 76 P **P 03 15 50.7 0.0**
V12A IAmb IAmb 03 15 52.9
comp=Z,3.5nm,1.0s
KNB Kanab 55.50 73 P **P 03 15 51.5 -0.5**
KNB Kanab 55.50 73 P **P 03 15 51.5 -0.5**
KNB pmax pmax
comp=Z,13nm,1.4s
GMRC Granite Mounta 55.57 77 P **P 03 15 53.2 +0.8**
baz=318
O20A White River Ci 55.70 68 P **P 03 15 54.2 +0.7**
baz=317
KIRV Kirov 55.72 326 *i* P **P 03 15 54.0 +1.0**
KIRV Kirov 55.72 326 LR LR 03 42 31.1
comp=Z,68nm,18.2s,baz=36,slow=39
BELC Belle Mtn. Jos 55.96 78 P **P 03 15 55.6 +0.3**
baz=318
HMU Henry Mountain 55.96 71 P **P 03 15 55.6 +0.1**
PFO Pinyon Flats O 55.99 79 *i* P **P 03 15 54.7 -0.8**
PFO Pinyon Flats O 55.99 79 P **P 03 15 55.4 -0.1**
baz=318
IRM Iron Mountain 56.32 77 P **P 03 15 58.0 +0.3**
baz=318
N23A Red Feather La 56.35 65 P **P 03 15 58.8 +0.7**

	baz=317							
BC3	**Big Chuckawall**	**56.52**	**78**	P		**P**	**03 15 59.2**	**0.0**
	baz=318							
ISCO	**Idaho Springs**	**57.33**	**66**	P		**P**	**03 16 05.9**	**+0.8**
	baz=318,SNR=6.2							
AAK	**Ala-Archa**	**57.37**	**299**	LR		LR	03 43 19.4	
	comp=Z,90nm,18.5s,baz=45,slow=39							
S22A	**4UR Ranch, Cre**	**58.20**	**69**	P		**P**	**03 16 11.1**	**-0.2**
S22A				IAmb		IAmb	03 16 30.1	
	comp=Z,5.9nm,1.2s							
SDCO	**Great Sand Dun**	**58.91**	**68**	P		**P**	**03 16 16.6**	**+0.4**
	baz=318							
ECSD	**EROS Data Cent**	**58.93**	**57**	P		**P**	**03 16 16.0**	**+0.1**
	baz=319							
AKTO	**Aktyubinsk**	**58.98**	**315**	LR		LR	03 41 50.0	
	comp=Z,60nm,19.2s,baz=240,slow=36							
KK31	**Karatay Array**	**58.98**	**302**	P		**P**	**03 16 15.4**	**-1.0**
KK31				IAmb		IAmb	03 16 23.0	
	comp=Z,4.7nm,1.4s							
KK31	**Karatay Array**	**58.98**	**302**	P		**P**	**03 16 15.4**	**-1.0**
KK31				pmax		pmax		
	comp=Z,5.0nm,1.5s							
KKAR	**Karatay Array**	**58.98**	**302**	P		**P**	**03 16 14.3**	**-2.1**
KKAR	**Karatay Array**	**58.98**	**302**	P		**P**	**03 16 14.3**	**-2.1**
214A	**Organ Pipe Nat**	**59.26**	**77**	P		**P**	**03 16 18.7**	**+0.3**
	baz=319							
FINES	**FINESS Array B**	**59.43**	**339**	LR		LR	03 45 19.6	
	comp=Z,32nm,18.8s,baz=43,slow=40							
KSCO	**Kaye Shedlock'**	**59.46**	**65**	P		**P**	**03 16 20.6**	**+0.7**
	baz=319							
SPMN	**Marine on St.**	**59.59**	**54**	P		**P**	**03 16 20.6**	**+0.2**
	baz=320							
BGNE	**Belgrade**	**59.93**	**60**	P		**P**	**03 16 23.2**	**+0.3**
	baz=319							
T25A	**Trinidad**	**59.93**	**67**	P		**P**	**03 16 23.2**	**0.0**
	baz=319							
TUC	**Tucson**	**60.12**	**76**	P		**P**	**03 16 25.1**	**+0.7**
	baz=319							
ANMO	**Albuquerque**	**60.49**	**71**	*i* P		**P**	**03 16 24.6**	**-2.4**
ANMO				pmax		pmax		
	comp=Z,17nm,4.8s							
ANMO	**Albuquerque**	**60.49**	**71**	P		**P**	**03 16 27.5**	**+0.4**
	baz=319							
BELG	**Belogornoye**	**61.33**	**322**	LR		LR	03 46 45.7	
	comp=Z,71nm,18.1s,baz=125,slow=40							
JAY	**Jayapura**	**61.47**	**210**	LR		LR	03 42 45.3	
	comp=Z,24nm,19.4s,baz=338,slow=36							
CMAR	**Chiang Mai Arr**	**62.28**	**262**	P		**P**	**03 16 39.5**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=10,slow=5.5,SNR=4.1							
CMAR				LR		LR	03 46 08.5	
	comp=Z,75nm,19.1s,baz=40,slow=38							
	comp=Z,2.0nm,0.3s							
NOA	**NORSAR Array B**	**62.30**	**347**	P		**P**	**03 16 38.0**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=18,slow=7.0,SNR=2.3							
NOA				LR		LR	03 43 41.0	
	comp=Z,24nm,20.7s,baz=0.0,slow=36							
	comp=Z,0.4nm,0.4s							
OBN	**Obninsk**	**62.52**	**330**	LR		LR	03 44 55.5	
	comp=Z,40nm,20.7s,baz=349,slow=37							
HFS	**Hagfors**	**62.83**	**345**	P		**P**	**03 16 41.1**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=0.0,slow=4.3,SNR=1.6							
HFS				LR		LR	03 45 32.4	
	comp=Z,43nm,19.2s,baz=34,slow=38							
	comp=Z,2.2nm,0.9s							
BRDH	**Bariadhala**	**63.11**	**271**	LR		LR	03 45 45.7	
	comp=Z,98nm,18.1s,baz=128,slow=38							
MSTX	**Muleshoe**	**63.21**	**69**	P		**P**	**03 16 45.3**	**+0.1**
	baz=320							
MNTX	**Cornudas Mount**	**63.55**	**72**	P		**P**	**03 16 46.9**	**-0.5**
MNTX	**Cornudas Mount**	**63.55**	**72**	P		**P**	**03 16 47.9**	**+0.6**
	baz=321,SNR=10							
WMOK	**Wichita Mounta**	**64.71**	**65**	P		**P**	**03 16 54.7**	**-0.3**
WMOK	**Wichita Mounta**	**64.71**	**65**	P		**P**	**03 16 54.7**	**-0.3**
WMOK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
WMOK	**Wichita Mounta**	**64.71**	**65**	P		**P**	**03 16 55.1**	**+0.1**
	baz=321							
HNR	**Honiara**	**64.79**	**187**	LR		LR	03 39 27.8	
	comp=Z,872nm,21.4s,baz=3.5,slow=31							
HDIL	**Hopedale**	**64.84**	**55**	P		**P**	**03 16 55.1**	**-0.6**
	baz=322							
CCM	**Cathedral Cave**	**65.89**	**58**	P		**P**	**03 17 01.6**	**-1.0**
	baz=322							
TX31	**Lajitas Ar. Si**	**66.31**	**72**	P		**P**	**03 17 05.8**	**+0.4**
TX32	**Lajitas Array**	**66.31**	**72**	P		**P**	**03 17 05.6**	**+0.1**
TX32				IAmb		IAmb	03 17 07.0	
	comp=Z,5.6nm,0.9s							
TXAR	**Lajitas Array**	**66.31**	**72**	P		**P**	**03 17 05.4**	**-0.1**
TXAR	**Lajitas Array**	**66.31**	**72**	P		**P**	**03 17 05.4**	**-0.1**
TXAR	**Lajitas Array**	**66.31**	**72**	P		**P**	**03 17 05.9**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=301,slow=4.6,SNR=38							
TXAR				LR		LR	03 45 35.8	
	comp=Z,73nm,18.1s,baz=320,slow=36							
	comp=Z,3.8nm,0.7s							
SAND	**Sanderson**	**66.66**	**71**	P		**P**	**03 17 06.5**	**-1.2**
SAND				IAmb		IAmb	03 17 08.4	
	comp=Z,3.8nm,0.9s							
MIAR	**Mount Ida**	**67.52**	**62**	P		**P**	**03 17 12.6**	**-0.4**
	baz=323							
AKASG	**Malin Array Be**	**68.48**	**332**	LR		LR	03 50 54.6	
	comp=Z,61nm,18.2s,baz=46,slow=39							
GEYT	**Alibeck**	**68.89**	**306**	LR		LR	03 49 49.2	
	comp=Z,84nm,18.0s,baz=63,slow=38							
833A	**Chaparral WMA,**	**69.41**	**70**	P		**P**	**03 17 25.5**	**+0.6**
	baz=323							
PLAL	**Pickwick Lake**	**69.88**	**57**	P		**P**	**03 17 27.4**	**-0.2**
PLAL				IAmb		IAmb	03 17 46.7	
	comp=Z,6.9nm,1.1s							
KBZ	**Khabaz**	**70.34**	**320**	LR		LR	03 51 01.8	
	comp=Z,53nm,20.2s,baz=29,slow=38							
TKL	**Tuckaleechee C**	**71.35**	**54**	LR		LR	03 50 41.6	
	comp=Z,82nm,19.5s,baz=332,slow=37							
CLL	**Collm**	**71.43**	**343**	*e*pP		pP	03 17 46.0	+3.6
Y52A	**Lilburn**	**72.69**	**55**	P		**P**	**03 17 43.4**	**-1.3**
VRAC	**Vranov**	**72.70**	**340**	LR		LR	03 54 13.0	
	comp=Z,30nm,19.3s,baz=14,slow=40							
GNI	**Garni**	**72.73**	**317**	LR		LR	03 54 28.0	
	comp=Z,89nm,18.3s,baz=27,slow=40							
MSVF	**Nonsavu**	**73.47**	**169**	LR		LR	03 43 57.3	
	comp=Z,63nm,19.4s,baz=146,slow=31							
GERES	**GERESS Array B**	**73.69**	**342**	LR		LR	03 53 02.7	
	comp=Z,47nm,20.2s,baz=311,slow=38							
MLR	**Muntele Rosu**	**74.13**	**332**	LR		LR	03 52 04.2	
	comp=Z,53nm,21.9s,baz=40,slow=37							
DAVOX	**Davos/Dischmat**	**76.33**	**344**	LR		LR	03 54 50.7	
	comp=Z,36nm,19.6s,baz=48,slow=38							
BRTR	**Keskin Array B**	**77.11**	**325**	P		**P**	**03 18 10.3**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=24,slow=4.9,SNR=2.6							
BRTR				LR		LR	03 57 06.5	
	comp=Z,25nm,18.0s,baz=26,slow=40							
	comp=Z,0.5nm,0.7s							
DZM	**Mont Dzumac**	**77.13**	**180**	LR		LR	03 47 00.4	
	comp=Z,25nm,19.9s,baz=17,slow=32							
WRA	**Warramunga Arr**	**79.85**	**211**	P		**P**	**03 18 25.1**	**-0.2**
	comp=Z,0.9nm,1.0s,baz=23,slow=6.0,SNR=4.8							
	comp=Z,0.9nm,1.0s							
WSAR	**Wadi Sarin**	**80.75**	**298**	LR		LR	03 57 14.2	
	comp=Z,48nm,19.4s,baz=54,slow=38							
PPT	**Papeete**	**81.60**	**138**	LR		LR	03 50 05.1	
	comp=Z,143nm,19.3s,baz=90,slow=32							
TEIG	**Tepich**	**81.86**	**66**	LR		LR	03 56 05.1	
	comp=Z,221nm,20.7s,baz=212,slow=36							
MMAI	**Mount Meron Ar**	**82.54**	**320**	LR		LR	03 59 31.6	
	comp=Z,28nm,18.2s,baz=28,slow=39							
ASAR	**Alice Springs**	**83.50**	**210**	P		**P**	**03 18 45.3**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=17,slow=4.4,SNR=6.4							
	comp=Z,0.9nm,0.9s							
VAE	**Valguarnera**	**84.49**	**338**	LR		LR	04 00 26.8	
	comp=Z,22nm,20.5s,baz=200,slow=38							
ESDC	**Sonseca Array**	**84.98**	**353**	P		**P**	**03 18 53.0**	**+0.9**
	comp=Z,0.3nm,0.9s,baz=336,slow=5.3,SNR=2.2							
	comp=Z,0.3nm,0.9s							
EIL	**Elat**	**85.72**	**319**	LR		LR	04 03 03.7	
	comp=Z,30nm,18.8s,baz=60,slow=40							
JTS	**Las Juntas de**	**91.88**	**69**	LR		LR	04 05 38.1	
	comp=Z,18nm,18.0s,baz=324,slow=39							
RPZ	**Rata Peaks**	**98.79**	**177**	LR		LR	03 56 51.1	
	comp=Z,59nm,21.7s,baz=8.0,slow=31							
QSPA	**South Pole Qui**	**145.12**	**180**	PKPbc		**PKPbc**	**03 25 51.2**	**-1.3**
	comp=Z,5.3nm,0.9s,baz=286,slow=0.7,SNR=22							

*DJA **13** 03:23:05.7±0.5, 8°S±4°×10°7E±°, h32km±6km, M4.0/11, MLv4.0/11*
*IDC **13** 03:23:07.7±3.2, 7°.27S×107°.30E, h99km±20km, mb3.4/4, mbtmp3.8/4, MS3.0/2, Error ellipse: s-maj=87.5km s-min=25.6km az=51.0*

ISC 13 03:23:05.3±1.0, 7.72S±0°.09×107°.18E±0°.07, h63km, n23, σ1§71/14, mb3.5/4, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.41**	**353**	P	**Pn**	**03 23 17.4**	**+0.8**
CNJI				S	**Sn**	**03 23 26.4**	**+1.5**
LEM	**Lembang**	**0.99**	**26**	P	**Pn**	**03 23 24.3**	**+0.9**
LEM	**Lembang**	**0.99**	**26**	P	**Pn**	**03 23 24.3**	**+0.9**
	434nm,0.4s,baz=247,slow=3.3,SNR=52						
LEM				LR	LR	03 23 31.0	
	comp=Z,40nm,21.4s,baz=46,slow=43						
LEM				S	**Sn**	**03 23 37.7**	**+0.8**
	517nm,0.4s,baz=279,slow=19,SNR=9.2						
CMJI	**Cimerak**	**1.26**	**93**	P	**Pn**	**03 23 27.6**	**+0.8**
KPJI	**Karang Pucung**	**1.78**	**78**	P	**Pn**	**03 23 35.1**	**+1.3**
CGJI	**Cibinong**	**1.84**	**307**	P	**Pn**	**03 23 35.0**	**+0.4**
UGM	**Wanagama**	**3.32**	**94**	P	**Pn**	**03 23 55.8**	**+1.0**
KASI	**Kota Agung**	**3.44**	**309**	P	**Pn**	**03 23 59.2**	**+2.7**
SIJI	**Sorong**	**24.95**	**75**	LR	LR	03 39 19.5	
	comp=Z,18nm,20.9s,baz=72,slow=39						
H01W3	**Cape Leeuwin H**	**27.78**	**168**	T	T	03 58 27.8	
	baz=343,slow=78,SNR=7.0						
H01W1	**Cape Leeuwin H**	**27.79**	**168**	T	T	03 58 27.8	
	baz=343,slow=78,SNR=4.9						
H01W2	**Cape Leeuwin H**	**27.80**	**168**	T	T	03 58 29.9	
	baz=343,slow=78,SNR=7.5						
WRA	**Warramunga Arr**	**28.98**	**118**	P	**P**	**03 28 59.2**	**0.0**
	0.3nm,0.5s,baz=301,slow=8.9,SNR=5.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**30.13**	**125**	P	**P**	**03 29 09.8**	**+0.4**
	0.2nm,0.3s,baz=296,slow=8.3,SNR=4.5						
	0.2nm,0.3s						
H08S2	**Diego Garcia H**	**34.37**	**268**	T	T	04 05 21.5	
	baz=91,slow=75,SNR=14						
H08S3	**Diego Garcia H**	**34.38**	**268**	T	T	04 05 22.0	
	baz=91,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**34.39**	**268**	T	T	04 05 21.1	
	baz=91,slow=75,SNR=11						
CTA	**Charters Tower**	**39.76**	**112**	LR	LR	03 47 17.1	
	comp=Z,33nm,18.1s,baz=81,slow=36						
STKA	**Stephens Creek**	**40.03**	**132**	P	**P**	**03 30 35.0**	**+0.7**
	4.0nm,0.4s,baz=317,slow=8.6,SNR=7.0						
	4.0nm,0.4s						
MKAR	**Makanchi Array**	**58.62**	**340**	P	**P**	**03 32 51.9**	**-4.0**
	0.3nm,0.6s,baz=148,slow=7.9,SNR=2.4						
	0.3nm,0.6s						
H04N2	**CROZET ISLANDS**	**60.84**	**221**	T	T	04 39 39.8	
	baz=69,slow=75,SNR=26						
H04N1	**CROZET ISLANDS**	**60.85**	**221**	T	T	04 39 39.6	
	baz=69,slow=75,SNR=19						
H04N3	**CROZET ISLANDS**	**60.85**	**221**	T	T	04 39 40.6	
	baz=69,slow=75,SNR=22						

*IDC **13** 03:29:22.0±3.3, 16°.54N×94°.59W, h0km, mb3.7/4, mbtmp3.7/5, ML3.5/1, MS3.3/3, Error ellipse: s-maj=91.4km s-min=58.6km az=76.0*
*MEX **13** 03:29:24.9±0.7, 16°.44N×95°.12W, h81km±16km, MD4.5*
*NEIC **13** 03:29:27.3±2.1, 16°.40N±0°.06×95°.16W±0°.02, h45km±17km, mb4.1/41, Md4.5/26(MEX), Error ellipse: s-maj=9.1km s-min=0.9km az=194.0*

ISC 13 03:29:22.5±1.2, 16°.51N±0°.03×95°.16W±0°.02, h3km±9km, n111, σ1§56/140, mb4.0/12, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.52**	**84**	*i* P	**Pg**	**03 29 32.4**	**-0.2**
NILT				*i* S	**Sg**	**03 29 39.9**	**+0.5**
HUIG	**Huatulco**	**1.17**	**231**		**Pg**	**03 29 44.4**	**-0.6**
HUIG					**Sg**	**03 30 00.2**	**0.0**
HUIG	**Huatulco**	**1.17**	**231**	*i* P	**Pg**	**03 29 44.4**	**-0.6**
HUIG				*i* S	**Sg**	**03 30 00.2**	**0.0**
CARR	**Arriaga**	**1.23**	**102**	*i* P	**Pb**	**03 29 45.3**	**-1.1**
CARR				*i* S	**Sg**	**03 30 01.4**	**-0.5**
UXUV	**UXUV**	**1.26**	**50**	*i* P	**Pn**	**03 29 45.9**	**-1.1**
UXUV				*i* S	**Sb**	**03 30 03.1**	**-0.5**
NEUV	**Arroyo Zacate**	**1.34**	**333**	*i* P	**Pn**	**03 29 47.8**	**-0.4**
NEUV				*i* S	**Sb**	**03 30 06.0**	**0.0**
PANG	**Puerto Angel**	**1.52**	**237**		**Pn**	**03 29 50.5**	**-0.1**
PANG					**Sn**	**03 30 10.2**	**-0.6**
PANG	**Puerto Angel**	**1.52**	**237**	*i* P	**Pn**	**03 29 50.5**	**-0.1**
PANG				*e*S	**Sn**	**03 30 10.2**	**-0.6**
OXLC	**Oaxaca**	**1.58**	**291**	*e*P	**Pb**	**03 29 52.9**	**+0.4**
OXLC				*e*S	**Sg**	**03 30 14.1**	**+0.9**
OXBJ	**Oaxaca**	**1.60**	**290**	*e*P	**Pn**	**03 29 52.0**	**+0.2**
OXBJ				*e*S	**Sb**	**03 30 14.0**	**+0.5**
OXIG	**Oaxaca**	**1.61**	**291**		**Pn**	**03 29 52.6**	**+0.6**
OXIG					**Sg**	**03 30 14.8**	**+0.6**
VHO	**Vista Hermosa**	**1.61**	**291**	*i* P	**Pn**	**03 29 52.6**	**+0.6**
VHO				*i* S	**Sg**	**03 30 14.8**	**+0.6**
TUIG	**Tuzandepetl**	**1.67**	**25**	*e*P	**Pn**	**03 29 52.9**	**+0.2**
TUIG				*e*S	**Sb**	**03 30 15.5**	**+0.1**
TGIG		**1.97**	**82**	*e*P	**Pn**	**03 29 58.1**	**+1.2**
TGIG				*e*S	**Sn**	**03 30 21.0**	**-1.2**
PEIG	**Puerto Escondi**	**1.98**	**255**		**Pn**	**03 29 56.3**	**-0.6**
PEIG					**Sb**	**03 30 24.0**	**-0.2**
PEIG	**Puerto Escondi**	**1.98**	**255**	*i* P	**Pn**	**03 29 56.3**	**-0.6**
PEIG				*e*S	**Sb**	**03 30 24.0**	**-0.2**
TGBT	**Tuxtla Gutierr**	**2.00**	**82**	*e*P	**Pb**	**03 29 59.1**	**-0.5**
TGBT				*e*S	**Sb**	**03 30 25.0**	**+0.1**
PMUV	**Sontecomapan**	**2.02**	**1**	*e*P	**Pn**	**03 29 56.9**	**-0.8**
PCIG		**2.03**	**113**		**Pn**	**03 29 57.0**	**-0.6**
PCIG					**Sn**	**03 30 23.8**	**+0.2**
PCIG		**2.03**	**113**	*i* P	**Pn**	**03 29 57.0**	**-0.6**
PCIG				*i* S	**Sn**	**03 30 23.8**	**+0.2**
YOIG	**Yosondua**	**2.31**	**279**		**Pn**	**03 30 03.1**	**+1.3**
YOIG					**Sb**	**03 30 33.3**	**-0.8**
YOIG	**Yosondua**	**2.31**	**279**	*i* P	**Pn**	**03 30 03.1**	**+1.3**
YOIG				*e*S	**Sb**	**03 30 33.3**	**-0.8**
TOIG	**Toxpalan**	**2.41**	**311**	*e*P	**Pn**	**03 30 04.6**	**+1.6**
TOIG				*e*P		03 30 04.8	
TOIG				*e*S	**Sb**	**03 30 37.3**	**+0.6**
TXIG	**Tlaxiaco**	**2.60**	**287**	*e*P	**Pn**	**03 30 07.7**	**+1.9**
TXIG				*e*S	**Sb**	**03 30 44.7**	**+2.2**
TPIG	**Tehuac#an**	**2.83**	**312**	*e*P	**Pn**	**03 30 09.2**	**+0.3**
TPIG				*e*S	**Sb**	**03 30 47.3**	**-1.7**
HLIG	**Huajuapan de L**	**2.85**	**298**	*e*P	**Pn**	**03 30 10.7**	**+1.6**
HLIG				*e*S	**Sb**	**03 30 49.3**	**-0.2**
CCIG	**Comitan**	**2.91**	**94**	*e*P	**Pn**	**03 30 09.4**	**-0.5**
CCIG				*e*S	**Sn**	**03 30 47.8**	**+2.2**
PATR	**El Naranjo**	**3.14**	**116**	*i* P	**Pn**	**03 30 13.7**	**+0.6**
PATR				*i* S	**Sn**	**03 30 50.6**	**-0.7**
PAVE	**Pavencul**	**3.16**	**114**	*i* P	**Pn**	**03 30 15.5**	**+2.1**
PAVE				*i* S	**Sn**	**03 30 51.9**	**+0.2**
FTIG	**Fresnillo de T**	**3.16**	**296**	*e*P	**Pn**	**03 30 16.3**	**+3.0**
FTIG				*e*S	**Sb**	**03 30 57.1**	**-1.4**
THIG		**3.21**	**119**	*e*P	**Pn**	**03 30 13.5**	**-0.4**
THIG				*e*S	**Sn**	**03 30 51.0**	**-1.7**
JAUV	**Jalcomulco**	**3.24**	**331**	*e*P	**Pn**	**03 30 12.9**	**-1.4**
JAUV				*e*S	**Sn**	**03 30 54.3**	**+0.8**
CHUJ	**Union Juarez**	**3.26**	**115**	*i* P	**Pn**	**03 30 15.7**	**+0.9**
CHUJ				*i* S	**Sn**	**03 30 56.0**	**+1.7**
LVIG	**Laguna Verde**	**3.41**	**340**	*e*P	**Pn**	**03 30 15.0**	**-1.7**
HUEH	**Huehuetenango**	**3.71**	**108**		**Pn**	**03 30 23.8**	**+2.7**
RTAL	**Retalhuleu**	**3.88**	**120**		**Pn**	**03 30 24.6**	**+1.5**
PPM	**Popocatepetl**	**4.17**	**308**	*e*P	**Pn**	**03 30 29.6**	**+2.1**
PPM				*e*S	**Sn**	**03 31 15.2**	**-1.8**
CXUV	**Coxquihui**	**4.31**	**328**	*e*P	**Pn**	**03 30 28.8**	**-0.3**
DAIG	**Los Arroyos**	**4.33**	**277**	*e*P	**Pn**	**03 30 29.2**	**-0.2**
DAIG				*e*S	**Sn**	**03 31 18.3**	**-2.1**
YAIG	**Yautepec**	**4.40**	**303**	*e*P	**Pn**	**03 30 32.4**	**+2.0**
YAIG				*e*S	**Sn**	**03 31 20.9**	**-1.3**
MEIG	**Mezcala**	**4.49**	**289**	*e*P	**Pn**	**03 30 31.3**	**-0.2**
MEIG				*e*S	**Sn**	**03 31 25.3**	**+1.0**
SCIG	**Sabancuy**	**4.51**	**57**	*e*P	**Pn**	**03 30 29.9**	**-1.8**
SCIG				*e*S	**Sn**	**03 31 21.6**	**-3.1**
PLIG	**Platanillo**	**4.55**	**295**	*e*P	**Pn**	**03 30 34.8**	**+2.4**
PLIG				*e*S	**Sn**	**03 31 32.1**	**+6.3**
UNM	**Universidad Na**	**4.74**	**307**	Pn	**Pb**	**03 30 43.6**	**-2.9**
UNM	**Universidad Na**	**4.74**	**307**	*e*S	**Sn**	**03 31 27.3**	**-3.6**
CAIG	**El Cayaco**	**4.92**	**277**	*e*P	**Pn**	**03 30 36.9**	**-0.5**
PETF	**Flores**	**5.09**	**85**	Pn	**Pn**	**03 30 42.0**	**+2.2**
ARIG	**Puente Sto Nin**	**5.26**	**290**	*e*P	**Pn**	**03 30 44.3**	**+2.2**
ARIG				*e*S	**Sn**	**03 31 42.1**	**-1.1**
DEIG	**Demacu**	**5.27**	**316**	*e*P	**Pn**	**03 30 46.4**	**+4.0**
DEIG				*e*S	**Sn**	**03 31 40.7**	**-3.1**
CTUV	**Llano Grande**	**5.79**	**329**	*e*P	**Pn**	**03 30 46.6**	**-2.8**
ESQI	**Esquipulas**	**5.94**	**108**	Pn	**Pn**	**03 30 51.8**	**+0.3**
MTO3	**Montecristo**	**5.97**	**110**	Pn	**Pn**	**03 30 52.6**	**+0.5**
ZIIG	**Zihuatanejo**	**6.13**	**281**	*e*P	**Pn**	**03 30 52.6**	**-1.4**
ZIIG				*e*S	**Sn**	**03 32 01.6**	**-3.1**
SNET	**Serv Nac Est T**	**6.38**	**115**	Pn	**Pn**	**03 30 58.0**	**+0.5**
MYIG	**Mrida**	**6.78**	**48**	*e*P	Pn	03 30 55.2	-7.7
MYIG				*e*S	**Sn**	**03 32 15.8**	**-4.8**
TEIG	**Tepich**	**7.51**	**59**	Pn	**Pn**	**03 31 12.6**	**-0.4**
TEIG	**Tepich**	**7.51**	**59**	LR	LR	03 34 52.4	
	comp=Z,499nm,19.3s,baz=3.5,slow=47						
TGUH	**Tegucigalpa,Un**	**7.99**	**107**	Pn	**Pn**	**03 31 20.7**	**+0.9**
MATN	**Matagalpa**	**9.62**	**111**		**Pn**	**03 31 42.6**	**+0.6**
SOCE	**Pocosol**	**11.92**	**119**	Pn	**Pn**	**03 32 12.4**	**-1.2**
833A	**Chaparral WMA,**	**12.39**	**342**		**Pn**	**03 32 22.1**	**+2.2**
HNDO	**Hondo**	**13.50**	**344**	Pn	**Pn**	**03 32 36.2**	**+1.1**
DRK0	**Durika**	**13.66**	**120**	Pn	**Pn**	**03 32 38.2**	**+0.7**
435B	**Jarrell**	**14.38**	**352**		**Pn**	**03 32 48.7**	**+1.6**
JCT	**Junction City**	**14.54**	**344**	Pn	**Pn**	**03 32 51.6**	**+2.2**
TX31	**Lajitas Ar. Si**	**14.97**	**330**	Pn	**P**	**03 32 58.7**	**-2.2**
TX31				IAmb	IAmb	03 33 04.2	
	comp=Z,12nm,1.1s						
TXAR	**Lajitas Array**	**14.97**	**330**	Pn	**Pn**	**03 32 57.9**	**+2.7**
TXAR	**Lajitas Array**	**14.97**	**330**	Pn	**P**	**03 33 00.1**	**-0.9**
	baz=144,slow=15,SNR=5.6						
	comp=Z,1.9nm,0.8s						
BRDY	**Brady**	**15.12**	**347**		**Pn**	**03 32 58.8**	**+1.7**
BRDY				IAmb	IAmb	03 33 09.1	
	comp=Z,5.2nm,0.7s						
OZNA	**Ozona**	**15.35**	**340**	Pn	**P**	**03 33 03.2**	**-1.9**
OZNA				IAmb	IAmb	03 33 07.9	
	comp=Z,16nm,0.8s						
WHTX	**Lake Whitney,**	**15.55**	**353**		**Pn**	**03 33 04.8**	**+2.0**
FW13	**Cleburne**	**15.90**	**353**		**Pn**	**03 33 09.0**	**+1.6**
FW13				IAmb	IAmb	03 33 10.6	
	comp=Z,19nm,0.6s						
FW07	**Weatherford**	**16.30**	**352**	Pn	**Pn**	**03 33 13.4**	**+0.9**
FW07				IAmb	IAmb	03 33 24.5	
	comp=Z,22nm,0.5s						
ABTX	**Abilene, Hawle**	**16.55**	**347**	IAmb	IAmb	03 33 20.4	
	comp=Z,12nm,0.7s						
FW03	**Perrin-Whitt E**	**16.67**	**351**	Pn	**Pn**	**03 33 18.3**	**+1.1**
FW03				IAmb	IAmb	03 33 21.6	
	comp=Z,11nm,0.7s						
PECS	**Pecos**	**16.78**	**333**	IAmb	IAmb	03 33 24.6	
	comp=Z,15nm,0.9s						
425A	**Indio Mountain**	**16.81**	**329**		**P**	**03 33 21.7**	**+0.4**
LOOK	**Love County**	**17.50**	**354**		**P**	**03 33 29.4**	**+0.6**
LOOK				IAmb	IAmb	03 33 32.7	
	comp=Z,18nm,0.8s						
MNTX	**Cornudas Mount**	**17.75**	**330**	P	**P**	**03 33 32.1**	**+0.4**
DKNS	**Dickens**	**17.86**	**344**	IAmb	IAmb	03 33 47.7	
	comp=Z,8.7nm,0.8s						
X37A	**Clayton**	**18.00**	**359**	IAmb	IAmb	03 33 38.9	
	comp=Z,12nm,1.0s						
MIAR	**Mount Ida**	**18.02**	**4**		**Pn**	**03 33 33.9**	**-0.1**
W35A	**Tecumseh**	**18.63**	**356**	IAmb	IAmb	03 33 55.1	
	comp=Z,16nm,1.1s						
OK052	**Battle Ridge R**	**19.46**	**356**		**P**	**03 33 49.7**	**-0.7**
OK052				IAmb	IAmb	03 33 52.5	
	comp=Z,12nm,0.8s						
FCAR	**Ozark Folk Cen**	**19.49**	**7**	P	**P**	**03 33 50.9**	**+0.2**
FCAR				IAmb	IAmb	03 33 52.8	
	comp=Z,4.6nm,0.5s						
121A	**Cookes Peak, D**	**19.63**	**327**	IAmb	IAmb	03 33 58.2	
	comp=Z,6.7nm,0.8s						
LCAR	**Lake Charles**	**19.80**	**10**	P	**P**	**03 33 53.4**	**-0.8**
T35A	**Sooner Cattle**	**20.36**	**357**	P	**P**	**03 33 59.7**	**-0.5**
T35A				IAmb	IAmb	03 34 05.0	
	comp=Z,9.4nm,0

3.8nm,0.1s
MORF Marmelete 3.14 82 *e*P **Pn 03 37 29.9 +1.9**
MORF *e*S **Sn 03 38 05.9 +0.3**
MORF IAML 03 38 08.2
comp=N,2.7nm,0.1s
PMAFR Mafra 3.29 51 *e*P **Pn 03 37 32.2 +2.1**
PMAFR *e*S **Sn 03 38 09.8 +0.5**
PMAFR A A 03 38 13.3
comp=N,6.1nm,0.2s
PMAFR Mafra 3.29 51 Sn **Sn 03 38 10.0 +0.7**
PMAFR Pn **Pn 03 37 32.1 +2.0**
PNCL Nicolau / Gran 3.41 68 *e*P **Pn 03 37 33.7 +2.0**
PNCL *e*S **Sn 03 38 12.2 -0.1**
PNCL A A 03 38 20.0
comp=N,2.7nm,0.3s
PNCL Nicolau / Gran 3.41 68 Pn **Pn 03 37 33.5 +1.8**
PCVE Castro Verde 3.67 77 *e*P **Pn 03 37 37.5 +2.2**
PCVE *e*S **Sn 03 38 19.3 +0.7**
PCVE A A 03 38 23.5
comp=N,1.6nm,0.4s
PCVE Castro Verde 3.67 77 Pn **Pn 03 37 37.4 +2.2**
PBDV Barranco-do-Ve 3.71 83 *e*P **Pn 03 37 38.1 +2.3**
PBDV *e*S **Sn 03 38 21.0 +1.4**
PBDV A A 03 38 27.8
comp=N,2.1nm,0.4s
PBEJ Beja 3.89 72 *e*P **Pn 03 37 40.8 +2.5**
PBEJ *e*S **Sn 03 38 23.6 -0.4**
PBEJ A A 03 38 27.9
comp=N,1.9nm,0.3s
PVAQ Vaqueiros 3.89 81 *e*P **Pn 03 37 40.6 +2.4**
PVAQ *e*S **Sn 03 38 24.3 +0.3**
PVAQ A A 03 38 27.6
comp=N,2.1nm,0.3s
PVAQ Vaqueiros 3.89 81 P **Pn 03 37 40.7 +2.4**
PVAQ S **Sn 03 38 22.4 -1.7**
PVAQ Vaqueiros 3.89 81 Pn **Pn 03 37 40.6 +2.4**
PSBE So Bento 3.94 48 *e*P **Pn 03 37 42.5 +3.5**
PSBE *e*S **Sn 03 38 25.9 +0.7**
EVO Evora 3.94 64 *e*P **Pn 03 37 41.6 +2.6**
EVO *e*S **Sn 03 38 24.5 -0.9**
EVO A A 03 38 30.5
comp=N,5.0nm,0.3s
EVO Evora 3.94 64 Pn **Pn 03 37 41.6 +2.6**
EVO Sn **Sn 03 38 23.5 -1.8**
PMTG Montargil 4.04 56 *e*P **Pn 03 37 42.4 +2.1**
PMTG *e*S **Sn 03 38 28.0 +0.3**
PMTG A A 03 38 31.4
comp=N,1.8nm,0.1s
EGRO El Granado 4.09 80 Pn **Pn 03 37 43.2 +2.1**
EGRO ⇑*i*Vmb_V 03 37 44.7
comp=N,257nm,SNR=2.9
EGRO Sn **Sn 03 38 29.5 +0.6**
EGRO El Granado 4.09 80 Pn **Pn 03 37 43.2 +2.1**
PESTR Estremoz 4.38 62 *e*P **Pn 03 37 47.9 +2.8**
PESTR Estremoz 4.38 62 P **Pn 03 37 46.3 +1.2**
PESTR S **Sn 03 38 37.4 +1.2**
PESTR Estremoz 4.38 62 Pn **Pn 03 37 46.9 +1.9**
PESTR Sn **Sn 03 38 34.8 -1.4**
PCAS Casmilo, Conde 4.47 44 *e*P **Pn 03 37 48.5 +2.3**
PCAS *e*S **Sn 03 38 38.3 0.0**
PCAS A A 03 38 42.0
comp=N,1.5nm,0.7s
PBAR Barrancos 4.56 72 *e*P **Pn 03 37 49.7 +2.3**
PBAR *e*S **Sn 03 38 39.7 -0.8**
PBAR A A 03 38 45.9
comp=N,1.3nm,0.7s
PBAR Barrancos 4.56 72 Pn **Pn 03 37 49.4 +1.9**
EBAD Badajoz 4.75 65 Pn **Pn 03 37 52.1 +1.9**
EBAD ⇑*i*Vmb_V 03 37 56.8
comp=N,152nm,SNR=2.6
EBAD Sn **Sn 03 38 43.0 -2.3**
EBAD Badajoz 4.75 65 Pn **Pn 03 37 52.3 +2.1**
EBAD Sn **Sn 03 38 43.2 -2.1**
EMIN Mina Concepcio 4.76 78 Pn **Pn 03 37 52.2 +2.0**
EMIN ⇑*i*Vmb_V 03 37 53.6
comp=N,124nm,SNR=2.0
EMIN Sn **Sn 03 38 45.7 +0.3**
EMIN Mina Concepcio 4.76 78 Pn **Pn 03 37 52.0 +1.7**
PMRV Marv??o 4.78 57 *e*P **Pn 03 37 52.1 +1.6**
PMRV *e*S **Sn 03 38 45.0 -1.0**
PMRV A A 03 38 49.6
comp=N,1.7nm,0.2s
PCBR Castelo Branco 4.94 52 *e*P **Pn 03 37 55.0 +2.2**
MTE Manteigas 5.24 47 *e*P **Pn 03 37 58.8 +1.9**
MTE *e*S **Sn 03 38 57.1 -0.4**
MTE A A 03 39 00.0
comp=N,1.1nm,0.3s
PVIS Viseu 5.26 42 *e*P **Pn 03 37 59.1 +2.0**
PVIS *e*S **Sn 03 38 56.6 -1.2**
PVIS A A 03 39 01.1
comp=N,2.4nm,0.1s
AVE Averroes 5.54 129 Pn **Pn 03 38 01.4 +0.5**
AVE Sn **Sn 03 38 59.6 -5.1**
ECAB El Cabril 5.79 76 Pn **Pn 03 38 06.3 +1.9**
ECAB ⇑*i*Vmb_V 03 38 07.8
comp=N,112nm,SNR=3.1
ECAB Sn **Sn 03 39 09.4 -1.4**
ECAB El Cabril 5.79 76 Pn **Pn 03 38 06.2 +1.8**
ECAB Sn **Sn 03 39 07.1 -3.7**
POLO Lamas de Olo 5.79 38 *e*P **Pn 03 38 06.7 +2.2**
POLO *e*S **Sn 03 39 07.9 -3.1**
POLO A A 03 39 09.7
comp=N,0.5nm,0.2s
SRHM Skhour des Reh 5.85 138 P **Pn 03 38 04.3 -1.0**
SRHM S **Sn 03 39 07.6 -5.0**
EPLA Plasencia 5.97 56 Pn **Pn 03 38 08.8 +1.9**
EPLA ⇑*i*Vmb_V 03 38 09.9
comp=N,79nm,SNR=1.7
EPLA Sn **Sn 03 39 14.4 -1.0**
EZAM Zamans 6.02 28 Pn **Pn 03 38 08.9 +1.4**
EZAM Sn **Sn 03 39 11.5 -5.1**
PGAV Gavieira, Arco 6.04 32 *e*P **Pn 03 38 10.2 +2.3**
PGAV *e*S **Sn 03 39 13.1 -4.0**
PGAV A A 03 39 16.9
comp=N,2.5nm,0.7s
MVO Moncorvo 6.04 44 *e*P **Pn 03 38 09.7 +1.8**
MVO *e*S **Sn 03 39 14.2 -3.0**
MVO A A 03 39 17.3
comp=N,1.3nm,0.2s
ELOB Lobios 6.05 34 Pn **Pn 03 38 10.0 +2.0**
ELOB ⇑*i*Vmb_V 03 38 10.1
comp=N,124nm,SNR=1.3
ELOB Sn **Sn 03 39 13.9 -3.4**
EADA Adamuz 6.46 76 Pn **Pn 03 38 15.5 +1.8**
EADA ⇑*i*Vmb_V 03 38 18.1
comp=N,79nm,SNR=1.8
EADA Sn **Sn 03 39 27.5 +0.1**
EADA Adamuz 6.46 76 Pn **Pn 03 38 15.4 +1.8**
EMAZ Mazaricos 6.63 23 Pn **Pn 03 38 17.0 +1.1**
EMAZ ⇑*i*Vmb_V 03 38 17.3
comp=N,115nm,SNR=0.5
EMAZ Sn **Sn 03 39 25.5 -6.0**
PBRG Braganca 6.64 41 *e*P **Pn 03 38 18.9 +2.7**
PBRG *e*S **Sn 03 39 29.6 -2.3**
PBRG A A 03 39 32.1
comp=N,1.0nm,0.8s
ECAL Calabor 6.74 40 Pn **Pn 03 38 19.3 +1.8**
ECAL ⇑*i*Vmb_V 03 38 21.1
comp=N,64nm,SNR=0.9
ECAL Sn **Sn 03 39 32.0 -2.4**
EAGO Agolada(Pontev 6.81 29 Pn **Pn 03 38 19.8 +1.4**
EAGO ⇑*i*Vmb_V 03 38 23.9
comp=N,102nm,SNR=0.9
EAGO Sn **Sn 03 39 29.3 -6.8**
OUK Oukaimeden 6.89 144 P **Pn 03 38 18.8 -0.9**
OUK S Sn 03 39 30.0 -8.3
IFR Ifrane 6.95 117 Pn **Pn 03 38 19.8 -0.7**
IFR Sn Sn 03 39 32.0 -7.8
PAB San Pablo 6.97 65 Pn **Pn 03 38 22.5 +1.9**
PAB Sn **Sn 03 39 37.3 -2.8**
CZD Col de Zad 7.27 120 P **Pn 03 38 23.7 -1.3**
CZD S **Sn 03 39 42.6 -5.2**
TIO Tiouine 7.41 142 Pn **Pn 03 38 25.7 -1.0**
TIO Sn Sn 03 39 42.7 -8.2
MD31 MD31 7.56 120 P **Pn 03 38 28.5 -0.3**
MD31 S Sn 03 39 49.0 -5.7
OUZM OUZ 7.68 140 P **Pn 03 38 29.2 -1.2**
OUZM S Sn 03 39 51.2 -6.3
MDT Midelt 7.70 120 P **Pn 03 38 30.0 -0.7**
MDT S **Sn 03 39 53.5 -4.6**
ETOR Torete 9.07 61 Pn **Pn 03 38 51.2 +1.8**
ETOR ⇑*i*Vmb_V 03 38 53.5
comp=N,69nm,SNR=1.0
ETOR Sn Sn 03 40 23.3 -8.3

*IDC **13** 03:48:45.3±1.7,5°.77S×12°.22W,h0km,mb3.9/7, mbtmp3.9/7,MS3.0/2,Error ellipse: s-maj=121.2km s-min=23.2km az=105.0*
ISC 13 03:48:47.0±1.5,5°.8S±0°.2×12°.2W±0°.7,h10km,n14,σ1§16/7, mb4.1/7,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**3.06**	**228**	T	T	03 52 20.4	
	baz=45,slow=74,SNR=1209						
H10N1	**ASCENSION HYDR**	**3.06**	**227**	T	T	03 52 21.9	
	baz=45,slow=74,SNR=768						
H10N3	**ASCENSION HYDR**	**3.07**	**228**	T	T	03 52 22.0	
	baz=185,slow=74,SNR=963						
H10S2	**ASCENSION HYDR**	**3.99**	**217**	T	T	03 53 35.8	
	baz=185,slow=74,SNR=143						
H10S3	**ASCENSION HYDR**	**4.00**	**217**	T	T	03 53 38.7	
	baz=35,slow=74,SNR=263						
KOWA	**Kowa**	**21.71**	**22**	LR	LR	04 01 11.9	
	comp=Z,33nm,18.9s,baz=326,slow=34						
TORD	**Torodi Ar. Bea**	**23.32**	**36**	P	**P**	**03 53 54.1**	**-1.3**
	1.0nm,1.0s,baz=220,slow=9.5,SNR=5.3						
	1.0nm,1.0s						
MDT	**Midelt**	**39.04**	**10**	LR	LR	04 10 54.4	
	comp=Z,24nm,20.2s,baz=282,slow=34						
GERES	**GERESS Array B**	**58.91**	**20**	P	**P**	**03 58 46.8**	**+0.4**
	1.7nm,0.7s,baz=219,slow=5.2,SNR=3.9						
	1.7nm,0.7s						
BRTR	**Keskin Array B**	**61.90**	**39**	P	**P**	**03 59 08.7**	**+1.6**
	0.4nm,0.6s,baz=230,slow=7.2,SNR=2.3						
	0.4nm,0.6s						
SNAA	**Sanae**	**66.09**	**177**	P	**P**	**03 59 34.1**	**+0.1**
	0.9nm,0.7s,baz=9.7,slow=9.6,SNR=4.3						
	0.9nm,0.7s						
AKASG	**Malin Array Be**	**66.58**	**27**	P	**P**	**03 59 36.6**	**-0.7**
	0.6nm,0.5s,baz=230,slow=6.5,SNR=4.5						
	0.6nm,0.5s						
HFS	**Hagfors**	**68.80**	**14**	P	**P**	**03 59 51.1**	**-0.1**
	2.0nm,0.6s,baz=190,slow=7.3,SNR=1.9						
	2.0nm,0.6s						
QSPA	**South Pole Qui**	**84.34**	**180**	P	**P**	**04 01 18.9**	**-0.4**
	2.7nm,1.0s,baz=194,slow=5.4,SNR=5.2						
	2.7nm,1.0s						

*VIE **13** 03:57:53.7±1.0,50°.15N×19°.06E,h0km,mb2.3/6,ml2.4/6, ms3.4/1,Error ellipse: s-maj=12.3km s-min=6.0km az=158.0 12 km SSE of Katowice Suspected Mining induced.*
*PRU **13** 03:57:54.1,50°.21N×19°.04E,h0km*
*IPEC **13** 03:57:54.1±0.2,50°.15N×19°.09E,h1km,ML2.5/4,Error ellipse: s-maj=2.5km s-min=1.0km az=166.0*
ISC 13 03:57:54.1±0.8,50°.10N±0°.03×19°.10E±0°.02,h0km,n33, σ1§45/55,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.47**	**75**	*e*Sg	**Pg**	**03 58 02.6**	**-0.4**
OJC				*e*Sg	**Sg**	**03 58 09.1**	**+0.1**
OKC	**Ostrava-Krasne**	**0.67**	**247**	*e*PG	**Pg**	**03 58 07.0**	**+0.1**
OKC				*e*SG	**Sb**	**03 58 16.9**	**-1.5**
	comp=Z,76nm,0.6s						
LANS	**Liptovska Anna**	**0.98**	**166**	*e*PG	**Pg**	**03 58 13.0**	**+0.2**
LANS				*e*SG	**Sb**	**03 58 27.2**	**-0.2**
LANS				*e*LG	Lg	03 58 31.9	
NIE	**Niedzica**	**1.03**	**131**	*e*Pg	**Pg**	**03 58 14.1**	**+0.3**
NIE				*e*Sg	**Sb**	**03 58 29.7**	**+0.7**
MORC	**Moravsky Berou**	**1.06**	**253**	*e*Pg	**Pg**	**03 58 14.3**	**0.0**
	baz=69						
MORC				*e*Sg	**Sg**	**03 58 27.4**	**-0.6**
	86nm,0.5s,baz=69						
MORC	**Moravsky Berou**	**1.06**	**253**	*e*PG	**Pg**	**03 58 14.4**	**+0.1**
MORC				*e*SG	**Sg**	**03 58 27.5**	**-0.6**
MAUC	**Maruska**	**1.10**	**229**	*e*PG	**Pg**	**03 58 15.3**	**+0.1**
MAUC				*e*SG	**Sb**	**03 58 30.8**	**-0.2**
	comp=Z,106nm,0.5s						
STHS	**Stebnicka Huta**	**1.55**	**115**	*e*PN	**Pn**	**03 58 22.9**	**0.0**
STHS				*e*SN	**Sg**	**03 58 44.7**	**+0.9**
STHS				*e*LG	Lg	03 58 50.3	
JAVC	**Velka Javorina**	**1.55**	**218**	*e*Pn	**Pb**	**03 58 23.5**	**-0.2**
	baz=35						
JAVC	**Velka Javorina**	**1.55**	**218**	*e*PN	**Pb**	**03 58 23.6**	**-0.2**
VYHS	**Vyhne**	**1.61**	**186**	*e*PN	**Pn**	**03 58 23.0**	**-0.8**
VYHS				*e*SN	**Sn**	**03 58 44.9**	**-0.5**
DPC	**Dobruska-Polom**	**1.80**	**279**	*e*PG	**Pn**	**03 58 26.3**	**-0.2**
DPC				*e*SG	**Sn**	**03 58 49.9**	**-0.2**
	comp=Z,30nm,0.5s						
VRAC	**Vranov**	**1.81**	**245**	*e*Pn	**Pn**	**03 58 26.5**	**0.0**
	baz=62						
VRAC				*e*Sg	**Sb**	**03 58 51.3**	**0.0**
	20nm,0.5s,baz=62						
VRAC	**Vranov**	**1.81**	**245**	*e*PN	**Pn**	**03 58 26.6**	**0.0**
VRAC				*e*SG	**Sb**	**03 58 51.4**	**+0.1**
KECS	**Kecovo**	**1.85**	**150**	*e*PN	**Pn**	**03 58 26.0**	**-1.1**
KECS				*e*LG	Lg	03 58 58.7	
OSTC	**Ostas**	**1.91**	**285**	*e*PG	**Pn**	**03 58 27.5**	**-0.4**
OSTC				*e*SG	**Sn**	**03 58 52.6**	**0.0**
	comp=Z,17nm,0.6s						
KSP	**Ksiaz**	**1.94**	**294**	*e*Pn	**Pn**	**03 58 27.9**	**-0.4**
KSP				*e*Pg	**Pg**	**03 58 30.9**	**-0.4**
KSP				*e*Sg	**Sg**	**03 58 56.7**	**+0.2**
CRVS	**Cervenica-Dubn**	**1.95**	**127**	*e*PN	**Pb**	**03 58 30.2**	**-0.3**
KRUC	**Moravsky**	**2.04**	**241**	*e*Pn	**Pn**	**03 58 30.0**	**+0.3**
	baz=57						
KRUC				*e*Sg	**Sb**	**03 58 58.7**	**+0.7**
	28nm,0.5s,baz=57						
KOLS	**Kolonicke sedl**	**2.37**	**118**	*e*PG	**Pb**	**03 58 37.5**	**-0.2**
GOPC	**GO Pecny, Ondr**	**2.79**	**268**	*e*SG	**Sb**	**03 59 20.6**	**+1.1**
	comp=Z,8.3nm,0.4s						
PRU	**Pruhonice**	**2.94**	**270**	*e*SG	**Sb**	**03 59 25.8**	**+2.0**
	comp=Z,9.5nm,0.7s						
RONA	**Rosalia, Austr**	**3.03**	**219**	*i* Pn	**Pn**	**03 58 43.9**	**+0.6**
	0.2nm,0.1s						
RONA				*i* Sn	**Sn**	**03 59 19.8**	**-0.5**
	3.0nm,0.5s						
CONA	**Conrad Observa**	**3.04**	**226**	*i* Pn	**Pn**	**03 58 44.2**	**+0.7**
	0.1nm,0.1s						
CONA				*i* Sn	**Sn**	**03 59 18.9**	**-1.8**
	0.3nm,0.1s						
CKRC	**Cesky Krumlov**	**3.38**	**250**	*e*SG	**Sg**	**03 59 40.5**	**-2.0**
	comp=Z,7.2nm,0.5s						
BRG	**Berggiesshubel**	**3.38**	**285**	Pg	**Pg**	**03 59 02.2**	**+3.3**
BRG				Sg	**Sg**	**03 59 42.8**	**0.0**
BRG				Amp		03 59 45.0	
	comp=Z,6.5nm,0.5s						
ARSA	**Arzberg**	**3.71**	**221**	*e*Sg	**Sg**	**03 59 57.9**	**+4.8**
	comp=Z,0.8nm,0.3s						
KHC	**Kasperske Hory**	**3.72**	**257**	*e*PN	**Pn**	**03 58 52.2**	**-0.6**
KHC				*e*PG	**Pb**	**03 58 59.6**	**-1.1**
KHC				*e*SG	**Sg**	**03 59 51.5**	**-2.0**
	comp=Z,9.7nm,0.5s						
MOA	**Molln**	**3.90**	**237**	*i* Pn	**Pn**	**03 58 55.0**	**-0.3**
	comp=Z,0.2nm,0.1s						
MOA				*i* Sn	**Sb**	**03 59 46.6**	**-4.9**
	comp=Z,7.3nm,0.6s						
CLL	**Collm**	**4.06**	**290**	*e*x	x	03 59 57.0	
CLL				*e*Sg	**Sg**	**04 00 04.0**	**-0.5**
	comp=Z,6.0nm,0.7s						
BIOA	**Bad Ischl, Aus**	**4.33**	**238**	*e*Sn	**Sn**	**03 59 57.4**	**+4.9**
	comp=Z,3.7nm,0.4s						
LESA	**Schwarzleotal**	**5.02**	**240**	*e*Sg	**Sg**	**04 00 35.4**	**+0.1**
	comp=Z,1.0nm,0.3s						
WTTA	**Wattenberg**	**5.70**	**243**	*e*Sg	**Sg**	**04 00 57.2**	**+0.1**
	comp=Z,3.6nm,0.6s						

IDC 13 03:58:04.5±2.2,17°.33S×179°.02W,h586km±20km, mb3.0/4,mbtmp3.9/5,Error ellipse: s-maj=117.7km s-min=27.7km az=156.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.82**	**261**	P	P	03 59 21.6	0.0
	8.6nm,0.5s,baz=120,slow=8.1,SNR=9.5						
STKA	**Stephens Creek**	**38.40**	**240**	P	P	04 04 36.8	-0.2
	1.4nm,0.5s,baz=67,slow=7.7,SNR=5.5						
	1.4nm,0.5s						
WRA	**Warramunga Arr**	**44.16**	**259**	P	P	04 05 22.4	-0.2
	0.6nm,0.5s,baz=94,slow=6.9,SNR=15						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**44.39**	**254**	P	P	04 05 24.2	-0.1
	5.5nm,0.6s,baz=88,slow=8.4,SNR=72						
	5.5nm,0.6s						
TXAR	**Lajitas Array**	**86.18**	**58**	P	P	04 09 44.9	0.0
	0.3nm,0.7s,baz=224,slow=3.8,SNR=3.7						
	0.3nm,0.7s						

*SJA **13** 04:06:47.2±0.8,20°.69S×68°.98W,h113km±3km,ML3.8, MW3.7*
*GUC **13** 04:06:48.7±0.9,20°.70S×68°.90W,h105km±4km,ML3.8*
ISC 13 04:06:49.3±1.4,20°.71S±0°.03×69°.03W±0°.05,h106km±9km, n34,σ1§12/62,9C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.54**	**233**	⇑*i*P	**Pn**	**04 07 05.6**	**-0.6**
PB01				*i* S	**Sn**	**04 07 18.9**	**+0.1**
PB01				IAML		04 07 19.5	
	comp=E,8μm,0.2s						
PB01	**IPOC Station P**	**0.54**	**233**	*e*P	**Pn**	**04 07 05.5**	**-0.6**
PB01				IAML		04 07 19.4	
	comp=Z,4μm,0.2s						
PB01				*e*S	**Sn**	**04 07 19.4**	**+0.6**
PB08	**IPOC Station P**	**0.58**	**348**	⇑*i*P	**Pn**	**04 07 06.1**	**-0.8**
PB08				*i* S	**Sn**	**04 07 19.0**	**-0.9**
PB08				IAML		04 07 20.2	
	comp=E,4μm,0.2s						
PB08	**IPOC Station P**	**0.58**	**348**	*e*P	**Pn**	**04 07 06.0**	**-0.8**
PB08				*e*S	**Sn**	**04 07 19.3**	**-0.6**
PB08				IAML		04 07 19.8	
	comp=Z,2μm,0.1s						
HMBC	**Humberstone**	**0.92**	**298**	⇑*i*P	**Pn**	**04 07 09.0**	**-0.5**
HMBC				*i* S	**Sn**	**04 07 24.7**	**+0.1**
HMBC				IAML		04 07 26.9	
	comp=E,3μm,0.4s						
HMBC	**Humberstone**	**0.92**	**298**	*e*P	**Pn**	**04 07 08.9**	**-0.5**
HMBC				*e*S	**Sn**	**04 07 25.1**	**+0.4**
HMBC				IAML		04 07 26.7	
	comp=Z,3μm,0.7s						
PB02	**IPOC Station P**	**1.01**	**233**	⇑*i*P	**Pn**	**04 07 10.3**	**-0.2**
PB02				*i* S	**Sn**	**04 07 27.3**	**+0.9**
PB02				IAML		04 07 28.7	
	comp=E,4μm,0.2s						
PB02	**IPOC Station P**	**1.01**	**233**	*e*P	**Pn**	**04 07 10.3**	**-0.2**
PB02				*e*S	**Sn**	**04 07 27.7**	**+1.3**
PB02				IAML		04 07 27.9	
	comp=Z,3μm,0.3s						
GO01	**Chusmiza**	**1.05**	**351**	⇑*i*P	**Pn**	**04 07 10.5**	**-0.8**
GO01				*i* S	**Sn**	**04 07 27.4**	**-0.3**
GO01				IAML		04 07 29.5	
	comp=N,6μm,0.1s						
GO01	**Chusmiza**	**1.05**	**351**	*e*P	**Pn**	**04 07 10.5**	**-0.8**
GO01				*e*S	**Sn**	**04 07 27.8**	**0.0**
GO01				IAML		04 07 29.4	
	comp=Z,1μm,0.5s						
PATCX	**Punta Patache**	**1.06**	**264**	⇑*i*P	**Pn**	**04 07 10.8**	**-0.1**
PATCX				*i* S	**Sn**	**04 07 28.0**	**+0.8**
PATCX				IAML		04 07 29.8	
	comp=E,2μm,0.1s						
PATCX	**Punta Patache**	**1.06**	**264**	*e*P	**Pn**	**04 07 10.2**	**-0.7**
PATCX				*e*S	**Sn**	**04 07 29.2**	**+1.9**
PATCX				IAML		04 07 29.6	
	comp=Z,973nm,0.3s						
TA01	**Diego Aracena**	**1.09**	**278**	⇑*i*P	**Pn**	**04 07 10.9**	**-0.3**
TA01				*i* S	**Sn**	**04 07 28.1**	**+0.4**
TA01				IAML		04 07 28.7	
	comp=E,2μm,0.3s						
TA01	**Diego Aracena**	**1.09**	**278**	*e*P	**Pn**	**04 07 10.8**	**-0.3**
TA01				*e*S	**Sn**	**04 07 28.5**	**+0.8**
TA01				IAML		04 07 32.2	
	comp=Z,680nm,0.8s						
PB09	**IPOC Station P**	**1.10**	**191**	⇑*i*P	**Pn**	**04 07 11.3**	**-0.2**
PB09	**IPOC Station P**	**1.10**	**191**	*e*P	**Pn**	**04 07 11.3**	**-0.2**
PB09				*e*S	**Sn**	**04 07 30.5**	**+2.4**
PB09				IAML		04 07 31.0	
	comp=Z,1μm,0.7s						
TA02	**Huaiquique**	**1.13**	**293**	*e*P	**Pn**	**04 07 11.4**	**-0.1**
TA02				*i* S	**Sn**	**04 07 29.0**	**+0.7**
TA02	**Huaiquique**	**1.13**	**293**	*e*P	**Pn**	**04 07 10.8**	**-0.8**
TA02				*e*S	**Sn**	**04 07 29.4**	**+1.1**
TA02				IAML		04 07 30.5	
	comp=Z,3μm,0.1s						
PB07	**IPOC Station P**	**1.29**	**218**	⇑*i*P	**Pn**	**04 07 13.4**	**-0.2**
PB07				*i* S	**Sn**	**04 07 32.4**	**+0.5**
PB07				IAML		04 07 34.3	
	comp=E,3μm,0.4s						
PB07	**IPOC Station P**	**1.29**	**218**	*e*P	**Pn**	**04 07 13.3**	**-0.3**
PB07				*e*S	**Sn**	**04 07 32.9**	**+1.0**
PB07				IAML		04 07 34.8	
	comp=Z,1μm,0.4s						
LVC	**Limon Verde**	**1.89**	**177**	*e*P	**Pn**	**04 07 20.7**	**-0.4**
LVC				*e*S	**Sn**	**04 07 47.2**	**+1.9**
LVC				IAML		04 07 50.1	
	comp=Z,296nm,0.7s						
PB04	**IPOC Station P**	**1.92**	**213**	*e*P	**Pn**	**04 07 21.4**	**0.0**
PB04				IAML		04 07 55.5	
	comp=E,639nm,0.4s						
PB04	**IPOC Station P**	**1.92**	**213**	*e*P	**Pn**	**04 07 21.0**	**-0.3**
PB04				*e*S	**Sn**	**04 07 45.9**	**+0.2**
PB04				IAML		04 07 53.2	
	comp=Z,527nm,0.5s						
PB06	**IPOC Station P**	**2.05**	**194**	IAML		04 07 53.4	
	comp=E,521nm,0.3s						
PB06	**IPOC Station P**	**2.05**	**194**	*e*P	**Pn**	**04 07 22.8**	**-0.1**
PB06				*e*S	**Sn**	**04 07 48.7**	**+0.2**
PB06				IAML		04 07 53.2	
	comp=Z,368nm,0.3s						
PB16	**IPOC Station P**	**2.41**	**349**	*e*P	**Pn**	**04 07 28.5**	**+0.5**
PB16				IAML		04 08 08.1	
	comp=E,115nm,0.4s						
PB16	**IPOC Station P**	**2.41**	**349**	*e*P	**Pn**	**04 07 28.1**	**+0.1**
PB16				*e*S	**Sn**	**04 08 02.2**	**+4.6**
PB12	**IPOC Station P**	**2.42**	**329**	*e*P	**Pn**	**04 07 26.5**	**-1.2**
PB12				*i* S	**Sn**	**04 07 56.4**	**-0.8**
PB12				IAML		04 07 59.1	
	comp=E,444nm,0.5s						
PB12	**IPOC Station P**	**2.42**	**329**	*e*P	**Pn**	**04 07 26.9**	**-0.9**
PB12				*e*S	**Sn**	**04 07 56.7**	**-0.5**
PB15	**IPOC Station P**	**2.52**	**189**	*e*P	**Pn**	**04 07 29.1**	**0.0**
PB15				*i* S	**Sn**	**04 07 58.3**	**-1.2**
PB15	**IPOC Station P**	**2.52**	**189**	*e*P	**Pn**	**04 07 25.1**	**-4.0**
PB15				*e*P		04 07 29.2	
PB15				*e*S	**Sn**	**04 08 00.5**	**+1.0**
PB15				IAML		04 08 11.5	
	comp=Z,1μm,0.3s						
YJA	**Yavi**	**3.58**	**115**	*e*P	**Pn**	**04 07 43.7**	**+0.3**
PB14	**IPOC Station P**	**4.10**	**198**	*e*P	**Pn**	**04 07 49.6**	**-0.6**
PB14				*e*S	**Sn**	**04 08 36.5**	**-0.9**
PB14				IAML		04 09 00.6	
	comp=Z,69nm,0.7s						
GO02	**Mina Guanaco**	**4.46**	**187**	*e*P	**Pn**	**04 07 54.5**	**-0.6**
GO02				*e*S	**Sn**	**04 08 46.0**	**0.0**
GO02				IAML		04 09 15.9	
	comp=Z,72nm,0.7s						

*IDC **13** 04:06:29.8±2.1,15°.26S×175°.11W,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=123.2km s-min=25.3km az=150.0*
ISC 13 04:06:58.8±2.0,15°.3S±0°.7×175°.4W±0°.4,h250km,n6, σ0§50/5,mb3.2/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.97**	**257**	P	**P**	**04 15 12.6**	**-0.4**
	0.3nm,0.4s,baz=109,slow=7.5,SNR=15						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**48.29**	**252**	P	**P**	**04 15 15.8**	**+0.4**
	2.3nm,0.5s,baz=86,slow=8.0,SNR=28						
	2.3nm,0.5s						
TXAR	**Lajitas Array**	**82.18**	**57**	P	**P**	**04 18 52.5**	**+0.1**
	0.4nm,1.0s,baz=225,slow=7.3,SNR=1.6						
	0.4nm,1.0s						
ILAR	**Eielson Array**	**82.73**	**12**	P	**P**	**04 18 54.6**	**+0.3**
	0.3nm,0.5s,baz=223,slow=5.2,SNR=7.5						
	0.3nm,0.5s						
PDAR	**Pinedale Array**

*OSPL **13** 04:14:19.4±0.4, 19.°70N×76.°18W, h0km±6km, ML1.6*
ISC 13 04:14:16.7±1.6, 19.°96N±0.°06×76.°30W±0.°06, h14km±12km, n8, σ1§21/14, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.57**	**86**	*e*P	**Pg**	**04 14 28.4**	**+0.5**
RCC				*e*S	**Sg**	**04 14 35.7**	**+0.2**
RCC				IAML		04 14 36.1	
	comp=E,42nm,0.0s						
RCC				IAML		04 14 36.2	
	comp=N,53nm,0.1s						
HLGC	**Holguin**	**0.96**	**14**	*e*P	**Pg**	**04 14 34.7**	**-0.5**
HLGC				*e*S	**Sg**	**04 14 47.5**	**-0.3**
GTMO	**Guantanamo**	**1.10**	**83**	*e*P	**Pg**	**04 14 38.5**	**+0.6**
GTMO				*e*S	**Sg**	**04 14 53.3**	**+1.1**
GTMO				IAML		04 14 55.6	
	comp=E,259nm,0.3s						
GTMO				IAML		04 14 56.8	
	comp=N,269nm,0.2s						
GTBY	**Guantanamo Bay**	**1.12**	**91**	*e*P	**Pg**	**04 14 37.5**	**-0.8**
GTBY				*e*S	**Sg**	**04 14 51.6**	**-1.4**
GTBY				IAML		04 14 52.2	
	comp=N,14nm,0.4s						
GTBY				IAML		04 14 52.4	
	comp=N,14nm,0.4s						
GTBY	**Guantanamo Bay**	**1.12**	**91**	*i* P	**Pg**	**04 14 37.7**	**-0.6**
GTBY				*e*S	**Sg**	**04 14 51.5**	**-1.4**
GTBY				IAML		04 14 52.5	
	comp=Z,14nm,0.5s						
MASC	**Masc**	**1.96**	**83**	*e*P	**Pn**	**04 14 50.6**	**+1.1**
MASC				*e*S	**Sn**	**04 15 12.0**	**-1.8**
MASC				IAML		04 15 16.5	
	comp=N,9.2nm,0.7s						
MASC				IAML		04 15 16.8	
	comp=E,14nm,1.4s						
MASC	**Masc**	**1.96**	**83**	*i* P	**Pn**	**04 14 51.2**	**+1.7**
MASC				IAML		04 15 17.6	
	comp=Z,16nm,1.2s						
MTDJ	**Mount Denham**	**2.08**	**214**	*i* P	**Pn**	**04 14 51.9**	**+0.6**
MTDJ				IAML		04 15 16.5	
	comp=Z,5.1nm,1.1s						

*NEIC **13** 04:32:52.2±1.1, 46.°17N±0.°02×120.°54W±0.°03, h18km±3km, Error ellipse: s-maj=3.3km s-min=3.0km az=81.0*
SEA 13 04:32:52±1.1, 46.°16N±0.°02×120.°55W±0.°03, h14km±3km, ML2.6/17, ML2.8/52(NEIC), Error ellipse: s-maj=2.9km s-min=2.1km az=113.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRW	**Toppenish Ridg**	**0.13**	**2**		Pg	04 32 55.8	+0.1
BLTW	**Bickleton**	**0.36**	**133**		Pg	04 32 59.3	0.0
YA2	**Yakima**	**0.37**	**2**		Pg	04 32 59.8	+0.3
MXC	**Moxie City**	**0.45**	**23**		Pg	04 33 01.4	+0.3
MXC					Sb	04 33 08.4	0.0
F07A	**Phinny Hill Vi**	**0.51**	**121**		Pg	04 33 02.2	+0.1
F07A					Sb	04 33 09.5	-0.4
F07A	**Phinny Hill Vi**	**0.51**	**121**	IAML		04 33 10.8	
	comp=N,555nm,0.4s						
F07A				IAML		04 33 13.6	
	comp=E,490nm,0.5s						
NAC	**Naches**	**0.61**	**342**		Pg	04 33 03.8	-0.1
PAT2	**Paterson 2**	**0.62**	**116**		Pg	04 33 04.1	0.0
E07A	**Sunnyside**	**0.62**	**50**		Pg	04 33 04.2	-0.1
E07A					Sb	04 33 13.0	-0.3
E07A	**Sunnyside**	**0.62**	**50**	IAML		04 33 13.3	
	comp=E,334nm,0.5s						
E07A				IAML		04 33 13.5	
	comp=N,368nm,0.3s						
VGB	**Gordon Butte**	**0.66**	**194**		Pg	04 33 05.0	0.0
BENWA	**Benson Ranch**	**0.68**	**58**		Pg	04 33 05.2	-0.1
SNIWA	**Snively Ranch**	**0.69**	**63**		Pg	04 33 05.2	-0.2
RSW	**Rattlesnake Hi**	**0.70**	**70**		Pg	04 33 05.6	-0.2
HAWA	**Hanford**	**0.74**	**71**		Pg	04 33 06.1	-0.4
HAWA					Sg	04 33 16.4	+0.1
EBG	**Ellensburg**	**0.75**	**359**		Pg	04 33 06.4	-0.2
GBB	**Gable Butte**	**0.78**	**55**		Pg	04 33 07.1	0.0
GBB					Sb	04 33 17.7	0.0
REDWA	**Red Mountain**	**0.78**	**79**		Pb	04 33 07.6	+0.2
BVW	**Beverly**	**0.80**	**35**		Pg	04 33 07.0	-0.6
H2OWA	**Water**	**0.82**	**73**		Pg	04 33 07.4	-0.4
H2OWA					Sg	04 33 18.6	+0.1
GLK	**Glacier Lake**	**0.84**	**299**		Pb	04 33 08.4	0.0
GBL	**Gable Mountain**	**0.87**	**59**		Pb	04 33 08.6	-0.3
GBL	**Gable Mountain**	**0.87**	**59**		Pb	04 33 08.5	-0.4
WAH2	**Wahluke Slope**	**0.90**	**48**		Pb	04 33 09.4	0.0
MJ2	**May Junction 2**	**0.92**	**64**		Pb	04 33 09.1	-0.5
WIW	**Wooded Island**	**0.92**	**72**		Pb	04 33 09.1	-0.5
G06A	**Carlson Farm,**	**0.93**	**184**		Pb	04 33 09.3	-0.5
G06A	**Carlson Farm,**	**0.93**	**184**	IAML		04 33 23.1	
	comp=N,292nm,0.2s						
G06A				IAML		04 33 25.6	
	comp=E,317nm,0.2s						
LOCW	**Locke Island**	**0.95**	**54**		Pb	04 33 10.0	-0.3
SHRK	**Shell Rock**	**0.98**	**225**		Pb	04 33 10.3	-0.4
VTHM	**Trough**	**0.98**	**180**		Pb	04 33 10.1	-0.6
TBM	**Table Mountain**	**1.01**	**358**		Pb	04 33 10.6	-0.7
CDFW	**Cedar Flats**	**1.04**	**268**		Pb	04 33 11.7	-0.1
OT3	**Othello 3**	**1.04**	**60**		Pb	04 33 11.4	-0.4
LON	**Longmire**	**1.05**	**305**		Pb	04 33 11.6	-0.4
LON	**Longmire**	**1.05**	**305**		Pb	04 33 12.0	0.0
RCM	**Mount Rainier-**	**1.06**	**310**		Pb	04 33 12.2	-0.1
G05A	**Wamic**	**1.06**	**211**		Pb	04 33 11.9	-0.3
G05A				IAML		04 33 30.4	
	comp=E,185nm,0.2s						
G05A				IAML		04 33 30.6	
	comp=N,175nm,0.5s						
FHE	**Frenchman Hill**	**1.07**	**42**		Pb	04 33 11.8	-0.5
FHE					Sb	04 33 26.4	+0.2
RCS	**Mount Rainier-**	**1.08**	**312**		Pb	04 33 12.4	-0.3
E08A	**Dider Farm, El**	**1.08**	**72**		Pb	04 33 11.6	-0.9
FMW	**Mount Fremont**	**1.09**	**315**		Pb	04 33 12.4	-0.4
LTY	**Liberty**	**1.10**	**356**		Pb	04 33 11.6	-1.2
LTY				IAML		04 33 29.5	
	comp=E,134nm,0.5s						
LTY				IAML		04 33 30.1	
	comp=N,200nm,0.5s						
B202	**Windy Ridge, M**	**1.10**	**275**		Pb	04 33 12.5	-0.4
REMR	**Mount Rainier-**	**1.11**	**307**		Pb	04 33 13.0	0.0
YPT	**Yellepit**	**1.11**	**95**		Pb	04 33 12.1	-0.8
ESD	**East Dome**	**1.11**	**273**		Pn	04 33 13.3	0.0
HSR	**South Ridge**	**1.14**	**271**		Pb	04 33 13.4	-0.1
HOOD	**Mount Hood Mea**	**1.14**	**223**		Pb	04 33 12.9	-0.6
HOOD				IAML		04 33 33.3	
	comp=E,151nm,0.4s						
VALT	**Mount Saint He**	**1.14**	**273**		Pb	04 33 13.5	-0.1
SEPW	**September Lobe**	**1.14**	**273**		Pg	04 33 14.5	+0.5
OBSR	**Observation Ro**	**1.15**	**311**		Pn	04 33 13.9	+0.1
MTMW	**Mount Mitchell**	**1.16**	**264**		Pn	04 33 13.7	-0.2
TDL	**Tradedollar La**	**1.17**	**280**		Pn	04 33 13.9	-0.2
SHW	**Mount Saint He**	**1.17**	**272**		Pb	04 33 14.2	+0.1
B201	**Coldwater, Mou**	**1.20**	**277**		Pn	04 33 14.1	-0.2
TDH	**Tom, Dick, Har**	**1.23**	**225**		Pg	04 33 15.9	+0.2
B203	**Quarry, Mount**	**1.24**	**271**		Pn	04 33 14.7	-0.2
FL2	**Flat Top 2**	**1.25**	**272**		Pb	04 33 15.6	+0.2
ERK	**Elk Rock**	**1.25**	**277**		Pn	04 33 15.2	+0.1
RVC	**Mount Rainier-**	**1.25**	**309**		Pb	04 33 15.7	+0.2
VBEM	**Beaver Butte**	**1.32**	**214**		Pb	04 33 16.4	-0.2
F04A	**Amboy**	**1.32**	**261**		Pn	04 33 16.1	+0.1
G08A	**Pilot Rock**	**1.41**	**127**	Pn	Pn	04 33 16.3	-1.1
B941	**Kapowsin**	**1.42**	**306**		Pn	04 33 17.6	+0.4
D05A	**Enumclaw**	**1.43**	**317**		Pn	04 33 17.8	+0.4
D08A	**Wollman Farm,**	**1.44**	**51**		Pn	04 33 17.1	-0.4
D08A				IAML		04 33 36.5	
	comp=N,144nm,0.4s						
D08A				IAML		04 33 36.6	
	comp=E,140nm,0.3s						
ETW	**Entiat**	**1.45**	**6**		Pn	04 33 17.5	-0.4
RVW	**Rose Valley**	**1.52**	**270**		Pb	04 33 19.8	-0.2
RATT	**Rattlesnake La**	**1.53**	**326**		Pn	04 33 19.2	+0.3
WTV	**Waterville**	**1.59**	**15**		Pn	04 33 19.7	-0.1
SLFW	**Sugar Loaf**	**1.60**	**1**		Pn	04 33 20.1	+0.1
LNOR	**Lincton Mounta**	**1.60**	**100**		Pn	04 33 19.6	-0.4
CBSW	**Chelan Butte S**	**1.68**	**12**		Pn	04 33 21.1	+0.1
E09A	**Wood Farm, Sta**	**1.70**	**77**		Pn	04 33 20.7	-0.6
WRW	**Wenatchee Ridg**	**1.71**	**353**		Pn	04 33 22.1	+0.6
C05A	**Tolt Reservoir**	**1.72**	**333**		Pn	04 33 22.1	+0.6
SAW	**Saint Andrews**	**1.73**	**27**		Pn	04 33 21.3	-0.3
OD2	**Odessa Site #2**	**1.77**	**45**		Pn	04 33 21.4	-0.7
HTW	**Haystack Looko**	**1.84**	**334**		Pn	04 33 23.8	+0.6
H04A	**Detroit Lake**	**1.87**	**219**		Pn	04 33 24.4	+0.8
H04A				IAML		04 33 51.9	
	comp=N,79nm,0.4s						
H04A				IAML		04 33 52.1	
	comp=E,107nm,0.4s						
I05D	**Terrebonne, OR**	**1.91**	**197**		Pn	04 33 25.0	+1.0
NLW	**Nelson Butte**	**1.93**	**4**		Pn	04 33 24.6	+0.2
GPW	**Glacier Peak**	**2.00**	**349**		Pn	04 33 26.4	+0.9
F03A	**Seaside**	**2.11**	**265**	Pn	Pn	04 33 28.1	+1.3
I07A	**Izee**	**2.21**	**160**	Pn	Pn	04 33 28.3	+0.1
I07A				IAML		04 34 03.4	
	comp=E,36nm,0.3s						
JCW	**Jim Creek**	**2.24**	**336**		Pn	04 33 29.6	+0.9
H04D	**Lebanon**	**2.25**	**224**	Pn	Pn	04 33 28.8	+0.1
C09A	**Chrisman Ranch**	**2.26**	**43**		Pn	04 33 28.8	-0.2
B013	**Quilcene**	**2.31**	**317**		Pb	04 33 32.6	-0.8
F10A	**Beach Ranch, E**	**2.32**	**93**		Pn	04 33 29.7	-0.1
F10A				IAML		04 34 12.9	
	comp=E,64nm,0.4s						
PINE	**Pine Mountain**	**2.38**	**187**	Pn	Pn	04 33 31.5	+0.7
B06A	**Marblemount**	**2.44**	**345**	Pn	Pn	04 33 31.9	+0.5
B06A				IAML		04 34 14.8	
	comp=E,51nm,0.7s						
B06A				IAML		04 34 20.4	
	comp=N,51nm,0.5s						
BMO	**Blue Mountains**	**2.63**	**119**		Pn	04 33 33.5	-0.5
BMO				IAML		04 34 17.0	
	comp=N,26nm,0.2s						
MBW	**Mount Baker**	**2.78**	**341**		Pb	04 33 41.0	-0.5
NEW	**Newport**	**3.15**	**47**	Pn	Pn	04 33 41.5	+0.5
NEW				IAML		04 34 33.1	
	comp=N,17nm,0.5s						
NEW				IAML		04 34 37.1	
	comp=N,17nm,0.4s						
J08A	**Circle Bar Ran**	**3.17**	**151**		Pn	04 33 41.3	-0.2
PLID	**Pearl Lake**	**3.37**	**107**	Pn	Pn	04 33 44.2	-0.1
MFID	**Camas Ranch**	**4.34**	**128**	Pn	Pn	04 33 57.2	-0.3
MFID				IAML		04 35 13.0	
	comp=N,14nm,0.6s						
MFID				IAML		04 35 19.1	
	comp=N,14nm,2.7s						
VCMT	**Victor**	**4.42**	**84**		Pn	04 33 58.8	+0.1
MSO	**Missoula**	**4.61**	**79**		Pn	04 34 01.0	-0.3
MSO				IAML		04 35 24.7	
	comp=N,10nm,1.5s						
MSO				IAML		04 35 30.5	
	comp=N,11nm,1.1s						
BPMT	**Black Pine Rid**	**4.93**	**84**	Pn	Pn	04 34 04.9	-1.0
CHMT	**Chamberlain Mo**	**5.09**	**79**		Pn	04 34 07.4	-0.6
GDR	**Gold River**	**5.17**	**317**		Pb	04 34 19.1	-2.9
LBCM	**Butte Creek Ri**	**5.35**	**187**		Pn	04 34 09.5	-2.0
DLMT	**Dillon**	**5.62**	**95**		Pn	04 34 15.2	-0.1

*IDC **13** 04:36:03.8±0.6, 6.°10S×106.°87W, h0km, mb4.2/17, mbtmp4.2/17, MS4.4/45, Error ellipse: s-maj=27.6km s-min=13.7km az=66.0*
*NEIC **13** 04:36:07.6±1.6, 6.°08S±0.°08×106.°8W±0.°1, h10km±1km, mb4.9/175, Error ellipse: s-maj=21.2km s-min=11.8km az=295.0*
*GCMT **13** 04:36:08.6±0.2, 6.°15S±0.°01×107.°07W±0.°01, h14km, MW5.2/134, Moment Tensor Solution. s85,c120; s134,c226; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.15±.10; Mθθ=0.89±.11; Mφφ=1.04±.11; Mrθ=0.06±.22; Mrφ=6.76±.11; Mθφ=-0.07±.23; Best double couple: M=6.82900×1016 NP1:φs=356.00000°, δ=90.00000°, λ=-179.00000°. NP2:φs=266.00000°, δ=89.00000°, λ=0.00000°. Principal axes: T 6.9030, Plg=0.0000°, Azm=131.0000°; N -0.1510, Plg=89.0000°, Azm=32.0000°; P -6.7550, Plg=1.0000°, Azm=221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 04:36:06.5±0.4, 6.°10S±0.°07×106.°76W±0.°08, h10km, n427, σ1§29/335, mb4.8/108, MS4.5/48, 5D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**21.05**	**186**	LR	LR	04 45 51.1	
	comp=Z,237nm,19.0s,baz=15,slow=28						
HUEH	**Huehuetenango**	**26.11**	**35**	P	**P**	**04 41 41.0**	**0.0**
MTO3	**Montecristo**	**26.70**	**40**	P	**P**	**04 41 48.2**	**+1.9**
MTO3				IAmb	IAmb	04 41 52.9	
	comp=Z,34nm,1.5s						
MCRA	**Macar, Loja**	**26.75**	**88**	P	**P**	**04 41 49.0**	**+2.3**
MCRA	**Macar, Loja**	**26.75**	**88**	*e*P	**P**	**04 41 48.4**	**+1.7**
ESQI	**Esquipulas**	**26.83**	**40**	P	**P**	**04 41 49.0**	**+1.5**
ESQI				IAmb	IAmb	04 42 14.8	
	comp=Z,57nm,1.6s						
JTS	**Las Juntas de**	**27.14**	**53**	LR	LR	04 49 55.6	
	comp=Z,3μm,21.0s,baz=229,slow=31						
ARE1	**Arenal 1**	**27.43**	**53**	P	**P**	**04 41 55.0**	**+2.3**
ARE1				IAmb	IAmb	04 42 24.1	
	comp=Z,16nm,0.8s						
BOAB	**BOACO BROADBAND**	**27.92**	**49**	P	**P**	**04 41 56.8**	**-0.3**
BOAB				IAmb	IAmb	04 42 15.7	
	comp=Z,40nm,1.4s						
ACON	**Acoyapa**	**27.98**	**50**	P	**P**	**04 41 56.0**	**-1.7**
ACON				IAmb	IAmb	04 42 01.3	
	comp=Z,28nm,1.3s						
MATN	**Matagalpa**	**28.04**	**48**	P	**P**	**04 41 57.0**	**-1.2**
ATAH	**Atahualpa**	**28.19**	**94**	LR	LR	04 50 20.5	
	comp=Z,2μm,21.5s,baz=264,slow=30						
BOSC	**San Juan Bosco**	**28.32**	**85**	P	**P**	**04 42 01.4**	**+0.5**
SLOR	**San Lorenzo -**	**28.70**	**80**	P	**P**	**04 42 03.5**	**-1.2**
OTAV	**Otavalo**	**28.95**	**78**	P	**P**	**04 42 07.3**	**+0.4**
OTAV	**Otavalo**	**28.95**	**78**	*e*P	P	04 42 11.9	+5.0
NNA	**Nana**	**30.10**	**103**	LR	LR	04 51 03.0	
	comp=Z,1μm,19.8s,baz=266,slow=30						
BBAC	**Balboa, Cauca**	**30.55**	**76**	*e*P	**P**	**04 42 24.0**	**+3.2**
JAMC	**Jamundi, Valle**	**31.44**	**74**	*e*P	**P**	**04 42 30.1**	**+1.5**
TEIG	**Tepich**	**31.86**	**34**	LR	LR	04 53 41.1	
	comp=Z,13μm,19.9s,baz=3.0,slow=33						
PLMC	**San Jos del P**	**32.33**	**71**	*e*P	**P**	**04 42 33.4**	**-3.0**
PTLC	**Puerto Leguiza**	**32.51**	**80**	*e*P	**P**	**04 42 40.4**	**+2.6**
ORTC	**Ortega, Tolima**	**33.00**	**73**	*e*P	**P**	**04 42 44.6**	**+2.5**
PRAC	**Prado**	**33.29**	**74**	*e*P	**P**	**04 42 47.9**	**+3.2**
GUY2C	**Guyana, Caldas**	**33.30**	**71**	*e*P	**P**	**04 42 49.3**	**+4.0**
CZSB	**Cruzeiro do Su**	**33.84**	**95**	P	**P**	**04 42 50.4**	**+0.9**
CZSB				IAmb	IAmb	04 43 01.1	
	comp=Z,13nm,0.9s						
ROSC	**El Rosal**	**34.16**	**72**	P	**P**	**04 42 52.6**	**-0.1**
	comp=Z,3.3nm,0.4s,baz=262,slow=14,SNR=2.0						
ROSC				LR	LR	04 53 09.7	
	comp=Z,406nm,20.1s,baz=298,slow=30						
	comp=Z,3.3nm,0.4s						
PTBC	**PUERTO BERRIO,**	**34.60**	**69**	*e*P	**P**	**04 42 55.5**	**-0.5**
CHIC	**Chingaza**	**34.66**	**73**	*e*P	**P**	**04 43 00.4**	**+3.4**
833A	**Chaparral WMA,**	**34.95**	**11**	P	**P**	**04 43 00.1**	**+1.2**
833A				IAmb	IAmb	04 43 04.5	
	comp=Z,13nm,1.1s						
833A	**Chaparral WMA,**	**34.95**	**11**	P	**P**	**04 42 59.7**	**+0.9**
	baz=193						
TX32	**Lajitas Array**	**35.36**	**5**	P	**P**	**04 43 03.1**	**+0.7**
TXAR	**Lajitas Array**	**35.36**	**5**	P	**P**	**04 43 02.6**	**+0.2**
TXAR	**Lajitas Array**	**35.36**	**5**	P	**P**	**04 43 02.0**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=185,slow=10.0,SNR=9.8						
	comp=Z,1.8nm,1.0s						
RUSC	**La Rusia**	**35.66**	**71**	*e*P	**P**	**04 43 09.3**	**+3.5**
DRIO	**Del Rio**	**35.81**	**9**	P	**P**	**04 43 06.4**	**+0.2**
DRIO				IAmb	IAmb	04 43 10.9	
	comp=Z,23nm,1.7s						
SAND	**Sanderson**	**36.13**	**7**	P	**P**	**04 43 09.4**	**+0.4**
SAND				IAmb	IAmb	04 43 20.4	
	comp=Z,10.0nm,1.0s						
ALPN	**Alpine**	**36.39**	**5**	P	**P**	**04 43 11.5**	**+0.1**
ALPN				IAmb	IAmb	04 43 22.7	
	comp=Z,15nm,1.3s						
TBTG	**Tabatinga, AM**	**36.74**	**89**	P	**P**	**04 43 16.1**	**+1.7**
TBTG				IAmb	IAmb	04 43 18.9	
	comp=Z,36nm,1.4s						
JCT	**Junction City**	**36.98**	**10**	P	**P**	**04 43 16.7**	**+0.4**
JCT				IAmb	IAmb	04 43 26.6	
	comp=Z,20nm,1.5s						
JCT	**Junction City**	**36.98**	**10**	P	**P**	**04 43 16.9**	**+0.6**
	baz=192						
319A	**Douglas**	**37.34**	**356**	P	**P**	**04 43 19.2**	**-0.3**
319A				IAmb	IAmb	04 43 30.7	
	comp=Z,13nm,0.9s						
HKT	**Hockley**	**37.35**	**16**	P	**P**	**04 43 20.3**	**+1.1**
H03N2	**Juan Fernandez**	**37.51**	**140**	T	T	05 23 13.0	
	baz=313,slow=77,SNR=482						
H03N1	**Juan Fernandez**	**37.52**	**140**	T	T	05 23 17.0	
	baz=313,slow=77,SNR=371						
H03N3	**Juan Fernandez**	**37.52**	**140**	T	T	05 23 16.3	
	baz=313,slow=77,SNR=565						
MNTX	**Cornudas Mount**	**37.61**	**2**	P	**P**	**04 43 21.9**	**+0.3**
MNTX	**Cornudas Mount**	**37.61**	**2**	P	**P**	**04 43 23.0**	**+1.5**
	baz=182						
435B	**Jarrell**	**37.71**	**13**	P	**P**	**04 43 23.4**	**+0.9**
	baz=195						
BRDY	**Brady**	**37.91**	**11**	P	**P**	**04 43 24.2**	**0.0**
BRDY				IAmb	IAmb	04 43 28.8	
	comp=Z,28nm,1.7s						
PIX	**Pinacate**	**37.99**	**351**	P	**P**	**04 43 25.6**	**+0.8**
SGCY	**Sterling City**	**38.18**	**8**	P	**P**	**04 43 26.8**	**+0.3**
SGCY				IAmb	IAmb	04 43 37.0	
	comp=Z,14nm,1.0s						
HNVL	**Huntsville, TX**	**38.21**	**16**	P	**P**	**04 43 27.6**	**+1.0**
HNVL				IAmb	IAmb	04 43 31.7	
	comp=Z,67nm,1.4s						
214A	**Organ Pipe Nat**	**38.28**	**352**	P	**P**	**04 43 28.5**	**+1.2**
	baz=170						
TUC	**Tucson**	**38.39**	**355**	P	**P**	**04 43 29.3**	**+1.0**
	baz=174						
121A	**Cookes Peak, D**	**38.43**	**359**	P	**P**	**04 43 29.7**	**+1.1**
	baz=178						
ESJX	**Sierra Juarez**	**38.90**	**348**	P	**P**	**04 43 32.5**	**-0.1**
WHTX	**Lake Whitney,**	**38.91**	**13**	P	**P**	**04 43 33.6**	**+1.2**
	baz=195						
SDV	**Santo Domingo**	**38.97**	**68**	LR	LR	04 56 53.0	
	comp=Z,396nm,21.4s,baz=244,slow=32						
ABTX	**Abilene, Hawle**	**39.10**	**10**	P	**P**	**04 43 35.4**	**+1.3**
	baz=191						
LPAZ	**La Paz**	**39.15**	**108**	*e*P	**P**	**04 43 37.9**	**+2.4**
LPAZ	**La Paz**	**39.15**	**108**	P	**P**	**04 43 35.3**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=245,slow=12						
	comp=Z,0.7nm,0.6s						
113A	**Mohawk Valley,**	**39.23**	**351**	P	**P**	**04 43 35.6**	**+0.5**
POST	**Post**	**39.27**	**7**	P	**P**	**04 43 35.4**	**-0.2**
POST				IAmb	IAmb	04 43 39.3	
	comp=Z,29nm,1.5s						
IKP	**In-Ko-Pah, Jac**	**39.55**	**348**	P	**P**	**04 43 39.7**	**+1.8**
	baz=166						
GLA	**Glamis**	**39.69**	**349**	P	**P**	**04 43 41.3**	**+2.3**
	baz=168						
SWSC	**Sam W. Stewart**	**39.77**	**348**	P	**P**	**04 43 41.1**	**+1.5**
	baz=166						
MONP2	**Monument Peak**	**39.85**	**347**	P	**P**	**04 43 42.8**	**+2.2**
	baz=165						
LVC	**Limon Verde**	**40.01**	**118**	LR	LR	04 56 06.0	
	comp=Z,1μm,19.3s,baz=282,slow=30						
MSTX	**Muleshoe**	**40.03**	**5**	P	**P**	**04 43 43.0**	**+1.0**
	baz=186						
BC3	**Big Chuckawall**	**40.39**	**349**	P	**P**	**04 43 46.2**	**+1.3**
	baz=167						
TPFO	**Pinon Flats**	**40.55**	**348**	P	**P**	**04 43 48.2**	**+2.0**
	baz=165						
PFO	**Pinyon Flats O**	**40.55**	**348**	P	**P**	**04 43 48.0**	**+1.6**
	baz=165						
PFO	**Pinyon Flats O**	**40.55**	**348**	LR	LR	04 56 27.4	
	comp=Z,618nm,21.0s,baz=167,slow=30						
MURC	**Murrieta**	**40.71**	**347**	P	**P**	**04 43 49.1**	**+1.6**
	baz=164						
PDMCI	**Parker Dam,Lak**	**40.79**	**351**	P	**P**	**04 43 49.9**	**+1.8**
	baz=169						
IRM	**Iron Mountain**	**40.82**	**349**	P	**P**	**04 43 49.5**	**+1.1**
	baz=167						
ANMO	**Albuquerque**	**40.83**	**0**	P	**P**	**04 43 49.7**	**+1.0**
	baz=181						
ANMO	**Albuquerque**	**40.83**	**0**	LR	LR	04 57 55.8	
	comp=Z,242nm,19.4s,baz=274,slow=32						
BELC	**Belle Mtn. Jos**	**40.83**	**348**	P	**P**	**04 43 49.4**	**+0.7**
	baz=166						
AMTX	**Amarillo**	**41.05**	**6**	P	**P**	**04 43 52.4**	**+2.1**
	baz=188						
W18A	**Petrified Fore**	**41.09**	**356**	P	**P**	**04 43 51.9**	**+1.0**
	baz=176						
WMOK	**Wichita Mounta**	**41.31**	**10**	P	**P**	**04 43 53.8**	**+1.4**
	baz=192						
BAUV	**El Baul**	**41.39**	**69**	P	**P**	**04 43 53.3**	**0.0**
BFSC	**Mount Baldy Ra**	**41.43**	**346**	P	**P**	**04 43 55.5**	**+2.0**
	baz=164						
GMRC	**Granite Mounta**	**41.53**	**349**	P	**P**	**04 43 55.6**	**+1.3**
	baz=167						
W13A	**Hualapai Mount**	**41.53**	**351**	P	**P**	**04 43 54.9**	**+0.4**
WUAZ	**Wupatki**	**41.62**	**354**	P	**P**	**04 43 55.8**	**+0.7**
WUAZ				IAmb	IAmb	04 44 10.4	
	comp=Z,19nm,1.2s						
WUAZ	**Wupatki**	**41.62**	**354**	P	**P**	**04 43 57.1**	**+1.9**
	baz=173						
WLAR	**White Oak Lake**	**41.63**	**17**	P	**P**	**04 43 54.8**	**-0.2**
WLAR				IAmb	IAmb	04 44 11.8	
	comp=Z,39nm,1.5s						
HEC	**Hector,Ludlow**	**41.70**	**348**	P	**P**	**04 43 57.4**	**+1.7**
	baz=166						
W35A	**Tecumseh**	**42.08**	**12**	IAmb	IAmb	04 44 06.5	
	comp=Z,20nm,1.3s						
EDW2	**Edwards Air Fo**	**42.12**	**346**	P	**P**	**04 44 01.0**	**+1.9**
	baz=163						
TUQ	**Turquoise Moun**	**42.21**	**349**	P	**P**	**04 44 01.3**	**+1.4**
	baz=166						
GSC	**Goldstone, Bar**	**42.26**

comp=Z,14nm,1.2s
TBI Tubuai 44.50 243 *e*S S 04 50 44.5 -10
comp=Z,650nm,26.5s
TBI *e*SS **ScS 04 54 21.9 +4.6**
comp=Z,5µm,39.5s
TBI *e*LR LR 04 56 41.3
comp=Z,15µm,23.5s
TBI *e*LR LR 04 56 50.7
comp=Z,3µm,24.0s
PLAL Pickwick Lake 44.50 22 IAmb IAmb 04 44 22.9
comp=Z,40nm,1.8s
Q24A Divide 44.86 2 P **P 04 44 23.8 +2.3**
baz=182
PCRV Puerto La Cruz 44.96 69 LR LR 05 02 22.7
comp=Z,331nm,21.4s,slow=35
R11B Troy Canyon, C 44.98 350 P **P 04 44 24.6 +2.4**
baz=168
KSCO Kaye Shedlock' 45.05 5 P **P 04 44 24.6 +1.9**
baz=186
GOGA Godfrey 45.08 28 P **P 04 44 23.2 +0.3**
baz=214
FPAL Fort Paine 45.09 25 P **P 04 44 23.2 +0.2**
FPAL IAmb IAmb 04 44 24.6
comp=Z,17nm,1.1s
MGMO Mountain Grove 45.11 16 P **P 04 44 23.4 +0.3**
MGMO IAmb IAmb 04 44 27.2
comp=Z,25nm,1.4s
CBKS Cedar Bluff 45.16 8 P **P 04 44 24.7 +1.2**
baz=190
PBMO Poplar Bluff 45.31 19 IAmb IAmb 04 44 29.5
comp=Z,22nm,1.4s
S39A Bolivar 45.33 15 IAmb IAmb 04 44 29.2
comp=Z,25nm,1.4s
T42A Van Buren 45.34 18 IAmb IAmb 04 44 28.6
comp=Z,18nm,1.4s
SPR3 Spring Creek 3 45.42 352 IAmb IAmb 04 44 30.1
comp=Z,14nm,1.2s
P17A Butcher Ranch, 45.50 356 IAmb IAmb 04 44 31.3
comp=Z,15nm,1.2s
SWET Sewanee 45.54 24 IAmb IAmb 04 44 31.1
comp=Z,24nm,1.4s
NVAR Mina Array Bea 45.59 347 P **P 04 44 27.2 +0.1**
comp=Z,3.8nm,1.1s,baz=172,slow=9.1,SNR=16
NVAR LR LR 04 59 43.5
comp=Z,420nm,18.4s,baz=172,slow=31
comp=Z,3.8nm,1.1s
WVT Waverly 45.61 22 P **P 04 44 27.2 +0.1**
WVT IAmb IAmb 04 44 28.3
comp=Z,25nm,1.6s
WVT Waverly 45.61 22 P **P 04 44 27.5 +0.4**
baz=207
V48A Smith Brothers 45.65 23 P **P 04 44 27.1 -0.3**
ISCO Idaho Springs 45.69 1 P **P 04 44 28.4 +0.5**
ISCO IAmb IAmb 04 44 32.8
comp=Z,12nm,1.4s
ISCO Idaho Springs 45.69 1 P **P 04 44 28.8 +0.8**
baz=182
CMB Columbia Colle 45.71 345 P **P 04 44 28.5 +0.7**
SIV San Ignacio 45.81 106 LR LR 05 01 06.2
comp=Z,584nm,21.6s,baz=286,slow=33
MACA Manacapuru-AM 46.01 89 P **P 04 44 30.1 -0.5**
MACA IAmb IAmb 04 44 40.5
comp=Z,11nm,0.8s
O20A White River Ci 46.03 358 IAmb IAmb 04 44 45.4
comp=Z,14nm,1.0s
O20A White River Ci 46.03 358 P **P 04 44 31.4 +0.8**
baz=178
R40A Maddies Statio 46.18 16 IAmb IAmb 04 44 47.1
comp=Z,11nm,1.1s
CCM Cathedral Cave 46.24 17 P **P 04 44 31.8 -0.2**
CCM IAmb IAmb 04 44 36.2
comp=Z,21nm,1.4s
CCM Cathedral Cave 46.24 17 P **P 04 44 32.8 +0.8**
baz=202
VILB Vilhena 46.36 102 P **P 04 44 34.4 +1.0**
VILB IAmb IAmb 04 44 36.7
comp=Z,24nm,1.5s
DUG Dugway, Tooele 46.41 354 IAmb IAmb 04 44 38.5
comp=Z,16nm,1.4s
DUG Dugway, Tooele 46.41 354 P **P 04 44 34.1 +0.6**
baz=172
FVM French Village 46.42 18 IAmb IAmb 04 44 36.9
comp=Z,22nm,1.4s
NHSC New Hope 46.45 31 P **P 04 44 36.3 +2.6**
baz=218
RDMU Red Mountain 46.52 357 IAmb IAmb 04 44 44.5
comp=Z,16nm,1.5s
T47A Sharon Grove 46.64 22 IAmb IAmb 04 44 36.2
comp=Z,7.1nm,0.8s
AFDM Forest Hills D 46.72 345 P **P 04 44 35.8 0.0**
AFDM IAmb IAmb 04 44 40.4
comp=Z,16nm,1.4s
SJG San Juan 46.74 58 LR LR 05 01 23.3
comp=Z,304nm,20.1s,baz=240,slow=32
N23A Red Feather La 46.77 1 P **P 04 44 36.9 +0.5**
baz=181
CTU Camp Tracy 46.79 355 IAmb IAmb 04 44 48.4
comp=Z,8.4nm,1.2s
TKL Tuckaleechee C 46.83 26 IAmb IAmb 04 44 39.7
comp=Z,15nm,1.1s
TKL Tuckaleechee C 46.83 26 LR LR 05 04 11.9
comp=Z,143nm,19.0s,baz=186,slow=36
JSC Jenkinsville 46.84 29 IAmb IAmb 04 44 38.5
comp=Z,12nm,1.0s
OGNE Ogallala 47.02 5 P **P 04 44 39.7 +1.5**
baz=186
PHWY Pilot Hill 47.19 1 IAmb IAmb 04 44 50.2
comp=Z,12nm,1.1s
LL01 San Ignacio de 47.21 145 P **P 04 44 41.2 +1.6**
LL01 IAmb IAmb 04 44 53.3
comp=Z,13nm,1.2s
ELK Elko 47.27 351 IAmb IAmb 04 44 45.1
comp=Z,17nm,1.8s
ELK Elko 47.27 351 LR LR 05 01 14.1
comp=Z,401nm,18.1s,baz=176,slow=32
PLCA Paso Flores 47.28 142 P **P 04 44 39.5 -0.8**
comp=Z,1.1nm,0.9s,baz=32,slow=13,SNR=1.6
PLCA LR LR 04 59 52.3
comp=Z,1µm,18.7s,baz=306,slow=30
comp=Z,1.1nm,0.9s
P40A Paris 47.40 15 IAmb IAmb 04 44 54.6
comp=Z,10nm,0.9s
ORV Oroville 47.43 345 P **P 04 44 41.7 +0.4**
ORV IAmb IAmb 04 44 52.3
comp=Z,10.0nm,1.1s
SPUT South Promonto 47.47 354 IAmb IAmb 04 44 51.9
comp=Z,12nm,1.2s
KMSC Kings Mountain 47.51 29 P **P 04 44 42.3 +0.4**
baz=215
RWWY Rawlins 47.56 360 IAmb IAmb 04 44 55.6
comp=Z,18nm,1.4s
PTLB Pontes e Lacer 47.60 105 P **P 04 44 44.1 +1.1**
TZTN Tazewell 47.67 25 P **P 04 44 43.3 0.0**
baz=212
HWUT Hardware Ranch 47.68 355 P **P 04 44 43.4 0.0**
HWUT IAmb IAmb 04 44 50.1
comp=Z,13nm,1.3s
HVU Hansel Valley 47.97 354 IAmb IAmb 04 44 55.5
comp=Z,18nm,1.6s
WCI Wyandotte Cave 48.04 22 P **P 04 44 46.4 +0.3**
baz=208
LL02 Futaleuf 48.05 146 P **P 04 44 47.7 +1.5**
LL02 IAmb IAmb 04 44 50.2
comp=Z,9.5nm,1.0s
K22A Casper 48.52 0 IAmb IAmb 04 44 59.9
comp=Z,15nm,1.2s
K22A Casper 48.52 0 P **P 04 44 50.4 +0.5**
baz=180
BW06 Boulder Array 48.70 357 P **P 04 44 52.3 +0.9**
baz=176
PDAR Pinedale Array 48.70 357 P **P 04 44 50.4 -1.0**
comp=Z,1.2nm,0.9s,baz=163,slow=5.7,SNR=8.3
PDAR LR LR 05 03 05.1
comp=Z,175nm,18.4s,baz=180,slow=33
comp=Z,1.2nm,0.9s
R50A Paris 48.84 24 IAmb IAmb 04 44 52.7
comp=Z,13nm,1.2s
HDIL Hopedale 49.13 18 P **P 04 44 55.3 +0.9**
baz=203
P48A Milroy 49.44 22 IAmb IAmb 04 45 10.2
comp=Z,18nm,1.1s
LOHW Long Hollow 49.60 356 P **P 04 44 58.3 0.0**
SFIN Lafayette 49.67 20 P **P 04 44 58.7 +0.2**
baz=206
P49A Miami Univ. Ec 49.77 22 IAmb IAmb 04 45 01.1
comp=Z,20nm,1.1s
P49A Miami Univ. Ec 49.77 22 P **P 04 44 58.4 -0.9**
baz=209

YBH Yreka Blue Hor 49.79 344 LR LR 05 01 39.6
comp=Z,538nm,18.7s,baz=169,slow=31
HLID Hailey 49.92 353 P **P 04 45 01.2 +0.7**
baz=170
MFID Camas Ranch 49.97 351 IAmb IAmb 04 45 11.3
comp=Z,17nm,1.1s
RSSD Black Hills 50.05 3 P **P 04 45 01.5 -0.1**
RSSD IAmb IAmb 04 45 04.9
comp=Z,18nm,1.4s
RSSD Black Hills 50.05 3 P **P 04 45 01.2 -0.4**
baz=184
O48B Farmland 50.24 22 P **P 04 45 02.0 -0.8**
baz=208
ECSD EROS Data Cent 50.45 10 P **P 04 45 03.9 -0.5**
baz=193
YMR Madison River 50.68 356 P **P 04 45 05.6 -0.8**
YMR IAmb IAmb 04 45 17.0
comp=Z,24nm,1.5s
YHL Hebgen Lake 50.88 356 IAmb IAmb 04 45 18.8
comp=Z,14nm,1.0s
P52A Corning 50.88 25 P **P 04 45 07.7 0.0**
baz=212
JFWS Jewell Farm 51.04 16 P **P 04 45 08.6 -0.3**
baz=201
RLMT Red Lodge 51.04 358 IAmb IAmb 04 45 13.9
comp=Z,31nm,1.9s
RLMT Red Lodge 51.04 358 P **P 04 45 09.2 +0.1**
baz=177
CPUP Villa Florida 51.17 119 P **P 04 45 10.6 +0.4**
CPUP IAmb IAmb 04 45 20.8
comp=Z,27nm,1.4s
CPUP Villa Florida 51.17 119 P **P 04 45 09.4 -0.8**
comp=Z,1.8nm,0.9s,baz=291,slow=4.9,SNR=4.5
CPUP LR LR 05 03 16.1
comp=Z,735nm,20.8s,baz=286,slow=32
comp=Z,1.8nm,0.9s
PINE Pine Mountain 51.29 347 IAmb IAmb 04 45 20.2
comp=Z,25nm,1.4s
AQDB Aquidauana 51.48 111 P **P 04 45 13.4 +0.7**
BOZ Bozeman (W) 51.65 356 P **P 04 45 14.1 +0.5**
baz=174
O53A New Philadelph 51.78 25 P **P 04 45 14.3 -0.2**
baz=213
CBN Corbin Frederi 51.86 29 P **P 04 45 15.3 +0.2**
baz=218
MCWV Mont Chateau 51.88 26 P **P 04 45 14.5 -0.7**
baz=215
LAO LASA Array 52.56 0 IAmb IAmb 04 45 30.0
comp=Z,26nm,1.4s
LAO LASA Array 52.56 0 P **P 04 45 20.0 -0.2**
baz=181
AAM Ann Arbor 52.57 22 P **P 04 45 20.4 +0.1**
baz=209
SPMN Marine on St. 52.61 12 P **P 04 45 19.3 -1.2**
baz=198
M53A Wl Miller and 52.99 24 P **P 04 45 21.6 -1.9**
baz=213
MSO Missoula 53.08 354 P **P 04 45 23.3 -0.8**
baz=171
CHMT Chamberlain Mo 53.10 354 P **P 04 45 24.7 +0.3**
RAR Rarotonga 53.40 248 LR LR 05 01 59.2
comp=Z,255nm,19.0s,baz=102,slow=29
EGMT Eagleton 53.96 358 P **P 04 45 30.0 -0.6**
baz=176
MDND Maddock 54.09 6 P **P 04 45 30.6 -0.7**
baz=189
DGMT Dagmar 54.39 2 P **P 04 45 33.2 -0.4**
baz=183
C09A Chrisman Ranch 54.62 350 IAmb IAmb 04 45 45.2
comp=Z,18nm,1.2s
NEW Newport 54.90 352 IAmb IAmb 04 45 40.6
comp=Z,10nm,1.2s
NEW Newport 54.90 352 P **P 04 45 37.4 +0.1**
baz=168
NEW Newport 54.90 352 LR LR 05 05 52.8
comp=Z,276nm,18.3s,baz=177,slow=33
SADO Sadowa 56.39 23 LR LR 05 10 11.6
comp=Z,255nm,18.4s,baz=157,slow=36
ULM Lac du Bonnet 56.91 8 P **P 04 45 49.8 -1.8**
comp=Z,15nm,1.2s,baz=207,slow=8.1,SNR=3.7
ULM LR LR 05 08 22.8
comp=Z,221nm,18.9s,baz=268,slow=34
comp=Z,15nm,1.2s
BDFB Brasília 58.31 105 P **P 04 46 00.9 -1.3**
comp=Z,2.5nm,0.9s,baz=191,slow=13,SNR=2.4
BDFB LR LR 05 08 44.5
comp=Z,895nm,20.1s,baz=300,slow=34
comp=Z,2.5nm,0.9s
BBB Bella Bella 60.86 345 LR LR 05 08 09.7
comp=Z,116nm,18.5s,baz=158,slow=32
T35M Bob Quinn 65.74 346 P **P 04 46 52.2 +0.8**
baz=154
PMSA Palmer Station 65.89 161 LR LR 05 07 49.0
comp=Z,788nm,21.5s,baz=4.0,slow=29
DLBC Dease Lake 67.00 347 P **P 04 46 59.8 +0.3**
baz=155
DLBC Dease Lake 67.00 347 P **P 04 46 57.6 -1.9**
comp=Z,8.2nm,0.9s,baz=179,slow=5.1,SNR=15
DLBC LR LR 05 13 26.9
comp=Z,392nm,18.2s,baz=140,slow=34
comp=Z,8.2nm,0.9s
KOTAN Kotaneelee Air 67.43 351 P **P 04 47 02.2 +0.1**
baz=161
R32K Eaglecrest 67.96 345 P **P 04 47 05.7 +0.3**
baz=150
Q32M Nakina River 67.99 346 P **P 04 47 06.6 +0.7**
baz=153
R33M Jennings River 68.08 347 P **P 04 47 05.2 -1.2**
R33M Jennings River 68.08 347 P **P 04 47 06.7 +0.3**
baz=154
YKA Yellowknife Ar 68.66 356 P **P 04 47 07.1 -2.7**
comp=Z,5.3nm,0.9s,baz=169,slow=5.8,SNR=7.7
YKA LR LR 05 14 16.7
comp=Z,261nm,19.7s,baz=166,slow=33
comp=Z,5.3nm,0.9s
SKAG Skagway 69.20 345 P **P 04 47 14.2 +1.1**
baz=150
SCHQ Schefferville 69.20 23 LR LR 05 16 06.7
comp=Z,235nm,21.6s,baz=240,slow=35
P33M Teslin, Yukon 69.23 346 IAmb IAmb 04 47 23.3
comp=Z,5.3nm,0.9s
P33M Teslin, Yukon 69.23 346 P **P 04 47 14.8 +1.3**
baz=152
PLBC Pleasant Camp 69.47 344 P **P 04 47 15.7 +0.9**
baz=148
TGTN Hyland Airport 69.47 349 P **P 04 47 15.7 +0.8**
baz=157
P29M Windy Craggy 69.99 344 P **P 04 47 19.1 +1.0**
baz=147
WHY Whitehorse 70.12 346 P **P 04 47 19.7 +0.8**
baz=150
N32M Quiet Lake 70.13 347 P **P 04 47 19.2 +0.3**
baz=152
P30M Million Dollar 70.19 344 P **P 04 47 19.5 +0.1**
baz=148
O30N Mendenhall 70.52 345 P **P 04 47 21.5 +0.2**
baz=149
RAO Raoul Island 70.61 241 LR LR 05 10 10.5
comp=Z,145nm,20.3s,baz=104,slow=29
HYT Haines Junctio 70.93 345 P **P 04 47 25.1 +1.1**
baz=148
MMPY Sheldon Lake, 71.05 348 IAmb IAmb 04 47 34.6
comp=Z,12nm,1.0s
MMPY Sheldon Lake, 71.05 348 P **P 04 47 25.4 +0.8**
baz=154
N31M Braeburn, Yuko 71.06 346 P **P 04 47 25.0 +0.4**
baz=149,SNR=6.1
FARO Faro, Yukon 71.14 347 P **P 04 47 26.4 +1.3**
baz=152
YUK6 Outpost Mounta 71.26 344 P **P 04 47 27.1 +1.0**
baz=147
M31M Drury Creek, Y 71.35 347 P **P 04 47 27.7 +1.4**
baz=151
N30M Aishikik Lake 71.36 345 IAmb IAmb 04 47 36.7
comp=Z,7.5nm,1.0s
N30M Aishikik Lake 71.36 345 P **P 04 47 27.7 +1.2**
baz=148
O28M Mount Upton 71.62 343 P **P 04 47 29.5 +1.2**
baz=145
YUK8 Steele Glacier 71.92 344 P **P 04 47 31.0 +0.9**
baz=145
M30M Minto, Yukon 72.24 346 IAmb IAmb 04 47 33.9
comp=Z,8.7nm,1.1s
M30M Minto, Yukon 72.24 346 P **P 04 47 33.2 +1.5**
baz=149,SNR=6.9
CRQE Cirque 72.46 342 P **P 04 47 33.9 +0.8**
baz=142
YUK3 Moose Creek 72.52 344 P **P 04 47 33.3 -0.3**

baz=145
M29M Somme Creek 72.55 345 P **P 04 47 34.2 +0.6**
baz=147
MCARA McCarthy VSAT 72.94 343 P **P 04 47 36.9 +1.0**
baz=142
L29M L29M 73.02 346 P **P 04 47 37.0 +0.6**
baz=147,SNR=10
BMRM Bremner River 73.09 342 P **P 04 47 37.2 +0.4**
baz=140
GLB Gilahina Butte 73.22 342 P **P 04 47 37.7 +0.1**
P23K Montague Islan 73.27 340 P **P 04 47 39.5 +1.7**
baz=138
M27K Edge Creek, AK 73.39 344 IAmb IAmb 04 47 48.4
comp=Z,11nm,1.1s
M27K Edge Creek, AK 73.39 344 P **P 04 47 39.3 +0.7**
baz=144
K29M Barlow Dome 73.50 346 IAmb IAmb 04 47 52.5
comp=Z,17nm,1.1s
K29M Barlow Dome 73.50 346 P **P 04 47 39.5 +0.3**
baz=148,SNR=5.9
N25K Chitina, Valde 73.58 342 P **P 04 47 40.6 +0.9**
baz=141
KDAK Kodiak Island 73.62 336 LR LR 05 12 46.2
comp=Z,700nm,19.0s,baz=157,slow=30
M26K Nabesna, AK 73.73 343 IAmb IAmb 04 47 49.5
comp=Z,8.9nm,1.1s
M26K Nabesna, AK 73.73 343 P **P 04 47 41.5 +1.0**
baz=142
J30M Hart River 73.85 347 P **P 04 47 41.6 +0.3**
baz=149
L27K Beaver Creek, 73.94 344 P **P 04 47 41.7 0.0**
baz=144
DAWY Dawson 74.13 346 IAmb IAmb 04 47 44.9
comp=Z,12nm,1.1s
BRSE Bradley Lake S 74.26 339 P **P 04 47 44.8 +1.1**
baz=134
O22K Cooper Landing 74.42 339 P **P 04 47 46.0 +1.5**
baz=135
I30M Mount Dempster 74.42 348 P **P 04 47 45.6 +0.9**
baz=149
H31M Peel River 74.51 349 P **P 04 47 46.6 +1.6**
baz=152
KNK Knik Glacier 74.66 341 P **P 04 47 46.3 +0.4**
baz=137
M23K Glacier View 74.70 341 P **P 04 47 45.9 -0.3**
baz=138
K27K Chicken 74.79 345 IAmb IAmb 04 47 56.4
comp=Z,14nm,1.0s
K27K Chicken 74.79 345 P **P 04 47 47.0 +0.4**
baz=144
PAX Paxson 74.90 343 P **P 04 47 47.7 +0.3**
baz=140
SML Sawmill 74.91 341 P **P 04 47 47.8 +0.3**
baz=137
I29M Ogilvie Camp, 74.97 347 IAmb IAmb 04 47 49.0
comp=Z,8.2nm,1.1s
I29M Ogilvie Camp, 74.97 347 P **P 04 47 47.2 -0.4**
baz=148
PMR Palmer 75.02 341 P **P 04 47 48.2 +0.2**
baz=136
Q18K Katmai Hardscr 75.16 336 P **P 04 47 51.3 +2.3**
baz=130
SCRK Sand Creek 75.26 344 IAmb IAmb 04 47 54.3
comp=Z,28nm,1.7s
SCRK Sand Creek 75.26 344 P **P 04 47 50.6 +1.1**
baz=142
Q17K Contact Creek 75.27 336 P **P 04 47 50.5 +0.9**
baz=129
WAT6 Susitna Watana 75.29 342 P **P 04 47 50.6 +0.8**
baz=138
RIDG Independent Ri 75.31 344 P **P 04 47 49.8 +0.1**
baz=141
FRB Frobisher Bay 75.35 17 LR LR 05 21 03.8
comp=Z,236nm,19.5s,baz=204,slow=36
URZ Urewera 75.36 232 LR LR 05 15 21.7
comp=Z,252nm,18.2s,baz=211,slow=31
I28M Miner Creek 75.42 346 P **P 04 47 49.7 -0.6**
I28M IAmb IAmb 04 48 06.6
comp=Z,11nm,1.1s
I28M Miner Creek 75.42 346 P **P 04 47 50.8 +0.5**
baz=146
M22K Willow 75.46 340 P **P 04 47 50.6 +0.1**
baz=135
SUA Susitna One 75.47 340 P **P 04 47 51.2 +0.5**
baz=135
EPYK Eagle Plains 75.49 348 P **P 04 47 51.6 +1.0**
baz=149
G31M Satah River 75.49 349 P **P 04 47 51.1 +0.6**
baz=152
DHY Denali Highway 75.55 342 P **P 04 47 51.8 +0.6**
baz=138
J26L Joseph Creek 75.56 344 P **P 04 47 51.6 +0.5**
baz=142
H29M Whitestone 75.71 347 P **P 04 47 52.2 +0.3**
baz=148
I27K Kandik River 75.94 346 P **P 04 47 54.2 +0.9**
baz=144,SNR=5.1
I26K Coal Creek Min 76.09 345 IAmb IAmb 04 48 21.8
comp=Z,10nm,1.1s
I26K Coal Creek Min 76.09 345 P **P 04 47 54.5 +0.4**
baz=143
SKT Skwentna 76.10 340 P **P 04 47 54.2 0.0**
baz=134
J25K Salcha River, 76.13 344 IAmb IAmb 04 48 03.1
comp=Z,8.8nm,1.1s
J25K Salcha River, 76.13 344 P **P 04 47 55.1 +0.7**
baz=140
G29M Pine Creek 76.22 348 P **P 04 47 54.3 -0.5**
G29M Pine Creek 76.22 348 P **P 04 47 55.4 +0.6**
baz=148
F30M Barrier River 76.38 349 P **P 04 47 56.5 +0.9**
baz=150
HDA Harding Lake 76.42 343 P **P 04 47 56.5 +0.5**
baz=139
H27K Steamboat Moun 76.43 346 P **P 04 47 55.9 -0.2**
baz=144,SNR=6.4
MCK McKinley 76.51 342 P **P 04 47 57.2 +0.7**
baz=137
INK Inuvik 76.58 350 P **P 04 47 56.9 +0.1**
baz=153
INK Inuvik 76.58 350 P **P 04 47 56.2 -0.5**
comp=Z,4.6nm,0.9s,baz=155,slow=2.8,SNR=4.9
INK LR LR 05 18 49.0
comp=Z,356nm,19.5s,baz=174,slow=34
comp=Z,4.6nm,0.9s
M20K Styx River 76.58 339 P **P 04 47 57.6 +0.6**
baz=132
ILAR Eielson Array 76.68 344 P **P 04 47 57.2 -0.2**
ILAR Eielson Array 76.68 344 P **P 04 47 56.5 -0.9**
comp=Z,4.2nm,1.0s,baz=160,slow=5.0,SNR=13
ILAR LR LR 05 15 34.6
comp=Z,194nm,18.9s,baz=136,slow=31
comp=Z,4.2nm,1.0s
TRF Thorofare Moun 76.72 341 P **P 04 47 58.9 +0.9**
baz=135
PRP Porcupine Dome 76.87 344 P **P 04 47 59.3 +0.6**
baz=140
G27K Doyon Strip 76.94 347 P **P 04 47 59.7 +0.8**
baz=144
NEA2 Nenana 77.18 343 IAmb IAmb 04 48 00.9
comp=Z,12nm,1.0s
NEA2 Nenana 77.18 343 P **P 04 48 00.4 +0.2**
baz=137
N17K Nushagak Hills 77.20 337 P **P 04 48 00.6 +0.1**
baz=128
CAST Castle Rocks 77.28 341 IAmb IAmb 04 48 09.5
comp=Z,13nm,1.1s
CAST Castle Rocks 77.28 341 P **P 04 48 01.1 +0.3**
baz=134
L19K White Mountain 77.39 339 P **P 04 48 01.4 -0.1**
baz=131
E29M Blow River 77.45 349 P **P 04 48 01.3 -0.4**
baz=148
O15K Ungalikthiuk R 77.46 335 P **P 04 48 03.3 +1.4**
baz=126
H25L Birch Creek 77.53 345 P **P 04 48 01.6 -0.5**
baz=140
I23K Minto, Yukon-K 77.67 343 P **P 04 48 03.7 +0.8**
baz=137
H24K Noodor Dome 77.75 344 P **P 04 48 04.2 +0.7**
baz=138
M17K Holitna River 77.84 338 P **P 04 48 04.0 0.0**
baz=128
K20K Telida 77.89 340 P **P 04 48 04.5 +0.2**
baz=132
E28M Babbage River 77.96 348 P **P 04 48 04.4 -0.2**
baz=147
MLY Manley 77.99 342 P **P 04 48 04.3 -0.6**

baz=135
E27K Coleen River 78.05 347 P P 04 48 05.3 +0.3
baz=145
L18K Granite Mounta 78.08 339 P P 04 48 05.8 +0.5
baz=129
H23K Yukon River 78.21 343 P P 04 48 06.2 +0.2
baz=136
F26K Sheenjek River 78.23 346 P P 04 48 06.5 +0.4
baz=142
G24K Hadweenzic Riv 78.29 345 P P 04 48 06.5 +0.1
baz=139
J20K Nowinta River 78.47 341 P P 04 48 07.9 +0.5
baz=132
F25K Christian Rive 78.51 346 P P 04 48 08.5 +0.8
baz=140,SNR=5.2
D27M Malcolm River 78.78 348 P P 04 48 09.3 +0.2
baz=145
H22K Ishtalitna Cre 78.79 343 P P 04 48 09.8 +0.6
baz=135
L16K Owhat River 78.81 337 P P 04 48 10.6 +1.3
baz=126
E25K Arctic Village 78.90 346 P P 04 48 10.7 +0.9
baz=141
H21K Melozitna Rive 79.05 342 P P 04 48 10.6 0.0
H21K IAmb IAmb 04 48 12.3
comp=Z,18nm,1.3s
H21K Melozitna Rive 79.05 342 P P 04 48 10.8 +0.1
baz=133
COLD Coldfoot 79.41 344 P P 04 48 13.9 +1.4
baz=136
G22K Bettles 79.55 344 P P 04 48 14.5 +1.2
baz=135
H20K Anotleneega Mo 79.58 342 P P 04 48 15.0 +1.5
baz=131
GCSA Galena City Sc 79.74 340 P P 04 48 15.8 +1.5
baz=129
G21K Allakaket 79.84 343 P P 04 48 16.2 +1.3
baz=133
H19K Roundabout Mou 80.10 341 P P 04 48 16.8 +0.5
baz=130
F22K John River 80.15 344 P P 04 48 17.3 +0.7
baz=134
C26K Camden Bay 80.16 347 P P 04 48 17.3 +0.9
baz=142
J16K Anvik River 80.16 338 P P 04 48 18.0 +1.4
baz=126
RPZ Rata Peaks 80.17 227 LR LR 05 19 01.2
comp=Z,331nm,18.0s,baz=76,slow=32
TOLK Toolik Lake Re 80.27 345 P P 04 48 17.1 -0.1
baz=137
F21K Alatna River 80.32 343 P P 04 48 18.1 +0.6
baz=133
BELA Belgrano 2 80.34 168 P P 04 48 16.2 -1.3
BELA IAmb IAmb 04 48 26.0
comp=Z,11nm,1.0s
D24K Happy Valley 80.47 346 P P 04 48 18.8 +0.6
baz=138
G19K Purcell Mounta 80.69 342 P P 04 48 20.0 +0.5
baz=129
M11K Mekoryuk 80.83 334 P P 04 48 22.7 +2.5
baz=120
F20K Avaraart Lake 80.86 343 P P 04 48 22.2 +1.9
baz=131
RES Resolute Bay 80.98 3 P P 04 48 19.1 -1.7
comp=Z,1.5nm,0.7s,baz=183,slow=8.1,SNR=5.1
RES LR LR 05 23 40.1
comp=Z,229nm,18.1s,baz=233,slow=35
comp=Z,1.5nm,0.7s
G18K Tagagawik 81.04 341 P P 04 48 23.3 +1.9
baz=128
SPIA Saint Paul Isl 81.19 330 P P 04 48 24.1 +1.9
baz=116
SFJD Kangerlussuaq 83.07 19 LR LR 05 25 58.6
comp=Z,223nm,18.9s,baz=234,slow=36
SBA Scott Base 83.33 192 P P 04 48 33.7 +0.4
SBA IAmb IAmb 04 48 41.9
comp=Z,12nm,1.1s
QSPA South Pole Qui 83.96 180 P P 04 48 36.6 -0.2
QSPA South Pole Qui 83.96 180 P P 04 48 36.0 -0.8
comp=Z,28nm,1.0s,baz=119,slow=2.4,SNR=34
QSPA LR LR 05 19 15.4
comp=Z,185nm,18.6s,baz=117,slow=31
VNDA Vanda 84.39 193 P P 04 48 40.3 +1.7
VNDA Vanda 84.39 193 P P 04 48 38.9 +0.3
comp=Z,2.8nm,1.1s,baz=130,slow=2.4,SNR=8.4
comp=Z,2.8nm,1.1s
DZM Mont Dzumac 84.78 248 *e*LR LR 05 15 30.1
comp=Z,127nm,24.4s
DZM Mont Dzumac 84.78 248 LR LR 05 21 21.4
comp=Z,63nm,18.3s,baz=196,slow=32
VNA3 Neumayer Olymp 86.55 161 ⇓P **P 04 48 49.0 -0.6**
comp=Z,10nm,0.8s
VNA1 Neumayer--Stat 87.10 161 ⇓P **P 04 48 53.2 +1.0**
comp=Z,4.7nm,0.9s
VNA2 Neumayer--Watz 87.33 161 ⇓P **P 04 48 56.1 +2.7**
comp=Z,3.5nm,0.8s,baz=256,slow=4.0
SHEM Shemya Is, Ala 88.28 323 LR LR 05 20 46.4
comp=Z,344nm,19.7s,baz=121,slow=30
H11N3 WAKE ISLAND Hy 88.59 290 T T 06 26 39.1
baz=97,slow=75,SNR=23
SNAA Sanae 88.60 162 ⇓P **P 04 48 59.1 -0.4**
comp=Z,27nm,0.6s
SNAA Sanae 88.60 162 P **P 04 48 57.9 -1.5**
comp=Z,2.2nm,0.9s,baz=197,slow=8.4,SNR=5.2
SNAA LR LR 05 22 07.8
comp=Z,319nm,19.0s,baz=274,slow=31
comp=Z,2.2nm,0.9s
H11N2 WAKE ISLAND Hy 88.61 290 T T 06 26 39.1
baz=97,slow=75,SNR=34
H11N1 WAKE ISLAND Hy 88.61 290 T T 06 26 42.1
baz=97,slow=75,SNR=15
H11S2 WAKE ISLAND Hy 88.64 289 T T 06 26 44.7
baz=98,slow=75,SNR=64
H11S1 WAKE ISLAND Hy 88.65 289 T T 06 26 52.5
baz=98,slow=75,SNR=37
H11S3 WAKE ISLAND Hy 88.66 289 T T 06 26 51.3
baz=98,slow=75,SNR=49
TROLL Troll, Antarti 90.10 163 ⇓P **P 04 49 05.0 -1.6**
comp=Z,124nm,0.8s
PETK Petropavlovsk- 98.17 323 LR LR 05 24 58.9
comp=Z,214nm,21.9s,baz=81,slow=30
SONM Songino Array 129.71 331 PKP PKPdf 04 55 14.9 -1.4
comp=Z,0.4nm,0.4s,baz=90,slow=2.0,SNR=2.6
NJ2 Nanjing 130.28 307 *e*P **PKiKP 04 55 18.6 +0.1**
NJ2 pmax pmax
comp=Z,12nm,0.6s
BRTR Keskin Array B 131.16 41 PKP PKPdf 04 55 17.9 -1.4
comp=Z,0.6nm,0.9s,baz=348,slow=6.1,SNR=2.4
LZH Lanzhou 139.04 321 *e*PKP **PKPdf 04 55 27.3 -6.9**
LZH sPKP 04 55 38.5
WMQ Urumqi 140.34 344 *e*P **PKiKP 04 55 37.4 -1.4**
KMBO Kilima Mbogo 143.36 100 PKPdf **PKPdf 04 55 42.3 -0.4**
KIBK Kibwezi 143.87 102 PKPdf **PKPdf 04 55 42.0 -1.4**
NRN Naryn 144.73 356 PKPdf **PKPab 04 55 42.6 -0.5**
GEYT Alibeck 145.46 21 PKPdf **PKPbc 04 55 44.8 -0.6**
GEYT Alibeck 145.46 21 PKPbc **PKPab 04 55 45.6 +0.1**
comp=Z,2.7nm,0.3s,baz=48,slow=2.1,SNR=2.6
GYA0B ALIBECK ARRAY 145.46 21 PKPdf **PKPbc 04 55 44.8 -0.6**
PZH PanZhiHua 146.10 310 PKPbc **PKPdf 04 55 46.9 -0.1**
CMAR Chiang Mai Arr 152.10 298 PKPbc **PKPbc 04 56 00.5 -2.7**
CMAR Chiang Mai Arr 152.10 298 PKPbc **PKPbc 04 55 60.0 -3.2**
comp=Z,1.4nm,0.3s,baz=65,slow=1.5,SNR=9.8

*WEL **13** 04:36:14.3±1.3,33°S±7°×17°8W±2°0,h33km,M4.5/7, mB4.9/3,ML4.8/10,MLv4.6/7,Mw(mB)4.2/3,Error ellipse: s-maj=0.0km s-min=0.0km az=106.0,confirmed*
*IDC **13** 04:36:15.3±3.0,33.°35S×178.°30W,h0km,mb4.1/2, mbtmp4.1/3,ML3.7/1,Error ellipse: s-maj=71.2km s-min=35.9km az=120.0*
ISC 13 04:36:13.3±1.8,33.°42S±0.°08×177.°4W±0.°2,h35km,n28, σ2°51/34,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.17 354**		P	**Pn**	**04 37 13.7**	**-0.7**
GLKZ				S	**Sn**	**04 37 58.0**	**-3.8**
MXZ	**Matakaoa Point**	**5.42 219**		P	**Pn**	**04 37 32.7**	**+1.1**
WMGZ	**Waiomatatini S**	**5.56 217**		P	**Pn**	**04 37 35.8**	**+2.3**
PKGZ	**Pakihiroa**	**5.79 218**		P	**Pn**	**04 37 38.3**	**+1.6**
HAZ	**Te Kaha**	**5.85 221**		P	**Pn**	**04 37 39.0**	**+1.6**
HAZ				S	**Sn**	**04 38 43.8**	**+0.6**
RUGZ	**Raukumara Rang**	**6.05 220**		P	**Pn**	**04 37 41.4**	**+1.0**
RUGZ				S	**Sn**	**04 38 48.1**	**-0.4**
CNGZ	**Carnagh Statio**	**6.19 214**		P	**Pn**	**04 37 43.9**	**+1.8**
MWZ	**Matawai**	**6.41 219**		P	**Pn**	**04 37 46.3**	**+1.1**
URZ	**Urewera**	**6.58 221**		P	**Pn**	**04 37 48.1**	**+0.7**
URZ				S	**Sn**	**04 38 58.8**	**-2.4**
URZ	**Urewera**	**6.58 221**		Pn	**Pn**	**04 37 47.6**	**+0.1**
	2.0nm,0.3s,baz=336,slow=5.1,SNR=20						
URZ				Sn	**Sn**	**04 38 57.8**	**-3.3**
	17nm,0.3s,baz=305,slow=2.1,SNR=22						
	6.1nm,0.3s						
MKAZ	**Moumakai**	**7.11 237**		P	**Pn**	**04 37 58.9**	**+4.0**
WHHZ	**Waihua**	**7.12 216**		P	**Sn**	**04 39 14.5**	**-0.1**
TOZ	**Tahuroa Road**	**7.21 231**		P	**Pn**	**04 37 58.7**	**+2.5**
NMHZ	**Naumai**	**7.35 218**		P	**Sn**	**04 39 20.0**	**-0.4**
ARHZ	**Aropaoanui**	**7.38 216**		P	**Sn**	**04 39 20.7**	**-0.3**
BKZ	**Black Stump Fm**	**7.57 219**		P	**Sn**	**04 39 23.9**	**-1.7**
CKHZ	**Cape Kidnapper**	**7.65 214**		P	**Sn**	**04 39 22.2**	**-5.4**
OUZ	**Omahuta**	**7.67 254**		P	**Pn**	**04 38 04.1**	**+1.7**
MCHZ	**McNeill Hill**	**7.67 217**		P	**Sn**	**04 39 27.6**	**-0.6**
KWHZ	**Kaweka Forest**	**7.79 218**		P	**Pn**	**04 38 04.7**	**+0.5**
KWHZ				P	**Sn**	**04 39 29.0**	**-2.3**
TMVZ	**Te Maari**	**7.96 222**		P	**Sn**	**04 39 32.4**	**-3.1**
ETVZ	**East Tongariro**	**7.97 222**		P	**Sn**	**04 39 33.1**	**-2.6**
KRHZ	**Kereru**	**7.99 217**		P	**Sn**	**04 39 32.6**	**-3.3**
PXZ	**Pawanui**	**8.05 213**		P	**Sn**	**04 39 32.4**	**-5.0**
MOVZ	**Moawhango**	**8.14 221**		P	**Sn**	**04 39 35.6**	**-4.1**
ASAR	**Alice Springs**	**43.54 270**		**P**	**P**	**04 44 15.3**	**+1.4**
	2.2nm,0.6s,baz=111,slow=7.6,SNR=24						
	2.2nm,0.6s						
WRA	**Warramunga Arr**	**44.80 275**		**P**	**P**	**04 44 24.6**	**+0.7**
	1.6nm,0.8s,baz=116,slow=7.9,SNR=22						
	1.6nm,0.8s						
FINES	**FINESS Array B**	**148.14 339**		PKPbc	**PKPab**	**04 56 00.5**	**+2.9**
	2.6nm,0.8s,baz=35,slow=3.4,SNR=6.6						

*BJI **13** 04:47:14.5±0.0,33.°95N×136.°74E,h364km,mb4.7/71, mB4.8/32*
*IDC **13** 04:47:16.8±0.5,33.°91N×136.°74E,h366km±4km,mb3.9/29, mbtmp4.7/37,Error ellipse: s-maj=7.8km s-min=6.9km az=82.0*
*JMA **13** 04:47:16.0±0.2,34°N±1°×136.°8E±0.°9,h374km±2km, MV4.1/39,SE OFF KII PENINSULA*
*NEIC **13** 04:47:16.4±1.9,33.°94N±0.°08×136.°73E±0.°09, h358km±6km,mb4.5/228,Error ellipse: s-maj=12.5km s-min=10.1km az=139.0*
ISC 13 04:47:16.5±0.5,33.°95N±0.°04×136.°72E±0.°04,h363km±3km, n617,σ1°37/572,mb4.5/157,4C-7D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**0.33 170**		P	**Pn**	**04 48 03.0**	**+1.4**
TTO2	**TONANKAI O.B.S**	**0.34 130**		*i* P	**Pn**	**04 48 03.1**	**+1.5**
TTO2				S	**S**	**04 48 41.4**	**+3.7**
JIE	**Ise**	**0.44 359**		P	**Pn**	**04 48 03.1**	**+1.2**
JIE				*e*S	**S**	**04 48 39.0**	**+0.4**
TTO3	**TONANKAI O.B.S**	**0.57 99**		P	**Pn**	**04 48 03.6**	**+1.5**
TTO3				*e*S	**S**	**04 48 41.5**	**+2.7**
TTO4	**TONANKAI O.B.S**	**0.68 85**		P	**Pn**	**04 48 03.6**	**+1.4**
TTO4				S	**S**	**04 48 41.1**	**+2.1**
JTNC	**Tanabenakahech**	**0.93 262**		*i* P	**Pn**	**04 48 04.2**	**+0.8**
JTNC				S	**S**	**04 48 41.4**	**+0.3**
JWY	**Kouya**	**0.97 286**		*i* P	**Pn**	**04 48 04.7**	**+1.1**
JWY				S	**S**	**04 48 41.4**	**0.0**
JSG	**Sagara**	**1.41 59**		P	Pn	04 48 03.5	-1.9
INU	**Inuyama**	**1.42 10**		Pn	**Pn**	**04 48 04.2**	**-1.1**
INU	**Inuyama**	**1.42 10**		P	**Pn**	**04 48 06.3**	**+0.9**
JYTA	**Yamagatataniai**	**1.64 0**		⇓P	**Pn**	**04 48 07.6**	**+1.0**
JYTA				⇓S	**S**	**04 48 47.1**	**+0.2**
JWT	**Wachi**	**1.71 321**		*i* P	**Pn**	**04 48 08.1**	**+1.0**
JWT				S	**S**	**04 48 47.5**	**-0.2**
JAI	**Aioi**	**1.89 266**		*i* P	**Pn**	**04 48 09.1**	**+0.9**
JAI				S	**S**	**04 48 50.2**	**+0.3**
JFNN	**Fujinakano**	**2.04 52**		P	**Pn**	**04 48 09.8**	**+0.7**
JYN	**Shimob**	**2.15 44**		*i* P	**Pn**	**04 48 10.4**	**+0.4**
JKG	**Kaga**	**2.34 352**		P	**Pn**	**04 48 12.1**	**+0.9**
JKG				S	**S**	**04 48 55.6**	**+0.2**
JOD2	**Odawara 2**	**2.35 56**		⇓*i* P	**Pn**	**04 48 11.8**	**+0.4**
JMN	**Monobe**	**2.37 265**		Pn	**Pn**	**04 48 12.1**	**+0.4**
JMN	**Monobe**	**2.37 265**		P	**Pn**	**04 48 12.7**	**+1.0**
JMN	**Monobe**	**2.37 265**		*i* P	**Pn**	**04 48 12.8**	**+1.0**
JMN				S	**S**	**04 48 55.9**	**-0.2**
JHJ	**Hachijo jima 2**	**2.69 107**		P	**Pn**	**04 48 14.6**	**+0.4**
	966nm,0.6s,baz=286,slow=3.0,SNR=58						
JHJ				S	**S**	**04 49 02.1**	**+1.5**
	176nm,0.3s,baz=263,slow=23,SNR=2.3						
JHJ2	**Mitsune**	**2.72 107**		Pn	**Pn**	**04 48 13.6**	**-0.8**
JHJ2	**Mitsune**	**2.72 107**		P	**Pn**	**04 48 14.5**	**+0.1**
JHJ2	**Mitsune**	**2.72 107**		P	**Pn**	**04 48 14.3**	**-0.1**
JRY	**Ryogami san**	**2.73 40**		*i* P	**Pn**	**04 48 15.0**	**+0.6**
JRY				*e*S	**S**	**04 49 01.4**	**+0.2**
MJAR	**Matsushiro Arr**	**2.86 25**		P	**Pn**	**04 48 14.8**	**-0.7**
	238nm,0.9s,baz=193,slow=8.9,SNR=202						
MJAR				S	**S**	**04 49 04.0**	**+0.9**
	56nm,0.8s,baz=104,slow=16,SNR=6.3						
MAJO	**Matsushiro**	**2.86 25**		Pn	**Pn**	**04 48 15.1**	**-0.4**
MAJO	**Matsushiro**	**2.86 25**		P	**Pn**	**04 48 16.0**	**+0.5**
MAT	**Matsushiro**	**2.86 25**		*i* P	**Pn**	**04 48 15.8**	**+0.3**
MAT				S	**S**	**04 49 02.6**	**-0.5**
MJB9	**Matsu-Tunnel**	**2.86 25**		Pn	**Pn**	**04 48 16.4**	**+0.8**
JAOM	**Aogashimamukai**	**2.95 119**		P	**Pn**	**04 48 17.2**	**+0.7**
JHS	**Saijyo**	**3.15 290**		P	**Pn**	**04 48 19.5**	**+1.3**
JHS				S	**S**	**04 49 08.9**	**+1.0**
JAG	**Ashikaga**	**3.33 41**		P	**Pn**	**04 48 18.8**	**-0.9**
JAG				*e*S	**S**	**04 49 07.0**	**-3.7**
JTO	**Tosashimizu**	**3.45 253**		P	**Pn**	**04 48 21.8**	**+0.9**
JTO				S	**S**	**04 49 13.4**	**+0.5**
BSO1	**Boso 1**	**3.59 78**		P	**Pn**	**04 48 19.8**	**-1.8**
BSO1				S	**S**	**04 49 11.5**	**-2.8**
JOI	**OKI**	**3.68 310**		*e*P	**Pn**	**04 48 25.0**	**+2.1**
JSD	**Sado**	**4.26 17**		Pn	**Pn**	**04 48 27.9**	**-0.9**
JSD	**Sado**	**4.26 17**		P	**Pn**	**04 48 29.0**	**+0.2**
JNU	**Nakatsue**	**4.95 262**		Pn	**Pn**	**04 48 36.8**	**+0.7**
JNU	**Nakatsue**	**4.95 262**		P	**Pn**	**04 48 37.5**	**+1.4**
	95nm,1.0s						
JNU	**Nakatsue**	**4.95 262**		P	**Pn**	**04 48 37.2**	**+1.1**
	53nm,0.6s,baz=92,slow=2.4,SNR=44						
JNU				S	**S**	**04 49 41.3**	**+0.7**
	61nm,1.0s,baz=53,slow=15,SNR=6.2						
JMM	**Marumori**	**5.12 39**		Pn	**Pn**	**04 48 36.4**	**-1.4**
JMM	**Marumori**	**5.12 39**		P	**Pn**	**04 48 36.8**	**-1.0**
JTU	**Tsushima**	**6.09 277**		P	**Pn**	**04 48 49.7**	**+1.0**
JTM	**Tenmabayashi**	**7.65 26**		Pn	**Pn**	**04 49 05.2**	**-1.3**
JTM	**Tenmabayashi**	**7.65 26**		P	**Pn**	**04 49 06.1**	**-0.4**
KSRS	**Korea Array**	**7.96 299**		P	**Pn**	**04 49 11.9**	**+1.7**
	84nm,0.6s,baz=113,slow=12,SNR=173						
KSRS				S	**S**	**04 50 44.3**	**+1.2**
	1.8nm,0.7s,baz=123,slow=24,SNR=2.1						
KSAR	**Wonju Array Be**	**7.99 298**		Pn	**Pn**	**04 49 11.0**	**+0.5**
KS19	**Wonju Array Si**	**8.02 299**		Pn	**Pn**	**04 49 10.9**	**-0.1**
TJN	**Taejon**	**8.03 290**		Pn	**Pn**	**04 49 11.6**	**+0.5**
TJN	**Taejon**	**8.03 290**		P	**Pn**	**04 49 12.2**	**+1.1**
JCJ	**Chichijima**	**8.30 144**		P	Pn	04 49 11.4	-3.0
JCJ	**Chichijima**	**8.30 144**		P	Pn	04 49 05.2	-9.2
	22nm,0.4s,baz=357,slow=18,SNR=21						
JCJ				S	S	04 50 36.5	-14
	192nm,0.3s,baz=253,slow=20,SNR=19						
INCN	**Inchon**	**8.93 296**			**Pn**	**04 49 22.5**	**+0.9**
ERM	**Erimo**	**9.52 30**		Pn	**Pn**	**04 49 27.6**	**-0.9**
ERM	**Erimo**	**9.52 30**		P	**Pn**	**04 49 29.8**	**+1.3**
JEM	**Erimo**	**9.52 30**		P	**Pn**	**04 49 30.0**	**+1.5**
JOW	**Kunigami**	**10.17 228**			**Pn**	**04 49 36.3**	**-0.2**
JOW	**Kunigami**	**10.17 228**		P	**Pn**	**04 49 37.3**	**+0.8**
JOW	**Kunigami**	**10.17 228**		P	**Pn**	**04 49 36.8**	**+0.3**
	68nm,0.5s,baz=40,slow=11,SNR=7.9						
USA0B	**Ussuriysk Arra**	**10.87 342**			**P**	**04 49 44.7**	**-0.1**
USRK	**Ussuriysk Ar.**	**10.87 342**			**P**	**04 49 44.4**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.87 342**		P	**P**	**04 49 45.3**	**+0.5**
	65nm,0.8s,baz=164,slow=11,SNR=96						
USRK				S	**S**	**04 51 45.4**	**-0.6**
	1.5nm,0.6s,baz=160,slow=31,SNR=1.2						
ASAJ	**Asahikawa**	**11.13 22**		P	**P**	**04 49 47.7**	**+0.1**
	49nm,0.3s,baz=232,slow=12,SNR=48						
ASAJ				S	**S**	**04 51 45.0**	**-6.6**
	37nm,0.6s,baz=220,slow=17,SNR=8.1						
JKA	**Kamikawa-asahi**	**11.13 22**			**P**	**04 49 47.2**	**-0.4**
MDJ	**Mudanjiang**	**11.99 335**		P	**P**	**04 49 57.5**	**+0.3**
MDJ				S	**S**	**04 52 12.3**	**+2.1**
MDJ				PcP	**PcP**	**04 55 06.3**	**-3.5**
MDJ				ScP	**ScP**	**04 58 09.8**	**+2.2**
MDJ				PcS	**PcS**	**04 58 44.1**	**+0.2**
MDJ				ScS	**ScS**	**05 01 38.8**	**-4.7**
MDJ				pmax	pmax		
	comp=Z,13nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,140nm,5.1s						
YSS	**Yuzh-Sakhalins**	**13.77 18**			**P**	**04 50 16.4**	**-0.4**
YSS	**Yuzh-Sakhalins**	**13.77 18**		P	**P**	**04 50 18.4**	**+1.6**
NJ2	**Nanjing**	**15.11 268**		⇑P	**P**	**04 50 31.8**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,28nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,910nm,4.0s						
KLR	**Kul'dur**	**15.71 348**		P	**P**	**04 50 37.4**	**-0.4**
	7.6nm,0.7s,baz=150,slow=9.8,SNR=26						
TIA	**Tai'an**	**16.20 284**		P	**P**	**04 50 43.4**	**0.0**
TIA				pmax	pmax		
	comp=Z,28nm,0.9s						
YHNB	**Yeheng**	**16.25 239**		P	**P**	**04 50 44.5**	**+0.3**
NACB	**Ninganchiao**	**16.41 238**		P	**P**	**04 50 45.0**	**-0.8**
SSLB	**Suanglung**	**17.10 238**		P	**P**	**04 50 51.6**	**-1.7**
SSLB	**Suanglung**	**17.10 238**		P	**P**	**04 50 52.3**	**-1.0**
YULB	**Yu-li**	**17.12 236**		P	**P**	**04 50 50.2**	**-3.2**
YULB	**Yu-li**	**17.12 236**		P	**P**	**04 50 53.1**	**-0.4**
BJI	**Beijing**	**17.48 296**		P	**P**	**04 50 57.0**	**-0.1**
BJI				S	**S**	**04 53 59.0**	**-1.0**
BJI				pmax	pmax		
	comp=Z,12nm,0.6s						
TPUB	**Ta-pu**	**17.64 237**		P	**P**	**04 50 57.7**	**-1.3**
TWGBT	**Beinan**	**17.65 235**		P	**P**	**04 50 58.3**	**-0.8**
HEH	**HeiHe**	**17.67 340**		*e*P	**P**	**04 50 57.8**	**-1.1**
HEH				sP	**sP**	**04 52 33.3**	**-3.3**
HEH				S	**S**	**04 54 00.6**	**-2.7**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,190nm,4.3s						
QZH	**Quanzhou**	**18.14 245**		⇓*i* P	**P**	**04 51 03.3**	**-1.0**
QZH				pmax	pmax		
	comp=Z,72nm,0.8s						
HNS	**HongShan**	**18.20 287**		⇑P	**P**	**04 51 05.6**	**+0.8**
HNS				sP	sP	04 52 37.3	-5.9
HNS				S	**S**	**04 54 15.3**	**+1.2**
HNS				pmax	pmax		
	comp=Z,55nm,0.8s						
XLT	**XiLinHaoTe**	**18.84 308**		*e*P	**P**	**04 51 10.3**	**-1.2**
XLT				S	**S**	**04 54 22.0**	**-4.1**
XLT				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,180nm,5.3s						
WHN	**Wuhan**	**19.22 266**		⇑*i* P	**P**	**04 51 15.8**	**+0.2**
TIY	**Taiyuan**	**20.03 288**		P	**P**	**04 51 22.4**	**-1.4**
TIY				pmax	pmax		
	comp=Z,34nm,0.4s						
LYN	**LuoYang**	**20.05 279**		⇓*i* P	**P**	**04 51 22.0**	**-1.9**
LYN				pmax	pmax		
	comp=Z,30nm,0.9s						
LYN				pmax	pmax		
	comp=Z,410nm,5.0s						
HHC	**Hu-ho-hao-te**	**21.09 296**		*e*P	**P**	**04 51 33.5**	**0.0**
HHC				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,4.9s						
BTO	**Baotou**	**22.21 295**		*e*P	**P**	**04 51 45.6**	**+2.0**
BTO				sP	**sP**	**04 53 25.8**	**-1.0**
BTO				S	**S**	**04 55 28.0**	**+6.7**
BTO				pmax	pmax		
	comp=Z,69nm,0.8s						
BTO				pmax	pmax		
	comp=Z,240nm,5.2s						
BTO				LR	LR		
	comp=N,330nm,5.5s						
BTO				LR	LR		
	comp=E,360nm,8.0s						
BTO				LR	LR		
	comp=Z,230nm,9.3s						
XAN	**Xi'an**	**23.02 278**		⇓P	**P**	**04 51 50.8**	**-0.2**
XAN				pmax	pmax		
	comp=Z,55nm,0.9s						
PETK	**Petropavlovsk-**	**24.30 32**		P	**P**	**04 52 02.4**	**+0.2**
	9.7nm,0.8s,baz=226,slow=6.1,SNR=5.3						
	9.7nm,0.8s						
ULN	**Ulaanbaatar**	**26.19 311**		P	**P**	**04 52 19.5**	**+0.1**
SONM	**Songino Array**	**26.59 311**		P	**P**	**04 52 22.8**	**-0.1**
SONM	**Songino Array**	**26.59 311**		P	**P**	**04 52 23.7**	**+0.8**
	7.2nm,0.9s,baz=115,slow=8.3,SNR=25						
SONM				PcP	**PcP**	**04 55 35.0**	**-1.2**
	0.7nm,0.6s,baz=98,slow=2.6,SNR=2.1						
	7.2nm,0.9s						
LZH	**Lanzhou**	**26.94 284**		*e*P	**P**	**04 52 26.3**	**+0.1**
LZH				pP	pP	04 53 30.3	-1.5
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
GYA	**Guiyang**	**26.96 262**		⇑*i* P	**P**	**04 52 26.6**	**+0.2**
GYA				pmax	pmax		
	comp=Z,81nm,0.5s						
MA2	**Magadan**	**27.26 16**		P	**P**	**04 52 29.1**	**+0.6**
CD2	**Chengdu**	**27.92 273**		P	**P**	**04 52 34.1**	**-0.6**
CD2				pmax	pmax		
	comp=Z,100nm,0.6s						
GTA	**Gaotai**	**29.95 291**		*e*P	**P**	**04 52 52.5**	**-0.1**
GTA				pmax	pmax		
	comp=Z,14nm,0.8s						
KMI	**Kunming**	**30.73 262**		⇓P	**P**	**04 52 59.0**	**-0.7**
KMI				pmax	pmax		
	comp=Z,24nm,0.9s						
PZH	**PanZhiHua**	**31.01 266**		P	**P**	**04 53 01.3**	**-0.7**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,240nm,5.6s						
GOMU	**GeErMu**	**34.18 286**		P	**P**	**04 53 29.6**	**+0.2**
GOMU				pmax	pmax		
	comp=Z,18nm,0.9s						
GOMU				pmax	pmax		
	comp=Z,120nm,5.3s						
TNCH	**TengChong**	**34.26 265**		P	**P**	**04 53 30.1**	**+0.1**
TNCH				pP	pP	04 54 37.8	-0.9
TNCH				pmax	pmax		
	comp=Z,24nm,0.6s						
CRAI	**Chiangrai**	**34.93 256**		P	**P**	**04 53 35.6**	**+0.1**
CHTO	**Chiang Mai**	**36.82 256**		P	**P**	**04 53 51.4**	**0.0**
CMAR	**Chiang Mai Arr**	**37.00 255**		P	**P**	**04 53 53.4**	**+0.4**
	11nm,0.5s,baz=48,slow=8.1,SNR=52						
CMAR				ScP	**ScP**	**04 59 16.8**	**0.0**
	0.7nm,0.3s,baz=33,slow=4.4,SNR=5.7						
	11nm,0.5s						
TIXI	**Tiksi**	**37.99 356**		P	**P**	**04 53 59.9**	**-0.5**
TIXI				IAmb	IAmb	04 54 01.1	
	comp=Z,18nm,0.8s						
WMQ	**Urumqi**	**38.91 300**		*e*P	**P**	**04 54 07.0**	**-1.5**
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
ATKA	**Atka Island**	**39.36 47**		P	**P**	**04 54 12.0**	**+0.1**
ZALV	**Zalesovo Beam**	**41.27 315**		P	**P**	**04 54 28.3**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=90,slow=6.2,SNR=2.9						
ZALV				PcP	**PcP**	**04 56 18.0**	**-0.1**
	comp

comp=Z,39nm,0.3s
PYUN Piuthan 45.98 278 eP P 04 55 05.3 +0.2
comp=Z,63nm,0.7s
K13K Kusilvak Mount 46.01 34 P P 04 55 06.2 +1.6
baz=260
PLAI Plampang 46.19 206 P P 04 55 04.8 -1.8
M13K Dall Lake 46.42 36 P P 04 55 09.3 +1.6
baz=263
J14K Nanvaranak Lak 46.65 33 P P 04 55 10.9 +1.4
baz=261
F15K North Star Dit 46.76 29 P P 04 55 12.3 +2.0
baz=257
MTN Manton Dam 46.84 187 P P 04 55 10.6 -0.9
L14K Kuka Creek 46.86 35 P P 04 55 12.7 +1.6
baz=263
M14K Bethel 47.14 36 P P 04 55 14.7 +1.4
baz=264
K15K Wolf Creek Mou 47.52 34 P P 04 55 17.6 +1.4
baz=263
H16K Elim 47.54 31 P P 04 55 18.5 +2.2
baz=260
BOOM Boomskoye usch 47.60 299 P P 04 55 18.0 +0.7
SDPT Sand Point 47.68 43 P P 04 55 16.9 -0.5
SDPT Sand Point 47.68 43 P P 04 55 17.0 -0.5
SDPT Sand Point 47.68 43 P P 04 55 18.5 +1.0
baz=270
M15K Kasigluk River 47.76 36 P P 04 55 19.4 +1.4
baz=265
D17K Noatak River 47.82 27 P P 04 55 20.4 +2.1
baz=257
C17K DeLong Mountai 47.97 26 P P 04 55 20.9 +1.4
baz=256
N15K Kwethluk River 48.02 37 P P 04 55 21.6 +1.7
baz=266,SNR=5.3
J16K Anvik River 48.06 33 P P 04 55 21.5 +1.2
baz=263
I17K Unalakleet 48.10 32 P P 04 55 22.0 +1.5
baz=262
O15K Ungalikthiuk R 48.10 38 P P 04 55 22.0 +1.4
baz=268
E17K Hotham Inlet 48.16 28 P P 04 55 22.7 +1.8
baz=258
S14K Fog Glacier 48.19 42 P P 04 55 21.8 +0.3
baz=270
CNBA Chernabura Isl 48.20 44 P P 04 55 20.4 -0.9
KSH Kashi 48.20 295 P P 04 55 26.3 +4.4
KSH pmax pmax
comp=Z,15nm,0.8s
F17K Baldwin Pennin 48.26 28 P P 04 55 22.8 +1.1
baz=260
G17K Kiwalik Mounta 48.35 30 P P 04 55 23.8 +1.4
baz=261
L16K Owhat River 48.43 35 P P 04 55 24.4 +1.4
baz=266
UGM Wanagama 48.48 216 P P 04 55 23.1 -1.0
H17K Granite Mounta 48.57 31 P P 04 55 25.4 +1.4
baz=262
M16K Timber Creek 48.63 36 P P 04 55 26.4 +1.8
baz=267
E18K Tukpahlearik C 48.69 27 P P 04 55 26.7 +1.8
baz=259,SNR=6.7
N16K Nishlik Lake 48.69 37 P P 04 55 26.4 +1.3
baz=267
C18K Utukok River 48.72 26 P P 04 55 26.6 +1.4
baz=258
J17K VABM Dome 48.76 33 P P 04 55 27.3 +1.8
baz=264
CHGN Chignik 48.83 42 P P 04 55 25.3 -0.8
CHGN IAmb IAmb 04 55 33.9
comp=Z,32nm,1.1s
O16K Kokwok River B 49.00 38 P P 04 55 28.6 +1.2
baz=269
L17K Donlin 49.01 34 P P 04 55 28.8 +1.4
baz=266
K17K Iditarod 49.05 34 P P 04 55 28.9 +1.2
baz=266,SNR=5.5
A19K Wainwright 49.10 23 P P 04 55 29.5 +1.5
baz=257
G18K Tagagawik 49.22 29 P P 04 55 30.1 +1.1
baz=263,SNR=6.1
H18K Honhosa River 49.25 30 P P 04 55 30.2 +1.0
baz=264
C19K Lookout Ridge 49.38 25 P P 04 55 31.4 +1.3
baz=259
M17K Holitna River 49.38 35 P P 04 55 31.8 +1.6
baz=268
N17K Nushagak Hills 49.48 36 P P 04 55 33.0 +2.0
baz=269
O17K Koliganek Bris 49.51 37 P P 04 55 32.5 +1.3
baz=269
Q16K King Salmon 49.74 39 P P 04 55 34.2 +1.3
baz=271
L18K Granite Mounta 49.77 34 P P 04 55 34.5 +1.4
baz=268
D19K Kuna River 49.80 26 P P 04 55 35.0 +1.7
baz=261
J18K Innoko River 49.82 33 P P 04 55 35.2 +1.7
baz=267
BVAR Borovoye Array 49.86 314 P P 04 55 34.3 +0.4
comp=Z,1.0nm,0.3s,baz=100,slow=9.2,SNR=7.6
BVAR PcP PcP 04 56 48.6 +0.2
comp=Z,1.5nm,0.4s,baz=101,slow=4.7,SNR=5.0
BVAR ScP ScP 05 00 07.7 -0.8
comp=Z,2.1nm,0.5s,baz=76,slow=6.3,SNR=7.8
BVAR S S 05 02 15.0 -0.2
comp=Z,1.9nm,0.8s,baz=88,slow=14,SNR=7.0
comp=Z,1.0nm,0.3s
G19K Purcell Mounta 49.88 29 P P 04 55 35.5 +1.6
baz=264
KNRA Kununurra 49.93 190 P P 04 55 34.4 -0.4
KNRA Kununurra 49.93 190 P P 04 55 34.8 0.0
E19K Redstone River 49.98 27 P P 04 55 36.3 +1.7
baz=263
H19K Roundabout Mou 50.09 30 P P 04 55 36.4 +1.0
baz=265,SNR=7.3
N18K Kilae Creek 50.12 36 P P 04 55 37.3 +1.5
baz=270
SVW2 Sparrevohn 50.27 36 P P 04 55 38.2 +1.4
J19K Poorman 50.34 32 P P 04 55 38.8 +1.5
baz=267,SNR=7.3
D20K Etivluk River 50.38 26 P P 04 55 39.8 +2.3
baz=262
B20K Meade River 50.38 24 P P 04 55 39.1 +1.6
baz=261
P18K Big Mountain, 50.46 38 P P 04 55 39.3 +1.0
baz=271
O18K Koktuh Hills 50.46 37 P P 04 55 40.0 +1.7
baz=271
E20K Nigu River 50.47 26 P P 04 55 40.0 +1.7
baz=263
F20K Avaraart Lake 50.52 28 P P 04 55 40.4 +1.9
baz=264
L19K White Mountain 50.63 34 P P 04 55 41.1 +1.5
baz=269
H20K Anotleneega Mo 50.74 30 P P 04 55 41.9 +1.6
baz=267
N19K Bonanza Creek 50.81 36 P P 04 55 42.5 +1.5
baz=271
M19K Big River Lodg 50.85 35 P P 04 55 42.4 +1.3
baz=270
I20K Naaghedeneel 50.87 31 P P 04 55 42.5 +1.4
baz=268,SNR=5.0
O19K Port Alsworth 50.90 37 P P 04 55 42.6 +1.1
baz=271
R18K Karluk 50.95 40 P P 04 55 43.2 +1.4
baz=273
J20K Nowinta River 50.99 32 IAmb IAmb 04 55 44.9
comp=Z,17nm,0.9s
J20K Nowinta River 50.99 32 P P 04 55 43.7 +1.6
baz=268,SNR=7.6
K20K Telida 51.01 33 IAmb IAmb 04 55 45.1
comp=Z,25nm,0.8s
K20K Telida 51.01 33 P P 04 55 43.6 +1.4
baz=269,SNR=11
C21K Knifeblade Rid 51.09 25 P P 04 55 44.4 +1.6
baz=264
B21K Ikpikpuk River 51.20 25 P P 04 55 44.9 +1.4
baz=264,SNR=7.0
Q19K Cape Douglas, 51.30 39 P P 04 55 44.8 +0.3
baz=273
E21K Killik River 51.31 26 P P 04 55 46.0 +1.6
baz=265
G21K Allakaket 51.36 29 P P 04 55 46.4 +1.7
baz=267
KKAR Karatay Array 51.38 301 P P 04 55 45.3 -0.1
F21K Alatna River 51.41 28 P P 04 55 46.7 +1.6
baz=266
M20K Styx River 51.44 35 P P 04 55 46.6 +1.0
baz=271
P19K Oil Pt 51.47 38 P P 04 55 47.0 +1.2
baz=273
H21K Melozitna Rive 51.61 30 P P 04 55 47.8 +1.2
baz=268,SNR=8.1
B22K Teshekpuk Lake 51.69 24 P P 04 55 48.7 +1.6
baz=264
O20K Slope Mountain 51.75 37 P P 04 55 48.8 +1.0
baz=273
CHUM Lake Minchumin 51.80 32 P P 04 55 50.0 +2.0
baz=270
D22K Ayikyak River 51.82 26 P P 04 55 50.2 +2.1
baz=266,SNR=8.0
PPLA Purkeypile 51.86 33 P P 04 55 50.6 +1.9
baz=271
CAST Castle Rocks 51.90 33 P P 04 55 50.0 +1.2
CAST Castle Rocks 51.90 33 P P 04 55 50.8 +2.0
baz=271,SNR=7.4
N20K Mount Spurr 51.91 36 P P 04 55 50.8 +1.8
baz=272,SNR=5.6
SPCR Spurr Chakacha 51.91 36 P P 04 55 50.8 +1.8
baz=272,SNR=5.1
F22K John River 51.92 28 P P 04 55 50.8 +1.9
baz=268
KDAK Kodiak Island 51.93 40 P P 04 55 50.1 +1.0
baz=275
I21K Tanana 51.94 31 P P 04 55 50.8 +1.8
baz=270
Q20K Shuyak Island 51.97 39 P P 04 55 50.4 +1.0
baz=274
G22K Bettles 52.16 28 P P 04 55 52.0 +1.4
baz=268
SKT Skwentna 52.20 35 P P 04 55 51.6 +0.6
SKT Skwentna 52.20 35 P P 04 55 52.1 +1.1
baz=272
H22K Ishtalitna Cre 52.20 30 P P 04 55 52.2 +1.3
baz=270,SNR=20
HOM Homer 52.27 38 P P 04 55 52.9 +1.4
baz=274
BPAW Bear Paw Mtn. 52.38 32 P P 04 55 53.7 +1.5
baz=271,SNR=6.3
MLY Manley 52.47 31 P P 04 55 54.2 +1.2
baz=271
D23K Nanushuk River 52.54 26 P P 04 55 54.9 +1.5
baz=268
SUA Susitna One 52.60 35 IAmb IAmb 04 55 56.7
comp=Z,30nm,0.9s
SUA Susitna One 52.60 35 P P 04 55 55.1 +1.0
baz=274,SNR=6.9
C23K Itkillik River 52.61 25 P P 04 55 55.7 +1.9
baz=267
COLD Coldfoot 52.68 28 P P 04 55 56.3 +1.9
baz=270
TRF Thorofare Moun 52.71 33 P P 04 55 55.4 +0.6
TRF Thorofare Moun 52.71 33 P P 04 55 56.1 +1.3
baz=272
BRSE Bradley Lake S 52.72 37 P P 04 55 56.1 +1.2
baz=275
G23K Bananza Creek 52.75 29 P P 04 55 56.9 +1.9
baz=270,SNR=8.7
CUT Chulitna 52.77 34 P P 04 55 55.9 +0.8
baz=273
M22K Willow 52.88 35 P P 04 55 56.8 +0.9
baz=274,SNR=6.3
E23K Chandalar 52.91 27 P P 04 55 57.9 +1.7
baz=269,SNR=22
TOLK Toolik Lake Re 52.94 26 P P 04 55 57.4 +1.1
baz=269
H23K Yukon River 52.95 30 P P 04 55 58.4 +1.9
baz=271
I23K Minto, Yukon-K 53.05 31 P P 04 55 58.5 +1.4
baz=272,SNR=5.3
RC01 Rabbit Creek A 53.11 36 P P 04 55 57.8 +0.2
RC01 IAmb IAmb 04 55 59.0
comp=Z,34nm,1.0s
RC01 Rabbit Creek A 53.11 36 P P 04 55 58.5 +0.9
baz=275
NEA2 Nenana 53.20 31 IAmb IAmb 04 56 00.6
comp=Z,29nm,0.8s
NEA2 Nenana 53.20 31 P P 04 55 59.8 +1.6
baz=272,SNR=14
D24K Happy Valley 53.22 26 P P 04 55 60.0 +1.7
baz=269
C24K Franklin Bluff 53.27 25 P P 04 55 59.9 +1.3
baz=269
MCK McKinley 53.30 32 P P 04 56 00.2 +1.3
baz=273,SNR=6.2
SEW Seward 53.34 37 P P 04 55 59.8 +0.6
baz=276
E24K Your Creek 53.34 27 P P 04 56 00.8 +1.6
baz=270
RND Reindeer 53.35 33 IAmb IAmb 04 56 00.9
comp=Z,21nm,0.9s
PMR Palmer 53.36 35 IAmb IAmb 04 56 00.8
comp=Z,24nm,0.9s
PMR Palmer 53.36 35 P P 04 55 59.9 +0.6
PMR Palmer 53.36 35 P P 04 55 59.9 +0.6
baz=275,SNR=7.3
GHO Glory Hole Cre 53.44 35 IAmb IAmb 04 56 01.9
comp=Z,21nm,0.6s
WB0 Warramunga Arr 53.47 183 P P 04 55 59.7 -1.0
WB0 IAmb IAmb 04 56 01.8
comp=Z,14nm,0.5s
WAT1 Susitna Watana 53.53 33 P P 04 56 01.5 +0.8
baz=274
F24K Squaw Lake 53.58 28 P P 04 56 02.2 +1.3
baz=271,SNR=11
WRH Wood River Hil 53.62 31 IAmb IAmb 04 56 05.3
comp=Z,13nm,0.7s
H24K Noodor Dome 53.64 30 P P 04 56 03.6 +2.2
baz=273,SNR=14
WB2 Warramunga Arr 53.64 183 IAmb IAmb 04 56 03.2
comp=Z,11nm,0.6s
WRA Warramunga Arr 53.64 183 P P 04 56 01.4 -0.5
comp=Z,6.9nm,0.4s,baz=360,slow=7.6,SNR=172
WRA ScP ScP 05 00 22.8 -2.4
comp=Z,0.7nm,0.8s,baz=357,slow=4.6,SNR=3.4
WRA S S 05 03 04.8 -2.2
comp=Z,0.6nm,0.7s,baz=358,slow=12,SNR=5.5
comp=Z,6.9nm,0.4s
WR0 Warramunga Arr 53.65 183 P P 04 56 00.7 -1.3
WR0 IAmb IAmb 04 56 03.3
comp=Z,12nm,0.5s
KNK Knik Glacier 53.70 35 P P 04 56 03.2 +1.3
baz=275,SNR=7.2
COLA College 53.70 31 P P 04 56 03.3 +1.5
COLA IAmb IAmb 04 56 04.5
comp=Z,18nm,0.6s
COLA College 53.70 31 P P 04 56 04.0 +2.2
COLA College 53.70 31 P P 04 56 03.9 +2.2
baz=273
SML Sawmill 53.72 35 IAmb IAmb 04 56 04.3
comp=Z,21nm,0.8s
SML Sawmill 53.72 35 P P 04 56 03.6 +1.6
baz=275
G24K Hadweenzic Riv 53.76 29 P P 04 56 04.0 +1.7
baz=272,SNR=6.1
PWL Port Wells 53.81 36 P P 04 56 03.8 +1.1
baz=276,SNR=5.3
POKR Poker Plat Res 53.87 31 P P 04 56 04.5 +1.6
baz=274,SNR=23
WAT6 Susitna Watana 53.92 34 P P 04 56 04.4 +0.8
baz=275
M23K Glacier View 54.01 35 P P 04 56 05.2 +1.2
baz=276
DHY Denali Highway 54.05 33 P P 04 56 04.7 +0.2
DHY Denali Highway 54.05 33 P P 04 56 05.4 +0.9
baz=275
D25K Kavik River 54.09 25 P P 04 56 06.3 +1.8
baz=272,SNR=5.6
ILAR Eielson Array 54.12 31 P P 04 56 04.7 -0.1
ILAR Eielson Array 54.12 31 P P 04 56 05.0 +0.2
comp=Z,5.3nm,0.6s,baz=260,slow=5.3,SNR=109
ILAR PcP PcP 04 57 03.8 -0.4
comp=Z,0.9nm,0.6s,baz=257,slow=3.9,SNR=2.4
comp=Z,5.3nm,0.6s
HDA Harding Lake 54.12 31 IAmb IAmb 04 56 06.6
comp=Z,28nm,1.1s
HDA Harding Lake 54.12 31 P P 04 56 06.1 +1.2
baz=275,SNR=9.8
SCM Sheep Creek Mo 54.19 35 IAmb IAmb 04 56 07.5
comp=Z,37nm,0.9s
SCM Sheep Creek Mo 54.19 35 P P 04 56 06.5 +1.1
baz=276,SNR=5.0
G25K Bearman Lake 54.30 28 P P 04 56 08.4 +2.4
baz=274,SNR=5.2
P23K Montague Islan 54.37 37 P P 04 56 07.8 +1.2
baz=277
GLI Glacier Island 54.41 36 P P 04 56 06.8 -0.1
GLI Glacier Island 54.41 36 P P 04 56 08.1 +1.2
baz=277
E25K Arctic Village 54.43 27 P P 04 56 08.5 +1.5
baz=273,SNR=6.8
F25K Christian Rive 54.43 27 P P 04 56 09.3 +2.3
baz=273,SNR=17
H25L Birch Creek 54.45 29 P P 04 56 08.9 +1.8
baz=274
C26K Camden Bay 54.58 25 P P 04 56 10.4 +2.4
baz=272
PRP Porcupine Dome 54.63 30 IAmb IAmb 04 56 10.8
comp=Z,13nm,0.7s
PRP Porcupine Dome 54.63 30 P P 04 56 10.4 +1.8
baz=275,SNR=8.8
FYU Fort Yukon 54.66 29 IAmb IAmb 04 56 11.9
comp=Z,52nm,1.4s
K24K Donnelly Dome 54.69 32 P P 04 56 10.4 +1.5
baz=276
M24K Tolsona, Glenn 54.70 34 P P 04 56 10.5 +1.4
baz=277
J25K Salcha River, 54.78 31 P P 04 56 11.2 +1.6
baz=276
KLU Klutina 54.90 35 P P 04 56 11.4 +0.9
KLU IAmb IAmb 04 56 13.2
comp=Z,14nm,0.7s
KLU Klutina 54.90 35 P P 04 56 11.9 +1.4
baz=278,SNR=6.4
PAX Paxson 54.92 33 P P 04 56 12.4 +1.8
baz=277
F26K Sheenjek River 55.00 27 P P 04 56 13.3 +2.3
baz=275,SNR=21
EYAK Cordova Ski Ar 55.11 36 P P 04 56 13.5 +1.6
EYAK Cordova Ski Ar 55.11 36 P P 04 56 13.4 +1.5
baz=278
HARP HAARP 55.14 34 P P 04 56 13.2 +1.2
baz=278
G26K Porcupine Rive 55.20 28 P P 04 56 14.1 +1.7
baz=276,SNR=8.7
SCRK Sand Creek 55.46 32 IAmb IAmb 04 56 16.1
comp=Z,20nm,1.0s
SCRK Sand Creek 55.46 32 P P 04 56 15.2 +0.8
baz=277,SNR=11
N25K Chitina, Valde 55.51 35 P P 04 56 15.7 +0.9
baz=278
J26L Joseph Creek 55.57 31 P P 04 56 15.6 +0.4
baz=277,SNR=10
BMRM Bremner River 55.60 35 P P 04 56 16.9 +1.5
baz=279,SNR=13
I26K Coal Creek Min 55.64 30 P P 04 56 16.2 +0.7
baz=277
MENT Mentasta 55.72 33 IAmb IAmb 04 56 18.8
comp=Z,23nm,0.8s
KAIM Kayak Island 55.87 37 P P 04 56 18.6 +1.4
baz=280
L26K Log Cabin Wild 55.88 33 IAmb IAmb 04 56 19.9
comp=Z,23nm,0.8s
L26K Log Cabin Wild 55.88 33 P P 04 56 18.4 +1.2
baz=279,SNR=8.3
E27K Coleen River 55.91 27 P P 04 56 18.7 +1.3
baz=277,SNR=7.7
GLB Gilahina Butte 55.91 35 IAmb IAmb 04 56 20.1
comp=Z,20nm,1.2s
D27M Malcolm River 56.01 25 P P 04 56 19.8 +1.6
baz=276
G27K Doyon Strip 56.05 28 P P 04 56 20.4 +1.9
baz=278
VRDI Verde Repeater 56.11 35 IAmb IAmb 04 56 21.4
comp=Z,22nm,1.1s
M26K Nabesna, AK 56.13 34 IAmb IAmb 04 56 21.6
comp=Z,26nm,1.2s
M26K Nabesna, AK 56.13 34 P P 04 56 20.5 +1.3
baz=279,SNR=14
H27K Steamboat Moun 56.19 29 P P 04 56 21.1 +1.7
baz=278,SNR=9.3
I27K Kandik River 56.24 30 P P 04 56 21.4 +1.6
baz=278,SNR=5.2
K27K Chicken 56.28 32 P P 04 56 21.5 +1.4
baz=279
MCARA McCarthy VSAT 56.29 35 IAmb IAmb 04 56 22.7
comp=Z,30nm,0.9s
MCARA McCarthy VSAT 56.29 35 P P 04 56 21.3 +1.1
baz=280,SNR=9.8
CRQE Cirque 56.37 36 P P 04 56 22.1 +1.2
baz=280
L27K Beaver Creek, 56.55 33 P P 04 56 23.9 +1.8
baz=280,SNR=11
E28M Babbage River 56.61 26 P P 04 56 23.9 +1.6
baz=278,SNR=5.2
M27K Edge Creek, AK 56.65 34 IAmb IAmb 04 56 24.9
comp=Z,15nm,0.6s
M27K Edge Creek, AK 56.65 34 P P 04 56 24.9 +2.0
baz=280,SNR=13
I28M Miner Creek 56.95 30 IAmb IAmb 04 56 27.5
comp=Z,26nm,0.9s
I28M Miner Creek 56.95 30 P P 04 56 26.5 +1.7
baz=280,SNR=24
BARN Barnard Glacie 57.00 35 IAmb IAmb 04 56 27.1
comp=Z,14nm,0.6s
ABKAR Akbulak array 57.01 310 P P 04 56 24.9 -0.4
MBWA Marble Bar 57.14 199 P P 04 56 26.3 -0.3
CTG Chitna Glacier 57.17 35 P P 04 56 28.4 +1.9
baz=282
E29M Blow River 57.24 26 P P 04 56 29.0 +2.3
baz=280
ASAR Alice Springs 57.36 183 P P 04 56 27.9 -0.2
comp=Z,3.5nm,0.6s,baz=13,slow=12,SNR=45
ASAR ScP ScP 05 00 41.5 0.0
comp=Z,0.3nm,0.7s,baz=16,slow=6.9,SNR=1.8
ASAR S S 05 03 55.4 -0.4
comp=Z,1.2nm,0.8s,baz=18,slow=21,SNR=9.6
comp=Z,3.5nm,0.6s
YUK3 Moose Creek 57.42 34 P P 04 56 29.7 +1.4
baz=282,SNR=6.1
H29M Whitestone 57.45 29 P P 04 56 30.5 +2.4
baz=281
G29M Pine Creek 57.46 28 IAmb IAmb 04 56 31.3
comp=Z,25nm,0.8s
G29M Pine Creek 57.46 28 P P 04 56 30.4 +2.2
baz=281,SNR=9.1
I29M Ogilvie Camp, 57.64 30 IAmb IAmb 04 56 32.1
comp=Z,21nm,1.2s
I29M Ogilvie Camp, 57.64 30 P P 04 56 31.1 +1.5
baz=281,SNR=11
O28M Mount Upton 57.76 35 P P 04 56 32.2 +1.5
baz=283
YUK8 Steele Glacier 57.85 35 P P 04 56 32.9 +1.6
baz=283
J29N Klondike Camp 57.86 31 P P 04 56 33.1 +2.0
baz=282
PINM Pinnacle 57.88 36 P P 04 56 32.8 +1.5
baz=283
EPYK Eagle Plains 58.07 28 P P 04 56 34.2 +1.7
baz=282,SNR=22
G30M tAoh Zraii Nji 58.14 28 IAmb IAmb 04 56 35.0
comp=Z,29nm,1.1s
G30M tAoh Zraii Nji 58.14 28 P P 04 56 34.1 +1.2
baz=282,SNR=9.4
F30M Barrier River 58.17 27 P P 04 56 35.0 +1.9
baz=282,SNR=6.8
L29M L29M 58.19 32 P P 04 56 35.6 +2.2
baz=283,SNR=13
M29M Somme Creek 58.19 33 P P 04 56 34.6 +1.2
M29M IAmb IAmb 04 56 36.5
comp=Z,12nm,0.7s
M29M Somme Creek 58.19 33 P P 04 56 35.4 +1.9
baz=283,SNR=11
K29M Barlow Dome 58.29 31 IAmb IAmb 04 56 36.8
comp=Z,14nm,0.8s
K29M Barlow Dome 58.29 31 P P 04 56 35.4 +1.3
baz=283,SNR=16
YUK4 Talbot Arm 58.36 34 P P 04 56 36.3 +1.5
baz=284
PNL Peninsula 58.40 36 P P 04 56 36.4 +1.6
PNL Peninsula 58.40 36 P P 04 56 36.2 +1.4
baz=284
I30M Mount Dempster 58.46 30 IAmb IAmb 04 56 38.4
comp=Z,25nm,0.8s
I30M Mount Dempster 58.46 30 P P 04 56 36.3 +1.1
baz=283,SNR=22
YUK6 Outpost Mounta 58.59 35 P P 04 56 38.2 +1.9
baz=284
J30M Hart River 58.63 30 P P 04 56 38.3 +1.8
baz=284
O29M Mount Kennedy 58.65 35 IAmb IAmb 04 56 39.9
comp=Z,18nm,1.1s
O29M Mount Kennedy 58.65 35 P P 04 56 38.5 +1.9
baz=284,SNR=7.6

INK	Inuvik	58.84	26	IAmb	IAmb	04 56 38.9	
	comp=Z,8.2nm,0.5s						
INK	Inuvik	58.84	26	P	P	04 56 38.7	+1.1
	baz=284,SNR=5.2						
G31M	Satah River	58.90	27	P	P	04 56 39.0	+0.9
	baz=284,SNR=6.7						
M30M	Minto, Yukon	58.91	33	P	P	04 56 40.0	+1.7
	baz=284,SNR=7.0						
F31M	Tsiigehtchic	58.97	27	P	P	04 56 39.0	+0.5
	baz=284						
HYT	Haines Junctio	59.03	35	P	P	04 56 40.6	+1.4
HYT	Haines Junctio	59.03	35	P	P	04 56 41.2	+2.0
	baz=285,SNR=6.0						
MAYO	Mayo, Yukon	59.06	31	P	P	04 56 40.8	+1.6
	baz=284						
N30M	Aishikik Lake	59.06	34	P	P	04 56 41.0	+1.6
	baz=285						
H31M	Peel River	59.15	29	IAmb	IAmb	04 56 42.1	
	comp=Z,25nm,0.8s						
H31M	Peel River	59.15	29	P	P	04 56 41.1	+1.3
	baz=284,SNR=12						
P29M	Windy Craggy	59.23	36	IAmb	IAmb	04 56 43.1	
	comp=Z,9.8nm,0.7s						
P29M	Windy Craggy	59.23	36	P	P	04 56 42.3	+1.9
	baz=285						
P30M	Million Dollar	59.48	35	P	P	04 56 43.9	+1.7
	baz=286						
N31M	Braeburn, Yuko	59.66	34	IAmb	IAmb	04 56 46.3	
	comp=Z,20nm,1.1s						
N31M	Braeburn, Yuko	59.66	34	P	P	04 56 45.5	+2.1
	baz=286,SNR=5.6						
O30N	Mendenhall	59.71	35	P	P	04 56 45.7	+2.0
	baz=286						
PLBC	Pleasant Camp	59.95	36	P	P	04 56 47.1	+1.8
	baz=286,SNR=6.5						
M31M	Drury Creek, Y	60.09	33	P	P	04 56 47.9	+1.6
	baz=286,SNR=11						
WHY	Whitehorse	60.31	35	P	P	04 56 49.3	+1.5
WHY				IAmb	IAmb	04 56 50.5	
	comp=Z,12nm,1.0s						
WHY	Whitehorse	60.31	35	P	P	04 56 49.8	+1.9
	baz=287,SNR=6.7						
S31K	Pelican	60.45	38	P	P	04 56 50.6	+1.9
	baz=287						
SKAG	Skagway	60.45	36	P	P	04 56 48.9	+0.2
SKAG	Skagway	60.45	36	P	P	04 56 50.7	+2.0
	baz=287						
A36M	Sachs Harbour	60.52	21	P	P	04 56 49.9	+1.1
	baz=289						
FARO	Faro, Yukon	60.55	33	IAmb	IAmb	04 56 51.8	
	comp=Z,16nm,1.0s						
FARO	Faro, Yukon	60.55	33	P	P	04 56 50.8	+1.4
	baz=287,SNR=13						
N32M	Quiet Lake	61.00	34	P	P	04 56 53.6	+1.2
	baz=288						
P32M	Atlin	61.20	35	P	P	04 56 55.2	+1.5
	baz=288						
SIT	Sitka	61.20	39	P	P	04 56 55.2	+1.6
	baz=289						
R32K	Eaglecrest	61.22	37	P	P	04 56 55.7	+1.9
	baz=288						
MMPY	Sheldon Lake,	61.35	32	IAmb	IAmb	04 56 57.3	
	comp=Z,8.1nm,0.7s						
MMPY	Sheldon Lake,	61.35	32	P	P	04 56 56.1	+1.4
	baz=289,SNR=9.3						
OOD	Oodnadatta	61.42	181	P	P	04 56 54.9	-0.5
P33M	Teslin, Yukon	61.43	35	IAmb	IAmb	04 56 57.9	
	comp=Z,14nm,1.1s						
P33M	Teslin, Yukon	61.43	35	P	P	04 56 56.6	+1.3
	baz=289,SNR=6.2						
C36M	Paulatuk	61.80	23	P	P	04 56 58.2	+0.8
	baz=291						
Q32M	Nakina River	62.10	36	P	P	04 57 01.3	+1.4
	baz=290						
R33M	Jennings River	62.58	35	P	P	04 57 03.8	+0.9
R33M	Jennings River	62.58	35	P	P	04 57 04.7	+1.7
	baz=291,SNR=5.7						
U33K	Whale Pass	62.66	39	P	P	04 57 04.7	+1.4
	baz=291						
SPA0	Spitsbergen Ar	62.78	348	eP	P	04 57 04.9	+1.1
SPITS	Spitsbergen Ar	62.78	348	P	P	04 57 03.7	-0.2
	comp=Z,6.5nm,0.8s,baz=67,slow=13,SNR=2.2						
	comp=Z,6.5nm,0.8s						
CRAG	Craig	62.89	40	P	P	04 57 06.6	+1.8
	baz=291						
S34M	Telegraph Cree	63.03	37	P	P	04 57 07.5	+1.8
	baz=291						
TGTN	Hyland Airport	63.05	32	P	P	04 57 07.5	+1.6
	baz=292,SNR=12						
DLBC	Dease Lake	63.39	36	P	P	04 57 09.8	+1.7
	baz=292						
DLBC	Dease Lake	63.39	36	P	P	04 57 08.0	-0.2
	comp=Z,5.5nm,0.9s,baz=290,slow=10.0,SNR=10.0						
	comp=Z,5.5nm,0.9s						
EUNU	Eureka	63.77	8	IAmb	IAmb	04 57 11.6	
	comp=Z,15nm,0.7s						
T35M	Bob Quinn	63.82	38	P	P	04 57 12.2	+1.2
	baz=292						
VADS	Vadso	64.05	339	eP	P	04 57 12.7	+0.6
WRGLY	Wrigley	64.44	30	P	P	04 57 16.0	+1.3
	baz=295						
LIRD	Liard River Hi	64.88	34	P	P	04 57 18.8	+1.2
	baz=294,SNR=18						
FORT	Forrest	64.90	188	P	P	04 57 17.0	-1.0
HAMF	Hammerfest	65.44	340	eP	P	04 57 21.2	+0.3
ARA0	ARCESS Array S	65.50	339	eP	P	04 57 22.0	+0.6
ARCES	ARCESS Array B	65.50	339	P	P	04 57 21.8	+0.4
	comp=Z,3.2nm,0.5s,baz=62,slow=8.5,SNR=39						
	comp=Z,3.2nm,0.5s						
KOTAN	Kotaneelee Air	65.51	33	P	P	04 57 22.7	+1.1
	baz=296						
STKA	Stephens Creek	65.64	175	P	P	04 57 22.9	+0.2
	comp=Z,0.9nm,0.4s,baz=330,slow=6.1,SNR=4.9						
	comp=Z,0.9nm,0.4s						
KTK1	Kautokeino	66.47	339	eP	P	04 57 27.8	+0.3
RES	Resolute Bay	66.50	13	P	P	04 57 27.9	+0.4
	comp=Z,7.2nm,0.4s,baz=310,slow=4.6,SNR=37						
	comp=Z,7.2nm,0.4s						
JETT	Jettan, Norway	66.98	340	eP	P	04 57 31.0	+0.2
TRO	Tromso	67.35	340	eP	P	04 57 33.2	+0.3
YKA	Yellowknife Ar	68.36	28	P	P	04 57 39.4	+0.1
	comp=Z,1.3nm,0.4s,baz=268,slow=13,SNR=14						
	comp=Z,1.3nm,0.4s						
NEEM	North Greenlan	68.76	2	iP	P	04 57 41.9	0.0
NEEM				IAmb	IAmb	04 57 43.7	
	comp=Z,15nm,0.6s						
STEI	Steigen	69.47	340	eP	P	04 57 46.2	+0.3
FINES	FINESS Array B	69.71	331	P	P	04 57 47.6	+0.1
	comp=Z,7.3nm,0.4s,baz=58,slow=5.9,SNR=61						
	comp=Z,7.3nm,0.4s						
FAUS	Fauske	69.82	339	eP	P	04 57 49.1	+1.1
KBZ	Khabaz	69.95	310	P	P	04 57 51.1	+1.8
	comp=Z,2.5nm,0.8s,baz=55,slow=12,SNR=4.9						
	comp=Z,2.5nm,0.8s						
MOR8	Moi Rana	70.88	339	eP	P	04 57 53.7	-0.8
LLLB	Lillooet	71.11	41	IAmb	IAmb	04 57 58.3	
	comp=Z,8.3nm,0.9s						
GNW	Green Mountain	72.13	44	IAmb	IAmb	04 58 05.1	
	comp=Z,11nm,1.2s						
B06A	Marblemount	72.41	43	IAmb	IAmb	04 58 05.8	
	comp=Z,16nm,0.9s						
NSS	Namsos	72.76	338	eP	P	04 58 06.3	+0.8
SUMG	Summit	73.71	358	P	P	04 58 12.7	+1.2
SUMG	Summit	73.71	358	iP	P	04 58 12.2	+0.8
SUMG				IAmb	IAmb	04 58 13.8	
	comp=Z,16nm,0.5s						
TBLU	Trondheim	74.20	338	eP	P	04 58 13.7	-0.2
AKASG	Malin Array Be	74.33	321	P	P	04 58 14.7	-0.1
	comp=Z,1.3nm,0.4s,baz=52,slow=5.4,SNR=8.9						
	comp=Z,1.3nm,0.4s						
C09A	Chrisman Ranch	74.61	42	IAmb	IAmb	04 58 18.6	
	comp=Z,10nm,0.8s						
D08A	Wollman Farm,	74.65	43	P	P	04 58 16.8	0.0
D08A				IAmb	IAmb	04 58 18.8	
	comp=Z,8.6nm,1.0s						
HAWA	Hanford	74.66	44	IAmb	IAmb	04 58 19.2	
	comp=Z,6.6nm,0.8s						
NEW	Newport	74.99	42	IAmb	IAmb	04 58 20.8	
	comp=Z,9.3nm,0.9s						
NEW	Newport	74.99	42	P	P	04 58 19.8	+1.0
	baz=304,SNR=7.5						
HFS	Hagfors	75.25	334	P	P	04 58 19.9	0.0
	comp=Z,7.8nm,0.4s,baz=64,slow=3.4,SNR=72						
	comp=Z,7.8nm,0.4s						
YBH	Yreka Blue Hor	75.25	50	P	P	04 58 22.0	+1.5
NC405	NORSAR Array S	75.26	336	P	P	04 58 20.0	0.0
NC405				IAmb	IAmb	04 58 34.9	
	comp=Z,17nm,1.4s						
NC303	NORSAR Array S	75.30	336	eP	P	04 58 21.3	+1.1
E09A	Wood Farm, Sta	75.39	44	IAmb	IAmb	04 58 23.4	
	comp=Z,9.6nm,0.9s						
DOMB	Dombas	75.46	337	eP	P	04 58 20.8	-0.4
NC204	NORSAR Array S	75.47	336	P	P	04 58 21.5	+0.3
NB2	NORSAR Subarra	75.48	336	P	P	04 58 21.2	-0.1
	comp=Z,6.4nm,0.6s,baz=44,slow=5.9						
NB2	NORSAR Subarra	75.48	336	P	P	04 58 21.2	-0.1
	baz=44,slow=5.9						
NOA	NORSAR Array B	75.48	336	P	P	04 58 21.3	-0.1
	comp=Z,7.4nm,0.8s,baz=45,slow=5.6,SNR=21						
	comp=Z,7.4nm,0.8s						
MOL	Molde	75.55	338	eP	P	04 58 22.4	+0.8
NC602	NORSAR Array S	75.59	336	eP	P	04 58 21.7	-0.1
OSL	Oslo	76.45	335	eP	P	04 58 27.5	+0.9
SKAR	Skarslia	76.72	337	eP	P	04 58 28.8	+0.5
BMO	Blue Mountains	76.82	45	IAmb	IAmb	04 58 31.2	
	comp=Z,7.5nm,0.8s						
KONO	Kongsberg	77.05	335	eP	P	04 58 30.7	+0.7
ORV	Oroville	77.21	51	IAmb	IAmb	04 58 32.3	
	comp=Z,7.1nm,0.6s						
ICESG	Greenland Ices	77.23	359	iP	P	04 58 31.4	+0.2
ICESG				IAmb	IAmb	04 58 33.2	
	comp=Z,11nm,0.7s						
WVOR	Wild Horse Val	77.40	47	IAmb	IAmb	04 58 34.2	
	comp=Z,5.0nm,0.6s						
MSO	Missoula	77.58	42	P	P	04 58 34.0	+0.7
	baz=307,SNR=5.5						
AFDM	Forest Hills D	77.89	51	P	P	04 58 35.6	+0.5
AFDM				IAmb	IAmb	04 58 36.9	
	comp=Z,9.2nm,1.2s						
BRTR	Keskin Array B	77.95	310	P	P	04 58 36.4	+0.9
	comp=Z,1.7nm,0.9s,baz=93,slow=4.9,SNR=8.3						
	comp=Z,1.7nm,0.9s						
PAHR	Pah Rah Range	78.48	50	IAmb	IAmb	04 58 40.3	
	comp=Z,8.7nm,0.8s						
MFID	Camas Ranch	78.52	45	IAmb	IAmb	04 58 40.9	
	comp=Z,7.3nm,0.8s						
PNTR	Pine Nut	78.69	50	IAmb	IAmb	04 58 41.9	
	comp=Z,12nm,0.9s						
CMB	Columbia Colle	78.78	52	P	P	04 58 40.0	0.0
CMB				IAmb	IAmb	04 58 41.7	
	comp=Z,8.2nm,0.6s						
EGMT	Eagleton	79.09	39	P	P	04 58 41.8	+0.4
	baz=309,SNR=5.7						
HLID	Hailey	79.26	44	IAmb	IAmb	04 58 45.0	
	comp=Z,6.5nm,0.9s						
HLID	Hailey	79.26	44	P	P	04 58 43.5	+0.9
	baz=307,SNR=12						
BOZ	Bozeman (W)	79.60	42	IAmb	IAmb	04 58 45.9	
	comp=Z,5.5nm,0.8s						
BOZ	Bozeman (W)	79.60	42	P	P	04 58 45.5	+1.2
	baz=308,SNR=10						
DY2G	Dye2	79.87	1	iP	P	04 58 45.5	+0.1
DY2G				IAmb	IAmb	04 58 46.8	
	comp=Z,7.9nm,0.5s						
LHV	Little Huntoon	79.87	51	IAmb	IAmb	04 58 48.4	
	comp=Z,9.1nm,0.8s						
NVAR	Mina Array Bea	79.90	50	P	P	04 58 47.4	+1.3
	comp=Z,5.7nm,0.6s,baz=301,slow=5.1,SNR=62						
	comp=Z,5.7nm,0.6s						
NV11	Mina Array Sit	79.99	50	P	P	04 58 47.3	+0.8
YMR	Madison River	80.55	42	IAmb	IAmb	04 58 51.6	
	comp=Z,6.3nm,0.7s						
DSP	Deep Springs	80.73	51	IAmb	IAmb	04 58 52.7	
	comp=Z,6.3nm,0.9s						
VES	Vestal, Richgr	80.88	53	P	P	04 58 51.5	+0.5
	baz=305						
H17A	Grant Village	80.93	42	P	P	04 58 54.0	+2.5
	baz=309,SNR=6.5						
DPC	Dobruska-Polom	80.94	326	eP	P	04 58 52.1	+0.9
IMW	Indian Meadow	81.04	43	IAmb	IAmb	04 58 55.0	
	comp=Z,11nm,0.8s						
FLWY	Flagg Ranch	81.06	42	P	P	04 58 53.1	+0.9
FXWY	Fox Creek	81.16	43	IAmb	IAmb	04 58 55.4	
	comp=Z,6.8nm,1.0s						
RLMT	Red Lodge	81.19	41	IAmb	IAmb	04 58 55.0	
	comp=Z,5.0nm,0.7s						
RLMT	Red Lodge	81.19	41	P	P	04 58 54.2	+1.4
	baz=310,SNR=5.3						
CWC	Cottonwood Cre	81.20	52	P	P	04 58 54.4	+1.5
	baz=306						
GMN	Gold Mountain	81.23	51	IAmb	IAmb	04 58 55.2	
	comp=Z,5.8nm,0.7s						
MOOW	Moose Ponds	81.25	43	IAmb	IAmb	04 58 55.8	
	comp=Z,5.1nm,0.8s						
GRAC	Grapevine Rang	81.34	51	IAmb	IAmb	04 58 55.7	
	comp=Z,11nm,0.8s						
GRAC	Grapevine Rang	81.34	51	P	P	04 58 55.2	+1.7
	baz=306,SNR=6.2						
ISA	Isabella, Lake	81.39	53	P	P	04 58 54.2	+0.3
	baz=306						
SNOW	Snow King Moun	81.42	43	IAmb	IAmb	04 58 56.7	
	comp=Z,9.0nm,0.8s						
DGMT	Dagmar	81.60	36	P	P	04 58 55.5	+0.9
	baz=313						
AHID	Auburn Hatcher	81.66	44	IAmb	IAmb	04 58 57.2	
	comp=Z,5.7nm,0.7s						
R11B	Troy Canyon, C	81.67	49	IAmb	IAmb	04 58 57.1	
	comp=Z,5.6nm,0.6s						
R11B	Troy Canyon, C	81.67	49	P	P	04 58 56.7	+1.3
	baz=307,SNR=17						
BGU	Big Grassy Mou	81.68	46	IAmb	IAmb	04 58 57.3	
	comp=Z,4.2nm,0.7s						
CLL	Collm	81.77	328	iP	P	04 58 55.6	+0.2
	comp=Z,9.0nm,1.2s						
CLL				ePcP	PcP	04 59 00.0	0.0
CLL				AMS	AMS	05 35 00.0	
	comp=Z,100nm,21.6s						
LAO	LASA Array	81.78	38	P	P	04 58 56.0	+0.4
LAO				IAmb	IAmb	04 58 57.6	
	comp=Z,6.9nm,0.8s						
LAO	LASA Array	81.78	38	P	P	04 58 56.9	+1.3
	baz=312						
SPUT	South Promonto	81.79	45	IAmb	IAmb	04 58 58.3	
	comp=Z,12nm,1.4s						
MPMC	Manual Prospec	81.81	52	P	P	04 58 57.1	+0.9
	baz=306,SNR=10						
ID09	Alton	81.94	44	IAmb	IAmb	04 59 00.5	
	comp=Z,7.2nm,0.7s						
WCT	Wildcat Mounta	81.94	51	IAmb	IAmb	04 58 58.1	
	comp=Z,4.7nm,0.6s						
FURC	Furnace Creek,	81.98	51	P	P	04 58 58.1	+1.4
	baz=306,SNR=14						
CCAC	Calif City Air	81.99	53	IAmb	IAmb	04 58 59.8	
	comp=Z,8.1nm,0.6s						
PRU	Pruhonice	82.02	327	eP	P	04 58 57.7	+1.0
LRMC	Laurel Mtn Rad	82.02	53	P	P	04 58 58.1	+0.9
	baz=306						
HSKC	Hora Svate Kat	82.08	327	eP	P	04 58 57.5	+0.5
TPNV	Topopah Spring	82.09	51	P	P	04 58 58.5	+1.0
	baz=307,SNR=18						
EDW2	Edwards Air Fo	82.17	53	P	P	04 58 59.0	+1.2
	baz=306,SNR=5.8						
DUG	Dugway, Tooele	82.26	46	IAmb	IAmb	04 59 00.9	
	comp=Z,15nm,1.1s						
DUG	Dugway, Tooele	82.26	46	P	P	04 58 59.3	+1.0
	baz=308,SNR=12						
DECC	Green Verdugo	82.31	54	P	P	04 58 59.7	+1.2
	baz=306						
BW06	Boulder Array	82.54	43	IAmb	IAmb	04 59 01.4	
	comp=Z,9.6nm,0.8s						
BW06	Boulder Array	82.54	43	P	P	04 59 00.7	+0.8
	baz=310,SNR=14						
PD31	Pinedale Array	82.54	43	IAmb	IAmb	04 59 01.4	
	comp=Z,8.6nm,0.8s						
PDAR	Pinedale Array	82.54	43	P	P	04 58 59.3	-0.5
PDAR	Pinedale Array	82.54	43	P	P	04 59 00.5	+0.6
	comp=Z,7.2nm,0.7s,baz=290,slow=2.1,SNR=63						
	comp=Z,7.2nm,0.7s						
ZVC	Zvikov	82.57	326	eP	P	04 59 00.1	+0.6
PRN	Pahroc Range	82.58	50	IAmb	IAmb	04 59 02.4	
	comp=Z,15nm,1.2s						
PSUT	Pine Spring	82.64	48	IAmb	IAmb	04 59 02.5	
	comp=Z,7.6nm,0.9s						
GSC	Goldstone, Bar	82.70	52	IAmb	IAmb	04 59 02.5	
	comp=Z,7.2nm,0.9s						
GSC	Goldstone, Bar	82.70	52	P	P	04 59 01.8	+1.2
	baz=307,SNR=6.1						
BFSC	Mount Baldy Ra	82.77	54	P	P	04 59 02.1	+1.0
	baz=306						
NLU	North Lily Min	82.85	46	IAmb	IAmb	04 59 03.8	
	comp=Z,9.7nm,1.0s						
SCI2	San Clemente I	82.91	55	P	P	04 59 03.6	+2.0
	baz=306						
KHC	Kasperske Hory	83.07	326	eP	P	04 59 02.5	+0.4
MPU	Maple Canyon	83.08	46	IAmb	IAmb	04 59 04.9	
	comp=Z,11nm,0.9s						
TUQ	Turquoise Moun	83.20	52	P	P	04 59 04.4	+1.2
	baz=307,SNR=6.5						
GERES	GERESS Array B	83.22	326	P	P	04 59 03.3	+0.4
	comp=Z,1.3nm,0.4s,baz=38,slow=5.1,SNR=3.2						
	comp=Z,1.3nm,0.4s						
BBRC	Big Bear Solar	83.25	53	P	P	04 59 04.0	+0.5
	baz=307						
BSUT	Blindstream Ca	83.27	45	IAmb	IAmb	04 59 08.5	
	comp=Z,6.0nm,0.9s						
HEC	Hector,Ludlow	83.30	52	P	P	04 59 04.6	+1.0
	baz=307,SNR=9.2						
MURC	Murrieta	83.46	54	P	P	04 59 05.0	+0.6
	baz=307						
TCRU	Three Creeks R	83.46	47	IAmb	IAmb	04 59 07.2	
	comp=Z,8.6nm,0.7s						
GMRC	Granite Mounta	83.77	52	P	P	04 59 06.8	+0.7
	baz=307,SNR=11						
TMUT	Trail Mountain	83.78	46	IAmb	IAmb	04 59 09.2	
	comp=Z,4.1nm,0.6s						
109C	Camp Elliot, M	83.94	54	P	P	04 59 07.3	+0.6
	baz=307						
PFO	Pinyon Flats O	83.94	53	P	P	04 59 07.1	+0.1
PFO	Pinyon Flats O	83.94	53	P	P	04 59 07.8	+0.8
	baz=307,SNR=12						
TPFO	Pinon Flats	83.95	53	P	P	04 59 07.8	+0.8
	baz=307,SNR=13						
LCMT	Little Creek M	83.96	49	IAmb	IAmb	04 59 09.3	
	comp=Z,7.4nm,0.9s						
MTPU	Mount Pierson	83.98	48	IAmb	IAmb	04 59 10.2	
	comp=Z,9.7nm,0.9s						
BELC	Belle Mtn. Jos	84.02	53	P	P	04 59 08.0	+0.6
	baz=307,SNR=13						
ULM	Lac du Bonnet	84.14	31	P	P	04 59 07.6	+0.1
	comp=Z,3.8nm,0.8s,baz=319,slow=9.3,SNR=2.7						
	comp=Z,3.8nm,0.8s						
PKCU	Pink Cliffs	84.27	48	IAmb	IAmb	04 59 11.6	
	comp=Z,9.3nm,1.1s						
K22A	Casper	84.31	41	P	P	04 59 09.0	+0.3
	baz=312						
BAR	Barrett	84.36	54	IAmb	IAmb	04 59 10.8	
	comp=Z,8.9nm,0.9s						
MONP2	Monument Peak	84.40	54	P	P	04 59 10.3	+1.0
	baz=307,SNR=6.4						
IRM	Iron Mountain	84.48	52	P	P	04 59 10.7	+1.2
	baz=308,SNR=6.1						
BC3	Big Chuckawall	84.58	53	P	P	04 59 11.3	+1.2
	baz=308,SNR=8.8						
RSSD	Black Hills	84.65	39	P	P	04 59 12.1	+1.7
	baz=313						
EKA	Eskdalemuir Ar	84.66	338	P	P	04 59 09.8	0.0
	comp=Z,1.1nm,0.4s,baz=43,slow=5.2,SNR=6.8						
	comp=Z,1.1nm,0.4s						
IKP	In-Ko-Pah, Jac	84.75	54	P	P	04 59 11.7	+0.8
	baz=307						
SWSC	Sam W. Stewart	84.78	54	P	P	04 59 11.2	+0.2
	baz=307						
YUH	Yuha Desert	84.88	54	IAmb	IAmb	04 59 13.0	
	comp=Z,5.5nm,0.8s						
HMU	Henry Mountain	84.93	47	IAmb	IAmb	04 59 13.9	
	comp=Z,7.6nm,0.8s						
O20A	White River Ci	85.00	44	P	P	04 59 13.4	+1.3
	baz=311						
PDMCI	Parker Dam,Lak	85.05	52	P	P	04 59 13.4	+1.1
	baz=308						
ESJX	Sierra Juarez	85.25	54	IAmb	IAmb	04 59 15.7	
	comp=Z,7.9nm,1.2s						
GLA	Glamis	85.37	53	P	P	04 59 15.4	+1.5
	baz=308						
PHWY	Pilot Hill	85.80	42	IAmb	IAmb	04 59 18.0	
	comp=Z,5.9nm,0.8s						
N23A	Red Feather La	85.81	42	IAmb	IAmb	04 59 18.6	
	comp=Z,13nm,1.1s						
N23A	Red Feather La	85.81	42	P	P	04 59 17.5	+1.3
	baz=312						
FETA	Feichten	85.91	326	iP	P	04 59 15.9	-0.5
	comp=Z,4.8nm,1.5s						
WUAZ	Wupatki	86.07	49	P	P	04 59 19.1	+1.7
	baz=310						
DAVA	Damuels	86.11	327	iP	P	04 59 17.2	-0.2
	comp=Z,3.9nm,0.7s						
FUORN	Ofenpass-Fuorn	86.43	326	P	P	04 59 18.1	-1.0
FUORN				IAmb	IAmb	04 59 19.7	
	comp=Z,3.7nm,0.6s						
ISCO	Idaho Springs	86.73	43	IAmb	IAmb	04 59 22.8	
	comp=Z,3.9nm,0.8s						
ISCO	Idaho Springs	86.73	43	P	P	04 59 22.1	+1.4
	baz=313						
MVCO	Mesa Verde	86.76	47	P	P	04 59 22.1	+1.3
	baz=311						
SUSD	Miller	87.01	36	P	P	04 59 22.8	+1.2
	baz=317						
W18A	Petrified Fore	87.36	49	P	P	04 59 25.3	+1.7
	baz=310						
214A	Organ Pipe Nat	87.38	53	P	P	04 59 25.2	+1.6
	baz=309						
S22A	4UR Ranch, Cre	87.40	45	IAmb	IAmb	04 59 26.5	
	comp=Z,5.3nm,0.9s						
S22A	4UR Ranch, Cre	87.40	45	P	P	04 59 25.7	+1.8
	baz=312						
Q24A	Divide	87.56	43	P	P	04 59 25.3	+0.7
	baz=313						
EYMN	Ely	87.76	30	P	P	04 59 26.3	+1.3
	baz=322						
OGNE	Ogallala	87.92	40	P	P	04 59 27.8	+1.8
	baz=315						
SDCO	Great Sand Dun	88.18	45	P	P	04 59 28.3	+0.8
SDCO	Great Sand Dun	88.18	45	P	P	04 59 29.2	+1.6
	baz=313						
ECSD	EROS Data Cent	88.67	36	P	P	04 59 29.9	+0.5
	baz=318						
KSCO	Kaye Shedlock'	88.95	42	P	P	04 59 31.5	+0.5
	baz=314						
T25A	Trinidad	89.23	44	IAmb	IAmb	04 59 34.9	
	comp=Z,7.5nm,0.9s						
T25A	Trinidad	89.23	44	P	P	04 59 33.0	+0.7
	baz=313						
SCHQ	Schefferville	89.28	13	P	P	04 59 32.6	+0.6
	comp=Z,5.6nm,0.9s,baz=69,slow=8.6,SNR=2.7						
	comp=Z,5.6nm,0.9s						
SPMN	Marine on St.	89.31	33	P	P	04 59 33.5	+1.2
	baz=321						
ANMO	Albuquerque	89.49	47	P	P	04 59 34.3	+0.7
ANMO	Albuquerque	89.49	47	P	P	04 59 35.1	+1.5
	baz=312						
MNTX	Cornudas Mount	92.

CNGN	Cerro Negro	1.49	71	eP	Pn	04 50 41.8	-1.5
TECO	Alcaldia de Te	1.63	338	eP	Pn	04 50 44.6	-0.6
COEG	Centro de Oper	1.75	336	eP	Pn	04 50 46.4	-0.5
COEG				IAML		04 51 15.3	
	comp=Z,402nm,0.5s						
SCLA	Alcaldia de Sa	1.77	341⇑	eP	Pn	04 50 47.4	+0.3
SJTE	Alcalda de S	1.80	332	eP	Pn	04 50 47.0	-0.5
PAVA	Las Pavas	1.85	335	eP	Pn	04 50 48.4	0.0
LOMA	Loma Larga	1.90	328	eP	Pn	04 50 49.1	+0.1
LOMA				IAML		04 51 15.4	
	comp=Z,368nm,0.3s						
JAYA	Jayaque - finc	2.07	322	eP	Pn	04 50 50.8	-0.5
TGUH	Tegucigalpa,Un	2.19	23	eP	Pn	04 50 52.4	-0.7
NUBE	Las Nubes	2.46	320	eP	Pn	04 50 56.7	0.0
ACON	Acoyapa	2.90	91	eP	Pn	04 51 01.8	-0.8
JTS	Las Juntas de	3.57	118	eP	Pn	04 51 12.8	+0.9

*IDC **13** 04:52:24.2±0.6, 6°.76N×73°.01W, h155km±7km, mb3.5/9, mbtmp4.1/14, MS4.1/5, Error ellipse: s-maj=17.8km s-min=7.2km az=134.0*
*RSNC **13** 04:52:24.9±1.8, 6°.83N×73°.17W, h154km±7km, ML4.0, Mw4.6*

ISC 13 04:52:24.2±0.6, 6°.84N±0°.03×73°.10W±0°.04, h153km±6km, n57, σ1§50/90, mb3.7/9, 4C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.25	198	⇓ iP	Pn	04 52 45.8	+0.3
BARC				eS	Sn	04 53 01.1	-0.4
BARC				i		04 53 02.0	
	comp=Z,4μm,0.7s						
PAMC	Pamplona, Colo	0.64	39⇑	iP	Pn	04 52 48.6	+1.2
PAMC				eS	Sn	04 53 05.7	+0.7
PAMC				i		04 53 08.0	
	comp=Z,2μm,0.5s						
RUSC	La Rusia	0.94	179	⇓ iP	Pn	04 52 49.6	+0.2
RUSC				eS	Sn	04 53 08.5	-0.1
RUSC				i		04 53 09.8	
	comp=Z,2μm,0.3s						
TAMC	Tame, Arauca	1.36	107	⇓ iP	Pn	04 52 54.2	+1.5
TAMC				i		04 53 15.0	
	comp=Z,683nm,0.4s						
TAMC				eS	Sn	04 53 15.8	+1.3
PTBC	PUERTO BERRIO,	1.38	258	eP	Pn	04 52 52.4	-0.4
PTBC				eS	Sn	04 53 13.4	-1.3
PTBC				i		04 53 19.8	
	comp=Z,697nm,0.3s						
ZARC	Zaragoza, Cauc	1.86	291	eP	Pn	04 52 57.9	-0.1
ZARC				eS	Sn	04 53 22.9	-1.0
ZARC				i		04 53 29.1	
	comp=Z,1μm,0.4s						
NORC	Norcasia	2.16	234	eP	Pn	04 53 01.5	0.0
NORC				eS	Sn	04 53 29.6	-0.7
NORC				i		04 53 39.3	
	comp=Z,606nm,0.5s						
CHIC	Chingaza	2.28	196	eP	Pn	04 53 03.7	+0.4
CHIC				eS	Sn	04 53 33.2	-0.2
CHIC				i		04 53 36.8	
	comp=Z,876nm,0.6s						
ROSC	El Rosal	2.32	211	eP	Pn	04 53 05.7	+1.9
ROSC	El Rosal	2.32	211	P	Pn	04 53 05.5	+1.7
	comp=Z,335nm,0.3s,baz=116,slow=22,SNR=312						
ROSC				S	Sn	04 53 34.1	-0.1
	comp=Z,2μm,0.4s,baz=30,slow=22,SNR=16						
UREC	San Jos de Ur	2.58	291	eP	Pn	04 53 06.2	-0.3
UREC				eS	Sn	04 53 36.2	-2.9
GUY2C	Guyana, Caldas	2.76	235	eP	Pn	04 53 09.8	+0.6
GUY2C				eS	Sn	04 53 42.8	-1.1
GUY2C				i		04 53 52.0	
	comp=Z,675nm,0.3s						
VILC	Villavicencio,	2.77	192	eP	Pn	04 53 09.1	0.0
VILC				⇑ eS	Sn	04 53 43.5	-0.1
VILC				i		04 53 53.4	
	comp=Z,1μm,0.4s						
PTGC	Puerto Gaitan,	2.79	160	i P	Pn	04 53 08.9	-0.3
PTGC				eS	Sn	04 53 42.7	-1.3
PTGC				i		04 53 44.9	
	comp=Z,367nm,0.4s						
LL6C	La Loma 6 Bece	2.89	357	eP	Pn	04 53 10.3	-0.1
LL6C				eS	Sn	04 53 45.9	-0.1
LL6C				i		04 53 51.8	
	comp=Z,321nm,0.4s						
DBBC	Dabeiba	3.09	274	eP	Pn	04 53 13.5	+0.5
DBBC				eS	Sn	04 53 49.4	-1.3
DBBC				i		04 53 50.5	
	comp=Z,277nm,0.3s						
SDV	Santo Domingo	3.19	50	P	Pn	04 53 15.4	+1.2
	comp=Z,296nm,0.3s,baz=179,slow=2.9,SNR=117						
SDV				S	Sn	04 53 52.6	-0.4
	comp=Z,164nm,0.5s,baz=269,slow=22,SNR=7.7						
ARGC	Ariguani, Magd	3.21	339	eP	Pn	04 53 15.7	+1.3
ARGC				eS	Sn	04 53 55.3	+2.0
ARGC				i		04 54 01.5	
	comp=Z,154nm,0.4s						
ANIL	Santa Ana	3.27	225	eP	Pn	04 53 16.0	+0.6
PRAC	Prado	3.57	210	eP	Pn	04 53 19.3	+0.2
PRAC				eS	Sn	04 54 00.9	-0.9
PRAC				i		04 54 08.0	
	comp=Z,765nm,0.4s						
ORTC	Ortega, Tolima	3.61	216	eP	Pn	04 53 20.0	+0.4
ORTC				eS	Sn	04 54 02.0	-0.5
ORTC				i		04 54 07.1	
	comp=Z,413nm,0.3s						
SJCC	San Jacinto, C	3.67	326	eP	Pn	04 53 19.4	-1.0
SJCC				eS	Sn	04 54 00.9	-3.1
SJCC				i		04 54 15.5	
	comp=Z,219nm,0.7s						
PLMC	San Jos del P	3.70	239⇑	iP	Pn	04 53 21.0	+0.3
PLMC				eS	Sn	04 54 02.5	-2.2
PLMC				i		04 54 09.2	
	comp=Z,130nm,0.2s						
LCBC	Los crdobas,	3.81	302	eP	Pn	04 53 21.7	-0.3
LCBC				eS	Sn	04 54 08.0	+1.0
LCBC				i		04 54 10.5	
	comp=Z,213nm,0.3s						
CRJC	Cerrejon, Guaj	4.16	3	eP	Pn	04 53 25.9	-0.9
CRJC				eS	Sn	04 54 13.9	-1.7
CRJC				i		04 54 21.1	
	comp=Z,316nm,0.3s						
GUVC	San Jose del G	4.29	174	eP	Pn	04 53 27.6	-0.9
GUVC				eS	Sn	04 54 17.2	-1.3
SOLC	Bahia Solano	4.32	262	eP	Pn	04 53 31.3	+2.5
SMRC	Santa Marta, M	4.44	346	eP	Pn	04 53 30.3	-0.1
SMRC				eS	Sn	04 54 19.9	-2.1
SMRC				i		04 54 26.5	
	comp=Z,136nm,0.4s						
MACC	Macarena, Meta	4.72	189	eP	Pn	04 53 32.6	-1.4
MACC				eS	Sn	04 54 25.1	-3.4
MACC				i		04 54 30.0	
	comp=Z,262nm,0.8s						
BETC	Betania	4.74	210	eP	Pn	04 53 33.5	-0.9
BETC				eS	Sn	04 54 22.3	-6.8
BETC				i		04 54 31.9	
	comp=Z,118nm,0.4s						
URIC	Uribia, Colomb	4.96	13⇑	iP	Pn	04 53 36.1	-1.1
URIC				eS	Sn	04 54 32.0	-2.1
URIC				i		04 54 38.8	
	comp=Z,58nm,0.4s						
JAMC	Jamundi, Valle	5.06	225	eP	Pn	04 53 38.5	-0.2
JAMC				eS	Sn	04 54 34.6	-2.2
MALC	Bahia Malaga	5.06	237	eP	Pn	04 53 40.0	+1.4
GARC	Garzon, Huila	5.20	207	eP	Pn	04 53 39.7	-0.9
GARC				i		04 54 42.2	
	comp=Z,139nm,0.5s						
POPC	Popayan, Colom	5.56	220	eP	Pn	04 53 45.1	-0.2
POPC				eS	Sn	04 54 50.0	+1.3
FLOC	Florencia	5.80	206	eP	Pn	04 53 48.1	-0.3
FLOC				eS	Sn	04 54 53.5	-0.8
BBAC	Balboa, Cauca	6.32	221	eP	Pn	04 53 55.1	-0.4
BBAC				eS	Sn	04 55 03.0	-3.9
CRUC	La Cruz	6.49	216	eP	Pn	04 53 59.2	+1.3
GCUF	Volcan Galeras	7.00	217	eP	Pn	04 54 05.7	+0.9
GCUF				eS	Sn	04 55 23.2	-0.4
PCRV	Puerto La Cruz	9.01	68	P	Pn	04 54 31.5	+0.3
	comp=Z,7.9nm,0.4s,baz=297,slow=4.6,SNR=14						
PCRV				S	Sn	04 56 07.6	-3.7
	comp=Z,6.4nm,0.6s,baz=249,slow=18,SNR=1.8						
JTS	Las Juntas de	12.21	287	P	P	04 55 20.4	+1.1
	comp=Z,3.7nm,0.5s,baz=120,slow=23,SNR=3.6						
SJG	San Juan	13.10	31	P	Pn	04 55 23.9	-0.7
	comp=Z,5.1nm,0.4s,baz=197,slow=14,SNR=7.0						
ATAH	Atahualpa	14.85	201	P	Pn	04 55 45.4	-1.8
	comp=Z,3.7nm,0.6s,baz=35,slow=19,SNR=2.2						
TEIG	Tepich	19.84	314	P	P	04 56 44.7	+1.3
	comp=Z,82nm,0.5s,baz=208,slow=2.0,SNR=13						
TEIG				LR	LR	05 05 42.1	
	comp=Z,812nm,19.0s,baz=186,slow=40						
TXAR	Lajitas Array	36.46	312	P	P	04 59 15.4	+0.7
	comp=Z,0.7nm,0.4s,baz=128,slow=9.1,SNR=16						
TXAR				PcP	PcP	05 01 35.0	-0.5
	comp=Z,0.1nm,0.4s,baz=134,slow=3.9,SNR=1.8						
	comp=Z,0.7nm,0.4s						
ULM	Lac du Bonnet	47.28	340	P	P	05 00 41.7	-0.3
	comp=Z,2.9nm,0.4s,baz=132,slow=8.1,SNR=7.3						
	comp=Z,2.9nm,0.4s						
PDAR	Pinedale Array	48.08	324	P	P	05 00 49.0	+0.3
	comp=Z,0.8nm,0.6s,baz=126,slow=8.9,SNR=7.0						
	comp=Z,0.8nm,0.6s						
SCHQ	Schefferville	48.12	5	P	P	05 00 49.0	+0.6
	comp=Z,6.2nm,0.9s,baz=180,slow=11,SNR=2.6						
	comp=Z,6.2nm,0.9s						
NVAR	Mina Array Bea	51.48	315	P	P	05 01 15.1	+0.6
	comp=Z,0.5nm,0.6s,baz=123,slow=6.2,SNR=4.2						
	comp=Z,0.5nm,0.6s						
YKA	Yellowknife Ar	63.26	340	P	P	05 02 36.2	+0.1
	comp=Z,1.4nm,0.6s,baz=148,slow=11,SNR=5.4						
	comp=Z,1.4nm,0.6s						
MDT	Midelt	68.27	58	LR	LR	05 32 03.4	
	comp=Z,105nm,19.2s,baz=288,slow=35						
ESDC	Sonseca Array	69.63	50	P	P	05 03 18.2	+0.9
	comp=Z,0.1nm,0.3s,baz=329,slow=4.8,SNR=3.2						
ESDC				LR	LR	05 29 33.9	
	comp=Z,172nm,21.4s,baz=273,slow=32						
	comp=Z,0.1nm,0.3s						
TORD	Torodi Ar. Bea	73.72	78	P	P	05 03 41.1	-1.0
	comp=Z,0.2nm,0.7s,baz=286,slow=5.7,SNR=1.7						
TORD				LR	LR	05 38 17.6	
	comp=Z,110nm,18.2s,baz=276,slow=37						
	comp=Z,0.2nm,0.7s						
NOA	NORSAR Array B	81.31	29	LR	LR	05 36 28.4	
	comp=Z,116nm,21.9s,baz=295,slow=32						
ARCES	ARCESS Array B	86.65	20	P	P	05 04 51.7	+1.4
	comp=Z,1.6nm,0.8s,baz=4.8,slow=1.5,SNR=3.5						
	comp=Z,1.6nm,0.8s						
ASAR	Alice Springs	149.13	234	PKPbc	PKPbc	05 11 54.4	-1.0
	comp=Z,0.6nm,0.6s,baz=130,slow=3.1,SNR=7.6						
WRA	Warramunga Arr	150.36	241	PKPbc	PKPbc	05 11 57.5	-0.9
	comp=Z,0.5nm,0.4s,baz=107,slow=2.8,SNR=26						

*IDC **13** 05:19:03.6±0.9, 67°.20N×20°.98E, h0km, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=15.4km s-min=7.0km az=117.0*
*UPP **13** 05:19:03.7±0.0, 67°.19N×20°.65E, h0km, ML2.0, Confirmed Induced event*
*HEL **13** 05:19:04.3±0.0, 67°.19N×20°.65E, h1km, ML1.9, ML2.0(UPP), Confirmed Induced event*

ISC 13 05:19:03.7±0.7, 67°.19N±0°.02×20°.64E±0°.02, h0km, n47, σ1§19/75, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.07	203	P	Pg	05 19 05.5	+0.4
DUNU				S	Sg	05 19 06.5	+0.6
DUNU	Dundret	0.07	203	i P	Pg	05 19 05.5	+0.4
DUNU				i S	Sg	05 19 06.5	+0.6
MASU	Masugnsbyn	0.59	62	P	Pg	05 19 15.0	0.0
MASU				S	Sg	05 19 22.8	+0.1
MASU	Masugnsbyn	0.59	62	i P	Pg	05 19 15.0	0.0
MASU				i S	Sg	05 19 22.8	+0.1
RATU	Laukkuluspa	0.76	328	P	Pg	05 19 17.8	-0.3
RATU				S	Sg	05 19 27.9	0.0
RATU	Laukkuluspa	0.76	328	i P	Pg	05 19 17.8	-0.3
RATU				i S	Sg	05 19 27.9	0.0
KUA	Kurravaara	0.78	352	P	Pg	05 19 18.1	-0.5
KUA	Kurravaara	0.78	352	i P	Pg	05 19 18.1	-0.5
SALU	Saltoluokta	0.85	284	P	Pg	05 19 19.8	-0.2
SALU	Saltoluokta	0.85	284	i P	Pg	05 19 19.8	-0.2
ERTU	Ertsjaerv	0.88	135	P	Pg	05 19 19.8	-0.8
ERTU	Ertsjaerv	0.88	135	eP	Pg	05 19 19.7	-0.8
ERTU				eS	Sg	05 19 31.5	-0.5
PAJU	Pajala	0.98	98	P	Pg	05 19 21.7	-0.8
PAJU	Pajala	0.98	98	eP	Pg	05 19 21.7	-0.8
LANU	Lannavaara	1.01	30	P	Pg	05 19 22.1	-0.9
LANU	Lannavaara	1.01	30	eP	Pg	05 19 22.2	-0.8
LANU				eSB	Sg	05 19 35.7	-0.3
HARU	Harads	1.04	172	P	Pg	05 19 22.6	-0.9
HARU	Harads	1.04	172	eP	Pg	05 19 22.6	-0.9
KLF	Kolari	1.30	86	eP	Pg	05 19 27.2	-1.2
KLF				MSG		05 19 43.4	
	comp=Z,5.9nm,0.2s						
KLF				eSB	Sg	05 19 44.6	-0.6
HEF	Hetta	1.68	42	eP	Pn	05 19 33.5	-0.8
HEF	Hetta	1.68	42	eP	Pn	05 19 33.7	-0.6
HEF				MSG		05 19 54.3	
	comp=Z,9.2nm,0.2s						
HEF				eS	Sn	05 19 55.5	-1.0
KALU	Kalix	1.72	140	ePG	Pn	05 19 35.0	+0.2
KALU				eSN	Sn	05 19 57.8	+0.4
KIF	Kilpisjarvi	1.83	2	eP	Pb	05 19 37.3	-0.6
KIF	Kilpisjarvi	1.83	2	eP	Pb	05 19 37.0	-1.0
KIF				MSG		05 19 59.0	
	comp=Z,14nm,0.2s						
TOF	Tornio	1.84	125	eP	Pn	05 19 36.6	+0.1
TOF				MSG		05 19 59.2	
	comp=Z,8.9nm,0.2s						
TOF				eSG	Sn	05 20 01.2	+0.8
KTK1	Kautokeino	2.08	27	ePB	Pn	05 19 40.9	+1.1
KTK1				eSG	Sb	05 20 08.5	0.0
RNF	Rovaniemi	2.20	103	ePB	Pn	05 19 42.1	+0.7
RNF				eSG	Sb	05 20 11.8	-0.2
SGF	Sodankyl	2.30	81	ePB	Pn	05 19 44.0	+1.3
SGF				eSG	Sb	05 20 14.6	-0.2
TRO	Tromso	2.54	346	eSG	Sb	05 20 22.6	+0.9
BURU	Burvik	2.63	173	eP	Pn	05 19 48.0	+0.6
BURU				eS	Sn	05 20 20.9	+0.9
ARA0	ARCESS Array S	2.97	35	ePG	Pb	05 19 57.7	+0.3
ARA0				eSB	Sn	05 20 31.1	+2.8
ARCES	ARCESS Array B	2.97	35	Pn	Pn	05 19 52.2	+0.2
	comp=Z,0.7nm,0.3s,baz=215,slow=14,SNR=34						
ARCES				Lg	Lg	05 20 31.4	
	comp=Z,1.3nm,0.3s,baz=217,slow=23,SNR=3.8						
	comp=Z,1.4nm,0.3s						
OBF4	Vikkela, Lumij	3.00	141	ePB	Pb	05 19 56.8	-1.1
OBF4				MSG		05 20 32.4	
	comp=Z,2.4nm,0.2s						
OUL	Oulu	3.00	132	eSG	Sb	05 20 36.2	+1.1
OUF	Merijarvi	3.30	147	ePG	Pb	05 20 03.8	+0.9
OUF				eSG	Sb	05 20 46.1	+2.6
UMAU	Umeaa	3.32	180	eP	Pn	05 19 57.3	+0.5
UMAU				eS	Sn	05 20 37.3	+0.5
KEV	Kevo	3.49	39	eP	Pn	05 19 59.5	+0.4
KEV				eS	Sn	05 20 40.9	-0.1
VRF	Varrio	3.50	77	eP	Pn	05 19 59.2	0.0
VRF				eSB	Sb	05 20 49.9	+0.5
OLKF	Oulanka, Finla	3.58	100	eP	Pn	05 20 00.8	+0.4
OLKF				eSG	Sb	05 20 55.1	+3.4
MSF	Maaselka	3.59	107	ePG	Pb	05 20 09.6	+1.6
MSF				eSG	Sb	05 20 54.7	+2.5
KU6	Riekki	3.87	103	eP	Pn	05 20 04.6	+0.2
KU6				eS	Sn	05 20 50.8	+0.3
HUSU	Husum	3.91	189	eP	Pn	05 20 05.9	+1.1
VAF	Ylistaro	4.25	167	eP	Pn	05 20 10.6	+1.1
VAF				eSG	Sg	05 21 16.7	-3.3
HEMU	Hemsoen	4.66	195	eS	Sn	05 21 09.0	-1.0
FINES	FINESS Array B	6.23	155	Pn	Pn	05 20 37.3	+0.6
	comp=Z,0.2nm,0.3s,baz=340,slow=11,SNR=5.5						
FINES				Sn	Sn	05 21 46.1	-2.4
	comp=Z,0.3nm,0.3s,baz=345,slow=24,SNR=5.2						
FINES				Lg	Lg	05 22 17.5	
	comp=Z,0.5nm,0.3s,baz=343,slow=29,SNR=2.7						
	comp=Z,0.9nm,0.5s						
NOA	NORSAR Array B	7.41	218	Pn	Pn	05 20 52.5	-0.5
	baz=29,slow=11,SNR=1.2						
NOA				Sn	Sn	05 22 15.4	-2.4
	baz=33,slow=14,SNR=4.5						
NOA				Lg	Lg	05 22 56.8	
	comp=Z,0.1nm,0.3s,baz=31,slow=14,SNR=6.3						
	comp=Z,0.2nm,0.6s						
HFS	Hagfors	7.72	207	Pn	Pn	05 20 56.2	-1.0
	comp=Z,0.2nm,0.3s,baz=21,slow=13,SNR=4.9						
HFS				Sn	Sn	05 22 21.2	-4.0
	comp=Z,0.4nm,0.3s,baz=28,slow=22,SNR=6.6						
HFS				Lg	Lg	05 23 11.2	
	comp=Z,0.2nm,0.3s,baz=19,slow=27,SNR=1.9						
	comp=Z,1.0nm,0.3s						

*NEIC **13** 05:48:15.9±2.2, 16°.31N±0°.06×95°.16W±0°.03, h10km±1km, mb4.2/22, Md4.3/23(MEX), Error ellipse: s-maj=10.3km s-min=5.4km az=347.0*
*MEX **13** 05:48:17.2±0.9, 16°.45N×95°.07W, h61km±14km, MD4.3*
*IDC **13** 05:48:31.7±11.0, 16°.60N×97°.99W, h0km, mb3.7/2, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=208.7km s-min=148.5km az=104.0*

ISC 13 05:48:14.5±1.5, 16°.43N±0°.03×95°.10W±0°.02, h2km±11km, n73, σ1§65/100, mb4.1/6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	Santiago Nilte	0.48	74	i P	Pg	05 48 23.2	-0.5
NILT				i S	Sg	05 48 31.0	+1.1
CARR	Arriaga	1.15	99	i S	Sb	05 48 52.2	-0.2
HUIG	Huatulco	1.18	236		Pb	05 48 35.9	-1.7
HUIG					Sb	05 48 51.8	-1.4
HUIG	Huatulco	1.18	236	i P	Pb	05 48 35.9	-1.7
HUIG				i S	Sb	05 48 51.8	-1.4
UXUV	UXUV	1.27	46	i P	Pn	05 48 37.0	-2.2
UXUV				eS	Sb	05 48 53.4	-2.4
NEUV	Arroyo Zacate	1.44	332	i P	Pn	05 48 39.1	-2.5
NEUV				eS	Sn	05 48 58.0	-3.2
PANG	Puerto Angel	1.53	240	eP	Pn	05 48 41.8	-1.0
PANG				eS	Sn	05 49 02.0	-1.2
OXLC	Oaxaca	1.67	293	eP	Pn	05 48 42.9	-2.0
OXLC				eS	Sn	05 49 05.8	-1.1
OXBJ	Oaxaca	1.69	292	eP	Pn	05 48 43.4	-1.8
OXBJ				eS	Sn	05 49 06.2	-1.2
OXIG	Oaxaca	1.69	292		Pn	05 48 44.0	-1.3
VHO	Vista Hermosa	1.69	292	i P	Pn	05 48 44.0	-1.3
VHO				eS	Sn	05 49 05.8	-1.8
TUIG	Tuzandepetl	1.72	22	eP	Pn	05 48 42.8	-2.6
TUIG				eS	Sn	05 49 05.5	-2.5
TGIG		1.92	79		Pn	05 48 49.0	+0.7
TGIG					Sn	05 49 14.3	+1.2
TGIG		1.92	79	i P	Pn	05 48 49.0	+0.7
TGIG				eS	Sn	05 49 14.3	+1.2
PCIG		1.94	112	eP	Pn	05 48 47.4	-1.1
PCIG				eS	Sn	05 49 14.0	+0.5
TGBT	Tuxtla Gutierr	1.95	80	eP	Pn	05 48 49.4	+0.7
TGBT				eS	Sn	05 49 14.2	+0.4
PEIG	Puerto Escondi	2.02	258		Pn	05 48 48.2	-1.4
PEIG					Sn	05 49 16.1	+0.7
PEIG	Puerto Escondi	2.02	258	eP	Pn	05 48 48.2	-1.4
PEIG				eS	Sn	05 49 16.1	+0.7
PMUV	Sontecomapan	2.10	359	eP	Pn	05 48 52.7	+1.8
YOIG	Yosondua	2.39	281		Pn	05 48 55.6	+0.7
YOIG					Sn	05 49 25.3	+0.4
YOIG	Yosondua	2.39	281	i P	Pn	05 48 55.6	+0.7
YOIG				eS	Sn	05 49 25.3	+0.4
TOIG	Toxpalan	2.51	312	eP	Pn	05 48 55.4	-1.1
TOIG				eS	Sn	05 49 28.7	+1.1
TXIG	Tlaxiaco	2.69	288	eP	Pn	05 48 58.4	-0.7
TXIG				eS	Sn	05 49 30.7	-1.6
CCIG	Comitan	2.84	93	eP	Pn	05 49 01.7	+0.6
TPIG	Tehuac#an	2.93	313	eP	Pn	05 48 59.4	-2.9
TPIG				eS	Sn	05 49 38.3	+0.1
HLIG	Huajuapan de L	2.94	299		Pn	05 49 04.2	+1.7
HLIG	Huajuapan de L	2.94	299	eP	Pn	05 49 04.2	+1.7
HLIG				eS	Sn	05 49 41.7	+3.2
PATR	El Naranjo	3.05	115	eP	Pn	05 49 05.0	+1.0
PATR				eS	Sn	05 49 37.6	-3.5
PAVE	Pavencul	3.07	113	i P	Pn	05 49 06.0	+1.8
PAVE				eS	Sn	05 49 39.4	-2.1
THIG		3.12	119	eP	Pn	05 49 03.6	-1.0
THIG				eS	Sn	05 49 41.2	-1.3
CHUJ	Union Juarez	3.17	114	eP	Pn	05 49 07.0	+1.4
CHUJ				eS	Sn	05 49 46.0	-0.1
FTIG	Fresnillo de T	3.25	297	eP	Pn	05 49 07.2	+0.5
FTIG				eS	Sb	05 49 51.9	-1.4
JAUV	Jalcomulco	3.34	331	eP	Pn	05 49 03.6	-4.2
JAUV				eS	Sn	05 49 46.3	-1.8
HUEH	Huehuetenango	3.63	107		Pn	05 49 12.6	+0.6
RTAL	Retalhuleu	3.79	120		Pn	05 49 14.7	+0.8
CXUV	Coxquihui	4.41	328	eP	Pn	05 49 16.3	-6.3
CXUV				eS	Sn	05 50 19.6	+5.1
SCIG	Sabancuy	4.50	55	eP	Pn	05 49 23.5	-0.2
SCIG				eS	Sn	05 50 12.3	-4.3
PETF	Flores	5.03	84	Pn	Pn	05 49 32.3	+1.2
ESQI	Esquipulas	5.85	108		Pn	05 49 42.5	+0.1
MTO3	Montecristo	5.89	109		Pn	05 49 42.4	-0.6
HZTE	Horizontes, Gu	10.84	120	Pn	Pn	05 50 52.7	+1.9
DUNO	Dulce Nombre,	11.28	123	Pn	Pn	05 50 58.5	+1.7
833A	Chaparral WMA,	12.48	342		Pn	05 51 15.5	+2.3
RIMA	Rio Macho	12.78	120	Pn	Pn	05 51 19.2	+1.6
545A	Edgard	14.19	16	Pn	Pn	05 51 39.0	+2.4
435B	Jarrell	14.47	351	Pn	Pn	05 51 39.5	-0.9
JCT	Junction City	14.63	344	Pn	Pn	05 51 44.8	+2.1
TXAR	Lajitas Array	15.07	330	Pn	Pn	05 51 51.3	+2.7
TXAR	Lajitas Array	15.07	330	Pn	Pn	05 51 49.4	+0.8
	baz=160,slow=13,SNR=5.4						
	0.4nm,0.9s						
TX31	Lajitas Ar. Si	15.07	330	Pn	Pn	05 51 50.5	+1.9
TX31				IAmb	IAmb	05 52 06.3	
	comp=Z,13nm,1.1s						
BRDY	Brady	15.21	347	Pn	Pn	05 51 51.4	+1.0
BRDY				IAmb	IAmb	05 52 00.5	
	comp=Z,3.8nm,0.7s						
WHTX	Lake Whitney,	15.64	353	Pn	Pn	05 51 56.7	+0.6
FW13	Cleburne	15.99	353		Pn	05 52 01.6	+0.9
FW13				IAmb	IAmb	05 52 02.6	
	comp=Z,27nm,0.6s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTD	**Palamutbuku-Ka**	**0.28**	**208**	Pg	Pb	05 59 54.4	-1.2
RFTD				Sg	Sb	05 59 59.6	-1.2
BODT	**Bodrum**	**0.31**	**295**	Pg	Pb	05 59 54.9	-1.2
BODT				Sg	Sb	06 00 00.1	-1.5
TURN	**Turunc**	**0.49**	**108**	Pg	Pb	05 59 58.4	-0.8
TURN				Sg	Sb	06 00 06.2	-0.7

AFAD 13 06:00:37.8±0.0, 37.86N×27.62E, h7km±6km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.28**	**133**	P	Pb	06 00 44.5	-0.8
AYDN				S	Sg	06 00 47.1	-0.1
AYDN				*i* AML	AML	06 00 48.0	
	comp=N,23nm,0.3s						
AYDN				*i* AML	AML	06 00 49.0	
	comp=E,40nm,0.5s						
GCAM	**G?zelcaml?**	**0.34**	**243**	P	Pg	06 00 45.0	+0.6
GCAM				S	Sg	06 00 49.6	+0.6
GCAM				*i* AML	AML	06 00 50.0	
	comp=E,79nm,0.2s						
GCAM				*i* AML	AML	06 00 51.0	
	comp=N,69nm,0.2s						
IZMR	**zmir-demi**	**0.38**	**43**	P	Pb	06 00 46.2	-0.8
IZMR				S	Sg	06 00 50.9	+0.6
DDIM	**Aydin, Didim**	**0.50**	**217**	P	Pn	06 00 55.5	+4.2
DGB	**zmir**	**0.61**	**289**	P	Pb	06 00 51.4	+0.6
DGB				S	Sb	06 00 58.6	-1.0
MANT	**Manisa**	**0.97**	**49**	P	Pb	06 00 57.0	-0.1
MANT				S	Sg	06 01 09.5	+0.3
MANT				*i* AML	AML	06 01 13.0	
	comp=N,13nm,0.6s						
MANT				*i* AML	AML	06 01 13.0	
	comp=E,14nm,0.3s						

*IDC **13** 06:08:42.6±6.7, 5.87S×154.51E, h217km±53km, mb3.2/5, mbtmp3.9/6, Error ellipse: s-maj=80.8km s-min=26.8km az=113.0*

ISC 13 06:08:40.1±2.1, 5.9S±0.3×154.7E±0.4, h200km, n6, σ0.84/7, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.24**	**245**	P	**Pn**	**06 10 37.0**	**+0.5**
	18nm,0.4s,baz=73,slow=11,SNR=7.0						
WRA	**Warramunga Arr**	**24.20**	**233**	P	**P**	**06 13 38.8**	**+0.2**
	1.0nm,0.5s,baz=58,slow=9.9,SNR=24						
WRA				pP	**pP**	**06 14 15.0**	**-0.5**
	0.3nm,0.3s,baz=47,slow=9.4,SNR=6.4						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**26.68**	**226**	P	**P**	**06 14 00.8**	**0.0**
	0.4nm,0.3s,baz=57,slow=9.1,SNR=15						
	0.4nm,0.3s						
SONM	**Songino Array**	**68.29**	**327**	P	**P**	**06 19 20.2**	**+0.5**
	0.4nm,0.4s,baz=137,slow=6.9,SNR=2.2						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**82.50**	**22**	P	**P**	**06 20 40.6**	**+0.6**
	0.2nm,0.5s,baz=247,slow=4.9,SNR=1.9						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**91.28**	**323**	P	**P**	**06 21 21.5**	**-1.3**
	0.6nm,0.5s,baz=98,slow=7.9,SNR=2.9						
	0.6nm,0.5s						

*IDC **13** 06:19:12.7±1.1, 49.79N×80.92E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=17.9km s-min=7.8km az=51.0*

*NNC **13** 06:19:12.8±0.3, 49.85N×81.01E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=6.3km s-min=1.5km az=42.0, Suspected Mining explosion.*

ISC 13 06:19:11.2±1.1, 49.61N±0.07×80.85E±0.08, h0km, n17, σ0.54/27, 19C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR14	**Kurchatov Arra**	**1.77**	**306**	⇑P	**Pn**	**06 19 43.7**	**+0.7**
KUR14				⇑S	**Sg**	**06 20 07.8**	**-0.2**
KUR15	**Kurchatov Arra**	**1.79**	**305**	⇓P	**Pn**	**06 19 44.0**	**+0.8**
KUR15				⇓S	**Sg**	**06 20 08.2**	**-0.4**
KUR07	**Kurchatov Arra**	**1.79**	**304**	⇑P	**Pn**	**06 19 44.1**	**+0.8**
KUR07				⇓S	**Sg**	**06 20 08.4**	**-0.3**
KUR06	**Kurchatov Arra**	**1.80**	**305**	⇑P	**Pn**	**06 19 44.2**	**+0.8**
KUR06				⇑S	**Sg**	**06 20 08.5**	**-0.4**
KURBB	**Kurchatov Arra**	**1.81**	**305**	⇑P	**Pb**	**06 19 44.5**	**-0.5**
	25nm,0.7s						
KURBB				⇑S	**Sb**	**06 20 08.4**	**+0.1**
	36nm,0.5s						
KURBB	**Kurchatov Arra**	**1.81**	**305**	Pg	**Pn**	**06 19 44.3**	**+0.8**
	1.2nm,0.3s,baz=117,slow=19,SNR=63						
KURBB				Lg	Lg	06 20 07.9	
	1.6nm,0.3s,baz=122,slow=26,SNR=7.0						
KURK	**Kurchatov**	**1.81**	**309**	⇓P	**Pn**	**06 19 44.4**	**+0.8**
	15nm,0.4s						
KURK				⇓S	**Sb**	**06 20 08.1**	**-0.3**
	24nm,0.4s						
KUR05	**Kurchatov Arra**	**1.81**	**306**	⇑P	**Pn**	**06 19 44.4**	**+0.7**
KUR05				⇑S	**Sb**	**06 20 08.5**	**0.0**
KUR04	**Kurchatov Arra**	**1.82**	**306**	⇑P	**Pb**	**06 19 44.7**	**-0.7**
KUR04				⇑S	**Sb**	**06 20 09.0**	**+0.3**
KUR16	**Kurchatov Arra**	**1.82**	**305**	⇑P	**Pb**	**06 19 44.9**	**-0.5**
KUR16				⇑S	**Sb**	**06 20 09.2**	**+0.4**
KUR17	**Kurchatov Arra**	**1.84**	**305**	⇑P	**Pb**	**06 19 45.3**	**-0.4**
KUR17				⇑S	**Sb**	**06 20 09.5**	**+0.2**
MAKZ	**Makanchi**	**2.90**	**165**	⇑Pn	**Pb**	**06 20 03.4**	**-0.4**
	1.9nm,0.3s						
MAKZ				⇑Lg	Lg	06 20 50.4	
	8.5nm,0.6s						
MK31	**Makanchi Array**	**2.98**	**161**	⇑Pn	**Pb**	**06 20 04.6**	**-0.4**
	0.8nm,0.3s,baz=347,slow=13,SNR=6.0						
MK31				⇑Lg	Lg	06 20 51.8	
	5.1nm,0.5s,baz=345,slow=29,SNR=5.2						
MKAR	**Makanchi Array**	**2.98**	**161**	Pn	**Pb**	**06 20 04.8**	**-0.2**
	0.7nm,0.3s,baz=346,slow=14,SNR=23						
MKAR				Sn	**Sb**	**06 20 41.8**	**-0.1**
	1.0nm,0.3s,baz=344,slow=38,SNR=3.4						
MKAR				Lg	Lg	06 20 50.1	
	3.5nm,0.3s,baz=348,slow=28,SNR=13						
	1.3nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.00**	**28**	I	I	06 47 20.0	
	0.1nm,0.9s,baz=208,slow=330,SNR=9.0						
ZALV	**Zalesovo Beam**	**5.00**	**28**	Pn	**Pn**	**06 20 27.7**	**+0.4**
	0.5nm,0.3s,baz=217,slow=16,SNR=3.0						
ZALV				Lg	Lg	06 21 44.0	
	0.6nm,0.3s,baz=207,slow=25,SNR=3.6						
	1.2nm,0.3s						
BVAR	**Borovoye Array**	**7.39**	**302**	Pn	**Pn**	**06 21 00.4**	**+0.1**
	baz=123,slow=7.2,SNR=1.6						
	0.3nm,0.3s						

*IDC **13** 06:23:17.6±0.8, 38.22N×22.67E, h0km, mb3.9/12, mbtmp3.9/16, ML3.9/4, MS3.3/12, Error ellipse: s-maj=18.7km s-min=15.9km az=166.0*

*ISK **13** 06:23:20.9, 38.44N×22.98E, h5km, ML3.9/21*

*ATH **13** 06:23:20.7, 38.20N×22.65E, h7km±1km, ML3.8/25, Error ellipse: s-maj=1.7km s-min=0.9km az=267.0*

*THE **13** 06:23:20.0, 38.21N×22.65E, h1km, ML3.9/10, Error ellipse: s-maj=0.7km s-min=0.2km az=78.0*

*NAO **13** 06:23:41.3, 39.81N×20.90E, h33km, mb3.9*

ISC 13 06:23:18.9±1.0, 38.15N±0.02×22.69E±0.02, h9km±7km, n169, σ1.27/186, mb4.0/11, MS3.2/8, 18C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUR	**Goura**	**0.34**	**233**	P	**Pb**	**06 23 26.8**	**-0.3**
GUR				S	**Sb**	**06 23 32.4**	**-0.4**
	42μm,0.5s						
GUR	**Goura**	**0.34**	**233**	P	**Pb**	**06 23 26.9**	**-0.3**
GUR				S	**Sb**	**06 23 32.2**	**-0.6**
GUR				AML	AML	06 23 37.5	
	comp=N,85868μm,0.4s						
GUR				AML	AML	06 23 38.0	
	comp=E,74377μm,0.5s						
DLFA	**Delphi**	**0.36**	**336**	P	**Pg**	**06 23 25.9**	**-0.2**
DLFA				S	**Sg**	**06 23 30.8**	**-0.1**
DLFA				AML	AML	06 23 32.6	
	comp=E,49293μm,0.6s						
DLFA				AML	AML	06 23 35.9	
	comp=N,28325μm,0.4s						
KLV	**Kalavryta, Ach**	**0.44**	**257**	P	**Pg**	**06 23 27.7**	**+0.3**
KLV				S	**Sb**	**06 23 34.6**	**-0.8**
KLV	**Kalavryta, Ach**	**0.44**	**257**	P	**Pg**	**06 23 27.8**	**+0.5**
KLV				S	**Sb**	**06 23 34.3**	**-1.1**
KLV				AML	AML	06 23 36.7	
	comp=N,5847μm,0.3s						
KLV				AML	AML	06 23 40.7	
	comp=E,7100μm,0.6s						
ALIK	**Aliki, Aigiali**	**0.47**	**284**	P	**Pg**	**06 23 28.4**	**+0.4**
ALIK				S	**Sg**	**06 23 34.5**	**+0.4**
LKR	**Lokris**	**0.56**	**26**	P	**Pg**	**06 23 29.7**	**0.0**
LKR				S	**Sg**	**06 23 38.1**	**+1.0**
LKR				AML	AML	06 23 42.2	
	comp=N,74983μm,0.4s						
LKR				AML	AML	06 23 42.3	
	comp=E,56085μm,0.3s						
EFP	**Efpalio**	**0.68**	**295**	P	**Pg**	**06 23 31.6**	**-0.3**
EFP				S	**Sg**	**06 23 41.2**	**+0.4**
EFP	**Efpalio**	**0.68**	**295**	P	**Pg**	**06 23 31.9**	**0.0**
EFP				AML	AML	06 23 47.3	
	comp=N,6862μm,0.5s						
EFP				AML	AML	06 23 47.4	
	comp=E,7731μm,0.3s						
UPR	**University Cam**	**0.72**	**281**	P	**Pg**	**06 23 33.1**	**+0.3**
UPR				S	**Sg**	**06 23 43.0**	**+0.8**
ANX	**Ano Chora**	**0.75**	**307**	P	**Pg**	**06 23 33.3**	**0.0**
ANX				S	**Sg**	**06 23 43.1**	**0.0**
	comp=E,9μm,0.5s						
ANX	**Ano Chora**	**0.75**	**307**	P	**Pg**	**06 23 33.5**	**+0.2**
ANX				AML	AML	06 23 48.3	
	comp=N,20425μm,0.4s						
ANX				AML	AML	06 23 51.6	
	comp=E,16403μm,0.5s						
DRO	**Drossia**	**0.80**	**256**	P	**Pb**	**06 23 34.5**	**-0.3**
DRO	**Drossia**	**0.80**	**256**	P	**Pb**	**06 23 34.6**	**-0.2**
ATH	**Athens Observa**	**0.83**	**102**	P	**Pn**	**06 23 36.9**	**+0.2**
ATH				S	**Sn**	**06 23 49.5**	**+0.5**
	comp=E,15μm,0.5s						
ATH	**Athens Observa**	**0.83**	**102**	P	**Pn**	**06 23 36.7**	**+0.1**
ATH				AML	AML	06 23 51.3	
	comp=E,36617μm,0.5s						
ATH				AML	AML	06 23 51.6	
	comp=N,24066μm,0.5s						
KRND	**KRANIDI**	**0.84**	**154**	P	**Pn**	**06 23 37.1**	**+0.2**
KRND				S	**Sn**	**06 23 50.5**	**+1.1**
KRND	**KRANIDI**	**0.84**	**154**	P	**Pn**	**06 23 37.3**	**+0.4**
KRND				AML	AML	06 23 54.0	
	comp=N,44446μm,0.5s						
KRND				AML	AML	06 23 54.7	
	comp=E,37610μm,0.5s						
AGG	**Agios Georgios**	**0.92**	**342**	P	**Pg**	**06 23 35.9**	**-0.7**
AGG				S	**Sg**	**06 23 48.2**	**-0.3**
	comp=E,6μm,0.8s						
AGG	**Agios Georgios**	**0.92**	**342**	P	**Pg**	**06 23 35.9**	**-0.7**
VLY	**Voula,Athens**	**0.92**	**108**	P	**Pn**	**06 23 38.5**	**+0.6**
VLY				S	**Sn**	**06 23 52.6**	**+1.3**
	comp=E,7μm,0.4s						
VLY	**Voula,Athens**	**0.92**	**108**	P	**Pn**	**06 23 39.1**	**+1.1**
VLY				AML	AML	06 23 54.1	
	comp=E,15322μm,0.3s						
VLY				AML	AML	06 23 54.7	
	comp=N,13637μm,0.7s						
PTL	**Penteli**	**0.93**	**96**	P	**Pn**	**06 23 38.7**	**+0.6**
PTL				S	**Sn**	**06 23 52.5**	**+0.9**
	comp=N,13μm,0.6s						
PTL	**Penteli**	**0.93**	**96**	P	**Pn**	**06 23 39.6**	**+1.4**
PTL				AML	AML	06 23 54.9	
	comp=N,30617μm,0.6s						
PTL				AML	AML	06 23 55.5	
	comp=E,22931μm,0.6s						
RLS	**Riolos of Patr**	**0.97**	**265**	P	**Pg**	**06 23 37.1**	**-0.3**
RLS				S	**Sb**	**06 23 51.6**	**+1.0**
RLS	**Riolos of Patr**	**0.97**	**265**	P	**Pg**	**06 23 37.3**	**-0.2**
RLS				AML	AML	06 23 54.6	
	comp=E,4276μm,1.0s						
RLS				AML	AML	06 23 56.8	
	comp=N,4456μm,0.6s						
DION	**Dionisos Attik**	**0.98**	**94**	P	**Pn**	**06 23 39.6**	**+0.8**
DION				S	**Sn**	**06 23 54.3**	**+1.4**
DION	**Dionisos Attik**	**0.98**	**94**	P	**Pn**	**06 23 40.3**	**+1.5**
DION				AML	AML	06 23 56.5	
	comp=N,43425μm,0.8s						
DION				AML	AML	06 23 57.5	
	comp=E,38032μm,0.8s						
PVO	**Paravola**	**1.03**	**298**	P	**Pg**	**06 23 37.7**	**-0.9**
PVO				S	**Sg**	**06 23 52.6**	**+0.7**
	comp=E,8μm,0.5s						
PVO	**Paravola**	**1.03**	**298**	P	**Pg**	**06 23 38.7**	**+0.1**
EVR	**Evrytania**	**1.03**	**318**	P	**Pg**	**06 23 38.1**	**-0.6**
EVR				S	**Sg**	**06 23 52.3**	**+0.1**
	comp=E,5μm,0.6s						
EVR	**Evrytania**	**1.03**	**318**	P	**Pg**	**06 23 38.9**	**+0.2**
EVR				AML	AML	06 23 59.0	
	comp=N,10925μm,0.8s						
EVR				AML	AML	06 24 00.1	
	comp=E,7736μm,1.2s						
KYMI	**Kymi, Euboea I**	**1.21**	**66**	P	**Pn**	**06 23 42.9**	**+1.0**
KYMI				S	**Sn**	**06 24 00.3**	**+1.8**
	comp=E,6μm,0.8s						
KYMI	**Kymi, Euboea I**	**1.21**	**66**	P	**Pn**	**06 23 42.4**	**+0.5**
KYMI				AML	AML	06 24 05.1	
	comp=E,11254μm,0.7s						
KYMI				AML	AML	06 24 10.9	
	comp=N,11193μm,1.0s						
NEO	**Neokhori**	**1.23**	**20**	P	**Pn**	**06 23 42.1**	**-0.1**
NEO				S	**Sb**	**06 23 59.5**	**+1.2**
	comp=N,5μm,0.6s						
NEO	**Neokhori**	**1.23**	**20**	P	**Pn**	**06 23 42.1**	**-0.1**
NEO				AML	AML	06 24 05.2	
	comp=N,11814μm,0.5s						
NEO				AML	AML	06 24 07.3	
	comp=E,7104μm,0.5s						
XOR	**Xorichti**	**1.28**	**18**	P	**Pn**	**06 23 43.0**	**+0.1**
XOR				AML	AML	06 24 06.4	
	comp=E,8886μm,0.6s						
XOR				AML	AML	06 24 08.0	
	comp=N,9018μm,0.6s						
ALNA	**Alonissos**	**1.36**	**42**	P	**Pn**	**06 23 44.4**	**+0.4**
ALNA				AML	AML	06 24 07.5	
	comp=N,9769μm,0.9s						
ALNA				AML	AML	06 24 09.1	
	comp=E,13771μm,0.7s						
VLI	**Veliai**	**1.44**	**172**	P	**Pg**	**06 23 47.3**	**+0.8**
VLI				AML	AML	06 24 11.7	
	comp=E,6169μm,1.3s						
VLI				AML	AML	06 24 11.8	
	comp=N,6294μm,0.7s						
PYL	**PYLOS**	**1.46**	**211**	P	**Pg**	**06 23 47.0**	**+0.2**
MNVA	**Monemvasia**	**1.48**	**169**	P	**Pg**	**06 23 48.2**	**+0.9**
THL	**Klokotos Trika**	**1.51**	**340**	P	**Pn**	**06 23 46.6**	**+0.6**
THL				AML	AML	06 24 17.2	
	comp=N,2012μm,1.1s						
THL				AML	AML	06 24 18.7	
	comp=E,2910μm,1.4s						
TYRN	**Tyrnavos**	**1.60**	**347**	P	**Pn**	**06 23 47.7**	**+0.4**
VLS	**Valsamata**	**1.65**	**272**	P	**Pb**	**06 23 49.2**	**-0.2**
VLS				AML	AML	06 24 21.3	
	comp=E,1458μm,0.5s						
VLS				AML	AML	06 24 24.0	
	comp=N,1345μm,0.4s						
PSDA	**Pessada-Kefalo**	**1.66**	**270**	P	**Pb**	**06 23 49.5**	**0.0**
NYDR	**Nydri-Lefkada**	**1.66**	**291**	P	**Pn**	**06 23 49.1**	**+1.0**
FSK	**Fiskardo**	**1.70**	**281**	P	**Pn**	**06 23 49.6**	**+1.0**
FSK				AML	AML	06 24 24.4	
	comp=N,2079μm,0.8s						
FSK				AML	AML	06 24 28.6	
	comp=E,3405μm,1.0s						
KYTHA	**Kythira Island**	**1.91**	**171**	P	**Pg**	**06 23 53.9**	**-1.6**
KTHA				AML	AML	06 24 27.4	
	comp=E,4872μm,0.6s						
KTHA				AML	AML	06 24 27.9	
	comp=N,3907μm,0.7s						
ANKY	**Antikythira Is**	**2.33**	**168**	P	**Pb**	**06 23 59.3**	**-1.6**
ANKY				AML	AML	06 24 46.8	
	comp=N,1881μm,0.7s						
ANKY				AML	AML	06 24 50.2	
	comp=E,1919μm,0.8s						
PENT	**Pentalofos**	**2.38**	**330**	P	**Pn**	**06 23 59.3**	**+1.3**
OUR	**Ouranopolis**	**2.41**	**24**	Pn	**Pn**	**06 23 57.7**	**-0.6**
OUR				Sn	**Sn**	**06 24 25.1**	**-2.8**
OUR	**Ouranopolis**	**2.41**	**24**	P	**Pn**	**06 23 58.7**	**+0.3**
OUR				AML	AML	06 24 28.0	
	comp=E,1200μm,0.8s						
OUR				AML	AML	06 24 33.2	
	comp=N,1071μm,0.7s						
HORT	**Hortiatis**	**2.47**	**7**	Pn	**Pn**	**06 23 59.2**	**-0.1**
HORT				Sn	**Sn**	**06 24 27.7**	**-1.9**
HORT	**Hortiatis**	**2.47**	**7**	P	**Pn**	**06 23 59.4**	**+0.1**
APE	**Apeiranthos**	**2.50**	**115**	⇑P	**Pb**	**06 24 02.2**	**-1.8**
APE	**Apeiranthos**	**2.50**	**115**	P	**Pn**	**06 24 01.3**	**+1.6**
APE				AML	AML	06 24 45.6	
	comp=N,1851μm,0.7s						
APE				AML	AML	06 24 46.4	
	comp=E,1021μm,0.4s						
NEST	**Nestorio**	**2.60**	**331**	P	**Pn**	**06 24 03.2**	**+2.1**
CHOS	**Chios island**	**2.66**	**84**	Pn	**Pn**	**06 24 03.0**	**+1.1**
CHOS	**Chios island**	**2.66**	**84**	P	**Pn**	**06 24 03.5**	**+1.6**
SIGR	**SIGRI**	**2.70**	**66**	Pn	**Pn**	**06 24 02.5**	**+0.1**
GRG	**Grava**	**2.82**	**356**	P	**Pn**	**06 24 04.5**	**+0.5**
FNA	**Florina**	**2.82**	**339**	P	**Pn**	**06 24 05.5**	**+1.3**
SANT	**Santorini**	**2.83**	**128**	⇑P	**Pb**	**06 24 08.3**	**-1.3**
EAG1	**Polichnitos, L**	**2.92**	**70**	P	**Pn**	**06 24 06.8**	**+1.4**
GPNR	**Gulpinar-Canak**	**2.99**	**63**	Pn	**Pn**	**06 24 06.5**	**+0.1**
URLA	**Izmir**	**3.08**	**85**	Pn	**Pn**	**06 24 09.2**	**+1.5**
BOZC	**Bozcaada**	**3.12**	**56**	Pn	**Pn**	**06 24 07.8**	**-0.4**
VAY	**Valandovo**	**3.17**	**358**	*i* Pn	**Pn**	**06 24 10.0**	**+1.1**
GADA	**Gvkgeada**	**3.23**	**50**	Pn	**Pn**	**06 24 09.5**	**-0.1**
RFT5	**Foca**	**3.23**	**80**	Pn	**Pn**	**06 24 11.2**	**+1.5**
RFT1	**Sazli**	**3.24**	**64**	Pn	**Pn**	**06 24 10.4**	**+0.5**
EZN	**Ezine**	**3.29**	**58**	Pn	**Pn**	**06 24 10.6**	**+0.1**
OHR	**Ohrid**	**3.30**	**334**	*i* Pn	**Pn**	**06 24 13.8**	**+3.1**
SMG	**Samos**	**3.31**	**96**	P	**Pn**	**06 24 12.5**	**+1.7**
NVR	**Nevrokopi**	**3.33**	**15**	P	**Pn**	**06 24 11.9**	**+0.8**
IDI	**Anoyia**	**3.36**	**148**	⇑P	**Pb**	**06 24 15.8**	**-2.7**
IDI	**Anoyia**	**3.36**	**148**	Pn	**Pn**	**06 24 13.2**	**+1.7**
	comp=E,4.8nm,0.3s,baz=286,slow=19,SNR=17						
IDI				Sn	**Sn**	**06 24 52.2**	**+0.7**
	comp=E,11nm,0.3s,baz=226,slow=20,SNR=2.6						
	comp=E,14nm,0.4s						
IDI	**Anoyia**	**3.36**	**148**	P	**Pb**	**06 24 14.3**	**-4.2**
RFT7	**Candarli**	**3.42**	**75**	Pn	**Pn**	**06 24 13.3**	**+1.1**
DKL	**Dikili**	**3.43**	**73**	Pn	**Pn**	**06 24 13.2**	**+0.8**
GVD	**Gavdhos**	**3.49**	**161**	P	**Pb**	**06 24 16.2**	**-4.5**
RFT2	**Karaagac**	**3.50**	**67**	Pn	**Pn**	**06 24 14.0**	**+0.6**
STIP	**Stip**	**3.56**	**354**	*i* Pn	**Pn**	**06 24 16.0**	**+1.7**
GELI	**Tayfur-Gelibol**	**3.70**	**51**	Pn	**Pn**	**06 24 16.0**	**-0.1**
RDO	**Rodhopi**	**3.72**	**35**	Pn	**Pn**	**06 24 16.1**	**-0.3**
ENEZ	**Enez**	**3.73**	**45**	Pn	**Pn**	**06 24 16.2**	**-0.3**
ALN	**Alexandroupoli**	**3.78**	**42**	Pn	**Pn**	**06 24 17.2**	**0.0**
LPK	**Lapseki**	**3.87**	**54**	Pn	**Pn**	**06 24 18.6**	**+0.2**
ERIK	**Erikli-Kesan**	**3.89**	**48**	Pn	**Pn**	**06 24 18.7**	**0.0**
KDZ	**Kurdzhali**	**4.03**	**30**	Pn	**Pn**	**06 24 20.5**	**-0.2**
KRBG	**Karabiga-Canak**	**4.22**	**56**	Pn	**Pn**	**06 24 23.6**	**+0.3**
UKOP	**Uzunkopru-Edir**	**4.26**	**44**	Pn	**Pn**	**06 24 23.8**	**0.0**
PLD	**Plovdiv**	**4.30**	**21**	Pn	**Pn**	**06 24 23.7**	**-0.6**
VTS	**Vitosha**	**4.49**	**5**	⇑P	**Pn**	**06 24 28.7**	**+1.6**
EDC	**Edincik**	**4.58**	**60**	Pn	**Pn**	**06 24 28.8**	**+0.6**
DRME	**Dracevica, Mon**	**4.85**	**327**	*e*Pn	**Pn**	**06 24 33.0**	**+1.1**
PDG	**Podgorica**	**5.02**	**330**	*e*Pn	**Pn**	**06 24 34.9**	**+0.7**
MATE	**Matera**	**5.26**	**300**	⇑P	**Pn**	**06 24 41.0**	**+3.3**
SJES	**Sjenica**	**5.51**	**339**	*e*Pn	**Pn**	**06 24 44.4**	**+3.3**
BOVS	**Bovan**	**5.53**	**353**	⇑P	**Pn**	**06 24 43.5**	**+2.1**
TREB	**Trebinje**	**5.64**	**325**	*e*Pn	**Pn**	**06 24 42.3**	**-0.5**
UPM	**Unac-Piva**	**5.81**	**332**	*e*Pn	**Pn**	**06 24 46.7**	**+1.4**
STON	**Ston**	**6.06**	**323**	*e*Pn	**Pn**	**06 24 48.3**	**-0.2**
NEVS	**Nevesinje**	**6.21**	**327**	*e*Pn	**Pn**	**06 24 52.9**	**+2.2**
BBLS	**Lazići**	**6.23**	**338**	*e*Pn	**Pn**	**06 24 52.4**	**+1.4**
DIVS	**Divibare**	**6.29**	**342**	*e*Pn	**Pn**	**06 24 54.3**	**+2.6**
LSTV	**Lastovo**	**6.39**	**318**	*e*Pn	**Pn**	**06 24 52.1**	**-1.0**
MDVR	**Moldovita**	**6.67**	**354**	⇑P	**Pn**	**06 24 58.1**	**+1.1**
HERR	**Herculane**	**6.73**	**358**	⇑P	**Pn**	**06 24 58.5**	**+0.7**
RICI	**Ricice**	**6.80**	**324**	*e*Pn	**Pn**	**06 24 58.7**	**0.0**
TEKS	**Tekeris**	**6.82**	**341**	*e*Pn	**Pn**	**06 24 59.2**	**+0.1**
SRKY	**Kupres RS**	**7.24**	**327**	*e*Pn	**Pn**	**06 25 04.5**	**-0.3**
GZR	**Gura Zlata**	**7.24**	**1**	⇑P	**Pn**	**06 25 06.6**	**+1.7**
FRGS	**Fruska Gora**	**7.33**	**344**	*e*Pn	**Pn**	**06 25 07.6**	**+1.6**
ARR	**Arges**	**7.36**	**11**	⇑P	**Pn**	**06 25 07.5**	**+1.0**
VOIR		**7.50**	**13**	⇑P	**Pn**	**06 25 09.9**	**+1.6**
BZS	**Buzias**	**7.51**	**354**	⇑P	**Pn**	**06 25 10.2**	**+1.8**
KIJV	**Kijevo**	**7.53**	**323**	*e*Pn	**Pn**	**06 25 08.9**	**+0.1**
ZIRJ	**Zirje**	**7.66**	**318**	*e*Pn	**Pn**	**06 25 09.7**	**-0.9**
MLR	**Muntele Rosu**	**7.73**	**17**	⇑P	**Pn**	**06 25 13.6**	**+2.0**
MLR	**Muntele Rosu**	**7.73**	**17**	Pn	**Pn**	**06 25 11.7**	**+0.1**
	comp=E,3.3nm,0.3s,baz=185,slow=13,SNR=15						
	comp=E,16nm,0.7s						
MORI	**Morici**	**7.78**	**319**	*e*Pn	**Pn**	**06 25 11.7**	**-0.4**
MORI				Sn	**Sn**	**06 26 36.4**	**-3.9**
BLY	**Banja Luka**	**7.78**	**330**	*e*Pn	**Pn**	**06 25 12.3**	**+0.1**
A050A	**Klekovaca**	**7.84**	**326**	*e*Pn	**Pn**	**06 25 14.6**	**+1.5**
COVR	**Voineasa-Covas**	**8.13**	**18**	⇓P	**Pn**	**06 25 19.1**	**+2.2**
DUGI	**Dugi Otok**	**8.20**	**318**	*e*Pn	**Pn**	**06 25 17.8**	**-0.2**
PLOR	**Plostina**	**8.24**	**20**	⇓P	**Pn**	**06 25 21.1**	**+2.5**
OZUR		**8.27**	**15**	⇑P	**Pn**	**06 25 20.6**	**+1.7**
VRI	**Vrincioaia**	**8.28**	**20**	⇑P	**Pn**	**06 25 21.1**	**+2.1**
VIRC	**Vir**	**8.41**	**319**	*e*Pn	**Pn**	**06 25 19.1**	**-1.7**
MORH	**Mrgy, Hungar**	**8.60**	**341**	⇑P	**Pn**	**06 25 25.8**	**+2.4**
BRTR	**Keskin Array B**

comp=Z,56nm,21.2s,baz=73,slow=39
SONM Songino Array 59.15 51 P **P 06 33 20.3 +0.4**
comp=Z,0.7nm,0.5s,baz=282,slow=7.4,SNR=5.5
comp=Z,0.7nm,0.5s
SCHQ Schefferville 59.63 318 P **P 06 33 23.2 +0.3**
comp=Z,2.2nm,0.5s,baz=90,slow=4.3,SNR=6.1
comp=Z,2.2nm,0.5s
SUR Sutherland 70.19 182 LR LR 07 06 58.2
comp=Z,35nm,19.3s,baz=344,slow=37
ILAR Eielson Array 77.09 355 P **P 06 35 12.1 +0.1**
comp=Z,0.3nm,0.6s,baz=0.6,slow=3.0,SNR=7.9
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 95.77 330 LR LR 07 23 40.0
comp=Z,52nm,18.3s,baz=305,slow=38
WRA Warramunga Arr 116.83 94 PKP **PKPdf 06 42 06.9 -1.0**
comp=Z,0.1nm,0.5s,baz=311,slow=1.8,SNR=4.5
ASAR Alice Springs 120.47 97 PKP **PKPdf 06 42 10.3 -0.7**
comp=Z,0.2nm,0.4s,baz=309,slow=1.7,SNR=5.8

---

*NEIC **13** 06:38:21.2±1.6, 15°.21N±0°.05×94°.01W±0°.05, h22km±4km, mb4.0/14, Md4.3/40(MEX), Error ellipse: s-maj=7.5km s-min=5.7km az=133.0*
*MEX **13** 06:38:22.0±0.6, 15°.05N×94°.02W, h27km±10km, MD4.3*
*GCG **13** 06:38:24.1±0.4, 15°.53N×93°.51W, h7km±999km, MD4.2*
ISC 13 06:38:17.3±2.4, 15°.11N±0°.05×94°.03W±0.03, h9km±16km, n54, σ1°89/82, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.98**	**53**		**Pn**	**06 38 37.9**	**+0.6**
PCIG		**0.98**	**53**	*i* P	**Pn**	**06 38 37.9**	**+0.6**
PCIG				*i* S	**Sn**	06 38 50.2	-1.0
CARR	**Arriaga**	**1.14**	**6**	*i* P	**Pn**	06 38 40.1	+0.7
CARR				*i* S	**Sn**	06 38 55.0	-0.1
NILT	**Santiago Nilte**	**1.55**	**339**	*i* P	**Pb**	06 38 46.0	-0.2
NILT				*e*S	**Sn**	06 39 04.6	-0.8
THIG		**1.72**	**97**		**Pn**	06 38 48.3	+0.9
THIG		**1.72**	**97**	*e*P	**Pn**	06 38 47.9	+0.5
THIG				*e*S	**Sn**	06 39 06.5	-2.9
PATR	**El Naranjo**	**1.73**	**90**	*i* P	**Pn**	06 38 48.1	+0.3
PATR				*e*S	**Sn**	06 39 07.8	-2.4
PAVE	**Pavencul**	**1.79**	**87**	*i* P	**Pn**	06 38 49.3	+0.7
PAVE				*e*S	**Sn**	06 39 09.9	-1.7
CHUJ	**Union Juarez**	**1.85**	**90**	*i* P	**Pn**	06 38 50.3	+0.8
CHUJ				*e*S	**Sn**	06 39 11.4	-1.8
TGIG		**1.87**	**28**		**Pb**	06 38 51.4	-0.3
TGIG					**Sg**	06 39 15.5	-2.1
TGIG		**1.87**	**28**	*i* P	**Pb**	06 38 51.4	-0.3
TGIG				*e*S	**Sb**	06 39 13.8	-1.5
TGBT	**Tuxtla Gutierr**	**1.89**	**28**		**Pb**	06 38 52.0	0.0
TGBT					**Sb**	06 39 14.8	-0.8
TGBT	**Tuxtla Gutierr**	**1.89**	**28**	*i* P	**Pb**	06 38 52.0	0.0
TGBT				*e*S	**Sb**	06 39 14.8	-0.8
HUIG	**Huatulco**	**2.11**	**288**		**Pn**	06 38 53.3	+0.5
HUIG	**Huatulco**	**2.11**	**288**	*i* P	**Pn**	06 38 53.3	+0.5
HUIG				*e*S	**Sn**	06 39 15.7	-3.5
CCIG	**Comitan**	**2.16**	**57**	*i* P	**Pb**	06 38 56.1	-0.6
CCIG				*e*S	**Sb**	06 39 23.8	0.0
RTAL	**Retalhuleu**	**2.33**	**104**		**Pn**	06 38 56.9	+1.0
STG3	**Santiaguito 3,**	**2.41**	**99**	*i* P	**Pn**	06 38 59.0	+1.9
STG3				*i* S	**Sn**	06 39 25.0	-1.9
HUEH	**Huehuetenango**	**2.45**	**85**		**Pn**	06 38 59.6	+1.9
SULM	**Suchitepequez,**	**2.52**	**108**	*i* P	**Pn**	06 39 01.2	+2.8
SULM				*i* S	**Sn**	06 39 28.5	-0.6
NEUV	**Arroyo Zacate**	**3.10**	**327**	*e*P	**Pn**	06 39 07.6	+1.2
NEUV				*i* S	**Sn**	06 39 43.8	+0.3
PEIG	**Puerto Escondi**	**3.13**	**287**	*e*P	**Pn**	06 39 07.8	+0.9
PEIG				*e*S	**Sn**	06 39 36.6	-7.8
FUG	**Fuego 3**	**3.15**	**102**	*i* P	**Pn**	06 39 09.6	+2.2
FUG				*i* S	**Sn**	06 39 44.9	-0.2
VHO	**Vista Hermosa**	**3.25**	**307**	*e*P	**Pn**	06 39 11.6	+2.9
VHO				*e*S	**Sn**	06 39 46.1	-1.5
PMUV	**Sontecomapan**	**3.57**	**343**	*e*P	**Pn**	06 39 15.9	+2.9
PMUV				*e*S	**Sn**	06 39 54.6	-0.8
YOIG	**Yosondua**	**3.80**	**298**	*e*P	**Pn**	06 39 17.0	+0.6
YOIG				*e*S	**Sn**	06 39 59.4	-1.9
TOIG	**Toxpalan**	**4.16**	**316**	*e*P	**Pn**	06 39 23.5	+2.4
TOIG				*e*S	**Sn**	06 40 10.5	+0.6
TXIG	**Tlaxiaco**	**4.18**	**301**	*e*P	**Pn**	06 39 24.7	+3.2
TXIG				*e*S	**Sn**	06 40 06.8	-3.8
PETF	**Flores**	**4.39**	**65**	Pn	**Pn**	06 39 26.3	+2.2
HLIG	**Huajuapan de L**	**4.52**	**307**	*e*P	**Pn**	06 39 28.4	+2.3
HLIG				*e*S	**Sn**	06 40 20.4	+1.4
ESQI	**Esquipulas**	**4.56**	**96**	Pn	**Pn**	06 39 28.5	+1.8
MTO3	**Montecristo**	**4.57**	**98**	Pn	**Pn**	06 39 29.4	+2.5
TPIG	**Tehuac#an**	**4.58**	**316**	*e*P	**Pn**	06 39 27.4	+0.4
TPIG				*e*S	**Sn**	06 40 22.5	+2.0
SCIG	**Sabancuy**	**4.70**	**35**	*e*P	**Pn**	06 39 28.7	+0.3
SCIG				*e*S	**Sn**	06 40 20.7	-2.4
FTIG	**Fresnillo de T**	**4.82**	**306**	*e*P	**Pn**	06 39 32.5	+2.3
FTIG				*e*S	Sn	06 40 17.2	-9.1
FTIG				*e*S	Sb	06 40 26.5	-14
JAUV	**Jalcomulco**	**4.99**	**328**	*e*P	**Pn**	06 39 33.0	+0.5
JAUV				*e*S	**Sn**	06 40 25.9	-4.5
CXUV	**Coxquihui**	**6.07**	**327**	*e*P	**Pn**	06 39 48.3	+1.0
CXUV				*e*S	**Sn**	06 40 56.2	-0.8
TEIG	**Tepich**	**7.48**	**46**		**Pn**	06 40 07.0	+0.4
ORTG	**Ortega, Santa**	**9.60**	**118**	Pn	**Pn**	06 40 39.7	+3.9
DUNO	**Dulce Nombre,**	**9.71**	**120**	Pn	**Pn**	06 40 38.8	+1.4
HNDO	**Hondo**	**15.14**	**342**		**P**	06 41 54.6	-2.1
HNDO				IAmb	IAmb	06 41 58.6	
comp=Z,5.7nm,0.7s							
435B	**Jarrell**	**15.94**	**349**		**P**	**06 42 06.2**	**+0.7**
435B				IAmb	IAmb	06 42 11.5	
comp=Z,8.9nm,0.8s							
OZNA	**Ozona**	**17.03**	**339**		**P**	**06 42 18.2**	**+0.5**
OZNA				IAmb	IAmb	06 42 20.9	
comp=Z,12nm,1.2s							
VBMS	**Vicksburg**	**17.33**	**10**	Pn	**Pn**	**06 42 19.8**	**+0.3**
VBMS				IAmb	IAmb	06 42 21.0	
comp=Z,15nm,0.8s							
ALPN	**Alpine**	**17.57**	**331**	P	**P**	**06 42 24.3**	**+0.5**
ALPN				IAmb	IAmb	06 42 33.4	
comp=Z,7.3nm,1.2s							
656A	**Willston**	**17.71**	**35**	P	**Pn**	**06 42 25.0**	**+0.7**
ABTX	**Abilene, Hawle**	**18.17**	**345**	P	**P**	**06 42 30.8**	**+0.6**
POST	**Post**	**19.12**	**341**	P	**P**	**06 42 41.4**	**+0.7**
POST				IAmb	IAmb	06 42 44.5	
comp=Z,4.6nm,0.7s							
DKNS	**Dickens**	**19.50**	**343**	P	**P**	**06 42 45.3**	**+0.4**
DKNS				IAmb	IAmb	06 42 47.4	
comp=Z,5.3nm,0.5s							
MSTX	**Muleshoe**	**20.37**	**339**	P	**P**	**06 42 55.0**	**+0.5**
MSTX				IAmb	IAmb	06 43 02.2	
comp=Z,8.2nm,0.9s							
OK029	**Liberty Lake**	**20.83**	**352**	P	**P**	**06 42 59.1**	**-0.1**
AMTX	**Amarillo**	**20.86**	**342**	P	**P**	**06 43 00.5**	**+0.8**
HHAR	**Hobbs**	**21.08**	**0**	P	**P**	**06 43 03.4**	**+1.4**
HHAR				IAmb	IAmb	06 43 16.6	
comp=Z,7.0nm,1.4s							
121A	**Cookes Peak, D**	**21.39**	**327**	P	**P**	**06 43 07.4**	**+1.9**
121A				IAmb	IAmb	06 43 09.3	
comp=Z,8.3nm,0.8s							

---

*KRSC **13** 06:51:48.6±1.2, 50°.96N×157°.01E, h128km±10km, Ml3.9*
*IDC **13** 06:51:50.1±5.8, 51°.18N×156°.37E, h128km±40km, mb3.1/6, mbtmp3.5/7, MS3.5/1, Error ellipse: s-maj=69.3km s-min=20.7km az=178.0*
ISC 13 06:51:50.1±0.9, 51°.07N±0°.09×156°.7E±0°.1, h129km±6km, n39, σ1°07/39, mb3.4/6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.40**	**10**	*e*P	**Pn**	**06 52 09.2**	**+0.7**
PAU				*e*S	**Sn**	06 52 23.5	+1.0
SKR	**Severo-Kuril's**	**0.54**	**224**	*e*P	**Pn**	06 52 09.2	-0.1
SKR				*e*S	**Sn**	06 52 23.7	0.0
KDTR	**Khodutka, Kamc**	**1.13**	**49**	*e*P	**Pn**	06 52 13.6	-0.5
KDTR				*e*S	**Sn**	06 52 31.0	-1.5
MTVR	**Mutnovka**	**1.69**	**32**	*e*P	**Pn**	06 52 20.6	+0.3
MTVR				*e*S	**Sn**	06 52 43.6	+0.1
GRL	**Gorelyy**	**1.71**	**29**	*e*P	**Pn**	06 52 21.0	+0.4
GRL				*e*S	**Sn**	06 52 43.7	-0.2
RUS	**Russkaya**	**1.77**	**39**	*e*P	**Pn**	06 52 20.7	-0.5
RUS				*e*S	**Sn**	06 52 44.4	-0.5
APC	**Apacha**	**1.88**	**8**	*e*P	**Pn**	06 52 22.0	-0.4
KRMR	**Karymshinskiy**	**1.97**	**26**	*e*P	**Pn**	06 52 23.9	+0.3
PETK	**Petropavlovsk-**	**2.13**	**16**	P	**Pn**	06 52 24.3	-1.3
comp=Z,20nm,0.5s,baz=174,slow=11,SNR=40							
PETK				S	**Sn**	**06 52 52.9**	**+0.1**
9.9nm,0.8s,baz=263,slow=25,SNR=2.5							
PET	**Petropavlovsk**	**2.30**	**31**	*e*S	**Sn**	**06 52 57.1**	**+0.6**
DALK	**Dalny**	**2.34**	**32**	*e*P	**Pn**	06 52 27.7	-0.4
DALK				*e*S	**Sn**	06 52 57.1	-0.1
KOK	**Koryaka**	**2.52**	**27**	*e*P	**Pn**	06 52 32.0	+1.5
AVH	**Avacha**	**2.53**	**29**	*e*P	**Pn**	06 52 32.1	+1.4
SMAR	**Somma**	**2.55**	**30**	*e*P	**Pn**	06 52 32.4	+1.4
KRER	**Koryakskii**	**2.57**	**29**	*e*P	**Pn**	06 52 32.3	+1.1
KRER				*e*S	**Sn**	06 53 03.6	+0.7
KRX	**Arik**	**2.58**	**27**	*e*P	**Pn**	06 52 32.4	+1.0
NLC	**Nalytchevo**	**2.66**	**37**	*e*S	**Sn**	06 53 03.4	-1.2
GNL	**Ganaly**	**2.73**	**16**	*e*P	**Pn**	06 52 33.1	-0.1
SPN	**Mys Shipunski**	**2.88**	**44**	*e*P	**Pn**	06 52 34.5	-0.6
SPN				*e*S	**Sn**	06 53 07.4	-2.4
KZV	**Kizimen**	**4.59**	**27**	*e*P	**Pn**	06 52 58.3	+0.6
TUMR	**Tumrok**	**4.70**	**25**	*e*P	**Pn**	06 53 01.1	+2.0
KBTR	**Krutoberegovo**	**6.30**	**33**	*e*P	**Pn**	06 53 19.4	-1.1
ILAR	**Eielson Array**	**31.73**	**43**	P	**P**	**06 58 01.2**	**0.0**
0.2nm,0.6s,baz=269,slow=7.8,SNR=2.1							
0.2nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**32.30**	**162**	T	T	07 32 02.4	
baz=348,slow=76,SNR=8.4							
H11N3	**WAKE ISLAND Hy**	**32.31**	**162**	T	T	07 32 04.0	
baz=348,slow=76,SNR=8.2							
H11N1	**WAKE ISLAND Hy**	**32.31**	**162**	T	T	07 32 02.3	
baz=348,slow=76,SNR=5.6							
H11S1	**WAKE ISLAND Hy**	**33.46**	**163**	T	T	07 33 15.4	
baz=348,slow=76,SNR=5.4							
H11S3	**WAKE ISLAND Hy**	**33.47**	**163**	T	T	07 33 13.3	
baz=348,slow=76,SNR=5.2							
H11S2	**WAKE ISLAND Hy**	**33.47**	**163**	T	T	07 33 16.4	
baz=348,slow=76,SNR=4.3							
DLBC	**Dease Lake**	**40.94**	**50**	LR	LR	07 20 02.6	
comp=Z,55nm,18.2s,baz=144,slow=41							
KURBB	**Kurchatov Arra**	**47.12**	**302**	P	**P**	**07 00 06.6**	**-2.1**
0.4nm,0.5s,baz=57,slow=7.9,SNR=3.2							
0.4nm,0.5s							
MKAR	**Makanchi Array**	**47.14**	**295**	P	**P**	**07 00 07.5**	**-1.5**
0.4nm,0.6s,baz=63,slow=7.6,SNR=6.7							
0.4nm,0.6s							
NVAR	**Mina Array Bea**	**58.43**	**67**	P	**P**	**07 01 33.8**	**+1.5**
0.3nm,0.5s,baz=307,slow=8.9,SNR=2.6							
0.3nm,0.5s							
PDAR	**Pinedale Array**	**60.36**	**58**	P	**P**	**07 01 45.8**	**+0.4**
0.4nm,0.7s,baz=345,slow=0.5,SNR=3.8							
0.4nm,0.7s							
TXAR	**Lajitas Array**	**73.38**	**64**	P	**P**	**07 03 09.3**	**+1.4**
0.2nm,0.4s,baz=293,slow=5.1,SNR=7.7							
0.2nm,0.4s							
H03N2	**Juan Fernandez**	**136.33**	**88**	T	T	09 42 03.8	
baz=317,slow=77,SNR=9.0							
H03N1	**Juan Fernandez**	**136.34**	**88**	T	T	09 42 03.1	
baz=317,slow=77,SNR=5.4							
H03N3	**Juan Fernandez**	**136.35**	**88**	T	T	09 42 05.2	
baz=317,slow=77,SNR=8.7							
PLCA	**Paso Flores**	**146.07**	**91**	PKPbc	**PKPab**	**07 11 15.1**	**-0.1**
0.8nm,0.8s,baz=309,slow=1.0,SNR=3.1							

IDC 13 07:09:02.3±1.4, 53°.15N×85°.38E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=13.4km s-min=8.9km az=101.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.87**	**338**	Pg	Pg	07 09 18.8	-0.1
0.8nm,0.3s,baz=157,slow=17,SNR=12							
ZALV				Lg	Lg	07 09 30.9	
1.9nm,0.3s,baz=156,slow=30,SNR=17							
I46RU	**ZALESOVO INFRA**	**0.87**	**338**	I	I	07 13 50.0	
baz=160,slow=328,SNR=3.1							
KURBB	**Kurchatov Arra**	**4.94**	**242**	Pn	Pn	07 10 19.0	+1.4
0.1nm,0.3s,baz=59,slow=13,SNR=5.6							
0.5nm,0.5s							
MKAR	**Makanchi Array**	**6.66**	**199**	Pn	Pn	07 10 42.4	+1.0
0.1nm,0.3s,baz=23,slow=14,SNR=4.6							
MKAR				Lg	Lg	07 12 29.6	
0.1nm,0.3s,baz=15,slow=31,SNR=3.6							
0.3nm,0.4s							

---

*IDC **13** 07:10:30.6±0.8, 51°.87N×178°.59W, h0km, mb3.8/8, mbtmp3.9/9, ML3.8/1, MS2.6/1, Error ellipse: s-maj=34.4km s-min=19.0km az=160.0*
*AEIC **13** 07:10:32.5±2.3, 51°.57N±0°.10×178°.43W±0°.06, h5km±5km, Error ellipse: s-maj=14.3km s-min=3.9km az=164.0*
*NEIC **13** 07:10:33.3±2.2, 51°.55N±0°.08×178°.45W±0°.06, h10km±1km, mb4.1/29, ML4.3(AEIC), Error ellipse: s-maj=13.3km s-min=4.6km az=163.0*
ISC 13 07:10:33.0±0.6, 51°.53N±0°.09×178°.43W±0°.03, h10km, n74, σ1°30/69, mb4.1/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.31**	**318**		**Pg**	**07 10 39.4**	**+0.1**
GAEA	**Gareloi East**	**0.32**	**323**		**Pg**	**07 10 39.5**	**+0.1**
GASW	**Gareloi Southw**	**0.36**	**314**		**Pg**	**07 10 40.1**	**-0.1**
TANO	**Tanaga North**	**0.43**	**27**		**Pg**	**07 10 41.5**	**0.0**
TAFP	**Tanaga Falls P**	**0.47**	**37**		**Pg**	**07 10 41.9**	**-0.2**
TAPA	**Tanaga Point A**	**0.48**	**53**		**Pg**	**07 10 42.4**	**+0.1**
KIMD	**Kanaga Island**	**0.78**	**72**		**Pg**	**07 10 47.4**	**-0.6**
KIWB	**Kanaga Island**	**0.86**	**67**	Pg	**Pg**	**07 10 48.9**	**-0.7**
KIWB	**Kanaga Island**	**0.86**	**67**		**Sg**	**07 11 00.4**	**-0.4**
ADK	**Adak**	**1.15**	**71**		**Pb**	**07 10 53.1**	**-1.7**
CEPE	**Semis' Perret**	**1.27**	**291**		**Pn**	**07 10 55.6**	**-1.1**
CESW	**Semis' Southwe**	**1.30**	**287**		**Pn**	**07 10 56.0**	**-1.2**
AMKA	**Amchitka**	**1.42**	**265**		**Pn**	**07 10 58.5**	**-0.3**
AMKA	**Amchitka**	**1.42**	**265**		**Sn**	**07 11 17.0**	**-0.6**
GSCK	**Great Sitkin C**	**1.49**	**70**		**Pn**	**07 10 59.4**	**-0.5**
GSCK					**Sn**	**07 11 19.2**	**-0.1**
GSMY	**Great Sitkin M**	**1.56**	**70**		**Pn**	**07 11 00.2**	**-0.6**
GSTR	**Great Sitkin T**	**1.58**	**68**		**Pn**	**07 11 00.5**	**-0.6**
LSSE	**Little Sitkin**	**1.91**	**283**		**Pn**	**07 11 05.1**	**-0.4**
LSPA	**Little Sitkin**	**1.91**	**284**		**Pn**	**07 11 05.7**	**+0.1**
LSPA					**Sb**	**07 11 31.5**	**-0.2**
LSNW	**Little Sitkin**	**1.95**	**284**		**Pn**	**07 11 06.4**	**+0.3**
ATKA	**Atka Island**	**2.71**	**74**		**Pn**	**07 11 16.9**	**+0.4**
ATKA	**Atka Island**	**2.71**	**74**		**Sn**	**07 11 50.7**	**+1.3**
KOKL	**Mount Kliuchef**	**2.74**	**71**		**Pn**	**07 11 17.1**	**+0.1**
KOFP	**Korovin Flat P**	**2.79**	**73**		**Pn**	**07 11 18.6**	**+0.9**
KOFP					**Sn**	**07 11 54.3**	**+2.9**
SHEM	**Shemya Is, Ala**	**4.75**	**288**	LR	LR	07 13 20.1	
comp=Z,78nm,21.8s,baz=192,slow=37							
CLES	**Cleveland East**	**5.41**	**73**	Pn	**Pn**	**07 11 54.7**	**+1.1**
CNBA	**Chernabura Isl**	**11.77**	**66**	Pn	**Pn**	**07 13 19.8**	**-0.9**
CHGN	**Chignik**	**12.71**	**60**	Pn	**Pn**	**07 13 34.6**	**+1.0**
O18K	**Koktuh Hills**	**15.45**	**48**		**P**	**07 14 14.0**	**-1.3**
KDAK	**Kodiak Island**	**16.15**	**57**	Pn	**Pn**	**07 14 17.1**	**-2.6**
0.3nm,0.3s,baz=300,slow=16,SNR=1.2							
2.9nm,0.5s							
L19K	**White Mountain**	**16.62**	**41**	P	**P**	**07 14 29.1**	**+0.8**
M19K	**Big River Lodg**	**16.68**	**42**	P	**P**	**07 14 29.7**	**+0.8**
M19K				IAmb	IAmb	07 14 37.3	
comp=Z,19nm,1.2s							
M20K	**Styx River**	**17.21**	**43**	P	**P**	**07 14 36.8**	**+2.0**
M20K				IAmb	IAmb	07 15 17.6	
comp=Z,20nm,1.4s							
K20K	**Telida**	**17.53**	**38**	P	**P**	**07 14 39.5**	**+1.2**
SKT	**Skwentna**	**17.94**	**44**	P	**P**	**07 14 43.5**	**+0.7**
SKT				IAmb	IAmb	07 14 49.6	
comp=Z,12nm,0.8s							
J20K	**Nowinta River**	**17.94**	**36**	P	**P**	**07 14 43.8**	**+1.0**
CAST	**Castle Rocks**	**18.34**	**39**	P	**P**	**07 14 48.1**	**+1.0**
TRF	**Thorofare Moun**	**19.07**	**40**	P	**Pn**	**07 14 56.3**	**+0.1**
TRF				IAmb	IAmb	07 15 26.9	
comp=Z,14nm,1.4s							
BPAW	**Bear Paw Mtn.**	**19.09**	**38**	P	**Pn**	**07 14 56.9**	**+0.7**
BPAW				IAmb	IAmb	07 15 06.6	
comp=Z,8.6nm,0.8s							
RND	**Reindeer**	**19.64**	**41**	P	**P**	**07 15 01.3**	**-0.2**
NEA2	**Nenana**	**20.06**	**38**	P	**P**	**07 15 06.3**	**+0.3**
NEA2				IAmb	IAmb	07 15 10.4	
comp=Z,13nm,1.1s							
DHY	**Denali Highway**	**20.14**	**43**	P	**P**	**07 15 06.7**	**-0.3**
DHY				IAmb	IAmb	07 15 13.9	
comp=Z,9.3nm,0.8s							
I23K	**Minto, Yukon-K**	**20.21**	**36**	P	**P**	**07 15 08.4**	**+0.8**
I23K				IAmb	IAmb	07 15 25.7	
comp=Z,20nm,1.4s							
MDM	**Murphy Dome**	**20.55**	**38**	P	**P**	**07 15 11.0**	**-0.3**
MDM				IAmb	IAmb	07 15 16.5	
comp=Z,14nm,1.0s							
CCB	**Clear Creek Biw**	**20.57**	**39**	P	**P**	**07 15 10.2**	**-1.4**
POKR	**Poker Plat Res**	**20.92**	**38**	P	Pn	07 15 17.0	-0.8
ILAR	**Eielson Array**	**20.98**	**39**	P	**P**	**07 15 12.1**	**-3.9**
comp=Z,0.2nm,0.6s,baz=249,slow=7.6,SNR=2.5							
H24K	**Noodor Dome**	**21.08**	**36**	P	**P**	**07 15 18.1**	**+0.9**
H24K				IAmb	IAmb	07 15 24.9	
comp=Z,8.0nm,0.8s							
J26L	**Joseph Creek**	**22.21**	**41**	P	**P**	**07 15 28.4**	**-0.9**
J26L				IAmb	IAmb	07 15 51.5	
comp=Z,14nm,1.4s							
I28M	**Miner Creek**	**23.98**	**40**	P	**P**	**07 15 46.8**	**-0.5**
K29M	**Barlow Dome**	**24.60**	**44**	P	**P**	**07 15 52.7**	**-0.4**
I29M	**Ogilvie Camp,**	**24.61**	**40**	P	**P**	**07 15 55.8**	**+2.8**
F28M	**Old Crow**	**24.71**	**35**	P	**P**	**07 15 54.7**	**+0.8**
F28M				IAmb	IAmb	07 15 58.8	
comp=Z,5.6nm,0.9s							
I30M	**Mount Dempster**	**25.36**	**41**	P	**P**	**07 15 59.5**	**-0.5**
H11N2	**WAKE ISLAND Hy**	**33.76**	**205**	T	T	07 52 53.4	
baz=16,slow=76,SNR=80							
H11N3	**WAKE ISLAND Hy**	**33.77**	**205**	T	T	07 52 54.2	
baz=16,slow=76,SNR=57							
H11N1	**WAKE ISLAND Hy**	**33.78**	**205**	T	T	07 52 54.8	
baz=16,slow=76,SNR=48							
H11S1	**WAKE ISLAND Hy**	**34.98**	**205**	T	T	07 54 26.7	
baz=16,slow=76,SNR=47							
H11S2	**WAKE ISLAND Hy**	**35.00**	**205**	T	T	07 54 32.1	
baz=16,slow=76,SNR=31							
H11S3	**WAKE ISLAND Hy**	**35.00**	**205**	T	T	07 54 32.1	
baz=16,slow=76,SNR=23							
WVOR	**Wild Horse Val**	**40.75**	**79**	P	**P**	**07 18 14.8**	**+0.8**
PNTR	**Pine Nut**	**42.10**	**83**	P	**P**	**07 18 25.6**	**+0.3**
NVAR	**Mina Array Bea**	**43.31**	**83**	P	**P**	**07 18 34.9**	**-0.2**
comp=Z,0.8nm,0.7s,baz=297,slow=7.2,SNR=6.5							
comp=Z,0.8nm,0.7s							
PSUT	**Pine Spring**	**45.99**	**80**	P	**P**	**07 18 56.4**	**-0.1**
PSUT				IAmb	IAmb	07 19 03.9	
comp=Z,2.4nm,0.8s							
PDAR	**Pinedale Array**	**46.05**	**73**	P	**P**	**07 18 55.9**	**-1.0**
comp=Z,0.7nm,0.8s,baz=347,slow=3.2,SNR=5.3							
comp=Z,0.7nm,0.8s							
HHC	**Hu-ho-hao-te**	**47.87**	**286**	*e*P	**P**	**07 19 12.8**	**+1.8**
HHC				pmax	pmax		
comp=Z,18nm,0.6s							
HHC				pmax	pmax		
comp=Z,130nm,4.4s							
TXAR	**Lajitas Array**	**58.41**	**82**	P	**P**	**07 20 27.8**	**-0.9**
comp=Z,0.6nm,0.5s,baz=310,slow=6.1,SNR=10							
comp=Z,0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**59.19**	**314**	P	**P**	**07 20 30.5**	**-3.2**
comp=Z,0.3nm,0.4s,baz=41,slow=6.5,SNR=1.1							
comp=Z,0.3nm,0.4s							
WMQ	**Urumqi**	**59.45**	**303**	*e*P	**P**	**07 20 39.8**	**+4.1**
MKAR	**Makanchi Array**	**60.12**	**309**	P	**P**	**07 20 37.8**	**-2.4**
comp=Z,0.4nm,0.4s,baz=64,slow=3.4,SNR=0.4							
comp=Z,0.4nm,0.4s							
PZH	**PanZhiHua**	**63.55**	**280**	P	**P**	**07 21 05.3**	**+1.6**
PZH				pmax	pmax		
comp=Z,10.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,150nm,4.4s							
WRA	**Warramunga Arr**	**82.28**	**224**	P	**P**	**07 22 54.2**	**-0.3**
comp=Z,0.9nm,1.0s,baz=36,slow=5.9,SNR=4.6							
comp=Z,0.9nm,1.0s							
ASAR	**Alice Springs**	**85.75**	**223**	P	**P**	**07 23 12.4**	**+0.3**
comp=Z,0.8nm,0.7s,baz=24,slow=5.9,SNR=11							
comp=Z,0.8nm,0.7s							
STKA	**Stephens Creek**	**90.18**	**213**	P	**P**	**07 23 33.8**	**+0.7**
comp=Z,1.4nm,0.7s,baz=318,slow=8.6,SNR=3.8							
comp=Z,1.4nm,0.7s							

---

*NEIC **13** 07:14:11.9±1.6, 51°.50N±0°.03×178°.40W±0°.02, h10km±1km, ML3.8/6, ML3.9(AEIC), Error ellipse: s-maj=5.3km s-min=2.7km az=350.0*
*AEIC **13** 07:14:12.2±3.2, 51°.60N±0°.04×178°.43W±0°.02, h6km±5km, Error ellipse: s-maj=6.6km s-min=2.1km az=185.0*
*IDC **13** 07:14:12.7±1.4, 51°.05N×178°.12W, h0km, mb3.3/5, mbtmp3.5/6, ML3.1/1, Error ellipse: s-maj=

RUSC La Rusia 0.95 175 *e*P Pn 07 16 10.3 -0.5
RUSC *e*S Sn 07 16 29.6 +0.3
RUSC *i* 07 16 30.6
comp=Z,3.1nm,0.3s

PTBC PUERTO BERRIO, 1.32 257 *e*P Pn 07 16 12.5 -1.0
PTBC *e*S Sn 07 16 33.4 -0.9
PTBC *i* 07 16 36.8
comp=Z,2.7nm,0.7s

PTBC PUERTO BERRIO, 1.32 257 *e*P Pn 07 16 12.7 -0.9
PTBC *e*S Sn 07 16 33.7 -0.7
PTBC *i* 07 16 36.9
comp=Z,2.7nm,0.7s

ZARC Zaragoza, Cauc 1.80 291 *e*P Pn 07 16 18.1 -0.7
ZARC *e*S Sn 07 16 43.9 +0.3
ZARC *i* 07 16 49.2
comp=Z,5.1nm,0.3s

ZARC Zaragoza, Cauc 1.80 291 *e*P Pn 07 16 18.8 0.0
ZARC *e*S Sn 07 16 43.9 +0.3
ZARC *i* 07 16 49.2
comp=Z,5.1nm,0.3s

---

*NNC **13** 07:17:45.2±0.5, 50°.01N×78°.80E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=8.3km s-min=2.3km az=76.0, Suspected Mining explosion.*
*IDC **13** 07:17:46.0±1.2, 50°.05N×78°.75E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=12.2km s-min=7.6km az=63.0*
ISC 13 07:17:46.6±1.0,**50°.06N**±0°.05×**78°.78E**±0°.07,**h0**km,**n17**, σ0**98**/28,**22C-6D**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.55**	**342**	⇑P	**Pg**	**07 17 56.9**	**-0.1**
KUR07				⇓S	**Sb**	**07 18 06.0**	**-1.4**
KUR06	**Kurchatov Arra**	**0.57**	**343**	⇑P	**Pg**	**07 17 57.3**	**-0.2**
KUR06				⇑S	**Sb**	**07 18 06.6**	**-1.4**
KUR14	**Kurchatov Arra**	**0.57**	**348**	⇑P	**Pg**	**07 17 57.3**	**-0.2**
KUR14				⇑S	**Sb**	**07 18 06.8**	**-1.2**
KUR15	**Kurchatov Arra**	**0.57**	**346**	⇓P	**Pg**	**07 17 57.3**	**-0.2**
KUR15				⇑S	**Sb**	**07 18 07.0**	**-1.2**
KURBB	**Kurchatov Arra**	**0.58**	**344**	⇓P	**Pg**	**07 17 57.4**	**-0.4**
KURBB	16nm,0.2s			⇑S	**Sg**	**07 18 06.4**	**+1.1**
	54nm,0.6s						
KURBB	**Kurchatov Arra**	**0.58**	**344**	Pg	**Pg**	**07 17 57.2**	**-0.5**
	3.8nm,0.3s,baz=167,slow=17,SNR=150						
KURBB				Lg	Lg	07 18 06.2	
	3.9nm,0.3s,baz=166,slow=33,SNR=9.0						
KUR16	**Kurchatov Arra**	**0.59**	**343**	⇑P	**Pg**	**07 17 57.6**	**-0.3**
KUR16				⇑S	**Sb**	**07 18 07.4**	**-1.4**
KUR05	**Kurchatov Arra**	**0.60**	**345**	⇑P	**Pg**	**07 17 57.8**	**-0.3**
KUR05				⇑S	**Sg**	**07 18 06.9**	**+1.0**
KUR17	**Kurchatov Arra**	**0.60**	**341**	⇑P	**Pg**	**07 17 57.8**	**-0.4**
KUR17				⇑S	**Sb**	**07 18 07.6**	**-1.4**
KUR04	**Kurchatov Arra**	**0.62**	**346**	⇑P	**Pg**	**07 17 58.2**	**-0.3**
KUR04				⇑S	**Sg**	**07 18 07.5**	**+1.0**
KURK	**Kurchatov**	**0.66**	**351**	⇓P	**Pg**	**07 17 58.8**	**-0.5**
KURK	7.2nm,0.3s			⇑S	**Sb**	**07 18 09.2**	**-1.6**
	48nm,0.7s						
MAKZ	**Makanchi**	**3.89**	**146**	⇑Pg	**Pb**	**07 18 54.6**	**-1.4**
	1.1nm,0.4s						
MAKZ				⇓Lg	Lg	07 19 45.5	
	4.7nm,0.5s						
MK31	**Makanchi Array**	**4.02**	**143**	⇑Pn	**Pn**	**07 18 49.6**	**+0.2**
	0.2nm,0.2s,baz=325,slow=10,SNR=24						
MK31				⇑Pg	**Pb**	**07 18 59.4**	**+1.2**
	0.4nm,0.2s,baz=325,slow=14,SNR=13						
MK31				⇓Lg	Lg	07 19 50.7	
	3.9nm,0.5s,baz=330,slow=27,SNR=14						
MKAR	**Makanchi Array**	**4.02**	**143**	Pn	**Pn**	**07 18 49.8**	**+0.4**
	0.4nm,0.3s,baz=321,slow=10,SNR=39						
MKAR				Lg	Lg	07 19 50.4	
	2.7nm,0.3s,baz=325,slow=28,SNR=13						
	0.4nm,0.3s						
OTUK	**Ortayu**	**4.60**	**249**	⇑Pn	**Pn**	**07 18 56.9**	**-0.5**
	1.7nm,0.3s						
OTUK				⇑Pg	**Pb**	**07 19 08.8**	**+0.7**
	0.9nm,0.4s						
OTUK				⇑Lg	Lg	07 20 10.8	
	4.3nm,1.0s						
I46RU	**ZALESOVO INFRA**	**5.39**	**41**	I	I	07 50 30.0	
	baz=223,slow=330,SNR=4.0						
ZALV	**Zalesovo Beam**	**5.39**	**41**	Pn	**Pn**	**07 19 09.5**	**+1.4**
	1.1nm,0.3s,baz=229,slow=14,SNR=7.8						
ZALV				Lg	Lg	07 20 37.5	
	1.5nm,0.3s,baz=222,slow=39,SNR=5.8						
	2.5nm,0.3s						

IDC 13 07:25:37.7±3.5,**54°.26N**×**87°.02E**,**h0**km,**mbtmp3.0**/2, **ML2.6**/2,**Error ellipse: s-maj=32.2km s-min=19.0km az=59.0**,**Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**257**	I	I	07 33 50.0	
	baz=76,slow=330,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.34**	**257**	Pn	Pg	07 26 01.9	-1.4
	2.2nm,0.3s,baz=73,slow=18,SNR=5.6						
ZALV				Lg	Lg	07 26 20.7	
	0.9nm,0.3s,baz=77,slow=33,SNR=1.0						
KURBB	**Kurchatov Arra**	**6.34**	**238**	Pn	Pn	07 27 13.6	+1.2
	0.1nm,0.3s,baz=54,slow=14,SNR=5.4						
	1.5nm,0.5s						
MKAR	**Makanchi Array**	**8.06**	**204**	Pn	Pn	07 27 37.1	+1.1
	0.1nm,0.3s,baz=22,slow=12,SNR=2.2						
	0.3nm,0.4s						

---

*IDC **13** 07:33:18.1±1.8, 51°.43N×179°.53W, h0km, mb3.6/8, mbtmp3.7/9, ML4.2/1, Error ellipse: s-maj=51.3km s-min=21.5km az=8.0*
*NEIC **13** 07:33:32.1±0.8, 51°.7N±0°.1×179°.24W±0°.05, h96km±5km, mb4.1/15, ML3.5(AEIC), Error ellipse: s-maj=15.6km s-min=4.7km az=177.0*
*AEIC **13** 07:33:32.8±0.6, 51°.7N±0°.1×179°.24W±0°.05, h96km±4km, Error ellipse: s-maj=15.5km s-min=4.7km az=177.0*
ISC 13 07:33:31.4±0.9,**51°.7N**±0°.1×**179°.25W**±0°.04,**h100**km±6km, **n45**, σ0**91**/52, **mb3.8**/9, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**0.27**	**66**		**Pn**	**07 33 45.9**	**0.0**
GASW					**Sn**	**07 33 56.6**	**0.0**
GALAA	**Gareloi Lava P**	**0.31**	**73**		**Pn**	**07 33 46.4**	**+0.4**
GALAA					**Sn**	**07 33 57.4**	**+0.4**
GAEA	**Gareloi East**	**0.33**	**70**		**Pn**	**07 33 46.4**	**+0.3**
CERB	**Semis' Cerberu**	**0.74**	**291**		**Pn**	**07 33 49.7**	**+0.5**
CERB					**Sn**	**07 34 02.3**	**-0.3**
TASE	**Tanaga Southea**	**0.77**	**77**		**Pn**	**07 33 49.8**	**+0.3**
TASE					**Sn**	**07 34 02.6**	**-0.5**
CESW	**Semis' Southwe**	**0.77**	**288**		**Pn**	**07 33 49.5**	**0.0**
CEAP	**Semis' Anvil P**	**0.80**	**295**		**Pn**	**07 33 50.1**	**+0.4**
TAFP	**Tanaga Falls P**	**0.82**	**73**		**Pn**	**07 33 50.2**	**+0.2**
TAFP					**Sn**	**07 34 03.4**	**-0.4**
TAPA	**Tanaga Point A**	**0.90**	**80**		**Pn**	**07 33 51.1**	**+0.2**
AMKA	**Amchitka**	**0.95**	**253**		**Pn**	**07 33 51.5**	**+0.3**
AMKA	**Amchitka**	**0.95**	**253**		**Sn**	**07 34 06.6**	**+0.4**
KIMD	**Kanaga Island**	**1.26**	**85**		**Pn**	**07 33 55.1**	**+0.4**
KIWB	**Kanaga Island**	**1.32**	**81**		**Pn**	**07 33 55.7**	**+0.3**
KIWB					**Sn**	**07 34 13.9**	**+0.4**
LSSE	**Little Sitkin**	**1.38**	**282**		**Pn**	**07 33 56.9**	**+0.8**
LSPA	**Little Sitkin**	**1.38**	**283**		**Pn**	**07 33 56.9**	**+0.8**
LSPA					**Sn**	**07 34 15.9**	**+0.9**
LSNW	**Little Sitkin**	**1.42**	**283**		**Pn**	**07 33 56.9**	**+0.3**
ADK	**Adak**	**1.61**	**81**		**Pn**	**07 33 59.2**	**+0.2**
GSCK	**Great Sitkin C**	**1.94**	**79**		**Pn**	**07 34 03.6**	**+0.3**
GSMY	**Great Sitkin M**	**2.02**	**78**		**Pn**	**07 34 04.5**	**+0.4**
ATKA	**Atka Island**	**3.17**	**78**		**Pn**	**07 34 19.9**	**+0.5**
CNBA	**Chernabura Isl**	**12.18**	**67**	Pn	**Pn**	**07 36 20.6**	**-0.6**
KDAK	**Kodiak Island**	**16.50**	**58**	P	**Pn**	**07 37 15.1**	**-1.4**
KDAK				IAmb	IAmb	07 37 21.2	
	comp=Z,41nm,1.4s						
KDAK	**Kodiak Island**	**16.50**	**58**	Pn	**Pn**	**07 37 14.2**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=262,slow=4.3,SNR=26						
	comp=Z,2.7nm,0.3s						
CNPM	**China Poot**	**17.56**	**52**	P	**P**	**07 37 30.1**	**+0.9**
J20K	**Nowinta River**	**18.13**	**37**	P	**P**	**07 37 36.4**	**+1.1**
J20K				IAmb	IAmb	07 37 39.8	
	comp=Z,12nm,1.4s						
SKT	**Skwentna**	**18.19**	**45**	P	**P**	**07 37 37.0**	**+0.9**
SUA	**Susitna One**	**18.36**	**47**	P	**P**	**07 37 38.2**	**+0.3**
SUA				IAmb	IAmb	07 37 47.7	
	comp=Z,29nm,1.2s						
PWL	**Port Wells**	**19.30**	**50**	P	**P**	**07 37 49.0**	**+0.8**
G21K	**Allakaket**	**19.67**	**31**	P	**P**	**07 37 53.3**	**+1.2**
G21K				IAmb	IAmb	07 37 58.2	
	comp=Z,10.0nm,1.5s						
RND	**Reindeer**	**19.87**	**42**	P	**P**	**07 37 55.0**	**+0.6**
RND				IAmb	IAmb	07 38 38.4	
	comp=Z,9.0nm,1.4s						
SCM	**Sheep Creek Mo**	**20.02**	**47**	P	**P**	**07 37 56.0**	**-0.1**
SCM				IAmb	IAmb	07 38 35.6	
	comp=Z,31nm,1.5s						
F21K	**Alatna River**	**20.11**	**29**	P	**P**	**07 37 57.6**	**+0.8**
F21K				IAmb	IAmb	07 38 24.6	
	comp=Z,14nm,1.4s						
DHY	**Denali Highway**	**20.38**	**44**	P	**P**	**07 38 00.1**	**+0.1**
DHY				IAmb	IAmb	07 38 40.7	
	comp=Z,9.9nm,1.4s						
I23K	**Minto, Yukon-K**	**20.40**	**37**	P	**P**	**07 38 00.4**	**+0.5**
M24K	**Tolsona, Glenn**	**20.62**	**47**	P	**P**	**07 38 02.3**	**-0.2**
ILAR	**Eielson Array**	**21.19**	**39**	P	**P**	**07 38 06.2**	**-2.3**
	comp=Z,0.4nm,0.9s,baz=238,slow=8.4,SNR=2.8						
	comp=Z,0.4nm,0.9s						
H24K	**Noodor Dome**	**21.26**	**36**	P	**P**	**07 38 10.2**	**+0.9**
YKA	**Yellowknife Ar**	**35.23**	**47**	P	**P**	**07 40 17.4**	**+1.7**
	comp=Z,0.8nm,0.6s,baz=316,slow=10,SNR=1.7						
	comp=Z,0.8nm,0.6s						
NVAR	**Mina Array Bea**	**43.79**	**83**	P	**P**	**07 41 27.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=291,slow=7.5,SNR=8.1						
	comp=Z,0.8nm,0.6s						
TPNV	**Topopah Spring**	**45.99**	**83**	P	**P**	**07 41 45.7**	**+1.1**
TPNV				IAmb	IAmb	07 41 47.6	
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**46.27**	**296**	P	**P**	**07 41 43.5**	**-3.1**
	comp=Z,0.3nm,0.6s,baz=40,slow=9.4,SNR=1.6						
	comp=Z,0.3nm,0.6s						
PDAR	**Pinedale Array**	**46.49**	**72**	P	**P**	**07 41 48.0**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=301,slow=3.5,SNR=6.6						
	comp=Z,0.7nm,0.7s						
SPITS	**Spitsbergen Ar**	**50.06**	**356**	P	**P**	**07 42 15.3**	**0.0**
	comp=Z,1.8nm,0.5s,baz=64,slow=7.5,SNR=4.8						
	comp=Z,1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**58.72**	**313**	P	**P**	**07 43 18.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=46,slow=6.6,SNR=4.6						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**58.88**	**81**	P	**P**	**07 43 20.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=298,slow=5.6,SNR=7.3						
	comp=Z,0.5nm,0.7s						

---

*IDC **13** 07:39:17.6±0.7, 51°.98N×170°.10W, h0km, mb4.4/25, mbtmp4.4/28, ML4.1/3, MS3.9/1, Error ellipse: s-maj=21.5km s-min=14.2km az=177.0*
*AEIC **13** 07:39:22.7±2.6, 51°.84N±0°.08×170°.03W±0°.06, h38km±6km, Error ellipse: s-maj=11.7km s-min=4.2km az=160.0*
*NEIC **13** 07:39:23.1±2.3, 51°.98N±0°.06×170°.13W±0°.08, h37km±6km, mb4.4/36, ML4.1/8, ML3.7(AEIC), Error ellipse: s-maj=8.9km s-min=6.2km az=151.0*
ISC 13 07:39:22.2±0.6,**51°.97N**±0°.08×**170°.11W**±0°.05,**h29**km, **n129**, σ1**923**/133, **mb4.4**/38, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.85**	**16**		**Pb**	**07 39 39.1**	**+0.7**
CLCO					**Sn**	**07 39 51.3**	**+1.6**
CLES	**Cleveland East**	**0.87**	**9**		**Pb**	**07 39 39.0**	**+0.3**
CLES	**Cleveland East**	**0.87**	**9**		**Sb**	**07 39 49.9**	**0.0**
NIKH	**Nikolski High**	**1.27**	**37**	Pn	**Pn**	**07 39 43.5**	**-0.4**
NIKH	**Nikolski High**	**1.27**	**37**		**Sn**	**07 39 57.4**	**-2.5**
NIKH	**Nikolski High**	**1.27**	**37**	P	**Pn**	**07 39 44.0**	**+0.1**
OKSP	**Okmok Steeple**	**1.70**	**40**		**Pn**	**07 39 50.0**	**+0.1**
OKSP					**Sn**	**07 40 10.7**	**0.0**
OKCE	**Okmok Cone E**	**1.88**	**38**		**Pn**	**07 39 52.8**	**+0.4**
OKER	**Okmok East Rim**	**1.94**	**39**		**Pn**	**07 39 53.6**	**+0.3**
OKFG	**Magazine Ridge**	**1.97**	**42**		**Pn**	**07 39 54.0**	**+0.4**
KOSE	**Korovin Southe**	**2.45**	**280**		**Pn**	**07 40 01.4**	**+1.1**
KOFP	**Korovin Flat P**	**2.48**	**279**		**Pn**	**07 40 01.4**	**+0.8**
ATKA	**Atka Island**	**2.53**	**277**	Pn	**Pn**	**07 40 00.8**	**-0.5**
ATKA	**Atka Island**	**2.53**	**277**		**Sn**	**07 40 31.9**	**+0.9**
ATKA	**Atka Island**	**2.53**	**277**	P	**Pn**	**07 40 01.4**	**+0.1**
MAPS	**Pakushin South**	**2.66**	**45**		**Pn**	**07 40 03.3**	**+0.2**
MSW	**Makushin Switc**	**2.80**	**45**		**Pn**	**07 40 05.6**	**+0.6**
MNAT	**Makushin Natee**	**2.83**	**46**		**Pn**	**07 40 06.1**	**+0.8**
UNV	**Unalaska Valle**	**2.88**	**48**		**Pn**	**07 40 06.5**	**+0.3**
UNV	**Unalaska Valle**	**2.88**	**48**	P	**Pn**	**07 40 06.4**	**+0.3**
AKBBA	**Akutan Broad B**	**3.31**	**48**		**Pn**	**07 40 13.4**	**+1.5**
AKUT	**Akutan**	**3.40**	**49**		**Pn**	**07 40 14.3**	**+1.1**
AKUT				IAML		07 41 13.7	
	comp=E,307nm,2.4s						
AKUT				IAML		07 41 17.8	
	comp=N,397nm,4.3s						
AKUT	**Akutan**	**3.40**	**49**	P	**Pn**	**07 40 16.4**	**+3.2**
GSMY	**Great Sitkin M**	**3.67**	**273**		**Pn**	**07 40 18.0**	**+1.0**
ADK	**Adak**	**4.07**	**271**		**Pn**	**07 40 22.6**	**+0.2**
ADK				IAML		07 41 37.6	
	comp=N,320nm,1.6s						
ADK				IAML		07 41 39.7	
	comp=N,281nm,1.4s						
KIWB	**Kanaga Island**	**4.36**	**271**		**Pn**	**07 40 26.4**	**0.0**
FALS	**False Pass**	**4.94**	**52**	Pn	**Pn**	**07 40 35.4**	**+1.1**
FALS	**False Pass**	**4.94**	**52**	P	**Pn**	**07 40 37.0**	**+2.6**
AMKA	**Amchitka**	**6.61**	**269**	Pn	**Pn**	**07 40 57.4**	**+0.1**
SDPT	**Sand Point**	**6.65**	**56**	Pn	**Pn**	**07 40 59.7**	**+1.8**
SDPT	**Sand Point**	**6.65**	**56**	P	**Pn**	**07 41 00.1**	**+2.2**
CHGN	**Chignik**	**8.12**	**53**	Pn	**Pn**	**07 41 18.3**	**+0.3**
SHEM	**Shemya Is, Ala**	**9.69**	**281**	Pn	**Pn**	**07 41 38.4**	**-1.1**
	comp=N,17nm,0.3s,baz=267,slow=21,SNR=1.7						
	comp=N,39nm,0.3s						
R17K	**Ugashik Creek**	**9.74**	**49**	Pn	**Pn**	**07 41 40.7**	**+0.5**
O18K	**Koktuh Hills**	**11.48**	**41**	Pn	**Pn**	**07 42 01.7**	**-2.3**
KDAK	**Kodiak Island**	**11.64**	**53**	Pn	**Pn**	**07 42 03.5**	**-2.7**
	comp=N,0.6nm,0.3s,baz=188,slow=5.1,SNR=18						
Q19K	**Cape Douglas,**	**11.64**	**47**	Pn	**Pn**	**07 42 05.4**	**-0.8**
SYI	**Shuyak Island**	**12.07**	**50**	Pn	**Pn**	**07 42 11.6**	**-0.4**
CNPM	**China Poot**	**13.01**	**47**	Pn	**Pn**	**07 42 23.9**	**-1.1**
BRLK	**Bradley Lake**	**13.28**	**47**	Pn	**Pn**	**07 42 28.3**	**-0.3**
PMR	**Palmer**	**14.93**	**42**	Pn	**Pn**	**07 42 49.1**	**-1.8**
GHO	**Glory Hole Cre**	**15.11**	**41**	Pn	**Pn**	**07 42 51.2**	**-2.2**
GHO				IAmb	IAmb	07 43 09.8	
	comp=Z,21nm,1.3s						
SML	**Sawmill**	**15.37**	**42**	Pn	**Pn**	**07 42 54.7**	**-2.1**
SML				IAmb	IAmb	07 43 35.5	
	comp=Z,27nm,1.2s						
SCM	**Sheep Creek Mo**	**15.80**	**42**	Pn	**Pn**	**07 43 00.1**	**-2.3**
SCM				IAmb	IAmb	07 43 14.5	
	comp=Z,50nm,1.4s						
KLU	**Klutina**	**16.24**	**45**		**Pn**	**07 43 06.2**	**-1.9**
KLU				IAmb	IAmb	07 43 22.7	
	comp=Z,26nm,1.2s						
M24K	**Tolsona, Glenn**	**16.41**	**42**		**Pn**	**07 43 08.6**	**-1.5**
M24K				IAmb	IAmb	07 43 23.4	
	comp=Z,72nm,1.4s						
N25K	**Chitina, Valde**	**16.87**	**45**		**Pn**	**07 43 13.7**	**-2.3**
I23K	**Minto, Yukon-K**	**16.95**	**31**	Pn	**Pn**	**07 43 16.5**	**-0.4**
CCB	**Clear Creek Bu**	**17.15**	**34**	P	**Pn**	**07 43 18.5**	**-0.9**
GLB	**Gilahina Butte**	**17.16**	**46**	Pn	**Pn**	**07 43 18.0**	**-1.5**
IL31		**17.54**	**34**	P	**Pn**	**07 43 23.6**	**-0.6**
ILAR	**Eielson Array**	**17.54**	**34**	P	**Pn**	**07 43 23.4**	**-0.8**
ILAR	**Eielson Array**	**17.54**	**34**	P	**Pn**	**07 43 22.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=220,slow=8.6,SNR=10						
	comp=Z,0.7nm,0.7s						
M26K	**Nabesna, AK**	**17.88**	**44**	P	**Pn**	**07 43 28.0**	**-0.6**
J25K	**Salcha River,**	**17.99**	**36**	P	**Pn**	**07 43 28.3**	**-1.5**
CTGM	**Chitina Glacie**	**18.13**	**49**	P	**Pn**	**07 43 31.0**	**-0.7**
CTGM				IAmb	IAmb	07 43 44.6	
	comp=Z,12nm,0.7s						
J26L	**Joseph Creek**	**18.59**	**37**	P	**P**	**07 43 35.0**	**-1.9**
L27K	**Beaver Creek,**	**18.64**	**42**	P	**P**	**07 43 36.7**	**-0.6**
O29M	**Mount Kennedy**	**19.29**	**52**	P	**Pn**	**07 43 45.8**	**+0.1**
O29M				IAmb	IAmb	07 43 50.5	
	comp=Z,17nm,0.6s						
PETK	**Petropavlovsk-**	**19.53**	**286**	P	**P**	**07 43 46.9**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=83,slow=13,SNR=29						
	comp=Z,12nm,0.5s						
M29M	**Somme Creek**	**19.87**	**46**	Pn	**Pn**	**07 43 52.9**	**+0.3**
M29M				IAmb	IAmb	07 44 10.8	
	comp=Z,10nm,0.8s						
N30M	**Aishikik Lake**	**20.24**	**49**	P	Pn	07 43 56.7	-0.2
O30N	**Mendenhall**	**20.58**	**51**	P	Pn	07 44 00.8	0.0
O30N				IAmb	IAmb	07 44 01.6	
	comp=Z,20nm,0.9s						
N31M	**Braeburn, Yuko**	**20.86**	**49**	P	Pn	07 44 03.5	-0.7
N31M				IAmb	IAmb	07 44 34.6	
	comp=Z,18nm,0.9s						
H29M	**Whitestone**	**21.33**	**36**	P	**P**	**07 44 05.4**	**-1.0**
H29M				IAmb	IAmb	07 44 30.7	
	comp=Z,11nm,0.8s						
M31M	**Drury Creek, Y**	**21.65**	**48**	P	**P**	**07 44 11.2**	**+1.2**
M31M				IAmb	IAmb	07 44 16.1	
	comp=Z,24nm,1.5s						
G29M	**Pine Creek**	**21.77**	**34**	P	**P**	**07 44 10.5**	**-0.7**
G29M				IAmb	IAmb	07 44 35.7	
	comp=Z,33nm,1.4s						
P33M	**Teslin, Yukon**	**22.11**	**53**	P	**P**	**07 44 17.0**	**+2.0**
P33M				IAmb	IAmb	07 44 34.1	
	comp=Z,14nm,0.9s						
FARO	**Faro, Yukon**	**22.14**	**48**	P	**P**	**07 44 16.1**	**+0.9**
FARO				IAmb	IAmb	07 44 51.5	
	comp=Z,17nm,1.4s						
Q32M	**Nakina River**	**22.32**	**57**	P	**P**	**07 44 18.1**	**+0.8**
Q32M				IAmb	IAmb	07 44 43.8	
	comp=Z,19nm,1.1s						
SEY	**Seymchan**	**22.61**	**314**	P	**P**	**07 44 20.3**	**+0.1**
	comp=Z,11nm,0.8s,baz=101,slow=7.5,SNR=12						
	comp=Z,11nm,0.8s						
MA2	**Magadan**	**22.99**	**305**	P	**P**	**07 44 24.5**	**+0.3**
	comp=Z,14nm,0.7s,baz=86,slow=11,SNR=4.7						
	comp=Z,14nm,0.7s						
R33M	**Jennings River**	**23.00**	**56**	P	**P**	**07 44 25.7**	**+1.3**
R33M				IAmb	IAmb	07 44 41.6	
	comp=Z,13nm,1.1s						
YKA	**Yellowknife Ar**	**30.85**	**48**	P	**P**	**07 45 36.6**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=277,slow=4.9,SNR=4.4						
YKA				LR	LR	08 00 45.8	
	comp=Z,185nm,18.9s,baz=278,slow=42						
	comp=Z,1.5nm,0.7s						
HEH	**HeiHe**	**38.19**	**293**	*e*P	**P**	**07 46 37.4**	**-1.5**
HEH				pmax	pmax		
	comp=Z,21nm,0.9s						
PDAR	**Pinedale Array**	**40.93**	**78**	P	**P**	**07 47 02.1**	**0.0**
	comp=Z,1.4nm,0.9s,baz=320,slow=4.4,SNR=11						
	comp=Z,1.4nm,0.9s						
KSRS	**Korea Array**	**44.99**	**277**	P	**P**	**07 47 34.8**	**0.0**
	comp=Z,3.2nm,0.8s,baz=57,slow=7.1,SNR=8.8						
	comp=Z,3.2nm,0.8s						
ULN	**Ulaanbaatar**	**50.74**	**300**	P	**P**	**07 48 17.5**	**-1.8**
SONM	**Songino Array**	**51.11**	**301**	P	**P**	**07 48 20.3**	**-1.7**
SONM	**Songino Array**	**51.11**	**301**	P	**P**	**07 48 22.4**	**+0.3**
	comp=Z,5.5nm,1.0s,baz=58,slow=8.1,SNR=19						
	comp=Z,5.5nm,1.0s						
SUMG	**Summit**	**51.30**	**17**	*i* P	**P**	**07 48 23.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**52.63**	**291**	*e*P	**P**	**07 48 32.4**	**-1.1**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,360nm,4.8s						
TX31	**Lajitas Ar. Si**	**53.22**	**88**	P	**P**	**07 48 37.4**	**-0.5**
TX32	**Lajitas Array**	**53.22**	**88**	P	**P**	**07 48 37.7**	**-0.2**
TX32				IAmb	IAmb	07 49 08.7	
	comp=Z,6.1nm,1.2s						
TXAR	**Lajitas Array**	**53.22**	**88**	P	**P**	**07 48 37.2**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=297,slow=5.2,SNR=26						
	comp=Z,1.4nm,0.7s						
BTO	**Baotou**	**53.68**	**292**	*e*P	**P**	**07 48 42.6**	**+1.4**
BTO				pP	**pwP**	**07 48 53.8**	**+0.8**
BTO				sP	**sP**	**07 48 56.6**	**+4.4**
BTO				PP	**PP**	**07 50 43.8**	**+1.9**
BTO				S	**S**	**07 56 12.3**	**-0.8**
BTO	**Baotou**	**53.68**	**292**	SS	**SKiKP**	**07 59 50.4**	**-2.7**
BTO				pmax	pmax		
	comp=Z,51nm,1.1s						
BTO				pmax	pmax		
	comp=Z,360nm,6.1s						
BTO				LR	LR		
	comp=N,310nm,4.5s						
BTO				LR	LR		
	comp=E,450nm,4.3s						
BTO				LR	LR		
	comp=Z,190nm,4.3s						
ZALV	**Zalesovo Beam**	**57.41**	**317**	P	**P**	**07 49 05.6**	**-2.0**
	comp=Z,1.0nm,0.4s,baz=23,slow=4.7,SNR=2.1						
ZALV				PcP	**PcP**	**07 50 01.4**	**+0.3**
	comp=Z,3.1nm,0.7s,baz=42,slow=4.6,SNR=7.1						
	comp=Z,1.0nm,0.4s						
WHN	**Wuhan**	**57.95**	**280**	P	P	07 49 19.6	+7.8
ARCES	**ARCESS Array B**	**58.27**	**354**	P	**P**	**07 49 11.7**	**-1.8**
	comp=Z,4.7nm,0.9s,baz=7.6,slow=11,SNR=5.6						
ARCES				PcP	**PcP**	**07 50 04.2**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=358,slow=6.1,SNR=1.6						
	comp=Z,4.7nm,0.9s						
KURBB	**Kurchatov Arra**	**62.47**	**318**	P	**P**	**07 49 41.9**	**-0.5**
	comp=Z,3.2nm,

comp=Z,0.5nm,1.0s,baz=41,slow=5.4,SNR=2.4
comp=Z,0.5nm,1.0s
ESDC Sonseca Array 87.94 11 P **P** 07 52 08.8 -0.3
comp=Z,2.1nm,0.9s,baz=349,slow=4.7,SNR=12
comp=Z,2.1nm,0.9s
ASAR Alice Springs 89.79 229 P **P** 07 52 16.9 -0.9
comp=Z,1.5nm,0.7s,baz=34,slow=4.8,SNR=20
comp=Z,1.5nm,0.7s
QSPA South Pole Qui 141.73 180 PKhKP PKPpre 07 58 41.8
comp=Z,0.7nm,0.7s,baz=45,slow=1.6,SNR=1.8
MAW Mawson 150.28 218 PKPbc **PKPbc** 07 59 07.9 -1.0
comp=Z,2.5nm,0.8s,baz=136,slow=5.2,SNR=2.5
BOSA Boshof 154.00 328 PKPbc **PKiKP** 07 59 20.8 +2.0
comp=Z,2.7nm,0.9s,baz=59,slow=5.9,SNR=1.6
SNAA Sanae 159.43 169 PKPbc PKPbc 07 59 28.3
comp=Z,0.1nm,0.3s,baz=201,slow=12,SNR=1.1

---

*IDC **13** 08:00:45.1±0.6, 51°.91N×170°.07W, h0km, mb4.7/36, mbtmp4.7/38, ML4.5/2, MS4.5/69, Error ellipse: s-maj=16.8km s-min=11.3km az=176.0*
*AEIC **13** 08:00:48.9±2.2, 51°.82N±0°.04×170°.04W±0°.07, h5km±4km, Error ellipse: s-maj=7.8km s-min=4.8km az=134.0*
*MOS **13** 08:00:50.2±1.2, 51°.88N×170°.27W, h45km, mb5.2/39, MS4.6/11, Error ellipse: s-maj=10.6km s-min=5.5km az=107.8*
*BJI **13** 08:00:51.2±0.0, 52°.42N×170°.72W, h30km, mb5.0/66, mB5.3/37, Ms5.2/43, Ms7 4.9/44*
*NEIC **13** 08:00:51.2±2.2, 51°.86N±0°.07×170°.08W±0°.08, h37km±6km, mb4.8/73, ML4.8/8, ML4.5(AEIC), Error ellipse: s-maj=11.5km s-min=6.1km az=152.0*
*GCMT **13** 08:00:51.2±0.1, 51°.82N±0°.01×170°.03W±0°.02, h15km, MW5.2/138, Moment Tensor Solution. s88,c136; s138,c225; Duration: 1ꝑ0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.57±.02; $M_{\theta\theta}$-0.45±.01; $M_{\phi\phi}$-0.12±.01; $M_{r\theta}$0.61±.04; $M_{\theta\phi}$-0.28±.01; $M_{\phi r}$0.22±.04; Best double couple: $M_0$0.87800×10^{17} NP1:ϕ_s68.00000°, δ69.00000°, λ96.00000°. NP2:ϕ_s231.00000°, δ22.00000°, λ74.00000°. Principal axes: T 0.8650, Plg66.0000°, Azm349.0000°; N 0.0260, Plg6.0000°, Azm245.0000°; P -0.8910, Plg24.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **13** 08:00:56.4, 52°.39N×170°.18W, h33km, mb5.3, Ms4.6*
ISC 13 08:00:50.6±0.4, **51°.96N**±0°.05×**170°.14W**±0°.03, **h31**km±1km, **h32**km:**pP-P, n852**, σ1ꝑ**47**/850, **mb5.0**/161, **MS4.6**/99, **41C-19D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.86**	**17**		**Pn**	**08 01 07.0**	**+0.4**
CLCO					**Sn**	**08 01 21.3**	**+3.3**
CLES	**Cleveland East**	**0.87**	**10**		**Pn**	**08 01 06.9**	**+0.2**
CLES	**Cleveland East**	**0.87**	**10**		**Sn**	**08 01 22.9**	**+4.6**
NIKH	**Nikolski High**	**1.28**	**37**		**Pn**	**08 01 12.5**	**+0.2**
NIKH					**Sn**	**08 01 29.5**	**+1.1**
NIKH	**Nikolski High**	**1.28**	**37**	P	**Pn**	**08 01 11.9**	**-0.4**
NIKH	**Nikolski High** baz=212	**1.28**	**37**	P	**Pn**	**08 01 12.0**	**-0.3**
OKSP	**Okmok Steeple**	**1.71**	**40**		**Pn**	**08 01 17.7**	**-0.6**
OKCE	**Okmok Cone E**	**1.90**	**39**		**Pn**	**08 01 21.0**	**+0.2**
OKNC	**Okmok New Cone**	**1.93**	**39**		**Pn**	**08 01 22.2**	**+0.9**
OKER	**Okmok East Rim**	**1.96**	**40**		**Pn**	**08 01 22.9**	**+1.2**
OKFG	**Magazine Ridge**	**1.98**	**42**		**Pn**	**08 01 22.4**	**+0.4**
OKFG					**Sn**	**08 01 48.0**	**+2.3**
KOFP	**Korovin Flat P**	**2.46**	**279**		**Pn**	**08 01 29.5**	**+1.0**
ATKA	**Atka Island**	**2.52**	**277**		**Pn**	**08 01 28.9**	**-0.3**
ATKA	**Atka Island**	**2.52**	**277**		**Sn**	**08 02 00.4**	**+1.6**
ATKA	**Atka Island**	**2.52**	**277**	P	**Pn**	**08 01 29.6**	**+0.4**
KOKL	**Mount Kliuchef**	**2.53**	**280**		**Pn**	**08 01 30.4**	**+0.9**
MAPS	**Pakushin South**	**2.68**	**45**		**Pn**	**08 01 32.2**	**+0.7**
MSW	**Makushin Switc**	**2.82**	**45**		**Pn**	**08 01 33.9**	**+0.5**
MNAT	**Makushin Natee**	**2.84**	**46**		**Pn**	**08 01 34.4**	**+0.6**
UNV	**Unalaska Valle**	**2.90**	**48**		**Pn**	**08 01 34.2**	**-0.2**
UNV					**Sn**	**08 02 09.9**	**+1.7**
UNV	**Unalaska Valle**	**2.90**	**48**	P	**Pn**	**08 01 34.5**	**0.0**
UNV	**Unalaska Valle** baz=228,SNR=51	**2.90**	**48**	P	**Pn**	**08 01 34.9**	**+0.4**
MTBL	**Makushin Table**	**2.90**	**45**		**Pn**	**08 01 35.2**	**+0.6**
AKBBA	**Akutan Broad B**	**3.32**	**48**		**Pn**	**08 01 41.8**	**+1.5**
AHB	**Akutan Harbor**	**3.38**	**49**		**Pn**	**08 01 42.9**	**+1.7**
AKUT	**Akutan**	**3.42**	**49**		**Pn**	**08 01 42.4**	**+0.8**
AKUT	comp=E,2μm,1.8s			IAML		08 02 44.3	
AKUT	comp=N,1μm,1.5s			IAML		08 02 53.0	
AKUT	**Akutan**	**3.42**	**49**	P	**Pn**	**08 01 43.1**	**+1.5**
AKSA	**Akutan Strait**	**3.45**	**49**		**Pn**	**08 01 43.4**	**+1.3**
GSMY	**Great Sitkin M**	**3.66**	**274**		**Pn**	**08 01 45.9**	**+0.9**
GSTR	**Great Sitkin T**	**3.66**	**274**		**Pn**	**08 01 46.0**	**+1.0**
GSCK	**Great Sitkin C**	**3.72**	**273**		**Pn**	**08 01 47.4**	**+1.5**
ADK	**Adak**	**4.05**	**271**	Pn	**Pn**	**08 01 51.3**	**+0.9**
ADK	comp=N,1μm,1.5s			IAML		08 03 06.4	
ADK	comp=N,1μm,1.8s			IAML		08 03 10.9	
ADK	**Adak**	**4.05**	**271**	P	**Pn**	**08 01 51.3**	**+0.9**
KIWB	**Kanaga Island**	**4.34**	**271**		**Pn**	**08 01 54.8**	**+0.4**
KIMD	**Kanaga Island**	**4.40**	**270**		**Pn**	**08 01 55.9**	**+0.7**
FALS	**False Pass**	**4.96**	**52**		**Pn**	**08 02 04.3**	**+1.5**
FALS	**False Pass**	**4.96**	**52**	P	**Pn**	**08 02 04.0**	**+1.3**
FALS	**False Pass** baz=235	**4.96**	**52**	P	**Pn**	**08 02 02.9**	**+0.2**
SPIA	**Saint Paul Isl**	**5.22**	**359**	P	**Pn**	**08 02 10.0**	**+3.6**
SPIA	**Saint Paul Isl** baz=179	**5.22**	**359**	P	**Pn**	**08 02 06.3**	**-0.2**
AMKA	**Amchitka**	**6.60**	**269**	Pn	**Pn**	**08 02 25.7**	**+0.4**
SDPT	**Sand Point**	**6.67**	**56**		**Pn**	**08 02 26.6**	**+0.4**
SDPT	**Sand Point**	**6.67**	**56**	P	**Pn**	**08 02 26.2**	**-0.1**
SDPT	**Sand Point** baz=242	**6.67**	**56**	P	**Pn**	**08 02 26.8**	**+0.5**
CNBA	**Chernabura Isl**	**6.93**	**61**		**Pn**	**08 02 29.7**	**-0.1**
CHNA	**Chernabura Isl** baz=248	**6.93**	**61**	P	**Pn**	**08 02 30.0**	**+0.1**
S14K	**Fog Glacier** baz=238	**7.58**	**51**	P	**Pn**	**08 02 40.2**	**+1.4**
CHGN	**Chignik** baz=241,SNR=6.3	**8.14**	**53**	P	**Pn**	**08 02 47.6**	**+1.2**
M11K	**Mekoryuk** baz=196	**8.72**	**13**	P	**Pn**	**08 02 55.9**	**+1.5**
O14K	**Tigyukauivet M** baz=217	**8.86**	**31**	P	**Pn**	**08 02 57.3**	**+1.0**
M13K	**Dall Lake** baz=206	**9.27**	**21**	P	**Pn**	**08 03 02.7**	**+0.9**
N14K	**Kuskokwak Cree** baz=214	**9.27**	**27**	P	**Pn**	**08 03 01.9**	**0.0**
O15K	**Ungalikthiuk R** baz=222	**9.28**	**35**	P	**Pn**	**08 03 02.6**	**+0.5**
R17K	**Ugashik Creek** baz=239,SNR=8.9	**9.76**	**49**	P	**Pn**	**08 03 09.7**	**+1.2**
P16K	**Nushagak River** baz=228	**9.87**	**39**	P	**Pn**	**08 03 10.6**	**+0.5**
M14K	**Bethel** baz=210	**9.90**	**24**	P	**Pn**	**08 03 09.1**	**-1.4**
N15K	**Kwethluk River** baz=218,SNR=5.7	**9.95**	**30**	P	**Pn**	**08 03 09.8**	**-1.4**
M15K	**Kasigluk River** baz=214	**10.19**	**27**	P	**Pn**	**08 03 13.2**	**-1.3**
Q16K	**King Salmon** baz=234	**10.20**	**43**	P	**Pn**	**08 03 15.2**	**+0.6**
O16K	**Kokwok River B** baz=226,SNR=21	**10.21**	**37**	P	**Pn**	**08 03 17.4**	**+2.7**
L14K	**Kuka Creek** baz=206	**10.25**	**21**	P	**Pn**	**08 03 17.1**	**+1.9**
Q17K	**Contact Creek** baz=237	**10.31**	**47**	P	**Pn**	**08 03 18.1**	**+1.9**
P17K	**Kvichak River** baz=232	**10.60**	**42**	P	**Pn**	**08 03 20.9**	**+0.9**
N16K	**Nishlik Lake** baz=221,SNR=16	**10.61**	**32**	P	**Pn**	**08 03 21.3**	**+1.1**
R18K	**Karluk** baz=244	**10.65**	**52**	P	**Pn**	**08 03 20.8**	**0.0**
O17K	**Koliganek Bris** baz=228,SNR=5.5	**10.70**	**38**	P	**Pn**	**08 03 22.0**	**+0.5**
Q18K	**Katmai Hardscr** baz=238	**10.90**	**46**	P	**Pn**	**08 03 23.5**	**-0.8**
M16K	**Timber Creek** baz=218,SNR=6.5	**10.96**	**30**	P	**Pn**	**08 03 27.0**	**+1.9**
N17K	**Nushagak Hills** baz=225,SNR=12	**11.18**	**35**	P	**Pn**	**08 03 30.0**	**+1.9**
P18K	**Big Mountain,**	**11.21**	**43**		**Pn**	**08 03 30.4**	**+1.8**
P18K	**Big Mountain,** baz=234	**11.21**	**43**	P	**Pn**	**08 03 28.6**	**+0.1**
K15K	**Wolf Creek Mou** baz=208,SNR=6.9	**11.35**	**21**	P	**Pn**	**08 03 31.8**	**+1.4**
L16K	**Owhat River** baz=215,SNR=18	**11.36**	**27**	P	**Pn**	**08 03 32.0**	**+1.5**
J14K	**Nanvaranak Lak** baz=201	**11.38**	**16**	P	**Pn**	**08 03 32.5**	**+1.8**
O18K	**Koktuh Hills**	**11.49**	**41**		**Pn**	**08 03 32.1**	**-0.3**
O18K	**Koktuh Hills** baz=232	**11.49**	**41**	P	**Pn**	**08 03 32.8**	**+0.4**
KDAK	**Kodiak Island**	**11.65**	**53**	*eP*	**Pn**	**08 03 32.6**	**-1.9**
KDAK	comp=Z,31nm,0.6s			pmax	pmax		
KDAK	**Kodiak Island** baz=247	**11.65**	**53**	P	**Pn**	**08 03 33.4**	**-1.1**
KDAK	**Kodiak Island** comp=Z,5.1nm,0.3s,baz=240,slow=4.7,SNR=33	**11.65**	**53**	Pn	**Pn**	**08 03 31.8**	**-2.7**
KDAK	comp=Z,0.5nm,0.3s,baz=330,slow=17,SNR=1.7			Sn	**Sn**	**08 05 38.5**	**-4.8**
Q19K	**Cape Douglas,** baz=240	**11.66**	**47**	P	**Pn**	**08 03 34.3**	**-0.2**
M17K	**Holitna River** baz=221	**11.73**	**31**	P	**Pn**	**08 03 37.8**	**+2.2**
N18K	**Kilae Creek** baz=228	**11.76**	**36**	P	**Pn**	**08 03 37.1**	**+1.1**
GAMB	**Gambell** baz=175	**11.88**	**357**	P	**Pn**	**08 03 38.3**	**+0.8**
L17K	**Donlin** baz=217	**12.04**	**28**	P	**Pn**	**08 03 41.5**	**+1.8**
O19K	**Port Alsworth** baz=233	**12.06**	**41**	P	**Pn**	**08 03 41.2**	**+1.2**
Q20K	**Shuyak Island** baz=243	**12.08**	**50**	P	**Pn**	**08 03 39.8**	**-0.5**
SYI	**Shuyak Island**	**12.09**	**50**		**Pn**	**08 03 39.3**	**-1.1**
SVW2	**Sparrevohn**	**12.15**	**35**	P	**Pn**	**08 03 43.2**	**+1.9**
P19K	**Oil Pt** baz=238	**12.21**	**44**	P	**Pn**	**08 03 42.6**	**+0.4**
N19K	**Bonanza Creek** baz=230,SNR=9.0	**12.37**	**38**	P	**Pn**	**08 03 46.7**	**+2.3**
J16K	**Anvik River** baz=208	**12.43**	**20**	P	**Pn**	**08 03 45.7**	**+0.7**
K17K	**Iditarod** baz=215	**12.50**	**26**	P	**Pn**	**08 03 47.5**	**+1.4**
L18K	**Granite Mounta** baz=221	**12.58**	**30**	P	**Pn**	**08 03 49.3**	**+2.2**
O20K	**Slope Mountain** baz=237	**12.70**	**43**	P	**Pn**	**08 03 50.0**	**+1.2**
J17K	**VABM Dome** baz=212	**12.87**	**23**	P	**Pn**	**08 03 53.6**	**+2.5**
HOM	**Homer** baz=241	**12.91**	**46**	P	**Pn**	**08 03 52.3**	**+0.7**
I17K	**Unalakleet** baz=206	**12.94**	**19**	P	**Pn**	**08 03 52.6**	**+0.5**
M19K	**Big River Lodg** baz=227	**13.12**	**34**	P	**Pn**	**08 03 55.9**	**+1.5**
L19K	**White Mountain** baz=225,SNR=12	**13.15**	**33**	P	**Pn**	**08 03 54.6**	**-0.4**
TTA	**Tatalina** baz=220	**13.33**	**29**	P	**Pn**	**08 03 58.3**	**+0.9**
BRSE	**Bradley Lake S** baz=242	**13.35**	**47**	P	**Pn**	**08 03 58.4**	**+0.7**
G15K	**Niukluk** baz=196	**13.44**	**11**	P	**Pn**	**08 04 00.5**	**+1.7**
N20K	**Mount Spurr** baz=234	**13.49**	**40**	P	**Pn**	**08 04 01.0**	**+1.4**
J18K	**Innoko River** baz=217,SNR=6.0	**13.54**	**26**	P	**Pn**	**08 04 01.6**	**+1.4**
M20K	**Styx River**	**13.55**	**36**		**Pn**	**08 04 01.2**	**+0.7**
M20K	**Styx River** baz=230	**13.55**	**36**	P	**Pn**	**08 04 02.2**	**+1.7**
H17K	**Granite Mounta** baz=206	**14.04**	**18**	P	**Pn**	**08 04 08.7**	**+1.6**
G16K	**Koyuk River** baz=200	**14.05**	**14**	P	**Pn**	**08 04 07.3**	**+0.2**
F15K	**North Star Dit** baz=194	**14.07**	**9**	P	**Pn**	**08 04 08.4**	**+1.0**
SEW	**Seward** baz=243	**14.10**	**47**	P	**Pn**	**08 04 06.9**	**-0.9**
O22K	**Cooper Landing**	**14.15**	**45**		**Pn**	**08 04 07.0**	**-1.5**
O22K	**Cooper Landing** baz=241	**14.15**	**45**	P	**Pn**	**08 04 08.0**	**-0.6**
SKT	**Skwentna**	**14.21**	**38**		**Pn**	**08 04 09.3**	**-0.1**
SKT	**Skwentna** baz=233	**14.21**	**38**	P	**Pn**	**08 04 09.0**	**-0.5**
SUA	**Susitna One**	**14.22**	**40**	Pn	**Pn**	**08 04 08.9**	**-0.7**
SUA	**Susitna One** baz=236	**14.22**	**40**	P	**Pn**	**08 04 08.8**	**-0.9**
K20K	**Telida** baz=224	**14.24**	**30**	P	**Pn**	**08 04 11.4**	**+1.7**
J19K	**Poorman** baz=218	**14.26**	**27**	P	**Pn**	**08 04 10.2**	**+0.2**
G17K	**Kiwalik Mounta** baz=204	**14.41**	**16**	P	**Pn**	**08 04 13.1**	**+0.9**
RC01	**Rabbit Creek A** baz=239	**14.44**	**43**	P	**Pn**	**08 04 11.6**	**-0.9**
GCSA	**Galena City Sc** baz=214	**14.54**	**23**	P	**Pn**	**08 04 14.8**	**+1.1**
H18K	**Honhosa River** baz=210	**14.54**	**20**	P	**Pn**	**08 04 14.8**	**+0.9**
PPLA	**Purkeypile** baz=229	**14.54**	**34**	P	**Pn**	**08 04 14.2**	**+0.1**
M22K	**Willow** baz=236	**14.63**	**40**	P	**Pn**	**08 04 14.7**	**-0.4**
J20K	**Nowinta River** baz=221	**14.82**	**28**	P	**Pn**	**08 04 17.8**	**+0.3**
CAST	**Castle Rocks** baz=228,SNR=9.5	**14.93**	**33**	P	**Pn**	**08 04 19.7**	**+0.6**
PWL	**Port Wells** baz=242	**14.93**	**45**	P	**Pn**	**08 04 16.2**	**-3.0**
CUT	**Chulitna** baz=234	**14.94**	**38**	P	**Pn**	**08 04 18.5**	**-0.7**
PMR	**Palmer**	**14.95**	**42**	P	**Pn**	**08 04 19.0**	**-0.3**
PMR	**Palmer** baz=239	**14.95**	**42**	P	**Pn**	**08 04 20.5**	**+1.2**
G18K	**Tagagawik** baz=208	**15.13**	**18**	P	**Pn**	**08 04 20.9**	**-0.9**
KNK	**Knik Glacier** baz=240	**15.14**	**43**	P	**Pn**	**08 04 21.8**	**-0.1**
CHUM	**Lake Minchumin** baz=226,SNR=6.6	**15.17**	**31**	P	**Pn**	**08 04 23.6**	**+1.3**
I20K	**Naaghedeneel** baz=219	**15.20**	**26**	P	**Pn**	**08 04 23.9**	**+1.3**
H19K	**Roundabout Mou** baz=213	**15.29**	**22**	P	**Pn**	**08 04 24.8**	**+1.0**
SML	**Sawmill** baz=239	**15.38**	**42**	P	**Pn**	**08 04 25.3**	**+0.2**
GLI	**Glacier Island** baz=244	**15.48**	**46**	P	**Pn**	**08 04 26.4**	**0.0**
TRF	**Thorofare Moun** baz=231	**15.56**	**35**	P	**Pn**	**08 04 27.3**	**-0.3**
M23K	**Glacier View** baz=240,SNR=11	**15.63**	**42**	P	**Pn**	**08 04 26.9**	**-1.4**
H20K	**Anotleneega Mo** baz=217	**15.64**	**24**	P	**Pn**	**08 04 27.9**	**-0.5**
G19K	**Purcell Mounta** baz=211	**15.67**	**20**	P	**Pn**	**08 04 28.5**	**-0.2**
E17K	**Hotham Inlet** baz=199	**15.71**	**12**	P	**Pn**	**08 04 28.8**	**-0.6**
BPAW	**Bear Paw Mtn.** baz=228,SNR=17	**15.74**	**32**	P	**Pn**	**08 04 30.3**	**+0.5**
SCM	**Sheep Creek Mo** baz=241	**15.81**	**42**	P	**Pn**	**08 04 29.4**	**-1.4**
WAT1	**Susitna Watana** baz=236	**15.84**	**38**	P	**Pn**	**08 04 30.5**	**-0.5**
EYAK	**Cordova Ski Ar**	**15.96**	**48**	P	**Pn**	**08 04 31.5**	**-1.0**
EYAK	**Cordova Ski Ar** baz=248	**15.96**	**48**	P	**Pn**	**08 04 30.3**	**-2.2**
WAT6	**Susitna Watana** baz=238	**16.02**	**40**	P	**Pn**	**08 04 32.0**	**-1.5**
F19K	**Shaleruckik Mo** baz=208	**16.13**	**18**	P	**Pn**	**08 04 32.7**	**-2.0**
D17K	**Noatak River** baz=196	**16.16**	**10**	P	**Pn**	**08 04 36.3**	**+1.3**
I21K	**Tanana** baz=223	**16.19**	**28**	P	**Pn**	**08 04 34.9**	**-0.5**
E18K	**Tukpahlearik C** baz=201	**16.20**	**13**	P	**Pn**	**08 04 33.9**	**-1.7**
MCK	**McKinley** baz=233	**16.21**	**35**	P	**Pn**	**08 04 34.5**	**-1.3**
KLU	**Klutina** baz=244,SNR=9.5	**16.26**	**45**	P	**Pn**	**08 04 34.5**	**-1.9**
H21K	**Melozitna Rive** baz=221	**16.31**	**26**	P	**Pn**	**08 04 38.6**	**+1.6**
DHY	**Denali Highway**	**16.42**	**39**		**Pn**	**08 04 37.4**	**-1.1**
DHY	**Denali Highway** baz=237,SNR=5.3	**16.42**	**39**	P	**Pn**	**08 04 37.5**	**-1.1**
M24K	**Tolsona, Glenn**	**16.42**	**43**		**Pn**	**08 04 37.1**	**-1.4**
M24K	comp=Z,80nm,1.2s			IAmb	IAmb	08 04 42.5	
M24K	**Tolsona, Glenn** baz=242,SNR=8.5	**16.42**	**43**	P	**Pn**	**08 04 36.5**	**-2.0**
BMRM	**Bremner River** baz=248	**16.64**	**47**	P	**Pn**	**08 04 39.2**	**-2.0**
NEA2	**Nenana** baz=230	**16.70**	**33**	P	**Pn**	**08 04 41.8**	**-0.2**
F20K	**Avaraart Lake** baz=212	**16.73**	**20**	P	**Pn**	**08 04 40.2**	**-2.0**
E19K	**Redstone River** baz=208	**16.78**	**17**	P	**Pn**	**08 04 42.3**	**-0.6**
G21K	**Allakaket** baz=217	**16.80**	**23**	P	**Pn**	**08 04 42.9**	**-0.2**
H22K	**Ishtalitna Cre** baz=223,SNR=9.2	**16.88**	**27**	P	**P**	**08 04 46.9**	**+0.9**
N25K	**Chitina, Valde** baz=246,SNR=8.2	**16.88**	**45**	P	**Pn**	**08 04 42.3**	**-2.0**
WRH	**Wood River Hil**	**16.96**	**34**		**Pn**	**08 04 43.8**	**-1.3**
I23K	**Minto, Yukon-K**	**16.97**	**31**	Pn	**Pn**	**08 04 45.1**	**-0.1**
I23K	**Minto, Yukon-K** baz=228	**16.97**	**31**	P	**Pn**	**08 04 45.1**	**-0.1**
HARP	**HAARP** baz=243,SNR=5.3	**16.98**	**42**	P	**Pn**	**08 04 44.2**	**-1.3**
PAX	**Paxson** baz=241	**17.12**	**40**	P	**Pn**	**08 04 45.5**	**-1.7**
CCB	**Clear Creek Bu**	**17.16**	**34**		**Pn**	**08 04 46.5**	**-1.2**
GLB	**Gilahina Butte**	**17.17**	**46**	Pn	**Pn**	**08 04 46.0**	**-1.8**
CRQE	**Cirque** baz=251	**17.26**	**49**	P	**Pn**	**08 04 47.8**	**-1.3**
COLA	**College**	**17.29**	**33**	P	**Pn**	**08 04 48.7**	**-0.5**
COLA	**College** baz=232	**17.29**	**33**	P	**Pn**	**08 04 48.0**	**-1.2**
HDA	**Harding Lake** baz=234	**17.32**	**35**	P	**Pn**	**08 04 47.3**	**-2.4**
F21K	**Alatna River** baz=216	**17.37**	**22**	P	**P**	**08 04 51.8**	**+0.4**
H23K	**Yukon River** baz=226	**17.37**	**29**	P	**Pn**	**08 04 50.4**	**+0.1**
K24K	**Donnelly Dome** baz=238	**17.42**	**38**	P	**Pn**	**08 04 51.3**	**+0.4**
MCARA	**McCarthy VSAT** baz=249	**17.50**	**47**	P	**Pn**	**08 04 51.6**	**-0.4**
ILAR	**Eielson Array** comp=Z,0.9nm,0.3s,baz=231,slow=11,SNR=40	**17.55**	**34**	P	**Pn**	**08 04 50.2**	**-2.4**
ILAR	comp=Z,0.6nm,0.6s,baz=280,slow=2.7,SNR=0.8			S	**Sn**	**08 08 04.0**	**-2.8**
ILAR	comp=Z,1.4nm,1.0s,baz=269,slow=3.1,SNR=6.3 comp=Z,1.8nm,0.5s			ScP	**ScP**	**08 13 03.8**	**+0.5**
D19K	**Kuna River** baz=205	**17.56**	**15**	P	**Pn**	**08 04 53.1**	**+0.4**
POKR	**Poker Plat Res** baz=232	**17.58**	**33**	P	**Pn**	**08 04 49.7**	**-3.2**
G22K	**Bettles** baz=220	**17.61**	**25**	P	**Pn**	**08 04 53.0**	**-0.2**
E20K	**Nigu River** baz=209	**17.68**	**17**	P	**P**	**08 04 55.6**	**+0.8**
RIDG	**Independent Ri** baz=240	**17.74**	**39**	P	**Pn**	**08 04 55.0**	**+0.1**
G23K	**Bananza Creek** baz=224	**17.85**	**26**	P	**Pn**	**08 04 55.6**	**-0.7**
H24K	**Noodor Dome** baz=229,SNR=8.0	**17.89**	**31**	P	**Pn**	**08 04 56.8**	**+0.1**
M26K	**Nabesna, AK** baz=246,SNR=14	**17.89**	**44**	P	**Pn**	**08 04 55.2**	**-1.7**
F22K	**John River** baz=218	**17.90**	**23**	P	**Pn**	**08 04 55.8**	**-1.0**
J25K	**Salcha River,** baz=236,SNR=15	**18.00**	**36**	P	**Pn**	**08 04 55.3**	**-2.8**
L26K	**Log Cabin Wild**	**18.00**	**42**	P	**Pn**	**08 04 56.8**	**-1.3**
L26K	**Log Cabin Wild** baz=244,SNR=10.0	**18.00**	**42**	P	**Pn**	**08 04 56.5**	**-1.7**
D20K	**Etivluk River** baz=208	**18.01**	**16**	P	**Pn**	**08 04 56.9**	**-1.2**
BARN	**Barnard Glacie**	**18.02**	**49**	P	**Pn**	**08 04 57.8**	**-0.7**
BARN				IAmb	IAmb	08 05 08.9	
CTG	**Chitna Glacier** baz=253,SNR=7.2	**18.14**	**49**	P	**Pn**	**08 04 58.6**	**-1.3**
CTGM	**Chitina Glacie**	**18.14**	**49**	P	**P**	**08 05 01.0**	**+0.9**
COLD	**Coldfoot** baz=222	**18.18**	**25**	P	**Pn**	**08 04 58.9**	**-1.4**
SCRK	**Sand Creek**	**18.19**	**39**		**Pn**	**08 04 58.5**	**-2.0**
SCRK	**Sand Creek** baz=240	**18.19**	**39**	P	**Pn**	**08 04 58.7**	**-1.8**
LOGN	**Logan Glacier**	**18.26**	**50**	P	**Pn**	**08 05 00.8**	**-0.6**
E21K	**Killik River** baz=213	**18.27**	**19**	P	**P**	**08 05 00.6**	**-0.6**
M27K	**Edge Creek, AK**	**18.36**	**45**	P	**P**	**08 05 01.6**	**-0.8**
M27K	**Edge Creek, AK** baz=248	**18.36**	**45**	P	**P**	**08 05 02.0**	**-0.5**
PINM	**Pinnacle** baz=257	**18.44**	**52**	P	**P**	**08 05 01.7**	**-1.5**
PRP	**Porcupine Dome** baz=234	**18.46**	**33**	P	**P**	**08 05 02.7**	**-0.9**
G24K	**Hadweenzic Riv** baz=228	**18.58**	**29**	P	**P**	**08 05 03.8**	**-0.9**
J26L	**Joseph Creek**	**18.61**	**37**	P	**P**	**08 05 03.2**	**-1.9**
J26L	**Joseph Creek** baz=240,SNR=26	**18.61**	**37**	P	**P**	**08 05 04.0**	**-1.2**
O28M	**Mount Upton** baz=255,SNR=17	**18.63**	**50**	P	**P**	**08 05 04.9**	**-0.7**
L27K	**Beaver Creek,**	**18.65**	**42**	P	**P**	**08 05 05.0**	**-0.5**
L27K	**Beaver Creek,** baz=246	**18.65**	**42**	P	**P**	**08 05 05.1**	**-0.5**
BCAR	**Beaver Creek A**	**18.67**	**43**	P	**P**	**08 05 05.5**	**-0.2**
BCPM	**Bancas Point**	**18.71**	**53**	P	**P**	**08 05 06.0**	**-0.2**
BCPM	comp=Z,31nm,0.6s			IAmb	IAmb	08 05 13.4	
C21K	**Knifeblade Rid** baz=210	**18.72**	**17**	P	**Pn**	**08 05 07.5**	**+0.8**
PNL	**Peninsula**	**18.77**	**54**	P	**Pn**	**08 05 08.2**	**+0.7**
PNL	**Peninsula** baz=259,SNR=9.2	**18.77**	**54**	P	**P**	**08 05 06.9**	**0.0**
YUK3	**Moose Creek** baz=252,SNR=24	**18.79**	**47**	P	**P**	**08 05 06.6**	**-0.7**
H25L	**Birch Creek** baz=232	**18.81**	**31**	P	**P**	**08 05 06.8**	**-0.4**
D22K	**Ayikyak River** baz=215	**18.89**	**20**	P	**Pn**	**08 05 09.2**	**+0.2**
E23K	**Chandalar** baz=222	**18.95**	**24**	P	**P**	**08 05 06.8**	**-2.1**
K27K	**Chicken** baz=243	**18.96**	**40**	P	**P**	**08 05 09.1**	**+0.2**
PET	**Petropavlovsk**	**18.96**	**286**	P	**Pn**	**08 05 10.1**	**+0.3**
PET	**Petropavlovsk**	**18.96**	**286**	*eP*	**P**	**08 05 07.7**	**-1.2**
PET	comp=Z,71nm,1.9s			pmax	pmax		
YUK8	**Steele Glacier** baz=254,SNR=11	**18.97**	**49**	P	**Pn**	**08 05 10.4**	**+0.3**
F24K	**Squaw Lake** baz=226	**19.02**	**27**	P	**Pn**	**08 05 10.8**	**+0.4**
G25K	**Bearman Lake** baz=230	**19.04**	**30**	P	**P**	**08 05 08.0**	**-1.6**
B21K	**Ikpikpuk River** baz=210	**19.15**	**17**	P	**P**	**08 05 10.8**	**-0.1**
I26K	**Coal Creek Min** baz=238	**19.17**	**35**	P	**P**	**08 05 11.0**	**-0.1**
FYU	**Fort Yukon**	**19.18**	**31**	P	**P**	**08 05 10.9**	**-0.4**
FYU				IAmb	IAmb	08 05 23.2	
E24K	**Your Creek** baz=223,SNR=6.2	**19.25**	**25**	P	**Pn**	**08 05 13.3**	**+0.1**
O29M	**Mount Kennedy**	**19.30**	**52**	P	**Pn**	**08 05 13.7**	**-0.3**
O29M	**Mount Kennedy** baz=258,SNR=67	**19.30**	**52**	P	**P**	**08 05 13.3**	**+0.6**
D23K	**Nanushuk River** baz=218	**19.40**	**21**	P	**P**	**08 05 13.4**	**-0.2**
TOLK	**Toolik Lake Re**	**19.40**	**23**	P	**Pn**	**08 05 14.9**	**-0.1**
TOLK	**Toolik

baz=229
G26K **Porcupine Rive** 19.87 31 P P 08 05 18.3 -0.5
baz=234
I27K **Kandik River** 19.88 36 P P 08 05 19.8 +0.8
baz=240,SNR=12
M29M **Somme Creek** 19.89 46 P P 08 05 20.0 +0.9
baz=252,SNR=21
HYT **Haines Junctio** 19.93 51 P Pn 08 05 21.6 +0.2
baz=258,SNR=40
D24K **Happy Valley** 19.97 22 P P 08 05 20.8 +1.0
baz=221
P30M **Million Dollar** 20.06 53 P Pn 08 05 22.9 0.0
baz=260,SNR=31
E25K **Arctic Village** 20.07 27 P P 08 05 22.3 +1.3
baz=228
C23K **Itkillik River** 20.10 20 P P 08 05 22.6 +1.3
baz=217
S31K **Pelican** 20.21 59 P Pn 08 05 23.9 -0.7
S31K IAmb IAmb 08 05 37.3
comp=Z,29nm,0.8s
S31K **Pelican** 20.21 59 P P 08 05 21.5 -1.0
baz=267
F26K **Sheenjek River** 20.21 29 P P 08 05 21.2 -1.3
baz=231
H27K **Steamboat Moun** 20.23 34 P P 08 05 23.6 +0.9
baz=239,SNR=7.2
L29M **L29M** 20.24 44 P P 08 05 23.4 +0.6
baz=251,SNR=9.5
N30M **Aishikik Lake** 20.26 49 P P 08 05 23.5 +0.3
N30M IAmb IAmb 08 05 38.1
comp=Z,60nm,0.8s
N30M **Aishikik Lake** 20.26 49 P Pn 08 05 24.5 -0.7
baz=257,SNR=46
PLBC **Pleasant Camp** 20.27 55 P P 08 05 23.5 +0.4
baz=263,SNR=15
I28M **Miner Creek** 20.42 37 P P 08 05 23.5 -1.4
baz=243,SNR=12
C24K **Franklin Bluff** 20.43 21 P P 08 05 25.5 +0.7
baz=220
G27K **Doyon Strip** 20.49 33 P P 08 05 24.6 -1.0
baz=237,SNR=8.3
O30N **Mendenhall** 20.59 51 P P 08 05 27.9 +1.1
O30N **Mendenhall** 20.59 51 P Pn 08 05 28.5 -0.6
baz=260,SNR=42
M30M **Minto, Yukon** 20.67 46 P Pn 08 05 29.2 -0.8
baz=254
J29N **Klondike Camp** 20.67 41 P P 08 05 27.0 -0.6
baz=248
SIT **Sitka** 20.69 62 P P 08 05 28.6 +0.9
D25K **Kavik River** 20.69 24 P P 08 05 27.8 +0.1
baz=224
K29M **Barlow Dome** 20.74 42 P P 08 05 27.4 -1.0
baz=250,SNR=11
SKAG **Skagway** 20.79 55 P Pn 08 05 30.4 -1.0
SKAG **Skagway** 20.79 55 P Pn 08 05 30.5 -0.9
SKAG **Skagway** 20.79 55 P Pn 08 05 31.1 -0.3
baz=264,SNR=40
N31M **Braeburn, Yuko** 20.88 49 P P 08 05 30.4 +0.6
baz=258,SNR=14
I29M **Ogilvie Camp,** 21.00 38 P P 08 05 28.8 -2.2
I29M **Ogilvie Camp,** 21.00 38 P P 08 05 29.6 -1.4
baz=245,SNR=11
S32K **Killisnoo** 21.09 61 P P 08 05 33.6 +1.5
baz=270
R32K **Eaglecrest** 21.13 59 P P 08 05 32.5 0.0
baz=268
WHY **Whitehorse** 21.16 52 P P 08 05 34.6 +1.6
baz=261,SNR=10
E27K **Coleen River** 21.28 29 P P 08 05 35.9 +1.8
baz=234
H29M **Whitestone** 21.34 36 P P 08 05 34.0 -0.7
H29M IAmb IAmb 08 05 49.4
comp=Z,59nm,0.8s
H29M **Whitestone** 21.34 36 P P 08 05 34.4 -0.3
baz=243,SNR=20
MAYO **Mayo, Yukon** 21.35 44 P P 08 05 36.0 +1.1
MAYO IAmb IAmb 08 05 53.7
comp=Z,19nm,0.7s
MAYO **Mayo, Yukon** 21.35 44 P P 08 05 38.0 +3.2
baz=253
J30M **Hart River** 21.48 41 P P 08 05 36.2 -0.1
J30M IAmb IAmb 08 05 56.2
comp=Z,88nm,1.9s
J30M **Hart River** 21.48 41 P P 08 05 37.8 +1.5
baz=250,SNR=14
F28M **Old Crow** 21.51 32 P P 08 05 35.9 -0.6
F28M **Old Crow** 21.51 32 P P 08 05 36.2 -0.2
baz=238
P32M **Atlin** 21.62 55 P P 08 05 39.3 +1.5
P32M IAmb IAmb 08 05 55.5
comp=Z,40nm,1.0s
P32M **Atlin** 21.62 55 P P 08 05 38.8 +1.0
baz=265,SNR=6.9
M31M **Drury Creek, Y** 21.67 48 P P 08 05 38.1 -0.2
M31M IAmb IAmb 08 05 55.0
comp=Z,26nm,0.9s
M31M **Drury Creek, Y** 21.67 48 P P 08 05 37.7 -0.5
baz=258,SNR=13
I30M **Mount Dempster** 21.69 39 P P 08 05 32.7 -5.8
baz=248
G29M **Pine Creek** 21.78 34 P P 08 05 38.5 -1.0
G29M IAmb IAmb 08 05 52.8
comp=Z,89nm,1.2s
G29M **Pine Creek** 21.78 34 P P 08 05 38.4 -1.0
baz=242,SNR=9.2
U33K **Whale Pass** 21.95 64 P P 08 05 42.4 +1.2
baz=274
EPYK **Eagle Plains** 22.01 36 P P 08 05 40.4 -1.5
baz=245,SNR=6.4
CRAG **Craig** 22.01 66 P P 08 05 42.1 +0.2
CRAG IAmb IAmb 08 05 48.1
comp=Z,90nm,1.4s
CRAG **Craig** 22.01 66 P P 08 05 42.4 +0.5
baz=276
D27M **Malcolm River** 22.09 28 P P 08 05 43.6 +0.8
baz=233,SNR=6.0
N32M **Quiet Lake** 22.10 51 P P 08 05 44.0 +1.0
baz=262
P33M **Teslin, Yukon** 22.13 53 P P 08 05 44.0 +0.7
P33M IAmb IAmb 08 06 03.4
comp=Z,43nm,0.8s
P33M **Teslin, Yukon** 22.13 53 P P 08 05 44.3 +1.0
baz=264,SNR=19
E28M **Babbage River** 22.15 30 P P 08 05 44.6 +1.2
baz=236
FARO **Faro, Yukon** 22.15 48 P P 08 05 42.6 -0.9
FARO IAmb IAmb 08 06 00.0
comp=Z,22nm,0.9s
FARO **Faro, Yukon** 22.15 48 P P 08 05 41.8 -1.7
baz=259,SNR=11
Q32M **Nakina River** 22.33 57 P P 08 05 47.9 +2.3
Q32M IAmb IAmb 08 06 03.9
comp=Z,66nm,1.4s
Q32M **Nakina River** 22.33 57 P P 08 05 45.6 0.0
baz=268
G30M **tAoh Zraii Nji** 22.45 35 P P 08 05 45.7 -0.9
baz=244
E29M **Blow River** 22.55 31 P P 08 05 48.0 +0.4
baz=239,SNR=9.0
SEY **Seymchan** 22.60 314⇓ eP P 08 05 44.1 -4.1
SEY pmax pmax
comp=Z,46nm,1.1s
SEY **Seymchan** 22.60 314 LR LR 08 15 05.0
comp=Z,2μm,18.2s,baz=114,slow=38
H31M **Peel River** 22.69 39 P P 08 05 47.7 -1.4
baz=249
F30M **Barrier River** 22.87 34 P P 08 05 50.8 -0.3
baz=244
V35K **Ketchikan** 22.88 66 P P 08 05 52.7 +1.5
baz=277,SNR=9.6
S34M **Telegraph Cree** 22.93 60 P P 08 05 52.6 +0.8
baz=271
MA2 **Magadan** 22.98 305 P P 08 05 54.3 +2.1
MA2 **Magadan** 22.98 305⇓ eP P 08 05 50.2 -2.0
MA2 pmax pmax
comp=Z,107nm,1.5s
R33M **Jennings River** 23.01 56 P P 08 05 54.7 +2.0
baz=268,SNR=14
G31M **Satah River** 23.13 36 P P 08 05 53.4 -0.2
baz=247,SNR=6.9
MMPY **Sheldon Lake,** 23.18 48 P P 08 05 53.8 -0.4
MMPY IAmb IAmb 08 06 08.8
comp=Z,71nm,1.3s
MMPY **Sheldon Lake,** 23.18 48 P P 08 05 55.9 +1.6
baz=260,SNR=21
T35M **Bob Quinn** 23.46 62 P P 08 05 58.6 +1.6
T35M IAmb IAmb 08 06 14.3
comp=Z,37nm,1.1s
T35M **Bob Quinn** 23.46 62 P P 08 05 56.9 -0.2
baz=274,SNR=9.1
DLBC **Dease Lake** 23.50 58 P P 08 05 58.3 +0.8
baz=271,SNR=11
F31M **Tsiigehtchic** 23.52 35 P P 08 05 56.8 -0.7
baz=247
INK **Inuvik** 23.95 33 P P 08 06 00.7 -0.8
INK IAmb IAmb 08 06 11.2
comp=Z,14nm,0.6s
INK **Inuvik** 23.95 33 P P 08 06 00.7 -0.8
INK pmax pmax
comp=Z,14nm,0.6s
INK **Inuvik** 23.95 33 P P 08 06 01.2 -0.2
baz=245,SNR=16
TGTN **Hyland Airport** 24.45 51 P P 08 06 05.8 -0.5
baz=266,SNR=18
KOTAN **Kotaneelee Air** 26.50 54 P P 08 06 26.2 +1.4
baz=272,SNR=7.5
FLDN **Fort Liard** 26.79 54 P P 08 06 28.4 +1.0
baz=273
WRGLY **Wrigley** 26.79 47 P P 08 06 29.0 +1.7
baz=267
C36M **Paulatuk** 27.53 34 P P 08 06 34.9 +1.0
baz=254
A36M **Sachs Harbour** 28.00 28 P P 08 06 37.2 -0.8
baz=248
YSS **Yuzh-Sakhalins** 30.59 280 eP P 08 06 59.8 -1.5
YSS eS S 08 11 55.2 -5.9
YSS e 08 12 17.5
YSS e 08 13 47.8
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,1μm,18.0s
YKA **Yellowknife Ar** 30.87 48 P P 08 07 03.3 -0.3
YKA **Yellowknife Ar** 30.87 48 P P 08 07 03.3 -0.3
YKA **Yellowknife Ar** 30.87 48 P P 08 07 01.0 -2.6
comp=Z,2.9nm,0.7s,baz=196,slow=26,SNR=13
YKA LR LR 08 22 13.6
comp=Z,2μm,18.1s,baz=272,slow=42
comp=Z,2.9nm,0.7s
ASAJ **Asahikawa** 32.07 275 LR LR 08 20 13.6
comp=Z,778nm,20.3s,baz=98,slow=36
GRNR **Gornyy** 32.76 290 eP P 08 07 12.5 -7.9
GRNR MLR MLR
comp=E,2μm,19.0s
GRNR MLR MLR
comp=N,470nm,18.0s
GRNR MLR MLR
comp=Z,650nm,17.0s
TIXI **Tiksi** 32.84 329 P P 08 07 20.1 -0.7
TIXI **Tiksi** 32.84 329 eP P 08 07 19.9 -0.9
TIXI pmax pmax
comp=Z,12nm,1.7s
ERM **Erimo** 32.85 271 P P 08 07 19.6 -1.6
YAK **Yakutsk** 33.08 311 eP P 08 07 20.0 -3.0
YAK e 08 08 34.2
YAK e 08 17 47.4
YAK pmax pmax
comp=Z,9.0nm,1.0s
YAK pmax pmax
comp=Z,9.0nm,0.4s
YAK MLR MLR
comp=Z,1μm,17.0s
YAK MLR MLR
comp=E,911nm,17.0s
YAK MLR MLR
comp=N,608nm,19.0s
C09A **Chrisman Ranch** 33.09 76 P P 08 07 23.1 -0.2
C09A IAmb IAmb 08 08 00.6
comp=Z,13nm,0.9s
YBH **Yreka Blue Hor** 33.46 89 LR LR 08 19 32.1
comp=Z,855nm,18.5s,baz=316,slow=34
NEW **Newport** 33.57 75 P P 08 07 28.0 +0.5
NEW IAmb IAmb 08 07 48.6
comp=Z,13nm,1.0s
NEW **Newport** 33.57 75 P P 08 07 28.0 +0.5
NEW pmax pmax
comp=Z,13nm,1.0s
NEW **Newport** 33.57 75 P P 08 07 27.1 -0.5
baz=296,SNR=8.1
NEW **Newport** 33.57 75 LR LR 08 19 35.8
comp=Z,731nm,21.5s,baz=308,slow=34
EDM **Edmonton** 33.75 65 P P 08 07 29.3 +0.3
EDM **Edmonton** 33.75 65 P P 08 07 29.3 +0.3
EDM pmax pmax
comp=Z,53nm,0.7s
KLR **Kul'dur** 36.15 289 LR LR 08 24 09.4
comp=Z,971nm,19.0s,baz=60,slow=39
MSO **Missoula** 36.15 75 P P 08 07 49.6 -0.3
baz=299,SNR=5.1
ZEA **Zeya** 36.77 298 eP P 08 07 54.4 -0.5
ZEA eS S 08 13 31.2 -5.3
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA smax smax
comp=E,200nm,17.9s
ZEA MLR MLR
comp=E,1μm,17.0s
ZEA MLR MLR
comp=Z,1μm,18.0s
H11N2 **WAKE ISLAND Hy** 36.84 218 T T 08 47 31.2
baz=24,slow=76,SNR=9.9
H11N3 **WAKE ISLAND Hy** 36.85 218 T T 08 47 49.5
baz=24,slow=76,SNR=12
H11N1 **WAKE ISLAND Hy** 36.86 218 T T 08 47 39.1
baz=24,slow=76,SNR=9.7
RES **Resolute Bay** 36.94 25 LR LR 08 26 40.2
comp=Z,575nm,18.3s,baz=257,slow=42
LYMT **Lyon Mountain** 37.06 74 P P 08 07 57.7 -0.1
HLID **Hailey** 37.55 80 P P 08 08 00.9 -1.0
baz=303,SNR=7.6
H11S1 **WAKE ISLAND Hy** 38.03 217 T T 08 49 27.4
baz=23,slow=76,SNR=107
EGMT **Eagleton** 38.04 71 P P 08 08 06.2 +0.3
EGMT **Eagleton** 38.04 71 P P 08 08 04.1 -1.8
baz=299,SNR=7.6
H11S2 **WAKE ISLAND Hy** 38.05 217 T T 08 49 16.7
baz=23,slow=76,SNR=88
H11S3 **WAKE ISLAND Hy** 38.05 217 T T 08 49 26.2
baz=23,slow=76,SNR=77
NVAR **Mina Array Bea** 38.13 90 P P 08 08 05.9 -1.1
comp=Z,2.6nm,1.0s,baz=293,slow=7.7,SNR=12
NVAR ScP ScP 08 14 07.3 +0.9
comp=Z,0.6nm,0.8s,baz=306,slow=3.5,SNR=4.7
NVAR LR LR 08 20 17.2
comp=Z,338nm,21.2s,baz=302,slow=31
comp=Z,2.6nm,1.0s
BOZ **Bozeman (W)** 38.16 76 P P 08 08 05.9 -1.1
baz=301,SNR=8.1
HEH **HeiHe** 38.18 293 eP P 08 08 05.5 -1.4
HEH pP pP 08 08 13.9 -1.2
HEH sP pwP 08 08 18.4 -0.7
HEH S S 08 13 57.1 -0.9
HEH pmax pmax
comp=Z,52nm,1.1s
HEH pmax pmax
comp=Z,320nm,7.2s
HEH LR LR
comp=Z,1μm,20.2s
HEH LR LR
comp=Z,900nm,17.7s
HEH LR LR
comp=Z,2μm,17.4s
USRK **Ussuriysk Ar.** 38.51 282 P P 08 08 07.5 -2.3
comp=Z,1.7nm,0.6s,baz=69,slow=9.8,SNR=2.4
USRK LR LR 08 24 08.1
comp=Z,847nm,20.4s,baz=60,slow=36
comp=Z,1.7nm,0.6s
ELK **Elko** 38.64 85 LR LR 08 23 15.5
comp=Z,864nm,18.1s,baz=310,slow=35
YHH **Holmes Hill** 39.05 76 P P 08 08 14.5 -0.1
MZP **Montezuma Peak** 39.16 90 P P 08 08 16.1 +0.5
MJAR **Matsushiro Arr** 39.21 268 P P 08 08 14.6 -1.1
comp=Z,2.5nm,0.7s,baz=46,slow=7.3,SNR=7.1
MJAR LR LR 08 24 22.3
comp=Z,932nm,20.8s,baz=58,slow=36
comp=Z,2.5nm,0.7s
MAJO **Matsushiro** 39.21 268 P P 08 08 15.5 -0.1
MAJO IAmb IAmb 08 08 39.9
comp=Z,29nm,1.1s
MAJO **Matsushiro** 39.21 268⇑ eP P 08 08 13.3 -2.4
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MAJO **Matsushiro** 39.21 268 P P 08 08 16.8 +1.1
MAJO pP pwP 08 08 26.5 -1.8
MJB9 **Matsu-Tunnel** 39.21 268 P P 08 08 16.6 +1.0
MJB9 IAmb IAmb 08 08 40.9
comp=Z,28nm,1.1s
VES **Vestal, Richgr** 39.29 94 P P 08 08 16.8 +0.5
baz=310
FFC **Flin Flon** 39.34 58 P P 08 08 17.2 +0.7
FFC pP pwP 08 08 28.1 -1.0
FFC sP sP 08 08 32.5 +4.4
H17A **Grant Village** 39.43 77 P P 08 08 16.9 -0.8
baz=303
ISA **Isabella, Lake** 39.78 93 P P 08 08 20.5 0.0
baz=310
RLMT **Red Lodge** 39.82 75 P P 08 08 20.5 -0.5
baz=302,SNR=5.1
R11B **Troy Canyon, C** 39.87 88 P P 08 08 21.3 -0.1
baz=308,SNR=10
ARVC **Arvin** 39.91 94 P P 08 08 21.1 -0.4
baz=311
AHID **Auburn Hatcher** 40.01 79 P P 08 08 23.0 +0.4
AHID IAmb IAmb 08 08 39.7
comp=Z,17nm,1.1s
MPMC **Manual Prospec** 40.13 92 P P 08 08 22.5 -1.1
baz=310
FURC **Furnace Creek,** 40.26 91 P P 08 08 25.1 +0.8
baz=310
TPNV **Topopah Spring** 40.33 90 P P 08 08 26.2 +1.0
baz=309,SNR=7.2
DUG **Dugway, Tooele** 40.46 84 P P 08 08 25.3 -0.9
baz=306,SNR=8.2
JHJ **Hachijo jima 2** 40.50 262 LR LR 08 28 33.9
comp=Z,208nm,18.6s,baz=86,slow=41
SNCC **San Nicolas Is** 40.74 97 P P 08 08 27.0 -1.4
baz=313
PRN **Pahroc Range** 40.78 89 P P 08 08 29.4 +0.5
PRN IAmb IAmb 08 08 39.3
comp=Z,18nm,1.0s
LAO **LASA Array** 40.79 71 P P 08 08 27.3 -1.5
baz=302
CTU **Camp Tracy** 40.81 82 P P 08 08 29.0 -0.2
BW06 **Boulder Array** 40.95 78 P P 08 08 28.8 -1.5
baz=304,SNR=16
PD31 **Pinedale Array** 40.95 78 P P 08 08 30.0 -0.3
PD31 IAmb IAmb 08 08 46.9
comp=Z,9.9nm,0.9s
PDAR **Pinedale Array** 40.95 78 P P 08 08 30.7 +0.4
PDAR **Pinedale Array** 40.95 78 P P 08 08 29.1 -1.2
comp=Z,4.0nm,0.5s,baz=304,slow=3.4,SNR=52
PDAR LR LR 08 23 41.9
comp=Z,470nm,19.7s,baz=322,slow=34
comp=Z,4.0nm,0.5s
DGMT **Dagmar** 41.04 68 P P 08 08 31.3 +0.5
baz=300
GSC **Goldstone, Bar** 41.05 92 P P 08 08 29.7 -1.3
baz=311
ALE **Alert** 41.06 11 P P 08 08 30.9 +0.4
ALE pP pwP 08 08 42.1 -0.6
BFSC **Mount Baldy Ra** 41.22 94 P P 08 08 32.1 -0.4
baz=312
TUQ **Turquoise Moun** 41.51 92 P P 08 08 35.5 +0.7
baz=311
HEC **Hector,Ludlow** 41.65 93 P P 08 08 36.7 +0.8
baz=311
MSU **Marysvale** 41.87 85 P P 08 08 38.0 +0.1
MSU **Marysvale** 41.87 85 P P 08 08 38.0 +0.1
BOD **Bodaibo** 41.88 309 eP P 08 08 37.1 -0.4
BOD pmax pmax
comp=Z,50nm,1.6s
TMUT **Trail Mountain** 41.98 84 P P 08 08 39.6 +0.6
TMUT IAmb IAmb 08 08 56.3
comp=Z,17nm,1.1s
GMRC **Granite Mounta** 42.09 92 P P 08 08 40.1 +0.5
baz=311,SNR=5.2
PFO **Pinyon Flats O** 42.38 94⇑ eP P 08 08 41.0 -1.0
PFO pmax pmax
comp=Z,5.0nm,1.0s
PFO **Pinyon Flats O** 42.38 94 P P 08 08 41.9 -0.1
baz=312
PFO **Pinyon Flats O** 42.38 94 LR LR 08 23 18.2
comp=Z,466nm,19.5s,baz=308,slow=32
TPFO **Pinon Flats** 42.39 94 P P 08 08 41.9 -0.1
baz=312
BELC **Belle Mtn. Jos** 42.41 93 P P 08 08 43.5 +1.3
baz=312
PKCU **Pink Cliffs** 42.45 86 P P 08 08 42.5 -0.3
PKCU IAmb IAmb 08 09 29.1
comp=Z,36nm,1.7s
IRM **Iron Mountain** 42.83 92 P P 08 08 44.3 -1.3
baz=312
K22A **Casper** 42.84 76 P P 08 08 44.6 -1.2
baz=305
MONP2 **Monument Peak** 42.89 95 P P 08 08 46.3 +0.1
baz=313
BC3 **Big Chuckawall** 42.97 93 P P 08 08 45.8 -1.0
baz=312
HIA **Hailar** 42.99 295 P P 08 08 46.5 -0.1
HMU **Henry Mountain** 43.11 85 P P 08 08 48.3 +0.3
HMU IAmb IAmb 08 09 10.1
comp=Z,18nm,0.8s
SWSC **Sam W. Stewart** 43.24 94 P P 08 08 48.5 -0.2
baz=313
IKP **In-Ko-Pah, Jac** 43.25 95 P P 08 08 49.2 +0.3
baz=313
O20A **White River Ci** 43.29 80 P P 08 08 48.0 -1.5
baz=307,SNR=13
JCJ **Chichijima** 43.34 254 LR LR 08 24 08.2
comp=Z,447nm,21.1s,baz=18,slow=32
PDMCI **Parker Dam,Lak** 43.35 91 P P 08 08 50.0 +0.3
baz=312
RSSD **Black Hills** 43.49 73 P P 08 08 50.1 -0.9
baz=305
GLA **Glamis** 43.77 93 P P 08 08 53.7 +0.6
baz=312
MDND **Maddock** 43.98 66 P P 08 08 54.7 0.0
MDND **Maddock** 43.98 66 P P 08 08 54.9 +0.3
baz=303,SNR=7.4
N23A **Red Feather La** 44.23 78 P P 08 08 56.9 -0.1
baz=307,SNR=5.6
WUAZ **Wupatki** 44.27 88 P P 08 08 57.7 +0.4
WUAZ IAmb IAmb 08 09 24.6
comp=Z,14nm,0.9s
WUAZ **Wupatki** 44.27 88 P P 08 08 58.3 +1.1
baz=311,SNR=8.2
ULM **Lac du Bonnet** 44.76 61 P P 08 09 00.6 -0.2
ULM IAmb IAmb 08 09 09.8
comp=Z,12nm,0.8s
ULM **Lac du Bonnet** 44.76 61 P P 08 09 00.6 -0.2
ULM pmax pmax
comp=Z,12nm,0.8s
ULM **Lac du Bonnet** 44.76 61 P P 08 08 58.1 -2.6
comp=Z,8.4nm,0.8s,baz=294,slow=9.3,SNR=6.5
ULM LR LR 08 28 51.5
comp=Z,1μm,18.8s,baz=312,slow=38
comp=Z,8.4nm,0.8s
SNY **Shenyang** 44.93 284 ⇓ P P 08 09 03.3 +1.1
SNY S S 08 15 40.6 +2.5
SNY pmax pmax
comp=Z,26nm,1.2s
SNY pmax pmax
comp=Z,200nm,4.2s
SNY LR LR
comp=Z,580nm,17.5s
SNY LR LR
comp=Z,690nm,15.3s
SNY LR LR
comp=Z,990nm,21.6s
MVCO **Mesa Verde** 44.95 84 P P 08 09 03.2 +0.4
baz=310
KSRS **Korea Array** 44.98 277 P P 08 09 02.8 +0.2
comp=Z,7.2nm,0.8s,baz=57,slow=7.6,SNR=14
KSRS LR LR 08 26 28.4
comp=Z,476nm,20.9s,baz=40,slow=34
comp=Z,7.2nm,0.8s
ISCO **Idaho Springs** 45.10 79 P P 08 09 03.5 -0.5
baz=308
NEEM **North Greenlan** 45.51 16 i P P 08 09 06.3 -0.4
NEEM IAmb IAmb 08 09 08.7
comp=Z,77nm,0.5s
S22A **4UR Ranch, Cre** 45.64 82 P P 08 09 09.5 +1.2
baz=309,SNR=8.0
214A **Organ Pipe Nat** 45.76 93 P P 08 09 09.7 +0.7
baz=313,SNR=6.0
Q24A **Divide** 45.90 80 P P 08 09 10.7 +0.4
baz=308
NOR **Nord** 45.92 5 i P P 08 09 08.5 -1.1
NOR IAmb IAmb 08 09 12.8
comp=Z,3.8nm,0.9s
JNU **Nakatsue** 45.99 270 LR LR 08 28 18.7

comp=Z,537nm,20.5s,baz=48,slow=36
TJN Taejon 46.01 276⇑ eP P 08 09 07.5 -3.4
SUSD Miller 46.28 70 P **P 08 09 11.9 -1.0**
baz=306
SDCO Great Sand Dun 46.45 81 P **P 08 09 15.4 +0.8**
baz=309,SNR=11
TUC Tucson 46.77 91 P **P 08 09 17.1 +0.1**
baz=313
TUC Tucson 46.77 91 P **P 08 09 17.4 +0.5**
TUC pP **pwP 08 09 28.4 -1.3**
TUC sP **sP 08 09 32.9 +4.4**
KSCO Kaye Shedlock' 47.40 78 P **P 08 09 22.7 +0.8**
baz=309
T25A Trinidad 47.51 81 P **P 08 09 22.5 -0.4**
baz=310,SNR=10
ANMO Albuquerque 47.68 85 *ce*P **P 08 09 24.4 +0.2**
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 47.68 85 P **P 08 09 24.3 +0.2**
baz=311
ANMO Albuquerque 47.68 85 LR LR 08 28 57.7
comp=Z,654nm,18.1s,baz=49,slow=36
ANMO Albuquerque 47.68 85 P **P 08 09 25.0 +0.8**
ANMO sP **pwP 08 09 40.1 +3.2**
ECSD EROS Data Cent 48.06 69 P **P 08 09 24.5 -2.3**
baz=307
XLT XiLinHaoTe 48.10 291 *e*P **P 08 09 28.3 +1.1**
XLT sS sS 08 16 36.3 -1.2
XLT pmax pmax
comp=Z,27nm,1.3s
XLT pmax pmax
comp=Z,200nm,4.6s
XLT LR LR
comp=Z,970nm,18.1s
XLT LR LR
comp=Z,690nm,17.5s
EYMN Ely 48.44 62 P **P 08 09 29.3 -0.3**
baz=306
121A Cookes Peak, D 48.47 88 P **P 08 09 30.4 +0.1**
121A Cookes Peak, D 48.47 88 P **P 08 09 28.8 -1.5**
baz=313,SNR=5.7
BGNE Belgrade 48.58 73 P **P 08 09 29.3 -1.6**
baz=308
CBKS Cedar Bluff 49.27 76 P **P 08 09 36.6 +0.4**
baz=310
SPMN Marine on St. 49.33 65 P **P 08 09 34.5 -2.0**
baz=307
KBS Kingsbay 49.36 359 *e*P **P 08 09 38.1 +1.8**
KBS Kingsbay 49.36 359 *i*P **P 08 09 36.2 -0.2**
FRB Frobisher Bay 49.58 35 LR LR 08 33 53.8
comp=Z,2μm,18.3s,baz=300,slow=40
SPA0 Spitsbergen Ar 50.06 358 *e*P **P 08 09 41.8 +0.1**
SPITS Spitsbergen Ar 50.06 358 P **P 08 09 41.5 -0.2**
comp=Z,3.2nm,0.4s,baz=35,slow=4.5,SNR=18
SPITS LR LR 08 32 12.0
comp=Z,426nm,18.1s,baz=338,slow=38
comp=Z,3.2nm,0.4s
DAG Danmarks Havn 50.26 8 *i*P **P 08 09 43.0 -0.1**
DAG IAmb IAmb 08 09 44.6
comp=Z,22nm,0.6s
BJI Beijing 50.44 287 P **P 08 09 45.8 +0.8**
BJI sS **sS 08 17 13.8 +3.6**
BJI pmax pmax
comp=Z,6.0nm,1.8s
BJI LR LR
comp=Z,490nm,17.5s
BJI LR LR
comp=Z,380nm,18.6s
BJI LR LR
comp=Z,540nm,19.5s
MNTX Cornudas Mount 50.53 87 P **P 08 09 46.2 +0.5**
baz=313,SNR=16
MSTX Muleshoe 50.59 83 P **P 08 09 45.1 -1.3**
baz=312,SNR=6.4
AMTX Amarillo 50.65 81 P **P 08 09 46.6 -0.2**
AMTX Amarillo 50.65 81 P **P 08 09 47.2 +0.4**
baz=312
ULN Ulaanbaatar 50.73 300 P **P 08 09 47.0 -0.3**
ULN IAmb IAmb 08 09 48.8
comp=Z,17nm,0.9s
ULN Ulaanbaatar 50.73 300 *ce*P **P 08 09 46.7 -0.6**
ULN pmax pmax
comp=Z,19nm,1.0s
ULN Ulaanbaatar 50.73 300 P **P 08 09 47.5 +0.2**
KSU1 Kansas State U 50.95 74 P **P 08 09 48.9 0.0**
KSU1 IAmb IAmb 08 10 21.1
comp=Z,16nm,0.9s
KSU1 Kansas State U 50.95 74 P **P 08 09 48.9 0.0**
baz=310
SONM Songino Array 51.10 301 P **P 08 09 50.3 +0.3**
comp=Z,21nm,1.1s,baz=56,slow=6.1,SNR=46
SONM PcP **PcP 08 11 04.5 -0.9**
comp=Z,1.6nm,0.5s,baz=43,slow=2.1,SNR=1.7
SONM LR LR 08 31 60.0
comp=Z,652nm,21.1s,baz=48,slow=37
comp=Z,21nm,1.1s
SCIA State Center 51.15 69 P **P 08 09 48.1 -2.2**
baz=309
ZAK Zakamensk 51.16 305 *e*P **P 08 09 50.2 -0.2**
ZAK *e* 08 11 06.6
ZAK pmax pmax
comp=Z,23nm,1.5s
ZAK pmax pmax
comp=Z,14nm,1.5s
SUMG Summit 51.31 17 P **P 08 09 52.1 +0.5**
SUMG Summit 51.31 17 P **P 08 09 52.1 +0.5**
SUMG pmax pmax
comp=Z,84nm,1.4s
SUMG Summit 51.31 17 *i*P **P 08 09 51.9 +0.4**
SUMG IAmb IAmb 08 09 55.5
comp=Z,21nm,0.8s
HOPEN Hopen 51.43 356 *e*P **P 08 09 53.2 +1.2**
E43A Lone Tree Farm 51.83 61 P **P 08 09 55.5 +0.1**
JOW Kunigami 51.99 266 LR LR 08 30 29.6
comp=Z,164nm,21.7s,baz=22,slow=34
JFWS Jewell Farm 52.21 66 P **P 08 09 56.5 -1.7**
baz=309
TIA Tai'an 52.37 283 P **P 08 10 00.0 +0.5**
TIA pmax pmax
comp=Z,15nm,0.8s
TIA LR LR
comp=Z,510nm,13.5s
TIA LR LR
comp=Z,690nm,14.5s
TIA LR LR
comp=Z,870nm,16.6s
DBG Daneborg 52.39 10 *i*P **P 08 09 58.7 -0.5**
DBG IAmb IAmb 08 10 00.4
comp=Z,29nm,0.6s
GUMO Guam 52.49 240 LR LR 08 29 18.0
comp=Z,130nm,21.1s,baz=44,slow=33
WMOK Wichita Mounta 52.52 80 P **P 08 10 00.8 +0.2**
baz=312
HHC Hu-ho-hao-te 52.62 291 *e*P **P 08 10 02.4 +1.0**
HHC pP pwP 08 10 12.9 -1.0
HHC sP sP 08 10 16.0 +2.9
HHC S **S 08 17 28.6 +2.0**
HHC SS SS 08 20 53.4 -11
HHC pmax pmax
comp=Z,49nm,0.9s
HHC pmax pmax
comp=Z,410nm,4.6s
HHC LR LR
comp=Z,1μm,15.6s
HHC LR LR
comp=Z,2μm,16.2s
HHC LR LR
comp=Z,2μm,16.9s
SFJD Kangerlussuaq 52.95 25 *i*P **P 08 10 02.6 -0.7**
SFJD IAmb IAmb 08 10 12.2
comp=Z,10nm,0.8s
SFJD Kangerlussuaq 52.95 25 LR LR 08 37 40.8
comp=Z,486nm,18.3s,baz=309,slow=42
SFJD Kangerlussuaq 52.95 25 P **P 08 10 04.4 +1.1**
SFJD pP **pwP 08 10 14.9 -1.1**
HNS HongShan 53.03 286 ⇑P **P 08 10 05.5 +1.2**
HNS S **S 08 17 34.1 +2.1**
HNS pmax pmax
comp=Z,33nm,1.2s
HNS LR LR
comp=Z,1μm,19.6s
HNS LR LR
comp=Z,1μm,21.6s
TX31 Lajitas Ar. Si 53.23 88 P **P 08 10 05.8 -0.2**
TXAR Lajitas Array 53.23 88 P **P 08 10 05.2 -0.9**
comp=Z,3.8nm,0.5s,baz=298,slow=5.7,SNR=92
TXAR LR LR 08 31 22.7
comp=Z,423nm,19.6s,baz=332,slow=35
comp=Z,3.8nm,0.5s
ABTX Abilene, Hawle 53.43 82 P **P 08 10 05.8 -1.5**
baz=313
TUL3 Leonard 53.54 76 P **P 08 10 06.4 -1.7**
baz=312
BTO Baotou 53.67 292 *e*P **P 08 10 09.6 +0.4**
BTO pP **pP 08 10 14.1 -3.6**
BTO PP **PP 08 12 12.9 +3.1**
BTO S **S 08 17 44.8 +4.0**
BTO SS **SKiKP 08 21 19.4 -1.5**
BTO pmax pmax
comp=Z,120nm,1.3s
BTO pmax pmax
comp=Z,820nm,8.4s
BTO LR LR
comp=Z,1μm,20.2s
BTO LR LR
comp=Z,1μm,17.5s
BTO LR LR
comp=Z,1μm,18.8s
ICESG Greenland Ices 53.91 20 *i*P **P 08 10 10.5 -0.3**
ICESG IAmb IAmb 08 10 23.8
comp=Z,15nm,0.8s
L44A Lake County Fo 54.00 66 P **P 08 10 10.9 -0.5**
baz=311
GLMI Grayling 54.10 61 P **P 08 10 12.1 0.0**
baz=310
NJ2 Nanjing 54.13 278 *e*P **P 08 10 13.1 +0.6**
NJ2 pP **sP 08 10 22.8 -1.4**
NJ2 sP **pwP 08 10 25.8 +0.4**
NJ2 pmax pmax
comp=Z,12nm,0.5s
NJ2 pmax pmax
comp=Z,350nm,4.3s
HDIL Hopedale 54.28 68 P **P 08 10 12.4 -1.0**
baz=311
DY2G Dye2 54.47 24 *i*P **P 08 10 15.0 +0.2**
DY2G IAmb IAmb 08 10 17.1
comp=Z,15nm,0.6s
CCM Cathedral Cave 54.81 71 P **P 08 10 15.8 -1.5**
baz=312
JCT Junction City 54.81 84 P **P 08 10 17.0 -0.6**
baz=314
WHTX Lake Whitney, 55.20 81 P **P 08 10 19.5 -0.8**
baz=314,SNR=5.6
SFIN Lafayette 55.65 67 P **P 08 10 22.6 -0.8**
baz=312
MIAR Mount Ida 55.80 76 P **P 08 10 24.6 +0.1**
baz=313
SCHQ Schefferville 56.06 43 P **P 08 10 26.8 +0.7**
comp=Z,8.6nm,0.6s,baz=304,slow=5.9,SNR=7.7
SCHQ LR LR 08 36 20.1
comp=Z,855nm,18.1s,baz=318,slow=38
comp=Z,8.6nm,0.6s
LYN LuoYang 56.29 284⇑ *i*P **P 08 10 28.4 +0.4**
LYN PP **PP 08 12 35.4 +2.1**
LYN pmax pmax
comp=Z,37nm,0.7s
LYN pmax pmax
comp=Z,530nm,4.7s
833A Chaparral WMA, 56.59 86 P **P 08 10 30.1 -0.1**
baz=316
JMIC Jan Mayen 56.65 7 LR LR 08 35 24.7
comp=Z,361nm,20.1s,baz=76,slow=37
O48B Farmland 56.83 66 P **P 08 10 30.4 -1.4**
baz=312
SADO Sadowa 57.06 58 LR LR 08 35 14.3
comp=Z,346nm,18.9s,baz=336,slow=36
NATX Nacogdoches 57.07 79 P **P 08 10 32.6 -1.0**
baz=314
ZALV Zalesovo Beam 57.40 317 P **P 08 10 35.0 -0.6**
comp=Z,2.2nm,0.4s,baz=80,slow=3.9,SNR=6.0
ZALV PcP **PcP 08 11 30.0 +0.8**
comp=Z,6.6nm,0.6s,baz=47,slow=4.2,SNR=9.5
ZALV LR LR 08 39 19.3
comp=Z,485nm,18.9s,baz=52,slow=40
comp=Z,2.2nm,0.4s
VADS Vadso 57.41 352 *e*P **P 08 10 36.3 +0.9**
WCI Wyandotte Cave 57.56 68 P **P 08 10 36.0 -1.0**
baz=313
P49A Miami Univ. Ec 57.57 66 P **P 08 10 36.9 -0.2**
baz=313
HKT Hockley 57.62 82⇑ *e*P **P 08 10 36.5 -0.9**
HKT pmax pmax
comp=Z,5.0nm,1.2s
WHN Wuhan 57.94 280 P **P 08 10 40.6 +0.9**
KEV Kevo 57.95 353 P **P 08 10 40.0 +0.8**
KEV pP **pwP 08 10 51.5 -0.6**
ACSO Alum Creek Sta 58.07 64 P **P 08 10 39.1 -1.4**
baz=313
IVI Ivigtut 58.08 29 P **P 08 10 41.2 +1.0**
IVI pP **pwP 08 10 52.1 -0.9**
WVT Waverly 58.12 71 P **P 08 10 40.0 -0.9**
baz=314
ARA0 ARCESS Array S 58.27 354 *e*P **P 08 10 41.5 0.0**
ARCES ARCESS Array B 58.27 354 P **P 08 10 41.0 -0.5**
ARCES ARCESS Array B 58.27 354 P **P 08 10 41.0 -0.5**
comp=Z,4.3nm,0.5s,baz=13,slow=6.9,SNR=34
ARCES LR LR 08 38 40.3
comp=Z,560nm,18.0s,baz=360,slow=39
comp=Z,4.3nm,0.5s
OXF Oxford 58.31 73 P **P 08 10 40.8 -1.4**
baz=314
ERPA Erie 58.42 61 P **P 08 10 40.3 -2.7**
baz=313
M53A Wt Miller and 58.51 62 P **P 08 10 43.3 -0.3**
baz=313
TRO Tromso 58.53 356 *e*P **P 08 10 43.9 +0.6**
JETT Jettan, Norway 58.55 356 *e*P **P 08 10 44.5 +1.0**
XAN Xi'an 58.76 286 P **P 08 10 46.1 +0.6**
XAN pP pP 08 10 53.9 0.0
XAN sP pwP 08 10 58.8 +0.3
XAN pmax pmax
comp=Z,36nm,1.4s
XAN LR LR
comp=Z,1μm,16.8s
XAN LR LR
comp=Z,1μm,15.8s
XAN LR LR
comp=Z,1μm,18.5s
XAN Xi'an 58.76 286 P **P 08 10 45.7 +0.2**
XAN pP **pwP 08 10 58.3 -0.2**
KTK1 Kautokeino 58.94 354 *e*P **P 08 10 46.0 -0.2**
P52A Corning 58.95 64 P **P 08 10 47.4 +0.7**
baz=314
LVZ Lovozero 59.03 349 P **P 08 10 47.3 +0.5**
LVZ Lovozero 59.03 349⇓ *e*P **P 08 10 45.8 -1.0**
LVZ pmax pmax
comp=Z,21nm,0.8s
LVZ Lovozero 59.03 349 P **P 08 10 47.1 +0.3**
LVZ pP **pwP 08 10 59.0 -0.6**
O53A New Philadelph 59.04 63 P **P 08 10 48.2 +1.0**
baz=314
VBMS Vicksburg 59.25 76 P **P 08 10 48.7 -0.1**
baz=315
DGZ Jazzator, Alta 59.27 312 *ce*P **P 08 10 48.7 -0.2**
DGZ pmax pmax
comp=Z,8.0nm,0.9s
APA Apatity 59.48 350⇓ *i*P P 08 10 45.6 -4.3
APA pmax pmax
comp=Z,6.0nm,1.3s
APA MLR MLR
comp=Z,500nm,18.0s
LONY Lake Ozonia 59.53 56 P **P 08 10 50.5 -0.1**
baz=314
L56A Greenwood 59.71 59 P **P 08 10 52.4 +0.4**
LOF Lofoten 60.19 358 *e*P **P 08 10 55.4 +0.6**
MCWV Mont Chateau 60.20 63 P **P 08 10 55.1 -0.2**
baz=314
GTA Gaotai 60.24 297 *e*P **P 08 10 56.3 +0.6**
GTA sP pwP 08 11 10.3 +2.0
GTA pmax pmax
comp=Z,18nm,1.2s
GTA LR LR
comp=Z,1μm,15.3s
GTA LR LR
comp=Z,1μm,16.0s
GTA LR LR
comp=Z,2μm,16.0s
LZH Lanzhou 60.30 292 *e*P **P 08 10 57.9 +1.7**
LZH pP sP 08 11 06.4 -1.6
LZH sP pwP 08 11 10.9 +2.1
LZH pmax pmax
comp=Z,53nm,1.2s
LZH pmax pmax
comp=Z,390nm,4.6s
LZH LR LR
comp=Z,810nm,16.7s
LZH LR LR
comp=Z,1μm,16.1s
LZH LR LR
comp=Z,1μm,16.8s
TZTN Tazewell 60.30 68 P **P 08 10 56.3 +0.2**
baz=315
STEI Steigen 60.36 358 *e*P **P 08 10 56.2 +0.3**
BINY Binghamton 60.50 58 P **P 08 10 54.9 -2.4**
baz=315
SSPA Standing Stone 60.58 61 P **P 08 10 56.1 -1.7**
baz=315
SSPA Standing Stone 60.58 61 P **P 08 10 57.9 0.0**
SSPA pP **pwP 08 11 09.2 -1.6**
LRAL Lakeview Retre 60.77 73 P **P 08 10 58.7 -0.5**
baz=315
FAUS Fauske 60.91 358 *e*P **P 08 10 59.7 +0.1**
LBNH Lisbon 61.14 54 P **P 08 10 59.1 -2.5**
baz=316
BLA Blacksburg 61.61 65 P **P 08 11 04.8 -0.2**
baz=315
PKME Peaks-Kenny Pk 61.71 52 P **P 08 11 05.3 -0.1**
baz=316
L61B Northampton 62.04 56 P **P 08 11 08.3 +0.6**
baz=316
ZSN Zaisan 62.08 312 *e*P **P 08 11 07.7 -0.3**
comp=Z,8.8nm,0.5s,baz=312
ZSN Zaisan 62.08 312 *e*P **P 08 11 07.6 -0.3**
ZSN pmax pmax
comp=Z,9.0nm,0.5s
MOR8 Moi Rana 62.14 358 *e*P **P 08 11 07.3 -0.7**
ADZR Andozero 62.33 346 *e*P **P 08 11 10.2 +0.9**
ADZR pmax pmax
comp=Z,23nm,0.6s
KURK Kurchatov 62.36 318 P **P 08 11 09.3 -0.4**
KURK 08 11 50.7
KURK Kurchatov 62.36 318 P **P 08 11 10.0 +0.3**
KURK pP **pwP 08 11 21.8 -0.6**
KURBB Kurchatov Arra 62.47 318 P **P 08 11 09.3 -1.1**
comp=Z,9.0nm,0.9s,baz=43,slow=8.0,SNR=34
KURBB PcP **PcP 08 11 50.7 +1.2**
comp=Z,4.0nm,0.5s,baz=36,slow=3.7,SNR=4.1
KURBB LR LR 08 41 46.4
comp=Z,856nm,18.1s,baz=10,slow=39
comp=Z,9.0nm,0.9s
KMSC Kings Mountain 62.56 67 P **P 08 11 11.6 +0.2**
baz=316
HRV Adam Dziewonsk 62.57 55 P **P 08 11 10.3 -0.9**
baz=316
GOGA Godfrey 62.57 70 P **P 08 11 10.8 -0.5**
baz=316
PRGR Permogore 63.23 342 *e*P **P 08 11 15.3 0.0**
PRGR pmax pmax
comp=Z,32nm,0.6s
WMQ Urumqi 63.41 308 *e*P **P 08 11 15.1 -1.8**
WMQ PcP **PcP 08 11 56.0 +2.4**
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ LR LR
comp=Z,1μm,19.7s
WMQ LR LR
comp=Z,940nm,19.7s
WMQ LR LR
comp=Z,650nm,18.5s
LMN Caledonia Moun 63.41 49 P **P 08 11 17.1 +0.3**
MK31 Makanchi Array 63.74 313 *de*P **P 08 11 18.3 -0.7**
MKAR Makanchi Array 63.74 313 *i*P **P 08 11 18.7 -0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 63.74 313 P **P 08 11 17.7 -1.3**
comp=Z,3.3nm,0.7s,baz=47,slow=5.5,SNR=20
MKAR PcP **PcP 08 11 55.7 +0.9**
comp=Z,2.2nm,0.5s,baz=37,slow=3.1,SNR=7.0
MKAR LR LR 08 42 15.4
comp=Z,769nm,18.4s,baz=46,slow=39
comp=Z,3.3nm,0.7s
BVAR Borovoye Array 63.76 324 P **P 08 11 18.8 -0.2**
comp=Z,16nm,0.4s,baz=46,slow=6.3,SNR=68
BVAR PcP **PcP 08 11 55.8 +1.0**
comp=Z,8.8nm,0.5s,baz=5.1,slow=2.3,SNR=5.6
BVAR LR LR 08 41 36.9
comp=Z,372nm,18.2s,baz=42,slow=38
comp=Z,16nm,0.4s
BRVK Borovoye 63.77 324 *ce*P **P 08 11 18.4 -0.6**
BRVK pmax pmax
comp=Z,25nm,1.3s
BRVK Borovoye 63.77 324 P **P 08 11 19.6 +0.6**
BRVK PcP **PcP 08 11 55.4 +0.6**
SVE Sverdlovsk 63.82 332 *e*P **P 08 11 20.2 +0.9**
NSS Namsos 63.83 359 *e*P **P 08 11 19.9 +0.7**
MAKZ Makanchi 63.87 313 ⇑P **P 08 11 18.9 -0.9**
MAKZ Makanchi 63.87 313 P **P 08 11 19.7 -0.2**
MAKZ PcP **PcP 08 11 57.0 +1.7**
TIGA Tifton 63.92 72 P **P 08 11 20.2 -0.2**
baz=316
CD2 Chengdu 64.04 288 P **P 08 11 22.3 +1.1**
CD2 pP pwP 08 11 35.8 +1.5
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 LR LR
comp=Z,690nm,18.7s
ARU Arti 64.76 333 *c i*P **P 08 11 25.6 +0.2**
ARU 08 11 59.4
ARU S **S 08 20 05.7 +2.1**
ARU SS **SS 08 24 17.0 +3.1**
ARU pmax pmax
comp=Z,15nm,0.6s
ARU MLR MLR
comp=Z,733nm,17.0s
ARU Arti 64.76 333 P **P 08 11 25.1 -0.4**
comp=Z,15nm,0.5s,baz=2.9,slow=4.1,SNR=20
ARU LR LR 08 42 05.4
comp=Z,328nm,21.2s,baz=38,slow=38
comp=Z,15nm,0.5s
ARU Arti 64.76 333 P **P 08 11 25.7 +0.2**
ARU pP **pwP 08 11 37.5 -0.8**
KLMR Klimovskoe 65.05 345 *e*P **P 08 11 24.7 -2.6**
KLMR AMP 08 11 28.0
comp=Z,22nm,0.9s
KLMR LQ LQ 08 38 35.2
KLMR LQ LQ 08 38 35.2
KLMR LR LR 08 41 59.7
KLMR AMP 08 44 07.1
comp=Z,611nm,17.1s
KLMR Klimovskoe 65.05 345 *e*P **P 08 11 24.7 -2.6**
KLMR pmax pmax
comp=Z,22nm,0.9s
KLMR MLR MLR
comp=Z,611nm,17.0s
KIRV Kirov 65.21 338⇑ *e*P **P 08 11 26.9 -1.4**
KIRV Kirov 65.21 338 P **P 08 11 27.8 -0.5**
comp=Z,15nm,0.5s,baz=46,slow=5.1,SNR=7.2
KIRV LR LR 08 44 53.3
comp=Z,396nm,18.2s,baz=29,slow=41
comp=Z,15nm,0.5s
GOMU GeErMu 65.30 298 P **P 08 11 29.8 +0.1**
GOMU S S 08 19 59.4 -12
GOMU pmax pmax
comp=Z,8.0nm,0.7s
GOMU pmax pmax
comp=Z,85nm,5.1s
GOMU LR LR
comp=Z,1μm,16.5s
GOMU LR LR
comp=Z,680nm,16.1s
GOMU LR LR
comp=Z,1μm,16.5s
BRZS Berezniki 65.32 321 *e*P **P 08 11 28.9 -0.4**
baz=321
BRZS Berezniki 65.32 321 *e*P **P 08 11 28.8 -0.4**
GYA Guiyang 65.55 282 P **P 08 11 31.9 +0.7**
GYA pP pwP 08 11 45.3 +1.0
GYA pmax pmax
comp=Z,29nm,1.6s
MOL Molde 65.80 1 *e*P **P 08 11 32.1 +0.1**
TAOE Nuku Hiva Isla 65.83 147 *e*S S 08 20 28.2 +11
comp=Z,248nm,25.3s
TAOE *e*SS SS 08 24 14.1 -19
comp=Z,158nm,24.6s
TAOE *e*LR LR 08 30 58.2
comp=Z,400nm,21.0s
AKN Aaknes 66.18 1 *e*P **P 08 11 35.1 +0.6**
FINES FINESS Array B 66.20 352 *i*P **P 08 11 34.9 +0.2**

FINES pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 66.20 352 P **P 08 11 33.4 -1.3**
comp=Z,9.4nm,0.7s,baz=16,slow=7.9,SNR=24
FINES LR LR 08 43 14.0
comp=Z,405nm,19.1s,baz=17,slow=38
comp=Z,9.4nm,0.7s
DOMB Dombas 66.34 0 *e*P **P 08 11 35.5 -0.1**
NC303 NORSAR Array S 67.15 359 *e*P **P 08 11 41.2 +0.4**
NB2 NORSAR Subarra 67.34 359 P **P 08 11 42.2 +0.2**
comp=Z,8.7nm,0.8s,baz=2.7,slow=6.5
NB2 NORSAR Subarra 67.34 359 P **P 08 11 42.2 +0.2**
baz=2.7,slow=6.5
NOA NORSAR Array B 67.34 359 P **P 08 11 41.4 -0.6**
comp=Z,3.0nm,0.6s,baz=2.5,slow=6.2,SNR=8.5
NOA LR LR 08 42 58.7
comp=Z,159nm,18.2s,baz=340,slow=38
comp=Z,3.0nm,0.6s
NC602 NORSAR Array S 67.64 359 *e*P **P 08 11 44.5 +0.7**
SKAR Skarslia 67.70 1 *e*P **P 08 11 44.3 0.0**
SHLS Shalkode 67.81 312 *e*P **P 08 11 44.1 -1.3**
comp=Z,12nm,0.8s,baz=312
SHLS Shalkode 67.81 312 *e*P **P 08 11 44.1 -1.3**
SHLS pmax pmax
comp=Z,12nm,0.8s
KPKS Kokpek 67.93 313 *e*P **P 08 11 45.9 -0.2**
baz=313
KPKS Kokpek 67.93 313 *e*P **P 08 11 45.8 -0.3**
UZB Uzynbulak 68.02 312 *e*P **P 08 11 46.5 -0.3**
baz=312
UZB Uzynbulak 68.02 312 *e*P **P 08 11 46.5 -0.3**
HFS Hagfors 68.21 358 P **P 08 11 47.0 -0.4**
comp=Z,7.3nm,0.4s,baz=44,slow=4.5,SNR=28
HFS LR LR 08 43 40.6
comp=Z,217nm,18.4s,baz=356,slow=38
comp=Z,7.3nm,0.4s
SATY Saty 68.37 313 *e*P **P 08 11 48.8 -0.1**
baz=313
SATY Saty 68.37 313 *e*P **P 08 11 48.8 -0.1**
CHKK Chushkaly 68.38 314 *e*P **P 08 11 48.7 -0.1**
baz=314
CHKK Chushkaly 68.38 314 *e*P **P 08 11 48.7 -0.1**
PZH PanZhiHua 68.48 286 P **P 08 11 51.3 +1.5**
PZH sP **pwP 08 12 04.1 +1.2**
PZH S **S 08 20 50.5 +0.9**
PZH sS **sS 08 21 04.3 +0.2**
PZH pmax pmax
comp=Z,50nm,1.0s
PZH pmax pmax
comp=Z,480nm,4.4s
PZH LR LR
comp=Z,440nm,15.9s
PZH LR LR
comp=Z,340nm,17.8s
PZH LR LR
comp=Z,410nm,19.4s
KUU Kurty 68.64 315 *e*P **P 08 11 50.0 -0.4**
baz=314
KUU Kurty 68.64 315 *e*P **P 08 11 50.0 -0.4**
BTLS Baital 68.72 317 *e*P **P 08 11 50.6 -0.3**
baz=317
BTLS Baital 68.72 317 *e*P **P 08 11 50.5 -0.3**
DAV Davao City (W) 68.74 254 LR LR 08 37 37.7
comp=Z,387nm,21.8s,baz=42,slow=32
KMI Kunming 68.91 284 ⇓P **P 08 11 53.4 +0.8**
KMI pP pwP 08 12 05.8 +0.1
KMI pmax pmax
comp=Z,37nm,1.8s
BLS5 Blasjo 68.94 2 *e*P **P 08 11 52.4 +0.3**
WUS Wushi 69.46 311 P **P 08 11 56.5 +0.7**
WUS pP **pwP 08 12 08.3 -0.2**
SGDS Sogindy 69.74 315 *e*P **P 08 11 57.2 -0.1**
baz=315
SGDS Sogindy 69.74 315 *e*P **P 08 11 57.2 -0.1**
TKM2 Tokmak 2 69.74 314 P **P 08 11 58.5 +0.9**
SNR=5.8
BOOM Boomskoye usch 69.93 314 P **P 08 11 59.4 +0.7**
BOOM IAmb IAmb 08 12 00.9
comp=Z,9.9nm,0.7s
BOOM Boomskoye usch 69.93 314 P **P 08 11 59.4 +0.7**
BOOM pmax pmax
comp=Z,10.0nm,0.7s
USP Ospenovka 69.94 315 P **P 08 11 59.5 +0.9**
SNR=10
HOMB Homborsund 70.12 1 *e*P **P 08 12 00.2 +0.9**
AKTO Aktyubinsk 70.12 330 P **P 08 11 59.7 +0.2**
comp=Z,26nm,0.5s,baz=56,slow=6.1,SNR=71
comp=Z,26nm,0.5s
MSVF Nonsavu 70.16 192 LR LR 08 39 29.1
comp=Z,179nm,18.8s,baz=147,slow=33
MOS Moscow 70.23 344 *e*P **P 08 11 58.7 -1.3**
MOS *e* 08 14 34.6
KBK Karagaybulak 70.24 315 P **P 08 12 02.3 +1.8**
SNR=5.6
AAK Ala-Archa 70.45 315 P **P 08 12 02.9 +1.1**
SNR=8.8
AAK Ala-Archa 70.45 315 P **P 08 12 01.9 +0.1**
comp=Z,13nm,0.8s,baz=122,slow=3.4,SNR=10.0
AAK LR LR 08 45 49.7
comp=Z,706nm,18.1s,baz=34,slow=38
comp=Z,13nm,0.8s
AAK Ala-Archa 70.45 315 P **P 08 12 02.6 +0.8**
ABKAR Akbulak array 70.53 328 P **P 08 12 01.7 -0.2**
EKS2 Erkin-Say 70.75 315 P **P 08 12 04.0 +0.5**
SNR=13
OBN Obninsk 71.01 344⇑*e*P **P 08 12 02.8 -1.9**
OBN *i* 08 12 22.8
OBN *i* 08 12 26.2
OBN *e* 08 14 38.3
OBN *e*S **S 08 21 19.2 +1.0**
OBN pmax pmax
comp=Z,22nm,1.1s
OBN Obninsk 71.01 344 LR LR 08 49 10.2
comp=Z,469nm,18.3s,baz=6.0,slow=41
AML Almayashu 71.21 315 P **P 08 12 08.0 +1.2**
SNR=6.8
BELG Belogornoye 71.27 337*de*P **P 08 12 02.8 -3.6**
BELG pmax pmax
comp=Z,8.0nm,2.8s
BELG Belogornoye 71.27 337 LR LR 08 47 21.9
comp=Z,452nm,19.9s,baz=353,slow=39
TNCH TengChong 71.49 287 *e*P **P 08 12 09.6 +1.2**
TNCH pmax pmax
comp=Z,38nm,0.8s
PPT2 Papeete2 71.54 159 *e*P **P 08 12 10.3 +1.9**
comp=Z,102nm,26.2s
PPT2 *e*S **SKiKP 08 21 35.3 -10**
comp=Z,204nm,29.2s
PPT2 *e*SS **SS 08 25 58.6 -2.6**
comp=Z,123nm,23.0s
PPT2 *e*LR LR 08 33 06.6
comp=Z,423nm,33.8s
PPT2 *e*LR LR 08 33 32.2
comp=Z,710nm,32.2s
KKAR Karatay Array 71.77 318 P **P 08 12 09.5 -0.1**
KKAR Karatay Array 71.77 318 P **P 08 12 09.5 -0.1**
KSH Kashi 72.30 312 P **P 08 12 17.3 +4.3**
KSH sP PcP 08 12 29.6 -1.3
KSH PcP pwP 08 12 38.5 +13
KSH pmax pmax
comp=Z,22nm,0.6s
KSH LR LR
comp=Z,760nm,22.0s
KSH LR LR
comp=Z,1μm,18.7s
KSH LR LR
comp=Z,2μm,17.9s
EKA Eskdalemuir Ar 72.53 8 P **P 08 12 13.5 -0.4**
comp=Z,2.7nm,0.5s,baz=350,slow=4.4,SNR=16
comp=Z,2.7nm,0.5s
NACGM Naroch 72.57 350 *e*P **P 08 12 10.8 -3.3**
comp=Z,38nm,0.9s,baz=11
IUG Iuzhnay 72.76 318 *e*P **P 08 12 15.3 -0.4**
comp=Z,5.8nm,0.7s,baz=317
IUG Iuzhnay 72.76 318 *e*P **P 08 12 15.2 -0.4**
IUG pmax pmax
comp=Z,6.0nm,0.7s
CHM Chimkent 72.80 318 *e*P **P 08 12 15.8 0.0**
baz=318
CHM Chimkent 72.80 318 *e*P **P 08 12 15.7 0.0**
LPSR Galich'ya Gora 72.98 342 *e*P **P 08 12 15.0 -1.6**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
RAR Rarotonga 73.42 170 LR LR 08 37 21.6
comp=Z,216nm,19.7s,baz=352,slow=30
VRH Novokhopyorsk 73.74 340 *e*P **P 08 12 19.5 -1.6**

VRH pmax pmax
comp=Z,20nm,0.6s
VORR Voronezh 73.81 341 P **P 08 12 22.3 +0.8**
VORR pmax pmax
comp=Z,17nm,1.4s
CRAI Chiangrai 74.02 282 P **P 08 12 23.7 +0.4**
VSR Storozhevoye 74.25 341 *e*P **P 08 12 22.8 -1.3**
VSR pmax pmax
comp=Z,30nm,0.6s
TAPN Taplejung 75.93 296 *e*P **P 08 12 34.6 +0.1**
comp=Z,47nm,0.8s
CMAR Chiang Mai Arr 76.24 282 P **P 08 12 35.5 -0.5**
comp=Z,12nm,0.7s,baz=26,slow=6.6,SNR=42
CMAR LR LR 08 47 57.5
comp=Z,230nm,20.5s,baz=30,slow=37
comp=Z,12nm,0.7s
AKASG Malin Array Be 76.40 347 *i* P **P 08 12 36.2 -0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 76.40 347 P **P 08 12 35.8 -0.7**
comp=Z,5.1nm,0.5s,baz=12,slow=5.8,SNR=24
AKASG LR LR 08 52 37.1
comp=Z,263nm,18.1s,baz=38,slow=41
comp=Z,5.1nm,0.5s
AKBB Malin Array Si 76.40 347⇑*e*P **P 08 12 33.0 -3.5**
GUN Gumba 76.50 298 *e*P **P 08 12 38.2 +0.4**
comp=Z,29nm,0.5s
DZM Mont Dzumac 76.52 202 *e*S **SKiKP 08 22 02.6 +10**
DZM *e*SS **SS 08 27 22.5 +5.5**
comp=Z,123nm,30.9s
DZM *e*LR LR 08 36 22.8
comp=Z,285nm,21.9s
DZM Mont Dzumac 76.52 202 LR LR 08 40 32.2
comp=Z,210nm,19.8s,baz=40,slow=31
JIRN Jiri 76.52 298 *e*P **P 08 12 38.4 +0.4**
comp=Z,17nm,0.4s
RAMN Ramite 76.85 297 *e*P **P 08 12 39.9 +0.2**
comp=Z,24nm,0.6s
PKI Pulchoki 77.02 298 *e*P **P 08 12 40.7 -0.1**
PKIN Phulchoki 77.02 298 *e*P **P 08 12 41.0 +0.3**
CLL Collm 77.07 358 *i* P **P 08 12 41.3 +1.1**
CLL *e**PP **pP 08 12 47.0 -2.0**
CLL MLR MLR
comp=Z,300nm,21.3s
CLL Collm 77.07 358 *i* P **P 08 12 41.3 +1.1**
CLL *ex* x 08 12 47.0
CLL *e*pP **sP 08 12 51.0 -1.2**
CLL *e*PP **PP 08 15 36.0 +3.0**
CLL *e*(PPP) 08 17 12.0
CLL *e*S **S 08 22 24.0 -2.5**
CLL *e*SP **ScS 08 23 00.0 +5.2**
CLL *e*PPS PPS 08 23 18.0
CLL *e*(SS) 08 27 06.0
CLL *ex* x 08 28 58.0
CLL *ex* x 08 31 59.0
CLL AMS AMS 08 48 00.0
comp=Z,300nm,21.3s
TBI Tubuai 77.15 161 *e*LR LR 08 35 26.6
comp=Z,4μm,22.5s
TBI *e*LR LR 08 35 38.0
comp=Z,2μm,34.0s
DMN Daman 77.16 298 *e*P **P 08 12 41.7 +0.3**
comp=Z,21nm,0.6s
DANN Dangsing 77.30 300 *e*P **P 08 12 42.5 +0.2**
comp=Z,11nm,0.4s
BRDH Bariadhala 77.32 290 LR LR 08 50 41.8
comp=Z,334nm,19.3s,baz=172,slow=39
BRG Berggiesshubel 77.48 357 *e*P **P 08 12 44.6 +2.0**
BRG Amp 08 12 45.2
comp=Z,6.9nm,0.7s
BRG Berggiesshubel 77.48 357 P P 08 12 53.0 +11
BRG Amp 08 12 53.9
comp=Z,11nm,1.2s
BRG Amp 08 52 38.0
comp=N,0.1nm,14.4s
BRG Amp 08 53 11.0
comp=E,0.2nm,15.6s
BRG Amp 08 53 13.0
comp=Z,0.3nm,16.6s
BRG Berggiesshubel 77.48 357 *e*P **P 08 12 44.5 +2.0**
BRG 08 12 53.0
BRG pmax pmax
comp=Z,7.0nm,0.7s
BRG pmax pmax
comp=Z,11nm,1.2s
OSTC Ostas 77.71 356 *e*P **P 08 12 45.3 +1.4**
OSTC Ostas 77.71 356 *e*P **P 08 12 45.3 +1.4**
MOX Moxa 77.76 359 *e*L L 08 56 50.6
comp=Z,268nm,18.5s
HSKC Hora Svate Kat 77.76 358 *e*P **P 08 12 44.1 -0.1**
BSTI Sart Tilman 77.76 3 *d*P **P 08 12 45.8 +1.7**
BTNL Ternell 77.78 2 *d*P **P 08 12 45.8 +1.5**
RICC Richard 77.81 357 *e*P **P 08 12 47.0 +2.6**
PYUN Piuthan 77.91 300 *e*P **P 08 12 45.4 -0.2**
comp=Z,11nm,0.6s
DPC Dobruska-Polom 77.92 356 *e*P **P 08 12 46.6 +1.6**
DPC MLR MLR
comp=Z,400nm,20.5s
DPC Dobruska-Polom 77.92 356 *e*P **P 08 12 46.6 +1.6**
DPC AMS AMS 09 01 20.0
comp=Z,400nm,20.5s
BMRD Maredsous 78.02 3 *d*P **P 08 12 47.0 +1.4**
PRU Pruhonice 78.35 357 *e*P **P 08 12 48.5 +1.1**
PRU MLR MLR
comp=Z,300nm,18.4s
PRU Pruhonice 78.35 357 *e*P **P 08 12 48.5 +1.1**
PRU AMS AMS 08 53 40.0
comp=Z,300nm,18.4s
GOPC GO Pecny, Ondr 78.41 357 *e*P **P 08 12 48.2 +0.4**
GOPC GO Pecny, Ondr 78.41 357 *e*P **P 08 12 48.2 +0.4**
MORC Moravsky Berou 78.43 355⇑P **P 08 12 48.5 +0.6**
MORC Moravsky Berou 78.43 355 *e*P **P 08 12 48.3 +0.4**
MORC Moravsky Berou 78.43 355⇑P **P 08 12 48.5 +0.6**
STHS Stebnicka Huta 78.53 352 *e*P **P 08 12 50.1 +1.7**
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS Stebnicka Huta 78.53 352 *e*P **P 08 12 50.1 +1.7**
GRF Grafenberg Arr 78.72 359 *e*P **P 08 12 51.4 +2.0**
comp=Z,38nm,1.4s,baz=1.7,slow=4.8
GRF *e*L L 08 59 02.7
comp=Z,221nm,18.7s
MAUC Maruska 78.82 355 *e*P **P 08 12 51.6 +1.6**
ZVC Zvikov 78.91 357 *ex* x 08 12 58.5
KOLS Kolonicke sedl 78.92 352 *e*P **P 08 12 52.4 +1.8**
KOLS Kolonicke sedl 78.92 352 *e*P **P 08 12 52.4 +1.8**
LANS Liptovska Anna 78.93 354 *e*P **P 08 12 53.2 +2.5**
LANS pmax pmax
comp=Z,17nm,1.5s
LANS Liptovska Anna 78.93 354 *e*P **P 08 12 53.2 +2.5**
VRAC Vranov 78.94 356⇑P **P 08 12 50.8 +0.1**
VRAC Vranov 78.94 356 *e*P **P 08 12 51.1 +0.4**
VRAC Vranov 78.94 356⇑P **P 08 12 50.8 +0.1**
VRAC Vranov 78.94 356 P **P 08 12 51.0 +0.3**
comp=Z,8.5nm,0.5s,baz=1.7,slow=4.5,SNR=9.2
VRAC LR LR 08 50 22.0
comp=Z,126nm,18.4s,baz=10.0,slow=38
comp=Z,8.5nm,0.5s
CRVS Cervenica-Dubn 79.03 352 *e*P **P 08 12 51.9 +0.7**
CRVS pmax pmax
comp=Z,93nm,2.3s
CRVS Cervenica-Dubn 79.03 352 *e*P **P 08 12 51.9 +0.7**
SORM Soroca 79.03 348⇑P **P 08 12 51.6 +0.4**
SORM Soroca 79.03 348⇑P **P 08 12 51.6 +0.4**
KRUC Moravsky 79.20 356 *e*P **P 08 12 51.6 -0.5**
GOF Gofitskoye 79.21 337*ce*P **P 08 12 53.3 +1.1**
KHC Kasperske Hory 79.23 358⇑*e*P **P 08 12 51.9 -0.4**
KHC pmax pmax
comp=Z,62nm,1.6s
KHC Kasperske Hory 79.23 358 *e*P **P 08 12 53.7 +1.4**
KHC *e*PCP **pP 08 13 00.2 -0.9**
KHC AMS AMS 08 53 20.0
comp=Z,300nm,16.8s
JAVC Velka Javorina 79.33 355 *e*P **P 08 12 53.9 +1.0**
GERES GERESS Array B 79.52 357 P **P 08 12 54.0 0.0**
GERES GERESS Array B 79.52 357 P **P 08 12 54.0 0.0**
comp=Z,2.7nm,0.6s,baz=344,slow=8.3,SNR=4.9
comp=Z,2.7nm,0.6s
CKRC Cesky Krumlov 79.52 357 *e*P **P 08 12 55.3 +1.4**
CKRC Cesky Krumlov 79.52 357 *e*P **P 08 12 55.3 +1.4**
VYHS Vyhne 79.63 354 *e*P **P 08 12 56.0 +1.6**
VYHS pmax pmax
comp=Z,43nm,2.1s
VYHS Vyhne 79.63 354 *e*P **P 08 12 56.0 +1.6**
TRPA Tarpa 79.70 351⇑P **P 08 12 54.5 -0.2**

MODS Modra-Piesok 79.84 355 *e*P **P 08 12 57.1 +1.5**
MODS pmax pmax
comp=Z,75nm,1.6s
MODS Modra-Piesok 79.84 355 *e*P **P 08 12 57.1 +1.5**
BUR08 Bucovina Ar. S 79.91 350 P **P 08 12 56.5 +0.4**
BUR08 IAmb IAmb 08 13 12.4
comp=Z,11nm,1.1s
BURAR Bucovina Array 79.93 350⇓P **P 08 12 56.0 -0.2**
BURAR Bucovina Array 79.93 350⇓P **P 08 12 56.0 -0.2**
MAK Makhachkala 79.99 333 *e*P **P 08 12 53.3 -3.1**
MAK *e* 08 15 56.0
MAK *e*PPP PPP 08 17 44.5
MAK *e*S **S 08 22 51.7 -6.3**
MAK *e*SS **SS 08 28 08.3 +1.6**
MAK pmax pmax
comp=Z,146nm,1.0s
ZST Bratislava 80.03 355 *e*P **P 08 12 58.8 +2.2**
ZST Bratislava 80.03 355 *e*P **P 08 12 58.8 +2.2**
CEI Carei 80.14 351⇑P **P 08 12 56.9 -0.3**
CEI Carei 80.14 351⇑P **P 08 12 56.9 -0.3**
GROC Groznyy 80.24 334 *e*P **P 08 12 58.0 +0.2**
GROC pmax pmax
comp=Z,24nm,0.4s
KIV Kislovodsk 80.33 337 *e*P **P 08 12 57.3 -1.2**
KIV pmax pmax
comp=Z,12nm,1.1s
SRO Srobarova 80.34 354 *e*P **P 08 13 00.4 +2.2**
SRO Srobarova 80.34 354 *e*P **P 08 13 00.4 +2.2**
CONA Conrad Observa 80.35 356 *i* PcP **P 08 13 00.3 +1.9**
comp=Z,8.4nm,0.7s,SNR=7.4
MOA Molln 80.49 357 *e*pP pP 08 13 09.8 +1.8
comp=Z,6.7nm,0.5s
KBZ Khabaz 80.50 336⇑*e*P **P 08 12 57.9 -1.2**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 80.50 336 P **P 08 12 59.0 -0.1**
comp=Z,3.3nm,0.7s,baz=110,slow=1.9,SNR=9.9
KBZ LR LR 08 54 58.6
comp=Z,311nm,18.8s,baz=20,slow=40
comp=Z,3.3nm,0.7s
RONA Rosalia, Austr 80.56 356 *e*PcP **P 08 13 01.5 +2.0**
comp=Z,4.7nm,0.6s
BIOA Bad Ischl, Aus 80.67 357 *i* PcP **P 08 13 02.3 +2.2**
comp=Z,6.4nm,0.8s
RETA Reutte 80.92 359 *e*PcP **P 08 13 03.6 +2.1**
comp=Z,4.6nm,0.6s
LESA Schwarzleotal 80.96 358 *e*PcP **P 08 13 03.4 +1.7**
comp=Z,13nm,1.1s
ARSA Arzberg 81.05 356 *i* PcP **P 08 13 03.9 +1.7**
comp=Z,4.6nm,0.6s
MOTA Moosalm 81.06 359 *i* PcP **P 08 13 04.4 +2.0**
comp=Z,7.7nm,0.7s,SNR=5.5
WATA Walderalm 81.07 359 *i* PcP **P 08 13 04.3 +2.0**
comp=Z,25nm,1.6s
GEYT Alibeck 81.08 323 P **P 08 13 02.6 +0.2**
comp=Z,5.2nm,0.7s,baz=336,slow=3.3,SNR=5.7
GEYT LR LR 08 52 47.1
comp=Z,449nm,18.4s,baz=44,slow=38
comp=Z,5.2nm,0.7s
MARR Marisel-Cluj 81.08 351⇓P **P 08 13 01.7 -0.7**
ZEI Tsey 81.12 335 *e*P **P 08 13 02.8 0.0**
ZEI pmax pmax
comp=Z,10.0nm,1.0s
DAVA Damuels 81.13 360 *e*PcP **P 08 13 05.8 +3.1**
comp=Z,2.8nm,0.5s
WTTA Wattenberg 81.14 359 *e*PcP **P 08 13 04.6 +1.8**
comp=Z,13nm,0.6s,SNR=7.7
RAO Raoul Island 81.15 187 LR LR 08 45 55.6
comp=Z,174nm,18.2s,baz=39,slow=33
SQTA Sankt Quirin 81.19 359 *i* PcP **P 08 13 05.5 +2.5**
comp=Z,14nm,0.8s
CTA Charters Tower 81.21 221 LR LR 08 43 13.2
comp=Z,119nm,19.6s,baz=76,slow=31
KBA Koelnbreinsper 81.29 358 *e*PcP **P 08 13 06.0 +2.4**
comp=Z,17nm,0.6s
SOC Sochi 81.39 339 *e*P P 08 12 59.0 -4.9
SOC *e* 08 16 08.0
SOC *e*PPP PPP 08 18 01.0
SOC *e*S **S 08 23 05.6 -7.0**
SOC *e*SS **SS 08 28 23.4 -4.1**
SOC *e*SSS SSS 08 31 53.4
SOC pmax pmax
comp=Z,9.0nm,0.7s
SOC MLR MLR
comp=Z,393nm,19.0s
FETA Feichten 81.39 359 *i* PcP **P 08 13 05.5 +1.4**
comp=Z,11nm,0.7s,SNR=6.4
VRI Vrincioaia 81.47 348⇑P **P 08 13 03.6 -0.8**
VRI Vrincioaia 81.47 348⇑P **P 08 13 03.6 -0.8**
DAVOX Davos/Dischmat 81.64 360 P **P 08 13 06.9 +1.5**
comp=Z,11nm,0.5s,baz=306,slow=0.9,SNR=21
DAVOX LR LR 08 49 36.8
comp=Z,152nm,21.3s,baz=21,slow=36
comp=Z,11nm,0.5s
SOKA Soboth 81.64 356 *e*PcP **P 08 13 06.9 +1.6**
comp=Z,8.6nm,0.7s,SNR=14
ABTA Abfaltersbach 81.64 358 *i* PcP **P 08 13 06.9 +1.6**
comp=Z,4.4nm,0.9s,SNR=5.5
MYKA Terra Mystica 81.73 357 *i* PcP **P 08 13 07.6 +1.8**
comp=Z,8.3nm,1.1s
OBKA Obir 81.82 357 *i* PcP **P 08 13 08.6 +2.3**
comp=Z,5.6nm,0.6s
TLCR 81.86 347⇑P **P 08 13 05.5 -0.9**
TLCR 81.86 347⇑P **P 08 13 05.5 -0.9**
MLR Muntele Rosu 81.94 349⇑P **P 08 13 05.6 -1.4**
MLR Muntele Rosu 81.94 349⇑P **P 08 13 05.6 -1.4**
MLR Muntele Rosu 81.94 349 LR LR 08 55 42.1
comp=Z,448nm,18.0s,baz=2.0,slow=40
CADS Cadrg 82.13 357 *i* P **P 08 13 07.9 0.0**
ARR Arges 82.22 350⇓P **P 08 13 07.6 -0.8**
GZR Gura Zlata 82.39 351⇓P **P 08 13 09.4 +0.1**
GZR Gura Zlata 82.39 351⇓P **P 08 13 09.4 +0.1**
TIRR Tirgusor 82.63 347⇑P **P 08 13 09.1 -1.3**
TIRR Tirgusor 82.63 347⇑P **P 08 13 09.1 -1.3**
KNDS Knezji Dol 82.81 357 *i* P **P 08 13 12.4 +0.9**
BNI Bardonecchia 83.32 2 P **P 08 13 16.1 +1.9**
BNI Bardonecchia 83.32 2 P **P 08 13 16.1 +1.9**
BNI pmax pmax
comp=Z,13nm,0.7s
GNI Garni 83.37 334 LR LR 08 57 28.7
comp=Z,297nm,19.0s,baz=16,slow=41
BOVS Bovan 84.23 351⇑P **P 08 13 18.7 0.0**
PGAV Gavieira, Arco 85.13 13 *e*LR LR 08 47 51.3
comp=Z,302nm,18.0s
PBRG Braganca 85.50 12 *e*P **P 08 13 26.3 +1.1**
comp=Z,21nm,1.7s
POLO Lamas de Olo 85.78 13 *e*P **P 08 13 27.5 +0.8**
comp=Z,11nm,1.6s
MVO Moncorvo 86.09 13 *e*P **P 08 13 28.8 +0.6**
comp=Z,19nm,1.5s
MVO Moncorvo 86.09 13 *e*S S 08 24 10.8 +11
MVO Moncorvo 86.09 13 *e*LR LR 08 48 32.2
comp=Z,282nm,18.0s
BR131 Keskin Array S 86.36 342⇑*e*P **P 08 13 27.0 -2.6**
BRTR Keskin Array B 86.36 342 P **P 08 13 29.4 -0.2**
comp=Z,1.6nm,0.6s,baz=18,slow=3.9,SNR=6.8
comp=Z,1.6nm,0.6s
WRA Warramunga Arr 86.38 231 *i* P **P 08 13 30.1 +0.5**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 86.38 231 P **P 08 13 27.8 -1.8**
comp=Z,0.5nm,0.5s,baz=34,slow=5.7,SNR=16
comp=Z,0.5nm,0.5s
PVIS Viseu 86.41 13 *e*P **P 08 13 31.0 +1.3**
MTE Manteigas 86.77 13 *e*S S 08 24 25.5 +19
MTE Manteigas 86.77 13 *e*LR LR 08 47 59.1
comp=Z,229nm,20.0s
PCAS Casmilo, Conde 86.97 14 *e*P **P 08 13 35.0 +2.6**
comp=Z,38nm,1.7s
PMRV Marv??o 87.75 13 *e*LR LR 08 48 14.5
comp=Z,264nm,18.0s
ESDC Sonseca Array 87.94 11 P **P 08 13 37.4 +0.2**
ESDC IAmb IAmb 08 13 51.7
comp=Z,9.2nm,1.1s
ESDC Sonseca Array 87.94 11 P **P 08 13 36.8 -0.4**
comp=Z,3.3nm,0.6s,baz=344,slow=4.6,SNR=27
ESDC LR LR 08 57 22.0
comp=Z,150nm,18.1s,baz=345,slow=39
comp=Z,3.3nm,0.6s
PNCL Nicolau / Gran 88.87 14 *e*P **P 08 13 42.6 +1.1**
comp=Z,24nm,1.9s
SDV Santo Domingo 88.88 77 LR LR 08 56 20.7
comp=Z,185nm,19.6s,baz=321,slow=38
PBAR Barrancos 89.03 13 *e*P **P 08 13 46.0 +3.8**
comp=Z,30nm,1.7s
PCVE Castro Verde 89.42 14 *e*P **P 08 13 45.9 +1.9**

comp=Z,23nm,1.8s
PVAQ Vaqueiros 89.69 14 *e*P **P 08 13 46.6 +1.3**
comp=Z,38nm,1.9s
PVAQ Vaqueiros 89.69 14 *e*S **S 08 24 39.8 +5.4**
PVAQ Vaqueiros 89.69 14 *e*LR LR 08 49 52.8
comp=Z,232nm,18.0s
ASAR Alice Springs 89.77 229 P **P 08 13 45.5 -0.2**
ASAR Alice Springs 89.77 229 P **P 08 13 45.5 -0.2**
ASAR Alice Springs 89.77 229 P **P 08 13 45.0 -0.7**
comp=Z,2.1nm,0.5s,baz=30,slow=4.7,SNR=53
ASAR LR LR 08 52 55.1
comp=Z,111nm,18.9s,baz=31,slow=35
comp=Z,2.1nm,0.5s
PFVI Vila Bisbo 89.78 15 *e*P **P 08 13 48.3 +2.5**
comp=Z,62nm,1.7s
BAUV El Baul 90.39 75 P **P 08 13 50.2 +1.3**
URZ Urewera 90.54 190 LR LR 08 50 58.1
comp=Z,249nm,18.8s,baz=31,slow=33
LEM Lembang 90.56 260 LR LR 08 51 23.0
comp=Z,78nm,20.6s,baz=351,slow=34
PCRV Puerto La Cruz 91.43 72 LR LR 08 54 38.7
comp=Z,390nm,21.5s,slow=35
PMOZ Porto Moniz, M 92.30 23 *e*LR LR 08 48 15.0
comp=Z,162nm,20.0s
MMAI Mount Meron Ar 92.47 339 P **P 08 13 58.1 -0.3**
comp=Z,1.2nm,0.4s,baz=5.5,slow=9.6,SNR=6.2
MMAI LR LR 08 59 34.7
comp=Z,99nm,19.4s,baz=353,slow=38
comp=Z,1.2nm,0.4s
STKA Stephens Creek 93.58 220 LR LR 08 51 34.7
comp=Z,179nm,19.1s,baz=26,slow=33
WSAR Wadi Sarin 93.83 316 LR LR 09 02 04.7
comp=Z,455nm,19.1s,baz=68,slow=39
MDT Midelt 94.63 12 LR LR 09 01 16.5
comp=Z,143nm,18.5s,baz=9.5,slow=38
EIL Elat 95.78 338 LR LR 09 04 12.3
comp=Z,108nm,18.9s,baz=63,slow=40
RPZ Rata Peaks 96.68 194 LR LR 08 50 36.8
comp=Z,98nm,20.5s,baz=357,slow=31
TORD Torodi Ar. Bea 114.77 9 PKP **PKiKP 08 19 27.5 -0.6**
comp=Z,0.3nm,0.6s,baz=0.4,slow=3.1,SNR=2.3
TORD PKKPbc **PKKPbc 08 30 01.1 -2.1**
comp=Z,0.9nm,0.5s,baz=153,slow=1.7,SNR=8.6
PLCA Paso Flores 126.08 112 PKP **PKPdf 08 19 48.5 -0.5**
comp=Z,2.0nm,0.6s,baz=241,slow=2.6,SNR=12
MAW Mawson 150.26 218 PKPbc **PKPbc 08 20 36.7 -0.2**
comp=Z,7.9nm,0.8s,baz=106,slow=4.0,SNR=19
BOSA Boshof 154.00 328 PKPbc **PKiKP 08 20 47.3 +0.4**
comp=Z,3.8nm,0.7s,baz=41,slow=2.4,SNR=6.3
ELIB Princess Elisa 159.07 192 *d*PKP **PKPab 08 21 22.9 +2.0**
SNAA Sanae 159.43 169 ⇑P **PKPab 08 21 20.7 -1.6**
SNAA Sanae 159.43 169 PKPbc PKPdf 08 20 55.7 +11
comp=Z,0.9nm,0.9s,baz=202,slow=7.9,SNR=6.1
TROLL Troll, Antarti 159.62 173 ⇑P **PKPab 08 21 20.8 -2.5**
comp=Z,173nm,1.1s

*AEIC **13** 08:21:58.5±4.3, 51°.7N±0°.2×169°.8W±0°.1, h10km±8km, Error ellipse: s-maj=0.0km s-min=0.0km az=69.0*
*NEIC **13** 08:22:02.2±3.5, 52°.3N±0°.2×170°.4W±0°.2, h35km±2km, mb3.7/10, ML3.5/8, ML2.9(AEIC), Error ellipse: s-maj=35.5km s-min=11.0km az=157.0*
*IDC **13** 08:22:06.2±7.7, 53°.04N×170°.51W, h46km±73km, mb3.4/4, mbtmp3.5/6, ML3.0/2, MS4.1/1, Error ellipse: s-maj=51.7km s-min=28.5km az=5.0*
ISC 13 08:22:02.7±1.3, 52°.4N±0°.2×170°.54W±0°.09, h35km, n35, σ1§74/33, mb3.7/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLES	**Cleveland East**	**0.55**	**45**	Pn	**Pn**	**08 22 15.5**	**+1.4**
ATKA	**Atka Island**	**2.25**	**265**	Pn	**Pn**	**08 22 36.9**	**-0.5**
ATKA				IAML		08 23 12.5	
	comp=N,204nm,4.5s						
ATKA				IAML		08 23 29.4	
	comp=E,160nm,4.5s						
AKUT	**Akutan**	**3.33**	**57**	Pn	**Pn**	**08 22 51.6**	**-0.6**
AKUT				IAML		08 23 27.7	
	comp=N,173nm,4.2s						
AKUT				IAML		08 24 35.1	
	comp=E,158nm,3.6s						
ADK	**Adak**	**3.82**	**264**	Pn	**Pn**	**08 22 58.5**	**-0.5**
KIWB	**Kanaga Island**	**4.11**	**264**	Pn	**Pn**	**08 23 04.4**	**+1.4**
AMKA	**Amchitka**	**6.37**	**264**	Pn	**Pn**	**08 23 34.9**	**+0.9**
CAST	**Castle Rocks**	**14.67**	**34**	Pn	**Pn**	**08 25 28.6**	**+1.2**
SCM	**Sheep Creek Mo**	**15.64**	**44**		**Pn**	**08 25 40.6**	**+0.5**
M24K	**Tolsona, Glenn**	**16.25**	**44**		**Pn**	**08 25 48.1**	**+0.1**
M24K				IAmb	IAmb	08 25 50.2	
	comp=Z,10nm,1.1s						
VRDI	**Verde Repeater**	**17.12**	**48**	P	**Pn**	**08 25 55.5**	**-3.6**
ILAR	**Eielson Array**	**17.31**	**35**	P	**Pn**	**08 25 58.2**	**-3.0**
	baz=228,slow=10,SNR=1.4						
	comp=Z,0.1nm,0.5s						
H24K	**Noodor Dome**	**17.61**	**32**		**P**	**08 26 06.7**	**+1.0**
J25K	**Salcha River,**	**17.77**	**37**	Pn	**Pn**	**08 26 03.4**	**-3.6**
J26L	**Joseph Creek**	**18.39**	**38**	P	**P**	**08 26 11.4**	**-3.0**
L27K	**Beaver Creek,**	**18.47**	**44**	P	**P**	**08 26 11.9**	**-3.4**
BCAR	**Beaver Creek A**	**18.49**	**44**	P	**P**	**08 26 15.3**	**-0.2**
B20K	**Meade River**	**18.68**	**14**	P	**Pn**	**08 26 19.1**	**+1.1**
K27K	**Chicken**	**18.76**	**41**	P	**P**	**08 26 16.8**	**-1.5**
B21K	**Ikpikpuk River**	**18.77**	**17**	P	**Pn**	**08 26 20.2**	**+1.2**
B21K				IAmb	IAmb	08 26 22.8	
	comp=Z,1.9nm,0.8s						
PEA0B	**Petropavlovsk-**	**19.15**	**285**	P	**P**	**08 26 24.3**	**+1.6**
PETK	**Petropavlovsk-**	**19.15**	**285**	P	**P**	**08 26 23.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=75,slow=14,SNR=8.0						
	comp=Z,1.5nm,0.4s						
O29M	**Mount Kennedy**	**19.21**	**53**	P	**P**	**08 26 22.8**	**-0.6**
O29M				IAmb	IAmb	08 26 25.0	
	comp=Z,2.6nm,0.5s						
M29M	**Somme Creek**	**19.74**	**47**	P	**P**	**08 26 27.4**	**-1.8**
HYT	**Haines Junctio**	**19.82**	**52**	P	**P**	**08 26 29.2**	**-0.9**
I28M	**Miner Creek**	**20.19**	**38**	P	**P**	**08 26 33.8**	**-0.3**
G27K	**Doyon Strip**	**20.23**	**34**	P	**P**	**08 26 32.1**	**-2.3**
SKAG	**Skagway**	**20.73**	**56**	P	**P**	**08 26 39.2**	**-0.6**
SKAG				IAmb	IAmb	08 26 40.6	
	comp=Z,6.8nm,1.5s						
H29M	**Whitestone**	**21.11**	**37**	P	**P**	**08 26 41.8**	**-2.1**
G29M	**Pine Creek**	**21.54**	**35**	P	**P**	**08 26 47.5**	**-0.9**
G29M				IAmb	IAmb	08 26 47.8	
	comp=Z,4.2nm,1.1s						
MMPY	**Sheldon Lake,**	**23.04**	**48**	P	**P**	**08 27 04.0**	**-0.5**
MMPY				IAmb	IAmb	08 27 04.5	
	comp=Z,4.0nm,1.4s						
ELK	**Elko**	**38.84**	**85**	LR	LR	08 43 34.6	
	comp=Z,229nm,18.4s,baz=330,slow=33						
TXAR	**Lajitas Array**	**53.47**	**88**	P	**P**	**08 31 21.0**	**+1.7**
	comp=Z,0.1nm,0.6s,baz=294,slow=6.8,SNR=1.9						
	comp=Z,0.1nm,0.6s						
KURBB	**Kurchatov Arra**	**61.95**	**318**	P	**P**	**08 32 17.3**	**-1.2**
	comp=Z,0.2nm,0.2s,baz=45,slow=9.1,SNR=2.4						
	comp=Z,0.2nm,0.2s						
BVAR	**Borovoye Array**	**63.23**	**324**	P	**P**	**08 32 26.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=23,slow=7.8,SNR=3.8						
	comp=Z,0.9nm,0.4s						
ASAR	**Alice Springs**	**89.89**	**229**	P	P	08 35 02.3	+4.4
	comp=Z,0.4nm,0.9s,baz=12,slow=4.7,SNR=3.5						
	comp=Z,0.4nm,0.9s						

*JMA **13** 08:29:42.6±0.3, 37°.4N±0°.8×14°.4E±°, h50km, MV3.2/22, FAR E OFF FUKUSHIMA PREF*
*IDC **13** 08:29:51.8±1.6, 35°.47N×142°.65E, h0km, mb3.5/2, mbtmp3.4/3, ML2.3/1, Error ellipse: s-maj=34.5km s-min=33.4km az=6.0*
ISC 13 08:29:44.2±4.2, 37°.4N±0°.1×143°.7E±0°.2, h51km±48km, n13, σ1§11/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.99**	**298**	P	**Pn**	**08 30 15.3**	**-0.1**
JIKH				*e*S	**Sn**	**08 30 39.1**	**-0.1**
JIO	**Ouri**	**2.14**	**300**	*e*P	**Pn**	**08 30 17.3**	**-0.1**
JIO				*e*S	**Sn**	**08 30 43.2**	**+0.4**
JFK	**Kawauchi**	**2.25**	**270**	P	**Pn**	**08 30 18.9**	**-0.1**
JFK				*e*S	**Sn**	**08 30 46.1**	**+0.5**
JKMT	**Kesennumamotoy**	**2.26**	**310**	P	**Pn**	**08 30 18.5**	**-0.5**
JKMT				*e*S	**Sn**	**08 30 45.1**	**-0.5**
JMST	**Minamisoumatoc**	**2.26**	**279**	P	**Pn**	**08 30 18.6**	**-0.4**
JMST				*e*S	**Sn**	**08 30 45.8**	**0.0**
JMK	**Ichinoseki**	**2.50**	**309**	*e*P	**Pn**	**08 30 22.3**	**-0.1**
JMK				*e*S	**Sn**	**08 30 51.6**	**0.0**
JOTO	**OTAMA OYAMA**	**2.68**	**275**	*e*P	**Pn**	**08 30 25.8**	**+0.9**
JOTO				*e*S	**Sn**	**08 30 57.8**	**+1.6**
JOM	**Ohasama**	**2.81**	**318**	*e*P	**Pn**	**08 30 26.5**	**-0.1**
JOM				*e*S	**Sn**	**08 30 59.5**	**+0.2**
JYK	**Kaneyama**	**3.04**	**301**	*e*P	**Pn**	**08 30 30.6**	**+0.8**
JANG	**Nango**	**3.43**	**331**	P	**Pn**	**08 30 35.0**	**-0.1**
MJAR	**Matsushiro Arr**	**4.48**	**261**	Pn	**Pn**	**08 30 50.5**	**+1.0**
	0.2nm,0.3s,baz=125,slow=8.7,SNR=14						
MJAR				Sn	**Sn**	**08 31 36.5**	**-3.8**
	0.1nm,0.3s,baz=349,slow=16,SNR=1.1						
	2.4nm,0.5s						
ILAR	**Eielson Array**	**48.21**	**33**	P	P	08 38 49.5	+30
	0.8nm,1.1s,baz=246,slow=6.8,SNR=4.1						
	0.8nm,1.1s						
WRA	**Warramunga Arr**	**57.70**	**190**	P	**P**	**08 39 29.8**	**+0.1**
	0.4nm,0.6s,baz=12,slow=7.3,SNR=6.4						
	0.4nm,0.6s						

*NNC **13** 08:34:57.8±1.8, 53°.67N×86°.97E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=17.5km s-min=7.6km az=39.0, Suspected Mining explosion.*
*IDC **13** 08:34:58.4±2.5, 53°.60N×86°.87E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=21.7km s-min=13.4km az=74.0*
ISC 13 08:34:54.6±2.2, 52°.90N±0°.05×86°.4E±0°.1, h0km, n8, σ1§62/10, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.41**	**319**	I	I	08 43 40.0	
	baz=104,slow=331,SNR=2.0						
ZAA0	**Zalesovo Array**	**1.41**	**319**	⇑P	**Pb**	**08 35 22.0**	**+0.1**
	0.5nm,0.5s						
ZAA0				⇑S	**Sg**	**08 35 40.4**	**+0.4**
	5.7nm,0.8s						
ZALV	**Zalesovo Beam**	**1.41**	**319**	Pg	**Pn**	**08 35 21.1**	**-0.5**
	2.1nm,0.3s,baz=105,slow=18,SNR=11						
ZALV				Lg	Lg	08 35 40.5	
	1.0nm,0.3s,baz=107,slow=17,SNR=4.0						
KURK	**Kurchatov**	**5.29**	**249**	⇓Lg	Lg	08 38 04.4	
	7.2nm,1.2s						
KURBB	**Kurchatov Arra**	**5.39**	**248**	⇑Pn	**Pb**	**08 36 29.1**	**-0.4**
	1.8nm,0.7s						
KURBB				⇓Lg	Lg	08 38 08.8	
	8.8nm,0.7s						
KURBB	**Kurchatov Arra**	**5.39**	**248**	Pn	**Pb**	**08 36 29.0**	**-0.5**
	0.1nm,0.3s,baz=59,slow=13,SNR=3.5						
KURBB				Sn	**Sb**	**08 37 33.9**	**-0.7**
	baz=62,slow=14,SNR=1.1						
KURBB				Lg	Lg	08 38 06.5	
	0.1nm,0.3s,baz=61,slow=27,SNR=2.7						
	0.8nm,0.5s						
MK31	**Makanchi Array**	**6.66**	**205**	⇓Pn	**Pb**	**08 36 50.4**	**-0.8**
	1.2nm,0.8s,baz=29,slow=14,SNR=9.6						
MK31				⇓Sn	**Sb**	**08 38 14.5**	**+3.3**
	0.7nm,0.6s,baz=168,slow=36,SNR=4.2						
MK31				⇓Lg	Lg	08 38 53.3	
	3.8nm,0.9s,baz=28,slow=28,SNR=6.0						
MKAR	**Makanchi Array**	**6.66**	**205**	Pn	**Pb**	**08 36 49.4**	**-1.8**
	0.4nm,0.3s,baz=29,slow=14,SNR=8.2						
MKAR				Sn	**Sb**	**08 38 12.9**	**+1.6**
	0.2nm,0.3s,baz=18,slow=29,SNR=2.4						
MKAR				Lg	Lg	08 38 53.5	
	baz=29,slow=30						
	0.5nm,0.3s						

*SNET **13** 08:49:09.8±0.7, 14°.18N×91°.91W, h15km±999km, ML4.2*
*GCG **13** 08:49:15.2±0.5, 14°.55N×91°.59W, h35km±999km, MD4.0*
*IDC **13** 08:49:17.8±7.6, 15°.03N×91°.57W, h154km±63km, mb3.0/3, mbtmp3.4/4, Error ellipse: s-maj=64.4km s-min=47.1km az=22.0*
ISC 13 08:49:08.2±0.9, 14°.62N±0°.08×92°.02W±0°.09, h67km, n16, σ1§27/21, mb3.7/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**0.45**	**78**	*i*P	**Pn**	**08 49 22.3**	**+1.8**
SULM	**Suchitepequez,**	**0.54**	**125**	*i*P	**Pn**	**08 49 22.4**	**+1.2**
SULM				*i*S	**Sn**	**08 49 30.8**	**+0.1**
FUG	**Fuego 3**	**1.16**	**98**	*i*P	**Pn**	**08 49 29.5**	**+0.8**
PCG	**Pacaya**	**1.39**	**99**	*i*P	**Pn**	**08 49 32.9**	**+1.0**
PCG				*i*S	**Sn**	**08 49 49.7**	**+0.1**
NBG	**Las Nubes**	**1.62**	**91**	*i*P	**Pn**	**08 49 36.7**	**+1.7**
NUBE	**Las Nubes**	**2.29**	**108**	*e*P	**Pn**	**08 49 43.4**	**-0.5**
NUBE				*e*S	**Sn**	**08 50 10.7**	**-0.5**
CEVE	**Cerro Verde**	**2.46**	**108**	*e*P	**Pn**	**08 49 47.0**	**+0.8**
CEVE				*e*S	**Sn**	**08 50 16.0**	**+0.7**
CEVE				IAML		08 50 19.0	
	comp=Z,2μm,0.3s						
SNJE	**San Jose**	**2.46**	**107**	*e*P	**Pn**	**08 49 46.8**	**+0.5**
JAYA	**Jayaque - finc**	**2.67**	**111**	*e*P	**Pn**	**08 49 49.0**	**-0.2**
TEIG	**Tejich**	**6.63**	**32**	P	**Pn**	**08 50 44.6**	**+1.6**
	comp=Z,485nm,0.3s,baz=127,slow=2.6,SNR=28						
TEIG				S	**Sn**	**08 51 54.8**	**-2.3**
	comp=Z,443nm,0.5s,baz=169,slow=21,SNR=8.5						
TXAR	**Lajitas Array**	**18.17**	**326**	P	**Pn**	**08 53 17.2**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=134,slow=10,SNR=5.3						
PDAR	**Pinedale Array**	**31.85**	**335**	P	**P**	**08 55 27.6**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=102,slow=13,SNR=1.4						
	comp=Z,0.1nm,0.6s						
NVAR	**Mina Array Bea**	**33.18**	**321**	P	**P**	**08 55 40.2**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=132,slow=8.3,SNR=9.5						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array**	**62.27**	**337**	P	**P**	**08 59 20.6**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=111,slow=5.4,SNR=5.0						
	comp=Z,0.4nm,0.7s						
WRA	**Warramunga Arr**	**135.52**	**256**	PKP	**PKiKP**	**09 08 22.1**	**-1.1**
	comp=Z,0.2nm,0.8s,baz=85,slow=2.4,SNR=2.0						
ASAR	**Alice Springs**	**135.85**	**251**	PKP	**PKPdf**	**09 08 21.8**	**-0.4**
	comp=Z,0.2nm,0.8s,baz=77,slow=4.0,SNR=1.8						

IDC 13 09:03:30.4±11.0, 15°.78S×175°.08W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=498.8km s-min=38.5km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.18**	**257**	P	P	09 12 12.7	-0.4
	0.3nm,0.6s,baz=85,slow=6.7,SNR=5.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**48.45**	**252**	P	P	09 12 15.2	0.0
	1.3nm,0.6s,baz=87,slow=8.2,SNR=22						
	1.3nm,0.6s						
ILAR	**Eielson Array**	**83.14**	**12**	P	P	09 15 57.9	0.0
	0.4nm,1.0s,baz=209,slow=5.4,SNR=4.2						
	0.4nm,1.0s						

*NORS **13** 09:15:50.2±0.0, 42°.50N×43°.57E, h10km, MPVA3.7*
*TIF **13** 09:15:50.3, 42°.57N×43°.53E, h14km*
*MOS **13** 09:15:51.1±0.0, 42°.56N×43°.52E, h13km, MPVA3.7*
ISC 13 09:15:50.5±1.0, 42°.57N±0°.02×43°.52E±0°.02, h12km±9km, n28, σ0§68/55, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.36**	**52**	*i*Pg	**Pb**	**09 15 58.3**	**-0.7**
ZEI				*e*Sg	**Sb**	**09 16 03.8**	**-0.9**
TKB	**Tkibuli**	**0.44**	**241**	*e*Pg	**Pb**	**09 15 59.8**	**-0.5**
TKB				*e*Sg	**Sb**	**09 16 06.9**	**0.0**
TKB	**Tkibuli**	**0.44**	**241**	P	**Pb**	**09 15 59.8**	**-0.5**
TKB				S	**Sb**	**09 16 06.9**	**0.0**
ALIG	**Mtskhetisjvari**	**0.47**	**168**	*e*Pg	**Pb**	**09 16 00.1**	**-0.7**
ALIG				*e*Sg	**Sb**	**09 16 07.3**	**-0.3**
ALIG	**Mtskhetisjvari**	**0.47**	**168**	P	**Pb**	**09 16 00.1**	**-0.7**
ALIG				S	**Sb**	**09 16 07.3**	**-0.3**
LACR	**Lac**	**0.63**	**65**	*i*Pg	**Pb**	**09 16 03.1**	**-0.5**
LACR				*e*Sg	**Sb**	**09 16 11.8**	**-0.6**
KORR	**Kora**	**0.66**	**38**	*e*Pg	**Pb**	**09 16 04.2**	**+0.2**
KORR				*e*Sg	**Sn**	**09 16 14.8**	**-1.3**
LSNR	**Lesken**	**0.75**	**18**	*i*Pg	**Pb**	**09 16 05.8**	**+0.3**
LSNR				*e*Sg	**Sn**	**09 16 17.4**	**-0.9**
MTEO	**Meteo**	**0.76**	**81**	P	**Pb**	**09 16 05.5**	**-0.4**
MTEO				S	**Sb**	**09 16 15.5**	**-0.9**
STDR	**Stavd-Durt**	**0.90**	**26**	*e*Pg	**Pn**	**09 16 09.7**	**+0.7**
STDR				*e*Sg	**Sn**	**09 16 24.3**	**+2.4**
ABS	**Abastumani**	**0.96**	**213**	*e*Pg	**Pb**	**09 16 08.9**	**-0.3**
ABS				*e*Sg	**Sn**	**09 16 23.1**	**-0.6**
ABS	**Abastumani**	**0.96**	**213**	P	**Pb**	**09 16 08.9**	**-0.3**
ABS				S	**Sn**	**09 16 23.1**	**-0.6**
TRLG	**Trialeti**	**1.11**	**157**	*e*Pg	**Pg**	**09 16 12.0**	**0.0**
TRLG				*e*Sg	**Sn**	**09 16 28.2**	**+0.7**
TRLG	**Trialeti**	**1.11**	**157**	P	**Pg**	**09 16 12.0**	**0.0**
TRLG				S	**Sn**	**09 16 28.2**	**+0.7**
AKH	**Akhalkalaki**	**1.15**	**181**	*e*Pg	**Pg**	**09 16 12.7**	**-0.1**
AKH				*e*Sg	**Sn**	**09 16 29.0**	**+0.5**
AKH	**Akhalkalaki**	**1.15**	**181**	P	**Pg**	**09 16 12.7**	**-0.1**
AKH				S	**Sn**	**09 16 29.0**	**+0.5**
SHTL	**Shatili**	**1.21**	**85**	P	**Pg**	**09 16 13.6**	**-0.2**
KBZ	**Khabaz**	**1.25**	**339**	*e*Pg	**Pb**	**09 16 14.2**	**+0.2**
KBZ				*e*Sg	**Sg**	**09 16 30.7**	**0.0**
AZMN	**Azmana**	**1.26**	**188**	P	**Pg**	**09 16 14.5**	**-0.2**
AZMN				S	**Sg**	**09 16 32.8**	**+1.7**
BGD	**Bogdanovka**	**1.30**	**177**	*e*Pg	**Pg**	**09 16 15.6**	**+0.1**
BGD				*e*Sg	**Sg**	**09 16 33.2**	**+0.8**
BGD	**Bogdanovka**	**1.30**	**177**	P	**Pg**	**09 16 15.6**	**+0.1**
BGD				S	**Sg**	**09 16 33.2**	**+0.8**
SHA1	**Shidzhatmaz**	**1.33**	**332**	*i*Pg	**Pg**	**09 16 16.4**	**+0.2**
SHA1				*e*Sg	**Sg**	**09 16 33.7**	**+0.2**
DMNI	**Dmanisi**	**1.33**	**158**	P	**Pg**	**09 16 15.5**	**-0.7**
DMNI				S	**Sg**	**09 16 33.7**	**+0.2**
PYA1	**Pyatigorsk**	**1.53**	**349**	*e*Pg	**Pb**	**09 16 19.2**	**+0.4**
PYA1				*i*Sg	**Sg**	**09 16 39.6**	**-0.2**
BEYR	**Belyy Ugol+**	**1.53**	**341**	*e*Pg	**Pg**	**09 16 19.5**	**-0.5**
BEYR				*e*Sg	**Sg**	**09 16 39.9**	**-0.1**
BATM	**Batumi**	**1.66**	**235**	*e*Pg	**Pb**	**09 16 20.7**	**-0.4**
BATM				*e*Sg	**Sg**	**09 16 43.3**	**-0.7**
BATM	**Batumi**	**1.66**	**235**	P	**Pb**	**09 16 20.7**	**-0.4**
BATM				S	**Sg**	**09 16 43.3**	**-0.7**
LGD	**Lagodekhi**	**2.15**	**109**	P	**Pg**	**09 16 31.2**	**-0.5**
LGD				S	**Sg**	**09 17 00.5**	**+0.8**

*IDC **13** 09:17:48.5±0.9, 18°.32N×145°.65E, h448km±9km, mb4.1/28, mbtmp4.8/33, Error ellipse: s-maj=13.6km s-min=7.0km az=81.0*
*BJI **13** 09:17:48.6±0.0, 18°.39N×145°.57E, h440km, mb4.5/52, mB4.7/24*
*NEIC **13** 09:17:49.2±1.5, 18°.29N±0°.03×145°.5E±0°.1, h432km±5km, mb4.6/266, Error ellipse: s-maj=14.9km s-min=4.1km az=94.0*
ISC 13 09:17:49.8±0.5, 18°.23N±0°.04×145°.47E±0°.06, h452km±5km, n633, σ0§93/597, mb4.5/163, 5C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.65**	**187**	P	**P**	**09 19 09.1**	**-2.0**
GUMO				S	**S**	**09 20 15.1**	**-2.1**
GUMO	**Guam**	**4.65**	**187**	P	**P**	**09 19 12.8**	**+1.7**
GUMO	**Guam**	**4.65**	**187**	P	**P**	**09 19 11.5**	**+0.4**
	49nm,0.3s,baz=105,slow=2.4,SNR=12						
GUMO				S	**S**	**09 20 15.2**	**-1.9**
	262nm,0.6s,baz=39,slow=21,SNR=10						
JCJ	**Chichijima**	**9.33**	**342**	P	**P**	**09 19 58.9**	**-0.6**
JCJ	**Chichijima**	**9.33**	**342**	P	**P**	**09 20 02.8**	**+3.2**
JCJ	**Chichijima**	**9.33**	**342**	P	**P**	**09 19 56.6**	**-3.0**
	60nm,0.3s,baz=133,slow=11,SNR=34						
JCJ				S	**S**	**09 21 42.8**	**-3.5**
	49nm,0.7s,baz=107,slow=19,SNR=2.5						
JMZ	**Minamidaito 2**	**15.21**	**302**	P	**P**	**09 21 02.3**	**-0.8**
JOW	**Kunigami**	**18.03**	**301**	P	**P**	**09 21 33.7**	**+1.0**
JOW	**Kunigami**	**18.03**	**301**	P	**P**	**09 21 33.5**	**+0.8**
JOW	**Kunigami**	**18.03**	**301**	P	**P**	**09 21 31.7**	**-1.0**
	32nm,0.6s,baz=123,slow=20,SNR=9.2						
JMN	**Monobe**	**18.60**	**328**	P	**P**	**09 21 38.5**	**+0.3**
JMN	**Monobe**	**18.60**	**328**	P	**P**	**09 21 39.2**	**+1.0**
INU	**Inuyama**	**18.63**	**338**	P	**P**	**09 21 39.1**	**+0.7**
MJAR	**Matsushiro Arr**	**19.33**	**342**	P	**P**	**09 21 42.7**	**-2.2**
	5.7nm,0.7s,baz=167,slow=9.9,SNR=12						
MAJO	**Matsushiro**	**19.34**	**342**	P	**P**	**09 21 44.9**	**0.0**
MAJO				IAmb	IAmb	09 21 45.6	
	comp=Z,13nm,0.7s						
MAJO	**Matsushiro**	**19.34**	**342**	P	**P**	**09 21 47.4**	**+2.5**
MJB9	**Matsu-Tunnel**	**19.34**	**342**	P	**P**	**09 21 46.0**	**+1.0**
MJB9				IAmb	IAmb	09 21 46.6	
	comp=Z,12nm,0.7s						
JNU	**Nakatsue**	**19.78**	**321**	P	**P**	**09 21 49.5**	**+0.4**
JNU	**Nakatsue**	**19.78**	**321**	P	**P**	**09 21 50.0**	**+0.9**
JNU	**Nakatsue**	**19.78**	**321**	P	**P**	**09 21 48.5**	**-0.6**
	comp=Z,27nm,0.7s,baz=153,slow=3.3,SNR=16						
JMM	**Marumori**	**19.99**	**349**	P	**P**	**09 21 51.1**	**+0.3**
JMM	**Marumori**	**19.99**	**349**	P	**P**	**09 21 52.1**	**+1.3**
JHS	**Saijyo**	**19.99**	**329**	P	**P**	**09 21 51.9**	**+1.0**
MANU	**Manus Island**	**20.23**	**174**	P	**P**	**09 21 54.3**	**+1.0**
MANU				IAmb	IAmb	09 21 55.1	
	comp=Z,25nm,0.9s						
JSD	**Sado**	**20.72**	**344**	P	**P**	**09 21 58.2**	**+0.7**
YULB	**Yu-li**	**23.16**	**287**	P	**P**	**09 22 20.2**	**+0.4**
YHNB	**Yeheng**	**23.30**	**290**	P	**P**	**09 22 21.6**	**+0.4**
SSLB	**Suanglung**	**23.53**	**288**	P	**P**	**09 22 24.7**	**+1.6**
TPUB	**Ta-pu**	**23.75**	**287**	P	**P**	**09 22 26.0**	**+0.9**
TPUB	**Ta-pu**	**23.75**	**287**	P	**P**	**09 22 25.8**	**+0.7**
	comp=Z,104nm,2.9s						
KSRS	**Korea Array**	**24.57**	**325**	P	**P**	**09 22 31.8**	**-0.3**
	comp=Z,24nm,0.6s,baz=144,slow=8.9,SNR=83						
	comp=Z,24nm,0.6s						
KSAR	**Wonju Array Be**	**24.58**	**325**	P	**P**	**09 22 32.8**	**+0.5**
KS19	**Wonju Array Si**	**24.63**

WB2	Warramunga Arr	39.47 197	P	P	09 24 41.0 +1.1
WRA	Warramunga Arr	39.47 197	P	P	09 24 40.8 +0.8
WRA			PcP	PcP	09 26 37.4 +0.5
WRA	Warramunga Arr	39.47 197	P	P	09 24 40.0 +0.1
	comp=Z,6.6nm,0.6s,baz=20,slow=8.7,SNR=29				
WRA			PcP	PcP	09 26 36.9 -0.1
	comp=Z,4.0nm,0.8s,baz=6.0,slow=3.4,SNR=15				
WRA			ScP	ScP	09 29 40.3 -1.8
	comp=Z,1.4nm,0.8s,baz=14,slow=4.3,SNR=7.2				
	comp=Z,6.6nm,0.6s				
CD2	Chengdu	39.76 297	P	P	09 24 43.1 +0.9
CD2			pmax	pmax	
	comp=Z,20nm,0.5s				
LZH	Lanzhou	40.73 304	eP	P	09 24 51.6 +1.5
LZH			pmax	pmax	
	comp=Z,31nm,1.1s				
JAGI	Jajag, Banyuwa	40.73 232	P	P	09 24 48.8 -1.4
JAGI			IAmb	IAmb	09 24 53.7
	comp=Z,39nm,1.1s				
SMY	Shemya	41.05 26	P	P	09 24 52.1 0.0
PZH	PanZhiHua	41.10 290	P	P	09 24 55.3 +2.1
PZH			pmax	pmax	
	comp=Z,10.0nm,0.7s				
PZH			pmax	pmax	
	comp=Z,200nm,5.4s				
CRAI	Chiangrai	42.53 280	P	P	09 25 05.2 +0.8
ULN	Ulaanbaatar	43.00 322	P	P	09 25 08.9 +0.9
ULN			IAmb	IAmb	09 25 09.5
	comp=Z,12nm,0.7s				
AS31	Alice Springs	43.14 196	P	P	09 25 09.9 +0.7
ASAR	Alice Springs	43.14 196	P	P	09 25 09.8 +0.6
ASAR	Alice Springs	43.14 196	P	P	09 25 09.3 +0.1
	comp=Z,3.6nm,0.4s,baz=15,slow=7.7,SNR=86				
ASAR			PcP	PcP	09 26 49.6 +0.5
	comp=Z,3.2nm,0.8s,baz=19,slow=3.7,SNR=13				
ASAR			ScP	ScP	09 29 55.1 -1.6
	comp=Z,0.6nm,1.0s,baz=10,slow=4.1,SNR=4.5				
ASAR			S	S	09 31 00.4 -1.4
	comp=Z,0.6nm,0.8s,baz=19,slow=24,SNR=4.8				
	comp=Z,3.6nm,0.4s				
SONM	Songino Array	43.37 322	P	P	09 25 11.2 +0.4
SONM	Songino Array	43.37 322	P	P	09 25 11.2 +0.4
	comp=Z,7.5nm,0.6s,baz=133,slow=7.8,SNR=26				
SONM			PcP	PcP	09 26 49.7 0.0
	comp=Z,5.4nm,0.8s,baz=143,slow=4.1,SNR=10				
	comp=Z,7.5nm,0.6s				
CHTO	Chiang Mai	44.02 278	P	P	09 25 15.8 -0.4
CMAR	Chiang Mai Arr	44.06 278	P	P	09 25 18.5 +2.0
	comp=Z,8.4nm,0.7s,baz=68,slow=6.5,SNR=45				
CMAR			PcP	PcP	09 26 52.8 +0.3
	comp=Z,1.7nm,0.2s,baz=80,slow=2.8,SNR=8.1				
	comp=Z,8.4nm,0.7s				
CM31	Chiang Mai Arr	44.06 278	P	P	09 25 18.7 +2.2
GTA	Gaotai	44.66 308	eP	P	09 25 21.8 +0.8
GTA			PcP	PcP	09 26 54.8 +0.5
GTA			pmax	pmax	
	comp=Z,7.0nm,1.2s				
DZM	Mont Dzumac	45.01 152	P	P	09 25 25.2 +1.4
DZM			IAmb	IAmb	09 25 26.2
	comp=Z,12nm,0.5s				
YAK	Yakutsk	45.14 350	P	P	09 25 23.9 -0.2
MBWA	Marble Bar	46.56 214	P	P	09 25 36.4 +0.8
PSA00	Pilbara Seismi	46.84 213	P	P	09 25 38.6 +0.9
PSA00	Pilbara Seismi	46.84 213	P	P	09 25 38.7 +0.9
PSA00			IAmb	IAmb	09 25 38.9
	comp=Z,12nm,0.9s				
STKA	Stephens Creek	49.96 184	P	P	09 26 00.9 0.0
	comp=Z,3.1nm,0.6s,baz=341,slow=8.4,SNR=7.9				
	comp=Z,3.1nm,0.6s				
UNV	Unalaska Valle	51.16 34	P	P	09 26 10.4 +0.9
	baz=245				
KEKH	Kekaha	51.40 76	P	P	09 26 12.7 +0.9
FORT	Forrest	51.52 199	P	P	09 26 13.0 +0.5
FORT			IAmb	IAmb	09 26 13.9
	comp=Z,23nm,1.1s				
FALS	False Pass	53.23 34	P	P	09 26 24.9 +0.5
	baz=248				
CAN	Canberra	53.36 176	P	P	09 26 27.4 +1.8
CAN			IAmb	IAmb	09 26 35.3
	comp=Z,34nm,1.4s				
GAMB	Gambell	53.97 22	P	P	09 26 30.2 +0.7
	baz=233				
WMQ	Urumqi	54.45 311	eP	P	09 26 33.3 -0.2
WMQ			PcP	PcP	09 27 29.8 -0.5
WMQ			pmax	pmax	
	comp=Z,37nm,0.9s				
RAMN	Ramite	54.63 290	eP	P	09 26 36.1 +0.8
	comp=Z,8.4nm,0.5s				
MORW	Morawa	54.94 212	P	P	09 26 37.4 +0.4
JIRN	Jiri	54.95 291	eP	P	09 26 38.5 +0.9
	comp=Z,51nm,0.6s				
SDPT	Sand Point	54.98 34	P	P	09 26 37.3 +0.4
SDPT	Sand Point	54.98 34	P	P	09 26 37.0 +0.1
	baz=250				
GUN	Gumba	55.21 292	eP	P	09 26 40.2 +0.8
	comp=Z,16nm,0.4s				
CNBA	Chernabura Isl	55.29 35	P	P	09 26 39.6 +0.6
TOO	Toolangi	55.50 180	P	P	09 26 42.1 +1.4
PKI	Pulchoki	55.65 291	eP	P	09 26 42.8 +0.3
	comp=Z,18nm,0.4s				
PKIN	Phulchoki	55.66 291	eP	P	09 26 42.7 +0.2
	comp=Z,20nm,0.4s				
S14K	Fog Glacier	55.79 34	P	P	09 26 43.6 +0.9
	baz=250				
DMN	Daman	55.91 291	eP	P	09 26 44.9 +0.7
	comp=Z,16nm,0.4s				
O14K	Tigyukauivet M	56.03 30	P	P	09 26 44.9 +0.8
	baz=247				
N14K	Kuskokwak Cree	56.10 29	P	P	09 26 45.1 +0.5
	baz=246				
L14K	Kuka Creek	56.26 27	P	P	09 26 46.3 +0.7
	baz=244				
GKN	Gorkha	56.30 292	eP	P	09 26 47.3 +0.5
	comp=Z,25nm,0.4s				
M14K	Bethel	56.32 28	P	P	09 26 47.2 +1.1
	baz=245				
CHGN	Chignik	56.40 34	P	P	09 26 46.8 +0.1
CHGN	Chignik	56.40 34	P	P	09 26 47.3 +0.6
	baz=251				
J14K	Nanvaranak Lak	56.53 25	P	P	09 26 48.4 +0.8
	baz=242				
O15K	Ungalikthiuk R	56.68 30	P	P	09 26 49.4 +0.7
	baz=248				
M15K	Kasigluk River	56.87 28	P	P	09 26 50.6 +0.7
	baz=246				
N15K	Kwethluk River	56.93 29	P	P	09 26 51.0 +0.6
	baz=247				
DANN	Dangsing	57.05 292	eP	P	09 26 52.8 +0.7
	comp=Z,150nm,0.7s				
K15K	Wolf Creek Mou	57.17 26	P	P	09 26 52.5 +0.6
	baz=245				
P16K	Nushagak River	57.52 31	P	P	09 26 55.1 +0.7
	baz=250				
F15K	North Star Dit	57.56 22	P	P	09 26 55.1 +0.5
	baz=240				
N16K	Nishlik Lake	57.66 29	P	P	09 26 56.2 +0.8
	baz=248				
O16K	Kokwok River B	57.66 30	P	P	09 26 56.1 +0.8
	baz=250				
PYUN	Piuthan	57.74 292	eP	P	09 26 57.1 +0.3
	comp=Z,20nm,0.5s				
M16K	Timber Creek	57.78 28	P	P	09 26 57.0 +0.8
	baz=248				
L16K	Owhat River	57.81 27	P	P	09 26 57.1 +0.7
	baz=247				
R17K	Ugashik Creek	57.87 33	P	P	09 26 56.9 0.0
	baz=252				
J16K	Anvik River	57.98 26	P	P	09 26 58.3 +0.8
	baz=245				
I17K	Unalakleet	58.20 25	P	P	09 26 59.8 +0.8
	baz=245				
O17K	Koliganek Bris	58.20 30	P	P	09 26 60.0 +0.9
	baz=250,SNR=8.8				
G16K	Koyuk River	58.24 23	P	P	09 27 00.3 +1.1
	baz=242				
ZAA0	Zalesovo Array	58.25 323	P	P	09 26 59.3 -0.2
ZAA0			PcP	PcP	09 27 44.1 -0.9
ZALV	Zalesovo Beam	58.25 323	P	P	09 26 59.4 -0.2
ZALV			PcP	PcP	09 27 44.1 -0.9
ZALV	Zalesovo Beam	58.25 323	P	P	09 26 58.4 -1.1
	comp=Z,5.5nm,0.5s,baz=101,slow=7.7,SNR=15				
ZALV			PcP	PcP	09 27 43.8 -1.1
	comp=Z,4.2nm,0.7s,baz=131,slow=3.5,SNR=5.6				
	comp=Z,5.5nm,0.5s				
Q17K	Contact Creek	58.31 32	P	P	09 27 00.1 +0.1
	baz=253				
P17K	Kvichak River	58.33 31	P	P	09 27 00.4 +0.5
	baz=252				
N17K	Nushagak Hills	58.41 29	P	P	09 27 01.3 +0.8
	baz=250				
L17K	Donlin	58.49 27	P	P	09 27 01.9 +0.9
	baz=248				
M17K	Holitna River	58.60 28	P	P	09 27 02.7 +0.9
	baz=249				
MK31	Makanchi Array	58.63 314	P	P	09 27 02.9 +0.6
MK31			PcP	PcP	09 27 46.3 -0.4
MKAR	Makanchi Array	58.63 314	P	P	09 27 02.8 +0.5
	comp=Z,10nm,0.6s,baz=91,slow=8.2,SNR=61				
MKAR			PcP	PcP	09 27 46.3 -0.4
	comp=Z,5.3nm,0.7s,baz=90,slow=6.1,SNR=9.6				
	comp=Z,10nm,0.6s				
J17K	VABM Dome	58.65 26	P	P	09 27 02.8 +0.7
	baz=246				
C16K	Lisburne Hills	58.68 19	P	P	09 27 03.0 +0.8
	baz=237				
K17K	Iditarod	58.71 27	P	P	09 27 03.6 +1.1
	baz=248,SNR=5.4				
SII	Sitkinak Islan	58.72 34	P	P	09 27 03.7 +1.0
	baz=255				
MAKZ	Makanchi	58.84 314	P	P	09 27 04.9 +1.1
MAKZ			IAmb	IAmb	09 27 05.3
	comp=Z,23nm,0.9s				
R18K	Karluk	58.84 33	P	P	09 27 04.0 +0.6
	baz=254				
Q18K	Katmai Hardscr	58.87 32	P	P	09 27 03.4 -0.3
	baz=253				
G17K	Kiwalik Mounta	58.92 23	P	P	09 27 04.4 +0.5
	baz=244				
H17K	Granite Mounta	58.96 24	P	P	09 27 05.0 +0.8
	baz=245,SNR=5.0				
P18K	Big Mountain,	58.98 31	P	P	09 27 05.2 +0.8
	baz=252				
N18K	Kilae Creek	59.06 29	P	P	09 27 06.3 +1.3
N18K	Kilae Creek	59.06 29	P	P	09 27 05.5 +0.5
	baz=251				
D17K	Noatak River	59.11 20	P	P	09 27 06.0 +0.9
	baz=240				
O18K	Koktuh Hills	59.13 30	P	P	09 27 06.7 +1.3
O18K	Koktuh Hills	59.13 30	P	P	09 27 06.2 +0.8
	baz=252,SNR=6.2				
F17K	Baldwin Pennin	59.13 22	P	P	09 27 06.0 +0.7
	baz=243				
L18K	Granite Mounta	59.22 27	P	P	09 27 06.6 +0.7
	baz=250				
E17K	Hotham Inlet	59.23 21	P	P	09 27 06.7 +0.8
	baz=242				
SVW2	Sparrevohn	59.34 29	P	P	09 27 08.0 +1.2
C17K	DeLong Mountai	59.47 20	P	P	09 27 08.0 +0.5
	baz=240				
Q19K	Cape Douglas,	59.63 32	P	P	09 27 08.4 -0.3
H18K	Honhosa River	59.64 24	P	P	09 27 09.2 +0.4
	baz=246				
O19K	Port Alsworth	59.66 30	IAmb	IAmb	09 27 10.4
	comp=Z,18nm,0.8s				
O19K	Port Alsworth	59.66 30	P	P	09 27 09.4 +0.5
	baz=253				
J18K	Innoko River	59.66 26	P	P	09 27 09.7 +0.8
	baz=249				
N19K	Bonanza Creek	59.76 29	P	P	09 27 11.1 +1.4
N19K			IAmb	IAmb	09 27 11.6
	comp=Z,19nm,0.8s				
N19K	Bonanza Creek	59.76 29	P	P	09 27 10.6 +0.9
	baz=252,SNR=6.4				
TTA	Talina	59.77 27	P	P	09 27 10.2 +0.5
	baz=250				
E18K	Tukpahlearik C	59.81 21	P	P	09 27 10.9 +1.1
	baz=243				
G18K	Tagagawik	59.84 23	P	P	09 27 10.6 +0.6
	baz=246				
KDAK	Kodiak Island	59.87 33	P	P	09 27 11.1 +0.7
	baz=256				
L19K	White Mountain	60.02 28	P	P	09 27 12.4 +1.0
L19K	White Mountain	60.02 28	P	P	09 27 11.8 +0.4
	baz=251				
P19K	Oil Pt	60.03 31	P	P	09 27 12.1 +0.6
P19K	Oil Pt	60.03 31	P	P	09 27 11.7 +0.2
	baz=254				
GCSA	Galena City Sc	60.07 25	P	P	09 27 12.4 +0.9
	baz=248				
M19K	Big River Lodg	60.14 28	P	P	09 27 13.0 +0.8
	baz=252				
Q20K	Shuyak Island	60.17 32	P	P	09 27 12.6 +0.3
	baz=256				
SYI	Shuyak Island	60.17 32	P	P	09 27 12.7 +0.3
C18K	Utukok River	60.19 20	P	P	09 27 12.9 +0.4
	baz=242				
J19K	Poorman	60.30 26	P	P	09 27 14.0 +0.9
	baz=250,SNR=5.9				
B18K	Kokolik River	60.35 19	P	P	09 27 14.6 +1.3
	baz=240				
RSO	Redoubt South	60.48 30	P	P	09 27 14.7 0.0
G19K	Purcell Mounta	60.52 23	P	P	09 27 15.5 +0.9
	baz=247,SNR=6.7				
H19K	Roundabout Mou	60.53 24	P	P	09 27 15.6 +0.9
	baz=248,SNR=7.4				
F19K	Shaleruckik Mo	60.55 22	P	P	09 27 15.1 +0.4
	baz=246				
M20K	Styx River	60.70 28	P	P	09 27 17.3 +1.3
	baz=253				
K20K	Telida	60.74 27	P	P	09 27 17.3 +1.2
	baz=251				
C19K	Lookout Ridge	60.92 20	P	P	09 27 18.4 +1.1
	baz=243				
J20K	Nowinta River	60.97 26	P	P	09 27 18.8 +1.2
J20K			IAmb	IAmb	09 27 19.2
	comp=Z,15nm,0.7s				
J20K	Nowinta River	60.97 26	P	P	09 27 18.7 +1.1
	baz=251,SNR=9.7				
CNPM	China Poot	60.98 31	P	P	09 27 18.0 +0.2
E19K	Redstone River	61.00 22	P	P	09 27 18.6 +0.8
	baz=246				
I20K	Naaghedeneel	61.05 25	P	P	09 27 18.9 +0.8
	baz=250				
H20K	Anotleneega Mo	61.13 24	P	P	09 27 19.5 +0.9
	baz=250,SNR=6.1				
D19K	Kuna River	61.13 21	P	P	09 27 19.1 +0.4
	baz=245				
BRLK	Bradley Lake	61.20 31	P	P	09 27 19.0 -0.3
BRSE	Bradley Lake S	61.27 31	P	P	09 27 19.6 -0.1
	baz=257				
CAPN	Captain Cook N	61.32 30	P	P	09 27 20.4 +0.5
	baz=256				
F20K	Avaraart Lake	61.38 22	P	P	09 27 20.8 +0.7
	baz=248				
PPLA	Purkeypile	61.42 28	P	P	09 27 21.0 +0.2
	baz=254				
SKT	Skwentna	61.46 29	P	P	09 27 20.8 -0.1
SKT			IAmb	IAmb	09 27 21.3
	comp=Z,19nm,1.1s				
SKT	Skwentna	61.46 29	P	P	09 27 20.7 -0.2
	baz=255				
KURBB	Kurchatov Arra	61.52 318	P	P	09 27 20.4 -1.1
	comp=Z,71nm,0.7s,baz=97,slow=6.9,SNR=106				
	comp=Z,71nm,0.7s				
TARG	Taragay, Kyrgy	61.54 308	IAmb	IAmb	09 27 24.5
	comp=Z,17nm,1.1s				
CAST	Castle Rocks	61.61 27	P	P	09 27 22.6 +0.8
CAST	Castle Rocks	61.61 27	P	P	09 27 22.4 +0.5
	baz=253,SNR=16				
CHUM	Lake Minchumin	61.65 26	P	P	09 27 22.8 +0.7
	baz=253				
E20K	Nigu River	61.68 21	P	P	09 27 22.9 +0.6
	baz=247				
SUA	Susitna One	61.69 29	P	P	09 27 23.1 +0.6
SUA			IAmb	IAmb	09 27 25.5
	comp=Z,13nm,0.9s				
SUA	Susitna One	61.69 29	P	P	09 27 22.3 -0.2
	baz=256				
D20K	Etivluk River	61.72 21	P	P	09 27 23.0 +0.5
	baz=246				
IMAR	Indian Mountai	61.73 24	P	P	09 27 23.4 +0.8
O22K	Cooper Landing	61.94 31	P	P	09 27 24.4 +0.5
O22K	Cooper Landing	61.94 31	P	P	09 27 24.0 0.0
	baz=257				
SEW	Seward	61.99 31	P	P	09 27 24.9 +0.6
	baz=258				
H21K	Melozitna Rive	61.99 24	P	P	09 27 25.4 +1.1
H21K			IAmb	IAmb	09 27 25.6
	comp=Z,9.7nm,0.8s				
H21K	Melozitna Rive	61.99 24	P	P	09 27 25.1 +0.8
	baz=252,SNR=5.8				
G21K	Allakaket	62.01 23	P	P	09 27 24.8 +0.4
	baz=250				
M22K	Willow	62.05 29	P	P	09 27 24.6 -0.1
	baz=256				
M22K	Willow	62.05 29	P	P	09 27 24.2 -0.5
	baz=256				
RC01	Rabbit Creek A	62.07 30	P	P	09 27 24.9 0.0
RC01	Rabbit Creek A	62.07 30	P	P	09 27 24.6 -0.3
	baz=257				
B20K	Meade River	62.08 19	P	P	09 27 25.3 +0.6
	baz=245				
CUT	Chulitna	62.14 28	P	P	09 27 25.1 -0.1
	baz=256				
KTH	Kantishna Hill	62.15 27	IAmb	IAmb	09 27 27.6
	comp=Z,35nm,1.3s				
I21K	Tanana	62.17 25	P	P	09 27 25.9 +0.4
	baz=252				
BPAW	Bear Paw Mtn.	62.27 26	IAmb	IAmb	09 27 27.4
	comp=Z,17nm,0.9s				
BPAW	Bear Paw Mtn.	62.27 26	P	P	09 27 26.5 +0.3
	baz=254,SNR=8.2				
TRF	Thorofare Moun	62.40 27	IAmb	IAmb	09 27 27.7
	comp=Z,21nm,1.0s				
TRF	Thorofare Moun	62.40 27	P	P	09 27 26.7 -0.5
	baz=255				
PMR	Palmer	62.47 29	P	P	09 27 27.2 -0.2
PMR			IAmb	IAmb	09 27 27.4
	comp=Z,13nm,0.8s				
PMR	Palmer	62.47 29	P	P	09 27 27.2 -0.2
	baz=257				
GHO	Glory Hole Cre	62.60 29	IAmb	IAmb	09 27 29.0
	comp=Z,17nm,0.8s				
H22K	Ishtalitna Cre	62.63 24	P	P	09 27 29.2 +0.7
	baz=253				
PWL	Port Wells	62.69 30	P	P	09 27 29.3 +0.4
PWL	Port Wells	62.69 30	P	P	09 27 29.0 +0.1
	baz=258,SNR=6.1				
ULHL	Ulahol	62.70 309	P	P	09 27 30.6 +0.9
	SNR=5.3				
B21K	Ikpikpuk River	62.74 20	P	P	09 27 29.7 +0.6
	baz=248				
KNK	Knik Glacier	62.74 30	P	P	09 27 29.5 +0.2
	baz=258				
F22K	John River	62.83 23	P	P	09 27 30.1 +0.4
	baz=251,SNR=6.1				
SML	Sawmill	62.89 29	P	P	09 27 30.2 0.0
	baz=258,SNR=8.7				
G22K	Bettles	62.89 23	P	P	09 27 30.3 +0.2
	baz=252				
KSH	Kashi	62.96 306	P	P	09 27 34.6 +3.3
KSH			pmax	pmax	
	comp=Z,23nm,1.0s				
RND	Reindeer	63.01 27	P	P	09 27 30.5 -0.6
WAT1	Susitna Watana	63.01 28	P	P	09 27 30.5 -0.5
	baz=257				
MCK	McKinley	63.05 27	P	P	09 27 31.3 0.0
	baz=256				
D22K	Ayikyak River	63.11 21	P	P	09 27 32.4 +0.8
	baz=250				
M23K	Glacier View	63.16 29	P	P	09 27 32.0 -0.1
	baz=258				
TKM2	Toknak 2	63.18 309	P	P	09 27 33.5 +0.8
	SNR=18				
NEA2	Nenana	63.21 26	P	P	09 27 32.6 +0.4
	baz=256				
I23K	Minto, Yukon-K	63.23 25	IAmb	IAmb	09 27 33.8
	comp=Z,10nm,0.7s				
I23K	Minto, Yukon-K	63.23 25	P	P	09 27 32.8 +0.5
	baz=255,SNR=7.2				
GLI	Glacier Island	63.28 30	P	P	09 27 32.4 -0.4
	baz=259				
WAT6	Susitna Watana	63.32 28	P	P	09 27 33.0 -0.2
	baz=258,SNR=7.6				
H23K	Yukon River	63.33 25	P	P	09 27 33.8 +0.8
H23K			IAmb	IAmb	09 27 34.6
	comp=Z,13nm,0.8s				
H23K	Yukon River	63.33 25	P	P	09 27 33.7 +0.6
	baz=255,SNR=6.4				
SCM	Sheep Creek Mo	63.36 29	P	P	09 27 33.4 +0.1
	baz=259,SNR=6.4				
G23K	Bananza Creek	63.39 24	P	P	09 27 34.0 +0.6
	baz=254				
COLD	Coldfoot	63.47 23	P	P	09 27 34.6 +0.7
	baz=253				
WRH	Wood River Hil	63.59 26	IAmb	IAmb	09 27 34.9
	comp=Z,11nm,0.8s				
DHY	Denali Highway	63.59 28	P	P	09 27 35.8 +0.9
	baz=258				
MDM	Murphy Dome	63.65 26	IAmb	IAmb	09 27 36.8
	comp=Z,12nm,0.8s				
KBK	Karagaybulak	63.66 309	P	P	09 27 36.5 +0.7
	SNR=5.8				
COLA	College	63.78 26	P	P	09 27 36.1 +0.2
COLA			IAmb	IAmb	09 27 38.3
	comp=Z,11nm,0.8s				
COLA	College	63.78 26	P	P	09 27 37.3 +1.4
	baz=257				
RTZ	Ruatahuna	63.80 153	P	P	09 27 36.7 +0.2
RTZ			IAmb	IAmb	09 27 37.1
	comp=Z,13nm,0.8s				
D23K	Nanushuk River	63.82 21	P	P	09 27 37.4 +1.3
	baz=252				
EYAK	Cordova Ski Ar	63.88 31	P	P	09 27 37.1 +0.5
	baz=261				
E23K	Chandalar	63.92 22	P	P	09 27 38.0 +1.1
	baz=253,SNR=10				
M24K	Tolsona, Glenn	63.95 29	P	P	09 27 38.1 +1.0
	baz=260				
KLU	Klutina	63.95 30	P	P	09 27 38.0 +0.9
KLU			IAmb	IAmb	09 27 38.5
	comp=Z,15nm,0.8s				
KLU	Klutina	63.95 30	P	P	09 27 37.4 +0.2
	baz=260				
USP	Ospenovka	63.98 310	P	P	09 27 38.2 +0.6
	SNR=6.1				
AAK	Ala-Archa	63.99 309	P	P	09 27 38.0 +0.1
AAK			IAmb	IAmb	09 27 39.3
	comp=Z,11nm,1.1s				
AAK	Ala-Archa	63.99 309	P	P	09 27 37.8 -0.1
	comp=Z,6.8nm,0.7s,baz=99,slow=5.1,SNR=7.7				
	comp=Z,6.8nm,0.7s				
H24K	Noodor Dome	64.00 25	P	P	09 27 37.2 -0.1
H24K	Noodor Dome	64.00 25	P	P	09 27 38.0 +0.7
	baz=256				
POKR	Poker Plat Res	64.01 26	P	P	09 27 37.6 +0.2
	baz=257				
HDA	Harding Lake	64.06 27	P	P	09 27 36.9 -0.8
HDA	Harding Lake	64.06 27	P	P	09 27 37.2 -0.5
	baz=258,SNR=6.5				
TOLK	Toolik Lake Re	64.11 22	P	P	09 27 38.4 +0.4
	baz=253				
C23K	Itkillik River	64.12 20	P	P	09 27 38.5 +0.5
	baz=252				
IL31		64.16 26	P	P	09 27 37.0 -1.3
IL31			IAmb	IAmb	09 27 38.1
	comp=Z,17nm,1.1s				
ILAR	Eielson Array	64.16 26	P	P	09 27 37.3 -1.0
ILAR	Eielson Array	64.16 26	P	P	09 27 36.3 -2.1
	comp=Z,9.3nm,0.9s,baz=247,slow=6.1,SNR=93				
	comp=Z,9.3nm,0.9s				
E24K	Your Creek	64.34 22	P	P	09 27 40.2 +0.7
	baz=254				
G24K	Hadweenzic Riv	64.37 24	P	P	09 27 40.3 +0.6
	baz=256				
F24K	Squaw Lake	64.41 23	P	P	09 27 40.6 +0.7
	baz=255,SNR=5.3				
PAX	Paxson	64.42 28	P	P	09 27 40.4 +0.3
	baz=260,SNR=8.7				
K24K	Donnelly Dome	64.44 27	P	P	09 27 40.7 +0.5
	baz=259				
KAIM	Kayak Island	64.44 32	P	P	09 27 41.1 +0.9
	baz=262				
BMRM	Bremner River	64.50 31	P	P	09 27 41.2 +0.5
	baz=262,SNR=5.1				
D24K	Happy Valley	64.52 21	P	P	09 27 41.7 +1.1
	baz=254				
EKS2	Erkin-Say	64.52 309	P	P	09 27 41.9 +0.6
	SNR=5.5				
AML	Almayashu	64.60 309	P	P	09 27 43.2 +1.2
	SNR=16				
N25K	Chitina, Valde	64.60 30	P	P	09 27 41.6 +0.3
	baz=261				
C24K	Franklin Bluff	64.72 21	P	P	09 27 42.2 +0.4
	baz=254				
J25K	Salcha River,	64.77 26	P	P	09 27 41.9 -0.5
	baz=259				
RIDG	Independent Ri	64.83 27	IAmb	IAmb	09 27 43.5
	comp=Z,12nm,0.6s				
RIDG	Independent Ri	64.83 27	P	P	09 27 42.6 -0.1
	baz=260,SNR=5.8				
PRP	Porcupine Dome	64.88 25	P	P	09 27 42.8 -0.2
	baz=259				

G25K	Bearman Lake	64.91	24	P	P	09 27 43.8 +0.7
	baz=257					
H25L	Birch Creek	64.92	25	P	P	09 27 43.6 +0.6
	baz=258					
VRDI	Verde Repeater	65.09	30	IAmb	IAmb	09 27 45.6
	comp=Z,12nm,0.9s					
CRQE	Cirque	65.20	31	P	P	09 27 45.4 +0.2
	baz=263					
SCRK	Sand Creek	65.25	27	P	P	09 27 45.5 +0.1
SCRK				IAmb	IAmb	09 27 46.3
	comp=Z,15nm,1.1s					
SCRK	Sand Creek	65.25	27	P	P	09 27 45.3 -0.1
	baz=261,SNR=9.2					
F25K	Christian Rive	65.27	23	P	P	09 27 46.6 +1.2
	baz=258,SNR=11					
MCARA	McCarthy VSAT	65.31	30	IAmb	IAmb	09 27 57.1
	comp=Z,14nm,0.8s					
MCARA	McCarthy VSAT	65.31	30	P	P	09 27 46.1 +0.3
	baz=263					
L26K	Log Cabin Wild	65.39	28	IAmb	IAmb	09 27 47.5
	comp=Z,19nm,1.3s					
L26K	Log Cabin Wild	65.39	28	P	P	09 27 46.5 +0.3
	baz=262					
D25K	Kavik River	65.40	21	P	P	09 27 46.9 +0.7
	baz=256					
E25K	Arctic Village	65.41	23	P	P	09 27 47.1 +0.8
	baz=257					
M26K	Nabesna, AK	65.46	29	P	P	09 27 46.9 +0.2
	baz=262					
J26L	Joseph Creek	65.52	27	IAmb	IAmb	09 27 48.5
	comp=Z,9.8nm,0.8s					
J26L	Joseph Creek	65.52	27	P	P	09 27 46.9 -0.2
	baz=261,SNR=11					
NIL	Nilore	65.56	299	P	P	09 27 48.8 +0.9
BMAR	Burnt Mountain	65.63	23	P	P	09 27 48.6 +0.9
MESA	MESA	65.70	32	P	P	09 27 48.7 +0.3
	baz=264					
I26K	Coal Creek Min	65.82	26	P	P	09 27 47.8 -1.0
	baz=261					
G26K	Porcupine Rive	65.85	24	P	P	09 27 49.6 +0.7
	baz=260,SNR=5.9					
F26K	Sheenjek River	65.85	23	P	P	09 27 50.1 +1.1
	baz=259,SNR=7.4					
M27K	Edge Creek, AK	65.97	29	IAmb	IAmb	09 27 54.8
	comp=Z,21nm,1.5s					
M27K	Edge Creek, AK	65.97	29	P	P	09 27 50.2 +0.1
	baz=263					
C26K	Camden Bay	66.04	21	P	P	09 27 50.6 +0.5
	baz=257					
CTG	Chitna Glacier	66.08	31	P	P	09 27 51.1 +0.4
	baz=264					
L27K	Beaver Creek,	66.08	28	P	P	09 27 51.0 +0.4
	baz=263					
K27K	Chicken	66.09	27	P	P	09 27 51.2 +0.7
	baz=262					
BCAR	Beaver Creek A	66.10	28	P	P	09 27 50.9 +0.2
BCAR				PcP	PcP	09 28 17.6 +0.6
LOGN	Logan Glacier	66.23	31	P	P	09 27 52.3 +0.6
LOGN				IAmb	IAmb	09 27 53.2
	comp=Z,16nm,1.0s					
BVCY	Beaver Creek	66.45	29	P	P	09 27 53.6 +0.7
	baz=264					
I27K	Kandik River	66.50	26	P	P	09 27 53.3 +0.2
	baz=262					
PINM	Pinnacle	66.54	32	P	P	09 27 53.6 +0.1
	baz=266					
YUK3	Moose Creek	66.58	30	P	P	09 27 54.1 +0.2
	baz=265,SNR=5.2					
H27K	Steamboat Moun	66.62	25	P	P	09 27 54.5 +0.6
	baz=262,SNR=12					
O28M	Mount Upton	66.62	31	P	P	09 27 54.8 +0.5
	baz=266,SNR=7.0					
G27K	Doyon Strip	66.65	24	P	P	09 27 55.4 +1.4
	baz=262					
BVAR	Borovoye Array	66.69	321	P	P	09 27 53.5 -1.0
	comp=Z,27nm,0.5s,baz=97,slow=7.4,SNR=65					
BVAR				PcP	PcP	09 28 18.4 -1.2
	comp=Z,5.5nm,0.6s,baz=108,slow=4.8,SNR=3.7					
	comp=Z,27nm,0.5s					
BRVK	Borovoye	66.76	321	P	P	09 27 55.3 +0.4
YUK8	Steele Glacier	66.87	30	P	P	09 27 56.5 +0.7
	baz=266,SNR=6.5					
E27K	Coleen River	66.88	23	P	P	09 27 56.2 +0.7
	baz=261					
KK31	Karatay Array	66.90	310	P	P	09 27 56.2 +0.2
KKAR	Karatay Array	66.90	310	P	P	09 27 55.9 -0.1
PNL	Peninsula	66.94	32	P	P	09 27 55.9 -0.1
	baz=267					
I28M	Miner Creek	67.17	26	P	P	09 27 57.6 +0.2
	baz=264					
DAWY	Dawson	67.27	27	P	P	09 27 58.3 +0.4
	baz=265					
D27M	Malcolm River	67.27	22	P	P	09 27 58.0 +0.1
	baz=261					
O29M	Mount Kennedy	67.39	32	IAmb	IAmb	09 28 01.1
	comp=Z,14nm,0.8s					
O29M	Mount Kennedy	67.39	32	P	P	09 27 58.8 -0.1
	baz=267,SNR=7.6					
YUK4	Talbot Arm	67.41	30	P	P	09 28 00.4 +1.4
	baz=267,SNR=8.0					
F28M	Old Crow	67.45	24	P	P	09 27 59.6 +0.6
F28M				IAmb	IAmb	09 28 00.7
	comp=Z,17nm,1.0s					
F28M	Old Crow	67.45	24	P	P	09 27 59.3 +0.3
	baz=263,SNR=7.3					
YUK6	Outpost Mounta	67.53	31	P	P	09 28 00.4 +0.6
	baz=267					
M29M	Somme Creek	67.56	29	P	P	09 28 00.8 +0.9
M29M				IAmb	IAmb	09 28 01.8
	comp=Z,12nm,0.9s					
M29M	Somme Creek	67.56	29	P	P	09 28 00.9 +0.9
	baz=266,SNR=11					
E28M	Babbage River	67.70	23	P	P	09 28 01.3 +0.8
	baz=263					
L29M	L29M	67.76	29	P	P	09 28 02.2 +1.2
	baz=266,SNR=14					
P29M	Windy Craggy	67.78	32	P	P	09 28 02.5 +1.3
	baz=268,SNR=5.8					
J29N	Klondike Camp	67.81	27	P	P	09 28 02.0 +0.7
	baz=266					
I29M	Ogilvie Camp,	67.84	26	P	P	09 28 01.9 +0.5
I29M				IAmb	IAmb	09 28 02.6
	comp=Z,12nm,1.2s					
I29M	Ogilvie Camp,	67.84	26	P	P	09 28 01.7 +0.3
	baz=265,SNR=5.4					
H29M	Whitestone	67.89	25	P	P	09 28 01.9 +0.3
H29M				IAmb	IAmb	09 28 02.6
	comp=Z,6.9nm,0.7s					
H29M	Whitestone	67.89	25	P	P	09 28 02.0 +0.3
	baz=265					
HYT	Haines Junctio	67.94	31	P	P	09 28 03.1 +0.9
	baz=268,SNR=16					
K29M	Barlow Dome	68.08	28	IAmb	IAmb	09 28 04.8
	comp=Z,15nm,1.1s					
K29M	Barlow Dome	68.08	28	P	P	09 28 03.5 +0.5
	baz=267,SNR=11					
G29M	Pine Creek	68.09	24	IAmb	IAmb	09 28 04.8
	comp=Z,13nm,0.8s					
G29M	Pine Creek	68.09	24	P	P	09 28 03.8 +0.9
	baz=265,SNR=6.2					
N30M	Aishikik Lake	68.17	30	IAmb	IAmb	09 28 05.4
	comp=Z,16nm,1.0s					
N30M	Aishikik Lake	68.17	30	P	P	09 28 04.3 +0.8
	baz=268,SNR=7.1					
P30M	Million Dollar	68.19	32	P	P	09 28 05.0 +1.3
	baz=269					
E29M	Blow River	68.27	23	P	P	09 28 05.2 +1.2
	baz=265					
M30M	Minto, Yukon	68.34	29	P	P	09 28 05.3 +0.7
	baz=268					
PLBC	Pleasant Camp	68.48	33	P	P	09 28 06.0 +0.6
	baz=270,SNR=5.7					
EPYK	Eagle Plains	68.57	25	P	P	09 28 05.8 0.0
EPYK	Eagle Plains	68.57	25	P	P	09 28 06.3 +0.4
	baz=266					
O30N	Mendenhall	68.63	31	P	P	09 28 07.3 +0.9
O30N	Mendenhall	68.63	31	P	P	09 28 06.9 +0.5
	baz=269					
J30M	Hart River	68.63	27	P	P	09 28 07.0 +0.5
J30M	Hart River	68.63	27	P	P	09 28 06.9 +0.5
	baz=268,SNR=5.3					
MAYO	Mayo, Yukon	68.79	28	P	P	09 28 08.3 +1.0
MAYO				IAmb	IAmb	09 28 09.0
	comp=Z,18nm,0.9s					
MAYO	Mayo, Yukon	68.79	28	P	P	09 28 07.6 +0.4
	baz=268					
N31M	Braeburn, Yuko	68.79	30	IAmb	IAmb	09 28 09.2
	comp=Z,18nm,1.0s					
N31M	Braeburn, Yuko	68.79	30	P	P	09 28 07.7 +0.4
	baz=269,SNR=6.5					
G30M	tAoh Zraii Nji	68.80	24	IAmb	IAmb	09 28 08.4
	comp=Z,24nm,1.2s					
G30M	tAoh Zraii Nji	68.80	24	P	P	09 28 07.4 +0.1
	baz=267					
KBL	Kabul	68.92	301	P	P	09 28 09.3 +0.5
F30M	Barrier River	69.01	24	P	P	09 28 09.0 +0.5
	baz=267,SNR=7.6					
SKAG	Skagway	69.01	32	P	P	09 28 09.8 +1.3
SKAG				IAmb	IAmb	09 28 10.0
	comp=Z,9.0nm,0.9s					
SKAG	Skagway	69.01	32	P	P	09 28 09.6 +1.1
	baz=270					
WHY	Whitehorse	69.23	31	P	P	09 28 10.5 +0.5
	baz=270					
S32K	Killisnoo	69.44	35	P	P	09 28 11.5 +0.3
	baz=272					
R32K	Eaglecrest	69.45	34	P	P	09 28 12.0 +0.7
	baz=272					
M31M	Drury Creek, Y	69.46	30	P	P	09 28 11.8 +0.5
	baz=270					
H31M	Peel River	69.51	26	IAmb	IAmb	09 28 12.9
	comp=Z,16nm,0.8s					
H31M	Peel River	69.51	26	P	P	09 28 11.8 +0.2
	baz=269,SNR=6.5					
G31M	Satah River	69.57	24	P	P	09 28 11.8 0.0
	baz=268,SNR=7.8					
F31M	Tsiigehtchic	69.79	24	P	P	09 28 12.6 -0.5
	baz=269					
P32M	Atlin	69.83	32	P	P	09 28 13.7 +0.1
	baz=272					
INK	Inuvik	69.89	23	IAmb	IAmb	09 28 14.4
	comp=Z,15nm,0.9s					
INK	Inuvik	69.89	23	P	P	09 28 13.7 0.0
	baz=269,SNR=7.8					
FARO	Faro, Yukon	69.94	30	P	P	09 28 14.8 +0.6
FARO	Faro, Yukon	69.94	30	P	P	09 28 14.4 +0.2
	baz=271					
N32M	Quiet Lake	70.10	31	P	P	09 28 15.4 +0.2
	baz=272					
P33M	Teslin, Yukon	70.26	32	P	P	09 28 16.7 +0.5
	baz=272					
U33K	Whale Pass	70.30	36	P	P	09 28 16.7 +0.4
	baz=274					
Q32M	Nakina River	70.60	33	P	P	09 28 19.2 +0.8
	baz=273					
MMPY	Sheldon Lake,	70.90	29	P	P	09 28 20.7 +0.7
	baz=273					
R33M	Jennings River	71.24	32	P	P	09 28 22.9 +0.8
	baz=274					
S34M	Telegraph Cree	71.26	34	IAmb	IAmb	09 28 24.1
	comp=Z,10.0nm,0.8s					
S34M	Telegraph Cree	71.26	34	P	P	09 28 23.1 +1.0
	baz=274,SNR=5.3					
DLBC	Dease Lake	71.80	33	P	P	09 28 26.4 +1.1
DLBC				IAmb	IAmb	09 28 27.3
	comp=Z,13nm,0.8s					
DLBC	Dease Lake	71.80	33	P	P	09 28 26.2 +0.9
	baz=275,SNR=9.0					
T35M	Bob Quinn	71.82	35	IAmb	IAmb	09 28 27.5
	comp=Z,18nm,1.1s					
T35M	Bob Quinn	71.82	35	P	P	09 28 26.3 +0.9
	baz=276					
WTLY	Watson Lake, Y	72.27	32	P	P	09 28 29.1 +1.1
	baz=276					
TGTN	Hyland Airport	72.39	30	P	P	09 28 29.4 +0.7
	baz=276,SNR=6.8					
C36M	Paulatuk	73.26	22	P	P	09 28 33.4 -0.1
	baz=277					
ARU	Arti	73.32	325	P	P	09 28 34.0 -0.1
ARU	Arti	73.32	325	P	P	09 28 32.7 -1.4
	comp=Z,12nm,0.4s,baz=94,slow=2.5,SNR=32					
	comp=Z,12nm,0.4s					
ABKAR	Akbulak array	73.53	317	P	P	09 28 34.9 -0.6
LIRD	Liard River Hi	73.71	32	P	P	09 28 36.7 +0.4
	baz=278					
WRGLY	Wrigley	74.39	28	P	P	09 28 40.9 +0.9
WRGLY	Wrigley	74.39	28	P	P	09 28 40.2 +0.2
	baz=279					
HRA	Herat	74.48	302	P	P	09 28 41.7 +0.3
HRA				IAmb	IAmb	09 28 42.7
	comp=Z,13nm,1.0s					
AKTO	Aktyubinsk	74.57	318	P	P	09 28 40.4 -0.9
	comp=Z,8.7nm,0.6s,baz=83,slow=6.7,SNR=22					
	comp=Z,8.7nm,0.6s					
KOTAN	Kotaneelee Air	74.62	31	P	P	09 28 41.8 +0.3
	baz=280					
FLDN	Fort Liard	74.89	31	P	P	09 28 43.7 +0.8
	baz=280					
GEYT	Alibeck	76.99	306	IAmb	IAmb	09 28 56.6
	comp=Z,12nm,0.9s					
GEYT	Alibeck	76.99	306	P	P	09 28 54.2 -0.9
	comp=Z,7.2nm,0.8s,baz=135,slow=1.0,SNR=9.0					
	comp=Z,7.2nm,0.8s					
KIRV	Kirov	77.74	328	P	P	09 28 57.7 -1.0
	comp=Z,17nm,0.5s,baz=28,slow=1.0,SNR=6.7					
	comp=Z,17nm,0.5s					
LLLB	Lillooet	77.78	41	IAmb	IAmb	09 29 00.9
	comp=Z,7.6nm,0.8s					
GNW	Green Mountain	77.90	44	P	P	09 29 00.7 +0.8
GNW				IAmb	IAmb	09 29 02.0
	comp=Z,17nm,0.9s					
EUNU	Eureka	78.22	8	IAmb	IAmb	09 29 02.1
	comp=Z,14nm,0.7s					
YKA	Yellowknife Ar	78.50	28	P	P	09 29 01.4 -1.4
	comp=Z,5.7nm,0.8s,baz=14,slow=5.9,SNR=7.3					
	comp=Z,5.7nm,0.8s					
LTY	Liberty	79.40	44	IAmb	IAmb	09 29 08.7
	comp=Z,6.9nm,0.7s					
YBH	Yreka Blue Hor	79.42	50	IAmb	IAmb	09 29 10.2
	comp=Z,9.4nm,0.8s					
SPITS	Spitsbergen Ar	79.59	351	P	P	09 29 06.4 -2.0
	comp=Z,14nm,1.1s,baz=94,slow=12,SNR=1.8					
	comp=Z,14nm,1.1s					
E07A	Sunnyside	80.12	44	IAmb	IAmb	09 29 13.3
	comp=Z,12nm,1.1s					
PINE	Pine Mountain	80.14	47	P	P	09 29 13.3 +1.1
D08A	Wollman Farm,	80.60	44	P	P	09 29 15.0 +0.7
C09A	Chrisman Ranch	80.81	43	P	P	09 29 16.0 +0.7
C09A				IAmb	IAmb	09 29 16.1
	comp=Z,5.8nm,0.6s					
ORV	Oroville	80.89	51	P	P	09 29 16.6 +0.6
ORV				IAmb	IAmb	09 29 17.2
	comp=Z,11nm,1.1s					
NEW	Newport	81.41	42	IAmb	IAmb	09 29 19.6
	comp=Z,8.3nm,0.9s					
NEW	Newport	81.41	42	P	P	09 29 18.5 0.0
	baz=288,SNR=9.8					
VADS	Vadso	81.42	342	eP	P	09 29 17.5 -0.6
AFDM	Forest Hills D	81.45	52	IAmb	IAmb	09 29 20.3
	comp=Z,9.4nm,0.9s					
KLMR	Klimovskoe	81.76	332	eP	P	09 29 13.8 -6.1
KLMR				AMP		09 29 19.8
	comp=Z,27nm,1.3s					
J08A	Circle Bar Ran	81.98	47	IAmb	IAmb	09 29 23.1
	comp=Z,7.8nm,0.8s					
MPK	Martis Peak	82.06	51	P	P	09 29 23.1 +0.8
EDM	Edmonton	82.09	37	P	P	09 29 22.1 +0.2
EDM				IAmb	IAmb	09 29 22.8
	comp=Z,10nm,0.8s					
EMB	Emerald Bay	82.10	52	IAmb	IAmb	09 29 23.9
	comp=Z,8.7nm,0.8s					
WVOR	Wild Horse Val	82.14	48	P	P	09 29 22.2 -0.2
CMB	Columbia Colle	82.16	53	P	P	09 29 23.0 +0.4
CMB				IAmb	IAmb	09 29 23.9
	comp=Z,12nm,0.8s					
BMO	Blue Mountains	82.33	45	IAmb	IAmb	09 29 24.1
	comp=Z,6.6nm,0.7s					
PNTR	Pine Nut	82.44	51	P	P	09 29 25.3 +1.1
WAKR	Walker	82.73	52	IAmb	IAmb	09 29 27.4
	comp=Z,11nm,0.7s					
YERR	Yerington	82.73	51	P	P	09 29 26.2 +0.6
HAMF	Hammerfest	82.75	343	eP	P	09 29 24.1 -0.7
ARA0	ARCESS Array S	82.87	342	eP	P	09 29 24.8 -0.7
ARCES	ARCESS Array B	82.87	342	P	P	09 29 24.9 -0.6
ARCES	ARCESS Array B	82.87	342	P	P	09 29 24.1 -1.4
	comp=Z,14nm,0.7s,baz=81,slow=7.0,SNR=52					
	comp=Z,14nm,0.7s					
PLID	Pearl Lake	83.14	45	IAmb	IAmb	09 29 28.1
	comp=Z,6.8nm,0.8s					
MLAC	Mammoth, Mammo	83.45	53	P	P	09 29 29.4 +0.1
	baz=288					
LHV	Little Huntoon	83.51	52	P	P	09 29 30.5 +1.3
LHV				IAmb	IAmb	09 29 31.2
	comp=Z,9.7nm,0.9s					
PKM	Mcpherson Peak	83.53	56	P	P	09 29 30.2 +0.5
	baz=288					
KVN	Kaiserville	83.56	51	IAmb	IAmb	09 29 30.8
	comp=Z,8.8nm,0.6s					
NVAR	Mina Array Bea	83.60	52	P	P	09 29 30.6 +0.6
NVAR	Mina Array Bea	83.60	52	P	P	09 29 29.4 -0.7
	comp=Z,14nm,0.7s,baz=265,slow=6.0,SNR=130					
	comp=Z,14nm,0.7s					
NV11	Mina Array Sit	83.71	52	P	P	09 29 31.2 +0.7
NV11				IAmb	IAmb	09 29 32.0
	comp=Z,9.4nm,0.8s					
SBC	Santa Barbara	83.74	56	P	P	09 29 30.1 -0.5
	baz=288					
VES	Vestal, Richgr	83.81	54	P	P	09 29 30.9 +0.1
	baz=288					
KTK1	Kautokeino	83.83	342	eP	P	09 29 29.1 -1.2
MSO	Missoula	83.91	43	P	P	09 29 30.6 -0.7
	baz=290					
NEEM	North Greenlan	84.03	4	eP	P	09 29 31.6 +0.1
TIN	Tinemaha, Big	84.08	53	P	P	09 29 33.1 +0.7
	baz=288					
DSP	Deep Springs	84.18	53	IAmb	IAmb	09 29 34.6
	comp=Z,9.6nm,1.1s					
ARVC	Arvin	84.22	55	P	P	09 29 33.7 +0.8
	baz=288					
JETT	Jettan, Norway	84.30	343	eP	P	09 29 31.9 -0.7
ISA	Isabella, Lake	84.33	54	P	P	09 29 33.9 +0.3
	baz=288					
CWC	Cottonwood Cre	84.39	54	P	P	09 29 33.9 0.0
	baz=288					
TRO	Tromso	84.66	344	eP	P	09 29 33.4 -1.0
HLID	Hailey	84.72	46	IAmb	IAmb	09 29 36.8
	comp=Z,9.2nm,0.9s					
HLID	Hailey	84.72	46	P	P	09 29 36.0 +0.6
	baz=290,SNR=16					
DAG	Danmarks Havn	84.72	356	i P	P	09 29 33.0 -1.5
GMN	Gold Mountain	84.74	53	IAmb	IAmb	09 29 37.1
	comp=Z,9.8nm,0.7s					
GRAC	Grapevine Rang	84.76	53	P	P	09 29 36.5 +0.9
	baz=289					
EDW2	Edwards Air Fo	84.95	55	P	P	09 29 36.8 +0.2
	baz=289					
MPMC	Manual Prospec	84.97	54	P	P	09 29 37.3 +0.5
	baz=289,SNR=6.6					
LRMC	Laurel Mtn Rad	85.00	54	P	P	09 29 37.4 +0.4
	baz=289,SNR=6.0					
ELK	Elko	85.09	49	P	P	09 29 38.0 +0.5
ELK				IAmb	IAmb	09 29 38.9
	comp=Z,9.7nm,0.9s					
DLMT	Dillon	85.30	44	P	P	09 29 38.5 +0.3
FURC	Furnace Creek,	85.31	53	P	P	09 29 38.8 +0.6
	baz=289,SNR=6.5					
WCT	Wildcat Mounta	85.39	53	IAmb	IAmb	09 29 40.1
	comp=Z,9.6nm,0.8s					
BFSC	Mount Baldy Ra	85.42	56	P	P	09 29 39.6 +0.6
	baz=289					
QSM	Queen of Sheba	85.47	54	IAmb	IAmb	09 29 42.1
	comp=Z,6.0nm,0.8s					
GWY	Greenwater Val	85.55	53	IAmb	IAmb	09 29 40.9
	comp=Z,18nm,1.5s					
TPNV	Topopah Spring	85.62	53	P	P	09 29 40.5 +0.6
	baz=290,SNR=17					
R11B	Troy Canyon, C	85.65	51	IAmb	IAmb	09 29 41.6
	comp=Z,15nm,1.5s					
R11B	Troy Canyon, C	85.65	51	P	P	09 29 40.5 +0.4
	baz=290,SNR=9.9					
GSC	Goldstone, Bar	85.74	54	P	P	09 29 41.2 +0.7
GSC	Goldstone, Bar	85.74	54	P	P	09 29 41.1 +0.6
	baz=289					
S11A	Rachel	85.77	52	P	P	09 29 41.3 +0.7
S11A				IAmb	IAmb	09 29 42.2
	comp=Z,12nm,0.8s					
BOZ	Bozeman (W)	85.85	43	P	P	09 29 41.2 +0.3
BOZ	Bozeman (W)	85.85	43	P	P	09 29 41.1 +0.3
	baz=292					
BBRC	Big Bear Solar	85.99	55	P	P	09 29 42.0 +0.1
	baz=289					
EGMT	Eagleton	86.12	41	P	P	09 29 42.1 +0.1
	baz=293					
HEC	Hector,Ludlow	86.26	55	P	P	09 29 43.2 +0.3
	baz=290					
109C	Camp Elliot, M	86.29	57	P	P	09 29 43.6 +0.5
	baz=289					
KBZ	Khabaz	86.32	315	P	P	09 29 41.3 -1.6
	comp=Z,13nm,0.9s,baz=113,slow=2.4,SNR=24					
	comp=Z,13nm,0.9s					
SPR3	Spring Creek 3	86.35	50	IAmb	IAmb	09 29 45.3
	comp=Z,8.6nm,0.9s					
PRN	Pahroc Range	86.37	52	IAmb	IAmb	09 29 45.2
	comp=Z,12nm,1.0s					
TUQ	Turquoise Moun	86.37	54	P	P	09 29 44.2 +0.7
	baz=290,SNR=6.6					
HVU	Hansel Valley	86.47	47	IAmb	IAmb	09 29 45.6
	comp=Z,14nm,1.3s					
PFO	Pinyon Flats O	86.57	56	P	P	09 29 44.9 +0.4
PFO				IAmb	IAmb	09 29 45.6
	comp=Z,13nm,1.2s					
PFO	Pinyon Flats O	86.57	56	P	P	09 29 45.0 +0.4
	baz=290,SNR=6.2					
TPFO	Pinon Flats	86.57	56	P	P	09 29 44.9 +0.3
	baz=290					
SHPR	Sheep Range	86.59	53	P	P	09 29 45.2 +0.6
PMD	Palm Desert	86.62	56	P	P	09 29 44.8 +0.2
YMR	Madison River	86.63	44	IAmb	IAmb	09 29 46.8
	comp=Z,9.0nm,0.9s					
ID07	Smith Canyon R	86.68	46	IAmb	IAmb	09 29 46.7
	comp=Z,10nm,1.0s					
STEI	Steigen	86.80	343	eP	P	09 29 43.6 -1.1
GMRC	Granite Mounta	86.80	55	P	P	09 29 46.1 +0.5
	baz=290,SNR=8.1					
BELC	Belle Mtn. Jos	86.80	55	P	P	09 29 45.6 0.0
	baz=290,SNR=5.2					
YNR	Norris Junctio	86.80	44	IAmb	IAmb	09 29 49.7
	comp=Z,10nm,1.1s					
WTNK	Soaring Height	86.81	53	P	P	09 29 46.6 +1.1
MONP2	Monument Peak	86.83	57	P	P	09 29 46.0 +0.1
	baz=290					
CBX	Cerro Bola	86.84	57	IAmb	IAmb	09 29 46.8
	comp=Z,8.0nm,1.1s					
PSUT	Pine Spring	86.86	51	P	P	09 29 46.4 +0.5
SPUT	South Promonto	86.87	48	P	P	09 29 46.5 +0.7
SPUT				IAmb	IAmb	09 29 47.4
	comp=Z,12nm,1.3s					
IMW	Indian Meadow	86.94	45	P	P	09 29 46.7 +0.4
DUG	Dugway, Tooele	87.02	49	IAmb	IAmb	09 29 48.0
	comp=Z,10nm,0.9s					
DUG	Dugway, Tooele	87.02	49	P	P	09 29 47.1 +0.6
	baz=291,SNR=12					
FLWY	Flagg Ranch	87.03	44	P	P	09 29 47.9 +1.3
FLWY				IAmb	IAmb	09 29 48.7
	comp=Z,19nm,1.4s					
ID05	Sulphur Canyon	87.06	46	P	P	09 29 47.6 +0.8
ID05				IAmb	IAmb	09 29 48.2
	comp=Z,7.4nm,0.8s					
FAUS	Fauske	87.16	343	eP	P	09 29 45.2 -1.2
IKP	In-Ko-Pah, Jac	87.16	57	P	P	09 29 47.7 +0.4
	baz=290					
FINES	FINESS Array B	87.22	335	P	P	09 29 44.2 -2.5
	comp=Z,6.3nm,0.5s,baz=65,slow=4.5,SNR=36					
	comp=Z,6.3nm,0.5s					
BC3	Big Chuckawall	87.34	56	P	P	09 29 48.7 +0.6
	baz=290,SNR=7.3					
HWUT	Hardware Ranch	87.38	47	IAmb	IAmb	09 29 49.0
	comp=Z,5.4nm,0.8s					
IRM	Iron Mountain	87.41	55	P	P	09 29 48.6 +0.3
	baz=290,SNR=6.0					
ESJX	Sierra Juarez	87.51	57	P	P	09 29 49.9 +0.9
CCUT	Cedar City	87.57	51	P	P	09 29 50.2 +0.9
FFC	Flin Flon	87.61	32	P	P	09 29 49.0 +0.2
NEE2	Needles Airpor	87.61	54	P	P	09 29 49.9 +0.7
	baz=291					
NLU	North Lily Min	87.64	49	IAmb	IAmb	09 29 50.9
	comp=Z,7.6nm,0.9s			

MOR8	Moi Rana	88.24	342	eP		P	09 29 48.0	-3.5
BW06	Boulder Array	88.31	45	P		P	09 29 52.6	-0.1
	baz=293							
PDAR	Pinedale Array	88.31	45	P		P	09 29 50.5	-2.2
	comp=Z,0.9nm,0.7s,baz=262,slow=0.7,SNR=10.0							
	comp=Z,0.9nm,0.7s							
PKCU	Pink Cliffs	88.39	51	P		P	09 29 54.9	+1.7
PKCU				IAmb		IAmb	09 29 55.0	
	comp=Z,7.1nm,1.1s							
Q16A	Castle Valley	88.67	49	IAmb		IAmb	09 29 55.5	
	comp=Z,7.1nm,0.8s							
SFX	San Felipe	88.72	58	P		P	09 29 55.2	+0.7
SFX				IAmb		IAmb	09 29 55.8	
	comp=Z,10nm,0.9s							
U15A	North Rim	88.78	52	IAmb		IAmb	09 29 56.9	
	comp=Z,10nm,1.2s							
LAO	LASA Array	88.86	41	IAmb		IAmb	09 29 56.0	
	comp=Z,10nm,0.9s							
LAO	LASA Array	88.86	41	P		P	09 29 55.2	+0.3
	baz=296,SNR=5.8							
P18A	Preston Nutter	89.06	48	P		P	09 29 57.0	+0.6
P18A				IAmb		IAmb	09 29 58.2	
	comp=Z,5.5nm,0.8s							
RDMU	Red Mountain	89.17	47	IAmb		IAmb	09 29 57.8	
	comp=Z,6.1nm,0.6s							
HMU	Henry Mountain	89.36	50	P		P	09 29 57.9	+0.2
WUAZ	Wupatki	89.81	53	IAmb		IAmb	09 30 01.6	
	comp=Z,12nm,1.2s							
WUAZ	Wupatki	89.81	53	P		P	09 30 00.2	+0.5
	baz=292,SNR=7.2							
214A	Organ Pipe Nat	90.02	56	IAmb		IAmb	09 30 02.4	
	comp=Z,11nm,0.9s							
214A	Organ Pipe Nat	90.02	56	P		P	09 30 00.9	+0.3
	baz=292,SNR=10.0							
NSS	Namsos	90.14	342	eP		P	09 30 01.9	+1.5
O20A	White River Ci	90.28	47	IAmb		IAmb	09 30 02.3	
	comp=Z,6.5nm,0.7s							
O20A	White River Ci	90.28	47	P		P	09 30 01.4	-0.4
	baz=294,SNR=7.0							
K22A	Casper	90.40	45	P		P	09 30 01.6	-0.6
K22A				IAmb		IAmb	09 30 03.8	
	comp=Z,4.9nm,0.8s							
K22A	Casper	90.40	45	P		P	09 30 01.8	-0.5
	baz=296							
NACGM	Naroch	90.55	330	eP		P	09 30 01.6	-0.9
	comp=Z,27nm,0.8s,baz=57							
W18A	Petrified Fore	91.20	52	P		P	09 30 06.0	-0.2
	baz=293							
X18A	Snowflake	91.27	53	P		P	09 30 07.2	+0.7
X18A				IAmb		IAmb	09 30 08.1	
	comp=Z,4.6nm,0.8s							
MVCO	Mesa Verde	91.28	50	IAmb		IAmb	09 30 07.9	
	comp=Z,8.2nm,1.2s							
MVCO	Mesa Verde	91.28	50	P		P	09 30 06.5	-0.1
	baz=294							
RSSD	Black Hills	91.38	42	P		P	09 30 06.7	-0.1
	baz=297							
TUC	Tucson	91.48	55	P		P	09 30 08.1	+0.7
	baz=293							
N23A	Red Feather La	91.54	46	P		P	09 30 08.6	+0.8
	baz=296,SNR=8.0							
ISCO	Idaho Springs	92.25	47	P		P	09 30 11.6	+0.5
	baz=296,SNR=6.0							
S22A	4UR Ranch, Cre	92.27	49	IAmb		IAmb	09 30 12.7	
	comp=Z,6.6nm,1.1s							
S22A	4UR Ranch, Cre	92.27	49	P		P	09 30 11.2	+0.1
	baz=295,SNR=7.9							
MDND	Maddock	92.30	38	P		P	09 30 11.1	+0.4
	baz=300							
HFS	Hagfors	92.73	338	P		P	09 30 09.9	-2.5
	comp=Z,2.7nm,0.6s,baz=106,slow=3.2,SNR=14							
	comp=Z,2.7nm,0.6s							
NB2	NORSAR Subarra	92.93	340	P		P	09 30 11.1	-2.3
	comp=Z,1.5nm,0.7s,baz=44,slow=5.1							
NB2	NORSAR Subarra	92.93	340	P		P	09 30 11.1	-2.3
	baz=44,slow=5.1							
NOA	NORSAR Array B	92.93	340	P		P	09 30 11.2	-2.1
	comp=Z,0.9nm,0.6s,baz=46,slow=4.5,SNR=5.3							
	comp=Z,0.9nm,0.6s							
Q24A	Divide	92.94	47	P		P	09 30 14.4	+0.2
	baz=296							
SDCO	Great Sand Dun	93.22	49	P		P	09 30 15.7	+0.2
	baz=296							
ANMO	Albuquerque	93.73	51	P		P	09 30 18.2	+0.4
ANMO	Albuquerque	93.73	51	P		P	09 30 18.1	+0.3
	baz=295							
T25A	Trinidad	94.27	49	P		P	09 30 20.6	+0.3
	baz=297							
BR131	Keskin Array S	94.28	314	P		P	09 30 18.3	-1.9
BRTR	Keskin Array B	94.28	314	P		P	09 30 18.6	-1.6
BRTR	Keskin Array B	94.28	314	P		P	09 30 17.8	-2.4
	comp=Z,4.0nm,0.8s,baz=90,slow=3.7,SNR=19							
	comp=Z,4.0nm,0.8s							
MNTX	Cornudas Mount	95.92	54	P		P	09 30 28.2	+0.6
MNTX				IAmb		IAmb	09 30 28.8	
	comp=Z,3.1nm,0.9s							
MNTX	Cornudas Mount	95.92	54	P		P	09 30 27.9	+0.3
	baz=296							
BGNE	Belgrade	96.48	43	P		P	09 30 30.5	+0.6
	baz=301							
425A	Indio Mountain	96.62	55	P		P	09 30 31.5	+0.6
TXAR	Lajitas Array	98.28	56	P		Pdif	09 30 37.8	-0.5
	comp=Z,0.5nm,1.0s,baz=294,slow=4.4,SNR=3.0							
TXAR				PKKPbc		PKKPbc	09 47 05.2	-2.7
	comp=Z,0.2nm,0.6s,baz=122,slow=4.7,SNR=3.9							
	comp=Z,0.5nm,1.0s							
ESDC	Sonseca Array	115.71	334	PP		PP	09 36 48.5	-1.4
	comp=Z,0.5nm,0.8s,baz=44,slow=6.6,SNR=4.7							
LSZ	Lusaka	120.12	263			PKiKP	09 35 49.3	-0.2
BELA	Belgrano 2	120.32	180	PKPdf		PKiKP	09 35 47.1	-0.9
TROLL	Troll, Antarti	122.09	193	⇑PKPdf		PKiKP	09 35 51.6	-0.2
	comp=Z,236nm,1.1s							
SNAA	Sanae	123.42	191	PKPdf		PKiKP	09 35 53.6	-0.8
SNAA	Sanae	123.42	191	⇑PKPdf		PKiKP	09 35 53.5	-0.8
	comp=Z,50nm,0.6s							
SNAA	Sanae	123.42	191	PKP		PKiKP	09 35 53.3	-1.1
	comp=Z,2.3nm,0.7s,baz=188,slow=5.8,SNR=22							
VNA2	Neumayer--Watz	124.87	191	⇑PKPdf		PKiKP	09 35 56.7	-0.5
	comp=Z,8.3nm,0.6s,baz=171,slow=1.0							
VNA3	Neumayer Olymp	124.97	190	⇑PKPdf		PKiKP	09 35 56.6	-0.8
	comp=Z,3.5nm,0.7s							
VNA1	Neumayer--Stat	125.25	190	⇑PKPdf		PKiKP	09 35 57.5	-0.4
	comp=Z,3.8nm,0.8s							
TOA0	Torodi Ar. Sit	132.58	309	PKPdf		PKPdf	09 36 10.6	-2.5
TORD	Torodi Ar. Bea	132.58	309	PKPdf		PKiKP	09 36 12.8	-1.4
TORD	Torodi Ar. Bea	132.58	309	PKP		PKPdf	09 36 12.0	-1.0
	comp=Z,1.7nm,0.6s,baz=30,slow=1.9,SNR=17							
TORD				PP		PP	09 38 40.7	-2.0
	comp=Z,1.2nm,1.0s,baz=31,slow=9.4,SNR=4.4							
SLOR	San Lorenzo -	133.47	73	PKPdf		PKiKP	09 36 15.9	-0.8
BOSC	San Juan Bosco	134.44	76	PKPdf		PKPdf	09 36 15.8	-1.0
KOWA	Kowa	135.70	315	PKPdf		PKPdf	09 36 18.6	-0.3
PLCA	Paso Flores	141.84	134	PKhKP		PKPpre	09 36 25.1	
	comp=Z,1.0nm,0.5s,baz=215,slow=2.9,SNR=5.5							
MT01	Popeta	143.75	123			PKPdf	09 36 32.3	-0.6
BO02	Sierra Bellavi	143.85	124	PKPbc		PKPdf	09 36 33.1	-0.1
ROC1	El Roble	144.17	121	PKPbc		PKPdf	09 36 33.9	-0.1
BO04	La Punta	144.22	123	PKPbc		PKPdf	09 36 33.6	-0.2
PEL	Peldehue	144.40	122			PKPab	09 36 34.5	+0.5
MT13	San Alfonso	144.55	123			PKPab	09 36 35.2	+0.6
VA03	San Esteban	144.61	121			PKPab	09 36 35.3	+0.4
CO02	Combarbal	144.61	118			PKPab	09 36 34.6	-0.4
PB18	Visviri	146.77	94			PKiKP	09 36 43.9	0.0
GO02	Mina Guanaco	146.77	108	PKPbc		PKPbc	09 36 42.0	+0.7
PB16	IPOC Station P	146.82	96	PKPbc		PKPbc	09 36 42.0	+0.1
PB06	IPOC Station P	146.92	104	PKPbc		PKPbc	09 36 41.8	+0.3
BOAV	Boa Vista	147.21	54			PKPbc	09 36 41.9	-0.5
GO01	Chusmiza	147.22	98	PKPbc		PKPdf	09 36 40.9	+1.1
LVC	Limon Verde	147.53	104	PKPbc		PKPbc	09 36 43.8	+0.3
LPAZ	La Paz	147.88	92	PKPbc		PKPdf	09 36 41.5	+0.4
	comp=Z,12nm,0.9s,baz=214,slow=2.4,SNR=2.4							
ETMB	Extrema	148.19	79			PKPbc	09 36 43.9	-1.0
SAML	Samuel	150.70	75	PKPdf		PKPdf	09 36 42.8	-2.1
SAML				PKPbc		PKPbc	09 36 50.7	-0.2
SAML				PKPab		PKPab	09 36 58.9	-0.9
CPUP	Villa Florida	157.44	115	PKPab		PKPab	09 37 28.2	-0.2
	comp=Z,3.2nm,0.8s,baz=236,slow=6.0,SNR=4.9							

*IDC **13** 09:34:47.9±1.0, 54°.15S×7°.58E, h0km, mb4.0/5, mbtmp4.2/6, ML4.0/1, MS3.9/16, Error ellipse: s-maj=47.1km s-min=24.8km az=76.0*
*NEIC **13** 09:34:50.1±0.7, 54°.26S±0°.06×8°.1E±0°.3, h10km±1km, mb4.5/10, Error ellipse: s-maj=29.8km s-min=10.4km az=90.0*

ISC 13 09:34:49.7±0.7, 54°.19S±0°.10×7°.9E±0°.2, h10km, n44, σ0°78/25, mb4.3/9, MS3.9/15, 4C, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	18.01	197	⇑P	P	09 39 00.5	+0.3
	comp=Z,22nm,1.0s						
TROLL	Troll, Antarti	18.04	185	⇑P	P	09 39 00.8	+0.2
	comp=Z,1μm,0.6s						
VNA2	Neumayer--Watz	18.10	196	⇑P	P	09 39 00.6	-0.6
	comp=Z,10nm,0.8s,baz=23,slow=9.0						
SNAA	Sanae	18.15	191	P	P	09 39 01.3	-0.6
SNAA	Sanae	18.15	191	⇑P	P	09 39 02.3	+0.4
	comp=Z,884nm,0.9s						
SNAA	Sanae	18.15	191	P	P	09 39 01.3	-0.6
	comp=Z,0.5nm,0.3s,baz=19,slow=12,SNR=109						
SNAA				S	Sn	09 42 07.0	-17
	comp=Z,1.6nm,1.1s,baz=348,slow=20,SNR=1.4						
SNAA				LR	LR	09 45 08.6	
	comp=Z,282nm,19.7s,baz=11,slow=34						
	comp=Z,36nm,0.9s						
VNA3	Neumayer Olymp	18.76	198	P	Pn	09 39 08.3	-0.7
	comp=Z,19nm,0.8s						
HOPE	Hope Point	25.61	252	P	P	09 40 19.6	+0.8
BELA	Belgrano 2	28.07	198	P	P	09 40 40.9	+0.1
BELA				IAmb	IAmb	09 40 52.8	
	comp=Z,6.8nm,1.0s						
BOSA	Boshof	28.53	33	LR	LR	09 49 23.8	
	comp=Z,232nm,21.5s,baz=212,slow=31						
H04S2	CROZET ISLANDS	28.54	93	T	T	10 11 02.4	
	baz=239,slow=75,SNR=24						
H04S3	CROZET ISLANDS	28.54	93	T	T	10 11 05.2	
	baz=239,slow=75,SNR=20						
H04S1	CROZET ISLANDS	28.55	93	T	T	10 11 02.9	
	baz=239,slow=75,SNR=24						
LBTB	Lobatse	31.99	31	P	P	09 41 15.6	-0.4
LBTB				IAmb	IAmb	09 41 25.7	
	comp=Z,8.0nm,1.1s						
TSUM	Tsumeb	35.71	16	LR	LR	09 53 30.0	
	comp=Z,190nm,21.9s,baz=151,slow=31						
PMSA	Palmer Station	35.98	224	LR	LR	09 53 02.8	
	comp=Z,141nm,19.9s,baz=85,slow=30						
QSPA	South Pole Qui	36.05	180	P	P	09 41 50.8	-0.2
QSPA				IAmb	IAmb	09 41 60.0	
	comp=Z,8.2nm,1.1s						
QSPA	South Pole Qui	36.05	180	P	P	09 41 50.2	-0.7
	comp=Z,4.3nm,1.0s,baz=221,slow=1.9,SNR=11						
QSPA				LR	LR	09 56 20.1	
	comp=Z,164nm,18.4s,baz=213,slow=36						
	comp=Z,4.3nm,1.0s						
LSZ	Lusaka	41.95	30	LR	LR	09 58 27.5	
	comp=Z,245nm,18.8s,baz=164,slow=34						
CASY	Casey	46.54	147	P	P	09 43 16.2	-0.6
VNDA	Vanda	47.56	173	P	P	09 43 25.1	+0.5
SBA	Scott Base	47.58	174	P	P	09 43 25.1	+0.3
SBA				IAmb	IAmb	09 43 27.5	
	comp=Z,5.8nm,1.1s						
MBAR	Mbarara	56.64	28	LR	LR	10 07 16.3	
	comp=Z,154nm,18.2s,baz=151,slow=34						
TOA0	Torodi Ar. Sit	67.28	353	P	P	09 45 45.0	+0.7
TOA0				IAmb	IAmb	09 45 47.3	
	comp=Z,1.6nm,0.8s						
TORD	Torodi Ar. Bea	67.28	353	P	P	09 45 45.0	+0.7
TORD	Torodi Ar. Bea	67.28	353	P	P	09 45 42.6	-1.7
	comp=Z,0.9nm,0.9s,baz=175,slow=4.5,SNR=4.2						
TORD				LR	LR	10 09 59.4	
	comp=Z,41nm,20.7s,baz=160,slow=31						
	comp=Z,0.9nm,0.9s						
LPAZ	La Paz	68.78	271	P	P	09 45 55.9	+1.3
LPAZ				IAmb	IAmb	09 45 59.2	
	comp=Z,2.9nm,0.9s						
LPAZ	La Paz	68.78	271	P	P	09 45 53.3	-1.4
	comp=Z,0.9nm,0.8s,baz=218,slow=12,SNR=2.1						
	comp=Z,0.9nm,0.8s						
H01W2	Cape Leeuwin H	71.00	123	T	T	11 04 40.6	
	baz=217,slow=75,SNR=13						
H01W3	Cape Leeuwin H	71.01	123	T	T	11 04 37.9	
	baz=217,slow=75,SNR=14						
H01W1	Cape Leeuwin H	71.01	123	T	T	11 04 30.1	
	baz=217,slow=75,SNR=13						
STKA	Stephens Creek	85.43	142	P	P	09 47 28.1	+0.8
	comp=Z,1.2nm,0.8s,baz=218,slow=4.8,SNR=2.9						
	comp=Z,1.2nm,0.8s						
EIL	Elat	86.73	23	LR	LR	10 23 47.1	
	comp=Z,81nm,20.6s,baz=244,slow=34						
MDT	Midelt	87.32	350	LR	LR	10 24 48.8	
	comp=Z,46nm,18.1s,baz=186,slow=34						
WSAR	Wadi Sarin	88.59	45	LR	LR	10 25 24.6	
	comp=Z,46nm,18.1s,baz=228,slow=34						
ASAR	Alice Springs	89.66	132	P	P	09 47 48.9	+1.0
	comp=Z,0.8nm,0.9s,baz=209,slow=4.5,SNR=6.1						
	comp=Z,0.8nm,0.9s						
MMAI	Mount Meron Ar	90.05	23	LR	LR	10 25 50.8	
	comp=Z,86nm,21.4s,baz=172,slow=34						
BRTR	Keskin Array B	96.13	20	LR	LR	10 32 53.5	
	comp=Z,50nm,19.7s,baz=186,slow=36						
BATI	Baumata	96.27	117	LR	LR	10 32 08.1	
	comp=Z,79nm,18.2s,baz=144,slow=36						
CTA	Charters Tower	97.86	141	LR	LR	10 27 19.7	
	comp=Z,38nm,18.4s,baz=254,slow=32						
GNI	Garni	99.16	28	LR	LR	10 34 31.1	
	comp=Z,60nm,18.4s,baz=218,slow=36						
TXAR	Lajitas Array	125.65	272	PKP	PKPdf	09 53 50.4	-0.6
	comp=Z,0.4nm,0.8s,baz=145,slow=2.2,SNR=1.7						
PDAR	Pinedale Array	138.31	281	PKP	PKPdf	09 54 14.3	-0.4
	comp=Z,0.9nm,1.1s,baz=178,slow=2.6,SNR=2.6						
ILAR	Eielson Array	163.50	320	PKPab	PKPab	09 55 42.9	+0.1
	comp=Z,0.5nm,0.9s,baz=69,slow=5.0,SNR=4.6						

*IDC **13** 09:42:10.9±5.1, 16°.44S×173°.28W, h96km±45km, mb3.7/9, mbtmp4.0/10, MS3.5/12, Error ellipse: s-maj=28.4km s-min=20.3km az=127.0*

ISC 13 09:42:11.1±0.8, 16°.5S±0°.2×173°.3W±0°.1, h100km, n25, σ1°05/12, mb3.8/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.41	260	P	Pn	09 44 11.4	+1.1
	3.7nm,0.5s,baz=111,slow=13,SNR=2.0						
MSVF				LR	LR	09 46 55.3	
	comp=Z,465nm,19.2s,baz=65,slow=34						
RAR	Rarotonga	13.61	112	LR	LR	09 48 19.7	
	comp=Z,59nm,21.9s,baz=336,slow=27						
DZM	Mont Dzumac	19.96	251	eLR	LR	09 51 34.2	
	comp=Z,351nm,24.8s						
DZM	Mont Dzumac	19.96	251	LR	LR	09 53 13.9	
	comp=Z,210nm,19.9s,baz=50,slow=33						
PPT2	Papeete2	22.67	96	eLR	LR	09 52 02.7	
	comp=Z,125nm,24.8s						
PPT2				eLR	LR	09 52 18.7	
	comp=Z,183nm,25.5s						
URZ	Urewera	23.32	199	P	P	09 47 09.1	-1.2
	4.1nm,0.5s,baz=309,slow=6.5,SNR=7.9						
	4.1nm,0.5s						
TBI	Tubuai	23.38	111	eLR	LR	09 52 21.0	
	comp=Z,962nm,26.0s						
TBI				eLR	LR	09 52 36.1	
	comp=Z,4μm,24.5s						
TAOE	Nuku Hiva Isla	33.13	81	eLR	LR	09 57 04.2	
	comp=Z,132nm,24.5s						
KRVT	Keravat (AS076	36.15	286	LR	LR	10 02 29.6	
	comp=Z,62nm,21.9s,baz=26,slow=34						
CTA	Charters Tower	38.56	258	LR	LR	10 03 41.4	
	comp=Z,74nm,18.4s,baz=83,slow=34						
STKA	Stephens Creek	43.64	241	P	P	09 50 04.3	-1.6
	3.8nm,1.1s,baz=98,slow=15,SNR=3.4						
	3.8nm,1.1s						
WRA	Warramunga Arr	49.75	258	P	P	09 50 53.9	+0.2
	0.4nm,0.4s,baz=97,slow=6.7,SNR=18						
	0.4nm,0.4s						
ASAR	Alice Springs	49.93	253	P	P	09 50 54.6	-0.5
	3.9nm,0.7s,baz=89,slow=8.1,SNR=87						
	3.9nm,0.7s						
JHJ	Hachijo jima 2	66.64	318	LR	LR	10 22 56.9	
	comp=Z,18nm,18.3s,baz=173,slow=37						
MJAR	Matsushiro Arr	69.83	320	LR	LR	10 18 49.0	
	comp=Z,30nm,20.9s,baz=142,slow=32						
JNU	Nakatsue	72.62	313	LR	LR	10 23 35.8	
	comp=Z,22nm,18.3s,baz=201,slow=34						
QSPA	South Pole Qui	73.60	180	P	P	09 53 34.9	+1.6
	2.5nm,1.0s,baz=77,slow=2.0,SNR=6.2						
	2.5nm,1.0s						
YBH	Yreka Blue Hor	74.35	37	LR	LR	10 18 05.3	
	comp=Z,49nm,20.2s,baz=232,slow=29						
NVAR	Mina Array Bea	75.01	42	P	P	09 53 41.4	-0.6
	1.0nm,0.9s,baz=223,slow=8.3,SNR=6.3						
	1.0nm,0.9s						
KSRS	Korea Array	77.01	316	P	P	09 53 53.5	+0.5
	0.9nm,0.7s,baz=118,slow=5.6,SNR=2.7						
KSRS				LR	LR	10 24 41.4	
	comp=Z,7.5nm,18.7s,baz=155,slow=33						
	0.9nm,0.7s						
PDAR	Pinedale Array	82.95	42	P	P	09 54 26.2	+0.9
	0.9nm,0.8s,baz=225,slow=3.0,SNR=6.8						
PDAR				LR	LR	10 24 45.2	
	comp=Z,34nm,18.0s,baz=262,slow=31						
	0.9nm,0.8s						
ILAR	Eielson Array	83.45	11	P	P	09 54 26.5	-0.6
	0.4nm,0.8s,baz=222,slow=5.6,SNR=6.2						
	0.4nm,0.8s						
ATAH	Atahualpa	92.63	98	LR	LR	10 26 41.8	
	comp=Z,74nm,21.4s,baz=163,slow=29						
BRTR	Keskin Array B	147.06	320	PKPbc	PKPab	10 01 44.2	-0.4
	0.8nm,0.9s,baz=116,slow=3.4,SNR=2.0						
TORD	Torodi Ar. Bea	174.11	123	PKPab	PKPab	10 03 42.0	+0.3
	0.5nm,1.0s,baz=281,slow=3.2,SNR=3.1						

*IDC **13** 10:19:30.7±1.8, 35°.31N×6°.53E, h0km, mb3.0/1, mbtmp3.1/4, ML3.2/3, Error ellipse: s-maj=39.4km s-min=15.5km az=166.0*
*CRAAG **13** 10:19:32.8, 35°.27N×6°.62E, Ml3.1, Algerie 05km NE Msara*

ISC 13 10:19:32.7±1.0, 35°.30N±0°.07×6°.59E±0°.05, h10km, n12, σ1°30/13, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTGD	Timgad	0.23	348	P	Pg	10 19 37.0	-0.6
CBBAR	Babar	0.51	108	P	Pg	10 19 43.6	+0.9
CKTS	El Kantara	0.74	264	P	Pn	10 19 48.9	-0.4
CJSR	Ain Djasser	0.77	317	P	Pb	10 19 48.6	+0.4
CTEI	Djebel Teioual	0.78	349	P	Pb	10 19 49.1	+0.8
CASM	Ain Smara	0.96	355	P	Pn	10 19 53.0	+0.7
COAT	Oued Athmania	0.96	345	P	Pn	10 19 53.5	+1.1
SET	Setif	1.32	313	P	Pg	10 20 00.0	+1.9
KEST	Kesra	2.29	78	Pn	Pn	10 20 11.0	+0.5
	2.2nm,0.3s,baz=255,slow=20,SNR=16						
KEST				Pg	Pb	10 20 14.2	+0.1
	3.2nm,0.3s,baz=261,slow=1.1,SNR=7.8						
KEST				Lg	Lg	10 20 44.0	
	7.3nm,0.3s,baz=250,slow=15,SNR=5.9						
	9.6nm,0.4s						
ESDC	Sonseca Array	9.46	301	Pn	Pn	10 21 46.2	-2.8
	0.2nm,0.3s,baz=115,slow=14,SNR=1.9						
	0.1nm,0.3s						
MDT	Midelt	9.62	258	Pn	Pn	10 21 51.1	-0.2
	0.1nm,0.3s,baz=90,slow=13,SNR=5.3						
	0.7nm,0.5s						
TORD	Torodi Ar. Bea	22.50	193	P	P	10 24 31.3	-1.1
	0.3nm,0.4s,baz=6.5,slow=10,SNR=3.8						
	0.3nm,0.4s						

*EAF **13** 11:08:45.5, 25°.35S×29°.11E, h7km, MC3.5*

BUL 13 11:08:45.4±0.7, 25°.35S×29°.10E, h6km±12km, MD3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	2.78	49	i P	Pn	11 09 29.7	-0.8
MOPA	Mopani	2.78	49	i P	Pn	11 09 29.7	-0.8
	baz=49						
MUSN	Musina, Limpop	3.13	13	i P	Pn	11 09 35.1	-0.2
MUSN	Musina, Limpop	3.13	13	i P	Pn	11 09 35.1	-0.2
	baz=13						
LBTB	Lobatse	3.19	275	i P	Pn	11 09 35.4	-0.8
LBTB				i S	Sn	11 10 12.7	-1.9
LBTB	Lobatse	3.19	275	i P	Pn	11 09 35.4	-0.8
	baz=275						
LBTB				i S	Sn	11 10 12.7	-1.9
	baz=275						
BOSA	Boshof	4.72	226	i P	Pn	11 09 57.1	-0.2
BOSA				i S	Sn	11 10 48.6	-3.9
BOSA	Boshof	4.72	226	i P	Pn	11 09 57.1	-0.2
	baz=226						
BOSA				i S	Sn	11 10 48.6	-3.9
	baz=226						

*IDC **13** 11:12:00.2±2.2, 0°.62N×96°.85E, h0km, mb3.8/7, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=69.0km s-min=23.4km az=58.0*
*NEIC **13** 11:12:04.3±0.7, 0°.84N±0°.07×97°.10E±0°.05, h10km±1km, mb4.1/13, Error ellipse: s-maj=13.4km s-min=7.6km az=203.0*
*DJA **13** 11:12:09.5±0.8, 1°.N±6°.×9°.8E±°, h12km±5km, M3.8/7, mb4.1/1, MLv3.6/7*

ISC 13 11:12:05.4±0.8, 0°.81N±0°.07×97°.1E±0°.1, h25km, n44, σ0°53/31, mb4.0/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.69	45		Pn	11 12 20.0	+0.3
GSI	Gunungsitoli	0.69	45	P	Pn	11 12 19.8	+0.1
PBSI	Pulau Batu	1.47	126	P	Pn	11 12 30.3	-0.1
SNSI	Sinabang, Aceh	1.76	335	P	Pb	11 12 42.8	+5.8
RPSI	Rantau Prapat	2.62	44		Pn	11 12 46.3	+0.1
MLSI	Meulaboh, Aceh	3.50	349	P	Pb	11 13 06.0	-0.7
BKNI	Bangkinang	3.98	97	Pn	Pn	11 13 04.9	0.0
KULM	Kulim	5.70	39		Pn	11 13 28.9	+0.4
MNAI	Manna	7.80	131	Pn	Pn	11 13 58.2	+0.8
SBU

BVAR Borovoye Array 56.58 341 P **P 11 21 45.0 -1.0**
comp=Z,0.5nm,0.4s,baz=151,slow=6.3,SNR=1.8
comp=Z,0.5nm,0.4s
ABKAR Akbulak array 57.80 332 P **P 11 21 55.0 +0.3**
H04N2 CROZET ISLANDS 61.39 214 T T 12 28 50.5
baz=53,slow=75,SNR=450
H04N1 CROZET ISLANDS 61.40 214 T T 12 28 50.5
baz=53,slow=75,SNR=378
H04N3 CROZET ISLANDS 61.41 214 T T 12 28 49.9
baz=53,slow=75,SNR=407
H04S1 CROZET ISLANDS 61.73 214 T T 12 29 15.2
baz=54,slow=75,SNR=62
H04S3 CROZET ISLANDS 61.74 214 T T 12 29 16.6
baz=54,slow=75,SNR=121
H04S2 CROZET ISLANDS 61.74 214 T T 12 29 15.9
baz=54,slow=75,SNR=77

---

*IDC **13** 11:12:13.5±3.1, 5°.05S×129°.34E, h241km±43km, mb3.1/4, mbtmp3.9/7, Error ellipse: s-maj=73.9km s-min=14.1km az=73.0*
ISC 13 11:12:13.4±0.9, **5°.08S**±0°.07×**129°.6E**±0°.2, **h250**km, **n7**, σ**2**º**43**/10, **mb3.4**/4, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.49**	**21**	P	**Pn**	**11 13 23.9**	**+0.9**
	34nm,0.2s,baz=42,slow=22,SNR=44						
SIJI				S	**S**	**11 14 16.8**	**-1.7**
	17nm,0.2s,baz=225,slow=23,SNR=8.6						
WRA	**Warramunga Arr**	**15.47**	**163**	P	**P**	**11 15 39.7**	**+1.1**
	0.6nm,0.4s,baz=334,slow=13,SNR=27						
WRA				S	**S**	**11 18 24.1**	**-5.0**
	0.9nm,0.8s,baz=335,slow=19,SNR=4.9						
ASAR	**Alice Springs**	**18.94**	**168**	P	**P**	**11 16 17.9**	**+1.7**
	2.9nm,0.4s,baz=348,slow=11,SNR=77						
ASAR				S	**S**	**11 19 36.1**	**-1.7**
	1.1nm,0.8s,baz=348,slow=21,SNR=9.2						
STKA	**Stephens Creek**	**28.93**	**159**	P	**P**	**11 17 51.7**	**+2.1**
	0.3nm,0.3s,baz=324,slow=14,SNR=1.5						
	0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**38.24**	**308**	P	**P**	**11 19 08.9**	**-0.9**
	0.4nm,0.4s,baz=127,slow=6.9,SNR=1.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**66.43**	**327**	P	**P**	**11 22 35.8**	**-0.2**
	0.5nm,0.4s,baz=130,slow=8.1,SNR=4.3						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**70.69**	**328**	P	**P**	**11 23 01.9**	**-0.2**
	0.4nm,0.5s,baz=122,slow=5.0,SNR=3.7						
	0.4nm,0.5s						

---

*SOME **13** 11:22:27.9, 43°.67N×69°.72E*
*NNC **13** 11:22:27.0±1.6, 43°.49N×69°.48E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=11.1km s-min=8.1km az=49.0, Suspected Mining explosion.*
*KRNET **13** 11:22:28.8±0.1, 43°.50N×69°.57E, mb2.7*
ISC 13 11:22:31.0±2.7, **43°.50N**±0°.08×**69°.6E**±0°.1, **h0**km, **n18**, σ**1**º**35**/27, **14C-8D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.76**	**121**	⇓P	**Pg**	**11 22 43.7**	**-1.7**
	1.8nm,0.3s,baz=290,slow=16,SNR=158						
KK31				⇓S	**Sg**	**11 22 55.3**	**0.0**
	139nm,1.1s,baz=296,slow=30,SNR=87						
KKAR	**Karatay Array**	**0.76**	**121**	⇑iP	**Pg**	**11 22 44.2**	**-1.3**
	baz=19						
KKAR				⇑iS	**Sg**	**11 22 55.5**	**+0.2**
	baz=19						
TRKS	**Terek-Say**	**2.26**	**150**	⇓iP	**Pn**	**11 23 11.0**	**+1.2**
	baz=49						
TRKS				⇓iS	**Sb**	**11 23 41.7**	**+0.3**
	baz=49						
MNAS	**Manas**	**2.34**	**115**	⇑eP	**Pn**	**11 23 11.4**	**+0.6**
	baz=14						
MNAS				⇑iS	**Sn**	**11 23 42.3**	**+1.9**
	baz=14						
ARK	**Arkit**	**2.42**	**134**	⇑eP	**Pn**	**11 23 12.4**	**+0.5**
	baz=33						
ARK				⇑eS	**Sn**	**11 23 44.4**	**+2.1**
	baz=33						
MRKS	**Merke**	**2.74**	**105**	Pg	**Pb**	**11 23 18.5**	**-2.4**
	4.9nm,0.6s						
MRKS				Lg	Lg	11 23 54.5	
	11nm,0.7s						
EKS2	**Erkin-Say**	**3.15**	**104**	⇑eP	**Pn**	**11 23 22.7**	**+0.7**
	baz=4.0						
EKS2				⇑iS	**Sn**	**11 24 01.8**	**+1.4**
	baz=4.0						
AML	**Almayashu**	**3.29**	**113**	⇓Pg	**Pb**	**11 23 28.5**	**-1.9**
	0.2nm,0.5s						
AML				⇓Lg	Lg	11 24 14.2	
	1.5nm,0.8s						
AML	**Almayashu**	**3.29**	**113**	⇑eP	**Pn**	**11 23 24.5**	**+0.4**
	baz=13						
AML				⇑iS	**Sn**	**11 24 05.3**	**+1.2**
	baz=13						
ARSB	**Arslanbob**	**3.30**	**130**	⇑eP	**Pn**	**11 23 24.6**	**+0.6**
	baz=30						
ARSB				⇑eS	**Sn**	**11 24 05.5**	**+1.4**
	baz=30						
BTLS	**Baital**	**3.53**	**63**	Pg	**Pb**	**11 23 33.6**	**-0.6**
	13nm,0.4s						
BTLS				Lg	Lg	11 24 20.6	
	5.1nm,0.5s						
SGDS	**Sogindy**	**3.64**	**89**	Pg	**Pb**	**11 23 33.8**	**-2.4**
	3.2nm,0.6s						
SGDS				Lg	Lg	11 24 20.2	
	6.4nm,0.5s						
ARLS	**Aral**	**3.83**	**114**	⇓eP	**Pn**	**11 23 32.2**	**+0.9**
	baz=13						
ARLS				⇓eS	**Sn**	**11 24 18.1**	**+1.0**
	baz=13						
KRBS	**Karabastau**	**4.40**	**85**	Pg	**Pb**	**11 23 47.8**	**-1.3**
	3.6nm,0.8s						
KRBS				Lg	Lg	11 24 45.4	
	3.3nm,0.5s						
TKM2	**Tokmak 2**	**4.40**	**96**	⇑Pg	**Pb**	**11 23 48.2**	**-1.1**
	1.8nm,0.5s						
TKM2				⇑Lg	Lg	11 24 50.0	
	3.1nm,0.6s						
KST	**Kastek**	**4.65**	**93**	Pg	**Pb**	**11 23 53.0**	**-0.4**
	2.0nm,0.6s						
KST				Lg	Lg	11 24 53.3	
	6.4nm,0.4s						
KTBS	**Karatobe**	**5.13**	**85**	Pg	**Pb**	**11 24 01.9**	**+0.4**
	3.4nm,0.6s						
KTBS				Lg	Lg	11 25 09.2	
	6.5nm,1.0s						
TNSS	**Tian-Shan**	**5.36**	**92**	Pg	**Pb**	**11 24 07.2**	**+1.4**
	1.1nm,0.7s						
TNSS				Lg	Lg	11 25 17.7	
	1.0nm,0.5s						

---

*MEX **13** 11:23:29.8±0.8, 15°.50N×94°.91W, h18km±12km, MD4.8*
*NEIC **13** 11:23:30.0±2.7, 15°.60N×0°.07×94°.91W±0°.03, h32km±5km, mb4.5/160, Md4.8/80(MEX), Error ellipse: s-maj=9.7km s-min=4.5km az=183.0*
*IDC **13** 11:23:33.6±3.0, 15°.74N×94°.67W, h64km±27km, mb3.8/14, mbtmp4.1/15, ML4.7/2, MS3.7/32, Error ellipse: s-maj=21.8km s-min=14.2km az=59.0*
*GCG **13** 11:23:36.8±3.6, 15°.46N×94°.38W, h119km±269km, MD4.9*
ISC 13 11:23:28.1±1.4, **15°.56N**±0°.04×**94°.91W**±0°.03, **h25**km±10km, **n378**, σ**1**º**85**/411, **mb4.5**/50, **MS3.7**/34, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.04**	**16**	eP	**Pn**	**11 23 45.4**	**-1.7**
NILT				eS	**Sn**	**11 23 57.8**	**-3.2**
HUIG	**Huatulco**	**1.17**	**281**		**Pn**	**11 23 48.3**	**-0.6**
HUIG					**Sn**	**11 24 01.8**	**-2.3**
HUIG	**Huatulco**	**1.17**	**281**	eP	**Pn**	**11 23 48.3**	**-0.6**
HUIG				eS	**Sn**	**11 24 01.8**	**-2.3**
CARR	**Arriaga**	**1.18**	**54**	eP	**Pn**	**11 23 46.9**	**-2.1**
CARR				eS	**Sn**	**11 24 00.5**	**-3.9**
PANG	**Puerto Angel**	**1.51**	**274**		**Pn**	**11 23 53.2**	**-0.3**
PANG					**Sn**	**11 24 09.5**	**-2.9**
PANG	**Puerto Angel**	**1.51**	**274**	eP	**Pn**	**11 23 53.2**	**-0.3**
PANG				eS	**Sn**	**11 24 09.5**	**-2.9**
PCIG		**1.64**	**85**		**Pn**	**11 23 54.4**	**-0.9**
PCIG					**Sn**	**11 24 13.4**	**-2.2**
PCIG		**1.64**	**85**	eP	**Pn**	**11 23 54.4**	**-0.9**
PCIG				eS	**Sn**	**11 24 13.4**	**-2.2**
TGIG		**2.11**	**55**		**Pn**	**11 24 01.8**	**0.0**
TGIG					**Sn**	**11 24 26.9**	**-0.4**
TGIG		**2.11**	**55**	eP	**Pn**	**11 24 01.8**	**0.0**
TGIG				eS	**Sn**	**11 24 26.9**	**-0.4**
TGBT	**Tuxtla Gutierr**	**2.13**	**55**		**Pn**	**11 24 02.4**	**+0.3**
TGBT					**Sn**	**11 24 28.5**	**+0.7**
TGBT	**Tuxtla Gutierr**	**2.13**	**55**	eP	**Pn**	**11 24 02.4**	**+0.3**
TGBT				iS	**Sn**	**11 24 28.5**	**+0.7**
PEIG	**Puerto Escondi**	**2.19**	**282**		**Pn**	**11 24 02.6**	**-0.4**
PEIG					**Sn**	**11 24 25.4**	**-4.0**
PEIG	**Puerto Escondi**	**2.19**	**282**	eP	**Pn**	**11 24 02.6**	**-0.4**
PEIG				eS	**Sn**	**11 24 25.4**	**-4.0**
OXLC	**Oaxaca**	**2.28**	**311**	eP	**Pn**	**11 24 04.9**	**+0.5**
OXLC				eS	**Sn**	**11 24 31.5**	**-0.2**
OXBJ	**Oaxaca**	**2.30**	**311**		**Pn**	**11 24 07.1**	**+2.5**
OXBJ					**Sn**	**11 24 32.4**	**+0.2**
OXBJ	**Oaxaca**	**2.30**	**311**	eP	**Pn**	**11 24 07.1**	**+2.5**
OXBJ				eS	**Sn**	**11 24 32.4**	**+0.2**
NEUV	**Arroyo Zacate**	**2.31**	**338**	eP	**Pn**	**11 24 04.8**	**+0.2**
NEUV				eS	**Sn**	**11 24 30.6**	**-1.5**
OXIG	**Oaxaca**	**2.31**	**311**		**Pn**	**11 24 06.8**	**+2.1**
OXIG					**Sn**	**11 24 32.7**	**+0.3**
VHO	**Vista Hermosa**	**2.31**	**311**	eP	**Pn**	**11 24 06.8**	**+2.1**
VHO				eS	**Sn**	**11 24 32.7**	**+0.3**
TUIG	**Tuzandepetl**	**2.51**	**11**	eP	**Pn**	**11 24 07.3**	**0.0**
TUIG				eS	**Sn**	**11 24 36.5**	**-0.6**
PATR	**El Naranjo**	**2.62**	**99**	eP	**Pn**	**11 24 08.7**	**-0.4**
PATR				eS	**Sn**	**11 24 37.6**	**-2.6**
THIG		**2.64**	**104**		**Pn**	**11 24 07.8**	**-1.2**
THIG					**Sn**	**11 24 36.6**	**-3.6**
THIG		**2.64**	**104**	eP	**Pn**	**11 24 07.8**	**-1.2**
THIG				eS	**Sn**	**11 24 36.6**	**-3.6**
PAVE	**Pavencul**	**2.67**	**97**	eP	**Pn**	**11 24 10.0**	**+0.3**
PAVE				eS	**Sn**	**11 24 39.3**	**-2.0**
CHUJ	**Union Juarez**	**2.75**	**99**	eP	**Pn**	**11 24 10.5**	**-0.3**
CHUJ				eS	**Sn**	**11 24 40.4**	**-2.9**
CCIG	**Comitan**	**2.77**	**75**	eP	**Pn**	**11 24 13.3**	**+2.2**
CCIG				eS	**Sn**	**11 24 43.4**	**-0.3**
YOIG	**Yosondua**	**2.84**	**297**		**Pn**	**11 24 14.3**	**+2.2**
YOIG					**Sn**	**11 24 44.9**	**-0.8**
YOIG	**Yosondua**	**2.84**	**297**	eP	**Pn**	**11 24 14.3**	**+2.2**
YOIG				eS	**Sn**	**11 24 44.9**	**-0.8**
PMUV	**Sontecomapan**	**2.98**	**356**	eP	**Pn**	**11 24 12.6**	**-1.2**
PMUV				iS	**Sn**	**11 24 47.1**	**-1.7**
PNIG	**Pinotepa**	**3.20**	**285**		**Pn**	**11 24 17.3**	**+0.4**
PNIG					**Sn**	**11 24 50.4**	**-3.9**
PNIG	**Pinotepa**	**3.20**	**285**	eP	**Pn**	**11 24 17.3**	**+0.4**
PNIG				eS	**Sn**	**11 24 50.4**	**-3.9**
TXIG	**Tlaxiaco**	**3.22**	**302**		**Pn**	**11 24 19.8**	**+2.5**
TXIG					**Sn**	**11 24 53.9**	**-1.1**
TXIG	**Tlaxiaco**	**3.22**	**302**	eP	**Pn**	**11 24 19.8**	**+2.5**
TXIG				eS	**Sn**	**11 24 53.9**	**-1.1**
TOIG	**Toxpalan**	**3.26**	**321**		**Pn**	**11 24 21.1**	**+3.4**
TOIG					**Sn**	**11 24 56.2**	**+0.4**
TOIG	**Toxpalan**	**3.26**	**321**	eP	**Pn**	**11 24 21.1**	**+3.4**
TOIG				iS	**Sn**	**11 24 56.2**	**+0.4**
RTAL	**Retalhuleu**	**3.27**	**108**	Pn	**Pn**	**11 24 19.1**	**+1.2**
HUEH	**Huehuetenango**	**3.30**	**94**		**Pn**	**11 24 19.8**	**+1.4**
STG3	**Santiaguito 3,**	**3.34**	**104**	iP	**Pn**	**11 24 19.8**	**+0.9**
STG3				iS	**Sn**	**11 24 56.2**	**-1.7**
SULM	**Suchitepequez,**	**3.47**	**111**	iP	**Pn**	**11 24 22.4**	**+1.9**
HLIG	**Huajuapan de L**	**3.58**	**310**		**Pn**	**11 24 24.7**	**+2.5**
HLIG					**Sn**	**11 25 04.9**	**+1.2**
HLIG	**Huajuapan de L**	**3.58**	**310**	eP	**Pn**	**11 24 24.7**	**+2.5**
HLIG				eS	**Sn**	**11 25 04.9**	**+1.2**
TPIG	**Tehuac#an**	**3.69**	**321**		**Pn**	**11 24 25.9**	**+2.3**
TPIG					**Sb**	**11 25 12.3**	**-4.7**
TPIG	**Tehuac#an**	**3.69**	**321**	eP	**Pn**	**11 24 25.9**	**+2.3**
TPIG				eS	**Sb**	**11 25 12.3**	**-4.7**
FTIG	**Fresnillo de T**	**3.87**	**308**		**Pn**	**11 24 28.7**	**+2.5**
FTIG					**Sn**	**11 25 10.4**	**-0.5**
FTIG	**Fresnillo de T**	**3.87**	**308**	eP	**Pn**	**11 24 28.7**	**+2.5**
FTIG				eS	**Sn**	**11 25 10.4**	**-0.5**
MGIG	**Malinaltepec**	**3.94**	**296**		**Pn**	**11 24 29.6**	**+2.4**
MGIG					**Sn**	**11 25 11.2**	**-1.6**
MGIG	**Malinaltepec**	**3.94**	**296**	eP	**Pn**	**11 24 29.6**	**+2.4**
MGIG				eS	**Sn**	**11 25 11.2**	**-1.6**
TLIG	**Tlapa**	**4.03**	**300**	Pn	**Pn**	**11 24 31.6**	**+3.2**
TLIG	**Tlapa**	**4.03**	**300**	eP	**Pn**	**11 24 31.2**	**+2.9**
TLIG				eS	**Sn**	**11 25 09.0**	**-5.9**
FUG	**Fuego 3**	**4.09**	**105**	iP	**Pn**	**11 24 31.9**	**+2.7**
FUG				iS	**Sn**	**11 25 12.7**	**-3.6**
HMTT	**Tlapaneco**	**4.14**	**303**	eP	**Pn**	**11 24 29.9**	**0.0**
HMTT				eS	**Sn**	**11 25 16.4**	**-1.2**
JAUV	**Jalcomulco**	**4.20**	**335**	eP	**Pn**	**11 24 29.4**	**-1.1**
JAUV				eS	**Sn**	**11 25 16.3**	**-2.6**
LVIG	**Laguna Verde**	**4.38**	**341**	eP	**Pn**	**11 24 31.3**	**-1.8**
LVIG				eS	**Sn**	**11 25 18.5**	**-4.9**
NBG	**Las Nubes**	**4.52**	**102**	iP	**Pb**	**11 24 47.2**	**+0.3**
DAIG	**Los Arroyos**	**4.78**	**288**		**Pn**	**11 24 40.0**	**+1.5**
DAIG					**Sn**	**11 25 27.3**	**-5.8**
DAIG	**Los Arroyos**	**4.78**	**288**	eP	**Pn**	**11 24 40.0**	**+1.5**
DAIG				eS	**Sn**	**11 25 27.3**	**-5.8**
SCIG	**Sabancuy**	**4.92**	**46**	eP	**Pn**	**11 24 39.9**	**-0.6**
SCIG				eS	**Sn**	**11 25 31.9**	**-4.7**
ACP2	**Acapulco**	**4.95**	**286**	eP	**Pn**	**11 24 38.5**	**-2.5**
ACP2				eS	**Sn**	**11 25 29.9**	**-7.5**
PPM	**Popocatepetl**	**4.98**	**315**	eP	**Pn**	**11 24 44.3**	**+2.6**
PPM				eS	**Sn**	**11 25 38.6**	**-0.1**
PPIG	**Popocatepetl**	**4.98**	**315**		**Pn**	**11 24 44.3**	**+2.6**
PPIG					**Sn**	**11 25 38.6**	**-0.2**
MEIG	**Mezcala**	**5.09**	**298**		**Pn**	**11 24 45.3**	**+2.5**
MEIG					**Sn**	**11 25 39.6**	**-1.3**
MEIG	**Mezcala**	**5.09**	**298**	eP	**Pn**	**11 24 45.3**	**+2.5**
MEIG				eS	**Sn**	**11 25 39.6**	**-1.3**
AMVM	**AMECAMECA**	**5.13**	**314**	eP	**Pn**	**11 24 43.5**	**-0.2**
AMVM				eS	**Sn**	**11 25 42.3**	**0.0**
YAIG	**Yautepec**	**5.15**	**310**		**Pn**	**11 24 47.2**	**+3.3**
YAIG					**Sn**	**11 25 40.7**	**-2.0**
YAIG	**Yautepec**	**5.15**	**310**	eP	**Pn**	**11 24 47.2**	**+3.3**
YAIG				eS	**Sn**	**11 25 40.7**	**-2.0**
PLIG	**Platanillo**	**5.22**	**303**		**Pn**	**11 24 44.7**	**+0.1**
PLIG					**Sn**	**11 25 42.1**	**-2.1**
PLIG	**Platanillo**	**5.22**	**303**	eP	**Pn**	**11 24 44.7**	**+0.1**
PLIG				eS	**Sn**	**11 25 42.1**	**-2.1**
MPVM	**San Francisco**	**5.33**	**313**	eP	**Pn**	**11 24 45.6**	**-0.8**
MPVM				eS	**Sn**	**11 25 46.2**	**-0.9**
CAIG	**El Cayaco**	**5.35**	**287**		**Pn**	**11 24 47.8**	**+1.4**
CAIG					**Sn**	**11 25 40.9**	**-6.3**
CAIG	**El Cayaco**	**5.35**	**287**	eP	**Pn**	**11 24 47.8**	**+1.4**
CAIG				iS	**Sn**	**11 25 40.9**	**-6.3**
THVM	**De Xico**	**5.38**	**315**	eP	**Pn**	**11 24 45.0**	**-2.1**
THVM				eS	**Sn**	**11 25 48.1**	**-0.3**
TLVM	**San Miguel Top**	**5.44**	**313**	eP	**Pn**	**11 24 45.0**	**-2.9**
TLVM				eS	**Sn**	**11 25 48.6**	**-1.4**
ESQI	**Esquipulas**	**5.47**	**100**	Pn	**Pn**	**11 24 50.5**	**+2.3**
MTO3	**Montecristo**	**5.49**	**101**	Pn	**Pn**	**11 24 50.9**	**+2.4**
COVM	**Coyoacan**	**5.53**	**314**	eP	**Pn**	**11 24 48.8**	**-0.4**
COVM				eS	**Sn**	**11 25 52.4**	**+0.3**
UNM	**Universidad Na**	**5.54**	**313**	Pn	**Pn**	**11 24 51.5**	**+2.4**
VRVM	**Mexico City**	**5.55**	**314**	eP	**Pn**	**11 24 48.9**	**-0.5**
BJVM	**Benito Juarez**	**5.56**	**314**	eP	**Pn**	**11 24 49.0**	**-0.6**
BJVM				eS	**Sn**	**11 25 53.3**	**+0.5**
VTVM	**Tizayuca**	**5.58**	**319**	eS	**Sn**	**11 25 52.8**	**-0.5**
CJVM	**Cuajimalpa**	**5.63**	**313**	eP	**Pn**	**11 24 49.3**	**-1.2**
CJVM				eS	**Sn**	**11 25 54.8**	**+0.3**
INVM	**La Marquesa**	**5.66**	**312**	eP	**Pn**	**11 24 52.7**	**+1.8**
INVM				eS	**Sn**	**11 25 53.3**	**-2.0**
AZVM	**Cuida Lopez Ma**	**5.78**	**315**	eP	**Pn**	**11 24 54.4**	**+1.8**
AZVM				eS	**Sn**	**11 25 59.5**	**+1.2**
SNET	**Serv Nac Est T**	**5.81**	**108**	Pn	**Pn**	**11 24 55.3**	**+2.6**
ZUVM	**ZUMPANGO**	**5.81**	**318**	eP	**Pn**	**11 24 55.8**	**+2.8**
ZUVM				eS	**Sn**	**11 25 56.5**	**-2.5**
ARIG	**Puente Sto Nin**	**5.86**	**298**		**Pn**	**11 24 57.0**	**+3.5**
ARIG					**Sn**	**11 25 56.8**	**-3.2**
ARIG	**Puente Sto Nin**	**5.86**	**298**	eP	**Pn**	**11 24 57.0**	**+3.5**
ARIG				eS	**Sn**	**11 25 56.8**	**-3.2**
TOVM	**TOLUCA**	**5.87**	**310**	eP	**Pn**	**11 24 53.6**	**-0.2**
TOVM				eS	**Sn**	**11 26 00.5**	**+0.1**
DEIG	**Demacu**	**6.14**	**321**	eP	**Pn**	**11 24 57.2**	**-0.2**
ACIG	**Acambay**	**6.46**	**314**	eP	Pn	11 25 06.3	+4.5
ACIG				eS	**Sn**	**11 26 16.3**	**+1.4**
ZIIG	**Zihuatanejo**	**6.60**	**289**		**Pn**	**11 25 06.2**	**+2.6**
ZIIG					**Sn**	**11 26 12.6**	**-5.5**
ZIIG	**Zihuatanejo**	**6.60**	**289**	eP	**Pn**	**11 25 05.2**	**+1.6**
ZIIG				eS	**Sn**	**11 26 15.2**	**-2.9**
CTUV	**Llano Grande**	**6.73**	**332**	eP	**Pn**	**11 25 03.3**	**-2.1**
MYIG	**Mrida**	**7.28**	**42**	eP	**Pn**	**11 25 12.0**	**-0.9**
MYIG				eS	**Sn**	**11 26 30.9**	**-3.9**
TGUH	**Tegucigalpa,Un**	**7.54**	**100**	Pn	**Pn**	**11 25 19.4**	**+2.8**
TEIG	**Tepich**	**7.84**	**53**	P	**Pn**	**11 25 19.7**	**-0.9**
	113nm,0.3s,baz=34,slow=1.6,SNR=49						
TEIG				S	**Sn**	**11 26 41.0**	**-7.7**
	546nm,0.4s,baz=140,slow=22,SNR=5.0						
TEIG				LR	LR	11 28 44.7	
	comp=Z,7μm,18.6s,baz=12,slow=41						
RPIG	**Rio Verde**	**7.92**	**323**	eP	**Pn**	**11 25 25.4**	**+3.7**
CRIN	**San Cristobal**	**8.14**	**109**		**Pn**	**11 25 26.9**	**+2.1**
GTIG	**Gomez Farias**	**8.48**	**332**	eP	**Pn**	**11 25 32.0**	**+2.6**
MMIG	**Aquila**	**8.52**	**290**	eP	**Pn**	**11 25 29.1**	**-0.7**
MMIG				eS	**Sn**	**11 27 03.2**	**-2.0**
CNGN	**Cerro Negro**	**8.53**	**110**		**Pn**	**11 25 33.3**	**+3.1**
MATN	**Matagalpa**	**9.10**	**106**	Pn	**Pn**	**11 25 40.2**	**+2.3**
ZAIG	**Zacatecas**	**10.18**	**316**	eP	**Pn**	**11 25 54.5**	**+1.5**
LNIG	**Linares**	**10.23**	**336**	eP	**Pn**	**11 25 54.2**	**+0.8**
CJM	**Chamela**	**10.43**	**294**	eP	**Pn**	**11 25 53.8**	**-2.3**
ORTG	**Ortega, Santa**	**10.56**	**118**	Pn	**Pn**	**11 26 01.5**	**+3.5**
DUNO	**Dulce Nombre,**	**10.68**	**120**		Pn	11 26 03.6	+4.1
ESPN	**Las Esperanzas**	**10.83**	**107**		**Pn**	**11 26 04.5**	**+2.8**
JTS	**Las Juntas de**	**11.03**	**117**		**Pn**	**11 26 04.5**	**+0.1**
JTS	**Las Juntas de**	**11.03**	**117**	P	Pn	11 26 11.9	+7.5
	8.7nm,0.4s,baz=298,slow=7.2,SNR=10.0						
JTS				S	**Sn**	**11 28 05.9**	**-1.1**
	1.5nm,0.3s,baz=297,slow=24,SNR=1.0						
ARE1	**Arenal 1**	**11.15**	**116**	Pn	**Pn**	**11 26 06.2**	**+0.2**
SOCE	**Pocosol**	**11.27**	**116**	Pn	Pn	11 26 12.8	+5.1
JACO	**JACO, Garabito**	**11.59**	**119**		Pn	11 26 18.9	+6.9
HBVL	**Hebbronville**	**11.97**	**344**	Pn	**Pn**	**11 26 18.3**	**+1.1**
RIMA	**Rio Macho**	**12.22**	**117**		Pn	11 26 25.7	+4.8
SOR	**Soroa**	**13.35**	**56**	Pn	**Pn**	**11 26 35.2**	**-0.8**
833A	**Chaparral WMA,**	**13.37**	**343**	Pn	**Pn**	**11 26 39.6**	**+3.3**
833A	**Chaparral WMA,**	**13.37**	**343**	P	**Pn**	**11 26 38.0**	**+1.8**
	baz=161,SNR=12						
735A	**Kenedy**	**13.50**	**349**	Pn	**Pn**	**11 26 41.0**	**+2.8**
FSCY	**Frank Sound, G**	**13.62**	**72**		**Pn**	**11 26 39.2**	**-0.6**
MCIG	**Muzquiz**	**13.69**	**335**	eP	**Pn**	**11 26 39.4**	**-1.3**
HKT	**Hockley**	**14.35**	**357**	Pn	**Pn**	**11 26 49.9**	**+0.3**
HNDO	**Hondo**	**14.48**	**345**		**Pn**	**11 26 53.3**	**+1.9**
DRIO	**Del Rio**	**14.77**	**340**	Pn	**Pn**	**11 26 55.8**	**+0.4**
435B	**Jarrell**	**15.35**	**351**	P	**Pn**	**11 27 04.0**	**+0.8**
	baz=170						
JCT	**Junction City**	**15.52**	**344**	Pn	**Pn**	**11 27 06.9**	**+1.6**
JCT				IAmb	IAmb	11 27 17.6	
	comp=Z,18nm,0.7s						
JCT	**Junction City**	**15.52**	**344**	P	**Pn**	**11 27 06.9**	**+1.6**
	baz=162						
SAND	**Sanderson**	**15.79**	**336**	Pn	**Pn**	**11 27 10.7**	**+1.8**
SAND				IAmb	IAmb	11 27 15.9	
	comp=Z,8.7nm,0.9s						
TX31	**Lajitas Ar. Si**	**15.91**	**331**	P	**Pn**	**11 27 12.3**	**+1.8**
TX31				IAmb	IAmb	11 27 18.2	
	comp=Z,27nm,1.2s						
TX32	**Lajitas Array**	**15.91**	**331**	P	**Pn**	**11 27 12.3**	**+1.8**
TXAR	**Lajitas Array**	**15.91**	**331**	P	**P**	**11 27 12.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=149,slow=14,SNR=25						
TXAR				LR	LR	11 32 53.9	
	comp=Z,89nm,21.9s,baz=139,slow=35						
	comp=Z,2.2nm,0.7s						
BRDY	**Brady**	**16.10**	**347**	Pn	**Pn**	**11 27 13.8**	**+1.0**
BRDY				IAmb	IAmb	11 27 33.6	
	comp=Z,32nm,0.9s						
NATX	**Nacogdoches**	**16.13**	**1**	Pn	**Pn**	**11 27 14.5**	**+1.3**
NATX				IAmb	IAmb	11 27 32.4	
	comp=Z,22nm,0.5s						
344A	**Westbrook Farm**	**16.28**	**13**	Pn	**Pn**	**11 27 15.8**	**+0.7**
344A				IAmb	IAmb	11 27 26.9	
	comp=Z,58nm,1.4s						
OZNA	**Ozona**	**16.32**	**341**		**P**	**11 27 17.4**	**-1.1**
OZNA				IAmb	IAmb	11 27 34.2	
	comp=Z,26nm,0.6s						
237A	**Washetta, Mont**	**16.39**	**357**		**Pn**	**11 27 18.1**	**+1.5**
237A				IAmb	IAmb	11 27 35.1	
	comp=Z,21nm,0.7s						
WHTX	**Lake Whitney,**	**16.52**	**352**	Pn	**Pn**	**11 27 18.2**	**0.0**
WHTX	**Lake Whitney,**	**16.52**	**352**	P	**Pn**	**11 27 19.5**	**+1.3**
	baz=171,SNR=8.8						
346A	**Big Creek Wild**	**16.53**	**17**		**P**	**11 27 20.0**	**-0.6**
ALPN	**Alpine**

comp=Z,23nm,0.6s
UALR University of 19.28 6 P **P 11 27 50.9 -0.1**
152A Waverly Hall 19.39 27 P **P 11 27 52.2 0.0**
152A IAmb IAmb 11 28 15.2
comp=Z,24nm,1.3s
WMOK Wichita Mounta 19.41 350 **P 11 27 52.8 +0.2**
MSTX Muleshoe 19.66 340 P **Pn 11 27 56.9 +0.1**
MSTX IAmb IAmb 11 28 13.8
comp=Z,22nm,1.1s
MSTX Muleshoe 19.66 340 P **P 11 27 55.4 +0.1**
baz=157
Y49A Blount Mountai 19.77 21 P **P 11 27 56.0 -0.4**
WHAR Wooly Hollow 19.79 6 **P 11 27 56.4 -0.2**
X48A Hartselle 20.11 19 IAmb IAmb 11 28 12.8
comp=Z,13nm,0.8s
AMTX Amarillo 20.18 344 IAmb IAmb 11 28 05.4
comp=Z,28nm,1.0s
AMTX Amarillo 20.18 344 P **P 11 28 01.3 +0.3**
baz=161
OK029 Liberty Lake 20.29 354 **P 11 28 01.1 -0.9**
TUL3 Leonard 20.29 358 P **P 11 28 02.8 +0.8**
baz=178
CSTR Hydro, Custer 20.29 351 **P 11 28 01.5 -0.6**
PLAL Pickwick Lake 20.30 16 P **P 11 28 01.8 -0.3**
OK031 S. Brethren Rd 20.39 356 **P 11 28 01.8 -1.3**
FCAR Ozark Folk Cen 20.40 7 P **P 11 28 02.1 -1.1**
FCAR IAmb IAmb 11 28 13.7
comp=Z,17nm,0.9s
OK052 Battle Ridge R 20.42 356 **P 11 28 03.3 -0.1**
OK033 Mehan 20.48 355 **P 11 28 03.8 -0.4**
121A Cookes Peak, D 20.55 328 P Pn 11 28 07.4 0.0
121A IAmb IAmb 11 28 21.8
comp=Z,14nm,0.9s
121A Cookes Peak, D 20.55 328 P Pn 11 28 07.0 -0.4
baz=142,SNR=11
GOGA Godfrey 20.57 28 P **P 11 28 04.8 -0.3**
baz=213
HHAR Hobbs 20.66 2 P **P 11 28 04.8 -1.3**
FPAL Fort Paine 20.68 22 P **P 11 28 05.0 -1.3**
FPAL IAmb IAmb 11 28 23.8
comp=Z,20nm,1.3s
LCAR Lake Charles 20.70 9 P **P 11 28 05.2 -1.3**
U38A Gravette 20.80 1 P **P 11 28 07.5 -0.1**
U32A Winter Ranch, 21.06 351 **P 11 28 10.0 -0.3**
SWET Sewanee 21.17 21 P **P 11 28 11.3 -0.3**
BLOK Blackwell 21.22 355 **P 11 28 12.0 -0.1**
DUN6 Lazy B Ranch 21.27 325 P **P 11 28 13.3 +0.6**
DUN6 IAmb IAmb 11 28 39.5
comp=Z,37nm,1.2s
T35A Sooner Cattle 21.32 356 P **P 11 28 12.4 -0.8**
T35A IAmb IAmb 11 28 29.6
comp=Z,27nm,0.8s
OK032 Salt Plains WL 21.36 353 P **P 11 28 12.8 -0.8**
OK032 IAmb IAmb 11 28 30.4
comp=Z,27nm,0.7s
V48A Smith Brothers 21.36 18 P **P 11 28 12.1 -1.6**
V48A IAmb IAmb 11 28 22.1
comp=Z,24nm,1.4s
GC02 Grant County # 21.37 354 P **P 11 28 12.8 -0.9**
W50A Signal Mountai 21.37 22 P **P 11 28 12.0 -1.8**
W50A IAmb IAmb 11 28 23.2
comp=Z,18nm,0.9s
WVT Waverly 21.44 16 P **P 11 28 14.3 -0.2**
WVT Waverly 21.44 16 P **P 11 28 14.5 0.0**
baz=199
KAN14 Manchester OK 21.49 353 P **P 11 28 13.4 -1.5**
KAN14 IAmb IAmb 11 28 39.4
comp=Z,17nm,0.8s
PBMO Poplar Bluff 21.51 10 P **P 11 28 13.3 -1.9**
PBMO IAmb IAmb 11 28 24.7
comp=Z,31nm,1.2s
KAN17 Caldwell West 21.55 354 P **P 11 28 15.2 -0.5**
KAN17 IAmb IAmb 11 28 29.8
comp=Z,30nm,0.8s
MGMO Mountain Grove 21.64 6 P **P 11 28 16.5 -0.1**
MGMO IAmb IAmb 11 28 27.2
comp=Z,15nm,1.1s
T42A Van Buren 21.66 8 P **P 11 28 16.3 -0.5**
KS20 Mayfield South 21.71 354 P **P 11 28 15.1 -2.2**
ANMO Albuquerque 21.91 334 P **P 11 28 20.0 +0.2**
ANMO Albuquerque 21.91 334 P **P 11 28 21.0 +1.2**
baz=149
ANMO Albuquerque 21.91 334 P **P 11 28 22.0 +2.3**
comp=Z,1.3nm,0.6s,baz=236,slow=13,SNR=6.3
comp=Z,1.3nm,0.6s
TUC Tucson 22.06 322 P **P 11 28 21.8 +0.6**
TUC Tucson 22.06 322 P **P 11 28 22.5 +1.3**
baz=136
S39A Bolivar 22.09 3 P **P 11 28 20.3 -1.1**
S39A IAmb IAmb 11 28 34.1
comp=Z,17nm,1.2s
CGM3 Cape Girardeau 22.15 11 P **P 11 28 21.1 -0.9**
TKL Tuckaleechee C 22.36 24 P **P 11 28 24.1 -0.3**
TKL IAmb IAmb 11 28 40.1
comp=Z,29nm,1.3s
TKL Tuckaleechee C 22.36 24 P **P 11 28 24.4 +0.1**
comp=Z,2.5nm,0.8s,baz=215,slow=20,SNR=2.2
TKL S **S 11 32 24.9 -4.0**
comp=Z,1.1nm,0.6s,baz=61,slow=22,SNR=1.0
TKL LR LR 11 39 09.1
comp=Z,142nm,18.7s,baz=194,slow=42
comp=Z,2.5nm,0.8s
U49A Red Boiling Sp 22.40 20 P **P 11 28 23.0 -1.8**
U49A IAmb IAmb 11 28 32.3
comp=Z,13nm,0.8s
T47A Sharon Grove 22.45 17 IAmb IAmb 11 28 47.9
comp=Z,27nm,1.2s
CCM Cathedral Cave 22.64 8 P **P 11 28 27.2 -0.1**
CCM IAmb IAmb 11 28 39.6
comp=Z,13nm,0.9s
CCM Cathedral Cave 22.64 8 P **P 11 28 27.2 -0.1**
baz=189
FVM French Village 22.69 9 P **P 11 28 27.9 +0.1**
R40A Maddies Statio 22.77 5 P **P 11 28 27.5 -1.1**
R40A IAmb IAmb 11 28 41.5
comp=Z,16nm,0.8s
ROSC El Rosal 22.87 116 P **P 11 28 29.8 -0.5**
ROSC El Rosal 22.87 116 P **P 11 28 32.8 +2.4**
comp=Z,6.4nm,0.4s,baz=16,slow=8.9,SNR=12
comp=Z,6.4nm,0.4s
KMSC Kings Mountain 23.00 30 P **P 11 28 30.1 -0.9**
baz=215
R32A Long Quarter, 23.02 352 P **P 11 28 31.0 -0.4**
R32A IAmb IAmb 11 28 33.2
comp=Z,25nm,0.8s
214A Organ Pipe Nat 23.07 318 P **P 11 28 33.5 +1.7**
214A Organ Pipe Nat 23.07 318 P **P 11 28 33.8 +1.9**
baz=131
T25A Trinidad 23.09 340 P **P 11 28 34.6 +2.4**
T25A IAmb IAmb 11 28 36.2
comp=Z,22nm,0.9s
T25A Trinidad 23.09 340 P **P 11 28 33.3 +1.0**
baz=156,SNR=13
KSU1 Kansas State U 23.50 357 P **P 11 28 35.1 -0.9**
KSU1 IAmb IAmb 11 28 48.1
comp=Z,20nm,0.8s
KSU1 Kansas State U 23.50 357 P **P 11 28 36.0 0.0**
baz=176
CBKS Cedar Bluff 23.55 351 P **P 11 28 37.5 +0.9**
CBKS Cedar Bluff 23.55 351 P **P 11 28 37.0 +0.4**
baz=168
X16A Lo Mia Camp, P 23.96 325 P **P 11 28 42.5 +1.8**
SDCO Great Sand Dun 24.00 339 P **P 11 28 42.3 +1.1**
SDCO Great Sand Dun 24.00 339 P **P 11 28 41.2 0.0**
baz=154,SNR=7.8
P38A Dawn 24.01 3 P **P 11 28 39.9 -1.0**
P38A IAmb IAmb 11 28 50.6
comp=Z,13nm,0.9s
P40A Paris 24.02 5 P **P 11 28 39.1 -1.9**
P40A IAmb IAmb 11 28 52.1
comp=Z,17nm,0.8s
KSCO Kaye Shedlock' 24.33 345 P **P 11 28 43.9 -0.2**
KSCO IAmb IAmb 11 28 46.9
comp=Z,24nm,1.1s
S22A 4UR Ranch, Cre 24.49 337 P **P 11 28 47.4 +1.7**
S22A 4UR Ranch, Cre 24.49 337 P **P 11 28 46.1 +0.4**
baz=151
SDV Santo Domingo 24.62 103 LR LR 11 38 58.6
comp=Z,133nm,21.6s,baz=295,slow=38
BOSC San Juan Bosco 24.69 137 P **P 11 28 51.5 +3.9**
MVCO Mesa Verde 24.71 333 P **P 11 28 49.2 +1.6**
MVCO IAmb IAmb 11 29 04.3
comp=Z,14nm,1.3s
MVCO Mesa Verde 24.71 333 P **P 11 28 48.3 +0.7**
baz=147

WUAZ Wupatki 24.74 326 P **P 11 28 49.6 +1.8**
WUAZ IAmb IAmb 11 28 52.6
comp=Z,12nm,0.8s
WUAZ Wupatki 24.74 326 P **P 11 28 48.6 +0.7**
baz=139,SNR=9.6
P46A Rosedale 24.90 14 P **P 11 28 46.8 -2.3**
N38A Joes South For 25.19 3 P **P 11 28 50.6 -1.0**
N35A Tabor 25.22 359 P **P 11 28 51.1 -0.8**
SMCO Snowmass 25.80 338 P **P 11 28 57.5 -0.2**
BC3 Big Chuckawall 25.86 318 P **P 11 28 59.1 +1.1**
baz=129
ISCO Idaho Springs 25.90 341 P **P 11 28 59.3 +0.8**
baz=156
IRM Iron Mountain 25.99 319 P **P 11 29 00.6 +1.6**
baz=130
SCIA State Center 26.30 3 P **P 11 29 01.7 0.0**
baz=184
PFO Pinyon Flats O 26.49 317 LR LR 11 40 14.7
comp=Z,189nm,18.7s,baz=134,slow=38
V12A Nelson 26.85 322 P **P 11 29 09.7 +2.8**
K38A Parkersburg 27.06 3 P **P 11 29 07.7 -0.9**
JFWS Jewell Farm 27.56 7 IAmb IAmb 11 29 14.1
comp=Z,11nm,0.7s
JFWS Jewell Farm 27.56 7 P **P 11 29 13.3 +0.3**
baz=190
RRX Edison Barstow 27.62 318 P **P 11 29 15.0 +1.3**
baz=129
SJG San Juan 27.64 81 LR LR 11 39 23.6
comp=Z,71nm,21.9s,baz=245,slow=35
ATAH Atahualpa 27.86 143 LR LR 11 38 13.7
comp=Z,99nm,19.9s,baz=313,slow=32
ECSD EROS Data Cent 28.12 357 P **P 11 29 17.3 -0.7**
ECSD IAmb IAmb 11 29 29.7
comp=Z,7.4nm,0.7s
ECSD EROS Data Cent 28.12 357 P **P 11 29 18.2 +0.1**
baz=176
TPNV Topopah Spring 28.51 322 P **P 11 29 22.4 +0.6**
baz=133
MPMC Manual Prospec 28.68 320 P **P 11 29 24.2 +0.8**
baz=130
K22A Casper 28.78 342 P **P 11 29 24.4 +0.2**
baz=156
SPR3 Spring Creek 3 28.91 328 P **P 11 29 26.4 +0.9**
R11B Troy Canyon, C 29.11 325 P **P 11 29 28.1 +1.0**
baz=136
GRAC Grapevine Rang 29.21 321 P **P 11 29 28.8 +1.0**
baz=131
TCUT Toone Canyon 29.21 334 IAmb IAmb 11 29 31.0
comp=Z,6.3nm,1.0s
SPMN Marine on St. 29.63 3 IAmb IAmb 11 29 41.7
comp=Z,15nm,0.9s
BW06 Boulder Array 29.89 338 P **P 11 29 34.6 +0.5**
baz=151
PDAR Pinedale Array 29.89 338 P **P 11 29 34.6 +0.6**
comp=Z,0.7nm,0.9s,baz=111,slow=8.1,SNR=4.3
PDAR LR LR 11 44 03.3
comp=Z,62nm,20.5s,baz=168,slow=41
comp=Z,0.7nm,0.9s
PCRV Puerto La Cruz 29.98 97 LR LR 11 44 06.5
comp=Z,71nm,18.3s,slow=41
NVAR Mina Array Bea 30.71 322 P **P 11 29 44.1 +2.7**
comp=Z,1.6nm,0.8s,baz=134,slow=8.6,SNR=14
NVAR LR LR 11 42 41.5
comp=Z,216nm,19.2s,baz=135,slow=38
comp=Z,1.6nm,0.8s
SNOW Snow King Moun 30.93 337 IAmb IAmb 11 29 45.7
comp=Z,7.7nm,0.9s
LOHW Long Hollow 31.00 338 IAmb IAmb 11 29 46.3
comp=Z,8.2nm,1.5s
SADO Sadowa 32.03 21 LR LR 11 45 12.7
comp=Z,102nm,18.6s,baz=158,slow=41
MDND Maddock 32.43 354 P **P 11 29 57.0 +0.9**
baz=172
LAO LASA Array 32.44 345 P **P 11 29 57.3 +1.0**
baz=159
HLID Hailey 32.49 333 P **P 11 29 57.8 +0.9**
baz=143
NNA Nana 32.70 146 LR LR 11 40 52.2
comp=Z,90nm,20.2s,baz=334,slow=32
J08A Circle Bar Ran 34.24 329 IAmb IAmb 11 30 14.9
comp=Z,6.6nm,0.8s
PLID Pearl Lake 34.39 333 IAmb IAmb 11 30 15.7
comp=Z,6.9nm,0.9s
ULM Lac du Bonnet 34.61 359 P **P 11 30 13.7 -1.4**
comp=Z,2.5nm,0.7s,baz=173,slow=8.8,SNR=2.2
ULM LR LR 11 47 41.4
comp=Z,84nm,18.7s,baz=172,slow=42
comp=Z,2.5nm,0.7s
EGMT Eagleton 34.62 342 P **P 11 30 15.9 +0.7**
baz=154
MSO Missoula 34.98 337 P **P 11 30 18.6 +0.2**
baz=147
YBH Yreka Blue Hor 35.42 323 LR LR 11 46 41.3
comp=Z,177nm,18.1s,baz=146,slow=39
F10A Beach Ranch, E 35.62 333 IAmb IAmb 11 30 26.3
comp=Z,6.9nm,0.8s
BOAV Boa Vista 36.32 108 P **P 11 30 29.2 -1.0**
BOAV IAmb IAmb 11 30 29.9
comp=Z,4.1nm,0.8s
NEW Newport 37.39 335 P **P 11 30 40.1 +1.2**
NEW Newport 37.39 335 P **P 11 30 39.5 +0.6**
baz=143
NEW Newport 37.39 335 LR LR 11 48 03.5
comp=Z,78nm,21.6s,baz=138,slow=39
C09A Chrisman Ranch 37.50 334 P **P 11 30 41.1 +1.3**
C09A IAmb IAmb 11 30 41.8
comp=Z,4.7nm,0.8s
ETMB Extrema 38.00 130 P **P 11 30 43.9 -0.5**
ETMB IAmb IAmb 11 30 45.1
comp=Z,6.4nm,1.2s
EDM Edmonton 40.29 343 P **P 11 31 02.4 -0.8**
EDM IAmb IAmb 11 31 05.2
comp=Z,5.7nm,0.8s
MDP Montagnes des 42.78 99 LR LR 11 51 17.9
comp=Z,48nm,20.2s,baz=258,slow=39
SCHQ Schefferville 44.82 23 LR LR 11 52 30.5
comp=Z,160nm,19.6s,baz=237,slow=39
BBB Bella Bella 45.04 332 LR LR 11 53 16.3
comp=Z,65nm,19.1s,baz=172,slow=40
LVC Limon Verde 45.69 146 LR LR 11 50 13.8
comp=Z,46nm,18.8s,baz=322,slow=35
PTLB Pontes e Lacer 46.88 129 P **P 11 32 00.6 +4.0**
PTLB IAmb IAmb 11 32 01.4
comp=Z,3.9nm,0.9s
YKA Yellowknife Ar 48.90 348 P **P 11 32 11.3 -0.3**
comp=Z,3.1nm,0.7s,baz=148,slow=7.1,SNR=6.5
comp=Z,3.1nm,0.7s
KOTAN Kotaneelee Air 49.30 341 P **P 11 32 15.7 +1.0**
baz=142
U33K Whale Pass 49.84 333 P **P 11 32 20.1 +1.2**
baz=129
DLBC Dease Lake 50.10 337 P **P 11 32 22.1 +1.0**
baz=134
DLBC Dease Lake 50.10 337 LR LR 11 57 44.2
comp=Z,72nm,19.2s,baz=48,slow=41
S34M Telegraph Cree 50.18 336 P **P 11 32 22.6 +1.1**
baz=132
TAOE Nuku Hiva Isla 50.95 245 *e*LR LR 11 46 52.0
comp=Z,210nm,26.4s
R33M Jennings River 51.12 337 P **P 11 32 29.8 +1.0**
baz=133
S32K Killisnoo 51.30 334 P **P 11 32 31.2 +1.3**
baz=128
Q32M Nakina River 51.32 336 P **P 11 32 30.6 +0.3**
baz=132
FRB Frobisher Bay 51.48 15 LR LR 11 57 04.5
comp=Z,44nm,18.4s,baz=212,slow=39
WRGLY Wrigley 51.61 344 P **P 11 32 33.1 +0.9**
baz=144
TGTN Hyland Airport 51.70 340 P **P 11 32 33.7 +0.7**
baz=138
MMPY Sheldon Lake, 53.47 340 P **P 11 32 48.2 +2.2**
MMPY Sheldon Lake, 53.47 340 P **P 11 32 46.9 +0.8**
baz=135
YUK6 Outpost Mounta 54.96 336 P **P 11 32 57.4 +0.3**
baz=126
BDFB Brasilia 55.73 122 P **P 11 33 03.2 0.0**
comp=Z,4.2nm,0.7s,baz=284,slow=7.1,SNR=6.2
comp=Z,4.2nm,0.7s
M29M Somme Creek 55.89 337 P **P 11 33 04.0 +0.3**
baz=127
L29M L29M 56.17 338 P **P 11 33 05.9 +0.4**
baz=127
YUK3 Moose Creek 56.26 336 P **P 11 33 06.0 -0.5**
baz=124
G31M Satah River 57.40 343 P **P 11 33 14.4 +0.3**
baz=134
Q23K Middleton Isla 57.58 332 P **P 11 33 15.4 -0.1**
baz=117
F31M Tsiigehtchic 57.62 343 P **P 11 33 15.8 +0.2**
baz=134
INK Inuvik 58.17 344 LR LR 12 00 43.7
comp=Z,65nm,18.6s,baz=184,slow=38
SFJD Kangerlussuaq 58.92 19 LR LR 12 00 45.7
comp=Z,63nm,18.9s,baz=186,slow=38
F28M Old Crow 59.51 342 P **P 11 33 29.1 +0.2**
baz=128
G27K Doyon Strip 59.58 340 P **P 11 33 29.9 +0.4**
baz=126
WAT6 Susitna Watana 59.61 335 P **P 11 33 30.4 +0.4**
baz=117
KDAK Kodiak Island 59.92 328 LR LR 12 02 21.2
comp=Z,63nm,18.2s,baz=173,slow=39
ILAR Eielson Array 60.31 337 P **P 11 33 34.0 -0.5**
comp=Z,2.0nm,1.1s,baz=142,slow=4.8,SNR=10
ILAR LR LR 12 03 29.5
comp=Z,92nm,18.4s,baz=132,slow=40
comp=Z,2.0nm,1.1s
PLCA Paso Flores 60.40 159 P **P 11 33 36.0 +0.6**
comp=Z,2.2nm,1.0s,baz=343,slow=8.5,SNR=3.1
PLCA LR LR 11 55 21.1
comp=Z,30nm,18.2s,baz=296,slow=32
comp=Z,2.2nm,1.0s
TRF Thorofare Moun 61.04 335 P **P 11 33 40.0 +0.3**
baz=115
F25K Christian Rive 61.31 340 P **P 11 33 41.7 +0.4**
baz=122
I23K Minto, Yukon-K 61.42 337 P **P 11 33 42.4 +0.5**
baz=117
G24K Hadweenzic Riv 61.47 339 P **P 11 33 42.5 +0.2**
baz=119
N19K Bonanza Creek 61.86 331 P **P 11 33 45.5 +0.3**
baz=110
E23K Chandalar 62.85 340 P **P 11 33 52.2 +0.5**
baz=118
PPT2 Papeete2 63.15 241 *e*LR LR 11 52 30.2
comp=Z,136nm,28.2s
PPT2 *e*LR LR 11 52 37.6
comp=Z,100nm,27.5s
G21K Allakaket 63.55 338 P **P 11 33 56.6 +0.4**
baz=113
F21K Alatna River 63.82 338 P **P 11 33 57.9 -0.1**
baz=114
L17K Donlin 64.01 332 P **P 11 33 59.8 +0.5**
baz=106
F20K Avaraart Lake 64.56 338 P **P 11 34 03.5 +0.7**
baz=111
EUNU Eureka 64.65 2 P **P 11 34 03.2 -0.1**
J17K VABM Dome 64.72 333 P **P 11 34 03.7 -0.2**
baz=106
B21K Ikpikpuk River 65.17 341 P **P 11 34 06.9 +0.2**
baz=114
E20K Nigu River 65.17 339 P **P 11 34 06.5 -0.4**
baz=111
BORG Borgarnes 69.05 26 LR LR 12 05 24.0
comp=Z,80nm,18.1s,baz=309,slow=36
RAR Rarotonga 73.37 242 LR LR 12 01 38.5
comp=Z,50nm,18.1s,baz=56,slow=31
EKA Eskdalemuir Ar 78.35 36 P **P 11 35 23.6 -2.6**
comp=Z,2.6nm,0.8s,baz=278,slow=7.0,SNR=4.0
comp=Z,2.6nm,0.8s
PAB San Pablo 80.70 52 P **P 11 35 38.4 -1.0**
ESDC Sonseca Array 80.96 51 P **P 11 35 39.9 -0.9**
ESDC IAmb IAmb 11 35 41.2
comp=Z,8.4nm,1.1s
ESDC Sonseca Array 80.96 51 P **P 11 35 40.0 -0.8**
comp=Z,6.4nm,0.9s,baz=291,slow=5.6,SNR=36
ESDC LR LR 12 07 28.8
comp=Z,60nm,18.6s,baz=306,slow=33
comp=Z,6.4nm,0.9s
CLF Chambon-Foret 83.30 42 P **P 11 35 52.4 -0.4**
NB2 NORSAR Subarra 84.12 28 P **P 11 35 56.9 +0.1**
comp=Z,1.0nm,0.8s,baz=292,slow=5.1
NOA NORSAR Array B 84.12 28 P **P 11 35 56.8 0.0**
comp=Z,1.8nm,0.9s,baz=293,slow=5.1,SNR=4.4
comp=Z,1.8nm,0.9s
ARCES ARCESS Array B 85.53 18 P **P 11 36 04.2 +0.4**
comp=Z,0.9nm,0.6s,baz=300,slow=1.8,SNR=4.1
comp=Z,0.9nm,0.6s
HFS Hagfors 85.59 28 LR LR 12 13 31.9
comp=Z,71nm,21.3s,baz=275,slow=35
KOWA Kowa 87.04 76 P **P 11 36 12.2 0.0**
BNI Bardonecchia 87.09 44 P **P 11 36 11.6 -0.5**
FINES FINESS Array B 90.27 24 LR LR 12 15 10.9
comp=Z,60nm,21.4s,baz=179,slow=34
MSVF Nonsavu 91.90 252 LR LR 12 10 03.5
comp=Z,67nm,19.4s,baz=153,slow=30
AKASG Malin Array Be 97.95 32 LR LR 12 21 52.7
comp=Z,33nm,18.2s,baz=248,slow=36
DZM Mont Dzumac 103.53 251 *e*LR LR 12 11 35.5
comp=Z,82nm,22.8s
WRA Warramunga Arr 133.02 257 PKP **PKiKP 11 42 42.9 -0.5**
comp=Z,0.4nm,0.9s,baz=89,slow=2.9,SNR=2.0
PZH PanZhiHua 135.17 339 PKP **PKPdf 11 42 44.5 -1.8**

---

*SOME **13** 11:29:03.5, 44°.68N×82°.00E, h30km*
*NNC **13** 11:29:05.7±1.4, 44°.80N×81°.71E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=22.8km s-min=4.1km az=120.0
ISC 13 11:29:02.3±1.8, 44°.66N±0°.07×82°.1E±0°.1, h10km, n19,
σ0=74/23, 3C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.71**	**260**	*e*P	**Pb**	**11 29 33.8**	**0.0**
DJR	12nm,0.1s						
	16nm,0.3s			*e*S	**Sg**	**11 29 55.7**	**-1.5**
MK31	**Makanchi Array**	**2.14**	**3**	⇑Pn	**Pb**	**11 29 40.8**	**-0.4**
	7.2nm,0.4s,baz=185,slow=16,SNR=167			⇑Sn			
MK31					**Sb**	**11 30 08.5**	**+0.7**
	6.4nm,0.5s,baz=188,slow=24,SNR=13						
MAKZ	**Makanchi**	**2.15**	**357**	⇓Pn	**Pb**	**11 29 40.6**	**-0.8**
	5.2nm,0.4s						
MAKZ				⇓Sn	**Sb**	**11 30 08.2**	**+0.1**
	3.1nm,0.3s						
PDGK	**Podgornoye**	**2.32**	**236**	Pg	**Pb**	**11 29 43.5**	**-0.8**
	4.7nm,0.5s						
PDGK				Lg	Lg	11 30 12.3	
	5.4nm,0.7s						
PDGK	**Podgornoye**	**2.32**	**236**	⇓Pn	**Pb**	**11 29 43.5**	**-0.8**
	3.4nm,0.3s						
PDGK				⇑Sn	**Sb**	**11 30 14.0**	**+0.9**
	13nm,0.5s						
SHLS	**Shalkode**	**2.44**	**233**	Pg	**Pn**	**11 29 43.2**	**+0.8**
	22nm,0.3s						
SHLS				Lg	Lg	11 30 11.7	
	33nm,0.4s						
SHLS	**Shalkode**	**2.44**	**233**	*e*Pg	**Pn**	**11 29 43.2**	**+0.8**
	22nm,0.1s						
SHLS				*e*Lg	Lg	11 30 11.7	
	31nm,0.2s						
BLB	**Baldybastay**	**2.68**	**259**	Pg	**Pb**	**11 29 50.5**	**+0.1**
	12nm,0.4s						
BLB				Lg	Lg	11 30 24.4	
	14nm,0.4s						
UZB	**Uzynbulak**	**2.71**	**237**	Pg	**Pb**	**11 29 50.4**	**-0.5**
	4.5nm,0.4s						
UZB				Lg	Lg	11 30 24.0	
	3.2nm,0.3s						
UZB	**Uzynbulak**	**2.71**	**237**	*e*Pg	**Pb**	**11 29 50.4**	**-0.5**
	5.0nm,0.2s						
UZB				*e*Lg	Lg	11 30 24.0	
	3.1nm,0.1s						
KPKS	**Kokpek**	**2.75**	**246**	Pg	**Pb**	**11 29 50.4**	**-1.3**
	8.9nm,0.2s						
KPKS				Lg	Lg	11 30 24.2	
	12nm,0.6s						
KPKS	**Kokpek**	**2.75**	**246**	*e*Pg	**Pb**	**11 29 50.4**	**-1.3**
	8.9nm,0.2s						
KPKS				*e*Lg	Lg	11 30 24.2	
	17nm,0.3s						
ARXS	**Arharly**	**3.11**	**263**	*e*Pg	**Pb**	**11 29 57.6**	**-0.2**
	3.4nm,0.3s						
ARXS				*e*Lg	Lg	11 30 36.1	
	8.7nm,0.5s						
SATY	**Saty**	**3.13**	**241**	Pg	**Pb**	**11 29 57.7**	**-0.4**
	3.5nm,0.4s						
SATY				Lg	Lg	11 30 37.1	
	18nm,0.4s						
SATY	**Saty**	**3.13**	**241**	*e*Pg	**Pb**	**11 29 57.7**	**-0.4**
	3.4nm,0.2s						
SATY				*e*Lg	Lg	11 30 37.1	
	18nm,0.2s						
CHKK	**Chushkaly**	**3.78**	**260**	Pg	**Pb**	**11 30 09.1**	**-0.1**
	1.2nm,0.2s						

```
CHKK                                  Lg    Lg     11 30 55.8
      5.7nm,0.2s
CHKK  Chushkaly        3.78 260  ePg   Pb     11 30 09.1  -0.1
      1.0nm,0.1s
CHKK                                  eLg   Lg     11 30 55.8
      5.7nm,0.2s
KTBS  Karatobe         4.03 258  Pg    Pb     11 30 13.3  -0.1
      1.3nm,0.7s
KTBS                                  Lg    Lg     11 31 03.0
      6.4nm,0.6s
KTBS  Karatobe         4.03 258  ePg   Pb     11 30 13.3  -0.1
      1.3nm,0.3s
KTBS                                  eLg   Lg     11 31 03.0
      6.4nm,0.3s
```

*IDC **13** 11:33:31.5±0.6, 5°.60N×61°.51E, h0km, mb4.2/22, mbtmp4.2/23, ML3.2/2, MS3.8/44, Error ellipse: s-maj=17.3km s-min=13.4km az=38.0*

*GCMT **13** 11:33:33.9±0.3, 5°.54N±0°.03×61°.63E±0°.04, h17km±1km, MW4.9/101, Moment Tensor Solution. s8,c8; s101,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.54±.20; $M_{\theta\theta}$1.95±.13; $M_{\phi\phi}$0.58±.11; $M_{r\theta}$0.68±.31; $M_{\phi\phi}$-0.88±.08; $M_{\phi r}$-1.58±.40; Best double couple: $M_0$2.97400×10^{16} NP1:ϕ_s316.00000°, δ62.00000°, λ-72.00000°. NP2: ϕ_s101.00000°, δ33.00000°, λ-120.00000°. Principal axes: T 2.7330, Plg15.0000°, Azm33.0000°; N 0.4820, Plg16.0000°, Azm127.0000°; P -3.2160, Plg68.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **13** 11:33:33.9±1.2, 5°.50N±0°.08×61°.41E±0°.10, h10km±1km, mb4.6/54 Error ellipse: s-maj=18.1km s-min=10.2km az=122.0*

ISC 13 11:33:33.8±1.2, **5°.39N**±0°.05×**61°.43E**±0°.06, **h17**km±7km, **n164**, σ1$64/157, **mb4.6**/56, **MS3.9**/43, **2D, Carlsberg Ridge**

```
Code  Station Name      Δ°   AZ°   Phase ID   Time      Res
                                Op    ISC    h m s     ISC
MSEY  Mahe Island      11.63 211  Pn    Pn     11 36 17.6  -1.6
MSEY  Mahe Island      11.63 211  P     Pn     11 36 17.4  -1.8
MSEY                              P     Pn     11 36 17.4  -1.8
MSEY                              S     Sn     11 38 25.3  -3.5
MSEY                              S     Sn     11 38 25.3  -3.5
SHAO  Shalim           13.78 336  P     P      11 36 52.9  -4.1
SHAO                              S     S      11 39 34.8  -8.8
ABTO  Aybut            14.31 327  P     P      11 37 04.9  +2.0
ABTO                              P     P      11 37 04.9  +2.0
MHTO  MHTO             15.86 348  P     Pn     11 37 17.0  +0.5
      SNR=14
MHTO                              P     Pn     11 37 17.0  +0.5
      SNR=14
MHTO                              S     S      11 40 27.6  +1.3
MHTO                              S     S      11 40 27.6  +1.3
JLN   Jalan Bani Buh   16.78 354  P     Pn     11 37 27.3  -0.8
      SNR=6.4
JLN                               P     Pn     11 37 27.3  -0.8
      SNR=6.4
JLN                               S     S      11 40 47.8  +2.9
JLN                               S     S      11 40 47.8  +2.9
WBK   Wadi Bani Khal   17.28 352  P     P      11 37 36.8  +0.9
      SNR=5.2
WBK                               P     P      11 37 36.8  +0.9
      SNR=5.2
WBK                               S     S      11 40 57.4  +2.1
WBK                               S     S      11 40 57.4  +2.1
BSY   Bisya            17.73 347  P     P      11 37 40.7  -0.2
      SNR=23
BSY                               P     P      11 37 40.7  -0.2
      SNR=23
BSY                               S     S      11 41 16.4  +12
BSY                               S     S      11 41 16.4  +12
SMDO  Samad            17.87 350  P     Pn     11 37 41.5  -0.4
      SNR=8.8
SMDO                              P     Pn     11 37 41.5  -0.4
      SNR=8.8
SMDO                              S     S      11 41 10.0  +2.7
SMDO                              S     S      11 41 10.0  +2.7
WSAR  Wadi Sarin       17.95 352  P     P      11 37 43.1  -0.1
WSAR                              S     S      11 41 10.3  +1.4
WSAR  Wadi Sarin       17.95 352  P     Pn     11 37 41.1  -1.7
      0.1nm,0.3s,baz=190,slow=13,SNR=5.2
WSAR                              LR    LR     11 43 18.8
      comp=Z,311nm,19.0s,baz=212,slow=33
      2.7nm,1.0s
BIDO  Bidbid           18.31 350  P     P      11 37 49.2  +2.0
      SNR=10
BIDO                              P     P      11 37 49.2  +2.0
      SNR=10
BIDO                              S     S      11 41 17.8  +1.8
BIDO                              S     S      11 41 17.8  +1.8
ARQ   Araqi            18.46 346  P     Pn     11 37 49.9  +0.9
      SNR=7.1
ARQ                               P     Pn     11 37 49.9  +0.9
      SNR=7.1
ARQ                               S     S      11 41 34.3  +15
ARQ                               S     S      11 41 34.3  +15
HOQ   Hoqain           18.52 348  P     Pn     11 37 50.8  +1.1
      SNR=10
HOQ                               P     Pn     11 37 50.8  +1.1
      SNR=10
HOQ                               S     S      11 41 34.2  +14
HOQ                               S     S      11 41 34.2  +14
ATD   Arta Tunnel      19.35 290  P     P      11 37 58.6  -0.2
ATD   Arta Tunnel      19.35 290  P     Pn     11 38 03.9  +3.9
      SNR=5.5
ATD   Arta Tunnel      19.35 290  P     Pn     11 38 00.5  +0.5
      0.1nm,0.3s,baz=60,slow=3.1,SNR=8.8
ATD                               LR    LR     11 44 30.4
      comp=Z,8.1nm,18.6s,baz=107,slow=34
NGCH  Negor - Chabah   19.86 359  P     Pn     11 38 06.3  +0.5
NGCH                              S     Sn     11 41 58.9  +10
UOSS  Minazif          20.08 346  P     P      11 38 06.1  -0.6
UOSS                              IAmb  IAmb   11 38 21.0
      comp=Z,26nm,1.1s
UOSS  Minazif          20.08 346  P     P      11 38 06.0  -0.6
UOSS                              P     P      11 38 06.0  -0.6
UOSS                              S     Sn     11 42 08.5  +14
UOSS                              S     Sn     11 42 08.5  +14
MASF  Masafi           20.50 346  P     Pn     11 38 13.5  +0.1
MASF                              P     Pn     11 38 13.5  +0.1
MASF                              S     Sn     11 42 18.8  +14
MASF                              S     Sn     11 42 18.8  +14
JASK  Jask - Hormozg   20.65 351  P     Pn     11 38 17.1  +2.0
JASK                              S     Sn     11 42 13.3  +5.6
SMRA  Abu-Samra        21.77 333  P     P      11 38 30.2  +5.4
SMRA                              S     Sn     11 42 36.3  +1.5
SHMA  Al-Shehemyia     22.68 335  P     P      11 38 38.8  +4.2
SHMA                              S     Sn     11 42 54.6  -2.0
KIBK  Kibwezi          24.58 252  P     P      11 38 53.7  +0.3
KIBK                              IAmb  IAmb   11 38 56.2
      comp=Z,10nm,1.2s
KIBK  Kibwezi          24.58 252  P     P      11 38 55.2  +1.8
      SNR=5.0
KMBO  Kilima Mbogo     25.00 256  P     P      11 38 58.0  +0.7
KMBO                              IAmb  IAmb   11 39 02.5
      comp=Z,19nm,1.4s
LODK  Lodwar           26.06 267  P     P      11 39 06.8  +0.1
LODK                              IAmb  IAmb   11 39 20.6
      comp=Z,22nm,1.5s
LODK  Lodwar           26.06 267  P     P      11 39 10.7  +3.9
      SNR=11
RER   Riviere de l'E   26.96 192  P     P      11 39 15.9  +1.1
KBL   Kabul            29.85  13  P     P      11 39 39.8  -0.8
KBL                               IAmb  IAmb   11 39 50.3
      comp=Z,14nm,1.4s
KBL   Kabul            29.85  13  P     P      11 39 34.9  -5.7
NIL   Nilore           30.19  20  P     P      11 39 42.4  -1.1
NIL                               IAmb  IAmb   11 39 54.1
      comp=Z,16nm,1.2s
PYUN  Piuthan          30.49  40  eP    P      11 39 47.2  +0.8
VOI   Vohitsoka        30.68 207  P     P      11 39 48.5  +0.5
DANN  Dangsing         31.15  40  eP    P      11 39 52.5  +0.2
      comp=Z,40nm,1.2s
MBAR  Mbarara          31.22 260  LR    LR     11 53 06.5
      comp=Z,121nm,18.3s,baz=58,slow=38
RAMN  Ramite           32.18  45  eP    P      11 40 02.1  +0.8
      comp=Z,25nm,0.9s
GUN   Gumba            32.27  43  eP    P      11 40 02.7  +0.4
JIRN  Jiri             32.33  44  eP    P      11 40 02.8  0.0
GEYT  Alibeck          32.53 355  P     P      11 40 02.9  -1.1
      comp=Z,1.1nm,0.3s,baz=198,slow=8.6,SNR=1.3
      comp=Z,1.1nm,0.3s
BRDH  Bariadhala       33.86  57  LR    LR     11 53 59.9
      comp=Z,486nm,20.2s,baz=272,slow=36
EIL   Elat             34.75 317  LR    LR     11 54 03.7
      comp=Z,187nm,18.1s,baz=63,slow=36
GHAJ  Ghor Haditha     35.40 320  P     P      11 40 28.8  -0.2
GHAJ                              IAmb  IAmb   11 40 37.4
      comp=Z,5.5nm,0.9s
BTK   Batken           35.54  12  P     P      11 40 29.4  -0.7
BTK                               IAmb  IAmb   11 40 38.5
      comp=Z,8.5nm,0.8s
GSI   Gunungsitoli     36.31  95  P     P      11 40 36.9  -0.1
KSH   Kashi            36.43  19  P     P      11 40 35.5  -2.4
KSH                               sP    pP     11 40 42.8  +0.5
KSH                               pmax  pmax
      comp=Z,6.0nm,1.2s
MMAI  Mount Meron Ar   36.65 322  LR    LR     11 54 40.6
      comp=Z,141nm,21.2s,baz=106,slow=35
LSA   Lhasa            37.03  46  P     P      11 40 42.9  -0.6
RPSI  Rantau Prapat    37.50  93  P     P      11 40 46.6  -0.5
RPSI                              IAmb  IAmb   11 40 50.5
      comp=Z,22nm,1.5s
GNI   Garni            37.73 339  P     P      11 40 48.3  -0.6
GNI                               IAmb  IAmb   11 41 07.5
      comp=Z,18nm,1.2s
GNI   Garni            37.73 339  LR    LR     11 56 34.1
      comp=Z,81nm,20.9s,baz=148,slow=37
NRN   Naryn            38.18  18  P     P      11 40 52.7  -0.3
KK31  Karatay Array    38.41  11  P     P      11 40 54.4  -0.1
KKAR  Karatay Array    38.41  11  P     P      11 40 53.9  -0.6
LSZ   Lusaka           38.80 238  P     P      11 40 58.3  0.0
LSZ                               IAmb  IAmb   11 41 03.8
      comp=Z,16nm,1.4s
LSZ   Lusaka           38.80 238  LR    LR     11 55 14.7
      comp=Z,295nm,19.2s,baz=46,slow=33
CM31  Chiang Mai Arr   38.84  67  P     P      11 40 58.7  +0.3
CM31                              IAmb  IAmb   11 41 00.3
      comp=Z,14nm,1.2s
CMAR  Chiang Mai Arr   38.84  67  P     P      11 40 58.7  +0.3
CMAR  Chiang Mai Arr   38.84  67  P     P      11 40 58.9  +0.5
      comp=Z,3.1nm,0.9s,baz=261,slow=9.0,SNR=23
CMAR                              PcP   PcP    11 43 09.8  +0.3
      comp=Z,1.5nm,0.9s,baz=264,slow=4.1,SNR=6.4
CMAR                              LR    LR     11 55 26.1
      comp=Z,86nm,21.9s,baz=255,slow=34
      comp=Z,3.1nm,0.9s
AAK   Ala-Archa        38.87  15  P     P      11 40 58.4  -0.1
AAK   Ala-Archa        38.87  15  LR    LR     11 57 14.5
      comp=Z,191nm,20.9s,baz=206,slow=37
CHTO  Chiang Mai       38.93  67  P     P      11 40 59.8  +0.6
KULM  Kulim            39.05  88  P     P      11 41 00.4  +0.2
BOOM  Boomskoye usch   39.13  17  P     P      11 41 01.1  +0.3
BOOM                              IAmb  IAmb   11 41 10.6
      comp=Z,10nm,1.2s
PDSI  Padang           39.49  98  P     P      11 41 05.8  +1.9
      comp=Z,28nm,0.5s
SDSI  Sungai Dareh     40.44  98  P     P      11 41 14.0  +2.2
      comp=Z,32nm,1.3s
CRAI  Chiangrai        40.61  65  P     P      11 41 12.7  -0.4
KBZ   Khabaz           41.53 340  P     P      11 41 20.4  +0.1
      comp=Z,2.2nm,0.8s,baz=169,slow=8.3,SNR=4.8
KBZ                               LR    LR     11 59 28.4
      comp=Z,58nm,18.4s,baz=155,slow=38
      comp=Z,2.2nm,0.8s
BR131 Keskin Array S   42.38 328  P     P      11 41 25.6  -2.0
BRTR  Keskin Array B   42.38 328  P     P      11 41 26.5  -1.1
BRTR  Keskin Array B   42.38 328  P     P      11 41 27.4  -0.1
      comp=Z,2.1nm,0.8s,baz=151,slow=8.5,SNR=9.9
BRTR                              LR    LR     11 59 20.5
      comp=Z,129nm,20.0s,baz=133,slow=37
      comp=Z,2.1nm,0.8s
ELL   Elmali           42.50 322  P     P      11 41 28.1  -0.4
ABKAR Abkulak array    43.73 359  P     P      11 41 37.7  -0.5
ABKAR Abkulak array    43.73 359  P     P      11 41 38.2  0.0
ABKAR                             IAmb  IAmb   11 41 39.0
      comp=Z,8.0nm,1.1s
PZH   PanZhiHua        43.81  57  P     P      11 41 40.8  +1.5
PZH                               pmax  pmax
      comp=Z,10.0nm,1.0s
PZH                               pmax  pmax
      comp=Z,130nm,5.2s
KMI   Kunming          44.17  59  ⇓P    P      11 41 42.3  -0.1
KMI                               pmax  pmax
      comp=Z,12nm,1.5s
MAKZ  Makanchi         44.91  20  P     P      11 41 46.8  -0.9
MAKZ                              IAmb  IAmb   11 41 55.2
      comp=Z,8.1nm,1.4s
AKTO  Aktyubinsk       44.98 357  LR    LR     12 01 07.8
      comp=Z,162nm,20.7s,baz=226,slow=37
MK31  Makanchi Array   45.01  20  P     P      11 41 47.5  -1.0
MKAR  Makanchi Array   45.01  20  P     P      11 41 47.5  -1.0
MKAR  Makanchi Array   45.01  20  P     P      11 41 47.3  -1.2
      comp=Z,1.0nm,0.8s,baz=209,slow=9.7,SNR=5.2
MKAR                              PcP   PcP    11 43 29.2  -0.2
      comp=Z,0.9nm,0.8s,baz=225,slow=3.3,SNR=4.3
MKAR                              LR    LR     12 02 50.6
      comp=Z,85nm,18.1s,baz=270,slow=39
      comp=Z,1.0nm,0.8s
KURBB Kurchatov Arra   47.31  15  P     P      11 42 05.2  -1.2
      comp=Z,1.2nm,0.8s,baz=213,slow=8.3,SNR=9.9
KURBB                             PcP   PcP    11 43 35.9  -1.4
      comp=Z,0.4nm,0.4s,baz=205,slow=2.8,SNR=3.4
KURBB                             LR    LR     12 02 56.9
      comp=Z,122nm,20.5s,baz=160,slow=38
      comp=Z,1.2nm,0.8s
ALN   Alexandroupoli   47.45 323  P     P      11 42 07.5  -0.2
LEM   Lembang          47.67 104  P     P      11 42 10.1  0.0
      comp=Z,14nm,0.4s,baz=20,slow=18,SNR=1.8
LEM                               LR    LR     11 59 29.5
      comp=Z,83nm,18.1s,baz=346,slow=33
      comp=Z,14nm,0.4s
RDO   Rodhopi          47.91 323  P     P      11 42 11.4  +0.1
RDO                               IAmb  IAmb   11 42 12.3
      comp=Z,5.4nm,0.9s
GYA   Guiyang          47.95  59  P     P      11 42 11.3  -0.7
GYA                               pmax  pmax
      comp=Z,17nm,1.1s
BVAR  Borovoye Array   48.05   7  P     P      11 42 10.1  -2.2
      comp=Z,0.5nm,0.4s,baz=193,slow=5.9,SNR=2.8
BVAR                              LR    LR     12 04 06.3
      comp=Z,146nm,20.2s,baz=197,slow=38
      comp=Z,0.5nm,0.4s
BELG  Belogornoye      48.22 349  LR    LR     12 05 32.4
      comp=Z,27nm,18.1s,baz=193,slow=40
BOSA  Boshof           48.53 224  P     P      11 42 17.2  +0.8
      comp=Z,2.6nm,0.8s,baz=51,slow=12,SNR=4.1
BOSA                              LR    LR     12 00 55.2
      comp=Z,187nm,19.6s,baz=21,slow=34
      comp=Z,2.6nm,0.8s
TSUM  Tsumeb           49.60 239  LR    LR     12 02 12.7
      comp=Z,170nm,18.6s,baz=152,slow=35
MLR   Muntele Rosu     50.46 328  P     P      11 42 30.8  -0.1
MLR                               IAmb  IAmb   11 42 45.3
      comp=Z,12nm,1.2s
SBUM  Sibu             50.75  91  P     P      11 42 34.4  +0.9
SBUM                              IAmb  IAmb   11 42 35.8
      comp=Z,15nm,1.2s
ARU   Arti             50.95 358  LR    LR     12 04 24.6
      comp=Z,80nm,21.4s,baz=182,slow=36
ZALV  Zalesovo Beam    52.02  17  P     P      11 42 41.0  -1.3
ZALV  Zalesovo Beam    52.02  17  P     P      11 42 40.0  -2.2
      comp=Z,1.0nm,0.6s,baz=220,slow=11,SNR=4.3
ZALV                              PcP   PcP    11 43 53.0  -1.4
      comp=Z,0.3nm,0.3s,baz=253,slow=1.5,SNR=1.4
ZALV                              LR    LR     12 05 15.4
      comp=Z,117nm,20.9s,baz=240,slow=37
      comp=Z,1.0nm,0.6s
H04N1 CROZET ISLANDS   52.04 188  T     T      12 38 54.9
      baz=10,slow=75,SNR=12
H04N2 CROZET ISLANDS   52.04 188  T     T      12 38 54.7
      baz=10,slow=75,SNR=15
H04N3 CROZET ISLANDS   52.05 188  T     T      12 38 57.5
      baz=10,slow=75,SNR=15
BURAR Bucovina Array   52.25 330  P     P      11 42 43.9  -0.3
DIVS  Divibare         52.95 323  P     P      11 42 49.3  -0.2
SUR   Sutherland       53.86 223  LR    LR     12 04 04.9
      comp=Z,106nm,18.5s,baz=107,slow=34
KIRV  Kirov            53.87 352  LR    LR     12 07 53.5
      comp=Z,105nm,20.3s,baz=167,slow=38
KOLS  Kolonicke sedl   54.60 329  eP    P      11 43 01.9  +0.5
KEST  Kesra            56.49 310  LR    LR     12 09 30.3
      comp=Z,47nm,18.6s,baz=268,slow=38
TAM   Tamanrasset      56.56 294  P     P      11 43 16.5  +0.3
TAM                               IAmb  IAmb   11 43 21.1
      comp=Z,6.4nm,1.2s
NACGM Naroch           56.69 337  eP    P      11 43 17.6  +1.4
      comp=Z,25nm,0.8s,baz=138
FDMO  Fiordimonte      56.72 319  P     P      11 43 16.7  -0.1
FDMO                              IAmb  IAmb   11 43 24.1
      comp=Z,3.8nm,0.9s
HHC   Hu-ho-hao-te     56.98  44  eP    P      11 43 21.8  +3.0
HHC                               pmax  pmax
      comp=Z,41nm,0.6s
HHC                               pmax  pmax
      comp=Z,220nm,4.9s
SONM  Songino Array    57.08  35  P     P      11 43 19.0  -0.4
SONM                              IAmb  IAmb   11 43 19.8
      comp=Z,5.6nm,1.1s
SONM  Songino Array    57.08  35  P     P      11 43 18.2  -1.1
      comp=Z,3.5nm,1.0s,baz=228,slow=7.0,SNR=16
SONM                              LR    LR     12 08 06.6
      comp=Z,162nm,18.7s,baz=207,slow=36
      comp=Z,3.5nm,1.0s
ULN   Ulaanbaatar      57.47  35  P     P      11 43 21.3  -0.9
KLMR  Klimovskoe       57.75 348  eP    P      11 43 20.5  -3.2
KLMR                              AMP           11 43 22.4
      comp=Z,22nm,1.6s
STAL  STALIGIAL        58.47 322  P     P      11 43 29.3  +0.2
STAL                              IAmb  IAmb   11 43 33.1
      comp=Z,11nm,1.3s
MPSI  Mapaga           58.59  93  P     P      11 43 32.7  +2.3
KAPI  Kappang          59.16  99  LR    LR     12 08 10.7
      comp=Z,36nm,18.0s,baz=287,slow=35
GERES GERESS Array B   59.17 325  P     P      11 43 31.6  -2.3
      comp=Z,0.2nm,0.3s,baz=151,slow=2.2,SNR=1.3
      comp=Z,0.2nm,0.3s
TORD  Torodi Ar. Bea   59.34 282  P     P      11 43 37.4  +1.9
      comp=Z,1.3nm,1.0s,baz=91,slow=9.3,SNR=5.1
TORD                              PcP   PcP    11 44 23.5  -0.1
      comp=Z,1.4nm,1.0s,baz=70,slow=5.4,SNR=4.3
      comp=Z,1.3nm,1.0s
NJ2   Nanjing          59.71  56  eP    P      11 43 38.5  +0.7
NJ2                               pP    pP     11 43 42.8  +0.3
NJ2                               pmax  pmax
      comp=Z,8.0nm,0.5s
NJ2                               pmax  pmax
      comp=Z,310nm,5.0s
MRSI  Marisa           60.61  92  P     P      11 43 44.9  +0.6
SENIN Lac Senin/Sane   61.88 320  P     P      11 43 51.8  -0.8
H01W3 Cape Leeuwin H   63.72 133  T     T      12 53 18.8
      baz=296
H01W2 Cape Leeuwin H   63.72 133  T     T      12 53 17.9
      baz=296
H01W1 Cape Leeuwin H   63.74 133  T     T      12 53 19.6
      baz=296
HFS   Hagfors          65.42 336  P     P      11 44 14.4  -1.0
      comp=Z,4.4nm,0.8s,baz=146,slow=11,SNR=6.4
      comp=Z,4.4nm,0.8s
ESBB  Sonseca Array    67.71 311  P     P      11 44 29.9  -0.7
ESBB                              IAmb  IAmb   11 44 40.2
      comp=Z,5.1nm,1.1s
ESDC  Sonseca Array    67.71 311  P     P      11 44 30.8  +0.2
ESDC                              IAmb  IAmb   11 44 39.6
      comp=Z,6.6nm,1.3s
ESDC  Sonseca Array    67.71 311  P     P      11 44 30.2  -0.4
      comp=Z,2.9nm,0.8s,baz=87,slow=5.1,SNR=23
      comp=Z,2.9nm,0.8s
PAB   San Pablo        67.97 310  P     P      11 44 32.6  +0.3
PAB                               IAmb  IAmb   11 44 35.3
      comp=Z,6.0nm,1.1s
KSRS  Korea Array      68.13  52  P     P      11 44 30.9  -2.3
      comp=Z,3.6nm,0.8s,baz=265,slow=7.5,SNR=9.2
KSRS                              LR    LR     12 14 27.6
      comp=Z,66nm,21.9s,baz=200,slow=36
      comp=Z,3.6nm,0.8s
ARCES ARCESS Array B   68.23 347  P     P      11 44 32.1  -1.1
      comp=Z,2.1nm,0.7s,baz=141,slow=2.5,SNR=4.4
      comp=Z,2.1nm,0.7s
JNU   Nakatsue         69.88  57  LR    LR     12 17 15.2
      comp=Z,45nm,19.2s,baz=228,slow=38
SIJI  Sorong           70.02  93  P     P      11 44 45.6  +0.2
      comp=Z,3.9nm,0.6s,baz=49,slow=1.5,SNR=5.5
      comp=Z,3.9nm,0.6s
HEH   HeiHe            70.63  38  eP    P      11 44 46.0  -2.4
HEH                               pmax  pmax
      comp=Z,7.0nm,1.3s
MDJ   Mudanjiang       70.75  45  P     P      11 44 48.4  -0.9
MDJ                               pP    pP     11 44 51.8  -2.2
MDJ                               PcP   PcP    11 45 11.3  +1.2
MDJ                               PP    PP     11 47 24.4  -1.7
MDJ                               S     S      11 54 03.3  0.0
MDJ   Mudanjiang       70.75  45  SS    SS     11 58 35.0  -0.5
MDJ                               pmax  pmax
      comp=Z,11nm,1.9s
MDJ                               pmax  pmax
      comp=Z,71nm,3.6s
USRK  Ussuriysk Ar.    72.36  45  LR    LR     12 18 10.8
      comp=Z,161nm,19.8s,baz=243,slow=37
MAW   Mawson           72.83 179  P     P      11 45 04.0  +2.8
      comp=Z,1.3nm,0.6s,baz=39,slow=6.5,SNR=1.6
MAW                               LR    LR     12 08 20.9
      comp=Z,85nm,21.6s,baz=358,slow=29
      comp=Z,1.3nm,0.6s
KLR   Kul'dur          73.13  40  LR    LR     12 18 24.8
      comp=Z,159nm,18.6s,baz=260,slow=37
WRA   Warramunga Arr   75.90 112  P     P      11 45 20.7  +0.5
WRA   Warramunga Arr   75.90 112  P     P      11 45 20.4  +0.2
      comp=Z,10nm,0.9s,baz=293,slow=4.5,SNR=79
      comp=Z,10nm,0.9s
WB2   Warramunga Arr   75.91 112  P     P      11 45 20.6  +0.4
WB0   Warramunga Arr   75.92 112  P     P      11 45 20.7  +0.4
WR0   Warramunga Arr   76.09 112  P     P      11 45 21.6  +0.4
MJAR  Matsushiro Arr   76.19  54  LR    LR     12 20 59.4
      comp=Z,46nm,20.7s,baz=246,slow=38
ASAR  Alice Springs    76.26 116  P     P      11 45 22.6  +0.4
      comp=Z,6.1nm,0.8s,baz=288,slow=5.7,SNR=74
ASAR                              LR    LR     12 14 03.1
      comp=Z,37nm,20.1s,baz=335,slow=32
      comp=Z,6.1nm,0.8s
AS31  Alice Springs    76.26 116  P     P      11 45 22.1  0.0
SPITS Spitsbergen Ar   76.33 351  LR    LR     12 23 15.5
      comp=Z,72nm,18.7s,baz=100,slow=39
JHJ   Hachijo jima 2   77.33  57  LR    LR     12 22 10.3
      comp=Z,27nm,18.2s,baz=342,slow=38
TIXI  Tiksi            77.91  17  P     P      11 45 29.1  -1.4
JCJ   Chichijima       79.35  64  LR    LR     12 22 06.2
      comp=Z,18nm,19.4s,baz=125,slow=37
ASAJ  Asahikawa        79.93  46  LR    LR     12 23 11.5
      comp=Z,60nm,18.6s,baz=330,slow=37
ELIB  Princess Elisa   81.04 191  dP    P      11 45 48.5  +0.8
      comp=Z,3.0nm,1.3s
GUMO  Guam             82.40  77  LR    LR     12 19 17.7
      comp=Z,24nm,21.3s,baz=298,slow=33
STKA  Stephens Creek   84.52 123  P     P      11 46 07.0  +0.7
      comp=Z,3.3nm,0.9s,baz=278,slow=4.6,SNR=5.7
      comp=Z,3.3nm,0.9s
SEY   Seymchan         85.68  27  LR    LR     12 27 01.2
      comp=Z,59nm,18.9s,baz=0.0,slow=38
PETK  Petropavlovsk-   89.49  37  LR    LR     12 28 56.5
      comp=Z,82nm,19.5s,baz=254,slow=37
QSPA  South Pole Qui   95.34 180  LR    LR     12 23 13.6
      comp=Z,77nm,18.2s,baz=233,slow=31
RCBR  Riachuelo        97.80 265  LR    LR     12 25 15.7
      comp=Z,25nm,21.1s,baz=142,slow=32
RES   Resolute Bay     98.77 354  LR    LR     12 35 55.7
      comp=Z,46nm,21.8s,baz=21,slow=38
SHEM  Shemya Is, Ala   99.17  35  LR    LR     12 33 53.8
      comp=Z,60nm,18.8s,baz=302,slow=37
PDAR  Pinedale Array   131.38 351  PKP   PKPdf  11 52 45.4  -0.7
      comp=Z,0.4nm,0.6s,baz=103,slow=2.4,SNR=5.7
NVAR  Mina Array Bea   136.40 360  PKP   PKPdf  11 52 56.2  +0.7
      comp=Z,0.3nm,0.6s,baz=343,slow=1.5,SNR=3.7
TXAR  Lajitas Array    142.62 338  PKhKP PKPpre 11 53 02.1
      comp=Z,0.5nm,0.9s,baz=72,slow=3.7,SNR=4.3
```

*IDC **13** 11:41:08.7±2.6, 15°.30S×178°.66W, h430km±23km, mb2.8/4, mbtmp3.6/5, Error ellipse: s-maj=35.6km s-min=32.3km az=145.0*

ISC 13 11:41:09.8±1.4, **15°.3S**±0°.3×**178°.8W**±0°.3, **h450**km, **n6**, σ1$69/6, **mb3.2**/4, **Fiji Islands region**

```
Code  Station Name      Δ°   AZ°   Phase ID   Time      Res
                                Op    ISC    h m s     ISC
MSVF  Nonsavu          3.89 232  P     P      11 42 22.7  -1.3
      10nm,0.4s,baz=80,slow=22,SNR=15
WRA   Warramunga Arr   44.83 257  P     P      11 48 44.0  +1.4
      0.5nm,1.1s,baz=89,slow=8.3,SNR=2.5
      0.5nm,1.1s
ASAR  Alice Springs    45.23 252  P     P      11 48 46.4  +0.8
      0.6nm,0.3s,baz=84,slow=8.4,SNR=28
      0.6nm,0.3s
QSPA  South Pole Qui   74.72 180  P     P      11 52 02.9  +0.8
```

0.4nm,0.6s,baz=135,slow=1.4,SNR=7.5
0.4nm,0.6s
ILAR Eielson Array 83.46 13 P P 11 52 48.8 +0.3
0.4nm,0.9s,baz=229,slow=5.6,SNR=5.4
0.4nm,0.9s
MMAI Mount Meron Ar 144.42 306 PKP PKiKP 11 59 56.4 -1.9
0.8nm,0.4s,baz=51,slow=4.6,SNR=2.5

*TAP **13** 11:59:37.8,23°.78N×122°.86E,h61km±1km,ML2.9,D*
*JMA **13** 11:59:38.0±0.2,24°.N±1°×123°.0E±0°.6,h62km,MV2.1/10,*
NEAR ISHIGAKIJIMA ISLAND
ISC 13 11:59:36.6±1.4,23°.63N±0°.06×122°.92E±0°.03,h31km±13km,
n39,σ1s34/59,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4** baz=300	**0.74**	**312**	P	**Pb**	**11 59 50.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.83**	**6**	P	**Pb**	**11 59 52.5**	**0.0**
YOJ				eS	**Sb**	**12 00 03.4**	**-0.1**
EOS3	**EOS3** baz=321	**0.86**	**320**	P	**Pb**	**11 59 52.9**	**0.0**
EOS3				eS	**Sb**	**12 00 04.3**	**+0.3**
HATJ	**Hateruma jima**	**0.92**	**62**	eS	**Sb**	**12 00 05.1**	**-0.7**
EOS2	**EOS2** baz=303	**1.01**	**321**	eP	**Pn**	**11 59 55.4**	**+1.0**
EOS2				eS	**Sb**	**12 00 09.4**	**+1.1**
IRIF	**Iriomote-Funau** baz=303	**1.02**	**46**	P	**Pn**	**11 59 55.2**	**+0.6**
IRIF				eS	**Sb**	**12 00 07.6**	**-1.2**
JKRS	**Kuro-shima**	**1.17**	**58**	P	**Pn**	**11 59 57.3**	**+0.6**
JKRS				eS	**Sn**	**12 00 12.0**	**+0.4**
TWD	**Chiawan** baz=277	**1.29**	**291**	eP	**Pn**	**11 59 57.5**	**-1.0**
EWUT	**Wuta** baz=304	**1.32**	**308**	eP	**Pn**	**11 59 58.8**	**-0.1**
JIJ	**Ishigaki jima**	**1.34**	**57**	P	**Pn**	**11 59 59.3**	**+0.3**
JIJ				S	**Sn**	**12 00 15.5**	**-0.3**
HGSD	**Ruisui** baz=258	**1.38**	**265**	eP	**Pn**	**11 59 58.4**	**-1.2**
HGSD				eS	**Sn**	**12 00 14.0**	**-2.8**
TWC	**Suao** baz=312	**1.38**	**315**	eP	**Pn**	**11 59 59.3**	**-0.4**
WARBT	**Fenglin Townsh** baz=263	**1.41**	**274**	eP	**Pn**	**11 59 58.8**	**-1.3**
ETLH	**Xiulin Townshi** baz=289	**1.44**	**294**	eP	**Pn**	**11 59 59.5**	**-1.0**
YULB	**Yu-li** baz=250	**1.51**	**261**	eP	**Pn**	**12 00 01.1**	**-0.4**
YULB				eS	**Sn**	**12 00 18.0**	**-2.1**
JISG	**Ishigakijimahi**	**1.59**	**53**	P	**Pn**	**12 00 02.4**	**-0.2**
JISG				eS	**Sn**	**12 00 20.9**	**-1.1**
OWD	**Renai** baz=283	**1.63**	**282**	eP	**Pn**	**12 00 02.6**	**-0.6**
EHD	**Haiduan** baz=242	**1.65**	**253**	eS	**Sn**	**12 00 21.2**	**-2.2**
CHGB	**Renai** baz=281	**1.66**	**285**	eP	**Pn**	**12 00 03.0**	**-0.6**
FUSB	**Fushanzhiwuyua** baz=301	**1.66**	**313**	eP	**Pn**	**12 00 04.2**	**+0.6**
FUSB				eS	**Sn**	**12 00 22.9**	**-0.9**
WUSB	**Renai** baz=285	**1.69**	**283**	eP	**Pn**	**12 00 03.8**	**-0.3**
WUSB				eS	**Sn**	**12 00 23.3**	**-1.4**
LONT	**Longtian** baz=237	**1.80**	**247**	eS	**Sn**	**12 00 25.3**	**-1.9**
ELDTW	**Lidau** baz=251	**1.80**	**256**	eS	**Sn**	**12 00 24.4**	**-3.1**
SSLB	**Suanglung** baz=271	**1.81**	**275**	eP	**Pn**	**12 00 05.2**	**-0.4**
SSLB				eS	**Sn**	**12 00 25.6**	**-1.9**
SMLT	**Sun Moon Lake** baz=267	**1.87**	**278**	eP	**Pn**	**12 00 06.8**	**+0.3**
WHYT	**Xinyi Township** baz=268	**1.90**	**272**	eP	**Pn**	**12 00 06.9**	**+0.1**
WHYT				eS	**Sn**	**12 00 29.0**	**-0.7**
TYC	**Yuchr** baz=275	**1.91**	**279**	eP	**Pn**	**12 00 08.7**	**+1.8**
JTJ	**Tarama**	**1.91**	**58**	S	**Sn**	**12 00 30.4**	**+0.4**
ALS	**Alishan** baz=262	**1.94**	**267**	eP	**Pn**	**12 00 08.3**	**+0.6**
ALS				eS	**Sn**	**12 00 30.8**	**-0.4**
LIOB	**Emei** baz=297	**2.01**	**301**	eP	**Pn**	**12 00 10.1**	**+1.7**
LIOB				eS	**Sn**	**12 00 33.6**	**+1.1**
STYH	**Taoyuan** baz=247	**2.02**	**257**	eP	**Pn**	**12 00 10.0**	**+1.5**
CHN5	**Tsauling** baz=265	**2.06**	**270**	P	**Pn**	**12 00 10.8**	**+1.7**
CHN5				S	**Sn**	**12 00 34.6**	**+0.9**
TPUB	**Ta-pu** baz=254	**2.13**	**262**	P	**Pn**	**12 00 11.4**	**+1.4**
TPUB				S	**Sn**	**12 00 35.8**	**+0.4**
WCKO	**Fanlu** baz=261	**2.13**	**265**	eP	**Pn**	**12 00 12.0**	**+2.0**
WTP	**Ta-pu** baz=256	**2.15**	**260**	P	**Pn**	**12 00 12.0**	**+1.7**
WTP				S	**Sn**	**12 00 37.2**	**+1.2**
CHN4	**Tsaushan** baz=253	**2.15**	**263**	eP	**Pn**	**12 00 11.7**	**+1.4**
CHN4				eS	**Sn**	**12 00 38.4**	**+2.4**
SLGT	**Liugui** baz=246	**2.19**	**254**	eP	**Pn**	**12 00 12.5**	**+1.8**
CHN1	**Nanshi** baz=255	**2.24**	**259**	eP	**Pn**	**12 00 13.6**	**+2.0**
CHN1				eS	**Sn**	**12 00 40.3**	**+2.1**
SNST	**Tainan City** baz=256	**2.26**	**260**	eP	**Pn**	**12 00 14.0**	**+2.2**

*NOU **13** 12:01:30.5,42°.96S×173°.38E,h1km,MLv4.0/10,South*
Island, New Zealand
*WEL **13** 12:01:33.0±0.6,43°.S±4°×17°.3E±°,h8km±5km,M3.4/26,*
ML3.6/9,MLv3.4/26,Error ellipse: s-maj=0.0km
s-min=0.0km az=137.3,confirmed
ISC 13 12:01:32.0±1.0,42°.88S±0°.03×173°.35E±0°.04,h17km±8km,
n79,σ0s95/85,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.25**	**248**	P	**Pg**	**12 01 38.3**	**+0.7**
GVZ				S	**Sg**	**12 01 42.7**	**+1.3**
KHZ	**Kahutara**	**0.48**	**17**	P	**Pg**	**12 01 41.5**	**-0.1**
KHZ	**Kahutara**	**0.48**	**17**	P	**Pg**	**12 01 41.5**	**-0.1**
KHZ				S	**Sg**	**12 01 48.2**	**+0.1**
AMCZ	**Amberley**	**0.59**	**239**	P	**Pb**	**12 01 45.2**	**+1.3**
AMCZ				S	**Sb**	**12 01 54.0**	**+2.0**
LTZ	**Lake Taylor**	**0.80**	**276**	P	**Pb**	**12 01 47.2**	**-0.2**
LTZ				S	**Sb**	**12 01 57.8**	**-0.1**
OKCZ	**Okains Bay**	**0.87**	**194**	P	**Pb**	**12 01 49.7**	**+1.0**
MQZ	**McQueen's Vall**	**0.97**	**211**	P	**Pg**	**12 01 50.0**	**-0.8**
MQZ				S	**Sb**	**12 02 04.6**	**+1.8**
AKCZ	**Akaroa Harbour**	**1.04**	**198**	P	**Pg**	**12 01 51.7**	**-0.6**
OXZ	**Oxford**	**1.06**	**244**	P	**Pg**	**12 01 51.4**	**-1.1**
THZ	**Tophouse**	**1.16**	**343**	P	**Pg**	**12 01 52.8**	**-1.6**
THZ				S	**Sg**	**12 02 07.2**	**-2.3**
BSWZ	**Blackbirch Sta**	**1.23**	**19**	P	**Pg**	**12 01 54.8**	**-0.8**
RACZ	**Rakaia**	**1.23**	**226**	P	**Pg**	**12 01 54.0**	**-1.6**
CMWZ	**Cape Campbell**	**1.30**	**30**	P	**Pn**	**12 01 56.3**	**+1.0**
INZ	**Inchbonnie**	**1.41**	**276**	P	**Pn**	**12 01 56.4**	**-0.4**
MHCZ	**Mount Hutt**	**1.46**	**243**	P	**Pn**	**12 01 56.9**	**-0.7**
TUWZ	**Tuamarina**	**1.51**	**17**	P	**Pn**	**12 01 58.3**	**+0.1**
WACZ	**Wakanui South**	**1.53**	**225**	P	**Pn**	**12 01 58.2**	**-0.3**
MRNZ	**Matariki Terra**	**1.54**	**343**	P	**Pn**	**12 01 59.0**	**+0.4**
DSZ	**Denniston Nort**	**1.61**	**314**	P	**Pn**	**12 01 59.5**	**-0.2**
NNZ	**Nelson**	**1.66**	**1**	P	**Pn**	**12 02 00.5**	**+0.3**
TCW	**Tory Channel**	**1.80**	**23**	P	**Pn**	**12 02 02.0**	**-0.2**
BHW	**Baring Head**	**1.85**	**38**	P	**Pn**	**12 02 02.8**	**-0.2**
SNZO	**South Karori**	**1.86**	**33**	P	**Pn**	**12 02 03.1**	**+0.1**
TKNZ	**Takaka Hill**	**1.86**	**351**	P	**Pn**	**12 02 04.2**	**+1.1**
RPZ	**Rata Peaks**	**1.87**	**243**	P	**Pn**	**12 02 02.9**	**-0.4**
RPZ	**Rata Peaks**	**1.87**	**243**	P	**Pn**	**12 02 02.8**	**-0.4**
ARCZ	**Arundel**	**1.91**	**235**	P	**Pn**	**12 02 03.3**	**-0.4**
WEL	**Wellington**	**1.91**	**34**	P	**Pn**	**12 02 03.7**	**0.0**
WVZ	**Waitaha Valley**	**1.93**	**263**	P	**Pn**	**12 02 04.5**	**+0.6**
PLWZ	**Palliser**	**1.93**	**48**	P	**Pn**	**12 02 03.7**	**-0.3**
DUWZ	**D'Urville Isla**	**2.12**	**12**	P	**Pn**	**12 02 06.8**	**+0.2**
QRZ	**Quartz Range**	**2.14**	**343**	P	**Pn**	**12 02 07.9**	**+1.0**
QRZ	**Quartz Range**	**2.14**	**343**	P	**Pn**	**12 02 07.6**	**+0.8**
PAWZ	**Paruwai Farm**	**2.15**	**47**	P	**Pn**	**12 02 06.5**	**-0.6**
CAW	**Cannon Point**	**2.18**	**37**	P	**Pn**	**12 02 07.2**	**-0.3**
GCSZ	**Gaunt Creek Bo**	**2.26**	**258**	P	**Pn**	**12 02 09.1**	**+0.7**
TMZ	**Timaru**	**2.27**	**228**	P	**Pn**	**12 02 08.5**	**-0.2**
TRWZ	**Traveller**	**2.28**	**50**	P	**Pn**	**12 02 08.3**	**-0.6**
KIW	**Kupiti Island**	**2.33**	**31**	P	**Pn**	**12 02 09.5**	**0.0**
MTW	**Mount Morrison**	**2.35**	**44**	P	**Pn**	**12 02 09.0**	**-0.7**
OGWZ	**Otaki Gorge**	**2.47**	**34**	P	**Pn**	**12 02 11.0**	**-0.4**
FOZ	**Fox Glacier**	**2.66**	**255**	P	**Pn**	**12 02 14.8**	**+0.7**
LBZ	**Lake Benmore**	**2.75**	**236**	P	**Pn**	**12 02 15.3**	**+0.1**
MRZ	**Mangatainoka R**	**2.77**	**38**	P	**Pn**	**12 02 14.8**	**-0.7**
ODZ	**Otahua Downs**	**2.92**	**221**	P	**Pn**	**12 02 17.2**	**-0.3**
ODZ	**Otahua Downs**	**2.92**	**221**	P	**Pn**	**12 02 17.3**	**-0.3**
WAZ	**Wanganui**	**3.35**	**22**	P	**Pn**	**12 02 25.3**	**+1.8**
JCZ	**Jackson Bay**	**3.53**	**249**	P	**Pn**	**12 02 26.4**	**+0.3**
JCZ	**Jackson Bay**	**3.53**	**249**	P	**Pn**	**12 02 26.4**	**+0.3**
HHSZ	**Highcliff Hill**	**3.60**	**212**	P	**Pn**	**12 02 26.6**	**-0.3**
KHEZ	**Kahui Hut**	**3.61**	**8**	P	**Pn**	**12 02 30.0**	**+2.8**
KHEZ	**Kahui Hut**	**3.61**	**8**	P	**Pn**	**12 02 30.1**	**+2.8**
NEZ	**North Egmont**	**3.65**	**9**	P	**Pn**	**12 02 29.2**	**+1.5**
WKZ	**Wanaka**	**3.69**	**237**	P	**Pn**	**12 02 28.0**	**-0.2**
EAZ	**Earnscleugh**	**3.74**	**230**	P	**Pn**	**12 02 28.4**	**-0.6**
VRZ	**Vera Road**	**3.90**	**16**	P	**Pn**	**12 02 32.5**	**+1.4**
MOVZ	**Moawhango**	**3.91**	**28**	P	**Pn**	**12 02 31.0**	**-0.3**
WNVZ	**Wahianoa**	**3.93**	**26**	P	**Pn**	**12 02 32.4**	**+0.7**
BHHZ	**Black Hill Sta**	**3.96**	**32**	P	**Pn**	**12 02 31.3**	**-0.6**
TUVZ	**Tukino**	**4.00**	**27**	P	**Pn**	**12 02 33.5**	**+0.8**
TUZ	**Tuapeka**	**4.07**	**220**	P	**Pn**	**12 02 33.2**	**-0.2**
NGZ	**Ngauruhoe**	**4.07**	**26**	P	**Pn**	**12 02 34.1**	**+0.5**
NNVZ	**North Ngauruho**	**4.12**	**25**	P	**Pn**	**12 02 35.2**	**+1.0**
TWVZ	**Taurewa**	**4.12**	**23**	P	**Pn**	**12 02 35.4**	**+1.2**
ETVZ	**East Tongariro**	**4.14**	**26**	P	**Pn**	**12 02 35.5**	**+0.9**
TMVZ	**Te Maari**	**4.16**	**26**	P	**Pn**	**12 02 35.6**	**+0.9**
HIZ	**Hauiti**	**4.51**	**15**	P	**Pn**	**12 02 40.8**	**+1.4**
HIZ	**Hauiti**	**4.51**	**15**	P	**Pn**	**12 02 40.3**	**+0.9**
MLZ	**Mavora Lakes**	**4.51**	**235**	P	**Pn**	**12 02 39.0**	**-0.6**
SYZ	**Scrubby Hill**	**4.73**	**218**	P	**Pn**	**12 02 42.4**	**0.0**
SYZ	**Scrubby Hill**	**4.73**	**218**	P	**Pn**	**12 02 42.5**	**0.0**
WHZ	**Wether Hill Ro**	**4.91**	**230**	P	**Pn**	**12 02 43.9**	**-1.0**
TOZ	**Tahuroa Road**	**5.40**	**18**	P	**Pn**	**12 02 51.6**	**0.0**
URZ	**Urewera**	**5.43**	**33**	P	**Pn**	**12 02 53.7**	**+1.6**
APZ	**The Paps**	**5.49**	**222**	P	**Pn**	**12 02 53.1**	**+0.2**
AWAZ	**Awhitu Peninsu**	**5.89**	**10**	P	**Pn**	**12 02 59.3**	**+0.8**
MKAZ	**Moumakai**	**5.93**	**14**	P	**Pn**	**12 02 59.1**	**+0.1**
ETAZ	**East Tamaki Re**	**6.04**	**12**	P	**Pn**	**12 03 01.1**	**+0.6**
RVAZ	**Riverhead Bore**	**6.17**	**9**	P	**Pn**	**12 03 03.2**	**+0.9**

*JMA **13** 12:24:18.8±0.2,24°.N±1°×122°.5E±0°.6,h19km,NEAR*
ISHIGAKIJIMA ISLAND
*TAP **13** 12:24:21.8,23°.95N×122°.41E,h28km,ML3.9,D*
ISC 13 12:24:18.5±1.3,23°.74N±0°.04×122°.50E±0°.03,h24km±14km,
n57,σ0s57/62,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4** baz=333	**0.41**	**336**	P	**Pb**	**12 24 27.4**	**+0.5**
EOS3	**EOS3** baz=334	**0.57**	**343**	*i* P	**Pn**	**12 24 30.4**	**-0.5**
EOS2	**EOS2** baz=321	**0.72**	**340**	P	**Pn**	**12 24 33.4**	**+0.4**
EOS2				eS	**Sb**	**12 24 40.5**	**-1.1**
JYNG	**Yonagunijimaku**	**0.81**	**30**	eP	**Pb**	**12 24 33.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.85**	**33**	P	**Pn**	**12 24 36.6**	**+1.7**
YOJ	**Yonaguni jima**	**0.85**	**33**	eP	**Pb**	**12 24 34.6**	**-0.1**
YOJ	**Yonaguni jima** baz=46	**0.85**	**33**	eP	**Pb**	**12 24 34.5**	**-0.1**
HWA	**Hwalien** baz=259	**0.86**	**286**	eP	**Pn**	**12 24 35.7**	**+0.7**
TWD	**Chiawan** baz=267	**0.90**	**292**	eP	**Pb**	**12 24 35.3**	**-0.1**
NACB	**Ninganchiao**	**0.94**	**297**	P	**Pn**	**12 24 37.7**	**+1.6**
NACB	**Ninganchiao** baz=273	**0.94**	**297**	eP	**Pb**	**12 24 35.7**	**-0.4**
NACB				eS	**Sb**	**12 24 47.2**	**-0.8**
EWUT	**Wuta** baz=310	**0.96**	**317**	eP	**Pb**	**12 24 36.9**	**+0.4**
ENA	**Nanau** baz=308	**0.98**	**315**	eP	**Pb**	**12 24 37.2**	**+0.5**
HGSD	**Ruisui** baz=243	**1.02**	**256**	eP	**Pn**	**12 24 37.4**	**+0.1**
WARBT	**Fenglin Townsh** baz=247	**1.02**	**269**	eP	**Pn**	**12 24 37.6**	**+0.3**
ETLH	**Xiulin Townshi** baz=287	**1.04**	**297**	eP	**Pn**	**12 24 37.6**	**0.0**
TWC	**Suao** baz=322	**1.05**	**325**	eP	**Pb**	**12 24 37.8**	**-0.1**
NDS	**Dongshan** baz=317	**1.14**	**321**	eP	**Pb**	**12 24 39.9**	**+0.4**
EYUL	**Yuli** baz=239	**1.16**	**250**	eP	**Pn**	**12 24 39.7**	**+0.6**
YULB	**Yu-li**	**1.16**	**253**	P	**Pn**	**12 24 39.8**	**+0.7**
YULB	**Yu-li** baz=241	**1.16**	**253**	eP	**Pn**	**12 24 39.9**	**+0.7**
YULB				eS	**Sb**	**12 24 55.1**	**+0.6**
TWF1	**Yuli** baz=228	**1.17**	**251**	eP	**Pb**	**12 24 40.3**	**+0.2**
LATG	**Datong** baz=305	**1.19**	**312**	P	**Pb**	**12 24 40.3**	**-0.1**
OWD	**Renai** baz=270	**1.23**	**280**	eP	**Pn**	**12 24 40.7**	**+0.4**
ENTT	**Nioudou** baz=298	**1.24**	**316**	eP	**Pb**	**12 24 41.4**	**+0.2**
TWE	**Neicheng** baz=319	**1.24**	**322**	P	**Pb**	**12 24 41.3**	**+0.1**
NNS	**Nan Shan** baz=286	**1.25**	**304**	P	**Pb**	**12 24 41.2**	**-0.2**
NDT	**Datong Townshi** baz=312	**1.25**	**314**	eP	**Pb**	**12 24 41.2**	**-0.1**
NDT				S	**Sn**	**12 24 56.1**	**-0.2**
VWDT	**VWDT** baz=260	**1.25**	**271**	eP	**Pn**	**12 24 41.1**	**+0.8**
CHGB	**Renai** baz=264	**1.26**	**285**	eP	**Pn**	**12 24 41.0**	**+0.3**
IRIF	**Iriomote-Funau**	**1.27**	**62**	eP	**Pb**	**12 24 41.7**	**+0.1**
WUSB	**Renai** baz=272	**1.29**	**281**	eP	**Pn**	**12 24 41.9**	**+0.8**
FUSB	**Fushanzhiwuyua** baz=317	**1.31**	**321**	P	**Pb**	**12 24 42.4**	**-0.1**
TWT	**Tachien** baz=273	**1.32**	**293**	eP	**Pb**	**12 24 42.6**	**0.0**
TDCB	**Techi** baz=273	**1.33**	**293**	eP	**Pb**	**12 24 42.7**	**-0.2**
TWB1	**Santiao Chiao** baz=340	**1.34**	**340**	eP	**Pb**	**12 24 43.8**	**+0.8**
NWLT	**Wulai** baz=301	**1.38**	**319**	eP	**Pb**	**12 24 44.0**	**+0.4**
YHNB	**Yeheng**	**1.38**	**312**	P	**Pb**	**12 24 43.5**	**-0.2**
YHNB	**Yeheng** baz=311	**1.38**	**312**	P	**Pb**	**12 24 43.4**	**-0.3**
NSK	**Sanguang** baz=307	**1.40**	**312**	eP	**Pb**	**12 24 43.5**	**-0.4**
SSLB	**Suanglung**	**1.42**	**272**	P	**Pn**	**12 24 43.5**	**+0.7**
SSLB	**Suanglung** baz=263	**1.42**	**272**	eP	**Pn**	**12 24 43.5**	**+0.7**
ELDTW	**Lidau** baz=239	**1.47**	**248**	eP	**Pn**	**12 24 43.9**	**+0.3**
SMLT	**Sun Moon Lake** baz=257	**1.48**	**276**	eP	**Pb**	**12 24 44.7**	**-0.6**
WFSB	**Wu-fen Shan** baz=332	**1.48**	**334**	eP	**Pb**	**12 24 44.4**	**-0.9**
WCS	**Beigang Elemen** baz=274	**1.49**	**282**	eP	**Pb**	**12 24 44.9**	**-0.6**
NHDH	**Xindian Distri** baz=312	**1.51**	**324**	eP	**Pb**	**12 24 45.8**	**0.0**
WHYT	**Xinyi Township** baz=260	**1.51**	**269**	eP	**Pb**	**12 24 45.7**	**-0.2**
TYC	**Yuchr** baz=268	**1.52**	**276**	eP	**Pb**	**12 24 45.3**	**-0.6**
WHP	**Taichung City** baz=274	**1.52**	**291**	eP	**Pb**	**12 24 46.3**	**+0.2**
TATO	**Taipei** baz=253	**1.54**	**323**	P	**Pb**	**12 24 46.5**	**+0.2**
ALS	**Alishan** baz=253	**1.57**	**262**	eP	**Pb**	**12 24 46.8**	**-0.3**
JIJ	**Ishigaki jima**	**1.62**	**67**	eP	**Pb**	**12 24 46.9**	**-0.7**
JIJ				eS	**Sn**	**12 25 04.9**	**-0.7**
LIOB	**Emei** baz=298	**1.63**	**304**	eP	**Pb**	**12 24 48.0**	**+0.2**
NSTT	**Nanjuang** baz=297	**1.63**	**303**	eP	**Pb**	**12 24 47.7**	**-0.2**
TPUB	**Ta-pu**	**1.78**	**256**	P	**Pb**	**12 24 50.1**	**-0.3**
JISG	**Ishigakijimahi**	**1.85**	**63**	eP	**Pn**	**12 24 49.4**	**+0.7**

*IDC **13** 12:24:22.5±1.0,23°.90N×122°.64E,h0km,mb3.8/10,*
mbtmp3.8/11,ML3.4/1,MS3.1/6,Error ellipse:
s-maj=33.4km s-min=19.9km az=60.0
*TAP **13** 12:24:26.4,23°.82N×122°.51E,h40km,ML4.1,C*
*JMA **13** 12:24:26.9±0.3,23°.8N±0°.7×122°.6E±0°.9,h3km±3km,*
MV3.5/11,NW OFF ISHIGAKIJIMA IS
*NIED **13** 12:24:26.9,23°.83N×122°.59E,h3km,MW4.0,Moment*
Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm;
M_{rr}0.20; $M_{\theta\theta}$-0.95; $M_{\phi\phi}$0.75; $M_{r\theta}$0.56; $M_{\theta\phi}$0.14; $M_{\phi r}$0.29;
Fault plane solution: $M_0$1.06000×10^{15} NP1:ϕ_s53.00000°,
δ86.00000°,λ37.00000°. NP2:ϕ_s320.00000°,δ53.00000°,
λ174.00000°.
ISC 13 12:24:25.0±0.7,23°.78N±0°.04×122°.52E±0°.03,h21km±3km,
n46,σ1s20/60,mb3.7/10,MS3.2/3,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4** baz=329	**0.39**	**332**	eP	**Pn**	**12 24 35.1**	**+0.1**
EOS4				S	**Sn**	**12 24 41.6**	**+0.1**
EOS3	**EOS3** baz=331	**0.54**	**340**	eP	**Pn**	**12 24 37.5**	**+0.2**
EOS3	**EOS3** baz=334	**0.54**	**340**	S	**Pn**	**12 24 37.4**	**+0.2**
JYNG	**Yonagunijimaku**	**0.78**	**30**	eP	**Pn**	**12 24 40.7**	**0.0**
JYNG				eS	**Sb**	**12 24 50.6**	**+0.7**
YOJ	**Yonaguni jima**	**0.82**	**34**	P	**Pn**	**12 24 41.5**	**+0.2**
YOJ				eS	**Sb**	**12 24 51.4**	**+0.3**
YOJ	**Yonaguni jima** baz=35	**0.82**	**34**	P	**Pn**	**12 24 41.2**	**0.0**
YOJ				eS	**Sb**	**12 24 51.4**	**+0.3**
TWD	**Chiawan** baz=287	**0.89**	**290**	P	**Pn**	**12 24 42.1**	**-0.2**
TWD				eS	**Sb**	**12 24 53.7**	**+0.5**
ETL	**Fush Village** baz=282	**0.90**	**295**	eP	**Pn**	**12 24 42.5**	**+0.1**
EWUT	**Wuta** baz=323	**0.95**	**315**	eP	**Pn**	**12 24 43.8**	**+0.8**
EWUT				eS	**Sn**	**12 24 55.8**	**-0.1**
ETM	**Tongmen** baz=272	**0.95**	**281**	P	**Pb**	**12 24 42.7**	**-0.1**
ESL	**Shilin** baz=260	**0.99**	**272**	P	**Pb**	**12 24 43.0**	**-0.4**
ESL				eS	**Sb**	**12 24 55.8**	**-0.2**
TWC	**Suao** baz=323	**1.03**	**324**	eP	**Pn**	**12 24 45.0**	**+0.9**
WARBT	**Fenglin Townsh** baz=256	**1.04**	**267**	eP	**Pb**	**12 24 44.1**	**-0.1**
WARBT				eS	**Sb**	**12 24 57.4**	**0.0**
ETLH	**Xiulin Townshi** baz=292	**1.04**	**295**	eP	**Pn**	**12 24 44.4**	**0.0**
ETLH				eS	**Sn**	**12 24 58.2**	**-0.1**
HGSD	**Ruisui** baz=251	**1.04**	**254**	P	**Pb**	**12 24 44.2**	**0.0**
HGSD				eS	**Sb**	**12 24 57.2**	**-0.3**
ECBN	**Changbin** baz=232	**1.08**	**245**	eP	**Pn**	**12 24 44.7**	**-0.1**
ECBN				eS	**Sb**	**12 24 58.3**	**-0.3**
EHY	**Hungye** baz=253	**1.13**	**256**	eP	**Pb**	**12 24 45.8**	**0.0**
EHY				eS	**Sb**	**12 25 00.2**	**+0.2**
EYUL	**Yuli** baz=246	**1.18**	**249**	eP	**Pb**	**12 24 46.7**	**+0.1**
EYUL				eS	**Sn**	**12 25 01.7**	**+0.1**
YULB	**Yu-li** baz=248	**1.18**	**251**	eP	**Pb**	**12 24 46.5**	**-0.1**
YULB				eS	**Sb**	**12 25 01.5**	**0.0**
TWF1	**Yuli** baz=247	**1.20**	**249**	eP	**Pb**	**12 24 47.0**	**+0.1**
TWF1				eS	**Sb**	**12 25 01.8**	**-0.1**
HATJ	**Hateruma jima**	**1.21**	**77**	eS	**Sn**	**12 25 03.0**	**+0.5**
IRIF	**Iriomote-Funau**	**1.24**	**63**	eP	**Pb**	**12 24 49.0**	**+1.4**
CHKT	**Chengkung** baz=226	**1.25**	**238**	eP	**Pb**	**12 24 48.0**	**+0.1**
CHKT				eS	**Sn**	**12 25 02.2**	**-1.2**
CHGB	**Renai** baz=273	**1.26**	**283**	eP	**Pb**	**12 24 48.0**	**-0.1**
CHGB				eS	**Sn**	**12 25 02.5**	**-1.5**
VWDT	**VWDT** baz=259	**1.26**	**269**	eS	**Sn**	**12 25 03.7**	**0.0**
FULB	**Fuli** baz=232	**1.26**	**243**	eS	**Sn**	**12 25 03.0**	**-0.7**
JKRS	**Kuro-shima**	**1.44**	**71**	eP	**Pb**	**12 24 52.7**	**+1.7**
JIJ	**Ishigaki jima**	**1.60**	**68**	eP	**Pb**	**12 24 54.6**	**+0.9**
JIJ				eS	**Sb**	**12 25 14.1**	**+0.6**
JISG	**Ishigakijimahi**	**1.83**	**63**	eP	**Pb**	**12 24 57.3**	**-0.4**
JOW	**Kunigami** 2.2nm,0.3s,baz=134,slow=15,SNR=6.4	**6.03**	**59**	Pn	**Pn**	**12 25 52.3**	**-0.7**
JOW	1.2nm,0.3s,baz=98,slow=26,SNR=1.7 12nm,0.5s			Sn	**Sn**	**12 26 54.6**	**-6.9**
KSRS	**Korea Array** 0.3nm,0.3s,baz=197,slow=12,SNR=7.4	**14.40**	**18**	Pn	**P**	**12 27 51.2**	**-3.1**
KSRS	comp=Z,71nm,19.6s,baz=200,slow=43			LR	LR	12 34 29.4	
JHJ	**Hachijo jima 2** comp=Z,22nm,18.2s,baz=184,slow=37	**17.79**	**55**	LR	LR	12 35 18.9	
MJAR	**Matsushiro Arr** comp=Z,39nm,18.6s,baz=221,slow=35	**18.57**	**43**	LR	LR	12 35 10.9	
GUMO	**Guam** comp=Z,20nm,18.1s,baz=198,slow=36	**23.44**	**112**	LR	LR	12 38 26.5	
KLR	**Kul'dur** comp=Z,57nm,18.1s,baz=200,slow=39	**26.42**	**14**	LR	LR	12 41 25.2	
SONM	**Songino Array** 0.9nm,0.6s,baz=151,slow=10,SNR=6.8 0.9nm,0.6s	**27.22**	**336**	P	**P**	**12 30 07.8**	**+0.2**
MKAR	**Makanchi Array** 1.2nm,0.5s,baz=100,slow=9.9,SNR=13 1.2nm,0.5s	**39.48**	**316**	P	**P**	**12 31 55.2**	**+1.3**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=103,slow=12,SNR=4.3 1.0nm,0.5s	**41.25**	**327**	P	**P**	**12 32 07.7**	**-0.7**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=106,slow=11,SNR=1.5 0.2nm,0.3s	**43.20**	**320**	P	**P**	**12 32 24.5**	**+0.1**
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=346,slow=8.6,SNR=3.2 0.6nm,0.9s	**44.96**	**164**	P	**P**	**12 32 39.9**	**+1.2**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=345,slow=7.9,SNR=4.3 0.3nm,0.5s	**48.44**	**166**	P	**P**	**12 33 07.5**	**+1.5**
BVAR	**Borovoye Array** 0.6nm,0.4s,baz=100,slow=8.6,SNR=2.3 0.6nm,0.4s	**48.76**	**321**	P	**P**	**12 33 08

*NNC **13** 12:31:34.5±0.9, 42°.59N×79°.60E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=5.4km s-min=3.0km az=134.0*
*SOME **13** 12:31:34.2, 42°.55N×79°.58E, h5km*
*KRNET **13** 12:31:38.5±0.1, 42°.44N×79°.48E, h16km, mb2.2*
ISC 13 12:31:34.7±1.5, 42°.59N±0°.04×79°.62E±0°.04, h5km±11km, n44, σ0s72/67, 12C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.58**	**349**	P	**Pg**	**12 31 46.5**	**+0.6**
	9.3nm,0.1s						
SHLS				S	**Sb**	**12 31 55.5**	**-0.6**
	128nm,0.3s						
SHLS	**Shalkode**	**0.58**	**349**	*e*P	**Pg**	**12 31 46.5**	**+0.6**
	9.3nm,0.1s						
SHLS				*e*S	**Sb**	**12 31 55.5**	**-0.6**
	128nm,0.3s						
UZB	**Uzynbulak**	**0.71**	**322**	P	**Pg**	**12 31 48.3**	**-0.1**
	3.1nm,0.2s						
UZB				S	**Sb**	**12 31 58.4**	**-1.4**
	26nm,0.3s						
UZB	**Uzynbulak**	**0.71**	**322**	*e*P	**Pg**	**12 31 48.3**	**-0.1**
	3.1nm,0.2s						
UZB				*e*S	**Sb**	**12 31 58.4**	**-1.4**
	26nm,0.3s						
PDGK	**Podgornoye**	**0.75**	**353**	P	**Pg**	**12 31 48.7**	**-0.3**
	1.7nm,0.3s						
PDGK				S	**Sg**	**12 31 59.2**	**+0.5**
	5.2nm,0.2s						
PDGK	**Podgornoye**	**0.75**	**353**	⇓P	**Pg**	**12 31 48.4**	**-0.6**
	0.4nm,0.2s						
PDGK				⇓S	**Sg**	**12 31 59.3**	**+0.5**
	6.5nm,0.6s						
PRZ	**Przheval'sk**	**0.91**	**264**	⇑*e*P	**Pn**	**12 31 53.8**	**-0.5**
	baz=75						
PRZ				⇑*e*S	**Sb**	**12 32 04.9**	**-0.5**
	baz=75						
SATY	**Saty**	**1.01**	**298**	P	**Pb**	**12 31 53.9**	**-0.8**
	3.5nm,0.1s						
SATY				S	**Sb**	**12 32 07.8**	**-0.6**
	20nm,0.1s						
SATY	**Saty**	**1.01**	**298**	*e*P	**Pb**	**12 31 54.0**	**-0.8**
	3.5nm,0.1s						
SATY				*e*S	**Sb**	**12 32 07.8**	**-0.6**
	20nm,0.1s						
KTMS	**Ketmen**	**1.01**	**32**	*e*P	**Pg**	**12 31 53.5**	**-0.6**
	0.8nm,0.1s						
KTMS				*e*S	**Sg**	**12 32 07.4**	**+0.1**
	1.8nm,0.1s						
KPKS	**Kokpek**	**1.11**	**322**	P	**Pg**	**12 31 55.6**	**-0.4**
	5.1nm,0.1s						
KPKS				S	**Sb**	**12 32 10.8**	**-0.5**
	20nm,0.4s						
KPKS	**Kokpek**	**1.11**	**322**	*e*P	**Pg**	**12 31 55.6**	**-0.4**
	5.1nm,0.1s						
KPKS				*e*S	**Sb**	**12 32 10.8**	**-0.5**
	20nm,0.4s						
KURS	**Kuram**	**1.39**	**311**	P	**Pg**	**12 32 00.9**	**-0.4**
	1.3nm,0.2s						
KURS				S	**Sn**	**12 32 19.8**	**+0.1**
	2.0nm,0.2s						
KURS	**Kuram**	**1.39**	**311**	*e*P	**Pg**	**12 32 00.9**	**-0.4**
	1.3nm,0.2s						
KURS				*e*S	**Sn**	**12 32 19.8**	**+0.1**
	2.0nm,0.2s						
ANVS	**Anan'yevo**	**1.45**	**278**	⇑*e*P	**Pg**	**12 32 04.2**	**+1.7**
	baz=85						
ANVS				⇑*e*S	**Sn**	**12 32 22.8**	**+1.5**
	baz=85						
TARG	**Taragay, Kyrgy**	**1.60**	**238**	⇑*i*P	**Pb**	**12 32 04.8**	**-0.1**
	baz=41						
TARG				⇑*i*S	**Sn**	**12 32 24.7**	**-0.5**
	baz=41						
BLB	**Baldybastay**	**1.72**	**332**	P	**Pb**	**12 32 06.7**	**-0.2**
	12nm,0.3s						
BLB				S	**Sg**	**12 32 29.7**	**-0.3**
	5.7nm,0.2s						
DJR	**Jarkent**	**1.75**	**4**	P	**Pb**	**12 32 06.9**	**-0.5**
	6.4nm,0.4s						
DJR				S	**Sb**	**12 32 30.1**	**+0.5**
	9.6nm,0.4s						
DJR	**Jarkent**	**1.75**	**4**	*e*P	**Pb**	**12 32 06.9**	**-0.5**
	6.4nm,0.4s						
DJR				*e*S	**Sb**	**12 32 30.1**	**+0.5**
	9.6nm,0.4s						
KNOS	**Konyrlen**	**1.80**	**350**	P	**Pb**	**12 32 07.8**	**-0.4**
	6.8nm,0.1s						
KNOS				S	**Sg**	**12 32 32.0**	**-0.5**
	8.4nm,0.3s						
KOTS	**Kotyrbulak**	**1.95**	**290**	Pg	**Pg**	**12 32 11.5**	**-0.6**
	4.2nm,0.2s						
KOTS				Lg	Lg	12 32 38.2	
	14nm,0.3s						
KOTS	**Kotyrbulak**	**1.95**	**290**	*e*P	**Pg**	**12 32 11.5**	**-0.6**
	4.2nm,0.2s						
KOTS				*e*S	**Sg**	**12 32 38.1**	**+0.8**
	14nm,0.3s						
TNSS	**Tian-Shan**	**2.02**	**284**	Pg	**Pb**	**12 32 11.5**	**-0.5**
	1.0nm,0.2s						
TNSS				Lg	Lg	12 32 38.2	
	2.5nm,0.3s						
TNSS	**Tian-Shan**	**2.02**	**284**	*e*Pg	**Pb**	**12 32 11.5**	**-0.5**
	1.0nm,0.2s						
TNSS				*e*Lg	Lg	12 32 38.2	
	2.5nm,0.3s						
ARXS	**Arharly**	**2.08**	**322**	Pg	**Pb**	**12 32 12.9**	**-0.1**
	3.1nm,0.6s						
ARXS				Lg	Lg	12 32 40.4	
	15nm,0.5s						
ARXS	**Arharly**	**2.08**	**322**	*e*Pg	**Pb**	**12 32 12.9**	**-0.1**
	3.1nm,0.6s						
ARXS				*e*Lg	Lg	12 32 40.4	
	15nm,0.5s						
IZV	**Izvestkoviy**	**2.25**	**282**	*e*Pg	**Pb**	**12 32 15.4**	**-0.6**
	1.7nm,0.2s						
IZV				*e*Lg	Lg	12 32 45.0	
	6.5nm,0.2s						
CHKK	**Chushkaly**	**2.30**	**304**	Pg	**Pb**	**12 32 16.7**	**+0.1**
	0.5nm,0.2s						
CHKK				Lg	Lg	12 32 46.9	
	6.4nm,0.3s						
CHKK	**Chushkaly**	**2.30**	**304**	*e*Pg	**Pb**	**12 32 16.8**	**+0.1**
	0.5nm,0.2s						
CHKK				*e*Lg	Lg	12 32 46.9	
	6.4nm,0.3s						
MTBS	**Maitube**	**2.41**	**284**	Pg	**Pb**	**12 32 18.4**	**-0.1**
	6.4nm,0.3s						
MTBS				Lg	Lg	12 32 49.8	
	6.4nm,0.5s						
MTBS	**Maitube**	**2.41**	**284**	*e*Pg	**Pb**	**12 32 18.4**	**-0.1**
	6.4nm,0.3s						
MTBS				*e*Lg	Lg	12 32 49.8	
	6.4nm,0.5s						
KTBS	**Karatobe**	**2.42**	**299**	Pg	**Pb**	**12 32 18.7**	**-0.1**
	0.8nm,0.3s						
KTBS				Lg	Lg	12 32 50.3	
	5.1nm,0.4s						
KTBS	**Karatobe**	**2.42**	**299**	*e*Pg	**Pb**	**12 32 18.7**	**-0.1**
	0.8nm,0.3s						
KTBS				*e*Lg	Lg	12 32 50.3	
	5.1nm,0.4s						
ULHL	**Ulahol**	**2.52**	**263**	⇑*i*P	**Pb**	**12 32 20.3**	**-0.3**
	baz=66						
ULHL				⇑*i*S	**Sb**	**12 32 50.5**	**-1.5**
	baz=66						
BOOM	**Boomskoye usch**	**2.72**	**269**	⇑*e*P	**Pb**	**12 32 23.2**	**-0.7**
	baz=72						
BOOM				⇑*i*S	**Sb**	**12 32 55.5**	**-2.1**
	baz=72						
KST	**Kastek**	**2.73**	**281**	Pg	**Pb**	**12 32 24.0**	**0.0**
	3.7nm,0.6s						
KST				Lg	Lg	12 32 59.6	
	3.2nm,0.4s						
KST	**Kastek**	**2.73**	**281**	*e*Pg	**Pb**	**12 32 24.0**	**0.0**
	3.7nm,0.6s						
KST				*e*Lg	Lg	12 32 59.6	
	3.2nm,0.4s						
KUU	**Kurty**	**2.73**	**300**	Pg	**Pb**	**12 32 23.6**	**-0.4**
	0.6nm,0.1s						
KUU				Lg	Lg	12 32 58.7	
	2.6nm,0.5s						
KUU	**Kurty**	**2.73**	**300**	*e*Pg	**Pb**	**12 32 23.6**	**-0.4**
	0.6nm,0.1s						
KUU				*e*Lg	Lg	12 32 58.7	
	2.6nm,0.5s						
DGS	**Degeres**	**2.90**	**284**	Pg	**Pb**	**12 32 27.1**	**+0.2**
	2.9nm,0.4s						
DGS				Lg	Lg	12 33 04.9	
	8.4nm,1.0s						
DGS	**Degeres**	**2.90**	**284**	*e*Pg	**Pb**	**12 32 27.1**	**+0.2**
	2.9nm,0.4s						
DGS				*e*Lg	Lg	12 33 04.9	
	8.4nm,1.0s						
TKM2	**Tokmak 2**	**2.98**	**278**	⇑Pg	**Pn**	**12 32 25.1**	**+2.3**
	3.8nm,0.6s						
TKM2				⇑Lg	Lg	12 33 06.2	
	1.6nm,0.4s						
KRBS	**Karabastau**	**3.09**	**292**	Pg	**Pb**	**12 32 29.7**	**-0.5**
	1.1nm,0.5s						
KRBS				Lg	Lg	12 33 09.6	
	3.0nm,0.5s						
KRBS	**Karabastau**	**3.09**	**292**	*e*Pg	**Pb**	**12 32 30.4**	**+0.3**
	0.4nm,0.2s						
KRBS				*e*Lg	Lg	12 33 10.7	
	3.0nm,0.2s						

*NEIC **13** 12:36:29.4±1.2, 6°.2S±0°.1×146°.0E±0°.1, h104km±8km, mb4.3/29, Error ellipse: s-maj=19.7km s-min=14.6km az=76.0*
*IDC **13** 12:36:30.8±0.8, 6°.39S×146°.24E, h120km±7km, mb3.9/12, mbtmp4.2/14, MS3.0/2, Error ellipse: s-maj=22.4km s-min=10.0km az=79.0*
ISC 13 12:36:31.6±0.5, 6°.38S±0°.05×146°.00E±0°.10, h122km, n69, σ1s60/78, mb4.1/21, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.22**	**159**		**Pn**	**12 37 20.1**	**-0.7**
PMG				Sn	**Sn**	**12 37 56.6**	**-2.3**
PMG	**Port Moresby**	**3.22**	**159**	P	**Pn**	**12 37 20.2**	**-0.7**
PMG	**Port Moresby**	**3.22**	**159**	P	**Pn**	**12 37 20.1**	**-0.7**
PMG	**Port Moresby**	**3.22**	**159**	P	**Pn**	**12 37 20.2**	**-0.7**
	73nm,0.4s,baz=316,slow=7.4,SNR=63						
PMG				S	**Sn**	**12 37 55.9**	**-2.9**
	463nm,0.4s,baz=161,slow=21,SNR=46						
COEN	**Coen**	**8.03**	**200**		**Pn**	**12 38 25.6**	**+0.1**
COEN	**Coen**	**8.03**	**200**	P	**Pn**	**12 38 27.7**	**+2.2**
CTA	**Charters Tower**	**13.63**	**179**	P	**P**	**12 39 45.4**	**+0.8**
CTA	**Charters Tower**	**13.63**	**179**	P	**Pn**	**12 39 42.6**	**+2.7**
	1.1nm,0.2s,baz=353,slow=7.7,SNR=2.7						
CTA				S	**Sn**	**12 42 10.4**	**+0.1**
	0.7nm,0.3s,baz=247,slow=19,SNR=1.3						
CTA				LR	LR	12 45 34.1	
	comp=Z,38nm,18.3s,baz=62,slow=40						
CTAO	**Charters Tower**	**13.63**	**179**	P	**P**	**12 39 45.3**	**+0.7**
QIS	**Mount Isa**	**15.40**	**203**	P	**P**	**12 40 06.7**	**+2.4**
MTN	**Manton Dam**	**16.00**	**245**		**Pn**	**12 40 08.8**	**-1.0**
MTN				IAmb	IAmb	12 40 12.4	
	comp=Z,12nm,0.5s						
WB0	**Warramunga Arr**	**17.44**	**219**	P	**P**	**12 40 27.4**	**+0.5**
WR0	**Warramunga Arr**	**17.50**	**218**	P	**P**	**12 40 27.9**	**+0.4**
WRAB	**Tennant Creek**	**17.59**	**219**	P	**P**	**12 40 28.1**	**-0.4**
WRAB				IAmb	IAmb	12 40 55.5	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**17.60**	**219**	P	**P**	**12 40 28.6**	**0.0**
WRA	**Warramunga Arr**	**17.61**	**219**	P	**P**	**12 40 28.2**	**-0.5**
WRA	**Warramunga Arr**	**17.61**	**219**	P	**P**	**12 40 29.0**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=42,slow=12,SNR=33						
WRA				pP	**pP**	**12 40 52.7**	**+2.1**
	comp=Z,4.4nm,0.7s,baz=39,slow=12,SNR=5.4						
WRA				S	**S**	**12 43 39.5**	**-6.2**
	comp=Z,0.2nm,0.6s,baz=73,slow=42,SNR=1.8						
KNRA	**Kununurra**	**19.26**	**240**	P	**P**	**12 40 46.5**	**-0.2**
KNRA				IAmb	IAmb	12 40 51.0	
	comp=Z,17nm,1.1s						
KNRA	**Kununurra**	**19.26**	**240**	P	**P**	**12 40 44.7**	**-2.0**
EIDS	**Eidsvold**	**19.50**	**166**	P	**P**	**12 40 50.4**	**+1.2**
EIDS				IAmb	IAmb	12 40 52.2	
	comp=Z,6.9nm,0.8s						
EIDS	**Eidsvold**	**19.50**	**166**	P	**P**	**12 40 51.9**	**+2.7**
RMQ	**Roma**	**20.17**	**173**	P	Pn	12 41 00.4	+0.9
AS31	**Alice Springs**	**20.75**	**213**	P	**P**	**12 41 03.1**	**+0.3**
ASAR	**Alice Springs**	**20.75**	**213**	P	**P**	**12 41 02.8**	**0.0**
ASAR	**Alice Springs**	**20.75**	**213**	P	**P**	**12 41 03.0**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=50,slow=8.2,SNR=29						
ASAR				pP	**pP**	**12 41 27.2**	**+1.9**
	comp=Z,4.6nm,0.8s,baz=36,slow=11,SNR=5.3						
ASAR				S	**S**	**12 44 43.6**	**-4.4**
	comp=Z,0.2nm,0.5s,baz=76,slow=39,SNR=1.6						
ASAR				LR	LR	12 50 52.4	
	comp=Z,69nm,19.0s,baz=30,slow=41						
	comp=Z,1.8nm,0.6s						
INKA	**Innaminka**	**21.82**	**193**	P	**P**	**12 41 17.5**	**+3.4**
OOD	**Oodnadatta**	**23.44**	**203**	P	**P**	**12 41 30.7**	**+0.7**
ARMA	**Armidale**	**24.49**	**168**	P	**P**	**12 41 40.1**	**+0.5**
ARMA				IAmb	IAmb	12 42 08.0	
	comp=Z,7.5nm,1.1s						
CMSA	**Cobar Meteorol**	**25.03**	**181**	P	**P**	**12 41 45.5**	**+1.1**
LCRK	**Leigh Creek**	**25.03**	**196**	P	**P**	**12 41 45.9**	**+1.5**
WRKA	**Warakurna**	**25.13**	**221**	P	**P**	**12 41 45.6**	**+0.2**
STKA	**Stephens Creek**	**25.70**	**189**	P	**P**	**12 41 50.3**	**-0.1**
STKA	**Stephens Creek**	**25.70**	**189**	P	**P**	**12 41 53.4**	**+3.0**
STKA	**Stephens Creek**	**25.70**	**189**	P	**P**	**12 41 50.4**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=37,slow=14,SNR=8.8						
STKA				pP	**pP**	**12 42 17.6**	**+0.3**
	comp=Z,3.1nm,0.8s,baz=344,slow=15,SNR=2.8						
	comp=Z,1.2nm,0.3s						
MULG	**Mulgathing**	**26.30**	**204**	P	**P**	**12 41 56.3**	**+0.5**
HTT	**Hallett**	**27.71**	**193**	P	**P**	**12 42 10.0**	**+1.5**
JNU	**Nakatsue**	**41.83**	**341**	P	**P**	**12 44 09.1**	**-0.5**
	comp=Z,12nm,0.9s,baz=177,slow=16,SNR=2.5						
	comp=Z,12nm,0.9s						
TCW	**Tory Channel**	**42.88**	**148**	P	**P**	**12 44 18.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**51.91**	**347**	P	**P**	**12 45 27.7**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=163,slow=9.1,SNR=2.6						
	comp=Z,0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**52.56**	**299**	P	**P**	**12 45 34.0**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=119,slow=6.1,SNR=9.4						
	comp=Z,1.5nm,0.6s						
PETK	**Petropavlovsk-**	**60.09**	**8**	P	**P**	**12 46 25.7**	**0.0**
	comp=Z,3.6nm,0.8s,baz=156,slow=6.4,SNR=5.0						
	comp=Z,3.6nm,0.8s						
CASY	**Casey**	**64.63**	**195**	P	**P**	**12 46 56.3**	**+0.5**
CASY				IAmb	IAmb	12 47 18.6	
	comp=Z,1.8nm,0.8s						
SBA	**Scott Base**	**72.26**	**175**	P	**P**	**12 47 44.5**	**+1.4**
MKAR	**Makanchi Array**	**77.16**	**321**	P	**P**	**12 48 12.4**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=97,slow=8.5,SNR=13						
	comp=Z,0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**78.80**	**328**	P	**P**	**12 48 19.9**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=115,slow=4.1,SNR=6.2						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**80.94**	**323**	P	**P**	**12 48 32.7**	**+0.4**
	comp=Z,0.7nm,0.2s,baz=105,slow=7.7,SNR=1.2						
	comp=Z,0.7nm,0.2s						
MAW	**Mawson**	**81.52**	**203**	P	**P**	**12 48 35.8**	**+0.7**
QSPA	**South Pole Qui**	**83.59**	**180**	P	**P**	**12 48 45.9**	**-0.2**
QSPA				IAmb	IAmb	12 48 46.8	
	comp=Z,3.2nm,1.1s						
QSPA	**South Pole Qui**	**83.59**	**180**	P	**P**	**12 48 45.7**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=91,slow=2.1,SNR=10						
	comp=Z,1.7nm,0.8s						
PMR	**Palmer**	**83.98**	**26**	P	**P**	**12 48 47.0**	**-0.9**
PMR				IAmb	IAmb	12 49 04.8	
	comp=Z,6.9nm,1.2s						
PWL	**Port Wells**	**84.02**	**27**	P	**P**	**12 48 46.9**	**-1.3**
FID	**Port Fidalgo**	**84.81**	**27**	P	**P**	**12 48 50.8**	**-1.4**
SCM	**Sheep Creek Mo**	**84.86**	**26**	P	**P**	**12 48 52.2**	**-0.3**
RND	**Reindeer**	**84.87**	**24**	P	**P**	**12 48 51.3**	**-1.1**
RND				IAmb	IAmb	12 49 03.7	
	comp=Z,6.5nm,1.1s						
MCK	**McKinley**	**84.98**	**24**	P	**P**	**12 48 51.6**	**-1.3**
MCK				IAmb	IAmb	12 48 52.1	
	comp=Z,4.4nm,0.6s						
DHY	**Denali Highway**	**85.34**	**25**	P	**P**	**12 48 54.9**	**-0.1**
DHY				IAmb	IAmb	12 48 55.5	
	comp=Z,4.8nm,0.9s						
I23K	**Minto, Yukon-K**	**85.42**	**23**	P	**P**	**12 48 54.4**	**-0.7**
I23K				IAmb	IAmb	12 48 55.0	
	comp=Z,3.6nm,1.1s						
M24K	**Tolsona, Glenn**	**85.47**	**26**	P	**P**	**12 48 55.3**	**-0.2**
H23K	**Yukon River**	**85.65**	**22**	P	**P**	**12 48 55.9**	**-0.3**
H23K				IAmb	IAmb	12 49 00.7	
	comp=Z,1.9nm,1.0s						
CCB	**Clear Creek Bu**	**85.81**	**23**	P	**P**	**12 48 55.6**	**-1.4**
G23K	**Bananza Creek**	**85.87**	**21**	P	**P**	**12 48 57.0**	**-0.3**
G23K				IAmb	IAmb	12 48 58.5	
	comp=Z,3.8nm,1.0s						
HDA	**Harding Lake**	**86.05**	**24**	P	**P**	**12 48 56.4**	**-1.8**
HDA				IAmb	IAmb	12 48 59.1	
	comp=Z,3.8nm,1.0s						
IL31		**86.22**	**23**	P	**P**	**12 48 57.3**	**-1.7**
ILAR	**Eielson Array**	**86.22**	**23**	P	**P**	**12 48 57.5**	**-1.6**
ILAR	**Eielson Array**	**86.22**	**23**	P	**P**	**12 48 57.2**	**-1.8**
	comp=Z,4.0nm,0.7s,baz=250,slow=5.0,SNR=56						
ILAR				pP	**pP**	**12 49 28.6**	**-2.0**
	comp=Z,0.7nm,0.8s,baz=256,slow=4.3,SNR=2.2						
	comp=Z,4.0nm,0.7s						
J25K	**Salcha River,**	**86.76**	**24**	P	**P**	**12 49 01.0**	**-0.8**
NVAR	**Mina Array Bea**	**98.39**	**52**	P	**P**	**12 49 56.3**	**0.0**
	comp=Z,0.3nm,0.7s,baz=252,slow=5.6,SNR=2.9						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**144.22**	**284**	PKP	**PKPab**	**12 55 52.7**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=62,slow=4.3,SNR=13						
TORD				pPKPbc	**pPKPdf**	**12 56 23.5**	**-4.2**
	comp=Z,1.3nm,0.8s,baz=70,slow=4.1,SNR=4.0						
DBIC	**Dimbokro**	**151.04**	**272**	PKPbc	**PKPbc**	**12 56 12.0**	**+0.6**
	comp=Z,5.2nm,0.7s,baz=111,slow=0.9,SNR=8.0						

*MOS **13** 12:37:56.9±0.8, 44°.28N×145°.68E, h178km, mb4.1/1, Error ellipse: s-maj=16.3km s-min=14.4km az=72.9*
*SKHL **13** 12:37:57.7±0.1, 44°.30N×145°.40E, h152km±4km, mb4.5/3, msha5.3/3*
*JMA **13** 12:37:58.1±0.3, 44°.N±1°.×14°.6E±°., h175km±2km, MV3.4/36, NEAR KUNASHIRI ISLAND*
*IDC **13** 12:37:58.6±1.4, 44°.30N×145°.64E, h176km±13km, mb3.2/8, mbtmp3.7/12, Error ellipse: s-maj=24.2km s-min=15.8km az=161.0*
ISC 13 12:37:57.9±0.7, 44°.18N±0°.06×145°.72E±0°.05, h174km±6km, n48, σ0s99/60, mb3.4/8, 1C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.18**	**146**	*d*PN	**Pn**	**12 38 21.5**	**+0.4**
YUK				*i* S	**Sn**	**12 38 39.5**	**+0.7**
YUK				pmax	pmax		
	comp=Z,170nm,0.2s						
YUK				pmax	pmax		
	comp=E,76nm,0.1s						
YUK				smax	smax		
	comp=E,2μm,0.6s						
YUK				smax	smax		
	comp=N,908nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.18**	**146**	*i* P	**Pn**	**12 38 21.3**	**+0.2**
YUK				AMB	AMB	12 38 23.4	
	comp=N,170nm,0.2s						
YUK				*i* S	**Sn**	**12 38 39.0**	**+0.2**
YUK				A	A	12 38 40.1	
	comp=N,2μm,0.7s						
YUK				A	A	12 38 40.1	
	comp=N,2μm,0.7s						
JRA	**Rausu**	**0.50**	**241**	*e*P	**Pn**	**12 38 22.3**	**+0.3**
JNSB	**Nemuroshibetsu**	**0.66**	**232**	*e*P	**Pn**	**12 38 23.4**	**+0.6**
NMR	**Nemuro--Hokkai**	**0.81**	**180**	⇑*i*PN	**Pn**	**12 38 23.7**	**0.0**
NMR				*i* S	**Sn**	**12 38 42.5**	**-1.0**
NMR	**Nemuro--Hokkai**	**0.81**	**180**	*i* P	**Pn**	**12 38 23.7**	**0.0**
NMR				*i* S	**Sn**	**12 38 42.8**	**-0.7**
NEM2	**Nemuro 2**	**0.82**	**179**	*e*P	**Pn**	**12 38 23.7**	**0.0**
NEM2				*e*S	**Sn**	**12 38 42.3**	**-1.2**
SHO	**Shikotan**	**0.86**	**111**	⇓*i*PN	**Pn**	**12 38 23.6**	**-0.4**
SHO				*i* S	**Sn**	**12 38 42.4**	**-1.6**
SHO				pmax	pmax		
	comp=N,69nm,0.2s						
SHO				pmax	pmax		
	comp=Z,220nm,0.2s						
SHO				smax	smax		
	comp=N,350nm,0.2s						
SHO				smax	smax		
	comp=E,643nm,0.2s						
SHO	**Shikotan**	**0.86**	**111**	*i* P	**Pn**	**12 38 23.5**	**-0.4**
SHO				AMB	AMB	12 38 23.8	
	comp=E,100nm,0.2s						
SHO				*i* S	**Sn**	**12 38 42.9**	**-1.1**
SHO				A	A	12 38 43.4	
	comp=E,350nm,0.2s						
SHO				A	A	12 38 43.4	
	comp=E,640nm,0.2s						
JNK	**Nakash**	**0.94**	**231**	*e*P	**Pn**	**12 38 25.1**	**+0.5**
JNK				*e*S	**Sn**	**12 38 45.5**	**+0.4**
JKHN	**Kushirohamanak**	**1.17**	**200**	P	**Pn**	**12 38 26.6**	**+0.2**
JKHN				S	**Sn**	**12 38 47.8**	**-0.5**
JTKR	**Abashiri--Toko**	**1.32**	**261**	*e*P	**Pn**	**12 38 28.1**	**+0.4**
JTKR				*e*S	**Sn**	**12 38 50.6**	**0.0**
AKK	**Akkeshi**	**1.33**	**209**	*e*P	**Pn**	**12 38 27.8**	**0.0**
JAK	**Akkeshi**	**1.40**	**212**	*i* P	**Pn**	**12 38 28.7**	**+0.3**
JAK				*e*S	**Sn**	**12 38 51.4**	**-0.6**
JAR	**Ashorobuto**	**1.67**	**239**	*e*P	**Pn**	**12 38 31.9**	**+0.8**
JAR				*e*S	**Sn**	**12 38 58.5**	**+1.9**
JMP	**Maruseppu**	**1.71**	**265**	*i* P	**Pn**	**12 38 31.8**	**+0.3**
KUR	**Kuril'sk**	**1.85**	**55**	*e*PN	**Pn**	**12 38 32.9**	**0.0**
KUR				*e*S	**Sn**	**12 39 03.0**	**+2.9**
KUR				pmax	pmax		
	comp=Z,43nm,0.7s						
KUR				smax	smax		
	comp=N,59nm,0.2s						
KUR				smax	smax		
	comp=E,31nm,0.2s						
KUR	**Kuril'sk**	**1.85**	**55**	*e*P	**Pn**	**12 38 32.9**	**0.0**
KUR				AMB	AMB	12 38 33.7	
	comp=E,40nm,0.3s						
KUR				*e*S	**Sn**	**12 38 59.2**	**-0.9**
KUR				A	A	12 39 15.1	
	comp=E,60nm,0.2s						
KUR				A	A	12 39 15.1	
	comp=E,50nm,0.2s						
JOB	**Onbets**	**1.88**	**228**	*i* P	**Pn**	**12 38 33.9**	**+0.7**
JOB				S	**Sn**	**12 39 00.3**	**-0.1**
JKK2	**Kamakawa 2**	**2.17**	**263**	P	**Pn**	**12 38 36.9**	**+0.5**
JKA	**Kamikawa-asahi**	**2.25**	**269**	*e*P	**Pn**	**12 38 37.9**	**+0.6**
ASAJ	**Asahikawa**	**2.25**	**269**	*i* P	**Pn**	**12 38 38.1**	**+0.8**
ASAJ	**Asahikawa**	**2.25**	**269**	P	**Pn**	**12 38 37.9**	**+0.5**
	comp=E,58nm,0.5s,baz=85,slow=9.2,SNR=115						
ASAJ				S	**Sn**	**12 39 08.3**	**+0.4**
	comp=E,14nm,0.6s,baz=195,slow=32,SNR=2.0						
JCH	**Churui**	**2.33**	**228**	*i* P	**Pn**	**

comp=Z,0.5nm,0.8s,baz=270,slow=3.0,SNR=5.2
comp=Z,0.5nm,0.8s

---

*IDC **13** 12:56:19.1±2.9, 17°.02S×179°.10W, h592km±18km, mb3.1/3, mbtmp4.1/5, Error ellipse: s-maj=124.9km s-min=28.6km az=145.0*
ISC 13 12:56:19.1±3.5,**17°.2S**±1°.0×**179°.1W**±0°.7,**h600**km,**n6**, σ0s**80/8**,**mb3.5**/3,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 61nm,0.6s,baz=118,slow=3.9,SNR=51	**2.80**	**260**	P	**P**	**12 57 36.6**	**-0.5**
DZM	**Mont Dzumac** 4.3nm,0.8s,baz=181,slow=23,SNR=1.1	**14.47**	**248**	P	**P**	**12 59 21.8**	**-0.7**
WRA	**Warramunga Arr** 0.7nm,0.4s,baz=91,slow=7.8,SNR=34	**44.14**	**259**	P	**P**	**13 03 36.9**	**+0.7**
WRA	0.2nm,0.4s,baz=92,slow=3.5,SNR=2.2 0.7nm,0.4s			PcP	**PcP**	**13 05 07.6**	**-0.1**
ASAR	**Alice Springs** 5.0nm,0.6s,baz=87,slow=8.9,SNR=158	**44.37**	**254**	P	**P**	**13 03 38.8**	**+0.9**
ASAR	0.4nm,0.7s,baz=100,slow=3.8,SNR=5.1 5.0nm,0.6s			PcP	**PcP**	**13 05 08.3**	**-0.2**
ILAR	**Eielson Array** 0.9nm,1.2s,baz=223,slow=5.0,SNR=5.4 0.9nm,1.2s	**85.39**	**13**	P	**P**	**13 07 53.2**	**-0.4**
BRTR	**Keskin Array B** 0.4nm,0.3s,baz=51,slow=2.6,SNR=2.0	**143.87**	**315**	PKP	**PKPdf**	**13 14 48.4**	**+1.0**

---

*SOME **13** 13:11:32.6, 42°.18N×83°.28E, h10km*
*NNC **13** 13:11:35.5±1.3, 42°.28N×83°.27E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=10.3km s-min=5.6km az=145.0*
ISC 13 13:11:38.6±2.6,**42°.3N**±0°.1×**83°.1E**±0°.1,**h10**km,**n37**, σ2s**25**/42,**5C-6D**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen** 11nm,0.3s	**2.28**	**300**	*e*Pg	**Pb**	**13 12 18.6**	**-1.4**
KTMS	34nm,0.2s			*e*Lg	Lg	13 12 51.3	
SHLS	**Shalkode** 15nm,0.3s	**2.77**	**289**	Pg	**Pn**	**13 12 24.4**	**+1.1**
SHLS	71nm,0.4s			Lg	Lg	13 13 01.5	
SHLS	**Shalkode** 15nm,0.3s	**2.77**	**289**	*e*Pg	**Pn**	**13 12 24.4**	**+1.1**
SHLS	71nm,0.4s			*e*Lg	Lg	13 13 01.5	
PDGK	**Podgornoye** 3.9nm,0.4s	**2.81**	**292**	Pg	**Pb**	**13 12 29.7**	**+0.7**
PDGK	26nm,0.5s			Lg	Lg	13 13 10.5	
PDGK	**Podgornoye** 3.9nm,0.3s	**2.81**	**292**	⇓Pn	**Pn**	**13 12 25.1**	**+1.3**
PDGK	24nm,0.4s			⇑Lg	Lg	13 13 10.1	
UZB	**Uzynbulak** 3.2nm,0.5s	**3.08**	**287**	Pg	**Pb**	**13 12 33.7**	**+0.1**
UZB	29nm,0.7s			Lg	Lg	13 13 17.4	
UZB	**Uzynbulak** 3.2nm,0.5s	**3.08**	**287**	*e*Pg	**Pb**	**13 12 33.7**	**+0.1**
UZB	29nm,0.7s			*e*Lg	Lg	13 13 17.4	
DJR	**Jarkent** 12nm,0.5s	**3.12**	**311**	Pg	**Pb**	**13 12 35.2**	**+1.0**
DJR	18nm,0.6s			Lg	Lg	13 13 20.3	
DJR	**Jarkent** 12nm,0.5s	**3.12**	**311**	*e*Pg	**Pb**	**13 12 35.2**	**+1.0**
DJR	18nm,0.6s			*e*Lg	Lg	13 13 20.3	
KPKS	**Kokpek** 5.2nm,0.4s	**3.41**	**291**	Pg	**Pb**	**13 12 39.7**	**+0.5**
KPKS	29nm,0.6s			Lg	Lg	13 13 27.7	
KPKS	**Kokpek** 5.2nm,0.4s	**3.41**	**291**	*e*Pg	**Pb**	**13 12 39.7**	**+0.5**
KPKS	29nm,0.6s			*e*Lg	Lg	13 13 27.7	
KNOS	**Konyrlen** 8.3nm,0.5s	**3.48**	**307**	Pg	**Pb**	**13 12 41.7**	**+1.2**
KNOS	10nm,0.6s			Lg	Lg	13 13 31.9	
SATY	**Saty** 5.5nm,0.4s	**3.50**	**284**	Pg	**Pb**	**13 12 41.7**	**+0.9**
SATY	26nm,0.4s			Lg	Lg	13 13 31.2	
SATY	**Saty** 5.5nm,0.4s	**3.50**	**284**	*e*Pg	**Pb**	**13 12 41.7**	**+0.9**
SATY	26nm,0.4s			*e*Lg	Lg	13 13 31.2	
KURS	**Kuram** 2.1nm,0.5s	**3.77**	**290**	Pg	**Pb**	**13 12 47.8**	**+2.4**
KURS	9.4nm,0.5s			Lg	Lg	13 13 41.5	
KURS	**Kuram** 2.1nm,0.5s	**3.77**	**290**	*e*Pg	**Pb**	**13 12 47.8**	**+2.4**
KURS	9.4nm,0.5s			*e*Lg	Lg	13 13 41.5	
BLB	**Baldybastay** 8.0nm,0.3s	**3.79**	**299**	Pg	**Pb**	**13 12 47.3**	**+1.7**
BLB	6.3nm,0.3s			Lg	Lg	13 13 41.1	
ARXS	**Arharly** 3.8nm,0.6s	**4.26**	**298**	Pg	**Pb**	**13 12 55.0**	**+1.3**
ARXS	11nm,0.4s			Lg	Lg	13 13 54.7	
ARXS	**Arharly** 3.8nm,0.6s	**4.26**	**298**	*e*Pg	**Pb**	**13 12 55.0**	**+1.3**
ARXS	11nm,0.4s			*e*Lg	Lg	13 13 54.7	
KOTS	**Kotyrbulak** 4.4nm,0.6s	**4.47**	**284**	Pg	**Pb**	**13 13 00.1**	**+2.9**
KOTS	24nm,0.5s			Lg	Lg	13 14 02.8	
KOTS	**Kotyrbulak** 4.4nm,0.6s	**4.47**	**284**	*e*P	**Pb**	**13 13 00.1**	**+2.9**
KOTS	24nm,0.5s			*e*S	**Sg**	**13 14 02.8**	**+0.7**
MK31	**Makanchi Array** 0.3nm,0.3s,baz=165,slow=13,SNR=28	**4.50**	**353**	⇓Pn	**Pn**	**13 12 46.3**	**-0.7**
MK31	4.9nm,0.6s,baz=170,slow=15,SNR=24			Pg	**Pb**	**13 12 59.5**	**+1.7**
MK31	2.6nm,0.5s			⇓Sn	**Sn**	**13 13 38.7**	**-0.7**
MK31	8.0nm,0.6s,baz=166,slow=26,SNR=4.1			⇓Lg	Lg	13 14 00.7	
MAKZ	**Makanchi** 1.0nm,0.7s	**4.55**	**351**	⇑Pn	**Pn**	**13 12 47.3**	**-0.3**
MAKZ	3.3nm,0.8s			⇓Pg	**Pb**	**13 13 00.4**	**+1.8**
MAKZ	1.5nm,0.4s			⇓Sn	**Sn**	**13 13 43.5**	**+3.0**
MAKZ	5.1nm,0.6s			⇑Lg	Lg	13 14 02.1	
TNSS	**Tian-Shan** 2.9nm,0.4s	**4.56**	**281**	Pg	**Pb**	**13 13 00.3**	**+1.3**
TNSS	2.1nm,0.6s			Lg	Lg	13 14 03.0	
TNSS	**Tian-Shan** 2.9nm,0.4s	**4.56**	**281**	*e*Pg	**Pb**	**13 13 00.3**	**+1.3**
TNSS	2.1nm,0.6s			*e*Lg	Lg	13 14 03.0	
CHKK	**Chushkaly** 1.0nm,0.3s	**4.70**	**291**	Pg	**Pb**	**13 13 03.9**	**+2.8**
CHKK	4.3nm,0.4s			Lg	Lg	13 14 10.0	
CHKK	**Chushkaly** 1.0nm,0.3s	**4.70**	**291**	*e*Pg	**Pb**	**13 13 03.9**	**+2.8**
CHKK	4.3nm,0.4s			*e*Lg	Lg	13 14 10.0	
KTBS	**Karatobe** 2.5nm,0.4s	**4.88**	**289**	Pg	**Pb**	**13 13 08.0**	**+3.9**
KTBS	8.5nm,0.7s			Lg	Lg	13 14 16.3	
KTBS	**Karatobe** 2.5nm,0.4s	**4.88**	**289**	*e*Pg	**Pb**	**13 13 08.0**	**+3.9**
KTBS	8.5nm,0.7s			*e*Lg	Lg	13 14 16.3	
KST	**Kastek** 2.1nm,0.5s	**5.28**	**280**	Pg	**Pg**	**13 13 15.5**	**-4.2**
KST	6.6nm,0.7s			Lg	Lg	13 14 29.1	
KST	**Kastek** 2.1nm,0.5s	**5.28**	**280**	*e*Pg	**Pg**	**13 13 15.5**	**-4.2**
KST	6.6nm,0.7s			*e*Lg	Lg	13 14 29.1	
ZSN	**Zaisan** 3.8nm,0.4s	**5.29**	**13**	*e*Pg	**Pb**	**13 13 12.5**	**+1.4**
ZSN	12nm,0.8s			*e*Lg	Lg	13 14 23.8	
DGS	**Degeres** 2.6nm,0.5s	**5.44**	**282**	Pg	**Pb**	**13 13 16.4**	**+2.7**
DGS	7.2nm,0.8s			Lg	Lg	13 14 30.9	
DGS	**Degeres** 2.6nm,0.5s	**5.44**	**282**	*e*Pg	**Pb**	**13 13 16.4**	**+2.7**
DGS	7.2nm,0.8s			*e*Lg	Lg	13 14 30.9	
TKM2	**Tokmak 2** 1.5nm,0.7s	**5.54**	**279**	⇑Pn	**Pn**	**13 13 01.3**	**0.0**
TKM2	3.5nm,0.6s			⇑Lg	Lg	13 14 38.9	
KRBS	**Karabastau** 2.5nm,0.7s	**5.58**	**287**	Pg	**Pb**	**13 13 20.3**	**+4.1**
KRBS	1.8nm,0.5s			Lg	Lg	13 14 37.2	
KRBS	**Karabastau** 2.5nm,0.7s	**5.58**	**287**	*e*Pg	**Pb**	**13 13 20.3**	**+4.1**
KRBS	1.8nm,0.5s			*e*Lg	Lg	13 14 37.2	

---

*SOME **13** 13:29:00.9, 42°.10N×78°.83E, h15km*
*KRNET **13** 13:29:00.9±0.1, 42°.11N×78°.82E, h16km, mb3.0*
*NNC **13** 13:29:01.5±0.9, 42°.16N×78°.84E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=5.9km s-min=3.0km az=158.0*
ISC 13 13:29:02.2±1.2,**42°.14N**±0°.04×**78°.73E**±0°.03,**h13**km±9km, **n64**,σ1s**55**/104,**22C-11D**,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk** baz=22	**0.42**	**325**	⇓*i*P	**Pg**	**13 29 10.6**	**0.0**
PRZ	baz=22			⇓*i*S	**Sb**	**13 29 17.7**	**-0.3**
TARG	**Taragay, Kyrgy** baz=44	**0.80**	**240**	⇑*i*P	**Pg**	**13 29 16.8**	**-0.9**
TARG	baz=44			⇑*i*S	**Sb**	**13 29 28.7**	**-0.4**
SATY	**Saty** 6.9nm,0.5s	**0.95**	**346**	P	**Pb**	**13 29 19.6**	**-1.0**
SATY	12nm,0.3s			S	**Sb**	**13 29 32.9**	**-0.3**
SATY	**Saty** baz=42	**0.95**	**346**	*e*P	**Pb**	**13 29 19.6**	**-1.0**
SATY	baz=42			*e*S	**Sb**	**13 29 32.9**	**-0.3**
SATY	**Saty** 6.9nm,0.5s	**0.95**	**346**	*e*P	**Pb**	**13 29 19.6**	**-1.0**
SATY	12nm,0.3s			*e*S	**Sb**	**13 29 32.9**	**-0.3**
ANVS	**Anan'yevo** baz=9.0	**1.01**	**310**	⇑*i*P	**Pn**	**13 29 21.6**	**-0.8**
ANVS	baz=9.0			⇑*i*S	**Sn**	**13 29 36.7**	**+0.1**
UZB	**Uzynbulak** 4.5nm,0.4s	**1.03**	**12**	P	**Pb**	**13 29 20.4**	**-1.7**
UZB	68nm,0.3s			S	**Sb**	**13 29 34.3**	**-1.3**
UZB	**Uzynbulak** 4.5nm,0.4s	**1.03**	**12**	*e*P	**Pb**	**13 29 20.4**	**-1.7**
UZB	68nm,0.3s			*e*S	**Sb**	**13 29 34.2**	**-1.3**
ZHN	**Zhinishke** 12nm,0.1s	**1.05**	**348**	P	**Pg**	**13 29 21.9**	**-0.6**
ZHN	84nm,0.2s			S	**Sn**	**13 29 37.0**	**-0.4**
ZHN	**Zhinishke** baz=45	**1.05**	**348**	*e*P	**Pg**	**13 29 21.9**	**-0.6**
ZHN	baz=45			*e*S	**Sn**	**13 29 37.0**	**-0.4**
ZHN	**Zhinishke** 12nm,0.1s	**1.05**	**348**	*e*P	**Pg**	**13 29 21.9**	**-0.6**
ZHN	84nm,0.2s			*e*S	**Sn**	**13 29 37.0**	**-0.4**
SHLS	**Shalkode** 11nm,0.2s	**1.15**	**28**	P	**Pg**	**13 29 25.7**	**+1.2**
SHLS	34nm,0.4s			S	**Sg**	**13 29 43.3**	**+3.8**
SHLS	**Shalkode** baz=37	**1.15**	**28**	*e*P	**Pg**	**13 29 25.7**	**+1.2**
SHLS	baz=37			*e*S	**Sg**	**13 29 43.3**	**+3.8**
SHLS	**Shalkode** 11nm,0.2s	**1.15**	**28**	*e*P	**Pg**	**13 29 25.7**	**+1.2**
SHLS	34nm,0.4s			*e*S	**Sg**	**13 29 43.3**	**+3.8**
PDGK	**Podgornoye** 1.1nm,0.4s	**1.32**	**25**	P	**Pb**	**13 29 25.2**	**-1.6**
PDGK	24nm,0.4s			S	**Sn**	**13 29 42.6**	**-1.4**
PDGK	**Podgornoye** 3.0nm,0.3s	**1.32**	**25**	⇑P	**Pb**	**13 29 25.2**	**-1.6**
PDGK	25nm,0.4s			⇑S	**Sn**	**13 29 42.2**	**-1.8**
KPKS	**Kokpek** 6.4nm,0.3s	**1.33**	**359**	P	**Pb**	**13 29 26.1**	**-0.9**
KPKS	57nm,0.5s			S	**Sg**	**13 29 44.2**	**-0.8**
KPKS	**Kokpek** baz=56	**1.33**	**359**	*e*P	**Pb**	**13 29 26.1**	**-0.9**
KPKS	baz=56			*e*S	**Sg**	**13 29 44.2**	**-0.8**
KPKS	**Kokpek** 6.4nm,0.3s	**1.33**	**359**	*e*P	**Pb**	**13 29 26.1**	**-0.9**
KPKS	57nm,0.5s			*e*S	**Sg**	**13 29 44.2**	**-0.8**
KURS	**Kuram** 3.2nm,0.5s	**1.41**	**343**	P	**Pg**	**13 29 28.7**	**-0.6**
KURS	5.3nm,0.2s			S	**Sg**	**13 29 48.2**	**+0.6**
KURS	**Kuram** baz=41	**1.41**	**343**	*e*P	**Pb**	**13 29 28.2**	**-0.3**
KURS	baz=41			*e*S	**Sg**	**13 29 47.9**	**+0.3**
KURS	**Kuram** 3.2nm,0.5s	**1.41**	**343**	*e*P	**Pb**	**13 29 28.1**	**-0.3**
KURS	5.3nm,0.2s			*e*S	**Sg**	**13 29 47.9**	**+0.3**
TNSS	**Tian-Shan** 5.5nm,0.2s	**1.59**	**305**	P	**Pg**	**13 29 32.2**	**-0.6**
TNSS	7.5nm,0.2s			S	**Sg**	**13 29 54.6**	**+1.1**
TNSS	**Tian-Shan** 5.5nm,0.2s	**1.59**	**305**	*e*P	**Pg**	**13 29 32.2**	**-0.6**
TNSS	7.5nm,0.2s			*e*S	**Sg**	**13 29 54.6**	**+1.1**
KOTS	**Kotyrbulak** 8.7nm,0.3s	**1.62**	**313**	P	**Pb**	**13 29 32.4**	**+0.4**
KOTS	37nm,0.2s			S	**Sg**	**13 29 54.7**	**+0.4**
KOTS	**Kotyrbulak** baz=12	**1.62**	**313**	*e*P	**Pb**	**13 29 32.4**	**+0.4**
KOTS	baz=12			*e*S	**Sg**	**13 29 54.6**	**+0.4**
KOTS	**Kotyrbulak** 8.7nm,0.3s	**1.62**	**313**	*e*P	**Pb**	**13 29 32.4**	**+0.4**
KOTS	37nm,0.2s			*e*S	**Sg**	**13 29 54.7**	**+0.4**
KTMS	**Ketmen** 4.2nm,0.1s	**1.77**	**42**	*e*P	**Pg**	**13 29 33.8**	**-2.4**
KTMS	11nm,0.1s			*e*S	**Sg**	**13 29 57.1**	**-2.2**
IZV	**Izvestkoviy** baz=0.0	**1.80**	**301**	*e*P	**Pb**	**13 29 35.5**	**+0.4**
IZV	baz=0.0			*e*S	**Sg**	**13 30 00.5**	**+0.4**
IZV	**Izvestkoviy** 2.6nm,0.1s	**1.80**	**301**	*e*P	**Pb**	**13 29 35.5**	**+0.4**
IZV	27nm,0.2s			*e*S	**Sg**	**13 30 00.5**	**+0.4**
ULHL	**Ulahol** baz=75	**1.85**	**274**	⇑*i*P	**Pb**	**13 29 36.2**	**+0.2**
ULHL	baz=75			⇑*i*S	**Sg**	**13 30 02.2**	**+0.5**
MTBS	**Maitube** 5.0nm,0.4s	**1.96**	**301**	Pg	**Pb**	**13 29 38.6**	**+0.7**
MTBS	29nm,0.2s			Lg	Lg	13 30 05.2	
MTBS	**Maitube** 5.0nm,0.4s	**1.96**	**301**	*e*Pg	**Pb**	**13 29 38.6**	**+0.7**
MTBS	29nm,0.2s			*e*Lg	Lg	13 30 05.2	
BLB	**Baldybastay** 71nm,0.4s	**1.97**	**355**	Pg	**Pb**	**13 29 38.1**	**+0.1**
BLB	27nm,0.2s			Lg	Lg	13 30 04.3	
BOOM	**Boomskoye usch** baz=81	**2.10**	**281**	⇑*i*P	**Pb**	**13 29 39.6**	**-0.6**
BOOM	baz=81			⇑*i*S	**Sb**	**13 30 08.1**	**+1.9**
CHKK	**Chushkaly** 48nm,0.5s	**2.14**	**324**	Pg	**Pg**	**13 29 41.7**	**-1.4**
CHKK	75nm,0.3s			Lg	Lg	13 30 10.2	
CHKK	**Chushkaly** 48nm,0.5s	**2.14**	**324**	*e*Pg	**Pg**	**13 29 41.7**	**-1.4**
CHKK	75nm,0.3s			*e*Lg	Lg	13 30 10.2	
NRN	**Naryn** baz=53	**2.16**	**252**	⇑*e*P	**Pb**	**13 29 40.5**	**-0.8**
NRN	baz=53			⇑*i*S	**Sb**	**13 30 10.0**	**+1.9**
KTBS	**Karatobe** 37nm,0.3s	**2.17**	**317**	Pg	**Pg**	**13 29 42.6**	**-1.2**
KTBS	67nm,0.3s			Lg	Lg	13 30 12.1	
KTBS	**Karatobe** 37nm,0.3s	**2.17**	**317**	*e*Pg	**Pg**	**13 29 42.6**	**-1.2**
KTBS	67nm,0.3s			*e*Lg	Lg	13 30 12.1	
ARXS	**Arharly** 29nm,0.6s	**2.18**	**343**	Pg	**Pb**	**13 29 41.9**	**+0.4**
ARXS	17nm,0.4s			Lg	Lg	13 30 11.0	
ARXS	**Arharly** 29nm,0.6s	**2.18**	**343**	*e*Pg	**Pb**	**13 29 41.9**	**+0.4**
ARXS	17nm,0.4s			*e*Lg	Lg	13 30 11.0	
KST	**Kastek** 8.8nm,0.4s	**2.23**	**295**	Pg	**Pb**	**13 29 43.4**	**+1.0**
KST	50nm,0.5s			Lg	Lg	13 30 13.5	
KST	**Kastek** 8.8nm,0.4s	**2.23**	**295**	*e*Pg	**Pb**	**13 29 43.4**	**+1.0**
KST	50nm,0.5s			*e*Lg	Lg	13 30 13.5	
KNOS	**Konyrlen** 11nm,0.5s	**2.25**	**8**	Pg	**Pb**	**13 29 42.4**	**-0.3**
KNOS	27nm,0.4s			Lg	Lg	13 30 12.3	
DJR	**Jarkent** 4.3nm,0.3s	**2.33**	**19**	Pg	**Pb**	**13 29 43.3**	**-0.7**
DJR	63nm,0.4s			Lg	Lg	13 30 13.8	
DJR	**Jarkent** 4.3nm,0.3s	**2.33**	**19**	*e*Pg	**Pb**	**13 29 43.3**	**-0.7**
DJR	63nm,0.4s			*e*Lg	Lg	13 30 13.8	
DGS	**Degeres** 6.6nm,0.4s	**2.44**	**298**	Pg	**Pb**	**13 29 46.8**	**+0.8**
DGS	24nm,0.4s			Lg	Lg	13 30 19.3	
DGS	**Degeres** 6.6nm,0.4s	**2.44**	**298**	*e*Pg	**Pb**	**13 29 46.8**	**+0.8**
DGS	24nm,0.4s			*e*Lg	Lg	13 30 19.3	
TKM2	**Tokmak 2** 1.5nm,0.3s	**2.44**	**290**	⇑Pg	**Pb**	**13 29 47.0**	**+0.9**
TKM2	18nm,0.5s			⇓Lg	Lg	13 30 20.2	
TKM2	**Tokmak 2** baz=90	**2.44**	**290**	⇓*i*P	**Pb**	**13 29 44.6**	**-1.5**
TKM2	baz=90			⇓*i*S	**Sb**	**13 30 16.7**	**+0.5**
KUU	**Kurty** 9.2nm,0.3s	**2.48**	**316**	Pg	**Pb**	**13 29 47.3**	**+0.7**
KUU	36nm,0.3s			Lg	Lg	13 30 20.1	
KUU	**Kurty** 9.2nm,0.3s	**2.48**	**316**	*e*Pg	**Pb**	**13 29 47.3**	**+0.7**
KUU	36nm,0.3s			*e*Lg	Lg	13 30 20.1	
KRBS	**Karabastau** 12nm,0.4s	**2.73**	**306**	Pg	**Pb**	**13 29 51.3**	**+0.3**
KRBS	57nm,0.4s			Lg	Lg	13 30 27.2	
KRBS	**Karabastau** 12nm,0.4s	**2.73**	**306**	*e*Pg	**Pb**	**13 29 51.2**	**+0.3**
KRBS	57nm,0.4s			*e*Lg	Lg	13 30 27.2	
KBK	**Karagaybulak** baz=82	**2.85**	**282**	⇑*i*P	**Pb**	**13 29 50.1**	**-2.9**
KBK	baz=82			⇑*i*S	**Sb**	**13 30 26.3**	**-1.5**
CHMS	**Chumysh** baz=88	**3.06**	**288**	⇑*i*P	**Pb**	**13 29 53.0**	**-3.5**
CHMS	baz=88			⇑*i*S	**Sb**	**13 30 31.2**	**-2.6**
AAK	**Ala-Archa** baz=81	**3.17**	**280**	⇓*e*P	**Pn**	**13 29 54.7**	**+2.7**
AAK	baz=81			⇓*i*S	**Sb**	**13 30 33.9**	**-3.3**
USP	**Ospenovka** baz=91	**3.31**	**291**	⇓*e*P	**Pn**	**13 29 56.5**	**+2.7**
USP	baz=91			⇓*i*S	**Sn**	**13 30 37.2**	**+4.1**
AML	**Almayashu** 1.0nm,1.0s	**3.74**	**272**	⇓Pg	**Pg**	**13 30 11.1**	**-2.8**
AML	0.7nm,0.5s			⇑Lg	Lg	13 31 01.5	
BTLS	**Baital** 1.5nm,0.6s	**4.47**	**312**	Pg	**Pg**	**13 30 25.0**	**-2.8**
BTLS	2.8nm,0.5s			Lg	Lg	13 31 25.1	
BTLS	**Baital** 1.5nm,0.6s	**4.47**	**312**	*e*Pg	**Pg**	**13 30 25.0**	**-2.8**
BTLS	2.8nm,0.5s			*e*Lg	Lg	13 31 25.1	
MAKZ	**Makanchi** 3.4nm,1.1s	**5.22**	**25**	⇑Pn	**Pn**	**13 30 19.6**	**-0.3**
MAKZ	0.6nm,0.4s			⇑Sn	**Sn**	**13 31 23.4**	**+3.4**
MAKZ	0.8nm,0.5s			⇑Lg	Lg	13 31 45.4	
MK31	**Makanchi Array** 0.4nm,0.3s,baz=199,slow=15,SNR=5.4	**5.31**	**28**	Pn	**Pn**	**13 30 22.1**	**+1.0**
MK31	2.6nm,0.8s,baz=201,slow=15,SNR=3.7			⇑Sn	**Sn**	**13 31 25.3**	**+3.1**
MK31	1.0nm,0.6s,baz=202,slow=28			⇓Lg	Lg	13 31 46.8	

---

*NEIC **13** 13:42:07.8±1.1, 19°.35N±0°.03×155°.05W±0°.03, h10km±3km, Error ellipse: s-maj=5.4km s-min=1.8km az=128.0*
HVO 13 13:42:07.4±1.0,**19°.33N**±0°.02×**155°.04W**±0°.03,**h6**km±5km, **ML2.5**/28,**ML2.5**/50(NEIC),**Error ellipse: s-maj=4.9km s-min=1.7km az=125.0**,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.08**	**310**		Pg	13 42 09.8	+0.5
JCUZ	**Jacuzzi** comp=E,2μm,0.2s	**0.08**	**310**	IAML		13 42 11.5	
JCUZ	comp=N,2μm,0.1s			IAML		13 42 11.9	
NPOC	**North of Pu'u**	**0.09**	**311**	Pg	Pg	13 42 10.0	+0.4
NPOC	comp=N,3μm,0.5s			IAML		13 42 11.8	
NPOC	comp=E,2μm,0.2s			IAML		13 42 11.9	
STCH	**Steam Cracks**	**0.10**	**302**		Pg	13 42 10.1	+0.4
STCH	**Steam Cracks** comp=E,2μm,0.2s	**0.10**	**302**	IAML		13 42 11.9	
STCH	comp=N,2μm,0.4s			IAML		13 42 12.1	
KNHH	**Kane Nui o Ham**	**0.14**	**291**		Pg	13 42 10.7	+0.4
PUH	**Pauahi**	**0.18**	**284**		Pg	13 42 11.4	+0.3
PUH					Sg	13 42 14.0	+0.6
PUH	**Pauahi** comp=N,426nm,0.7s	**0.18**	**284**	IAML		13 42 14.4	
PUH	comp=E,460nm,0.2s			IAML		13 42 16.1	
BYL	**Byron's Ledge**	**0.23**	**291**		Pg	13 42 12.1	+0.1
BYL					Sg	13 42 15.5	+0.5
KKO	**Keanakako`i**	**0.23**	**287**		Pg	13 42 12.2	+0.2
KKO	**Keanakako`i**	**0.23**	**287**	IAML		13 42 18.8	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,496nm,1.0s						
KKO				IAML		13 42 19.7	
	comp=N,664nm,1.4s						
HATHI	**Halema'uma'u T**	**0.23 293**			Pg	13 42 12.1	+0.1
HATHI	**Halema'uma'u T**	**0.23 293**		IAML		13 42 17.5	
	comp=E,509nm,0.3s						
HATHI				IAML		13 42 18.4	
	comp=N,804nm,0.4s						
RIM	**Rim**	**0.23 286**			Pg	13 42 12.3	+0.2
RIM	**Rim**	**0.23 286**		IAML		13 42 16.0	
	comp=N,572nm,0.7s						
RIM				IAML		13 42 17.4	
	comp=E,473nm,0.4s						
SBLHI	**Steaming Bluff**	**0.24 293**			Pg	13 42 12.2	0.0
SBLHI					Sg	13 42 16.1	+0.7
SBLHI	**Steaming Bluff**	**0.24 293**		IAML		13 42 17.6	
	comp=N,420nm,0.3s						
SBLHI				IAML		13 42 18.2	
	comp=E,411nm,0.3s						
NPH	**North Pit**	**0.25 289**	Pg		Pg	13 42 11.8	-0.5
UWB	**Uwekahuna B**	**0.25 292**			Pg	13 42 12.3	0.0
UWB	**Uwekahuna B**	**0.25 292**			Sg	13 42 17.2	+1.6
OBL	**Observatory Le**	**0.25 290**	Pg		Pg	13 42 11.8	-0.5
OBL				IAML		13 42 18.4	
	comp=N,1μm,0.6s						
OBL				IAML		13 42 20.5	
	comp=E,869nm,0.5s						
SDHHI	**Sand Hill**	**0.25 283**			Pg	13 42 12.5	+0.1
SDHHI					Sg	13 42 14.8	-1.0
SDHHI	**Sand Hill**	**0.25 283**		IAML		13 42 20.1	
	comp=N,576nm,0.5s						
SDHHI				IAML		13 42 21.6	
	comp=E,618nm,0.2s						
UWE	**Uwekahuna**	**0.26 290**	Pg		Pg	13 42 13.1	+0.5
UWE				IAML		13 42 21.4	
	comp=N,852nm,0.5s						
UWE				IAML		13 42 21.5	
	comp=E,1μm,0.4s						
HLP	**Hilina Pali**	**0.26 262**			Pg	13 42 13.1	+0.5
HLP					Sg	13 42 17.5	+1.5
HLP	**Hilina Pali**	**0.26 262**		IAML		13 42 18.8	
	comp=N,2μm,0.1s						
HLP				IAML		13 42 19.0	
	comp=E,1μm,0.2s						
WRMHI	**West Rim**	**0.26 287**			Pg	13 42 13.0	+0.4
WRMHI				IAML		13 42 19.5	
	comp=E,547nm,0.3s						
WRMHI				IAML		13 42 20.1	
	comp=N,782nm,1.0s						
RSD	**Rainshed**	**0.26 300**			Pg	13 42 12.8	+0.1
RSD	**Rainshed**	**0.26 300**		IAML		13 42 18.4	
	comp=N,606nm,0.3s						
RSD				IAML		13 42 18.7	
	comp=E,556nm,0.3s						
HTC	**Hot Caves**	**0.35 255**			Pb	13 42 15.4	-0.8
MLH	**Mauna Loa**	**0.37 296**			Pg	13 42 14.9	+0.2
MLH					Sg	13 42 20.6	+1.0
MLH	**Mauna Loa**	**0.37 296**		IAML		13 42 20.9	
	comp=E,657nm,0.2s						
AIN	**Ainahou**	**0.40 276**			Pg	13 42 15.9	+0.6
AIN					Sb	13 42 22.3	-1.3
HMH	**Humu'ula Sheep**	**0.50 303**			Pg	13 42 17.3	+0.1
HMH					Sg	13 42 24.6	+0.9
MLOA	**Mauna Loa Obse**	**0.55 292**			Pg	13 42 17.9	-0.2
MLOA					Sg	13 42 25.7	+0.3
MLOA	**Mauna Loa Obse**	**0.55 292**		IAML		13 42 26.2	
	comp=E,794nm,0.3s						
MLOA				IAML		13 42 28.8	
	comp=N,382nm,0.6s						
MWH	**Moku'aweowe**	**0.55 286**			Pg	13 42 17.9	-0.3
MWH	**Moku'aweowe**	**0.55 286**		IAML		13 42 30.9	
	comp=E,391nm,0.6s						
MWH				IAML		13 42 34.3	
	comp=N,332nm,1.3s						
KHU	**Kahuku**	**0.56 261**			Pg	13 42 17.9	-0.2
KHU					Sb	13 42 26.9	-1.1
KHU	**Kahuku**	**0.56 261**		IAML		13 42 31.6	
	comp=N,364nm,3.2s						
KHU				IAML		13 42 35.1	
	comp=E,288nm,1.9s						
ALEP	**Alea Permanent**	**0.61 290**			Pg	13 42 18.5	-0.8
ALEP					Sg	13 42 27.9	+0.6
POHA	**Pohakuloa**	**0.63 312**			Pg	13 42 18.7	-1.0
HUH	**Hualalai**	**0.83 295**			Pg	13 42 23.8	+0.3
KHLU	**Kahalu`u**	**0.85 288**			Pg	13 42 21.6	-2.1
KHLU					Sb	13 42 35.8	-0.6
HPAH	**Hawaii Prepara**	**0.93 318**			Sg	13 42 36.6	-0.9
HPAH	**Hawaii Prepara**	**0.93 318**	Pg		Pg	13 42 22.7	-2.7

*TAP **13** 13:42:30.9, 23°.88N×122°.65E, h28km, ML3.3, D*
*JMA **13** 13:42:31.0±0.2, 24°.N±1°.×122°.5E±0°.8, h18km, MV2.7/13, NW OFF ISHIGAKIJIMA IS*

ISC 13 13:42:30.9±1.4, 23°.82N±0°.06×122°.54E±0°.03, h24km±13km, n27, σ1°.10/37, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.36 326**		P		**Pb**	**13 42 39.1**	**+0.6**
	baz=308						
EOS4				eS		**Sn**	**13 42 45.7**	**-0.8**
	baz=308						
EOS3	**EOS3**	**0.50 337**		P		**Pn**	**13 42 42.3**	**-0.2**
	baz=317						
EOS3				S		**Sn**	**13 42 50.2**	**-0.2**
	baz=317						
EOS2	**EOS2**	**0.66 335**		P		**Pn**	**13 42 45.1**	**+0.5**
	baz=327						
EOS2				eS		**Sn**	**13 42 55.6**	**+1.4**
	baz=327						
JYNG	**Yonagunijimaku**	**0.73 31**		eS		**Sn**	**13 42 54.5**	**-1.7**
YOJ	**Yonaguni jima**	**0.77 34**		eS		**Sn**	**13 42 55.7**	**-1.4**
YOJ	**Yonaguni jima**	**0.77 34**		eS		**Sb**	**13 42 54.1**	**-1.6**
	baz=35						
TWD	**Chiawan**	**0.90 287**		eP		**Pb**	**13 42 46.8**	**-1.0**
	baz=282						
EWUT	**Wuta**	**0.93 312**		P		**Pn**	**13 42 48.7**	**+0.2**
	baz=306						
EWUT				eS		**Sn**	**13 43 02.4**	**+1.3**
	baz=306						
ENA	**Nanau**	**0.94 310**		eP		**Pn**	**13 42 50.3**	**+1.6**
	baz=305						
ENA				eS		**Sn**	**13 43 03.6**	**+2.1**
	baz=305						
TWC	**Suao**	**1.00 322**		P		**Pn**	**13 42 49.7**	**+0.2**
	baz=310						
TWC				S		**Sn**	**13 43 03.6**	**+0.7**
	baz=310						
ETLH	**Xiulin Townshi**	**1.04 292**		eP		**Pn**	**13 42 49.2**	**-0.9**
	baz=287						
NDS	**Dongshan**	**1.10 317**		eP		**Pb**	**13 42 51.4**	**+0.1**
	baz=311						
HATJ	**Hateruma jima**	**1.19 78**		eS		**Sn**	**13 43 09.8**	**+2.5**
TWE	**Neicheng**	**1.20 319**		eP		**Pb**	**13 42 53.0**	**+0.1**
	baz=314						
ENTT	**Nioudou**	**1.20 313**		eP		**Pb**	**13 42 53.2**	**+0.2**
	baz=293						
IRIF	**Iriomote-Funau**	**1.21 65**		eP		**Pb**	**13 42 53.6**	**+0.5**
IRIF				eS		**Sb**	**13 43 09.1**	**+0.8**
YULB	**Yu-li**	**1.21 250**		eP		**Pn**	**13 42 51.5**	**-1.0**
	baz=238						
CHGB	**Renai**	**1.27 281**		eP		**Pn**	**13 42 52.7**	**-0.6**
	baz=266						
FUSB	**Fushanzhiwuyua**	**1.27 317**		eP		**Pb**	**13 42 54.0**	**-0.2**
	baz=312						
WUSB	**Renai**	**1.31 278**		eP		**Pn**	**13 42 53.5**	**-0.3**
	baz=275						
YHNB	**Yeheng**	**1.35 309**		eP		**Pn**	**13 42 55.0**	**+0.5**
	baz=304						
SXI1	**Grass Mountain**	**1.40 335**		eP		**Pb**	**13 42 55.7**	**-0.7**
	baz=344						
JKRS	**Kuro-shima**	**1.41 73**		P		**Pb**	**13 42 56.8**	**+0.3**
JKRS				eS		**Sb**	**13 43 14.7**	**+0.7**
WFSB	**Wu-fen Shan**	**1.42 331**		eP		**Pb**	**13 42 56.1**	**-0.6**
	baz=326						
WHP	**Taichung City**	**1.52 288**		eP		**Pb**	**13 42 58.7**	**+0.2**
	baz=275						
JIJ	**Ishigaki jima**	**1.56 69**		eP		**Pb**	**13 42 59.6**	**+0.4**
JIJ				eS		**Sb**	**13 43 19.7**	**+1.1**
JISG	**Ishigakijimahi**	**1.79 64**		eP		**Pb**	**13 43 01.4**	**-1.7**
JISG				S		**Sb**	**13 43 23.2**	**-1.9**

MEX 13 13:48:00.0±0.5, 16°.50N×95°.26W, h83km±7km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.62 84**		eP		Pn	13 48 06.9	-8.2
NILT				i S		Sn	13 48 17.6	-8.8
HUIG	**Huatulco**	**1.09 229**		eP		Pn	13 48 18.8	-1.6
HUIG				eS		Sn	13 48 34.0	-1.6
CARR	**Arriaga**	**1.31 101**		i S		Sn	13 48 39.4	-1.1
NEUV	**Arroyo Zacate**	**1.32 337**		eP		Pn	13 48 21.7	-1.4
NEUV				eS		Sn	13 48 38.7	-1.8
VHO	**Vista Hermosa**	**1.53 292**		eP		Pn	13 48 25.9	-0.1
VHO				eS		Sn	13 48 46.5	+0.9
PEIG	**Puerto Escondi**	**1.88 255**		eP		Pn	13 48 29.9	-0.6
PEIG				eS		Sn	13 48 54.5	+0.9
TGIG		**2.07 82**		eS		Sn	13 48 59.5	+1.5
PCIG		**2.11 112**		eP		Pn	13 48 31.8	-1.7
PCIG				i S		Sn	13 49 00.4	+1.4
YOIG	**Yosondua**	**2.22 280**		eP		Pn	13 48 37.6	+2.4
YOIG				eS		Sn	13 49 07.2	+5.1
TOIG	**Toxpalan**	**2.35 313**		eP		Pn	13 48 38.6	+1.9
TOIG				eS		Sn	13 49 09.0	+4.1
TXIG	**Tlaxiaco**	**2.52 288**		eP		Pn	13 48 42.9	+3.7
TXIG				eS		Sn	13 49 10.4	+1.2
HLIG	**Huajuapan de L**	**2.77 299**		eP		Pn	13 48 46.2	+3.6
PATR	**El Naranjo**	**3.22 115**		eS		Sn	13 49 25.0	-1.0
PAVE	**Pavencul**	**3.23 113**		eS		Sn	13 49 26.8	+0.3
CHUJ	**Union Juarez**	**3.34 114**		eS		Sn	13 49 27.7	-1.2

MEX 13 13:48:47.6±0.8, 16°.53N×95°.26W, h65km±19km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.62 87**		eP		Pn	13 48 55.2	-6.0
NILT				i S		Sn	13 49 03.9	-7.4
HUIG	**Huatulco**	**1.11 227**		eP		Pn	13 49 05.3	-2.0
HUIG				eS		Sn	13 49 20.8	-1.2
NEUV	**Arroyo Zacate**	**1.28 336**		eP		Pn	13 49 08.0	-1.6
NEUV				eS		Sn	13 49 25.3	-0.7
CARR	**Arriaga**	**1.33 102**		eP		Pn	13 49 08.5	-1.6
CARR				eS		Sn	13 49 25.7	-1.3
PANG	**Puerto Angel**	**1.45 234**		eS		Sn	13 49 30.8	+1.0
OXLC	**Oaxaca**	**1.48 291**		eS		Sn	13 49 32.0	+1.1
OXBJ	**Oaxaca**	**1.50 291**		eS		Sn	13 49 32.8	+1.4
VHO	**Vista Hermosa**	**1.51 291**		eP		Pn	13 49 11.2	-1.5
VHO				eS		Sn	13 49 32.8	+1.2
PEIG	**Puerto Escondi**	**1.89 254**		eP		Pn	13 49 16.5	-1.1
PEIG				eS		Sn	13 49 43.1	+2.6
TGIG		**2.07 83**		eP		Pn	13 49 19.9	-0.2
TGIG				eS		Sn	13 49 45.4	+0.5
PCIG		**2.13 112**		eP		Pn	13 49 19.5	-1.4
PCIG				eS		Sn	13 49 46.8	+0.5
YOIG	**Yosondua**	**2.21 279**		eP		Pn	13 49 21.3	-1.0
YOIG				eS		Sn	13 49 53.4	+4.6
TOIG	**Toxpalan**	**2.32 312**		eP		Pn	13 49 26.5	+2.9
TOIG				eS		Sn	13 49 56.5	+5.4
TXIG	**Tlaxiaco**	**2.50 287**		eP		Pn	13 49 18.1	-8.1
TXIG				eS		Sn	13 50 02.1	+6.2
TPIG	**Tehuac#an**	**2.75 313**		eP		Pn	13 49 25.6	-3.8
TPIG				eS		Sn	13 50 06.6	+5.0
HLIG	**Huajuapan de L**	**2.75 298**		eP		Pn	13 49 22.8	-6.8
HLIG				eS		Sn	13 50 07.3	+5.5
HLIG	**Huajuapan de L**	**2.75 298**		eS		Pn	13 49 22.8	-6.8
CCIG	**Comitan**	**3.01 94**		eP		Pn	13 49 30.5	-2.6
FTIG	**Fresnillo de T**	**3.06 297**		eP		Pn	13 49 33.4	-0.4
FTIG				eS		Sn	13 50 15.6	+6.2
JAUV	**Jalcomulco**	**3.18 333**		eP		Pn	13 49 36.8	+1.5
JAUV				eS		Sn	13 50 11.5	-0.5
PATR	**El Naranjo**	**3.24 115**		eP		Pn	13 49 28.0	-8.2
PATR				eS		Sn	13 50 06.6	-7.2
PAVE	**Pavencul**	**3.25 114**		eP		Pn	13 49 33.1	-3.4
PAVE				eS		Sn	13 50 06.5	-7.7
CHUJ	**Union Juarez**	**3.36 115**		eP		Pn	13 49 33.6	-4.3
CHUJ				eS		Sn	13 50 09.5	-7.2
PPM	**Popocatepetl**	**4.08 309**		eP		Pn	13 49 54.5	+6.6
PPM				eS		Sn	13 50 43.7	+9.0
CXUV	**Coxquihui**	**4.24 329**		eP		Pn	13 49 55.7	+5.9
CXUV				eS		Sn	13 50 45.2	+7.1

*IPEC **13** 13:57:21.9±0.2, 51°.54N×16°.23E, h1km, ML3.1/4, Error ellipse: s-maj=2.8km s-min=1.4km az=60.0*
*IDC **13** 13:57:22.6±0.7, 51°.50N×16°.01E, h0km, mb3.1/1, mbtmp3.4/9, ML3.1/8, Error ellipse: s-maj=11.4km s-min=7.1km az=114.0*
*DNK **13** 13:57:23.0±1.7, 51°.55N×16°.37E, h21km±63km, ML3.1*
*BGR **13** 13:57:23.2±0.4, 51°.52N×16°.15E, h1km, ML3.4/8, Error ellipse: s-maj=5.6km s-min=2.2km az=16.0*
*LDG **13** 13:57:23.2±0.2, 51°.41N×15°.98E, h1km, Ml3.5/17, Error ellipse: s-maj=4.2km s-min=2.6km az=10.0, Suspected Mining induced.*
*VIE **13** 13:57:25.5±0.6, 51°.30N×15°.95E, h0km, mb2.9/15, ml3.1/14, Error ellipse: s-maj=5.6km s-min=2.8km az=52.0 77 km WNW of Wroclaw Suspected Mining induced.*
*PRU **13** 13:57:25.1, 51°.42N×16°.09E, h0km*
*UPP **13** 13:57:26.9±3.0, 51°.85N×15°.61E, h0km, ML2.6*

ISC 13 13:57:19.8±0.6, 51°.54N±0°.03×16°.09E±0°.02, h0km, n128, σ2°.45/216, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71 169**		i Pg		**Pb**	**13 57 35.7**	**+0.7**
KSP				eSg		**Sb**	**13 57 44.6**	**-0.7**
KSP	**Ksiaz**	**0.71 169**		ePg		**Pb**	**13 57 35.7**	**+0.7**
	SNR=42						
KSP				eSg		**Sb**	**13 57 45.0**	**-0.3**
	SNR=2.0						
CHVC	**Chvalec**	**0.95 181**		ePG		**Pn**	**13 57 40.5**	**0.0**
CHVC				eSG		**Sb**	**13 57 52.8**	**+0.5**
	comp=Z,276nm,0.4s						
OSTC	**Ostas**	**0.99 175**		ePG		**Pn**	**13 57 41.2**	**+0.3**
OSTC				eSG		**Sb**	**13 57 53.6**	**+0.3**
	comp=Z,214nm,0.5s						
UPC	**Upice**	**1.03 183**		ePG		**Pn**	**13 57 41.9**	**+0.3**
UPC				eSG		**Sb**	**13 57 55.3**	**+0.6**
	comp=Z,505nm,0.7s						
DPC	**Dobruska-Polom**	**1.20 173**		ePG		**Pn**	**13 57 44.4**	**+0.5**
DPC				eSG		**Sb**	**13 58 00.0**	**+0.5**
	comp=Z,144nm,0.3s						
DPC	**Dobruska-Polom**	**1.20 173**		ePg		**Pn**	**13 57 44.5**	**+0.6**
	SNR=84						
PVCC	**Panska Ves**	**1.40 224**		ePG		**Pb**	**13 57 48.9**	**+2.2**
PVCC				eSG		**Sn**	**13 58 07.5**	**+1.9**
	comp=Z,559nm,0.2s						
PVCC	**Panska Ves**	**1.40 224**		ePn		**Pb**	**13 57 48.8**	**+2.1**
	SNR=12						
BRG	**Berggiesshubel**	**1.51 245**		Pn		**Pg**	**13 57 50.3**	**+1.6**
BRG				Pg		**Pb**	**13 57 52.1**	**+3.5**
BRG				Sg		**Sn**	**13 58 12.5**	**+4.1**
BRG				Amp			13 58 13.6	
	comp=Z,237nm,0.5s						
BRG	**Berggiesshubel**	**1.51 245**		ePn		**Pg**	**13 57 50.2**	**+1.6**
	SNR=4.3						
BRG				ePg		**Pb**	**13 57 52.1**	**+3.5**
	SNR=74						
BRG				eSg		**Sn**	**13 58 12.8**	**+4.5**
	SNR=3.8						
PRA	**Prague**	**1.81 216**		ePG		**Pg**	**13 57 55.4**	**+1.0**
PRA				eSG		**Sg**	**13 58 18.7**	**+0.9**
FBE	**Freiberg**	**1.83 251**		ePn		**Pg**	**13 57 54.7**	**-0.1**
	SNR=1.6						
FBE				ePg		**Pb**	**13 57 57.1**	**+3.0**
	SNR=29						
PRU	**Pruhonice**	**1.84 213**		ePN		**Pb**	**13 57 54.4**	**+0.1**
PRU				ePG		**Pg**	**13 57 56.4**	**+1.4**
PRU				eSG		**Sg**	**13 58 19.7**	**+0.9**
	comp=Z,216nm,0.5s						
PRU	**Pruhonice**	**1.84 213**		ePn		**Pb**	**13 57 54.5**	**+0.3**
	SNR=5.9						
HSKC	**Hora Svate Kat**	**1.92 242**		ePN		**Pg**	**13 57 56.3**	**-0.2**
HSKC				ePG		**Pb**	**13 57 58.1**	**+2.4**
HSKC				eSG		**Sg**	**13 58 23.7**	**+2.3**
	comp=Z,192nm,0.4s						
CLL	**Collm**	**1.95 264**		i Pn		**Pb**	**13 57 55.9**	**-0.2**
	comp=Z,18nm,0.8s						
CLL				ePg		**Pg**	**13 57 59.0**	**+1.9**
CLL				i x		x	13 58 02.3	
CLL				eSg		**Sg**	**13 58 24.0**	**+1.7**
	comp=Z,99nm,0.7s						
CLL	**Collm**	**1.95 264**		ePn		**Pb**	**13 57 55.9**	**-0.2**
	SNR=40						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**1.99 152**		ePn		**Pn**	**13 57 55.9**	**+1.1**
	baz=335						
MORC				eSg		**Sg**	**13 58 23.2**	**-0.6**
	comp=Z,134nm,0.6s,baz=335						
MORC	**Moravsky Berou**	**1.99 152**		ePn		**Pb**	**13 57 56.2**	**-0.7**
	SNR=21						
OKC	**Ostrava-Krasne**	**2.15 142**		ePn		**Pn**	**13 57 57.7**	**+0.8**
	SNR=3.0						
VRAC	**Vranov**	**2.26 172**		ePn		**Pb**	**13 58 00.1**	**-1.3**
	baz=354						
VRAC				eSg		**Sg**	**13 58 32.1**	**-0.1**
	comp=Z,102nm,0.6s,baz=354						
VRAC	**Vranov**	**2.26 172**		ePN		**Pb**	**13 58 00.2**	**-1.2**
VRAC				eSG		**Sg**	**13 58 32.2**	**0.0**
VRAC	**Vranov**	**2.26 172**		Pn		**Pb**	**13 58 00.8**	**-0.6**
	comp=Z,6.8nm,0.3s,baz=346,slow=17,SNR=14						
VRAC				Lg		Lg	13 58 31.8	
	comp=Z,11nm,0.3s,baz=359,slow=8.1,SNR=17						
	comp=Z,14nm,0.3s						
VRAC	**Vranov**	**2.26 172**		ePn		**Pb**	**13 58 01.1**	**-0.3**
	SNR=8.3						
TREC	**Trest**	**2.28 190**		ePN		**Pb**	**13 58 01.8**	**0.0**
TREC				ePG		**Pg**	**13 58 04.5**	**+1.0**
TREC				eSG		**Sg**	**13 58 34.1**	**+1.1**
	comp=Z,98nm,0.5s						
TREC	**Trest**	**2.28 190**		ePn		**Pb**	**13 58 01.8**	**0.0**
	SNR=4.9						
TREC				eSg		**Sg**	**13 58 34.2**	**+1.2**
	SNR=3.8						
MODW	**Modelwitz**	**2.35 257**		ePn		**Pb**	**13 58 02.2**	**-0.8**
	SNR=5.7						
SCHF	**Schoenfels**	**2.48 251**		ePn		**Pb**	**13 58 04.4**	**-0.8**
	SNR=3.4						
KRUC	**Moravsky**	**2.49 175**		ePn		**Pn**	**13 58 03.5**	**+2.0**
	baz=358						
KRUC				eSg		**Sg**	**13 58 39.7**	**0.0**
	comp=Z,90nm,0.6s,baz=358						
KRUC	**Moravsky**	**2.49 175**		ePn		**Pb**	**13 58 04.2**	**-1.1**
	SNR=4.1						
HKWD	**Heukewalde**	**2.51 255**		ePn		**Pb**	**13 58 04.7**	**-1.0**
	SNR=1.7						
TANN	**Tannenbergstha**	**2.55 245**		ePn		**Pb**	**13 58 05.0**	**-1.5**
	SNR=9.3						
TANN				ePg		**Pg**	**13 58 11.1**	**+2.4**
	SNR=5.3						
GRZ1	**Mausoleum Wald**	**2.58 252**		ePn		**Pb**	**13 58 05.5**	**-1.4**
	SNR=2.8						
GRZ1				ePg		**Pg**	**13 58 11.8**	**+2.6**
	SNR=14						
MULD	**Muldenberg**	**2.59 246**		ePn		**Pb**	**13 58 05.8**	**-1.3**
	SNR=3.4						
WERD	**Werda**	**2.63 247**		ePn		**Pb**	**13 58 05.8**	**-1.9**
	SNR=4.6						
NKC	**Novy Kostel**	**2.65 242**		ePN		**Pb**	**13 58 07.0**	**-1.1**
NKC				ePG		**Pg**	**13 58 12.8**	**+2.2**
NKC				eSG		**Sg**	**13 58 48.2**	**+3.3**
	comp=Z,141nm,0.5s						
NKC	**Novy Kostel**	**2.65 242**		ePn		**Pb**	**13 58 06.6**	**-1.5**
	SNR=5.5						
NKC				ePg		**Pg**	**13 58 13.9**	**+3.4**
	SNR=4.7						
GUNZ	**Gunzen**	**2.65 245**		ePn		**Pb**	**13 58 06.5**	**-1.7**
	SNR=3.9						
GUNZ				eSg		**Sg**	**13 58 48.4**	**+3.5**
	SNR=4.7						
WERN	**Wernlzgruen**	**2.66 243**		ePg		**Pg**	**13 58 13.6**	**+2.8**
	SNR=4.2						
WERN				eSg		**Sg**	**13 58 48.4**	**+3.1**
	SNR=4.5						
OJC	**Ojcow**	**2.69 118**		ePg		**Pg**	**13 58 12.8**	**+1.4**
OJC				eSg		**Sg**	**13 58 48.0**	**+1.6**
OJC	**Ojcow**	**2.69 118**		ePg		**Pg**	**13 58 13.1**	**+1.7**
	SNR=16						
ROHR	**Rohrbach**	**2.72 243**		ePn		**Pb**	**13 58 07.4**	**-1.9**
	SNR=5.2						
ROHR				ePg		**Pg**	**13 58 14.8**	**+2.8**
	SNR=5.5						
ROHR				eSg		**Sg**	**13 58 51.1**	**+3.9**
	SNR=4.4						
NEUB	**Neuenburg**	**2.72 265**		ePg		**Pg**	**13 58 14.6**	**+2.6**
	SNR=6.3						
TRIB	**Obertriebel**	**2.77 246**		ePn		**Pb**	**13 58 08.1**	**-2.1**
	SNR=6.5						
JAVC	**Velka Javorina**	**2.87 159**		ePn		**Pn**	**13 58 08.3**	**+1.5**
	baz=342						
JAVC	**Velka Javorina**	**2.87 159**		ePN		**Pn**	**13 58 08.4**	**+1.6**
JAVC	**Velka Javorina**	**2.87 159**		ePn		**Pb**	**13 58 10.8**	**-1.1**
	SNR=7.9						
KHC	**Kasperske Hory**	**2.90 215**		ePN		**Pn**	**13 58 09.2**	**+2.0**
KHC				ePG		**Pg**	**13 58 15.3**	**0.0**
KHC				eSN		**Sn**	**13 58 42.5**	**-0.3**
KHC				eSG		**Sg**	**13 58 53.6**	**+0.7**
	comp=Z,60nm,0.6s						
KHC	**Kasperske Hory**	**2.90 215**		ePn		**Pn**	**13 58 09.3**	**+2.0**
	SNR=11						
KHC				ePg		**Pg**	**13 58 15.5**	**+0.2**
	SNR=2.5						
CKRC	**Cesky Krumlov**	**2.95 203**		ePN		**Pb**	**13 58 10.7**	**-2.6**
CKRC				ePG		**Pg**	**13 58 16.6**	**+0.2**
CKRC				eSG		**Sg**	**13 58 54.2**	**-0.4**
	comp=Z,73nm,0.6s						
CKRC	**Cesky Krumlov**	**2.95 203**		ePn		**Pb**	**13 58 10.8**	**-2.6**
	SNR=3.7						
MOX	**Moxa**	**2.96 254**		ePg		**Pg**	**13 58 18.7**	**+2.2**
	SNR=4.2						
MOX				eSg		**Sg**	**13 58 58.9**	**+4.1**
	SNR=4.8						
MANZ	**Manzenberg**	**2.97 240**		ePn		**Pb**	**13 58 11.1**	**-2.4**
	SNR=8.1						
MANZ				ePg		**Pg**	**13 58 19.4**	**+2.7**
	SNR=2.3						
ROTZ	**Rotzenmuhle**	**3.04 236**		ePn		**Pn**	**13 58 11.8**	**+2.6**
	SNR=9.5						
GEC2	**GERESS Array S**	**3.10 211**		ePn		**Pb**	**13 58 13.2**	**-2.7**
	SNR=3.7						
GERES	**GERESS Array B**	**3.10 211**		Pn		**Pn**	**13 58 11.9**	**+1.8**
	comp=Z,2.9nm,0.3s,baz=31,slow=13,SNR=20						
GERES				Pg		**Pg**	**13 58 18.8**	**-0.4**
	comp=Z,5.7nm,0.3s,baz=34,slow=17,SNR=16						
GERES				Sn		**Sn**	**13 58 46.6**	**-1.3**
	comp=Z,4.6nm,0.

comp=Z,35nm,0.5s
CRVS Cervenica-Dubn 4.34 125 *e*PN **Pn 13 58 28.8 +1.8**
CRVS *e*PG **Pg 13 58 45.0 +2.0**
CRVS *e*SG **Sg 13 59 42.2 +3.0**
LUNU Lund 4.39 340 P **Pn 13 58 28.4 +0.8**
LUNU Lund 4.39 340 P **Pn 13 58 28.4 +0.8**
LUNU *e*S **Sn 13 59 19.0 -0.5**
LESA Schwarzleotal 4.68 210 *i* Pn **Pn 13 58 33.4 +1.7**
comp=Z,3.1nm,0.3s
LESA *e*Sg **Sg 13 59 50.3 +0.2**
comp=Z,17nm,0.4s
KOLS Kolonicke sedl 4.75 121 *e*PN **Pn 13 58 34.3 +1.7**
KOLS *e*PG **Pg 13 58 51.9 +1.1**
BLEU Blekinge 4.78 358 P **Pn 13 58 34.6 +1.6**
BLEU S **Sn 13 59 26.6 -2.3**
BLEU Blekinge 4.78 358 P **Pn 13 58 34.6 +1.6**
BLEU *e*P **Pn 13 58 35.2 +2.2**
BLEU S **Sn 13 59 26.6 -2.3**
KBA Koelnbreinsper 4.81 203 *e*Pn **Pn 13 58 36.3 +2.7**
comp=Z,4.1nm,0.3s
KBA *e*Sg **Sg 13 59 55.5 +1.2**
comp=Z,47nm,0.9s
BJUU Bjuv 4.89 339 P **Pn 13 58 35.2 +0.7**
BJUU Bjuv 4.89 339 P **Pn 13 58 35.2 +0.7**
BJUU *i* P **Pn 13 58 35.7 +1.1**
BJUU *e*S **Sn 13 59 31.6 -0.3**
DEL Delary 5.11 346 P **Pn 13 58 38.7 +1.2**
DEL S **Sn 13 59 34.0 -3.2**
DEL Delary 5.11 346 S **Sn 13 59 34.0 -3.2**
DEL P **Pn 13 58 38.7 +1.2**
DEL *i* P **Pn 13 58 39.1 +1.5**
DEL *e*S **Sn 13 59 35.7 -1.5**
WATA Walderalm 5.13 217 *e*Pn **Pn 13 58 41.1 +3.1**
comp=Z,2.3nm,0.2s,SNR=5.1
WTTA Wattenberg 5.17 216 *e*Pn **Pn 13 58 41.2 +2.6**
comp=Z,1.3nm,0.1s,SNR=5.5
WTTA *e*Sg **Sg 14 00 07.2 +1.4**
comp=Z,19nm,0.5s
MOTA Moosalm 5.31 220 *i* Pn **Pn 13 58 43.3 +2.8**
comp=Z,0.9nm,0.1s
RETA Reutte 5.34 223 *i* Pn **Pn 13 58 42.9 +2.2**
comp=Z,1.6nm,0.2s
RETA Sg **Sg 14 00 14.5 +3.4**
comp=Z,24nm,0.6s
ABTA Abfaltersbach 5.34 207 *e*Pn **Pn 13 58 43.5 +2.7**
comp=Z,0.8nm,0.2s,SNR=4.2
ABTA Sg **Sg 14 00 12.1 +0.9**
comp=Z,13nm,0.6s
VXJU Vaexsjoe 5.44 353 P **Pn 13 58 43.8 +1.8**
VXJU Vaexsjoe 5.44 353 P **Pn 13 58 43.8 +1.8**
SSRD Sdr. Stenderup 5.52 318 *e*S **Sn 13 59 46.2 -1.0**
OSKU Oskarshamn 5.67 0 P **Pn 13 58 46.9 +1.7**
OSKU Oskarshamn 5.67 0 P **Pn 13 58 46.9 +1.7**
FETA Feichten 5.72 220 *i* Pn **Pn 13 58 49.7 +3.6**
comp=Z,1.5nm,0.3s
BYXU Byxelkrok 5.79 5 P **Pn 13 58 49.1 +2.3**
BYXU Byxelkrok 5.79 5 P **Pn 13 58 49.1 +2.3**
FABU Falkenberg 5.82 341 P **Pn 13 58 48.8 +1.5**
FABU Falkenberg 5.82 341 *e*S **Sn 13 59 50.5 -4.1**
FABU P **Pn 13 58 48.8 +1.5**
FABU *e*P **Pn 13 58 49.1 +1.9**
GNOU Gnosjoe 5.92 348 P **Pn 13 58 50.3 +1.6**
GNOU Gnosjoe 5.92 348 P **Pn 13 58 50.3 +1.6**
DAVOX Davos/Dischmat 6.26 223 Pn **Pn 13 58 55.3 +1.7**
comp=Z,0.5nm,0.3s,baz=37,slow=15,SNR=2.9
DAVOX Sn **Sn 14 00 01.9 -4.0**
comp=Z,0.5nm,0.3s,baz=168,slow=22,SNR=1.3
DAVOX Lg Lg 14 00 40.0
comp=Z,1.0nm,0.3s,baz=205,slow=19,SNR=4.2
comp=Z,2.2nm,0.4s
CDF Champ du Feu 6.49 245 *e*Pn **Pn 13 58 56.9 +0.3**
CDF Champ du Feu 6.49 245 *e*Pg **Pg 13 59 21.5 -2.6**
CDF *e*Sg **Sg 14 00 42.5 -5.6**
comp=Z,32nm,0.8s
HINF Hinteralfeld 7.05 242 *e*P **Pn 13 59 08.1 +3.8**
HINF Hinteralfeld 7.05 242 *e*Pg **Pg 13 59 31.6 -3.3**
HINF *e*Sg **Sg 14 01 01.0 -5.3**
comp=Z,7.9nm,0.5s
HAU Haudompre 7.23 245 *e*Pg **Pg 13 59 33.7 -4.5**
HAU *e*Sg **Sg 14 01 05.8 -6.1**
comp=Z,20nm,0.4s
NACGM Naroch 7.25 58 *e*P **Pn 13 59 07.3 +0.4**
comp=Z,8.0nm,0.7s,baz=247
GIVF Givet 7.28 263 *e*Pn **Pn 13 59 06.2 -1.2**
GIVF *e*Sg **Sg 14 01 07.3 -6.2**
comp=Z,4.0nm,0.4s
PAGF Fort de Pagny 7.31 250 *e*P **Pn 13 59 11.6 +3.8**
PAGF *e*Sg **Sg 14 01 08.9 -5.5**
comp=Z,19nm,0.5s
SAVF Savonnieres en 7.64 252 *e*Sg **Sg 14 01 18.6 -6.3**
comp=Z,6.8nm,0.4s
BAIF Baives 7.67 264 *e*Pg **Pg 13 59 44.2 -2.5**
BAIF *e*Sg **Sg 14 01 19.7 -6.4**
comp=Z,2.6nm,0.4s
MEZF Maizieres J'vi 7.73 251 *e*Sg **Sg 14 01 22.1 -5.8**
comp=Z,20nm,0.6s
SFTF Sexfontaines 7.88 249 *e*Sg **Sg 14 01 26.2 -6.5**
comp=Z,22nm,0.8s
CABF La Chapelle 8.21 237 *e*Sg **Sg 14 01 36.2 -7.1**
comp=Z,20nm,0.8s
AKASG Malin Array Be 8.31 91 Pn **Pn 13 59 20.4 -1.1**
comp=Z,1.9nm,0.3s,baz=278,slow=12,SNR=6.1
AKASG Sn **Sn 14 00 52.9 -3.1**
comp=Z,1.6nm,0.3s,baz=336,slow=24,SNR=4.2
AKASG Lg Lg 14 01 49.8
baz=38,slow=50
comp=Z,0.5nm,0.3s
LPG La Plagne 8.65 229 *e*P **Pn 13 59 30.4 +3.9**
LPG *e*Sg **Sg 14 01 49.9 -7.6**
comp=Z,3.0nm,0.5s
HFS Hagfors 8.72 352 Pn **Pn 13 59 26.1 -0.9**
comp=Z,0.3nm,0.3s,baz=171,slow=14,SNR=1.5
HFS Sn **Sn 14 00 59.7 -6.3**
comp=Z,0.1nm,0.3s,baz=187,slow=33,SNR=1.5
comp=Z,3.8nm,1.1s
LOR Lormes 9.04 247 *e*Sg Sg 14 02 02.1
comp=Z,1.2nm,0.2s
MBDF Montbardon 9.23 226 *e*P **Pn 13 59 38.1 +3.9**
MBDF *e*Sg Sg 14 02 07.5
comp=Z,1.5nm,0.4s
SSF Saint Saulge 9.36 246 *e*Sg Sg 14 02 12.4
comp=Z,3.8nm,0.5s
SMF Signal de Mont 9.41 243 *e*Sg Sg 14 02 13.6
comp=Z,0.8nm,0.1s
ORIF Oris-en-Rattie 9.50 230 *e*Sg Sg 14 02 13.6
comp=Z,1.9nm,0.5s
AVF Avril sur Loir 9.60 245 *e*Sg Sg 14 02 19.9
comp=Z,3.3nm,0.4s
NOA NORSAR Array B 9.90 346 Pn **Pn 13 59 44.1 +0.8**
baz=166,slow=11,SNR=3.8
comp=Z,0.7nm,0.8s
FINES FINESS Array B 11.34 25 Pn **Pn 14 00 03.1 +0.2**
comp=Z,0.3nm,0.3s,baz=209,slow=11,SNR=7.6
FINES Sn Sn 14 01 60.0 -10
comp=Z,0.2nm,0.3s,baz=235,slow=29,SNR=0.9
comp=Z,1.2nm,0.4s
EKA Eskdalemuir Ar 12.08 296 Pn **Pn 14 00 12.0 -1.0**
baz=98,slow=13
ARCES ARCESS Array B 18.60 10 Pn **P 14 01 36.6 -1.6**
comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=7.4
comp=Z,1.4nm,0.8s
TORD Torodi Ar. Bea 40.02 202 P **P 14 04 58.0 +1.7**
comp=Z,0.1nm,0.3s,baz=33,slow=8.6,SNR=1.7
comp=Z,0.1nm,0.3s

*UPA **13** 14:02:28.0±1.4, 9.°80N×82.°83W, h0km±7km, ML3.1*
*UCR **13** 14:02:29.6±0.9, 9.°81N×82.°86W, h22km±4km, MW3.5*
ISC 13 14:02:30.2±1.1, 9.°79N±0.°05×82.°91W±0.°04, h31km±8km, n32, σ0°92/49, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRIBI	**Bribri**	**0.18**	**162**	*e*P	**Pb**	**14 02 36.0**	**-0.3**
BRIBI				*e*S	**Sb**	**14 02 41.3**	**+0.7**
RGM0	**Gandoca**	**0.36**	**124**	*e*P	**Pn**	**14 02 38.3**	**-0.9**
RGM0				*e*S	**Sn**	**14 02 45.1**	**-0.1**
BATAN	**Batan**	**0.55**	**303**	*i* P	**Pn**	**14 02 41.3**	**-0.6**
BATAN				*e*S	**Sn**	**14 02 51.1**	**+1.1**
DRK0	**Durika**	**0.62**	**212**	*e*P	**Pb**	**14 02 42.0**	**-0.9**
DRK0				*e*S	**Sb**	**14 02 51.6**	**+0.1**
LCOCO	**El Coco**	**0.70**	**294**	*e*P	**Pn**	**14 02 43.6**	**-0.3**
SRBA	**San Rafael, Bu**	**0.72**	**219**	*e*P	**Pb**	**14 02 42.8**	**-1.5**
SRBA				*e*S	**Sb**	**14 02 52.9**	**-1.0**
EDBA	**Buenos Aires**	**0.72**	**210**	*e*P	**Pb**	**14 02 43.5**	**-0.9**
RVLA	**Villa Bonita**	**0.74**	**295**	*e*P	**Pn**	**14 02 44.1**	**-0.3**
RVLA				*e*S	**Sn**	**14 02 55.7**	**+1.0**
POTG	**Potrero Grande**	**0.77**	**196**	*e*P	**Pb**	**14 02 43.6**	**-1.6**
VERB	**Verbena**	**0.79**	**281**	*e*P	**Pb**	**14 02 45.0**	**-0.6**
VTCV	**VTCV, Calle Va**	**0.83**	**283**	*e*P	**Pb**	**14 02 45.7**	**-0.6**
VTLO	**VTLO**	**0.85**	**287**	*e*P	**Pn**	**14 02 46.0**	**-0.2**
CVTV	**Tajo**	**0.86**	**284**	*e*P	**Pn**	**14 02 46.3**	**-0.1**
CVTV				*e*S	**Sn**	**14 02 58.8**	**+0.8**
BUS1	**Rivas**	**0.86**	**254**	*e*P	**Pb**	**14 02 45.8**	**-1.2**
CVTR	**Volcan Turrial**	**0.87**	**285**	*e*P	**Pb**	**14 02 46.4**	**-0.7**
VTR0	**Volcan Turrial**	**0.87**	**285**	*e*P	**Pn**	**14 02 46.5**	**-0.1**
CDM	**Cerro de Muert**	**0.88**	**254**	*e*P	**Pb**	**14 02 45.9**	**-1.3**
VTLA	**Turrialba Volc**	**0.88**	**284**	*e*P	**Pn**	**14 02 46.7**	**-0.1**
RIMA	**Rio Macho**	**0.94**	**268**	*e*P	**Pn**	**14 02 47.0**	**-0.5**
VICA	**Volcano Irazu**	**0.94**	**282**	*e*P	**Pb**	**14 02 47.4**	**-1.0**
BRU2	**Volcan**	**1.02**	**168**	*i* P	**Pn**	**14 02 48.1**	**-0.3**
BRU2				AMP		14 02 48.4	
comp=Z,559nm,0.1s							
BRU2				*e*S	**Sn**	**14 03 04.2**	**+2.5**
BRU2	**Volcan**	**1.02**	**168**	*e*P	**Pn**	**14 02 48.1**	**-0.3**
LNBQ3	**Los Naranjos,**	**1.10**	**155**	*e*P	**Pn**	**14 02 49.1**	**-0.4**
LNBQ3				*e*S	**Sb**	**14 03 06.0**	**+1.3**
BCO2	**Palmira**	**1.13**	**161**	*e*P	**Pn**	**14 02 50.0**	**-0.1**
BCO2				*e*S	**Sb**	**14 03 06.1**	**+0.3**
ABE2	**San Pablo**	**1.14**	**266**	*e*P	**Pn**	**14 02 50.5**	**+0.4**
ABE2				*e*P	**Pn**	**14 02 50.5**	**+0.4**
ABE2				*e*S	**Sb**	**14 03 06.3**	**+0.4**
CHGR2	**Aguacate**	**1.14**	**138**	*e*P	**Pn**	**14 02 49.8**	**-0.2**
CHGR2				*e*S	**Sb**	**14 03 05.6**	**-0.1**
EDAD	**Golfito**	**1.16**	**193**	*e*P	**Pn**	**14 02 50.5**	**+0.2**
PTAR3	**Potrerillos Ar**	**1.17**	**160**	*e*P	**Pn**	**14 02 50.5**	**+0.1**
PTAR3				*e*S	**Sb**	**14 03 08.7**	**+2.0**
CDITO	**Canoas**	**1.21**	**178**	*e*P	**Pn**	**14 02 50.5**	**-0.5**
CDITO				*e*S	**Sb**	**14 03 09.1**	**+1.2**
DVD	**David**	**1.42**	**162**	*e*P	**Pn**	**14 02 53.2**	**-0.6**
DVD				*e*S	**Sb**	**14 03 13.9**	**0.0**
JACO	**JACO, Garabito**	**1.73**	**266**	*e*P	**Pb**	**14 03 00.1**	**-1.3**
JTS	**Las Juntas de**	**2.08**	**284**	*e*P	**Pb**	**14 03 05.9**	**-1.3**
JTS				*e*S	**Sb**	**14 03 34.0**	**+1.4**

*NEIC **13** 14:08:49.3±0.6, 18.°8S±0.°2×177.°7W±0.°2, h600km±19km, mb4.0/16, Error ellipse: s-maj=34.7km s-min=25.6km az=186.0*
*IDC **13** 14:08:50.8±2.9, 18.°83S×177.°81W, h609km±24km, mb3.1/4, mbtmp4.1/5, Error ellipse: s-maj=64.2km s-min=30.2km az=28.0*
ISC 13 14:08:49.1±0.9, 18.°8S±0.°1×177.°7W±0.°1, h600km, n26, σ1°06/28, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.18**	**284**	P	**P**	**14 10 16.1**	**+0.1**
MSVF	**Nonsavu**	**4.18**	**284**	P	**P**	**14 10 17.6**	**+1.6**
41nm,1.2s,baz=124,slow=23,SNR=8.0							
AFI	**Afiamalu**	**7.50**	**50**	P	**P**	**14 10 43.1**	**-0.8**
URZ	**Urewera**	**19.88**	**192**	P	**P**	**14 12 38.0**	**-3.6**
8.8nm,0.8s,baz=289,slow=15,SNR=2.9							
FOZ	**Fox Glacier**	**26.78**	**200**	P	**P**	**14 13 41.9**	**-0.8**
WHZ	**Wether Hill Ro**	**29.49**	**201**	P	**P**	**14 14 06.4**	**+0.2**
TOO	**Toolangi**	**37.12**	**232**	P	**P**	**14 15 10.2**	**-0.2**
TOO				IAmb	IAmb	14 15 47.9	
comp=Z,12nm,1.3s							
STKA	**Stephens Creek**	**38.79**	**242**	P	**P**	**14 15 24.4**	**+0.5**
STKA	**Stephens Creek**	**38.79**	**242**	P	**P**	**14 15 24.6**	**+0.7**
comp=Z,0.9nm,0.3s,baz=77,slow=10,SNR=5.5							
comp=Z,0.9nm,0.3s							
BBOO	**Buckleboo**	**43.56**	**242**	P	**P**	**14 16 01.6**	**0.0**
WR0	**Warramunga Arr**	**44.94**	**260**	P	**P**	**14 16 11.9**	**-0.5**
WR0				IAmb	IAmb	14 16 45.9	
comp=Z,7.3nm,1.5s							
WB0	**Warramunga Arr**	**45.10**	**261**	P	**P**	**14 16 13.8**	**+0.2**
WB0				IAmb	IAmb	14 16 16.6	
comp=Z,8.8nm,1.4s							
WB2	**Warramunga Arr**	**45.12**	**260**	P	**P**	**14 16 13.7**	**-0.1**
WB2				IAmb	IAmb	14 16 31.1	
comp=Z,2.4nm,0.9s							
WRA	**Warramunga Arr**	**45.13**	**260**	P	**P**	**14 16 13.3**	**-0.5**
WRA	**Warramunga Arr**	**45.13**	**260**	P	**P**	**14 16 13.8**	**0.0**
comp=Z,1.1nm,0.4s,baz=97,slow=7.7,SNR=37							
WRA				PcP	**PcP**	**14 17 41.5**	**+0.2**
comp=Z,0.9nm,1.2s,baz=97,slow=5.1,SNR=2.1							
comp=Z,1.1nm,0.4s							
AS31	**Alice Springs**	**45.20**	**255**	P	**P**	**14 16 14.3**	**0.0**
ASAR	**Alice Springs**	**45.20**	**255**	P	**P**	**14 16 13.8**	**-0.4**
ASAR	**Alice Springs**	**45.20**	**255**	P	**P**	**14 16 14.7**	**+0.4**
comp=Z,3.0nm,0.7s,baz=89,slow=7.8,SNR=73							
ASAR				PcP	**PcP**	**14 17 41.8**	**+0.4**
comp=Z,0.4nm,0.7s,baz=109,slow=4.0,SNR=4.8							
comp=Z,3.0nm,0.7s							
FORT	**Forrest**	**50.23**	**245**	P	**P**	**14 16 50.6**	**-0.9**
KNRA	**Kununurra**	**51.07**	**265**	P	**P**	**14 16 57.5**	**-0.3**
KNRA				IAmb	IAmb	14 17 15.7	
comp=Z,7.6nm,1.1s							
PSA00	**Pilbara Seismi**	**58.33**	**256**	P	**P**	**14 17 47.9**	**-0.5**
MBWA	**Marble Bar**	**58.51**	**256**	P	**P**	**14 17 49.0**	**-0.5**
MBWA				IAmb	IAmb	14 17 54.7	
comp=Z,21nm,1.4s							
SBA	**Scott Base**	**59.55**	**184**	P	**P**	**14 17 57.9**	**+2.4**
QSPA	**South Pole Qui**	**71.23**	**180**	P	**P**	**14 19 09.6**	**+0.9**
QSPA				IAmb	IAmb	14 19 25.1	
comp=Z,2.3nm,1.1s							
QSPA	**South Pole Qui**	**71.23**	**180**	P	**P**	**14 19 09.7**	**+1.0**
comp=Z,0.8nm,0.5s,baz=40,slow=7.9,SNR=9.4							
comp=Z,0.8nm,0.5s							
SNAA	**Sanae**	**89.66**	**178**	P	**P**	**14 20 43.8**	**-0.1**
SNAA				IAmb	IAmb	14 20 52.4	
comp=Z,7.3nm,1.5s							

*EAF **13** 14:15:53.6, 25.°24S×30.°01E, h10km, MC3.3*
*BUL **13** 14:15:54.3±1.1, 25.°23S×29.°93E, h10km, MD3.4*
*PRE **13** 14:15:57.1±1.1, 25.°17S×29.°56E, h5km, ML2.0*
ISC 13 14:15:56.9±1.0, 25.°10S±0.°05×29.°58E±0.°05, h10km, n16, σ1°38/22, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PILG	**Pilgrimsrest,**	**1.04**	**81**	*e*P	**Pg**	**14 16 17.7**	**+0.6**
PILG				*e*S	**Sn**	**14 16 33.1**	**+0.5**
PILG				IAML		14 16 38.7	
comp=Z,63nm,0.4s							
LEPH	**Lephalale, Lim**	**2.04**	**307**	*e*P	**Pb**	**14 16 33.6**	**-0.6**
LEPH				*e*S	**Sb**	**14 16 60.0**	**+0.4**
LEPH				IAML		14 17 27.6	
comp=Z,11nm,0.5s							
MOPA	**Mopani**	**2.29**	**47**	*i* P	Pn	14 16 30.1	-4.8
MOPA				*i* S	Sn	14 16 53.6	-10
MOPA	**Mopani**	**2.29**	**47**	*i* P	Pn	14 16 30.1	-4.8
baz=37							
MOPA				*i* S	Sn	14 16 53.6	-10
baz=37							
PRYS	**Parys**	**2.70**	**227**	*e*P	**Pn**	**14 16 41.0**	**+0.5**
PRYS				*e*S	**Sn**	**14 17 13.5**	**+0.2**
PRYS				IAML		14 17 16.2	
comp=Z,20nm,0.2s							
MUSN	**Musina, Limpop**	**2.81**	**5**	*i* P	**Pn**	**14 16 40.9**	**-1.2**
MUSN	**Musina, Limpop**	**2.81**	**5**	*e*P	**Pn**	**14 16 44.4**	**+2.3**
MUSN				*e*S	**Sn**	**14 17 18.1**	**+2.0**
MUSN				IAML		14 17 18.6	
comp=Z,9.5nm,0.4s							
MUSN	**Musina, Limpop**	**2.81**	**5**	*i* P	**Pn**	**14 16 40.9**	**-1.2**
baz=357							
LBTB	**Lobatse**	**3.61**	**271**	*i* P	**Pn**	**14 16 54.1**	**+1.0**
LBTB	**Lobatse**	**3.61**	**271**	*e*P	**Pn**	**14 16 54.9**	**+1.8**
LBTB				*e*S	**Sn**	**14 17 37.3**	**+1.5**
LBTB				IAML		14 17 45.5	
comp=Z,8.9nm,0.6s							
LBTB	**Lobatse**	**3.61**	**271**	*i* P	**Pn**	**14 16 54.1**	**+1.0**
baz=272							
MATP	**Matopo**	**4.76**	**348**	*i* P	**Pn**	**14 17 08.4**	**-0.5**
MATP				*i* S	**Sn**	**14 18 02.4**	**-1.9**
MATP	**Matopo**	**4.76**	**348**	*i* P	**Pn**	**14 17 08.4**	**-0.5**
baz=343							
MATP				*i* S	**Sn**	**14 18 02.4**	**-1.9**
baz=343							
BOSA	**Boshof**	**5.21**	**227**	*i* P	**Pn**	**14 17 13.7**	**-1.4**
BOSA	**Boshof**	**5.21**	**227**	*e*P	**Pn**	**14 17 15.3**	**+0.2**
BOSA				*e*S	**Sn**	**14 18 13.4**	**-1.9**
BOSA				IAML		14 18 17.0	
comp=Z,2.1nm,1.1s							
BOSA	**Boshof**	**5.21**	**227**	*i* P	**Pn**	**14 17 13.7**	**-1.4**
baz=231							

*SJA **13** 14:16:01.4±0.6, 33.°07S×72.°27W, h20km±5km, ML4.0, MW4.3*
*IDC **13** 14:16:01.9±1.0, 33.°06S×71.°90W, h0km, mb4.1/7, mbtmp4.0/10, ML4.0/3, MS3.2/6, Error ellipse: s-maj=37.5km s-min=17.5km az=96.0*
*NEIC **13** 14:16:03.1±2.6, 33.°03S±0.°04×72.°24W±0.°08, h20km±3km, mb4.4/11, Mwr4.0/63, ML3.9(GUC), Error ellipse: s-maj=9.1km s-min=5.6km az=82.0*
*GUC **13** 14:16:04.9±0.8, 33.°09S×72.°13W, h17km±3km, ML3.9*
ISC 13 14:16:01.3±1.3, 33.°06S±0.°03×72.°24W±0.°05, h10km±8km, n120, σ1°43/127, mb4.2/11, MS3.4/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.50**	**86**		**Pn**	**14 16 13.2**	**-1.3**
VA01	**Torpederas**	**0.50**	**86**	*e*P	**Pn**	**14 16 13.2**	**-1.3**
VA01				*i* S	**Sn**	**14 16 19.4**	**+1.8**
VA01	**Torpederas**	**0.50**	**86**	*e*P	**Pn**	**14 16 13.1**	**-1.3**
VA05	**Santo Domingo**	**0.79**	**139**		**Pn**	**14 16 18.2**	**-0.3**
VA05	**Santo Domingo**	**0.79**	**139**	*e*P	**Pn**	**14 16 18.5**	**0.0**
VA05				*i* S	**Sn**	**14 16 28.3**	**-2.0**
VA05				IAML		14 16 31.4	
comp=E,10μm,0.3s							
MT02	**Curacav**	**0.94**	**102**		**Pn**	**14 16 20.3**	**-0.3**
MT02	**Curacav**	**0.94**	**102**	*e*P	**Pn**	**14 16 20.4**	**-0.3**
MT02				*i* S	**Sn**	**14 16 31.8**	**-2.4**
MT02	**Curacav**	**0.94**	**102**	*e*P	**Pn**	**14 16 20.4**	**-0.3**
ROC1	**El Roble**	**1.03**	**85**		**Pg**	**14 16 21.6**	**+0.4**
ROC1	**El Roble**	**1.03**	**85**	*e*P	**Pg**	**14 16 22.0**	**+0.8**
MT01	**Popeta**	**1.15**	**134**		**Pg**	**14 16 23.8**	**+0.4**
MT01	**Popeta**	**1.15**	**134**	*e*P	**Pg**	**14 16 24.0**	**+0.5**
MT01				*i* S	**Sg**	**14 16 38.3**	**-0.1**
MT01				IAML		14 16 39.3	
comp=E,6μm,0.2s							
MT01	**Popeta**	**1.15**	**134**	*e*P	**Pn**	**14 16 23.3**	**-0.2**
MT01				IAML		14 16 41.2	
comp=Z,3μm,0.3s							
MT09	**Talagante**	**1.27**	**125**		**Pb**	**14 16 25.4**	**+0.1**
MT09	**Talagante**	**1.27**	**125**	*e*P	**Pg**	**14 16 26.0**	**+0.3**
MT09				*i* S	**Sg**	**14 16 41.7**	**-0.4**
MT05	**Renca**	**1.30**	**105**	Pn	**Pg**	**14 16 26.3**	**-0.1**
MT05	**Renca**	**1.30**	**105**	*e*P	**Pg**	**14 16 26.4**	**+0.1**
MT05				*i* S	**Sg**	**14 16 42.8**	**-0.4**
MT05				IAML		14 16 47.8	
comp=E,4μm,0.2s							
MT05	**Renca**	**1.30**	**105**	*e*P	**Pg**	**14 16 26.4**	**+0.1**
MT05				IAML		14 16 49.6	
comp=Z,2μm,0.5s							
PEL	**Peldehue**	**1.31**	**94**		**Pg**	**14 16 26.3**	**-0.1**
PEL	**Peldehue**	**1.31**	**94**	*e*P	**Pg**	**14 16 26.7**	**+0.3**
PEL				*i* S	**Sg**	**14 16 42.7**	**-0.7**
PEL	**Peldehue**	**1.31**	**94**	*e*P	**Pg**	**14 16 26.9**	**+0.5**
BO03	**Pichilemu**	**1.45**	**171**	*e*P	**Pb**	**14 16 28.9**	**+0.5**
VA03	**San Esteban**	**1.45**	**79**		**Pb**	**14 16 28.4**	**-0.1**
VA03	**San Esteban**	**1.45**	**79**	*e*P	**Pg**	**14 16 28.9**	**-0.4**
VA03				*i* S	**Sg**	**14 16 47.0**	**-1.0**
VA03				IAML		14 16 52.3	
comp=N,3μm,0.4s							
VA03	**San Esteban**	**1.45**	**79**	*e*P	**Pb**	**14 16 28.6**	**+0.2**
VA03				IAML		14 16 53.4	
comp=Z,3μm,0.9s							
MT14	**Cerro Calın**	**1.47**	**104**	*e*P	**Pg**	**14 16 29.4**	**0.0**
MT14				*i* S	**Sg**	**14 16 47.6**	**-0.9**
MT14				IAML		14 16 53.1	
comp=N,5μm,0.5s							
MT03	**Universidad Ad**	**1.51**	**107**		**Pb**	**14 16 29.2**	**-0.3**
MT03	**Universidad Ad**	**1.51**	**107**	*e*P	**Pg**	**14 16 29.9**	**-0.4**
MT03				*i* S	**Sg**	**14 16 49.0**	**-1.0**
MT03				IAML		14 16 55.6	
comp=N,5μm,0.3s							
MT03	**Universidad Ad**	**1.51**	**107**	*e*P	**Pg**	**14 16 30.1**	**-0.3**
MT03				IAML		14 16 55.9	
comp=Z,3μm,0.7s							
MT12	**Pirque**	**1.56**	**116**	*e*P	**Pb**	**14 16 30.7**	**+0.3**
MT12				*i* S	**Sg**	**14 16 50.3**	**-1.3**
BO01	**Tunca**	**1.64**	**144**		**Pb**	**14 16 31.1**	**-0.5**
BO01	**Tunca**	**1.64**	**144**	*e*P	**Pb**	**14 16 31.4**	**-0.3**
BO01				IAML		14 17 03.7	
comp=Z,857nm,0.6s							
BO04	**La Punta**	**1.65**	**125**		**Pb**	**14 16 31.6**	**-0.2**
FCH	**Farellones**	**1.66**	**100**	*e*P	**Pb**	**14 16 32.4**	**+0.3**
FCH				*i* S	**Sg**	**14 16 53.6**	**-1.1**
MT13	**San Alfonso**	**1.77**	**113**		**Pb**	**14 16 34.0**	**0.0**
MT13	**San Alfonso**	**1.77**	**113**	*e*P	**Pb**	**14 16 34.1**	**+0.2**
MT13				IAML		14 17 00.0	
MT04	**Ro Olivares**	**1.79**	**102**	*e*P	**Pb**	**14 16 34.3**	**-0.2**
MT04				*i* S	**Sg**	**14 16 56.8**	**-2.3**
MT04				IAML		14 17 00.4	
comp=N,2μm,0.4s							
LMEL	**Las Melosas**	**1.87**	**115**		**Pb**	**14 16 35.6**	**-0.1**
LMEL	**Las Melosas**	**1.87**	**115**	*e*P	**Pb**	**14 16 35.6**	**-0.1**
LMEL				*i* S	**Sb**	**14 16 59.0**	**-0.2**
LMEL				IAML		14 17 05.9	
comp=N,3μm,0.4s							
MT08	**Bocatoma Ro**	**1.90**	**102**		**Pb**	**14 16 36.2**	**-0.1**
MT08	**Bocatoma Ro**	**1.90**	**102**	*e*P	**Pb**	**14 16 36.2**	**-0.1**
MT08				*i* S	**Sg**	**14 17 00.1**	**-2.3**
MT08				IAML		14 17 06.2	
comp=N,2μm,0.5s							
GO05	**Huala**	**1.96**	**173**	Pn	**Pn**	**14 16 36.0**	**+1.3**
GO05	**Huala**	**1.96**	**173**	*e*P	**Pn**	**14 16 36.1**	**+1.5**
BO02	**Sierra Bellavi**	**2.11**	**145**		**Pb**	**14 16 38.6**	**-1.0**
CO02	**Combarbal**	**2.13**	**30**		**Pn**	**14 16 38.6**	**+1.6**
CO02	**Combarbal**	**2.13**	**30**	*e*P	**Pn**	**14 16 38.7**	**+1.6**
CO02				IAML		14 17 14.4	
comp=Z,1μm,0.5s							
CO06	**Fray Jorge**	**2.44**	**12**		**Pn**	**14 16 42.1**	**+1.0**
CO06	**Fray Jorge**	**2.44**	**12**	*e*P	**Pn**	**14 16 42.1**	**+1.0**
CO03	**El Pedregal**	**2.58**	**31**		**Pn**	**14 16 45.0**	**+1.8**
CO03	**El Pedregal**	**2.58**	**31**	*e*P	**Pn**	**14 16

H03N1 Juan Fernandez 5.60 264 T T 14 24 15.8
baz=87,slow=74,SNR=53
H03N3 Juan Fernandez 5.61 264 T T 14 24 18.1
baz=87,slow=74,SNR=99
H03N2 Juan Fernandez 5.62 264 T T 14 24 15.8
baz=87,slow=74,SNR=57
H03S1 Juan Fernandez 5.63 260 T T 14 23 45.5
baz=84,slow=75,SNR=412
H03S3 Juan Fernandez 5.63 260 T T 14 23 43.5
baz=84,slow=75,SNR=380
H03S2 Juan Fernandez 5.64 260 T T 14 23 46.3
baz=84,slow=75,SNR=410
GO03 Copiap 5.72 18 Pn 14 17 27.9 +1.5
AC06 Mina Casimiro 5.92 16 Pn **Pn 14 17 29.3 +0.3**
GO06 Curarrehue 6.54 175 Pn **Pn 14 17 40.0 +2.4**
AC02 Maricunga 6.77 24 Pn 14 17 42.1 +1.0
PLCA Paso Flores 7.77 170 Pn **Pn 14 17 56.9 +2.3**
comp=Z,0.6nm,0.3s,baz=316,slow=11,SNR=19
PLCA Lg Lg 14 20 05.9
comp=Z,0.1nm,0.3s,baz=265,slow=19,SNR=1.8
PLCA LR LR 14 21 23.2
comp=Z,56nm,19.0s,baz=350,slow=42
comp=Z,2.0nm,0.4s
GO02 Mina Guanaco 8.21 17 Pn **Pn 14 18 00.2 -0.6**
PB14 IPOC Station P 8.56 11 Pn **Pn 14 18 04.6 -1.0**
LVC Limon Verde 10.82 17 LR LR 14 22 47.3
comp=Z,120nm,21.0s,baz=204,slow=38
CPUP Villa Florida 14.58 66 Pn **Pn 14 19 26.9 -0.9**
comp=Z,0.1nm,0.3s,baz=221,slow=16,SNR=1.7
CPUP LR LR 14 25 18.3
comp=Z,88nm,19.4s,baz=238,slow=39
comp=Z,0.9nm,0.6s
PB16 IPOC Station P 14.87 10 Pn **Pn 14 19 29.2 -3.0**
LPAZ La Paz 17.11 14 Pn **Pn 14 20 00.1 -1.1**
GO09 Cerro Castillo 18.20 180 Pn 14 20 12.9 -0.9
GO09 IAmb IAmb 14 20 25.0
comp=Z,74nm,0.9s
SIV San Ignacio 19.78 33 P **P 14 20 30.9 -0.8**
comp=Z,0.1nm,0.3s,baz=275,slow=12,SNR=5.1
comp=Z,1.3nm,0.3s
SAML Samuel 25.41 21 P **P 14 21 28.0 -1.1**
SAML IAmb IAmb 14 21 33.2
comp=Z,4.6nm,0.8s
BDFB Brasilia 27.96 57 P **P 14 21 51.0 -1.3**
comp=Z,1.9nm,0.5s,baz=82,slow=20,SNR=2.0
BDFB LR LR 14 33 54.9
comp=Z,88nm,19.9s,baz=296,slow=39
comp=Z,1.9nm,0.5s
PAYG Puerto Ayora 36.42 329 P **P 14 23 05.9 -0.3**
MDP Montagnes des 42.27 30 LR LR 14 43 14.1
comp=Z,46nm,20.3s,baz=116,slow=39
BELA Belgrano 2 47.83 170 P **P 14 24 38.5 -0.1**
BELA IAmb IAmb 14 25 07.9
comp=Z,5.5nm,1.5s
SNAA Sanae 52.51 158 P **P 14 25 13.8 -0.4**
SNAA IAmb IAmb 14 25 37.8
comp=Z,2.6nm,1.0s
SNAA Sanae 52.51 158 P **P 14 25 15.2 +1.0**
comp=Z,1.2nm,0.8s,baz=290,slow=8.7,SNR=6.3
comp=Z,1.2nm,0.8s
QSPA South Pole Qui 57.17 180 P **P 14 25 50.1 +1.9**
QSPA IAmb IAmb 14 25 53.9
comp=Z,4.3nm,1.1s
QSPA South Pole Qui 57.17 180 P **P 14 25 50.4 +2.2**
comp=Z,2.6nm,0.9s,baz=139,slow=2.5,SNR=8.7
comp=Z,2.6nm,0.9s
352A Blakely 65.31 348 P **P 14 26 41.8 -1.6**
TXAR Lajitas Array 68.84 331 P **P 14 27 08.7 +2.7**
comp=Z,0.2nm,0.5s,baz=158,slow=7.8,SNR=3.0
comp=Z,0.2nm,0.5s
MNTX Cornudas Mount 71.61 331 P **P 14 27 22.1 -0.8**
MNTX IAmb IAmb 14 27 35.0
comp=Z,1.8nm,0.8s
PAL Palisades 73.72 359 P **P 14 27 33.9 -1.2**
PAL IAmb IAmb 14 27 58.0
comp=Z,42nm,1.4s
MAW Mawson 74.12 164 P **P 14 27 38.6 +1.2**
MAW Mawson 74.12 164 P **P 14 27 38.4 +1.1**
comp=Z,2.4nm,0.9s,baz=180,slow=7.1,SNR=3.1
comp=Z,2.4nm,0.9s
BOSA Boshof 80.65 118 P **P 14 28 16.4 +1.5**
comp=Z,2.7nm,0.8s,baz=286,slow=5.8,SNR=3.1
comp=Z,2.7nm,0.8s
TORD Torodi Ar. Bea 84.05 70 P **P 14 28 34.0 +1.5**
comp=Z,1.8nm,0.9s,baz=276,slow=3.5,SNR=10.0
comp=Z,1.8nm,0.9s
LSZ Lusaka 90.26 108 LR LR 15 05 54.3
comp=Z,25nm,20.8s,baz=177,slow=33
H11S2 WAKE ISLAND Hyl 25.61 270 T T 16 53 49.5
baz=118,slow=74
H11S1 WAKE ISLAND Hyl 25.62 270 T T 16 53 49.1
baz=118,slow=74
H11S3 WAKE ISLAND Hyl 25.63 270 T T 16 53 53.4
baz=118
BVAR Borovoye Array 146.70 42 PKPbc **PKiKP 14 35 45.1 -0.5**
comp=Z,0.8nm,0.7s,baz=292,slow=4.3,SNR=4.1
KURBB Kurchatov Arra 152.30 42 PKPbc **PKiKP 14 35 59.0 +1.8**
comp=Z,0.4nm,0.2s,baz=283,slow=3.0,SNR=4.7
ZALV Zalesovo Beam 153.52 31 PKPbc **PKiKP 14 36 01.0 +1.4**
comp=Z,0.6nm,0.5s,baz=335,slow=5.4,SNR=3.6
MKAR Makanchi Array 156.26 47 PKPab **PKPab 14 36 25.2 +1.2**
comp=Z,0.5nm,0.7s,baz=324,slow=2.3,SNR=4.0
PZH PanZhiHua 171.63 140 PKP **PKPdf 14 36 10.8 +0.2**

NOU 13 14:19:30.8, 15.70S×167.76E, h9km, MLv3.8/4, Vanuatu Islands, Vanuatu Islands

---

IDC 13 14:25:31.7±8.7, 31.38N×135.82E, h525km±390km, mb2.5/2, mbtmp3.3/3, Error ellipse: s-maj=411.7km s-min=300.2km az=17.0, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.52**	**20**	P	P	14 27 04.5	0.0
	3.4nm,0.8s,baz=194,slow=7.9,SNR=7.2						
WRA	**Warramunga Arr**	**51.05**	**182**	P	P	14 33 45.1	-0.3
	0.3nm,0.3s,baz=358,slow=7.6,SNR=8.4						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**54.77**	**182**	P	P	14 34 12.0	+0.1
	0.2nm,0.6s,baz=3.2,slow=8.3,SNR=6.3						
	0.2nm,0.6s						

---

*IDC **13** 15:02:02.4±0.6, 1.16N×127.68E, h0km, mb4.3/17, mbtmp4.4/19, ML4.1/2, MS3.5/27, Error ellipse: s-maj=22.4km s-min=12.2km az=77.0*
*NEIC **13** 15:02:03.3±1.6, 1.22N±0.06×127.77E±0.06, h10km±5km, mb4.8/46, Error ellipse: s-maj=11.1km s-min=5.3km az=133.0*
*BJI **13** 15:02:05.0±0.0, 1.10N×127.80E, h25km, mb4.7/48, mB5.1/24, Ms4.6/7, Ms7 4.2/8*
*DJA **13** 15:02:05.1±0.3, 1.1N±3.3×12.8E±.1, h10km, M4.6/17, mb4.9/12, mB5.0/7, MLv4.7/17, Mw4.5/26, Mw(mB)4.2/7*

ISC 13 15:02:05.3±0.4, 1.06N±0.04×127.76E±0.05, h23km, n137, σ19.83/131, mb4.8/52, MS3.5/27, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.48**	**234**		**Pb**	**15 02 15.3**	**+0.2**
TNTI				Sg	**Sb**	**15 02 22.8**	**+1.0**
TNTI	**Ternate**	**0.48**	**234**	P	**Pb**	**15 02 16.1**	**+1.0**
LBMI	**Labuha**	**1.70**	**189**	P	**Pn**	**15 02 35.9**	**+2.3**
SANI	**Sanana**	**3.56**	**210**	P	**Pn**	**15 03 00.6**	**+1.5**
SWI	**Sorong**	**3.99**	**119**	P	**Pn**	**15 03 07.2**	**+2.1**
SIJI	**Sorong**	**4.00**	**119**	Pn	**Pn**	**15 03 07.1**	**+1.9**
	12nm,0.3s,baz=320,slow=8.8,SNR=42						
SIJI				Sn	**Sn**	**15 03 51.9**	**+0.4**
	10nm,0.3s,baz=275,slow=9.9,SNR=5.1						
SIJI				LR	LR	15 04 42.6	
	comp=Z,736nm,20.9s,baz=251,slow=39						
	36nm,0.3s						
NLAI	**Namlea**	**4.32**	**189**	P	**Pn**	**15 03 11.9**	**+2.3**
GTOI	**Gorontalo**	**4.76**	**265**	P	**Pn**	**15 03 19.4**	**+3.7**
LUWI	**Luwuk**	**5.40**	**247**	Pn	**Pn**	**15 03 24.7**	**+0.2**
MRSI	**Marisa**	**5.84**	**264**	P	**Pn**	**15 03 32.3**	**+1.7**
	118nm,0.7s,1μm0.4nm						
BNDI	**Bandanaira**	**5.94**	**159**	P	**Pn**	**15 03 34.6**	**+2.6**
	113nm,0.7s,0.9nm						
FAKI	**Fak Fak**	**5.98**	**131**	Pn	**Pn**	**15 03 35.8**	**+3.3**
FAKI	**Fak Fak**	**5.98**	**131**	P	**Pn**	**15 03 35.0**	**+2.5**
	81nm,0.8s,733nm0.3nm						
TOLI2	**Tolitoli**	**6.97**	**271**	Pn	**Pn**	**15 03 49.1**	**+3.0**
MPSI	**Mapaga**	**7.89**	**265**	P	**Pn**	**15 04 01.6**	**+2.9**
	34nm,0.8s,0.1nm						
TTSI	**Tana Toraja**	**8.92**	**243**	P	**Pn**	**15 04 15.1**	**+2.3**
	113nm,0.7s,986nm						
BKSI	**Bulukumba**	**9.91**	**230**	P	**Pn**	**15 04 29.3**	**+2.8**
	46nm,0.6s,546nm						
KAPI	**Kappang**	**10.02**	**233**	Pn	**Pn**	**15 04 28.3**	**+0.4**
KAPI	**Kappang**	**10.02**	**233**	Pn	**Pn**	**15 04 28.9**	**+1.0**
	1.9nm,0.3s,baz=40,slow=12,SNR=3.1						
KAPI				Sn	**Sn**	**15 06 20.8**	**+1.2**
	1.9nm,0.3s,baz=338,slow=23,SNR=7.4						
KAPI				LR	LR	15 08 39.7	
	comp=Z,241nm,21.0s,baz=52,slow=40						
	11nm,0.5s						
MYLDM	**Lahad Datu**	**10.11**	**294**	Pn	**Pn**	**15 04 30.2**	**+1.1**
BATI	**Baumata**	**11.91**	**200**	LR	LR	15 09 37.0	
	comp=Z,505nm,21.2s,baz=26,slow=38						
MTN	**Manton Dam**	**14.21**	**166**	Pn	**P**	**15 05 30.1**	**-2.4**
TWSI	**Taliwang, Sumb**	**14.56**	**228**	P	**Pn**	**15 05 34.0**	**+3.9**
SBUM	**Sibu**	**15.59**	**275**	Pn	**Pn**	**15 05 42.6**	**-1.1**
JAGI	**Jajag, Banyuwa**	**16.54**	**235**		**Pn**	**15 05 56.0**	**+0.1**
JAGI				IAmb	IAmb	15 06 04.0	
	comp=Z,90nm,1.0s						
KNRA	**Kununurra**	**16.66**	**177**		**Pn**	**15 05 54.2**	**-3.2**
KSM	**Kuching**	**17.45**	**272**	Pn	**Pn**	**15 06 02.4**	**-5.0**
UGM	**Wanagama**	**19.36**	**242**	P	**P**	**15 06 27.9**	**-1.6**
GUMO	**Guam**	**21.02**	**53**	LR	LR	15 14 32.3	
	comp=Z,93nm,18.8s,baz=241,slow=36						
WB0	**Warramunga Arr**	**21.70**	**163**	P	**P**	**15 06 55.1**	**+0.3**
WB0				IAmb	IAmb	15 07 09.2	
	comp=Z,46nm,1.1s						
WRAB	**Tennant Creek**	**21.84**	**163**	P	**P**	**15 06 56.5**	**+0.1**
WRAB				IAmb	IAmb	15 07 06.4	
	comp=Z,40nm,0.8s						
WRA	**Warramunga Arr**	**21.84**	**163**	P	**P**	**15 06 56.4**	**0.0**
WRA	**Warramunga Arr**	**21.84**	**163**	P	**P**	**15 06 59.0**	**+2.6**
	comp=Z,17nm,0.7s,baz=342,slow=10,SNR=52						
WRA				S	**S**	**15 10 51.8**	**-5.2**
	comp=Z,0.4nm,0.3s,baz=337,slow=16,SNR=2.5						
	comp=Z,17nm,0.7s						
WB2	**Warramunga Arr**	**21.85**	**163**	P	**P**	**15 06 55.7**	**-0.7**
WB2				IAmb	IAmb	15 07 06.4	
	comp=Z,40nm,0.9s						
WR0	**Warramunga Arr**	**21.92**	**163**	P	**P**	**15 06 58.3**	**+1.1**
WR0				IAmb	IAmb	15 07 07.3	
	comp=Z,23nm,0.9s						
PMG	**Port Moresby**	**21.94**	**119**	LR	LR	15 16 46.9	
	comp=Z,282nm,21.5s,baz=293,slow=40						
YULB	**Yu-li**	**23.07**	**345**	P	**P**	**15 07 06.9**	**-2.4**
TPUB	**Ta-pu**	**23.17**	**343**	P	**P**	**15 07 06.8**	**-3.6**
TPUB				IAmb	IAmb	15 07 10.2	
	comp=Z,39nm,0.7s						
MBWA	**Marble Bar**	**23.43**	**199**	P	**P**	**15 07 12.5**	**-0.5**
SSLB	**Suanglung**	**23.54**	**344**	P	**P**	**15 07 12.0**	**-2.0**
PSA00	**Pilbara Seismi**	**23.78**	**199**	P	**P**	**15 07 16.7**	**+0.3**
MYKOM	**Kota Tinggi**	**23.91**	**272**	P	**P**	**15 07 17.5**	**-0.2**
MYKOM				IAmb	IAmb	15 07 20.3	
	comp=Z,30nm,1.3s						
KNMB	**Chin-men Tao**	**24.97**	**339**	P	**P**	**15 07 25.6**	**-1.6**
QIZ	**Qiongzhong**	**25.05**	**317**	P	**P**	**15 07 27.6**	**-0.5**
QIZ				S	**S**	**15 11 52.5**	**+1.2**
QIZ				LR	LR		
	comp=Z,390nm,8.8s						
QIZ				LR	LR		
	comp=Z,300nm,6.7s						
QIZ				LR	LR		
	comp=Z,290nm,7.8s						
AS31	**Alice Springs**	**25.29**	**167**	P	**P**	**15 07 31.5**	**+1.2**
ASAR	**Alice Springs**	**25.29**	**167**	P	**P**	**15 07 31.0**	**+0.8**
ASAR	**Alice Springs**	**25.29**	**167**	P	**P**	**15 07 32.0**	**+1.8**
	comp=Z,4.2nm,0.8s,baz=345,slow=10,SNR=58						
ASAR				S	**S**	**15 11 56.2**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=348,slow=20,SNR=1.4						
ASAR				ScP	**ScP**	**15 14 42.2**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=322,slow=2.0,SNR=5.7						
ASAR				LR	LR	15 17 36.1	
	comp=Z,178nm,20.1s,baz=337,slow=37						
	comp=Z,4.2nm,0.8s						
JOW	**Kunigami**	**25.63**	**1**	LR	LR	15 19 46.5	
	comp=Z,39nm,19.4s,baz=294,slow=42						
CTA	**Charters Tower**	**27.76**	**140**	LR	LR	15 20 47.0	
	comp=Z,174nm,20.2s,baz=317,slow=40						
JCJ	**Chichijima**	**29.36**	**27**	LR	LR	15 17 31.4	
	comp=Z,88nm,21.7s,baz=110,slow=32						
FORT	**Forrest**	**31.66**	**180**	P	**P**	**15 08 27.7**	**+0.7**
NJ2	**Nanjing**	**31.95**	**346**	*eP*	**P**	**15 08 32.4**	**+2.9**
NJ2				pP	**pP**	**15 08 36.3**	**-0.2**
NJ2				sP	**sP**	**15 08 40.6**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,260nm,3.8s						
WHN	**Wuhan**	**31.97**	**338**	P	P	15 08 36.3	+6.6
MORW	**Morawa**	**31.98**	**200**	P	**P**	**15 08 29.2**	**-0.6**
JNU	**Nakatsue**	**32.03**	**5**	P	**P**	**15 08 28.1**	**-2.2**
JNU				IAmb	IAmb	15 08 30.6	
	comp=Z,26nm,1.0s						
JNU	**Nakatsue**	**32.03**	**5**	LR	LR	15 18 57.6	
	comp=Z,55nm,20.2s,baz=184,slow=32						
CMAR	**Chiang Mai Arr**	**33.14**	**303**	P	**P**	**15 08 37.0**	**-3.2**
CMAR	**Chiang Mai Arr**	**33.14**	**303**	P	**P**	**15 08 40.0**	**-0.2**
	comp=Z,2.0nm,1.0s,baz=126,slow=7.0,SNR=9.6						
	comp=Z,2.0nm,1.0s						
CHTO	**Chiang Mai**	**33.31**	**304**	P	**P**	**15 08 38.3**	**-3.4**
HNR	**Honiara**	**33.71**	**109**	LR	LR	15 22 53.5	
	comp=Z,1μm,21.4s,baz=340,slow=37						
JHJ	**Hachijo jima 2**	**33.84**	**18**	LR	LR	15 22 23.2	
	comp=Z,94nm,18.5s,baz=258,slow=36						
BBOO	**Buckleboo**	**34.59**	**168**	P	**P**	**15 08 52.2**	**-0.3**
INU	**Inuyama**	**35.19**	**13**	P	**P**	**15 08 56.1**	**-1.6**
INU				IAmb	IAmb	15 08 57.6	
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**35.28**	**159**	P	**P**	**15 09 00.8**	**+2.3**
	comp=Z,5.6nm,0.8s,baz=329,slow=7.8,SNR=10						
	comp=Z,5.6nm,0.8s						
PZH	**PanZhiHua**	**35.58**	**318**	P	**P**	**15 09 02.6**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,250nm,5.5s						
KSAR	**Wonju Array Be**	**36.21**	**0**	P	**P**	**15 09 03.5**	**-2.9**
KSRS	**Korea Array**	**36.22**	**0**	P	**P**	**15 09 06.2**	**-0.2**
	comp=Z,6.5nm,0.9s,baz=176,slow=9.9,SNR=17						
	comp=Z,6.5nm,0.9s						
KS19	**Wonju Array Si**	**36.27**	**0**	P	**P**	**15 09 04.5**	**-2.4**
MAJO	**Matsushiro**	**36.61**	**14**	P	**P**	**15 09 08.7**	**-1.2**
MAJO				IAmb	IAmb	15 09 10.7	
	comp=Z,14nm,0.8s						
MJAR	**Matsushiro Arr**	**36.61**	**14**	P	**P**	**15 09 08.3**	**-1.5**
	comp=Z,8.4nm,0.8s,baz=189,slow=9.6,SNR=15						
MJAR				LR	LR	15 23 30.8	
	comp=Z,119nm,18.8s,baz=198,slow=35						
	comp=Z,8.4nm,0.8s						
MJB9	**Matsu-Tunnel**	**36.62**	**14**	P	**P**	**15 09 09.0**	**-0.9**
MJB9				IAmb	IAmb	15 09 11.7	
	comp=Z,14nm,0.8s						
TNCH	**TengChong**	**36.95**	**313**	*eP*	**P**	**15 09 14.5**	**+1.4**
TNCH				pP	sP	15 09 23.3	+0.2
TNCH				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN	**Xi'an**	**37.25**	**334**	P	**P**	**15 09 15.8**	**+0.4**
XAN				pP	pP	15 09 22.6	+0.2
XAN				pmax	pmax		
	comp=Z,21nm,1.3s						
HNS	**HongShan**	**38.12**	**343**	⇓P	**P**	**15 09 26.1**	**+3.5**
JMM	**Marumori**	**38.55**	**17**	P	**P**	**15 09 26.2**	**0.0**
JMM				IAmb	IAmb	15 09 27.8	
	comp=Z,17nm,0.8s						
BJT	**Baijiatuau**	**40.19**	**346**	P	**P**	**15 09 38.0**	**-1.9**
BJT				IAmb	IAmb	15 09 49.5	
	comp=Z,49nm,1.6s						
BJI	**Beijing**	**40.21**	**346**	P	**P**	**15 09 40.4**	**+0.4**
BJI				pP	**pP**	**15 09 45.5**	**-1.6**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LZH	**Lanzhou**	**41.31**	**330**	*eP*	**P**	**15 09 51.0**	**+1.5**
LZH				pP	sP	15 09 58.8	-0.7
LZH				sP	pP	15 10 04.3	+7.7
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
HHC	**Hu-ho-hao-te**	**42.24**	**342**	*eP*	**P**	**15 09 59.0**	**+2.1**
HHC				pmax	pmax		
	comp=Z,70nm,1.0s						
HHC				pmax	pmax		
	comp=Z,310nm,4.6s						
HHC				LR	LR		
	comp=Z,390nm,12.9s						
HHC				LR	LR		
	comp=Z,400nm,12.0s						
HHC				LR	LR		
	comp=Z,300nm,12.4s						
BTO	**Baotou**	**42.53**	**340**	*eP*	**P**	**15 10 02.9**	**+3.6**
BTO				PP	**PP**	**15 11 39.8**	**+1.7**
BTO				S	**S**	**15 16 23.9**	**+3.4**
BTO				pmax	pmax		
	comp=Z,19nm,0.5s						
BTO				pmax	pmax		
	comp=Z,330nm,5.0s						
BTO				LR	LR		
	comp=Z,310nm,7.9s						
BTO				LR	LR		
	comp=Z,180nm,7.1s						
BTO				LR	LR		
	comp=Z,350nm,8.4s						
ERM	**Erimo**	**43.07**	**17**	P	**P**	**15 10 01.2**	**-2.2**
USA0B	**Ussuriysk Arra**	**43.12**	**4**	P	**P**	**15 10 01.6**	**-2.2**
USA0B				IAmb	IAmb	15 10 04.9	
	comp=Z,20nm,0.9s						
USRK	**Ussuriysk Ar.**	**43.12**	**4**	P	**P**	**15 10 01.3**	**-2.6**
USRK	**Ussuriysk Ar.**	**43.12**	**4**	P	**P**	**15 10 04.2**	**+0.3**
	comp=Z,16nm,0.8s,baz=187,slow=7.4,SNR=20						
	comp=Z,16nm,0.8s						
MDJ	**Mudanjiang**	**43.41**	**2**	P	**P**	**15 10 06.6**	**+0.5**
MDJ				PP	**PP**	**15 11 47.5**	**+0.2**
MDJ				PcP	**PcP**	**15 11 51.4**	**-3.0**
MDJ				PcS	**PcS**	**15 15 46.6**	**-0.2**
MDJ				S	**S**	**15 16 36.5**	**+3.5**
MDJ				sS	sS	15 16 48.8	+4.1
MDJ				pmax	pmax		
	comp=Z,30nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,150nm,5.6s						
MDJ	**Mudanjiang**	**43.41**	**2**	P	**P**	**15 10 04.0**	**-2.1**
MDJ				IAmb	IAmb	15 10 07.4	
	comp=Z,22nm,0.9s						
XLT	**XiLinHaoTe**	**43.91**	**348**	*eP*	**P**	**15 10 10.3**	**0.0**
XLT				pP	sP	15 10 25.4	+5.0
XLT				pmax	pmax		
	comp=Z,14nm,0.9s						
XLT				pmax	pmax		
	comp=Z,170nm,9.0s						
DZM	**Mont Dzumac**	**44.19**	**124**	LR	LR	15 29 50.4	
	comp=Z,50nm,18.5s,baz=45,slow=38						
ASAJ	**Asahikawa**	**44.86**	**15**	LR	LR	15 29 10.1	
	comp=Z,69nm,18.8s,baz=189,slow=36						
GTA	**Gaotai**	**45.90**	**330**	*eP*	**P**	**15 10 27.4**	**+1.0**
GTA				pP	sP	15 10 36.0	-0.4
GTA				sP	pP	15 10 40.1	+6.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
RAMN	**Ramite**	**47.14**	**307**	*eP*	**P**	**15 10 37.1**	**+0.7**
	comp=Z,22nm,1.0s						
JIRN	**Jiri**	**47.78**	**307**	*eP*	**P**	**15 10 41.7**	**+0.2**
	comp=Z,15nm,0.8s						
KLR	**Kul'dur**	**48.11**	**4**	LR	LR	15 30 36.4	
	comp=Z,30nm,21.5s,baz=182,slow=36						
GUN	**Gumba**	**48.14**	**308**	*eP*	**P**	**15 10 44.5**	**+0.2**
	comp=Z,5.7nm,0.5s						
HEH	**HeiHe**	**49.02**	**360**	*eP*	**P**	**15 10 49.5**	**-0.7**
HEH				pmax	pmax		
	comp=Z,15nm,1.4s						
ULN	**Ulaanbaatar**	**49.96**	**342**	P	**P**	**15 10 56.3**	**-1.4**
ULN				IAmb	IAmb	15 10 59.7	
	comp=Z,11nm,0.9s						
DANN	**Dangsing**	**50.01**	**307**	*eP*	**P**	**15 10 58.7**	**+0.1**
	comp=Z,15nm,0.6s						
SONM	**Songino Array**	**50.14**	**341**	P	**P**	**15 10 57.0**	**-2.1**
SONM	**Songino Array**	**50.14**	**341**	P	**P**	**15 10 59.6**	**+0.6**
	comp=Z,3.8nm,0.7s,baz=155,slow=8.7,SNR=16						
SONM				LR	LR	15 32 33.7	
	comp=Z,68nm,18.9s,baz=150,slow=37						
	comp=Z,3.8nm,0.7s						
PYUN	**Piuthan**	**50.53**	**306**	*eP*	**P**	**15 11 03.0**	**+0.6**
	comp=Z,13nm,0.6s						
WMQ	**Urumqi**	**55.49**	**326**	*eP*	**P**	**15 11 38.9**	**+0.3**
WMQ				pP	sP	15 11 48.5	-0.2
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
WMQ				LR	LR		
	comp=Z,110nm,21.9s						
PETK	**Petropavlovsk-**	**57.52**	**21**	P	**P**	**15 11 53.8**	**+1.0**
	comp=Z,5.4nm,0.9s,baz=188,slow=4.0,SNR=4.3						
	comp=Z,5.4nm,0.9s						
RPZ	**Rata Peaks**	**59.00**	**145**	LR	LR	15 39 15.9	
	comp=Z,72nm,18.1s,baz=279,slow=38						
MK31	**Makanchi Array**	**60.32**	**326**	P	**P**	**15 12 12.8**	**+0.4**
MK31				IAmb	IAmb	15 12 28.9	
	comp=Z,11nm,1.5s						
MKAR	**Makanchi Array**	**60.32**	**326**	P	**P**	**15 12 12.4**	**0.0**
MKAR	**Makanchi Array**	**60.32**	**326**	P	**P**	**15 12 12.9**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=120,slow=8.2,SNR=34						
	comp=Z,3.3nm,0.6s						
MAKZ	**Makanchi**	**60.51**	**326**	P	**P**	**15 12 13.1**	**-0.5**
MAKZ				IAmb	IAmb	15 12 19.9	
	comp=Z,4.4nm,0.8s						
KSH	**Kashi**	**60.65**	**316**	P	**P**	**15 12 17.1**	**+2.2**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YAK	**Yakutsk**	**60.84**	**1**	P	**P**	**15 12 13.8**	**-1.7**
MA2	**Magadan**	**61.05**	**13**	LR	LR	15 36 15.7	
	comp=Z,12nm,21.9s,baz=246,slow=34						
ZAA0	**Zalesovo Array**	**63.42**	**333**	P	**P**	**15 12 31.2**	**-1.8**
ZAA0				IAmb	IAmb	15 12 34.0	
	comp=Z,10nm,1.6s						
ZALV	**Zalesovo Beam**	**63.42**	**333**	P	**P**	**15 12 31.8**	**-1.2**
ZALV	**Zalesovo Beam**	**63.42**	**333**	P	**P**	**15 12 31.6**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=149,slow=4.7,SNR=5.3						
	comp=Z,1.4nm,0.7s						
KBL	**Kabul**	**63.96**	**308**	P	**P**	**15 12 36.1**	**-1.1**
KBL				IAmb	IAmb	15 12 39.5	
	comp=Z,6.1nm,0.8s						
SHEM	**Shemya Is, Ala**	**64.26**	**29**	LR	LR	15 36 49.3	
	comp=Z,23nm,19.8s,baz=250,slow=32						
BTK	**Batken**	**64.51**	**315**	P	**P**	**15 12 38.5**	**-2.1**
BTK				IAmb	IAmb	15 12 55.5	
	comp=Z,4.6nm,0.8s						
KURBB	**Kurchatov Arra**	**64.53**	**328**	P	**P**	**15 12 40.5**	**+0.1**
	comp=Z,5.4nm,0.6s,baz=127,slow=6.1,SNR=20						
	comp=Z,5.4nm,0.6s						
KURK	**Kurchatov**	**64.53**	**328**	P	**P**	**15 12 40.1**	**-0.3**
KK31	**Karatay Array**	**65.88**	**318**	P	**P**	**15 12 48.5**	**-0.9**
KKAR	**Karatay Array**	**65.88**	**318**	P	**P**	**15 12 48.8**	**-0.5**
KKAR	**Karatay Array**	**65.88**	**318**	P	**P**	**15 12 48.6**	**-0.7**
KKAR				IAmb	IAmb	15 12 57.4	
	comp=Z,4.0nm,0.9s						
BVAR	**Borovoye Array**	**70.11**	**327**	P	**P**	**15 13 15.5**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=125,slow=7.8,SNR=14						
	comp=Z,2.4nm,0.7s						
BRVK	**Borovoye**	**70.18**	**327**	P

comp=Z,1.0nm,0.8s,baz=270,slow=3.0,SNR=2.0

*IDC **13** 15:09:16.0±8.1,26°.14S×28°.78E,h0km,mbtmp2.7/1, ML2.3/1, Error ellipse: s-maj=82.2km s-min=55.1km az=141.0*
*EAF **13** 15:09:17.6,25°.93S×29°.46E,h19km,MC3.6*
*BUL **13** 15:09:20.1±1.0,25°.90S×29°.38E,h10km±12km,MD3.8*
ISC 13 15:09:02.0±1.2,26°.10S±0°.05×29°.43E±0°.06,h10km,n13, σ2°.05/23,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.13**	**35**	*i* P	**Pg**	**15 10 04.0**	**+1.9**
MOPA				*i* S	**Sb**	**15 10 35.4**	**-0.7**
MOPA	**Mopani**	**3.13**	**35**	*i* P	**Pg**	**15 10 04.0**	**+1.9**
baz=37							
MOPA				*i* S	**Sb**	**15 10 35.4**	**-0.7**
baz=37							
LBTB	**Lobatse**	**3.62**	**286**	*i* P	**Pg**	**15 10 11.7**	**+0.3**
LBTB				*i* S	**Sb**	**15 10 51.1**	**+0.8**
LBTB	**Lobatse**	**3.62**	**286**	*i* P	**Pg**	**15 10 11.7**	**+0.3**
baz=284							
LBTB				*i* S	**Sb**	**15 10 51.1**	**+0.8**
baz=284							
MUSN	**Musina, Limpop**	**3.81**	**6**	*i* P	**Pg**	**15 10 14.4**	**-0.8**
MUSN				*i* S	**Sb**	**15 10 53.4**	**-2.3**
MUSN	**Musina, Limpop**	**3.81**	**6**	*i* P	**Pg**	**15 10 14.4**	**-0.8**
baz=6.0							
MUSN				*i* S	**Sb**	**15 10 53.4**	**-2.3**
baz=6.0							
BOSA	**Boshof**	**4.48**	**235**	*i* P	**Pg**	**15 10 27.0**	**-0.8**
BOSA				*i* S	**Sb**	**15 11 15.5**	**+0.5**
BOSA	**Boshof**	**4.48**	**235**	Pn	**Pb**	**15 10 18.5**	**-2.4**
0.1nm,0.3s,baz=53,slow=14,SNR=1.4							
BOSA				Pg	**Pg**	**15 10 29.3**	**+1.4**
0.7nm,0.3s,baz=55,slow=16,SNR=11							
BOSA				Sn	**Sn**	**15 11 04.0**	**+1.7**
1.1nm,0.3s,baz=48,slow=12,SNR=6.2							
BOSA				Lg	Lg	15 11 21.7	
8.7nm,0.3s,baz=122,slow=5.1,SNR=22							
BOSA				Rg	Rg	15 11 32.4	
14nm,0.4s,baz=134,slow=9.2,SNR=6.6							
1.6nm,0.7s							
BOSA	**Boshof**	**4.48**	**235**	*i* P	**Pg**	**15 10 27.0**	**-0.8**
baz=233							
BOSA				*i* S	**Sb**	**15 11 15.5**	**+0.5**
baz=233							
I47ZA	**BOSHOF INFRASO**	**4.50**	**235**	I	I	15 37 30.0	
baz=53,slow=318,SNR=1.7							
MATP	**Matopo**	**5.71**	**351**	*i* P	**Pb**	**15 10 39.5**	**-2.3**
MATP				*i* S	**Sn**	**15 11 37.2**	**+4.5**
MATP	**Matopo**	**5.71**	**351**	*i* P	**Pb**	**15 10 39.5**	**-2.3**
baz=351							
MATP				*i* S	**Sn**	**15 11 37.2**	**+4.5**
baz=351							
I35NA	**TSUMEB INFRASO**	**12.91**	**300**	I	I	16 22 30.0	
baz=125,slow=320,SNR=1.8							

*IDC **13** 15:17:03.6±1.1,42°.14N×83°.29E,h0km,mb3.6/4, mbtmp3.4/9,ML3.0/5,Error ellipse: s-maj=22.0km s-min=13.5km az=69.0*
*SOME **13** 15:17:04.4,42°.03N×83°.38E,h10km*
*NNC **13** 15:17:10.4±1.7,42°.34N×83°.24E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=13.9km s-min=7.8km az=146.0*
ISC 13 15:17:05.7±1.5,42°.08N±0°.10×83°.48E±0°.08,h10km,n39, σ2°.14/42,mb3.6/4,7C-4D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.15**	**291**	*e*Pg	**Pn**	**15 17 57.7**	**+2.2**
68nm,0.4s							
SHLS				*e*Lg	Lg	15 18 36.9	
404nm,0.6s							
PDGK	**Podgornoye**	**3.19**	**294**	Pg	**Pb**	**15 18 02.7**	**+0.1**
4.6nm,0.2s							
PDGK				Lg	Lg	15 18 44.6	
89nm,0.6s							
PDGK	**Podgornoye**	**3.19**	**294**	⇓Pn	**Pb**	**15 18 00.1**	**-2.5**
11nm,0.5s							
PDGK				⇑Lg	Lg	15 18 44.8	
155nm,0.7s							
UZB	**Uzynbulak**	**3.46**	**289**	Pg	**Pb**	**15 18 06.7**	**-0.4**
12nm,0.3s							
UZB				Lg	Lg	15 18 52.2	
62nm,0.6s							
UZB	**Uzynbulak**	**3.46**	**289**	*e*Pg	**Pb**	**15 18 06.7**	**-0.4**
12nm,0.3s							
UZB				*e*Lg	Lg	15 18 52.2	
62nm,0.6s							
DJR	**Jarkent**	**3.51**	**311**	Pg	**Pb**	**15 18 07.4**	**-0.5**
11nm,0.3s							
DJR				Lg	Lg	15 18 52.9	
64nm,0.5s							
DJR	**Jarkent**	**3.51**	**311**	*e*Pg	**Pb**	**15 18 08.7**	**+0.7**
11nm,0.3s							
DJR				*e*Lg	Lg	15 18 54.8	
64nm,0.5s							
KPKS	**Kokpek**	**3.79**	**293**	Pg	**Pb**	**15 18 13.5**	**+0.8**
12nm,0.2s							
KPKS				Lg	Lg	15 19 03.1	
117nm,0.4s							
KPKS	**Kokpek**	**3.79**	**293**	*e*Pg	**Pb**	**15 18 13.5**	**+0.8**
12nm,0.2s							
KPKS				*e*Lg	Lg	15 19 03.1	
117nm,0.4s							
SATY	**Saty**	**3.87**	**286**	Pg	**Pb**	**15 18 14.9**	**+0.8**
10nm,0.2s							
SATY				Lg	Lg	15 19 06.5	
94nm,0.4s							
SATY	**Saty**	**3.87**	**286**	*e*Pg	**Pb**	**15 18 14.9**	**+0.8**
10nm,0.2s							
SATY				*e*Lg	Lg	15 19 06.5	
94nm,0.4s							
KNOS	**Konyrlen**	**3.88**	**307**	Pg	**Pb**	**15 18 15.3**	**+1.0**
9.6nm,0.2s							
KNOS				Lg	Lg	15 19 05.9	
52nm,0.3s							
KURS	**Kuram**	**4.15**	**292**	Pg	**Pb**	**15 18 21.8**	**+3.0**
3.5nm,0.3s							
KURS				Lg	Lg	15 19 17.5	
31nm,0.6s							
KURS	**Kuram**	**4.15**	**292**	*e*Pg	**Pb**	**15 18 19.6**	**+0.8**
3.5nm,0.3s							
KURS				*e*Lg	Lg	15 19 14.1	
31nm,0.6s							
ARXS	**Arharly**	**4.65**	**299**	*e*Pg	**Pb**	**15 18 27.9**	**+0.5**
6.8nm,0.3s							
ARXS				*e*Lg	Lg	15 19 28.3	
65nm,0.5s							
MK31	**Makanchi Array**	**4.79**	**350**	⇑Pn	**Pn**	**15 18 19.6**	**+1.8**
0.4nm,0.3s,baz=173,slow=10,SNR=63							
MK31				Pg	**Pb**	**15 18 32.5**	**+2.9**
4.1nm,0.3s,baz=172,slow=15,SNR=36							
MK31				⇓Lg	Lg	15 19 33.5	
33nm,0.5s,baz=165,slow=32,SNR=12							
MKAR	**Makanchi Array**	**4.79**	**350**	Pn	**Pn**	**15 18 19.2**	**+1.4**
0.6nm,0.3s,baz=166,slow=12,SNR=16							
MKAR				Pg	**Pb**	**15 18 30.0**	**+0.3**
2.5nm,0.3s,baz=170,slow=15,SNR=33							
MKAR				Sn	**Sn**	**15 19 12.3**	**-1.1**
3.1nm,0.3s,baz=155,slow=21,SNR=5.5							
MKAR				Lg	Lg	15 19 32.7	
7.6nm,0.3s,baz=170,slow=29,SNR=11							
0.6nm,0.3s							
KOTS	**Kotyrbulak**	**4.83**	**286**	Pg	**Pb**	**15 18 30.9**	**+0.4**
5.5nm,0.4s							
KOTS				Lg	Lg	15 19 33.2	
45nm,0.8s							
KOTS	**Kotyrbulak**	**4.83**	**286**	*e*Pg	**Pb**	**15 18 30.9**	**+0.4**
5.5nm,0.4s							
KOTS				*e*Lg	Lg	15 19 33.2	
45nm,0.8s							
MAKZ	**Makanchi**	**4.84**	**348**	⇑Pn	**Pn**	**15 18 21.0**	**+2.3**
1.2nm,0.5s							
MAKZ				⇓Pg	**Pb**	**15 18 32.6**	**+2.0**
11nm,0.9s							
MAKZ				⇑Sn	**Sn**	**15 19 16.0**	**+1.2**
12nm,0.7s							
MAKZ				⇑Lg	Lg	15 19 34.7	
33nm,0.8s							
TNSS	**Tian-Shan**	**4.92**	**283**	*e*Pg	**Pb**	**15 18 32.2**	**0.0**
3.5nm,0.2s							
TNSS				*e*Lg	Lg	15 19 36.1	
13nm,0.6s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKK	**Chushkaly**	**5.08**	**293**	Pg	**Pb**	**15 18 37.9**	**+3.2**
1.9nm,0.1s							
CHKK				Lg	Lg	15 19 45.2	
37nm,0.3s							
CHKK	**Chushkaly**	**5.08**	**293**	*e*Pg	**Pb**	**15 18 37.9**	**+3.2**
1.9nm,0.1s							
CHKK				*e*Lg	Lg	15 19 45.2	
37nm,0.3s							
KUU	**Kurty**	**5.54**	**291**	Pg	**Pb**	**15 18 46.9**	**+4.4**
1.3nm,0.1s							
KUU				Lg	Lg	15 20 00.7	
24nm,0.6s							
KUU	**Kurty**	**5.54**	**291**	*e*Pg	**Pb**	**15 18 46.9**	**+4.4**
1.3nm,0.1s							
KUU				*e*Lg	Lg	15 20 00.7	
24nm,0.6s							
DGS	**Degeres**	**5.80**	**284**	Pg	**Pb**	**15 18 51.1**	**+4.1**
2.5nm,0.4s							
DGS				Lg	Lg	15 20 08.2	
25nm,0.6s							
DGS	**Degeres**	**5.80**	**284**	*e*Pg	**Pb**	**15 18 51.1**	**+4.1**
2.5nm,0.4s							
DGS				*e*Lg	Lg	15 20 08.2	
25nm,0.6s							
TKM2	**Tokmak 2**	**5.89**	**281**	⇑Pn	Pn	15 18 38.6	+5.4
1.8nm,0.5s							
TKM2				⇑Lg	Lg	15 20 12.2	
15nm,0.8s							
KRBS	**Karabastau**	**5.96**	**288**	Pg	**Pb**	**15 18 52.6**	**+3.0**
2.0nm,0.4s							
KRBS				Lg	Lg	15 20 10.3	
5.8nm,0.4s							
KRBS	**Karabastau**	**5.96**	**288**	*e*Pg	**Pb**	**15 18 52.6**	**+3.0**
2.0nm,0.4s							
KRBS				*e*Lg	Lg	15 20 10.3	
5.8nm,0.4s							
AAK	**Ala-Archa**	**6.68**	**278**	Pn	**Pn**	**15 18 44.5**	**+0.5**
0.3nm,0.3s,baz=68,slow=18,SNR=1.7							
AAK				Lg	Lg	15 20 30.5	
0.4nm,0.3s,baz=86,slow=19,SNR=1.4							
0.8nm,0.3s							
AML	**Almayashu**	**7.28**	**274**	⇓Pg	**Pg**	**15 19 23.2**	**-1.9**
0.1nm,0.5s							
KURBB	**Kurchatov Arra**	**9.20**	**340**	Pn	**Pn**	**15 19 16.8**	**-1.6**
0.1nm,0.3s,baz=159,slow=11,SNR=3.2							
KURBB				Lg	Lg	15 21 50.8	
baz=152,slow=34							
1.2nm,0.2s							
ZALV	**Zalesovo Beam**	**11.91**	**4**	Pn	**Pn**	**15 19 53.4**	**-1.9**
0.1nm,0.3s,baz=187,slow=13,SNR=1.8							
ZALV				Sn	**Sn**	**15 22 07.3**	**-0.8**
0.2nm,0.3s,baz=189,slow=18,SNR=2.7							
ZALV				Lg	Lg	15 23 19.9	
0.2nm,0.3s,baz=186,slow=26,SNR=2.7							
0.3nm,0.3s							
SONM	**Songino Array**	**17.18**	**63**	P	**Pn**	**15 21 07.2**	**+1.3**
0.2nm,0.3s,baz=256,slow=11,SNR=2.6							
0.4nm,0.5s							
ARCES	**ARCESS Array B**	**40.19**	**332**	P	**P**	**15 24 40.6**	**-1.2**
1.4nm,0.9s,baz=97,slow=7.4,SNR=5.0							
1.4nm,0.9s							
ILAR	**Eielson Array**	**66.44**	**21**	P	**P**	**15 27 53.5**	**-1.1**
0.3nm,0.7s,baz=334,slow=6.2,SNR=4.3							
0.3nm,0.7s							
WRA	**Warramunga Arr**	**77.55**	**132**	P	P	15 29 02.2	+0.4
0.3nm,0.5s,baz=330,slow=5.5,SNR=5.5							
0.3nm,0.5s							
ASAR	**Alice Springs**	**80.31**	**134**	P	P	15 29 17.1	+0.2
0.3nm,0.7s,baz=328,slow=5.5,SNR=5.0							
0.3nm,0.7s							

ISK 13 15:27:11.3,37°.32N×27°.85E,h5km,ML0.9/3,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.07**	**248**	Pg	Pg	15 27 13.2	+0.3
MLSB				Sg	Sg	15 27 14.6	+0.7
RFTAA	**Mazikoy-Bodrum**	**0.33**	**195**	Pg	Pg	15 27 18.3	+0.6
RFTAA				Sg	Sg	15 27 23.5	+1.4
RFTC	**Emecik-Datca**	**0.54**	**183**	Pg	Pg	15 27 22.3	+0.6
RFTC				Sg	Sb	15 27 30.3	-1.0

AFAD 13 15:27:59.7±0.0,38°.69N×27°.83E,h7km±3km,ML1.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.19**	**356**	P	Pg	15 28 03.3	-0.2
AKHS				*i* AML	AML	15 28 06.0	
comp=Z,217nm,0.4s							
IZMR	**zmir-demi**	**0.56**	**170**	P	Pg	15 28 10.6	+0.1
IZMR				S	Sg	15 28 17.9	0.0
MANT	**Manisa**	**0.60**	**109**	P	Pb	15 28 12.4	-0.3
MANT				S	Sg	15 28 20.0	+0.7
USAK	**Uak-Merkez**	**0.93**	**88**	P	Pg	15 28 17.0	-0.6
USAK				S	Sg	15 28 29.6	-0.1
USAK				*i* AML	AML	15 28 30.0	
comp=N,94nm,1.7s							
USAK				*i* AML	AML	15 28 30.0	
comp=E,58nm,1.7s							
DURS	**Dursunbey**	**1.04**	**29**	P	Pb	15 28 20.2	+0.1
DURS				S	Sg	15 28 33.3	+0.2
DURS				*i* AML	AML	15 28 35.0	
comp=N,19nm,0.2s							
DURS				*i* AML	AML	15 28 36.0	
comp=E,26nm,0.3s							

*ISK **13** 15:31:57.5,36°.19N×22°.10E,h98km±1km,ML3.5/9*
*ATH **13** 15:31:58.9,36°.14N×22°.11E,h92km±10km,MLA3.4/32, Manual Solution by M.Papanikolaou First location: 2019/04/15 23:18:23, This location: 2019/04/15 23:17:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 7 km*
*THE **13** 15:31:58.7,36°.10N×22°.00E,h83km±2km,ML3.3/14,Error ellipse: s-maj=3.5km s-min=0.7km az=47.0*
*GII **13** 15:32:06.0±0.3,35°.77N×23°.01E,h80km,Mm3.8/3*
ISC 13 15:31:56.2±1.1,36°.11N±0°.06×22°.03E±0°.05,h108km±9km, n133,σ1°.88/155,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTHA	**Methoni**	**0.76**	**340**	P	**Pn**	**15 32 16.3**	**+1.5**
MTHA				S	**Sn**	**15 32 28.6**	**-0.2**
PYL	**PYLOS**	**0.82**	**344**	P	**Pn**	**15 32 16.2**	**+0.8**
PYL				S	**Sn**	**15 32 29.0**	**-0.9**
1μm,0.4s							
KTHA	**Kythira Island**	**0.85**	**79**	Pg	**Pn**	**15 32 16.3**	**+0.6**
KTHA				Sg	**Sn**	**15 32 29.7**	**-0.7**
KTHA	**Kythira Island**	**0.85**	**79**	P	**Pn**	**15 32 16.6**	**+0.9**
KTHA				S	**Sn**	**15 32 29.7**	**-0.7**
1μm,0.3s							
KLMT	**Kalamata**	**0.95**	**1**	P	**Pn**	**15 32 18.0**	**+1.3**
KLMT				S	**Sn**	**15 32 32.5**	**+0.4**
1μm,0.3s							
KLMT	**Kalamata**	**0.95**	**1**	P	**Pn**	**15 32 18.0**	**+1.3**
KLMT				S	**Sn**	**15 32 32.3**	**+0.1**
VLI	**Veliai**	**0.95**	**50**	P	**Pn**	**15 32 18.2**	**+1.5**
VLI				S	**Sn**	**15 32 32.3**	**+0.1**
1μm,0.7s							
VLI	**Veliai**	**0.95**	**50**	P	**Pn**	**15 32 18.2**	**+1.5**
VLI				S	**Sn**	**15 32 31.6**	**-0.6**
MNVA	**Monemvasia**	**1.00**	**54**	P	**Pn**	**15 32 18.6**	**+1.5**
ANKY	**Antikythira Is**	**1.06**	**103**	P	**Pn**	**15 32 19.4**	**+1.7**
ANKY				S	**Sn**	**15 32 34.3**	**+0.2**
1μm,0.6s							
ANKY	**Antikythira Is**	**1.06**	**103**	P	**Pn**	**15 32 19.4**	**+1.7**
ZARO	**Zacharo**	**1.41**	**348**	P	**Pn**	**15 32 24.1**	**+2.3**
RODP	**Rodopos**	**1.51**	**111**	Pn	**Pn**	**15 32 24.5**	**+1.6**
RODP				Sn	**Sn**	**15 32 44.2**	**+1.0**
RODP	**Rodopos**	**1.51**	**111**	P	**Pn**	**15 32 25.0**	**+2.1**
RODP				S	**Sn**	**15 32 44.2**	**+1.0**
318nm,0.4s							
RODP	**Rodopos**	**1.51**	**111**	P	**Pn**	**15 32 25.0**	**+2.1**
KRND	**KRANIDI**	**1.56**	**35**	P	**Pn**	**15 32 24.7**	**+1.1**
YDRA	**Hydra**	**1.69**	**42**	P	**Pn**	**15 32 26.4**	**+1.2**
IMMV	**Iera Moni Meta**	**1.71**	**111**	Pn	**Pn**	**15 32 27.1**	**+1.7**
IMMV				Sn	**Sn**	**15 32 48.8**	**+1.0**
IMMV	**Iera Moni Meta**	**1.71**	**111**	P	**Pn**	**15 32 27.3**	**+1.9**
IMMV				S	**Sn**	**15 32 48.7**	**+1.0**
822nm,0.3s							
IMMV	**Iera Moni Meta**	**1.71**	**111**	P	**Pn**	**15 32 27.3**	**+1.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHAN	**Chania**	**1.74**	**109**	P	**Pn**	**15 32 27.1**	**+1.4**
EPID	**Epidavros**	**1.74**	**30**	P	**Pn**	**15 32 27.2**	**+1.4**
KRI1	**kERI**	**1.83**	**328**	P	**Pn**	**15 32 28.5**	**+1.6**
KRI1				S	**Sn**	**15 32 50.2**	**-0.2**
315nm,0.2s							
GUR	**Goura**	**1.84**	**8**	P	**Pn**	**15 32 29.8**	**+2.6**
GUR				S	**Sn**	**15 32 51.8**	**+1.0**
568nm,0.3s							
GUR	**Goura**	**1.84**	**8**	P	**Pn**	**15 32 29.8**	**+2.6**
LTHK	**Lithakia**	**1.86**	**330**	P	**Pn**	**15 32 28.8**	**+1.5**
LTHK	**Lithakia**	**1.86**	**330**	P	**Pn**	**15 32 28.8**	**+1.5**
KLV	**Kalavryta, Ach**	**1.94**	**3**	P	**Pn**	**15 32 31.0**	**+2.7**
KLV	**Kalavryta, Ach**	**1.94**	**3**	P	**Pn**	**15 32 31.0**	**+2.7**
THAL	**Thalero**	**1.99**	**15**	P	**Pn**	**15 32 30.0**	**+1.1**
RLS	**Riolos of Patr**	**2.00**	**347**	P	**Pn**	**15 32 31.9**	**+2.9**
RLS	**Riolos of Patr**	**2.00**	**347**	P	**Pn**	**15 32 32.0**	**+3.0**
MHLO	**Agia Marina, M**	**2.00**	**72**	P	**Pn**	**15 32 29.6**	**+0.6**
MHLO	**Agia Marina, M**	**2.00**	**72**	P	**Pn**	**15 32 29.6**	**+0.6**
GVD	**Gavdhos**	**2.10**	**126**	Pn	**Pn**	**15 32 32.3**	**+2.0**
GVD	**Gavdhos**	**2.10**	**126**	P	**Pn**	**15 32 32.0**	**+1.7**
GVD				S	**Sn**	**15 32 57.7**	**+1.2**
435nm,0.3s							
GVD	**Gavdhos**	**2.10**	**126**	P	**Pn**	**15 32 31.9**	**+1.5**
LAKA	**Lakka**	**2.13**	**359**	P	**Pn**	**15 32 33.8**	**+3.0**
PRNS	**Prines Rethymn**	**2.14**	**109**	P	**Pn**	**15 32 32.0**	**+1.1**
PRNS	**Prines Rethymn**	**2.14**	**109**	P	**Pn**	**15 32 31.9**	**+1.1**
ALIK	**Aliki, Aigiali**	**2.15**	**2**	P	**Pn**	**15 32 33.9**	**+2.9**
VLY	**Voula,Athens**	**2.25**	**39**	P	**Pn**	**15 32 32.9**	**+0.7**
VLY	**Voula,Athens**	**2.25**	**39**	P	**Pn**	**15 32 32.8**	**+0.6**
KALE	**Kalithea**	**2.28**	**2**	P	**Pn**	**15 32 34.9**	**+2.1**
PSDA	**Pessada-Kefalo**	**2.31**	**330**	P	**Pn**	**15 32 35.0**	**+1.9**
PSDA				S	**Sn**	**15 33 01.1**	**-0.2**
662nm,0.2s							
PSDA	**Pessada-Kefalo**	**2.31**	**330**	P	**Pn**	**15 32 34.9**	**+1.9**
EFP	**Efpalio**	**2.32**	**358**	P	**Pn**	**15 32 36.5**	**+3.4**
EFP				S	**Sn**	**15 33 04.5**	**+3.0**
250nm,0.2s							
EFP	**Efpalio**	**2.32**	**358**	P	**Pn**	**15 32 35.9**	**+2.8**
VIL2	**Platees**	**2.32**	**25**	P	**Pn**	**15 32 34.0**	**+0.7**
ATHU	**Athens Univers**	**2.33**	**37**	P	**Pn**	**15 32 34.1**	**+0.8**
VLS	**Valsamata**	**2.37**	**331**	P	**Pn**	**15 32 35.7**	**+1.9**
VLS	**Valsamata**	**2.37**	**331**	P	**Pn**	**15 32 35.6**	**+1.8**
PTL	**Penteli**	**2.43**	**37**	P	**Pn**	**15 32 36.9**	**+2.3**
PTL	**Penteli**	**2.43**	**37**	P	**Pn**	**15 32 36.6**	**+2.0**
IDI	**Anoyia**	**2.47**	**108**	Pn	**Pn**	**15 32 37.1**	**+2.0**
IDI	**Anoyia**	**2.47**	**108**	P	**Pn**	**15 32 36.6**	**+1.5**
IDI	**Anoyia**	**2.47**	**108**	P	**Pn**	**15 32 36.3**	**+1.1**
ANX	**Ano Chora**	**2.48**	**358**	P	**Pn**	**15 32 38.5**	**+3.1**
ANX	**Ano Chora**	**2.48**	**358**	P	**Pn**	**15 32 38.4**	**+3.0**
KEF3	**Kipouria, Keph**	**2.49**	**328**	P	**Pn**	**15 32 37.4**	**+2.1**
KEF3				S	**Sn**	**15 33 05.8**	**+0.4**
1μm,0.2s							
DION	**Dionisos Attik**	**2.49**	**37**	P	**Pn**	**15 32 37.7**	**+2.3**
DION	**Dionisos Attik**	**2.49**	**37**	P	**Pn**	**15 32 37.6**	**+2.2**
KEF4	**Livadi, Kephal**	**2.50**	**330**	P	**Pn**	**15 32 37.5**	**+2.0**
KEF4				S	**Sn**	**15 33 06.1**	**+0.4**
DMLN	**Damoulianata-K**	**2.51**	**329**	P	**Pn**	**15 32 37.6**	**+2.0**
DMLN				S	**Sn**	**15 33 05.8**	**-0.1**
380nm,0.3s							
DMLN	**Damoulianata-K**	**2.51**	**329**	P	**Pn**	**15 32 37.3**	**+1.8**
PVO	**Paravola**	**2.54**	**351**	P	**Pn**	**15 32 38.2**	**+2.2**
VSK1	**VASILIKIADES**	**2.58**	**333**	P	**Pn**	**15 32 38.8**	**+2.3**
HRKL	**Herakleio**	**2.62**	**107**	Pn	**Pn**	**15 32 39.0**	**+1.9**
FSK	**Fiskardo**	**2.62**	**334**	P	**Pn**	**15 32 39.5**	**+2.4**
FSK				S	**Sn**	**15 33 08.8**	**+0.2**
ATAL	**Atalanti**	**2.70**	**17**	P	**Pn**	**15 32 39.4**	**+1.2**
AXAR	**Agios Charalam**	**2.70**	**11**	P	**Pn**	**15 32 39.6**	**+1.4**
EVGI	**Lefkada island**	**2.74**	**337**	P	**Pn**	**15 32 41.0**	**+2.4**
EVGI	**Lefkada island**	**2.74**	**337**	P	**Pn**	**15 32 40.6**	**+2.0**
SANT	**Santorini**	**2.79**	**84**	Pn	**Pn**	**15 32 40.2**	**+0.9**
SANT	**Santorini**	**2.79**	**84**	P	**Pn**	**15 32 40.1**	**+0.9**
NYDR	**Nydri-Lefkada**	**2.81**	**338**	P	**Pn**	**15 32 42.0**	**+2.5**
NYDR	**Nydri-Lefkada**	**2.81**	**338**	P	**Pn**	**15 32 41.8**	**+2.3**
EVR	**Evrytania**	**2.81**	**356**	P	Pn	15 32 44.6	+4.9
EVR	**Evrytania**	**2.81**	**356**	P	**Pn**	**15 32 43.4**	**+3.7**
DRAG	**Dragano-Lefkad**	**2.82**	**336**	P	**Pn**	**15 32 42.0**	**+2.3**
DRAG	**Dragano-Lefkad**	**2.82**	**336**	P	**Pn**	**15 32 41.9**	**+2.2**
LKD2	**Lefkada island**	**2.89**	**338**	P	**Pn**	**15 32 43.3**	**+2.6**
LKD2	**Lefkada island**	**2.89**	**338**	P	**Pn**	**15 32 43.0**	**+2.3**
MAKR	**Makrakomi, Fth**	**2.90**	**2**	P	**Pn**	**15 32 43.5**	**+2.7**
AGG	**Agios Georgios**	**2.92**	**5**	P	**Pn**	**15 32 43.8**	**+2.7**
AGG	**Agios Georgios**	**2.92**	**5**	P	**Pn**	**15 32 43.4**	**+2.3**
TSLK	**Tsoukalades, L**	**2.93**	**338**	P	**Pn**	**15 32 43.8**	**+2.7**
TSLK	**Tsoukalades, L**	**2.93**	**338**	P	**Pn**	**15 32 43.6**	**+2.5**
APE	**Apeiranthos**	**2.98**	**70**	Pn	**Pn**	**15 32 43.0**	**+1.2**
APE	**Apeiranthos**	**2.98**	**70**	P	**Pn**	**15 32 43.0**	**+1.2**
APE	**Apeiranthos**	**2.98**	**70**	P	**Pn**	**15 32 42.6**	**+0.8**
KYMI	**Kymi, Euboea I**	**3.02**	**33**	P	**Pn**	**15 32 43.6**	**+1.3**
FRMA	**Ierapetra Chan**	**3.21**	**109**	P	**Pn**	**15 32 49.6**	**+4.7**
THL	**Klokotos Trika**	**3.45**	**360**	P	**Pn**	**15 32 50.1**	**+2.0**
ZKR	**Zakros**	**3.55**	**105**	Pn	**Pn**	**15 32 51.6**	**+2.1**
ZKR	**Zakros**	**3.55**	**105**	P	**Pn**	**15 32 52.3**	**+2.8**
IGT	**Igoumenitsa**	**3.68**	**339**	P	**Pn**	**15 32 52.7**	**+1.6**
KPRO	**Kipourio**	**3.88**	**352**	P	**Pn**	**15 32 57.0**	**+3.1**
KEK	**Kerkira**	**4.01**	**335**	P	**Pn**	**15 32 57.5**	**+1.9**
SRN	**Sarande**	**4.09**	**338**	P	**Pn**	**15 32 58.8**	**+2.1**
PENT	**Pentalofos**	**4.14**	**351**	P	**Pn**	**15 33 00.5**	**+3.0**
LSK	**Leskovik**	**4.19**	**345**	P	**Pn**	**15 33 00.6**	**+2.5**
KARP	**Karpathos**	**4.21**	**96**	P	**Pn**	**15

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU				Sg	Sg	15 37 36.5	+4.1
AHBU	AHRAM	1.57	285	Pg	Pn	15 37 12.6	+2.1
KLNJ	Kolanjah	2.82	334	Pn	Pn	15 37 29.1	+1.0
SHMA	Al-Shehemyia	3.18	216	P	Pn	15 37 34.7	+2.0
SHMA				S	Sn	15 38 14.5	+3.6
IMEH	Mehriz	3.22	25	Pn	Pn	15 37 35.4	+1.9
SAKB	Bahrain	3.33	222	P	Pb	15 37 40.3	-1.2
SAKB				S	Sn	15 38 18.5	+4.2
IRAM	Ramesheh	3.38	351	Pn	Pn	15 37 37.3	+1.7
ISAD	Sadrabad	3.48	9	Pn	Pn	15 37 39.0	+1.9
KHGB	Koh Gabri	3.56	57	Pn	Pn	15 37 40.6	+2.5
SHME	Shamm	3.67	130	P	Pn	15 37 38.9	-0.6
SHME	Shamm	3.67	130	P	Pn	15 37 39.7	+0.2
SHME				S	Sn	15 38 25.4	+2.4
IBAF	Bafgh	3.81	35	Pn	Pn	15 37 43.2	+1.6
ICHK	Chekchek	3.95	17	Pn	Pn	15 37 45.1	+1.7
MASF	Masafi	4.16	137	P	Pn	15 37 47.8	+1.5
MASF				S	Sn	15 38 35.5	+0.3
MSFE	Esma-Masafi	4.17	137	P	Pn	15 37 47.6	+1.2
CHMN	Cheshme madani	4.18	70	Pn	Pn	15 37 49.4	+2.6
MDH	Madha	4.30	136	P	Pn	15 37 49.1	+1.0
MDH	Madha	4.30	136	P	Pn	15 37 49.9	+1.8
MDH				S	Sn	15 38 38.6	+0.1
ASUD	Al Ashush, Dub	4.35	151	P	Pn	15 37 50.6	+1.9
FAQ	Al Faqa, Dubai	4.36	148	P	Pn	15 37 49.1	+0.2
IZEF	Zefreh	4.45	352	Pn	Pn	15 37 52.0	+1.6
UOSS	Minazif	4.51	140	P	Pn	15 37 51.9	+0.8
AMIS	Naft Sefid	4.54	315	Pn	Pn	15 37 53.2	+1.7
IPIR	Pirpir	4.59	337	Pn	Pn	15 37 53.6	+1.3
ASHO	Ashiyiah	4.64	144	P	Pn	15 37 54.3	+1.5
ASHO				S	Sn	15 38 47.2	+0.1
ASHO	Ashiyiah	4.64	144	P	Pn	15 37 54.4	+1.5
	SNR=7.2						
ASHO				S	Sn	15 38 47.5	+0.4
ANAR	Anarak	4.75	7	Pn	Pn	15 37 56.1	+1.8
KBAM	BAM	4.81	81	Pn	Pn	15 37 58.4	+3.2
IKLH	Kolahrood	4.99	346	Pn	Pn	15 37 59.5	+1.6
JASK	Jask - Hormozg	5.03	120	P	Pn	15 38 01.4	+3.3
JASK				S	Sn	15 38 56.4	-0.1
SOHO	SOHO	5.34	143	P	Pn	15 38 02.5	+0.1
ARQ	Araqi	6.00	148	P	Pn	15 38 12.6	+1.1
	SNR=32						
ARQ				S	Sn	15 39 21.2	+0.7
HOQ	Hoqain	6.21	141	P	Pn	15 38 15.9	+1.6
	SNR=18						
HOQ				S	Sn	15 39 24.2	-1.4
BSY	Bisya	6.83	146	P	Pn	15 38 24.1	+1.2
	SNR=12						
BSY				S	Sn	15 39 38.2	-2.8
SMDO	Samad	7.04	139	P	Pn	15 38 27.4	+1.6
	SNR=15						
SMDO				S	Sn	15 39 45.0	-1.1
WSAR	Wadi Sarin	7.25	135	P	Pn	15 38 30.1	+1.5
	SNR=10						
WSAR				S	Sn	15 39 49.3	-2.0
WSAR	Wadi Sarin	7.25	135	Pn	Pn	15 38 29.6	+1.0
	2.4nm,0.3s,baz=340,slow=9.6,SNR=19						
WSAR				Sn	Sn	15 39 48.8	-2.5
	0.9nm,0.3s,baz=125,slow=16,SNR=2.7						
	9.3nm,0.5s						
NGCH	Negor - Chabah	7.87	111	P	Pn	15 38 39.0	+1.9
NGCH				S	Sn	15 40 10.6	+4.0
WBK	Wadi Bani Khal	7.93	136	P	Pn	15 38 38.4	+0.4
	SNR=14						
WBK				S	Sn	15 40 08.6	+0.7
MHTO	MHTO	8.70	148	P	Pn	15 38 49.0	+0.5
	SNR=16						
MHTO				S	Sn	15 40 23.1	-3.7
	SNR=9.1						
GEYT	Alibeck	10.35	23	Pn	Pn	15 39 13.9	+2.7
	0.2nm,0.3s,baz=228,slow=17,SNR=2.2						
GEYT				LR	LR	15 44 18.7	
	comp=Z,28nm,19.8s,baz=176,slow=44						
	0.7nm,0.4s						
WHFO	Wadi Hawf	10.52	176	P	Pn	15 39 13.6	0.0
	SNR=12						
WHFO				S	Sn	15 41 07.6	-4.2
	SNR=6.1						
DMTO	DMTO	10.85	170	P	Pn	15 39 16.6	-1.4
DMTO				S	Sn	15 41 15.6	-4.1
	SNR=5.8						
GNI	Garni	13.51	332	LR	LR	15 45 28.9	
	comp=Z,30nm,18.0s,baz=132,slow=39						
KBZ	Khabaz	17.27	335	P	Pn	15 40 43.0	-0.8
	0.1nm,0.3s,baz=146,slow=12,SNR=2.0						
	0.7nm,0.7s						
BRTR	Keskin Array B	19.55	310	P	P	15 41 11.0	+0.4
	0.1nm,0.3s,baz=130,slow=12,SNR=6.0						
	1.0nm,0.7s						
BELG	Belogornoye	24.24	352	P	P	15 42 00.2	+0.7
	10nm,0.9s,baz=177,slow=4.9,SNR=4.9						
	10nm,0.9s						
BVAR	Borovoye Array	27.69	23	P	P	15 42 31.0	+0.3
	0.4nm,0.4s,baz=191,slow=7.1,SNR=4.5						
	0.4nm,0.4s						
AKASG	Malin Array Be	28.57	328	P	P	15 42 37.9	-0.8
	0.6nm,0.6s,baz=132,slow=7.7,SNR=2.4						
	0.6nm,0.6s						
MKAR	Makanchi Array	29.28	43	P	P	15 42 46.1	+1.1
	0.1nm,0.5s,baz=245,slow=8.8,SNR=1.4						
	0.1nm,0.5s						
KURBB	Kurchatov Arra	29.34	34	P	P	15 42 46.9	+1.4
	0.4nm,0.5s,baz=231,slow=8.7,SNR=4.4						
	0.4nm,0.5s						
ZALV	Zalesovo Beam	34.43	33	P	P	15 43 30.2	0.0
	1.1nm,0.4s,baz=238,slow=8.5,SNR=6.1						
	1.1nm,0.4s						
FINES	FINESS Array B	37.54	339	P	P	15 43 56.4	-0.3
	1.2nm,0.4s,baz=154,slow=10,SNR=13						
	1.2nm,0.4s						
DAVOX	Davos/Dischmat	38.19	311	P	P	15 44 01.5	-1.2
	2.4nm,0.8s,baz=107,slow=10,SNR=5.2						
	2.4nm,0.8s						
HFS	Hagfors	41.29	331	P	P	15 44 27.1	-0.9
	0.9nm,0.4s,baz=116,slow=10,SNR=6.9						
	0.9nm,0.4s						
NOA	NORSAR Array B	42.81	331	P	P	15 44 38.2	-2.3
	0.8nm,0.7s,baz=122,slow=7.5,SNR=2.8						
	0.8nm,0.7s						
CMAR	Chiang Mai Arr	43.06	93	P	P	15 44 42.2	-0.8
	0.3nm,0.3s,baz=290,slow=10,SNR=1.8						
	0.3nm,0.3s						
TORD	Torodi Ar. Bea	49.98	263	P	P	15 45 36.3	-1.0
	1.6nm,0.6s,baz=54,slow=8.2,SNR=15						
	1.6nm,0.6s						
ILAR	Eielson Array	85.78	8	P	P	15 49 21.6	-0.3
	0.3nm,0.7s,baz=341,slow=5.2,SNR=2.3						
	0.3nm,0.7s						
ASAR	Alice Springs	93.52	115	P	P	15 49 58.0	-1.2
	0.4nm,1.0s,baz=312,slow=4.5,SNR=1.8						
	0.4nm,1.0s						

IDC ***13*** *16:02:48.2±1.2, 32°.86N×94°.80E, h0km, mb3.5/6, mbtmp3.5/9, ML3.2/3, MS3.4/3, Error ellipse: s-maj=52.9km s-min=19.3km az=64.0*

ISC 13 16:02:53.1±0.9, **32°.9N**±0°.1×**94°.7E**±0°.2, **h35**km, **n12**, σ0§**82/9**, **mb3.6/6**, **Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.86	164	Pn	Pn	16 06 20.5	-0.1
	baz=344,slow=12,SNR=2.1						
	0.2nm,0.6s						
MKAR	Makanchi Array	16.82	329	Pn	Pn	16 06 45.1	-0.7
	baz=148,slow=12,SNR=2.1						
	0.2nm,0.6s						
SONM	Songino Array	17.36	27	P	Pn	16 06 51.9	-0.6
	0.2nm,0.3s,baz=216,slow=13,SNR=12						
	3.2nm,1.1s						
AAK	Ala-Archa	18.68	307	LR	LR	16 15 40.4	
	comp=Z,66nm,19.3s,baz=106,slow=41						
KURBB	Kurchatov Arra	21.37	331	P	P	16 07 38.0	+0.8
	3.0nm,0.6s,baz=138,slow=11,SNR=21						
	3.0nm,0.6s						
ZALV	Zalesovo Beam	22.21	344	P	P	16 07 47.7	+1.4
	0.5nm,0.5s,baz=153,slow=8.3,SNR=4.0						
	0.5nm,0.5s						
BELG	Belogornoye	38.92	314	LR	LR	16 28 14.3	
	comp=Z,47nm,18.4s,baz=135,slow=39						
IDI	Anoyia	56.76	293	LR	LR	16 40 40.9	
	comp=Z,51nm,18.8s,baz=272,slow=40						
NOA	NORSAR Array B	58.78	326	P	P	16 12 46.9	-0.5
	0.9nm,0.8s,baz=77,slow=7.3,SNR=3.7						
	0.9nm,0.8s						
WRA	Warramunga Arr	64.75	138	P	P	16 13 28.4	+0.3
	0.4nm,0.9s,baz=333,slow=6.2,SNR=1.9						
	0.4nm,0.9s						
ASAR	Alice Springs	67.52	141	P	P	16 13 45.9	0.0
	0.3nm,0.8s,baz=332,slow=6.7,SNR=5.9						
	0.3nm,0.8s						
ILAR	Eielson Array	71.54	23	P	P	16 14 10.3	+0.2
	0.7nm,0.8s,baz=300,slow=6.1,SNR=6.5						
	0.7nm,0.8s						

IDC ***13*** *16:09:17.5±3.8, 25°.07N×122°.97E, h145km±40km, mb3.5/11, mbtmp3.9/13, Error ellipse: s-maj=33.6km s-min=11.6km az=63.0*

NEIC ***13*** *16:09:18.4±1.6, 25°.06N±0°.08×123°.10E±0°.08, h157km±7km, mb4.2/20, Error ellipse: s-maj=12.0km s-min=10.6km az=158.0*

JMA ***13*** *16:09:19.5±0.2, 25°.N±2°.×123°.0E±0°.6, h150km±2km, MV4.2/18, NW OFF ISHIGAKIJIMA IS*

NIED ***13*** *16:09:19.5, 24°.98N×123°.03E, h150km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr=2.01; Mθθ4.93; Mφφ-2.92; Mrθ6.13; Mθφ0.64; Mrφ0.39; Fault plane solution: M0 7.07000×10¹⁴ NP1: φs=267.00000°, δ75.00000°, λ-88.00000°. NP2: φs=81.00000°, δ15.00000°, λ-96.00000°.*

ISC 13 16:09:18.1±0.6, **25°.02N**±0°.06×**123°.04E**±0°.04, **h159**km±6km, **n66**, σ0§**90/79**, **mb4.0/20**, **Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.56	183		Pn	16 09 40.8	0.0
YOJ	Yonaguni jima	0.56	183	P	Pn	16 09 41.1	+0.3
YOJ	Yonaguni jima	0.56	183	P	Pn	16 09 41.1	+0.3
YOJ				S	Sn	16 09 57.4	-0.8
JYNG	Yonagunijimaku	0.57	189	P	Pn	16 09 41.2	+0.3
JYNG				S	Sn	16 09 57.5	-0.8
IRIF	Iriomote-Funau	0.93	137	*i* P	Pn	16 09 43.8	+0.6
IRIF				*e*S	Sn	16 10 02.2	-0.2
JKRS	Kuro-shima	1.18	131	*i* P	Pn	16 09 46.1	+0.8
JKRS				S	Sn	16 10 05.8	-0.3
HATJ	Hateruma jima	1.19	144	P	Pn	16 09 46.1	+0.8
HATJ				S	Sn	16 10 05.6	-0.6
JIJ	Ishigaki jima	1.20	123	*i* P	Pn	16 09 45.8	+0.3
JIJ				S	Sn	16 10 05.0	-1.5
JISG	Ishigakijimahi	1.23	110	*i* P	Pn	16 09 46.2	+0.5
JISG				S	Sn	16 10 06.3	-0.7
TATO	Taipei	1.41	268	P	Pn	16 09 48.4	+0.9
YHNB	Yeheng	1.55	257		Pn	16 09 49.9	+0.8
YHNB	Yeheng	1.55	257	P	Pn	16 09 49.7	+0.7
JTJ	Tarama	1.56	104	*i* P	Pn	16 09 50.0	+1.0
JTJ				S	Sn	16 10 12.6	-0.1
NACB	Ninganchiao	1.56	238	Pn	Pn	16 09 48.7	-0.4
NACB	Ninganchiao	1.56	238	P	Pn	16 09 49.0	-0.1
JIRB	Irabujima	1.94	95	P	Pn	16 09 54.1	+0.9
JIRB				S	Sn	16 10 19.3	-0.9
JIKM	Ikemajima	2.00	92	P	Pn	16 09 55.1	+1.3
JIKM				S	Sn	16 10 21.2	-0.2
JMJ2	Miyako jima3	2.10	97	P	Pn	16 09 56.3	+1.4
JMJ2				S	Sn	16 10 22.9	-0.3
JOGS	Gusukube	2.16	96	P	Pn	16 09 57.2	+1.5
JOGS				S	Sn	16 10 24.5	-0.2
SSLB	Suanglung	2.27	238		Pn	16 09 57.9	+0.9
SSLB	Suanglung	2.27	238	P	Pn	16 09 58.2	+1.3
YULB	Yu-li	2.27	225		Pn	16 09 56.3	-0.7
YULB	Yu-li	2.27	225	P	Pn	16 09 56.6	-0.4
TPUB	Ta-pu	2.79	233		Pn	16 10 04.1	+0.9
TPUB	Ta-pu	2.79	233	P	Pn	16 10 04.2	+0.9
KNMB	Chin-men Tao	4.27	263	Pn	Pn	16 10 22.5	+0.4
JOW	Kunigami	5.05	68	Pn	Pn	16 10 31.5	-0.8
JOW	Kunigami	5.05	68	P	Pn	16 10 31.1	-1.2
	17nm,0.7s,baz=270,slow=17,SNR=11						
JOW				S	Sn	16 11 26.7	-3.6
	15nm,0.3s,baz=123,slow=26,SNR=9.0						
KSRS	Korea Array	13.07	17	P	Pn	16 12 18.6	+0.8
	2.4nm,0.8s,baz=198,slow=11,SNR=6.4						
USA0B	Ussuriysk Arra	20.48	19	P	P	16 13 44.3	+0.9
USA0B				IAmb	IAmb	16 14 20.2	
	comp=Z,6.7nm,1.2s						
USRK	Ussuriysk Ar.	20.48	19	P	P	16 13 44.4	+1.0
USRK	Ussuriysk Ar.	20.48	19	P	P	16 13 44.2	+0.9
	comp=Z,1.8nm,0.7s,baz=202,slow=8.4,SNR=6.0						
	comp=Z,1.8nm,0.7s						
CMAR	Chiang Mai Arr	23.30	258	P	P	16 14 12.0	+0.1
	comp=Z,0.4nm,0.6s,baz=79,slow=9.1,SNR=2.3						
	comp=Z,0.4nm,0.6s						
TOLI2	Tolitoli	23.87	186	P	P	16 14 18.3	+1.2
TOLI2				IAmb	IAmb	16 14 46.8	
	comp=Z,14nm,0.9s						
SBUM	Sibu	24.75	207	P	P	16 14 25.1	+0.1
SBUM				IAmb	IAmb	16 15 04.8	
	comp=Z,7.5nm,1.2s						
JKA	Kamikawa-asahi	24.83	35	P	P	16 14 25.1	-0.5
SONM	Songino Array	26.30	334	P	P	16 14 39.1	+0.1
	comp=Z,0.8nm,0.6s,baz=152,slow=9.4,SNR=4.2						
	comp=Z,0.8nm,0.6s						
MTN	Manton Dam	38.45	167	P	P	16 16 24.2	-0.4
MK31	Makanchi Array	38.94	314	P	P	16 16 26.6	-1.8
MKAR	Makanchi Array	38.94	314	P	P	16 16 27.8	-0.6
MKAR	Makanchi Array	38.94	314	P	P	16 16 28.9	+0.5
	comp=Z,1.5nm,0.4s,baz=100,slow=9.1,SNR=26						
	comp=Z,1.5nm,0.4s						
MAKZ	Makanchi	39.15	314	P	P	16 16 30.1	-0.1
MAKZ				IAmb	IAmb	16 16 31.4	
	comp=Z,3.9nm,0.9s						
ZALV	Zalesovo Beam	40.48	326	P	P	16 16 40.3	-0.7
ZALV	Zalesovo Beam	40.48	326	P	P	16 16 40.7	-0.3
	comp=Z,2.2nm,0.6s,baz=121,slow=8.1,SNR=7.4						
	comp=Z,2.2nm,0.6s						
KNRA	Kununurra	40.83	172	P	P	16 16 44.6	+0.3
KURK	Kurchatov	42.56	319	P	P	16 16 57.4	-0.5
KURBB	Kurchatov Arra	42.58	319	P	P	16 16 58.3	+0.2
	comp=Z,1.5nm,0.7s,baz=113,slow=8.8,SNR=11						
	comp=Z,1.5nm,0.7s						
WB0	Warramunga Arr	45.87	165	P	P	16 17 25.6	+1.0
WB0				IAmb	IAmb	16 17 26.3	
	comp=Z,9.2nm,1.1s						
MBWA	Marble Bar	46.02	184	P	P	16 17 24.2	-1.5
MBWA				IAmb	IAmb	16 17 57.1	
	comp=Z,12nm,1.2s						
WRA	Warramunga Arr	46.03	165	P	P	16 17 25.7	-0.2
WRA	Warramunga Arr	46.03	165	P	P	16 17 27.0	+1.2
	comp=Z,6.3nm,0.4s,baz=347,slow=8.8,SNR=78						
WB2	Warramunga Arr	46.03	165	P	P	16 17 26.8	+0.9
WB2				IAmb	IAmb	16 17 27.7	
	comp=Z,6.4nm,0.5s						
WR0	Warramunga Arr	46.09	165	P	P	16 17 26.9	+0.5
PSA00	Pilbara Seismi	46.42	184	P	P	16 17 27.5	-1.3
PSA00				IAmb	IAmb	16 18 06.1	
	comp=Z,6.1nm,1.4s						
TIXI	Tiksi	46.78	3	P	P	16 17 30.1	-0.9
TIXI				IAmb	IAmb	16 17 34.0	
	comp=Z,5.2nm,1.5s						
BVAR	Borovoye Array	48.11	320	P	P	16 17 41.2	-0.4
	comp=Z,0.8nm,0.5s,baz=90,slow=7.2,SNR=3.8						
	comp=Z,0.8nm,0.5s						
AS31	Alice Springs	49.53	167	P	P	16 17 53.5	+0.7
ASAR	Alice Springs	49.53	167	P	P	16 17 53.5	+0.7
ASAR	Alice Springs	49.53	167	P	P	16 17 54.5	+1.7
	comp=Z,1.5nm,0.6s,baz=354,slow=8.3,SNR=28						
	comp=Z,1.5nm,0.6s						
CTAO	Charters Tower	50.20	151	P	P	16 17 57.9	0.0
CTAO				IAmb	IAmb	16 18 29.2	
	comp=Z,14nm,1.3s						
ABKAR	Akbulak array	54.08	314	P	P	16 18 26.1	0.0
BBOO	Buckleboo	58.83	167	P	P	16 18 59.6	-0.3
STKA	Stephens Creek	59.29	162	P	P	16 19 03.2	+0.2
STKA	Stephens Creek	59.29	162	P	P	16 19 03.9	+0.8
	comp=Z,2.6nm,0.6s,baz=341,slow=9.0,SNR=7.1						
	comp=Z,2.6nm,0.6s						
FINES	FINESS Array B	71.58	330	P	P	16 20 21.6	-0.1
	comp=Z,1.4nm,0.8s,baz=51,slow=5.5,SNR=4.6						
	comp=Z,1.4nm,0.8s						
BRTR	Keskin Array B	74.03	307	P	P	16 20 37.1	+0.4
	comp=Z,0.4nm,0.6s,baz=78,slow=5.8,SNR=3.4						
	comp=Z,0.4nm,0.6s						

KRNET ***13*** *16:14:02.1±0.1, 39°.14N×74°.42E, mb3.3*

SOME ***13*** *16:14:05.1, 39°.30N×74°.63E, h10km*

NNC ***13*** *16:14:10.0±0.9, 39°.45N×74°.48E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=6.8km s-min=4.0km az=167.0*

ISC 13 16:14:03.1±1.6, **39°.30N**±0°.08×**74°.59E**±0°.04, **h10**km, **n41**, σ1§**47/52**, **19C-12D**, **Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.11	311	⇓*i*P	Pg	16 14 23.6	-0.7
SFK	baz=21			⇓*i*S	Sn	16 14 39.6	-0.7
OHH	Osh	1.85	312	⇑*i*P	Pb	16 14 37.0	-0.1
OHH	baz=18			⇑*i*S	Sg	16 15 02.5	-0.2
DRK	Karamyk	2.17	276	⇓*e*P	Pn	16 14 40.6	+1.0
DRK	baz=80			⇓*e*S	Sb	16 15 07.9	-1.9
ARSB	Arslanbob	2.37	329	⇓*e*P	Pb	16 14 45.5	-0.5
ARSB	baz=34			⇓*i*S	Sg	16 15 17.1	-2.2
NRN	Naryn	2.39	26	⇑*i*P	Pg	16 14 47.4	-1.5
NRN	baz=27			⇑*i*S	Sg	16 15 20.4	+0.5
ARLS	Aral	2.57	355	⇑*i*P	Pb	16 14 49.2	-0.2
ARLS	baz=59			⇑*i*S	Sg	16 15 23.6	-2.1
AML	Almayashu	2.91	347	⇑Pn	Pb	16 14 56.0	+0.6
AML	0.9nm,0.6s			⇑Lg	Lg	16 15 37.2	
AML	Almayashu	2.91	347	⇑*i*P	Pb	16 14 53.9	-1.5
AML	baz=50			⇑*i*S	Sb	16 15 31.8	+0.6
BTK	Batken	3.01	286	⇑*e*P	Pn	16 14 52.1	+1.2
BTK	baz=89			⇑*i*S	Sn	16 15 28.5	+1.4
ULHL	Ulahol	3.20	22	⇑*e*P	Pb	16 14 58.4	-1.8
ULHL	baz=23			⇑*i*S	Sb	16 15 39.6	+0.3
ARK	Arkit	3.20	322	⇑*i*P	Pb	16 14 56.6	-3.5
ARK	baz=26			⇑*i*S	Sb	16 15 36.4	-2.9
TRKS	Terek-Say	3.45	311	⇑*e*P	Pn	16 14 58.7	+1.6
TRKS	baz=14			⇑*i*S	Sn	16 15 40.2	+2.1
MRKS	Merke	3.60	344	*e*Pg	Pg	16 15 11.4	-0.6
MRKS	5.8nm,0.3s			*e*Lg	Lg	16 15 59.2	
TKM2	Tokmak 2	3.70	11	⇓Pn	Pb	16 15 07.2	-1.4
TKM2	3.8nm,0.6s			⇓Lg	Lg	16 16 01.8	
KST	Kastek	3.88	15	*e*Pg	Pg	16 15 16.1	-1.4
KST	4.2nm,0.3s			*e*Lg	Lg	16 16 06.8	
DGS	Degeres	4.04	12	Pg	Pg	16 15 21.6	+1.1
DGS	6.4nm,0.5s			Lg	Lg	16 16 16.3	
DGS	Degeres	4.04	12	*e*Pg	Pg	16 15 21.6	+1.1
DGS	6.4nm,0.5s			*e*Lg	Lg	16 16 16.3	
TNSS	Tian-Shan	4.14	25	Pg	Pg	16 15 23.0	+0.6
TNSS	10.0nm,0.6s			Lg	Lg	16 16 19.0	
TNSS	Tian-Shan	4.14	25	*e*Pg	Pg	16 15 22.9	+0.6
TNSS	10.0nm,0.2s			*e*Lg	Lg	16 16 19.0	
KOTS	Kotyrbulak	4.37	25	Pg	Pg	16 15 27.6	+0.8
KOTS	4.3nm,0.5s			Lg	Lg	16 16 26.5	
KOTS	Kotyrbulak	4.37	25	*e*Pg	Pg	16 15 27.6	+0.8
KOTS	4.3nm,0.5s			*e*Lg	Lg	16 16 26.5	
KRBS	Karabastau	4.47	10	Pg	Pg	16 15 29.3	+0.6
KRBS	3.4nm,0.4s			Lg	Lg	16 16 29.4	
KRBS	Karabastau	4.47	10	*e*Pg	Pg	16 15 29.3	+0.6
KRBS	3.4nm,0.4s			*e*Lg	Lg	16 16 29.4	
IUG	Iuzhnay	4.49	311	*e*Pg	Pg	16 15 30.2	+1.2
IUG	26nm,0.4s			*e*Lg	Lg	16 16 31.2	
KTBS	Karatobe	4.68	19	Pg	Pg	16 15 33.1	+0.3
KTBS	4.6nm,0.4s			Lg	Lg	16 16 36.1	
KTBS	Karatobe	4.68	19	*e*Pg	Pg	16 15 33.1	+0.3
KTBS	4.6nm,0.4s			*e*Lg	Lg	16 16 36.1	
SATY	Saty	4.73	36	Pg	Pg	16 15 35.2	+1.5
SATY	6.3nm,0.6s			Lg	Lg	16 16 39.1	
SATY	Saty	4.73	36	*e*Pg	Pg	16 15 33.2	-0.6
SATY	6.2nm,0.3s			*e*Lg	Lg	16 16 36.6	
KUU	Kurty	4.78	15	Pg	Pg	16 15 34.6	+0.1
KUU	3.2nm,0.5s			Lg	Lg	16 16 38.9	
KUU	Kurty	4.78	15	*e*Pg	Pg	16 15 34.6	+0.1
KUU	3.1nm,0.2s			*e*Lg	Lg	16 16 38.9	
KK31	Karatay Array	4.89	322	⇓Pn	Pb	16 15 22.6	-6.3
KK31	0.7nm,0°.3s,baz=136,slow=13,SNR=10			⇓Sn	Sn	16 16 18.7	+5.3
KK31	2.0nm,0.5s			⇑Lg	Lg	16 16 37.3	
KURS	Kuram	4.98	32	Pg	Pg	16 15 39.4	+1.0
KURS	3.5nm,0.7s			Lg	Lg	16 16 46.7	
KURS	Kuram	4.98	32	*e*Pg	Pg	16 15 39.4	+1.0
KURS	3.5nm,0.7s			*e*Lg	Lg	16 16 46.7	
KPKS	Kokpek	5.18	35	Pg	Pg	16 15 42.3	+0.1
KPKS	5.1nm,0.5s			Lg	Lg	16 16 51.9	
KPKS	Kokpek	5.18	35	*e*Pg	Pg	16 15 41.0	-1.2
KPKS	5.1nm,0.5s			*e*Lg	Lg	16 16 50.2	
PDGK	Podgornoye	5.46	41	Pg	Pg	16 15 47.1	-0.6
PDGK	3.1nm,0.5s			Lg	Lg	16 17 00.5	
PDGK	Podgornoye	5.46	41	⇓Pg	Pg	16 15 46.6	-1.0
PDGK	5.3nm,0.6s			⇓Lg	Lg	16 17 02.4	
ARXS	Arharly	5.48	25	Pg	Pg	16 15 47.1	-0.8
ARXS	3.5nm,0.6s			Lg	Lg	16 17 00.3	
ARXS	Arharly	5.48	25	*e*Pg	Pg	16 15 47.1	-0.8
ARXS	3.5nm,0.6s			*e*Lg	Lg	16 17 00.3	
BLB	Baldybastay	5.61	30	Pg	Pg	16 15 49.0	-1.5
BLB	5.0nm,0.6s			Lg	Lg	16 17 03.5	
KNOS	Konyrlen	6.11	33	Pg	Pg

*BUT **13** 16:16:10.2±0.9, 47.°56N±0.°03×113.°57W±0.°03, h8km±6km, Error ellipse: s-maj=4.5km s-min=2.5km az=140.0*
NEIC 13 16:16:08.6±1.9, 47.°58N±0.°02×113.°70W±0.°04, h5km±2km, ML2.3/22, ML2.5/13(BUT), Error ellipse: s-maj=4.5km s-min=3.4km az=279.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVMT	**Ovando**	**0.70**	**137**	Pg	Pg	16 16 21.9	-0.1
CHMT	**Chamberlain Mo**	**0.73**	**155**		Pg	16 16 23.1	+0.4
MSO	**Missoula**	**0.77**	**192**	Pg	Pb	16 16 24.6	+0.1
MSO	**Missoula**	**0.77**	**192**		Sb	16 16 34.6	-0.7
LYMT	**Lyon Mountain**	**1.14**	**122**		Pg	16 16 29.3	-1.1
BPMT	**Black Pine Rid**	**1.16**	**171**		Pg	16 16 30.9	+0.2
BEMT	**Mount Belmont**	**1.25**	**131**	Pg	Pg	16 16 31.9	-0.6
ELMT	**Elliston**	**1.34**	**142**		Pn	16 16 33.6	-0.5
HSPGA	**Hill Springs,**	**1.78**	**1**		Pg	16 16 43.0	+0.4
MKRVA	**Milk River, Al**	**2.02**	**39**		Pb	16 16 45.4	-0.5
DLMT	**Dillon**	**2.35**	**161**		Pb	16 16 52.1	+0.7
DLMT	**Dillon**	**2.35**	**161**	IAML		16 17 19.3	
DLMT	15nm,3.4s			IAML		16 17 24.8	
	13nm,1.4s						
NEW	**Newport**	**2.40**	**288**		Pn	16 16 49.9	+1.4
NEW	**Newport**	**2.40**	**288**	Pn	Pn	16 16 49.7	+1.1
NEW				IAML		16 17 29.1	
	12nm,0.8s						
NEW				IAML		16 17 32.4	
	7.1nm,0.5s						
BOZ	**Bozeman (W)**	**2.44**	**144**		Pn	16 16 49.7	+0.5
BOZ	**Bozeman (W)**	**2.44**	**144**	IAML		16 17 25.7	
BOZ	11nm,0.3s			IAML		16 17 27.2	
	9.5nm,0.3s						
EGMT	**Eagleton**	**2.70**	**79**		Pn	16 16 54.6	+1.9
EGMT	**Eagleton**	**2.70**	**79**	IAML		16 17 34.4	
EGMT	21nm,0.4s			IAML		16 17 39.9	
	20nm,1.8s						
F10A	**Beach Ranch, E**	**2.91**	**238**	Pn	Pn	16 16 55.8	+0.3
PLID	**Pearl Lake**	**2.96**	**213**		Pn	16 16 58.4	+2.0
PLID	**Pearl Lake**	**2.96**	**213**	IAML		16 17 47.0	
PLID	7.6nm,1.1s			IAML		16 17 51.4	
	10nm,1.9s						
BCYI	**Bear Canyon**	**3.28**	**176**	Pn	Pn	16 17 00.4	-0.4

*IDC **13** 16:24:45.0±0.7, 55.°80N×164.°53E, h0km, mb3.8/16, mbtmp3.9/18, ML3.8/2, MS3.2/8, Error ellipse: s-maj=24.3km s-min=12.6km az=160.0*
*KRSC **13** 16:24:46.6±1.6, 55.°61N×164.°55E, h61km±23km, Ml4.8*
*NEIC **13** 16:24:48.0±1.5, 55.°7N±0.°1×164.°6E±0.°1, h23km±4km, mb4.4/61, Error ellipse: s-maj=21.0km s-min=11.2km az=172.0*
*MOS **13** 16:24:48.1±0.7, 55.°65N×164.°64E, h42km, mb4.6/3, Error ellipse: s-maj=6.8km s-min=4.9km az=49.4*
ISC 13 16:24:48.5±1.3, 55.°63N±0.°04×164.°69E±0.°04, h29km±11km, n198, σ1°31/234, mb4.3/46, MS3.3/5, 1C, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.85**	**120**	PN	**Pb**	**16 25 04.5**	**-0.2**
BKI				S	**Sb**	**16 25 16.6**	**+0.9**
BKI	**Bering**	**0.85**	**120**	*eP*	**Pb**	**16 25 04.5**	**-0.2**
BKI				*eS*	**Sb**	**16 25 16.6**	**+0.9**
KBTR	**Krutoberegovo**	**1.20**	**300**	PN	**Pn**	**16 25 06.9**	**-2.5**
KBTR				S	**Sn**	**16 25 20.7**	**-4.0**
KBTR	**Krutoberegovo**	**1.20**	**300**	*eP*	**Pn**	**16 25 06.9**	**-2.5**
KBTR				*eS*	**Sn**	**16 25 20.7**	**-4.0**
KBG	**Krutoberegovo**	**1.28**	**300**	PN	**Pn**	**16 25 08.2**	**-2.2**
KBG				S	**Sn**	**16 25 23.1**	**-3.5**
KBG	**Krutoberegovo**	**1.28**	**300**	*eP*	**Pn**	**16 25 08.2**	**-2.2**
KBG				*eS*	**Sn**	**16 25 23.1**	**-3.5**
MKZ	**Mys Kozlova**	**2.01**	**239**	PN	**Pn**	**16 25 19.2**	**-1.3**
MKZ	**Mys Kozlova**	**2.01**	**239**	*eP*	**Pn**	**16 25 19.2**	**-1.3**
SMKR	**Semkarok**	**2.04**	**299**	PN	**Pn**	**16 25 20.5**	**-0.5**
SMKR				S	**Sn**	**16 25 45.0**	**-0.5**
SMKR	**Semkarok**	**2.04**	**299**	*eP*	**Pn**	**16 25 20.5**	**-0.5**
SMKR				*eS*	**Sn**	**16 25 45.0**	**-0.5**
SRKR	**Sorokina**	**2.22**	**299**	PN	**Pn**	**16 25 23.6**	**+0.1**
SRKR				S	**Sn**	**16 25 50.0**	**0.0**
SRKR	**Sorokina**	**2.22**	**299**	*eP*	**Pn**	**16 25 23.6**	**+0.1**
SRKR				*eS*	**Sn**	**16 25 50.0**	**0.0**
ZLN	**Zelenaya**	**2.23**	**282**	PN	**Pn**	**16 25 23.3**	**-0.3**
ZLN				S	**Sn**	**16 25 50.3**	**+0.2**
ZLN	**Zelenaya**	**2.23**	**282**	*eP*	**Pn**	**16 25 23.3**	**-0.3**
ZLN				*eS*	**Sn**	**16 25 50.3**	**+0.2**
CIRR	**Tsirk**	**2.27**	**284**	PN	**Pn**	**16 25 24.0**	**-0.2**
CIRR				S	**Sn**	**16 25 52.3**	**+1.0**
CIRR	**Tsirk**	**2.27**	**284**	*eP*	**Pn**	**16 25 24.0**	**-0.2**
CIRR				*eS*	**Sn**	**16 25 52.3**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.27**	**279**	PN	**Pn**	**16 25 23.8**	**-0.4**
BZGR				S	**Sn**	**16 25 50.6**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**2.27**	**279**	*eP*	**Pn**	**16 25 23.8**	**-0.4**
BZGR				*eS*	**Sn**	**16 25 50.6**	**-0.8**
BZP	**Bezymyannyi-Pe**	**2.36**	**279**	*eP*	**Pn**	**16 25 25.0**	**-0.5**
KLY	**Klyuchi**	**2.37**	**288**	PN	**Pn**	**16 25 23.8**	**-1.6**
KLY				S	**Sn**	**16 25 51.2**	**-2.3**
KLY	**Klyuchi**	**2.37**	**288**	*eP*	**Pn**	**16 25 23.8**	**-1.6**
KLY				*eS*	**Sn**	**16 25 51.2**	**-2.3**
BZMR	**Bezymyannaya**	**2.39**	**279**	PN	**Pn**	**16 25 25.7**	**-0.1**
BZMR	**Bezymyannaya**	**2.39**	**279**	*eP*	**Pn**	**16 25 25.7**	**-0.1**
BZWR	**Bezymyannyi-We**	**2.39**	**280**	PN	**Pn**	**16 25 25.7**	**-0.2**
BZWR				S	**Sn**	**16 25 54.6**	**+0.3**
BZWR	**Bezymyannyi-We**	**2.39**	**280**	*eP*	**Pn**	**16 25 25.7**	**-0.2**
BZWR				*eS*	**Sn**	**16 25 54.6**	**+0.3**
KRSR	**Krestovskiy**	**2.39**	**286**	PN	**Pn**	**16 25 25.3**	**-0.6**
KRSR				S	**Sn**	**16 25 53.7**	**-0.5**
KRSR	**Krestovskiy**	**2.39**	**286**	*eP*	**Pn**	**16 25 25.3**	**-0.6**
KRSR				*eS*	**Sn**	**16 25 53.7**	**-0.5**
KIRR	**Kirishev**	**2.48**	**279**	PN	**Pn**	**16 25 27.0**	**0.0**
KIRR	**Kirishev**	**2.48**	**279**	*eP*	**Pn**	**16 25 27.0**	**0.0**
TUMD	**Tumrok D**	**2.48**	**262**	*eP*	**Pn**	**16 25 26.8**	**-0.2**
KMNR	**Kamenistaya**	**2.52**	**275**	PN	**Pn**	**16 25 28.2**	**+0.6**
KMNR	**Kamenistaya**	**2.52**	**275**	*eP*	**Pn**	**16 25 28.2**	**+0.6**
KPT	**Kopyto**	**2.54**	**279**	PN	**Pn**	**16 25 28.0**	**+0.1**
KPT	**Kopyto**	**2.54**	**279**	*eP*	**Pn**	**16 25 28.0**	**+0.1**
KZV	**Kizimen**	**2.56**	**260**	PN	**Pn**	**16 25 28.2**	**0.0**
KZV	**Kizimen**	**2.56**	**260**	*eP*	**Pn**	**16 25 28.2**	**0.0**
TUMR	**Tumrok**	**2.61**	**264**	PN	**Pn**	**16 25 29.4**	**+0.6**
TUMR	**Tumrok**	**2.61**	**264**	*eP*	**Pn**	**16 25 29.4**	**+0.6**
KOZ	**Kozyrevsk**	**2.75**	**281**	PN	**Pn**	**16 25 31.1**	**+0.4**
KOZ	**Kozyrevsk**	**2.75**	**281**	*eP*	**Pn**	**16 25 31.1**	**+0.4**
SRDR	**Sredinnyy**	**2.88**	**286**	PN	**Pn**	**16 25 32.8**	**+0.4**
SRDR				S	**Sn**	**16 26 07.2**	**+1.1**
SRDR	**Sredinnyy**	**2.88**	**286**	*eP*	**Pn**	**16 25 32.8**	**+0.4**
SRDR				*eS*	**Sn**	**16 26 07.2**	**+1.1**
ESO	**Esso**	**3.39**	**277**	PN	**Pn**	**16 25 39.2**	**-0.3**
ESO	**Esso**	**3.39**	**277**	*eP*	**Pn**	**16 25 39.2**	**-0.3**
KII	**Karymskiy**	**3.42**	**244**	PN	**Pn**	**16 25 40.0**	**0.0**
KII				S	**Sn**	**16 26 19.4**	**-0.3**
KII	**Karymskiy**	**3.42**	**244**	*eP*	**Pn**	**16 25 40.0**	**0.0**
KII				*eS*	**Sn**	**16 26 19.4**	**-0.3**
SPN	**Mys Shipunski**	**3.73**	**229**	PN	**Pn**	**16 25 42.6**	**-1.4**
SPN	**Mys Shipunski**	**3.73**	**229**	*eP*	**Pn**	**16 25 42.6**	**-1.4**
SPN				*eS*	**Sn**	**16 26 21.8**	**-5.2**
OSSR	**Ossora**	**3.73**	**347**	PN	**Pn**	**16 25 43.6**	**-0.6**
OSSR	**Ossora**	**3.73**	**347**	*eP*	**Pn**	**16 25 43.6**	**-0.6**
OSSR				*eS*	**Sn**	**16 26 24.0**	**-3.1**
NLC	**Nalytchevo**	**3.98**	**234**	PN	**Pn**	**16 25 48.2**	**+0.7**
NLC	**Nalytchevo**	**3.98**	**234**	*eP*	**Pn**	**16 25 48.2**	**+0.7**
NLC				*eS*	**Sn**	**16 26 30.8**	**-2.3**
SDLR	**Sedlovina**	**4.13**	**238**	PN	**Pn**	**16 25 50.1**	**+0.4**
SDLR	**Sedlovina**	**4.13**	**238**	*eP*	**Pn**	**16 25 50.1**	**+0.4**
SDLR				*eS*	**Sn**	**16 26 34.2**	**-2.8**
SMAR	**Somma**	**4.17**	**238**	PN	**Pn**	**16 25 50.7**	**+0.3**
SMAR	**Somma**	**4.17**	**238**	*eP*	**Pn**	**16 25 50.7**	**+0.3**
SMAR				*eS*	**Sn**	**16 26 35.9**	**-2.4**
KRER	**Koryakskii**	**4.17**	**239**	PN	**Pn**	**16 25 51.1**	**+0.7**
KRER	**Koryakskii**	**4.17**	**239**	*eP*	**Pn**	**16 25 51.1**	**+0.7**
KRER				*eS*	**Sn**	**16 26 36.3**	**-2.0**
KRX	**Arik**	**4.19**	**240**	PN	**Pn**	**16 25 51.6**	**+1.0**
KRX	**Arik**	**4.19**	**240**	*eP*	**Pn**	**16 25 51.6**	**+1.0**
KRX				*eS*	**Sn**	**16 26 37.1**	**-1.5**
UGLR	**Uglovaya**	**4.20**	**237**	PN	**Pn**	**16 25 51.3**	**+0.7**
UGLR	**Uglovaya**	**4.20**	**237**	*eP*	**Pn**	**16 25 51.3**	**+0.7**
AVH	**Avacha**	**4.20**	**238**	PN	**Pn**	**16 25 51.4**	**+0.7**
AVH	**Avacha**	**4.20**	**238**	*eP*	**Pn**	**16 25 51.4**	**+0.7**
AVH				*eS*	**Sn**	**16 26 36.3**	**-2.6**
KOK	**Koryaka**	**4.24**	**239**	PN	**Pn**	**16 25 52.3**	**+1.1**
KOK	**Koryaka**	**4.24**	**239**	*eP*	**Pn**	**16 25 52.3**	**+1.1**
KOK				*eS*	**Sn**	**16 26 37.6**	**-2.1**
DALK	**Dalny**	**4.34**	**236**	PN	**Pn**	**16 25 52.3**	**-0.2**
DALK	**Dalny**	**4.34**	**236**	*eP*	**Pn**	**16 25 52.3**	**-0.2**
DALK				*eS*	**Sn**	**16 26 38.2**	**-3.9**
GNL	**Ganaly**	**4.37**	**246**	PN	**Pn**	**16 25 53.9**	**+0.9**
GNL	**Ganaly**	**4.37**	**246**	*eP*	**Pn**	**16 25 53.9**	**+0.9**
INSR	**Institute**	**4.39**	**237**	*eP*	**Pn**	**16 25 53.6**	**+0.5**
INSR				*eS*	**Sn**	**16 26 41.3**	**-2.0**
PET	**Petropavlovsk**	**4.39**	**236**		**Pn**	**16 25 51.8**	**-1.4**
PET	**Petropavlovsk**	**4.39**	**236**	*ePN*	**Pn**	**16 25 53.4**	**+0.2**
PET				pmax	pmax		
	comp=Z,93nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,10.0s						
PET				MLR	MLR		
	comp=Z,300nm,10.0s						
PET	**Petropavlovsk**	**4.39**	**236**	*eP*	**Pn**	**16 25 53.3**	**+0.2**
PET				*eS*	**Sn**	**16 26 39.8**	**-3.5**
KRMR	**Karymshinskiy**	**4.76**	**237**	PN	**Pn**	**16 25 58.8**	**+0.5**
KRMR	**Karymshinskiy**	**4.76**	**237**	*eP*	**Pn**	**16 25 58.8**	**+0.5**
KRMR				*eS*	**Sn**	**16 26 49.8**	**-2.6**
PEA0B	**Petropavlovsk-**	**4.80**	**241**		**Pn**	**16 25 58.7**	**-0.2**
PEA0B	**Petropavlovsk-**	**4.80**	**241**	PN	**Pn**	**16 25 58.7**	**-0.2**
PETK	**Petropavlovsk-**	**4.80**	**241**		**Pn**	**16 25 58.6**	**-0.3**
PETK	**Petropavlovsk-**	**4.80**	**241**	Pn	**Pn**	**16 25 59.4**	**+0.5**
	comp=Z,4.5nm,0.3s,baz=75,slow=18,SNR=65						
PETK				Sn	**Sn**	**16 26 54.1**	**+0.5**
	comp=Z,8.1nm,0.3s,baz=42,slow=18,SNR=6.1						
PETK				LR	LR	16 27 58.4	
	comp=Z,135nm,21.1s,baz=57,slow=40						
	comp=Z,6.3nm,0.4s						
RUS	**Russkaya**	**4.85**	**231**	PN	**Pn**	**16 25 59.1**	**-0.3**
RUS	**Russkaya**	**4.85**	**231**	*eP*	**Pn**	**16 25 59.1**	**-0.3**
RUS				*eS*	**Sn**	**16 26 49.7**	**-4.9**
TILK	**Tilichiki**	**4.89**	**9**	PN	**Pn**	**16 26 01.2**	**+1.2**
TILK	**Tilichiki**	**4.89**	**9**	*eP*	**Pn**	**16 26 01.2**	**+1.2**
MTVR	**Mutnovka**	**4.96**	**233**	PN	**Pn**	**16 26 02.0**	**+0.8**
MTVR	**Mutnovka**	**4.96**	**233**	*eP*	**Pn**	**16 26 02.0**	**+0.8**
MTVR				*eS*	**Sn**	**16 26 54.7**	**-2.9**
GRL	**Gorelyy**	**4.97**	**234**	PN	**Pn**	**16 26 02.2**	**+1.0**
GRL	**Gorelyy**	**4.97**	**234**	*eP*	**Pn**	**16 26 02.2**	**+1.0**
ASAK	**Asacha**	**5.16**	**234**	PN	**Pn**	**16 26 05.1**	**+1.3**
ASAK	**Asacha**	**5.16**	**234**	*eP*	**Pn**	**16 26 05.1**	**+1.3**
APC	**Apacha**	**5.18**	**242**	PN	**Pn**	**16 26 05.5**	**+1.5**
APC	**Apacha**	**5.18**	**242**	*eP*	**Pn**	**16 26 05.5**	**+1.5**
KDTR	**Khodutka, Kamc**	**5.48**	**228**	PN	**Pn**	**16 26 07.5**	**-0.7**
KDTR	**Khodutka, Kamc**	**5.48**	**228**	*eP*	**Pn**	**16 26 07.5**	**-0.7**
SHEM	**Shemya Is, Ala**	**6.24**	**114**	LR	LR	16 28 22.8	
	comp=Z,124nm,21.1s,baz=152,slow=34						
KMSK	**Kamenskaya**	**6.90**	**6**	PN	**Pn**	**16 26 28.5**	**+0.9**
KMSK	**Kamenskaya**	**6.90**	**6**	*eP*	**Pn**	**16 26 28.5**	**+0.9**
SKR	**Severo-Kuril's**	**7.15**	**230**	PN	**Pn**	**16 26 31.8**	**+0.8**
SKR	**Severo-Kuril's**	**7.15**	**230**	*eP*	**Pn**	**16 26 31.8**	**+0.8**
ATKA	**Atka Island**	**12.90**	**97**	Pn	**Pn**	**16 27 49.8**	**0.0**
GRNR	**Gornyy**	**17.55**	**266**	*iP*	**P**	**16 28 51.3**	**-0.4**
GRNR				pmax	pmax		
	comp=E,7.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GRNR				MLR	MLR		
	comp=E,160nm,14.0s						
GRNR				MLR	MLR		
	comp=N,80nm,15.0s						
GRNR				MLR	MLR		
	comp=Z,120nm,14.0s						
JKA	**Kamikawa-asahi**	**18.22**	**240**	P	**P**	**16 28 59.4**	**+0.2**
ASAJ	**Asahikawa**	**18.22**	**240**	P	**P**	**16 28 59.4**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.8s						
ASAJ	**Asahikawa**	**18.22**	**240**	P	**Pn**	**16 28 58.9**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=47,slow=6.7,SNR=14						
ASAJ				LR	LR	16 35 48.7	
	comp=Z,82nm,18.1s,baz=1.5,slow=36						
	comp=Z,15nm,0.7s						
YAK	**Yakutsk**	**19.03**	**304**	*eP*	**P**	**16 29 07.1**	**-0.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
N15K	**Kwethluk River**	**19.10**	**62**	P	**Pn**	**16 29 10.6**	**+1.0**
N15K				IAmb	IAmb	16 29 12.6	
	comp=Z,19nm,0.9s						
ERM	**Erimo**	**19.55**	**235**	P	**P**	**16 29 13.7**	**+0.1**
ERM	**Erimo**	**19.55**	**235**	P	**P**	**16 29 13.7**	**+0.1**
ERM				pmax	pmax		
	comp=Z,103nm,1.4s						
SDPT	**Sand Point**	**19.62**	**76**	P	**P**	**16 29 14.1**	**-0.2**
K17K	**Iditarod**	**20.01**	**54**	P	**P**	**16 29 18.1**	**-0.5**
K17K				IAmb	IAmb	16 29 21.9	
	comp=Z,15nm,0.9s						
H18K	**Honhosa River**	**20.28**	**47**	P	**P**	**16 29 21.8**	**+0.3**
KLR	**Kul'dur**	**20.93**	**266**	P	**P**	**16 29 27.5**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=52,slow=14,SNR=3.3						
KLR				LR	LR	16 39 03.1	
	comp=Z,83nm,18.3s,baz=52,slow=41						
	comp=Z,1.9nm,0.6s						
N18K	**Kilae Creek**	**21.16**	**60**	P	**P**	**16 29 30.9**	**-0.2**
N18K				IAmb	IAmb	16 30 09.4	
	comp=Z,23nm,1.5s						
R17K	**Ugashik Creek**	**21.30**	**68**	P	**P**	**16 29 30.9**	**-1.7**
R17K				IAmb	IAmb	16 29 34.8	
	comp=Z,19nm,0.9s						
M19K	**Big River Lodg**	**21.82**	**57**	P	**P**	**16 29 37.0**	**-1.1**
K20K	**Telida**	**21.96**	**53**	P	**P**	**16 29 39.5**	**-0.1**
K20K				IAmb	IAmb	16 29 53.6	
	comp=Z,16nm,1.3s						
J20K	**Nowinta River**	**21.96**	**50**	P	**P**	**16 29 39.6**	**0.0**
TIXI	**Tiksi**	**22.05**	**330**	P	**P**	**16 29 39.4**	**-1.0**
TIXI	**Tiksi**	**22.05**	**330**	P	**P**	**16 29 39.4**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
IMAR	**Indian Mountai**	**22.31**	**46**	P	**P**	**16 29 43.4**	**+0.1**
Q19K	**Cape Douglas,**	**22.49**	**64**	P	**P**	**16 29 44.6**	**-0.8**
CAST	**Castle Rocks**	**22.86**	**52**	P	**P**	**16 29 49.1**	**-0.1**
I21K	**Tanana**	**22.96**	**48**	P	**P**	**16 29 48.5**	**-1.6**
I21K				IAmb	IAmb	16 30 23.4	
	comp=Z,20nm,1.5s						
SKT	**Skwentna**	**23.17**	**56**	P	**P**	**16 29 52.9**	**+0.5**
SYI	**Shuyak Island**	**23.20**	**65**	P	**P**	**16 29 53.1**	**+0.6**
KDAK	**Kodiak Island**	**23.27**	**67**	LR	LR	16 38 13.2	
	comp=Z,105nm,19.8s,baz=281,slow=35						
BPAW	**Bear Paw Mtn.**	**23.34**	**51**	P	**P**	**16 29 53.9**	**-0.2**
KTH	**Kantishna Hill**	**23.38**	**52**	P	**P**	**16 29 53.0**	**-1.5**
KTH				IAmb	IAmb	16 30 11.5	
	comp=Z,13nm,1.4s						
SUA	**Susitna One**	**23.58**	**57**	P	**P**	**16 29 54.9**	**-1.7**
SUA				IAmb	IAmb	16 29 58.0	
	comp=Z,6.7nm,0.7s						
TRF	**Thorofare Moun**	**23.66**	**52**	P	**P**	**16 29 57.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**23.73**	**255**	P	**P**	**16 29 57.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=39,slow=9.3,SNR=4.5						
	comp=Z,0.9nm,0.6s						
I23K	**Minto, Yukon-K**	**24.06**	**48**	P	**P**	**16 29 60.0**	**-0.9**
I23K				IAmb	IAmb	16 30 03.0	
	comp=Z,8.3nm,0.9s						
NEA2	**Nenana**	**24.18**	**50**	P	**P**	**16 30 01.6**	**-0.4**
TOLK	**Toolik Lake Re**	**24.30**	**40**	P	**P**	**16 30 02.2**	**-0.9**
MDM	**Murphy Dome**	**24.54**	**49**	P	**P**	**16 30 03.5**	**-1.8**
MDM				IAmb	IAmb	16 30 32.4	
	comp=Z,13nm,1.4s						
WRH	**Wood River Hil**	**24.61**	**50**	P	**P**	**16 30 03.5**	**-2.3**
WRH				IAmb	IAmb	16 30 37.5	
	comp=Z,18nm,1.4s						
SML	**Sawmill**	**24.69**	**56**	P	**P**	**16 30 05.4**	**-1.3**
SML				IAmb	IAmb	16 30 12.6	
	comp=Z,11nm,0.9s						
CCB	**Clear Creek Bu**	**24.73**	**49**	P	**P**	**16 30 05.9**	**-1.0**
CCB				IAmb	IAmb	16 30 09.1	
	comp=Z,13nm,1.1s						
PWL	**Port Wells**	**24.82**	**58**	P	**P**	**16 30 06.7**	**-1.1**
DHY	**Denali Highway**	**25.00**	**53**	P	**P**	**16 30 08.4**	**-1.2**
HDA	**Harding Lake**	**25.10**	**50**	P	**P**	**16 30 09.1**	**-1.3**
HDA				IAmb	IAmb	16 30 11.3	
	comp=Z,9.1nm,1.2s						
IL31		**25.12**	**49**	P	**P**	**16 30 09.2**	**-1.2**
IL31				IAmb	IAmb	16 30 21.5	
	comp=Z,10nm,1.2s						
ILAR	**Eielson Array**	**25.12**	**49**	P	**P**	**16 30 10.1**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=262,slow=8.0,SNR=21						
	comp=Z,2.9nm,0.8s						
SCM	**Sheep Creek Mo**	**25.16**	**56**	P	**P**	**16 30 10.7**	**-0.3**
SCM	**Sheep Creek Mo**	**25.16**	**56**	P	**P**	**16 30 10.7**	**-0.3**
SCM				pmax	pmax		
	comp=Z,46nm,1.4s						
D25K	**Kavik River**	**25.55**	**38**	P	**P**	**16 30 13.4**	**-1.0**
M24K	**Tolsona, Glenn**	**25.66**	**55**	P	**P**	**16 30 16.3**	**+0.7**
J25K	**Salcha River,**	**25.77**	**49**	P	**P**	**16 30 14.9**	**-1.6**
KLU	**Klutina**	**25.87**	**57**	P	**P**	**16 30 18.0**	**+0.5**
KLU				IAmb	IAmb	16 30 29.2	
	comp=Z,18nm,1.5s						
BMAR	**Burnt Mountain**	**26.06**	**43**	P	**P**	**16 30 18.2**	**-0.8**
MJB9	**Matsu-Tunnel**	**26.22**	**234**	P	**P**	**16 30 22.2**	**+1.4**
MJB9				IAmb	IAmb	16 30 26.0	
	comp=Z,7.2nm,0.7s						
MAJO	**Matsushiro**	**26.22**	**234**		**P**	**16 30 21.5**	**+0.8**
MAJO				IAmb	IAmb	16 30 24.7	
	comp=Z,7.4nm,0.7s						
MAJO	**Matsushiro**	**26.22**	**234**	P	**P**	**16 30 21.5**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MJAR	**Matsushiro Arr**	**26.22**	**234**	P	**P**	**16 30 21.3**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=16,slow=9.9,SNR=8.5						
MJAR				LR	LR	16 40 42.3	
	comp=Z,58nm,21.1s,baz=42,slow=36						
	comp=Z,2.1nm,0.7s						
SCRK	**Sand Creek**	**26.43**	**51**	P	**P**	**16 30 20.0**	**-2.5**
N25K	**Chitina, Valde**	**26.48**	**56**	P	**P**	**16 30 22.5**	**-0.5**
N25K				IAmb	IAmb	16 30 58.4	
	comp=Z,22nm,1.4s						
VRDI	**Verde Repeater**	**27.09**	**57**	P	**P**	**16 30 28.0**	**-0.6**
VRDI				IAmb	IAmb	16 30 58.3	
	comp=Z,14nm,1.3s						
BERG	**Berg Lake**	**27.15**	**59**	P	**P**	**16 30 31.3**	**+2.4**
K27K	**Chicken**	**27.26**	**50**	P	**P**	**16 30 29.4**	**-0.4**
K27K				IAmb	IAmb	16 30 30.9	
	comp=Z,8.5nm,1.1s						
L27K	**Beaver Creek,**	**27.51**	**52**	P	**P**	**16 30 31.7**	**-0.4**
L27K				IAmb	IAmb	16 31 14.4	
	comp=Z,11nm,1.5s						
BCAR	**Beaver Creek A**	**27.53**	**52**	P	**P**	**16 30 32.3**	**0.0**
M27K	**Edge Creek, AK**	**27.61**	**54**	P	**P**	**16 30 32.6**	**-0.6**
I28M	**Miner Creek**	**28.00**	**47**	P	**P**	**16 30 35.8**	**-0.8**
H29M	**Whitestone**	**28.56**	**45**	P	**P**	**16 30 41.3**	**-0.1**
H29M				IAmb	IAmb	16 30 44.2	
	comp=Z,9.2nm,1.4s						
G29M	**Pine Creek**	**28.63**	**44**	P	**P**	**16 30 42.2**	**+0.1**
G29M				IAmb	IAmb	16 31 19.9	
	comp=Z,17nm,1.4s						
M29M	**Somme Creek**	**29.15**	**53**	P	**P**	**16 30 46.4**	**-0.4**
M29M				IAmb	IAmb	16 31 10.0	
	comp=Z,8.7nm,1.3s						
K29M	**Barlow Dome**	**29.27**	**50**	P	**P**	**16 30 46.3**	**-1.6**
K29M				IAmb	IAmb	16 31 25.3	
	comp=Z,8.1nm,1.4s						
S31K	**Pelican**	**31.55**	**61**	P	**P**	**16 31 08.6**	**+0.8**
MMPY	**Sheldon Lake,**	**32.32**	**51**	P	**P**	**16 31 15.6**	**+0.9**
MMPY				IAmb	IAmb	16 31 26.5	
	comp=Z,6.4nm,1.4s						
R33M	**Jennings River**	**33.56**	**57**	P	**P**	**16 31 25.8**	**+0.1**
R33M				IAmb	IAmb	16 31 30.6	
	comp=Z,8.3nm,1.4s						
DLBC	**Dease Lake**	**34.39**	**58**	P	**P**	**16 31 33.9**	**+1.1**
DLBC				IAmb	IAmb	16 31 35.2	
	comp=Z,4.4nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.88**	**176**	T	T	17 10 14.1	
	baz=358,slow=76,SNR=74						
H11N3	**WAKE ISLAND Hy**	**35.89**	**176**	T	T	17 09 51.3	
	baz=358,slow=76,SNR=40						
H11N1	**WAKE ISLAND Hy**	**35.90**	**176**	T	T	17 09 46.1	

TORD Torodi Ar. Bea 150.20 288 PKPbc **PKPbc 17 06 00.1 -0.4**
0.5nm,0.6s,baz=41,slow=2.6,SNR=2.8

---

*IDC **13** 16:55:16.5±0.8, 43.°50N×127.°22W, h0km, mb4.0/20, mbtmp3.9/28, ML3.6/7, MS4.5/78, Error ellipse: s-maj=19.3km s-min=9.7km az=38.0*
*NEIC **13** 16:55:17.5±2.6, 43.°48N±0.°07×127.°1W±0.°1, h10km±1km, mb4.6/93, ML3.8/70, Mwb5.3/14, Mww5.3/38, Error ellipse: s-maj=14.6km s-min=9.1km az=235.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.20; Mθθ=0.44; Mφφ0.64; Mrθ-0.14; Mrφ-1.18; Mθφ0.03; Fault plane solution: M0 1.32000×10^17 NP1:φs102.41000°, δ88.30000°, λ-173.19000°. NP2:φs12.20000°, δ83.20000°, λ-1.71000°. Principal axes: T 1.4033, Plg4.0000°, Azm237.0000°; N -0.1947, Plg83.0000°, Azm116.0000°; P -1.2086, Plg6.0000°, Azm327.0000°;*
*NEIC **13** 16:55:17.5, 43.°47N×127.°42W, h16km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17Nm; Mrr-0.19; Mθθ-0.74; Mφφ0.93; Mrθ-0.11; Mθφ-0.77; Mφr-0.27; Fault plane solution: M0 1.17000×10^17 NP1: φs23.12000°, δ86.90000°, λ-15.03000°. NP2:φs113.95000°, δ75.00000°, λ-176.79000°. Principal axes: T 1.2581, Plg8.0000°, Azm69.0000°; N -0.1731, Plg75.0000°, Azm192.0000°; P -1.0850, Plg13.0000°, Azm338.0000°;*
*NEIC **13** 16:55:17.5, 43.°47N×127.°14W, h10km*
*NEIC **13** 16:55:17.5, 43.°47N×127.°14W, h16km*
*GCMT **13** 16:55:20.5±0.1, 43.°42N±0.°01×127.°72W±0.°01, h21km, MW5.4/151, Moment Tensor Solution. s99, c162; s151, c270; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-0.05±.02; Mθθ-1.10±.02; Mφφ1.15±.02; Mrθ0.04±.04; Mθφ-1.03±.02; Mφr0.01±.03; Best double couple: M0 1.52600×10^17 NP1:φs294.00000°, δ89.00000°, λ-179.00000°. NP2:φs204.00000°, δ89.00000°, λ-1.00000°. Principal axes: T 1.5500, Plg0.0000°, Azm69.0000°; N -0.0470, Plg89.0000°, Azm335.0000°; P -1.5010, Plg1.0000°, Azm159.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 16:55:19.0±0.5, 43.°48N±0.°06×127.°12W±0.°07, h14km, n476, σ1$48/398, mb4.5/62, MS4.5/74, 1D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.13**	**106**		**Pn**	**16 55 51.7**	**-2.5**
KEBM				IAML		16 56 30.8	
	comp=N,426nm,0.7s						
KEBM				IAML		16 57 00.8	
	comp=E,372nm,1.1s						
J01E	**Myrtle Point**	**2.35**	**97**		**Pn**	**16 55 55.1**	**-2.1**
J01E				IAML		16 56 39.2	
	comp=E,302nm,1.2s						
K02D	**Willamette Mer**	**2.65**	**106**		**Pn**	**16 55 59.5**	**-1.9**
I03D	**Drain, OR**	**2.75**	**84**		**Pn**	**16 56 01.5**	**-1.2**
I03D				IAML		16 56 47.2	
	comp=N,201nm,1.1s						
DBO	**Dodson Butte**	**2.85**	**96**		**Pn**	**16 56 02.6**	**-1.6**
KSXB	**Camp Six Broad**	**2.91**	**123**	Pn	**Pn**	**16 56 02.9**	**-2.1**
L02F	**Cave Junction**	**2.95**	**116**		**Pn**	**16 56 04.7**	**-0.7**
COR	**Corvallis**	**2.97**	**67**	Pn	**Pn**	**16 56 04.8**	**-0.8**
COR				IAML		16 56 28.3	
	comp=N,175nm,1.1s						
COR				IAML		16 57 09.2	
	comp=N,162nm,1.7s						
HEBO	**Mount Hebo**	**2.97**	**53**		**Pn**	**16 56 05.2**	**-0.6**
HEBO				IAML		16 56 49.7	
	comp=E,292nm,1.9s						
HEBO				IAML		16 56 50.8	
	comp=N,352nm,1.0s						
BUCK	**Buck Mountain**	**3.08**	**75**		**Pn**	**16 56 07.0**	**-0.3**
BUCK				IAML		16 57 15.6	
	comp=N,138nm,1.9s						
BUCK				IAML		16 57 44.1	
	comp=E,221nm,2.1s						
KRMB	**Red Mountain**	**3.08**	**128**	Pn	**Pn**	**16 56 06.6**	**-0.7**
G03D	**McMinnville, O**	**3.27**	**57**		**Pn**	**16 56 09.1**	**-0.7**
G03D				IAML		16 56 38.3	
	comp=E,366nm,0.8s						
G03D				IAML		16 56 59.7	
	comp=N,371nm,0.9s						
H04D	**Lebanon**	**3.33**	**70**		**Pn**	**16 56 10.0**	**-0.7**
I04A	**Tendick Farm,**	**3.44**	**83**		**Pn**	**16 56 11.2**	**-1.0**
JCC	**Jacoby Creek,**	**3.52**	**138**	Pn	**Pn**	**16 56 11.7**	**-1.5**
F03A	**Seaside**	**3.53**	**45**		**Pn**	**16 56 12.0**	**-1.4**
YBH	**Yreka Blue Hor**	**3.70**	**117**		**Pn**	**16 56 16.1**	**+0.4**
YBH	**Yreka Blue Hor**	**3.70**	**117**	Pn	**Pn**	**16 56 16.3**	**+0.6**
	comp=N,1.5nm,0.3s,baz=302,slow=13,SNR=29						
YBH				LR	LR	16 57 42.3	
	comp=N,4μm,21.7s,baz=300,slow=39 comp=N,7.5nm,0.5s						
H04A	**Detroit Lake**	**3.75**	**70**		**Pn**	**16 56 16.6**	**+0.1**
H04A				IAML		16 56 43.4	
	comp=N,136nm,0.4s						
H04A				IAML		16 56 44.6	
	comp=E,147nm,0.4s						
L04D	**Klamath Falls**	**3.76**	**108**		**Pn**	**16 56 17.9**	**+1.2**
RADR	**Rader Ridge**	**3.77**	**38**		**Pn**	**16 56 16.1**	**-0.7**
RADR				IAML		16 57 11.5	
	comp=N,240nm,0.9s						
RADR				IAML		16 57 19.1	
	comp=E,200nm,1.6s						
KMPM	**Mount Pierce**	**3.79**	**143**	Pn	**Pn**	**16 56 15.4**	**-1.7**
KMPM				IAML		16 58 02.1	
	comp=N,74nm,3.6s						
F04D	**Rainier, OR**	**3.92**	**47**		**Pn**	**16 56 18.1**	**-0.6**
E03A	**Lebam**	**3.97**	**38**		**Pn**	**16 56 17.4**	**-2.1**
E03A				IAML		16 57 08.8	
	comp=N,243nm,0.6s						
K04D	**Chiloquin, OR**	**4.03**	**100**	Pn	**Pn**	**16 56 18.1**	**-2.3**
K04D				IAML		16 57 42.3	
	comp=E,211nm,1.8s						
KMRM	**Mail Ridge**	**4.13**	**141**		**Pn**	**16 56 20.0**	**-1.8**
KMRM				IAML		16 58 13.4	
	comp=E,76nm,4.6s						
KMRM				IAML		16 58 52.0	
	comp=N,56nm,4.6s						
F04A	**Amboy**	**4.15**	**52**		**Pn**	**16 56 21.3**	**-0.7**
I05D	**Terrebonne, OR**	**4.27**	**76**		**Pn**	**16 56 23.7**	**+0.1**
I05D				IAML		16 56 59.8	
	comp=E,114nm,1.9s						
I05D				IAML		16 58 27.5	
	comp=N,94nm,2.5s						
J05D	**Fort Rock, OR**	**4.30**	**91**		**Pn**	**16 56 23.4**	**-0.7**
HOOD	**Mount Hood Mea**	**4.33**	**63**		**Pn**	**16 56 22.9**	**-1.6**
WISH	**Wishkah**	**4.34**	**32**		**Pn**	**16 56 24.5**	**+0.1**
WISH				IAML		16 57 22.2	
	comp=N,167nm,2.2s						
WISH				IAML		16 57 45.6	
	comp=E,171nm,2.0s						
PINE	**Pine Mountain**	**4.50**	**84**		**Pn**	**16 56 26.8**	**-0.1**
PINE				IAML		16 58 14.9	
	comp=E,56nm,4.3s						
PINE				IAML		16 58 41.5	
	comp=N,58nm,4.4s						
G05A	**Wamic**	**4.52**	**65**		**Pn**	**16 56 26.9**	**-0.1**
NLWA	**Neilton Lookou**	**4.53**	**29**		**Pn**	**16 56 24.7**	**-2.5**
NLWA				IAML		16 57 23.5	
	comp=N,96nm,0.6s						
K05A	**Summer Lake**	**4.62**	**97**		**Pn**	**16 56 27.6**	**-1.0**
K05A				IAML		16 57 60.0	
	comp=N,62nm,4.3s						
K05A				IAML		16 58 15.3	
	comp=E,53nm,3.4s						
C03A	**Quillayute Air**	**4.81**	**21**	Pn	**Pn**	**16 56 28.5**	**-2.5**
G06A	**Carlson Farm,**	**4.97**	**67**		**Pn**	**16 56 32.0**	**-1.3**
G06A				IAML		16 58 19.9	
	comp=N,36nm,1.8s						
G06A				IAML		16 58 37.2	
	comp=E,42nm,4.4s						
LON	**Longmire**	**4.98**	**47**		**Pn**	**16 56 33.1**	**-0.3**
LON				IAML		16 57 41.2	
	comp=N,102nm,0.9s						
LON				IAML		16 57 41.5	
	comp=E,63nm,1.0s						
GNW	**Green Mountain**	**5.08**	**35**		**Pn**	**16 56 33.6**	**-1.0**
GNW				IAML		16 57 39.8	
	comp=N,99nm,0.7s						
GNW				IAML		16 57 49.3	
	comp=E,47nm,1.4s						
D05A	**Enumclaw**	**5.18**	**43**		**Pn**	**16 56 36.3**	**+0.2**
B04A	**Port Angeles**	**5.23**	**28**		**Pn**	**16 56 37.1**	**+0.4**
I07A	**Izee**	**5.55**	**81**	Pn	**Pn**	**16 56 42.5**	**+1.3**
F07A	**Phinny Hill Vi**	**5.67**	**62**		**Pn**	**16 56 41.9**	**-0.9**
CLRS	**Cowichan Lake**	**5.73**	**20**	Pn	**Pn**	**16 56 42.0**	**-1.7**
E07A	**Sunnyside**	**6.00**	**57**	Pn	**Pn**	**16 56 46.9**	**-0.5**
AFDM	**Forest Hills D**	**6.48**	**132**	Pn	**Pn**	**16 56 53.4**	**-0.5**
E09A	**Wood Farm, Sta**	**7.05**	**61**	Pn	**Pn**	**16 56 58.9**	**-2.8**
HOLB	**Holberg**	**7.20**	**355**	Pn	**Pn**	**16 57 02.7**	**-1.1**
CMB	**Columbia Colle**	**7.46**	**135**		**Pn**	**16 57 08.2**	**+0.7**
LLLB	**Lillooet**	**7.98**	**25**	Pn	**Pn**	**16 57 14.3**	**-0.1**
MFID	**Camas Ranch**	**8.22**	**87**	Pn	**Pn**	**16 57 15.8**	**-2.1**
LHV	**Little Huntoon**	**8.36**	**126**	Pn	**Pn**	**16 57 17.4**	**-2.3**
NVAR	**Mina Array Bea**	**8.36**	**124**	Pn	**Pn**	**16 57 21.8**	**+1.8**
	comp=E,0.1nm,0.3s,baz=316,slow=13,SNR=3.4						
NVAR				LR	LR	17 00 55.1	
	comp=E,5μm,18.1s,baz=306,slow=40 comp=E,0.9nm,0.8s						
NEW	**Newport**	**8.46**	**52**	P	**Pn**	**16 57 21.1**	**0.0**
	baz=239						
NEW	**Newport**	**8.46**	**52**	Pn	**Pn**	**16 57 22.4**	**+1.3**
	comp=E,1.7nm,0.3s,baz=250,slow=12,SNR=7.3						
NEW				LR	LR	17 00 44.8	
	comp=E,8μm,20.5s,baz=244,slow=39 comp=E,4.3nm,0.3s						
BBB	**Bella Bella**	**8.73**	**356**		**Pn**	**16 57 25.6**	**+0.8**
BBB	**Bella Bella**	**8.73**	**356**	Pn	**Pn**	**16 57 25.1**	**+0.3**
	comp=E,2.6nm,0.3s,baz=203,slow=9.9,SNR=15						
BBB				Sn	**Sn**	**16 58 59.3**	**-3.6**
	baz=158,slow=21						
BBB				LR	LR	17 00 08.9	
	comp=E,5μm,18.8s,baz=178,slow=34 comp=E,22nm,0.7s						
HG4B	**Hotspring**	**9.23**	**344**		**Pn**	**16 57 31.5**	**-0.1**
HLID	**Hailey**	**9.24**	**85**	P	**Pn**	**16 57 32.7**	**+0.8**
	baz=274						
ELK	**Elko**	**9.25**	**103**	Pn	**Pn**	**16 57 34.0**	**+1.9**
	comp=E,0.7nm,0.7s,baz=352,slow=7.9,SNR=4.2						
ELK				LR	LR	17 01 05.0	
	comp=E,2μm,21.9s,baz=261,slow=37						
CWC	**Cottonwood Cre**	**9.88**	**132**	P	**Pn**	**16 57 40.6**	**0.0**
	baz=319						
MSO	**Missoula**	**9.90**	**66**	Pn	**Pn**	**16 57 37.9**	**-2.9**
MSO	**Missoula**	**9.90**	**66**	P	**Pn**	**16 57 41.1**	**+0.3**
	baz=255,SNR=16						
BCYI	**Bear Canyon**	**9.94**	**80**	Pn	**Pn**	**16 57 40.9**	**-0.7**
ISA	**Isabella, Lake**	**10.27**	**137**		**Pn**	**16 57 45.2**	**-0.7**
ISA	**Isabella, Lake**	**10.27**	**137**	P	**Pn**	**16 57 46.1**	**+0.2**
	baz=323,SNR=7.2						
CHMT	**Chamberlain Mo**	**10.37**	**66**		**Pn**	**16 57 46.3**	**-1.2**
MPMC	**Manual Prospec**	**10.48**	**132**	P	**Pn**	**16 57 49.1**	**+0.2**
	baz=318						
GRNB	**Grenville Isla**	**10.54**	**351**		**Pn**	**16 57 49.5**	**0.0**
TPNV	**Topopah Spring**	**10.56**	**124**	P	**Pn**	**16 57 52.6**	**+2.5**
	baz=312						
LRMC	**Laurel Mtn Rad**	**10.81**	**134**	P	**Pn**	**16 57 55.4**	**+1.9**
	baz=321						
LYMT	**Lyon Mountain**	**11.03**	**66**		**Pn**	**16 57 54.1**	**-2.3**
EDW2	**Edwards Air Fo**	**11.12**	**137**	P	**Pn**	**16 58 01.3**	**+3.6**
	baz=324						
DUG	**Dugway, Tooele**	**11.17**	**102**	P	**Pn**	**16 57 58.4**	**+0.1**
	baz=292						
BOZ	**Bozeman (W)**	**11.26**	**74**		**Pn**	**16 57 58.0**	**-1.6**
BOZ	**Bozeman (W)**	**11.26**	**74**	P	**Pn**	**16 58 00.6**	**+1.0**
	baz=265						
YHL	**Hebgen Lake**	**11.53**	**78**	Pn	**Pn**	**16 58 04.1**	**+0.6**
TUQ	**Turquoise Moun**	**11.80**	**129**	P	**Pn**	**16 58 11.1**	**+4.1**
	baz=317,SNR=19						
BFSC	**Mount Baldy Ra**	**11.80**	**138**	P	**Pn**	**16 58 09.4**	**+2.3**
	baz=325						
ID10	**Lander Cutoff**	**11.93**	**89**	Pn	**Pn**	**16 58 06.8**	**-2.0**
H17A	**Grant Village**	**11.97**	**80**	P	**Pn**	**16 58 12.6**	**+3.3**
	baz=271						
HEC	**Hector,Ludlow**	**12.02**	**132**	P	**Pn**	**16 58 12.5**	**+2.5**
	baz=320						
V35K	**Ketchikan**	**12.21**	**348**	P	**Pn**	**16 58 14.4**	**+2.0**
	baz=164						
YMP	**Mirror Lake Pl**	**12.26**	**78**	Pn	**Pn**	**16 58 10.9**	**-2.6**
CRAG	**Craig**	**12.61**	**344**	P	**Pn**	**16 58 19.9**	**+2.1**
	baz=159						
BELC	**Belle Mtn. Jos**	**12.83**	**134**	P	**Pn**	**16 58 25.2**	**+4.0**
	baz=321						
BW06	**Boulder Array**	**12.86**	**87**	P	**Pn**	**16 58 22.3**	**+0.9**
	baz=279						
PDAR	**Pinedale Array**	**12.86**	**87**	Pn	**Pn**	**16 58 24.2**	**+2.7**
	comp=E,0.1nm,0.3s,baz=277,slow=13,SNR=12						
PDAR				LR	LR	17 03 49.6	
	comp=E,4μm,20.8s,baz=281,slow=40 comp=E,2.8nm,1.0s						
RLMT	**Red Lodge**	**12.90**	**77**	P	**Pn**	**16 58 23.8**	**+1.8**
	baz=269						
PFO	**Pinyon Flats O**	**12.90**	**136**	P	**Pn**	**16 58 25.9**	**+3.8**
	baz=323						
PFO	**Pinyon Flats O**	**12.90**	**136**	LR	LR	17 03 20.3	
	comp=E,3μm,20.4s,baz=309,slow=37						
TPFO	**Pinon Flats**	**12.91**	**136**	P	**Pn**	**16 58 25.1**	**+2.9**
	baz=323						
IRM	**Iron Mountain**	**13.17**	**131**	P	**Pn**	**16 58 26.2**	**+0.6**
	baz=319						
U33K	**Whale Pass**	**13.22**	**345**	P	**Pn**	**16 58 28.0**	**+1.9**
	baz=160						
BC3	**Big Chuckawall**	**13.39**	**133**	P	**Pn**	**16 58 30.9**	**+2.3**
	baz=321						
MONP2	**Monument Peak**	**13.50**	**138**	P	**Pn**	**16 58 31.7**	**+1.5**
	baz=325						
PDMCI	**Parker Dam,Lak**	**13.63**	**128**	P	**Pn**	**16 58 35.0**	**+3.1**
	baz=316						
T35M	**Bob Quinn**	**13.66**	**353**	P	**Pn**	**16 58 33.9**	**+1.7**
	baz=170						
S34M	**Telegraph Cree**	**14.67**	**352**	P	**Pn**	**16 58 48.4**	**+2.5**
	baz=168						
113A	**Mohawk Valley,**	**14.97**	**131**		**Pn**	**16 58 47.1**	**-3.1**
DLBC	**Dease Lake**	**15.09**	**354**	P	**P**	**16 58 54.3**	**-2.6**
	baz=172						
DLBC	**Dease Lake**	**15.09**	**354**	Pn	**Pn**	**16 58 52.1**	**+0.5**
	comp=E,0.1nm,0.3s,baz=187,slow=12,SNR=6.7						
DLBC				LR	LR	17 03 51.0	
	comp=E,3μm,19.8s,baz=176,slow=34 comp=E,3.4nm,1.0s						
LAO	**LASA Array**	**15.10**	**70**	IAmb	IAmb	16 59 24.0	
	comp=Z,39nm,1.1s						
LAO	**LASA Array**	**15.10**	**70**	P	**Pn**	**16 58 52.3**	**+0.5**
	baz=265						
Q32M	**Nakina River**	**15.82**	**350**	P	**Pn**	**16 59 01.8**	**+0.5**
	baz=166						
N23A	**Red Feather La**	**15.91**	**92**	Pn	**Pn**	**16 59 02.6**	**0.0**
N23A	**Red Feather La**	**15.91**	**92**	P	**Pn**	**16 59 02.4**	**-0.2**
	baz=286						
R33M	**Jennings River**	**16.11**	**353**		**P**	**16 59 06.8**	**-1.5**
R33M	**Jennings River**	**16.11**	**353**	P	**P**	**16 59 07.0**	**-1.3**
	baz=170,SNR=8.8						
S22A	**4UR Ranch, Cre**	**16.43**	**104**	Pn	**Pn**	**16 59 06.8**	**-2.5**
S22A	**4UR Ranch, Cre**	**16.43**	**104**	P	**Pn**	**16 59 09.3**	**0.0**
	baz=297						
ISCO	**Idaho Springs**	**16.49**	**96**	Pn	**Pn**	**16 59 08.0**	**-2.1**
ISCO	**Idaho Springs**	**16.49**	**96**	P	**Pn**	**16 59 10.8**	**+0.7**
	baz=290,SNR=11						
P32M	**Atlin**	**16.63**	**348**		**Pn**	**16 59 12.1**	**+0.5**
P32M				IAmb	IAmb	16 59 20.7	
	comp=Z,68nm,1.4s						
P32M	**Atlin**	**16.63**	**348**	P	**Pn**	**16 59 12.2**	**+0.7**
	baz=163						
RSSD	**Black Hills**	**16.67**	**80**		**Pn**	**16 59 09.8**	**-2.6**
RSSD	**Black Hills**	**16.67**	**80**	P	**Pn**	**16 59 13.3**	**+0.9**
	baz=276						
DGMT	**Dagmar**	**16.68**	**65**	P	**Pn**	**16 59 10.4**	**-1.8**
	baz=261						
SKAG	**Skagway**	**16.78**	**345**	P	**P**	**16 59 14.3**	**-1.1**
	baz=159						
KOTAN	**Kotaneelee Air**	**16.78**	**5**	P	**Pn**	**16 59 13.4**	**+0.1**
	baz=187						
PLBC	**Pleasant Camp**	**16.97**	**344**	P	**P**	**16 59 16.9**	**-0.8**
	baz=156						
TUC	**Tucson**	**17.02**	**126**		**Pn**	**16 59 16.7**	**+0.1**
TUC	**Tucson**	**17.02**	**126**	P	**Pn**	**16 59 17.1**	**+0.5**
	baz=316						
P33M	**Teslin, Yukon**	**17.11**	**350**		**Pn**	**16 59 17.9**	**+0.3**
P33M	**Teslin, Yukon**	**17.11**	**350**	P	**Pn**	**16 59 17.1**	**-0.5**
	baz=166						
BRIGG	**Briggsdale**	**17.18**	**92**	P	**P**	**16 59 19.7**	**-0.5**
BRIGG				IAmb	IAmb	16 59 41.7	
	comp=Z,75nm,1.4s						
SDCO	**Great Sand Dun**	**17.37**	**102**	Pn	**Pn**	**16 59 17.7**	**-3.5**
SDCO	**Great Sand Dun**	**17.37**	**102**	P	**Pn**	**16 59 19.5**	**-1.7**
	baz=296						
P29M	**Windy Craggy**	**17.43**	**342**	Pn	**Pn**	**16 59 19.8**	**-1.7**
P29M	**Windy Craggy**	**17.43**	**342**	P	**P**	**16 59 22.0**	**-0.7**
	baz=153						
WHY	**Whitehorse**	**17.83**	**347**	P	**P**	**16 59 27.2**	**-0.1**
	baz=161						
DUN6	**Lazy B Ranch**	**17.87**	**122**		**Pn**	**16 59 26.3**	**-1.0**
N32M	**Quiet Lake**	**18.06**	**351**		**Pn**	**16 59 27.6**	**-1.7**
N32M				IAmb	IAmb	16 59 52.1	
	comp=Z,50nm,1.2s						
TGTN	**Hyland Airport**	**18.09**	**358**	P	**P**	**16 59 31.0**	**+1.0**
	baz=177						
ANMO	**Albuquerque**	**18.11**	**111**	P	**Pn**	**16 59 28.0**	**-2.2**
ANMO	**Albuquerque**	**18.11**	**111**	P	**P**	**16 59 32.3**	**+1.7**
	baz=280,slow=6.1,SNR=1.7						
ANMO				LR	LR	17 06 12.1	
	comp=Z,1μm,18.8s,baz=30,slow=36 comp=Z,0.9nm,0.7s						
O30N	**Mendenhall**	**18.14**	**346**		**Pn**	**16 59 30.2**	**-0.1**
O30N				IAmb	IAmb	16 59 35.0	
	comp=Z,55nm,1.4s						
O30N	**Mendenhall**	**18.14**	**346**	P	**P**	**16 59 30.5**	**-0.1**
	baz=158,SNR=7.2						
O29M	**Mount Kennedy**	**18.22**	**342**	P	**Pn**	**16 59 30.9**	**-0.5**
	baz=152						
T25A	**Trinidad**	**18.42**	**102**		**P**	**16 59 29.4**	**-4.6**
HYT	**Haines Junctio**	**18.46**	**344**	P	**P**	**16 59 32.1**	**-2.1**
HYT	**Haines Junctio**	**18.46**	**344**	P	**P**	**16 59 34.0**	**-0.2**
	baz=155						
YUK6	**Outpost Mounta**	**18.75**	**343**	P	**P**	**16 59 37.4**	**-0.1**
	baz=154,SNR=5.2						
N31M	**Braeburn, Yuko**	**18.76**	**347**	P	**P**	**16 59 37.1**	**-0.3**
N31M				IAmb	IAmb	16 59 54.8	
	comp=Z,29nm,1.1s						
N31M	**Braeburn, Yuko**	**18.76**	**347**	P	**Pn**	**16 59 37.5**	**-0.3**
	baz=160						
E28A	**Huff**	**18.91**	**71**	P	**P**	**16 59 36.8**	**-2.3**
E28A				IAmb	IAmb	17 00 03.2	
	comp=Z,55nm,1.1s						
N30M	**Aishikik Lake**	**18.96**	**345**	P	**P**	**16 59 38.4**	**-1.3**
N30M	**Aishikik Lake**	**18.96**	**345**	P	**P**	**16 59 39.2**	**-0.5**
	baz=157						
O28M	**Mount Upton**	**19.02**	**340**	P	**Pn**	**16 59 41.1**	**-0.1**
	baz=149						
FARO	**Faro, Yukon**	**19.14**	**351**	P	**P**	**16 59 41.1**	**-0.5**
FARO	**Faro, Yukon**	**19.14**	**351**	P	**Pn**	**16 59 42.2**	**-0.2**
	baz=166						
YUK4	**Talbot Arm**	**19.17**	**343**	P	**Pn**	**16 59 42.7**	**-0.2**
	baz=154						
M31M	**Drury Creek, Y**	**19.24**	**350**		**P**	**16 59 42.6**	**0.0**
M31M	**Drury Creek, Y**	**19.24**	**350**	P	**Pn**	**16 59 43.3**	**-0.3**
	baz=164						
MMPY	**Sheldon Lake,**	**19.33**	**354**	P	**P**	**16 59 43.0**	**-0.6**
	baz=171						
YUK8	**Steele Glacier**	**19.36**	**341**	P	**Pn**	**16 59 44.9**	**-0.5**
	baz=151						
CTGM	**Chitina Glacie**	**19.48**	**339**	P	**P**	**16 59 44.4**	**-1.0**
CTGM				IAmb	IAmb	17 00 03.5	
	comp=Z,53nm,1.3s						
CTG	**Chitna Glacier**	**19.48**	**339**	P	**P**	**16 59 45.5**	**+0.1**
	baz=147						
BARN	**Barnard Glacie**	**19.64**	**339**	P	**P**	**16 59 46.7**	**-0.5**
BARN				IAmb	IAmb	17 00 02.9	
	comp=Z,26nm,1.0s						
CRQE	**Cirque**	**19.79**	**336**	P	**Pn**	**16 59 49.5**	**-0.7**
	baz=144						
FFC	**Flin Flon**	**19.82**	**47**	P	**P**	**16 59 47.1**	**-1.9**
FFC				IAmb	IAmb	16 59 56.6	
	comp=Z,46nm,0.9s						
Q23K	**Middleton Isla**	**19.84**	**330**	P	**Pn**	**16 59 50.7**	**0.0**
	baz=135						
WRGLY	**Wrigley**	**19.90**	**5**		**P**	**16 59 47.2**	**-2.5**
WRGLY	**Wrigley**	**19.90**	**5**	P	**Pn**	**16 59 51.9**	**+0.5**
	baz=188						
M30M	**Minto, Yukon**	**19.95**	**347**	P	**P**	**16 59 50.9**	**+0.5**
	baz=159						
YUK3	**Moose Creek**	**19.96**	**341**	P	**P**	**16 59 51.3**	**+0.6**
	baz=150						
K30B	**Basset**	**20.08**	**83**	P	**P**	**16 59 51.6**	**-0.4**
K30B				IAmb	IAmb	17 00 07.3	
	comp=Z,46nm,0.9s						
M29M	**Somme Creek**	**20.13**	**345**	IAmb	IAmb	17 00 01.4	
	comp=Z,29nm,1.4s						
M29M	**Somme Creek**	**20.13**	**345**	P	**P**	**16 59 51.3**	**-1.1**
	baz=155						
MCARA	**McCarthy VSAT**	**20.28**	**338**	P	**P**	**16 59 54.8**	**+0.9**
	baz=145						
BMRM	**Bremner River**	**20.41**	**335**	P	**P**	**16 59 56.0**	**+0.6**
	baz=141						
YKA	**Yellowknife Ar**	**20.41**	**17**	P	Pn	16 59 56.6	-0.9
	comp=Z,2.6nm,0.6s,baz=113,slow=24,SNR=3.4 comp=Z,2.6nm,0.6s						
P23K	**Montague Islan**	**20.62**	**330**	P	**P**	**16 59 56.3**	**-1.3**
	baz=134						
L29M	**L29M**	**20.68**	**346**	P	**P**	**16 59 58.0**	**-0.3**
	baz=157						
MNTX	**Cornudas Mount**	**20.79**	**117**	P	**P**	**17 00 00.1**	**+0.4**
MNTX	**Cornudas Mount**	**20.79**	**117**	P	**P**	**16 59 59.6**	**-0.2**
	baz=311						
M27K	**Edge Creek, AK**	**20.80**	**340**	P	**P**	**16 59 58.9**	**-0.8**
	baz=148						
N25K	**Chitina, Valde**	**20.91**	**336**	P	**P**	**17 00 00.7**	**-0.2**
	baz=142						
M26K	**Nabesna, AK**	**21.12**	**339**	P	**P**	**17 00 03.2**	**+0.2**
	baz=146						
KLU	**Klutina**	**21.22**	**335**	P	**P**	**17 00 04.0**	**-0.2**
	baz=139						
K29M	**Barlow Dome**	**21.26**	**347**	P	**P**	**17 00 04.5**	**-0.2**
K29M	**Barlow Dome**	**21.26**	**347**	P	**P**	**17 00 04.9**	**+0.3**
	baz=158						
BCAR	**Beaver Creek A**	**21.39**	**342**	P	**P**	**17 00 05.6**	**-0.4**
L27K	**Beaver Creek,**	**21.39**	**342**	P	**P**	**17 00 06.4**	**+0.3**
L27K	**Beaver Creek,**	**21.39**	**342**	P	**P**	**17 00 06.2**	**+0.2**
	baz=149,SNR=9.6						
KDAK	**Kodiak Island**	**21.40**	**321**	P	**P**	**17 00 04.3**	**-1.7**
	comp=Z,26nm,1.1s,baz=107,slow=7.6,SNR=4.0						
KDAK				LR	LR	17 06 08.9	
	comp=

comp=Z,36nm,1.3s
K27K Chicken 22.29 343 P **P 17 00 15.6 +0.1**
baz=150,SNR=6.6
ULM Lac du Bonnet 22.30 61 P **P 17 00 15.4 -0.3**
ULM IAmb IAmb 17 00 22.6
comp=Z,18nm,0.9s
ULM Lac du Bonnet 22.30 61 P **P 17 00 16.1 +0.3**
comp=Z,3.9nm,0.7s,baz=275,slow=12,SNR=1.7
ULM LR LR 17 09 18.8
comp=Z,3µm,20.7s,baz=263,slow=38
comp=Z,3.9nm,0.7s
PMR Palmer 22.34 332 P **P 17 00 14.2 -1.9**
PMR IAmb IAmb 17 00 38.6
comp=Z,34nm,1.3s
PMR Palmer 22.34 332 P **P 17 00 16.6 +0.4**
baz=134
I30M Mount Dempster 22.40 350 IAmb IAmb 17 00 46.2
comp=Z,24nm,1.1s
I30M Mount Dempster 22.40 350 P **P 17 00 16.7 -0.1**
baz=162
GHO Glory Hole Cre 22.40 332 P **P 17 00 13.4 -3.5**
ELIS Ellis County 22.48 100 P **P 17 00 15.1 -2.7**
ELIS IAmb IAmb 17 00 27.6
comp=Z,21nm,1.0s
Q19K Cape Douglas, 22.48 323 P **P 17 00 18.2 +0.6**
baz=122
WAT6 Susitna Watana 22.61 335 P **P 17 00 18.3 -0.9**
baz=138
O20K Slope Mountain 22.68 326 P **P 17 00 20.1 +0.2**
baz=126
SCRK Sand Creek 22.68 341 IAmb IAmb 17 00 23.6
comp=Z,27nm,1.5s
SCRK Sand Creek 22.68 341 P **P 17 00 18.4 -1.5**
baz=147
P19K Oil Pt 22.69 325 P **P 17 00 20.5 +0.6**
baz=124
RIDG Independent Ri 22.70 339 IAmb IAmb 17 00 41.9
comp=Z,29nm,1.1s
RIDG Independent Ri 22.70 339 P **P 17 00 20.8 +0.8**
baz=145
H31M Peel River 22.73 352 P **P 17 00 20.8 +0.5**
baz=166,SNR=6.7
M22K Willow 22.80 331 P **P 17 00 20.9 0.0**
baz=133
I29M Ogilvie Camp, 22.80 348 P **P 17 00 20.5 -0.5**
I29M IAmb IAmb 17 00 29.8
comp=Z,35nm,1.4s
I29M Ogilvie Camp, 22.80 348 P **P 17 00 21.0 0.0**
baz=158
SUA Susitna One 22.83 330 IAmb IAmb 17 00 44.6
comp=Z,33nm,1.2s
SUA Susitna One 22.83 330 P **P 17 00 20.4 -1.0**
baz=131
ILSW Iliamna Southw 22.84 325 P **P 17 00 19.6 -2.0**
DHY Denali Highway 22.87 336 P **P 17 00 21.5 -0.4**
baz=139,SNR=5.9
Q18K Katmai Hardscr 22.95 321 P **P 17 00 22.3 -0.4**
baz=119
K24K Donnelly Dome 23.00 339 P **P 17 00 22.9 -0.2**
baz=143
J26L Joseph Creek 23.03 342 IAmb IAmb 17 00 41.7
comp=Z,13nm,1.0s
J26L Joseph Creek 23.03 342 P **P 17 00 23.7 +0.2**
baz=148
WAT1 Susitna Watana 23.04 335 P **P 17 00 23.4 -0.2**
baz=137
R17K Ugashik Creek 23.14 318 P **P 17 00 25.1 +0.5**
baz=115
I28M Miner Creek 23.14 346 P **P 17 00 23.8 -0.8**
baz=156
Q17K Contact Creek 23.17 320 P **P 17 00 24.4 -0.6**
baz=117
N20K Mount Spurr 23.20 329 P **P 17 00 26.4 +1.2**
baz=128
KSU1 Kansas State U 23.27 90 P **P 17 00 25.1 -0.9**
baz=291
CUT Chulitna 23.30 332 P **P 17 00 24.9 -1.2**
CUT Chulitna 23.30 332 P **P 17 00 27.6 +1.5**
baz=134
P18K Big Mountain, 23.41 323 P **P 17 00 28.4 +1.0**
baz=120
SKT Skwentna 23.45 331 P **P 17 00 27.5 -0.2**
baz=131
O19K Port Alsworth 23.45 325 P **P 17 00 29.3 +1.7**
baz=123
TX31 Lajitas Ar. Si 23.47 119 pP pP 17 00 31.0 -0.5
TX32 Lajitas Array 23.47 119 P **P 17 00 32.5 +4.2**
TXAR Lajitas Array 23.47 119 P **P 17 00 29.7 +1.5**
comp=Z,1.0nm,0.7s,baz=300,slow=6.5,SNR=19
TXAR PcP **PcP 17 04 14.7 +0.7**
comp=Z,0.5nm,1.0s,baz=298,slow=1.9,SNR=1.9
TXAR LR LR 17 10 06.9
comp=Z,565nm,19.1s,baz=302,slow=38
comp=Z,1.0nm,0.7s
EPYK Eagle Plains 23.54 350 P **P 17 00 27.8 -0.7**
EPYK Eagle Plains 23.54 350 P **P 17 00 29.0 +0.5**
baz=162
J25K Salcha River, 23.55 340 P **P 17 00 27.7 -1.0**
J25K IAmb IAmb 17 00 36.8
comp=Z,40nm,1.5s
J25K Salcha River, 23.55 340 P **P 17 00 28.4 -0.3**
baz=145
WMOK Wichita Mounta 23.57 102 P **P 17 00 29.9 +0.8**
WMOK Wichita Mounta 23.57 102 P **P 17 00 29.4 +0.3**
baz=300
I27K Kandik River 23.59 345 P **P 17 00 29.8 +0.7**
baz=153
H29M Whitestone 23.61 349 P **P 17 00 28.6 -0.6**
baz=159
I26K Coal Creek Min 23.63 343 P **P 17 00 26.7 -2.7**
I26K IAmb IAmb 17 00 47.0
comp=Z,39nm,1.4s
I26K Coal Creek Min 23.63 343 P **P 17 00 29.4 0.0**
baz=150
O18K Koktuh Hills 23.64 324 P **P 17 00 28.6 -1.0**
baz=121
CHGN Chignik 23.65 314 P **P 17 00 28.7 -0.9**
baz=109
HDA Harding Lake 23.79 339 P **P 17 00 27.6 -3.3**
HDA IAmb IAmb 17 00 46.8
comp=Z,16nm,1.3s
HDA Harding Lake 23.79 339 P **P 17 00 29.5 -1.5**
baz=142
G31M Satah River 23.81 353 P **P 17 00 29.9 -1.2**
baz=167
MCK McKinley 23.83 336 P **P 17 00 30.1 -1.2**
baz=138
CHNA Chernabura Isl 23.85 310 P **P 17 00 31.2 -0.4**
baz=105
P17K Kvichak River 23.86 321 P **P 17 00 30.6 -1.0**
baz=118
N19K Bonanza Creek 23.86 326 P **P 17 00 30.2 -1.5**
baz=124
F36A Milaca 23.91 73 P **P 17 00 31.1 -1.2**
F36A IAmb IAmb 17 00 50.1
comp=Z,16nm,1.0s
M20K Styx River 23.97 329 P **P 17 00 29.2 -3.6**
M20K IAmb IAmb 17 00 49.0
comp=Z,23nm,1.2s
M20K Styx River 23.97 329 P **P 17 00 30.3 -2.5**
baz=128
TRF Thorofare Moun 24.04 334 P **P 17 00 34.8 +1.3**
baz=135
IL31 24.06 339 P **P 17 00 30.9 -2.6**
IL31 IAmb IAmb 17 00 52.2
comp=Z,12nm,1.1s
ILAR Eielson Array 24.06 339 P **P 17 00 30.9 -2.6**
ILAR Eielson Array 24.06 339 P **P 17 00 31.6 -1.9**
comp=Z,3.3nm,0.8s,baz=152,slow=8.6,SNR=23
ILAR PcP **PcP 17 04 14.6 +0.1**
comp=Z,0.5nm,0.9s,baz=187,slow=1.7,SNR=2.1
ILAR LR LR 17 08 29.2
comp=Z,2µm,19.5s,baz=138,slow=33
comp=Z,3.3nm,0.8s
G30M tAoh Zraii Nji 24.07 351 P **P 17 00 34.8 +1.3**
baz=163
OZNA Ozona 24.09 113 P **P 17 00 34.4 +0.3**
OZNA IAmb IAmb 17 00 47.7
comp=Z,9.2nm,0.9s
ABTX Abilene, Hawle 24.10 107 P **P 17 00 33.0 -1.2**
baz=305
H27K Steamboat Moun 24.13 346 P **P 17 00 34.3 +0.1**
baz=154
WRH Wood River Hil 24.15 338 P **P 17 00 32.8 -1.5**
WRH IAmb IAmb 17 00 58.4
comp=Z,17nm,1.1s
T35A Sooner Cattle 24.19 95 P **P 17 00 34.4 -0.6**

CCB Clear Creek Bu 24.21 338 P **P 17 00 33.2 -1.6**
CCB IAmb IAmb 17 00 41.4
comp=Z,20nm,1.3s
G29M Pine Creek 24.22 350 P **P 17 00 33.5 -1.5**
G29M Pine Creek 24.22 350 P **P 17 00 34.1 -0.8**
baz=160
PPLA Purkeypile 24.28 332 P **P 17 00 34.4 -1.3**
baz=131
BWN Browne 24.31 336 P **P 17 00 32.6 -3.2**
PRP Porcupine Dome 24.34 341 P **P 17 00 33.5 -2.7**
PRP IAmb IAmb 17 00 46.1
comp=Z,18nm,1.3s
PRP Porcupine Dome 24.34 341 P **P 17 00 35.9 -0.3**
baz=146
N18K Kilae Creek 24.37 325 P **P 17 00 35.2 -1.1**
baz=122
O17K Koliganek Bris 24.43 322 P **P 17 00 36.0 -0.9**
baz=118
M19K Big River Lodg 24.46 328 P **P 17 00 36.3 -0.9**
M19K IAmb IAmb 17 00 46.5
comp=Z,24nm,1.1s
POKR Poker Plat Res 24.48 339 P **P 17 00 36.9 -0.4**
baz=142
SDPT Sand Point 24.48 311 P **P 17 00 37.2 -0.2**
baz=105
NEA2 Nenana 24.52 337 P **P 17 00 36.3 -1.4**
NEA2 IAmb IAmb 17 00 55.9
comp=Z,20nm,1.1s
NEA2 Nenana 24.52 337 P **P 17 00 37.9 +0.2**
baz=139
CAST Castle Rocks 24.60 333 P **P 17 00 38.4 -0.1**
baz=132
F30M Barrier River 24.63 352 P **P 17 00 37.3 -1.3**
baz=164
G27K Doyon Strip 24.68 346 P **P 17 00 37.9 -1.3**
baz=154
BPAW Bear Paw Mtn. 24.72 335 P **P 17 00 37.6 -1.9**
baz=135
O16K Kokwok River B 24.80 321 P **P 17 00 38.1 -2.1**
O16K Kokwok River B 24.80 321 P **P 17 00 41.5 +1.3**
baz=117
L19K White Mountain 24.80 329 P **P 17 00 39.3 -1.0**
baz=126
N17K Nushagak Hills 24.84 324 P **P 17 00 39.9 -0.7**
N17K Nushagak Hills 24.84 324 P **P 17 00 40.8 +0.2**
baz=120
CHUM Lake Minchumin 24.99 334 P **P 17 00 41.0 -0.9**
baz=133
I23K Minto, Yukon-K 25.02 338 P **P 17 00 41.8 -0.4**
baz=139
H25L Birch Creek 25.03 342 P **P 17 00 41.9 -0.4**
baz=146
INK Inuvik 25.11 354 P **P 17 00 44.8 +1.8**
baz=169
INK Inuvik 25.11 354 P **P 17 00 41.0 -1.9**
comp=Z,1.8nm,0.8s,baz=184,slow=13,SNR=1.5
INK LR LR 17 10 04.9
comp=Z,2µm,20.2s,baz=174,slow=35
comp=Z,1.8nm,0.8s
EYMN Ely 25.13 67 P **P 17 00 41.9 -1.5**
baz=273
F28M Old Crow 25.13 349 P **P 17 00 43.0 -0.3**
F28M IAmb IAmb 17 01 11.2
comp=Z,24nm,1.4s
F28M Old Crow 25.13 349 P **P 17 00 44.5 +1.3**
baz=158
H24K Noodor Dome 25.17 340 P **P 17 00 44.0 +0.4**
baz=142,SNR=12
G26K Porcupine Rive 25.19 345 P **P 17 00 43.6 -0.2**
baz=150
K20K Telida 25.23 331 P **P 17 00 42.5 -1.7**
K20K Telida 25.23 331 P **P 17 00 44.5 +0.3**
baz=129,SNR=5.3
M17K Holitna River 25.39 325 P **P 17 00 46.2 +0.6**
baz=121
O15K Ungalikthiuk R 25.42 320 P **P 17 00 43.3 -2.6**
baz=114
N16K Nishlik Lake 25.50 323 P **P 17 00 47.5 +0.9**
baz=117
G25K Bearman Lake 25.51 343 P **P 17 00 46.5 -0.1**
baz=146
L18K Granite Mounta 25.52 328 P **P 17 00 45.6 -1.2**
baz=123
H23K Yukon River 25.59 339 P **P 17 00 48.2 +0.8**
baz=140
E29M Blow River 25.61 351 P **P 17 00 48.2 +0.7**
baz=161
TTA Tatalina 25.67 329 P **P 17 00 45.4 -2.8**
TTA IAmb IAmb 17 01 09.5
comp=Z,15nm,1.0s
TTA Tatalina 25.67 329 P **P 17 00 48.4 +0.2**
baz=126
BMAR Burnt Mountain 25.77 345 P **P 17 00 48.4 -0.6**
G24K Hadweenzic Riv 25.77 341 P **P 17 00 49.3 +0.3**
baz=144
J20K Nowinta River 25.79 333 P **P 17 00 48.4 -0.8**
J20K IAmb IAmb 17 01 03.5
comp=Z,8.3nm,0.9s
J20K Nowinta River 25.79 333 P **P 17 00 48.5 -0.6**
baz=130
I21K Tanana 25.79 336 P **P 17 00 47.9 -1.3**
I21K IAmb IAmb 17 00 52.7
comp=Z,26nm,1.2s
I21K Tanana 25.79 336 P **P 17 00 49.1 -0.1**
baz=135
M16K Timber Creek 25.84 324 P **P 17 00 51.8 +2.1**
baz=118
F26K Sheenjek River 25.92 345 P **P 17 00 50.8 +0.4**
baz=151
E27K Coleen River 25.92 348 P **P 17 00 50.8 +0.4**
baz=155
E28M Babbage River 26.01 350 P **P 17 00 51.9 +0.7**
baz=159
L17K Donlin 26.12 326 P **P 17 00 51.9 -0.3**
baz=121
F25K Christian Rive 26.12 344 P **P 17 00 53.2 +1.0**
baz=148
H22K Ishtalitna Cre 26.14 337 P **P 17 00 51.9 -0.4**
baz=137
J19K Poorman 26.17 332 P **P 17 00 51.3 -1.4**
baz=128
J18K Innoko River 26.25 330 P **P 17 00 52.4 -1.0**
baz=126
I20K Naaghedeneel 26.30 334 P **P 17 00 53.5 -0.3**
baz=131
H21K Melozitna Rive 26.38 336 P **P 17 00 51.8 -2.7**
H21K IAmb IAmb 17 01 13.9
comp=Z,12nm,1.1s
H21K Melozitna Rive 26.38 336 P **P 17 00 53.5 -1.0**
baz=135
L16K Owhat River 26.39 325 P **P 17 00 54.9 +0.3**
baz=119
G23K Bananza Creek 26.39 340 P **P 17 00 54.2 -0.5**
baz=140
K17K Iditarod 26.43 328 P **P 17 00 55.9 +0.9**
baz=122
F24K Squaw Lake 26.53 342 P **P 17 00 56.3 +0.4**
baz=144
E25K Arctic Village 26.56 345 P **P 17 00 57.7 +1.6**
baz=149
N14K Kuskokwak Cree 26.59 320 P **P 17 00 59.1 +2.7**
baz=112
D28M Stokes Point 26.60 351 P **P 17 00 58.6 +2.2**
baz=161
COLD Coldfoot 26.84 340 P **P 17 00 57.7 -1.0**
IMAR Indian Mountai 26.88 336 P **P 17 00 57.7 -1.3**
H20K Anotleneega Mo 26.89 335 P **P 17 00 59.3 +0.2**
baz=131
E24K Your Creek 27.12 343 P **P 17 01 02.8 +1.6**
baz=144
G21K Allakaket 27.19 337 P **P 17 01 01.0 -0.7**
baz=135
E23K Chandalar 27.36 342 P **P 17 01 04.9 +1.5**
baz=142
MIAR Mount Ida 27.40 98 P **P 17 01 04.8 +0.8**
baz=299
H19K Roundabout Mou 27.41 334 P **P 17 01 04.6 +0.8**
baz=129
L14K Kuka Creek 27.60 323 P **P 17 01 06.4 +0.9**
baz=114
J16K Anvik River 27.62 327 P **P 17 01 04.3 -1.4**
baz=120
TOLK Toolik Lake Re 27.82 343 P **P 17 01 06.8 -0.7**
TOLK Toolik Lake Re 27.82 343 P **P 17 01 07.9 +0.5**
baz=143
E22K Anaktuvuk Pass 27.93 340 P **P 17 01 08.2 -0.3**
baz=139

HDIL Hopedale 28.10 83 P **P 17 01 07.9 -2.3**
D23K Nanushuk River 28.32 342 P **P 17 01 11.7 -0.2**
baz=142
G18K Tagagawik 28.36 333 P **P 17 01 12.7 +0.5**
baz=127
J14K Nanvaranak Lak 28.56 325 P **P 17 01 14.3 +0.3**
baz=115
NIKH Nikolski High 29.00 304 P **P 17 01 16.6 -1.5**
baz=92
E20K Nigu River 29.15 338 P **P 17 01 18.2 -1.2**
baz=133
SADO Sadowa 34.07 71 LR LR 17 16 19.4
comp=Z,2µm,18.6s,baz=320,slow=37
FRB Frobisher Bay 38.47 38 LR LR 17 19 15.0
comp=Z,1µm,19.0s,baz=268,slow=37
SHEM Shemya Is, Ala 39.31 305 LR LR 17 16 13.5
comp=Z,332nm,19.3s,baz=115,slow=32
NEEM North Greenlan 44.97 17 *i* P **P 17 03 37.5 +4.0**
NEEM IAmb IAmb 17 03 45.2
comp=Z,12nm,0.8s
SFJD Kangerlussuaq 45.79 32 LR LR 17 23 16.3
comp=Z,542nm,19.6s,baz=280,slow=37
DY2G Dye2 47.59 32 *i* P **P 17 03 58.4 +4.3**
DY2G IAmb IAmb 17 04 07.4
comp=Z,4.9nm,0.8s
SEY Seymchan 48.34 323 P **P 17 03 58.1 -1.6**
comp=Z,1.3nm,0.7s,baz=55,slow=7.5,SNR=1.8
SEY LR LR 17 23 07.4
comp=Z,803nm,19.5s,baz=84,slow=35
comp=Z,1.3nm,0.7s
PETK Petropavlovsk- 48.75 309 LR LR 17 22 35.4
comp=Z,207nm,20.7s,baz=69,slow=34
SUMG Summit 48.78 24 *i* P **P 17 04 05.0 +1.6**
SUMG IAmb IAmb 17 04 14.8
comp=Z,6.7nm,0.8s
JTS Las Juntas de 49.26 119 LR LR 17 28 21.9
comp=Z,290nm,18.9s,baz=313,slow=40
ICESG Greenland Ices 49.35 28 *i* P P 17 04 12.4 +4.6
ICESG IAmb IAmb 17 04 20.1
comp=Z,8.4nm,0.8s
MA2 Magadan 50.13 319 LR LR 17 24 04.7
comp=Z,746nm,19.6s,baz=80,slow=34
ISOG Isortoq, Green 50.71 33 *i* P P 17 04 26.2 +8.6
ISOG IAmb IAmb 17 04 27.9
comp=Z,17nm,0.5s
TAOE Nuku Hiva Isla 53.42 196 *e*LR LR 17 20 08.8
comp=Z,265nm,22.8s
TAOE Nuku Hiva Isla 53.42 196 *e*T T 18 01 51.1
comp=Z,90nm,0.3s
SPITS Spitsbergen Ar 56.61 8 LR LR 17 31 05.9
comp=Z,285nm,18.7s,baz=293,slow=38
SJG San Juan 56.78 96 LR LR 17 29 43.1
comp=Z,394nm,21.3s,baz=302,slow=36
BORG Borgarnes 57.70 29 LR LR 17 29 00.2
comp=Z,489nm,19.0s,baz=302,slow=35
JMIC Jan Mayen 57.76 20 LR LR 17 29 49.9
comp=Z,303nm,21.5s,baz=286,slow=36
H11N3 WAKE ISLAND Hy 59.39 269 T T 18 09 08.1
baz=50,slow=75
H11N2 WAKE ISLAND Hy 59.39 269 T T 18 09 16.0
baz=50,slow=75
H11N1 WAKE ISLAND Hy 59.40 269 T T 18 09 05.7
baz=50,slow=75
SDV Santo Domingo 59.84 108 LR LR 17 33 36.4
comp=Z,335nm,20.8s,baz=317,slow=38
ROSC El Rosal 60.27 114 LR LR 17 37 08.6
comp=Z,170nm,18.2s,baz=317,slow=42
H11S1 WAKE ISLAND Hy 60.31 268 T T 18 10 14.5
baz=50,slow=75,SNR=535
H11S2 WAKE ISLAND Hy 60.31 268 T T 18 10 17.0
baz=50,slow=75,SNR=533
H11S3 WAKE ISLAND Hy 60.33 268 T T 18 10 14.8
baz=50,slow=75,SNR=434
PMOR Pomariorio Ree 61.23 203 *e*T T 18 11 40.9
comp=Z,67nm,0.4s
PCRV Puerto La Cruz 63.17 102 LR LR 17 35 49.4
comp=Z,332nm,19.7s,slow=38
TIAR Tiarei 64.07 204 *e*T T 18 15 10.8
comp=Z,18nm,0.3s
PPT Papeete 64.15 204 LR LR 17 26 45.0
comp=Z,100nm,18.8s,baz=16,slow=29
PPT2 Papeete2 64.17 204 *e*SS SS 17 18 28.7 -11
PPT2 comp=Z,78nm,26.8s *e*LR LR 17 24 37.4
PPT2 comp=Z,387nm,27.2s *e*LR LR 17 24 43.9
comp=Z,276nm,28.0s
TVO Taravao 64.26 203 *e*T T 18 15 27.2
comp=Z,6.6nm,0.3s
KLR Kul'dur 64.81 315 P **P 17 05 55.8 -1.2**
comp=Z,0.4nm,0.2s,baz=39,slow=7.2,SNR=4.0
KLR LR LR 17 34 31.2
comp=Z,101nm,18.1s,baz=52,slow=36
comp=Z,0.4nm,0.2s
ARCES ARCESS Array B 65.51 10 LR LR 17 33 15.8
comp=Z,276nm,21.8s,baz=336,slow=35
HEH HeiHe 66.35 318 *e*P **P 17 06 02.6 -4.4**
USRK Ussuriysk Ar. 67.82 310 P **P 17 06 15.3 -1.1**
USRK Ussuriysk Ar. 67.82 310 LR LR 17 34 20.2
comp=Z,237nm,20.3s,baz=39,slow=35
TBI Tubuai 69.60 202 *e*LR LR 17 27 12.2
comp=Z,1µm,30.5s
TBI *e*LR LR 17 27 33.0
comp=Z,4µm,22.5s
NB2 NORSAR Subarra 70.47 20 P P 17 06 40.8 +8.2
comp=Z,5.6nm,1.0s,baz=330,slow=6.2
NOA NORSAR Array B 70.47 20 P **P 17 06 34.1 +1.5**
comp=Z,2.0nm,1.0s,baz=328,slow=5.8,SNR=2.9
NOA LR LR 17 36 04.8
comp=Z,174nm,22.0s,baz=335,slow=35
comp=Z,2.0nm,1.0s
RAR Rarotonga 71.02 212 LR LR 17 29 28.4
comp=Z,298nm,19.1s,baz=354,slow=29
NNA Nana 71.72 128 LR LR 17 36 27.1
comp=Z,84nm,20.3s,baz=318,slow=34
HFS Hagfors 71.87 19 P **P 17 06 42.0 +0.9**
comp=Z,6.6nm,1.0s,baz=316,slow=8.2,SNR=3.0
HFS LR LR 17 36 24.7
comp=Z,243nm,20.2s,baz=329,slow=34
comp=Z,6.6nm,1.0s
RPN Rapa Nui 72.14 163 LR LR 17 33 12.3
comp=Z,106nm,18.0s,baz=49,slow=32
JCJ Chichijima 72.37 291 LR LR 17 33 21.2
comp=Z,90nm,20.5s,baz=42,slow=32
FINES FINESS Array B 73.19 13 P **P 17 06 49.3 +0.4**
comp=Z,1.7nm,0.9s,baz=350,slow=7.1,SNR=1.6
FINES LR LR 17 37 06.9
comp=Z,377nm,20.5s,baz=344,slow=34
comp=Z,1.7nm,0.9s
MDP Montagnes des 75.25 97 LR LR 17 43 46.3
comp=Z,320nm,19.3s,baz=338,slow=39
SONM Songino Array 77.58 326 P **P 17 07 13.1 -1.4**
comp=Z,2.1nm,1.0s,baz=0.0,slow=5.0,SNR=7.7
SONM LR LR 17 41 20.7
comp=Z,516nm,18.1s,baz=35,slow=36
comp=Z,2.1nm,1.0s
KIRV Kirov 78.26 2 LR LR 17 43 21.7
comp=Z,167nm,22.0s,baz=356,slow=37
MSVF Nonsavu 78.93 233 LR LR 17 34 45.0
comp=Z,427nm,19.0s,baz=35,slow=30
ZALV Zalesovo Beam 79.17 341 P **P 17 07 21.6 -1.4**
ZALV Zalesovo Beam 79.17 341 P **P 17 07 22.1 -0.9**
comp=Z,1.2nm,0.8s,baz=35,slow=3.5,SNR=2.6
ZALV LR LR 17 45 33.5
comp=Z,160nm,18.8s,baz=41,slow=38
comp=Z,1.2nm,0.8s
GUMO Guam 79.36 279 LR LR 17 34 32.7
comp=Z,274nm,21.2s,baz=66,slow=30
CLL Collm 79.45 24 *e*Px Px 17 07 27.0
CLL *i* x x 17 07 39.7
CLL *e*S **S 17 17 31.0 +5.9**
CLL *e*SS **SS 17 22 32.0 +0.9**
CLL *e*SSS SSS 17 26 12.0
CLL *e*SSSS 17 28 30.0
CLL AMS AMS 17 41 00.0
comp=Z,400nm,19.8s
BRG Berggiesshubel 80.11 24 *e*P P 17 07 33.8 +5.6
BRG Amp 17 07 34.1
comp=Z,2.7nm,0.9s
BRG Berggiesshubel 80.11 24 P P 17 07 38.1 +10
BRG Amp 17 07 39.5
comp=Z,3.8nm,0.9s
BRG Berggiesshubel 80.11 24 P P 17 07 42.2 +14
BRG Amp 17 07 43.0
comp=Z,4.8nm,0.9s
BRG Amp 17 45 47.0
comp=Z,0.5nm,19.4s
BRG Amp 17 45 49.0

comp=N,0.3nm,21.8s
BRG Amp 17 45 50.0
comp=E,0.3nm,18.1s
LPAZ La Paz 80.27 123 P **P 17 07 31.5 +1.3**
comp=E,1.1nm,0.7s,baz=352,slow=6.7,SNR=2.5
comp=E,1.1nm,0.7s
ARU Arti 80.34 357 LR LR 17 46 43.1
comp=E,147nm,18.1s,baz=356,slow=38
OBN Obninsk 80.80 9 LR LR 17 45 01.4
comp=E,180nm,19.5s,baz=360,slow=37
JOW Kunigami 81.73 299 LR LR 17 40 43.4
comp=E,32nm,19.7s,baz=355,slow=33
GERES GERESS Array B 81.84 25 P **P 17 07 38.0 +0.4**
comp=E,0.3nm,0.2s,baz=327,slow=11,SNR=1.6
GERES LR LR 17 44 28.4
comp=E,252nm,18.4s,baz=337,slow=36
comp=E,0.3nm,0.2s
VRAC Vranov 82.28 23 LR LR 17 43 50.3
comp=E,229nm,20.1s,baz=332,slow=35
DAVOX Davos/Dischmat 82.40 28 LR LR 17 43 45.0
comp=E,437nm,19.4s,baz=322,slow=35
ESDC Sonseca Array 82.61 41 P **P 17 07 43.0 +1.3**
comp=E,0.9nm,1.1s,baz=337,slow=6.1,SNR=2.3
ESDC LR LR 17 40 57.6
comp=E,238nm,20.4s,baz=319,slow=33
comp=E,0.9nm,1.1s
BVAR Borovoye Array 82.70 349 P **P 17 07 41.9 0.0**
comp=E,1.1nm,0.5s,baz=15,slow=6.0,SNR=2.1
BVAR LR LR 17 46 33.1
comp=E,347nm,21.5s,baz=13,slow=37
comp=E,1.1nm,0.5s
KURK Kurchatov 83.54 344 P **P 17 07 46.7 +0.4**
KURK IAmb IAmb 17 07 59.6
comp=Z,8.6nm,1.2s
KURBB Kurchatov Arra 83.65 344 P **P 17 07 45.5 -1.3**
comp=Z,1.1nm,0.7s,baz=16,slow=5.0,SNR=9.5
KURBB LR LR 17 48 07.6
comp=Z,249nm,19.1s,baz=200,slow=38
comp=Z,1.1nm,0.7s
NJ2 Nanjing 83.66 309 *e*P **P 17 07 48.3 +1.1**
NJ2 pP **pP 17 07 50.3 -0.6**
NJ2 sP **sP 17 07 53.1 +0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,590nm,3.6s
AKASG Malin Array Be 83.96 15 P **P 17 07 48.6 +0.2**
comp=Z,0.1nm,0.3s,baz=339,slow=5.0,SNR=4.2
AKASG LR LR 17 44 47.5
comp=Z,387nm,19.7s,baz=346,slow=35
comp=Z,0.1nm,0.3s
SIV San Ignacio 84.46 118 LR LR 17 49 41.6
comp=Z,153nm,18.4s,baz=274,slow=39
RAO Raoul Island 86.06 223 LR LR 17 37 48.0
comp=Z,260nm,21.6s,baz=27,slow=30
KRVT Keravat (AS076 86.31 261 LR LR 17 37 52.2
comp=Z,324nm,21.9s,baz=323,slow=30
AKTO Aktyubinsk 86.36 357 LR LR 17 51 02.6
comp=Z,130nm,18.7s,baz=28,slow=39
MKAR Makanchi Array 86.41 340 P **P 17 08 00.4 -0.5**
comp=Z,1.2nm,1.0s,baz=3.7,slow=3.8,SNR=5.8
MKAR LR LR 17 48 24.7
comp=Z,335nm,19.9s,baz=21,slow=37
comp=Z,1.2nm,1.0s
MAKZ Makanchi 86.48 340 P P 17 07 56.3 -4.9
MAKZ IAmb IAmb 17 08 04.2
comp=Z,7.5nm,1.2s
GTA Gaotai 87.22 325 *e*P P 17 08 11.8 +6.8
GTA pmax pmax
comp=Z,2.0nm,1.0s
ABKAR Akbulak array 87.44 355 P **P 17 08 02.6 -3.1**
WMQ Urumqi 87.68 336 *e*P **P 17 08 08.8 +1.7**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
WMQ LR LR
comp=N,500nm,22.9s
WMQ LR LR
comp=E,250nm,22.9s
WMQ LR LR
comp=Z,460nm,24.3s
MDT Midelt 87.69 45 LR LR 17 46 08.6
comp=Z,168nm,18.8s,baz=342,slow=35
LZH Lanzhou 88.24 321 *e*P **P 17 08 13.0 +3.0**
LZH pP pwP 17 08 22.4 +4.8
LZH pmax pmax
comp=Z,10.0nm,1.1s
DZM Mont Dzumac 89.21 238 *e*S **S 17 19 00.7 -2.7**
comp=Z,132nm,27.2s
DZM Mont Dzumac 89.21 238 *e*LR LR 17 36 23.8
comp=Z,896nm,25.0s
DZM Mont Dzumac 89.21 238 LR LR 17 39 33.8
comp=Z,420nm,21.3s,baz=61,slow=30
KEST Kesra 91.76 34 LR LR 17 48 36.9
comp=Z,219nm,19.1s,baz=316,slow=35
AAK Ala-Archa 92.10 344 LR LR 17 52 55.5
comp=Z,318nm,19.7s,baz=24,slow=38
VAE Valguarnera 92.18 30 LR LR 17 51 46.1
comp=Z,257nm,18.2s,baz=5.5,slow=37
KVAR Kislovodsk Arr 92.47 7 LR LR 17 51 17.7
comp=Z,182nm,19.9s,baz=270,slow=36
BDFB Brasília 92.94 109 LR LR 17 53 35.0
comp=Z,301nm,21.0s,baz=321,slow=38
JAY Jayapura 93.29 270 LR LR 17 41 34.1
comp=Z,243nm,22.0s,baz=94,slow=30
PMG Port Moresby 93.31 260 LR LR 17 45 06.4
comp=Z,233nm,20.0s,baz=89,slow=32
CPUP Villa Florida 94.41 122 LR LR 17 53 19.4
comp=Z,96nm,20.1s,baz=332,slow=37
RCBR Riachuelo 94.85 93 LR LR 17 50 32.6
comp=Z,139nm,20.9s,baz=304,slow=35
URZ Urewera 95.77 221 LR LR 17 43 44.2
comp=Z,363nm,20.5s,baz=210,slow=30
GNI Garni 96.43 6 LR LR 17 54 03.8
comp=Z,156nm,21.6s,baz=334,slow=37
PZH PanZhiHua 97.17 317 P **P 17 08 51.4 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,230nm,5.5s
DAV Davao City (W) 97.53 287 LR LR 17 46 16.3
comp=Z,238nm,20.7s,baz=59,slow=31
PLCA Paso Flores 98.10 140 LR LR 17 46 45.1
comp=Z,76nm,18.5s,baz=336,slow=32
GEYT Alibeck 98.83 356 LR LR 18 00 27.1
comp=Z,204nm,18.3s,baz=33,slow=40
SIJI Sorong 99.02 277 LR LR 17 47 42.8
comp=Z,77nm,19.5s,baz=51,slow=32
QSPA South Pole Qui 133.28 180 PKP **PKPdf 17 14 32.7 -0.6**
comp=Z,1.4nm,1.0s,baz=141,slow=3.3,SNR=2.5
ELIB Princess Elisa 148.10 163 *d*PKP **PKPab 17 15 06.4 +0.5**

*IDC **13** 17:00:46.2±2.1, 3°.36N×128°.14E, h156km±21km, mb3.5/12, mbtmp4.0/14, Error ellipse: s-maj=31.6km s-min=11.9km az=66.0*
*DJA **13** 17:00:46.3±0.9, 3°.N±7°.×12°.8E±°, h136km±10km, M4.3/13, mb4.3/7, mB4.7/4, MLv4.3/13, Mw(mB)3.9/4*
*NEIC **13** 17:00:46.7±1.3, 3°.25N±0°.03×127°.89E±0°.09, h155km±8km, mb4.4/23, Error ellipse: s-maj=13.3km s-min=2.5km az=106.0*
ISC 13 17:00:45.6±0.6, 3°.29N±0°.07×127°.91E±0°.07, h150km, n60, σ1§17/65, mb4.2/22, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.56**	**192**		**Pn**	**17 01 27.9**	**+0.5**
TNTI				Sn	**Sn**	**17 02 02.6**	**+2.8**
TNTI	**Ternate**	**2.56**	**192**	P	**Pn**	**17 01 28.4**	**+0.9**
LBMI	**Labuha**	**3.92**	**186**	P	**Pn**	**17 01 45.9**	**+1.0**
SWI	**Sorong**	**5.31**	**141**	P	**Pn**	**17 02 04.1**	**+0.9**
13nm,0.9s,0.1nm							
SIJI	**Sorong**	**5.32**	**141**	P	**Pn**	**17 02 03.7**	**+0.3**
4.6nm,0.3s,baz=338,slow=14,SNR=18							
SIJI				S	**Sn**	**17 03 02.6**	**-1.5**
7.4nm,0.5s,baz=72,slow=23,SNR=8.6							
GTOI	**Gorontalo**	**5.56**	**242**	P	**Pn**	**17 02 07.8**	**+1.4**
17nm,0.7s,268nm0.1nm							
SANI	**Sanana**	**5.64**	**200**	P	**Pn**	**17 02 06.1**	**-1.4**
113nm,0.6s,4μm0.5nm							
NLAI	**Namlea**	**6.53**	**187**	P	**Pn**	**17 02 19.4**	**-0.1**
MRSI	**Marisa**	**6.58**	**245**	P	**Pn**	**17 02 22.1**	**+2.0**
56nm,0.6s,600nm0.3nm							
LUWI	**Luwuk**	**6.70**	**230**	Pn	**Pn**	**17 02 22.6**	**+1.0**
TOLI2	**Tolitoli**	**7.44**	**253**	Pn	**Pn**	**17 02 31.6**	**0.0**
TOLI2				Sn	**Sn**	**17 03 52.0**	**-2.8**
FAKI	**Fak Fak**	**7.54**	**145**		**Pn**	**17 02 33.6**	**+0.7**
FAKI	**Fak Fak**	**7.54**	**145**	P	**Pn**	**17 02 34.1**	**+1.1**
41nm,1.0s,0.1nm							
BBSI	**Bau Bau**	**10.22**	**211**	P	**Pn**	**17 03 10.1**	**+1.5**
MMRI	**Maumere**	**13.12**	**205**	P	**P**	**17 03 53.6**	**+2.6**
SOEI	**Soe**	**13.46**	**196**		**P**	**17 03 54.4**	**-0.4**
BATI	**Baumata**	**14.06**	**197**	P	**P**	**17 04 01.6**	**+0.2**
15nm,0.4s,baz=43,slow=19,SNR=6.9							
MTN	**Manton Dam**	**16.34**	**169**	P	**Pn**	**17 04 25.6**	**-1.1**
MTN				IAmb	IAmb	17 05 07.6	
comp=Z,14nm,1.4s							
KNRA	**Kununurra**	**18.86**	**177**	P	**P**	**17 04 54.5**	**+0.1**
KNRA				IAmb	IAmb	17 04 54.7	
comp=Z,23nm,1.5s							
WB0	**Warramunga Arr**	**23.78**	**165**	P	**P**	**17 05 41.9**	**-2.7**
WRA	**Warramunga Arr**	**23.93**	**165**	P	**P**	**17 05 44.0**	**-2.0**
WRA	**Warramunga Arr**	**23.93**	**165**	P	**P**	**17 05 46.0**	**-0.1**
comp=Z,0.9nm,0.5s,baz=344,slow=10,SNR=25							
WRA				PcP	**PcP**	**17 09 24.8**	**+0.2**
comp=Z,0.1nm,0.5s,baz=344,slow=2.6,SNR=1.3							
comp=Z,0.9nm,0.5s							
WB2	**Warramunga Arr**	**23.94**	**165**	P	**P**	**17 05 45.2**	**-0.8**
WR0	**Warramunga Arr**	**24.00**	**165**	P	**P**	**17 05 45.5**	**-1.2**
WR0				IAmb	IAmb	17 05 54.9	
comp=Z,9.4nm,1.4s							
MBWA	**Marble Bar**	**25.58**	**198**	P	**P**	**17 05 59.8**	**-1.2**
MBWA				IAmb	IAmb	17 06 40.6	
comp=Z,5.7nm,1.0s							
PSA00	**Pilbara Seismi**	**25.94**	**197**	P	**P**	**17 06 04.0**	**-0.2**
PSA00				IAmb	IAmb	17 06 24.7	
comp=Z,11nm,1.2s							
ASAR	**Alice Springs**	**27.42**	**168**	P	**P**	**17 06 15.4**	**-2.0**
ASAR	**Alice Springs**	**27.42**	**168**	P	**P**	**17 06 17.4**	**-0.1**
comp=Z,0.2nm,0.5s,baz=347,slow=7.3,SNR=9.3							
ASAR				PcP	**PcP**	**17 09 33.0**	**+0.4**
comp=Z,0.6nm,0.7s,baz=356,slow=2.2,SNR=7.9							
comp=Z,0.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**32.11**	**300**	P	**P**	**17 07 00.5**	**+1.6**
comp=Z,0.2nm,0.4s,baz=117,slow=7.9,SNR=4.4							
comp=Z,0.2nm,0.4s							
STKA	**Stephens Creek**	**37.31**	**161**	P	**P**	**17 07 43.3**	**-0.1**
STKA	**Stephens Creek**	**37.31**	**161**	P	**P**	**17 07 42.6**	**-0.8**
comp=Z,0.9nm,0.5s,baz=333,slow=9.0,SNR=3.4							
comp=Z,0.9nm,0.5s							
NWAO	**Narrogin (SRO)**	**37.41**	**195**	P	**P**	**17 07 43.2**	**-1.0**
NWAO	**Narrogin (SRO)**	**37.41**	**195**	P	**P**	**17 07 43.8**	**-0.4**
NWAO				IAmb	IAmb	17 08 06.1	
comp=Z,42nm,1.4s							
SONM	**Songino Array**	**48.09**	**341**	P	**P**	**17 09 10.3**	**+0.1**
comp=Z,0.6nm,0.7s,baz=171,slow=10,SNR=2.4							
comp=Z,0.6nm,0.7s							
MK31	**Makanchi Array**	**58.59**	**325**	P	**P**	**17 10 26.3**	**-0.4**
MKAR	**Makanchi Array**	**58.59**	**325**	P	**P**	**17 10 27.3**	**+0.6**
MKAR	**Makanchi Array**	**58.59**	**325**	P	**P**	**17 10 27.5**	**+0.8**
comp=Z,2.4nm,0.7s,baz=115,slow=8.1,SNR=19							
comp=Z,2.4nm,0.7s							
MAKZ	**Makanchi**	**58.77**	**325**	P	**P**	**17 10 28.4**	**+0.4**
MAKZ				IAmb	IAmb	17 10 29.1	
comp=Z,2.5nm,0.7s							
LBZ	**Lake Benmore**	**60.66**	**146**	P	**P**	**17 10 41.6**	**+0.6**
ZALV	**Zalesovo Beam**	**61.51**	**333**	P	**P**	**17 10 45.8**	**-0.7**
comp=Z,0.4nm,0.5s,baz=101,slow=7.6,SNR=1.9							
comp=Z,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**62.74**	**327**	P	**P**	**17 10 55.0**	**+0.3**
comp=Z,2.3nm,0.6s,baz=126,slow=6.2,SNR=17							
comp=Z,2.3nm,0.6s							
KURK	**Kurchatov**	**62.74**	**327**	P	**P**	**17 10 55.1**	**+0.4**
KURK				IAmb	IAmb	17 10 55.4	
comp=Z,3.1nm,0.6s							
BVAR	**Borovoye Array**	**68.33**	**327**	P	**P**	**17 11 31.1**	**+0.5**
comp=Z,1.4nm,0.5s,baz=133,slow=6.5,SNR=5.4							
comp=Z,1.4nm,0.5s							
ABKAR	**Akbulak array**	**73.23**	**321**	P	**P**	**17 11 59.5**	**-0.8**
C18K	**Utukok River**	**80.06**	**21**	P	**P**	**17 12 38.7**	**+0.4**
H19K	**Roundabout Mou**	**81.09**	**24**	P	**P**	**17 12 44.4**	**+0.6**
H19K				IAmb	IAmb	17 13 18.6	
comp=Z,14nm,1.4s							
D19K	**Kuna River**	**81.11**	**21**	P	**P**	**17 12 44.8**	**+0.9**
D19K				IAmb	IAmb	17 13 02.8	
comp=Z,38nm,1.5s							
KDAK	**Kodiak Island**	**81.64**	**32**	P	**P**	**17 12 46.8**	**+0.1**
KDAK	**Kodiak Island**	**81.64**	**32**	P	**P**	**17 12 46.9**	**+0.1**
comp=Z,5.4nm,0.9s,baz=278,slow=7.1,SNR=1.8							
comp=Z,5.4nm,0.9s							
J20K	**Nowinta River**	**81.81**	**26**	P	**P**	**17 12 48.1**	**+0.5**
J20K				IAmb	IAmb	17 12 50.6	
comp=Z,11nm,1.4s							
M20K	**Styx River**	**81.91**	**28**	P	**P**	**17 12 49.5**	**+1.2**
M20K				IAmb	IAmb	17 13 32.1	
comp=Z,9.0nm,1.3s							
IMAR	**Indian Mountai**	**82.27**	**24**	P	**P**	**17 12 50.9**	**+0.9**
VNDA	**Vanda**	**82.84**	**173**	P	**P**	**17 12 53.0**	**+0.3**
baz=333,slow=2.5							
SML	**Sawmill**	**84.17**	**28**	P	**P**	**17 13 00.2**	**+0.3**
SML				IAmb	IAmb	17 13 13.7	
comp=Z,18nm,1.2s							
ILAR	**Eielson Array**	**85.00**	**25**	P	**P**	**17 13 02.4**	**-1.5**
comp=Z,0.4nm,0.7s,baz=265,slow=5.3,SNR=3.1							
comp=Z,0.4nm,0.7s							
N25K	**Chitina, Valde**	**85.94**	**29**	P	**P**	**17 13 06.7**	**-2.0**
BMAR	**Burnt Mountain**	**86.03**	**23**	P	**P**	**17 13 10.8**	**+1.8**
BCAR	**Beaver Creek A**	**87.23**	**27**	P	**P**	**17 13 15.6**	**+0.7**
QSPA	**South Pole Qui**	**93.20**	**180**	P	**P**	**17 13 43.6**	**+0.8**
comp=Z,0.8nm,1.0s,baz=0.0,slow=2.0,SNR=1.6							
comp=Z,0.8nm,1.0s							
TORD	**Torodi Ar. Bea**	**124.17**	**288**	PKP	**PKPdf**	**17 19 26.1**	**-1.3**
comp=Z,0.2nm,0.4s,baz=56,slow=2.0,SNR=2.1							

DNK 13 17:18:30.9±2.0, 65°.75N×37°.48W, h13km±10km, ML1.4, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**0.15**	**205**	*i* P	Pg	17 18 33.0	-1.5
ANGG				*e*		17 18 33.1	
baz=25,slow=18							
ANGG				*i* P	Pb	17 18 33.9	-1.7
ANGG				*i* S	Sb	17 18 38.2	-0.5
ANGG				IAML		17 18 39.2	
comp=N,26nm,0.3s							
ANGG	**Ammassalik, Gr**	**0.15**	**205**	*e*P	Pg	17 18 33.8	-0.7
ANGG				*e*S	Sb	17 18 38.3	-0.3
ANGG				IAML		17 18 41.1	
comp=Z,37nm,0.1s							
ISOG	**Isortoq, Green**	**0.65**	**252**	*i* P	Pg	17 18 42.0	-1.6
ISOG				*i* S	Sg	17 18 51.9	-0.3
ISOG				IAML		17 18 56.9	
comp=Z,11nm,0.3s							
ISOG	**Isortoq, Green**	**0.65**	**252**	*e*P	Pg	17 18 42.1	-1.5
ISOG				*e*S	Sg	17 18 51.8	-0.4
ISOG				IAML		17 18 57.2	
comp=Z,31nm,0.1s							
ICESG	**Greenland Ices**	**3.46**	**347**	*e*P	Pn	17 19 24.8	+0.2
DY2G	**Dye2**	**3.65**	**285**	*e*P	Pn	17 19 27.5	+0.3
DY2G				*e*S	Sn	17 20 08.0	-2.1
DY2G	**Dye2**	**3.65**	**285**	*e*S	Sn	17 20 08.3	-1.8

*IDC **13** 17:22:09.4±0.9, 12°.38N×47°.30E, h0km, mb3.9/16, mbtmp4.0/17, ML2.7/2, MS3.8/12, Error ellipse: s-maj=21.3km s-min=18.0km az=170.0*
*OMAN **13** 17:22:09.7±2.0, 12°.34N×47°.21E, h0km±15km, mb4.4/21, ms3.9/1, Mwp5.0/3, Error ellipse: s-maj=6.6km s-min=2.3km az=330.0*
*NEIC **13** 17:22:10.1±1.9, 12°.31N±0°.09×47°.25E±0°.08, h10km±1km, mb4.4/29, Error ellipse: s-maj=15.8km s-min=13.3km az=177.0*
ISC 13 17:22:10.3±0.5, 12°.35N±0°.07×47°.18E±0°.07, h10km, n100, σ1§23/90, mb4.3/31, MS3.9/14, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**4.32**	**260**		**Pn**	**17 23 15.6**	**-0.6**
ATD	**Arta Tunnel**	**4.32**	**260**	P	**Pn**	**17 23 17.2**	**+1.1**
SNR=10							
ATD	**Arta Tunnel**	**4.32**	**260**	Pn	**Pn**	**17 23 15.9**	**-0.2**
0.1nm,0.3s,baz=47,slow=7.1,SNR=12							
ABTO	**Aybut**	**7.73**	**49**	P	**Pn**	**17 24 03.3**	**+0.3**
ABTO				P	**Pn**	**17 24 03.3**	**+0.3**
WHFO	**Wadi Hawf**	**8.43**	**48**	P	**Pn**	**17 24 13.3**	**+0.6**
RBK	**Rabkut**	**8.50**	**52**	P	**Pn**	**17 24 14.3**	**+0.7**
DOK	**Doka**	**9.15**	**46**	P	**Pn**	**17 24 22.9**	**+0.5**
DMTO	**DMTO**	**9.20**	**54**	P	**Pn**	**17 24 24.0**	**+0.7**
MZR	**Muzera**	**12.17**	**29**	P	**Pn**	**17 25 05.8**	**+1.9**
MHTO	**MHTO**	**13.43**	**49**	P	**Pn**	**17 25 22.0**	**+0.9**
BSY	**Bisya**	**14.07**	**41**	P	**Pn**	**17 25 31.1**	**+1.3**
ARQ	**Araqi**	**14.08**	**38**	P	**Pn**	**17 25 30.9**	**+0.9**
JMDO	**Jabal Madar**	**14.41**	**45**	P	**Pn**	**17 25 35.2**	**+0.6**
ASUD	**Al Ashush, Dub**	**14.44**	**31**	P	**Pn**	**17 25 36.2**	**+1.3**
LODK	**Lodwar**	**14.68**	**234**	Pn	**Pn**	**17 25 38.6**	**+0.3**
SOHO	**SOHO**	**14.70**	**36**	P	**Pn**	**17 25 39.9**	**+1.4**
SOHO				P	**Pn**	**17 25 39.9**	**+1.4**
HOQ	**Hoqain**	**14.74**	**39**	P	**P**	**17 25 43.2**	**-2.0**
SMDO	**Samad**	**14.84**	**43**	P	**Pn**	**17 25 42.7**	**+2.2**
SNR=7.8							
ASHO	**Ashiyiah**	**14.87**	**33**	P	**Pn**	**17 25 41.5**	**+0.7**
HATD	**Hatta, Dubai**	**15.02**	**33**	P	**Pn**	**17 25 43.4**	**+0.6**
UOSS	**Minazif**	**15.16**	**33**	Pn	**Pn**	**17 25 43.6**	**-1.0**
UOSS	**Minazif**	**15.16**	**33**	P	**Pn**	**17 25 46.0**	**+1.3**
WBK	**Wadi Bani Khal**	**15.17**	**46**	P	**Pn**	**17 25 45.6**	**+0.7**
JLN	**Jalan Bani Buh**	**15.20**	**48**	P	**Pn**	**17 25 45.7**	**+0.5**
BIDO	**Bidbid**	**15.22**	**42**	P	**Pn**	**17 25 48.2**	**+2.8**
SNR=10							
WSAR	**Wadi Sarin**	**15.36**	**44**	P	**Pn**	**17 25 48.2**	**+1.0**
WSAR	**Wadi Sarin**	**15.36**	**44**	Pn	**Pn**	**17 25 44.1**	**-3.2**
0.1nm,0.3s,baz=237,slow=17,SNR=4.8							
WSAR				LR	LR	17 31 10.8	
comp=Z,132nm,20.2s,baz=240,slow=36							
6.4nm,0.9s							
UMQ	**Umm Al-Quwin**	**15.36**	**30**	P	**P**	**17 25 50.3**	**-1.7**
MASF	**Masafi**	**15.48**	**32**	P	**P**	**17 25 52.5**	**-0.9**
SNR=12							
MASF				P	**P**	**17 25 52.5**	**-0.9**
SNR=12							
MDH	**Madha**	**15.49**	**32**	P	**Pn**	**17 25 51.7**	**+2.7**
SNR=9.1							
SHME	**Shamm**	**16.03**	**30**	P	**Pn**	**17 25 57.5**	**+1.5**
SNR=5.4							
KMBO	**Kilima Mbogo**	**16.63**	**217**	Pn	**Pn**	**17 26 01.4**	**-2.6**
JASK	**Jask - Hormozg**	**16.80**	**35**	P	**P**	**17 26 08.4**	**+0.4**
SNR=5.9							
NGCH	**Negor - Chabah**	**18.47**	**44**	P	**Pn**	**17 26 29.0**	**+2.5**
MSEY	**Mahe Island**	**18.82**	**154**		**P**	**17 26 29.3**	**-1.0**
MSEY				IAmb	IAmb	17 26 35.7	
comp=Z,34nm,1.4s							
MSEY	**Mahe Island**	**18.82**	**154**	P	**Pn**	**17 26 32.7**	**+1.8**
MSEY				P	**Pn**	**17 26 32.7**	**+1.8**
EIL	**Elat**	**20.64**	**328**	LR	LR	17 34 09.2	
comp=Z,396nm,19.1s,baz=122,slow=35							
MBAR	**Mbarara**	**20.78**	**233**	P	Pn	17 26 54.2	-0.2
MBAR	**Mbarara**	**20.78**	**233**	LR	LR	17 34 20.6	
comp=Z,147nm,18.6s,baz=20,slow=35							
GHAJ	**Ghor Haditha**	**21.70**	**332**	P	**P**	**17 27 00.2**	**-1.3**
GHAJ				IAmb	IAmb	17 27 09.6	
comp=Z,14nm,1.1s							
ASF	**Jabal al Asfar**	**21.88**	**336**	P	**P**	**17 27 02.4**	**-1.2**
comp=Z,1.1nm,0.7s,baz=329,slow=11,SNR=1.7							
comp=Z,1.1nm,0.7s							
SIRT	**Sirnak**	**25.40**	**351**	P	**P**	**17 27 37.8**	**-0.3**
HRA	**Herat**	**25.87**	**30**	P	**P**	**17 27 40.4**	**-2.1**
HRA				IAmb	IAmb	17 27 47.5	
comp=Z,15nm,1.2s							
GAZ	**Gaziantep**	**26.29**	**342**	P	**P**	**17 27 45.6**	**-0.5**
GEYT	**Alibeck**	**27.28**	**19**	P	**P**	**17 27 55.1**	**0.0**
GEYT	**Alibeck**	**27.28**	**19**	P	**P**	**17 27 55.8**	**+0.7**
comp=Z,3.2nm,0.7s,baz=202,slow=3.2,SNR=7.3							
comp=Z,3.2nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**27.28**	**19**	P	**P**	**17 27 55.2**	**+0.1**
GYA0B				IAmb	IAmb	17 28 04.2	
comp=Z,13nm,1.4s							
GNI	**Garni**	**27.77**	**356**	P	**P**	**17 27 58.5**	**-1.1**
AKH	**Akhalkalaki**	**29.13**	**354**	P	**P**	**17 28 12.3**	**+0.6**
BR131	**Keskin Array S**	**29.78**	**339**	P	**P**	**17 28 17.2**	**-0.2**
BR131				IAmb	IAmb	17 28 21.4	
comp=Z,12nm,1.5s							
BRTR	**Keskin Array B**	**29.78**	**339**	P	**P**	**17 28 17.6**	**+0.2**
comp=Z,1.3nm,1.1s,baz=150,slow=8.5,SNR=6.3							
comp=Z,1.3nm,1.1s							
KIV	**Kislovodsk**	**31.73**	**354**	P	**P**	**17 28 35.2**	**+0.7**
KIV				IAmb	IAmb	17 28 40.1	
comp=Z,6.3nm,1.0s							
LSZ	**Lusaka**	**33.27**	**215**	LR	LR	17 42 24.8	
comp=Z,164nm,20.9s,baz=30,slow=36							
RDO	**Rodhopi**	**34.39**	**330**	P	**P**	**17 28 58.5**	**+0.9**
RDO				IAmb	IAmb	17 29 02.6	
comp=Z,7.9nm,1.5s							
KKAR	**Karatay Array**	**36.69**	**29**	P	**P**	**17 29 18.2**	**+0.7**
ABKAR	**Akbulak array**	**38.28**	**14**	P	**P**	**17 29 30.9**	**0.0**
ABKAR				IAmb	IAmb	17 29 34.0	
comp=Z,9.2nm,1.1s							
NRN	**Naryn**	**38.39**	**36**	P	**P**	**17 29 32.6**	**+0.4**
NRN				IAmb	IAmb	17 29 58.5	
comp=Z,5.9nm,0.6s							
AKASG	**Malin Array Be**	**40.96**	**343**	P	**P**	**17 29 52.5**	**-0.7**
comp=Z,0.3nm,0.4s,baz=149,slow=7.4,SNR=6.7							
comp=Z,0.3nm,0.4s							
TSUM	**Tsumeb**	**42.82**	**223**	LR	LR	17 48 53.8	
comp=Z,111nm,18.9s,baz=46,slow=37							
TOA0	**Torodi Ar. Sit**	**44.33**	**276**	P	**P**	**17 30 20.3**	**-0.8**
TOA0				IAmb	IAmb	17 30 25.5	
comp=Z,5.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**44.33**	**276**	P	**P**	**17 30 20.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**44.33**	**276**	P	**P**	**17 30 23.3**	**+2.2**
comp=Z,4.0nm,0.7s,baz=82,slow=7.4,SNR=23							
comp=Z,4.0nm,0.7s							
BVAR	**Borovoye Array**	**44.62**	**20**	P	**P**	**17 30 23.1**	**+0.3**
comp=Z,0.9nm,0.8s,baz=231,slow=9.1,SNR=2.7							
comp=Z,0.9nm,0.8s							
ARU	**Arti**	**44.86**	**9**	P	**P**	**17 30 23.4**	**-1.2**
ARU				IAmb	IAmb	17 30 28.0	
comp=Z,5.8nm,1.0s							
MAKZ	**Makanchi**	**45.12**	**34**	P	**P**	**17 30 26.0**	**-1.0**
MAKZ				IAmb	IAmb	17 30 29.3	
comp=Z,5.2nm,1.1s							
MK31	**Makanchi Array**	**45.28**	**34**	P	**P**	**17 30 27.1**	**-1.2**
MKAR	**Makanchi Array**	**45.28**	**34**	P	**P**	**17 30 27.3**	**-1.0**
MKAR	**Makanchi Array**	**45.28**	**34**	P	**P**	**17 30 28.4**	**+0.2**
comp=Z,2.3nm,0.8s,baz=216,slow=6.0,SNR=13							
comp=Z,2.3nm,0.8s							
GEC2	**GERESS Array S**	**45.74**	**329**	P	**P**	**17 30 31.7**	**-0.2**
GEC2				IAmb	IAmb	17 30 39.0	
comp=Z,4.6nm,1.2s							
GERES	**GERESS Array B**	**45.74**	**329**	P	**P**	**17 30 31.0**	**-0.9**
GERES	**GERESS Array B**	**45.74**	**329**	P	**P**	**17 30 33.1**	**+1.1**
comp=Z,0.4nm,0.6s,baz=97,slow=3.3,SNR=4.8							
comp=Z,0.4nm,0.6s							
BOSA	**Boshof**	**45.91**	**207**	LR	LR

comp=Z,4.5nm,1.0s
NOA NORSAR Array B 55.21 340 LR LR 17 55 29.7
comp=Z,56nm,20.0s,baz=265,slow=36
LZH Lanzhou 55.97 55 *e*P P 17 31 56.0 +6.6
LZH pP pwP 17 32 07.8 +13
LZH pmax pmax
comp=Z,18nm,1.6s
LZH LR LR
comp=N,590nm,17.7s
LZH LR LR
comp=E,580nm,14.1s
LZH LR LR
comp=Z,820nm,17.2s
ARCES ARCESS Array B 58.78 351 LR LR 18 02 25.8
comp=Z,100nm,18.0s,baz=233,slow=41
SHEL Horse Pasture 59.43 243 P **P 17 32 13.2 -0.5**
SONM Songino Array 60.40 42 P **P 17 32 19.2 -0.9**
SONM IAmb IAmb 17 32 23.8
comp=Z,5.6nm,1.4s
SONM Songino Array 60.40 42 P **P 17 32 19.8 -0.3**
comp=Z,1.7nm,0.9s,baz=243,slow=6.6,SNR=8.7
comp=Z,1.7nm,0.9s
ULN Ulaanbaatar 60.83 42 P **P 17 32 22.4 -0.7**
SPITS Spitsbergen Ar 67.61 353 LR LR 18 05 41.2
comp=Z,119nm,18.5s,baz=161,slow=39
HEH HeiHe 74.37 41 *e*P P 17 33 43.3 -5.1
TIXI Tiksi 75.74 19 P **P 17 33 55.1 -0.8**
KLR Kul'dur 77.23 42 LR LR 18 14 50.9
comp=Z,36nm,19.0s,baz=342,slow=41
SNAA Sanae 90.17 194 P **P 17 35 11.1 +0.6**
comp=Z,0.7nm,0.7s,baz=11,slow=5.2,SNR=1.8
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 91.52 110 P **P 17 35 18.0 +0.2**
comp=Z,0.6nm,0.8s,baz=299,slow=3.4,SNR=5.8
comp=Z,0.6nm,0.8s
ASAR Alice Springs 91.92 114 P **P 17 35 19.1 -0.7**
comp=Z,0.4nm,0.9s,baz=294,slow=4.8,SNR=5.4
comp=Z,0.4nm,0.9s
INK Inuvik 99.56 0 LR LR 18 30 18.7
comp=Z,22nm,19.6s,baz=94,slow=41
NVAR Mina Array Bea 127.69 346 PKP **PKiKP 17 41 19.0 +1.6**
comp=Z,0.3nm,0.7s,baz=86,slow=0.2,SNR=3.5

*PRE **13** 17:23:53.6±1.1, 26°.43S×27°.35E, h2km, ML2.0*
*EAF **13** 17:23:56.8, 26°.57S×27°.38E, h10km, MC3.5*
*BUL **13** 17:23:57.0±1.2, 26°.57S×27°.37E, h10km, MD3.5*
ISC 13 17:23:53.5±1.1, 26°.45S±0°.03×27°.33E±0°.03, h2km±9km, n24, σ1°.40/46, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.09**	**76**	*e*P	**Pg**	**17 23 55.2**	**-0.1**
WDLM				*e*S	**Sg**	**17 23 55.8**	**-0.7**
PRYS	**Parys**	**0.48**	**177**	*e*P	**Pg**	**17 24 02.3**	**-0.5**
PRYS				*e*S	**Sg**	**17 24 09.8**	**+0.8**
PRYS				IAML		17 24 12.6	
comp=Z,62nm,0.5s							
KSR	**Koster**	**0.71**	**327**	*e*P	**Pg**	**17 24 07.1**	**+0.1**
KSR				*e*S	**Sg**	**17 24 16.4**	**+0.2**
KSR				IAML		17 24 18.3	
comp=Z,126nm,0.3s							
SLR	**Silverton**	**1.11**	**51**	*e*P	**Pg**	**17 24 13.8**	**-1.0**
SLR				*e*S	**Sb**	**17 24 29.6**	**-1.0**
SLR				IAML		17 24 33.7	
comp=Z,57nm,0.2s							
SNKL	**Senekal, Frees**	**1.86**	**168**	*e*P	**Pb**	**17 24 27.7**	**-0.7**
SNKL				*e*S	**Sb**	**17 24 52.0**	**-0.3**
SNKL				IAML		17 24 53.0	
comp=Z,22nm,0.2s							
SWZ	**Schweizer**	**1.93**	**247**	*e*P	**Pb**	**17 24 29.2**	**-0.3**
SWZ				*e*S	**Sb**	**17 24 54.1**	**+0.1**
SWZ				IAML		17 24 56.4	
comp=Z,28nm,0.3s							
LBTB	**Lobatse**	**2.11**	**312**	*i* P	**Pb**	**17 24 33.0**	**+0.4**
LBTB				*i* S	**Sg**	**17 25 00.9**	**-0.6**
LBTB	**Lobatse**	**2.11**	**312**	*e*P	**Pb**	**17 24 31.5**	**-1.1**
LBTB				*e*S	**Sb**	**17 24 58.0**	**-1.3**
LBTB				IAML		17 25 01.7	
comp=Z,52nm,0.3s							
LBTB	**Lobatse**	**2.11**	**312**	*i* P	**Pb**	**17 24 33.0**	**+0.4**
baz=313							
LBTB				*i* S	**Sg**	**17 25 00.9**	**-0.6**
baz=313							
LEPH	**Lephalale, Lim**	**2.61**	**9**	*e*P	**Pn**	**17 24 38.0**	**+1.2**
LEPH				*e*S	**Sn**	**17 25 09.4**	**+0.2**
LEPH				IAML		17 25 16.7	
comp=Z,8.2nm,0.4s							
BOSA	**Boshof**	**2.84**	**220**	*i* P	**Pn**	**17 24 40.2**	**+0.3**
BOSA				*i* S	**Sn**	**17 25 14.4**	**-0.3**
BOSA	**Boshof**	**2.84**	**220**	*e*P	**Pn**	**17 24 40.8**	**+0.9**
BOSA				*e*S	**Sn**	**17 25 16.4**	**+1.6**
BOSA				IAML		17 25 21.8	
comp=Z,4.2nm,0.3s							
BOSA	**Boshof**	**2.84**	**220**	*i* P	**Pn**	**17 24 40.2**	**+0.3**
baz=222							
BOSA				*i* S	**Sn**	**17 25 14.4**	**-0.3**
baz=222							
PILG	**Pilgrimsrest,**	**3.40**	**64**	*e*P	**Pn**	**17 24 48.6**	**+0.7**
PILG				*e*S	**Sn**	**17 25 28.9**	**0.0**
PILG				IAML		17 25 42.3	
comp=Z,7.7nm,0.5s							
KSTD	**Kokstad**	**4.51**	**158**	*e*P	**Pn**	**17 25 04.1**	**+1.2**
KSTD				*e*S	**Sn**	**17 25 56.1**	**+0.1**
KSTD				IAML		17 26 14.9	
comp=Z,2.7nm,0.6s							
MOPA	**Mopani**	**4.71**	**53**	*i* P	**Pn**	**17 25 07.8**	**+2.2**
MOPA				*i* S	**Sn**	**17 25 59.7**	**-1.0**
MOPA	**Mopani**	**4.71**	**53**	*i* P	**Pn**	**17 25 07.8**	**+2.2**
baz=51							
MOPA				*i* S	**Sn**	**17 25 59.7**	**-1.0**
baz=51							
MUSN	**Musina, Limpop**	**4.74**	**30**	*i* P	**Pn**	**17 25 09.3**	**+3.2**
MUSN	**Musina, Limpop**	**4.74**	**30**	*i* P	**Pn**	**17 25 09.3**	**+3.2**
baz=28							
UPI	**Upington**	**5.73**	**249**	*e*P	**Pn**	**17 25 21.6**	**+2.0**
UPI				*e*S	**Sn**	**17 26 24.0**	**-2.0**
UPI				IAML		17 26 57.8	
comp=Z,2.4nm,0.4s							
GRAF	**Camdeboo Natio**	**6.32**	**202**	*e*P	**Pn**	**17 25 29.6**	**+1.8**
GRAF				*e*S	**Sn**	**17 26 40.0**	**-0.6**
GRAF				IAML		17 27 26.5	
comp=Z,1.4nm,0.8s							
BRAK	**Brakfontein**	**6.58**	**215**	*e*P	**Pn**	**17 25 32.4**	**+1.1**
BRAK				*e*S	**Sn**	**17 26 44.6**	**-2.4**
BRAK				IAML		17 27 21.6	
comp=Z,1.4nm,0.7s							
FRAZ	**Fraserburg**	**7.52**	**222**	*e*P	**Pn**	**17 25 45.6**	**+1.2**
FRAZ				*e*S	**Sn**	**17 27 08.1**	**-2.2**
FRAZ				IAML		17 27 32.2	
comp=Z,1.0nm,0.8s							
SUR	**Sutherland**	**8.20**	**222**	*e*P	**Pn**	**17 25 55.4**	**+1.7**
SUR				*e*S	**Sn**	**17 27 24.4**	**-2.6**
SUR				IAML		17 27 32.9	
comp=Z,0.8nm,0.8s							

*DJA **13** 17:46:06.7±0.2, 12°.5S×11°.7E±°, h10km, M4.7/19, mB5.3/6, mb4.7/19, MLv4.8/18, Mw(mB)4.7/6*
*NEIC **13** 17:46:07.5±1.9, 11°.58S±0°.06×117°.16E±0°.07, h10km±1km, mb4.2/13, Error ellipse: s-maj=12.1km s-min=9.6km az=121.0*
*IDC **13** 17:46:14.6±3.8, 11°.26S×117°.44E, h67km±35km, mb3.7/10, mbtmp4.0/15, ML4.1/5, Error ellipse: s-maj=29.2km s-min=14.4km az=72.0*
ISC 13 17:46:09.1±0.5, 11°.46S±0°.05×117°.20E±0°.05, h26km, n94, σ1°.59/98, mb4.2/13, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.68**	**12**	P	**Pn**	**17 46 52.7**	**+2.1**
PLAI	**Plampang**	**2.68**	**12**	P	**Pn**	**17 46 52.5**	**+1.9**
TWSI	**Taliwang, Sumb**	**2.73**	**353**	P	**Pn**	**17 46 52.7**	**+1.5**
IGBI	**Denpasar**	**3.32**	**322**	P	**Pn**	**17 47 00.4**	**+1.1**
DNP	**Denpasar**	**3.39**	**325**	P	**Pn**	**17 47 02.1**	**+1.7**
SRBI	**Singaraja**	**3.89**	**330**	P	**Pn**	**17 47 09.5**	**+2.3**
JAGI	**Jajag, Banyuwa**	**4.23**	**314**		**Pn**	**17 47 11.5**	**-0.4**
JAGI				Sn	**Sn**	**17 47 56.2**	**-4.2**
JAGI	**Jajag, Banyuwa**	**4.23**	**314**	P	**Pn**	**17 47 12.0**	**+0.1**
JAGI	**Jajag, Banyuwa**	**4.23**	**314**	P	**Pn**	**17 47 11.3**	**-0.6**
ABJI	**Asem Bagus**	**4.67**	**321**	P	**Pn**	**17 47 18.9**	**+0.9**
GMJI	**Gumukmas**	**4.87**	**310**	P	**Pn**	**17 47 20.3**	**-0.5**
BLJI	**Banyuglugur**	**5.13**	**316**	P	**Pn**	**17 47 24.9**	**+0.6**
58nm,0.4s,3μm0.9nm							
MMRI	**Maumere**	**5.70**	**61**		**Pn**	**17 47 32.6**	**+0.5**
MMRI				Sn	**Sn**	**17 48 34.1**	**-2.7**
MMRI	**Maumere**	**5.70**	**61**	P	**Pn**	**17 47 33.5**	**+1.4**
MMRI	**Maumere**	**5.70**	**61**	P	**Pn**	**17 47 33.0**	**+0.9**
BATI	**Baumata**	**6.47**	**79**	P	**Pn**	**17 47 43.7**	**+1.0**
60nm,0.6s,1μm0.2nm							
BATI	**Baumata**	**6.47**	**79**	P	**Pn**	**17 47 44.1**	**+1.4**
19nm,0.3s,baz=275,slow=4.2,SNR=18							
BATI				S	**Sn**	**17 48 54.5**	**-1.3**
37nm,0.3s,baz=324,slow=21,SNR=7.6							
42nm,0.3s							
GRJI	**Gresik**	**6.49**	**314**	P	**Pn**	**17 47 42.6**	**-0.4**
117nm,1.1s,0.6nm							
BKSI	**Bulukumba**	**6.75**	**26**	P	**Pn**	**17 47 49.9**	**+3.3**
103nm,0.5s,2μm0.6nm							
KAPI	**Kappang**	**6.89**	**22**	Pn	**Pn**	**17 47 50.5**	**+2.1**
KAPI				Sn	**Sn**	**17 49 03.0**	**-3.1**
KAPI	**Kappang**	**6.89**	**22**	P	**Pn**	**17 47 49.5**	**+1.0**
2.7nm,0.3s,baz=227,slow=8.6,SNR=8.7							
KAPI				S	**Sn**	**17 49 03.0**	**-3.1**
21nm,0.3s,baz=128,slow=22,SNR=8.5							
7.5nm,0.2s							
SOEI	**Soe**	**7.15**	**77**		**Pn**	**17 47 53.5**	**+1.4**
SOEI				Sn	**Sn**	**17 49 11.4**	**-1.3**
SOEI	**Soe**	**7.15**	**77**	P	**Pn**	**17 47 54.0**	**+1.8**
SOEI	**Soe**	**7.15**	**77**	P	**Pn**	**17 47 53.4**	**+1.2**
WOJI	**Wonogiri, Jawa**	**7.16**	**300**	P	**Pn**	**17 47 53.3**	**+1.1**
UGM	**Wanagama**	**7.47**	**298**	Pn	**Pn**	**17 47 57.1**	**+0.6**
UGM	**Wanagama**	**7.47**	**298**	P	**Pn**	**17 47 59.3**	**+2.8**
UGM	**Wanagama**	**7.47**	**298**	P	**Pn**	**17 47 56.4**	**-0.1**
162nm,2.0s,1.0nm							
TTSI	**Tana Toraja**	**8.76**	**17**	P	Pn	17 48 19.0	+4.9
KPJI	**Karang Pucung**	**9.13**	**296**	P	**Pn**	**17 48 19.9**	**+0.6**
24nm,0.5s							
CMJI	**Cimerak**	**9.37**	**292**	P	**Pn**	**17 48 21.5**	**-1.1**
78nm,1.4s							
MBWA	**Marble Bar**	**9.94**	**166**	Pn	**Pn**	**17 48 27.4**	**-3.0**
MBWA	**Marble Bar**	**9.94**	**166**	P	**Pn**	**17 48 27.6**	**-2.7**
BBJI	**Bungbulang**	**10.22**	**292**	P	**Pn**	**17 48 35.3**	**+1.0**
PSA00	**Pilbara Seismi**	**10.37**	**166**	Pn	**Pn**	**17 48 33.4**	**-2.8**
PSA00	**Pilbara Seismi**	**10.37**	**166**	Pn	**Pn**	**17 48 32.5**	**-3.7**
PSA00	**Pilbara Seismi**	**10.37**	**166**	P	**Pn**	**17 48 33.6**	**-2.6**
GIRL	**Giralia**	**11.47**	**194**	Pn	**Pn**	**17 48 49.0**	**-2.3**
GIRL	**Giralia**	**11.47**	**194**	P	**Pn**	**17 48 48.8**	**-2.5**
KNRA	**Kununurra**	**11.99**	**112**		**Pn**	**17 48 57.7**	**-0.8**
KNRA	**Kununurra**	**11.99**	**112**	P	**Pn**	**17 48 58.0**	**-0.5**
CGJI	**Cibinong**	**12.34**	**292**	P	**Pn**	**17 49 02.5**	**-0.8**
39nm,1.4s							
MTN	**Manton Dam**	**13.69**	**97**	Pn	**Pn**	**17 49 21.5**	**-0.2**
KDU	**Kakadu**	**14.98**	**96**	P	**Pn**	**17 49 40.5**	**+1.2**
MEEK	**Meekatharra**	**15.15**	**175**	P	**Pn**	**17 49 39.0**	**-2.5**
WRKA	**Warakurna**	**17.11**	**144**	P	**Pn**	**17 50 05.6**	**-1.0**
FAKI	**Fak Fak**	**17.16**	**61**	Pn	**Pn**	**17 50 06.4**	**-0.9**
FAKI				IAmb	IAmb	17 50 27.0	
comp=Z,17nm,1.0s							
FAKI	**Fak Fak**	**17.16**	**61**	P	**Pn**	**17 50 07.2**	**-0.1**
SWI	**Sorong**	**17.48**	**54**	P	**P**	**17 50 13.4**	**+1.1**
SIJI	**Sorong**	**17.49**	**54**	P	**Pn**	**17 50 09.4**	**-1.9**
comp=Z,2.5nm,0.3s,baz=261,slow=9.8,SNR=15							
comp=Z,7.9nm,0.5s							
MORW	**Morawa**	**17.55**	**183**		**Pn**	**17 50 08.5**	**-3.4**
MORW				IAmb	IAmb	17 50 49.3	
comp=Z,23nm,1.4s							
MORW	**Morawa**	**17.55**	**183**	P	**Pn**	**17 50 10.7**	**-1.3**
WB0	**Warramunga Arr**	**18.49**	**119**		**P**	**17 50 22.9**	**-0.4**
WRA	**Warramunga Arr**	**18.51**	**119**	P	**Pn**	**17 50 24.0**	**+0.1**
WRA	**Warramunga Arr**	**18.51**	**119**	P	**Pn**	**17 50 23.9**	**-0.1**
comp=Z,0.4nm,0.3s,baz=287,slow=14,SNR=15							
WRA				S	Sn	17 53 33.8	-17
comp=Z,0.9nm,0.6s,baz=283,slow=24,SNR=7.4							
comp=Z,0.7nm,0.5s							
WB2	**Warramunga Arr**	**18.52**	**119**	P	**Pn**	**17 50 24.2**	**+0.2**
WB2				IAmb	IAmb	17 50 25.5	
comp=Z,7.5nm,1.2s							
BLDU	**Ballidu**	**19.06**	**181**	P	**Pn**	**17 50 29.3**	**-1.2**
AS31	**Alice Springs**	**19.99**	**130**	P	**Pn**	**17 50 40.4**	**-1.3**
ASAR	**Alice Springs**	**19.99**	**130**	P	**Pn**	**17 50 41.8**	**+0.1**
ASAR	**Alice Springs**	**19.99**	**130**	P	**Pn**	**17 50 41.5**	**-0.2**
comp=Z,0.2nm,0.3s,baz=323,slow=14,SNR=13							
ASAR				S	S	17 54 11.4	-12
comp=Z,1.2nm,0.7s,baz=297,slow=22,SNR=7.9							
comp=Z,0.8nm,0.7s							
KLBR	**Kellerberrin**	**20.04**	**179**	P	**Pn**	**17 50 42.2**	**+0.1**
MUN	**Mundaring**	**20.44**	**182**	P	Pn	17 50 46.6	-0.2
NWAO	**Narrogin (SRO)**	**21.36**	**180**	P	**P**	**17 50 53.6**	**-0.9**
NWAO	**Narrogin (SRO)**	**21.36**	**180**	P	**P**	**17 50 53.9**	**-0.7**
NWAO				IAmb	IAmb	17 51 26.9	
comp=Z,50nm,1.4s							
NWAO	**Narrogin (SRO)**	**21.36**	**180**	P	**P**	**17 50 56.5**	**+2.0**
NWAO	**Narrogin (SRO)**	**21.36**	**180**	P	**P**	**17 50 58.1**	**+3.6**
comp=Z,4.9nm,0.5s,baz=344,slow=9.3,SNR=2.2							
NWAO				S	S	17 54 34.9	-16
comp=Z,6.8nm,0.5s,baz=236,slow=10.0,SNR=6.7							
comp=Z,4.9nm,0.5s							
FORT	**Forrest**	**21.70**	**154**	P	**P**	**17 51 00.3**	**+2.2**
OOD	**Oodnadatta**	**23.76**	**136**	P	**P**	**17 51 20.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**34.76**	**329**	P	**P**	**17 52 58.9**	**+1.3**
comp=Z,0.2nm,0.3s,baz=163,slow=1.5,SNR=4.2							
comp=Z,0.2nm,0.3s							
CRAI	**Chiangrai**	**35.58**	**332**	P	**P**	**17 53 05.6**	**+1.0**
CRAI				IAmb	IAmb	17 53 21.8	
comp=Z,5.6nm,1.4s							
TAPN	**Taplejung**	**48.03**	**324**	*e*P	**P**	**17 54 46.9**	**+0.2**
RAMN	**Ramite**	**48.38**	**323**	*e*P	**P**	**17 54 50.6**	**+1.3**
comp=Z,9.9nm,0.7s							
JIRN	**Jiri**	**49.15**	**323**	*e*P	**P**	**17 54 56.2**	**+0.8**
comp=Z,21nm,0.6s							
GUN	**Gumba**	**49.52**	**323**	*e*P	**P**	**17 54 58.6**	**+0.4**
comp=Z,14nm,0.6s							
PKI	**Pulchoki**	**49.55**	**322**	*e*P	**P**	**17 54 58.5**	**+0.1**
comp=Z,3.8nm,0.6s							
PKIN	**Phulchoki**	**49.56**	**322**	*e*P	**P**	**17 54 58.4**	**0.0**
comp=Z,4.0nm,0.4s							
GKN	**Gorkha**	**50.33**	**322**	*e*P	**P**	**17 55 04.2**	**+0.1**
comp=Z,6.0nm,0.3s							
DANN	**Dangsing**	**51.12**	**321**	*e*P	**P**	**17 55 10.6**	**+0.4**
comp=Z,13nm,0.6s							
PYUN	**Piuthan**	**51.42**	**321**	*e*P	**P**	**17 55 13.0**	**+0.6**
comp=Z,4.8nm,0.4s							
SONM	**Songino Array**	**59.81**	**352**	P	**P**	**17 56 12.9**	**+0.7**
comp=Z,1.3nm,0.7s,baz=167,slow=8.3,SNR=4.2							
comp=Z,1.3nm,0.7s							
MK31	**Makanchi Array**	**65.87**	**334**	P	**P**	**17 56 52.8**	**+0.3**
MK31				IAmb	IAmb	17 57 08.0	
comp=Z,3.7nm,1.2s							
MKAR	**Makanchi Array**	**65.87**	**334**	P	**P**	**17 56 52.8**	**+0.4**
MKAR	**Makanchi Array**	**65.87**	**334**	P	**P**	**17 56 53.2**	**+0.8**
comp=Z,0.9nm,0.5s,baz=149,slow=7.2,SNR=17							
comp=Z,0.9nm,0.5s							
KURBB	**Kurchatov Arra**	**70.41**	**335**	P	**P**	**17 57 21.1**	**+0.3**
comp=Z,1.3nm,0.2s,baz=150,slow=5.5,SNR=1.4							
comp=Z,1.3nm,0.2s							
ZALV	**Zalesovo Beam**	**70.73**	**340**	P	**P**	**17 57 21.8**	**-0.8**
ZALV	**Zalesovo Beam**	**70.73**	**340**	P	**P**	**17 57 21.9**	**-0.7**
comp=Z,0.9nm,0.5s,baz=124,slow=3.7,SNR=5.7							
comp=Z,0.9nm,0.5s							
PETK	**Petropavlovsk-**	**73.03**	**24**	P	**P**	**17 57 35.8**	**-0.7**
PETK	**Petropavlovsk-**	**73.03**	**24**	P	**P**	**17 57 35.4**	**-1.1**
comp=Z,2.0nm,0.8s,baz=205,slow=3.0,SNR=1.3							
comp=Z,2.0nm,0.8s							
BVAR	**Borovoye Array**	**75.65**	**333**	P	**P**	**17 57 51.0**	**-0.8**
comp=Z,0.2nm,0.3s,baz=145,slow=5.3,SNR=1.6							
comp=Z,0.2nm,0.3s							
ABKAR	**Akbulak array**	**78.57**	**326**	P	**P**	**17 58 09.2**	**+0.9**
ABKAR	**Akbulak array**	**78.57**	**326**	P	**P**	**17 58 09.2**	**+0.9**
ABKAR				IAmb	IAmb	17 58 28.3	
comp=Z,1.5nm,0.9s							
SNAA	**Sanae**	**88.16**	**196**	P	**P**	**17 58 59.4**	**+1.9**
SNAA	**Sanae**	**88.16**	**196**	P	**P**	**17 58 59.3**	**+1.9**
comp=Z,1.3nm,0.6s,baz=178,slow=6.4,SNR=12							
comp=Z,1.3nm,0.6s							
BRTR	**Keskin Array B**	**92.35**	**310**	P	**P**	**17 59 17.1**	**-0.5**
comp=Z,0.3nm,0.8s,baz=57,slow=5.3,SNR=1.8							
comp=Z,0.3nm,0.8s							

*IDC **13** 18:01:31.4±1.2, 43°.93N×105°.74W, h0km, mbtmp3.2/5, ML2.8/3, Error ellipse: s-maj=24.9km s-min=10.2km az=152.0*
*NEIC **13** 18:01:31.1±1.8, 43°.76N±0°.05×105°.31W±0°.04, h0km±2km, ML3.2/92, Error ellipse: s-maj=9.3km s-min=3.5km az=332.0*
ISC 13 18:01:30.4±0.9, 43°.71N±0°.06×105°.34W±0°.05, h0km, n61, σ1°.22/61, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.03**	**66**		**Pg**	**18 01 50.0**	**0.0**
K22A	**Casper**	**1.37**	**220**		**Pg**	**18 01 56.4**	**-0.2**
K22A				IAML		18 02 19.2	
comp=N,560nm,0.3s							
K22A				IAML		18 02 20.1	
comp=E,578nm,0.3s							
PHWY	**Pilot Hill**	**2.41**	**182**		**Pn**	**18 02 12.7**	**+1.4**
PHWY				IAML		18 02 48.2	
comp=E,116nm,0.3s							
RWWY	**Rawlins**	**2.45**	**215**		**Pn**	**18 02 12.9**	**+1.1**
N23A	**Red Feather La**	**2.85**	**189**		**Pn**	**18 02 18.4**	**+1.1**
N23A				IAML		18 03 09.0	
comp=E,90nm,0.8s							
LAO	**LASA Array**	**3.04**	**348**		**Pn**	**18 02 19.9**	**+0.1**
RLMT	**Red Lodge**	**3.15**	**298**	Pn	**Pn**	**18 02 20.7**	**-0.7**
RLMT				IAML		18 03 13.7	
comp=E,58nm,0.5s							
RLMT				IAML		18 03 18.0	
comp=E,79nm,0.3s							
BRIGG	**Briggsdale**	**3.22**	**166**		**Pn**	**18 02 24.5**	**+2.2**
BW06	**Boulder Array**	**3.23**	**254**		**Pn**	**18 02 23.4**	**+0.8**
BW06				IAML		18 03 13.6	
comp=E,38nm,0.3s							
PD31	**Pinedale Array**	**3.23**	**254**		**Pn**	**18 02 23.4**	**+0.9**
PDAR	**Pinedale Array**	**3.23**	**254**		**Pn**	**18 02 23.4**	**+0.9**
PDAR	**Pinedale Array**	**3.23**	**254**	Pn	**Pn**	**18 02 23.6**	**+1.1**
comp=E,8.3nm,0.3s,baz=71,slow=16,SNR=71							
PDAR				Lg	Lg	18 03 06.3	
comp=E,15nm,0.3s,baz=73,slow=33,SNR=9.6							
YMP	**Mirror Lake Pl**	**3.62**	**288**		**Pn**	**18 02 28.6**	**+0.6**
YMP				IAML		18 03 32.7	
comp=N,70nm,0.8s							
OGNE	**Ogallala**	**3.69**	**137**		**Pn**	**18 02 30.2**	**+1.4**
LOHW	**Long Hollow**	**3.82**	**270**		**Pn**	**18 02 29.9**	**-0.8**
H17A	**Grant Village**	**3.84**	**282**		**Pn**	**18 02 32.8**	**+1.9**
H17A				IAML		18 03 37.1	
comp=N,27nm,0.6s							
FLWY	**Flagg Ranch**	**3.90**	**277**		**Pn**	**18 02 32.8**	**+1.1**
FLWY				IAML		18 03 50.5	
comp=N,32nm,1.1s							
FLWY				IAML		18 03 56.6	
comp=N,28nm,1.2s							
ISCO	**Idaho Springs**	**3.91**	**183**	Pn	**Pn**	**18 02 33.3**	**+1.3**
MOOW	**Moose Ponds**	**3.92**	**272**		**Pn**	**18 02 34.1**	**+2.1**
SNOW	**Snow King Moun**	**3.94**	**268**		**Pn**	**18 02 33.8**	**+1.4**
SNOW				IAML		18 03 47.1	
comp=N,34nm,1.2s							
SNOW				IAML		18 03 55.1	
comp=N,36nm,1.0s							
REDW	**Red Top Meadow**	**4.03**	**267**		**Pn**	**18 02 34.6**	**+1.1**
YFT	**Old Faithful**	**4.03**	**282**		**Pn**	**18 02 36.0**	**+2.4**
IMW	**Indian Meadow**	**4.06**	**275**		**Pn**	**18 02 35.2**	**+1.2**
IMW				IAML		18 03 03.3	
comp=N,27nm,0.5s							
IMW				IAML		18 03 03.4	
comp=N,43nm,0.5s							
TPAW	**Teton Pass**	**4.08**	**269**		**Pn**	**18 02 36.7**	**+2.4**
TPAW				IAML		18 04 25.1	
comp=N,24nm,0.9s							
YHH	**Holmes Hill**	**4.11**	**287**		**Pn**	**18 02 37.0**	**+2.3**
O20A	**White River Ci**	**4.18**	**212**		**Pn**	**18 02 36.0**	**+0.4**
O20A				IAML		18 03 49.3	
comp=E,46nm,0.6s							
O20A				IAML		18 04 32.7	
comp=N,43nm,1.5s							
ID10	**Lander Cutoff**	**4.24**	**256**		**Pn**	**18 02 37.7**	**+1.3**
ID10				IAML		18 03 49.6	
comp=N,32nm,0.8s							
K30B	**Basset**	**4.31**	**102**		**Pn**	**18 02 38.0**	**+0.8**
AHID	**Auburn Hatcher**	**4.32**	**259**		**Pn**	**18 02 36.7**	**-0.8**
AHID				IAML		18 03 57.4	
comp=N,26nm,1.5s							
AHID				IAML		18 03 58.8	
comp=N,30nm,0.6s							
E28A	**Huff**	**4.36**	**47**		**Pn**	**18 02 36.2**	**-1.7**
RDMU	**Red Mountain**	**4.44**	**227**		**Pn**	**18 02 37.8**	**-1.4**
RDMU				IAML		18 03 56.7	
comp=N,32nm,0.7s							
RDMU				IAML		18 03 59.1	
comp=E,34nm,0.9s							
ECR	**Eagle Creek**	**4.45**	**264**		**Pn**	**18 02 40.2**	**+0.9**
SMCO	**Snowmass**	**4.69**	**196**		**Pn**	**18 02 41.9**	**-0.9**
SMCO				IAML		18 04 54.7	
comp=E,29nm,0.4s							
ID08	**Devils Gate**	**4.81**	**263**		**Pn**	**18 02 43.2**	**-1.1**
ID08				IAML		18 05 12.8	
comp=E,22nm,0.5s							
DGMT	**Dagmar**	**4.83**	**9**	Pn	**Pn**	**18 02 42.4**	**-1.9**
BOZ	**Bozeman (W)**	**4.87**	**295**		**Pn**	**18 02 44.8**	**-0.2**
BOZ				IAML		18 04 03.1	
comp=E,13nm,0.7s							
HWUT	**Hardware Ranch**	**5.05**	**248**	Pn	**Pn**	**18 02 48.8**	**+1.2**
HWUT				IAML		18 04 18.9	
comp=E,17nm,0.6s							
HWUT				IAML		18 04 25.1	
comp=E,17nm,1.4s							
ID07	**Smith Canyon R**	**5.07**	**259**		**Pn**	**18 02 47.4**	**-0.5**
KSCO	**Kaye Shedlock'**	**5.12**	**156**		**Pn**	**18 02 49.4**	**+1.0**
BSUT	**Blindstream Ca**	**5.13**	**234**		**Pn**	**18 02 49.

FRB				SN	Sn	18 06 54.9	-3.1
FRB				LG	Lg	18 07 58.8	
FRB				Trac		18 08 12.7	
	comp=Z,196nm,1.7s						
YKAW1	Yellowknife Wh	10.64	265	PN	Pn	18 05 18.6	+0.1
YKAW1				SN	Sn	18 07 10.0	-7.5
YKAW3	Yellowknife Wh	10.66	266	PN	Pn	18 05 18.6	-0.1
YKAW3				SN	Sn	18 07 10.3	-7.6
YKA	Yellowknife Ar	10.69	265	Pn	Pn	18 05 18.6	-0.6
	0.5nm,0.3s,baz=62,slow=13,SNR=15						
YKA				Sn	Sn	18 07 08.9	-10
	1.5nm,0.3s,baz=63,slow=24,SNR=3.9						
YKA				Lg	Lg	18 08 14.8	
	2.1nm,0.3s,baz=60,slow=29,SNR=10						
	2.0nm,0.6s						
FL31	Flin Flon Arra	11.92	212	PN	Pn	18 05 35.7	-0.4
FL31				SN	Sn	18 07 41.8	-7.1
FL31				LG	Lg	18 09 02.4	
FL31				Trac		18 09 09.8	
	comp=Z,12nm,0.3s						
VIMO	Victor Mine	13.10	160	PN	Pn	18 05 53.5	+1.3
VIMO				SN	Sn	18 08 15.1	-2.7
LG4Q	La Grande 4	14.52	136	PN	Pn	18 06 13.5	+2.0
LG4Q				SN	Sn	18 08 44.9	-7.4
LG4Q				Trac		18 10 37.1	
	comp=Z,2.0nm,0.2s						
ULM	Lac du Bonnet	15.32	192	Pn	Pn	18 06 20.2	-2.1
	0.8nm,0.3s,baz=2.8,slow=14,SNR=2.6						
ULM				Sn	Sn	18 09 00.0	-12
	0.2nm,0.3s,baz=29,slow=19,SNR=2.1						
ULM				Lg	Lg	18 10 39.4	
	baz=90,slow=20						
	1.9nm,0.3s						
ULM	Lac du Bonnet	15.32	192	PN	Pn	18 06 23.2	+0.9
ULM				SN	Sn	18 09 02.2	-10
ULM				Trac		18 10 46.2	
	comp=Z,181nm,2.5s						
ULM				LG	Lg	18 10 48.1	
SCHQ	Schefferville	15.93	120	Pn	Pn	18 06 28.6	-1.7
	0.4nm,0.3s,baz=333,slow=13,SNR=2.8						
SCHQ				Sn	Sn	18 09 16.8	-10
	0.4nm,0.3s,baz=57,slow=18,SNR=1.6						
SCHQ				Lg	Lg	18 11 01.2	
	0.4nm,0.3s,baz=242,slow=18,SNR=4.2						
	2.0nm,0.3s						
ILAR	Eielson Array	22.88	294	P	P	18 07 53.3	+3.8
	0.4nm,0.7s,baz=63,slow=10,SNR=4.9						
	0.4nm,0.7s						

IDC 13 18:19:29.7±3.7, 16°72′N×123°08′E, h0km, mb3.5/3, mbtmp3.5/3, MS3.2/1, Error ellipse: s-maj=291.7km s-min=28.9km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	31.91	27	LR	LR	18 39 38.2	
	comp=Z,40nm,19.1s,baz=168,slow=38						
WRA	Warramunga Arr	38.08	163	P	P	18 26 50.0	-0.3
	1.1nm,0.7s,baz=343,slow=9.0,SNR=11						
	1.1nm,0.7s						
ASAR	Alice Springs	41.51	165	P	P	18 27 19.1	+0.1
	0.5nm,0.6s,baz=349,slow=8.4,SNR=12						
	0.5nm,0.6s						
H11S3	WAKE ISLAND Hy	41.53	81	T	T	19 11 40.4	
	baz=276,slow=75,SNR=18						
H11S1	WAKE ISLAND Hy	41.54	81	T	T	19 11 39.2	
	baz=276,slow=75,SNR=12						
H11S2	WAKE ISLAND Hy	41.55	81	T	T	19 11 40.4	
	baz=276,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	41.64	79	T	T	19 11 38.4	
	baz=276,slow=75,SNR=301						
H11N2	WAKE ISLAND Hy	41.65	79	T	T	19 11 38.4	
	baz=276,slow=75,SNR=90						
H11N3	WAKE ISLAND Hy	41.66	79	T	T	19 11 39.5	
	baz=276,slow=75,SNR=176						
MKAR	Makanchi Array	45.07	321	P	P	18 27 47.4	-0.1
	0.2nm,0.5s,baz=108,slow=9.9,SNR=1.9						
	0.2nm,0.5s						

*IDC **13** 18:22:23.9±0.8, 36°08′S×102°61′W, h0km, mb4.1/8, mbtmp4.1/8, MS4.5/45, Error ellipse: s-maj=30.8km s-min=21.8km az=90.0*

*NEIC **13** 18:22:28.5±1.6, 35°8′S±0°1×101°8′W±0°2, h10km±1km, mb4.8/102, Error ellipse: s-maj=26.9km s-min=18.7km az=277.0*

*GCMT **13** 18:22:29.5±0.1, 35°96′S±0°01×102°07′W±0°01, h17km, MW5.3/149, Moment Tensor Solution. s115,c190; s149,c253; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.15±.02; $M_{\theta\theta}$-0.20±.02; $M_{\phi\phi}$0.35±.02; $M_{r\theta}$0.20±.04; $M_{\theta\phi}$-1.14±.01; $M_{\phi r}$-0.13±.04; Best double couple: $M_0$1.19400×10^{17} NP1:ϕ_s97.00000°, δ87.00000°, λ171.00000°. NP2:ϕ_s187.00000°, δ81.00000°, λ3.00000°. Principal axes: T 1.2860, Plg9.0000°, Azm52.0000°; N -0.1840, Plg80.0000°, Azm259.0000°; P -1.1020, Plg5.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 18:22:26.7±0.5, 35°78S±0°09×102°1W±0°1, h10km, n172, σ1§61/121, mb4.8/58, MS4.5/47, 1D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	10.63	322	LR	LR	18 27 58.8	
	comp=Z,5μm,20.2s,baz=140,slow=32						
H03S2	Juan Fernandez	19.08	91	T	T	18 46 41.9	
	baz=254,slow=75,SNR=17						
H03S1	Juan Fernandez	19.09	91	T	T	18 46 47.0	
	baz=254,slow=75,SNR=14						
H03S3	Juan Fernandez	19.09	91	T	T	18 46 36.6	
	baz=254,slow=75,SNR=9.9						
H03N2	Juan Fernandez	19.16	90	T	T	18 46 39.9	
	baz=248,slow=72						
H03N3	Juan Fernandez	19.16	90	T	T	18 46 36.9	
	baz=248,slow=72						
H03N1	Juan Fernandez	19.18	90	T	T	18 46 45.1	
	baz=248,slow=72						
LL02	Futaleuf	24.36	117	P	P	18 27 45.2	+0.4
LL02				IAmb	IAmb	18 27 49.6	
	comp=Z,52nm,1.7s						
GO06	Curarrehue	24.43	108	P	P	18 27 45.7	+0.1
GO06				IAmb	IAmb	18 28 08.8	
	comp=Z,48nm,1.8s						
ML02	Panimavida	24.80	99	P	P	18 27 48.4	-0.5
PLCA	Paso Flores	25.14	111	P	P	18 27 53.9	+1.9
PLCA	Paso Flores	25.14	111	P	P	18 27 53.8	+1.8
	comp=Z,3.1nm,1.0s,baz=290,slow=11,SNR=4.7						
	comp=Z,3.1nm,1.0s						
MT01	Popeta	25.30	95	P	P	18 27 53.9	+0.5
MT01				IAmb	IAmb	18 28 06.4	
	comp=Z,31nm,1.3s						
BO02	Sierra Bellavi	25.49	97	P	P	18 27 55.3	+0.1
BO02				IAmb	IAmb	18 28 13.9	
	comp=Z,16nm,0.9s						
BO04	La Punta	25.80	95	P	P	18 27 59.0	+1.0
BO04				IAmb	IAmb	18 28 30.1	
	comp=Z,25nm,1.1s						
MT05	Renca	25.83	94	P	P	18 27 59.3	+1.0
MT13	San Alfonso	26.11	95	P	P	18 28 01.3	+0.4
MT13				IAmb	IAmb	18 28 24.5	
	comp=Z,28nm,1.1s						
LMEL	Las Melosas	26.16	95	P	P	18 28 01.3	-0.1
LMEL				IAmb	IAmb	18 28 26.0	
	comp=Z,39nm,1.2s						
MT08	Bocatoma Ro	26.40	94	P	P	18 28 04.8	+1.2
MT08				IAmb	IAmb	18 28 31.4	
	comp=Z,25nm,1.0s						
ZON	Zonda	28.01	91	P	P	18 28 18.9	+1.0
ZON				IAmb	IAmb	18 28 44.7	
	comp=Z,23nm,1.2s						
USHA	Ushuaia	29.94	140	LR	LR	18 38 17.2	
	comp=Z,2μm,18.1s,baz=249,slow=32						
LVC	Limon Verde	31.60	75	LR	LR	18 38 19.8	
	comp=Z,1μm,19.2s,baz=243,slow=30						
TRQA	Tornquist	31.94	106	P	P	18 28 53.3	+0.7
TRQA				IAmb	IAmb	18 29 36.9	
	comp=Z,18nm,1.4s						
PB08	IPOC Station P	32.78	70	P	P	18 28 59.8	-0.7
NNA	Nana	32.86	50	LR	LR	18 39 19.5	
	comp=Z,2μm,19.0s,baz=233,slow=30						
GO01	Chusmiza	33.02	70	P	P	18 29 01.6	-1.1
ATAH	Atahualpa	35.81	43	LR	LR	18 40 30.2	
	comp=Z,1μm,20.9s,baz=227,slow=30						
LPAZ	La Paz	35.88	66	P	P	18 29 30.6	+3.0
	comp=Z,14nm,1.2s,baz=222,slow=5.2,SNR=14						
LPAZ				LR	LR	18 41 02.9	
	comp=Z,365nm,19.0s,baz=224,slow=31						
	comp=Z,14nm,1.2s						
PMSA	Palmer Station	36.82	154	LR	LR	18 40 20.8	
	comp=Z,2μm,20.9s,baz=311,slow=29						
MCRA	Macar, Loja	37.32	38	P	P	18 29 39.2	-0.1
CZSB	Cruzeiro do Su	38.72	51	P	P	18 29 49.6	-1.4
CZSB				IAmb	IAmb	18 29 56.6	
	comp=Z,19nm,0.9s						
BOSC	San Juan Bosco	39.10	39	P	P	18 29 53.7	-0.7
CPUP	Villa Florida	39.16	89	LR	LR	18 43 29.6	
	comp=Z,243nm,18.1s,baz=248,slow=32						
SIV	San Ignacio	41.42	72	LR	LR	18 45 13.0	
	comp=Z,848nm,21.0s,baz=272,slow=33						
ETMB	Extrema	41.56	60	P	P	18 30 14.2	-0.5
OTAV	Otavalo	42.04	37		P	18 30 17.8	-1.2
OTAV				IAmb	IAmb	18 30 36.5	
	comp=Z,20nm,1.3s						
TBI	Tubuai	42.69	274	eSS	SS	18 39 56.8	-0.8
	comp=Z,10μm,35.5s						
TBI				eLR	LR	18 41 46.0	
	comp=Z,3μm,23.8s						
TBI				eLR	LR	18 42 01.0	
	comp=Z,17μm,23.2s						
AQDB	Aquidauana	43.22	82	P	P	18 30 27.8	-0.4
PTLB	Pontes e Lacer	43.25	73	P	P	18 30 28.1	-0.3
TAOE	Nuku Hiva Isla	43.84	298	eS	S	18 36 53.8	-11
	comp=Z,412nm,26.5s						
TAOE				eLR	LR	18 43 07.6	
	comp=Z,622nm,24.6s						
SAML	Samuel	44.32	63	P	P	18 30 37.3	+0.3
SAML				IAmb	IAmb	18 30 39.6	
	comp=Z,18nm,1.2s						
PPT2	Papeete2	45.69	281	eS	S	18 37 45.8	+14
	comp=Z,114nm,30.2s						
PPT2				eSS	SS	18 41 11.4	+16
	comp=Z,726nm,22.2s						
PPT2				eLR	LR	18 43 25.9	
	comp=Z,605nm,24.5s						
PPT	Papeete	45.70	281	LR	LR	18 43 57.7	
	comp=Z,291nm,21.7s,baz=118,slow=29						
ROSC	El Rosal	48.05	39	P	P	18 31 04.5	-2.3
ROSC	El Rosal	48.05	39	P	P	18 31 09.7	+2.8
	comp=Z,6.3nm,0.4s,baz=170,slow=12,SNR=1.5						
ROSC				LR	LR	18 47 52.8	
	comp=Z,1μm,20.8s,baz=230,slow=32						
	comp=Z,6.3nm,0.4s						
SRBA	San Rafael, Bu	48.12	25	P	P	18 31 05.6	-1.3
SRBA				IAmb	IAmb	18 31 27.7	
	comp=Z,8.8nm,1.0s						
JTS	Las Juntas de	48.58	23	LR	LR	18 46 34.2	
	comp=Z,885nm,19.0s,baz=201,slow=30						
MACA	Manacapuru-AM	50.12	59	P	P	18 31 21.5	-0.7
BELA	Belgrano 2	50.58	165	P	P	18 31 27.5	+2.5
BELA				IAmb	IAmb	18 31 47.9	
	comp=Z,18nm,1.4s						
BDFB	Brasilia	51.97	82	LR	LR	18 51 16.5	
	comp=Z,332nm,21.1s,baz=252,slow=33						
RAR	Rarotonga	52.09	270	LR	LR	18 48 52.2	
	comp=Z,149nm,18.7s,baz=149,slow=31						
SDV	Santo Domingo	53.39	40	LR	LR	18 50 46.1	
	comp=Z,379nm,21.1s,baz=214,slow=32						
BOAV	Boa Vista	54.26	55	P	P	18 31 51.8	-1.3
BOAV				IAmb	IAmb	18 33 01.0	
	comp=Z,20nm,1.6s						
QSPA	South Pole Qui	54.43	180	P	P	18 31 54.1	+0.3
QSPA				IAmb	IAmb	18 32 21.0	
	comp=Z,19nm,1.7s						
QSPA	South Pole Qui	54.43	180	P	P	18 31 50.2	-3.7
	comp=Z,0.9nm,0.9s,baz=118,slow=15,SNR=4.4						
	comp=Z,0.9nm,0.9s						
BAUV	El Baul	54.83	43	P	P	18 31 55.6	-1.5
SBA	Scott Base	55.58	195	P	P	18 32 02.2	+0.4
SBA				IAmb	IAmb	18 32 44.1	
	comp=Z,14nm,1.4s						
TEIG	Tepich	57.21	15	LR	LR	18 51 23.1	
	comp=Z,3μm,21.3s,baz=356,slow=30						
PCRV	Puerto La Cruz	57.75	45	LR	LR	18 55 52.3	
	comp=Z,944nm,18.4s,slow=34						
SNAA	Sanae	59.27	159	P	P	18 32 26.6	-1.4
SNAA				IAmb	IAmb	18 33 00.4	
	comp=Z,16nm,1.4s						
SNAA	Sanae	59.27	159	P	P	18 32 24.4	-3.6
	comp=Z,1.2nm,1.0s,baz=220,slow=9.1,SNR=2.3						
SNAA				LR	LR	18 53 30.3	
	comp=Z,569nm,20.4s,baz=240,slow=32						
	comp=Z,1.2nm,1.0s						
MDP	Montagnes des	61.60	59	LR	LR	18 56 36.6	
	comp=Z,554nm,19.3s,baz=238,slow=33						
URZ	Urewera	62.56	241	LR	LR	18 53 04.5	
	comp=Z,553nm,21.6s,baz=211,slow=30						
RAO	Raoul Island	62.84	252	LR	LR	18 53 26.5	
	comp=Z,303nm,21.1s,baz=116,slow=30						
SJG	San Juan	63.48	39	LR	LR	18 57 43.2	
	comp=Z,306nm,21.8s,baz=173,slow=33						
RPZ	Rata Peaks	64.36	233	LR	LR	18 53 42.5	
	comp=Z,685nm,21.9s,baz=96,slow=29						
061Z	Ochoppi	64.49	21	P	P	18 33 03.0	-0.5
TXAR	Lajitas Array	64.79	358	P	P	18 33 04.6	-0.9
	comp=Z,0.3nm,0.7s,baz=196,slow=6.2,SNR=3.1						
TXAR				LR	LR	18 55 19.9	
	comp=Z,224nm,21.4s,baz=171,slow=30						
	comp=Z,0.3nm,0.7s						
ELIB	Princess Elisa	66.03	164	dP	P	18 33 14.3	+1.1
	comp=Z,4.1nm,1.1s						
RCBR	Riachuelo	67.30	81	LR	LR	18 59 38.9	
	comp=Z,167nm,21.5s,baz=237,slow=33						
PFO	Pinyon Flats O	70.34	347	LR	LR	18 56 44.8	
	comp=Z,269nm,20.8s,baz=170,slow=29						
ANMO	Albuquerque	70.49	356	LR	LR	18 59 10.8	
	comp=Z,232nm,20.9s,baz=259,slow=31						
MSVF	Nonsavu	71.82	261	LR	LR	18 57 47.8	
	comp=Z,202nm,20.5s,baz=137,slow=30						
GSC	Goldstone, Bar	72.05	347	P	P	18 33 52.9	+2.0
GSC				IAmb	IAmb	18 34 08.3	
	comp=Z,15nm,1.6s						
U38A	Gravette	72.21	6	P	P	18 33 52.9	+1.2
U38A				IAmb	IAmb	18 34 10.1	
	comp=Z,9.4nm,0.9s						
T25A	Trinidad	72.59	358	P	P	18 33 54.5	+0.3
MVCO	Mesa Verde	72.87	355	P	P	18 33 56.6	+0.7
MVCO				IAmb	IAmb	18 34 14.7	
	comp=Z,9.3nm,1.0s						
GWY	Greenwater Val	72.89	348	P	P	18 33 57.5	+1.6
SHPR	Sheep Range	72.95	349	P	P	18 33 58.2	+2.0
SHPR				IAmb	IAmb	18 34 20.6	
	comp=Z,11nm,1.7s						
TKL	Tuckaleechee C	73.09	15	LR	LR	19 00 59.5	
	comp=Z,157nm,21.6s,baz=190,slow=32						
T42A	Van Buren	73.16	9	P	P	18 33 59.0	+1.8
T42A				IAmb	IAmb	18 34 15.4	
	comp=Z,8.4nm,0.9s						
S22A	4UR Ranch, Cre	73.30	356	P	P	18 34 00.2	+1.7
S22A				IAmb	IAmb	18 34 15.7	
	comp=Z,9.6nm,1.1s						
WCT	Wildcat Mounta	73.47	348	P	P	18 34 01.4	+2.2
S39A	Bolivar	73.55	7	P	P	18 34 01.1	+1.5
S39A				IAmb	IAmb	18 35 08.7	
	comp=Z,25nm,1.9s						
TPNV	Topopah Spring	73.56	348	P	P	18 34 02.6	+2.8
TPNV				IAmb	IAmb	18 34 24.5	
	comp=Z,20nm,1.7s						
CGM3	Cape Girardeau	73.62	10	P	P	18 34 01.6	+1.6
CCUT	Cedar City	73.72	351	P	P	18 34 02.4	+1.5
CCUT				IAmb	IAmb	18 34 26.0	
	comp=Z,11nm,1.3s						
SZCU	Shurtz Canyon	73.73	351	P	P	18 34 02.7	+1.8
HMU	Henry Mountain	73.79	353	P	P	18 34 02.8	+1.4
HMU				IAmb	IAmb	18 34 46.7	
	comp=Z,11nm,1.2s						
GRAC	Grapevine Rang	73.80	347	P	P	18 34 03.5	+2.4
GRAC				IAmb	IAmb	18 34 20.8	
	comp=Z,22nm,1.6s						
PRN	Pahroc Range	73.82	349	P	P	18 34 02.9	+1.6
PRN				IAmb	IAmb	18 34 30.2	
	comp=Z,23nm,1.6s						
S44A	Carbondale	74.06	11	P	P	18 34 03.5	+0.9
S44A				IAmb	IAmb	18 34 34.5	
	comp=Z,8.0nm,0.8s						
GMN	Gold Mountain	74.08	347	P	P	18 34 04.3	+1.3
CCM	Cathedral Cave	74.15	9	P	P	18 34 03.6	+0.5
CCM				IAmb	IAmb	18 34 21.6	
	comp=Z,13nm,0.9s						
T50A	Nancy	74.18	14	P	P	18 34 04.2	+0.9
DSP	Deep Springs	74.27	347	P	P	18 34 05.2	+1.4
DSP				IAmb	IAmb	18 34 19.8	
	comp=Z,17nm,1.5s						
R11B	Troy Canyon, C	74.82	349	P	P	18 34 10.1	+2.9
R11B				IAmb	IAmb	18 34 56.4	
	comp=Z,20nm,1.9s						
SRU	San Rafael Swe	74.93	353	P	P	18 34 09.1	+1.3
SRU				IAmb	IAmb	18 34 26.9	
	comp=Z,14nm,1.4s						
TMUT	Trail Mountain	75.19	353	P	P	18 34 11.3	+1.9
SPR3	Spring Creek 3	75.27	350	P	P	18 34 11.2	+1.3
Q44A	Meyer Farm, Va	75.29	10	P	P	18 34 11.2	+1.6
NVAR	Mina Array Bea	75.36	347	LR	LR	19 00 24.9	
	comp=Z,145nm,18.9s,baz=171,slow=30						
CMB	Columbia Colle	75.39	345	P	P	18 34 11.9	+1.5
P18A	Preston Nutter	75.42	353	P	P	18 34 11.8	+1.0
P18A				IAmb	IAmb	18 34 58.6	
	comp=Z,21nm,1.7s						
WAKR	Walker	75.65	346	P	P	18 34 14.2	+2.1
WAKR				IAmb	IAmb	18 35 03.0	
	comp=Z,17nm,1.5s						
KVN	Kaiserville	75.93	347	P	P	18 34 15.8	+2.2
KVN				IAmb	IAmb	18 34 29.2	
	comp=Z,10nm,1.2s						
NLU	North Lily Min	75.93	352	P	P	18 34 14.8	+1.2
NLU				IAmb	IAmb	18 34 33.2	
	comp=Z,9.1nm,1.2s						
YERR	Yerington	76.08	346	P	P	18 34 16.4	+2.0
YERR				IAmb	IAmb	18 34 31.2	
	comp=Z,21nm,1.6s						
DUG	Dugway, Tooele	76.25	352	P	P	18 34 16.9	+1.6
MAW	Mawson	76.30	174	P	P	18 34 18.1	+2.9
MAW	Mawson	76.30	174	P	P	18 34 13.7	-1.5
	comp=Z,1.3nm,0.8s,baz=187,slow=8.4,SNR=2.3						
MAW				LR	LR	19 06 10.8	
	comp=Z,200nm,19.3s,baz=207,slow=34						
	comp=Z,1.3nm,0.8s						
BSUT	Blindstream Ca	76.37	353	P	P	18 34 18.0	+1.7
BSUT				IAmb	IAmb	18 34 35.8	
	comp=Z,13nm,1.1s						
N23A	Red Feather La	76.39	357	P	P	18 34 18.2	+1.9
N23A				IAmb	IAmb	18 35 53.9	
	comp=Z,17nm,1.4s						
AFDM	Forest Hills D	76.39	345	P	P	18 34 18.3	+2.3
AFDM				IAmb	IAmb	18 34 33.7	
	comp=Z,13nm,1.4s						
Q51A	Peebles	76.42	15	P	P	18 34 17.8	+1.6
P49A	Miami Univ. Ec	76.63	14	P	P	18 34 19.1	+1.8
R58B	Mineral	76.72	19	P	P	18 34 18.3	+0.5
BGU	Big Grassy Mou	77.00	351	P	P	18 34 21.4	+1.8
ORV	Oroville	77.09	345	P	P	18 34 22.6	+2.7
ORV				IAmb	IAmb	18 34 36.7	
	comp=Z,8.2nm,1.1s						
ELK	Elko	77.12	350	P	P	18 34 21.6	+1.3
SPUT	South Promonto	77.31	352	P	P	18 34 23.6	+2.3
HVU	Hansel Valley	77.81	352	P	P	18 34 26.3	+2.2
ID10	Lander Cutoff	78.35	353	P	P	18 34 29.2	+2.0
BW06	Boulder Array	78.48	354	P	P	18 34 26.7	-1.2
BW06				IAmb	IAmb	18 34 45.9	
	comp=Z,8.2nm,1.1s						
PD31	Pinedale Array	78.48	354	P	P	18 34 27.4	-0.5
PDAR	Pinedale Array	78.48	354	P	P	18 34 27.4	-0.5
PDAR	Pinedale Array	78.48	354	P	P	18 34 28.0	+0.1
	comp=Z,0.8nm,0.8s,baz=157,slow=4.8,SNR=7.1						
PDAR				LR	LR	19 04 10.7	
	comp=Z,113nm,18.9s,baz=156,slow=32						
	comp=Z,0.8nm,0.8s						
DZM	Mont Dzumac	78.60	251	eS	S	18 44 23.0	-3.2
	comp=Z,210nm,25.2s						
DZM				eSS	SS	18 49 18.4	-11
	comp=Z,123nm,31.6s						
DZM				eLR	LR	18 58 29.7	
	comp=Z,1μm,27.3s						
DZM	Mont Dzumac	78.60	251	LR	LR	19 00 49.6	
	comp=Z,468nm,21.5s,baz=136,slow=30						
M50A	Fremont	78.77	14	P	P	18 34 28.9	-0.2
KHMM	Horse Mountain	78.85	343	P	P	18 34 29.8	0.0
L48A	N Adams	79.02	13	P	P	18 34 30.2	-0.3
REDW	Red Top Meadow	79.18	353	P	P	18 34 33.5	+1.8
WVOR	Wild Horse Val	79.31	348	P	P	18 34 34.1	+1.8
WVOR				IAmb	IAmb	18 34 48.0	
	comp=Z,26nm,1.8s						
TPAW	Teton Pass	79.31	353	P	P	18 34 33.5	+1.0
TPAW				IAmb	IAmb	18 34 52.2	
	comp=Z,20nm,1.2s						
YBH	Yreka Blue Hor	79.43	344	LR	LR	19 01 44.6	
	comp=Z,268nm,22.0s,baz=170,slow=30						
FXWY	Fox Creek	79.47	353	P	P	18 34 35.2	+2.0
RSSD	Black Hills	79.55	359	P	P	18 34 34.8	+1.1
HLID	Hailey	79.77	351	P	P	18 34 36.3	+1.5
HLID				IAmb	IAmb	18 34 53.7	
	comp=Z,13nm,1.1s						
L04D	Klamath Falls	79.81	345	P	P	18 34 36.5	+1.5
I37A	Lemond, Waseca	79.81	6	P	P	18 34 37.0	+2.1
FLWY	Flagg Ranch	79.88	354	P	P	18 34 36.6	+1.2
FLWY				IAmb	IAmb	18 35 36.1	
	comp=Z,24nm,1.6s						
K05A	Summer Lake	80.01	346	P	P	18 34 38.7	+2.5
J08A	Circle Bar Ran	80.18	348	P	P	18 34 39.2	+2.2
J08A				IAmb	IAmb	18 36 51.3	
	comp=Z,5.4nm,0.7s						
J05D	Fort Rock, OR	80.61	346		P	18 34 40.3	+0.9
PINE	Pine Mountain	81.05	346	P	P	18 34 42.8	+1.1
SPMN	Marine on St.	81.07	7		P	18 34 42.5	+1.0
SADO	Sadowa	82.82	16	LR	LR	19 08 34.5	
	comp=Z,326nm,18.7s,baz=152,slow=33						
NEW	Newport	84.75	350	LR	LR	19 06 36.4	
	comp=Z,90nm,18.4s,baz=164,slow=31						
ULM	Lac du Bonnet	85.83	4	LR	LR	19 09 41.5	
	comp=Z,166nm,19.5s,baz=132,slow=33						
STKA	Stephens Creek	90.07	230	LR	LR	19 07 29.4	
	comp=Z,517nm,21.7s,baz=174,slow=30						
BBB	Bella Bella	90.52	344	LR	LR	19 07 47.4	
	comp=Z,62nm,20.7s,baz=156,slow=30						
HNR	Honiara	90.97	258	LR	LR	19 08 13.8	
	comp=Z,969nm,20.8s,baz=155,slow=30						
SUR	Sutherland	93.61	135	LR	LR	19 10 38.8	
	comp=Z,170nm,21.0s,baz=214,slow=31						
CTA	Charters Tower	94.81	241	LR	LR	19 11 25.6	
	comp=Z,212nm,21.4s,baz=95,slow=31						
SCHQ	Schefferville	95.19	20	LR	LR	19 15 14.8	
	comp=Z,245nm,18.9s,baz=253,slow=33						
BOSA	Boshof	98.97	135	LR	LR	19 15 52.8	
	comp=Z,183nm,19.7s,baz=226,slow=32						
KRVT	Keravat (AS076	100.32	257

az=135.0

ISC 13 19:06:56.6±0.4, 12°.30N±0°.06×47°.24E±0°.07, h10km, n103, σ1§33/102, mb4.2/37, MS3.6/4, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**4.36**	**260**		**Pn**	**19 08 03.0**	**-0.1**
ATD	**Arta Tunnel**	**4.36**	**260**	P	**Pn**	**19 08 03.4**	**+0.3**
SNR=12							
ATD	**Arta Tunnel**	**4.36**	**260**	Pn	**Pn**	**19 08 03.1**	**+0.1**
0.1nm,0.3s,baz=59,slow=13,SNR=30							
ATD				LR	LR	19 09 20.7	
comp=Z,9.0nm,18.9s,baz=7.5,slow=33							
3.0nm,0.8s							
ABTO	**Aybut**	**7.72**	**49**	P	**Pn**	**19 08 49.8**	**+0.6**
DOK	**Doka**	**9.14**	**46**	P	Pn	19 09 13.9	+5.2
DMTO	**DMTO**	**9.19**	**53**	P	**Pn**	**19 09 08.0**	**-1.4**
MZR	**Muzera**	**12.19**	**28**	P	**Pn**	**19 09 54.1**	**+3.6**
MHTO	**MHTO**	**13.42**	**49**	P	**Pn**	**19 10 11.5**	**+4.2**
BSY	**Bisya**	**14.07**	**41**	P	**Pn**	**19 10 15.0**	**-1.2**
ARQ	**Araqi**	**14.09**	**38**	P	**Pn**	**19 10 19.2**	**+2.8**
ALNE	**Al Ain**	**14.21**	**33**	P	**P**	**19 10 23.7**	**-1.9**
JMDO	**Jabal Madar**	**14.41**	**45**	P	**Pn**	**19 10 21.6**	**+0.7**
ASUD	**Al Ashush, Dub**	**14.46**	**31**	P	**Pn**	**19 10 23.7**	**+2.2**
FAQ	**Al Faqa, Dubai**	**14.69**	**31**	P	**Pn**	**19 10 24.5**	**-0.2**
LODK	**Lodwar**	**14.69**	**234**	Pn	**Pn**	**19 10 23.7**	**-1.1**
LODK	**Lodwar**	**14.69**	**234**	P	**Pn**	**19 10 22.7**	**-2.1**
SOHO	**SOHO**	**14.71**	**36**	P	**Pn**	**19 10 26.4**	**+1.6**
HOQ	**Hoqain**	**14.75**	**39**	P	**P**	**19 10 29.2**	**-2.4**
SNR=5.8							
SMDO	**Samad**	**14.84**	**42**	P	**Pn**	**19 10 28.8**	**+1.9**
SNR=5.9							
ASHO	**Ashiyiah**	**14.88**	**33**	P	**Pn**	**19 10 27.4**	**+0.2**
HATD	**Hatta, Dubai**	**15.04**	**33**	P	**Pn**	**19 10 29.0**	**-0.3**
UOSS	**Minazif**	**15.17**	**33**	Pn	**Pn**	**19 10 25.9**	**-5.2**
UOSS	**Minazif**	**15.17**	**33**	P	**Pn**	**19 10 31.8**	**+0.7**
WBK	**Wadi Bani Khal**	**15.17**	**46**	P	**Pn**	**19 10 32.2**	**+1.1**
JLN	**Jalan Bani Buh**	**15.20**	**48**	P	**Pn**	**19 10 33.8**	**+2.4**
SNR=5.8							
BIDO	**Bidbid**	**15.22**	**41**	P	**P**	**19 10 35.7**	**-1.1**
SNR=10.0							
WSAR	**Wadi Sarin**	**15.36**	**43**	P	**Pn**	**19 10 34.1**	**+0.5**
WSAR	**Wadi Sarin**	**15.36**	**43**	Pn	**Pn**	**19 10 32.9**	**-0.6**
0.3nm,0.3s,baz=241,slow=14,SNR=6.8							
WSAR				LR	LR	19 16 26.2	
comp=Z,58nm,21.3s,baz=180,slow=37							
7.8nm,0.9s							
MASF	**Masafi**	**15.49**	**32**	P	**Pn**	**19 10 37.7**	**+2.3**
SNR=7.1							
MDH	**Madha**	**15.51**	**32**	P	**P**	**19 10 38.9**	**-1.1**
SNR=12							
SHME	**Shamm**	**16.05**	**30**	P	**Pn**	**19 10 42.0**	**-0.5**
KMBO	**Kilima Mbogo**	**16.62**	**217**		**Pn**	**19 10 50.4**	**+0.3**
MSEY	**Mahe Island**	**18.75**	**154**		**P**	**19 11 14.5**	**-1.4**
MSEY				IAmb	IAmb	19 11 21.8	
comp=Z,20nm,1.1s							
MSEY	**Mahe Island**	**18.75**	**154**	P	**P**	**19 11 16.0**	**0.0**
MSEY				P	**P**	**19 11 16.0**	**0.0**
EIL	**Elat**	**20.71**	**328**	P	**P**	**19 11 37.9**	**+0.6**
comp=Z,3.4nm,0.8s,baz=131,slow=11,SNR=2.5							
EIL				LR	LR	19 18 27.2	
comp=Z,104nm,19.4s,baz=54,slow=33							
comp=Z,3.4nm,0.8s							
ASF	**Jabal al Asfar**	**21.94**	**336**	P	**P**	**19 11 51.1**	**+0.6**
comp=Z,3.2nm,0.9s,baz=144,slow=8.4,SNR=7.6							
comp=Z,3.2nm,0.9s							
MMAI	**Mount Meron Ar**	**23.29**	**334**	P	**P**	**19 12 06.5**	**+1.8**
comp=Z,5.4nm,1.0s,baz=225,slow=13,SNR=3.7							
comp=Z,5.4nm,1.0s							
SIRT	**Sirnak**	**25.46**	**351**	P	**P**	**19 12 23.8**	**-1.1**
HRA	**Herat**	**25.88**	**29**	P	**P**	**19 12 28.7**	**-0.3**
HRA				IAmb	IAmb	19 12 32.0	
comp=Z,6.1nm,0.9s							
GURO	**Guroymak-BITLI**	**26.55**	**351**	P	**P**	**19 12 33.9**	**-1.0**
GURO				IAmb	IAmb	19 12 39.3	
comp=Z,7.7nm,1.2s							
GEYT	**Alibeck**	**27.31**	**19**	P	**P**	**19 12 41.0**	**-0.7**
GEYT				IAmb	IAmb	19 12 47.1	
comp=Z,16nm,1.5s							
GEYT	**Alibeck**	**27.31**	**19**	P	**P**	**19 12 42.0**	**+0.4**
comp=Z,4.1nm,0.7s,baz=215,slow=12,SNR=6.8							
GEYT				LR	LR	19 25 18.0	
comp=Z,245nm,20.8s,baz=202,slow=40							
comp=Z,4.1nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**27.31**	**19**	P	**P**	**19 12 42.0**	**+0.4**
GYA0B				IAmb	IAmb	19 12 46.4	
comp=Z,4.9nm,0.8s							
GNI	**Garni**	**27.83**	**356**	P	**P**	**19 12 45.0**	**-1.4**
GNI	**Garni**	**27.83**	**356**	LR	LR	19 25 10.9	
comp=Z,119nm,18.1s,baz=164,slow=39							
AKH	**Akhalkalaki**	**29.18**	**354**	P	**P**	**19 12 59.0**	**+0.6**
BR131	**Keskin Array S**	**29.84**	**339**	P	**P**	**19 13 04.3**	**0.0**
BRTR	**Keskin Array B**	**29.84**	**339**	P	**P**	**19 13 04.5**	**+0.2**
BRTR	**Keskin Array B**	**29.84**	**339**	P	**P**	**19 13 05.2**	**+0.9**
comp=Z,0.4nm,0.7s,baz=174,slow=17,SNR=3.0							
comp=Z,0.4nm,0.7s							
ALN	**Alexandroupoli**	**34.02**	**331**	P	**P**	**19 13 41.6**	**+0.8**
ALN				IAmb	IAmb	19 13 45.8	
comp=Z,6.5nm,1.1s							
RER	**Riviere de l'E**	**34.29**	**166**	P	**P**	**19 13 42.8**	**-0.5**
RDO	**Rodhopi**	**34.46**	**330**	P	**P**	**19 13 45.3**	**+0.7**
RDO				IAmb	IAmb	19 14 28.4	
comp=Z,3.6nm,1.1s							
AGG	**Agios Georgios**	**34.59**	**325**	P	**P**	**19 13 45.8**	**0.0**
AGG				IAmb	IAmb	19 13 54.2	
comp=Z,4.7nm,1.0s							
BTK	**Batken**	**34.60**	**33**	P	**P**	**19 13 46.3**	**+0.3**
BTK				IAmb	IAmb	19 13 49.4	
comp=Z,3.9nm,1.1s							
ROCAM	**Rodrigues Isla**	**35.60**	**153**	P	**P**	**19 13 54.8**	**+0.2**
FNA	**Florina**	**36.34**	**326**	P	**P**	**19 14 02.1**	**+1.3**
KK31	**Karatay Array**	**36.71**	**29**	P	**P**	**19 14 04.7**	**+0.8**
KKAR	**Karatay Array**	**36.71**	**29**	P	**P**	**19 14 04.4**	**+0.4**
KKAR	**Karatay Array**	**36.71**	**29**	P	**P**	**19 14 04.8**	**+0.8**
KKAR				IAmb	IAmb	19 14 33.6	
comp=Z,2.4nm,1.3s							
SCTE	**Santa Cesarea**	**37.52**	**323**	P	**P**	**19 14 12.1**	**+1.3**
ABKAR	**Akbulak array**	**38.32**	**13**	P	**P**	**19 14 17.4**	**0.0**
ABKAR	**Akbulak array**	**38.32**	**13**	P	**P**	**19 14 17.8**	**+0.3**
ABKAR				IAmb	IAmb	19 14 18.9	
comp=Z,4.0nm,0.8s							
AAK	**Ala-Archa**	**38.38**	**33**	P	**P**	**19 14 18.5**	**+0.3**
NRN	**Naryn**	**38.40**	**36**	P	**P**	**19 14 19.7**	**+1.0**
NRN				IAmb	IAmb	19 14 32.6	
comp=Z,5.4nm,1.1s							
BOOM	**Boomskoye usch**	**39.06**	**34**	P	**P**	**19 14 23.8**	**-0.2**
BURAR	**Bucovina Array**	**39.74**	**337**	P	**P**	**19 14 30.1**	**+0.5**
BUR08	**Bucovina Ar. S**	**39.78**	**337**	P	**P**	**19 14 30.6**	**+0.7**
AKASG	**Malin Array Be**	**41.03**	**343**	P	**P**	**19 14 39.6**	**-0.4**
comp=Z,0.2nm,0.3s,baz=166,slow=7.5,SNR=1.4							
comp=Z,0.2nm,0.3s							
POGA	**Pongola**	**42.19**	**201**	P	**P**	**19 14 50.1**	**+0.3**
POGA				IAmb	IAmb	19 14 55.9	
comp=Z,6.4nm,1.1s							
PSZ	**Piszkesteto**	**42.22**	**333**	P	**P**	**19 14 51.2**	**+1.3**
PSZ				IAmb	IAmb	19 14 55.7	
comp=Z,4.6nm,0.8s							
KWP	**Kalwaria Pacla**	**42.36**	**336**	P	**P**	**19 14 51.1**	**+0.1**
TOA0	**Torodi Ar. Sit**	**44.38**	**276**	P	**P**	**19 15 08.6**	**+0.8**
TOA0				IAmb	IAmb	19 15 30.9	
comp=Z,5.4nm,1.4s							
TORD	**Torodi Ar. Bea**	**44.38**	**276**	P	**P**	**19 15 08.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**44.38**	**276**	P	**P**	**19 15 07.4**	**-0.4**
comp=Z,0.9nm,0.8s,baz=82,slow=7.3,SNR=3.8							
comp=Z,0.9nm,0.8s							
BVAR	**Borovoye Array**	**44.64**	**20**	P	**P**	**19 15 09.2**	**-0.1**
comp=Z,1.1nm,0.7s,baz=212,slow=8.0,SNR=4.4							
comp=Z,1.1nm,0.7s							
CLUD	**Cludinico**	**44.70**	**326**	P	**P**	**19 15 10.3**	**+0.3**
CLUD				IAmb	IAmb	19 15 11.8	
comp=Z,3.8nm,0.9s							
ARU	**Arti**	**44.90**	**9**	P	**P**	**19 15 10.8**	**-0.5**
ARU				IAmb	IAmb	19 15 12.2	
comp=Z,4.8nm,0.8s							
MAKZ	**Makanchi**	**45.13**	**34**	P	**P**	**19 15 12.5**	**-0.9**
MAKZ				IAmb	IAmb	19 15 19.0	
comp=Z,3.0nm,0.9s							
CTI	**Castel Tesino**	**45.13**	**325**	P	**P**	**19 15 12.8**	**-0.7**
CTI				IAmb	IAmb	19 15 24.7	
comp=Z,2.6nm,0.9s							
MK31	**Makanchi Array**	**45.29**	**34**	P	**P**	**19 15 13.9**	**-0.7**
MK31				IAmb	IAmb	19 15 17.5	
comp=Z,3.6nm,1.0s							
MKAR	**Makanchi Array**	**45.29**	**34**	P	**P**	**19 15 14.1**	**-0.6**
MKAR	**Makanchi Array**	**45.29**	**34**	P	**P**	**19 15 13.3**	**-1.3**
comp=Z,1.9nm,0.8s,baz=224,slow=6.8,SNR=9.4							
comp=Z,1.9nm,0.8s							
GERES	**GERESS Array B**	**45.81**	**329**	P	**P**	**19 15 17.8**	**-1.0**
comp=Z,0.7nm,0.7s,baz=123,slow=7.2,SNR=4.6							
comp=Z,0.7nm,0.7s							
BOSA	**Boshof**	**45.89**	**207**	P	**P**	**19 15 21.5**	**+1.8**
KURBB	**Kurchatov Arra**	**45.96**	**27**	P	**P**	**19 15 19.2**	**-0.6**
comp=Z,1.7nm,0.8s,baz=227,slow=7.9,SNR=6.8							
comp=Z,1.7nm,0.8s							
WMQ	**Urumqi**	**46.82**	**40**	*e*P	**P**	**19 15 29.6**	**+2.8**
CLL	**Collm**	**47.78**	**332**	*e*P	**P**	**19 15 35.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**50.10**	**76**	P	**P**	**19 15 50.9**	**-1.5**
comp=Z,0.8nm,0.8s,baz=272,slow=8.9,SNR=5.6							
comp=Z,0.8nm,0.8s							
ZAA0	**Zalesovo Array**	**51.06**	**28**	P	**P**	**19 15 57.2**	**-1.8**
ZALV	**Zalesovo Beam**	**51.06**	**28**	P	**P**	**19 15 57.1**	**-1.9**
ZALV	**Zalesovo Beam**	**51.06**	**28**	P	**P**	**19 15 57.5**	**-1.6**
comp=Z,1.6nm,0.6s,baz=227,slow=9.0,SNR=7.7							
comp=Z,1.6nm,0.6s							
FINES	**FINESS Array B**	**51.42**	**347**	P	**P**	**19 16 00.5**	**-1.1**
FINES	**FINESS Array B**	**51.42**	**347**	P	**P**	**19 16 01.2**	**-0.3**
comp=Z,1.6nm,0.7s,baz=155,slow=9.9,SNR=4.0							
comp=Z,1.6nm,0.7s							
PZH	**PanZhiHua**	**52.95**	**66**	P	**P**	**19 16 15.5**	**+1.7**
PZH				pmax	pmax		
comp=Z,10.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,280nm,4.8s							
GTA	**Gaotai**	**53.56**	**50**	*e*P	**P**	**19 16 18.5**	**+0.4**
GTA				pP	pwP	19 16 23.3	+0.2
GTA				pmax	pmax		
comp=Z,2.0nm,0.8s							
SONM	**Songino Array**	**60.40**	**42**	P	**P**	**19 17 05.7**	**-0.7**
SONM				IAmb	IAmb	19 17 10.9	
comp=Z,3.3nm,1.4s							
SONM	**Songino Array**	**60.40**	**42**	P	**P**	**19 17 06.5**	**+0.1**
comp=Z,1.3nm,0.8s,baz=239,slow=7.4,SNR=8.3							
comp=Z,1.3nm,0.8s							
ULN	**Ulaanbaatar**	**60.83**	**42**	P	**P**	**19 17 08.9**	**-0.5**
ULN				IAmb	IAmb	19 17 13.9	
comp=Z,3.5nm,1.2s							
ASCN	**Ascension**	**64.44**	**255**	P	**P**	**19 17 33.4**	**-0.4**
KNRA	**Kununurra**	**85.31**	**107**	P	**P**	**19 19 34.7**	**+0.2**
SNAA	**Sanae**	**90.13**	**194**	P	**P**	**19 19 57.7**	**+1.0**
comp=Z,1.0nm,0.9s,baz=60,slow=4.8,SNR=3.6							
SNAA				LR	LR	19 54 29.5	
comp=Z,29nm,21.8s,baz=3.5,slow=32							
comp=Z,1.0nm,0.9s							
WRA	**Warramunga Arr**	**91.45**	**110**	P	**P**	**19 20 04.1**	**+0.3**
comp=Z,0.8nm,0.8s,baz=294,slow=4.2,SNR=6.3							
comp=Z,0.8nm,0.8s							
ASAR	**Alice Springs**	**91.86**	**114**	P	**P**	**19 20 07.4**	**+1.7**
comp=Z,0.2nm,0.7s,baz=297,slow=5.0,SNR=1.9							
comp=Z,0.2nm,0.7s							

*IDC **13** 19:18:46.7±0.8, 12°.39N×47°.29E, h0km, mb3.9/17, mbtmp3.9/18, ML2.9/2, MS3.7/8, Error ellipse: s-maj=20.5km s-min=17.3km az=174.0*
*NEIC **13** 19:18:49.6±2.3, 12°.35N±0°.09×47°.24E±0°.09, h10km±1km, mb4.2/45, Error ellipse: s-maj=17.0km s-min=13.6km az=141.0*

ISC 13 18:49.4±0.4, 12°.37N±0°.07×47°.26E±0°.07, h14km, n83, σ1§12/77, mb4.2/36, MS3.7/7, 4C, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**4.40**	**260**		**Pn**	**19 19 54.3**	**-1.6**
ATD	**Arta Tunnel**	**4.40**	**260**	Pn	**Pn**	**19 19 55.3**	**-0.6**
0.1nm,0.3s,baz=62,slow=14,SNR=19							
LODK	**Lodwar**	**14.75**	**234**		**Pn**	**19 22 18.7**	**+0.8**
UOSS	**Minazif**	**15.10**	**33**		**Pn**	**19 22 21.3**	**-1.2**
WSAR	**Wadi Sarin**	**15.29**	**43**	Pn	**Pn**	**19 22 24.6**	**-0.5**
0.3nm,0.3s,baz=245,slow=7.8,SNR=6.2							
WSAR				LR	LR	19 27 48.4	
comp=Z,102nm,19.6s,baz=230,slow=36							
4.6nm,0.9s							
KMBO	**Kilima Mbogo**	**16.68**	**217**	Pn	**Pn**	**19 22 41.1**	**-2.2**
MSEY	**Mahe Island**	**18.80**	**154**	P	**P**	**19 23 08.4**	**-0.4**
MSEY				IAmb	IAmb	19 23 13.2	
comp=Z,21nm,1.2s							
MBAR	**Mbarara**	**20.85**	**233**	P	**P**	**19 23 31.3**	**0.0**
ASF	**Jabal al Asfar**	**21.89**	**336**	P	**P**	**19 23 42.5**	**+0.2**
comp=Z,2.9nm,0.9s,baz=178,slow=3.2,SNR=4.7							
comp=Z,2.9nm,0.9s							
HRA	**Herat**	**25.81**	**29**	P	**P**	**19 24 20.4**	**-0.1**
HRA				IAmb	IAmb	19 24 24.3	
comp=Z,8.2nm,1.0s							
GURO	**Guroymak-BITLI**	**26.49**	**351**	P	**P**	**19 24 27.5**	**+1.0**
GURO				IAmb	IAmb	19 24 47.4	
comp=Z,5.7nm,1.2s							
GEYT	**Alibeck**	**27.24**	**19**	P	**P**	**19 24 34.2**	**+0.9**
GEYT	**Alibeck**	**27.24**	**19**	P	**P**	**19 24 34.0**	**+0.8**
comp=Z,2.2nm,0.8s,baz=209,slow=7.6,SNR=4.7							
GEYT				LR	LR	19 37 09.4	
comp=Z,245nm,20.4s,baz=230,slow=40							
comp=Z,2.2nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**27.24**	**19**	P	**P**	**19 24 34.5**	**+1.3**
GYA0B				IAmb	IAmb	19 25 06.2	
comp=Z,3.8nm,0.8s							
GNI	**Garni**	**27.76**	**356**	P	**P**	**19 24 39.3**	**+1.3**
GNI				IAmb	IAmb	19 24 53.6	
comp=Z,6.5nm,1.0s							
ELL	**Elmali**	**28.85**	**330**	P	**P**	**19 24 49.3**	**+1.5**
AKH	**Akhalkalaki**	**29.12**	**354**	P	**P**	**19 24 51.1**	**+1.0**
BRTR	**Keskin Array B**	**29.79**	**339**	P	**P**	**19 24 56.1**	**+0.1**
BRTR	**Keskin Array B**	**29.79**	**339**	P	**P**	**19 24 57.1**	**+1.1**
comp=Z,0.4nm,0.7s,baz=173,slow=14,SNR=3.9							
comp=Z,0.4nm,0.7s							
KIV	**Kislovodsk**	**31.72**	**354**	P	**P**	**19 25 14.9**	**+2.0**
LSZ	**Lusaka**	**33.33**	**215**	LR	LR	19 39 00.7	
comp=Z,105nm,19.2s,baz=34,slow=36							
RDO	**Rodhopi**	**34.41**	**330**	P	**P**	**19 25 38.6**	**+2.2**
RDO				IAmb	IAmb	19 25 40.8	
comp=Z,5.9nm,1.2s							
BTK	**Batken**	**34.53**	**33**	P	**P**	**19 25 38.6**	**+1.1**
BTK				IAmb	IAmb	19 25 56.4	
comp=Z,3.6nm,0.8s							
AGG	**Agios Georgios**	**34.55**	**325**	P	**P**	**19 25 39.2**	**+1.5**
AGG				IAmb	IAmb	19 25 39.5	
comp=Z,2.5nm,0.9s							
KK31	**Karatay Array**	**36.64**	**29**	P	**P**	**19 25 57.2**	**+1.7**
KKAR	**Karatay Array**	**36.64**	**29**	P	**P**	**19 25 56.9**	**+1.3**
KKAR	**Karatay Array**	**36.64**	**29**	P	**P**	**19 25 56.8**	**+1.2**
KKAR				IAmb	IAmb	19 26 03.3	
comp=Z,2.1nm,1.1s							
ABKAR	**Akbulak array**	**38.25**	**13**	P	**P**	**19 26 09.0**	**0.0**
ABKAR				IAmb	IAmb	19 26 14.3	
comp=Z,5.5nm,0.9s							
ABKAR	**Akbulak array**	**38.25**	**13**	P	**P**	**19 26 09.4**	**+0.3**
AAK	**Ala-Archa**	**38.31**	**33**	P	**P**	**19 26 11.0**	**+1.1**
NRN	**Naryn**	**38.33**	**36**	P	**P**	**19 26 10.9**	**+0.7**
NRN				IAmb	IAmb	19 26 16.6	
comp=Z,4.2nm,1.0s							
CUC	**Castrocucco**	**39.05**	**320**	P	**P**	**19 26 16.0**	**0.0**
CUC				IAmb	IAmb	19 26 50.2	
comp=Z,5.0nm,1.0s							
DIVS	**Divibare**	**39.35**	**329**	P	**P**	**19 26 18.4**	**-0.1**
TARG	**Taragay, Kyrgy**	**39.56**	**37**	P	**P**	**19 26 20.2**	**-0.5**
TARG				IAmb	IAmb	19 26 29.8	
comp=Z,5.7nm,0.9s							
BURAR	**Bucovina Array**	**39.70**	**337**	P	**P**	**19 26 21.3**	**0.0**
AKASG	**Malin Array Be**	**40.97**	**343**	P	**P**	**19 26 30.9**	**-0.8**
comp=Z,0.3nm,0.5s,baz=161,slow=7.5,SNR=5.4							
comp=Z,0.3nm,0.5s							
TAM	**Tamanrasset**	**40.99**	**291**	P	**P**	**19 26 32.5**	**0.0**
TSUM	**Tsumeb**	**42.88**	**223**	LR	LR	19 43 29.6	
comp=Z,65nm,18.4s,baz=348,slow=34							
TOA0	**Torodi Ar. Sit**	**44.40**	**276**	P	**P**	**19 27 00.5**	**+0.4**
TOA0				IAmb	IAmb	19 27 05.9	
comp=Z,4.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**44.40**	**276**	P	**P**	**19 27 00.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**44.40**	**276**	P	**P**	**19 26 59.2**	**-0.9**
comp=Z,2.2nm,0.7s,baz=84,slow=7.6,SNR=14							
comp=Z,2.2nm,0.7s							
BRVK	**Borovoye**	**44.57**	**20**	P	**P**	**19 27 00.8**	**-0.1**
BRVK				IAmb	IAmb	19 27 23.4	
comp=Z,4.6nm,1.4s							
BVAR	**Borovoye Array**	**44.57**	**20**	P	**P**	**19 26 59.1**	**-1.8**
comp=Z,0.9nm,0.6s,baz=199,slow=3.1,SNR=5.2							
comp=Z,0.9nm,0.6s							
MORC	**Moravsky Berou**	**44.59**	**333**	P	**P**	**19 27 01.5**	**+0.3**
MORC				IAmb	IAmb	19 27 03.9	
comp=Z,4.3nm,1.3s							
ARU	**Arti**	**44.83**	**9**	P	**P**	**19 27 03.0**	**+0.1**
ARU				IAmb	IAmb	19 27 04.8	
comp=Z,4.5nm,0.9s							
MAKZ	**Makanchi**	**45.06**	**34**	P	**P**	**19 27 05.4**	**+0.4**
MAKZ				IAmb	IAmb	19 27 16.2	
comp=Z,4.8nm,1.1s							
MK31	**Makanchi Array**	**45.23**	**34**	P	**P**	**19 27 05.4**	**-0.9**
MK31				IAmb	IAmb	19 27 08.4	
comp=Z,2.8nm,0.8s							
MKAR	**Makanchi Array**	**45.23**	**34**	P	**P**	**19 27 06.0**	**-0.3**
MKAR	**Makanchi Array**	**45.23**	**34**	P	**P**	**19 27 05.5**	**-0.8**
comp=Z,1.9nm,0.7s,baz=217,slow=7.7,SNR=14							
comp=Z,1.9nm,0.7s							
SUW	**Suwalki**	**45.71**	**340**	P	**P**	**19 27 09.1**	**-0.9**
GEC2	**GERESS Array S**	**45.76**	**329**	P	**P**	**19 27 09.4**	**-1.2**
GERES	**GERESS Array B**	**45.76**	**329**	P	**P**	**19 27 08.8**	**-1.7**
GERES	**GERESS Array B**	**45.76**	**329**	P	**P**	**19 27 08.2**	**-2.4**
comp=Z,0.6nm,0.6s,baz=130,slow=9.1,SNR=4.5							
comp=Z,0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**45.89**	**27**	P	**P**	**19 27 09.6**	**-1.9**
comp=Z,1.9nm,0.9s,baz=228,slow=7.9,SNR=14							
comp=Z,1.9nm,0.9s							
BOSA	**Boshof**	**45.96**	**207**	P	**P**	**19 27 12.2**	**-0.2**
BOSA	**Boshof**	**45.96**	**207**	LR	LR	19 45 38.5	
comp=Z,137nm,19.1s,baz=10,slow=35							
KURK	**Kurchatov**	**46.00**	**27**	P	**P**	**19 27 10.9**	**-1.3**
KURK				IAmb	IAmb	19 27 14.1	
comp=Z,3.6nm,0.9s							
CM31	**Chiang Mai Arr**	**50.06**	**76**	P	**P**	**19 27 45.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**50.06**	**76**	P	**P**	**19 27 42.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**50.06**	**76**	P	**P**	**19 27 43.2**	**-1.0**
comp=Z,1.4nm,1.0s,baz=273,slow=8.1,SNR=8.7							
comp=Z,1.4nm,1.0s							
ZAA0	**Zalesovo Array**	**50.99**	**28**	P	**P**	**19 27 49.4**	**-1.3**
ZAA0				IAmb	IAmb	19 27 51.5	
comp=Z,3.0nm,1.1s							
ZALV	**Zalesovo Beam**	**50.99**	**28**	P	**P**	**19 27 50.0**	**-0.7**
ZALV	**Zalesovo Beam**	**50.99**	**28**	P	**P**	**19 27 49.2**	**-1.5**
comp=Z,1.9nm,0.6s,baz=227,slow=8.7,SNR=5.5							
comp=Z,1.9nm,0.6s							
SUR	**Sutherland**	**51.18**	**209**	LR	LR	19 49 08.4	
comp=Z,69nm,18.8s,baz=126,slow=36							
FINES	**FINESS Array B**	**51.36**	**347**	P	**P**	**19 27 52.8**	**-0.6**
comp=Z,2.2nm,0.9s,baz=153,slow=16,SNR=3.4							
comp=Z,2.2nm,0.9s							
ESDC	**Sonseca Array**	**52.58**	**311**	P	**P**	**19 28 02.1**	**-0.8**
comp=Z,0.8nm,1.1s,baz=94,slow=9.2,SNR=3.9							
comp=Z,0.8nm,1.1s							
NOA	**NORSAR Array B**	**55.22**	**340**	LR	LR	19 54 44.4	
comp=Z,50nm,19.0s,baz=245,slow=39							
SONM	**Songino Array**	**60.33**	**42**	P	**P**	**19 28 58.2**	**+0.1**
SONM	**Songino Array**	**60.33**	**42**	P	**P**	**19 28 57.0**	**-1.1**
comp=Z,1.3nm,1.0s,baz=252,slow=8.1,SNR=7.2							
comp=Z,1.3nm,1.0s							
MMRI	**Maumere**	**77.37**	**102**	P	**P**	**19 30 44.6**	**0.0**
NWAO	**Narrogin (SRO)**	**80.43**	**127**	P	**P**	**19 31 00.9**	**-0.1**
JMN	**Monobe**	**80.47**	**58**	P	**P**	**19 31 01.6**	**+0.2**
MAW	**Mawson**	**80.56**	**174**	P	**P**	**19 31 02.8**	**+1.9**
MAW	**Mawson**	**80.56**	**174**	LR	LR	20 02 28.6	
comp=Z,47nm,18.4s,baz=304,slow=32							
KNRA	**Kununurra**	**85.30**	**107**	P	**P**	**19 31 26.0**	**-0.7**
SAUI	**Saumlaki**	**85.92**	**99**	P	**P**	**19 31 28.7**	**-1.1**
TROLL	**Troll, Antarti**	**89.23**	**193**	⇑P	**P**	**19 31 47.3**	**+2.6**
comp=Z,173nm,1.1s							
SNAA	**Sanae**	**90.20**	**194**	⇑P	**P**	**19 31 49.9**	**+0.8**
SNAA	**Sanae**	**90.20**	**194**	P	**P**	**19 31 49.6**	**+0.5**
comp=Z,1.3nm,0.8s,baz=106,slow=8.1,SNR=5.4							
comp=Z,1.3nm,0.8s							
VNA2	**Neumayer--Watz**	**90.86**	**196**	⇑P	**P**	**19 31 53.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.30**	**340**	*e*P	**Pg**	**20 09 54.9**	**-0.4**
GTBY	**Guantanamo Bay**	**0.49**	**64**	*e*P	**Pb**	**20 09 59.1**	**+0.5**
GTBY				*e*S	**Pn**	**20 10 05.8**	**+5.2**
GTBY				IAML		20 10 06.4	
	comp=Z,1μm,0.2s						
GTBY				IAML		20 10 06.5	
	2μm,0.2s						
GTBY	**Guantanamo Bay**	**0.49**	**64**	*i* P	Pn	20 10 05.8	+5.2
GTBY				*i* P	Pg	20 10 06.0	+7.4
GTBY	**Guantanamo Bay**	**0.49**	**64**	*i* P	**Pb**	**20 09 59.1**	**+0.5**
GTBY				*e*S	**Sg**	**20 10 05.4**	**0.0**
GTBY				IAML		20 10 06.3	
	comp=Z,985nm,0.2s						
GTMO	**Guantanamo**	**0.56**	**49**	*e*P	**Pb**	**20 10 00.2**	**+0.6**
HLGC	**Holguin**	**1.26**	**339**	*e*P	**Pb**	**20 10 12.0**	**+0.4**
MASC	**Masc**	**1.35**	**70**	*i* P	**Pn**	**20 10 11.4**	**-1.0**
MASC				*e*S	**Sn**	**20 10 28.1**	**-1.7**
MASC				IAML		20 10 32.2	
	comp=Z,181nm,0.3s						
GWJ	**Greenwich**	**1.96**	**214**	*i* P	**Pn**	**20 10 21.6**	**+0.8**
STH	**Stony Hill**	**2.00**	**216**	*i* P	**Pn**	**20 10 22.1**	**+0.8**
HOJ	**Hope**	**2.02**	**213**	*i* P	**Pn**	**20 10 22.3**	**+0.7**
MTDJ	**Mount Denham**	**2.36**	**232**	*e*P	**Pn**	**20 10 26.8**	**+0.4**
MTDJ				*e*S	**Sn**	**20 10 53.9**	**-1.1**
MTDJ				IAML		20 10 55.5	
	comp=Z,38nm,0.4s						
MTDJ				IAML		20 10 55.9	
	comp=Z,46nm,0.3s						
MTDJ	**Mount Denham**	**2.36**	**232**	*i* P	**Pn**	**20 10 27.2**	**+0.8**
MTDJ				*i* S	**Sn**	**20 10 54.3**	**-0.7**
MTDJ	**Mount Denham**	**2.36**	**232**	*i* P	**Pn**	**20 10 26.9**	**+0.4**
MTDJ				*e*S	**Sn**	**20 10 54.0**	**-1.0**
MTDJ				IAML		20 11 00.5	
	comp=Z,26nm,1.9s						

*IDC **13** 20:43:58.1±2.4, 7°.60S×129°.76E, h83^{km}±23^{km}, mb3.6/5, mbtmp4.0/9, MS3.5/2, Error ellipse: s-maj=36.4km s-min=23.4km az=84.0*

*NEIC **13** 20:43:58.2±2.5, 7°.57S±0°.06×129°.70E±0°.05, h119^{km}±9^{km}, mb4.0/7, Error ellipse: s-maj=9.8km s-min=4.6km az=213.0*

ISC 13 20:43:58.3±0.6, 7°.58S±0°.05×129°.68E±0°.05, h100^{km}, n54, σ1^{s}76/56, mb3.8/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.66**	**104**		**Pn**	**20 44 27.8**	**+1.3**
SAUI				Sn	**Sn**	**20 44 49.5**	**+1.5**
SAUI	**Saumlaki**	**1.66**	**104**	P	**Pn**	**20 44 28.7**	**+2.2**
BNDI	**Bandanaira**	**3.04**	**4**	P	**Pn**	**20 44 45.1**	**+0.4**
FAKI	**Fak Fak**	**5.29**	**29**		**Pn**	**20 45 14.1**	**-0.9**
FAKI				Sn	**Sn**	**20 46 09.9**	**-4.8**
FAKI	**Fak Fak**	**5.29**	**29**	P	**Pn**	**20 45 14.5**	**-0.5**
MTN	**Manton Dam**	**5.43**	**165**		**Pn**	**20 45 18.3**	**+1.4**
MTN				Sn	**Sn**	**20 46 16.5**	**-1.6**
MTN	**Manton Dam**	**5.43**	**165**	P	**Pn**	**20 45 18.6**	**+1.7**
SOEI	**Soe**	**5.77**	**248**		**Pn**	**20 45 22.4**	**+0.7**
SOEI	**Soe**	**5.77**	**248**	P	**Pn**	**20 45 22.4**	**+0.7**
KDU	**Kakadu**	**5.78**	**152**	P	**Pn**	**20 45 22.1**	**+0.5**
BATI	**Baumata**	**6.49**	**246**	P	**Pn**	**20 45 32.4**	**+1.0**
	48nm,0.4s,baz=90,slow=7.1,SNR=16						
BATI				S	**Sn**	**20 46 41.5**	**-2.5**
	34nm,0.4s,baz=206,slow=19,SNR=1.8						
SIJI	**Sorong**	**6.85**	**13**	P	**Pn**	**20 45 37.1**	**+0.9**
	4.0nm,0.3s,baz=187,slow=19,SNR=19						
SIJI				S	**Sn**	**20 46 50.7**	**-2.0**
	12nm,0.2s,baz=254,slow=23,SNR=9.9						
MMRI	**Maumere**	**7.44**	**261**	Pn	**Pn**	**20 45 44.5**	**+0.3**
KNRA	**Kununurra**	**8.10**	**186**		**Pn**	**20 45 53.3**	**0.0**
KNRA	**Kununurra**	**8.10**	**186**	P	**Pn**	**20 45 53.6**	**+0.4**
PLAI	**Plampang**	**11.85**	**263**	P	**Pn**	**20 46 44.5**	**+0.4**
WB0	**Warramunga Arr**	**12.95**	**160**		**Pn**	**20 46 56.2**	**-2.5**
WRAB	**Tennant Creek**	**13.09**	**160**	Pn	**Pn**	**20 46 58.1**	**-2.4**
WRA	**Warramunga Arr**	**13.10**	**160**		**Pn**	**20 46 57.1**	**-3.5**
WRA	**Warramunga Arr**	**13.10**	**160**	P	**Pn**	**20 46 58.5**	**-2.1**
	3.1nm,0.6s,baz=336,slow=13,SNR=45						
WRA				S	Sn	20 49 14.5	-10
	4.4nm,0.6s,baz=337,slow=21,SNR=11						
WB2	**Warramunga Arr**	**13.10**	**160**		**Pn**	**20 46 58.1**	**-2.6**
WR0	**Warramunga Arr**	**13.18**	**160**		**Pn**	**20 46 59.6**	**-2.1**
BKB	**Balikpapan**	**14.20**	**296**	Pn	**Pn**	**20 47 13.4**	**-1.5**
COEN	**Coen**	**14.69**	**117**	Pn	**Pn**	**20 47 19.5**	**-1.8**
COEN	**Coen**	**14.69**	**117**	P	**P**	**20 47 24.3**	**-0.5**
JAGI	**Jajag, Banyuwa**	**15.40**	**266**	P	**Pn**	**20 47 29.8**	**-0.4**
QIS	**Mount Isa**	**16.09**	**144**	P	**Pn**	**20 47 39.0**	**+0.2**
AS31	**Alice Springs**	**16.51**	**166**	P	**Pn**	**20 47 42.1**	**-1.9**
ASAR	**Alice Springs**	**16.51**	**166**		**Pn**	**20 47 42.4**	**-1.5**
ASAR	**Alice Springs**	**16.51**	**166**	P	**Pn**	**20 47 44.2**	**+0.2**
	0.8nm,0.5s,baz=352,slow=12,SNR=29						
ASAR				S	Sn	20 50 36.2	-11
	1.8nm,0.6s,baz=347,slow=25,SNR=5.6						
MBWA	**Marble Bar**	**16.58**	**214**	P	**P**	**20 47 46.3**	**+0.7**
PSA00	**Pilbara Seismi**	**16.84**	**213**	P	**Pn**	**20 47 46.2**	**-1.9**
PSA00				IAmb	IAmb	20 47 55.7	
	comp=Z,9.1nm,0.9s						
PSA00	**Pilbara Seismi**	**16.84**	**213**	P	**Pn**	**20 47 46.1**	**-2.0**
PSA00				IAmb	IAmb	20 48 09.7	
	comp=Z,9.7nm,1.4s						
PSA00	**Pilbara Seismi**	**16.84**	**213**	P	**Pn**	**20 47 48.3**	**+0.2**
WRKA	**Warakurna**	**17.41**	**184**	P	**Pn**	**20 47 56.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**39.86**	**311**	P	**P**	**20 51 24.4**	**+1.9**
	comp=Z,0.9nm,0.7s,baz=144,slow=7.5,SNR=8.7						
	comp=Z,0.9nm,0.7s						
URZ	**Urewera**	**52.51**	**133**	LR	LR	21 16 16.2	
	comp=Z,36nm,18.8s,baz=31,slow=37						
TAPN	**Taplejung**	**53.43**	**312**	*e*P	**P**	**20 53 10.0**	**+1.4**
	comp=Z,6.9nm,0.4s						
RAMN	**Ramite**	**54.03**	**311**	*e*P	**P**	**20 53 15.0**	**+2.0**
	comp=Z,11nm,0.6s						
GUN	**Gumba**	**55.09**	**312**	*e*P	**P**	**20 53 22.2**	**+1.5**
	comp=Z,8.0nm,0.5s						
PKI	**Pulchoki**	**55.26**	**311**	*e*P	**P**	**20 53 23.0**	**+1.1**
	comp=Z,3.3nm,0.5s						
GKN	**Gorkha**	**56.06**	**311**	*e*P	**P**	**20 53 28.7**	**+1.2**
	comp=Z,5.4nm,0.3s						
PYUN	**Piuthan**	**57.35**	**310**	*e*P	**P**	**20 53 38.4**	**+1.7**
	comp=Z,3.2nm,0.5s						
CASY	**Casey**	**60.09**	**189**	P	P	20 53 48.7	-6.0
CASY				IAmb	IAmb	20 53 59.0	
	comp=Z,4.2nm,1.4s						
MK31	**Makanchi Array**	**68.53**	**327**	P	**P**	**20 54 49.7**	**-0.5**
MK31				IAmb	IAmb	20 54 55.5	
	comp=Z,1.2nm,0.9s						
MKAR	**Makanchi Array**	**68.53**	**327**	P	**P**	**20 54 48.9**	**-1.2**
MKAR	**Makanchi Array**	**68.53**	**327**	P	**P**	**20 54 51.9**	**+1.7**
	comp=Z,1.0nm,0.5s,baz=118,slow=8.5,SNR=19						
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**68.71**	**327**	P	**P**	**20 54 49.0**	**-2.3**
MAKZ				IAmb	IAmb	20 54 49.9	
	comp=Z,5.4nm,1.4s						
ZALV	**Zalesovo Beam**	**71.95**	**334**	P	**P**	**20 55 12.3**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=124,slow=7.7,SNR=3.9						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**72.83**	**329**	P	**P**	**20 55 17.9**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=130,slow=4.5,SNR=6.3						
	comp=Z,0.6nm,0.4s						
BVAR	**Borovoye Array**	**78.38**	**328**	P	**P**	**20 55 49.5**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=141,slow=9.3,SNR=2.4						
	comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**82.76**	**322**	P	**P**	**20 56 12.7**	**+1.5**
AKTO	**Aktyubinsk**	**84.33**	**322**	LR	LR	21 40 53.4	
	comp=Z,29nm,18.1s,baz=175,slow=40						
TORD	**Torodi Ar. Bea**	**128.60**	**281**	PKP	**PKiKP**	**21 02 58.5**	**+3.0**
	comp=Z,0.3nm,0.6s,baz=89,slow=3.4,SNR=5.2						

*GUC **13** 21:30:46.6±0.8, 21°.76S×67°.52W, h239^{km}±11^{km}, ML3.6*

*SCB **13** 21:30:46.5±1.1, 21°.78S×67°.20W, h184^{km}±9^{km}, ML3.3/3, MW3.3, Error ellipse: s-maj=4.3km s-min=3.2km az=0.0*

ISC 13 21:30:46.0±2.0, 21°.77S±0°.06×67°.20W±0°.05, h195^{km}±17^{km}, n20, σ1^{s}07/28, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.54**	**71**	Pg	**Pn**	**21 31 20.4**	**+0.2**
MOCB				Sg	**Sn**	**21 31 45.2**	**-1.4**
MOCB				IAML		21 31 46.2	
	130nm,0.8s						
YJA	**Yavi**	**1.62**	**105**	Pg	**Pn**	**21 31 21.3**	**+0.5**
PB09	**IPOC Station P**	**1.90**	**269**	Pg	**Pn**	**21 31 24.1**	**+0.8**
PB09	**IPOC Station P**	**1.90**	**269**	*e*P	**Pn**	**21 31 24.1**	**+0.8**
PB09				*i* S	**Sn**	**21 31 54.1**	**+1.9**
PB09				IAML		21 31 56.4	
	comp=E,90nm,0.1s						
PB01	**IPOC Station P**	**2.25**	**288**	Pg	**Pn**	**21 31 27.2**	**+0.3**
PB01	**IPOC Station P**	**2.25**	**288**	*e*P	**Pn**	**21 31 27.2**	**+0.3**
PB01				*i* S	**Sn**	**21 31 58.1**	**-0.6**
PB01				IAML		21 31 59.2	
	comp=N,542nm,0.3s						
PB06	**IPOC Station P**	**2.39**	**247**	Pg	**Pn**	**21 31 29.1**	**+0.6**
PB08	**IPOC Station P**	**2.44**	**311**	Pg	**Pn**	**21 31 30.1**	**+0.7**
PB08				Sg	**Sn**	**21 32 02.9**	**-0.1**
PB08				IAML		21 32 04.8	
	comp=N,51nm,0.5s						
PB08	**IPOC Station P**	**2.44**	**311**	*e*P	**Pn**	**21 31 30.3**	**+0.9**
PB08				*i* S	**Sn**	**21 32 04.0**	**+1.0**
PB08				IAML		21 32 05.2	
	comp=E,48nm,0.4s						
PB07	**IPOC Station P**	**2.50**	**271**	Pg	**Pn**	**21 31 30.1**	**+0.3**
PB07				Sg	**Sn**	**21 32 02.3**	**-1.5**
PB07				IAML		21 32 03.3	
	comp=E,178nm,0.2s						
PB07	**IPOC Station P**	**2.50**	**271**	*e*P	**Pn**	**21 31 30.0**	**+0.2**
PB07				*i* S	**Sn**	**21 32 02.2**	**-1.6**
PB07				IAML		21 32 03.2	
	comp=N,338nm,0.6s						
PB02	**IPOC Station P**	**2.55**	**280**	Pg	**Pn**	**21 31 30.5**	**+0.2**
GO01	**Chusmiza**	**2.80**	**318**	Pg	**Pn**	**21 31 34.5**	**+0.9**
TA01	**Diego Aracena**	**3.03**	**293**	*e*P	**Pn**	**21 31 35.1**	**-0.7**
TA01				*i* S	**Sn**	**21 32 11.8**	**-2.8**
TA01				IAML		21 32 13.4	
	comp=E,80nm,0.4s						
SLA	**San Lorenzo**	**3.33**	**152**	Pg	**Pn**	**21 31 40.6**	**+1.1**
SOTI	**Planta Incahua**	**3.84**	**60**	Pg	**Pn**	**21 31 45.8**	**0.0**
SOET	**ToroToro**	**3.86**	**20**	Pg	**Pn**	**21 31 46.6**	**+0.3**
GO02	**Mina Guanaco**	**4.03**	**213**	Pg	**Pn**	**21 31 48.3**	**0.0**
PB16	**IPOC Station P**	**4.05**	**327**	Pg	**Pn**	**21 31 49.8**	**+1.0**
LPAZ	**La Paz**	**5.52**	**351**	Pg	**Pn**	**21 32 08.6**	**+0.9**

IDC 13 21:37:26.8±67.0, 15°.24S×172°.49W, h0^{km}, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1304.0km s-min=197.2km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.88**	**240**	P	P	21 45 43.7	+0.3
	1.3nm,0.5s,baz=95,slow=11,SNR=4.7						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**50.74**	**257**	P	P	21 46 28.5	-0.5
	0.5nm,0.5s,baz=97,slow=6.9,SNR=11						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**51.00**	**252**	P	P	21 46 30.9	-0.1
	3.4nm,0.4s,baz=90,slow=7.5,SNR=72						
	3.4nm,0.4s						

*IDC **13** 21:47:37.4±3.2, 3°.67S×152°.13E, h0^{km}, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=75.3km s-min=32.0km az=84.0*

*NEIC **13** 21:47:38.2±2.3, 3°.58S±0°.05×152°.0E±0°.1, h10^{km}±1^{km}, mb4.5/16, Error ellipse: s-maj=23.0km s-min=6.4km az=74.0*

ISC 13 21:47:37.5±0.9, 3°.58S±0°.09×152°.0E±0°.1, h10^{km}, n23, σ1^{s}25/24, mb4.2/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.64**	**163**		**Pb**	**21 47 51.4**	**+0.6**
RABL				Sg	**Sg**	**21 47 58.7**	**+0.5**
KRVT	**Keravat (AS076**	**0.72**	**176**	Pn	**Pb**	**21 47 53.7**	**+1.5**
	338nm,0.3s,baz=141,slow=0.1,SNR=256						
COEN	**Coen**	**13.48**	**220**	Pn	**Pn**	**21 50 48.8**	**-0.2**
DZM	**Mont Dzumac**	**23.13**	**144**	P	**P**	**21 52 44.1**	**0.0**
DZM				IAmb	IAmb	21 52 54.8	
	comp=Z,6.9nm,0.9s						
WB0	**Warramunga Arr**	**23.52**	**225**	P	**P**	**21 52 48.5**	**+0.5**
WB0				IAmb	IAmb	21 52 52.4	
	comp=Z,6.7nm,1.0s						
WR0	**Warramunga Arr**	**23.54**	**225**	P	**P**	**21 52 48.0**	**-0.2**
WB2	**Warramunga Arr**	**23.66**	**225**	P	**P**	**21 52 49.7**	**+0.3**
WB2				IAmb	IAmb	21 52 52.9	
	comp=Z,9.0nm,1.1s						
WRA	**Warramunga Arr**	**23.67**	**225**	P	**P**	**21 52 49.4**	**-0.1**
WRA	**Warramunga Arr**	**23.67**	**225**	P	**P**	**21 52 51.9**	**+2.4**
	comp=Z,3.2nm,0.5s,baz=50,slow=9.7,SNR=19						
	comp=Z,3.2nm,0.5s						
PINNC	**Pines Island,**	**24.14**	**143**	P	**P**	**21 52 52.4**	**-1.4**
TNTI	**Ternate**	**24.97**	**280**	P	**P**	**21 53 02.3**	**+0.8**
TNTI				IAmb	IAmb	21 53 03.5	
	comp=Z,12nm,0.9s						
KNRA	**Kununurra**	**25.81**	**241**	P	**P**	**21 53 08.5**	**-0.6**
KNRA				IAmb	IAmb	21 53 18.7	
	comp=Z,5.2nm,0.8s						
AS31	**Alice Springs**	**26.52**	**220**	P	**P**	**21 53 16.9**	**+1.3**
ASAR	**Alice Springs**	**26.52**	**220**	P	**P**	**21 53 17.8**	**+2.3**
ASAR	**Alice Springs**	**26.52**	**220**	P	**P**	**21 53 17.2**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=54,slow=8.8,SNR=10						
	comp=Z,0.7nm,0.5s						
LHI	**Lord Howe Isla**	**28.58**	**167**	P	**P**	**21 53 32.5**	**-1.3**
STKA	**Stephens Creek**	**29.79**	**198**	P	**P**	**21 53 42.9**	**-1.7**
MMRI	**Maumere**	**29.98**	**259**	P	**P**	**21 53 46.8**	**+0.2**
TOLI2	**Tolitoli**	**31.52**	**278**	P	**P**	**21 53 58.8**	**-1.4**
TOLI2				IAmb	IAmb	21 54 00.1	
	comp=Z,12nm,1.0s						
CAN	**Canberra**	**31.70**	**185**	P	**P**	**21 54 00.3**	**-1.2**
O16K	**Kokwok River B**	**74.13**	**24**	P	**P**	**21 59 15.2**	**+1.3**
O16K				IAmb	IAmb	21 59 30.1	
	comp=Z,8.7nm,1.1s						
J18K	**Innoko River**	**77.01**	**21**	P	**P**	**21 59 30.8**	**+0.4**
J18K				IAmb	IAmb	21 59 47.9	
	comp=Z,9.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**149.13**	**290**	PKPbc	**PKPbc**	**22 07 28.3**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=88,slow=3.5,SNR=2.3						

*IDC **13** 22:03:56.3±52.0, 19°.71S×179°.50W, h0^{km}, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=936.0km s-min=158.0km az=81.0*

*NEIC **13** 22:04:21.3±1.1, 20°.2S±0°.3×177°.38W±0°.07, h395^{km}±16^{km}, mb4.0/17, Error ellipse: s-maj=38.3km s-min=6.4km az=191.0*

ISC 13 22:04:21.1±0.9, 20°.2S±0°.1×177°.4W±0°.1, h400^{km}, n27, σ1^{s}13/27, mb3.8/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.97**	**298**	Pn	**Pn**	**22 05 42.9**	**0.0**
NIUE	**Niue**	**7.09**	**83**	Pn	**Pn**	**22 06 05.9**	**+0.1**
AFI	**Afiamalu**	**8.19**	**42**		**Pn**	**22 06 18.3**	**-0.2**
MARNC	**Mare, Loyalty**	**13.72**	**262**	P	**P**	**22 07 19.7**	**-0.1**
PINNC	**Pines Island,**	**14.36**	**257**	P	**P**	**22 07 27.9**	**+1.2**
LIFNC	**LIFOU**	**14.44**	**265**	P	**P**	**22 07 26.4**	**-1.2**
DZM	**Mont Dzumac**	**15.23**	**260**	P	**P**	**22 07 37.2**	**+1.0**
RTZ	**Ruatahuna**	**19.03**	**194**	P	**P**	**22 08 15.2**	**-1.2**
RTZ				IAmb	IAmb	22 08 43.5	
	comp=Z,12nm,1.3s						
LTZ	**Lake Taylor**	**24.19**	**199**	P	**P**	**22 09 04.0**	**+0.6**
EIDS	**Eidsvold**	**29.51**	**254**	P	**P**	**22 09 50.9**	**+0.2**
EIDS				IAmb	IAmb	22 09 54.2	
	comp=Z,14nm,1.4s						
ARMA	**Armidale**	**29.75**	**244**	P	**P**	**22 09 51.0**	**-1.9**
CTAO	**Charters Tower**	**34.12**	**264**	P	**P**	**22 10 30.6**	**0.0**
CTAO				IAmb	IAmb	22 11 03.0	
	comp=Z,14nm,1.4s						
TOO	**Toolangi**	**36.58**	**234**	P	**P**	**22 10 50.6**	**-0.5**
TOO				IAmb	IAmb	22 11 12.8	
	comp=Z,15nm,1.3s						
STKA	**Stephens Creek**	**38.47**	**244**	P	**P**	**22 11 06.3**	**-0.4**
STKA	**Stephens Creek**	**38.47**	**244**	P	**P**	**22 11 06.6**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=74,slow=15,SNR=3.2						
	comp=Z,0.7nm,0.4s						
BBOO	**Buckleboo**	**43.23**	**243**	P	**P**	**22 11 44.5**	**-0.6**
WR0	**Warramunga Arr**	**45.05**	**262**	P	**P**	**22 11 58.7**	**-0.8**
AS31	**Alice Springs**	**45.18**	**256**	P	**P**	**22 12 00.3**	**-0.2**
ASAR	**Alice Springs**	**45.18**	**256**	P	**P**	**22 11 59.7**	**-0.8**
ASAR	**Alice Springs**	**45.18**	**256**	P	**P**	**22 12 00.5**	**0.0**
	comp=Z,1.8nm,0.4s,baz=84,slow=8.4,SNR=42						
	comp=Z,1.8nm,0.4s						
WB0	**Warramunga Arr**	**45.22**	**262**	P	**P**	**22 12 00.3**	**-0.5**
WB0				IAmb	IAmb	22 12 01.7	
	comp=Z,5.6nm,1.1s						
WB2	**Warramunga Arr**	**45.23**	**262**	P	**P**	**22 12 00.5**	**-0.4**
WB2				IAmb	IAmb	22 12 01.1	
	comp=Z,5.0nm,1.2s						
WRA	**Warramunga Arr**	**45.24**	**262**	P	**P**	**22 12 00.2**	**-0.8**
WRA	**Warramunga Arr**	**45.24**	**262**	P	**P**	**22 12 00.1**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=100,slow=7.6,SNR=16						
	comp=Z,1.2nm,0.5s						
KNRA	**Kununurra**	**51.28**	**266**	P	**P**	**22 12 46.0**	**-0.4**
KNRA				IAmb	IAmb	22 12 55.8	
	comp=Z,13nm,1.3s						
PSA00	**Pilbara Seismi**	**58.33**	**257**	P	**P**	**22 13 40.4**	**+4.1**
PSA00				IAmb	IAmb	22 14 13.7	
	comp=Z,4.3nm,1.4s						
MBWA	**Marble Bar**	**58.51**	**257**	P	**P**	**22 13 36.7**	**-0.9**
MBWA				IAmb	IAmb	22 14 15.4	
	comp=Z,10nm,1.2s						

*NEIC **13** 22:14:52.5±1.4, 18°.63S±0°.07×177°.6W±0°.2, h560^{km}±17^{km}, mb4.1/23, Error ellipse: s-maj=22.1km s-min=7.6km az=73.0*

*IDC **13** 22:14:55.3±1.6, 18°.71S×177°.87W, h579^{km}±17^{km}, mb3.3/8, mbtmp4.3/11, Error ellipse: s-maj=23.4km s-min=15.3km az=165.0*

ISC 13 22:14:52.6±0.6, 18°.83S±0°.1×177°.70W±0°.09, h550^{km}, n42, σ1^{s}22/44, mb4.1/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.17**	**284**	P	**P**	**22 16 18.8**	**+2.9**
MSVF	**Nonsavu**	**4.17**	**284**	P	**P**	**22 16 19.1**	**+3.3**
	32nm,0.8s,baz=126,slow=19,SNR=23						
NIUE	**Niue**	**7.36**	**94**	P	**P**	**22 16 41.9**	**-2.2**
AFI	**Afiamalu**	**7.46**	**51**	P	**P**	**22 16 44.0**	**-1.2**
DZM	**Mont Dzumac**	**15.22**	**255**	P	**P**	**22 18 03.7**	**-0.9**
DZM				IAmb	IAmb	22 18 03.7	
	comp=Z,6.1nm,1.0s						
DZM	**Mont Dzumac**	**15.22**	**255**	P	**P**	**22 18 04.9**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=90,slow=19,SNR=1.3						
RAR	**Rarotonga**	**17.02**	**101**	P	**P**	**22 18 24.9**	**+3.3**
	comp=Z,25nm,0.4s,baz=115,slow=8.3,SNR=5.2						
KHZ	**Kahutara**	**24.72**	**196**	P	**P**	**22 19 31.4**	**+0.7**
KHZ				IAmb	IAmb	22 19 38.9	
	comp=Z,5.6nm,1.1s						
GVZ	**Greta Valley S**	**25.37**	**196**	P	**P**	**22 19 36.2**	**-0.2**
LBZ	**Lake Benmore**	**27.48**	**199**	P	**P**	**22 19 55.3**	**+0.3**
LBZ				IAmb	IAmb	22 20 13.8	
	comp=Z,9.5nm,1.1s						
MLZ	**Mavora Lakes**	**29.03**	**201**	P	**P**	**22 20 09.4**	**+1.0**
DCZ	**Deep Cove**	**29.45**	**202**	P	**P**	**22 20 11.8**	**-0.3**
WHZ	**Wether Hill Ro**	**29.55**	**201**	P	**P**	**22 20 13.1**	**+0.2**
EIDS	**Eidsvold**	**29.62**	**252**	P	**P**	**22 20 12.4**	**-1.5**
EIDS				IAmb	IAmb	22 20 14.1	
	comp=Z,4.4nm,0.9s						
ARMA	**Armidale**	**30.11**	**241**	P	**P**	**22 20 18.7**	**+0.5**
ARMA				IAmb	IAmb	22 20 19.7	
	comp=Z,5.5nm,0.8s						
CAN	**Canberra**	**33.73**	**234**	P	**P**	**22 20 49.8**	**+0.9**
CAN				IAmb	IAmb	22 21 03.9	
	comp=Z,5.5nm,1.0s						
CTAO	**Charters Tower**	**33.98**	**262**	P	**P**	**22 20 50.8**	**-0.4**
TOO	**Toolangi**	**37.16**	**232**	P	**P**	**22 21 17.6**	**+0.3**
TOO				IAmb	IAmb	22 21 18.2	
	comp=Z,5.1nm,0.8s						
COEN	**Coen**	**37.79**	**271**	P	**P**	**22 21 22.3**	**-0.4**
COEN				IAmb	IAmb	22 21 23.2	
	comp=Z,7.2nm,0.8s						
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**22 21 30.9**	**+0.2**
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**22 21 31.0**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=91,slow=8.8,SNR=10.0						
	comp=Z,2.2nm,0.3s						
BBOO	**Buckleboo**	**43.59**	**242**	P	**P**	**22 22 08.0**	**-0.6**
WR0	**Warramunga Arr**	**44.96**	**260**	P	**P**	**22 22 18.3**	**-1.0**
WR0				IAmb	IAmb	22 22 21.9	
	comp=Z,2.4nm,0.8s						
WB0	**Warramunga Arr**	**45.12**	**261**	P	**P**	**22 22 19.4**	**-1.2**
WB0				IAmb	IAmb	22 22 20.0	
	comp=Z,5.7nm,0.5s						
WB2	**Warramunga Arr**	**45.13**	**260**	P	**P**	**22 22 19.6**	**-1.1**
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**22 22 19.8**	**-1.0**
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**22 22 19.7**	**-1.0**
	comp=Z,3.5nm,0.4s,baz=98,slow=7.3,SNR=52						
WRA				PcP	**PcP**	**22 23 48.5**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=106,slow=2.9,SNR=2.6						
	comp=Z,3.5nm,0.4s						
AS31	**Alice Springs**	**45.21

0.8nm,0.5s,baz=96,slow=5.8,SNR=1.3
0.8nm,0.5s

JNU	**Nakatsue**	**48.55**	**76**	LR	LR	22 49 48.1	
	comp=Z,24nm,20.4s,baz=217,slow=40						
ASAJ	**Asahikawa**	**53.45**	**58**	LR	LR	22 50 15.3	
	comp=Z,57nm,18.1s,baz=192,slow=36						
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	**P**	**22 28 21.6**	**-2.7**
	0.6nm,0.6s,baz=52,slow=6.5,SNR=9.2						
	0.6nm,0.6s						

IDC 13 22:19:03.9±1.6, 13°.07S×173°.15E, h0km, mb4.0/6, mbtmp4.0/6, MS3.3/13, Error ellipse: s-maj=100.9km s-min=23.5km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.00**	**215**	LR	LR	22 25 10.4	
	comp=Z,254nm,19.4s,baz=352,slow=33						
HNR	**Honiara**	**13.44**	**284**	LR	LR	22 27 16.7	
	comp=Z,593nm,20.0s,baz=92,slow=37						
RAO	**Raoul Island**	**18.12**	**154**	LR	LR	22 28 19.0	
	comp=Z,206nm,18.6s,baz=50,slow=31						
URZ	**Urewera**	**25.34**	**173**	LR	LR	22 32 13.0	
	comp=Z,57nm,18.8s,baz=30,slow=31						
CTA	**Charters Tower**	**26.68**	**251**	LR	LR	22 33 09.1	
	comp=Z,32nm,20.4s,baz=84,slow=32						
RPZ	**Rata Peaks**	**30.59**	**183**	LR	LR	22 36 03.6	
	comp=Z,147nm,18.7s,baz=352,slow=33						
H11S2	**WAKE ISLAND Hy**	**31.99**	**348**	T	T	22 59 58.2	
	baz=172,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**32.00**	**348**	T	T	22 59 57.1	
	baz=172,slow=76,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**32.01**	**348**	T	T	22 59 58.1	
	baz=172,slow=76,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**33.15**	**349**	T	T	23 01 27.4	
	baz=169,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**33.15**	**349**	T	T	23 01 21.6	
	baz=169,slow=76,SNR=7.2						
H11N2	**WAKE ISLAND Hy**	**33.16**	**349**	T	T	23 01 26.7	
	baz=169,slow=76,SNR=9.7						
PPT	**Papeete**	**36.19**	**102**	LR	LR	22 38 42.0	
	comp=Z,36nm,21.6s,baz=360,slow=33						
WRA	**Warramunga Arr**	**37.76**	**254**	P	P	22 26 21.3	-0.7
	0.5nm,0.8s,baz=81,slow=8.6,SNR=2.4						
	0.5nm,0.8s						
GUMO	**Guam**	**38.55**	**312**	LR	LR	22 41 07.0	
	comp=Z,22nm,19.7s,baz=118,slow=34						
ASAR	**Alice Springs**	**38.59**	**248**	P	P	22 26 29.1	+0.1
	4.7nm,1.0s,baz=75,slow=9.3,SNR=18						
	4.7nm,1.0s						
JHJ	**Hachijo jima 2**	**55.88**	**326**	LR	LR	22 52 37.6	
	comp=Z,5.3nm,18.1s,baz=93,slow=36						
KSRS	**Korea Array**	**65.78**	**322**	LR	LR	22 57 06.5	
	comp=Z,9.1nm,19.2s,baz=60,slow=35						
KLR	**Kul'dur**	**71.97**	**333**	LR	LR	23 03 33.9	
	comp=Z,11nm,18.2s,baz=175,slow=37						
MA2	**Magadan**	**74.62**	**348**	LR	LR	22 59 21.5	
	comp=Z,26nm,19.8s,baz=114,slow=32						
NVAR	**Mina Array Bea**	**81.91**	**48**	P	P	22 31 25.4	-0.4
	1.2nm,1.1s,baz=222,slow=9.3,SNR=4.3						
	1.2nm,1.1s						
ILAR	**Eielson Array**	**83.27**	**16**	P	P	22 31 31.9	-0.2
	2.0nm,1.0s,baz=228,slow=5.4,SNR=9.6						
	2.0nm,1.0s						
SONM	**Songino Array**	**84.65**	**322**	LR	LR	23 09 33.0	
	comp=Z,27nm,18.0s,baz=182,slow=36						
PDAR	**Pinedale Array**	**89.67**	**46**	P	P	22 32 04.4	+0.2
	0.8nm,0.9s,baz=345,slow=3.2,SNR=4.8						
	0.8nm,0.9s						
TXAR	**Lajitas Array**	**90.49**	**60**	P	P	22 32 08.3	+0.1
	0.8nm,1.0s,baz=227,slow=3.6,SNR=4.4						
	0.8nm,1.0s						
ESDC	**Sonseca Array**	**153.37**	**355**	PKPab	PKPab	22 39 16.4	0.0
	1.3nm,1.0s,baz=2.8,slow=4.1,SNR=6.8						

PRE 13 22:30:22.6±1.0, 26°.29S×27°.80E, h2km, ML2.0
EAF 13 22:30:24.9, 26°.19S×27°.93E, h22km, MC3.5
BUL 13 22:30:24.9±1.1, 26°.19S×27°.92E, h10km±12km, MD3.6
ISC 13 22:30:22.2±1.1, 26°.23S±0°.03×27°.80E±0°.03, h14km±9km, n34, σ2s40/68, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.39**	**241**	*e*P	**Pg**	**22 30 30.4**	**+0.2**
WDLM				*e*S	**Sg**	**22 30 35.0**	**-0.5**
WDLM				IAML		22 30 41.0	
	comp=Z,102nm,0.2s						
SLR	**Silverton**	**0.66**	**41**	*e*P	**Pb**	**22 30 36.1**	**+0.6**
SLR				*e*S	**Sb**	**22 30 45.9**	**+1.3**
SLR				IAML		22 30 50.2	
	comp=Z,42nm,0.8s						
PRYS	**Parys**	**0.80**	**210**	*e*P	**Pg**	**22 30 37.1**	**-0.6**
PRYS				*e*S	**Sg**	**22 30 47.7**	**-0.5**
PRYS				IAML		22 30 55.7	
	comp=Z,37nm,0.9s						
CRLN	**Carolina, Mapu**	**2.01**	**84**	*e*P	**Pb**	**22 30 57.7**	**-1.0**
CRLN				*e*S	**Sb**	**22 31 24.6**	**+0.9**
CRLN				IAML		22 31 28.5	
	comp=Z,7.4nm,0.2s						
SNKL	**Senekal, Frees**	**2.04**	**181**	*e*P	**Pb**	**22 30 58.4**	**-0.7**
SNKL				*e*S	**Sn**	**22 31 23.9**	**+2.3**
SNKL				IAML		22 31 30.5	
	comp=Z,37nm,0.3s						
LBTB	**Lobatse**	**2.33**	**301**	*i* P	**Pb**	**22 31 03.4**	**-0.7**
LBTB				*i* S	**Sb**	**22 31 30.8**	**-2.0**
LBTB	**Lobatse**	**2.33**	**301**	*e*P	**Pb**	**22 31 03.3**	**-0.7**
LBTB				*e*S	**Sb**	**22 31 33.0**	**+0.3**
LBTB				IAML		22 31 35.9	
	comp=Z,40nm,0.3s						
LBTB	**Lobatse**	**2.33**	**301**	*i* P	**Pb**	**22 31 03.4**	**-0.7**
	baz=299						
LBTB				*i* S	**Sb**	**22 31 30.8**	**-2.0**
	baz=299						
LEPH	**Lephalale, Lim**	**2.36**	**360**	*e*P	**Pb**	**22 31 04.5**	**-0.1**
LEPH				*e*S	**Sb**	**22 31 34.2**	**+0.5**
LEPH				IAML		22 31 38.5	
	comp=Z,11nm,0.3s						
SWZ	**Schweizer**	**2.40**	**246**	*e*P	**Pn**	**22 31 03.0**	**+1.7**
SWZ				*e*S	**Sn**	**22 31 33.1**	**+2.4**
SWZ				IAML		22 31 37.3	
	comp=Z,25nm,0.3s						
PILG	**Pilgrimsrest,**	**2.93**	**64**	*e*P	**Pb**	**22 31 12.1**	**-2.2**
PILG				*e*S	**Sb**	**22 31 47.2**	**-2.8**
PILG				IAML		22 31 54.0	
	comp=Z,7.8nm,0.5s						
MMAL	**MMAL**	**3.06**	**87**	*e*P	**Pn**	**22 31 12.9**	**+2.6**
MMAL				*e*S	**Sn**	**22 31 50.1**	**+3.3**
MMAL				IAML		22 32 08.9	
	comp=Z,5.6nm,0.4s						
BOSA	**Boshof**	**3.28**	**223**	*i* P	**Pn**	**22 31 15.4**	**+2.1**
BOSA				*i* S	**Sn**	**22 31 54.7**	**+2.5**
BOSA	**Boshof**	**3.28**	**223**	*e*P	**Pn**	**22 31 14.7**	**+1.3**
BOSA				*e*S	**Sn**	**22 31 54.5**	**+2.3**
BOSA				IAML		22 32 09.4	
	comp=Z,7.2nm,0.5s						
BOSA	**Boshof**	**3.28**	**223**	*i* P	**Pn**	**22 31 15.4**	**+2.1**
	baz=224						
BOSA				*i* S	**Sn**	**22 31 54.7**	**+2.5**
	baz=224						
MOPA	**Mopani**	**4.24**	**51**	*i* P	**Pn**	**22 31 26.7**	**+0.3**
MOPA				*i* S	**Sn**	**22 32 11.1**	**-4.6**
MOPA	**Mopani**	**4.24**	**51**	*i* P	**Pn**	**22 31 26.7**	**+0.3**
	baz=50						
MOPA				*i* S	**Sn**	**22 32 11.1**	**-4.6**
	baz=50						
MUSN	**Musina, Limpop**	**4.35**	**26**	*i* P	**Pn**	**22 31 28.7**	**+0.7**
MUSN				*i* S	**Sn**	**22 32 14.6**	**-4.0**
MUSN	**Musina, Limpop**	**4.35**	**26**	*e*P	**Pn**	**22 31 32.0**	**+4.0**
MUSN				*e*S	**Sn**	**22 32 21.5**	**+2.9**
MUSN				IAML		22 32 41.8	
	comp=Z,5.1nm,0.3s						
MUSN	**Musina, Limpop**	**4.35**	**26**	*i* P	**Pn**	**22 31 28.7**	**+0.7**
	baz=25						
MUSN				*i* S	**Sn**	**22 32 14.6**	**-4.0**
	baz=25						
KSTD	**Kokstad**	**4.57**	**163**	*e*P	**Pn**	**22 31 33.9**	**+2.9**
KSTD				*e*S	**Sn**	**22 32 24.5**	**+0.5**
KSTD				IAML		22 32 51.6	
	comp=Z,2.4nm,0.3s						
MATP	**Matopo**	**5.81**	**6**	*i* P	**Pn**	**22 31 49.0**	**+0.8**
MATP				*i* S	**Sn**	**22 32 49.8**	**-5.0**
MATP	**Matopo**	**5.81**	**6**	*i* P	**Pn**	**22 31 49.0**	**+0.8**
	baz=5.0						
MATP				*i* S	**Sn**	**22 32 49.8**	**-5.0**
	baz=5.0						
UPI	**Upington**	**6.20**	**249**	*e*P	**Pn**	**22 31 56.4**	**+3.0**
UPI				*e*S	**Sn**	**22 33 03.9**	**-0.3**
UPI				IAML		22 33 40.3	
	comp=Z,2.6nm,0.7s						
KEIM	**Keimoes**	**6.55**	**246**	*e*P	**Pn**	**22 32 01.7**	**+3.5**
KEIM				*e*S	**Sn**	**22 33 12.1**	**-0.7**
KEIM				IAML		22 33 55.0	
	comp=Z,2.2nm,0.3s						
BFON	**Badsfontein, M**	**6.61**	**212**	*e*P	**Pn**	**22 32 00.9**	**+1.7**
BFON				*e*S	**Sn**	**22 33 12.9**	**-1.6**
BFON				IAML		22 33 56.8	
	comp=Z,2.8nm,0.8s						
GRAF	**Camdeboo Natio**	**6.69**	**205**	*e*P	**Pn**	**22 32 02.9**	**+2.8**
GRAF				*e*S	**Sn**	**22 33 14.4**	**-1.7**
GRAF				IAML		22 33 56.7	
	comp=Z,1.9nm,1.2s						
SOE	**Somerset East**	**6.75**	**196**	*e*P	**Pn**	**22 32 03.9**	**+3.0**
SOE				*e*S	**Sn**	**22 33 16.2**	**-1.4**
SOE				IAML		22 33 56.7	
	comp=Z,2.2nm,0.7s						
BRAK	**Brakfontein**	**7.00**	**217**	*e*P	**Pn**	**22 32 07.2**	**+2.8**
BRAK				*e*S	**Sn**	**22 33 22.0**	**-2.0**
BRAK				IAML		22 33 55.3	
	comp=Z,1.3nm,0.4s						
ROOI	**Rooidraai Farm**	**7.26**	**210**	*e*P	**Pn**	**22 32 09.9**	**+2.0**
ROOI				*e*S	**Sn**	**22 33 27.9**	**-2.4**
ROOI				IAML		22 34 11.3	
	comp=Z,1.4nm,0.5s						
GRAN	**Grantham**	**7.79**	**218**	*e*P	**Pn**	**22 32 17.9**	**+2.6**
GRAN				*e*S	**Sn**	**22 33 40.8**	**-2.6**
GRAN				IAML		22 34 37.5	
	comp=Z,1.6nm,0.6s						
FRAZ	**Fraserburg**	**7.97**	**223**	*e*P	**Pn**	**22 32 20.4**	**+2.6**
FRAZ				*e*S	**Sn**	**22 33 45.4**	**-2.4**
FRAZ				IAML		22 33 46.9	
	comp=Z,1.4nm,0.6s						
MERW	**Merweville**	**8.43**	**219**	*e*P	**Pn**	**22 32 26.7**	**+2.6**
MERW				*e*S	**Sn**	**22 33 56.9**	**-2.3**
MERW				IAML		22 34 07.4	
	comp=Z,2.2nm,1.0s						
SUR	**Sutherland**	**8.64**	**223**	*e*P	**Pn**	**22 32 28.9**	**+1.8**
SUR				*e*S	**Sn**	**22 34 01.4**	**-3.1**
SUR				IAML		22 34 30.1	
	comp=Z,0.7nm,0.9s						

SJA 13 22:42:42.9±0.6, 24°.60S×69°.55W, h89km±3km, ML3.4, MW3.6
GUC 13 22:42:44.3±0.8, 24°.56S×69°.54W, h85km±4km, ML3.6
ISC 13 22:42:43.3±1.3, 24°.51S±0°.02×69°.51W±0°.05, h15km±11km, n35, σ1s33/57, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.66**	**187**	*e*P	**Pn**	**22 42 59.5**	**+1.1**
GO02				*e*S	**Sn**	**22 43 11.0**	**+2.3**
GO02				IAML		22 43 12.2	
	comp=N,6μm,0.1s						
GO02	**Mina Guanaco**	**0.66**	**187**	*e*P	**Pn**	**22 42 59.5**	**+1.1**
GO02				*e*S	**Sn**	**22 43 10.9**	**+2.3**
PB14	**IPOC Station P**	**0.82**	**262**	*e*P	**Pn**	**22 43 01.7**	**+1.1**
PB14				*i* S	**Sn**	**22 43 14.6**	**+1.8**
PB14	**IPOC Station P**	**0.82**	**262**	*e*P	**Pn**	**22 43 01.6**	**+0.9**
PB14				*e*S	**Sn**	**22 43 14.9**	**+2.1**
PB14				IAML		22 43 19.3	
	comp=Z,483nm,0.1s						
PB15	**IPOC Station P**	**1.29**	**2**	*e*P	**Pg**	**22 43 08.5**	**+0.2**
PB15				*i* S	**Sg**	**22 43 26.8**	**+1.6**
PB15	**IPOC Station P**	**1.29**	**2**	*e*P	**Pg**	**22 43 08.3**	**0.0**
PB15				*e*S	**Sg**	**22 43 27.5**	**+2.3**
PB06	**IPOC Station P**	**1.79**	**358**	*e*P	**Pb**	**22 43 14.6**	**-1.4**
PB06				*i* S	**Sb**	**22 43 37.5**	**-0.8**
PB06	**IPOC Station P**	**1.79**	**358**	*e*P	**Pb**	**22 43 14.8**	**-1.2**
PB06				*e*S	**Sb**	**22 43 38.8**	**+0.4**
PB06				IAML		22 43 42.5	
	comp=Z,425nm,0.3s						
AC01	**Pan de Azucar**	**1.91**	**211**	*e*P	**Pn**	**22 43 15.6**	**+0.2**
AC01				*e*S	**Sn**	**22 43 39.2**	**+0.1**
AC01				IAML		22 43 42.4	
	comp=E,520nm,0.2s						
AC01	**Pan de Azucar**	**1.91**	**211**	*e*P	**Pn**	**22 43 14.0**	**-1.3**
AC01				*e*S	**Sb**	**22 43 42.4**	**+0.9**
AC01				IAML		22 43 45.7	
	comp=Z,254nm,0.6s						
LVC	**Limon Verde**	**1.97**	**16**	*e*P	**Pb**	**22 43 17.4**	**-1.6**
LVC				*i* S	**Sb**	**22 43 43.0**	**-0.6**
LVC	**Limon Verde**	**1.97**	**16**	*e*P	**Pb**	**22 43 17.6**	**-1.5**
LVC				*e*S	**Sb**	**22 43 43.8**	**+0.2**
LVC				IAML		22 43 45.9	
	comp=Z,138nm,0.6s						
PB04	**IPOC Station P**	**2.24**	**345**	*e*P	**Pn**	**22 43 20.0**	**-0.1**
PB04				*i* S	**Sn**	**22 43 48.1**	**+0.5**
PB04				IAML		22 43 57.3	
	comp=E,413nm,0.5s						
PB04	**IPOC Station P**	**2.24**	**345**	*e*P	**Pn**	**22 43 20.1**	**-0.1**
PB04				*e*S	**Sb**	**22 43 53.1**	**+1.8**
PB04				IAML		22 43 56.7	
	comp=Z,226nm,0.2s						
AC02	**Maricunga**	**2.34**	**172**	*e*P	**Pn**	**22 43 22.6**	**+0.8**
AC02				*e*S	**Sn**	**22 43 51.5**	**+0.9**
AC02				IAML		22 43 56.8	
	comp=E,388nm,0.3s						
AC02	**Maricunga**	**2.34**	**172**	*e*P	**Pn**	**22 43 22.4**	**+0.7**
AC02				*e*S	**Sb**	**22 43 53.3**	**-1.2**
AC02				IAML		22 43 55.6	
	comp=Z,132nm,0.2s						
PB09	**IPOC Station P**	**2.71**	**5**	*e*P	**Pn**	**22 43 27.6**	**+1.1**
PB09				*i* S	**Sn**	**22 44 00.8**	**+1.7**
PB09	**IPOC Station P**	**2.71**	**5**	*e*P	**Pn**	**22 43 27.6**	**+1.1**
PB09				*e*S	**Sg**	**22 44 09.6**	**-0.9**
PB09				IAML		22 44 15.9	
	comp=Z,165nm,0.6s						
PB07	**IPOC Station P**	**2.79**	**353**	*e*P	**Pn**	**22 43 27.3**	**-0.3**
PB07				*i* S	**Sn**	**22 44 00.3**	**-0.8**
PB07				IAML		22 44 13.5	
	comp=E,161nm,0.5s						
PB07	**IPOC Station P**	**2.79**	**353**	*e*P	**Pn**	**22 43 27.1**	**-0.5**
PB07				IAML		22 44 11.3	
	comp=Z,103nm,0.3s						
GO03	**Copiap**	**3.14**	**192**	*e*P	**Pn**	**22 43 30.8**	**-1.5**
GO03	**Copiap**	**3.14**	**192**	*e*P	**Pn**	**22 43 30.6**	**-1.7**
GO03				*e*S	**Sb**	**22 44 15.4**	**-1.6**
PB02	**IPOC Station P**	**3.19**	**353**	*e*P	**Pn**	**22 43 32.3**	**-0.8**
PB02				*i* S	**Sn**	**22 44 11.5**	**+0.5**
PB02	**IPOC Station P**	**3.19**	**353**	*e*P	**Pn**	**22 43 32.4**	**-0.7**
PB02				*e*S	**Sb**	**22 44 19.1**	**+0.5**
PB02				IAML		22 44 33.4	
	comp=Z,222nm,0.2s						
PB01	**IPOC Station P**	**3.45**	**0**	*e*P	**Pn**	**22 43 36.0**	**-0.6**
PB01	**IPOC Station P**	**3.45**	**0**	*e*P	**Pn**	**22 43 35.8**	**-0.8**
PB01				IAML		22 44 26.6	
	comp=Z,88nm,0.2s						
PATCX	**Punta Patache**	**3.72**	**351**	*e*P	**Pn**	**22 43 38.7**	**-1.6**
PATCX	**Punta Patache**	**3.72**	**351**	*e*P	**Pn**	**22 43 39.0**	**-1.3**
AC04	**Llanos de Chal**	**3.94**	**201**	*e*P	**Pn**	**22 43 40.8**	**-2.4**
AC04				IAML		22 44 33.2	
	comp=Z,32nm,1.6s						
YJA	**Yavi**	**4.34**	**58**	*e*P	Pn	22 43 52.8	+3.6
PB08	**IPOC Station P**	**4.36**	**4**	*e*P	**Pn**	**22 43 49.4**	**0.0**
PB08				IAML		22 45 09.2	
	comp=Z,28nm,1.0s						
VCA	**Vinchina**	**4.37**	**165**	*e*P	**Pn**	**22 43 52.2**	**+2.9**
VCA	**Vinchina**	**4.37**	**165**	*e*P	**Pn**	**22 43 50.6**	**+1.3**
VCA				IAML		22 44 48.9	
	comp=Z,35nm,1.1s						
LCO	**Las Campanas**	**4.61**	**193**	*e*P	**Pn**	**22 43 50.7**	**-2.0**
LCO				*e*S	**Sb**	**22 44 58.2**	**-1.3**
LCO				IAML		22 45 21.3	
	comp=Z,202nm,1.4s						
GO01	**Chusmiza**	**4.83**	**4**	*e*P	**Pn**	**22 43 55.4**	**-0.5**

AEIC 13 22:54:51.2±1.6, 52°.35N±0°.03×169°.61W±0°.08, h19km±3km, Error ellipse: s-maj=7.4km s-min=4.5km az=87.0
NEIC 13 22:54:50.3±1.4, 52°.32N±0°.07×169°.52W±0°.08, h21km±13km, ML3.6/6, MLB3.4(AEIC), Error ellipse: s-maj=11.4km s-min=4.7km az=150.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.48**	**345**		Pb	22 55 00.0	-0.1
CLCO					Sb	22 55 07.5	+0.8
CLES	**Cleveland East**	**0.56**	**336**		Pb	22 55 00.8	-0.6
CLES					Sb	22 55 08.8	-0.2
CLES				IAML		22 55 09.1	
	comp=E,7μm,0.6s						
NIKH	**Nikolski High**	**0.77**	**31**		Pb	22 55 03.9	-1.1
NIKH	**Nikolski High**	**0.77**	**31**		Sb	22 55 14.9	-0.1
OKSP	**Okmok Steeple**	**1.20**	**38**		Pn	22 55 10.5	-1.3
OKSP					Sb	22 55 26.7	-0.7
OKTU	**Okmok Mt. Tuli**	**1.39**	**39**		Pb	22 55 13.8	-0.7
OKER	**Okmok East Rim**	**1.44**	**37**		Pn	22 55 15.0	-0.2
OKFG	**Magazine Ridge**	**1.47**	**41**		Pn	22 55 14.9	-0.6
OKFG					Sn	22 55 33.8	-0.2
MAPS	**Pakushin South**	**2.16**	**45**		Pn	22 55 24.7	-0.3
MAPS					Sn	22 55 52.3	+1.3
MGOD	**Makushin Gods**	**2.18**	**46**		Pn	22 55 25.2	-0.1
MSW	**Makushin Switc**	**2.30**	**45**		Pn	22 55 27.2	+0.4
MSW					Sb	22 55 57.5	-1.5
MNAT	**Makushin Natee**	**2.32**	**46**		Pn	22 55 27.3	+0.1
UNV	**Unalaska Valle**	**2.38**	**49**		Pn	22 55 27.8	-0.2
UNV	**Unalaska Valle**	**2.38**	**49**		Sn	22 55 57.2	+0.8
MTBL	**Makushin Table**	**2.38**	**45**		Pn	22 55 28.3	+0.2
AKBBA	**Akutan Broad B**	**2.80**	**49**		Pn	22 55 35.1	+1.3
KOFP	**Korovin Flat P**	**2.81**	**271**		Pn	22 55 33.5	-0.4
ATKA	**Atka Island**	**2.88**	**270**	Pn	Pn	22 55 33.9	-0.9
ATKA				IAML		22 56 16.1	
	comp=E,130nm,1.0s						
ATKA	**Atka Island**	**2.88**	**270**		Sn	22 56 06.4	-2.3
AKUT	**Akutan**	**2.90**	**50**	Pn	Pn	22 55 36.0	+0.9
AKUT				IAML		22 56 23.2	
	comp=N,186nm,1.0s						
AKUT				IAML		22 56 31.6	
	comp=E,147nm,1.1s						
ADK	**Adak**	**4.44**	**267**		Pn	22 55 56.6	+0.3
KIWB	**Kanaga Island**	**4.73**	**267**	Pn	Pn	22 56 00.0	-0.3
SDPT	**Sand Point**	**6.15**	**57**	Pn	Pn	22 56 20.1	+0.3
CNBA	**Chernabura Isl**	**6.42**	**63**	Pn	Pn	22 56 23.8	+0.3
AMKA	**Amchitka**	**6.99**	**267**	Pn	Pn	22 56 30.5	-0.8
CHGN	**Chignik**	**7.62**	**54**	Pn	Pn	22 56 40.7	+0.8
R17K	**Ugashik Creek**	**9.23**	**50**	Pn	Pn	22 57 02.6	+0.6
N15K	**Kwethluk River**	**9.45**	**30**	Pn	Pn	22 57 07.2	+2.2
O18K	**Koktuh Hills**	**10.98**	**41**	Pn	Pn	22 57 27.5	+1.6
Q19K	**Cape Douglas,**	**11.13**	**47**	Pn	Pn	22 57 28.0	-0.1
KDAK	**Kodiak Island**	**11.13**	**54**	Pn	Pn	22 57 26.5	-1.5
N18K	**Kilae Creek**	**11.24**	**37**	Pn	Pn	22 57 30.1	+0.5
SYI	**Shuyak Island**	**11.56**	**50**	Pn	Pn	22 57 33.5	-0.4
K17K	**Iditarod**	**12.02**	**26**	Pn	Pn	22 57 40.3	+0.2

NEIC 13 23:10:32.1, 39°.29N×123°.23W, h5km, Moment Tensor Solution. Moment tensor: Scale 1014Nm; Mrr=1.73; Mθθ=5.55; Mφφ7.28; Mrθ2.67; Mrφ4.30; Mθφ-0.99; Fault plane solution: M0 8.35000×10^14 NP1:φs239.00000°, δ73.00000°, λ-17.00000°. NP2:φs335.00000°, δ74.00000°, λ-162.00000°. Principal axes: T 8.5882, Plg1.0000°, Azm107.0000°; N -0.4707, Plg66.0000°, Azm14.0000°; P -8.1175, Plg24.0000°, Azm197.0000°;
NCEDC 13 23:10:32.1±2.3, 39°.29N±0°.01×123°.23W±0°.03, h1km±6km, Mwr3.9/4, ML3.4/98(NEIC) Error ellipse: s-maj=3.4km s-min=2.1km az=78.0
NEIC 13 23:10:32.6±1.4, 39°.29N±0°.02×123°.26W±0°.04, h10km±1km, Error ellipse: s-maj=5.8km s-min=2.7km az=250.0
IDC 13 23:10:33.8±2.0, 39°.50N×123°.16W, h0km, mb3.6/1, mbtmp3.1/5, ML3.0/4, MS3.1/8, Error ellipse: s-maj=24.6km s-min=11.1km az=48.0
ISC 13 23:10:32.4±0.8, 39°.27N±0°.02×123°.27W±0°.02, h11km±6km, n167, σ1s03/166, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWRM	**Wonder Ranch**	**0.07**	**204**		**Pg**	**23 10 34.5**	**-0.2**
GWRM					**Sg**	**23 10 36.8**	**+0.3**
DCMP	**DeCamp, Califo**	**0.21**	**344**		**Pg**	**23 10 36.2**	**-0.6**
DCMP					**Sg**	**23 10 39.8**	**0.0**
GTC	**Three Chop Rid**	**0.26**	**300**		**Pb**	**23 10 38.0**	**-1.1**
GHLM	**Highland Sprin**	**0.30**	**140**		**Pg**	**23 10 38.3**	**-0.2**
KRKM	**Rackout Spring**	**0.30**	**12**		**Pb**	**23 10 38.4**	**-1.5**
GHOM	**Hamilton Openi**	**0.31**	**224**		**Pg**	**23 10 38.3**	**-0.4**
HOPS	**Hopland Field**	**0.31**	**151**		**Pb**	**23 10 38.8**	**-1.3**
HOPS				Sg	**Sb**	**23 10 43.9**	**-1.2**
GSNM	**Snow Mountain**	**0.33**	**170**		**Pb**	**23 10 39.6**	**-0.8**
GHMM	**Hull Mountain**	**0.34**	**49**		**Pb**	**23 10 39.1**	**-1.5**
KFPM	**Farley Peak**	**0.39**	**342**		**Pb**	**23 10 40.1**	**-1.2**
GGUM	**Gualala**	**0.45**	**204**		**Pb**	**23 10 42.3**	**-0.1**
KCPM	**Cahto Peak**	**0.48**	**330**	Pg	**Pb**	**23 10 42.3**	**-0.7**
KCPM					**Sb**	**23 10 50.4**	**+0.2**
GPMM	**Pine Mountain**	**0.49**	**149**		**Pb**	**23 10 42.4**	**-0.7**
GDCM	**Dry Creek**	**0.50**	**178**		**Pb**	**23 10 43.2**	**0.0**
GTSM	**Trough Springs**	**0.52**	**85**		**Pb**	**23 10 42.4**	**-1.1**
GCVM	**Cloverdale**	**0.54**	**159**		**Pb**	**23 10 43.2**	**-0.6**
KIPM	**Iron Peak**	**0.56**	**343**		**Pb**	**23 10 43.4**	**-1.0**
GRTM	**Round Top Moun**	**0.57**	**125**		**Pb**	**23 10 43.5**	**-0.9**
GDXM	**Geysers**	**0.59**	**141**		**Pb**	**23 10 43.8**	**-0.9**
GDXM				IAML		23 11 02.2	
	comp=N,3μm,1.1s						
GDXM				IAML		23 11 04.2	
	comp=E,3μm,1.0s						
GSGM	**Seigler Mounta**	**0.59**	**133**		**Pb**	**23 10 44.1**	**-0.6**
GSSM	**Skaggs Springs**	**0.60**	**161**		**Pb**	**23 10 45.0**	**+0.

comp=N,548nm,1.7s
KHMM IAML 23 11 53.6
comp=E,423nm,2.5s
JCC Jacoby Creek, 1.65 339 Pn 23 11 00.3 -1.0
JCC Jacoby Creek, 1.65 339 Pn 23 11 01.2 -0.2
JCC IAML 23 11 44.0
comp=N,539nm,1.5s
JCC IAML 23 11 44.4
comp=E,693nm,1.6s
LGPM Granite Peak 1.68 11 Pn 23 11 01.7 -0.1
JSBM San Bruno Moun 1.73 157 Pn 23 11 01.2 -1.1
JMGM Milagra Ridge 1.74 159 Pn 23 11 00.9 -1.7
N02D Trinity Center 1.76 14 Pn 23 11 03.0 +0.1
CSLM San Leandro Hi 1.79 149 Pn 23 11 02.1 -1.0
LSHM Sage Hen Hill 1.79 31 Pn 23 11 03.0 -0.3
SAC San Andreas 1.81 158 Pn 23 11 02.1 -1.4
AFDM Forest Hills D 1.81 99 Pn 23 11 03.5 -0.1
LRDM Redding Peak 1.83 49 Pb 23 11 04.5 -1.4
JCPM Coyote Point 1.83 156 Pn 23 11 01.7 -2.1
JCHM Cahill Ridge 1.88 158 Pn 23 11 03.0 -1.5
CNIC Niles Canyon 1.95 148 Pn 23 11 04.0 -1.4
KRPM Rodgers 1.97 343 Pn 23 11 05.3 -0.5
KRPM IAML 23 12 00.1
comp=E,321nm,1.3s
KRPM IAML 23 12 08.6
comp=N,346nm,1.5s
CVLM Vallecito 1.99 145 Pn 23 11 05.2 -0.7
KOMM Orleans Mounta 2.01 356 Pn 23 11 05.6 -0.8
JRSC Jasper Ridge 2.03 156 Pn 23 11 05.1 -1.4
HATC Hat Creek Radi 2.07 41 Pn 23 11 08.2 +0.9
JFP Foothills Park 2.08 156 Pn 23 11 05.8 -1.5
CSTL Corral Hollow 2.14 139 Pn 23 11 07.2 -0.8
M02C Callahan 2.14 8 Pn 23 11 08.3 +0.2
LBCM Butte Creek Ri 2.15 43 Pn 23 11 08.9 +0.7
JPSM 2.19 160 Pn 23 11 05.4 -3.3
CMLM Mount Lewis 2.19 144 Pn 23 11 07.7 -1.2
CMMM Mount Mocho 2.28 142 Pn 23 11 09.8 -0.3
DONR Donner Summit 2.29 87 Pn 23 11 11.2 +0.9
KRMB Red Mountain 2.30 348 Pn 23 11 10.8 +0.4
BEKR Beckworth 2.32 74 Pn 23 11 11.5 +0.7
LBFM Black Fox Moun 2.33 26 Pn 23 11 12.0 +1.2
LTIM Timbered Crate 2.34 35 Pn 23 11 12.0 +1.1
ARN Arnold Ranch 2.35 144 Pn 23 11 09.9 -1.1
CCOB Coe Ranch Numb 2.37 148 Pn 23 11 10.3 -0.8
LOY Loyalton 2.38 80 Pn 23 11 11.1 -0.4
LAMM Antelope Mount 2.39 12 Pn 23 11 12.3 +0.7
JLAB Laurel Hill 2.43 150 Pn 23 11 10.8 -1.2
BMRR Black Mountain 2.44 69 Pn 23 11 13.4 +0.9
EMB Emerald Bay 2.48 96 Pn 23 11 13.2 +0.3
EMB IAML 23 11 56.7
comp=E,278nm,0.8s
LHEM Herd Peak 2.49 18 Pn 23 11 13.9 +0.8
YBH Yreka Blue Hor 2.50 10 Pn 23 11 13.4 +0.3
YBH Yreka Blue Hor 2.50 10 Pn **Pn 23 11 13.6 +0.6**
comp=E,2.1nm,0.3s,baz=162,slow=4.8,SNR=30
YBH Sn **Sn 23 11 42.7 -0.8**
comp=E,4.2nm,0.3s,baz=140,slow=12,SNR=5.7
comp=E,15nm,0.8s
MPK Martis Peak 2.51 88 Pb 23 11 17.7 0.0
CMB Columbia Colle 2.57 118 Pn 23 11 13.7 -0.3
CMB Columbia Colle 2.57 118 Pn **Pn 23 11 13.3 -0.6**
HLPM Lions Peak 2.57 149 Pn 23 11 13.3 -0.7
LGMM Garner Mountai 2.57 25 Pn 23 11 13.9 -0.3
GHS Gilroy Hot Spr 2.60 146 Pn 23 11 13.7 -0.7
KSXB Camp Six Broad 2.60 350 Pn 23 11 14.8 +0.3
B040 Montague 2.64 14 Pn 23 11 15.6 +0.7
CDC Canada Road 2.64 147 Pn 23 11 14.2 -0.8
PNTR Pine Nut 2.85 92 Pn 23 11 18.4 +0.4
L02F Cave Junction 2.86 355 Pn 23 11 18.5 +0.5
SAO San Andreas Ge 2.88 150 Pn 23 11 17.9 -0.4
BCGM Cienega Road 2.97 149 Pb 23 11 24.3 -1.1
KBO Bosley Butte 3.03 346 Pn **Pn 23 11 20.1 -0.2**
KBO IAML 23 12 57.9
comp=E,158nm,2.5s
KBO IAML 23 13 03.5
comp=N,133nm,4.8s
PAHR Pah Rah Range 3.03 81 Pn 23 11 21.0 +0.5
PAHR IAML 23 12 17.7
comp=E,78nm,1.1s
PAHR IAML 23 12 19.4
comp=N,91nm,1.6s
L04D Klamath Falls 3.04 14 Pn 23 11 20.7 +0.2
WAKR Walker 3.08 103 Pn 23 11 21.6 +0.4
WAKR IAML 23 12 23.6
comp=E,130nm,1.7s
WAKR IAML 23 12 26.9
comp=N,114nm,1.0s
YERR Yerington 3.14 94 Pn 23 11 23.2 +1.2
YERR IAML 23 12 19.7
comp=E,122nm,1.1s
YERR IAML 23 12 31.2
comp=N,134nm,1.4s
BBGB Big Mountain B 3.21 146 Pn 23 11 22.9 +0.1
K02D Willamette Mer 3.44 355 Pn 23 11 26.5 +0.5
PMPB Monarch Peak 3.62 147 Pn **Pn 23 11 27.8 -0.6**
PMPB IAML 23 12 43.0
comp=N,90nm,3.6s
PMPB IAML 23 13 01.2
comp=E,93nm,3.0s
MDPB Devils Postpil 3.67 115 Pn 23 11 30.8 +1.4
MDPB IAML 23 12 29.4
comp=E,53nm,1.6s
MDPB IAML 23 12 57.5
comp=N,55nm,1.1s
KEBM Edson Butte 3.69 348 Pn 23 11 29.4 0.0
KEBM IAML 23 13 05.2
comp=N,95nm,2.3s
OMMB Old Mammoth Mi 3.73 115 Pn 23 11 31.3 +1.0
OMMB IAML 23 12 29.3
comp=N,45nm,1.2s
DBO Dodson Butte 3.85 0 Pn 23 11 30.9 -0.7
DBO IAML 23 12 44.2
comp=N,42nm,2.9s
DBO IAML 23 12 57.1
comp=E,55nm,1.7s
LHV Little Huntoon 3.86 104 Pn 23 11 30.9 -0.8
K05A Summer Lake 3.89 27 Pn 23 11 32.0 -0.3
K05A IAML 23 12 52.8
comp=N,44nm,3.2s
K05A IAML 23 13 09.9
comp=E,53nm,2.0s
J01E Myrtle Point 3.92 353 Pn **Pn 23 11 32.8 +0.3**
J01E IAML 23 13 12.8
comp=E,72nm,3.4s
J01E IAML 23 13 13.6
comp=N,74nm,1.7s
NVAR Mina Array Bea 3.96 101 Pn 23 11 33.1 -0.2
NVAR Mina Array Bea 3.96 101 Pn **Pn 23 11 35.9 +2.6**
comp=N,1.1nm,0.3s,baz=277,slow=15,SNR=28
NVAR Lg Lg 23 12 39.7
comp=N,1.8nm,0.3s,baz=198,slow=33,SNR=6.1
NVAR LR LR 23 13 27.5
comp=N,239nm,18.8s,baz=286,slow=43
comp=N,2.5nm,0.5s
KVN Kaiserville 4.02 91 Pn **Pn 23 11 34.3 +0.2**
KVN IAML 23 12 59.4
comp=N,38nm,1.7s
NV11 Mina Array Sit 4.08 100 Pn **Pn 23 11 35.7 +0.9**
NV11 IAML 23 12 53.7
comp=N,75nm,1.9s
NV11 IAML 23 12 53.9
comp=E,49nm,1.5s
J05D Fort Rock, OR 4.29 20 Pn 23 11 38.4 +0.6
I03D Drain, OR 4.42 359 Pg 23 11 55.9 -1.2
I03D IAML 23 13 10.4
comp=E,43nm,3.5s
I03D IAML 23 13 21.9
comp=N,36nm,3.1s
DSP Deep Springs 4.58 113 Pn Pb 23 11 46.8 -5.9
DSP IAML 23 13 16.2
comp=E,23nm,1.6s
DSP IAML 23 13 18.7
comp=N,24nm,2.4s
PINE Pine Mountain 4.84 20 Pn 23 11 46.8 +1.4
PINE IAML 23 13 07.4
comp=E,34nm,4.7s
PINE IAML 23 14 11.4
comp=N,27nm,4.4s
MZP Montezuma Peak 4.87 107 Pb 23 11 58.7 +0.8
TPH Tonopah 4.88 102 Pn 23 11 46.3 +0.5
GRAC Grapevine Rang 5.17 114 IAML 23 13 30.1
comp=N,35nm,1.9s
ISA Isabella, Lake 5.24 132 Pn 23 11 51.2 +0.5
ISA IAML 23 13 38.2
comp=E,20nm,3.0s
ISA IAML 23 13 56.6
comp=N,15nm,1.8s
H04D Lebanon 5.26 4 Pn 23 11 52.1 +1.1
I05D Terrebonne, OR 5.26 15 Pg **Pg 23 12 12.1 -1.1**
I05D IAML 23 12 42.9
comp=N,32nm,3.9s
ELK Elko 6.34 74 Pn **Pn 23 12 07.7 +1.8**
comp=N,0.1nm,0.3s,baz=312,slow=12,SNR=2.2
ELK Lg Lg 23 13 47.4
comp=N,0.1nm,0.3s,baz=345,slow=19,SNR=1.8
comp=N,0.2nm,0.3s
PFO Pinyon Flats O 7.87 134 Pn **Pn 23 12 27.2 +0.3**
comp=N,0.3nm,0.3s,baz=326,slow=7.3,SNR=2.9
PFO LR LR 23 16 19.5
comp=N,147nm,18.9s,baz=3.5,slow=43
NEW Newport 10.03 24 LR LR 23 16 46.5
comp=N,71nm,18.3s,baz=196,slow=38
PDAR Pinedale Array 10.93 67 LR LR 23 17 15.0
comp=N,37nm,19.6s,baz=276,slow=37
ANMO Albuquerque 14.09 103 LR LR 23 19 51.8
comp=N,70nm,18.4s,baz=39,slow=40
TXAR Lajitas Array 18.95 116 P Pn 23 14 56.0 +1.8
baz=300,slow=7.2,SNR=6.2
TXAR LR LR 23 23 09.7
comp=N,46nm,18.8s,baz=324,slow=40
comp=N,0.7nm,1.0s
YKA Yellowknife Ar 23.84 10 LR LR 23 25 36.1
comp=N,80nm,18.5s,baz=232,slow=38
ILAR Eielson Array 29.03 339 P P 23 16 34.2 +2.1
comp=N,0.6nm,0.9s,baz=144,slow=7.8,SNR=3.4
comp=N,0.6nm,0.9s
FRB Frobisher Bay 40.18 34 LR LR 23 34 01.1
comp=N,73nm,20.2s,baz=0.5,slow=35

*IDC **13** 23:12:51.7±3.5, 4°.16S×102°.86E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=160.0km s-min=22.6km az=53.0*
*DJA **13** 23:13:04.4±0.3, 5°.S±6°.×10°.3E±°, h109km±6km, M4.2/12, mb4.4/6, MLv4.2/12*
ISC 13 23:13:05.2±0.9, 4°.0S±0°.1×103°.4E±0°.1, h100km, n17, σ1§49/16, mb3.9/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.58**	**228**	P	**Pn**	**23 13 22.4**	**+0.8**
MNAI				S	**Sn**	**23 13 34.7**	**+0.8**
LWLI	**Liwa**	**1.23**	**147**	P	**Pn**	**23 13 30.4**	**+2.0**
MASI	**Maura Aman, Be**	**1.41**	**306**	P	**Pn**	**23 13 33.3**	**+2.8**
KASI	**Kota Agung**	**1.89**	**144**	P	**Pn**	**23 13 38.1**	**+1.6**
CGJI	**Cibinong**	**3.48**	**139**	P	**Pn**	**23 13 57.4**	**-0.1**
PDSI	**Padang**	**4.22**	**316**	P	**Pn**	**23 14 09.0**	**+1.5**
SISI	**Saibi**	**5.04**	**301**	P	**Pn**	**23 14 17.9**	**-0.6**
CMJI	**Cimerak**	**6.30**	**127**	P	**Pn**	**23 14 35.8**	**+0.2**
	71nm,1.3s,0.4nm						
PBSI	**Pulau Batu**	**6.42**	**307**	P	**Pn**	**23 14 36.5**	**-0.8**
	246nm,1.4s,1.0nm						
GMJI	**Gumukmas**	**10.87**	**114**	P	Pn	23 15 41.1	+3.3
	19nm,1.0s						
TWSI	**Taliwang, Sumb**	**14.22**	**110**	P	**P**	**23 16 25.5**	**-0.9**
WRA	**Warramunga Arr**	**34.08**	**120**	P	**P**	**23 19 40.4**	**0.0**
	0.2nm,0.4s,baz=301,slow=8.9,SNR=1.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**35.36**	**126**	P	**P**	**23 19 52.8**	**+1.3**
	0.2nm,0.3s,baz=299,slow=7.6,SNR=4.3						
	0.2nm,0.3s						
SONM	**Songino Array**	**51.66**	**3**	P	P	23 22 03.1	+1.2
	0.7nm,0.7s,baz=190,slow=7.3,SNR=3.9						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**53.88**	**342**	P	**P**	**23 22 17.2**	**-1.0**
	0.7nm,0.4s,baz=152,slow=8.7,SNR=11						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**58.43**	**342**	P	**P**	**23 22 48.2**	**-2.2**
	0.4nm,0.3s,baz=158,slow=6.4,SNR=3.2						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**59.77**	**347**	P	**P**	**23 22 58.4**	**-1.2**
	1.3nm,0.5s,baz=167,slow=5.6,SNR=6.2						
	1.3nm,0.5s						

AUST 13 23:28:47.8±3.0, 22°.61S×148°.21E, h10km, Error ellipse: s-maj=70.9km s-min=11.9km az=36.0, Mining explosion., Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUNRC	**North Rockhamp**	**2.26**	**109**	P	Pn	23 29 25.1	-0.1
	baz=2.3						
AUNRC				P	Pn	23 29 25.3	+0.1
	baz=2.3						
AUNRC				S	Sn	23 29 53.7	+0.6
	baz=2.3						
AUNRC				S	Sn	23 29 54.1	+1.0
	baz=2.3						
CTA	**Charters Tower**	**3.10**	**324**	P	Pn	23 29 37.2	+0.3
	baz=3.1						
EIDS	**Eidsvold**	**3.80**	**137**	P	Pn	23 29 47.1	+0.7
	baz=3.8						

*AEIC **13** 23:31:49.5±2.4, 52°.32N±0°.03×169°.62W±0°.06, h18km±3km, Error ellipse: s-maj=5.2km s-min=4.8km az=90.0*
*IDC **13** 23:31:49.8±2.3, 52°.61N×169°.81W, h42km±19km, mb3.9/25, mbtmp4.2/28, ML4.0/3, MS3.6/34, Error ellipse: s-maj=19.3km s-min=11.5km az=0.0*
*NEIC **13** 23:31:50.1±1.7, 52°.49N±0°.06×169°.74W±0°.08, h47km±3km, mb4.6/342, ML4.7/8, ML4.4(AEIC), Error ellipse: s-maj=9.6km s-min=6.0km az=151.0*
ISC 13 23:31:49.0±0.4, 52°.42N±0°.06×169°.68W±0°.04, h40km, n805, σ1§36/778, mb4.6/182, MS3.7/33, 1C, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.37**	**356**		**Pn**	**23 31 58.7**	**+0.6**
CLCO					**Sn**	**23 32 06.4**	**+2.1**
CLES	**Cleveland East**	**0.43**	**342**		**Pn**	**23 31 59.4**	**+0.6**
CLES					**Sn**	**23 32 06.7**	**+1.1**
NIKH	**Nikolski High**	**0.74**	**42**		**Sn**	**23 32 13.6**	**+0.4**
NIKH	**Nikolski High**	**0.74**	**42**		**Pn**	**23 32 02.6**	**-0.4**
NIKH	**Nikolski High**	**0.74**	**42**	P	**Pn**	**23 32 03.0**	**0.0**
NIKH	**Nikolski High**	**0.74**	**42**	P	**Pn**	**23 32 02.9**	**0.0**
	baz=216,SNR=87						
OKCE	**Okmok Cone E**	**1.36**	**42**		**Pn**	**23 32 12.4**	**+0.9**
OKNC	**Okmok New Cone**	**1.40**	**42**		**Pn**	**23 32 13.2**	**+1.2**
OKFG	**Magazine Ridge**	**1.46**	**46**		**Pn**	**23 32 13.6**	**+0.8**
OKFG					**Sn**	**23 32 32.5**	**+1.9**
MAPS	**Pakushin South**	**2.16**	**49**		**Pn**	**23 32 23.1**	**+0.7**
MGOD	**Makushin Gods**	**2.18**	**50**		**Pn**	**23 32 23.7**	**+0.9**
MGOD					**Sn**	**23 32 52.4**	**+3.9**
MSW	**Makushin Switc**	**2.30**	**48**		**Pn**	**23 32 25.5**	**+1.2**
MSW					**Sn**	**23 32 55.6**	**+4.2**
MNAT	**Makushin Natee**	**2.32**	**50**		**Pn**	**23 32 26.0**	**+1.3**
MTBL	**Makushin Table**	**2.38**	**48**		**Pn**	**23 32 27.2**	**+1.7**
UNV	**Unalaska Valle**	**2.38**	**52**		**Sn**	**23 32 57.3**	**+3.8**
UNV	**Unalaska Valle**	**2.38**	**52**		**Pn**	**23 32 26.1**	**+0.6**
UNV	**Unalaska Valle**	**2.38**	**52**	P	**Pn**	**23 32 26.8**	**+1.3**
UNV	**Unalaska Valle**	**2.38**	**52**	P	**Pn**	**23 32 26.6**	**+1.1**
	baz=232,SNR=100						
AKRB	**Akutan Reef Bi**	**2.76**	**50**		**Pn**	**23 32 32.9**	**+2.2**
ATKA	**Atka Island**	**2.78**	**267**	Pn	**Pn**	**23 32 31.6**	**+0.6**
ATKA				Sn	**Sn**	**23 33 05.0**	**+1.7**
ATKA				IAML		23 33 19.6	
	comp=N,2μm,0.7s						
ATKA	**Atka Island**	**2.78**	**267**	P	**Pn**	**23 32 31.6**	**+0.6**
AKV	**Akutan Volcano**	**2.81**	**51**		**Pn**	**23 32 33.5**	**+2.1**
AKLV	**Akutan Long Va**	**2.83**	**51**		**Pn**	**23 32 34.0**	**+2.3**
AKUT	**Akutan**	**2.91**	**52**	Pn	**Pn**	**23 32 35.2**	**+2.6**
AKUT				Sn	**Sn**	**23 33 13.1**	**+6.8**
AKUT				IAML		23 33 23.2	
	comp=N,2μm,0.9s						
AKUT	**Akutan**	**2.91**	**52**	P	**Pn**	**23 32 35.4**	**+2.8**
WECS	**Westdahl Cape**	**3.61**	**52**		**Pn**	**23 32 44.6**	**+2.3**
GSTR	**Great Sitkin T**	**3.94**	**268**	Pn	**Pn**	**23 32 48.3**	**+1.5**
GSCK	**Great Sitkin C**	**4.01**	**267**		**Pn**	**23 32 49.7**	**+1.8**
ADK	**Adak**	**4.35**	**266**	Pn	**Pn**	**23 32 53.7**	**+1.2**
ADK				IAML		23 34 01.8	
	comp=N,1μm,0.8s						
ADK				IAML		23 34 02.1	
	comp=N,1μm,0.6s						
FALS	**False Pass**	**4.45**	**54**	P	**Pn**	**23 32 55.7**	**+1.8**
	baz=238						
KIWB	**Kanaga Island**	**4.64**	**266**	Pn	**Pn**	**23 32 57.5**	**+1.1**
KIMD	**Kanaga Island**	**4.71**	**265**		**Pn**	**23 32 58.9**	**+1.5**
SPIA	**Saint Paul Isl**	**4.78**	**356**		**Pn**	**23 33 01.2**	**+2.9**
SPIA	**Saint Paul Isl**	**4.78**	**356**	P	**Pn**	**23 33 01.3**	**+2.9**
SPIA	**Saint Paul Isl**	**4.78**	**356**	P	**Pn**	**23 33 01.3**	**+2.9**
	baz=176						
TAPA	**Tanaga Point A**	**5.05**	**266**		**Pn**	**23 33 04.3**	**+2.1**
TAFP	**Tanaga Falls P**	**5.14**	**267**		**Pn**	**23 33 05.3**	**+1.9**
PS1A	**Pavlof South-1**	**5.57**	**54**		**Pn**	**23 33 12.1**	**+2.9**
GAEA	**Gareloi East**	**5.63**	**267**		**Pn**	**23 33 12.4**	**+2.3**
GANE	**Gareloi Northe**	**5.64**	**267**		**Pn**	**23 33 13.5**	**+3.3**
GALAA	**Gareloi Lava P**	**5.65**	**267**		**Pn**	**23 33 13.3**	**+3.0**
SDPT	**Sand Point**	**6.18**	**58**		**Pn**	**23 33 18.9**	**+1.4**
SDPT	**Sand Point**	**6.18**	**58**	P	**Pn**	**23 33 19.5**	**+1.9**
SDPT	**Sand Point**	**6.18**	**58**	P	**Pn**	**23 33 19.1**	**+1.5**
	baz=244						
CNBA	**Chernabura Isl**	**6.46**	**64**	Pn	**Pn**	**23 33 23.9**	**+2.4**
CHNA	**Chernabura Isl**	**6.47**	**64**	P	**Pn**	**23 33 23.0**	**+1.5**
	baz=251						
AMKA	**Amchitka**	**6.90**	**266**		**Pn**	**23 33 28.7**	**+1.2**
S14K	**Fog Glacier**	**7.07**	**53**	P	**Pn**	**23 33 32.3**	**+2.4**
	baz=240						
VNFG	**Fog Glacier, M**	**7.07**	**53**		**Pn**	**23 33 32.4**	**+2.5**
CHGN	**Chignik**	**7.64**	**55**		**Pn**	**23 33 40.7**	**+3.1**
CHGN	**Chignik**	**7.64**	**55**	P	**Pn**	**23 33 39.8**	**+2.2**
	baz=243						
M11K	**Mekoryuk**	**8.21**	**12**		**Pn**	**23 33 47.7**	**+2.3**
M11K	**Mekoryuk**	**8.21**	**12**	P	**Pn**	**23 33 46.5**	**+1.1**
	baz=195						
O14K	**Tigyukauivet M**	**8.32**	**31**		**Pn**	**23 33 50.4**	**+3.5**
O14K	**Tigyukauivet M**	**8.32**	**31**	P	**Pn**	**23 33 50.8**	**+3.9**
	baz=218						
N14K	**Kuskokwak Cree**	**8.74**	**27**		**Pn**	**23 33 56.6**	**+4.1**
N14K	**Kuskokwak Cree**	**8.74**	**27**	P	**Pn**	**23 33 56.1**	**+3.5**
	baz=214						
M13K	**Dall Lake**	**8.74**	**21**	P	**Pn**	**23 33 53.8**	**+1.1**
	baz=206						
O15K	**Ungalikthiuk R**	**8.75**	**35**		**Pn**	**23 33 56.1**	**+3.4**
O15K	**Ungalikthiuk R**	**8.75**	**35**	P	Pn	23 33 57.6	+4.9
	baz=223,SNR=7.6						
CHIR	**Chirikof Islan**	**8.93**	**62**		**Pn**	**23 33 55.4**	**+0.1**
R17K	**Ugashik Creek**	**9.24**	**50**		**Pn**	**23 34 01.5**	**+2.0**
R17K	**Ugashik Creek**	**9.24**	**50**	P	**Pn**	**23 34 03.0**	**+3.5**
	baz=240,SNR=15						
P16K	**Nushagak River**	**9.34**	**40**	P	**Pn**	**23 34 04.3**	**+3.6**
	baz=229						
M14K	**Bethel**	**9.37**	**24**	P	**Pn**	**23 34 03.3**	**+2.2**
	baz=210						
N15K	**Kwethluk River**	**9.41**	**31**		**Pn**	**23 34 04.5**	**+2.7**
N15K	**Kwethluk River**	**9.41**	**31**	P	**Pn**	**23 34 05.8**	**+4.0**
	baz=218,SNR=9.4						
M15K	**Kasigluk River**	**9.65**	**27**		**Pn**	**23 34 07.9**	**+2.7**
M15K	**Kasigluk River**	**9.65**	**27**	P	**Pn**	**23 34 09.3**	**+4.1**
	baz=214,SNR=7.8						
O16K	**Kokwok River B**	**9.67**	**37**		**Pn**	**23 34 08.5**	**+3.1**
O16K	**Kokwok River B**	**9.67**	**37**	P	**Pn**	**23 34 09.8**	**+4.4**
	baz=226,SNR=21						
Q16K	**King Salmon**	**9.67**	**44**	P	**Pn**	**23 34 08.5**	**+3.1**
	baz=235						
L14K	**Kuka Creek**	**9.72**	**20**		**Pn**	**23 34 07.0**	**+0.9**
L14K	**Kuka Creek**	**9.72**	**20**	P	**Pn**	**23 34 07.5**	**+1.5**
	baz=206						
Q17K	**Contact Creek**	**9.79**	**48**	P	**Pn**	**23 34 09.7**	**+2.6**
	baz=239						
CNTC	**Contact Creek**	**9.79**	**48**		**Pn**	**23 34 08.9**	**+1.8**
SHEM	**Shemya Is, Ala**	**9.89**	**278**	LR	LR	23 37 43.6	
	comp=N,230nm,19.0s,baz=92,slow=36						
SII	**Sitkinak Islan**	**9.92**	**59**		**Pn**	**23 34 08.8**	**0.0**
SII	**Sitkinak Islan**	**9.92**	**59**	P	**Pn**	**23 34 09.6**	**+0.8**
SII	**Sitkinak Islan**	**9.92**	**59**	P	**Pn**	**23 34 10.7**	**+1.9**
	baz=251						
ANCK	**Angle Creek**	**9.93**	**49**		**Pn**	**23 34 10.4**	**+1.3**
P17K	**Kvichak River**	**10.07**	**42**	P	**Pn**	**23 34 12.2**	**+1.5**
	baz=233						
N16K	**Nishlik Lake**	**10.07**	**32**	P	**Pn**	**23 34 15.6**	**+4.7**
	baz=221,SNR=26						
R18K	**Karluk**	**10.14**	**53**	P	**Pn**	**23 34 12.5**	**+0.7**
	baz=245						
O17K	**Koliganek Bris**	**10.17**	**39**	P	**Pn**	**23 34 15.5**	**+3.3**
	baz=228,SNR=7.8						
Q18K	**Katmai Hardscr**	**10.38**	**47**	P	**Pn**	**23 34 16.9**	**+1.7**
	baz=239						
M16K	**Timber Creek**	**10.43**	**30**	P	**Pn**	**23 34 19.0**	**+3.3**
	baz=218						
N17K	**Nushagak Hills**	**10.65**	**35**	P	**Pn**	**23 34 22.9**	**+4.1**
	baz=225,SNR=24						
P18K	**Big Mountain,**	**10.69**	**44**	Pn	**Pn**	**23 34 22.7**	**+3.4**
P18K	**Big Mountain,**	**10.69**	**44**	P	**Pn**	**23 34 22.9**	**+3.6**
	baz=235,SNR=8.4						
K15K	**Wolf Creek Mou**	**10.82**	**21**	P	**Pn**	**23 34 24.5**	**+3.4**
	baz=207						
L16K	**Owhat River**	**10.83**	**27**	P	Pn	23 34 26.0	+4.8
	baz=215,SNR=6.6						
O18K	**Koktuh Hills**	**10.96**	**42**		**Pn**	**23 34 25.7**	**+2.6**
O18K	**Koktuh Hills**	**10.96**	**42**	P	**Pn**	**23 34 24.4**	**+1.3**
	baz=233,SNR=8.9						
Q19K	**Cape Douglas,**	**11.14**	**48**	Pn	**Pn**	**23 34 26.9**	**+1.5**
Q19K	**Cape Douglas,**	**11.14**	**48**	P	**Pn**	**23 34 27.5**	**+2.1**
	baz=241						
KDAK	**Kodiak Island**	**11.15**	**54**	P	**Pn**	**23 34 26.4**	**+0.8**
	baz=248						
KDAK	**Kodiak Island**	**11.15**	**54**	P	**Pn**	**23 34 24.3**	**-1.3**
	comp=N,2.2nm,0.3s,baz=247,slow=9.1,SNR=3.5						
KDAK				S	**Sn**	**23 36 22.0**	**-6.8**
	comp=N,8.9nm,0.9s,baz=143,slow=23,SNR=1.3						
	comp=N,4.8nm,0.3s						
M17K	**Holitna River**	**11.19**	**32**	P	**Pn**	**23 34 30.4**	**+4.2**
	baz=222,SNR=9.1						
N18K	**Kilae Creek**	**11.22**	**37**		**Pn**	**23 34 29.9**	**+3.3**
N18K	**Kilae Creek**	**11.22**	**37**	P	**Pn**	**23 34 29.3**	**+2.7**
	baz=228						
GAMB	**Gambell**	**11.44**	**355**	P	**Pn**	**23 34 31.8**	**+2.3**
	baz=174						
L17K	**Donlin**	**11.50**	**28**	P	**Pn**	**23 34 34.1**	**+3.7**
	baz=217						
Q20K	**Shuyak Island**	**11.57**	**51**	P	**Pn**	**23 34 31.0**	**-0.4**
	baz=244						
SYI	**Shuyak Island**	**11.57**	**51**		**Pn**	**23 34 31.9**	**+0.5**
SVW2	**Sparrevohn**	**11.61**	**36**	Pn	**Pn**	**23 34 33.9**	**+1.9**
SVW2	**Sparrevohn**	**11.61**	**36**	P	**Pn**	**23 34 35.2**	**+3.3**
P19K	**Oil Pt**	**11.68**	**45**	Pn	**Pn**	**23 34 33.9**	**+0.9**
P19K	**Oil Pt**	**11.68**	**45**	P	**Pn**	**23 34 33.6**	**+0.7**
	baz=238						
N19K	**Bonanza Creek**	**11.84**	**39**		**Pn**	**23 34 38.9**	**+3.9**
N19K	**Bonanza Creek**	**11.84**	**39**	P	**Pn**	**23 34 39.2**	**+4.2**
	baz=231,SNR=8.0						
J16K	**Anvik River**	**11.90**	**20**	P	**Pn**	**23 34 37.8**	**+1.9**
	baz=208						
K17K	**Iditarod**	**11.97**	**26**		**Pn**	**23 34 38.8**	**+2.0**
K17K	**Iditarod**	**11.97**	**26**	P	**Pn**	**23 34 40.0**	**+3.3**
	baz=215,SNR=7.9						
L18K	**Granite Mounta**	**12.04**	**30**	P	**Pn**	**23 34 41.0**	**+3.2**
	baz=221						
O20K	**Slope Mountain**	**12.17**	**44**	P	**Pn**	**23 34 41.0**	**+1.4**
	baz=238						
RSO	**Redoubt South**	**12.32**	**43**		**Pn**	**23 34 42.0**	**+0.3**
J17K	**VABM Dome**	**12.34**	**23**		**Pn**	**23 34 44.8**	**+3.0**
J17K	**VABM Dome**	**12.34**	**23**	P	**Pn**	**23 34 42.5**	**+0.7**
	baz=211						
HOM	**Homer**	**12.39**	**47**	Pn	**Pn**	**23 34 40.9**	**-1.6**
CNPM	**China Poot**	**12.51**	**48**	Pn	**Pn**	**23 34 43.9**	**-0.3**
M19K	**Big River Lodg**	**12.58**	**35**		**Pn**	**23 34 49.0**	**+3.8**
M19K	**Big River Lodg**	**12.58**	**35**	P	**Pn**	**23 34 46.8**	**+1.7**
	baz=227						
L19K	**White Mountain**	**12.61**	**33**	Pn	**Pn**	**23 34 48.7**	**+3.2**
L19K	**White Mountain**	**12.61**	**33**	P	**Pn**	**23 34 48.1**	**+2.5**
	baz=225,SNR=18						
BRLK	**Bradley Lake**	**12.78**	**47**	Pn	**Pn**	**23 34 48.1**	**+0.2**
TTA

	baz=233							
SUA	Susitna One	13.69	41	Pn		Pn	23 35 02.1	+1.8
SUA	Susitna One	13.69	41	P		Pn	23 35 01.6	+1.3
	baz=237							
K20K	Telida	13.70	31			Pn	23 35 04.1	+3.7
K20K	Telida	13.70	31	P		Pn	23 35 01.9	+1.5
	baz=224							
J19K	Poorman	13.72	27	P		Pn	23 35 01.7	+1.1
	baz=218							
RC01	Rabbit Creek A	13.91	44	P		Pn	23 35 04.7	+1.4
	baz=240							
PPLA	Purkeypile	14.01	35	P		Pn	23 35 06.6	+2.0
	baz=229							
H18K	Honhosa River	14.02	20	P		Pn	23 35 06.0	+1.3
	baz=209							
J20K	Nowinta River	14.28	28			P	23 35 12.1	-2.6
J20K	Nowinta River	14.28	28	P		Pn	23 35 09.1	+0.9
	baz=221,SNR=6.3							
CAST	Castle Rocks	14.39	33	Pn		Pn	23 35 12.8	+3.0
CAST	Castle Rocks	14.39	33	P		Pn	23 35 12.0	+2.3
	baz=228,SNR=19							
CUT	Chulitna	14.40	38	Pn		Pn	23 35 12.8	+2.9
CUT	Chulitna	14.40	38	P		Pn	23 35 10.0	+0.1
	baz=234							
PWL	Port Wells	14.40	46	Pn		Pn	23 35 09.5	-0.5
PWL	Port Wells	14.40	46	P		Pn	23 35 10.0	0.0
	baz=243							
PMR	Palmer	14.42	42	P		Pn	23 35 11.3	+1.3
	baz=239							
P23K	Montague Islan	14.47	50	P		Pn	23 35 12.5	+1.6
	baz=248							
GHO	Glory Hole Cre	14.59	42	Pn		Pn	23 35 14.0	+1.4
KNK	Knik Glacier	14.61	44			Pn	23 35 13.5	+0.8
KNK	Knik Glacier	14.61	44	P		Pn	23 35 14.2	+1.5
	baz=241							
G18K	Tagagawik	14.61	18	P		Pn	23 35 12.6	-0.1
	baz=207							
CHUM	Lake Minchumin	14.63	32	P		Pn	23 35 14.0	+1.1
	baz=226							
H19K	Roundabout Mou	14.76	22	P		Pn	23 35 15.0	+0.4
	baz=213							
SML	Sawmill	14.85	42	Pn		Pn	23 35 16.8	+0.8
SML	Sawmill	14.85	42	P		Pn	23 35 16.7	+0.7
	baz=240							
KTH	Kantishna Hill	14.87	34	P		P	23 35 20.4	-1.0
GLI	Glacier Island	14.96	47	Pn		Pn	23 35 15.6	-1.8
GLI	Glacier Island	14.96	47	P		Pn	23 35 16.5	-0.9
	baz=245							
TRF	Thorofare Moun	15.03	35	P		P	23 35 22.2	-1.0
TRF	Thorofare Moun	15.03	35	P		Pn	23 35 19.0	+0.6
	baz=231							
HIN	Hinchinbrook I	15.04	49	Pn		Pn	23 35 17.9	-0.5
HIN				IAmb		IAmb	23 35 29.6	
	comp=Z,102nm,1.3s							
M23K	Glacier View	15.10	43	P		Pn	23 35 18.5	-0.7
	baz=241							
H20K	Anotleneega Mo	15.10	24	P		Pn	23 35 20.1	+0.9
	baz=217							
FID	Port Fidalgo	15.19	48	Pn		Pn	23 35 18.5	-1.9
FID				IAmb		IAmb	23 36 01.5	
	comp=Z,34nm,1.2s							
BPAW	Bear Paw Mtn.	15.21	32	Pn		Pn	23 35 22.1	+1.5
BPAW				IAmb		IAmb	23 35 29.7	
	comp=Z,30nm,0.6s							
BPAW	Bear Paw Mtn.	15.21	32	P		P	23 35 23.3	-1.7
	baz=228,SNR=25							
SCM	Sheep Creek Mo	15.28	43	Pn		Pn	23 35 20.2	-1.5
SCM				IAmb		IAmb	23 35 36.0	
	comp=Z,32nm,1.0s							
SCM	Sheep Creek Mo	15.28	43	P		Pn	23 35 21.2	-0.5
	baz=242							
EYAK	Cordova Ski Ar	15.44	49	P		Pn	23 35 24.7	+1.0
EYAK	Cordova Ski Ar	15.44	49	P		Pn	23 35 23.6	-0.1
	baz=248							
WAT6	Susitna Watana	15.48	40	P		Pn	23 35 24.5	+0.2
	baz=239							
RND	Reindeer	15.52	37	Pn		Pn	23 35 25.6	+0.9
F19K	Shaleruckik Mo	15.61	18	P		Pn	23 35 26.9	+1.1
	baz=208							
MCK	McKinley	15.68	36	P		Pn	23 35 27.6	+0.9
	baz=233							
KLU	Klutina	15.73	45	Pn		Pn	23 35 26.4	-1.1
KLU				IAmb		IAmb	23 35 27.9	
	comp=Z,26nm,0.6s							
KLU	Klutina	15.73	45	P		Pn	23 35 26.9	-0.6
	baz=245,SNR=9.2							
H21K	Melozitna Rive	15.78	26	P		P	23 35 32.8	+1.5
H21K	Melozitna Rive	15.78	26	P		Pn	23 35 28.8	+0.9
	baz=220							
IMAR	Indian Mountai	15.78	24			P	23 35 32.3	+0.9
KAIM	Kayak Island	15.87	52	P		P	23 35 34.3	+1.9
DHY	Denali Highway	15.89	39			Pn	23 35 31.1	+1.6
DHY	Denali Highway	15.89	39	P		Pn	23 35 29.9	+0.4
	baz=238							
RAGM	Ragged Mountai	15.89	50			P	23 35 32.4	-0.3
RAGM				IAmb		IAmb	23 36 12.8	
	comp=Z,101nm,1.3s							
M24K	Tolsona, Glenn	15.89	43	Pn		Pn	23 35 29.6	+0.1
M24K				IAmb		IAmb	23 36 05.0	
	comp=Z,75nm,1.4s							
M24K	Tolsona, Glenn	15.89	43	P		Pn	23 35 29.7	+0.1
	baz=243							
BMRM	Bremner River	16.12	48	P		Pn	23 35 32.0	-0.4
	baz=249							
NEA2	Nenana	16.16	33	P		Pn	23 35 33.5	+0.6
NEA2	Nenana	16.16	33	P		Pn	23 35 33.3	+0.4
	baz=230							
G21K	Allakaket	16.26	23	P		Pn	23 35 34.9	+0.8
	baz=217							
E19K	Redstone River	16.26	17			Pn	23 35 35.5	+1.3
E19K	Redstone River	16.26	17	P		Pn	23 35 35.3	+1.1
	baz=208							
H22K	Ishtalitna Cre	16.34	27	P		Pn	23 35 35.8	+0.6
	baz=223							
BERG	Berg Lake	16.35	51	Pn		Pn	23 35 34.0	-1.2
BERG				IAmb		IAmb	23 36 06.0	
	comp=Z,69nm,1.2s							
N25K	Chitina, Valde	16.36	46			Pn	23 35 35.3	-0.2
N25K	Chitina, Valde	16.36	46	P		Pn	23 35 34.8	-0.7
	baz=247							
WRH	Wood River Hil	16.42	34	P		Pn	23 35 35.9	-0.3
I23K	Minto, Yukon-K	16.43	31			Pn	23 35 37.2	+1.0
I23K	Minto, Yukon-K	16.43	31	P		Pn	23 35 36.9	+0.7
	baz=228,SNR=7.1							
HARP	HAARP	16.45	43	P		Pn	23 35 37.4	+0.9
	baz=244							
PAX	Paxson	16.59	41	P		Pn	23 35 38.8	+0.5
	baz=241							
CCB	Clear Creek Bu	16.62	34			Pn	23 35 38.1	-0.6
GLB	Gilahina Butte	16.65	47	Pn		Pn	23 35 37.8	-1.3
MDM	Murphy Dome	16.67	33			Pn	23 35 39.7	+0.4
SNH	Sunshine Point	16.70	52	Pn		Pn	23 35 39.0	-0.8
SNH				IAmb		IAmb	23 35 48.4	
	comp=Z,102nm,1.1s							
VRDI	Verde Repeater	16.73	48	Pn		Pn	23 35 40.0	-0.4
CRQE	Cirque	16.75	50	P		Pn	23 35 40.6	+0.3
	baz=252							
HDA	Harding Lake	16.78	36	P		P	23 35 42.2	-0.3
HDA	Harding Lake	16.78	36	P		Pn	23 35 40.5	-0.2
	baz=235							
H23K	Yukon River	16.83	29	P		P	23 35 44.1	+1.1
H23K	Yukon River	16.83	29	P		Pn	23 35 42.3	+1.1
	baz=226							
K24K	Donnelly Dome	16.88	38	P		Pn	23 35 42.2	+0.2
	baz=238							
MCARA	McCarthy VSAT	16.98	48			Pn	23 35 43.7	+0.5
MCARA	McCarthy VSAT	16.98	48	P		Pn	23 35 42.7	-0.5
	baz=250							
IL31		17.02	35			Pn	23 35 43.4	-0.1
ILAR	Eielson Array	17.02	35	Pn		Pn	23 35 43.3	-0.3
ILAR	Eielson Array	17.02	35	P		Pn	23 35 41.4	-2.2
	comp=Z,0.3nm,0.3s,baz=235,slow=11,SNR=14							
ILAR				LR		LR	23 42 43.1	
	comp=Z,297nm,19.3s,baz=215,slow=39							
ILAR				ScP		ScP	23 43 58.8	+0.3
	comp=Z,0.9nm,0.8s,baz=246,slow=2.9,SNR=7.6							
	comp=Z,0.8nm,0.5s							
POKR	Poker Plat Res	17.04	33	Pn		Pn	23 35 40.9	-3.0
D19K	Kuna River	17.05	15			P	23 35 45.3	-0.1
G22K	Bettles	17.08	25	P		Pn	23 35 45.1	+0.8
	baz=220							
MESA	MESA	17.13	52	P		Pn	23 35 46.0	+0.8
	baz=255							
E20K	Nigu River	17.16	17	P		Pn	23 35 45.7	+0.3
	baz=209							
RIDG	Independent Ri	17.21	39	P		P	23 35 47.0	-0.2
RIDG	Independent Ri	17.21	39	P		P	23 35 47.0	-0.2
	baz=240							
MENT	Mentasta	17.28	42			Pn	23 35 45.1	-1.9
G23K	Bananza Creek	17.32	27	P		P	23 35 48.2	-0.2
	baz=224							
H24K	Noodor Dome	17.35	31			P	23 35 49.0	+0.2
H24K	Noodor Dome	17.35	31	P		Pn	23 35 48.5	+0.7
	baz=229							
M26K	Nabesna, AK	17.37	44	Pn		Pn	23 35 47.0	-1.0
M26K	Nabesna, AK	17.37	44	P		Pn	23 35 48.3	+0.3
	baz=247							
F22K	John River	17.37	23	P		Pn	23 35 48.5	+0.5
	baz=218							
J25K	Salcha River,	17.46	36	P		Pn	23 35 48.6	-0.7
J25K	Salcha River,	17.46	36	P		Pn	23 35 48.4	-0.8
	baz=237,SNR=6.0							
L26K	Log Cabin Wild	17.48	42			Pn	23 35 49.4	0.0
L26K	Log Cabin Wild	17.48	42	P		Pn	23 35 49.5	+0.1
	baz=244							
D20K	Ettivluk River	17.49	16	P		Pn	23 35 49.0	-0.5
	baz=207							
BARN	Barnard Glacie	17.51	49	P		P	23 35 51.7	+1.0
CTG	Chitna Glacier	17.63	50	P		P	23 35 52.1	+0.1
	baz=253							
CTGM	Chitina Glacie	17.63	50			P	23 35 52.6	+0.6
CTGM				IAmb		IAmb	23 36 07.0	
	comp=Z,66nm,1.4s							
COLD	Coldfoot	17.65	25	P		Pn	23 35 51.7	+0.2
	baz=222							
SCRK	Sand Creek	17.66	39			Pn	23 35 50.9	-0.7
SCRK	Sand Creek	17.66	39	P		Pn	23 35 51.1	-0.6
	baz=241							
E21K	Killik River	17.74	19	P		Pn	23 35 52.8	+0.2
	baz=213							
LOGN	Logan Glacier	17.75	50			P	23 35 54.3	+0.9
LOGN				IAmb		IAmb	23 36 01.8	
	comp=Z,42nm,1.3s							
M27K	Edge Creek, AK	17.83	45	P		Pn	23 35 53.5	-0.4
M27K	Edge Creek, AK	17.83	45	P		Pn	23 35 53.5	-0.4
	baz=248							
PRP	Porcupine Dome	17.92	34			Pn	23 35 55.0	+0.1
PRP	Porcupine Dome	17.92	34	P		Pn	23 35 54.7	-0.2
	baz=234							
PINM	Pinnacle	17.93	53	P		Pn	23 35 55.4	+0.4
	baz=257							
E22K	Anaktuvuk Pass	17.95	22	P		Pn	23 35 55.5	+0.3
	baz=217							
G24K	Hadweenzic Riv	18.04	29	P		Pn	23 35 55.5	-0.7
	baz=228							
J26L	Joseph Creek	18.07	38	P		Pn	23 35 55.2	-1.5
J26L	Joseph Creek	18.07	38	P		Pn	23 35 56.0	-0.7
	baz=240							
O28M	Mount Upton	18.12	51	P		P	23 35 57.2	-0.3
	baz=255							
L27K	Beaver Creek,	18.12	43	P		Pn	23 35 57.6	+0.3
L27K	Beaver Creek,	18.12	43	P		P	23 35 56.9	-0.4
	baz=247							
BCAR	Beaver Creek A	18.14	43	P		P	23 35 57.6	+0.1
YUK3	Moose Creek	18.27	48	P		P	23 35 58.4	-0.7
	baz=252							
H25L	Birch Creek	18.27	31	P		P	23 35 59.1	+0.3
	baz=232							
PNL	Peninsula	18.27	55	P		Pn	23 36 01.4	+2.2
D22K	Ayikyak River	18.37	20	P		Pn	23 36 00.6	+0.4
	baz=214							
E23K	Chandalar	18.42	24	P		P	23 36 00.9	+0.3
	baz=221							
K27K	Chicken	18.43	40	P		P	23 36 00.9	+0.3
K27K	Chicken	18.43	40	P		P	23 36 00.8	+0.3
	baz=244							
YUK8	Steele Glacier	18.45	50	P		P	23 36 01.4	+0.2
	baz=254							
F24K	Squaw Lake	18.48	27	P		Pn	23 36 01.8	+0.1
	baz=226							
G25K	Bearman Lake	18.50	30	P		P	23 36 01.4	0.0
	baz=230							
I26K	Coal Creek Min	18.63	36	P		P	23 36 01.3	-1.5
I26K	Coal Creek Min	18.63	36	P		P	23 36 02.9	+0.1
	baz=239							
FYU	Fort Yukon	18.64	31	P		Pn	23 36 03.6	+0.1
E24K	Your Creek	18.72	25	P		Pn	23 36 04.5	0.0
	baz=223							
O29M	Mount Kennedy	18.80	53	P		Pn	23 36 05.5	0.0
O29M				IAmb		IAmb	23 36 09.4	
	comp=Z,21nm,0.6s							
O29M	Mount Kennedy	18.80	53	P		P	23 36 05.2	+0.4
	baz=259							
TOLK	Toolik Lake Re	18.87	23	P		P	23 36 05.0	-0.5
TOLK	Toolik Lake Re	18.87	23	P		P	23 36 05.6	+0.1
	baz=220							
YUK4	Talbot Arm	18.99	50	P		Pn	23 36 08.1	+0.2
	baz=256,SNR=5.8							
YUK6	Outpost Mounta	19.03	51	P		P	23 36 05.9	-1.6
	baz=257							
P29M	Windy Craggy	19.10	55	P		Pn	23 36 10.2	+1.1
P29M				IAmb		IAmb	23 36 13.4	
	comp=Z,80nm,1.4s							
P29M	Windy Craggy	19.10	55	P		P	23 36 08.3	+0.2
	baz=262							
F25K	Christian Rive	19.17	28	P		P	23 36 08.8	0.0
	baz=229							
G26K	Porcupine Rive	19.33	31	P		P	23 36 10.5	0.0
	baz=234							
I27K	Kandik River	19.34	36	P		P	23 36 11.3	+0.6
	baz=240,SNR=9.2							
M29M	Somme Creek	19.37	47	P		P	23 36 11.4	+0.4
M29M	Somme Creek	19.37	47	P		P	23 36 11.6	+0.5
	baz=253							
HYT	Haines Junctio	19.42	52	P		Pn	23 36 12.8	-0.2
HYT				IAmb		IAmb	23 36 15.8	
	comp=Z,31nm,0.6s							
HYT	Haines Junctio	19.42	52	P		Pn	23 36 13.9	+0.9
	baz=258,SNR=17							
DAWY	Dawson	19.52	42	P		P	23 36 13.0	+0.4
	baz=247							
E25K	Arctic Village	19.54	27	P		Pn	23 36 14.5	+0.2
	baz=228							
P30M	Million Dollar	19.56	54	P		Pn	23 36 15.1	+0.4
	baz=261							
PEA0B	Petropavlovsk-	19.67	285	P		P	23 36 14.0	-0.2
PEA0B				IAmb		IAmb	23 36 17.6	
	comp=Z,52nm,1.3s							
PETK	Petropavlovsk-	19.67	285	P		P	23 36 13.9	-0.4
PETK	Petropavlovsk-	19.67	285	P		P	23 36 14.4	+0.2
	comp=Z,2.1nm,0.3s,baz=86,slow=13,SNR=39							
	comp=Z,7.4nm,0.5s							
F26K	Sheenjek River	19.68	29	P		P	23 36 13.6	-0.7
	baz=231							
H27K	Steamboat Moun	19.69	35	P		P	23 36 14.6	+0.2
	baz=239,SNR=5.5							
L29M	L29M	19.71	45	P		P	23 36 14.8	0.0
	baz=252							
S31K	Pelican	19.74	60	P		P	23 36 12.8	-2.1
S31K				IAmb		IAmb	23 36 28.5	
	comp=Z,46nm,1.0s							
S31K	Pelican	19.74	60	P		P	23 36 15.7	+0.7
	baz=268							
N30M	Aishikik Lake	19.75	50	P		Pn	23 36 16.4	-0.5
N30M				IAmb		IAmb	23 36 19.0	
	comp=Z,26nm,0.8s							
N30M	Aishikik Lake	19.75	50	P		P	23 36 16.1	+1.0
	baz=257,SNR=12							
PLBC	Pleasant Camp	19.77	56	P		Pn	23 36 17.6	+0.5
	baz=264,SNR=8.5							
I28M	Miner Creek	19.88	38	P		P	23 36 16.3	-0.3
I28M	Miner Creek	19.88	38	P		P	23 36 16.2	-0.4
	baz=243							
G27K	Doyon Strip	19.95	33	P		P	23 36 17.7	+0.5
	baz=237							
O30N	Mendenhall	20.09	52	P		Pn	23 36 20.4	-0.4
O30N				IAmb		IAmb	23 36 38.7	
	comp=Z,24nm,0.9s							
O30N	Mendenhall	20.09	52	P		Pn	23 36 21.1	+0.2
	baz=260,SNR=7.9							
M30M	Minto, Yukon	20.15	47	P		P	23 36 20.1	+0.7
M30M	Minto, Yukon	20.15	47	P		P	23 36 19.4	-0.1
	baz=255							
D25K	Kavik River	20.16	24	P		P	23 36 19.6	+0.1
K29M	Barlow Dome	20.21	43	P		P	23 36 19.8	-0.4
K29M	Barlow Dome	20.21	43	P		P	23 36 20.5	+0.3
	baz=250							
SKAG	Skagway	20.30	56	P		Pn	23 36 22.7	-0.6
SKAG	Skagway	20.30	56	P		Pn	23 36 23.5	+0.2
SKAG	Skagway	20.30	56	P		Pn	23 36 23.7	+0.4
	baz=265,SNR=17							
N31M	Braeburn, Yuko	20.36	50	P		P	23 36 22.3	+0.5
N31M	Braeburn, Yuko	20.36	50	P		P	23 36 22.2	+0.3
	baz=259							
I29M	Ogilvie Camp,	20.46	39	P		P	23 36 23.7	+0.9
I29M	Ogilvie Camp,	20.46	39	P		P	23 36 22.1	-0.7
	baz=246							
S32K	Killisnoo	20.62	62	P		Pn	23 36 26.6	-0.4
S32K				IAmb		IAmb	23 36 34.5	
	comp=Z,40nm,1.1s							
R32K	Eaglecrest	20.66	60	P		P	23 36 25.5	+0.6
	baz=268							
WHY	Whitehorse	20.66	53			Pn	23 36 26.7	-0.9
WHY				IAmb		IAmb	23 36 42.8	
	comp=Z,15nm,0.8s							
WHY	Whitehorse	20.66	53	P		P	23 36 26.5	+1.4
	baz=262							
H29M	Whitestone	20.80	36	P		P	23 36 25.8	-0.7
H29M				IAmb		IAmb	23 36 35.8	
	comp=Z,25nm,0.7s							
H29M	Whitestone	20.80	36	P		P	23 36 26.0	-0.5
	baz=243,SNR=16							
J30M	Hart River	20.95	42	P		P	23 36 29.4	+1.3
J30M	Hart River	20.95	42	P		P	23 36 28.1	-0.1
	baz=250							
F28M	Old Crow	20.97	32	P		P	23 36 27.1	-1.1
	baz=238							
P32M	Atlin	21.13	56	P		P	23 36 31.9	+1.8
P32M				IAmb		IAmb	23 36 33.8	
	comp=Z,14nm,0.8s							
P32M	Atlin	21.13	56	P		P	23 36 28.4	-1.7
	baz=266							
M31M	Drury Creek, Y	21.15	49	P		P	23 36 30.8	+0.6
M31M	Drury Creek, Y	21.15	49	P		P	23 36 30.1	-0.2
	baz=258							
I30M	Mount Dempster	21.15	40	P		P	23 36 29.3	-1.1
I30M	Mount Dempster	21.15	40	P		P	23 36 28.7	-1.7
	baz=248							
G29M	Pine Creek	21.24	35	P		P	23 36 30.5	-0.7
G29M				IAmb		IAmb	23 36 46.7	
	comp=Z,25nm,0.9s							
G29M	Pine Creek	21.24	35	P		P	23 36 30.5	-0.7
	baz=242,SNR=9.7							
EPYK	Eagle Plains	21.47	37	P		P	23 36 32.7	-1.0
EPYK				IAmb		IAmb	23 36 52.5	
	comp=Z,25nm,1.1s							
EPYK	Eagle Plains	21.47	37	P		P	23 36 32.6	-1.0
	baz=245,SNR=7.3							
P33M	Teslin, Yukon	21.63	54	P		P	23 36 36.6	+1.1
P33M				IAmb		IAmb	23 36 51.5	
	comp=Z,20nm,1.1s							
P33M	Teslin, Yukon	21.63	54	P		P	23 36 36.0	+0.5
	baz=265							
FARO	Faro, Yukon	21.64	49	P		P	23 36 36.6	+1.1
FARO	Faro, Yukon	21.64	49	P		P	23 36 36.5	+1.1
	baz=259							
Q32M	Nakina River	21.84	58	P		P	23 36 39.1	+1.2
Q32M				IAmb		IAmb	23 36 45.5	
	comp=Z,35nm,1.3s							
Q32M	Nakina River	21.84	58	P		P	23 36 37.3	-0.7
	baz=269							
G30M	tAoh Zraii Nji	21.91	36	P		P	23 36 38.4	0.0
G30M				IAmb		IAmb	23 36 56.0	
	comp=Z,28nm,1.4s							
G30M	tAoh Zraii Nji	21.91	36	P		P	23 36 38.1	-0.3
	baz=244							
E29M	Blow River	22.01	31	P		P	23 36 39.3	0.0
	baz=239							
H31M	Peel River	22.15	39	P		P	23 36 40.0	-1.0
H31M				IAmb		IAmb	23 36 50.9	
	comp=Z,35nm,1.4s							
H31M	Peel River	22.15	39	P		P	23 36 40.4	-0.6
	baz=250							
F30M	Barrier River	22.34	34	P		P	23 36 43.4	+0.5
	baz=244							
DIB	Dawson Inlet,	22.34	73	P		P	23 36 44.0	+0.9
DIB				IAmb		IAmb	23 36 46.5	
	comp=Z,23nm,1.1s							
V35K	Ketchikan	22.44	67	P		P	23 36 45.8	+1.7
V35K				IAmb		IAmb	23 37 24.7	
	comp=Z,30nm,1.4s							
V35K	Ketchikan	22.44	67	P		P	23 36 44.8	+0.7
	baz=278							
S34M	Telegraph Cree	22.46	61	P		P	23 36 46.8	+2.5
S34M				IAmb		IAmb	23 36 52.8	
	comp=Z,18nm,0.8s							
S34M	Telegraph Cree	22.46	61	P		P	23 36 46.0	+1.7
	baz=272							
R33M	Jennings River	22.52	57	P		P	23 36 47.8	+2.7
R33M				IAmb		IAmb	23 36 49.8	
	comp=Z,23nm,1.1s							
R33M	Jennings River	22.52	57	P		P	23 36 47.6	+2.5
	baz=269,SNR=7.3							
G31M	Satah River	22.59	36	P		P	23 36 46.1	+0.5
	baz=247							
MMPY	Sheldon Lake,	22.66	48	P		P	23 36 47.1	+0.7
MMPY	Sheldon Lake,	22.66	48	P		P	23 36 47.6	+1.2
	baz=261							
T35M	Bob Quinn	23.00	63	P		P	23 36 51.0	+1.0
	baz=275							
DLBC	Dease Lake	23.02	59	P		P	23 36 50.7	+0.5
DLBC				IAmb		IAmb	23 36 55.6	
	comp=Z,19nm,1.0s							
DLBC	Dease Lake	23.02	59	P		P	23 36 50.5	+0.2
	baz=272							
DLBC	Dease Lake	23.02	59	LR		LR	23 46 19.5	
	comp=Z,131nm,18.0s,baz=305,slow=38							
RUBB	Prince Rupert	23.39	70	P		P	23 36 55.5	+1.7
RUBB				IAmb		IAmb	23 36 57.3	
	comp=Z,15nm,0.8s							
INK	Inuvik	23.41	34	P		P	23 36 53.2	-0.7
	baz=245							
INK	Inuvik	23.41	34	LR		LR	23 47 03.4	
	comp=Z,253nm,18.4s,baz=194,slow=39							
TGTN	Hyland Airport	23.94	51	P		P	23 36 59.0	0.0
	baz=266							
LIRD	Liard River Hi	25.01	56	P		P	23 37 11.0	+2.3
	baz=273,SNR=5.7							
BBB	Bella Bella	25.17	74	LR		LR	23 45 07.5	
	comp=Z,129nm,20.8s,baz=262,slow=32							
KOTAN	Kotaneelee Air	26.00	55	P		P	23 37 18.3	+0.6
	baz=273							
LLLB	Lillooet	29.38	74	P		P	23 37 45.9	-2.2
WAPA	Wapiti River	29.38	64	P		P	23 37 49.7	+1.7
YKA	Yellowknife Ar	30.35	49	P		P	23 37 56.8	+0.3
	comp=Z,1.4nm,0.6s,baz=272,slow=7.8,SNR=10.0							
YKA				LR		LR	23 51 35.9	
	comp=Z,193nm,18.3s,baz=259,slow=39							
	comp=Z,1.4nm,0.6s							
ASAJ	Asahikawa	32.32	274	LR		LR	23 49 47.9	
	comp=Z,

BMO	Blue Mountains	34.75	81	P	P	23 38 36.1 +0.9
SBLHI	Steaming Bluff	34.80	156	P	P	23 38 35.1 -0.8
J08A	Circle Bar Ran	34.84	84	P	P	23 38 37.0 +0.9
J08A				IAmb	IAmb	23 38 39.1
	comp=Z,9.4nm,0.8s					
WVOR	Wild Horse Val	35.26	86	P	P	23 38 39.6 -0.1
WVOR				IAmb	IAmb	23 38 43.0
	comp=Z,5.7nm,1.1s					
PLID	Pearl Lake	35.42	80	P	P	23 38 41.1 0.0
MSO	Missoula	35.76	76	P	P	23 38 44.9 +1.0
MSO				IAmb	IAmb	23 38 46.3
	comp=Z,19nm,1.4s					
MSO	Missoula	35.76	76	P	P	23 38 44.3 +0.4
	baz=300,SNR=5.4					
CHMT	Chamberlain Mo	36.13	76	P	P	23 38 47.1 0.0
OVMT	Ovando	36.20	75	P	P	23 38 48.2 +0.5
BPMT	Black Pine Rid	36.25	76	P	P	23 38 48.9 +0.6
KLR	Kul'dur	36.26	289	P	P	23 38 48.0 0.0
	comp=Z,0.7nm,0.4s,baz=78,slow=13,SNR=2.2					
KLR				LR	LR	23 55 25.4
	comp=Z,63nm,19.3s,baz=68,slow=39					
	comp=Z,0.7nm,0.4s					
PAHR	Pah Rah Range	36.40	90	P	P	23 38 49.8 +0.3
PAHR				IAmb	IAmb	23 38 52.6
	comp=Z,4.8nm,1.0s					
RES	Resolute Bay	36.41	26	LR	LR	23 56 25.8
	comp=Z,86nm,20.1s,baz=325,slow=41					
MFID	Camas Ranch	36.42	82	P	P	23 38 50.5 +0.8
MFID				IAmb	IAmb	23 38 52.1
	comp=Z,6.3nm,0.8s					
PNTR	Pine Nut	36.65	91	P	P	23 38 52.5 +0.8
PNTR				IAmb	IAmb	23 38 57.3
	comp=Z,11nm,1.0s					
LYMT	Lyon Mountain	36.67	75	P	P	23 38 52.3 +0.5
BEMT	Mount Belmont	36.76	75	P	P	23 38 51.1 -1.5
ELMT	Elliston	36.77	76	P	P	23 38 53.1 +0.4
YERR	Yerington	36.93	91		P	23 38 54.2 +0.1
YERR				IAmb	IAmb	23 38 57.4
	comp=Z,5.3nm,1.0s					
HLID	Hailey	37.20	81	P	P	23 38 56.9 +0.6
HLID				IAmb	IAmb	23 38 58.5
	comp=Z,4.3nm,0.8s					
HLID	Hailey	37.20	81	P	P	23 38 57.3 +1.0
	baz=304,SNR=8.0					
DLMT	Dillon	37.32	77	P	P	23 38 57.9 +0.6
DLMT				IAmb	IAmb	23 38 59.6
	comp=Z,9.2nm,1.3s					
BBGB	Big Mountain B	37.36	95	P	P	23 38 57.7 +0.1
H11N2	WAKE ISLAND Hy	37.38	218	T	T	00 18 42.1
	baz=24,slow=76,SNR=68					
H11N3	WAKE ISLAND Hy	37.38	218	T	T	00 18 38.3
	baz=24,slow=76,SNR=93					
H11N1	WAKE ISLAND Hy	37.40	218	T	T	00 18 43.5
	baz=24,slow=76,SNR=62					
BCYI	Bear Canyon	37.40	79	P	P	23 38 58.3 +0.2
KVN	Kaiserville	37.59	90		P	23 38 59.6 -0.1
EGMT	Eagleton	37.63	72	P	P	23 38 59.9 +0.1
EGMT	Eagleton	37.63	72	P	P	23 39 00.8 +1.1
	baz=300,SNR=9.4					
PMPB	Monarch Peak	37.74	96	P	P	23 39 00.4 -0.5
BOZ	Bozeman (W)	37.77	77	P	P	23 39 01.5 +0.5
BOZ				IAmb	IAmb	23 39 03.2
	comp=Z,6.3nm,0.7s					
BOZ	Bozeman (W)	37.77	77	P	P	23 39 01.9 +0.8
	baz=302,SNR=8.9					
LHV	Little Huntoon	37.84	91	P	P	23 39 02.4 +0.9
LHV				IAmb	IAmb	23 39 05.2
	comp=Z,6.7nm,1.1s					
NVAR	Mina Array Bea	37.85	91	P	P	23 39 03.1 +1.2
NVAR	Mina Array Bea	37.85	91	P	P	23 39 03.9 +2.0
	comp=Z,2.3nm,0.8s,baz=301,slow=7.4,SNR=15					
NVAR				PcP	PcP	23 41 18.8 +1.2
	comp=Z,0.7nm,0.6s,baz=262,slow=3.4,SNR=3.8					
NVAR				ScP	ScP	23 45 00.5 -1.1
	comp=Z,1.4nm,0.9s,baz=256,slow=3.0,SNR=7.3					
	comp=Z,2.3nm,0.8s					
NV11	Mina Array Sit	37.94	91	P	P	23 39 02.9 +0.3
OMMB	Old Mammoth Mi	37.94	92	P	P	23 39 03.0 +0.2
OMMB				IAmb	IAmb	23 39 41.1
	comp=Z,8.8nm,1.5s					
ELK	Elko	38.32	85	P	P	23 39 06.2 +0.4
H11S1	WAKE ISLAND Hy	38.57	218	T	T	00 20 05.8
	baz=23,slow=76,SNR=854					
H11S2	WAKE ISLAND Hy	38.58	218	T	T	00 20 15.0
	baz=23,slow=76,SNR=526					
H11S3	WAKE ISLAND Hy	38.58	218	T	T	00 20 09.6
	baz=23,slow=76,SNR=434					
YHH	Holmes Hill	38.67	77	P	P	23 39 09.5 +0.7
USRK	Ussuriysk Ar.	38.70	282	LR	LR	23 57 31.4
	comp=Z,36nm,18.0s,baz=82,slow=40					
YNR	Norris Junctio	38.81	77	P	P	23 39 11.3 +1.3
YNR				IAmb	IAmb	23 39 12.8
	comp=Z,11nm,0.8s					
IMW	Indian Meadow	39.11	78	P	P	23 39 12.3 -0.1
IMW				IAmb	IAmb	23 39 15.2
	comp=Z,6.1nm,0.8s					
ID08	Devils Gate	39.13	80	P	P	23 39 13.0 +0.4
ID08				IAmb	IAmb	23 39 15.8
	comp=Z,9.6nm,1.1s					
FLWY	Flagg Ranch	39.15	78		P	23 39 13.7 +0.9
FLWY				IAmb	IAmb	23 39 28.7
	comp=Z,5.9nm,0.8s					
ID07	Smith Canyon R	39.19	81	P	P	23 39 13.9 +0.9
ID07				IAmb	IAmb	23 39 33.8
	comp=Z,11nm,1.5s					
FXWY	Fox Creek	39.20	79	P	P	23 39 14.1 +0.9
GMN	Gold Mountain	39.21	91	P	P	23 39 13.7 +0.4
HVU	Hansel Valley	39.21	82	P	P	23 39 13.8 +0.6
HVU				IAmb	IAmb	23 39 15.7
	comp=Z,7.4nm,0.7s					
MOOW	Moose Ponds	39.31	78	P	P	23 39 14.2 +0.1
TPAW	Teton Pass	39.33	79	P	P	23 39 14.9 +0.6
RLMT	Red Lodge	39.43	76	IAmb	IAmb	23 39 17.7
	comp=Z,15nm,0.9s					
RLMT	Red Lodge	39.43	76	P	P	23 39 15.9 +0.8
	baz=303,SNR=11					
REDW	Red Top Meadow	39.46	79	P	P	23 39 16.3 +0.9
LOHW	Long Hollow	39.47	79	P	P	23 39 15.8 +0.4
LOHW				IAmb	IAmb	23 39 17.9
	comp=Z,4.4nm,0.8s					
ID05	Sulphur Canyon	39.50	80	P	P	23 39 16.7 +0.9
ID05				IAmb	IAmb	23 39 18.8
	comp=Z,5.4nm,0.6s					
MJAR	Matsushiro Arr	39.51	267	P	P	23 39 15.2 -0.4
	comp=Z,1.2nm,0.6s,baz=32,slow=7.4,SNR=4.5					
MJAR				LR	LR	23 53 41.1
	comp=Z,129nm,21.9s,baz=51,slow=33					
	comp=Z,1.2nm,0.6s					
MAJO	Matsushiro	39.51	267	P	P	23 39 14.9 -0.7
MAJO				IAmb	IAmb	23 39 17.1
	comp=Z,7.8nm,0.8s					
MJB9	Matsu-Tunnel	39.51	267	P	P	23 39 15.2 -0.4
MJB9				IAmb	IAmb	23 39 18.1
	comp=Z,7.6nm,0.7s					
ISA	Isabella, Lake	39.53	94	P	P	23 39 16.7 +0.9
ISA				IAmb	IAmb	23 39 50.9
	comp=Z,8.3nm,1.4s					
BGU	Big Grassy Mou	39.55	84	P	P	23 39 17.0 +0.9
BGU				IAmb	IAmb	23 39 18.2
	comp=Z,5.5nm,0.9s					
R11B	Troy Canyon, C	39.57	89	P	P	23 39 17.0 +0.7
R11B	Troy Canyon, C	39.57	89	P	P	23 39 17.4 +1.1
	baz=309,SNR=5.4					
AHID	Auburn Hatcher	39.65	80	P	P	23 39 17.6 +0.7
AHID				IAmb	IAmb	23 39 19.6
	comp=Z,9.5nm,1.2s					
SPUT	South Promonto	39.68	83	P	P	23 39 17.5 +0.3
MPMC	Manual Prospec	39.87	93	P	P	23 39 19.4 +0.6
	baz=311					
ID09	Alton	39.89	81	P	P	23 39 20.1 +1.1
ID09				IAmb	IAmb	23 39 21.3
	comp=Z,10nm,0.6s					
ID10	Lander Cutoff	39.92	80	P	P	23 39 20.2 +1.1
SPR3	Spring Creek 3	39.93	87	P	P	23 39 19.7 +0.3
FURC	Furnace Creek,	39.98	92	P	P	23 39 21.8 +2.3
	baz=311					
HWUT	Hardware Ranch	40.04	82	P	P	23 39 20.9 +0.7
HWUT				IAmb	IAmb	23 39 22.2
	comp=Z,6.7nm,1.1s					
TPNV	Topopah Spring	40.05	91	P	P	23 39 21.9 +1.6
TPNV				IAmb	IAmb	23 39 23.1
	comp=Z,5.5nm,0.8s					
TPNV	Topopah Spring	40.05	91	P	P	23 39 21.4 +1.2
	baz=310,SNR=6.2					
DUG	Dugway, Tooele	40.12	84	P	P	23 39 21.6 +0.8
DUG				IAmb	IAmb	23 39 23.6
	comp=Z,11nm,1.1s					
DUG	Dugway, Tooele	40.12	84	P	P	23 39 22.4 +1.6
	baz=307,SNR=8.9					
QSM	Queen of Sheba	40.31	93	P	P	23 39 22.8 +0.5
LAO	LASA Array	40.38	72	P	P	23 39 22.0 -0.8
LAO				IAmb	IAmb	23 39 24.8
	comp=Z,8.0nm,0.6s					
LAO	LASA Array	40.38	72	P	P	23 39 24.1 +1.4
	baz=302					
TCUT	Toone Canyon	40.43	82	P	P	23 39 23.2 -0.2
TCUT				IAmb	IAmb	23 39 27.6
	comp=Z,9.1nm,0.7s					
CTU	Camp Tracy	40.47	83	P	P	23 39 23.7 0.0
PRN	Pahroc Range	40.49	89	P	P	23 39 24.4 +0.6
PRN				IAmb	IAmb	23 39 26.7
	comp=Z,8.8nm,0.9s					
PSUT	Pine Spring	40.51	87	P	P	23 39 24.0 -0.1
PSUT				IAmb	IAmb	23 39 34.7
	comp=Z,8.1nm,1.2s					
SNCC	San Nicolas Is	40.52	98	P	P	23 39 23.0 -0.9
BW06	Boulder Array	40.58	79	P	P	23 39 25.5 +0.8
BW06				IAmb	IAmb	23 39 26.7
	comp=Z,12nm,0.7s					
BW06	Boulder Array	40.58	79	P	P	23 39 25.0 +0.4
	baz=305,SNR=5.3					
PD31	Pinedale Array	40.58	79	P	P	23 39 25.2 +0.5
PD31				IAmb	IAmb	23 39 26.7
	comp=Z,9.7nm,0.7s					
PDAR	Pinedale Array	40.58	79	P	P	23 39 25.6 +1.0
PDAR	Pinedale Array	40.58	79	P	P	23 39 25.8 +1.2
	comp=Z,10.0nm,0.7s,baz=303,slow=4.2,SNR=99					
PDAR				LR	LR	23 54 31.2
	comp=Z,86nm,20.0s,baz=328,slow=34					
	comp=Z,10.0nm,0.7s					
DGMT	Dagmar	40.61	68	P	P	23 39 24.9 +0.3
DGMT				IAmb	IAmb	23 39 32.7
	comp=Z,6.6nm,0.7s					
NLU	North Lily Min	40.72	84	P	P	23 39 27.1 +1.3
NLU				IAmb	IAmb	23 39 28.3
	comp=Z,6.9nm,0.9s					
GSC	Goldstone, Bar	40.78	93	P	P	23 39 27.2 +0.9
GSC				IAmb	IAmb	23 39 28.9
	comp=Z,6.7nm,0.9s					
GSC	Goldstone, Bar	40.78	93	P	P	23 39 27.3 +1.0
	baz=312,SNR=5.2					
JHJ	Hachijo jima 2	40.84	262	LR	LR	23 53 43.0
	comp=Z,74nm,20.8s,baz=97,slow=32					
MPU	Maple Canyon	40.95	84	P	P	23 39 28.8 +1.0
MPU				IAmb	IAmb	23 39 29.7
	comp=Z,5.2nm,0.8s					
BFSC	Mount Baldy Ra	40.98	95	P	P	23 39 28.8 +0.9
	baz=313					
BSUT	Blindstream Ca	41.17	83	P	P	23 39 30.8 +1.1
BSUT				IAmb	IAmb	23 39 32.3
	comp=Z,5.9nm,0.6s					
WTNK	Soaring Height	41.30	91		P	23 39 31.4 +1.0
HEC	Hector,Ludlow	41.39	93	P	P	23 39 32.9 +1.7
	baz=312					
CCUT	Cedar City	41.43	88	P	P	23 39 32.9 +1.1
ELS	Elsinore Mount	41.52	96	P	P	23 39 32.1 -0.2
MVU	Marysvale	41.53	86	P	P	23 39 32.5 0.0
MVU				IAmb	IAmb	23 39 35.3
	comp=Z,21nm,1.0s					
MSU	Marysvale	41.55	86	P	P	23 39 33.7 +1.0
TMUT	Trail Mountain	41.65	84	P	P	23 39 34.5 +0.9
TMUT				IAmb	IAmb	23 39 36.4
	comp=Z,10nm,0.9s					
V12A	Nelson	41.70	91	P	P	23 39 35.0 +1.2
GMRC	Granite Mounta	41.83	93	P	P	23 39 36.1 +1.2
	baz=312					
P17A	Butcher Ranch,	41.83	84	P	P	23 39 36.1 +1.2
P17A				IAmb	IAmb	23 39 37.0
	comp=Z,8.2nm,0.8s					
MTPU	Mount Pierson	41.84	87	P	P	23 39 35.8 +0.6
LCMT	Little Creek M	41.85	89	P	P	23 39 36.3 +1.3
RDMU	Red Mountain	41.87	82	P	P	23 39 36.3 +1.0
RDMU				IAmb	IAmb	23 39 37.7
	comp=Z,13nm,0.7s					
Q16A	Castle Valley	41.91	85	P	P	23 39 37.0 +1.5
Q16A				IAmb	IAmb	23 39 38.5
	comp=Z,11nm,0.9s					
P18A	Preston Nutter	42.03	83	P	P	23 39 37.5 +0.8
P18A				IAmb	IAmb	23 39 39.4
	comp=Z,11nm,1.0s					
KNB	Kanab	42.10	88	P	P	23 39 37.9 +0.7
PFO	Pinyon Flats O	42.13	95	P	P	23 39 38.5 +1.2
	baz=313					
TPFO	Pinon Flats	42.14	95	P	P	23 39 38.4 +1.0
	baz=313					
BELC	Belle Mtn. Jos	42.15	94	P	P	23 39 38.5 +1.0
	baz=313					
PMD	Palm Desert	42.16	95	P	P	23 39 38.5 +1.1
K22A	Casper	42.46	77	P	P	23 39 39.9 -0.1
K22A				IAmb	IAmb	23 39 41.5
	comp=Z,8.7nm,0.8s					
K22A	Casper	42.46	77	P	P	23 39 40.8 +0.8
	baz=306					
IRM	Iron Mountain	42.56	93	P	P	23 39 42.2 +1.4
	baz=312					
MONP2	Monument Peak	42.65	96	P	P	23 39 42.8 +1.2
	baz=314					
W13A	Hualapai Mount	42.71	91	P	P	23 39 42.9 +0.8
BC3	Big Chuckawall	42.72	94	P	P	23 39 42.0 -0.1
	baz=313					
HMU	Henry Mountain	42.79	86	P	P	23 39 43.9 +1.1
HMU				IAmb	IAmb	23 39 45.4
	comp=Z,18nm,0.9s					
U15A	North Rim	42.81	88	P	P	23 39 44.0 +1.0
U15A				IAmb	IAmb	23 39 45.8
	comp=Z,7.2nm,0.8s					
O20A	White River Ci	42.94	81	P	P	23 39 44.7 +0.7
O20A	White River Ci	42.94	81	P	P	23 39 44.6 +0.7
	baz=308,SNR=18					
IKP	In-Ko-Pah, Jac	43.00	96	P	P	23 39 44.8 +0.4
	baz=314					
PDMCI	Parker Dam,Lak	43.08	92	P	P	23 39 46.1 +1.2
	baz=312					
RSSD	Black Hills	43.08	74	P	P	23 39 45.1 0.0
RSSD				IAmb	IAmb	23 39 46.0
	comp=Z,5.7nm,0.8s					
RSSD	Black Hills	43.08	74	P	P	23 39 44.8 -0.3
	baz=305					
BLYC	Blythe	43.22	93	P	P	23 39 46.5 +0.5
BLYC				IAmb	IAmb	23 39 48.4
	comp=Z,6.4nm,0.8s					
GLA	Glamis	43.51	94	P	P	23 39 49.2 +0.8
	baz=313					
PV23	Carpenter Ridg	43.52	84	P	P	23 39 48.7 0.0
PV23				IAmb	IAmb	23 39 53.9
	comp=Z,8.8nm,0.6s					
MDND	Maddock	43.54	67	P	P	23 39 49.0 +0.5
MDND	Maddock	43.54	67	P	P	23 39 46.5 -2.0
	baz=303					
PV22	Blue Mesa, Par	43.60	83	P	P	23 39 49.8 +0.5
PV22				IAmb	IAmb	23 39 52.2
	comp=Z,10nm,1.0s					
PV11	David Mesa, Pa	43.70	84	P	P	23 39 50.8 +0.7
PV05	Paradox Valley	43.70	84	P	P	23 39 50.7 +0.6
PV05				IAmb	IAmb	23 39 58.8
	comp=Z,7.5nm,0.9s					
PV18	Skein Mesa, Pa	43.71	84	P	P	23 39 50.5 +0.3
PV18				IAmb	IAmb	23 39 52.0
	comp=Z,12nm,0.7s					
JCJ	Chichijima	43.74	254	LR	LR	23 56 26.1
	comp=Z,39nm,19.4s,baz=89,slow=34					
PV03	Paradox Valley	43.74	84	P	P	23 39 50.6 +0.2
PV03				IAmb	IAmb	23 39 52.2
	comp=Z,11nm,0.7s					
PV07	Paradox Valley	43.75	83	P	P	23 39 50.8 +0.3
PV07				IAmb	IAmb	23 39 52.2
	comp=Z,7.5nm,0.8s					
PV13	Radium Mtn., P	43.82	84	P	P	23 39 51.1 0.0
PV02	Paradox Valley	43.84	84	P	P	23 39 51.4 +0.2
PV02				IAmb	IAmb	23 39 53.2
	comp=Z,17nm,0.8s					
N23A	Red Feather La	43.86	79	P	P	23 39 51.4 0.0
N23A				IAmb	IAmb	23 39 53.6
	comp=Z,11nm,1.1s					
N23A	Red Feather La	43.86	79	P	P	23 39 51.9 +0.4
	baz=308					
PV15	Paradox Valley	43.91	83	P	P	23 39 51.7 -0.1
PV15				IAmb	IAmb	23 39 53.6
	comp=Z,13nm,1.1s					
WUAZ	Wupatki	43.97	89	P	P	23 39 53.4 +1.1
WUAZ				IAmb	IAmb	23 39 54.9
	comp=Z,10.0nm,0.8s					
WUAZ	Wupatki	43.97	89	P	P	23 39 52.9 +0.6
	baz=311,SNR=5.6					
PV01	Paradox Valley	43.99	84	P	P	23 39 52.5 0.0
PV01				IAmb	IAmb	23 39 54.3
	comp=Z,15nm,0.7s					
ULM	Lac du Bonnet	44.29	62	P	P	23 39 54.5 +0.1
	comp=Z,6.4nm,0.5s,baz=302,slow=9.1,SNR=9.5					
	comp=Z,6.4nm,0.5s					
SMCO	Snowmass	44.30	81	P	P	23 39 56.2 +1.1
SMCO				IAmb	IAmb	23 40 31.2
	comp=Z,33nm,1.2s					
MVCO	Mesa Verde	44.62	85	P	P	23 39 57.9 +0.4
MVCO				IAmb	IAmb	23 39 58.8
	comp=Z,4.6nm,0.8s					
MVCO	Mesa Verde	44.62	85	P	P	23 39 58.1 +0.5
	baz=310					
X16A	Lo Mia Camp, P	44.66	90	P	P	23 39 59.0 +1.2
ISCO	Idaho Springs	44.73	80	P	P	23 39 58.9 +0.4
ISCO	Idaho Springs	44.73	80	P	P	23 39 58.9 +0.4
	baz=308					
KSRS	Korea Array	45.21	276	P	P	23 40 01.9 +0.1
	comp=Z,0.8nm,0.5s,baz=53,slow=7.4,SNR=1.9					
KSRS				LR	LR	23 58 47.9
	comp=Z,37nm,20.6s,baz=70,slow=36					
	comp=Z,0.8nm,0.5s					
W18A	Petrified Fore	45.23	88	P	P	23 40 03.0 +0.6
W18A				IAmb	IAmb	23 40 04.9
	comp=Z,12nm,0.9s					
W18A	Petrified Fore	45.23	88	P	P	23 40 03.2 +0.9
	baz=312					
S22A	4UR Ranch, Cre	45.30	83	P	P	23 40 03.1 +0.2
S22A				IAmb	IAmb	23 40 05.9
	comp=Z,4.8nm,0.9s					
S22A	4UR Ranch, Cre	45.30	83	P	P	23 40 04.6 +1.6
	baz=310					
PIX	Pinacate	45.38	95	P	P	23 40 03.7 +0.5
214A	Organ Pipe Nat	45.50	94	P	P	23 40 04.8 +0.5
214A				IAmb	IAmb	23 40 06.6
	comp=Z,5.9nm,1.0s					
214A	Organ Pipe Nat	45.50	94	P	P	23 40 05.7 +1.4
	baz=314					
SDCO	Great Sand Dun	46.10	82	P	P	23 40 10.1 +0.9
	baz=310					
OGNE	Ogallala	46.17	76	P	P	23 40 09.8 +0.3
OGNE				IAmb	IAmb	23 40 11.1
	comp=Z,14nm,0.8s					
OGNE	Ogallala	46.17	76	P	P	23 40 10.9 +1.3
	baz=308					
JNU	Nakatsue	46.28	270	LR	LR	23 57 57.3
	comp=Z,114nm,21.9s,baz=42,slow=34					
TUC	Tucson	46.49	92	P	P	23 40 13.2 +1.0
TUC				IAmb	IAmb	23 40 14.7
	comp=Z,5.0nm,0.8s					
TUC	Tucson	46.49	92	P	P	23 40 13.8 +1.6
	baz=314					
B35A	Bob, Littlefor	46.51	63	P	P	23 40 11.8 -0.2
K30B	Basset	46.54	73	P	P	23 40 12.5 +0.2
KSCO	Kaye Shedlock'	47.03	79	P	P	23 40 16.8 +0.5
KSCO	Kaye Shedlock'	47.03	79	P	P	23 40 16.7 +0.4
	baz=310					
T25A	Trinidad	47.16	82	P	P	23 40 17.0 -0.5
T25A	Trinidad	47.16	82	P	P	23 40 18.5 +1.1
	baz=311,SNR=11					
ANMO	Albuquerque	47.35	86	P	P	23 40 19.4 +0.4
ANMO				IAmb	IAmb	23 40 22.0
	comp=Z,5.4nm,1.2s					
ANMO	Albuquerque	47.35	86	P	P	23 40 19.6 +0.6
	baz=312					
SBM	South Baldy	47.56	87	P	P	23 40 22.6 +1.8
ECSD	EROS Data Cent	47.63	70	P	P	23 40 20.0 -0.8
ECSD				IAmb	IAmb	23 40 21.4
	comp=Z,15nm,1.2s					
ECSD	EROS Data Cent	47.63	70	P	P	23 40 20.8 0.0
	baz=308					
BNM	Barren Site	47.78	87	P	P	23 40 22.8 +0.4
CRNM	Carthage	47.85	87	P	P	23 40 23.6 +0.7
EYMN	Ely	47.97	62	P	P	23 40 22.9 -0.5
EYMN	Ely	47.97	62	P	P	23 40 23.3 -0.1
	baz=306					
BGNE	Belgrade	48.17	73	P	P	23 40 24.4 -0.7
BGNE	Belgrade	48.17	73	P	P	23 40 24.6 -0.4
	baz=309					
121A	Cookes Peak, D	48.18	89	P	P	23 40 26.0 +0.6
121A				IAmb	IAmb	23 40 27.9
	comp=Z,6.6nm,0.9s					
121A	Cookes Peak, D	48.18	89	P	P	23 40 26.4 +1.0
	baz=314					
E38A	The Farm, Brul	48.74	64	P	P	23 40 27.7 -1.6
L34A	Svendsen Farm,	48.86	72	P	P	23 40 29.9 -0.4
CBKS	Cedar Bluff	48.88	77	P	P	23 40 30.6 0.0
CBKS	Cedar Bluff	48.88	77	P	P	23 40 31.0 +0.4
	baz=310					
SPMN	Marine on St.	48.88	66	P	P	23 40 30.5 +0.1
SPMN				IAmb	IAmb	23 40 30.9
	comp=Z,12nm,1.1s					
SPMN	Marine on St.	48.88	66	P	P	23 40 30.0 -0.4
	baz=308					
FRB	Frobisher Bay	49.05	35	LR	LR	00 02 12.7
	comp=Z,294nm,20.8s,baz=241,slow=37					
I37A	Lemond, Waseca	49.29	68	P	P	23 40 33.4 -0.2
SPITS	Spitsbergen Ar	49.61	358	PcP	PcP	23 41 56.9 +0.5
	comp=Z,2.4nm,0.4s,baz=60,slow=8.5,SNR=6.7					
SPITS				LR	LR	00 01 02.3
	comp=Z,46nm,18.5s,baz=278,slow=36					
R32A	Long Quarter,	49.75	77	P	P	23 40 37.2 0.0
N35A	Tabor	49.99	72	P	P	23 40 39.4 +0.5
MNTX	Cornudas Mount	50.22	88	P	P	23 40 41.9 +1.0
MNTX				IAmb	IAmb	23 40 43.2
	comp=Z,6.1nm,0.8s					
MNTX	Cornudas Mount	50.22	88	P	P	23 40 42.3 +1.5
	baz=314,SNR=12					
MSTX	Muleshoe	50.26	84	P	P	23 40 41.4 +0.2
AMTX	Amarillo	50.30	82	P	P	23 40 41.3 -0.2
AMTX				IAmb	IAmb	23 40 42.8
	comp=Z,6.7nm,0.7s					
AMTX	Amarillo	50.30	82	P	P	23 40 42.0 +0.5
	baz=312					
G40A	Rib Lake	50.30	64	P	P	23 40 40.9 -0.4
G40A				IAmb	IAmb	23 40 42.0
	comp=Z,9.9nm,0.9s					
KSU1	Kansas State U	50.55	75	P	P	23 40 43.1 -0.1
	baz=311					
ELIS	Ellis County	50.88	79	P	P	23 40 45.5 -0.2
ELIS				IAmb	IAmb	23 40 47.4
	comp=Z,15nm,1.0s					
425A	Indio Mountain	51.10	88	P	P	23 40 48.2 +0.6
425A				IAmb	IAmb	23 40 50.1
	comp=Z,10nm,1.1s					
SONM	Songino Array	51.11	301	ScP	ScP	23 45 57.2 +1.6
	comp=Z,0.5nm,0.6s,baz=46,slow=4.2,SNR=3.2					
F42A	Maple Grove Fa	51.13	63	P	P	23 40 47.5 0.0
KAN09	Caldwell North	51.25	77	P	P	23 40 47.9 -0.6
E43A	Lone Tree Farm	51.36	62	P	P	23 40 48.6 -0.6
PECS	Pecos	51.38	87	P	P	23 40 50.5 +0.9
PECS				IAmb	IAmb	23 40 54.6
	comp=Z,3.4nm,1.1s					
DKNS	Dickens	51.59	83	P	P	23 40 50.8 -0.4
DKNS

baz=313,SNR=8.2
SN01 Snyder 1 52.16 83 P **P 23 40 55.8 +0.4**
SN01 IAmb IAmb 23 40 56.3
comp=Z,9.9nm,1.0s
ALPN Alpine 52.22 88 P **P 23 40 56.3 +0.4**
ALPN IAmb IAmb 23 40 57.1
comp=Z,4.6nm,0.8s
OK029 Liberty Lake 52.24 78 P **P 23 40 55.3 -0.6**
JOW Kunigami 52.31 266 LR LR 00 01 50.9
comp=Z,28nm,21.2s,baz=172,slow=34
APMT Aspermont 52.31 82 P **P 23 40 56.3 -0.2**
APMT IAmb IAmb 23 40 57.9
comp=Z,23nm,1.5s
OK033 Mehan 52.38 78 **P 23 40 56.7 -0.2**
SFJD Kangerlussuaq 52.41 26 LR LR 00 05 01.7
comp=Z,118nm,19.6s,baz=298,slow=38
QUOK Quay 52.43 77 P **P 23 40 56.6 -0.7**
OK052 Battle Ridge R 52.50 78 P **P 23 40 56.7 -1.1**
OK031 S. Brethren Rd 52.50 78 **P 23 40 57.6 -0.3**
SGCY Sterling City 52.67 84 P **P 23 40 59.2 0.0**
SGCY IAmb IAmb 23 41 00.6
comp=Z,17nm,1.0s
DEOK Depew 52.78 78 P **P 23 40 59.6 -0.3**
E46A Sault Ste Mari 52.80 60 P **P 23 40 59.9 0.0**
N41A Harden Midland 52.85 69 P **P 23 40 59.6 -0.7**
N41A IAmb IAmb 23 41 00.3
comp=Z,6.9nm,0.6s
TX31 Lajitas Ar. Si 52.93 89 P **P 23 41 01.7 +0.5**
TX32 Lajitas Array 52.93 89 P **P 23 41 01.4 +0.2**
TX32 IAmb IAmb 23 41 03.1
comp=Z,8.3nm,0.8s
TXAR Lajitas Array 52.93 89 P **P 23 41 01.7 +0.5**
TXAR Lajitas Array 52.93 89 P **P 23 41 02.1 +0.9**
comp=Z,5.6nm,0.7s,baz=297,slow=5.3,SNR=81
TXAR PcP **PcP 23 42 10.7 +1.0**
comp=Z,1.2nm,0.7s,baz=290,slow=1.4,SNR=3.4
comp=Z,5.6nm,0.7s
P40A Paris 52.94 71 P **P 23 41 00.2 -0.8**
GUMO Guam 52.97 240 LR LR 23 58 21.0
comp=Z,27nm,20.2s,baz=121,slow=30
ABTX Abilene, Hawle 53.08 83 P **P 23 41 02.6 +0.4**
ABTX IAmb IAmb 23 41 04.0
comp=Z,9.5nm,1.0s
ABTX Abilene, Hawle 53.08 83 P **P 23 41 02.8 +0.6**
baz=314
TUL3 Leonard 53.16 77 P **P 23 41 01.8 -0.8**
TUL3 Leonard 53.16 77 P **P 23 41 02.0 -0.6**
baz=313
HNS HongShan 53.18 286 ⇑P **P 23 41 04.8 +2.0**
OZNA Ozona 53.37 85 P **P 23 41 03.9 -0.5**
OZNA IAmb IAmb 23 41 05.6
comp=Z,7.5nm,0.8s
S39A Bolivar 53.42 74 P **P 23 41 03.0 -1.6**
S39A IAmb IAmb 23 41 03.8
comp=Z,5.7nm,0.7s
SAND Sanderson 53.44 87 P **P 23 41 05.4 +0.5**
SAND IAmb IAmb 23 41 05.8
comp=Z,2.9nm,0.8s
L44A Lake County Fo 53.56 66 P **P 23 41 04.3 -1.2**
baz=311
LOOK Love County 53.63 80 **P 23 41 06.5 +0.3**
GLMI Grayling 53.64 62 P **P 23 41 04.7 -1.3**
GLMI Grayling 53.64 62 P **P 23 41 05.2 -0.9**
baz=311
U38A Gravette 53.64 76 P **P 23 41 05.2 -1.0**
U38A IAmb IAmb 23 41 06.5
comp=Z,9.7nm,0.9s
R40A Maddies Statio 53.64 72 P **P 23 41 04.2 -1.9**
R40A IAmb IAmb 23 41 05.5
comp=Z,8.7nm,0.6s
FW03 Perrin-Whitt E 53.75 81 P **P 23 41 06.8 -0.3**
FW03 IAmb IAmb 23 41 08.5
comp=Z,13nm,0.9s
HDIL Hopedale 53.85 68 P **P 23 41 07.5 -0.2**
HDIL Hopedale 53.85 68 P **P 23 41 07.1 -0.5**
baz=312
M44A Midewin, Midew 54.00 67 P **P 23 41 07.9 -0.9**
HHAR Hobbs 54.01 75 P **P 23 41 08.2 -0.7**
HHAR IAmb IAmb 23 41 08.4
comp=Z,4.8nm,0.8s
Z35A Perchaven, San 54.04 80 P **P 23 41 09.2 0.0**
FW07 Weatherford 54.16 81 P **P 23 41 09.2 -0.8**
FW07 IAmb IAmb 23 41 11.7
comp=Z,11nm,0.8s
P43A Skaggs, Pawnee 54.33 69 P **P 23 41 10.1 -1.0**
NJ2 Nanjing 54.35 278 *e*P **P 23 41 10.3 -1.1**
NJ2 pP **pP 23 41 24.8 +1.9**
NJ2 sP **sP 23 41 31.3 +3.7**
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,840nm,3.6s
CCM Cathedral Cave 54.39 72 P **P 23 41 11.1 -0.6**
CCM IAmb IAmb 23 41 22.5
comp=Z,9.8nm,1.4s
CCM Cathedral Cave 54.39 72 P **P 23 41 10.3 -1.3**
baz=312
MGMO Mountain Grove 54.40 74 P **P 23 41 10.2 -1.6**
MGMO IAmb IAmb 23 41 11.2
comp=Z,9.9nm,0.9s
BRDY Brady 54.41 83 P **P 23 41 11.7 -0.2**
BRDY IAmb IAmb 23 41 13.1
comp=Z,8.5nm,0.8s
JCT Junction City 54.49 85 P **P 23 41 12.0 -0.5**
JCT IAmb IAmb 23 41 13.5
comp=Z,9.7nm,0.8s
JCT Junction City 54.49 85 P **P 23 41 12.6 +0.1**
baz=315
FW13 Cleburne 54.62 81 P **P 23 41 13.1 -0.3**
FW13 IAmb IAmb 23 41 15.2
comp=Z,16nm,1.0s
DRIO Del Rio 54.74 86 P **P 23 41 13.7 -0.6**
DRIO IAmb IAmb 23 41 14.8
comp=Z,6.5nm,0.8s
WHTX Lake Whitney, 54.85 82 P **P 23 41 14.8 -0.3**
WHTX Lake Whitney, 54.85 82 P **P 23 41 16.2 +1.2**
baz=314
FVM French Village 54.92 72 P **P 23 41 14.4 -1.1**
FVM IAmb IAmb 23 41 15.6
comp=Z,6.5nm,0.7s
Q44A Meyer Farm, Va 55.11 70 P **P 23 41 16.1 -0.8**
Q44A IAmb IAmb 23 41 17.2
comp=Z,13nm,1.0s
T42A Van Buren 55.18 73 P **P 23 41 15.3 -2.0**
T42A IAmb IAmb 23 41 16.4
comp=Z,5.0nm,0.8s
VLDQ Val d'Or 55.19 55 P **P 23 41 15.0 -2.3**
SFIN Lafayette 55.21 67 P **P 23 41 16.7 -0.8**
SFIN IAmb IAmb 23 41 17.8
comp=Z,8.6nm,0.9s
SFIN Lafayette 55.21 67 P **P 23 41 16.9 -0.6**
baz=312
FCAR Ozark Folk Cen 55.35 75 P **P 23 41 16.8 -1.8**
FCAR IAmb IAmb 23 41 18.3
comp=Z,12nm,0.9s
MIAR Mount Ida 55.41 77 P **P 23 41 18.8 -0.3**
MIAR IAmb IAmb 23 41 20.3
comp=Z,12nm,0.9s
MIAR Mount Ida 55.41 77 P **P 23 41 18.6 -0.5**
baz=314,SNR=5.6
SCHQ Schefferville 55.53 43 P **P 23 41 19.4 -0.2**
comp=Z,9.0nm,0.9s,baz=290,slow=7.6,SNR=5.4
comp=Z,9.0nm,0.9s
435B Jarrell 55.62 83 P **P 23 41 21.6 +1.0**
435B IAmb IAmb 23 41 22.4
comp=Z,8.4nm,0.7s
OLIL Olney 55.75 69 P **P 23 41 21.1 -0.4**
JMIC Jan Mayen 56.16 7 LR LR 00 05 18.8
comp=Z,66nm,18.6s,baz=28,slow=36
833A Chaparral WMA, 56.27 86 P **P 23 41 25.8 +0.5**
833A IAmb IAmb 23 41 27.0
comp=Z,10nm,0.8s
833A Chaparral WMA, 56.27 86 P **P 23 41 25.6 +0.3**
baz=316
WLAR White Oak Lake 56.28 77 P **P 23 41 25.6 +0.3**
O48B Farmland 56.39 66 P **P 23 41 24.6 -1.4**
SADO Sadowa 56.58 59 P **P 23 41 27.3 0.0**
SADO IAmb IAmb 23 41 27.8
comp=Z,9.9nm,0.8s
CCAR Cane Creek 56.92 76 P **P 23 41 29.6 -0.3**
P49A Miami Univ. Ec 57.13 67 P **P 23 41 30.2 -1.0**
baz=313
WCI Wyandotte Cave 57.13 69 P **P 23 41 31.4 +0.2**
baz=314
ZALV Zalesovo Beam 57.26 317 P **P 23 41 31.3 -0.7**
comp=Z,0.3nm,0.3s,baz=18,slow=6.1,SNR=1.5
ZALV PcP **PcP 23 42 26.1 +0.2**
comp=Z,1.2nm,0.5s,baz=57,slow=5.5,SNR=4.5
comp=Z,0.3nm,0.3s
HKT Hockley 57.28 82 P **P 23 41 32.4 +0.1**
HKT IAmb IAmb 23 41 35.3
comp=Z,4.5nm,1.1s
T47A Sharon Grove 57.52 70 P **P 23 41 33.3 -0.7**
ACSO Alum Creek Sta 57.61 65 P **P 23 41 34.3 -0.4**
baz=314
WVT Waverly 57.70 71 P **P 23 41 34.6 -0.7**
WVT IAmb IAmb 23 41 47.3
comp=Z,4.1nm,0.8s
WVT Waverly 57.70 71 P **P 23 41 35.3 +0.1**
baz=314
ARCES ARCESS Array B 57.85 354 P **P 23 41 35.8 -0.1**
ARCES ARCESS Array B 57.85 354 P **P 23 41 35.1 -0.7**
comp=Z,3.7nm,0.7s,baz=25,slow=6.0,SNR=15
ARCES PcP **PcP 23 42 28.0 0.0**
comp=Z,3.1nm,0.6s,baz=0.9,slow=4.2,SNR=8.1
ARCES LR LR 00 07 53.2
comp=Z,78nm,18.5s,baz=346,slow=38
comp=Z,3.7nm,0.7s
OXF Oxford 57.90 74 P **P 23 41 36.0 -0.7**
baz=315
ERPA Erie 57.95 61 P **P 23 41 37.3 +0.3**
baz=314
M53A WI Miller and 58.05 62 P **P 23 41 37.6 0.0**
M53A WI Miller and 58.05 62 P **P 23 41 37.7 0.0**
baz=314
ALLY Alegheny Colle 58.19 62 P **P 23 41 38.9 +0.2**
Y45A Yeager Farm, C 58.28 75 P **P 23 41 39.4 0.0**
O52A Adamsville 58.33 64 P **P 23 41 39.2 -0.5**
PLAL Pickwick Lake 58.36 73 P **P 23 41 38.9 -1.0**
P52A Corning 58.50 65 P **P 23 41 39.4 -1.5**
baz=314
SSFO Shawnee State 58.56 66 P **P 23 41 41.4 +0.1**
LVZ Lovozero 58.63 349 P **P 23 41 40.1 -1.3**
MNTQ Montreal, Queb 58.90 55 P **P 23 41 42.4 -1.1**
LONY Lake Ozonia 59.03 56 P **P 23 41 43.2 -1.3**
baz=315
LMQ La Malbaie 59.06 51 P **P 23 41 44.5 -0.2**
J57A Williamstown 59.16 58 P **P 23 41 45.2 -0.1**
L56A Greenwood 59.23 60 P **P 23 41 45.9 -0.1**
X48A Hartselle 59.33 72 P **P 23 41 45.6 -1.0**
K57A Scipio Center 59.36 59 P **P 23 41 46.2 -0.6**
J58A Remsen 59.56 58 P **P 23 41 47.8 -0.3**
TPUB Ta-pu 59.58 269 P **P 23 41 48.1 -0.4**
TZTN Tazewell 59.87 68 P **P 23 41 50.2 -0.2**
TZTN Tazewell 59.87 68 P **P 23 41 49.8 -0.6**
baz=315
BINY Binghamton 60.02 59 P **P 23 41 50.8 -0.6**
baz=315
M57A Sunshine Farm, 60.02 60 P **P 23 41 51.6 +0.2**
FPAL Fort Paine 60.10 71 P **P 23 41 51.2 -0.8**
SSPA Standing Stone 60.11 61 P **P 23 41 51.4 -0.6**
SSPA Standing Stone 60.11 61 P **P 23 41 51.8 -0.2**
baz=315
Y49A Blount Mountai 60.12 72 P **P 23 41 51.8 -0.4**
Y49A IAmb IAmb 23 42 12.6
comp=Z,17nm,1.4s
LRAL Lakeview Retre 60.37 73 P **P 23 41 53.2 -0.6**
baz=316
ACCN Adirondack Com 60.37 57 P **P 23 41 53.7 0.0**
ACCN IAmb IAmb 23 41 54.4
comp=Z,7.0nm,0.8s
L59A Walton 60.52 58 P **P 23 41 54.8 0.0**
BLA Blacksburg 61.16 66 P **P 23 41 58.1 -1.1**
baz=316
PKME Peaks-Kenny Pk 61.20 52 P **P 23 41 58.0 -1.3**
baz=317
L61B Northampton 61.55 57 P **P 23 42 02.2 +0.5**
L61B Northampton 61.55 57 P **P 23 42 01.2 -0.5**
baz=316
RCRC Randolf Colleg 61.64 65 P **P 23 42 02.3 -0.1**
PAL Palisades 61.96 59 P **P 23 42 04.7 +0.3**
baz=316
KMSC Kings Mountain 62.13 68 P **P 23 42 05.0 -0.7**
baz=316
GOGA Godfrey 62.15 71 P **P 23 42 05.6 -0.3**
baz=316
KURBB Kurchatov Arra 62.32 318 P **P 23 42 06.0 -0.7**
comp=Z,1.0nm,0.7s,baz=46,slow=7.1,SNR=8.4
comp=Z,1.0nm,0.7s
352A Blakely 62.70 73 P **P 23 42 09.2 -0.4**
451A Vernon 62.84 74 P **P 23 42 10.6 +0.1**
L64A Middleborough 62.86 56 P **P 23 42 11.3 +0.8**
LMN Caledonia Moun 62.90 49 P **P 23 42 10.5 -0.2**
WMQ Urumqi 63.35 308 *e*P **P 23 42 16.4 +2.6**
WMQ pP sP 23 42 30.8 +0.7
WMQ pmax pmax
comp=Z,46nm,0.7s
BVAR Borovoye Array 63.55 324 P **P 23 42 14.1 -0.8**
comp=Z,2.2nm,0.5s,baz=53,slow=7.6,SNR=11
comp=Z,2.2nm,0.5s
MKAR Makanchi Array 63.63 313 P **P 23 42 13.3 -2.3**
comp=Z,0.2nm,0.5s,baz=38,slow=7.3,SNR=2.7
MKAR LR LR 00 13 46.2
comp=Z,49nm,18.1s,baz=28,slow=40
comp=Z,0.2nm,0.5s
NHSC New Hope 64.26 69 P **P 23 42 20.3 +0.5**
baz=317
ARU Arti 64.49 333 LR LR 00 13 12.8
comp=Z,44nm,18.1s,baz=8.0,slow=39
KIRV Kirov 64.89 339 LR LR 00 14 02.8
comp=Z,46nm,18.4s,baz=353,slow=39
FINES FINESS Array B 65.79 352 P **P 23 42 27.9 -1.4**
comp=Z,2.7nm,0.6s,baz=12,slow=7.6,SNR=22
comp=Z,2.7nm,0.6s
HNR Honiara 66.88 213 LR LR 00 05 34.5
comp=Z,683nm,21.6s,baz=359,slow=30
NB2 NORSAR Subarra 66.89 360 P **P 23 42 36.2 -0.2**
comp=Z,1.4nm,0.6s,baz=1.5,slow=6.9
NOA NORSAR Array B 66.89 360 P **P 23 42 35.9 -0.5**
comp=Z,0.7nm,0.5s,baz=360,slow=6.3,SNR=7.3
NOA LR LR 00 11 38.3
comp=Z,23nm,19.4s,baz=260,slow=36
comp=Z,0.7nm,0.5s
HFS Hagfors 67.77 358 P **P 23 42 41.2 -0.7**
comp=Z,2.9nm,0.4s,baz=26,slow=4.1,SNR=27
comp=Z,2.9nm,0.4s
PZH PanZhiHua 68.63 286 P **P 23 42 47.5 -0.5**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,210nm,5.3s
DAV Davao City (W) 69.15 254 LR LR 00 09 20.1
comp=Z,47nm,20.2s,baz=25,slow=33
ABKAR Akbulak array 70.29 328 P **P 23 42 56.9 -0.9**
NRN Naryn 70.64 313 P **P 23 43 00.2 -0.2**
KKAR Karatay Array 71.62 318 P **P 23 43 05.4 -0.7**
EKA Eskdalemuir Ar 72.03 8 P **P 23 43 07.8 -0.4**
comp=Z,0.6nm,0.4s,baz=353,slow=4.7,SNR=6.0
comp=Z,0.6nm,0.4s
AKASG Malin Array Be 76.02 348 P **P 23 43 30.5 -1.1**
comp=Z,0.7nm,0.4s,baz=15,slow=6.2,SNR=4.7
comp=Z,0.7nm,0.4s
MARNC Mare, Loyalty 76.11 201 P **P 23 43 30.4 -1.9**
CMAR Chiang Mai Arr 76.42 283 P **P 23 43 35.8 +1.4**
comp=Z,2.3nm,0.3s,baz=40,slow=6.1,SNR=5.4
CMAR LR LR 00 18 51.9
comp=Z,15nm,20.2s,baz=40,slow=37
comp=Z,2.3nm,0.3s
CLL Collm 76.62 358 *e*P **P 23 43 34.0 -1.0**
DZM Mont Dzumac 77.05 203 LR LR 00 10 34.2
comp=Z,56nm,20.0s,baz=286,slow=30
GERES GERESS Array B 79.07 358 P **P 23 43 48.8 0.0**
comp=Z,0.7nm,0.5s,baz=345,slow=4.1,SNR=5.0
comp=Z,0.7nm,0.5s
CONA Conrad Observa 79.92 356 *e*P **P 23 43 52.8 -0.6**
comp=Z,4.8nm,1.1s
MOA Molln 80.05 357 *e*P **P 23 43 54.2 +0.2**
comp=Z,4.5nm,1.3s
RONA Rosalia, Austr 80.13 356 *e*P **P 23 43 54.5 0.0**
comp=Z,2.0nm,0.7s
RETA Reutte 80.47 360 *i* P **P 23 43 56.3 0.0**
comp=Z,9.0nm,2.0s
LESA Schwarzleotal 80.51 358 *e*P **P 23 43 57.7 +1.1**
comp=Z,2.0nm,1.0s
MOTA Moosalm 80.61 359 *i* P **P 23 43 57.1 -0.1**
comp=Z,2.8nm,0.7s
SQTA Sankt Quirin 80.73 359 *i* PcP **P 23 43 59.1 +1.2**
comp=Z,5.5nm,0.8s
KBA Koelnbreinsper 80.85 358 *i* P **P 23 43 59.5 +1.0**
comp=Z,6.6nm,0.7s
FETA Feichten 80.94 360 *i* P **P 23 43 59.5 +0.5**
comp=Z,5.4nm,1.0s
ABTA Abfaltersbach 81.19 358 *e*P **P 23 43 57.8 -2.5**
comp=Z,5.6nm,1.5s
SOKA Soboth 81.20 357 *e*P **P 23 44 00.1 -0.2**
comp=Z,5.4nm,1.2s
OBKA Obir 81.38 357 *i* P **P 23 44 01.1 -0.1**
comp=Z,4.2nm,1.1s
CTA Charters Tower 81.74 221 LR LR 00 16 15.0
comp=Z,44nm,21.0s,baz=80,slow=33
HRA Herat 82.41 319 P **P 23 44 05.6 -1.4**
TEOL Teolo 82.59 359 P **P 23 44 06.8 -0.7**
TEOL IAmb IAmb 23 44 09.2
comp=Z,13nm,0.9s
BNI Bardonecchia 82.86 3 P **P 23 44 08.8 -0.2**
BNI IAmb IAmb 23 44 11.8
comp=Z,5.0nm,0.9s
OSSC Osservatorio P 84.43 359 P **P 23 44 16.5 -0.5**
OSSC IAmb IAmb 23 44 17.8
comp=Z,5.6nm,1.1s
BRTR Keskin Array B 86.02 342 P **P 23 44 25.9 +0.7**
comp=Z,0.6nm,0.7s,baz=34,slow=3.8,SNR=3.9
comp=Z,0.6nm,0.7s
WRA Warramunga Arr 86.89 231 P **P 23 44 28.4 -1.0**
comp=Z,0.3nm,0.6s,baz=40,slow=5.2,SNR=2.3
comp=Z,0.3nm,0.6s
ESDC Sonseca Array 87.44 11 P **P 23 44 31.0 -1.0**
ESDC Sonseca Array 87.44 11 P **P 23 44 31.5 -0.5**
comp=Z,1.9nm,0.7s,baz=352,slow=4.5,SNR=19
comp=Z,1.9nm,0.7s
PTBC PUERTO BERRIO, 88.05 82 *e*P **P 23 44 35.7 +0.5**
ASAR Alice Springs 90.28 230 P **P 23 44 45.3 -0.1**
comp=Z,0.8nm,0.6s,baz=32,slow=4.3,SNR=7.2
comp=Z,0.8nm,0.6s
STKA Stephens Creek 94.11 220 LR LR 00 20 26.5
comp=Z,82nm,20.6s,baz=22,slow=31
TORD Torodi Ar. Bea 114.28 9 PKP **PKiKP 23 50 23.1 -1.2**
comp=Z,0.2nm,0.7s,baz=18,slow=2.5,SNR=1.4
H03N2 Juan Fernandez 116.12 111 T T 01 57 28.0
baz=322,slow=78,SNR=8.3
H03N1 Juan Fernandez 116.13 111 T T 01 57 35.8
baz=322,slow=78,SNR=13
H03N3 Juan Fernandez 116.14 111 T T 01 57 37.6
baz=322,slow=78,SNR=8.9
QSPA South Pole Qui 142.18 180 PKP **PKPdf 23 51 14.3 -1.1**
comp=Z,0.3nm,0.4s,baz=53,slow=5.1,SNR=5.9
MAW Mawson 150.80 219 PKPbc **PKiKP 23 51 36.0 0.0**
comp=Z,0.9nm,0.3s,baz=336,slow=3.2,SNR=4.3
BOSA Boshof 153.75 329 PKPbc **PKiKP 23 51 43.8 +0.2**
comp=Z,1.1nm,0.5s,baz=45,slow=2.9,SNR=6.7

---

*MOS **13** 23:35:04.5±1.2, 52°.73N×106°.88E, h11km, mb3.7/1, Error ellipse: s-maj=10.8km s-min=7.4km az=55.5*
MOS Felt (III) at Tyrgan.
*BYKL **13** 23:35:05.7±0.1, 52°.76N×106°.80E, h11km±2km, FELT I=III MSK at Elancy, Tyrgan*
*IDC **13** 23:35:06.5±2.2, 52°.65N×106°.89E, h0km, mb3.6/1, mbtmp3.5/6, ML3.1/5, Error ellipse: s-maj=28.8km s-min=20.5km az=49.0*
ISC 13 23:35:05.8±0.9, 52°.74N±0°.02×106°.87E±0°.02, h12km±7km, n54, σ2°04/112, 13C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRHB	**Zarechye**	**0.26**	**138**	⇓*i*Pg	**Pg**	**23 35 11.4**	**+0.3**
ZRHB				*e*Sg	**Sg**	**23 35 15.9**	**+1.3**
ZRHB				Pmax			
	1μm,0.3s						
ZRHB				Smax			
	9μm,0.2s						
TRG	**Tyrgan**	**0.32**	**273**	⇑*i*Pg	**Pg**	**23 35 11.5**	**-0.7**
TRG				*e*Sg	**Sg**	**23 35 15.5**	**-1.0**
TRG				Pmax			
	1μm,0.1s						
TRG				Smax			
	9μm,0.1s						
TRG	**Tyrgan**	**0.32**	**273**	⇑*i*PG	**Pg**	**23 35 11.5**	**-0.7**
TRG				*e*		23 35 15.9	
TRG				pmax	pmax		
	comp=Z,1μm,0.1s						
TRG				smax	smax		
	comp=E,9μm,0.1s						
FFNB	**Fofonovo**	**0.70**	**185**	*e*Pg	**Pg**	**23 35 18.5**	**-0.8**
FFNB				*e*Sg	**Sg**	**23 35 28.3**	**-0.2**
FFNB				*e*Sb	**Sn**	**23 35 32.1**	**-0.2**
KAB	**Kabansk**	**0.71**	**191**	*e*Pg	**Pg**	**23 35 18.9**	**-0.5**
KAB				*e*Pb	**Pb**	**23 35 20.2**	**+0.2**
KAB				*e*Sg	**Sg**	**23 35 28.7**	**0.0**
KAB				max			
	comp=E,607nm,0.3s						
KAB				Smax			
	comp=E,2μm,0.3s						
KAB	**Kabansk**	**0.71**	**191**	*e*PG	**Pg**	**23 35 18.9**	**-0.5**
KAB				*e*		23 35 26.7	
KAB				pmax	pmax		
	comp=Z,354nm,0.2s						
KAB				smax	smax		
	comp=E,2μm,0.3s						
KELR	**Kotokel**	**0.74**	**88**	⇑*i*Pg	**Pg**	**23 35 19.4**	**-0.6**
KELR				*e*Sg	**Sg**	**23 35 29.1**	**-0.5**
OGRR	**Ongureny**	**1.00**	**26**	*e*Pg	**Pg**	**23 35 24.5**	**-0.5**
OGRR				*e*Pb	**Pb**	**23 35 25.5**	**+0.4**
OGRR				*e*		23 35 27.7	
OGRR				*e*Sg	**Sg**	**23 35 37.9**	**-0.2**
OGRR				*e*Sb	**Sn**	**23 35 42.0**	**+2.2**
OGRR				max			
	comp=E,161nm,0.3s						
OGRR				max			
	comp=E,719nm,0.3s						
OGRR	**Ongureny**	**1.00**	**26**	*e*PG	**Pg**	**23 35 24.3**	**-0.7**
OGRR				*e*		23 35 38.4	
OGRR				pmax	pmax		
	comp=Z,162nm,0.3s						
OGRR				smax	smax		
	comp=E,717nm,0.4s						
UUDB	**Ulan-Yde**	**1.00**	**151**	⇓*i*Pg	**Pg**	**23 35 24.1**	**-1.0**
UUDB				*e*Pb	**Pn**	**23 35 25.7**	**0.0**
UUDB				*e*Sg	**Sg**	**23 35 37.4**	**-0.7**
UUDB				max			
	comp=E,401nm,0.3s						
UUDB				Smax			
	comp=E,886nm,0.7s						
HRMR	**Khuramsha**	**1.12**	**177**	*e*Pg	**Pb**	**23 35 26.1**	**-1.0**
HRMR				*e*Pb	**Pn**	**23 35 28.2**	**+0.9**
HRMR				*e*Sg	**Sb**	**23 35 41.2**	**-0.4**
HRMR				*e*		23 35 56.6	
HRMR				Pmax			
	comp=E,424nm,0.3s						
HRMR				Smax			
	comp=E,6μm,0.4s						
BGT	**Bolshoye Golou**	**1.14**	**233**	*e*Pg	**Pb**	**23 35 25.8**	**-1.6**
BGT				*e*Pb	**Pg**	**23 35 27.2**	**-0.4**
BGT				*e*		23 35 28.9	
BGT				*e*Sg	**Sb**	**23 35 40.5**	**-1.6**
BGT				*e*Sb	**Sg**	**23 35 42.6**	**+0.2**
BGT				*e*		23 35 46.0	
BGT				max			
	comp=E,277nm,0.3s						
BGT				max			
	comp=E,2μm,0.2s						
BGT	**Bolshoye Golou**	**1.14**	**233**	*e*PG	**Pb**	**23 35 25.8**	**-1.6**
BGT				*e*		23 35 40.3	
BGT				pmax	pmax		
	comp=Z,277nm,0.2s						
BGT				smax	smax		
	comp=E,2μm,0.2s						
MXMB	**Maximikha**	**1.25**	**65**	*e*Pg	**Pn**	**23 35 28.9**	**-0.2**
MXMB				*e*Sg	**Sn**	**23 35 46.6**	**+0.8**
MXMB				*e*		23 35 57.7	
LSTR	**Listvyanka**	**1.53**	**236**	⇑*i*Pg	**Pn**	**23 35 32.4**	**-0.5**
LSTR				*e*		23 35 34.4	
LSTR				*e*Sg	**Sn**	**23 35 51.8**	**-0.9**
LSTR				*e*		23 35 56.4	
LSTR				max			
	comp=E,180nm,0.2s						
LSTR				max			
	comp=E,626nm,0.3s						
LSTR	**Listvyanka**	**1.53**	**236**	⇑*i*PG	**Pn**	**23 35 32.4**	**-0.5**
LSTR				*e*		23 35 51.9	
LSTR				pmax	pmax		
	comp=Z,176nm,0.3s						
LSTR				smax	smax		
	comp=E,655nm,0.2s						
IRK	**Irkutsk**	**1.67**	**254**	*e*Pg	**Pn**	**23 35 35.1**	**+0.3**
IRK				*e*		23 35 38.1	

IRK				*e*Sg	**Sn**	**23 35 56.2**	**+0.1**
IRK				Pmax			
	comp=E,588nm,0.2s						
IRK				Smax			
	comp=E,4μm,0.3s						
IRK	**Irkutsk**	**1.67**	**254**	*e*PN	**Pn**	**23 35 35.2**	**+0.4**
IRK				*e*		23 35 55.7	
IRK				pmax	pmax		
	comp=Z,586nm,0.2s						
IRK				smax	smax		
	comp=E,4μm,0.3s						
IVK	**Ivanovka**	**1.78**	**239**	*e*Pn	**Pn**	**23 35 36.0**	**-0.4**
IVK				*e*		23 35 37.5	
IVK				*e*Pg	**Pb**	**23 35 38.1**	**-0.2**
IVK				*e*Sg	**Sb**	**23 36 00.3**	**-0.3**
IVK				*e*		23 36 10.9	
IVK				Pmax			
	comp=E,143nm,0.3s						
IVK				Smax			
	comp=E,1μm,0.2s						
SYVR	**Suvo**	**2.09**	**63**	*e*Pn	**Pn**	**23 35 41.1**	**+0.4**
SYVR				*e*Pg	**Pb**	**23 35 43.4**	**-0.3**
SYVR				*e*		23 35 48.3	
SYVR				*e*Sn	**Sn**	**23 36 07.9**	**+1.2**
SYVR				*e*Sg	**Sg**	**23 36 11.8**	**-1.2**
SYVR				max			
	comp=E,104nm,0.6s						
SYVR				Smax			
	comp=E,475nm,0.4s						
SYVR	**Suvo**	**2.09**	**63**	*e*PN	**Pn**	**23 35 41.1**	**+0.4**
SYVR				*e*		23 35 43.8	
SYVR				*e*		23 36 12.2	
SYVR				pmax	pmax		
	comp=Z,105nm,0.7s						
SYVR				smax	smax		
	comp=E,492nm,0.4s						
TLY	**Talaya**	**2.25**	**243**	*e*Pn	**Pn**	**23 35 43.2**	**+0.3**
TLY				*e*Pg	**Pb**	**23 35 45.1**	**-1.3**
TLY				*e*Sn	**Sn**	**23 36 10.6**	**0.0**
TLY				*e*Sg	**Sb**	**23 36 14.3**	**+0.1**
TLY				Pmax			
	comp=E,77nm,0.4s						
TLY				Smax			
	comp=E,588nm,0.2s						
TLY	**Talaya**	**2.25**	**243**	⇑*i*PN	**Pn**	**23 35 43.2**	**+0.3**
TLY				*e*		23 35 45.6	
TLY				*e*		23 36 14.1	
TLY				pmax	pmax		
	comp=Z,97nm,0.3s						
TLY				smax	smax		
	comp=E,600nm,0.2s						
ARS	**Arshan**	**2.85**	**255**	*e*Pn	**Pn**	**23 35 51.0**	**-0.1**
ARS				*e*Pg	**Pb**	**23 35 55.1**	**-1.5**
ARS				*e*PgPg	**PnPn**	**23 35 57.0**	**-1.2**
ARS				*e*Sn	**Sn**	**23 36 24.2**	**-1.2**
ARS				*e*Sg	**Sb**	**23 36 31.6**	**+0.2**
ARS				max			
	comp=E,216nm,0.3s						
ARS				Smax			
	comp=E,1μm,0.6s						
ARS	**Arshan**	**2.85**	**255**	*e*PN	**Pn**	**23 35 51.1**	**-0.1**
ARS				*e*		23 35 56.2	
ARS				*e*		23 36 31.6	
ARS				pmax	pmax		
	comp=Z,216nm,0.3s						
ARS				smax	smax		
	comp=E,1μm,0.4s						
ZAK	**Zakamensk**	**3.26**	**225**	*e*Pn	**Pn**	**23 35 57.5**	**+0.7**
ZAK				*e*Pg	**Pb**	**23 36 03.2**	**-0.3**
ZAK				*e*Sg	**Sb**	**23 36 46.0**	**+2.8**
ZAK				Pmax			
	comp=E,31nm,0.3s						
ZAK				Smax			
	comp=E,139nm,0.4s						
YLYR	**Ulyunkhan**	**3.32**	**48**	⇓*i*Pn	**Pn**	**23 35 58.4**	**+0.8**
YLYR				*e*Pg	**Pb**	**23 36 05.6**	**+1.0**
YLYR				*e*		23 36 11.0	
YLYR				*e*Sg	**Sb**	**23 36 48.7**	**+3.7**
YLYR				max			
	comp=E,35nm,0.5s						
YLYR				Smax			
	comp=E,128nm,0.7s						
YLYR	**Ulyunkhan**	**3.32**	**48**	⇓*i*PN	**Pn**	**23 35 58.1**	**+0.5**
YLYR				*e*		23 36 06.0	
YLYR				*e*		23 36 49.5	
YLYR				pmax	pmax		
	comp=Z,36nm,0.6s						
YLYR				smax	smax		
	comp=N,122nm,0.6s						
NIZB	**Nizh Angarsk**	**3.42**	**26**	*e*Pn	**Pn**	**23 35 59.9**	**+1.1**
NIZB				*e*Pg	**Pb**	**23 36 08.0**	**+1.8**
NIZB				*e*Sn	**Sn**	**23 36 39.7**	**+0.5**
NIZB				*e*Sg	**Sg**	**23 36 52.1**	**-3.2**
NIZB				Pmax			
	comp=N,57nm,0.4s						
NIZB				Smax			
	comp=N,277nm,0.6s						
MOY	**Mondy**	**3.77**	**256**	*e*Pn	**Pn**	**23 36 05.3**	**+1.4**
MOY				*e*Pg	**Pb**	**23 36 13.0**	**+0.7**
MOY				*e*		23 36 51.3	
MOY				*e*Sg	**Sb**	**23 37 00.4**	**+2.4**
MOY				*e*		23 37 05.2	
MOY				Pmax			
	comp=N,210nm,0.8s						
MOY				max			
	comp=N,242nm,0.6s						
MOY	**Mondy**	**3.77**	**256**	*e*PN	**Pn**	**23 36 05.9**	**+2.0**
MOY				*e*		23 36 13.9	
MOY				*e*		23 37 00.4	
MOY				pmax	pmax		
	comp=Z,176nm,0.5s						
MOY				smax	smax		
	comp=E,237nm,0.5s						
KMO	**Kumora**	**4.04**	**37**	*e*Pn	**Pn**	**23 36 08.5**	**+1.0**
KMO				*e*Pg	**Pb**	**23 36 18.6**	**+1.7**
KMO				*e*Sn	**Sn**	**23 36 54.4**	**-0.3**
KMO				*e*Sg	**Sg**	**23 37 10.9**	**-4.6**
KMO				Pmax			
	comp=E,38nm,1.2s						
KMO				Smax			
	comp=E,193nm,1.0s						
CIT	**Chita**	**4.16**	**97**	*e*Pn	**Pn**	**23 36 10.4**	**+1.3**
CIT				*e*Pg	**Pb**	**23 36 21.5**	**+2.6**
CIT				*e*PgPg	**PbPb**	**23 36 22.1**	**+0.1**
CIT				*e*Sn	**Sn**	**23 36 55.9**	**-1.7**
CIT				*e*Sg	**Sg**	**23 37 15.7**	**-3.5**
CIT				max			
	comp=E,73nm,0.1s						
CIT				Smax			
	comp=E,284nm,0.6s						
CIT	**Chita**	**4.16**	**97**	*e*PN	**Pn**	**23 36 11.3**	**+2.2**
CIT				*e*		23 36 21.9	
CIT				*e*		23 37 15.9	
CIT				pmax	pmax		
	comp=Z,73nm,0.1s						
CIT				smax	smax		
	comp=E,379nm,1.2s						
ORL	**Orlik**	**4.30**	**270**	⇑*i*Pn	**Pn**	**23 36 12.1**	**+0.9**
ORL				*e*		23 36 20.0	
ORL				*e*		23 37 03.5	
ORL				*e*Sg	**Sb**	**23 37 16.9**	**+3.6**
ORL				max			
ORL				Smax			
	comp=E,118nm,0.8s						
ORL	**Orlik**	**4.30**	**270**	⇑*i*PN	**Pn**	**23 36 12.2**	**+1.0**
ORL				*e*		23 36 23.2	
ORL				*e*S	**Sn**	**23 37 00.2**	**-1.2**
ORL				*e*		23 37 17.0	
ORL				pmax	pmax		
	comp=Z,37nm,0.7s						
ORL				smax	smax		
	comp=N,119nm,0.8s						
KPC	**Khapcheranga**	**4.61**	**129**	*e*	**Pn**	**23 36 14.1**	**-1.2**
KPC				*e*Pg	**Pb**	**23 36 28.2**	**+1.6**
KPC				*e*		23 36 30.6	
KPC				*e*Sn	**Sn**	**23 37 08.1**	**-0.7**
KPC				*e*Sg	**Sg**	**23 37 28.8**	**-4.8**
KPC				max			
	comp=N,26nm,0.5s						
KPC				Smax			
	comp=N,261nm,0.9s						
KPC	**Khapcheranga**	**4.61**	**129**	*e*PN	**Pn**	**23 36 13.7**	**-1.6**
KPC				*e*		23 36 26.6	
KPC				*e*		23 37 26.8	
KPC				pmax	pmax		
	comp=Z,27nm,0.6s						
KPC				smax	smax		
	comp=E,261nm,1.2s						
ULN	**Ulaanbaatar**	**4.88**	**179**	⇑*e*PN	**Pn**	**23 36 19.5**	**+0.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.2s						
SONM	**Songino Array**	**4.92**	**184**	Pn	**Pn**	**23 36 19.7**	**0.0**
	comp=Z,0.8nm,0.3s,baz=359,slow=16,SNR=18						
SONM				Pg	**Pb**	**23 36 34.5**	**+2.6**
	comp=Z,3.5nm,0.3s,baz=359,slow=18,SNR=20						
SONM				Lg	Lg	23 37 40.2	
	comp=Z,13nm,0.3s,baz=359,slow=25,SNR=14						
	comp=Z,0.9nm,0.3s						
NLYR	**Nelyaty**	**6.36**	**50**	*e*Pn	**Pn**	**23 36 40.2**	**+1.0**
NLYR				*e*		23 37 04.8	
NLYR				*e*Sg	**Sg**	**23 38 23.5**	**-6.1**
NLYR				max			
	comp=Z,17nm,1.0s						
NLYR				Smax			
	comp=Z,88nm,1.1s						
BOD	**Bodaibo**	**6.51**	**36**	*e*Pn	**Pn**	**23 36 42.0**	**+0.6**
BOD				*e*Pg	**Pb**	**23 37 03.2**	**+4.3**
BOD				*e*Sn	**Sn**	**23 37 53.0**	**-2.5**
BOD				*e*		23 38 14.5	
BOD				*e*Sg	**Sg**	**23 38 28.4**	**-6.3**
BOD				Pmax			
	comp=Z,39nm,2.3s						
BOD				Smax			
	comp=Z,40nm,1.6s						
CRS	**Chara**	**7.79**	**53**	*e*Sg	**Sg**	**23 39 07.1**	**-8.3**
CRS				Smax			
	comp=Z,75nm,2.5s						
TUP	**Tupik**	**7.97**	**73**	*e*Sg	**Sg**	**23 39 13.2**	**-8.0**
TUP				Smax			
	comp=Z,100nm,1.1s						
DGZ	**Jazzator, Alta**	**12.55**	**264**	⇑*e*P	**Pn**	**23 38 03.7**	**-0.5**
ZALV	**Zalesovo Beam**	**13.22**	**284**	Pn	**Pn**	**23 38 14.3**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=81,slow=8.9,SNR=2.6						
	comp=Z,0.5nm,0.5s						
YAK	**Yakutsk**	**15.33**	**44**	⇑*e*P	**Pn**	**23 38 41.6**	**-0.1**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KLR	**Kul'dur**	**16.03**	**93**	Pn	**P**	**23 38 52.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=310,slow=16,SNR=2.0						
KLR				Lg	Lg	23 43 34.4	
	comp=Z,0.1nm,0.3s,baz=344,slow=15,SNR=1.9						
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**16.91**	**259**	*i*P	**P**	**23 39 06.5**	**+2.4**
MKAR	**Makanchi Array**	**16.91**	**259**	Pn	**P**	**23 39 04.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=61,slow=10,SNR=4.1						
	comp=Z,0.5nm,0.7s						
KURK	**Kurchatov**	**17.57**	**275**	⇑*e*P	**Pn**	**23 39 10.9**	**+0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KURBB	**Kurchatov Arra**	**17.66**	**274**	P	**P**	**23 39 13.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=75,slow=12,SNR=4.3						
	comp=Z,0.5nm,0.3s						
TIXI	**Tiksi**	**21.31**	**19**	⇑*e*P	**P**	**23 39 51.6**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.8s						
BVAR	**Borovoye Array**	**21.87**	**285**	P	**P**	**23 40 01.1**	**+2.9**
	comp=Z,1.5nm,0.5s,baz=65,slow=11,SNR=5.4						
	comp=Z,1.5nm,0.5s						

*IDC **13** 23:40:22.9±26.0, 25°.57N×67°.84E, h0km, mb3.7/4, mbtmp3.7/4, MS3.6/4, Error ellipse: s-maj=439.4km s-min=119.4km az=38.0*

ISC 13 23:40:30.1±10.0, 25°N±1°×68°.6E±0°.6, h35km, n13, σ0°95/10, mb3.6/4, MS3.6/4, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYUN	**Piuthan**	**13.13**	**75**	*e*P	**Pn**	**23 43 34.8**	**+0.5**
	6.3nm,0.5s						
DANN	**Dangsing**	**13.84**	**75**	*e*P	**Pn**	**23 43 43.5**	**-0.5**
	2.8nm,0.3s						
PKIN	**Phulchoki**	**15.20**	**78**	*e*P	**Pn**	**23 44 01.7**	**-0.7**
	5.9nm,0.4s						
PKI	**Pulchoki**	**15.21**	**78**	*e*P	**Pn**	**23 44 01.6**	**-1.0**
	3.6nm,0.3s						
GUN	**Gumba**	**15.65**	**77**	*e*P	**Pn**	**23 44 08.1**	**-0.2**
RAMN	**Ramite**	**16.24**	**81**	*e*P	**Pn**	**23 44 15.3**	**-0.5**
	8.4nm,0.5s						
MKAR	**Makanchi Array**	**23.89**	**24**	P	**P**	**23 45 39.6**	**-0.9**
	2.4nm,1.0s,baz=209,slow=8.1,SNR=8.3						
MKAR				LR	LR	23 58 08.7	
	comp=Z,35nm,20.5s,baz=16,slow=44						
	2.4nm,1.0s						
KURBB	**Kurchatov Arra**	**26.23**	**14**	P	**P**	**23 46 00.5**	**-1.1**
	1.1nm,0.6s,baz=210,slow=9.1,SNR=7.2						
	1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**30.89**	**19**	P	**P**	**23 46 42.7**	**-0.3**
	0.5nm,0.6s,baz=222,slow=9.7,SNR=2.4						
	0.5nm,0.6s						
SONM	**Songino Array**	**37.12**	**43**	P	**P**	**23 47 38.8**	**+1.4**
	0.3nm,0.5s,baz=256,slow=7.3,SNR=2.2						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**45.93**	**333**	LR	LR	00 10 34.7	
	comp=Z,151nm,18.8s,baz=340,slow=40						
TGY	**Tagaytay City**	**50.27**	**93**	LR	LR	00 12 40.0	
	comp=Z,367nm,20.8s,baz=170,slow=38						
KAPI	**Kappang**	**58.18**	**114**	LR	LR	00 16 54.3	
	comp=Z,22nm,18.4s,baz=329,slow=37						

*MEX **13** 23:40:30.4±0.8, 14°.89N×94°.69W, h16km±14km, MD4.5*
*IDC **13** 23:40:36.4±3.1, 15°.20N×94°.37W, h60km±25km, mb4.0/16, mbtmp4.3/18, ML3.5/2, MS3.7/15, Error ellipse: s-maj=26.8km s-min=14.2km az=46.0*
*NEIC **13** 23:40:37.0±2.1, 15°.52N±0°.08×94°.38W±0°.06, h35km±2km, mb4.6/281, Md4.4/16(MEX), Error ellipse: s-maj=13.4km s-min=8.7km az=190.0*
*GCG **13** 23:40:40.9±2.4, 15°.20N×94°.04W, h26km±999km, MD4.6*

ISC 13 23:40:34.2±0.6, 15°21N±0°.06×94°.52W±0°.04, h37km±1km, n581, σ1°49/576, mb4.6/108, MS3.6/14, 4D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.19**	**29**	*e*P	**Pn**	**23 40 53.6**	**-0.7**
CARR				*e*S	**Sn**	**23 41 11.1**	**+1.9**
PCIG		**1.35**	**68**		**Pn**	**23 40 55.3**	**-1.2**
PCIG					**Sn**	**23 41 13.9**	**+0.8**
PCIG		**1.35**	**68**	*e*P	**Pn**	**23 40 54.7**	**-1.8**
PCIG				*e*S	**Sn**	**23 41 14.1**	**+1.0**
NILT	**Santiago Nilte**	**1.35**	**356**	*e*P	**Pn**	**23 40 55.6**	**-0.9**
NILT				*e*S	**Sn**	**23 41 13.5**	**+0.2**
HUIG	**Huatulco**	**1.63**	**290**		Pn	23 40 56.0	-4.4
HUIG					Sn	23 41 13.7	-6.5
HUIG	**Huatulco**	**1.63**	**290**	*e*P	Pn	23 40 55.7	-4.7
HUIG				*e*S	Sn	23 41 13.2	-7.0
PANG	**Puerto Angel**	**1.94**	**284**	*i*P	**Pn**	**23 41 06.4**	**+1.8**
PANG				*i*S	Sn	23 41 20.2	-7.6
TGIG		**2.06**	**40**		**Pn**	**23 41 08.4**	**+2.0**
TGIG					Sn	23 41 37.0	+6.2
TGIG		**2.06**	**40**	*e*P	**Pn**	**23 41 07.0**	**+0.7**
TGIG				*e*S	Sn	23 41 37.0	+6.2
TGBT	**Tuxtla Gutierr**	**2.08**	**41**	*e*P	**Pn**	**23 41 08.3**	**+1.8**
TGBT				*e*S	**Sn**	**23 41 33.5**	**+2.3**
UXUV	**UXUV**	**2.13**	**10**	*e*P	**Pn**	**23 41 07.9**	**+0.6**
UXUV				*e*S	**Sn**	**23 41 38.0**	**+5.6**
THIG		**2.20**	**98**	*e*P	**Pn**	**23 41 04.4**	**-3.8**
THIG				*e*S	**Sn**	**23 41 31.2**	**-2.9**
PATR	**El Naranjo**	**2.21**	**92**	*e*P	**Pn**	**23 41 05.5**	**-3.0**
PATR				*e*S	**Sn**	**23 41 32.0**	**-2.7**
PAVE	**Pavencul**	**2.26**	**90**	*e*P	**Pn**	**23 41 06.3**	**-2.9**
PAVE				*e*S	**Sn**	**23 41 34.1**	**-1.9**
CHUJ	**Union Juarez**	**2.33**	**92**	*e*P	**Pn**	**23 41 08.0**	**-2.2**
CHUJ				*e*S	**Sn**	**23 41 34.8**	**-2.9**
CCIG	**Comitan**	**2.53**	**65**	Pn	**Pn**	**23 41 10.3**	**-2.6**
CCIG	**Comitan**	**2.53**	**65**	*e*P	**Pn**	**23 41 13.8**	**+0.9**
CCIG				*e*S	**Sn**	**23 41 46.7**	**+4.2**
PEIG	**Puerto Escondi**	**2.65**	**288**	*e*P	Pn	23 41 09.1	-5.4
PEIG				*e*S	Sn	23 41 37.2	-8.2
NEUV	**Arroyo Zacate**	**2.78**	**334**	*e*P	**Pn**	**23 41 14.8**	**-1.4**
NEUV				*e*S	**Sn**	**23 41 50.5**	**+2.0**
OXLC	**Oaxaca**	**2.80**	**312**	*e*P	**Pn**	**23 41 15.4**	**-1.2**
OXLC				*e*S	**Sn**	**23 41 49.1**	**-0.1**
TUIG	**Tuzandepetl**	**2.81**	**2**	*e*P	**Pn**	**23 41 17.1**	**+0.4**
RTAL	**Retalhuleu**	**2.81**	**104**	Pn	**Pn**	**23 41 16.0**	**-0.6**
VHO	**Vista Hermosa**	**2.82**	**311**	*e*P	Pn	23 41 14.9	-2.1
VHO				*e*S	**Sn**	**23 41 46.1**	**-3.8**
STG3	**Santiaguito 3,**	**2.89**	**99**	*i*P	**Pn**	**23 41 17.4**	**-0.5**
STG3				*i*S	**Sn**	**23 41 48.9**	**-2.6**
HUEH	**Huehuetenango**	**2.91**	**87**		**Pn**	**23 41 17.5**	**-0.7**
YOIG	**Yosondua**	**3.34**	**300**	*e*P	Pn	23 41 21.6	-2.6
YOIG				*e*S	Sn	23 41 54.8	-8.0
PMUV	**Sontecomapan**	**3.37**	**350**	*e*P	**Pn**	**23 41 21.7**	**-2.7**
FUG	**Fuego 3**	**3.63**	**102**	*i*P	**Pn**	**23 41 30.0**	**+1.9**
FUG				*i*S	**Sn**	**23 42 09.0**	**-0.9**
PNIG	**Pinotepa**	**3.67**	**289**	*e*P	Pn	23 41 24.7	-3.8
PNIG				*e*S	Sn	23 42 01.6	-8.9
TXIG	**Tlaxiaco**	**3.73**	**304**	*e*P	Pn	23 41 27.8	-1.7
TXIG				*e*S	**Sn**	**23 42 08.7**	**-3.6**
TOIG	**Toxpalan**	**3.77**	**320**	*e*P	**Pn**	**23 41 30.2**	**+0.2**
TOIG				*e*S	**Sn**	**23 42 15.8**	**+2.7**
NBG	**Las Nubes**	**4.08**	**98**	*i*P	**Pn**	**23 41 37.9**	**+3.6**
HLIG	**Huajuapan de L**	**4.09**	**310**	*e*P	Pn	23 41 32.7	-1.7
HLIG				*e*S	**Sn**	**23 42 18.9**	**-2.2**
TPIG	**Tehuac#an**	**4.20**	**320**	*e*P	**Pn**	**23 41 34.5**	**-1.4**
TPIG				*e*S	**Sn**	**23 42 26.4**	**+2.6**
FTIG	**Fresnillo de T**	**4.38**	**308**	*e*P	**Pn**	**23 41 37.3**	**-1.1**
TLIG	**Tlapa**	**4.54**	**302**	Pn	**Pn**	**23 41 40.0**	**-0.5**
TLIG	**Tlapa**	**4.54**	**302**	*e*P	Pn	23 41 38.6	-1.9
TLIG				*e*S	Sn	23 42 25.9	-6.1
JAUV	**Jalcomulco**	**4.68**	**332**	*e*P	**Pn**	**23 41 39.4**	**-2.9**
JAUV				*e*S	**Sn**	**23 42 31.7**	**-3.7**
PETF	**Flores**	**4.78**	**69**	Pn	**Pn**	**23 41 41.6**	**-2.1**
LVIG	**Laguna Verde**	**4.84**	**338**	*e*P	Pn	23 41 39.9	-4.7
SCIG	**Sabancuy**	**4.91**	**40**	*e*P	**Pn**	**23 41 45.5**	**0.0**
SCIG				*e*S	Sn	23 42 49.0	+7.9
ESQI	**Esquipulas**	**5.05**	**97**		**Pn**	**23 41 51.5**	**+4.0**
MTO3	**Montecristo**	**5.05**	**98**	Pn	**Pn**	**23 41 50.0**	**+2.3**
DAIG	**Los Arroyos**	**5.25**	**291**	*e*P	Pn	23 41 45.6	-4.6
DAIG				*e*S	Sn	23 42 41.2	-8.3
SNET	**Serv Nac Est T**	**5.34**	**106**	Pn	**Pn**	**23 41 54.2**	**+2.7**
PPM	**Popocatepetl**	**5.49**	**315**	*e*P	**Pn**	**23 41 54.5**	**+0.6**
MEIG	**Mezcala**	**5.59**	**300**	*e*P	Pn	23 41 52.1	-2.8
MEIG				*e*S	Sn	23 42 50.0	-8.0
YAIG	**Yautepec**	**5.67**	**311**	*e*P	**Pn**	**23 41 55.9**	**-0.2**
YAIG				*e*S	**Sn**	**23 42 55.2**	**-4.8**
PLIG	**Platanillo**	**5.73**	**304**	*e*P	**Pn**	**23 41 56.7**	**-0.1**
CXUV	**Coxquihui**	**5.74**	**330**	*e*P	**Pn**	**23 41 54.9**	**-2.0**
CXUV				*e*S	**Sn**	**23 43 08.7**	**+7.0**
CAIG	**El Cayaco**	**5.82**	**289**	*e*P	Pn	23 41 54.0	-4.0
CAIG				*e*S	Sn	23 42 49.0	-14
ARIG	**Puente Sto Nin**	**6.37**	**299**	*e*P	Pn	23 42 04.5	-1.0
ARIG				*e*S	Sn	23 43 11.3	-5.7
ZIIG	**Zihuatanejo**	**7.08**	**291**	*e*P	Pn	23 42 13.1	-2.2
ZIIG				*e*S	Sn	23 43 25.0	-10
TGUH	**Tegucigalpa,Un**	**7.11**	**98**	Pn	**Pn**	**23 42 18.4**	**+2.6**
MYIG	**Mrida**	**7.30**	**38**	*e*P	**Pn**	**23 42 17.1**	**-1.3**
CRIN	**San Cristobal**	**7.67**	**108**		**Pn**	**23 42 26.3**	**+2.9**
CRIN	**San Cristobal**	**7.67**	**108**	*e*P	Pn	23 42 29.3	+5.9
TEIG	**Tepich**	**7.76**	**49**	Pn	**Pn**	**23 42 23.2**	**-1.5**
TEIG	**Tepich**	**7.76**	**49**	*e*P	**Pn**	**23 42 23.1**	**-1.5**
TEIG	**Tepich**	**7.76**	**49**	P	**Pn**	**23 42 23.6**	**-1.1**
	351nm,0.6s,baz=54,slow=1.6,SNR=37						
TEIG				S	**Sn**	**23 43 51.4**	**+0.1**
	371nm,0.5s,baz=181,slow=22,SNR=1.4						
TEIG				LR	LR	23 45 47.1	
	comp=Z,12μm,19.1s,baz=14,slow=41						
CNGN	**Cerro Negro**	**8.06**	**109**		**Pn**	**23 42 31.4**	**+2.6**
CNGN	**Cerro Negro**	**8.06**	**109**	*e*P	Pn	23 42 35.5	+6.7
MATN	**Matagalpa**	**8.64**	**104**	Pn	**Pn**	**23 42 38.1**	**+1.2**
BOAB	**BOACO BROADBAN**	**9.02**	**107**	Pn	**Pn**	**23 42 46.7**	**+4.7**
ACON	**Acoyapa**	**9.64**	**108**	Pn	**Pn**	**23 42 55.0**	**+4.5**
ORTG	**Ortega, Santa**	**10.06**	**118**	Pn	**Pn**	**23 42 58.1**	**+1.8**
DUNO	**Dulce Nombre,**	**10.17**	**119**	Pn	**Pn**	**23 43 00.7**	**+2.9**
JTS	**Las Juntas de**	**10.53**	**117**	P	**Pn**	**23 43 03.7**	**+1.0**
	0.2nm,0.3s,baz=318,slow=12,SNR=3.9						
JTS				S	**Sn**	**23 45 01.1**	**+1.7**
	1.8nm,0.3s,baz=320,slow=22,SNR=1.4						
	1.8nm,0.2s						
RIMA	**Rio Macho**	**11.72**	**116**		**Pn**	**23 43 23.6**	**+4.4**
HBVL	**Hebbronville**	**12.42**	**343**	Pn	**Pn**	**23 43 29.2**	**+0.8**
BRU2	**Volcan**	**13.20**	**118**	Pn	**Pn**	**23 43 40.5**	**+1.1**
SOR	**Soroa**	**13.24**	**54**		**Pn**	**23 43 37.3**	**-2.4**
833A	**Chaparral WMA,**	**13.81**	**342**	Pn	**Pn**	**23 43 49.5**	**+2.1**
833A	**Chaparral WMA,**	**13.81**	**342**	P	**Pn**	**23 43 49.4**	**+2.0**
	baz=159,SNR=13						
735A	**Kenedy**	**13.92**	**348**	Pn	**Pn**	**23 43 47.3**	**-1.6**
HKT	**Hockley**	**14.72**	**356**	Pn	**Pn**	**23 43 59.4**	**-0.3**
HNDO	**Hondo**	**14.91**	**344**		**Pn**	**23 44 02.7**	**+0.2**
DRIO	**Del Rio**	**15.23**	**339**	Pn	**Pn**	**23 44 05.9**	**-0.6**
441A	**DeRidder**	**15.52**	**4**	Pn	**Pn**	**23 44 09.0**	**-1.3**
441A				IAmb	IAmb	23 44 24.7	
	comp=Z,70nm,1.2s						
435B	**Jarrell**	**15.76**	**350**		**Pn**	**23 44 12.4**	**-1.0**
435B				IAmb	IAmb	23 44 25.1	
	comp=Z,23nm,0.8s						
435B	**Jarrell**	**15.76**	**350**	P	**Pn**	**23 44 14.5**	**+1.1**
	baz=168						
JCT	**Junction City**	**15.96**	**343**	Pn	**Pn**	**23 44 16.1**	**0.0**
JCT	**Junction City**	**15.96**	**343**	P	**Pn**	**23 44 17.8**	**+1.8**
	baz=160						
SAND	**Sanderson**	**16.26**	**336**	Pn	**Pn**	**23 44 20.3**	**+0.4**
SAND				IAmb	IAmb	23 44 25.4	
	comp=Z,12nm,1.0s						
TX31	**Lajitas Ar. Si**	**16.40**	**331**		**Pn**	**23 44 22.2**	**+0.5**
TX31				IAmb	IAmb	23 44 38.7	
	comp=Z,48nm,1.1s						
TX32	**Lajitas Array**	**16.40**	**331**		**Pn**	**23 44 21.4**	**-0.3**
TXAR	**Lajitas Array**	**16.40**	**331**		**Pn**	**23 44 22.1**	**+0.4**
TXAR	**Lajitas Array**	**16.40**	**331**	P	**Pn**	**23 44 23.3**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=38						
TXAR				LR	LR	23 51 03.0	
	comp=Z,240nm,19.6s,baz=146,slow=38						
	comp=Z,5.9nm,0.9s						
NATX	**Nacogdoches**	**16.48**	**360**	Pn	**Pn**	**23 44 21.6**	**-1.0**
NATX				IAmb	IAmb	23 44 39.4	
	comp=Z,58nm,1.4s						
**NATX

comp=Z,20nm,0.5s
Z41A Richland Creek 18.04 5 P Pn 23 44 40.4 -1.6
FW03 Perrin-Whitt E 18.04 350 P Pn 23 44 41.7 -0.4
FW03 IAmb IAmb 23 44 46.7
comp=Z,24nm,0.9s
Z35A Perchaven, San 18.21 353 P P 23 44 43.4 -0.7
Z35A IAmb IAmb 23 44 59.8
comp=Z,23nm,0.8s
PECS Pecos 18.22 334 P P 23 44 45.1 +0.9
PECS IAmb IAmb 23 44 50.8
comp=Z,18nm,1.2s
425A Indio Mountain 18.24 330 P P 23 44 45.7 +1.2
ODSA Odessa 18.36 338 P P 23 44 45.9 +0.1
ODSA IAmb IAmb 23 44 58.7
comp=Z,44nm,1.1s
352A Blakely 18.42 27 P Pn 23 44 46.0 -0.5
352A IAmb IAmb 23 44 57.0
comp=Z,75nm,1.4s
WLAR White Oak Lake 18.44 4 P Pn 23 44 46.3 -0.6
WLAR IAmb IAmb 23 44 56.1
comp=Z,38nm,0.7s
SN01 Snyder 1 18.50 343 P P 23 44 47.5 +0.1
SN01 IAmb IAmb 23 44 59.2
comp=Z,17nm,0.9s
APMT Aspermont 18.74 345 P P 23 44 50.4 +0.5
APMT IAmb IAmb 23 45 00.5
comp=Z,18nm,0.9s
WTFS Witchita Falls 18.82 350 P P 23 44 50.5 -0.3
WTFS IAmb IAmb 23 45 11.8
comp=Z,18nm,0.7s
Z47A Carrollton 18.84 17 P P 23 44 50.2 -0.8
Z47A IAmb IAmb 23 44 52.9
comp=Z,31nm,0.7s
LOOK Love County 18.86 353 P 23 44 50.6 -0.5
LOOK IAmb IAmb 23 45 11.9
comp=Z,27nm,0.7s
POST Post 18.88 342 P P 23 44 51.3 -0.1
POST IAmb IAmb 23 45 02.8
comp=Z,17nm,0.9s
TIGA Tifton 19.00 30 P Pn 23 44 51.9 -1.7
baz=214
LRAL Lakeview Retre 19.02 20 P Pn 23 44 53.4 -0.4
LRAL Lakeview Retre 19.02 20 P Pn 23 44 52.4 -1.5
baz=202,SNR=5.8
Y45A Yeager Farm, C 19.11 13 P Pn 23 44 53.6 -1.4
Y45A IAmb IAmb 23 45 02.3
comp=Z,30nm,0.7s
MNTX Cornudas Mount 19.18 331 P P 23 44 55.6 +0.9
MNTX Cornudas Mount 19.18 331 P P 23 44 56.2 +1.5
baz=145,SNR=7.0
X40A Basin Creek Fa 19.26 4 P Pn 23 44 55.9 -0.8
DKNS Dickens 19.27 344 P P 23 44 55.8 +0.1
DKNS IAmb IAmb 23 44 58.4
comp=Z,39nm,0.8s
MIAR Mount Ida 19.27 2 P P 23 44 55.6 -0.1
MIAR IAmb IAmb 23 45 03.8
comp=Z,39nm,1.2s
MIAR Mount Ida 19.27 2 P P 23 44 55.6 -0.1
baz=182,SNR=11
X37A Clayton 19.31 358 P Pn 23 44 56.7 -0.7
X37A IAmb IAmb 23 45 03.4
comp=Z,20nm,0.7s
152A Waverly Hall 19.53 25 P P 23 44 57.5 -1.0
152A IAmb IAmb 23 45 12.0
comp=Z,22nm,1.1s
X34A Smith Ranch, M 19.54 352 P 23 44 57.2 -1.4
X34A IAmb IAmb 23 45 10.6
comp=Z,39nm,0.8s
UALR University of 19.58 5 P P 23 44 58.3 -0.8
UALR IAmb IAmb 23 45 00.9
comp=Z,25nm,0.7s
OXF Oxford 19.77 13 P P 23 44 59.0 -2.0
OXF IAmb IAmb 23 45 14.7
comp=Z,66nm,1.3s
OXF Oxford 19.77 13 P P 23 45 00.5 -0.5
baz=194
WMOK Wichita Mounta 19.82 350 P 23 45 01.4 -0.4
WMOK Wichita Mounta 19.82 350 P P 23 45 02.4 +0.7
baz=167
Y49A Blount Mountai 19.96 20 P P 23 45 02.5 -0.7
WHAR Wooly Hollow 20.10 5 P P 23 45 04.2 -0.5
WHAR IAmb IAmb 23 45 20.5
comp=Z,48nm,1.5s
MSTX Muleshoe 20.11 340 P P 23 45 05.7 +0.7
MSTX IAmb IAmb 23 45 08.8
comp=Z,21nm,0.9s
MSTX Muleshoe 20.11 340 P P 23 45 06.0 +1.0
baz=155
OKCSW OKLAHOMA CITY 20.28 353 P 23 45 06.5 -0.2
X48A Hartselle 20.31 18 P P 23 45 05.6 -1.4
PLAL Pickwick Lake 20.52 15 P P 23 45 07.2 -2.1
AMTX Amarillo 20.62 343 P P 23 45 10.6 0.0
AMTX IAmb IAmb 23 45 15.6
comp=Z,46nm,0.8s
AMTX Amarillo 20.62 343 P P 23 45 11.6 +1.1
baz=159
DEOK Depew 20.63 355 P 23 45 09.5 -0.9
PLMC San Jos del P 20.65 118 eP Pn 23 45 17.1 +3.8
TUL3 Leonard 20.65 357 P P 23 45 09.0 -1.7
TUL3 Leonard 20.65 357 P P 23 45 11.3 +0.7
baz=176
OK029 Liberty Lake 20.67 353 P 23 45 09.9 -1.0
CSTR Hydro, Custer 20.69 350 P 23 45 11.4 +0.3
GOGA Godfrey 20.70 27 P P 23 45 10.1 -1.2
baz=211
FCAR Ozark Folk Cen 20.71 6 P P 23 45 10.4 -0.9
FCAR IAmb IAmb 23 45 15.8
comp=Z,38nm,0.7s
ZARC Zaragoza, Cauc 20.73 110 eP **P 23 45 09.7 -2.0**
257A Skidaway Islan 20.74 34 P P 23 45 09.1 -2.5
OK031 S. Brethren Rd 20.76 355 P 23 45 11.8 -0.1
OK052 Battle Ridge R 20.80 355 P 23 45 12.1 -0.2
Y52A Lilburn 20.84 25 P P 23 45 11.6 -1.2
Y52A IAmb IAmb 23 45 42.7
comp=Z,22nm,1.1s
FPAL Fort Paine 20.86 21 P P 23 45 11.8 -1.1
FPAL IAmb IAmb 23 45 25.8
comp=Z,29nm,1.1s
OK033 Mehan 20.86 354 P 23 45 11.8 -1.1
OK033 IAmb IAmb 23 45 17.8
comp=Z,28nm,0.8s
RLO Rose Lookout 20.88 359 P P 23 45 12.6 -0.5
RLO IAmb IAmb 23 45 27.8
comp=Z,24nm,1.2s
QUOK Quay 20.97 355 P 23 45 13.9 -0.2
LCAR Lake Charles 20.99 8 P P 23 45 12.7 -1.7
HHAR Hobbs 20.99 1 P P 23 45 14.0 -0.4
HHAR IAmb IAmb 23 45 17.8
comp=Z,29nm,0.5s
319A Douglas 21.00 323 P P 23 45 16.9 +2.2
319A IAmb IAmb 23 45 25.9
comp=Z,26nm,1.0s
121A Cookes Peak, D 21.05 327 P P 23 45 16.9 +1.7
121A IAmb IAmb 23 45 21.7
comp=Z,40nm,1.0s
121A Cookes Peak, D 21.05 327 P P 23 45 17.2 +2.0
baz=141,SNR=18
YOTC Yotoco, Valle 21.08 120 eP **P 23 45 16.1 +0.4**
U38A Gravette 21.14 0 P P 23 45 15.8 -0.2
U38A IAmb IAmb 23 45 19.1
comp=Z,11nm,0.7s
ELIS Ellis County 21.23 349 P P 23 45 17.5 +0.5
OK048 Pawnee Station 21.23 355 P 23 45 17.5 +0.6
JAMC Jamundi, Valle 21.24 122 eP **P 23 45 16.5 -0.9**
GUY2C Guyana, Caldas 21.28 116 eP **P 23 45 20.9 +2.8**
OK051 E0350 and S346 21.31 355 P P 23 45 18.5 +0.7
SWET Sewanee 21.36 20 P P 23 45 16.9 -1.5
CROK Carrier 21.43 352 P 23 45 20.3 +1.2
U32A Winter Ranch, 21.46 350 P P 23 45 18.9 -0.5
U32A IAmb IAmb 23 45 28.3
comp=Z,36nm,0.7s
W50A Signal Mountai 21.56 21 P P 23 45 20.1 -0.3
W50A IAmb IAmb 23 45 34.8
comp=Z,36nm,1.4s
V48A Smith Brothers 21.58 17 P P 23 45 19.3 -1.3
V48A IAmb IAmb 23 45 22.7
comp=Z,11nm,0.6s
BLOK Blackwell 21.60 354 P P 23 45 20.7 -0.2
POPC Popayan, Colom 21.63 124 eP **P 23 45 20.6 -1.0**
WVT Waverly 21.68 15 P P 23 45 19.8 -1.9
WVT IAmb IAmb 23 45 36.7
comp=Z,15nm,0.8s
WVT Waverly 21.68 15 P P 23 45 21.3 -0.4
baz=197
T35A Sooner Cattle 21.69 356 P P 23 45 20.6 -1.3

NOKA Waynoka 21.70 350 P P 23 45 22.0 0.0
OK035 E0210 Rd and N 21.74 351 P P 23 45 22.5 +0.1
OTAV Otavalo 21.75 132 P P 23 45 26.2 +3.0
OK032 Salt Plains WL 21.76 352 P P 23 45 22.8 +0.2
OK032 IAmb IAmb 23 45 25.7
comp=Z,27nm,0.8s
GC02 Grant County # 21.76 353 P 23 45 23.5 +0.9
DUN6 Lazy B Ranch 21.77 325 P P 23 45 24.8 +2.0
PBMO Poplar Bluff 21.79 9 P P 23 45 21.3 -1.6
PBMO IAmb IAmb 23 45 24.4
comp=Z,15nm,0.6s
PULU Pululahua 21.87 132 P P 23 45 25.9 +1.6
Y22D IRIS PASSCAL I 21.87 331 P P 23 45 24.9 +0.9
Y22D IAmb IAmb 23 45 50.6
comp=Z,28nm,0.8s
KAN14 Manchester OK 21.88 353 P 23 45 23.5 -0.3
KAN14 IAmb IAmb 23 45 26.6
comp=Z,30nm,0.9s
IMBA Imbabura, San 21.91 131 P P 23 45 25.9 +1.0
KAN17 Caldwell West 21.94 353 P 23 45 24.7 +0.2
T42A Van Buren 21.95 7 P P 23 45 24.1 -0.5
MGMO Mountain Grove 21.95 5 P P 23 45 24.5 -0.2
MGMO IAmb IAmb 23 45 27.7
comp=Z,16nm,0.7s
W52A Murphy 21.97 24 P P 23 45 22.2 -2.7
W52A IAmb IAmb 23 45 51.4
comp=Z,15nm,1.0s
LENM Lemitar 21.97 331 P P 23 45 24.9 -0.2
KAN09 Caldwell North 22.01 353 P 23 45 25.2 -0.1
KAN05 Bluff City Nor 22.02 353 P P 23 45 25.4 0.0
ORTC Ortega, Tolima 22.05 119 eP **P 23 45 27.9 +2.0**
CLTN Cedars of Leba 22.05 18 P P 23 45 24.4 -1.3
KAN01 Argonia South 22.05 353 P 23 45 25.9 +0.2
CPCT Cooper Cave 22.06 22 P P 23 45 24.4 -1.5
KS20 Mayfield South 22.10 354 P P 23 45 26.1 -0.2
KAN08 Anthony NE Sta 22.14 353 P 23 45 27.5 +0.8
KAN06 Argonia West S 22.15 353 P P 23 45 26.9 +0.1
KS21 Milan North St 22.17 353 P P 23 45 26.3 -0.7
KAN12 Harper NE Stat 22.22 353 P 23 45 27.4 -0.1
BG3 Lake Jocassee 22.29 26 P P 23 45 26.6 -1.7
BG3 IAmb IAmb 23 45 29.1
comp=Z,13nm,0.8s
ROSC El Rosal 22.37 115 P 23 45 30.9 +1.1
ROSC IAmb IAmb 23 45 39.9
comp=Z,48nm,1.4s
ROSC El Rosal 22.37 115 P P 23 45 29.7 -0.1
comp=Z,2.7nm,0.3s,baz=330,slow=20,SNR=1.4
ROSC LR LR 23 55 12.7
comp=Z,143nm,18.2s,baz=186,slow=39
comp=Z,2.7nm,0.3s
ANMO Albuquerque 22.39 334 P P 23 45 29.7 0.0
ANMO Albuquerque 22.39 334 P P 23 45 30.8 +1.1
baz=148
SLOR San Lorenzo - 22.40 134 P P 23 45 33.2 +3.0
S39A Bolivar 22.42 2 P P 23 45 28.7 -1.0
S39A IAmb IAmb 23 45 31.9
comp=Z,23nm,0.7s
CGM3 Cape Girardeau 22.42 10 P P 23 45 27.7 -2.0
CGM3 IAmb IAmb 23 45 30.8
comp=Z,9.4nm,0.6s
V51A Loudon 22.44 22 P P 23 45 27.8 -2.0
PRAC Prado 22.45 119 eP **P 23 45 29.7 -0.6**
TKL Tuckaleechee C 22.52 23 P P 23 45 29.3 -1.5
TKL IAmb IAmb 23 45 48.7
comp=Z,21nm,1.1s
TKL Tuckaleechee C 22.52 23 LR LR 23 56 01.5
comp=Z,136nm,18.9s,baz=194,slow=41
TUC Tucson 22.57 322 P P 23 45 33.3 +1.9
TUC Tucson 22.57 322 P P 23 45 33.7 +2.3
baz=134
U49A Red Boiling Sp 22.60 19 P P 23 45 29.8 -1.9
U49A IAmb IAmb 23 45 51.7
comp=Z,11nm,0.8s
T47A Sharon Grove 22.67 16 P P 23 45 30.4 -1.9
T47A IAmb IAmb 23 45 34.3
comp=Z,12nm,0.7s
CHSH Refugio Sur-Vo 22.69 136 P P 23 45 35.9 +2.5
S44A Carbondale 22.88 11 P P 23 45 33.0 -1.5
S44A IAmb IAmb 23 45 53.1
comp=Z,44nm,1.1s
SIUC Southern Illin 22.91 11 P P 23 45 33.0 -1.8
SIUC IAmb IAmb 23 45 53.4
comp=Z,45nm,1.1s
V53A Saluda 22.92 25 P P 23 45 33.5 -1.4
V53A IAmb IAmb 23 45 52.9
comp=Z,12nm,0.8s
CCM Cathedral Cave 22.94 7 P P 23 45 32.8 -2.3
CCM IAmb IAmb 23 45 42.1
comp=Z,18nm,1.0s
CCM Cathedral Cave 22.94 7 P P 23 45 35.0 -0.2
baz=188
CHIC Chingaza 22.99 115 eP **P 23 45 40.2 +3.9**
RUSC La Rusia 22.99 111 eP **P 23 45 36.5 +0.1**
R40A Maddies Statio 23.08 5 P P 23 45 35.8 -0.8
R40A IAmb IAmb 23 45 38.7
comp=Z,20nm,0.7s
KMSC Kings Mountain 23.11 28 P P 23 45 35.7 -1.2
baz=214
T50A Nancy 23.37 20 P P 23 45 37.7 -1.7
TZTN Tazewell 23.39 23 P P 23 45 38.2 -1.5
TZTN IAmb IAmb 23 45 51.8
comp=Z,25nm,1.1s
TZTN Tazewell 23.39 23 P P 23 45 38.8 -0.9
baz=207
R32A Long Quarter, 23.42 352 P P 23 45 40.1 +0.1
USIN University of 23.46 14 P P 23 45 38.8 -1.5
T25A Trinidad 23.55 340 P P 23 45 42.3 +0.9
T25A Trinidad 23.55 340 P P 23 45 41.8 +0.4
baz=155,SNR=21
214A Organ Pipe Nat 23.58 318 P P 23 45 43.2 +1.6
214A Organ Pipe Nat 23.58 318 P P 23 45 43.4 +1.8
baz=130
X58A Rowland 23.62 33 P P 23 45 39.2 -2.6
X58A IAmb IAmb 23 45 47.0
comp=Z,37nm,1.4s
SLM Saint Louis 23.64 8 P P 23 45 39.5 -2.5
SLM IAmb IAmb 23 45 42.5
comp=Z,20nm,0.7s
X18A Snowflake 23.74 327 P P 23 45 44.8 +1.6
X18A IAmb IAmb 23 45 46.9
comp=Z,19nm,1.4s
PIX Pinacate 23.75 317 P P 23 45 44.1 +0.9
KSU1 Kansas State U 23.87 356 P P 23 45 43.5 -0.7
KSU1 IAmb IAmb 23 45 47.9
comp=Z,21nm,0.8s
KSU1 Kansas State U 23.87 356 P P 23 45 44.0 -0.2
baz=174
CBKS Cedar Bluff 23.96 350 P P 23 45 45.9 +0.8
CBKS IAmb IAmb 23 45 47.9
comp=Z,34nm,0.9s
CBKS Cedar Bluff 23.96 350 P P 23 45 45.5 +0.5
baz=167
WCI Wyandotte Cave 24.05 16 P P 23 45 44.6 -1.3
WCI IAmb IAmb 23 45 51.5
comp=Z,21nm,0.9s
WCI Wyandotte Cave 24.05 16 P P 23 45 45.2 -0.7
baz=199
W18A Petrified Fore 24.08 328 P P 23 45 47.9 +1.4
W18A Petrified Fore 24.08 328 P P 23 45 47.5 +1.1
baz=141
Q44A Meyer Farm, Va 24.10 11 P P 23 45 45.2 -1.1
OLIL Olney 24.11 12 P P 23 45 44.7 -1.7
MACC Macarena, Meta 24.17 121 eP **P 23 45 45.5 -1.7**
BOSC San Juan Bosco 24.18 138 P P 23 45 48.5 +1.1
SDV Santo Domingo 24.18 102 LR LR 23 57 27.5
comp=Z,322nm,18.7s,baz=292,slow=42
P40A Paris 24.33 5 P P 23 45 46.6 -1.7
P38A Dawn 24.34 2 P P 23 45 47.7 -0.8
P38A IAmb IAmb 23 45 49.1
comp=Z,19nm,0.6s
SFX San Felipe 24.39 314 P P 23 45 49.9 +0.9
R49A Shelbyville 24.43 18 P P 23 45 47.7 -1.7
X16A Lo Mia Camp, P 24.46 324 P P 23 45 51.6 +1.6
X16A IAmb IAmb 23 45 54.2
comp=Z,17nm,0.9s
SDCO Great Sand Dun 24.47 339 P P 23 45 51.0 +1.0
SDCO Great Sand Dun 24.47 339 P P 23 45 51.3 +1.3
baz=153,SNR=7.2
U56A King 24.54 28 P 23 45 49.3 -1.1
U56A IAmb IAmb 23 46 13.6
comp=Z,12nm,0.9s
KS24 Mankato 24.70 353 P P 23 45 51.3 -0.5
113A Mohawk Valley, 24.72 318 P P 23 45 53.2 +1.1
P43A Skaggs, Pawnee 24.73 9 P P 23 45 50.6 -1.4

P43A IAmb IAmb 23 45 52.2
comp=Z,18nm,0.7s
KS23 Northwest Mank 24.76 353 P P 23 45 52.3 -0.1
KSCO Kaye Shedlock' 24.76 345 P P 23 45 52.6 0.0
KSCO IAmb IAmb 23 45 55.2
comp=Z,22nm,0.8s
KSCO Kaye Shedlock' 24.76 345 P P 23 45 52.7 +0.2
baz=160
BLO Bloomington 24.89 15 P P 23 45 52.2 -1.3
BLO IAmb IAmb 23 45 54.2
comp=Z,24nm,0.8s
S22A 4UR Ranch, Cre 24.96 336 P P 23 45 54.1 -0.4
S22A 4UR Ranch, Cre 24.96 336 P P 23 45 55.9 +1.4
baz=150
P46A Rosedale 25.15 13 P P 23 45 54.2 -1.7
MVCO Mesa Verde 25.19 333 P P 23 45 57.0 +0.5
MVCO IAmb IAmb 23 46 09.1
comp=Z,12nm,1.0s
MVCO Mesa Verde 25.19 333 P P 23 45 57.9 +1.4
baz=146
BLA Blacksburg 25.24 27 P P 23 45 56.8 +0.1
baz=213
WUAZ Wupatki 25.24 326 P P 23 45 58.1 +1.2
WUAZ IAmb IAmb 23 46 02.1
comp=Z,25nm,1.0s
WUAZ Wupatki 25.24 326 P P 23 45 58.9 +2.0
baz=138,SNR=11
SSFO Shawnee State 25.43 21 P P 23 45 56.2 -2.3
P48A Milroy 25.44 17 P P 23 45 56.4 -2.2
P48A IAmb IAmb 23 45 57.4
comp=Z,18nm,0.6s
CPBX Cerro Prieto 25.52 316 P P 23 46 01.2 +2.0
N38A Joes South For 25.52 2 P P 23 45 57.8 -1.3
N35A Tabor 25.58 358 P P 23 45 59.3 -0.5
N35A IAmb IAmb 23 46 01.8
comp=Z,26nm,0.8s
GLA Glamis 25.59 318 P P 23 46 00.9 +0.9
GLA IAmb IAmb 23 46 13.4
comp=Z,13nm,0.9s
N41A Harden Midland 25.61 6 P P 23 45 58.1 -1.9
HDIL Hopedale 25.66 9 P P 23 45 58.9 -1.5
Q51A Peebles 25.68 20 P P 23 45 59.3 -1.4
Q51A IAmb IAmb 23 46 00.2
comp=Z,14nm,0.7s
P49A Miami Univ. Ec 25.71 18 P P 23 45 58.5 -2.5
P49A IAmb IAmb 23 45 59.6
comp=Z,11nm,0.9s
P49A Miami Univ. Ec 25.71 18 P P 23 45 59.8 -1.2
baz=202
SFIN Lafayette 25.90 13 P P 23 46 01.0 -1.6
SFIN IAmb IAmb 23 46 03.0
comp=Z,11nm,0.8s
SFIN Lafayette 25.90 13 P P 23 46 01.6 -1.0
baz=196
PDMCI Parker Dam,Lak 25.97 321 P P 23 46 05.1 +1.7
baz=132
Q52A Bidwell 26.00 22 P P 23 46 01.6 -2.0
Q52A IAmb IAmb 23 46 02.9
comp=Z,17nm,0.8s
SWSC Sam W. Stewart 26.17 316 P P 23 46 07.7 +2.5
baz=127
P51A Williamsport 26.19 20 P P 23 46 03.3 -1.9
P51A IAmb IAmb 23 46 04.6
comp=Z,13nm,0.7s
IKP In-Ko-Pah, Jac 26.20 315 P P 23 46 08.3 +2.8
baz=126
O48B Farmland 26.26 16 P P 23 46 03.5 -2.4
O48B IAmb IAmb 23 46 04.7
comp=Z,16nm,1.0s
O48B Farmland 26.26 16 P P 23 46 05.8 -0.1
baz=200
ISCO Idaho Springs 26.36 340 P P 23 46 07.5 +0.4
ISCO IAmb IAmb 23 46 17.6
comp=Z,8.5nm,0.9s
ISCO Idaho Springs 26.36 340 P P 23 46 09.1 +2.0
baz=155,SNR=6.9
BC3 Big Chuckawall 26.38 318 P P 23 46 09.5 +2.3
baz=128
U15A North Rim 26.42 326 P P 23 46 09.2 +1.4
O49A Covington 26.43 18 P P 23 46 05.1 -2.3
O49A IAmb IAmb 23 46 06.4
comp=Z,18nm,0.6s
OGNE Ogallala 26.46 347 P P 23 46 07.3 -0.5
OGNE IAmb IAmb 23 46 13.3
comp=Z,32nm,0.9s
OGNE Ogallala 26.46 347 P P 23 46 09.8 +1.9
baz=163
IRM Iron Mountain 26.50 319 P P 23 46 09.9 +1.7
baz=130
SCIA State Center 26.63 2 P P 23 46 08.2 -1.0
SCIA State Center 26.63 2 P P 23 46 09.1 -0.1
baz=182,SNR=5.8
P52A Corning 26.64 22 P P 23 46 08.5 -0.9
baz=207
M44A Midewin, Midew 26.68 11 P P 23 46 08.0 -1.7
M44A IAmb IAmb 23 46 14.2
comp=Z,15nm,0.8s
N47A Urbana 26.71 15 P P 23 46 07.0 -3.0
N47A IAmb IAmb 23 46 16.4
comp=Z,13nm,0.9s
L34A Svendsen Farm, 26.71 357 P P 23 46 09.5 -0.5
HMU Henry Mountain 26.81 331 P P 23 46 12.1 +0.9
HMU IAmb IAmb 23 46 27.9
comp=Z,21nm,1.4s
ACSO Alum Creek Sta 26.89 20 P P 23 46 08.4 -3.1
ACSO IAmb IAmb 23 46 41.4
comp=Z,18nm,1.1s
ACSO Alum Creek Sta 26.89 20 P P 23 46 10.3 -1.2
baz=205
L40A Anamosa 26.91 5 P P 23 46 10.5 -1.3
BELC Belle Mtn. Jos 26.95 318 P P 23 46 14.3 +1.9
baz=128
TPFO Pinon Flats 27.00 317 P P 23 46 15.5 +2.6
baz=127
PFO Pinyon Flats O 27.01 317 P P 23 46 14.7 +1.7
baz=127
PFO Pinyon Flats O 27.01 317 LR LR 23 57 56.4
comp=Z,254nm,20.1s,baz=132,slow=38
L42A Oliver, Polo 27.03 8 P P 23 46 11.2 -1.6
O52A Adamsville 27.18 22 P P 23 46 12.3 -1.9
O52A IAmb IAmb 23 46 13.7
comp=Z,15nm,0.6s
GMRC Granite Mounta 27.23 320 P P 23 46 16.4 +1.5
baz=130
SJG San Juan 27.32 80 LR LR 23 56 56.3
comp=Z,103nm,21.0s,baz=249,slow=36
ATAH Atahualpa 27.35 143 LR LR 23 55 20.4
comp=Z,120nm,19.1s,baz=317,slow=32
V12A Nelson 27.36 322 P P 23 46 17.3 +1.2
LCMT Little Creek M 27.36 326 P P 23 46 17.6 +1.5
K38A Parkersburg 27.39 3 P P 23 46 14.8 -1.2
K38A IAmb IAmb 23 46 15.8
comp=Z,25nm,1.1s
N23A Red Feather La 27.45 341 P P 23 46 18.9 +1.9
baz=155
MURC Murrieta 27.49 316 P P 23 46 18.9 +1.8
baz=126
O53A New Philadelph 27.52 22 P P 23 46 16.3 -1.0
O53A IAmb IAmb 23 46 17.0
comp=Z,13nm,0.9s
O53A New Philadelph 27.52 22 P P 23 46 16.9 -0.4
baz=208
O20A White River Ci 27.58 337 P P 23 46 19.2 +1.2
baz=150
MTPU Mount Pierson 27.59 329 P P 23 46 17.3 -1.1
L46A Eue Claire 27.64 13 P P 23 46 15.4 -2.9
HEC Hector,Ludlow 27.68 319 P P 23 46 20.5 +1.6
baz=129
SZCU Shurtz Canyon 27.71 327 P P 23 46 19.9 +0.6
K30B Basset 27.72 352 P 23 46 18.8 -0.3
Q16A Castle Valley 27.79 331 P P 23 46 20.5 +0.5
Q16A IAmb IAmb 23 46 32.6
comp=Z,11nm,1.3s
TUQ Turquoise Moun 27.82 320 P P 23 46 21.6 +1.4
baz=130
CCUT Cedar City 27.82 327 P P 23 46 21.5 +1.2
JFWS Jewell Farm 27.85 7 P P 23 46 18.5 -1.7
JFWS Jewell Farm 27.85 7 P P 23 46 19.6 -0.6
baz=188,SNR=6.9
K43A Burlington 27.91 10 P P 23 46 18.5 -2.2
MSU Marysvale 27.95 329 P P 23 46 22.9 +1.5
P18A Preston Nutter 27.96 333 P P 23 46 22.2 +0.6
P17A Butcher Ranch, 28.05 333 P P 23 46 22.9 +0.7
P17A IAmb IAmb 23 46 24.9
comp=Z,6.6nm,0.9s
SCI2 San Clemente I 28.07 313 P P 23 46 24.7 +2.5

baz=123
TMUT Trail Mountain 28.11 332 P P 23 46 23.1 +0.1
RDMU Red Mountain 28.47 335 P P 23 46 26.5 +0.5
ECSD EROS Data Cent 28.49 357 P P 23 46 25.3 -0.6
ECSD IAmb IAmb 23 46 27.0
comp=Z,11nm,0.7s
ECSD EROS Data Cent 28.49 357 P P 23 46 25.8 -0.1
baz=175
R61A Willards 28.58 33 P P 23 46 25.4 -1.3
M53A Wt Miller and 28.76 22 P P 23 46 27.4 -0.9
baz=208
I40A Norwalk 28.78 6 P P 23 46 27.2 -1.3
I40A IAmb IAmb 23 46 28.8
comp=Z,8.8nm,0.6s
MPU Maple Canyon 28.89 332 P P 23 46 30.5 +0.8
SNCC San Nicolas Is 28.90 313 P P 23 46 32.0 +2.3
baz=122
BSUT Blindstream Ca 28.93 334 P P 23 46 30.4 +0.1
I42A Draeger Farm, 28.98 8 P P 23 46 28.8 -1.5
I42A IAmb IAmb 23 46 30.4
comp=Z,8.2nm,0.7s
TPNV Topopah Spring 29.02 322 P P 23 46 31.8 +1.0
baz=132
NLU North Lily Min 29.04 331 P P 23 46 32.1 +1.0
WCT Wildcat Mounta 29.14 322 P P 23 46 33.6 +1.8
SSPA Standing Stone 29.18 27 P P 23 46 31.4 -0.6
baz=214
MPMC Manual Prospec 29.19 320 P P 23 46 33.8 +1.4
baz=129
S11A Rachel 29.20 324 P P 23 46 33.4 +0.9
S11A IAmb IAmb 23 46 37.6
comp=Z,31nm,1.4s
K22A Casper 29.23 342 P P 23 46 33.3 +0.6
K22A IAmb IAmb 23 46 35.2
comp=Z,7.8nm,0.8s
K22A Casper 29.23 342 P P 23 46 33.6 +0.9
baz=155
PCRV Puerto La Cruz 29.56 96 LR LR 23 59 41.3
comp=Z,208nm,20.2s,slow=39
DUG Dugway, Tooele 29.58 331 P P 23 46 37.6 +1.8
baz=142
R11B Troy Canyon, C 29.61 325 P P 23 46 37.9 +1.8
baz=135
TCUT Toone Canyon 29.69 334 P P 23 46 38.1 +1.2
CWC Cottonwood Cre 29.80 320 P P 23 46 39.8 +2.0
baz=128
GMN Gold Mountain 29.85 322 P P 23 46 38.9 +0.6
SPMN Marine on St. 29.96 2 P P 23 46 37.5 -1.4
SPMN Marine on St. 29.96 2 P P 23 46 38.5 -0.4
baz=183,SNR=6.6
VES Vestal, Richgr 30.07 318 P P 23 46 42.1 +2.0
baz=126
HWUT Hardware Ranch 30.16 334 P P 23 46 41.5 +0.6
MZP Montezuma Peak 30.19 322 P P 23 46 42.6 +1.2
BGU Big Grassy Mou 30.25 331 P P 23 46 43.2 +1.4
DSP Deep Springs 30.33 321 P P 23 46 42.6 +0.3
BW06 Boulder Array 30.35 338 P P 23 46 43.6 +0.9
BW06 Boulder Array 30.35 338 P P 23 46 43.0 +0.3
baz=150
PD31 Pinedale Array 30.35 338 P P 23 46 43.0 +0.3
PDAR Pinedale Array 30.35 338 P P 23 46 43.2 +0.6
comp=Z,2.7nm,0.9s,baz=144,slow=8.6,SNR=15
comp=Z,2.7nm,0.9s
SMMC Simmler 30.37 316 P P 23 46 43.6 +0.9
baz=124
ID09 Alton 30.54 335 P P 23 46 43.2 -1.1
ID09 IAmb IAmb 23 46 46.4
comp=Z,9.1nm,0.7s
F36A Milaca 30.57 1 P P 23 46 43.3 -1.0
F36A IAmb IAmb 23 46 44.2
comp=Z,6.4nm,0.7s
F33A 5 Mile Ranch, 30.57 358 P P 23 46 43.3 -1.0
F33A IAmb IAmb 23 46 54.5
comp=Z,5.9nm,0.8s
GLMI Grayling 30.69 14 P P 23 46 43.2 -2.1
GLMI Grayling 30.69 14 P P 23 46 44.6 -0.8
baz=199
HVU Hansel Valley 30.82 333 P P 23 46 47.6 +0.9
HVU IAmb IAmb 23 46 49.7
comp=Z,10nm,0.8s
ID05 Sulphur Canyon 30.98 335 P P 23 46 48.3 +0.1
NV11 Mina Array Sit 31.13 322 P P 23 46 49.2 -0.4
ID07 Smith Canyon R 31.14 334 P P 23 46 49.2 -0.4
ID07 IAmb IAmb 23 46 52.2
comp=Z,12nm,1.1s
MDPB Devils Postpil 31.17 320 P P 23 46 49.3 -0.7
MDPB IAmb IAmb 23 47 11.9
comp=Z,21nm,1.3s
ELK Elko 31.18 329 P P 23 46 50.7 +0.7
NVAR Mina Array Bea 31.22 322 P P 23 46 52.1 +1.7
NVAR Mina Array Bea 31.22 322 P P 23 46 52.4 +2.0
comp=Z,2.4nm,0.8s,baz=134,slow=8.4,SNR=17
NVAR LR LR 23 59 55.4
comp=Z,153nm,18.1s,baz=136,slow=37
comp=Z,2.4nm,0.8s
LHV Little Huntoon 31.22 322 P P 23 46 51.5 +1.5
LHV IAmb IAmb 23 46 53.5
comp=Z,6.8nm,1.1s
BINY Binghamton 31.28 27 P P 23 46 49.2 -1.5
baz=216
ID08 Devils Gate 31.34 335 P P 23 46 52.0 +0.6
ID08 IAmb IAmb 23 46 53.9
comp=Z,9.3nm,0.8s
REDW Red Top Meadow 31.35 337 P P 23 46 52.1 +0.6
SNOW Snow King Moun 31.39 337 P P 23 46 53.2 +1.3
E38A The Farm, Brul 31.40 4 P P 23 46 50.4 -1.2
LOHW Long Hollow 31.47 337 P P 23 46 52.7 +0.2
LOHW IAmb IAmb 23 46 55.1
comp=Z,12nm,0.8s
TPAW Teton Pass 31.49 337 P P 23 46 53.0 +0.2
TPAW IAmb IAmb 23 46 55.7
comp=Z,11nm,1.1s
KVN Kaiserville 31.51 323 P P 23 46 53.3 +0.4
MOOW Moose Ponds 31.64 337 P P 23 46 53.8 -0.1
MOOW IAmb IAmb 23 46 56.5
comp=Z,5.6nm,0.8s
FXWY Fox Creek 31.65 337 P P 23 46 53.6 -0.5
E28A Huff 31.70 352 P P 23 46 52.8 -1.5
FLWY Flagg Ranch 31.91 338 P P 23 46 57.5 +1.1
FLWY IAmb IAmb 23 47 04.4
comp=Z,13nm,1.2s
NNA Nana 32.19 146 LR LR 23 57 08.1
comp=Z,108nm,21.4s,baz=350,slow=31
E46A Sault Ste Mari 32.22 13 P P 23 46 57.0 -1.8
RLMT Red Lodge 32.32 340 P P 23 47 00.2 +0.3
RLMT IAmb IAmb 23 47 09.9
comp=Z,8.1nm,0.9s
RLMT Red Lodge 32.32 340 P P 23 47 01.5 +1.6
baz=152,SNR=5.6
EYMN Ely 32.74 4 P P 23 47 02.5 -0.9
baz=185
LAO LASA Array 32.88 345 P P 23 47 04.7 +0.1
baz=158
HLID Hailey 32.97 333 P P 23 47 06.4 +0.7
HLID IAmb IAmb 23 47 10.5
comp=Z,6.3nm,0.8s
HLID Hailey 32.97 333 P P 23 47 07.3 +1.6
baz=142,SNR=10
BOZ Bozeman (W) 33.55 338 P P 23 47 12.2 +1.6
baz=148
DLMT Dillon 33.70 337 P P 23 47 13.6 +1.6
LONY Lake Ozonia 33.84 26 P P 23 47 12.7 -0.3
baz=216
DGMT Dagmar 34.11 348 P P 23 47 16.7 +1.3
DGMT IAmb IAmb 23 47 19.4
comp=Z,9.3nm,0.9s
DGMT Dagmar 34.11 348 P P 23 47 16.6 +1.3
baz=163
ELMT Elliston 34.65 338 P P 23 47 21.3 +1.1
LBNH Lisbon 34.72 29 P P 23 47 20.2 -0.5
baz=220
J08A Circle Bar Ran 34.73 329 P P 23 47 22.4 +1.5
J08A IAmb IAmb 23 47 23.6
comp=Z,13nm,1.0s
PLID Pearl Lake 34.88 333 P P 23 47 22.8 +0.5
PLID IAmb IAmb 23 47 24.5
comp=Z,12nm,0.9s
BPMT Black Pine Rid 34.93 337 P P 23 47 22.3 -0.4
LYMT Lyon Mountain 34.96 339 P P 23 47 22.8 -0.1
ULM Lac du Bonnet 34.97 358 P P 23 47 21.6 -1.1
comp=Z,7.5nm,0.9s,baz=190,slow=10,SNR=5.0
comp=Z,7.5nm,0.9s
EGMT Eagleton 35.06 342 P P 23 47 24.2 +0.6
EGMT Eagleton 35.06 342 P P 23 47 24.6 +0.9
baz=153

CHMT Chamberlain Mo 35.26 338 P P 23 47 26.3 +0.8
OVMT Ovando 35.29 338 P P 23 47 25.2 -0.5
MSO Missoula 35.45 337 P P 23 47 27.9 +1.0
MSO IAmb IAmb 23 47 28.6
comp=Z,6.6nm,1.0s
MSO Missoula 35.45 337 P P 23 47 28.3 +1.4
baz=146
F10A Beach Ranch, E 36.11 333 P P 23 47 32.7 +0.1
F10A IAmb IAmb 23 47 36.6
comp=Z,12nm,0.9s
ETMB Extrema 37.48 130 P P 23 47 44.9 +0.3
ETMB IAmb IAmb 23 47 53.3
comp=Z,16nm,1.4s
H04A Detroit Lake 37.57 327 P P 23 47 46.0 +1.0
NEW Newport 37.86 335 P P 23 47 47.3 -0.2
NEW IAmb IAmb 23 48 17.3
comp=Z,5.7nm,1.1s
NEW Newport 37.86 335 P P 23 47 48.6 +1.1
baz=142
NEW Newport 37.86 335 LR LR 00 05 05.4
comp=Z,92nm,19.1s,baz=161,slow=39
C09A Chrisman Ranch 37.98 334 P P 23 47 48.1 -0.3
C09A IAmb IAmb 23 47 57.7
comp=Z,13nm,1.3s
LON Longmire 38.81 330 P P 23 47 56.0 +0.5
LPAZ La Paz 40.72 139 P P 23 48 09.7 -2.6
comp=Z,1.1nm,0.6s,baz=321,slow=10,SNR=3.3
comp=Z,1.1nm,0.6s
MDP Montagnes des 42.35 99 LR LR 00 06 57.1
comp=Z,84nm,21.3s,baz=298,slow=38
SCHQ Schefferville 44.99 22 LR LR 00 10 02.6
comp=Z,357nm,18.1s,baz=257,slow=39
BBB Bella Bella 45.53 331 LR LR 00 09 12.2
comp=Z,79nm,18.5s,baz=173,slow=38
YKA Yellowknife Ar 49.32 348 P P 23 49 19.5 +0.2
comp=Z,4.6nm,0.8s,baz=152,slow=7.3,SNR=12
YKA LR LR 00 13 34.6
comp=Z,40nm,18.1s,baz=188,slow=40
comp=Z,4.6nm,0.8s
KOTAN Kotaneelee Air 49.75 341 P P 23 49 23.7 +1.0
baz=141
DLBC Dease Lake 50.58 337 P P 23 49 30.9 +1.8
baz=133
R33M Jennings River 51.59 337 P P 23 49 38.2 +1.5
baz=132
Q32M Nakina River 51.79 336 P P 23 49 40.4 +2.0
baz=131
SIT Sitka 51.86 333 P P 23 49 40.2 +1.6
baz=126
TGTN Hyland Airport 52.16 340 P P 23 49 42.0 +1.2
baz=137
N32M Quiet Lake 53.55 338 P P 23 49 52.7 +1.5
baz=131
MMPY Sheldon Lake, 53.93 340 P P 23 49 55.5 +1.6
MMPY IAmb IAmb 23 49 56.2
comp=Z,6.9nm,0.9s
MMPY Sheldon Lake, 53.93 340 P P 23 49 55.6 +1.8
baz=134
MAYO Mayo, Yukon 56.15 339 P P 23 50 10.7 +0.9
baz=129
YUK8 Steele Glacier 56.18 336 P P 23 50 11.5 +1.0
baz=124
M29M Somme Creek 56.35 337 P P 23 50 13.0 +1.6
baz=126
L29M L29M 56.63 338 P P 23 50 14.6 +1.2
baz=127
J30M Hart River 56.92 340 P P 23 50 16.7 +1.2
baz=129
H31M Peel River 57.11 342 P P 23 50 18.1 +1.4
baz=132
M27K Edge Creek, AK 57.62 336 P P 23 50 21.8 +1.4
baz=122
G31M Satah River 57.85 343 P P 23 50 21.6 -0.2
baz=133
L27K Beaver Creek, 57.98 337 P P 23 50 24.4 +1.5
baz=123
Q23K Middleton Isla 58.06 332 P P 23 50 25.0 +1.6
baz=116
EYAK Cordova Ski Ar 58.31 333 P P 23 50 26.4 +1.4
baz=117
N25K Chitina, Valde 58.33 334 P P 23 50 27.0 +1.7
baz=119
INK Inuvik 58.61 344 P P 23 50 27.5 +0.5
baz=134
K27K Chicken 58.61 338 P P 23 50 28.2 +1.1
baz=123
H29M Whitestone 58.63 341 P P 23 50 28.2 +1.0
baz=128
F30M Barrier River 58.75 343 P P 23 50 29.0 +0.9
baz=132
P23K Montague Islan 58.79 332 P P 23 50 30.5 +2.1
baz=115
KLU Klutina 58.83 334 P P 23 50 29.2 +0.4
baz=118
G29M Pine Creek 58.95 342 P P 23 50 29.6 +0.1
baz=129
M24K Tolsona, Glenn 59.22 335 P P 23 50 31.6 +0.1
baz=118
SCRK Sand Creek 59.29 337 P P 23 50 32.3 +0.3
baz=121
I27K Kandik River 59.33 339 P P 23 50 31.6 -0.6
baz=124
PAX Paxson 59.35 336 P P 23 50 32.6 +0.1
baz=119
J26L Joseph Creek 59.41 338 P P 23 50 33.8 +0.9
baz=122
RIDG Independent Ri 59.49 337 P P 23 50 34.5 +1.2
baz=120
PWL Port Wells 59.58 333 P P 23 50 35.6 +1.6
baz=115
H27K Steamboat Moun 59.66 340 P P 23 50 35.4 +0.9
baz=125
I26K Coal Creek Min 59.70 339 P P 23 50 35.2 +0.5
baz=123
M23K Glacier View 59.73 334 P P 23 50 35.2 +0.3
baz=116
SEW Seward 59.77 332 P P 23 50 35.9 +0.7
baz=114
E29M Blow River 59.86 343 P P 23 50 36.7 +1.0
baz=130
K24K Donnelly Dome 59.88 336 P P 23 50 35.9 -0.2
baz=119
F28M Old Crow 59.96 342 P P 23 50 36.6 +0.2
F28M IAmb IAmb 23 50 38.6
comp=Z,7.6nm,0.8s
F28M Old Crow 59.96 342 P P 23 50 37.0 +0.6
baz=127
G27K Doyon Strip 60.04 340 P P 23 50 37.3 +0.3
baz=125
WAT6 Susitna Watana 60.09 335 P P 23 50 38.9 +1.3
baz=116
J25K Salcha River, 60.13 337 P P 23 50 38.1 +0.3
baz=120
E28M Babbage River 60.47 343 P P 23 50 40.5 +0.6
baz=128
HOM Homer 60.62 331 P P 23 50 41.9 +0.9
baz=111
HDA Harding Lake 60.63 337 P P 23 50 41.1 +0.1
baz=118
PRP Porcupine Dome 60.65 338 P P 23 50 41.8 +0.4
baz=120
IL31 60.78 337 P P 23 50 43.1 +1.1
ILAR Eielson Array 60.78 337 P P 23 50 41.9 -0.2
comp=Z,2.8nm,1.0s,baz=134,slow=4.2,SNR=17
comp=Z,2.8nm,1.0s
CAPN Captain Cook N 60.81 332 P P 23 50 43.7 +1.4
baz=112
G26K Porcupine Rive 60.81 340 P P 23 50 42.8 +0.5
baz=123
E27K Coleen River 60.82 342 P P 23 50 42.7 +0.4
baz=126
SUA Susitna One 60.90 333 P P 23 50 44.3 +1.2
baz=113
RND Reindeer 60.91 335 P P 23 50 44.0 +0.8
CUT Chulitna 61.07 334 P P 23 50 45.2 +1.2
baz=114
MCK McKinley 61.09 336 P P 23 50 45.1 +0.9
baz=116
H25L Birch Creek 61.14 339 P P 23 50 45.7 +1.2
baz=120
POKR Poker Plat Res 61.15 337 P P 23 50 46.0 +1.4
baz=118
O20K Slope Mountain 61.23 331 P P 23 50 46.5 +1.2
baz=110
D27M Malcolm River 61.27 343 P P 23 50 45.3 -0.1
baz=127
F26K Sheenjek River 61.34 341 P P 23 50 46.7 +0.8
baz=123

P19K Oil Pt 61.37 330 P P 23 50 47.4 +1.2
baz=110
SKT Skwentna 61.45 333 P P 23 50 46.8 +0.1
baz=112
G25K Bearman Lake 61.49 339 P P 23 50 47.9 +1.0
baz=120
TRF Thorofare Moun 61.52 335 P P 23 50 47.4 0.0
baz=114
H24K Noodor Dome 61.66 338 P P 23 50 48.9 +0.8
baz=118
F25K Christian Rive 61.77 340 P P 23 50 50.0 +1.2
baz=121
I23K Minto, Yukon-K 61.89 337 P P 23 50 50.3 +0.8
baz=116
G24K Hadweenzic Riv 61.93 339 P P 23 50 51.0 +1.2
baz=119
CAST Castle Rocks 62.24 335 P P 23 50 52.4 +0.4
baz=113
N19K Bonanza Creek 62.35 331 P P 23 50 53.4 +0.5
baz=109
F24K Squaw Lake 62.47 340 P P 23 50 54.4 +0.9
baz=119
CHUM Lake Minchumin 62.52 335 P P 23 50 54.4 +0.6
baz=113
M19K Big River Lodg 62.68 333 P P 23 50 55.4 +0.5
baz=110
D25K Kavik River 62.90 342 P P 23 50 57.1 +0.7
baz=121
E24K Your Creek 62.94 340 P P 23 50 57.5 +0.8
baz=118
K20K Telida 63.05 334 P P 23 50 57.1 -0.3
baz=111
E23K Chandalar 63.31 340 P P 23 50 59.8 +0.7
baz=117
J20K Nowinta River 63.38 335 P P 23 50 59.9 +0.4
baz=111
CHNA Chernabura Isl 63.38 324 P P 23 51 00.7 +1.1
baz=101
G22K Bettles 63.45 338 P P 23 50 60.0 0.0
baz=115
TOLK Tolik Lake Re 63.57 340 P P 23 51 01.0 +0.2
baz=118
M17K Holitna River 63.90 332 P P 23 51 04.5 +1.5
baz=106
D23K Nanushuk River 64.08 341 P P 23 51 05.1 +1.1
baz=117
J18K Innoko River 64.20 334 P P 23 51 06.5 +1.5
baz=108
F21K Alatna River 64.28 338 P P 23 51 06.4 +1.0
baz=113
L17K Donlin 64.50 332 P P 23 51 08.6 +1.7
baz=106
M16K Timber Creek 64.50 331 P P 23 51 08.5 +1.5
baz=105
SUMG Summit 65.74 16 *i* P **P 23 51 14.0 -1.3**
UNV Unalaska Valle 67.24 322 P P 23 51 27.4 +2.8
baz=95
E17K Hotham Inlet 67.31 337 P P 23 51 26.3 +1.4
baz=105
MACI Morro de la Ar 72.56 65 P P 23 51 57.2 -1.0
MIDW Midway 76.78 296 P P 23 52 24.8 +2.5
ESK Eskdalemuir 78.39 36 P P 23 52 30.1 -0.7
EKA Eskdalemuir Ar 78.41 36 P P 23 52 30.2 -0.7
comp=Z,4.5nm,0.6s,baz=283,slow=5.5,SNR=11
comp=Z,4.5nm,0.6s
PAB San Pablo 80.61 52 P P 23 52 42.1 -1.2
PAB IAmb IAmb 23 52 44.1
comp=Z,4.9nm,0.9s
ESDC Sonseca Array 80.88 51 P P 23 52 43.5 -1.3
ESDC IAmb IAmb 23 52 45.4
comp=Z,3.5nm,0.9s
ESDC Sonseca Array 80.88 51 P P 23 52 43.9 -0.8
comp=Z,3.2nm,0.8s,baz=293,slow=5.4,SNR=31
comp=Z,3.2nm,0.8s
ESBB Sonseca Array 80.88 51 P P 23 52 44.0 -0.7
ESBB IAmb IAmb 23 52 45.4
comp=Z,4.8nm,0.8s
NB2 NORSAR Subarra 84.24 28 P P 23 53 02.3 +0.5
comp=Z,1.0nm,0.6s,baz=291,slow=5.3
NOA NORSAR Array B 84.24 28 P P 23 53 02.3 +0.5
comp=Z,1.5nm,0.7s,baz=293,slow=5.2,SNR=7.1
comp=Z,1.5nm,0.7s
BMRD Maredsous 84.25 39 *d*PcP **P 23 53 04.8 +2.8**
BGES Gesves 84.42 39 *d*P **P 23 53 02.7 -0.2**
BCLA Clavier 84.55 39 *d*P **P 23 53 02.3 -1.2**
comp=Z,5.5nm,1.2s
RCHB Rochefort 84.58 40 *d*P **P 23 53 03.7 0.0**
HFS Hagfors 85.72 28 P P 23 53 08.9 -0.2
comp=Z,2.8nm,0.9s,baz=258,slow=7.2,SNR=1.7
comp=Z,2.8nm,0.9s
ARCES ARCESS Array B 85.75 18 P P 23 53 08.2 -1.0
comp=Z,2.4nm,0.7s,baz=309,slow=3.9,SNR=9.1
comp=Z,2.4nm,0.7s
KOWA Kowa 86.75 76 P P 23 53 14.2 -1.0
DBIC Dimbokro 87.95 84 P P 23 53 19.7 -1.2
comp=Z,1.9nm,0.6s,baz=310,slow=2.7,SNR=4.3
comp=Z,1.9nm,0.6s
GERES GERESS Array B 90.21 39 P P 23 53 30.1 -0.9
comp=Z,0.4nm,0.6s,baz=274,slow=2.9,SNR=2.2
comp=Z,0.4nm,0.6s
FINES FINESS Array B 90.43 24 P P 23 53 31.2 -0.4
comp=Z,1.7nm,0.9s,baz=264,slow=12,SNR=4.2
comp=Z,1.7nm,0.9s
TORD Torodi Ar. Bea 92.46 76 P P 23 53 39.9 -2.1
comp=Z,0.6nm,0.6s,baz=290,slow=3.4,SNR=6.6
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 133.31 257 PKP PKPdf 23 59 46.4 -0.7
comp=Z,0.6nm,1.0s,baz=78,slow=2.0,SNR=3.1
ASAR Alice Springs 133.75 252 PKP PKPdf 23 59 48.1 +0.2
comp=Z,0.3nm,0.5s,baz=84,slow=2.9,SNR=2.7
PZH PanZhiHua 135.63 339 PKP PKPdf 23 59 52.6 +1.1
CMAR Chiang Mai Arr 144.01 338 PKP PKPab 00 00 03.2 -0.8
comp=Z,0.7nm,0.3s,baz=338,slow=4.2,SNR=8.3

JMA ***14*** *00:00:22.9±0.2,32°N±2°×13°8E±°,h453km,MV4.3/32, NEAR TORISHIMA IS*
NIED ***14*** *00:00:22.9,31°.82N×138°.33E,h453km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.78; $M_{\theta\theta}$0.10; $M_{\phi\phi}$0.68; $M_{r\theta}$0.70; $M_{\theta\phi}$-0.64; $M_{\phi r}$-2.04; Fault plane solution: $M_0$2.36000×10^{15} NP1: ϕ_s341.00000°,δ79.00000°,λ-82.00000°. NP2: ϕ_s126.00000°,δ14.00000°,λ-124.00000°.*
NEIC ***14*** *00:00:27.7±1.3,31°.82N±0°.07×137°.98E±0°.09, h400km±6km,mb4.2/196 Error ellipse: s-maj=11.3km s-min=10.7km az=100.0*
IDC ***14*** *00:00:27.1±0.7,31°.82N×137°.99E,h402km±6km,mb3.5/26, mbtmp4.2/32,Error ellipse: s-maj=11.4km s-min=8.8km az=74.0*

ISC 14 00:00:26.6±0.6,31°.77N±0°.05×138°.08E±0°.05,h398km±6km, n432,σ1§15/446,mb4.2/122,1C-1D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.59**	**64**	P	**Pn**	**00 01 21.6**	**+1.6**
JHCJ	**Hachijojimakas**	**1.95**	**48**	P	**Pn**	**00 01 22.9**	**+1.0**
JHJ	**Hachijo jima 2**	**1.97**	**46**	P	**Pn**	**00 01 23.2**	**+1.1**
	821nm,0.3s,baz=319,slow=13,SNR=124						
JHJ				S	**S**	**00 02 08.3**	**+1.2**
	195nm,0.3s,baz=72,slow=22,SNR=1.5						
JHJ2	**Mitsune**	**1.99**	**47**	Pn	**Pn**	**00 01 23.2**	**+1.0**
JHJ2	**Mitsune**	**1.99**	**47**	P	**Pn**	**00 01 23.2**	**+1.0**
JHJ2	**Mitsune**	**1.99**	**47**	P	**Pn**	**00 01 23.2**	**+1.0**
TTO1	**TONANKAI O.B.S**	**2.15**	**330**	*e*P	**Pn**	**00 01 25.0**	**+2.2**
JMKN	**Mikurajimanish**	**2.47**	**31**	P	**Pn**	**00 01 25.6**	**+0.2**
JSG	**Sagara**	**2.90**	**2**	Pn	**Pn**	**00 01 30.1**	**+1.4**
JSG	**Sagara**	**2.90**	**2**	P	**Pn**	**00 01 30.2**	**+1.5**
JTNC	**Tanabenakahech**	**2.92**	**315**	*e*S	**S**	**00 02 19.6**	**+0.3**
JWY	**Kouya**	**3.21**	**320**	*e*P	**Pn**	**00 01 32.9**	**+1.5**
JOD2	**Odawara 2**	**3.59**	**13**	P	**Pn**	**00 01 34.5**	**-0.2**
JOD2				*e*S	**S**	**00 02 28.1**	**-1.7**
INU	**Inuyama**	**3.68**	**346**	P	**Pn**	**00 01 36.3**	**+0.9**
JYN	**Shimob**	**3.74**	**6**	P	**Pn**	**00 01 36.5**	**+0.5**
BSO1	**Boso 1**	**3.77**	**39**	P	**Pn**	**00 01 34.8**	**-0.8**
BSO1				*e*S	**S**	**00 02 29.1**	**-2.7**
JYTA	**Yamagatataniai**	**3.98**	**344**	P	**Pn**	**00 01 39.1**	**+1.0**
JMN	**Monobe**	**4.04**	**300**	Pn	**Pn**	**00 01 39.5**	**+0.6**
JMN	**Monobe**	**4.04**	**300**	P	**Pn**	**00 01 40.5**	**+1.6**
JRY	**Ryogami san**	**4.29**	**9**	P	**Pn**	**00 01 41.3**	**0.0**
JTO	**Tosashimizu**	**4.60**	**285**	P	**Pn**	**00 01 45.5**	**+1.2**
MJAR	**Matsushiro Arr**	**4.76**	**1**	P	**Pn**	**00 01 45.1**	**-0.8**
	19nm,0.4s,baz=180,slow=9.8,SNR=63						
MJAR				S	**S**	**00 02 51.5**	**+0.9**
	4.8nm,0.5s,baz=278,slow=38,SNR=1.8						
MAJO	**Matsushiro**	**4.76**	**1**	Pn	**Pn**	**00 01 45.6**	**-0.4**

MAJO Matsushiro 4.76 1 P **Pn 00 01 45.6 -0.4**
MJB9 Matsu-Tunnel 4.77 1 **Pn 00 01 46.2 +0.2**
CBIJ Chichi jima 5.87 141 P **Pn 00 01 55.6 -2.3**
CBIJ *e*S **S 00 03 06.7 -5.4**
JCJ Chichijima 5.87 141 Pn **Pn 00 01 56.0 -1.9**
JNU Nakatsue 6.23 284 Pn **Pn 00 02 02.8 +1.1**
JNU Nakatsue 6.23 284 P **Pn 00 02 03.1 +1.4**
JNU Nakatsue 6.23 284 P **Pn 00 02 02.6 +1.0**
60nm,0.8s,baz=88,slow=6.5,SNR=22
JSD Sado 6.26 1 Pn **Pn 00 02 00.8 -0.9**
JSD Sado 6.26 1 P **Pn 00 02 00.8 -0.9**
JMM Marumori 6.48 19 **Pn 00 02 03.3 -1.0**
JMM Marumori 6.48 19 P **Pn 00 02 03.3 -1.0**
JSJ Shimokoshiki 7.12 271 *e*P **P 00 02 12.7 +0.5**
JMK Ichinoseki 7.61 19 P **Pn 00 02 16.2 -0.8**
JTU Tsushima 7.78 293 **P 00 02 19.6 +0.2**
JTM Tenmabayashi 9.32 14 P **Pn 00 02 36.7 +0.2**
TJN Taejon 10.00 300 P **Pn 00 02 44.8 +0.3**
KSRS Korea Array 10.11 307 P **Pn 00 02 45.7 0.0**
4.8nm,0.6s,baz=119,slow=10,SNR=15
ERM Erimo 11.00 20 P **Pn 00 02 55.8 -0.2**
INCN Inchon 11.01 304 P **P 00 02 55.1 -0.3**
JKA Kamikawa-asahi 12.83 15 P **Pn 00 03 16.3 -0.9**
USRK Ussuriysk Ar. 13.30 341 P **P 00 03 21.4 +1.0**
0.9nm,0.5s,baz=147,slow=16,SNR=2.3
YHNB Yeheng 16.32 248 P **P 00 03 52.6 -0.9**
SSLB Suanglung 17.10 247 P **P 00 04 01.6 -0.1**
TPUB Ta-pu 17.61 246 P **P 00 04 06.3 -0.8**
KLR Kul'dur 18.08 347 P **P 00 04 10.9 -0.9**
1.3nm,0.5s,baz=151,slow=7.9,SNR=4.0
KNMB Chin-men Tao 18.82 252 P **P 00 04 18.8 -1.1**
BJT Baijiatuau 19.53 301 P **P 00 04 26.4 -0.3**
BJT IAmb IAmb 00 04 37.6
comp=Z,4.6nm,0.6s
LYN LuoYang 21.60 284 ⇓*i*P **P 00 04 44.5 -1.2**
LYN pmax pmax
comp=Z,21nm,0.6s
HHC Hu-ho-hao-te 23.14 300 *e*P **P 00 05 01.0 +1.3**
HHC pmax pmax
comp=Z,160nm,4.5s
HHC pmax pmax
comp=Z,230nm,6.0s
ENH Enshi 24.52 274 P **P 00 05 10.7 -1.4**
XAN Xi'an 24.55 283 ⇑P **P 00 05 11.8 -0.6**
XAN pmax pmax
comp=Z,40nm,0.7s
PETK Petropavlovsk- 25.62 28 **P 00 05 22.2 +0.7**
PETK Petropavlovsk- 25.62 28 P **P 00 05 22.8 +1.2**
comp=Z,5.7nm,1.1s,baz=234,slow=6.9,SNR=1.6
comp=Z,5.7nm,1.1s
ULN Ulaanbaatar 28.50 313 P **P 00 05 47.3 0.0**
SONM Songino Array 28.89 313 P **P 00 05 50.6 -0.2**
SONM Songino Array 28.89 313 P **P 00 05 50.6 -0.2**
comp=Z,1.6nm,0.5s,baz=122,slow=8.2,SNR=15
SONM PcP **PcP 00 08 47.8 -0.5**
comp=Z,0.4nm,0.5s,baz=124,slow=2.3,SNR=2.1
SONM ScP **ScP 00 11 49.4 -1.7**
comp=Z,0.3nm,0.5s,baz=136,slow=4.6,SNR=2.0
comp=Z,1.6nm,0.5s
MA2 Magadan 29.09 13 P **P 00 05 52.9 +0.8**
PZH PanZhiHua 32.07 270 P **P 00 06 20.8 +2.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,20nm,4.7s
FAKI Fak Fak 34.94 190 P **P 00 06 43.3 +0.3**
FAKI IAmb IAmb 00 06 56.9
comp=Z,26nm,1.3s
CRAI Chiangrai 35.62 260 P **P 00 06 49.2 +0.5**
CRAI IAmb IAmb 00 06 50.0
comp=Z,11nm,0.7s
CHTO Chiang Mai 37.46 259 P **P 00 07 03.5 -0.6**
CM31 Chiang Mai Arr 37.63 259 P **P 00 07 05.1 -0.4**
CM31 IAmb IAmb 00 07 06.5
comp=Z,8.0nm,0.7s
CMAR Chiang Mai Arr 37.63 259 P **P 00 07 04.7 -0.8**
CMAR Chiang Mai Arr 37.63 259 P **P 00 07 05.2 -0.3**
comp=Z,4.1nm,0.6s,baz=52,slow=7.2,SNR=29
comp=Z,4.1nm,0.6s
KIWB Kanaga Island 38.19 45 P **P 00 07 09.5 -0.1**
KSM Kuching 39.93 227 P **P 00 07 23.6 -0.8**
TIXI Tiksi 40.25 355 P **P 00 07 25.6 -0.5**
WMQ Urumqi 41.01 302 *e*P **P 00 07 34.1 +1.3**
SPIA Saint Paul Isl 43.36 38 P **P 00 07 47.8 -3.3**
baz=257
NIKH Nikolski High 43.38 45 P **P 00 07 49.8 -1.7**
baz=262
ZAA0 Zalesovo Array 43.63 317 P **P 00 07 53.1 -0.3**
ZALV Zalesovo Beam 43.63 317 P **P 00 07 53.1 -0.3**
ZALV PcP **PcP 00 09 32.3 -0.1**
ZALV Zalesovo Beam 43.63 317 P **P 00 07 52.4 -1.0**
comp=Z,0.8nm,0.3s,baz=80,slow=6.8,SNR=5.0
ZALV PcP **PcP 00 09 32.0 -0.5**
comp=Z,1.5nm,0.5s,baz=97,slow=3.9,SNR=7.1
comp=Z,0.8nm,0.3s
KULM Kulim 43.82 241 P **P 00 07 55.6 +0.2**
KULM IAmb IAmb 00 08 15.6
comp=Z,15nm,1.3s
MK31 Makanchi Array 44.79 306 P **P 00 08 02.0 -0.6**
MKAR Makanchi Array 44.79 306 P **P 00 08 02.1 -0.5**
MKAR Makanchi Array 44.79 306 P **P 00 08 01.9 -0.7**
comp=Z,2.2nm,0.8s,baz=92,slow=9.8,SNR=15
MKAR PcP **PcP 00 09 36.6 0.0**
comp=Z,1.0nm,0.8s,baz=84,slow=6.0,SNR=4.8
MKAR ScP **ScP 00 12 48.9 -1.4**
comp=Z,1.1nm,0.6s,baz=83,slow=5.6,SNR=9.9
comp=Z,2.2nm,0.8s
RAMN Ramite 44.79 278 *e*P **P 00 08 03.0 -0.2**
comp=Z,30nm,0.8s
MTN Manton Dam 44.85 190 P **P 00 08 03.6 +0.2**
MTN IAmb IAmb 00 08 04.7
comp=Z,7.4nm,0.8s
JIRN Jiri 44.91 279 *e*P **P 00 08 04.3 0.0**
comp=Z,78nm,0.9s
MAKZ Makanchi 45.00 306 P **P 00 08 03.9 -0.4**
GUN Gumba 45.09 279 *e*P **P 00 08 05.5 -0.1**
comp=Z,25nm,0.6s
PKI Pulchoki 45.59 279 *e*P **P 00 08 08.8 -0.7**
comp=Z,9.1nm,0.7s
PKIN Phulchoki 45.60 279 *e*P **P 00 08 09.1 -0.4**
comp=Z,7.1nm,0.5s
COEN Coen 45.73 173 P **P 00 08 11.3 +1.1**
COEN IAmb IAmb 00 08 16.9
comp=Z,14nm,1.3s
DMN Daman 45.84 279 *e*P **P 00 08 11.0 -0.3**
comp=Z,9.8nm,0.3s
GKN Gorkha 46.11 280 *e*P **P 00 08 13.1 -0.2**
comp=Z,24nm,0.9s
DANN Dangsing 46.73 281 *e*P **P 00 08 18.2 0.0**
comp=Z,7.4nm,0.2s
KURK Kurchatov 47.19 312 P **P 00 08 20.2 -0.8**
KURBB Kurchatov Arra 47.24 312 P **P 00 08 20.3 -1.1**
comp=Z,1.9nm,0.4s,baz=92,slow=6.9,SNR=25
KURBB PcP **PcP 00 09 44.0 -1.2**
comp=Z,0.4nm,0.4s,baz=92,slow=3.8,SNR=3.7
comp=Z,1.9nm,0.4s
PYUN Piuthan 47.46 280 *e*P **P 00 08 23.6 0.0**
comp=Z,11nm,0.3s
PRZ Przheval'sk 47.88 301 P **P 00 08 27.0 +0.4**
PRZ IAmb IAmb 00 08 27.6
comp=Z,4.9nm,0.6s
KNRA Kununurra 48.01 192 P **P 00 08 27.9 +0.4**
F15K North Star Dit 48.13 28 P **P 00 08 27.3 -0.6**
C16K Lisburne Hills 48.63 24 P **P 00 08 31.7 +0.1**
K15K Wolf Creek Mou 48.71 33 P **P 00 08 34.1 +1.8**
K15K IAmb IAmb 00 08 56.1
comp=Z,20nm,1.2s
GSI Gunungsitoli 48.75 240 P **P 00 08 32.9 -0.4**
CNBA Chernabura Isl 48.99 43 P **P 00 08 34.6 +0.1**
S14K Fog Glacier 49.07 41 P **P 00 08 34.8 -0.4**
baz=267
N15K Kwethluk River 49.10 36 P **P 00 08 36.6 +1.4**
N15K IAmb IAmb 00 09 04.0
comp=Z,30nm,1.4s
O15K Ungalikthiuk R 49.13 37 P **P 00 08 34.7 -0.8**
baz=265
I17K Unalakleet 49.36 31 P **P 00 08 35.9 -1.2**
baz=260
L16K Owhat River 49.58 34 P **P 00 08 39.6 +0.8**
L16K IAmb IAmb 00 08 55.7
comp=Z,18nm,1.4s
BOOM Boomskoye usch 49.68 301 P **P 00 08 40.3 +0.2**
G17K Kiwalik Mounta 49.69 29 P **P 00 08 39.6 0.0**
baz=258
CHGN Chignik 49.70 41 P **P 00 08 39.4 -0.3**

M16K Timber Creek 49.75 35 P **P 00 08 41.1 +1.0**
M16K IAmb IAmb 00 09 09.0
comp=Z,23nm,1.5s
M16K Timber Creek 49.75 35 P **P 00 08 38.3 -1.8**
baz=264
H17K Granite Mounta 49.89 29 P **P 00 08 42.1 +1.1**
H17K IAmb IAmb 00 09 00.1
comp=Z,26nm,1.5s
J17K VABM Dome 50.00 32 P **P 00 08 43.1 +1.3**
J17K IAmb IAmb 00 09 17.7
comp=Z,16nm,1.2s
E18K Tukpahlearik C 50.12 26 P **P 00 08 43.0 +0.2**
baz=257
B18K Kokolik River 50.18 24 P **P 00 08 43.8 +0.7**
baz=254
KSH Kashi 50.19 297 P **P 00 08 47.1 +3.3**
KSH pmax pmax
comp=Z,8.0nm,0.7s
R16K Pilot Point 50.20 39 P **P 00 08 45.2 +1.7**
baz=268
K17K Iditarod 50.26 32 P **P 00 08 45.3 +1.5**
K17K IAmb IAmb 00 09 27.1
comp=Z,20nm,1.5s
M17K Holitna River 50.52 34 P **P 00 08 45.7 -0.1**
baz=265
N17K Nushagak Hills 50.57 35 P **P 00 08 47.2 +1.0**
baz=266
H18K Honhosa River 50.57 29 P **P 00 08 47.3 +1.1**
H18K IAmb IAmb 00 08 53.3
comp=Z,35nm,1.4s
G18K Tagagawik 50.58 28 P **P 00 08 47.0 +0.8**
baz=260
R17K Ugashik Creek 50.85 39 P **P 00 08 48.7 +0.5**
C19K Lookout Ridge 50.88 24 P **P 00 08 49.1 +0.7**
baz=257
N18K Kilae Creek 51.22 35 P **P 00 08 49.8 -1.2**
N18K IAmb IAmb 00 09 19.9
comp=Z,14nm,1.4s
CHIR Chirikof Islan 51.26 41 P **P 00 08 52.0 +0.7**
D19K Kuna River 51.27 25 P **P 00 08 52.8 +1.5**
D19K IAmb IAmb 00 09 24.2
comp=Z,11nm,1.1s
D19K Kuna River 51.27 25 P **P 00 08 52.2 +1.0**
baz=259
WB0 Warramunga Arr 51.36 184 P **P 00 08 52.6 +0.2**
SVW2 Sparrevohn 51.39 35 P **P 00 08 53.5 +1.3**
SVW2 IAmb IAmb 00 09 16.3
comp=Z,17nm,1.5s
E19K Redstone River 51.41 26 P **P 00 08 53.6 +1.4**
E19K IAmb IAmb 00 08 54.5
comp=Z,10nm,0.8s
E19K Redstone River 51.41 26 P **P 00 08 52.8 +0.6**
baz=260
P18K Big Mountain, 51.49 37 P **P 00 08 54.6 +1.6**
baz=269
O18K Koktuh Hills 51.52 36 P **P 00 08 53.7 +0.6**
O18K IAmb IAmb 00 09 25.6
comp=Z,22nm,1.4s
O18K Koktuh Hills 51.52 36 P **P 00 08 54.1 +1.0**
baz=268
WB2 Warramunga Arr 51.54 184 P **P 00 08 54.0 +0.2**
WRA Warramunga Arr 51.54 184 P **P 00 08 54.3 +0.5**
WRA Warramunga Arr 51.54 184 P **P 00 08 53.9 +0.2**
comp=Z,2.0nm,0.4s,baz=0.2,slow=7.7,SNR=45
WRA PcP **PcP 00 10 02.4 +0.9**
comp=Z,1.0nm,0.5s,baz=357,slow=4.2,SNR=5.4
comp=Z,2.0nm,0.4s
WR0 Warramunga Arr 51.54 184 P **P 00 08 54.2 +0.4**
WR0 IAmb IAmb 00 08 54.8
comp=Z,10.0nm,1.1s
J19K Poorman 51.60 31 P **P 00 08 54.6 +0.9**
J19K IAmb IAmb 00 09 29.7
comp=Z,14nm,1.5s
J19K Poorman 51.60 31 P **P 00 08 55.1 +1.4**
baz=264
D20K Etivluk River 51.85 25 P **P 00 08 56.4 +0.9**
baz=260
N19K Bonanza Creek 51.91 35 P **P 00 08 57.4 +1.3**
N19K Bonanza Creek 51.91 35 P **P 00 08 55.4 -0.7**
baz=268
F20K Avaraart Lake 51.92 27 P **P 00 08 57.0 +1.1**
SII Sitkinak Islan 52.05 41 P **P 00 08 57.6 +0.5**
H20K Anotteneega Mo 52.07 29 P **P 00 08 58.5 +1.4**
baz=264
I20K Naaghedeneel 52.17 30 P **P 00 08 59.2 +1.5**
baz=265
BVAR Borovoye Array 52.20 315 P **P 00 08 57.9 -0.3**
comp=Z,4.8nm,0.4s,baz=101,slow=7.3,SNR=32
BVAR PcP **PcP 00 10 03.2 -0.4**
comp=Z,1.7nm,0.4s,baz=120,slow=3.6,SNR=6.0
comp=Z,4.8nm,0.4s
K20K Telida 52.23 32 P **P 00 08 59.7 +1.4**
baz=266
J20K Nowinta River 52.26 31 P **P 00 09 00.1 +1.6**
J20K Nowinta River 52.26 31 P **P 00 08 59.7 +1.2**
baz=266
BRVK Borovoye 52.26 315 P **P 00 08 58.6 -0.1**
Q19K Cape Douglas, 52.31 38 P **P 00 08 58.5 -0.4**
P19K Oil Pt 52.52 37 P **P 00 09 01.3 +0.9**
IMAR Indian Mountai 52.58 29 P **P 00 09 01.8 +1.1**
M20K Styx River 52.60 34 P **P 00 09 02.6 +1.5**
M20K Styx River 52.60 34 P **P 00 08 59.6 -1.5**
baz=268
B21K Ikpikpuk River 52.71 24 P **P 00 09 03.1 +1.5**
B21K Ikpikpuk River 52.71 24 P **P 00 09 01.4 -0.2**
baz=261
G21K Allakaket 52.73 28 P **P 00 09 03.0 +1.2**
G21K IAmb IAmb 00 09 44.7
comp=Z,12nm,1.4s
G21K Allakaket 52.73 28 P **P 00 09 02.4 +0.6**
baz=265
RSO Redoubt South 52.76 36 P **P 00 08 59.2 -3.2**
E21K Killik River 52.77 25 P **P 00 09 02.9 +0.8**
E21K IAmb IAmb 00 09 33.2
comp=Z,12nm,1.2s
E21K Killik River 52.77 25 P **P 00 09 02.7 +0.5**
baz=263
F21K Alatna River 52.81 27 P **P 00 09 03.5 +1.1**
F21K IAmb IAmb 00 09 11.3
comp=Z,12nm,1.4s
F21K Alatna River 52.81 27 P **P 00 09 03.8 +1.4**
baz=264
KDAK Kodiak Island 52.89 39 P **P 00 09 03.7 +0.6**
KDAK Kodiak Island 52.89 39 P **P 00 09 03.4 +0.3**
baz=272
H21K Melozitna Rive 52.94 29 P **P 00 09 04.5 +1.1**
H21K IAmb IAmb 00 09 06.4
comp=Z,11nm,1.4s
H21K Melozitna Rive 52.94 29 P **P 00 09 04.3 +0.9**
baz=266
Q20K Shuyak Island 52.96 38 P **P 00 09 04.1 +0.5**
baz=272
SYI Shuyak Island 52.96 38 P **P 00 09 02.0 -1.6**
SPCR Spurr Chakacha 53.03 35 P **P 00 09 05.5 +1.3**
baz=270
CHUM Lake Minchumin 53.05 31 P **P 00 09 05.8 +1.6**
baz=268
PPLA Purkeypile 53.07 33 P **P 00 09 05.3 +0.8**
baz=268
CAST Castle Rocks 53.13 32 P **P 00 09 06.3 +1.5**
CAST Castle Rocks 53.13 32 P **P 00 09 06.4 +1.5**
baz=268
B22K Teshekpuk Lake 53.23 23 P **P 00 09 06.7 +1.3**
B22K Teshekpuk Lake 53.23 23 P **P 00 09 07.6 +2.3**
baz=262
F22K John River 53.34 27 P **P 00 09 07.2 +1.0**
baz=265
SKT Skwentna 53.36 34 P **P 00 09 07.5 +1.0**
SKT Skwentna 53.36 34 P **P 00 09 06.8 +0.3**
baz=270
KK31 Karatay Array 53.50 303 P **P 00 09 07.6 -0.2**
KK31 IAmb IAmb 00 09 08.2
comp=Z,4.8nm,0.6s
KKAR Karatay Array 53.50 303 P **P 00 09 07.6 -0.2**
KKAR Karatay Array 53.50 303 P **P 00 09 07.7 -0.2**
KKAR IAmb IAmb 00 09 08.2
comp=Z,4.8nm,0.6s
CNPM China Poot 53.53 37 P **P 00 09 08.2 +0.5**
CNPM IAmb IAmb 00 09 42.0
comp=Z,23nm,1.2s
E22K Anaktuvuk Pass 53.53 26 P **P 00 09 09.3 +1.6**
E22K IAmb IAmb 00 09 10.2
comp=Z,11nm,1.1s
E22K Anaktuvuk Pass 53.53 26 P **P 00 09 08.8 +1.1**
baz=265
H22K Ishtalitna Cre 53.54 29 P **P 00 09 09.7 +2.0**
baz=267
G22K Bettles 53.55 27 P **P 00 09 09.0 +1.2**
baz=266
BPAW Bear Paw Mtn. 53.64 31 P **P 00 09 08.5 +0.1**
baz=269
KTH Kantishna Hill 53.66 32 P **P 00 09 10.0 +1.3**
BRLK Bradley Lake 53.70 36 P **P 00 09 10.0 +1.0**
BRLK IAmb IAmb 00 09 18.9
comp=Z,25nm,1.3s
SUA Susitna One 53.73 34 P **P 00 09 09.0 -0.3**
baz=271
NIL Nilore 53.76 291 P **P 00 09 10.2 +0.4**
NIL IAmb IAmb 00 09 11.2
comp=Z,11nm,0.8s
TRF Thorofare Moun 53.94 32 P **P 00 09 11.8 +1.0**
TRF Thorofare Moun 53.94 32 P **P 00 09 10.9 +0.2**
baz=270
G23K Bananza Creek 54.13 28 P **P 00 09 13.5 +1.6**
G23K Bananza Creek 54.13 28 P **P 00 09 13.7 +1.8**
baz=268
O22K Cooper Landing 54.26 36 P **P 00 09 13.0 +0.2**
H23K Yukon River 54.30 29 P **P 00 09 15.0 +1.9**
H23K Yukon River 54.30 29 P **P 00 09 13.7 +0.6**
baz=269
E23K Chandalar 54.35 26 P **P 00 09 15.5 +1.9**
baz=267
TOLK Toolik Lake Re 54.40 25 P **P 00 09 15.2 +1.4**
TOLK IAmb IAmb 00 09 26.1
comp=Z,17nm,1.1s
SEW Seward 54.41 36 P **P 00 09 14.5 +0.5**
baz=273
NEA2 Nenana 54.48 30 P **P 00 09 15.7 +1.3**
NEA2 IAmb IAmb 00 09 16.5
comp=Z,10nm,1.2s
NEA2 Nenana 54.48 30 P **P 00 09 15.3 +0.9**
baz=270
MCK McKinley 54.54 31 P **P 00 09 14.7 -0.2**
baz=271
RND Reindeer 54.59 32 P **P 00 09 15.7 +0.5**
RND IAmb IAmb 00 09 18.1
comp=Z,9.5nm,1.3s
D24K Happy Valley 54.70 25 P **P 00 09 17.5 +1.6**
D24K IAmb IAmb 00 09 36.0
comp=Z,20nm,1.2s
D24K Happy Valley 54.70 25 P **P 00 09 17.1 +1.2**
baz=267
E24K Your Creek 54.78 26 P **P 00 09 17.5 +1.1**
E24K Your Creek 54.78 26 P **P 00 09 17.6 +1.1**
baz=268
KNK Knik Glacier 54.83 34 P **P 00 09 17.5 +0.5**
KNK IAmb IAmb 00 09 51.4
comp=Z,25nm,1.1s
KNK Knik Glacier 54.83 34 P **P 00 09 17.4 +0.5**
baz=273
MDM Murphy Dome 54.84 30 P **P 00 09 18.3 +1.3**
SML Sawmill 54.88 34 P **P 00 09 18.1 +0.8**
SML IAmb IAmb 00 09 54.6
comp=Z,28nm,1.2s
WRH Wood River Hil 54.90 31 P **P 00 09 17.6 +0.2**
H24K Noodor Dome 54.98 29 P **P 00 09 19.6 +1.7**
H24K IAmb IAmb 00 09 53.4
comp=Z,17nm,1.5s
H24K Noodor Dome 54.98 29 P **P 00 09 18.9 +0.9**
baz=270
F24K Squaw Lake 54.99 27 P **P 00 09 19.7 +1.7**
F24K Squaw Lake 54.99 27 P **P 00 09 19.1 +1.1**
baz=269
CCB Clear Creek Bu 55.02 30 P **P 00 09 19.5 +1.3**
G24K Hadweenzic Riv 55.14 28 P **P 00 09 20.6 +1.5**
G24K IAmb IAmb 00 09 21.5
comp=Z,6.9nm,0.8s
G24K Hadweenzic Riv 55.14 28 P **P 00 09 20.8 +1.8**
baz=270
POKR Poker Plat Res 55.17 30 P **P 00 09 20.5 +1.2**
POKR IAmb IAmb 00 09 21.7
comp=Z,4.6nm,0.6s
POKR Poker Plat Res 55.17 30 P **P 00 09 20.1 +0.8**
baz=271
AS31 Alice Springs 55.26 185 P **P 00 09 21.9 +1.4**
DHY Denali Highway 55.26 32 P **P 00 09 21.7 +1.5**
ASAR Alice Springs 55.27 185 P **P 00 09 21.4 +0.9**
ASAR Alice Springs 55.27 185 P **P 00 09 20.7 +0.2**
comp=Z,1.5nm,0.6s,baz=13,slow=12,SNR=32
comp=Z,1.5nm,0.6s
SCM Sheep Creek Mo 55.35 34 P **P 00 09 21.5 +0.8**
SCM IAmb IAmb 00 09 54.5
comp=Z,14nm,0.9s
HDA Harding Lake 55.40 31 P **P 00 09 20.6 -0.3**
HDA Harding Lake 55.40 31 P **P 00 09 21.6 +0.7**
baz=272
IL31 Eielson Array 55.41 30 P **P 00 09 20.9 0.0**
ILAR Eielson Array 55.41 30 P **P 00 09 21.1 +0.1**
ILAR Eielson Array 55.41 30 P **P 00 09 20.9 -0.1**
comp=Z,0.8nm,0.7s,baz=264,slow=5.6,SNR=11
comp=Z,0.8nm,0.7s
MBWA Marble Bar 55.49 201 P **P 00 09 22.2 +0.2**
MBWA IAmb IAmb 00 09 22.6
comp=Z,6.4nm,0.6s
D25K Kavik River 55.58 25 P **P 00 09 23.6 +1.5**
D25K IAmb IAmb 00 09 35.3
comp=Z,15nm,1.4s
PSA00 Pilbara Seismi 55.84 201 P **P 00 09 24.7 +0.2**
PSA00 Pilbara Seismi 55.84 201 P **P 00 09 24.4 0.0**
PSA00 IAmb IAmb 00 09 25.5
comp=Z,25nm,1.5s
F25K Christian Rive 55.85 27 P **P 00 09 24.4 +0.3**
baz=271
E25K Arctic Village 55.87 26 P **P 00 09 26.0 +1.8**
E25K IAmb IAmb 00 09 32.6
comp=Z,14nm,1.4s
E25K Arctic Village 55.87 26 P **P 00 09 24.6 +0.5**
baz=271
M24K Tolsona, Glenn 55.88 33 P **P 00 09 25.6 +1.2**
BMAR Burnt Mountain 56.26 27 P **P 00 09 29.0 +2.1**
RIDG Independent Ri 56.36 31 P **P 00 09 28.1 +0.4**
baz=274
F26K Sheenjek River 56.42 27 P **P 00 09 29.1 +1.0**
baz=272,SNR=6.2
N25K Chitina, Valde 56.66 34 P **P 00 09 31.0 +1.1**
N25K IAmb IAmb 00 09 35.2
comp=Z,11nm,1.2s
SCRK Sand Creek 56.72 31 P **P 00 09 30.9 +0.5**
SCRK Sand Creek 56.72 31 P **P 00 09 30.8 +0.5**
baz=275
KBL Kabul 56.82 293 P **P 00 09 31.1 -0.5**
J26L Joseph Creek 56.86 30 P **P 00 09 31.6 +0.4**
J26L Joseph Creek 56.86 30 P **P 00 09 31.1 -0.1**
baz=275
MENT Mentasta 56.94 32 P **P 00 09 32.9 +1.2**
MENT IAmb IAmb 00 09 52.2
comp=Z,16nm,1.4s
GLB Gilahina Butte 57.06 34 P **P 00 09 34.3 +1.7**
GLB IAmb IAmb 00 09 58.0
comp=Z,17nm,1.3s
M26K Nabesna, AK 57.33 33 P **P 00 09 35.9 +1.4**
M26K IAmb IAmb 00 09 41.9
comp=Z,7.7nm,1.4s
M26K Nabesna, AK 57.33 33 P **P 00 09 35.6 +1.2**
baz=277
E27K Coleen River 57.35 26 P **P 00 09 36.0 +1.6**
E27K IAmb IAmb 00 09 38.0
comp=Z,19nm,1.5s
E27K Coleen River 57.35 26 P **P 00 09 34.5 0.0**
baz=274
MCARA McCarthy VSAT 57.44 34 P **P 00 09 36.5 +1.4**
MCARA IAmb IAmb 00 10 03.5
comp=Z,16nm,1.1s
G27K Doyon Strip 57.45 28 P **P 00 09 36.9 +1.8**
H27K Steamboat Moun 57.55 28 P **P 00 09 36.1 +0.2**
baz=276
K27K Chicken 57.55 31 P **P 00 09 37.1 +1.1**
K27K IAmb IAmb 00 09 37.7
comp=Z,6.3nm,1.1s
K27K Chicken 57.55 31 P **P 00 09 37.0 +1.1**
baz=277
I27K Kandik River 57.58 29 P **P 00 09 36.6 +0.5**
baz=276
L27K Beaver Creek, 57.78 32 P **P 00 09 39.2 +1.7**
L27K Beaver Creek, 57.78 32 P **P 00 09 39.0 +1.4**
baz=278
BCAR Beaver Creek A 57.80 32 P **P 00 09 39.1 +1.4**
M27K Edge Creek, AK 57.85 33 P **P 00 09 39.5 +1.3**
M27K Edge Creek, AK 57.85 33 P **P 00 09 39.4 +1.3**
baz=278
F28M Old Crow 58.06 27 P **P 00 09 40.9 +1.5**
F28M IAmb IAmb 00 10 09.1

comp=Z,10nm,1.3s
F28M Old Crow 58.06 27 P P 00 09 40.8 +1.5
baz=276
E28M Babbage River 58.08 25 P P 00 09 41.4 +2.0
baz=276,SNR=6.7
BARN Barnard Glacie 58.14 34 P P 00 09 41.2 +1.0
BARN IAmb IAmb 00 09 41.9
comp=Z,7.3nm,0.9s
GRNC Granite Creek 58.15 35 P P 00 09 40.7 +0.5
GRNC IAmb IAmb 00 10 00.1
comp=Z,20nm,1.3s
EIDS Eidsvold 58.16 166 P P 00 09 41.7 +1.2
EIDS IAmb IAmb 00 10 08.6
comp=Z,8.1nm,1.1s
I28M Miner Creek 58.29 29 P P 00 09 42.4 +1.4
I28M Miner Creek 58.29 29 P P 00 09 42.6 +1.6
baz=278,SNR=10
ARU Arti 58.55 320 P P 00 09 42.3 -0.5
ARU IAmb IAmb 00 09 43.0
comp=Z,4.1nm,0.5s
ARU Arti 58.55 320 P P 00 09 42.1 -0.7
comp=Z,3.9nm,0.5s,baz=84,slow=7.2,SNR=7.3
comp=Z,3.9nm,0.5s
E29M Blow River 58.70 26 P P 00 09 45.6 +1.9
baz=278,SNR=5.5
H29M Whitestone 58.82 28 P P 00 09 45.6 +1.0
H29M IAmb IAmb 00 09 60.0
comp=Z,13nm,1.4s
G29M Pine Creek 58.86 27 P P 00 09 46.6 +1.8
G29M IAmb IAmb 00 10 16.2
comp=Z,16nm,1.4s
G29M Pine Creek 58.86 27 P P 00 09 46.3 +1.5
baz=278
ABKAR Akbulak array 59.30 312 P P 00 09 47.7 -0.3
ABKAR Akbulak array 59.30 312 P P 00 09 47.5 -0.5
M29M Somme Creek 59.41 32 P 00 09 50.8 +2.1
M29M IAmb IAmb 00 09 51.5
comp=Z,3.9nm,0.6s
M29M Somme Creek 59.41 32 P P 00 09 51.1 +2.4
baz=281
L29M L29M 59.44 32 P P 00 09 50.6 +1.8
baz=281
EPYK Eagle Plains 59.46 28 P P 00 09 50.4 +1.6
EPYK Eagle Plains 59.46 28 P P 00 09 50.3 +1.4
baz=280
YUK4 Talbot Arm 59.53 34 P P 00 09 50.8 +1.2
baz=281
G30M tAoh Zraii Nji 59.55 27 P P 00 09 50.6 +1.2
G30M tAoh Zraii Nji 59.55 27 P P 00 09 50.6 +1.2
baz=280,SNR=14
K29M Barlow Dome 59.57 31 P P 00 09 50.9 +1.2
K29M Barlow Dome 59.57 31 P P 00 09 51.3 +1.5
baz=281
F30M Barrier River 59.61 26 P P 00 09 51.9 +2.1
baz=280,SNR=9.9
YUK6 Outpost Mounta 59.74 34 P P 00 09 53.1 +2.0
baz=282
O29M Mount Kennedy 59.77 35 P P 00 09 52.8 +1.7
O29M Mount Kennedy 59.77 35 P P 00 09 52.9 +1.7
baz=282
I30M Mount Dempster 59.80 29 P P 00 09 52.5 +1.2
I30M Mount Dempster 59.80 29 P P 00 09 53.3 +2.0
baz=281,SNR=14
HPAH Hawaii Prepara 59.92 84 P P 00 09 51.5 -1.2
J30M Hart River 59.94 30 P 00 09 53.4 +1.1
J30M IAmb IAmb 00 09 57.6
comp=Z,8.7nm,1.5s
J30M Hart River 59.94 30 P P 00 09 53.2 +0.9
baz=281
M30M Minto, Yukon 60.14 32 P P 00 09 55.3 +1.8
M30M Minto, Yukon 60.14 32 P P 00 09 54.0 +0.4
baz=282
HYT Haines Junctio 60.18 34 P P 00 09 55.5 +1.6
HYT IAmb IAmb 00 09 56.6
comp=Z,11nm,1.0s
HYT Haines Junctio 60.18 34 P P 00 09 55.4 +1.5
baz=282
AKTO Aktyubinsk 60.21 313 P P 00 09 53.4 -0.8
comp=Z,0.9nm,0.3s,baz=63,slow=9.0,SNR=3.3
comp=Z,0.9nm,0.3s
G31M Satah River 60.31 27 P P 00 09 55.4 +0.9
baz=282,SNR=9.5
INK Inuvik 60.32 25 P P 00 09 55.4 +0.9
INK IAmb IAmb 00 10 12.3
comp=Z,9.1nm,1.3s
INK Inuvik 60.32 25 P P 00 09 54.7 +0.3
baz=282
OUENC Ouen Island, N 60.51 149 P P 00 09 58.2 +1.7
H31M Peel River 60.52 28 P P 00 09 57.1 +1.2
H31M IAmb IAmb 00 09 57.6
comp=Z,7.5nm,0.8s
H31M Peel River 60.52 28 P P 00 09 56.3 +0.4
baz=282
P30M Million Dollar 60.60 35 P P 00 09 57.8 +1.2
baz=283
N31M Braeburn, Yuko 60.85 33 P P 00 09 59.9 +1.6
N31M IAmb IAmb 00 10 01.4
comp=Z,19nm,1.2s
N31M Braeburn, Yuko 60.85 33 P P 00 09 59.6 +1.4
baz=283
PLBC Pleasant Camp 61.04 36 P P 00 10 00.5 +1.0
baz=284
M31M Drury Creek, Y 61.32 32 P P 00 10 02.1 +0.8
M31M IAmb IAmb 00 10 03.5
comp=Z,7.0nm,0.8s
M31M Drury Creek, Y 61.32 32 P P 00 10 02.1 +0.8
baz=284
WHY Whitehorse 61.47 34 P P 00 10 03.3 +0.8
WHY IAmb IAmb 00 10 08.1
comp=Z,13nm,1.4s
WHY Whitehorse 61.47 34 P P 00 10 03.8 +1.3
baz=285
S31K Pelican 61.48 37 P P 00 10 04.1 +1.7
baz=285
FARO Faro, Yukon 61.78 32 P P 00 10 05.7 +1.4
FARO IAmb IAmb 00 10 06.5
comp=Z,7.9nm,1.1s
FARO Faro, Yukon 61.78 32 P P 00 10 05.8 +1.4
baz=285
HRA Herat 62.16 295 P P 00 10 07.4 -0.2
HRA IAmb IAmb 00 10 08.2
comp=Z,3.1nm,0.6s
S32K Killisnoo 62.47 37 P P 00 10 09.5 +0.6
MMPY Sheldon Lake, 62.61 31 P P 00 10 11.7 +1.8
MMPY IAmb IAmb 00 10 29.5
comp=Z,5.6nm,1.4s
MMPY Sheldon Lake, 62.61 31 P P 00 10 11.6 +1.8
baz=287
FORT Forrest 62.93 190 P P 00 10 12.9 +0.7
C36M Paulatuk 63.35 23 P P 00 10 15.1 +0.7
STKA Stephens Creek 63.39 177 P P 00 10 16.3 +1.1
STKA Stephens Creek 63.39 177 P P 00 10 15.8 +0.6
comp=Z,3.4nm,0.6s,baz=353,slow=8.8,SNR=8.0
comp=Z,3.4nm,0.6s
U33K Whale Pass 63.64 39 P P 00 10 15.6 -1.0
MORW Morawa 64.03 201 P P 00 10 19.4 0.0
S34M Telegraph Cree 64.10 36 P P 00 10 21.2 +1.7
S34M IAmb IAmb 00 10 55.4
comp=Z,12nm,1.2s
BBOO Buckleboo 64.26 182 P P 00 10 21.8 +1.0
TGTN Hyland Airport 64.29 32 P P 00 10 22.3 +1.6
baz=290
MNCI Minicoy 64.47 264 P P 00 10 21.4 -1.2
T35M Bob Quinn 64.86 37 P P 00 10 26.1 +1.7
T35M Bob Quinn 64.86 37 P P 00 10 26.3 +1.9
baz=290
EUNU Eureka 65.78 8 P P 00 10 30.1 +0.2
EUNU IAmb IAmb 00 10 51.1
comp=Z,8.7nm,1.4s
LVZ Lovozero 65.79 336 P P 00 10 31.1 +1.0
LIRD Liard River Hi 66.05 34 P P 00 10 34.1 +2.2
baz=292
GRNB Grenville Isla 66.12 40 P P 00 10 33.2 +0.8
NWAO Narrogin (SRO) 67.29 199 P P 00 10 40.3 +0.4
NWAO Narrogin (SRO) 67.29 199 P P 00 10 40.0 +0.2
NWAO IAmb IAmb 00 10 40.5
comp=Z,113nm,1.5s
ARCES ARCESS Array B 67.95 339 P P 00 10 43.9 +0.4
ARCES ARCESS Array B 67.95 339 P P 00 10 43.3 -0.2
comp=Z,2.3nm,0.7s,baz=65,slow=8.4,SNR=12
comp=Z,2.3nm,0.7s
YKA Yellowknife Ar 69.74 28 P P 00 10 55.1 +0.7
YKA Yellowknife Ar 69.74 28 P P 00 10 54.5 0.0
comp=Z,1.5nm,0.6s,baz=320,slow=7.5,SNR=9.3
comp=Z,1.5nm,0.6s
UOSS Minazif 70.79 288 P P 00 11 01.2 -0.3
UOSS IAmb IAmb 00 11 25.0
comp=Z,6.8nm,1.4s
FINES FINESS Array B 72.17 332 P P 00 11 08.8 -0.2
FINES FINESS Array B 72.17 332 P P 00 11 08.6 -0.3
comp=Z,1.9nm,0.4s,baz=71,slow=4.7,SNR=43
comp=Z,1.9nm,0.4s
KBZ Khabaz 72.23 311 P P 00 11 09.3 -0.3
comp=Z,4.8nm,0.8s,baz=80,slow=4.6,SNR=15
comp=Z,4.8nm,0.8s
NLWA Neilton Lookou 72.34 45 P P 00 11 11.8 +1.5
GNI Garni 72.63 307 P P 00 11 11.1 -1.1
comp=Z,2.9nm,0.8s,baz=38,slow=17,SNR=2.3
comp=Z,2.9nm,0.8s
I03D Drain, OR 74.42 48 P P 00 11 22.9 +0.6
L04D Klamath Falls 75.82 49 P P 00 11 32.1 +1.7
NEW Newport 75.85 42 P P 00 11 31.3 +1.0
NEW IAmb IAmb 00 11 32.2
comp=Z,2.7nm,0.8s
NEW Newport 75.85 42 P P 00 11 30.9 +0.5
baz=302
PINE Pine Mountain 75.89 47 P P 00 11 32.8 +2.0
PINE IAmb IAmb 00 11 33.8
comp=Z,5.0nm,0.8s
J05D Fort Rock, OR 75.96 48 P P 00 11 32.8 +1.6
K05A Summer Lake 76.46 48 P P 00 11 35.7 +1.6
K05A IAmb IAmb 00 12 03.9
comp=Z,12nm,1.4s
AKASG Malin Array Be 76.74 322 P P 00 11 34.4 -0.7
comp=Z,2.0nm,0.3s,baz=51,slow=5.4,SNR=17
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 76.74 322 P P 00 11 34.5 -0.6
AKBB IAmb IAmb 00 11 35.4
comp=Z,5.3nm,0.7s
BMO Blue Mountains 77.56 45 P P 00 11 41.3 +1.3
BMO IAmb IAmb 00 11 41.8
comp=Z,2.3nm,0.6s
J08A Circle Bar Ran 77.65 47 P P 00 11 41.9 +1.4
J08A IAmb IAmb 00 11 42.6
comp=Z,4.0nm,0.4s
HFS Hagfors 77.71 335 P P 00 11 39.8 -0.5
comp=Z,3.0nm,1.0s,baz=27,slow=6.8,SNR=6.2
comp=Z,3.0nm,1.0s
NC405 NORSAR Array S 77.71 336 P P 00 11 40.0 -0.3
NC405 IAmb IAmb 00 11 40.8
comp=Z,7.8nm,0.9s
NB201 NORSAR Array S 77.90 337 P P 00 11 40.9 -0.5
NC204 NORSAR Array S 77.92 337 P P 00 11 40.1 -1.4
NB2 NORSAR Subarra 77.94 337 P P 00 11 40.9 -0.7
comp=Z,0.5nm,0.5s,baz=44,slow=5.3
NOA NORSAR Array B 77.94 337 P P 00 11 40.9 -0.7
comp=Z,1.0nm,0.8s,baz=46,slow=5.5,SNR=4.0
comp=Z,1.0nm,0.8s
WVOR Wild Horse Val 78.03 47 P P 00 11 43.4 +0.8
PLID Pearl Lake 78.21 44 P P 00 11 44.6 +1.0
CHMT Chamberlain Mo 78.78 41 P P 00 11 47.2 +0.6
EMB Emerald Bay 78.92 51 P P 00 11 46.4 -1.2
BPMT Black Pine Rid 78.94 42 P P 00 11 48.1 +0.5
PNTR Pine Nut 79.19 51 P P 00 11 49.5 +0.5
PNTR IAmb IAmb 00 11 58.4
comp=Z,6.0nm,1.0s
LYMT Lyon Mountain 79.29 41 P P 00 11 48.4 -1.1
BEMT Mount Belmont 79.40 41 P P 00 11 48.0 -2.0
ELMT Elliston 79.44 41 P P 00 11 50.3 +0.1
NNZ Nelson 79.60 154 P P 00 11 51.8 +1.2
HLID Hailey 80.01 45 P P 00 11 54.0 +0.7
baz=305
DLMT Dillon 80.05 42 P P 00 11 54.4 +1.0
DLMT IAmb IAmb 00 11 55.4
comp=Z,5.1nm,1.0s
EGMT Eagleton 80.06 39 P P 00 11 53.3 0.0
baz=307
BR131 Keskin Array S 80.23 311 P P 00 11 54.4 0.0
BR131 IAmb IAmb 00 11 55.2
comp=Z,3.7nm,0.8s
BRTR Keskin Array B 80.23 311 P P 00 11 54.4 0.0
BRTR Keskin Array B 80.23 311 P P 00 11 53.8 -0.6
comp=Z,1.9nm,0.7s,baz=101,slow=3.9,SNR=16
comp=Z,1.9nm,0.7s
NVAR Mina Array Bea 80.40 51 P P 00 11 55.9 +0.5
comp=Z,0.7nm,0.6s,baz=293,slow=6.2,SNR=5.8
comp=Z,0.7nm,0.6s
BOZ Bozeman (W) 80.46 42 P P 00 11 55.9 +0.3
baz=306
FXWY Fox Creek 81.97 43 P P 00 12 02.6 -0.9
HVU Hansel Valley 82.02 46 P P 00 12 05.5 +1.8
HVU IAmb IAmb 00 12 06.3
comp=Z,2.5nm,0.7s
R11B Troy Canyon, C 82.22 50 P P 00 12 06.2 +1.4
baz=305
MPMC Manual Prospec 82.24 52 P P 00 12 06.4 +1.4
baz=304
EDW2 Edwards Air Fo 82.55 54 P P 00 12 07.6 +1.1
baz=304
TPNV Topopah Spring 82.57 51 P P 00 12 07.2 +0.5
baz=304
MMAI Mount Meron Ar 82.70 304 P P 00 12 07.2 0.0
comp=Z,1.9nm,0.6s,baz=50,slow=5.6,SNR=6.0
comp=Z,1.9nm,0.6s
LAO LASA Array 82.78 39 P P 00 12 07.3 -0.1
baz=310
DUG Dugway, Tooele 82.92 47 P P 00 12 09.9 +1.5
DUG IAmb IAmb 00 12 10.4
comp=Z,2.2nm,0.5s
DUG Dugway, Tooele 82.92 47 P P 00 12 10.1 +1.8
baz=306
CSS Mathiatis 83.06 307 P P 00 12 08.9 0.0
CSS IAmb IAmb 00 12 11.1
comp=Z,7.8nm,1.0s
PDAR Pinedale Array 83.35 43 P P 00 12 11.3 +0.8
comp=Z,0.7nm,0.7s,baz=310,slow=1.2,SNR=6.6
comp=Z,0.7nm,0.7s
CCUT Cedar City 84.12 49 P P 00 12 15.5 +1.0
PFO Pinyon Flats O 84.31 54 P P 00 12 16.4 +1.0
PFO IAmb IAmb 00 12 20.4
comp=Z,7.3nm,1.4s
PFO Pinyon Flats O 84.31 54 P P 00 12 15.8 +0.4
baz=305
TPFO Pinon Flats 84.32 54 P P 00 12 15.6 +0.2
baz=305
ELL Elmali 84.33 310 P P 00 12 15.2 -0.2
PMD Palm Desert 84.34 54 P P 00 12 16.2 +0.8
PMD IAmb IAmb 00 12 17.1
comp=Z,4.1nm,0.6s
P17A Butcher Ranch, 84.64 46 P P 00 12 18.7 +1.8
P17A IAmb IAmb 00 12 19.4
comp=Z,3.3nm,0.8s
RDMU Red Mountain 84.68 45 P P 00 12 18.5 +1.3
RDMU IAmb IAmb 00 12 19.5
comp=Z,2.6nm,0.9s
MONP2 Monument Peak 84.74 55 P P 00 12 17.9 +0.3
baz=305
KNB Kanab 84.78 49 P P 00 12 19.1 +1.4
KNB IAmb IAmb 00 12 19.9
comp=Z,2.7nm,0.8s
TKX Tecate 84.80 55 P P 00 12 18.9 +1.2
P18A Preston Nutter 84.84 46 P P 00 12 19.1 +0.9
P18A IAmb IAmb 00 12 21.3
comp=Z,2.9nm,0.8s
IRM Iron Mountain 84.90 53 P P 00 12 18.7 +0.5
baz=305
CBX Cerro Bola 84.90 55 P P 00 12 18.1 -0.2
CBX IAmb IAmb 00 12 47.3
comp=Z,9.3nm,1.4s
BC3 Big Chuckawall 84.97 53 P P 00 12 19.5 +0.8
baz=305
IKP In-Ko-Pah, Jac 85.09 55 P P 00 12 20.3 +1.1
baz=305
K22A Casper 85.17 42 P P 00 12 21.2 +1.7
baz=310
WUAZ Wupatki 86.61 50 P P 00 12 28.6 +2.0
baz=307
T25A Trinidad 89.97 45 P P 00 12 42.3 -0.1
baz=311
ANMO Albuquerque 90.12 48 P P 00 12 44.7 +1.6
baz=310
121A Cookes Peak, D 90.79 50 P P 00 12 47.7 +1.5
baz=309
TXAR Lajitas Array 95.55 51 P P 00 13 08.5 +0.5
comp=Z,0.3nm,0.7s,baz=294,slow=3.4,SNR=4.5
comp=Z,0.3nm,0.7s
TORD Torodi Ar. Bea 118.83 310 PKP PKPdf 00 18 28.2 -0.8
comp=Z,0.3nm,0.4s,baz=28,slow=1.1,SNR=11
QSPA South Pole Qui 121.52 180 PKP PKPdf 00 18 32.7 0.0
comp=Z,0.7nm,0.5s,baz=312,slow=1.6,SNR=7.6

JMA 14 00:00:51.9±0.0, 35°.04N±0°.07×135°.47E±0°.09, h8km, MV2.5/20, KYOTO OSAKA BORDER REG, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.25**	**347**	*i* P	Pg	00 00 57.1	+0.3
JWT				S	Sg	00 01 00.3	+0.1
JHE	**Heguri**	**0.42**	**155**	*i* P	Pg	00 01 00.1	0.0
JHE				S	Sg	00 01 05.9	+0.2
JKS	**Kasai**	**0.52**	**264**	*i* P	Pg	00 01 01.9	0.0
JKS				S	Sg	00 01 08.7	+0.1
JKY	**Yasaka**	**0.66**	**333**	*i* P	Pg	00 01 04.6	0.0
JAWN	**Awajishima-nag**	**0.72**	**220**	P	Pg	00 01 06.0	+0.1
JWY	**Kouya**	**0.83**	**173**	*i* P	Pg	00 01 07.5	-0.3
JWY				S	Sg	00 01 18.4	-0.2
TSUJ	**Tsu 2**	**0.85**	**113**	*i* P	Pg	00 01 07.9	-0.3
TSUJ				S	Sg	00 01 19.0	-0.2
JKSM	**Kasumi**	**0.85**	**310**	P	Pg	00 01 08.1	-0.2
JKSM				S	Sg	00 01 19.2	-0.3

DRS 14 00:12:12.7±0.0, 44°.01N×43°.84E, h24km
NORS 14 00:12:12.3±0.0, 43°.95N×44°.31E, h8km
MOS 14 00:12:12.5±0.0, 43°.94N×44°.32E, h11km, MPVA4.0
AZER 14 00:12:12.1±0.6, 44°.37N×44°.73E, h29km±82km, Error ellipse: s-maj=161.5km s-min=10.8km az=337.0
TIF 14 00:12:13.0, 43°.91N×44°.34E, h9km±2km
ISC 14 00:12:13.6±1.0, 43°.92N±0°.03×44°.29E±0°.02, h12km±8km, n66, σ1.969/132, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRTR	**Priterechnaya**	**0.17**	**183**	*i* Pg	**Pb**	**00 12 17.9**	**-0.8**
PRTR				*e*Sg	**Sg**	**00 12 22.1**	**+2.2**
TRKR	**Terskaya**	**0.37**	**121**	*e*Pg	**Pb**	**00 12 21.9**	**-0.2**
TRKR				*e*Sg	**Sb**	**00 12 27.3**	**-0.6**
BTKR	**Batakoyurt**	**0.57**	**162**	*i* Pg	**Pb**	**00 12 24.9**	**-0.7**
BTKR				*e*Sg	**Sn**	**00 12 35.7**	**-1.4**
STDR	**Stavd-Durt**	**0.57**	**197**	*i* Pg	**Pn**	**00 12 26.3**	**-1.4**
STDR				*e*Sg	**Sn**	**00 12 36.2**	**-0.8**
KBTC	**Kuba-Taba**	**0.65**	**261**	*e*Pg	**Pn**	**00 12 27.8**	**-0.9**
KBTC				*e*Sg	**Sn**	**00 12 38.2**	**-0.7**
NCK	**Nalchik**	**0.66**	**230**	*i* Pg	**Pn**	**00 12 27.7**	**-1.1**
NCK				*e*Sg	**Sn**	**00 12 38.2**	**-0.9**
LSNR	**Lesken**	**0.72**	**208**	*i* Pg	**Pn**	**00 12 29.7**	**0.0**
LSNR				*e*Sg	**Sn**	**00 12 42.1**	**+1.3**
KORR	**Kora**	**0.85**	**191**	*i* Pg	**Pn**	**00 12 31.3**	**-0.1**
KORR				*e*Sg	**Sn**	**00 12 44.8**	**+1.0**
PYA1	**Pyatigorsk**	**0.88**	**280**	*e*Pg	**Pn**	**00 12 31.7**	**-0.1**
PYA1				*e*Sg	**Sn**	**00 12 44.9**	**+0.3**
VLKR	**Vladikavkaz**	**0.91**	**162**	*i* Pg	**Pn**	**00 12 32.6**	**+0.3**
VLKR				*i* Pg	**Pn**	**00 12 32.7**	**+0.3**
VLKR				*e*Sg	**Sn**	**00 12 46.9**	**+1.4**
VLKR				*e*Sg	**Sb**	**00 12 47.5**	**+3.9**
KMGR	**Komgaron**	**0.96**	**154**	*i* Pg	**Pn**	**00 12 33.4**	**+0.4**
KMGR				*e*Sg	**Sn**	**00 12 48.2**	**+1.7**
KBZ	**Khabaz**	**1.03**	**260**	*i* Pg	**Pn**	**00 12 34.0**	**+0.2**
KBZ				*e*Sg	**Sn**	**00 12 47.5**	**-0.7**
BEYR	**Belyy Ugol+**	**1.07**	**276**	*e*Pg	**Pn**	**00 12 34.8**	**+0.3**
BEYR				*e*Sg	**Sn**	**00 12 50.0**	**+0.7**
LACR	**Lac**	**1.09**	**180**	*i* Pg	**Pn**	**00 12 34.9**	**0.0**
LACR				*e*Sg	**Sn**	**00 12 50.9**	**+1.0**
KIV	**Kislovodsk**	**1.16**	**272**	*e*Pg	**Pg**	**00 12 36.5**	**+0.5**
KIV				*e*Sg	**Sn**	**00 12 52.3**	**+0.6**
ZEI	**Tsey**	**1.17**	**194**	*i* Pg	**Pg**	**00 12 35.8**	**-0.3**
ZEI				*e*Sg	**Sn**	**00 12 53.1**	**+1.2**
SHA1	**Shidzhatmaz**	**1.20**	**262**	*e*Pg	**Pg**	**00 12 36.8**	**+0.2**
SHA1				*e*Sg	**Sn**	**00 12 53.5**	**+0.7**
MTEO	**Meteo**	**1.25**	**172**	P	**Pg**	**00 12 37.5**	**-0.2**
MTEO				S	**Sn**	**00 12 54.8**	**+0.5**
ALER	**Alexandrovskoy**	**1.30**	**311**	*e*Pg	**Pg**	**00 12 40.5**	**+1.9**
ALER				*e*Sg	**Sg**	**00 12 58.5**	**+3.0**
GROC	**Groznyy**	**1.30**	**123**	*e*Pg	**Pg**	**00 12 39.0**	**+0.3**
GROC				*e*Sg	**Sg**	**00 12 56.8**	**+1.2**
SHTL	**Shatili**	**1.41**	**153**	*e*Pg	**Pg**	**00 12 39.6**	**-1.0**
SHTL				*e*Sg	**Sg**	**00 12 58.5**	**-0.4**
SHTL	**Shatili**	**1.41**	**153**	P	**Pg**	**00 12 39.6**	**-1.0**
SHTL				S	**Sg**	**00 12 58.5**	**-0.4**
GUDG	**Gudauri**	**1.46**	**175**	*e*Pg	**Pg**	**00 12 40.8**	**-0.8**
GUDG				*e*Sg	**Sg**	**00 12 59.7**	**-0.9**
GUDG	**Gudauri**	**1.46**	**175**	P	**Pg**	**00 12 40.8**	**-0.8**
GUDG				S	**Sg**	**00 12 59.7**	**-0.9**
DVE	**Vedeno**	**1.64**	**125**	*e*Pg	**Pb**	**00 12 43.3**	**-0.6**
DVE				*e*Sg	**Sg**	**00 13 05.4**	**-1.1**
NVNR	**Nevinnomyssk**	**1.81**	**293**	*e*Pg	**Pb**	**00 12 45.6**	**-1.2**
NVNR				*e*Sg	**Sg**	**00 13 11.6**	**-0.3**
TKB	**Tkibuli**	**1.83**	**212**	P	**Pg**	**00 12 48.1**	**-0.6**
ALIG	**Mtskhetisjvari**	**1.87**	**195**	P	**Pb**	**00 12 47.0**	**-0.8**
BTLR	**Botlikh**	**1.89**	**131**	*e*Pg	**Pb**	**00 12 46.2**	**-1.8**
BTLR				*e*Sg	**Sb**	**00 13 10.9**	**-0.7**
DLMR	**Dylym**	**1.90**	**116**	*e*Pg	**Pb**	**00 12 47.4**	**-0.9**
DLMR				*e*Sg	**Sb**	**00 13 11.9**	**-0.1**
DOMR	**Dombai**	**2.04**	**253**	*e*Pg	**Pg**	**00 12 51.7**	**-0.9**
DOMR				*e*Sg	**Sg**	**00 13 17.6**	**-1.5**
DBC	**Dubki**	**2.05**	**115**	*e*Pg	**Pb**	**00 12 48.9**	**-2.0**
DBC				*e*Sg	**Sb**	**00 13 15.3**	**-1.1**
UNCR	**Uncukul**	**2.19**	**123**	*e*Pn	**Pn**	**00 12 50.2**	**+0.4**
	24nm,0.4s						
UNCR				*e*Sn	**Sb**	**00 13 17.8**	**-2.4**
	86nm,0.6s						
XNZR	**Khunzakh**	**2.23**	**127**	*e*Pg	**Pb**	**00 12 52.2**	**-1.8**
XNZR				*e*Sg	**Sb**	**00 13 21.5**	**-0.2**
BUJR	**Buynaksk**	**2.33**	**117**	*e*Pn	**Pb**	**00 12 53.6**	**-1.9**
BUJR				*e*Pn	**Pb**	**00 12 53.6**	**-1.9**
	17nm,0.4s						
BUJR				*e*Sn	**Sb**	**00 13 23.5**	**-0.6**
	41nm,0.5s						
BUJR				*e*Sn	**Sb**	**00 13 23.5**	**-0.6**
ARKR	**Arakani**	**2.37**	**123**	*e*Pn	**Pb**	**00 12 54.2**	**-2.0**
	7.0nm,0.3s						
ARKR				*e*Sn	**Sb**	**00 13 24.3**	**-1.2**
	126nm,0.4s						
TRLG	**Trialeti**	**2.38**	**183**	P	**Pb**	**00 12 57.0**	**+0.5**
ABS	**Abastumani**	**2.42**	**207**	P	**Pb**	**00 12 57.5**	**+0.4**
KANR	**Karaman**	**2.43**	**106**	*e*Pn	**Pn**	**00 12 52.4**	**-0.8**
KANR				*e*Sn	**Sb**	**00 13 25.2**	**-2.0**
GNBR	**Gunib**	**2.48**	**127**	*e*Pn	**Pn**	**00 12 54.5**	**+0.6**
	10.0nm,0.4s						
GNBR				*e*Sn	**Sn**	**00 13 25.2**	**+1.0**
	79nm,0.3s						
LGD	**Lagodekhi**	**2.53**	**145**	*e*Pn	**Pb**	**00 12 57.6**	**-1.3**
LGD				*e*Sn	**Sb**	**00 13 30.9**	**+0.9**
LGD	**Lagodekhi**	**2.53**	**145**	P	**Pb**	**00 12 57.6**	**-1.3**
LGD				S	**Sb**	**00 13 30.9**	**+0.9**
MAK	**Makhachkala**	**2.53**	**111**	*e*Pn	**Pb**	**00 12 56.0**	**-2.9**
MAK				*e*Sn	**Sb**	**00 13 27.7**	**-2.2**
AZMN	**Azmana**	**2.70**	**196**	P	**Pb**	**00 13 02.4**	**+0.4**
KMKR	**Kumukh**	**2.72**	**130**	*e*Pn	**Pn**	**00 12 58.5**	**+1.1**
	17nm,0.3s						
KMKR				*e*Sn	**Sb**	**00 13 32.8**	**-3.0**
	32nm,0.4s						
ZKTA	**Zakatala**	**2.85**	**142**	P	**Pb**	**00 13 02.2**	**-2.3**
ZKTA				S	**Sb**	**00 13 38.2**	**-1.1**
SGKR	**Sergokala**	**2.86**	**119**	*e*Pn	**Pn**	**00 12 58.8**	**-0.3**
SGKR				*e*Sn	**Sn**	**00 13 34.8**	**+1.4**
RPOR	**Krasnaya Polya**	**2.92**	**267**	*e*Pn	**Pb**	**00 13 03.8**	**-1.9**
RPOR				*e*Sn	**Sn**	**00 13 37.3**	**+2.3**
QZX	**Qazax, Azerbai**	**2.97**	**164**	P	**Pb**	**00 13 05.5**	**-1.0**
QZX				S	**Sg**	**00 13 45.8**	**-3.0**
URKR	**Urkarakh**	**3.01**	**124**	*e*Pn	**Pn**	**00 13 02.6**	**+1.3**
	8.0nm,0.4s						
URKR				*e*Pn	**Pn**	**00 13 02.6**	**+1.3**
URKR				*e*Sn	**Sn**	**00 13 39.4**	**+2.1**
	19nm,0.4s						
URKR				*e*Sn	**Sn**	**00 13 39.4**	**+2.1**
GUZR	**Guzeripl'**	**3.02**	**273**	*e*Pn	**Pb**	**00 13 04.8**	**-2.4**
GUZR				*e*Sn	**Sn**	**00 13 39.9**	**+2.5**
VSLR	**Vesyoloye**	**3.12**	**263**	*e*Pn	**Pb**	**00 13 06.1**	**-3.0**
VSLR				*e*Sn	**Sn**	**00 13 42.7**	**+2.7**
GDB	**GEDABAY**	**3.37**	**161**	P	**Pb**	**00 13 10.1**	**-3.3**
GDB				S	**Sb**	**00 13 55.7**	**+1.2**
SEKA	**Sheki**	**3.45**	**141**	P	**Pn**	**00 13 09.4**	**+2.1**
SEKA				S	**Sn**	**00 13 51.7**	**+3.5**
DRN	**Derbent**	**3.51**	**121**	*e*Pn	**Pn**	**00 13 09.2**	**+1.2**
DRN				*e*Sn	**Sn**	**00 13 49.3**	**-0.1**
AKT	**Akhty**	**3.51**	**133**	*e*Pn	**Pn**	**00 13 09.5**	**+1.3**
	4.0nm,0.4s						
AKT				*e*Pn	**Pn**	**00 13 09.5**	**+1.3**
AKT				*e*Sn	**Sn**	**00 13 50.9**	**+1.2**
AKT				*e*Sn	**Sn**	**00 13 50.9**	**+1.2**

	17nm,0.2s						
GANJ	Ganja	3.60	155	P	Pn	00 13 12.2	+3.0
GANJ				S	Sb	00 14 01.3	+0.4
KSMR	Kasumkent	3.65	128	*e*Pn	Pn	00 13 12.8	+2.8
KSMR				*e*Sn	Sn	00 13 54.1	+1.1
GNI	Garni	3.78	175	*e*Pn	Pn	00 13 15.4	+3.6
GNI				*e*Sn	Sn	00 14 00.1	+3.7
XNQ	Khinaliq	3.95	133	P	Pn	00 13 16.3	+2.1
XNQ				S	Sn	00 14 02.9	+2.3
QBL	Gabala	3.96	137	P	Pn	00 13 16.0	+1.7
QBL				S	Sb	00 14 05.8	-5.5
IML	Ismayilli	4.25	136	S	Sn	00 14 10.4	+2.7
SIZA	Siyzn	4.43	128	P	Pn	00 13 22.1	+1.3
ATGJ	Altiaghaj	4.60	130	S	Sn	00 14 18.9	+2.4
GLBA	Clilabad	5.59	145	P	Pn	00 13 38.6	+2.0
GLBA				S	Sn	00 14 43.8	+3.1
YRD	Yardimli	5.81	148	P	Pn	00 13 41.4	+1.6
YRD				S	Sn	00 14 48.8	+2.3

RSPR ***14*** *00:17:59.5±5.1, 19°.0N±0°.1×64°.38W±0°.08, h25km±9km, Error ellipse: s-maj=17.7km s-min=9.6km az=193.0*
NEIC ***14*** *00:18:03.8±2.2, 19°.1N±0°.1×64°.79W±0°.07, h35km±2km, ML3.6/10, Md3.0/3(RSPR), Error ellipse: s-maj=21.5km s-min=10.4km az=2.0*

ISC 14 00:18:02.1±2.3, 19°.2N±0°.2×64°.67W±0°.06, h35km, n21, σ1§86/24, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	San Juan	1.77	233		Pn	00 18 28.4	-1.9
SJG	San Juan	1.77	233	*e*P	Pn	00 18 28.2	-2.1
GBPR	Guanica, Bosqu	2.42	240		Pn	00 18 38.8	-0.4
GBPR					Sn	00 19 08.2	+0.5
LSP	Las Mesas	2.51	247		Pn	00 18 39.4	-1.1
LSP					Sn	00 19 10.6	+0.7
PRSN	Puerto Rico Se	2.54	248		Pn	00 18 38.6	-2.3
PRSN					Sn	00 19 12.7	+2.0
IDE	Isla Desecheo	2.78	254		Pn	00 18 43.6	-0.6
IDE					Sn	00 19 19.2	+2.6
MBFL	Flemmings, Mon	3.37	136	*e*P	Pn	00 18 51.5	-0.7
MLYT	Lee's Yard	3.40	136	*e*P	Pn	00 18 53.0	+0.2
ANBD	Bethesda, Anti	3.48	127	*e*P	Pn	00 18 50.7	-3.1
ANBD				*e*S	Sn	00 19 30.9	-3.0
ABD	La Joyeuse, An	4.05	131	Pn	Pn	00 19 04.0	+2.3
ABD				IAML		00 19 50.3	
	comp=N,106nm,1.1s						
ABD				IAML		00 20 28.6	
	comp=E,98nm,1.2s						
CBE	Ff, Capester	4.26	136	Pn	Pn	00 19 04.0	-0.5
CBE				IAML		00 20 10.2	
	comp=N,128nm,0.5s						
CBE				IAML		00 20 14.4	
	comp=E,132nm,0.6s						
CBE	Ff, Capester	4.26	136	*e*P	Pn	00 19 01.3	-3.2
GDSD	La Dsirade Is	4.46	129	Pn	Pn	00 19 09.4	+2.1
GDSD				IAML		00 20 23.8	
	comp=E,22nm,1.1s						
GDSD				IAML		00 20 49.9	
	comp=N,26nm,1.3s						
MAGL	Barre de l'ile	4.56	134	Pn	Pn	00 19 11.0	+2.3
MAGL	Barre de l'ile	4.56	134	*e*P	Pn	00 19 06.7	-1.9
SVN	Savane Anatole	5.46	142	Pn	Pn	00 19 23.8	+2.6
FDF	Fort de France	5.56	142	Pn	Pn	00 19 24.6	+2.1
MPOM	Morne Pois Mar	5.96	142	Pn	Pn	00 19 30.1	+2.2
SDDR	Presa de Saban	6.27	269		Pn	00 19 31.9	-0.3
BAUV	El Baul	10.70	198	Pn	Pn	00 20 32.0	-1.0
CRIN	San Cristobal	22.46	257	*e*P	P	00 22 57.8	-0.7

BJI ***14*** *00:20:54.0±0.0, 16°.30N×94°.80W, h38km, mB5.5/5, Ms5.4/15, MS7 5.1/17*
MOS ***14*** *00:20:54.1±1.0, 16°.22N×94°.79W, h44km, mb5.7/62, MS4.9/7, Error ellipse: s-maj=6.4km s-min=3.9km az=99.9*
GCG ***14*** *00:20:54.1±0.6, 16°.08N×95°.33W, h34km±999km, MD5.5*
UCR ***14*** *00:20:55.7±0.6, 16°.23N×94°.87W, h56km, MW5.5(NEIC)*
IDC ***14*** *00:20:56.9±2.9, 16°.13N×94°.85W, h62km±24km, mb4.9/25, mbtmp5.2/26, ML6.3/2, MS4.7/57, Error ellipse: s-maj=18.5km s-min=11.1km az=54.0*
GCMT ***14*** *00:20:56.7±0.1, 16°.26N±0°.01×95°.01W±0°.01, h56km, MW5.5/151, Moment Tensor Solution. s151,c281; s145,c302; Duration: 1§4 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.53±.03; Mθθ0.18±.02; Mφφ1.35±.02; Mrθ-0.05±.02; Mrφ-1.06±.02; Mθφ-1.30±.02; Best double couple: M0=2.21100×10¹⁷ NP1:φs=350.00000°, δ65.00000°, λ-68.00000°. NP2:φs=126.00000°, δ33.00000°, λ-128.00000°. Principal axes: T 2.3030, Plg17.0000°, Azm64.0000°; N -0.1860, Plg20.0000°, Azm160.0000°; P -2.1190, Plg64.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***14*** *00:20:56.6, 16°.38N×94°.90W, h33km, mb5.6, Ms4.9*
NEIC ***14*** *00:20:57.1, 16°.13N×94°.92W, h50km, Moment Tensor Solution. Duration: 2§9 Moment tensor: Scale 10¹⁷Nm; Mrr-1.53; Mθθ0.09; Mφφ1.44; Mrθ0.03; Mθφ-0.78; Mφr-1.34; Fault plane solution: M0=2.15000×10¹⁷ NP1: φs=350.69000°, δ64.97000°, λ-75.02000°. NP2: φs=138.38000°, δ28.92000°, λ-118.96000°. Principal axes: T 2.2134, Plg19.0000°, Azm70.0000°; N -0.1351, Plg14.0000°, Azm164.0000°; P -2.0783, Plg67.0000°, Azm288.0000°;*
MEX ***14*** *00:20:57.5±0.8, 15°.95N×95°.05W, h57km±12km, MD5.5, Mw5.5*
NEIC ***14*** *00:20:57.7±1.8, 16°.23N±0°.06×94°.87W±0°.05, h56km±1km, mb5.6/876, Mwb5.6/46, Mww5.5/33, Md5.5/90(MEX), Error ellipse: s-maj=11.4km s-min=8.1km az=201.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-2.14; Mθθ0.15; Mφφ1.99; Mrθ0.37; Mθφ-1.08; Mφr-1.55; Fault plane solution: M0=2.83000×10¹⁷ NP1: φs=342.47000°, δ62.42000°, λ-82.51000°. NP2: φs=146.61000°, δ28.50000°, λ-104.02000°. Principal axes: T 2.9697, Plg17.0000°, Azm67.0000°; N -0.3132, Plg7.0000°, Azm159.0000°; P -2.6565, Plg72.0000°, Azm269.0000°;*
NEIC ***14*** *00:20:57.5, 16°.24N×94°.80W, h53km*
NEIC ***14*** *00:20:57.1, 16°.23N×94°.81W, h50km*

ISC 14 00:20:56.3±0.3, 16°.10N±0°.03×94°.98W±0°.03, h57km±2km, h57km:pP-P, n2319, σ1§64/2318, mb5.6/531, MS4.8/71, 66C-35D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	Santiago Nilte	0.58	37	*e*P	Pn	00 21 09.4	+0.6
NILT				*i* S	Sn	00 21 19.6	+1.6
CARR	Arriaga	1.04	82	*e*P	Pn	00 21 14.8	+0.1
CARR				*i* S	Sn	00 21 29.6	+1.3
HUIG	Huatulco	1.13	253		Pn	00 21 13.7	-2.3
HUIG					Sn	00 21 26.1	-4.5
HUIG	Huatulco	1.13	253	*e*P	Pn	00 21 13.7	-2.3
HUIG				*e*S	Sn	00 21 27.7	-2.9
UXUV	UXUV	1.45	33	*e*P	Pn	00 21 21.4	+1.2
UXUV				*i* S	Sn	00 21 40.3	+2.1
PANG	Puerto Angel	1.50	254		Pn	00 21 18.2	-2.7
PANG					Sn	00 21 35.3	-4.1
PANG	Puerto Angel	1.50	254	*e*P	Pn	00 21 18.2	-2.7
PANG				*e*S	Sn	00 21 35.3	-4.1
PCIG		1.74	103		Pn	00 21 24.6	+0.5
PCIG		1.74	103	*e*P	Pn	00 21 24.6	+0.5
PCIG				*e*S	Sn	00 21 45.1	-0.1
NEUV	Arroyo Zacate	1.79	334	*e*P	Pn	00 21 25.1	+0.3
TGIG		1.91	69		Pn	00 21 27.4	+1.0
TGIG					Sn	00 21 52.3	+2.9
TGIG		1.91	69	*e*P	Pn	00 21 27.2	+0.7
TGIG				*i* S	Sn	00 21 52.3	+2.9
OXLC	Oaxaca	1.91	300	*e*P	Pn	00 21 27.7	+1.0
MIHL	Minatitlan	1.93	12	*i* P	Pn	00 21 28.3	+1.6
MIHL				*i* S	Sn	00 21 52.8	+3.1
OXBJ	Oaxaca	1.93	300	*e*P	Pn	00 21 27.5	+0.6
OXBJ				*e*S	Sn	00 21 44.6	-5.6
TGBT	Tuxtla Gutierr	1.94	69	*e*P	Pn	00 21 28.6	+1.9
OXIG	Oaxaca	1.94	300		Pn	00 21 28.1	+1.0
VHO	Vista Hermosa	1.94	300	*e*P	Pn	00 21 28.1	+1.0
TUIG	Tuzandepetl	2.00	15	*e*P	Pn	00 21 29.0	+1.4
TUIG				*e*S	Sn	00 21 53.3	+1.8
PEIG	Puerto Escondi	2.09	268	*i* P	Pn	00 21 26.8	-2.1
PMUV	Sontecomapan	2.44	357	*e*P	Pn	00 21 33.3	-0.4
PMUV				*i* S	Sn	00 22 01.7	-0.7
YOIG	Yosondua	2.57	287	*e*P	Pn	00 21 35.9	+0.1
YOIG				*e*S	Sn	00 22 04.1	-2.0
CCIG	Comitan	2.74	86	Pn	Pn	00 21 36.4	-1.6
CCIG	Comitan	2.74	86	*e*P	Pn	00 21 38.6	+0.7
CCIG				*i* S	Sn	00 22 14.2	+4.3
TOIG	Toxpalan	2.81	315	*e*P	Pn	00 21 41.0	+2.0
TOIG				*e*S	Sn	00 22 13.2	+1.5
PATR	El Naranjo	2.82	110	*e*P	Pn	00 21 39.6	+0.5
PAVE	Pavencul	2.85	108	*e*P	Pn	00 21 40.8	+1.3
THIG		2.87	114		Pn	00 21 40.7	+1.1
THIG		2.87	114	*e*P	Pn	00 21 40.7	+1.1
TXIG	Tlaxiaco	2.91	294	*e*P	Pn	00 21 41.3	+0.9
TXIG				*e*S	Sn	00 22 12.9	-1.3
CHUJ	Union Juarez	2.94	109	*e*P	Pn	00 21 41.6	+0.8
CHUJ				*e*S	Sn	00 22 15.3	+0.3
PNIG	Pinotepa	3.04	276		Pn	00 21 40.7	-1.3
PNIG	Pinotepa	3.04	276	*i* P	Pn	00 21 40.6	-1.3
HLIG	Huajuapan de L	3.20	303		Pn	00 21 45.8	+1.5
HLIG	Huajuapan de L	3.20	303	*e*P	Pn	00 21 45.8	+1.5
TPIG	Tehuac#an	3.24	316		Pn	00 21 46.7	+1.9
TPIG	Tehuac#an	3.24	316	*e*P	Pn	00 21 46.7	+1.9
OZST	Orizaba	3.41	324	*e*P	Pn	00 21 46.8	-0.3
HUEH	Huehuetenango	3.44	103		Pn	00 21 46.7	-0.9
FTIG	Fresnillo de T	3.51	301		Pn	00 21 50.2	+1.7
FTIG	Fresnillo de T	3.51	301	*e*P	Pn	00 21 50.2	+1.7
RTAL	Retalhuleu	3.54	116		Pn	00 21 49.0	+0.3
STG3	Santiaguito 3,	3.57	112	*i* P	Pn	00 21 50.8	+1.5
JAUV	Jalcomulco	3.68	332	*e*P	Pn	00 21 49.8	-1.0
TLIG	Tlapa	3.73	293	Pn	Pn	00 21 52.3	+0.8
TLIG	Tlapa	3.73	293	*e*P	Pn	00 21 52.9	+1.4
SULM	Suchitepequez,	3.75	118	*i* P	Pn	00 21 53.7	+2.1
HMTT	Tlapaneco	3.82	297	*i* P	Pn	00 21 54.6	+1.9
HMTT				*i* S	Sn	00 22 32.9	-3.5
LVIG	Laguna Verde	3.85	339	*i* P	Pn	00 21 51.4	-1.7
LVIG				*e*S	Sn	00 22 32.2	-4.9
XALA	Xalapa	3.87	332	*e*P	Pn	00 21 52.6	-0.9
PHPU	Puebla	4.22	314	*e*P	Pn	00 21 59.5	+1.2
PHPU				*e*S	Sn	00 22 44.1	-2.4
FUG	Fuego 3	4.32	112	*i* P	Pn	00 22 02.6	+3.0
FUG				*i* S	Sn	00 22 56.1	+7.3
PCG	Pacaya	4.55	111	*i* P	Pn	00 22 06.6	+3.8
PPM	Popocatepetl	4.56	311	*e*P	Pn	00 22 06.4	+3.2
PPIG	Popocatepetl	4.56	311		Pn	00 22 06.4	+3.2
DAIG	Los Arroyos	4.57	282		Pn	00 22 02.5	-0.4
DAIG	Los Arroyos	4.57	282	*i* P	Pn	00 22 02.5	-0.4
SCIG	Sabancuy	4.61	51	*e*P	Pn	00 22 03.7	+0.3
NBG	Las Nubes	4.72	108	*i* P	Pn	00 22 08.4	+3.3
AMVM	AMECAMECA	4.72	310		Pn	00 22 08.3	+3.1
AMVM	AMECAMECA	4.72	310	*e*P	Pn	00 22 08.3	+3.1
CXUV	Coxquihui	4.75	329	*e*P	Pn	00 22 05.2	-0.2
ACP2	Acapulco	4.77	280	*e*P	Pn	00 22 04.2	-1.4
YAIG	Yautepec	4.77	306		Pn	00 22 08.3	+2.5
YAIG	Yautepec	4.77	306	*e*P	Pn	00 22 08.3	+2.5
YAIG				*i* S	Sn	00 22 57.0	-2.8
MEIG	Mezcala	4.80	293		Pn	00 22 07.8	+1.7
MEIG	Mezcala	4.80	293	*e*P	Pn	00 22 07.8	+1.7
PLIG	Platanillo	4.89	298	*e*P	Pn	00 22 09.5	+2.2
PLIG				*e*S	Sn	00 22 59.0	-3.7
MPVM	San Francisco	4.93	309	*e*P	Pn	00 22 11.2	+3.2
MPVM				*e*S	Sn	00 23 03.3	-0.6
THVM	De Xico	4.97	311	*e*P	Pn	00 22 12.2	+3.6
PETF	Flores	4.97	80		Pn	00 22 07.5	-0.9
TLVM	San Miguel Top	5.04	308	*e*P	Pn	00 22 12.3	+2.7
UNM	Universidad Na	5.13	309		Pn	00 22 12.7	+1.9
UNM	Universidad Na	5.13	309	P	Pn	00 22 12.7	+1.9
UNM	Universidad Na	5.13	309	*e*P	Pn	00 22 13.1	+2.3
UNM				*i* S	Sn	00 23 08.3	-0.5
PBVM	Pinon	5.13	311		Pn	00 22 10.2	-0.4
PBVM	Pinon	5.13	311	*e*P	Pn	00 22 10.2	-0.4
PBVM				*e*S	Sn	00 23 04.4	-4.1
CUP5	Mexico City	5.13	309	*e*S	Sn	00 23 06.7	-2.2
VTVM	Tizayuca	5.13	316		Pn	00 22 13.6	+2.7
VTVM	Tizayuca	5.13	316	*e*P	Pn	00 22 13.6	+2.7
VRVM	Mexico City	5.14	311	*e*S	Sn	00 23 10.4	+1.4
SCT2	Benito Juarez	5.15	310	*e*S	Sn	00 23 09.8	+0.5
BJVM	Benito Juarez	5.15	310	*e*P	Pn	00 22 13.9	+2.7
BJVM				*e*S	Sn	00 23 06.3	-3.1
CAIG	El Cayaco	5.16	281		Pn	00 22 10.6	-0.4
CAIG					Sn	00 23 07.5	-1.7
CAIG	El Cayaco	5.16	281	*e*P	Pn	00 22 10.6	-0.4
CAIG				*e*S	Sn	00 23 07.5	-1.7
AOVM	Tlapan	5.20	308	*i* P	Pn	00 22 14.9	+3.0
PTVM	Pico Tres Padr	5.25	312		Pn	00 22 15.3	+2.9
PTVM	Pico Tres Padr	5.25	312	*e*P	Pn	00 22 15.3	+2.9
INVM	La Marquesa	5.26	308	*e*P	Pn	00 22 16.0	+3.3
INVM				*e*S	Sn	00 23 10.6	-1.7
ATYC	Atoyac	5.34	283	*e*P	Pn	00 22 13.3	-0.2
ATYC				*i* S	Sn	00 23 08.8	-4.9
AZVM	Cuida Lopez Ma	5.37	311		Pn	00 22 15.6	+1.5
AZVM	Cuida Lopez Ma	5.37	311	*e*P	Pn	00 22 15.6	+1.5
ZUVM	ZUMPANGO	5.38	314		Pn	00 22 17.0	+2.8
ZUVM	ZUMPANGO	5.38	314	*i* P	Pn	00 22 17.0	+2.8
TOVM	TOLUCA	5.48	306		Pn	00 22 19.0	+3.3
TOVM	TOLUCA	5.48	306	*i* P	Pn	00 22 19.0	+3.3
TOVM				*i* S	Sn	00 23 15.5	-2.2
ARIG	Puente Sto Nin	5.57	294		Pn	00 22 18.6	+2.0
ARIG	Puente Sto Nin	5.57	294	*e*P	Pn	00 22 18.6	+2.0
ESQI	Esquipulas	5.65	105		Pn	00 22 17.3	-0.5
TEJU	Tejupilco	5.67	300	*e*P	Pn	00 22 19.9	+1.7
TEJU				*i* S	Sn	00 23 18.4	-3.7
MTO3	Montecristo	5.68	107	Pn	Pn	00 22 17.8	-0.5
DHIG	Demacu	5.68	318		Pn	00 22 20.2	+1.8
DEIG	Demacu	5.69	318	*e*P	Pn	00 22 20.2	+1.8
ACIG	Acambay	6.05	310		Pn	00 22 26.6	+3.2
ACIG	Acambay	6.05	310	*i* P	Pn	00 22 26.6	+3.2
SNET	Serv Nac Est T	6.05	113		Pn	00 22 23.5	+0.2
PET2	Petatlan	6.18	284	*i* P	Pn	00 22 26.1	+1.1
PET2				*e*S	Sn	00 23 26.5	-7.9
CTUV	Llano Grande	6.23	330	*e*P	Pn	00 22 24.9	-0.6
ZIIG	Zihuatanejo	6.39	284	*e*P	Pn	00 22 28.4	+0.6
ZIIG				*e*S	Sn	00 23 30.8	-8.6
UON	La Union	6.80	287	*e*P	Pn	00 22 32.8	-0.6
UON				*e*S	Sn	00 23 39.6	-10
JRQG	Juriquilla Cam	6.92	312	*e*P	Pn	00 22 38.2	+2.9
MYIG	Mrida	6.93	45	*e*P	Pn	00 22 34.5	-0.8
RPIG	Rio Verde	7.45	321	*e*P	Pn	00 22 45.6	+3.1
URUA	Uruapan	7.52	297	*i* P	Pn	00 22 46.7	+3.1
URUA				*e*S	Sn	00 23 59.5	-8.0
TEIG	Tepich	7.58	56	Pn	Pn	00 22 41.6	-2.5
TEIG	Tepich	7.58	56	*e*P	Pn	00 22 42.1	-2.0
TEIG	Tepich	7.58	56	P	Pn	00 22 43.6	-0.5
	4μm,0.3s,baz=53,slow=1.2,SNR=583						
TEIG				S	Sn	00 24 06.1	-2.6
	29μm,0.5s,baz=242,slow=22,SNR=11						
TEIG				LR	LR	00 26 12.2	
	comp=Z,74μm,21.2s,baz=13,slow=42						
IGIG	Irapuato, Guan	7.60	308		Pn	00 22 45.7	+1.1
IGIG	Irapuato, Guan	7.60	308	*e*P	Pn	00 22 45.7	+1.1
TGUH	Tegucigalpa,Un	7.72	104	Pn	Pn	00 22 45.8	-0.4
TGUH	Tegucigalpa,Un	7.72	104	*e*P	Pn	00 22 46.0	-0.1
GTIG	Gomez Farias	7.98	331		Pn	00 22 50.0	+0.4
GTIG	Gomez Farias	7.98	331	*e*P	Pn	00 22 50.0	+0.4
MMIG	Aquila	8.29	286		Pn	00 22 54.8	+0.9
MMIG	Aquila	8.29	286	*e*P	Pn	00 22 54.8	+0.9
CRIN	San Cristobal	8.39	113		Pn	00 22 55.7	+0.4
CNGN	Cerro Negro	8.79	113		Pn	00 23 00.8	+0.1
CNGN	Cerro Negro	8.79	113	*e*P	Pn	00 23 00.1	-0.6
COIG	Colima	8.85	292	*e*P	Pn	00 23 04.9	+3.3
JUBC	Volcan de Coli	8.86	294	*e*P	Pn	00 23 05.8	+3.8
EZ5V		8.87	294		Pn	00 23 06.1	+4.0
EZ5V		8.87	294	*e*P	Pn	00 23 06.1	+4.0
MNGA	Volcan de Coli	8.88	293	*e*P	Pn	00 23 06.3	+4.1
SOMAC	Volcano de Col	8.91	294	*e*P	Pn	00 23 06.1	+3.4
COMA	Comala	8.96	292	*e*P	Pn	00 23 04.2	+1.0
COMA				*e*S	Sn	00 24 34.6	-8.1
CDAR	Ciudad de Arme	9.07	289	*e*P	Pn	00 23 06.4	+1.9
CEGR	Campo Tres	9.07	292	*e*P	Pn	00 23 08.2	+3.5
R15V		9.11	291		Pn	00 23 03.2	-1.9
R15V		9.11	291	*e*P	Pn	00 23 03.2	-1.9
AAIG	Aguscalientes	9.11	311	*e*P	Pn	00 23 08.6	+3.3
MATN	Matagalpa	9.32	109	Pn	Pn	00 23 07.6	-0.4
LNIG	Linares	9.71	335	*e*P	Pn	00 23 15.0	+1.7
BOAB	BOACO BROADBAN	9.73	111	Pn	Pn	00 23 13.8	+0.2
ZAIG	Zacatecas	9.76	314	*e*P	Pn	00 23 16.9	+2.7
CIHU	Emiliano Zapat	9.82	290	*e*P	Pn	00 23 16.6	+1.9
CIHU				*e*S	Sn	00 24 56.1	-7.4
CJM	Chamela	10.16	291	*e*P	Pn	00 23 19.4	-0.1
CJM				*e*S	Sn	00 25 12.3	+0.3
ANIG	Ahuacatlan	10.30	300		Pn	00 23 24.8	+3.3
ANIG	Ahuacatlan	10.30	300	*i* P	Pn	00 23 24.8	+3.3
ACON	Acoyapa	10.36	112	Pn	Pn	00 23 22.4	+0.1
ACON	Acoyapa	10.36	112	*e*P	Pn	00 23 21.8	-0.5
HZTE	Horizontes, Gu	10.58	119		Pn	00 23 26.4	+1.1
ORTG	Ortega, Santa	10.88	120	Pn	Pn	00 23 30.2	+0.8
DUNO	Dulce Nombre,	11.01	122		Pn	00 23 32.6	+1.5
ESPN	Las Esperanzas	11.06	109		Pn	00 23 31.6	-0.2
POPE	POPE, Guanacas	11.20	121	*e*P	Pn	00 23 35.6	+1.8
NYURE	Nandayure	11.25	121	*e*P	Pn	00 23 36.7	+2.3
JTS	Las Juntas de	11.34	119		Pn	00 23 37.2	+1.5
JTS	Las Juntas de	11.34	119	*c i*P	Pn	00 23 37.1	+1.4
JTS	Las Juntas de	11.34	119	*e*P	Pn	00 23 33.2	-2.4
JTS	Las Juntas de	11.34	119	S	Sn	00 25 40.9	0.0
	21nm,0.5s,baz=328,slow=24,SNR=0.9						
HBVL	Hebbronville	11.44	343	Pn	Pn	00 23 38.2	+1.3
ARE1	Arenal 1	11.45	118		Pn	00 23 37.3	+0.2
ARE1	Arenal 1	11.45	118	*e*P	Pn	00 23 38.6	+1.5
VACR	Volcan Arenal	11.48	118	*e*P	Pn	00 23 38.9	+1.4
SOCE	Pocosol	11.57	118	Pn	Pn	00 23 40.0	+1.1
COVE	Coope Vega, Sa	11.60	116		Pn	00 23 39.4	+0.3
COVE	Coope Vega, Sa	11.60	116	*e*P	Pn	00 23 39.5	+0.4
KVTX	Kingsville	11.71	347	Pn	Pn	00 23 41.5	+1.0
KVTX	Kingsville	11.71	347	P	Pn	00 23 42.9	+2.3
	baz=165,SNR=6.8						
CPMI	Catarata Coope	11.83	118	*e*P	Pn	00 23 43.1	+0.6
JACO	JACO, Garabito	11.92	121		Pn	00 23 45.3	+1.8
JACO	JACO, Garabito	11.92	121	*e*P	Pn	00 23 44.9	+1.3
VPTE	Poasito	12.04	118	*e*P	Pn	00 23 46.6	+1.2
BELE	Belen	12.15	119	*e*P	Pn	00 23 48.3	+1.6
SANTA	Santa Ana	12.17	119	*e*P	Pn	00 23 48.5	+1.4
HDC	Heredia	12.20	118		Pn	00 23 47.1	-0.3
HDC3	Heredia 3	12.20	118	*e*P	Pn	00 23 48.8	+1.4
CVIMO	Finca Echandi	12.33	118	*e*P	Pn	00 23 50.2	+0.9
CVIMO				*e*S	Sn	00 26 09.0	+3.7
ABE2	San Pablo	12.40	120	*e*P	Pn	00 23 52.1	+1.8
ABE2	San Pablo	12.40	120	*e*P	Pn	00 23 51.9	+1.6
VICA	Volcano Irazu	12.43	118	*e*P	Pn	00 23 51.5	+0.6
ICR3	Volcano Irazu	12.45	118	*e*P	Pn	00 23 52.6	+1.5
VTRT	Volcan Turrial	12.47	118	*e*P	Pn	00 23 51.9	+0.6
RAFA	San Farael, Vo	12.47	118	*e*P	Pn	00 23 52.9	+1.4
VTLA	Turrialba Volc	12.48	118	*e*P	Pn	00 23 52.4	+0.9
VTR0	Volcan Turrial	12.49	118	*e*P	Pn	00 23 52.4	+0.7
VTLO	VTLO	12.50	117	*e*P	Pn	00 23 52.2	+0.4
RIMA	Rio Macho	12.53	119		Pn	00 23 51.5	-0.5
RIMA	Rio Macho	12.53	119	*e*P	Pn	00 23 52.5	+0.5
VTCV	VTCV, Calle Va	12.53	118	*e*P	Pn	00 23 52.8	+0.7
VERB	Verbena	12.58	118	*e*P	Pn	00 23 53.7	+1.0
VERB	Verbena	12.58	118	*e*P	Pn	00 23 54.0	+1.3
RVLA	Villa Bonita	12.59	117	*e*P	Pn	00 23 53.9	+1.2
RVSTA	Santa Teresita	12.60	117	*e*P	Pn	00 23 54.1	+1.1
RVSTA	Santa Teresita	12.60	117	*e*P	Pn	00 23 54.4	+1.4
LCOCO	El Coco	12.63	117	*e*P	Pn	00 23 54.2	+1.0
LCOCO	El Coco	12.63	117	*e*P	Pn	00 23 54.0	+0.8
CDM	Cerro de Muert	12.72	119	*e*P	Pn	00 23 55.6	+0.7
BATAN	Batan	12.78	116		Pn	00 23 54.2	-1.0
833A	Chaparral WMA,	12.83	342	Pn	Pn	00 23 56.3	+0.4
833A	Chaparral WMA,	12.83	342	P	Pn	00 23 57.3	+1.4
	baz=160,SNR=184						
833A	Chaparral WMA,	12.83	342	P	Pn	00 23 57.2	+1.3
	baz=160,SNR=184						
MAIG	Mazatlaan	12.88	305		Pn	00 23 59.3	+2.8
MAIG	Mazatlaan	12.88	305	*i* P	Pn	00 23 59.3	+2.8
735A	Kenedy	12.96	349		Pn	00 23 58.9	+1.3
735A	Kenedy	12.96	349	P	Pn	00 23 59.1	+1.4
	baz=167,SNR=32						
SOR	Soroa	13.10

BCIP	Isla Barro Col	16.30	113			Pn	00 24 39.7 -1.8
BCIP	Isla Barro Col	16.30	113	P		Pn	00 24 39.7 -1.8
BCIP				pmax		pmax	
	comp=Z,97nm,1.2s						
BCIP	Isla Barro Col	16.30	113	eP		Pn	00 24 37.7 -3.9
CACAO	El Cacao, Vera	16.32	121	eP		Pn	00 24 42.5 +0.6
061Z	Ochoppi	16.33	51			Pn	00 24 39.2 -2.7
061Z	Ochoppi	16.33	51	P		Pn	00 24 41.5 -0.4
	baz=236,SNR=25						
FW13	Cleburne	16.33	353			Pn	00 24 41.5 -0.4
FW13				IAmb		IAmb	00 24 47.0
	comp=Z,579nm,0.6s						
FW14	Alvarado	16.35	353			Pn	00 24 42.1 0.0
FW14				IAmb		IAmb	00 24 47.9
	comp=Z,691nm,0.8s						
CSIG	Choix	16.40	313	P		P	00 24 45.1 +0.4
CSIG	Choix	16.40	313	i P		P	00 24 45.1 +0.4
FW16	Waxahatchie	16.40	354			Pn	00 24 42.8 0.0
FW16				IAmb		IAmb	00 24 48.0
	comp=Z,617nm,0.9s						
VBMS	Vicksburg	16.55	13			Pn	00 24 44.0 -0.6
VBMS	Vicksburg	16.55	13	P		Pn	00 24 44.5 -0.1
	baz=195						
AZU	Azuero	16.58	118	eP		Pn	00 24 42.6 -2.4
UPA	Univ. de Panam	16.65	113	eP		Pn	00 24 43.2 -2.8
BRAL	Brewton	16.66	24	Pn		Pn	00 24 44.6 -1.3
BRAL				IAmb		IAmb	00 24 51.1
	comp=Z,467nm,1.1s						
BRAL	Brewton	16.66	24	P		Pn	00 24 46.4 +0.5
	baz=207						
SGCY	Sterling City	16.71	342	Pn		Pn	00 24 46.7 0.0
SGCY				IAmb		IAmb	00 24 51.4
	comp=Z,835nm,0.7s						
FW07	Weatherford	16.73	352			Pn	00 24 46.7 -0.1
FW07				IAmb		IAmb	00 24 51.0
	comp=Z,702nm,0.7s						
451A	Vernon	16.74	29			Pn	00 24 46.0 -1.0
451A				IAmb		IAmb	00 24 51.9
	comp=Z,698nm,1.1s						
451A	Vernon	16.74	29	P		Pn	00 24 46.6 -0.4
	baz=212,SNR=14						
MTDJ	Mount Denham	16.80	80			Pn	00 24 45.9 -2.1
MTDJ				IAmb		IAmb	00 24 50.6
	comp=Z,559nm,1.4s						
MTDJ	Mount Denham	16.80	80	i P		Pn	00 24 47.0 -1.0
MTDJ	Mount Denham	16.80	80	eP		Pn	00 24 46.0 -2.0
143A	Socs Landing,	16.85	10			Pn	00 24 47.5 -0.7
FW06	Azle	16.96	353			Pn	00 24 49.0 -0.7
FW06				IAmb		IAmb	00 24 53.7
	comp=Z,603nm,0.7s						
ABTX	Abilene, Hawle	16.99	346			Pn	00 24 50.1 +0.1
ABTX				IAmb		IAmb	00 24 57.7
	comp=Z,538nm,0.9s						
ABTX	Abilene, Hawle	16.99	346	P		Pn	00 24 50.1 +0.1
	baz=164,SNR=191						
ABTX	Abilene, Hawle	16.99	346	P		P	00 24 50.8 -0.4
	baz=164,SNR=191						
553A	Crawfordville	17.04	33	Pn		Pn	00 24 47.1 -3.5
553A				IAmb		IAmb	00 24 54.6
	comp=Z,376nm,0.9s						
553A	Crawfordville	17.04	33	P		Pn	00 24 49.7 -0.9
	baz=217,SNR=11						
Z38A	Mt. Pleasant	17.09	360	P		Pn	00 24 50.8 -0.4
Z38A				IAmb		IAmb	00 24 57.9
	comp=Z,346nm,0.8s						
Z38A	Mt. Pleasant	17.09	360	P		Pn	00 24 51.7 +0.5
	baz=179,SNR=50						
FW03	Perrin-Whitt E	17.10	351	P		Pn	00 24 51.0 -0.4
FW03				IAmb		IAmb	00 25 00.8
	comp=Z,829nm,1.1s						
Z41A	Richland Creek	17.20	6			Pn	00 24 51.6 -1.0
Z41A	Richland Creek	17.20	6	P		Pn	00 24 52.9 +0.3
	baz=187,SNR=54						
Z41A				P		Pn	00 24 52.9 +0.3
	baz=187,SNR=54						
PECS	Pecos	17.23	334	P		Pn	00 24 53.3 +0.2
PECS				IAmb		IAmb	00 24 57.3
	comp=Z,201nm,1.0s						
425A	Indio Mountain	17.25	330			P	00 24 53.9 -0.3
Z35A	Perchaven, San	17.28	354			Pn	00 24 52.6 -1.0
Z35A				IAmb		IAmb	00 25 00.3
	comp=Z,528nm,1.0s						
Z35A	Perchaven, San	17.28	354	P		Pn	00 24 53.6 -0.1
	baz=172,SNR=82						
PAYG	Puerto Ayora	17.30	164			P	00 24 55.3 +0.6
DWPF	Disney Wildern	17.31	44			Pn	00 24 51.0 -3.1
DWPF				IAmb		IAmb	00 24 52.9
	comp=Z,445nm,0.8s						
DWPF	Disney Wildern	17.31	44	P		Pn	00 24 51.0 -3.1
	baz=229						
DWPF	Disney Wildern	17.31	44	P		Pn	00 24 51.6 -2.5
	baz=229,SNR=14						
146A	Union	17.32	17			Pn	00 24 52.7 -1.4
146A				IAmb		IAmb	00 25 02.9
	comp=Z,423nm,1.1s						
146A	Union	17.32	17	P		Pn	00 24 54.4 +0.3
	baz=199,SNR=32						
ODSA	Odessa	17.37	338			Pn	00 24 55.0 +0.1
ODSA				IAmb		IAmb	00 24 59.3
	comp=Z,494nm,0.8s						
060A	Indiantown	17.40	49			Pn	00 24 52.7 -2.4
060A				IAmb		IAmb	00 25 00.5
	comp=Z,747nm,0.9s						
060A	Indiantown	17.40	49	P		Pn	00 24 53.8 -1.3
	baz=234						
656A	Willston	17.48	39			Pn	00 24 53.8 -2.3
656A				IAmb		IAmb	00 25 01.0
	comp=Z,300nm,1.1s						
656A	Willston	17.48	39	P		Pn	00 24 54.8 -1.3
	baz=223,SNR=15						
STH	Stony Hill	17.48	81	i P		Pn	00 24 55.2 -1.1
SN01	Snyder 1	17.53	343			Pn	00 24 56.3 -0.4
SN01				IAmb		IAmb	00 25 00.7
	comp=Z,531nm,0.7s						
HOJ	Hope	17.54	81	i P		Pn	00 24 51.5 -5.4
WLAR	White Oak Lake	17.59	5	P		Pn	00 24 56.7 -0.8
WLAR				IAmb		IAmb	00 25 07.2
	comp=Z,296nm,1.0s						
250A	Grady	17.68	25	P		Pn	00 24 56.7 -1.9
250A	Grady	17.68	25	P		Pn	00 24 58.4 -0.2
	baz=208,SNR=23						
APMT	Aspermont	17.77	346	P		Pn	00 24 59.5 -0.2
APMT				IAmb		IAmb	00 25 01.7
	comp=Z,441nm,0.8s						
352A	Blakely	17.84	29	P		Pn	00 24 59.1 -1.4
352A	Blakely	17.84	29	P		Pn	00 24 59.8 -0.7
	baz=213,SNR=89						
WTFS	Witchita Falls	17.87	351			Pn	00 25 00.2 -0.6
WTFS				IAmb		IAmb	00 25 09.3
	comp=Z,866nm,1.1s						
POST	Post	17.89	342	P		P	00 25 00.7 -0.5
POST				IAmb		IAmb	00 25 05.8
	comp=Z,269nm,0.7s						
LOOK	Love County	17.93	354			P	00 25 01.6 0.0
LOOK				IAmb		IAmb	00 25 09.8
	comp=Z,981nm,1.1s						
CCAR	Cane Creek	17.98	9	P		P	00 25 01.3 -0.7
CCAR				IAmb		IAmb	00 25 10.7
	comp=Z,614nm,1.6s						
CCAR	Cane Creek	17.98	9	P		P	00 25 02.0 0.0
	baz=190,SNR=11						
CLNB	Carlsbad	18.01	335	P		Pn	00 25 03.3 +0.6
HTMS	Hat Mesa	18.09	336			Pn	00 25 04.6 +0.9
CLN7	Carlsbad 7	18.11	335	P		Pn	00 25 03.9 -0.1
Z47A	Carrollton	18.14	19	P		P	00 25 03.1 -0.7
Z47A	Carrollton	18.14	19	P		Pn	00 25 04.0 -0.1
	baz=201						
GDL2	Guadalupe Moun	18.16	334	P		Pn	00 25 05.6 +1.1
MNTX	Cornudas Mount	18.19	330	P		P	00 25 04.5 0.0
MNTX	Cornudas Mount	18.19	330	P		Pn	00 25 05.5 +0.7
	baz=146,SNR=253						
MNTX	Cornudas Mount	18.19	330	P		Pn	00 25 05.4 +0.5
	baz=146,SNR=253						
MNTX				S		S	00 28 32.2 +2.5
	baz=146						
DKNS	Dickens	18.30	344	P		P	00 25 05.6 -0.1
DKNS				IAmb		IAmb	00 25 09.2
	comp=Z,379nm,0.9s						
LRAL	Lakeview Retre	18.34	22			P	00 25 04.7 -1.4
LRAL	Lakeview Retre	18.34	22	P		P	00 25 05.8 -0.3
	baz=205,SNR=24						
LRAL	Lakeview Retre	18.34	22	P		P	00 25 05.6 -0.5
	baz=205,SNR=24						
Y45A	Yeager Farm, C	18.36	14			P	00 25 05.8 -0.4
Y45A				IAmb		IAmb	00 25 11.1
	comp=Z,344nm,1.1s						
Y45A	Yeager Farm, C	18.36	14	P		Pn	00 25 06.7 -0.1
	baz=196						
MIAR	Mount Ida	18.41	4			P	00 25 06.2 -0.7
MIAR	Mount Ida	18.41	4	P		P	00 25 06.2 -0.7
MIAR				pmax		pmax	
	comp=Z,161nm,0.8s						
MIAR	Mount Ida	18.41	4	P		P	00 25 07.0 +0.1
	baz=184,SNR=59						
MIAR	Mount Ida	18.41	4	P		Pn	00 25 07.4 -0.1
	baz=184,SNR=59						
X40A	Basin Creek Fa	18.41	6	P		P	00 25 06.7 -0.2
X37A	Clayton	18.42	359			P	00 25 06.9 0.0
X37A				IAmb		IAmb	00 25 15.5
	comp=Z,438nm,0.7s						
X37A	Clayton	18.42	359	P		Pn	00 25 08.1 +0.6
	baz=178,SNR=36						
TIGA	Tifton	18.47	32	P		P	00 25 05.5 -2.0
TIGA				IAmb		IAmb	00 25 13.4
	comp=Z,590nm,1.1s						
TIGA	Tifton	18.47	32	P		Pn	00 25 08.1 -0.1
	baz=216,SNR=34						
TIGA	Tifton	18.47	32	P		P	00 25 07.4 -0.1
	baz=216,SNR=34						
CGIG		18.53	322	P		Pn	00 25 10.8 +1.7
CGIG		18.53	322	i P		Pn	00 25 10.8 +1.7
X34A	Smith Ranch, M	18.60	353			P	00 25 08.5 -0.5
UALR	University of	18.75	7	P		P	00 25 10.7 +0.2
456A	Hilliard	18.77	37	P		P	00 25 09.2 -1.6
456A				IAmb		IAmb	00 25 15.7
	comp=Z,314nm,1.1s						
WMOK	Wichita Mounta	18.87	350	P		P	00 25 11.1 -0.8
WMOK	Wichita Mounta	18.87	350	P		P	00 25 11.1 -0.8
WMOK				pmax		pmax	
	comp=Z,164nm,1.1s						
WMOK	Wichita Mounta	18.87	350	P		P	00 25 12.2 +0.2
	baz=168,SNR=141						
WMOK	Wichita Mounta	18.87	350	P		P	00 25 12.2 +0.2
	baz=168,SNR=141						
152A	Waverly Hall	18.94	28	P		P	00 25 10.8 -1.9
152A				IAmb		IAmb	00 25 19.3
	comp=Z,288nm,1.1s						
152A	Waverly Hall	18.94	28	P		P	00 25 11.3 -1.4
	baz=212,SNR=64						
OXF	Oxford	19.01	14	P		P	00 25 12.5 -0.9
OXF				IAmb		IAmb	00 25 24.3
	comp=Z,444nm,1.4s						
OXF	Oxford	19.01	14	P		P	00 25 12.5 -0.9
OXF				pmax		pmax	
	comp=Z,444nm,1.5s						
OXF	Oxford	19.01	14	P		P	00 25 12.8 -0.5
	baz=196,SNR=21						
OXF	Oxford	19.01	14	P		P	00 25 12.4 -0.9
	baz=196,SNR=21						
PTAC	Punta Ardita,	19.01	116	eP		P	00 25 10.6 -3.0
MSTX	Muleshoe	19.13	340	P		P	00 25 14.6 -0.2
MSTX				IAmb		IAmb	00 25 18.0
	comp=Z,393nm,0.8s						
MSTX	Muleshoe	19.13	340	P		P	00 25 15.3 +0.5
	baz=156,SNR=198						
MSTX	Muleshoe	19.13	340	P		Pn	00 25 15.8 -0.4
	baz=156,SNR=198						
WHAR	Wooly Hollow	19.26	7			P	00 25 16.1 -0.1
WHAR				IAmb		IAmb	00 25 24.7
	comp=Z,302nm,1.2s						
GTBY	Guantanamo Bay	19.27	76	P		P	00 25 13.8 -2.6
GTBY				IAmb		IAmb	00 25 18.9
	comp=Z,647nm,1.0s						
GTBY	Guantanamo Bay	19.27	76	i P		P	00 25 14.5 -1.9
GTBY	Guantanamo Bay	19.27	76	eP		P	00 25 14.1 -2.3
Y49A	Blount Mountai	19.30	22	P		P	00 25 13.9 -2.6
Y49A	Blount Mountai	19.30	22	P		P	00 25 15.7 -0.9
	baz=205,SNR=16						
Z51A	Franklin	19.30	26	P		P	00 25 15.0 -1.6
Z51A				IAmb		IAmb	00 25 23.1
	comp=Z,671nm,1.9s						
Z51A	Franklin	19.30	26	P		P	00 25 16.4 -0.2
	baz=209						
OKCSW	OKLAHOMA CITY	19.35	354			P	00 25 17.2 +0.1
255A	Hazlehurst	19.43	34	P		P	00 25 16.5 -1.5
255A				IAmb		IAmb	00 25 21.7
	comp=Z,537nm,1.1s						
255A	Hazlehurst	19.43	34	P		P	00 25 16.2 -1.8
	baz=218,SNR=9.8						
NZIG	Nacozari, Sono	19.49	319			Pn	00 25 21.2 +0.6
NZIG	Nacozari, Sono	19.49	319	i P		Pn	00 25 21.2 +0.6
LCBC	Los crdobas,	19.54	109	eP		Pn	00 25 21.3 +0.2
HSIG		19.54	314	i P		Pn	00 25 21.2 +0.3
X48A	Hartselle	19.62	20	P		P	00 25 18.5 -1.6
X48A				IAmb		IAmb	00 25 27.9
	comp=Z,238nm,1.1s						
X48A	Hartselle	19.62	20	P		P	00 25 18.7 -1.4
	baz=203,SNR=25						
AMTX	Amarillo	19.65	343	P		P	00 25 20.6 +0.1
AMTX				IAmb		IAmb	00 25 25.1
	comp=Z,700nm,1.1s						
AMTX	Amarillo	19.65	343	P		P	00 25 20.7 +0.1
	baz=160						
AMTX	Amarillo	19.65	343	P		P	00 25 21.1 +0.6
	baz=160,SNR=227						
154A	Montrose	19.65	31	P		P	00 25 18.4 -2.1
154A				IAmb		IAmb	00 25 31.9
	comp=Z,418nm,0.9s						
154A	Montrose	19.65	31	P		P	00 25 18.5 -1.9
	baz=216,SNR=23						
DEOK	Depew	19.71	356			P	00 25 20.1 -1.0
OK029	Liberty Lake	19.74	354			P	00 25 21.8 +0.4
OK029				IAmb		IAmb	00 25 28.0
	comp=Z,340nm,0.9s						
TUL3	Leonard	19.74	358	P		P	00 25 20.9 -0.5
TUL3	Leonard	19.74	358	P		P	00 25 22.3 +0.8
	baz=177,SNR=46						
TUL3	Leonard	19.74	358	P		P	00 25 21.1 -0.3
	baz=177,SNR=46						
CSTR	Hydro, Custer	19.75	351			P	00 25 22.1 +0.6
HBAR	Harrisburg	19.76	10	P		P	00 25 20.7 -0.9
HBAR				IAmb		IAmb	00 25 34.6
	comp=Z,496nm,1.5s						
PLAL	Pickwick Lake	19.80	17	P		P	00 25 20.5 -1.5
OK031	S. Brethren Rd	19.84	356			P	00 25 22.2 -0.3
FCAR	Ozark Folk Cen	19.87	7	P		P	00 25 22.2 -0.6
FCAR				IAmb		IAmb	00 25 36.9
	comp=Z,198nm,1.1s						
OK052	Battle Ridge R	19.88	356			P	00 25 22.6 -0.3
OK033	Mehan	19.94	355			P	00 25 23.3 -0.2
OK033				IAmb		IAmb	00 25 25.1
	comp=Z,394nm,0.7s						
RLO	Rose Lookout	19.98	360			P	00 25 23.8 -0.3
RLO				IAmb		IAmb	00 25 40.0
	comp=Z,84nm,0.6s						
319A	Douglas	20.03	322	P		Pn	00 25 26.4 -0.5
319A				IAmb		IAmb	00 25 38.5
	comp=Z,420nm,1.3s						
QUOK	Quay	20.05	356			P	00 25 24.2 -0.6
121A	Cookes Peak, D	20.06	327	P		Pn	00 25 26.8 -0.5
121A	Cookes Peak, D	20.06	327	P		Pn	00 25 27.8 +0.4
	baz=141,SNR=451						
121A	Cookes Peak, D	20.06	327	P		Pn	00 25 27.9 +0.6
	baz=141,SNR=451						
121A				S		Sn	00 29 10.6 -1.9
	baz=141						
HHAR	Hobbs	20.12	2	P		P	00 25 24.5 -1.1
HHAR				IAmb		IAmb	00 25 30.4
	comp=Z,107nm,0.5s						
GOGA	Godfrey	20.13	29	P		P	00 25 23.7 -1.9
GOGA	Godfrey	20.13	29	P		P	00 25 23.7 -1.9
GOGA				pmax		pmax	
	comp=Z,137nm,0.9s						
GOGA	Godfrey	20.13	29	P		P	00 25 23.9 -1.7
	baz=214,SNR=51						
GOGA	Godfrey	20.13	29	P		P	00 25 23.5 -2.1
	baz=214,SNR=51						
LCAR	Lake Charles	20.18	9	P		P	00 25 25.6 -0.5
LCAR	Lake Charles	20.18	9	P		P	00 25 25.7 -0.4
	baz=190,SNR=75						
FPAL	Fort Paine	20.20	23	P		P	00 25 24.6 -1.8
Y52A	Lilburn	20.24	27	P		P	00 25 25.0 -1.8
Y52A				IAmb		IAmb	00 25 33.8
	comp=Z,228nm,0.9s						
Y52A	Lilburn	20.24	27	P		P	00 25 25.2 -1.6
	baz=211,SNR=48						
Y52A				P		P	00 25 25.2 -1.6
	baz=211,SNR=48						
SJCC	San Jacinto, C	20.25	105	eP		P	00 25 23.3 -3.8
U40A	Yellville	20.26	5	P		P	00 25 26.9 -0.2
	baz=185,SNR=94						
U40A				P		P	00 25 26.9 -0.2
	baz=185,SNR=94						
U40A				S		S	00 29 11.4 +0.2
	baz=185						
U40A				S		S	00 29 11.4 +0.2
	baz=185						
U38A	Gravette	20.27	1	P		P	00 25 26.2 -0.9
U38A				IAmb		IAmb	00 25 31.9
	comp=Z,167nm,0.8s						
U38A	Gravette	20.27	1	P		P	00 25 27.0 -0.1
	baz=181,SNR=99						
U38A				S		S	00 29 12.1 +0.8
	baz=181						
257A	Skidaway Islan	20.27	36			P	00 25 27.4 +0.3
257A				IAmb		IAmb	00 25 32.9
	comp=Z,686nm,1.2s						
GNAR	Gosnell	20.27	12	P		P	00 25 26.8 -0.3
GNAR				IAmb		IAmb	00 25 40.4
	comp=Z,427nm,1.3s						
ELIS	Ellis County	20.27	350	P		P	00 25 27.6 +0.3
OK048	Pawnee Station	20.31	355			P	00 25 27.2 -0.4
OK048				IAmb		IAmb	00 25 36.9
	comp=Z,570nm,1.1s						
HALT	Halls	20.36	13	P		P	00 25 27.7 -0.4
HALT				IAmb		IAmb	00 25 31.4
	comp=Z,179nm,0.8s						
OK051	E0350 and S346	20.39	356	P		P	00 25 28.0 -0.4
PEBM	Pemiscott Bayo	20.45	12	P		P	00 25 28.0 -1.0
PEBM				IAmb		IAmb	00 25 39.2
	comp=Z,263nm,0.6s						
DBBC	Dabeiba	20.47	114	eP		P	00 25 28.7 -0.8
CROK	Carrier	20.50	353			P	00 25 29.0 -0.6
LNXT	Lenox	20.51	13	P		P	00 25 29.2 -0.5
U32A	Winter Ranch,	20.51	351			P	00 25 30.5 +0.7
U32A	Winter Ranch,	20.51	351	P		P	00 25 30.7 +0.9
	baz=168,SNR=63						
U32A				S		Sn	00 29 25.0 +2.0
	baz=168						
X51A	Calhoun	20.51	24	P		P	00 25 27.6 -2.2
X51A	Calhoun	20.51	24	P		P	00 25 28.0 -1.7
	baz=208,SNR=8.5						
X51A				P		P	00 25 28.0 -1.7
	baz=208,SNR=8.5						
BLOK	Blackwell	20.68	355			P	00 25 30.7 -0.8
SWET	Sewanee	20.69	21	P		P	00 25 29.7 -2.0
SWET				IAmb		IAmb	00 25 38.1
	comp=Z,444nm,1.9s						
GLAT	Glass	20.72	13	P		P	00 25 31.0 -0.9
GLAT				IAmb		IAmb	00 25 41.8
	comp=Z,655nm,1.3s						
NOKA	Waynoka	20.75	351	P		P	00 25 32.0 -0.4
SMRC	Santa Marta, M	20.75	101	eP		P	00 25 25.8 -6.8
PVMO	Portageville	20.77	12	P		P	00 25 31.5 -1.0
T35A	Sooner Cattle	20.78	357	P		P	00 25 32.0 -0.6
T35A				IAmb		IAmb	00 25 51.2
	comp=Z,489nm,1.1s						
T35B	Sooner Cattle	20.78	357	P		P	00 25 32.4 -0.2
	baz=175,SNR=148						
T35B				S		S	00 29 17.1 -4.3
	baz=175						
Y22A	Socorro	20.79	331	P		Pn	00 25 35.3 -0.5
	baz=145						
DUN6	Lazy B Ranch	20.79	325	P		Pn	00 25 34.7 -1.1
OK035	E0210 Rd and N	20.79	352	P		P	00 25 32.4 -0.4
OK032	Salt Plains WL	20.82	353			P	00 25 32.4 -0.7
GC02	Grant County #	20.83	353			P	00 25 32.4 -0.7
V48A	Smith Brothers	20.87	19	P		P	00 25 31.1 -2.5
V48A	Smith Brothers	20.87	19	P		P	00 25 31.9 -1.7
	baz=202,SNR=25						
Y22D	IRIS PASSCAL I	20.88	331	P		P	00 25 35.4 +1.5
Y22D	IRIS PASSCAL I	20.88	331	P		Pn	00 25 36.5 -0.4
	baz=146,SNR=27						
Y22D	IRIS PASSCAL I	20.88	331	P		Pn	00 25 36.4 -0.6
	baz=146,SNR=27						
Y22F	Passcal Instru	20.88	331	P		Pn	00 25 36.5 -0.4
	baz=146,SNR=28						
UTMT	University of	20.88	14	P		P	00 25 31.9 -1.8
UTMT				IAmb		IAmb	00 25 48.3
	comp=Z,263nm,1.2s						
W50A	Signal Mountai	20.90	23	P		P	00 25 31.6 -2.3
W50A				IAmb		IAmb	00 25 42.6
	comp=Z,182nm,1.0s						
W50A	Signal Mountai	20.90	23	P		P	00 25 32.1 -1.9
	baz=206,SNR=26						
WVT	Waverly	20.94	16	P		P	00 25 32.4 -2.0
WVT	Waverly	20.94	16	P		P	00 25 32.4 -2.0
WVT				pmax		pmax	
	comp=Z,128nm,1.2s						
WVT	Waverly	20.94	16	P		P	00 25 35.7 +1.3
	baz=199						
WVT	Waverly	20.94	16	P		P	00 25 32.3 -2.0
	baz=199,SNR=28						
KAN14	Manchester OK	20.94	353			P	00 25 33.4 -1.0
KAN14				IAmb		IAmb	00 25 38.0
	comp=Z,136nm,0.7s						
KAN13	South Haven SW	20.95	354			P	00 25 33.5 -0.9
PBMO	Poplar Bluff	20.99	10	P		P	00 25 33.9 -1.0
PBMO	Poplar Bluff	20.99	10	P		P	00 25 33.9 -1.0
	baz=192,SNR=31						
HICK	Hickman	20.99	13	P		P	00 25 33.4 -1.5
HICK				IAmb		IAmb	00 25 51.3
	comp=Z,340nm,1.2s						
PARMO	Parma	21.00	12	P		P	00 25 33.1 -1.9
PARMO				IAmb		IAmb	00 25 54.0
	comp=Z,152nm,0.9s						
HAW	Hawthorne Fire	21.01	33	P		P	00 25 32.4 -2.7
	baz=218,SNR=6.8						
HAW				S		S	00 29 25.6 -0.3
	baz=218						
KAN17	Caldwell West	21.01	354			P	00 25 34.8 -0.3
KAN17				IAmb		IAmb	00 25 39.2
	comp=Z,328nm,0.6s						
GR1C	Gorgona, Isla	21.05	126	eP		P	00 25 35.9 +0.2
KAN05	Bluff City Nor	21.08	354	P		P	00 25 35.6 -0.3
KAN09	Caldwell North	21.08	354			P	00 25 35.3 -0.6
MALC	Bahia Malaga	21.09	123	eP		P	00 25 40.3 +4.1
MGMO	Mountain Grove	21.11	6	P		P	00 25 35.2 -1.0
MGMO				IAmb		IAmb	00 25 50.6
	comp=Z,426nm,1.5s						
KAN01	Argonia South	21.11	354			P	00 25 35.9 -0.3
ARGC	Ariguani, Magd	21.12	105	eP		P	00 25 37.6 +1.1
T42A	Van Buren	21.13	9	P		P	00 25 35.2 -1.2
T42A				IAmb		IAmb	00 25 49.7
	comp=Z,258nm,1.3s						
T42A	Van Buren	21.13	9	P		P	00 25 35.5 -0.8
	baz=190,SNR=56						
T42A				S		S	00 29 26.2 -2.2
	baz=190						
KS20	Mayfield South	21.17	354	P		P	00 25 36.2 -0.6
KAN08	Anthony NE Sta	21.21	353			P	00 25 36.3 -1.0
KAN06	Argonia West S	21.22	354	P		P	00 25 37.2 -0.2
KAN06				IAmb		IAmb	00 25 41.4
	comp=Z,555nm,1.0s						
KS21	Milan North St	21.24	354			P	00 25 37.1 -0.5
KAN12	Harper NE Stat	21.28	353			P	00 25 37

baz=196,SNR=11
T45A Paducah 21.58 14 P **P 00 25 39.9 -1.3**
T45A IAmb IAmb 00 25 48.2
comp=Z,280nm,0.7s
NHSC New Hope 21.59 36 P **P 00 25 39.5 -1.7**
NHSC New Hope 21.59 36 P **P 00 25 41.8 +0.5**
baz=222,SNR=5.2
NHSC New Hope 21.59 36 P **P 00 25 44.4 +3.2**
baz=222,SNR=5.2
TUC Tucson 21.59 321 P **P 00 25 42.7 +1.2**
TUC IAmb IAmb 00 25 47.0
comp=Z,377nm,1.1s
TUC Tucson 21.59 321 P **P 00 25 42.7 +1.2**
TUC pmax pmax
comp=Z,377nm,1.1s
CGM3 Cape Girardeau 21.64 12 P **P 00 25 40.1 -1.7**
BG3 Lake Jocassee 21.69 28 P **P 00 25 40.2 -2.2**
BG3 IAmb IAmb 00 26 01.8
comp=Z,126nm,0.7s
CASEE Lake Jocassee 21.69 28 P **P 00 25 40.4 -2.0**
baz=213,SNR=16
CASEE S **S 00 29 38.5 -1.0**
baz=213
V51A Loudon 21.80 24 P **P 00 25 41.0 -2.6**
V51A Loudon 21.80 24 P **P 00 25 41.3 -2.2**
baz=208,SNR=14
V51A S **S 00 29 42.2 +0.7**
baz=208
TKL Tuckaleechee C 21.90 25 P **P 00 25 42.2 -2.5**
TKL IAmb IAmb 00 26 03.8
comp=Z,189nm,1.0s
TKL Tuckaleechee C 21.90 25 P **P 00 25 42.2 -2.5**
TKL pmax pmax
comp=Z,189nm,1.0s
TKL Tuckaleechee C 21.90 25 P **P 00 25 42.5 -2.2**
baz=210,SNR=12
TKL S **S 00 29 41.1 -2.4**
baz=210
TKL Tuckaleechee C 21.90 25 P **P 00 25 42.7 -2.0**
comp=Z,24nm,0.7s,baz=188,slow=7.2,SNR=23
TKL LR LR 00 36 02.8
comp=Z,822nm,20.5s,baz=224,slow=42
comp=Z,24nm,0.7s
JSC Jenkinsville 21.91 32 P **P 00 25 42.0 -2.7**
JSC Jenkinsville 21.91 32 P **P 00 25 42.1 -2.7**
JSC pmax pmax
comp=Z,95nm,0.9s
JSC Jenkinsville 21.91 32 P **P 00 25 42.6 -2.2**
baz=217,SNR=9.6
U49A Red Boiling Sp 21.92 20 P **P 00 25 42.3 -2.5**
U49A IAmb IAmb 00 25 53.9
comp=Z,283nm,1.4s
U49A Red Boiling Sp 21.92 20 P **P 00 25 42.5 -2.3**
baz=204,SNR=37
U49A S **S 00 29 40.5 -3.2**
baz=204
YOTC Yotoco, Valle 21.92 121 *eP* **P 00 25 44.0 -1.1**
T47A Sharon Grove 21.95 17 P **P 00 25 43.5 -1.7**
T47A Sharon Grove 21.95 17 P **P 00 25 43.5 -1.7**
baz=200,SNR=45
CRJC Cerrejon, Guaj 22.06 100 *eP* **P 00 25 42.0 -4.6**
NIZA Niza - Manizal 22.07 118 *eP* **P 00 25 51.4 +4.5**
GUY2C Guyana, Caldas 22.07 117 *eP* **P 00 25 46.5 -0.7**
JAMC Jamundi, Valle 22.09 124 *eP* **P 00 25 46.8 -0.4**
S44A Carbondale 22.10 12 P **P 00 25 45.2 -1.6**
S44A Carbondale 22.10 12 P **P 00 25 45.8 -1.0**
baz=194,SNR=14
S44A S **S 00 29 45.7 -1.3**
baz=194
CCM Cathedral Cave 22.12 8 P **P 00 25 45.4 -1.6**
CCM IAmb IAmb 00 25 58.5
comp=Z,317nm,1.4s
CCM Cathedral Cave 22.12 8 P **P 00 25 45.4 -1.6**
CCM pmax pmax
comp=Z,317nm,1.5s
CCM Cathedral Cave 22.12 8 P **P 00 25 45.8 -1.2**
baz=189
CCM Cathedral Cave 22.12 8 P **P 00 25 45.6 -1.4**
baz=189,SNR=47
CCM S **S 00 29 45.0 -2.5**
baz=189
SIUC Southern Illin 22.12 12 P **P 00 25 45.5 -1.6**
V52A Sevierville 22.13 25 P **P 00 25 44.9 -2.2**
V52A Sevierville 22.13 25 P **P 00 25 44.9 -2.2**
baz=210,SNR=15
V52A S **S 00 29 46.1 -1.6**
baz=210
Y57A Sumter 22.16 34 P **P 00 25 45.1 -2.3**
Y57A Sumter 22.16 34 P **P 00 25 47.3 -0.1**
baz=220
Y57A P **P 00 25 47.3 -0.1**
baz=220
FVM French Village 22.17 10 P **P 00 25 46.5 -1.0**
FVM IAmb IAmb 00 26 00.6
comp=Z,301nm,1.7s
FVM French Village 22.17 10 P **P 00 25 46.5 -1.0**
FVM pmax pmax
comp=Z,301nm,1.7s
FVM French Village 22.17 10 P **P 00 25 46.5 -1.0**
baz=191,SNR=9.7
PTBC PUERTO BERRIO, 22.23 113 *eP* **P 00 25 46.2 -2.3**
R40A Maddies Statio 22.23 6 P **P 00 25 47.3 -1.0**
R40A Maddies Statio 22.23 6 P **P 00 25 47.1 -1.1**
baz=186,SNR=10
V53A Saluda 22.31 27 P **P 00 25 47.0 -2.2**
V53A IAmb IAmb 00 26 10.7
comp=Z,127nm,0.8s
V53A Saluda 22.31 27 P **P 00 25 47.2 -1.9**
baz=212,SNR=8.1
V53A P **P 00 25 47.2 -1.9**
baz=212,SNR=8.1
V53A S **S 00 29 49.2 -1.9**
baz=212
V53A S **S 00 29 49.2 -1.9**
baz=212
NORC Norcasia 22.33 116 *eP* **P 00 25 48.9 -0.6**
BBAC Balboa, Cauca 22.38 127 *eP* **P 00 25 51.1 +0.9**
PAC1 Pacto, Paraso 22.42 133 *eP* **P 00 25 50.0 -0.6**
ANIL Santa Ana 22.42 119 *eP* **P 00 25 52.1 +1.3**
Y58A Scranton 22.46 35 P **P 00 25 48.3 -2.4**
Y58A IAmb IAmb 00 26 07.0
comp=Z,184nm,1.0s
Y58A Scranton 22.46 35 P **P 00 25 50.0 -0.8**
baz=221
Y58A P **P 00 25 50.0 -0.8**
baz=221
R32A Long Quarter, 22.48 352 P **P 00 25 50.3 -0.6**
R32A IAmb IAmb 00 25 54.2
comp=Z,295nm,0.7s
R32A Long Quarter, 22.48 352 P **P 00 25 50.5 -0.4**
baz=170,SNR=75
R32A S **S 00 29 52.0 -1.8**
baz=170
POPC Popayan, Colom 22.50 125 *eP* **P 00 25 51.7 +0.1**
KMSC Kings Mountain 22.56 30 P **P 00 25 49.1 -2.6**
KMSC IAmb IAmb 00 26 09.0
comp=Z,184nm,1.0s
KMSC Kings Mountain 22.56 30 P **P 00 25 51.1 -0.7**
baz=216,SNR=5.7
KMSC Kings Mountain 22.56 30 P **P 00 25 50.5 -1.3**
baz=216,SNR=5.7
T25A Trinidad 22.56 340 P **P 00 25 53.1 +1.1**
T25A Trinidad 22.56 340 P **P 00 25 54.0 +2.0**
baz=155,SNR=302
BIRD Birdtown, Kers 22.60 33 P **P 00 25 50.1 -2.1**
BIRD Birdtown, Kers 22.60 33 P **P 00 25 50.7 -1.5**
baz=219
214A Organ Pipe Nat 22.63 317 P **P 00 25 53.0 +0.5**
214A IAmb IAmb 00 25 56.3
comp=Z,220nm,0.9s
214A Organ Pipe Nat 22.63 317 P **P 00 25 54.4 +1.8**
baz=130,SNR=126
BRRC Barranca, Sant 22.65 111 *eP* **P 00 25 51.7 -1.2**
CMBC Cumbal 22.65 130 *eP* **P 00 25 55.8 +2.4**
CUSE Cuicocha Este 22.67 132 *eP* **P 00 25 56.8 +3.2**
OTAV Otavalo 22.68 132 P **P 00 25 54.4 +0.7**
OTAV Otavalo 22.68 132 P **P 00 25 54.4 +0.7**
OTAV pmax pmax
comp=Z,91nm,1.1s
OTAV Otavalo 22.68 132 *eP* **P 00 25 53.8 +0.1**
T50A Nancy 22.70 21 P **P 00 25 50.5 -2.7**
T50A Nancy 22.70 21 P **P 00 25 50.1 -3.1**
baz=206
T50A P **P 00 25 50.1 -3.1**
baz=206
T50A S **S 00 29 54.3 -3.2**
baz=206
T50A S **S 00 29 54.3 -3.2**
baz=206
USIN University of 22.72 15 P **P 00 25 51.1 -2.3**
USIN IAmb IAmb 00 26 02.6
comp=Z,583nm,1.9s
URIC Uribia, Colomb 22.73 98 *eP* **P 00 25 50.8 -3.0**
X18A Snowflake 22.75 327 P **P 00 25 55.4 +1.4**
X18A IAmb IAmb 00 25 58.2
comp=Z,349nm,1.0s
TZTN Tazewell 22.76 24 P **P 00 25 50.9 -2.9**
TZTN Tazewell 22.76 24 P **P 00 25 51.3 -2.5**
baz=209,SNR=16
TZTN Tazewell 22.76 24 P **P 00 25 51.1 -2.7**
baz=209,SNR=16
TZTN S **S 00 29 56.2 -2.4**
baz=209
SDDR Presa de Saban 22.77 79 P **P 00 25 50.9 -3.3**
SDDR Presa de Saban 22.77 79 *eP* **P 00 25 48.8 -5.4**
PULU Pululahua 22.80 133 P **P 00 25 56.5 +1.7**
PIX Pinacate 22.81 316 P **P 00 25 55.1 +0.8**
PIX IAmb IAmb 00 25 57.6
comp=Z,230nm,1.2s
GCUF Volcan Galeras 22.82 129 *eP* **P 00 25 55.9 +0.7**
TULM Tulcn-Chalpat 22.83 130 P **P 00 25 57.2 +1.9**
TULM IAmb IAmb 00 26 06.8
comp=Z,202nm,1.0s
TULM Tulcn-Chalpat 22.83 130 *eP* **P 00 25 53.8 -1.5**
IMBA Imbabura, San 22.83 132 P **P 00 25 56.9 +1.6**
SLM Saint Louis 22.84 10 P **P 00 25 53.2 -1.4**
SLM Saint Louis 22.84 10 P **P 00 25 53.2 -1.4**
SLM pmax pmax
comp=Z,108nm,0.9s
SLM Saint Louis 22.84 10 P **P 00 25 54.2 -0.4**
baz=191
SLM S **S 00 29 58.4 -1.4**
baz=191
ORTC Ortega, Tolima 22.87 120 *eP* **P 00 25 55.4 +0.1**
CRUC La Cruz 22.89 127 *eP* **P 00 25 57.7 +1.9**
KSU1 Kansas State U 22.96 357 P **P 00 25 54.2 -1.6**
KSU1 IAmb IAmb 00 25 58.1
comp=Z,182nm,0.8s
KSU1 Kansas State U 22.96 357 P **P 00 25 54.6 -1.3**
baz=176,SNR=49
KSU1 Kansas State U 22.96 357 P **P 00 25 54.6 -1.3**
baz=176,SNR=49
KSU1 S **S 00 30 00.9 -0.9**
baz=176
CBKS Cedar Bluff 23.01 350 P **P 00 25 55.7 -0.7**
CBKS Cedar Bluff 23.01 350 P **P 00 25 55.7 -0.7**
CBKS pmax pmax
comp=Z,435nm,0.9s
CBKS Cedar Bluff 23.01 350 P **P 00 25 56.3 -0.1**
baz=168,SNR=33
CBKS Cedar Bluff 23.01 350 P **P 00 25 56.6 +0.2**
baz=168,SNR=33
CBKS S **S 00 30 04.6 +1.9**
baz=168
W18A Petrified Fore 23.09 328 P **P 00 25 59.3 +1.9**
W18A IAmb IAmb 00 26 03.3
comp=Z,129nm,0.9s
W18A Petrified Fore 23.09 328 P **P 00 25 58.9 +1.5**
baz=141,SNR=9.0
X58A Rowland 23.13 35 P **P 00 25 55.8 -1.8**
X58A IAmb IAmb 00 26 18.2
comp=Z,167nm,1.1s
ROSC El Rosal 23.16 117 P **P 00 25 59.0 +0.5**
ROSC El Rosal 23.16 117 P **P 00 25 59.0 +0.5**
ROSC pmax pmax
comp=Z,904nm,1.3s
ROSC El Rosal 23.16 117 *eP* **P 00 25 58.7 +0.2**
ROSC El Rosal 23.16 117 P **P 00 25 58.5 -0.1**
comp=Z,399nm,1.0s,baz=330,slow=2.2,SNR=147
comp=Z,399nm,1.0s
BONI La Bonita 23.20 130 *eP* **P 00 26 01.1 +2.4**
W57A Gilead 23.24 32 P **P 00 25 55.7 -2.9**
baz=219
W57A P **P 00 25 55.7 -2.9**
baz=219
PRAC Prado 23.27 120 *eP* **P 00 25 58.9 -0.4**
Q44A Meyer Farm, Va 23.31 12 P **P 00 25 57.9 -1.4**
Q44A IAmb IAmb 00 26 12.6
comp=Z,193nm,0.8s
Q44A Meyer Farm, Va 23.31 12 P **P 00 25 57.8 -1.4**
baz=194,SNR=23
Q44A S **S 00 30 07.4 -0.2**
baz=194
SLOR San Lorenzo - 23.33 134 P **P 00 26 01.0 +0.8**
SLOR IAmb IAmb 00 26 20.0
comp=Z,166nm,1.1s
WCI Wyandotte Cave 23.34 17 P **P 00 25 57.4 -2.2**
WCI IAmb IAmb 00 26 22.5
comp=Z,135nm,0.8s
WCI Wyandotte Cave 23.34 17 P **P 00 25 57.4 -2.2**
WCI pmax pmax
comp=Z,135nm,0.9s
WCI Wyandotte Cave 23.34 17 P **P 00 25 57.3 -2.2**
baz=201
WCI Wyandotte Cave 23.34 17 P **P 00 25 57.2 -2.4**
baz=201,SNR=52
WCI S **S 00 30 06.1 -1.9**
baz=201
BARC Barichara 23.34 111 *eP* **P 00 25 59.6 -0.5**
OLIL Olney 23.34 14 IAmb IAmb 00 26 18.6
comp=Z,197nm,1.0s
OLIL Olney 23.34 14 P **P 00 25 57.7 -1.9**
baz=196,SNR=17
OLIL S **S 00 30 09.5 +1.5**
baz=196
BETC Betania 23.40 123 *eP* **P 00 26 01.4 +0.9**
SFX San Felipe 23.45 313 P **P 00 26 01.7 +1.0**
U54A Nelsons Funny 23.46 27 IAmb IAmb 00 26 19.7
comp=Z,201nm,0.8s
U54A Nelsons Funny 23.46 27 P **P 00 25 58.5 -2.4**
baz=213,SNR=16
U54A P **P 00 25 58.5 -2.4**
baz=213,SNR=16
U54A S **S 00 30 11.3 +1.1**
baz=213
U54A S **S 00 30 11.3 +1.1**
baz=213
PAMC Pamplona, Colo 23.47 109 *eP* **P 00 25 58.6 -2.9**
P38A Dawn 23.47 3 P **P 00 25 59.1 -1.7**
P38A IAmb IAmb 00 26 24.8
comp=Z,133nm,0.8s
P38A Dawn 23.47 3 P **P 00 25 59.4 -1.4**
baz=183,SNR=44
P38A S **S 00 30 08.0 -2.1**
baz=183
SDCO Great Sand Dun 23.48 339 P **P 00 26 02.3 +1.0**
SDCO IAmb IAmb 00 26 04.2
comp=Z,297nm,0.8s
SDCO Great Sand Dun 23.48 339 P **P 00 26 02.5 +1.3**
baz=153,SNR=373
SDCO Great Sand Dun 23.48 339 P **P 00 26 02.8 +1.5**
baz=153,SNR=373
P40A Paris 23.48 6 IAmb IAmb 00 26 15.0
comp=Z,233nm,1.0s
P40A Paris 23.48 6 P **P 00 25 59.4 -1.5**
baz=187,SNR=46
P40A S **S 00 30 08.1 -2.3**
baz=187
X16A Lo Mia Camp, P 23.48 324 P **P 00 26 02.6 +1.4**
X16A IAmb IAmb 00 26 05.4
comp=Z,257nm,1.0s
CHSH Refugio Sur-Vo 23.64 136 P **P 00 26 05.2 +1.9**
CHSH IAmb IAmb 00 26 23.2
comp=Z,782nm,1.8s
KS25 Jewell 23.65 354 P **P 00 26 01.3 -1.1**
GARC Garzon, Huila 23.65 124 *eP* **P 00 26 01.6 -1.4**
PIAT Ana Tenorio 23.69 134 *eP* **P 00 26 04.1 +0.6**
S51A Beattyville 23.70 23 IAmb IAmb 00 26 23.7
comp=Z,180nm,1.4s
S51A Beattyville 23.70 23 P **P 00 26 00.5 -2.4**
baz=208,SNR=15
S51A P **P 00 26 00.5 -2.4**
baz=208,SNR=15
R49A Shelbyville 23.73 19 P **P 00 26 00.7 -2.5**
baz=204,SNR=18
R49A P **P 00 26 00.7 -2.5**
baz=204,SNR=18
RUSC La Rusia 23.74 113 *eP* **P 00 26 00.5 -3.6**
KS22 Mankato Kansas 23.76 354 P **P 00 26 03.4 -0.2**
113A Mohawk Valley, 23.77 318 P **P 00 26 04.5 +0.9**
KS24 Mankato 23.77 354 P **P 00 26 03.8 +0.3**
CHIC Chingaza 23.77 116 *eP* **P 00 26 05.9 +1.6**
KSCO Kaye Shedlock' 23.79 345 P **P 00 26 04.2 +0.2**
KSCO IAmb IAmb 00 26 06.7
comp=Z,270nm,0.9s
KSCO Kaye Shedlock' 23.79 345 P **P 00 26 04.1 +0.2**
baz=161,SNR=16
KSCO Kaye Shedlock' 23.79 345 P **P 00 26 05.0 +1.1**
baz=161,SNR=16
KSCO S **S 00 30 20.8 +5.2**
baz=161
KS23 Northwest Mank 23.83 354 P **P 00 26 04.2 0.0**
FLOC Florencia 23.89 125 *eP* **P 00 26 06.4 +1.4**
P43A Skaggs, Pawnee 23.93 10 IAmb IAmb 00 26 18.7
comp=Z,684nm,1.9s
P43A Skaggs, Pawnee 23.93 10 P **P 00 26 04.3 -0.7**
baz=193,SNR=14
P43A S **S 00 30 19.5 +1.9**
baz=193
S22A 4UR Ranch, Cre 23.97 336 P **P 00 26 06.7 +0.9**
S22A 4UR Ranch, Cre 23.97 336 P **P 00 26 07.5 +1.8**
baz=150,SNR=87
U56A King 23.99 30 IAmb IAmb 00 26 19.1
comp=Z,123nm,1.0s
U56A King 23.99 30 P **P 00 26 03.5 -2.1**
baz=216,SNR=12
U56A P **P 00 26 03.5 -2.1**
baz=216,SNR=12
R50A Paris 24.00 21 P **P 00 26 03.5 -2.2**
baz=206,SNR=13
R50A P **P 00 26 03.5 -2.2**
baz=206,SNR=13
VILC Villavicencio, 24.07 117 *eP* **P 00 26 07.9 +1.2**
W59A Clinton 24.08 35 P **P 00 26 05.5 -0.9**
COHC Cochancay 24.12 139 P **P 00 26 07.2 +0.2**
COHC Cochancay 24.12 139 *eP* **P 00 26 06.6 -0.4**
BLO Bloomington 24.15 16 P **P 00 26 05.3 -1.7**
BLO IAmb IAmb 00 26 07.2
comp=Z,131nm,0.8s
BLO Bloomington 24.15 16 P **P 00 26 05.4 -1.7**
BLO pmax pmax
comp=Z,131nm,0.8s
V58A Windy Hill, Pi 24.19 33 P **P 00 26 05.1 -2.3**
baz=220
V58A P **P 00 26 05.1 -2.3**
baz=220
MVCO Mesa Verde 24.20 333 P **P 00 26 08.4 +0.6**
MVCO IAmb IAmb 00 26 11.4
comp=Z,360nm,1.2s
MVCO Mesa Verde 24.20 333 P **P 00 26 09.4 +1.6**
baz=146,SNR=123
WUAZ Wupatki 24.26 326 P **P 00 26 09.3 +1.0**
WUAZ Wupatki 24.26 326 P **P 00 26 09.7 +1.4**
baz=138,SNR=210
VTX Valle De La Tr 24.31 312 P **P 00 26 10.3 +1.6**
GUVIX Guadalupe Vict 24.35 315 P **P 00 26 10.4 +1.5**
GUVIX IAmb IAmb 00 26 12.3
comp=Z,208nm,0.8s
P46A Rosedale 24.40 15 IAmb IAmb 00 26 09.8
comp=Z,139nm,0.8s
P46A Rosedale 24.40 15 P **P 00 26 07.6 -1.6**
baz=198,SNR=36
P46A S **S 00 30 23.0 -2.1**
baz=198
CNNC Cliffs of the 24.44 36 P **P 00 26 07.9 -1.8**
baz=223
ARNL Arenillas 24.47 142 P **P 00 26 11.8 +1.6**
ARNL IAmb IAmb 00 26 28.2
comp=Z,420nm,1.7s
CPBX Cerro Prieto 24.57 315 P **P 00 26 11.4 +0.5**
CPBX IAmb IAmb 00 26 14.2
comp=Z,119nm,1.0s
O44A Mansfield 24.63 12 IAmb IAmb 00 26 40.1
comp=Z,269nm,1.3s
O44A Mansfield 24.63 12 P **P 00 26 10.6 -0.8**
baz=195,SNR=11
O44A S **S 00 30 27.6 -1.1**
baz=195
GLA Glamis 24.64 317 P **P 00 26 12.8 +1.2**
GLA IAmb IAmb 00 26 16.1
comp=Z,325nm,1.0s
GLA Glamis 24.64 317 P **P 00 26 12.8 +1.2**
GLA pmax pmax
comp=Z,325nm,1.0s
GLA Glamis 24.64 317 P **P 00 26 13.1 +1.5**
baz=128,SNR=96
N33B J Bar K, Exete 24.64 355 P **P 00 26 12.0 +0.4**
baz=174,SNR=14
N33A J Bar K, Exete 24.64 355 P **P 00 26 10.9 -0.6**
N38A Joes South For 24.65 3 P **P 00 26 11.6 0.0**
baz=184,SNR=194
N38A S **S 00 30 27.7 -1.4**
baz=184
TAMC Tame, Arauca 24.66 110 *eP* **P 00 26 11.1 -0.8**
BLA Blacksburg 24.67 29 P **P 00 26 09.9 -1.9**
BLA IAmb IAmb 00 26 42.2
comp=Z,189nm,1.0s
BLA Blacksburg 24.67 29 P **P 00 26 09.9 -1.9**
BLA pmax pmax
comp=Z,189nm,1.0s
BLA Blacksburg 24.67 29 P **P 00 26 10.6 -1.2**
baz=215,SNR=9.7
BLA Blacksburg 24.67 29 P **P 00 26 10.8 -1.0**
baz=215,SNR=9.7
N35A Tabor 24.68 359 P **P 00 26 11.3 -0.6**
N35A IAmb IAmb 00 26 39.1
comp=Z,281nm,0.9s
N35A Tabor 24.68 359 P **P 00 26 12.0 +0.1**
baz=178,SNR=20
P48A Milroy 24.73 18 IAmb IAmb 00 26 34.5
comp=Z,92nm,0.8s
P48A Milroy 24.73 18 P **P 00 26 09.9 -2.4**
baz=202,SNR=23
P48A P **P 00 26 09.9 -2.4**
baz=202,SNR=23
S54A Dingess, Beckl 24.75 27 IAmb IAmb 00 26 41.3
comp=Z,135nm,1.1s
S54A Dingess, Beckl 24.75 27 P **P 00 26 10.5 -2.1**
baz=213
S54A P **P 00 26 10.5 -2.1**
baz=213
ESJX Sierra Juarez 24.77 313 P **P 00 26 14.4 +1.4**
ESJX IAmb IAmb 00 26 16.4
comp=Z,148nm,1.2s
N41A Harden Midland 24.78 7 IAmb IAmb 00 26 27.0
comp=Z,532nm,1.6s
N41A Harden Midland 24.78 7 P **P 00 26 12.1 -0.7**
baz=189,SNR=13
N41A S **S 00 30 30.4 -0.8**
baz=189
UABX UABC, Campus M 24.79 315 P **P 00 26 15.3 +2.3**
SDV Santo Domingo 24.81 104 P **P 00 26 12.1 -1.5**
SDV IAmb IAmb 00 26 16.7
comp=Z,125nm,1.1s
SDV Santo Domingo 24.81 104 *eP* **P 00 26 10.2 -3.3**
SDV Santo Domingo 24.81 104 *eP* **P 00 26 12.0 -1.5**
SDV Santo Domingo 24.81 104 LR LR 00 36 47.6
comp=Z,2μm,21.2s,baz=304,slow=38
HDIL Hopedale 24.86 10 P **P 00 26 12.8 -0.7**
HDIL IAmb IAmb 00 26 32.1
comp=Z,118nm,0.9s
HDIL Hopedale 24.86 10 P **P 00 26 12.4 -1.1**
baz=193
HDIL Hopedale 24.86 10 P **P 00 26 13.3 -0.2**
baz=193
HDIL S **S 00 30 32.3 -0.2**
baz=193
BLYC Blythe 24.88 319 P **P 00 26 15.2 +1.5**
R53A Hurricane 24.94 25 P **P 00 26 11.6 -2.6**
baz=211,SNR=16
R53A P **P 00 26 11.6 -2.6**
baz=211,SNR=16
PDMCI Parker Dam,Lak 25.00 320 P **P 00 26 16.3 +1.5**
baz=131,SNR=51
MACC Macarena, Meta 25.01 122 *eP* **P 00 26 14.8 -0.3**
P49A Miami Univ. Ec 25.01 19 IAmb IAmb 00 26 45.9
comp=Z,127nm,1.1s
P49A Miami Univ. Ec 25.01 19 P **P 00 26 12.4 -2.5**
baz=204,SNR=11
P49A Miami Univ. Ec 25.01 19 P **P 00 26 12.2 -2.7**
baz=204,SNR=11
P49A S **S 00 30 31.4 -3.5**
baz=204
Q51A Peebles 25.01 22 IAmb IAmb 00 26 44.1
comp=Z,505nm,1.7s
Q51A Peebles 25.01 22 P **P 00 26 12.4 -2.5**
baz=207,SNR=9.3
Q51A P **P 00 26 12.4 -2.5**
baz=207,SNR=9.3

T57A	Hurt	25.05	31	P	P	00 26 14.9	-0.4
	baz=218						
T57A				P	P	00 26 14.9	-0.4
	baz=218						
YUH	Yuha Desert	25.13	315	P	P	00 26 17.3	+1.3
YUH				IAmb	IAmb	00 26 19.6	
	comp=Z,139nm,1.1s						
BOSC	San Juan Bosco	25.13	138	P	P	00 26 17.5	+1.2
SFIN	Lafayette	25.14	14	P	P	00 26 14.5	-1.5
	baz=198,SNR=13						
SFIN	Lafayette	25.14	14	P	P	00 26 14.3	-1.7
	baz=198,SNR=13						
SFIN				S	S	00 30 34.4	-2.6
	baz=198						
MCRA	Macar, Loja	25.19	143	P	P	00 26 17.4	+0.6
MCRA	Macar, Loja	25.19	143	eP	P	00 26 17.6	+0.8
CCX	Cicese	25.20	312	P	P	00 26 16.8	+0.1
RMX	La Rumorosa	25.21	314	P	P	00 26 17.5	+0.6
RMX				IAmb	IAmb	00 26 19.8	
	comp=Z,137nm,1.1s						
SWSC	Sam W. Stewart	25.22	315	P	P	00 26 18.9	+2.1
	baz=126,SNR=63						
IKP	In-Ko-Pah, Jac	25.26	315	P	P	00 26 19.5	+2.2
	baz=125,SNR=69						
SMCO	Snowmass	25.28	338	P	P	00 26 17.8	0.0
SMCO				IAmb	IAmb	00 26 22.4	
	comp=Z,198nm,0.9s						
U59A	Littleton	25.31	34	P	P	00 26 17.4	-0.2
U59A	Littleton	25.31	34	P	P	00 26 17.2	-0.4
	baz=221						
U59A				P	P	00 26 17.2	-0.4
	baz=221						
Q52A	Bidwell	25.36	24	IAmb	IAmb	00 26 49.2	
	comp=Z,172nm,1.0s						
Q52A	Bidwell	25.36	24	P	P	00 26 15.3	-2.7
	baz=209,SNR=17						
Q52A				P	P	00 26 15.3	-2.7
	baz=209,SNR=17						
BGNE	Belgrade	25.37	354	P	P	00 26 18.5	+0.4
BGNE	Belgrade	25.37	354	P	P	00 26 18.1	-0.1
	baz=172,SNR=28						
BGNE	Belgrade	25.37	354	P	P	00 26 18.7	+0.6
	baz=172,SNR=28						
PTGC	Puerto Gaitan,	25.37	115	eP	P	00 26 17.5	-0.9
ISCO	Idaho Springs	25.37	341	P	P	00 26 18.9	+0.4
ISCO	Idaho Springs	25.37	341	P	P	00 26 18.9	+0.4
ISCO				pmax	pmax		
	comp=Z,78nm,0.8s						
ISCO	Idaho Springs	25.37	341	P	P	00 26 19.8	+1.3
	baz=155,SNR=116						
ISCO	Idaho Springs	25.37	341	P	P	00 26 19.6	+1.1
	baz=155,SNR=116						
ISCO				S	S	00 30 52.6	+11
	baz=155						
W13A	Hualapai Mount	25.39	322	P	P	00 26 19.9	+1.4
BC3	Big Chuckawall	25.42	317	P	P	00 26 20.8	+2.0
	baz=128,SNR=235						
U15A	North Rim	25.43	326	P	P	00 26 19.8	+0.7
U15A				IAmb	IAmb	00 26 25.5	
	comp=Z,132nm,1.1s						
PTLC	Puerto Leguiza	25.44	127	eP	P	00 26 22.0	+3.0
CBX	Cerro Bola	25.45	313	P	P	00 26 20.6	+1.5
OGNE	Ogallala	25.50	348	P	P	00 26 20.0	+0.6
OGNE	Ogallala	25.50	348	P	P	00 26 20.0	+0.6
	baz=164,SNR=29						
OGNE	Ogallala	25.50	348	P	P	00 26 20.0	+0.6
	baz=164,SNR=29						
P51A	Williamsport	25.52	22	IAmb	IAmb	00 26 54.4	
	comp=Z,714nm,1.9s						
P51A	Williamsport	25.52	22	P	P	00 26 17.2	-2.3
	baz=207,SNR=9.2						
P51A				P	P	00 26 17.2	-2.3
	baz=207,SNR=9.2						
HATO	Hato, Curacao	25.52	95	P	P	00 26 18.0	-1.8
HATO				IAmb	IAmb	00 26 45.2	
	comp=Z,332nm,1.5s						
IRM	Iron Mountain	25.54	318	P	P	00 26 21.5	+1.8
	baz=129,SNR=122						
O48B	Farmland	25.54	18	IAmb	IAmb	00 26 49.4	
	comp=Z,163nm,0.9s						
O48B	Farmland	25.54	18	P	P	00 26 16.8	-2.9
	baz=202,SNR=18						
O48B	Farmland	25.54	18	P	P	00 26 17.4	-2.3
	baz=202,SNR=18						
TKX	Tecate	25.55	314	P	P	00 26 20.9	+1.0
TKX				IAmb	IAmb	00 26 23.2	
	comp=Z,122nm,1.0s						
NEE2	Needles Airpor	25.61	320	P	P	00 26 21.9	+1.5
	baz=131						
MONP2	Monument Peak	25.61	315	P	P	00 26 22.7	+2.0
	baz=125,SNR=57						
BAR	Barrett	25.66	314	P	P	00 26 22.5	+1.6
R55A	Marlinton	25.68	28	IAmb	IAmb	00 26 52.0	
	comp=Z,245nm,1.3s						
R55A	Marlinton	25.68	28	P	P	00 26 18.9	-2.2
	baz=214,SNR=8.2						
R55A				P	P	00 26 18.9	-2.2
	baz=214,SNR=8.2						
BRIGG	Briggsdale	25.71	343	P	P	00 26 22.1	+0.7
BRIGG				IAmb	IAmb	00 26 27.6	
	comp=Z,126nm,0.8s						
O49A	Covington	25.73	19	IAmb	IAmb	00 26 55.6	
	comp=Z,223nm,0.9s						
O49A	Covington	25.73	19	P	P	00 26 19.0	-2.3
	baz=204,SNR=21						
O49A				P	P	00 26 19.0	-2.3
	baz=204,SNR=21						
SCIA	State Center	25.76	3	IAmb	IAmb	00 26 23.0	
	comp=Z,302nm,0.9s						
SCIA	State Center	25.76	3	P	P	00 26 21.2	-0.4
	baz=184,SNR=52						
SCIA	State Center	25.76	3	P	P	00 26 21.3	-0.3
	baz=184,SNR=52						
S57A	Dark Hollow, R	25.80	30	P	P	00 26 20.5	-1.6
S57A	Dark Hollow, R	25.80	30	P	P	00 26 21.6	-0.5
	baz=217						
S57A				P	P	00 26 21.6	-0.5
	baz=217						
L34A	Svendsen Farm,	25.81	358	IAmb	IAmb	00 26 37.6	
	comp=Z,297nm,0.9s						
L34A	Svendsen Farm,	25.81	358	P	P	00 26 22.0	-0.1
	baz=176,SNR=15						
HMU	Henry Mountain	25.82	330	P	P	00 26 23.1	+0.6
HMU				IAmb	IAmb	00 26 45.0	
	comp=Z,134nm,1.0s						
TJX	Tijuana	25.83	313	P	P	00 26 23.2	+0.8
T59A	Double "B" Far	25.90	33	P	P	00 26 21.9	-1.0
M44A	Midewin, Midew	25.90	12	IAmb	IAmb	00 26 56.5	
	comp=Z,111nm,1.0s						
M44A	Midewin, Midew	25.90	12	P	P	00 26 21.5	-1.5
	baz=195,SNR=6.3						
Q54A	Coxs Mills	25.95	26	IAmb	IAmb	00 27 00.5	
	comp=Z,130nm,1.0s						
Q54A	Coxs Mills	25.95	26	P	P	00 26 21.1	-2.3
	baz=212,SNR=8.4						
Q54A				P	P	00 26 21.1	-2.3
	baz=212,SNR=8.4						
N47A	Urbana	25.97	16	IAmb	IAmb	00 26 58.5	
	comp=Z,540nm,1.6s						
N47A	Urbana	25.97	16	P	P	00 26 20.9	-2.7
	baz=200,SNR=15						
N47A				P	P	00 26 20.9	-2.7
	baz=200,SNR=15						
BELC	Belle Mtn. Jos	25.99	317	P	P	00 26 26.1	+2.1
	baz=128,SNR=21						
P52A	Corning	25.99	23	IAmb	IAmb	00 26 58.1	
	comp=Z,398nm,1.5s						
P52A	Corning	25.99	23	P	P	00 26 21.5	-2.3
	baz=209,SNR=12						
PMD	Palm Desert	26.03	316	P	P	00 26 25.4	+1.2
PMD				IAmb	IAmb	00 26 27.6	
	comp=Z,153nm,1.2s						
TPFO	Pinon Flats	26.05	316	P	P	00 26 26.7	+2.2
	baz=126,SNR=27						
PFO	Pinyon Flats O	26.06	316	P	P	00 26 26.2	+1.6
PFO				IAmb	IAmb	00 26 28.0	
	comp=Z,157nm,1.4s						
PFO	Pinyon Flats O	26.06	316	eP	P	00 26 25.3	+0.7
PFO				pmax	pmax		
	comp=Z,63nm,1.0s						
PFO	Pinyon Flats O	26.06	316	P	P	00 26 26.8	+2.2
	baz=126,SNR=28						
PFO	Pinyon Flats O	26.06	316	LR	LR	00 37 03.9	
	comp=Z,4μm,20.4s,baz=140,slow=37						
L40A	Anamosa	26.08	6	IAmb	IAmb	00 27 00.8	
	comp=Z,172nm,1.1s						
L40A	Anamosa	26.08	6	P	P	00 26 23.5	-1.0
	baz=188,SNR=25						
L40A				S	S	00 30 50.5	-1.2
	baz=188						
109C	Camp Elliot, M	26.08	314	P	P	00 26 26.3	+1.6
109C				IAmb	IAmb	00 26 27.9	
	comp=Z,161nm,1.3s						
109C	Camp Elliot, M	26.08	314	P	P	00 26 26.5	+1.9
	baz=124,SNR=9.1						
P53A	Whipple	26.15	24	IAmb	IAmb	00 27 00.0	
	comp=Z,656nm,1.8s						
P53A	Whipple	26.15	24	P	P	00 26 23.0	-2.2
	baz=210,SNR=8.3						
P53A				P	P	00 26 23.0	-2.2
	baz=210,SNR=8.3						
KNB	Kanab	26.16	326	P	P	00 26 26.9	+1.4
KNB	Kanab	26.16	326	P	P	00 26 26.9	+1.4
KNB				pmax	pmax		
	comp=Z,88nm,0.9s						
PKCU	Pink Cliffs	26.21	328	P	P	00 26 26.5	+0.4
PKCU				IAmb	IAmb	00 26 50.6	
	comp=Z,319nm,1.9s						
ACSO	Alum Creek Sta	26.21	21	IAmb	IAmb	00 26 59.7	
	comp=Z,347nm,1.8s						
ACSO	Alum Creek Sta	26.21	21	P	P	00 26 25.5	-0.3
	baz=207,SNR=6.3						
ACSO	Alum Creek Sta	26.21	21	P	P	00 26 23.0	-2.8
	baz=207,SNR=6.3						
L42A	Oliver, Polo	26.22	9	IAmb	IAmb	00 26 41.1	
	comp=Z,202nm,1.1s						
L42A	Oliver, Polo	26.22	9	P	P	00 26 24.2	-1.6
	baz=191,SNR=45						
L42A				S	S	00 30 52.0	-2.0
	baz=191						
GMRC	Granite Mounta	26.27	319	P	P	00 26 28.1	+1.6
	baz=130						
LCMT	Little Creek M	26.38	326	P	P	00 26 27.3	-0.2
V12A	Nelson	26.39	322	P	P	00 26 28.4	+0.8
V12A				IAmb	IAmb	00 26 30.8	
	comp=Z,183nm,1.0s						
N49A	Columbus Grove	26.45	19	P	P	00 26 25.5	-2.3
	baz=204,SNR=8.3						
N49A				P	P	00 26 25.5	-2.3
	baz=204,SNR=8.3						
N23A	Red Feather La	26.47	341	P	P	00 26 28.8	+0.4
N23A	Red Feather La	26.47	341	P	P	00 26 29.7	+1.3
	baz=155,SNR=47						
R58B	Mineral	26.49	31	P	P	00 26 26.0	-2.2
K38A	Parkersburg	26.53	4	P	P	00 26 27.0	-1.5
O52A	Adamsville	26.53	23	IAmb	IAmb	00 27 00.5	
	comp=Z,132nm,1.1s						
O52A	Adamsville	26.53	23	P	P	00 26 26.1	-2.5
	baz=209,SNR=16						
O52A				P	P	00 26 26.1	-2.5
	baz=209,SNR=16						
MURC	Murrieta	26.55	315	P	P	00 26 31.1	+2.2
	baz=125,SNR=19						
O20A	White River Ci	26.59	337	P	P	00 26 29.4	+0.1
O20A				IAmb	IAmb	00 26 38.6	
	comp=Z,162nm,1.4s						
O20A	White River Ci	26.59	337	P	P	00 26 30.9	+1.6
	baz=150,SNR=32						
MTPU	Mount Pierson	26.60	329	P	P	00 26 30.6	+0.8
MTPU				IAmb	IAmb	00 26 36.1	
	comp=Z,101nm,0.8s						
L44A	Lake County Fo	26.69	12	P	P	00 26 28.6	-1.5
L44A				IAmb	IAmb	00 27 11.0	
	comp=Z,144nm,1.1s						
L44A	Lake County Fo	26.69	12	P	P	00 26 28.1	-1.9
	baz=195						
L44A	Lake County Fo	26.69	12	P	P	00 26 28.9	-1.1
	baz=195						
PHWY	Pilot Hill	26.70	342	P	P	00 26 30.9	+0.5
Q56A	Snyder Ridge,	26.72	28	P	P	00 26 28.9	-1.4
	baz=215,SNR=5.7						
Q56A				P	P	00 26 28.9	-1.4
	baz=215,SNR=5.7						
HEC	Hector,Ludlow	26.72	318	P	P	00 26 32.5	+1.9
	baz=128,SNR=54						
SZCU	Shurtz Canyon	26.73	327	P	P	00 26 31.6	+0.9
ELS	Elsinore Mount	26.73	315	P	P	00 26 30.9	+0.2
BBRC	Big Bear Solar	26.76	317	P	P	00 26 33.2	+2.2
	baz=127,SNR=5.9						
K30B	Basset	26.78	352	P	P	00 26 31.2	+0.3
K30B	Basset	26.78	352	P	P	00 26 32.1	+1.2
	baz=170,SNR=30						
WTNK	Soaring Height	26.80	322	P	P	00 26 31.6	+0.4
Q16A	Castle Valley	26.80	331	P	P	00 26 32.4	+1.1
Q16A				IAmb	IAmb	00 26 38.1	
	comp=Z,328nm,1.6s						
CCUT	Cedar City	26.84	326	P	P	00 26 33.6	+1.9
TUQ	Turquoise Moun	26.85	320	P	P	00 26 33.6	+1.9
	baz=130,SNR=102						
O53A	New Philadelph	26.88	24	IAmb	IAmb	00 27 10.2	
	comp=Z,113nm,1.1s						
O53A	New Philadelph	26.88	24	P	P	00 26 29.5	-2.3
	baz=210,SNR=13						
L46A	Eue Claire	26.88	14	IAmb	IAmb	00 27 12.5	
	comp=Z,120nm,1.1s						
L46A	Eue Claire	26.88	14	P	P	00 26 29.8	-2.0
	baz=198						
L46A				P	P	00 26 29.8	-2.0
	baz=198						
CBN	Corbin Frederi	26.93	32	P	P	00 26 30.6	-1.6
CBN				IAmb	IAmb	00 27 07.9	
	comp=Z,202nm,1.6s						
CBN	Corbin Frederi	26.93	32	P	P	00 26 30.9	-1.3
	baz=220						
MCWV	Mont Chateau	26.94	26	P	P	00 26 30.5	-1.7
	baz=213						
MSU	Marysvale	26.96	329	P	P	00 26 33.1	+0.3
MSU	Marysvale	26.96	329	P	P	00 26 33.1	+0.3
P18A	Preston Nutter	26.97	333	P	P	00 26 33.6	+0.7
P18A				IAmb	IAmb	00 26 40.5	
	comp=Z,115nm,1.1s						
MVU	Marysvale	26.97	329	P	P	00 26 33.7	+0.8
MVU				IAmb	IAmb	00 26 42.9	
	comp=Z,157nm,1.0s						
JFWS	Jewell Farm	27.03	8	IAmb	IAmb	00 26 33.7	
	comp=Z,142nm,0.7s						
JFWS	Jewell Farm	27.03	8	P	P	00 26 32.6	-0.5
	baz=190,SNR=51						
JFWS	Jewell Farm	27.03	8	P	P	00 26 32.2	-0.9
	baz=190,SNR=51						
JFWS				S	S	00 31 05.1	-1.7
	baz=190						
N51A	Ashland	27.04	21	P	P	00 26 31.4	-1.7
P17A	Butcher Ranch,	27.06	332	P	P	00 26 34.1	+0.5
P17A				IAmb	IAmb	00 26 41.1	
	comp=Z,116nm,1.1s						
SHPR	Sheep Range	27.10	322	P	P	00 26 35.1	+1.1
K43A	Burlington	27.12	11	IAmb	IAmb	00 27 12.8	
	comp=Z,108nm,1.0s						
K43A	Burlington	27.12	11	P	P	00 26 32.4	-1.5
	baz=194,SNR=10						
TMUT	Trail Mountain	27.12	332	P	P	00 26 34.9	+0.6
SCI2	San Clemente I	27.14	313	P	P	00 26 35.9	+1.7
	baz=122,SNR=5.1						
O54A	Avella	27.15	25	IAmb	IAmb	00 27 10.7	
	comp=Z,150nm,1.2s						
O54A	Avella	27.15	25	P	P	00 26 31.7	-2.6
	baz=212,SNR=6.4						
O54A				P	P	00 26 31.7	-2.6
	baz=212,SNR=6.4						
TCRU	Three Creeks R	27.17	329	P	P	00 26 35.1	+0.4
RRX	Edison Barstow	27.18	318	P	P	00 26 35.6	+1.1
	baz=128						
BAUV	El Baul	27.22	102	P	P	00 26 31.8	-3.3
BAUV				IAmb	IAmb	00 26 33.5	
	comp=Z,88nm,0.9s						
BFSC	Mount Baldy Ra	27.23	316	P	P	00 26 36.3	+1.1
	baz=126,SNR=19						
M50A	Fremont	27.24	20	P	P	00 26 32.4	-2.6
	baz=205						
M50A				P	P	00 26 32.4	-2.6
	baz=205						
CIS	Catalina Islan	27.28	313	P	P	00 26 37.4	+1.9
	baz=123,SNR=11						
L48A	N Adams	27.31	17	IAmb	IAmb	00 27 08.7	
	comp=Z,97nm,0.9s						
L48A	N Adams	27.31	17	P	P	00 26 33.0	-2.6
	baz=202,SNR=10						
L48A				P	P	00 26 33.0	-2.6
	baz=202,SNR=10						
GSC	Goldstone, Bar	27.32	319	P	P	00 26 38.0	+2.1
	baz=128,SNR=14						
RDMU	Red Mountain	27.48	335	P	P	00 26 37.9	+0.5
N53A	Lisbon	27.50	24	IAmb	IAmb	00 27 14.6	
	comp=Z,96nm,1.0s						
N53A	Lisbon	27.50	24	P	P	00 26 35.0	-2.4
	baz=210,SNR=14						
N53A				P	P	00 26 35.0	-2.4
	baz=210,SNR=14						
PASC	Pasadena Art C	27.55	315	P	P	00 26 39.6	+1.8
PASC				IAmb	IAmb	00 26 41.4	
	comp=Z,194nm,1.5s						
ECSD	EROS Data Cent	27.58	357	IAmb	IAmb	00 27 18.1	
	comp=Z,89nm,0.7s						
ECSD	EROS Data Cent	27.58	357	P	P	00 26 37.5	-0.5
	baz=176,SNR=56						
ECSD	EROS Data Cent	27.58	357	P	P	00 26 37.6	-0.5
	baz=176,SNR=56						
RWWY	Rawlins	27.60	340	IAmb	IAmb	00 26 40.5	
	comp=Z,117nm,1.1s						
P57A	Homestead Farm	27.61	29	P	P	00 26 36.2	-2.1
SJG	San Juan	27.62	82	P	P	00 26 36.3	-2.3
SJG	San Juan	27.62	82	P	P	00 26 36.3	-2.3
SJG				pmax	pmax		
	comp=Z,26nm,0.9s						
SJG	San Juan	27.62	82	LR	LR	00 38 48.3	
	comp=Z,1μm,19.9s,baz=268,slow=39						
PRN	Pahroc Range	27.66	324	P	P	00 26 40.7	+1.7
DECC	Green Verdugo	27.70	315	P	P	00 26 41.5	+2.2
	baz=125,SNR=7.4						
PSUT	Pine Spring	27.83	327	P	P	00 26 41.0	+0.4
EDW2	Edwards Air Fo	27.84	316	P	P	00 26 42.1	+1.6
	baz=126,SNR=14						
I37A	Lemond, Waseca	27.86	2	IAmb	IAmb	00 27 29.3	
	comp=Z,160nm,1.1s						
I37B	Waseca	27.86	2	P	P	00 26 39.3	-1.2
	baz=183,SNR=15						
AAM	Ann Arbor	27.86	18	IAmb	IAmb	00 27 42.4	
	comp=Z,182nm,1.6s						
AAM	Ann Arbor	27.86	18	P	P	00 26 38.6	-2.0
	baz=204						
MPU	Maple Canyon	27.90	332		PcP	00 29 56.5	+0.9
M52A	Chesterland	27.95	22	P	P	00 26 39.2	-2.1
	baz=209						
M52A				P	P	00 26 39.2	-2.1
	baz=209						
I40A	Norwalk	27.95	7	P	P	00 26 40.1	-1.2
I40A	Norwalk	27.95	7	P	P	00 26 40.8	-0.5
	baz=189,SNR=18						
SNCC	San Nicolas Is	27.98	312	P	P	00 26 42.3	+0.6
SNCC				IAmb	IAmb	00 26 44.9	
	comp=Z,163nm,1.2s						
SNCC	San Nicolas Is	27.98	312	P	P	00 26 42.8	+1.1
	baz=121						
LRMC	Laurel Mtn Rad	27.99	318	P	P	00 26 44.0	+2.1
	baz=127,SNR=11						
CCAC	Calif City Air	28.01	317	IAmb	IAmb	00 26 45.3	
	comp=Z,116nm,1.3s						
TPNV	Topopah Spring	28.05	322	P	P	00 26 44.2	+1.8
TPNV	Topopah Spring	28.05	322	P	P	00 26 44.3	+1.8
TPNV				pmax	pmax		
	comp=Z,71nm,1.1s						
TPNV	Topopah Spring	28.05	322	P	P	00 26 45.0	+2.5
	baz=132,SNR=50						
FURC	Furnace Creek,	28.10	320	P	P	00 26 45.1	+2.4
	baz=130,SNR=10						
M53A	WI Miller and	28.11	23	P	P	00 26 40.4	-2.4
	baz=210,SNR=9.6						
WCT	Wildcat Mounta	28.17	321	P	P	00 26 44.6	+1.2
OSI	Osito Audit: C	28.17	315	P	P	00 26 45.0	+1.5
	baz=125						
I42A	Draeger Farm,	28.18	9	P	P	00 26 42.4	-0.9
	baz=192,SNR=15						
S11A	Rachel	28.23	323	P	P	00 26 45.3	+1.3
S11A				IAmb	IAmb	00 26 47.9	
	comp=Z,151nm,1.0s						
MPMC	Manual Prospec	28.23	319	P	P	00 26 45.9	+1.8
	baz=129,SNR=64						
K22A	Casper	28.25	342	P	P	00 26 45.1	+0.9
K22A	Casper	28.25	342	P	P	00 26 44.6	+0.4
	baz=156,SNR=23						
K22A	Casper	28.25	342	P	P	00 26 45.6	+1.4
	baz=156,SNR=23						
ATAH	Atahualpa	28.33	143	LR	LR	00 36 33.4	
	comp=Z,1μm,18.2s,baz=318,slow=33						
J47A	Sunmer	28.41	16	P	P	00 26 43.6	-1.7
SPR3	Spring Creek 3	28.42	327	P	P	00 26 46.7	+0.7
SCZ2	Santa Cruz Isl	28.45	313	P	P	00 26 47.9	+2.0
	baz=122,SNR=6.5						
SUSD	Miller	28.45	354	IAmb	IAmb	00 27 01.3	
	comp=Z,263nm,1.0s						
SUSD	Miller	28.45	354	P	P	00 26 45.7	-0.1
	baz=172,SNR=11						
SUSD	Miller	28.45	354	P	P	00 26 45.3	-0.5
	baz=172,SNR=11						
ALLY	Alegheny Colle	28.49	24	IAmb	IAmb	00 27 40.1	
	comp=Z,225nm,1.5s						
ARVC	Arvin	28.54	316	P	P	00 26 48.8	+2.2
	baz=125,SNR=15						
DUG	Dugway, Tooele	28.59	331	P	P	00 26 48.9	+1.7
	baz=142,SNR=26						
SSPA	Standing Stone	28.59	28	P	P	00 26 44.6	-2.5
ISA	Isabella, Lake	28.62	317	P	P	00 26 49.6	+2.1
	baz=126,SNR=11						
R11B	Troy Canyon, C	28.63	325	P	P	00 26 49.8	+2.2
	baz=135,SNR=54						
GRAC	Grapevine Rang	28.75	321	IAmb	IAmb	00 26 52.4	
	comp=Z,142nm,1.1s						
GRAC	Grapevine Rang	28.75	321	P	P	00 26 51.2	+2.7
	baz=130,SNR=36						
SBC	Santa Barbara	28.75	314	P	P	00 26 50.2	+1.6
	baz=123						
CWC	Cottonwood Cre	28.84	319	P	P	00 26 50.8	+1.3
	baz=128						
GMN	Gold Mountain	28.88	321	P	P	00 26 51.7	+1.7
ERPA	Erie	28.96	23	P	P	00 26 48.0	-2.3
	baz=211						
RSSD	Black Hills	28.97	346	P	P	00 26 51.5	+0.9
RSSD	Black Hills	28.97	346	P	P	00 26 51.5	+0.9
RSSD				pmax	pmax		
	comp=Z,38nm,1.0s						
RSSD	Black Hills	28.97	346	P	P	00 26 51.6	+1.0
	baz=162						
RSSD	Black Hills	28.97	346	P	P	00 26 51.7	+1.0
	baz=162,SNR=22						
PKM	Mcpherson Peak	29.06	315	P	P	00 26 53.8	+2.2
	baz=124,SNR=15						
SPMN	Marine on St.	29.09	3	IAmb	IAmb	00 26 52.3	
	comp=Z,159nm,0.8s						
SPMN	Marine on St.	29.09	3	P	P	00 26 50.7	-0.7
	baz=184,SNR=66						
SPMN	Marine on St.	29.09	3	P	P	00 26 50.9	-0.5
	baz=184,SNR=66						
VES	Vestal, Richgr	29.12	317	P	P	00 26 54.2	+2.4
	baz=126,SNR=44						
HWUT	Hardware Ranch	29.17	334	P	P	00 26 53.6	+1.2
MZP	Montezuma Peak	29.22	322	P	P	00 26 54.1	+1.1
BGU	Big Grassy Mou	29.26	331	P	P	00 26 54.1	+0.9
SPUT	South Promonto	29.31	332	P	P	00 26 54.5	+0.9
TIN	Tinemaha, Big	29.32	320	P	P	00 26 56.1	+2.4
	baz=129,SNR=6.2						
G40A	Rib Lake	29.36	7	P	P	00 26 52.9	-0.9
	baz=189,SNR=10.0						
G40A				S	S	00 31 41.8	-1.5
	baz=189						
DSP	Deep Springs	29.36	321	P	P	00 26 55.3	+1.5
BW06	Boulder Array	29.36	338	P	P	00 26 53.1	-1.0
BW06	Boulder Array	29.36	338	P	P	00 26 54.8	+0.6
	baz=150,SNR=8.3						
PDAR	Pinedale Array	29.36	338	P	P	00 26 54.2	+0.1
	comp=Z,7.4nm,0.9s,baz=141,slow=9.6,SNR=42						
PDAR				PcP	PcP	00 29 58.4	-0.9
	comp=Z,5.3nm,1.0s,baz=128,slow=8.1,SNR=2.5						
PD

F36A **Milaca** **29.70 2** P **P** **00 26 55.9 -0.8**
baz=182,SNR=39
F36A S **S** **00 31 47.8 -0.8**
baz=182
HVU **Hansel Valley** **29.83 333** P **P** **00 26 59.1 +0.9**
HVU IAmb IAmb 00 27 01.2
comp=Z,170nm,1.4s
HVU **Hansel Valley** **29.83 333** P **P** **00 26 59.1 +0.9**
HVU pmax pmax
comp=Z,171nm,1.4s
Q09A **Carvers** **29.86 324** P **P** **00 27 00.8 +2.3**
Q09A IAmb IAmb 00 27 02.4
comp=Z,210nm,1.3s
G45A **Suttons Bay** **29.90 13** S **S** **00 31 48.5 -3.4**
baz=198
G45A S **S** **00 31 48.5 -3.4**
baz=198
ID06 **Fossil Canyon** **29.93 335** P **P** **00 27 00.1 +0.9**
ID06 IAmb IAmb 00 27 01.4
comp=Z,178nm,1.5s
GLMI **Grayling** **29.94 15** IAmb IAmb 00 27 31.2
comp=Z,127nm,0.9s
GLMI **Grayling** **29.94 15** P **P** **00 26 57.1 -1.9**
baz=200,SNR=8.1
GLMI **Grayling** **29.94 15** P **P** **00 26 56.9 -2.1**
baz=200,SNR=8.1
AHID **Auburn Hatcher** **29.95 336** P **P** **00 26 59.8 +0.5**
L56A **Greenwood** **29.96 26** S **S** **00 31 53.4 +0.5**
baz=215
L56A S **S** **00 31 53.4 +0.5**
baz=215
ID05 **Sulphur Canyon** **29.98 335** P **P** **00 26 59.6 -0.1**
MLAC **Mammoth, Mammo** **30.05 320** P **P** **00 27 02.4 +2.1**
baz=129,SNR=5.7
PCRV **Puerto La Cruz** **30.11 97** LR LR 00 41 54.7
comp=Z,1μm,18.1s,slow=42
F42A **Maple Grove Fa** **30.12 10** IAmb IAmb 00 27 00.1
comp=Z,48nm,0.5s
F42A **Maple Grove Fa** **30.12 10** P **P** **00 26 59.4 -1.1**
baz=193
OMMB **Old Mammoth Mi** **30.14 320** P **P** **00 27 02.9 +1.6**
OMMB IAmb IAmb 00 27 04.8
comp=Z,86nm,1.1s
ID07 **Smith Canyon R** **30.15 334** P **P** **00 27 02.0 +0.9**
NV11 **Mina Array Sit** **30.16 322** P **P** **00 27 02.5 +1.3**
NV11 IAmb IAmb 00 27 05.1
comp=Z,170nm,1.0s
ELK **Elko** **30.19 328** P **P** **00 27 02.9 +1.4**
ELK **Elko** **30.19 328** P **P** **00 27 02.9 +1.4**
ELK pmax pmax
comp=Z,45nm,0.9s
ELK **Elko** **30.19 328** LR LR 00 40 58.0
comp=Z,2μm,18.3s,baz=164,slow=40
MDPB **Devils Postpil** **30.21 320** P **P** **00 27 03.0 +1.3**
MDPB IAmb IAmb 00 27 05.3
comp=Z,108nm,0.9s
NVAR **Mina Array Bea** **30.25 322** P **P** **00 27 04.1 +2.1**
NVAR **Mina Array Bea** **30.25 322** P **P** **00 27 04.2 +2.2**
comp=Z,126nm,0.8s,baz=139,slow=9.2,SNR=714
NVAR PcP **PcP** **00 30 01.7 0.0**
comp=Z,9.9nm,0.9s,baz=135,slow=3.4,SNR=4.8
NVAR LR LR 00 40 47.8
comp=Z,2μm,18.3s,baz=140,slow=39
LHV **Little Huntoon** **30.25 321** P **P** **00 27 04.1 +2.4**
LHV IAmb IAmb 00 27 06.0
comp=Z,97nm,0.8s
COWI **Conover** **30.31 8** P **P** **00 27 01.3 -0.9**
COWI **Conover** **30.31 8** P **P** **00 27 01.4 -0.9**
baz=191
COWI S **S** **00 31 56.2 -2.1**
baz=191
ID08 **Devils Gate** **30.35 335** P **P** **00 27 02.9 0.0**
REDW **Red Top Meadow** **30.36 337** P **P** **00 27 03.6 +0.7**
SNOW **Snow King Moun** **30.41 337** P **P** **00 27 04.3 +0.9**
SNOW IAmb IAmb 00 27 06.1
comp=Z,151nm,0.8s
J54A **Appleton** **30.46 24** P **P** **00 27 02.3 -1.3**
PMPB **Monarch Peak** **30.47 316** P **P** **00 27 05.3 +1.4**
PMPB IAmb IAmb 00 27 07.1
comp=Z,162nm,1.0s
LOHW **Long Hollow** **30.48 337** P **P** **00 27 04.7 +0.7**
LOHW IAmb IAmb 00 27 06.6
comp=Z,220nm,1.7s
TPAW **Teton Pass** **30.50 337** IAmb IAmb 00 27 10.3
comp=Z,143nm,1.2s
KVN **Kaiserville** **30.54 323** P **P** **00 27 06.1 +1.5**
KVN IAmb IAmb 00 27 08.0
comp=Z,108nm,1.2s
KVN **Kaiserville** **30.54 323** P **P** **00 27 06.1 +1.5**
KVN pmax pmax
comp=Z,108nm,1.2s
E38A **The Farm, Brul** **30.55 5** P **P** **00 27 03.4 -0.9**
E38A IAmb IAmb 00 27 04.4
comp=Z,148nm,0.7s
E38A **The Farm, Brul** **30.55 5** P **P** **00 27 03.6 -0.7**
baz=186,SNR=58
MOOW **Moose Ponds** **30.65 337** P **P** **00 27 05.7 +0.2**
FXWY **Fox Creek** **30.66 337** P **P** **00 27 05.4 -0.2**
BINY **Binghamton** **30.70 28** P **P** **00 27 04.2 -1.5**
BINY **Binghamton** **30.70 28** P **P** **00 27 05.2 -0.6**
baz=218
E28A **Huff** **30.76 352** P **P** **00 27 06.6 +0.4**
E28A **Huff** **30.76 352** P **P** **00 27 06.8 +0.6**
baz=169,SNR=23
PAL **Palisades** **30.80 32** P **P** **00 27 04.4 -2.1**
baz=222
BBGB **Big Mountain B** **30.84 316** P **P** **00 27 07.6 +0.5**
BBGB IAmb IAmb 00 27 10.1
comp=Z,238nm,1.8s
IMW **Indian Meadow** **30.85 337** P **P** **00 27 07.2 -0.1**
IMW **PcP** **00 30 04.1 +0.9**
K57A **Scipio Center** **30.89 27** IAmb IAmb 00 28 06.1
comp=Z,186nm,1.9s
E43A **Lone Tree Farm** **30.91 11** IAmb IAmb 00 27 07.4
comp=Z,42nm,0.6s
E43A **Lone Tree Farm** **30.91 11** P **P** **00 27 06.0 -1.5**
baz=195,SNR=8.4
E43A S **S** **00 32 03.7 -4.0**
baz=195
FLWY **Flagg Ranch** **30.92 338** P **P** **00 27 08.4 +0.5**
WAKR **Walker** **30.97 321** P **P** **00 27 09.8 +1.4**
WAKR IAmb IAmb 00 27 12.5
comp=Z,117nm,1.3s
D32A **Dogwood Acres,** **30.99 357** P **P** **00 27 06.8 -1.4**
D32A IAmb IAmb 00 27 08.5
comp=Z,59nm,0.5s
D32B **Dogwood Acres,** **30.99 357** P **P** **00 27 07.6 -0.6**
baz=176,SNR=5.2
L59A **Walton** **31.13 29** P **P** **00 27 07.3 -2.3**
H17A **Grant Village** **31.14 338** P **P** **00 27 10.3 +0.4**
H17A **Grant Village** **31.14 338** P **P** **00 27 11.0 +1.1**
baz=150
YERR **Yerington** **31.16 322** P **P** **00 27 11.7 +1.7**
YERR IAmb IAmb 00 27 13.7
comp=Z,102nm,1.0s
J56A **Wolcott** **31.19 26** P **P** **00 27 07.3 -2.7**
SAO **San Andreas Ge** **31.21 316** P **P** **00 27 11.4 +1.1**
SAO **San Andreas Ge** **31.21 316** P **P** **00 27 11.4 +1.1**
SAO pmax pmax
comp=Z,58nm,1.3s
LKWY **Lake** **31.23 338** P **P** **00 27 10.9 +0.2**
LKWY **Lake** **31.23 338** P **P** **00 27 10.9 +0.2**
LKWY pmax pmax
comp=Z,41nm,1.0s
CMB **Columbia Colle** **31.27 319** P **P** **00 27 11.6 +0.8**
CMB **Columbia Colle** **31.27 319** P **P** **00 27 11.6 +0.8**
CMB pmax pmax
comp=Z,56nm,1.3s
YFT **Old Faithful** **31.29 338** P **P** **00 27 12.4 +1.2**
YFT **PcP** **00 30 06.6 +2.2**
YMP **Mirror Lake Pl** **31.30 339** P **P** **00 27 11.6 +0.3**
D41A **Chassel** **31.33 8** P **P** **00 27 10.1 -1.0**
D41A IAmb IAmb 00 27 11.1
comp=Z,45nm,0.7s
D41A **Chassel** **31.33 8** P **P** **00 27 10.2 -1.0**
baz=192
RLMT **Red Lodge** **31.34 340** P **P** **00 27 11.6 +0.1**
RLMT **Red Lodge** **31.34 340** P **P** **00 27 12.8 +1.2**
baz=153,SNR=25
PNTR **Pine Nut** **31.44 322** P **P** **00 27 14.8 +2.2**
PNTR IAmb IAmb 00 27 16.4
comp=Z,130nm,1.0s
YNR **Norris Junctio** **31.46 338** P **P** **00 27 13.7 +1.1**
YMR **Madison River** **31.52 338** P **P** **00 27 14.2 +1.0**
SADO **Sadowa** **31.55 22** LR LR 00 42 08.2
comp=Z,1μm,20.5s,baz=218,slow=40
YHH **Holmes Hill** **31.58 338** P **P** **00 27 15.2 +1.5**
J57A **Williamstown** **31.66 27** P **P** **00 27 11.8 -2.4**
baz=216,SNR=5.2
J57A P **P** **00 27 11.8 -2.4**
baz=216,SNR=5.2
PAHR **Pah Rah Range** **31.72 323** P **P** **00 27 16.0 +1.2**
PAHR IAmb IAmb 00 27 17.8
comp=Z,64nm,0.9s
YHL **Hebgen Lake** **31.75 338** P **P** **00 27 16.4 +1.1**
MPK **Martis Peak** **31.83 321** P **P** **00 27 16.8 +0.7**
MPK IAmb IAmb 00 27 20.0
comp=Z,206nm,1.1s
EYMN **Ely** **31.89 4** IAmb IAmb 00 27 15.8
comp=Z,70nm,0.6s
EYMN **Ely** **31.89 4** P **P** **00 27 15.1 -1.0**
baz=186,SNR=22
EYMN **Ely** **31.89 4** P **P** **00 27 14.9 -1.2**
baz=186,SNR=22
MDND **Maddock** **31.89 354** P **P** **00 27 16.1 0.0**
baz=171,SNR=16
MDND **Maddock** **31.89 354** P **P** **00 27 16.5 +0.4**
baz=171,SNR=16
LAO **LASA Array** **31.90 345** IAmb IAmb 00 27 18.1
comp=Z,78nm,1.3s
LAO **LASA Array** **31.90 345** P **P** **00 27 16.8 +0.5**
baz=159,SNR=13
LAO **LASA Array** **31.90 345** P **P** **00 27 16.7 +0.3**
baz=159,SNR=13
J58A **Remsen** **31.94 28** P **P** **00 27 14.2 -2.4**
baz=218,SNR=5.1
J58A P **P** **00 27 14.2 -2.4**
baz=218,SNR=5.1
SGCB **São Gabriel d** **31.94 118** *e*P **P** **00 27 15.6 -1.4**
TBTG **Tabatinga, AM** **31.96 127** P **P** **00 27 18.2 +1.2**
TBTG IAmb IAmb 00 27 33.6
comp=Z,69nm,1.1s
TBTG **Tabatinga, AM** **31.96 127** *e*P **P** **00 27 15.7 -1.4**
TBTG **Tabatinga, AM** **31.96 127** *e*P **P** **00 27 18.5 +1.4**
HLID **Hailey** **31.98 333** IAmb IAmb 00 27 19.9
comp=Z,64nm,1.0s
HLID **Hailey** **31.98 333** P **P** **00 27 18.6 +1.4**
baz=143,SNR=98
M63A **Gales Ferry** **32.05 34** P **P** **00 27 16.4 -1.2**
AFDM **Forest Hills D** **32.19 320** P **P** **00 27 19.5 +0.6**
B35A **Bob, Littlefor** **32.19 2** IAmb IAmb 00 27 18.9
comp=Z,61nm,0.8s
B35A **Bob, Littlefor** **32.19 2** P **P** **00 27 17.8 -0.9**
baz=182,SNR=25
UCCT **U. Connecticut** **32.24 33** P **P** **00 27 16.6 -2.7**
CZSB **Cruzeiro do Su** **32.36 135** P **P** **00 27 22.0 +1.5**
CZSB IAmb IAmb 00 27 39.2
comp=Z,174nm,1.1s
CZSB **Cruzeiro do Su** **32.36 135** *e*P **P** **00 27 19.1 -1.4**
PLTX **Planet X, Gerl** **32.43 324** P **P** **00 27 23.0 +2.0**
PLTX IAmb IAmb 00 27 25.9
comp=Z,69nm,0.8s
L61B **Northampton** **32.48 32** P **P** **00 27 21.6 +0.3**
baz=223
MFID **Camas Ranch** **32.51 331** P **P** **00 27 22.2 +0.5**
MFID IAmb IAmb 00 27 28.9
comp=Z,96nm,1.5s
GRGR **Grenville** **32.54 93** IAmb IAmb 00 27 21.9
comp=Z,237nm,1.2s
GRGR **Grenville** **32.54 93** *e*P **P** **00 27 19.6 -2.5**
BOZ **Bozeman (W)** **32.56 338** P **P** **00 27 22.3 +0.1**
BOZ IAmb IAmb 00 27 24.3
comp=Z,118nm,2.0s
BOZ **Bozeman (W)** **32.56 338** P **P** **00 27 22.3 +0.1**
BOZ pmax pmax
comp=Z,118nm,2.0s
BOZ **Bozeman (W)** **32.56 338** P **P** **00 27 23.6 +1.4**
baz=149,SNR=35
FDF **Fort de France** **32.62 88** IAmb IAmb 00 27 22.7
comp=Z,47nm,0.7s
DLMT **Dillon** **32.72 337** P **P** **00 27 24.5 +1.0**
DLMT IAmb IAmb 00 27 26.7
comp=Z,120nm,0.9s
ORV **Oroville** **32.88 321** P **P** **00 27 26.6 +1.7**
ORV **Oroville** **32.88 321** P **P** **00 27 26.6 +1.7**
ORV pmax pmax
comp=Z,59nm,1.2s
NCB **Newcomb** **32.89 28** P **P** **00 27 21.9 -3.1**
baz=219,SNR=6.0
M65A **Busby, Falmout** **32.92 35** P **P** **00 27 26.4 +1.2**
baz=227
MPOM **Morne Pois Mar** **32.94 88** P **P** **00 27 21.2 -4.5**
MPOM IAmb IAmb 00 27 25.4
comp=Z,101nm,1.0s
HRV **Adam Dziewonsk** **33.09 33** P **P** **00 27 25.2 -1.5**
HRV **Adam Dziewonsk** **33.09 33** P **P** **00 27 25.2 -1.5**
HRV pmax pmax
comp=Z,44nm,1.4s
HRV **Adam Dziewonsk** **33.09 33** P **P** **00 27 24.6 -2.1**
baz=224
DGMT **Dagmar** **33.16 349** P **P** **00 27 27.2 -0.1**
DGMT IAmb IAmb 00 27 29.1
comp=Z,116nm,1.3s
DGMT **Dagmar** **33.16 349** P **P** **00 27 28.0 +0.8**
baz=163,SNR=12
DGMT **Dagmar** **33.16 349** P **P** **00 27 27.9 +0.7**
baz=163,SNR=12
NNA **Nana** **33.18 146** **P** **00 27 29.2 +1.4**
NNA IAmb IAmb 00 27 45.2
comp=Z,88nm,1.2s
NNA **Nana** **33.18 146** P **P** **00 27 29.2 +1.4**
NNA pmax pmax
comp=Z,88nm,1.2s
NNA **Nana** **33.18 146** LR LR 00 38 23.8
comp=Z,933nm,21.8s,baz=336,slow=32
LONY **Lake Ozonia** **33.24 27** P **P** **00 27 25.6 -2.4**
baz=217,SNR=10
GDXM **Geysers** **33.25 318** P **P** **00 27 28.3 +0.1**
HNH **Hanover** **33.60 30** P **P** **00 27 30.1 -1.0**
ELMT **Elliston** **33.66 338** P **P** **00 27 32.5 +0.6**
J08A **Circle Bar Ran** **33.74 328** P **P** **00 27 33.5 +1.0**
BEMT **Mount Belmont** **33.80 338** P **P** **00 27 33.6 +0.6**
PLID **Pearl Lake** **33.88 333** P **P** **00 27 34.0 +0.2**
BPMT **Black Pine Rid** **33.94 337** P **P** **00 27 34.9 +0.6**
LYMT **Lyon Mountain** **33.97 339** P **P** **00 27 34.9 +0.3**
ULM **Lac du Bonnet** **34.07 359** P **P** **00 27 33.5 -1.5**
ULM IAmb IAmb 00 27 48.8
comp=Z,91nm,1.1s
ULM **Lac du Bonnet** **34.07 359** P **P** **00 27 34.1 -0.9**
comp=Z,48nm,0.8s,baz=186,slow=9.4,SNR=37
ULM LR LR 00 44 49.0
comp=Z,585nm,21.0s,baz=173,slow=42
comp=Z,48nm,0.8s
EGMT **Eagleton** **34.08 342** P **P** **00 27 35.6 +0.2**
EGMT IAmb IAmb 00 27 37.7
comp=Z,111nm,0.9s
EGMT **Eagleton** **34.08 342** P **P** **00 27 36.5 +1.2**
baz=154,SNR=32
LBNH **Lisbon** **34.17 30** P **P** **00 27 34.6 -1.5**
LBNH **Lisbon** **34.17 30** P **P** **00 27 34.6 -1.5**
LBNH pmax pmax
comp=Z,49nm,1.4s
LBNH **Lisbon** **34.17 30** P **P** **00 27 35.1 -1.0**
baz=222
KCPM **Cahto Peak** **34.26 319** P **P** **00 27 38.2 +1.2**
KCPM IAmb IAmb 00 27 40.3
comp=Z,69nm,1.0s
BMO **Blue Mountains** **34.29 331** P **P** **00 27 36.9 -0.3**
BMO IAmb IAmb 00 27 39.2
comp=Z,106nm,1.3s
BMO **Blue Mountains** **34.29 331** P **P** **00 27 36.9 -0.3**
BMO pmax pmax
comp=Z,106nm,1.3s
MSO **Missoula** **34.45 337** P **P** **00 27 39.4 +0.8**
MSO IAmb IAmb 00 27 40.8
comp=Z,197nm,1.8s
MSO **Missoula** **34.45 337** P **P** **00 27 39.6 +0.9**
baz=146,SNR=39
TRQ **Mont Tremblant** **34.53 25** IAmb IAmb 00 28 19.6
comp=Z,101nm,1.4s
K05A **Summer Lake** **34.57 325** P **P** **00 27 39.7 -0.1**
K05A IAmb IAmb 00 27 44.1
comp=Z,53nm,1.1s
KMRM **Mail Ridge** **34.65 320** P **P** **00 27 41.5 +1.2**
KMRM IAmb IAmb 00 27 43.7
comp=Z,158nm,1.3s
I63A **Otisfield** **34.70 32** P **P** **00 27 38.4 -2.1**
I07A **Izee** **34.78 328** P **P** **00 27 41.7 +0.2**
YBH **Yreka Blue Hor** **34.95 323** P **P** **00 27 42.8 -0.2**
YBH **Yreka Blue Hor** **34.95 323** P **P** **00 27 42.8 -0.2**
YBH pmax pmax
comp=Z,14nm,0.8s
YBH **Yreka Blue Hor** **34.95 323** LR LR 00 43 26.9
comp=Z,2μm,18.7s,baz=153,slow=39
K04D **Chiloquin, OR** **34.98 325** P **P** **00 27 44.4 +1.1**
K04D IAmb IAmb 00 27 45.7
comp=Z,115nm,0.9s
KMPM **Mount Pierce** **35.01 320** P **P** **00 27 45.5 +2.0**
KHMM **Horse Mountain** **35.04 321** IAmb IAmb 00 27 46.8
comp=Z,66nm,0.8s
JCC **Jacoby Creek,** **35.19 320** P **P** **00 27 46.0 +1.2**
PINE **Pine Mountain** **35.32 327** IAmb IAmb 00 27 48.4
comp=Z,75nm,1.0s
KRPM **Rodgers** **35.39 321** P **P** **00 27 48.1 +1.5**
G08A **Pilot Rock** **35.39 330** P **P** **00 27 47.2 +0.4**
G08A IAmb IAmb 00 27 48.7
comp=Z,70nm,1.4s
KRMB **Red Mountain** **35.53 321** P **P** **00 27 49.3 +1.2**
KRMB IAmb IAmb 00 27 51.1
comp=Z,174nm,1.8s
G62A **West of Eustis** **35.56 30** P **P** **00 27 45.8 -2.3**
baz=223,SNR=7.6
G62A P **P** **00 27 45.8 -2.3**
baz=223,SNR=7.6
L02F **Cave Junction** **35.70 322** P **P** **00 27 49.9 +0.6**
TEFE **Tefe** **35.78 120** *e*P **P** **00 27 49.6 -0.6**
I05D **Terrebonne, OR** **35.90 327** P **P** **00 27 51.9 +0.9**
I05D IAmb IAmb 00 27 53.4
comp=Z,100nm,1.1s
E09A **Wood Farm, Sta** **35.94 332** IAmb IAmb 00 27 52.7
comp=Z,76nm,1.0s
K02D **Willamette Mer** **36.11 323** P **P** **00 27 53.5 +0.7**
DBO **Dodson Butte** **36.13 324** **PcP** **00 30 18.9 +1.0**
KBO **Bosley Butte** **36.14 322** P **P** **00 27 54.8 +1.7**
G06A **Carlson Farm,** **36.17 329** P **P** **00 27 54.4 +1.1**
PKME **Peaks-Kenny Pk** **36.21 31** P **P** **00 27 52.7 -0.8**
baz=225
F07A **Phinny Hill Vi** **36.30 330** P **P** **00 27 54.6 +0.3**
E08A **Dider Farm, El** **36.33 332** P **P** **00 27 54.3 -0.3**
G05A **Wamic** **36.52 328** P **P** **00 27 58.0 +1.7**
G05A IAmb IAmb 00 27 59.7
comp=Z,131nm,0.8s
BOAV **Boa Vista** **36.55 108** IAmb IAmb 00 27 57.1
comp=Z,46nm,1.0s
BOAV **Boa Vista** **36.55 108** *e*P **P** **00 27 54.1 -2.7**
BOAV **Boa Vista** **36.55 108** *e*P **P** **00 27 54.4 -2.5**
J01E **Myrtle Point** **36.55 324** P **P** **00 27 57.9 +1.4**
I03D **Drain, OR** **36.56 325** P **P** **00 27 57.2 +0.6**
HOOD **Mount Hood Mea** **36.74 328** P **P** **00 27 59.5 +1.2**
E07A **Sunnyside** **36.75 331** P **P** **00 27 58.9 +0.7**
E07A IAmb IAmb 00 28 00.7
comp=Z,36nm,0.8s
NEW **Newport** **36.87 335** IAmb IAmb 00 28 00.9
comp=Z,39nm,0.8s
NEW **Newport** **36.87 335** P **P** **00 27 59.0 -0.2**
baz=143,SNR=38
NEW **Newport** **36.87 335** LR LR 00 45 47.3
comp=Z,1μm,18.7s,baz=148,slow=40
COR **Corvallis** **37.11 326** P **P** **00 28 02.5 +1.2**
COR **Corvallis** **37.11 326** P **P** **00 28 02.5 +1.2**
COR pmax pmax
comp=Z,287nm,1.1s
COR **Corvallis** **37.11 326** P **P** **00 28 02.8 +1.6**
COR PcP **PcP** **00 30 21.8 +1.1**
E63A **Oxbow** **37.46 31** P **P** **00 28 01.7 -2.4**
baz=225
E63A P **P** **00 28 01.7 -2.4**
baz=225
G03D **McMinnville, O** **37.50 327** P **P** **00 28 04.7 +0.1**
F04A **Amboy** **37.55 328** P **P** **00 28 05.2 +0.2**
F04A IAmb IAmb 00 28 08.5
comp=Z,51nm,1.0s
D62A **Allapoint, All** **37.63 29** P **P** **00 28 03.2 -2.3**
D62A IAmb IAmb 00 28 42.5
comp=Z,70nm,1.2s
D62A **Allapoint, All** **37.63 29** P **P** **00 28 03.3 -2.3**
baz=223,SNR=5.9
D62A P **P** **00 28 03.3 -2.3**
baz=223,SNR=5.9
LTY **Liberty** **37.64 331** P **P** **00 28 07.3 +1.5**
LTY IAmb IAmb 00 28 08.2
comp=Z,150nm,1.1s
HEBO **Mount Hebo** **37.77 326** P **P** **00 28 07.8 +0.9**
LON **Longmire** **37.82 330** P **P** **00 28 07.8 +0.5**
LON IAmb IAmb 00 28 09.7
comp=Z,97nm,0.8s
LON **Longmire** **37.82 330** P **P** **00 28 07.8 +0.5**
LON pmax pmax
comp=Z,97nm,0.8s
F04D **Rainier, OR** **37.96 328** P **P** **00 28 09.6 +1.2**
F03A **Seaside** **38.14 327** P **P** **00 28 11.4 +1.5**
D05A **Enumclaw** **38.22 330** P **P** **00 28 11.5 +1.0**
ETMB **Extrema** **38.39 130** P **P** **00 28 12.0 -0.3**
ETMB IAmb IAmb 00 28 29.5
comp=Z,149nm,1.2s
ETMB **Extrema** **38.39 130** *e*P **P** **00 28 12.1 -0.3**
E03A **Lebam** **38.55 328** P **P** **00 28 14.1 +0.7**
RADR **Rader Ridge** **38.59 328** P **P** **00 28 14.9 +1.2**
GNW **Green Mountain** **38.89 330** P **P** **00 28 16.4 +0.3**
GNW IAmb IAmb 00 28 17.6
comp=Z,85nm,0.8s
FFC **Flin Flon** **38.93 354** P **P** **00 28 16.1 -0.3**
FFC IAmb IAmb 00 28 31.8
comp=Z,116nm,1.4s
FFC **Flin Flon** **38.93 354** *e*P **P** **00 28 16.4 0.0**
FFC **Flin Flon** **38.93 354** P **P** **00 28 16.2 -0.2**
FFC pP **pP** **00 28 31.2 +0.3**
FFC sP **sP** **00 28 38.2 +0.7**
MACA **Manacapuru-AM** **38.94 116** *e*P **P** **00 28 16.4 -0.6**
B06A **Marblemount** **38.94 332** IAmb IAmb 00 28 18.1
comp=Z,102nm,0.8s
WISH **Wishkah** **39.04 329** P **P** **00 28 18.4 +1.0**
WISH IAmb IAmb 00 28 20.5
comp=Z,160nm,1.0s
B04A **Port Angeles** **39.56 330** IAmb IAmb 00 28 24.2
comp=Z,98nm,1.1s
EDM **Edmonton** **39.76 343** P **P** **00 28 23.7 +0.3**
EDM **Edmonton** **39.76 343** P **P** **00 28 23.7 +0.3**
EDM pmax pmax
comp=Z,696nm,1.8s
PGC **Sidney** **39.95 331** P **P** **00 28 25.8 +0.8**
PGC IAmb IAmb 00 28 27.0
comp=Z,123nm,0.9s
SAML **Samuel** **40.13 126** P **P** **00 28 25.4 -1.5**
SAML IAmb IAmb 00 28 42.8
comp=Z,68nm,1.0s
SAML **Samuel** **40.13 126** P **P** **00 28 25.4 -1.5**
SAML pmax pmax
comp=Z,68nm,1.0s
SAML **Samuel** **40.13 126** *e*P **P** **00 28 25.2 -1.7**
SAML **Samuel** **40.13 126** *e*P **P** **00 28 25.7 -1.2**
SAML **Samuel** **40.13 126** P **P** **00 28 25.3 -1.6**
SAML pP **pP** **00 28 40.7 -0.7**
CLRS **Cowichan Lake** **40.39 330** P **P** **00 28 28.9 +0.2**
LLLB **Lillooet** **40.66 334** P **P** **00 28 31.5 +0.6**
LLLB IAmb IAmb 00 28 33.2
comp=Z,139nm,1.1s
LPAZ **La Paz** **41.68 139** *e*P **P** **00 28 39.4 -1.0**
LPAZ **La Paz** **41.68 139** *e*P **P** **00 28 40.5 +0.2**
LPAZ **La Paz** **41.68 139** P **P** **00 28 40.2 -0.1**
LPAZ x x 00 28 47.0
LPAZ pP **pP** **00 28 56.3 +1.4**
LPAZ sP **sP** **00 29 02.2 +0.7**
LPAZ PcP **PcP** **00 30 36.0 -0.3**
BRLDA **Berland Lookou** **41.74 340** P **P** **00 28 39.5 -0.3**
BRLDA IAmb IAmb 00 28 41.3
comp=Z,64nm,0.9s
CBB **Campbell River** **41.81 331** P **P** **00 28 41.9 +1.6**
CBB IAmb IAmb 00 28 42.9
comp=Z,214nm,1.5s
PB12 **IPOC Station P** **42.18 144** P **P** **00 28 44.0 +0.3**
PB12 IAmb IAmb 00 29 00.9
comp=Z,168nm,1.5s
PB16 **IPOC Station P** **42.43 143** IAmb IAmb 00 29 05.0
comp=Z,66nm,0.8s
MPGF **Montagnes des** **42.93 100** P **P** **00 28 47.1 -2.8**
MDP **Montagnes des** **42.94 100** LR LR 00 50 07.1
comp=Z,664nm,18.6s,baz=288,slow=41
HOLB **Holberg** **43.54 330** P **P** **00 28 54.0 -0.3**
HOLB IAmb IAmb 00 28 57.1
comp=Z,377nm,1.9s
GO01 **Chusmiza** **43.66 144** P **P** **00 28 56.3 +0.2**
GO01 IAmb IAmb 00 29 14.9
comp=Z,74nm,0.8s
ITTB **Itaituba** **43.82 114** *e*P **P** **00 28 54.8 -2.3**

MALB	Monte Alegre	44.00 110	eP	P	00 28 56.6	-1.9
PATCX	Punta Patache	44.05 146		P	00 28 59.1	+0.3
PATCX			IAmb	IAmb	00 29 16.4	
	comp=Z,207nm,1.3s					
PB08	IPOC Station P	44.06 144	P	P	00 28 59.4	+0.1
SCHQ	Schefferville	44.34 23	P	P	00 28 58.8	-1.9
	comp=Z,24nm,0.8s,baz=219,slow=4.7,SNR=14					
SCHQ			PcP	PcP	00 30 43.6	-0.3
	comp=Z,15nm,0.7s,baz=249,slow=3.6,SNR=3.7					
SCHQ			LR	LR	00 49 42.1	
	comp=Z,1μm,18.6s,baz=228,slow=39					
	comp=Z,24nm,0.8s					
BBB	Bella Bella	44.54 331	P	P	00 29 02.2	0.0
BBB			IAmb	IAmb	00 29 05.5	
	comp=Z,203nm,1.6s					
BBB	Bella Bella	44.54 331	LR	LR	00 49 15.1	
	comp=Z,665nm,20.0s,baz=148,slow=38					
PB02	IPOC Station P	44.59 146	P	P	00 29 03.9	+0.7
PB02			IAmb	IAmb	00 29 21.9	
	comp=Z,157nm,0.9s					
VILB	Vilhena	44.90 128	IAmb	IAmb	00 29 09.5	
	comp=Z,245nm,1.3s					
VILB	Vilhena	44.90 128	eP	P	00 29 05.3	-0.4
PB07	IPOC Station P	44.93 146	P	P	00 29 06.4	+0.5
PB07			IAmb	IAmb	00 29 23.7	
	comp=Z,73nm,0.9s					
RPN	Rapa Nui	45.17 198	LR	LR	00 43 52.0	
	comp=Z,278nm,19.9s,baz=52,slow=30					
PB04	IPOC Station P	45.28 147	P	P	00 29 09.1	+0.4
PB04			IAmb	IAmb	00 29 26.5	
	comp=Z,111nm,1.1s					
PB09	IPOC Station P	45.33 145	IAmb	IAmb	00 29 27.3	
	comp=Z,90nm,0.9s					
MCPB	Macapa, AP	45.40 107	eP	P	00 29 07.3	-2.3
NPGB	Novo Progresso	45.47 117	eP	P	00 29 08.2	-2.0
PB06	IPOC Station P	45.89 147	IAmb	IAmb	00 29 31.3	
	comp=Z,146nm,1.1s					
HG4B	Hotspring	46.07 330	P	P	00 29 15.8	+1.4
HG4B			IAmb	IAmb	00 29 17.2	
	comp=Z,88nm,0.9s					
LVC	Limon Verde	46.17 146	P	P	00 29 16.3	+0.4
LVC			IAmb	IAmb	00 29 34.2	
	comp=Z,71nm,1.1s					
LVC	Limon Verde	46.17 146	eP	P	00 29 17.5	+1.6
LVC	Limon Verde	46.17 146	eP	P	00 29 17.2	+1.3
LVC	Limon Verde	46.17 146	P	P	00 29 17.1	+1.1
LVC			pP	pP	00 29 32.6	+1.9
SIV	San Ignacio	46.22 132	LR	LR	00 48 06.0	
	comp=Z,859nm,19.4s,baz=3.5,slow=35					
PB15	IPOC Station P	46.35 147	P	P	00 29 18.2	+1.0
PB15			IAmb	IAmb	00 29 35.0	
	comp=Z,68nm,1.2s					
GRNB	Grenville Isla	46.47 332	P	P	00 29 18.2	+0.6
PDRB	Porto dos Gac	46.80 124	eP	P	00 29 18.9	-1.8
AF01	San Pedro de A	46.84 145	P	P	00 29 22.1	+1.0
RUBB	Prince Rupert	46.92 332	P	P	00 29 21.6	+0.6
RUBB			IAmb	IAmb	00 29 24.4	
	comp=Z,105nm,1.3s					
PB14	IPOC Station P	47.05 149	P	P	00 29 23.0	+0.3
PB14			IAmb	IAmb	00 29 40.4	
	comp=Z,123nm,1.0s					
CLDB	Colider	47.14 122	eP	P	00 29 21.6	-1.7
DIB	Dawson Inlet,	47.24 330	P	P	00 29 24.8	+1.3
PTLB	Pontes e Lacer	47.27 130	P	P	00 29 23.8	-0.4
PTLB			IAmb	IAmb	00 29 27.9	
	comp=Z,58nm,0.8s					
PTLB	Pontes e Lacer	47.27 130	eP	P	00 29 23.6	-0.6
BBSD	Serra de San D	47.35 133	eP	P	00 29 23.6	-1.2
GO02	Mina Guanaco	47.90 148	P	P	00 29 30.1	+0.7
V35K	Ketchikan	48.17 333	P	P	00 29 31.5	+0.9
V35K			IAmb	IAmb	00 29 34.2	
	comp=Z,115nm,1.1s					
V35K	Ketchikan	48.17 333	P	P	00 29 33.1	+2.4
	baz=129,SNR=15					
YKA	Yellowknife Ar	48.36 348	P	P	00 29 32.0	0.0
	comp=Z,46nm,0.8s,baz=152,slow=7.5,SNR=103					
YKA			PcP	PcP	00 30 57.0	-0.8
	comp=Z,3.1nm,0.7s,baz=153,slow=2.9,SNR=4.2					
	comp=Z,46nm,0.8s					
BBRB	Robore, Bolivi	48.65 133	eP	P	00 29 33.3	-1.6
FLDN	Fort Liard	48.68 342	P	P	00 29 35.0	+0.5
FLDN			IAmb	IAmb	00 29 36.6	
	comp=Z,62nm,1.0s					
FLDN	Fort Liard	48.68 342	P	P	00 29 35.4	+0.9
	baz=142					
T35M	Bob Quinn	48.68 335	P	P	00 29 36.1	+1.4
T35M			IAmb	IAmb	00 29 38.5	
	comp=Z,89nm,1.0s					
T35M	Bob Quinn	48.68 335	P	P	00 29 37.3	+2.7
	baz=132,SNR=20					
KOTAN	Kotaneelee Air	48.77 341	P	P	00 29 36.1	+0.9
	baz=141,SNR=21					
LIRD	Liard River Hi	48.88 339	P	P	00 29 37.0	+1.0
	baz=138,SNR=6.7					
CRAG	Craig	48.92 332	P	P	00 29 37.1	+0.6
CRAG	Craig	48.92 332	P	P	00 29 39.3	+2.8
	comp=Z,166nm,1.3s					
CRAG	Craig	48.92 332	P	P	00 29 38.8	+2.4
	baz=128,SNR=8.6					
U33K	Whale Pass	49.33 333	P	P	00 29 40.0	+0.5
U33K			IAmb	IAmb	00 29 42.9	
	comp=Z,146nm,1.4s					
U33K	Whale Pass	49.33 333	P	P	00 29 41.8	+2.2
	baz=128,SNR=5.2					
DLBC	Dease Lake	49.59 337	P	P	00 29 42.8	+1.2
DLBC	Dease Lake	49.59 337	P	P	00 29 44.2	+2.6
	baz=133,SNR=40					
DLBC	Dease Lake	49.59 337	LR	LR	00 54 15.1	
	comp=Z,1μm,18.3s,baz=135,slow=40					
GO03	Copiap	49.62 151		P	00 29 42.2	0.0
GO03			IAmb	IAmb	00 30 00.1	
	comp=Z,65nm,1.0s					
S34M	Telegraph Cree	49.66 336	P	P	00 29 43.0	+0.9
S34M			IAmb	IAmb	00 29 45.9	
	comp=Z,137nm,1.4s					
S34M	Telegraph Cree	49.66 336	P	P	00 29 44.8	+2.7
	baz=132,SNR=14					
T33K	Petersburg	49.69 334	P	P	00 29 44.3	+2.0
	baz=129					
AC04	Llanos de Chal	49.76 152	P	P	00 29 43.7	+0.5
AC04			IAmb	IAmb	00 30 00.9	
	comp=Z,87nm,1.0s					
TMAB	Tom-Au,PA,Br	49.83 107	eP	P	00 29 43.0	-1.0
PRPB	Parauapebas	49.88 113	eP	P	00 29 43.4	-1.0
SALV	Santo Antonio	50.14 127	eP	P	00 29 45.7	-0.6
WTLY	Watson Lake, Y	50.32 339	IAmb	IAmb	00 29 49.9	
	comp=Z,108nm,1.0s					
WTLY	Watson Lake, Y	50.32 339	P	P	00 29 49.0	+1.9
	baz=136					
R33M	Jennings River	50.60 337	P	P	00 29 50.5	+1.2
R33M	Jennings River	50.60 337	P	P	00 29 51.5	+2.2
	baz=133,SNR=38					
LCO	Las Campanas	50.61 152		P	00 29 50.2	+0.2
LCO	Las Campanas	50.61 152	P	P	00 29 50.2	+0.2
LCO			pmax	pmax		
	comp=Z,158nm,0.9s					
LCO	Las Campanas	50.61 152	P	P	00 29 50.5	+0.5
LCO			pP	pP	00 30 06.5	+1.6
LCO			sP	sP	00 30 13.3	+1.9
S32K	Killisnoo	50.79 334		P	00 29 51.5	+0.9
S32K			IAmb	IAmb	00 29 54.1	
	comp=Z,62nm,1.1s					
S32K	Killisnoo	50.79 334	P	P	00 29 52.7	+2.1
	baz=128					
Q32M	Nakina River	50.80 336	P	P	00 29 52.5	+1.5
Q32M			IAmb	IAmb	00 29 54.8	
	comp=Z,148nm,1.2s					
Q32M	Nakina River	50.80 336	P	P	00 29 53.1	+2.1
	baz=131,SNR=15					
SIT	Sitka	50.87 333	P	P	00 29 52.9	+1.7
	baz=126					
FRB	Frobisher Bay	50.98 15	LR	LR	00 54 55.3	
	comp=Z,767nm,18.0s,baz=208,slow=40					
WRGLY	Wrigley	51.07 344	P	P	00 29 53.7	+1.1
WRGLY	Wrigley	51.07 344	P	P	00 29 54.8	+2.1
	baz=144,SNR=5.8					
TAOE	Nuku Hiva Isla	51.13 244	eS	S	00 37 13.7	+5.6
	comp=Z,399nm,38.1s					
TAOE			eSS	SS	00 40 47.3	+3.1
	comp=Z,280nm,28.0s					
TAOE			eLR	LR	00 44 17.7	
	comp=Z,3μm,27.4s					
CO05	La Serena	51.16 153	P	P	00 29 56.4	+2.7
CO05			IAmb	IAmb	00 30 11.7	
	comp=Z,104nm,1.1s					
TGTN	Hyland Airport	51.17 340	P	P	00 29 55.6	+2.1
	baz=137,SNR=33					
R32K	Eaglecrest	51.27 334	P	P	00 29 56.4	+2.2
	baz=128					
SNDB	Serra Nova Dou	51.44 120	eP	P	00 29 56.2	+0.1
CO01	Juntas del Tor	51.71 152	P	P	00 29 58.8	+0.7
CO01			IAmb	IAmb	00 30 17.2	
	comp=Z,48nm,0.8s					
P32M	Atlin	51.78 336	P	P	00 29 59.9	+1.9
P32M			IAmb	IAmb	00 30 01.2	
	comp=Z,96nm,1.1s					
P32M	Atlin	51.78 336	P	P	00 30 00.1	+2.1
	baz=130,SNR=18					
PP1B	Ponte de Pedra	51.80 129	eP	P	00 29 58.5	-0.2
S31K	Pelican	51.80 333	P	P	00 29 59.1	+0.9
S31K	Pelican	51.80 333	P	P	00 29 59.7	+1.5
	baz=126,SNR=5.4					
VA04	Juan Fernndez	51.81 163	P	P	00 30 00.6	+2.1
P33M	Teslin, Yukon	51.84 337	IAmb	IAmb	00 30 01.7	
	comp=Z,133nm,1.4s					
P33M	Teslin, Yukon	51.84 337	P	P	00 30 00.3	+1.7
	baz=131,SNR=18					
R31K	City Hall, Gus	51.86 334	P	P	00 30 00.7	+2.1
	baz=127					
BDQN	Bodoquena, MS	52.24 133	eP	P	00 30 00.5	-1.4
SKAG	Skagway	52.33 335	P	P	00 30 03.0	+0.9
SKAG			IAmb	IAmb	00 30 05.4	
	comp=Z,156nm,1.8s					
SKAG	Skagway	52.33 335	P	P	00 30 03.7	+1.6
	baz=128					
CO02	Combarbal	52.37 154	P	P	00 30 04.1	+1.2
N32M	Quiet Lake	52.56 338	P	P	00 30 04.7	+0.8
N32M	Quiet Lake	52.56 338	P	P	00 30 05.6	+1.7
	baz=131					
PLBC	Pleasant Camp	52.75 335	P	P	00 30 07.5	+2.3
	baz=127,SNR=11					
WHY	Whitehorse	52.91 337	P	P	00 30 07.3	+0.8
WHY			IAmb	IAmb	00 30 09.2	
	comp=Z,48nm,0.9s					
WHY	Whitehorse	52.91 337	P	P	00 30 08.0	+1.5
	baz=129,SNR=16					
MMPY	Sheldon Lake,	52.94 340	P	P	00 30 08.0	+1.4
MMPY	Sheldon Lake,	52.94 340	P	P	00 30 08.8	+2.2
	baz=134,SNR=80					
AQDB	Aquidauana	53.00 132	P	P	00 30 06.8	-0.8
AQDB	Aquidauana	53.00 132	eP	P	00 30 06.7	-0.8
ARAG	Araguaiana, MT	53.05 124	eP	P	00 30 06.9	-1.1
SMTB	Santa Maria do	53.06 115	eP	P	00 30 07.8	-0.5
FARO	Faro, Yukon	53.38 339	P	P	00 30 10.6	+0.7
FARO			IAmb	IAmb	00 30 12.5	
	comp=Z,85nm,0.9s					
FARO	Faro, Yukon	53.38 339	P	P	00 30 11.4	+1.5
	baz=132,SNR=39					
P30M	Million Dollar	53.39 335	P	P	00 30 12.3	+2.3
	baz=127					
P29M	Windy Craggy	53.42 335	P	P	00 30 10.8	+0.7
P29M	Windy Craggy	53.42 335	P	P	00 30 11.8	+1.6
	baz=125,SNR=12					
O30N	Mendenhall	53.45 336	P	P	00 30 11.6	+1.2
O30N			IAmb	IAmb	00 30 13.5	
	comp=Z,74nm,1.1s					
O30N	Mendenhall	53.45 336	P	P	00 30 12.3	+1.9
	baz=128,SNR=19					
ROSB	Rosrio	53.68 106	eP	P	00 30 11.3	-1.5
VA01	Torpederas	53.70 156		P	00 30 12.2	-0.2
VA01			IAmb	IAmb	00 30 30.9	
	comp=Z,107nm,1.0s					
M31M	Drury Creek, Y	53.73 338	P	P	00 30 14.1	+1.7
	baz=131,SNR=23					
N31M	Braeburn, Yuko	53.77 337	P	P	00 30 13.9	+1.2
N31M	Braeburn, Yuko	53.77 337	P	P	00 30 14.4	+1.7
	baz=129,SNR=25					
ANTJ	Antonio Joao (	53.78 134	eP	P	00 30 11.9	-1.5
ROC1	El Roble	53.91 155	P	P	00 30 14.5	+0.2
ROC1			IAmb	IAmb	00 30 32.5	
	comp=Z,64nm,0.8s					
VA03	San Esteban	53.91 154	P	P	00 30 15.0	+0.8
CFA	Coronel Fontan	53.93 152	LR	LR	00 48 43.8	
	comp=Z,585nm,21.3s,baz=327,slow=31					
TICA	Tres Isletas	53.99 141	eP	P	00 30 15.4	+0.7
HYT	Haines Junctio	54.03 336	P	P	00 30 16.1	+1.4
HYT			IAmb	IAmb	00 30 18.4	
	comp=Z,128nm,1.3s					
HYT	Haines Junctio	54.03 336	P	P	00 30 17.1	+2.3
	baz=126,SNR=15					
MT02	Curacav	54.11 155	P	P	00 30 15.7	+0.2
MT02			IAmb	IAmb	00 30 34.4	
	comp=Z,126nm,1.1s					
PNL	Peninsula	54.13 334	P	P	00 30 18.4	+3.0
	comp=Z,178nm,1.0s					
PNL	Peninsula	54.13 334	P	P	00 30 17.1	+1.8
	baz=124,SNR=5.6					
ESFA	Espinillo Form	54.14 138	eP	P	00 30 15.6	-0.2
O29M	Mount Kennedy	54.15 335	P	P	00 30 16.8	+1.1
O29M			IAmb	IAmb	00 30 18.7	
	comp=Z,86nm,1.0s					
O29M	Mount Kennedy	54.15 335	P	P	00 30 17.6	+1.9
	baz=125,SNR=14					
PEL	Peldehue	54.19 155	P	P	00 30 17.0	+0.9
PEL	Peldehue	54.19 155	P	P	00 30 17.0	+0.9
PEL			pmax	pmax		
	comp=Z,177nm,1.2s					
N30M	Aishikik Lake	54.25 337	P	P	00 30 17.0	+0.7
N30M			IAmb	IAmb	00 30 19.6	
	comp=Z,114nm,1.2s					
N30M	Aishikik Lake	54.25 337	P	P	00 30 18.4	+2.1
	baz=127,SNR=17					
VA05	Santo Domingo	54.27 156	P	P	00 30 17.7	+1.1
VA05			IAmb	IAmb	00 30 34.2	
	comp=Z,163nm,1.5s					
MT05	Renca	54.38 155	P	P	00 30 17.6	0.0
BCPM	Bancas Point	54.39 334	P	P	00 30 17.3	0.0
YUK6	Outpost Mounta	54.44 336	P	P	00 30 20.3	+2.5
	baz=126,SNR=17					
RPRD	Ribas do Rio P	54.45 131	eP	P	00 30 17.4	-0.8
MT01	Popeta	54.59 156	P	P	00 30 19.4	+0.4
MT01			IAmb	IAmb	00 30 39.2	
	comp=Z,51nm,0.9s					
MT09	Talagante	54.62 155	P	P	00 30 19.7	+0.4
MT08	Bocatoma Ro	54.73 154	P	P	00 30 21.2	+0.9
PINM	Pinnacle	54.73 334	P	P	00 30 22.0	+2.2
	baz=123,SNR=7.6					
YUK4	Talbot Arm	54.79 336	P	P	00 30 22.2	+1.9
	baz=126,SNR=16					
M30M	Minto, Yukon	54.83 338	IAmb	IAmb	00 30 23.0	
	comp=Z,169nm,1.4s					
M30M	Minto, Yukon	54.83 338	P	P	00 30 21.9	+1.4
	baz=128,SNR=34					
MT13	San Alfonso	54.88 155	P	P	00 30 22.8	+1.6
BO04	La Punta	54.96 155	IAmb	IAmb	00 30 40.3	
	comp=Z,138nm,1.2s					
O28M	Mount Upton	55.08 335	P	P	00 30 24.4	+1.9
	baz=124,SNR=8.3					
MAYO	Mayo, Yukon	55.16 339	P	P	00 30 23.0	+0.2
MAYO	Mayo, Yukon	55.16 339	P	P	00 30 24.7	+2.0
	baz=130,SNR=33					
YUK8	Steele Glacier	55.19 336	P	P	00 30 25.3	+2.0
	baz=124,SNR=19					
GO05	Huala	55.34 157	IAmb	IAmb	00 30 42.8	
	comp=Z,119nm,1.0s					
M29M	Somme Creek	55.37 337	P	P	00 30 25.6	+1.3
M29M	Somme Creek	55.37 337	P	P	00 30 26.3	+1.9
	baz=126,SNR=95					
LOGN	Logan Glacier	55.44 335	P	P	00 30 25.4	+0.4
LOGN			IAmb	IAmb	00 30 28.3	
	comp=Z,114nm,1.2s					
MESA	MESA	55.49 334	P	P	00 30 26.1	+0.7
	baz=121					
BO02	Sierra Bellavi	55.59 156	IAmb	IAmb	00 30 44.4	
	comp=Z,129nm,1.2s					
L29M	L29M	55.64 338	P	P	00 30 27.5	+1.2
	baz=127,SNR=62					
CTGM	Chitina Glacie	55.65 335	P	P	00 30 27.8	+1.3
CTG	Chitna Glacier	55.65 335	P	P	00 30 28.7	+2.2
	baz=122,SNR=11					
GRNC	Granite Creek	55.70 334	P	P	00 30 28.0	+1.0
YUK3	Moose Creek	55.74 336	P	P	00 30 28.6	+1.4
	baz=124,SNR=19					
BARN	Barnard Glacie	55.84 335	P	P	00 30 28.2	+0.4
BARN			IAmb	IAmb	00 30 32.6	
	comp=Z,71nm,0.9s					
CPUP	Villa Florida	55.84 139	IAmb	IAmb	00 30 44.1	
	comp=Z,95nm,1.4s					
CPUP	Villa Florida	55.84 139	eP	P	00 30 27.4	-0.8
CPUP	Villa Florida	55.84 139	P	P	00 30 27.1	-1.1
	comp=Z,11nm,1.1s,baz=328,slow=8.9,SNR=12					
CPUP			LR	LR	00 56 01.1	
	comp=Z,327nm,18.6s,baz=330,slow=38					
	comp=Z,11nm,1.1s					
CPUP	Villa Florida	55.84 139	P	P	00 30 26.5	-1.7
CPUP			x	x	00 30 32.7	
CPUP			pP	pP	00 30 42.7	-0.6
SNH	Sunshine Point	55.87 333	P	P	00 30 28.5	+0.6
K29M	Barlow Dome	55.88 339	P	P	00 30 29.0	+0.9
	baz=128,SNR=41					
SCCA	San Cayetano,	55.91 141	eP	P	00 30 29.8	+1.2
J30M	Hart River	55.94 340	IAmb	IAmb	00 30 31.7	
	comp=Z,28nm,0.7s					
J30M	Hart River	55.94 340	P	P	00 30 29.5	+1.1
	baz=130,SNR=27					
BDFB	Brasilia	56.07 122	P	P	00 30 30.0	-0.1
	comp=Z,96nm,0.7s,baz=296,slow=7.9,SNR=55					
BDFB			LR	LR	00 55 52.1	
	comp=Z,778nm,21.1s,baz=313,slow=37					
	comp=Z,96nm,0.7s					
H31M	Peel River	56.12 342	IAmb	IAmb	00 30 31.7	
	comp=Z,158nm,1.6s					
H31M	Peel River	56.12 342	P	P	00 30 30.3	+0.7
	baz=132,SNR=15					
TGL	Tana Glacier	56.16 334	P	P	00 30 31.4	+1.3
BVCY	Beaver Creek	56.26 336	P	P	00 30 31.9	+1.2
	baz=124					
CRQE	Cirque	56.27 334	P	P	00 30 32.5	+1.6
	baz=120					
CRQM	Cirque	56.29 334	P	P	00 30 32.1	+0.9
CRQM			IAmb	IAmb	00 30 34.1	
	comp=Z,104nm,1.1s					
NUUK	Nuuk	56.33 21	i P	P	00 30 30.4	-0.7
NUUK			IAmb	IAmb	00 30 32.8	
	comp=Z,47nm,0.8s					
BERG	Berg Lake	56.35 333	P	P	00 30 32.6	+1.3
I30M	Mount Dempster	56.37 340	P	P	00 30 31.6	+0.1
I30M	Mount Dempster	56.37 340	P	P	00 30 32.4	+0.8
	baz=130,SNR=37					
KAIM	Kayak Island	56.43 333	P	P	00 30 33.1	+1.2
	baz=119					
ITRB	Iturama	56.48 127	eP	P	00 30 31.9	-0.9
J29N	Klondike Camp	56.49 339	P	P	00 30 33.1	+0.7
	baz=128					
HMT	Hamilton	56.56 333	P	P	00 30 33.3	+0.5
MCARA	McCarthy VSAT	56.57 335	P	P	00 30 34.3	+1.4
MCARA	McCarthy VSAT	56.57 335	P	P	00 30 34.7	+1.8
	baz=121,SNR=25					
M27K	Edge Creek, AK	56.62 336	P	P	00 30 34.5	+1.1
M27K			IAmb	IAmb	00 30 36.3	
	comp=Z,45nm,1.0s					
M27K	Edge Creek, AK	56.62 336	P	P	00 30 35.1	+1.7
	baz=123,SNR=11					
VRDI	Verde Repeater	56.67 334	P	P	00 30 34.9	+1.1
VRDI			IAmb	IAmb	00 30 36.7	
	comp=Z,98nm,1.0s					
TRCB	Terra Rica	56.67 132	P	P	00 30 35.0	+0.8
TRCB			IAmb	IAmb	00 30 38.1	
	comp=Z,61nm,0.6s					
TRCB	Terra Rica	56.67 132	eP	P	00 30 33.7	-0.4
DAWY	Dawson	56.67 338	P	P	00 30 33.9	+0.3
DAWY			IAmb	IAmb	00 30 35.0	
	comp=Z,38nm,0.8s					
DAWY	Dawson	56.67 338	P	P	00 30 33.8	+0.2
	baz=126					
MCR1	Marechal Candi	56.75 134	eP	P	00 30 34.6	-0.1
RAGM	Ragged Mountai	56.77 333	P	P	00 30 35.6	+1.3
G31M	Satah River	56.87 343	P	P	00 30 35.5	+0.6
	baz=133,SNR=56					
GLB	Gilahina Butte	56.92 334	P	P	00 30 36.6	+1.2
PCMB	Pacaembu	56.93 130	eP	P	00 30 35.0	-1.0
BCAR	Beaver Creek A	56.98 337	P	P	00 30 36.1	+0.3
L27K	Beaver Creek,	56.99 337	P	P	00 30 36.9	+1.0
	baz=123,SNR=37					
BMRM	Bremner River	57.02 334	P	P	00 30 37.0	+0.9
BMRM	Bremner River	57.02 334	P	P	00 30 37.9	+1.8
	baz=119,SNR=12					
SDBA	SAO DESIDERIO	57.05 117	eP	P	00 30 36.8	-0.2
F31M	Tsiigehtchic	57.08 343	P	P	00 30 36.9	+0.5
	baz=134,SNR=27					
I29M	Ogilvie Camp,	57.09 340	IAmb	IAmb	00 30 38.0	
	comp=Z,54nm,1.1s					
I29M	Ogilvie Camp,	57.09 340	P	P	00 30 36.8	+0.3
	baz=128,SNR=34					
M26K	Nabesna, AK	57.09 336	P	P	00 30 38.1	+1.6
	baz=122,SNR=32					
NRS	Narsarsuaq	57.09 26	IAmb	IAmb	00 30 40.1	
	comp=Z,71nm,1.0s					
NRS	Narsarsuaq	57.09 26	i P	P	00 30 35.5	-1.0
NRS			IAmb	IAmb	00 30 37.5	
	comp=Z,27nm,0.6s					
JCUZ	Jacuzzi	57.11 283	P	P	00 30 38.0	+0.6
NPOC	North of Pu'u	57.12 283	P	P	00 30 38.2	+0.7
STCH	Steam Cracks	57.13 283	P	P	00 30 39.3	+1.7
PUH	Pauahi	57.22 283	P	P	00 30 39.2	+0.9
EPYK	Eagle Plains	57.23 341	IAmb	IAmb	00 30 38.6	
	comp=Z,48nm,0.9s					
EPYK	Eagle Plains	57.23 341	P	P	00 30 38.1	+0.6
	baz=130,SNR=22					
BYL	Byron's Ledge	57.26 283	P	P	00 30 39.5	+0.9
HATHI	Halema'uma'u T	57.26 283	P	P	00 30 40.2	+1.6
SBLHI	Steaming Bluff	57.26 283	P	P	00 30 39.4	+0.8
KKO	Keanakako`i	57.27 283	P	P	00 30 39.7	+1.1
RIM	Rim	57.27 283	P	P	00 30 40.4	+1.8
UWB	Uwekahuna B	57.27 283	P	P	00 30 38.9	+0.2
UWE	Uwekahuna	57.29 283	P	P	00 30 38.8	0.0
SDHHI	Sand Hill	57.29 283	P	P	00 30 39.7	+0.9
WRMHI	West Rim	57.30 283	P	P	00 30 38.5	-0.4
EYAK	Cordova Ski Ar	57.31 333	P	P	00 30 40.3	+2.2
	comp=Z,112nm,1.2s					
EYAK	Cordova Ski Ar	57.31 333	P	P	00 30 40.0	+1.9
	baz=118,SNR=8.6					
HLP	Hilina Pali	57.32 283	P	P	00 30 40.2	+1.2
N25K	Chitina, Valde	57.33 334	P	P	00 30 39.6	+1.3
N25K	Chitina, Valde	57.33 334	P	P	00 30 40.5	+2.2
	baz=119,SNR=29					
MLH	Mauna Loa	57.37 283	P	P	00 30 40.7	+1.2
MECA	Mercedes	57.44 142	eP	P	00 30 39.3	-0.1
AIN	Ainahou	57.45 283	P	P	00 30 40.8	+0.8
POHA	Pohakuloa	57.47 283	P	P	00 30 40.8	+0.6
POHA	Pohakuloa	57.47 283	P	P	00 30 42.2	+2.0
	comp=Z,440nm,1.2s					
G30M	tAoh Zraii Nji	57.48 342	IAmb	IAmb	00 30 44.8	
	comp=Z,160nm,1.8s					
G30M	tAoh Zraii Nji	57.48 342	P	P	00 30 39.2	-0.1
	baz=131,SNR=12					
L26K	Log Cabin Wild	57.55 336	P	P	00 30 40.0	+0.2
L26K			IAmb	IAmb	00 30 42.6	
	comp=Z,88nm,1.2s					
L26K	Log Cabin Wild	57.55 336	P	P	00 30 41.2	+1.3
	baz=121,SNR=21					
MWH	Moku'aweowe	57.56 283	P	P	00 30 42.5	+1.3
HIN	Hinchinbrook I	57.58 333	P	P	00 30 41.7	+1.7
HPAH	Hawaii Prepara	57.59 284	P	P	00 30 41.5	+0.7
DIV	Divide	57.60 334	P	P	00 30 41.1	+0.9
K27K	Chicken	57.62 338	IAmb	IAmb	00 30 43.0	
	comp=Z,128nm,1.2s					
K27K	Chicken	57.62 338	P	P	00 30 41.3	+1.1
	baz=123					
INK	Inuvik	57.63 344	P	P	00 30 40.8	+0.6
	baz=135,SNR=74					

G29M	Pine Creek	57.97 341	P	P	00 30 42.6 -0.1
	baz=129,SNR=25				
GLI	Glacier Island	58.05 333	P	P	00 30 43.6 +0.3
GLI			IAmb	IAmb	00 30 48.3
	comp=Z,42nm,1.0s				
GLI	Glacier Island	58.05 333	P	P	00 30 44.4 +1.0
	baz=116				
LDASE	Londrina, Braz	58.13 131	eP	P	00 30 43.4 -1.0
KHLH	Kahului Airpor	58.17 285	P	P	00 30 46.7 +1.9
M24K	Tolsona, Glenn	58.23 334	P	P	00 30 45.8 +1.2
M24K	Tolsona, Glenn	58.23 334	P	P	00 30 46.5 +1.9
	baz=118,SNR=9.9				
PTGB	Pitanga	58.29 133	eP	P	00 30 44.0 -1.5
SCRK	Sand Creek	58.30 337	P	P	00 30 45.8 +0.7
SCRK			IAmb	IAmb	00 30 47.8
	comp=Z,85nm,1.0s				
SCRK	Sand Creek	58.30 337	P	P	00 30 46.4 +1.3
	baz=121,SNR=40				
I27K	Kandik River	58.34 339	P	P	00 30 45.9 +0.5
	baz=125,SNR=25				
PAX	Paxson	58.36 336	P	P	00 30 46.1 +0.6
PAX			IAmb	IAmb	00 30 47.7
	comp=Z,86nm,0.9s				
PAX	Paxson	58.36 336	P	P	00 30 46.1 +0.6
PAX			pmax	pmax	
	comp=Z,86nm,0.9s				
PAX	Paxson	58.36 336	P	P	00 30 46.6 +1.0
	baz=119,SNR=52				
FRBT	Francisco Belt	58.41 135	eP	P	00 30 45.7 -0.7
J26L	Joseph Creek	58.42 338	P	P	00 30 47.1 +1.1
	baz=122				
SFJD	Kangerlussuaq	58.43 19	P	P	00 30 45.2 -0.6
SFJD			IAmb	IAmb	00 30 45.8
	comp=Z,79nm,0.8s				
SFJD	Kangerlussuaq	58.43 19	P	P	00 30 45.2 -0.6
SFJD			pmax	pmax	
	comp=Z,79nm,0.9s				
SFJD	Kangerlussuaq	58.43 19	i P	P	00 30 44.3 -1.5
SFJD			IAmb	IAmb	00 30 46.2
	comp=Z,50nm,0.8s				
SFJD	Kangerlussuaq	58.43 19	LR	LR	00 59 13.0
	comp=Z,598nm,18.7s,baz=230,slow=39				
SFJD	Kangerlussuaq	58.43 19	P	P	00 30 45.0 -0.8
RIDG	Independent Ri	58.50 336	P	P	00 30 47.8 +1.3
	baz=120,SNR=64				
SCM	Sheep Creek Mo	58.59 334	IAmb	IAmb	00 30 48.9
	comp=Z,96nm,1.1s				
SCM	Sheep Creek Mo	58.59 334	P	P	00 30 47.7 +0.6
	baz=117,SNR=9.4				
PWL	Port Wells	58.59 333	P	P	00 30 47.5 +0.4
PWL	Port Wells	58.59 333	P	P	00 30 47.9 +0.8
	baz=115				
RES	Resolute Bay	58.59 0	LR	LR	00 58 35.6
	comp=Z,638nm,21.4s,baz=200,slow=39				
ITQB	Itaqui	58.65 141	IAmb	IAmb	00 31 05.3
	comp=Z,97nm,1.0s				
ITQB	Itaqui	58.65 141	eP	P	00 30 47.8 -0.1
A36M	Sachs Harbour	58.65 349	P	P	00 30 46.8 -0.5
A36M	Sachs Harbour	58.65 349	P	P	00 30 47.3 +0.1
	baz=145				
BB19B	Bebedouro	58.66 128	eP	P	00 30 48.0 -0.2
H27K	Steamboat Moun	58.67 340	P	P	00 30 48.3 +0.7
	baz=125,SNR=37				
I26K	Coal Creek Min	58.71 339	IAmb	IAmb	00 30 49.7
	comp=Z,97nm,1.7s				
I26K	Coal Creek Min	58.71 339	P	P	00 30 48.4 +0.5
	baz=123,SNR=15				
M23K	Glacier View	58.74 334	P	P	00 30 49.0 +0.9
	baz=116,SNR=18				
CRSM	Crissiumal (Br	58.77 137	eP	P	00 30 47.4 -1.4
SEW	Seward	58.78 332	P	P	00 30 48.7 +0.4
SEW	Seward	58.78 332	P	P	00 30 49.2 +0.9
	baz=114,SNR=12				
JANB	Januaria	58.84 119	eP	P	00 30 49.6 +0.1
E29M	Blow River	58.88 343	P	P	00 30 49.9 +0.9
	baz=130,SNR=32				
KNK	Knik Glacier	58.88 333	IAmb	IAmb	00 30 51.6
	comp=Z,89nm,1.0s				
KNK	Knik Glacier	58.88 333	P	P	00 30 50.0 +0.9
	baz=115,SNR=15				
PMNB	Patos De Minas	58.89 124	eP	P	00 30 50.2 +0.4
K24K	Donnelly Dome	58.89 336	P	P	00 30 50.4 +1.2
	baz=119,SNR=30				
F28M	Old Crow	58.97 342	P	P	00 30 50.6 +1.0
	baz=128,SNR=74				
SML	Sawmill	59.00 334	P	P	00 30 50.5 +0.5
	baz=116,SNR=16				
G27K	Doyon Strip	59.05 340	P	P	00 30 50.0 -0.3
G27K			IAmb	IAmb	00 30 51.9
	comp=Z,55nm,0.8s				
G27K	Doyon Strip	59.05 340	P	P	00 30 50.8 +0.5
	baz=125,SNR=44				
O22K	Cooper Landing	59.06 332	P	P	00 30 51.0 +0.8
O22K	Cooper Landing	59.06 332	P	P	00 30 50.7 +0.4
	baz=114				
WAT6	Susitna Watana	59.10 335	P	P	00 30 51.8 +1.0
	baz=117,SNR=43				
J25K	Salcha River,	59.15 337	IAmb	IAmb	00 30 53.2
	comp=Z,67nm,1.1s				
J25K	Salcha River,	59.15 337	P	P	00 30 52.0 +1.0
	baz=120,SNR=39				
DHY	Denali Highway	59.18 335	P	P	00 30 51.8 +0.5
DHY			IAmb	IAmb	00 30 53.0
	comp=Z,29nm,1.0s				
DHY	Denali Highway	59.18 335	P	P	00 30 51.8 +0.5
	baz=117,SNR=10				
UNIS	Unistalda (Bra	59.18 139	eP	P	00 30 52.1 +0.5
FRTB	Fartura	59.23 130	eP	P	00 30 51.9 -0.2
BRSE	Bradley Lake S	59.23 331	P	P	00 30 52.8 +1.3
	baz=112,SNR=14				
PMR	Palmer	59.25 333	IAmb	IAmb	00 30 53.7
	comp=Z,118nm,1.2s				
PMR	Palmer	59.25 333	P	P	00 30 52.5 +0.9
	comp=Z,105nm,1.4s				
PMR	Palmer	59.25 333	P	P	00 30 52.7 +1.1
	baz=115,SNR=14				
RC01	Rabbit Creek A	59.31 333	P	P	00 30 53.0 +0.9
	baz=114,SNR=19				
BRLK	Bradley Lake	59.31 331	P	P	00 30 53.0 +0.9
LR03	Panguipulli	59.33 160	P	P	00 30 53.9 +1.5
LR03			IAmb	IAmb	00 31 10.2
	comp=Z,55nm,1.2s				
CNPM	China Poot	59.38 330	P	P	00 30 53.6 +1.0
KDAK	Kodiak Island	59.43 328	P	P	00 30 53.9 +1.0
	baz=109				
KDAK	Kodiak Island	59.43 328	LR	LR	00 57 24.5
	comp=Z,452nm,18.2s,baz=147,slow=37				
KDAK	Kodiak Island	59.43 328	P	P	00 30 53.8 +1.0
KDAK			sP	sP	00 31 15.7 +1.1
KDAK			PcP	PcP	00 31 40.5 +0.4
E28M	Babbage River	59.49 343	P	P	00 30 53.6 +0.5
	baz=128,SNR=22				
DY2G	Dye2	59.53 20	i P	P	00 30 52.0 -1.8
DY2G			IAmb	IAmb	00 30 54.1
	comp=Z,64nm,0.7s				
FIS	Fire Island	59.55 332	P	P	00 30 53.6 0.0
Q20K	Shuyak Island	59.62 329	P	P	00 30 55.5 +1.3
	baz=110,SNR=6.6				
HOM	Homer	59.63 331	P	P	00 30 55.7 +1.4
	baz=111				
HDA	Harding Lake	59.64 337	IAmb	IAmb	00 30 55.9
	comp=Z,75nm,0.9s				
HDA	Harding Lake	59.64 337	P	P	00 30 54.5 +0.2
	baz=118,SNR=41				
PRP	Porcupine Dome	59.66 338	IAmb	IAmb	00 30 56.6
	comp=Z,89nm,1.0s				
PRP	Porcupine Dome	59.66 338	P	P	00 30 55.4 +0.8
	baz=120,SNR=28				
ILULI	Ilulissat	59.68 17	IAmb	IAmb	00 30 54.7
	comp=Z,52nm,0.9s				
ILULI	Ilulissat	59.68 17	i P	P	00 30 52.5 -1.9
ILULI			IAmb	IAmb	00 30 55.0
	comp=Z,31nm,0.8s				
D28M	Stokes Point	59.72 343	P	P	00 30 55.4 +0.7
	baz=130				
M22K	Willow	59.75 333	P	P	00 30 55.4 +0.4
	baz=114,SNR=18				
ILAR	Eielson Array	59.79 337	P	P	00 30 55.6 +0.3
	comp=Z,57nm,1.0s,baz=130,slow=4.9,SNR=230				
ILAR			LR	LR	01 00 25.5
	comp=Z,895nm,18.6s,baz=118,slow=40				
	comp=Z,57nm,1.0s				
CAPN	Captain Cook N	59.82 332	P	P	00 30 57.9 +2.5
	baz=112				
G26K	Porcupine Rive	59.83 340	P	P	00 30 56.1 +0.7
	baz=123,SNR=26				
E27K	Coleen River	59.84 342	P	P	00 30 56.7 +1.1
	baz=126,SNR=29				
ITAB	Concordia	59.86 136	eP	P	00 30 56.2 -0.1
SII	Sitkinak Islan	59.87 327	P	P	00 30 57.7 +1.7
	comp=Z,142nm,1.0s				
SII	Sitkinak Islan	59.87 327	P	P	00 30 57.3 +1.3
	baz=107				
SUA	Susitna One	59.91 333	P	P	00 30 57.5 +1.2
	baz=113,SNR=45				
RODS	Rosario do Sul	60.00 140	eP	P	00 30 56.4 -0.8
CCB	Clear Creek Bu	60.08 337	IAmb	IAmb	00 30 58.8
	comp=Z,30nm,1.0s				
CUT	Chulitna	60.08 334	P	P	00 30 58.4 +1.1
	baz=114,SNR=24				
MCK	McKinley	60.10 335	P	P	00 30 58.4 +0.9
	baz=116,SNR=32				
WRH	Wood River Hil	60.10 336	IAmb	IAmb	00 30 58.7
	comp=Z,39nm,0.9s				
H25L	Birch Creek	60.15 339	P	P	00 30 58.4 +0.7
	baz=120				
POKR	Poker Plat Res	60.16 337	IAmb	IAmb	00 30 59.7
	comp=Z,129nm,1.4s				
POKR	Poker Plat Res	60.16 337	P	P	00 30 58.4 +0.6
	baz=118,SNR=23				
RCLB	Rio Claro- Sao	60.20 128	eP	P	00 30 59.1 +0.3
COLA	College	60.20 337	P	P	00 30 58.1 0.0
COLA	College	60.20 337	P	P	00 30 58.3 +0.2
	comp=Z,56nm,1.0s				
COLA	College	60.20 337	P	P	00 30 58.1 0.0
COLA			pmax	pmax	
	comp=Z,95nm,0.9s				
COLA	College	60.20 337	P	P	00 30 58.6 +0.5
	baz=118				
COLA	College	60.20 337	P	P	00 30 58.2 +0.2
COLA			pP	pP	00 31 14.4 +1.0
COLA			PcP	PcP	00 31 43.3 +0.2
O20K	Slope Mountain	60.24 331	P	P	00 30 59.6 +1.1
	baz=110,SNR=9.6				
D27M	Malcolm River	60.29 343	P	P	00 30 59.4 +0.7
	baz=127				
ALGR	Alto Alegre (B	60.30 138	eP	P	00 30 58.5 -0.9
R18K	Karluk	60.31 328	P	P	00 30 59.9 +1.0
	baz=107				
Q19K	Cape Douglas,	60.34 329	P	P	00 31 00.2 +1.0
	baz=109				
F26K	Sheenjek River	60.35 341	P	P	00 31 00.3 +1.1
	baz=123,SNR=24				
UMMG	Uummannaq	60.37 15	i P	P	00 30 57.9 -1.2
UMMG			IAmb	IAmb	00 31 00.5
	comp=Z,21nm,0.7s				
P19K	Oil Pt	60.38 330	IAmb	IAmb	00 31 01.1
	comp=Z,79nm,0.8s				
P19K	Oil Pt	60.38 330	P	P	00 31 00.4 +1.0
	baz=110,SNR=6.5				
MDM	Murphy Dome	60.38 337	IAmb	IAmb	00 31 00.2
	comp=Z,33nm,0.8s				
CHIR	Chirikof Islan	60.43 326	P	P	00 30 59.6 -0.2
	baz=105				
ILSW	Iliamna Southw	60.45 331	IAmb	IAmb	00 31 01.9
	comp=Z,83nm,1.1s				
SKT	Skwentna	60.45 333	P	P	00 31 00.8 +0.9
	baz=113,SNR=33				
SPCR	Spurr Chakacha	60.46 332	P	P	00 31 00.9 +0.8
	baz=112,SNR=19				
G25K	Bearman Lake	60.51 339	P	P	00 31 01.0 +0.9
	baz=120,SNR=19				
TRF	Thorofare Moun	60.52 335	P	P	00 31 01.2 +0.7
	baz=115,SNR=54				
NEA2	Nenana	60.54 336	IAmb	IAmb	00 31 02.1
	comp=Z,38nm,1.0s				
NEA2	Nenana	60.54 336	P	P	00 31 00.7 +0.3
	baz=116,SNR=19				
H24K	Noodor Dome	60.67 338	P	P	00 31 02.1 +0.7
	baz=118,SNR=50				
NUUG	Nuugaatsiaq	60.69 14	i P	P	00 31 01.3 +0.1
F25K	Christian Rive	60.78 340	P	P	00 31 03.5 +1.3
	baz=121,SNR=33				
KTH	Kantishna Hill	60.83 335	IAmb	IAmb	00 31 04.1
	comp=Z,83nm,1.0s				
I23K	Minto, Yukon-K	60.90 337	P	P	00 31 03.7 +0.9
	baz=116,SNR=69				
UPNV	Upernavik	60.92 12	i P	P	00 31 02.5 -0.4
UPNV			IAmb	IAmb	00 31 04.6
	comp=Z,30nm,0.8s				
Q18K	Katmai Hardscr	60.92 329	P	P	00 31 03.9 +0.6
	baz=108,SNR=21				
PLCA	Paso Flores	60.92 159	IAmb	IAmb	00 31 21.5
	comp=Z,85nm,1.1s				
PLCA	Paso Flores	60.92 159	eP	P	00 31 03.4 0.0
PLCA	Paso Flores	60.92 159	P	P	00 31 03.4 0.0
	comp=Z,34nm,1.0s,baz=337,slow=7.8,SNR=37				
PLCA			LR	LR	00 51 30.3
	comp=Z,404nm,22.0s,baz=349,slow=30				
	comp=Z,34nm,1.0s				
PLCA	Paso Flores	60.92 159	P	P	00 31 03.6 +0.2
PLCA			pP	pP	00 31 20.1 +1.4
G24K	Hadweenzic Riv	60.95 339	P	P	00 31 04.2 +1.1
	baz=119,SNR=31				
VAO	Valinhos	60.96 128	eP	P	00 31 03.8 -0.1
DIAM	Diamantina, MG	60.99 122	eP	P	00 31 04.5 +0.1
E25K	Arctic Village	61.04 341	P	P	00 31 05.1 +1.3
	baz=122,SNR=14				
BPAW	Bear Paw Mtn.	61.08 335	P	P	00 31 04.5 +0.4
	baz=114,SNR=29				
O19K	Port Alsworth	61.08 331	P	P	00 31 04.6 +0.5
	baz=109				
PPLA	Purkeypile	61.09 334	P	P	00 31 04.8 +0.4
	baz=112,SNR=17				
M20K	Styx River	61.12 333	IAmb	IAmb	00 31 06.3
	comp=Z,60nm,0.9s				
M20K	Styx River	61.12 333	P	P	00 31 05.2 +0.7
	baz=111				
CPSB	Cacapava Do Su	61.13 139	eP	P	00 31 04.2 -0.7
Q17K	Contact Creek	61.25 328	P	P	00 31 06.2 +0.8
	baz=106,SNR=21				
CAST	Castle Rocks	61.25 334	P	P	00 31 05.5 +0.2
	baz=113,SNR=43				
P18K	Big Mountain,	61.26 330	P	P	00 31 06.0 +0.5
	baz=108,SNR=11				
H23K	Yukon River	61.27 338	IAmb	IAmb	00 31 07.3
	comp=Z,142nm,1.8s				
H23K	Yukon River	61.27 338	P	P	00 31 05.9 +0.5
	baz=116				
R17K	Ugashik Creek	61.33 327	P	P	00 31 06.5 +0.6
	baz=106,SNR=23				
N19K	Bonanza Creek	61.36 331	P	P	00 31 06.6 +0.5
	baz=109,SNR=36				
O18K	Koktuh Hills	61.39 330	IAmb	IAmb	00 31 08.1
	comp=Z,84nm,0.9s				
O18K	Koktuh Hills	61.39 330	P	P	00 31 06.7 +0.4
	baz=108,SNR=17				
PET01	Itanhaem-SP	61.47 130	eP	P	00 31 08.0 +0.6
F24K	Squaw Lake	61.49 340	P	P	00 31 07.9 +1.0
	baz=119,SNR=9.9				
CHUM	Lake Minchumin	61.53 335	P	P	00 31 07.3 +0.2
	baz=113,SNR=9.6				
BSCB	Bom Sucesso	61.53 125	eP	P	00 31 08.0 +0.1
M19K	Big River Lodg	61.68 332	P	P	00 31 09.0 +0.8
	baz=110				
ISOG	Isortoq, Green	61.69 23	i P	P	00 31 06.7 -1.4
ISOG			IAmb	IAmb	00 31 08.9
	comp=Z,152nm,0.7s				
Q16K	King Salmon	61.75 329	P	P	00 31 09.8 +1.1
	baz=106,SNR=11				
LL01	San Ignacio de	61.79 161	IAmb	IAmb	00 31 27.2
	comp=Z,97nm,1.2s				
P17K	Kvichak River	61.79 329	P	P	00 31 09.3 +0.4
	baz=106,SNR=8.5				
C26K	Camden Bay	61.81 343	P	P	00 31 10.2 +1.3
	baz=123				
G23K	Bananza Creek	61.84 338	P	P	00 31 10.2 +0.9
	baz=116,SNR=21				
D25K	Kavik River	61.92 342	P	P	00 31 10.8 +1.0
	baz=121				
SVW2	Sparrevohn	61.96 331	IAmb	IAmb	00 31 10.8
	comp=Z,41nm,0.9s				
SVW2	Sparevohn	61.96 331	P	P	00 31 10.2 +0.1
	comp=Z,66nm,1.2s				
E24K	Your Creek	61.96 340	P	P	00 31 10.9 +0.9
	baz=119				
PLTB	Pedras Altas	61.96 140	IAmb	IAmb	00 31 17.3
	comp=Z,49nm,0.9s				
PLTB	Pedras Altas	61.96 140	eP	P	00 31 09.8 -0.7
N18K	Kilae Creek	61.97 331	IAmb	IAmb	00 31 11.4
	comp=Z,64nm,1.0s				
N18K	Kilae Creek	61.97 331	P	P	00 31 10.7 +0.5
	baz=108,SNR=15				
H22K	Ishtalitna Cre	61.98 337	P	P	00 31 10.3 +0.1
	baz=115,SNR=34				
L19K	White Mountain	61.98 333	IAmb	IAmb	00 31 11.9
	comp=Z,64nm,1.1s				
L19K	White Mountain	61.98 333	P	P	00 31 09.9 -0.4
	baz=109,SNR=16				
K20K	Telida	62.06 334	P	P	00 31 11.0 +0.3
	baz=111				
CHGN	Chignik	62.07 326	P	P	00 31 11.0 +0.2
	baz=103,SNR=8.9				
CNLB	Canela	62.07 137	eP	P	00 31 11.3 -0.1
COLD	Coldfoot	62.14 339	P	P	00 31 12.4 +1.2
	baz=116,SNR=17				
TRQA	Tornquist	62.15 151	P	P	00 31 11.3 -0.3
TRQA	Tornquist	62.15 151	P	P	00 31 11.3 -0.3
TRQA			pmax	pmax	
	comp=Z,197nm,1.5s				
ANGG	Ammassalik, Gr	62.22 23	IAmb	IAmb	00 31 11.5
	comp=Z,107nm,0.9s				
ANGG	Ammassalik, Gr	62.22 23	i P	P	00 31 09.0 -2.7
ANGG			IAmb	IAmb	00 31 11.8
	comp=Z,71nm,0.7s				
O17K	Koliganek Bris	62.28 330	P	P	00 31 12.9 +0.7
	baz=106,SNR=13				
E23K	Chandalar	62.32 340	P	P	00 31 13.7 +1.2
	baz=118,SNR=26				
RCBR	Riachuelo	62.38 106	eP	P	00 31 14.2 +0.5
RCBR	Riachuelo	62.38 106	LR	LR	00 59 09.7
	comp=Z,596nm,20.8s,baz=300,slow=37				
RCBR	Riachuelo	62.38 106	P	P	00 31 13.6 -0.1
J20K	Nowinta River	62.38 335	IAmb	IAmb	00 31 14.3
	comp=Z,90nm,1.1s				
J20K	Nowinta River	62.38 335	P	P	00 31 13.1 +0.2
	baz=111,SNR=40				
CHNA	Chernabura Isl	62.40 324	P	P	00 31 13.5 +0.4
	baz=101				
H21K	Melozitna Rive	62.42 337	IAmb	IAmb	00 31 14.3
	comp=Z,57nm,1.1s				
H21K	Melozitna Rive	62.42 337	P	P	00 31 13.2 0.0
	baz=113,SNR=19				
G22K	Bettles	62.47 338	P	P	00 31 14.3 +1.0
	baz=115				
P16K	Nushagak River	62.52 329	P	P	00 31 14.3 +0.5
	baz=105				
N17K	Nushagak Hills	62.54 330	P	P	00 31 14.5 +0.6
	baz=106,SNR=12				
TOLK	Toolik Lake Re	62.58 340	IAmb	IAmb	00 31 16.2
	comp=Z,114nm,1.3s				
TOLK	Toolik Lake Re	62.58 340	P	P	00 31 15.2 +1.0
	baz=118,SNR=13				
D24K	Happy Valley	62.59 341	P	P	00 31 15.0 +0.9
	baz=119				
S14K	Fog Glacier	62.68 325	P	P	00 31 15.7 +0.6
	baz=102				
LL02	Futaleuf	62.70 161	P	P	00 31 15.8 +0.6
LL02			IAmb	IAmb	00 31 33.5
	comp=Z,44nm,1.1s				
O16K	Kokwok River B	62.72 329	P	P	00 31 15.6 +0.5
	baz=105,SNR=12				
TTA	Tatalina	62.74 333	IAmb	IAmb	00 31 16.5
	comp=Z,92nm,1.2s				
TTA	Tatalina	62.74 333	P	P	00 31 15.2 -0.2
	comp=Z,77nm,1.3s				
TTA	Tatalina	62.74 333	P	P	00 31 15.3 0.0
	baz=109,SNR=25				
I20K	Naaghedeneel	62.74 335	P	P	00 31 15.7 +0.4
	baz=111,SNR=14				
L18K	Granite Mounta	62.81 332	P	P	00 31 16.1 +0.4
	baz=108,SNR=20				
C24K	Franklin Bluff	62.83 342	P	P	00 31 16.9 +1.1
	baz=119,SNR=16				
ESAR	Angra dos Reis	62.89 127	eP	P	00 31 18.1 +1.2
M17K	Holitna River	62.91 331	P	P	00 31 16.9 +0.5
	baz=107,SNR=7.7				
J19K	Poorman	62.93 334	P	P	00 31 16.3 -0.1
	baz=110,SNR=36				
F22K	John River	62.95 339	P	P	00 31 18.0 +1.4
	baz=115				
SDPT	Sand Point	63.00 324	P	P	00 31 18.4 +1.3
	comp=Z,158nm,1.1s				
SDPT	Sand Point	63.00 324	P	P	00 31 17.5 +0.4
	baz=101				
G21K	Allakaket	63.02 337	P	P	00 31 17.5 +0.4
	baz=113,SNR=17				
ICESG	Greenland Ices	63.03 19	i P	P	00 31 16.4 -1.1
ICESG			IAmb	IAmb	00 31 18.7
	comp=Z,189nm,0.8s				
D23K	Nanushuk River	63.09 340	P	P	00 31 19.1 +1.6
	baz=117,SNR=10				
E22K	Anaktuvuk Pass	63.09 339	P	P	00 31 18.5 +0.9
	baz=115,SNR=18				
H20K	Anotleneega Mo	63.16 336	P	P	00 31 18.0 0.0
	baz=111,SNR=17				
J18K	Innoko River	63.21 334	P	P	00 31 18.4 0.0
	baz=108,SNR=17				
SJMB	Sao Joao De Ma	63.23 121	eP	P	00 31 19.7 +0.5
N16K	Nishlik Lake	63.27 330	P	P	00 31 19.6 +0.7
	baz=105,SNR=11				
F21K	Alatna River	63.30 338	P	P	00 31 20.0 +1.1
	baz=113				
PPT	Papeete	63.35 240	LR	LR	00 51 11.3
	comp=Z,620nm,22.0s,baz=24,slow=29				
PPT2	Papeete2	63.36 240	eP	P	00 31 31.6 +11
	comp=Z,302nm,30.2s				
PPT2			eS	S	00 39 52.7 +3.9
	comp=Z,263nm,28.0s				
PPT2			eSS	SS	00 44 05.1 +8.5
	comp=Z,529nm,32.5s				
PPT2			eLR	LR	00 49 58.3
	comp=Z,3μm,28.0s				
PPT2			eLR	LR	00 50 04.5
	comp=Z,2μm,28.5s				
GUA01	Guaratinga, BA	63.37 118	eP	P	00 31 20.8 +0.6
C23K	Itkillik River	63.47 341	P	P	00 31 21.3 +1.3
	baz=117,SNR=18				
O15K	Ungalikthiuk R	63.47 329	P	P	00 31 19.8 -0.4
	baz=103,SNR=6.3				
L17K	Donlin	63.51 332	P	P	00 31 20.5 +0.1
	baz=106,SNR=8.0				
M16K	Timber Creek	63.51 331	P	P	00 31 21.0 +0.7
	baz=105				
AY01	Puyuhuapi	63.58 162	IAmb	IAmb	00 31 39.5
	comp=Z,36nm,0.8s				
K17K	Iditarod	63.67 333	IAmb	IAmb	00 31 22.5
	comp=Z,46nm,0.9s				
K17K	Iditarod	63.67 333	P	P	00 31 21.5 +0.1
	baz=106,SNR=10.0				
H19K	Roundabout Mou	63.78 336	P	P	00 31 22.3 +0.3
	baz=110,SNR=21				
N15K	Kwethluk River	63.84 330	P	P	00 31 23.0 +0.4
	baz=104				
L16K	Owhat River	63.93 331	P	P	00 31 23.7 +0.6
	baz=105,SNR=5.2				
E21K	Killik River	63.95 339	P	P	00 31 23.9 +0.7
	baz=113				
F20K	Avaraart Lake	64.04 338	P	P	00 31 24.4 +0.7
	baz=111				
EUNU	Eureka	64.11 2	P	P	00 31 24.6 +0.4
EUNU			IAmb	IAmb	00 31 25.6
	comp=Z,108nm,0.8s				
RIB01	Linhares ES	64.19 121	eP	P	00 31 25.1 -0.4
J17K	VABM Dome	64.21 333	P	P	00 31 25.1 +0.2
	baz=106				
O14K	Tigyukauivet M	64.21 329	P	P	00 31 24.8 -0.2
	baz=102				
G19K	Purcell Mounta	64.24 336	P	P	00 31 25.5 +0.4
	baz=109,SNR=18				
M15K	Kasigluk River	64.25 330	P	P	00 31 25.7 +0.5
	baz=103				
H18K	Honhosa River	64.42 335	IAmb	IAmb	00 31 27.5
	comp=Z,47nm,1.1s				
H18K	Honhosa River	64.42 335	P	P	00 31 26.8 +0.5
	baz=108,SNR=7.6				
C21K	Knifeblade Rid	64.51 340	P	P	00 31 28.0 +1.1
	baz=113,SNR=6.6				
B22K	Teshekpuk Lake	64.56 341	P	P	00 31 27.8 +0.7
	baz=115,SNR=8.3				
ALF01	Guarapari-ES	64.56 123	eP	P	00 31 28.6 +0.7
FALS	False Pass	64.59 323	P	P	00 31 28.4 +0.9
FALS	False Pass	64.59 323	P	P	00 31 27.6 +0.1
	baz=98				
B21K	Ikpikpuk River	64.64 340	P	P	00 31 27.7 +0.1
	baz=113				
E20K	Nigu River	64.64 339	P	P	00 31 28.9 +1.1
	baz=111,SNR=17				
F19K	Shaleruckik Mo	64.72 337	P	P	00 31 28.9 +0.7
	baz=109,SNR=20				
E19K	Redstone River	64.73 338	IAmb	IAmb	00 31 29.5

comp=Z,41nm,0.9s
E19K Redstone River 64.73 338 P **P 00 31 28.9 +0.6**
baz=110,SNR=10
G18K Tagagawik 64.76 336 P **P 00 31 29.4 +0.9**
baz=108,SNR=12
COYC Coyhaique 64.80 162 IAmb IAmb 00 31 48.0
comp=Z,75nm,1.0s
COYC Coyhaique 64.80 162 P **P 00 31 29.4 +0.5**
COYC pP **pP 00 31 46.0 +1.6**
J16K Anvik River 64.84 333 P **P 00 31 30.3 +1.2**
baz=104,SNR=9.3
M14K Bethel 64.87 330 P **P 00 31 30.1 +0.8**
baz=102,SNR=6.6
ABR01 Abrolhos, BA 64.95 119 *e*P **P 00 31 31.5 +1.0**
D20K Etivluk River 64.95 339 P **P 00 31 30.8 +1.0**
baz=111,SNR=19
H17K Granite Mounta 64.99 335 P **P 00 31 31.0 +1.0**
baz=106,SNR=9.6
SUMG Summit 65.01 16 IAmb IAmb 00 31 33.3
comp=Z,44nm,0.7s
SUMG Summit 65.01 16 *i* P **P 00 31 29.0 -1.5**
SUMG IAmb IAmb 00 31 33.6
comp=Z,33nm,0.6s
K15K Wolf Creek Mou 65.01 332 P **P 00 31 31.4 +1.2**
baz=103,SNR=9.5
I17K Unalakleet 65.03 334 P **P 00 31 31.8 +1.6**
baz=105
NEEM North Greenlan 65.14 10 *i* P **P 00 31 30.3 -0.9**
NEEM IAmb IAmb 00 31 33.6
comp=Z,41nm,0.9s
A22K Sinclair Lake 65.30 342 P **P 00 31 32.5 +0.6**
baz=113
L14K Kuka Creek 65.34 331 IAmb IAmb 00 31 33.5
comp=Z,33nm,0.9s
L14K Kuka Creek 65.34 331 P **P 00 31 33.0 +0.7**
baz=102
D19K Kuna River 65.40 339 IAmb IAmb 00 31 34.9
comp=Z,59nm,0.9s
D19K Kuna River 65.40 339 P **P 00 31 33.3 +0.7**
baz=109,SNR=11
G17K Kiwalik Mounta 65.44 335 P **P 00 31 33.9 +0.9**
baz=105,SNR=9.5
SOEG Soedalen 65.46 22 *i* P **P 00 31 31.7 -1.3**
SOEG IAmb IAmb 00 31 37.1
comp=Z,103nm,0.9s
M13K Dall Lake 65.47 330 P **P 00 31 34.3 +1.1**
baz=101
B20K Meade River 65.60 340 P **P 00 31 35.2 +1.4**
baz=111
H16K Elim 65.87 334 P **P 00 31 36.8 +1.1**
baz=104
F17K Baldwin Pennin 65.93 336 P **P 00 31 36.6 +0.6**
baz=105
E18K Tukpahlearik C 65.96 337 P **P 00 31 36.8 +0.5**
baz=106,SNR=10
J14K Nanvaranak Lak 66.03 332 P **P 00 31 38.0 +1.3**
baz=102,SNR=12
C19K Lookout Ridge 66.10 339 P **P 00 31 37.9 +0.8**
baz=108
G16K Koyuk River 66.10 335 P **P 00 31 38.4 +1.2**
baz=104,SNR=5.3
UNV Unalaska Valle 66.27 322 P **P 00 31 39.3 +0.9**
comp=Z,265nm,1.2s
UNV Unalaska Valle 66.27 322 P **P 00 31 38.7 +0.3**
baz=95,SNR=16
E17K Hotham Inlet 66.32 337 P **P 00 31 39.1 +0.6**
baz=105,SNR=21
C18K Utukok River 66.52 339 P **P 00 31 40.2 +0.3**
baz=106
G15K Niukluk 66.70 334 P **P 00 31 42.0 +1.0**
baz=102
M11K Mekoryuk 66.87 329 P **P 00 31 42.4 +0.3**
baz=98
A19K Wainwright 66.93 340 P **P 00 31 43.6 +1.2**
baz=107
B18K Kokolik River 66.93 339 P **P 00 31 43.7 +1.3**
baz=106
F15K North Star Dit 67.10 335 IAmb IAmb 00 31 45.9
comp=Z,86nm,0.9s
F15K North Star Dit 67.10 335 P **P 00 31 44.8 +1.2**
baz=102,SNR=11
C17K DeLong Mountai 67.18 338 P **P 00 31 44.3 +0.3**
baz=104
NIKH Nikolski High 67.61 321 P **P 00 31 46.7 -0.2**
baz=93
ALE Alert 67.70 4 P **P 00 31 46.4 -0.7**
F14K Arctic Creek 67.74 335 P **P 00 31 48.7 +1.1**
baz=100
TNA Tin City 68.41 335 P **P 00 31 52.1 +0.4**
baz=98
BORG Borgarnes 68.59 26 LR LR 01 01 04.6
comp=Z,606nm,22.0s,baz=265,slow=35
DAG Danmarks Havn 71.31 14 *i* P **P 00 32 08.0 -1.4**
DAG IAmb IAmb 00 32 11.3
comp=Z,17nm,0.5s
PMOZ Porto Moniz, M 71.34 60 *e*S **S 00 41 23.7 -0.8**
PMOZ Porto Moniz, M 71.34 60 *e*LR LR 00 54 17.1
comp=Z,273nm,22.0s
PMPST Porto Santo, M 72.03 60 *e*P **P 00 32 15.0 +0.5**
ADK Adak 72.41 320 P **P 00 32 16.5 +0.1**
ADK IAmb IAmb 00 32 17.4
comp=Z,188nm,1.3s
ADK Adak 72.41 320 P **P 00 32 16.5 +0.1**
ADK pmax pmax
comp=Z,188nm,1.3s
NOR Nord 72.47 9 *i* P **P 00 32 15.4 -0.9**
NOR IAmb IAmb 00 32 17.4
comp=Z,15nm,0.7s
JMIC Jan Mayen 73.75 20 LR LR 01 07 45.6
comp=Z,498nm,18.1s,baz=260,slow=38
LEWI Lewis, Hebride 75.50 33 *e*P **P 00 32 34.7 +0.4**
KPL Plockton 76.25 34 *e*P **P 00 32 38.8 +0.2**
KPL IAmb IAmb 00 32 39.6
comp=Z,262nm,1.0s
CLGH Cloghs, Cushen 76.33 36 *e*P **P 00 32 39.2 +0.1**
CLGH IAmb IAmb 00 32 40.1
comp=Z,140nm,0.8s
ILTH Belurgan, Co L 76.35 37 *e*P **P 00 32 38.8 -0.4**
LINV Loch Inver, As 76.37 33 *e*P **P 00 32 39.2 -0.1**
DSB Dublin 76.45 38 IAmb IAmb 00 32 40.9
comp=Z,75nm,1.1s
LAWE Loch Awe, Argy 76.55 35 *e*P **P 00 32 40.2 -0.2**
LAWE IAmb IAmb 00 32 41.3
comp=Z,136nm,0.9s
PMAFR Mafra 76.77 53⇑ *e*P **P 00 32 41.8 -0.2**
PMAFR *e*S **S 00 42 25.9 +0.8**
PTO Porto 76.91 51 *e*P **P 00 32 42.6 -0.1**
comp=Z,68nm,1.4s
LIS Lisbon 76.92 53 *e*P **P 00 32 43.5 +0.7**
comp=Z,122nm,1.5s
LIS Lisbon 76.92 53 *e*P **P 00 32 42.8 0.0**
LIS pmax pmax
comp=Z,86nm,0.9s
LIS Lisbon 76.92 53 *e*P **P 00 32 42.9 0.0**
LIS IAmb IAmb 00 32 44.2
comp=Z,86nm,0.9s
PGAV Gavieira, Arco 77.01 50⇑ *i*P **P 00 32 43.3 -0.1**
PGAV *e*S **S 00 42 28.6 +0.8**
PGAV Gavieira, Arco 77.01 50 *e*LR LR 00 56 52.5
comp=Z,718nm,20.0s
PSBE So Bento 77.05 52⇑ *e*P **P 00 32 43.7 +0.1**
comp=Z,106nm,2.1s
PSBE *e*S **S 00 42 29.2 +1.0**
PGBU Glenifferbraes 77.13 35 *e*P **P 00 32 43.4 -0.2**
PGBU IAmb IAmb 00 32 44.7
comp=Z,188nm,1.0s
GAL1 Galloway 77.16 36 *e*P **P 00 32 43.9 +0.1**
GAL1 IAmb IAmb 00 32 44.9
comp=Z,116nm,0.8s
PCAS Casmilo, Conde 77.18 52⇑ *i*P **P 00 32 44.5 +0.2**
comp=Z,169nm,1.1s
PCAS *e*S **S 00 42 31.6 +2.1**
COI Coimbra 77.22 52⇑ *e*P **P 00 32 44.6 +0.2**
comp=Z,112nm,2.1s
COI *e*S **S 00 42 30.9 +1.1**
COI Coimbra 77.22 52 IAmb IAmb 00 32 45.7
comp=Z,86nm,1.0s
INVG Invergeldie, C 77.27 35 *e*P **P 00 32 44.4 0.0**
INVG IAmb IAmb 00 32 45.4
comp=Z,125nm,0.9s
WIM Isle of Man 77.30 37 *e*P **P 00 32 44.9 +0.2**
IOMK Kirk Michael 77.34 37 *e*P **P 00 32 45.0 +0.2**
IOMK IAmb IAmb 00 32 46.5
comp=Z,224nm,0.8s
NEWG New Galloway 77.39 36 *e*P **P 00 32 45.1 0.0**
NEWG IAmb IAmb 00 32 46.2
comp=Z,212nm,1.1s
PFVI Vila Bisbo 77.46 55⇑ *e*P **P 00 32 46.1 +0.2**
comp=Z,155nm,1.6s
PFVI *e*S **S 00 42 36.1 +3.5**
PFVI Vila Bisbo 77.46 55 IAmb IAmb 00 32 47.3
comp=Z,91nm,0.9s
PFVI Vila Bisbo 77.46 55 P **P 00 32 46.9 +1.1**
PFVI Vila Bisbo 77.46 55 P **P 00 32 44.6 -1.2**
PTEO Sao Teotonio 77.46 54⇑ *e*P **P 00 32 46.1 +0.2**
comp=Z,165nm,1.6s
POLO Lamas de Olo 77.47 50⇑ *e*P **P 00 32 45.8 -0.2**
comp=Z,35nm,1.2s
POLO *e*S **S 00 42 33.2 +0.4**
MCD Coleburn Disti 77.49 33 *e*P **P 00 32 46.1 +0.4**
MCD IAmb IAmb 00 32 46.9
comp=Z,277nm,1.2s
PNCL Nicolau / Gran 77.51 54⇑ *i*P **P 00 32 46.0 -0.1**
comp=Z,62nm,1.0s
PNCL *e*S **S 00 42 34.7 +1.6**
KBS Kingsbay 77.51 11 P **P 00 32 47.2 +1.9**
KBS IAmb IAmb 00 32 48.1
comp=Z,73nm,1.0s
KBS Kingsbay 77.51 11⇓ *e*P **P 00 32 46.1 +0.7**
KBS pmax pmax
comp=Z,78nm,1.1s
KBS Kingsbay 77.51 11 *e*P **P 00 32 47.3 +1.9**
KBS Kingsbay 77.51 11 *i* P **P 00 32 46.3 +0.9**
PVIS Viseu 77.51 51⇑ *i*P **P 00 32 45.9 -0.3**
PVRL Vila Real 77.54 50⇑ *e*P **P 00 32 46.1 -0.2**
comp=Z,67nm,1.4s
MORF Marmelete 77.56 55⇑ *i*P **P 00 32 46.7 +0.2**
comp=Z,70nm,1.5s
MORF *e*S **S 00 42 36.9 +3.1**
MORF Marmelete 77.56 55 IAmb IAmb 00 32 47.8
comp=Z,49nm,0.9s
MORF Marmelete 77.56 55 *e*P **P 00 32 46.5 0.0**
MORF IAmb IAmb 00 32 47.5
comp=Z,50nm,0.9s
PMTG Montargil 77.56 53⇑ *i*P **P 00 32 46.2 -0.2**
comp=Z,106nm,1.6s
PMTG *e*S **S 00 42 35.4 +1.7**
WLF1 Llynfaes 77.61 38 *e*P **P 00 32 45.9 -0.4**
WLF1 IAmb IAmb 00 32 47.8
comp=Z,188nm,1.3s
RSBS Rosebush, Pemb 77.64 39 *e*P **P 00 32 46.4 -0.2**
RSBS IAmb IAmb 00 32 47.5
comp=Z,147nm,1.2s
EVO Evora 77.83 53⇑ *i*P **P 00 32 47.8 -0.1**
comp=Z,93nm,1.5s
EDI Edinburgh 77.83 35 *e*P **P 00 32 47.6 +0.1**
EDI IAmb IAmb 00 32 48.6
comp=Z,170nm,0.9s
MTE Manteigas 77.83 51⇑ *i*P **P 00 32 47.7 -0.3**
comp=Z,114nm,1.5s
MTE *e*S **S 00 42 41.1 +4.4**
MTE Manteigas 77.83 51 *e*LR LR 00 57 36.4
comp=Z,573nm,22.0s
MTE Manteigas 77.83 51 IAmb IAmb 00 32 48.8
comp=Z,88nm,0.8s
ESK Eskdalemuir 77.93 36 *e*P **P 00 32 48.0 -0.2**
ESK IAmb IAmb 00 32 49.1
comp=Z,156nm,0.9s
ESK Eskdalemuir 77.93 36 P **P 00 32 48.1 0.0**
ESK Eskdalemuir 77.93 36 P **P 00 32 48.1 0.0**
ESK pmax pmax
comp=Z,146nm,0.9s
EKA Eskdalemuir Ar 77.95 36 P **P 00 32 48.2 0.0**
comp=Z,90nm,0.8s,baz=280,slow=5.7,SNR=112
comp=Z,90nm,0.8s
PCVE Castro Verde 77.98 54⇑ *e*P **P 00 32 48.5 -0.3**
comp=Z,87nm,1.4s
PCBR Castelo Branco 77.99 52⇑ *e*P **P 00 32 48.6 -0.2**
comp=Z,105nm,1.0s
DRUM Mains of Drumt 78.02 34 *e*P **P 00 32 48.6 0.0**
DRUM IAmb IAmb 00 32 50.1
comp=Z,254nm,1.2s
PBEJ Beja 78.04 54⇑ *i*P **P 00 32 49.1 0.0**
comp=Z,82nm,1.6s
MVO Moncorvo 78.07 50⇑ *i*P **P 00 32 49.3 0.0**
comp=Z,109nm,1.3s
MVO *e*S **S 00 42 42.5 +3.2**
MVO Moncorvo 78.07 50 *e*LR LR 00 58 02.4
comp=Z,603nm,22.0s
PESTR Estremoz 78.09 53⇑ *i*P **P 00 32 49.0 -0.4**
comp=Z,72nm,1.6s
PESTR *e*S **S 00 42 39.8 +0.4**
PESTR Estremoz 78.09 53 IAmb IAmb 00 32 50.3
comp=Z,47nm,0.9s
PESTR Estremoz 78.09 53 P **P 00 32 49.8 +0.5**
KESW Keswick, Cumbr 78.12 36 *e*P **P 00 32 49.1 -0.1**
PMRV Marv??o 78.13 52⇑ *i*P **P 00 32 49.3 -0.3**
comp=Z,93nm,1.2s
PMRV *e*S **S 00 42 40.8 +0.9**
PMRV Marv??o 78.13 52 *e*LR LR 00 57 32.5
comp=Z,718nm,22.0s
PBDV Barranco-do-Ve 78.14 55⇑ *i*P **P 00 32 50.2 +0.5**
comp=Z,90nm,1.6s
PBDV *e*S **S 00 42 42.2 +2.2**
PBRG Braganca 78.16 50⇑ *i*P **P 00 32 49.7 -0.1**
comp=Z,79nm,2.1s
PBRG *e*S **S 00 42 40.8 +0.6**
PVAQ Vaqueiros 78.27 54⇑ *i*P **P 00 32 50.7 +0.3**
comp=Z,96nm,1.7s
PVAQ *e*S **S 00 42 42.4 +1.0**
PVAQ Vaqueiros 78.27 54 *e*LR LR 00 57 34.1
comp=Z,721nm,22.0s
PVAQ Vaqueiros 78.27 54 P **P 00 32 51.4 +1.0**
PVAQ Vaqueiros 78.27 54 P **P 00 32 48.6 -1.8**
SBD1 Bryn Du 78.36 38 *e*P **P 00 32 47.8 -2.7**
FOEL Foel Wylfa 78.39 38 *e*P **P 00 32 50.5 -0.3**
FOEL IAmb IAmb 00 32 52.0
comp=Z,57nm,0.9s
SPA0 Spitsbergen Ar 78.61 11 *e*P **P 00 32 54.9 +3.3**
SPITS Spitsbergen Ar 78.61 11 P **P 00 32 51.4 -0.1**
comp=Z,15nm,0.8s,baz=262,slow=9.7,SNR=7.8
SPITS LR LR 01 12 12.8
comp=Z,481nm,18.6s,baz=236,slow=39
comp=Z,15nm,0.8s
PBAR Barrancos 78.65 53⇑ *i*P **P 00 32 52.5 +0.1**
comp=Z,102nm,1.6s
PBAR *e*S **S 00 42 48.6 +3.2**
HLM1 Long Mynd 78.66 39 *e*P **P 00 32 52.1 -0.2**
HLM1 IAmb IAmb 00 32 53.8
comp=Z,269nm,1.4s
MCH1 Michaelchurch 78.69 39 *e*P **P 00 32 52.0 -0.4**
MCH1 IAmb IAmb 00 32 53.3
comp=Z,181nm,1.5s
EDMD Edmundbyers 78.72 36 *e*P **P 00 32 52.8 +0.3**
EDMD IAmb IAmb 00 32 54.4
comp=Z,410nm,1.2s
MONM Monmouth 78.84 39 *e*P **P 00 32 53.3 +0.1**
MONM IAmb IAmb 00 32 55.0
comp=Z,135nm,1.0s
STNC Stoke 78.94 38 *e*P **P 00 32 54.1 +0.3**
HPK Haverah Park 79.10 37 *e*P **P 00 32 55.2 +0.6**
HPK IAmb IAmb 00 32 56.9
comp=Z,107nm,0.7s
SRHM Skhour des Reh 79.13 59 P **P 00 32 56.0 +0.7**
LBWR Ladybower, Pea 79.16 37 *e*P **P 00 32 55.4 +0.5**
LBWR IAmb IAmb 00 32 57.2
comp=Z,389nm,1.1s
STRD Stroud 79.25 39 *e*P **P 00 32 55.7 +0.3**
STRD IAmb IAmb 00 32 56.7
comp=Z,560nm,1.7s
AVE Averroes 79.35 58 P **P 00 32 57.2 +0.8**
OUK Oukaimeden 79.42 61 P **P 00 32 58.0 +0.7**
OUK Oukaimeden 79.42 61 P **P 00 32 54.1 -3.2**
SWN1 Swindon 79.52 39 *e*P **P 00 32 57.2 +0.3**
SWN1 IAmb IAmb 00 32 59.1
comp=Z,256nm,1.0s
CWF Charnwood Fore 79.55 38 *e*P **P 00 32 57.0 0.0**
CWF IAmb IAmb 00 32 59.0
comp=Z,88nm,1.0s
WOL Wolverton 79.92 40 *e*P **P 00 32 59.1 0.0**
ZHG ZHG 79.95 58 P **P 00 32 60.0 +0.2**
PAB San Pablo 80.41 52 P **P 00 33 01.7 -0.5**
PAB IAmb IAmb 00 33 03.7
comp=Z,70nm,0.9s
PAB San Pablo 80.41 52 P **P 00 33 03.5 +1.3**
PAB San Pablo 80.41 52 ⇓P **P 00 33 02.6 +0.5**
OUZM OUZ 80.41 61 P **P 00 33 03.0 +0.6**
SMIR Smir Dam 80.47 56 P **P 00 33 03.4 +1.0**
SMIR Smir Dam 80.47 56 P P 00 32 53.7 -8.7
CHEFC Chefchaouen 80.64 56 P **P 00 33 05.0 +1.6**
ESBB Sonseca Array 80.67 51 IAmb IAmb 00 33 05.0
comp=Z,66nm,1.0s
ESDC Sonseca Array 80.67 51 IAmb IAmb 00 33 05.0
comp=Z,73nm,1.1s
ESDC Sonseca Array 80.67 51 P **P 00 33 03.4 -0.1**
comp=Z,40nm,0.9s,baz=293,slow=5.5,SNR=238
ESDC LR LR 01 05 54.1
comp=Z,487nm,18.5s,baz=282,slow=34
comp=Z,40nm,0.9s
FOO Floro 80.67 28 *e*P **P 00 33 03.2 +0.3**
SUE Sulen 80.70 29 *e*P **P 00 33 05.7 +2.6**
ELMS Elmsett, Ipswi 81.07 38 *e*P **P 00 33 05.3 +0.1**
ELMS IAmb IAmb 00 33 07.3
comp=Z,107nm,0.7s
LCRM LCR 81.35 58 P **P 00 33 08.0 +0.6**
CZD Col de Zad 81.35 58 P **P 00 33 09.0 +1.4**
AKN Aaknes 81.39 28 *e*P **P 00 33 08.2 +1.5**
ZGR Zagora 81.55 61 P **P 00 33 09.0 +0.6**
MD31 MD31 81.62 58 P P 00 33 01.2 -7.5
PALE Palemas 81.73 56 P **P 00 33 10.0 +0.8**
MDT Midelt 81.76 58 P **P 00 33 09.9 +0.5**
MDT Midelt 81.76 58 P P 00 33 03.0 -6.4
MDT Midelt 81.76 58 LR LR 01 04 57.6
comp=Z,154nm,20.7s,baz=303,slow=32
BLS5 Blasjo 81.99 30 *e*P **P 00 33 11.5 +1.5**
DOMB Dombas 82.35 27 *e*P **P 00 33 13.1 +1.3**
ARF Arif 82.41 60 P **P 00 33 14.0 +1.1**
TBLU Trondheim 82.45 26 *e*P **P 00 33 13.5 +1.3**
SKAR Skarslia 82.46 29 *e*P **P 00 33 13.6 +1.1**
GOG Mont Gurugu 82.47 56 P **P 00 33 10.2 -2.9**
STEI Steigen 82.56 21 *e*P **P 00 33 16.5 +3.8**
NSS Namsos 82.68 25 *e*P **P 00 33 14.8 +1.3**
SNART Snartemo 82.70 31 *e*P **P 00 33 16.3 +2.7**
FAUS Fauske 82.80 21 *e*P **P 00 33 15.0 +1.0**
MOR8 Moi Rana 83.00 23 *e*P **P 00 33 16.2 +1.1**
TRO Tromso 83.01 19 *e*P **P 00 33 16.3 +1.2**
JBK JBK 83.04 56 P **P 00 33 17.0 +0.8**
JBK JBK 83.04 56 P **P 00 33 12.4 -3.8**
NC204 NORSAR Array S 83.38 28 IAmb IAmb 00 33 22.6
comp=Z,92nm,1.4s
KONO Kongsberg 83.42 30 P **P 00 33 20.6 +3.2**
KONO IAmb IAmb 00 33 21.7
comp=Z,85nm,1.2s
KONO Kongsberg 83.42 30⇓ *e*P **P 00 33 15.5 -1.9**
KONO pmax pmax
comp=Z,17nm,1.1s
CART Cartagena 83.43 53 IAmb IAmb 00 33 19.3
comp=Z,115nm,1.8s
NBO00 NORSAR Array S 83.47 28 IAmb IAmb 00 33 23.3
comp=Z,77nm,1.1s
JETT Jettan, Norway 83.50 19 *e*P **P 00 33 19.4 +1.8**
NAO01 NORSAR Array S 83.59 28 IAmb IAmb 00 33 24.6
comp=Z,96nm,1.2s
NB2 NORSAR Subarra 83.67 28 P **P 00 33 19.3 +0.6**
comp=Z,12nm,0.8s,baz=292,slow=5.1
NB2 NORSAR Subarra 83.67 28 P **P 00 33 19.3 +0.6**
baz=292,slow=5.1
NOA NORSAR Array B 83.67 28 *e*P **P 00 33 19.5 +0.8**
NOA pmax pmax
comp=Z,47nm,1.1s
NOA NORSAR Array B 83.67 28 P **P 00 33 19.6 +0.8**
comp=Z,26nm,0.9s,baz=293,slow=5.0,SNR=37
NOA LR LR 01 09 06.0
comp=Z,744nm,21.9s,baz=285,slow=35
comp=Z,26nm,0.9s
NB201 NORSAR Array S 83.70 28 IAmb IAmb 00 33 24.5
comp=Z,61nm,0.9s
DOU Dourbes 83.81 40 *d*P **P 00 33 19.9 +0.3**
comp=Z,42nm,0.9s
OSL Oslo 83.85 29 *e*P **P 00 33 20.9 +1.4**
BMRD Maredsous 83.85 39 *d*P **P 00 33 20.2 +0.4**
comp=Z,40nm,1.2s
NC405 NORSAR Array S 83.87 28 IAmb IAmb 00 33 24.7
comp=Z,56nm,1.1s
NC602 NORSAR Array S 83.93 28 IAmb IAmb 00 33 24.5
comp=Z,126nm,1.5s
NC602 NORSAR Array S 83.93 28 *e*P **P 00 33 21.3 +1.3**
PMSA Palmer Station 84.01 167 LR LR 01 02 40.5
comp=Z,206nm,21.7s,baz=328,slow=30
BGES Gesves 84.02 39 *d*P **P 00 33 20.1 -0.6**
comp=Z,70nm,0.5s
BCLA Clavier 84.14 39 *d*P **P 00 33 21.4 +0.1**
comp=Z,47nm,1.1s
RCHB Rochefort 84.18 40 *d*P **P 00 33 21.9 +0.5**
comp=Z,39nm,1.0s
BEBN Eben Emael 84.25 39 *d*P **P 00 33 21.2 -0.6**
BSTI Sart Tilman 84.25 39 *d*P **P 00 33 22.0 +0.2**
MEM Membach 84.51 39 *d*P **P 00 33 23.4 +0.2**
comp=Z,27nm,1.1s
BHOU Houvegnez 84.59 39 *d*P **P 00 33 23.7 +0.2**
comp=Z,27nm,1.2s
BTNL Ternell 84.59 39 *d*P **P 00 33 25.3 +1.7**
comp=Z,19nm,0.9s
KTK1 Kautokeino 84.64 19 *e*P **P 00 33 27.3 +3.9**
FIGM Figuig 84.66 58 P **P 00 33 25.0 +0.5**
FIGM Figuig 84.66 58 P **P 00 33 25.9 +1.4**
WLF Walferdange 84.90 40 IAmb IAmb 00 33 29.1
comp=Z,63nm,0.8s
WLF Walferdange 84.90 40 *d*P **P 00 33 25.3 +0.2**
comp=Z,53nm,0.8s
WLF Walferdange 84.90 40 *e*P **P 00 33 26.0 +0.9**
comp=Z,59nm,0.7s,baz=293,slow=4.8
IBBN Ibbenburen 84.99 37 *e*P **P 00 33 26.0 +0.6**
comp=Z,138nm,1.2s,baz=293,slow=4.8
BUG Bochum--Univer 84.99 38 *e*P **P 00 33 26.5 +1.0**
comp=Z,105nm,1.5s,baz=293,slow=4.8
ARA0 ARCESS Array S 85.04 18 *e*P **P 00 33 26.8 +1.3**
ARCES ARCESS Array B 85.04 18 IAmb IAmb 00 33 42.4
comp=Z,68nm,1.4s
ARCES ARCESS Array B 85.04 18 P **P 00 33 25.4 0.0**
comp=Z,7.9nm,0.5s,baz=292,slow=3.8,SNR=29
ARCES LR LR 01 11 19.4
comp=Z,409nm,21.1s,baz=299,slow=36
comp=Z,7.9nm,0.5s
HFS Hagfors 85.15 28 P **P 00 33 26.5 +0.4**
comp=Z,12nm,0.7s,baz=302,slow=3.2,SNR=14
HFS LR LR 01 09 47.4
comp=Z,633nm,22.0s,baz=281,slow=34
comp=Z,12nm,0.7s
KEV Kevo 85.35 17 P **P 00 33 27.2 +0.3**
KEV IAmb IAmb 00 33 31.6
comp=Z,67nm,1.3s
KEV Kevo 85.35 17 P **P 00 33 27.2 +0.3**
KEV pmax pmax
comp=Z,67nm,1.3s
SEY Seymchan 85.65 335 *ce*P **P 00 33 29.6 +1.0**
SEY pmax pmax
comp=Z,38nm,1.1s
KASTN Kahler Asten 85.75 38 *e*P **P 00 33 29.6 +0.2**
comp=Z,64nm,1.2s,baz=293,slow=4.8
RETH Rethem/Aller, 85.75 36 *e*P **P 00 33 30.1 +0.9**
comp=Z,93nm,1.1s,baz=293,slow=4.8
BSEG Bad Segeberg 85.85 35 *e*P **P 00 33 30.2 +0.5**
comp=Z,57nm,0.9s,baz=293,slow=4.8
BSEG *e*L L 01 12 18.4
comp=Z,554nm,18.2s
ECH Echery 86.00 41 IAmb IAmb 00 33 37.2
comp=Z,81nm,1.4s
TNS Taunus Mts 86.11 39 *e*P **P 00 33 31.9 +0.7**
comp=Z,88nm,0.8s,baz=293,slow=4.8
TNS *e*L L 01 10 31.7
comp=Z,417nm,21.0s
NRDL Niedersach Rie 86.27 36 *e*P **P 00 33 33.4 +1.6**
comp=Z,83nm,1.2s,baz=293,slow=4.8
GTTG Gottingen 86.53 37 *e*P **P 00 33 34.6 +1.5**
comp=Z,83nm,0.9s,baz=293,slow=4.8
CLZ Clausthal 86.66 37 *e*P **P 00 33 35.2 +1.4**
comp=Z,48nm,0.9s,baz=293,slow=4.8
BFO Black Forest 86.70 41 P **P 00 33 34.0 -0.2**
BFO IAmb IAmb 00 33 40.3
comp=Z,65nm,1.5s
BFO Black Forest 86.70 41 *e*P **P 00 33 33.0 -1.1**
BFO Black Forest 86.70 41 *e*P **P 00 33 34.1 0.0**
comp=Z,67nm,1.5s,baz=293,slow=4.8
BFO *e*L L 01 09 07.1
comp=Z,489nm,21.3s
MAHO Mahon 86.72 50 IAmb IAmb 00 33 36.2
comp=Z,28nm,0.7s
ASSE Asse, Remlinge 86.72 36 *e*P **P 00 33 35.2 +1.2**
comp=Z,42nm,1.0s,baz=293,slow=4.8
BNI Bardonecchia 86.75 44 P **P 00 33 34.9 +0.3**
BNI IAmb IAmb 00 33 44.6
comp=Z,47nm,1.3s
BNI Bardonecchia 86.75 44 P **P 00 33 34.9 +0.3**
BNI pmax pmax
comp=Z,47nm,1.3s

PET	**Petropavlovsk**	**86.79**	**325**	*e*P	**P**	**00 33 35.9**	**+1.5**
PET				*e*S	**S**	**00 44 11.2**	**+3.5**
PET				pmax	pmax		
	comp=Z,300nm,8.4s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
KOWA	**Kowa**	**86.97**	**76**	P	**P**	**00 33 36.0**	**+0.1**
KOWA	**Kowa**	**86.97**	**76**	P	**P**	**00 33 36.9**	**+0.9**
KOWA	**Kowa**	**86.97**	**76**	P	**P**	**00 33 36.1**	**+0.1**
	comp=Z,86nm,1.0s,baz=291,slow=4.9,SNR=91						
KOWA				LR	LR	01 07 49.9	
	comp=Z,805nm,21.9s,baz=314,slow=32						
	comp=Z,86nm,1.0s						
FLTG	**Flechtingen**	**86.97**	**36**	*e*P	**P**	**00 33 35.7**	**+0.4**
	comp=Z,46nm,1.0s,baz=293,slow=4.8						
STU	**Stuttgart**	**87.08**	**40**	IAmb	IAmb	00 33 39.8	
	comp=Z,55nm,0.8s						
STU	**Stuttgart**	**87.08**	**40**	*e*P	**P**	**00 33 35.9**	**0.0**
	comp=Z,130nm,0.8s,baz=293,slow=4.8						
PETK	**Petropavlovsk-**	**87.29**	**325**	P	**P**	**00 33 37.2**	**+0.4**
	comp=Z,7.1nm,1.0s,baz=75,slow=6.3,SNR=3.9						
	comp=Z,7.1nm,1.0s						
TIXI	**Tiksi**	**87.60**	**347**	P	**P**	**00 33 37.3**	**-0.6**
TIXI				IAmb	IAmb	00 33 38.0	
	comp=Z,28nm,0.8s						
TIXI	**Tiksi**	**87.60**	**347**	*d i*P	**P**	**00 33 37.2**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,24nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,527nm,21.0s						
NEUB	**Neuenburg**	**87.71**	**37**	*e*P	**P**	**00 33 39.5**	**+0.6**
	comp=Z,42nm,0.8s,baz=293,slow=4.8						
MOX	**Moxa**	**87.84**	**38**	*e*P	**P**	**00 33 39.6**	**+0.1**
	comp=Z,38nm,1.2s,baz=293,slow=4.8						
MOX				*e*L	L	01 10 01.3	
	comp=Z,429nm,21.9s						
MA2	**Magadan**	**87.92**	**332**	P	**P**	**00 33 41.6**	**+1.9**
	comp=Z,101nm,1.4s						
MA2	**Magadan**	**87.92**	**332**	*de*P	**P**	**00 33 40.2**	**+0.5**
MA2				pmax	pmax		
	comp=Z,69nm,1.1s						
MA2				MLR	MLR		
	comp=Z,298nm,21.0s						
GRA1	**Grafenberg Arr**	**87.97**	**39**	IAmb	IAmb	00 33 47.8	
	comp=Z,51nm,1.3s						
GRF	**Grafenberg Arr**	**87.97**	**39**	*e*P	**P**	**00 33 41.6**	**+1.4**
	comp=Z,28nm,1.0s,baz=293,slow=4.8						
GRF				*e*L	L	01 08 32.3	
	comp=Z,451nm,21.9s						
GRFO	**Grafenberg**	**87.97**	**39**	P	**P**	**00 33 43.3**	**+3.1**
GRFO				IAmb	IAmb	00 33 47.7	
	comp=Z,53nm,1.3s						
GRFO	**Grafenberg**	**87.97**	**39**	P	**P**	**00 33 43.3**	**+3.1**
GRFO				pmax	pmax		
	comp=Z,53nm,1.3s						
TUE	**Stuetta**	**88.01**	**42**	IAmb	IAmb	00 33 48.0	
	comp=Z,40nm,1.2s						
UBR	**Ueberruh**	**88.05**	**41**	*e*P	**P**	**00 33 42.3**	**+1.6**
	comp=Z,49nm,1.1s,baz=293,slow=4.8						
DAVA	**Damuels**	**88.05**	**41**	*e*P	**P**	**00 33 41.2**	**+0.4**
	comp=Z,36nm,0.8s,SNR=14						
TIC	**Toumodi**	**88.15**	**84⇓**	*i*P	**P**	**00 33 42.4**	**+0.7**
	comp=Z,6.0nm,0.4s						
PLN	**Plauen**	**88.22**	**38**	*e*P	**P**	**00 33 42.2**	**+0.8**
	comp=Z,26nm,0.9s,baz=293,slow=4.8						
DAVOX	**Davos/Dischmat**	**88.24**	**42**	LR	LR	01 10 13.4	
	comp=Z,479nm,19.4s,baz=293,slow=34						
LIC	**Lamto**	**88.25**	**84⇑**	*i*P	**P**	**00 33 42.7**	**+0.5**
	comp=Z,36nm,0.6s						
DBIC	**Dimbokro**	**88.30**	**84**	P	**P**	**00 33 42.1**	**-0.3**
DBIC				IAmb	IAmb	00 33 43.8	
	comp=Z,70nm,1.2s						
DBIC	**Dimbokro**	**88.30**	**84**	⇓P	**P**	**00 33 42.1**	**-0.3**
DBIC	**Dimbokro**	**88.30**	**84**	P	**P**	**00 33 41.9**	**-0.4**
	comp=Z,13nm,0.7s,baz=280,slow=4.1,SNR=20						
DBIC				LR	LR	01 09 41.1	
	comp=Z,214nm,20.9s,baz=296,slow=33						
	comp=Z,13nm,0.7s						
WERD	**Werda**	**88.32**	**38**	*e*P	**P**	**00 33 42.8**	**+1.0**
	comp=Z,35nm,1.2s,baz=293,slow=4.8						
GUNZ	**Gunzen**	**88.37**	**38**	*e*P	**P**	**00 33 42.7**	**+0.6**
	comp=Z,28nm,0.8s,baz=293,slow=4.8						
CLL	**Collm**	**88.38**	**37**	IAmb	IAmb	00 33 46.4	
	comp=Z,27nm,1.1s						
CLL	**Collm**	**88.38**	**37**	*i*P	**P**	**00 33 42.2**	**+0.1**
CLL				*i* *PP	**pP**	**00 33 57.9**	**-0.4**
CLL				*e*S	**S**	**00 44 17.0**	**-6.0**
CLL				pmax	pmax		
	comp=Z,29nm,1.2s						
CLL	**Collm**	**88.38**	**37**	*e*P	**P**	**00 33 42.4**	**+0.4**
	comp=Z,17nm,0.8s,baz=293,slow=4.8						
CLL				*e*L	L	01 12 47.4	
	comp=Z,380nm,20.7s						
CLL	**Collm**	**88.38**	**37**	*i*P	**P**	**00 33 42.2**	**+0.1**
	comp=Z,7.0nm,1.2s						
CLL				*i* Pmax		00 33 44.4	
	comp=Z,29nm,1.2s						
CLL				*i* x	x	00 33 48.3	
CLL				*i* pP	**pP**	**00 33 57.9**	**-0.4**
CLL				*i* sP	**sP**	**00 34 04.6**	**+0.1**
CLL				*i* x	x	00 34 10.1	
CLL				*e*PP	**PP**	**00 37 11.0**	**+1.1**
CLL				*e*SKKSac	**S**	**00 44 17.0**	**-6.0**
CLL				*e*S	**ScS**	**00 44 28.0**	**-0.7**
	comp=N,200nm,21.4s						
CLL				*e*S	**ScS**	**00 44 28.0**	**-0.7**
	comp=E,600nm,24.1s						
CLL				*e*sS	**sS**	**00 44 54.0**	**+3.6**
CLL				*e*SP	**SPn**	**00 45 22.0**	**-2.2**
CLL				*e*PPS	PPS	00 46 00.0	
CLL				*e*x	x	00 46 33.0	
CLL				*e*SS	**SS**	**00 50 18.0**	**+5.0**
CLL				*e*x	x	00 52 54.0	
CLL				*e*SSSS		00 56 54.0	
MANZ	**Manzenberg**	**88.39**	**38**	*e*P	**P**	**00 33 42.8**	**+0.6**
	comp=E,4.3nm,0.9s,baz=293,slow=4.8						
TANN	**Tannenbergstha**	**88.43**	**38**	*e*P	**P**	**00 33 43.1**	**+0.7**
	comp=E,38nm,1.1s,baz=293,slow=4.8						
WERN	**Wernitzgruen**	**88.43**	**38**	*e*P	**P**	**00 33 43.1**	**+0.7**
	comp=E,35nm,0.9s,baz=293,slow=4.8						
KIC	**Kosan Boka**	**88.49**	**84⇑**	*i*P	**P**	**00 33 43.9**	**+0.6**
	comp=E,27nm,0.6s						
NKC	**Novy Kostel**	**88.49**	**38**	*e*P	**P**	**00 33 43.1**	**+0.5**
NKC	**Novy Kostel**	**88.49**	**38**	*e*P	**P**	**00 33 43.1**	**+0.5**
RETA	**Reutte**	**88.53**	**41**	*e*P	**P**	**00 33 43.4**	**+0.4**
	comp=E,29nm,0.9s,SNR=16						
ROTZ	**Rotzenmuhle**	**88.53**	**38**	*e*P	**P**	**00 33 43.6**	**+0.8**
	comp=E,8.9nm,1.5s,baz=293,slow=4.8						
FUORN	**Ofenpass-Fuorn**	**88.54**	**42**	P	**P**	**00 33 43.3**	**0.0**
FUR	**Furstenfeldbru**	**88.59**	**40**	*e*P	**P**	**00 33 44.2**	**+1.0**
	comp=E,26nm,0.8s,baz=293,slow=4.8						
FUR				*e*L	L	01 11 21.8	
	comp=E,472nm,21.3s						
FETA	**Feichten**	**88.69**	**41**	*i* PcP	**P**	**00 33 44.3**	**+0.5**
	comp=E,9.6nm,0.6s						
FBE	**Freiberg**	**88.74**	**37**	*e*P	**P**	**00 33 44.6**	**+0.9**
	comp=E,35nm,1.2s,baz=293,slow=4.8						
MOTA	**Moosalm**	**88.80**	**41**	*e*PcP	**P**	**00 33 44.9**	**+0.5**
	comp=E,54nm,1.3s,SNR=13						
MSSA	**Maissana**	**88.90**	**44**	IAmb	IAmb	00 33 51.3	
	comp=Z,22nm,1.1s						
SQTA	**Sankt Quirin**	**88.91**	**41**	*e*PcP	**P**	**00 33 45.2**	**+0.4**
	comp=Z,13nm,0.8s,SNR=8.0						
HSKC	**Hora Svate Kat**	**88.91**	**37**	*e*P	**P**	**00 33 46.4**	**+1.8**
BRG	**Berggiesshubel**	**89.10**	**37**	*i*P	**P**	**00 33 46.3**	**+0.8**
BRG				Amp		00 33 47.1	
	comp=Z,10nm,1.0s						
BRG	**Berggiesshubel**	**89.10**	**37**	S	**S**	**00 44 37.0**	**+7.2**
BRG				Amp		01 08 38.0	
	comp=N,0.6nm,26.7s						
BRG				Amp		01 08 40.0	
	comp=E,0.5nm,26.9s						
BRG				Amp		01 08 47.0	
	comp=Z,0.6nm,22.2s						
BRG	**Berggiesshubel**	**89.10**	**37**	*i*P	**P**	**00 33 46.3**	**+0.8**
BRG				S	**S**	**00 44 37.0**	**+7.2**
BRG				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRG	**Berggiesshubel**	**89.10**	**37**	*e*P	**P**	**00 33 45.7**	**+0.2**
	comp=Z,6.7nm,0.8s,baz=293,slow=4.8						
WATA	**Walderalm**	**89.10**	**41**	*e*P	**P**	**00 33 45.8**	**+0.1**
	comp=Z,36nm,2.1s,SNR=8.4						
WTTA	**Wattenberg**	**89.17**	**41**	*i* PcP	**P**	**00 33 46.3**	**+0.3**
	comp=Z,24nm,1.3s						
WET	**Wettzell**	**89.18**	**39**	*e*P	**P**	**00 33 46.2**	**+0.3**
	comp=Z,13nm,0.9s,baz=293,slow=4.8						
WET				*e*L	L	01 18 14.2	
	comp=Z,544nm,18.3s						
PVCC	**Panska Ves**	**89.61**	**37**	*e*P	**P**	**00 33 47.9**	**+0.1**
PVCC	**Panska Ves**	**89.61**	**37**	*e*P	**P**	**00 33 47.9**	**+0.1**
KHC	**Kasperske Hory**	**89.61**	**39**	IAmb	IAmb	00 34 04.9	
	comp=Z,40nm,1.8s						
KHC	**Kasperske Hory**	**89.61**	**39**	*de*P	**P**	**00 33 47.8**	**-0.1**
KHC				pmax	pmax		
	comp=Z,19nm,1.0s						
KHC	**Kasperske Hory**	**89.61**	**39**	*e*P	**P**	**00 33 47.8**	**-0.1**
KHC				*ep*P	**pP**	**00 34 02.4**	**-1.8**
KHC				AMS	AMS	01 12 40.0	
	comp=Z,800nm,22.1s						
RJOB	**Jochberg**	**89.70**	**40**	*e*P	**P**	**00 33 48.8**	**+0.4**
	comp=Z,14nm,0.9s,baz=293,slow=4.8						
LESA	**Schwarzleotal**	**89.75**	**40**	*i* P	**P**	**00 33 47.3**	**-1.5**
	comp=Z,9.3nm,1.0s						
GEC2	**GERESS Array S**	**89.80**	**39**	*e*P	**P**	**00 33 49.0**	**+0.1**
	comp=Z,12nm,1.1s,baz=293,slow=4.8						
GEC2				*e*L	L	01 12 43.9	
	comp=Z,418nm,21.8s						
GERES	**GERESS Array B**	**89.80**	**39**	P	**P**	**00 33 49.0**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=297,slow=4.3,SNR=22						
GERES				PKKPbc	**PKKPbc**	**00 51 21.9**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=240,slow=2.6,SNR=3.9						
GERES				LR	LR	01 13 05.8	
	comp=Z,310nm,21.8s,baz=292,slow=35						
	comp=Z,4.4nm,0.8s						
FINES	**FINESS Array B**	**89.81**	**24**	*e*P	**P**	**00 33 49.8**	**+1.3**
FINES				pmax	pmax		
	comp=Z,8.0nm,0.9s						
FINES	**FINESS Array B**	**89.81**	**24**	P	**P**	**00 33 48.2**	**-0.3**
	comp=Z,6.2nm,0.9s,baz=294,slow=1.4,SNR=13						
FINES				LR	LR	01 15 45.4	
	comp=Z,278nm,19.1s,baz=302,slow=37						
	comp=Z,6.2nm,0.9s						
PRU	**Pruhonice**	**89.82**	**37**	*e*P	**P**	**00 33 48.8**	**0.0**
PRU				*e*		00 33 58.0	
PRU				MLR	MLR		
	comp=Z,700nm,25.3s						
PRU	**Pruhonice**	**89.82**	**37**	*e*P	**P**	**00 33 48.8**	**0.0**
PRU				*ex*	x	00 33 58.0	
PRU				AMS	AMS	01 08 00.0	
	comp=Z,700nm,25.3s						
ZVC	**Zvikov**	**89.85**	**38**	*e*P	**P**	**00 33 49.3**	**+0.3**
ABTA	**Abfaltersbach**	**89.92**	**41**	*i* PcP	**P**	**00 33 49.8**	**+0.3**
	comp=Z,15nm,0.9s						
TEOL	**Teolo**	**89.93**	**42**	IAmb	IAmb	00 33 54.0	
	comp=Z,24nm,0.7s						
DGTI	**Dogotuki**	**90.06**	**253**	P	**P**	**00 33 53.4**	**+2.9**
	comp=Z,52nm,1.3s						
CKRC	**Cesky Krumlov**	**90.18**	**39**	*e*P	**P**	**00 33 53.6**	**+3.0**
CKRC	**Cesky Krumlov**	**90.18**	**39**	*e*P	**P**	**00 33 53.6**	**+3.0**
BIOA	**Bad Ischl, Aus**	**90.24**	**40**	*i* P	**P**	**00 33 51.0**	**+0.1**
	comp=Z,11nm,0.9s						
CLUD	**Cludinico**	**90.27**	**41**	P	**P**	**00 33 50.6**	**-0.5**
KBA	**Koelnbreinsper**	**90.31**	**40**	*i* PcP	**P**	**00 33 51.6**	**+0.2**
	comp=Z,25nm,1.5s						
CHVC	**Chvalec**	**90.44**	**37**	*e*P	**P**	**00 33 50.8**	**-1.0**
CHVC				*e*		00 34 02.5	
CHVC	**Chvalec**	**90.44**	**37**	*e*P	**P**	**00 33 50.8**	**-1.0**
CHVC				*ex*	x	00 34 02.5	
UPC	**Upice**	**90.45**	**37**	*e*P	**P**	**00 33 51.9**	**+0.1**
UPC				MLR	MLR		
	comp=Z,800nm,23.1s						
UPC	**Upice**	**90.45**	**37**	*e*P	**P**	**00 33 51.9**	**+0.1**
UPC				AMS	AMS	01 15 50.0	
	comp=Z,800nm,23.1s						
OSTC	**Ostas**	**90.54**	**36**	*e*P	**P**	**00 33 52.4**	**+0.2**
OSTC	**Ostas**	**90.54**	**36**	*e*P	**P**	**00 33 52.4**	**+0.2**
MOA	**Molln**	**90.56**	**39**	*i* P	**P**	**00 33 52.5**	**+0.1**
	comp=Z,12nm,0.7s						
TREC	**Trest**	**90.67**	**38**	*e*P	**P**	**00 33 52.6**	**-0.3**
TREC	**Trest**	**90.67**	**38**	*e*P	**P**	**00 33 52.6**	**-0.3**
MYKA	**Terra Mystica**	**90.68**	**41**	*e*P	**P**	**00 33 52.9**	**-0.1**
	comp=Z,3.3nm,0.5s						
DPC	**Dobruska-Polom**	**90.69**	**37**	*e*P	**P**	**00 33 53.2**	**+0.2**
DPC				MLR	MLR		
	comp=Z,900nm,21.3s						
DPC	**Dobruska-Polom**	**90.69**	**37**	*e*P	**P**	**00 33 53.2**	**+0.2**
DPC				AMS	AMS	01 16 00.0	
	comp=Z,900nm,21.3s						
PRED	**Cave del Predi**	**90.71**	**41**	IAmb	IAmb	00 33 57.7	
	comp=Z,14nm,0.6s						
ROBS	**Robic**	**90.75**	**41**	*i* P	**P**	**00 33 53.0**	**-0.3**
SABO	**M.te Sabotino**	**90.92**	**41**	IAmb	IAmb	00 33 58.6	
	comp=Z,22nm,1.2s						
OBKA	**Obir**	**91.30**	**41**	*i* P	**P**	**00 33 55.8**	**-0.1**
	comp=Z,19nm,0.8s						
OBKA	**Obir**	**91.30**	**41**	*e*P	**P**	**00 33 55.3**	**-0.6**
KRUC	**Moravsky**	**91.31**	**38**	*e*P	**P**	**00 33 55.4**	**-0.4**
VRAC	**Vranov**	**91.32**	**38**	⇓P	**P**	**00 33 55.3**	**-0.6**
VRAC	**Vranov**	**91.32**	**38**	*e*P	**P**	**00 33 55.6**	**-0.3**
VRAC	**Vranov**	**91.32**	**38**	⇓P	**P**	**00 33 55.3**	**-0.6**
VRAC	**Vranov**	**91.32**	**38**	LR	LR	01 15 21.0	
	comp=Z,245nm,19.5s,baz=300,slow=36						
MURB	**Monte Urbino**	**91.32**	**44**	P	**P**	**00 33 55.4**	**-0.6**
MURB				IAmb	IAmb	00 34 05.6	
	comp=Z,22nm,1.3s						
SKDS	**Skadanscina**	**91.36**	**42**	*e*P	**P**	**00 33 58.3**	**+2.1**
LJU	**Ljubljana**	**91.48**	**41**	*i* P	**P**	**00 33 59.3**	**+2.6**
CONA	**Conrad Observa**	**91.49**	**39**	*i* P	**P**	**00 33 55.6**	**-1.3**
	comp=Z,14nm,1.1s						
SOKA	**Soboth**	**91.53**	**40**	*e*P	**P**	**00 33 56.5**	**-0.5**
	comp=Z,18nm,1.4s,SNR=10						
CEY	**Cerknica**	**91.55**	**41**	*e*P	**P**	**00 33 56.2**	**-0.8**
CEY	**Cerknica**	**91.55**	**41**	*i* P	**P**	**00 33 57.1**	**+0.1**
ARSA	**Arzberg**	**91.58**	**40**	*e*P	**P**	**00 33 57.1**	**-0.1**
	comp=Z,8.6nm,0.8s						
CESX	**Cesi**	**91.62**	**45**	IAmb	IAmb	00 34 00.7	
	comp=Z,50nm,1.8s						
MORC	**Moravsky Berou**	**91.66**	**37**	⇑P	**P**	**00 33 57.8**	**+0.3**
MORC	**Moravsky Berou**	**91.66**	**37**	P	**P**	**00 33 57.5**	**0.0**
MORC				IAmb	IAmb	00 34 01.9	
	comp=Z,24nm,1.2s						
MORC	**Moravsky Berou**	**91.66**	**37**	*e*P	**P**	**00 33 57.5**	**0.0**
MORC	**Moravsky Berou**	**91.66**	**37**	⇑P	**P**	**00 33 57.8**	**+0.3**
RAO	**Raoul Island**	**91.76**	**240**	LR	LR	01 07 49.7	
	comp=Z,170nm,20.5s,baz=110,slow=31						
RONA	**Rosalia: Austr**	**91.86**	**39**	*i* PcP	**P**	**00 33 58.5**	**+0.1**
	comp=Z,14nm,0.7s						
KEST	**Kesra**	**91.91**	**52**	IAmb	IAmb	00 34 13.8	
	comp=Z,17nm,0.8s						
KEST	**Kesra**	**91.91**	**52**	P	**P**	**00 33 59.1**	**+0.1**
KEST	**Kesra**	**91.91**	**52**	P	**P**	**00 33 58.8**	**-0.1**
	comp=Z,12nm,0.9s,baz=201,slow=2.8,SNR=18						
KEST				LR	LR	01 11 56.4	
	comp=Z,408nm,20.6s,baz=264,slow=33						
	comp=Z,12nm,0.9s						
GUMA	**Gualdo di Mace**	**91.94**	**44**	P	**P**	**00 33 58.0**	**-0.9**
GUMA				IAmb	IAmb	00 34 05.1	
	comp=Z,13nm,0.7s						
OKC	**Ostrava-Krasne**	**91.97**	**37**	*e*P	**P**	**00 33 59.6**	**+0.7**
OKC	**Ostrava-Krasne**	**91.97**	**37**	*e*P	**P**	**00 33 59.6**	**+0.7**
MSVF	**Nonsavu**	**92.01**	**252**	P	**P**	**00 34 01.1**	**+1.4**
MSVF	**Nonsavu**	**92.01**	**252**	P	**P**	**00 34 02.7**	**+3.0**
MSVF	**Nonsavu**	**92.01**	**252**	*de*P	**P**	**00 34 01.3**	**+1.6**
MSVF				pmax	pmax		
	comp=Z,89nm,1.1s						
MSVF	**Nonsavu**	**92.01**	**252**	LR	LR	01 05 42.4	
	comp=Z,667nm,21.3s,baz=49,slow=29						
MODS	**Modra-Piesok**	**92.14**	**38**	*e*P	**P**	**00 34 00.6**	**+0.9**
MODS				pmax	pmax		
	comp=Z,39nm,1.1s						
MODS	**Modra-Piesok**	**92.14**	**38**	*e*P	**P**	**00 34 00.6**	**+0.9**
JAVC	**Velka Javorina**	**92.15**	**38**	*e*P	**P**	**00 33 59.8**	**0.0**
SMOL	**Smolenice**	**92.17**	**38**	*e*P	**P**	**00 34 01.2**	**+1.4**
SUW	**Suwalki**	**92.59**	**31**	P	**P**	**00 34 00.9**	**-0.7**
SUW	**Suwalki**	**92.59**	**31**	P	**P**	**00 34 00.9**	**-0.7**
SUW				pmax	pmax		
	comp=Z,109nm,1.4s						
TOA0	**Torodi Ar. Sit**	**92.67**	**76**	P	**P**	**00 34 01.5**	**-1.3**
TOA0	**Torodi Ar. Sit**	**92.67**	**76**	P	**P**	**00 34 02.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**92.67**	**76**	P	**P**	**00 34 02.2**	**-0.5**
	comp=Z,5.1nm,0.7s,baz=302,slow=4.6,SNR=46						
TORD				PKKPbc	**PKKPbc**	**00 51 13.7**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=64,slow=4.6,SNR=9.2						
TORD				LR	LR	01 11 13.7	
	comp=Z,760nm,22.0s,baz=302,slow=33						
	comp=Z,5.1nm,0.7s						
OJC	**Ojcow**	**92.73**	**36**	IAmb	IAmb	00 34 06.4	
	comp=Z,11nm,0.7s						
VYHS	**Vyhne**	**93.00**	**38**	*e*P	**P**	**00 34 04.3**	**+0.6**
VYHS				pmax	pmax		
	comp=Z,25nm,1.6s						
VYHS	**Vyhne**	**93.00**	**38**	*e*P	**P**	**00 34 04.3**	**+0.6**
LANS	**Liptovska Anna**	**93.06**	**37**	*e*P	**P**	**00 34 05.1**	**+1.2**
LANS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LANS	**Liptovska Anna**	**93.06**	**37**	*e*P	**P**	**00 34 05.1**	**+1.2**
TAM	**Tamanrasset**	**93.19**	**65**	P	**P**	**00 34 05.0**	**-0.2**
TAM				IAmb	IAmb	00 34 08.2	
	comp=Z,30nm,1.0s						
TAM	**Tamanrasset**	**93.19**	**65**	P	**P**	**00 34 05.0**	**-0.2**
TAM				pmax	pmax		
	comp=Z,30nm,1.0s						
A050A	**Klekovaca**	**93.43**	**42**	*e*P	**P**	**00 34 08.1**	**+2.3**
BLY	**Banja Luka**	**93.73**	**41**	*e*P	**P**	**00 34 08.3**	**+1.2**
NACGM	**Naroch**	**93.86**	**29**	*e*P	**P**	**00 34 07.4**	**0.0**
	comp=Z,12nm,1.1s,baz=305						
PSZ	**Piszkesteto**	**93.90**	**38**	P	**P**	**00 34 08.0**	**+0.1**
PSZ				IAmb	IAmb	00 34 16.7	
	comp=Z,33nm,1.2s						
PSZ	**Piszkesteto**	**93.90**	**38**	P	**P**	**00 34 08.0**	**+0.1**
PSZ				pmax	pmax		
	comp=Z,33nm,1.2s						
STHS	**Stebnicka Huta**	**93.94**	**36**	*e*P	**P**	**00 34 10.2**	**+2.2**
STHS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
STHS	**Stebnicka Huta**	**93.94**	**36**	*e*P	**P**	**00 34 10.2**	**+2.2**
MORH	**Mrgy, Hungar**	**93.97**	**40**	⇑P	**P**	**00 34 07.9**	**-0.2**
CRVS	**Cervenica-Dubn**	**94.32**	**36**	*e*P	**P**	**00 34 11.8**	**+2.1**
CRVS	**Cervenica-Dubn**	**94.32**	**36**	*e*P	**P**	**00 34 11.8**	**+2.1**
YAK	**Yakutsk**	**94.55**	**341**	*e*P	**P**	**00 34 09.7**	**-0.7**
YAK				*e**PP	**pP**	**00 34 27.3**	**+0.6**
YAK				*e*		00 37 56.7	
YAK				*e*S	**SKSac**	**00 44 39.1**	**-1.7**
YAK				*e*		00 45 16.2	
YAK				*e*SS	**SS**	**00 51 40.4**	**-0.5**
YAK				*e*SSS	SSS	00 55 23.0	
YAK				pmax	pmax		
	comp=Z,43nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,90nm,2.2s						
YAK				pmax	pmax		
	comp=N,74nm,2.5s						
YAK				pmax	pmax		
	comp=E,32nm,2.2s						
YAK				smax	smax		
	comp=N,98nm,3.0s						
YAK				smax	smax		
	comp=E,57nm,2.8s						
MNK	**Minsk**	**94.61**	**29**	*i* P	**P**	**00 34 09.4**	**-1.5**
	comp=E,5.0nm,0.8s						
MNK				*i* P	**P**	**00 34 09.4**	**-1.5**
	comp=N,9.0nm,0.9s						
MNK				*i* P	**P**	**00 34 09.4**	**-1.5**
	comp=Z,15nm,1.1s,baz=306						
MNK				*i* pP	**pP**	**00 34 26.4**	**-0.7**
MNK				*i* PP	**PP**	**00 37 57.2**	**-1.7**
MNK				*i* PPP	PPP	00 39 58.6	
MNK				*i* S	**SKSac**	**00 44 38.7**	**-2.8**
MNK				*i* sS	**SKKSac**	**00 45 09.3**	**+6.1**
MNK				*i* SS	SS	00 51 10.5	-32
MNK				*i* SSS	SSS	00 54 21.3	
MNK				*i* LQ	LQ	01 06 14.3	
MNK				*i* LR	LR	01 09 18.7	
MNK				*i* LRM	MLR	01 11 50.1	
	comp=Z,901nm,24.9s						
MNK				*i* LRM	MLR	01 12 06.7	
	comp=E,461nm,26.4s						
MNK				*i* LRM	MLR	01 15 51.2	
	comp=N,895nm,21.8s						
MNK	**Minsk**	**94.61**	**29**	*i* P	**P**	**00 34 09.4**	**-1.5**
MNK				*i* *PP	**pP**	**00 34 26.4**	**-0.7**
MNK				*i*		00 37 57.1	
MNK				*i* PPP	PPP	00 39 58.5	
MNK				*i* S	**SKSac**	**00 44 38.6**	**-2.8**
MNK				*i* *SS	**SKKSac**	**00 45 09.3**	**+6.1**
MNK				pmax	pmax		
	comp=E,5.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,15nm,1.1s						
MNK				pmax	pmax		
	comp=N,9.0nm,0.9s						
MNK				MLR	MLR		
	comp=N,895nm,22.0s						
KOLS	**Kolonicke sedl**	**94.77**	**36**	*e*P	**P**	**00 34 13.6**	**+1.8**
KOLS	**Kolonicke sedl**	**94.77**	**36**	*e*P	**P**	**00 34 13.6**	**+1.8**
STON	**Ston**	**94.91**	**43**	*e*P	**P**	**00 34 12.3**	**-0.2**
CUC	**Castrocucco**	**94.92**	**46**	P	**P**	**00 34 11.0**	**-1.7**
CUC				IAmb	IAmb	00 34 15.8	
	comp=Z,15nm,0.8s						
NEVS	**Nevesinje**	**94.98**	**42**	*e*P	**P**	**00 34 16.0**	**+3.1**
VAE	**Valguarnera**	**94.99**	**49**	LR	LR	01 12 30.3	
	comp=Z,871nm,21.6s,baz=340,slow=33						
KLMR	**Klimovskoe**	**95

OBN *e*SS **SS** **00 52 30.0 -1.2**
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,762nm,21.0s
OBN Obninsk 98.09 26 LR LR 01 18 10.1
comp=Z,496nm,21.8s,baz=342,slow=35
FNA Florina 98.32 43 P **P** **00 34 27.3 -0.8**
FNA Florina 98.32 43 P **P** **00 34 27.3 -0.8**
FNA pmax pmax
comp=Z,3.0nm,0.8s
STIP Stip 98.40 42 *i* P Pdif 00 34 30.2 +1.9
VTS Vitosha 98.60 41 ⇓P Pdif 00 34 29.5 +0.1
VTS Vitosha 98.60 41 ⇓P Pdif 00 34 29.5 0.0
YSS Yuzh-Sakhalins 98.67 324 *e*P **P** **00 34 29.2 -0.2**
YSS *e*S **S** **00 45 49.5 -4.9**
YSS pmax pmax
comp=Z,20nm,1.2s
MLR Muntele Rosu 98.72 38 P **P** **00 34 28.8 -1.1**
MLR IAmb IAmb 00 34 35.2
comp=Z,17nm,1.2s
MLR Muntele Rosu 98.72 38 P **P** **00 34 28.8 -1.1**
MLR pmax pmax
comp=Z,17nm,1.2s
MLR Muntele Rosu 98.72 38 LR LR 01 22 31.4
comp=Z,274nm,19.0s,baz=297,slow=38
KIRV Kirov 100.06 18 *c*e P **Pdif** **00 34 34.2 -1.1**
KIRV Kirov 100.06 18 LR LR 01 22 36.4
comp=Z,94nm,18.2s,baz=323,slow=37
LPSR Galich'ya Gora 100.85 27 *e*P **Pdif** **00 34 37.9 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VORR Voronezh 101.63 27 *e*P **Pdif** **00 34 44.6 +2.1**
VORR pmax pmax
comp=Z,10.0nm,0.4s
VSR Storozhevoye 101.94 27 *e*P **Pdif** **00 34 41.8 -2.1**
VSR pmax pmax
comp=Z,10.0nm,1.6s
BOD Bodaibo 102.55 345 *e*P **Pdif** **00 34 45.5 -0.9**
BOD pmax pmax
comp=Z,9.0nm,1.6s
DZM Mont Dzumac 103.65 251 *e*P **Pdif** **00 35 06.3 +14**
comp=Z,52nm,39.1s
DZM Mont Dzumac 103.65 251 *e*PP PKiKP 00 38 56.0 -14
comp=Z,99nm,30.8s
DZM Mont Dzumac 103.65 251 *e*LR LR 01 08 51.6
comp=Z,1μm,23.9s
QSPA South Pole Qui 106.03 180 PKKPbc PKKPbc 00 50 33.8 -5.2
comp=Z,2.9nm,1.0s,baz=274,slow=3.4,SNR=6.2
BRTR Keskin Array B 106.69 39 PKKPbc PKKPbc 00 50 34.2 -1.3
comp=Z,0.9nm,0.8s,baz=187,slow=6.2,SNR=6.3
BVAR Borovoye Array 110.01 9 PKiKP **PKiKP** **00 39 21.4 0.0**
comp=Z,1.6nm,0.7s,baz=245,slow=39,SNR=4.0
ZALV Zalesovo Beam 110.24 0 PKiKP **PKiKP** **00 39 20.6 -1.2**
comp=Z,0.4nm,0.4s,baz=20,slow=32,SNR=2.6
ZALV PP **PP** **00 39 53.3 -2.2**
comp=Z,6.4nm,0.9s,baz=344,slow=4.8,SNR=9.8
MAK Makhachkala 111.88 29 *e*P **Pdif** **00 35 26.5 -1.8**
MAK *i* 00 39 24.6
MAK *e* 00 39 38.6
MAK *e* 00 40 03.9
MAK *e*PPP PPP 00 42 27.5
MAK *e* 00 46 01.2
MAK *e*PS **PS** **00 49 38.2 -3.4**
MAK *e*SS SS 00 55 43.8 +3.9
MAK *e*SSS SSS 00 59 52.2
MAK pmax pmax
comp=Z,35nm,0.9s
GNI Garni 112.65 32 P **PKiKP** **00 39 25.7 -1.2**
KSRS Korea Array 113.17 324 PKiKP **PKiKP** **00 39 27.5 -0.3**
comp=Z,2.7nm,0.8s,baz=48,slow=1.9,SNR=6.7
KURK Kurchatov 113.24 4 ⇑*i* PKIKP **PKiKP** **00 39 26.8 -0.7**
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 113.24 4 P **PKiKP** **00 39 21.1 -6.4**
KURBB Kurchatov Arra 113.32 4 PKiKP **PKiKP** **00 39 26.9 -0.8**
comp=Z,2.7nm,0.8s,baz=349,slow=2.0,SNR=18
ULN Ulaanbaatar 113.34 344 P **PKiKP** **00 39 25.0 -3.0**
SONM Songino Array 113.54 344 PKiKP **PKiKP** **00 39 27.3 -1.1**
comp=Z,1.1nm,0.8s,baz=339,slow=3.7,SNR=5.4
SONM PKKPbc **PKKPbc** **00 50 11.2 -2.5**
comp=Z,1.2nm,1.0s,baz=190,slow=7.4,SNR=4.3
INCN Inchon 113.87 325 P **PKiKP** **00 39 26.6 -2.5**
XLT XiLinHaoTe 113.88 336 *e*PKP **PKiKP** **00 39 32.9 +3.8**
DGZ Jazzator, Alta 114.46 358 ⇓*i* PKIKP **PKiKP** **00 39 30.0 -0.1**
ZSN Zaisan 116.75 0 *i* PKP **PKpdf** **00 39 33.1 -1.4**
baz=0.2
ZSN Zaisan 116.75 0 *i* PKIKP **PKpdf** **00 39 33.0 -1.4**
MK31 Makanchi Array 117.35 2 PP **PP** **00 40 44.6 -1.4**
MK31 Makanchi Array 117.35 2 *c i* PKIKP **PKpdf** **00 39 34.3 -1.3**
MKAR Makanchi Array 117.35 2 PKPdf **PKpdf** **00 39 34.3 -1.3**
MKAR PP **PP** **00 40 44.2 -1.8**
MKAR Makanchi Array 117.35 2 PKP **PKpdf** **00 39 34.4 -1.3**
comp=Z,2.4nm,0.7s,baz=14,slow=2.6,SNR=18
MKAR PP **PP** **00 40 42.5 -3.5**
comp=Z,4.5nm,1.1s,baz=21,slow=4.4,SNR=6.7
HHC Hu-ho-hao-te 118.22 337 *e*PKP **PKiKP** **00 39 39.3 +1.7**
TDK Taldygorghan 118.90 5 *e*PKP **PKpdf** **00 39 36.9 -1.7**
baz=5.5
TDK Taldyqorghan 118.90 5 *e*PKIKP **PKpdf** **00 39 36.9 -1.7**
BTO Baotou 118.99 338 *e*PKP **PKiKP** **00 39 42.4 +3.3**
BTO sPKP 00 39 55.9
BTO PP **PP** **00 41 01.5 +3.8**
BTO SS SS 00 57 20.4 +7.4
BTO LR LR
comp=Z,590nm,10.6s
BTO LR LR
comp=Z,500nm,10.3s
BTO LR LR
comp=Z,660nm,13.1s
CHKK Chushkaly 119.89 7 *e*PKP **PKpdf** **00 39 39.2 -1.4**
baz=6.8
CHKK Chushkaly 119.89 7 *e*PKIKP **PKpdf** **00 39 39.2 -1.4**
HNS HongShan 119.89 333 ⇑PKP **PKpdf** **00 39 40.5 -0.2**
SGDS Sogindy 119.98 9 *e*PKP **PKpdf** **00 39 39.8 -1.1**
baz=8.8
SGDS Sogindy 119.98 9 *e*PKIKP **PKpdf** **00 39 39.7 -1.1**
WMQ Urumqi 120.32 358 *e*PKP **PKpdf** **00 39 41.3 -0.2**
WMQ PP PP 00 41 15.3 +8.7
WMQ LR LR
comp=Z,180nm,14.7s
WMQ LR LR
comp=Z,240nm,19.1s
WMQ LR LR
comp=Z,360nm,26.3s
IUG Iuzhnay 120.42 13 *e*PKP **PKpdf** **00 39 40.6 -1.1**
baz=13
IUG Iuzhnay 120.42 13 *e*PKIKP **PKpdf** **00 39 40.6 -1.1**
KPKS Kokpek 120.44 5 *e*PKP **PKpdf** **00 39 40.1 -1.7**
baz=5.5
KPKS Kokpek 120.44 5 *e*PKIKP **PKpdf** **00 39 40.1 -1.7**
GEYT Alibeck 120.61 25 PKP **PKpdf** **00 39 42.1 -0.1**
comp=Z,6.1nm,0.9s,baz=342,slow=3.3,SNR=10
GEYT PKKPbc **PKKPbc** **00 49 47.5 -0.9**
comp=Z,1.6nm,0.7s,baz=214,slow=8.2,SNR=4.8
TNSS Tian-Shan 120.69 7 *e*PKP **PKpdf** **00 39 41.5 -1.1**
baz=7.0
TNSS Tian-Shan 120.69 7 *e*PKIKP **PKpdf** **00 39 41.5 -1.1**
AAK Ala-Archa 120.76 9 ⇑*i* PKIKP **PKiKP** **00 39 42.7 +0.1**
AAK Ala-Archa 120.76 9 P **PKpdf** **00 39 42.2 -0.2**
UZB Uzynbulak 120.79 5 *e*PKP **PKpdf** **00 39 41.3 -1.2**
baz=5.2
UZB Uzynbulak 120.79 5 *e*PKIKP **PKpdf** **00 39 41.3 -1.2**
SHLS Shalkode 120.82 5 *e*PKP **PKpdf** **00 39 41.6 -1.0**
baz=4.5
SHLS Shalkode 120.82 5 *e*PKIKP **PKpdf** **00 39 41.5 -1.0**
SATY Saty 120.82 6 *e*PKP **PKpdf** **00 39 40.4 -2.1**
baz=5.8
SATY Saty 120.82 6 *e*PKIKP **PKpdf** **00 39 40.4 -2.1**
NJ2 Nanjing 122.17 326 *e*PKP **PKiKP** **00 39 47.4 +2.0**
GTA Gaotai 123.08 346 *e*PKP **PKpdf** **00 39 46.9 -0.1**
GTA PP **PP** **00 41 27.4 +1.9**
MTSU Mount Surprise 123.50 259 P **PKiKP** **00 39 49.9 +1.5**
BOSA Boshof 123.84 114 PKP **PKpdf** **00 39 47.9 -0.8**
comp=Z,18nm,0.9s,baz=282,slow=3.1,SNR=22
KSH Kashi 124.03 8 PKP **PKiKP** **00 39 50.3 +1.2**
QLP Quilpie 124.28 249 P **PKiKP** **00 39 50.0 +0.3**
MBAR Mbarara 124.33 79 ⇑*i* PKIKP **PKiKP** **00 39 50.4 0.0**
MBAR Mbarara 124.33 79 P **PKiKP** **00 39 56.5 +6.1**
LZH Lanzhou 125.13 341 *e*PKP **PKiKP** **00 39 51.3 -0.1**
LZH sPKP 00 40 03.3
XAN Xi'an 125.19 336 ⇑PKP **PKpdf** **00 39 50.6 -0.5**
LSZ Lusaka 125.43 97 PKPdf **PKpdf** **00 39 52.0 0.0**
LSZ Lusaka 125.43 97 P **PKpdf** **00 39 52.0 0.0**
LSZ Lusaka 125.43 97 PKP **PKPdf** **00 39 51.5 -0.5**
comp=Z,5.5nm,0.5s,baz=252,slow=1.8,SNR=16
WHN Wuhan 125.71 329 PKP **PKiKP** **00 39 57.1 +4.6**
SAKB Bahrain 126.38 39 P **PKPdf** **00 39 53.5 0.0**
STKA Stephens Creek 126.54 242 P **PKPdf** **00 39 53.4 -0.2**
STKA Stephens Creek 126.54 242 PKP **PKPdf** **00 39 53.2 -0.4**
comp=Z,15nm,1.0s,baz=77,slow=3.6,SNR=22
MAW Mawson 126.56 170 PKP **PKPdf** **00 39 52.3 -0.2**
comp=Z,9.6nm,0.7s,baz=237,slow=3.8,SNR=22
CASY Casey 127.08 193 PKPdf **PKiKP** **00 39 53.8 -0.2**
LODK Lodwar 127.22 73 P **PKPdf** **00 39 55.4 -0.1**
KBL Kabul 127.40 17 P **PKPdf** **00 39 54.1 -1.4**
INKA Innaminka 127.40 247 P **PKiKP** **00 39 55.9 +0.1**
QIS Mount Isa 128.19 256 P **PKPdf** **00 39 57.0 0.0**
JRN Qarnain Island 128.54 38 P **PKPdf** **00 39 50.9 -6.8**
SHME Shamm 129.56 34 P **PKPdf** **00 39 58.0 -1.5**
UMQ Umm Al-Quwin 129.71 35 P **PKPdf** **00 39 57.8 -2.1**
ATD Arta Tunnel 130.05 59 **PKiKP** **00 40 01.7 +0.1**
AJN Ajban 130.08 37 P **PKPdf** **00 40 00.1 -0.5**
MASF Masafi 130.10 35 P **PKPdf** **00 40 00.4 -0.2**
SNR=5.9
NAZ Nazwa, Dubai 130.13 36 P **PKPdf** **00 40 00.3 -0.3**
ASUD Al Ashush, Dub 130.23 36 P **PKPdf** **00 40 00.3 -0.5**
MDH Madha 130.24 35 P **PKPdf** **00 39 59.8 -1.1**
FAQ Al Faqa, Dubai 130.28 36 P **PKPdf** **00 39 56.2 -4.8**
MZR Muzera 130.38 39 P **PKPdf** **00 39 57.8 -3.4**
UOSS Minazif 130.47 35 PKPdf **PKPdf** **00 40 00.3 -1.0**
UOSS Minazif 130.47 35 P **PKPdf** **00 39 57.3 -4.0**
HATD Hatta, Dubai 130.52 35 P **PKPdf** **00 39 59.4 -2.1**
SNR=5.7
ASHO Ashiyiah 130.59 35 P **PKPdf** **00 40 00.1 -1.5**
JASK Jask - Hormozg 130.62 33 P **PKPdf** **00 39 56.7 -4.9**
ALNE Al Ain 130.91 36 P **PKPdf** **00 40 01.3 -0.9**
SOHO SOHO 131.29 35 P **PKPdf** **00 40 00.7 -2.2**
KIBK Kibwezi 131.80 78 P **PKiKP** **00 40 05.1 -0.1**
ARQ Araqi 131.91 36 P **PKPdf** **00 40 02.5 -1.6**
HOQ Hoqain 132.16 35 P **PKPdf** **00 40 02.5 -2.1**
BIDO Bidbid 132.65 34 P **PKPdf** **00 40 04.3 -1.2**
NGCH Negor - Chabah 132.68 30 P **PKiKP** **00 40 06.5 0.0**
BSY Bisya 132.76 36 P **PKPdf** **00 40 04.0 -1.7**
SMDO Samad 132.98 35 P **PKPdf** **00 40 05.3 -0.9**
WRA Warramunga Arr 133.07 258 PKhKP PKPpre 00 39 58.5
WRA PKP **PKPdf** **00 40 05.8 -0.5**
comp=Z,1.8nm,1.0s,baz=90,slow=1.6,SNR=7.0
JMDO Jabal Madar 133.56 35 P **PKPdf** **00 40 05.5 -1.7**
ASAR Alice Springs 133.60 253 PKhKP PKPpre 00 39 58.9
ASAR PKP **PKPdf** **00 40 06.5 -0.7**
comp=Z,0.9nm,0.8s,baz=72,slow=1.4,SNR=6.6
KDU Kakadu 133.99 268 P **PKiKP** **00 40 09.9 +0.5**
JLN Jalan Bani Buh 134.45 34 P **PKPdf** **00 40 08.0 -0.8**
PZH PanZhiHua 134.64 339 PKP **PKiKP** **00 40 10.3 -0.4**
MTN Manton Dam 135.30 268 P **PKPdf** **00 40 11.0 +0.4**
KMI Kunming 135.53 337 ⇑PKP **PKPdf** **00 40 11.3 +0.2**
KMI LR LR
comp=Z,480nm,23.5s
DANN Dangsing 135.80 2 *e*P **PKPdf** **00 40 11.1 -0.5**
comp=Z,57nm,1.0s
PYUN Piuthan 136.02 3 *e*P **PKPdf** **00 40 11.3 -0.7**
comp=Z,26nm,1.1s
GKN Gorkha 136.16 0 *e*P **PKPdf** **00 40 11.7 -0.5**
comp=Z,24nm,0.9s
GUN Gumba 136.24 359 *e*P **PKPdf** **00 40 12.0 -0.6**
comp=Z,68nm,1.4s
DMN Daman 136.55 360 *e*P **PKPdf** **00 40 11.8 -1.2**
comp=Z,10nm,0.4s
PKIN Phulchoki 136.58 360 *e*P **PKPdf** **00 40 12.0 -1.1**
comp=Z,8.8nm,0.2s
PKI Pulchoki 136.59 359 *e*P **PKPdf** **00 40 11.8 -1.4**
comp=Z,6.9nm,0.3s
TAPN Taplejung 136.73 357 *e*P **PKPdf** **00 40 12.7 -0.7**
comp=Z,42nm,1.1s
KNRA Kununurra 137.99 264 PKPdf **PKPdf** **00 40 15.6 +0.1**
KNRA Kununurra 137.99 264 P **PKPdf** **00 40 16.2 +0.7**
WRKA Warakurna 138.66 250 P **PKPdf** **00 40 16.4 -0.2**
MND Mandalay 140.59 344 PKPdf **PKPdf** **00 40 18.9 -1.3**
CHTO Chiang Mai 142.70 338 PKPpre 00 40 19.4
CHTO Chiang Mai 142.70 338 PKHKP PKPpre 00 40 19.4
CMAR Chiang Mai Arr 143.03 338 PKhKP PKPpre 00 40 20.6
comp=Z,8.4nm,0.8s,baz=347,slow=3.9,SNR=41
VOI Vohitsoka 143.47 105 PKP **PKPdf** **00 40 26.1 +0.7**
ABPO Ambohimpanom 143.90 100 PKPdf PKPbc 00 40 24.6 +0.4
ABPO Ambohimpanom 143.90 100 PKIKP PKPbc 00 40 24.6 +0.4
KAPI Kappang 144.19 284 PKPdf **PKPdf** **00 40 25.9 -0.9**
KAPI Kappang 144.19 284 P **PKPdf** **00 40 26.1 -0.7**
KAPI Kappang 144.19 284 PKIKP **PKPdf** **00 40 25.9 -0.9**
KAPI Kappang 144.19 284 P PKPbc 00 40 25.5 +0.5
KAPI Kappang 144.19 284 PKP PKPbc 00 40 25.2 +0.2
comp=Z,6.4nm,0.3s,baz=46,slow=1.0,SNR=7.8
BASI Baing, Sumba 144.92 275 PKP PKPbc 00 40 27.6 +0.3
AUALB St Joseph's Co 145.09 231 P **PKPdf** **00 40 28.9 +1.2**
BKB Balikpapan 145.30 292 P **PKiKP** **00 40 30.9 -1.7**
BKB Balikpapan 145.30 292 PKP **PKPdf** **00 40 29.6 +0.9**
NAYO Nakonayok 145.75 331 P **PKPab** **00 40 30.4 +0.2**
RKGY Rocky Gully 145.95 231 P **PKPab** **00 40 31.3 +0.7**
SBV Sambava 145.99 90 P **PKiKP** **00 40 35.2 +1.2**
SNR=10
HYB Hyderabad 146.09 11 *e*PKPbc **PKPdf** **00 40 30.1 0.0**
HYB *e*PKiKP **PKiKP** **00 40 34.3 +0.1**
HYB *ep*PKPdf **pPKPdf** **00 40 46.1 -0.7**
HYB *e*PP **PP** **00 43 52.7 +1.6**
NWAO Narrogin (SRO) 146.42 234 **PKPdf** **00 40 30.6 +0.5**
NWAO Narrogin (SRO) 146.42 234 P **PKPbc** **00 40 31.3 -0.2**
NWAO Narrogin (SRO) 146.42 234 P **PKPbc** **00 40 31.0 -0.5**
NWAO Narrogin (SRO) 146.42 234 PKIKP **PKPdf** **00 40 30.6 +0.5**
NWAO Narrogin (SRO) 146.42 234 P **PKPbc** **00 40 31.2 -0.3**
KLBR Kellerberrin 146.48 237 P **PKPbc** **00 40 31.3 -0.4**
PSA00 Pilbara Seismi 146.64 255 P **PKPbc** **00 40 31.7 -0.7**
SRDT SRDT 146.69 335 P **PKPbc** **00 40 32.4 -0.3**
MBWA Marble Bar 146.77 256 PKPdf **PKPdf** **00 40 30.9 -0.1**
MBWA Marble Bar 146.77 256 P **PKPbc** **00 40 32.1 -0.7**
MBWA Marble Bar 146.77 256 P **PKPdf** **00 40 31.0 0.0**
MEEK Meekatharra 147.10 246 P **PKPbc** **00 40 33.2 -0.4**
PLAI Plampang 147.24 279 P **PKPdf** **00 40 33.1 +1.1**
PLAI Plampang 147.24 279 PKP **PKPdf** **00 40 32.0 0.0**
MUN Mundaring 147.58 235 P **PKPbc** **00 40 34.6 -0.2**
BLDU Ballidu 147.65 238 P **PKPbc** **00 40 34.5 -0.5**
TWSI Taliwang, Sumb 148.07 279 PKP **PKPdf** **00 40 31.9 -1.4**
MORW Morawa 148.69 240 P **PKPbc** **00 40 37.5 -0.3**
MSEY Mahe Island 148.86 72 **PKPdf** **00 40 35.2 +0.5**
MSEY Mahe Island 148.86 72 PKIKP **PKPdf** **00 40 35.2 +0.5**
MSEY Mahe Island 148.86 72 P **PKPbc** **00 40 38.6 -0.1**
STKI Sintang 149.35 299 PKP **PKPbc** **00 40 39.4 -0.5**
IGBI Denpasar 149.74 280 PKP **PKPbc** **00 40 38.6 -2.2**
PBA Port Blair 151.38 344 P **PKPdf** **00 40 39.3 +0.7**
SRIT Nakonsritamara 151.53 329 **PKPbc** **00 40 44.5 -0.5**
SRIT PKPab **PKPab** **00 40 53.9 +0.4**
PSI Prapat 156.73 323 P **PKPdf** **00 40 46.6 +0.3**
PSI Prapat 156.73 323 PKIKP **PKPdf** **00 40 45.2 -1.1**
RPSI Rantau Prapat 156.81 322 PKPdf **PKPdf** **00 40 45.2 -1.0**

NEIC ***14*** *00:38:33.4±1.6, 12°.43N±0°.05×144°.15E±0°.09, h43km±7km, mb4.5/49, Error ellipse: s-maj=14.8km s-min=2.2km az=120.0*

IDC ***14*** *00:38:34.6±1.9, 12°.48N×144°.20E, h56km±16km, mb3.9/17, mbtmp4.2/17, MS3.9/7, Error ellipse: s-maj=20.2km s-min=14.7km az=107.0*

ISC 14 00:38:30.7±0.4, 12°.38N±0°.06×144°.25E±0°.07, h27km, n102, σ1§49/100, mb4.5/48, MS3.6/7, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.34**	**27**	P	**Pb**	**00 38 55.1**	**-0.1**
	690nm,0.3s,baz=203,slow=7.7,SNR=154						
GUMO				S	**Sb**	**00 39 12.6**	**+0.6**
	1μm,0.3s,baz=202,slow=16,SNR=7.6						
JCJ	**Chichijima**	**14.77**	**353**	Pn	**Pn**	**00 41 55.5**	**-2.4**
PATS	**Pohnpei**	**14.92**	**110**	Pn	**Pn**	**00 41 58.8**	**-1.2**
PATS					P	00 41 60.0	-5.4
PATS				IAmb	IAmb	00 42 10.1	
	comp=Z,31nm,0.9s						
JAY	**Jayapura**	**15.21**	**194**	LR	LR	00 47 49.2	
	comp=Z,214nm,18.8s,baz=265,slow=36						
JHJ	**Hachijo jima 2**	**21.04**	**350**	LR	LR	00 49 59.1	
	comp=Z,266nm,21.4s,baz=218,slow=33						
H11S3	**WAKE ISLAND Hy**	**22.46**	**72**	T	T	01 06 40.5	
	baz=258,slow=76,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**22.47**	**71**	T	T	01 06 40.9	
	baz=258,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**22.47**	**72**	T	T	01 07 04.2	
	baz=258,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**22.93**	**69**	T	T	01 07 14.6	
	baz=255,slow=75,SNR=28						
H11N2	**WAKE ISLAND Hy**	**22.94**	**69**	T	T	01 07 10.0	
	baz=255,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**22.95**	**69**	T	T	01 07 14.4	
	baz=255,slow=75,SNR=23						
JNU	**Nakatsue**	**24.00**	**332**	P	**P**	**00 43 41.8**	**-1.5**
MJAR	**Matsushiro Arr**	**24.66**	**348**	P	**P**	**00 43 48.5**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=168,slow=9.0,SNR=3.4						
MJAR				LR	LR	00 52 25.0	
	comp=Z,165nm,18.3s,baz=176,slow=34						
	comp=Z,2.5nm,0.7s						
MAJO	**Matsushiro**	**24.66**	**348**	P	**P**	**00 43 48.7**	**-0.6**
MJB9	**Matsu-Tunnel**	**24.67**	**348**	P	**P**	**00 43 49.5**	**+0.2**
SSLB	**Suanglung**	**24.84**	**300**	P	**P**	**00 43 50.8**	**-0.2**
SSLB				IAmb	IAmb	00 43 58.3	
	comp=Z,14nm,0.9s						
JSD	**Sado**	**26.10**	**349**	P	**P**	**00 44 02.2**	**-0.1**
JSD				IAmb	IAmb	00 44 12.4	
	comp=Z,15nm,1.1s						
COEN	**Coen**	**26.19**	**182**	P	**P**	**00 44 01.4**	**-1.9**
COEN				IAmb	IAmb	00 44 10.7	
	comp=Z,14nm,1.1s						
KSRS	**Korea Array**	**28.93**	**332**	P	**P**	**00 44 28.4**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=141,slow=10.0,SNR=2.9						
KSRS				LR	LR	00 55 42.5	
	comp=Z,87nm,18.3s,baz=10.0,slow=36						
	comp=Z,1.2nm,0.6s						
NJ2	**Nanjing**	**30.45**	**314**	*e*P	**P**	**00 44 42.5**	**+1.3**
NJ2				pP	**sP**	**00 44 51.3**	**+0.6**
NJ2				sP	**pwP**	**00 44 55.4**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,41nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,100nm,3.5s						
WB0	**Warramunga Arr**	**33.39**	**197**	P	**P**	**00 45 08.1**	**+1.0**
WR0	**Warramunga Arr**	**33.53**	**197**	P	**P**	**00 45 09.4**	**+1.1**
WR0				IAmb	IAmb	00 45 15.1	
	comp=Z,5.5nm,1.1s						
WB2	**Warramunga Arr**	**33.57**	**197**	P	**P**	**00 45 09.5**	**+0.9**
WRA	**Warramunga Arr**	**33.57**	**197**	P	**P**	**00 45 08.3**	**-0.4**
WRA	**Warramunga Arr**	**33.57**	**197**	P	**P**	**00 45 09.6**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=18,slow=9.6,SNR=10						
	comp=Z,1.0nm,0.6s						
HNS	**HongShan**	**36.31**	**318**	⇓P	**P**	**00 45 32.4**	**+0.2**
HNS				pmax	pmax		
	comp=Z,14nm,0.8s						
AS31	**Alice Springs**	**37.23**	**196**	P	**P**	**00 45 41.8**	**+1.7**
ASAR	**Alice Springs**	**37.23**	**196**	P	**P**	**00 45 41.2**	**+1.0**
ASAR	**Alice Springs**	**37.23**	**196**	P	**P**	**00 45 41.4**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=22,slow=12,SNR=9.0						
	comp=Z,0.7nm,0.6s						
EIDS	**Eidsvold**	**38.11**	**170**	P	**P**	**00 45 48.6**	**+1.1**
XLT	**XiLinHaoTe**	**39.66**	**328**	*e*P	**P**	**00 46 02.3**	**+1.8**
XLT				pmax	pmax		
	comp=Z,8.0nm,0.5s						
XLT				pmax	pmax		
	comp=Z,76nm,4.8s						
HEH	**HeiHe**	**40.21**	**343**	*e*P	**P**	**00 46 03.6**	**-1.2**
HEH				PcP	**PcP**	**00 48 08.8**	**+0.3**
HEH				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**40.30**	**321**	*e*P	**P**	**00 46 08.8**	**+2.9**
HHC				pmax	pmax		
	comp=Z,24nm,0.5s						
HHC				pmax	pmax		
	comp=Z,240nm,4.5s						
BTO	**Baotou**	**41.13**	**319**	*e*P	**P**	**00 46 16.9**	**+4.2**
BTO				pP	**pwP**	**00 46 27.3**	**+2.1**
BTO				sP	sP	00 46 30.9	+8.7
BTO				PP	**PnPn**	**00 47 54.6**	**+2.2**
BTO				PcP	**PcP**	**00 48 08.3**	**-3.6**
BTO				S	**S**	**00 52 31.5**	**+7.1**
BTO				SS	**SnSn**	**00 55 31.6**	**-4.6**
BTO				pmax	pmax		
	comp=Z,29nm,0.5s						
BTO				pmax	pmax		
	comp=Z,280nm,7.5s						
BTO				LR	LR		
	comp=N,350nm,7.8s						
BTO				LR	LR		
	comp=E,510nm,9.5s						
BTO				LR	LR		
	comp=Z,260nm,13.3s						
CRAI	**Chiangrai**	**42.72**	**286**	P	**P**	**00 46 25.4**	**-0.5**
LZH	**Lanzhou**	**43.31**	**310**	*e*P	**P**	**00 46 32.5**	**+1.8**
LZH				pP	sP	00 46 40.3	0.0
LZH				pmax	pmax		
	comp=Z,26nm,1.7s						
CMAR	**Chiang Mai Arr**	**44.00**	**284**	P	**P**	**00 46 34.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**44.00**	**284**	P	**P**	**00 46 36.8**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=86,slow=6.1,SNR=16						
	comp=Z,2.5nm,0.3s						
MSVF	**Nonsavu**	**44.83**	**131**	P	**P**	**00 46 45.0**	**+2.2**
BBOO	**Buckleboo**	**45.61**	**190**	P	**P**	**00 46 49.3**	**+0.5**
BBOO				IAmb	IAmb	00 47 08.0	
	comp=Z,5.6nm,0.8s						
RPSI	**Rantau Prapat**	**45.88**	**262**	P	**P**	**00 46 49.9**	**-1.3**
SONM	**Songino Array**	**47.37**	**326**	P	**P**	**00 47 03.5**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=138,slow=8.0,SNR=8.5						
	comp=Z,1.3nm,0.6s						
GSI	**Gunungsitoli**	**47.54**	**260**	P	**P**	**00 47 03.0**	**-1.3**
GSTR	**Great Sitkin T**	**50.84**	**31**	P	**P**	**00 47 30.8**	**+1.8**
TAPN	**Taplejung**	**54.79**	**295**	*e*P	**P**	**00 47 58.4**	**-0.5**
	comp=Z,12nm,0.8s						
GUN	**Gumba**	**56.45**	**295**	*e*P	**P**	**00 48 11.3**	**+0.4**
	comp=Z,34nm,0.9s						
PKI	**Pulchoki**	**56.84**	**295**	*e*P	**P**	**00 48 11.6**	**-2.1**
WMQ	**Urumqi**	**57.53**	**314**	*e*P	**P**	**00 48 16.9**	**-1.1**
WMQ				ScP	**ScP**	**00 53 07.0**	**-2.6**
WMQ				pmax	pmax		
	comp=Z,49nm,0.9s						
GKN	**Gorkha**	**57.55**	**295**	*e*P	**P**	**00 48 17.7**	**-0.8**
	comp=Z,4.1nm,0.3s						
DANN	**Dangsing**	**58.34**	**296**	*e*P	**P**	**00 48 23.7**	**-0.5**
	comp=Z,17nm,0.7s						
PYUN	**Piuthan**	**59.01**	**295**	*e*P	**P**	**00 48 27.8**	**-0.9**
	comp=Z,18nm,0.9s						
RPZ	**Rata Peaks**	**60.95**	**158**	LR	LR	01 13 15.9	
	comp=Z,253nm,20.2s,baz=96,slow=34						
MK31	**Makanchi Array**	**61.94**	**317**	P	**P**	**00 48 48.7**	**+0.5**
MKAR	**Makanchi Array**	**61.94**	**317**	P	**P**	**00 48 47.8**	**-0.5**
MKAR	**Makanchi Array**	**61.94**	**317**	P	**P**	**00 48 48.2**	**0.0**
	comp=Z,1.4nm,0.7s,baz=92,slow=8.3,SNR=13						
	comp=Z,1.4nm,0.7s						
MAKZ	**Makanchi**	**62.15**	**317**	P	**P**	**00 48 48.7**	**-0.9**
MAKZ				IAmb	IAmb	00 48 50.7	
	comp=Z,4.1nm,1.0s						
ZALV	**Zalesovo Beam**	**62.25**	**325**	P	**P**	**00 48 48.9**	**-1.2**
	comp=Z,1.2nm,0.4s,baz=106,slow=7.6,SNR=5.5						
	comp=Z,1.2nm,0.4s						
KURK	**Kurchatov**	**65.11**	**320**	P	**P**	**00 49 08.8**	**-0.3**
KURBB	**Kurchatov Arra**	**65.15**	**320**	P	**P**	**00 49 08.8**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=105,slow=6.6,SNR=20						
	comp=Z,3.0nm,0.6s						
NRN	**Naryn**	**65.62**	**310**	P	**P**	**00 49 12.2**	**-0.8**
NRN				IAm

BVAR Borovoye Array 70.50 322 P P 00 49 42.5 -0.5
comp=Z,5.5nm,0.3s,baz=103,slow=8.4,SNR=70
comp=Z,5.5nm,0.3s
BRVK Borovoye 70.56 322 P **P** **00 49 43.3 -0.1**
BRVK IAmb IAmb 00 49 44.0
comp=Z,4.7nm,0.9s
KBL Kabul 70.96 302 P **P** **00 49 45.9 -0.5**
KBL IAmb IAmb 00 49 48.5
comp=Z,6.7nm,0.9s
BMAR Burnt Mountain 71.44 23 P **P** **00 49 50.3 +1.8**
HRA Herat 76.57 303 P **P** **00 50 18.6 -0.8**
HRA IAmb IAmb 00 50 20.2
comp=Z,6.2nm,0.8s
ABKAR Akbulak array 77.03 318 P **P** **00 50 20.4 -0.9**
ABKAR IAmb IAmb 00 50 21.4
comp=Z,3.4nm,1.0s
ABKAR Akbulak array 77.03 318 P **P** **00 50 20.7 -0.6**
ARU Arti 77.41 325 P **P** **00 50 22.4 -0.9**
ARU IAmb IAmb 00 50 23.4
comp=Z,4.0nm,0.6s
AKTO Aktyubinsk 78.18 319 LR LR 01 26 04.2
comp=Z,512nm,21.8s,baz=306,slow=36
GEYT Alibeck 79.48 307 P **P** **00 50 34.8 -0.4**
GEYT Alibeck 79.48 307 P **P** **00 50 35.4 +0.2**
comp=Z,5.4nm,0.7s,baz=101,slow=1.5,SNR=8.4
comp=Z,5.4nm,0.7s
GYA0B ALIBECK ARRAY 79.48 307 P **P** **00 50 34.4 -0.9**
GYA0B IAmb IAmb 00 50 41.2
comp=Z,6.7nm,0.8s
YKA Yellowknife Ar 84.20 27 P **P** **00 50 59.8 +0.3**
comp=Z,0.6nm,0.5s,baz=301,slow=3.5,SNR=5.1
comp=Z,0.6nm,0.5s
NEW Newport 86.53 41 P **P** **00 51 12.0 +0.5**
BMO Blue Mountains 87.27 45 P **P** **00 51 15.2 0.0**
ARCES ARCESS Array B 88.04 342 P **P** **00 51 18.2 -0.1**
comp=Z,0.5nm,0.5s,baz=76,slow=7.5,SNR=9.5
comp=Z,0.5nm,0.5s
PLID Pearl Lake 88.10 44 P **P** **00 51 18.9 -0.5**
PLID IAmb IAmb 00 51 20.9
comp=Z,3.8nm,1.0s
NVAR Mina Array Bea 88.14 51 P **P** **00 51 21.2 +1.5**
comp=Z,1.1nm,0.7s,baz=259,slow=5.9,SNR=5.9
comp=Z,1.1nm,0.7s
KVN Kaiserville 88.15 51 P **P** **00 51 19.4 -0.2**
KVN IAmb IAmb 00 51 23.0
comp=Z,3.9nm,1.2s
MFID Camas Ranch 88.67 46 P **P** **00 51 21.2 -0.8**
MZP Montezuma Peak 89.03 52 P **P** **00 51 23.9 -0.1**
MZP IAmb IAmb 00 51 28.8
comp=Z,1.9nm,0.9s
HLID Hailey 89.62 45 P **P** **00 51 26.1 -0.4**
HLID IAmb IAmb 00 51 29.0
comp=Z,2.7nm,1.0s
FINES FINESS Array B 91.99 335 P **P** **00 51 35.2 -1.7**
comp=Z,1.1nm,0.4s,baz=64,slow=4.9,SNR=18
comp=Z,1.1nm,0.4s
RLMT Red Lodge 92.63 43 P **P** **00 51 39.7 -0.8**
PDAR Pinedale Array 93.24 45 P **P** **00 51 43.2 -0.2**
comp=Z,0.1nm,0.3s,baz=318,slow=1.2,SNR=1.9
comp=Z,0.1nm,0.3s
LAO LASA Array 94.03 41 P **P** **00 51 45.8 -0.9**
ATD Arta Tunnel 98.45 284 LR LR 01 34 07.8
comp=Z,19nm,20.7s,baz=322,slow=34
TORD Torodi Ar. Bea 135.03 303 PKP **PKiKP** **00 57 49.1 -0.9**
comp=Z,0.6nm,0.8s,baz=81,slow=1.5,SNR=7.7
DBIC Dimbokro 143.92 300 PKP PKPbc 00 58 02.6 +0.1
comp=Z,2.5nm,0.4s,baz=62,slow=4.6,SNR=8.7
LPAZ La Paz 148.41 101 PKPbc **PKiKP** **00 58 17.8 -0.4**
comp=Z,1.0nm,0.6s,baz=293,slow=7.7,SNR=2.3

*IDC **14** 00:44:26.9±4.6, 35°.50S×178°.40E, h192km±28km, mb3.6/3, mbtmp4.1/5, MS4.2/1, Error ellipse: s-maj=59.7km s-min=23.2km az=54.0*
*NOU **14** 00:44:27.8, 35°.84S×178°.18E, h273km, MLv4.2/9, Off E. Coast of N. Island, N.Z.*
*WEL **14** 00:44:34.0±1.2, 36°.S±11°×17°.8E±1°.0, h194km±17km, M4.2/49, ML4.1/8, MLv4.2/49, Error ellipse: s-maj=0.0km s-min=0.0km az=39.1, confirmed*
ISC 14 00:44:31.9±1.2, 35°.95S±0°.09×178°.03E±0°.09, h239km±7km, n96, σ1§46/102, mb3.6/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.62**	**172**	P	**Pn**	**00 45 09.9**	**-0.1**
MXZ	**Matakaoa Point**	**1.62**	**172**	P	**Pn**	**00 45 09.9**	**-0.1**
MXZ				S	**S**	**00 45 38.1**	**-2.0**
HAZ	**Te Kaha**	**1.81**	**186**	P	**Pn**	**00 45 11.8**	**+0.2**
HAZ				S	**S**	**00 45 41.6**	**-1.3**
WMGZ	**Waiomatatini S**	**1.89**	**171**	P	**Pn**	**00 45 12.7**	**+0.4**
PKGZ	**Pakihiroa**	**1.93**	**179**	P	**Pn**	**00 45 13.1**	**+0.3**
KUZ	**Kuaotunu**	**2.03**	**246**	P	**Pn**	**00 45 13.3**	**-0.3**
KUZ	**Kuaotunu**	**2.03**	**246**	P	**Pn**	**00 45 13.2**	**-0.3**
RUGZ	**Raukumara Rang**	**2.03**	**188**	P	**Pn**	**00 45 13.2**	**-0.5**
WHRZ	**Whale Island**	**2.08**	**204**	P	**Pn**	**00 45 16.1**	**+2.0**
GRZ	**Great Barrier**	**2.11**	**261**	P	**Pn**	**00 45 13.3**	**-1.0**
PUZ	**Puketiti**	**2.12**	**175**	P	**Pn**	**00 45 14.6**	**+0.1**
TWGZ	**Tauwhareparae**	**2.22**	**181**	P	**Pn**	**00 45 15.6**	**+0.1**
TWGZ				S	**S**	**00 45 49.0**	**-0.9**
OPRZ	**Ohinepanea**	**2.23**	**212**	P	**Pn**	**00 45 17.5**	**+2.0**
EDRZ	**Edgecumbe**	**2.39**	**205**	P	**Pn**	**00 45 18.3**	**+1.2**
MWZ	**Matawai**	**2.41**	**189**	P	**Pn**	**00 45 17.7**	**+0.3**
URZ	**Urewera**	**2.42**	**197**	P	**Pn**	**00 45 17.6**	**+0.2**
URZ	**Urewera**	**2.42**	**197**	P	**Pn**	**00 45 17.5**	**+0.2**
URZ				S	**S**	**00 45 52.4**	**-0.9**
URZ	**Urewera**	**2.42**	**197**	P	**Pn**	**00 45 17.1**	**-0.3**
	66nm,0.2s,baz=343,slow=4.6,SNR=274						
URZ				S	**S**	**00 45 53.1**	**-0.2**
	118nm,0.4s,baz=303,slow=23,SNR=26						
TKGZ	**Te Karaka**	**2.49**	**183**	P	**Pn**	**00 45 18.5**	**+0.5**
KMRZ	**Kaimai**	**2.53**	**221**	P	**Pn**	**00 45 21.3**	**+2.8**
OMRZ	**Omania**	**2.53**	**211**	P	**Pn**	**00 45 21.0**	**+2.5**
CNGZ	**Carnagh Statio**	**2.53**	**177**	P	**Pn**	**00 45 19.3**	**+0.8**
MKAZ	**Moumakai**	**2.58**	**243**	P	**Pn**	**00 45 19.3**	**+0.3**
TARZ	**Mount Tarawera**	**2.59**	**208**	P	**Pn**	**00 45 21.2**	**+2.0**
RAGZ	**Rawiri**	**2.59**	**191**	P	**Pn**	**00 45 20.1**	**+0.9**
TOZ	**Tahuroa Road**	**2.70**	**228**	P	**Pn**	**00 45 21.7**	**+1.4**
MUGZ	**Murupara**	**2.71**	**201**	P	**Pn**	**00 45 21.2**	**+0.7**
HSRZ	**Hossack Road**	**2.75**	**211**	P	**Pn**	**00 45 23.5**	**+2.5**
RIGZ	**Rimuhau**	**2.76**	**184**	P	**Pn**	**00 45 21.3**	**+0.3**
RTZ	**Ruatahuna**	**2.79**	**197**	P	**Pn**	**00 45 21.5**	**+0.1**
HRRZ	**Handcock Road**	**2.81**	**209**	P	**Pn**	**00 45 23.3**	**+1.8**
PRRZ	**Plateau Road**	**2.86**	**207**	P	**Pn**	**00 45 23.2**	**+1.2**
SNGZ	**Shannon Statio**	**2.88**	**191**	P	**Pn**	**00 45 22.7**	**+0.4**
ALRZ	**Allen Road**	**2.93**	**207**	P	**Pn**	**00 45 24.0**	**+1.1**
PRGZ	**Paritu Road**	**2.97**	**182**	P	**Pn**	**00 45 23.3**	**0.0**
MTHZ	**Maungataniwha**	**3.05**	**198**	P	**Pn**	**00 45 24.2**	**0.0**
MTHZ				S	**S**	**00 46 06.0**	**+0.5**
RAHZ	**Arahi**	**3.05**	**194**	P	**Pn**	**00 45 24.8**	**+0.6**
KNZ	**Kokohu**	**3.08**	**185**	P	**Pn**	**00 45 24.4**	**0.0**
TLZ	**Tolley Road**	**3.10**	**219**	P	**Pn**	**00 45 27.3**	**+2.6**
MRHZ	**Matea Rd**	**3.15**	**204**	P	**Pn**	**00 45 25.6**	**+0.3**
WHHZ	**Waihua**	**3.18**	**191**	P	**Pn**	**00 45 26.1**	**+0.5**
MHGZ	**Mahia Peninsul**	**3.20**	**182**	P	**Pn**	**00 45 26.0**	**+0.3**
NMHZ	**Naumai**	**3.29**	**197**	P	**Pn**	**00 45 25.3**	**-1.6**
ARHZ	**Aropaoanui**	**3.41**	**194**	P	**Pn**	**00 45 28.6**	**+0.5**
BKZ	**Black Stump Fm**	**3.43**	**200**	P	**Pn**	**00 45 28.2**	**-0.3**
BKZ	**Black Stump Fm**	**3.43**	**200**	P	**Pn**	**00 45 28.3**	**-0.3**
RITZ	**Rihia Road**	**3.48**	**209**	P	**Pn**	**00 45 30.5**	**+1.5**
MCHZ	**McNeill Hill**	**3.64**	**196**	P	**Pn**	**00 45 31.3**	**+0.4**
TMVZ	**Te Maari**	**3.66**	**210**	P	**Pn**	**00 45 32.1**	**+0.9**
ETVZ	**East Tongariro**	**3.67**	**209**	P	**Pn**	**00 45 32.4**	**+1.1**
OUZ	**Omahuta**	**3.69**	**280**	P	**Pn**	**00 45 30.4**	**-1.1**
OUZ	**Omahuta**	**3.69**	**280**	P	**Pn**	**00 45 30.4**	**-1.1**
KWHZ	**Kaweka Forest**	**3.69**	**200**	P	**Pn**	**00 45 31.5**	**-0.1**
NNVZ	**North Ngauruho**	**3.71**	**210**	P	**Pn**	**00 45 33.1**	**+1.2**
OTVZ	**Oturere**	**3.72**	**210**	P	**Pn**	**00 45 33.0**	**+1.1**
TWVZ	**Taurewa**	**3.73**	**213**	P	**Pn**	**00 45 33.2**	**+1.1**
SNVZ	**South Ngauruho**	**3.75**	**210**	P	**Pn**	**00 45 33.3**	**+1.0**
NGZ	**Ngauruhoe**	**3.75**	**210**	P	**Pn**	**00 45 33.6**	**+1.2**
CKHZ	**Cape Kidnapper**	**3.78**	**191**	P	**Pn**	**00 45 32.4**	**-0.1**
TUVZ	**Tukino**	**3.81**	**209**	P	**Pn**	**00 45 33.4**	**+0.4**
WHVZ	**Whangaehu Hut**	**3.85**	**210**	P	**Pn**	**00 45 34.0**	**+0.5**
BHHZ	**Black Hill Sta**	**3.86**	**203**	P	**Pn**	**00 45 33.1**	**-0.4**
WNVZ	**Wahianoa**	**3.88**	**209**	P	**Pn**	**00 45 34.1**	**+0.2**
MOVZ	**Moawhango**	**3.89**	**207**	P	**Pn**	**00 45 33.5**	**-0.4**
KRHZ	**Kereru**	**3.91**	**199**	P	**Pn**	**00 45 33.5**	**-0.5**
KAHZ	**Kahuranaki**	**3.94**	**193**	P	**Pn**	**00 45 34.5**	**0.0**
PKVZ	**Pokaka**	**3.96**	**212**	P	**Pn**	**00 45 34.3**	**-0.3**
VRZ	**Vera Road**	**4.10**	**218**	P	**Pn**	**00 45 38.2**	**+2.0**
PXZ	**Pawanui**	**4.18**	**192**	P	**Pn**	**00 45 36.6**	**-0.5**
PNHZ	**Pukenui**	**4.21**	**200**	P	**Pn**	**00 45 36.8**	**-0.8**
WPHZ	**Waipukurau**	**4.29**	**197**	P	**Pn**	**00 45 37.9**	**-0.7**
TSZ	**Takapari Road**	**4.41**	**201**	P	**Pn**	**00 45 39.2**	**-0.9**
PRHZ	**Porangahau**	**4.45**	**194**	P	**Pn**	**00 45 39.9**	**-0.5**
WAZ	**Wanganui**	**4.50**	**212**	P	**Pn**	**00 45 41.3**	**+0.2**
NEZ	**North Egmont**	**4.55**	**222**	P	**Pn**	**00 45 44.9**	**+3.0**
DVHZ	**Dannevirke**	**4.58**	**198**	P	**Pn**	**00 45 41.2**	**-0.9**
KHEZ	**Kahui Hut**	**4.62**	**223**	P	**Pn**	**00 45 46.0**	**+3.4**
ANWZ	**Angora Road**	**4.67**	**195**	P	**Pn**	**00 45 42.6**	**-0.4**
POWZ	**Post Office Ro**	**4.78**	**201**	P	**Pn**	**00 45 43.7**	**-0.7**
PRWZ	**Pori Road**	**4.87**	**199**	P	**Pn**	**00 45 44.9**	**-0.8**
BFZ	**Birch Farm**	**4.93**	**196**	P	**Pn**	**00 45 45.1**	**-1.2**
BFZ	**Birch Farm**	**4.93**	**196**	P	**Pn**	**00 45 45.2**	**-1.1**
TIWZ	**Tintock**	**5.10**	**199**	P	**Pn**	**00 45 47.5**	**-1.0**
CPWZ	**Castlepoint**	**5.16**	**196**	P	**Pn**	**00 45 48.7**	**-0.3**
TMWZ	**Te Maipa**	**5.41**	**197**	P	**Pn**	**00 45 51.0**	**-1.4**
SNZO	**South Karori**	**5.95**	**205**	P	**Pn**	**00 45 57.0**	**-2.0**
QRZ	**Quartz Range**	**6.51**	**220**	P	**Pn**	**00 46 05.1**	**-1.0**
KHZ	**Kahutara**	**7.34**	**207**	P	**Pn**	**00 46 14.1**	**-2.4**
CTZ	**Chatham Island**	**8.79**	**154**	P	**Pn**	**00 46 39.8**	**+4.7**
RPZ	**Rata Peaks**	**9.43**	**213**	P	**Pn**	**00 46 43.1**	**0.0**
	4.9nm,0.5s,baz=45,slow=20,SNR=1.9						
RPZ				S	**S**	**00 48 24.6**	**-4.7**
	6.4nm,0.3s,baz=135,slow=22,SNR=8.7						
DZM	**Mont Dzumac**	**17.12**	**321**	P	**P**	**00 48 10.6**	**-5.2**
	6.4nm,0.9s,baz=120,slow=20,SNR=2.5						
ASAR	**Alice Springs**	**39.89**	**275**	P	**P**	**00 51 44.5**	**+1.6**
	1.5nm,0.7s,baz=117,slow=7.8,SNR=17						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**41.40**	**281**	P	**P**	**00 51 56.2**	**+1.0**
	2.3nm,0.4s,baz=119,slow=7.7,SNR=53						
	2.3nm,0.4s						
QSPA	**South Pole Qui**	**54.17**	**180**	LR	LR	01 14 19.7	
	comp=Z,223nm,22.0s,baz=132,slow=33						
SNAA	**Sanae**	**72.67**	**180**	P	**P**	**00 55 36.2**	**+3.1**
	1.2nm,1.1s,baz=207,slow=11,SNR=1.9						
	1.2nm,1.1s						
TORD	**Torodi Ar. Bea**	**157.06**	**189**	PKPab	**PKPab**	**01 04 31.7**	**+0.9**
	0.8nm,1.1s,baz=173,slow=4.0,SNR=2.4						

IDC 14 00:45:59.6±7.8, 30°.29S×178°.16W, h0km, mb3.4/2, mbtmp3.4/2, MS4.0/3, Error ellipse: s-maj=317.9km s-min=64.5km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.98**	**267**	P	P	00 54 00.9	0.0
	0.2nm,0.5s,baz=101,slow=7.6,SNR=2.2						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**43.96**	**272**	P	P	00 54 08.5	-0.3
	0.3nm,0.3s,baz=111,slow=8.1,SNR=8.6						
	0.3nm,0.3s						
GUMO	**Guam**	**56.31**	**315**	LR	LR	01 18 19.2	
	comp=Z,143nm,21.9s,baz=90,slow=34						
MAW	**Mawson**	**72.36**	**201**	LR	LR	01 28 58.8	
	comp=Z,263nm,20.2s,baz=222,slow=36						
H03S2	**Juan Fernandez**	**80.63**	**124**	T	T	02 26 47.2	
	baz=242,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**80.65**	**124**	T	T	02 26 47.3	
	baz=242,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**80.65**	**124**	T	T	02 26 47.1	
	baz=242,slow=74,SNR=12						
H03N3	**Juan Fernandez**	**80.83**	**123**	T	T	02 26 49.9	
	baz=241						
H03N2	**Juan Fernandez**	**80.83**	**123**	T	T	02 26 41.0	
	baz=241						
H03N1	**Juan Fernandez**	**80.84**	**123**	T	T	02 26 50.7	
	baz=241						
CMAR	**Chiang Mai Arr**	**93.24**	**289**	LR	LR	01 40 14.4	
	comp=Z,34nm,21.8s,baz=330,slow=35						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	01 05 36.7	-0.7
	1.5nm,0.9s,baz=57,slow=5.1,SNR=1.4						

*TIF **14** 00:59:48.8, 41°.19N×42°.38E, h2km*
*AFAD **14** 00:59:49.9±0.0, 41°.17N×42°.35E, h3km±1km, ML2.8*
*ISK **14** 00:59:49.6, 41°.21N×42°.37E, h5km, ML2.9/15*
ISC 14 00:59:50.0±1.0, 41°.20N±0°.02×42°.38E±0°.01, h7km±9km, n50, σ1§11/86, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHAN	**Ardahan-Merkez**	**0.19**	**102**	P	**Pg**	**00 59 54.1**	**+0.3**
AHAN				*i* AML	AML	00 59 57.0	
	comp=N,3μm,0.2s						
AHAN				S	**Sg**	**00 59 57.6**	**+1.1**
AHAN				*i* AML	AML	00 59 58.0	
	comp=E,3μm,0.5s						
AHAN				*i* AML	AML	00 59 59.0	
	comp=Z,2μm,0.4s						
DAGI	**Agillar**	**0.37**	**250**	P	**Pg**	**00 59 57.6**	**+0.3**
DAGI				S	**Sb**	**01 00 03.4**	**-1.7**
DAGI				*i* AML	AML	01 00 05.0	
	comp=Z,914nm,0.5s						
DAGI				*i* AML	AML	01 00 05.0	
	comp=E,889nm,0.4s						
DRNR	**Artvin, Merkez**	**0.39**	**266**	P	**Pg**	**00 59 57.5**	**0.0**
DRNR				S	**Sg**	**01 00 03.0**	**+0.5**
EPOS	**Posof**	**0.40**	**41**	P	**Pg**	**00 59 58.6**	**+0.8**
EPOS				S	**Sb**	**01 00 05.5**	**-0.3**
EPOS				*i* AML	AML	01 00 06.0	
	comp=N,2μm,0.3s						
EPOS				*i* AML	AML	01 00 06.0	
	comp=E,1μm,0.3s						
DBAD	**Bademkaya**	**0.55**	**251**	P	**Pg**	**01 00 00.8**	**+0.1**
DBAD				S	**Sg**	**01 00 08.2**	**+0.4**
DBAD				*i* AML	AML	01 00 09.0	
	comp=E,738nm,0.5s						
DBAD				*i* AML	AML	01 00 10.0	
	comp=Z,491nm,0.4s						
DBAD				*i* AML	AML	01 00 10.0	
	comp=N,962nm,0.7s						
DDEM	**Demirkent**	**0.57**	**237**	P	**Pg**	**01 00 00.9**	**0.0**
DDEM				S	**Sb**	**01 00 09.1**	**-1.7**
DDEM				*i* AML	AML	01 00 11.0	
	comp=Z,875nm,0.4s						
DDEM				*i* AML	AML	01 00 11.0	
	comp=E,2μm,0.4s						
DDEM				*i* AML	AML	01 00 12.0	
	comp=N,2μm,0.4s						
BCA	**Borcka**	**0.62**	**293**	Pg	**Pg**	**01 00 01.9**	**0.0**
BCA				Sg	**Sb**	**01 00 10.9**	**-1.2**
ABS	**Abastumani**	**0.64**	**30**	P	**Pg**	**01 00 02.9**	**+0.5**
ABS				S	**Sb**	**01 00 13.4**	**+0.5**
SENK	**Senkaya-Erzuru**	**0.64**	**182**	Pg	**Pb**	**01 00 02.5**	**-1.2**
SENK				Sg	**Sb**	**01 00 12.0**	**-0.9**
BATM	**Batumi**	**0.65**	**308**	Pg	**Pg**	**01 00 02.8**	**+0.2**
BATM				Sg	**Sb**	**01 00 12.2**	**-0.9**
BATM	**Batumi**	**0.65**	**308**	P	**Pg**	**01 00 02.8**	**+0.2**
BATM				S	**Sb**	**01 00 12.1**	**-1.0**
AZMN	**Azmana**	**0.69**	**80**	P	**Pg**	**01 00 03.5**	**+0.2**
AZMN				S	**Sb**	**01 00 14.3**	**-0.1**
HOPA	**Hopa-Artvin**	**0.73**	**285**	Pg	**Pg**	**01 00 03.4**	**-0.6**
HOPA				Sg	**Sg**	**01 00 13.6**	**+0.2**
BOZK	**Kars-Merkez-Bo**	**0.76**	**143**	P	**Pb**	**01 00 05.1**	**-0.6**
BOZK				S	**Sb**	**01 00 16.2**	**-0.1**
KARS	**Kars**	**0.78**	**137**	Pg	**Pb**	**01 00 05.9**	**-0.1**
AKH	**Akhalkalaki**	**0.86**	**76**	Pg	**Pg**	**01 00 06.4**	**-0.2**
AKH				Sg	**Sb**	**01 00 19.2**	**-0.1**
AKH	**Akhalkalaki**	**0.86**	**76**	P	**Pg**	**01 00 06.6**	**0.0**
AKH				S	**Sb**	**01 00 19.6**	**+0.3**
BGD	**Bogdanovka**	**0.92**	**86**	P	**Pg**	**01 00 07.5**	**-0.2**
EAK	**Akyaka**	**1.06**	**119**	P	**Pg**	**01 00 09.5**	**-0.9**
EAK				S	**Sb**	**01 00 25.3**	**+0.3**
DIGO	**Kars**	**1.09**	**136**	P	**Pg**	**01 00 10.4**	**-0.6**
DIGO				S	**Sb**	**01 00 25.9**	**0.0**
DIGO				*i* AML	AML	01 00 38.0	
	comp=N,201nm,0.8s						
DIGO				*i* AML	AML	01 00 39.0	
	comp=E,250nm,0.6s						
HOMI	**Horasan**	**1.21**	**197**	P	**Pg**	**01 00 12.7**	**-0.6**
HOMI				S	**Sn**	**01 00 31.6**	**+1.1**
HOMI				*i* AML	AML	01 00 33.0	
	comp=N,205nm,0.6s						
HOMI				*i* AML	AML	01 00 39.0	
	comp=E,260nm,0.8s						
CHOM	**Cayeli-Rize**	**1.23**	**266**	Pn	**Pb**	**01 00 13.1**	**-0.5**
TKB	**Tkibuli**	**1.23**	**22**	P	**Pg**	**01 00 13.6**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.28**	**198**	Pn	**Pb**	**01 00 14.1**	**-0.4**
ALIG	**Mtskhetisjvari**	**1.31**	**46**	P	**Pg**	**01 00 14.7**	**-0.5**
ALIG				S	**Sn**	**01 00 33.1**	**+0.5**
TRLG	**Trialeti**	**1.34**	**75**	P	**Pg**	**01 00 15.1**	**-0.6**
EATA	**Eleskirt**	**1.34**	**176**	P	**Pg**	**01 00 15.1**	**-0.7**
EATA				S	**Sn**	**01 00 33.9**	**+0.2**
DMNI	**Dmanisi**	**1.37**	**84**	P	**Pn**	**01 00 15.3**	**-0.4**
DMNI				S	**Sn**	**01 00 34.9**	**+0.7**
KRIK	**Erzurum-spir**	**1.40**	**232**	P	**Pn**	**01 00 13.4**	**-2.8**
KRIK				S	**Sg**	**01 00 31.6**	**-3.5**
IZDR	**Rize**	**1.44**	**254**	P	**Pn**	**01 00 16.1**	**-0.5**
IZDR				S	**Sg**	**01 00 35.0**	**-1.3**
ERZM	**Erzurum**	**1.51**	**211**	P	**Pg**	**01 00 19.5**	**+0.5**
ERZM				S	**Sn**	**01 00 41.9**	**+4.1**
KOTA	**Agri, Merkez-K**	**1.54**	**156**	P	**Pg**	**01 00 19.8**	**+0.3**
KOTA				S	**Sg**	**01 00 39.3**	**0.0**
EMRE	**Erzurum,Aziziy**	**1.59**	**223**	P	**Pg**	**01 00 21.5**	**+1.1**
EMRE				S	**Sg**	**01 00 43.0**	**+2.0**
EMRE				*i* AML	AML	01 00 49.0	
	comp=E,136nm,0.6s						
EMRE				*i* AML	AML	01 00 51.0	
	comp=N,109nm,0.7s						
AGRB	**Hanur-Agry**	**1.69**	**164**	Pn	**Pb**	**01 00 20.9**	**-0.7**
IGDI	**IGDIR**	**1.86**	**135**	P	**Pg**	**01 00 24.7**	**-0.9**
IGDI				S	**Sg**	**01 00 49.9**	**+0.2**
KOPT	**Kop Dagi**	**1.86**	**231**	P	**Pg**	**01 00 25.6**	**-0.1**
KOPT				S	**Sg**	**01 00 53.4**	**+3.7**
TASB	**TASBURUN-IGDIR**	**1.87**	**130**	Pn	**Pn**	**01 00 23.2**	**+0.7**
BAYB	**BAYBURT**	**1.87**	**240**	P	**Pb**	**01 00 24.5**	**-0.1**
BAYB				S	**Sg**	**01 00 49.0**	**-1.0**
BAYT	**Aydıntepe-Bayb**	**1.88**	**245**	Pn	**Pb**	**01 00 24.1**	**-0.7**
ECAT	**Cat-ERZURUM**	**1.92**	**214**	P	**Pb**	**01 00 25.0**	**-0.5**
ECAT				S	**Sg**	**01 00 53.0**	**+1.1**
KTUT	**Trabzon**	**1.99**	**265**	Pn	**Pn**	**01 00 24.5**	**+0.5**
MACK	**Trabzon**	**1.99**	**263**	P	**Pb**	**01 00 25.2**	**-1.4**
MACK				S	**Sb**	**01 00 51.9**	**+0.2**
GUDG	**Gudauri**	**2.01**	**51**	P	**Pb**	**01 00 27.4**	**+0.3**
GUDG				S	**Sg**	**01 00 54.9**	**+0.2**
KARO	**Karliova-Bingo**	**2.15**	**209**	Pn	**Pn**	**01 00 27.3**	**+0.8**
MTEO	**Meteo**	**2.18**	**47**	P	**Pb**	**01 00 30.4**	**+0.4**
YEDI	**Yedisu-Bingol**	**2.25**	**219**	Pn	**Pn**	**01 00 28.6**	**+0.7**
SHTL	**Shatili**	**2.53**	**54**	P	**Pb**	**01 00 35.1**	**-0.7**
SHTL				S	**Sg**	**01 01 11.0**	**-0.1**
ESPY	**Espiye-Giresun**	**2.78**	**265**	Pn	**Pn**	**01 00 35.8**	**+0.9**
ALUC	**Giresun/Alucra**	**2.87**	**254**	P	**Pb**	**01 00 40.4**	**-1.3**
ALUC				S	**Sb**	**01 01 18.8**	**+1.6**
ALUC				*i* AML	AML	01 01 25.0	
	comp=E,47nm,0.9s						
ALUC				*i* AML	AML	01 01 30.0	
	comp=N,36nm,1.0s						
ALUC				*i* AML	AML	01 01 34.0	
	comp=Z,28nm,0.7s						
LGD	**Lagodekhi**	**2.97**	**76**	P	**Pb**	**01 00 41.4**	**-1.8**
LGD				S	**Sg**	**01 01 22.9**	**-2.4**

*ECX **14** 01:30:18.4±0.3, 30°.03N×114°.24W, h0km, MD2.8, ML3.0*
*MEX **14** 01:30:19.0±0.5, 29°.94N×114°.14W, h8km±16km, MD3.8*
ISC 14 01:30:16.6±1.5, 30°.0N±0°.1×114°.10W±0°.06, h17km±16km, n10, σ0§85/17, 7C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGB	**San Luis Gonza**	**0.30**	**242**	⇑*iP*	**Pg**	**01 30 23.3**	**+0.3**
SLGB				*eS*	**Sg**	**01 30 27.2**	**-0.2**
SLGB				⇑*e*		01 30 27.7	
SLGB				IAML		01 30 27.7	
	comp=E,2μm,0.1s						
SLGB				IAML		01 30 27.7	
	comp=N,4μm,0.4s						
SLGB				⇓*e*		01 30 27.7	
BAHB	**Baha de los**	**1.13**	**155**	*eP*	**Pg**	**01 30 36.9**	**-1.5**
BAHB				*eS*	**Sg**	**01 30 54.3**	**+1.1**
SFX	**San Felipe**	**1.24**	**329**	⇑*eP*	**Pn**	**01 30 38.4**	**-0.7**
SFX				IAML		01 31 06.5	
	comp=E,202nm,0.7s						
SFX				⇓*e*		01 31 06.5	
SFX	**San Felipe**	**1.24**	**329**	*iP*	**Pn**	**01 30 38.5**	**-0.7**
SFX				*iS*	**Sb**	**01 30 54.3**	**-1.0**
SPIG	**San Pedro Mart**	**1.59**	**313**	⇑*eP*	**Pn**	**01 30 44.7**	**+0.5**
SPIG				*eS*	**Sn**	**01 31 04.2**	**-0.4**
SPIG	**San Pedro Mart**	**1.59**	**313**	*eP*	**Pn**	**01 30 44.8**	**+0.5**
SPIG				*eS*	**Sn**	**01 31 04.3**	**-0.2**
LAPR	**La Primavera**	**1.63**	**71**	*iP*	**Pn**	**01 30 45.1**	**+0.6**
LAPR				*eS*	**Sn**	**01 31 05.8**	**+0.7**
SQX	**San Quintin**	**1.65**	**292**	⇑*eP*	**Pn**	**01 30 45.0**	**+0.3**
SQX				IAML		01 31 11.0	
	comp=E,345nm

comp=N,97nm,0.4s
JTM Tenmabayashi 4.21 349 P **Pn** **01 46 07.3 +2.3**
INU Inuyama 4.34 254 P **Pn** **01 46 08.5 +1.6**
ERM Erimo 5.41 8 P **Pn** **01 46 21.2 -0.3**
JMN Monobe 7.36 249 P **Pn** **01 46 50.7 +2.3**
ASAJ Asahikawa 7.46 3 Pn **Pn** **01 46 49.0 -0.7**
comp=N,1.2nm,0.3s,baz=124,slow=25,SNR=1.7
comp=N,4.9nm,0.4s
JCJ Chichijima 9.53 180 Pn Pn 01 47 13.7 -4.5
comp=N,3.1nm,0.3s,baz=265,slow=23,SNR=9.2
JCJ Sn Sn 01 48 52.1 -13
comp=N,6.6nm,0.3s,baz=309,slow=20,SNR=1.4
USRK Ussuriysk Ar. 10.79 317 Pn **Pn** **01 47 35.2 -0.1**
comp=N,0.2nm,0.3s,baz=133,slow=15,SNR=2.6
comp=N,1.8nm,0.7s
KSRS Korea Array 11.38 278 LR LR 01 51 38.3
comp=N,74nm,20.9s,baz=0.0,slow=35
H11N2 WAKE ISLAND Hy 27.46 121 T T 02 20 16.4
baz=313,slow=75,SNR=43
H11N1 WAKE ISLAND Hy 27.47 121 T T 02 20 19.6
baz=313,slow=75,SNR=32
H11N3 WAKE ISLAND Hy 27.48 121 T T 02 20 34.9
baz=313,slow=75,SNR=20
H11S1 WAKE ISLAND Hy 28.17 123 T T 02 21 49.1
baz=315,slow=76,SNR=20
H11S3 WAKE ISLAND Hy 28.17 123 T T 02 21 53.1
baz=315,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 28.19 123 T T 02 21 24.9
baz=315,slow=76,SNR=11
SONM Songino Array 28.47 304 P **P** **01 50 56.6 +0.8**
comp=N,2.5nm,0.9s,baz=109,slow=8.0,SNR=11
comp=N,2.5nm,0.9s
ZALV Zalesovo Beam 42.59 313 P **P** **01 52 56.9 +0.4**
comp=N,0.8nm,0.5s,baz=101,slow=7.7,SNR=5.0
comp=N,0.8nm,0.5s
MKAR Makanchi Array 44.81 303 P **P** **01 53 14.3 -0.2**
comp=N,0.6nm,0.6s,baz=83,slow=12,SNR=5.4
comp=N,0.6nm,0.6s
KURBB Kurchatov Arra 46.69 308 P **P** **01 53 29.6 +0.4**
comp=N,1.0nm,0.4s,baz=82,slow=8.1,SNR=11
comp=N,1.0nm,0.4s
ILAR Eielson Array 49.51 32 P **P** **01 53 49.8 -1.1**
comp=N,0.1nm,0.5s,baz=268,slow=7.1,SNR=1.6
comp=N,0.1nm,0.5s
BVAR Borovoye Array 51.25 313 P **P** **01 54 04.9 +0.7**
comp=N,0.4nm,0.4s,baz=78,slow=8.5,SNR=4.3
comp=N,0.4nm,0.4s
WRA Warramunga Arr 56.77 189 P **P** **01 54 45.1 +0.4**
comp=N,0.2nm,0.5s,baz=6.0,slow=7.2,SNR=4.8
comp=N,0.2nm,0.5s
ASAR Alice Springs 60.49 189 P **P** **01 55 11.1 +0.5**
comp=N,0.3nm,0.7s,baz=21,slow=11,SNR=2.2
comp=N,0.3nm,0.7s
ARCES ARCESS Array B 64.55 340 P **P** **01 55 37.7 +0.5**
comp=N,3.0nm,1.0s,baz=52,slow=10,SNR=1.5
comp=N,3.0nm,1.0s
FINES FINESS Array B 69.42 333 P **P** **01 56 08.6 +0.3**
comp=N,1.4nm,0.8s,baz=40,slow=5.4,SNR=1.8
comp=N,1.4nm,0.8s
NVAR Mina Array Bea 74.75 53 P **P** **01 56 40.2 -0.7**
comp=N,0.1nm,0.5s,baz=296,slow=6.5,SNR=1.6
comp=N,0.1nm,0.5s
PDAR Pinedale Array 77.52 46 P **P** **01 56 56.0 -0.6**
comp=N,0.4nm,1.1s,baz=276,slow=1.7,SNR=1.6
comp=N,0.4nm,1.1s

---

*NIED **14** 01:47:08.4, 36°.68N×142°.09E, h25km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.23; $M_{\theta\theta}$0.29; $M_{\phi\phi}$-0.52; $M_{r\theta}$1.21; $M_{\theta\phi}$-0.87; $M_{\phi r}$2.22; Fault plane solution: $M_0$2.61000×10^{14} NP1:ϕ_s27.00000°, δ83.00000°, λ86.00000°. NP2:ϕ_s234.00000°, δ8.00000°, λ116.00000°.*

JMA 14 01:47:08.4±0.4, 36°.7N±0°.7×14°2E±°, h25km±4km, MV3.7/30, E OFF FUKUSHIMA PREF, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.12**	**293**	*eP*	Pn	01 47 28.1	-0.4
JFK	**Kawauchi**	**1.19**	**306**	*eP*	Pn	01 47 29.4	-0.1
JHO	**Hitachi**	**1.23**	**267**	P	Pn	01 47 30.1	+0.2
JHO				*eS*	Sb	01 47 46.5	+0.2
JFFD	**Fukushimafurud**	**1.29**	**289**	*eP*	Pn	01 47 30.7	-0.2
JMM	**Marumori**	**1.57**	**319**	P	Pn	01 47 35.1	+0.4
JMM				*eS*	Sn	01 47 55.2	+0.9
JOTO	**OTAMA OYAMA**	**1.66**	**303**	P	Pb	01 47 37.3	-1.0
JOU	**Okura**	**2.03**	**326**	*eP*	Pb	01 47 42.9	-1.7
JOU				*eS*	Sb	01 48 08.3	-1.2
JFY	**Yanaizu**	**2.04**	**292**	*eP*	Pb	01 47 43.1	-1.7
JAG	**Ashikaga**	**2.14**	**264**	*eP*	Pn	01 47 43.9	+1.4
JAG				*eS*	Sb	01 48 10.5	-2.1

---

*ANF **14** 02:13:33.6±0.3, 39°.72N×98°.13W, h3km, ML3.4/10, Error ellipse: s-maj=4.4km s-min=2.8km az=119.0*

NEIC 14 02:13:34.3±0.9, 39°.72N±0°.04×98°.17W±0°.07, h3km±2km, mb_Lg2.7/65, Error ellipse: s-maj=8.2km s-min=5.3km az=68.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KS25	**Jewell**	**0.06**	**160**		Pg	02 13 35.5	0.0
KS22	**Mankato Kansas**	**0.06**	**8**	Pg	Pg	02 13 35.0	-0.6
KS24	**Mankato**	**0.07**	**337**	Pg	Pg	02 13 35.5	-0.3
KS24				Sg	Sg	02 13 36.8	+0.1
KS23	**Northwest Mank**	**0.13**	**335**	Pg	Pg	02 13 36.6	-0.3
KS23				Sg	Sg	02 13 38.3	-0.4
N33B	**J Bar K, Exete**	**1.16**	**28**	P	Pg	02 13 54.4	-2.1
N33B	baz=209			S	Sg	02 14 09.7	-1.7
N33A	**J Bar K, Exete**	**1.16**	**28**		Pg	02 13 54.4	-2.1
KSU1	**Kansas State U**	**1.36**	**117**		Pn	02 13 58.7	-1.5
KSU1	**Kansas State U**	**1.36**	**117**	P	Pn	02 13 58.6	-1.6
KSU1	baz=298			S	Sg	02 14 16.6	-1.5
R32A	**Long Quarter,**	**1.36**	**198**		Pn	02 13 59.7	-0.6
R32A	**Long Quarter,**	**1.36**	**198**	P	Pn	02 13 59.8	-0.5
R32A	baz=18			S	Sb	02 14 18.5	+0.1
CBKS	**Cedar Bluff**	**1.52**	**234**		Pn	02 14 02.3	-0.1
CBKS	comp=Z,38nm,0.7s			IAmb_Lg		02 14 21.2	
CBKS	**Cedar Bluff**	**1.52**	**234**	P	Pn	02 14 02.3	-0.1
CBKS	baz=53			S	Sg	02 14 23.0	+0.1
BGNE	**Belgrade**	**1.68**	**1**		Pn	02 14 04.1	-0.6
BGNE	**Belgrade**	**1.68**	**1**	P	Pn	02 14 03.9	-0.9
BGNE	baz=181			S	Sn	02 14 26.4	-0.4
N35A	**Tabor**	**2.25**	**59**		Pn	02 14 12.2	-0.3
N35A	**Tabor**	**2.25**	**59**	P	Pn	02 14 12.3	-0.1
N35A	baz=240			S	Sn	02 14 41.5	+0.8
KS21	**Milan North St**	**2.46**	**170**	Pn	Pn	02 14 14.4	-1.0
KAN06	**Argonia West S**	**2.48**	**174**	Pn	Pn	02 14 15.2	-0.5
KAN06	comp=Z,40nm,1.1s			IAmb_Lg		02 14 53.2	
KAN01	**Argonia South**	**2.59**	**173**	Pn	Pn	02 14 16.6	-0.5
KAN01	comp=Z,22nm,0.8s			IAmb_Lg		02 15 01.0	
KAN05	**Bluff City Nor**	**2.62**	**175**	IAmb_Lg		02 14 59.7	
L34A	**Svendsen Farm,**	**2.62**	**31**		Pn	02 14 17.3	-0.3
L34A	**Svendsen Farm,**	**2.62**	**31**	P	Pn	02 14 17.6	-0.1
KAN17	**Caldwell West**	**2.69**	**173**		Pn	02 14 18.1	-0.5
KAN13	**South Haven SW**	**2.76**	**168**		Pn	02 14 18.8	-0.7
KAN14	**Manchester OK**	**2.77**	**176**	Pn	Pn	02 14 18.9	-0.7
GC02	**Grant County #**	**2.88**	**175**		Pn	02 14 20.8	-0.3
BLOK	**Blackwell**	**3.05**	**165**	IAmb_Lg		02 15 10.9	
T35A	**Sooner Cattle**	**3.09**	**154**		Pn	02 14 23.5	-0.6
K30B	**Basset**	**3.14**	**340**		Pn	02 14 24.8	0.0
K30B	comp=Z,23nm,0.7s			IAmb_Lg		02 15 19.9	
OGNE	**Ogallala**	**3.19**	**294**	Pn	Pn	02 14 25.6	0.0
OGNE	comp=Z,28nm,0.7s			IAmb_Lg		02 15 19.9	
CROK	**Carrier**	**3.22**	**177**	Pn	Pn	02 14 25.0	-0.8
U32A	**Winter Ranch,**	**3.40**	**191**	Pn	Pn	02 14 27.4	-0.9
U32A	**Winter Ranch,**	**3.40**	**191**	P	Pn	02 14 28.0	-0.3
KSCO	**Kaye Shedlock'**	**3.52**	**260**		Pn	02 14 29.7	-0.4
KSCO	**Kaye Shedlock'**	**3.52**	**260**	P	Pn	02 14 29.9	-0.3
P38A	**Dawn**	**3.58**	**90**		Pn	02 14 30.3	-0.5
ELIS	**Ellis County**	**3.78**	**195**	IAmb_Lg		02 15 38.2	
OK052	**Battle Ridge R**	**3.88**	**163**	Pn	Pn	02 14 33.7	-1.2
OK031	**S. Brethren Rd**	**3.91**	**164**	Pn	Pn	02 14 33.6	-1.7
ECSD	**EROS Data Cent**	**4.17**	**16**	Pn	Pn	02 14 39.1	+0.2
ECSD	**EROS Data Cent**	**4.17**	**16**	IAmb_Lg		02 15 48.8	
ECSD	**EROS Data Cent**	**4.17**	**16**	P	Pn	02 14 39.1	+0.1
S39A	**Bolivar**	**4.30**	**117**		Pn	02 14 40.0	-0.7
S39A	comp=Z,11nm,0.8s			IAmb_Lg		02 16 00.2	
RLO	**Rose Lookout**	**4.34**	**144**	IAmb_Lg		02 15 48.3	
U38A	**Gravette**	**4.44**	**136**	IAmb_Lg		02 16 04.7	
W35A	**Tecumseh**	**4.68**	**167**	Pn	Pn	02 14 44.7	-1.1
P40A	**Paris**	**4.73**	**90**		Pn	02 14 46.1	-0.5
BRIGG	**Briggsdale**	**4.79**	**282**	IAmb_Lg		02 16 08.9	
HHAR	**Hobbs**	**4.79**	**134**	IAmb_Lg		02 16 03.3	
MGMO	**Mountain Grove**	**5.30**	**117**	IAmb_Lg		02 16 22.2	
Q24A	**Divide**	**5.46**	**264**	IAmb_Lg		02 16 25.0	
AMTX	**Amarillo**	**5.58**	**211**	IAmb_Lg		02 16 41.5	
X37A	**Clayton**	**5.59**	**156**	IAmb_Lg		02 16 33.6	
CCM	**Cathedral Cave**	**5.66**	**105**	IAmb_Lg		02 16 43.6	
ISCO	**Idaho Springs**	**5.73**	**273**	IAmb_Lg		02 16 43.6	
FCAR	**Ozark Folk Cen**	**6.13**	**127**	IAmb_Lg		02 16 49.9	
SLM	**Saint Louis**	**6.26**	**97**	IAmb_Lg		02 16 51.6	
FVM	**French Village**	**6.29**	**104**	IAmb_Lg		02 16 49.9	
FW03	**Perrin-Whitt E**	**6.67**	**179**	IAmb_Lg		02 17 13.1	
JFWS	**Jewell Farm**	**6.76**	**59**	IAmb_Lg		02 17 05.4	
SPMN	**Marine on St.**	**6.78**	**34**	IAmb_Lg		02 17 18.6	
UALR	**University of**	**6.78**	**135**	IAmb_Lg		02 17 12.4	
MSTX	**Muleshoe**	**6.82**	**214**	IAmb_Lg		02 17 10.8	
JCT	**Junction City**	**9.32**	**189**	IAmb_Lg		02 18 41.9	

IDC 14 02:50:56.1±1.3, 2°.20S×139°.83E, h0km, mb3.6/3, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=17.8km s-min=11.6km az=9.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.92**	**110**	Pg	Pg	02 51 14.2	+0.4
JAY	147nm,0.3s,baz=267,slow=7.5,SNR=165			Lg	Lg	02 51 26.6	
WRA	**Warramunga Arr**	**18.43**	**197**	P	P	02 55 13.4	+0.1
WRA	0.3nm,0.3s,baz=20,slow=11,SNR=12			S	Sn	02 58 26.6	-13
ASAR	**Alice Springs**	**22.10**	**195**	P	P	02 55 53.9	+0.7
ASAR	0.5nm,0.6s,baz=24,slow=11,SNR=10			S	S	02 59 57.9	+0.1
BVAR	**Borovoye Array**	**79.54**	**325**	P	P	03 03 05.7	+0.9
ILAR	**Eielson Array**	**84.91**	**24**	P	P	03 03 31.8	-1.0

0.2nm,0.5s,baz=20,slow=25,SNR=3.3
0.5nm,0.6s
0.7nm,0.5s,baz=122,slow=5.2,SNR=3.6
0.7nm,0.5s
0.4nm,0.7s,baz=250,slow=4.0,SNR=5.6
0.4nm,0.7s

---

*KRNET **14** 02:51:37.3±0.1, 43°.12N×78°.57E, h21km, mb2.4*
*NNC **14** 02:51:37.8±0.5, 43°.18N×78°.52E, h8km±3km, mb2.3, mpv2.9, Error ellipse: s-maj=5.3km s-min=2.6km az=166.0*
*SOME **14** 02:51:38.3, 43°.17N×78°.55E, h15km*

ISC 14 02:51:37.8±0.8, 43°.17N±0°.03×78°.52E±0°.02, h15km±4km, n35, σ↑02/70, 13C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.06**	**268**	P	**Pg**	**02 51 40.8**	**-0.1**
ZHN	92nm,0.0s			S	**Sg**	**02 51 42.6**	**-0.3**
ZHN	**Zhinishke**	**0.06**	**268**	*eP*	**Pg**	**02 51 40.8**	**-0.1**
ZHN	baz=96			*eS*	**Sg**	**02 51 42.6**	**-0.3**
ZHN	**Zhinishke**	**0.06**	**268**	*eP*	**Pg**	**02 51 40.8**	**-0.1**
ZHN	92nm,0.0s			*eS*	**Sg**	**02 51 42.5**	**-0.3**
SATY	**Saty**	**0.14**	**218**	P	**Pg**	**02 51 41.4**	**-0.3**
SATY	42nm,0.1s			S	**Sg**	**02 51 43.7**	**-0.5**
SATY	**Saty**	**0.14**	**218**	*eP*	**Pg**	**02 51 41.4**	**-0.3**
SATY	baz=43			*eS*	**Sg**	**02 51 43.7**	**-0.5**
SATY	**Saty**	**0.14**	**218**	*eP*	**Pg**	**02 51 41.4**	**-0.3**
SATY	42nm,0.1s			*eS*	**Sg**	**02 51 43.7**	**-0.5**
KPKS	**Kokpek**	**0.32**	**22**	P	**Pb**	**02 51 45.5**	**+0.2**
KPKS	5.6nm,0.1s			S	**Sb**	**02 51 50.6**	**+0.3**
KPKS	**Kokpek**	**0.32**	**22**	*eP*	**Pb**	**02 51 45.0**	**-0.3**
KPKS	baz=14			*eS*	**Sb**	**02 51 49.8**	**-0.6**
KPKS	**Kokpek**	**0.32**	**22**	*eP*	**Pb**	**02 51 45.0**	**-0.3**
KPKS	5.6nm,0.1s			*eS*	**Sb**	**02 51 49.7**	**-0.6**
UZB	**Uzynbulak**	**0.37**	**94**	P	**Pb**	**02 51 46.4**	**+0.2**
UZB	9.0nm,0.1s			S	**Sb**	**02 51 52.2**	**+0.4**
UZB	**Uzynbulak**	**0.37**	**94**	*eP*	**Pg**	**02 51 45.4**	**+0.1**
UZB	9.0nm,0.1s			*eS*	**Sb**	**02 51 50.6**	**-1.2**
SHLS	**Shalkode**	**0.69**	**91**	*eP*	**Pn**	**02 51 55.3**	**+2.1**
SHLS	baz=87			*eS*	**Sn**	**02 52 07.8**	**+4.1**
SHLS	**Shalkode**	**0.69**	**91**	*eP*	**Pn**	**02 51 55.3**	**+2.1**
SHLS	3.2nm,0.2s			*eS*	**Sn**	**02 52 07.8**	**+4.1**
PRZ	**Przheval'sk**	**0.69**	**188**	⇑*eP*	**Pg**	**02 51 49.6**	**-1.8**
PRZ	baz=91			⇑*eS*	**Sg**	**02 51 58.3**	**-2.3**
PDGK	**Podgornoye**	**0.72**	**77**	P	**Pg**	**02 51 51.7**	**-0.3**
PDGK	1.6nm,0.2s			S	**Sg**	**02 52 01.2**	**-0.3**
PDGK	**Podgornoye**	**0.72**	**77**	⇑P	**Pb**	**02 51 52.1**	**-0.2**
PDGK	1.4nm,0.4s			⇓S	**Sn**	**02 52 03.1**	**-1.5**
ANVS	**Anan'yevo**	**0.74**	**239**	⇑*eP*	**Pg**	**02 51 51.4**	**-0.8**
ANVS	baz=43			⇑*eS*	**Sg**	**02 52 01.4**	**-0.6**
BLB	**Baldybastay**	**0.93**	**358**	P	**Pb**	**02 51 55.6**	**-0.1**
BLB	2.2nm,0.0s			S	**Sb**	**02 52 07.9**	**0.0**
ARXS	**Arharly**	**1.16**	**334**	P	**Pn**	**02 51 59.5**	**-0.2**
ARXS	1.3nm,0.1s			S	**Sb**	**02 52 14.6**	**+0.1**
ARXS	**Arharly**	**1.16**	**334**	*eP*	**Pn**	**02 51 59.5**	**-0.2**
ARXS	1.3nm,0.1s			*eS*	**Sb**	**02 52 14.6**	**+0.1**
TNSS	**Tian-Shan**	**1.16**	**264**	P	**Pb**	**02 51 59.8**	**-0.1**
TNSS	0.8nm,0.1s			S	**Sb**	**02 52 15.1**	**+0.2**
TNSS	**Tian-Shan**	**1.16**	**264**	*eP*	**Pb**	**02 51 59.8**	**-0.1**
TNSS	1.9nm,0.2s			*eS*	**Sb**	**02 52 15.1**	**+0.2**
TNSS	**Tian-Shan**	**1.16**	**264**	*eP*	**Pb**	**02 51 59.8**	**-0.1**
TNSS	baz=67			*eS*	**Sb**	**02 52 15.1**	**+0.2**
TNSS	**Tian-Shan**	**1.16**	**264**	*eP*	**Pb**	**02 51 59.8**	**-0.1**
TNSS	0.8nm,0.1s			*eS*	**Sb**	**02 52 15.1**	**+0.2**
KNOS	**Konyrlen**	**1.28**	**22**	P	**Pn**	**02 52 01.2**	**-0.2**
KNOS	2.4nm,0.1s			S	**Sb**	**02 52 17.5**	**-0.6**
KTMS	**Ketmen**	**1.36**	**78**	P	**Pn**	**02 52 02.4**	**-0.1**
KTMS	1.0nm,0.1s			S	**Sn**	**02 52 19.7**	**-0.7**
KTMS	**Ketmen**	**1.36**	**78**	*eP*	**Pn**	**02 52 02.4**	**-0.1**
KTMS	baz=75			*eS*	**Sn**	**02 52 19.7**	**-0.7**
KTMS	**Ketmen**	**1.36**	**78**	*eP*	**Pn**	**02 52 02.4**	**-0.1**
KTMS	1.0nm,0.1s			*eS*	**Sn**	**02 52 19.7**	**-0.7**
KTBS	**Karatobe**	**1.45**	**293**	P	**Pn**	**02 52 04.1**	**+0.6**
KTBS	1.1nm,0.1s			S	**Sn**	**02 52 22.6**	**+0.3**
KTBS	**Karatobe**	**1.45**	**293**	*eP*	**Pb**	**02 52 04.6**	**+0.1**
KTBS	1.1nm,0.1s			*eS*	**Sb**	**02 52 23.4**	**+0.6**
DJR	**Jarkent**	**1.48**	**38**	P	**Pb**	**02 52 04.8**	**-0.3**
DJR	1.9nm,0.1s			S	**Sb**	**02 52 23.7**	**-0.1**
DJR	**Jarkent**	**1.48**	**38**	*eP*	**Pb**	**02 52 04.8**	**-0.3**
DJR	1.9nm,0.1s			*eS*	**Sb**	**02 52 23.7**	**-0.1**
TARG	**Taragay, Kyrgy**	**1.54**	**200**	⇑*eP*	**Pn**	**02 52 04.8**	**-0.3**
TARG	baz=2.0			⇑*eS*	**Sn**	**02 52 24.9**	**-0.1**
ULHL	**Ulahol**	**1.92**	**242**	⇑*eP*	**Pn**	**02 52 11.6**	**+1.4**
ULHL	baz=44			⇑*eS*	**Sb**	**02 52 36.6**	**+0.1**
BOOM	**Boomskoye usch**	**2.02**	**251**	⇑*eP*	**Pn**	**02 52 13.1**	**+1.6**
BOOM	baz=53			⇑*eS*	**Sb**	**02 52 39.2**	**-0.1**
TKM2	**Tokmak 2**	**2.16**	**264**	⇑Pn	**Pn**	**02 52 14.5**	**+1.0**
TKM2	0.7nm,0.8s			⇑Sn	**Sb**	**02 52 44.9**	**+1.4**

---

*NEIC **14** 02:55:33.2±0.4, 37°.97N±0°.01×118°.13W±0°.02, h7km±8km, Error ellipse: s-maj=1.9km s-min=1.7km az=102.0*

REN 14 02:55:32.9±0.8, 37°.97N±0°.01×118°.13W±0°.01, h10km±4km, ML2.8/15, ML2.5/50(NEIC), Error ellipse: s-maj=1.8km s-min=1.0km az=135.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHV	**Little Huntoon**	**0.41**	**313**	Sg	Sg	02 55 47.2	+0.9
NV08	**Mina Array Sit**	**0.46**	**341**		Pg	02 55 42.1	+0.2
NV11	**Mina Array Sit**	**0.46**	**357**	Pg	Pg	02 55 42.2	+0.2
NV11				Sg	Sg	02 55 48.6	+0.6
NVAR	**Mina Array Bea**	**0.48**	**343**		Pg	02 55 42.4	+0.1
NV09	**Mina Array Sit**	**0.49**	**341**		Pg	02 55 42.7	+0.2
DSP	**Deep Springs**	**0.61**	**168**		Pg	02 55 45.0	+0.2
DSP				Sg	Sg	02 55 53.4	+0.6
DSP	comp=E,197nm,0.5s			IAML		02 55 54.0	
DSP	comp=N,155nm,0.6s			IAML		02 55 54.1	
MZP	**Montezuma Peak**	**0.65**	**114**		Pg	02 55 45.6	+0.1
MLAC	**Mammoth, Mammo**	**0.66**	**239**		Pg	02 55 45.9	+0.2
TPH	**Tonopah**	**0.72**	**82**		Sb	02 55 57.1	-0.7
MDYM	**Dry Creek**	**0.77**	**246**		Pg	02 55 48.1	+0.3
OMMB	**Old Mammoth Mi**	**0.78**	**243**		Pg	02 55 47.9	-0.1
OMMB	comp=E,157nm,0.4s			IAML		02 55 58.3	
MDPB	**Devils Postpil**	**0.83**	**246**		Sg	02 55 59.6	-0.1
TIN	**Tinemaha, Big**	**0.92**	**185**		Pg	02 55 50.7	+0.1
TIN					Sb	02 56 03.5	+0.2
GMN	**Gold Mountain**	**0.96**	**134**		Pg	02 55 51.6	+0.1
GMN	comp=E,152nm,0.4s			IAML		02 56 09.9	
GMN	**Gold Mountain**	**0.96**	**134**		Sb	02 56 04.9	+0.2
KVN	**Kaiserville**	**1.08**	**1**	Pn	Pg	02 55 53.3	-0.3
KVN	comp=E,224nm,0.5s			IAML		02 56 12.3	
Q09A	**Carvers**	**1.14**	**40**		Pg	02 55 54.6	-0.2
KCC	**Kaiser Creek**	**1.15**	**236**		Pb	02 55 54.3	-0.6
KCC					Sg	02 56 09.1	-0.7
GRAC	**Grapevine Rang**	**1.15**	**148**		Pn	02 55 55.0	-0.1
GRAC	comp=N,194nm,0.7s			IAML		02 56 17.6	
WAKR	**Walker**	**1.16**	**298**		Pb	02 55 55.0	-0.2
SGV	**South Grapevin**	**1.32**	**138**		Pb	02 55 58.0	+0.1
YERR	**Yerington**	**1.34**	**320**		Pn	02 55 58.0	+0.1
YERR	comp=N,160nm,0.4s			IAML		02 56 19.8	
CWC	**Cottonwood Cre**	**1.53**	**179**		Pg	02 56 02.0	-0.2
PNTR	**Pine Nut**	**1.61**	**314**		Pn	02 56 02.1	+0.5
PNTR	comp=E,113nm,1.2s			IAML		02 56 28.0	
WCT	**Wildcat Mounta**	**1.68**	**134**		Pn	02 56 03.1	+0.7
CMB	**Columbia Colle**	**1.79**	**273**		Pn	02 56 04.2	+0.3
CMB	comp=N,46nm,0.4s			IAML		02 56 29.8	
CMB	comp=E,31nm,0.2s			IAML		02 56 30.2	
TPNV	**Topopah Spring**	**1.81**	**124**		Pn	02 56 05.0	+0.6
TPNV	comp=E,75nm,0.5s			IAML		02 56 36.3	
EMB	**Emerald Bay**	**1.85**	**303**		Pn	02 56 05.3	+0.4
EMB	comp=N,32nm,0.8s			IAML		02 56 32.8	
EMB	comp=E,24nm,0.8s			IAML		02 56 38.4	
SDH	**Striped Hills**	**1.95**	**132**		Pn	02 56 07.2	+1.1
CPY	**CP-1**	**1.95**	**122**		Pb	02 56 07.5	-1.1
PAHR	**Pah Rah Range**	**1.99**	**331**		Pn	02 56 07.3	+0.5
PAHR	comp=E,43nm,0.6s			IAML		02 56 37.5	
PAHR	comp=N,31nm,0.4s			IAML		02 56 38.0	
R11B	**Troy Canyon, C**	**2.04**	**79**		Pn	02 56 08.0	+0.5
R11B	comp=N,24nm,0.3s			IAML		02 56 39.4	
AMDNV	**Amargosa**	**2.12**	**135**		Pn	02 56 09.7	+1.4
GWY	**Greenwater Val**	**2.13**	**146**		Pn	02 56 09.1	+0.4
GWY	comp=N,35nm,0.4s			IAML		02 56 42.8	
GWY	comp=E,38nm,0.5s			IAML		02 56 47.6	
PEAR	**Peavine Mounta**	**2.17**	**319**		Pb	02 56 12.9	+0.4
QSM	**Queen of Sheba**	**2.24**	**153**		Pn	02 56 10.7	+0.5
QSM	comp=N,25nm,0.5s			IAML		02 56 47.3	
QSM	comp=E,19nm,0.5s			IAML		02 56 48.1	
PRN	**Pahroc Range**	**2.50**	**102**		Pn	02 56 14.4	+0.5
BMRR	**Black Mountain**	**2.72**	**322**		Pn	02 56 18.8	+1.9
SHPR	**Sheep Range**	**2.78**	**121**		Pn	02 56 18.3	+0.5
ELK	**Elko**	**3.56**	**38**		Pn	02 56 28.2	-0.3

CCUT Cedar City 3.80 95 Pn 02 56 32.3 +0.5

IDC 14 03:02:14.2±1.3, 33°.62N×104°.61E, h0km, mb3.5/5, mbtmp3.6/5, MS3.4/2, Error ellipse: s-maj=189.0km s-min=20.7km az=54.0, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.44**	**314**	P	P	03 07 03.4	-0.5
	2.2nm,1.0s,baz=116,slow=9.8,SNR=6.1						
	2.2nm,1.0s						
ZALV	**Zalesovo Beam**	**24.69**	**331**	P	P	03 07 36.0	-0.7
	0.5nm,0.5s,baz=143,slow=3.6,SNR=1.3						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**25.55**	**320**	P	P	03 07 45.3	+0.8
	1.1nm,0.8s,baz=125,slow=11,SNR=7.4						
	1.1nm,0.8s						
GUMO	**Guam**	**41.59**	**109**	LR	LR	03 29 21.1	
	comp=Z,12nm,18.2s,baz=128,slow=39						
WRA	**Warramunga Arr**	**60.34**	**148**	P	P	03 12 25.2	+0.2
	0.4nm,0.7s,baz=337,slow=7.2,SNR=5.3						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**63.43**	**150**	P	P	03 12 45.6	-0.3
	0.3nm,0.5s,baz=335,slow=6.6,SNR=4.4						
	0.3nm,0.5s						
GERES	**GERESS Array B**	**66.11**	**314**	LR	LR	03 42 14.4	
	comp=Z,105nm,19.9s,baz=312,slow=36						

SSNC 14 03:06:06.7±0.5, 21°.61N×70°.37W, h0km±999km, MD3.8, ML2.8
OSPL 14 03:06:07.1±1.9, 19°.99N×69°.91W, h17km±7km, ML2.8
SDD 14 03:06:09.6±2.1, 19°.77N×69°.97W, h31km±9km, MD3.4, ML3.1

ISC 14 03:06:06.6±1.5, 20°.00N±0°.07×69°.94W±0°.04, h33km±3km, n22, σ1§56/41, 11C-9D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADR	**Cabrera**	**0.33 180**	⇑	*e*Pg	**Pn**	**03 06 15.3**	**+0.2**
CADR			⇑	*e*Sg	**Sb**	**03 06 20.2**	**-0.1**
CADR				IAML		03 06 20.5	
	comp=N,3μm,0.2s						
CADR				IAML		03 06 22.5	
	comp=E,3μm,0.3s						
LONA1	**Toro Cenizo, N**	**0.62 173**		*i* P	**Pn**	**03 06 18.2**	**-0.8**
LONA1				*e*S	**Sb**	**03 06 25.6**	**-2.2**
LONA1				IAML		03 06 27.9	
	comp=Z,889nm,1.7s						
SODR	**Sosua Marina B**	**0.65 248**	⇑	*e*Pg	**Pb**	**03 06 20.1**	**+0.5**
SODR			⇑	*e*Sg	**Sn**	**03 06 29.7**	**+1.2**
SODR				IAML		03 06 31.1	
	comp=E,947nm,0.8s						
SODR				IAML		03 06 37.6	
	comp=N,599nm,0.9s						
NADR	**Nagua**	**0.65 173**	⇑	*e*Pg	**Pn**	**03 06 18.6**	**-0.8**
NADR			⇓	*e*Sg	**Sb**	**03 06 25.1**	**-3.4**
NADR				IAML		03 06 26.5	
	comp=N,5μm,0.2s						
NADR				IAML		03 06 27.6	
	comp=E,2μm,0.1s						
SC01	**Santiago de lo**	**0.94 233**	⇓	*e*Pg	**Pn**	**03 06 23.7**	**+0.3**
SC01			⇓	*e*Sg	**Sn**	**03 06 36.0**	**+0.3**
SC01				IAML		03 06 44.2	
	comp=N,437nm,0.5s						
SC01				IAML		03 06 44.8	
	comp=E,493nm,0.4s						
SC01	**Santiago de lo**	**0.94 233**		*i* P	**Pb**	**03 06 24.1**	**-0.3**
SC01				*e*S	**Sn**	**03 06 36.0**	**+0.3**
SC01				IAML		03 06 41.5	
	comp=Z,244nm,0.2s						
LUDR	**Luperon**	**0.96 264**	⇓	*e*Pg	**Pb**	**03 06 26.5**	**+1.7**
LUDR			⇑	*e*Sg	**Sb**	**03 06 40.1**	**+2.9**
LUDR				IAML		03 06 40.6	
	comp=E,5μm,0.3s						
LUDR				IAML		03 06 40.6	
	comp=N,4μm,0.3s						
SMDR	**Samana, DR**	**1.00 135**	⇓	*e*Pg	**Pb**	**03 06 25.6**	**+0.1**
SMDR			⇓	*e*Sg	**Sb**	**03 06 38.5**	**+0.2**
SMDR				IAML		03 06 39.0	
	comp=N,195nm,0.3s						
SMDR				IAML		03 06 39.8	
	comp=E,163nm,0.2s						
MIDR	**Miches**	**1.32 140**	⇑	*e*Pg	**Pn**	**03 06 29.7**	**+1.1**
MIDR			⇑	*e*Sg	**Sn**	**03 06 45.6**	**+0.6**
MIDR				IAML		03 06 45.9	
	comp=N,134nm,0.5s						
MIDR				IAML		03 06 46.3	
	comp=E,226nm,0.3s						
SDD	**Santo Domingo**	**1.54 179**		*i* P	**Pn**	**03 06 32.4**	**+0.7**
SDD				*e*S	**Sn**	**03 06 48.8**	**-1.7**
SDDR	**Presa de Saban**	**1.63 232**	⇓	*e*Pg	**Pn**	**03 06 33.8**	**+0.8**
SDDR			⇑	*e*Sg	**Sn**	**03 06 52.5**	**-0.3**
SDDR				IAML		03 06 55.5	
	comp=E,157nm,0.5s						
SDDR				IAML		03 06 56.5	
	comp=N,120nm,0.2s						
SDDR	**Presa de Saban**	**1.63 232**		*i* P	**Pn**	**03 06 34.2**	**+1.2**
SDDR				*e*S	**Sn**	**03 06 52.5**	**-0.3**
SDDR				IAML		03 06 55.4	
	comp=Z,117nm,0.2s						
LODA1	**ITESIL, Dajabo**	**1.72 255**		*e*S	**Sn**	**03 06 56.0**	**+0.9**
LODA1				IAML		03 07 00.0	
	comp=Z,1μm,3.4s						
HIDR	**Higuey Centro**	**1.82 140**	⇓	*e*Pg	**Pn**	**03 06 37.5**	**+2.0**
HIDR			⇑	*e*Sg	**Sn**	**03 06 57.9**	**+0.5**
HIDR				IAML		03 07 01.4	
	comp=E,253nm,0.2s						
HIDR				IAML		03 07 01.5	
	comp=N,312nm,0.2s						
PODR	**Polo**	**2.22 215**	⇓	*e*Pg	**Pn**	**03 06 42.3**	**+1.0**
PODR			⇑	*e*Sg	**Sn**	**03 07 09.0**	**+1.3**
PODR				IAML		03 07 11.6	
	comp=N,64nm,0.6s						
PODR				IAML		03 07 14.9	
	comp=E,95nm,0.3s						
PODR	**Polo**	**2.22 215**		*i* P	**Pn**	**03 06 43.2**	**+1.9**
PODR				*e*S	**Sn**	**03 07 09.4**	**+1.6**
LOPE2	**Hotel El Peder**	**2.60 221**		*i* P	**Pn**	**03 06 46.6**	**+0.3**
LOPE2				IAML		03 07 24.3	
	comp=Z,45nm,1.2s						
MASC	**Masc**	**4.04 273**		*e*P	**Pn**	**03 07 05.8**	**-0.2**
MASC				*e*S	**Sn**	**03 07 49.0**	**-3.2**
MASC				IAML		03 08 00.5	
	comp=E,8.2nm,0.6s						
MASC				IAML		03 08 01.1	
	comp=N,6.9nm,0.6s						
MASC	**Masc**	**4.04 273**		*i* P	**Pn**	**03 07 06.2**	**+0.2**
MASC				*e*S	**Sn**	**03 07 51.0**	**-1.2**
GTBY	**Guantanamo Bay**	**4.86 270**		*e*P	**Pn**	**03 07 17.3**	**-0.2**
GTBY				*e*S	**Sn**	**03 08 09.9**	**-2.7**
GTBY				IAML		03 08 12.9	
	comp=N,5.4nm,0.6s						
GTBY				IAML		03 08 17.0	
	comp=N,7.8nm,0.8s						
GTBY	**Guantanamo Bay**	**4.86 270**		*i* P	**Pn**	**03 07 17.9**	**+0.4**
GTBY				IAML		03 08 21.0	
	comp=Z,7.5nm,1.7s						
RCC	**Rio Carpintero**	**5.41 271**		*e*P	**Pn**	**03 07 24.3**	**-0.7**
RCC				*e*S	**Sn**	**03 08 21.9**	**-4.3**
RCC				IAML		03 08 27.6	
	comp=N,2.0nm,0.5s						
RCC				IAML		03 08 27.6	
	comp=E,1.1nm,0.2s						

KOLA 14 03:15:19.6, 77°.02N×18°.87E, h0km, ML2.5, Error ellipse: s-maj=6.0km s-min=2.9km az=120.0, Storfjorden zone
NAO 14 03:15:20.2±1.1, 77°.01N×19°.02E, h14km±9km, ML2.5

BER 14 03:15:20.8±3.1, 76°.92N×18°.82E, h15km±19km, ML2.0, ML2.5(NAO), Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.75 278**		Pg	Pg	03 15 35.1	-0.3
HSPB				Lg	Lg	03 15 47.0	
HSPB	**Hornsund (broa**	**0.75 278**		P	Pg	03 15 34.9	-0.5
HSPB				S	Sg	03 15 44.4	-0.9
HSPB	**Hornsund (broa**	**0.75 278**		*e*P	Pg	03 15 34.9	-0.4
HSPB				*e*S	Sg	03 15 44.4	-0.8
HSPB				IAML		03 15 47.0	
	comp=Z,26nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.37 338**		Pn	Pn	03 15 43.5	-1.9
	baz=148,slow=18						
SPA0				Pg	Pb	03 15 44.4	-1.8
	baz=147,slow=18						
SPA0				Lg	Lg	03 16 02.3	
	baz=146,slow=37						
SPA0	**Spitsbergen Ar**	**1.37 338**		Pn	Pn	03 15 43.5	-1.9
	baz=148,slow=18						
SPA0				Pg	Pb	03 15 44.4	-1.8
	baz=147,slow=18						
SPA0				*e*Sg	Sn	03 16 01.8	-1.4
SPA0				IAML		03 16 03.8	
	comp=Z,32nm,0.3s						
SPITS	**Spitsbergen Ar**	**1.37 338**		P	Pn	03 15 43.4	-2.0
SPITS				S	Sn	03 16 01.2	-2.1
HOPEN	**Hopen**	**1.49 103**		Pn	Pn	03 15 45.3	-1.6
HOPEN				Pg	Pb	03 15 48.5	+0.4
HOPEN				Sn	Sn	03 16 04.9	-1.1
HOPEN				Lg	Lg	03 16 08.0	
HOPEN	**Hopen**	**1.49 103**		Pn	Pn	03 15 45.3	-1.6
HOPEN				Sn	Sn	03 16 04.9	-1.1
HOPEN				*e*Sg	Sb	03 16 07.5	+0.8
BRBA	**Barentsburg A**	**1.52 321**		Pn	Pn	03 15 45.8	-1.7
BRBA				Pg	Pb	03 15 47.2	-1.5
BRBA				Lg	Lg	03 16 05.9	
BRBA	**Barentsburg A**	**1.52 321**		*e*P	Pn	03 15 45.8	-1.6
BRBA				Pg	Pb	03 15 47.2	-1.5
BRBB	**Barentsburg B**	**1.55 322**		Pn	Pn	03 15 46.2	-1.6
BRBB				Pg	Pb	03 15 47.7	-1.4
BRBB				Lg	Lg	03 16 07.4	
BRBB	**Barentsburg B**	**1.55 322**		P	Pn	03 15 47.1	-0.7
BRBB				S	Sn	03 16 05.5	-2.1
BRBB	**Barentsburg B**	**1.55 322**		*e*P	Pn	03 15 46.4	-1.4
BRBB				*e*Pg	Pb	03 15 47.7	-1.4
BRBB				*e*S	Sn	03 16 03.3	-4.3
BRBB				*e*Sg	Sb	03 16 07.1	-1.4
KBS	**Kingsbay**	**2.48 328**		Pn	Pn	03 15 58.1	-2.5
KBS				Pg	Pb	03 16 03.9	-1.1
KBS				Lg	Lg	03 16 35.8	
KBS	**Kingsbay**	**2.48 328**		P	Pn	03 16 01.5	+0.9
KBS	**Kingsbay**	**2.48 328**		*e*P	Pn	03 15 58.1	-2.5
KBS				*e*Pg	Pb	03 16 03.9	-1.1
KBS				*e*Sg	Sb	03 16 35.4	+0.1
KBS				IAML		03 16 42.5	
	comp=Z,42nm,0.3s						
VADS	**Vadso**	**7.44 151**		P	Pn	03 17 07.8	-0.8
VADS				S	Sn	03 18 27.0	-5.5
ARA0	**ARCESS Array S**	**7.66 162**		Sn	Sn	03 18 29.6	-8.4
	baz=2.4,slow=22						
ARA0	**ARCESS Array S**	**7.66 162**		Sn	Sn	03 18 29.6	-8.4
	baz=2.4,slow=22						
ARCES	**ARCESS Array B**	**7.66 162**		P	Pn	03 17 06.4	-5.3
ARCES				S	Sn	03 18 30.9	-7.1

TRN 14 03:47:58.9, 10°.90N×62°.26W, h97km, MD3.2
FUNV 14 03:48:01.1, 10°.89N×62°.24W, h28km, MW3.8

ISC 14 03:47:57.7±1.7, 10°.87N±0°.07×62°.25W±0°.07, h105km±15km, n20, σ1§59/34, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.86 105**		*i* P	**Pn**	**03 48 18.6**	**+1.5**
TRN				*e*S	**Sn**	**03 48 31.3**	**-0.4**
CRUV	**Carupano**	**0.99 259**	⇓	*e*P	**Pn**	**03 48 20.0**	**+1.6**
CRUV				*e*S	**Sn**	**03 48 31.7**	**-2.4**
GRGR	**Grenville**	**1.38 25**		*e*P	**Pn**	**03 48 23.2**	**+0.3**
GRGR				*e*S	**Sn**	**03 48 41.6**	**-0.3**
GRHS	**Sauteurs**	**1.47 24**		*e*P	**Pn**	**03 48 24.0**	**+0.1**
GCMP	**Grenada, Carri**	**1.79 27**		*e*P	**Pn**	**03 48 28.6**	**+0.7**
GCMP				*e*S	**Sn**	**03 48 49.9**	**-1.0**
PCRV	**Puerto La Cruz**	**2.45 254**		*e*P	**Pn**	**03 48 38.6**	**+2.3**
PCRV				*e*S	**Sn**	**03 49 05.4**	**-0.6**
SVB	**Belmont**	**2.58 22**		*e*P	**Pn**	**03 48 39.6**	**+1.5**
SVB				*e*S	**Sn**	**03 49 08.8**	**-0.2**
SVV	**Soufriere Volc**	**2.63 22**		*e*P	**Pn**	**03 48 40.4**	**+1.6**
SVV				*e*S	**Sn**	**03 49 09.8**	**-0.5**
MCLT	**Moule a Chique**	**3.10 24**		*e*P	**Pn**	**03 48 46.3**	**+1.3**
MCLT				*e*S	**Sn**	**03 49 20.5**	**-0.9**
SLB	**Belfond**	**3.17 22**		*e*P	**Pn**	**03 48 47.7**	**+1.8**
SLBI	**Saint Lucia, B**	**3.37 22**		*e*P	**Pn**	**03 48 48.6**	**+0.1**
SLBI				*e*S	**Sn**	**03 49 26.0**	**-1.8**
BIM	**Bigot**	**3.80 17**		*e*P	**Pn**	**03 48 54.7**	**+0.3**
BIM				*e*S	**Sn**	**03 49 36.5**	**-1.8**
FDF	**Fort de France**	**3.98 15**		*i* P	**Pn**	**03 48 57.1**	**+0.2**
TACV	**Tcata**	**4.75 262**		*e*P	**Pn**	**03 49 09.1**	**+1.9**
TACV				*e*S	**Sn**	**03 50 00.2**	**-1.1**
MAGL	**Barre de l'ile**	**5.13 10**		*e*P	**Pn**	**03 49 13.6**	**+1.3**
BENV	**Beln**	**5.34 261**		*e*P	**Pn**	**03 49 17.4**	**+2.2**
BENV				*e*S	**Sn**	**03 50 14.2**	**-1.4**
CACV	**CAICARA DEL OR**	**5.36 233**		*e*P	**Pn**	**03 49 11.8**	**-3.7**
CACV				*e*S	Sn	03 50 05.9	-10
TURV	**Turiamo**	**5.51 266**		*e*P	**Pn**	**03 49 19.6**	**+2.2**
TURV				*e*S	**Sn**	**03 50 17.8**	**-1.9**
BAUV	**El Baul**	**6.02 252**		*e*P	**Pn**	**03 49 25.4**	**+1.0**
BAUV				*e*S	**Sn**	**03 50 29.8**	**-2.2**
BAUV	**El Baul**	**6.02 252**		*e*P	**Pn**	**03 49 24.9**	**+0.5**

ISK 14 04:34:44.5, 38°.85N×25°.96E, h8km, ML3.5/36
AFAD 14 04:34:44.8±0.0, 38°.84N×25°.95E, h7km±2km, ML3.4
THE 14 04:34:45.4, 38°.87N×26°.01E, h8km±1km, ML3.6/4, Error ellipse: s-maj=1.4km s-min=0.5km az=90.0
ATH 14 04:34:45.6, 38°.85N×26°.00E, h12km±1km, ML3.4/13, Error ellipse: s-maj=1.4km s-min=0.6km az=103.0

ISC 14 04:34:45.4±0.9, 38°.86N±0°.01×25°.98E±0°.02, h13km±7km, n130, σ0§65/168, 14C-8D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG1	**Polichnitos, L**	**0.29**	**39**	P	**Pg**	**04 34 51.2**	**-0.3**
EAG1				S	**Sg**	**04 34 55.1**	**-0.5**
EAG1				AML	AML	04 34 56.1	
	comp=N,64533μm,0.7s						
EAG1				AML	AML	04 35 00.6	
	comp=E,33770μm,0.4s						
EAG2	**Marmaro, Chios**	**0.33 163**		P	**Pg**	**04 34 52.0**	**-0.1**
EAG2				S	**Sg**	**04 34 56.4**	**-0.3**
EAG2				AML	AML	04 34 57.6	
EAG2				AML	AML	04 34 57.8	
	comp=E,82000μm,0.3s						
SIGR	**SIGRI**	**0.36 344**		Pg	**Pg**	**04 34 52.9**	**+0.1**
SIGR				Sg	**Sg**	**04 34 57.6**	**-0.1**
SIGR	**SIGRI**	**0.36 344**		P	**Pg**	**04 34 52.9**	**+0.1**
SIGR				S	**Sg**	**04 34 58.0**	**+0.3**
	comp=E,6μm,0.3s						
SIGR	**SIGRI**	**0.36 344**		P	**Pg**	**04 34 52.9**	**+0.1**
SIGR				S	**Sg**	**04 34 58.2**	**+0.5**
SIGR				AML	AML	04 34 59.2	
	comp=N,14117μm,0.4s						
SIGR				AML	AML	04 35 02.1	
	comp=E,12624μm,0.4s						
KARB	**zmir-Karabur**	**0.39 120**		P	**Pg**	**04 34 52.7**	**-0.5**
KARB				S	**Sg**	**04 34 58.6**	**+0.2**
PRK	**Paraskevi**	**0.45**	**30**	P	**Pg**	**04 34 54.0**	**-0.3**
PRK				S	**Sg**	**04 35 00.2**	**-0.1**
	comp=E,6μm,0.5s						
PRK	**Paraskevi**	**0.45**	**30**	P	**Pg**	**04 34 54.0**	**-0.3**
PRK				S	**Sg**	**04 35 00.6**	**+0.3**
PRK				AML	AML	04 35 03.4	
	comp=E,10909μm,0.7s						
PRK				AML	AML	04 35 05.5	
	comp=N,13318μm,0.3s						
PSRA	**Psara**	**0.46 226**		P	**Pg**	**04 34 54.6**	**+0.2**
PSRA				S	**Sg**	**04 35 00.8**	**+0.3**
PSRA				AML	AML	04 35 01.9	
	comp=N,21798μm,0.2s						
PSRA				AML	AML	04 35 03.3	
	comp=E,21395μm,0.3s						
CHOS	**Chios island**	**0.48 173**		P	**Pg**	**04 34 54.8**	**0.0**
CHOS				S	**Sg**	**04 35 01.3**	**+0.1**
CHOS	**Chios island**	**0.48 173**		P	**Pg**	**04 34 54.8**	**0.0**
CHOS				S	**Sg**	**04 35 01.2**	**0.0**
CHOS				AML	AML	04 35 02.7	
	comp=E,9363μm,0.3s						
CHOS				AML	AML	04 35 05.1	
	comp=N,6152μm,0.3s						
EAG3	**Mitilini, Lesv**	**0.51**	**64**	P	**Pg**	**04 34 55.0**	**-0.4**
EAG3				S	**Sg**	**04 35 02.6**	**+0.4**
EAG3				AML	AML	04 35 06.1	
	comp=N,14237μm,0.3s						
EAG3				AML	AML	04 35 06.6	
	comp=E,20320μm,0.3s						

GPNR	**Gulpinar-Canak**	**0.61**	**11**	Pg	**Pg**	**04 34 56.6**	**-0.7**
RFT5	**Foca**	**0.63**	**108**	Pg	**Pg**	**04 34 57.5**	**-0.2**
RFT5				Sg	**Sb**	**04 35 06.7**	**-0.3**
KOCA	**Canakkale, Ayv**	**0.65**	**11**	P	**Pg**	**04 34 57.9**	**-0.3**
KOCA				S	**Sb**	**04 35 08.5**	**+0.8**
URLA	**Izmir**	**0.69**	**136**	Pg	**Pg**	**04 34 58.7**	**-0.2**
URLA				Sg	**Sb**	**04 35 08.9**	**+0.1**
URLA	**Izmir**	**0.69**	**136**	P	**Pg**	**04 34 58.6**	**-0.2**
URLA				S	**Sb**	**04 35 08.8**	**0.0**
AYVA	**Ayvalik**	**0.71**	**51**	P	**Pg**	**04 34 58.7**	**-0.5**
AYVA				S	**Sb**	**04 35 10.1**	**+0.8**
AYVA				*i* AML	AML	04 35 11.0	
	comp=E,2μm,0.4s						
RFT7	**Candarli**	**0.74**	**82**	Pg	**Pg**	**04 34 59.5**	**-0.2**
RFT7				Sg	**Sb**	**04 35 10.3**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**0.74**	**146**	P	**Pg**	**04 34 59.4**	**-0.4**
ZEYE				S	**Sb**	**04 35 10.1**	**-0.1**
ZEYE				*i* AML	AML	04 35 13.0	
	comp=E,1μm,0.3s						
DKL	**Dikili**	**0.75**	**73**	Pg	**Pg**	**04 34 59.6**	**-0.4**
DKL				Sg	**Sb**	**04 35 11.5**	**+1.1**
RFT1	**Sazli**	**0.76**	**28**	Pg	**Pg**	**04 35 00.1**	**-0.1**
ZEDA	**zmir-Bergama**	**0.86**	**83**	P	**Pg**	**04 35 01.5**	**-0.6**
ZEDA				S	**Sb**	**04 35 14.0**	**+0.4**
RFT2	**Karaagac**	**0.89**	**50**	Pg	**Pg**	**04 35 01.9**	**-0.7**
BAYC	**CANAKKALE_Bayr**	**0.98**	**26**	P	**Pg**	**04 35 04.2**	**-0.3**
BAYC				S	**Sb**	**04 35 17.4**	**+0.2**
BAYC				*i* AML	AML	04 35 20.0	
	comp=E,799nm,0.2s						
EZN	**Ezine**	**1.00**	**15**	Pg	**Pg**	**04 35 03.8**	**-0.9**
EZN	**Ezine**	**1.00**	**15**	P	**Pg**	**04 35 03.6**	**-1.1**
EZN				S	**Sg**	**04 35 17.5**	**-0.3**
	comp=E,6μm,0.5s						
EFSA	**Agios Efstrati**	**1.03**	**312**	P	**Pg**	**04 35 05.6**	**+0.3**
EFSA				AML	AML	04 35 22.0	
	comp=E,3426μm,0.6s						
EFSA				AML	AML	04 35 22.3	
	comp=N,3514μm,0.7s						
BUHA	**Balikesir, Bur**	**1.06**	**53**	P	**Pg**	**04 35 05.1**	**-0.9**
BUHA				S	**Sg**	**04 35 19.3**	**-0.5**
BUHA				*i* AML	AML	04 35 24.0	
	comp=N,818nm,0.4s						
DGB	**zmir**	**1.07**	**138**	P	**Pg**	**04 35 05.3**	**-0.8**
DGB				S	**Sb**	**04 35 19.9**	**+0.3**
SKY	**Skiros Island**	**1.12**	**271**	P	**Pg**	**04 35 06.6**	**-0.4**
SKY	**Skiros Island**	**1.12**	**271**	P	**Pg**	**04 35 06.4**	**-0.6**
SKY				AML	AML	04 35 26.3	
	comp=E,1272μm,0.4s						
SKY				AML	AML	04 35 27.1	
	comp=N,1332μm,0.5s						
ECEA	**Canakkale, Ece**	**1.19**	**7**	P	**Pb**	**04 35 07.5**	**-0.4**
ECEA				S	**Sg**	**04 35 23.1**	**-0.8**
ECEA				*i* AML	AML	04 35 33.0	
	comp=N,457nm,0.4s						
LIA	**Limnos Island**	**1.21**	**329**	P	**Pb**	**04 35 07.9**	**-0.2**
LIA				S	**Sb**	**04 35 24.3**	**+0.7**
	comp=N,8μm,0.5s						
LIA	**Limnos Island**	**1.21**	**329**	P	**Pb**	**04 35 08.0**	**-0.1**
LIA				S	**Sb**	**04 35 23.6**	**0.0**
LIA				AML	AML	04 35 27.0	
	comp=E,13410μm,0.6s						
LIA				AML	AML	04 35 27.2	
	comp=N,18465μm,0.4s						
CNKL	**anakkale-Mer**	**1.25**	**14**	P	**Pn**	**04 35 07.9**	**-0.6**
CNKL				P	**Pb**	**04 35 08.4**	**-0.3**
CNKL				S	**Sb**	**04 35 24.7**	**0.0**
CNKL				S	**Sg**	**04 35 24.9**	**-0.7**
CNKL				*i* AML	AML	04 35 30.0	
	comp=N,820nm,0.8s						
CNKL				*i* AML	AML	04 35 31.0	
	comp=N,893nm,0.5s						
GADA	**Gvkgeada**	**1.33**	**357**	Pn	**Pn**	**04 35 09.8**	**+0.1**
GOKA	**anakkale-Gk**	**1.33**	**358**	P	**Pn**	**04 35 09.8**	**+0.1**
GOKA				S	**Sb**	**04 35 27.5**	**+0.3**
GOKA				*i* AML	AML	04 35 30.0	
	comp=N,1μm,0.5s						
SMG	**Samos**	**1.33**	**149**	P	**Pn**	**04 35 09.2**	**-0.5**
SMG	**Samos**	**1.33**	**149**	P	**Pn**	**04 35 08.9**	**-0.8**
SMG				AML	AML	04 35 30.4	
	comp=E,2618μm,0.4s						
SMG				AML	AML	04 35 30.9	
	comp=N,2905μm,0.6s						
AKS	**Akhisar**	**1.43**	**89**	Pn	**Pn**	**04 35 11.6**	**+0.6**
AKHS	**Akhisar**	**1.43**	**89**	P	**Pg**	**04 35 12.8**	**-0.1**
TNSA	**Tinos**	**1.47**	**206**	P	**Pn**	**04 35 10.8**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.49**	**262**	P	**Pn**	**04 35 11.6**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.49**	**262**	P	**Pn**	**04 35 11.6**	**-0.2**
KYMI				S	**Sn**	**04 35 31.2**	**0.0**
KYMI				AML	AML	04 35 39.1	
	comp=E,463μm,0.6s						
KYMI				AML	AML	04 35 45.0	
	comp=N,573μm,1.0s						
GCAM	**G?zelcaml?**	**1.52**	**139**	Pn	**Pn**	**04 35 12.8**	**+0.6**
GCAM	**G?zelcaml?**	**1.52**	**139**	P	**Pb**	**04 35 13.4**	**0.0**
GCAM				S	**Sn**	**04 35 32.2**	**+0.3**
GOMA	**Golmarmara-Man**	**1.52**	**95**	Pn	**Pn**	**04 35 12.9**	**+0.6**
BALY	**Balya**	**1.54**	**55**	P	**Pn**	**04 35 12.5**	**-0.2**
BALY				S	**Sn**	**04 35 31.6**	**-1.0**
GELI	**Tayfur-Gelibol**	**1.58**	**14**	Pn	**Pn**	**04 35 13.8**	**+0.7**
LPK	**Lapseki**	**1.63**	**21**	Pn	**Pn**	**04 35 13.8**	**+0.1**
SMTH	**Samothraki Isl**	**1.65**	**348**	P	**Pn**	**04 35 13.8**	**-0.3**
SMTH	**Samothraki Isl**	**1.65**	**348**	P	**Pn**	**04 35 13.7**	**-0.3**
SMTH				AML	AML	04 35 40.2	
	comp=E,1007μm,0.4s						
SMTH				AML	AML	04 35 40.8	
	comp=N,996μm,0.4s						
IZMR	**zmir-demi**	**1.71**	**114**	P	**Pb**	**04 35 16.7**	**+0.1**
IZMR				S	**Sn**	**04 35 36.6**	**+0.2**
DDIM	**Aydin, Didim**	**1.72**	**144**	P	**Pg**	**04 35 18.4**	**+0.1**
DDIM				S	**Sg**	**04 35 39.3**	**-1.3**
GONE	**Gonen-Balikesi**	**1.77**	**48**	Pn	**Pn**	**04 35 16.3**	**+0.6**
DION	**Dionisos Attik**	**1.79**	**245**	P	**Pn**	**04 35 16.3**	**+0.3**
DION	**Dionisos Attik**	**1.79**	**245**	P	**Pn**	**04 35 16.2**	**+0.3**
APE	**Apeiranthos**	**1.82**	**191**	⇑P	**Pn**	**04 35 15.6**	**-0.8**
APE	**Apeiranthos**	**1.82**	**191**	P

KNT	Kendrikon	3.30	315	P	Pn	04 35 37.7	+0.9
KTHA	Kythira Island	3.48	223	P	Pn	04 35 38.9	-0.4
STIP	Stip	4.05	315	*i* Pn	Pn	04 35 47.4	+0.2
VTS	Vitosha	4.29	332	⇓P	Pn	04 35 50.0	-0.6
LOZB	Loznitsa	4.53	6	⇓P	Pn	04 35 54.0	+0.3
RAZG	Razgrad	4.72	5	⇑P	Pn	04 35 56.3	+0.1
BOVS	Bovan	5.76	327	⇓P	Pn	04 36 11.2	+0.7
TIRR	Tirgusor	5.88	17	⇓P	Pn	04 36 11.6	-0.6
HARR	Harsova	6.00	13	⇑P	Pn	04 36 14.2	+0.3
CFR	Carcaliu	6.51	14	⇑P	Pn	04 36 20.2	-0.7
HERR	Herculane	6.58	337	⇓P	Pn	04 36 20.3	-1.4
ARR	Arges	6.58	352	⇑P	Pn	04 36 22.2	+0.4
MLR	Muntele Rosu	6.63	360	⇑P	Pn	04 36 22.5	0.0
MDVR	Moldovita	6.72	333	⇓P	Pn	04 36 24.5	+0.7
GZR	Gura Zlata	6.95	341	⇑P	Pn	04 36 26.1	-0.8
COVR	Voineasa-Covas	6.98	1	⇑P	Pn	04 36 29.4	+2.0
PLOR	Plostina	7.00	4	⇓P	Pn	04 36 29.6	+1.9
VRI	Vrincioaia	7.02	4	⇑P	Pn	04 36 29.1	+1.2
DOPR	Dopca	7.12	357	⇑P	Pn	04 36 29.5	+0.3
VLDR	Vladesti	7.15	12	⇑P	Pn	04 36 31.5	+1.9
BZS	Buzias	7.49	336	⇑P	Pn	04 36 35.0	+0.7
TESR	Tescani	7.66	3	⇓P	Pn	04 36 37.8	+1.1
SIRR	Siria	8.06	338	⇑P	Pn	04 36 42.9	+0.8
BURAR	Bucovina Array	8.77	357	⇑P	Pn	04 36 53.8	+1.9

RSPR ***14*** *04:38:16.1±5.8, 19°.59N±0°.09×66°.1W±0°.1, h25km±10km, Error ellipse: s-maj=15.6km s-min=11.2km az=50.0*
NEIC ***14*** *04:38:28.4±1.2, 19°.02N±0°.06×67°.08W±0°.05, h22km±6km, ML3.6/6, Md3.4/4(RSPR), Error ellipse: s-maj=9.7km s-min=5.0km az=213.0*
OSPL ***14*** *04:38:30.5±2.8, 19°.62N×67°.00W, h72km±57km, ML3.4*
ISC 14 04:38:27.9±2.6,**19°.0N**±0°.1×**67°.04W**±0°.08,**h13**km±15km,
n13,σ1°**12**/17,**Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**0.76**	**213**		**Pb**	**04 38 42.5**	**-0.4**
IDE					**Sb**	**04 38 52.7**	**-0.4**
PRSN	**Puerto Rico Se**	**0.81**	**187**		**Pg**	**04 38 43.7**	**+0.1**
PRSN					**Sg**	**04 38 53.9**	**-0.3**
LSP	**Las Mesas**	**0.84**	**183**		**Pg**	**04 38 44.4**	**+0.1**
LSP					**Sb**	**04 38 56.5**	**+0.8**
GBPR	**Guanica, Bosqu**	**1.05**	**172**		**Pg**	**04 38 47.7**	**-0.5**
GBPR					**Sg**	**04 39 02.8**	**+0.8**
SJG	**San Juan**	**1.23**	**137**		**Pn**	**04 38 50.6**	**-0.2**
SJG				IAML		04 39 14.3	
712nm,0.3s							
PCDR	**Punta Cana, DR**	**1.37**	**249**		**Pn**	**04 38 52.1**	**-0.6**
PCDR					**Sb**	**04 39 08.8**	**-2.0**
SDD	**Santo Domingo**	**2.79**	**259**	*i* P	**Pn**	**04 39 13.3**	**+1.1**
SC01	**Santiago de lo**	**3.51**	**277**	*i* P	**Pn**	**04 39 22.8**	**+0.6**
SC01				IAML		04 40 26.6	
comp=Z,99nm,0.5s							
SDDR	**Presa de Saban**	**4.02**	**270**		**Pn**	**04 39 28.5**	**-0.8**
SDDR				IAML		04 40 33.0	
comp=Z,79nm,0.8s							
SDDR				IAML		04 40 37.1	
comp=Z,84nm,0.6s							
SDDR	**Presa de Saban**	**4.02**	**270**	*i* P	**Pn**	**04 39 30.3**	**+1.0**
SDDR				IAML		04 40 42.3	
comp=Z,40nm,0.6s							
PODR	**Polo**	**4.12**	**259**	*i* P	**Pn**	**04 39 31.7**	**+1.0**
LOPE2	**Hotel El Peder**	**4.58**	**258**	*i* P	**Pn**	**04 39 39.2**	**+2.4**
MASC	**Masc**	**6.88**	**281**	*i* P	Pn	04 40 03.1	-5.4

SOME ***14*** *04:44:26.4, 42°.25N×80°.48E, h5km*
NNC ***14*** *04:44:27.2±1.0, 42°.25N×80°.57E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=6.9km s-min=4.9km az=148.0*
KRNET ***14*** *04:44:27.1±0.1, 42°.28N×80°.46E, h14km, mb3.0*
ISC 14 04:44:25.2±2.1,**42°.23N**±0°.05×**80°.53E**±0°.06,**h2**km±11km,
n57,σ2°**11**/85,**11C-15D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.22**	**320**	P	**Pb**	**04 44 47.3**	**-1.8**
14nm,0.1s							
SHLS				S	**Sb**	**04 45 02.3**	**-3.0**
107nm,0.3s							
SHLS	**Shalkode**	**1.22**	**320**	*e*P	**Pb**	**04 44 45.9**	**-3.1**
baz=34							
SHLS				*e*S	**Sb**	**04 44 59.9**	**-5.4**
baz=34							
SHLS	**Shalkode**	**1.22**	**320**	*e*P	**Pb**	**04 44 45.9**	**-3.1**
1.8nm,0.2s							
SHLS				*e*S	**Sb**	**04 44 59.9**	**-5.4**
107nm,0.3s							
KTMS	**Ketmen**	**1.22**	**354**	P	**Pn**	**04 44 49.5**	**0.0**
3.8nm,0.1s							
KTMS				S	**Sn**	**04 45 06.0**	**-0.6**
8.7nm,0.2s							
KTMS	**Ketmen**	**1.22**	**354**	*e*P	**Pn**	**04 44 49.5**	**0.0**
baz=56							
KTMS				*e*S	**Sn**	**04 45 06.1**	**-0.6**
baz=56							
KTMS	**Ketmen**	**1.22**	**354**	*e*P	**Pn**	**04 44 49.5**	**0.0**
3.8nm,0.1s							
KTMS				*e*S	**Sn**	**04 45 06.0**	**-0.6**
8.7nm,0.2s							
PDGK	**Podgornoye**	**1.34**	**325**	P	**Pg**	**04 44 51.9**	**+1.0**
3.7nm,0.2s							
PDGK				S	**Sg**	**04 45 10.2**	**+1.9**
25nm,0.1s							
UZB	**Uzynbulak**	**1.44**	**310**	P	**Pg**	**04 44 54.9**	**+2.0**
8.1nm,0.1s							
UZB				S	**Sg**	**04 45 15.3**	**+3.7**
20nm,0.1s							
UZB	**Uzynbulak**	**1.44**	**310**	*e*P	**Pb**	**04 44 53.0**	**+0.1**
baz=10.0							
UZB				*e*S	**Sg**	**04 45 12.0**	**+0.4**
baz=10.0							
UZB	**Uzynbulak**	**1.44**	**310**	*e*P	**Pb**	**04 44 53.0**	**+0.1**
3.1nm,0.1s							
UZB				*e*S	**Sg**	**04 45 12.0**	**+0.4**
18nm,0.1s							
PRZ	**Przheval'sk**	**1.60**	**280**	⇑*e*P	**Pg**	**04 44 56.6**	**+0.7**
baz=79							
PRZ				⇑*e*S	**Sg**	**04 45 17.7**	**+1.1**
baz=79							
SATY	**Saty**	**1.77**	**299**	P	**Pg**	**04 45 00.3**	**+1.0**
10nm,0.1s							
SATY				S	**Sg**	**04 45 24.8**	**+2.6**
58nm,0.1s							
SATY	**Saty**	**1.77**	**299**	*e*P	**Pg**	**04 44 59.3**	**+0.1**
baz=98							
SATY				*e*S	**Sg**	**04 45 22.9**	**+0.7**
baz=98							
SATY	**Saty**	**1.77**	**299**	*e*P	**Pg**	**04 44 59.3**	**+0.1**
10nm,0.1s							
SATY				*e*S	**Sg**	**04 45 22.9**	**+0.7**
51nm,0.2s							
ZHN	**Zhinishke**	**1.81**	**302**	P	**Pg**	**04 45 01.0**	**+1.1**
13nm,0.1s							
ZHN				S	**Sg**	**04 45 25.9**	**+2.5**
104nm,0.1s							
ZHN	**Zhinishke**	**1.81**	**302**	*e*P	**Pg**	**04 44 59.8**	**-0.1**
baz=2.0							
ZHN				*e*S	**Sg**	**04 45 23.7**	**+0.4**
baz=2.0							
ZHN	**Zhinishke**	**1.81**	**302**	*e*P	**Pg**	**04 44 59.8**	**-0.1**
6.9nm,0.1s							
ZHN				*e*S	**Sg**	**04 45 23.7**	**+0.4**
74nm,0.2s							
KPKS	**Kokpek**	**1.84**	**313**	P	**Pg**	**04 45 01.2**	**+0.8**
15nm,0.1s							
KPKS				S	**Sg**	**04 45 26.1**	**+1.9**
135nm,0.1s							
KPKS	**Kokpek**	**1.84**	**313**	*e*P	**Pg**	**04 45 00.3**	**-0.1**
baz=13							
KPKS				*e*S	**Sg**	**04 45 24.6**	**+0.4**
baz=13							
KPKS	**Kokpek**	**1.84**	**313**	*e*P	**Pg**	**04 45 00.3**	**-0.1**
2.2nm,0.1s							
KPKS				*e*S	**Sg**	**04 45 24.6**	**+0.4**
101nm,0.2s							
TARG	**Taragay, Kyrgy**	**2.10**	**257**	⇓*e*P	**Pg**	**04 45 05.7**	**+0.4**
baz=55							
TARG				⇓*e*S	**Sg**	**04 45 33.2**	**+0.7**
baz=55							
KURS	**Kuram**	**2.15**	**307**	Pg	**Pg**	**04 45 06.8**	**+0.5**
9.8nm,0.4s							
KURS				Lg	Lg	04 45 36.0	
19nm,0.3s							
KURS	**Kuram**	**2.15**	**307**	*e*Pg	**Pg**	**04 45 06.2**	**-0.1**
9.8nm,0.4s							
KURS				*e*Lg	Lg	04 45 34.8	
19nm,0.4s							
DJR	**Jarkent**	**2.17**	**346**	Pg	**Pg**	**04 45 06.6**	**-0.2**
2.5nm,0.1s							
DJR				Lg	Lg	04 45 35.8	
25nm,0.5s							
DJR	**Jarkent**	**2.17**	**346**	*e*Pg	**Pg**	**04 45 06.6**	**-0.2**
2.5nm,0.1s							
DJR				*e*Lg	Lg	04 45 35.8	
25nm,0.5s							
ANVS	**Anan'yevo**	**2.19**	**286**	⇑*e*P	**Pb**	**04 45 06.3**	**+0.6**
baz=85							
ANVS				⇑*e*S	**Sg**	**04 45 35.0**	**-0.6**
baz=85							
KNOS	**Konyrlen**	**2.35**	**336**	Pg	**Pg**	**04 45 09.7**	**-0.5**
9.0nm,0.2s							
KNOS				Lg	Lg	04 45 40.9	
22nm,0.2s							
BLB	**Baldybastay**	**2.40**	**322**	Pg	**Pg**	**04 45 10.9**	**-0.2**
14nm,0.2s							
BLB				Lg	Lg	04 45 42.9	
22nm,0.2s							
KOTS	**Kotyrbulak**	**2.71**	**293**	Pg	**Pg**	**04 45 16.5**	**-0.7**
14nm,0.3s							
KOTS				Lg	Lg	04 45 52.6	
59nm,0.4s							
KOTS	**Kotyrbulak**	**2.71**	**293**	*e*Pg	**Pg**	**04 45 16.5**	**-0.7**
14nm,0.3s							
KOTS				*e*Lg	Lg	04 45 52.6	
59nm,0.4s							
TNSS	**Tian-Shan**	**2.77**	**288**	Pg	**Pg**	**04 45 17.4**	**-0.9**
5.2nm,0.2s							
TNSS				Lg	Lg	04 45 54.3	
13nm,0.2s							
TNSS	**Tian-Shan**	**2.77**	**288**	*e*Pg	**Pg**	**04 45 17.4**	**-0.9**
5.2nm,0.2s							
TNSS				*e*Lg	Lg	04 45 54.3	
13nm,0.2s							
ARXS	**Arharly**	**2.80**	**316**	Pg	**Pg**	**04 45 17.7**	**-1.1**
2.8nm,0.2s							
ARXS				Lg	Lg	04 45 54.9	
24nm,0.2s							
ARXS	**Arharly**	**2.80**	**316**	*e*Pg	**Pg**	**04 45 17.7**	**-1.1**
2.8nm,0.2s							
ARXS				*e*Lg	Lg	04 45 54.9	
24nm,0.2s							
IZV	**Izvestkoviy**	**3.00**	**287**	Pg	**Pg**	**04 45 21.4**	**-1.3**
2.2nm,0.2s							
IZV				Lg	Lg	04 46 01.1	
23nm,0.3s							
IZV	**Izvestkoviy**	**3.00**	**287**	*e*Pg	**Pg**	**04 45 21.4**	**-1.3**
2.2nm,0.2s							
IZV				*e*Lg	Lg	04 46 01.1	
23nm,0.3s							
CHKK	**Chushkaly**	**3.06**	**303**	Pg	**Pb**	**04 45 22.2**	**+1.7**
1.6nm,0.1s							
CHKK				Lg	Lg	04 46 02.4	
15nm,0.2s							
CHKK	**Chushkaly**	**3.06**	**303**	*e*Pg	**Pb**	**04 45 22.1**	**+1.7**
1.6nm,0.1s							
CHKK				*e*Lg	Lg	04 46 02.4	
15nm,0.2s							
MTBS	**Maitube**	**3.16**	**288**	Pg	**Pb**	**04 45 23.9**	**+1.9**
4.6nm,0.2s							
MTBS				Lg	Lg	04 46 05.5	
15nm,0.2s							
MTBS	**Maitube**	**3.16**	**288**	*e*Pg	**Pb**	**04 45 23.9**	**+1.9**
4.6nm,0.2s							
MTBS				*e*Lg	Lg	04 46 05.5	
15nm,0.2s							
KTBS	**Karatobe**	**3.19**	**299**	Pg	**Pg**	**04 45 24.7**	**-1.6**
2.2nm,0.2s							
KTBS				Lg	Lg	04 46 06.5	
45nm,0.5s							
KTBS	**Karatobe**	**3.19**	**299**	*e*Pg	**Pg**	**04 45 24.7**	**-1.6**
2.2nm,0.2s							
KTBS				*e*Lg	Lg	04 46 06.5	
45nm,0.5s							
BOOM	**Boomskoye usch**	**3.41**	**276**	⇑*e*P	**Pb**	**04 45 23.7**	**-2.8**
baz=75							
BOOM				⇑*e*S	**Sb**	**04 46 04.6**	**-3.9**
baz=75							
KST	**Kastek**	**3.47**	**285**	Pg	**Pg**	**04 45 30.3**	**-1.3**
5.4nm,0.2s							
KST				Lg	Lg	04 46 16.4	
10.0nm,0.2s							
KST	**Kastek**	**3.47**	**285**	*e*Pg	**Pg**	**04 45 30.3**	**-1.3**
5.4nm,0.2s							
KST				*e*Lg	Lg	04 46 16.4	
10.0nm,0.2s							
NRN	**Naryn**	**3.48**	**258**	⇓*e*P	**Pb**	**04 45 25.0**	**-2.7**
baz=57							
NRN				⇓*e*S	**Sb**	**04 46 07.0**	**-3.5**
baz=57							
DGS	**Degeres**	**3.65**	**288**	Pg	**Pb**	**04 45 32.6**	**+2.1**
4.5nm,0.3s							
DGS				Lg	Lg	04 46 20.4	
9.3nm,0.3s							
DGS	**Degeres**	**3.65**	**288**	*e*Pg	**Pb**	**04 45 32.6**	**+2.1**
4.5nm,0.3s							
DGS				*e*Lg	Lg	04 46 20.4	
9.3nm,0.3s							
TKM2	**Tokmak 2**	**3.71**	**282**	⇑Pn	**Pb**	**04 45 27.9**	**-3.7**
2.1nm,0.7s							
TKM2				⇓Lg	Lg	04 46 24.7	
6.6nm,0.6s							
TKM2	**Tokmak 2**	**3.71**	**282**	⇓*e*P	**Pn**	**04 45 27.4**	**+3.7**
baz=82							
TKM2				⇓*e*S	**Sb**	**04 46 11.8**	**-5.3**
baz=82							
KRBS	**Karabastau**	**3.85**	**294**	Pg	**Pb**	**04 45 36.1**	**+2.2**
2.0nm,0.2s							
KRBS				Lg	Lg	04 46 26.2	
6.9nm,0.1s							
KRBS	**Karabastau**	**3.85**	**294**	*e*Pg	**Pb**	**04 45 36.1**	**+2.2**
2.0nm,0.2s							
KRBS				*e*Lg	Lg	04 46 26.2	
6.9nm,0.1s							
AAK	**Ala-Archa**	**4.49**	**277**	⇓*e*P	**Pn**	**04 45 38.5**	**+4.1**
baz=77							
AAK				⇓*e*S	**Sn**	**04 46 30.2**	**+3.0**
baz=77							
MAKZ	**Makanchi**	**4.69**	**12**	⇑Pn	**Pn**	**04 45 39.2**	**+2.2**
2.2nm,0.7s							
MAKZ				⇓Sn	**Sn**	**04 46 35.5**	**+3.5**
1.3nm,0.7s							
MAKZ				⇓Lg	Lg	04 46 56.1	
1.6nm,0.6s							
MK31	**Makanchi Array**	**4.73**	**15**	⇓Pn	**Pn**	**04 45 38.8**	**+1.2**
0.2nm,0.2s,baz=196,slow=13							
MK31				⇑Sn	**Sn**	**04 46 36.8**	**+3.7**
1.3nm,0.6s,baz=186,slow=24							
MK31				⇑Lg	Lg	04 46 57.2	
2.6nm,0.6s,baz=193,slow=27							
AML	**Almayashu**	**5.08**	**271**	⇓Pg	**Pg**	**04 45 59.5**	**-3.1**
1.2nm,1.3s							
AML				⇑Lg	Lg	04 47 07.1	
1.1nm,1.0s							
AML	**Almayashu**	**5.08**	**271**	⇓*e*P	Pn	04 45 47.3	+4.6
baz=71							
AML				⇓*e*S	**Sn**	**04 46 44.9**	**+2.7**
baz=71							

NEIC ***14*** *05:13:48.6±2.0, 40°.85N±0°.04×116°.31W±0°.03, h5km±2km, Error ellipse: s-maj=7.1km s-min=3.7km az=350.0*
REN 14 05:13:48.7±1.8,**40°.92N**±0°.05×**116°.32W**±0°.04,**h2**km±1km,
ML2.3/4,**ML2.9**/70(NEIC),**Error ellipse: s-maj=7.2km s-min=3.5km az=158.0,Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**0.84**	**102**		Pg	05 14 04.9	+0.1
ELK					Sb	05 14 17.1	-0.8
Q09A	**Carvers**	**2.19**	**198**		Pn	05 14 26.6	+0.2
WVOR	**Wild Horse Val**	**2.30**	**312**		Pb	05 14 29.5	-1.5
WVOR	**Wild Horse Val**	**2.30**	**312**	IAML		05 15 07.4	
52nm,1.0s							
WVOR				IAML		05 15 11.9	
46nm,1.0s							
KVN	**Kaiserville**	**2.32**	**217**		Pn	05 14 27.8	-0.3
KVN	**Kaiserville**	**2.32**	**217**	IAML		05 15 11.1	
comp=N,50nm,0.9s							
BGU	**Big Grassy Mou**	**2.49**	**89**		Pn	05 14 30.8	+0.4
BGU				IAML		05 15 11.7	
comp=N,68nm,0.4s							
BGU				IAML		05 15 12.0	
comp=E,85nm,0.9s							
MFID	**Camas Ranch**	**2.52**	**8**		Pn	05 14 32.3	+1.5
MFID				IAML		05 15 09.5	
comp=E,44nm,0.6s							
MFID				IAML		05 15 10.1	
comp=E,51nm,0.5s							
R11B	**Troy Canyon, C**	**2.63**	**167**	Pn	Pn	05 14 32.5	+0.1
PAHR	**Pah Rah Range**	**2.64**	**244**		Pn	05 14 31.8	-0.7
DUG	**Dugway, Tooele**	**2.77**	**104**		Pn	05 14 34.5	+0.3
DUG				IAML		05 15 23.8	
comp=E,46nm,0.9s							
DUG				IAML		05 15 27.8	
comp=E,58nm,1.1s							
NVAR	**Mina Array Bea**	**2.92**	**212**		Pn	05 14 36.6	+0.2
NV09	**Mina Array Sit**	**2.93**	**213**		Pn	05 14 36.3	-0.3
NV08	**Mina Array Sit**	**2.95**	**212**		Pn	05 14 36.4	-0.4
YERR	**Yerington**	**2.97**	**230**		Pn	05 14 36.5	-0.5
YERR	**Yerington**	**2.97**	**230**	IAML		05 15 29.2	
comp=E,41nm,1.0s							
HLID	**Hailey**	**2.99**	**28**		Pn	05 14 38.3	+0.9
HLID				IAML		05 15 31.4	
comp=E,26nm,0.9s							
HLID				IAML		05 15 40.9	
comp=E,28nm,1.0s							
PSUT	**Pine Spring**	**3.05**	**141**		Pn	05 14 39.7	+1.6
PEAR	**Peavine Mounta**	**3.08**	**246**		Pn	05 14 38.3	-0.4
PNTR	**Pine Nut**	**3.12**	**235**		Pn	05 14 38.7	-0.4
PNTR	**Pine Nut**	**3.12**	**235**	IAML		05 15 34.8	
comp=N,36nm,0.9s							
PNTR				IAML		05 15 37.4	
comp=E,37nm,0.9s							
LHV	**Little Huntoon**	**3.16**	**213**		Pn	05 14 39.9	+0.4
BEKR	**Beckworth**	**3.26**	**252**		Pn	05 14 40.7	-0.4
MPK	**Martis Peak**	**3.28**	**241**		Pn	05 14 40.8	-0.6
MPK				IAML		05 15 40.3	
comp=E,18nm,1.0s							
S11A	**Rachel**	**3.31**	**172**		Pn	05 14 42.8	+1.2
MZP	**Montezuma Peak**	**3.32**	**195**		Pn	05 14 42.7	+0.7
MZP				IAML		05 15 42.0	
comp=E,19nm,1.0s							
WAKR	**Walker**	**3.41**	**226**		Pn	05 14 42.4	-0.8
WAKR				IAML		05 15 40.6	
comp=E,25nm,0.7s							
WAKR				IAML		05 15 43.4	
comp=N,17nm,0.7s							
EMB	**Emerald Bay**	**3.50**	**237**	Pn	Pn	05 14 44.0	-0.4
ID07	**Smith Canyon R**	**3.56**	**62**		Pn	05 14 45.9	+0.8
ID07				IAML		05 15 51.4	
comp=N,17nm,0.9s							
ID07				IAML		05 15 53.5	
comp=N,25nm,1.8s							
PRN	**Pahroc Range**	**3.65**	**164**		Pn	05 14 47.3	+1.0
PRN	**Pahroc Range**	**3.65**	**164**	IAML		05 15 53.8	
comp=N,34nm,0.8s							
GMN	**Gold Mountain**	**3.69**	**192**		Pn	05 14 47.0	-0.1
GMN	**Gold Mountain**	**3.69**	**192**	IAML		05 15 53.5	
comp=E,23nm,0.6s							
GMN				IAML		05 15 59.5	
comp=N,27nm,0.7s							
TCRU	**Three Creeks R**	**3.77**	**127**		Pn	05 14 47.1	-1.1
TCRU				IAML		05 16 02.5	
comp=N,26nm,0.9s							
TCRU				IAML		05 16 08.7	
comp=E,23nm,0.8s							
K05A	**Summer Lake**	**3.86**	**299**		Pn	05 14 51.6	+2.3
K05A				IAML		05 16 05.4	
comp=E,14nm,1.1s							
TPNV	**Topopah Spring**	**3.97**	**179**		Pn	05 14 51.7	+0.9
TPNV	**Topopah Spring**	**3.97**	**179**	IAML		05 16 23.4	
comp=E,25nm,1.1s							
SGV	**South Grapevin**	**3.98**	**188**		Pn	05 14 51.9	+1.0
MVU	**Marysvale**	**3.98**	**126**		Pn	05 14 52.2	+1.1
MSU	**Marysvale**	**4.00**	**126**		Pn	05 14 52.8	+1.6
GRAC	**Grapevine Rang**	**4.01**	**192**		Pn	05 14 51.2	+0.1
WCT	**Wildcat Mounta**	**4.13**	**183**		Pn	05 14 52.9	-0.1
WCT	**Wildcat Mounta**	**4.13**	**183**	IAML		05 16 05.8	
comp=E,14nm,0.8s							
WCT				IAML		05 16 16.6	
comp=N,11nm,1.3s							
CMB	**Columbia Colle**	**4.27**	**229**		Pn	05 14 54.7	-0.1
AHID	**Auburn Hatcher**	**4.31**	**63**		Pn	05 14 56.9	+1.5
AHID				IAML		05 16 12.9	
comp=N,19nm,0.8s							
J05D	**Fort Rock, OR**	**4.35**	**304**		Pn	05 14 56.1	+0.1

IDC ***14*** *05:35:35.0±0.8, 10°.71S×112°.52E, h0km, mb4.3/15, mbtmp4.4/17, ML4.6/2, MS3.3/13, Error ellipse: s-maj=27.3km s-min=11.6km az=50.0*
NEIC ***14*** *05:35:36.7±1.6, 10°.86S±0°.07×112°.30E±0°.07, h10km±1km, mb4.7/24, Error ellipse: s-maj=13.5km s-min=10.7km az=224.0*
DJA ***14*** *05:35:38.2±0.8, 11°S±2°×11°2E±°, h26km±7km, M4.8/43, mb4.8/43, mB5.3/10, MLv5.0/23, Mw(mB)4.7/11*
ISC 14 05:35:38.2±0.6,**10°.85S**±0°.04×**112°.35E**±0°.05,**h20**km±3km,
h20km:pP-P,n142,σ1°**97**/151,**mb4.6**/35,**MS3.3**/12,**5C-4D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.78**	**23**	P	**Pn**	**05 36 20.8**	**-0.8**
GMJI				S	**Sn**	**05 36 51.5**	**-3.0**
JAGI	**Jajag, Banyuwa**	**2.96**	**37**	Pn	**Pn**	**05 36 24.0**	**-0.1**
JAGI	**Jajag, Banyuwa**	**2.96**	**37**	P	**Pn**	**05 36 24.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**2.96**	**37**	P	**Pn**	**05 36 23.9**	**-0.1**
JAGI				S	**Sn**	**05 36 55.9**	**-3.1**
WOJI	**Wonogiri, Jawa**	**3.31**	**335**	P	**Pn**	**05 36 26.6**	**-2.3**
WOJI				S	**Sn**	**05 37 03.6**	**-4.0**
BLJI	**Banyuglugur**	**3.32**	**22**	P	**Pn**	**05 36 29.8**	**+0.8**
IGBI	**Denpasar**	**3.41**	**54**	P	**Pn**	**05 36 30.6**	**+0.3**
UGM	**Wanagama**	**3.43**	**328**		**Pn**	**05 36 29.7**	**-0.9**
UGM	**Wanagama**	**3.43**	**328**	P	**Pn**	**05 36 29.2**	**-1.4**
UGM	**Wanagama**	**3.43**	**328**	P	**Pn**	**05 36 29.1**	**-1.5**
UGM				S	**Sn**	**05 37 06.9**	**-3.8**
DNP	**Denpasar**	**3.55**	**53**	P	**Pn**	**05 36 33.2**	**+1.0**
ABJI	**Asem Bagus**	**3.56**	**32**	P	**Pn**	**05 36 34.1**	**+1.8**
NGJI	**Ngawi**	**3.57**	**346**	P	**Pn**	**05 36 33.1**	**+0.6**
NGJI				S	**Sn**	**05 37 14.4**	**+0.3**
YOGI	**Yogyakarta**	**3.63**	**326**	P	**Pn**	**05 36 32.4**	**-1.0**
YOGI				S	**Sn**	**05 37 11.7**	**-4.0**
GRJI	**Gresik**	**3.91**	**2**	P	**Pn**	**05 36 36.8**	**-0.4**
SRBI	**Singaraja**	**3.94**	**46**	P	**Pn**	**05 36 38.6**	**+1.1**
SMRI	**Semarang**	**4.22**	**333**	Pn	**Pn**	**05 36 40.5**	**-1.0**
SMRI	**Semarang**	**4.22**	**333**	P	**Pn**	**05 36 41.2**	**-0.3**
SMRI	**Semarang**	**4.22**	**333**	P	**Pn**	**05 36 40.8**	**-0.7**
KPJI	**Karang Pucung**	**4.86**	**316**	P	**Pn**	**05 36 49.3**	**-0.9**
CMJI	**Cimerak**

KAPI LR LR 05 42 22.7
comp=Z,138nm,18.1s,baz=224,slow=45
BKSI Bulukumba 9.45 55 P Pn 05 37 53.8 +0.5
21nm,0.6s
MMRI Maumere 9.99 78 Pn **Pn 05 38 00.9 +0.2**
MMRI Maumere 9.99 78 P **Pn 05 38 01.0 +0.3**
53nm,0.5s,4μm
LWLI Liwa 10.05 305 P **Pn 05 37 59.6 -2.0**
74nm,0.5s
MTKI Muara Teweh, K 10.16 15 P **Pn 05 38 03.2 +0.1**
PPBI Pangkal Pinang 10.61 324 P **Pn 05 38 09.1 -0.1**
33nm,0.5s,20μm
BATI Baumata 11.14 88 Pn **Pn 05 38 13.6 -2.9**
6.9nm,0.3s,baz=324,slow=23,SNR=1.9
BATI Sn **Sn 05 40 14.5 -6.1**
2.7nm,0.3s,baz=16,slow=20,SNR=1.7
17nm,0.4s
MNAI Manna 11.32 304 Pn **Pn 05 38 17.4 -1.6**
MNAI Manna 11.32 304 P **Pn 05 38 17.6 -1.4**
256nm,1.6s
SOEI Soe 11.78 86 Pn 05 38 25.0 -0.2
SOEI Soe 11.78 86 P **Pn 05 38 26.9 +1.6**
SOEI Soe 11.78 86 P **Pn 05 38 26.0 +0.7**
62nm,0.9s
GIRL Giralia 11.87 172 Pn **Pn 05 38 25.5 -0.8**
GIRL Giralia 11.87 172 P **Pn 05 38 24.6 -1.7**
MBWA Marble Bar 12.46 146 Pn **Pn 05 38 33.5 -1.0**
MBWA Marble Bar 12.46 146 P **Pn 05 38 33.6 -1.0**
MASI Maura Aman, Be 12.62 307 P **Pn 05 38 34.9 -1.8**
99nm,0.9s
PSA00 Pilbara Seismi 12.86 147 Pn 05 38 37.5 -2.4
MPSI Mapaga 13.41 34 P **Pn 05 38 49.0 +1.5**
26nm,0.8s
SDSI Sungai Dareh 14.66 312 P **Pn 05 39 03.2 -1.4**
7.6nm,1.2s
MRSI Marisa 14.75 41 P **Pn 05 39 06.9 +1.1**
60nm,1.0s,864nm
PDSI Padang 15.40 309 P **Pn 05 39 13.5 -1.0**
19nm,0.5s
GTOI Gorontalo 15.57 44 P **Pn 05 39 17.4 +0.7**
52nm,0.9s,488nm
SANI Sanana 16.11 58 P **Pn 05 39 24.0 +0.3**
32nm,1.1s
MEEK Meekatharra 16.78 160 P **Pn 05 39 30.5 -1.7**
MORW Morawa 18.45 170 P 05 39 51.6 -1.1
MORW Morawa 18.45 170 P **P 05 39 51.8 -0.9**
BNDI Bandanaira 18.49 71 P **Pn 05 39 54.1 +0.7**
329nm,1.2s
TNTI Ternate 18.87 53 P **Pn 05 39 58.2 +0.2**
45nm,0.9s
KCSI Kotacane, Aceh 20.36 314 P **P 05 40 13.1 -0.6**
23nm,0.8s
SNSI Sinabang, Aceh 20.68 309 P **P 05 40 16.6 -0.6**
43nm,1.4s
FAKI Fak Fak 21.25 70 P **P 05 40 24.0 +0.7**
30nm,1.0s
DAV Davao City (W) 22.14 37 LR LR 05 49 38.8
comp=Z,49nm,21.4s,baz=184,slow=38
NWAO Narrogin (SRO) 22.43 169 P **P 05 40 37.4 +1.6**
7.8nm,0.9s,baz=340,slow=13,SNR=2.7
NWAO S **S 05 44 36.8 -4.4**
4.4nm,0.8s,baz=210,slow=16,SNR=1.4
NWAO LR LR 05 50 18.3
comp=Z,79nm,18.3s,baz=4.5,slow=39
7.8nm,0.9s
WB0 Warramunga Arr 23.01 115 P **P 05 40 42.7 +0.6**
WB0 IAmb IAmb 05 40 55.6
comp=Z,25nm,1.0s
WRA Warramunga Arr 23.02 116 P **P 05 40 42.7 +0.5**
WRA Warramunga Arr 23.02 116 P **P 05 40 42.9 +0.7**
comp=Z,11nm,0.9s,baz=290,slow=12,SNR=46
WRA S **S 05 44 50.1 -2.0**
comp=Z,0.6nm,0.7s,baz=291,slow=25,SNR=3.2
comp=Z,11nm,0.9s
SRIT Nakonsritamara 23.11 326 P **P 05 40 43.4 +0.3**
ASAR Alice Springs 24.16 125 P **P 05 40 54.8 +1.5**
ASAR Alice Springs 24.16 125 P **P 05 40 54.1 +0.8**
comp=Z,6.3nm,0.8s,baz=301,slow=9.2,SNR=61
ASAR S **S 05 45 20.1 +10**
comp=Z,0.5nm,0.7s,baz=303,slow=24,SNR=3.0
comp=Z,6.3nm,0.8s
AS31 Alice Springs 24.16 125 P **P 05 40 54.9 +1.6**
FORT Forrest 24.61 146 P **P 05 40 58.3 +1.0**
BBOO Buckleboo 30.87 139 P **P 05 41 53.1 -0.2**
BBOO IAmb IAmb 05 42 06.1
comp=Z,19nm,1.4s
CMAR Chiang Mai Arr 31.99 335 P **P 05 42 04.0 +0.8**
comp=Z,3.2nm,0.5s,baz=170,slow=7.7,SNR=29
CMAR LR LR 05 56 30.0
comp=Z,64nm,19.0s,baz=185,slow=39
comp=Z,3.2nm,0.5s
CHTO Chiang Mai 32.31 336 P **P 05 42 06.3 +0.2**
CHTO IAmb IAmb 05 42 08.8
comp=Z,4.4nm,0.7s
SLVN Son La 33.04 345 P **P 05 42 13.1 +0.6**
SLVN IAmb IAmb 05 42 16.6
comp=Z,10nm,1.1s
CRAI Chiangrai 33.06 339 P **P 05 42 12.0 -0.6**
CRAI IAmb IAmb 05 42 15.5
comp=Z,10.0nm,1.0s
STKA Stephens Creek 34.15 132 P **P 05 42 23.0 +0.8**
comp=Z,7.6nm,0.8s,baz=299,slow=7.6,SNR=20
STKA LR LR 05 57 42.2
comp=Z,45nm,19.0s,baz=18,slow=39
comp=Z,7.6nm,0.8s
KMI Kunming 36.96 345 ⇑P **P 05 42 49.3 +2.8**
KMI pmax pmax
comp=Z,15nm,1.1s
PZH PanZhiHua 38.53 345 P **P 05 43 03.3 +3.6**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,220nm,5.5s
H08S2 Diego Garcia H 39.45 271 T T 06 25 12.5
baz=96,slow=74,SNR=16
H08S3 Diego Garcia H 39.46 271 T T 06 25 00.4
baz=96,slow=74,SNR=18
H08S1 Diego Carcia H 39.47 271 T T 06 25 09.8
baz=96,slow=74,SNR=9.7
SHL Shillong 41.32 331 P **P 05 43 22.1 -0.8**
SHL IAmb IAmb 05 43 33.6
comp=Z,14nm,0.7s
NJ2 Nanjing 43.11 8 *eP* **P 05 43 40.1 +2.9**
NJ2 pP **pwP 05 43 46.5 -1.8**
NJ2 sP sP 05 43 49.8 +6.0
NJ2 pmax pmax
comp=Z,53nm,0.5s
NJ2 pmax pmax
comp=Z,1μm,3.5s
XAN Xi'an 44.76 356 P **P 05 43 49.8 -0.7**
XAN pP pwP 05 43 59.6 -2.1
XAN pmax pmax
comp=Z,8.0nm,0.8s
TAPN Taplejung 44.87 328 *eP* **P 05 43 52.2 +0.4**
comp=Z,33nm,0.9s
RAMN Ramite 45.13 327 *eP* **P 05 43 54.9 +1.1**
comp=Z,14nm,0.6s
LYN LuoYang 45.15 0⇑*iP* **P 05 43 56.3 +2.8**
LYN pmax pmax
comp=Z,15nm,0.9s
JIRN Jiri 45.92 327 *eP* **P 05 44 00.0 -0.2**
comp=Z,36nm,0.6s
GUN Gumba 46.28 327 *eP* **P 05 44 02.7 -0.3**
comp=Z,35nm,0.5s
DANN Dangsing 47.79 325 *eP* **P 05 44 14.3 -0.4**
comp=Z,28nm,0.6s
PYUN Piuthan 48.03 324 *eP* **P 05 44 15.6 -0.9**
comp=Z,26nm,0.9s
HNS HongShan 48.04 3 ⇓P P 05 44 26.3 +10
KSRS Korea Array 50.22 16 P **P 05 44 32.8 0.0**
comp=Z,2.7nm,0.7s,baz=198,slow=9.3,SNR=4.6
KSRS LR LR 06 06 41.9
comp=Z,18nm,19.6s,baz=195,slow=37
comp=Z,2.7nm,0.7s
BTO Baotou 51.24 358 *eP* **P 05 44 44.1 +3.5**
BTO pP **sP 05 44 48.6 +1.4**
BTO sP **pwP 05 44 50.8 -1.2**
BTO PP **PP 05 46 42.1 +4.3**
BTO S **S 05 52 06.0 +7.7**
BTO Baotou 51.24 358 SS **SS 05 55 33.6 -0.7**
BTO pmax pmax
comp=Z,19nm,0.9s
BTO pmax pmax
comp=Z,280nm,6.0s
BTO LR LR
comp=N,340nm,6.0s
BTO LR LR
comp=E,390nm,6.4s
BTO LR LR
comp=Z,380nm,9.4s
DZM Mont Dzumac 52.82 109 LR LR 06 09 09.0
comp=Z,31nm,18.9s,baz=29,slow=38
MJAR Matsushiro Arr 53.05 26 P **P 05 44 52.2 -1.9**
comp=Z,2.0nm,0.9s,baz=215,slow=8.7,SNR=4.7
comp=Z,2.0nm,0.9s
JSD Sado 54.34 25 P **P 05 45 02.5 -0.9**
MDJ Mudanjiang 57.37 15 P **P 05 45 28.1 +3.0**
MDJ pmax pmax
comp=Z,9.0nm,0.8s
MDJ pmax pmax
comp=Z,94nm,4.6s
USRK Ussuriysk Ar. 57.62 17 P **P 05 45 25.9 -0.8**
USRK Ussuriysk Ar. 57.62 17 P **P 05 45 26.0 -0.8**
comp=Z,4.6nm,0.7s,baz=160,slow=2.2,SNR=5.6
comp=Z,4.6nm,0.7s
ULN Ulaanbaatar 58.64 356 P **P 05 45 33.4 -0.7**
ULN IAmb IAmb 05 45 38.2
comp=Z,4.5nm,0.9s
SONM Songino Array 58.66 355 P **P 05 45 33.4 -0.8**
SONM Songino Array 58.66 355 P **P 05 45 33.1 -1.1**
comp=Z,1.4nm,0.5s,baz=176,slow=8.5,SNR=6.6
SONM LR LR 06 14 09.1
comp=Z,33nm,21.8s,baz=48,slow=40
comp=Z,1.4nm,0.5s
WMQ Urumqi 58.86 339 *eP* **P 05 45 37.3 +1.7**
ASAJ Asahikawa 61.22 24 LR LR 06 14 38.5
comp=Z,9.9nm,18.1s,baz=53,slow=38
HEH HeiHe 62.25 11 *eP* **P 05 45 57.1 -1.4**
MK31 Makanchi Array 63.37 337 P **P 05 46 05.7 -0.4**
MKAR Makanchi Array 63.37 337 P **P 05 46 04.9 -1.2**
MKAR Makanchi Array 63.37 337 P **P 05 46 05.6 -0.5**
comp=Z,2.2nm,0.5s,baz=150,slow=7.3,SNR=18
comp=Z,2.2nm,0.5s
MAW Mawson 65.34 199 LR LR 06 07 09.5
comp=Z,40nm,20.5s,baz=37,slow=29
KURBB Kurchatov Arra 67.93 338 P **P 05 46 34.4 -1.1**
comp=Z,1.5nm,0.8s,baz=150,slow=5.7,SNR=7.8
comp=Z,1.5nm,0.8s
ZAA0 Zalesovo Array 68.65 343 P **P 05 46 39.1 -0.7**
ZAA0 IAmb IAmb 05 46 43.9
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 68.65 343 P **P 05 46 38.8 -1.0**
ZALV Zalesovo Beam 68.65 343 P **P 05 46 38.4 -1.5**
comp=Z,2.6nm,0.6s,baz=155,slow=4.2,SNR=10
comp=Z,2.6nm,0.6s
BVAR Borovoye Array 73.01 335 P **P 05 47 05.2 -1.3**
comp=Z,2.1nm,1.0s,baz=165,slow=6.2,SNR=5.2
comp=Z,2.1nm,1.0s
PETK Petropavlovsk- 74.51 26 P **P 05 47 14.4 -0.8**
PETK Petropavlovsk- 74.51 26 P **P 05 47 14.9 -0.3**
comp=Z,2.1nm,0.8s,baz=242,slow=3.1,SNR=4.4
comp=Z,2.1nm,0.8s
ABKAR Akbulak array 75.44 328 P **P 05 47 20.5 -0.2**
ABKAR IAmb IAmb 05 47 39.9
comp=Z,5.4nm,1.0s
ABKAR Akbulak array 75.44 328 P **P 05 47 20.2 -0.4**
MA2 Magadan 76.66 19 LR LR 06 22 16.4
comp=Z,14nm,20.7s,baz=182,slow=37
QSPA South Pole Qui 79.16 180 P **P 05 47 41.8 +0.3**
comp=Z,5.3nm,0.9s,baz=350,slow=5.1,SNR=1.5
comp=Z,5.3nm,0.9s
SEY Seymchan 79.76 17 LR LR 06 25 47.4
comp=Z,17nm,18.4s,baz=9.0,slow=38
BOSA Boshof 82.37 242 LR LR 06 24 29.0
comp=Z,35nm,18.2s,baz=198,slow=36
TIXI Tiksi 83.05 5 P **P 05 48 01.2 -0.5**
TIXI IAmb IAmb 05 48 13.9
comp=Z,4.1nm,0.8s
TROLL Troll, Antarti 85.74 197 ⇑P **P 05 48 18.1 +2.3**
comp=Z,65nm,0.5s
TROLL ⇓pP **pwP 05 48 28.1 +1.0**
comp=Z,68nm,0.6s
SNAA Sanae 87.41 197 P **P 05 48 25.8 +2.0**
SNAA Sanae 87.41 197 ⇑P **P 05 48 26.3 +2.4**
comp=Z,110nm,0.9s
SNAA ⇓pP **pwP 05 48 36.4 +1.1**
comp=Z,88nm,0.6s
BELA Belgrano 2 89.50 187 P **P 05 48 35.1 +1.5**
BELA IAmb IAmb 05 48 46.1
comp=Z,3.2nm,0.8s
VNA3 Neumayer Olymp 89.52 196 ⇑P **P 05 48 36.0 +2.3**
comp=Z,2.3nm,0.7s
VNA3 ⇓pP **pwP 05 48 46.3 +1.1**
comp=Z,3.3nm,0.8s
TXAR Lajitas Array 141.71 56 PKP **PKPdf 05 55 06.6 -2.5**
comp=Z,0.2nm,0.6s,baz=255,slow=2.7,SNR=2.8

*SJA **14** 05:37:18.3±0.8, 18°.55S×69°.44W, h130km±4km, ML3.6, MW3.7*
*VAO **14** 05:37:19.1±0.8, 18°.42S×69°.30W, h124km±10km, mb4.1*
*GUC **14** 05:37:20.2±0.6, 18°.51S×69°.33W, h114km±4km, ML3.7*
*IDC **14** 05:37:22.1±4.3, 18°.75S×68°.93W, h139km±33km, mb3.8/4, mbtmp4.1/6, Error ellipse: s-maj=56.6km s-min=16.6km az=131.0*
ISC 14 05:37:18.5±0.7,**18°.54S**±0°.04×**69°.34W**±0°.07,**h124**km±7km,
n50,σ1°**32/78**,**mb3.9**/3,**4C**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PB16	**IPOC Station P**	**0.26**	**322**	⇑*iP*		**Pn**	**05 37 37.1**	**+0.5**
PB16				*i* S		**Sn**	**05 37 50.2**	**+0.1**
PB16				IAML			05 37 51.1	
comp=E,4μm,0.4s								
PB16	**IPOC Station P**	**0.26**	**322**	*eP*		**Pn**	**05 37 37.1**	**+0.5**
PB16				*eS*		**Pn**	**05 37 37.1**	**+0.5**
PB16				IAML			05 37 37.6	
comp=Z,2μm,0.4s								
PB16				*eS*		**Sn**	**05 37 51.5**	**+1.4**
PB12	**IPOC Station P**	**0.94**	**265**	*iP*		**Pn**	**05 37 40.6**	**+0.1**
PB12				*i* S		**Sn**	**05 37 56.4**	**-0.6**
PB12				IAML			05 37 57.0	
comp=N,3μm,0.2s								
PB12	**IPOC Station P**	**0.94**	**265**	*eP*		**Pn**	**05 37 40.3**	**-0.1**
PB12				*eS*		**Sn**	**05 37 56.8**	**-0.3**
PB12				IAML			05 37 57.6	
comp=Z,631nm,0.2s								
PB18	**Visviri**	**0.96**	**352**	*eP*		**Pn**	**05 37 43.2**	**+2.2**
PB18				*eS*		**Sn**	**05 38 01.5**	**+3.4**
AP01	**Chacalluta**	**0.97**	**280**	⇑*iP*		**Pn**	**05 37 41.0**	**+0.5**
AP01				*i* S		**Sn**	**05 37 57.2**	**0.0**
AP01	**Chacalluta**	**0.97**	**280**	*eP*		**Pn**	**05 37 40.4**	**-0.2**
AP01				*eS*		**Sn**	**05 37 57.6**	**+0.4**
AP01				*eS*			05 37 57.7	
AP01				IAML			05 38 01.2	
comp=Z,2μm,0.4s								
GO01	**Chusmiza**	**1.13**	**173**	⇑*iP*		**Pn**	**05 37 44.2**	**+1.5**
GO01				*i* S		**Sn**	**05 38 02.3**	**+1.3**
GO01	**Chusmiza**	**1.13**	**173**	*eP*		**Pn**	**05 37 42.5**	**-0.2**
GO01				*eS*		**Sn**	**05 38 03.0**	**+2.0**
GO01				IAML			05 38 03.0	
comp=Z,583nm,0.5s								
PB08	**IPOC Station P**	**1.60**	**174**	⇑*iP*		**Pn**	**05 37 49.3**	**+1.6**
PB08				*i* S		**Sn**	**05 38 11.2**	**+1.2**
PB08	**IPOC Station P**	**1.60**	**174**	*eP*		**Pn**	**05 37 48.8**	**+1.1**
PB08				*eS*		**Sn**	**05 38 12.1**	**+2.0**
PB08				IAML			05 38 14.7	
comp=Z,236nm,0.2s								
HMBC	**Humberstone**	**1.80**	**197**	*iP*		**Pn**	**05 37 50.4**	**+0.5**
HMBC				*i* S		**Sn**	**05 38 13.4**	**-0.5**
HMBC				IAML			05 38 18.3	
comp=N,586nm,0.5s								
HMBC	**Humberstone**	**1.80**	**197**	*eP*		**Pn**	**05 37 50.0**	**+0.1**
HMBC				*eS*		**Sn**	**05 38 14.3**	**+0.4**
HMBC				IAML			05 38 15.4	
comp=Z,501nm,0.5s								
TA01	**Diego Aracena**	**2.17**	**201**	*eP*		**Pn**	**05 37 54.5**	**+0.3**
TA01				*eS*		**Sn**	**05 38 19.8**	**-1.8**
TA01	**Diego Aracena**	**2.17**	**201**	*eP*		**Pn**	**05 37 54.8**	**+0.5**
TA01				*eS*		**Sn**	**05 38 20.7**	**-0.9**
TA01				IAML			05 38 25.1	
comp=Z,145nm,0.3s								
PATCX	**Punta Patache**	**2.39**	**199**	*eP*		**Pn**	**05 37 57.3**	**+0.1**
PATCX				IAML			05 38 33.7	
comp=E,330nm,0.5s								
PATCX	**Punta Patache**	**2.39**	**199**	*eP*		**Pn**	**05 37 57.7**	**+0.5**
PATCX				*eS*		Sn	05 38 18.7	-8.2
PATCX				*eS*			05 38 26.0	
PATCX				IAML			05 38 52.0	
comp=Z,161nm,0.7s								
PB01	**IPOC Station P**	**2.49**	**183**	*iP*		**Pn**	**05 37 59.4**	**+1.0**
PB01				IAML			05 38 31.0	
comp=N,260nm,0.2s								
PB01	**IPOC Station P**	**2.49**	**183**	*eP*		**Pn**	**05 37 59.5**	**+1.0**
PB01				*eS*		**Sn**	**05 38 29.5**	**+0.3**
PB01				IAML			05 38 31.6	
comp=Z,114nm,0.1s								
PB02	**IPOC Station P**	**2.81**	**191**	*eP*		**Pn**	**05 38 03.3**	**+0.7**
PB02				IAML			05 38 46.4	
comp=E,214nm,0.8s								
PB02	**IPOC Station P**	**2.81**	**191**	*eP*		**Pn**	**05 38 03.7**	**+1.1**
PB02				*eS*		**Sn**	**05 38 36.2**	**-0.4**
PB02				IAML			05 38 44.8	
comp=Z,212nm,0.4s								
PB07	**IPOC Station P**	**3.21**	**189**	*eP*		**Pn**	**05 38 09.2**	**+1.3**
PB07	**IPOC Station P**	**3.21**	**189**	*eP*		**Pn**	**05 38 09.1**	**+1.3**
PB07				*eS*		**Sn**	**05 38 45.1**	**-0.8**
PB07				IAML			05 38 52.1	
comp=Z,108nm,0.6s								
PB09	**IPOC Station P**	**3.24**	**178**	*eP*		**Pn**	**05 38 10.2**	**+2.0**
PB09				*eS*		**Sn**	**05 38 45.6**	**-1.0**
PB09	**IPOC Station P**	**3.24**	**178**	*eP*		**Pn**	**05 38 09.9**	**+1.7**
PB09				*eS*		**Sn**	**05 38 47.1**	**+0.5**
PB09				IAML			05 39 16.2	
comp=Z,95nm,1.2s								
PB04	**IPOC Station P**	**3.85**	**191**	*eP*		**Pn**	**05 38 16.8**	**+0.5**
PB04	**IPOC Station P**	**3.85**	**191**	*eP*		**Pn**	**05 38 17.1**	**+0.8**
PB04				*eS*		**Sn**	**05 38 59.1**	**-2.0**
PB04				IAML			05 39 04.1	
comp=Z,64nm,0.5s								
LVC	**Limon Verde**	**4.07**	**174**	*eP*		**Pn**	**05 38 21.7**	**+2.3**
LVC	**Limon Verde**	**4.07**	**174**	P		**Pn**	**05 38 21.2**	**+1.9**
comp=Z,7.1nm,0.4s,baz=12,slow=8.7,SNR=17								
LVC				S		**Sn**	**05 39 05.6**	**-1.0**
comp=Z,25nm,0.3s,baz=268,slow=22,SNR=20								
LVC	**Limon Verde**	**4.07**	**174**	*eP*		**Pn**	**05 38 21.0**	**+1.6**
LVC				*eS*		**Sn**	**05 39 06.3**	**-0.3**
LVC				*eS*			05 39 06.5	
LVC				IAML			05 39 08.6	
comp=Z,39nm,0.2s								
PB06	**IPOC Station P**	**4.15**	**183**	*eP*		**Pn**	**05 38 21.1**	**+0.8**
PB06				*eS*		**Sn**	**05 39 04.8**	**-3.4**
PB06	**IPOC Station P**	**4.15**	**183**	*eP*		**Pn**	**05 38 21.1**	**+0.8**
PB06				*eS*		**Sn**	**05 39 06.3**	**-1.9**
PB06				IAML			05 39 31.0	
comp=Z,41nm,0.7s								
PB15	**IPOC Station P**	**4.65**	**182**	*eP*		**Pn**	**05 38 28.3**	**+1.4**
PB15				*eS*		**Sn**	**05 39 18.7**	**-1.5**
PB15				IAML			05 39 24.1	
comp=Z,204nm,0.2s								
SIV	**San Ignacio**	**8.29**	**73**	P		**Pn**	**05 39 14.3**	**-1.7**
comp=Z,4.2nm,0.6s,baz=267,slow=9.1,SNR=24								
SIV				S		**Sn**	**05 40 44.7**	**-3.4**
comp=Z,1.4nm,0.6s,baz=149,slow=19,SNR=1.9								
BBRB	**Robore, Bolivi**	**9.05**	**90**	*eP*		**Pn**	**05 39 25.5**	**-0.7**
ETMB	**Extrema**	**9.19**	**20**	*eP*		**Pn**	**05 39 26.5**	**-1.5**
VILB	**Vilhena**	**10.40**	**59**	*eP*		**Pn**	**05 39 44.0**	**-0.4**
SALV	**Santo Antonio**	**13.30**	**81**	*eP*		**Pn**	**05 40 22.9**	**+0.3**
PDRB	**Porto dos Gac**	**13.98**	**62**	*eP*		**Pn**	**05 40 31.4**	**+0.1**
CLDB	**Colider**	**15.15**	**62**	*eP*		**P**	**05 40 46.5**	**-1.8**
PTGB	**Pitanga**	**17.19**	**114**	*eP*		**Pn**	**05 41 11.9**	**+0.7**
SNDB	**Serra Nova Dou**	**18.58**	**72**	*eP*		**Pn**	**05 41 26.4**	**-1.5**
ITTB	**Itaituba**	**19.37**	**45**	*eP*		**P**	**05 41 33.6**	**-1.1**
BDFB	**Brasilia**	**20.58**	**85**	P		**P**	**05 41 47.9**	**0.0**
comp=Z,6.4nm,0.6s,baz=267,slow=10,SNR=12								
comp=Z,6.4nm,0.6s								
MALB	**Monte Alegre**	**22.21**	**43**	*eP*		**P**	**05 42 03.2**	**-1.8**
DBIC	**Dimbokro**	**68.31**	**75**	P		**P**	**05 48 06.9**	**+0.1**
comp=Z,4.5nm,0.7s,baz=217,slow=6.9,SNR=6.3								
comp=Z,4.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**76.77**	**71**	P		**P**	**05 48 56.3**	**-0.6**
comp=Z,0.9nm,0.5s,baz=260,slow=5.0,SNR=12								
comp=Z,0.9nm,0.5s								
ESDC	**Sonseca Array**	**84.02**	**45**	P		**P**	**05 49 36.8**	**+1.5**
comp=Z,0.8nm,0.8s,baz=246,slow=6.0,SNR=7.2								
comp=Z,0.8nm,0.8s								
ZALV	**Zalesovo Beam**	**139.43**	**23**	PKP		**PKiKP**	**05 56 32.7**	**-0.6**
comp=Z,0.4nm,0.4s,baz=345,slow=4.5,SNR=1.9								
SONM	**Songino Array**	**150.57**	**6**	PKPbc		**PKiKP**	**05 56 58.1**	**+1.5**
comp=Z,0.6nm,0.4s,baz=0.0,slow=0.4,SNR=3.1								

*SJA **14** 06:05:46.3±1.8, 25°.23S×68°.79W, h80km, ML3.3, MW3.6*
*GUC **14** 06:05:48.6±0.8, 25°.22S×69°.04W, h121km±5km, ML3.2*
ISC 14 06:05:47.8±1.4,**25°.22S**±0°.03×**69°.05W**±0°.08,
h128km±11**km**,**n32**,σ0°**67**/44,**4C**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GO02	**Mina Guanaco**	**0.49**	**276**	*iP*		**Pn**	**06 06 07.0**	**+0.1**
GO02				*i* S		**Sn**	**06 06 20.4**	**-0.9**
GO02	**Mina Guanaco**	**0.49**	**276**	*iP*		**Pn**	**06 06 06.3**	**-0.6**
GO02				*eS*		**Sn**	**06 06 20.8**	**-0.5**
GO02				IAML			06 06 22.2	
comp=Z,1μm,0.1s								
PB14	**IPOC Station P**	**1.36**	**295**	*iP*		**Pn**	**06 06 15.6**	**+1.0**
PB14				*i* S		**Sn**	**06 06 35.4**	**+0.6**
PB14				IAML			06 06 36.8	
comp=E,215nm,0.2s								
PB14	**IPOC Station P**	**1.36**	**295**	*iP*		**Pn**	**06 06 15.0**	**+0.5**
PB14				*eS*		**Sn**	**06 06 35.1**	**+0.3**
PB14				IAML			06 06 37.0	
comp=Z,303nm,0.5s								
AC02	**Maricunga**	**1.61**	**182**	⇑*iP*		**Pn**	**06 06 18.1**	**+0.5**
AC02				*i* S		**Sn**	**06 06 40.5**	**+0.3**
AC02				IAML			06 06 44.0	
comp=E,140nm,0.1s								
AC01	**Pan de Azucar**	**1.68**	**236**	⇑*iP*		**Pn**	**06 06 18.4**	**+0.6**
AC01				*i* S		**Sn**	**06 06 40.9**	**+0.2**
AC01				IAML			06 06 45.5	
comp=E,131nm,0.2s								
AC01	**Pan de Azucar**	**1.68**	**236**	*iP*		**Pn**	**06 06 17.6**	**-0.2**
AC01				IAML			06 06 50.1	
comp=Z,42nm,0.7s								
PB15	**IPOC Station P**	**2.04**	**349**	*iP*		**Pn**	**06 06 23.1**	**+0.8**
PB15				*eS*		**Sn**	**06 06 48.9**	**+0.3**
PB15	**IPOC Station P**	**2.04**	**349**	*iP*		**Pn**	**06 06 22.7**	**+0.4**
PB15				IAML			06 06 52.6	
comp=Z,560nm,0.1s								
AF01	**San Pedro de A**	**2.39**	**20**	*eP*		**Pn**	**06 06 27.4**	**+0.5**
AF01				*eS*		**Sn**	**06 06 56.8**	**+0.1**
AF01				IAML			06 07 00.9	
comp=N,318nm,0.2s								
AC06	**Mina Casimiro**	**2.43**	**208**	*eP*		**Pn**	**06 06 27.0**	**0.0**
AC06				*eS*		**Sn**	**06 06 57.5**	**+0.2**
PB06	**IPOC Station P**	**2.54**	**349**	*iP*		**Pn**	**06 06 29.4**	**+0.8**
PB06				*i* S		**Sn**	**06 06 59.1**	**-0.9**
PB06				IAML			06 07 01.6	
comp=E,132nm,0.4s								
PB06	**IPOC Station P**	**2.54**	**349**	*iP*		**Pn**	**06 06 28.9**	**+0.3**
PB06				IAML			06 07 04.8	
comp=Z,69nm,0.2s								
GO03	**Copiap**	**2.59**	**204**	⇑*iP*		**Pn**	**06 06 29.4**	**+0.2**
GO03				*i* S		**Sn**	**06 07 01.6**	**+0.6**
GO03	**Copiap**	**2.59**	**204**	*iP*		**Pn**	**06 06 28.7**	**-0.4**
GO03				*eS*		**Sn**	**06 07 01.7**	**+0.7**
GO03				IAML			06 07 02.7	
comp=Z,75nm,0.1s								
LVC	**Limon Verde**	**2.60**	**3**	*iP*		**Pn**	**06 06 29.4**	**-0.1**
LVC				IAML			06 07 05.5	
comp=Z,31nm,0.3s								
PB04	**IPOC Station P**	**3.04**	**340**	*eP*		**Pn**	**06 06 35.0**	**0.0**
PB04	**IPOC Station P**	**3.04**	**340**	*iP*		**Pn**	**06 06 34.8**	**-0.3**
PB04				IAML			06 07 18.0	
comp=Z,47nm,1.0s								
PB09	**IPOC Station P**	**3.41**	**357**	*eP*		**Pn**	**06 06 40.9**	**+1.0**
PB09	**IPOC Station P**	**3.41**	**357**	*iP*		**Pn**	**06 06 40.2**	**+0.4**
PB09				IAML			06 07 25.9	
comp=Z,43nm,1.4s								
PB07	**IPOC Station P**	**3.56**	**347**	*eP*		**Pn**	**06 06 41.6**	**-0.2**
PB07	**IPOC Station P**	**3.56**	**347**	*iP*		**Pn**	**06 06 41.1**	**-0.7**
PB07				IAML			06 07 34.1	
comp=Z,35nm,0.4s								
AC05	**El Transito**	**3.77**	**197**	*iP*		**Pn**	**06 06 44.6**	**0.0**
AC05				IAML			06 07 29.6	
comp=Z,280nm,2.4s								
PB02	**IPOC Station P**	**3.96**	**349**	*eP*		**Pn**	**06 06 46.6**	**-0.5**
PB02	**IPOC Station P**	**3.96**	**349**	*iP*		**Pn**	**06 06 46.4**	**-0.7**
PB02				IAML			06 07 47.8	
comp=Z,65nm,0.3s								
LCO	**Las Campanas**	**4.06**	**201**	*iP*		**Pn**	**06 06 47.3**	**-1.1**
LCO				IAML			06 07 47.3	
comp=Z,164nm,2.

```
                comp=Z,23nm,0.5s
CO01  Juntas del Tor      4.83 191  i P        Pn     06 06 59.3 +0.5
CO01                                IAML             06 08 42.1
                comp=Z,25nm,2.5s
PB08  IPOC Station P      5.05 359  i P        Pn     06 07 00.9 -1.0
PB08                                IAML             06 08 14.8
                comp=Z,11nm,2.6s
GO04  Tololo Observa      5.17 197  i P        Pn     06 07 01.4 -2.0
GO04                                IAML             06 08 38.7
                comp=Z,30nm,1.6s
ACCO  Cerro Coronel       5.35 180  i P        Pn     06 07 06.6 +0.7
```

NEIC ***14*** *06:06:57.4±2.6, 10°.83S±0°.06×112°.29E±0°.08, h10km±1km, mb4.3/11, Error ellipse: s-maj=12.7km s-min=9.4km az=80.0*
DJA ***14*** *06:06:58.3±0.9, 11°S±2°×11°2E±°, h22km±7km, M4.9/35, mB5.5/6, mb4.7/35, MLv5.0/22, Mw(mB)4.9/9*
IDC ***14*** *06:07:04.4±2.6, 10.60S×112.50E, h63km±23km, mb4.0/13, mbtmp4.3/15, ML4.3/2, MS3.3/7, Error ellipse: s-maj=21.4km s-min=12.1km az=53.0*
ISC 14 06:07:00.8±0.4, 10.76S±0°.05×112.36E±0°.05, h35km, n111, σ1§73/115, mb4.4/19, MS3.2/6, 2C, South of Jawa

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
GMJI  Gumukmas            2.69  23  P     Pn          06 07 41.2 -0.4
JAGI  Jajag, Banyuwa      2.88  38        Pn          06 07 44.0 -0.2
JAGI  Jajag, Banyuwa      2.88  38  P     Pn          06 07 44.6 +0.4
JAGI  Jajag, Banyuwa      2.88  38  P     Pn          06 07 44.2  0.0
BLJI  Banyuglugur         3.23  22  P     Pn          06 07 50.2 +1.1
WOJI  Wonogiri, Jawa      3.23 334  P     Pn          06 07 47.7 -1.4
WOJI                                S     Sn          06 08 23.8 -2.5
IGBI  Denpasar            3.35  55  P     Pn          06 07 51.3 +0.6
UGM   Wanagama            3.36 327        Pn          06 07 49.3 -1.6
UGM   Wanagama            3.36 327  P     Pn          06 07 49.7 -1.2
UGM   Wanagama            3.36 327  P     Pn          06 07 49.6 -1.3
UGM                                 S     Sn          06 08 27.9 -1.7
ABJI  Asem Bagus          3.47  32  P     Pn          06 07 54.5 +2.1
NGJI  Ngawi               3.48 345  P     Pn          06 07 53.5 +0.9
NGJI                                S     Sn          06 08 34.1 +1.5
DNP   Denpasar            3.48  54  P     Pn          06 07 54.0 +1.4
YOGI  Yogyakarta          3.56 325  P     Pn          06 07 52.7 -1.0
YOGI                                S     Sn          06 08 31.3 -3.3
GRJI  Gresik              3.82   2  P     Pn          06 07 57.3 +0.1
SRBI  Singaraja           3.87  47  P     Pn          06 07 58.9 +1.1
SMRI  Semarang            4.15 333        Pn          06 08 00.8 -0.8
SMRI  Semarang            4.15 333  P     Pn          06 08 02.6 +0.9
SMRI  Semarang            4.15 333  P     Pn          06 08 01.4 -0.3
SMRI                                S     Sn          06 08 49.7 +0.7
KPJI  Karang Pucung       4.80 315  P     Pn          06 08 10.7  0.0
KPJI                                S     Sn          06 09 04.4 -0.8
CMJI  Cimerak             4.87 307  P     Pn          06 08 09.6 -1.9
TWSI  Taliwang, Sumb      4.88  66  P     Pn          06 08 12.1 +0.3
      226nm,0.8s,3μm1.3nm
PLAI  Plampang            5.67  71  P     Pn          06 08 22.7 +0.1
PLAI  Plampang            5.67  71  P     Pn          06 08 22.5 -0.1
      136nm,0.7s,0.7nm
BBJI  Bungbulang          5.69 305  P     Pn          06 08 22.1 -0.9
LEM   Lembang             6.10 309  P     Pn          06 08 32.9 +4.1
      6.0nm,0.3s,baz=117,slow=12,SNR=3.5
LEM                                 S     Sn          06 09 37.4 -0.1
      54nm,0.7s,baz=330,slow=20,SNR=2.7
      14nm,0.4s
CNJI  Cibinong            6.20 303  P     Pn          06 08 28.4 -1.5
      24nm,1.1s,920nm0.3nm
XMIS  Christmas Isla      6.60 272  Pn    Pn          06 08 32.2 -3.3
BBKI  Banjar Baru         7.65  19  P     Pn          06 08 49.9  0.0
      126nm,0.8s,10μm1.0nm
CGJI  Cibinong            7.77 301  P     Pn          06 08 50.3 -1.2
      62nm,0.5s,2μm0.3nm
BASI  Baing, Sumba        8.10  87  P     Pn          06 08 55.9 -0.1
      85nm,0.9s
KAPI  Kappang             9.28  53  Pn    Pn          06 09 12.7 +0.6
KAPI  Kappang             9.28  53  P     Pn          06 09 13.0 +0.9
      3.6nm,0.3s,baz=211,slow=5.6,SNR=6.9
KAPI                                S     Sn          06 10 49.7 -5.7
      6.3nm,0.4s,baz=173,slow=17,SNR=2.2
KAPI                                LR    LR          06 13 33.5
      comp=Z,107nm,19.0s,baz=212,slow=43
      13nm,0.5s
KASI  Kota Agung          9.36 303  P     Pn          06 09 11.9 -1.4
      31nm,1.1s
BKSI  Bulukumba           9.39  55  P     Pn          06 09 14.4 +0.7
KLI   Kotabumi            9.46 308  P     Pn          06 09 13.6 -1.1
      169nm,0.4s
MMRI  Maumere             9.96  79  Pn    Pn          06 09 22.7 +1.2
MMRI  Maumere             9.96  79  P     Pn          06 09 21.9 +0.4
      71nm,1.2s,5μm
LWLI  Liwa               10.01 304  P     Pn          06 09 20.3 -2.0
      71nm,0.5s,12μm
MTKI  Muara Teweh, K     10.07  15  P     Pn          06 09 23.4 +0.3
BKB   Balikpapan         10.45  26  P     Pn          06 09 31.2 +2.9
      203nm,0.9s,11μm
TTSI  Tana Toraja        10.65  45  P     Pn          06 09 30.9 -0.1
BATI  Baumata            11.13  88  S     Sn          06 11 37.9 -2.9
      20nm,0.3s,baz=343,slow=19,SNR=1.8
SOEI  Soe                11.76  86  P     Pn          06 09 47.0 +0.7
      55nm,0.9s
GIRL  Giralia            11.95 172        Pn          06 09 45.4 -3.4
GIRL  Giralia            11.95 172  P     Pn          06 09 46.1 -2.7
KSM   Kuching            12.32 350  Pn    Pn          06 09 52.7 -1.2
MBWA  Marble Bar         12.53 147  Pn    Pn          06 09 53.8 -2.9
MBWA  Marble Bar         12.53 147  P     Pn          06 09 53.8 -2.9
PSA00 Pilbara Seismi     12.93 147        Pn          06 09 59.0 -3.2
PSA00 Pilbara Seismi     12.93 147  P     Pn          06 09 59.6 -2.6
GTOI  Gorontalo          15.50  44  P     Pn          06 10 38.4 +1.5
      39nm,0.8s,293nm
SANI  Sanana             16.06  58  P     Pn          06 10 44.4 +0.3
      27nm,1.4s
MEEK  Meekatharra        16.86 160  P     Pn          06 10 51.6 -2.7
LBMI  Labuha             18.09  57  P     P           06 11 10.1 +0.4
      43nm,0.7s,2μm
MORW  Morawa             18.54 170  P     P           06 11 11.5 -3.0
MORW                                IAmb  IAmb        06 11 17.7
      comp=Z,10nm,0.8s
MORW  Morawa             18.54 170  P     P           06 11 12.4 -2.1
TNTI  Ternate            18.81  53  P     P           06 11 18.3 +0.7
BLDU  Ballidu            20.17 169  P     Pn          06 11 34.4 +0.1
WRKA  Warakurna          20.74 135  P     Pn          06 11 40.2 -0.9
KLBR  Kellerberrin       21.32 167  P     P           06 11 44.9 +0.1
MUN   Mundaring          21.41 171  P     P           06 11 47.0 +1.3
MLSI  Meulaboh, Aceh     21.80 312  P     P           06 11 49.5 -0.5
LHMI  Lhok Sumawe        22.09 315  P     P           06 11 52.5 -0.6
      comp=Z,143nm,0.5s,comp=Z,3μm
KMBL  Kambalda           22.32 158  P     P           06 11 56.4 +0.8
NWAO  Narrogin (SRO)     22.52 169  P     P           06 11 59.6 +2.0
NWAO  Narrogin (SRO)     22.52 169  LR    LR          06 21 20.2
      comp=Z,91nm,18.8s,baz=77,slow=38
WB0   Warramunga Arr     23.04 115  P     P           06 12 02.8 -0.4
WB0                                 IAmb  IAmb        06 12 05.9
      comp=Z,19nm,1.1s
WRA   Warramunga Arr     23.05 116  P     P           06 12 03.2 -0.1
WRA   Warramunga Arr     23.05 116  P     P           06 12 03.6 +0.3
      comp=Z,13nm,0.9s,baz=290,slow=11,SNR=43
WRA                                 S     S           06 16 11.4 -0.6
      comp=Z,0.6nm,0.7s,baz=290,slow=26,SNR=3.4
      comp=Z,13nm,0.9s
ASAR  Alice Springs      24.21 125  P     P           06 12 15.0 +0.6
ASAR  Alice Springs      24.21 125  P     P           06 12 15.3 +0.9
      comp=Z,9.2nm,0.9s,baz=298,slow=8.6,SNR=78
ASAR                                S     S           06 16 35.5 +4.8
      comp=Z,0.2nm,0.6s,baz=302,slow=24,SNR=1.4
      comp=Z,9.2nm,0.9s
AS31  Alice Springs      24.21 125  P     P           06 12 15.0 +0.6
AS31                                IAmb  IAmb        06 12 16.7
      comp=Z,2.4nm,0.6s
FORT  Forrest            24.68 146  P     P           06 12 19.2 +0.6
OOD   Oodnadatta         27.70 131  P     P           06 12 46.4 +0.6
MULG  Mulgathing         28.01 137  P     P           06 12 49.3 +0.7
CMAR  Chiang Mai Arr     31.91 335  P     P           06 13 23.9 +0.8
      comp=Z,2.1nm,0.3s,baz=170,slow=8.1,SNR=16
CMAR                                LR    LR          06 27 41.2
      comp=Z,42nm,18.9s,baz=315,slow=39
      comp=Z,2.1nm,0.3s
STKA  Stephens Creek     34.21 132  P     P           06 13 42.5 -0.7
STKA                                IAmb  IAmb        06 13 46.2
      comp=Z,2.0nm,0.9s
STKA  Stephens Creek     34.21 132  P     P           06 13 44.0 +0.8
      comp=Z,8.9nm,0.8s,baz=295,slow=8.9,SNR=21
      comp=Z,8.9nm,0.8s
H08S2 Diego Garcia H     39.46 271  T     T           06 56 36.2
      baz=96,slow=75,SNR=4.0
H08S3 Diego Garcia H     39.47 271  T     T           06 56 35.9
      baz=96,slow=75,SNR=4.7
H08S1 Diego Carcia H     39.48 271  T     T           06 56 35.9
      baz=96,slow=75,SNR=2.5
RAMN  Ramite             45.06 327  eP    P           06 15 12.8 -1.0
      comp=Z,5.2nm,0.5s
JIRN  Jiri               45.84 327  eP    P           06 15 20.7 +0.5
      comp=Z,13nm,0.5s
GUN   Gumba              46.21 327  eP    P           06 15 23.3 +0.3
      comp=Z,30nm,0.7s
JNU   Nakatsue           47.07  21  LR    LR          06 35 51.4
      comp=Z,22nm,21.7s,baz=219,slow=37
DANN  Dangsing           47.72 325  eP    P           06 15 34.7  0.0
      comp=Z,18nm,0.6s
PYUN  Piuthan            47.96 324  eP    P           06 15 36.6 +0.1
      comp=Z,11nm,0.7s
KSRS  Korea Array        50.13  16  P     P           06 15 52.2 -0.5
      comp=Z,1.7nm,0.7s,baz=197,slow=8.8,SNR=4.8
KSRS                                LR    LR          06 38 23.6
      comp=Z,12nm,20.1s,baz=215,slow=38
      comp=Z,1.7nm,0.7s
BTO   Baotou             51.15 358  eP    P           06 16 01.8 +1.3
BTO                                 sP    pP          06 16 08.6 -0.6
BTO                                 PP    PP          06 17 52.8 -4.8
BTO                                 S     S           06 23 21.6 +5.3
BTO   Baotou             51.15 358  SS    SS          06 26 56.6 +4.4
BTO                                 pmax  pmax
      comp=Z,17nm,0.9s
BTO                                 pmax  pmax
      comp=Z,370nm,4.7s
BTO                                 LR    LR
      comp=N,320nm,6.1s
BTO                                 LR    LR
      comp=E,530nm,6.2s
BTO                                 LR    LR
      comp=Z,280nm,5.2s
JSG   Sagara             51.39  27  P     P           06 16 03.6 +1.3
MJAR  Matsushiro Arr     52.97  26  P     P           06 16 12.8 -1.2
      comp=Z,0.8nm,0.5s,baz=204,slow=7.4,SNR=2.4
      comp=Z,0.8nm,0.5s
USRK  Ussuriysk Ar.      57.53  17  P     P           06 16 46.2 -0.4
USRK  Ussuriysk Ar.      57.53  17  P     P           06 16 46.0 -0.7
      comp=Z,3.0nm,0.7s,baz=251,slow=9.7,SNR=5.5
      comp=Z,3.0nm,0.7s
SONM  Songino Array      58.57 355  P     P           06 16 53.8 -0.3
SONM                                IAmb  IAmb        06 17 06.4
      comp=Z,1.5nm,0.8s
SONM  Songino Array      58.57 355  P     P           06 16 53.7 -0.4
      comp=Z,0.7nm,0.5s,baz=183,slow=8.3,SNR=5.2
      comp=Z,0.7nm,0.5s
MKAR  Makanchi Array     63.29 337  P     P           06 17 25.6 -0.4
MKAR  Makanchi Array     63.29 337  P     P           06 17 25.8 -0.3
      comp=Z,1.0nm,0.5s,baz=158,slow=6.3,SNR=8.9
      comp=Z,1.0nm,0.5s
MAW   Mawson             65.42 199  P     P           06 17 40.7 +1.0
MAW   Mawson             65.42 199  P     P           06 17 41.2 +1.5
      comp=Z,2.1nm,0.8s,baz=78,slow=16,SNR=5.0
MAW                                 LR    LR          06 38 15.5
      comp=Z,42nm,20.5s,baz=206,slow=28
      comp=Z,2.1nm,0.8s
KURBB Kurchatov Arra     67.85 337  P     P           06 17 54.9 -0.5
      comp=Z,1.3nm,0.2s,baz=149,slow=5.0,SNR=2.1
      comp=Z,1.3nm,0.2s
ZALV  Zalesovo Beam      68.57 343  P     P           06 17 58.7 -1.1
      comp=Z,1.2nm,0.6s,baz=156,slow=4.0,SNR=6.2
      comp=Z,1.2nm,0.6s
ABKAR Akbulak array      75.37 328  P     P           06 18 42.5 +1.8
QSPA  South Pole Qui     79.25 180  P     P           06 19 03.3 +0.9
QSPA                                IAmb  IAmb        06 19 04.9
      comp=Z,5.4nm,0.9s
TROLL Troll, Antarti     85.83 197  ⇑P    P           06 19 38.5 +1.9
      comp=Z,72nm,0.5s
SNAA  Sanae              87.50 197  P     P           06 19 45.7 +1.0
SNAA  Sanae              87.50 197  ⇑P    P           06 19 46.7 +2.0
      comp=Z,68nm,0.6s
SNAA  Sanae              87.50 197  P     P           06 19 46.3 +1.6
      comp=Z,4.2nm,0.8s,baz=139,slow=5.1,SNR=28
      comp=Z,4.2nm,0.8s
BELA  Belgrano 2         89.60 187  P     P           06 19 55.9 +1.4
BELA                                IAmb  IAmb        06 19 56.3
      comp=Z,3.5nm,0.8s
ARCES ARCESS Array B     98.90 339  LR    LR          07 13 08.6
      comp=Z,88nm,18.4s,baz=253,slow=40
```

SDD ***14*** *06:09:35.1±0.4, 17°.99N×71°.31W, h17km±5km, MD2.9, ML2.0*
OSPL ***14*** *06:09:35.2±0.3, 18°.30N×71°.30W, h21km±9km, ML1.9*
ISC 14 06:09:34.3±3.1, 18°.1N±0°.2×71°.2W±0°.1, h27km±10km, n5, σ0§40/11, 5C-1D, Dominican Republic region

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
PODR  Polo               0.07 326  ⇑ePg  Pb          06 09 39.6 +0.2
PODR                               ⇑eSg  Sb          06 09 42.7 -0.2
PODR                                IAML             06 09 42.7
      comp=N,675nm,0.1s
PODR                                IAML             06 09 44.1
      comp=E,805nm,0.1s
PODR  Polo               0.07 326  i P    Pb          06 09 39.4 +0.1
PODR                               eS    Sb          06 09 42.6 -0.2
NEDR  Neiba UASD         0.41 336  ⇑ePg  Pn          06 09 44.4 -0.1
NEDR                               ⇑eSg  Sn          06 09 51.7 +0.5
NEDR                                IAML             06 09 55.6
      comp=N,56nm,0.4s
NEDR                                IAML             06 09 56.0
      comp=E,61nm,0.3s
LOPE2 Hotel El Peder     0.49 261  i P    Pb          06 09 44.5 +0.1
LOPE2                               IAML  Sb          06 09 51.5 +0.2
      comp=Z,43nm,0.3s
LOPE2                               eS    Sb          06 09 51.5 +0.2
JIDR  Jimani             0.70 303  ⇑ePg  Pb          06 09 48.1 +0.2
JIDR                               ⇑eSg  Sn          06 09 57.4 -0.8
JIDR                                IAML             06 10 03.8
      comp=N,22nm,0.9s
JIDR                                IAML             06 10 06.5
      comp=E,44nm,3.0s
```

SNET ***14*** *06:19:14.9±1.0, 12°.78N×88°.81W, h32km, ML5.1*
UCR ***14*** *06:19:16.5±1.3, 12°.88N×88°.71W, h57km, MW4.4*
NEIC ***14*** *06:19:17.4±2.1, 12°.88N±0°.07×88°.71W±0°.06, h57km±9km, mb4.8/57, Error ellipse: s-maj=12.0km s-min=5.6km az=221.0*
GCMT ***14*** *06:19:18.4±0.4, 12°.71N±0°.02×88°.82W±0°.03, h44km±1km, MW5.0/54, Moment Tensor Solution. s50,c62; s54,c70; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}3.03±.18; $M_{\theta\theta}$-2.50±.12; $M_{\phi\phi}$-0.52±.13; $M_{r\theta}$0.77±.12; $M_{\theta\phi}$1.80±.09; $M_{\phi r}$-0.57±.11; Best double couple: M3.43500×10^16 NP1:ϕ_s123.00000°, δ53.00000°, λ93.00000°. NP2: ϕ_s298.00000°, δ37.00000°, λ87.00000°. Principal axes: T 3.1690, Plg82.0000°, Azm46.0000°; N 0.5360, Plg2.0000°, Azm301.0000°; P -3.7010, Plg8.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***14*** *06:19:20.2±2.2, 13°.08N×88°.33W, h92km±19km, mb4.2/14, mbtmp4.6/18, MS3.9/57 Error ellipse: s-maj=24.5km s-min=9.7km az=58.0*
GCG ***14*** *06:19:29.0±1.3, 14°.04N×89°.70W, h152km±17km, MD4.7*
ISC 14 06:19:14.9±0.5, 12°.76N±0°.04×88°.85W±0°.03, h52km±4km, n573, σ1§47/545, mb4.8/31, MS4.0/57, Off coast of central America

```
Code  Station Name        Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
ALJI  Alcalda de J       0.62  26  eP    Pn          06 19 27.1 -0.7
ALJI                               eS    Sn          06 19 37.1 -0.1
TECO  Alcaldia de Te     0.78   5  eP    Pn          06 19 29.3 -0.5
TECO                               eS    Sn          06 19 40.3 -0.3
COEB  Comit de Eme       0.80  23  eP    Pn          06 19 29.5 -0.6
SNVI  San Vicente        0.85   1  eP    Pn          06 19 30.7 -0.1
LCY   Lacayo             0.85  39  eP    Pn          06 19 30.3 -0.6
COEG  Centro de Oper     0.85 358  eP    Pn          06 19 30.4 -0.5
LALI  Alcalda de L       0.86 328  eP    Pn          06 19 30.6 -0.2
SJTE  Alcalda de S       0.86 350  eP    Pn          06 19 30.4 -0.6
RANC  El Ranchito        0.86  39  eP    Pn          06 19 30.6 -0.5
PACA  Pacayal            0.87  36  eP    Pn          06 19 31.0 -0.1
UESV  Universidad de     0.87   4  eP    Pn          06 19 31.0 -0.1
LOMA  Loma Larga         0.93 340  eP    Pn          06 19 31.8 -0.2
SCLA  Alcaldia de Sa     0.94   7  eP    Pn          06 19 32.2 +0.2
PAVA  Las Pavas          0.95 355  eP    Pn          06 19 32.1  0.0
PAVA                               eS    Sn          06 19 45.3 +0.5
CNRM  Centro Naciona     0.97  43  eP    Pn          06 19 32.0 -0.3
CNRM                               eS    Sn          06 19 45.5 +0.3
LBRS  Las Brisas         0.99 349  eP    Pn          06 19 32.9 +0.2
SNET  Serv Nac Est T     0.99 338        Pn          06 19 32.2 -0.5
SNET                                Sn   Sn          06 19 45.0 -0.8
SNET  Serv Nac Est T     0.99 338  eP    Pn          06 19 32.5 -0.2
IGN   Direccin Gen       1.00 342  eP    Pn          06 19 32.8 +0.1
ITCA  Escuela Especi     1.00 335  eP    Pn          06 19 32.8  0.0
MAGS  Ministerio de      1.01 335  eP    Pn          06 19 33.0  0.0
LFU   La Fuente          1.01 345  eP    Pn          06 19 33.0  0.0
BOQS  Boqueron           1.05 337  eP    Pn          06 19 33.8 +0.1
LCND  La Caada           1.08  60  eP    Pn          06 19 33.2 -0.6
LCND                               eP                06 19 33.2
LCND                               eS    Sn          06 19 47.4 -0.5
CNCH  Conchagua          1.12  63  eP    Pn          06 19 33.5 -0.9
QUEZ  Alcaldia de Qu     1.14 339  eP    Pn          06 19 35.0 +0.3
QUEZ                               eS    Sn          06 19 50.5 +1.1
RTR   El Retiro          1.37 326  eP    Pn          06 19 38.6 +0.7
UNIC  Universidad Ca     1.39 331  eP    Pn          06 19 38.8 +0.7
LLGN  La Laguna          1.40 356  eP    Pn          06 19 39.0 +0.8
NUBE  Las Nubes          1.45 322  eP    Pn          06 19 39.2 +0.2
NUBE                               eS    Sn          06 19 58.0 +1.0
SLOZ  Alcaldia de Sa     1.55 324  eP    Pn          06 19 41.1 +0.8
MTO3  Montecristo        1.70 343  Pn    Pn          06 19 43.1 +0.7
MTO3  Montecristo        1.70 343  eP    Pn          06 19 43.2 +0.7
CRIN  San Cristobal      1.76  92        Pn          06 19 42.7 -0.4
CRIN                                Sn   Sn          06 20 03.4 -1.0
CRIN  San Cristobal      1.76  92  eP    Pn          06 19 42.7 -0.4
ESQI  Esquipulas         1.85 345        Pn          06 19 45.4 +1.0
ESQI  Esquipulas         1.85 345  eP    Pn          06 19 45.6 +1.3
TGUH  Tegucigalpa,Un     2.00  50        Pn          06 19 46.7 +0.2
TGUH  Tegucigalpa,Un     2.00  50  eP    Pn          06 19 46.8 +0.2
TGUH  Tegucigalpa,Un     2.00  50  eP    Pn          06 19 46.9 +0.4
CNGN  Cerro Negro        2.12  97        Pn          06 19 45.4 -2.6
CNGN                                Sn   Sn          06 20 09.4 -3.7
CNGN  Cerro Negro        2.12  97  eP    Pn          06 19 46.4 -1.5
NBG   Las Nubes          2.33 321  i P   Pn          06 19 53.6 +2.6
NBG                                i S   Sn          06 20 13.5 -5.1
PCG   Pacaya             2.35 314  i P   Pn          06 19 53.9 +2.5
PCG                                i S   Sn          06 20 14.8 -4.5
FUG   Fuego 3            2.56 311  i P   Pn          06 19 56.0 +1.8
FUG                                i S   Sn          06 20 20.1 -4.2
MATN  Matagalpa          2.86  86  Pn    Pn          06 19 55.8 -2.3
SULM  Suchitepequez,     3.05 300  i P   Pn          06 20 04.0 +3.2
SULM                               i S   Sn          06 20 28.9 -7.2
BOAB  BOACO BROADBAN     3.12  95  Pn    Pn          06 20 00.2 -1.5
RTAL  Retalhuleu         3.27 303        Pn          06 20 07.3 +3.5
STG3  Santiaguito 3,     3.28 307  i P   Pn          06 20 05.2 +1.2
STG3                               i S   Sn          06 20 31.9 -10
HUEH  Huehuetenango      3.62 315        Pn          06 20 11.7 +2.9
ACON  Acoyapa            3.68 102  Pn    Pn          06 20 07.8 -1.5
ACON  Acoyapa            3.68 102  eP    Pn          06 20 08.8 -0.5
HZTE  Horizontes, Gu     3.78 122        Pn          06 20 11.8 +1.0
GBS3  Finca Las Img      3.86 120  eP    Pn          06 20 13.5 +1.6
GB1A  Borinquen Arri     3.89 119  eP    Pn          06 20 14.1 +1.7
BUEV  Buena Vista        3.90 120  eP    Pn          06 20 12.8 +0.4
BUAI  Buenos Aires       3.92 118  eP    Pn          06 20 13.1 +0.4
GPS3  Bodega del ICE     3.95 120  eP    Pn          06 20 15.4 +2.2
GPS1  Guardaparques      3.96 120  eP    Pn          06 20 15.5 +2.3
GPS2  Hotel Rincn d      3.96 120  eP    Pn          06 20 15.4 +2.1
SAJU  San Juanillo,      4.08 131  eP    Pn          06 20 16.4 +1.6
ORTG  Ortega, Santa      4.09 125  Pn    Pn          06 20 16.2 +1.2
GUAB  Guayabo de Bag     4.09 120  eP    Pn          06 20 17.2 +2.2
CLARA Aguas Claras       4.10 118  eP    Pn          06 20 15.8 +0.6
MESS  Mesas              4.11 119  eP    Pn          06 20 16.1 +0.9
HORNC Hornillas          4.13 119  eP    Pn          06 20 16.6 +0.9
COLC  Colonia            4.13 120  eP    Pn          06 20 17.0 +1.4
VMAR  Armenia, Volca     4.14 117  eP    Pn          06 20 15.9 +0.2
CUI   Cuipilapa          4.17 120  eP    Pn          06 20 17.5 +1.3
CANAL Canalete           4.18 117  eP    Pn          06 20 16.2 -0.1
DUNO  Dulce Nombre,      4.24 129        Pn          06 20 17.5 +0.5
MOTZ  Rio Naranjo        4.24 119  eP    Pn          06 20 17.9 +0.8
ACAL  Aguas Claras       4.29 119  eP    Pn          06 20 18.7 +0.8
PTEN  Parque Tenorio     4.29 118  eP    Pn          06 20 18.6 +0.7
COTE  Lago Cote          4.42 119  eP    Pn          06 20 21.5 +1.9
ESPN  Las Esperanzas     4.48  97        Pn          06 20 19.4 -0.9
JTS   Las Juntas de      4.54 122        Pn          06 20 22.1 +0.9
JTS   Las Juntas de      4.54 122  eP    Pn          06 20 22.4 +1.2
JTS   Las Juntas de      4.54 122  P     Pn          06 20 22.4 +1.2
      30nm,0.3s,baz=310,slow=20,SNR=25
JTS                                 S     Sn          06 21 11.1 -1.7
      107nm,0.4s,baz=142,slow=21,SNR=5.1
JTS                                 LR    LR          06 22 33.7
      comp=Z,2μm,21.0s,baz=308,slow=45
TABAC Tabacon            4.59 119  eP    Pn          06 20 24.2 +2.3
ARE1  Arenal 1           4.65 119        Pn          06 20 24.0 +1.4
CASO  Castillo           4.65 119  eP    Pn          06 20 24.1 +1.4
CEDE  Laguna Cedeo       4.65 119  eP    Pn          06 20 24.2 +1.5
SOCE  Pocosol            4.77 119        Pn          06 20 25.9 +1.4
COVE  Coope Vega, Sa     4.81 115        Pn          06 20 24.7 -0.1
JACO  JACO, Garabito     5.14 126        Pn          06 20 31.2 +1.9
HDC   Heredia            5.39 120        Pn          06 20 33.7 +0.7
RIMA  Rio Macho          5.72 121        Pn          06 20 38.2 +0.6
BATAN Batan              5.98 116        Pn          06 20 42.6 +1.7
EDBA  Buenos Aires       6.54 123  eP    Pn          06 20 50.3 +1.7
CDITO Canoas             7.20 125        Pn          06 20 58.3 +0.6
PRVC  Isla de Provid     7.32  84  eP    Pn          06 20 58.5 -0.8
TEIG  Tepich             7.44   4  Pn    Pn          06 21 02.8 +1.8
TEIG  Tepich             7.44   4  eP    Pn          06 21 03.3 +2.3
TEIG  Tepich             7.44   4  P     Pn          06 21 03.2 +2.3
      395nm,0.7s,baz=332,slow=5.7,SNR=19
TEIG                                S     Sn          06 22 19.2 -4.8
      297nm,0.7s,baz=168,slow=20,SNR=1.9
TEIG                                LR    LR          06 24 28.1
      comp=Z,17μm,18.6s,baz=344,slow=43
BCIP  Isla Barro Col     9.54 111        Pn          06 21 30.4 +0.7
BCIP  Isla Barro Col     9.54 111  eP    Pn          06 21 29.3 -0.5
SOR   Soroa             11.42  28        Pn          06 21 58.5 +3.1
MTDJ  Mount Denham      12.18  62        Pn          06 22 06.2 +0.3
MTDJ  Mount Denham      12.18  62  eP    Pn          06 22 06.9 +1.0
DBBC  Dabeiba           13.70 113  eP    Pn          06 22 28.8 +2.2
SJCC  San Jacinto, C    13.70 101  eP    Pn          06 22 23.7 -3.1
PLMC  San Jos del P     14.66 121  eP    Pn          06 22 38.8 -0.7
ZARC  Zaragoza, Cauc    14.73 109  eP    Pn          06 22 40.7 +0.3
GTBY  Guantanamo Bay    14.98  60  eP    Pn          06 22 44.5 +0.9
YOTC  Yotoco, Valle     15.13 124  eP    Pn          06 22 46.6 +1.0
GUY2C Guyana, Caldas    15.27 118  eP    Pn          06 22 49.3 +1.4
JAMC  Jamundi, Valle    15.33 127  eP    Pn          06 22 48.4  0.0
PTBC  PUERTO BERRIO,    15.47 112  eP    Pn          06 22 49.5 -0.5
NORC  Norcasia          15.54 116  eP    Pn          06 22 52.4 +1.6
BBAC  Balboa, Cauca     15.68 132  eP    P           06 22 58.6 +2.5
CRJC  Cerrejon, Guaj    15.72  95  eP    Pn          06 22 53.5 +0.2
POPC  Popayan, Colom    15.76 129  eP    Pn          06 22 55.3 +1.4
BRRC  Barranca, Sant    15.93 109  eP    Pn          06 22 55.5 -0.3
ORTC  Ortega, Tolima    16.07 122  eP    P           06 22 59.4 -0.8
OTAV  Otavalo           16.16 140  eP    P           06 23 03.4 +1.8
GCUF  Volcan Galeras    16.16 134  eP    P           06 23 04.2 +2.4
ROSC  El Rosal          16.36 117  eP    P           06 23 03.2 -0.6
ROSC  El Rosal          16.36 117  P     Pn          06 23 02.6 +0.9
      16nm,0.7s,baz=225,slow=11,SNR=8.2
ROSC                                LR    LR          06 31 20.8
      comp=Z,324nm,18.6s,baz=344,slow=45
PRAC  Prado             16.48 122  eP    Pn          06 23 03.5 +0.7
URIC  Uribia, Colomb    16.51  92  eP    P           06 23 04.5 -0.5
BARC  Barichara         16.61 110  eP    Pn          06 23 05.0 +0.3
BETC  Betania           16.62 126  eP    Pn          06 23 05.0 +0.3
DWPF  Disney Wildern    16.77  23  P     P           06 23 08.9 +1.1
      baz=206
PAMC  Pamplona, Colo    16.79 107  eP    Pn          06 22 52.6 -14
SLOR  San Lorenzo -     16.89 142        Pn          06 23 08.6 +0.2
GARC  Garzon, Huila     16.89 127  eP    P           06 23 10.9 +1.4
CHIC  Chingaza          16.98 117  eP    P           06 23 11.2 +0.6
RUSC  La Rusia          16.98 112  eP    Pn          06 23 09.3 -0.2
FLOC  Florencia         17.15 129  eP    Pn          06 23 11.4 +0.2
PIAT  Ana Tenorio       17.24 142  eP    P           06 23 19.6 +6.1
VILC  Villavicencio,    17.27 119  eP    P           06 23 14.5 +0.9
MACC  Macarena, Meta    18.22 124  eP    Pn          06 23 26.1 +1.9
HKT   Hockley           18.29 340  P     Pn          06 23 27.5 +2.6
SDV   Santo Domingo     18.30 100  P     P           06 23 24.3 -0.7
SDV   Santo Domingo     18.30 100  eP    P           06 23 20.8 -4.3
SDV   Santo Domingo     18.30 100  P     P           06 23 23.4 -1.7
      28nm,0.8s,baz=279,slow=9.0,SNR=10
SDV                                 LR    LR          06 31 44.6
      comp=Z,111nm,20.1s,baz=285,slow=42
833A  Chaparral WMA,    18.34 329  P     Pn          06 23 27.2 +1.6
833A  Chaparral WMA,    18.34 329  P     Pn          06 23 28.2 +2.6
      baz=145,SNR=15
441A  DeRidder          18.35 348  P     Pn          06 23 27.4 +1.7
441A                                IAmb  IAmb        06 23 36.0
      comp=Z,60nm,0.8s
PTGC  Puerto Gaitan,    18.58 116  eP    P           06 23 20.3 -7.6
PTLC  Puerto Leguiza    18.73 131  eP    Pn          06 23 33.2 +2.8
```

BOSC San Juan Bosco 18.86 146 P Pn 06 23 33.9 +1.7
HNVL Huntsville, TX 18.92 342 P Pn 06 23 34.3 +1.7
HNVL IAmb IAmb 06 23 43.4
comp=Z,50nm,0.9s
352A Blakely 18.98 10 P Pn 06 23 34.5 +1.3
MCRA Macar, Loja 19.18 152 eP Pn 06 23 40.2 +4.4
TIGA Tifton 19.21 14 P Pn 06 23 36.8 +0.8
TIGA IAmb IAmb 06 23 40.6
comp=Z,37nm,0.7s
TIGA Tifton 19.21 14 P Pn 06 23 37.8 +1.8
baz=195
HNDO Hondo 19.29 331 P Pn 06 23 36.8 -0.2
HNDO IAmb IAmb 06 23 38.8
comp=Z,26nm,0.6s
VBMS Vicksburg 19.43 356 P Pn 06 23 39.1 +0.6
VBMS IAmb IAmb 06 23 44.9
comp=Z,66nm,0.8s
VBMS Vicksburg 19.43 356 P Pn 06 23 40.6 +2.0
baz=175
NATX Nacogdoches 19.65 345 P Pn 06 23 42.5 +1.2
baz=162,SNR=9.8
435B Jarrell 19.67 337 P Pn 06 23 41.2 -0.2
435B IAmb IAmb 06 23 43.7
comp=Z,42nm,0.6s
435B Jarrell 19.67 337 P Pn 06 23 42.2 +0.7
baz=154
146A Union 19.79 359 P Pn 06 23 42.9 +0.1
146A IAmb IAmb 06 23 45.0
comp=Z,46nm,0.8s
DRIO Del Rio 19.86 328 P Pn 06 23 43.3 -0.5
DRIO IAmb IAmb 06 23 50.1
comp=Z,26nm,0.6s
143A Socs Landing, 19.99 354 P P 06 23 44.1 +1.0
143A IAmb IAmb 06 23 50.9
comp=Z,30nm,0.7s
152A Waverly Hall 20.17 10 P Pn 06 23 47.2 -0.2
152A IAmb IAmb 06 23 50.9
comp=Z,40nm,0.8s
LRAL Lakeview Retre 20.25 4 P Pn 06 23 47.7 -0.6
baz=185,SNR=8.4
JCT Junction City 20.34 332 P Pn 06 23 48.3 -1.1
JCT Junction City 20.34 332 P Pn 06 23 49.2 -0.2
baz=147,SNR=12
Z47A Carrollton 20.36 2 P Pn 06 23 48.6 -0.9
Z47A IAmb IAmb 06 23 52.1
comp=Z,50nm,1.1s
154A Montrose 20.45 14 P Pn 06 23 49.6 -1.0
BRDY Brady 20.68 335 P P 06 23 51.7 +1.1
BRDY IAmb IAmb 06 24 03.3
comp=Z,31nm,0.8s
WHTX Lake Whitney, 20.71 339 P Pn 06 23 52.6 -1.1
WHTX IAmb IAmb 06 24 08.2
comp=Z,41nm,0.7s
WHTX Lake Whitney, 20.71 339 P Pn 06 23 53.1 -0.7
baz=155,SNR=7.3
Z41A Richland Creek 20.72 351 P Pn 06 23 52.8 -1.0
BAUV El Baul 20.78 98 P P 06 23 49.7 -2.2
FW14 Alvarado 20.99 340 P Pn 06 23 55.8 -1.4
FW14 IAmb IAmb 06 24 11.4
comp=Z,25nm,0.7s
Y45A Yeager Farm, C 21.02 358 P P 06 23 55.9 +1.6
Y45A IAmb IAmb 06 24 02.7
comp=Z,39nm,0.9s
GOGA Godfrey 21.14 13 P P 06 23 57.8 +2.2
baz=194,SNR=14
TXAR Lajitas Array 21.48 322 P P 06 24 01.8 +2.3
comp=Z,11nm,0.7s,baz=143,slow=11,SNR=142
TXAR PcP PcP 06 28 02.5 +1.6
comp=Z,1.9nm,0.9s,baz=106,slow=2.9,SNR=6.0
TXAR LR LR 06 34 06.5
comp=Z,138nm,20.0s,baz=128,slow=41
comp=Z,11nm,0.7s
OXF Oxford 21.66 359 P P 06 24 02.4 +1.2
baz=178,SNR=6.3
NHSC New Hope 21.75 20 P P 06 24 03.7 +1.6
baz=203
ABTX Abilene, Hawle 22.11 335 P P 06 24 07.0 +1.1
baz=151,SNR=11
MIAR Mount Ida 22.11 350 P P 06 24 08.7 +2.7
baz=167,SNR=16
ATAH Atahualpa 22.33 152 LR LR 06 31 51.9
comp=Z,424nm,21.3s,baz=339,slow=34
SJG San Juan 22.51 73 LR LR 06 33 54.2
comp=Z,347nm,18.6s,baz=277,slow=40
X34A Smith Ranch, M 23.22 341 P 06 24 19.3 +1.7
TKL Tuckaleechee C 23.25 11 LR LR 06 34 04.0
comp=Z,173nm,19.5s,baz=196,slow=39
WVT Waverly 23.29 2 P P 06 24 18.8 +0.6
baz=182
KMSC Kings Mountain 23.30 16 P P 06 24 19.4 +1.1
baz=198,SNR=9.0
LCAR Lake Charles 23.30 355 P P 06 24 18.5 +0.2
WMOK Wichita Mounta 23.66 339 P P 06 24 23.3 +1.5
baz=155,SNR=8.9
PCRV Puerto La Cruz 23.87 94 LR LR 06 36 04.8
comp=Z,167nm,19.7s,slow=43
TUL3 Leonard 23.89 346 P P 06 24 24.3 +0.5
baz=163,SNR=8.7
TZTN Tazewell 24.16 10 P P 06 24 26.9 +0.7
baz=192
MNTX Cornudas Mount 24.22 324 P P 06 24 28.0 +1.1
baz=137,SNR=16
CNNC Cliffs of the 24.48 22 P P 06 24 29.7 +0.5
baz=206
MSTX Muleshoe 24.62 331 P P 06 24 31.4 +0.7
MSTX Muleshoe 24.62 331 P P 06 24 31.4 +0.7
baz=145,SNR=35
S44A Carbondale 24.83 359 P P 06 24 32.4 0.0
S44A IAmb IAmb 06 24 33.8
comp=Z,22nm,0.7s
SIUC Southern Illin 24.85 359 P P 06 24 32.9 +0.3
SIUC IAmb IAmb 06 25 02.6
comp=Z,31nm,1.0s
AMTX Amarillo 24.91 334 P P 06 24 34.7 +1.5
AMTX Amarillo 24.91 334 P P 06 24 34.8 +1.6
baz=149
TBTG Tabatinga, AM 25.25 131 P P 06 24 37.7 +1.3
TBTG IAmb IAmb 06 24 41.3
comp=Z,29nm,1.0s
CCM Cathedral Cave 25.28 356 P P 06 24 37.1 +0.7
CCM Cathedral Cave 25.28 356 P P 06 24 36.8 +0.3
baz=174
WCI Wyandotte Cave 25.47 5 P P 06 24 38.3 +0.2
baz=186
BLA Blacksburg 25.49 16 P P 06 24 38.3 -0.2
baz=199
CZSB Cruzeiro do Su 25.92 141 P P 06 24 44.0 +1.5
CZSB IAmb IAmb 06 24 46.3
comp=Z,26nm,0.8s
CZSB Cruzeiro do Su 25.92 141 eP P 06 24 45.7 +3.2
Q44A Meyer Farm, Va 26.04 360 P P 06 24 43.3 0.0
Q44A IAmb IAmb 06 24 44.3
comp=Z,28nm,0.7s
T59A Double "B" Far 26.15 21 P P 06 24 44.2 -0.1
T59A IAmb IAmb 06 25 01.3
comp=Z,72nm,1.4s
121A Cookes Peak, D 26.23 322 P P 06 24 47.3 +1.9
121A Cookes Peak, D 26.23 322 P P 06 24 47.7 +2.3
baz=134,SNR=8.2
P40A Paris 26.81 355 P P 06 24 50.0 -0.3
Y22D IRIS PASSCAL I 26.84 325 P P 06 24 51.5 +0.7
baz=138
Y22F Passcal Instru 26.84 325 P P 06 24 52.8 +2.0
baz=138
P49A Miami Univ. Ec 26.92 7 P P 06 24 50.7 -0.5
baz=189
KSU1 Kansas State U 27.12 347 P P 06 24 52.9 -0.2
KSU1 Kansas State U 27.12 347 P P 06 24 53.8 +0.7
baz=163,SNR=6.4
ANMO Albuquerque 27.24 327 P P 06 24 56.9 +2.4
ANMO Albuquerque 27.24 327 P P 06 24 56.8 +2.4
baz=140
ANMO Albuquerque 27.24 327 LR LR 06 36 51.4
comp=Z,118nm,21.9s,baz=218,slow=39
O44A Mansfield 27.29 1 P P 06 24 54.1 -0.4
O44A IAmb IAmb 06 24 55.6
comp=Z,20nm,0.8s
NNA Nana 27.32 154 P P 06 24 57.7 +2.6
NNA IAmb IAmb 06 25 20.0
comp=Z,66nm,1.5s
NNA Nana 27.32 154 LR LR 06 36 14.5
comp=Z,40nm,19.7s,baz=322,slow=37
CBN Corbin Frederi 27.32 20 P P 06 24 55.1 +0.2
baz=205,SNR=5.3
P52A Corning 27.42 11 P P 06 24 55.4 -0.3
baz=194

SFIN Lafayette 27.55 3 P P 06 24 56.4 -0.5
baz=183
O48B Farmland 27.58 6 P P 06 24 56.2 -0.9
baz=188
CBKS Cedar Bluff 27.69 341 P P 06 24 58.7 +0.5
CBKS IAmb IAmb 06 24 60.0
comp=Z,22nm,0.7s
CBKS Cedar Bluff 27.69 341 P P 06 24 59.4 +1.2
baz=156,SNR=5.2
HDIL Hopedale 27.69 359 P P 06 24 57.4 -0.7
baz=179
ACSO Alum Creek Sta 27.85 10 P P 06 24 59.8 +0.2
baz=192,SNR=8.1
O52A Adamsville 27.94 12 P P 06 25 00.2 -0.2
O52A IAmb IAmb 06 25 01.9
comp=Z,26nm,0.8s
MCWV Mont Chateau 27.95 15 P P 06 25 00.7 +0.3
baz=199
TUC Tucson 27.98 318 P P 06 25 03.7 +2.7
TUC Tucson 27.98 318 P P 06 25 02.3 +1.3
baz=129
T25A Trinidad 27.99 333 P P 06 25 02.7 +1.5
baz=146,SNR=14
O53A New Philadelph 28.20 12 P P 06 25 03.1 +0.4
baz=196,SNR=6.4
KSCO Kaye Shedlock' 28.86 337 P P 06 25 10.4 +1.7
baz=151,SNR=7.9
SDCO Great Sand Dun 28.98 332 P P 06 25 12.4 +2.4
baz=144,SNR=6.8
214A Organ Pipe Nat 29.14 315 P P 06 25 13.5 +2.3
baz=125,SNR=8.2
W18A Petrified Fore 29.20 323 P P 06 25 15.1 +3.2
baz=134
SCIA State Center 29.29 353 P P 06 25 13.4 +1.1
baz=171
PIX Pinacate 29.37 314 P P 06 25 15.1 +2.0
SSPA Standing Stone 29.39 17 P P 06 25 14.0 +0.7
baz=202
M53A WI Miller and 29.45 13 P P 06 25 14.1 +0.3
baz=196
S22A 4UR Ranch, Cre 29.61 330 P P 06 25 18.0 +2.3
baz=142,SNR=14
BGNE Belgrade 29.68 346 P P 06 25 16.5 +0.6
baz=161
AAM Ann Arbor 29.78 8 P P 06 25 17.4 +0.8
baz=190
Q24A Divide 29.83 334 P P 06 25 19.2 +1.6
baz=146
K38A Parkersburg 29.97 354 P P 06 25 18.6 +0.2
MVCO Mesa Verde 30.04 328 P P 06 25 20.3 +0.9
baz=139,SNR=5.2
JFWS Jewell Farm 30.07 358 P P 06 25 19.5 +0.3
JFWS Jewell Farm 30.07 358 P P 06 25 19.3 +0.1
baz=177
ERPA Erie 30.25 13 P P 06 25 19.7 -1.1
baz=197
OGNE Ogallala 30.36 340 P P 06 25 23.7 +1.7
baz=154
WUAZ Wupatki 30.45 322 P P 06 25 24.1 +1.2
baz=132
ISCO Idaho Springs 30.73 334 P P 06 25 27.2 +1.7
baz=146,SNR=13
PAL Palisades 31.04 22 P P 06 25 28.1 +0.3
baz=209
GLA Glamis 31.16 315 P P 06 25 30.6 +1.6
baz=124,SNR=5.3
K30B Basset 31.23 345 P P 06 25 30.9 +1.3
BINY Binghamton 31.39 19 P P 06 25 31.7 +0.7
baz=204
PDMCI Parker Dam,Lak 31.42 317 P P 06 25 33.3 +2.0
baz=127,SNR=5.2
ECSD EROS Data Cent 31.58 349 P P 06 25 33.1 +0.5
baz=165
ETMB Extrema 31.76 134 P P 06 25 35.1 +0.7
N23A Red Feather La 31.78 335 P P 06 25 35.8 +1.0
baz=147,SNR=9.7
SWSC Sam W. Stewart 31.78 314 P P 06 25 37.1 +2.6
baz=123
IKP In-Ko-Pah, Jac 31.84 313 P P 06 25 37.9 +2.8
baz=122,SNR=5.8
BC3 Big Chuckawall 31.93 315 P P 06 25 38.3 +2.4
baz=124,SNR=12
IRM Iron Mountain 32.01 316 P P 06 25 39.8 +3.2
baz=125
O20A White River Ci 32.17 331 P P 06 25 39.8 +1.7
baz=142,SNR=16
MONP2 Monument Peak 32.20 313 P P 06 25 40.8 +2.4
baz=122,SNR=8.7
BELC Belle Mtn. Jos 32.50 315 P P 06 25 43.6 +2.7
baz=124
TPFO Pinon Flats 32.60 314 P P 06 25 44.6 +2.8
baz=123
PFO Pinyon Flats O 32.61 314 P P 06 25 44.7 +2.8
baz=123
PFO Pinyon Flats O 32.61 314 LR LR 06 40 18.7
comp=Z,202nm,19.9s,baz=133,slow=38
GMRC Granite Mounta 32.72 317 P P 06 25 45.6 +2.8
baz=125
SUSD Miller 32.74 347 P P 06 25 43.8 +1.1
baz=161
SADO Sadowa 32.96 13 LR LR 06 40 15.5
comp=Z,224nm,18.1s,baz=156,slow=39
MURC Murrieta 33.12 314 P P 06 25 48.7 +2.4
baz=122
BBRC Big Bear Solar 33.28 315 P P 06 25 51.3 +3.4
baz=123
SAML Samuel 33.40 129 eP P 06 25 48.5 -0.3
SAML Samuel 33.40 129 P P 06 25 48.8 0.0
SAML pP pP 06 26 00.4 -1.7
SAML PcP PcP 06 28 30.6 +1.0
K22A Casper 33.49 336 P P 06 25 51.4 +1.9
baz=147,SNR=7.5
GSC Goldstone, Bar 33.78 316 P P 06 25 53.7 +1.6
baz=124
BFSC Mount Baldy Ra 33.78 314 P P 06 25 55.2 +3.1
baz=122
RSSD Black Hills 33.86 340 P P 06 25 54.9 +2.1
baz=152
RSSD Black Hills 33.86 340 P P 06 25 54.5 +1.7
RSSD pP pP 06 26 05.6 -0.6
RSSD PcP PcP 06 28 30.1 -0.6
CIS Catalina Islan 33.89 312 P P 06 25 54.0 +1.1
baz=120
LONY Lake Ozonia 34.02 18 P P 06 25 53.7 -0.2
baz=205
EDW2 Edwards Air Fo 34.36 315 P P 06 25 59.8 +2.7
baz=122
TPNV Topopah Spring 34.38 319 P P 06 26 00.0 +2.7
baz=127
TCUT Toone Canyon 34.46 329 P P 06 25 59.8 +1.7
TCUT IAmb IAmb 06 26 04.8
comp=Z,12nm,0.6s
FURC Furnace Creek, 34.49 318 P P 06 26 00.9 +2.8
baz=126
DUG Dugway, Tooele 34.51 327 P P 06 26 01.6 +3.2
baz=135
SNCC San Nicolas Is 34.62 311 P P 06 26 01.6 +2.3
baz=119
MPMC Manual Prospec 34.67 317 P P 06 26 02.3 +2.4
baz=124
R11B Troy Canyon, C 34.84 322 P P 06 26 03.6 +2.3
baz=130
BW06 Boulder Array 34.86 333 P P 06 26 04.1 +2.6
baz=143,SNR=7.6
PDAR Pinedale Array 34.86 333 P P 06 26 02.4 +0.9
comp=Z,3.1nm,0.7s,baz=130,slow=9.9,SNR=30
PDAR PcP PcP 06 28 34.0 +0.3
comp=Z,2.6nm,0.6s,baz=144,slow=5.2,SNR=15
PDAR LR LR 06 43 21.1
comp=Z,169nm,19.7s,baz=146,slow=41
comp=Z,3.1nm,0.7s
SCZ2 Santa Cruz Isl 35.06 312 P P 06 26 04.7 +1.6
baz=119
ARVC Arvin 35.07 315 P P 06 26 06.2 +3.1
baz=122
GRAC Grapevine Rang 35.13 318 P P 06 26 06.7 +3.0
baz=126
EYMN Ely 35.15 357 P P 06 26 02.8 -0.8
baz=175
CWC Cottonwood Cre 35.28 317 P P 06 26 07.4 +2.3
baz=124
SBC Santa Barbara 35.34 313 P P 06 26 08.0 +2.6
baz=120
LPAZ La Paz 35.40 144 P P 06 26 07.9 +1.2
LPAZ pP pP 06 26 19.6 -0.6
VES Vestal, Richgr 35.63 315 P P 06 26 10.4 +2.5
baz=122

PKM Mcpherson Peak 35.64 313 P P 06 26 11.4 +3.2
baz=120
MDND Maddock 36.12 348 P P 06 26 12.6 +0.7
baz=162
PB16 IPOC Station P 36.31 148 P P 06 26 17.1 +2.5
PB16 IAmb IAmb 06 26 37.9
comp=Z,10nm,0.8s
PKME Peaks-Kenny Pk 36.43 23 P P 06 26 14.4 -0.1
baz=213
MDP Montagnes des 36.53 99 LR LR 06 42 37.2
comp=Z,209nm,19.8s,baz=283,slow=39
NVAR Mina Array Bea 36.58 320 P P 06 26 18.5 +2.2
NVAR Mina Array Bea 36.58 320 P P 06 26 18.0 +1.7
comp=Z,3.5nm,0.7s,baz=128,slow=7.1,SNR=38
NVAR PcP PcP 06 28 40.4 +1.6
comp=Z,7.1nm,0.8s,baz=139,slow=4.0,SNR=28
NVAR LR LR 06 43 14.3
comp=Z,270nm,19.7s,baz=119,slow=39
comp=Z,3.5nm,0.7s
H17A Grant Village 36.61 334 P P 06 26 18.1 +1.6
baz=142
RLMT Red Lodge 36.65 336 P P 06 26 18.2 +1.4
baz=145,SNR=13
LAO LASA Array 36.85 340 P P 06 26 19.6 +1.3
baz=151,SNR=11
YMR Madison River 36.99 333 P P 06 26 21.3 +1.6
YMR IAmb IAmb 06 26 25.4
comp=Z,12nm,0.8s
HLID Hailey 37.77 329 P P 06 26 27.9 +1.7
baz=136,SNR=6.1
DGMT Dagmar 37.82 343 P P 06 26 27.0 +0.6
DGMT Dagmar 37.82 343 P P 06 26 27.6 +1.2
baz=155,SNR=30
ULM Lac du Bonnet 37.82 353 P P 06 26 25.3 -1.0
comp=Z,16nm,0.7s,baz=165,slow=9.5,SNR=26
ULM LR LR 06 43 06.6
comp=Z,330nm,21.5s,baz=196,slow=38
comp=Z,16nm,0.7s
BOZ Bozeman (W) 38.02 334 P P 06 26 30.2 +2.0
baz=142,SNR=12
EGMT Eagleton 39.24 338 P P 06 26 39.8 +1.4
baz=146,SNR=24
SIV San Ignacio 39.64 135 P P 06 26 42.8 +0.9
comp=Z,18nm,0.8s,baz=302,slow=8.2,SNR=73
SIV PcP PcP 06 28 49.5 +1.2
comp=Z,6.6nm,0.8s,baz=350,slow=3.4,SNR=6.5
SIV LR LR 06 42 36.4
comp=Z,248nm,21.4s,baz=288,slow=35
comp=Z,18nm,0.8s
MSO Missoula 39.98 333 P P 06 26 45.4 +0.7
baz=140
LVC Limon Verde 40.22 151 LR LR 06 42 39.3
comp=Z,139nm,20.7s,baz=300,slow=35
YBH Yreka Blue Hor 41.24 321 LR LR 06 45 08.7
comp=Z,214nm,21.1s,baz=146,slow=38
NEW Newport 42.49 332 P P 06 27 05.5 +0.4
baz=137
NEW Newport 42.49 332 LR LR 06 50 12.0
comp=Z,168nm,18.0s,baz=126,slow=44
FFC Flin Flon 43.12 349 P P 06 27 10.5 +0.5
RPN Rapa Nui 44.36 206 LR LR 06 41 07.9
comp=Z,225nm,20.9s,baz=32,slow=29
B06A Marblemount 44.75 329 P P 06 27 23.6 +0.4
B06A IAmb IAmb 06 27 25.1
comp=Z,17nm,0.8s
EDM Edmonton 44.83 339 P P 06 27 23.9 +0.1
SCHQ Schefferville 45.39 18 P P 06 27 26.6 -1.6
comp=Z,17nm,0.8s,baz=223,slow=6.4,SNR=12
SCHQ PcP PcP 06 29 06.3 -0.5
comp=Z,2.9nm,0.6s,baz=217,slow=2.0,SNR=4.0
SCHQ LR LR 06 47 22.9
comp=Z,285nm,18.4s,baz=238,slow=37
comp=Z,17nm,0.8s
AQDB Aquidauana 46.41 135 P P 06 27 37.2 +0.6
H03N2 Juan Fernandez 46.91 169 T T 07 17 46.3
baz=348,slow=76,SNR=16
H03N1 Juan Fernandez 46.91 169 T T 07 17 44.8
baz=348,slow=76,SNR=20
H03N3 Juan Fernandez 46.92 169 T T 07 17 42.9
baz=348,slow=76,SNR=21
CFA Coronel Fontan 48.34 156 P P 06 27 52.5 +0.9
comp=Z,2.7nm,0.8s,baz=350,slow=5.5,SNR=3.6
CFA PcP PcP 06 29 18.4 +0.7
comp=Z,2.5nm,0.9s,baz=321,slow=4.1,SNR=3.6
CFA LR LR 06 44 30.0
comp=Z,77nm,21.5s,baz=307,slow=31
comp=Z,2.7nm,0.8s
BDFB Brasilia 49.28 124 P P 06 27 58.3 -0.8
comp=Z,14nm,0.7s,baz=288,slow=7.8,SNR=19
BDFB LR LR 06 49 50.5
comp=Z,99nm,18.3s,baz=315,slow=37
comp=Z,14nm,0.7s
CPUP Villa Florida 49.49 142 P P 06 28 00.3 -0.1
comp=Z,4.6nm,0.8s,baz=330,slow=8.4,SNR=5.4
CPUP LR LR 06 50 09.1
comp=Z,160nm,18.0s,baz=342,slow=37
comp=Z,4.6nm,0.8s
CPUP Villa Florida 49.49 142 P P 06 28 00.6 +0.2
CPUP pP pP 06 28 12.3 -2.0
BBB Bella Bella 50.36 330 LR LR 06 53 34.2
comp=Z,146nm,20.0s,baz=175,slow=41
FRB Frobisher Bay 52.88 11 LR LR 06 52 50.6
comp=Z,134nm,18.7s,baz=203,slow=38
YKA Yellowknife Ar 52.96 345 P P 06 28 25.7 -0.2
comp=Z,32nm,0.9s,baz=139,slow=7.6,SNR=63
YKA LR LR 06 53 09.1
comp=Z,241nm,20.2s,baz=149,slow=38
comp=Z,32nm,0.9s
V35K Ketchikan 53.88 331 P P 06 28 33.8 +1.0
baz=125
KOTAN Kotaneelee Air 53.91 339 P P 06 28 33.8 +0.8
baz=136
LIRD Liard River Hi 54.14 338 P P 06 28 35.6 +0.9
baz=133
DLBC Dease Lake 55.05 335 P P 06 28 43.3 +2.0
baz=128,SNR=6.5
DLBC Dease Lake 55.05 335 LR LR 06 55 44.6
comp=Z,86nm,19.4s,baz=110,slow=40
TAOE Nuku Hiva Isla 55.30 250 eLR LR 06 44 39.2
comp=Z,307nm,25.2s
WTLY Watson Lake, Y 55.63 337 P P 06 28 46.4 +1.0
baz=130,SNR=5.5
RCBR Riachuelo 55.76 106 LR LR 06 55 06.0
comp=Z,96nm,18.7s,baz=252,slow=39
PLCA Paso Flores 55.86 163 P P 06 28 48.3 +1.0
comp=Z,1.6nm,0.8s,baz=323,slow=9.5,SNR=3.5
PLCA LR LR 06 47 05.1
comp=Z,91nm,22.0s,baz=358,slow=30
comp=Z,1.6nm,0.8s
PLCA Paso Flores 55.86 163 P P 06 28 48.5 +1.2
PLCA pP pP 06 29 00.8 -0.6
WRGLY Wrigley 55.99 342 P P 06 28 48.2 +0.4
baz=138
R33M Jennings River 56.02 336 P P 06 28 49.8 +1.4
baz=128
Q32M Nakina River 56.30 335 P P 06 28 51.4 +1.0
baz=126
TGTN Hyland Airport 56.37 339 P P 06 28 51.1 +0.4
baz=132
S32K Killisnoo 56.45 332 P P 06 28 53.0 +1.8
baz=123
P33M Teslin, Yukon 57.26 336 P P 06 28 57.9 +0.8
baz=126
N32M Quiet Lake 57.93 336 P P 06 29 02.5 +0.8
baz=126
MMPY Sheldon Lake, 58.15 338 P P 06 29 04.5 +1.2
baz=129,SNR=5.7
PLBC Pleasant Camp 58.32 334 P P 06 29 05.8 +1.5
baz=122
WHY Whitehorse 58.36 335 P P 06 29 05.3 +0.5
baz=124
FARO Faro, Yukon 58.68 337 P P 06 29 06.9 0.0
baz=127
O30N Mendenhall 58.91 335 P P 06 29 09.1 +0.5
baz=123
P29M Windy Craggy 59.00 333 P P 06 29 09.9 +0.7
baz=121
N31M Braeburn, Yuko 59.19 336 P P 06 29 10.8 +0.4
baz=124
N30M Aishikik Lake 59.70 335 P P 06 29 15.6 +1.6
baz=122
SFJD Kangerlussuaq 59.80 16 LR LR 06 54 41.7
comp=Z,92nm,19.6s,baz=212,slow=36
M30M Minto, Yukon 60.19 337 P P 06 29 18.4 +1.0
baz=123
MAYO Mayo, Yukon 60.42 338 P P 06 29 20.4 +1.5
baz=125
YUK8 Steele Glacier 60.71 335 P P 06 29 20.9 -0.3

baz=120
M29M Somme Creek 60.77 336 P **P 06 29 22.5 +1.1**
baz=122,SNR=5.7
L29M L29M 60.99 337 P **P 06 29 23.8 +1.0**
baz=122
J30M Hart River 61.14 339 P **P 06 29 23.2 -0.7**
baz=125
K29M Barlow Dome 61.16 338 P **P 06 29 24.4 +0.3**
baz=123
H31M Peel River 61.20 340 P **P 06 29 24.8 +0.7**
baz=127
CTG Chitna Glacier 61.22 334 P **P 06 29 24.8 +0.3**
baz=118
YUK3 Moose Creek 61.24 335 P **P 06 29 25.3 +0.6**
baz=119
I30M Mount Dempster 61.53 339 P **P 06 29 27.0 +0.5**
baz=125,SNR=6.3
G31M Satah River 61.86 341 P **P 06 29 28.9 +0.4**
baz=128,SNR=10
DAWY Dawson 61.98 337 P **P 06 29 29.4 -0.1**
baz=121
RES Resolute Bay 62.00 358 LR LR 06 59 14.4
comp=Z,116nm,19.0s,baz=114,slow=39
F31M Tsiigehtchic 62.02 342 P **P 06 29 29.9 +0.4**
baz=129,SNR=7.1
M27K Edge Creek, AK 62.11 335 P **P 06 29 30.1 -0.4**
baz=118
MCARA McCarthy VSAT 62.14 334 P **P 06 29 31.4 +0.9**
baz=116
I29M Ogilvie Camp, 62.28 339 P **P 06 29 31.3 -0.1**
baz=123
EPYK Eagle Plains 62.31 340 P **P 06 29 31.8 +0.2**
baz=125
L27K Beaver Creek, 62.42 336 P **P 06 29 32.7 +0.3**
baz=118
INK Inuvik 62.51 343 P **P 06 29 33.2 +0.5**
baz=129,SNR=14
INK Inuvik 62.51 343 LR LR 07 00 19.9
comp=Z,124nm,19.1s,baz=108,slow=39
G30M tAoh Zraii Nji 62.51 341 P **P 06 29 33.4 +0.5**
baz=126
M26K Nabesna, AK 62.59 335 P **P 06 29 34.6 +1.0**
baz=117
BMRM Bremner River 62.65 333 P **P 06 29 34.7 +0.7**
baz=115
F30M Barrier River 62.75 342 P **P 06 29 35.5 +1.1**
baz=126,SNR=18
H29M Whitestone 62.78 340 P **P 06 29 35.2 +0.6**
baz=123
I28M Miner Creek 62.91 339 P **P 06 29 36.3 +0.6**
baz=121
N25K Chitina, Valde 62.92 334 P **P 06 29 36.8 +1.0**
baz=115
K27K Chicken 62.98 337 P **P 06 29 36.5 +0.4**
baz=118
EYAK Cordova Ski Ar 62.99 332 P **P 06 29 37.0 +0.8**
baz=113
L26K Log Cabin Wild 63.02 335 P **P 06 29 36.3 0.0**
baz=117
G29M Pine Creek 63.05 340 P **P 06 29 37.1 +0.7**
baz=124,SNR=6.6
A36M Sachs Harbour 63.07 348 P **P 06 29 37.0 +0.6**
baz=139
KLU Klutina 63.45 333 P **P 06 29 39.6 +0.3**
baz=114
HARP HAARP 63.49 334 P **P 06 29 39.9 +0.4**
baz=115
I27K Kandik River 63.59 338 P **P 06 29 41.2 +1.1**
baz=120
SCRK Sand Creek 63.71 336 P **P 06 29 40.5 -0.5**
baz=117
J26L Joseph Creek 63.78 337 P **P 06 29 41.3 -0.2**
baz=117
E29M Blow River 63.85 342 P **P 06 29 42.6 +0.9**
baz=125,SNR=6.3
PAX Paxson 63.87 335 P **P 06 29 42.4 +0.3**
baz=115
H27K Steamboat Moun 63.87 339 P **P 06 29 42.8 +0.8**
baz=120,SNR=7.7
RIDG Independent Ri 63.94 336 P **P 06 29 43.0 +0.5**
baz=116
I26K Coal Creek Min 64.00 338 P **P 06 29 42.9 +0.1**
baz=118
F28M Old Crow 64.04 341 P **P 06 29 43.9 +0.9**
baz=122,SNR=18
G27K Doyon Strip 64.21 339 P **P 06 29 45.0 +0.8**
baz=120
K24K Donnelly Dome 64.34 336 P **P 06 29 45.6 +0.5**
baz=115
M23K Glacier View 64.36 333 P **P 06 29 45.1 -0.1**
baz=112
E28M Babbage River 64.47 342 P **P 06 29 46.1 +0.3**
baz=123,SNR=7.6
J25K Salcha River, 64.53 337 P **P 06 29 47.0 +0.7**
baz=116,SNR=6.8
SEW Seward 64.54 331 P **P 06 29 47.8 +1.4**
baz=110
KNK Knik Glacier 64.54 333 P **P 06 29 47.3 +0.8**
baz=111
PMOR Pomariorio Ree 64.63 247 *e*T T 07 39 57.3
comp=Z,5.7nm,0.3s
WAT6 Susitna Watana 64.67 334 P **P 06 29 47.7 +0.4**
baz=112
E27K Coleen River 64.89 341 P **P 06 29 49.4 +0.7**
baz=121,SNR=5.9
PMR Palmer 64.91 333 P **P 06 29 49.2 +0.4**
baz=110
PRP Porcupine Dome 64.98 337 P **P 06 29 49.8 +0.4**
baz=116,SNR=6.5
RC01 Rabbit Creek A 65.01 332 P **P 06 29 50.1 +0.7**
baz=110
G26K Porcupine Rive 65.01 339 P **P 06 29 50.2 +0.9**
baz=118
HDA Harding Lake 65.06 336 P **P 06 29 49.8 +0.1**
baz=114
WAT1 Susitna Watana 65.11 334 P **P 06 29 50.3 +0.3**
baz=112
ILAR Eielson Array 65.19 336 P **P 06 29 50.6 +0.1**
ILAR Eielson Array 65.19 336 P **P 06 29 50.0 -0.5**
comp=Z,5.6nm,0.9s,baz=113,slow=4.9,SNR=42
ILAR LR LR 07 01 08.7
comp=Z,133nm,20.3s,baz=82,slow=38
comp=Z,5.6nm,0.9s
D27M Malcolm River 65.25 342 P **P 06 29 51.5 +0.6**
baz=122
KDAK Kodiak Island 65.38 328 LR LR 07 00 57.7
comp=Z,74nm,18.9s,baz=123,slow=38
H25L Birch Creek 65.42 338 P **P 06 29 53.0 +1.1**
baz=116
RND Reindeer 65.45 335 P **P 06 29 52.9 +0.6**
RND IAmb IAmb 06 29 54.0
comp=Z,11nm,0.9s
F26K Sheenjek River 65.49 340 P **P 06 29 53.7 +1.3**
baz=118
BMAR Burnt Mountain 65.51 339 P **P 06 29 53.3 +0.7**
POKR Poker Plat Res 65.54 337 P **P 06 29 53.8 +1.0**
baz=114
SUA Susitna One 65.59 332 P **P 06 29 53.3 -0.1**
baz=109
MCK McKinley 65.60 335 P **P 06 29 53.3 0.0**
baz=112
COLA College 65.61 336 P **P 06 29 52.9 -0.3**
COLA pP **pP 06 30 05.0 -2.7**
COLA PcP **PcP 06 30 23.1 -1.3**
CUT Chulitna 65.70 333 P **P 06 29 55.2 +1.4**
baz=110
G25K Bearman Lake 65.74 339 P **P 06 29 54.8 +0.7**
baz=116
SII Sitkinak Islan 65.91 327 P **P 06 29 56.3 +1.0**
baz=104
F25K Christian Rive 65.95 339 P **P 06 29 56.8 +1.3**
baz=116,SNR=8.5
NEA2 Nenana 65.98 336 P **P 06 29 56.1 +0.4**
baz=112,SNR=5.4
H24K Noodor Dome 66.00 337 P **P 06 29 56.4 +0.6**
baz=114,SNR=5.0
TRF Thorofare Moun 66.07 334 P **P 06 29 56.3 -0.2**
baz=110
SKT Skwentna 66.11 333 P **P 06 29 56.6 0.0**
baz=108
E25K Arctic Village 66.16 340 P **P 06 29 57.7 +0.9**
baz=117
G24K Hadweenzic Riv 66.21 338 P **P 06 29 58.0 +0.9**
baz=114
I23K Minto, Yukon-K 66.30 336 P **P 06 29 58.2 +0.5**
baz=112,SNR=6.8
CHIR Chirikof Islan 66.53 326 P **P 06 30 00.1 +0.9**
baz=102
BPAW Bear Paw Mtn. 66.58 335 P **P 06 29 59.4 -0.2**
baz=110
H23K Yukon River 66.63 337 P **P 06 30 00.9 +1.1**
baz=112
F24K Squaw Lake 66.69 339 P **P 06 30 01.6 +1.4**
baz=114
PPLA Purkeypile 66.70 334 P **P 06 29 60.0 -0.5**
baz=108
M20K Styx River 66.81 332 P **P 06 30 01.7 +0.6**
M20K Styx River 66.81 332 P **P 06 30 00.8 -0.2**
baz=107
CAST Castle Rocks 66.82 334 P **P 06 30 00.2 -0.8**
baz=108
O19K Port Alsworth 66.89 330 P **P 06 30 01.7 +0.2**
baz=105
D25K Kavik River 66.97 341 P **P 06 30 01.6 -0.4**
baz=116,SNR=7.2
CHUM Lake Minchumin 67.06 335 P **P 06 30 02.4 -0.1**
baz=108
PPT Papeete 67.09 245 LR LR 06 51 32.9
comp=Z,219nm,19.0s,baz=57,slow=28
PPT2 Papeete2 67.10 245 *e*P **P 06 29 59.9 -3.7**
comp=Z,54nm,27.8s
PPT2 *e*S **S 06 38 49.6 -4.8**
comp=Z,49nm,27.0s
PPT2 Papeete2 67.10 245 *e*LR LR 06 50 13.0
comp=Z,322nm,25.8s
PPT2 *e*LR LR 06 50 17.5
comp=Z,210nm,26.2s
E24K Your Creek 67.13 339 P **P 06 30 03.2 +0.2**
baz=114
N19K Bonanza Creek 67.13 331 P **P 06 30 02.9 -0.3**
baz=105
P18K Big Mountain, 67.13 329 P **P 06 30 03.6 +0.5**
baz=104
G23K Bananza Creek 67.14 338 P **P 06 30 03.4 +0.3**
baz=112
Q17K Contact Creek 67.20 328 P **P 06 30 06.1 +2.5**
baz=103
O18K Koktuh Hills 67.24 330 P **P 06 30 04.4 +0.6**
baz=104
R17K Ugashik Creek 67.33 327 P **P 06 30 04.7 +0.4**
baz=102
H22K Ishtalitna Cre 67.36 337 P **P 06 30 04.6 +0.1**
baz=110
M19K Big River Lodg 67.38 332 P **P 06 30 05.0 +0.3**
baz=106
COLD Coldfoot 67.40 338 P **P 06 30 05.0 +0.3**
baz=112
E23K Chandalar 67.51 339 P **P 06 30 06.3 +0.8**
baz=113,SNR=6.0
K20K Telida 67.65 334 P **P 06 30 06.3 0.0**
baz=106
Q16K King Salmon 67.69 328 P **P 06 30 07.1 +0.5**
baz=102
P17K Kvichak River 67.69 329 P **P 06 30 07.1 +0.5**
baz=103
TOLK Toolik Lake Re 67.73 340 P **P 06 30 06.8 +0.1**
baz=113
N18K Kilae Creek 67.77 331 P **P 06 30 07.9 +0.8**
baz=104
G22K Bettles 67.77 338 P **P 06 30 07.5 +0.6**
baz=110
H21K Melozitna Rive 67.83 336 P **P 06 30 07.0 -0.5**
baz=109
C24K Franklin Bluff 67.88 341 P **P 06 30 08.3 +0.7**
baz=114
J20K Nowinta River 67.92 335 P **P 06 30 07.4 -0.5**
baz=107
R16K Pilot Point 67.94 327 P **P 06 30 09.2 +1.0**
baz=101
O17K Koliganek Bris 68.14 330 P **P 06 30 09.7 +0.3**
baz=102
CHGN Chignik 68.16 326 P **P 06 30 09.7 +0.2**
baz=100
F22K John River 68.22 338 P **P 06 30 11.2 +1.4**
baz=110
I20K Naaghedeneel 68.24 335 P **P 06 30 09.5 -0.4**
baz=107
E22K Anaktuvuk Pass 68.31 339 P **P 06 30 11.3 +0.9**
baz=111
N17K Nushagak Hills 68.35 330 P **P 06 30 11.7 +1.0**
baz=102
G21K Allakaket 68.38 337 P **P 06 30 11.2 +0.3**
baz=108
TTA Tatalina 68.38 333 P **P 06 30 11.0 0.0**
baz=104
J19K Poorman 68.49 334 P **P 06 30 12.0 +0.5**
baz=105
L18K Granite Mounta 68.51 332 P **P 06 30 11.6 -0.1**
baz=104
C23K Itkillik River 68.54 341 P **P 06 30 12.2 +0.5**
baz=112
F21K Alatna River 68.60 338 P **P 06 30 12.7 +0.5**
baz=109,SNR=9.2
H20K Anotleneega Mo 68.61 336 P **P 06 30 11.9 -0.4**
baz=107
S14K Fog Glacier 68.78 326 P **P 06 30 10.9 -2.7**
baz=99
J18K Innoko River 68.83 334 P **P 06 30 13.3 -0.3**
baz=104
N16K Nishlik Lake 69.11 330 P **P 06 30 15.3 -0.2**
baz=101
E21K Killik River 69.17 339 P **P 06 30 15.8 +0.1**
baz=109
H19K Roundabout Mou 69.24 336 P **P 06 30 16.7 +0.5**
baz=105
B22K Teshekpuk Lake 69.62 341 P **P 06 30 19.3 +1.0**
baz=110
G19K Purcell Mounta 69.66 336 P **P 06 30 18.9 +0.1**
baz=105
L16K Owhat River 69.69 331 P **P 06 30 19.8 +0.8**
baz=101
B21K Ikpikpuk River 69.77 340 P **P 06 30 19.6 +0.3**
baz=108
J17K VABM Dome 69.84 333 P **P 06 30 21.0 +1.1**
baz=102
E20K Nigu River 69.90 339 P **P 06 30 20.6 +0.4**
baz=106
H18K Honhosa River 69.93 335 P **P 06 30 21.3 +0.9**
baz=103
E19K Redstone River 70.06 338 P **P 06 30 21.3 +0.1**
baz=105
M15K Kasigluk River 70.08 330 P **P 06 30 22.5 +1.1**
baz=99
F19K Shaleruckik Mo 70.10 337 P **P 06 30 21.6 +0.1**
baz=104
O14K Tigyukauivet M 70.14 329 P **P 06 30 22.7 +1.0**
baz=98
D20K Etivluk River 70.18 339 P **P 06 30 22.6 +0.7**
baz=106
G18K Tagagawik 70.22 336 P **P 06 30 23.1 +0.9**
baz=103
J16K Anvik River 70.50 333 P **P 06 30 24.7 +0.8**
baz=100
H17K Granite Mounta 70.52 335 P **P 06 30 24.6 +0.6**
baz=102
ALE Alert 70.59 4 P **P 06 30 23.4 -0.8**
D19K Kuna River 70.65 339 P **P 06 30 25.3 +0.5**
baz=105
I17K Unalakleet 70.65 334 P **P 06 30 24.9 +0.1**
baz=100
M14K Bethel 70.71 330 P **P 06 30 25.5 +0.3**
baz=98
B20K Meade River 70.72 340 P **P 06 30 25.4 +0.2**
baz=106
K15K Wolf Creek Mou 70.75 332 P **P 06 30 25.9 +0.4**
baz=99
E18K Tukpahlearik C 71.31 337 P **P 06 30 29.1 +0.3**
baz=102
C19K Lookout Ridge 71.32 339 P **P 06 30 29.2 +0.3**
baz=103
E17K Hotham Inlet 71.71 337 P **P 06 30 31.3 +0.1**
baz=101
D17K Noatak River 72.30 337 P **P 06 30 35.1 +0.4**
baz=100
JMIC Jan Mayen 74.87 20 LR LR 07 03 47.3
comp=Z,52nm,18.4s,baz=171,slow=36
EKA Eskdalemuir Ar 77.17 36 P **P 06 30 59.7 -3.4**
comp=Z,1.3nm,0.6s,baz=267,slow=6.7,SNR=5.2
comp=Z,1.3nm,0.6s
RAR Rarotonga 77.37 245 LR LR 06 56 04.6
comp=Z,92nm,21.6s,baz=16,slow=28
ESDC Sonseca Array 78.07 52 P **P 06 31 05.3 -3.3**
comp=Z,1.4nm,0.7s,baz=286,slow=5.4,SNR=14
comp=Z,1.4nm,0.7s
MDT Midelt 78.42 59 LR LR 06 59 55.2
comp=Z,109nm,20.5s,baz=298,slow=31
PMSA Palmer Station 79.56 169 LR LR 07 02 08.4
comp=Z,69nm,20.0s,baz=14,slow=32
SPITS Spitsbergen Ar 80.68 12 LR LR 07 09 22.9
comp=Z,82nm,18.3s,baz=243,slow=37
KOWA Kowa 81.97 77 LR LR 07 04 33.5
comp=Z,49nm,20.0s,baz=312,slow=33
NOA NORSAR Array B 83.76 29 LR LR 07 09 31.6
comp=Z,90nm,18.1s,baz=280,slow=36
SHEM Shemya Is, Ala 84.18 323 LR LR 07 08 34.8
comp=Z,33nm,19.1s,baz=144,slow=35
HFS Hagfors 85.19 29 LR LR 07 10 24.5
comp=Z,66nm,18.3s,baz=293,slow=36
DAVOX Davos/Dischmat 86.69 43 LR LR 07 04 15.0
comp=Z,118nm,19.8s,baz=293,slow=31
CLL Collm 87.42 38 *es*P sP 06 32 20.0 +2.5
TORD Torodi Ar. Bea 87.67 77 P **P 06 31 54.9 -3.8**
comp=Z,0.5nm,1.0s,baz=296,slow=4.2,SNR=1.9
TORD LR LR 07 07 47.3
comp=Z,63nm,20.9s,baz=310,slow=33
KEST Kesra 89.17 54 LR LR 07 05 54.4
comp=Z,50nm,20.4s,baz=319,slow=32
VRAC Vranov 90.23 39 LR LR 07 07 48.1
comp=Z,103nm,20.6s,baz=323,slow=32
FINES FINESS Array B 90.29 26 LR LR 07 14 14.4
comp=Z,58nm,18.0s,baz=291,slow=37
SEY Seymchan 91.12 336 LR LR 07 19 54.0
comp=Z,62nm,18.2s,baz=40,slow=40
PETK Petropavlovsk- 93.38 326 LR LR 07 18 04.5
comp=Z,16nm,18.4s,baz=86,slow=38
MA2 Magadan 93.57 334 LR LR 07 19 05.6
comp=Z,49nm,18.9s,baz=26,slow=38
AKASG Malin Array Be 97.04 34 LR LR 07 14 41.9
comp=Z,92nm,19.0s,baz=266,slow=34
OBN Obninsk 98.35 28 LR LR 07 18 24.0
comp=Z,76nm,18.0s,baz=356,slow=36
DZM Mont Dzumac 108.16 251 *e*LR LR 07 09 22.8
comp=Z,91nm,24.9s
ZALV Zalesovo Beam 113.34 4 PKiKP **PKiKP 06 37 46.2 -0.7**
comp=Z,1.3nm,0.5s,baz=268,slow=2.7,SNR=6.1
KURBB Kurchatov Arra 115.93 9 PKP **PKiKP 06 37 51.4 -0.6**
comp=Z,0.7nm,0.3s,baz=351,slow=1.9,SNR=10
BOSA Boshof 117.06 116 PKP **PKPdf 06 37 54.7 -0.3**
comp=Z,2.4nm,0.8s,baz=342,slow=2.4,SNR=5.0
SONM Songino Array 118.17 348 PKP **PKPdf 06 37 56.3 -0.3**
comp=Z,1.6nm,0.6s,baz=342,slow=2.3,SNR=10
KSRS Korea Array 119.28 327 PKP **PKiKP 06 37 59.2 +0.3**
comp=Z,2.4nm,0.8s,baz=340,slow=1.7,SNR=6.7
MKAR Makanchi Array 120.19 7 PKP **PKPdf 06 37 58.3 -2.1**
comp=Z,1.4nm,0.8s,baz=332,slow=1.8,SNR=9.3
MAW Mawson 122.14 168 PKP **PKiKP 06 38 04.1 +0.6**
comp=Z,1.9nm,0.7s,baz=162,slow=2.9,SNR=9.1
WMQ Urumqi 123.61 3 *e*P **PKiKP 06 38 08.4 +1.1**
WMQ LR LR
comp=Z,140nm,22.1s
GTA Gaotai 127.47 352 *e*PKPbc **PKiKP 06 38 15.8 +0.5**
GTA pPKP pPKPdf 06 38 29.3 -1.0
NJ2 Nanjing 128.14 330 *e*P **PKiKP 06 38 16.5 -0.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
LZH Lanzhou 129.96 347 *e*P **PKPdf 06 38 17.3 -2.3**
LZH pP PKiKP 06 38 24.8 +4.4
LZH pmax pmax
comp=Z,18nm,1.5s
WRA Warramunga Arr 138.04 254 PKhKP PKPpre 06 38 26.5
comp=Z,0.4nm,0.8s,baz=93,slow=2.7,SNR=2.7
WRA PKP **PKiKP 06 38 36.1 -0.8**
comp=Z,3.0nm,0.8s,baz=91,slow=2.7,SNR=14
ASAR Alice Springs 138.11 249 PKhKP PKPpre 06 38 26.3
comp=Z,0.9nm,0.6s,baz=113,slow=3.2,SNR=6.6
ASAR PKP **PKiKP 06 38 36.2 -0.8**
comp=Z,2.1nm,1.0s,baz=99,slow=2.5,SNR=9.1
DANN Dangsing 138.51 10 *e*P **PKPdf 06 38 36.3 +0.3**
comp=Z,30nm,0.8s
PYUN Piuthan 138.62 11 *e*P **PKPdf 06 38 34.7 -1.4**
comp=Z,11nm,0.8s
GUN Gumba 139.25 7 *e*P **PKPdf 06 38 37.8 +0.4**
comp=Z,10nm,0.5s
PKIN Phulchoki 139.52 8 *e*P **PKPdf 06 38 38.3 +0.5**
comp=Z,16nm,0.8s
PZH PanZhiHua 139.63 345 PKP **PKPdf 06 38 38.8 +0.9**
RAMN Ramite 140.28 6 *e*P **PKPdf 06 38 39.5 +0.3**
comp=Z,15nm,0.8s
CMAR Chiang Mai Arr 148.04 346 PKPbc **PKPdf 06 38 54.0 +1.5**
comp=Z,9.6nm,0.7s,baz=336,slow=3.5,SNR=30

IDC 14 06:20:38.3±1.3, 27°.97S×65°.16W, h0km, mb3.6/3, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=33.9km s-min=18.5km az=139.0, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFA	**Coronel Fontan**	**4.51**	**216**	Pn	Pn	06 21 49.6	+1.8
	1.6nm,0.3s,baz=36,slow=19,SNR=23						
CFA				Lg	Lg	06 22 58.7	
	6.1nm,0.3s,baz=231,slow=15,SNR=6.4						
	2.5nm,0.3s						
CPUP	**Villa Florida**	**7.16**	**79**	Pn	Pn	06 22 23.7	-0.6
	0.1nm,0.3s,baz=243,slow=11,SNR=1.3						
CPUP				Lg	Lg	06 24 27.0	
	0.9nm,0.3s,baz=176,slow=19,SNR=2.6						
	1.1nm,0.9s						
QSPA	**South Pole Qui**	**62.26**	**180**	P	P	06 31 02.1	+0.3
	1.1nm,1.1s,baz=176,slow=2.0						
	1.1nm,1.1s						
TXAR	**Lajitas Array**	**67.85**	**324**	P	P	06 31 38.8	+0.2
	0.3nm,0.5s,baz=153,slow=6.1,SNR=3.2						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**76.51**	**67**	P	P	06 32 29.9	-0.7
	0.4nm,0.7s,baz=252,slow=5.8,SNR=2.2						
	0.4nm,0.7s						

---

*IDC **14** 06:45:49.5±1.8, 60°.81S×26°.82W, h0km, mb4.3/2, mbtmp4.3/3, ML4.3/1, Error ellipse: s-maj=66.1km s-min=35.6km az=45.0*
*NEIC **14** 06:45:51.7±1.0, 60°.6S±0°.1×26°.8W±0°.2, h10km±1km, mb4.5/14, Error ellipse: s-maj=22.1km s-min=12.9km az=7.0*

ISC 14 06:45:51.2±0.7, 60°.7S±0°.1×26°.6W±0°.1, h10km, n30, σ1°.27/24, mb4.5/9, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.48**	**151**	⇑P	**Pn**	**06 48 47.5**	**-0.9**
	comp=Z,61nm,0.3s						
VNA3	**Neumayer Olymp**	**12.59**	**154**	⇑P	**Pn**	**06 48 48.7**	**-1.4**
	comp=Z,15nm,0.3s						
VNA3				S	Sn	06 50 55.0	-15
	comp=Z,2.1nm,0.3s						
VNA2	**Neumayer--Watz**	**12.88**	**151**	⇑P	**Pn**	**06 48 52.8**	**-1.1**
	comp=Z,10nm,0.3s,baz=308,slow=14						
VNA2				S	Sn	06 51 04.2	-13
	comp=Z,1.0nm,0.4s,baz=318,slow=24						
SNAA	**Sanae**	**14.48**	**149**		**Pn**	**06 49 14.0**	**-1.9**
SNAA	**Sanae**	**14.48**	**149**	⇑P	**Pn**	**06 49 14.0**	**-1.9**
	comp=Z,58nm,0.2s						
SNAA				S	Sn	06 51 44.3	-12
	comp=Z,28nm,0.4s						
SNAA	**Sanae**	**14.48**	**149**	Pn	**Pn**	**06 49 13.8**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=309,slow=15,SNR=96						
SNAA				Sn	Sn	06 51 41.2	-15
	comp=Z,0.1nm,0.3s,baz=246,slow=20,SNR=1.8						
	comp=Z,2.9nm,0.3s						
TROLL	**Troll, Antarti**	**16.07**	**147**	⇑P	**Pn**	**06 49 35.4**	**-1.6**
	comp=Z,241nm,1.1s						
TROLL				S	Sn	06 52 22.7	-12
	comp=Z,39nm,0.6s						
PMSA	**Palmer Station**	**17.45**	**240**	P	**P**	**06 49 55.0**	**-0.5**
BELA	**Belgrano 2**	**17.49**	**186**	P	**P**	**06 49 56.6**	**+0.7**
QSPA	**South Pole Qui**	**29.57**	**180**	P	**P**	**06 51 58.4**	**+2.5**
QSPA				IAmb	IAmb	06 52 20.2	
	comp=Z,4.6nm,1.2s						
PLTB	**Pedras Altas**	**33.93**	**316**	P	**P**	**06 52 33.5**	**-0.8**
MAW	**Mawson**	**36.33**	**140**	P	**P**	**06 52 53.2**	**-1.3**
CPUP	**Villa Florida**	**40.19**	**315**	P	**P**	**06 53 27.4**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=140,slow=5.5,SNR=7.8						
	comp=Z,1.0nm,0.3s						
AC02	**Maricunga**	**44.35**	**300**	P	**P**	**06 54 01.8**	**-0.2**
AC02				IAmb	IAmb	06 54 05.6	
	comp=Z,8.4nm,1.1s						
H04S2	**CROZET ISLANDS**	**45.54**	**110**	T	T	07 43 29.5	
	baz=223,slow=75,SNR=19						
H04S3	**CROZET ISLANDS**	**45.55**	**110**	T	T	07 43 29.2	
	baz=223,slow=75,SNR=16						
H04S1	**CROZET ISLANDS**	**45.56**	**110**	T	T	07 43 30.0	
	baz=223,slow=75,SNR=13						

GO02	**Mina Guanaco**	**46.01 301**	P	**P**	**06 54 14.6**	**-0.3**
PB07	**IPOC Station P**	**49.18 303**	P	**P**	**06 54 39.0**	**-0.4**
PB07			IAmb	IAmb	06 55 14.8	
	comp=Z,9.5nm,1.0s					
PB01	**IPOC Station P**	**49.63 303**	P	**P**	**06 54 42.1**	**-0.6**
PB01			IAmb	IAmb	06 55 16.9	
	comp=Z,18nm,1.3s					
PAF	**Port-aux-Franc**	**51.67 124**	P	**P**	**06 54 59.3**	**+1.6**
PB16	**IPOC Station P**	**52.06 305**	P	**P**	**06 55 00.5**	**-1.1**
PB16			IAmb	IAmb	06 55 08.3	
	comp=Z,10nm,1.4s					
LPAZ	**La Paz**	**53.37 308**	P	**P**	**06 55 11.1**	**-0.3**
LPAZ			IAmb	IAmb	06 55 22.4	
	comp=Z,3.8nm,1.3s					
H10N1	**ASCENSION HYDR**	**53.49 15**	T	T	07 53 39.4	
	baz=186					
H10N3	**ASCENSION HYDR**	**53.49 15**	T	T	07 53 32.8	
	baz=186					
H10N2	**ASCENSION HYDR**	**53.51 15**	T	T	07 53 36.8	
	baz=186					
TOA0	**Torodi Ar. Sit**	**76.97 28**	P	**P**	**06 57 44.1**	**+0.5**
TOA0			IAmb	IAmb	06 57 46.5	
	comp=Z,4.1nm,1.1s					
TORD	**Torodi Ar. Bea**	**76.97 28**	P	**P**	**06 57 44.0**	**+0.3**
TORD			IAmb	IAmb	06 57 45.1	
	comp=Z,1.8nm,0.6s					
TORD	**Torodi Ar. Bea**	**76.97 28**	P	**P**	**06 57 44.6**	**+0.9**
	comp=Z,2.4nm,0.5s,baz=200,slow=5.6,SNR=26					
	comp=Z,2.4nm,0.5s					
SONM	**Songino Array**	**150.40 94**	PKPbc	**PKPbc**	**07 05 42.2**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=242,slow=3.1,SNR=2.1					

IDC ***14*** *06:56:56.0±0.9, 55°.82S×26°.53W, h0km, mb4.1/4, mbtmp4.0/5, ML3.5/1, MS3.9/2, Error ellipse: s-maj=40.9km s-min=22.9km az=69.0*

NEIC ***14*** *06:56:57.9±1.4, 55°.82S±0°.07×26°.8W±0°.2, h10km±1km, mb4.5/17, Error ellipse: s-maj=18.8km s-min=10.7km az=112.0*

ISC 14 06:56:57.5±0.7, 55°.8S±0°.1×26°.8W±0°.1, h10km, n36, σ0.78/34, mb4.4/12, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.78**	**281**	Pn	**Pn**	**06 58 22.9**	**-0.4**
VNA1	**Neumayer--Stat**	**16.93**	**159**	P	**P**	**07 00 56.5**	**+0.4**
	comp=Z,0.6nm,0.2s						
VNA3	**Neumayer Olymp**	**17.14**	**161**	⇑P	**P**	**07 00 59.0**	**+0.5**
	comp=Z,2.4nm,0.4s						
VNA2	**Neumayer--Watz**	**17.33**	**158**	⇑P	**P**	**07 01 02.5**	**+2.0**
	comp=Z,2.5nm,0.4s,baz=315,slow=14						
SNAA	**Sanae**	**18.87**	**157**	P	**P**	**07 01 16.9**	**-0.6**
SNAA	**Sanae**	**18.87**	**157**	⇑P	**P**	**07 01 18.2**	**+0.7**
	comp=Z,58nm,0.5s						
SNAA	**Sanae**	**18.87**	**157**	P	**P**	**07 01 16.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=319,slow=8.8,SNR=16						
	comp=Z,1.7nm,0.7s						
TROLL	**Troll, Antarti**	**20.36**	**154**	⇑P	**P**	**07 01 34.5**	**+0.7**
	comp=Z,129nm,0.7s						
BELA	**Belgrano 2**	**22.33**	**184**		**P**	**07 01 53.9**	**-1.0**
BELA				IAmb	IAmb	07 01 59.3	
	comp=Z,11nm,0.7s						
TRQA	**Tornquist**	**29.44**	**292**	P	**P**	**07 03 00.9**	**-0.3**
TRQA				IAmb	IAmb	07 03 11.1	
	comp=Z,7.7nm,1.2s						
QSPA	**South Pole Qui**	**34.44**	**180**	P	**P**	**07 03 45.0**	**+0.2**
QSPA				IAmb	IAmb	07 03 48.8	
	comp=Z,8.2nm,1.1s						
QSPA	**South Pole Qui**	**34.44**	**180**	P	**P**	**07 03 45.1**	**+0.2**
	comp=Z,3.7nm,0.6s,baz=16,slow=8.8,SNR=40						
	comp=Z,3.7nm,0.6s						
CPUP	**Villa Florida**	**36.83**	**310**	P	**P**	**07 04 07.2**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=166,slow=10,SNR=3.2						
	comp=Z,1.5nm,0.8s						
MT02	**Curacav**	**37.93**	**288**	P	**P**	**07 04 13.5**	**-1.4**
CO01	**Juntas del Tor**	**39.94**	**292**	P	**P**	**07 04 32.1**	**+0.1**
CO01				IAmb	IAmb	07 04 45.6	
	comp=Z,9.9nm,1.2s						
MAW	**Mawson**	**40.21**	**144**	P	**P**	**07 04 33.8**	**+0.3**
AC02	**Maricunga**	**41.98**	**296**	P	**P**	**07 04 49.0**	**-0.1**
AC02				IAmb	IAmb	07 05 02.2	
	comp=Z,17nm,1.2s						
BDFB	**Brasilia**	**43.27**	**329**	LR	LR	07 20 46.0	
	comp=Z,41nm,18.4s,baz=129,slow=33						
LVC	**Limon Verde**	**45.38**	**299**	P	**P**	**07 05 17.1**	**+0.8**
LVC				IAmb	IAmb	07 05 27.4	
	comp=Z,20nm,1.4s						
PB04	**IPOC Station P**	**46.22**	**298**	P	**P**	**07 05 23.0**	**+0.2**
PB07	**IPOC Station P**	**46.60**	**299**	P	**P**	**07 05 25.8**	**0.0**
PB01	**IPOC Station P**	**46.99**	**300**	P	**P**	**07 05 28.7**	**0.0**
GO01	**Chusmiza**	**48.01**	**301**	P	**P**	**07 05 37.6**	**+0.4**
GO01				IAmb	IAmb	07 05 50.5	
	comp=Z,9.7nm,1.3s						
PB16	**IPOC Station P**	**49.31**	**302**	P	**P**	**07 05 48.3**	**+1.0**
PB16				IAmb	IAmb	07 05 48.4	
	comp=Z,4.2nm,1.1s						
LPAZ	**La Paz**	**50.43**	**305**	P	**P**	**07 05 55.3**	**-0.5**
LPAZ	**La Paz**	**50.43**	**305**	P	**P**	**07 05 56.5**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=131,slow=11,SNR=3.8						
	comp=Z,1.5nm,0.5s						
DBIC	**Dimbokro**	**64.86**	**24**	LR	LR	07 28 54.9	
	comp=Z,264nm,21.6s,baz=154,slow=30						
TOA0	**Torodi Ar. Sit**	**72.74**	**29**	P	**P**	**07 08 24.2**	**-1.4**
TOA0				IAmb	IAmb	07 08 34.5	
	comp=Z,6.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**72.74**	**29**	P	**P**	**07 08 25.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**72.74**	**29**	P	**P**	**07 08 25.7**	**0.0**
	comp=Z,0.3nm,0.4s,baz=200,slow=6.1,SNR=7.1						
	comp=Z,0.3nm,0.4s						
N30M	**Aishikik Lake**	**144.89**	**308**	PKPdf	**PKPdf**	**07 16 33.4**	**0.0**
INK	**Inuvik**	**145.76**	**321**	PKPdf	**PKPab**	**07 16 35.5**	**+0.1**
I30M	**Mount Dempster**	**145.93**	**315**	PKPdf	**PKPdf**	**07 16 35.4**	**+0.3**
G30M	**tAoh Zraii Nji**	**146.39**	**318**	PKPdf	**PKPdf**	**07 16 36.3**	**+0.6**
ILAR	**Eielson Array**	**150.13**	**312**	PKPbc	**PKPbc**	**07 16 46.4**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=121,slow=3.2,SNR=14						
SONM	**Songino Array**	**150.49**	**86**	PKPbc	**PKPbc**	**07 16 47.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=214,slow=2.2,SNR=3.7						

CNRM ***14*** *06:59:14.0, 37°.69N×1°.41W, h0km, ml2.3*

SFS ***14*** *06:59:13.4, 37°.91N×1°.11W, h0km, ML2.9/9, ML2.8/8, MLv2.8/9*

INMG ***14*** *06:59:13.5±1.3, 37°.86N×1°.14W, h7km±2km, ML2.3, Error ellipse: s-maj=3.9km s-min=1.7km az=145.0*

MDD ***14*** *06:59:14.1±0.3, 37°.88N×1°.11W, h11km, mb_Lg2.7/42, Error ellipse: s-maj=2.5km s-min=1.5km az=135.0*

ISC 14 06:59:12.5±0.8, 37°.88N±0°.02×1°.13W±0°.02, h14km±5km, n63, σ1.15/114, 2C, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.10**	**246**	⇑Pg	**Pg**	**06 59 15.5**	**-0.1**
EMUR				Sg	**Sg**	**06 59 17.3**	**-0.4**
EMUR	**La Murta**	**0.10**	**246**	Sg	**Sg**	**06 59 17.3**	**-0.4**
EMUR				Pg	**Pg**	**06 59 15.5**	**-0.1**
CART	**Cartagena**	**0.31**	**161**	P	**Pb**	**06 59 20.2**	**+0.4**
CART				S	**Sb**	**06 59 25.3**	**+0.5**
CART	**Cartagena**	**0.31**	**161**	Sg	**Sb**	**06 59 24.0**	**-0.7**
CART				Pg	**Pb**	**06 59 19.6**	**-0.2**
ETRV	**Los Montesinos**	**0.32**	**64**	Pg	**Pb**	**06 59 19.9**	**-0.1**
ETRV				Sg	**Sb**	**06 59 24.6**	**-0.5**
ETRV				*i* Vmb_Lg		06 59 27.8	
EZAR	**Zarzadilla de**	**0.45**	**269**	⇑Pg	**Pg**	**06 59 21.6**	**+0.3**
EZAR				Sg	**Sb**	**06 59 28.6**	**-0.2**
EZAR				*i* Vmb_Lg		06 59 32.8	
TLOR	**Lorca, Murcia**	**0.50**	**243**	Pg	**Pb**	**06 59 23.6**	**+0.6**
TLOR				Sg	**Sb**	**06 59 30.5**	**+0.3**
ELOR	**Lorca, Murcia**	**0.54**	**244**	Pg	**Pb**	**06 59 24.0**	**+0.2**
ELOR				Sg	**Sb**	**06 59 31.7**	**+0.2**
ELOR				*i* Vmb_Lg		06 59 32.4	
ETOB	**Tobarra**	**0.83**	**337**	Pg	**Pb**	**06 59 29.0**	**+0.3**
ETOB				Sg	**Sn**	**06 59 41.7**	**-0.3**
ETOB				*i* Vmb_Lg		06 59 44.2	
ETOB	**Tobarra**	**0.83**	**337**	Sg	**Sb**	**06 59 40.5**	**+0.7**
ETOB				Pg	**Pb**	**06 59 29.0**	**+0.3**
AFON	**Font Roja**	**0.91**	**31**	Pg	**Pb**	**06 59 30.3**	**+0.2**
AFON				Sg	**Sg**	**06 59 41.7**	**-0.3**
AFON				*i* Vmb_Lg		06 59 47.8	
EBEN2	**Beniarda presa**	**1.08**	**43**	Pg	**Pn**	**06 59 33.3**	**-0.1**
EBEN2				Sg	**Sg**	**06 59 46.2**	**-1.4**
EBEN2				*i* Vmb_Lg		06 59 53.6	
ENIJ	**Nijar**	**1.25**	**224**	Pg	**Pb**	**06 59 36.3**	**+0.5**
ENIJ				Sg	**Sn**	**06 59 53.4**	**+1.3**
ENIJ				*i* Vmb_Lg		06 59 55.5	
EVIV	**Cofrentes, Val**	**1.38**	**0**	Pg	**Pg**	**06 59 39.3**	**+0.2**
EVIV				Sg	**Sg**	**06 59 56.8**	**-0.3**
EVIV				*i* Vmb_Lg		06 59 59.0	
EQES	**Quesada**	**1.54**	**268**	Pg	**Pg**	**06 59 41.7**	**-0.3**
EQES				Sg	**Sg**	**07 00 02.5**	**+0.5**
EQES				*i* Vmb_Lg		07 00 04.2	
EBER	**Berja**	**1.71**	**236**	Pn	**Pb**	**06 59 43.6**	**-0.2**
EBER				Sg	**Sb**	**07 00 06.9**	**+1.6**
EBER				*i* Vmb_Lg		07 00 14.1	
EBER	**Berja**	**1.71**	**236**	Sn	**Sb**	**07 00 06.6**	**+1.4**
EBER				Pn	**Pb**	**06 59 43.5**	**-0.4**
ECHE	**Chera**	**1.71**	**4**	Pg	**Pg**	**06 59 45.7**	**+0.3**
ECHE				Sn	**Sb**	**07 00 05.1**	**-0.1**
ECHE				Sg	**Sg**	**07 00 07.2**	**-0.4**
ECHE				*i* Vmb_Lg		07 00 11.8	
ECHE	**Chera**	**1.71**	**4**	Sg	**Sg**	**07 00 06.4**	**-1.2**
ECHE				Pg	**Pg**	**06 59 45.6**	**+0.3**
EQUE	**Quentar**	**1.96**	**251**	Pg	**Pb**	**06 59 48.6**	**+0.6**
EQUE				Sg	**Sg**	**07 00 15.0**	**-0.3**
EQUE				*i* Vmb_Lg		07 00 25.3	
EQTA	**Presa de Quent**	**1.96**	**251**	Pn	**Pb**	**06 59 47.9**	**-0.1**
EQTA				Sn	**Sb**	**07 00 12.7**	**+0.5**
ELGU	**Los Guajares,**	**2.23**	**244**	Pn	**Pn**	**06 59 49.7**	**+0.6**
ELGU				Pg	**Pb**	**06 59 52.6**	**0.0**
ELGU				*i* Vmb_Lg		07 00 31.2	
EIBI	**Ibiza**	**2.25**	**59**	Pn	**Pn**	**06 59 49.5**	**+0.1**
EIBI				Sn	**Sn**	**07 00 16.0**	**-1.0**
EIBI				*i* Vmb_Lg		07 00 18.8	
EIBI	**Ibiza**	**2.25**	**59**	Pn	**Pn**	**06 59 49.4**	**0.0**
EGOR	**Sierra Gorda,**	**2.49**	**253**	Pg	**Pb**	**06 59 56.7**	**-0.4**
EGOR				*i* Vmb_Lg		07 01 46.9	
EMOS	**Mosqueruela**	**2.53**	**11**	Pg	**Pb**	**06 59 57.3**	**-0.5**
EMOS				Sg	**Sb**	**07 00 30.9**	**+2.0**
EADA	**Adamuz**	**2.74**	**277**	Pn	**Pn**	**06 59 56.4**	**+0.4**
EADA				Pg	**Pg**	**07 00 04.5**	**-0.4**
EADA				Sg	**Sg**	**07 00 40.5**	**+0.1**
EADA				*i* Vmb_Lg		07 00 47.3	
EADA	**Adamuz**	**2.74**	**277**	Pn	**Pn**	**06 59 56.5**	**+0.4**
EADA				Sg	**Sg**	**07 00 40.0**	**-0.4**
ESDC	**Sonseca Array**	**2.85**	**310**	Pn	**Pn**	**06 59 56.4**	**-1.2**
ESDC				Pg	**Pg**	**07 00 06.4**	**-0.7**
ESDC				Sg	**Sg**	**07 00 41.9**	**-2.1**
ESDC				*i* Vmb_Lg		07 00 46.1	
PAB	**San Pablo**	**3.02**	**304**	Pn	**Pn**	**07 00 00.4**	**+0.4**
PAB				Pg	**Pg**	**07 00 10.0**	**-0.2**
PAB				Sg	**Sg**	**07 00 48.4**	**-1.0**
PAB				*i* Vmb_Lg		07 00 54.1	
ETOR	**Torete**	**3.02**	**347**	Pg	**Pg**	**07 00 09.7**	**-0.7**
ETOR				Sg	**Sg**	**07 00 48.9**	**-0.6**
ETOR				*i* Vmb_Lg		07 00 58.3	
GOG	**Mont Gurugu**	**3.05**	**210**	P	**Pn**	**06 59 58.7**	**-1.7**
TAF	**Taforalt**	**3.23**	**199**	P	**Pn**	**07 00 02.8**	**-0.1**
ECAB	**El Cabril**	**3.39**	**275**	Pn	**Pn**	**07 00 05.5**	**+0.4**
ECAB				Pg	**Pb**	**07 00 13.9**	**+1.5**
ECAB				Sn	**Sn**	**07 00 45.4**	**+0.3**
ECAB				Sg	**Sg**	**07 00 58.4**	**-3.0**
ECAB				*i* Vmb_Lg		07 01 09.5	
ECAB	**El Cabril**	**3.39**	**275**	Pn	**Pn**	**07 00 05.3**	**+0.3**
ETOS	**Mallorca**	**3.61**	**57**	Pn	**Pn**	**07 00 08.7**	**+0.6**
ETOS				Sn	**Sn**	**07 00 50.4**	**-0.1**
ETOS	**Mallorca**	**3.61**	**57**	Pn	**Pn**	**07 00 08.9**	**+0.8**
GUD	**Guadarrama**	**3.62**	**321**	Pg	**Pg**	**07 00 19.7**	**-2.2**
GUD				Sg	**Sg**	**07 01 05.9**	**-2.9**
GUD				*i* Vmb_Lg		07 01 10.8	
JBK	**JBK**	**3.73**	**199**	P	**Pn**	**07 00 11.6**	**+1.9**
EPOB	**Poblet**	**3.86**	**26**	Pn	**Pn**	**07 00 12.6**	**+1.0**
ESAC	**San Caprasio**	**3.87**	**7**	Pg	**Pg**	**07 00 27.6**	**+1.0**
ESAC				Sg	**Sb**	**07 01 09.6**	**+2.3**
ESAC				*i* Vmb_Lg		07 01 18.7	
EMIN	**Mina Concepcio**	**4.39**	**270**	Sg	**Sg**	**07 01 30.7**	**-2.7**
EMIN				*i* Vmb_Lg		07 01 41.2	
EPLA	**Plasencia**	**4.43**	**301**	Pn	**Pn**	**07 00 19.7**	**+0.4**
EPLA				Pg	**Pg**	**07 00 35.2**	**-2.1**
EPLA				Sn	**Sn**	**07 01 11.3**	**+0.6**
EPLA				Sg	**Sg**	**07 01 30.9**	**-3.8**
EPLA				*i* Vmb_Lg		07 01 34.2	
PBAR	**Barrancos**	**4.67**	**275**	*e*Pn	**Pn**	**07 00 23.3**	**+0.7**
PBAR	**Barrancos**	**4.67**	**275**	*e*Pg	**Pg**	**07 00 40.3**	**-1.7**
PBAR				*e*Sg	**Sg**	**07 01 42.1**	**-0.4**
PBAR				A	A	07 01 47.7	
	3.6nm,0.4s						
EBAD	**Badajoz**	**4.71**	**282**	Pg	**Pg**	**07 00 41.0**	**-1.6**
EBAD				Sg	**Sg**	**07 01 43.0**	**-0.6**
EBAD				*i* Vmb_Lg		07 01 46.9	
EJUZ	**Juzbado, Salam**	**4.88**	**312**	Pn	**Pn**	**07 00 26.8**	**+1.3**
EJUZ				Sg	**Sg**	**07 01 46.4**	**-2.6**
EORO	**Oroz-Betelu**	**5.01**	**358**	Pn	**Pn**	**07 00 29.2**	**+1.9**
EORO				*i* Vmb_Lg		07 02 12.7	
PMRV	**Marv??o**	**5.14**	**289**	*e*Sn	**Sn**	**07 01 27.7**	**-0.5**
PMRV				*e*Sg	**Sg**	**07 01 58.3**	**+0.9**
PMRV				A	A	07 02 12.6	
	3.7nm,0.6s						
PESTR	**Estremoz**	**5.17**	**283**	*e*Sg	**Sg**	**07 01 58.2**	**-0.2**
PESTR				A	A	07 02 06.1	
	3.9nm,0.7s						
PVAQ	**Vaqueiros**	**5.25**	**267**	*e*Pn	**Pn**	**07 00 31.0**	**+0.5**
PVAQ				*e*Sn	**Sn**	**07 01 29.8**	**-1.1**
PVAQ				A	A	07 02 13.1	
	2.3nm,0.7s						
PVAQ	**Vaqueiros**	**5.25**	**267**	P	**Pn**	**07 00 30.6**	**+0.1**
PVAQ	**Vaqueiros**	**5.25**	**267**	Pn	**Pn**	**07 00 30.8**	**+0.3**
EVO	**Evora**	**5.46**	**279**	*e*Sg	**Sg**	**07 02 08.4**	**+0.7**
EVO				A	A	07 02 16.1	
	3.5nm,0.6s						
PCVE	**Castro Verde**	**5.48**	**270**	*e*Pn	**Pn**	**07 00 34.5**	**+0.8**
MVO	**Moncorvo**	**5.62**	**308**	*e*Pn	**Pn**	**07 00 37.0**	**+1.4**
MVO				*e*Sg	**Sg**	**07 02 13.3**	**+0.6**
MVO				A	A	07 02 21.0	
	4.5nm,0.5s						
PMTG	**Montargil**	**5.69**	**284**	*e*Sg	**Sg**	**07 02 17.3**	**+2.2**
PMTG				A	A	07 02 22.4	
	3.5nm,0.5s						
PBRG	**Braganca**	**5.83**	**314**	*e*Pn	**Pn**	**07 00 39.7**	**+1.1**
PBRG				*e*Sg	**Sg**	**07 02 18.7**	**-0.8**
PBRG				A	A	07 02 26.3	
	2.5nm,0.5s						
ECAL	**Calabor**	**5.92**	**315**	Pn	**Pn**	**07 00 40.9**	**+1.1**
ECAL				Sg	**Sg**	**07 02 18.9**	**-3.4**
ECAL				*i* Vmb_Lg		07 02 35.9	
PVIS	**Viseu**	**5.96**	**300**	*e*Pn	**Pn**	**07 00 41.5**	**+1.1**
PVIS				*e*Sg	**Sg**	**07 02 23.9**	**+0.2**
PVIS				A	A	07 02 28.9	
	2.6nm,0.6s						
PCAS	**Casmilo, Conde**	**6.14**	**293**	*e*Pn	**Pn**	**07 00 44.0**	**+1.3**
POLO	**Lamas de Olo**	**6.21**	**306**	*e*Sg	**Sg**	**07 02 31.0**	**-0.9**
POLO				A	A	07 02 34.9	
	1.1nm,0.6s						
PGAV	**Gavieira, Arco**	**6.83**	**309**	*e*Pn	**Pn**	**07 00 53.8**	**+1.4**

BGR ***14*** *07:11:20.2, 34°.88N×14°.49E, h10km*

NAO ***14*** *07:12:12.4, 39°.92N×14°.16E, h33km, mb3.1*

ROM ***14*** *07:12:21.9±0.2, 39°.002N±0°.009×15°.39E±0°.02, h269km±1km, ML3.5/77, Error ellipse: s-maj=1.3km s-min=0.7km az=115.0*

IDC ***14*** *07:12:23.1±1.0, 39°.25N×15°.18E, h265km±15km, mb3.3/12, mbtmp3.9/20, Error ellipse: s-maj=18.9km s-min=13.0km az=37.0*

ISC 14 07:12:22.4±0.6, 39°.08N±0°.06×15°.38E±0°.06, h265km±6km, n123, σ1.25/136, mb3.4/11, 3D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IST3	**Stromboli F**	**0.30**	**202**	P	**Pn**	**07 12 57.5**	**+0.9**
IST3				AML	AML		
	comp=E,798μm,1.5s						
IST3				AML	AML		
	comp=N,872μm,0.4s						
JOPP	**Joppolo**	**0.61**	**140**	⇓P	**Pn**	**07 12 57.5**	**+0.1**
JOPP				S	**S**	**07 13 23.7**	**-1.4**
JOPP				AML	AML		
	comp=E,1380μm,1.4s						
JOPP				AML	AML		
	comp=N,1430μm,0.3s						
CET2	**Cetraro**	**0.64**	**45**	⇓P	**Pn**	**07 12 58.1**	**+0.7**
CET2				S	**S**	**07 13 24.6**	**-0.5**
CET2				AML	AML		
	comp=N,2365μm,0.8s						
CET2				AML	AML		
	comp=N,2360μm,0.8s						
CET2				AML	AML		
	comp=E,1130μm,0.7s						
CAR1	**CAROLEI**	**0.67**	**75**	⇓P	**Pn**	**07 12 58.0**	**+0.4**
CAR1				S	**S**	**07 13 24.2**	**-1.1**
CAR1				AML	AML		
	comp=E,1545μm,0.3s						
CAR1				AML	AML		
	comp=E,2215μm,0.7s						
CAR1				AML	AML		
	comp=E,1550μm,0.3s						
CAR1				AML	AML		
	comp=N,2415μm,0.7s						
CAR1				AML	AML		
	comp=E,1545μm,0.4s						
CAR1				AML	AML		
	comp=N,1975μm,0.7s						
CAR1				AML	AML		
	comp=N,1975μm,1.3s						
LLI	**Lipari**	**0.71**	**208**	P	**Pn**	**07 12 58.1**	**+0.3**
LLI				AML	AML		
	comp=N,2300μm,0.6s						
LLI				AML	AML		
	comp=E,1455μm,0.6s						
IVGP	**Vulcano Grotta**	**0.75**	**206**	P	**Pn**	**07 12 58.0**	**+0.1**
VPL	**Vulcano Piano**	**0.76**	**204**	P	**Pn**	**07 12 58.2**	**+0.3**
VPL				S	**S**	**07 13 25.1**	**-0.9**
VPL				AML	AML		
	comp=E,1725μm,0.7s						
VPL				AML	AML		
	comp=N,1855μm,1.1s						
VPL				AML	AML		
	comp=E,1230μm,0.4s						
SPS2	**Spezzano della**	**0.78**	**73**	P	**Pn**	**07 12 58.6**	**+0.6**
SPS2				S	**S**	**07 13 25.5**	**-0.6**
SPS2				AML	AML		
	comp=E,375μm,0.9s						
SPS2				AML	AML		
	comp=N,489μm,1.0s						
MILZ	**Milazzo**	**0.81**	**188**	P	**Pn**	**07 12 58.0**	**-0.2**
MILZ				S	**S**	**07 13 25.3**	**-1.0**
MILZ				AML	AML		
	comp=E,554μm,0.6s						
MILZ				AML	AML		
	comp=N,594μm,0.3s						
MSRU	**Castanea**	**0.82**	**173**	P	**Pn**	**07 12 57.8**	**-0.4**
MSRU				S	**S**	**07 13 25.3**	**-1.2**
MSRU				AML	AML		
	comp=N,798μm,0.3s						
MSRU				AML	AML		
	comp=E,744μm,0.3s						
GRI	**Girifalco**	**0.85**	**107**	P	**Pn**	**07 12 59.1**	**+0.8**
GRI				S	**S**	**07 13 25.6**	**-1.1**
GRI				AML	AML		
	comp=E,1092μm,0.3s						
GRI				AML	AML		
	comp=N,647μm,0.3s						
GRI				AML	AML		
	comp=N,646μm,0.3s						
GRI				AML	AML		
	comp=N,646μm,1.7s						
GRI				AML	AML		
	comp=E,1092μm,1.7s						
CEL	**Celeste**	**0.91**	**153**	P	**Pn**	**07 12 58.4**	**-0.3**
CEL				AML	AML		
	comp=E,399μm,0.5s						
CEL				AML	AML		
	comp=E,494μm,0.4s						
CEL				AML	AML		
	comp=N,406μm,0.3s						
CEL				AML	AML		
	comp=N,488μm,0.3s						
CELI	**Celico**	**0.94**	**69**	P	**Pn**	**07 13 00.3**	**+1.4**
CELI				S	**S**	**07 13 27.3**	**-0.3**
CELI				AML	AML		
	comp=N,1054μm,1.2s						
CELI				AML	AML		
	comp=E,1058μm,0.7s						
CELI				AML	AML		
	comp=N,406μm,0.6s						
CELI				AML	AML		
	comp=N,406μm,1.4s						
MMN	**Mormanno**	**0.94**	**30**	P	**Pn**	**07 12 59.1**	**+0.5**
TDS	**Terranova Siba**	**0.95**	**52**	P	**Pn**	**07 12 60.0**	**+1.3**
TDS				S	**S**	**07 13 27.4**	**0.0**
TDS				AML	AML		
	comp=N,182μm,0.3s						
TDS				AML	AML		
	comp=E,312μm,0.9s						
TDS				AML	AML		
	comp=E,312μm,1.1s						
TDS				AML	AML		
	comp=N,182μm,0.3s						
IACL	**Alicudi**	**0.96**	**236**	P	**Pn**	**07 12 59.5**	**+0.7**
IACL				AML	AML		
	comp=E,269μm,0.6s						
IACL				AML	AML		
	comp=N,314μm,0.5s						
GMB	**Gambarie**	**0.97**	**158**	AML	AML		
	comp=N,2000μm,0.2s						
GMB				AML	AML		
	comp=E,2870μm,0.2s						
CUC	**Castrocucco**	**0.98**	**20**	P	**Pn**	**07 12 59.8**	**+0.9**
CUC				S	**S**	**07 13 27.9**	**+0.1**
CUC				AML	AML		
	comp=E,170μm,0.7s						
CUC				AML	AML		
	comp=N,120μm,0.8s						
CUC				AML	AML		
	comp=E,170μm,1.3s						
CUC				AML	AML		
	comp=E,137μm,0.5s						
SERS	**Sersale**	**1.02**	**92**	P	**Pn**	**07 13 00.1**	**+0.8**
SERS				S	**S**	**07 13 27.3**	**-1.1**
SERS				AML	AML		
	comp=E,486μm,0.4s						
SERS				AML	AML		
	comp=N,441μm,0.3s						
SERS				AML	AML		
	comp=E,486μm,0.5s						
SERS				AML	AML		
	comp=N,484μm,0.4s						
SERS				AML	AML		
	comp=N,484μm,1.6s						
SERS				AML	AML		
	comp=E,486μm,1.6s						
PLAC	**Placanica**	**1.04**	**127**	P	**Pn**	**07 12 59.7**	**+0.4**
PLAC				S	**S**	**07 13 27.0**	**-1.4**
MGR	**Morigerati**	**1.07**	**7**	P	**Pn**	**07 13 00.7**	**+1.4**
MGR				AML	AML		
	comp=E,102μm,0.5s						
MGR				AML	AML		
	comp=N,120μm,0.8s				

AIO			S	S	07 13 28.4	-0.9
AIO			AML	AML		
	comp=E,495μm,0.3s					
AIO			AML	AML		
	comp=N,690μm,1.6s					
AIO			AML	AML		
	comp=E,313μm,6.6s					
AIO			AML	AML		
	comp=E,313μm,1.4s					
SOI	**Samo**	**1.14 152**	P	**Pn**	07 12 59.8	0.0
SOI			S	**S**	07 13 28.2	-1.2
SOI			AML	AML		
	comp=E,285μm,0.3s					
SOI			AML	AML		
	comp=N,433μm,0.5s					
SOI			AML	AML		
	comp=E,286μm,0.3s					
SOI			AML	AML		
	comp=N,432μm,0.5s					
SIRI	**Monte Sirino -**	**1.17 19**	P	**Pn**	07 13 01.1	+1.1
SIRI			AML	AML		
	comp=E,140μm,0.3s					
SIRI			AML	AML		
	comp=E,140μm,0.3s					
SIRI			AML	AML		
	comp=N,146μm,0.4s					
SIRI			AML	AML		
	comp=E,140μm,1.7s					
SIRI			AML	AML		
	comp=N,138μm,0.4s					
SIRI			AML	AML		
	comp=E,140μm,1.7s					
PIPA	**Pietrapaola**	**1.19 69**	P	**Pn**	07 13 01.2	+1.1
PIPA			AML	AML		
	comp=N,380μm,0.5s					
PIPA			AML	AML		
	comp=E,512μm,0.3s					
PIPA			AML	AML		
	comp=E,526μm,0.3s					
PIPA			AML	AML		
	comp=N,468μm,0.2s					
MSFR	**San Fratello**	**1.21 211**	P	**Pn**	07 13 00.7	+0.3
MSFR			AML	AML		
	comp=E,116μm,0.3s					
MSFR			AML	AML		
	comp=N,99μm,0.5s					
MTSN	**Montesano sull**	**1.22 14**	P	**Pn**	07 13 01.2	+0.9
MTSN			AML	AML		
	comp=E,108μm,1.1s					
MTSN			AML	AML		
	comp=N,84μm,1.3s					
MTSN			AML	AML		
	comp=N,84μm,0.7s					
CMPR	**Campora**	**1.24 357**	P	**Pn**	07 13 02.0	+1.6
CMPR			AML	AML		
	comp=E,86μm,1.0s					
CMPR			AML	AML		
	comp=N,72μm,1.1s					
CMPR			AML	AML		
	comp=N,72μm,0.9s					
CMPR			AML	AML		
	comp=E,86μm,1.0s					
MNO	**Monte Soro**	**1.26 205**	P	**Pn**	07 13 01.4	+0.6
MNO			AML	AML		
	comp=E,335μm,1.2s					
MNO			AML	AML		
	comp=N,322μm,1.1s					
MNO			AML	AML		
	comp=N,322μm,0.9s					
LADO	**San Nicola del**	**1.26 80**	P	**Pn**	07 13 01.3	+0.8
LADO			AML	AML		
	comp=N,25μm,0.3s					
LADO			AML	AML		
	comp=E,29μm,0.6s					
MCEL	**Monticello**	**1.29 15**	P	**Pn**	07 13 02.4	+1.6
MCEL			AML	AML		
	comp=E,161μm,0.6s					
MCEL			AML	AML		
	comp=N,144μm,0.7s					
MCEL			AML	AML		
	comp=E,161μm,1.4s					
EMSG	**Monte Spagnolo**	**1.30 195**	P	**Pn**	07 13 02.3	+1.3
EMSG			AML	AML		
	comp=E,594μm,0.5s					
EMSG			AML	AML		
	comp=N,739μm,0.4s					
EPZF	**Pizzo Felice**	**1.31 198**	P	**Pn**	07 13 01.6	+0.5
EPZF			AML	AML		
	comp=E,416μm,0.5s					
EPZF			AML	AML		
	comp=N,623μm,0.4s					
SLCN	**Sala Consilina**	**1.33 9**	P	**Pn**	07 13 02.9	+1.9
CDRU	**Civita di Ruta**	**1.41 358**	P	**Pn**	07 13 02.6	+1.0
ESLN	**Serra La Nave**	**1.42 193**	P	**Pn**	07 13 01.9	+0.1
GALF	**Gagliano Caste**	**1.50 205**	P	**Pn**	07 13 02.8	+0.5
GALF			AML	AML		
	comp=E,218μm,0.7s					
GALF			AML	AML		
	comp=N,328μm,0.7s					
ESML	**S. M. di Licod**	**1.51 195**	P	**Pn**	07 13 02.1	-0.2
ESML			AML	AML		
	comp=N,344μm,0.5s					
ESML			AML	AML		
	comp=E,377μm,0.3s					
GIB	**Gibilmanna**	**1.52 225**	P	**Pn**	07 13 02.6	+0.2
GIB			AML	AML		
	comp=E,785μm,1.2s					
GIB			AML	AML		
	comp=N,1265μm,0.3s					
GIB			AML	AML		
	comp=E,785μm,0.8s					
CRAC	**Craco**	**1.52 32**	AML	AML		
	comp=E,847μm,1.3s					
CRAC			AML	AML		
	comp=N,752μm,1.2s					
CRAC			AML	AML		
	comp=E,847μm,0.7s					
CSLB	**Castelbuono**	**1.54 223**	P	**Pn**	07 13 02.5	0.0
CSLB			AML	AML		
	comp=N,181μm,0.4s					
CSLB			AML	AML		
	comp=E,108μm,0.6s					
PETRA	**Petralia Sopra**	**1.59 219**	P	**Pn**	07 13 03.5	+0.5
PETRA			AML	AML		
	comp=E,304μm,0.5s					
PETRA			AML	AML		
	comp=N,305μm,1.0s					
CAGR	**Agira**	**1.61 206**	P	**Pn**	07 13 04.5	+1.5
CAGR			AML	AML		
	comp=E,630μm,0.3s					
CAGR			AML	AML		
	comp=N,1180μm,0.4s					
MRLC	**Muro Lucano**	**1.68 3**	P	**Pn**	07 13 04.8	+1.3
MCRV	**Calabrutti - M**	**1.71 355**	P	**Pn**	07 13 05.7	+1.9
MCRV			AML	AML		
	comp=E,63μm,0.4s					
MCRV			AML	AML		
	comp=N,73μm,0.5s					
MIGL	**Miglionico**	**1.73 28**	AML	AML		
	comp=N,638μm,1.1s					
MIGL			AML	AML		
	comp=E,546μm,0.8s					
MIGL			AML	AML		
	comp=N,638μm,0.9s					
USI	**Ustica**	**1.75 259**	P	**Pn**	07 13 04.8	+0.8
RESU	**Resuttano**	**1.76 216**	P	**Pn**	07 13 05.9	+1.6
VAE	**Valguarnera**	**1.77 206**	P	**Pn**	07 13 06.2	+1.9
	comp=N,28nm,0.4s,baz=178,slow=13,SNR=7.8					
VAE			S	**S**	07 13 42.9	+5.5
	comp=N,22nm,0.5s,baz=360,slow=20,SNR=0.9					
HLNI	**Lentini**	**1.77 193**	P	**Pn**	07 13 04.0	-0.2
HLNI			AML	AML		
	comp=E,255μm,0.9s					
HLNI			AML	AML		
	comp=N,222μm,0.3s					
HAGA	**Augusta**	**1.80 186**	P	**Pn**	07 13 03.9	-0.5
HAGA			AML	AML		
	comp=E,226μm,0.4s					
HAGA			AML	AML		
	comp=N,224μm,1.1s					
AGST	**Augusta-Monte**	**1.82 184**	P	**Pn**	07 13 04.1	-0.6
MPG	**Monte Pellegri**	**1.82 241**	P	**Pn**	07 13 05.7	+1.0
MPG			AML	AML		
	comp=E,168μm,0.3s					
MPG			AML	AML		
	comp=N,204μm,1.2s					
ALJA	**Alia**	**1.84 224**	P	**Pn**	07 13 05.7	+0.9
ALJA			AML	AML		
	comp=E,382μm,0.5s					
ALJA			AML	AML		
	comp=N,348μm,1.2s					
ALJA			AML	AML		
	comp=E,382μm,1.5s					
ALJA			AML	AML		
	comp=N,348μm,0.8s					
MTMR	**Montemarano**	**1.86 351**	P	**Pn**	07 13 06.9	+2.0
LTRZ	**Laterza**	**1.89 36**	P	**Pn**	07 13 05.3	+0.2
SSY	**Sortino**	**1.93 187**	P	**Pn**	07 13 05.3	-0.4
SSY			AML	AML		
	comp=E,288μm,1.2s					
SSY			AML	AML		
	comp=N,802μm,0.3s					
MEU	**Monte Lauro**	**2.00 190**	P	**Pn**	07 13 06.1	-0.3
MEU			AML	AML		
	comp=E,370μm,0.3s					
MEU			AML	AML		
	comp=N,678μm,0.3s					
CORL	**Corleone**	**2.01 235**	P	**Pn**	07 13 06.6	+0.3
CORL			AML	AML		
	comp=E,294μm,0.5s					
CORL			AML	AML		
	comp=N,254μm,1.2s					
CORL			AML	AML		
	comp=N,254μm,0.8s					
CORL			AML	AML		
	comp=E,294μm,1.5s					
RAFF	**Raffo Rosso**	**2.02 204**	P	**Pn**	07 13 06.7	+0.4
RAFF			AML	AML		
	comp=E,250μm,0.5s					
RAFF			AML	AML		
	comp=N,264μm,0.5s					
PAOL	**Paolisi**	**2.05 343**	P	**Pn**	07 13 08.2	+1.7
TAR1	**Taranto**	**2.06 45**	AML	AML		
	comp=N,259μm,0.5s					
TAR1			AML	AML		
	comp=E,230μm,0.2s					
HMDC	**Modica**	**2.17 193**	P	**Pn**	07 13 07.9	+0.2
HMDC			AML	AML		
	comp=E,223μm,0.3s					
HMDC			AML	AML		
	comp=N,264μm,0.9s					
VITU	**Vitulano (BN)**	**2.18 345**	P	**Pn**	07 13 09.6	+1.9
CRJA	**Costa Raja**	**2.26 236**	P	**Pn**	07 13 09.2	+0.8
CRJA			AML	AML		
	comp=E,311μm,0.6s					
CRJA			AML	AML		
	comp=N,124μm,1.1s					
CRJA			AML	AML		
	comp=E,311μm,1.4s					
VENT	**Ventotene**	**2.28 319**	P	**Pn**	07 13 09.4	+0.9
PIGN	**Pignataro Magg**	**2.31 337**	P	**Pn**	07 13 10.7	+1.9
MODR	**Mondragone**	**2.37 331**	P	**Pn**	07 13 11.0	+1.7
SACR	**S. Croce Del S**	**2.37 348**	P	**Pn**	07 13 11.2	+1.6
SGG	**Gregorio Mates**	**2.43 342**	P	**Pn**	07 13 12.3	+2.2
SCTE	**Santa Cesarea**	**2.59 66**	P	**Pn**	07 13 12.3	+0.8
SCTE			AML	AML		
	comp=E,362μm,0.2s					
SCTE			AML	AML		
	comp=N,391μm,0.4s					
GIUL	**Giuliano Di Ro**	**2.96 327**	P	**Pn**	07 13 17.1	+1.8
GIUL			AML	AML		
	comp=E,28μm,0.9s					
GIUL			AML	AML		
	comp=N,46μm,0.4s					
LATB	**Latina**	**3.04 323**	P	**Pn**	07 13 17.4	+1.3
DGI	**Dorgali Grotta**	**4.62 287**	P	**Pn**	07 13 34.5	+0.4
VSL	**Villasalto**	**4.67 277**	P	**Pn**	07 13 35.8	+1.1
CGL	**Cagliari Serpe**	**4.73 275**	P	**Pn**	07 13 36.3	+0.8
KEST	**Kesra**	**5.85 237**	P	**Pn**	07 13 49.0	-0.1
	comp=N,2.6nm,0.7s,baz=180,slow=1.0,SNR=2.5					
OBKA	**Obir**	**7.45 356**	*e*Pn	**Pn**	07 14 10.3	+1.5
	comp=N,5.0nm,0.6s					
SOKA	**Soboth**	**7.60 358**	*i* Pn	**Pn**	07 14 11.8	+1.2
	comp=N,3.6nm,0.5s					
MYKA	**Terra Mystica**	**7.66 351**	*i* Pn	**Pn**	07 14 12.2	+0.8
	comp=N,2.6nm,0.5s					
ABTA	**Abfaltersbach**	**7.95 346**	*e*Pn	**Pn**	07 14 16.2	+1.2
	comp=N,4.5nm,0.5s,SNR=6.3					
KBA	**Koelnbreinsper**	**8.13 350**	*e*Pn	**Pn**	07 14 18.6	+1.2
	comp=N,1.7nm,0.5s					
ARSA	**Arzberg**	**8.17 1**	*e*Pn	**Pn**	07 14 19.7	+2.0
	comp=N,1.1nm,0.3s					
IDI	**Anoyia**	**8.48 114**	P	**Pn**	07 14 22.4	+0.5
	comp=N,4.9nm,0.6s,baz=296,slow=14,SNR=1.6					
LESA	**Schwarzleotal**	**8.57 348**	*i* Pn	**Pn**	07 14 25.4	+2.6
	comp=N,1.8nm,0.4s					
WTTA	**Wattenberg**	**8.63 343**	*i* Pn	**Pn**	07 14 26.0	+2.4
	comp=N,4.8nm,0.3s					
FETA	**Feichten**	**8.64 338**	*e*Pn	**Pn**	07 14 25.6	+1.9
	comp=N,7.3nm,0.5s					
RONA	**Rosalia, Austr**	**8.65 4**	*i* Pn	**Pn**	07 14 25.2	+1.5
	comp=N,2.1nm,0.5s					
DAVOX	**Davos/Dischmat**	**8.69 334**	P	**Pn**	07 14 27.3	+2.9
	comp=N,3.7nm,0.4s,baz=112,slow=3.2,SNR=7.8					
SQTA	**Sankt Quirin**	**8.69 341**	*e*Pn	**Pn**	07 14 26.3	+2.0
	comp=N,18nm,0.4s,SNR=8.2					
WATA	**Walderalm**	**8.71 343**	*e*Pn	**Pn**	07 14 26.6	+2.0
	comp=N,18nm,0.5s,SNR=11					
MOA	**Molln**	**8.81 355**	*i* Pn	**Pn**	07 14 27.1	+1.4
	comp=N,1.9nm,0.4s					
MOTA	**Moosalm**	**8.83 341**	*e*Pn	**Pn**	07 14 27.4	+1.3
	comp=N,6.5nm,0.7s,SNR=4.6					
GERES	**GERESS Array B**	**9.84 354**	P	**Pn**	07 14 38.0	-0.7
	comp=N,1.2nm,0.5s,baz=169,slow=13,SNR=5.4					
KHC	**Kasperske Hory**	**10.13 353**	*e*P	**Pn**	07 14 42.2	-0.1
WET	**Wettzell**	**10.22 351**	*e*P	**Pn**	07 14 43.6	+0.2
	comp=N,4.9nm,1.0s,baz=170,slow=12					
VRAC	**Vranov**	**10.27 4**	P	**Pn**	07 14 43.8	-0.1
	comp=N,5.9nm,0.5s,baz=206,slow=10,SNR=6.4					
BFO	**Black Forest**	**10.56 333**	*e*P	**Pn**	07 14 48.3	+0.7
	comp=N,12nm,0.7s,baz=170,slow=12					
GRF	**Grafenberg Arr**	**11.02 346**	*e*P	**P**	07 14 55.5	-1.5
	comp=N,10nm,0.6s,baz=170,slow=12					
GRF			*e*L	L	07 20 35.4	
	comp=N,91nm,18.4s					
DPC	**Dobruska-Polom**	**11.29 3**	*e*P	**P**	07 15 01.6	+1.5
HSKC	**Hora Svate Kat**	**11.61 354**	*e*P	**P**	07 15 03.9	+0.3
PLN	**Plauen**	**11.63 350**	*e*L	L	07 23 24.9	
	comp=N,114nm,21.1s					
BRTR	**Keskin Array B**	**14.14 82**	P	**P**	07 15 34.4	+2.5
	comp=N,2.0nm,0.8s,baz=255,slow=8.8,SNR=7.1					
ESDC	**Sonseca Array**	**14.97 278**	P	**P**	07 15 40.5	-0.5
	comp=N,0.2nm,0.3s,baz=76,slow=10,SNR=2.0					
AKASG	**Malin Array Be**	**15.18 36**	P	**P**	07 15 43.6	+0.5
	comp=N,1.3nm,0.4s,baz=230,slow=9.2,SNR=9.1					
MMAI	**Mount Meron Ar**	**17.28 104**	P	**Pn**	07 16 09.1	+0.2
	comp=N,3.5nm,0.5s,baz=307,slow=8.3,SNR=7.2					
EIL	**Elat**	**18.66 114**	P	**Pn**	07 16 23.7	-1.2
	comp=N,5.9nm,0.7s,baz=289,slow=10,SNR=5.2					
EKA	**Eskdalemuir Ar**	**20.46 329**	P	**P**	07 16 38.0	-2.0
	comp=N,1.5nm,0.5s,baz=135,slow=10,SNR=11					
	comp=N,1.5nm,0.5s					
HFS	**Hagfors**	**21.11 358**	P	**P**	07 16 44.6	-1.9
	comp=N,1.5nm,0.5s,baz=179,slow=11,SNR=12					
	comp=N,1.5nm,0.5s					
NB2	**NORSAR Subarra**	**22.14 355**	P	**P**	07 16 55.0	-1.1
	comp=Z,0.5nm,0.5s,baz=174,slow=11					
NOA	**NORSAR Array B**	**22.14 355**	P	**P**	07 16 53.9	-2.2
	comp=Z,1.6nm,0.9s,baz=189,slow=7.6,SNR=5.2					
	comp=Z,1.6nm,0.9s					
FINES	**FINESS Array B**	**23.35 13**	P	**P**	07 17 07.0	-0.1
	comp=Z,8.2nm,0.4s,baz=189,slow=8.4,SNR=78					
	comp=Z,8.2nm,0.4s					
ARCES	**ARCESS Array B**	**31.00 7**	P	**P**	07 18 13.9	-1.0
	comp=Z,1.6nm,0.5s,baz=188,slow=8.2,SNR=12					
	comp=Z,1.6nm,0.5s					
SPITS	**Spitsbergen Ar**	**39.21 0**	P	**P**	07 19 24.8	+0.1
	comp=Z,18nm,1.0s,baz=162,slow=11,SNR=6.5					
	comp=Z,18nm,1.0s					
KURBB	**Kurchatov Arra**	**44.94 54**	P	**P**	07 20 11.7	+0.7
	comp=Z,0.3nm,0.4s,baz=281,slow=9.3,SNR=5.7					
	comp=Z,0.3nm,0.4s					
ZALV	**Zalesovo Beam**	**48.09 48**	P	**P**	07 20 35.9	+0.6
	comp=Z,1.0nm,0.5s,baz=267,slow=8.2,SNR=2.2					
	comp=Z,1.0nm,0.5s					
MKAR	**Makanchi Array**	**48.25 58**	P	**P**	07 20 37.3	+0.5
	comp=Z,0.7nm,0.5s,baz=277,slow=7.2,SNR=6.1					
	comp=Z,0.7nm,0.5s					
YKA	**Yellowknife Ar**	**71.11 338**	P	**P**	07 23 11.4	-0.2
	comp=Z,0.7nm,0.7s,baz=99,slow=8.1,SNR=4.3					
	comp=Z,0.7nm,0.7s					
ILAR	**Eielson Array**	**75.55 352**	P	**P**	07 23 38.0	+0.6
	comp=Z,0.4nm,0.9s,baz=343,slow=4.7,SNR=4.3					
	comp=Z,0.4nm,0.9s					
PDAR	**Pinedale Array**	**84.46 323**	P	**P**	07 24 25.3	-0.3
	comp=Z,0.1nm,0.4s,baz=72,slow=5.8,SNR=4.2					
	comp=Z,0.1nm,0.4s					

GCG ***14*** *07:18:26.9±0.8, 14°.19N×94°.43W, h129km±72km, MD4.8*
MEX ***14*** *07:18:28.0±0.4, 14°.87N×94°.28W, h9km±9km, MD4.5*
NEIC ***14*** *07:18:31.7±2.0, 15°.04N±0°.04×94°.08W±0°.07, h28km±7km, mb4.3/32, Md4.5/24(MEX), Error ellipse: s-maj=9.7km s-min=5.5km az=113.0*
IDC ***14*** *07:18:34.3±3.3, 15°.09N×93°.99W, h58km±28km, mb3.9/16, mbtmp4.2/18, ML4.6/3, MS3.7/15, Error ellipse: s-maj=26.2km s-min=12.9km az=56.0*
ISC 14 07:18:30.9±1.9**, 15°.05N**±0°.05×**94°.18W**±0°.04**, h32**km±13km**, n298,** σ1**°34**/310**, mb4.2**/25**, MS3.7**/13**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.14**	**55**		**Pn**	**07 18 48.7**	**-1.9**
PCIG					**Sn**	**07 19 04.9**	**-0.3**
PCIG		**1.14**	**55**	*i* P	**Pn**	**07 18 48.7**	**-1.9**
PCIG				*i* S	**Sn**	**07 19 04.9**	**-0.3**
NILT	**Santiago Nilte**	**1.56**	**345**	*i* P	**Pn**	**07 18 57.2**	**+0.7**
NILT				*e*S	**Sn**	**07 19 18.1**	**+2.3**
THIG		**1.86**	**94**		**Pn**	**07 18 57.7**	**-2.8**
THIG		**1.86**	**94**	*e*P	**Pn**	**07 18 57.7**	**-2.8**
PATR	**El Naranjo**	**1.88**	**88**	*i* P	**Pn**	**07 18 59.0**	**-2.1**
PATR				*e*S	**Sn**	**07 19 25.4**	**+1.5**
PAVE	**Pavencul**	**1.94**	**85**	*i* P	**Pn**	**07 18 59.4**	**-2.6**
HUIG	**Huatulco**	**1.99**	**291**	*i* P	Pn	07 18 59.1	-3.3
HUIG				*i* S	Sn	07 19 21.4	-4.9
TGIG		**2.00**	**31**		**Pn**	**07 19 03.4**	**+0.8**
TGIG					**Sb**	**07 19 30.9**	**-0.3**
TGIG		**2.00**	**31**	*i* P	**Pn**	**07 19 03.4**	**+0.8**
TGIG				*i* S	**Sb**	**07 19 30.9**	**-0.3**
CHUJ	**Union Juarez**	**2.00**	**88**	*i* P	**Pn**	**07 19 00.2**	**-2.6**
CHUJ				*e*S	**Sn**	**07 19 25.9**	**-1.0**
TGBT	**Tuxtla Gutierr**	**2.02**	**31**		**Pn**	**07 19 04.3**	**+1.6**
TGBT					**Sb**	**07 19 31.0**	**-0.6**
TGBT	**Tuxtla Gutierr**	**2.02**	**31**	*i* P	**Pn**	**07 19 04.3**	**+1.6**
TGBT				*e*S	**Sb**	**07 19 31.0**	**-0.6**
UXUV	**UXUV**	**2.26**	**1**	*i* P	**Pn**	**07 19 06.5**	**+0.4**
CCIG	**Comitan**	**2.32**	**58**	*i* P	**Pn**	**07 19 08.1**	**+1.0**
RTAL	**Retalhuleu**	**2.46**	**102**		**Pn**	**07 19 07.6**	**-1.3**
STG3	**Santiaguito 3,**	**2.55**	**97**	*i* P	**Pn**	**07 19 08.6**	**-1.7**
HUEH	**Huehuetenango**	**2.60**	**84**		**Pn**	**07 19 10.4**	**-0.6**
SULM	**Suchitepequez,**	**2.64**	**106**	*i* P	**Pn**	**07 19 11.2**	**-0.1**
SULM				*i* S	**Sn**	**07 19 45.5**	**+3.3**
TUIG	**Tuzandepetl**	**2.98**	**356**	*e*P	**Pn**	**07 19 15.3**	**-0.6**
TUIG				*e*S	**Sn**	**07 19 50.0**	**-0.6**
PEIG	**Puerto Escondi**	**3.01**	**289**	*e*P	Pn	07 19 13.2	-3.2
PEIG				*e*S	Sn	07 19 44.1	-7.4
NEUV	**Arroyo Zacate**	**3.07**	**330**	*e*P	**Pn**	**07 19 16.3**	**-1.0**
NEUV				*e*S	**Sn**	**07 19 55.4**	**+2.5**
VHO	**Vista Hermosa**	**3.17**	**310**	*e*P	Pn	07 19 17.2	-1.6
VHO				*e*S	**Sn**	**07 19 55.3**	**-0.4**
FUG	**Fuego 3**	**3.29**	**100**	*i* P	**Pn**	**07 19 21.4**	**+1.0**
FUG				*i* S	**Sn**	**07 19 59.8**	**+1.3**
PCG	**Pacaya**	**3.52**	**100**	*i* P	**Pn**	**07 19 24.0**	**+0.3**
PCG				*i* S	**Sn**	**07 20 09.2**	**+4.8**
PMUV	**Sontecomapan**	**3.59**	**346**	*e*P	**Pn**	**07 19 22.9**	**-1.7**
PMUV				*e*S	**Sn**	**07 20 05.6**	**-0.3**
YOIG	**Yosondua**	**3.70**	**300**	*e*P	Pn	07 19 24.9	-1.3
YOIG				*e*S	Sn	07 20 02.1	-6.8
NBG	**Las Nubes**	**3.74**	**97**	*i* P	**Pn**	**07 19 28.5**	**+1.8**
PNIG	**Pinotepa**	**4.03**	**290**	*e*P	Pn	07 19 27.6	-2.8
PNIG				*e*S	Sn	07 20 10.5	-6.1
TXIG	**Tlaxiaco**	**4.08**	**303**	*e*P	**Pn**	**07 19 30.8**	**-0.6**
TOIG	**Toxpalan**	**4.10**	**318**	*e*P	**Pn**	**07 19 32.8**	**+1.2**
TOIG				*e*S	**Sn**	**07 20 18.2**	**-0.3**
HLIG	**Huajuapan de L**	**4.44**	**309**	*e*P	**Pn**	**07 19 35.0**	**-1.3**
HLIG				*e*S	**Sn**	**07 20 25.9**	**-1.1**
TPIG	**Tehuac#an**	**4.53**	**318**	*e*P	**Pn**	**07 19 36.9**	**-0.6**
TPIG				*e*S	**Sn**	**07 20 31.3**	**+2.2**
PETF	**Flores**	**4.55**	**65**		**Pn**	**07 19 38.0**	**+0.4**
ESQI	**Esquipulas**	**4.71**	**95**		**Pn**	**07 19 39.5**	**-0.4**
MTO3	**Montecristo**	**4.71**	**97**	Pn	**Pn**	**07 19 39.1**	**-0.9**
FTIG	**Fresnillo de T**	**4.74**	**307**	*e*P	**Pn**	**07 19 41.3**	**+1.0**
FTIG				*e*S	**Sn**	**07 20 30.7**	**-3.5**
SCIG	**Sabancuy**	**4.84**	**36**	*e*P	**Pn**	**07 19 39.5**	**-2.1**
SCIG				*e*S	**Sn**	**07 20 36.5**	**-0.1**
TLIG	**Tlapa**	**4.90**	**301**	*e*P	Pn	07 19 40.9	-1.6
TLIG				*e*S	**Sn**	**07 20 37.7**	**-0.5**
JAUV	**Jalcomulco**	**4.97**	**330**	*e*P	**Pn**	**07 19 42.4**	**-1.0**
JAUV				*e*S	**Sn**	**07 20 40.6**	**+0.8**
SNET	**Serv Nac Est T**	**4.99**	**105**		**Pn**	**07 19 43.7**	**0.0**
LVIG	**Laguna Verde**	**5.12**	**336**	*e*P	**Pn**	**07 19 43.7**	**-1.6**
DAIG	**Los Arroyos**	**5.61**	**291**	*e*P	Pn	07 19 49.0	-3.3
DAIG				*e*S	Sn	07 20 49.3	-6.3
PPM	**Popocatepetl**	**5.83**	**314**	*e*P	**Pn**	**07 19 54.8**	**-0.9**
PPM				*e*S	**Sn**	**07 21 00.3**	**-1.5**
MEIG	**Mezcala**	**5.95**	**299**	*e*P	Pn	07 19 55.1	-1.8
MEIG				*e*S	**Sn**	**07 21 00.8**	**-3.3**
YAIG	**Yautepec**	**6.02**	**310**	*e*P	**Pn**	**07 19 58.3**	**+0.4**
YAIG				*e*S	**Sn**	**07 21 03.9**	**-2.0**
CXUV	**Coxquihui**	**6.04**	**328**	*e*P	**Pn**	**07 19 58.3**	**+0.1**
CXUV				*e*S	**Sn**	**07 21 06.2**	**-0.2**
PLIG	**Platanillo**	**6.08**	**304**	*e*P	**Pn**	**07 19 57.9**	**-0.9**
PLIG				*e*S	**Sn**	**07 21 05.3**	**-2.1**
CAIG	**El Cayaco**	**6.18**	**290**	*e*P	Pn	07 19 56.9	-3.1
CAIG				*e*S	Sn	07 21 01.2	-8.4
ARIG	**Puente Sto Nin**	**6.72**	**299**	*e*P	**Pn**	**07 20 07.1**	**-0.5**
ARIG				*e*S	**Sn**	**07 21 20.6**	**-2.5**
TGUH	**Tegucigalpa,Un**	**6.76**	**98**		**Pn**	**07 20 07.2**	**-0.9**
DEIG	**Demacu**	**6.98**	**319**	*e*P	Pn	07 20 08.5	-2.7
MYIG	**Mrida**	**7.24**	**35**	*e*P	**Pn**	**07 20 14.7**	**+0.2**
MYIG				*e*S	**Sn**	**07 21 36.2**	**+0.5**
CRIN	**San Cristobal**	**7.31**	**108**		**Pn**	**07 20 15.9**	**+0.3**
CRIN	**San Cristobal**	**7.31**	**108**	*e*P	**Pn**	**07 20 16.1**	**+0.5**
ZIIG	**Zihuatanejo**	**7.44**	**291**	*e*P	**Pn**	**07 20 16.7**	**-0.6**
TEIG	**Tepich**	**7.63**	**47**	Pn	**Pn**	**07 20 19.7**	**-0.2**
TEIG	**Tepich**	**7.63**	**47**	P	**Pn**	**07 20 19.6**	**-0.3**
	81nm,0.3s,baz=47,slow=0.8,SNR=65						
TEIG				S	**Sn**	**07 21 44.9**	**-0.4**
	622nm,0.7s,baz=198,slow=20,SNR=2.0						
TEIG				LR	LR	07 23 33.8	
	comp=Z,2μm,18.4s,baz=354,slow=40						
CNGN	**Cerro Negro**	**7.70**	**108**		**Pn**	**07 20 20.0**	**-0.9**
CNGN	**Cerro Negro**	**7.70**	**108**	*e*P	**Pn**	**07 20 20.4**	**-0.6**
MATN	**Matagalpa**	**8.29**	**104**		**Pn**	**07 20 27.7**	**-1.3**
BOAB	**BOACO BROADBAN**	**8.67**	**106**	Pn	**Pn**	**07 20 32.2**	**-2.0**
RPIG	**Rio Verde**	**8.75**	**322**	*e*P	**Pn**	**07 20 34.3**	**-1.1**
GTIG	**Gomez Farias**	**9.26**	**330**	*e*P	**Pn**	**07 20 44.4**	**+2.1**
ACON	**Acoyapa**	**9.28**	**108**	*e*P	**Pn**	**07 20 41.6**	**-1.0**
HZTE	**Horizontes, Gu**	**9.41**	**116**		**Pn**

TXAR Lajitas Array 16.70 330 P P 07 22 24.8 0.0
comp=Z,0.3nm,0.3s,baz=158,slow=13,SNR=24
TXAR LR LR 07 29 33.6
comp=Z,139nm,18.7s,baz=162,slow=39
comp=Z,2.9nm,0.8s
TX31 Lajitas Ar. Si 16.70 330 P P 07 22 24.6 -0.1
TX31 IAmb IAmb 07 22 37.8
comp=Z,23nm,0.9s
BRDY Brady 16.75 346 P P 07 22 25.4 +0.1
BRDY IAmb IAmb 07 22 40.1
comp=Z,9.5nm,0.7s
OZNA Ozona 17.04 339 Pn 07 22 27.4 +0.6
OZNA IAmb IAmb 07 22 37.6
comp=Z,13nm,0.7s
WHTX Lake Whitney, 17.13 351 P P 07 22 29.2 -0.1
WHTX IAmb IAmb 07 22 56.9
comp=Z,33nm,1.1s
WHTX Lake Whitney, 17.13 351 P P 07 22 30.1 +0.8
baz=169,SNR=7.0
FW13 Cleburne 17.48 351 P P 07 22 33.5 +0.3
FW13 IAmb IAmb 07 22 41.2
comp=Z,17nm,0.7s
FW14 Alvarado 17.49 352 P P 07 22 33.9 +0.5
FW14 IAmb IAmb 07 22 44.6
comp=Z,22nm,0.5s
ALPN Alpine 17.56 332 P P 07 22 35.1 +0.8
ALPN IAmb IAmb 07 22 37.6
comp=Z,12nm,0.8s
DWPF Disney Wildern 17.57 40 P Pn 07 22 34.5 +1.0
baz=224
ABTX Abilene, Hawle 18.19 345 P Pn 07 22 43.3 +2.2
baz=163,SNR=6.2
PECS Pecos 18.51 333 P Pn 07 22 46.0 +1.0
PECS IAmb IAmb 07 23 01.3
comp=Z,7.7nm,0.8s
TIGA Tifton 18.98 29 P P 07 22 50.3 +0.6
baz=213
LRAL Lakeview Retre 19.06 19 P Pn 07 22 51.9 +0.3
baz=201
MIAR Mount Ida 19.42 2 P P 07 22 55.2 +0.7
baz=182,SNR=5.3
MNTX Cornudas Mount 19.48 330 P Pn 07 22 57.3 +0.6
baz=146
WMOK Wichita Mounta 20.04 349 P Pn 07 23 03.1 -0.2
baz=167
PLMC San Jos del P 20.29 118 *eP* **P 07 23 04.9 +0.6**
ZARC Zaragoza, Cauc 20.37 110 *eP* **P 07 23 01.7 -3.4**
MSTX Muleshoe 20.38 339 P Pn 07 23 07.2 -0.1
baz=155
GOGA Godfrey 20.70 26 P P 07 23 09.1 +0.6
baz=210,SNR=5.5
YOTC Yotoco, Valle 20.72 120 *eP* **P 07 23 08.6 -0.4**
TUL3 Leonard 20.83 356 P P 07 23 10.4 +0.5
baz=175
AMTX Amarillo 20.87 342 P P 07 23 11.6 +1.1
baz=159
JAMC Jamundi, Valle 20.88 123 *eP* **P 07 23 10.5 -0.3**
GUY2C Guyana, Caldas 20.92 116 *eP* **P 07 23 12.4 +0.8**
PTBC PUERTO BERRIO, 21.12 111 *eP* **P 07 23 09.1 -4.2**
NORC Norcasia 21.19 114 *eP* **P 07 23 15.3 +1.3**
POPC Popayan, Colom 21.27 124 *eP* **P 07 23 16.4 +1.3**
121A Cookes Peak, D 21.36 327 P P 07 23 19.0 +3.2
baz=141,SNR=23
IMBA Imbabura, San 21.56 131 P P 07 23 19.9 +1.4
GCUF Volcan Galeras 21.57 128 *eP* **P 07 23 18.1 -0.4**
ORTC Ortega, Tolima 21.68 119 *eP* **P 07 23 21.6 +2.3**
WVT Waverly 21.75 14 P P 07 23 21.2 +1.5
baz=196
ROSC El Rosal 22.01 115 P P 07 23 24.1 +0.8
ROSC El Rosal 22.01 115 *eP* **P 07 23 25.5 +2.3**
ROSC El Rosal 22.01 115 P P 07 23 24.0 +0.8
comp=Z,20nm,0.9s,baz=53,slow=4.0,SNR=16
comp=Z,20nm,0.9s
PRAC Prado 22.09 119 *eP* **P 07 23 24.7 +1.0**
Y22F Passcal Instru 22.16 331 P P 07 23 26.2 +1.7
baz=146
KAN09 Caldwell North 22.21 353 P P 07 23 24.9 +0.2
KAN09 IAmb IAmb 07 23 28.5
comp=Z,12nm,0.8s
BARC Barichara 22.25 110 *eP* **P 07 23 26.3 +0.7**
PIAT Ana Tenorio 22.41 134 *eP* **P 07 23 28.9 +1.5**
TKL Tuckaleechee C 22.55 23 P P 07 23 28.8 +0.5
comp=Z,2.2nm,0.8s,baz=194,slow=14,SNR=1.7
TKL LR LR 07 33 19.0
comp=Z,81nm,19.4s,baz=203,slow=39
comp=Z,2.2nm,0.8s
CHIC Chingaza 22.63 115 *eP* **P 07 23 30.6 +0.7**
RUSC La Rusia 22.63 111 *eP* **P 07 23 30.0 0.0**
FLOC Florencia 22.66 124 *eP* **P 07 23 29.8 0.0**
ANMO Albuquerque 22.68 333 P P 07 23 31.2 +1.2
ANMO Albuquerque 22.68 333 P P 07 23 31.6 +1.6
baz=148
TUC Tucson 22.89 322 P P 07 23 34.1 +2.0
TUC IAmb IAmb 07 23 36.9
comp=Z,9.2nm,1.1s
TUC Tucson 22.89 322 P P 07 23 34.8 +2.7
baz=135
VILC Villavicencio, 22.91 116 *eP* **P 07 23 34.6 +2.1**
CCM Cathedral Cave 23.06 6 P P 07 23 33.7 -0.1
baz=187
KMSC Kings Mountain 23.10 28 P P 07 23 33.9 -0.2
baz=213
R32A Long Quarter, 23.62 351 P P 07 23 39.6 +0.3
T25A Trinidad 23.81 339 P P 07 23 43.3 +2.0
T25A Trinidad 23.81 339 P P 07 23 43.0 +1.7
baz=155,SNR=12
MACC Macarena, Meta 23.81 121 *eP* **P 07 23 42.5 +1.3**
SDV Santo Domingo 23.82 102 P P 07 23 40.6 -1.0
comp=Z,4.2nm,0.3s,baz=330,slow=12,SNR=3.1
SDV LR LR 07 35 05.1
comp=Z,164nm,19.0s,baz=304,slow=42
comp=Z,4.2nm,0.3s
214A Organ Pipe Nat 23.92 318 P P 07 23 44.0 +1.9
baz=130
X18A Snowflake 24.05 327 P P 07 23 45.5 +2.0
X18A IAmb IAmb 07 23 47.7
comp=Z,11nm,0.9s
KSU1 Kansas State U 24.06 355 P P 07 23 44.7 +1.4
baz=174
PIX Pinacate 24.09 316 P P 07 23 45.4 +1.7
CBKS Cedar Bluff 24.18 349 P P 07 23 45.6 +1.1
baz=167,SNR=6.6
PTGC Puerto Gaitan, 24.23 114 *eP* **P 07 23 44.3 -0.9**
KSCO Kaye Shedlock' 25.00 344 P P 07 23 53.4 +1.4
baz=160
S22A 4UR Ranch, Cre 25.23 336 P P 07 23 56.1 +1.8
baz=150
MVCO Mesa Verde 25.48 333 P P 07 23 59.9 +3.4
baz=146,SNR=6.9
WUAZ Wupatki 25.55 326 P P 07 23 59.9 +2.7
baz=138,SNR=7.5
Q24A Divide 25.70 340 P P 07 24 01.1 +2.5
baz=155
GLA Glamis 25.93 317 P P 07 24 02.9 +2.4
baz=129
PDMCI Parker Dam,Lak 26.30 320 P P 07 24 06.0 +2.3
baz=132
O48B Farmland 26.32 16 P P 07 24 04.1 +0.2
baz=200
BGNE Belgrade 26.49 353 P P 07 24 06.7 +1.3
baz=171
SWSC Sam W. Stewart 26.50 316 P P 07 24 06.0 +0.4
baz=127
IKP In-Ko-Pah, Jac 26.54 315 P P 07 24 04.9 -1.1
baz=126
ISCO Idaho Springs 26.61 340 P P 07 24 07.8 +0.9
baz=155
P52A Corning 26.67 21 P P 07 24 05.3 -1.8
baz=206
OGNE Ogallala 26.69 347 P P 07 24 05.5 -1.8
baz=163
BC3 Big Chuckawall 26.71 318 P P 07 24 09.5 +1.9
baz=129,SNR=5.6
SCIA State Center 26.78 2 P P 07 24 07.3 -0.6
baz=182
IRM Iron Mountain 26.83 319 P P 07 24 10.3 +1.8
baz=130
MONP2 Monument Peak 26.89 315 P P 07 24 11.3 +1.9
baz=126
BELC Belle Mtn. Jos 27.28 318 P P 07 24 15.1 +2.3
baz=128
TPFO Pinon Flats 27.34 316 P P 07 24 15.5 +2.2
baz=127
PFO Pinyon Flats O 27.35 316 P P 07 24 15.2 +1.9
baz=127
PFO Pinyon Flats O 27.35 316 LR LR 07 36 26.0
comp=Z,202nm,18.8s,baz=132,slow=39

CBN Corbin Frederi 27.43 30 P P 07 24 15.2 +1.4
baz=217
GMRC Granite Mounta 27.56 319 P P 07 24 16.4 +1.2
baz=130
JFWS Jewell Farm 27.98 6 P P 07 24 17.8 -0.9
baz=188
TUQ Turquoise Moun 28.14 320 P P 07 24 21.5 +1.0
baz=131
RRX Edison Barstow 28.47 318 P P 07 24 24.4 +1.2
baz=128
BFSC Mount Baldy Ra 28.52 316 P P 07 24 24.9 +1.0
baz=126
ECSD EROS Data Cent 28.66 356 P P 07 24 25.2 +0.4
baz=175
PSUT Pine Spring 29.12 327 P P 07 24 30.1 +0.9
PSUT IAmb IAmb 07 24 32.9
comp=Z,4.6nm,1.0s
MPMC Manual Prospec 29.52 319 P P 07 24 34.0 +1.2
baz=129
SCZ2 Santa Cruz Isl 29.73 314 P P 07 24 35.9 +1.5
baz=123
ARVC Arvin 29.82 317 P P 07 24 37.3 +2.1
baz=126
DUG Dugway, Tooele 29.87 331 P P 07 24 37.1 +1.3
baz=142
ISA Isabella, Lake 29.91 318 P P 07 24 37.4 +1.4
baz=127
R11B Troy Canyon, C 29.93 325 P P 07 24 37.2 +0.9
baz=135
TCUT Toone Canyon 29.98 333 P P 07 24 38.7 +1.9
GRAC Grapevine Rang 30.04 321 P P 07 24 38.0 +0.8
baz=130
SPMN Marine on St. 30.10 2 P P 07 24 37.3 -0.3
baz=182,SNR=5.3
CWC Cottonwood Cre 30.13 319 P P 07 24 39.6 +1.4
baz=129
PKM Mcpherson Peak 30.35 315 P P 07 24 42.2 +2.1
baz=124
VES Vestal, Richgr 30.41 317 P P 07 24 42.4 +2.0
baz=126
PDAR Pinedale Array 30.62 337 P P 07 24 43.8 +1.3
comp=Z,0.7nm,0.8s,baz=142,slow=7.5,SNR=5.6
comp=Z,0.7nm,0.8s
NVAR Mina Array Bea 31.54 322 P P 07 24 53.0 +2.4
comp=Z,2.5nm,0.8s,baz=141,slow=9.4,SNR=18
NVAR LR LR 07 39 15.8
comp=Z,427nm,20.0s,baz=110,slow=39
comp=Z,2.5nm,0.8s
MDND Maddock 33.01 353 P P 07 25 04.1 +1.0
baz=170
HLID Hailey 33.26 333 P P 07 25 07.4 +1.9
baz=142
DLMT Dillon 33.98 337 P P 07 25 13.6 +1.9
WVOR Wild Horse Val 34.46 327 P P 07 25 17.8 +1.8
WVOR IAmb IAmb 07 25 19.0
comp=Z,6.7nm,1.1s
ULM Lac du Bonnet 35.13 358 P P 07 25 20.3 -1.2
comp=Z,4.6nm,0.8s,baz=178,slow=16,SNR=2.5
comp=Z,4.6nm,0.8s
PLID Pearl Lake 35.16 333 P P 07 25 22.9 +0.8
PLID IAmb IAmb 07 25 24.7
comp=Z,5.7nm,0.9s
EGMT Eagleton 35.31 342 P P 07 25 23.1 -0.1
baz=153
YBH Yreka Blue Hor 36.25 323 LR LR 07 42 22.5
comp=Z,250nm,19.2s,baz=147,slow=39
NEW Newport 38.14 335 LR LR 07 43 56.5
comp=Z,169nm,18.0s,baz=152,slow=40
SAML Samuel 38.89 126 P P 07 25 53.9 0.0
SAML IAmb IAmb 07 25 56.4
comp=Z,7.2nm,1.1s
LON Longmire 39.11 330 P P 07 25 56.8 +1.4
LON IAmb IAmb 07 25 58.4
comp=Z,5.2nm,0.9s
MDP Montagnes des 42.00 99 LR LR 07 45 10.7
comp=Z,58nm,18.9s,baz=320,slow=38
SCHQ Schefferville 45.01 22 LR LR 07 45 41.6
comp=Z,45nm,20.2s,baz=284,slow=36
PTLB Pontes e Lacer 46.02 130 P P 07 26 51.3 -0.4
YKA Yellowknife Ar 49.54 348 P P 07 27 19.9 +1.5
comp=Z,1.9nm,0.8s,baz=144,slow=7.4,SNR=4.2
comp=Z,1.9nm,0.8s
U33K Whale Pass 50.60 333 P P 07 27 26.1 -0.5
baz=128
DLBC Dease Lake 50.85 337 P P 07 27 28.2 -0.3
baz=133
MMPY Sheldon Lake, 54.19 340 P P 07 27 53.4 +0.2
baz=134
CPUP Villa Florida 54.55 139 P P 07 27 55.8 -0.5
comp=Z,1.6nm,0.7s,baz=326,slow=8.8,SNR=3.6
CPUP LR LR 07 49 22.6
comp=Z,22nm,18.5s,baz=292,slow=34
comp=Z,1.6nm,0.7s
BDFB Brasilia 54.87 122 P P 07 27 58.0 -0.8
comp=Z,3.6nm,0.6s,baz=272,slow=9.9,SNR=8.3
comp=Z,3.6nm,0.6s
MCARA McCarthy VSAT 57.84 335 P P 07 28 20.7 +1.4
baz=121
G31M Satah River 58.10 343 P P 07 28 21.2 +0.3
baz=133
L27K Beaver Creek, 58.25 337 P P 07 28 22.0 -0.2
baz=123
EYAK Cordova Ski Ar 58.59 333 P P 07 28 25.1 +0.5
baz=118
L26K Log Cabin Wild 58.82 336 P P 07 28 26.6 +0.4
baz=121
KLU Klutina 59.11 334 P P 07 28 26.7 -1.5
baz=118
M24K Tolsona, Glenn 59.50 335 P P 07 28 29.2 -1.7
baz=118
SCRK Sand Creek 59.56 337 P P 07 28 30.8 -0.6
baz=121
I27K Kandik River 59.59 339 P P 07 28 31.2 -0.2
baz=124
PAX Paxson 59.63 336 P P 07 28 32.0 +0.2
baz=119
PLCA Paso Flores 59.67 159 P P 07 28 33.3 +1.0
comp=Z,1.5nm,0.8s,baz=315,slow=12,SNR=4.2
comp=Z,1.5nm,0.8s
J26L Joseph Creek 59.68 338 P P 07 28 32.8 +0.7
baz=122
RIDG Independent Ri 59.77 337 P P 07 28 32.6 -0.1
baz=120
H27K Steamboat Moun 59.92 340 P P 07 28 32.0 -1.6
baz=125
I26K Coal Creek Min 59.96 339 P P 07 28 33.8 -0.2
baz=123
K24K Donnelly Dome 60.16 336 P P 07 28 35.4 +0.1
baz=119
KNK Knik Glacier 60.16 333 P P 07 28 36.0 +0.6
baz=115
F28M Old Crow 60.21 342 P P 07 28 36.0 +0.4
baz=127
WAT6 Susitna Watana 60.37 335 P P 07 28 38.4 +1.4
baz=116
J25K Salcha River, 60.41 337 P P 07 28 37.4 +0.4
baz=120
PMR Palmer 60.53 333 P P 07 28 38.9 +1.0
baz=115
KDAK Kodiak Island 60.72 328 LR LR 07 54 22.8
comp=Z,52nm,18.9s,baz=114,slow=35
WAT1 Susitna Watana 60.82 335 P P 07 28 39.9 +0.1
baz=116
HDA Harding Lake 60.90 337 P P 07 28 40.0 -0.4
baz=118
PRP Porcupine Dome 60.92 338 P P 07 28 40.9 +0.2
baz=120
M22K Willow 61.03 333 P P 07 28 42.0 +0.8
baz=114
ILAR Eielson Array 61.05 337 P P 07 28 41.5 +0.2
comp=Z,2.1nm,1.0s,baz=125,slow=4.5,SNR=13
ILAR LR LR 07 55 56.2
comp=Z,87nm,18.7s,baz=142,slow=37
comp=Z,2.1nm,1.0s
E27K Coleen River 61.08 342 P P 07 28 41.9 +0.3
baz=126
SUA Susitna One 61.19 333 P P 07 28 42.2 -0.3
baz=113
MCK McKinley 61.37 336 P P 07 28 43.1 -0.4
baz=116
POKR Poker Plat Res 61.42 337 P P 07 28 44.5 +0.6
baz=118
D27M Malcolm River 61.52 343 P P 07 28 44.2 -0.3
baz=127
O20K Slope Mountain 61.53 331 P P 07 28 45.4 +0.6
baz=110
F26K Sheenjek River 61.59 341 P P 07 28 44.2 -0.8
baz=123

R18K Karluk 61.61 328 P **P 07 28 45.1 -0.1**
baz=107
Q19K Cape Douglas, 61.63 329 P P 07 28 45.5 +0.1
baz=109
SKT Skwentna 61.73 333 P P 07 28 47.0 +0.9
baz=112
N20K Mount Spurr 61.74 332 P P 07 28 45.9 -0.3
baz=111
TRF Thorofare Moun 61.80 335 P P 07 28 46.9 +0.2
baz=114
H24K Noodor Dome 61.93 338 P P 07 28 47.5 +0.2
baz=118
F25K Christian Rive 62.03 340 P P 07 28 48.1 +0.2
baz=121
I23K Minto, Yukon-K 62.16 337 P P 07 28 49.5 +0.7
baz=116
G24K Hadweenzic Riv 62.20 339 P P 07 28 49.1 +0.1
baz=119
Q18K Katmai Hardscr 62.21 329 P P 07 28 49.4 0.0
baz=108
BPAW Bear Paw Mtn. 62.35 335 P P 07 28 50.2 +0.1
baz=114
M20K Styx River 62.40 333 P P 07 28 50.9 +0.3
baz=111
CAST Castle Rocks 62.52 335 P P 07 28 50.8 -0.5
baz=113
N19K Bonanza Creek 62.64 331 P P 07 28 52.7 +0.5
baz=109
CHUM Lake Minchumin 62.80 335 P P 07 28 53.5 +0.4
baz=113
M19K Big River Lodg 62.97 333 P P 07 28 55.8 +1.5
baz=110
Q16K King Salmon 63.05 329 P P 07 28 55.8 +1.0
baz=106
G23K Bananza Creek 63.10 338 P P 07 28 56.3 +1.2
baz=116
D25K Kavik River 63.16 342 P P 07 28 55.8 +0.3
baz=121
H22K Ishtalitna Cre 63.24 337 P P 07 28 56.1 0.0
baz=114
K20K Telida 63.33 334 P P 07 28 56.7 +0.1
baz=111
O17K Koliganek Bris 63.57 330 P P 07 28 59.5 +1.3
baz=106
E23K Chandalar 63.57 340 P P 07 28 59.1 +0.8
baz=117
J20K Nowinta River 63.66 335 P P 07 28 59.5 +0.7
baz=111
N17K Nushagak Hills 63.82 331 P P 07 29 00.4 +0.4
baz=106
TOLK Toolik Lake Re 63.83 340 P P 07 29 00.2 +0.3
baz=118
D24K Happy Valley 63.83 341 P P 07 29 01.4 +1.5
baz=118
S14K Fog Glacier 63.98 326 P P 07 29 02.8 +1.6
baz=102
J19K Poorman 64.20 335 P P 07 29 01.9 -0.5
baz=110
SDPT Sand Point 64.30 325 P P 07 29 02.4 -0.7
baz=101
E22K Anaktuvuk Pass 64.34 339 P P 07 29 04.2 +0.8
baz=115
H20K Anotleneega Mo 64.42 336 P P 07 29 04.4 +0.6
baz=111
F21K Alatna River 64.55 338 P P 07 29 05.5 +0.9
baz=113
D22K Ayikyak River 64.95 340 P P 07 29 08.4 +1.2
baz=114
H19K Roundabout Mou 65.05 336 P P 07 29 08.6 +0.7
baz=109
M14K Bethel 66.16 330 P P 07 29 14.6 -0.5
baz=102
K15K Wolf Creek Mou 66.30 332 P P 07 29 16.0 0.0
baz=103
M11K Mekoryuk 68.16 329 P P 07 29 27.6 -0.1
baz=98
ANM Nome 68.45 334 P P 07 29 28.1 -1.5
baz=100
JMIC Jan Mayen 74.48 20 LR LR 08 05 11.9
comp=Z,58nm,18.1s,baz=149,slow=38
EKA Eskdalemuir Ar 78.35 36 P P 07 30 27.9 -0.2
comp=Z,0.6nm,0.6s,baz=288,slow=6.0,SNR=3.8
comp=Z,0.6nm,0.6s
ESDC Sonseca Array 80.72 51 P P 07 30 37.6 -3.7
comp=Z,0.6nm,0.8s,baz=288,slow=6.3,SNR=5.2
NOA NORSAR Array B 84.23 28 P P 07 31 00.0 +0.8
comp=Z,1.3nm,0.8s,baz=300,slow=5.2,SNR=3.1
comp=Z,1.3nm,0.8s
HFS Hagfors 85.70 29 P P 07 31 06.8 +0.2
comp=Z,1.9nm,0.7s,baz=308,slow=3.5,SNR=1.8
comp=Z,1.9nm,0.7s
ARCES ARCESS Array B 85.80 18 P P 07 31 06.3 -0.6
comp=Z,3.1nm,0.9s,baz=297,slow=4.0,SNR=4.2
comp=Z,3.1nm,0.9s
TORD Torodi Ar. Bea 92.18 76 P P 07 31 36.5 -1.6
comp=Z,0.4nm,0.5s,baz=290,slow=5.9,SNR=4.3
TORD LR LR 08 16 04.0
comp=Z,11nm,18.0s,baz=302,slow=38
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 133.59 257 PKP **PKPdf 07 37 45.2 +0.1**
comp=Z,0.7nm,0.8s,baz=86,slow=2.6,SNR=8.3
ASAR Alice Springs 134.01 252 PKP **PKPdf 07 37 44.4 -1.5**
comp=Z,0.6nm,0.8s,baz=113,slow=1.4,SNR=2.9
PZH PanZhiHua 135.89 339 PKP **PKPdf 07 37 49.4 -0.1**
CMAR Chiang Mai Arr 144.28 338 PKP **PKPab 07 38 02.5 -0.1**
comp=Z,2.0nm,0.3s,baz=340,slow=3.6,SNR=7.2

---

*IDC **14** 07:29:29.6±2.2, 17°.06S×179°.09W, h577km±20km, mb2.8/5, mbtmp3.7/6, Error ellipse: s-maj=92.1km s-min=22.4km az=149.0*

ISC 14 07:29:30.8±1.6, **17°.1S**±0°.6×**179°.2W**±0°.4, **h600**km, **n6**, σ1°**71/6**, **mb3.2**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.70**	**257**	P	**P**	**07 30 46.0**	**-2.5**
	6.2nm,0.7s,baz=135,slow=2.1,SNR=5.9						
STKA	**Stephens Creek**	**38.36**	**240**	P	**P**	**07 36 02.7**	**+0.5**
	0.9nm,0.6s,baz=107,slow=12,SNR=3.4						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**44.04**	**259**	P	**P**	**07 36 48.0**	**+0.9**
	0.3nm,0.5s,baz=91,slow=6.8,SNR=11						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**44.29**	**253**	P	**P**	**07 36 50.2**	**+1.2**
	3.7nm,0.5s,baz=88,slow=8.2,SNR=66						
	3.7nm,0.5s						
ILAR	**Eielson Array**	**85.30**	**13**	P	**P**	**07 41 05.2**	**+0.2**
	0.1nm,0.4s,baz=226,slow=5.1,SNR=6.7						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**86.21**	**58**	P	**P**	**07 41 10.6**	**+0.3**
	0.4nm,0.8s,baz=247,slow=6.4,SNR=3.7						
	0.4nm,0.8s						

---

*IDC **14** 07:36:32.3±5.3, 5°.88S×130°.82E, h132km±62km, mb3.7/4, mbtmp4.2/6, Error ellipse: s-maj=158.6km s-min=18.5km az=73.0*

*NEIC **14** 07:36:32.5±2.4, 5°.90S±0°.07×130°.7E±0°.2, h135km±11km, mb4.0/7, Error ellipse: s-maj=22.0km s-min=9.8km az=93.0*

ISC 14 07:36:32.3±0.7, **5°.93S**±0°.07×**130°.76E**±0°.10, **h135**km, **n38**, σ1°**26**/38, **mb4.0**/9, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.64**	**329**	P	**Pn**	**07 37 03.4**	**+1.1**
SAUI	**Saumlaki**	**2.11**	**165**	Pn	**Pn**	**07 37 08.6**	**+0.7**
FAKI	**Fak Fak**	**3.34**	**26**		**Pn**	**07 37 23.1**	**-0.4**
FAKI	**Fak Fak**	**3.34**	**26**	P	**Pn**	**07 37 23.6**	**+0.1**
SIJI	**Sorong**	**5.05**	**6**	P	**Pn**	**07 37 45.4**	**-0.8**
	21nm,0.3s,baz=230,slow=23,SNR=32						
SIJI				S	Sn	07 38 31.2	-13
	42nm,0.3s,baz=191,slow=22,SNR=4.4						
SANI	**Sanana**	**6.12**	**309**	P	**Pn**	**07 38 00.7**	**+0.2**
	22nm,0.6s						
MTN	**Manton Dam**	**6.88**	**177**		**Pn**	**07 38 09.8**	**-1.0**
MTN	**Manton Dam**	**6.88**	**177**	P	**Pn**	**07 38 10.0**	**-0.7**
KDU	**Kakadu**	**6.92**	**166**	P	**Pn**	**07 38 09.9**	**-1.4**
KNRA	**Kununurra**	**9.88**	**191**		**Pn**	**07 38 48.7**	**-2.3**
KNRA	**Kununurra**	**9.88**	**191**	P	**Pn**	**07 38 49.0**	**-2.0**
WB0	**Warramunga Arr**	**14.20**	**166**		**Pn**	**07 39 45.4**	**-2.0**
WRA	**Warramunga Arr**	**14.36**	**166**	P	**Pn**	**07 39 46.7**	**-2.7**
	1.5nm,0.3s,baz=345,slow=13,SNR=27						
WRA				S	Sn	07 42 16.3	-12
	3.4nm,0.5s,baz=331,slow=22,SNR=12						
COEN	**Coen**	**14.59**	**124**	Pn	**Pn**	**07 39 53.0**	**+0.6**

COEN	Coen	14.59	124	P	Pn	07 39 54.5	+2.1
	9.5nm,0.6s						
QIS	Mount Isa	16.89	150	P	Pn	07 40 21.8	+1.1
	4.2nm,0.5s						
AS31	Alice Springs	17.89	171	P	P	07 40 32.3	+0.7
AS31				IAmb	IAmb	07 40 33.7	
	comp=Z,2.9nm,0.4s						
ASAR	Alice Springs	17.89	171	P	P	07 40 32.0	+0.5
ASAR	Alice Springs	17.89	171	P	P	07 40 32.4	+0.8
	comp=Z,3.8nm,0.6s,baz=354,slow=10,SNR=65						
ASAR				S	S	07 43 39.2	-11
	comp=Z,1.6nm,0.6s,baz=352,slow=25,SNR=7.7						
MBWA	Marble Bar	18.53	214	P	P	07 40 37.8	-0.8
MBWA				IAmb	IAmb	07 41 00.0	
	comp=Z,11nm,1.4s						
MBWA	Marble Bar	18.53	214	P	P	07 40 38.6	+0.1
	comp=Z,5.4nm,2.8s						
PSA00	Pilbara Seismi	18.80	213	P	P	07 40 40.0	-1.4
PSA00				IAmb	IAmb	07 40 42.0	
	comp=Z,9.3nm,0.5s						
PSA00	Pilbara Seismi	18.80	213	P	P	07 40 41.6	+0.1
	comp=Z,12nm,0.8s						
WRKA	Warakurna	19.15	187	P	P	07 40 45.7	+0.5
	comp=Z,6.1nm,1.5s						
OOD	Oodnadatta	22.25	168	P	P	07 41 19.1	+0.9
MULG	Mulgathing	24.42	173	P	P	07 41 40.4	+2.0
	comp=Z,6.5nm,1.7s						
FORT	Forrest	24.85	186	P	P	07 41 45.0	+2.7
	comp=Z,25nm,1.1s						
LCRK	Leigh Creek	25.38	165	P	P	07 41 48.5	+1.4
	comp=Z,12nm,1.2s						
KMBL	Kambalda	26.64	197	P	P	07 41 58.6	+0.2
STKA	Stephens Creek	27.73	160	P	P	07 42 08.7	+0.5
	comp=Z,1.2nm,0.3s,baz=331,slow=9.2,SNR=4.3						
	comp=Z,1.2nm,0.3s						
SONM	Songino Array	57.68	341	P	P	07 46 09.4	+0.7
	comp=Z,0.7nm,0.7s,baz=157,slow=7.2,SNR=2.9						
	comp=Z,0.7nm,0.7s						
MK31	Makanchi Array	67.75	326	P	P	07 47 15.9	+0.5
MK31				IAmb	IAmb	07 47 16.8	
	comp=Z,2.2nm,0.9s						
MKAR	Makanchi Array	67.75	326	P	P	07 47 15.8	+0.4
MKAR	Makanchi Array	67.75	326	P	P	07 47 16.1	+0.6
	comp=Z,2.4nm,0.3s,baz=115,slow=7.7,SNR=42						
	comp=Z,2.4nm,0.3s						
MAKZ	Makanchi	67.94	326	P	P	07 47 17.2	+0.7
KURBB	Kurchatov Arra	72.00	328	P	P	07 47 41.1	-0.1
	comp=Z,0.6nm,0.4s,baz=128,slow=5.0,SNR=11						
	comp=Z,0.6nm,0.4s						
MAW	Mawson	76.22	201	P	P	07 48 05.8	+0.4
QSPA	South Pole Qui	84.04	180	P	P	07 48 46.5	-1.1
QSPA				IAmb	IAmb	07 49 25.7	
	comp=Z,1.1nm,1.5s						

NEIC ***14*** *07:46:31.4±1.3, 18°.95N±0°.03×155°.39W±0°.02, h10km±2km, Error ellipse: s-maj=4.9km s-min=3.0km az=334.0*

HVO 14 07:46:32.0±1.2, 18°.94N±0°.02×155°.37W±0°.02, h13km±5km, ML2.8/28, ML2.9/50(NEIC), Error ellipse: s-maj=3.5km s-min=2.0km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.30	355		Pg	07 46 38.1	-0.1
HLP	Hilina Pali	0.36	9		Pg	07 46 39.3	0.0
HLP					Sb	07 46 45.7	-0.2
KHU	Kahuku	0.39	323		Pg	07 46 39.4	-0.4
KHU					Sg	07 46 45.3	+0.2
KHU	Kahuku	0.39	323	IAML		07 46 48.0	
	comp=N,972nm,0.3s						
KHU				IAML		07 46 48.2	
	comp=E,1μm,0.6s						
AIN	Ainahou	0.44	349		Pg	07 46 40.5	-0.3
SDHHI	Sand Hill	0.46	9		Pg	07 46 40.3	-0.7
SDHHI	Sand Hill	0.46	9	IAML		07 46 52.1	
	comp=E,1μm,0.5s						
SDHHI				IAML		07 46 58.0	
	comp=N,1μm,0.5s						
PUH	Pauahi	0.46	18		Pg	07 46 40.3	-0.8
PUH	Pauahi	0.46	18	IAML		07 46 56.4	
	comp=N,799nm,0.6s						
PUH				IAML		07 46 56.6	
	comp=E,708nm,0.6s						
RIM	Rim	0.46	11		Pg	07 46 40.4	-0.8
RIM	Rim	0.46	11	IAML		07 46 52.7	
	comp=E,1μm,1.0s						
KKO	Keanakako`i	0.47	12		Pg	07 46 40.5	-0.7
KKO	Keanakako`i	0.47	12	IAML		07 46 52.9	
	comp=N,1μm,0.6s						
KKO				IAML		07 46 53.0	
	comp=E,913nm,0.8s						
WRMHI	West Rim	0.47	8		Pg	07 46 40.4	-0.9
KNHH	Kane Nui o Ham	0.48	23		Pg	07 46 40.6	-0.9
NPH	North Pit	0.48	10	Pg	Pg	07 46 40.8	-0.7
BYL	Byron's Ledge	0.48	12		Pg	07 46 40.6	-0.9
BYL	Byron's Ledge	0.48	12	IAML		07 46 53.8	
	comp=N,997nm,0.7s						
BYL				IAML		07 46 55.7	
	comp=E,771nm,0.4s						
OBL	Observatory Le	0.48	10		Pg	07 46 40.6	-0.9
UWE	Uwekahuna	0.49	8		Pg	07 46 40.7	-0.9
UWE	Uwekahuna	0.49	8	IAML		07 46 56.6	
	comp=N,959nm,0.4s						
UWB	Uwekahuna B	0.49	10		Pg	07 46 40.8	-0.9
HATHI	Halema`uma`u T	0.49	12		Pg	07 46 40.7	-1.0
HATHI	Halema`uma`u T	0.49	12	IAML		07 46 53.8	
	comp=E,1μm,0.6s						
HATHI				IAML		07 46 55.8	
	comp=N,798nm,0.9s						
SBLHI	Steaming Bluff	0.50	11		Pg	07 46 40.7	-1.0
SBLHI	Steaming Bluff	0.50	11	IAML		07 46 57.6	
	comp=N,706nm,0.7s						
SBLHI				IAML		07 46 57.7	
	comp=E,642nm,0.5s						
STCH	Steam Cracks	0.50	27		Pg	07 46 40.9	-1.0
STCH	Steam Cracks	0.50	27	IAML		07 46 59.3	
	comp=E,664nm,0.5s						
NPOC	North of Pu`u	0.52	28	Pg	Pg	07 46 40.4	-1.7
RSD	Rainshed	0.53	9		Pg	07 46 41.1	-1.3
MLH	Mauna Loa	0.55	358		Pg	07 46 41.9	-1.0
MLH	Mauna Loa	0.55	358	IAML		07 46 57.6	
	comp=E,553nm,0.3s						
MLH				IAML		07 46 59.5	
	comp=N,630nm,0.4s						
MWH	Moku`aweowe	0.58	338		Pg	07 46 42.3	-1.2
MWH	Moku`aweowe	0.58	338	IAML		07 47 02.8	
	comp=N,733nm,0.6s						
MWH				IAML		07 47 03.8	
	comp=E,696nm,0.8s						
JOKA	Jonika Flow	0.60	35		Pg	07 46 42.2	-1.5
MLOA	Mauna Loa Obse	0.63	342		Pg	07 46 42.8	-1.5
ALEP	Alea Permanent	0.65	337		Pg	07 46 43.1	-1.7
ALEP					Sg	07 46 51.8	-1.8
HMH	Humu`ula Sheep	0.67	351		Pg	07 46 43.7	-1.4
HMH	Humu`ula Sheep	0.67	351	IAML		07 46 59.6	
	comp=N,425nm,0.3s						
KHLU	Kahalu`u	0.82	323		Pg	07 46 45.3	-2.6
KHLU	Kahalu`u	0.82	323	IAML		07 47 04.1	
	comp=E,424nm,0.4s						
KHLU				IAML		07 47 07.3	
	comp=N,364nm,0.7s						
POHA	Pohakuloa	0.83	349		Pg	07 46 45.6	-2.5
POHA	Pohakuloa	0.83	349	IAML		07 47 07.7	
	comp=N,469nm,0.6s						
POHA				IAML		07 47 12.7	
	comp=N,352nm,0.8s						
HUH	Hualalai	0.86	329		Pg	07 46 46.3	-2.4

TEH ***14*** *08:17:12.7, 27°.37N×56°.13E, h14km±13km, ML2.9*
DSN ***14*** *08:17:13.5±1.3, 27°.38N×55°.91E, h3km, ML2.6/5, Error ellipse: s-maj=108.3km s-min=8.3km az=79.0*

ISC 14 08:17:13.5±1.2, 27°.37N±0°.04×56°.13E±0°.09, h11km±9km, n14, σ1§20/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	Geno	0.04	53	Pg	Pg	08 17 15.6	-0.3
SHME	Shamm	1.32	180	P	Pg	08 17 38.5	-0.3
SHME				S	Sg	08 17 58.1	+2.2
KHNJ	Kahnooj	1.51	67	Pg	Pn	08 17 41.1	+0.7
MSFE	Esma-Masafi	2.01	179	P	Pb	08 17 48.7	-1.4
MDH	Madha	2.07	176	P	Pb	08 17 50.5	-0.6
JASK	Jask - Hormozg	2.16	134	Pn	Pn	08 17 50.1	+0.7
NGRK	Negar Kerman	2.32	13	Pn	Pn	08 17 52.9	+0.9
UOSS	Minazif	2.42	178	P	Pn	08 17 53.4	+0.4
HATD	Hatta, Dubai	2.54	180	P	Pb	08 17 57.0	-2.1
TVBK	TV Kerman	2.66	12	Pn	Pn	08 17 56.8	+0.2
ASHO	Ashiyiah	2.68	181	P	Pn	08 17 57.6	+1.0
KBAM	BAM	2.70	49	Pn	Pn	08 17 57.3	+0.4
KHGB	Koh Gabri	3.01	6	Pn	Pn	08 18 02.1	+0.9
ISAD	Sadrabad	5.00	335	Pn	Pn	08 18 29.4	+0.7

RSNC ***14*** *08:35:43.0±1.4, 7°.38N×72°.07W, h0km±5km, ML4.7, Mw4.7, Fault plane solution: NP1:φs151.00000°, δ47.00000°, λ38.00000°.*
NEIC ***14*** *08:35:43.8±1.6, 7°.27N±0°.06×71°.94W±0°.07, h33km±5km, mb5.1/89, Mwr5.1(CAR), Error ellipse: s-maj=10.2km s-min=8.7km az=129.0*
FUNV ***14*** *08:35:43.1, 7°.23N×72°.03W, h5km, MW5.1*
CAR ***14*** *08:35:43.1±1.7, 7°.23N±0°.06×72°.03W±0°.07, h5km±1km, Error ellipse: s-maj=11.7km s-min=10.0km az=130.0*
VAO ***14*** *08:35:44.4±0.3, 7°.09N×72°.04W, h35km, mb5.0*
IDC ***14*** *08:35:46.1±0.9, 7°.26N×72°.00W, h62km±8km, mb4.4/25, mbtmp4.6/31, MS3.8/38, Error ellipse: s-maj=10.6km s-min=6.3km az=125.0*

ISC 14 08:35:42.2±0.4, 7°.26N±0°.02×72°.00W±0°.02, h27km±2km, h27km:pP-P, n812, σ1§34/908, mb5.1/82, MS3.9/34, 18C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	0.68	333	eP	Pb	08 35 54.8	-0.9
CAPV				eS	Sb	08 36 04.7	-0.2
PAMC	Pamplona, Colo	0.70	277	⇓iP	Pb	08 35 54.7	-1.4
PAMC				eS	Sb	08 36 03.6	-2.0
PAMC				i		08 36 11.0	
	comp=Z,28μm,0.2s						
TAMC	Tame, Arauca	0.84	166	⇓iP	Pb	08 36 00.2	+1.9
TAMC				eS	Sn	08 36 15.3	+5.4
TAMC				i		08 36 18.2	
	comp=Z,14μm,0.3s						
BARC	Barichara	1.34	241	⇓iP	Pb	08 36 07.0	+0.1
BARC				eS	Sb	08 36 27.4	+3.6
BARC				i		08 36 34.6	
	comp=Z,25μm,0.7s						
SOCV	Socops	1.53	48	eP	Pb	08 36 10.1	+0.2
SOCV				eS	Sb	08 36 30.9	+2.1
BRRC	Barranca, Sant	1.70	265	⇑iP	Pb	08 36 12.7	-0.2
BRRC				eS	Sb	08 36 35.0	+1.1
BRRC				i		08 36 41.8	
	comp=Z,12μm,0.4s						
RUSC	La Rusia	1.73	218	⇑iP	Pb	08 36 13.6	-0.1
RUSC				eS	Sb	08 36 37.1	+2.0
RUSC				i		08 36 41.2	
	comp=Z,8μm,0.5s						
SDV	Santo Domingo	2.11	40		Pb	08 36 18.2	-1.7
SDV	Santo Domingo	2.11	40	eP	Pb	08 36 19.0	-1.0
SDV				eS	Sb	08 36 46.3	+0.4
SDV				i		08 36 50.5	
	comp=Z,10μm,0.4s						
SDV	Santo Domingo	2.11	40	eP	Pb	08 36 18.8	-1.2
SDV	Santo Domingo	2.11	40	P	Pb	08 36 18.8	-1.2
	comp=Z,2μm,0.5s,baz=189,slow=11,SNR=317						
SDV				S	Sb	08 36 45.3	-0.5
	comp=Z,11μm,0.5s,baz=279,slow=23,SNR=29						
PTBC	PUERTO BERRIO,	2.54	254	⇑iP	Pn	08 36 23.0	+1.3
PTBC				eS	Sn	08 36 53.8	+2.0
PTBC				i		08 36 56.5	
	comp=Z,2μm,0.5s						
MCQV	Machiques	2.83	349	eP	Pb	08 36 29.3	-2.7
MCQV				eS	Sb	08 37 03.2	-3.0
ZARC	Zaragoza, Cauc	2.84	275	⇑iP	Pn	08 36 27.4	+1.5
ZARC				eS	Sn	08 37 01.4	+2.1
ZARC				i		08 37 10.5	
	comp=Z,6μm,0.4s						
LL5C	La Loma 5 El P	3.00	326	eP	Pn	08 36 29.1	+1.0
LL5C				eS	Sb	08 37 14.9	+3.6
LL5C				i		08 37 26.0	
	comp=Z,3μm,0.6s						
PTGC	Puerto Gaitan,	3.04	182	⇑iP	Pn	08 36 30.4	+1.8
PTGC				eS	Sb	08 37 09.8	-2.6
PTGC				i		08 37 25.5	
	comp=Z,3μm,0.3s						
CHIC	Chingaza	3.13	214	⇑iP	Pn	08 36 32.5	+2.4
CHIC				eS	Sb	08 37 12.1	-3.1
CHIC				i		08 37 31.1	
	comp=Z,1μm,0.6s						
SANV	Sanarito	3.31	47	eP	Pn	08 36 35.1	+2.7
SANV				eS	Sn	08 37 14.3	+3.5
NORC	Norcasia	3.31	240	eP	Pn	08 36 33.6	+1.2
NORC				eS	Sb	08 37 16.9	-3.3
NORC				i		08 37 25.3	
	comp=Z,2μm,0.6s						
ROSC	El Rosal	3.33	224		Pn	08 36 36.8	+3.9
ROSC	El Rosal	3.33	224	⇑iP	Pb	08 36 37.3	-3.6
ROSC				eS	Sb	08 37 18.5	-2.5
ROSC				i		08 37 39.5	
	comp=Z,1μm,0.4s						
ROSC	El Rosal	3.33	224	P	Pb	08 36 37.3	-3.6
	comp=Z,422nm,0.5s,baz=64,slow=6.1,SNR=170						
ROSC				S	Sn	08 37 15.5	+3.7
	comp=Z,1μm,0.5s,baz=129,slow=14,SNR=4.8						
CURV	Curarigua	3.40	36	eP	Pn	08 36 35.6	+2.0
CURV				eS	Sn	08 37 16.9	+3.8
ARGC	Ariguani, Magd	3.41	320	⇑iP	Pn	08 36 35.0	+1.3
ARGC				eS	Sn	08 37 15.7	+2.4
ARGC				i		08 37 32.4	
	comp=Z,1μm,0.4s						
CRJC	Cerrejon, Guaj	3.84	347	⇑iP	Pn	08 36 39.5	-0.1
CRJC				i		08 37 46.6	
	comp=Z,2μm,0.3s						
TEPV	Terepaima	3.87	46	eP	Pn	08 36 42.2	+2.2
TEPV				eS	Sn	08 37 27.6	+3.0
GUY2C	Guyana, Caldas	3.91	239	eP	Pn	08 36 44.0	+3.1
GUY2C				eS	Sb	08 37 34.6	-3.2
GUY2C				i		08 37 50.1	
	comp=Z,2μm,0.5s						
SIQV	Siquisique	4.01	33	eP	Pn	08 36 43.6	+1.7
SIQV				eS	Sn	08 37 30.7	+2.7
SJCC	San Jacinto, C	4.09	310	⇑iP	Pn	08 36 45.6	+2.5
SJCC				eS	Sn	08 37 32.5	+2.3
SJCC				i		08 37 56.0	
	comp=Z,1μm,0.6s						
DBBC	Dabeiba	4.18	267	eP	Pn	08 36 47.3	+3.0
DBBC				eS	Sn	08 37 35.9	+3.4
DBBC				i		08 37 56.4	
	comp=Z,538nm,0.6s						
BAUV	El Baul	4.26	67		Pn	08 36 46.2	+0.8
BAUV	El Baul	4.26	67	eP	Pn	08 36 46.7	+1.3
BAUV				eS	Sn	08 37 35.0	+0.6
BAUV	El Baul	4.26	67	eP	Pn	08 36 45.6	+0.2
BAUV	El Baul	4.26	67	eS	Sb	08 37 55.3	+7.7
ANIL	Santa Ana	4.36	231	eP	Pn	08 36 49.8	+2.8
ANIL				eS	Sn	08 37 42.0	+4.9
ANIL				i		08 38 02.2	
	comp=Z,2μm,0.5s						
URIC	Uribia, Colomb	4.42	0	eP	Pn	08 36 47.0	-0.6
URIC				eS	Sn	08 37 36.0	-2.1
URIC				i		08 38 20.2	
	comp=Z,799nm,0.7s						
SMRC	Santa Marta, M	4.46	331	eP	Pn	08 36 46.9	-1.3
SMRC				eS	Sn	08 37 42.6	+3.4
SMRC				i		08 38 03.1	
	comp=Z,1μm,0.5s						
PRAC	Prado	4.54	219	eP	Pn	08 36 51.5	+2.1
PRAC				eS	Sn	08 37 47.4	+6.1
PRAC				i		08 38 11.2	
	comp=Z,1μm,0.5s						
LCBC	Los crdobas,	4.61	290	eP	Pn	08 36 51.8	+1.6
LCBC				eS	Sn	08 37 48.8	+6.0
LCBC				i		08 38 25.0	
	comp=Z,754nm,0.6s						
ORTC	Ortega, Tolima	4.63	224	⇑iP	Pn	08 36 52.6	+2.0
ORTC				eS	Sn	08 37 47.9	+4.3
ORTC				i		08 38 14.1	
	comp=Z,732nm,0.5s						
GUVC	San Jose del G	4.72	188	eP	Pn	08 36 53.6	+1.8
GUVC				eS	Sn	08 37 46.9	+1.2
GUVC				i		08 38 13.4	
	comp=Z,2μm,0.3s						
PLMC	San Jos del P	4.86	241	eP	Pn	08 36 56.9	+3.2
PLMC				eS	Sb	08 37 59.6	-5.1
PLMC				i		08 38 20.2	
	comp=Z,652nm,0.6s						
BENV	Beln	5.12	58	eP	Pn	08 36 59.7	+2.5
BENV				eS	Sn	08 37 56.7	+1.2
TURV	Turiamo	5.19	52	eP	Pn	08 36 59.8	+1.6
TURV				eS	Sn	08 37 58.5	+1.2
MACC	Macarena, Meta	5.40	200	⇑iP	Pn	08 37 01.7	+0.7
MACC				eS	Sn	08 38 02.2	-0.2
MACC				i		08 38 47.2	
	comp=Z,986nm,0.5s						
YOTC	Yotoco, Valle	5.41	233	eP	Pn	08 37 03.8	+2.5
YOTC				eS	Sn	08 38 09.7	+6.9
CACV	CAICARA DEL OR	5.42	86	eP	Pb	08 37 10.1	-6.2
CACV				eS	Sb	08 38 15.6	-5.5
SOLC	Bahia Solano	5.47	260	eP	Pn	08 37 05.8	+3.8
SOLC				eS	Sn	08 38 09.5	+5.5
TACV	Tcata	5.69	59	eP	Pn	08 37 07.0	+1.9
TACV				eS	Sn	08 38 10.0	+0.4
BETC	Betania	5.69	217	eP	Pn	08 37 07.1	+2.0
BETC				eS	Sn	08 38 12.1	+2.4
BETC				i		08 38 52.3	
	comp=Z,429nm,0.7s						
HATO	Hato, Curacao	5.74	31	Pn	Pn	08 37 05.7	0.0
PTAC	Punta Ardita,	5.76	269	eP	Pn	08 37 06.2	+0.1
PTAC				eS	Sn	08 38 14.9	+3.6
PTAC				i		08 38 22.6	
	comp=Z,125nm,0.5s						
CARV	Caracas	5.96	57	eP	Pn	08 37 10.8	+1.9
CARV				eS	Sn	08 38 16.6	+0.2
FUNV	FUNVISIS	6.04	58	eP	Pn	08 37 11.5	+1.6
FUNV				eS	Sn	08 38 17.8	-0.5
GARC	Garzon, Huila	6.12	215	eP	Pn	08 37 12.7	+1.5
GARC				eS	Sn	08 38 21.8	+1.3
GARC				i		08 39 03.5	
	comp=Z,370nm,0.2s						
JAMC	Jamundi, Valle	6.14	229	eP	Pn	08 37 14.4	+2.9
JAMC				eS	Sn	08 38 25.5	+4.4
MALC	Bahia Malaga	6.21	239	eP	Pn	08 37 16.7	+4.5
MALC				eS	Sn	08 38 27.4	+5.1
MALC				i		08 38 49.1	
	comp=Z,119nm,0.6s						
POPC	Popayan, Colom	6.61	225	eP	Pn	08 37 20.0	+2.2
POPC				eS	Sn	08 38 34.4	+1.9
BBAC	Balboa, Cauca	7.37	225	eP	Pn	08 37 30.4	+2.0
PTLC	Puerto Leguiza	7.57	202	⇑iP	Pn	08 37 35.3	+4.4
PTLC				i		08 40 02.6	
	comp=Z,341nm,0.5s						
PCRV	Puerto La Cruz	7.84	68	eP	Pn	08 37 36.0	+1.4
PCRV				eS	Sn	08 39 00.7	-1.8
PCRV	Puerto La Cruz	7.84	68	P	Pn	08 37 35.7	+1.1
	comp=Z,118nm,0.5s,baz=217,slow=6.3,SNR=87						
PCRV				S	Sn	08 39 01.6	-0.9
	comp=Z,249nm,0.6s,baz=162,slow=21,SNR=7.5						
BCIP	Isla Barro Col	7.99	284	Pn	Pn	08 37 36.2	-0.4
CUMV	Cumana_UDO	8.33	67	eP	Pn	08 37 42.4	+1.0
CUMV				eS	Sn	08 39 11.1	-3.6
TULM	Tulcn-Chalpat	8.69	222		Pn	08 37 49.4	+2.7
TULM	Tulcn-Chalpat	8.69	222	eP	Pn	08 37 51.5	+4.8
BONI	La Bonita	8.72	219	eP	Pn	08 37 49.2	+2.3
SGCB	São Gabriel d	8.85	146	eP	Pn	08 37 48.2	-0.2
IMBA	Imbabura, San	9.29	222		Pn	08 37 57.9	+3.1
CRUV	Carupano	9.30	68	eP	Pn	08 37 55.0	+0.4
CRUV				eS	Sn	08 39 34.4	-4.0
OTAV	Otavalo	9.49	223		Pn	08 37 59.8	+2.2
BRU2	Volcan	10.70	279		Pn	08 38 15.6	+1.7
CDITO	Canoas	10.85	278		Pn	08 38 16.6	+0.8
TRN	Trinidad (W)	11.00	71	eP	Pn	08 38 15.4	-2.5
CHSH	Refugio Sur-Vo	11.07	219		Pn	08 38 20.8	+1.4
GRGR	Grenville	11.29	64	Pn	Pn	08 38 24.0	+2.1
GRGR	Grenville	11.29	64	eP	Pn	08 38 24.9	+3.0
TBTG	Tabatinga, AM	11.56	170		Pn	08 38 24.3	-1.2
TBTG	Tabatinga, AM	11.56	170	eP	Pn	08 38 24.4	-1.2
GCMP	Grenada, Carri	11.64	63	eP	Pn	08 38 24.8	-1.9
SDDR	Presa de Saban	11.68	3	Pn	Pn	08 38 27.9	+0.7
RIMA	Rio Macho	11.99	283		Pn	08 38 34.8	+3.1
MTDJ	Mount Denham	12.16	334	Pn	Pn	08 38 34.5	+0.5
BOSC	San Juan Bosco	12.20	212		Pn	08 38 36.3	+1.8
SJG	San Juan	12.20	27	P	Pn	08 38 32.8	-1.6
	comp=Z,38nm,0.4s,baz=196,slow=14,SNR=17						
SJG				S	Sn	08 40 36.8	-13
	comp=Z,15nm,0.6s,baz=202,slow=19,SNR=1.4						
SJG				LR	LR	08 43 50.4	
	comp=Z,322nm,20.0s,baz=210,slow=40						
HDC	Heredia	12.28	284	Pn	Pn	08 38 38.8	+3.2
HDC	Heredia	12.28	284	eP	Pn	08 38 37.4	+1.8
BOAV	Boa Vista	12.41	112		Pn	08 38 35.9	-1.4
BOAV	Boa Vista	12.41	112	eP	Pn	08 38 36.4	-0.9
JACO	JACO, Garabito	12.75	282	Pn	Pn	08 38 44.2	+2.4
SOCE	Pocosol	12.85	285	Pn	Pn	08 38 46.0	+2.7
GTBY	Guantanamo Bay	12.95	347	Pn	Pn	08 38 44.2	-0.4
TEFE	Tefe	12.98	145	eP	Pn	08 38 44.2	-0.8
FDF	Fort de France	12.98	54		Pn	08 38 43.8	-1.3
JTS	Las Juntas de	13.15	284		Pn	08 38 48.7	+1.3
JTS	Las Juntas de	13.15	284	P	Pn	08 38 48.4	+1.1
	comp=Z,5.8nm,0.7s,baz=124,slow=11,SNR=5.3						
JTS				LR	LR	08 44 28.7	
	comp=Z,799nm,18.4s,baz=98,slow=40						
DUNO	Dulce Nombre,	13.63	283	Pn	Pn	08 38 56.5	+2.6
MCRA	Macar, Loja	14.01	215		Pn	08 38 57.7	-1.5
BOAB	BOACO BROADBAN	14.41	292	Pn	Pn	08 39 05.0	+0.3
CZSB	Cruzeiro do Su	14.90	183		Pn	08 39 09.5	-1.8
CZSB	Cruzeiro do Su	14.90	183	eP	Pn	08 39 09.1	-2.2
CNGN	Cerro Negro	15.38	291		Pn	08 39 18.1	+0.4
ATAH	Atahualpa	15.65	204	P	Pn	08 39 22.5	+1.0
	comp=Z,11nm,0.8s,baz=5.4,slow=9.2,SNR=4.0						
ATAH				S	Sn	08 42 17.4	+2.9
	comp=Z,3.6nm,0.6s,baz=27,slow=16,SNR=1.1						
ATAH				LR	LR	08 46 41.2	
	comp=Z,858nm,19.4s,baz=16,slow=42						
CRIN	San Cristobal	15.77	291		Pn	08 39 24.3	+1.5
CRIN				IAmb	IAmb	08 39 28.4	
	comp=Z,72nm,0.8s						
TGUH	Tegucigalpa,Un	16.45	296	P	P	08 39 33.4	-0.6
ETMB	Extrema	17.91	161	P	Pn	08 39 48.8	-0.8
ETMB	Extrema	17.91	161	eP	Pn	08 39 47.7	-1.9
SAML	Samuel	18.34	151	P	P	08 39 53.3	-1.5
SAML	Samuel	18.34	151	eP	P	08 39 53.9	-

	baz=162				
GO01	Chusmiza	26.90 174	P	P	08 41 21.2 -0.5
352A	Blakely	26.96 335	P	P	08 41 21.9 +0.3
	baz=151,SNR=5.1				
PB08	IPOC Station P	27.37 174	P	P	08 41 25.9 0.0
PB08			IAmb	IAmb	08 41 27.9
	comp=Z,29nm,0.9s				
BRAL	Brewton	27.64 331	P	P	08 41 28.9 +1.2
	baz=146				
152A	Waverly Hall	27.91 337	P	P	08 41 31.1 +1.0
152A	Waverly Hall	27.91 337	P	P	08 41 31.3 +1.1
	baz=152,SNR=7.3				
250A	Grady	27.96 333	P	P	08 41 32.1 +1.5
	baz=149				
BBRB	Robore, Bolivi	28.08 155	eP	P	08 41 32.7 +0.8
SNDB	Serra Nova Dou	28.09 133	eP	P	08 41 31.0 -0.9
GOGA	Godfrey	28.11 339	P	P	08 41 32.9 +0.9
	baz=155				
GOGA	Godfrey	28.11 339	P	P	08 41 33.0 +1.1
	baz=155				
JSC	Jenkinsville	28.22 344	P	P	08 41 34.1 +1.2
	baz=160				
PB01	IPOC Station P	28.23 175	P	P	08 41 32.5 -0.7
PB01			IAmb	IAmb	08 41 33.8
	comp=Z,23nm,0.7s				
BIRD	Birdtown, Kers	28.35 345	P	P	08 41 35.1 +1.1
	baz=162				
Y52A	Lilburn	28.73 339	P	P	08 41 39.3 +1.8
	baz=154				
Y52A			P	P	08 41 39.3 +1.8
	baz=154				
346A	Big Creek Wild	29.03 328	P	P	08 41 41.1 +1.0
	baz=142				
KMSC	Kings Mountain	29.05 344	P	P	08 41 40.9 +0.6
	baz=161				
SMTB	Santa Maria do	29.13 123	eP	P	08 41 41.6 +0.4
V58A	Windy Hill, Pi	29.14 348	P	P	08 41 41.4 +0.3
	baz=165				
V58A			P	P	08 41 41.4 +0.3
	baz=165				
LRAL	Lakeview Retre	29.18 334	P	P	08 41 42.6 +1.2
	baz=148,SNR=6.4				
LRAL	Lakeview Retre	29.18 334	P	P	08 41 42.4 +0.9
	baz=148,SNR=6.4				
CASEE	Lake Jocassee	29.38 341	P	P	08 41 45.0 +1.8
	baz=157				
Y49A	Blount Mountai	29.64 335	P	P	08 41 46.0 +0.5
Y49A			IAmb	IAmb	08 41 47.2
	comp=Z,16nm,0.6s				
Y49A	Blount Mountai	29.64 335	P	P	08 41 46.7 +1.2
	baz=150,SNR=7.5				
344A	Westbrook Farm	29.76 326	P	P	08 41 48.2 +1.7
344A	Westbrook Farm	29.76 326	P	P	08 41 48.0 +1.4
	baz=140,SNR=11				
W52A	Murphy	29.80 340	P	P	08 41 47.2 +0.3
W52A			IAmb	IAmb	08 41 49.5
	comp=Z,31nm,0.9s				
W52A	Murphy	29.80 340	P	P	08 41 48.4 +1.4
	baz=156,SNR=8.8				
Z47A	Carrollton	29.81 332	P	P	08 41 47.6 +0.6
Z47A			IAmb	IAmb	08 41 49.3
	comp=Z,46nm,0.8s				
Z47A	Carrollton	29.81 332	P	P	08 41 48.5 +1.5
	baz=146,SNR=12				
146A	Union	29.82 330	P	P	08 41 48.6 +1.5
	baz=144				
LVC	Limon Verde	29.84 174	P	P	08 41 47.7 0.0
LVC			IAmb	IAmb	08 41 48.7
	comp=Z,26nm,0.7s				
LVC	Limon Verde	29.84 174	eP	P	08 41 48.0 +0.2
LVC	Limon Verde	29.84 174	LR	LR	08 54 51.5
	comp=Z,192nm,18.3s,baz=346,slow=38				
PP1B	Ponte de Pedra	29.93 146	eP	P	08 41 48.9 +0.6
U56A	King	29.95 346	P	P	08 41 49.7 +1.4
	baz=163				
U56A			P	P	08 41 49.7 +1.4
	baz=163				
V53A	Saluda	29.97 342	P	P	08 41 49.8 +1.3
	baz=158				
V53A			P	P	08 41 49.8 +1.3
	baz=158				
T59A	Double "B" Far	30.01 351	P	P	08 41 49.3 +0.5
	baz=169,SNR=5.2				
T59A			P	P	08 41 49.3 +0.5
	baz=169,SNR=5.2				
VBMS	Vicksburg	30.23 328	P	P	08 41 52.0 +1.2
	baz=141,SNR=5.5				
VBMS	Vicksburg	30.23 328	P	P	08 41 52.3 +1.5
	baz=141,SNR=5.5				
TKL	Tuckaleechee C	30.26 341	P	P	08 41 52.1 +1.0
	baz=156				
TKL	Tuckaleechee C	30.26 341	LR	LR	08 54 55.6
	comp=Z,265nm,20.5s,baz=172,slow=38				
T57A	Hurt	30.33 348	P	P	08 41 52.5 +0.9
	baz=166				
T57A			P	P	08 41 52.5 +0.9
	baz=166				
V52A	Sevierville	30.37 341	P	P	08 41 53.2 +1.2
	baz=157				
W50A	Signal Mountai	30.38 338	P	P	08 41 52.9 +0.7
W50A			IAmb	IAmb	08 41 54.7
	comp=Z,21nm,0.9s				
W50A	Signal Mountai	30.38 338	P	P	08 41 53.5 +1.3
	baz=153,SNR=7.4				
X48A	Hartselle	30.41 335	P	P	08 41 52.9 +0.6
X48A			IAmb	IAmb	08 41 54.4
	comp=Z,23nm,0.8s				
X48A	Hartselle	30.41 335	P	P	08 41 53.5 +1.2
	baz=149,SNR=12				
U54A	Nelsons Funny	30.48 344	P	P	08 41 54.2 +1.2
	baz=160				
U54A			P	P	08 41 54.2 +1.2
	baz=160				
V51A	Loudon	30.58 340	P	P	08 41 55.5 +1.7
	baz=155,SNR=8.4				
BLA	Blacksburg	30.79 347	P	P	08 41 56.9 +1.2
	baz=164				
BLA	Blacksburg	30.79 347	P	P	08 41 57.2 +1.5
	baz=164				
TZTN	Tazewell	31.00 342	P	P	08 41 58.7 +1.1
	baz=157				
TZTN	Tazewell	31.00 342	P	P	08 41 58.8 +1.3
	baz=157				
S57A	Dark Hollow, R	31.02 349	P	P	08 41 58.5 +0.9
	baz=166				
S57A			P	P	08 41 58.5 +0.9
	baz=166				
Y45A	Yeager Farm, C	31.05 331	P	P	08 41 59.7 +1.7
	baz=145,SNR=5.1				
143A	Socs Landing,	31.08 327	P	P	08 41 59.3 +1.0
	baz=140				
CBN	Corbin Frederi	31.19 352	P	P	08 42 00.1 +1.0
	baz=170				
CBN	Corbin Frederi	31.19 352	P	P	08 42 00.5 +1.3
	baz=170				
BDQN	Bodoquena, MS	31.35 152	eP	P	08 42 02.2 +1.5
V48A	Smith Brothers	31.44 336	P	P	08 42 02.9 +1.5
	baz=151,SNR=21				
U49A	Red Boiling Sp	31.72 339	P	P	08 42 04.9 +1.0
	baz=153,SNR=7.5				
HKT	Hockley	31.79 318	P	P	08 42 05.6 +1.1
	baz=130				
HKT	Hockley	31.79 318	P	P	08 42 05.2 +0.7
T50A	Nancy	31.85 340	P	P	08 42 05.8 +0.8
	baz=155				
T50A			P	P	08 42 05.8 +0.8
	baz=155				
AQDB	Aquidauana	31.88 150	eP	P	08 42 07.3 +1.8
MURT	Porto Murtinho	32.02 154	eP	P	08 42 07.1 +0.5
S51A	Beattyville	32.02 342	P	P	08 42 06.8 +0.2
	baz=158				
S51A			P	P	08 42 06.8 +0.2
	baz=158				
WVT	Waverly	32.18 336	P	P	08 42 08.4 +0.5
WVT	Waverly	32.18 336	P	P	08 42 08.7 +0.7
	baz=150,SNR=20				
WVT	Waverly	32.18 336	P	P	08 42 08.5 +0.6
WVT			PcP	PcP	08 44 55.6 -0.8
R53A	Hurricane	32.22 345	P	P	08 42 09.3 +1.1
	baz=161				
R53A			P	P	08 42 09.3 +1.1
	baz=161				
NATX	Nacogdoches	32.26 322	P	P	08 42 09.3 +0.6
NATX	Nacogdoches	32.26 322	P	P	08 42 09.8 +1.1
	baz=134				
NATX	Nacogdoches	32.26 322	P	P	08 42 09.5 +0.8
	baz=134				
Z41A	Richland Creek	32.27 326	P	P	08 42 08.3 -0.4
Z41A	Richland Creek	32.27 326	P	P	08 42 08.5 -0.2
	baz=139,SNR=6.0				
Z41A			P	P	08 42 08.5 -0.2
	baz=139,SNR=6.0				
Q54A	Coxs Mills	32.58 347	P	P	08 42 12.9 +1.5
	baz=164				
Q54A			P	P	08 42 12.9 +1.5
	baz=164				
T47A	Sharon Grove	32.64 337	P	P	08 42 12.9 +1.0
	baz=151,SNR=15				
R50A	Paris	32.84 342	P	P	08 42 14.0 +0.3
R50A			IAmb	IAmb	08 42 16.4
	comp=Z,42nm,1.1s				
R50A	Paris	32.84 342	P	P	08 42 15.4 +1.8
	baz=157,SNR=12				
R50A			P	P	08 42 15.4 +1.8
	baz=157,SNR=12				
BDFB	Brasilia	32.90 134	P	P	08 42 14.5 -0.1
	comp=Z,3.2nm,0.7s,baz=306,slow=7.0,SNR=6.0				
BDFB			LR	LR	08 56 23.1
	comp=Z,567nm,18.7s,baz=322,slow=38				
	comp=Z,3.2nm,0.7s				
Q52A	Bidwell	32.90 345	P	P	08 42 15.4 +1.3
	baz=161,SNR=5.3				
Q52A			P	P	08 42 15.4 +1.3
	baz=161,SNR=5.3				
MCWV	Mont Chateau	33.02 349	P	P	08 42 16.7 +1.4
	baz=166				
MCWV	Mont Chateau	33.02 349	P	P	08 42 17.0 +1.8
	baz=166				
ANTJ	Antonio Joao (	33.03 152	eP	P	08 42 16.4 +0.8
PANJ	Princeton	33.07 356	P	P	08 42 17.1 +1.5
	baz=175				
R49A	Shelbyville	33.12 341	P	P	08 42 17.0 +0.9
R49A			IAmb	IAmb	08 42 18.1
	comp=Z,16nm,0.7s				
R49A	Shelbyville	33.12 341	P	P	08 42 17.1 +1.1
	baz=156,SNR=6.1				
R49A			P	P	08 42 17.1 +1.1
	baz=156,SNR=6.1				
237A	Washetta, Mont	33.14 321	P	P	08 42 17.1 +0.8
	baz=133,SNR=6.7				
P53A	Whipple	33.18 347	P	P	08 42 15.7 -0.9
	baz=163				
P53A			P	P	08 42 15.7 -0.9
	baz=163				
Q51A	Peebles	33.24 344	P	P	08 42 18.7 +1.5
	baz=159,SNR=7.0				
Q51A			P	P	08 42 18.7 +1.5
	baz=159,SNR=7.0				
SDBA	SAO DESIDERIO	33.28 126	eP	P	08 42 19.1 +1.3
T45B	Paducah	33.28 335	P	P	08 42 18.3 +0.8
	baz=149				
833A	Chaparral WMA,	33.30 312	P	P	08 42 17.5 -0.4
	baz=124,SNR=5.4				
833A	Chaparral WMA,	33.30 312	P	P	08 42 17.0 -0.8
	baz=124,SNR=5.4				
LUPA	Lehigh Univers	33.34 355	P	P	08 42 18.8 +0.9
LUPA			IAmb	IAmb	08 42 20.6
	comp=Z,39nm,0.8s				
WCI	Wyandotte Cave	33.44 339	P	P	08 42 19.7 +0.8
WCI			IAmb	IAmb	08 42 20.9
	comp=Z,20nm,0.8s				
WCI	Wyandotte Cave	33.44 339	P	P	08 42 19.8 +0.9
	baz=154				
WCI	Wyandotte Cave	33.44 339	P	P	08 42 20.0 +1.1
	baz=154,SNR=6.7				
WCI	Wyandotte Cave	33.44 339	P	P	08 42 19.9 +1.1
435B	Jarrell	33.49 318	P	P	08 42 20.3 +0.9
	baz=129				
435B	Jarrell	33.49 318	P	P	08 42 20.2 +0.8
	baz=129,SNR=6.1				
P52A	Corning	33.50 346	P	P	08 42 20.6 +1.2
	baz=162,SNR=5.9				
Z38A	Mt. Pleasant	33.51 324	P	P	08 42 20.3 +0.7
	baz=136,SNR=6.4				
P51A	Williamsport	33.59 344	P	P	08 42 21.8 +1.6
	baz=160,SNR=5.8				
P51A			P	P	08 42 21.8 +1.6
	baz=160,SNR=5.8				
PAL	Palisades	33.65 357	P	P	08 42 21.2 +0.6
	baz=176				
SSPA	Standing Stone	33.65 352	P	P	08 42 21.8 +1.1
	baz=169				
SSPA	Standing Stone	33.65 352	P	P	08 42 22.2 +1.5
SSPA			pP	pP	08 42 30.4 +1.4
MIAR	Mount Ida	33.66 327	P	P	08 42 20.9 0.0
	baz=139,SNR=5.5				
MIAR	Mount Ida	33.66 327	P	P	08 42 20.6 -0.3
	baz=139,SNR=5.5				
USIN	University of	33.71 337	P	P	08 42 21.2 0.0
USIN			IAmb	IAmb	08 42 23.0
	comp=Z,44nm,0.9s				
PBMO	Poplar Bluff	33.85 333	P	P	08 42 23.0 +0.5
	baz=146,SNR=18				
UPAO	U. Pittsburgh	33.85 349	P	P	08 42 24.4 +1.9
	baz=166				
O53A	New Philadelph	33.87 347	P	P	08 42 23.3 +0.6
	baz=163,SNR=6.2				
O52A	Adamsville	33.88 346	P	P	08 42 23.6 +0.9
O52A			IAmb	IAmb	08 42 25.2
	comp=Z,35nm,1.0s				
O52A	Adamsville	33.88 346	P	P	08 42 24.2 +1.5
	baz=162,SNR=5.3				
O52A			P	P	08 42 24.2 +1.5
	baz=162,SNR=5.3				
HNDO	Hondo	33.90 314	P	P	08 42 22.6 -0.5
HNDO			IAmb	IAmb	08 42 23.6
	comp=Z,14nm,1.0s				
S44A	Carbondale	34.11 335	P	P	08 42 24.6 -0.1
S44A	Carbondale	34.11 335	P	P	08 42 25.1 +0.4
	baz=148,SNR=16				
P49A	Miami Univ. Ec	34.11 342	P	P	08 42 25.7 +0.9
	baz=157				
WHTX	Lake Whitney,	34.17 319	P	P	08 42 26.0 +0.6
	baz=131,SNR=5.7				
WHTX	Lake Whitney,	34.17 319	P	P	08 42 25.5 +0.1
	baz=131,SNR=5.7				
M57A	Sunshine Farm,	34.24 353	P	P	08 42 26.9 +1.1
	baz=171				
M57A			P	P	08 42 26.9 +1.1
	baz=171				
PSDB	Penn State Uni	34.26 351	P	P	08 42 27.7 +1.7
	baz=168				
P48A	Milroy	34.26 341	P	P	08 42 26.8 +0.8
	baz=156				
P48A			P	P	08 42 26.8 +0.8
	baz=156				
ACSO	Alum Creek Sta	34.27 345	P	P	08 42 27.3 +1.2
	baz=160				
ACSO	Alum Creek Sta	34.27 345	P	P	08 42 27.5 +1.4
	baz=160				
AMBA	Amambai (Brazi	34.31 151	eP	P	08 42 27.2 +0.6
KSPA	Keystone Colle	34.32 355	P	P	08 42 27.8 +1.2
	baz=173				
T42A	Van Buren	34.36 332	P	P	08 42 27.1 +0.2
	baz=145,SNR=23				
OLIL	Olney	34.54 338	P	P	08 42 29.4 +0.9
	baz=151,SNR=19				
O49A	Covington	34.60 343	P	P	08 42 29.5 +0.6
	baz=158				
O49A			P	P	08 42 29.5 +0.6
	baz=158				
U40A	Yellville	34.67 330	P	P	08 42 30.2 +0.6
	baz=142,SNR=32				
U40A			P	P	08 42 30.2 +0.6
	baz=142,SNR=32				
X37A	Clayton	34.69 325	P	P	08 42 30.4 +0.6
	baz=136,SNR=6.5				
JCT	Junction City	34.82 315	P	P	08 42 31.1 +0.1
	baz=126				
JCT	Junction City	34.82 315	P	P	08 42 30.6 -0.5
	baz=126				
FVM	French Village	34.85 334	P	P	08 42 31.2 0.0
FVM	French Village	34.85 334	P	P	08 42 31.9 +0.7
	baz=147,SNR=21				
FW06	Azle	34.88 321	P	P	08 42 32.0 +0.5
FW06			IAmb	IAmb	08 42 33.0
	comp=Z,22nm,0.9s				
M53A	Wl Miller and	34.90 349	P	P	08 42 32.2 +0.6
	baz=165				
O48B	Farmland	34.91 342	P	P	08 42 32.0 +0.4
	baz=157				
O48B	Farmland	34.91 342	P	P	08 42 31.8 +0.2
	baz=157				
Z35A	Perchaven, San	34.93 321	P	P	08 42 32.6 +0.7
	baz=132,SNR=8.2				
BINY	Binghamton	34.98 355	P	P	08 42 33.1 +0.9
	baz=173				
P46A	Rosedale	35.00 339	P	P	08 42 33.5 +1.1
	baz=153,SNR=18				
Q44A	Meyer Farm, Va	35.05 337	P	P	08 42 32.4 -0.4
Q44A			IAmb	IAmb	08 42 33.9
	comp=Z,20nm,0.6s				
Q44A	Meyer Farm, Va	35.05 337	P	P	08 42 33.1 +0.2
	baz=150,SNR=10				
L56A	Greenwood	35.08 353	P	P	08 42 33.7 +0.5
L56A			IAmb	IAmb	08 42 35.3
	comp=Z,26nm,0.8s				
HRV	Adam Dziewonsk	35.11 1	P	P	08 42 34.0 +0.7
	baz=181				
HRV	Adam Dziewonsk	35.11 1	P	P	08 42 34.7 +1.4
	baz=181				
HRV	Adam Dziewonsk	35.11 1	P	P	08 42 34.7 +1.4
HRV			pP	pP	08 42 42.8 +1.4
PCMB	Pacaembu	35.17 145	eP	P	08 42 34.6 +0.5
N49A	Columbus Grove	35.24 344	P	P	08 42 35.5 +1.0
	baz=159,SNR=5.7				
N49A			P	P	08 42 35.5 +1.0
	baz=159,SNR=5.7				
CCM	Cathedral Cave	35.27 333	P	P	08 42 35.1 +0.4
CCM	Cathedral Cave	35.27 333	P	P	08 42 35.2 +0.4
	baz=146				
CCM	Cathedral Cave	35.27 333	P	P	08 42 35.0 +0.2
	baz=146,SNR=22				
CCM	Cathedral Cave	35.27 333	P	P	08 42 34.9 +0.2
CCM			pP	pP	08 42 42.1 -0.9
CCM			PcP	PcP	08 45 05.3 +0.2
JANB	Januaria	35.28 129	eP	P	08 42 35.9 +0.7
TICA	Tres Isletas	35.30 162	eP	P	08 42 34.6 -0.5
M50A	Fremont	35.40 346	P	P	08 42 36.2 +0.4
	baz=161				
M50A			P	P	08 42 36.2 +0.4
	baz=161				
ERPA	Erie	35.43 350	P	P	08 42 37.4 +1.3
	baz=166				
U38A	Gravette	35.52 328	P	P	08 42 36.6 -0.4
U38A	Gravette	35.52 328	P	P	08 42 36.3 -0.6
	baz=140				
SFIN	Lafayette	35.64 340	P	P	08 42 38.8 +0.9
	baz=154,SNR=15				
SFIN	Lafayette	35.64 340	P	P	08 42 38.6 +0.7
	baz=154,SNR=15				
N47A	Urbana	35.64 342	P	P	08 42 38.9 +1.0
N47A	Urbana	35.64 342	P	P	08 42 38.4 +0.5
	baz=156,SNR=6.8				
N47A			P	P	08 42 38.4 +0.5
	baz=156,SNR=6.8				
UNH	University of	35.71 1	P	P	08 42 39.6 +1.2
	baz=182				
P43A	Skaggs, Pawnee	35.88 337	P	P	08 42 39.9 -0.1
P43A	Skaggs, Pawnee	35.88 337	P	P	08 42 40.5 +0.5
	baz=149,SNR=9.7				
TUL3	Leonard	35.88 326	P	P	08 42 39.7 -0.4
TUL3	Leonard	35.88 326	P	P	08 42 39.9 -0.2
	baz=137,SNR=11				
TUL3	Leonard	35.88 326	P	P	08 42 39.7 -0.4
	baz=137,SNR=11				
R40A	Maddies Statio	35.93 332	P	P	08 42 40.5 +0.1
R40A			IAmb	IAmb	08 42 41.3
	comp=Z,47nm,1.4s				
R40A	Maddies Statio	35.93 332	P	P	08 42 40.2 -0.2
	baz=144,SNR=13				
S39A	Bolivar	35.95 331	P	P	08 42 40.4 -0.2
	baz=142,SNR=8.7				
PMNB	Patos De Minas	35.96 136	eP	P	08 42 39.7 -1.2
ABTX	Abilene, Hawle	36.01 318	P	P	08 42 41.5 +0.3
	baz=128,SNR=7.0				
ABTX	Abilene, Hawle	36.01 318	P	P	08 42 41.3 +0.1
	baz=128,SNR=7.0				
MCR1	Marechal Candi	36.06 151	eP	P	08 42 42.7 +1.0
LCO	Las Campanas	36.08 178	P	P	08 42 42.3 +0.2
LCO			pP	pP	08 42 50.3 +0.1
J57A	Williamstown	36.18 355	P	P	08 42 43.4 +0.9
	baz=173				
J57A			P	P	08 42 43.4 +0.9
	baz=173				
L48A	N Adams	36.26 344	P	P	08 42 43.6 +0.4
L48A			IAmb	IAmb	08 42 45.0
	comp=Z,20nm,0.8s				
L48A	N Adams	36.26 344	P	P	08 42 44.1 +0.9
	baz=159				
L48A			P	P	08 42 44.1 +0.9
	baz=159				
CPUP	Villa Florida	36.30 157	eP	P	08 42 43.0 -0.7
CPUP	Villa Florida	36.30 157	P	P	08 42 42.0 -1.7
	comp=Z,5.2nm,0.7s,baz=329,slow=8.3,SNR=12				
CPUP			LR	LR	08 59 13.1
	comp=Z,539nm,18.1s,baz=346,slow=39				
	comp=Z,5.2nm,0.7s				
CPUP	Villa Florida	36.30 157	P	P	08 42 42.0 -1.7
CPUP			pP	pP	08 42 49.6 -2.2
CPUP			PcP	PcP	08 45 08.5 +0.1
AAM	Ann Arbor	36.39 345	P	P	08 42 44.7 +0.4
	baz=160				
HDIL	Hopedale	36.58 338	P	P	08 42 46.0 0.0
	baz=150,SNR=7.4				
HDIL	Hopedale	36.58 338	P	P	08 42 45.8 -0.2
	baz=150,SNR=7.4				
K50A	Casco	36.59 347	P	P	08 42 47.4 +1.3
	baz=162				
K50A			P	P	08 42 47.4 +1.3
	baz=162				
LDASE	Londrina, Braz	36.67 147	eP	P	08 42 47.9 +0.9
WMOK	Wichita Mounta	36.81 322	P	P	08 42 47.5 -0.6
	baz=132,SNR=13				
WMOK	Wichita Mounta	36.81 322	P	P	08 42 47.2 -0.9
	baz=132,SNR=13				
P40A	Paris	36.84 334	P	P	08 42 48.1 -0.1
P40A			IAmb	IAmb	08 42 48.8
	comp=Z,26nm,0.8s				
P40A	Paris	36.84 334	P	P	08 42 47.9 -0.2
	baz=146,SNR=13				
LBNH	Lisbon	36.84 0	P	P	08 42 48.6 +0.5
	baz=180				
L46A	Eue Claire	36.86 342	P	P	08 42 49.1 +0.8
	baz=156				
L46A			P	P	08 42 49.1 +0.8
	baz=156				
M44A	Midewin, Midew	36.86 340	P	P	08 42 48.8 +0.5
M44A			IAmb	IAmb	08 42 49.3
	comp=Z,36nm,0.8s				
M44A	Midewin, Midew	36.86 340	P	P	08 42 48.5 +0.1
	baz=153				
T35B	Sooner Cattle	37.01 326	P	P	08 42 49.4 -0.3
	baz=137				
TXAR	Lajitas Array	37.02 310	P	P	08 42 49.7 -0.3
	comp=Z,5.3nm,0.7s,baz=125,slow=9.4,SNR=101				
TXAR			PcP	PcP	08 45 11.6 +0.9
	comp=Z,9.2nm,0.8s,baz=147,slow=5.7,SNR=23				
TXAR			LR	LR	08 59 36.8
	comp=Z,40nm,21.8s,baz=128,slow=39				
	comp=Z,5.3nm,0.7s				
TX31	Lajitas Ar. Si	37.02 310	P	P	08 42 50.0 0.0
TX31			IAmb	IAmb	08 42 51.1
	comp=Z,21nm,0.8s				
TX31	Lajitas Ar. Si	37.02 310	P	P	08 42 50.0 0.0
	baz=120,SNR=25				
TX32	Lajitas Array	37.02 310	P	P	08 42 50.3 +0.3
GO04	Tololo Observa	37.23 178	P	P	08 42 51.7 -0.2
GO04			IAmb	IAmb	08 42 52.9
	comp=Z,44nm,0.8s				
PTGB	Pitanga	37.25 149	eP	P	08 42 52.2 +0.3
LONY	Lake Ozonia	37.29 357	P	P	08 42 52.4 +0.5
	baz=176				
BLOK	Blackwell	37.29 326		P	08 42 52.1 0.0
FRTB	Fartura	37.50 145	eP	P	08 42 53.9 -0.1
BMNY	Brushton-Moira	37.50 357	P	P	08 42 54.9 +1.2
	baz=176				
L44A	Lake County Fo	37.52 340	P	P	08 42 54.3 +0.3
	baz=154				
L44A	Lake County Fo	37.52 340	P	P	08 42 54.0 +0.1
	baz=154				
J47A	Sunmer	37.57 345	P	P	08 42 54.8 +0.4
	baz=159,SNR=7.0				
J47A			P	P	08 42 54.8 +0.4
	baz=159,SNR=7.0				
P38A	Dawn	37.58 332	P	P	08 42 54.3 -0.2
	baz=143,SNR=9.3				
G62A	West of Eustis	37.84 2	P	P	08 42 58.2 +1.6
	baz=182				
G62A			P	P	08 42 58.2 +1.6
	baz=182				
SADO	Sadowa	37.88 352	LR	LR	09 00 37.0

comp=Z,57nm,18.2s,baz=140,slow=39
OK032 Salt Plains WL 37.88 325 P P 08 42 56.6 -0.5
OK032 IAmb IAmb 08 42 57.5
comp=Z,33nm,0.8s
PKME Peaks-Kenny Pk 37.94 3 P P 08 42 57.9 +0.5
baz=184
L42A Oliver, Polo 37.98 338 P P 08 42 57.1 -0.7
baz=151
KAN06 Argonia West S 38.00 326 P P 08 42 58.1 0.0
KAN06 IAmb IAmb 08 42 58.8
comp=Z,59nm,1.3s
ELIS Ellis County 38.09 323 P P 08 42 58.6 -0.3
K43A Burlington 38.13 340 P P 08 42 59.0 -0.1
baz=153,SNR=7.1
L40A Anamosa 38.62 337 P P 08 43 01.5 -1.7
baz=148
CRSM Crissiumal (Br 38.67 154 *eP* **P 08 43 03.9 +0.1**
KSU1 Kansas State U 38.68 329 P P 08 43 02.7 -1.1
KSU1 IAmb IAmb 08 43 03.8
comp=Z,24nm,0.8s
KSU1 Kansas State U 38.68 329 P P 08 43 03.1 -0.7
baz=139,SNR=5.7
KSU1 Kansas State U 38.68 329 P P 08 43 02.2 -1.5
baz=139,SNR=5.7
425A Indio Mountain 38.73 312 P P 08 43 04.2 -0.3
AMTX Amarillo 38.73 319 P P 08 43 04.5 +0.1
baz=128
AMTX Amarillo 38.73 319 P P 08 43 05.1 +0.7
baz=128,SNR=6.2
VAO Valinhos 38.78 142 *eP* **P 08 43 05.4 +0.5**
CFA Coronel Fontan 38.81 175 LR LR 09 00 45.9
comp=Z,74nm,18.2s,baz=358,slow=39
MSTX Muleshoe 38.90 317 P P 08 43 05.7 -0.2
baz=126,SNR=9.8
MSTX Muleshoe 38.90 317 P P 08 43 05.7 -0.2
baz=126,SNR=9.8
JFWS Jewell Farm 38.98 339 P P 08 43 06.3 +0.1
baz=150,SNR=16
JFWS Jewell Farm 38.98 339 P P 08 43 06.4 +0.1
baz=150,SNR=16
GLMI Grayling 39.00 346 P P 08 43 06.4 0.0
baz=160
E63A Oxbow 39.14 4 P P 08 43 08.7 +1.2
baz=186
E63A P P 08 43 08.7 +1.2
baz=186
SCIA State Center 39.30 335 P P 08 43 09.0 +0.1
baz=146,SNR=7.9
SCIA State Center 39.30 335 P P 08 43 08.8 -0.1
baz=146,SNR=7.9
R32A Long Quarter, 39.31 326 P P 08 43 08.7 -0.4
baz=135,SNR=7.4
ITAB Concordia 39.32 151 *eP* **P 08 43 09.2 0.0**
I42A Draeger Farm, 39.38 341 P P 08 43 09.9 +0.3
baz=153,SNR=8.1
MNTX Cornudas Mount 39.49 312 P P 08 43 11.1 +0.5
baz=121,SNR=43
MNTX Cornudas Mount 39.49 312 P P 08 43 10.8 +0.1
baz=121,SNR=43
N35A Tabor 39.55 331 P P 08 43 10.6 -0.4
baz=141,SNR=6.1
ITQB Itaqui 39.58 159 *eP* **P 08 43 10.1 -1.3**
UNIS Unistalda (Bra 39.63 156 *eP* **P 08 43 11.1 -0.6**
K38A Parkersburg 39.73 336 P P 08 43 11.6 -0.9
baz=147,SNR=5.7
D62A Allapoint, All 39.76 3 P P 08 43 13.4 +0.8
baz=184
D62A P P 08 43 13.4 +0.8
baz=184
VA03 San Esteban 39.82 178 P P 08 43 14.2 +0.8
SJMB Sao Joao De Ma 39.86 131 *eP* **P 08 43 14.7 +0.8**
I40A Norwalk 39.97 339 P P 08 43 14.3 -0.1
baz=150,SNR=5.1
ROC1 El Roble 40.02 179 P P 08 43 15.7 +0.5
ROC1 IAmb IAmb 08 43 33.0
comp=Z,42nm,1.0s
CBKS Cedar Bluff 40.15 326 P P 08 43 16.1 0.0
baz=134,SNR=5.2
CBKS Cedar Bluff 40.15 326 P P 08 43 15.9 -0.2
baz=134,SNR=5.2
PEL Peldehue 40.20 178 P P 08 43 16.7 +0.2
PEL pP **pP 08 43 24.7 0.0**
ALGR Alto Alegre (B 40.24 154 *eP* **P 08 43 15.8 -1.2**
E46A Sault Ste Mari 40.38 347 P P 08 43 18.0 +0.2
E46A Sault Ste Mari 40.38 347 P P 08 43 18.6 +0.8
baz=161,SNR=8.3
MT08 Bocatoma Ro 40.52 177 P P 08 43 20.2 +0.8
MT08 IAmb IAmb 08 43 22.3
comp=Z,40nm,1.1s
MT03 Universidad Ad 40.55 178 P P 08 43 19.1 -0.3
RODS Rosario do Sul 40.72 157 *eP* **P 08 43 19.8 -1.0**
L34A Svendsen Farm, 40.75 332 P P 08 43 20.3 -0.7
baz=141,SNR=25
MT13 San Alfonso 40.81 178 P P 08 43 21.9 +0.3
MT13 IAmb IAmb 08 43 23.3
comp=Z,35nm,1.1s
RIB01 Linhares ES 40.83 131 *eP* **P 08 43 20.9 -0.9**
BGNE Belgrade 41.19 330 P P 08 43 24.2 -0.4
baz=138
COWI Conover 41.43 342 P P 08 43 27.1 +0.6
baz=154
BO01 Tunca 41.43 179 P P 08 43 26.5 -0.1
BO01 IAmb IAmb 08 43 27.6
comp=Z,43nm,1.1s
121A Cookes Peak, D 41.67 312 P P 08 43 29.7 +0.8
baz=119,SNR=6.3
121A Cookes Peak, D 41.67 312 P P 08 43 28.4 -0.5
baz=119,SNR=6.3
Y22A Socorro 41.78 314 P P 08 43 30.2 +0.4
baz=122,SNR=9.2
Y22D IRIS PASSCAL I 41.82 315 P P 08 43 30.5 +0.4
baz=122
Y22F Passcal Instru 41.82 315 P P 08 43 30.5 +0.4
baz=122
BO02 Sierra Bellavi 41.84 178 P P 08 43 29.6 -0.4
BO02 IAmb IAmb 08 43 31.4
comp=Z,81nm,1.2s
T25A Trinidad 41.86 320 P P 08 43 30.7 +0.3
baz=127
SPMN Marine on St. 41.91 338 P P 08 43 30.8 +0.4
baz=148,SNR=5.0
SPMN Marine on St. 41.91 338 P P 08 43 29.7 -0.8
baz=148,SNR=5.0
KSCO Kaye Shedlock' 41.95 324 P P 08 43 31.6 +0.6
baz=131
ANMO Albuquerque 41.96 316 P P 08 43 31.6 +0.3
baz=123
ANMO Albuquerque 41.96 316 P P 08 43 31.7 +0.4
baz=123,SNR=8.6
ANMO Albuquerque 41.96 316 LR LR 09 02 04.9
comp=Z,48nm,21.5s,baz=220,slow=38
ANMO Albuquerque 41.96 316 P P 08 43 31.9 +0.6
ANMO pP **pP 08 43 39.9 -0.1**
ANMO PcP **PcP 08 45 27.1 +0.7**
ECSD EROS Data Cent 42.25 333 P P 08 43 32.9 -0.3
baz=142
ECSD EROS Data Cent 42.25 333 P P 08 43 31.9 -1.4
baz=142
PLTB Pedras Altas 42.59 157 *eP* **P 08 43 34.5 -1.7**
F36A Milaca 42.72 338 P P 08 43 36.6 -0.4
baz=148
K30B Basset 42.86 330 P P 08 43 37.7 -0.6
baz=138,SNR=16
OGNE Ogallala 42.90 326 P P 08 43 38.6 0.0
baz=133
OGNE Ogallala 42.90 326 P P 08 43 38.5 -0.2
baz=133
SDCO Great Sand Dun 42.92 320 P P 08 43 40.0 +0.8
baz=126,SNR=11
SDCO Great Sand Dun 42.92 320 P P 08 43 39.7 +0.6
baz=126,SNR=11
Q24A Divide 43.44 322 P P 08 43 43.8 +0.5
baz=128
S22A 4UR Ranch, Cre 43.77 319 P P 08 43 46.5 +0.5
baz=125,SNR=12
F33A 5 Mile Ranch, 43.79 335 P P 08 43 44.9 -0.8
baz=144
EYMN Ely 43.81 341 P P 08 43 45.9 +0.1
baz=151,SNR=9.7
EYMN Ely 43.81 341 P P 08 43 45.7 -0.1
baz=151,SNR=9.7
TUC Tucson 43.81 310 P P 08 43 46.4 +0.2
TUC Tucson 43.81 310 P P 08 43 46.7 +0.5
baz=116
TUC Tucson 43.81 310 P P 08 43 46.6 +0.5
TUC PcP **PcP 08 45 33.6 +1.1**
SUSD Miller 43.86 332 P P 08 43 45.7 -0.5
baz=140
SUSD Miller 43.86 332 P P 08 43 45.8 -0.5
baz=140
ISCO Idaho Springs 44.23 322 P P 08 43 50.8 +1.1
baz=128,SNR=16
ISCO Idaho Springs 44.23 322 P P 08 43 50.6 +0.9
baz=128,SNR=16
W18A Petrified Fore 44.35 314 P P 08 43 51.4 +0.8
baz=120
MVCO Mesa Verde 44.58 317 P P 08 43 53.2 +0.8
baz=123,SNR=9.4
B35A Bob, Littlefor 44.91 340 P P 08 43 54.4 -0.2
baz=149,SNR=7.4
N23A Red Feather La 45.11 323 P P 08 43 57.5 +0.8
baz=129,SNR=7.5
214A Organ Pipe Nat 45.22 308 P P 08 43 58.0 +0.6
baz=114,SNR=14
WUAZ Wupatki 45.72 314 P P 08 44 02.5 +1.1
baz=118,SNR=18
O20A White River Ci 46.05 321 P P 08 44 04.6 +0.5
baz=126
RSSD Black Hills 46.15 328 P P 08 44 04.8 0.0
RSSD Black Hills 46.15 328 P P 08 44 05.3 +0.6
baz=133
RSSD Black Hills 46.15 328 P P 08 44 05.0 +0.2
baz=133,SNR=6.0
RSSD Black Hills 46.15 328 P P 08 44 05.4 +0.6
RSSD PcP **PcP 08 45 40.6 +0.1**
E28A Huff 46.27 333 P P 08 44 04.9 -0.6
E28A Huff 46.27 333 P P 08 44 05.2 -0.2
baz=139,SNR=7.4
K22A Casper 46.55 325 P P 08 44 08.2 +0.3
baz=129
K22A Casper 46.55 325 P P 08 44 08.1 +0.2
baz=129
MDND Maddock 46.77 335 P P 08 44 09.4 +0.1
baz=141
MDND Maddock 46.77 335 P P 08 44 09.5 +0.3
baz=141
PDMCI Parker Dam,Lak 47.20 311 P P 08 44 12.9 0.0
baz=115
GLA Glamis 47.22 309 P P 08 44 13.3 +0.2
baz=113
ULM Lac du Bonnet 47.26 339 P P 08 44 12.3 -0.8
comp=Z,23nm,0.8s,baz=142,slow=9.0,SNR=23
ULM LR LR 09 05 19.7
comp=Z,187nm,18.5s,baz=176,slow=38
comp=Z,23nm,0.8s
SCHQ Schefferville 47.62 4 P P 08 44 16.0 +0.2
SCHQ Schefferville 47.62 4 P P 08 44 15.9 +0.1
comp=Z,31nm,0.6s,baz=192,slow=7.0,SNR=56
SCHQ LR LR 09 03 20.8
comp=Z,102nm,21.7s,baz=278,slow=35
comp=Z,31nm,0.6s
MSU Marysvale 47.74 317 P P 08 44 18.0 +0.7
PLCA Paso Flores 47.77 179 *eP* **P 08 44 16.9 -0.3**
PLCA Paso Flores 47.77 179 P P 08 44 16.9 -0.3
comp=Z,27nm,0.9s,baz=357,slow=8.4,SNR=40
comp=Z,27nm,0.9s
PLCA Paso Flores 47.77 179 P P 08 44 16.6 -0.6
PLCA pP **pP 08 44 24.1 -1.4**
PLCA sP **sP 08 44 28.0 -0.8**
IRM Iron Mountain 47.90 310 P P 08 44 18.6 +0.3
baz=114,SNR=6.1
SWSC Sam W. Stewart 47.93 308 P P 08 44 18.7 +0.2
baz=112
BC3 Big Chuckawall 47.94 309 P P 08 44 18.8 0.0
baz=113,SNR=5.9
IKP In-Ko-Pah, Jac 48.06 308 P P 08 44 20.4 +0.7
baz=112
BW06 Boulder Array 48.39 323 P P 08 44 22.4 +0.2
baz=126,SNR=10.0
PDAR Pinedale Array 48.39 323 P P 08 44 22.0 -0.3
comp=Z,3.8nm,0.7s,baz=127,slow=10,SNR=35
PDAR PcP **PcP 08 45 48.3 -0.2**
comp=Z,3.8nm,0.8s,baz=124,slow=6.7,SNR=6.8
PDAR LR LR 09 07 55.4
comp=Z,45nm,18.1s,baz=79,slow=40
comp=Z,3.8nm,0.7s
MONP2 Monument Peak 48.40 308 P P 08 44 22.6 +0.2
baz=112
BELC Belle Mtn. Jos 48.49 310 P P 08 44 23.5 +0.5
baz=113,SNR=7.5
GMRC Granite Mounta 48.55 311 P P 08 44 23.9 +0.4
baz=114
TPFO Pinon Flats 48.69 309 P P 08 44 25.5 +1.0
baz=112
PFO Pinyon Flats O 48.69 309 P P 08 44 25.5 +0.8
baz=112
PFO Pinyon Flats O 48.69 309 LR LR 09 06 55.6
comp=Z,35nm,20.1s,baz=114,slow=38
PFO Pinyon Flats O 48.69 309 P P 08 44 26.0 +1.4
109C Camp Elliot, M 48.93 308 P P 08 44 27.1 +0.9
baz=111
TUQ Turquoise Moun 49.01 311 P P 08 44 27.4 +0.4
baz=114,SNR=15
DUG Dugway, Tooele 49.02 318 P P 08 44 27.5 +0.5
baz=121,SNR=6.5
LAO LASA Array 49.02 329 P P 08 44 27.0 +0.2
baz=132
HEC Hector,Ludlow 49.07 310 P P 08 44 27.8 +0.4
baz=114,SNR=5.9
MURC Murrieta 49.26 309 P P 08 44 29.0 +0.1
baz=112
DGMT Dagmar 49.28 332 P P 08 44 28.6 -0.2
DGMT Dagmar 49.28 332 P P 08 44 29.1 +0.4
baz=136,SNR=8.3
DGMT Dagmar 49.28 332 P P 08 44 29.4 +0.6
baz=136,SNR=8.3
BBRC Big Bear Solar 49.30 310 P P 08 44 29.5 +0.1
baz=112
GSC Goldstone, Bar 49.61 311 P P 08 44 31.4 -0.1
GSC Goldstone, Bar 49.61 311 P P 08 44 32.2 +0.7
baz=113,SNR=11
RLMT Red Lodge 49.64 326 P P 08 44 31.8 0.0
RLMT Red Lodge 49.64 326 P P 08 44 32.1 +0.4
baz=128,SNR=6.9
RPN Rapa Nui 49.75 225 LR LR 09 01 43.4
comp=Z,84nm,20.2s,baz=48,slow=31
BFSC Mount Baldy Ra 49.85 309 P P 08 44 33.6 +0.1
baz=112
TPNV Topopah Spring 49.88 313 P P 08 44 33.9 +0.2
TPNV Topopah Spring 49.88 313 P P 08 44 34.1 +0.4
baz=115,SNR=11
H17A Grant Village 49.95 324 P P 08 44 34.9 +0.7
baz=126
R11B Troy Canyon, C 50.02 315 P P 08 44 35.5 +0.8
baz=117,SNR=14
FURC Furnace Creek, 50.12 312 P P 08 44 36.4 +1.1
baz=114,SNR=7.4
LRMC Laurel Mtn Rad 50.34 311 P P 08 44 37.5 +0.3
baz=113,SNR=5.4
EDW2 Edwards Air Fo 50.35 310 P P 08 44 37.5 +0.3
baz=112,SNR=6.2
MPMC Manual Prospec 50.42 311 P P 08 44 38.2 +0.3
baz=113
GRAC Grapevine Rang 50.71 313 P P 08 44 40.7 +0.9
baz=114
ISA Isabella, Lake 51.01 311 P P 08 44 42.8 +0.7
baz=112
CWC Cottonwood Cre 51.01 312 P P 08 44 42.7 +0.5
baz=113
ARVC Arvin 51.08 310 P P 08 44 43.4 +0.9
baz=112
BOZ Bozeman (W) 51.26 325 P P 08 44 44.1 +0.2
BOZ Bozeman (W) 51.26 325 P P 08 44 44.6 +0.7
baz=126,SNR=9.7
SCZ2 Santa Cruz Isl 51.30 308 P P 08 44 45.2 +0.9
baz=110
AY01 Puyuhuapi 51.44 181 P P 08 44 44.8 -0.2
VES Vestal, Richgr 51.53 311 P P 08 44 46.7 +0.7
baz=112,SNR=5.4
EGMT Eagleton 51.72 328 P P 08 44 48.1 +0.9
baz=129
HLID Hailey 51.78 321 P P 08 44 48.5 +0.5
baz=122,SNR=9.3
NVAR Mina Array Bea 51.98 314 P P 08 44 49.5 0.0
comp=Z,3.0nm,0.7s,baz=116,slow=7.0,SNR=18
NVAR PcP **PcP 08 46 01.9 +0.1**
comp=Z,3.8nm,0.6s,baz=142,slow=4.4,SNR=11
NVAR LR LR 09 09 21.9
comp=Z,68nm,20.3s,baz=92,slow=39
comp=Z,3.0nm,0.7s
SMMC Simmler 52.04 310 P P 08 44 50.4 +0.6
baz=111
MLAC Mammoth, Mammo 52.04 313 P P 08 44 49.9 -0.1
baz=113
COYC Coyhaique 52.59 180 P P 08 44 53.2 -0.3
COYC Coyhaique 52.59 180 P P 08 44 53.2 -0.3
COYC pP **pP 08 45 02.7 +0.7**
YERR Yerington 52.87 314 P P 08 44 56.5 +0.4
YERR IAmb IAmb 08 44 58.3
comp=Z,11nm,0.8s
FFC Flin Flon 53.08 339 P P 08 44 56.7 -0.3
MSO Missoula 53.28 325 P P 08 44 59.5 +0.6
baz=124
G08A Pilot Rock 55.47 321 P P 08 45 14.4 -0.5
G08A IAmb IAmb 08 45 16.0
comp=Z,25nm,1.3s
NEW Newport 55.87 325 P P 08 45 16.7 -0.9
NEW Newport 55.87 325 P P 08 45 17.7 +0.1
baz=122
NEW Newport 55.87 325 LR LR 09 11 44.9
comp=Z,40nm,20.5s,baz=104,slow=39
PINE Pine Mountain 56.05 319 P P 08 45 19.1 0.0
PINE IAmb IAmb 08 45 20.9
comp=Z,21nm,0.8s
L04D Klamath Falls 56.31 317 P P 08 45 20.2 -0.8
L04D IAmb IAmb 08 45 21.7
comp=Z,29nm,1.3s
YBH Yreka Blue Hor 56.40 316 LR LR 09 12 16.7
comp=Z,38nm,21.1s,baz=169,slow=39
FRB Frobisher Bay 56.44 2 LR LR 09 08 51.8
comp=Z,148nm,21.0s,baz=184,slow=35
EDM Edmonton 56.76 332 P P 08 45 23.0 -0.8
EDM IAmb IAmb 08 45 23.6
comp=Z,18nm,0.5s
HOOD Mount Hood Mea 57.17 320 P P 08 45 27.4 +0.3
HOOD IAmb IAmb 08 45 29.1
comp=Z,37nm,1.4s
SFJD Kangerlussuaq 61.41 9 LR LR 09 10 37.8
comp=Z,76nm,20.6s,baz=207,slow=34
DY2G Dye2 61.73 11 *i* P **P 08 45 56.6 -1.6**
DY2G IAmb IAmb 08 45 59.2
comp=Z,13nm,0.8s
YKA Yellowknife Ar 63.24 339 P P 08 46 07.8 -0.2
comp=Z,14nm,0.7s,baz=130,slow=6.7,SNR=28
YKA LR LR 09 14 26.4
comp=Z,102nm,19.5s,baz=111,slow=37
comp=Z,14nm,0.7s
ICESG Greenland Ices 65.29 12 *i* P **P 08 46 20.5 -1.3**
ICESG IAmb IAmb 08 46 23.1
comp=Z,19nm,0.8s
FLDN Fort Liard 65.35 335 P P 08 46 22.3 +0.4
baz=121
KOTAN Kotaneelee Air 65.54 334 P P 08 46 23.4 +0.2
baz=121
LIRD Liard River Hi 66.09 333 P P 08 46 26.7 0.0
baz=118
DBIC Dimbokro 66.59 86 P P 08 46 30.4 -0.4
DBIC IAmb IAmb 08 46 32.5
comp=Z,22nm,0.8s
DBIC Dimbokro 66.59 86 P P 08 46 31.4 +0.6
comp=Z,22nm,0.8s,baz=272,slow=6.5,SNR=23
DBIC LR LR 09 12 50.0
comp=Z,55nm,20.5s,baz=250,slow=33
comp=Z,22nm,0.8s
DBIC Dimbokro 66.59 86 P P 08 46 31.6 +0.9
DBIC pP **pP 08 46 40.0 +0.6**
WRGLY Wrigley 66.93 337 P P 08 46 32.2 +0.2
baz=122,SNR=5.1
KOWA Kowa 66.96 77 P P 08 46 33.1 0.0
KOWA IAmb IAmb 08 46 35.3
comp=Z,19nm,0.8s
KOWA Kowa 66.96 77 P P 08 46 34.3 +1.2
KOWA pP **pP 08 46 42.3 +0.6**
KOWA PcP **PcP 08 47 00.9 -0.6**
T35M Bob Quinn 66.99 330 P P 08 46 32.8 +0.2
baz=114
V35K Ketchikan 67.06 328 P P 08 46 33.4 +0.4
baz=112
DLBC Dease Lake 67.48 331 P P 08 46 36.0 +0.3
baz=114
DLBC Dease Lake 67.48 331 LR LR 09 19 11.6
comp=Z,106nm,18.2s,baz=132,slow=39
WTLY Watson Lake, Y 67.62 333 P P 08 46 37.2 +0.7
baz=116
S34M Telegraph Cree 67.80 330 P P 08 46 38.4 +0.7
baz=113
TGTN Hyland Airport 68.03 335 P P 08 46 39.7 +0.6
baz=117
HOPE Hope Point 68.17 158 P P 08 46 40.9 +1.0
HOPE PcP **PcP 08 47 05.4 -0.2**
T33K Petersburg 68.30 329 P P 08 46 41.9 +1.1
baz=111
R33M Jennings River 68.31 332 P P 08 46 42.0 +1.0
baz=114
SUMG Summit 68.36 10 *i* P **P 08 46 41.0 -0.4**
SUMG IAmb IAmb 08 46 42.8
comp=Z,25nm,0.7s
ESDC Sonseca Array 68.52 50 P P 08 46 42.7 0.0
comp=Z,0.6nm,0.8s,baz=274,slow=4.4,SNR=4.8
comp=Z,0.6nm,0.8s
RES Resolute Bay 68.66 354 LR LR 09 18 46.5
comp=Z,55nm,18.2s,baz=341,slow=38
Q32M Nakina River 68.76 331 P P 08 46 44.6 +0.7
baz=112
S32K Killisnoo 69.36 329 P P 08 46 47.7 +0.4
baz=110
P33M Teslin, Yukon 69.50 332 P P 08 46 48.5 +0.2
baz=112
SIT Sitka 69.61 329 P P 08 46 49.4 +0.6
baz=109
P32M Atlin 69.68 331 P P 08 46 50.0 +0.5
baz=111
N32M Quiet Lake 69.98 333 P P 08 46 52.0 +0.9
baz=112
S31K Pelican 70.36 329 P P 08 46 54.3 +0.8
baz=108
C36M Paulatuk 70.51 343 P P 08 46 55.3 +1.1
baz=124
FARO Faro, Yukon 70.51 334 P P 08 46 55.9 +1.4
baz=112
WHY Whitehorse 70.61 332 P P 08 46 55.9 +0.8
baz=111
PLBC Pleasant Camp 70.91 331 P P 08 46 57.6 +0.8
baz=109
M31M Drury Creek, Y 70.95 334 P P 08 46 58.0 +0.9
baz=112,SNR=6.5
NEEM North Greenlan 71.03 5 *i* P **P 08 46 55.4 -2.3**
NEEM IAmb IAmb 08 46 58.8
comp=Z,26nm,0.6s
O30N Mendenhall 71.21 332 P P 08 46 59.9 +1.2
baz=110,SNR=8.7
N31M Braeburn, Yuko 71.31 333 P P 08 47 00.5 +1.2
baz=110,SNR=9.1
P30M Million Dollar 71.41 331 P P 08 47 00.6 +0.7
baz=108
P29M Windy Craggy 71.63 331 P P 08 47 01.9 +0.7
baz=108
HYT Haines Junctio 71.88 332 P P 08 47 03.8 +0.9
baz=108
N30M Aishikik Lake 71.89 333 P P 08 47 03.6 +0.7
baz=109,SNR=6.9
PMSA Palmer Station 72.08 176 *eP* **P 08 47 04.0 +0.4**
PMSA Palmer Station 72.08 176 LR LR 09 21 27.1
comp=Z,51nm,19.4s,baz=50,slow=38
EKA Eskdalemuir Ar 72.09 34 P P 08 47 03.4 -0.6
comp=Z,2.0nm,0.7s,baz=250,slow=3.3,SNR=5.8
comp=Z,2.0nm,0.7s
MAYO Mayo, Yukon 72.09 335 P P 08 47 04.8 +0.9
baz=110
M30M Minto, Yukon 72.13 334 P P 08 47 04.8 +0.6
baz=109,SNR=24
O29M Mount Kennedy 72.23 331 P P 08 47 05.3 +0.3
baz=107
H31M Peel River 72.29 337 P P 08 47 05.7 +0.6
baz=113,SNR=6.3
YUK6 Outpost Mounta 72.32 332 P P 08 47 06.0 +0.4
baz=107
TORD Torodi Ar. Bea 72.56 79 P P 08 47 07.5 -0.1
comp=Z,3.4nm,0.6s,baz=288,slow=6.1,SNR=26
comp=Z,3.4nm,0.6s
YUK4 Talbot Arm 72.57 332 P P 08 47 08.0 +0.9
baz=107,SNR=5.9
J30M Hart River 72.62 336 P P 08 47 07.8 +0.6
baz=110
G31M Satah River 72.70 339 P P 08 47 08.0 +0.5
baz=113,SNR=6.3
F31M Tsiigehtchic 72.72 339 P P 08 47 07.8 +0.2
baz=114
M29M Somme Creek 72.82 333 P P 08 47 09.1 +0.7
baz=108
K29M Barlow Dome 72.86 335 P P 08 47 09.6 +1.0
baz=109,SNR=6.9

I30M	**Mount Dempster**	72.87 337	P	P	08 47 09.3 +0.6
	baz=111,SNR=7.2				
L29M	**L29M**	72.88 334	P	P	08 47 09.4 +0.7
	baz=108				
PINM	**Pinnacle**	72.97 331	P	P	08 47 09.9 +0.6
	baz=106				
INK	**Inuvik**	73.00 340	P	P	08 47 09.8 +0.6
	baz=114				
INK	**Inuvik**	73.00 340	LR	LR	09 21 05.5
	comp=Z,79nm,18.1s,baz=84,slow=37				
J29N	**Klondike Camp**	73.35 336	P	P	08 47 12.1 +0.6
	baz=109				
EPYK	**Eagle Plains**	73.40 338	P	P	08 47 12.2 +0.5
	baz=111				
G30M	**tAoh Zraii Nji**	73.44 338	P	P	08 47 12.5 +0.6
	baz=111				
F30M	**Barrier River**	73.51 339	P	P	08 47 12.9 +0.6
	baz=112,SNR=7.1				
YUK3	**Moose Creek**	73.53 333	P	P	08 47 13.4 +0.7
	baz=106,SNR=10.0				
I29M	**Ogilvie Camp,**	73.68 336	P	P	08 47 13.6 +0.3
	baz=109				
DAWY	**Dawson**	73.72 335	P	P	08 47 14.6 +1.0
	baz=107				
CTG	**Chitna Glacier**	73.72 332	P	P	08 47 14.7 +0.9
	baz=105				
H29M	**Whitestone**	73.98 337	P	P	08 47 15.6 +0.5
	baz=109,SNR=5.6				
G29M	**Pine Creek**	74.08 338	P	P	08 47 16.1 +0.5
	baz=110,SNR=5.2				
M27K	**Edge Creek, AK**	74.33 333	P	P	08 47 18.5 +1.2
	baz=105,SNR=13				
I28M	**Miner Creek**	74.35 336	P	P	08 47 17.8 +0.5
	baz=107				
L27K	**Beaver Creek,**	74.48 334	P	P	08 47 19.2 +1.1
	baz=105,SNR=11				
E29M	**Blow River**	74.53 339	P	P	08 47 18.7 +0.5
	baz=110,SNR=13				
MCARA	**McCarthy VSAT**	74.61 332	P	P	08 47 19.5 +0.7
	baz=103				
K27K	**Chicken**	74.84 335	P	P	08 47 20.9 +0.9
	baz=105				
M26K	**Nabesna, AK**	74.84 333	P	P	08 47 20.8 +0.6
	baz=104				
F28M	**Old Crow**	74.99 338	P	P	08 47 21.1 +0.2
	baz=108,SNR=6.5				
I27K	**Kandik River**	75.07 336	P	P	08 47 21.9 +0.5
	baz=106,SNR=5.7				
L26K	**Log Cabin Wild**	75.14 333	P	P	08 47 22.9 +1.0
	baz=103,SNR=22				
E28M	**Babbage River**	75.18 339	P	P	08 47 21.8 -0.1
	baz=108,SNR=5.4				
H27K	**Steamboat Moun**	75.20 337	P	P	08 47 22.7 +0.5
	baz=106				
BMRM	**Bremner River**	75.27 331	P	P	08 47 23.3 +0.6
	baz=102				
N25K	**Chitina, Valde**	75.40 332	P	P	08 47 24.2 +0.7
	baz=102				
G27K	**Doyon Strip**	75.41 337	P	P	08 47 23.7 +0.3
	baz=106				
J26L	**Joseph Creek**	75.59 335	P	P	08 47 25.4 +0.9
	baz=104,SNR=7.4				
I26K	**Coal Creek Min**	75.61 336	P	P	08 47 24.4 -0.1
	baz=104				
SCRK	**Sand Creek**	75.64 334	P	P	08 47 25.5 +0.6
	baz=103,SNR=14				
EYAK	**Cordova Ski Ar**	75.74 331	P	P	08 47 25.7 +0.5
	baz=101				
E27K	**Coleen River**	75.78 339	P	P	08 47 25.9 +0.4
	baz=106				
HARP	**HAARP**	75.82 333	P	P	08 47 26.5 +0.7
	baz=102				
D27M	**Malcolm River**	75.87 340	P	P	08 47 26.5 +0.5
	baz=107				
RIDG	**Independent Ri**	75.96 334	P	P	08 47 27.1 +0.5
	baz=102,SNR=18				
KLU	**Klutina**	76.00 332	P	P	08 47 27.5 +0.6
	baz=101				
PAX	**Paxson**	76.08 333	P	P	08 47 28.3 +1.0
	baz=102,SNR=8.8				
M24K	**Tolsona, Glenn**	76.23 332	P	P	08 47 29.1 +0.9
	baz=101				
J25K	**Salcha River,**	76.37 335	P	P	08 47 29.3 +0.4
	baz=102,SNR=7.2				
K24K	**Donnelly Dome**	76.38 334	P	P	08 47 29.5 +0.5
	baz=101,SNR=9.3				
GLI	**Glacier Island**	76.45 331	P	P	08 47 29.7 +0.4
	baz=100				
F26K	**Sheenjek River**	76.58 338	P	P	08 47 30.3 +0.3
	baz=104				
PRP	**Porcupine Dome**	76.62 336	P	P	08 47 30.6 +0.2
	baz=102,SNR=15				
SCM	**Sheep Creek Mo**	76.72 332	P	P	08 47 31.8 +0.8
	baz=100,SNR=5.0				
H25L	**Birch Creek**	76.90 336	P	P	08 47 32.5 +0.7
	baz=102				
M23K	**Glacier View**	76.90 332	P	P	08 47 32.4 +0.5
	baz=99				
DHY	**Denali Highway**	76.95 333	P	P	08 47 32.6 +0.3
	baz=100,SNR=7.1				
HDA	**Harding Lake**	77.00 335	P	P	08 47 32.2 -0.2
	baz=100,SNR=12				
WAT6	**Susitna Watana**	77.03 333	P	P	08 47 33.0 +0.2
	baz=99,SNR=9.9				
ILAR	**Eielson Array**	77.04 335	P	P	08 47 32.2 -0.4
	comp=Z,5.3nm,0.8s,baz=107,slow=4.6,SNR=60				
ILAR			PP	PP	08 50 22.1 -4.0
	comp=Z,0.1nm,0.5s,baz=97,slow=8.2,SNR=2.4				
ILAR			LR	LR	09 22 59.3
	comp=Z,113nm,20.1s,baz=94,slow=37				
	comp=Z,5.3nm,0.8s				
PWL	**Port Wells**	77.05 331	P	P	08 47 32.9 +0.2
	baz=98				
F25K	**Christian Rive**	77.11 338	P	P	08 47 33.8 +0.7
	baz=102				
G25K	**Bearman Lake**	77.11 337	P	P	08 47 33.7 +0.7
	baz=102				
SML	**Sawmill**	77.19 332	P	P	08 47 34.0 +0.4
	baz=99				
KNK	**Knik Glacier**	77.19 331	P	P	08 47 34.1 +0.6
	baz=98				
E25K	**Arctic Village**	77.20 338	P	P	08 47 33.9 +0.4
	baz=103				
POKR	**Poker Plat Res**	77.33 335	P	P	08 47 35.1 +0.8
	baz=100				
WAT1	**Susitna Watana**	77.44 333	P	P	08 47 35.4 +0.4
	baz=99				
COLA	**College**	77.47 335	P	P	08 47 35.1 +0.2
	baz=100				
SEW	**Seward**	77.49 330	P	P	08 47 35.4 +0.2
	baz=97				
PMR	**Palmer**	77.53 331	P	P	08 47 36.0 +0.6
	baz=98				
G24K	**Hadweenzic Riv**	77.64 337	P	P	08 47 36.7 +0.7
	baz=100				
H24K	**Noodor Dome**	77.64 336	P	P	08 47 36.5 +0.5
	baz=100,SNR=5.1				
O22K	**Cooper Landing**	77.67 330	P	P	08 47 36.7 +0.5
	baz=97				
D25K	**Kavik River**	77.75 340	P	P	08 47 36.8 +0.3
	baz=102				
MCK	**McKinley**	77.75 334	P	P	08 47 36.9 +0.2
	baz=98				
RC01	**Rabbit Creek A**	77.76 331	P	P	08 47 37.0 +0.4
	baz=97				
NEA2	**Nenana**	77.94 335	P	P	08 47 37.7 +0.1
	baz=99,SNR=16				
F24K	**Squaw Lake**	77.94 338	P	P	08 47 38.3 +0.6
	baz=100				
M22K	**Willow**	78.02 332	P	P	08 47 38.6 +0.6
	baz=97				
I23K	**Minto, Yukon-K**	78.14 335	P	P	08 47 39.4 +0.7
	baz=98,SNR=8.6				
CUT	**Chulitna**	78.17 332	P	P	08 47 39.5 +0.6
	baz=97				
E24K	**Your Creek**	78.27 338	P	P	08 47 40.6 +1.2
	baz=100				
SUA	**Susitna One**	78.28 331	P	P	08 47 40.2 +0.4
	baz=96				
TRF	**Thorofare Moun**	78.31 333	P	P	08 47 40.1 +0.2
	baz=97,SNR=8.2				
H23K	**Yukon River**	78.32 336	P	P	08 47 40.2 +0.5
	baz=98,SNR=6.4				
HOM	**Homer**	78.54 329	P	P	08 47 41.7 +0.7
	baz=95				
C24K	**Franklin Bluff**	78.63 340	P	P	08 47 42.2 +0.9
	baz=100				
G23K	**Bananza Creek**	78.64 337	P	P	08 47 42.4 +0.8
	baz=98,SNR=8.3				
E23K	**Chandalar**	78.68 338	P	P	08 47 42.4 +0.6
	baz=99				
BPAW	**Bear Paw Mtn.**	78.70 334	P	P	08 47 42.5 +0.6
	baz=97,SNR=8.4				
SKT	**Skwentna**	78.71 332	P	P	08 47 42.6 +0.6
	baz=96				
COLD	**Coldfoot**	78.78 337	P	P	08 47 43.2 +1.0
	baz=98				
KEST	**Kesra**	78.79 55	P	P	08 47 43.0 -0.1
	comp=Z,2.5nm,0.5s,baz=198,slow=5.5,SNR=4.1				
	comp=Z,2.5nm,0.5s				
KDAK	**Kodiak Island**	78.88 327	LR	LR	09 24 01.6
	comp=Z,53nm,21.6s,baz=93,slow=37				
N20K	**Mount Spurr**	78.96 331	P	P	08 47 44.0 +0.6
	baz=95				
SPCR	**Spurr Chakacha**	78.96 331	P	P	08 47 44.0 +0.6
	baz=95				
O20K	**Slope Mountain**	79.07 330	P	P	08 47 44.3 +0.3
	baz=94				
H22K	**Ishtalitna Cre**	79.08 336	P	P	08 47 44.4 +0.5
	baz=97				
PPLA	**Purkeypile**	79.11 333	P	P	08 47 44.5 +0.3
	baz=95,SNR=7.7				
CAST	**Castle Rocks**	79.11 333	P	P	08 47 44.2 +0.1
	baz=96,SNR=11				
D23K	**Nanushuk River**	79.20 339	P	P	08 47 45.5 +0.9
	baz=98				
DAVA	**Damuels**	79.20 43	*i* P	P	08 47 45.5 +0.4
	comp=Z,8.4nm,1.0s				
G22K	**Bettles**	79.25 337	P	P	08 47 45.5 +0.7
	baz=97				
CHUM	**Lake Minchumin**	79.26 334	P	P	08 47 45.2 +0.4
	baz=96				
C23K	**Itkillik River**	79.30 340	P	P	08 47 45.6 +0.5
	baz=98				
P19K	**Oil Pt**	79.34 329	P	P	08 47 45.6 +0.1
	baz=94				
M20K	**Styx River**	79.46 332	P	P	08 47 46.5 +0.3
	baz=94				
F22K	**John River**	79.58 337	P	P	08 47 46.7 0.0
	baz=96				
H21K	**Melozitna Rive**	79.64 335	P	P	08 47 47.2 +0.2
	baz=95				
FETA	**Feichten**	79.78 44	*i* P	P	08 47 48.5 +0.2
	comp=Z,7.3nm,1.0s				
RETA	**Reutte**	79.81 43	*i* P	P	08 47 48.3 0.0
	comp=Z,1.9nm,0.6s				
R18K	**Karluk**	79.87 327	P	P	08 47 48.1 -0.2
	baz=92				
D22K	**Ayikyak River**	79.91 339	P	P	08 47 48.7 +0.3
	baz=96				
O19K	**Port Alsworth**	79.92 330	P	P	08 47 48.3 -0.3
	baz=93				
K20K	**Telida**	80.00 333	P	P	08 47 48.8 -0.2
	baz=94,SNR=5.2				
G21K	**Allakaket**	80.00 336	P	P	08 47 48.9 0.0
	baz=95				
MOTA	**Moosalm**	80.04 43	*i* P	P	08 47 49.5 -0.2
	comp=Z,3.6nm,0.8s				
N19K	**Bonanza Creek**	80.04 330	P	P	08 47 49.0 -0.3
	baz=93				
F21K	**Alatna River**	80.05 337	P	P	08 47 49.6 +0.4
	baz=95				
M19K	**Big River Lodg**	80.05 332	P	P	08 47 49.3 0.0
	baz=93				
J20K	**Nowinta River**	80.08 334	P	P	08 47 49.5 +0.2
	baz=94,SNR=8.7				
Q18K	**Katmai Hardscr**	80.21 328	P	P	08 47 50.1 -0.3
	baz=92				
I20K	**Naaghedeneel**	80.27 334	P	P	08 47 50.1 -0.2
	baz=94				
L19K	**White Mountain**	80.29 332	P	P	08 47 50.8 +0.2
	baz=93,SNR=5.7				
B22K	**Teshekpuk Lake**	80.32 340	P	P	08 47 50.9 +0.4
	baz=96				
E21K	**Killik River**	80.34 338	P	P	08 47 50.6 -0.2
	baz=95				
P18K	**Big Mountain,**	80.35 329	P	P	08 47 49.8 -1.2
	baz=92				
O18K	**Koktuh Hills**	80.35 329	P	P	08 47 50.5 -0.5
	baz=92				
WTTA	**Wattenberg**	80.40 43	*i* P	P	08 47 51.1 -0.6
	comp=Z,2.2nm,0.6s				
NB2	**NORSAR Subarra**	80.41 29	P	P	08 47 51.7 +0.5
	comp=Z,1.1nm,0.5s,baz=266,slow=5.6				
NOA	**NORSAR Array B**	80.41 29	P	P	08 47 51.8 +0.5
	comp=Z,1.9nm,0.7s,baz=267,slow=5.5,SNR=8.0				
	comp=Z,1.9nm,0.7s				
PPT	**Papeete**	80.44 251	LR	LR	09 16 36.9
	comp=Z,72nm,18.4s,baz=99,slow=30				
H20K	**Anotleneega Mo**	80.48 335	P	P	08 47 51.6 +0.1
	baz=93				
Q17K	**Contact Creek**	80.66 328	P	P	08 47 52.1 -0.6
	baz=91				
B21K	**Ikpikpuk River**	80.66 339	P	P	08 47 52.0 -0.3
	baz=94				
J19K	**Poorman**	80.72 334	P	P	08 47 52.5 -0.3
	baz=92				
N18K	**Kilae Creek**	80.72 330	P	P	08 47 52.7 -0.2
	baz=92,SNR=7.0				
TTA	**Tatalina**	80.86 333	P	P	08 47 53.8 +0.2
	baz=92				
R17K	**Ugashik Creek**	80.91 327	P	P	08 47 53.8 -0.1
	baz=91				
F20K	**Avaraart Lake**	80.91 337	P	P	08 47 54.0 +0.2
	baz=93				
P17K	**Kvichak River**	80.96 329	P	P	08 47 53.7 -0.4
	baz=91				
ABTA	**Abfalersbach**	81.01 44	*e* P	P	08 47 54.7 -0.2
	comp=Z,4.2nm,1.0s				
Q16K	**King Salmon**	81.07 328	P	P	08 47 54.6 -0.1
	baz=91				
H19K	**Roundabout Mou**	81.14 335	P	P	08 47 55.2 +0.2
	baz=92				
E20K	**Nigu River**	81.15 338	P	P	08 47 55.1 0.0
	baz=93				
L18K	**Granite Mounta**	81.15 332	P	P	08 47 54.9 -0.2
	baz=91				
J18K	**Innoko River**	81.19 333	P	P	08 47 55.4 0.0
	baz=91				
GCSA	**Galena City Sc**	81.30 334	P	P	08 47 56.2 +0.4
	baz=92				
O17K	**Koliganek Bris**	81.31 329	P	P	08 47 56.0 +0.1
	baz=90,SNR=5.8				
D20K	**Etivluk River**	81.33 338	P	P	08 47 56.4 +0.4
	baz=92				
N17K	**Nushagak Hills**	81.36 330	P	P	08 47 56.3 0.0
	baz=90				
G19K	**Purcell Mounta**	81.42 336	P	P	08 47 56.9 +0.4
	baz=92				
M17K	**Holitna River**	81.49 331	P	P	08 47 57.4 +0.4
	baz=90				
E19K	**Redstone River**	81.51 337	P	P	08 47 57.2 +0.2
	baz=92				
R16K	**Pilot Point**	81.55 327	P	P	08 47 57.1 -0.2
	baz=90				
B20K	**Meade River**	81.57 340	P	P	08 47 57.8 +0.6
	baz=92				
KBA	**Koelnbreinsper**	81.57 44	*e* P	P	08 47 58.4 +0.5
	comp=Z,5.8nm,1.3s				
HFS	**Hagfors**	81.61 30	P	P	08 47 56.8 -0.8
	comp=Z,2.7nm,0.8s,baz=261,slow=9.6,SNR=2.4				
	comp=Z,2.7nm,0.8s				
F19K	**Shaleruckik Mo**	81.71 337	P	P	08 47 58.3 +0.3
	baz=90				
GERES	**GERESS Array B**	81.76 42	P	P	08 47 57.3 -1.5
	comp=Z,0.6nm,0.4s,baz=306,slow=4.6,SNR=4.6				
	comp=Z,0.6nm,0.4s				
O16K	**Kokwok River B**	81.81 329	P	P	08 47 58.2 -0.5
	baz=90				
D19K	**Kuna River**	81.87 338	P	P	08 47 59.4 +0.6
	baz=91				
L17K	**Donlin**	81.90 332	P	P	08 47 59.7 +0.6
	baz=90				
K17K	**Iditarod**	81.90 332	P	P	08 47 59.8 +0.7
	baz=90				
H18K	**Honhosa River**	81.93 335	P	P	08 48 00.0 +0.8
	baz=90				
G18K	**Tagagawik**	82.06 336	P	P	08 48 00.5 +0.6
	baz=90				
N16K	**Nishlik Lake**	82.14 330	P	P	08 48 00.8 +0.3
	baz=89				
M16K	**Timber Creek**	82.23 331	P	P	08 48 01.7 +0.9
	baz=89				
J17K	**VABM Dome**	82.25 333	P	P	08 48 01.8 +0.9
	baz=89				
C19K	**Lookout Ridge**	82.41 339	P	P	08 48 02.4 +0.7
	baz=90				
L16K	**Owhat River**	82.46 331	P	P	08 48 02.8 +0.7
	baz=89				
H17K	**Granite Mounta**	82.59 335	P	P	08 48 03.4 +0.7
	baz=89				
SPITS	**Spitsbergen Ar**	82.61 12	P	P	08 48 02.9 +0.3
	comp=Z,15nm,0.7s,baz=184,slow=2.5,SNR=7.6				
	comp=Z,15nm,0.7s				
O15K	**Ungalikthiuk R**	82.71 329	P	P	08 48 04.0 +0.6
	baz=88				
E18K	**Tukpahlearik C**	82.81 337	P	P	08 48 04.8 +1.0
	baz=88				
G17K	**Kiwalik Mounta**	82.89 335	P	P	08 48 05.1 +0.9
	baz=88				
J16K	**Anvik River**	82.94 333	P	P	08 48 05.7 +1.2
	baz=88				
I17K	**Unalakleet**	82.96 334	P	P	08 48 05.7 +1.1
	baz=88				
M15K	**Kasigluk River**	83.08 330	P	P	08 48 06.3 +1.0
	baz=88				
B18K	**Kokolik River**	83.19 339	P	P	08 48 06.9 +1.2
	baz=88				
CONA	**Conrad Observa**	83.24 43	*e* P	P	08 48 05.7 -0.8
	comp=Z,4.6nm,1.2s				
E17K	**Hotham Inlet**	83.30 337	P	P	08 48 07.0 +0.7
	baz=87				
K15K	**Wolf Creek Mou**	83.41 332	P	P	08 48 07.7 +0.7
	baz=87				
O14K	**Tigyukauivet M**	83.44 329	P	P	08 48 07.9 +0.7
	baz=87				
RONA	**Rosalia, Austr**	83.54 43	*e* P	P	08 48 08.2 +0.1
	comp=Z,2.8nm,1.0s				
H16K	**Elim**	83.60 334	P	P	08 48 08.7 +0.8
	baz=87				
G16K	**Koyuk River**	83.61 335	P	P	08 48 09.1 +1.2
	baz=87				
N14K	**Kuskokwak Cree**	83.62 330	P	P	08 48 09.1 +1.1
	baz=87				
VRAC	**Vranov**	83.64 41	LR	LR	09 25 14.8
	comp=Z,74nm,18.5s,baz=342,slow=36				
M14K	**Bethel**	83.70 330	P	P	08 48 09.2 +0.7
	baz=86				
C17K	**DeLong Mountai**	83.74 338	P	P	08 48 09.5 +1.0
	baz=86				
D17K	**Noatak River**	83.75 337	P	P	08 48 08.7 +0.1
	baz=86				
L14K	**Kuka Creek**	84.02 331	P	P	08 48 10.4 +0.4
	baz=86				
J14K	**Nanvaranak Lak**	84.32 332	P	P	08 48 12.1 +0.5
	baz=85				
G15K	**Niukluk**	84.34 335	P	P	08 48 12.5 +0.8
	baz=85				
M13K	**Dall Lake**	84.41 330	P	P	08 48 12.6 +0.6
	baz=85				
ARCES	**ARCESS Array B**	85.88 20	P	P	08 48 18.6 -0.7
	comp=Z,3.5nm,0.6s,baz=292,slow=3.5,SNR=8.3				
	comp=Z,3.5nm,0.6s				
BELA	**Belgrano 2**	87.48 173	P	P	08 48 26.7 -0.2
BELA			IAmb	IAmb	08 48 27.7
	comp=Z,9.5nm,0.8s				
FINES	**FINESS Array B**	87.53 28	P	P	08 48 27.5 0.0
	comp=Z,3.1nm,0.7s,baz=298,slow=4.1,SNR=8.1				
	comp=Z,3.1nm,0.7s				
VNA3	**Neumayer Olymp**	88.26 163	⇑P	P	08 48 31.4 +0.6
	comp=Z,22nm,0.7s				
VNA1	**Neumayer--Stat**	88.39 163	⇑P	P	08 48 32.4 +1.1
	comp=Z,18nm,0.9s				
VNA2	**Neumayer--Watz**	88.78 163	⇑P	P	08 48 33.7 +0.6
	comp=Z,12nm,0.6s,baz=308,slow=6.0				
SNAA	**Sanae**	90.42 163	P	P	08 48 41.0 0.0
SNAA			IAmb	IAmb	08 48 42.4
	comp=Z,5.5nm,0.7s				
SNAA	**Sanae**	90.42 163	⇑P	P	08 48 41.4 +0.5
	comp=Z,126nm,0.6s				
SNAA	**Sanae**	90.42 163	P	P	08 48 41.1 +0.1
	comp=Z,4.8nm,0.6s,baz=281,slow=5.0,SNR=61				
	comp=Z,4.8nm,0.6s				
AKASG	**Malin Array Be**	91.49 39	P	P	08 48 46.0 -0.3
	comp=Z,0.8nm,0.7s,baz=266,slow=4.3,SNR=5.0				
	comp=Z,0.8nm,0.7s				
TSUM	**Tsumeb**	91.96 109	LR	LR	09 27 02.2
	comp=Z,56nm,19.6s,baz=294,slow=33				
TROLL	**Troll, Antarti**	92.12 163	⇑P	P	08 48 49.6 +0.7
	comp=Z,578nm,0.6s				
SUR	**Sutherland**	96.20 122	LR	LR	09 29 55.5
	comp=Z,88nm,18.9s,baz=298,slow=34				
QSPA	**South Pole Qui**	97.27 180	P	P	08 49 12.6 +0.1
	comp=Z,6.5nm,1.0s,baz=156,slow=1.8,SNR=17				
	comp=Z,6.5nm,1.0s				
ELIB	**Princess Elisa**	98.51 162	*d* P	P	08 49 16.9 -1.2
	comp=Z,2.3nm,1.4s				
BOSA	**Boshof**	99.79 118	LR	LR	09 32 43.7
	comp=Z,50nm,19.2s,baz=204,slow=34				
MKAR	**Makanchi Array**	121.53 20	PKP	PKPdf	08 54 32.1 -1.5
	comp=Z,0.2nm,0.5s,baz=355,slow=1.6,SNR=1.9				
KSH	**Kashi**	124.83 30	PKP	PKPdf	08 54 40.3 0.0
SONM	**Songino Array**	125.13 1	PKP	PKPdf	08 54 39.5 -1.2
	comp=Z,0.5nm,0.4s,baz=293,slow=1.8,SNR=3.7				
WMQ	**Urumqi**	125.94 18	*e* P	PKPdf	08 54 42.4 +0.2
WMQ			LR	LR	
	comp=Z,76nm,19.9s				
KSRS	**Korea Array**	131.78 339	PKP	PKPdf	08 54 52.8 -0.5
	comp=Z,1.1nm,0.6s,baz=40,slow=1.2,SNR=4.9				
HHC	**Hu-ho-hao-te**	132.02 356	*e* P	PKPdf	08 54 54.1 +0.2
NJ2	**Nanjing**	139.56 346	*e* P	PKPdf	08 55 08.5 +0.5
NJ2			pmax	pmax	
	comp=Z,26nm,0.5s				
STKA	**Stephens Creek**	140.26 227	PKhKP	PKPpre	08 55 02.2
	comp=Z,1.3nm,0.8s,baz=106,slow=4.1,SNR=2.3				
PZH	**PanZhiHua**	145.90 10	PKPbc	PKPdf	08 55 17.3 -2.3
ASAR	**Alice Springs**	150.26 234	PKP	PKPdf	08 55 26.1 -0.6
	comp=Z,2.6nm,0.6s,baz=110,slow=1.6,SNR=22				
ASAR			PKPbc	PKPbc	08 55 30.6 -1.2
	comp=Z,6.4nm,0.5s,baz=119,slow=3.3,SNR=41				
ASAR			PKPab	pPKPdf	08 55 37.2 +1.2
	comp=Z,14nm,0.5s,baz=116,slow=3.7,SNR=21				
WRA	**Warramunga Arr**	151.52 241	PKP	PKPdf	08 55 28.3 -0.4
	comp=Z,1.8nm,0.8s,baz=105,slow=2.0,SNR=13				
WRA			PKPbc	PKPbc	08 55 33.7 -1.2
	comp=Z,18nm,0.5s,baz=108,slow=2.7,SNR=19				
WRA			PKPab	PKPab	08 55 42.9 -0.4
	comp=Z,13nm,0.7s,baz=101,slow=3.9,SNR=11				
CMAR	**Chiang Mai Arr**	152.93 19	PKPbc	PKPbc	08 55 37.5 -0.6
	comp=Z,1.3nm,0.3s,baz=333,slow=2.8,SNR=11				
CMAR			PKPab	pPKPbc	08 55 46.3 -0.8
	comp=Z,1.9nm,0.3s,baz=326,slow=3.5,SNR=6.1				

DJA ***14*** *08:38:12.5±0.3, 12°S±3°×11°7E±°, h46km±5km, M4.5/16, mb4.8/16, mB5.5/2, MLv4.3/13, Mw(mB)4.9/4*

ISC 14 08:38:13.0±1.8, 11°5S±0°1×116°57E±0°06, h35km, n18, σ1°85/21, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	2.74	6	P	Pn	08 38 55.8	+1.2
PLAI	**Plampang**	2.89	24	P	Pn	08 38 57.9	+1.3
PLAI				S	Sn	08 39 27.1	-3.1
IGBI	**Denpasar**	2.99	332	P	Pn	08 38 58.8	+0.8
IGBI				S	Sn	08 39 31.2	-1.5
SRBI	**Singaraja**	3.63	338	P	Pn	08 39 08.8	+2.0
JAGI	**Jajag, Banyuwa**	3.82	321	P	Pn	08 39 10.2	+0.7
JAGI				S	Sn	08 39 50.8	-2.4
BASI	**Baing, Sumba**	4.13	73	P	Pn	08 39 14.6	+0.9
ABJI	**Asem Bagus**	4.33	328	P	Pn	08 39 18.3	+2.0
GMJI	**Gumukmas**	4.43	316	P	Pn	08 39 18.8	+1.0
BLJI	**Banyuglugur**	4.73	321	P	Pn	08 39 23.6	+1.7
MMRI	**Maumere**	6.25	64	P	Pn	08 39 43.9	+1.0
	36nm,1.1s,4μm0.3nm						
BKSI	**Bulukumba**	7.05	30	P	Pn	08 39 55.5	+1.6
	17nm,0.6s,0.1nm						
BKB	**Balikpapan**	10.16	2	P	Pn	08 40 41.2	+4.7
	216nm,1.2s						
LHSI	**Lahat**	14.99	299	P	Pn	08 41 42.0	-0.5
	250μm,0.8s						
MNAI	**Manna**	15.22	297	P	Pn	08 41 45.3	-0.2
	210nm,1.4s						
SISI	**Saibi**	20.07	299	P	P	08 42 43.6	0.0
	57nm,0.8s						
PBSI	**Pulau Batu**	21.42	301	P	P	08 42 58.2	0.0
	121nm,1.3s						
KCSI	**Kotacane, Aceh**	23.91	307	P	P	08 43 23.5	-0.4
	46nm,0.7s,5μm						
MLSI	**Meulaboh, Aceh**	25.44	307	P	P	08 43 37.1	-0.7

JMA ***14*** *08:39:23.6±0.5, 46°N±2°×14°2E±°, h4km, MV2.7/16, SOUTH SAKHALIN*

SKHL ***14*** *08:39:25.0±0.5, 46°12N×142°08E, h10km, mb3.6/3*

ISC 14 08:39:26.1±1.0, 46°.11N±0°.07×142°.1E±0°.1, h10km, n5, σ0s53/8, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.80**	**190**	*eP*	**Pb**	**08 39 42.3**	**+0.2**
JWK2				*eS*	**Sn**	**08 39 55.8**	**+0.4**
KHLM	**Kholmsk**	**0.95**	**359**	*ePg*	**Pg**	**08 39 44.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**0.96**	**28**	*ePg*	**Pg**	**08 39 43.9**	**-0.7**
YSS				AMB	AMB	08 39 44.1	
	10.0nm,0.2s						
YSS				*eSg*	**Sg**	**08 39 57.5**	**+0.4**
YSS				A	A	08 39 57.9	
	57nm,0.3s						
YSS				A	A	08 39 57.9	
	33nm,0.3s						
JRBN	**Rebuntou**	**0.99**	**227**	*eP*	**Pg**	**08 39 44.4**	**-0.7**
JRBN				*eS*	**Sb**	**08 39 58.7**	**+0.3**
JSE	**Soyaes**	**1.20**	**163**	*eP*	**Pn**	**08 39 48.9**	**0.0**

NEIC 14 09:00:54.4±0.7, 18°.93N±0°.07×155°.39W±0°.04, h33km±10km, Error ellipse: s-maj=11.5km s-min=3.3km az=155.0

HVO 14 09:00:56.5±1.3, 18°.95N±0°.02×155°.37W±0°.02, h13km±4km, ML2.4/13, ML2.5/45(NEIC), Error ellipse: s-maj=3.6km s-min=2.1km az=154.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.29**	**356**		Pg	09 01 02.6	0.0
HLP	**Hilina Pali**	**0.35**	**10**		Pg	09 01 03.7	0.0
HLP				Sg	Sg	09 01 08.0	-0.7
KHU	**Kahuku**	**0.38**	**323**		Pg	09 01 03.9	-0.3
KHU					Sg	09 01 09.0	-0.3
KHU				IAML		09 01 12.6	
	comp=E,424nm,0.8s						
AIN	**Ainahou**	**0.43**	**349**		Pg	09 01 04.9	-0.3
AIN				IAML		09 01 14.9	
	comp=N,629nm,0.4s						
AIN				IAML		09 01 19.4	
	comp=E,379nm,1.2s						
SDHHI	**Sand Hill**	**0.45**	**10**		Pg	09 01 04.7	-0.8
SDHHI				IAML		09 01 16.6	
	comp=E,497nm,0.4s						
SDHHI				IAML		09 01 20.1	
	comp=N,442nm,0.7s						
PUH	**Pauahi**	**0.45**	**19**		Pg	09 01 04.8	-0.8
RIM	**Rim**	**0.46**	**12**	Pg	Pg	09 01 04.9	-0.8
RIM				IAML		09 01 20.0	
	comp=E,406nm,1.3s						
KKO	**Keanakako'i**	**0.46**	**13**		Pg	09 01 05.0	-0.7
KKO				IAML		09 01 17.2	
	comp=N,575nm,0.8s						
KKO				IAML		09 01 17.6	
	comp=E,421nm,1.6s						
WRMHI	**West Rim**	**0.46**	**9**	Pg	Pg	09 01 05.0	-0.8
KNHH	**Kane Nui o Ham**	**0.47**	**24**		Pg	09 01 05.1	-0.8
BYL	**Byron's Ledge**	**0.47**	**13**		Pg	09 01 05.1	-0.9
BYL				IAML		09 01 09.1	
	comp=E,310nm,2.2s						
BYL				Sg	Sg	09 01 11.4	-0.9
BYL				IAML		09 01 18.2	
	comp=N,370nm,0.8s						
OBL	**Observatory Le**	**0.48**	**10**	Pg	Pg	09 01 05.3	-0.7
OBL				IAML		09 01 17.7	
	comp=N,547nm,0.6s						
UWE	**Uwekahuna**	**0.48**	**9**		Pg	09 01 05.2	-0.9
UWE					Sb	09 01 13.4	-0.5
UWB	**Uwekahuna B**	**0.48**	**11**		Pg	09 01 05.3	-0.9
HATHI	**Halema'uma'u T**	**0.49**	**13**		Pg	09 01 05.4	-0.8
HATHI				IAML		09 01 18.5	
	comp=E,345nm,0.7s						
HATHI				IAML		09 01 23.3	
	comp=N,327nm,0.6s						
SBLHI	**Steaming Bluff**	**0.49**	**12**		Pg	09 01 05.2	-1.1
SBLHI				IAML		09 01 22.1	
	comp=E,280nm,0.5s						
STCH	**Steam Cracks**	**0.50**	**28**		Pg	09 01 05.4	-1.0
STCH				IAML		09 01 11.6	
	comp=N,258nm,2.4s						
STCH				IAML		09 01 21.1	
	comp=E,267nm,0.7s						
RSD	**Rainshed**	**0.52**	**10**		Pg	09 01 05.9	-1.0
MLH	**Mauna Loa**	**0.54**	**359**		Pg	09 01 06.4	-1.0
MLH				IAML		09 01 10.3	
	comp=N,324nm,4.4s						
MWH	**Moku'aweowe**	**0.57**	**339**		Pg	09 01 06.9	-1.1
MWH				IAML		09 01 27.3	
	comp=N,262nm,1.0s						
JOKA	**Jonika Flow**	**0.60**	**36**		Pg	09 01 06.7	-1.5
MLOA	**Mauna Loa Obse**	**0.62**	**342**	Pg	Pg	09 01 07.4	-1.3
ALEP	**Alea Permanent**	**0.64**	**337**		Pg	09 01 07.6	-1.6
ALEP					Sg	09 01 16.3	-1.5
HMH	**Humu'ula Sheep**	**0.66**	**351**		Pg	09 01 08.2	-1.3
HMH				IAML		09 01 13.9	
	comp=E,240nm,3.7s						
HMH				IAML		09 01 23.9	
	comp=N,199nm,1.9s						
KHLU	**Kahalu'u**	**0.81**	**323**		Pg	09 01 09.8	-2.5
KHLU				IAML		09 01 41.2	
	comp=E,219nm,3.8s						
HUH	**Hualalai**	**0.85**	**329**		Pg	09 01 11.0	-2.1
HPAH	**Hawaii Prepara**	**1.12**	**344**	Pg	Pb	09 01 14.1	-3.7
HPAH				IAML		09 01 35.8	
	comp=N,108nm,2.4s						
HPAH				IAML		09 01 51.4	
	comp=E,108nm,2.6s						
MHA	**Mahukona**	**1.33**	**338**		Pn	09 01 17.5	-3.3

NNC 14 09:04:25.9±2.1, 37°.79N×71°.96E, h175km±49km, mb2.2, mpv3.0, Error ellipse: s-maj=32.8km s-min=15.0km az=32.0

SOME 14 09:04:29.8, 39°.05N×71°.43E, h15km

ISC 14 09:04:20.2±3.3, 37°.4N±0°.2×72°.3E±0°.1, h150km, n6, σ2s28/8, 3C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.58**	**53**	Pn	**Pn**	**09 05 15.9**	**+0.8**
KSH				sP		09 05 18.4	
KSH				Sn	**Sn**	**09 05 55.3**	**-2.5**
KSH				smax	smax		
	comp=N,77nm,0.5s						
KSH				smax	smax		
	comp=E,56nm,0.4s						
AML	**Almayashu**	**4.83**	**13**	⇑P	**Pn**	**09 05 34.0**	**+2.3**
	comp=E,1.2nm,0.5s						
AML				⇑S	**Sn**	**09 06 27.9**	**+0.5**
	comp=E,3.8nm,0.6s						
IUG	**Iuzhnay**	**5.02**	**341**	*e*Pg	Pn	09 05 29.3	-4.7
	comp=E,5.0nm,0.2s						
IUG				*e*Lg	Lg	09 06 14.9	
	comp=E,16nm,0.4s						
MRKS	**Merke**	**5.37**	**8**	*e*Pg	**Pn**	**09 05 40.9**	**+2.4**
	comp=E,3.9nm,0.3s						
MRKS				*e*Lg	Lg	09 06 34.8	
	comp=E,4.1nm,0.3s						
KK31	**Karatay Array**	**5.83**	**347**	P	**Pn**	**09 05 45.1**	**+0.6**
	comp=E,0.7nm,0.3s,baz=246,slow=0.7,SNR=17						
KK31				S	**Sn**	**09 06 47.9**	**-2.7**
	comp=E,22nm,0.5s,baz=190,slow=19,SNR=37						
AB31	**Akbulak array**	**14.82**	**327**	⇑P	**Pn**	**09 07 41.2**	**-0.9**
	comp=E,0.5nm,0.4s,baz=135,slow=15,SNR=19						

LVSN 14 09:19:17.5±3.1, 58°.11N×20°.62E, h0km±38km, ML1.9

DNK 14 09:18:35.6±4.2, 54°.14N×19°.30E, h10km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSD	**Bornholm Skovb**	**2.73**	**293**	*eP*	Pn	09 19 18.6	-0.8
BSD				*eS*	Sn	09 19 53.3	+0.9
BLEU	**Blekinge**	**2.94**	**319**	*eP*	Pn	09 19 20.7	-1.7
SLIT	**Slitere, Latvi**	**3.88**	**25**	*eP*	Pn	09 19 36.8	+1.6
SLIT				AML	AML	09 19 59.6	
	comp=N,81nm,0.8s						
SLIT				AML	AML	09 20 05.4	
	comp=Z,69nm,0.7s						
SLIT				AML	AML	09 20 21.4	
	comp=E,74nm,0.7s						
DEL	**Delary**	**3.88**	**309**	*eP*	Pn	09 19 38.0	+2.7
VSU	**Vasula**	**5.99**	**41**	*eS*	Sn	09 20 53.0	-20
VSU				AML	AML	09 20 57.2	
	comp=N,27nm,0.2s						
VSU				AML	AML	09 20 58.8	
	comp=Z,24nm,0.1s						
VSU				AML	AML	09 20 59.7	
	comp=E,39nm,0.1s						
MEF	**Metsahovi**	**6.69**	**22**	*eP*	Pn	09 20 06.5	-7.2
MEF				AML	AML	09 20 32.6	
	comp=N,2.8nm,0.7s						
MEF				AML	AML	09 21 28.2	
	comp=Z,4.0nm,0.7s						
MEF				AML	AML	09 21 45.1	
	comp=E,2.3nm,0.7s						
HFS	**Hagfors**	**6.73**	**335**	P	Pn	09 20 16.2	+1.8
HFS				S	Sb	09 22 01.7	+8.7
RAF	**Rauma**	**7.02**	**10**	*eP*	Pn	09 20 09.7	-8.6
RAF				AML	AML	09 20 10.6	
	comp=Z,5.2nm,0.8s						
RAF				AML	AML	09 20 29.7	
	comp=E,5.2nm,0.7s						
RAF				AML	AML	09 20 58.8	
	comp=N,3.9nm,0.7s						
FINES	**FINESS Array B**	**8.16**	**24**	P	Pn	09 20 25.9	-8.0
ARCES	**ARCESS Array B**	**15.71**	**8**	P	Pn	09 22 12.1	-4.5

IDC 14 09:23:47.4±4.0, 30°.58S×177°.70W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=88.6km s-min=34.9km az=119.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.34**	**352**	Pn	Pb	09 24 13.5	+0.1
	62nm,0.3s,baz=198,slow=20,SNR=2.3						
RAO				Sn	Sg	09 24 26.4	-4.1
	323nm,0.3s,baz=195,slow=23,SNR=13						
ASAR	**Alice Springs**	**43.36**	**267**	P	P	09 31 51.9	+0.2
	0.2nm,0.5s,baz=103,slow=8.0,SNR=4.2						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.37**	**272**	P	P	09 31 59.4	-0.4
	0.5nm,0.4s,baz=110,slow=8.0,SNR=18						
	0.5nm,0.4s						
H03S2	**Juan Fernandez**	**80.15**	**123**	T	T	11 02 53.6	
	baz=242,slow=74,SNR=33						
H03S1	**Juan Fernandez**	**80.16**	**123**	T	T	11 02 53.6	
	baz=242,slow=74,SNR=34						
H03S3	**Juan Fernandez**	**80.16**	**123**	T	T	11 02 53.6	
	baz=242,slow=74,SNR=35						
H03N3	**Juan Fernandez**	**80.34**	**123**	T	T	11 03 07.3	
	baz=247,slow=73,SNR=11						
H03N2	**Juan Fernandez**	**80.34**	**123**	T	T	11 03 07.3	
	baz=247,slow=73,SNR=9.9						
H03N1	**Juan Fernandez**	**80.36**	**123**	T	T	11 03 07.3	
	baz=247,slow=73,SNR=11						
FINES	**FINESS Array B**	**145.41**	**340**	PKPbc	PKPbc	09 43 25.6	-0.9
	2.8nm,1.0s,baz=32,slow=3.4,SNR=4.1						

NEIC 14 09:29:27.7±0.8, 4°.60S±0°.09×149°.7E±0°.2, h582km±16km, mb4.0/16, Error ellipse: s-maj=27.7km s-min=8.9km az=110.0

IDC 14 09:29:29.3±3.0, 4°.73S×149°.55E, h605km±35km, mb3.0/4, mbtmp4.0/4, Error ellipse: s-maj=51.4km s-min=23.5km az=132.0

ISC 14 09:29:28.2±1.6, 4°.8S±0°.2×149°.6E±0°.2, h577km, n26, σ0s68/28, mb4.0/11, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**207**	P	**P**	**09 31 01.6**	**+0.2**
COEN	**Coen**	**11.11**	**214**	P	**P**	**09 31 58.9**	**+1.1**
CTAO	**Charters Tower**	**15.59**	**192**	P	**P**	**09 32 43.4**	**+0.6**
FAKI	**Fak Fak**	**17.38**	**275**	P	**P**	**09 32 58.7**	**-0.6**
EIDS	**Eidsvold**	**20.55**	**176**	P	**P**	**09 33 28.1**	**+0.1**
EIDS				IAmb	IAmb	09 33 48.8	
	comp=Z,4.4nm,1.1s						
WB0	**Warramunga Arr**	**21.01**	**223**	P	**P**	**09 33 32.4**	**+0.2**
WR0	**Warramunga Arr**	**21.04**	**223**	P	**P**	**09 33 32.8**	**+0.4**
WR0				IAmb	IAmb	09 33 34.6	
	comp=Z,3.3nm,0.9s						
WRAB	**Tennant Creek**	**21.16**	**223**	P	**P**	**09 33 33.9**	**+0.4**
WRAB				IAmb	IAmb	09 33 35.3	
	comp=Z,2.2nm,0.6s						
WB2	**Warramunga Arr**	**21.16**	**223**	P	**P**	**09 33 33.9**	**+0.4**
WB2				IAmb	IAmb	09 33 38.1	
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**21.17**	**223**	P	**P**	**09 33 33.4**	**-0.2**
WRA	**Warramunga Arr**	**21.17**	**223**	P	**P**	**09 33 33.8**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=47,slow=9.5,SNR=42						
WRA				S	**S**	**09 36 50.1**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=50,slow=14,SNR=7.0						
	comp=Z,2.0nm,0.6s						
AS31	**Alice Springs**	**24.12**	**217**	P	**P**	**09 34 00.3**	**+0.4**
AS31				IAmb	IAmb	09 34 00.9	
	comp=Z,2.2nm,0.4s						
ASAR	**Alice Springs**	**24.13**	**217**	P	**P**	**09 33 60.0**	**+0.1**
ASAR	**Alice Springs**	**24.13**	**217**	P	**P**	**09 33 59.9**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=47,slow=8.1,SNR=56						
ASAR				S	**S**	**09 37 38.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=37,slow=18,SNR=2.4						
	comp=Z,2.1nm,0.3s						
ARMA	**Armidale**	**25.61**	**176**	P	**P**	**09 34 13.8**	**+0.8**
STKA	**Stephens Creek**	**28.01**	**195**	P	**P**	**09 34 33.3**	**-0.6**
STKA	**Stephens Creek**	**28.01**	**195**	P	**P**	**09 34 32.7**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=19,slow=13,SNR=3.5						
	comp=Z,1.2nm,0.5s						
CAN	**Canberra**	**30.43**	**181**	P	**P**	**09 34 55.7**	**+0.9**
CAN				IAmb	IAmb	09 35 22.8	
	comp=Z,3.5nm,0.9s						
BBOO	**Buckleboo**	**30.64**	**203**	P	**P**	**09 34 56.3**	**-0.3**
BBOO				IAmb	IAmb	09 35 25.2	
	comp=Z,6.2nm,1.1s						
FORT	**Forrest**	**32.88**	**216**	P	**P**	**09 35 15.3**	**-0.3**
TOO	**Toolangi**	**32.88**	**186**	P	**P**	**09 35 16.5**	**+0.9**
TOO				IAmb	IAmb	09 35 16.9	
	comp=Z,2.7nm,0.8s						
TUWZ	**Tuamarina**	**42.54**	**153**	P	**P**	**09 36 33.2**	**-0.7**
MAW	**Mawson**	**84.38**	**203**	P	**P**	**09 40 60.0**	**0.0**
QSPA	**South Pole Qui**	**85.21**	**180**	P	**P**	**09 41 03.8**	**-0.5**
QSPA	**South Pole Qui**	**85.21**	**180**	P	**P**	**09 41 03.3**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=6.7,slow=0.3,SNR=6.0						
	comp=Z,0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**147.22**	**287**	PKPbc	**PKPdf**	**09 48 06.0**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=65,slow=4.2,SNR=2.2						

IDC 14 09:36:51.1±0.9, 30°.79S×179°.85E, h412km±18km, mb2.8/3, mbtmp3.9/5, Error ellipse: s-maj=31.0km s-min=26.7km az=78.0

WEL 14 09:36:57.9±1.2, 31°.5±8°.×18°.0W±1°.8, h310km±17km, M4.2/6, mB4.3/5, ML4.5/9, MLv4.6/6, Mw(mB)3.4/5, Error ellipse: s-maj=0.0km s-min=0.0km az=107.9, confirmed

ISC 14 09:36:50.4±0.8, 30°.98S±0°.09×180°.0W±0°.1, h400km, n32, σ2s26/39, mb3.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.46**	**46**	P	**Pn**	**09 37 50.0**	**+0.4**
GLKZ				S	**S**	**09 38 33.3**	**-4.0**
RAO	**Raoul Island**	**2.47**	**46**	P	**Pn**	**09 37 49.7**	**0.0**
	113nm,0.3s,baz=270,slow=20,SNR=2.2						
RAO				S	**S**	**09 38 40.8**	**+3.4**
	234nm,0.3s,baz=294,slow=19,SNR=3.0						
OUZ	**Omahuta**	**6.86**	**230**	P	**P**	**09 38 36.4**	**+3.3**
WCZ	**Waipu Caves**	**6.86**	**222**	P	**P**	**09 38 36.6**	**+3.6**
HAZ	**Te Kaha**	**7.01**	**195**	P	**P**	**09 38 37.0**	**+2.3**
HAZ				S	**S**	**09 39 57.0**	**-1.8**
PKGZ	**Pakihiroa**	**7.08**	**193**	P	**P**	**09 38 38.2**	**+2.7**
PUZ	**Puketiti**	**7.22**	**191**	P	**Pn**	**09 38 37.9**	**+1.3**
PUZ				S	**S**	**09 40 01.2**	**-2.1**
RUGZ	**Raukumara Rang**	**7.24**	**195**	P	**P**	**09 38 39.2**	**+1.9**
OPRZ	**Ohinepanea**	**7.43**	**202**	P	**P**	**09 38 43.5**	**+4.2**
MWZ	**Matawai**	**7.62**	**195**	P	**P**	**09 38 43.0**	**+1.5**
MWZ				S	**S**	**09 40 09.6**	**-2.0**
CNGZ	**Carnagh Statio**	**7.63**	**191**	P	**P**	**09 38 44.5**	**+2.9**
URZ	**Urewera**	**7.65**	**198**	P	**P**	**09 38 43.0**	**+1.2**
URZ				S	**S**	**09 40 08.7**	**-3.3**
URZ	**Urewera**	**7.65**	**198**	P	**P**	**09 38 43.5**	**+1.7**
	25nm,0.3s,baz=72,slow=20,SNR=49						
URZ				S	**S**	**09 40 10.3**	**-1.8**
	20nm,0.6s,baz=308,slow=20,SNR=9.9						
TKGZ	**Te Karaka**	**7.66**	**193**	P	**P**	**09 38 44.0**	**+2.2**
RIGZ	**Rimuhau**	**7.93**	**193**	P	**P**	**09 38 46.0**	**+1.0**
MUGZ	**Murupara**	**7.95**	**199**	P	**P**	**09 38 46.9**	**+1.8**
PRGZ	**Paritu Road**	**8.12**	**192**	P	**P**	**09 38 50.0**	**+3.0**
RAHZ	**Arahi**	**8.28**	**196**	P	**Pn**	**09 38 47.1**	**-1.4**
MHGZ	**Mahia Peninsul**	**8.34**	**192**	P	**P**	**09 38 51.8**	**+2.4**
MRHZ	**Matea Rd**	**8.38**	**200**	P	**P**	**09 38 51.2**	**+1.2**
NMHZ	**Naumai**	**8.52**	**197**	P	**P**	**09 38 54.0**	**+2.5**
ARHZ	**Aropaoanui**	**8.63**	**196**	P	**P**	**09 38 54.5**	**+1.9**
BKZ	**Black Stump Fm**	**8.67**	**199**	P	**P**	**09 38 53.9**	**+0.8**
MCHZ	**McNeill Hill**	**8.88**	**197**	P	**P**	**09 38 56.9**	**+1.5**
BHHZ	**Black Hill Sta**	**9.09**	**200**	P	**P**	**09 38 57.9**	**+0.1**
KRHZ	**Kereru**	**9.15**	**198**	P	**P**	**09 38 59.0**	**+0.6**
KAHZ	**Kahuranaki**	**9.16**	**195**	P	**Pn**	**09 39 00.3**	**+1.6**
PXZ	**Pawanui**	**9.39**	**195**	P	**Pn**	**09 39 02.6**	**+1.4**
ASAR	**Alice Springs**	**41.40**	**268**	P	**P**	**09 43 58.2**	**-1.7**
	0.2nm,0.4s,baz=109,slow=7.2,SNR=5.8						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**42.44**	**274**	P	**P**	**09 44 06.4**	**-1.8**
	0.5nm,0.3s,baz=111,slow=8.1,SNR=22						
	0.5nm,0.3s						
QSPA	**South Pole Qui**	**59.13**	**180**	P	**P**	**09 46 11.5**	**+1.0**
	0.4nm,0.5s,baz=67,slow=7.7,SNR=1.9						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**145.09**	**338**	PKP	**PKPdf**	**09 55 38.2**	**-1.9**
	1.3nm,0.9s,baz=26,slow=3.5,SNR=5.1						

SJA 14 09:46:00.9±0.7, 29°.57S×71°.61W, h40km±4km, ML3.4, MW3.7

GUC 14 09:46:03.5±0.7, 29°.60S×71°.39W, h63km±4km, ML3.8

ISC 14 09:46:02.2±1.3, 29°.56S±0°.03×71°.69W±0°.05, h42km±23km, n46, σ1s19/77, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.54**	**133**	⇓*i*P	**Pn**	**09 46 14.2**	**+0.7**
CO05				*e*S	**Sn**	**09 46 22.2**	**+0.7**
CO05				IAML		09 46 22.7	
	comp=N,7μm,0.1s						
GO04	**Tololo Observa**	**0.99**	**129**	⇓*i*P	**Pn**	**09 46 19.1**	**-0.7**
GO04				*e*S	**Sn**	**09 46 30.8**	**-2.0**
GO04				IAML		09 46 32.0	
	comp=E,7μm,0.1s						
GO04	**Tololo Observa**	**0.99**	**129**	*e*P	**Pn**	**09 46 19.1**	**-0.7**
GO04				*e*S	**Sn**	**09 46 32.0**	**-0.8**
GO04				IAML		09 46 32.4	
	comp=Z,3μm,0.1s						
LCO	**Las Campanas**	**1.02**	**58**	*e*P	**Pn**	**09 46 20.2**	**-0.2**
LCO				*e*S	**Sn**	**09 46 32.7**	**-0.9**
LCO	**Las Campanas**	**1.02**	**58**	*e*P	**Pn**	**09 46 19.8**	**-0.6**
LCO				*e*S	**Sn**	**09 46 33.3**	**-0.4**
LCO				IAML		09 46 33.3	
	comp=Z,1μm,0.2s						
CO06	**Fray Jorge**	**1.11**	**177**	⇑*i*P	**Pn**	**09 46 21.8**	**+0.4**
CO06				*e*S	**Sn**	**09 46 35.8**	**+0.3**
CO06				IAML		09 46 37.5	
	comp=N,1μm,0.2s						
AC05	**El Transito**	**1.43**	**60**	*e*P	**Pn**	**09 46 25.9**	**+0.1**
AC05				*e*S	**Sn**	**09 46 42.8**	**-0.8**
AC05				IAML		09 46 43.6	
	comp=E,3μm,0.4s						
AC05	**El Transito**	**1.43**	**60**	*e*P	**Pn**	**09 46 25.2**	**-0.6**
AC05				IAML		09 46 43.1	
	comp=Z,1μm,0.3s						
AC05				*e*S	**Sn**	**09 46 43.4**	**-0.2**
AC04	**Llanos de Chal**	**1.45**	**22**	*e*P	**Pn**	**09 46 26.9**	**+0.9**
AC04				*e*S	**Sn**	**09 46 44.2**	**+0.4**
AC04	**Llanos de Chal**	**1.45**	**22**	*e*P	**Pn**	**09 46 26.1**	**+0.2**
AC04				*e*S	**Sn**	**09 46 44.8**	**+0.9**
AC04				IAML		09 46 48.1	
	comp=Z,307nm,0.2s						
CO01	**Juntas del Tor**	**1.45**	**107**	*i* P	**Pn**	**09 46 25.5**	**-0.7**
CO01				*e*S	**Sn**	**09 46 42.0**	**-2.2**
CO01				IAML		09 46 43.0	
	comp=E,4μm,0.4s						
CO01	**Juntas del Tor**	**1.45**	**107**	*e*P	Pn	09 46 19.8	-6.4
CO01				*e*P		09 46 25.5	
CO01	**Juntas del Tor**	**1.45**	**107**	*e*P	**Pn**	**09 46 19.8**	**-6.4**
CO01				*e*P		09 46 25.5	
CO01				*e*S	**Sn**	**09 46 42.2**	**-2.0**
CO03	**El Pedregal**	**1.54**	**146**	*i* P	**Pn**	**09 46 26.7**	**-0.6**
CO03				*e*S	**Sn**	**09 46 44.5**	**-1.7**
CO03				IAML		09 46 45.1	
	comp=E,3μm,0.3s						
CO03	**El Pedregal**	**1.54**	**146**	*e*P	**Pn**	**09 46 26.8**	**-0.6**
CO03				*e*S	**Sn**	**09 46 44.8**	**-1.5**
CO03				IAML		09 46 45.5	
	comp=Z,1μm,0.4s						
CO02	**Combarbal**	**1.75**	**160**	⇑*i*P	**Pn**	**09 46 29.9**	**-0.3**
CO02				*e*S	**Sn**	**09 46 50.2**	**-1.1**
CO02				IAML		09 46 52.0	
	comp=E,2μm,0.2s						
CO02	**Combarbal**	**1.75**	**160**	*e*P	**Pn**	**09 46 29.9**	**-0.3**
CO02				*e*S	**Sn**	**09 46 51.2**	**-0.1**
CO02				IAML		09 46 52.2	
	comp=Z,522nm,0.3s						
AROD	**Rodeo**	**2.02**	**108**	*e*P	**Pn**	**09 46 34.3**	**+0.2**
AROD				*e*S	**Sn**	**09 46 59.7**	**+1.4**
GO03	**Copiap**	**2.34**	**34**	*e*P	**Pn**	**09 46 38.1**	**-0.1**
GO03	**Copiap**	**2.34**	**34**	*e*P	**Pn**	**09 46 37.6**	**-0.6**
GO03				*e*S	**Sn**	**09 47 07.8**	**+2.0**
GO03				IAML		09 47 25.1	
	comp=Z,172nm,0.6s						
AC06	**Mina Casimiro**	**2.49**	**29**	*e*P	**Pn**	**09 46 40.5**	**+0.3**
ACCO	**Cerro Coronel**	**2.50**	**115**	*e*P	**Pn**	**09 46 41.5**	**+0.9**
ACCO				*e*S	**Sn**	**09 47 11.8**	**+1.7**
DOCA	**Reserva Natura**	**2.65**	**122**	*e*P	**Pn**	**09 46 43.2**	**+0.5**
DOCA				*e*S	**Sn**	**09 47 16.7**	**+2.9**
DOCA				IAML		09 47 17.0	
	comp=Z,119nm,0.8s						
DOCA				*e*S		09 47 17.0	
RTLS	**Leoncito**	**3.04**	**138**	*e*P	**Pn**	**09 46 49.6**	**+1.5**
RTLS				*e*S	**Sn**	**09 47 26.5**	**+3.1**
RTLS				IAML		09 47 30.0	
	comp=Z,238nm,0.9s						
VCA	**Vinchina**	**3.16**	**76**	⇑*i*P	**Pn**	**09 46 51.8**	**+2.2**
VCA				*e*S	**Sn**	**09 47 28.5**	**+2.4**
VCA	**Vinchina**	**3.16**	**76**	*e*P	**Pn**	**09 46 51.3**	**+1.7**
VCA				*e*S	**Sn**	**09 47 23.8**	**-2.3**
VCA				IAML		09 47 29.3	
	comp=Z,296nm,0.3s						
ZON	**Zonda**	**3.27**	**128**	*e*P	**Pn**	**09 46 51.2**	**+0.2**
ZON				*e*S	**Sn**	**09 47 30.3**	**+1.6**
ZON				IAML		09 47 33.3	
	comp=Z,63nm,0.3s						
RTLL	**Cerro Villicun

BO01 *eP* 09 47 12.4
BO01 IAML 09 49 10.3
comp=Z,17nm,3.3s
CYA Choya 5.28 79 *eP* **Pn 09 47 18.0 -0.6**
CYA IAML 09 49 07.7
comp=Z,12nm,3.4s

NAO ***14*** *09:55:25.3, 39°.74N×23°.08E, h33km, mb4.0*
PRU ***14*** *09:55:34.0, 40°.44N×21°.53E, h10km, M4.5*
BEO ***14*** *09:55:35.6±0.5, 40°.68N×21°.22E, h6km±1km, ML4.0/14*
SKO ***14*** *09:55:36.8, 40°.77N×21°.30E, h22km, ML4.2*
PDG ***14*** *09:55:36.7±0.3, 40°.79N×21°.34E, h9km, MD4.3/6, ML4.2/12, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0*
MED_RC ***14*** *09:55:37.0±0.3, 40°.84N×21°.31E, h20km±1km, MW4.4/17, Moment Tensor Solution. Mantle waves: s17, c26; Duration: 1ꝏ0 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.71±.51; $M_{\theta\theta}$=3.93±.35; $M_{\phi\phi}$=-0.22±.26; $M_{r\theta}$=-0.24±.32; $M_{\theta\phi}$=1.46±.20; $M_{r\phi}$=1.58±.33; Best double couple: M_0=4.39000×10^{15} NP1:ϕ_s=231.00000°, δ51.00000°, λ=-120.00000°. NP2:ϕ_s=94.00000°, δ48.00000°, λ=-58.00000°. Principal axes: T 4.4000, Plg2.0000°, Azm342.0000°; N -0.0100, Plg23.0000°, Azm251.0000°; P -4.3900, Plg67.0000°, Azm76.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
THE ***14*** *09:55:37.9, 40°.86N×21°.30E, h4km±1km, ML4.3/7 Error ellipse: s-maj=1.2km s-min=0.5km az=194.0*
TIR ***14*** *09:55:38.4, 40°.82N×21°.26E, h6km, Md4.1, Ml4.3*
NEIC ***14*** *09:55:38.1±1.4, 40°.84N±0°.04×21°.28E±0°.05, h10km±1km, mb4.5/8, ML4.3/1(BUC), Error ellipse: s-maj=8.7km s-min=3.4km az=314.0*
SOF ***14*** *09:55:38.1, 40°.85N×21°.36E, h18km, MD3.8*
ATH ***14*** *09:55:38.1, 40°.85N×21°.32E, h6km±1km, ML4.0/23, Error ellipse: s-maj=1.8km s-min=0.7km az=146.0*
IDC ***14*** *09:55:41.2±1.3, 40°.84N×21°.31E, h45km±13km, mb3.8/15, mbtmp4.0/28, ML3.9/11, MS3.4/20, Error ellipse: s-maj=12.8km s-min=11.9km az=126.0*
ISC 14 09:55:37.8±0.6,**40°.82N**±0°.01×**21°.31E**±0°.01,**h14**km±3km,
n373, σ1§**59**/483,**mb4.4**/22,**MS3.6**/11,**34C-34D, Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.06**	**122**	P		**Pg**	**Pg**	**09 55 40.7**	**0.0**
FNA				S		**Sg**	**Sg**	**09 55 42.3**	**-0.3**
486μm,0.3s									
FNA	**Florina**	**0.06**	**122**	Pg		**Pg**	**Pg**	**09 55 40.7**	**0.0**
FNA	**Florina**	**0.06**	**122**	P		**Pg**	**Pg**	**09 55 40.8**	**+0.1**
baz=114									
FNA				S		**Sg**	**Sg**	**09 55 43.1**	**+0.5**
baz=114									
FNA	**Florina**	**0.06**	**122**	*e*Pg		**Pg**	**Pg**	**09 55 40.7**	**+0.1**
FNA				*e*Sg		**Sg**	**Sg**	**09 55 43.2**	**+0.6**
FNA	**Florina**	**0.06**	**122**	⇓*i*Pg		**Pg**	**Pg**	**09 55 40.7**	**+0.1**
FNA				*i* Sg		**Sg**	**Sg**	**09 55 43.2**	**+0.6**
FNA	**Florina**	**0.06**	**122**	P		**Pg**	**Pg**	**09 55 40.3**	**-0.3**
FNA				S		**Sg**	**Sg**	**09 55 42.0**	**-0.6**
FNA				AML		AML	AML	09 55 43.9	
FNA				AML		AML	AML	09 55 44.1	
KBN	**Korca**	**0.44**	**244**	P		**Pg**	**Pg**	**09 55 46.4**	**-0.2**
KBN				S		**Sg**	**Sg**	**09 55 52.9**	**+0.4**
KBN	**Korca**	**0.44**	**244**	Pg		**Pg**	**Pg**	**09 55 46.9**	**+0.3**
KBN				Sg		**Sg**	**Sg**	**09 55 52.8**	**+0.4**
KBN	**Korca**	**0.44**	**244**	P		**Pg**	**Pg**	**09 55 46.5**	**0.0**
baz=242									
KBN				S		**Sg**	**Sg**	**09 55 52.9**	**+0.4**
baz=242									
KBN				AMP					
comp=N,127nm,0.7s,baz=242									
NEST	**Nestorio**	**0.45**	**206**	P		**Pg**	**Pg**	**09 55 46.6**	**-0.1**
NEST				S		**Sg**	**Sg**	**09 55 53.5**	**+0.7**
comp=N,98μm,0.5s									
NEST	**Nestorio**	**0.45**	**206**	P		**Pg**	**Pg**	**09 55 46.6**	**-0.1**
NEST				S		**Sg**	**Sg**	**09 55 53.5**	**+0.7**
NEST				AML		AML	AML	09 55 54.7	
NEST				AML		AML	AML	09 55 54.8	
OHR	**Ohrid**	**0.48**	**308**	*e*Pg		**Pg**	**Pg**	**09 55 47.3**	**-0.1**
OHR				*e*Sg		**Sb**	**Sb**	**09 55 55.3**	**+0.2**
OHR	**Ohrid**	**0.48**	**308**	⇑*i*Pg		**Pg**	**Pg**	**09 55 47.3**	**-0.1**
OHR				*i* Sg		**Sb**	**Sb**	**09 55 55.3**	**+0.2**
OHR				*e*Lg		Lg	Lg	09 55 55.5	
comp=N,37μm,0.7s									
OHR				*e*Lg		Lg	Lg	09 55 55.7	
comp=E,40μm,0.7s									
PENT	**Pentalofos**	**0.63**	**192**	P		**Pg**	**Pg**	**09 55 50.1**	**-0.1**
PENT				S		**Sb**	**Sb**	**09 56 00.2**	**+0.7**
comp=E,16μm,0.9s									
PENT	**Pentalofos**	**0.63**	**192**	P		**Pg**	**Pg**	**09 55 50.3**	**+0.1**
PENT				S		**Sb**	**Sb**	**09 56 00.3**	**+0.9**
PENT				AML		AML	AML	09 56 03.0	
comp=E,51109μm,1.2s									
PENT				AML		AML	AML	09 56 04.2	
comp=N,14128μm,0.6s									
KTI	**Kastanea**	**0.75**	**124**	P		**Pg**	**Pg**	**09 55 51.9**	**-0.5**
GRG	**Griva**	**0.84**	**80**	P		**Pg**	**Pg**	**09 55 53.9**	**-0.2**
GRG				S		**Sb**	**Sb**	**09 56 06.0**	**+0.6**
comp=N,7μm,0.5s									
GRG	**Griva**	**0.84**	**80**	⇓*i*Pg		**Pg**	**Pg**	**09 55 54.0**	**-0.2**
GRG				*i* Sg		**Sn**	**Sn**	**09 56 07.2**	**-0.2**
GRG	**Griva**	**0.84**	**80**	P		**Pg**	**Pg**	**09 55 53.6**	**-0.6**
GRG				S		**Sg**	**Sg**	**09 56 05.4**	**+0.2**
GRG				AML		AML	AML	09 56 12.2	
comp=E,12068μm,0.5s									
GRG				AML		AML	AML	09 56 12.2	
comp=N,16863μm,0.6s									
LSK	**Leskovik**	**0.86**	**219**	P		**Pg**	**Pg**	**09 55 54.5**	**+0.1**
LSK				S		**Sb**	**Sb**	**09 56 07.0**	**+1.2**
comp=N,25μm,0.6s									
LSK	**Leskovik**	**0.86**	**219**	P		**Pg**	**Pg**	**09 55 54.1**	**-0.3**
baz=218									
LSK				S		**Sb**	**Sb**	**09 56 07.4**	**+1.5**
baz=218									
LSK				AMP					
comp=N,108nm,0.6s,baz=218									
KPRO	**Kipourio**	**0.86**	**177**	P		**Pg**	**Pg**	**09 55 54.5**	**0.0**
KPRO				S		**Sn**	**Sn**	**09 56 08.4**	**+0.4**
comp=N,27μm,0.6s									
KPRO	**Kipourio**	**0.86**	**177**	P		**Pg**	**Pg**	**09 55 54.6**	**+0.1**
KPRO				S		**Sg**	**Sg**	**09 56 06.5**	**+0.6**
KPRO				AML		AML	AML	09 56 12.3	
comp=E,46635μm,0.6s									
KPRO				AML		AML	AML	09 56 13.2	
comp=N,62254μm,0.6s									
VAY	**Valandovo**	**1.08**	**62**	*e*Pg		**Pg**	**Pg**	**09 55 57.8**	**-0.9**
VAY				*e*Sg		**Sn**	**Sn**	**09 56 14.2**	**+1.0**
VAY	**Valandovo**	**1.08**	**62**	*i* Pg		**Pg**	**Pg**	**09 55 57.7**	**-0.9**
VAY				*i* Sg		**Sn**	**Sn**	**09 56 13.4**	**+0.2**
VAY				*e*Lg		Lg	Lg	09 56 16.6	
comp=N,2μm,0.8s									
VAY				*e*Lg		Lg	Lg	09 56 18.0	
comp=E,2μm,0.6s									
STIP	**Stip**	**1.10**	**37**	*i* Pg		**Pn**	**Pn**	**09 56 02.2**	**+3.5**
STIP				*i* Sg		**Sn**	**Sn**	**09 56 21.4**	**+7.7**
SKO	**Skopje**	**1.16**	**5**	*e*Pg		**Pn**	**Pn**	**09 56 00.7**	**+1.1**
SKO				*e*Sg		**Sn**	**Sn**	**09 56 16.2**	**+1.0**
SKO	**Skopje**	**1.16**	**5**	*i* Pg		**Pb**	**Pb**	**09 55 59.5**	**-0.1**
SKO				*i* Sg		**Sn**	**Sn**	**09 56 17.0**	**+1.8**
TIR	**Tirane**	**1.21**	**296**	⇑P		**Pb**	**Pb**	**09 56 00.4**	**-0.1**
TIR				⇑S		**Sb**	**Sb**	**09 56 15.7**	**-0.3**
TIR	**Tirane**	**1.21**	**296**	P		**Pb**	**Pb**	**09 55 59.5**	**-1.0**
TIR				S		**Sn**	**Sn**	**09 56 18.2**	**+1.7**
TIR	**Tirane**	**1.21**	**296**			**Pb**	**Pb**	**09 55 60.0**	**-0.5**
TIR	**Tirane**	**1.21**	**296**	P		**Pg**	**Pg**	**09 56 01.0**	**-0.1**
baz=297									
TIR				S		**Sn**	**Sn**	**09 56 18.5**	**+2.0**
baz=297									
TIR				AMP					
comp=N,14nm,0.7s,baz=297									
JAN	**Janina**	**1.21**	**197**	P		**Pg**	**Pg**	**09 56 01.9**	**+0.8**
JAN	**Janina**	**1.21**	**197**	P		**Pn**	**Pn**	**09 56 01.2**	**+0.8**
JAN				S		**Sg**	**Sg**	**09 56 17.4**	**+0.5**
JAN				AML		AML	AML	09 56 23.5	
comp=N,17325μm,0.4s									
JAN				AML		AML	AML	09 56 28.8	
comp=E,17599μm,0.5s									
KNT	**Kendrikon**	**1.25**	**74**	P		**Pn**	**Pn**	**09 56 01.1**	**+0.2**
KNT	**Kendrikon**	**1.25**	**74**	*e*Pg		**Pn**	**Pn**	**09 56 01.1**	**+0.2**
KNT				*e*Sg		**Sn**	**Sn**	**09 56 19.2**	**+1.7**
KNT	**Kendrikon**	**1.25**	**74**	P		**Pn**	**Pn**	**09 56 00.9**	**0.0**
KNT				S		**Sg**	**Sg**	**09 56 17.9**	**-0.4**
THE	**Thessaloniki**	**1.27**	**98**	P		**Pn**	**Pn**	**09 56 00.9**	**-0.2**
THE	**Thessaloniki**	**1.27**	**98**	⇓*i*Pg		**Pn**	**Pn**	**09 56 01.0**	**-0.2**
THE				*i* Sg		**Sg**	**Sg**	**09 56 20.3**	**+1.4**
THE	**Thessaloniki**	**1.27**	**98**	P		**Pn**	**Pn**	**09 56 00.7**	**-0.4**
THE				S		**Sb**	**Sb**	**09 56 17.1**	**-0.7**
THE				AML		AML	AML	09 56 22.1	
comp=N,4529μm,1.1s									
THE				AML		AML	AML	09 56 26.8	
comp=E,2256μm,0.8s									
TYRN	**Tyrnavos**	**1.31**	**147**	P		**Pb**	**Pb**	**09 56 02.8**	**+0.6**
TYRN	**Tyrnavos**	**1.31**	**147**	P		**Pn**	**Pn**	**09 56 02.5**	**+0.9**
TYRN				S		**Sb**	**Sb**	**09 56 19.2**	**+0.3**
THL	**Klokotos Trika**	**1.36**	**156**	P		**Pn**	**Pn**	**09 56 02.8**	**+0.4**
THL	**Klokotos Trika**	**1.36**	**156**	P		**Pn**	**Pn**	**09 56 02.8**	**+0.4**
THL				AML		AML	AML	09 56 26.9	
comp=E,16442μm,0.9s									
THL				AML		AML	AML	09 56 27.1	
comp=N,16155μm,1.0s									
SRN	**Sarande**	**1.37**	**227**	P		**Pn**	**Pn**	**09 56 02.7**	**+0.3**
SRN	**Sarande**	**1.37**	**227**	P		**Pg**	**Pg**	**09 56 05.2**	**+1.0**
baz=227									
SRN				S		**Sg**	**Sg**	**09 56 24.2**	**+2.3**
baz=227									
SRN				AMP					
comp=E,20nm,0.7s,baz=227									
HORT	**Hortiatis**	**1.38**	**99**	P		**Pn**	**Pn**	**09 56 02.5**	**-0.2**
HORT	**Hortiatis**	**1.38**	**99**	P		**Pn**	**Pn**	**09 56 02.4**	**-0.3**
HORT				S		**Sn**	**Sn**	**09 56 22.0**	**+1.2**
HORT				AML		AML	AML	09 56 25.2	
comp=E,3019μm,1.2s									
HORT				AML		AML	AML	09 56 25.3	
comp=N,4128μm,0.5s									
LRSO	**Larissa Observ**	**1.42**	**144**	P		**Pn**	**Pn**	**09 56 04.2**	**+1.1**
LRSO	**Larissa Observ**	**1.42**	**144**	P		**Pn**	**Pn**	**09 56 04.2**	**+1.1**
LRSO				S		**Sg**	**Sg**	**09 56 23.5**	**+0.1**
LRSO				AML		AML	AML	09 56 38.6	
comp=E,27554μm,0.8s									
LRSO				AML		AML	AML	09 56 39.5	
comp=N,29735μm,1.0s									
VLO	**Vlora**	**1.42**	**256**	P		**Pg**	**Pg**	**09 56 06.2**	**+1.1**
baz=256									
VLO				S		**Sg**	**Sg**	**09 56 26.9**	**+3.4**
baz=256									
IGT	**Igoumenitsa**	**1.48**	**210**	P		**Pb**	**Pb**	**09 56 05.6**	**+0.5**
IGT	**Igoumenitsa**	**1.48**	**210**	P		**Pn**	**Pn**	**09 56 05.1**	**+1.0**
IGT				S		**Sn**	**Sn**	**09 56 24.6**	**+1.4**
IGT				AML		AML	AML	09 56 33.5	
comp=N,13530μm,0.7s									
IGT				AML		AML	AML	09 56 35.7	
comp=E,11143μm,0.7s									
KASA	**Kassiopi**	**1.50**	**225**	P		**Pb**	**Pb**	**09 56 05.5**	**+0.2**
KASA				S		**Sn**	**Sn**	**09 56 24.6**	**+1.1**
KASA				AML		AML	AML	09 56 29.4	
comp=N,8289μm,0.4s									
KASA				AML		AML	AML	09 56 29.9	
comp=E,13399μm,0.4s									
PEHC	**Pehcevo**	**1.54**	**51**	*i* Pn		**Pn**	**Pn**	**09 56 05.8**	**+0.9**
PEHC				*i* Sg		**Sg**	**Sg**	**09 56 29.2**	**+1.9**
SOH	**Sokhos**	**1.56**	**89**	P		**Pn**	**Pn**	**09 56 05.4**	**+0.4**
SOH	**Sokhos**	**1.56**	**89**	⇓*i*Pn		**Pn**	**Pn**	**09 56 05.5**	**+0.4**
SOH				*i* Sg		**Sb**	**Sb**	**09 56 26.8**	**+0.8**
SOH	**Sokhos**	**1.56**	**89**	P		**Pn**	**Pn**	**09 56 05.3**	**+0.2**
SOH				S		**Sn**	**Sn**	**09 56 25.6**	**+0.6**
SOH				AML		AML	AML	09 56 31.6	
comp=N,5106μm,0.5s									
SOH				AML		AML	AML	09 56 37.1	
comp=E,4732μm,0.6s									
KEK	**Kerkira**	**1.60**	**227**	P		**Pn**	**Pn**	**09 56 06.7**	**+1.1**
KEK	**Kerkira**	**1.60**	**227**	P		**Pb**	**Pb**	**09 56 07.1**	**+0.1**
KEK				S		**Sn**	**Sn**	**09 56 27.1**	**+1.2**
KEK				AML		AML	AML	09 56 35.2	
comp=N,8216μm,0.7s									
KEK				AML		AML	AML	09 56 40.4	
comp=E,6484μm,0.7s									
KKB	**Krupnik**	**1.71**	**53**	⇓*i*Pn		**Pn**	**Pn**	**09 56 07.7**	**+0.5**
KKB	**Krupnik**	**1.71**	**53**	P		**Pn**	**Pn**	**09 56 07.9**	**+0.7**
SRS	**Serrai**	**1.76**	**79**	P		**Pn**	**Pn**	**09 56 07.9**	**+0.1**
SRS				S		**Sb**	**Sb**	**09 56 33.0**	**+1.3**
comp=E,840nm,1.1s									
SRS	**Serrai**	**1.76**	**79**	*e*Pg		**Pn**	**Pn**	**09 56 07.7**	**-0.1**
SRS				*e*Sg		**Sg**	**Sg**	**09 56 35.9**	**+1.5**
SRS	**Serrai**	**1.76**	**79**	⇓*i*Pn		**Pn**	**Pn**	**09 56 07.9**	**+0.1**
SRS				*i* Sg		**Sg**	**Sg**	**09 56 36.3**	**+2.0**
SRS	**Serrai**	**1.76**	**79**	P		**Pn**	**Pn**	**09 56 07.7**	**-0.1**
SRS				AML		AML	AML	09 56 37.9	
comp=E,1533μm,1.2s									
SRS				AML		AML	AML	09 56 47.3	
comp=N,961μm,0.6s									
PRVS	**Prvonek**	**1.78**	**19**	*e*Pg		**Pn**	**Pn**	**09 56 08.6**	**+0.4**
PRVS				*e*Sg		**Sg**	**Sg**	**09 56 37.1**	**+1.9**
BCI	**Bajram Curri**	**1.80**	**329**	P		**Pb**	**Pb**	**09 56 10.2**	**-0.5**
baz=331									
BCI				S		**Sg**	**Sg**	**09 56 39.8**	**+3.9**
baz=331									
BOSS	**Bosilegrad**	**1.89**	**27**	*e*Pg		**Pn**	**Pn**	**09 56 10.4**	**+0.7**
BOSS				*e*Sg		**Sg**	**Sg**	**09 56 40.8**	**+2.1**
ULC	**Ulcinj**	**1.93**	**307**	*i* Pn		**Pb**	**Pb**	**09 56 12.5**	**-0.2**
ULC	**Ulcinj**	**1.93**	**307**	⇑*i*Pn		**Pn**	**Pn**	**09 56 11.5**	**+1.3**
ULC				*i* Sn		**Sb**	**Sb**	**09 56 38.1**	**+1.5**
EVR	**Evrytania**	**1.94**	**168**	P		**Pn**	**Pn**	**09 56 11.9**	**+1.5**
EVR	**Evrytania**	**1.94**	**168**	P		**Pn**	**Pn**	**09 56 11.9**	**+1.5**
EVR				AML		AML	AML	09 56 44.5	
comp=N,6202μm,0.6s									
EVR				AML		AML	AML	09 56 49.9	
comp=E,4928μm,0.9s									
AGG	**Agios Georgios**	**1.96**	**156**	P		**Pn**	**Pn**	**09 56 11.3**	**+0.7**
AGG	**Agios Georgios**	**1.96**	**156**	Pn		**Pn**	**Pn**	**09 56 11.4**	**+0.8**
AGG	**Agios Georgios**	**1.96**	**156**	P		**Pn**	**Pn**	**09 56 11.3**	**+0.8**
MMB	**Musomishta**	**1.98**	**68**	⇓*i*Pn		**Pn**	**Pn**	**09 56 11.8**	**+0.8**
MMB				*i* Sg		**Sg**	**Sg**	**09 56 42.8**	**+1.2**
MMB	**Musomishta**	**1.98**	**68**	P		**Pn**	**Pn**	**09 56 11.8**	**+0.8**
NVR	**Nevrokopi**	**2.00**	**74**	P		**Pn**	**Pn**	**09 56 12.4**	**+1.2**
NVR	**Nevrokopi**	**2.00**	**74**	P		**Pn**	**Pn**	**09 56 12.3**	**+1.0**
NVR				S		**Sn**	**Sn**	**09 56 36.6**	**+0.5**
NVR				AML		AML	AML	09 56 47.9	
comp=N,1903μm,0.9s									
NVR				AML		AML	AML	09 56 54.6	
comp=E,1156μm,1.4s									
BARS	**Barje**	**2.03**	**11**	*e*Pg		**Pn**	**Pn**	**09 56 12.3**	**+0.7**
BARS				*e*Sg		**Sg**	**Sg**	**09 56 44.9**	**+1.7**
BARS	**Barje**	**2.03**	**11**	⇑*i*Pn		**Pn**	**Pn**	**09 56 12.4**	**+0.8**
BARS				*i* Sg		**Sg**	**Sg**	**09 56 43.6**	**+0.4**
PVY	**Plav**	**2.04**	**331**	*e*Pn		**Pn**	**Pn**	**09 56 12.8**	**+1.0**
PVY				*i* Sn		**Sb**	**Sb**	**09 56 41.4**	**+1.4**
KOKK	**Kokkinochori,**	**2.04**	**89**	P		**Pn**	**Pn**	**09 56 11.7**	**0.0**
KOKK	**Kokkinochori,**	**2.04**	**89**	P		**Pn**	**Pn**	**09 56 11.9**	**+0.2**
XOR	**Xorichti**	**2.05**	**134**	P		**Pn**	**Pn**	**09 56 11.9**	**+0.1**
TSLK	**Tsoukalades, L**	**2.05**	**194**	P		**Pn**	**Pn**	**09 56 13.6**	**+1.8**
TSLK	**Tsoukalades, L**	**2.05**	**194**	P		**Pn**	**Pn**	**09 56 13.4**	**+1.5**
TSLK				AML		AML	AML	09 56 52.8	
comp=N,6502μm,1.0s									
TSLK				AML		AML	AML	09 56 56.5	
comp=E,6999μm,0.7s									
LKD2	**Lefkada island**	**2.09**	**194**	P		**Pn**	**Pn**	**09 56 13.8**	**+1.4**
LKD2	**Lefkada island**	**2.09**	**194**	P		**Pn**	**Pn**	**09 56 14.1**	**+1.8**
LKD2				AML		AML	AML	09 56 53.3	
comp=N,5907μm,1.0s									
LKD2				AML		AML	AML	09 56 53.5	
comp=E,6223μm,0.7s									
OUR	**Ouranopolis**	**2.10**	**102**	P		**Pn**	**Pn**	**09 56 12.7**	**+0.3**
OUR	**Ouranopolis**	**2.10**	**102**	P		**Pn**	**Pn**	**09 56 12.7**	**+0.3**
OUR				S		**Sn**	**Sn**	**09 56 39.0**	**+0.8**
OUR				AML		AML	AML	09 56 46.9	
comp=N,4618μm,1.0s									
OUR				AML		AML	AML	09 56 52.8	
comp=E,1650μm,0.5s									
DRME	**Dracevica, Mon**	**2.10**	**311**	*e*Pn		**Pb**	**Pb**	**09 56 14.8**	**-0.8**
DRME	**Dracevica, Mon**	**2.10**	**311**	*e*Pn		**Pn**	**Pn**	**09 56 13.9**	**+1.4**
DRME				*i* Sn		**Sb**	**Sb**	**09 56 43.2**	**+1.7**
NEO	**Neokhori**	**2.11**	**135**	P		**Pn**	**Pn**	**09 56 12.8**	**+0.2**
NEO				S		**Sn**	**Sn**	**09 56 39.1**	**+0.5**
NEO				AML		AML	AML	09 56 53.9	
comp=E,5291μm,0.7s									
NEO				AML		AML	AML	09 56 59.7	
comp=N,8189μm,0.8s									
NYDR	**Nydri-Lefkada**	**2.15**	**193**	P		**Pn**	**Pn**	**09 56 14.7**	**+1.5**
NYDR	**Nydri-Lefkada**	**2.15**	**193**	P		**Pn**	**Pn**	**09 56 15.0**	**+1.8**
NYDR				S		**Sn**	**Sn**	**09 56 41.1**	**+1.5**
DRAG	**Dragano-Lefkad**	**2.21**	**195**	P		**Pn**	**Pn**	**09 56 15.6**	**+1.6**
DRAG	**Dragano-Lefkad**	**2.21**	**195**	P		**Pn**	**Pn**	**09 56 15.4**	**+1.5**
PVO	**Paravola**	**2.21**	**176**	P		**Pn**	**Pn**	**09 56 15.9**	**+2.0**
PDG	**Podgorica**	**2.23**	**317**	⇓S		**Sn**	**Sn**	**09 56 41.2**	**-0.3**
PDG	**Podgorica**	**2.23**	**317**			**Pn**	**Pn**	**09 56 14.9**	**+0.7**
PDG	**Podgorica**	**2.23**	**317**	*e*Pn		**Pb**	**Pb**	**09 56 16.7**	**-1.1**
PDG	**Podgorica**	**2.23**	**317**	*e*Pn		**Pn**	**Pn**	**09 56 15.8**	**+1.6**
PDG				*e*Sn		**Sb**	**Sb**	**09 56 45.8**	**+0.6**
EVGI	**Lefkada island**	**2.25**	**193**	P		**Pn**	**Pn**	**09 56 15.9**	**+1.3**
ANX	**Ano Chora**	**2.27**	**168**	P		**Pn**	**Pn**	**09 56 16.7**	**+1.7**
ANX	**Ano Chora**	**2.27**	**168**	P		**Pn**	**Pn**	**09 56 15.6**	**+0.6**
SCTE	**Santa Cesarea**	**2.29**	**252**	Pn		**Pn**	**Pn**	**09 56 16.2**	**+1.1**
SCTE	**Santa Cesarea**	**2.29**	**252**	P		**Pn**	**Pn**	**09 56 15.9**	**+0.8**
SCTE				AML		AML	AML	09 56 44.4	
comp=E,2408μm,0.6s									
SCTE				AML		AML	AML	09 56 50.5	
comp=N,1096μm,0.5s									
BEY	**Berane**	**2.31**	**333**	⇓*i*Pn		**Pn**	**Pn**	**09 56 17.2**	**+1.7**
IVA	**Berane**	**2.31**	**333**	*e*Pn		**Pn**	**Pn**	**09 56 16.5**	**+1.0**
IVA				*e*Sn		**Sb**	**Sb**	**09 56 47.5**	**-0.1**
VTS	**Vitosha**	**2.31**	**38**	⇓P		**Pn**	**Pn**	**09 56 16.1**	**+0.7**
VTS				⇓S		**Sb**	**Sb**	**09 56 46.7**	**-1.0**
VTS	**Vitosha**	**2.31**	**38**	*e*Pn		**Pn**	**Pn**	**09 56 15.9**	**+0.4**
VTS	**Vitosha**	**2.31**	**38**	⇓*i*Pn		**Pn**	**Pn**	**09 56 16.0**	**+0.4**
VTS				*i* Sg		**Sg**	**Sg**	**09 56 55.1**	**+3.2**
VTS	**Vitosha**	**2.31**	**38**	P		**Pn**	**Pn**	**09 56 16.2**	**+0.7**
BUM	**Brajici-Budva**	**2.34**	**310**	*e*Pn		**Pn**	**Pn**	**09 56 17.5**	**+1.6**
BUM				*e*Sn		**Sb**	**Sb**	**09 56 48.5**	**0.0**
SELS	**Selova**	**2.40**	**357**	*e*Pg		**Pn**	**Pn**	**09 56 17.2**	**+0.5**
SELS				*e*Sg		**Sg**	**Sg**	**09 56 56.4**	**+1.3**
FSK	**Fiskardo**	**2.42**	**194**	P		**Pn**	**Pn**	**09 56 18.5**	**+1.5**
EFP	**Efpalio**	**2.43**	**169**	P		**Pn**	**Pn**	**09 56 19.1**	**+2.0**
KAVA	**Kavala**	**2.44**	**85**	P		**Pn**	**Pn**	**09 56 17.3**	**+0.1**
KAVA	**Kavala**	**2.44**	**85**	P		**Pn**	**Pn**	**09 56 17.3**	**+0.1**
CEME	**Cevo**	**2.49**	**315**	⇓*i*Pn		**Pn**	**Pn**	**09 56 19.3**	**+1.4**
CEME				*e*Sn		**Sb**	**Sb**	**09 56 51.9**	**-0.8**
LKR	**Lokris**	**2.53**	**148**	P		**Pn**	**Pn**	**09 56 19.8**	**+1.4**
THAS	**Thassos island**	**2.60**	**94**	P		**Pn**	**Pn**	**09 56 19.5**	**+0.1**
THAS	**Thassos island**	**2.60**	**94**	P		**Pn**	**Pn**	**09 56 19.5**	**+0.1**
THAS				AML		AML	AML	09 57 05.2	
comp=N,1033μm,1.1s									
THAS				AML		AML	AML	09 57 10.8	
comp=E,702μm,0.6s									
NKME	**Niksic**	**2.62**	**319**	*e*Pn		**Pn**	**Pn**	**09 56 21.2**	**+1.4**
NKME				*e*Sn		**Sb**	**Sb**	**09 56 54.6**	**-2.1**
SJES	**Sjenica**	**2.63**	**338**	*e*Pg		**Pn**	**Pn**	**09 56 20.9**	**+0.9**
SJES				*e*Sg		**Sg**	**Sg**	**09 57 04.4**	**+1.9**
SJES	**Sjenica**	**2.63**	**338**	⇑*i*Pn		**Pn**	**Pn**	**09 56 21.1**	**+1.1**
KEF4	**Livadi, Kephal**	**2.65**	**195**	P		**Pn**	**Pn**	**09 56 21.7**	**+1.7**
ZAPS	**Zavoj**	**2.65**	**22**	*e*Pn		**Pn**	**Pn**	**09 56 21.1**	**+1.0**
ZAPS				*e*Sn		**Sb**	**Sb**	**09 56 57.0**	**-0.3**
HCY	**Herceg Novi**	**2.66**	**309**	*e*Pn		**Pn**	**Pn**	**09 56 22.0**	**+1.7**
HCY	**Herceg Novi**	**2.66**	**309**	⇓*i*Pn		**Pn**	**Pn**	**09 56 21.7**	**+1.4**
HCY				*e*Sn		**Sb**	**Sb**	**09 56 56.2**	**-1.

A254A Petrova Gora 6.03 320 *e*Pn **Pn 09 57 07.9 +1.3**
NVLJ Novalja 6.04 310 *i* Pn **Pn 09 57 07.3 +0.7**
AQU L'Aquila 6.12 287 Pn 09 57 08.5 +0.7
CAMP Campotosto 6.16 289 Pn **Pn 09 57 08.7 +0.3**
COVR Voineasa-Covas 6.17 34 ⇓P **Pn 09 57 09.2 +0.9**
COVR Voineasa-Covas 6.17 34 Pn 09 57 09.2 +0.9
RABC Rab 6.20 311 *e*Pn **Pn 09 57 09.2 +0.3**
IDI Anoyia 6.20 152 ⇑P **Pn 09 57 11.2 +2.2**
IDI ⇓S **Sn 09 58 21.5 +1.8**
IDI Anoyia 6.20 152 Pn **Pn 09 57 10.2 +1.2**
IDI Anoyia 6.20 152 P **Pn 09 57 09.7 +0.8**
comp=E,1.8nm,0.3s,baz=326,slow=7.7,SNR=9.6
IDI S **Sn 09 58 16.9 -2.8**
comp=E,13nm,0.5s,baz=288,slow=13,SNR=2.1
IDI LR LR 09 59 17.3
comp=E,126nm,20.4s,baz=310,slow=35
comp=E,6.2nm,0.5s
HARR Harsova 6.22 49 ⇓P **Pn 09 57 10.5 +1.4**
HARR Harsova 6.22 49 Pn 09 57 10.5 +1.4
VAE Valguarnera 6.31 240 P **Pn 09 57 13.5 +3.1**
comp=E,4.8nm,0.6s,baz=1.3,slow=20,SNR=1.2
VAE S **Sn 09 58 19.2 -3.1**
comp=E,11nm,0.4s,baz=38,slow=12,SNR=2.2
GUMA Gualdo di Mace 6.35 293 Pn 09 57 11.5 +0.6
PLOR Plostina 6.36 36 ⇓P **Pn 09 57 12.9 +1.8**
PLOR ⇑S **Sn 09 58 26.1 +2.6**
TIRR Tirgusor 6.38 53 ⇑P **Pn 09 57 12.6 +1.3**
TIRR Tirgusor 6.38 53 Pn 09 57 12.6 +1.3
PTJ Puntijarka 6.40 324 *e*Pn **Pn 09 57 11.7 0.0**
VRI Vrincioaia 6.41 36 ⇓P **Pn 09 57 13.8 +2.1**
NRCA Norcia 6.44 291 Pn 09 57 11.4 -0.8
BOJS Bojanci 6.44 319 *i* Pn **Pn 09 57 13.0 +0.8**
BOJS *e*Sn **Sn 09 58 24.3 -1.2**
RAFF Raffo Rosso 6.49 239 Pn **Pn 09 57 12.8 -0.1**
LOBO Lobor 6.55 326 *e*Pn **Pn 09 57 13.9 +0.2**
TPGR Topolog 6.61 50 ⇑P **Pn 09 57 16.3 +1.9**
TPGR Topolog 6.61 50 Pn 09 57 16.3 +1.9
CFR Carcaliu 6.64 47 ⇓P **Pn 09 57 15.6 +0.8**
SMRN Sveta Marina 6.73 311 *e*Pn **Pn 09 57 15.7 -0.4**
BRJN Brijuni 6.89 309 *e*Pn **Pn 09 57 18.1 -0.1**
MURB Monte Urbino 6.98 293 Pn 09 57 20.7 +1.1
KARP Karpathos 7.00 137 Pn 09 57 20.6 +0.8
CEY Cerknica 7.03 317 ⇑ *i* Pn **Pn 09 57 20.4 +0.2**
A253A Karojba, Istri 7.08 312 *e*Pn **Pn 09 57 20.8 -0.1**
SKDS Skadanscina 7.12 314 *e*Pn **Pn 09 57 20.9 -0.6**
PSZ Piszkesteto 7.17 352 ⇑P **Pn 09 57 22.6 +0.4**
PSZ ⇑S **Sn 09 58 44.8 +1.3**
PSZ Piszkesteto 7.17 352 Pn **Pn 09 57 22.8 +0.5**
PSZ Piszkesteto 7.17 352 Pn 09 57 22.6 +0.4
PSZ **Sn 09 58 44.8 +1.3**
BURAR Bucovina Array 7.35 21 ⇓P **Pn 09 57 26.8 +2.0**
BURAR Bucovina Array 7.35 21 Pn 09 57 25.5 +0.8
TRI Trieste 7.36 314 Pn 09 57 24.7 0.0
SOKA Soboth 7.41 324 *i* Pn **Pn 09 57 26.2 +0.7**
comp=E,31nm,0.6s,SNR=33
OBKA Obir 7.50 322 *i* Pn **Pn 09 57 27.5 +0.6**
comp=E,15nm,0.5s
OBKA *e*Sn **Sn 09 58 55.2 +3.5**
comp=E,30nm,0.7s
OBKA Obir 7.50 322 *e*Pn **Pn 09 57 27.0 +0.2**
SABO M.te Sabotino 7.62 315 Pn 09 57 28.5 +0.2
ARSA Arzberg 7.66 329 *i* Pn **Pn 09 57 29.4 +0.5**
comp=E,13nm,0.5s,SNR=7.4
KECS Kecovo 7.69 356 *e*PN **Pn 09 57 31.1 +1.9**
KECS *e*SN **Sn 09 58 53.7 -2.3**
RONA Rosalia, Austr 7.76 334 *e*Pn **Pn 09 57 31.6 +1.4**
comp=E,7.3nm,0.8s
VYHS Vyhne 7.87 348 *e*PN **Pn 09 57 33.2 +1.4**
VYHS *e*SN **Sn 09 58 57.9 -2.8**
OSSC Osservatorio P 7.95 293 Pn 09 57 33.8 +1.0
MYKA Terra Mystica 8.03 319 *i* Pn **Pn 09 57 34.9 +0.8**
comp=E,2.7nm,0.3s
MYKA *i* Sn **Sn 09 59 01.5 -3.1**
comp=E,8.2nm,0.5s
CASP Castiglione de 8.04 288 Pn **Pn 09 57 35.1 +0.9**
MODS Modra-Piesok 8.08 341 *e*PN **Pn 09 57 36.4 +1.7**
MODS *e*SN **Sn 09 58 59.6 -6.2**
CONA Conrad Observa 8.11 333 *e*Pn **Pn 09 57 38.2 +3.1**
comp=E,4.3nm,0.4s
KOLS Kolnicke sedl 8.14 5 *e*PN **Pn 09 57 37.9 +2.4**
STAL STALIGIAL 8.28 314 Pn 09 57 37.2 -0.2
CLUD Cludinico 8.31 316 Pn 09 57 37.2 -0.6
TEOL Teolo 8.38 306 Pn 09 57 38.5 -0.3
ZCCA Zocca 8.40 298 Pn **Pn 09 57 39.2 +0.1**
LANS Liptovska Anna 8.43 352 *e*PN **Pn 09 57 42.0 +2.5**
JAVC Velka Javorina 8.44 343 *e*PN **Pn 09 57 40.2 +0.5**
KBA Koelnbreinsper 8.49 320 *i* Pn **Pn 09 57 41.1 +0.7**
comp=E,6.4nm,0.6s
KBA *i* Sn **Sn 09 59 15.7 -0.4**
comp=E,6.8nm,0.4s
STHS Stebnicka Huta 8.60 360 *e*PN **Pn 09 57 42.2 +0.4**
MOA Molln 8.65 327 *i* Pn **Pn 09 57 43.8 +1.3**
comp=E,17nm,0.7s,SNR=13
MOA *e*Sn **Sn 09 59 22.5 +2.7**
comp=E,4.9nm,0.3s
ABTA Abfaltersbach 8.69 316 *i* Pn **Pn 09 57 42.9 -0.2**
comp=E,12nm,0.5s,SNR=13
ABTA *i* Sn **Sn 09 59 17.6 -3.3**
comp=E,23nm,0.7s
CTI Castel Tesino 8.75 310 Pn 09 57 43.5 -0.5
BIOA Bad Ischl, Aus 8.80 324 *i* Pn **Pn 09 57 45.4 +0.9**
comp=E,5.8nm,0.4s,SNR=9.2
LESA Schwarzleotal 9.06 320 *i* Pn **Pn 09 57 49.0 +0.9**
comp=E,5.3nm,0.4s
LESA *e*Sn **Sn 09 59 27.1 -2.7**
comp=E,9.7nm,0.8s
VRAC Vranov 9.12 340 *e*PN **Pn 09 57 49.1 +0.2**
VRAC Vranov 9.12 340 P **Pn 09 57 50.2 +1.3**
comp=E,0.3nm,0.3s,baz=159,slow=12,SNR=6.2
VRAC LR LR 10 01 29.4
comp=E,137nm,20.9s,baz=180,slow=38
comp=E,6.9nm,1.0s
SALO Salr 9.21 305 Pn 09 57 49.8 -0.4
MORC Moravsky Berou 9.34 345 ⇓P **Pn 09 57 53.7 +1.8**
MORC ⇑S **Sn 09 59 37.6 +0.9**
MORC Moravsky Berou 9.34 345 Pn 09 57 52.1 +0.2
MORC Moravsky Berou 9.34 345 *e*PN **Pn 09 57 52.2 +0.2**
MSSA Maissana 9.37 296 Pn 09 57 52.4 0.0
CKRC Cesky Krumlov 9.41 331 *e*PN **Pn 09 57 53.9 +1.0**
WTTA Wattenberg 9.48 316 *i* Pn **Pn 09 57 55.1 +1.1**
comp=E,12nm,0.5s,SNR=12
WTTA *e*Sn **Sn 09 59 38.2 -2.2**
comp=E,33nm,0.8s
BRTR Keskin Array B 9.49 93 P **Pn 09 57 54.4 +0.3**
comp=E,0.1nm,0.3s,baz=323,slow=9.1,SNR=2.7
BRTR LR LR 10 02 28.5
comp=E,222nm,18.3s,baz=288,slow=43
comp=E,1.0nm,0.8s
WATA Walderalm 9.56 316 *i* Pn **Pn 09 57 56.6 +1.6**
comp=E,23nm,0.6s,SNR=22
WATA *i* Sn **Sn 09 59 40.6 -1.6**
comp=E,21nm,0.6s
GERES GERESS Array B 9.67 329 P **Pn 09 57 58.2 +1.7**
comp=E,0.4nm,0.3s,baz=149,slow=14,SNR=14
GERES LR LR 10 02 34.4
comp=E,333nm,19.4s,baz=111,slow=43
comp=E,4.6nm,0.9s
SQTA Sankt Quirin 9.68 315 *i* Pn **Pn 09 57 57.9 +1.2**
comp=E,10nm,0.4s,SNR=11
SQTA *i* Sn **Sn 09 59 43.0 -2.2**
comp=E,34nm,0.9s
MOTA Moosalm 9.81 315 *i* Pn **Pn 09 57 59.0 +0.5**
comp=E,20nm,0.6s,SNR=21
MOTA *e*Sn **Sn 09 59 46.3 -2.2**
comp=E,33nm,0.8s
FETA Feichten 9.83 313 *i* Pn **Pn 09 57 58.4 -0.3**
comp=E,5.3nm,0.4s,SNR=13
FETA *i* Sn **Sn 09 59 46.9 -2.0**
comp=E,12nm,0.8s
KHC Kasperske Hory 9.95 329 *e*PN **Pn 09 58 00.7 +0.4**
DPC Dobruska-Polom 10.15 342 *e*PN **Pn 09 58 05.0 +2.0**
DAVOX Davos/Dischmat 10.18 310 P **Pn 09 58 03.5 -0.1**
comp=E,1.4nm,0.3s,baz=144,slow=16,SNR=36
DAVOX S **Sn 09 59 51.6 -6.0**
comp=E,5.0nm,0.8s,baz=135,slow=18,SNR=1.7
comp=E,15nm,0.6s
DAVA Damuels 10.46 312 *i* Pn **Pn 09 58 07.9 +0.6**
comp=E,12nm,0.6s
DAVA *i* Sn **Sn 10 00 03.0 -1.3**
comp=E,19nm,0.5s
KEST Kesra 10.68 245 P **Pn 09 58 14.1 +3.7**
comp=E,2.7nm,0.7s,baz=344,slow=22,SNR=2.2
BRG Berggiesshubel 11.28 335 *e*P **Pn 09 58 20.1 +1.6**
BRG Amp 09 58 23.2
comp=Z,3.1nm,1.1s
BRG r 10 01 46.0
BRG Amp 10 01 57.1
comp=Z,9.0nm,1.4s
AKASG Malin Array Be 11.32 27 P **Pn 09 58 19.2 +0.3**
comp=Z,0.5nm,0.2s,baz=213,slow=15,SNR=1.6
AKASG LR LR 10 03 35.8
comp=Z,57nm,19.7s,baz=150,slow=42
BNI Bardonecchia 11.53 296 Pn 09 58 21.9 -0.1
SENIN Lac Senin/Sane 11.56 303 Pn 09 58 22.8 +0.2
BFO Black Forest 11.91 313 Pn 09 58 25.8 -1.3
ECH Echery 12.50 311 Pn 09 58 33.9 -1.3
SSB Saint Sauveur 13.04 296 Pn **Pn 09 58 41.3 -1.3**
MMAI Mount Meron Ar 13.70 120 P **Pn 09 58 53.7 +2.2**
comp=Z,3.4nm,0.3s,baz=316,slow=12,SNR=5.5
MMAI LR LR 10 04 45.2
comp=Z,140nm,20.6s,baz=298,slow=40
comp=Z,1.3nm,0.3s
MNK Minsk 14.38 16 *i* P **P 09 59 05.8 -1.9**
comp=E,10.0nm,1.2s
MNK *i* P **P 09 59 05.8 -1.9**
comp=N,42nm,1.1s
MNK *i* P **P 09 59 05.8 -1.9**
comp=Z,21nm,0.8s,baz=201
MNK *i* PP **PnPn 09 59 14.7 +6.1**
MNK *i* S **S 10 01 52.2 -7.7**
MNK *i* SS **SnSn 10 02 06.2 +14**
MNK *i* LQ LQ 10 03 17.9
MNK *i* LR LR 10 04 23.3
NACGM Naroch 14.56 13 *e*P **P 09 59 10.3 +0.6**
comp=Z,31nm,0.7s,baz=197
IIGN Ignalina 14.90 11 *e*P **P 09 59 13.8 +0.3**
IDID Didziasalis 14.95 12 *e*P **P 09 59 14.3 +0.3**
ISAL Salakas 15.10 11 *e*P **P 09 59 16.0 +0.3**
ASF Jabal al Asfar 15.21 120 P **Pn 09 59 13.7 +1.6**
comp=Z,0.6nm,0.3s,baz=329,slow=5.9,SNR=2.1
comp=Z,1.6nm,0.3s
EIL Elat 15.73 131 P **Pn 09 59 20.1 +1.3**
comp=Z,0.3nm,0.3s,baz=292,slow=11,SNR=1.8
comp=Z,2.8nm,0.8s
KBZ Khabaz 16.24 73 P **P 09 59 29.9 +1.5**
comp=Z,9.5nm,1.0s,baz=287,slow=8.3,SNR=10
KBZ LR LR 10 08 05.2
comp=Z,58nm,18.1s,baz=302,slow=46
GNI Garni 17.84 84 LR LR 10 07 51.9
comp=Z,71nm,18.2s,baz=283,slow=41
MTSE Matsula 17.99 4 *e*P **Pn 09 59 47.4 +0.3**
VSU Vasula 18.00 9 *e*P **P 09 59 48.4 +0.7**
ESDC Sonseca Array 19.31 275 P **P 10 00 02.3 -0.1**
comp=Z,0.1nm,0.3s,baz=72,slow=11,SNR=6.3
ESDC LR LR 10 07 38.4
comp=Z,95nm,18.7s,baz=80,slow=37
comp=Z,0.6nm,0.8s
HFS Hagfors 19.91 349 P **P 10 00 07.9 -0.8**
comp=Z,0.9nm,0.3s,baz=163,slow=11,SNR=15
comp=Z,9.6nm,0.6s
NC602 NORSAR Array S 20.83 346 P **P 10 00 18.1 -0.5**
FINES FINESS Array B 20.86 6 P **P 10 00 17.4 -1.6**
comp=Z,1.7nm,0.4s,baz=171,slow=11,SNR=12
FINES LR LR 10 09 17.4
comp=Z,213nm,21.8s,baz=247,slow=39
comp=Z,1.7nm,0.4s
NC405 NORSAR Array S 21.16 347 IAmb IAmb 10 00 31.0
comp=Z,23nm,1.0s
NB2 NORSAR Subarra 21.17 346 P **P 10 00 21.7 -0.7**
comp=Z,4.0nm,0.6s,baz=156,slow=10
NOA NORSAR Array B 21.17 346 P **P 10 00 21.5 -1.0**
comp=Z,3.3nm,0.7s,baz=204,slow=9.9,SNR=16
comp=Z,3.3nm,0.7s
NC303 NORSAR Array S 21.32 347 P **P 10 00 23.5 -0.5**
NC303 IAmb IAmb 10 00 28.1
comp=Z,30nm,1.1s
BELG Belogornoye 21.34 48 P **P 10 00 22.9 -1.3**
comp=Z,78nm,1.3s,baz=243,slow=3.1,SNR=9.1
comp=Z,78nm,1.3s
EKA Eskdalemuir Ar 21.70 320 P **P 10 00 27.1 -1.0**
comp=Z,13nm,0.6s,baz=119,slow=10.0,SNR=30
comp=Z,13nm,0.6s
ESK Eskdalemuir 21.72 320 P **P 10 00 28.1 -0.1**
MDT Midelt 22.17 257 LR LR 10 08 32.7
comp=Z,57nm,18.1s,baz=46,slow=35
KLMR Klimovskoe 22.97 23 *e*P **P 10 00 41.8 +0.3**
KLMR AMP 10 00 47.2
comp=Z,23nm,1.3s
ABKAR Akbulak array 28.32 60 P **P 10 01 31.8 +0.9**
GEYT Alibeck 28.47 84 LR LR 10 16 19.6
comp=Z,45nm,18.9s,baz=178,slow=44
ARCES ARCESS Array B 28.87 3 P **P 10 01 34.4 -1.1**
comp=Z,3.6nm,1.0s,baz=199,slow=10,SNR=4.0
comp=Z,3.6nm,1.0s
TOA0 Torodi Ar. Sit 32.48 218 P **P 10 02 08.2 +0.3**
TOA0 IAmb IAmb 10 02 34.1
comp=Z,5.7nm,1.1s
TORD Torodi Ar. Bea 32.48 218 P **P 10 02 08.2 +0.4**
TORD Torodi Ar. Bea 32.48 218 P **P 10 02 07.8 -0.1**
comp=Z,1.8nm,0.8s,baz=30,slow=10,SNR=12
TORD PcP **PcP 10 04 53.5 -1.3**
comp=Z,0.5nm,0.8s,baz=20,slow=3.2,SNR=2.7
TORD LR LR 10 16 34.7
comp=Z,31nm,18.2s,baz=328,slow=39
comp=Z,1.8nm,0.8s
UOSS Minazif 33.05 108 P **P 10 02 12.6 -0.3**
BRVK Borovoye 34.93 53 P **P 10 02 29.8 +0.9**
BRVK IAmb IAmb 10 02 37.9
comp=Z,5.2nm,1.0s
BVAR Borovoye Array 35.00 53 P **P 10 02 29.8 +0.3**
comp=Z,0.4nm,0.4s,baz=260,slow=5.9,SNR=5.4
BVAR LR LR 10 18 55.1
comp=Z,71nm,19.3s,baz=282,slow=40
comp=Z,0.4nm,0.4s
DBIC Dimbokro 41.26 222 P **P 10 03 21.8 -0.7**
comp=Z,1.6nm,0.8s,baz=106,slow=10,SNR=1.2
comp=Z,1.6nm,0.8s
MKAR Makanchi Array 43.45 61 P **P 10 03 40.2 +0.1**
MKAR Makanchi Array 43.45 61 P **P 10 03 39.5 -0.6**
comp=Z,0.9nm,0.7s,baz=274,slow=7.1,SNR=6.6
MKAR LR LR 10 22 18.0
comp=Z,77nm,18.1s,baz=2.5,slow=37
comp=Z,0.9nm,0.7s
ZALV Zalesovo Beam 43.51 50 P **P 10 03 39.9 -0.6**
comp=Z,1.3nm,0.5s,baz=286,slow=6.0,SNR=3.9
comp=Z,1.3nm,0.5s
WMQ Urumqi 47.99 63 *e*P **P 10 04 18.4 +2.3**
WMQ pmax pmax
comp=Z,32nm,0.9s
SCHQ Schefferville 56.95 316 P **P 10 05 21.0 -1.4**
comp=Z,6.9nm,1.0s,baz=60,slow=8.1,SNR=1.9
comp=Z,6.9nm,1.0s
XLT XiLinHaoTe 66.16 52 *e*P **P 10 06 23.4 -1.4**
XLT pmax pmax
comp=Z,20nm,0.6s
XLT pmax pmax
comp=Z,180nm,5.8s
PZH PanZhiHua 66.30 75 P **P 10 06 27.1 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,210nm,5.3s
CMAR Chiang Mai Arr 68.95 83 P **P 10 06 41.0 -1.7**
comp=Z,1.5nm,0.5s,baz=301,slow=7.3,SNR=8.9
comp=Z,1.5nm,0.5s
BOSA Boshof 69.18 176 LR LR 10 40 03.8
comp=Z,46nm,20.7s,baz=194,slow=38
YKA Yellowknife Ar 71.12 340 P **P 10 06 55.8 +0.5**
comp=Z,3.2nm,0.8s,baz=45,slow=5.8,SNR=4.4
comp=Z,3.2nm,0.8s
SUR Sutherland 72.83 180 LR LR 10 44 12.4
comp=Z,42nm,18.2s,baz=258,slow=40
ILAR Eielson Array 74.34 355 P **P 10 07 15.0 +0.7**
comp=Z,0.2nm,0.6s,baz=345,slow=3.6,SNR=1.9
comp=Z,0.2nm,0.6s
NJ2 Nanjing 74.98 61 *e*P **P 10 07 18.4 -0.2**
NJ2 pP **pP 10 07 22.6 -0.9**
NJ2 pmax pmax
comp=Z,33nm,0.7s
NJ2 pmax pmax
comp=Z,440nm,3.8s
PDAR Pinedale Array 85.71 326 P **P 10 08 16.1 -0.3**
comp=Z,0.7nm,0.9s,baz=52,slow=5.8,SNR=2.7
PDAR LR LR 10 46 56.7
comp=Z,50nm,18.6s,baz=40,slow=36
comp=Z,0.7nm,0.9s
ANMO Albuquerque 90.60 319 LR LR 10 48 33.6
comp=Z,54nm,18.1s,baz=144,slow=35
CPUP Villa Florida 98.80 243 LR LR 10 54 43.0
comp=Z,21nm,18.8s,baz=52,slow=36
ELIB Princess Elisa 112.47 179 *d*PKiKP **PKiKP 10 14 13.3 +1.0**
WRA Warramunga Arr 120.01 91 PKP **PKPdf 10 14 26.1 -2.1**
comp=Z,0.6nm,0.9s,baz=314,slow=1.9,SNR=3.6
ASAR Alice Springs 121.82 95 PKP **PKPdf 10 14 29.7 -1.9**
comp=Z,1.3nm,0.7s,baz=324,slow=1.5,SNR=18
QSPA South Pole Qui 130.67 180 PKP **PKPdf 10 14 46.2 -1.0**
comp=Z,0.7nm,1.0s,baz=334,slow=7.8,SNR=1.5

---

*IDC **14** 10:03:29.7±1.0, 15°.30N×94°.47W, h0km, mb4.1/8, mbtmp4.0/9, ML3.7/1, MS3.5/16, Error ellipse: s-maj=35.1km s-min=20.8km az=66.0*
*MEX **14** 10:03:33.8±0.6, 15°.20N×94°.68W, h16km±15km, MD4.7*
*NEIC **14** 10:03:36.1±2.2, 15°.36N±0°.07×94°.64W±0°.06, h40km±12km, mb4.3/77, Md4.7/22(MEX), Error ellipse: s-maj=11.0km s-min=7.4km az=199.0*
ISC 14 10:03:34.5±0.5, 15°.27N±0°.05×94°.64W±0°.03, h35km, n178, σ2§14/172, mb4.3/22, MS3.5/15, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.28**	**1**	*i* P	**Pn**	**10 03 53.3**	**-2.7**
NILT				*e*S	**Sn**	**10 04 08.0**	**-4.0**
PCIG		**1.43**	**72**		**Pn**	**10 03 55.8**	**-2.2**
PCIG					**Sn**	**10 04 11.1**	**-4.6**
PCIG		**1.43**	**72**	*i* P	**Pn**	**10 03 55.8**	**-2.2**
PCIG				*i* S	**Sn**	**10 04 11.1**	**-4.6**
HUIG	**Huatulco**	**1.50**	**289**		**Pn**	**10 03 56.9**	**-2.1**
HUIG					**Sn**	**10 04 13.6**	**-3.8**
HUIG	**Huatulco**	**1.50**	**289**	*i* P	**Pn**	**10 03 56.9**	**-2.1**
HUIG				*i* S	**Sn**	**10 04 13.6**	**-3.8**
PANG	**Puerto Angel**	**1.81**	**283**	*e*P	**Pn**	**10 04 01.2**	**-2.1**
PANG				*e*S	**Sn**	**10 04 20.7**	**-4.3**
UXUV	**UXUV**	**2.09**	**13**	*i* P	**Pn**	**10 04 06.6**	**-0.5**
UXUV				*e*S	**Sn**	**10 04 30.7**	**-1.2**
TGIG		**2.09**	**44**		**Pn**	**10 04 06.8**	**-0.4**
TGIG					**Sn**	**10 04 32.5**	**+0.5**
TGIG		**2.09**	**44**	*i* P	**Pn**	**10 04 06.8**	**-0.4**
TGIG				*e*S	**Sn**	**10 04 32.5**	**+0.5**
TGBT	**Tuxtla Gutierr**	**2.11**	**45**		**Pn**	**10 04 07.4**	**+0.1**
TGBT					**Sn**	**10 04 33.1**	**+0.7**
TGBT	**Tuxtla Gutierr**	**2.11**	**45**	*e*P	**Pn**	**10 04 07.4**	**+0.1**
TGBT				*e*S	**Sn**	**10 04 33.1**	**+0.7**
THIG		**2.32**	**99**	*e*P	**Pn**	**10 04 07.9**	**-2.4**
THIG				*e*S	**Sn**	**10 04 34.9**	**-2.7**
PATR	**El Naranjo**	**2.33**	**94**	*i* P	**Pn**	**10 04 09.5**	**-1.1**
PATR				*e*S	**Sn**	**10 04 35.6**	**-2.5**
PAVE	**Pavencul**	**2.38**	**92**	*i* P	**Pn**	**10 04 09.7**	**-1.6**
PAVE				*e*S	**Sn**	**10 04 37.4**	**-1.9**
CHUJ	**Union Juarez**	**2.45**	**94**	*i* P	**Pn**	**10 04 10.5**	**-1.8**
CHUJ				*e*S	**Sn**	**10 04 39.2**	**-1.9**
PEIG	**Puerto Escondi**	**2.52**	**287**	*e*P	**Pn**	**10 04 11.3**	**-1.7**
CCIG	**Comitan**	**2.61**	**67**	Pn	**Pn**	**10 04 15.3**	**+0.9**
CCIG	**Comitan**	**2.61**	**67**	*e*P	**Pn**	**10 04 15.0**	**+0.6**
CCIG				*e*S	**Sn**	**10 04 45.0**	**+0.1**
OXLC	**Oaxaca**	**2.67**	**312**	*e*P	**Pn**	**10 04 15.7**	**+0.5**
OXLC				*e*S	**Sn**	**10 04 46.3**	**-0.2**
NEUV	**Arroyo Zacate**	**2.67**	**335**	*i* P	**Pn**	**10 04 14.0**	**-1.1**
NEUV				*e*S	**Sn**	**10 04 46.6**	**+0.3**
OXBJ	**Oaxaca**	**2.68**	**312**	*e*P	**Pn**	**10 04 15.5**	**0.0**
OXBJ				*e*S	**Sn**	**10 04 47.2**	**+0.3**
OXIG	**Oaxaca**	**2.69**	**312**		**Pn**	**10 04 16.2**	**+0.6**
OXIG					**Sn**	**10 04 46.8**	**-0.3**
VHO	**Vista Hermosa**	**2.69**	**312**	*i* P	**Pn**	**10 04 16.2**	**+0.6**
VHO				*e*S	**Sn**	**10 04 46.8**	**-0.3**
TUIG	**Tuzandepetl**	**2.75**	**4**	*e*P	**Pn**	**10 04 15.6**	**-0.6**
RTAL	**Retalhuleu**	**2.94**	**104**	Pn	**Pn**	**10 04 20.7**	**+1.8**
HUEH	**Huehuetenango**	**3.03**	**89**		**Pn**	**10 04 21.1**	**+0.9**
YOIG	**Yosondua**	**3.21**	**300**	*e*P	**Pn**	**10 04 22.8**	**0.0**
YOIG				*e*S	**Sn**	**10 04 58.0**	**-1.9**
PMUV	**Sontecomapan**	**3.29**	**352**	*e*P	**Pn**	**10 04 21.7**	**-2.0**
PMUV				*e*S	**Sn**	**10 04 59.7**	**-1.9**
PNIG	**Pinotepa**	**3.54**	**289**	*e*P	**Pn**	**10 04 25.4**	**-1.7**
PNIG				*e*S	**Sn**	**10 05 03.4**	**-4.3**
TXIG	**Tlaxiaco**	**3.59**	**304**	*e*P	**Pn**	**10 04 26.6**	**-1.5**
TXIG				*e*S	**Sn**	**10 05 06.1**	**-3.3**
TOIG	**Toxpalan**	**3.65**	**321**	*e*P	**Pn**	**10 04 28.1**	**-0.5**
TOIG				*e*S	**Sn**	**10 05 09.7**	**-0.7**
HLIG	**Huajuapan de L**	**3.96**	**310**	*e*P	**Pn**	**10 04 32.0**	**-1.1**
HLIG				*e*S	**Sn**	**10 05 17.9**	**-0.4**
TPIG	**Tehuac#an**	**4.07**	**321**	*e*P	**Pn**	**10 04 35.6**	**+1.0**
TPIG				*e*S	**Sn**	**10 05 25.1**	**+3.9**
FTIG	**Fresnillo de T**	**4.25**	**309**	*e*P	**Pn**	**10 04 35.7**	**-1.3**
FTIG				*e*S	**Sn**	**10 05 23.4**	**-2.1**
TLIG	**Tlapa**	**4.40**	**302**	Pn	**Pn**	**10 04 41.2**	**+2.1**
TLIG	**Tlapa**	**4.40**	**302**	*e*P	**Pn**	**10 04 38.6**	**-0.4**
TLIG				*e*S	Sn	10 05 17.7	-12
JAUV	**Jalcomulco**	**4.57**	**333**	*e*P	**Pn**	**10 04 36.7**	**-4.6**
JAUV				*e*S	**Sn**	**10 05 24.5**	**-8.6**
LVIG	**Laguna Verde**	**4.74**	**339**	*e*P	**Pn**	**10 04 42.0**	**-1.5**
LVIG				*e*S	**Sn**	**10 05 33.0**	**-4.3**
PETF	**Flores**	**4.87**	**70**		**Pn**	**10 04 45.9**	**+0.6**
SCIG	**Sabancuy**	**4.94**	**41**	*e*P	**Pn**	**10 04 45.9**	**-0.4**
SCIG				*e*S	**Sn**	**10 05 41.8**	**-0.4**
DAIG	**Los Arroyos**	**5.12**	**291**	*e*P	**Pn**	**10 04 48.0**	**-0.8**
DAIG				*e*S	**Sn**	**10 05 43.6**	**-3.2**
ESQI	**Esquipulas**	**5.17**	**97**		**Pn**	**10 04 50.2**	**+0.7**
MTO3	**Montecristo**	**5.18**	**99**	Pn	**Pn**	**10 04 49.1**	**-0.6**
PPM	**Popocatepetl**	**5.36**	**315**	*e*P	**Pn**	**10 04 54.6**	**+2.0**
MEIG	**Mezcala**	**5.46**	**300**	*e*P	**Pn**	**10 04 54.6**	**+1.1**
MEIG				*e*S	**Sn**	**10 05 53.0**	**-2.2**
YAIG	**Yautepec**	**5.54**	**311**	*e*P	**Pn**	**10 04 56.0**	**+1.3**
YAIG				*e*S	**Sn**	**10 05 53.6**	**-3.6**
PLIG	**Platanillo**	**5.60**	**304**	*e*P	**Pn**	**10 04 56.0**	**+0.6**
PLIG				*e*S	**Sn**	**10 05 58.1**	**-0.4**
CXUV	**Coxquihui**	**5.63**	**330**	*e*P	Pn	10 04 50.8	-5.0
CXUV				*e*S	**Sn**	**10 05 54.1**	**-5.2**
CAIG	**El Cayaco**	**5.69**	**289**	*e*P	**Pn**	**10 04 55.4**	**-1.2**
CAIG				*e*S	**Sn**	**10 05 55.6**	**-5.1**
ARIG	**Puente Sto Nin**	**6.23**	**299**	*e*P	**Pn**	**10 05 02.6**	**-1.5**
ARIG				*e*S	**Sn**	**10 06 10.5**	**-3.7**
DEIG	**Demacu**	**6.52**	**321**	*e*P	Pn	10 05 00.7	-7.6
ZIIG	**Zihuatanejo**	**6.95**	**290**	*e*P	**Pn**	**10 05 14.7**	**+0.7**
ZIIG				*e*S	**Sn**	**10 06 33.7**	**+1.9**
CTUV	**Llano Grande**	**7.10**	**331**	*e*P	Pn	10 05 09.2	-6.9
TGUH	**Tegucigalpa,Un**	**7.23**	**99**		**Pn**	**10 05 19.1**	**+1.2**
TGUH	**Tegucigalpa,Un**	**7.23**	**99**	*e*P	**Pn**	**10 05 15.7**	**-2.2**
MYIG	**Mrida**	**7.33**	**39**	*e*P	**Pn**	**10 05 22.2**	**+3.1**
MYIG				*e*S	**Sn**	**10 06 39.1**	**-1.9**
CRIN	**San Cristobal**	**7.80**	**108**		**Pn**	**10 05 27.2**	**+1.5**
CRIN	**San Cristobal**	**7.80**	**108**	*e*P	**Pn**	**10 05 28.0**	**+2.3**
TEIG	**Tepich**	**7.81**	**50**	Pn	**Pn**	**10 05 25.4**	**-0.3**
TEIG	**Tepich**	**7.81**	**50**	*e*P	**Pn**	**10 05 24.8**	**-1.0**
TEIG	**Tepich**	**7.81**	**50**	Pn	**Pn**	**10 05 24.0**	**-1.7**
	154nm,0.3s,baz=184,slow=6.1,SNR=59						
TEIG				Sn	**Sn**	**10 06 48.7**	**-4.3**
	240nm,0.3s,baz=104,slow=23,SNR=8.2						
TEIG				LR	LR	10 08 51.2	
	comp=Z,4μm,18.9s,baz=4.5,slow=42						
CNGN	**Cerro Negro**	**8.19**	**109**		**Pn**	**10 05 33.1**	**+2.1**
CNGN	**Cerro Negro**	**8.19**	**109**	*e*P	**Pn**	**10 05 35.4**	**+4.5**
RPIG	**Rio Verde**	**8.30**	**323**	*e*P	**Pn**	**10 05 32.9**	**+0.3**
MATN	**Matagalpa**	**8.77**	**104**	Pn	**Pn**	**10 05 40.1**	**+1.1**
MMIG	**Aquila**	**8.86**	**291**	*e*P	**Pn**	**10 05 40.4**	**+0.2**
BOAB	**BOACO BROADBAN**	**9.15**	**107**	Pn	**Pn**	**10 05 45.6**	**+1.4**
ACON	**Acoyapa**	**9.77**	**108**	Pn	**Pn**	**10 05 56.6**	**+4.0**
ORTG	**Ortega, Santa**	**10.19**	**118**	Pn	**Pn**	**10 06 01.4**	**+2.9**

comp=Z,14nm,0.8s
SAND Sanderson 16.16 336 Pn P 10 07 20.3 +1.2
SAND IAmb IAmb 10 07 47.8
comp=Z,4.9nm,0.9s
TXAR Lajitas Array 16.29 331 Pn **P 10 07 22.7 -0.7**
comp=Z,0.1nm,0.3s,baz=160,slow=13,SNR=18
TXAR LR LR 10 13 55.3
comp=Z,53nm,18.9s,baz=132,slow=38
comp=Z,1.4nm,0.8s
BRDY Brady 16.43 347 P 10 07 24.2 -0.8
BRDY IAmb IAmb 10 07 36.9
comp=Z,27nm,0.7s
OZNA Ozona 16.67 340 P 10 07 27.1 -0.5
OZNA IAmb IAmb 10 07 35.5
comp=Z,23nm,0.6s
237A Washetta, Mont 16.69 357 IAmb IAmb 10 07 44.1
comp=Z,17nm,0.7s
WHTX Lake Whitney, 16.84 352 IAmb IAmb 10 07 36.3
comp=Z,22nm,0.8s
ALPN Alpine 17.16 333 IAmb IAmb 10 07 52.4
comp=Z,11nm,1.1s
VBMS Vicksburg 17.28 12 Pn **Pn 10 07 31.7 -1.4**
VBMS IAmb IAmb 10 07 41.8
comp=Z,20nm,1.0s
FW07 Weatherford 17.59 351 IAmb IAmb 10 08 05.2
comp=Z,23nm,0.6s
SGCY Sterling City 17.59 341 P **P 10 07 38.3 +0.5**
SGCY IAmb IAmb 10 07 48.2
comp=Z,15nm,0.6s
FW06 Azle 17.82 352 IAmb IAmb 10 07 58.3
comp=Z,23nm,0.9s
Z38A Mt. Pleasant 17.91 359 IAmb IAmb 10 08 02.9
comp=Z,12nm,0.7s
FW03 Perrin-Whitt E 17.96 351 IAmb IAmb 10 08 03.3
comp=Z,20nm,0.6s
Z41A Richland Creek 17.98 5 P **Pn 10 07 40.8 -0.9**
PECS Pecos 18.11 334 IAmb IAmb 10 08 05.7
comp=Z,6.7nm,0.9s
352A Blakely 18.41 27 P **P 10 07 46.3 -0.5**
APMT Aspermont 18.65 346 IAmb IAmb 10 08 17.9
comp=Z,16nm,0.7s
WTFS Witchita Falls 18.74 350 IAmb IAmb 10 08 00.7
comp=Z,18nm,0.8s
POST Post 18.78 342 P **Pn 10 07 52.2 +0.6**
POST IAmb IAmb 10 08 03.1
comp=Z,12nm,0.6s
Y45A Yeager Farm, C 19.08 13 IAmb IAmb 10 08 00.6
comp=Z,15nm,0.8s
DKNS Dickens 19.18 344 IAmb IAmb 10 08 13.3
comp=Z,13nm,0.6s
MIAR Mount Ida 19.21 3 P **P 10 07 54.7 -0.9**
DBBC Dabeiba 19.84 112 *eP* **P 10 07 57.0 -5.7**
UREC San Jos de Ur 20.15 110 *eP* Pn 10 08 07.8 -0.2
AMTX Amarillo 20.53 343 P **P 10 08 10.7 +0.6**
DEOK Depew 20.55 356 IAmb IAmb 10 08 22.3
comp=Z,14nm,0.7s
OK031 S. Brethren Rd 20.69 355 IAmb IAmb 10 08 33.0
comp=Z,15nm,0.7s
OK033 Mehan 20.79 355 P **P 10 08 13.3 +0.6**
OK033 IAmb IAmb 10 08 34.4
comp=Z,16nm,0.8s
ZARC Zaragoza, Cauc 20.86 110 *eP* **P 10 08 12.3 -1.4**
QUOK Quay 20.89 355 IAmb IAmb 10 08 23.3
comp=Z,16nm,0.8s
121A Cookes Peak, D 20.93 327 IAmb IAmb 10 08 25.3
comp=Z,8.8nm,0.8s
LCAR Lake Charles 20.94 8 **P 10 08 14.3 -0.1**
X51A Calhoun 21.13 23 IAmb IAmb 10 08 23.7
comp=Z,14nm,0.7s
OK048 Pawnee Station 21.16 355 IAmb IAmb 10 08 19.5
comp=Z,15nm,0.8s
YOTC Yotoco, Valle 21.21 120 *eP* **P 10 08 16.9 -0.7**
SWET Sewanee 21.34 20 IAmb IAmb 10 08 28.8
comp=Z,6.8nm,0.7s
GUY2C Guyana, Caldas 21.41 116 *eP* **P 10 08 21.5 +1.4**
PTBC PUERTO BERRIO, 21.62 111 *eP* **P 10 08 21.4 -0.4**
BBAC Balboa, Cauca 21.62 126 *eP* **P 10 08 23.0 +0.9**
WVT Waverly 21.64 15 **P 10 08 21.7 -0.1**
NORC Norcasia 21.68 114 *eP* **P 10 08 23.4 +0.8**
POPC Popayan, Colom 21.76 124 *eP* **P 10 08 26.6 +3.0**
IMBA Imbabura, San 22.04 131 P **P 10 08 27.6 +0.8**
TULM Tulcn-Chalpat 22.05 129 P **P 10 08 28.1 +1.2**
ORTC Ortega, Tolima 22.18 119 *eP* **P 10 08 27.2 -0.7**
ANMO Albuquerque 22.29 334 P **P 10 08 28.7 -0.3**
TKL Tuckaleechee C 22.51 24 P **P 10 08 29.4 -1.9**
TKL IAmb IAmb 10 08 56.3
comp=Z,9.9nm,1.1s
TKL Tuckaleechee C 22.51 24 LR LR 10 19 44.9
comp=Z,101nm,19.3s,baz=188,slow=44
U49A Red Boiling Sp 22.58 19 IAmb IAmb 10 08 44.7
comp=Z,12nm,1.1s
PRAC Prado 22.59 119 *eP* **P 10 08 32.7 +0.5**
T47A Sharon Grove 22.64 16 IAmb IAmb 10 08 53.7
comp=Z,9.9nm,0.8s
BARC Barichara 22.74 110 *eP* **P 10 08 34.9 +0.8**
R40A Maddies Statio 23.02 5 IAmb IAmb 10 08 49.5
comp=Z,6.2nm,0.7s
CHIC Chingaza 23.12 115 *eP* **P 10 08 37.2 -1.0**
RUSC La Rusia 23.12 111 *eP* **P 10 08 39.5 +1.2**
FLOC Florencia 23.15 124 *eP* P 10 08 46.1 +8.0
T25A Trinidad 23.45 340 IAmb IAmb 10 08 57.0
comp=Z,14nm,1.1s
BOSC San Juan Bosco 24.30 138 P **P 10 08 50.1 +0.9**
BOSC IAmb IAmb 10 09 17.5
comp=Z,2.7nm,0.4s
SDV Santo Domingo 24.30 102 LR LR 10 20 04.2
comp=Z,67nm,18.5s,baz=324,slow=41
PTLC Puerto Leguiza 24.69 126 *eP* **P 10 08 57.6 +5.1**
WUAZ Wupatki 25.12 326 IAmb IAmb 10 09 09.8
comp=Z,7.5nm,0.9s
SSFO Shawnee State 25.42 21 P **P 10 08 57.1 -1.8**
N38A Joes South For 25.46 2 P **P 10 08 58.5 -0.8**
PFO Pinyon Flats O 26.88 317 LR LR 10 21 20.3
comp=Z,116nm,19.2s,baz=132,slow=40
ATAH Atahualpa 27.47 143 LR LR 10 18 02.5
comp=Z,46nm,18.2s,baz=292,slow=32
NVAR Mina Array Bea 31.10 322 P **P 10 09 52.0 +2.2**
comp=Z,1.1nm,0.8s,baz=138,slow=9.5,SNR=6.3
NVAR LR LR 10 24 23.6
comp=Z,88nm,18.3s,baz=90,slow=40
comp=Z,1.1nm,0.8s
LHV Little Huntoon 31.10 322 IAmb IAmb 10 09 47.3
comp=Z,7.2nm,0.9s
SNOW Snow King Moun 31.29 337 IAmb IAmb 10 10 14.9
comp=Z,5.1nm,0.8s
SADO Sadowa 32.20 21 LR LR 10 25 28.3
comp=Z,83nm,18.3s,baz=103,slow=41
NNA Nana 32.31 146 LR LR 10 20 41.4
comp=Z,44nm,19.9s,baz=348,slow=32
J08A Circle Bar Ran 34.62 329 IAmb IAmb 10 10 22.8
comp=Z,4.4nm,0.9s
PLID Pearl Lake 34.77 333 IAmb IAmb 10 10 24.0
comp=Z,3.3nm,1.0s
ULM Lac du Bonnet 34.90 359 P **P 10 10 22.6 0.0**
comp=Z,4.3nm,0.8s,baz=223,slow=7.3,SNR=3.2
comp=Z,4.3nm,0.8s
YBH Yreka Blue Hor 35.81 323 LR LR 10 24 25.6
comp=Z,36nm,19.9s,baz=155,slow=35
LPAZ La Paz 40.84 139 P **P 10 11 13.8 -0.2**
comp=Z,1.0nm,0.6s,baz=297,slow=4.5,SNR=2.9
comp=Z,1.0nm,0.6s
MDP Montagnes des 42.47 99 LR LR 10 29 54.8
comp=Z,55nm,20.4s,baz=324,slow=38
RPN Rapa Nui 44.50 199 LR LR 10 25 22.2
comp=Z,53nm,20.7s,baz=46,slow=29
SCHQ Schefferville 44.97 22 LR LR 10 32 27.1
comp=Z,138nm,18.0s,baz=270,slow=39
INK Inuvik 58.51 344 LR LR 10 43 15.8
comp=Z,58nm,18.5s,baz=188,slow=41
PLCA Paso Flores 60.04 159 P **P 10 13 38.8 +0.8**
PLCA IAmb IAmb 10 13 39.1
comp=Z,2.2nm,0.7s
PLCA Paso Flores 60.04 159 P **P 10 13 38.5 +0.5**
comp=Z,2.8nm,0.9s,baz=344,slow=7.4,SNR=4.9
comp=Z,2.8nm,0.9s
ILAR Eielson Array 60.68 337 P **P 10 13 42.0 +0.1**
comp=Z,0.7nm,0.9s,baz=150,slow=4.4,SNR=7.2
comp=Z,0.7nm,0.9s
EKA Eskdalemuir Ar 78.43 36 P **P 10 15 30.9 -0.8**
comp=Z,3.1nm,1.0s,baz=295,slow=4.5,SNR=3.6
comp=Z,3.1nm,1.0s
ESDC Sonseca Array 80.93 51 P **P 10 15 45.3 -0.3**
comp=Z,0.7nm,0.9s,baz=282,slow=4.3,SNR=4.0
comp=Z,0.7nm,0.9s
ARCES ARCESS Array B 85.72 18 P **P 10 16 10.6 +0.9**
comp=Z,2.7nm,0.8s,baz=282,slow=6.3,SNR=1.6
comp=Z,2.7nm,0.8s

DAVOX Davos/Dischmat 88.63 42 LR LR 10 58 04.1
comp=Z,67nm,18.0s,baz=264,slow=37
MSVF Nonsavu 92.07 252 LR LR 10 48 23.3
comp=Z,68nm,21.1s,baz=124,slow=29
TORD Torodi Ar. Bea 92.55 76 LR LR 10 54 10.6
comp=Z,17nm,20.2s,baz=328,slow=33
WRA Warramunga Arr 133.21 257 PKP **PKPdf 10 22 47.9 +0.3**
comp=Z,0.3nm,0.8s,baz=90,slow=2.5,SNR=5.8
ASAR Alice Springs 133.66 252 PKP **PKPdf 10 22 48.4 +0.1**
comp=Z,0.2nm,0.7s,baz=90,slow=2.8,SNR=1.5
PZH PanZhiHua 135.53 339 PKP **PKPdf 10 22 51.8 -0.1**

---

*KRSC **14** 10:09:05.0±1.9, 55°.48N×166°.49E, h18km±11km, Ml3.5*
*IDC **14** 10:09:06.8±2.1, 55°.03N×166°.90E, h0km, mb3.4/2, mbtmp3.4/3, ML2.6/1, Error ellipse: s-maj=121.7km s-min=32.2km az=158.0*
ISC 14 10:09:09.8±1.3, 55°.4N±0°.1×166°.43E±0°.09, h20km, n14, σ1°09/12, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.33**	**232**	*eS*	**Sb**	**10 09 20.0**	**-1.8**
KBTR	**Krutoberegovo**	**2.19**	**293**	*eP*	Pn	10 09 41.3	-3.6
TUMD	**Tumrok D**	**3.45**	**269**	*eP*	**Pn**	**10 10 02.2**	**-0.2**
TUMD				*eS*	**Sn**	**10 10 41.8**	**-0.8**
KIRR	**Kirishev**	**3.49**	**281**	*eS*	**Sn**	**10 10 44.8**	**+1.2**
KPT	**Kopyto**	**3.56**	**282**	*eP*	**Pn**	**10 10 03.3**	**-0.5**
TUMR	**Tumrok**	**3.59**	**271**	*eP*	**Pn**	**10 10 04.7**	**+0.4**
KRX	**Arik**	**4.99**	**249**	*eP*	**Pn**	**10 10 23.3**	**-0.2**
GNL	**Ganaly**	**5.23**	**254**	*eP*	**Pn**	**10 10 28.3**	**+1.4**
PETK	**Petropavlovsk-**	**5.61**	**249**	Pn	**Pn**	**10 10 33.2**	**+1.2**
	0.9nm,0.3s,baz=73,slow=18,SNR=15						
PETK				Sn	**Sn**	**10 11 37.1**	**+1.3**
	0.3nm,0.3s,baz=90,slow=17,SNR=1.7						
	4.0nm,0.6s						
ILAR	**Eielson Array**	**24.52**	**49**	P	**P**	**10 14 27.5**	**+0.1**
	0.6nm,0.8s,baz=255,slow=8.4,SNR=5.2						
	0.6nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**35.62**	**179**	T	T	10 53 22.2	
	baz=0.7,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**35.64**	**179**	T	T	10 53 23.3	
	baz=0.7,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**35.64**	**179**	T	T	10 53 28.8	
	baz=0.7,slow=76,SNR=14						
TXAR	**Lajitas Array**	**66.35**	**72**	P	**P**	**10 19 56.7**	**-0.3**
	0.2nm,0.5s,baz=307,slow=6.1,SNR=4.9						
	0.2nm,0.5s						

---

*SKO **14** 10:23:59.4, 40°.82N×21°.31E, h15km, ML2.5*
*THE **14** 10:23:59.9, 40°.82N×21°.30E, h16km, ML2.9/3, Error ellipse: s-maj=1.2km s-min=0.5km az=159.0*
*ATH **14** 10:24:00.1, 40°.75N×21°.36E, h14km±3km, ML2.5/6, Manual Solution by M.Papanikolaou First location: 2019/04/16 22:10:39, This location: 2019/04/16 22:10:26 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 8 km*
*BEO **14** 10:24:00.0±0.9, 40°.81N×21°.33E, h14km±5km, ML2.2/6*
ISC 14 10:24:00.1±0.8, 40°.80N±0°.02×21°.32E±0°.02, h16km±4km, n33, σ1°04/52, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.04**	**108**	P	**Pg**	**10 24 02.9**	**-0.2**
FNA				S	**Sg**	**10 24 05.3**	**+0.2**
	41μm,0.3s						
FNA	**Florina**	**0.04**	**108**	*e*Pg	**Pg**	**10 24 02.9**	**-0.2**
FNA				*e*Sg	**Sg**	**10 24 05.3**	**+0.2**
FNA	**Florina**	**0.04**	**108**	*i* Pg	**Pg**	**10 24 02.9**	**-0.2**
FNA				*i* Sg	**Sg**	**10 24 05.3**	**+0.2**
FNA	**Florina**	**0.04**	**108**	P	**Pg**	**10 24 02.9**	**-0.2**
FNA				S	**Sg**	**10 24 05.1**	**0.0**
NEST	**Nestorio**	**0.43**	**209**	P	**Pg**	**10 24 08.8**	**-0.1**
NEST				S	**Sg**	**10 24 15.7**	**+0.8**
	1μm,0.3s						
NEST	**Nestorio**	**0.43**	**209**	P	**Pg**	**10 24 08.8**	**-0.1**
NEST				S	**Sg**	**10 24 13.9**	**-1.0**
KBN	**Korca**	**0.44**	**247**	P	**Pg**	**10 24 08.3**	**-0.8**
KBN				S	**Sg**	**10 24 15.6**	**+0.5**
	715nm,0.4s						
OHR	**Ohrid**	**0.51**	**309**	*e*Pg	**Pg**	**10 24 09.3**	**-1.0**
OHR				*e*Sg	**Sb**	**10 24 17.5**	**-0.4**
OHR	**Ohrid**	**0.51**	**309**	*i* Pg	**Pg**	**10 24 09.3**	**-1.0**
OHR				*i* Sg	**Sb**	**10 24 17.8**	**-0.1**
OHR				*e*Lg	Lg	10 24 17.9	
	comp=N,207nm,0.4s						
OHR				*e*Lg	Lg	10 24 18.4	
	comp=E,388nm,0.3s						
PENT	**Pentalofos**	**0.62**	**193**	P	**Pg**	**10 24 12.0**	**-0.3**
KTI	**Kastanea**	**0.73**	**123**	P	**Pg**	**10 24 14.2**	**-0.2**
GRG	**Griva**	**0.83**	**79**	P	**Pg**	**10 24 15.8**	**-0.6**
GRG	**Griva**	**0.83**	**79**	*i* Pg	**Pg**	**10 24 15.9**	**-0.4**
GRG				*i* Sg	**Sn**	**10 24 28.0**	**-1.2**
GRG	**Griva**	**0.83**	**79**	P	**Pg**	**10 24 15.4**	**-1.0**
GRG				S	**Sb**	**10 24 27.4**	**+0.1**
KPRO	**Kipourio**	**0.84**	**178**	P	**Pb**	**10 24 16.2**	**-0.2**
KPRO	**Kipourio**	**0.84**	**178**	P	**Pb**	**10 24 16.5**	**+0.1**
LSK	**Leskovik**	**0.85**	**221**	P	**Pb**	**10 24 15.9**	**-0.7**
VAY	**Valandovo**	**1.08**	**61**	*e*Pg	**Pg**	**10 24 20.7**	**-0.3**
VAY				*e*Sg	**Sb**	**10 24 33.3**	**-1.0**
VAY	**Valandovo**	**1.08**	**61**	*i* Pg	**Pg**	**10 24 20.7**	**-0.3**
VAY				*i* Sg	**Sg**	**10 24 34.4**	**-0.7**
VAY				*e*Lg	Lg	10 24 34.5	
	comp=E,21nm,0.4s						
VAY				*e*Lg	Lg	10 24 34.8	
	comp=N,22nm,0.3s						
STIP	**Stip**	**1.11**	**36**	*i* Pg	**Pg**	**10 24 23.3**	**+1.7**
STIP				*i* Sg	**Sn**	**10 24 41.2**	**+5.2**
STIP				*e*Lg	Lg	10 24 41.7	
	comp=N,25nm,0.5s						
STIP				*e*Lg	Lg	10 24 42.6	
	comp=E,14nm,0.2s						
SKO	**Skopje**	**1.18**	**4**	*e*Pg	**Pg**	**10 24 23.8**	**+0.9**
SKO	**Skopje**	**1.18**	**4**	*i* Pg	**Pg**	**10 24 22.0**	**-0.9**
SKO				*i* Sg	**Sg**	**10 24 37.4**	**-0.8**
SKO				*e*Lg	Lg	10 24 37.6	
	comp=N,4.5nm,0.2s						
SKO				*e*Lg	Lg	10 24 38.3	
	comp=E,2.4nm,0.2s						
KNT	**Kendrikon**	**1.25**	**72**	*i* Pg	**Pb**	**10 24 23.2**	**-0.1**
KNT				*i* Sg	**Sg**	**10 24 40.5**	**0.0**
KNT	**Kendrikon**	**1.25**	**72**	P	**Pb**	**10 24 23.0**	**-0.3**
THE	**Thessaloniki**	**1.26**	**97**	*i* Pn	**Pg**	**10 24 23.9**	**-0.5**
THL	**Klokotos Trika**	**1.34**	**156**	P	**Pn**	**10 24 24.7**	**+0.6**
HORT	**Hortiatis**	**1.36**	**98**	P	**Pn**	**10 24 24.6**	**0.0**
SOH	**Sokhos**	**1.54**	**88**	*i* Pn	**Pb**	**10 24 28.7**	**+0.3**
SRS	**Serrai**	**1.75**	**79**	*e*Pg	**Pb**	**10 24 30.9**	**-0.9**
SRS				*e*Sg	**Sg**	**10 24 55.1**	**-1.3**
SRS	**Serrai**	**1.75**	**79**	*i* Pn	**Pg**	**10 24 32.8**	**-0.9**
PRVS	**Prvonek**	**1.80**	**18**	*e*Pg	**Pn**	**10 24 30.6**	**0.0**
PRVS				*e*Sg	**Sg**	**10 24 57.9**	**-0.2**
BARS	**Barje**	**2.05**	**10**	*e*Pg	**Pn**	**10 24 34.2**	**+0.2**
BARS				*e*Sg	**Sg**	**10 25 04.0**	**-2.1**
BARS	**Barje**	**2.05**	**10**	*i* Pn	**Pn**	**10 24 34.4**	**+0.4**

---

*IDC **14** 10:32:52.4±2.6, 36°.26N×70°.74E, h178km±24km, mb3.5/11, mbtmp4.1/16, Error ellipse: s-maj=18.4km s-min=13.3km az=18.0*
*NEIC **14** 10:32:55.1±1.6, 36°.50N±0°.07×70°.74E±0°.08, h193km±6km, mb4.3/5, Error ellipse: s-maj=12.4km s-min=4.7km az=135.0*
*NNC **14** 10:33:00.0±1.5, 36°.96N×70°.70E, h206km±13km, mb3.2, mpv4.1, Error ellipse: s-maj=13.2km s-min=9.6km az=11.0*
ISC 14 10:32:54.5±0.5, 36°.47N±0°.04×70°.74E±0°.05, h204km, n80, σ1°86/95, mb3.7/13, 7C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.37**	**216**		**Pn**	**10 33 37.2**	**-0.3**
CEP	**Cherat**	**2.81**	**160**	P	**Pn**	**10 33 42.6**	**+0.3**
CEP				S	**S**	**10 34 18.0**	**-1.0**
CHCP	**Chirah Chowk**	**3.48**	**143**	P	**Pn**	**10 33 50.6**	**+0.4**
NIL	**Nilore**	**3.48**	**143**		**Pn**	**10 33 50.7**	**+0.5**
THW	**Thamme Wali**	**3.75**	**167**	P	**Pn**	**10 33 53.6**	**+0.1**
SARP	**Sargodha**	**4.81**	**160**	P	**Pn**	**10 34 06.1**	**-0.5**
JMU	**Jammu**	**5.08**	**136**	*eP*	**Pn**	**10 34 08.8**	**-1.2**
JMU				*eS*	**S**	**10 35 05.9**	**-3.2**
KSH	**Kashi**	**5.13**	**52**	Pn	Pn	10 34 07.0	-3.8
KSH				pP		10 34 10.3	
KSH				Sn	S	10 35 00.0	-11
KSH				smax	smax		
	comp=N,260nm,0.5s						
KSH				smax	smax		
	comp=E,240nm,0.7s						
THN	**Thein Dam**	**5.75**	**133**	*eP*	**Pn**	**10 34 18.6**	**-0.1**
THN				*eS*	**S**	**10 35 22.3**	**-2.6**
AML	**Almayashu**	**6.10**	**21**	P	**Pn**	**10 34 23.5**	**0.0**
	SNR=138						
AML	**Almayashu**	**6.10**	**21**	⇓P	**Pn**	**10 34 23.3**	**-0.2**
	comp=E,2.4nm,0.3s						
AML				⇑S	**S**	**10 35 30.1**	**-3.6**
	comp=E,110nm,0.6s						
DHRM	**DHARAMSHALA**	**6.23**	**131**	*eP*	**Pn**	**10 34 24.6**	**-0.5**
DHRM				*eS*	**S**	**10 35 32.7**	**-3.8**
DHRM				IAML		10 35 35.7	
	comp=E,691nm,0.7s						
EKS2	**Erkin-Say**	**6.62**	**20**	P	**Pn**	**10 34 29.9**	**0.0**
	SNR=16						
KK31	**Karatay Array**	**6.63**	**359**	⇓P	**Pn**	**10 34 29.3**	**-0.7**
	comp=E,7.2nm,0.3s,baz=190,slow=20,SNR=106						
KK31				⇑S	**S**	**10 35 40.1**	**-5.4**
	comp=E,73nm,0.4s,baz=173,slow=14,SNR=26						
KK31	**Karatay Array**	**6.63**	**359**		**Pn**	**10 34 29.4**	**-0.5**
KKAR	**Karatay Array**	**6.63**	**359**		**Pn**	**10 34 29.4**	**-0.5**
KKAR	**Karatay Array**	**6.63**	**359**		**Pn**	**10 34 29.6**	**-0.4**
AAK	**Ala-Archa**	**6.81**	**24**	P	**Pn**	**10 34 32.5**	**+0.1**
	SNR=15						
AAK	**Ala-Archa**	**6.81**	**24**	P	**Pn**	**10 34 32.5**	**+0.1**
	comp=E,14nm,0.3s,baz=177,slow=4.9,SNR=38						
AAK				S	**S**	**10 35 47.2**	**-2.7**
	comp=E,49nm,0.4s,baz=11,slow=20,SNR=29						
BHK	**Bhakra**	**6.90**	**135**	*eP*	**Pn**	**10 34 32.6**	**-0.9**
BHK				*eS*	**S**	**10 35 47.7**	**-4.3**
BHK				IAML		10 35 51.4	
	comp=E,104nm,0.4s						
KBK	**Karagaybulak**	**6.98**	**26**	P	**Pn**	**10 34 35.1**	**+0.5**
	SNR=6.5						
CHMS	**Chumysh**	**7.22**	**24**	P	**Pn**	**10 34 37.8**	**+0.2**
	SNR=5.3						
CHMS	**Chumysh**	**7.22**	**24**	⇓P	**Pn**	**10 34 37.4**	**-0.2**
	comp=E,6.8nm,0.4s						
CHMS				⇑S	**S**	**10 35 55.7**	**-3.7**
	comp=E,84nm,0.6s						
BOOM	**Boomskoye usch**	**7.24**	**32**		**Pn**	**10 34 38.5**	**+0.6**
USP	**Ospenovka**	**7.38**	**22**	P	**Pn**	**10 34 39.6**	**-0.1**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.45**	**29**	P	**Pn**	**10 34 40.8**	**0.0**
	SNR=18						
TKM2	**Tokmak 2**	**7.45**	**29**	⇓P	**Pn**	**10 34 40.6**	**-0.1**
	comp=E,12nm,0.4s						
TKM2				⇑S	**S**	**10 36 01.0**	**-4.2**
	comp=E,28nm,0.8s						
SMLA	**Simla**	**7.55**	**133**	*eP*	**Pn**	**10 34 41.0**	**-0.9**
SMLA				*eS*	**S**	**10 36 00.5**	**-6.7**
SMLA				IAML		10 36 04.0	
	comp=N,156nm,0.2s						
SMLA				IAML		10 36 05.2	
	comp=E,101nm,0.6s						
TARG	**Taragay, Kyrgy**	**7.60**	**44**	Pn	**Pn**	**10 34 42.4**	**-0.5**
KUDL	**Kundal**	**9.62**	**148**	*eP*	**Pn**	**10 35 06.9**	**-1.8**
KUDL				*eS*	S	10 36 46.6	-10
GEYT	**Alibeck**	**10.18**	**282**	P	**Pn**	**10 35 14.9**	**-1.1**
	comp=E,3.6nm,0.3s,baz=100,slow=16,SNR=2.7						
GEYT				S	**S**	**10 37 07.8**	**-2.3**
	comp=E,1.9nm,0.3s,baz=81,slow=28,SNR=1.3						
LGTI	**Lohaghat**	**10.61**	**129**	*eP*	**Pn**	**10 35 18.5**	**-3.1**
PYUN	**Piuthan**	**13.29**	**125**	*eP*	**Pn**	**10 35 54.4**	**-1.4**
	comp=E,18nm,0.3s						
MAKZ	**Makanchi**	**13.30**	**36**	Pn	**Pn**	**10 35 55.2**	**-0.3**
MK31	**Makanchi Array**	**13.44**	**36**	P	**Pn**	**10 35 57.1**	**-0.2**
	comp=E,4.8nm,0.8s,baz=219,slow=13,SNR=15						
MK31	**Makanchi Array**	**13.44**	**36**	Pn	**Pn**	**10 35 57.3**	**+0.1**
MKAR	**Makanchi Array**	**13.44**	**36**	Pn	**Pn**	**10 35 56.9**	**-0.4**
MKAR	**Makanchi Array**	**13.44**	**36**	P	**Pn**	**10 35 57.5**	**+0.2**
	comp=E,2.2nm,0.7s,baz=215,slow=9.3,SNR=11						
MKAR				S	**S**	**10 38 29.2**	**+2.6**
	comp=E,0.4nm,0.5s,baz=245,slow=20,SNR=1.6						
DANN	**Dangsing**	**13.65**	**123**	*eP*	**Pn**	**10 36 00.5**	**+0.2**
	comp=E,46nm,0.5s						
GKN	**Gorkha**	**14.46**	**122**	*eP*	**Pn**	**10 36 11.0**	**+0.8**
	comp=E,38nm,0.3s						
WMQ	**Urumqi**	**14.89**	**55**	*eP*	**Pn**	**10 36 15.3**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
AB31	**Akbulak array**	**15.01**	**332**	⇓P	**Pn**	**10 36 15.7**	**-0.9**
	comp=Z,3.6nm,0.5s,baz=144,slow=11,SNR=81						
AB31				S	**S**	**10 38 56.9**	**-5.9**
	comp=Z,3.5nm,0.6s,baz=164,slow=21,SNR=6.7						
ABKAR	**Akbulak array**	**15.01**	**332**	Pn	**Pn**	**10 36 16.2**	**-0.3**
KURBB	**Kurchatov Arra**	**15.22**	**19**	⇑P	**Pn**	**10 36 17.9**	**-1.2**
	comp=Z,2.6nm,0.5s						
KURBB	**Kurchatov Arra**	**15.22**	**19**	P	**Pn**	**10 36 17.8**	**-1.2**
	comp=Z,1.7nm,0.4s,baz=209,slow=13,SNR=16						
PKIN	**Phulchoki**	**15.25**	**121**	*eP*	**Pn**	**10 36 20.7**	**+0.7**
	comp=Z,35nm,0.5s						
PKI	**Pulchoki**	**15.27**	**121**	*eP*	**Pn**	**10 36 20.8**	**+0.6**
	comp=Z,36nm,0.7s						
KURK	**Kurchatov**	**15.33**	**19**	P	**Pn**	**10 36 20.1**	**-0.3**
GUN	**Gumba**	**15.38**	**119**	*eP*	**P**	**10 36 23.3**	**+1.5**
	comp=Z,14nm,0.3s						
JIRN	**Jiri**	**15.75**	**119**	*eP*	**Pn**	**10 36 27.5**	**+1.4**
	comp=Z,58nm,0.4s						
RAMN	**Ramite**	**16.48**	**121**	*eP*	**P**	**10 36 34.7**	**+0.9**
	comp=Z,19nm,0.4s						
BVA0	**Borovoye Array**	**16.56**	**359**	P	**P**	**10 36 34.9**	**+0.8**
	comp=Z,3.7nm,0.5s,baz=159,slow=11,SNR=31						
BVAR	**Borovoye Array**	**16.56**	**359**	P	**P**	**10 36 35.8**	**+1.7**
	comp=Z,7.9nm,0.6s,baz=169,slow=12,SNR=36						
BVAR				S	**S**	**10 39 35.5**	**-1.3**
	comp=Z,1.9nm,0.5s,baz=165,slow=22,SNR=6.9						
BRVK	**Borovoye**	**16.59**	**359**	⇑P	**P**	**10 36 35.5**	**+1.0**
	comp=Z,8.5nm,0.8s						
BRVK	**Borovoye**	**16.59**	**359**		**Pn**	**10 36 36.5**	**+1.0**
BRVK				IAmb	IAmb	10 36 39.8	
	comp=Z,8.3nm,0.7s						
AKTO	**Aktyubinsk**	**16.71**	**331**	⇑P	**P**	**10 36 37.3**	**+1.5**
	comp=Z,24nm,0.9s						
AKTO	**Aktyubinsk**	**16.71**	**331**	P	**Pn**	**10 36 37.8**	**+0.8**
	comp=Z,25nm,0.6s,baz=140,slow=9.0,SNR=64						
AKTO				S	**S**	**10 39 38.2**	**-1.5**
	comp=Z,3.9nm,0.7s,baz=312,slow=19,SNR=3.8						
WSAR	**Wadi Sarin**	**16.83**	**222**	P	**Pn**	**10 36 40.5**	**+1.8**
	comp=Z,2.4nm,0.6s,baz=69,slow=7.1,SNR=6.2						
WSAR				S	**S**	**10 39 41.3**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=319,slow=21,SNR=0.7						
UOSS	**Minazif**	**16.95**	**231**	P	**Pn**	**10 36 40.0**	**-0.1**
UOSS				IAmb	IAmb	10 36 43.3	
	comp=Z,8.2nm,0.7s						
ZAA0	**Zalesovo Array**	**20.03**	**25**	⇓P	**P**	**10 37 12.7**	**+1.

comp=Z,80nm,0.8s
KRJI Kerinci 47.85 136 P P 10 41 19.5 +7.4
comp=Z,0.2nm,1.0s
TORD Torodi Ar. Bea 65.51 268 P **P** **10 43 16.4 +0.2**
comp=Z,0.6nm,0.4s,baz=51,slow=6.6,SNR=11
comp=Z,0.6nm,0.4s
ILAR Eielson Array 74.87 16 P **P** **10 44 13.5 +1.2**
comp=Z,0.3nm,0.8s,baz=334,slow=5.2,SNR=2.5
comp=Z,0.3nm,0.8s
BOSA Boshof 77.59 220 P **P** **10 44 28.0 -0.1**
comp=Z,3.6nm,0.8s,baz=16,slow=7.4,SNR=2.4
comp=Z,3.6nm,0.8s
WRA Warramunga Arr 82.15 122 P **P** **10 44 52.5 -0.2**
comp=Z,0.9nm,0.6s,baz=324,slow=4.9,SNR=26
comp=Z,0.9nm,0.6s
ASAR Alice Springs 84.41 125 P **P** **10 45 04.2 +0.1**
comp=Z,0.8nm,0.6s,baz=308,slow=4.9,SNR=21
comp=Z,0.8nm,0.6s
QSPA South Pole Qui 126.26 180 PKP **PKPdf** **10 51 32.1 +0.3**
comp=Z,0.5nm,0.8s,baz=281,slow=3.3,SNR=1.6

---

*HEL **14** 10:52:23.1±0.2, 67°.79N×20°.09E, h0km, ML1.6, Suspected explosion*
UPP 14 10:52:24.0±0.0, 67°.82N×20°.22E, h0km, ML2.5, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**19**	P	Pg	10 52 26.9	+0.3
KUA				S	Sg	10 52 28.9	+0.5
RATU	**Laukkuluspa**	**0.24**	**270**	P	Pg	10 52 28.7	+0.1
RATU				S	Sg	10 52 32.1	+0.5
KOVU	**Salmi**	**0.40**	**357**	P	Pg	10 52 31.7	0.0
KOVU				S	Sg	10 52 37.0	+0.1
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	10 52 37.1	-0.5
LANU	**Lannavaara**	**0.71**	**71**	PG	Pg	10 52 37.1	-0.4
LANU				SG	Sg	10 52 46.8	+0.1
DUNU	**Dundret**	**0.72**	**169**	P	Pg	10 52 37.5	-0.2
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	10 52 38.7	-0.1
SALU	**Saltoluokta**	**0.79**	**237**	P	Pg	10 52 38.8	-0.4
KIF	**Kilpisjarvi**	**1.21**	**10**	PN	Pb	10 52 47.4	-0.3
KIF				MSG		10 53 02.0	
comp=Z,8.0nm,0.2s
KIF SB Sg 10 53 02.9 +0.2
PAJU Pajala 1.38 124 P Sg 10 52 49.2 -1.1
HEF Hetta 1.42 64 *e*P Pn 10 52 49.7 -1.3
HEF Hetta 1.42 64 PG Pn 10 52 49.8 -1.2
baz=247
HEF MSG 10 53 07.4
comp=Z,4.0nm,0.2s
HEF SN Sg 10 53 09.2 -0.3
ERTU Ertsjaerv 1.49 148 P Pn 10 52 51.0 -0.9
ERTU Ertsjaerv 1.49 148 PN Pn 10 52 50.9 -1.1
ERTU SN Sg 10 53 11.5 -0.3
KLF Kolari 1.56 111 PG Pn 10 52 52.1 -0.8
KLF MSG 10 53 10.8
comp=Z,3.9nm,0.2s
KLF SN Sn 10 53 13.1 -0.6
KTK1 Kautokeino 1.63 42 PN Pn 10 52 53.9 0.0
KTK1 SN Sn 10 53 15.8 +0.1
HARU Harads 1.69 170 P Pn 10 52 54.6 -0.1
TRO Tromso 1.88 346 PG Pn 10 52 57.9 +0.7
TRO SG Sg 10 53 24.0 -0.3
KALU Kalix 2.33 146 PG Pn 10 53 04.4 +0.9
baz=323
KALU SG Sb 10 53 34.9 -1.2
TOF Tornio 2.38 135 PG Pn 10 53 05.5 +1.3
baz=314
TOF MSG 10 53 33.8
comp=Z,2.9nm,0.2s
TOF SG Sb 10 53 36.6 -1.0
SGF Sodankyl 2.44 96 PG Pb 10 53 07.0 -1.8
SGF SB Sb 10 53 37.8 -1.6
RNF Rovaniemi 2.56 116 PG Pn 10 53 08.4 +1.7
RNF SG Sb 10 53 42.0 -0.8
ARA0 ARCESS Array S 2.59 46 PB Pn 10 53 07.8 +0.8
baz=228
ARA0 SG Sb 10 53 42.3 -1.2
KEV Kevo 3.14 49 *e*P Pn 10 53 16.2 +1.6
KEV Kevo 3.14 49 PB Pn 10 53 16.1 +1.5
KEV SN Sn 10 53 53.7 +1.0
VRF Varrio 3.57 87 PG Pb 10 53 28.7 +0.8
OUL Oulu 3.57 138 SG Sb 10 54 13.1 +1.4
OLKF Oulanka, Finla 3.90 109 PG Pb 10 53 34.6 +1.2
UMAU Umeaa 3.96 177 PB Pn 10 53 28.3 +2.4
KU6 Riekki 4.21 111 PG Pb 10 53 39.5 +0.6
baz=297
KU6 SB Sb 10 54 25.9 -4.3

---

*IDC **14** 10:53:13.9±1.9, 42°.62N×142°.81E, h103km±12km, mb3.5/6, mbtmp3.8/8, Error ellipse: s-maj=30.7km s-min=18.0km az=99.0*
*MOS **14** 10:53:13.0±1.1, 42°.53N×142°.87E, h114km, mb4.0/1, Error ellipse: s-maj=20.4km s-min=10.4km az=66.4*
*JMA **14** 10:53:14.4±0.2, 42°.7N±0°.6×142°.8E±0°.7, h93km±1km, MV3.0/39, HIDAKA MOUNTAINS REGION*
*SKHL **14** 10:53:14.6±0.3, 42°.60N×142°.90E, h113km±5km, mb4.4/2, msha5.2/2*
ISC 14 10:53:13.6±0.8, 42°.58N±0°.05×142°.84E±0°.04, h102km±6km, n38, σ1°.25/56, mb3.8/6, 1C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.31**	**191**	*e*P	**Pn**	**10 53 29.2**	**+0.8**
JCH	**Churui**	**0.39**	**85**	*e*P	**Pn**	**10 53 28.7**	**-0.1**
JCH				*e*S	**Sn**	**10 53 39.5**	**-0.7**
JBT2	**Biratori 2**	**0.40**	**299**	P	**Pn**	**10 53 28.6**	**-0.3**
JBT2				*e*S	**Sn**	**10 53 40.1**	**-0.2**
JTHR	**Tokachihiroo**	**0.45**	**130**	*e*P	**Pn**	**10 53 29.5**	**+0.3**
JTHR				*e*S	**Sn**	**10 53 41.0**	**+0.1**
JFR	**Furan**	**0.61**	**343**	*e*P	**Pn**	**10 53 29.7**	**-0.6**
JEM	**Erimo**	**0.62**	**157**	*e*P	**Pn**	**10 53 31.4**	**+0.9**
JIAM	**Iburiatsuma**	**0.68**	**274**	*e*P	**Pn**	**10 53 31.9**	**+0.9**
JOB	**Onbets**	**0.80**	**66**	P	**Pn**	**10 53 32.6**	**+0.5**
JOB				*e*S	**Sn**	**10 53 46.4**	**+0.4**
JAR	**Ashorobuto**	**0.99**	**44**	*e*P	**Pn**	**10 53 33.8**	**-0.2**
JAR				*e*S	**Sn**	**10 53 48.3**	**-1.0**
JAB	**Ashibetsu**	**1.02**	**334**	*e*P	**Pn**	**10 53 33.8**	**-0.5**
JAB				*e*S	**Sn**	**10 53 49.1**	**-0.9**
JEW	**Eniwo**	**1.05**	**285**	*e*P	**Pn**	**10 53 34.6**	**-0.1**
JEW				*e*S	**Sn**	**10 53 50.2**	**-0.3**
JISS	**Ishikarishitsu**	**1.25**	**304**	*e*P	**Pn**	**10 53 36.5**	**-0.4**
JKK2	**Kamakawa 2**	**1.29**	**357**	*e*P	**Pn**	**10 53 37.0**	**-0.4**
JKK2				*e*S	**Sn**	**10 53 55.0**	**-0.5**
JHR	**Hokuryu**	**1.42**	**325**	*e*P	**Pn**	**10 53 38.6**	**-0.3**
JAK	**Akkeshi**	**1.43**	**73**	*e*P	**Pn**	**10 53 38.9**	**-0.1**
JAK				*e*S	**Sn**	**10 53 57.7**	**-0.6**
JMP	**Maruseppu**	**1.47**	**15**	P	**Pn**	**10 53 39.6**	**-0.1**
AKK	**Akkeshi**	**1.54**	**73**	*e*P	**Pn**	**10 53 40.1**	**-0.3**
ASAJ	**Asahikawa**	**1.54**	**354**	P	**Pn**	**10 53 40.3**	**-0.2**
61nm,0.3s,baz=205,slow=14,SNR=202
ASAJ S **Sn** **10 54 00.5** **-0.4**
48nm,0.6s,baz=59,slow=30,SNR=22
JTKR Abashiri--Toko 1.59 29 *e*P **Pn** **10 53 41.1** **+0.1**
JTKR *e*S **Sn** **10 54 01.5** **-0.4**
NMR Nemuro--Hokkai 2.26 69 *e*PN **Pn** **10 53 49.1** **-0.5**
NMR *i* S **Sn** **10 54 15.4** **-1.8**
NMR Nemuro--Hokkai 2.26 69 *e*P **Pn** **10 53 49.3** **-0.3**
NMR *i* S **Sn** **10 54 15.4** **-1.8**
RUSJ Misakicho 2.33 48 *e*PN **Pn** **10 53 53.2** **+2.8**
RUSJ *e*S **Sn** **10 54 24.0** **+5.4**
YUK Yuzh-Kuril'sk 2.64 56*c* *i*PN **Pn** **10 53 56.4** **+1.8**
YUK *e*S **Sn** **10 54 27.1** **+1.0**
YUK pmax pmax
comp=Z,56nm,0.2s
YUK pmax pmax
comp=N,6.0nm,0.1s
YUK pmax pmax
comp=E,14nm,0.1s
YUK smax smax
comp=E,218nm,0.4s
YUK smax smax
comp=N,229nm,0.5s
YUK Yuzh-Kuril'sk 2.64 56 *i* P **Pn** **10 53 56.0** **+1.4**
YUK AMB AMB 10 53 58.9
comp=N,60nm,0.2s
YUK *e*S **Sn** **10 54 27.1** **+1.0**
YUK A A 10 54 28.9
comp=N,310nm,0.4s
YUK A A 10 54 28.9
comp=N,230nm,0.4s

SHO Shikotan 3.19 65 ⇓*i*PN **Pn** **10 54 02.1 +0.3**
SHO *e*S **Sn** **10 54 37.1 -2.0**
SHO pmax pmax
comp=E,5.0nm,0.2s
SHO pmax pmax
comp=Z,11nm,0.2s
SHO smax smax
comp=E,113nm,0.3s
SHO smax smax
comp=N,66nm,0.1s
SHO Shikotan 3.19 65 *i* P **Pn** **10 54 02.1 +0.3**
SHO AMB AMB 10 54 04.8
comp=N,10.0nm,0.2s
SHO *e*S **Sn** **10 54 37.5 -1.6**
SHO A A 10 54 38.7
comp=N,70nm,0.3s
SHO A A 10 54 38.7
comp=N,110nm,0.3s
YSS Yuzh-Sakhalins 4.37 359 *e*PN **Pn** **10 54 20.9 +3.2**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS Yuzh-Sakhalins 4.37 359 *e*P **Pn** **10 54 19.5 +1.8**
MJAR Matsushiro Arr 7.01 212 P **Pn** **10 54 54.5 +0.9**
comp=Z,0.4nm,0.4s,baz=86,slow=12,SNR=2.0
PETK Petropavlovsk- 14.47 38 P **Pn** **10 56 32.5 -0.8**
comp=Z,4.9nm,1.0s,baz=223,slow=10.0,SNR=5.1
KURK Kurchatov 43.56 304 P **P** **11 01 07.6 +0.5**
KURK Kurchatov 43.56 304 *e*P **P** **11 01 07.6 +0.5**
KURBB Kurchatov Arra 43.64 304 P **P** **11 01 07.6 -0.1**
comp=Z,1.3nm,0.7s,baz=75,slow=8.6,SNR=6.8
comp=Z,1.3nm,0.7s
ILAR Eielson Array 44.28 35 P **P** **11 01 13.2 +0.5**
comp=Z,0.6nm,0.9s,baz=278,slow=8.0,SNR=5.0
comp=Z,0.6nm,0.9s
BVAR Borovoye Array 47.79 309 P **P** **11 01 40.7 +0.3**
comp=Z,0.5nm,0.3s,baz=84,slow=9.5,SNR=3.3
comp=Z,0.5nm,0.3s
WRA Warramunga Arr 62.70 189 P **P** **11 03 27.9 +0.2**
comp=Z,0.2nm,0.7s,baz=6.2,slow=6.9,SNR=2.3
comp=Z,0.2nm,0.7s
FINES FINESS Array B 64.44 332 P **P** **11 03 38.2 -0.4**
comp=Z,1.4nm,0.6s,baz=47,slow=7.2,SNR=5.2
comp=Z,1.4nm,0.6s
HFS Hagfors 69.49 336 P **P** **11 04 10.4 -0.2**
comp=Z,3.0nm,0.7s,baz=12,slow=7.4,SNR=6.1
comp=Z,3.0nm,0.7s

---

*IDC **14** 11:11:25.8±10.0, 20°.55S×178°.63W, h515km±107km, mb3.4/5, mbtmp4.3/5, Error ellipse: s-maj=67.3km s-min=42.4km az=104.0*
*NEIC **14** 11:11:28.9±1.3, 20°.9S±0°.2×178°.6W±0°.2, h552km±17km, mb4.4/27, Error ellipse: s-maj=34.7km s-min=8.4km az=48.0*
ISC 14 11:11:28.6±1.0, 20°.8S±0°.1×178°.6W±0°.1, h550km, n40, σ0°.98/40, mb4.4/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.42**	**313**	P	**P**	**11 12 56.1**	**+2.3**
PINNC	**Pines Island,**	**13.11**	**260**	P	**P**	**11 14 19.4**	**+0.8**
DZM	**Mont Dzumac**	**14.00**	**262**	P	**P**	**11 14 27.7**	**-0.2**
KOUNC	**Koumac, New Ca**	**16.04**	**268**	P	**P**	**11 14 50.2**	**+1.7**
KOUNC				IAmb	IAmb	11 15 03.2	
comp=Z,21nm,1.0s
TOZ Tahuroa Road 17.62 196 P **P** **11 15 03.6 +0.8**
TOZ IAmb IAmb 11 15 34.3
comp=Z,23nm,1.5s
RTZ Ruatahuna 18.15 191 P **P** **11 15 07.4 -0.3**
RTZ IAmb IAmb 11 15 14.9
comp=Z,16nm,1.3s
TKNZ Takaka Hill 21.40 198 P **P** **11 15 35.9 -1.2**
NNZ Nelson 21.45 197 P **P** **11 15 36.6 -0.9**
THZ Tophouse 22.09 197 P **P** **11 15 42.7 -0.7**
KHZ Kahutara 22.54 195 P **P** **11 15 45.6 -1.6**
GVZ Greta Valley S 23.18 196 P **P** **11 15 51.0 -2.0**
WHZ Wether Hill Ro 27.35 201 P **P** **11 16 30.5 +0.8**
WHZ IAmb IAmb 11 16 31.6
comp=Z,18nm,0.9s
EIDS Eidsvold 28.24 255 P **P** **11 16 37.8 -0.1**
EIDS IAmb IAmb 11 17 17.9
comp=Z,14nm,1.4s
ARMA Armidale 28.44 244 P **P** **11 16 40.7 +1.0**
CTAO Charters Tower 32.92 265 P **P** **11 17 18.2 +0.1**
TOO Toolangi 35.27 234 P **P** **11 17 37.7 +0.1**
TOO IAmb IAmb 11 17 38.8
comp=Z,5.9nm,0.8s
COEN Coen 37.06 274 P **P** **11 17 51.8 -0.8**
COEN IAmb IAmb 11 18 06.6
comp=Z,20nm,1.4s
STKA Stephens Creek 37.16 244 P **P** **11 17 53.0 -0.2**
STKA Stephens Creek 37.16 244 P **P** **11 17 53.0 -0.2**
comp=Z,2.8nm,0.4s,baz=85,slow=11,SNR=20
comp=Z,2.8nm,0.4s
BBOO Buckleboo 41.92 244 P **P** **11 18 31.1 -0.3**
BBOO IAmb IAmb 11 18 31.7
comp=Z,9.3nm,0.6s
WR0 Warramunga Arr 43.83 263 P **P** **11 18 45.6 -0.9**
AS31 Alice Springs 43.91 257 P **P** **11 18 47.0 -0.2**
ASAR Alice Springs 43.92 257 P **P** **11 18 46.2 -1.0**
ASAR Alice Springs 43.92 257 P **P** **11 18 47.0 -0.3**
comp=Z,10.0nm,0.7s,baz=95,slow=7.9,SNR=116
ASAR PcP **PcP** **11 20 20.9 -0.2**
comp=Z,0.6nm,0.5s,baz=97,slow=5.0,SNR=4.2
comp=Z,10.0nm,0.7s
WB0 Warramunga Arr 44.00 263 P **P** **11 18 47.0 -0.8**
WB0 IAmb IAmb 11 18 47.7
comp=Z,10nm,0.5s
WB2 Warramunga Arr 44.01 262 P **P** **11 18 47.1 -0.8**
WB2 IAmb IAmb 11 18 47.5
comp=Z,6.5nm,0.7s
WRA Warramunga Arr 44.02 262 P **P** **11 18 46.5 -1.5**
WRA Warramunga Arr 44.02 262 P **P** **11 18 47.4 -0.7**
comp=Z,4.4nm,0.3s,baz=96,slow=7.0,SNR=450
comp=Z,4.4nm,0.3s
MTN Manton Dam 48.62 271 P **P** **11 19 22.2 -0.7**
MTN IAmb IAmb 11 19 22.6
comp=Z,8.8nm,0.7s
FORT Forrest 48.67 247 P **P** **11 19 22.3 -0.8**
FORT IAmb IAmb 11 20 06.5
comp=Z,26nm,1.2s
KNRA Kununurra 50.09 267 P **P** **11 19 33.6 -0.1**
KNRA IAmb IAmb 11 19 34.4
comp=Z,8.0nm,0.8s
PSA00 Pilbara Seismi 57.07 257 P **P** **11 20 22.1 -0.9**
MBWA Marble Bar 57.25 258 P **P** **11 20 23.4 -0.9**
MBWA IAmb IAmb 11 20 23.9
comp=Z,6.3nm,0.6s
CASY Casey 63.45 205 P **P** **11 21 04.4 0.0**
QSPA South Pole Qui 69.25 180 P **P** **11 21 41.0 +0.5**
QSPA IAmb IAmb 11 22 18.9
comp=Z,9.0nm,1.5s
MAW Mawson 81.08 200 P **P** **11 22 47.8 +1.6**
comp=Z,1.1nm,0.9s,baz=180,slow=4.0,SNR=1.9
comp=Z,1.1nm,0.9s
ILAR Eielson Array 88.74 13 P **P** **11 23 22.6 -0.7**
comp=Z,0.4nm,1.0s,baz=222,slow=6.1,SNR=4.4
comp=Z,0.4nm,1.0s
BVAR Borovoye Array 118.97 320 PKP **PKPdf** **11 29 13.7 -1.0**
comp=Z,1.0nm,0.4s,baz=135,slow=2.3,SNR=4.2
AKASG Malin Array Be 143.02 330 PKhKP PKPpre 11 29 56.0
comp=Z,0.8nm,0.4s,baz=46,slow=4.1,SNR=5.4
MMAI Mount Meron Ar 147.49 299 PKPbc **PKiKP** **11 30 12.1 -1.1**
comp=Z,1.0nm,0.5s,baz=92,slow=7.7,SNR=4.5

---

*IDC **14** 11:15:34.7±2.1, 7°.08N×91°.63E, h0km, mb3.6/5, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=83.0km s-min=22.7km az=59.0*
ISC 14 11:15:37.7±1.5, 7°.1N±0°.2×91°.7E±0°.3, h20km, n13, σ0°.65/7, mb3.7/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.31**	**31**	Pn	**Pn**	**11 18 45.6**	**0.0**
baz=237,slow=13,SNR=1.6
0.3nm,0.3s
H08S3 Diego Garcia H 24.10 233 T T 11 46 56.6
baz=55,slow=75,SNR=18
H08S2 Diego Garcia H 24.10 233 T T 11 47 03.2
baz=55,slow=75,SNR=12
H08S1 Diego Carcia H 24.11 233 T T 11 47 00.8
baz=55,slow=75,SNR=3.8
MKAR Makanchi Array 40.34 350 P **P** **11 23 13.9 -0.1**
0.5nm,0.6s,baz=169,slow=8.2,SNR=3.9
0.5nm,0.6s
KURBB Kurchatov Arra 44.72 348 P **P** **11 23 50.6 +1.1**
0.7nm,0.6s,baz=171,slow=7.0,SNR=5.4
0.7nm,0.6s
BVAR Borovoye Array 48.95 343 P **P** **11 24 22.1 -0.5**
0.7nm,0.7s,baz=126,slow=9.3,SNR=2.1
0.7nm,0.7s
WRA Warramunga Arr 49.86 123 P **P** **11 24 30.1 +0.1**
0.4nm,0.8s,baz=302,slow=9.2,SNR=5.3
0.4nm,0.8s
ASAR Alice Springs 51.35 128 P **P** **11 24 41.4 +0.1**
0.3nm,0.3s,baz=303,slow=7.2,SNR=5.4
0.3nm,0.3s
H04N2 CROZET ISLANDS 63.84 210 T T 12 36 10.7
baz=47,slow=75,SNR=3.9
H04N1 CROZET ISLANDS 63.85 210 T T 12 36 06.4
baz=47,slow=75,SNR=5.6
H04N3 CROZET ISLANDS 63.86 210 T T 12 36 12.2
baz=47,slow=75,SNR=4.9
TXAR Lajitas Array 140.86 21 PKP **PKPdf** **11 35 06.8 -0.4**
0.1nm,0.5s,baz=315,slow=1.1,SNR=5.2

---

*SJA **14** 11:20:19.8±0.6, 28°.66S×72°.01W, h18km±6km, ML4.4, MW4.1*
*GUC **14** 11:20:26.2±0.8, 28°.77S×71°.48W, h35km±8km, ML3.4*
ISC 14 11:20:25.4±1.5, 28°.72S±0°.03×71°.58W±0°.08, h35km, n30, σ2°.90/39, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.68**	**41**	*i* P	**Pn**	**11 20 38.7**	**+0.1**
AC04 *i* S **Sn** **11 20 47.6** **-0.3**
AC04 Llanos de Chal 0.68 41 *e*P Pn 11 20 33.0 -5.5
AC04 *e*P 11 20 37.9
LCO Las Campanas 0.82 111 *e*P **Pn** **11 20 39.5** **-1.2**
LCO *e*S **Sn** **11 20 49.0** **-2.9**
LCO Las Campanas 0.82 111 *e*P Pn 11 20 32.0 -8.7
LCO IAML 11 21 14.4
comp=Z,11μm,0.5s
AC05 El Transito 1.15 96 ⇓*i*P **Pn** **11 20 45.4** **+0.2**
AC05 *i* S **Sn** **11 20 59.2** **-0.6**
AC05 IAML 11 20 59.9
comp=E,693nm,0.2s
CO05 La Serena 1.23 166 *i* P **Pn** **11 20 46.9** **+0.8**
CO05 *i* S **Sn** **11 21 01.7** **+0.3**
CO05 IAML 11 21 03.1
comp=E,2μm,0.3s
GO04 Tololo Observa 1.60 155 *i* P **Pn** **11 20 52.2** **+0.9**
GO04 *i* S **Sn** **11 21 12.1** **+1.1**
GO04 Tololo Observa 1.60 155 *e*P **Pn** **11 20 52.3** **+0.9**
GO04 IAML 11 21 37.2
comp=Z,4μm,1.0s
GO03 Copiap 1.64 47 *e*P **Pn** **11 20 53.2** **+1.5**
GO03 *e*S **Sn** **11 21 14.3** **+2.7**
GO03 IAML 11 21 19.0
comp=N,888nm,0.1s
GO03 Copiap 1.64 47 *e*P **Pn** **11 20 53.4** **+1.7**
GO03 IAML 11 21 42.4
comp=Z,2μm,0.5s
AC06 Mina Casimiro 1.74 39 *i* P **Pn** **11 20 55.5** **+2.4**
AC06 IAML 11 21 22.9
comp=N,551nm,0.5s
CO01 Juntas del Tor 1.80 134 ⇓*i*P **Pn** **11 20 56.1** **+1.9**
CO01 *i* S **Sn** **11 21 17.4** **+1.4**
CO01 IAML 11 21 19.1
comp=E,1μm,0.3s
CO01 Juntas del Tor 1.80 134 *e*P **Pn** **11 20 56.1** **+1.9**
CO01 IAML 11 21 43.6
comp=Z,2μm,0.2s
CO06 Fray Jorge 1.95 181 ⇓*i*P **Pn** **11 20 56.3** **+0.3**
CO03 El Pedregal 2.25 160 *i* P **Pn** **11 21 01.5** **+1.3**
CO03 El Pedregal 2.25 160 *e*P **Pn** **11 21 01.5** **+1.3**
AROD Rodeo 2.34 129 *e*P **Pn** **11 21 05.2** **+3.7**
CO02 Combarbal 2.52 169 *i* P **Pn** **11 21 05.0** **+1.0**
CO02 Combarbal 2.52 169 *e*P **Pn** **11 21 05.0** **+1.0**
CO02 *e*S **Sn** **11 21 29.0** **-4.6**
CO02 IAML 11 22 09.6
comp=Z,2μm,0.5s
AC01 Pan de Azucar 2.71 19 *e*P **Pn** **11 21 06.3** **-0.2**
AC01 *e*S Sn 11 21 30.2 -7.8
AC02 Maricunga 2.87 50 *e*P **Pn** **11 21 11.9** **+2.8**
AC02 Maricunga 2.87 50 *e*P **Pn** **11 21 11.9** **+2.8**
AC02 *e*S **Sn** **11 21 36.6** **-6.1**
ACCO Cerro Coronel 2.87 131 *e*P **Pn** **11 21 13.0** **+4.0**
ACCO *e*S **Sn** **11 21 37.2** **-5.3**
VCA Vinchina 2.96 91 *e*P Pn 11 21 15.0 +4.9
VCA *e*S **Sn** **11 21 39.8** **-4.7**
VCA IAML 11 22 27.8
comp=Z,851nm,0.2s
DOCA Reserva Natura 3.10 136 *e*P **Pn** **11 21 15.8** **+3.6**
DOCA *e*S **Sn** **11 21 42.1** **-6.2**
RTLS Leoncito 3.65 148 *e*P **Pn** **11 21 24.2** **+4.6**
RTLS IAML 11 22 42.7
comp=Z,2μm,0.9s
GO02 Mina Guanaco 3.96 27 *e*P **Pn** **11 21 25.4** **+1.5**
GO02 IAML 11 23 00.7
comp=Z,342nm,0.4s
CFA Coronel Fontan 4.08 136 *e*P **Pn** **11 21 28.8** **+3.5**
ASAL Salagasta 4.53 149 *e*P **Pn** **11 21 35.5** **+4.0**
ASAL IAML 11 23 15.5
comp=Z,137nm,0.6s
MT02 Curacav 4.54 175 *e*P **Pn** **11 21 32.7** **+1.2**
MT02 *e*P 11 21 33.0

---

*GUC **14** 11:20:49.6±0.6, 28°.77S×71°.46W, h35km±3km, ML4.0*
*NEIC **14** 11:20:51.0±2.6, 28°.68S±0°.03×71°.41W±0°.08, h40km±9km, mb4.3/3, ML4.0(GUC), Error ellipse: s-maj=11.1km s-min=1.6km az=110.0*
*IDC **14** 11:20:52.2±2.9, 28°.75S×71°.49W, h49km±25km, mb3.4/4, mbtmp3.8/9, ML4.0/5, MS3.0/4, Error ellipse: s-maj=37.1km s-min=12.9km az=78.0*
ISC 14 11:20:50.0±1.1, 28°.74S±0°.03×71°.55W±0°.05, h34km±3km, n69, σ2°.22/77, mb4.2/6, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.68**	**38**	Pn	**Pn**	**11 21 02.1**	**-0.9**
AC04 Sn **Sn** **11 21 10.7** **-1.7**
AC04 Llanos de Chal 0.68 38 ⇓*i*P **Pn** **11 21 01.9** **-1.1**
AC04 *i* S **Sn** **11 21 10.8** **-1.7**
AC04 IAML 11 21 12.7
comp=E,7μm,0.3s
AC04 Llanos de Chal 0.68 38 *e*S Sn 11 21 01.7 -11
LCO Las Campanas 0.79 110 Pn **Pn** **11 21 02.8** **-2.2**
LCO Sn **Sn** **11 21 13.0** **-2.7**
LCO Las Campanas 0.79 110 ⇓*i*P **Pn** **11 21 03.1** **-1.9**
LCO *i* S **Sn** **11 21 12.7** **-3.0**
LCO Las Campanas 0.79 110 *e*S **Sn** **11 21 13.5** **-2.2**
AC05 El Transito 1.12 95 Pn **Pn** **11 21 08.7** **-0.7**
AC05 El Transito 1.12 95 *e*P **Pn** **11 21 08.2** **-1.2**
AC05 *e*S **Sn** **11 21 22.2** **-1.5**
AC05 *e*S 11 21 22.4
CO05 La Serena 1.21 167 Pn **Pn** **11 21 10.2** **-0.3**
CO05 La Serena 1.21 167 *i* P **Pn** **11 21 09.9** **-0.5**
CO05 *i* S **Sn** **11 21 24.8** **-0.8**
CO05 IAML 11 21 26.7
comp=E,6μm,0.4s
GO04 Tololo Observa 1.57 156 *i* S **Sn** **11 21 35.5** **+0.6**
GO04 Tololo Observa 1.57 156 *e*S **Sn** **11 21 30.5** **-4.5**
GO03 Copiap 1.63 46 Pn **Pn** **11 21 17.4** **+1.2**
GO03 Sn **Sb** **11 21 37.8** **-1.9**
GO03 Copiap 1.63 46 *e*P **Pn** **11 21 16.9** **+0.6**
GO03 *e*S **Sb** **11 21 37.6** **-2.1**
GO03 IAML 11 21 40.0
comp=E,2μm,0.2s
GO03 Copiap 1.63 46 *e*S **Sn** **11 21 33.0** **-3.0**
AC06 Mina Casimiro 1.73 38 Pn **Pn** **11 21 19.2** **+1.5**
AC06 Mina Casimiro 1.73 38 *e*P **Pn** **11 21 18.6** **+0.9**
AC06 *i* S **Sb** **11 21 40.8** **-1.9**
AC06 IAML 11 21 43.8
comp=E,2μm,0.3s
AC06 Mina Casimiro 1.73 38 *i* S **Pn** **11 21 18.1** **+0.4**
CO01 Juntas del Tor 1.77 135 Pn **Pn** **11 21 18.5** **+0.1**
CO01 Sn **Sn** **11 21 41.3** **+1.4**
CO01 Juntas del Tor 1.77 135 *e*P **Pn** **11 21 18.3** **-0.2**
CO01 *i* S **Sn** **11 21 40.6** **+0.7**
CO01 IAML 11 21 42.3
comp=E,4μm,0.4s
CO01 Juntas del Tor 1.77 135 *e*S **Sn** **11 21 41.0** **+1.1**
CO06 Fray Jorge 1.93 182 *e*P **Pn** **11 21 21.5** **+1.1**
CO06 *e*S **Sb** **11 21 46.9** **-1.5**
CO03 El Pedregal 2.22 161 *e*P **Pn** **11 21 25.0** **+0.5**

CO03				*e*S	**Sn**	**11 21 50.8**	**0.0**
CO03				IAML		11 21 59.7	
	comp=E,1μm,0.8s						
CO03	**El Pedregal**	**2.22**	**161**	*e*S	**Sn**	**11 21 48.0**	**-2.9**
AROD	**Rodeo**	**2.30**	**129**	*e*S	**Sb**	**11 21 58.0**	**-1.3**
CO02	**Combarbal**	**2.50**	**169**	*e*P	**Pn**	**11 21 29.9**	**+1.5**
CO02				*e*S	**Sn**	**11 21 58.9**	**+1.1**
AC02	**Maricunga**	**2.86**	**49**	*e*P	**Pn**	**11 21 34.9**	**+1.3**
CFA	**Coronel Fontan**	**4.05**	**136**	P	**Pn**	**11 21 50.3**	**+0.8**
	comp=E,7.1nm,0.3s,baz=321,slow=11,SNR=15						
CFA				S	**Sn**	**11 22 37.4**	**+1.6**
	comp=E,69nm,0.5s,baz=217,slow=22,SNR=4.1						
CFA				LR	LR	11 23 45.9	
	comp=E,94nm,19.2s,baz=264,slow=43						
	comp=E,37nm,0.2s						
CFA	**Coronel Fontan**	**4.05**	**136**	*e*S	**Sn**	**11 22 34.0**	**-1.8**
PB14	**IPOC Station P**	**4.22**	**14**		**Pn**	**11 21 51.1**	**-1.0**
PEL	**Peldehue**	**4.46**	**171**		**Pn**	**11 21 56.7**	**+1.6**
MT02	**Curacav**	**4.52**	**176**	*e*S	**Pb**	**11 22 08.2**	**-0.4**
MT02	**Curacav**	**4.52**	**176**	IAML		11 23 07.6	
	comp=Z,144nm,0.5s						
MT03	**Universidad Ad**	**4.83**	**170**		**Pn**	**11 22 03.4**	**+3.1**
VA05	**Santo Domingo**	**4.91**	**181**		Pn	11 22 08.3	+7.1
LMEL	**Las Melosas**	**5.22**	**168**		**Pn**	**11 22 07.2**	**+1.4**
GO05	**Huala**	**6.26**	**183**	Pn	**Pn**	**11 22 19.9**	**0.0**
LVC	**Limon Verde**	**6.55**	**22**	P	**Pn**	**11 22 25.7**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=194,slow=12,SNR=6.6						
LVC				S	**Sn**	**11 23 39.6**	**+1.7**
	comp=Z,24nm,0.5s,baz=164,slow=18,SNR=4.4						
	comp=Z,2.4nm,0.3s						
H03N1	**Juan Fernandez**	**7.86**	**232**	P	**Pn**	**11 22 39.6**	**-2.0**
	baz=109,slow=18,SNR=11						
H03N1				T	T	11 30 39.3	
	baz=59,slow=72,SNR=846						
H03N2	**Juan Fernandez**	**7.88**	**232**	P	**Pn**	**11 22 39.8**	**-2.0**
	baz=109,slow=18,SNR=7.9						
H03N2				T	T	11 30 39.3	
	baz=59,slow=72,SNR=280						
H03N3	**Juan Fernandez**	**7.88**	**232**	P	**Pn**	**11 22 39.8**	**-2.1**
	baz=109,slow=18,SNR=12						
H03N3				T	T	11 30 38.4	
	baz=59,slow=72,SNR=308						
VA04	**Juan Ferndez**	**7.92**	**230**	Pn	**Pn**	**11 22 40.5**	**-2.2**
H03S3	**Juan Fernandez**	**8.09**	**229**	P	**Pn**	**11 22 41.9**	**-2.8**
H03S3				S	**Sn**	**11 24 07.9**	**-6.9**
	baz=242,slow=74,SNR=2.9						
H03S1	**Juan Fernandez**	**8.09**	**229**	P	**Pn**	**11 22 41.2**	**-3.6**
H03S1				S	**Sn**	**11 24 07.6**	**-7.4**
H03S2	**Juan Fernandez**	**8.10**	**229**	P	**Pn**	**11 22 42.5**	**-2.5**
H03S2				S	**Sn**	**11 24 07.7**	**-7.5**
	baz=58,slow=74,SNR=11						
PLCA	**Paso Flores**	**12.00**	**176**	LR	LR	11 27 56.3	
	comp=Z,97nm,18.9s,baz=22,slow=35						
TRQA	**Tornquist**	**12.25**	**142**	Pn	**Pn**	**11 23 41.4**	**-0.6**
LPAZ	**La Paz**	**12.79**	**15**	P	**Pn**	**11 23 52.7**	**+2.8**
	comp=Z,0.8nm,0.3s,baz=259,slow=5.2,SNR=3.7						
	comp=Z,1.9nm,0.3s						
CPUP	**Villa Florida**	**12.84**	**83**	P	**Pn**	**11 23 51.5**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=263,slow=14,SNR=2.0						
CPUP				LR	LR	11 29 36.8	
	comp=Z,67nm,18.3s,baz=234,slow=41						
	comp=Z,1.0nm,0.6s						
SIV	**San Ignacio**	**15.95**	**40**	P	**P**	**11 24 33.9**	**-1.2**
	baz=217,slow=12,SNR=8.0						
	comp=Z,1.9nm,0.7s						
BDFB	**Brasilia**	**25.33**	**64**	LR	LR	11 38 13.4	
	comp=Z,38nm,18.4s,baz=93,slow=41						
SNAA	**Sanae**	**56.32**	**159**	P	**P**	**11 30 27.3**	**+0.3**
SNAA				IAmb	IAmb	11 30 42.3	
	comp=Z,4.4nm,1.5s						
QSPA	**South Pole Qui**	**61.48**	**180**	P	**P**	**11 31 03.7**	**+0.6**
QSPA				IAmb	IAmb	11 31 34.9	
	comp=Z,9.0nm,1.5s						
QSPA	**South Pole Qui**	**61.48**	**180**	P	**P**	**11 31 03.7**	**+0.6**
	comp=Z,1.4nm,1.0s,baz=344,slow=3.3,SNR=6.7						
	comp=Z,1.4nm,1.0s						
TXAR	**Lajitas Array**	**65.40**	**329**	P	**P**	**11 31 28.0**	**-1.2**
TXAR	**Lajitas Array**	**65.40**	**329**	P	**P**	**11 31 30.3**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=141,slow=5.8,SNR=2.4						
	comp=Z,0.3nm,0.8s						
PDAR	**Pinedale Array**	**79.28**	**333**	P	**P**	**11 32 52.4**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=172,slow=6.8,SNR=2.0						
	comp=Z,0.2nm,0.5s						
TOA0	**Torodi Ar. Sit**	**82.04**	**70**	P	**P**	**11 33 07.2**	**+0.1**
TOA0				IAmb	IAmb	11 33 07.8	
	comp=Z,1.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**82.04**	**70**	P	**P**	**11 33 07.3**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=280,slow=3.8,SNR=7.1						
	comp=Z,1.2nm,0.6s						
WRA	**Warramunga Arr**	**125.53**	**210**	PKP	**PKPdf**	**11 39 48.1**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=157,slow=1.7,SNR=11						
H11S2	**WAKE ISLAND Hyl**	**26.11**	**273**	T	T	13 58 40.1	
	baz=114,slow=75,SNR=5.4						
H11S1	**WAKE ISLAND Hyl**	**26.12**	**273**	T	T	13 58 40.8	
	baz=114,slow=75,SNR=4.9						
H11S3	**WAKE ISLAND Hyl**	**26.12**	**273**	T	T	13 58 39.5	
	baz=114,slow=75,SNR=4.9						
H11N3	**WAKE ISLAND Hyl**	**26.39**	**274**	T	T	13 59 03.6	
	baz=114						
H11N1	**WAKE ISLAND Hyl**	**26.40**	**274**	T	T	13 59 02.5	
	baz=114						
H11N2	**WAKE ISLAND Hyl**	**26.40**	**274**	T	T	13 59 07.3	
	baz=114						
KURBB	**Kurchatov Arra**	**148.60**	**38**	PKPbc	**PKPdf**	**11 40 31.5**	**+2.3**
	comp=Z,0.9nm,0.6s,baz=299,slow=3.5,SNR=7.3						
ZALV	**Zalesovo Beam**	**149.47**	**28**	PKPbc	**PKPbc**	**11 40 35.9**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=300,slow=1.8,SNR=8.5						
MKAR	**Makanchi Array**	**152.76**	**41**	PKPbc	**PKPbc**	**11 40 43.4**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=282,slow=1.1,SNR=5.9						

IDC 14 11:27:41.3±7.4, 27°.30N×90°.35E, h0km, mb3.3/3, mbtmp3.4/3, MS3.9/1, Error ellipse: s-maj=501.7km s-min=33.0km az=63.0, Bhutan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**20.48**	**344**	P	P	11 32 20.5	-0.1
	0.6nm,0.5s,baz=153,slow=8.2,SNR=4.3						
	0.6nm,0.5s						
VRAC	**Vranov**	**59.48**	**313**	LR	LR	12 08 27.8	
	comp=Z,97nm,19.8s,baz=341,slow=41						
WRA	**Warramunga Arr**	**63.41**	**133**	P	P	11 38 12.9	0.0
	0.2nm,0.5s,baz=322,slow=7.4,SNR=4.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**65.84**	**136**	P	P	11 38 28.9	0.0
	0.5nm,1.0s,baz=316,slow=6.5,SNR=4.0						
	0.5nm,1.0s						

*CNRM **14** 11:29:27.7, 35°.52N×3°.82W, h27km, ml1.8*
*SFS **14** 11:29:29.6, 35°.35N×3°.73W, h21km, ML2.3/9, ML2.5/9, MLv2.2/9*
*MDD **14** 11:29:30.0±0.8, 35°.37N×3°.72W, h10km±10km, mb_Lg2.1/10, Error ellipse: s-maj=9.0km s-min=3.4km az=164.0*

ISC 14 11:29:29.3±0.9, 35°.37N±0°.03×3°.77W±0°.03, h30km±8km, n28, σ1§53/47, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.20**	**222**	P	**Pb**	**11 29 35.7**	**+0.1**
PALE				S	**Sb**	**11 29 40.3**	**+0.5**
PVLZ	**Peæn de**	**0.47**	**246**	Sg	**Sb**	**11 29 46.3**	**+0.2**
PVLZ				Pg	**Pb**	**11 29 38.9**	**-0.4**
GOG	**Mont Gurugu**	**0.65**	**102**	P	**Pb**	**11 29 42.1**	**-0.2**
GOG				S	**Sn**	**11 29 51.9**	**0.0**
WMELI	**Melilla**	**0.67**	**94**	Sg	**Sb**	**11 29 51.0**	**-0.7**
WMELI				Pg	**Pb**	**11 29 40.9**	**-1.7**
EALB	**Alboran**	**0.83**	**46**	⇓P	**Pb**	**11 29 44.2**	**-1.1**
EALB				S	**Sb**	**11 29 55.0**	**-1.1**
EALB				*i* Vmb_Lg		11 29 58.9	
EALB	**Alboran**	**0.83**	**46**	Sg	**Sb**	**11 29 54.4**	**-1.7**
EALB				Pg	**Pb**	**11 29 44.1**	**-1.1**
CHAS	**Isla Isabel II**	**1.11**	**99**	Sg	**Sb**	**11 30 02.4**	**-1.8**
CHAS				Pg	**Pn**	**11 29 49.0**	**+0.1**
TAF	**Taforalt**	**1.24**	**116**	P	**Pn**	**11 29 51.0**	**+0.3**
TAF				S	**Sn**	**11 30 08.9**	**+2.4**
SMIR	**Smir Dam**	**1.35**	**284**	P	**Pn**	**11 29 49.9**	**-2.1**
SMIR				S	**Sn**	**11 30 07.2**	**-1.7**
ECEU	**Ceuta**	**1.41**	**293**	S	**Sn**	**11 30 08.8**	**-1.7**
ECEU				*i* Vmb_Lg		11 30 13.9	
JBK	**JBK**	**1.43**	**136**	P	**Pn**	**11 29 54.4**	**+1.0**
JBK				S	**Sb**	**11 30 13.2**	**-0.2**
EMIJ	**Mijas**	**1.45**	**326**	P	**Pn**	**11 29 53.8**	**+0.3**
EMIJ				S	**Sn**	**11 30 13.0**	**+1.5**
EMIJ	**Mijas**	**1.45**	**326**	Pn	**Pn**	**11 29 53.5**	**+0.1**
EMAL	**Malaga-Limoner**	**1.49**	**339**	Sn	**Sn**	**11 30 12.4**	**-0.1**
EMAL				Pn	**Pn**	**11 29 53.7**	**-0.3**
ELGU	**Los Guajares,**	**1.50**	**5**	P	**Pn**	**11 29 54.1**	**-0.2**
ELGU				S	**Sn**	**11 30 10.4**	**-2.6**
ELGU				*i* Vmb_Lg		11 30 14.1	
ELGU	**Los Guajares,**	**1.50**	**5**	Pn	**Pn**	**11 29 53.3**	**-1.0**
EBER	**Berja**	**1.69**	**25**	P	**Pn**	**11 29 56.7**	**-0.2**
EBER				S	**Sn**	**11 30 17.7**	**0.0**
EBER				*i* Vmb_Lg		11 30 19.7	
EBER	**Berja**	**1.69**	**25**	Pn	**Pn**	**11 29 56.5**	**-0.4**
EBER				Sn	**Sn**	**11 30 17.6**	**0.0**
EGOR	**Sierra Gorda,**	**1.76**	**351**	S	**Sn**	**11 30 21.5**	**+2.1**
EGOR				*i* Vmb_Lg		11 30 40.5	
EGOR	**Sierra Gorda,**	**1.76**	**351**	Sn	**Sn**	**11 30 19.3**	**-0.1**
EQUE	**Quentar**	**1.85**	**8**	P	**Pn**	**11 30 00.8**	**+1.6**
EQUE				S	**Sn**	**11 30 22.4**	**+0.8**
EQUE				*i* Vmb_Lg		11 30 27.1	
EQTA	**Presa de Quent**	**1.86**	**8**	Pn	**Pn**	**11 30 00.7**	**+1.5**
EQTA				Sn	**Sn**	**11 30 21.0**	**-0.7**
EQES	**Quesada**	**2.50**	**13**	P	**Pn**	**11 30 10.8**	**+2.8**
EQES				S	**Sn**	**11 30 39.3**	**+1.8**
EQES				*i* Vmb_Lg		11 30 42.0	
EADA	**Adamuz**	**2.87**	**347**	P	**Pn**	**11 30 15.9**	**+2.8**
EADA				S	**Sn**	**11 30 47.9**	**+1.4**
EADA				*i* Vmb_Lg		11 30 58.2	
EADA	**Adamuz**	**2.87**	**347**	Pn	**Pn**	**11 30 15.1**	**+2.1**
ECAB	**El Cabril**	**3.01**	**334**	S	**Sn**	**11 30 54.5**	**+4.5**
ECAB				*i* Vmb_Lg		11 31 06.5	
ETOB	**Tobarra**	**3.73**	**28**	Pn	**Pn**	**11 30 26.9**	**+2.1**
PVAQ	**Vaqueiros**	**3.78**	**304**	*e*S	**Sn**	**11 31 08.6**	**-0.3**
PVAQ				A	A	11 31 13.4	
	1.1nm,0.6s						

*BER **14** 11:31:13.6±2.3, 80°.76N×0°.45E, h26km±37km, mb(Pn)3.5, Confirmed Earthquake*
*DNK **14** 11:31:13.7±3.0, 80°.26N×0°.97W, h36km±24km, ML1.9*
*IEPN **14** 11:31:14.0, 80°.11N×0°.78W, h10km*

ISC 14 11:31:06.7±0.8, 80°.35N±0°.07×1°.84W±0°.05, h12km, n15, σ3§22/29, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.65**	**305**	*e*P	**Pb**	**11 31 54.1**	**+0.2**
NOR				*e*S	**Sb**	**11 32 25.4**	**-1.0**
NOR	**Nord**	**2.65**	**305**	*i* P	**Pb**	**11 31 54.0**	**0.0**
NOR				*e*S	**Sb**	**11 32 25.8**	**-0.6**
NOR				IAML		11 32 40.0	
	comp=Z,4.6nm,0.3s						
KBS	**Kingsbay**	**2.87**	**113**	*e*P	**Pn**	**11 31 53.7**	**+1.7**
KBS				*e*S	**Sn**	**11 32 23.1**	**-3.3**
KBS	**Kingsbay**	**2.87**	**113**	*e*P	**Pn**	**11 31 54.0**	**+1.9**
KBS				*e*		11 31 54.7	
KBS				*e*S	**Sn**	**11 32 22.9**	**-3.5**
KBS				IAML		11 32 25.3	
	comp=Z,20nm,0.4s						
KBS	**Kingsbay**	**2.87**	**113**	*i* P	**Pn**	**11 31 54.0**	**+1.9**
KBS				*i* S	**Sn**	**11 32 22.9**	**-3.5**
BRBA	**Barentsburg A**	**3.78**	**119**	*e*P	**Pn**	**11 32 08.7**	**+4.0**
BRBA				*e*S	**Sn**	**11 32 48.3**	**-0.6**
SPA0	**Spitsbergen Ar**	**4.03**	**113**	*e*P	**Pn**	**11 32 10.5**	**+2.5**
SPA0				*e*S	**Sn**	**11 32 52.6**	**-2.4**
SPA0	**Spitsbergen Ar**	**4.03**	**113**	*e*P	**Pn**	**11 32 10.7**	**+2.7**
SPA0				*e*S	**Sn**	**11 32 52.7**	**-2.3**
SPA0				IAML		11 33 06.2	
	comp=Z,16nm,0.8s						
DAG	**Danmarks Havn**	**4.88**	**231**	*e*	**Pn**	**11 32 22.5**	**+2.7**
	baz=52,slow=11						
DAG				*i* P	Pb	11 32 22.9	-9.0
DAG				*e*S	**Sn**	**11 33 11.5**	**-4.5**
DAG				IAML		11 33 18.5	
	comp=Z,7.6nm,0.3s						
HOPEN	**Hopen**	**6.56**	**112**	P	**Pn**	**11 32 45.0**	**+2.4**
HOPEN				*e*S	**Sn**	**11 33 52.0**	**-5.2**
DBG	**Daneborg**	**7.23**	**223**	*e*P	**Pn**	**11 32 55.6**	**+3.7**
DBG				*i* S	**Sn**	**11 34 09.9**	**-3.9**
DBG				IAML		11 34 30.9	
	comp=Z,5.5nm,0.4s						
ZFI2	**Zemlya Franca-**	**7.92**	**62**	*e*P	**Pn**	**11 33 04.9**	**+3.5**
ZFI2				*e*S	**Sn**	**11 34 26.8**	**-3.9**
	comp=Z,22nm,1.6s						
OMEGA	**Omega**	**7.94**	**63**	*e*P	**Pn**	**11 33 05.2**	**+3.5**
OMEGA				*e*S	**Sn**	**11 34 27.3**	**-3.9**
	comp=Z,21nm,2.2s						
NEEM	**North Greenlan**	**9.64**	**278**	*i* P	**Pn**	**11 33 28.0**	**+2.9**
NEEM				*e*S	**Sn**	**11 35 08.5**	**-4.7**
NEEM				IAML		11 35 22.3	
	comp=Z,2.9nm,0.4s						
SUMG	**Summit**	**11.28**	**247**	*i* P	**Pn**	**11 33 50.0**	**+2.3**
SUMG				IAML		11 35 55.4	
	comp=Z,1.4nm,0.3s						

*IDC **14** 11:45:50.0±1.0, 6°.61N×92°.35E, h0km, mb3.9/8, mbtmp3.9/9, ML4.2/1, MS3.3/3, Error ellipse: s-maj=46.1km s-min=19.8km az=60.0*
*NEIC **14** 11:45:51.5±1.2, 6°.2N±0°.1×91°.3E±0°.1, h26km±6km, mb4.4/15, Error ellipse: s-maj=21.4km s-min=15.1km az=214.0*

ISC 14 11:45:52.0±0.8, 6°.1N±0°.1×91°.3E±0°.1, h35km, n43, σ1§37/35, mb4.2/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**5.66**	**99**	Pn	**Pn**	**11 47 13.7**	**0.0**
CMAR	**Chiang Mai Arr**	**14.35**	**31**	Pn	Pn	11 49 01.8	-11
	0.4nm,0.3s,baz=231,slow=15,SNR=2.1						
CMAR				LR	LR	11 54 25.8	
	comp=Z,40nm,19.2s,baz=200,slow=38						
	0.6nm,0.3s						
CHTO	**Chiang Mai**	**14.65**	**30**		**Pn**	**11 49 16.6**	**-0.3**
CRAI	**Chiangrai**	**16.56**	**31**	P	**Pn**	**11 49 41.9**	**+0.2**
HYB	**Hyderabad**	**16.80**	**313**	*e*P	**P**	**11 49 46.4**	**-0.2**
HYB				*e*S	**S**	**11 53 00.7**	**+0.5**
H08S3	**Diego Garcia H**	**23.23**	**234**	T	T	12 17 31.4	
	baz=55,slow=75,SNR=13						
H08S2	**Diego Garcia H**	**23.23**	**234**	T	T	12 17 32.7	
	baz=55,slow=75,SNR=18						
H08S1	**Diego Carcia H**	**23.24**	**234**	T	T	12 17 28.6	
	baz=55,slow=75,SNR=8.1						
HKPS	**Hong Kong Po S**	**27.27**	**52**	P	**P**	**11 51 32.2**	**-1.1**
NIL	**Nilore**	**32.13**	**331**	P	**P**	**11 52 15.7**	**-0.5**
NIL				IAmb	IAmb	11 52 47.1	
	comp=Z,4.6nm,0.6s						
BOOM	**Boomskoye usch**	**38.71**	**342**	P	**P**	**11 53 12.8**	**-0.1**
BOOM				IAmb	IAmb	11 53 16.1	
	comp=Z,3.6nm,0.8s						
KK31	**Karatay Array**	**41.17**	**337**	P	**P**	**11 53 32.1**	**-1.0**
KK31				IAmb	IAmb	11 53 37.1	
	comp=Z,3.2nm,0.9s						
KKAR	**Karatay Array**	**41.17**	**337**	P	**P**	**11 53 34.5**	**+1.4**
MK31	**Makanchi Array**	**41.28**	**351**	P	**P**	**11 53 33.5**	**-0.4**
MKAR	**Makanchi Array**	**41.28**	**351**	P	**P**	**11 53 33.5**	**-0.4**
MKAR	**Makanchi Array**	**41.28**	**351**	P	**P**	**11 53 34.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=172,slow=8.5,SNR=9.7						
	comp=Z,1.3nm,0.6s						
SONM	**Songino Array**	**43.53**	**15**	LR	LR	12 12 10.9	
	comp=Z,64nm,18.2s,baz=280,slow=37						
KURBB	**Kurchatov Arra**	**45.64**	**349**	P	**P**	**11 54 10.1**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=172,slow=7.0,SNR=21						
KURBB				PcP	**PcP**	**11 55 49.8**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=158,slow=2.8,SNR=5.1						
	comp=Z,2.2nm,0.7s						
KURK	**Kurchatov**	**45.71**	**349**	P	**P**	**11 54 10.3**	**+0.8**
KURK				IAmb	IAmb	11 54 27.8	
	comp=Z,5.0nm,1.2s						
ZAA0	**Zalesovo Array**	**47.99**	**355**	P	**P**	**11 54 26.6**	**-0.7**
ZAA0				IAmb	IAmb	11 54 28.9	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**47.99**	**355**	P	**P**	**11 54 26.8**	**-0.5**
ZALV	**Zalesovo Beam**	**47.99**	**355**	P	**P**	**11 54 27.4**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=169,slow=8.5,SNR=5.0						
	comp=Z,1.2nm,0.6s						
WB0	**Warramunga Arr**	**49.56**	**122**	P	**P**	**11 54 40.1**	**+0.2**
WB0				IAmb	IAmb	11 55 23.1	
	comp=Z,4.2nm,1.1s						
WRA	**Warramunga Arr**	**49.59**	**123**	P	**P**	**11 54 41.0**	**+0.7**
WRA	**Warramunga Arr**	**49.59**	**123**	P	**P**	**11 54 38.6**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=304,slow=8.5,SNR=6.6						
	comp=Z,0.8nm,0.8s						
WB2	**Warramunga Arr**	**49.61**	**123**	P	**P**	**11 54 40.4**	**+0.1**
WB2				IAmb	IAmb	11 54 49.9	
	comp=Z,3.4nm,0.8s						
WR0	**Warramunga Arr**	**49.77**	**122**	P	**P**	**11 54 41.5**	**-0.1**
WR0				IAmb	IAmb	11 55 08.2	
	comp=Z,9.2nm,1.5s						
BVAR	**Borovoye Array**	**49.82**	**344**	P	**P**	**11 54 42.8**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=141,slow=9.6,SNR=6.6						
	comp=Z,1.2nm,0.6s						
ABKAR	**Akbulak array**	**50.50**	**334**	P	**P**	**11 54 46.3**	**-0.3**
ASAR	**Alice Springs**	**51.01**	**127**	P	**P**	**11 54 51.3**	**+0.4**
ASAR	**Alice Springs**	**51.01**	**127**	P	**P**	**11 54 50.0**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=298,slow=7.5,SNR=5.5						
	comp=Z,0.7nm,0.7s						
MJAR	**Matsushiro Arr**	**52.41**	**48**	LR	LR	12 17 56.9	
	comp=Z,36nm,18.2s,baz=214,slow=38						
ARU	**Arti**	**56.47**	**339**	P	**P**	**11 55 26.1**	**-4.2**
ARU				IAmb	IAmb	11 55 28.0	
	comp=Z,3.0nm,0.9s						
MBAR	**Mbarara**	**60.84**	**266**	P	**P**	**11 55 59.6**	**-2.1**
H04N2	**CROZET ISLANDS**	**62.80**	**210**	T	T	13 06 55.4	
	baz=47,slow=75,SNR=7.4						
H04N1	**CROZET ISLANDS**	**62.81**	**210**	T	T	13 06 27.9	
	baz=47,slow=75,SNR=7.7						
H04N3	**CROZET ISLANDS**	**62.82**	**210**	T	T	13 06 47.2	
	baz=47,slow=75,SNR=8.4						
TIRR	**Tirgusor**	**66.54**	**316**	P	**P**	**11 56 38.3**	**-0.2**
FINES	**FINESS Array B**	**72.98**	**333**	P	**P**	**11 57 20.9**	**+3.1**
	comp=Z,1.8nm,0.8s,baz=81,slow=8.6,SNR=1.7						
	comp=Z,1.8nm,0.8s						
ESDC	**Sonseca Array**	**90.20**	**310**	P	P	11 58 54.2	+4.9
	comp=Z,0.6nm,0.8s,baz=78,slow=4.3,SNR=6.1						
	comp=Z,0.6nm,0.8s						
NVAR	**Mina Array Bea**	**127.84**	**29**	PKP	**PKiKP**	**12 04 57.0**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=352,slow=3.1,SNR=3.6						
TXAR	**Lajitas Array**	**141.93**	**21**	PKP	**PKiKP**	**12 05 23.1**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=346,slow=1.1,SNR=6.6						
CPUP	**Villa Florida**	**143.98**	**233**	PKPbc	**PKiKP**	**12 05 29.4**	**+1.3**
	comp=Z,1.8nm,0.7s,baz=145,slow=3.7,SNR=3.9						

*SOME **14** 12:16:48.5, 38°.50N×76°.03E, h5km*
*IDC **14** 12:16:52.0±1.5, 38°.52N×75°.98E, h0km, mb3.9/6, mbtmp3.7/11, ML2.8/5, MS3.2/2, Error ellipse: s-maj=23.1km s-min=17.1km az=111.0*
*NNC **14** 12:16:54.2±1.1, 38°.67N×76°.08E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=8.4km s-min=6.4km az=162.0*

ISC 14 12:16:55.9±0.9, 38°.68N±0°.07×76°.07E±0°.06, h10km, n64, σ1§92/69, mb3.9/6, 9C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**3.57**	**2**	P	**Pb**	**12 18 01.9**	**+2.7**
	SNR=8.0						
AML	**Almayashu**	**3.90**	**333**	P	**Pb**	**12 18 08.2**	**+3.2**
	SNR=5.9						
AML	**Almayashu**	**3.90**	**333**	⇑Pg	**Pb**	**12 18 06.6**	**+1.6**
	1.4nm,0.6s						
AML				⇑Lg	Lg	12 18 58.6	
	23nm,1.0s						
KBK	**Karagaybulak**	**4.07**	**348**	P	**Pb**	**12 18 10.3**	**+2.6**
	SNR=7.2						
AAK	**Ala-Archa**	**4.13**	**344**	P	**Pb**	**12 18 12.2**	**+3.3**
	SNR=6.4						
AAK	**Ala-Archa**	**4.13**	**344**	Pn	**Pn**	**12 18 02.0**	**+2.8**
	1.0nm,0.3s,baz=110,slow=9.6,SNR=5.4						
AAK				Pg	**Pb**	**12 18 08.3**	**-0.5**
	3.0nm,0.3s,baz=139,slow=9.3,SNR=12						
AAK				Sn	**Sn**	**12 18 53.2**	**+5.5**
	4.7nm,0.3s,baz=72,slow=5.5,SNR=4.4						
AAK				Lg	Lg	12 19 08.6	
	5.3nm,0.3s,baz=26,slow=20,SNR=7.0						
	3.5nm,0.5s						
TKM2	**Tokmak 2**	**4.25**	**355**	P	**Pb**	**12 18 12.7**	**+1.8**
	SNR=13						
TKM2	**Tokmak 2**	**4.25**	**355**	⇓Pn	**Pn**	**12 18 01.6**	**+0.7**
	4.2nm,0.8s						
TKM2				⇑Pg	**Pb**	**12 18 12.1**	**+1.2**
	27nm,0.7s						
TKM2				⇓Lg	Lg	12 19 08.8	
	57nm,0.6s						
EKS2	**Erkin-Say**	**4.35**	**337**	P	**Pg**	**12 18 17.9**	**-1.2**
	SNR=6.1						
KST	**Kastek**	**4.36**	**359**	Pg	**Pb**	**12 18 12.6**	**-0.1**
	11nm,0.3s						
KST				Lg	Lg	12 19 13.3	
	127nm,0.5s						
KST	**Kastek**	**4.36**	**359**	*e*Pg	**Pb**	**12 18 12.6**	**-0.1**
	11nm,0.3s						
KST				*e*Lg	Lg	12 19 13.3	
	127nm,0.5s						
TNSS	**Tian-Shan**	**4.41**	**8**	Pg	**Pb**	**

KURS				Lg	Lg	12 19 37.4	
	33nm,0.7s						
KURS	**Kuram**	**5.06**	**18**	*e*Pg	**Pb**	**12 18 26.5**	**+1.9**
	21nm,0.1s						
KURS				*e*Lg	Lg	12 19 37.4	
	33nm,0.7s						
SHLS	**Shalkode**	**5.16**	**29**	Pg	**Pg**	**12 18 31.9**	**-2.8**
	20nm,0.3s						
SHLS				Lg	Lg	12 19 46.6	
	52nm,0.0s						
SHLS	**Shalkode**	**5.16**	**29**	*e*Pg	**Pb**	**12 18 30.4**	**+4.1**
	27nm,0.4s						
SHLS				*e*Lg	Lg	12 19 43.8	
	52nm,0.5s						
KPKS	**Kokpek**	**5.17**	**22**	Pg	**Pb**	**12 18 27.7**	**+1.2**
	10nm,0.3s						
KPKS				Lg	Lg	12 19 39.6	
	53nm,0.6s						
KPKS	**Kokpek**	**5.17**	**22**	*e*Pg	**Pb**	**12 18 27.7**	**+1.2**
	10nm,0.3s						
KPKS				*e*Lg	Lg	12 19 39.6	
	53nm,0.6s						
KUU	**Kurty**	**5.22**	**2**	Pg	**Pb**	**12 18 28.4**	**+1.3**
	6.4nm,0.3s						
KUU				Lg	Lg	12 19 40.5	
	21nm,0.7s						
KUU	**Kurty**	**5.22**	**2**	*e*Pg	**Pb**	**12 18 28.4**	**+1.3**
	6.4nm,0.3s						
KUU				*e*Lg	Lg	12 19 40.5	
	21nm,0.7s						
CHKK	**Chushkaly**	**5.22**	**7**	Pg	**Pb**	**12 18 28.1**	**+0.9**
	4.9nm,0.4s						
CHKK				Lg	Lg	12 19 40.3	
	18nm,0.3s						
CHKK	**Chushkaly**	**5.22**	**7**	*e*Pg	**Pb**	**12 18 29.1**	**+1.9**
	4.8nm,0.2s						
CHKK				*e*Lg	Lg	12 19 41.1	
	24nm,0.5s						
PDGK	**Podgornoye**	**5.32**	**28**	Pg	**Pb**	**12 18 31.3**	**+2.3**
	11nm,0.1s						
PDGK				Lg	Lg	12 19 45.7	
	29nm,0.8s						
PDGK	**Podgornoye**	**5.32**	**28**	⇑Pg	**Pb**	**12 18 31.1**	**+2.2**
	13nm,0.5s						
PDGK				⇓Lg	Lg	12 19 41.8	
	68nm,0.8s						
CHCP	**Chirah Chowk**	**5.50**	**205**	P	**Pn**	**12 18 21.0**	**+3.1**
ARXS	**Arharly**	**5.69**	**13**	Pg	**Pb**	**12 18 37.5**	**+2.3**
	4.8nm,0.3s						
ARXS				Lg	Lg	12 19 56.3	
	20nm,0.5s						
ARXS	**Arharly**	**5.69**	**13**	*e*Pg	**Pb**	**12 18 37.5**	**+2.3**
	4.8nm,0.3s						
ARXS				*e*Lg	Lg	12 19 56.3	
	20nm,0.5s						
BLB	**Baldybastay**	**5.71**	**18**	Pg	**Pb**	**12 18 37.1**	**+1.5**
	15nm,0.3s						
BLB				Lg	Lg	12 19 55.6	
	14nm,1.1s						
CEP	**Cherat**	**5.90**	**216**	P	**Pn**	**12 18 26.3**	**+2.9**
KK31	**Karatay Array**	**6.11**	**318**	⇑Pn	**Pn**	**12 18 27.4**	**+1.3**
	1.6nm,0.3s,baz=126,slow=12,SNR=23						
KK31				Sn	**Sn**	**12 19 38.0**	**+1.9**
	6.5nm,0.5s,baz=127,slow=23,SNR=8.0						
DJR	**Jarkent**	**6.30**	**25**	Pg	**Pb**	**12 18 47.7**	**+2.0**
	5.4nm,0.3s						
DJR				Lg	Lg	12 20 14.1	
	15nm,0.5s						
DJR	**Jarkent**	**6.30**	**25**	*e*Pg	**Pb**	**12 18 49.0**	**+3.3**
	2.3nm,0.2s						
DJR				*e*Lg	Lg	12 20 15.8	
	15nm,0.7s						
THW	**Thamme Wali**	**6.84**	**212**	P	**Pn**	**12 18 37.9**	**+1.6**
MAKZ	**Makanchi**	**9.21**	**26**	⇑Pn	**Pn**	**12 19 09.8**	**+1.0**
	1.6nm,0.5s						
MAKZ				⇑Lg	Lg	12 21 44.6	
	4.1nm,1.0s						
MK31	**Makanchi Array**	**9.31**	**27**	⇓Pn	**Pn**	**12 19 10.2**	**+0.1**
	1.1nm,0.7s,baz=203,slow=12,SNR=9.2						
MK31				⇑Lg	Lg	12 21 48.1	
	5.9nm,1.0s,baz=199,slow=21,SNR=4.0						
MKAR	**Makanchi Array**	**9.31**	**27**	Pn	**Pn**	**12 19 10.6**	**+0.5**
	0.3nm,0.3s,baz=216,slow=13,SNR=9.9						
MKAR				Sn	**Sn**	**12 20 56.9**	**+2.0**
	0.2nm,0.3s,baz=195,slow=17,SNR=1.6						
MKAR				Lg	Lg	12 21 54.4	
	0.2nm,0.3s,baz=187,slow=23,SNR=1.7						
MKAR				LR	LR	12 23 27.4	
	comp=Z,87nm,19.5s,baz=272,slow=42 0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**12.07**	**8**	Pn	**Pn**	**12 19 47.1**	**-0.7**
	baz=194,slow=12,SNR=6.6						
KURBB				Lg	Lg	12 23 18.6	
	baz=195,slow=27,SNR=4.2 1.1nm,0.8s						
BVAR	**Borovoye Array**	**14.88**	**347**	Pn	**Pn**	**12 20 24.0**	**-2.2**
	baz=167,slow=8.9,SNR=1.9						
BVAR				Lg	Lg	12 24 48.4	
	baz=162,slow=41,SNR=2.3 0.4nm,0.6s						
AB31	**Akbulak array**	**15.67**	**318**	Pn	**Pn**	**12 20 35.5**	**-1.2**
	0.9nm,0.7s,baz=120,slow=14,SNR=13						
ZALV	**Zalesovo Beam**	**16.41**	**19**	Pn	**Pn**	**12 20 46.4**	**+0.4**
	0.4nm,0.3s,baz=219,slow=14,SNR=8.2 1.7nm,0.5s						
SONM	**Songino Array**	**23.78**	**58**	P	**P**	**12 22 07.7**	**-0.9**
	2.1nm,0.5s,baz=256,slow=11,SNR=8.5						
SONM				LR	LR	12 32 51.9	
	comp=Z,69nm,18.9s,baz=267,slow=40 2.1nm,0.5s						
AKASG	**Malin Array Be**	**34.84**	**306**	P	**P**	**12 23 45.1**	**-1.7**
	0.2nm,0.3s,baz=75,slow=8.8,SNR=5.0 0.2nm,0.3s						
FINES	**FINESS Array B**	**38.04**	**323**	P	**P**	**12 24 11.2**	**-2.9**
	5.4nm,1.1s,baz=101,slow=7.4,SNR=2.1 5.4nm,1.1s						
ARCES	**ARCESS Array B**	**40.76**	**335**	P	**P**	**12 24 36.0**	**-0.7**
	2.3nm,0.9s,baz=107,slow=8.1,SNR=5.0 2.3nm,0.9s						
HFS	**Hagfors**	**43.91**	**320**	P	**P**	**12 25 00.8**	**-1.6**
	2.1nm,0.8s,baz=108,slow=4.7,SNR=1.7 2.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**69.76**	**271**	P	**P**	**12 28 03.5**	**-3.0**
	0.6nm,0.6s,baz=45,slow=6.4,SNR=2.9 0.6nm,0.6s						

DJA 14 12:30:31.2±0.5, 3°S±9°×14°0E±°, h43km±12km, M3.9/5, mb3.9/3, mB5.2/1, MLv3.8/5, Mw(mB)4.6/1, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.51**	**67**	P	Pn	12 30 43.3	+1.1
GENI				S	Sn	12 30 52.9	+3.0
JAY	**Jayapura**	**1.04**	**75**	P	Pn	12 30 49.4	0.0
JAY				S	Sn	12 31 03.3	+0.5
SMPI	**Sarmi**	**1.27**	**309**	P	Pn	12 30 52.3	-0.2
SMPI				S	Sn	12 31 08.8	+0.5
SRPI	**Serui, Papua**	**3.58**	**285**	P	Pn	12 31 23.9	-0.3
RKPI	**Ransiki, Papua**	**5.66**	**283**	P	Pn	12 31 53.8	+0.9
	19nm,0.8s,2μm0.5nm						
FAKI	**Fak Fak**	**7.44**	**269**	P	Pn	12 32 16.6	-0.7
	7.3nm,0.9s,0.0nm						

ROM 14 12:37:23.9±0.1, 42°.756N±0°.004×13°.091E±0°.004, h11km, ML1.2/24, 1C-2D, Error ellipse: s-maj=0.5km s-min=0.3km az=24.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.08**	**12**	P	Pg	12 37 26.8	+0.3
NRCA				S	Sg	12 37 28.7	+0.3
NRCA				AML	AML		
	comp=E,764μm,0.1s						
NRCA				AML	AML		
	comp=N,302μm,0.1s						
NRCA				AML	AML		
	comp=N,302μm,0.1s						
NRCA				AML	AML		
	comp=N,253μm,0.1s						
NRCA				AML	AML		
	comp=E,710μm,0.1s						
NRCA				AML	AML		
	comp=E,764μm,0.1s						
T1214	**Arquata del Tr**	**0.09**	**88**	P	Pg	12 37 27.0	+0.4
T1214				S	Sg	12 37 28.8	+0.2
T1214				AML	AML		
	comp=E,297μm,0.2s						
T1214				AML	AML		
	comp=N,300μm,0.6s						
T1214				AML	AML		
	comp=E,311μm,0.2s						
T1214				AML	AML		
	comp=N,259μm,0.2s						
T1214				AML	AML		
	comp=N,270μm,0.2s						
T1214				AML	AML		
	comp=E,297μm,0.2s						
LNSS	**Leonessa**	**0.16**	**194**	P	Pg	12 37 27.9	+0.4
LNSS				S	Sg	12 37 31.0	+0.9
LNSS				AML	AML		
	comp=E,132μm,0.2s						
LNSS				AML	AML		
	comp=N,142μm,1.4s						
LNSS				AML	AML		
	comp=E,117μm,0.1s						
LNSS				AML	AML		
	comp=N,133μm,0.1s						
GAVE	**Gavelli**	**0.16**	**246**	⇑P	Pg	12 37 28.1	+0.6
GAVE				S	Sg	12 37 30.9	+0.7
GAVE				AML	AML		
	comp=E,136μm,0.5s						
GAVE				AML	AML		
	comp=N,158μm,0.5s						
GAVE				AML	AML		
	comp=E,132μm,0.2s						
GAVE				AML	AML		
	comp=E,121μm,0.2s						
GAVE				AML	AML		
	comp=N,182μm,0.7s						
GAVE				AML	AML		
	comp=N,120μm,0.2s						
T1221	**Campello sul C**	**0.21**	**300**	P	Pg	12 37 28.9	+0.6
T1221				S	Sg	12 37 32.4	+1.0
T1221				AML	AML		
	comp=N,102μm,0.7s						
T1221				AML	AML		
	comp=E,21μm,0.2s						
SMA1	**SAN MARTINO**	**0.22**	**125**	P	Pg	12 37 29.0	+0.5
SMA1				S	Sg	12 37 33.2	+1.4
SMA1				AML	AML		
	comp=E,45μm,1.4s						
SMA1				AML	AML		
	comp=N,55μm,1.1s						
SMA1				AML	AML		
	comp=E,45μm,1.4s						
SMA1				AML	AML		
	comp=E,32μm,0.3s						
SMA1				AML	AML		
	comp=N,32μm,0.2s						
MTRA	**Matera**	**0.23**	**90**	P	Pg	12 37 29.2	+0.6
MTRA				S	Sg	12 37 32.6	+0.8
MTRA				AML	AML		
	comp=N,73μm,0.4s						
MTRA				AML	AML		
	comp=E,78μm,0.7s						
MTRA				AML	AML		
	comp=E,72μm,0.2s						
MTRA				AML	AML		
	comp=N,225μm,0.8s						
MTRA				AML	AML		
	comp=N,72μm,0.1s						
RM33	**Pellescritta (**	**0.26**	**160**	P	Pg	12 37 29.6	+0.3
RM33				S	Sb	12 37 34.1	-1.1
RM33				AML	AML		
	comp=N,26μm,0.1s						
RM33				AML	AML		
	comp=E,24μm,0.1s						
RM33				AML	AML		
	comp=N,101μm,0.6s						
CSP1	**Cessapalombo**	**0.35**	**14**	⇓P	Pg	12 37 31.3	+0.4
CSP1				AML	AML		
	comp=N,25μm,0.3s						
CSP1				AML	AML		
	comp=E,23μm,0.2s						
TERO	**Teramo**	**0.40**	**109**	⇓P	Pb	12 37 32.4	-0.6
TERO				AML	AML		
	comp=E,26μm,0.8s						
TERO				AML	AML		
	comp=N,37μm,0.1s						
TERO				AML	AML		
	comp=N,73μm,0.8s						
TERO				AML	AML		
	comp=E,22μm,0.1s						
TERO				AML	AML		
	comp=N,37μm,0.1s						
ASSB	**Assisi San Ben**	**0.43**	**312**	P	Pg	12 37 32.8	+0.5
ASSB				AML	AML		
	comp=E,11μm,0.1s						
ASSB				AML	AML		
	comp=N,12μm,0.1s						
PP3	**Marolino**	**0.73**	**31**	S	Sg	12 37 46.0	-1.5
LPEL	**Lama dei Peligno**	**1.08**	**131**	S	Sb	12 37 58.7	+0.1

*SKO **14** 12:37:51.9, 40°.84N×21°.34E, h19km, ML3.3*
*THE **14** 12:37:51.9, 40°.90N×21°.29E, h5km±1km, ML3.5/5, Error ellipse: s-maj=1.9km s-min=0.7km az=140.0*
*TIR **14** 12:37:52.9, 40°.78N×21°.26E, h7km±1km, Md3.0, Ml2.8*
*ATH **14** 12:37:52.8, 40°.84N×21°.31E, h10km, ML3.2/14, Error ellipse: s-maj=2.2km s-min=0.7km az=141.0*
*PDG **14** 12:37:53.2±0.2, 40°.89N×21°.37E, h10km, ML3.4/8, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0*
*BEO **14** 12:37:53.2±0.3, 40°.89N×21°.38E, h6km±2km, ML3.1/10*
ISC 14 12:37:52.7±0.7, 40°.83N±0°.02×21°.34E±0°.02, h14km±4km, n172, σ1$26/226, 18C-14D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.05**	**146**	P	**Pg**	**12 37 55.3**	**-0.1**
FNA				S	**Sg**	**12 37 56.6**	**-0.7**
	295μm,0.3s						
FNA	**Florina**	**0.05**	**146**	P	**Pg**	**12 37 55.3**	**-0.1**
	baz=87						
FNA				S	**Sg**	**12 37 57.4**	**+0.1**
	baz=87						
FNA	**Florina**	**0.05**	**146**	*e*Pg	**Pg**	**12 37 55.3**	**-0.1**
FNA				*e*Sg	**Sg**	**12 37 57.4**	**+0.1**
FNA	**Florina**	**0.05**	**146**	⇓*i*Pg	**Pg**	**12 37 55.3**	**-0.1**
FNA				*i* Sg	**Sg**	**12 37 57.4**	**+0.1**
FNA	**Florina**	**0.05**	**146**	P	**Pg**	**12 37 55.2**	**-0.1**
FNA				S	**Sg**	**12 37 57.3**	**0.0**
FNA				AML	AML	12 37 57.7	
FNA				AML	AML	12 37 57.9	
KBN	**Korca**	**0.47**	**244**	P	**Pg**	**12 38 01.1**	**-0.8**
	baz=247						
KBN				S	**Sg**	**12 38 07.1**	**-1.1**
	baz=247						
KBN				AMP			
	comp=N,3.8nm,0.2s,baz=247						
NEST	**Nestorio**	**0.47**	**208**	P	**Pg**	**12 38 01.2**	**-0.8**
NEST				S	**Sg**	**12 38 09.5**	**+1.2**
	comp=N,8μm,0.4s						
NEST	**Nestorio**	**0.47**	**208**	P	**Pg**	**12 38 01.2**	**-0.8**
NEST				S	**Sg**	**12 38 07.8**	**-0.5**
NEST				AML	AML	12 38 09.4	
	comp=E,20116μm,0.4s						
NEST				AML	AML	12 38 09.4	
	comp=N,18345μm,0.4s						
OHR	**Ohrid**	**0.50**	**305**	*e*Pg	**Pg**	**12 38 02.0**	**-0.5**
OHR				*e*Sg	**Sb**	**12 38 10.3**	**-0.1**
OHR	**Ohrid**	**0.50**	**305**	⇑*i*Pg	**Pg**	**12 38 02.1**	**-0.5**
OHR				*i* Sg	**Sg**	**12 38 09.9**	**+0.7**
OHR				*e*Lg	Lg	12 38 10.3	
	comp=N,6μm,0.6s						
OHR				*e*Lg	Lg	12 38 10.4	
	comp=E,4μm,0.5s						
PENT	**Pentalofos**	**0.65**	**194**	P	**Pg**	**12 38 04.5**	**-0.9**
PENT				S	**Sb**	**12 38 15.9**	**+1.1**
PENT	**Pentalofos**	**0.65**	**194**	P	**Pg**	**12 38 04.4**	**-0.9**
PENT				S	**Sg**	**12 38 14.4**	**+0.4**
KTI	**Kastanea**	**0.73**	**126**	P	**Pg**	**12 38 06.5**	**-0.5**
GRG	**Griva**	**0.82**	**81**	P	**Pg**	**12 38 08.0**	**-0.6**
GRG				S	**Sb**	**12 38 20.4**	**+0.8**
	comp=E,2μm,0.5s						
GRG	**Griva**	**0.82**	**81**	*i* Pg	**Pg**	**12 38 08.4**	**-0.1**
GRG				*i* Sg	**Sb**	**12 38 20.8**	**+1.2**
GRG	**Griva**	**0.82**	**81**	P	**Pg**	**12 38 07.9**	**-0.6**
GRG				S	**Sb**	**12 38 20.1**	**+0.6**
GRG				AML	AML	12 38 24.9	
	comp=E,2975μm,0.5s						
GRG				AML	AML	12 38 27.9	
	comp=N,6093μm,0.5s						
KPRO	**Kipourio**	**0.87**	**179**	P	**Pg**	**12 38 09.0**	**-0.6**
KPRO				S	**Sn**	**12 38 23.9**	**+0.8**
	comp=N,4μm,0.5s						
KPRO	**Kipourio**	**0.87**	**179**	P	**Pg**	**12 38 08.0**	**-1.6**
KPRO				S	**Sg**	**12 38 22.1**	**+1.1**
KPRO				AML	AML	12 38 27.9	
	comp=N,8539μm,0.8s						
KPRO				AML	AML	12 38 29.5	
	comp=E,7816μm,0.4s						
LSK	**Leskovik**	**0.88**	**220**	P	**Pg**	**12 38 08.2**	**-1.6**
	baz=219						
LSK				S	**Sg**	**12 38 20.5**	**-0.8**
	baz=219						
LSK				AMP			
	comp=N,2.0nm,0.5s,baz=219						
VAY	**Valandovo**	**1.05**	**62**	*e*Pg	**Pg**	**12 38 12.4**	**-0.6**
VAY				*e*Sg	**Sn**	**12 38 27.4**	**-0.1**
VAY	**Valandovo**	**1.05**	**62**	*i* Pg	**Pg**	**12 38 12.3**	**-0.7**
VAY				*i* Sg	**Sb**	**12 38 26.7**	**+0.4**
VAY				*e*Lg	Lg	12 38 27.7	
	comp=N,207nm,0.4s						
VAY				*e*Lg	Lg	12 38 28.5	
	comp=E,126nm,0.3s						
STIP	**Stip**	**1.08**	**36**	⇑*i*Pg	**Pn**	**12 38 15.6**	**+2.2**
STIP				*i* Sg	**Sn**	**12 38 33.2**	**+5.1**
STIP				*e*Lg	Lg	12 38 33.4	
	comp=E,117nm,0.2s						
STIP				*e*Lg	Lg	12 38 33.7	
	comp=N,385nm,0.3s						
SKO	**Skopje**	**1.15**	**4**	*e*Pg	**Pb**	**12 38 13.8**	**-0.5**
SKO				*e*Sg	**Sn**	**12 38 30.3**	**+0.4**
SKO	**Skopje**	**1.15**	**4**	*i* Pg	**Pb**	**12 38 13.8**	**-0.5**
SKO				*i* Sg	**Sn**	**12 38 30.6**	**+0.8**
SKO				*e*Lg	Lg	12 38 32.1	
	comp=E,49nm,0.4s						
SKO				*e*Lg	Lg	12 38 32.4	
	comp=N,13nm,0.0s						
JAN	**Janina**	**1.23**	**198**	P	**Pn**	**12 38 15.9**	**+0.4**
JAN	**Janina**	**1.23**	**198**	P	**Pn**	**12 38 15.7**	**+0.2**
JAN				S	**Sb**	**12 38 31.7**	**+0.3**
JAN				AML	AML	12 38 37.4	
	comp=E,1946μm,0.3s						
JAN				AML	AML	12 38 38.2	
	comp=N,1951μm,0.4s						
KNT	**Kendrikon**	**1.23**	**74**	P	**Pn**	**12 38 15.0**	**-0.5**
KNT	**Kendrikon**	**1.23**	**74**	*i* Pg	**Pn**	**12 38 15.8**	**+0.4**
KNT				*i* Sg	**Sn**	**12 38 32.8**	**+1.0**
KNT	**Kendrikon**	**1.23**	**74**	P	**Pn**	**12 38 15.6**	**+0.2**
KNT				S	**Sg**	**12 38 32.1**	**-0.2**
KNT				AML	AML	12 38 36.3	
	comp=E,800μm,0.6s						
KNT				AML	AML	12 38 36.5	
	comp=N,2017μm,0.5s						
TIR	**Tirane**	**1.23**	**296**	⇑P	**Pn**	**12 38 15.7**	**+0.3**
TIR	**Tirane**	**1.23**	**296**	P	**Pn**	**12 38 16.1**	**+0.7**
	baz=299						
TIR				S	**Sn**	**12 38 34.3**	**+2.4**
	baz=299						
TIR				AMP			
	comp=N,0.3nm,0.5s,baz=299						
TIR	**Tirane**	**1.23**	**296**	*e*Pg	**Pn**	**12 38 15.5**	**0.0**
TIR				*e*Sg	**Sn**	**12 38 34.7**	**+2.8**
THE	**Thessaloniki**	**1.25**	**98**	P	**Pn**	**12 38 15.4**	**-0.4**
THE	**Thessaloniki**	**1.25**	**98**	*i* Pg	**Pn**	**12 38 15.8**	**+0.1**
THE	**Thessaloniki**	**1.25**	**98**	P	**Pn**	**12 38 15.4**	**-0.4**
THE				AML	AML	12 38 37.2	
	comp=N,974μm,0.8s						
THE				AML	AML	12 38 40.1	
	comp=E,553μm,0.4s						
TYRN	**Tyrnavos**	**1.31**	**148**	P	**Pn**	**12 38 16.9**	**+0.4**
TYRN	**Tyrnavos**	**1.31**	**148**	P	**Pn**	**12 38 16.0**	**-0.5**
HORT	**Hortiatis**	**1.36**	**99**	P	**Pn**	**12 38 17.2**	**-0.2**
HORT	**Hortiatis**	**1.36**	**99**	P	**Pn**	**12 38 17.1**	**-0.2**
HORT				S	**Sb**	**12 38 35.0**	**-0.2**
HORT				AML	AML	12 38 42.1	
	comp=E,451μm,0.4s						
HORT				AML	AML	12 38 42.2	
	comp=N,707μm,0.7s						
THL	**Klokotos Trika**	**1.36**	**157**	P	**Pn**	**12 38 17.1**	**-0.2**
THL				S	**Sg**	**12 38 37.9**	**+1.3**
	comp=N,1μm,0.7s						
THL	**Klokotos Trika**	**1.36**	**157**	P	**Pn**	**12 38 16.8**	**-0.5**
THL				S	**Sb**	**12 38 35.1**	**-0.1**
THL				AML	AML	12 38 44.1	
	comp=E,2292μm,0.9s						
THL				AML	AML	12 38 44.7	
	comp=N,1946μm,0.6s						
SRN	**Sarande**	**1.39**	**228**	P	**Pn**	**12 38 18.6**	**+1.0**
	baz=228						
SRN				S	**Sg**	**12 38 38.3**	**+0.7**
	baz=228						
SRN				AMP			
	comp=N,0.8nm,0.4s,baz=228						
VLO	**Vlora**	**1.45**	**256**	P	**Pg**	**12 38 21.1**	**+0.6**
	baz=258						
VLO				S	**Sb**	**12 38 39.2**	**+1.6**
	baz=258						
IGT	**Igoumenitsa**	**1.50**	**211**	P	**Pn**	**12 38 20.0**	**+0.7**
IGT	**Igoumenitsa**	**1.50**	**211**	P	**Pn**	**12 38 19.8**	**+0.6**
IGT				AML	AML	12 38 48.8	
	comp=N,1438μm,0.5s						
IGT				AML	AML	12 38 49.5	
	comp=E,1052μm,0.7s						
KASA	**Kassiopi**	**1.52**	**225**	P	**Pn**	**12 38 20.0**	**+0.5**
SOH	**Sokhos**	**1.53**	**90**	P	**Pn**	**12 38 19.9**	**+0.2**
SOH	**Sokhos**	**1.53**	**90**	*i* Pn	**Pn**	**12 38 20.1**	**+0.4**
SOH	**Sokhos**	**1.53**	**90**	P	**Pn**	**12 38 19.8**	**+0.2**
SOH				AML	AML	12 38 46.8	
	comp=E,861μm,0.5s						
SOH				AML	AML	12 38 48.0	
	comp=N,1008μm,0.5s						
KEK	**Kerkira**	**1.62**	**227**	P	**Pn**	**12 38 21.0**	**+0.2**
KEK	**Kerkira**	**1.62**	**227**	P	**Pn**	**12 38 21.9**	**+1.1**
KEK				AML	AML	12 38 49.7	
	comp=E,682μm,0.4s						
KEK				AML	AML	12 38 56.5	
	comp=N,938μm,0.6s						
KKB	**Krupnik**	**1.69**	**52**	*i* Pn	**Pn**	**12 38 22.7**	**+1.0**
KKB	**Krupnik**	**1.69**	**52**	P	**Pn**	**12 38 22.8**	**+1.0**
SRS	**Serrai**	**1.73**	**80**	P	**Pn**	**12 38 22.2**	**-0.2**
SRS	**Serrai**	**1.73**	**80**	*e*Pg	**Pn**	**12 38 22.5**	**+0.1**
SRS				*e*Sg	**Sg**	**12 38 49.5**	**+1.1**
SRS	**Serrai**	**1.73**	**80**	P	**Pn**	**12 38 22.1**	**-0.2**
SRS				AML	AML	12 38 51.7	
	comp=E,221μm,0.3s						
SRS				AML	AML	12 38 59.7	
	comp=N,204μm,0.7s						
PRVS	**Prvonek**	**1.77**	**18**	*e*Pg	**Pn**	**12 38 23.4**	**+0.5**
PRVS				*e*Sg	**Sb**	**12 38 47.3**	**+0.3**
BCI	**Bajram Curri**	**1.81**	**329**	P	**Pb**	**12 38 25.3**	**-0.3**
	baz=332						
BCI				S	**Sg**	**12 38 53.3**	**+2.3**
	baz=332						
BOSS	**Bosilegrad**	**1.87**	**27**	*e*Pg	**Pn**	**12 38 25.5**	**+1.1**
BOSS				*e*Sg	**Sn**	**12 38 48.9**	**+1.1**
EVR	**Evrytania**	**1.94**	**169**	P	**Pn**	**12 38 26.6**	**+1.2**
ULC	**Ulcinj**	**1.94**	**306**	⇑*i*Pn	**Pn**	**12 38 26.9**	**+1.6**
ULC				*e*Sn	**Sg**	**12 38 53.9**	**-1.2**
MMB	**Musomishta**	**1.96**	**68**	P	**Pn**	**12 38 26.4**	**+0.9**
AGG	**Agios Georgios**	**1.96**	**157**	P	**Pn**	**12 38 26.1**	**+0.6**
AGG	**Agios Georgios**	**1.96**	**157**	P	**Pn**	**12 38 26.1**	**+0.6**
NVR	**Nevrokopi**	**1.98**	**74**	P	**Pn**	**12 38 26.6**	**+0.8**
BARS	**Barje**	**2.02**	**10**	*e*Pn	**Pn**	**12 38 27.0**	**+0.6**
BARS	**Barje**	**2.02**	**10**	*i* Pn	**Pn**	**12 38 27.2**	**+0.8**
KOKK	**Kokkinochori,**	**2.02**	**89**	P	**Pn**	**12 38 26.9**	**+0.6**
XOR	**Xorichti**	**2.04**	**135**	P	**Pn**	**12 38 26.8**	**+0.2**
XOR	**Xorichti**	**2.04**	**135**	P	**Pn**	**12 38 26.7**	**+0.1**
TSLK	**Tsoukalades, L**	**2.07**	**195**	P	**Pn**	**12 38 28.1**	**+1.1**
OUR	**Ouranopolis**	**2.07**	**103**	P	**Pn**	**12 38 27.4**	**+0.4**
NEO	**Neokhori**	**2.10**	**136**	P	**Pn**	**12 38 27.7**	**+0.3**
LKD2	**Lefkada island**	**2.10**	**195**	P	**Pn**	**12 38 29.2**	**+1.7**
LKD2				AML	AML	12 39 05.6	
	comp=E,834μm,0.6s						
LKD2				AML	AML	12 39 10.6	
	comp=N,776μm,0.5s						
DRME	**Dracevica, Mon**	**2.11**	**311**	*e*Pn	**Pb**	**12 38 30.0**	**-0.8**
DRME	**Dracevica, Mon**	**2.11**	**311**	⇓*i*Pn	**Pb**	**12 38

PDG	**Podgorica**	**2.24 316**	*e*Pn	Pn	12 38 31.7	+1.1
PDG	**Podgorica**	**2.24 316**	*e*Pn	**Pn**	**12 38 31.2**	**+1.9**
PDG			*e*Sn	**Sb**	**12 39 00.6**	**+0.2**
EVGI	**Lefkada island**	**2.27 194**	P	**Pn**	**12 38 30.8**	**+1.1**
ANX	**Ano Chora**	**2.28 168**	P	**Pn**	**12 38 31.3**	**+1.3**
VTS	**Vitosha**	**2.28 38**	⇑P	**Pn**	**12 38 31.0**	**+0.8**
VTS			⇓S	**Sn**	**12 38 58.4**	**+0.3**
VTS	**Vitosha**	**2.28 38**	*e*Pg	**Pn**	**12 38 31.2**	**+1.0**
VTS			*e*Sg	**Sn**	**12 39 00.1**	**+2.0**
VTS	**Vitosha**	**2.28 38**	*i* Pn	**Pn**	**12 38 31.1**	**+1.0**
IVA	**Berane**	**2.31 333**	*e*Pn	**Pn**	**12 38 31.2**	**+0.8**
IVA			*e*Sn	**Sb**	**12 39 02.4**	**-0.2**
SCTE	**Santa Cesarea**	**2.32 252**	P	**Pn**	**12 38 30.4**	**0.0**
SELS	**Selova**	**2.40 356**	*e*Pn	**Pn**	**12 38 31.7**	**+0.2**
EFP	**Efpalio**	**2.44 169**	P	**Pn**	**12 38 33.6**	**+1.5**
CEME	**Cevo**	**2.50 314**	⇑*i*Pn	**Pn**	**12 38 34.7**	**+1.7**
CEME			*i* Sn	**Sb**	**12 39 06.9**	**-1.1**
THAS	**Thassos island**	**2.58 94**	P	**Pn**	**12 38 33.6**	**-0.4**
ZAPS	**Zavoj**	**2.63 21**	*e*Pn	**Pn**	**12 38 36.1**	**+1.4**
SJES	**Sjenica**	**2.64 338**	*e*Pg	**Pn**	**12 38 36.8**	**+1.9**
SJES			*e*Sg	**Sg**	**12 39 15.1**	**-2.3**
SJES	**Sjenica**	**2.64 338**	*e*Pn	**Pn**	**12 38 36.6**	**+1.7**
HCY	**Herceg Novi**	**2.68 308**	*e*Pn	**Pn**	**12 38 37.8**	**+2.4**
HCY	**Herceg Novi**	**2.68 308**	⇓*i*Pn	**Pn**	**12 38 37.4**	**+2.0**
HCY			*e*Sn	**Sb**	**12 39 11.6**	**-1.5**
RZN	**Rozhen**	**2.71 70**	P	**Pn**	**12 38 37.0**	**+1.1**
VLS	**Valsamata**	**2.71 193**	P	**Pn**	**12 38 37.0**	**+1.1**
BOVS	**Bovan**	**2.82 5**	⇓P	**Pn**	**12 38 37.1**	**-0.2**
BOVS	**Bovan**	**2.82 5**	*e*Pn	**Pn**	**12 38 37.3**	**0.0**
KLV	**Kalavryta, Ach**	**2.85 167**	P	**Pn**	**12 38 38.8**	**+1.0**
IVAS	**Ivanjica**	**2.88 343**	*e*Pn	**Pn**	**12 38 38.0**	**-0.3**
PLE	**Pljevlja**	**2.89 331**	*e*Pn	**Pn**	**12 38 40.0**	**+1.6**
PLE			*i* Sn	**Sn**	**12 39 15.8**	**+2.7**
TREB	**Trebinje**	**2.93 311**	*e*Pn	**Pn**	**12 38 37.9**	**-0.9**
BRY	**Bratogost**	**2.94 316**	*e*Pn	**Pn**	**12 38 41.1**	**+1.9**
BRY	**Bratogost**	**2.94 316**	⇓*i*Pn	**Pn**	**12 38 41.0**	**+1.9**
BRY			*e*Sn	**Sn**	**12 39 16.2**	**+1.8**
BLKB	**Belogradchik**	**2.96 19**	⇓S	**Sn**	**12 39 14.0**	**-0.8**
UPM	**Unac-Piva**	**2.99 323**	*e*Pn	**Pn**	**12 38 42.6**	**+2.8**
UPM	**Unac-Piva**	**2.99 323**	*e*Pn	**Pn**	**12 38 41.5**	**+1.7**
GUR	**Goura**	**2.99 165**	P	**Pn**	**12 38 40.9**	**+1.1**
DBRK	**Dubrovnik**	**3.01 309**	*e*Pn	**Pn**	**12 38 41.0**	**+1.0**
ZAGS	**Zajecar**	**3.06 12**	*e*Pn	**Pn**	**12 38 40.7**	**+0.1**
GRUS	**Gruza**	**3.09 352**	*e*Pn	**Pn**	**12 38 41.9**	**+0.8**
KDZ	**Kurdzhali**	**3.12 74**	P	**Pn**	**12 38 42.7**	**+1.2**
RUDO	**Rudo**	**3.15 333**	*e*Pn	**Pn**	**12 38 41.7**	**-0.2**
BBLS	**Lazići**	**3.36 335**	*e*Pn	**Pn**	**12 38 46.6**	**+1.8**
BBLS	**Lazići**	**3.36 335**	*e*Pn	**Pn**	**12 38 46.0**	**+1.2**
STON	**Ston**	**3.40 308**	*e*Pn	**Pn**	**12 38 46.8**	**+1.5**
STON	**Ston**	**3.40 308**	*e*Pn	**Pb**	**12 38 50.8**	**-1.9**
DIVS	**Divibare**	**3.42 344**	*e*Pn	**Pn**	**12 38 47.0**	**+1.4**
DIVS	**Divibare**	**3.42 344**	*e*Pn	**Pn**	**12 38 46.4**	**+0.8**
NEVS	**Nevesinje**	**3.45 317**	*e*Pn	**Pn**	**12 38 50.0**	**+3.9**
TRUS	**Trudelj**	**3.46 349**	*e*Pn	**Pn**	**12 38 46.9**	**+0.7**
MATE	**Matera**	**3.52 269**	⇓P	**Pn**	**12 38 46.9**	**0.0**
VLY	**Voula,Athens**	**3.53 147**	P	**Pn**	**12 38 47.9**	**+0.9**
ALN	**Alexandroupoli**	**3.57 87**	P	**Pn**	**12 38 47.7**	**+0.1**
LSTV	**Lastovo**	**3.85 302**	*e*Pn	**Pn**	**12 38 51.8**	**+0.4**
TEKS	**Tekeris**	**3.95 341**	*e*Pn	**Pn**	**12 38 53.3**	**+0.4**
TEKS	**Tekeris**	**3.95 341**	*e*Pn	**Pn**	**12 38 52.2**	**-0.7**
MDVR	**Moldovita**	**3.96 4**	⇑P	**Pn**	**12 38 52.8**	**-0.3**
MAKA	**Makarska**	**4.05 309**	*e*Pn	**Pn**	**12 38 55.1**	**+0.9**
SRE	**Strehaia**	**4.07 19**	⇓P	**Pn**	**12 38 54.3**	**-0.2**
HERR	**Herculane**	**4.13 11**	⇓P	**Pn**	**12 38 55.6**	**+0.3**
HVAR	**Hvar**	**4.33 304**	*e*Pn	**Pn**	**12 38 58.4**	**+0.3**
FRGS	**Fruska Gora**	**4.47 346**	⇑P	**Pn**	**12 38 59.9**	**-0.2**
FRGS			⇑S	**Sn**	**12 39 51.2**	**-0.6**
FRGS	**Fruska Gora**	**4.47 346**	*e*Pn	**Pn**	**12 39 01.0**	**+1.0**
FRGS	**Fruska Gora**	**4.47 346**	*e*Pn	**Pn**	**12 39 00.5**	**+0.5**
SRKY	**Kupres RS**	**4.47 318**	*e*Pn	**Pn**	**12 39 02.0**	**+1.8**
GZR	**Gura Zlata**	**4.68 13**	⇑P	**Pn**	**12 39 03.5**	**+0.4**
GZR			⇑S	**Sn**	**12 39 56.4**	**-0.8**
BZS	**Buzias**	**4.79 2**	⇑P	**Pn**	**12 39 04.3**	**-0.1**
BZS			⇑S	**Sn**	**12 39 58.1**	**-1.6**
KIJV	**Kijevo**	**4.84 313**	*e*Pn	**Pn**	**12 39 07.1**	**+2.0**
BLY	**Banja Luka**	**4.97 323**	*e*Pn	Pn	12 39 12.0	+5.1
ZIRJ	**Zirje**	**5.08 306**	*e*Pn	**Pn**	**12 39 09.0**	**+0.6**
ZIRJ			Sn	**Sn**	**12 40 06.3**	**-0.6**
A050A	**Klekovaca**	**5.09 317**	*e*Pn	**Pn**	**12 39 10.5**	**+1.9**
ARR	**Arges**	**5.14 27**	⇓P	**Pn**	**12 39 10.2**	**+1.0**
MORI	**Morici**	**5.16 308**	*e*Pn	**Pn**	**12 39 10.2**	**+0.7**
VOIR		**5.35 29**	⇑P	**Pn**	**12 39 13.0**	**+0.9**
SIRR	**Siria**	**5.44 2**	⇑P	**Pn**	**12 39 12.3**	**-1.1**
UDBI	**Udbina**	**5.53 314**	*e*Pn	**Pn**	**12 39 17.5**	**+2.9**
DUGI	**Dugi Otok**	**5.62 306**	*e*Pn	**Pn**	**12 39 16.7**	**+0.8**
MORH	**Mrgy, Hungar**	**5.73 341**	⇑P	**Pn**	**12 39 17.4**	**+0.1**
MLR	**Muntele Rosu**	**5.75 34**	⇑P	**Pn**	**12 39 18.7**	**+1.0**
VIRC	**Vir**	**5.79 309**	Sn	**Sn**	**12 40 23.8**	**-0.5**
PLIT	**Plitvice**	**5.83 316**	*e*Pn	**Pn**	**12 39 20.6**	**+1.8**
MOSL	**Moslavina**	**5.84 327**	*e*Pn	**Pn**	**12 39 20.6**	**+1.8**
VRI	**Vrincioaia**	**6.39 36**	⇓P	**Pn**	**12 39 27.5**	**+1.1**
CEY	**Cerknica**	**7.04 317**	*e*Pn	**Pn**	**12 39 37.3**	**+2.0**
SKDS	**Skadanscina**	**7.13 314**	*e*Pn	**Pn**	**12 39 38.8**	**+2.2**
PSZ	**Piszkesteto**	**7.17 352**	⇓P	**Pn**	**12 39 37.0**	**-0.1**
PSZ			⇓S	**Sn**	**12 40 58.2**	**-0.1**
SOKA	**Soboth**	**7.42 324**	*e*Pn	**Pn**	**12 39 41.7**	**+1.1**
	comp=N,1.9nm,0.4s					
OBKA	**Obir**	**7.51 321**	*i* Pn	**Pn**	**12 39 44.9**	**+3.0**
	comp=N,2.7nm,0.4s					
OBKA	**Obir**	**7.51 321**	*e*Pn	**Pn**	**12 39 44.3**	**+2.4**
ARSA	**Arzberg**	**7.67 329**	*e*Pn	**Pn**	**12 39 46.4**	**+2.5**
	comp=N,2.2nm,0.4s					
VYHS	**Vyhne**	**7.87 348**	*e*PN	**Pn**	**12 39 48.2**	**+1.5**
VYHS			*e*SN	**Sn**	**12 41 13.2**	**-2.3**
KBA	**Koelnbreinsper**	**8.50 320**	*i* Pn	**Pn**	**12 39 59.3**	**+3.9**
	comp=N,0.7nm,0.3s					
ABTA	**Abfaltersbach**	**8.70 316**	*i* Pn	**Pn**	**12 39 58.8**	**+0.7**
	comp=N,2.6nm,0.5s					
ABTA			*i* Sn	**Sn**	**12 41 33.8**	**-2.2**
	comp=N,1.7nm,0.4s					
LESA	**Schwarzleotal**	**9.07 320**	*i* Pn	**Pn**	**12 40 06.3**	**+3.2**
	comp=N,3.0nm,0.5s					
WTTA	**Wattenberg**	**9.49 316**	*i* Pn	**Pn**	**12 40 10.3**	**+1.2**
	comp=N,1.1nm,0.3s					
SQTA	**Sankt Quirin**	**9.69 315**	*e*Pn	**Pn**	**12 40 14.5**	**+2.7**
	comp=N,2.4nm,0.3s					
MOTA	**Moosalm**	**9.83 315**	*i* Pn	**Pn**	**12 40 15.5**	**+1.8**
	comp=N,2.1nm,0.5s					
MOTA			*i* Sn	**Sn**	**12 42 01.9**	**-1.9**
	comp=N,2.3nm,0.5s					

*IDC **14** 12:59:06.6±0.5, 30°.42N×132°.42E, h0km, mb4.1/19, mbtmp4.0/25, ML3.7/6, MS3.1/11, Error ellipse: s-maj=17.3km s-min=12.8km az=83.0*
*JMA **14** 12:59:10.3±0.3, 30°.4N±0°.8×13°.2E±°, h74km±4km, MD3.9/32, MV4.3/32, E OFF TANEGASHIMA ISLAND*
*NIED **14** 12:59:10.3, 30°.41N×132°.32E, h74km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.88; $M_{\theta\theta}$1.41; $M_{\phi\phi}$1.47; $M_{r\theta}$0.21; $M_{\theta\phi}$-0.12; $M_{\phi r}$1.05; Fault plane solution: $M_0$2.43000×10^{15} NP1: ϕ_s171.00000°, δ57.00000°, λ-83.00000°. NP2: ϕ_s339.00000°, δ34.00000°, λ-100.00000°.*
*NEIC **14** 12:59:12.1±1.0, 30°.37N±0°.06×132°.46E±0°.08, h33km±5km, mb4.7/53 Error ellipse: s-maj=10.4km s-min=8.6km az=93.0*

ISC 14 12:59:10.4±0.4, **30°.37N**±0°.04×**132°.37E**±0°.05, **h25**km, **n131, σ0s81**/132, **mb4.7**/50, **MS3.3**/6, **Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**1.23 283**		*e*P	**Pn**	**12 59 31.2**	**-0.8**
JTN				*e*S	**Sn**	**12 59 47.1**	**-0.7**
JTN	**Tanegashima 3**	**1.23 283**		A	A	12 59 31.2	
	comp=E,6.0nm,0.7s,comp=N,4.0nm,0.5s						
JMTN	**Minamitane**	**1.27 271**		P	**Pn**	**12 59 32.2**	**-0.3**
JMTN	**Minamitane**	**1.27 271**		A	A	12 59 32.2	
	comp=E,7.0nm,1.2s,comp=N,10.0nm,1.4s						
JTSR	**Tashiro 2**	**1.47 303**		P	**Pn**	**12 59 34.1**	**-1.3**
JNAR	**Kushima--Naru**	**1.48 321**		P	**Pn**	**12 59 35.7**	**-0.5**
JNAR				S	**Sn**	**12 59 53.5**	**-0.5**
JNKG	**Nichinankitago**	**1.54 327**		*i* P	**Pn**	**12 59 35.7**	**-0.5**
JYAK	**Yakushimahirau**	**1.61 266**		P	**Pn**	**12 59 36.5**	**-0.7**
JYAK				S	**Sn**	**12 59 57.2**	**0.0**
JTZ	**Takazaki**	**1.88 325**		*i* P	**Pn**	**12 59 40.4**	**-0.5**
JNN	**Nakanoshima**	**2.22 257**		*e*P	**Pn**	**12 59 45.4**	**-0.2**
JTO	**Tosashimizu**	**2.50 8**		P	**Pn**	**12 59 47.1**	**-2.4**
JSJ	**Shimokoshiki**	**2.62 300**		P	**Pn**	**12 59 49.3**	**-1.8**
JSJ				S	**Sn**	**13 00 20.8**	**-1.3**
JNU	**Nakatsue**	**3.02 336**			**Pn**	**12 59 56.4**	**-0.2**
JNU	**Nakatsue**	**3.02 336**		P	**Pn**	**12 59 56.6**	**0.0**
JNU	**Nakatsue**	**3.02 336**		Pn	**Pn**	**12 59 56.2**	**-0.4**
	comp=N,26nm,0.3s,baz=190,slow=12,SNR=119						
JNU				Sn	**Sn**	**13 00 30.4**	**-1.6**
	comp=N,50nm,0.3s,baz=225,slow=22,SNR=9.1						
	comp=N,51nm,0.3s						
JAMN	**Amaminishikomi**	**3.50 233**		P	**Pn**	**13 00 02.9**	**-0.3**
JMN	**Monobe**	**3.58 21**			**Pn**	**13 00 03.5**	**-0.9**
JMN	**Monobe**	**3.58 21**		P	Pb	13 00 03.2	+1.3
JMZ	**Minamidaito 2**	**4.65 193**		Pn	**Pn**	**13 00 18.0**	**-1.0**
JMZ	**Minamidaito 2**	**4.65 193**		P	**Pn**	**13 00 20.1**	**+1.1**
JTU	**Tsushima**	**4.84 330**		Pn	**Pn**	**13 00 20.2**	**-1.4**
JTU	**Tsushima**	**4.84 330**		P	**Pn**	**13 00 21.0**	**-0.6**
JOW	**Kunigami**	**5.04 227**		Pn	**Pn**	**13 00 23.4**	**-1.0**
JOW	**Kunigami**	**5.04 227**		P	**Pn**	**13 00 25.5**	**+1.1**
JOW	**Kunigami**	**5.04 227**		Pn	**Pn**	**13 00 23.7**	**-0.7**
	comp=N,4.2nm,0.3s,baz=108,slow=13,SNR=31						
JOW				Sn	**Sn**	**13 01 18.6**	**-3.2**
	comp=N,6.6nm,0.3s,baz=78,slow=28,SNR=7.8						
JOW				LR	LR	13 02 29.8	
	comp=N,86nm,20.6s,baz=332,slow=40						
	comp=N,11nm,0.3s						
INU	**Inuyama**	**6.32 37**			**Pn**	**13 00 42.2**	**+0.3**
INU	**Inuyama**	**6.32 37**		P	**Pn**	**13 00 42.0**	**+0.1**
JHJ	**Hachijo jima 2**	**6.88 65**		Pn	**Pn**	**13 00 48.4**	**-1.3**
	comp=N,27nm,0.3s,baz=73,slow=20,SNR=6.2						
JHJ				LR	LR	13 03 08.5	
	comp=N,162nm,18.8s,baz=287,slow=35						
	comp=N,51nm,0.3s						
JHJ2	**Mitsune**	**6.91 65**		P	**Pn**	**13 00 49.6**	**-0.4**
TJN	**Taejon**	**7.30 326**			**Pn**	**13 00 55.9**	**+0.5**
TJN	**Taejon**	**7.30 326**		P	**Pn**	**13 00 56.7**	**+1.3**
MAJO	**Matsushiro**	**7.85 37**			**Pn**	**13 01 03.6**	**+0.6**
MAJO	**Matsushiro**	**7.85 37**		P	**Pn**	**13 01 03.8**	**+0.8**
MJAR	**Matsushiro Arr**	**7.85 37**		Pn	**Pn**	**13 01 02.2**	**-0.7**
	comp=N,0.2nm,0.3s,baz=251,slow=12,SNR=20						
MJAR				LR	LR	13 04 11.6	
	comp=N,86nm,19.3s,baz=182,slow=39						
	comp=N,1.1nm,0.4s						
MJB9	**Matsu-Tunnel**	**7.85 37**			**Pn**	**13 01 04.4**	**+1.5**
KSRS	**Korea Array**	**7.97 334**		Pn	**Pn**	**13 01 03.8**	**-0.7**
	comp=N,0.5nm,0.3s,baz=155,slow=14,SNR=6.9						
	comp=N,2.8nm,0.8s						
INCN	**Inchon**	**8.54 328**		Pn	**Pn**	**13 01 12.4**	**0.0**
JCJ	**Chichijima**	**9.22 108**		Pn	**Pn**	**13 01 18.4**	**-3.3**
JMM	**Marumori**	**10.22 41**		Pn	**Pn**	**13 01 37.0**	**+1.6**
ASAJ	**Asahikawa**	**15.93 28**		LR	LR	13 09 11.4	
	comp=N,73nm,18.6s,baz=167,slow=38						
KLR	**Kul'dur**	**18.84 359**		P	**P**	**13 03 28.1**	**-0.2**
	comp=N,0.2nm,0.3s,baz=170,slow=8.5,SNR=2.9						
KLR				LR	LR	13 11 07.3	
	comp=N,31nm,18.3s,baz=247,slow=38						
	comp=N,1.4nm,0.6s						
HEH	**HeiHe**	**20.20 351**		*e*P	**P**	**13 03 42.4**	**-0.8**
GUMO	**Guam**	**20.30 143**		LR	LR	13 10 52.8	
	comp=N,28nm,18.2s,baz=332,slow=35						
SONM	**Songino Array**	**26.46 319**		P	**P**	**13 04 45.8**	**+0.4**
SONM	**Songino Array**	**26.46 319**		P	**P**	**13 04 45.4**	**-0.1**
	comp=N,0.5nm,0.4s,baz=116,slow=6.6,SNR=6.3						
SONM				LR	LR	13 15 09.0	
	comp=N,81nm,18.7s,baz=108,slow=36						
	comp=N,0.5nm,0.4s						
PETK	**Petropavlovsk-**	**29.27 32**		P	**P**	**13 05 10.2**	**-0.2**
PETK	**Petropavlovsk-**	**29.27 32**		P	**P**	**13 05 10.0**	**-0.4**
	comp=N,2.5nm,0.8s,baz=221,slow=7.7,SNR=1.8						
	comp=N,2.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.55 256**		P	**P**	**13 05 40.4**	**+0.7**
	comp=N,0.4nm,0.4s,baz=50,slow=8.4,SNR=1.8						
CMAR				LR	LR	13 18 02.1	
	comp=N,9.0nm,21.2s,baz=340,slow=35						
	comp=N,0.4nm,0.4s						
FAKI	**Fak Fak**	**33.11 180**		P	**P**	**13 05 45.7**	**+1.2**
KULM	**Kulim**	**38.91 236**		P	**P**	**13 06 35.6**	**+1.4**
KULM				IAmb	IAmb	13 07 03.3	
	comp=Z,23nm,1.4s						
ZALV	**Zalesovo Beam**	**41.36 319**		PcP	**PcP**	**13 08 51.7**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=141,slow=3.1,SNR=4.1						
MK31	**Makanchi Array**	**41.70 308**		P	**P**	**13 06 57.7**	**+0.6**
MKAR	**Makanchi Array**	**41.70 308**		P	**P**	**13 06 57.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=99,slow=16,SNR=3.2						
MKAR				PcP	**PcP**	**13 08 53.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=132,slow=1.8,SNR=4.2						
	comp=Z,0.3nm,0.5s						
MTN	**Manton Dam**	**42.98 182**		P	**P**	**13 07 07.7**	**0.0**
MTN				IAmb	IAmb	13 07 08.4	
	comp=Z,12nm,0.7s						
KURBB	**Kurchatov Arra**	**44.55 313**		P	**P**	**13 07 19.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=97,slow=8.8,SNR=4.8						
	comp=Z,0.3nm,0.3s						
KNRA	**Kunumura**	**45.91 185**		P	**P**	**13 07 31.9**	**+0.8**
AAK	**Ala-Archa**	**47.26 302**		LR	LR	13 29 56.8	
	comp=Z,70nm,18.1s,baz=2.0,slow=39						
BVAR	**Borovoye Array**	**49.74 316**		P	**P**	**13 08 01.1**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=93,slow=9.4,SNR=12						
BVAR				PcP	**PcP**	**13 09 21.2**	**0.0**
	comp=Z,1.7nm,0.8s,baz=98,slow=4.5,SNR=5.0						
	comp=Z,1.8nm,0.6s						
BRVK	**Borovoye**	**49.81 316**		P	**P**	**13 08 01.9**	**+0.9**
WB0	**Warramunga Arr**	**49.89 178**		P	**P**	**13 08 01.9**	**+0.1**
WB0				IAmb	IAmb	13 08 02.5	
	comp=Z,5.4nm,0.6s						
WRAB	**Tennant Creek**	**50.05 178**		P	**P**	**13 08 03.4**	**+0.3**
WRAB				IAmb	IAmb	13 08 04.2	
	comp=Z,5.7nm,0.8s						
WRA	**Warramunga Arr**	**50.06 178**		P	**P**	**13 08 03.3**	**+0.1**
WRA	**Warramunga Arr**	**50.06 178**		P	**P**	**13 08 03.4**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=353,slow=8.4,SNR=52						
WRA				PcP	**PcP**	**13 09 23.5**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=354,slow=4.4,SNR=2.5						
	comp=Z,3.6nm,0.7s						
WB2	**Warramunga Arr**	**50.06 178**		P	**P**	**13 08 03.5**	**+0.3**
WB2				IAmb	IAmb	13 08 04.3	
	comp=Z,5.3nm,0.7s						
WR0	**Warramunga Arr**	**50.09 177**		P	**P**	**13 08 03.5**	**+0.1**
WR0				IAmb	IAmb	13 08 04.6	
	comp=Z,8.0nm,0.8s						
PSA00	**Pilbara Seismi**	**53.03 195**		P	**P**	**13 08 25.2**	**-0.2**
PSA00				IAmb	IAmb	13 08 58.8	
	comp=Z,18nm,1.4s						
N15K	**Kwethluk River**	**53.07 35**		P	**P**	**13 08 26.0**	**+0.7**
L16K	**Owhat River**	**53.45 33**		P	**P**	**13 08 28.2**	**+0.2**
L16K				IAmb	IAmb	13 09 00.9	
	comp=Z,14nm,1.4s						
C18K	**Utukok River**	**53.51 25**		P	**P**	**13 08 28.5**	**0.0**
AS31	**Alice Springs**	**53.75 178**		P	**P**	**13 08 30.8**	**+0.1**
ASAR	**Alice Springs**	**53.75 178**		P	**P**	**13 08 30.8**	**+0.2**
ASAR	**Alice Springs**	**53.75 178**		P	**P**	**13 08 31.1**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=11,slow=12,SNR=53						
	comp=Z,2.7nm,0.6s						
K17K	**Iditarod**	**54.05 32**		P	**P**	**13 08 32.8**	**+0.4**
K17K				IAmb	IAmb	13 08 53.0	
	comp=Z,14nm,1.2s						
G18K	**Tagagawik**	**54.12 28**		P	**P**	**13 08 33.1**	**+0.2**
G18K				IAmb	IAmb	13 08 48.7	
	comp=Z,17nm,1.4s						
M17K	**Holitna River**	**54.41 34**		P	**P**	**13 08 35.9**	**+0.8**
N17K	**Nushagak Hills**	**54.53 35**		P	**P**	**13 08 36.7**	**+0.8**
N17K				IAmb	IAmb	13 09 03.9	
	comp=Z,10nm,1.2s						
D19K	**Kuna River**	**54.61 25**		P	**P**	**13 08 36.5**	**0.0**
D19K				IAmb	IAmb	13 08 45.2	
	comp=Z,12nm,1.1s						
H19K	**Roundabout Mou**	**55.01 29**		P	**P**	**13 08 40.2**	**+0.9**
J19K	**Poorman**	**55.30 31**		P	**P**	**13 08 41.9**	**+0.4**
J20K	**Nowinta River**	**55.95 30**		P	**P**	**13 08 46.3**	**+0.2**
J20K				IAmb	IAmb	13 09 22.7	
	comp=Z,11nm,1.4s						
K20K	**Telida**	**55.99 31**		P	**P**	**13 08 47.0**	**+0.6**
K20K				IAmb	IAmb	13 09 25.1	
	comp=Z,8.9nm,1.4s						
IMAR	**Indian Mountai**	**56.13 28**		P	**P**	**13 08 47.5**	**0.0**
H21K	**Melozitna Rive**	**56.52 29**		P	**P**	**13 08 50.4**	**+0.2**
ABKAR	**Akbulak array**	**56.56 312**		P	**P**	**13 08 51.1**	**+0.4**
I21K	**Tanana**	**56.87 29**		P	**P**	**13 08 53.1**	**+0.5**
E22K	**Anaktuvuk Pass**	**56.92 26**		P	**P**	**13 08 53.3**	**+0.2**
KDAK	**Kodiak Island**	**57.02 38**		P	**P**	**13 08 53.5**	**-0.3**
SUA	**Susitna One**	**57.62 34**		P	**P**	**13 08 57.8**	**-0.4**
H23K	**Yukon River**	**57.86 28**		P	**P**	**13 08 59.9**	**+0.2**
H23K				IAmb	IAmb	13 09 01.8	
	comp=Z,9.4nm,1.1s						
F24K	**Squaw Lake**	**58.43 26**		P	**P**	**13 09 03.9**	**+0.2**
F24K				IAmb	IAmb	13 09 25.3	
	comp=Z,6.2nm,1.3s						
MDM	**Murphy Dome**	**58.47 29**		P	**P**	**13 09 03.9**	**0.0**
MDM				IAmb	IAmb	13 09 22.2	
H24K	**Noodor Dome**	**58.55 28**		P	**P**	**13 09 04.9**	**+0.4**
H24K				IAmb	IAmb	13 09 35.5	
	comp=Z,7.4nm,1.3s						
ILAR	**Eielson Array**	**59.06 30**		P	**P**	**13 09 07.0**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=289,slow=7.6,SNR=8.0						
	comp=Z,0.9nm,0.9s						
BMAR	**Burnt Mountain**	**59.70 26**		P	**P**	**13 09 13.8**	**+1.3**
SCRK	**Sand Creek**	**60.41 30**		P	**P**	**13 09 17.5**	**0.0**
E27K	**Coleen River**	**60.73 25**		P	**P**	**13 09 20.1**	**+0.7**
E27K				IAmb	IAmb	13 10 01.1	
	comp=Z,10nm,1.4s						
M26K	**Nabesna, AK**	**61.13 32**		P	**P**	**13 09 22.2**	**-0.1**
M26K				IAmb	IAmb	13 09 23.1	
	comp=Z,3.1nm,0.8s						
L27K	**Beaver Creek,**	**61.53 31**		P	**P**	**13 09 25.6**	**+0.6**
BCAR	**Beaver Creek A**	**61.55 31**		P	**P**	**13 09 25.7**	**+0.5**
M27K	**Edge Creek, AK**	**61.65 32**		P	**P**	**13 09 26.1**	**+0.2**
STKA	**Stephens Creek**	**62.53 171**		P	**P**	**13 09 31.9**	**0.0**
STKA	**Stephens Creek**	**62.53 171**		P	**P**	**13 09 32.5**	**+0.6**
	comp=Z,8.0nm,0.6s,baz=354,slow=7.2,SNR=24						
	comp=Z,8.0nm,0.6s						
BBOO	**Buckleboo**	**62.94 177**		P	**P**	**13 09 34.7**	**+0.1**
EPYK	**Eagle Plains**	**62.94 27**		P	**P**	**13 09 34.6**	**+0.2**
G30M	**tAoh Zraii Nji**	**62.99 26**		P	**P**	**13 09 34.7**	**0.0**
G30M				IAmb	IAmb	13 10 14.2	
	comp=Z,8.4nm,1.1s						
I30M	**Mount Dempster**	**63.37 28**		P	**P**	**13 09 37.6**	**+0.3**
I30M				IAmb	IAmb	13 10 08.6	
	comp=Z,8.0nm,1.4s						
J30M	**Hart River**	**63.55 29**		P	**P**	**13 09 38.0**	**-0.6**
J30M				IAmb	IAmb	13 09 54.2	
	comp=Z,11nm,1.5s						
INK	**Inuvik**	**63.64 24**		P	**P**	**13 09 38.8**	**-0.1**
INK				IAmb	IAmb	13 09 43.8	
	comp=Z,9.6nm,1.4s						
M30M	**Minto, Yukon**	**63.89 31**		P	**P**	**13 09 41.1**	**+0.3**
M30M				IAmb	IAmb	13 10 17.2	
	comp=Z,11nm,1.4s						
H31M	**Peel River**	**64.03 27**		P	**P**	**13 09 41.1**	**-0.4**
TOO	**Toolangi**	**68.70 169**		P	**P**	**13 10 12.6**	**+0.9**
KBZ	**Khabaz**	**69.37 309**		LR	LR	13 45 21.1	
	comp=Z,69nm,19.1s,baz=356,slow=40						
RES	**Resolute Bay**	**70.78 12**		P	**P**	**13 10 24.1**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DAT				S	Sg		13 31 01.4	+0.7
DAT	**Datca**	**0.23**	**195**	P	Pg		13 30 57.6	0.0
DAT				S	Sg		13 31 00.9	+0.2
BODT	**Bodrum**	**0.29**	**292**	Pg	Pb		13 30 59.1	-1.2
BODT				Sg	Sb		13 31 04.3	-1.0
BODT	**Bodrum**	**0.29**	**292**	P	Pb		13 30 59.2	-1.1
BODT				S	Sb		13 31 04.9	-0.4
RFTD	**Palamutbuku-Ka**	**0.30**	**205**	Pg	Pg		13 30 58.8	+0.1
RFTD				Sg	Sg		13 31 03.2	+0.6
RFTB	**Kemer-Bodrum**	**0.30**	**272**	Pg	Pg		13 30 59.0	+0.2
RFTB				Sg	Sb		13 31 04.9	-0.6
MLSB	**Milas**	**0.36**	**16**	Pg	Pg		13 31 00.2	+0.3
MLSB				Sg	Sb		13 31 05.9	-1.3
TURN	**Turunc**	**0.51**	**110**	Pg	Pg		13 31 01.9	-0.8
TURN				Sg	Sg		13 31 09.9	+0.6
YER	**Yerkesik**	**0.54**	**70**	Pg	Pg		13 31 03.1	-0.2
YER	**Yerkesik**	**0.54**	**70**	P	Pg		13 31 03.8	+0.5
NISR	**Nisiros**	**0.54**	**231**	P	Pg		13 31 03.6	+0.3
NISR				S	Sb		13 31 12.9	+0.6
NISR	**Nisiros**	**0.54**	**231**	P	Pg		13 31 03.6	+0.3
NISR				S	Sb		13 31 12.7	+0.4
NISR				AML	AML		13 31 14.9	
	comp=N,4743μm,0.4s							
NISR				AML	AML		13 31 15.8	
	comp=E,8381μm,0.3s							
KLNA	**Kalymnos**	**0.54**	**271**	P	Pg		13 31 03.3	0.0
KLNA				S	Sb		13 31 12.1	-0.3
KLNA				AML	AML		13 31 16.3	
	comp=E,9322μm,0.3s							
KLNA				AML	AML		13 31 18.3	
	comp=N,6587μm,0.3s							
KOSK	**Kos Island**	**0.57**	**250**	Pg	Pg		13 31 04.0	+0.1
KOSK	**Kos Island**	**0.57**	**250**	P	Pb		13 31 04.8	-0.3
KOSK				S	Sb		13 31 14.2	+0.9
KOSK	**Kos Island**	**0.57**	**250**	P	Pb		13 31 04.7	-0.4
KOSK				S	Sb		13 31 13.3	0.0
KOSK				AML	AML		13 31 17.9	
	comp=N,15151μm,0.5s							
KOSK				AML	AML		13 31 18.5	
	comp=E,13249μm,0.4s							
DDIM	**Aydin, Didim**	**0.60**	**327**	P	Pg		13 31 04.3	-0.2
DDIM				S	Sn		13 31 15.6	-1.8
MULA	**Mugla, Merkez-**	**0.62**	**60**	P	Pg		13 31 04.9	+0.2
MULA				S	Sg		13 31 12.5	-0.3
DALY	**Dalyan (Mula)**	**0.82**	**99**	Pg	Pg		13 31 07.4	-1.1
GCAM	**G?zelcaml?**	**0.82**	**336**	Pg	Pb		13 31 09.3	+0.1
ARG	**Arkhangelos**	**0.83**	**152**	Pg	Pg		13 31 08.3	-0.5
ARG	**Arkhangelos**	**0.83**	**152**	P	Pg		13 31 08.1	-0.7
ARG				S	Sg		13 31 20.9	+1.4
	comp=E,5μm,0.5s							
ARG	**Arkhangelos**	**0.83**	**152**	P	Pg		13 31 07.9	-0.8
ARG				S	Sg		13 31 19.3	-0.2
ARG				AML	AML		13 31 24.3	
	comp=N,11106μm,0.7s							
ARG				AML	AML		13 31 25.3	
	comp=E,6628μm,0.7s							
SMG	**Samos**	**0.99**	**320**	P	Pb		13 31 12.1	-0.2
SMG				S	Sn		13 31 28.1	+0.9
	comp=E,2μm,0.5s							
SMG	**Samos**	**0.99**	**320**	P	Pb		13 31 11.6	-0.7
TAVA	**DENIZLI_Tavas**	**1.13**	**63**	P	Pg		13 31 14.4	-0.1
TAVA				S	Sg		13 31 28.5	-0.7
TAVA				*i* AML	AML		13 31 36.0	
	comp=E,232nm,0.5s							
FETY	**Fethiye**	**1.19**	**105**	Pn	Pg		13 31 15.2	-0.5
DGB	**zmir**	**1.26**	**331**	P	Pb		13 31 16.1	-0.6
DGB				S	Sn		13 31 36.4	+2.8
DNIZ	**Denizli-Tavas-**	**1.29**	**58**	P	Pn		13 31 17.0	-0.2
DNIZ				S	Sn		13 31 36.4	+1.6
CAME	**Cameli-Denizli**	**1.32**	**90**	Pn	Pn		13 31 17.5	-0.2
CAEL	**Denizli, Camel**	**1.35**	**82**	P	Pb		13 31 18.9	+0.5
CAEL				S	Sn		13 31 38.2	+2.1
CAEL				*i* AML	AML		13 31 43.0	
	comp=E,825nm,0.8s							
APMY	**Acipayam-Deniz**	**1.42**	**68**	Pn	Pb		13 31 19.6	+0.1
KARP	**Karpathos**	**1.46**	**196**	Pn	Pn		13 31 18.9	-0.5
KARP	**Karpathos**	**1.46**	**196**	P	Pn		13 31 18.6	-0.8
KARP	**Karpathos**	**1.46**	**196**	P	Pn		13 31 18.4	-1.0
KARP				S	Sn		13 31 38.7	+0.1
KARP				AML	AML		13 31 45.6	
	comp=E,1293μm,0.3s							
KARP				AML	AML		13 31 46.3	
	comp=N,1587μm,0.4s							
ZEYE	**Izmir, Urla-Ze**	**1.57**	**325**	P	Pg		13 31 23.0	-0.1
ZEYE				S	Sg		13 31 47.2	+3.7
URLA	**Izmir**	**1.64**	**330**	Pn	Pg		13 31 23.2	-1.0
MANT	**Manisa**	**1.70**	**25**	P	Pn		13 31 22.6	-0.2
MANT				S	Sn		13 31 41.9	-2.9
APE	**Apeiranthos**	**1.70**	**275**	Pn	Pb		13 31 23.9	-0.4
APE	**Apeiranthos**	**1.70**	**275**	P	Pn		13 31 22.7	-0.1
AKAS	**Kas**	**1.73**	**114**	Pn	Pn		13 31 23.9	+0.7
KULA	**Kula-Manisa**	**1.75**	**27**	Pn	Pb		13 31 24.5	-0.7
KULA	**Kula-Manisa**	**1.75**	**27**	P	Pn		13 31 23.4	-0.1
KULA				S	Sn		13 31 46.7	+0.7
ELL	**Elmali**	**1.82**	**96**	Pn	Pn		13 31 25.2	+0.7
RFT5	**Foca**	**1.85**	**338**	Pn	Pb		13 31 26.1	-0.7
CHOS	**Chios island**	**1.91**	**319**	P	Pn		13 31 26.0	+0.3
CHOS				S	Sb		13 31 51.9	0.0
	comp=N,358nm,0.7s							
CHOS	**Chios island**	**1.91**	**319**	P	Pn		13 31 25.5	-0.1
RFT7	**Candarli**	**2.08**	**344**	Pn	Pb		13 31 29.4	-1.4
KORT	**Korkueli**	**2.16**	**88**	Pn	Pn		13 31 29.9	+0.7
DKL	**Dikili**	**2.20**	**345**	Pn	Pb		13 31 30.9	-1.8
AKUM	**Antalya-Kumluc**	**2.25**	**105**	P	Pb		13 31 33.3	-0.5
AKUM				S	Sb		13 32 02.4	+0.6
PRK	**Paraskevi**	**2.54**	**335**	P	Pn		13 31 34.5	+0.3
BRTR	**Keskin Array B**	**5.46**	**58**	Pn	Pn		13 32 16.4	+1.8
	comp=N,0.8nm,0.3s,baz=238,slow=15,SNR=8.7							
	comp=N,1.9nm,0.4s							
ESDC	**Sonseca Array**	**24.89**	**286**	P	P		13 36 16.2	+0.2
	comp=N,0.4nm,0.7s,baz=83,slow=10,SNR=4.3							
	comp=N,0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**33.18**	**231**	P	P		13 37 29.4	-0.5
	comp=N,0.6nm,0.7s,baz=38,slow=9.5,SNR=4.4							
	comp=N,0.6nm,0.7s							
KURBB	**Kurchatov Arra**	**38.43**	**53**	P	P		13 38 14.8	+0.2
	comp=N,0.5nm,0.2s,baz=281,slow=8.9,SNR=1.8							
	comp=N,0.5nm,0.2s							
MKAR	**Makanchi Array**	**41.11**	**58**	P	P		13 38 36.9	-0.1
	comp=N,0.6nm,0.7s,baz=263,slow=10.0,SNR=3.2							
	comp=N,0.6nm,0.7s							
TSUM	**Tsumeb**	**56.65**	**191**	LR	LR		14 04 59.9	
	comp=N,24nm,19.1s,baz=330,slow=36							

*IDC **14** 14:02:31.5±0.9, 36°.95N×27°.67E, h0km, mb3.8/7, mbtmp3.7/12, ML3.4/5, MS3.2/2, Error ellipse: s-maj=21.2km s-min=12.8km az=148.0*
*ISK **14** 14:02:32.9, 36°.94N×27°.68E, h6km, ML3.7/30*
*THE **14** 14:02:32.8, 36°.94N×27°.70E, h0km±1km, ML3.9/5, Error ellipse: s-maj=1.0km s-min=0.6km az=41.0*
*AFAD **14** 14:02:32.6±0.0, 36°.95N×27°.66E, h7km±2km, MW3.7*
*ATH **14** 14:02:33.2, 36°.96N×27°.71E, h9km±1km, ML3.8/9, Error ellipse: s-maj=1.5km s-min=0.8km az=229.0*
*GII **14** 14:02:38.5±0.0, 36°.66N×28°.11E, h6km, Mm3.7/3*
ISC 14 14:02:33.1±0.8, 36°.95N±0°.02×27°.69E±0°.01, h12km±5km, n99, σ0s94/141, mb4.0/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.07**	**41**	Pg	Pg		14 02 35.2	-0.4
RFTAA				Sg	Sg		14 02 36.9	-0.4
RFTC	**Emecik-Datca**	**0.20**	**149**	Pg	Pg		14 02 36.9	-0.5
RFTC				Sg	Sg		14 02 40.6	+0.3
DAT	**Datca**	**0.23**	**203**	Pg	Pg		14 02 37.9	-0.2
DAT				Sg	Sg		14 02 41.7	+0.2
DAT	**Datca**	**0.23**	**203**	P	Pg		14 02 37.9	-0.2
DAT				S	Sg		14 02 41.7	+0.2
DAT	**Datca**	**0.23**	**203**	P	Pg		14 02 38.2	+0.1
DAT				S	Sg		14 02 41.7	+0.2
DAT				*i* AML	AML		14 02 44.0	
	comp=E,8μm,0.4s							
DAT	**Datca**	**0.23**	**203**	*i* AML	AML		14 02 44.0	
	comp=E,8μm,0.4s							
RFTD	**Palamutbuku-Ka**	**0.30**	**210**	Pg	Pg		14 02 39.2	-0.1
RFTD				Sg	Sg		14 02 43.7	+0.2
BODT	**Bodrum**	**0.33**	**291**	Pg	Pg		14 02 39.6	-0.2
BODT				Sg	Sg		14 02 44.8	+0.7
BODT	**Bodrum**	**0.33**	**291**	P	Pg		14 02 39.5	-0.2
BODT				S	Sg		14 02 44.9	+0.8
RFTB	**Kemer-Bodrum**	**0.34**	**273**	Pg	Pg		14 02 39.9	0.0
RFTB				Sg	Sg		14 02 44.8	+0.4
MLSB	**Milas**	**0.35**	**11**	Pg	Pg		14 02 40.2	-0.1
TURN	**Turunc**	**0.48**	**111**	Pg	Pg		14 02 42.4	-0.1
TURN				Sg	Sb		14 02 50.4	0.0
YER	**Yerkesik**	**0.51**	**68**	Pg	Pg		14 02 43.5	+0.4
YER	**Yerkesik**	**0.51**	**68**	P	Pg		14 02 43.1	0.0
YER				S	Sb		14 02 51.0	-0.5
NISR	**Nisiros**	**0.56**	**234**	P	Pg		14 02 44.2	+0.1
NISR				S	Sb		14 02 52.9	0.0
	19μm,0.3s							
NISR	**Nisiros**	**0.56**	**234**	P	Pg		14 02 44.2	+0.1
NISR				S	Sg		14 02 52.4	+0.9
NISR				AML	AML		14 02 54.1	
	comp=N,18290μm,0.2s							
NISR				AML	AML		14 02 54.5	
	comp=E,57801μm,0.4s							
KLNA	**Kalymnos**	**0.57**	**271**	P	Pg		14 02 44.1	-0.2
KLNA				S	Sg		14 02 52.4	+0.5
KLNA				AML	AML		14 02 56.5	
	comp=E,48152μm,0.3s							
KLNA				AML	AML		14 02 58.6	
	comp=N,22936μm,0.3s							
MULA	**Mugla, Merkez-**	**0.59**	**58**	P	Pg		14 02 44.1	-0.6
MULA				S	Sb		14 02 53.4	-0.5
MULA				*i* AML	AML		14 03 08.0	
	comp=N,590nm,0.5s							
KOSK	**Kos Island**	**0.60**	**251**	Pg	Pg		14 02 44.9	+0.1
KOSK	**Kos Island**	**0.60**	**251**	P	Pg		14 02 44.8	0.0
KOSK				S	Sb		14 02 54.4	+0.3
	comp=N,7μm,0.5s							
KOSK	**Kos Island**	**0.60**	**251**	P	Pg		14 02 45.0	+0.1
KOSK				S	Sb		14 02 53.9	-0.2
KOSK				AML	AML		14 02 58.2	
	comp=N,35295μm,0.6s							
KOSK				AML	AML		14 02 58.3	
	comp=E,52239μm,0.4s							
DDIM	**Aydin, Didim**	**0.62**	**325**	P	Pg		14 02 44.4	-0.8
DDIM				S	Sb		14 02 55.4	+0.7
DDIM				*i* AML	AML		14 03 01.0	
	comp=E,5μm,0.6s							
DALY	**Dalyan (Mula)**	**0.78**	**99**	Pg	Pb		14 02 48.6	-0.1
ARG	**Arkhangelos**	**0.81**	**154**	Pg	Pg		14 02 48.8	+0.1
ARG	**Arkhangelos**	**0.81**	**154**	P	Pg		14 02 48.2	-0.5
ARG				S	Sn		14 03 01.8	-0.5
	comp=E,9μm,0.8s							
ARG	**Arkhangelos**	**0.81**	**154**	P	Pg		14 02 48.4	-0.4
ARG				S	Sb		14 03 00.2	+0.2
ARG				AML	AML		14 03 04.7	
	comp=N,20612μm,0.7s							
ARG				AML	AML		14 03 05.7	
	comp=E,14982μm,0.7s							
GCAM	**G?zelcaml?**	**0.84**	**334**	Pg	Pg		14 02 49.4	+0.1
SMG	**Samos**	**1.02**	**318**	P	Pb		14 02 52.3	-0.5
SMG				S	Sn		14 03 08.3	+0.7
	comp=E,4μm,0.5s							
SMG	**Samos**	**1.02**	**318**	P	Pb		14 02 51.9	-0.9
SMG				S	Sb		14 03 06.6	+0.4
SMG				AML	AML		14 03 12.0	
	comp=N,6309μm,0.4s							
SMG				AML	AML		14 03 12.4	
	comp=E,11060μm,0.5s							
TAVA	**DENIZLI_Tavas**	**1.11**	**62**	P	Pn		14 02 54.6	0.0
TAVA				S	Sn		14 03 10.1	+0.3
TAVA				*i* AML	AML		14 03 19.0	
	comp=E,428nm,0.7s							
FETY	**Fethiye**	**1.16**	**105**	Pn	Pg		14 02 55.7	+0.2
DNIZ	**Denizli-Tavas-**	**1.27**	**57**	P	Pb		14 02 57.3	+0.2
DNIZ				S	Sg		14 03 16.0	+1.8
DNIZ				*i* AML	AML		14 03 20.0	
	comp=E,1μm,0.4s							
DGB	**zmir**	**1.28**	**330**	P	Pn		14 02 56.6	-0.2
DGB				S	Sb		14 03 12.1	-1.4
DGB				*i* AML	AML		14 03 22.0	
	comp=E,696nm,0.6s							
CAME	**Cameli-Denizli**	**1.29**	**90**	Pn	Pg		14 02 58.2	+0.2
IKRA	**Agios-Kirikos-**	**1.30**	**301**	P	Pn		14 02 56.2	-0.8
IKRA				S	Sn		14 03 14.6	+0.3
IKRA				AML	AML		14 03 20.1	
	comp=N,4350μm,0.6s							
IKRA				AML	AML		14 03 21.0	
	comp=E,10120μm,0.6s							
CAEL	**Denizli, Camel**	**1.32**	**82**	P	Pb		14 02 58.0	+0.1
CAEL				S	Sg		14 03 15.6	+0.1
CAEL				*i* AML	AML		14 03 34.0	
	comp=E,814nm,0.6s							
APMY	**Acipayam-Deniz**	**1.39**	**67**	Pn	Pg		14 02 59.5	-0.3
KARP	**Karpathos**	**1.46**	**197**	Pn	Pb		14 03 00.2	-0.1
KARP	**Karpathos**	**1.46**	**197**	P	Pn		14 02 59.0	-0.4
KARP				S	Sb		14 03 18.8	0.0
KARP	**Karpathos**	**1.46**	**197**	P	Pn		14 02 58.9	-0.4
KARP				S	Sn		14 03 17.5	-1.0
KARP				AML	AML		14 03 23.0	
	comp=E,4846μm,0.6s							
KARP				AML	AML		14 03 26.6	
	comp=N,4853μm,0.6s							
ZEYE	**Izmir, Urla-Ze**	**1.60**	**324**	P	Pb		14 03 01.9	-0.7
ZEYE				S	Sb		14 03 23.6	+0.8
URLA	**Izmir**	**1.66**	**329**	Pn	Pb		14 03 03.4	-0.2
MANT	**Manisa**	**1.69**	**24**	P	Pb		14 03 04.0	-0.3
MANT				S	Sn		14 03 23.1	-1.3
MANT				*i* AML	AML		14 03 34.0	
	comp=N,215nm,0.7s							
AKAS	**Kas**	**1.70**	**114**	Pn	Pb		14 03 04.0	-0.4
APE	**Apeiranthos**	**1.73**	**275**	Pn	Pn		14 03 02.6	-0.5
APE	**Apeiranthos**	**1.73**	**275**	P	Pn		14 03 02.8	-0.3
APE	**Apeiranthos**	**1.73**	**275**	P	Pn		14 03 02.5	-0.7
APE				S	Sn		14 03 25.2	0.0
APE				AML	AML		14 03 34.7	
	comp=N,1201μm,0.5s							
APE				AML	AML		14 03 36.8	
	comp=E,1247μm,0.6s							
KULA	**Kula-Manisa**	**1.75**	**26**	Pn	Pn		14 03 04.1	+0.8
KULA	**Kula-Manisa**	**1.75**	**26**	P	Pn		14 03 03.7	+0.4
KULA				S	Sb		14 03 27.6	+0.5
GOMA	**Golmarmara-Man**	**1.77**	**6**	Pn	Pb		14 03 04.9	-0.6
ELL	**Elmali**	**1.79**	**96**	Pn	Pb		14 03 05.4	-0.6
RFT5	**Foca**	**1.86**	**337**	Pn	Pb		14 03 06.3	-0.8
SANT	**Santorini**	**1.88**	**253**	Pn	Pn		14 03 06.3	+1.1
AKS	**Akhisar**	**1.93**	**3**	Pn	Pb		14 03 07.5	-0.8
CHOS	**Chios island**	**1.94**	**318**	P	Pn		14 03 05.9	-0.1
CHOS	**Chios island**	**1.94**	**318**	P	Pn		14 03 06.0	+0.1
CHOS				AML	AML		14 03 46.6	
	comp=N,1324μm,0.7s							
CHOS				AML	AML		14 03 47.4	
	comp=E,1670μm,0.7s							
ZEDA	**zmir-Bergama**	**2.07**	**347**	P	Pb		14 03 11.7	+1.0
ZEDA				S	Sg		14 03 38.8	-1.0
RFT7	**Candarli**	**2.10**	**343**	Pn	Pb		14 03 09.6	-1.5
BASM	**Basmaki-Afyon**	**2.12**	**62**	Pn	Pn		14 03 09.8	+1.4
KORT	**Korkueli**	**2.13**	**88**	Pn	Pn		14 03 10.2	+1.5
ZKR	**Zakros**	**2.18**	**214**	P	Pn		14 03 10.4	+1.1
DKL	**Dikili**	**2.21**	**344**	Pn	Pn		14 03 11.3	+1.7
AKUM	**Antalya-Kumluc**	**2.22**	**105**	P	Pb		14 03 13.2	0.0
AKUM				S	Sb		14 03 42.3	+1.6
AKUM				*i* AML	AML		14 03 59.0	
	comp=E,188nm,0.9s							
EAG1	**Polichnitos, L**	**2.43**	**332**	P	Pn		14 03 12.8	+0.1
PRK	**Paraskevi**	**2.55**	**334**	P	Pn		14 03 14.7	+0.3
PRK	**Paraskevi**	**2.55**	**334**	P	Pn		14 03 14.5	+0.2
SIGR	**SIGRI**	**2.69**	**328**	P	Pn		14 03 16.4	+0.2
SIGR	**SIGRI**	**2.69**	**328**	P	Pn		14 03 16.2	0.0
SUTC	**Sutluce-Ispart**	**2.69**	**78**	P	Pb		14 03 23.0	+1.6
SUTC				S	Sn		14 03 45.2	-3.9
IDI	**Anoyia**	**2.81**	**235**	Pn	Pn		14 03 18.3	+0.3
	comp=E,3.1nm,0.3s,baz=68,slow=11,SNR=16							
IDI				Sn	Sn		14 03 51.4	-0.3
	comp=E,5.2nm,0.3s,baz=199,slow=8.7,SNR=5.5							
IDI				Lg	Lg		14 04 00.8	
	comp=E,7.5nm,0.3s,baz=146,slow=23,SNR=6.6							
	comp=E,6.5nm,0.3s							
IDI	**Anoyia**	**2.81**	**235**	P	Pn		14 03 18.0	+0.1
LIA	**Limnos Island**	**3.54**	**327**	P	Pn		14 03 28.5	+0.6
KTHA	**Kythira Island**	**3.79**	**261**	P	Pn		14 03 32.1	+0.8
SMTH	**Samothraki Isl**	**3.90**	**335**	P	Pn		14 03 33.1	+0.2
ALN	**Alexandroupoli**	**4.15**	**343**	P	Pn		14 03 36.6	+0.4
KLV	**Kalavryta, Ach**	**4.54**	**286**	P	Pn		14 03 43.0	+1.3
CSS	**Mathiatis**	**4.99**	**112**	Pn	Pn		14 03 49.0	+1.2
CSS				Sn	Sn		14 04 43.1	-2.3
BRTR	**Keskin Array B**	**5.44**	**58**	Pn	Pn		14 03 56.0	+1.9
	comp=E,0.9nm,0.3s,baz=240,slow=17,SNR=13							
	comp=E,2.4nm,0.4s							
HNTI	**Hanita**	**7.25**	**120**	Pn	Pn		14 04 19.4	+0.5
HNTI				Sn	Sn		14 05 38.9	-2.3
OFRI	**`Ofer**	**7.39**	**124**	Pn	Pn		14 04 22.3	+1.4
OFRI				Sn	Sn		14 05 42.6	-2.1
MMC7	**Mount Meron ar**	**7.43**	**120**	Pn	Pn		14 04 22.6	+1.1
MMA0B	**Mount Meron ar**	**7.45**	**120**	Pn	Pn		14 04 22.8	+1.1
MMA0B				Sn	Sn		14 05 43.9	-2.2
MMAI	**Mount Meron Ar**	**7.45**	**120**	Pn	Pn		14 04 20.8	-0.9
	comp=E,1.9nm,0.3s,baz=302,slow=12,SNR=10							
MMAI				Sn	Sn		14 05 43.5	-2.6
	comp=E,3.4nm,0.3s,baz=301,slow=24,SNR=6.5							
	comp=E,1.0nm,0.3s							
GEM	**Giv'at Ha'Em**	**7.52**	**117**	Pn	Pn		14 04 23.4	+0.7
GEM				Sn	Sn		14 05 45.6	-2.3
NATI	**Neve Ativ**	**7.55**	**117**	Pn	Pn		14 04 23.9	+0.9
NATI				Sn	Sn		14 05 46.3	-2.2
KSHT	**Keshet**	**7.75**	**118**	Pn	Pn		14 04 27.1	+1.3
KSHT				Sn	Sn		14 05 51.6	-2.0
HMDT	**Nahal Hemdat**	**7.98**	**124**	Pn	Pn		14 04 29.8	+0.9
HMDT				Sn	Sn		14 05 57.0	-2.1
ASF	**Jabal al Asfar**	**8.96**	**119**	Pn	Pn		14 04 43.0	+0.5
	comp=E,0.2nm,0.3s,baz=18,slow=6.4,SNR=1.3							
	comp=E,1.1nm,0.5s							
EIL	**Elat**	**9.46**	**138**	Pn	Pn		14 04 49.3	0.0
	comp=E,0.5nm,0.3s,baz=343,slow=14,SNR=1.9							
	comp=E,1.8nm,0.5s							
GERES	**GERESS Array B**	**15.67**	**324**	LR	LR		14 12 19.0	
	comp=E,87nm,21.2s,baz=10.0,slow=38							
DAVOX	**Davos/Dischmat**	**16.48**	**312**	LR	LR		14 12 56.8	
	comp=E,83nm,19.5s,baz=286,slow=38							
FINES	**FINESS Array B**	**24.54**	**358**	P	P		14 07 51.9	-0.5
	comp=E,6.3nm,1.1s,baz=220,slow=5.0,SNR=3.6							
	comp=E,6.3nm,1.1s							
HFS	**Hagfors**	**24.88**	**343**	P	P		14 07 55.7	+0.2
	comp=E,3.9nm,1.0s,baz=134,slow=12,SNR=2.1							
	comp=E,3.9nm,1.0s							
ESDC	**Sonseca Array**	**24.92**	**286**	P	P		14 07 56.2	+0.1
	comp=E,1.5nm,0.8s,baz=80,slow=9.0,SNR=17							
	comp=E,1.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**33.20**	**231**	P	P		14 09 09.8	-0.1
	comp=E,1.8nm,0.8s,baz=33,slow=10,SNR=11							
	comp=E,1.8nm,0.8s							
KURBB	**Kurchatov Arra**	**38.41**	**53**	P	P		14 09 54.8	+0.5
	comp=E,0.6nm,0.2s,baz=274,slow=9.1,SNR=3.1							
	comp=E,0.6nm,0.2s							
MKAR	**Makanchi Array**	**41.09**	**58**	P	P		14 10 17.2	+0.5
	comp=E,0.6nm,0.6s,baz=285,slow=6.8,SNR=3.8							
	comp=E,0.6nm,0.6s							
GTA	**Gaotai**	**55.32**	**64**	*e*P	P		14 12 18.1	+11
GTA				sP	sP		14 12 26.8	+15
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ILAR	**Eielson Array**	**78.53**	**358**	P	P		14 14 34.3	+0.4
	comp=Z,0.3nm,0.8s,baz=1.8,slow=2.9,SNR=3.1							
	comp=Z,0.3nm,0.8s							

*IDC **14** 14:03:29.6±0.6, 10°.59S×112°.44E, h0km, mb4.3/17, mbtmp4.3/20, ML4.2/2, MS3.4/12, Error ellipse: s-maj=21.1km s-min=12.9km az=60.0*
*NEIC **14** 14:03:30.1±2.4, 10°.80S±0°.07×112°.31E±0°.07, h10km±1km, mb4.6/15, Error ellipse: s-maj=13.1km s-min=10.3km az=211.0*
*DJA **14** 14:03:32.1±0.5, 11°S±2°×11°2E±°, h35km±7km, M4.7/42, mB5.2/10, mb4.8/42, MLv4.8/23, Mw(mB)4.6/10*
ISC 14 14:03:30.7±0.4, 10°.79S±0°.06×112°.42E±0°.05, h10km, n135, σ1s57/127, mb4.6/30, MS3.5/11, 4C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.69**	**22**	P	Pn		14 04 14.1	-0.1
JAGI	**Jajag, Banyuwa**	**2.87**	**37**		Pn		14 04 17.1	+0.6
JAGI	**Jajag, Banyuwa**	**2.87**	**37**	P	Pn		14 04 17.6	+1.1
JAGI	**Jajag, Banyuwa**	**2.87**	**37**	P	Pn		14 04 17.2	+0.6
BLJI	**Banyuglugur**	**3.24**	**21**	P	Pn		14 04 23.2	+1.6
WOJI	**Wonogiri, Jawa**	**3.29**	**333**	P	Pn		14 04 20.3	-2.0
IGBI	**Denpasar**	**3.32**	**54**	P	Pn		14 04 23.6	+0.8
UGM	**Wanagama**	**3.42**	**327**		Pn		14 04 23.0	-1.1
UGM	**Wanagama**	**3.42**	**327**	P	Pn		14 04 23.1	-1.1
UGM	**Wanagama**	**3.42**	**327**	P	Pn		14 04 22.5	-1.7
DNP	**Denpasar**	**3.46**	**53**	P	Pn		14 04 26.5	+1.9
ABJI	**Asem Bagus**	**3.47**	**31**	P	Pn		14 04 26.7

comp=Z,246nm,1.2s
MORW Morawa 18.50 170 P **P 14 07 45.8 -1.4**
MORW IAmb IAmb 14 08 14.8
comp=Z,17nm,0.8s
TNTI Ternate 18.78 53 P **P 14 07 51.3 +0.9**
comp=Z,28nm,1.4s
SWI Sorong 21.15 63 P **P 14 08 15.3 -0.9**
comp=Z,24nm,0.8s
FAKI Fak Fak 21.16 70 P **P 14 08 14.6 -1.8**
FAKI IAmb IAmb 14 08 45.2
comp=Z,15nm,0.7s
FAKI Fak Fak 21.16 70 P **P 14 08 15.9 -0.5**
comp=Z,22nm,0.9s
DAV Davao City (W) 22.05 37 LR LR 14 18 04.8
comp=Z,40nm,21.2s,baz=212,slow=40
NWAO Narrogin (SRO) 22.47 169 LR LR 14 18 03.1
comp=Z,110nm,18.0s,baz=34,slow=38
WB0 Warramunga Arr 22.97 115 P **P 14 08 33.8 -1.9**
WB0 IAmb IAmb 14 08 49.5
comp=Z,24nm,0.8s
WRA Warramunga Arr 22.98 116 P **P 14 08 34.8 -1.0**
WRA Warramunga Arr 22.98 116 P **P 14 08 36.9 +1.1**
comp=Z,9.1nm,0.8s,baz=290,slow=11,SNR=57
comp=Z,9.1nm,0.8s
WB2 Warramunga Arr 22.99 116 P **P 14 08 35.4 -0.5**
WB2 IAmb IAmb 14 08 48.9
comp=Z,21nm,0.9s
WR0 Warramunga Arr 23.17 116 P **P 14 08 38.9 +1.2**
WR0 IAmb IAmb 14 08 50.7
comp=Z,35nm,1.0s
RKPI Ransiki, Papua 23.49 68 P **P 14 08 39.8 -1.1**
comp=Z,47nm,0.8s,comp=Z,3μm
ASAR Alice Springs 24.14 125 P **P 14 08 48.3 +1.1**
ASAR Alice Springs 24.14 125 P **P 14 08 48.8 +1.6**
comp=Z,5.8nm,0.7s,baz=302,slow=9.2,SNR=71
ASAR PcP **PcP 14 12 29.7 +1.4**
comp=Z,0.3nm,0.7s,baz=316,slow=2.6,SNR=2.0
comp=Z,5.8nm,0.7s
AS31 Alice Springs 24.14 125 **P 14 08 48.8 +1.6**
CMAR Chiang Mai Arr 31.96 335 P **P 14 09 56.6 -0.5**
comp=Z,1.4nm,0.4s,baz=173,slow=7.8,SNR=17
CMAR LR LR 14 24 12.8
comp=Z,83nm,18.3s,baz=160,slow=39
comp=Z,1.4nm,0.4s
STKA Stephens Creek 34.14 132 P **P 14 10 16.3 +0.2**
STKA Stephens Creek 34.14 132 P **P 14 10 18.0 +1.9**
comp=Z,7.1nm,0.8s,baz=301,slow=8.9,SNR=15
comp=Z,7.1nm,0.8s
KMI Kunming 36.92 345 ⇑P **P 14 10 41.1 +0.9**
KMI pmax pmax
comp=Z,13nm,0.8s
TNCH TengChong 38.10 339 *eP* **P 14 10 52.3 +2.1**
TNCH pP pwP 14 10 55.9 -3.0
TNCH pmax pmax
comp=Z,25nm,0.7s
H08S2 Diego Garcia H 39.52 271 T T 14 53 08.0
baz=96,slow=75,SNR=9.5
H08S3 Diego Garcia H 39.53 271 T T 14 53 13.9
baz=96,slow=75,SNR=11
H08S1 Diego Carcia H 39.54 271 T T 14 53 15.0
baz=96,slow=75,SNR=4.4
ENH Enshi 40.92 356 P **P 14 11 11.6 -1.9**
ENH IAmb IAmb 14 11 24.8
comp=Z,13nm,1.0s
TAPN Taplejung 44.85 328 *eP* **P 14 11 45.2 -0.6**
comp=Z,34nm,1.0s
LYN LuoYang 45.09 0 *eP* P 14 11 53.0 +5.9
RAMN Ramite 45.12 327 *eP* **P 14 11 50.5 +2.7**
comp=Z,21nm,1.0s
LSA Lhasa 45.17 334 P **P 14 11 49.0 +0.5**
JIRN Jiri 45.90 327 *eP* **P 14 11 53.7 -0.5**
comp=Z,31nm,0.8s
PKI Pulchoki 46.26 326 *eP* **P 14 11 57.8 +0.9**
comp=Z,15nm,0.9s
GUN Gumba 46.27 327 *eP* **P 14 11 56.5 -0.5**
comp=Z,22nm,0.5s
PKIN Phulchoki 46.27 326 *eP* **P 14 11 57.6 +0.7**
comp=Z,12nm,0.8s
DMN Daman 46.45 326 *eP* **P 14 11 59.2 +0.8**
comp=Z,29nm,0.7s
GKN Gorkha 47.02 326 *eP* **P 14 12 02.3 -0.4**
comp=Z,7.9nm,0.3s
DANN Dangsing 47.78 325 *eP* **P 14 12 07.8 -0.9**
comp=Z,40nm,0.8s
PYUN Piuthan 48.02 324 *eP* **P 14 12 11.0 +0.4**
comp=Z,25nm,0.9s
KSRS Korea Array 50.14 16 P **P 14 12 25.6 -0.7**
comp=Z,1.9nm,0.8s,baz=212,slow=5.7,SNR=4.5
KSRS LR LR 14 34 27.3
comp=Z,15nm,21.8s,baz=210,slow=37
comp=Z,1.9nm,0.8s
KOUNC Koumac, New Ca 50.69 108 P **P 14 12 30.6 -0.3**
BTO Baotou 51.18 358 *eP* P 14 12 39.8 +5.5
BTO sP pwP 14 12 46.8 +4.3
BTO PP PP 14 14 39.0 +7.7
BTO S S 14 20 02.8 +10
BTO Baotou 51.18 358 SS **SS 14 23 33.3 +4.9**
BTO pmax pmax
comp=Z,12nm,0.6s
BTO pmax pmax
comp=Z,520nm,5.0s
BTO LR LR
comp=N,470nm,7.2s
BTO LR LR
comp=E,380nm,4.7s
BTO LR LR
comp=Z,410nm,5.3s
MJAR Matsushiro Arr 52.97 26 P **P 14 12 46.2 -1.4**
comp=Z,2.7nm,1.1s,baz=212,slow=8.3,SNR=4.9
MJAR ScP **ScP 14 17 55.7 +1.6**
comp=Z,0.9nm,0.8s,baz=214,slow=7.0,SNR=4.2
MJAR LR LR 14 36 55.3
comp=Z,20nm,18.5s,baz=210,slow=38
comp=Z,2.7nm,1.1s
XLT XiLinHaoTe 54.53 3 *eP* **P 14 13 02.8 +3.8**
XLT sP pwP 14 13 10.8 +3.6
XLT pmax pmax
comp=Z,10.0nm,0.7s
XLT pmax pmax
comp=Z,110nm,4.3s
USRK Ussuriysk Ar. 57.54 17 P **P 14 13 18.3 -2.1**
USRK Ussuriysk Ar. 57.54 17 P **P 14 13 19.0 -1.4**
comp=Z,2.5nm,0.7s,baz=226,slow=5.2,SNR=2.9
comp=Z,2.5nm,0.7s
SONM Songino Array 58.61 355 P **P 14 13 26.8 -1.2**
SONM IAmb IAmb 14 13 40.2
comp=Z,2.9nm,0.9s
SONM Songino Array 58.61 355 P **P 14 13 27.2 -0.8**
comp=Z,1.2nm,0.8s,baz=171,slow=9.0,SNR=6.4
SONM LR LR 14 41 50.7
comp=Z,43nm,18.2s,baz=183,slow=39
comp=Z,1.2nm,0.8s
MKAR Makanchi Array 63.34 337 P **P 14 13 59.4 -0.7**
comp=Z,1.2nm,0.5s,baz=144,slow=7.0,SNR=10
comp=Z,1.2nm,0.5s
MAW Mawson 65.41 199 P **P 14 14 15.0 +1.7**
comp=Z,1.6nm,1.0s,baz=76,slow=8.3,SNR=2.3
MAW LR LR 14 38 38.9
comp=Z,34nm,20.3s,baz=45,slow=32
comp=Z,1.6nm,1.0s
KURBB Kurchatov Arra 67.91 337 P **P 14 14 28.9 -0.6**
comp=Z,0.8nm,0.2s,baz=148,slow=5.2,SNR=4.8
comp=Z,0.8nm,0.2s
ZALV Zalesovo Beam 68.61 343 P **P 14 14 32.5 -1.3**
comp=Z,1.8nm,0.7s,baz=151,slow=1.8,SNR=7.0
comp=Z,1.8nm,0.7s
BVAR Borovoye Array 72.99 335 P **P 14 15 00.0 -0.4**
comp=Z,1.4nm,0.8s,baz=154,slow=7.4,SNR=5.3
comp=Z,1.4nm,0.8s
PETK Petropavlovsk- 74.43 26 P **P 14 15 08.0 -0.9**
comp=Z,7.5nm,1.0s,baz=224,slow=1.6,SNR=4.9
comp=Z,7.5nm,1.0s
ABKAR Akbulak array 75.43 328 P **P 14 15 14.2 -0.6**
QSPA South Pole Qui 79.22 180 P **P 14 15 37.0 +0.9**
QSPA IAmb IAmb 14 15 48.3
comp=Z,8.8nm,0.9s
QSPA South Pole Qui 79.22 180 P **P 14 15 37.2 +1.2**
comp=Z,5.2nm,1.0s,baz=309,slow=2.0,SNR=11
comp=Z,5.2nm,1.0s
BOSA Boshof 82.46 242 LR LR 14 44 21.9
comp=Z,29nm,21.5s,baz=198,slow=30
TROLL Troll, Antarti 85.82 197 ⇑pP pP 14 16 21.5 +10
comp=Z,122nm,0.6s
SNAA Sanae 87.49 197 P **P 14 16 19.6 +1.2**
SNAA Sanae 87.49 197 P **P 14 16 19.9 +1.4**
comp=Z,56nm,0.8s
SNAA ⇑pP **pwP 14 16 29.6 +2.5**
comp=Z,150nm,0.7s
SNAA Sanae 87.49 197 P **P 14 16 19.7 +1.2**
comp=Z,3.5nm,0.9s,baz=91,slow=2.3,SNR=9.7
SNAA LR LR 14 49 57.6
comp=Z,29nm,18.1s,baz=58,slow=32
comp=Z,3.5nm,0.9s
BRTR Keskin Array B 88.34 311 P **P 14 16 23.3 +0.2**
comp=Z,0.9nm,0.7s,baz=116,slow=2.9,SNR=4.6
comp=Z,0.9nm,0.7s
VNA2 Neumayer--Watz 89.14 197 pP pP 14 16 37.9 +10
comp=Z,4.3nm,0.6s,baz=120,slow=4.0
VNA3 Neumayer Olymp 89.59 196 P **P 14 16 30.2 +1.9**
comp=Z,1.2nm,0.6s
VNA3 ⇑pP **pwP 14 16 40.2 +3.2**
comp=Z,4.6nm,0.8s
TSUM Tsumeb 91.00 250 LR LR 14 51 27.9
comp=Z,22nm,18.3s,baz=122,slow=32
MLR Muntele Rosu 95.15 315 LR LR 15 07 45.5
comp=Z,66nm,19.0s,baz=285,slow=41
NACGM Naroch 96.24 325 *eP* **P 14 17 00.0 +0.9**
comp=E,2μm,0.9s
NVAR Mina Array Bea 127.13 50 PKP **PKiKP 14 22 37.0 +0.5**
comp=E,0.4nm,0.7s,baz=298,slow=1.9,SNR=1.7
TXAR Lajitas Array 141.62 56 PKhKP PKPpre 14 22 59.6
comp=E,0.3nm,0.6s,baz=230,slow=3.4,SNR=4.3

*IDC **14** 14:08:27.4±0.8, 10°.75S×112°.41E, h0km, mb4.0/10, mbtmp4.1/11, ML4.1/1, Error ellipse: s-maj=39.5km s-min=15.7km az=55.0*
*DJA **14** 14:08:27.5±1.4, 11°S±3°×11°2E±°, h15km±12km, M4.8/19, mB5.2/1, mb4.6/13, MLv4.8/19, Mw(mB)4.5/1*
ISC 14 14:08:28.5±0.7, 10°.8S±0°.1×112°.28E±0°.08, h10km, n38, σ1§21/35, mb4.0/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.74**	**25**	P	**Pn**	**14 09 11.5**	**-1.0**
JAGI	**Jajag, Banyuwa**	**2.94**	**39**	P	**Pn**	**14 09 14.5**	**-0.8**
WOJI	**Wonogiri, Jawa**	**3.21**	**335**	P	**Pn**	**14 09 17.4**	**-1.6**
BLJI	**Banyuglugur**	**3.28**	**23**	P	**Pn**	**14 09 20.2**	**+0.3**
UGM	**Wanagama**	**3.33**	**328**	P	**Pn**	**14 09 19.6**	**-1.1**
IGBI	**Denpasar**	**3.43**	**56**	P	**Pn**	**14 09 20.9**	**-1.1**
NGJI	**Ngawi**	**3.48**	**346**	P	**Pn**	**14 09 21.7**	**-1.1**
ABJI	**Asem Bagus**	**3.53**	**33**	P	**Pn**	**14 09 24.2**	**+0.8**
YOGI	**Yogyakarta**	**3.53**	**326**	P	**Pn**	**14 09 22.3**	**-1.2**
DNP	**Denpasar**	**3.56**	**54**	P	**Pn**	**14 09 22.3**	**-1.5**
GRJI	**Gresik**	**3.84**	**3**	P	**Pn**	**14 09 27.1**	**-0.6**
SRBI	**Singaraja**	**3.94**	**47**	P	**Pn**	**14 09 29.3**	**+0.3**
KMMI	**Kalianget**	**4.06**	**24**	P	**Pn**	**14 09 28.9**	**-1.8**
SMRI	**Semarang**	**4.13**	**334**	P	**Pn**	**14 09 30.2**	**-1.4**
KPJI	**Karang Pucung**	**4.76**	**316**	P	**Pn**	**14 09 39.4**	**-0.9**
CMJI	**Cimerak**	**4.81**	**308**	P	**Pn**	**14 09 39.9**	**-1.1**
TWSI	**Taliwang, Sumb**	**4.97**	**66**	P	**Pn**	**14 09 42.5**	**-0.7**
72nm,0.8s,2μm0.7nm							
PLAI	**Plampang**	**5.75**	**71**	P	**Pn**	**14 09 53.1**	**-0.9**
65nm,0.7s,0.4nm							
LEM	**Lembang**	**6.05**	**310**	Pn	**Pn**	**14 10 00.8**	**+2.5**
4.1nm,0.3s,baz=322,slow=19,SNR=1.8							
11nm,0.5s							
CNJI	**Cibinong**	**6.14**	**304**	P	**Pn**	**14 09 56.6**	**-2.8**
21nm,0.6s,0.2nm							
CGJI	**Cibinong**	**7.71**	**302**	P	**Pn**	**14 10 19.1**	**-1.9**
41nm,0.6s,0.5nm							
KASI	**Kota Agung**	**9.31**	**304**	P	**Pn**	**14 10 41.9**	**-0.9**
49nm,2.1s							
BKSI	**Bulukumba**	**9.47**	**56**	P	**Pn**	**14 10 44.8**	**-0.2**
11nm,0.5s							
BATI	**Baumata**	**11.21**	**88**	P	**Pn**	**14 11 07.7**	**-1.2**
16nm,0.6s							
SOEI	**Soe**	**11.84**	**86**	P	**Pn**	**14 11 16.4**	**-1.2**
15nm,0.6s							
WRA	**Warramunga Arr**	**23.11**	**116**	P	**P**	**14 13 34.3**	**-0.6**
2.9nm,0.7s,baz=289,slow=11,SNR=7.2							
2.9nm,0.7s							
ASAR	**Alice Springs**	**24.26**	**125**	P	**P**	**14 13 45.5**	**-0.5**
2.6nm,0.7s,baz=302,slow=9.1,SNR=13							
2.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**31.89**	**336**	P	**P**	**14 14 54.9**	**+0.7**
1.3nm,0.8s,baz=171,slow=8.2,SNR=8.6							
1.3nm,0.8s							
STKA	**Stephens Creek**	**34.25**	**132**	P	**P**	**14 15 15.4**	**+0.6**
3.1nm,0.7s,baz=295,slow=11,SNR=5.6							
3.1nm,0.7s							
H08S2	**Diego Garcia H**	**39.38**	**271**	T	T	14 58 06.6	
baz=96							
H08S3	**Diego Garcia H**	**39.39**	**271**	T	T	14 58 04.3	
baz=96							
H08S1	**Diego Carcia H**	**39.40**	**271**	T	T	14 58 01.0	
baz=96							
SONM	**Songino Array**	**58.58**	**355**	P	**P**	**14 18 25.7**	**+0.2**
0.2nm,0.4s,baz=174,slow=2.9,SNR=1.9							
0.2nm,0.4s							
MKAR	**Makanchi Array**	**63.27**	**337**	P	**P**	**14 18 58.5**	**+1.1**
0.5nm,0.5s,baz=145,slow=5.7,SNR=5.9							
0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**67.84**	**338**	P	**P**	**14 19 27.5**	**+0.8**
3.6nm,0.2s,baz=133,slow=5.4,SNR=1.8							
3.6nm,0.2s							
ZALV	**Zalesovo Beam**	**68.56**	**343**	P	**P**	**14 19 31.2**	**0.0**
0.4nm,0.3s,baz=142,slow=7.3,SNR=2.1							
0.4nm,0.3s							
QSPA	**South Pole Qui**	**79.23**	**180**	P	**P**	**14 20 34.4**	**+0.6**
1.5nm,0.8s,baz=249,slow=1.2,SNR=6.8							
1.5nm,0.8s							
SNAA	**Sanae**	**87.46**	**197**	P	**P**	**14 21 16.8**	**+0.7**
1.7nm,0.8s,baz=143,slow=5.8,SNR=9.1							
1.7nm,0.8s							

*IDC **14** 14:09:49.3±0.6, 10°.70S×112°.33E, h0km, mb4.3/15, mbtmp4.3/16, ML3.9/1, MS3.3/2, Error ellipse: s-maj=25.9km s-min=13.5km az=62.0*
*NEIC **14** 14:09:49.5±2.8, 10°.86S±0°.07×112°.36E±0°.07, h10km±1km, mb4.5/18, Error ellipse: s-maj=11.8km s-min=10.8km az=164.0*
*DJA **14** 14:09:49.6±0.3, 11°S±4°×11°2E±°, h10km, M4.9/15, mb5.0/6, mB5.3/2, MLv4.8/15, Mw(mB)4.7/2*
ISC 14 14:09:49.8±0.5, 10°.81S±0°.06×112°.29E±0°.06, h10km, n80, σ1§48/74, mb4.4/23, 2C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.76**	**24**	P	**Pn**	**14 10 33.9**	**-0.3**
JAGI	**Jajag, Banyuwa**	**2.96**	**38**	Pn	**Pn**	**14 10 36.9**	**0.0**
JAGI	**Jajag, Banyuwa**	**2.96**	**38**	P	**Pn**	**14 10 37.7**	**+0.8**
WOJI	**Wonogiri, Jawa**	**3.25**	**335**	P	**Pn**	**14 10 40.4**	**-0.4**
BLJI	**Banyuglugur**	**3.30**	**23**	P	**Pn**	**14 10 42.9**	**+1.3**
UGM	**Wanagama**	**3.37**	**329**	Pn	**Pn**	**14 10 43.4**	**+0.8**
UGM	**Wanagama**	**3.37**	**329**	P	**Pn**	**14 10 42.4**	**-0.1**
IGBI	**Denpasar**	**3.44**	**55**	P	**Pn**	**14 10 44.8**	**+1.3**
NGJI	**Ngawi**	**3.52**	**346**	P	**Pn**	**14 10 45.9**	**+1.4**
ABJI	**Asem Bagus**	**3.55**	**33**	P	**Pn**	**14 10 47.1**	**+2.0**
YOGI	**Yogyakarta**	**3.57**	**326**	P	**Pn**	**14 10 44.4**	**-0.9**
GRJI	**Gresik**	**3.87**	**3**	P	**Pn**	**14 10 49.9**	**+0.4**
SRBI	**Singaraja**	**3.95**	**47**	P	**Pn**	**14 10 51.5**	**+0.9**
KMMI	**Kalianget**	**4.08**	**24**	P	**Pn**	**14 10 53.3**	**+0.9**
SMRI	**Semarang**	**4.16**	**334**	Pn	**Pn**	**14 10 54.4**	**+1.0**
SMRI	**Semarang**	**4.16**	**334**	P	**Pn**	**14 10 52.7**	**-0.7**
CMJI	**Cimerak**	**4.84**	**308**	P	**Pn**	**14 11 01.5**	**-1.3**
TWSI	**Taliwang, Sumb**	**4.97**	**66**	P	**Pn**	**14 11 05.5**	**+0.9**
153nm,0.7s,3μm0.7nm							
LEM	**Lembang**	**6.08**	**310**	Pn	**Pn**	**14 11 20.1**	**+0.1**
2.8nm,0.3s,baz=164,slow=23,SNR=1.9							
LEM				Sn	**Sn**	**14 12 31.2**	**+1.4**
5.0nm,0.3s,baz=20,slow=23,SNR=2.3							
LEM				LR	LR	14 14 31.7	
comp=Z,111nm,18.2s,baz=190,slow=47							
12nm,0.4s							
XMIS	**Christmas Isla**	**6.54**	**272**	Pn	**Pn**	**14 11 25.1**	**-1.0**
CGJI	**Cibinong**	**7.74**	**302**	P	**Pn**	**14 11 42.4**	**-0.2**
87nm,0.5s,2μm0.5nm							
MMRI	**Maumere**	**10.04**	**78**	Pn	**Pn**	**14 12 13.8**	**-0.4**
BATI	**Baumata**	**11.20**	**88**	P	**Pn**	**14 12 32.3**	**+2.2**
33nm,0.6s							
MNAI	**Manna**	**11.25**	**304**	Pn	**Pn**	**14 12 30.4**	**-0.4**
GIRL	**Giralia**	**11.91**	**171**	Pn	**Pn**	**14 12 38.8**	**-1.0**
MBWA	**Marble Bar**	**12.53**	**146**	Pn	**Pn**	**14 12 45.5**	**-2.8**
PSA00	**Pilbara Seismi**	**12.93**	**147**	Pn	**Pn**	**14 12 51.5**	**-2.2**
TOLI2	**Tolitoli**	**14.54**	**36**	P	**Pn**	**14 13 15.8**	**-0.1**
MORW	**Morawa**	**18.50**	**170**	P	**P**	**14 14 05.0**	**-1.3**
MORW				IAmb	IAmb	14 14 24.2	
comp=Z,32nm,1.4s							
IPM	**Ipoh**	**18.88**	**323**	P	**P**	**14 14 07.8**	**-2.7**
KULM	**Kulim**	**19.75**	**324**	P	**P**	**14 14 16.5**	**-3.6**
WB0	**Warramunga Arr**	**23.08**	**115**	P	**P**	**14 14 53.9**	**-2.0**
WB0				IAmb	IAmb	14 14 58.6	
comp=Z,14nm,0.8s							
WRA	**Warramunga Arr**	**23.09**	**116**	P	**P**	**14 14 53.8**	**-2.2**
WRA	**Warramunga Arr**	**23.09**	**116**	P	**P**	**14 14 56.6**	**+0.6**
comp=Z,15nm,1.0s,baz=294,slow=12,SNR=16							
comp=Z,15nm,1.0s							
WRAB	**Tennant Creek**	**23.10**	**116**	P	**P**	**14 14 54.1**	**-1.9**
WRAB				IAmb	IAmb	14 14 58.9	
comp=Z,21nm,1.0s							
WB2	**Warramunga Arr**	**23.10**	**116**	P	**P**	**14 14 56.5**	**+0.4**
WB2				IAmb	IAmb	14 14 58.9	
comp=Z,18nm,0.9s							
WR0	**Warramunga Arr**	**23.28**	**116**	P	**P**	**14 14 57.1**	**-0.8**
WR0				IAmb	IAmb	14 15 00.7	
comp=Z,16nm,0.8s							
ASAR	**Alice Springs**	**24.23**	**125**	P	**P**	**14 15 04.2**	**-2.9**
ASAR	**Alice Springs**	**24.23**	**125**	P	**P**	**14 15 08.4**	**+1.3**
comp=Z,8.9nm,0.9s,baz=294,slow=8.1,SNR=19							
comp=Z,8.9nm,0.9s							
AS31	**Alice Springs**	**24.24**	**125**	P	**P**	**14 15 06.9**	**-0.3**
FORT	**Forrest**	**24.68**	**146**	P	**P**	**14 15 09.7**	**-1.3**
CMAR	**Chiang Mai Arr**	**31.92**	**336**	P	**P**	**14 16 17.3**	**+1.4**
comp=Z,2.2nm,0.7s,baz=170,slow=8.3,SNR=12							
comp=Z,2.2nm,0.7s							
CRAI	**Chiangrai**	**33.00**	**339**	P	**P**	**14 16 24.3**	**-1.0**
CRAI				IAmb	IAmb	14 16 39.1	
comp=Z,5.0nm,1.0s							
STKA	**Stephens Creek**	**34.23**	**132**	P	**P**	**14 16 36.0**	**+0.1**
STKA	**Stephens Creek**	**34.23**	**132**	P	**P**	**14 16 37.8**	**+1.8**
comp=Z,7.6nm,0.8s,baz=299,slow=8.2,SNR=10							
comp=Z,7.6nm,0.8s							
KNMB	**Chin-men Tao**	**35.56**	**10**	P	P	14 16 42.5	-4.9
H08S2	**Diego Garcia H**	**39.39**	**271**	T	T	14 59 21.7	
baz=96,slow=74,SNR=6.5							
H08S3	**Diego Garcia H**	**39.40**	**271**	T	T	14 59 31.4	
baz=96,slow=74							
H08S1	**Diego Carcia H**	**39.41**	**271**	T	T	14 59 31.2	
baz=96							
ENH	**Enshi**	**40.93**	**356**	P	**P**	**14 17 30.0**	**-2.7**
ENH				IAmb	IAmb	14 17 44.0	
comp=Z,11nm,0.9s							
TAPN	**Taplejung**	**44.80**	**328**	*eP*	**P**	**14 18 05.6**	**+1.2**
comp=Z,17nm,0.7s							
RAMN	**Ramite**	**45.06**	**327**	*eP*	**P**	**14 18 08.5**	**+2.0**
comp=Z,5.6nm,0.5s							
JSU	**Suzuyama**	**45.53**	**22**	P	**P**	**14 18 06.5**	**-3.4**
JSU				IAmb	IAmb	14 18 07.3	
comp=Z,3.5nm,0.5s							
JIRN	**Jiri**	**45.85**	**327**	*eP*	**P**	**14 18 13.7**	**+0.9**
comp=Z,16nm,0.6s							
PKI	**Pulchoki**	**46.20**	**326**	*eP*	**P**	**14 18 16.6**	**+1.0**
comp=Z,10nm,0.8s							
PKIN	**Phulchoki**	**46.21**	**326**	*eP*	**P**	**14 18 16.5**	**+0.9**
comp=Z,7.1nm,0.5s							
GUN	**Gumba**	**46.21**	**327**	*eP*	**P**	**14 18 16.3**	**+0.6**
comp=Z,20nm,0.6s							
GKN	**Gorkha**	**46.96**	**326**	*eP*	**P**	**14 18 21.9**	**+0.6**
comp=Z,6.3nm,0.3s							
DANN	**Dangsing**	**47.72**	**325**	*eP*	**P**	**14 18 28.0**	**+0.6**
comp=Z,13nm,0.6s							
PYUN	**Piuthan**	**47.96**	**324**	*eP*	**P**	**14 18 30.6**	**+1.4**
comp=Z,9.0nm,0.5s							
KSRS	**Korea Array**	**50.20**	**16**	P	**P**	**14 18 46.0**	**+0.2**
comp=Z,1.1nm,0.7s,baz=208,slow=8.0,SNR=4.2							
comp=Z,1.1nm,0.7s							
MJAR	**Matsushiro Arr**	**53.04**	**26**	P	**P**	**14 19 07.7**	**+0.5**
comp=Z,1.2nm,0.8s,baz=188,slow=9.4,SNR=3.2							
comp=Z,1.2nm,0.8s							
SONM	**Songino Array**	**58.62**	**355**	P	**P**	**14 19 47.1**	**-0.1**
comp=Z,1.0nm,0.9s,baz=167,slow=6.9,SNR=4.3							
comp=Z,1.0nm,0.9s							
MKAR	**Makanchi Array**	**63.31**	**337**	P	**P**	**14 20 18.9**	**0.0**
comp=Z,1.2nm,0.4s,baz=151,slow=7.5,SNR=13							
comp=Z,1.2nm,0.4s							
AAK	**Ala-Archa**	**63.44**	**330**	LR	LR	14 54 41.0	
comp=Z,63nm,20.1s,baz=358,slow=42							
MAW	**Mawson**	**65.36**	**199**	P	**P**	**14 20 33.8**	**+1.8**
comp=Z,1.7nm,0.9s,baz=73,slow=11,SNR=2.7							
comp=Z,1.7nm,0.9s							
KURBB	**Kurchatov Arra**	**67.87**	**338**	P	**P**	**14 20 48.7**	**+0.4**
comp=Z,2.6nm,0.2s,baz=153,slow=5.9,SNR=3.4							
comp=Z,2.6nm,0.2s							
ZALV	**Zalesovo Beam**	**68.59**	**343**	P	**P**	**14 20 52.5**	**-0.3**
comp=Z,1.1nm,0.4s,baz=169,slow=4.7,SNR=4.3							
comp=Z,1.1nm,0.4s							
BVAR	**Borovoye Array**	**72.95**	**335**	P	**P**	**14 21 20.6**	**+1.3**
comp=Z,1.1nm,0.7s,baz=139,slow=9.5,SNR=3.3							
comp=Z,1.1nm,0.7s							
PETK	**Petropavlovsk-**	**74.50**	**26**	P	**P**	**14 21 28.9**	**+0.5**
comp=Z,3.8nm,1.1s,baz=231,slow=5.4,SNR=1.3							
comp=Z,3.8nm,1.1s							
ABKAR	**Akbulak array**	**75.38**	**328**	P	**P**	**14 21 33.4**	**-0.1**
ABKAR				IAmb	IAmb	14 22 14.0	
comp=Z,2.3nm,0.8s							
QSPA	**South Pole Qui**	**79.20**	**180**	P	**P**	**14 21 56.1**	**+1.1**
QSPA	**South Pole Qui**	**79.20**	**180**	P	**P**	**14 21 56.7**	**+1.7**
comp=Z,3.8nm,0.9s,baz=157,slow=2.3,SNR=12							
comp=Z,3.8nm,0.9s							
TROLL	**Troll, Antarti**	**85.77**	**197**	⇓P	**P**	**14 22 31.5**	**+2.3**
comp=Z,74nm,0.6s							
TROLL	**Troll, Antarti**	**85.77**	**197**	⇑pP	pP	14 22 41.1	+10
comp=Z,74nm,0.6s							
SNAA	**Sanae**	**87.44**	**197**	⇓P	**P**	**14 22 39.6**	**+2.4**
SNAA	**Sanae**	**87.44**	**197**	⇑pP	pP	14 22 49.3	+10
SNAA	**Sanae**	**87.44**	**197**	P	**P**	**14 22 39.2**	**+1.9**
comp=Z,2.1nm,0.5s,baz=156,slow=6.4,SNR=18							
comp=Z,2.1nm,0.5s							
VNA3	**Neumayer Olymp**	**89.54**	**196**	⇓P	**P**	**14 22 50.0**	**+2.8**
TXAR	**Lajitas Array**	**141.74**	**56**	PKP	**PKiKP**	**14 29 25.4**	**0.0**
comp=Z,0.4nm,0.7s,baz=318,slow=3.4,SNR=4.3							

*AFAD **14** 14:11:22.1±0.0, 36°.93N×27°.70E, h7km±2km, ML2.0*
ISK 14 14:11:22.5, 36°.93N×27°.67E, h6km, ML1.9/13, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.09**	**42**	Pg	Pg	14 11 24.9	+0.4
RFTAA				Sg	Sg	14 11 26.7	+0.9
RFTC	**Emecik-Datca**	**0.19**	**143**	Pg	Pg	14 11 26.9	+0.6
RFTC				Sg	Sg	14 11 30.2	+1.3
DAT	**Datca**	**0.22**	**201**	Pg	Pg	14 11 27.4	+0.6
DAT				Sg	Sg	14 11 30.9	+1.2
DAT	**Datca**	**0.22**	**201**	P	Pg	14 11 27.1	+0.3
DAT				S	Sg	14 11 31.0	+1.3
BDRM	**Kayabasi**	**0.23**	**306**	P	Pg	14 11 27.3	+0.4
BDRM				S	Sg	14 11 30.9	+0.9
BDRM				*i* AML	AML	14 11 31.0	
comp=E,365nm,0.4s							
RFTD	**Palamutbuku-Ka**	**0.29**	**209**	Pg	Pg	14 11 28.7	+0.6
RFTD				Sg	Sg	14 11 33.2	+1.3
BODT	**Bodrum**	**0.32**	**294**	Pg	Pg	14 11 29.3	+0.6
BODT				Sg	Sg	14 11 34.2	+1.3
RFTB	**Kemer-Bodrum**	**0.32**	**276**	Pg

s-min=23.1km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.07**	**116**	P	P	14 17 45.0	-0.3
	2.2nm,0.8s,baz=291,slow=12,SNR=6.6						
	2.2nm,0.8s						
ASAR	**Alice Springs**	**24.24**	**125**	P	P	14 17 56.8	-0.1
	1.5nm,0.8s,baz=296,slow=8.1,SNR=4.8						
	1.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.84**	**335**	P	P	14 19 05.9	+1.2
	0.7nm,0.6s,baz=170,slow=8.0,SNR=4.2						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**63.21**	**337**	P	P	14 23 07.5	-0.6
	0.5nm,0.5s,baz=152,slow=7.5,SNR=4.2						
	0.5nm,0.5s						

*OSPL **14** 14:33:07.9±2.9, 18.°48N×66.°90W, h0km=323km, ML3.8*
*SDD **14** 14:33:08.7±2.3, 18.°36N×67.°31W, h22km±98km, MD3.9, ML3.9, MW4.0, Fault plane solution: NP1φs=98.70000°, δ53.70000°, λ94.00000°.*
*IDC **14** 14:33:09.9±1.6, 18.°24N×67.°46W, h0km, mb3.8/6, mbtmp4.0/7, ML4.8/1, MS3.0/1, Error ellipse: s-maj=70.4km s-min=11.7km az=11.0*
*RSPR **14** 14:33:12.5±2.1, 18.°29N±0.°09×67.°48W±0.°04, h5km±6km, Error ellipse: s-maj=13.1km s-min=3.3km az=196.0*
*NEIC **14** 14:33:12.7±2.6, 18.°46N±0.°06×67.°41W±0.°03, h10km±1km, mb4.3/6, ML4.2/6, Md3.6/7(RSPR), Error ellipse: s-maj=11.7km s-min=3.1km az=204.0*

ISC 14 14:33:10.7±1.4, 18.°47N±0.°07×67.°45W±0.°04, h2km±9km, n43, σ1°73/53, mb3.9/8, 10C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRSN	**Puerto Rico Se**	**0.38**	**131**		**Pg**	**14 33 19.1**	**+1.1**
PRSN					**Sg**	**14 33 24.3**	**+1.3**
PCDR	**Punta Cana, DR**	**0.89**	**273**		**Pg**	**14 33 28.2**	**+0.5**
PCDR					**Sb**	**14 33 40.8**	**-0.4**
PCDR	**Punta Cana, DR**	**0.89**	**273**	⇑*e*Pg	**Pg**	**14 33 28.2**	**+0.5**
PCDR				⇓*e*Sg	**Sb**	**14 33 40.7**	**-0.4**
PCDR				IAML		14 33 53.7	
	comp=N,3μm,0.6s						
HIDR	**Higuey Centro**	**1.21**	**276**	⇑*e*Pg	**Pn**	**14 33 32.8**	**-1.9**
HIDR				⇓*e*Sg	**Sb**	**14 33 48.8**	**-1.6**
HIDR				IAML		14 33 51.4	
	comp=N,3μm,0.2s						
SJG	**San Juan**	**1.28**	**106**		**Pn**	**14 33 33.7**	**-2.0**
SJG	**San Juan**	**1.28**	**106**	IAML		14 33 53.4	
	comp=N,4μm,0.5s						
SJG	**San Juan**	**1.28**	**106**	Pg	**Pn**	**14 33 34.2**	**-1.5**
	comp=N,116nm,0.3s,baz=291,slow=15,SNR=8.6						
SJG				Lg	Lg	14 33 50.6	
	comp=N,788nm,0.3s,baz=294,slow=20,SNR=37						
SADR	**Isla Saona**	**1.29**	**258**	⇑*e*Pg	**Pn**	**14 33 34.7**	**-1.1**
SADR				⇓*e*Sg	**Sb**	**14 33 51.7**	**-1.1**
SADR				IAML		14 33 59.4	
	comp=N,2μm,0.7s						
MIDR	**Miches**	**1.60**	**289**	⇑*e*Pg	**Pn**	**14 33 38.3**	**-1.8**
MIDR				⇓*e*Sg	**Sb**	**14 34 02.6**	**+0.9**
MIDR				IAML		14 34 03.7	
	comp=N,774nm,0.5s						
SMDR	**Samana, DR**	**1.84**	**297**	⇓*e*Pg	**Pn**	**14 33 44.2**	**+0.9**
SMDR				⇑*e*Sg	**Sb**	**14 34 09.4**	**+0.9**
SMDR				IAML		14 34 22.6	
	comp=N,613nm,0.5s						
HATOM	**Hato Mayor del**	**1.86**	**280**	⇑*e*Pg	**Pn**	**14 33 42.0**	**-1.6**
HATOM				⇓*e*Sg	**Sb**	**14 34 08.8**	**-0.5**
HATOM				IAML		14 34 15.6	
	comp=N,676nm,0.5s						
SDD	**Santo Domingo**	**2.34**	**270**	⇑*e*Pg	**Pn**	**14 33 51.2**	**+1.0**
SDD				IAML		14 34 33.3	
	comp=N,193nm,0.9s						
SDD	**Santo Domingo**	**2.34**	**270**	*i* P	**Pb**	**14 33 52.0**	**-1.6**
SDD				*e*S	**Sg**	**14 34 25.1**	**-0.9**
LONA1	**Toro Cenizo, N**	**2.46**	**292**	*e*S	**Sb**	**14 34 28.4**	**+1.9**
DR08	**Loma La Naviza**	**2.49**	**282**	⇑*e*Pg	**Pn**	**14 33 53.5**	**+1.2**
BANI	**BANI**	**2.76**	**269**	⇑*e*Pg	**Pn**	**14 33 58.3**	**+2.1**
BANI				IAML		14 34 50.9	
	comp=N,597nm,0.3s						
SC01	**Santiago de lo**	**3.25**	**288**	Pn	**Pn**	**14 34 05.5**	**+2.8**
SC01	**Santiago de lo**	**3.25**	**288**		**Sb**	**14 34 49.9**	**+0.8**
SC01	**Santiago de lo**	**3.25**	**288**	IAML		14 35 04.7	
	comp=E,710nm,0.6s						
SC01	**Santiago de lo**	**3.25**	**288**	*i* P	**Pb**	**14 34 06.4**	**-2.7**
SC01				*e*S	**Sb**	**14 34 46.4**	**-2.7**
SC01				IAML		14 35 04.9	
	comp=Z,280nm,0.9s						
PODR	**Polo**	**3.65**	**266**	*i* P	**Pb**	**14 34 12.4**	**-3.8**
PODR				*e*S	**Sb**	**14 35 01.3**	**+0.2**
SDDR	**Presa de Saban**	**3.67**	**279**	Pn	**Pn**	**14 34 11.5**	**+2.8**
SDDR				IAML		14 35 08.3	
	comp=Z,325nm,0.8s						
SDDR				IAML		14 35 14.9	
	comp=Z,341nm,0.7s						
SDDR	**Presa de Saban**	**3.67**	**279**	⇑*e*Pg	**Pb**	**14 34 12.7**	**-3.7**
SDDR				*e*Sg	**Sb**	**14 35 01.3**	**-0.2**
SDDR				IAML		14 35 08.2	
	comp=N,284nm,0.7s						
SDDR	**Presa de Saban**	**3.67**	**279**	*i* P	**Pn**	**14 34 12.3**	**+3.7**
SDDR				IAML		14 35 08.2	
	comp=Z,142nm,0.9s						
LOPE2	**Hotel El Peder**	**4.11**	**265**	*i* P	**Pn**	**14 34 17.8**	**+3.3**
LOPE2				IAML		14 35 32.0	
	comp=Z,66nm,1.3s						
ABD	**La Joyeuse, An**	**6.02**	**108**	Pn	**Pn**	**14 34 42.6**	**+1.7**
HATO	**Hato, Curacao**	**6.42**	**193**	Pn	**Pn**	**14 34 49.3**	**+2.9**
BAUV	**El Baul**	**9.49**	**184**	Pn	**Pn**	**14 35 28.1**	**-0.4**
ROSC	**El Rosal**	**15.12**	**207**	LR	LR	14 42 12.6	
	comp=Z,53nm,19.6s,baz=280,slow=36						
SOR	**Soroa**	**15.19**	**289**	Pn	**Pn**	**14 36 48.7**	**+2.4**
SOR				IAmb	IAmb	14 36 53.1	
	comp=Z,10nm,0.7s						
BOAV	**Boa Vista**	**17.36**	**156**	P	**P**	**14 37 15.2**	**-0.5**
TEIG	**Tepich**	**19.73**	**278**	P	**P**	**14 37 40.9**	**-0.9**
TEIG				IAmb	IAmb	14 37 53.6	
	comp=Z,22nm,1.4s						
TEIG	**Tepich**	**19.73**	**278**	P	**P**	**14 37 41.9**	**+0.1**
	comp=Z,2.7nm,0.3s,baz=162,slow=6.4,SNR=2.2						
	comp=Z,21nm,0.5s						
TXAR	**Lajitas Array**	**34.70**	**295**	P	**P**	**14 40 02.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=110,slow=9.2,SNR=9.9						
TXAR				ScP	**ScP**	**14 46 22.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=126,slow=6.4,SNR=4.0						
	comp=Z,0.6nm,0.6s						
TX31	**Lajitas Ar. Si**	**34.71**	**295**	P	**P**	**14 40 03.2**	**+0.9**
TX31				IAmb	IAmb	14 40 08.9	
	comp=Z,8.0nm,1.4s						
TX32	**Lajitas Array**	**34.71**	**295**	P	**P**	**14 40 03.3**	**+1.0**
TX32				IAmb	IAmb	14 40 08.9	
	comp=Z,2.7nm,1.4s						
SCHQ	**Schefferville**	**36.30**	**1**	P	**P**	**14 40 15.7**	**+0.1**
PDAR	**Pinedale Array**	**42.98**	**314**	PcP	**PcP**	**14 43 01.5**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=121,slow=4.5,SNR=2.2						
NVAR	**Mina Array Bea**	**48.28**	**305**	P	**P**	**14 41 54.1**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=94,slow=8.2,SNR=2.7						
	comp=Z,0.3nm,0.5s						
ESDC	**Sonseca Array**	**58.18**	**54**	P	**P**	**14 43 07.3**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=270,slow=7.1,SNR=27						
	comp=Z,2.4nm,0.7s						
DBIC	**Dimbokro**	**61.95**	**92**	P	**P**	**14 43 31.6**	**-1.0**
	comp=Z,6.0nm,1.1s,baz=273,slow=5.6,SNR=5.0						
	comp=Z,6.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**66.40**	**83**	P	**P**	**14 44 01.5**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=280,slow=6.6,SNR=2.8						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**68.96**	**333**	P	**P**	**14 44 17.4**	**+0.2**
	comp=Z,0.5nm,0.9s,baz=108,slow=4.1,SNR=5.2						
	comp=Z,0.5nm,0.9s						

TRN 14 14:44:31.1, 17.°62N×62.°78W, h167km, MD4.0, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBFL	**Flemmings, Mon**	**1.02**	**148**	*e*P	Pn	14 44 59.0	+1.2
MBFL				*e*S	Sn	14 45 18.0	-0.3
ANDO	**Antigua, Disas**	**1.04**	**119**	*e*P	Pn	14 44 59.7	+1.8
ANDO				*e*S	Sn	14 45 19.0	+0.5
MLYT	**Lee's Yard**	**1.06**	**148**	*e*P	Pn	14 44 59.9	+1.8
MLYT				*e*S	Sn	14 45 19.3	+0.5
ANBD	**Bethesda, Anti**	**1.13**	**120**	*e*P	Pn	14 45 00.6	+2.1
ANBD				*e*S	Sn	14 45 20.1	+0.4
ABD	**La Joyeuse, An**	**1.68**	**132**	*e*P	Pn	14 45 05.7	+1.8
CBE	**Ff, Capester**	**1.91**	**144**	*e*P	Pn	14 45 08.1	+1.7
MAGL	**Barre de l'ile**	**2.20**	**139**	*e*P	Pn	14 45 10.9	+1.3
MAGL				*e*S	Sn	14 45 39.1	-0.2
SVN	**Savane Anatole**	**3.17**	**150**	*e*P	Pn	14 45 22.8	+1.5
SVN				*e*S	Sn	14 46 00.6	+0.2
PCM	**Pelee Case Pet**	**3.17**	**151**	*e*P	Pn	14 45 21.5	+0.1
CXM	**Morne La Croix**	**3.19**	**151**	*e*P	Pn	14 45 24.6	+2.8
BAMF	**Morne Balai**	**3.20**	**150**	*e*P	Pn	14 45 21.9	+0.2
GBMF	**Grand Be**	**3.21**	**151**	*e*P	Pn	14 45 21.0	-0.9
FDF	**Fort de France**	**3.27**	**151**	*e*P	Pn	14 45 23.0	+0.4
FDF				*e*S	Sn	14 46 02.9	+0.2
BIM	**Bigot**	**3.50**	**152**	*e*P	Pn	14 45 25.9	+0.4
BIM				*e*S	Sn	14 46 07.8	0.0
MVM	**Montagne Vaucl**	**3.55**	**149**	*e*P	Pn	14 45 26.6	+0.5
MPOM	**Morne Pois Mar**	**3.66**	**149**	*e*P	Pn	14 45 27.8	+0.3
SLBI	**Saint Lucia, B**	**3.98**	**154**	*e*P	Pn	14 45 31.8	+0.2
SLBI	**Saint Lucia, B**	**3.98**	**154**	*e*S	Sn	14 46 17.8	-1.0

*IDC **14** 15:01:55.1±0.9, 11.°07N×58.°50W, h0km, mb3.9/7, mbtmp4.1/10, ML3.9/3, MS3.3/11, Error ellipse: s-maj=23.5km s-min=19.2km az=23.0*
*NEIC **14** 15:01:55.5±2.9, 11.°03N±0.°08×58.°52W±0.°08, h10km±1km, mb4.7/21, Error ellipse: s-maj=16.0km s-min=11.4km az=45.0*
*TRN **14** 15:01:58.3, 11.°14N×58.°59W, h89km, MD4.6*

ISC 14 15:01:56.1±0.5, 11.°18N±0.°04×58.°53W±0.°06, h10km, n153, σ2°46/148, mb4.6/17, MS3.3/10, 3C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**2.19**	**333**	*e*P	**Pn**	**15 02 33.7**	**+1.0**
BBGH				*e*S	**Sn**	**15 02 59.5**	**-0.3**
TRN	**Trinidad (W)**	**2.87**	**260**	⇑*e*P	**Pn**	**15 02 43.0**	**+1.1**
TRN				*e*S	**Sn**	**15 03 13.7**	**-2.8**
GCMP	**Grenada, Carri**	**3.11**	**295**	*e*P	**Pn**	**15 02 45.4**	**+0.1**
GCMP				*e*S	**Sn**	**15 03 19.6**	**-3.0**
GRGR	**Grenville**	**3.20**	**287**	Pn	**Pn**	**15 02 46.6**	**+0.1**
GRGR	**Grenville**	**3.20**	**287**	*e*P	**Pn**	**15 02 46.5**	**+0.1**
GRGR				*e*S	**Sn**	**15 03 21.1**	**-3.6**
GRW	**Mount Saint Ca**	**3.21**	**288**	⇓*e*P	**Pn**	**15 02 46.8**	**0.0**
GRW				*e*S	**Sn**	**15 03 20.5**	**-4.7**
GRHS	**Sauteurs**	**3.21**	**289**	*e*P	**Pn**	**15 02 46.7**	**0.0**
GRHS				*e*S	**Sn**	**15 03 20.0**	**-5.1**
SVOC	**Richmond Hill,**	**3.28**	**307**	*e*P	**Pn**	**15 02 46.9**	**-0.6**
SVOC				*e*S	**Sn**	**15 03 24.6**	**-2.0**
SSV	**Crater Summit**	**3.36**	**310**	*e*P	**Pn**	**15 02 48.7**	**-0.1**
SSV				*e*S	**Sn**	**15 03 27.0**	**-1.8**
SVB	**Belmont**	**3.37**	**308**	*e*P	**Pn**	**15 02 47.9**	**-1.0**
SVB				*e*S	**Sn**	**15 03 25.1**	**-3.9**
SVV	**Soufriere Volc**	**3.37**	**309**	*e*P	**Pn**	**15 02 49.0**	**+0.1**
SVV				*e*S	**Sn**	**15 03 27.4**	**-1.6**
SLB	**Belfond**	**3.59**	**317**	*e*S	**Sn**	**15 03 30.6**	**-3.9**
SLBI	**Saint Lucia, B**	**3.69**	**320**	*e*P	**Pn**	**15 02 52.5**	**-0.8**
SLBI				*e*S	**Sn**	**15 03 32.8**	**-4.1**
SLCP	**Castries, St.**	**3.69**	**320**	*e*S	**Sn**	**15 03 33.0**	**-3.9**
H05S1	**Guadeloupe/Mar**	**3.93**	**325**	Pn	**Pn**	**15 02 57.0**	**+0.5**
H05S1				Sn	**Sn**	**15 03 40.6**	**-2.1**
MPOM	**Morne Pois Mar**	**3.96**	**325**		**Pn**	**15 02 57.0**	**+0.1**
MPOM	**Morne Pois Mar**	**3.96**	**325**	*e*P	**Pn**	**15 02 56.6**	**-0.3**
MVM	**Montagne Vaucl**	**4.07**	**326**	*e*P	**Pn**	**15 02 58.2**	**-0.3**
BIM	**Bigot**	**4.14**	**324**	⇑*i*P	**Pn**	**15 02 59.4**	**0.0**
BIM	**Bigot**	**4.14**	**324**	*e*	Pg	15 03 29.7	+14
BIM				*e*S	**Sn**	**15 03 44.2**	**-3.7**
TRMF	**Trois Ilets**	**4.14**	**324**	*e*P	**Pn**	**15 02 59.4**	**0.0**
ILAM	**Ilet Lapin Mar**	**4.24**	**328**	⇑*i*P	**Pn**	**15 03 00.7**	**-0.1**
ILAM	**Ilet Lapin Mar**	**4.24**	**328**	*e*S	**Sn**	**15 03 46.6**	**-3.7**
FDF	**Fort de France**	**4.36**	**324**	Pn	**Pn**	**15 03 02.4**	**0.0**
FDF	**Fort de France**	**4.36**	**324**	*e*P	**Pn**	**15 03 02.5**	**0.0**
FDF	**Fort de France**	**4.36**	**324**	*e*S	**Sn**	**15 03 49.7**	**-3.6**
PML	**Morne Lenard**	**4.41**	**324**	*e*P	**Pn**	**15 03 03.9**	**+0.7**
GBMF	**Grand Be**	**4.42**	**325**	*e*P	**Pn**	**15 03 03.8**	**+0.5**
BAMF	**Morne Balai**	**4.42**	**325**	*e*P	**Pn**	**15 03 04.2**	**+0.8**
CXM	**Morne La Croix**	**4.43**	**325**	*e*P	**Pn**	**15 03 04.5**	**+1.0**
SVN	**Savane Anatole**	**4.45**	**325**		**Pn**	**15 03 03.7**	**-0.1**
SVN	**Savane Anatole**	**4.45**	**325**	*e*P	**Pn**	**15 03 03.9**	**+0.1**
SVN	**Savane Anatole**	**4.45**	**325**	*e*S	**Sn**	**15 03 53.7**	**-2.0**
PCM	**Pelee Case Pet**	**4.46**	**324**	*e*P	**Pn**	**15 03 04.6**	**+0.8**
MAGL	**Barre de l'ile**	**5.44**	**331**	*e*P	**Pn**	**15 03 16.6**	**-0.7**
MAGL	**Barre de l'ile**	**5.44**	**331**	*e*S	**Sn**	**15 04 16.4**	**-3.6**
TDBA	**Terre de Bas,**	**5.53**	**327**	*e*P	**Pn**	**15 03 19.3**	**+0.7**
H05N1	**Guadeloupe/Mar**	**5.66**	**335**	Pn	**Pn**	**15 03 21.0**	**+0.6**
H05N1				Sn	**Sn**	**15 04 18.0**	**-7.5**
GDSD	**La Dsirade Is**	**5.66**	**335**	Pn	**Pn**	**15 03 18.6**	**-1.8**
CBE	**Ff, Capester**	**5.70**	**329**		**Pn**	**15 03 21.3**	**+0.3**
CBE	**Ff, Capester**	**5.70**	**329**	*e*P	**Pn**	**15 03 21.3**	**+0.3**
PCRV	**Puerto La Cruz**	**6.08**	**261**	Pn	**Pn**	**15 03 25.4**	**-0.7**
	2.5nm,0.3s,baz=87,slow=3.1,SNR=12						
PCRV				Sn	**Sn**	**15 04 29.2**	**-6.7**
	7.5nm,0.3s,baz=154,slow=22,SNR=8.9						
	16nm,0.5s						
MLYT	**Lee's Yard**	**6.55**	**328**	*e*P	**Pn**	**15 03 32.1**	**-0.5**
MBFL	**Flemmings, Mon**	**6.58**	**328**	*e*P	**Pn**	**15 03 33.0**	**-0.1**
ANBD	**Bethesda, Anti**	**6.62**	**332**	*e*P	**Pn**	**15 03 32.7**	**-0.8**
ANBD	**Bethesda, Anti**	**6.62**	**332**	*e*S	**Sn**	**15 04 42.9**	**-6.2**
ANBD	**Bethesda, Anti**	**6.62**	**332**	*e*S	**Sn**	**15 04 43.9**	**-5.2**
MDP	**Montagnes des**	**8.40**	**136**	Pn	Pn	15 03 53.0	-4.9
	1.6nm,0.3s,baz=328,slow=16,SNR=17						
MDP				Sn	Sn	15 05 12.8	-20
	8.6nm,0.3s,baz=316,slow=15,SNR=5.8						
BOAV	**Boa Vista**	**8.95**	**193**	Pn	**Pn**	**15 04 02.9**	**-2.6**
BOAV	**Boa Vista**	**8.95**	**193**	*e*P	**Pn**	**15 04 03.3**	**-2.3**
BOAV	**Boa Vista**	**8.95**	**193**	*e*P	**Pn**	**15 04 02.8**	**-2.8**
BAUV	**El Baul**	**9.62**	**257**	Pn	**Pn**	**15 04 12.8**	**-2.0**
BAUV	**El Baul**	**9.62**	**257**	*e*P	**Pn**	**15 04 12.8**	**-2.0**
BAUV	**El Baul**	**9.62**	**257**	*e*S	Sn	15 05 51.2	-12
SJG	**San Juan**	**10.09**	**314**	*e*P	**Pn**	**15 04 20.1**	**-0.9**
SJG	**San Juan**	**10.09**	**314**	Pn	**Pn**	**15 04 20.7**	**-0.4**
	3.8nm,0.3s,baz=117,slow=10.0,SNR=7.4						
SJG				Sn	**Sn**	**15 06 19.5**	**+5.2**
	1.8nm,0.3s,baz=24,slow=23,SNR=1.4						
SJG				LR	LR	15 09 00.3	
	comp=Z,68nm,20.0s,baz=172,slow=42						
	12nm,0.3s						
HATO	**Hato, Curacao**	**10.26**	**277**	Pn	Pn	15 04 19.7	-3.8
SDV	**Santo Domingo**	**12.13**	**260**	Pn	**Pn**	**15 04 47.6**	**-1.7**
SDV	**Santo Domingo**	**12.13**	**260**	*e*P	Pn	15 04 43.3	-6.0
SDV	**Santo Domingo**	**12.13**	**260**	Pn	**Pn**	**15 04 49.3**	**0.0**
	2.1nm,0.3s,baz=88,slow=11,SNR=8.5						
SDV				Sn	Sn	15 06 53.6	-11
	7.4nm,0.3s,baz=41,slow=17,SNR=14						
	12nm,0.6s						
SGCB	**St.o Gabriel d**	**14.05**	**217**	*e*P	**Pn**	**15 05 13.7**	**-1.7**
MACA	**Manacapuru-AM**	**14.41**	**189**	Pn	Pn	15 05 14.9	-5.3
MACA	**Manacapuru-AM**	**14.41**	**189**	*e*P	**Pn**	**15 05 18.3**	**-2.0**
PAMC	**Pamplona, Colo**	**14.49**	**256**	*e*P	Pn	15 05 18.0	-3.8
SDDR	**Presa de Saban**	**14.55**	**304**	Pn	**Pn**	**15 05 23.6**	**+1.4**
SDDR	**Presa de Saban**	**14.55**	**304**	*e*P	**Pn**	**15 05 23.9**	**+1.6**
BARC	**Barichara**	**15.17**	**254**	*e*P	**Pn**	**15 05 29.3**	**-1.5**
RUSC	**La Rusia**	**15.31**	**251**	*e*P	**Pn**	**15 05 31.0**	**-2.0**
ITTB	**Itaituba**	**15.70**	**170**	*e*P	**Pn**	**15 05 33.1**	**-4.4**
TEFE	**Tefe**	**15.81**	**203**	*e*P	**Pn**	**15 05 38.2**	**-0.7**
PTBC	**PUERTO BERRIO,**	**16.39**	**255**	*e*P	**Pn**	**15 05 43.2**	**-3.3**
CHIC	**Chingaza**	**16.39**	**248**	*e*P	**Pn**	**15 05 45.5**	**-1.4**
ZARC	**Zaragoza, Cauc**	**16.52**	**259**	*e*P	**Pn**	**15 05 48.6**	**+0.5**
VILC	**Villavicencio,**	**16.58**	**246**	*e*P	**P**	**15 05 55.4**	**+3.9**
ROSC	**El Rosal**	**16.85**	**249**		**Pn**	**15 05 51.2**	**-1.5**
ROSC				IAmb	IAmb	15 06 01.2	
	comp=Z,86nm,1.1s						
ROSC	**El Rosal**	**16.85**	**249**	*e*P	**P**	**15 05 59.8**	**+5.0**
ROSC	**El Rosal**	**16.85**	**249**	Pn	**P**	**15 05 56.8**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=58,slow=4.2,SNR=20						
TMAB	**Tom-Au,PA,Br**	**17.00**	**142**	*e*P	**Pn**	**15 05 53.0**	**-1.2**
NORC	**Norcasia**	**17.09**	**252**	*e*P	**Pn**	**15 05 52.9**	**-2.5**
UREC	**San Jos de Ur**	**17.11**	**260**	*e*P	**Pn**	**15 05 55.4**	**-0.2**
GUY2C	**Guyana, Caldas**	**17.67**	**252**	*e*P	**P**	**15 06 05.4**	**+1.4**
PRAC	**Prado**	**17.82**	**247**	*e*P	**P**	**15 06 06.4**	**+1.2**
ANIL	**Santa Ana**	**17.98**	**250**	*e*P	**P**	**15 06 08.9**	**+1.7**
ORTC	**Ortega, Tolima**	**18.07**	**248**	*e*P	**P**	**15 06 09.5**	**+1.6**
NPGB	**Novo Progresso**	**18.38**	**170**	*e*P	**Pn**	**15 06 07.9**	**-3.4**
PLMC	**San Jos del P**	**18.64**	**252**	*e*P	**Pn**	**15 06 17.0**	**+2.4**
YOTC	**Yotoco, Valle**	**19.04**	**249**	*e*P	**P**	**15 06 17.9**	**-0.8**
GARC	**Garzon, Huila**	**19.05**	**243**	*e*P	**Pn**	**15 06 26.9**	**+7.2**
PTLC	**Puerto Leguiza**	**19.51**	**237**	*e*P	**Pn**	**15 06 31.9**	**+6.8**
JAMC	**Jamundi, Valle**	**19.65**	**248**	*e*P	**P**	**15 06 26.9**	**+1.5**
POPC	**Popayan, Colom**	**19.94**	**246**	*e*P	**Pn**	**15 06 32.8**	**+2.4**
SAML	**Samuel**	**20.53**	**193**		**P**	**15 06 33.5**	**-1.3**
SAML	**Samuel**	**20.53**	**193**	*e*P	**P**	**15 06 35.7**	**+1.0**
SAML	**Samuel**	**20.53**	**193**	*e*P	**P**	**15 06 35.0**	**+0.3**
BBAC	**Balboa, Cauca**	**20.68**	**245**	*e*P	**P**	**15 06 38.5**	**+1.8**
GCUF	**Volcan Galeras**	**21.13**	**243**	*e*P	**P**	**15 06 47.1**	**+5.2**
CLDB	**Colider**	**22.08**	**173**	*e*P	**P**	**15 06 51.6**	**+0.1**
ETMB	**Extrema**	**22.21**	**200**	P	**P**	**15 06 53.0**	**+0.1**
ETMB				IAmb	IAmb	15 06 58.2	
	comp=Z,21nm,0.9s						
ETMB	**Extrema**	**22.21**	**200**	*e*P	**P**	**15 06 52.2**	**-0.7**
OTAV	**Otavalo**	**22.58**	**243**	P	**P**	**15 06 59.9**	**+2.5**
OTAV				IAmb	IAmb	15 07 09.7	
	comp=Z,33nm,1.2s						
OTAV	**Otavalo**	**22.58**	**243**	*e*P	**P**	**15 07 01.0**	**+3.6**
OTAV	**Otavalo**	**22.58**	**243**	*e*P	**P**	**15 07 00.8**	**+3.4**
PDRB	**Porto dos Gac**	**22.72**	**175**	*e*P	**P**	**15 06 57.6**	**-0.7**
PAC1	**Pacto, Paraso**	**22.86**	**243**	*e*P	**P**	**15 07 01.0**	**+0.9**
PIAT	**Ana Tenorio**	**23.04**	**240**	*e*P	**P**	**15 07 05.1**	**+2.9**
CZSB	**Cruzeiro do Su**	**23.49**	**217**	P	**P**	**15 07 03.5**	**-2.8**
CZSB				IAmb	IAmb	15 07 08.8	
	comp=Z,20nm,0.7s						
CZSB	**Cruzeiro do Su**	**23.49**	**217**	*e*P	**P**	**15 07 08.0**	**+1.7**
VILB	**Vilhena**	**24.04**	**184**	P	**P**	**15 07 11.3**	**-0.3**
VILB				IAmb	IAmb	15 07 31.0	
	comp=Z,16nm,0.7s						
VILB	**Vilhena**	**24.04**	**184**	*e*P	**P**	**15 07 11.7**	**+0.2**
SNDB	**Serra Nova Dou**	**24.10**	**162**	*e*P	**P**	**15 07 12.0**	**-0.2**
RIMA	**Rio Macho**	**24.95**	**269**	P	**P**	**15 07 21.2**	**+1.1**
HDC	**Heredia**	**25.17**	**270**	*e*P	**P**	**15 07 28.0**	**+5.9**
JACO	**JACO, Garabito**	**25.74**	**269**	P	**P**	**15 07 23.6**	**-3.4**
MCRA	**Macar, Loja**	**26.33**	**235**	*e*P	**P**	**15 07 36.7**	**+4.2**
PTLB	**Pontes e Lacer**	**26.47**	**181**	*e*P	**P**	**15 07 32.6**	**-1.0**
MATN	**Matagalpa**	**26.84**	**277**	P	**P**	**15 07 36.3**	**-0.8**
BBSD	**Serra de San D**	**28.26**	**184**	*e*P	**P**	**15 07 50.1**	**+0.4**
BDFB	**Brasilia**	**28.61**	**158**	LR	LR	15 21 12.5	
	comp=Z,64nm,18.2s,baz=340,slow=41						
BBRB	**Robore, Bolivi**	**29.30**	**182**	*e*P	**P**	**15 07 58.8**	**-0.1**
NNA	**Nana**	**29.33**	**219**	LR	LR	15 22 02.2	
	comp=Z,53nm,18.1s,baz=27,slow=41						
MTO3	**Montecristo**	**30.22**	**279**	P	**P**	**15 08 08.6**	**+1.2**
LVC	**Limon Verde**	**35.09**	**197**	LR	LR	15 24 40.6	
	comp=Z,62nm,20.1s,baz=2.5,slow=39						
RIB01	**Linhares ES**	**35.18**	**149**	*e*P	**P**	**15 08 50.7**	**+0.2**
PLAL	**Pickwick Lake**	**35.81**	**316**	P	**P**	**15 08 58.4**	**+2.6**
PLAL				IAmb	IAmb	15 08 59.2	
	comp=Z,8.8nm,0.7s						
CPUP	**Villa Florida**	**37.30**	**178**	P	**P**	**15 09 08.1**	**-0.5**
	comp=Z,2.8nm,0.5s,baz=0.7,slow=6.2,SNR=11						
CPUP				LR

*SDD **14** 15:38:59.2±2.2, 18°.17N×68°.39W, h156km±11km, MD3.5, ML3.6*
*RSPR **14** 15:39:00.2±4.5, 18°.5N±0°.3×68°.39W±0°.09, h152km±3km, Error ellipse: s-maj=48.6km s-min=8.7km az=190.0*

ISC 14 15:38:57.7±2.0, 18°.1N±0°.1×68°.53W±0°.06, h157km±12km, n15, σ1§09/28, 10C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.24**	**282**	*e*Pg	**Pn**	**15 39 19.7**	**+0.9**
SADR				⇑*e*Sg	**Sn**	**15 39 34.1**	**-0.9**
SADR				IAML		15 39 35.0	
	comp=N,443nm,0.3s						
SADR				IAML		15 39 36.5	
	comp=E,309nm,0.2s						
PCDR	**Punta Cana, DR**	**0.40**	**21**		**Pn**	**15 39 20.0**	**+0.6**
PCDR					**Sn**	**15 39 35.8**	**-0.2**
PCDR	**Punta Cana, DR**	**0.40**	**21**	⇑*e*Pg	**Pn**	**15 39 19.5**	**+0.1**
PCDR				⇓*e*Sg	**Sn**	**15 39 35.9**	**-0.2**
PCDR				IAML		15 39 36.1	
	comp=N,325nm,0.8s						
PCDR				IAML		15 39 39.2	
	comp=E,207nm,0.2s						
HIDR	**Higuey Centro**	**0.48**	**338**	*e*Pg	**Pn**	**15 39 19.2**	**-0.5**
HIDR				⇑*e*Sg	**Sn**	**15 39 35.8**	**-0.9**
HIDR				IAML		15 39 36.5	
	comp=E,716nm,0.2s						
HIDR				IAML		15 39 38.1	
	comp=N,625nm,0.2s						
MIDR	**Miches**	**0.97**	**330**	*e*Pg	**Pn**	**15 39 24.0**	**+1.1**
MIDR				⇓*e*Sg	**Sn**	**15 39 42.2**	**-0.1**
MIDR				IAML		15 39 42.9	
	comp=N,498nm,0.5s						
MIDR				IAML		15 39 43.3	
	comp=E,403nm,0.7s						
HATOM	**Hato Mayor del**	**1.03**	**309**	⇓*e*Pg	**Pn**	**15 39 23.4**	**0.0**
HATOM				⇓*e*Sg	**Sn**	**15 39 41.5**	**-1.6**
HATOM				IAML		15 39 44.4	
	comp=E,309nm,0.2s						
HATOM				IAML		15 39 45.6	
	comp=N,286nm,0.2s						
SMDR	**Samana, DR**	**1.30**	**331**	⇓*e*Pg	**Pn**	**15 39 27.7**	**+2.0**
SMDR				⇓*e*Sg	**Sn**	**15 39 46.8**	**-0.7**
SMDR				IAML		15 39 53.4	
	comp=N,215nm,0.4s						
SMDR				IAML		15 39 53.7	
	comp=E,224nm,0.3s						
PRSN	**Puerto Rico Se**	**1.32**	**87**		**Pn**	**15 39 27.0**	**+1.0**
PRSN					**Sn**	**15 39 48.6**	**+1.0**
NADR	**Nagua**	**1.74**	**314**	⇑*e*Pg	**Pn**	**15 39 31.1**	**+0.8**
NADR				⇓*e*Sg	**Sn**	**15 39 54.4**	**-1.1**
NADR				IAML		15 40 02.5	
	comp=N,2μm,0.3s						
NADR				IAML		15 40 03.8	
	comp=E,973nm,0.5s						
CADR	**Cabrera**	**2.02**	**319**	⇓*e*Pg	**Pn**	**15 39 34.7**	**+1.2**
CADR				⇑*e*Sg	**Sn**	**15 39 59.5**	**-1.5**
CADR				IAML		15 40 08.7	
	comp=N,368nm,0.3s						
CADR				IAML		15 40 09.2	
	comp=E,402nm,0.2s						
ABDR	**Alto Bandera**	**2.10**	**289**	*e*Pg	**Pn**	**15 39 35.7**	**+1.0**
ABDR				⇑*e*Sg	**Sn**	**15 40 04.3**	**+1.1**
ABDR				IAML		15 40 08.4	
	comp=E,338nm,0.5s						
ABDR				IAML		15 40 08.9	
	comp=N,276nm,0.3s						
SJG	**San Juan**	**2.26**	**90**		**Pn**	**15 39 35.3**	**-1.0**
SJG				IAML		15 40 11.1	
	comp=N,107nm,0.3s						
PODR	**Polo**	**2.62**	**271**	⇑*e*Pg	**Pn**	**15 39 42.4**	**+1.7**
PODR				⇑*e*Sg	**Sn**	**15 40 13.0**	**-1.0**
PODR				⇓*e*Sg		15 40 15.5	
PODR				IAML		15 40 16.3	
	comp=E,252nm,0.3s						
PODR				IAML		15 40 17.6	
	comp=N,179nm,0.2s						
SDDR	**Presa de Saban**	**2.75**	**288**		**Pn**	**15 39 40.8**	**-1.4**
SDDR				IAML		15 40 26.0	
	comp=N,91nm,0.6s						
LUDR	**Luperon**	**2.88**	**308**	⇑*e*Pg	**Pn**	**15 39 44.0**	**+0.3**
LUDR				⇑*e*Sg	**Sn**	**15 40 18.9**	**-0.7**
LUDR				IAML		15 40 21.7	
	comp=N,715nm,0.4s						
LUDR				IAML		15 40 22.4	

*IDC **14** 16:16:40.2±2.6, 3°.86N×95°.67E, h0km, mb3.6/6, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=106.0km s-min=20.2km az=60.0*
*DJA **14** 16:16:48.3±1.5, 4°N±5°×9°6E±1°4, h20km±8km, M3.6/6, MLv3.6/6*

ISC 14 16:16:47.5±1.0, 3°.97N±0°.06×95°.8E±0°.1, h50km, n19, σ1§21/15, mb3.6/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.71**	**65**	P	**Pn**	**16 17 01.1**	**-0.4**
MLSI				S	**Sn**	**16 17 09.6**	**-2.0**
SNSI	**Sinabang, Aceh**	**1.65**	**160**	P	**Pn**	**16 17 15.2**	**+1.1**
LHMI	**Lhok Sumawe**	**1.73**	**43**	P	**Pn**	**16 17 16.7**	**+1.5**
LHMI				S	**Sn**	**16 17 38.0**	**+1.9**
KCSI	**Kotacane, Aceh**	**2.06**	**102**	P	**Pn**	**16 17 21.4**	**+1.6**
GSI	**Gunungsitoli**	**3.21**	**145**	P	**Pn**	**16 17 37.0**	**+1.5**
PBSI	**Pulau Batu**	**4.73**	**148**	P	**Pn**	**16 17 56.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**14.73**	**12**	Pn	**Pn**	**16 20 12.9**	**-0.1**
	0.1nm,0.3s,baz=203,slow=12,SNR=1.3 0.1nm,0.3s						
H08S2	**Diego Garcia H**	**25.92**	**244**	T	T	16 48 23.9	
	baz=64,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**25.92**	**244**	T	T	16 48 13.9	
	baz=64,slow=76,SNR=17						
H08S1	**Diego Garcia H**	**25.93**	**244**	T	T	16 48 36.1	
	baz=64,slow=76,SNR=7.8						
MKAR	**Makanchi Array**	**44.23**	**347**	P	**P**	**16 24 52.2**	**+0.3**
	0.3nm,0.3s,baz=160,slow=8.9,SNR=8.7 0.3nm,0.3s						
SONM	**Songino Array**	**44.65**	**10**	P	**P**	**16 24 54.9**	**-0.5**
	0.5nm,0.5s,baz=186,slow=12,SNR=3.9 0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.74**	**124**	P	**P**	**16 24 55.9**	**-0.5**
	1.2nm,0.8s,baz=302,slow=8.9,SNR=9.6 1.2nm,0.8s						
ASAR	**Alice Springs**	**46.22**	**128**	P	**P**	**16 25 07.2**	**-0.8**
	0.2nm,0.4s,baz=300,slow=7.9,SNR=11 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**48.70**	**345**	P	**P**	**16 25 26.4**	**-0.4**
	0.2nm,0.3s,baz=165,slow=7.6,SNR=2.1 0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**50.62**	**352**	P	**P**	**16 25 41.6**	**+0.2**
	1.3nm,0.6s,baz=178,slow=7.1,SNR=4.4 1.3nm,0.6s						
H04N2	**CROZET ISLANDS**	**63.27**	**213**	T	T	17 34 50.9	
	baz=50,slow=75,SNR=9.7						
H04N1	**CROZET ISLANDS**	**63.28**	**213**	T	T	17 34 52.0	
	baz=50,slow=75,SNR=12						
H04N3	**CROZET ISLANDS**	**63.29**	**213**	T	T	17 35 01.3	
	baz=50,slow=75,SNR=10						

IDC 14 16:29:29.5±2.7, 6°.41N×92°.14E, h0km, mb3.4/3, mbtmp3.4/4, Error ellipse: s-maj=95.2km s-min=29.0km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.69**	**28**	Pn	Pn	16 32 45.1	0.0
	0.2nm,0.4s,baz=229,slow=14,SNR=1.0						
H08S3	**Diego Garcia H**	**24.06**	**235**	T	T	17 01 06.2	
	baz=55						
H08S2	**Diego Garcia H**	**24.06**	**235**	T	T	17 01 06.0	
	baz=55						
H08S1	**Diego Carcia H**	**24.07**	**235**	T	T	17 01 15.9	
	baz=55						
KURBB	**Kurchatov Arra**	**45.52**	**348**	P	P	16 37 50.5	-0.2
	0.4nm,0.3s,baz=169,slow=7.1,SNR=6.6 0.4nm,0.3s						
WRA	**Warramunga Arr**	**49.08**	**123**	P	P	16 38 18.1	-0.9
	0.4nm,1.0s,baz=298,slow=9.4,SNR=4.1 0.4nm,1.0s						
ASAR	**Alice Springs**	**50.55**	**128**	P	P	16 38 30.9	+0.7
	0.5nm,1.0s,baz=303,slow=7.8,SNR=3.5 0.5nm,1.0s						

IDC 14 16:35:57.7±1.9, 27°.22N×142°.43E, h0km, mb3.3/2, mbtmp3.2/3, ML2.1/1, Error ellipse: s-maj=35.3km s-min=17.4km az=161.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.25**	**241**	Pn	Pn	16 36 08.9	+0.1
	269nm,0.3s,baz=4.4,slow=21,SNR=904						
JCJ				Sn	Sb	16 36 16.1	+6.0
	654nm,0.3s,baz=295,slow=22,SNR=34						
MJAR	**Matsushiro Arr**	**9.96**	**340**	Pn	Pn	16 38 21.4	-0.8
	baz=160,slow=13,SNR=1.1 0.3nm,0.5s						
WRA	**Warramunga Arr**	**47.53**	**190**	P	P	16 44 34.8	-0.3
	0.3nm,0.5s,baz=11,slow=8.5,SNR=5.9 0.3nm,0.5s						
ASAR	**Alice Springs**	**51.26**	**190**	P	P	16 45 03.2	-0.2
	0.3nm,0.8s,baz=1.4,slow=5.8,SNR=4.5 0.3nm,0.8s						

DJA 14 16:40:18.0±1.0, 5°N±6°×9°6E±°, h10km, M3.7/6, MLv3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**0.84**	**94**	P	Pb	16 40 34.7	+0.1
LHMI				S	Sb	16 40 46.9	+1.0
MLSI	**Meulaboh, Aceh**	**1.06**	**164**	P	Pg	16 40 37.3	-1.1
MLSI				S	Sg	16 40 51.0	-1.1
KCSI	**Kotacane, Aceh**	**2.41**	**137**	P	Pb	16 41 00.8	-0.8
SNSI	**Sinabang, Aceh**	**2.87**	**176**	P	Pn	16 41 04.0	+0.1
GSI	**Gunungsitoli**	**4.22**	**160**	P	Pn	16 41 23.4	+0.9
PBSI	**Pulau Batu**	**5.73**	**158**	P	Pn	16 41 43.6	+0.3

DJA 14 16:50:54.8±0.8, 5°N±6°×12°5E±°, h10km, M4.3/6, mb4.8/1, mB5.4/1, MLv4.1/6, Mw(mB)4.9/1, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**4.17**	**203**	P	Pn	16 51 59.1	+0.6
GTOI				S	Sn	16 52 46.0	-1.3
MRSI	**Marisa**	**4.81**	**214**	P	Pn	16 52 09.2	+1.8
MPSI	**Mapaga**	**6.27**	**229**	P	Pn	16 52 25.7	-1.8

*IDC **14** 16:58:15.6±6.5, 5°.96N×95°.15E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=353.5km s-min=24.5km az=57.0*
*DJA **14** 16:58:42.6±2.6, 5°N±10°×9°6E±2°3, h65km±22km, M3.8/7, mb4.3/1, MLv3.5/7*

ISC 14 16:58:19.8±1.4, 5°.6N±0°.1×94°.4E±0°.2, h46km, n14, σ0§81/8, mb3.4/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.37**	**122**	P	**Pn**	**16 59 56.5**	**+0.3**
LHMI	**Lhok Sumawe**	**2.56**	**97**	P	**Pn**	**16 58 59.1**	**+0.3**
GSI	**Gunungsitoli**	**5.28**	**143**	P	**Pn**	**16 59 37.5**	**+1.4**
PBSI	**Pulau Batu**	**6.78**	**145**	P	**Pn**	**16 59 56.3**	**-0.5**
H08S3	**Diego Garcia H**	**25.48**	**239**	T	T	17 29 43.2	
	baz=59,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**25.48**	**239**	T	T	17 29 41.7	
	baz=59,slow=76,SNR=16						
H08S1	**Diego Carcia H**	**25.49**	**239**	T	T	17 29 44.2	
	baz=59,slow=76,SNR=3.9						
MKAR	**Makanchi Array**	**42.40**	**348**	P	**P**	**17 06 10.2**	**+0.4**
	0.5nm,0.6s,baz=161,slow=7.1,SNR=6.2 0.5nm,0.6s						
WRA	**Warramunga Arr**	**46.73**	**124**	P	**P**	**17 06 44.2**	**-0.5**
	0.2nm,0.7s,baz=304,slow=8.9,SNR=1.8 0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**46.85**	**346**	P	**P**	**17 06 45.1**	**0.0**
	0.3nm,0.4s,baz=170,slow=6.4,SNR=5.1 0.3nm,0.4s						
ASAR	**Alice Springs**	**48.26**	**129**	P	**P**	**17 06 55.9**	**-0.7**
	0.2nm,0.6s,baz=302,slow=7.9,SNR=6.0 0.2nm,0.6s						
H04N2	**CROZET ISLANDS**	**63.88**	**212**	T	T	18 18 22.0	
	baz=47						
H04N1	**CROZET ISLANDS**	**63.89**	**212**	T	T	18 17 31.3	
	baz=47						
H04N3	**CROZET ISLANDS**	**63.90**	**212**	T	T	18 18 18.4	
	baz=47						

*IDC **14** 17:38:43.5±2.3, 27°.29N×52°.27E, h0km, mb3.8/9, mbtmp3.8/13, ML3.5/4, Error ellipse: s-maj=44.7km s-min=22.0km az=17.0*
*NEIC **14** 17:38:45.4±2.0, 27°.40N±0°.09×52°.4E±0°.1, h10km±2km, mb4.0/10, Error ellipse: s-maj=22.7km s-min=11.5km az=239.0*
*TEH **14** 17:38:47.0, 27°.46N×52°.50E, h18km±18km, ML3.9*
*SGS **14** 17:38:48.2, 27°.53N×52°.48E, h5km, Ml3.6*
*DSN **14** 17:38:50.6±0.8, 27°.55N×52°.82E, h20km, ML3.6/10, Error ellipse: s-maj=15.8km s-min=6.3km az=25.0*
*OMAN **14** 17:38:52.8±2.4, 27°.22N×52°.82E, h7km±20km, mb4.9/11, ml3.9/13, ms2.7/2, Mwp4.7/3, Error ellipse: s-maj=19.9km s-min=9.2km az=178.0*

ISC 14 17:38:47.1±0.5, 27°.49N±0°.03×52°.53E±0°.03, h14km, n127, σ1§43/162, mb3.7/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.58**	**105**	Pg	**Pg**	**17 38 58.9**	**+0.3**
LMD1				Sg	**Sb**	**17 39 07.9**	**+0.6**
QIR1	**Qir**	**1.08**	**25**	Pg	**Pb**	**17 39 08.8**	**+1.2**
QIR1				Sg	**Sg**	**17 39 24.0**	**+1.8**
JHRM	**Jahrom**	**1.37**	**42**	Pg	**Pb**	**17 39 13.5**	**+0.9**
DSBU	**Dashti - Bushe**	**1.42**	**308**	Pg	**Pb**	**17 39 14.0**	**+0.6**
LAR1	**LAR**	**1.65**	**83**	Pg	**Pb**	**17 39 17.7**	**+0.4**
AHBU	**AHRAM**	**1.75**	**322**	Pg	**Pb**	**17 39 19.2**	**+0.3**
SHI	**Shiraz**	**2.14**	**360**	Pn	**Pn**	**17 39 24.2**	**+1.6**
SHMA	**Al-Shehemyia**	**2.15**	**221**	P	**Pg**	**17 39 28.3**	**0.0**
	SNR=11						
SHMA				S	**Sg**	**17 39 57.3**	**+1.1**
SAKB	**Bahrain**	**2.33**	**230**	P	**Pg**	**17 39 32.0**	**+0.2**
SAKB				S	**Sg**	**17 40 03.7**	**+1.5**
JRN	**Qarnain Island**	**2.56**	**173**	P	**Pb**	**17 39 33.0**	**+0.3**
ESRB	**Sir Abu**	**2.73**	**146**	Pn	**Pn**	**17 39 31.4**	**+0.9**
SMRA	**Abu-Samra**	**3.14**	**210**	P	**Pb**	**17 39 43.7**	**+1.1**
SMRA				S	**Sn**	**17 40 16.3**	**+3.0**
GENO	**Geno**	**3.24**	**91**	Pn	**Pn**	**17 39 40.3**	**+2.6**
SHME	**Shamm**	**3.53**	**113**	*i* P	**Pn**	**17 39 41.7**	**+0.2**
	SNR=6.2						
SHME	**Shamm**	**3.53**	**113**	P	**Pn**	**17 39 42.5**	**+0.9**
	SNR=6.2						
SHME				P	**Pn**	**17 39 42.5**	**+0.9**
	SNR=6.2						
SHME				S	**Sn**	**17 40 23.4**	**+0.3**
SHME				S	**Sn**	**17 40 23.4**	**+0.3**
SHME	**Shamm**	**3.53**	**113**	Pn	**Pn**	**17 39 40.9**	**-0.7**
KLNJ	**Kolanjah**	**3.60**	**347**	Pn	**Pn**	**17 39 44.7**	**+1.9**
AJN	**Ajban**	**3.66**	**142**	Pn	**Pn**	**17 39 45.4**	**+2.1**
NAZ	**Nazwa, Dubai**	**3.76**	**131**	P	**Pn**	**17 39 45.6**	**+1.0**
NAZ	**Nazwa, Dubai**	**3.76**	**131**	P	**Pn**	**17 39 46.5**	**+1.9**
	SNR=5.2						
NAZ				S	**Sn**	**17 40 25.2**	**-3.5**
NAZ	**Nazwa, Dubai**	**3.76**	**131**	Pn	**Pn**	**17 39 46.6**	**+1.9**
ASUD	**Al Ashush, Dub**	**3.81**	**138**	*i* P	**Pn**	**17 39 47.2**	**+1.9**
	SNR=27						
ASUD	**Al Ashush, Dub**	**3.81**	**138**	P	**Pn**	**17 39 47.0**	**+1.8**
	SNR=27						
ASUD				S	**Sn**	**17 40 31.8**	**+1.9**
ASUD	**Al Ashush, Dub**	**3.81**	**138**	Pn	**Pn**	**17 39 47.6**	**+2.3**
MASF	**Masafi**	**3.88**	**122**	P	**Pn**	**17 39 47.3**	**+1.0**
	SNR=12						
MASF				S	**Sn**	**17 40 31.4**	**-0.4**
FAQ	**Al Faqa, Dubai**	**3.88**	**134**	*i* P	**Pn**	**17 39 47.6**	**+1.3**
	SNR=6.9						
FAQ	**Al Faqa, Dubai**	**3.88**	**134**	P	**Pn**	**17 39 47.6**	**+1.3**
	SNR=7.4						
FAQ				S	**Sn**	**17 40 34.6**	**+2.8**
FAQ	**Al Faqa, Dubai**	**3.88**	**134**	Pn	**Pn**	**17 39 47.9**	**+1.5**
MSFE	**Esma-Masafi**	**3.88**	**122**	*i* P	**Pn**	**17 39 46.9**	**+0.5**
	SNR=12						
MSFE				S	**Sn**	**17 40 30.8**	**-1.1**
MSFE	**Esma-Masafi**	**3.88**	**122**	Pn	**Pn**	**17 39 47.5**	**+1.0**
MDH	**Madha**	**4.02**	**122**	P	**Pn**	**17 39 48.8**	**+0.5**
MDH	**Madha**	**4.02**	**122**	P	**Pn**	**17 39 48.8**	**+0.5**
MDH				S	**Sn**	**17 40 34.8**	**-0.4**
MDH	**Madha**	**4.02**	**122**	Pn	**Pn**	**17 39 49.2**	**+0.9**
UOSS	**Minazif**	**4.16**	**127**		**Pn**	**17 39 49.2**	**-1.0**
UOSS				Sn	**Sn**	**17 40 36.6**	**-2.0**
UOSS	**Minazif**	**4.16**	**127**	*i* P	**Pn**	**17 39 50.3**	**+0.1**
	SNR=15						
UOSS	**Minazif**	**4.16**	**127**	P	**Pn**	**17 39 50.5**	**+0.3**
UOSS				S	**Sn**	**17 40 38.4**	**-0.3**
UOSS	**Minazif**	**4.16**	**127**	Pn	**Pn**	**17 39 50.8**	**+0.5**
HATD	**Hatta, Dubai**	**4.19**	**129**	*i* P	**Pn**	**17 39 51.3**	**+0.7**
	SNR=6.1						
HATD	**Hatta, Dubai**	**4.19**	**129**	P	**Pn**	**17 39 51.5**	**+0.9**
	SNR=6.1						
HATD				S	**Sn**	**17 40 39.5**	**+0.2**
HATD	**Hatta, Dubai**	**4.19**	**129**	Pn	**Pn**	**17 39 51.9**	**+1.3**
SMAN	**Sihmah**	**4.20**	**253**	P	**Pn**	**17 39 50.9**	**+0.1**
SMAN				S	**Sn**	**17 40 37.9**	**-1.7**
ASHO	**Ashiyiah**	**4.23**	**131**	*i* P	**Pn**	**17 39 51.8**	**+0.6**
	SNR=17						
ASHO	**Ashiyiah**	**4.23**	**131**	P	**Pn**	**17 39 52.0**	**+0.9**
	SNR=17						
ASHO				S	**Sn**	**17 40 41.7**	**+1.3**
ASHO	**Ashiyiah**	**4.23**	**131**	Pn	**Pn**	**17 39 52.3**	**+1.1**
NGRK	**Negar Kerman**	**4.27**	**59**	Pn	**Pn**	**17 39 53.1**	**+1.1**
IMEH	**Mehriz**	**4.29**	**25**	Pn	**Pn**	**17 39 54.9**	**+2.7**
IRAM	**Ramesheh**	**4.30**	**358**	Pn	**Pn**	**17 39 53.0**	**+0.6**
TVBK	**TV Kerman**	**4.47**	**55**	Pn	**Pn**	**17 39 56.7**	**+1.9**
ALNE	**Al Ain**	**4.49**	**139**	*i* P	**Pn**	**17 39 55.8**	**+1.1**
	SNR=11						
ALNE	**Al Ain**	**4.49**	**139**	P	**Pn**	**17 39 56.1**	**+1.4**
	SNR=11						
ALNE				S	**Sn**	**17 40 49.3**	**+2.6**
ALNE	**Al Ain**	**4.49**	**139**	Pn	**Pn**	**17 39 56.4**	**+1.7**
KHGB	**Koh Gabri**	**4.50**	**49**	Pn	**Pn**	**17 39 56.4**	**+1.4**
ISAD	**Sadrabad**	**4.52**	**13**	Pn	**Pn**	**17 39 57.0**	**+1.7**
MZR	**Muzera**	**4.55**	**169**	P	**Pn**	**17 39 56.7**	**+1.1**
	SNR=8.4						
MZR	**Muzera**	**4.55**	**169**	Pn	**Pn**	**17 39 56.3**	**+0.8**
IBAF	**Bafgh**	**4.87**	**32**	Pn	**Pn**	**17 40 01.8**	**+1.7**
SOHO	**SOHO**	**4.92**	**132**	*i* P	**Pn**	**17 40 00.8**	**+0.2**
	SNR=7.3						
SOHO	**SOHO**	**4.92**	**132**	P	**Pn**	**17 40 01.1**	**+0.5**
SOHO				S	**Sn**	**17 40 57.1**	**-0.2**
JHBN	**Jahan bin**	**4.99**	**342**	Pn	**Pn**	**17 40 03.9**	**+2.0**
CHMN	**Cheshme madani**	**4.99**	**61**	Pn	**Pn**	**17 40 04.3**	**+2.4**
ICHK	**Chekchek**	**5.01**	**19**	Pn	**Pn**	**17 40 04.3**	**+2.2**
AMIS	**Naft Sefid**	**5.03**	**327**	Pn	**Pn**	**17 40 02.8**	**+0.7**
JASK	**Jask - Hormozg**	**5.04**	**108**	P	**Pn**	**17 40 05.1**	**+2.8**
JASK				S	**Sn**	**17 41 02.0**	**+1.7**
KBAM	**BAM**	**5.47**	**71**	Pn	**Pn**	**17 40 10.4**	**+2.1**
ARQ	**Araqi**	**5.49**	**138**	P	**Pn**	**17 40 08.9**	**+0.4**
	SNR=9.1						
ARQ				S	**Sn**	**17 41 12.0**	**+0.5**
RMAH	**Rumah**	**5.50**	**248**	P	**Pn**	**17 40 08.9**	**+0.3**
ANAR	**Anarak**	**5.77**	**10**	Pn	**Pn**	**17 40 13.2**	**+0.8**
HOQ	**Hoqain**	**5.81**	**131**	P	**Pn**	**17 40 14.1**	**+1.1**
	SNR=15						
HOQ				S	**Sn**	**17 41 18.2**	**-1.2**
HOQ	**Hoqain**	**5.81**	**131**	Pn	**Pn**	**17 40 13.7**	**+0.8**
MJMS	**Al Majmaah**	**6.31**	**258**	P	**Pn**	**17 40 19.3**	**-0.5**
BSY	**Bisya**	**6.34**	**137**	P	**Pn**	**17 40 21.0**	**+0.7**
	SNR=16						
BSY				S	**Sn**	**17 41 30.2**	**-2.3**
BIDO	**Bidbid**	**6.42**	**127**	P	**Pn**	**17 40 23.0**	**+1.8**
BIDO				S	**Sn**	**17 41 33.7**	**-0.7**
KRSH	**Karshahi**	**6.47**	**357**	Pn	**Pn**	**17 40 22.5**	**+0.5**
TPRV	**Parvadeh(Tabas**	**6.58**	**32**	Pn	**Pn**	**17 40 25.4**	**+1.8**
SMDO	**Samad**	**6.67**	**130**	P	**Pn**	**17 40 25.9**	**+1.1**
	SNR=10						
SMDO				P	**Pn**	**17 40 25.9**	**+1.1**
	SNR=10						
SMDO				S	**Sn**	**17 41 41.4**	**+0.8**
SMDO				S	**Sn**	**17 41 41.4**	**+0.8**
WSAR	**Wadi Sarin**	**6.95**	**126**	P	**Pn**	**17 40 28.8**	**+0.2**
WSAR				S	**Sn**	**17 41 45.7**	**-1.9**
WSAR	**Wadi Sarin**	**6.95**	**126**	Pn	**Pn**	**17 40 28.5**	**-0.1**
	1.2nm,0.3s,baz=328,slow=12,SNR=15						
WSAR				Sn	**Sn**	**17 41 45.1**	**-2.4**
	2.3nm,0.3s,baz=255,slow=20,SNR=2.8 6.0nm,0.4s						
SRFHA	**Rafha**	**7.16**	**284**	P	**Pn**	**17 40 30.5**	**-0.9**
JMDO	**Jabal Madar**	**7.18**	**134**	P	**Pn**	**17 40 31.4**	**-0.3**
JMDO				S	**Sn**	**17 41 51.0**	**-2.2**
ASYS		**7.27**	**272**	P	**Pn**	**17 40 31.8**	**-1.2**
TNSJ	**Nastanj**	**7.34**	**28**	Pn	**Pn**	**17 40 35.3**	**+1.3**
WBK	**Wadi Bani Khal**	**7.60**	**128**	P	**Pn**	**17 40 38.1**	**+0.7**
	SNR=12						
WBK	**Wadi Bani Khal**	**7.60**	**128**	Pn	**Pn**	**17 40 38.7**	**+1.2**
NHDN	**Nehbandan**	**7.62**	**58**	Pn	**Pn**	**17 40 39.4**	**+1.5**
IKOM	**Komasi**	**7.94**	**328**	Pn	**Pn**	**17 40 42.6**	**+0.4**
NGCH	**Negor - Chabah**	**8.00**	**103**	P	**Pn**	**17 40 43.7**	**+0.7**
	SNR=5.9						
NGCH	**Negor - Chabah**	**8.00**	**103**	Pn	**Pn**	**17 40 44.4**	**+1.4**
MHTO	**MHTO**	**8.16**	**141**	P	**Pn**	**17 40 45.3**	**+0.2**
	SNR=11						
MHTO				P	**Pn**	**17 40 45.3**	**+0.2**
	SNR=11						
MHTO				S	**Sn**	**17 42 13.8**	**-3.3**
MHTO				S	**Sn**	**17 42 13.8**	**-3.3**
JLN	**Jalan Bani Buh**	**8.20**	**129**	P	**Pn**	**17 40 44.9**	**-0.9**
IGHG	**Ghaleghazi**	**8.52**	**325**	Pn	**Pn**	**17 40 52.2**	**+1.9**
SRVN	**Saravan**	**8.77**	**88**	Pn	**Pn**	**17 40 54.4**	**+0.8**
DOK	**Doka**	**8.95**	**170**	P	**Pn**	**17 40 56.7**	**+0.6**
WHFO	**Wadi Hawf**	**9.60**	**173**	P	**Pn**	**17 41 06.8**	**+1.9**
SHAO	**Shalim**	**9.85**	**163**	P	**Pn**	**17 41 07.6**	**-0.7**
	SNR=6.3						
DMTO	**DMTO**	**9.98**	**167**	P	**Pn**	**17 41 09.0**	**-1.2**
RBK	**Rabkut**	**10.06**	**171**	P	**Pn**	**17 41 13.4**	**+2.2**
ABTO	**Aybut**	**10.11**	**176**	P	**Pn**	**17 41 12.0**	**-0.1**
GEYT	**Alibeck**	**11.42**	**23**	Pn	**Pn**	**17 41

FINES	**FINESS Array B**	**38.29**	**340**	P	**P**	**17 46 06.3**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=141,slow=9.0,SNR=9.2						
	comp=Z,1.1nm,0.5s						
HFS	**Hagfors**	**41.94**	**332**	P	**P**	**17 46 36.0**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=108,slow=9.5,SNR=6.6						
	comp=Z,0.9nm,0.3s						
NC405	**NORSAR Array S**	**43.29**	**332**	P	**P**	**17 46 46.8**	**-1.3**
NOA	**NORSAR Array B**	**43.46**	**332**	P	**P**	**17 46 47.1**	**-2.4**
	comp=Z,0.7nm,0.7s,baz=117,slow=7.9,SNR=2.2						
	comp=Z,0.7nm,0.7s						

*ISK **14** 17:42:05.5,38'.09N×22°.15E, h78km, ML2.8/12*
*ATH **14** 17:42:07.0,38'.10N×21°.98E, h49km±1km, ML3.0/17, Error ellipse: s-maj=1.6km s-min=0.8km az=154.0*
*THE **14** 17:42:07.1,38'.08N×21°.99E, h51km±1km, ML2.9/4, Error ellipse: s-maj=1.3km s-min=0.8km az=44.0*
*IDC **14** 17:42:08.8±2.4,37°.05N×21°.60E, h144km±31km, mb3.1/5, mbtmp3.5/6, Error ellipse: s-maj=32.2km s-min=20.1km az=172.0*

ISC 14 17:42:06.1±0.9,**38°.08N**±0°.03×**22°.00E**±0°.03,**h52**km±5km,
n94,σ1°**06**/114,**mb3.5**/4,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLV	**Kalavryta, Ach**	**0.12**	**107**	P	**Pn**	**17 42 14.3**	**0.0**
KLV				S	**Sn**	**17 42 20.8**	**+0.6**
	845nm,0.6s						
KLV	**Kalavryta, Ach**	**0.12**	**107**	P	**Pn**	**17 42 14.2**	**-0.1**
KLV				S	**Sn**	**17 42 20.7**	**+0.6**
KLV				AML	AML	17 42 21.4	
	comp=E,1840μm,0.4s						
KLV				AML	AML	17 42 23.5	
	comp=N,1369μm,0.7s						
ALIK	**Aliki, Aigiali**	**0.20**	**26**	P	**Pn**	**17 42 15.2**	**+0.6**
ALIK				S	**Sn**	**17 42 22.2**	**+1.5**
UPR	**University Cam**	**0.26**	**320**	P	**Pn**	**17 42 15.3**	**+0.2**
UPR				S	**Sn**	**17 42 22.7**	**+1.2**
GUR	**Goura**	**0.31**	**118**	P	**Pn**	**17 42 16.0**	**+0.5**
GUR				S	**Sn**	**17 42 23.6**	**+1.3**
	comp=N,4μm,0.4s						
GUR	**Goura**	**0.31**	**118**	P	**Pn**	**17 42 16.0**	**+0.5**
GUR				S	**Sn**	**17 42 23.0**	**+0.7**
GUR				AML	AML	17 42 24.5	
	comp=N,9536μm,0.4s						
GUR				AML	AML	17 42 25.1	
	comp=E,6176μm,0.4s						
EFP	**Efpalio**	**0.35**	**348**	P	**Pn**	**17 42 16.2**	**+0.4**
EFP				S	**Sn**	**17 42 23.7**	**+0.8**
	comp=E,1μm,0.4s						
EFP	**Efpalio**	**0.35**	**348**	P	**Pn**	**17 42 16.3**	**+0.4**
EFP				S	**Sn**	**17 42 22.6**	**-0.2**
EFP				AML	AML	17 42 27.5	
	comp=E,2700μm,0.4s						
EFP				AML	AML	17 42 27.9	
	comp=N,2240μm,0.4s						
RLS	**Riolos of Patr**	**0.42**	**267**	P	**Pn**	**17 42 16.2**	**-0.4**
RLS				S	**Sn**	**17 42 24.9**	**+0.8**
RLS	**Riolos of Patr**	**0.42**	**267**	P	**Pn**	**17 42 16.1**	**-0.4**
RLS				S	**Sn**	**17 42 23.7**	**-0.3**
RLS				AML	AML	17 42 26.1	
	comp=N,2352μm,0.6s						
RLS				AML	AML	17 42 30.5	
	comp=E,1640μm,0.4s						
ANX	**Ano Chora**	**0.52**	**353**	P	**Pn**	**17 42 18.7**	**+0.9**
ANX				S	**Sn**	**17 42 27.8**	**+1.7**
ANX	**Ano Chora**	**0.52**	**353**	P	**Pn**	**17 42 18.1**	**+0.4**
ANX				S	**Sn**	**17 42 25.8**	**-0.3**
ANX				AML	AML	17 42 31.4	
	comp=N,3288μm,0.4s						
ANX				AML	AML	17 42 34.5	
	comp=E,2930μm,0.4s						
DLFA	**Delphi**	**0.56**	**44**	P	**Pn**	**17 42 18.4**	**+0.3**
DLFA				S	**Sn**	**17 42 26.6**	**-0.3**
DLFA				AML	AML	17 42 28.7	
	comp=N,1555μm,0.3s						
DLFA				AML	AML	17 42 29.1	
	comp=E,1420μm,0.4s						
PVO	**Paravola**	**0.65**	**325**	P	**Pn**	**17 42 19.3**	**0.0**
PVO				S	**Sn**	**17 42 30.5**	**+1.6**
AST1	**Astakos**	**0.85**	**303**	P	**Pn**	**17 42 23.0**	**+1.2**
AGG	**Agios Georgios**	**0.98**	**15**	Pg	**Pn**	**17 42 24.4**	**+0.8**
AGG				Sg	**Sn**	**17 42 38.2**	**+1.8**
AGG	**Agios Georgios**	**0.98**	**15**	P	**Pn**	**17 42 24.0**	**+0.5**
AGG	**Agios Georgios**	**0.98**	**15**	P	**Pn**	**17 42 24.0**	**+0.5**
LTHK	**Lithakia**	**0.99**	**248**	P	**Pn**	**17 42 24.8**	**+1.1**
LTHK	**Lithakia**	**0.99**	**248**	P	**Pn**	**17 42 24.7**	**+1.1**
LTHK				AML	AML	17 42 40.7	
	comp=E,2582μm,0.3s						
LTHK				AML	AML	17 42 41.0	
	comp=N,2355μm,0.5s						
VLS	**Valsamata**	**1.12**	**275**	P	**Pn**	**17 42 26.1**	**+0.7**
VLS	**Valsamata**	**1.12**	**275**	P	**Pn**	**17 42 25.9**	**+0.5**
VLS				S	**Sn**	**17 42 39.0**	**-0.8**
PSDA	**Pessada-Kefalo**	**1.12**	**272**	P	**Pn**	**17 42 26.0**	**+0.6**
PSDA	**Pessada-Kefalo**	**1.12**	**272**	P	**Pn**	**17 42 25.9**	**+0.5**
KRND	**KRANIDI**	**1.15**	**127**	P	**Pn**	**17 42 26.5**	**+0.7**
KRND	**KRANIDI**	**1.15**	**127**	P	**Pn**	**17 42 26.3**	**+0.6**
KRND				S	**Sn**	**17 42 41.0**	**+0.6**
KRND				AML	AML	17 42 47.2	
	comp=N,678μm,0.3s						
KRND				AML	AML	17 42 48.0	
	comp=E,726μm,0.5s						
EVGI	**Lefkada island**	**1.19**	**297**	P	**Pn**	**17 42 27.1**	**+0.8**
EVGI	**Lefkada island**	**1.19**	**297**	P	**Pn**	**17 42 26.8**	**+0.5**
FSK	**Fiskardo**	**1.19**	**289**	P	**Pn**	**17 42 26.6**	**+0.2**
FSK	**Fiskardo**	**1.19**	**289**	P	**Pn**	**17 42 26.3**	**-0.1**
PYL	**PYLOS**	**1.20**	**190**	P	**Pn**	**17 42 28.1**	**+1.6**
PYL				S	**Sn**	**17 42 43.7**	**+2.0**
PYL	**PYLOS**	**1.20**	**190**	P	**Pn**	**17 42 28.8**	**+2.3**
PYL				AML	AML	17 42 47.3	
	comp=N,235μm,0.6s						
PYL				AML	AML	17 42 48.7	
	comp=E,346μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.20**	**302**	P	**Pn**	**17 42 27.2**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.20**	**302**	P	**Pn**	**17 42 27.1**	**+0.6**
KEF4	**Livadi, Kephal**	**1.25**	**279**	P	**Pn**	**17 42 27.8**	**+0.5**
LKD2	**Lefkada island**	**1.27**	**304**	P	**Pn**	**17 42 28.4**	**+0.9**
LKD2				S	**Sn**	**17 42 45.2**	**+1.7**
	comp=E,685nm,0.5s						
LKD2	**Lefkada island**	**1.27**	**304**	P	**Pn**	**17 42 28.3**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.27**	**299**	P	**Pn**	**17 42 27.8**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.27**	**299**	P	**Pn**	**17 42 28.1**	**+0.6**
DMLN	**Damoulianata-K**	**1.29**	**278**	P	**Pn**	**17 42 28.1**	**+0.3**
DMLN	**Damoulianata-K**	**1.29**	**278**	P	**Pn**	**17 42 28.1**	**+0.3**
TSLK	**Tsoukalades, L**	**1.29**	**306**	P	**Pn**	**17 42 28.8**	**+1.0**
TSLK	**Tsoukalades, L**	**1.29**	**306**	P	**Pn**	**17 42 28.7**	**+1.0**
TSLK				AML	AML	17 42 50.9	
	comp=E,942μm,0.5s						
TSLK				AML	AML	17 42 54.3	
	comp=N,1427μm,0.6s						
KEF3	**Kipouria, Keph**	**1.31**	**276**	P	**Pn**	**17 42 28.2**	**+0.2**
KEF3	**Kipouria, Keph**	**1.31**	**276**	P	**Pn**	**17 42 27.9**	**0.0**
ATH	**Athens Observa**	**1.36**	**94**	P	**Pn**	**17 42 29.6**	**+1.0**
ATH	**Athens Observa**	**1.36**	**94**	P	**Pn**	**17 42 29.7**	**+1.0**
ATH				AML	AML	17 42 47.0	
	comp=E,1046μm,0.5s						
ATH				AML	AML	17 42 47.5	
	comp=N,1029μm,0.5s						
VLY	**Voula,Athens**	**1.44**	**99**	P	**Pn**	**17 42 30.3**	**+0.6**
VLY	**Voula,Athens**	**1.44**	**99**	P	**Pn**	**17 42 30.2**	**+0.5**
VLY				AML	AML	17 42 53.3	
	comp=N,476μm,0.5s						
VLY				AML	AML	17 42 53.5	
	comp=E,773μm,0.6s						
PTL	**Penteli**	**1.47**	**91**	P	**Pn**	**17 42 31.8**	**+1.6**
PTL	**Penteli**	**1.47**	**91**	P	**Pn**	**17 42 31.8**	**+1.6**
PTL				AML	AML	17 42 50.9	
	comp=N,690μm,0.6s						
PTL				AML	AML	17 42 51.2	
	comp=E,1443μm,0.5s						
THL	**Klokotos Trika**	**1.48**	**0**	P	**Pn**	**17 42 31.5**	**+1.2**
THL	**Klokotos Trika**	**1.48**	**0**	P	**Pn**	**17 42 31.3**	**+1.0**
THL				AML	AML	17 42 55.0	
	comp=N,241μm,0.5s						
THL				AML	AML	17 42 59.7	
	comp=E,282μm,0.5s						
DION	**Dionisos Attik**	**1.52**	**89**	P	**Pn**	**17 42 33.1**	**+2.2**
DION	**Dionisos Attik**	**1.52**	**89**	P	**Pn**	**17 42 32.9**	**+1.9**
DION				AML	AML	17 42 52.5	
	comp=E,2993μm,0.5s						
DION				AML	AML	17 42 52.8	
	comp=N,1605μm,0.4s						
VLI	**Veliai**	**1.55**	**151**	P	**Pn**	**17 42 32.4**	**+1.1**
NEO	**Neokhori**	**1.56**	**38**	P	**Pn**	**17 42 31.7**	**+0.4**
NEO	**Neokhori**	**1.56**	**38**	P	**Pn**	**17 42 31.7**	**+0.4**
NEO				AML	AML	17 42 54.3	
	comp=N,1650μm,0.6s						
NEO				AML	AML	17 42 54.5	
	comp=E,1788μm,0.4s						
XOR	**Xorichti**	**1.59**	**36**	P	**Pn**	**17 42 32.6**	**+0.8**
XOR	**Xorichti**	**1.59**	**36**	P	**Pn**	**17 42 32.2**	**+0.4**
XOR				S	**Sn**	**17 42 51.5**	**+0.3**
XOR				AML	AML	17 42 55.4	
	comp=E,1298μm,0.6s						
XOR				AML	AML	17 42 56.3	
	comp=N,1586μm,0.7s						
TYRN	**Tyrnavos**	**1.64**	**6**	P	**Pn**	**17 42 33.1**	**+0.6**
TYRN	**Tyrnavos**	**1.64**	**6**	P	**Pn**	**17 42 33.1**	**+0.6**
KYMI	**Kymi, Euboea I**	**1.74**	**71**	P	**Pn**	**17 42 34.5**	**+0.6**
ALNA	**Alonissos**	**1.81**	**53**	P	**Pn**	**17 42 35.2**	**+0.4**
JAN	**Janina**	**1.81**	**331**	P	**Pn**	**17 42 36.6**	**+1.7**
IGT	**Igoumenitsa**	**1.95**	**319**	P	**Pn**	**17 42 36.9**	**+0.1**
KTHA	**Kythira Island**	**2.01**	**155**	Pn	**Pn**	**17 42 37.9**	**+0.4**
KTHA	**Kythira Island**	**2.01**	**155**	P	**Pn**	**17 42 39.8**	**+2.3**
PENT	**Pentalofos**	**2.22**	**343**	P	**Pn**	**17 42 42.9**	**+2.5**
KEK	**Kerkira**	**2.37**	**314**	P	**Pn**	**17 42 42.5**	**+0.1**
NEST	**Nestorio**	**2.45**	**343**	P	**Pn**	**17 42 45.1**	**+1.5**
HORT	**Hortiatis**	**2.66**	**18**	Pn	**Pn**	**17 42 46.4**	**-0.1**
HORT				Sn	**Sn**	**17 43 17.5**	**0.0**
HORT	**Hortiatis**	**2.66**	**18**	P	**Pn**	**17 42 46.3**	**-0.2**
OUR	**Ouranopolis**	**2.73**	**34**	Pn	**Pn**	**17 42 47.7**	**+0.4**
OUR	**Ouranopolis**	**2.73**	**34**	P	**Pn**	**17 42 47.5**	**+0.2**
FNA	**Florina**	**2.74**	**350**	Pn	**Pn**	**17 42 49.3**	**+1.7**
GRG	**Griva**	**2.89**	**6**	Pn	**Pn**	**17 42 51.0**	**+1.4**
APE	**Apeiranthos**	**2.98**	**109**	Pn	**Pn**	**17 42 50.9**	**0.0**
APE	**Apeiranthos**	**2.98**	**109**	P	**Pn**	**17 42 51.7**	**+0.8**
KOKK	**Kokkinochori,**	**3.14**	**29**	P	**Pn**	**17 42 53.1**	**+0.1**
KNT	**Kendrikon**	**3.15**	**12**	Pn	**Pn**	**17 42 54.5**	**+1.3**
VAY	**Valandovo**	**3.27**	**8**	*i* Pn	**Pn**	**17 42 56.4**	**+1.6**
SRS	**Serrai**	**3.27**	**22**	P	**Pn**	**17 42 55.2**	**+0.3**
THAS	**Thassos island**	**3.29**	**39**	P	**Pn**	**17 42 54.8**	**-0.2**
STIP	**Stip**	**3.61**	**2**	*i* Pn	**Pn**	**17 43 01.7**	**+2.2**
IDI	**Anoyia**	**3.63**	**139**	P	Pn	17 42 56.6	-3.2
	comp=N,6.2nm,0.4s,baz=9.3,slow=20,SNR=1.4						
IDI				S	**Sn**	**17 43 38.0**	**-3.4**
	comp=N,9.7nm,0.9s,baz=28,slow=16,SNR=1.3						
RDO	**Rodhopi**	**4.10**	**41**	Pn	**Pn**	**17 43 06.2**	**0.0**
GELI	**Tayfur-Gelibol**	**4.17**	**55**	Pn	**Pn**	**17 43 07.4**	**+0.2**
ALN	**Alexandroupoli**	**4.21**	**47**	Pn	**Pn**	**17 43 07.8**	**+0.2**
ESDC	**Sonseca Array**	**20.26**	**283**	P	**P**	**17 46 33.9**	**-3.2**
	comp=N,0.3nm,0.5s,baz=76,slow=11,SNR=4.2						
	comp=N,0.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.19**	**324**	P	**P**	**17 47 16.7**	**-0.7**
	comp=N,1.2nm,0.6s,baz=128,slow=9.1,SNR=4.7						
	comp=N,1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**30.71**	**221**	P	P	17 48 00.9	-15
	comp=N,0.4nm,0.6s,baz=49,slow=10,SNR=3.2						
	comp=N,0.4nm,0.6s						
MKAR	**Makanchi Array**	**44.36**	**59**	P	**P**	**17 50 12.2**	**+1.0**
	comp=N,0.2nm,0.5s,baz=298,slow=9.2,SNR=1.5						
	comp=N,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**44.89**	**48**	P	**P**	**17 50 15.1**	**-0.1**
	comp=N,0.8nm,0.4s,baz=282,slow=7.5,SNR=4.6						
	comp=N,0.8nm,0.4s						

*SJA **14** 17:44:23.4±0.6,23°.00S×68°.55W, h118km±3km, ML3.5, MW3.5*
*GUC **14** 17:44:24.3±0.9,23°.03S×68°.61W, h113km±4km, ML3.5*

ISC 14 17:44:24.6±1.4,**22°.97S**±0°.03×**68°.64W**±0°.06,**h121**km±8km,
n33,σ1°**30**/54,**3C**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.42**	**88**	*e*P	**Pn**	**17 44 42.0**	**-0.6**
AF01				*e*S	**Sn**	**17 44 55.0**	**-1.2**
LVC	**Limon Verde**	**0.44**	**325**	*e*P	**Pn**	**17 44 42.2**	**-0.6**
LVC				*e*S	**Sn**	**17 44 55.3**	**-1.1**
LVC	**Limon Verde**	**0.44**	**325**	*e*P	**Pn**	**17 44 42.0**	**-0.8**
LVC				*e*S	**Sn**	**17 44 56.2**	**-0.2**
LVC				IAML		17 44 56.7	
	comp=Z,515nm,0.2s						
PB15	**IPOC Station P**	**0.80**	**253**	*e*P	**Pn**	**17 44 45.0**	**-0.2**
PB15				*e*S	**Sn**	**17 45 00.5**	**-0.1**
PB15	**IPOC Station P**	**0.80**	**253**	*e*P	**Pn**	**17 44 44.8**	**-0.3**
PB15				*e*S	**Sn**	**17 45 00.9**	**+0.2**
PB15				IAML		17 45 03.7	
	comp=Z,3μm,0.1s						
PB06	**IPOC Station P**	**0.90**	**287**	*e*P	**Pn**	**17 44 46.3**	**+0.3**
PB06				*e*S	**Sn**	**17 45 02.3**	**+0.2**
PB06				IAML		17 45 03.0	
	comp=N,1μm,0.1s						
PB06	**IPOC Station P**	**0.90**	**287**	*e*P	**Pn**	**17 44 46.3**	**+0.3**
PB06				*e*S	**Sn**	**17 45 02.6**	**+0.5**
PB06				IAML		17 45 06.4	
	comp=Z,465nm,0.1s						
PB09	**IPOC Station P**	**1.29**	**334⇑**	*i*P	**Pn**	**17 44 51.3**	**+1.3**
PB09				*e*S	**Sn**	**17 45 10.6**	**+1.4**
PB09				IAML		17 45 12.1	
	comp=N,502nm,0.3s						
PB09	**IPOC Station P**	**1.29**	**334**	*e*P	**Pn**	**17 44 51.3**	**+1.3**
PB09				*e*S	**Sn**	**17 45 11.0**	**+1.8**
PB09				IAML		17 45 12.0	
	comp=Z,505nm,0.6s						
PB04	**IPOC Station P**	**1.53**	**294**	*e*P	**Pn**	**17 44 53.2**	**+0.5**
PB04				*e*S	**Sn**	**17 45 14.9**	**+0.9**
PB04				IAML		17 45 20.4	
	comp=N,398nm,0.1s						
PB04	**IPOC Station P**	**1.53**	**294**	*e*P	**Pn**	**17 44 53.2**	**+0.5**
PB04				*e*S	**Sn**	**17 45 15.3**	**+1.3**
PB04				IAML		17 45 17.1	
	comp=Z,347nm,0.2s						
PB07	**IPOC Station P**	**1.69**	**317⇑**	*i*P	**Pn**	**17 44 55.4**	**+0.8**
PB07				*e*S	**Sn**	**17 45 17.8**	**+0.5**
PB07				IAML		17 45 19.0	
	comp=E,708nm,0.1s						
PB07	**IPOC Station P**	**1.69**	**317**	*e*P	**Pn**	**17 44 54.8**	**+0.2**
PB07				*e*S	**Sn**	**17 45 18.3**	**+0.9**
PB07				IAML		17 45 19.3	
	comp=Z,435nm,0.1s						
PB02	**IPOC Station P**	**2.01**	**324**	*e*P	**Pn**	**17 44 59.1**	**+0.6**
PB02				*e*S	**Sn**	**17 45 25.1**	**+0.9**
PB02				IAML		17 45 31.5	
	comp=E,585nm,0.1s						
PB02	**IPOC Station P**	**2.01**	**324**	*e*P	**Pn**	**17 44 59.0**	**+0.6**
PB02				*e*S	**Sn**	**17 45 25.7**	**+1.5**
PB02				IAML		17 45 29.1	
	comp=Z,625nm,0.3s						
PB01	**IPOC Station P**	**2.07**	**337**	*e*P	**Pn**	**17 44 59.7**	**+0.6**
PB01				*e*S	**Sn**	**17 45 26.5**	**+1.0**
PB01				IAML		17 45 29.6	
	comp=E,425nm,0.1s						
PB01	**IPOC Station P**	**2.07**	**337**	*e*P	**Pn**	**17 44 59.4**	**+0.2**
PB01				IAML		17 45 28.3	
	comp=Z,248nm,0.2s						
PB14	**IPOC Station P**	**2.31**	**224**	*e*P	**Pn**	**17 45 02.2**	**-0.1**
PB14	**IPOC Station P**	**2.31**	**224**	*e*P	**Pn**	**17 45 02.5**	**+0.1**
PB14				*e*S	**Sn**	**17 45 30.3**	**-0.9**
GO02	**Mina Guanaco**	**2.35**	**202⇑**	*i*P	**Pn**	**17 45 02.7**	**-0.1**
GO02				*e*S	**Sn**	**17 45 32.2**	**+0.1**
GO02	**Mina Guanaco**	**2.35**	**202**	*e*P	**Pn**	**17 45 02.8**	**-0.1**
GO02				*e*S	**Sn**	**17 45 31.9**	**-0.2**
PATCX	**Punta Patache**	**2.56**	**326**	*e*P	**Pn**	**17 45 05.1**	**-0.2**
PATCX				IAML		17 45 45.4	
	comp=N,139nm,0.2s						
PATCX	**Punta Patache**	**2.56**	**326**	*e*P	**Pn**	**17 45 05.0**	**-0.2**
TA01	**Diego Aracena**	**2.79**	**329**	*e*P	**Pn**	**17 45 07.6**	**-0.6**
TA01	**Diego Aracena**	**2.79**	**329**	*e*P	**Pn**	**17 45 07.8**	**-0.3**
PB08	**IPOC Station P**	**2.85**	**350**	*e*P	**Pn**	**17 45 10.5**	**+1.1**
PB08				IAML		17 45 51.0	
	comp=E,62nm,0.2s						
PB08	**IPOC Station P**	**2.85**	**350**	*e*P	**Pn**	**17 45 10.5**	**+1.1**
PB08				*e*S	**Sn**	**17 45 41.1**	**-2.8**
HMBC	**Humberstone**	**2.92**	**336**	*e*P	**Pn**	**17 45 09.5**	**-0.5**
HMBC				IAML		17 46 10.0	
	comp=N,107nm,0.3s						
HMBC	**Humberstone**	**2.92**	**336**	*e*P	**Pn**	**17 45 10.0**	**-0.1**
HMBC				*e*S	Sn	17 45 30.6	-14
GO01	**Chusmiza**	**3.32**	**351**	*e*P	**Pn**	**17 45 16.7**	**+1.0**
GO01				*e*S	**Sn**	**17 45 48.9**	**-6.1**
SLA	**San Lorenzo**	**3.36**	**122**	*e*P	**Pn**	**17 45 18.6**	**+2.8**
AC01	**Pan de Azucar**	**3.63**	**209**	*e*P	**Pn**	**17 45 18.2**	**-1.1**
PB12	**IPOC Station P**	**4.61**	**340**	*e*P	**Pn**	**17 45 31.6**	**-0.9**
PB12				IAML		17 47 00.6	
	comp=Z,20nm,0.9s						

DJA 14 18:15:10.7±0.9,**9°S**±6°×**11°8E**±°,**h26**km±6km,**M3.7**/9,
MLv3.7/9,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.57**	**9**	P	Pn	18 15 22.9	-0.3
PLAI				S	Sn	18 15 32.3	+0.5
TWSI	**Taliwang, Sumb**	**1.03**	**309**	P	Pn	18 15 29.6	+0.1
TWSI				S	Sn	18 15 43.7	+0.5
DNP	**Denpasar**	**2.55**	**286**	P	Pn	18 15 50.4	0.0
DNP				S	Sn	18 16 22.7	+2.0
IGBI	**Denpasar**	**2.58**	**283**	P	Pn	18 15 51.3	+0.5
IGBI				S	Sn	18 16 20.5	-0.8
SRBI	**Singaraja**	**2.78**	**298**	P	Pn	18 15 54.0	+0.5
JAGI	**Jajag, Banyuwa**	**3.62**	**285**	P	Pn	18 16 04.8	-0.3
GMJI	**Gumukmas**	**4.34**	**285**	P	Pn	18 16 14.9	-0.2
MMRI	**Maumere**	**4.56**	**81**	P	Pn	18 16 18.3	+0.3
BKSI	**Bulukumba**	**4.71**	**31**	P	Pn	18 16 20.0	-0.2

*IDC **14** 18:25:45.8±1.4,27°.95N×129°.81E, h0km, mb3.4/4, mbtmp3.5/5, ML3.3/1, MS2.8/1, Error ellipse: s-maj=38.1km s-min=22.0km az=82.0*
*JMA **14** 18:25:48.1±0.2,28°.N±1°×129°.4E±0°.9, h28km±2km, MD3.6/23, MV3.7/23, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt II J1 at NEAR AMAMI-OSHIMA ISLAND.

ISC 14 18:25:47.8±0.9,**28°.24N**±0°.04×**129°.46E**±0°.04,**h28**km±7km,
n28,σ1°**02**/32,**mb3.4**/4,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.21**	**37**	*e*P	**Pb**	**18 25 53.9**	**-0.1**
JAM				*e*S	**Sb**	**18 25 58.0**	**-0.2**
JAM	**Amami Oshima**	**0.21**	**37**	A	A	18 25 53.9	
	comp=E,18nm,0.6s,comp=N,20nm,0.3s						
JAMN	**Amaminishikomi**	**0.25**	**271**	P	**Pb**	**18 25 54.3**	**-0.1**
JAMN				S	**Sb**	**18 25 58.9**	**0.0**
JAMN	**Amaminishikomi**	**0.25**	**271**	A	A	18 25 54.3	
	comp=E,11nm,0.2s,comp=N,13nm,0.2s						
JZK	**Kikaishima**	**0.46**	**80**	P	**Pb**	**18 25 58.6**	**+1.0**
JZK				S	**Sn**	**18 26 06.6**	**+0.8**
JZK	**Kikaishima**	**0.46**	**80**	A	A	18 25 58.6	
	comp=E,10.0nm,4.1s,comp=N,15nm,0.3s						
JTK	**Tokunoshima**	**0.64**	**225**	*e*P	**Pb**	**18 25 59.6**	**-0.9**
JTK				*e*S	**Sb**	**18 26 08.5**	**-0.5**
JTK	**Tokunoshima**	**0.64**	**225**	A	A	18 25 59.6	
	comp=E,5.0nm,1.4s,comp=N,8.0nm,1.3s						
JTAJ	**Takarajima**	**0.94**	**346**	P	**Pn**	**18 26 03.9**	**-1.2**
JTAJ				S	**Sb**	**18 26 16.6**	**-1.0**
JOKE	**Okinoerabujima**	**1.18**	**222**	P	**Pn**	**18 26 08.8**	**+0.4**
JOKE				S	**Sn**	**18 26 23.9**	**+0.4**
JYRO	**Yoronjima**	**1.50**	**217**	P	**Pn**	**18 26 13.7**	**+0.8**
JYRO				S	**Sn**	**18 26 32.7**	**+1.1**
JNN	**Nakanoshima**	**1.64**	**13**	P	**Pn**	**18 26 14.2**	**-0.6**
JOW	**Kunigami**	**1.75**	**217**	*e*P	**Pn**	**18 26 17.3**	**+0.9**
JOW	**Kunigami**	**1.75**	**217**	Pn	**Pn**	**18 26 17.1**	**+0.8**
	comp=N,84nm,0.3s,baz=113,slow=24,SNR=92						
JOW				Sn	**Sn**	**18 26 38.5**	**+0.8**
	comp=N,54nm,0.3s,baz=15,slow=22,SNR=6.6						
JOW				LR	LR	18 27 06.5	
	comp=N,144nm,21.9s,baz=138,slow=46						
JIH	**Iheya**	**1.79**	**228**	*e*P	**Pn**	**18 26 17.3**	**+0.5**
JIH				*e*S	**Sn**	**18 26 38.2**	**-0.4**
JNTH	**Nagotoyohara**	**2.14**	**217**	*e*P	**Pn**	**18 26 22.9**	**+1.2**
JYAK	**Yakushimahirau**	**2.19**	**25**	*e*P	**Pn**	**18 26 22.5**	**+0.1**
JKC	**Kuchinoerabu**	**2.31**	**16**	P	**Pn**	**18 26 23.9**	**-0.1**
JKC				S	**Sn**	**18 26 50.6**	**-0.9**
JMTN	**Minamitane**	**2.49**	**30**	*e*P	**Pn**	**18 26 27.7**	**+1.2**
JJT3	**Tamagusuku3**	**2.56**	**216**	P	**Pn**	**18 26 28.8**	**+1.2**
JKDJ	**Kitadaitoujima**	**2.81**	**144**	P	**Pn**	**18 26 30.4**	**-0.5**
JMZ	**Minamidaito 2**	**2.88**	**146**	P	**Pn**	**18 26 31.0**	**-0.8**
JMZ				S	**Sn**	**18 27 03.5**	**-2.0**
JNU	**Nakatsue**	**5.02**	**14**	Pn	**Pn**	**18 27 04.2**	**+2.9**
	comp=N,1.1nm,0.3s,baz=188,slow=6.1,SNR=25						
	comp=N,5.1nm,0.5s						
MJAR	**Matsushiro Arr**	**11.10**	**40**	LR	LR	18 32 55.0	
	comp=N,48nm,18.6s,baz=200,slow=39						
MKAR	**Makanchi Array**	**41.05**	**310**	P	P	18 33 34.9	+6.1
	comp=N,0.1nm,0.5s,baz=92,slow=10,SNR=1.4						
	comp=N,0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**44.19**	**315**	P	P	18 34 00

PETK LR LR 18 33 32.9
comp=N,253nm,19.8s,baz=197,slow=42
PET Petropavlovsk 4.86 26 Pn Pn 18 31 31.8 -0.7
PET Petropavlovsk 4.86 26 *e*PN **Pn 18 31 31.9 -0.6**
PET *e*S **Sn 18 32 27.1 -0.3**
PET pmax pmax
comp=Z,45nm,0.6s
PET smax smax
comp=E,377nm,0.7s
PET smax smax
comp=N,318nm,0.9s
PET MLR MLR
comp=Z,200nm,15.0s
PET Petropavlovsk 4.86 26 *e*P **Pn 18 31 33.1 +0.5**
PET *e*S **Sn 18 32 27.5 +0.1**
PET Petropavlovsk 4.86 26 *e*P **Pn 18 31 32.2 -0.3**
PET AMB AMB 18 31 38.8
comp=Z,40nm,0.5s
PET *e*S **Sn 18 32 25.3 -2.1**
PET A A 18 32 41.6
comp=Z,260nm,0.6s
PET A A 18 32 41.6
comp=Z,230nm,0.6s
DALK Dalny 4.89 27 PN **Pn 18 31 33.0 0.0**
DALK S **Sn 18 32 28.4 +0.1**
DALK Dalny 4.89 27 *e*P **Pn 18 31 33.0 0.0**
DALK *e*S **Sn 18 32 28.4 +0.1**
UGLR Uglovaya 5.07 26 PN **Pn 18 31 37.1 +1.5**
UGLR Uglovaya 5.07 26 *e*P **Pn 18 31 37.1 +1.5**
KOK Koryaka 5.09 24 PN **Pn 18 31 37.5 +1.7**
KOK Koryaka 5.09 24 *e*P **Pn 18 31 37.5 +1.7**
KOK Koryaka 5.09 24 *e*P **Pn 18 31 37.5 +1.7**
AVH Avacha 5.10 25 PN **Pn 18 31 37.0 +1.1**
AVH Avacha 5.10 25 *e*P **Pn 18 31 37.0 +1.1**
AVH Avacha 5.10 25 *e*P **Pn 18 31 37.0 +1.1**
SMAR Somma 5.11 26 PN **Pn 18 31 37.0 +0.8**
SMAR Somma 5.11 26 *e*P **Pn 18 31 37.0 +0.8**
KRER Koryakskii 5.13 25 PN **Pn 18 31 37.6 +1.1**
KRER Koryakskii 5.13 25 *e*P **Pn 18 31 37.5 +1.1**
SDLR Sedlovina 5.15 26 PN **Pn 18 31 36.7 +0.1**
SDLR Sedlovina 5.15 26 *e*P **Pn 18 31 36.7 +0.1**
KRX Arik 5.16 24 PN **Pn 18 31 38.0 +1.3**
KRX Arik 5.16 24 *e*P **Pn 18 31 38.0 +1.3**
NLC Nalytchevo 5.20 29 PN **Pn 18 31 36.9 -0.3**
NLC Nalytchevo 5.20 29 *e*P **Pn 18 31 36.9 -0.3**
GNL Ganaly 5.29 18 PN **Pn 18 31 40.4 +1.8**
GNL Ganaly 5.29 18 *e*P **Pn 18 31 40.4 +1.8**
SPN Mys Shipunski 5.37 33 PN **Pn 18 31 38.2 -1.3**
SPN Mys Shipunski 5.37 33 *e*P **Pn 18 31 38.2 -1.3**
KUR Kuril'sk 6.07 238 PN **Pn 18 31 51.7 +2.6**
KUR *e*S **Sn 18 33 01.1 +3.9**
KUR pmax pmax
comp=Z,120nm,0.6s
KUR pmax pmax
comp=N,60nm,0.4s
KUR pmax pmax
comp=E,48nm,0.3s
KUR smax smax
comp=N,165nm,0.5s
KUR smax smax
comp=E,89nm,0.6s
KUR Kuril'sk 6.07 238 *e*P **Pn 18 31 52.2 +3.1**
KUR Kuril'sk 6.07 238 *e*P **Pn 18 31 51.0 +1.9**
KUR AMB AMB 18 31 52.8
comp=E,150nm,0.7s
KUR *e*S **Sn 18 32 58.3 +1.1**
KUR A A 18 33 06.1
comp=E,140nm,0.5s
KUR A A 18 33 06.1
comp=E,120nm,0.5s
MKZ Mys Kozlova 7.15 33 PN **Pn 18 32 01.7 -2.1**
MKZ Mys Kozlova 7.15 33 *e*P **Pn 18 32 01.7 -2.1**
TUMD Tumrok D 7.27 25 *e*P **Pn 18 32 08.0 +2.5**
TUMR Tumrok 7.27 25 PN **Pn 18 32 08.0 +2.3**
TUMR Tumrok 7.27 23 *e*P **Pn 18 32 08.2 +2.6**
SHO Shikotan 7.52 233 ||*i*PN **Pn 18 32 08.0 -0.9**
SHO pmax pmax
comp=Z,48nm,0.4s
SHO pmax pmax
comp=N,23nm,0.2s
SHO pmax pmax
comp=E,19nm,0.2s
SHO Shikotan 7.52 233 *i*P **Pn 18 32 07.6 -1.3**
SHO AMB AMB 18 32 10.0
comp=E,50nm,0.4s
SHO *e*S **Sn 18 33 28.0 -4.7**
SHO A A 18 33 33.1
comp=E,50nm,0.5s
SHO A A 18 33 33.1
comp=E,60nm,0.5s
YUK Yuzh-Kuril'sk 7.94 237 *d i*PN **Pn 18 32 15.8 +1.1**
YUK pmax pmax
comp=Z,314nm,0.3s
YUK pmax pmax
comp=N,30nm,0.2s
YUK pmax pmax
comp=E,20nm,0.2s
YUK Yuzh-Kuril'sk 7.94 237 *i*P **Pn 18 32 16.0 +1.3**
YUK AMB AMB 18 32 16.3
comp=E,310nm,0.4s
YUK *e*S **Sn 18 33 43.1 +0.2**
RUSJ Misakicho 8.24 240 *e*PN **Pn 18 32 20.6 +1.8**
TYV Tymovskoe 8.36 290 *e*PN **Pn 18 32 23.7 +3.2**
TYV *e*S **Sn 18 33 55.2 +1.9**
TYV pmax pmax
comp=Z,21nm,1.0s
TYV pmax pmax
comp=Z,200nm,2.7s
TYV smax smax
comp=N,15nm,1.2s
TYV smax smax
comp=E,16nm,1.2s
TYV smax smax
comp=N,300nm,4.5s
TYV smax smax
comp=E,200nm,4.5s
TYV Tymovskoe 8.36 290 *e*P **Pn 18 32 23.7 +3.2**
TYV AMB AMB 18 32 26.0
comp=E,20nm,0.5s
TYV *e*S **Sn 18 33 55.2 +1.9**
NMR Nemuro--Hokkai 8.45 234 ||*i*PN **Pn 18 32 19.9 -1.7**
NMR Nemuro--Hokkai 8.45 234 *i*P **Pn 18 32 19.9 -1.7**
YSS Yuzh-Sakhalins 8.52 263 Pn 18 32 24.8 +2.2
YSS Yuzh-Sakhalins 8.52 263 *e*PN **Pn 18 32 24.8 +2.2**
YSS *e*S **Sn 18 33 57.7 +0.6**
YSS pmax pmax
comp=Z,60nm,0.6s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS Yuzh-Sakhalins 8.52 263 *e*P **Pn 18 32 24.8 +2.2**
YSS *e*rx rx 18 33 57.7
UGL Uglegorsk 8.62 277 *e*P **Pn 18 32 27.0 +2.9**
AKK Akkeshi 9.16 235 *e*P **Pn 18 32 30.3 -1.1**
JKA Kamikawa-asahi 9.80 247 Pn 18 32 42.9 +2.7
JKA Kamikawa-asahi 9.80 247 *e*P **Pn 18 32 42.9 +2.7**
ASAJ Asahikawa 9.80 247 PN **Pn 18 32 42.9 +2.7**
ASAJ Asahikawa 9.80 247 P **Pn 18 32 43.5 +3.4**
comp=Z,44nm,0.6s,baz=68,slow=14,SNR=69
ASAJ LR LR 18 36 02.9
comp=Z,136nm,21.9s,baz=98,slow=35
ERM Erimo 10.76 236 Pn **Pn 18 32 52.6 -0.6**
ERM Erimo 10.76 236 *i*PN **Pn 18 32 52.4 -0.8**
MA2 Magadan 11.18 348 Pn **Pn 18 32 56.6 -2.4**
MA2 Magadan 11.18 348 PN **Pn 18 32 56.6 -2.4**
MA2 Magadan 11.18 348 P **Pn 18 32 58.8 -0.1**
comp=Z,8.4nm,0.6s,baz=95,slow=13,SNR=2.2
MA2 LR LR 18 37 59.8
comp=Z,83nm,18.7s,baz=175,slow=42
SHEM Shemya Is, Ala 12.66 64 LR LR 18 37 44.4
comp=Z,44nm,21.6s,baz=4.0,slow=34
SMY Shemya 12.66 64 Pn **Pn 18 33 17.5 -1.7**
SMY Shemya 12.66 64 PN **Pn 18 33 17.5 -1.7**
JTM Tenmabayashi 12.74 237 Pn Pn 18 33 16.9 -3.5
SEY Seymchan 14.34 355 P **Pn 18 33 40.7 -1.0**
comp=Z,2.8nm,0.8s,baz=176,slow=15,SNR=4.8
SEY LR LR 18 38 35.4
comp=Z,74nm,19.2s,baz=135,slow=35
JMM Marumori 15.02 229 Pn **Pn 18 33 47.3 -3.5**
JMM IAmb IAmb 18 34 00.2
comp=Z,35nm,1.4s
KLR Kul'dur 15.36 281 P **P 18 34 01.0 +2.4**
KLR Kul'dur 15.36 281 P **P 18 34 01.0 +2.4**
comp=Z,3.5nm,0.5s,baz=77,slow=10,SNR=17
KLR LR LR 18 39 35.9
comp=Z,129nm,20.4s,baz=82,slow=36
JSD Sado 16.22 235 P **Pn 18 34 08.6 +2.6**
USA0B Ussuriysk Arra 16.56 263 Pn 18 34 11.6 +1.4
USA0B Ussuriysk Arra 16.56 263 P **Pn 18 34 11.6 +1.4**
USA0B pmax pmax
comp=Z,10.0nm,0.9s
USRK Ussuriysk Ar. 16.56 263 P **P 18 34 11.7 -0.2**
USRK Ussuriysk Ar. 16.56 263 P **Pn 18 34 10.2 +0.1**
comp=Z,6.0nm,0.7s,baz=56,slow=12,SNR=13
USRK LR LR 18 39 42.5
comp=Z,81nm,20.9s,baz=1.3,slow=34
MJA0 Matsu Arr-Jizo 17.34 232 *e*P **Pn 18 34 21.8 +1.8**
MJB9 Matsu-Tunnel 17.36 232 P **Pn 18 34 19.6 -0.6**
MAJO Matsushiro 17.36 232 Pn 18 34 18.9 -1.3
MAJO Matsushiro 17.36 232 P **Pn 18 34 18.9 -1.3**
MAJO pmax pmax
comp=Z,16nm,0.7s
MJAR Matsushiro Arr 17.36 232 P **Pn 18 34 18.7 -1.5**
comp=Z,4.4nm,1.0s,baz=28,slow=9.6,SNR=8.7
MJAR LR LR 18 41 18.4
comp=Z,58nm,19.4s,baz=14,slow=38
HEH HeiHe 18.05 285 *e*P **Pn 18 34 28.5 0.0**
HEH pmax pmax
comp=Z,14nm,1.0s
ZEA Zeya 18.11 297 *e*P **Pn 18 34 29.6 +0.3**
INU Inuyama 18.89 232 P **P 18 34 37.9 +0.2**
YAK Yakutsk 19.50 323 P **P 18 34 42.3 -1.8**
YAK IAmb IAmb 18 34 48.7
comp=Z,18nm,0.8s
YAK Yakutsk 19.50 323 *i*P **P 18 34 43.0 -1.0**
YAK pmax pmax
comp=Z,21nm,0.9s
CLES Cleveland East 22.35 66 P **P 18 35 15.8 +0.9**
KSRS Korea Array 22.72 250 *e*P **P 18 35 19.3 +0.4**
KSRS pmax pmax
comp=Z,5.0nm,0.6s
KSRS Korea Array 22.72 250 *e*P **P 18 35 19.3 +0.4**
KSRS Korea Array 22.72 250 P **P 18 35 18.7 -0.2**
comp=Z,5.2nm,0.7s,baz=49,slow=10,SNR=20
KSRS LR LR 18 43 33.6
comp=Z,37nm,20.6s,baz=45,slow=35
comp=Z,5.2nm,0.7s
KS19 Wonju Array Si 22.72 251 P **P 18 35 18.9 -0.1**
KS19 IAmb IAmb 18 36 02.4
comp=Z,17nm,1.0s
KSAR Wonju Array Be 22.75 250 P **P 18 35 19.8 +0.6**
KSAR Wonju Array Be 22.75 250 P **P 18 35 19.8 +0.6**
TJN Taejon 23.74 249 P **P 18 35 28.5 -0.3**
TJN Taejon 23.74 249 P **P 18 35 28.5 -0.3**
TJN pmax pmax
comp=Z,40nm,0.8s
JCJ Chichijima 23.81 210 P **P 18 35 29.8 +0.3**
JNU Nakatsue 23.91 238 P **P 18 35 30.5 +0.1**
JNU IAmb IAmb 18 35 39.6
comp=Z,31nm,1.2s
JNU Nakatsue 23.91 238 LR LR 18 44 15.2
comp=Z,50nm,20.8s,baz=42,slow=35
TIXI Tiksi 26.01 341 P **P 18 35 46.2 -2.8**
TIXI Tiksi 26.01 341 *i*P **P 18 35 46.9 -2.1**
TIXI pmax pmax
comp=Z,4.0nm,0.7s
CNBA Chernabura Isl 28.27 60 P **P 18 36 09.8 +0.3**
L16K Owhat River 28.32 46 P **P 18 36 10.4 +0.6**
H18K Honhosa River 29.35 39 P **P 18 36 19.3 +0.4**
H18K IAmb IAmb 18 36 23.2
comp=Z,12nm,1.2s
N18K Kilae Creek 29.99 48 P **P 18 36 26.8 +2.1**
N18K IAmb IAmb 18 36 47.5
comp=Z,21nm,1.5s
TTA Tatalina 30.05 43 P **P 18 36 25.9 +0.6**
TTA Tatalina 30.05 43 P **P 18 36 25.9 +0.6**
TTA pmax pmax
comp=Z,4.0nm,1.0s
SVW2 Sparrevohn 30.15 47 P **P 18 36 26.4 +0.3**
SVW2 IAmb IAmb 18 36 26.7
comp=Z,19nm,1.4s
D19K Kuna River 30.26 32 P 18 36 25.9 -1.2
D19K IAmb IAmb 18 36 28.4
comp=Z,26nm,1.4s
E19K Redstone River 30.30 34 P **P 18 36 28.1 +0.7**
E19K IAmb IAmb 18 36 34.3
comp=Z,14nm,1.4s
H11N2 WAKE ISLAND Hy 30.43 158 T T 19 08 25.3
baz=345,slow=76,SNR=44
H11N1 WAKE ISLAND Hy 30.44 158 T T 19 08 32.1
baz=345,slow=76,SNR=66
H11N3 WAKE ISLAND Hy 30.44 158 T T 19 08 26.4
baz=345,slow=76,SNR=39
N19K Bonanza Creek 30.68 48 P **P 18 36 31.4 +0.5**
N19K IAmb IAmb 18 36 35.9
comp=Z,16nm,1.4s
M19K Big River Lodg 30.74 46 P **P 18 36 32.7 +1.3**
M19K IAmb IAmb 18 37 03.1
comp=Z,12nm,1.4s
K20K Telida 30.96 43 P **P 18 36 32.8 -0.4**
J20K Nowinta River 31.00 41 P **P 18 36 33.9 +0.4**
J20K IAmb IAmb 18 36 36.3
comp=Z,16nm,1.4s
IMAR Indian Mountai 31.38 38 P **P 18 36 37.3 +0.4**
H11S1 WAKE ISLAND Hy 31.55 159 T T 19 09 47.2
baz=345,slow=76,SNR=121
H11S3 WAKE ISLAND Hy 31.56 159 T T 19 09 52.0
baz=345,slow=76,SNR=60
H11S2 WAKE ISLAND Hy 31.57 159 T T 19 09 48.6
baz=345,slow=76,SNR=56
ULN Ulaanbaatar 31.59 287 *i*P **P 18 36 37.3 -1.8**
ULN pmax pmax
comp=Z,1.0nm,0.9s
H21K Melozitna Rive 31.72 38 P **P 18 36 39.7 -0.2**
H21K IAmb IAmb 18 37 11.8
comp=Z,8.2nm,1.2s
E21K Killik River 31.73 33 P **P 18 36 40.8 +0.8**
E21K IAmb IAmb 18 36 41.3
comp=Z,12nm,1.2s
KDAK Kodiak Island 31.82 53 P **P 18 36 42.1 +1.3**
KDAK IAmb IAmb 18 37 08.3
comp=Z,20nm,1.3s
KDAK Kodiak Island 31.82 53 P **P 18 36 42.1 +1.3**
KDAK pmax pmax
comp=Z,20nm,1.3s
CAST Castle Rocks 31.86 43 P **P 18 36 42.3 +1.2**
SONM Songino Array 32.02 287 PcP **PcP 18 39 30.5 -0.7**
comp=Z,0.9nm,0.6s,baz=80,slow=3.2,SNR=3.8
SONM LR LR 18 50 26.7
comp=Z,109nm,18.4s,baz=46,slow=38
SKT Skwentna 32.09 45 P **P 18 36 43.1 -0.1**
BPAW Bear Paw Mtn. 32.38 41 P **P 18 36 47.5 +1.8**
BPAW IAmb IAmb 18 37 05.2
comp=Z,6.3nm,1.1s
KTH Kantishna Hill 32.39 43 P **P 18 36 46.4 +0.6**
KTH IAmb IAmb 18 36 48.9
comp=Z,12nm,1.2s
BRLK Bradley Lake 32.51 50 P **P 18 36 46.5 -0.4**
BRLK IAmb IAmb 18 37 00.5
comp=Z,18nm,1.2s
TRF Thorofare Moun 32.67 43 P **P 18 36 48.1 -0.3**
H23K Yukon River 33.08 38 P **P 18 36 52.9 +1.1**
H23K IAmb IAmb 18 37 33.5
comp=Z,9.5nm,1.4s
I23K Minto, Yukon-K 33.12 40 P **P 18 36 53.0 +0.9**
I23K IAmb IAmb 18 37 10.7
comp=Z,8.0nm,1.4s
NEA2 Nenana 33.23 41 P **P 18 36 53.9 +0.9**
NEA2 IAmb IAmb 18 36 55.8
comp=Z,4.9nm,0.8s
RND Reindeer 33.31 43 P **P 18 36 53.5 -0.4**
RND Reindeer 33.31 43 P **P 18 36 53.5 -0.4**
RND pmax pmax
comp=Z,4.0nm,1.0s
GHO Glory Hole Cre 33.34 46 P **P 18 36 54.6 +0.5**
GHO IAmb IAmb 18 37 09.4
comp=Z,17nm,1.4s
TOLK Toolik Lake Re 33.36 33 P **P 18 36 54.9 +0.7**
TOLK IAmb IAmb 18 37 07.2
comp=Z,17nm,1.3s
KNK Knik Glacier 33.58 46 P **P 18 36 56.2 0.0**
KNK IAmb IAmb 18 36 59.3
comp=Z,9.3nm,0.9s
MDM Murphy Dome 33.59 40 P **P 18 36 55.9 -0.3**
MDM IAmb IAmb 18 36 58.8
comp=Z,6.4nm,1.0s
SML Sawmill 33.62 46 P **P 18 36 56.7 +0.2**
WRH Wood River Hil 33.65 41 P **P 18 36 56.3 -0.4**
WRH IAmb IAmb 18 37 14.7
comp=Z,6.9nm,1.1s
PWL Port Wells 33.68 47 P **P 18 36 57.2 +0.1**
PWL IAmb IAmb 18 37 13.3
comp=Z,19nm,1.5s
D24K Happy Valley 33.70 32 P **P 18 36 57.5 +0.4**
H24K Noodor Dome 33.77 38 P **P 18 36 57.9 +0.1**
CCB Clear Creek Bu 33.77 41 P **P 18 36 58.4 +0.6**
CCB IAmb IAmb 18 37 03.7
comp=Z,11nm,1.4s
POKR Poker Plat Res 33.93 40 P **P 18 37 00.1 +0.9**
POKR IAmb IAmb 18 37 02.1
comp=Z,6.3nm,0.9s
DHY Denali Highway 33.99 43 P **P 18 37 00.6 +0.7**
DHY IAmb IAmb 18 37 01.9
comp=Z,7.5nm,1.2s
SCM Sheep Creek Mo 34.09 46 P **P 18 37 00.3 -0.3**
SCM Sheep Creek Mo 34.09 46 P **P 18 37 00.3 -0.3**
SCM pmax pmax
comp=Z,33nm,1.5s
HDA Harding Lake 34.14 41 P **P 18 37 00.9 -0.1**
IL31 34.17 40 P **P 18 37 01.0 -0.1**
ILAR Eielson Array 34.17 40 P **P 18 37 00.8 -0.4**
ILAR Eielson Array 34.17 40 P **P 18 37 01.4 +0.2**
comp=Z,2.4nm,1.0s,baz=265,slow=9.6,SNR=13
comp=Z,2.4nm,1.0s
IL03 Eielson Array 34.18 40 P **P 18 37 00.9 -0.4**
D25K Kavik River 34.58 32 P **P 18 37 05.2 +0.4**
FID Port Fidalgo 34.60 47 P **P 18 37 05.0 0.0**
M24K Tolsona, Glenn 34.61 45 P **P 18 37 06.3 +1.2**
PRP Porcupine Dome 34.74 39 P **P 18 37 06.7 +0.5**
PRP IAmb IAmb 18 37 21.0
comp=Z,9.8nm,1.1s
KLU Klutina 34.79 46 P **P 18 37 06.9 +0.2**
KLU IAmb IAmb 18 37 28.5
comp=Z,10nm,1.2s
J25K Salcha River, 34.82 41 P **P 18 37 06.0 -1.0**
Q23K Middleton Isla 34.84 50 P **P 18 37 07.5 +0.5**
MID Middleton Isla 34.85 50 P **P 18 37 06.9 -0.2**
MID Middleton Isla 34.85 50 P **P 18 37 06.9 -0.2**
MID pmax pmax
comp=Z,144nm,1.0s
PAX Paxson 34.87 43 P **P 18 37 07.9 +0.5**
PAX IAmb IAmb 18 37 24.1
comp=Z,7.3nm,1.4s
PAX Paxson 34.87 43 P **P 18 37 07.9 +0.5**
PAX pmax pmax
comp=Z,7.0nm,1.4s
YOJ Yonaguni jima 34.95 238 P **P 18 37 08.2 -0.1**
YOJ Yonaguni jima 34.95 238 P **P 18 37 08.2 -0.1**
YOJ pmax pmax
comp=Z,183nm,0.9s
RIDG Independent Ri 35.09 42 P **P 18 37 09.2 -0.1**
RIDG IAmb IAmb 18 37 11.5
comp=Z,9.9nm,1.2s
BMAR Burnt Mountain 35.13 36 P **P 18 37 10.2 +0.7**
N25K Chitina, Valde 35.40 46 P **P 18 37 13.0 +0.9**
N25K IAmb IAmb 18 37 45.7
comp=Z,14nm,1.4s
SCRK Sand Creek 35.46 42 P **P 18 37 12.9 +0.4**
SCRK IAmb IAmb 18 37 25.7
comp=Z,7.3nm,1.4s
J26L Joseph Creek 35.61 41 P **P 18 37 14.8 +1.1**
VRDI Verde Repeater 36.00 46 P **P 18 37 18.4 +1.2**
VRDI IAmb IAmb 18 37 53.7
comp=Z,18nm,1.4s
M26K Nabesna, AK 36.06 44 P **P 18 37 18.9 +1.3**
M26K IAmb IAmb 18 37 21.0
comp=Z,6.4nm,1.0s
CRQM Cirque 36.22 47 P **P 18 37 19.5 +0.3**
K27K Chicken 36.29 41 P **P 18 37 20.5 +1.0**
K27K IAmb IAmb 18 37 33.9
comp=Z,4.9nm,0.9s
L27K Beaver Creek, 36.51 43 P **P 18 37 21.6 +0.2**
L27K IAmb IAmb 18 37 24.3
comp=Z,8.8nm,1.0s
BCAR Beaver Creek A 36.53 43 P **P 18 37 22.4 +0.8**
M27K Edge Creek, AK 36.58 44 P **P 18 37 24.0 +1.9**
M27K IAmb IAmb 18 37 27.7
comp=Z,11nm,1.2s
BARN Barnard Glacie 36.89 46 P **P 18 37 26.1 +1.3**
GRNC Granite Creek 36.90 47 P **P 18 37 25.8 +0.9**
GRNC IAmb IAmb 18 37 27.1
comp=Z,10nm,0.9s
MESA MESA 36.91 48 P **P 18 37 25.2 +0.3**
F28M Old Crow 36.94 35 P **P 18 37 25.8 +0.8**
F28M IAmb IAmb 18 37 28.1
comp=Z,7.6nm,1.2s
CTGM Chitina Glacie 37.06 46 P **P 18 37 27.3 +1.1**
I28M Miner Creek 37.07 39 P **P 18 37 27.6 +1.5**
I28M IAmb IAmb 18 37 28.3
comp=Z,5.7nm,1.1s
LOGN Logan Glacier 37.24 47 P **P 18 37 28.9 +1.1**
H29M Whitestone 37.63 38 P **P 18 37 32.4 +1.6**
G29M Pine Creek 37.70 36 P **P 18 37 33.1 +1.7**
G29M IAmb IAmb 18 38 03.4
comp=Z,14nm,1.2s
I29M Ogilvie Camp, 37.76 39 P **P 18 37 33.1 +1.2**
I29M IAmb IAmb 18 37 34.5
comp=Z,8.0nm,1.2s
M29M Somme Creek 38.14 44 P **P 18 37 36.0 +0.8**
G30M tAoh Zraii Nji 38.40 36 P **P 18 37 38.4 +1.1**
G30M IAmb IAmb 18 38 11.0
comp=Z,12nm,1.3s
I30M Mount Dempster 38.58 39 P **P 18 37 39.7 +0.8**
HYT Haines Junctio 38.92 46 P **P 18 37 43.2 +1.4**
INK Inuvik 39.26 34 P **P 18 37 45.3 +0.9**
INK IAmb IAmb 18 37 46.3
comp=Z,4.9nm,0.8s
INK Inuvik 39.26 34 P **P 18 37 45.3 +0.9**
INK pmax pmax
comp=Z,5.0nm,0.9s
H31M Peel River 39.32 38 P **P 18 37 45.2 +0.2**
H31M IAmb IAmb 18 38 25.9
comp=Z,20nm,1.5s
N31M Braeburn, Yuko 39.58 45 P **P 18 37 49.6 +2.4**
N31M IAmb IAmb 18 38 02.4
comp=Z,17nm,1.3s
O30N Mendenhall 39.61 46 P **P 18 37 49.6 +2.1**
O30N IAmb IAmb 18 37 50.7
comp=Z,7.1nm,1.1s
M31M Drury Creek, Y 40.05 43 P **P 18 37 53.2 +2.1**
N32M Quiet Lake 40.92 45 P **P 18 38 00.2 +1.9**
N32M IAmb IAmb 18 38 35.5
comp=Z,7.3nm,1.1s
P33M Teslin, Yukon 41.32 46 P **P 18 38 02.0 +0.4**
P33M IAmb IAmb 18 38 04.9
comp=Z,7.4nm,1.1s
A36M Sachs Harbour 41.48 28 P **P 18 38 03.6 +0.9**
R33M Jennings River 42.47 47 P **P 18 38 11.8 +0.7**
U33K Whale Pass 42.53 52 P **P 18 38 13.1 +1.7**
ZALV Zalesovo Beam 42.60 305 *e*P **P 18 38 11.9 -0.1**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 42.60 305 P **P 18 38 09.8 -2.2**
comp=Z,0.6nm,0.4s,baz=66,slow=6.7,SNR=4.4
ZALV PcP **PcP 18 40 02.6 -0.6**
comp=Z,0.2nm,0.4s,baz=75,slow=3.1,SNR=3.6
ZALV LR LR 18 58 07.2
comp=Z,31nm,18.1s,baz=48,slow=39
comp=Z,0.6nm,0.4s
DGZ Jazzator, Alta 42.87 298 *i*P **P 18 38 15.8 +1.3**
DGZ pmax pmax
comp=Z,2.0nm,1.6s
DLBC Dease Lake 43.26 48 P **P 18 38 20.0 +2.6**
DLBC IAmb IAmb 18 38 57.9
comp=Z,9.0nm,1.3s
BBB Bella Bella 46.86 55 P **P 18 38 47.5 +1.6**
EUNU Eureka 46.93 12 P **P 18 38 46.4 +0.2**
EUNU IAmb IAmb 18 38 47.4
comp=Z,10nm,0.8s
MK31 Makanchi Array 47.27 297 P **P 18 38 47.4 -1.9**
MK31 Makanchi Array 47.27 297 P **P 18 38 47.4 -1.9**
MK31 pmax pmax
comp=Z,2.0nm,1.1s
MKAR Makanchi Array 47.27 297 P **P 18 38 48.0 -1.3**
MKAR PcP **PcP 18 40 20.1 +0.6**
MKAR Makanchi Array 47.27 297 *e*P **P 18 38 50.6 +1.3**
MKAR Makanchi Array 47.27 297 P **P 18 38 47.0 -2.2**
comp=Z,0.4nm,0.6s,baz=76,slow=8.2,SNR=8.6
MKAR PcP **PcP 18 40 19.4 -0.2**
comp=Z,0.7nm,0.8s,baz=65,slow=4.1,SNR=2.7
MKAR LR LR 18 59 43.2
comp=Z,77nm,21.4s,baz=11,slow=37
comp=Z,0.4nm,0.6s
KHLH Kahului Airpor 47.42 108 P **P 18 38 51.4 +0.8**

KURK Kurchatov 47.43 303 P P 18 38 48.5 -1.8
KURK Kurchatov 47.43 303 *e*P P 18 38 48.6 -1.8
KURK pmax pmax
comp=Z,4.0nm,1.5s
KURK Kurchatov 47.43 303 *e*P P 18 38 48.6 -1.8
MAKZ Makanchi 47.45 297 P 18 38 49.2 -1.5
MAKZ **PcP 18 40 18.0 -2.2**
KURBB Kurchatov Arra 47.53 303 P P 18 38 48.0 -3.1
comp=Z,0.9nm,0.6s,baz=66,slow=8.6,SNR=8.3
KURBB PcP **PcP 18 40 19.9 -0.4**
comp=Z,0.6nm,0.7s,baz=58,slow=3.6,SNR=3.8
comp=Z,0.9nm,0.6s
HOLB Holberg 47.59 57 P P 18 38 53.3 +1.6
DAV Davao City (W) 48.44 221 P P 18 38 58.9 +0.3
RES Resolute Bay 48.54 19 P P 18 38 59.3 +0.7
RES Resolute Bay 48.54 19 P P 18 38 59.3 +0.7
RES pmax pmax
comp=Z,23nm,1.5s
SLVN Son La 48.88 255 P P 18 39 03.4 +1.3
SLVN IAmb IAmb 18 39 20.7
comp=Z,6.8nm,1.2s
STCH Steam Cracks 49.36 108 P P 18 39 06.7 +1.0
BVAR Borovoye Array 50.68 309 P P 18 39 13.5 -1.7
comp=Z,1.1nm,0.5s,baz=55,slow=6.9,SNR=7.4
BVAR PcP **PcP 18 40 30.8 -0.9**
comp=Z,1.1nm,0.6s,baz=51,slow=5.9,SNR=4.3
comp=Z,1.1nm,0.5s
SPITS Spitsbergen Ar 50.92 350 P P 18 39 20.1 +3.4
SPITS pmax pmax
comp=Z,77nm,1.4s
TARG Taragay, Kyrgy 52.73 293 P P 18 39 32.0 +0.8
TARG IAmb IAmb 18 39 47.5
comp=Z,3.1nm,0.8s
TARG Taragay, Kyrgy 52.73 293 P P 18 39 32.0 +0.8
TARG pmax pmax
comp=Z,3.0nm,0.8s
SHL Shillong 53.79 269 P P 18 39 38.3 -0.5
SHL Shillong 53.79 269 P P 18 39 38.3 -0.5
SHL pmax pmax
comp=Z,3.0nm,0.9s
EDM Edmonton 53.98 48 P P 18 39 41.0 +1.3
EDM IAmb IAmb 18 39 41.8
comp=Z,6.7nm,0.7s
EDM Edmonton 53.98 48 P P 18 39 41.0 +1.3
EDM pmax pmax
comp=Z,7.0nm,0.7s
HOOD Mount Hood Mea 54.11 60 P P 18 39 41.5 +0.6
CMAR Chiang Mai Arr 54.16 257 P P 18 39 41.1 -0.3
comp=Z,5.2nm,0.6s,baz=37,slow=7.0,SNR=4.2
comp=Z,5.2nm,0.6s
AAK Ala-Archa 54.19 296 LR LR 19 04 21.0
comp=Z,68nm,19.7s,baz=7.5,slow=38
ARU Arti 54.49 317 P P 18 39 41.2 -2.1
ARU IAmb IAmb 18 39 42.2
comp=Z,3.8nm,0.5s
ARU Arti 54.49 317 P P 18 39 41.5 -1.8
comp=Z,4.0nm,0.6s,baz=103,slow=2.0,SNR=8.7
comp=Z,4.0nm,0.6s
J05D Fort Rock, OR 55.56 62 P P 18 39 53.6 +2.2
JIRN Jiri 56.15 275 *e*P P 18 39 56.0 -0.1
comp=Z,21nm,1.1s
GUN Gumba 56.19 275 *e*P P 18 39 56.3 -0.1
comp=Z,5.5nm,0.4s
KKAR Karatay Array 56.25 299 P P 18 39 56.9 +0.7
KKAR Karatay Array 56.25 299 P P 18 39 56.9 +0.7
RAMN Ramite 56.35 274 *e*P P 18 39 56.5 -0.9
comp=Z,8.8nm,0.7s
KCPM Cahto Peak 56.36 66 P P 18 39 56.1 -1.0
ARCES ARCESS Array B 56.45 341 P P 18 39 55.4 -1.8
comp=Z,2.8nm,0.8s,baz=25,slow=7.0,SNR=2.0
comp=Z,2.8nm,0.8s
DMN Daman 56.90 275 *e*P P 18 40 00.8 -0.5
comp=Z,16nm,0.9s
GKN Gorkha 56.95 276 *e*P P 18 40 01.6 +0.1
comp=Z,9.9nm,0.6s
DANN Dangsing 57.30 277 *e*P P 18 40 04.3 +0.2
comp=Z,12nm,0.7s
PYUN Piuthan 57.97 277 *e*P P 18 40 08.6 -0.1
comp=Z,21nm,1.0s
ABKAR Akbulak array 58.22 310 P P 18 40 08.4 -1.5
ABKAR PcP **PcP 18 41 02.1 +1.4**
ABKAR Akbulak array 58.22 310 P P 18 40 08.1 -1.9
ABKAR PcP **PcP 18 41 01.6 +0.9**
SUMG Summit 58.64 5 P P 18 40 12.8 -0.1
SUMG Summit 58.64 5 P P 18 40 12.9 -0.1
SUMG pmax pmax
comp=Z,12nm,1.0s
YERR Yerington 59.41 65 P P 18 40 20.9 +2.2
YERR IAmb IAmb 18 40 22.0
comp=Z,3.5nm,1.0s
BOZ Bozeman (W) 59.52 54 P P 18 40 21.0 +1.8
BOZ IAmb IAmb 18 40 22.2
comp=Z,6.7nm,1.2s
BOZ Bozeman (W) 59.52 54 P P 18 40 21.0 +1.8
BOZ pmax pmax
comp=Z,7.0nm,1.3s
KVN Kaiserville 60.05 64 P P 18 40 25.1 +2.2
KVN IAmb IAmb 18 40 26.0
comp=Z,3.4nm,1.1s
KVN Kaiserville 60.05 64 P P 18 40 25.2 +2.2
KVN pmax pmax
comp=Z,3.0nm,1.1s
NVAR Mina Array Bea 60.33 64 P P 18 40 26.8 +1.9
NVAR Mina Array Bea 60.33 64 P P 18 40 25.3 +0.4
comp=Z,1.1nm,0.7s,baz=286,slow=6.4,SNR=6.1
comp=Z,1.1nm,0.7s
BELG Belogornoye 61.98 319 P P 18 40 32.8 -2.7
comp=Z,6.6nm,0.9s,baz=41,slow=17,SNR=2.7
comp=Z,6.6nm,0.9s
DUG Dugway, Tooele 62.39 60 P P 18 40 40.3 +1.6
DUG IAmb IAmb 18 40 41.4
comp=Z,2.9nm,0.8s
DUG Dugway, Tooele 62.39 60 P P 18 40 40.3 +1.6
DUG pmax pmax
comp=Z,3.0nm,0.9s
BW06 Boulder Array 62.50 56 P P 18 40 39.9 +0.4
BW06 IAmb IAmb 18 41 04.2
comp=Z,5.0nm,0.8s
PD31 Pinedale Array 62.50 56 P P 18 40 40.3 +0.7
PDAR Pinedale Array 62.50 56 P P 18 40 40.6 +1.1
PDAR Pinedale Array 62.50 56 P P 18 40 39.3 -0.3
comp=Z,2.1nm,0.9s,baz=321,slow=2.1,SNR=13
comp=Z,2.1nm,0.9s
FINES FINESS Array B 62.84 335 P P 18 40 39.6 -1.5
FINES FINESS Array B 62.84 335 *i* P P 18 40 39.7 -1.5
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 62.84 335 P P 18 40 39.1 -2.1
comp=Z,1.9nm,0.6s,baz=34,slow=7.8,SNR=14
comp=Z,1.9nm,0.6s
PSUT Pine Spring 62.89 62 P P 18 40 43.4 +1.2
NLU North Lily Min 62.97 60 P P 18 40 44.3 +1.6
NLU IAmb IAmb 18 40 45.2
comp=Z,4.7nm,1.2s
SFJD Kangerlussuaq 62.97 11 P P 18 40 41.6 -0.4
SFJD Kangerlussuaq 62.97 11 P P 18 40 41.6 -0.4
SFJD pmax pmax
comp=Z,24nm,1.4s
BSUT Blindstream Ca 63.33 58 P P 18 40 45.7 +0.5
BSUT IAmb IAmb 18 40 49.7
comp=Z,3.9nm,0.9s
MVU Marysvale 63.87 61 P P 18 40 48.6 -0.1
P17A Butcher Ranch, 64.06 59 P P 18 40 51.1 +1.3
P17A IAmb IAmb 18 40 52.8
comp=Z,4.8nm,0.9s
LCMT Little Creek M 64.27 63 P P 18 40 51.2 -0.1
LCMT IAmb IAmb 18 40 56.8
comp=Z,7.7nm,0.8s
SRU San Rafael Swe 64.42 59 P P 18 40 53.5 +1.3
SRU IAmb IAmb 18 40 55.0
comp=Z,4.7nm,0.8s
SRU San Rafael Swe 64.42 59 P P 18 40 53.5 +1.3
SRU pmax pmax
comp=Z,5.0nm,0.8s
KNB Kanab 64.52 62 P P 18 40 53.0 +0.1
KNB IAmb IAmb 18 40 56.7
comp=Z,4.5nm,1.0s
KNB Kanab 64.52 62 P P 18 40 53.0 +0.1
KNB pmax pmax
comp=Z,4.0nm,1.0s
RSSD Black Hills 64.52 52 P P 18 40 53.6 +0.7
RSSD IAmb IAmb 18 40 55.4
comp=Z,12nm,1.4s
RSSD Black Hills 64.52 52 P P 18 40 53.6 +0.7
RSSD pmax pmax
comp=Z,13nm,1.5s

NB2 NORSAR Subarra 66.80 342 P P 18 41 06.3 -0.7
comp=Z,1.3nm,0.8s,baz=27,slow=6.5
NOA NORSAR Array B 66.80 342 *e*P P 18 41 08.1 +1.1
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 66.80 342 P P 18 41 04.5 -2.5
comp=Z,0.7nm,0.6s,baz=25,slow=6.4,SNR=3.6
NOA LR LR 19 13 59.7
comp=Z,84nm,18.1s,baz=350,slow=39
comp=Z,0.7nm,0.6s
HFS Hagfors 67.09 340 P P 18 41 06.5 -2.3
comp=Z,1.2nm,0.5s,baz=76,slow=6.3,SNR=6.2
comp=Z,1.2nm,0.5s
319A Douglas 70.55 65 P P 18 41 30.4 -0.5
319A IAmb IAmb 18 41 34.2
comp=Z,9.3nm,1.1s
AKASG Malin Array Be 70.66 327 P P 18 41 30.0 -1.1
AKASG Malin Array Be 70.66 327 P P 18 41 30.0 -1.1
comp=Z,0.5nm,0.4s,baz=32,slow=6.3,SNR=4.1
AKASG LR LR 19 17 11.0
comp=Z,81nm,18.6s,baz=352,slow=40
comp=Z,0.5nm,0.4s
WRA Warramunga Arr 70.82 201 P P 18 41 32.4 0.0
WRA Warramunga Arr 70.82 201 P P 18 41 32.4 0.0
WRA Warramunga Arr 70.82 201 P P 18 41 32.9 +0.5
comp=Z,2.0nm,0.7s,baz=18,slow=6.3,SNR=9.5
comp=Z,2.0nm,0.7s
SCHQ Schefferville 70.97 24 P P 18 41 33.2 +0.2
comp=Z,5.1nm,0.8s,baz=207,slow=16,SNR=3.8
comp=Z,5.1nm,0.8s
AS31 Alice Springs 74.51 200 P P 18 41 53.8 -0.4
ASAR Alice Springs 74.51 200 P P 18 41 55.9 +1.7
comp=Z,2.0nm,0.6s,baz=13,slow=5.5,SNR=29
comp=Z,2.0nm,0.6s
BUR08 Bucovina Ar. S 74.67 327 P P 18 41 53.9 -1.2
EKA Eskdalemuir Ar 74.74 347 P P 18 41 53.2 -2.0
comp=Z,2.1nm,0.6s,baz=26,slow=5.8,SNR=7.4
comp=Z,2.1nm,0.6s
TX31 Lajitas Ar. Si 75.35 62 P P 18 41 59.5 +0.1
TX31 IAmb IAmb 18 42 01.9
comp=Z,11nm,1.0s
TX32 Lajitas Array 75.35 62 P P 18 41 59.8 +0.5
TXAR Lajitas Array 75.35 62 P P 18 42 00.8 +1.5
comp=Z,2.6nm,0.9s,baz=297,slow=4.0,SNR=19
comp=Z,2.6nm,0.9s
VRAC Vranov 76.03 333 LR LR 19 17 56.7
comp=Z,119nm,18.3s,baz=350,slow=38
VYHS Vyhne 76.06 332 *e*P P 18 42 03.7 +0.7
VYHS Vyhne 76.06 332 *e*P P 18 42 03.7 +0.7
KHC Kasperske Hory 77.05 335 *e*P P 18 42 09.2 +0.6
KHC Kasperske Hory 77.05 335 *e*P P 18 42 09.2 +0.6
GERES GERESS Array B 77.28 335 *e*P P 18 42 11.8 +1.9
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 77.28 335 P P 18 42 08.0 -2.0
comp=Z,0.5nm,0.5s,baz=11,slow=8.2,SNR=3.5
GERES LR LR 19 19 39.7
comp=Z,131nm,18.5s,baz=358,slow=38
comp=Z,0.5nm,0.5s
BRTR Keskin Array B 77.88 318 P P 18 42 12.3 -1.2
comp=Z,0.5nm,0.7s,baz=65,slow=3.1,SNR=2.0
comp=Z,0.5nm,0.7s
PRED Cave del Predi 79.49 334 P P 18 42 21.5 -0.6
DAVOX Davos/Dischmat 80.20 337 P P 18 42 25.0 -1.2
DAVOX Davos/Dischmat 80.20 337 P P 18 42 25.0 -1.2
comp=Z,2.5nm,0.7s,baz=351,slow=11,SNR=8.1
comp=Z,2.5nm,0.7s
TUE Stuetta 80.63 337 P P 18 42 28.0 -0.4
STKA Stephens Creek 81.13 192 P P 18 42 31.7 +1.0
comp=Z,1.1nm,0.7s,baz=354,slow=10,SNR=1.5
comp=Z,1.1nm,0.7s
MMAI Mount Meron Ar 82.52 313 P P 18 42 37.1 -1.3
comp=Z,2.3nm,0.6s,baz=50,slow=7.8,SNR=6.1
comp=Z,2.3nm,0.6s
MURB Monte Urbino 82.70 333 P P 18 42 40.0 +0.8
NRCA Norcia 82.91 333 P P 18 42 40.4 0.0
NRCA IAmb IAmb 18 42 43.1
comp=Z,5.9nm,0.9s
EIL Elat 85.46 311 P P 18 42 52.3 -1.1
comp=Z,4.4nm,0.8s,baz=90,slow=8.1,SNR=3.1
comp=Z,4.4nm,0.8s
ESDC Sonseca Array 90.07 344 P P 18 43 14.1 -1.4
comp=Z,0.6nm,1.0s,baz=2.6,slow=3.2,SNR=4.0
ESDC LR LR 19 31 44.0
comp=Z,55nm,18.2s,baz=348,slow=41
comp=Z,0.6nm,1.0s
H03N2 Juan Fernandez 137.38 90 T T 21 22 44.6
baz=310,slow=77,SNR=20
H03N1 Juan Fernandez 137.40 90 T T 21 22 42.6
baz=310,slow=77,SNR=20
H03N3 Juan Fernandez 137.40 90 T T 21 22 44.1
baz=310,slow=77,SNR=16
QSPA South Pole Qui 138.45 180 PKP **PKPdf 18 49 39.5 -0.1**
comp=Z,0.7nm,0.9s,baz=286,slow=2.6,SNR=6.8
CPUP Villa Florida 146.31 60 PKPbc **PKPbc 18 49 56.6 +0.6**
comp=Z,2.4nm,0.7s,baz=300,slow=3.7,SNR=5.6
PLCA Paso Flores 146.99 93 PKPbc **PKPbc 18 49 58.7 +1.0**
comp=Z,2.5nm,0.9s,baz=280,slow=7.9,SNR=4.0
ELIB Princess Elisa 148.15 206 *d*PKP **PKPbc 18 49 59.9 0.0**
SNAA Sanae 154.82 196 PKPab **PKPab 18 50 31.2 +0.4**
comp=Z,1.6nm,1.0s,baz=81,slow=3.0,SNR=4.0

---

*BJI **14** 18:45:10.9±0.0, 6°.21S×125°.40E, h549km, mb4.5/37, mB4.7/17*
*DJA **14** 18:45:13.7±0.1, 6°S±2°×12°5E±°, h541km±2km, M4.5/79, mb5.0/79, mB5.1/44, MLv5.2/27, Mw(mB)4.4/44, MwMwp4.5/1, Mwp4.9/1*
*NEIC **14** 18:45:14.2±1.4, 5°.99S±0°.08×125°.27E±0°.08, h544km±7km, mb4.9/100, Error ellipse: s-maj=12.0km s-min=11.2km az=55.0*
*IDC **14** 18:45:15.2±0.6, 6°.04S×125°.23E, h559km±7km, mb3.9/23, mbtmp4.9/27, Error ellipse: s-maj=10.5km s-min=6.3km az=63.0*
ISC 14 18:45:14.0±0.4, **6°.02S**±0°.04×**125°.25E**±0°.04, **h548**km±4km, **h551**km:**pP-P, n362**, σ1°.**19**/399, **mb4.8**/86, **2C-2D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**2.72**	**281**	P	**P**	**18 46 29.1**	**+1.9**
BBSI				S	**S**	**18 47 28.2**	**+1.5**
NLAI	**Namlea**	**3.32**	**34**	P	**P**	**18 46 30.4**	**-0.5**
SOEI	**Soe**	**3.84**	**195**	P	**P**	**18 46 34.6**	**-0.1**
SOEI				S	**S**	**18 47 36.3**	**-4.1**
SOEI	**Soe**	**3.84**	**195**	P	**P**	**18 46 35.0**	**+0.3**
SOEI	**Soe**	**3.84**	**195**	P	**P**	**18 46 34.8**	**+0.1**
SOEI				S	**S**	**18 47 35.2**	**-5.2**
MMRI	**Maumere**	**3.96**	**229**	P	**P**	**18 46 35.1**	**-0.3**
MMRI	**Maumere**	**3.96**	**229**	P	**P**	**18 46 35.6**	**+0.2**
MMRI	**Maumere**	**3.96**	**229**	P	**P**	**18 46 35.3**	**-0.1**
SANI	**Sanana**	**4.01**	**11**	P	**P**	**18 46 35.7**	**-0.1**
SANI	**Sanana**	**4.01**	**11**	P	**P**	**18 46 35.5**	**-0.3**
SANI				S	**S**	**18 47 39.6**	**-2.8**
BATI	**Baumata**	**4.45**	**201**	P	**P**	**18 46 39.2**	**0.0**
BATI				S	**S**	**18 47 45.4**	**-3.3**
BATI	**Baumata**	**4.45**	**201**	P	**P**	**18 46 39.5**	**+0.3**
	3μm,0.5s,baz=47,slow=0.9,SNR=1791						
BATI				S	**S**	**18 47 45.0**	**-3.7**
	1μm,0.6s,baz=90,slow=19,SNR=5.3						
BNDI	**Bandanaira**	**4.86**	**72**	P	**P**	**18 46 42.5**	**-0.1**
BNDI	**Bandanaira**	**4.86**	**72**	P	**P**	**18 46 41.7**	**-0.9**
BNDI				S	**S**	**18 47 54.7**	**-0.1**
BKSI	**Bulukumba**	**5.15**	**277**	P	**P**	**18 46 45.1**	**+0.1**
	68nm,0.8s,685nm0.4nm						
LUWI	**Luwuk**	**5.53**	**333**	P	**P**	**18 46 48.8**	**+0.5**
LUWI	**Luwuk**	**5.53**	**333**	P	**P**	**18 46 49.3**	**+1.0**
	164nm,1.0s,1.1nm						
KAPI	**Kappang**	**5.57**	**280**	P	**P**	**18 46 49.8**	**+1.2**
KAPI				S	**S**	**18 48 07.7**	**+1.8**
KAPI	**Kappang**	**5.57**	**280**	P	**P**	**18 46 50.4**	**+1.8**
	423nm,0.6s,baz=111,slow=7.3,SNR=229						
KAPI				S	**S**	**18 48 05.6**	**-0.2**
	47nm,0.9s,baz=5.5,slow=23,SNR=18						
LBMI	**Labuha**	**5.79**	**23**	P	**P**	**18 46 51.7**	**+1.0**
	132nm,1.1s,2μm1.3nm						
TTSI	**Tana Toraja**	**6.17**	**298**	P	**P**	**18 46 55.3**	**+1.2**
	242nm,0.8s,2μm0.7nm						
BASI	**Baing, Sumba**	**6.23**	**228**	P	**P**	**18 46 53.4**	**-1.2**
	3μm,0.7s,34μm12nm						
SAUI	**Saumlaki**	**6.31**	**108**	P	**P**	**18 46 54.5**	**-0.8**
SAUI				S	**S**	**18 48 16.4**	**-1.9**
SAUI	**Saumlaki**	**6.31**	**108**	P	**P**	**18 46 55.6**	**+0.2**
SAUI	**Saumlaki**	**6.31**	**108**	P	**P**	**18 46 55.6**	**+0.2**
	1μm,0.6s,19μm4.9nm						
TNTI	**Ternate**	**7.07**	**17**	P	**P**	**18 47 02.4**	**-0.2**
TNTI				S	**S**	**18 48 29.8**	**-1.6**
TNTI	**Ternate**	**7.07**	**17**	P	**P**	**18 47 03.0**	**+0.4**
TNTI	**Ternate**	**7.07**	**17**	P	**P**	**18 47 02.3**	**-0.2**
	192nm,1.3s,2μm0.7nm						
MRSI	**Marisa**	**7.25**	**333**	P	**P**	**18 47 04.7**	**+0.4**
	108nm,1.0s,1μm0.4nm						
FAKI	**Fak Fak**	**7.62**	**66**	P	**P**	**18 47 07.6**	**-0.3**
FAKI	**Fak Fak**	**7.62**	**66**	P	**P**	**18 47 07.7**	**-0.3**
FAKI	**Fak Fak**	**7.62**	**66**	P	**P**	**18 47 07.4**	**-0.6**
	454nm,0.7s,6μm2.0nm						
SWI	**Sorong**	**7.88**	**50**	P	**P**	**18 47 11.0**	**+0.5**
	208nm,0.7s,3μm0.9nm						
PLAI	**Plampang**	**7.92**	**249**	P	**P**	**18 47 09.7**	**-1.2**
PLAI	**Plampang**	**7.92**	**249**	P	**P**	**18 47 09.2**	**-1.7**
	549nm,0.7s,4μm3.4nm						
MPSI	**Mapaga**	**8.27**	**320**	P	**P**	**18 47 15.2**	**+0.8**
	60nm,0.7s,2μm						
TOLI2	**Tolitoli**	**8.37**	**328**	P	**P**	**18 47 15.0**	**-0.4**
TOLI2	**Tolitoli**	**8.37**	**328**	P	**P**	**18 47 15.2**	**-0.2**
TWSI	**Taliwang, Sumb**	**8.73**	**251**	P	**P**	**18 47 17.6**	**-1.4**
	122nm,0.7s,3μm						
KMPI	**Kaimana, Papua**	**8.74**	**75**	P	**P**	**18 47 19.2**	**+0.1**
	1μm,0.6s,18μm						
MTN	**Manton Dam**	**8.92**	**140**	P	**P**	**18 47 21.2**	**+0.3**
MTN	**Manton Dam**	**8.92**	**140**	P	**P**	**18 47 21.7**	**+0.8**
KDU	**Kakadu**	**9.73**	**133**	P	**P**	**18 47 29.4**	**+0.3**
RKPI	**Ransiki, Papua**	**9.96**	**64**	P	**P**	**18 47 32.5**	**+0.9**
	312nm,0.6s,5μm						
SRBI	**Singaraja**	**10.17**	**258**	P	**P**	**18 47 34.0**	**+0.3**
	64nm,1.2s						
KNRA	**Kununurra**	**10.20**	**161**	P	**P**	**18 47 34.5**	**+0.5**
KNRA	**Kununurra**	**10.20**	**161**	P	**P**	**18 47 34.4**	**+0.5**
DNP	**Denpasar**	**10.30**	**255**	P	**P**	**18 47 35.9**	**+0.8**
	205nm,0.4s						
IGBI	**Denpasar**	**10.40**	**254**	P	**P**	**18 47 34.8**	**-1.3**
	130nm,0.4s,7μm						
BBKI	**Banjar Baru**	**10.68**	**283**	P	**P**	**18 47 39.9**	**+0.9**
	421nm,0.9s						
JAGI	**Jajag, Banyuwa**	**11.28**	**257**	P	**P**	**18 47 43.7**	**-1.4**
JAGI	**Jajag, Banyuwa**	**11.28**	**257**	P	**P**	**18 47 44.3**	**-0.8**
JAGI	**Jajag, Banyuwa**	**11.28**	**257**	P	**P**	**18 47 42.5**	**-2.6**
MTKI	**Muara Teweh, K**	**11.50**	**296**	P	**P**	**18 47 47.2**	**-0.2**
	244nm,0.9s,2μm						
BLJI	**Banyuglugur**	**11.70**	**261**	P	**P**	**18 47 47.2**	**-2.3**
	98nm,0.7s						
SRPI	**Serui, Papua**	**11.71**	**70**	P	**P**	**18 47 50.6**	**+1.0**
	129nm,0.6s,2μm						
GMJI	**Gumukmas**	**11.93**	**258**	P	**P**	**18 47 50.2**	**-1.6**
	53nm,0.5s						
BWJI	**Bawean**	**12.53**	**270**	P	**P**	**18 47 58.4**	**+0.3**
	300nm,1.0s						
GRJI	**Gresik**	**12.72**	**265**	P	**P**	**18 48 00.0**	**-0.1**
	391nm,0.8s,3μm						
DAV	**Davao City (W)**	**13.01**	**1**	P	**P**	**18 48 01.1**	**-1.8**
MYLDM	**Lahad Datu**	**13.01**	**329**	P	**P**	**18 48 01.5**	**-1.5**
SMPI	**Sarmi**	**14.01**	**74**	P	**P**	**18 48 14.2**	**+0.9**
	50nm,0.8s						
WOJI	**Wonogiri, Jawa**	**14.34**	**262**	P	**P**	**18 48 13.7**	**-3.1**
	80nm,1.3s						
UGM	**Wanagama**	**14.74**	**262**	P	**P**	**18 48 18.6**	**-2.3**
UGM	**Wanagama**	**14.74**	**262**	P	**P**	**18 48 19.8**	**-1.2**
UGM	**Wanagama**	**14.74**	**262**	P	**P**	**18 48 18.5**	**-2.5**
	178nm,1.3s						
SMRI	**Semarang**	**14.75**	**265**	P	**P**	**18 48 20.2**	**-0.9**
SMRI	**Semarang**	**14.75**	**265**	P	**P**	**18 48 21.8**	**+0.7**
SMRI	**Semarang**	**14.75**	**265**	P	**P**	**18 48 20.1**	**-0.9**
	77nm,0.4s						
YOGI	**Yogyakarta**	**14.96**	**262**	P	**P**	**18 48 20.4**	**-2.8**
	128nm,1.1s						
KKM	**Kota Kinabalu**	**15.00**	**323**	P	**P**	**18 48 21.4**	**-2.2**
STKI	**Sintang**	**15.02**	**293**	P	**P**	**18 48 22.7**	**-1.1**
	100nm,0.9s						
GENI	**Genyem**	**15.26**	**78**	P	**P**	**18 48 26.5**	**+0.3**
	257nm,0.6s,6μm						
SBUM	**Sibu**	**15.50**	**303**	P	**P**	**18 48 27.6**	**-1.1**
JAY	**Jayapura**	**15.79**	**78**	P	**P**	**18 48 30.6**	**-1.2**
	34nm,0.9s						
MBWA	**Marble Bar**	**15.97**	**199**	P	**P**	**18 48 32.7**	**-0.7**
MBWA	**Marble Bar**	**15.97**	**199**	P	**P**	**18 48 32.7**	**-0.7**
KPJI	**Karang Pucung**	**16.27**	**264**	P	**P**	**18 48 34.8**	**-1.4**
	416nm,0.8s,3μm						
WB0	**Warramunga Arr**	**16.30**	**148**	P	**P**	**18 48 36.1**	**-0.4**
PSA00	**Pilbara Seismi**	**16.33**	**198**	P	**P**	**18 48 36.2**	**-0.5**
PSA00	**Pilbara Seismi**	**16.33**	**198**	P	**P**	**18 48 35.1**	**-1.5**
PSA00	**Pilbara Seismi**	**16.33**	**198**	P	**P**	**18 48 36.2**	**-0.5**
WRAB	**Tennant Creek**	**16.42**	**148**	P	**P**	**18 48 37.3**	**-0.3**
WRAB	**Tennant Creek**	**16.42**	**148**	P	**P**	**18 48 37.5**	**-0.1**
WRA	**Warramunga Arr**	**16.42**	**148**	P	**P**	**18 48 37.5**	**-0.1**
	91nm,0.7s,baz=335,slow=8.6,SNR=369						
WRA				S	**S**	**18 51 22.4**	**-1.3**
	64nm,0.9s,baz=323,slow=18,SNR=25						
WB2	**Warramunga Arr**	**16.43**	**148**	P	**P**	**18 48 37.5**	**-0.1**
WR0	**Warramunga Arr**	**16.54**	**148**	P	**P**	**18 48 38.8**	**+0.1**
KSM	**Kuching**	**16.68**	**296**	P	**P**	**18 48 40.0**	**0.0**
KSM	**Kuching**	**16.68**	**296**	P	**P**	**18 48 40.2**	**+0.2**
CMJI	**Cimerak**	**16.77**	**263**	P	**P**	**18 48 38.1**	**-2.8**
	383nm,0.8s,3μm						
JCJI	**Jatiwangi**	**16.89**	**267**	P	**P**	**18 48 41.2**	**-0.7**
	292nm,0.9s						
BBJI	**Bungbulang**	**17.54**	**264**	P	**P**	**18 48 46.6**	**-1.4**
LEM	**Lembang**	**17.54**	**266**	P	**P**	**18 48 47.4**	**-0.7**
	209nm,0.7s,2μm						
LEM	**Lembang**	**17.54**	**266**	P	**P**	**18 48 48.4**	**+0.2**
	138nm,0.6s,baz=42,slow=8.8,SNR=44						
LEM				S	**S**	**18 51 41.9**	**-0.6**
	48nm,1.0s,baz=36,slow=18,SNR=3.6						
CNJI	**Cibinong**	**18.05**	**265**	P	**P**	**18 48 51.2**	**-1.3**
	277nm,1.2s,3μm718nm						
CBJI	**Citeko**	**18.30**	**268**	P	**P**	**18 48 53.4**	**-1.4**
	220nm,0.5s,3μm						
WRKA	**Warakurna**	**19.14**	**172**	P	**P**	**18 49 03.5**	**+1.1**
COEN	**Coen**	**19.32**	**115**	P	**P**	**18 49 04.4**	**+0.3**
COEN	**Coen**	**19.32**	**115**	P	**P**	**18 49 04.7**	**+0.6**
AS31	**Alice Springs**	**19.42**	**155**	P	**P**	**18 49 06.2**	**+1.3**
ASAR	**Alice Springs**	**19.42**	**155**	P	**P**	**18 49 06.2**	**+1.2**
	18nm,0.5s,baz=337,slow=9.4,SNR=447						
ASAR				S	**S**	**18 52 11.4**	**-1.1**
	11nm,0.8s,baz=341,slow=23,SNR=9.3						
ASAR				ScP	**ScP**	**18 55 43.6**	**-0.6**
	5.1nm,0.8s,baz=337,slow=2.6,SNR=6.5						
CGJI	**Cibinong**	**19.45**	**267**	P	**P**	**18 49 04.3**	**-1.0**
	97nm,0.4s,3μm						
GIRL	**Giralia**	**19.66**	**212**	P	**P**	**18 49 08.1**	**+1.1**
GIRL	**Giralia**	**19.66**	**212**	P	**P**	**18 49 07.2**	**+0.2**
XMI	**Christmas Isla**	**19.85**	**256**	P	**P**	**18 49 10.3**	**+1.3**
XMIS	**Christmas Isla**	**19.89**	**256**	P	**P**	**18 49 09.6**	**+0.2**
XMIS	**Christmas Isla**	**19.89**	**256**	P	**P**	**18 49 10.2**	**+0.8**
QIS	**Mount Isa**	**20.07**	**137**	P	**P**	**18 49 11.6**	**+0.7**
PMBI	**Palembang**	**20.65**	**278**	P	**P**	**18 49 16.4**	**+0.3**
KASI	**Kota Agung**	**20.66**	**270**	P	**P**	**18 49 15.0**	**-1.3**
	79nm,1.1s						
LWLI	**Liwa**	**21.12**	**272**	P	**P**	**18 49 18.4**	**-2.2**
	51nm,0.7s						
DSRI	**Dabo**	**21.36**	**284**	P	**P**	**18 49 22.8**	**+0.2**
	32nm,1.1s						
MEEK	**Meekatharra**	**21.46**	**196**	P	**P**	**18 49 23.7**	**+0.3**
PMG	**Port Moresby**	**21.96**	**100**	P	**P**	**18 49 27.9**	**-0.1**
PMG	**Port Moresby**	**21.96**	**100**	P	**P**	**18 49 27.8**	**-0.2**
	15nm,0.7s,baz=209,slow=4.3,SNR=6.5						
	15nm,0.7s						
MTSU	**Mount Surprise**	**22.16**	**125**	P	**P**	**18 49 30.6**	**+0.8**
MNAI	**Manna**	**22.27**	**273**	P	**P**	**18 49 28.9**	**-1.9**
MNAI	**Manna**	**22.27**	**273**	P	**P**	**18 49 31.3**	**+0.5**
MYKOM	**Kota Tinggi**	**22.74**	**289**	P	**P**	**18 49 35.5**	**+0.6**
OOD	**Oodnadatta**	**23.82**	**157**	P	**P**	**18 49 45.6**	**+1.2**
SDSI	**Sungai Dareh**	**24.30**	**281**	P	**P**	**18 49 48.7**	**-0.2**
	47nm,1.0s						
MORW	**Morawa**	**24.53**	**200**	P	**P**	**18 49 50.9**	**+0.2**
MORW	**Morawa**

MUN Mundaring 27.18 197 P P 18 50 14.3 +0.3
LCRK Leigh Creek 27.19 155 P P 18 50 15.4 +1.3
QLP Quilpie 27.31 141 P P 18 50 17.1 +1.9
GUMO Guam 27.55 45 P P 18 50 16.8 -0.6
GUMO Guam 27.55 45 P P 18 50 17.1 -0.3
50nm,0.5s,baz=327,slow=2.9,SNR=8.1
50nm,0.5s
RPSI Rantau Prapat 27.68 287 P P 18 50 18.6 0.0
NWAO Narrogin (SRO) 27.80 195 P P 18 50 19.9 +0.6
NWAO Narrogin (SRO) 27.80 195 P P 18 50 20.0 +0.6
NWAO Narrogin (SRO) 27.80 195 P P 18 50 20.1 +0.7
BBOO Buckleboo 28.50 161 P P 18 50 25.9 +0.4
BBOO Buckleboo 28.50 161 P P 18 50 26.6 +1.1
GSI Gunungsitoli 28.58 284 P P 18 50 24.5 -2.0
GSI Gunungsitoli 28.58 284 P P 18 50 26.2 -0.3
GSI Gunungsitoli 28.58 284 P P 18 50 24.9 -1.6
76nm,1.1s
SRIT Nakonsritamara 29.41 299 P P 18 50 33.6 -0.1
RKGY Rocky Gully 29.46 194 P P 18 50 36.0 +2.2
TPUB Ta-pu 29.49 351 P P 18 50 33.7 -0.5
TPUB Ta-pu 29.49 351 P P 18 50 34.2 0.0
RK1H Rockhampton Ha 29.81 128 P P 18 50 37.2 +0.2
STKA Stephens Creek 29.92 151 P P 18 50 39.1 +1.2
STKA Stephens Creek 29.92 151 P P 18 50 39.0 +1.2
11nm,0.5s,baz=332,slow=8.3,SNR=52
STKA S **S 18 54 55.5 -1.6**
4.7nm,1.0s,baz=345,slow=20,SNR=2.3
11nm,0.5s
HTT Hallett 30.09 157 P P 18 50 41.1 +1.8
LHMI Lhok Sumawe 30.39 291 P P 18 50 41.4 -0.7
LHMI Lhok Sumawe 30.39 291 P P 18 50 41.4 -0.7
89nm,0.9s
MLSI Meulaboh, Aceh 30.57 289 P P 18 50 42.5 -1.2
83nm,0.8s
YHNB Yeheng 30.73 353 P P 18 50 44.2 -0.8
YHNB Yeheng 30.73 353 P P 18 50 44.7 -0.3
EIDS Eidsvold 31.32 131 P P 18 50 49.5 -0.5
EIDS IAmb IAmb 18 52 28.7
comp=Z,14nm,0.9s
CMSA Cobar Meteorol 31.79 146 P P 18 50 55.3 +1.4
JOW Kunigami 32.79 5 P P 18 51 02.2 -0.2
JOW IAmb IAmb 18 51 02.8
comp=Z,62nm,1.2s
SRDT SRDT 32.89 308 P P 18 51 04.2 +0.8
ARPS Mount Arapiles 34.16 156 P P 18 51 15.4 +1.6
SLVN Son La 34.32 323 P P 18 51 15.5 +0.1
SLVN IAmb IAmb 18 51 17.9
comp=Z,18nm,1.2s
ARMA Armidale 34.70 138 P P 18 51 20.6 +2.0
ARMA IAmb IAmb 18 52 40.5
comp=Z,59nm,1.7s
ARMA Armidale 34.70 138 P P 18 51 20.9 +2.3
YNG Young 35.36 146 P P 18 51 26.1 +2.2
PATS Pohnpei 35.37 69 P P 18 51 24.4 +0.1
CM31 Chiang Mai Arr 35.56 314 P P 18 51 25.3 -0.5
CM31 IAmb IAmb 18 51 27.8
comp=Z,29nm,1.1s
CMAR Chiang Mai Arr 35.56 314 P P 18 51 25.9 +0.1
CMAR Chiang Mai Arr 35.56 314 P P 18 51 26.6 +0.9
comp=Z,12nm,0.8s,baz=144,slow=6.9,SNR=88
CMAR ScP **ScP 18 56 34.9 +1.1**
comp=Z,3.6nm,0.8s,baz=160,slow=3.4,SNR=19
comp=Z,12nm,0.8s
CHTO Chiang Mai 35.80 314 P P 18 51 28.0 +0.3
CHTO IAmb IAmb 18 51 29.6
comp=Z,31nm,1.1s
TOO Toolangi 36.42 152 P P 18 51 33.0 +0.3
TOO IAmb IAmb 18 51 35.9
comp=Z,27nm,1.4s
TOO Toolangi 36.42 152 P P 18 51 35.0 +2.4
CAN Canberra 36.45 146 P P 18 51 32.9 0.0
CAN IAmb IAmb 18 51 35.9
comp=Z,28nm,0.6s
CAN Canberra 36.45 146 P P 18 51 35.2 +2.3
CAN Canberra 36.45 146 P P 18 51 35.2 +2.3
CAN pP **PP 18 53 11.9 -4.3**
CNB Canberra Magne 36.65 146 P P 18 51 36.8 +2.2
JCJ Chichijima 36.77 26 P P 18 51 34.5 -1.1
JCJ Chichijima 36.77 26 P P 18 51 36.6 +1.0
WHN Wuhan 37.82 345 ⇓P P 18 51 45.8 +1.7
KMI Kunming 37.92 326 ⇓P P 18 51 47.0 +1.7
KMI pmax pmax
comp=Z,11nm,1.3s
ENH Enshi 39.12 338 P P 18 51 54.9 +0.2
JNU Nakatsue 39.29 7 P P 18 51 56.0 0.0
JNU IAmb IAmb 18 52 23.3
comp=Z,122nm,2.0s
JNU Nakatsue 39.29 7 P P 18 51 56.5 +0.5
MND Mandalay 39.89 315 P P 18 52 01.4 +0.4
TNCH TengChong 40.36 321 ⇑P P 18 52 06.0 +1.1
TNCH pP pP 18 53 39.9 -1.3
TNCH PP **PP 18 53 53.8 -0.1**
TNCH pmax pmax
comp=Z,14nm,1.0s
JMN Monobe 40.37 11 P P 18 52 04.7 +0.1
JMN IAmb IAmb 18 52 07.1
comp=Z,42nm,0.9s
JMN Monobe 40.37 11 P P 18 52 05.8 +1.2
JTU Tsushima 40.51 5 P P 18 52 06.5 +0.8
JTU Tsushima 40.51 5 P P 18 52 06.6 +0.9
TJN Taejon 42.22 3 P P 18 52 19.8 +0.6
TJN Taejon 42.22 3 P P 18 52 20.3 +1.1
comp=Z,177nm,0.8s
INU Inuyama 42.61 14 P P 18 52 21.8 -0.5
INU Inuyama 42.61 14 P P 18 52 23.3 +1.0
INU Inuyama 42.61 14 P P 18 52 23.1 +0.8
NOUC Port Laguerre 42.73 116 P P 18 52 24.4 +0.9
XAN Xi'an 42.73 340 ⇑P P 18 52 23.3 -0.1
XAN pmax pmax
comp=Z,13nm,0.8s
XAN Xi'an 42.73 340 P P 18 52 23.0 -0.3
DZM Mont Dzumac 42.85 116 P P 18 52 25.6 +1.0
KSAR Wonju Array Be 43.30 3 P P 18 52 28.9 +1.2
KSRS Korea Array 43.32 3 P P 18 52 29.1 +1.3
comp=Z,14nm,0.6s,baz=179,slow=8.7,SNR=73
KSRS PcP **PcP 18 54 04.8 +0.5**
comp=Z,2.4nm,0.7s,baz=187,slow=3.3,SNR=4.8
comp=Z,14nm,0.6s
KS19 Wonju Array Si 43.36 3 P P 18 52 28.6 +0.4
KS19 IAmb IAmb 18 52 30.0
comp=Z,35nm,1.2s
MAJO Matsushiro 44.04 15 P P 18 52 33.4 0.0
MAJO IAmb IAmb 18 52 34.3
comp=Z,29nm,0.8s
MAJO Matsushiro 44.04 15 P P 18 52 34.0 +0.5
MAJO Matsushiro 44.04 15 P P 18 52 33.6 +0.1
MAJO PcP **PcP 18 54 07.5 +0.7**
MAJO pP **pP 18 54 12.9 +1.5**
MJAR Matsushiro Arr 44.04 15 P P 18 52 32.4 -1.1
comp=Z,25nm,0.8s,baz=194,slow=9.0,SNR=98
MJAR PcP **PcP 18 54 06.4 -0.4**
comp=Z,2.1nm,0.9s,baz=180,slow=3.4,SNR=3.8
MJAR PP **PP 18 54 22.6 -4.6**
comp=Z,1.5nm,1.0s,baz=183,slow=8.4,SNR=4.0
MJAR ScP **ScP 18 57 06.5 -0.3**
comp=Z,1.8nm,0.7s,baz=177,slow=4.9,SNR=6.4
comp=Z,25nm,0.8s
MJB9 Matsu-Tunnel 44.05 15 P P 18 52 34.4 +0.9
MJB9 IAmb IAmb 18 52 35.3
comp=Z,29nm,0.8s
SHL Shillong 45.13 315 P P 18 52 41.8 -0.4
SHL IAmb IAmb 18 52 42.8
comp=Z,42nm,1.4s
JSD Sado 45.47 14 P P 18 52 44.6 +0.2
JSD IAmb IAmb 18 52 45.5
comp=Z,33nm,0.5s
JSD Sado 45.47 14 P P 18 52 45.4 +1.0
JMM Marumori 46.00 17 P P 18 52 48.7 +0.3
JMM Marumori 46.00 17 P P 18 52 49.7 +1.3
LZH Lanzhou 46.45 336 *eP* **P 18 52 53.5 +1.4**
LZH pmax pmax
comp=Z,18nm,1.6s
BJT Baijiatuau 46.57 350 P P 18 52 53.0 +0.4
LSA Lhasa 48.30 319 P P 18 53 07.8 +1.3
BTO Baotou 48.46 344 *eP* P 18 53 12.4 +5.4
BTO pP pP 18 54 54.3 +5.7
BTO sP sP 18 55 50.4 +1.4
BTO S S 18 59 37.8 +10
BTO pmax pmax
comp=Z,30nm,0.5s
BTO pmax pmax
comp=Z,320nm,6.9s
JTM Tenmabayashi 48.79 16 P P 18 53 10.4 +1.1
JTM Tenmabayashi 48.79 16 P P 18 53 10.8 +1.5

ODAN Odare 49.11 314 *eP* **P 18 53 12.7 +0.5**
comp=Z,42nm,0.5s
TAPN Taplejung 49.17 314 *eP* **P 18 53 13.1 +0.4**
comp=Z,54nm,0.4s
CN2 Changchun 49.59 0 *eP* **P 18 53 15.5 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
RAMN Ramite 49.73 313 *eP* **P 18 53 18.0 +1.2**
comp=Z,205nm,0.8s
USA0B Ussuriysk Arra 50.35 6 P P 18 53 20.9 +0.2
USA0B IAmb IAmb 18 53 22.4
comp=Z,22nm,0.7s
USRK Ussuriysk Ar. 50.35 6 P P 18 53 21.1 +0.4
USRK Ussuriysk Ar. 50.35 6 P P 18 53 21.5 +0.8
comp=Z,19nm,0.5s,baz=190,slow=7.1,SNR=43
comp=Z,19nm,0.5s
XLT XiLinHaoTe 50.37 351 *eP* **P 18 53 21.6 +0.6**
XLT pmax pmax
comp=Z,13nm,0.8s
XLT pmax pmax
comp=Z,72nm,9.0s
JIRN Jiri 50.44 314 *eP* **P 18 53 22.5 +0.4**
comp=Z,76nm,0.6s
ERM Erimo 50.52 17 P P 18 53 23.3 +1.4
ERM IAmb IAmb 18 54 55.4
comp=Z,69nm,1.2s
ERM Erimo 50.52 17 P P 18 53 23.5 +1.6
ERM Erimo 50.52 17 P P 18 53 23.3 +1.4
MDJ Mudanjiang 50.55 4 P P 18 53 23.4 +1.3
GUN Gumba 50.81 314 *eP* **P 18 53 25.2 +0.4**
comp=Z,117nm,0.6s
GTA Gaotai 50.95 335 *eP* **P 18 53 26.4 +1.0**
GTA S **S 19 00 00.8 -0.9**
GTA pmax pmax
comp=Z,12nm,0.9s
PKI Pulchoki 50.96 313 *eP* **P 18 53 25.9 +0.1**
comp=Z,83nm,0.6s
PKIN Phulchoki 50.97 313 *eP* **P 18 53 25.9 0.0**
comp=Z,100nm,0.6s
KKN Kakani 51.17 313 *eP* **P 18 53 27.7 +0.4**
comp=Z,35nm,0.4s
DMN Daman 51.20 313 *eP* **P 18 53 27.9 +0.4**
comp=Z,84nm,0.6s
GKN Gorkha 51.76 313 *eP* **P 18 53 31.9 +0.4**
comp=Z,194nm,0.4s
ASAJ Asahikawa 52.30 16 P P 18 53 36.0 +1.2
comp=Z,27nm,0.9s,baz=262,slow=11,SNR=6.0
comp=Z,27nm,0.9s
JKA Kamikawa-asahi 52.30 16 P P 18 53 36.0 +1.3
JKA IAmb IAmb 18 53 36.8
comp=Z,50nm,1.1s
KOLN Koldanda 52.40 312 *eP* **P 18 53 36.7 +0.6**
comp=Z,76nm,0.4s
DGAR Diego Garcia 52.43 265 P P 18 53 37.6 +1.3
DGAR Diego Garcia 52.43 265 P P 18 53 37.7 +1.4
DANN Dangsing 52.60 313 *eP* **P 18 53 37.9 +0.3**
comp=Z,80nm,0.6s
PYUN Piuthan 53.03 312 *eP* **P 18 53 41.1 +0.5**
comp=Z,165nm,0.7s
MNCI Minicoy 53.95 285 P P 18 53 47.1 0.0
RPZ Rata Peaks 54.94 141 P P 18 53 54.0 +0.5
RPZ IAmb IAmb 18 54 35.0
comp=Z,130nm,1.8s
MRNZ Matariki Terra 54.97 137 P P 18 53 56.8 +3.0
YSS Yuzh-Sakhalins 54.98 15 P P 18 53 53.6 -0.1
YSS IAmb IAmb 18 53 56.0
comp=Z,68nm,1.6s
TUWZ Tuamarina 55.78 137 P P 18 53 59.3 -0.1
GVZ Greta Valley S 55.86 139 P P 18 54 00.4 +0.5
ULN Ulaanbaatar 56.00 345 P P 18 54 01.3 +0.3
ULN Ulaanbaatar 56.00 345 P P 18 54 02.0 +1.1
HEH HeiHe 56.07 2 *eP* **P 18 54 01.9 +0.7**
HEH pmax pmax
comp=Z,51nm,0.9s
SONM Songino Array 56.14 345 P P 18 54 02.4 +0.5
SONM Songino Array 56.14 345 P P 18 54 02.9 +1.0
comp=Z,3.5nm,0.6s,baz=156,slow=8.1,SNR=17
comp=Z,3.5nm,0.6s
BKZ Black Stump Fm 56.66 133 P P 18 54 03.9 -1.8
RTZ Ruatahuna 56.82 133 P P 18 54 06.8 +0.1
MXZ Matakaoa Point 57.43 131 P P 18 54 09.6 -1.2
MXZ IAmb IAmb 18 55 23.8
comp=Z,59nm,1.1s
CASY Casey 61.03 187 P P 18 54 35.0 +0.7
NIL Nilore 63.04 312 P P 18 54 48.5 +0.5
NIL IAmb IAmb 18 54 49.2
comp=Z,38nm,0.6s
NIL Nilore 63.04 312 P P 18 54 48.6 +0.5
KSH Kashi 64.16 319 P P 18 54 56.9 +1.7
KSH S **S 19 02 50.9 +0.9**
KSH pmax pmax
comp=Z,28nm,0.7s
TARG Taragay, Kyrgy 64.25 322 P P 18 54 55.5 -0.6
PRZ Przheval'sk 64.34 323 P P 18 54 56.5 +0.2
MK31 Makanchi Array 64.89 329 P P 18 54 59.2 -0.3
MKAR Makanchi Array 64.89 329 P P 18 54 58.7 -0.8
MKAR Makanchi Array 64.89 329 P P 18 55 00.2 +0.7
comp=Z,12nm,0.6s,baz=122,slow=7.6,SNR=104
MKAR S **S 19 02 56.9 -1.3**
comp=Z,0.9nm,0.9s,baz=150,slow=13,SNR=3.7
comp=Z,12nm,0.6s
PEA0B Petropavlovsk- 64.98 21 P P 18 55 01.0 +1.1
PEA0B PcP **PcP 18 55 27.5 +0.1**
PETK Petropavlovsk- 64.98 21 P P 18 55 00.1 +0.2
PETK PcP **PcP 18 55 27.8 +0.4**
PETK Petropavlovsk- 64.98 21 P P 18 55 00.8 +0.9
comp=Z,12nm,0.6s,baz=208,slow=3.2,SNR=39
PETK PcP **PcP 18 55 27.5 +0.1**
comp=Z,3.0nm,0.6s,baz=176,slow=1.5,SNR=4.7
comp=Z,12nm,0.6s
MAKZ Makanchi 65.06 329 P P 18 55 00.8 +0.3
MAKZ Makanchi 65.06 329 P P 18 55 01.3 +0.7
NRN Naryn 65.20 321 P P 18 55 02.2 +0.2
PET Petropavlovsk 65.26 21 P P 18 55 02.5 +0.9
PET IAmb IAmb 18 55 04.0
comp=Z,32nm,1.0s
PET Petropavlovsk 65.26 21 P P 18 55 02.8 +1.2
BOOM Boomskoye usch 65.83 322 P P 18 55 06.0 +0.4
BOOM IAmb IAmb 18 55 07.7
comp=Z,18nm,0.8s
TKM2 Tokmak 2 66.28 322 P P 18 55 09.4 +0.9
SNR=14
KBK Karagaybulak 66.53 322 P P 18 55 11.6 +1.5
SNR=6.3
KBL Kabul 66.56 312 P P 18 55 10.1 -0.3
KBL IAmb IAmb 18 55 12.3
comp=Z,28nm,0.8s
AAK Ala-Archa 66.80 322 P P 18 55 13.0 +1.3
SNR=22
AAK Ala-Archa 66.80 322 P P 18 55 12.6 +0.9
AAK IAmb IAmb 18 55 13.9
comp=Z,15nm,0.8s
AAK Ala-Archa 66.80 322 P P 18 55 12.8 +1.1
AML Almayashu 67.02 321 P P 18 55 14.5 +1.1
SNR=18
USP Ospenovka 67.14 322 P P 18 55 14.6 +1.0
SNR=18
EKS2 Erkin-Say 67.26 321 P P 18 55 16.2 +1.8
SNR=6.4
BTK Batken 67.84 318 P P 18 55 18.2 +0.2
YAK Yakutsk 67.94 2 P P 18 55 17.7 -0.2
YAK IAmb IAmb 18 55 19.5
comp=Z,49nm,0.8s
YAK Yakutsk 67.94 2 P P 18 55 18.6 +0.7
SIMJ Simiganj 68.42 316 P P 18 55 22.0 +0.4
MA2 Magadan 68.46 14 P P 18 55 22.4 +1.1
MA2 IAmb IAmb 18 55 23.3
comp=Z,32nm,0.8s
MA2 Magadan 68.46 14 P P 18 55 21.7 +0.4
comp=Z,22nm,0.7s,baz=167,slow=6.6,SNR=10
comp=Z,22nm,0.7s
MA2 Magadan 68.46 14 P P 18 55 22.8 +1.5
ZAA0 Zalesovo Array 68.69 336 P P 18 55 22.0 -0.7
ZALV Zalesovo Beam 68.69 336 P P 18 55 22.1 -0.6
ZALV Zalesovo Beam 68.69 336 P P 18 55 22.4 -0.2
comp=Z,3.0nm,0.4s,baz=135,slow=5.4,SNR=19
ZALV S **S 19 03 37.8 -4.7**
comp=Z,1.7nm,0.6s,baz=148,slow=12,SNR=8.5
comp=Z,3.0nm,0.4s
RER Riviere de l'E 68.75 250 P P 18 55 25.0 +1.0
KURBB Kurchatov Arra 69.27 330 P P 18 55 26.6 +0.3
comp=Z,5.2nm,0.8s,baz=133,slow=5.0,SNR=48
KURBB S **S 19 03 47.0 -2.3**
comp=Z,0.7nm,0.8s,baz=137,slow=12,SNR=5.9
comp=Z,5.2nm,0.8s
KURK Kurchatov 69.28 330 P P 18 55 26.6 +0.3

KURK Kurchatov 69.28 330 P P 18 55 26.8 +0.5
MSEY Mahe Island 69.44 267 P P 18 55 29.7 +1.5
KK31 Karatay Array 69.54 320 P P 18 55 28.0 -0.1
KKAR Karatay Array 69.54 320 P P 18 55 28.0 -0.1
KKAR Karatay Array 69.54 320 P P 18 55 27.9 -0.1
HRA Herat 71.65 309 P P 18 55 40.2 -0.8
AMKA Amchitka 73.45 32 P P 18 55 50.1 -0.6
UOSS Minazif 73.79 298 P P 18 55 52.5 -0.7
MAW Mawson 74.17 201 P P 18 55 55.1 +0.7
comp=Z,1.0nm,0.4s,baz=95,slow=5.9,SNR=6.4
MAW pP **pwP 18 57 51.4 -0.9**
comp=Z,1.3nm,0.6s,baz=45,slow=4.3,SNR=2.7
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 74.77 329 P P 18 55 58.5 +0.3
comp=Z,1.5nm,0.4s,baz=137,slow=9.7,SNR=22
comp=Z,1.5nm,0.4s
BRVK Borovoye 74.84 329 P P 18 55 58.0 -0.5
KIWB Kanaga Island 75.59 33 P P 18 56 03.9 +1.2
ADK Adak 75.86 33 P P 18 56 05.1 +0.9
GEYT Alibeck 76.00 311 P P 18 56 04.6 -0.8
GEYT Alibeck 76.00 311 P P 18 56 06.0 +0.6
comp=Z,8.5nm,0.8s,baz=134,slow=4.3,SNR=14
comp=Z,8.5nm,0.8s
GYA0B ALIBECK ARRAY 76.00 311 P P 18 56 04.3 -1.1
VOI Vohitsoka 77.09 249 P P 18 56 12.0 +0.2
VOI IAmb IAmb 18 56 12.9
comp=Z,61nm,1.7s
ATKA Atka Island 77.36 33 P P 18 56 12.9 +0.5
TIXI Tiksi 77.55 1 P P 18 56 12.8 -0.2
TIXI IAmb IAmb 18 56 14.1
comp=Z,14nm,0.6s
KEKH Kekaha 78.49 66 P P 18 56 18.5 -0.7
ABKAR Abkulak array 78.84 323 P P 18 56 19.6 -0.8
ABKAR Abkulak array 78.84 323 P P 18 56 19.7 -0.8
ABKAR IAmb IAmb 18 56 21.8
comp=Z,7.5nm,1.2s
AKUT Akutan 82.77 34 P P 18 56 41.5 +0.9
QSPA South Pole Qui 83.95 180 P P 18 56 47.0 +0.4
QSPA South Pole Qui 83.95 180 P P 18 56 46.9 +0.4
comp=Z,0.8nm,0.6s,baz=293,slow=0.7,SNR=7.7
QSPA pP **pwP 18 58 47.6 0.0**
comp=Z,2.7nm,0.8s,baz=259,slow=2.0,SNR=5.8
QSPA S **SKSac 19 06 12.6 -4.7**
comp=Z,1.0nm,1.2s,baz=281,slow=23,SNR=1.4
comp=Z,0.8nm,0.6s
SDPT Sand Point 86.07 33 P P 18 56 56.6 -0.1
L14K Kuka Creek 86.77 27 P P 18 57 00.1 +0.2
L14K IAmb IAmb 18 57 05.2
comp=Z,47nm,1.7s
F15K North Star Dit 87.41 23 P P 18 57 02.0 -0.9
F15K IAmb IAmb 18 57 16.6
comp=Z,64nm,1.6s
CHGN Chignik 87.45 33 P P 18 57 03.0 -0.1
N15K Kwethluk River 87.63 29 P P 18 57 04.8 +0.8
L16K Owhat River 88.34 27 P P 18 57 08.0 +0.7
L16K IAmb IAmb 18 58 15.6
comp=Z,24nm,1.6s
R17K Ugashik Creek 88.85 32 P P 18 57 09.1 -0.6
J17K VÄBM Dome 88.98 26 P P 18 57 11.0 +0.8
J17K IAmb IAmb 18 58 44.3
comp=Z,43nm,1.8s
K17K Iditarod 89.14 27 P P 18 57 11.6 +0.6
K17K IAmb IAmb 18 57 13.2
comp=Z,11nm,1.0s
H18K Honhosa River 89.74 24 P P 18 57 13.4 -0.3
H18K IAmb IAmb 18 59 00.6
comp=Z,55nm,1.9s
N18K Kilae Creek 89.77 29 P P 18 57 13.8 -0.2
N18K IAmb IAmb 18 57 47.0
comp=Z,57nm,2.0s
SII Sitkinak Islan 89.80 33 P P 18 57 14.6 +0.4
SVW2 Sparrevohn 90.01 28 P P 18 57 14.4 -0.7
SVW2 IAmb IAmb 18 59 39.5
comp=Z,22nm,1.5s
E19K Redstone River 90.75 22 P P 18 57 18.4 +0.1
E19K IAmb IAmb 18 57 20.0
comp=Z,9.1nm,0.8s
I23K Minto, Yukon-K 93.47 25 P P 18 57 30.6 -0.3
I23K IAmb IAmb 18 57 32.1
comp=Z,9.7nm,0.8s
RND Reindeer 93.49 27 P P 18 57 29.5 -1.6
RND IAmb IAmb 18 57 31.6
comp=Z,8.8nm,1.0s
SML Sawmill 93.56 28 P P 18 57 30.1 -1.4
SML IAmb IAmb 18 57 32.2
comp=Z,9.3nm,0.8s
WRH Wood River Hil 93.94 26 P P 18 57 31.7 -1.3
WRH IAmb IAmb 18 57 33.2
comp=Z,7.4nm,1.0s
CCB Clear Creek Bu 94.08 26 P P 18 57 32.5 -1.2
CCB IAmb IAmb 18 57 34.1
comp=Z,7.7nm,1.0s
H24K Noodor Dome 94.16 24 P P 18 57 33.6 -0.4
H24K IAmb IAmb 18 57 35.6
comp=Z,7.8nm,0.9s
ILAR Eielson Array 94.48 25 P P 18 57 34.0 -1.5
comp=Z,1.6nm,0.8s,baz=240,slow=5.6,SNR=13
ILAR PP PP 19 01 24.6 -8.0
comp=Z,0.6nm,0.9s,baz=240,slow=7.1,SNR=3.0
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 95.04 309 P P 18 57 38.1 -0.7
comp=Z,0.8nm,0.7s,baz=190,slow=3.4,SNR=4.8
comp=Z,0.8nm,0.7s
SNAA Sanae 95.47 194 P P 18 57 39.8 -0.2
comp=Z,0.7nm,0.9s,baz=105,slow=20,SNR=2.3
SNAA pP **pwP 18 59 43.6 +1.3**
comp=Z,1.5nm,0.7s,baz=134,slow=5.6,SNR=3.5
comp=Z,0.7nm,0.9s
BOSA Boshof 95.86 241 P P 18 57 42.8 0.0
comp=Z,4.1nm,0.9s,baz=115,slow=2.5,SNR=5.0
comp=Z,4.1nm,0.9s
J26L Joseph Creek 95.90 26 P P 18 57 41.8 -0.3
J26L IAmb IAmb 18 57 43.1
comp=Z,4.8nm,0.8s
I28M Miner Creek 97.44 25 P P 18 57 49.1 +0.2
PDAR Pinedale Array 119.51 44 PKP PKPdf 19 03 01.2 -1.0
comp=Z,0.3nm,0.4s,baz=229,slow=1.0,SNR=3.3
ESDC Sonseca Array 123.47 314 PP PP 19 04 59.2 -0.8
comp=Z,0.3nm,0.7s,baz=76,slow=6.3,SNR=4.3
TORD Torodi Ar. Bea 123.99 282 PKP PKPdf 19 03 11.0 -0.2
comp=Z,0.9nm,0.7s,baz=55,slow=4.3,SNR=6.1
TXAR Lajitas Array 128.42 57 PKP PKiKP 19 03 20.1 -0.1
comp=Z,0.5nm,0.8s,baz=250,slow=2.7,SNR=4.6
TXAR SKPbc SKPbc 19 05 48.3
comp=Z,2.7nm,1.0s,baz=272,slow=3.5,SNR=13
DBIC Dimbokro 130.43 274 SKPbc SKPbc 19 05 55.8 -0.6
comp=Z,3.0nm,0.6s,baz=103,slow=1.1,SNR=6.0
PLCA Paso Flores 131.26 164 SKPbc SKPbc 19 05 57.9 -0.9
comp=Z,3.8nm,1.1s,baz=216,slow=5.6,SNR=3.8
LPAZ La Paz 154.18 149 PKPab PKPab 19 04 31.4 +1.1
comp=Z,0.8nm,0.6s,baz=177,slow=3.4,SNR=3.9
LPAZ pPKPab **pPKPab 19 06 35.9 +4.0**
comp=Z,0.8nm,0.4s,baz=255,slow=3.0,SNR=2.4

BEO ***14*** *18:56:43.9±1.2, 40°.66N×21°.29E, h5km±3km, ML2.3/4*
THE ***14*** *18:56:44.9, 40°.89N×21°.27E, h4km±4km, ML2.8/2, Error ellipse: s-maj=4.4km s-min=1.0km az=171.0*
SKO ***14*** *18:56:44.9, 40°.85N×21°.34E, h15km, ML2.4*
ATH ***14*** *18:56:45.4, 40°.71N×21°.43E, h9km±3km, ML2.3/7, Manual Solution by M.Papanikolaou First location: 2019/04/21 21:10:50, This location: 2019/04/21 21:10:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 14 km; Longitude uncertainty: 20 km*

ISC 14 18:56:45.5±0.8, 40°.80N±0°.03×21°.33E±0°.02, h13km±4km, n35, σ1§13/55, 3C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.04**	**116**	P	**Pg**	**18 56 47.8**	**-0.2**
FNA				S	**Sg**	**18 56 49.8**	**+0.1**
18μm,0.3s							
FNA	**Florina**	**0.04**	**116**	*e*Pg	**Pg**	**18 56 47.8**	**-0.2**
FNA				*e*Sg	**Sg**	**18 56 49.9**	**+0.1**
FNA	**Florina**	**0.04**	**116**	⇑*i*Pg	**Pg**	**18 56 47.8**	**-0.2**
FNA				*i* Sg	**Sg**	**18 56 50.0**	**+0.1**
FNA	**Florina**	**0.04**	**116**	P	**Pg**	**18 56 47.8**	**-0.2**
FNA				S	**Sg**	**18 56 49.9**	**+0.1**
NEST	**Nestorio**	**0.44**	**209**	P	**Pg**	**18 56 53.8**	**-0.5**
NEST				S	**Sg**	**18 57 01.4**	**+1.2**
548nm,0.4s							
NEST	**Nestorio**	**0.44**	**209**	P	**Pg**	**18 56 53.9**	**-0.4**
NEST				S	**Sg**	**18 56 59.3**	**-0.9**

KBN	**Korca**	**0.45**	**247**	P		**Pg**	**18 56 54.2**	**-0.2**
KBN				S		**Sg**	**18 57 00.4**	**0.0**
OHR	**Ohrid**	**0.51**	**308**	*e*Pg		**Pg**	**18 56 54.9**	**-0.6**
OHR				*e*Sg		**Sb**	**18 57 02.5**	**-1.0**
OHR	**Ohrid**	**0.51**	**308**	⇑*i*Pg		**Pg**	**18 56 54.8**	**-0.7**
OHR				*i* Sg		**Sb**	**18 57 02.5**	**-1.0**
OHR				*e*Lg		Lg	18 57 02.8	
	comp=N,421nm,0.6s							
OHR				*e*Lg		Lg	18 57 03.8	
	comp=E,466nm,0.5s							
PENT	**Pentalofos**	**0.62**	**193**	P		**Pg**	**18 56 56.8**	**-0.8**
GRG	**Griva**	**0.83**	**79**	P		**Pb**	**18 57 00.9**	**-0.8**
GRG	**Griva**	**0.83**	**79**	*i* Pg		**Pg**	**18 57 00.8**	**-0.8**
GRG				*i* Sg		**Sb**	**18 57 12.6**	**-0.2**
GRG	**Griva**	**0.83**	**79**	P		**Pg**	**18 57 00.6**	**-0.9**
KPRO	**Kipourio**	**0.85**	**178**	P		**Pg**	**18 57 02.3**	**+0.4**
KPRO				S		**Sn**	**18 57 16.9**	**+1.5**
KPRO	**Kipourio**	**0.85**	**178**	P		**Pg**	**18 57 00.6**	**-1.2**
VAY	**Valandovo**	**1.07**	**61**	*e*Pg		**Pb**	**18 57 05.2**	**-0.6**
VAY				*e*Sg		**Sb**	**18 57 19.5**	**-0.3**
VAY	**Valandovo**	**1.07**	**61**	*i* Pg		**Pb**	**18 57 05.3**	**-0.6**
VAY				*i* Sg		**Sn**	**18 57 19.7**	**-1.3**
VAY				*e*Lg		Lg	18 57 23.8	
	comp=E,30nm,0.6s							
VAY				*e*Lg		Lg	18 57 25.2	
	comp=N,53nm,0.8s							
STIP	**Stip**	**1.10**	**36**	*i* Pg		**Pn**	**18 57 08.3**	**+1.7**
STIP				*i* Sg		**Sn**	**18 57 26.5**	**+4.8**
SKO	**Skopje**	**1.17**	**4**	*i* Pg		**Pn**	**18 57 07.1**	**-0.5**
SKO				*i* Sg		**Sn**	**18 57 25.2**	**+1.8**
KNT	**Kendrikon**	**1.24**	**73**	P		**Pg**	**18 57 08.3**	**-1.1**
KNT	**Kendrikon**	**1.24**	**73**	⇑*i*Pg		**Pg**	**18 57 08.3**	**-1.1**
KNT				*i* Sg		**Sn**	**18 57 27.0**	**+1.8**
KNT	**Kendrikon**	**1.24**	**73**	P		**Pg**	**18 57 08.2**	**-1.1**
THE	**Thessaloniki**	**1.26**	**97**	*i* Sg		**Sn**	**18 57 27.8**	**+2.4**
THL	**Klokotos Trika**	**1.34**	**157**	P		**Pn**	**18 57 09.2**	**-0.7**
HORT	**Hortiatis**	**1.36**	**98**	P		**Pn**	**18 57 09.9**	**-0.4**
PEHC	**Pehcevo**	**1.54**	**50**	*i* Pn		**Pg**	**18 57 13.4**	**-1.6**
PEHC				*i* Sn		**Sg**	**18 57 34.1**	**-0.8**
SOH	**Sokhos**	**1.54**	**89**	*i* Pn		**Pn**	**18 57 12.7**	**0.0**
SOH				*i* Sg		**Sg**	**18 57 36.5**	**+1.5**
KKB	**Krupnik**	**1.71**	**52**	*i* Pn		**Pb**	**18 57 16.2**	**-0.6**
KKB				*i* Sn		**Sb**	**18 57 37.4**	**-0.7**
SRS	**Serrai**	**1.74**	**79**	*i* Pn		**Pb**	**18 57 17.0**	**-0.3**
PRVS	**Prvonek**	**1.79**	**18**	*e*Pn		**Pn**	**18 57 16.2**	**0.0**
AGG	**Agios Georgios**	**1.94**	**156**	P		**Pn**	**18 57 18.0**	**-0.1**
MMB	**Musomishta**	**1.97**	**67**	*i* Pn		**Pn**	**18 57 19.1**	**+0.5**
BARS	**Barje**	**2.05**	**10**	*e*Pn		**Pn**	**18 57 19.9**	**+0.3**
BARS	**Barje**	**2.05**	**10**	*i* Pn		**Pn**	**18 57 19.8**	**+0.2**
VTS	**Vitosha**	**2.31**	**38**	*e*Pn		**Pn**	**18 57 24.2**	**+0.9**
VTS				*e*Sn		**Sb**	**18 57 55.2**	**-0.4**

*NEIC **14** 19:20:42.5±0.7, 10°.8S±0°.1×164°.8E±0°.1, h10km±1km, mb4.5/7, Error ellipse: s-maj=22.7km s-min=17.3km az=68.0*
*IDC **14** 19:20:46.4±3.9, 10°.80S×164°.79E, h51km±32km, mb3.6/8, mbtmp3.9/9, ML4.9/2, MS3.1/1, Error ellipse: s-maj=29.9km s-min=20.6km az=59.0*
ISC 14 19:20:44.6±0.9, **10°.91S**±0°.09×**164°.8E**±0°.1, **h31km**, **n30**, σ1§**58**/25, **mb4.2**/12, **Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.04**	**286**	Pn		**Pn**	**19 21 58.1**	**+0.1**
HNR	**Honiara**	**5.04**	**286**	P		**Pn**	**19 21 59.2**	**+1.2**
	437nm,0.3s,baz=134,slow=6.7,SNR=12							
HNR				S		**Sn**	**19 22 55.0**	**-0.2**
	977nm,0.6s,baz=142,slow=24,SNR=2.0							
KOUNC	**Koumac, New Ca**	**9.61**	**183**	Pn		**Pn**	**19 23 02.6**	**+1.9**
DZM	**Mont Dzumac**	**11.21**	**172**	Pn		**Pn**	**19 23 24.4**	**+1.6**
DZM	**Mont Dzumac**	**11.21**	**172**	P		**Pn**	**19 23 25.0**	**+2.2**
	0.9nm,0.3s,baz=112,slow=18,SNR=82							
DZM				S		**Sn**	**19 25 22.8**	**-4.3**
	3.7nm,0.9s,baz=18,slow=20,SNR=1.3							
DZM				LR		LR	19 27 20.3	
	comp=Z,80nm,18.3s,baz=286,slow=35 3.3nm,0.4s							
ONTNC	**Ouen Toro**	**11.44**	**172**	Pn		**Pn**	**19 23 27.6**	**+1.7**
OUENC	**Ouen Island, N**	**11.61**	**171**	Pn		**Pn**	**19 23 30.0**	**+1.8**
CTA	**Charters Tower**	**20.09**	**241**	P		**P**	**19 25 16.0**	**+0.2**
	3.5nm,1.1s,baz=226,slow=16,SNR=1.9 3.5nm,1.1s							
CTAO	**Charters Tower**	**20.09**	**241**	P		**P**	**19 25 15.9**	**+0.2**
H11S2	**WAKE ISLAND Hy**	**29.27**	**4**	T		T	19 57 20.5	
	baz=184,slow=74,SNR=8.3							
H11S3	**WAKE ISLAND Hy**	**29.27**	**4**	T		T	19 57 23.8	
	baz=184							
H11S1	**WAKE ISLAND Hy**	**29.28**	**4**	T		T	19 57 23.1	
	baz=184,slow=74,SNR=5.0							
STKA	**Stephens Creek**	**29.94**	**222**	P		**P**	**19 26 50.7**	**+0.7**
	0.8nm,0.3s,baz=31,slow=9.8,SNR=4.8 0.8nm,0.3s							
H11N1	**WAKE ISLAND Hy**	**30.49**	**4**	T		T	19 58 50.5	
	baz=183,slow=75,SNR=2.7							
H11N3	**WAKE ISLAND Hy**	**30.50**	**4**	T		T	19 58 53.8	
	baz=183							
H11N2	**WAKE ISLAND Hy**	**30.51**	**4**	T		T	19 58 52.9	
	baz=183,slow=75,SNR=3.3							
WB0	**Warramunga Arr**	**30.61**	**250**	P		**P**	**19 26 55.4**	**-0.8**
WB0				IAmb		IAmb	19 27 16.1	
	comp=Z,4.5nm,1.4s							
WRA	**Warramunga Arr**	**30.70**	**249**	P		**P**	**19 26 55.9**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=80,slow=9.4,SNR=6.9 comp=Z,0.4nm,0.5s							
TOO	**Toolangi**	**31.74**	**210**	P		**P**	**19 27 07.2**	**+1.3**
TOO				IAmb		IAmb	19 27 14.4	
	comp=Z,4.9nm,1.1s							
ASAR	**Alice Springs**	**32.06**	**243**	P		**P**	**19 27 07.8**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=64,slow=10,SNR=9.4 comp=Z,0.4nm,0.6s							
BBOO	**Buckleboo**	**34.28**	**226**	P		**P**	**19 27 27.8**	**-0.3**
BBOO				IAmb		IAmb	19 27 50.7	
	comp=Z,10nm,1.1s							
KNRA	**Kununurra**	**35.40**	**258**	P		**P**	**19 27 36.5**	**-1.5**
KNRA				IAmb		IAmb	19 27 53.1	
	comp=Z,9.5nm,1.1s							
SONM	**Songino Array**	**78.03**	**324**	P		**P**	**19 32 40.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=155,slow=7.9,SNR=2.4 comp=Z,0.3nm,0.5s							
QSPA	**South Pole Qui**	**79.10**	**180**	P		**P**	**19 32 47.4**	**+1.5**
QSPA	**South Pole Qui**	**79.10**	**180**	P		**P**	**19 32 46.8**	**+0.9**
	comp=Z,3.0nm,1.0s,baz=56,slow=2.5,SNR=5.9 comp=Z,3.0nm,1.0s							
L19K	**White Mountain**	**79.32**	**18**	P		**P**	**19 32 47.2**	**+0.3**
L19K				IAmb		IAmb	19 32 59.4	
	comp=Z,7.2nm,1.4s							
ILAR	**Eielson Array**	**83.66**	**19**	P		**P**	**19 33 07.5**	**-2.3**
	comp=Z,0.2nm,0.6s,baz=245,slow=6.5,SNR=1.0 comp=Z,0.2nm,0.6s							
BCAR	**Beaver Creek A**	**84.29**	**22**	P		**P**	**19 33 13.7**	**+0.6**
MKAR	**Makanchi Array**	**92.81**	**317**	P		**P**	**19 33 53.2**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=79,slow=6.4,SNR=7.5 comp=Z,1.0nm,0.8s							
H03N3	**Juan Fernandez**	**105.06**	**129**	T		T	21 36 01.6	
	SNR=3.4							

*NNC **14** 19:25:13.8±1.0, 42°.15N×72°.53E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=13.9km s-min=4.5km az=5.0*
*SOME **14** 19:25:15.9, 42°.18N×72°.62E, h10km*
*KRNET **14** 19:25:15.6±0.1, 42°.18N×72°.58E, h21km, mb3.3*
*KNET **14** 19:25:17.6±0.4, 42°.27N×72°.74E, h7km±1km, ml2.6, Error ellipse: s-maj=2.6km s-min=2.0km az=121.0*
ISC 14 19:25:14.2±1.1, **42°.19N**±0°.02×**72°.65E**±0°.02, **h8**km±10km, **n70**, σ1§**20**/106, **42C-21D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**0.32**	**341**	⇓*e*P		**Pb**	**19 25 22.3**	**+0.1**
	baz=50							
MNAS				⇓*e*S		**Sb**	**19 25 27.1**	**-0.4**
	baz=50							
ARK	**Arkit**	**0.64**	**233**	⇓*e*P		**Pb**	**19 25 27.0**	**-0.7**
	baz=31							
ARK				⇓*e*S		**Sg**	**19 25 35.4**	**+0.4**
	baz=31							
MRKS	**Merke**	**0.70**	**37**	P		**Pn**	**19 25 29.9**	**-0.7**
	44nm,0.1s							
MRKS				S		**Sn**	**19 25 40.0**	**-1.6**
	405nm,0.1s							
MRKS	**Merke**	**0.70**	**37**	*e*P		**Pn**	**19 25 30.2**	**-0.3**
	26nm,0.1s							
MRKS				*e*S		**Sn**	**19 25 40.1**	**-1.4**
	458nm,0.3s							
AML	**Almayashu**	**0.78**	**94**	⇑P		**Pn**	**19 25 31.2**	**-0.6**
	43nm,0.2s,SNR=93							
AML				⇓S		**Sn**	**19 25 42.6**	**-1.4**
	117nm,0.2s							
AML	**Almayashu**	**0.78**	**94**	⇑P		**Pn**	**19 25 31.0**	**-0.9**
	2.5nm,0.5s							
AML				⇑S		**Sb**	**19 25 42.3**	**+1.1**
	2.0nm,0.2s							
AML	**Almayashu**	**0.78**	**94**	⇑*e*P		**Pn**	**19 25 31.2**	**-0.6**
	baz=93							
AML				⇑*e*S		**Sn**	**19 25 42.5**	**-1.4**
	baz=93							
EKS2	**Erkin-Say**	**0.96**	**60**	⇓P		**Pn**	**19 25 34.6**	**+0.5**
	6.4nm,0.1s,SNR=34							
EKS2				⇓S		**Sn**	**19 25 47.6**	**-0.4**
	28nm,0.1s							
EKS2	**Erkin-Say**	**0.96**	**60**	⇓*e*P		**Pn**	**19 25 34.4**	**+0.3**
	baz=61							
EKS2				⇓*e*S		**Sn**	**19 25 47.9**	**-0.1**
	baz=61							
DZA	**Taraz**	**1.20**	**306**	P		**Pn**	**19 25 37.5**	**+0.2**
	61nm,0.1s							
DZA				S		**Sb**	**19 25 52.8**	**0.0**
	370nm,0.3s							
DZA	**Taraz**	**1.20**	**306**	*e*P		**Pn**	**19 25 37.5**	**+0.2**
	61nm,0.1s							
DZA				*e*S		**Sb**	**19 25 52.8**	**0.0**
	370nm,0.3s							
ARLS	**Aral**	**1.29**	**104**	⇑*e*P		**Pn**	**19 25 40.2**	**+1.6**
	baz=3.0							
ARLS				⇑*e*S		**Sn**	**19 25 58.1**	**+1.9**
	baz=3.0							
TRKS	**Terek-Say**	**1.30**	**240**	⇑*e*P		**Pb**	**19 25 39.1**	**+0.1**
	baz=36							
TRKS				⇑*e*S		**Sb**	**19 25 56.2**	**+0.3**
	baz=36							
AAK	**Ala-Archa**	**1.44**	**71**	⇓P		**Pg**	**19 25 43.3**	**+1.5**
	12nm,0.2s,SNR=16							
AAK				⇓S		**Sn**	**19 26 03.1**	**+3.2**
	40nm,0.3s							
AAK	**Ala-Archa**	**1.44**	**71**	⇑*e*P		**Pg**	**19 25 42.8**	**+1.0**
	baz=71							
AAK				⇑*e*S		**Sn**	**19 26 02.6**	**+2.7**
	baz=71							
FRU1	**Bishkek**	**1.59**	**66**	⇑*e*P		**Pg**	**19 25 45.4**	**+0.7**
	baz=67							
FRU1				⇑*e*S		**Sg**	**19 26 07.1**	**+1.7**
	baz=67							
OHH	**Osh**	**1.67**	**176**	⇓*e*P		**Pg**	**19 25 45.7**	**-0.4**
	baz=75							
OHH				⇓*e*S		**Sg**	**19 26 07.7**	**0.0**
	baz=75							
USP	**Ospenovka**	**1.74**	**51**	⇑P		**Pg**	**19 25 47.9**	**+0.4**
	30nm,0.3s,SNR=42							
USP				⇑S		**Sg**	**19 26 11.8**	**+1.7**
	67nm,0.2s							
USP	**Ospenovka**	**1.74**	**51**	⇑*e*P		**Pg**	**19 25 47.9**	**+0.4**
	baz=52							
USP				⇑*e*S		**Sg**	**19 26 11.3**	**+1.2**
	baz=52							
CHMS	**Chumysh**	**1.75**	**62**	⇑P		**Pg**	**19 25 48.5**	**+0.7**
	4.9nm,0.1s,SNR=6.3							
CHMS				⇑S		**Sg**	**19 26 12.1**	**+1.6**
	59nm,0.2s							
CHMS	**Chumysh**	**1.75**	**62**	⇑Pn		**Pg**	**19 25 47.9**	**+0.1**
	3.4nm,0.3s							
CHMS				Pg		Pb	19 25 57.6	+11
	78nm,0.2s							
CHMS				⇓Sn		**Sg**	**19 26 12.2**	**+1.7**
	31nm,0.5s							
CHMS				Lg		Lg	19 26 27.5	
	141nm,0.3s							
CHMS	**Chumysh**	**1.75**	**62**	⇓*e*P		**Pg**	**19 25 48.0**	**+0.2**
	baz=62							
CHMS				⇓*e*S		**Sg**	**19 26 11.6**	**+1.1**
	baz=62							
KBK	**Karagaybulak**	**1.77**	**74**	⇑P		**Pg**	**19 25 49.2**	**+1.2**
	17nm,0.2s,SNR=18							
KBK				⇑S		**Sg**	**19 26 13.8**	**+2.8**
	54nm,0.2s							
KBK	**Karagaybulak**	**1.77**	**74**	⇑*e*P		**Pg**	**19 25 48.4**	**+0.3**
	baz=74							
KBK				⇑*e*S		**Sg**	**19 26 12.2**	**+1.2**
	baz=74							
KK31	**Karatay Array**	**1.82**	**301**	⇑Pn		**Pb**	**19 25 47.6**	**-0.2**
	8.6nm,0.3s,baz=122,slow=14,SNR=520							
KK31				Sn		**Sb**	**19 26 11.0**	**+0.3**
	52nm,0.4s,baz=138,slow=32,SNR=30							
KKAR	**Karatay Array**	**1.82**	**301**	⇑*e*P		**Pb**	**19 25 47.6**	**-0.1**
	baz=2.0							
KKAR				⇑*e*S		**Sb**	**19 26 11.1**	**+0.4**
	baz=2.0							
IUG	**Iuzhnay**	**1.94**	**270**	P		**Pg**	**19 25 51.1**	**-0.4**
	70nm,0.1s							
IUG				S		**Sg**	**19 26 16.2**	**-0.4**
	207nm,0.3s							
IUG	**Iuzhnay**	**1.94**	**270**	*e*P		**Pg**	**19 25 51.1**	**-0.4**
	70nm,0.1s							
IUG				*e*S		**Sg**	**19 26 16.2**	**-0.4**
	207nm,0.3s							
CHM	**Chimkent**	**2.26**	**274**	*e*Pg		**Pg**	**19 25 56.5**	**-1.1**
	28nm,0.2s							
CHM				*e*Lg		Lg	19 26 25.2	
	141nm,0.3s							
SFK	**Sufi-Kurgan**	**2.27**	**163**	⇑*e*P		**Pb**	**19 25 54.6**	**-0.9**
	baz=62							
SFK				⇑*e*S		**Sb**	**19 26 23.1**	**-0.6**
	baz=62							
TKM2	**Tokmak 2**	**2.30**	**70**	⇑P		**Pg**	**19 25 57.6**	**-0.6**
	4.1nm,0.1s,SNR=14							
TKM2				⇓S		**Sg**	**19 26 29.1**	**+1.0**
	40nm,0.1s							
TKM2	**Tokmak 2**	**2.30**	**70**	⇑Pg		**Pg**	**19 25 57.1**	**-1.1**
	4.9nm,0.4s							
TKM2				⇑Lg		Lg	19 26 28.9	
	25nm,0.3s							
TKM2	**Tokmak 2**	**2.30**	**70**	⇑*e*P		**Pb**	**19 25 55.8**	**-0.2**
	baz=71							
TKM2				⇑*e*S		**Sb**	**19 26 25.1**	**+0.4**
	baz=71							
BOOM	**Boomskoye usch**	**2.46**	**82**	⇓*e*P		**Pb**	**19 25 58.1**	**-0.6**
	baz=82							
BOOM				⇓*e*S		**Sb**	**19 26 28.8**	**-0.5**
	baz=82							
DGS	**Degeres**	**2.53**	**64**	Pg		**Pg**	**19 26 02.5**	**-0.2**
	5.4nm,0.2s							
DGS				Lg		Lg	19 26 36.0	
	53nm,0.3s							
DGS	**Degeres**	**2.53**	**64**	*e*Pg		**Pg**	**19 26 03.2**	**+0.5**
	5.4nm,0.2s							
DGS				*e*Lg		Lg	19 26 36.7	
	84nm,0.7s							
BTK	**Batken**	**2.54**	**214**	⇑*e*P		**Pb**	**19 25 58.1**	**-1.9**
	baz=13							
BTK				⇑*e*S		**Sn**	**19 26 28.8**	**+2.0**
	baz=13							
KST	**Kastek**	**2.59**	**70**	Pg		**Pg**	**19 26 03.7**	**-0.2**
	2.9nm,0.2s							
KST				Lg		Lg	19 26 38.1	
	115nm,0.4s							
KST	**Kastek**	**2.59**	**70**	*e*Pg		**Pg**	**19 26 03.7**	**-0.2**
	2.9nm,0.2s							
KST				*e*Lg		Lg	19 26 38.1	
	115nm,0.4s							
NRN	**Naryn**	**2.62**	**106**	⇑*e*P		**Pb**	**19 25 59.8**	**-1.7**
	baz=6.0							
NRN				⇑*e*S		**Sb**	**19 26 32.0**	**-1.9**
	baz=6.0							
ULHL	**Ulahol**	**2.67**	**88**	⇓*e*P		**Pb**	**19 26 01.0**	**-1.4**
	baz=87							
ULHL				⇓*e*S		**Sb**	**19 26 34.0**	**-1.4**
	baz=87							
KRBS	**Karabastau**	**2.69**	**55**	Pg		**Pg**	**19 26 04.7**	**-1.0**
	6.2nm,0.2s							
KRBS				Lg		Lg	19 26 39.7	
	30nm,0.6s							
KRBS	**Karabastau**	**2.69**	**55**	*e*Pg		**Pg**	**19 26 05.3**	**-0.3**
	6.2nm,0.2s							
KRBS				*e*Lg		Lg	19 26 40.5	
	30nm,0.6s							
DRK	**Karamyk**	**2.78**	**194**	⇑*e*P		**Pn**	**19 26 01.3**	**+2.1**
	baz=93							
DRK				⇑*e*S		**Sn**	**19 26 35.1**	**+2.0**
	baz=93							
MTBS	**Maitube**	**2.94**	**70**	Pg		**Pg**	**19 26 10.2**	**-0.4**
	2.8nm,0.2s							
MTBS				Lg		Lg	19 26 49.3	
	30nm,0.3s							
MTBS	**Maitube**	**2.94**	**70**	*e*Pg		**Pg**	**19 26 10.2**	**-0.4**
	2.8nm,0.2s							
MTBS				*e*Lg		Lg	19 26 49.3	
	30nm,0.3s							
IZV	**Izvestkoviy**	**3.05**	**73**	Pg		**Pg**	**19 26 12.5**	**-0.1**
	2.3nm,0.2s							
IZV				Lg		Lg	19 26 52.8	
	29nm,0.3s							
IZV	**Izvestkoviy**	**3.05**	**73**	*e*Pg		**Pg**	**19 26 12.5**	**-0.1**
	2.3nm,0.2s							
IZV				*e*Lg		Lg	19 26 52.8	
	29nm,0.3s							
KUU	**Kurty**	**3.20**	**57**	Pg		**Pg**	**19 26 14.3**	**-1.1**
	2.7nm,0.2s							
KUU				Lg		Lg	19 26 56.4	
	23nm,0.3s							
KUU	**Kurty**	**3.20**	**57**	*e*Pg		**Pg**	**19 26 15.0**	**-0.4**
	1.3nm,0.1s							
KUU				*e*Lg		Lg	19 26 57.0	
	23nm,0.3s							
TNSS	**Tian-Shan**	**3.29**	**74**	Pg		**Pg**	**19 26 17.0**	**-0.1**
	3.1nm,0.4s							
TNSS				Lg		Lg	19 27 00.7	
	8.6nm,0.4s							
TNSS	**Tian-Shan**	**3.29**	**74**	*e*Pg		**Pg**	**19 26 17.0**	**-0.1**
	3.1nm,0.4s							
TNSS				*e*Lg		Lg	19 27 00.7	
	8.6nm,0.4s							
AAA	**Alma-Ata**	**3.31**	**71**	Pg		**Pg**	**19 26 18.2**	**+0.7**
	15nm,0.1s							
AAA				Lg		Lg	19 27 02.7	
	46nm,0.3s							
AAA	**Alma-Ata**	**3.31**	**71**	*e*Pg		**Pg**	**19 26 17.0**	**-0.6**
	14nm,0.1s							
AAA				*e*Lg		Lg	19 27 00.4	
	46nm,0.3s							
KTBS	**Karatobe**	**3.33**	**61**	Pg		**Pg**	**19 26 16.7**	**-1.3**
	1.5nm,0.2s							
KTBS				Lg		Lg	19 27 00.4	
	40nm,0.2s							
KTBS	**Karatobe**	**3.33**	**61**	*e*Pg		**Pg**	**19 26 17.3**	**-0.7**
	1.5nm,0.2s							
KTBS				*e*Lg		Lg	19 27 00.8	
	40nm,0.2s							
KOTS	**Kotyrbulak**	**3.45**	**71**	Pg		**Pg**	**19 26 20.3**	**-0.1**
	2.8nm,0.2s							
KOTS				Lg		Lg	19 27 06.6	
	32nm,0.3s							
KOTS	**Kotyrbulak**	**3.45**	**71**	*e*Pg		**Pg**	**19 26 20.3**	**-0.1**
	2.8nm,0.2s							
KOTS				*e*Lg		Lg	19 27 06.7	
	32nm,0.3s							
CHKK	**Chushkaly**	**3.59**	**61**	Pg		**Pg**	**19 26 21.7**	**-1.3**
	0.9nm,0.2s							
CHKK				Lg		Lg	19 27 08.6	
	19nm,0.2s							
CHKK	**Chushkaly**	**3.59**	**61**	*e*Pg		**Pg**	**19 26 22.1**	**-0.9**
	0.9nm,0.2s							
CHKK				*e*Lg		Lg	19 27 09.2	
	19nm,0.2s							
KURS	**Kuram**	**4.26**	**70**	Pg		**Pg**	**19 26 34.7**	**-1.1**
	1.6nm,0.3s							
KURS				Lg		Lg	19 27 31.1	
	6.4nm,0.6s							
KURS	**Kuram**	**4.26**	**70**	*e*Pg		**Pg**	**19 26 34.7**	**-1.1**
	1.6nm,0.3s							
KURS				*e*Lg		Lg	19 27 31.1	
	6.4nm,0.6s							
SATY	**Saty**	**4.34**	**76**	Pg		**Pg**	**19 26 36.5**	**-0.8**
	1.9nm,0.2s							
SATY				Lg		Lg	19 27 34.1	
	12nm,0.4s							
SATY	**Saty**	**4.34**	**76**	*e*Pg		**Pg**	**19 26 36.5**	**-0.8**
	1.9nm,0.2s							
SATY				*e*Lg		Lg	19 27 34.1	
	12nm,0.4s							
KPKS	**Kokpek**	**4.62**	**72**	Pg		**Pg**	**19 26 40.6**	**-2.1**
	1.8nm,0.2s							
KPKS				Lg		Lg	19 27 41.3	
	14nm,0.4s							
KPKS	**Kokpek**	**4.62**	**72**	*e*Pg		**Pg**	**19 26 40.6**	**-2.1**
	1.8nm,0.2s							
KPKS				*e*Lg		Lg	19 27 41.3	
	14nm,0.4s							
BLB	**Baldybastay**	**4.67**	**64**	Pg		**Pg**	**19 26 42.0**	**-1.7**
	2.4nm,0.4s							
BLB				Lg		Lg	19 27 43.8	
	4.9nm,0.7s							
TDK	**Taldyqorghan**	**5.04**	**54**	Pg		**Pg**	**19 26 47.9**	**-2.8**
	8.9nm,0.2s							
TDK				Lg		Lg	19 27 53.8	
	34nm,0.4s							
TDK	**Taldyqorghan**	**5.04**	**54**	*e*Pg		**Pg**	**19 26 49.0**	**-1.7**
	8.9nm,0.2s							
TDK				*e*Lg		Lg	19 27 55.3	
	24nm,0.5s							
PDGK	**Podgornoye**	**5.17**	**75**	⇑Pg		**Pg**	**19 26 49.7**	**-3.4**
	4.1nm,1.1s							
PDGK				⇑Lg		Lg	19 28 01.3	
	5.9nm,0.8s							

DJA 14 19:27:34.2±0.3, **4°S**±3°×**10°2E**±°, **h10**km, **M3.8**/13, **mb3.8**/2, **mB5.3**/1, **MLv3.7**/13, **Mw(mB)4.7**/1, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**0.60**	**337**	Pg		Pg	19 27 44.6	-1.4
MNAI	**Manna**	**0.81**	**144**	P		Pg	19 27 48.1	-1.8
LWLI	**Liwa**	**2.05**	**130**	P		Pn	19 28 08.8	0.0
JMBI	**JAMBI**	**2.36**	**30**	P		Pn	19 28 14.3	+1.3
PMBI	**Palembang**	**2.41**	**72**	P		Pn	19 28 12.0	-1.8
PPSI	**Pulau Pagai**	**2.64**	**291**	P		Pn	19 28 17.0	+0.2
KLI	**Kotabumi**	**2.64**	**116**	P		Pn	19 28 18.2	+1.4

TGIG Sn 19 34 38.8 -0.2
TGIG 1.96 75 eP Pb 19 34 16.3 -0.3
TGIG eS Sn 19 34 38.8 -0.2
PEIG Puerto Escondi 1.99 262 Pn 19 34 15.0 +0.6
PEIG Sn 19 34 40.8 +1.2
PEIG Puerto Escondi 1.99 262 eP Pn 19 34 15.0 +0.6
PEIG eS Sn 19 34 40.8 +1.2
TGBT Tuxtla Gutierr 1.99 75 eP Pb 19 34 17.4 +0.4
TGBT eS Sg 19 34 43.8 -0.8
PMUV Sontecomapan 2.26 359 eP Pn 19 34 18.6 +0.3
YOIG Yosondua 2.41 284 Pb 19 34 23.6 -0.8
YOIG Sn 19 34 51.2 +0.7
YOIG Yosondua 2.41 284 eP Pb 19 34 23.6 -0.8
YOIG eS Sn 19 34 51.2 +0.7
TOIG Toxpalan 2.61 314 Pb 19 34 26.2 -1.4
TOIG Sn 19 34 56.3 +1.3
TOIG Toxpalan 2.61 314 eP Pb 19 34 26.2 -1.4
TOIG eS Sn 19 34 56.3 +1.3
TXIG Tlaxiaco 2.73 291 Pb 19 34 28.4 -1.4
TXIG Sn 19 34 55.8 -2.5
TXIG Tlaxiaco 2.73 291 eP Pb 19 34 28.4 -1.4
TXIG eS Sn 19 34 55.8 -2.5
CCIG Comitan 2.85 89 Pn Pn 19 34 26.7 +0.2
CCIG Sn Sn 19 34 59.1 -1.9
CCIG Comitan 2.85 89 eP Pn 19 34 26.6 +0.2
CCIG eS Sn 19 35 02.1 +1.1
PNIG Pinotepa 2.91 273 Pn 19 34 28.3 +1.2
PNIG Pinotepa 2.91 273 eP Pn 19 34 28.3 +1.2
PNIG eS Sn 19 34 55.7 -6.6
PATR El Naranjo 2.99 112 eP Pn 19 34 28.8 +0.3
PATR eS Sn 19 35 05.8 +1.1
HLIG Huajuapan de L 3.01 301 eP Pb 19 34 33.4 -1.1
HLIG eS Sn 19 35 04.2 -0.9
PAVE Pavencul 3.02 111 eP Pn 19 34 30.2 +1.4
PAVE eS Sn 19 35 05.0 -0.3
TPIG Tehuac#an 3.03 315 eP Pn 19 34 30.8 +1.8
TPIG eS Sb 19 35 10.2 -2.0
CHUJ Union Juarez 3.11 112 eP Pn 19 34 30.4 +0.3
CHUJ i S Sn 19 35 06.6 -1.1
FTIG Fresnillo de T 3.32 300 Pb 19 34 36.9 -2.9
FTIG Fresnillo de T 3.32 300 eP Pb 19 34 36.9 -2.9
FTIG eS Sb 19 35 17.6 -2.8
JAUV Jalcomulco 3.47 332 eP Pn 19 34 35.3 +0.3
JAUV eS Sn 19 35 18.6 +2.2
TLIG Tlapa 3.56 292 Pn Pn 19 34 36.8 +0.7
HUEH Huehuetenango 3.59 105 Pn 19 34 34.0 -2.7
LVIG Laguna Verde 3.65 340 eP Pn 19 34 35.6 -1.7
LVIG eS Sn 19 35 16.5 -4.0
RTAL Retalhuleu 3.72 117 Pn Pn 19 34 36.3 -2.0
PPM Popocatepetl 4.36 310 eP Pn 19 34 45.5 -2.1
PPM i S Sn 19 35 33.8 -4.9
CXUV Coxquihui 4.54 329 eP Pn 19 34 50.1 +0.5
CXUV eS Sn 19 35 49.4 +6.8
PETF Flores 5.06 82 Pn 19 34 55.0 -1.7
MTO3 Montecristo 5.84 108 Pn 19 35 06.4 -1.3
TEIG Tepich 7.58 58 Pn 19 35 32.1 +0.8
CRIN San Cristobal 8.57 113 Pn Pn 19 35 43.7 -1.3
ORTG Ortega, Santa 11.07 121 Pn Pn 19 36 17.3 -2.1
SRBA San Rafael, Bu 13.42 120 Pn Pn 19 36 50.0 -1.4
HNDO Hondo 13.74 344 Pn Pn 19 36 56.8 +1.1
435B Jarrell 14.62 352 Pn 19 37 09.4 +1.7
TXAR Lajitas Array 15.20 330 Pn Pn 19 37 16.6 +1.0
BRDY Brady 15.36 347 Pn 19 37 19.2 +1.5
BRDY IAmb IAmb 19 37 33.7
comp=Z,3.3nm,0.7s
LOOK Love County 17.74 354 P 19 37 49.0 +0.2
LOOK IAmb IAmb 19 37 54.3
comp=Z,13nm,0.7s
MIAR Mount Ida 18.24 4 P 19 37 54.8 +0.5
MIAR IAmb IAmb 19 38 36.6
comp=Z,9.5nm,1.2s
FCAR Ozark Folk Cen 19.71 7 P P 19 38 10.9 +0.4
FCAR IAmb IAmb 19 38 13.0
comp=Z,4.5nm,0.7s
T35A Sooner Cattle 20.60 357 P P 19 38 20.7 +0.7
S39A Bolivar 21.39 4 P P 19 38 28.8 +0.2
S39A IAmb IAmb 19 39 03.8
comp=Z,3.7nm,0.9s
NVAR Mina Array Bea 30.04 322 P 19 39 50.9 +0.6

*IDC **14** 19:36:03.8±0.7, 12°.00S×76°.33W, h0km, mb3.9/9, mbtmp3.9/12, ML3.5/3, MS3.4/8, Error ellipse: s-maj=20.1km s-min=7.8km az=2.0*
*NEIC **14** 19:36:06.5±1.7, 11°.97S±0°.07×76°.41W±0°.03, h10km±1km, mb4.4/14, Error ellipse: s-maj=12.1km s-min=5.5km az=180.0*
ISC 14 19:36:05.5±0.5, 12°.00S±0°.07×76°.42W±0°.06, h10km, n60, σ1§02/50, mb4.2/12, MS3.2/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	0.41	272		**Pg**	19 36 13.8	+0.2
NNA					**Sb**	19 36 20.9	-0.4
NNA	**Nana**	0.41	272	Pg	**Pg**	19 36 13.7	+0.2
	666nm,0.3s,baz=86,slow=12,SNR=609						
NNA				Lg	Lg	19 36 20.4	
	3μm,0.3s,baz=196,slow=14,SNR=73						
ATAH	**Atahualpa**	5.21	338	Pn	Pn	19 37 28.2	+4.3
	3.2nm,0.3s,baz=153,slow=4.0,SNR=12						
ATAH				Lg	Lg	19 38 48.8	
	11nm,0.3s,baz=135,slow=20,SNR=8.1						
CZSB	**Cruzeiro do Su**	5.61	41	Pn	**Pn**	19 37 28.8	-0.3
MCRA	**Macar, Loja**	8.35	335	Pn	**Pn**	19 38 06.2	-0.6
PB12	**IPOC Station P**	8.82	139	Pn	**Pn**	19 38 14.0	+0.9
BOSC	**San Juan Bosco**	9.03	347	Pn	**Pn**	19 38 15.7	-0.5
LPAZ	**La Paz**	9.10	119	Pn	**Pn**	19 38 18.3	+0.8
LPAZ	**La Paz**	9.10	119	Pn	**Pn**	19 38 17.7	+0.2
	0.5nm,0.3s,baz=303,slow=12,SNR=15						
LPAZ				LR	LR	19 42 35.2	
	comp=Z,146nm,19.1s,baz=287,slow=43 4.6nm,0.7s						
PB16	**IPOC Station P**	9.17	134	Pn	**Pn**	19 38 20.1	+1.6
COHC	**Cochancay**	9.88	343		**Pn**	19 38 28.8	+1.1
TBTG	**Tabatinga, AM**	10.09	40	Pn	**Pn**	19 38 30.1	-0.5
ETMB	**Extrema**	10.26	79	Pn	**Pn**	19 38 34.2	+1.4
GO01	**Chusmiza**	10.31	139	Pn	**Pn**	19 38 35.3	+1.3
PB08	**IPOC Station P**	10.69	140	Pn	**Pn**	19 38 39.9	+0.8
CHSH	**Refugio Sur-Vo**	10.72	347		**Pn**	19 38 40.0	+0.3
PB02	**IPOC Station P**	11.17	147	Pn	**Pn**	19 38 46.0	+0.5
PB01	**IPOC Station P**	11.18	144	Pn	**Pn**	19 38 46.2	+0.7
SLOR	**San Lorenzo -**	11.39	349		**Pn**	19 38 48.4	-0.4
PB07	**IPOC Station P**	11.51	148	Pn	**Pn**	19 38 50.8	+0.6
PB09	**IPOC Station P**	11.91	146	Pn	**Pn**	19 38 56.8	+1.1
OTAV	**Otavalo**	12.33	350		**Pn**	19 39 02.8	+1.1
LVC	**Limon Verde**	12.75	147	Pn	**Pn**	19 39 07.7	+0.4
	0.1nm,0.3s,baz=233,slow=20,SNR=1.3 1.2nm,0.6s						
SAML	**Samuel**	13.37	78		**Pn**	19 39 12.7	-2.7
PB14	**IPOC Station P**	13.79	156	Pn	**Pn**	19 39 19.3	-2.1
SIV	**San Ignacio**	15.41	107	Pn	**Pn**	19 39 43.0	-0.2
	baz=300,slow=14,SNR=2.0						
SIV				Lg	Lg	19 44 04.9	
	baz=195,slow=23,SNR=1.8 0.9nm,0.9s						
AC02	**Maricunga**	16.27	156	Pn	**Pn**	19 39 56.4	+1.7
ROSC	**El Rosal**	16.86	7	LR	LR	19 47 41.8	
	comp=Z,215nm,19.0s,baz=239,slow=41						
PTLB	**Pontes e Lacer**	17.14	103	P	**P**	19 40 06.3	-0.6
BOAV	**Boa Vista**	21.32	49	P	**P**	19 40 51.6	-1.1
H03N1	**Juan Fernandez**	21.46	186	T	T	20 03 16.4	
	baz=3.5,slow=75,SNR=4.9						
H03N2	**Juan Fernandez**	21.46	186	T	T	20 03 16.7	
	baz=3.5,slow=75,SNR=5.1						
H03N3	**Juan Fernandez**	21.48	186	T	T	20 03 15.0	
	baz=3.5,slow=75,SNR=4.5						
SDV	**Santo Domingo**	21.54	16	P	**P**	19 40 54.7	-0.6
SDV				IAmb	IAmb	19 41 05.8	
	comp=Z,12nm,1.1s						
SDV	**Santo Domingo**	21.54	16	P	**P**	19 40 55.7	+0.5
	comp=Z,4.2nm,0.2s,baz=223,slow=11,SNR=4.1						
SDV				LR	LR	19 50 05.3	
	comp=Z,64nm,19.1s,baz=178,slow=39 comp=Z,4.2nm,0.2s						
BAUV	**El Baul**	22.42	22	P	**P**	19 41 04.6	+0.1
BAUV				IAmb	IAmb	19 41 09.4	
	comp=Z,16nm,0.8s						
JTS	**Las Juntas de**	23.72	339	LR	LR	19 50 14.5	
	comp=Z,41nm,19.4s,baz=158,slow=36						
BDFB	**Brasilia**	27.81	101	LR	LR	19 53 39.4	
	comp=Z,125nm,19.3s,baz=309,slow=38						
PLCA	**Paso Flores**	29.08	171	P	**P**	19 42 05.4	-0.9
	comp=Z,2.3nm,1.1s,baz=342,slow=9.6,SNR=2.2 comp=Z,2.3nm,1.1s						
MDP	**Montagnes des**	29.12	56	LR	LR	19 53 52.4	
	comp=Z,78nm,19.1s,baz=132,slow=37						
CMIG	**Matias Romero**	34.19	327	LR	LR	19 55 17.3	
	comp=Z,37nm,19.7s,baz=24,slow=34						
DRIO	**Del Rio**	47.34	331	P	**P**	19 44 40.5	+0.7
DRIO				IAmb	IAmb	19 44 43.5	
	comp=Z,3.3nm,0.8s						
U54A	**Nelsons Funny**	48.53	354	P	**P**	19 44 49.9	+1.0
TZTN	**Tazewell**	48.75	352	P	**P**	19 44 51.6	+1.1
TXAR	**Lajitas Array**	48.79	328	P	**P**	19 44 51.1	0.0
	comp=Z,0.2nm,0.5s,baz=144,slow=7.8,SNR=2.5 comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	62.38	333				
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	63.63	324	P	**P**	19 46 38.2	+1.1
	comp=Z,0.5nm,0.7s,baz=150,slow=7.0,SNR=3.8 comp=Z,0.5nm,0.7s						
SNAA	**Sanae**	73.53	162	P	**P**	19 47 38.9	+0.6
SNAA				IAmb	IAmb	19 47 39.7	
	comp=Z,3.3nm,1.2s						
SNAA	**Sanae**	73.53	162	P	**P**	19 47 37.8	-0.5
	comp=Z,1.9nm,1.1s,baz=272,slow=9.0,SNR=3.2 comp=Z,1.9nm,1.1s						
DBIC	**Dimbokro**	73.53	79	P	**P**	19 47 38.4	-0.9
QSPA	**South Pole Qui**	78.13	180	P	**P**	19 48 06.7	+1.9
QSPA				IAmb	IAmb	19 48 26.4	
	comp=Z,4.1nm,1.4s						
SFJD	**Kangerlussuaq**	81.01	10	P	**P**	19 48 19.0	-1.1
	comp=Z,5.9nm,0.8s,baz=153,slow=9.0,SNR=2.2 comp=Z,5.9nm,0.8s						
TOA0	**Torodi Ar. Sit**	81.40	75	P	**P**	19 48 22.9	-0.4
TOA0				IAmb	IAmb	19 48 26.5	
	comp=Z,4.9nm,1.1s						
TORD	**Torodi Ar. Bea**	81.40	75	P	**P**	19 48 23.2	0.0
TORD				IAmb	IAmb	19 48 26.5	
	comp=Z,3.3nm,1.1s						
TORD	**Torodi Ar. Bea**	81.40	75	P	**P**	19 48 22.6	-0.6
	comp=Z,1.8nm,0.9s,baz=239,slow=4.3,SNR=8.2 comp=Z,1.8nm,0.9s						
MDT	**Midelt**	81.62	54	LR	LR	20 22 02.9	
	comp=Z,23nm,19.7s,baz=22,slow=34						
ESDC	**Sonseca Array**	84.48	48	P	**P**	19 48 39.1	+0.3
	comp=Z,0.7nm,0.8s,baz=267,slow=6.3,SNR=6.7 comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	133.78	220	PKP	**PKPdf**	19 55 21.4	-2.2
	comp=Z,0.4nm,0.7s,baz=132,slow=1.4,SNR=5.1						
WRA	**Warramunga Arr**	136.13	224	PKP	**PKPdf**	19 55 28.1	0.0
	comp=Z,0.3nm,0.7s,baz=140,slow=1.9,SNR=5.2						
SONM	**Songino Array**	144.21	357	PKP	**PKPdf**	19 55 41.0	-1.0
	comp=Z,0.4nm,0.9s,baz=336,slow=3.2,SNR=1.6						

*IDC **14** 19:37:33.7±1.4, 60°.64N×29°.28W, h0km, mb4.1/14, mbtmp4.1/17, ML4.1/2, MS3.7/37, Error ellipse: s-maj=33.5km s-min=19.2km az=102.0*
*REY **14** 19:37:36.3, 60°.13N×26°.74W, h10km*
*NEIC **14** 19:37:37.2±1.3, 60°.66N±0°.06×28°.8W±0°.2, h10km±1km, mb4.3/29, Error ellipse: s-maj=13.1km s-min=9.3km az=256.0*
*BGR **14** 19:37:42.3, 60°.53N×28°.20W, h10km, mb4.4, Ms3.6*
ISC 14 19:37:37.2±0.6, 60°.68N±0°.07×28°.62W±0°.07, h10km, n133, σ1§26/112, mb4.3/57, MS3.6/35, 9D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRV	**Grindav??k**	4.29	39	P	**Pn**	19 38 41.9	-0.7
	baz=26						
IGRV				S	**Sn**	19 39 33.1	+0.5
	baz=26						
IVOG	**Vogar**	4.39	39	P	**Pn**	19 38 43.5	-0.4
	baz=26						
IKRI	**Krysuvik**	4.43	41	P	**Pn**	19 38 43.2	-1.2
	baz=28						
IVOS	**Vogsosar**	4.54	42	P	**Pn**	19 38 44.6	-1.3
	baz=30						
IVOS				S	**Sn**	19 39 37.9	-0.6
	baz=30						
IKAS	**Kald??rsel**	4.60	40	P	**Pn**	19 38 45.7	-1.1
	baz=28						
ISAN	**Sandskeio**	4.71	41	P	**Pn**	19 38 47.9	-0.5
	baz=29						
ISAN				S	**Sn**	19 39 43.2	+0.3
	baz=29						
IBJA	**Bjarnastaoir**	4.73	43	P	**Pn**	19 38 47.2	-1.3
	baz=31						
IBJA				S	**Sn**	19 39 42.2	-1.2
	baz=31						
IEDA	**Engidalur**	4.79	41	P	**Pn**	19 38 48.8	-0.6
	baz=30						
IEDA				S	**Sn**	19 39 44.5	-0.4
	baz=30						
ISOL	**Solvholt**	4.84	44	P	**Pn**	19 38 48.3	-1.7
	baz=33						
ISOL				S	**Sn**	19 39 45.0	-1.0
	baz=33						
IKRO	**Krokur**	4.89	42	P	**Pn**	19 38 50.2	-0.5
	baz=31						
ISAU	**Saurbar**	5.06	45	P	**Pn**	19 38 51.8	-1.3
	baz=35						
IESK	**Eystri-Skogar**	5.17	53	P	**Pn**	19 38 50.2	-4.2
	baz=42						
BORG	**Borgarnes**	5.28	36	Pn	**Pn**	19 38 55.8	-0.3
BORG				Sn	**Sn**	19 39 58.4	+1.5
BORG	**Borgarnes**	5.28	36	Pn	**Pn**	19 38 55.6	-0.4
	6.1nm,0.3s,baz=261,slow=4.9,SNR=27						
BORG				Sn	**Sn**	19 39 57.4	+0.5
	0.2nm,0.3s,baz=195,slow=16,SNR=1.1 40nm,0.5s						
IMJO	**Mjoaskard**	5.30	48	P	**Pn**	19 38 53.4	-3.0
	baz=38						
NRS	**Narsarsuaq**	8.20	281	Pn	**Pn**	19 39 36.4	+0.3
SUMG	**Summit**	12.54	346	Pn	**Pn**	19 40 35.2	-0.5
EKB	**Eskdalemuir**	14.45	100	Pn	**Pn**	19 41 02.2	+0.7
EKA	**Eskdalemuir Ar**	14.46	100	Pn	**P**	19 41 05.7	-2.9
	baz=300,slow=8.7 13nm,0.9s						
FRB	**Frobisher Bay**	18.64	297	LR	LR	19 47 52.6	
	comp=Z,128nm,20.9s,baz=98,slow=34						
NBO00	**NORSAR Array S**	19.00	72	P	**Pn**	19 41 59.7	+0.3
NB2	**NORSAR Subarra**	19.20	71	P	**Pn**	19 42 01.5	-0.3
	comp=Z,7.0nm,1.2s,baz=282,slow=11						
NOA	**NORSAR Array B**	19.20	71	P	**Pn**	19 42 01.2	-0.6
	comp=Z,1.2nm,0.9s,baz=282,slow=10,SNR=5.6						
NOA				LR	LR	19 49 16.2	
	comp=Z,193nm,18.3s,baz=290,slow=36						
HFS	**Hagfors**	20.65	73	P	**P**	19 42 17.6	+1.0
	comp=Z,6.5nm,0.9s,baz=242,slow=9.5,SNR=4.8						
HFS				LR	LR	19 48 59.4	
	comp=Z,249nm,18.8s,baz=325,slow=33 comp=Z,6.5nm,0.9s						
SCHQ	**Schefferville**	20.97	271	LR	LR	19 48 48.2	
	comp=Z,254nm,18.0s,baz=290,slow=33						
BMRD	**Maredsous**	21.34	104	dP	**P**	19 42 26.7	+2.6
	comp=Z,10nm,1.2s						
DOU	**Dourbes**	21.39	105	dP	**P**	19 42 25.2	+0.6
	comp=Z,7.0nm,1.2s						
BGES	**Gesves**	21.43	104	dP	**P**	19 42 25.5	+0.3
	comp=Z,9.0nm,0.9s						
BCLA	**Clavier**	21.51	103	dP	**P**	19 42 26.0	0.0
	comp=Z,4.8nm,1.0s						
BSTI	**Sart Tilman**	21.53	103	dP	**P**	19 42 26.5	+0.3
RCHB	**Rochefort**	21.65	104	dP	**P**	19 42 27.6	+0.1
	comp=Z,5.3nm,1.2s						
MEM	**Membach**	21.73	102	dP	**P**	19 42 28.9	+0.6
	comp=Z,8.5nm,1.0s						
CLF	**Chambon-Foret**	21.76	112	P	**P**	19 42 28.9	+0.3
BTNL	**Ternell**	21.80	102	dP	**P**	19 42 29.3	+0.2
	comp=Z,12nm,1.0s						
BHOU	**Houvegnez**	21.89	103	dP	**P**	19 42 30.8	+0.7
	comp=Z,8.3nm,1.1s						
PBRG	**Braganca**	23.14	135	eP	**P**	19 42 43.8	+0.4
	comp=Z,12nm,1.7s						
POLO	**Lamas de Olo**	23.16	137	eP	**P**	19 42 44.8	+1.1
	comp=Z,8.4nm,1.6s						
PVRL	**Vila Real**	23.27	137	eP	**P**	19 42 46.0	+1.2
	comp=Z,18nm,1.9s						
ARCES	**ARCESS Array B**	23.61	45	P	**P**	19 42 48.8	+0.9
ARCES				IAmb	IAmb	19 43 30.4	
	comp=Z,18nm,1.4s						
ARCES	**ARCESS Array B**	23.61	45	P	**P**	19 42 47.1	-0.7
	comp=Z,1.5nm,0.6s,baz=264,slow=11,SNR=4.7						
ARCES				LR	LR	19 50 15.1	
	comp=Z,156nm,18.1s,baz=266,slow=32 comp=Z,1.5nm,0.6s						
MVO	**Moncorvo**	23.61	136	eP	**P**	19 42 49.3	+1.2
	comp=Z,14nm,1.4s						
PVIS	**Viseu**	23.72	138	eP	**P**	19 42 50.1	+0.9
ECH	**Echery**	23.91	105	P	**P**	19 42 50.8	-0.1
MTE	**Manteigas**	24.12	138	eP	**P**	19 42 53.6	+0.6
	comp=Z,15nm,2.1s						
PCAS	**Casmilo, Conde**	24.12	140	eP	**P**	19 42 53.4	+0.4
	comp=Z,29nm,2.0s						
BFO	**Black Forest**	24.39	104	P	**P**	19 42 55.4	0.0
BFO				IAmb	IAmb	19 43 07.5	
	comp=Z,7.8nm,1.2s						
MOX	**Moxa**	24.43	96	eP	**P**	19 42 56.3	+0.6
	comp=Z,7.0nm,1.0s,baz=308,slow=9.1						
MOX				eL	L	19 53 16.3	
	comp=Z,142nm,19.8s						
STU	**Stuttgart**	24.50	102	P	**P**	19 42 56.0	-0.3
PCBR	**Castelo Branco**	24.64	138	eP	**P**	19 42 58.2	+0.5
	comp=Z,16nm,1.4s						
CLL	**Collm**	24.69	93	i P	**P**	19 42 58.9	+0.9
	comp=Z,10.0nm,1.3s						
CLL				eSP	**sP**	19 43 02.0	+0.1
PLN	**Plauen**	24.80	96	eP	**P**	19 42 59.9	+0.9
	comp=Z,8.5nm,1.1s,baz=308,slow=9.1						
GRF	**Grafenberg Arr**	24.86	98	eP	**P**	19 43 02.2	+2.6
	comp=Z,8.5nm,1.1s,baz=308,slow=9.1						
GRF				eL	L	19 52 55.2	
	comp=Z,239nm,18.4s						
SSB	**Saint Sauveur**	24.86	113	P	**P**	19 42 59.2	-0.4
SSB				IAmb	IAmb	19 43 13.3	
	comp=Z,9.7nm,1.2s						
WERD	**Werda**	24.89	96	eP	**P**	19 42 59.8	-0.1
	comp=Z,10nm,1.2s,baz=308,slow=9.1						
GUNZ	**Gunzen**	24.96	96	eP	**P**	19 43 02.2	+1.7
	comp=Z,6.2nm,1.0s,baz=308,slow=9.1						
PMRV	**Marv??o**	25.05	139	eP	**P**	19 43 02.8	+1.4
	comp=Z,14nm,1.5s						
PMTG	**Montargil**	25.11	140	eP	**P**	19 43 03.4	+1.5
	comp=Z,16nm,1.7s						
BRG	**Berggiesshubel**	25.42	93	eP	**P**	19 43 05.8	+1.2
BRG				Amp		19 43 08.0	
	comp=Z,4.9nm,1.1s						
PESTR	**Estremoz**	25.49	139	eP	**P**	19 43 05.6	+0.2
	comp=Z,15nm,1.1s						
PESTR	**Estremoz**	25.49	139	P	**P**	19 43 04.2	-1.2
UBR	**Ueberruh**	25.69	103	eP	**P**	19 43 08.1	+0.9
	comp=Z,12nm,1.2s,baz=308,slow=9.1						
FINES	**FINESS Array B**	25.83	64	P	**P**	19 43 07.8	-0.4
FINES	**FINESS Array B**	25.83	64	P	**P**	19 43 07.7	-0.6
	comp=Z,7.1nm,1.0s,baz=316,slow=5.3,SNR=5.0						
FINES				LR	LR	19 51 34.3	
	comp=Z,162nm,18.8s,baz=298,slow=32 comp=Z,7.1nm,1.0s						
PAB	**San Pablo**	25.98	133	P	**P**	19 43 08.4	-1.5
PAB				IAmb	IAmb	19 43 13.6	
	comp=Z,6.1nm,0.8s						
ESBB	**Sonseca Array**	26.00	133	P	**P**	19 43 09.2	-0.9
ESBB				IAmb	IAmb	19 43 13.8	
	comp=Z,5.8nm,0.9s						
ESDC	**Sonseca Array**	26.01	133	P	**P**	19 43 10.0	-0.2
ESDC	**Sonseca Array**	26.01	133	P	**P**	19 43 10.6	+0.5
	comp=Z,4.8nm,0.9s,baz=332,slow=8.3,SNR=24 comp=Z,4.8nm,0.9s						
TUE	**Stuetta**	26.20	106	P	**P**	19 43 12.5	+0.6
TUE				IAmb	IAmb	19 43 16.6	
	comp=Z,11nm,1.1s						
DAVOX	**Davos/Dischmat**	26.23	105	LR	LR	19 52 28.2	
	comp=Z,108nm,18.1s,baz=343,slow=34						
PBAR	**Barrancos**	26.30	139	eP	**P**	19 43 13.7	+1.0
	comp=Z,10nm,1.5s						
FUORN	**Ofenpass-Fuorn**	26.52	104	P	**P**	19 43 15.7	+0.7
GERES	**GERESS Array B**	26.63	97	LR	LR	19 52 26.2	
	comp=Z,115nm,21.6s,baz=334,slow=33						
RES	**Resolute Bay**	26.90	327	LR	LR	19 52 41.1	
	comp=Z,330nm,20.7s,baz=244,slow=34						
VRAC	**Vranov**	27.74	94	LR	LR	19 54 19.3	
	comp=Z,141nm,18.1s,baz=331,slow=36						
CLUD	**Cludinico**	27.90	102		**P**	19 43 27.3	+0.3
CLUD				IAmb	IAmb	19 43 33.2	
	comp=Z,6.9nm,1.0s						
TEOL	**Teolo**	28.11	105	P	**P**	19 43 29.5	+0.5
AKASG	**Malin Array Be**	33.03	81	P	**P**	19 44 11.8	-0.5
	comp=Z,2.7nm,0.8s,baz=308,slow=8.8,SNR=8.7 comp=Z,2.7nm,0.8s						
BURAR	**Bucovina Array**	33.12	88	P	**P**	19 44 13.7	+0.4
SADO	**Sadowa**	33.50	265	LR	LR	19 56 21.6	
	comp=Z,194nm,18.4s,baz=342,slow=34						
KBN	**Korca**	36.07	101	P	**P**	19 44 39.7	+1.0
FNA	**Florina**	36.23	100	P	**P**	19 44 40.4	+0.3
KIRV	**Kirov**	37.35	58	LR	LR	19 57 57.6	
	comp=Z,77nm,18.9s,baz=308,slow=32						
ULM	**Lac du Bonnet**	37.85	285	LR	LR	19 59 27.5	
	comp=Z,203nm,18.0s,baz=50,slow=35						
ARU	**Arti**	42.50	55	P	**P**	19 45 32.5	+0.3
ARU				IAmb	IAmb	19 45 36.0	
	comp=Z,4.8nm,0.9s						
ARU	**Arti**	42.50	55	LR	LR	20 04 12.0	
	comp=Z,73nm,18.7s,baz=308,slow=37						
TKL	**Tuckaleechee C**	42.76	260	LR	LR	20 01 51.5	
	comp=Z,144nm,18.7s,baz=46,slow=34						
BR131	**Keskin Array S**	43.05	90	P	**P**	19 45 37.7	+0.7
BR131				IAmb	IAmb	19 45 41.3	
	comp=Z,9.8nm,1.3s						
BRTR	**Keskin Array B**	43.05	90	P	**P**	19 45 37.7	+0.7
	comp=Z,2.2nm,0.9s,baz=311,slow=6.4,SNR=8.8						
BRTR				LR	LR	20 03 60.0	
	comp=Z,57nm,20.6s,baz=314,slow=37 comp=Z,2.2nm,0.9s						
KVAR	**Kislovodsk Arr**	44.28	79	LR	LR	20 06 56.6	
	comp=Z,102nm,18.0s,baz=268,slow=40						
KBZ	**Khabaz**	44.54	79	P	**P**	19 45 50.3	+1.5
	comp=Z,5.0nm,0.9s,baz=321,slow=8.5,SNR=8.5						
KBZ				LR

TXAR	**Lajitas Array**	**57.64**	**273**	LR	LR	20 11 19.1	
	comp=Z,48nm,18.2s,baz=30,slow=35						
MDP	**Montagnes des**	**58.35**	**208**	LR	LR	20 07 02.2	
	comp=Z,38nm,19.2s,baz=82,slow=30						
MKAR	**Makanchi Array**	**59.22**	**48**	P	**P**	**19 47 39.4**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=337,slow=4.7,SNR=14						
MKAR				LR	LR	20 14 15.3	
	comp=Z,49nm,18.3s,baz=336,slow=37						
	comp=Z,1.6nm,0.7s						
BTK	**Batken**	**60.26**	**61**	P	**P**	**19 47 46.7**	**+1.1**
PFO	**Pinyon Flats O**	**60.32**	**286**	LR	LR	20 12 54.5	
	comp=Z,90nm,18.8s,baz=40,slow=35						
KSH	**Kashi**	**62.89**	**57**	P	**P**	**19 48 07.5**	**+4.2**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WMQ	**Urumqi**	**63.72**	**46**	*e*P	**P**	**19 48 10.6**	**+1.9**
JTS	**Las Juntas de**	**64.97**	**245**	LR	LR	20 14 35.9	
	comp=Z,32nm,18.9s,baz=20,slow=34						
ROSC	**El Rosal**	**65.45**	**232**	LR	LR	20 17 23.8	
	comp=Z,22nm,18.1s,baz=69,slow=37						
SONM	**Songino Array**	**65.88**	**31**	P	**P**	**19 48 22.7**	**0.0**
	comp=Z,0.6nm,0.6s,baz=320,slow=3.9,SNR=3.8						
SONM				LR	LR	20 18 49.1	
	comp=Z,33nm,18.6s,baz=350,slow=38						
	comp=Z,0.6nm,0.6s						
HEH	**HeiHe**	**67.74**	**16**	*e*P	P	19 48 26.3	-8.1
WSAR	**Wadi Sarin**	**68.70**	**80**	LR	LR	20 20 26.2	
	comp=Z,30nm,18.5s,baz=48,slow=37						
GTA	**Gaotai**	**71.73**	**40**	*e*P	**P**	**19 49 00.9**	**+1.5**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**73.72**	**30**	*e*P	**P**	**19 49 06.5**	**-4.6**
HHC				pmax	pmax		
	comp=Z,24nm,0.5s						
HHC				pmax	pmax		
	comp=Z,250nm,5.2s						
BDFB	**Brasilia**	**77.64**	**199**	LR	LR	20 18 50.1	
	comp=Z,34nm,20.2s,baz=351,slow=32						
ATAH	**Atahualpa**	**77.99**	**231**	LR	LR	20 24 38.9	
	comp=Z,18nm,18.6s,baz=37,slow=36						
PZH	**PanZhiHua**	**84.22**	**43**	P	**P**	**19 50 06.1**	**-2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,470nm,5.0s						
CMAR	**Chiang Mai Arr**	**90.62**	**49**	P	**P**	**19 50 39.0**	**-0.7**
	comp=Z,1.1nm,1.0s,baz=318,slow=5.8,SNR=5.8						
	comp=Z,1.1nm,1.0s						
ASAR	**Alice Springs**	**141.07**	**26**	PKhKP	PKPpre	19 56 59.6	
	comp=Z,0.1nm,0.5s,baz=342,slow=1.7,SNR=1.2						
QSPA	**South Pole Qui**	**150.59**	**180**	PKPbc	**PKPdf**	**19 57 24.3**	**+2.1**
	comp=Z,3.3nm,1.0s,baz=262,slow=1.0,SNR=13						

*IDC **14** 19:40:11.4±1.5, 17°.01N×147°.45E, h0km, mb4.0/10, mbtmp4.0/11, ML3.8/1, MS3.0/2, Error ellipse: s-maj=48.2km s-min=16.9km az=88.0*

ISC 14 19:40:17.2±1.4, 17°.0N±0°.1×147°.4E±0°.3, h41km, n12, σ0s58/14, mb4.0/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.19**	**216**	Pn	**Pn**	**19 41 18.0**	**-0.5**
	5.4nm,0.3s,baz=48,slow=11,SNR=1.3						
GUMO				Sn	**Sn**	**19 42 06.8**	**+0.5**
	9.4nm,0.3s,baz=14,slow=18,SNR=2.4						
	16nm,0.3s						
MJAR	**Matsushiro Arr**	**21.10**	**339**	P	**P**	**19 44 59.0**	**+0.7**
	1.6nm,0.7s,baz=166,slow=9.8,SNR=7.7						
MJAR				LR	LR	19 53 11.4	
	comp=Z,31nm,18.7s,baz=348,slow=37						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**38.89**	**200**	P	**P**	**19 47 39.3**	**+0.3**
	1.3nm,0.6s,baz=24,slow=9.1,SNR=16						
WRA				PcP	**PcP**	**19 49 49.7**	**+0.4**
	0.3nm,0.7s,baz=12,slow=2.9,SNR=2.6						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**42.52**	**198**	P	**P**	**19 48 08.6**	**-0.3**
	0.4nm,0.7s,baz=18,slow=7.2,SNR=4.5						
ASAR				PcP	**PcP**	**19 50 01.7**	**+0.6**
	0.3nm,0.8s,baz=51,slow=3.0,SNR=2.4						
	0.4nm,0.7s						
SONM	**Songino Array**	**45.48**	**322**	P	**P**	**19 48 31.9**	**-0.6**
	0.5nm,0.6s,baz=137,slow=7.1,SNR=2.8						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**46.08**	**279**	P	**P**	**19 48 37.4**	**-0.2**
	2.0nm,0.8s,baz=72,slow=6.6,SNR=16						
	2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**60.34**	**323**	P	**P**	**19 50 21.8**	**0.0**
	1.9nm,0.8s,baz=98,slow=7.9,SNR=5.1						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**60.81**	**314**	P	**P**	**19 50 25.9**	**+0.7**
	0.5nm,0.5s,baz=92,slow=7.9,SNR=8.8						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**63.66**	**318**	P	**P**	**19 50 44.4**	**+0.2**
	1.1nm,0.3s,baz=100,slow=6.6,SNR=8.1						
	1.1nm,0.3s						
BVAR	**Borovoye Array**	**68.81**	**321**	P	**P**	**19 51 17.9**	**+0.7**
	2.3nm,0.6s,baz=93,slow=7.9,SNR=16						
	2.3nm,0.6s						
DLBC	**Dease Lake**	**71.80**	**33**	LR	LR	20 20 23.2	
	comp=Z,14nm,19.0s,baz=104,slow=34						
FINES	**FINESS Array B**	**89.09**	**336**	P	**P**	**19 53 07.2**	**-0.7**
	7.9nm,1.1s,baz=318,slow=2.6,SNR=6.0						
	7.9nm,1.1s						

*IDC **14** 19:44:58.9±3.0, 7°.07N×73°.32W, h154km±32km, mbtmp4.0/2, Error ellipse: s-maj=131.5km s-min=7.9km az=131.0*
*RSNC **14** 19:45:01.8±1.0, 6°.82N×73°.11W, h141km±6km, ML3.0, Mw3.6*

ISC 14 19:44:57.3±1.1, 6°.79N±0°.04×73°.05W±0°.06, h169km±8km, n16, σ2s29/30, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**215**	*e*P	**Pn**	**19 45 20.8**	**+0.5**
BARC				*e*S	**Sn**	**19 45 35.0**	**-2.8**
BARC				*i*		19 45 38.2	
	comp=Z,381nm,0.3s						
BRRC	**Barranca, Sant**	**0.73**	**296**	⇑*i*P	**Pn**	**19 45 22.9**	**+0.8**
BRRC				*e*S	**Sn**	**19 45 39.5**	**-1.5**
BRRC				*i*		19 45 43.1	
	comp=Z,195nm,0.3s						
CHIC	**Chingaza**	**2.25**	**198**	*e*P	**Pn**	**19 45 39.1**	**+2.2**
CHIC				*e*S	**Sn**	**19 46 09.6**	**+2.0**
CHIC				*i*		19 46 17.0	
	comp=Z,33nm,0.3s						
ROSC	**El Rosal**	**2.31**	**213**	P	**Pn**	**19 45 40.6**	**+3.0**
	comp=Z,95nm,0.4s,baz=33,slow=17,SNR=32						
ROSC				S	**Sn**	**19 46 11.5**	**+2.7**
	comp=Z,142nm,0.5s,baz=17,slow=20,SNR=15						
GUY2C	**Guyana, Caldas**	**2.78**	**236**	*e*P	**Pn**	**19 45 45.9**	**+2.6**
GUY2C				*e*S	**Sn**	**19 46 20.1**	**+1.3**
DBBC	**Dabeiba**	**3.15**	**274**	*e*P	**Pn**	**19 45 49.0**	**+1.6**
DBBC				*e*S	**Sn**	**19 46 26.2**	**-0.2**
DBBC				*i*		19 46 28.4	
	comp=Z,40nm,0.5s						
SDV	**Santo Domingo**	**3.17**	**49**	P	**Pn**	**19 45 50.8**	**+3.0**
	comp=Z,20nm,0.3s,baz=263,slow=4.5,SNR=10						
SDV				S	**Sn**	**19 46 28.5**	**+1.4**
	comp=Z,38nm,0.5s,baz=255,slow=20,SNR=16						
ANIL	**Santa Ana**	**3.27**	**226**	*e*P	**Pn**	**19 45 52.4**	**+3.2**
ANIL				*e*S	**Sn**	**19 46 30.6**	**+1.2**
ARGC	**Ariguani, Magd**	**3.27**	**339**	*e*P	**Pn**	**19 45 51.9**	**+3.0**
ARGC				*e*S	**Sn**	**19 46 29.3**	**+0.2**
ARGC				*i*		19 46 40.5	
	comp=Z,18nm,0.2s						
CRJC	**Cerrejon, Guaj**	**4.21**	**2**	*e*P	**Pn**	**19 46 01.8**	**+0.9**
CRJC				*e*S	**Sn**	**19 46 48.3**	**-2.3**
CRJC				*i*		19 46 58.6	
	comp=Z,27nm,0.2s						
MACC	**Macarena, Meta**	**4.68**	**190**	*e*P	**Pn**	**19 46 07.8**	**+0.8**
MACC				*e*S	**Sn**	**19 46 59.3**	**-2.2**
JAMC	**Jamundi, Valle**	**5.07**	**226**	*e*P	**Pn**	**19 46 13.8**	**+1.6**
JAMC				*e*S	**Sn**	**19 47 10.9**	**+0.1**
JAMC				*i*		19 47 21.9	
	comp=Z,6.4nm,0.5s						
MALC	**Bahia Malaga**	**5.08**	**237**	*e*P	**Pn**	**19 46 14.9**	**+2.7**
MALC				*e*S	**Sn**	**19 47 08.8**	**-2.0**
GARC	**Garzon, Huila**	**5.18**	**208**	*e*P	**Pn**	**19 46 15.7**	**+1.9**
GARC				*e*S	**Sn**	**19 47 11.0**	**-2.6**
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPab**	**20 04 28.5**	**-3.1**
	comp=Z,0.3nm,0.5s,baz=141,slow=3.3,SNR=2.4						
WRA	**Warramunga Arr**	**150.39**	**241**	PKPbc	**PKPab**	**20 04 33.2**	**-3.5**
	comp=Z,0.2nm,0.4s,baz=107,slow=2.1,SNR=2.7						

*IDC **14** 19:54:04.2±1.2, 21°.94N×144°.63E, h0km, mb3.8/12, mbtmp3.8/14, ML3.1/2, MS4.1/1, Error ellipse: s-maj=39.1km s-min=18.1km az=80.0*
*NEIC **14** 19:54:15.5±1.1, 22°.3N±0°.1×144°.3E±0°.2, h60km±10km, mb4.2/9, Error ellipse: s-maj=28.2km s-min=14.3km az=77.0*

ISC 14 19:54:13.4±1.0, 22°.24N±0°.09×144°.4E±0°.2, h50km, n28, σ1s13/28, mb4.0/16, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.23**	**338**	Pn	**Pn**	**19 55 29.7**	**+0.6**
JCJ				Sn	**Sn**	**19 56 29.0**	**+0.9**
JCJ	**Chichijima**	**5.23**	**338**	Pn	**Pn**	**19 55 27.2**	**-1.9**
	2.7nm,0.3s,baz=232,slow=18,SNR=6.9						
JCJ				Sn	**Sn**	**19 56 25.1**	**-3.0**
	9.9nm,0.3s,baz=126,slow=24,SNR=1.6						
	59nm,0.8s						
MJAR	**Matsushiro Arr**	**15.22**	**341**	Pn	**Pn**	**19 57 45.1**	**0.0**
	baz=151,slow=5.6,SNR=2.4						
	1.0nm,0.9s						
MJB9	**Matsu-Tunnel**	**15.23**	**341**	Pn	**Pn**	**19 57 45.8**	**+0.6**
KSRS	**Korea Array**	**20.77**	**321**	P	**P**	**19 58 51.4**	**+1.3**
	1.1nm,0.8s,baz=140,slow=8.0,SNR=3.4						
	1.1nm,0.8s						
SONM	**Songino Array**	**39.63**	**319**	P	**P**	**20 01 41.3**	**+0.9**
	0.3nm,0.6s,baz=157,slow=7.8,SNR=2.1						
	0.3nm,0.6s						
KNRA	**Kununurra**	**40.66**	**203**	P	**P**	**20 01 49.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**42.63**	**273**	P	**P**	**20 02 04.3**	**-0.9**
	0.3nm,0.5s,baz=66,slow=7.0,SNR=5.9						
	0.3nm,0.5s						
WB2	**Warramunga Arr**	**43.05**	**194**	P	**P**	**20 02 09.0**	**+0.6**
WB2				IAmb	IAmb	20 02 13.8	
	comp=Z,2.5nm,0.9s						
WRA	**Warramunga Arr**	**43.05**	**194**	P	P	20 02 02.8	-5.7
	comp=Z,0.4nm,0.3s,baz=17,slow=8.5,SNR=1.5						
WRA				LR	LR	20 20 50.3	
	comp=Z,251nm,19.4s,baz=220,slow=38						
	comp=Z,0.4nm,0.3s						
ASAR	**Alice Springs**	**46.75**	**193**	P	**P**	**20 02 35.1**	**-2.8**
	comp=Z,0.2nm,0.4s,baz=20,slow=8.9,SNR=2.8						
	comp=Z,0.2nm,0.4s						
SHL	**Shillong**	**47.84**	**285**	P	**P**	**20 02 46.5**	**-0.1**
SHL				IAmb	IAmb	20 03 04.2	
	comp=Z,7.3nm,1.5s						
STKA	**Stephens Creek**	**53.87**	**183**	P	P	20 03 26.5	-5.1
	comp=Z,1.1nm,1.0s,baz=346,slow=8.3,SNR=1.6						
	comp=Z,1.1nm,1.0s						
ZALV	**Zalesovo Beam**	**54.47**	**321**	P	**P**	**20 03 35.8**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=91,slow=9.7,SNR=2.8						
	comp=Z,0.6nm,0.4s						
MK31	**Makanchi Array**	**55.14**	**312**	P	**P**	**20 03 40.8**	**0.0**
MK31				IAmb	IAmb	20 03 47.3	
	comp=Z,2.4nm,1.1s						
MKAR	**Makanchi Array**	**55.14**	**312**	P	**P**	**20 03 40.9**	**+0.1**
MKAR	**Makanchi Array**	**55.14**	**312**	P	**P**	**20 03 41.6**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=85,slow=8.1,SNR=11						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**57.88**	**317**	P	**P**	**20 04 00.6**	**+0.4**
	comp=Z,1.7nm,0.2s,baz=93,slow=7.7,SNR=7.8						
	comp=Z,1.7nm,0.2s						
BPAW	**Bear Paw Mtn.**	**59.19**	**28**	P	**P**	**20 04 08.8**	**-0.2**
BPAW				IAmb	IAmb	20 04 18.2	
	comp=Z,1.6nm,1.1s						
D22K	**Ayikyak River**	**59.78**	**22**	P	**P**	**20 04 14.6**	**+1.6**
ILAR	**Eielson Array**	**61.06**	**27**	P	**P**	**20 04 20.7**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=240,slow=5.1,SNR=2.1						
	comp=Z,0.3nm,0.7s						
BVAR	**Borovoye Array**	**62.98**	**319**	P	**P**	**20 04 35.5**	**+0.7**
	comp=Z,2.2nm,0.4s,baz=87,slow=7.3,SNR=20						
	comp=Z,2.2nm,0.4s						
KKAR	**Karatay Array**	**63.58**	**308**	P	**P**	**20 04 39.8**	**+0.7**
ARU	**Arti**	**69.48**	**324**	P	**P**	**20 05 17.1**	**+0.6**
ARU				IAmb	IAmb	20 05 17.2	
	comp=Z,2.8nm,0.8s						
ABKAR	**Abkulak array**	**69.92**	**316**		**P**	**20 05 19.1**	**-0.2**
ABKAR	**Abkulak array**	**69.92**	**316**	P	**P**	**20 05 19.1**	**-0.2**
FINES	**FINESS Array B**	**83.17**	**335**	P	**P**	**20 06 33.5**	**-0.4**
FINES	**FINESS Array B**	**83.17**	**335**	P	**P**	**20 06 33.7**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=81,slow=3.7,SNR=15						
	comp=Z,0.9nm,0.5s						

*THE **14** 20:21:02.2, 35°.75N×25°.58E, h11km±4km, ML2.4/1, Error ellipse: s-maj=4.1km s-min=0.6km az=288.0*
*ATH **14** 20:21:04.6, 35°.58N×25°.53E, h28km±6km, ML2.8/6, Manual Solution by M.Papanikolaou First location: 2019/05/05 20:52:15, This location: 2019/05/05 20:51:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 11 km; Longitude uncertainty: 5 km*

ISC 14 20:21:00.7±1.6, 35°.76N±0°.03×25°.66E±0°.06, h9km±13km, n18, σ0s49/27, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGNA	**Agios Nikolaos**	**0.57**	**175**	P	**Pb**	**20 21 13.4**	**+0.5**
THR6	**Thira Island,**	**0.63**	**340**	P	**Pb**	**20 21 13.9**	**-0.1**
THR6				S	**Sb**	**20 21 23.9**	**+0.9**
HRKL	**Herakleio**	**0.64**	**226**	P	**Pb**	**20 21 14.0**	**-0.1**
HRKL				S	**Sg**	**20 21 21.1**	**-0.3**
IACM	**Heraklion**	**0.66**	**227**	P	**Pb**	**20 21 14.7**	**+0.2**
THR8	**Santorini-Mono**	**0.66**	**347**	P	**Pb**	**20 21 14.3**	**-0.2**
THR8				S	**Sb**	**20 21 24.9**	**+1.1**
KSTL	**Kastelli Herak**	**0.66**	**227**	P	**Pg**	**20 21 13.5**	**0.0**
KSTL				S	**Sg**	**20 21 22.1**	**-0.1**
THR3	**Thira Island,**	**0.68**	**342**	P	**Pb**	**20 21 14.6**	**-0.2**
THR3				S	**Sb**	**20 21 25.1**	**+0.7**
FRMA	**Ierapetra Chan**	**0.75**	**176**	P	**Pn**	**20 21 17.0**	**-0.4**
FRMA				S	**Sn**	**20 21 28.2**	**-0.7**
	342nm,0.3s						
FRMA	**Ierapetra Chan**	**0.75**	**176**	P	**Pn**	**20 21 17.5**	**0.0**
FRMA				S	**Sb**	**20 21 25.9**	**-0.2**
IDI	**Anoyia**	**0.79**	**233**	P	**Pb**	**20 21 16.5**	**-0.2**
IDI				S	**Sg**	**20 21 26.1**	**0.0**
IDI	**Anoyia**	**0.79**	**233**	P	**Pb**	**20 21 16.4**	**-0.2**
IDI				S	**Sg**	**20 21 26.1**	**0.0**
ZKR	**Zakros**	**0.79**	**145**	P	**Pn**	**20 21 18.5**	**+0.5**
TMBK	**Timbaki Herakl**	**1.00**	**227**	P	**Pn**	**20 21 20.7**	**-0.2**
PRNS	**Prines Rethymn**	**1.03**	**248**	P	**Pn**	**20 21 21.9**	**+0.6**
PRNS	**Prines Rethymn**	**1.03**	**248**	P	**Pn**	**20 21 21.6**	**+0.3**
APE	**Apeiranthos**	**1.31**	**355**	P	**Pn**	**20 21 24.4**	**-0.9**
IMMV	**Iera Moni Meta**	**1.40**	**258**	P	**Pn**	**20 21 26.4**	**-0.1**
GVD	**Gavdhos**	**1.58**	**235**	P	**Pn**	**20 21 28.7**	**-0.3**

*VIE **14** 20:45:18.3±0.6, 51°.53N×16°.32E, h0km, mb2.3/1, ml2.5/2, Error ellipse: s-maj=8.7km s-min=4.3km az=82.0 68 km NW of Wroclaw Suspected Mining induced.*
*PRU **14** 20:45:19.8, 51°.51N×16°.14E, h0km*

ISC 14 20:45:18.4±1.2, 51°.53N±0°.05×16°.16E±0°.03, h0km, n23, σ0s76/48, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**173**	*e*Pg	**Pg**	**20 45 32.1**	**+0.5**
KSP				*e*Sg	**Sg**	**20 45 41.5**	**+0.9**
CHVC	**Chvalec**	**0.94**	**184**	*e*PG	**Pg**	**20 45 37.1**	**+0.6**
CHVC				*e*SG	**Sb**	**20 45 49.9**	**-0.8**
	comp=Z,28nm,0.4s						
OSTC	**Ostas**	**0.97**	**178**	*e*PG	**Pg**	**20 45 37.5**	**+0.5**
OSTC				*e*SG	**Sg**	**20 45 50.4**	**+0.8**
	comp=Z,15nm,0.6s						
UPC	**Upice**	**1.03**	**185**	*e*PG	**Pg**	**20 45 38.2**	**+0.1**
UPC				*e*SG	**Sg**	**20 45 52.2**	**+0.9**
	comp=Z,27nm,0.3s						
DPC	**Dobruska-Polom**	**1.18**	**175**	*e*PG	**Pg**	**20 45 41.1**	**0.0**
DPC				*e*SG	**Sg**	**20 45 56.4**	**0.0**
	comp=Z,18nm,0.5s						
PVCC	**Panska Ves**	**1.42**	**226**	*e*PG	**Pg**	**20 45 45.7**	**+0.1**
PVCC				*e*SG	**Sn**	**20 46 04.9**	**+0.1**
	comp=Z,70nm,0.2s						
BRG	**Berggiesshubel**	**1.54**	**246**	Pg	**Pg**	**20 45 48.3**	**+0.3**
BRG				Sg	**Sg**	**20 46 09.1**	**+1.2**
BRG				Amp		20 46 09.9	
	comp=Z,37nm,0.5s						
RICC	**Richard**	**1.63**	**234**	*e*SG	**Sg**	**20 46 11.5**	**+0.7**
	comp=Z,29nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.84**	**209**	*e*PG	**Pb**	**20 45 52.6**	**-0.3**
PRU	**Pruhonice**	**1.85**	**214**	*e*PG	**Pb**	**20 45 53.1**	**0.0**
PRU				*e*SG	**Sb**	**20 46 17.1**	**+0.3**
	comp=Z,12nm,0.2s						
HSKC	**Hora Svate Kat**	**1.95**	**243**	*e*PG	**Pb**	**20 45 54.9**	**0.0**
HSKC				*e*SG	**Sb**	**20 46 20.2**	**+0.4**
MORC	**Moravsky Berou**	**1.96**	**153**	*e*PN	**Pn**	**20 45 52.1**	**-0.8**
MORC				*e*SG	**Sb**	**20 46 19.7**	**-0.3**
CLL	**Collm**	**1.99**	**265**	*e*Pn	**Pn**	**20 45 52.0**	**-1.3**
CLL				*e*Pg	**Pb**	**20 45 56.0**	**+0.5**
CLL				*e*Sg	**Sb**	**20 46 21.0**	**+0.2**
	comp=Z,19nm,0.3s						
VRAC	**Vranov**	**2.24**	**173**	*e*PN	**Pn**	**20 45 57.2**	**+0.5**
VRAC				*e*SG	**Sb**	**20 46 27.7**	**-0.3**
KRUC	**Moravsky**	**2.47**	**176**	*e*PN	**Pn**	**20 45 59.9**	**0.0**
KRUC				*e*SG	**Sb**	**20 46 35.3**	**+0.6**
OJC	**Ojcow**	**2.65**	**118**	*e*Pg	**Pg**	**20 46 08.3**	**-0.8**
OJC				*e*Sg	**Sg**	**20 46 44.2**	**+0.7**
NKC	**Novy Kostel**	**2.69**	**243**	*e*PN	**Pn**	**20 46 02.7**	**-0.2**
NKC				*e*PG	**Pb**	**20 46 08.4**	**+1.1**
NKC				*e*SG	**Sg**	**20 46 45.0**	**+0.4**
	comp=Z,28nm,0.4s						
KHC	**Kasperske Hory**	**2.92**	**216**	*e*PN	**Pn**	**20 46 05.5**	**-0.6**
KHC				*e*PG	**Pb**	**20 46 11.9**	**+0.6**
KHC				*e*SN	**Sn**	**20 46 39.9**	**-1.9**
KHC				*e*SG	**Sg**	**20 46 50.7**	**-1.3**
	comp=Z,5.5nm,0.4s						
CKRC	**Cesky Krumlov**	**2.96**	**204**	*e*PN	**Pn**	**20 46 07.0**	**+0.3**
CKRC				*e*PG	**Pb**	**20 46 12.8**	**+0.8**
CKRC				*e*SG	**Sg**	**20 46 51.6**	**-1.9**
	comp=Z,8.1nm,0.4s						
LANS	**Liptovska Anna**	**3.19**	**137**	*e*PG	**Pg**	**20 46 20.0**	**+0.6**
LANS				*e*SG	**Sg**	**20 47 01.0**	**+0.3**
VYHS	**Vyhne**	**3.49**	**149**	*e*SG	**Sg**	**20 47 12.0**	**+1.4**
CONA	**Conrad Observa**	**3.61**	**183**	*i* Pn	**Pn**	**20 46 15.2**	**-0.4**
	comp=Z,0.4nm,0.2s						
CONA				*e*Sg	**Sg**	**20 47 13.1**	**-1.1**
	comp=Z,3.0nm,0.3s						
MOA	**Molln**	**3.88**	**199**	*i* Pn	**Pn**	**20 46 19.3**	**0.0**
	comp=Z,1.1nm,0.3s						
MOA				*e*Sg	**Sg**	**20 47 23.1**	**0.0**
	comp=Z,2.1nm,0.3s						

*SJA **14** 20:46:05.7±0.6, 18°.79S×69°.68W, h97km±4km, ML3.4, MW3.6*
*GUC **14** 20:46:07.7±0.7, 18°.80S×69°.62W, h85km±4km, ML3.4*

ISC 14 20:46:09.3±1.9, 18°.83S±0°.05×69°.70W±0°.06, h74km±17km, n26, σ1s94/44, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.53**	**20**	⇓*i*P	**Pn**	**20 46 22.5**	**-0.9**
PB16				*e*S	**Sn**	**20 46 34.1**	**+0.5**
PB16				IAML		20 46 35.0	
	comp=N,1μm,0.3s						
PB16	**IPOC Station P**	**0.53**	**20**	*e*P	**Pn**	**20 46 22.4**	**-0.9**
PB16				*e*S	**Sn**	**20 46 34.8**	**+1.2**
PB16				IAML		20 46 36.0	
	comp=Z,603nm,0.4s						
PB12	**IPOC Station P**	**0.63**	**290**	⇑*i*P	**Pn**	**20 46 23.2**	**-0.7**
PB12				*e*S	**Sn**	**20 46 35.6**	**+1.0**
PB12				IAML		20 46 36.5	
	comp=E,3μm,0.3s						
PB12	**IPOC Station P**	**0.63**	**290**	*e*P	**Pn**	**20 46 23.2**	**-0.7**
PB12				*e*S	**Sn**	**20 46 36.1**	**+1.5**
PB12				IAML		20 46 37.9	
	comp=Z,1μm,0.3s						
AP01	**Chacalluta**	**0.76**	**307**	⇓*i*P	**Pn**	**20 46 24.6**	**-0.5**
AP01				IAML		20 46 39.0	
	comp=N,3μm,0.3s						
AP01	**Chacalluta**	**0.76**	**307**	*e*P	**Pn**	**20 46 24.1**	**-1.1**
AP01				IAML		20 46 43.6	
	comp=Z,1μm,0.2s						
GO01	**Chusmiza**	**0.96**	**150**	⇓*i*P	**Pn**	**20 46 27.2**	**-0.8**
GO01				*e*S	**Sn**	**20 46 42.4**	**+0.6**
GO01				IAML		20 46 43.6	
	comp=E,1μm,0.1s						
GO01	**Chusmiza**	**0.96**	**150**	*e*P	**Pn**	**20 46 27.2**	**-0.8**
GO01				*e*S	**Sn**	**20 46 43.4**	**+1.6**
PB18	**Visviri**	**1.25**	**10**	*e*P	**Pn**	**20 46 30.5**	**-1.2**
PB08	**IPOC Station P**	**1.40**	**158**	⇓*i*P	**Pn**	**20 46 32.4**	**-1.1**
PB08				*e*S	**Sn**	**20 46 51.6**	**+0.1**
PB08				IAML		20 46 53.1	
	comp=E,941nm,0.2s						
PB08	**IPOC Station P**	**1.40**	**158**	*e*P	**Pn**	**20 46 32.2**	**-1.2**
PB08				*e*S	**Sn**	**20 46 52.6**	**+1.1**
PB08				IAML		20 46 53.1	
	comp=Z,406nm,0.3s						
HMBC	**Humberstone**	**1.45**	**187**	*e*P	**Pn**	**20 46 32.4**	**-1.4**
HMBC				*e*S	**Sn**	**20 46 51.9**	**-0.4**
HMBC				IAML		20 46 55.1	
	comp=N,585nm,0.3s						
HMBC	**Humberstone**	**1.45**	**187**	*e*P	**Pn**	**20 46 32.4**	**-1.4**
HMBC				*e*S	**Sn**	**20 46 52.3**	**0.0**
TA02	**Huaiquique**	**1.49**	**196**	*e*P	**Pn**	**20 46 33.6**	**-0.6**
TA02				*e*S	**Sn**	**20 46 52.8**	**-0.3**
TA02				IAML		20 47 03.0	
	comp=Z,422nm,0.1s		

4.2nm,1.1s,baz=134,slow=8.2,SNR=6.8
4.2nm,1.1s
ARCES **ARCESS Array B** 53.00 338 P **P** 20 56 49.2 +1.0
2.3nm,1.0s,baz=102,slow=6.8,SNR=1.2
2.3nm,1.0s
HFS **Hagfors** 56.25 325 P **P** 20 57 11.8 -0.1
3.3nm,1.0s,baz=92,slow=10,SNR=4.1
3.3nm,1.0s
WRA **Warramunga Arr** 68.26 129 P **P** 20 58 32.7 -0.3
0.5nm,0.9s,baz=322,slow=6.4,SNR=2.6
0.5nm,0.9s
ASAR **Alice Springs** 70.52 132 P **P** 20 58 47.2 +0.3
0.4nm,0.6s,baz=310,slow=6.0,SNR=7.2
0.4nm,0.6s

---

*IDC **14** 20:47:57.9±2.6, 22°.08N×143°.38E, h238km±25km, mb3.2/7, mbtmp3.8/9, Error ellipse: s-maj=74.4km s-min=13.8km az=79.0*

ISC 14 20:47:58.6±2.2, 22°.3N±0°.1×143°.6E±0°.6, h250km, n9, σ2°90/10, mb3.3/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	4.99	346	P	**Pn**	20 49 13.9	-0.2
	60nm,0.7s,baz=208,slow=19,SNR=8.7						
JCJ				S	**S**	20 50 10.5	-3.9
	31nm,0.3s,baz=216,slow=19,SNR=9.8						
MJAR	**Matsushiro Arr**	14.98	343	P	**Pn**	20 51 21.1	+2.6
	0.4nm,0.3s,baz=171,slow=11,SNR=5.4						
KSRS	**Korea Array**	20.29	322	P	**P**	20 52 16.4	+0.8
	0.9nm,0.5s,baz=145,slow=9.0,SNR=7.3						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	42.89	193	P	**P**	20 55 31.8	-1.0
	1.2nm,0.7s,baz=13,slow=8.3,SNR=17						
	1.2nm,0.7s						
ASAR	**Alice Springs**	46.60	192	P	**P**	20 56 00.4	-1.6
	0.3nm,0.6s,baz=15,slow=12,SNR=7.5						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	54.59	312	P	**P**	20 57 00.8	-0.5
	0.4nm,0.7s,baz=86,slow=9.7,SNR=2.8						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	57.37	317	P	**P**	20 57 21.2	+0.4
	0.3nm,0.4s,baz=94,slow=7.4,SNR=5.2						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	62.48	319	P	**P**	20 57 56.4	+0.9
	1.5nm,0.3s,baz=93,slow=8.2,SNR=11						
	1.5nm,0.3s						
FINES	**FINESS Array B**	82.84	335	P	**P**	20 59 55.6	+0.8
	0.8nm,0.4s,baz=64,slow=3.2,SNR=12						
	0.8nm,0.4s						

DJA 14 20:49:09.1±0.5, 10°S±5°×10°9E±°, h10km, M4.0/13, mb4.3/3, MLv3.8/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	2.24	352	P	Pn	20 49 45.2	-1.1
YOGI	**Yogyakarta**	2.66	35	P	Pn	20 49 52.5	+0.4
KPJI	**Karang Pucung**	2.67	4	P	Pn	20 49 53.3	+1.0
UGM	**Wanagama**	2.72	40	P	Pn	20 49 51.3	-1.7
WOJI	**Wonogiri, Jawa**	3.04	45	P	Pn	20 49 57.3	-0.1
CNJI	**Cibinong**	3.14	329	P	Pn	20 49 59.0	+0.4
LEM	**Lembang**	3.37	340	P	Pn	20 50 02.6	+0.6
NGJI	**Ngawi**	3.75	46	P	Pn	20 50 05.0	-2.1
CGJI	**Cibinong**	4.55	318	P	Pn	20 50 19.4	+1.4
GMJI	**Gumukmas**	4.94	70	P	Pn	20 50 24.5	+1.1
JAGI	**Jajag, Banyuwa**	5.54	74	P	Pn	20 50 31.7	0.0
	33nm,1.2s,0.2nm						
SRBI	**Singaraja**	6.66	74	P	Pn	20 50 47.3	+0.3
	54nm,1.6s,0.4nm						
TWSI	**Taliwang, Sumb**	8.12	82	P	Pn	20 51 07.6	+0.5

---

*VAO **14** 20:53:54.2±0.3, 14°.33S×73°.38W, h10km, mb5.0*
*NEIC **14** 20:53:58.7, 14°.31S×73°.43W, h70km*
*NEIC **14** 20:53:58.7±1.7, 14°.34S±0°.07×73°.44W±0°.08, h58km±5km, mb5.0/123, Mww4.9/11, Error ellipse: s-maj=12.2km s-min=8.2km az=57.0*
*NEIC **14** 20:53:58.7, 14°.41S×73°.63W, h70km, Moment Tensor Solution. Duration: 1§4 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.64; $M_{\theta\theta}$=0.35; $M_{\phi\phi}$=0.30; $M_{r\theta}$=0.34; $M_{\theta\phi}$=2.63; $M_{\phi r}$=-1.16; Fault plane solution: M_o=2.94000×10^{16} NP1:ϕ_s=3.29000°, δ78.50000°, λ=-154.06000°. NP2:ϕ_s=267.75000°, δ64.62000°, λ=-12.75000°. Principal axes: T 3.0501, Plg9.0000°, Azm133.0000°; N -0.2129, Plg62.0000°, Azm26.0000°; P -2.8372, Plg26.0000°, Azm228.0000°;*
*IDC **14** 20:54:00.8±0.8, 14°.26S×73°.42W, h82km±6km, mb4.4/15, mbtmp4.7/20, MS3.6/28 Error ellipse: s-maj=18.9km s-min=10.5km az=61.0*
*GCMT **14** 20:54:06.7±0.5, 14°.47S±0°.03×73°.41W±0°.03, h87km±4km, MW4.8/79, Moment Tensor Solution. s16,c18; s79,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.33±.11; $M_{\theta\theta}$=0.92±.10; $M_{\phi\phi}$=2.24±.11; $M_{r\theta}$=0.48±.06; $M_{\theta\phi}$=0.94±.13; $M_{\phi r}$=-0.88±.08; Best double couple: M_o=2.32500×10^{16} NP1:ϕ_s=344.00000°, δ66.00000°, λ=-132.00000°. NP2: ϕ_s=230.00000°, δ48.00000°, λ=-34.00000°. Principal axes: T 2.6330, Plg11.0000°, Azm103.0000°; N -0.6220, Plg38.0000°, Azm5.0000°; P -2.0170, Plg50.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 20:53:58.9±0.5, 14°.32S±0°.04×73°.44W±0°.06, h66km±4km, h66km:pP-P, n587, σ1§13/571, mb5.0/78, 1C-7D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	4.05	305		**Pn**	20 54 58.3	-0.3
NNA	**Nana**	4.05	305	*eP*	**Pn**	20 54 58.2	-0.3
NNA	**Nana**	4.05	305	P	**Pn**	20 54 58.5	0.0
	1μm,0.4s,baz=144,slow=11,SNR=178						
NNA				S	**Sn**	20 55 42.1	-2.6
	1μm,0.5s,baz=219,slow=16,SNR=3.7						
AP01	**Chacalluta**	5.00	144		**Pn**	20 55 11.0	-0.5
PB18	**Visviri**	5.00	131	Pn	**Pn**	20 55 15.6	+3.6
PB12	**IPOC Station P**	5.20	145	Pn	**Pn**	20 55 13.8	-0.6
LPAZ	**La Paz**	5.48	112	Pn	**Pn**	20 55 23.1	+4.6
LPAZ	**La Paz**	5.48	112	⇑*i*P	**Pn**	20 55 23.2	+4.6
LPAZ	**La Paz**	5.48	112	P	Pn	20 55 23.6	+5.0
	baz=304,slow=11						
PB16	**IPOC Station P**	5.49	137	Pn	**Pn**	20 55 20.9	+2.3
CZSB	**Cruzeiro do Su**	6.59	6	Pn	**Pn**	20 55 34.5	+1.2
GO01	**Chusmiza**	6.69	143		**Pn**	20 55 35.3	+0.3
TA02	**Huaiquique**	6.70	152		**Pn**	20 55 34.4	-0.4
TA01	**Diego Aracena**	6.94	154		**Pn**	20 55 37.5	-0.6
PB08	**IPOC Station P**	7.08	145	Pn	**Pn**	20 55 40.3	-0.1
PATCX	**Punta Patache**	7.18	155		**Pn**	20 55 39.6	-1.8
PB01	**IPOC Station P**	7.67	151		**Pn**	20 55 46.6	-1.4
PB02	**IPOC Station P**	7.73	155		**Pn**	20 55 47.6	-1.4
PB07	**IPOC Station P**	8.10	156		**Pn**	20 55 52.1	-1.9
ETMB	**Extrema**	8.36	58	Pn	**Pn**	20 55 58.8	+1.3
PB09	**IPOC Station P**	8.43	152		**Pn**	20 55 58.1	-0.5
PB04	**IPOC Station P**	8.56	159	Pn	**Pn**	20 55 58.6	-1.7
ATAH	**Atahualpa**	8.65	325	P	**Pn**	20 56 02.9	+1.1
	19nm,0.4s,baz=165,slow=12,SNR=7.6						
ATAH				S	**Sn**	20 57 36.1	-1.9
	22nm,0.6s,baz=19,slow=17,SNR=1.1						
PB06	**IPOC Station P**	9.11	157		**Pn**	20 56 07.5	-0.3
LVC	**Limon Verde**	9.29	153	Pn	**Pn**	20 56 10.1	-0.5
LVC	**Limon Verde**	9.29	153	*eP*	**Pn**	20 56 10.0	-0.5
LVC	**Limon Verde**	9.29	153	P	**Pn**	20 56 10.0	-0.5
	22nm,0.4s,baz=340,slow=9.2,SNR=46						
LVC				S	**Sn**	20 57 48.0	-5.7
	26nm,0.3s,baz=267,slow=21,SNR=8.8						
PB15	**IPOC Station P**	9.60	158		**Pn**	20 56 13.2	-1.5
PB14	**IPOC Station P**	10.64	165	Pn	**Pn**	20 56 27.2	-1.7
TBTG	**Tabatinga, AM**	10.66	19		**Pn**	20 56 27.8	-1.1
TBTG	**Tabatinga, AM**	10.66	19	*eP*	**Pn**	20 56 27.9	-1.0
SAML	**Samuel**	11.37	63	Pn	**Pn**	20 56 36.8	-1.9
SAML	**Samuel**	11.37	63	*eP*	**Pn**	20 56 37.8	-0.9
SAML	**Samuel**	11.37	63	*eP*	**Pn**	20 56 36.9	-1.7
GO02	**Mina Guanaco**	11.37	162	Pn	**Pn**	20 56 37.3	-1.6
MCRA	**Macar, Loja**	11.79	326	Pn	**Pn**	20 56 44.0	-0.5
MCRA	**Macar, Loja**	11.79	326	*eP*	**Pn**	20 56 48.4	+3.9
SIV	**San Ignacio**	12.05	99	P	**Pn**	20 56 48.4	+0.4
	57nm,0.5s,baz=288,slow=10,SNR=197						
AC01	**Pan de Azucar**	12.06	168	Pn	**Pn**	20 56 47.0	-1.0
BOSC	**San Juan Bosco**	12.17	335	Pn	**Pn**	20 56 48.3	-1.5
ARNL	**Arenillas**	12.55	328		**Pn**	20 56 54.7	0.0
BBSD	**Serra de San D**	12.67	105	*eP*	**Pn**	20 56 55.6	-0.8
VILB	**Vilhena**	12.94	86	Pn	**Pn**	20 56 58.9	-1.2
VILB	**Vilhena**	12.94	86	*eP*	**Pn**	20 56 59.1	-1.0
AC02	**Maricunga**	13.08	163		**Pn**	20 57 00.9	-1.5
COHC	**Cochancay**	13.11	333		**Pn**	20 57 02.2	-0.1
COHC	**Cochancay**	13.11	333	*eP*	**Pn**	20 57 03.4	+1.1
AC06	**Mina Casimiro**	13.28	168		**Pn**	20 57 02.6	-2.0
BBRB	**Robore, Bolivi**	13.66	109	*eP*	**Pn**	20 57 07.4	-2.3
TEFE	**Tefe**	13.81	40	*eP*	**Pn**	20 57 10.7	-1.1
CHSH	**Refugio Sur-Vo**	13.83	337		**Pn**	20 57 13.4	+0.8
PTLB	**Pontes e Lacer**	13.87	96		**Pn**	20 57 11.1	-1.4
PTLB	**Pontes e Lacer**	13.87	96	*eP*	**Pn**	20 57 10.5	-2.0
PIAT	**Ana Tenorio**	14.07	340	*eP*	**P**	20 57 19.5	-1.9
SLOR	**San Lorenzo -**	14.40	339		**Pn**	20 57 20.6	+0.6
PTLC	**Puerto Leguiza**	14.46	355	*eP*	**Pn**	20 57 18.2	-2.2
PPLP	**Puerto Lpez**	14.62	330	*eP*	**Pn**	20 57 23.4	+0.9
LCO	**Las Campanas**	14.83	171		**Pn**	20 57 26.4	+1.1
BONI	**La Bonita**	15.23	344	*eP*	**Pn**	20 57 30.6	+0.1
IMBA	**Imbabura, San**	15.25	342	P	**Pn**	20 57 33.1	+2.1
OTAV	**Otavalo**	15.30	341	P	**P**	20 57 34.0	-1.1
OTAV	**Otavalo**	15.30	341	*eP*	**P**	20 57 38.5	+3.4
OTAV	**Otavalo**	15.30	341	*eP*	**Pn**	20 57 32.4	+0.8
PAC1	**Pacto, Paraso**	15.44	339	*eP*	**P**	20 57 39.9	+3.6
SGCB	**SEo Gabriel d**	15.47	25	*eP*	**Pn**	20 57 32.2	-1.1
TULM	**Tulcn-Chalpat**	15.55	344	P	**P**	20 57 39.0	+1.1
TULM				IAmb	IAmb	20 57 43.2	
	comp=Z,74nm,1.2s						
CO01	**Juntas del Tor**	15.88	169	P	**Pn**	20 57 39.3	+0.6
GCUF	**Volcan Galeras**	15.93	346	*eP*	**P**	20 57 43.8	+1.7
FLOC	**Florencia**	15.96	352	*eP*	**P**	20 57 42.2	+0.3
GO04	**Tololo Observa**	15.96	172	P	**Pn**	20 57 40.2	+0.5
CRUC	**La Cruz**	16.17	347	*eP*	**P**	20 57 48.0	+3.4
PDRB	**Porto dos Gac**	16.50	83	*eP*	**Pn**	20 57 44.3	-2.1
BBAC	**Balboa, Cauca**	16.67	347	*eP*	**P**	20 57 52.5	+2.4
MURT	**Porto Murtinho**	16.72	118	*eP*	**Pn**	20 57 47.5	-1.5
MACA	**Manacapuru-AM**	16.77	50		**Pn**	20 57 48.0	-1.7
MACA				IAmb	IAmb	20 57 53.5	
	comp=Z,271nm,1.4s						
MACA	**Manacapuru-AM**	16.77	50	*eP*	**Pn**	20 57 48.1	-1.7
BDQN	**Bodoquena, MS**	17.04	113	*eP*	**Pn**	20 57 51.6	-1.4
POPC	**Popayan, Colom**	17.06	349‖	*eP*	**P**	20 57 56.8	+2.4
TICA	**Tres Isletas**	17.12	137	*eP*	**Pn**	20 57 53.8	-0.2
SALV	**Santo Antonio**	17.20	98	*eP*	**Pn**	20 57 54.4	-0.6
CLDB	**Colider**	17.55	81	*eP*	**Pn**	20 57 58.8	-0.6
ESFA	**Espinillo Form**	17.59	129	*eP*	**Pn**	20 57 59.4	-0.4
JAMC	**Jamundi, Valle**	17.72	349	*eP*	**Pn**	20 58 04.6	+3.0
CFA	**Coronel Fontan**	17.85	165	P	**P**	20 58 02.5	-0.3
	comp=Z,4.0nm,0.5s,baz=350,slow=11,SNR=6.6						
CFA				LR	LR	21 04 49.0	
	comp=Z,45nm,21.8s,baz=64,slow=36						
PRAC	**Prado**	17.98	355	*eP*	Pn	20 58 11.9	+7.3
AQDB	**Aquidauana**	17.99	112	P	**P**	20 58 04.3	-0.1
AQDB	**Aquidauana**	17.99	112	*eP*	**P**	20 58 03.7	-0.7
PP1B	**Ponte de Pedra**	18.14	103	*eP*	**P**	20 58 06.0	0.0
ORTC	**Ortega, Tolima**	18.20	354	*eP*	**Pn**	20 58 09.3	+2.0
VA03	**San Esteban**	18.54	172	P	**Pn**	20 58 11.4	0.0
VA03				IAmb	IAmb	20 58 23.5	
	comp=Z,113nm,1.9s						
ROC1	**El Roble**	18.70	174	P	**P**	20 58 12.5	+0.2
ROC1				IAmb	IAmb	20 58 14.2	
	comp=Z,32nm,0.6s						
CHIC	**Chingaza**	18.83	359	*eP*	**Pn**	20 58 18.0	+2.8
PEL	**Peldehue**	18.90	173	P	**Pn**	20 58 15.3	-0.3
MT02	**Curacav**	18.97	174	P	**P**	20 58 15.3	+0.3
MT02				IAmb	IAmb	20 58 15.9	
	comp=Z,126nm,1.8s						
ROSC	**El Rosal**	19.06	357	P	**P**	20 58 17.6	+1.1
ROSC	**El Rosal**	19.06	357	P	**P**	20 58 16.7	+0.2
	comp=Z,5.0nm,0.4s,baz=196,slow=19,SNR=2.0						
SCCA	**San Cayetano,**	19.07	136	*eP*	**Pn**	20 58 17.0	-0.6
NPGB	**Novo Progresso**	19.17	70	*eP*	**P**	20 58 18.1	+0.7
CPUP	**Villa Florida**	19.23	131	P	**P**	20 58 18.1	+0.2
CPUP	**Villa Florida**	19.23	131	*eP*	**P**	20 58 18.7	+0.8
CPUP	**Villa Florida**	19.23	131	P	**P**	20 58 18.5	+0.6
	comp=Z,14nm,0.7s,baz=303,slow=10,SNR=24						
CPUP				PcP	**PcP**	21 02 39.3	+0.3
	comp=Z,2.8nm,0.8s,baz=294,slow=20,SNR=2.5						
CPUP				LR	LR	21 07 20.1	
	comp=Z,254nm,21.5s,baz=314,slow=42						
PLMC	**San Jos del P**	19.31	351	*eP*	**Pn**	20 58 20.5	-0.1
MT09	**Talagante**	19.49	174	P	**P**	20 58 20.9	+0.1
GUY2C	**Guyana, Caldas**	19.52	354	*eP*	**Pn**	20 58 24.9	+1.5
MT13	**San Alfonso**	19.55	172	P	**P**	20 58 22.1	+0.6
LMEL	**Las Melosas**	19.66	172	P	**Pn**	20 58 23.8	-0.8
H03N1	**Juan Fernandez**	19.67	194	T	T	21 17 10.9	
	baz=18,slow=73,SNR=447						
H03N2	**Juan Fernandez**	19.68	194	T	T	21 17 11.7	
	baz=18,slow=73,SNR=325						
H03N3	**Juan Fernandez**	19.69	194	T	T	21 17 13.7	
	baz=18,slow=73,SNR=567						
BO04	**La Punta**	19.75	173	P	**P**	20 58 24.1	+0.6
NORC	**Norcasia**	19.81	356	*eP*	**Pn**	20 58 26.6	+0.1
H03S3	**Juan Fernandez**	20.04	193	T	T	21 17 36.0	
	baz=10						
ITTB	**Itaituba**	20.05	62	*eP*	**P**	20 58 27.5	+0.5
H03S2	**Juan Fernandez**	20.05	193	T	T	21 17 38.0	
	baz=10						
H03S1	**Juan Fernandez**	20.06	193	T	T	21 17 35.8	
	baz=10						
RUSC	**La Rusia**	20.09	1	*eP*	**P**	20 58 29.2	+1.4
BO01	**Tunca**	20.09	174	P	**P**	20 58 28.0	+0.7
C2SB	**Chapadao do Su**	20.23	105	*eP*	**P**	20 58 29.6	+0.7
BO02	**Sierra Bellavi**	20.52	174	P	**P**	20 58 32.3	+0.4
BO02				IAmb	IAmb	20 58 35.2	
	comp=Z,30nm,0.8s						
MECA	**Mercedes**	20.53	139	*eP*	**P**	20 58 32.5	+0.5
PTBC	**PUERTO BERRIO,**	20.75	357	*eP*	**P**	20 58 35.1	+0.6
BARC	**Barichara**	20.78	1	*eP*	**P**	20 58 35.8	+0.7
ARAG	**Araguaiana, MT**	20.93	97	*eP*	**P**	20 58 35.8	-0.7
BOAV	**Boa Vista**	20.97	39	P	**P**	20 58 36.9	0.0
BOAV				IAmb	IAmb	20 58 39.8	
	comp=Z,31nm,0.8s						
BOAV	**Boa Vista**	20.97	39	*eP*	Pn	20 58 39.0	-1.1
BOAV	**Boa Vista**	20.97	39	*eP*	**P**	20 58 38.3	+1.5
TRCB	**Terra Rica**	21.43	116	P	**P**	20 58 41.1	-0.6
TRCB				IAmb	IAmb	20 58 48.6	
	comp=Z,75nm,0.6s						
TRCB	**Terra Rica**	21.43	116	*eP*	**P**	20 58 42.0	+0.2
PAMC	**Pamplona, Colo**	21.54	2	*eP*	**P**	20 58 45.0	+1.6
SNDB	**Serra Nova Dou**	21.69	86	*eP*	**P**	20 58 44.9	+0.4
ZARC	**Zaragoza, Cauc**	21.72	356	*eP*	**P**	20 58 45.4	+0.6
ITQB	**Itaqui**	21.78	137	P	**P**	20 58 46.0	+0.7
ITQB				IAmb	IAmb	20 58 49.1	
	comp=Z,94nm,0.9s						
ITQB	**Itaqui**	21.78	137	*eP*	**P**	20 58 46.1	+0.7
PCMB	**Pacaembu**	22.29	112	*eP*	**P**	20 58 50.4	-0.6
CRSM	**Crissiumal (Br**	22.32	129	*eP*	**P**	20 58 51.0	-0.3
UNIS	**Unistalda (Bra**	22.46	134	*eP*	**P**	20 58 53.9	+1.2
PTGB	**Pitanga**	22.61	120	*eP*	**P**	20 58 53.9	-0.6
MALB	**Monte Alegre**	22.63	59	*eP*	**P**	20 58 55.7	+1.0
ITRB	**Iturama**	22.70	107	*eP*	**P**	20 58 54.6	-0.8
LDASE	**Londrina, Braz**	22.94	116	*eP*	**P**	20 58 57.5	-0.4
SDV	**Santo Domingo**	23.23	7	P	**P**	20 58 59.4	-1.4
SDV	**Santo Domingo**	23.23	7	*eP*	**P**	20 59 00.3	-0.5
SDV	**Santo Domingo**	23.23	7	LR	LR	21 08 54.8	
	comp=Z,83nm,19.6s,baz=180,slow=39						
ITAB	**Concordia**	23.65	126	P	**P**	20 59 03.4	-1.2
ITAB	**Concordia**	23.65	126	*eP*	**P**	20 59 05.2	+0.6
BAUV	**El Baul**	23.73	13	P	**P**	20 59 04.8	-0.4
BAUV				IAmb	IAmb	20 59 25.9	
	comp=Z,105nm,1.0s						
SJCC	**San Jacinto, C**	24.13	356	*eP*	**P**	20 59 10.1	+1.2
FRTB	**Fartura**	24.28	115	*eP*	**P**	20 59 10.6	+0.3
CPSB	**Cacapava Do Su**	24.39	134	*eP*	**P**	20 59 11.6	+0.4
BDFB	**Brasília**	24.59	96	P	**P**	20 59 12.4	-0.9
BDFB	**Brasília**	24.59	96	P	**P**	20 59 12.7	-0.6
	comp=Z,8.5nm,0.6s,baz=263,slow=13,SNR=15						
	comp=Z,8.5nm,0.6s						
PRPB	**Parauapebas**	24.59	73	*eP*	**P**	20 59 13.8	+0.5
BB19B	**Bebedouro**	24.64	109	*eP*	**P**	20 59 14.3	+0.7
BRU2	**Volcan**	24.73	338	P	**P**	20 59 15.4	+0.8
BRU2				IAmb	IAmb	20 59 19.3	
	comp=Z,79nm,1.3s						
PLTB	**Pedras Altas**	25.11	137	P	**P**	20 59 18.1	+0.3
PLTB				IAmb	IAmb	20 59 26.9	
	comp=Z,25nm,0.6s						
PLTB	**Pedras Altas**	25.11	137	*eP*	**P**	20 59 18.8	+1.1
GO06	**Curarrehue**	25.22	176	P	**P**	20 59 18.5	-0.3
MCPB	**Macapa, AP**	25.29	59	*eP*	**P**	20 59 20.7	+1.1
SRBA	**San Rafael, Bu**	25.39	337	P	**P**	20 59 19.6	-0.9
CNLB	**Canela**	25.66	129	*eP*	**P**	20 59 23.1	+0.3
TRQA	**Tornquist**	25.73	159	P	**P**	20 59 23.7	+0.4
TRQA	**Tornquist**	25.73	159	*eP*	**P**	20 59 25.8	+2.5
RCLB	**Rio Claro- Sao**	25.84	112	*eP*	**P**	20 59 25.0	+0.5
SMTB	**Santa Maria do**	25.88	81	*eP*	**P**	20 59 26.2	+1.2
PMNB	**Patos De Minas**	26.22	103	*eP*	**P**	20 59 27.7	-0.3
PLCA	**Paso Flores**	26.43	175	P	**P**	20 59 29.3	-0.4
PLCA	**Paso Flores**	26.43	175	*eP*	**P**	20 59 30.0	+0.3
PLCA	**Paso Flores**	26.43	175	P	**P**	20 59 29.1	-0.6
	comp=Z,7.8nm,0.8s,baz=340,slow=12,SNR=13						
PLCA				PcP	**PcP**	21 02 53.3	-0.3
	comp=Z,3.5nm,1.0s,baz=352,slow=4.4,SNR=3.1						
	comp=Z,7.8nm,0.8s						
VAO	**Valinhos**	26.49	113	*eP*	**P**	20 59 31.4	+1.0
JTS	**Las Juntas de**	26.99	334	LR	LR	21 09 36.3	
	comp=Z,88nm,21.3s,baz=169,slow=35						
PARB	**Paraibuna**	27.77	113	*eP*	**P**	20 59 43.2	+1.3
BSCB	**Bom Sucesso**	28.08	108	*eP*	**P**	20 59 45.0	+0.3
MDP	**Montagnes des**	28.25	48	LR	LR	21 11 08.6	
	comp=Z,123nm,18.9s,baz=33,slow=36						
ESAR	**Angra dos Reis**	28.75	112	*eP*	**P**	20 59 51.7	+1.2
DIAM	**Diamantina, MG**	28.82	102	*eP*	**P**	20 59 51.1	-0.2
DUB01	**Friburgo-RJ**	30.45	109	*eP*	**P**	21 00 07.7	+2.0
ROSB	**Rosrio**	31.07	71	*eP*	**P**	21 00 11.7	+0.5
SJMB	**Sao Joao De Ma**	31.20	102	*eP*	**P**	21 00 13.5	+1.2
ALF01	**Guarapari-ES**	31.78	106	*eP*	**P**	21 00 18.6	+1.3
GUA01	**Guaratinga, BA**	32.47	98	*eP*	**P**	21 00 23.8	+0.3
MTO3	**Montecristo**	32.60	330	P	**P**	21 00 24.1	-0.6
ABR01	**Abrolhos, BA**	33.53	101	*eP*	**P**	21 00 33.4	+0.7
TEIG	**Tepich**	37.31	337	P	**P**	21 01 05.1	+0.2
TEIG				IAmb	IAmb	21 01 12.7	
	comp=Z,23nm,1.3s						
TEIG	**Tepich**	37.31	337	P	**P**	21 01 05.1	+0.2
TEIG				PcP	**PcP**	21 03 24.4	+1.1
CMIG	**Matias Romero**	37.72	325	LR	LR	21 16 03.4	
	comp=Z,44nm,19.1s,baz=188,slow=35						
RCBR	**Riachuelo**	37.86	81	LR	LR	21 16 35.2	
	comp=Z,83nm,18.9s,baz=240,slow=36						
BRAL	**Brewton**	47.09	344	P	**P**	21 02 24.0	-0.3
	baz=162						
NHSC	**New Hope**	47.60	352	P	**P**	21 02 28.3	0.0
NHSC	**New Hope**	47.60	352	P	**P**	21 02 28.9	+0.6
	baz=171						
HBVL	**Hebbronville**	47.89	329	P	**P**	21 02 31.1	+0.5
HBVL				IAmb	IAmb	21 02 32.5	
	comp=Z,38nm,1.1s						
152A	**Waverly Hall**	47.96	347	P	**P**	21 02 30.0	-1.1
152A				IAmb	IAmb	21 02 30.8	
	comp=Z,11nm,0.9s						
LRAL	**Lakeview Retre**	48.84	345	P	**P**	21 02 37.0	-0.9
	baz=162						
HKT	**Hockley**	49.03	334	P	**P**	21 02 39.0	-0.3
HKT				IAmb	IAmb	21 02 42.6	
	comp=Z,8.4nm,1.1s						
BIRD	**Birdtown, Kers**	49.15	352	P	**P**	21 02 40.1	-0.2
BIRD				IAmb	IAmb	21 02 41.1	
	comp=Z,24nm,0.8s						
833A	**Chaparral WMA,**	49.28	329	P	**P**	21 02 41.3	-0.1
833A	**Chaparral WMA,**	49.28	329	P	**P**	21 02 41.5	+0.1
	baz=146,SNR=6.2						
KMSC	**Kings Mountain**	49.76	352	P	**P**	21 02 44.9	0.0
	baz=170						
FPAL	**Fort Paine**	49.95	347	P	**P**	21 02 45.3	-1.1
FPAL				IAmb	IAmb	21 02

MSTX	Muleshoe	55.56 330	P	P	21 03 27.3 -0.6
	baz=145				
AMTX	Amarillo	55.80 332	P	P	21 03 28.6 -1.0
AMTX			IAmb	IAmb	21 03 30.6
	comp=Z,10nm,0.9s				
AMTX	Amarillo	55.80 332	P	P	21 03 28.9 -0.7
	baz=146				
SFIN	Lafayette	55.88 347	P	P	21 03 28.1 -1.8
	baz=164				
BINY	Binghamton	56.29 358	P	P	21 03 33.3 +0.5
BINY	Binghamton	56.29 358	P	P	21 03 33.1 +0.3
	baz=177				
HDIL	Hopedale	56.55 346	P	P	21 03 33.8 -0.9
	baz=162				
319A	Douglas	57.00 323	P	P	21 03 38.4 +0.2
121A	Cookes Peak, D	57.02 325	P	P	21 03 39.0 +0.6
	baz=140,SNR=17				
ANMO	Albuquerque	58.16 328	P	P	21 03 46.0 -0.5
ANMO			IAmb	IAmb	21 03 47.3
	comp=Z,8.9nm,0.8s				
ANMO	Albuquerque	58.16 328	P	P	21 03 46.3 -0.1
	baz=142				
ANMO	Albuquerque	58.16 328	LR	LR	21 31 06.1
	comp=Z,41nm,18.7s,baz=162,slow=38				
ANMO	Albuquerque	58.16 328	P	P	21 03 46.2 -0.2
ASCN	Ascension	58.19 91	P	P	21 03 44.4 -2.4
CBKS	Cedar Bluff	58.30 336	P	P	21 03 47.4 +0.3
	baz=150				
TUC	Tucson	58.55 323	P	P	21 03 48.7 -0.4
TUC			IAmb	IAmb	21 03 50.0
	comp=Z,11nm,1.1s				
TUC	Tucson	58.55 323	P	P	21 03 49.1 +0.1
	baz=137				
TUC	Tucson	58.55 323	P	P	21 03 49.1 +0.1
TUC			pP	pP	21 04 06.0 -1.4
T25A	Trinidad	58.91 331	P	P	21 03 51.5 -0.1
T25A	Trinidad	58.91 331	P	P	21 03 51.9 +0.3
	baz=144,SNR=13				
PKME	Peaks-Kenny Pk	59.42 3	P	P	21 03 54.8 +0.2
	baz=185				
214A	Organ Pipe Nat	59.51 321	P	P	21 03 56.2 +0.6
	baz=135,SNR=8.8				
MNTQ	Montreal, Queb	59.54 360	P	P	21 03 55.4 -0.1
KSCO	Kaye Shedlock'	59.66 334	P	P	21 03 56.7 +0.1
	baz=147				
SDCO	Great Sand Dun	59.91 331	P	P	21 03 58.5 -0.1
SDCO	Great Sand Dun	59.91 331	P	P	21 03 58.7 +0.1
	baz=144,SNR=50				
BGNE	Belgrade	59.98 339	P	P	21 03 57.8 -0.8
BGNE	Belgrade	59.98 339	P	P	21 03 57.9 -0.7
	baz=152				
W18A	Petrified Fore	60.02 326	P	P	21 03 59.4 +0.2
W18A	Petrified Fore	60.02 326	P	P	21 03 59.5 +0.2
	baz=139,SNR=7.4				
S22A	4UR Ranch, Cre	60.55 330	P	P	21 04 03.1 +0.2
	baz=142,SNR=13				
Q24A	Divide	60.73 332	P	P	21 04 03.9 -0.3
	baz=144				
MVCO	Mesa Verde	60.96 328	P	P	21 04 05.1 -0.6
MVCO			IAmb	IAmb	21 04 06.7
	comp=Z,16nm,1.0s				
MVCO	Mesa Verde	60.96 328	P	P	21 04 05.9 +0.2
	baz=141,SNR=7.0				
WUAZ	Wupatki	61.22 325	P	P	21 04 07.7 +0.3
WUAZ	Wupatki	61.22 325	P	P	21 04 08.5 +1.2
	baz=137,SNR=17				
GLA	Glamis	61.49 321	P	P	21 04 09.3 +0.2
	baz=133				
ECSD	EROS Data Cent	61.54 341	P	P	21 04 08.4 -0.8
ECSD	EROS Data Cent	61.54 341	P	P	21 04 08.6 -0.6
	baz=154				
ISCO	Idaho Springs	61.62 332	P	P	21 04 10.2 +0.1
ISCO			IAmb	IAmb	21 04 11.1
	comp=Z,19nm,1.4s				
ISCO	Idaho Springs	61.62 332	P	P	21 04 10.3 +0.1
	baz=144,SNR=10				
SMCO	Snowmass	61.75 331	P	P	21 04 10.8 -0.4
SMCO			IAmb	IAmb	21 04 12.5
	comp=Z,14nm,0.8s				
SPMN	Marine on St.	61.81 345	P	P	21 04 10.5 -0.4
	baz=159				
PDMCI	Parker Dam,Lak	61.94 322	P	P	21 04 12.1 0.0
	baz=134				
IKP	In-Ko-Pah, Jac	62.02 320	P	P	21 04 13.0 +0.3
	baz=132				
BC3	Big Chuckawall	62.29 321	P	P	21 04 14.8 +0.3
	baz=133,SNR=14				
MONP2	Monument Peak	62.37 320	P	P	21 04 15.9 +0.7
	baz=132,SNR=6.0				
BAR	Barrett	62.39 319	P	P	21 04 14.9 -0.3
BAR			IAmb	IAmb	21 04 17.2
	comp=Z,14nm,0.9s				
IRM	Iron Mountain	62.44 322	P	P	21 04 16.1 +0.7
	baz=134,SNR=16				
NEE2	Needles Airpor	62.55 322	P	P	21 04 16.7 +0.6
	baz=134				
N23A	Red Feather La	62.66 333	P	P	21 04 17.4 +0.4
	baz=144				
109C	Camp Elliot, M	62.80 319	P	P	21 04 19.1 +1.3
	baz=131				
BELC	Belle Mtn. Jos	62.85 321	P	P	21 04 19.3 +1.0
	baz=133,SNR=7.2				
TPFO	Pinon Flats	62.87 320	P	P	21 04 19.5 +1.1
	baz=132,SNR=9.4				
PFO	Pinyon Flats O	62.88 320	P	P	21 04 18.2 -0.2
PFO			IAmb	IAmb	21 04 20.1
	comp=Z,14nm,1.0s				
PFO	Pinyon Flats O	62.88 320	P	P	21 04 19.6 +1.1
	baz=132,SNR=9.7				
PFO	Pinyon Flats O	62.88 320	P	P	21 04 18.8 +0.3
O20A	White River Ci	63.11 331	P	P	21 04 20.3 +0.3
	baz=142,SNR=8.5				
KNB	Kanab	63.11 325	P	P	21 04 20.4 +0.4
KNB			IAmb	IAmb	21 04 22.0
	comp=Z,20nm,1.0s				
GMRC	Granite Mounta	63.18 322	P	P	21 04 20.9 +0.4
	baz=133,SNR=6.8				
MURC	Murrieta	63.33 320	P	P	21 04 21.8 +0.4
	baz=132				
V12A	Nelson	63.35 323	P	P	21 04 21.4 -0.1
V12A			IAmb	IAmb	21 04 22.9
	comp=Z,9.7nm,1.0s				
HEC	Hector,Ludlow	63.62 321	P	P	21 04 24.0 +0.7
	baz=133,SNR=11				
SCI2	San Clemente I	63.78 318	P	P	21 04 24.9 +0.6
	baz=130				
MVU	Marysvale	63.87 327	P	P	21 04 25.3 +0.2
BFSC	Mount Baldy Ra	64.04 320	P	P	21 04 26.5 +0.3
	baz=131				
GSC	Goldstone, Bar	64.22 321	P	P	21 04 27.9 +0.7
	baz=132,SNR=8.8				
K22A	Casper	64.33 333	P	P	21 04 28.1 +0.1
	baz=144				
RSSD	Black Hills	64.51 336	P	P	21 04 29.8 +0.7
	baz=147				
RSSD	Black Hills	64.51 336	P	P	21 04 29.3 +0.2
EDW2	Edwards Air Fo	64.67 320	P	P	21 04 30.3 +0.1
	baz=131,SNR=8.0				
LRMC	Laurel Mtn Rad	64.87 321	P	P	21 04 32.6 +1.1
	baz=132				
TPNV	Topopah Spring	65.01 323	P	P	21 04 33.5 +1.0
	baz=134,SNR=11				
FURC	Furnace Creek,	65.04 322	P	P	21 04 33.5 +1.1
	baz=133,SNR=6.6				
SCZ2	Santa Cruz Isl	65.13 319	P	P	21 04 33.3 +0.2
	baz=130				
MPMC	Manual Prospec	65.14 322	P	P	21 04 33.7 +0.3
	baz=132,SNR=8.9				
DUG	Dugway, Tooele	65.43 328	P	P	21 04 35.2 +0.2
DUG			IAmb	IAmb	21 04 37.4
	comp=Z,27nm,1.1s				
DUG	Dugway, Tooele	65.43 328	P	P	21 04 35.8 +0.7
	baz=138,SNR=21				
SBC	Santa Barbara	65.46 319	P	P	21 04 36.2 +1.0
	baz=130				
ISA	Isabella, Lake	65.48 321	P	P	21 04 36.2 +0.8
	baz=131,SNR=7.6				
R11B	Troy Canyon, C	65.60 325	P	P	21 04 36.6 +0.3
R11B			IAmb	IAmb	21 04 38.2
	comp=Z,9.4nm,0.9s				
R11B	Troy Canyon, C	65.60 325	P	P	21 04 37.3 +1.0
	baz=135,SNR=20				
GRAC	Grapevine Rang	65.70 322	P	P	21 04 37.9 +1.1
	baz=133				
CWC	Cottonwood Cre	65.75 322	P	P	21 04 37.9 +0.6
	baz=132				
PDAR	Pinedale Array	65.78 332	P	P	21 04 36.8 -0.6
PDAR	Pinedale Array	65.78 332	P	P	21 04 36.5 -0.9
	comp=Z,2.1nm,0.8s,baz=121,slow=7.1,SNR=10				
PDAR			LR	LR	21 38 04.7
	comp=Z,29nm,18.1s,baz=46,slow=40				
	comp=Z,2.1nm,0.8s				
PKM	Mcpherson Peak	65.81 319	P	P	21 04 38.3 +0.6
	baz=130				
VES	Vestal, Richgr	65.97 320	P	P	21 04 39.0 +0.6
	baz=131				
MDND	Maddock	66.15 341	P	P	21 04 39.7 +0.2
	baz=152				
BELA	Belgrano 2	66.42 172	P	P	21 04 41.6 +0.8
BELA			IAmb	IAmb	21 04 43.0
	comp=Z,13nm,0.9s				
AHID	Auburn Hatcher	66.50 331	P	P	21 04 41.7 -0.3
AHID			IAmb	IAmb	21 04 42.6
	comp=Z,12nm,1.1s				
ELK	Elko	67.10 327	P	P	21 04 45.8 -0.1
NVAR	Mina Array Bea	67.21 323	P	P	21 04 46.7 +0.1
NVAR	Mina Array Bea	67.21 323	P	P	21 04 47.0 +0.4
	comp=Z,2.7nm,0.9s,baz=146,slow=6.9,SNR=18				
NVAR			PcP	PcP	21 05 14.2 0.0
	comp=Z,1.6nm,0.7s,baz=129,slow=5.7,SNR=6.5				
	comp=Z,2.7nm,0.9s				
ULM	Lac du Bonnet	67.25 345	P	P	21 04 45.3 -1.0
ULM	Lac du Bonnet	67.25 345	P	P	21 04 44.9 -1.4
	comp=Z,10nm,0.5s,baz=163,slow=6.1,SNR=20				
	comp=Z,10nm,0.5s				
RLMT	Red Lodge	67.50 333	P	P	21 04 48.5 +0.2
	baz=142				
LAO	LASA Array	67.50 336	P	P	21 04 48.1 0.0
	baz=146				
H17A	Grant Village	67.51 332	P	P	21 04 49.6 +1.2
	baz=141				
YHL	Hebgen Lake	68.14 332	P	P	21 04 52.6 +0.2
YHL			IAmb	IAmb	21 04 54.5
	comp=Z,13nm,0.9s				
VNA3	Neumayer Olymp	68.21 162	⇓P	P	21 04 53.2 +1.0
	comp=Z,6.6nm,0.8s				
DGMT	Dagmar	68.23 338	P	P	21 04 53.1 +0.5
	baz=148				
VNA1	Neumayer--Stat	68.44 161	⇓P	P	21 04 55.1 +1.5
	comp=Z,14nm,0.8s				
HLID	Hailey	68.71 329	P	P	21 04 55.5 -0.4
HLID	Hailey	68.71 329	P	P	21 04 56.1 +0.3
	baz=137				
BCYI	Bear Canyon	68.77 330	P	P	21 04 56.1 -0.2
VNA2	Neumayer--Watz	68.80 161	⇓P	P	21 04 56.7 +0.8
	comp=Z,9.6nm,0.8s,baz=289,slow=7.0				
BOZ	Bozeman (W)	68.91 332	P	P	21 04 57.6 +0.6
	baz=140				
SCHQ	Schefferville	69.11 4	P	P	21 04 56.9 -1.0
	comp=Z,8.1nm,0.9s,baz=242,slow=9.2,SNR=3.8				
SCHQ			PcP	PcP	21 05 19.9 -1.6
	comp=Z,5.4nm,0.8s,baz=238,slow=13,SNR=2.3				
	comp=Z,8.1nm,0.9s				
AFDM	Forest Hills D	69.12 322	P	P	21 04 58.1 -0.2
AFDM			IAmb	IAmb	21 04 59.6
	comp=Z,20nm,1.5s				
EGMT	Eagleton	70.00 335	P	P	21 05 04.7 +1.1
	baz=142				
SNAA	Sanae	70.42 162	P	P	21 05 06.7 +0.9
SNAA			IAmb	IAmb	21 05 07.7
	comp=Z,14nm,0.8s				
SNAA	Sanae	70.42 162	⇓P	P	21 05 06.8 +0.9
	comp=Z,266nm,0.6s				
SNAA	Sanae	70.42 162	P	P	21 05 06.5 +0.6
	comp=Z,11nm,0.6s,baz=278,slow=6.7,SNR=117				
	comp=Z,11nm,0.6s				
MSO	Missoula	70.89 332	P	P	21 05 09.9 +0.8
	baz=138				
BMO	Blue Mountains	71.08 329	P	P	21 05 10.2 0.0
DBIC	Dimbokro	71.14 78	P	P	21 05 11.6 +0.4
DBIC			IAmb	IAmb	21 05 33.4
	comp=Z,50nm,1.9s				
DBIC	Dimbokro	71.14 78	LR	LR	21 34 09.5
	comp=Z,28nm,21.2s,baz=216,slow=34				
YBH	Yreka Blue Hor	71.92 323	LR	LR	21 35 09.9
	comp=Z,74nm,19.0s,baz=86,slow=34				
TROLL	Troll, Antarti	72.14 162	⇓P	P	21 05 17.4 +1.0
	comp=Z,271nm,0.7s				
PINE	Pine Mountain	72.26 326	P	P	21 05 17.8 +0.2
PINE			IAmb	IAmb	21 05 19.7
	comp=Z,8.3nm,0.9s				
NEW	Newport	73.42 331	LR	LR	21 38 43.2
	comp=Z,35nm,20.3s,baz=87,slow=37				
KOWA	Kowa	74.40 70	P	P	21 05 30.1 -0.4
KOWA	Kowa	74.40 70	LR	LR	21 36 14.8
	comp=Z,79nm,18.2s,baz=298,slow=34				
EDM	Edmonton	75.49 337	P	P	21 05 35.3 -0.7
QSPA	South Pole Qui	75.83 180	P	P	21 05 38.8 +0.8
QSPA			IAmb	IAmb	21 05 39.6
	comp=Z,11nm,0.7s				
QSPA	South Pole Qui	75.83 180	P	P	21 05 38.7 +0.8
	comp=Z,11nm,0.8s,baz=157,slow=1.3,SNR=66				
	comp=Z,11nm,0.8s				
FRB	Frobisher Bay	77.92 2	LR	LR	21 42 25.9
	comp=Z,66nm,18.2s,baz=7.5,slow=37				
ELIB	Princess Elisa	78.59 162	dP	P	21 05 54.1 +0.8
	comp=Z,7.6nm,1.0s				
TOA0	Torodi Ar. Sit	79.24 73	P	P	21 05 57.3 -0.4
TOA0			IAmb	IAmb	21 06 04.0
	comp=Z,7.5nm,0.8s				
TORD	Torodi Ar. Bea	79.24 73	P	P	21 05 57.3 -0.4
TORD	Torodi Ar. Bea	79.24 73	P	P	21 05 57.5 -0.3
	comp=Z,2.6nm,0.6s,baz=267,slow=4.6,SNR=22				
TORD			LR	LR	21 38 50.3
	comp=Z,68nm,18.4s,baz=310,slow=34				
	comp=Z,2.6nm,0.6s				
MDT	Midelt	80.67 53	LR	LR	21 39 22.6
	comp=Z,31nm,19.1s,baz=7.5,slow=34				
SBA	Scott Base	82.06 191	P	P	21 06 12.7 +1.0
YKA	Yellowknife Ar	83.05 342	P	P	21 06 16.3 -0.5
YKA	Yellowknife Ar	83.05 342	P	P	21 06 16.0 -0.9
	comp=Z,11nm,0.8s,baz=137,slow=5.0,SNR=15				
	comp=Z,11nm,0.8s				
PAB	San Pablo	83.59 47	P	P	21 06 20.8 +0.5
PAB			IAmb	IAmb	21 06 44.8
	comp=Z,9.1nm,1.1s				
ESDC	Sonseca Array	83.92 47	P	P	21 06 22.4 +0.4
ESDC	Sonseca Array	83.92 47	P	P	21 06 22.9 +0.9
	comp=Z,3.6nm,0.9s,baz=262,slow=5.2,SNR=28				
ESDC			pP	pP	21 06 43.1 +1.8
	comp=Z,3.7nm,0.9s,baz=254,slow=5.6,SNR=8.0				
ESDC			LR	LR	21 45 46.0
	comp=Z,14nm,18.1s,baz=312,slow=37				
	comp=Z,3.6nm,0.9s				
ESBB	Sonseca Array	83.92 47	P	P	21 06 22.1 +0.1
KOTAN	Kotaneelee Air	84.55 337	P	P	21 06 26.1 +1.5
	baz=131				
T35M	Bob Quinn	85.14 333	P	P	21 06 28.1 +0.4
T35M			IAmb	IAmb	21 06 29.5
	comp=Z,16nm,0.9s				
T35M	Bob Quinn	85.14 333	P	P	21 06 29.1 +1.4
	baz=126				
TAM	Tamanrasset	85.61 65	P	P	21 06 30.6 -0.3
DLBC	Dease Lake	85.89 334	P	P	21 06 31.5 +0.1
DLBC			IAmb	IAmb	21 06 33.2
	comp=Z,21nm,1.1s				
DLBC	Dease Lake	85.89 334	P	P	21 06 32.2 +0.7
	baz=126				
U33K	Whale Pass	85.96 331	P	P	21 06 33.1 +1.3
	baz=123				
SUR	Sutherland	85.97 122	LR	LR	21 43 41.7
	comp=Z,48nm,18.1s,baz=272,slow=35				
S34M	Telegraph Cree	86.07 333	P	P	21 06 33.7 +1.5
	baz=125				
TSUM	Tsumeb	86.33 109	LR	LR	21 45 24.2
	comp=Z,17nm,18.2s,baz=142,slow=36				
R33M	Jennings River	86.85 334	P	P	21 06 37.2 +0.9
	baz=125				
TGTN	Hyland Airport	87.03 337	P	P	21 06 38.0 +1.0
	baz=128				
Q32M	Nakina River	87.15 334	P	P	21 06 38.5 +0.7
	baz=124				
S32K	Killisnoo	87.37 332	P	P	21 06 39.0 +0.4
	baz=122				
R32K	Eaglecrest	87.77 332	P	P	21 06 41.4 +0.9
	baz=122				
P33M	Teslin, Yukon	88.08 335	P	P	21 06 42.4 +0.3
P33M	Teslin, Yukon	88.08 335	P	P	21 06 42.6 +0.5
	baz=124,SNR=7.2				
P32M	Atlin	88.12 334	P	P	21 06 42.8 +0.6
	baz=123				
N32M	Quiet Lake	88.71 335	P	P	21 06 45.5 +0.5
	baz=123				
SKAG	Skagway	88.75 333	P	P	21 06 45.8 +0.7
	baz=121				
MMPY	Sheldon Lake,	88.82 337	P	P	21 06 45.6 +0.2
MMPY			IAmb	IAmb	21 06 47.1
	comp=Z,27nm,1.7s				
WHY	Whitehorse	89.19 334	P	P	21 06 47.7 +0.4
	baz=122				
PLBC	Pleasant Camp	89.20 333	P	P	21 06 48.0 +0.8
	baz=120,SNR=5.6				
FARO	Faro, Yukon	89.40 336	P	P	21 06 48.9 +0.7
	baz=123,SNR=8.4				
SUMG	Summit	89.72 10	P	P	21 06 49.6 -0.4
SUMG	Summit	89.72 10	*i* P	P	21 06 50.0 +0.1
O30N	Mendenhall	89.75 334	P	P	21 06 50.2 +0.3
O30N			IAmb	IAmb	21 06 51.6
	comp=Z,16nm,1.2s				
O30N	Mendenhall	89.75 334	P	P	21 06 50.6 +0.7
	baz=121				
P30M	Million Dollar	89.80 333	P	P	21 06 50.6 +0.5
	baz=120				
M31M	Drury Creek, Y	89.80 336	P	P	21 06 50.6 +0.6
	baz=122,SNR=5.5				
P29M	Windy Craggy	89.90 333	P	P	21 06 51.4 +0.9
	baz=119,SNR=6.4				
N31M	Braeburn, Yuko	89.99 335	P	P	21 06 51.7 +0.8
	baz=121,SNR=6.4				
HYT	Haines Junctio	90.38 334	P	P	21 06 53.9 +1.0
	baz=119				
N30M	Aishikik Lake	90.52 335	P	P	21 06 54.6 +1.1
	baz=120,SNR=5.6				
BOSA	Boshof	90.67 120	LR	LR	21 43 44.1
	comp=Z,43nm,18.3s,baz=204,slow=33				
M30M	Minto, Yukon	90.95 336	P	P	21 06 55.4 0.0
	baz=120				
YUK4	Talbot Arm	91.12 334	P	P	21 06 57.0 +0.6
	baz=118				
M29M	Somme Creek	91.56 335	P	P	21 06 58.7 +0.3
	baz=118,SNR=7.9				
H31M	Peel River	91.70 339	P	P	21 06 58.9 +0.1
	baz=122,SNR=7.0				
L29M	L29M	91.75 336	P	P	21 06 59.4 +0.3
	baz=119,SNR=14				
J30M	Hart River	91.78 337	P	P	21 06 59.5 +0.1
	baz=120				
K29M	Barlow Dome	91.87 336	P	P	21 06 58.9 -0.8
K29M			IAmb	IAmb	21 07 00.5
	comp=Z,4.4nm,0.8s				
K29M	Barlow Dome	91.87 336	P	P	21 06 59.9 +0.1
	baz=119,SNR=7.1				
YUK3	Moose Creek	92.09 334	P	P	21 07 01.6 +0.7
	baz=117				
CTGM	Chitina Glacie	92.10 333	P	P	21 07 01.0 +0.1
CTG	Chitna Glacier	92.11 333	P	P	21 07 01.3 +0.4
	baz=116				
I30M	Mount Dempster	92.13 338	P	P	21 07 01.2 +0.3
	baz=120,SNR=6.4				
G31M	Satah River	92.28 340	P	P	21 07 01.3 0.0
	baz=122				
MAW	Mawson	92.38 165	P	P	21 07 02.1 +0.1
MAW	Mawson	92.38 165	P	P	21 07 02.7 +0.7
	comp=Z,8.2nm,0.8s,baz=238,slow=6.8,SNR=16				
	comp=Z,8.2nm,0.8s				
F31M	Tsiigehtchic	92.38 340	P	P	21 07 01.3 -0.5
	baz=123				
DAWY	Dawson	92.70 336	P	P	21 07 03.0 -0.5
	baz=118				
A36M	Sachs Harbour	92.70 346	P	P	21 07 02.7 -0.5
	baz=130				
INK	Inuvik	92.78 341	P	P	21 07 03.4 -0.2
INK	Inuvik	92.78 341	P	P	21 07 03.3 -0.3
	baz=123				
INK	Inuvik	92.78 341	LR	LR	21 52 47.2
	comp=Z,39nm,19.2s,baz=184,slow=38				
CRQE	Cirque	92.79 333	P	P	21 07 03.8 -0.2
	baz=114				
EPYK	Eagle Plains	92.83 339	P	P	21 07 03.8 -0.2
	baz=120				
I29M	Ogilvie Camp,	92.90 338	P	P	21 07 03.9 -0.4
	baz=118				
M27K	Edge Creek, AK	92.94 334	P	P	21 07 04.7 -0.1
	baz=116				
G30M	tAoh Zraii Nji	92.96 340	P	P	21 07 05.4 +0.8
	baz=120				
MCARA	McCarthy VSAT	93.02 333	P	P	21 07 04.9 -0.1
	baz=115				
KAIM	Kayak Island	93.06 332	P	P	21 07 05.3 +0.2
	baz=114				
F30M	Barrier River	93.14 340	P	P	21 07 05.0 -0.3
	baz=121				
BCAR	Beaver Creek A	93.21 335	P	P	21 07 05.7 -0.1
L27K	Beaver Creek,	93.23 335	P	P	21 07 05.7 -0.2
	baz=116				
H29M	Whitestone	93.34 338	P	P	21 07 06.0 -0.3
	baz=118				
M26K	Nabesna, AK	93.44 334	P	P	21 07 07.0 +0.1
	baz=114				
G29M	Pine Creek	93.55 339	P	P	21 07 06.7 -0.6
	baz=119				
I28M	Miner Creek	93.55 337	P	P	21 07 06.7 -0.7
	baz=117				
K27K	Chicken	93.74 336	P	P	21 07 08.2 0.0
	baz=115				
E29M	Blow River	94.22 340	P	P	21 07 09.5 -0.8
	baz=119,SNR=5.6				
I27K	Kandik River	94.24 337	P	P	21 07 10.2 -0.4
	baz=116				
KLU	Klutina	94.34 333	P	P	21 07 10.6 -0.6
KLU	Klutina	94.34 333	P	P	21 07 10.5 -0.6
	baz=112				
HARP	HAARP	94.36 334	P	P	21 07 10.3 -0.8
	baz=113				
H27K	Steamboat Moun	94.48 338	P	P	21 07 10.7 -1.0
	baz=116				
SCRK	Sand Creek	94.49 335	P	P	21 07 10.9 -0.9
	baz=114				
F28M	Old Crow	94.51 339	P	P	21 07 11.4 -0.3
	baz=117				
J26L	Joseph Creek	94.53 336	P	P	21 07 11.4 -0.5
	baz=114				
GLI	Glacier Island	94.65 332	P	P	21 07 12.1 -0.3
	baz=111				
M24K	Tolsona, Glenn	94.69 333	P	P	21 07 11.6 -1.1
	baz=112				
I26K	Coal Creek Min	94.70 337	P	P	21 07 11.9 -0.7
	baz=114				
PAX	Paxson	94.71 334	P	P	21 07 11.9 -0.9
	baz=112				
RIDG	Independent Ri	94.75 335	P	P	21 07 12.2 -0.7
	baz=113				
G27K	Doyon Strip	94.78 338	P	P	21 07 12.3 -0.7
	baz=115				
E28M	Babbage River	94.85 340	P	P	21 07 13.5 +0.3
	baz=117				
SCM	Sheep Creek Mo	95.09 333	P	P	21 07 14.3 -0.2
	baz=111				
K24K	Donnelly Dome	95.15 335	P	P	21 07 14.7 -0.1
	baz=112				
PWL	Port Wells	95.21 332	P	P	21 07 15.4 +0.3
	baz=110				
M23K	Glacier View	95.26 333	P	P	21 07 15.3 +0.1
	baz=110				
J25K	Salcha River,	95.29 336	P	P	21 07 14.8 -0.6
	baz=112				
E27K	Coleen River	95.35 340	P	P	21 07 15.3 -0.3
	baz=115				
SML	Sawmill	95.53 333	P	P	21 07 15.7 -0.9
	baz=110				
WAT6	Susitna Watana	95.54 333	P	P	21 07 16.2 -0.5
	baz=110				
DHY	Denali Highway	95.56 334	P	P	21 07 16.4 -0.3
	baz=111				
D27M	Malcolm River	95.60 341	P	P	21 07 17.0 +0.3
	baz=116				
G26K	Porcupine Rive	95.60 338	P	P	21 07 16.7 0.0
	baz=114				
PRP	Porcupine Dome	95.70 337	P	P	21 07 16.8 -0.5
	baz=112				
DAVOX	Davos/Dischmat	95.80 43	LR	LR	21 48 01.0
	comp=Z,30nm,20.1s,baz=277,slow=34				
HDA	Harding Lake	95.85 335	P	P	21 07 17.9 0.0
	baz=111				
ILAR	Eielson Array	95.96 336	P	P	21 07 17.7 -0.6
ILAR	Eielson Array	95.96 336	P	P	21 07 17.3 -1.0
	comp=Z,1.2nm,0.7s,baz=128,slow=1.8,SNR=14				
	comp=Z,1.2nm,0.7s				
BRSE	Bradley Lake S	95.98 330	P	P	21 07 18.3 -0.2
	baz=108				
WAT1	Susitna Watana	95.98 334	P	P	21 07 17.9 -0.6
	baz=110				

F26K	Sheenjek River	96.03	339	P	P	21 07 18.8	+0.1
	baz=113						
BMAR	Burnt Mountain	96.08	338	P	P	21 07 18.7	-0.2
H25L	Birch Creek	96.09	337	P	P	21 07 19.1	+0.2
	baz=112						
POKR	Poker Plat Res	96.30	336	P	P	21 07 19.5	-0.4
	baz=110						
RND	Reindeer	96.30	334	P	P	21 07 19.2	-0.8
RND				IAmb	IAmb	21 07 20.6	
	comp=Z,4.8nm,0.6s						
KDAK	Kodiak Island	96.31	328	LR	LR	21 50 50.0	
	comp=Z,35nm,18.9s,baz=94,slow=35						
G25K	Bearman Lake	96.38	338	P	P	21 07 19.9	-0.2
	baz=111						
FETA	Feichten	96.42	43	*e*pP	pP	21 07 46.2	+5.5
	comp=Z,3.6nm,1.2s						
Q20K	Shuyak Island	96.45	329	P	P	21 07 20.5	-0.2
	baz=107						
SUA	Susitna One	96.51	332	P	P	21 07 20.4	-0.7
	baz=108						
F25K	Christian Rive	96.52	338	P	P	21 07 20.9	0.0
	baz=112						
RETA	Reutte	96.56	43	*i* pP	pP	21 07 45.0	+3.8
	comp=Z,5.7nm,1.4s						
MDM	Murphy Dome	96.56	336	P	P	21 07 20.2	-0.9
CUT	Chulitna	96.59	333	P	P	21 07 20.8	-0.4
	baz=108						
E25K	Arctic Village	96.69	339	P	P	21 07 21.2	-0.4
	baz=112						
H24K	Noodor Dome	96.72	336	P	P	21 07 22.0	+0.2
	baz=110						
NEA2	Nenana	96.78	335	P	P	21 07 21.2	-0.9
	baz=109						
SQTA	Sankt Quirin	96.79	43	*e*pP	pP	21 07 46.4	+4.2
	comp=Z,5.3nm,1.1s						
SII	Sitkinak Islan	96.80	327	P	P	21 07 21.4	-1.0
	baz=106						
G24K	Hadweenzic Riv	96.86	337	P	P	21 07 21.8	-0.6
	baz=110						
TRF	Thorofare Moun	96.92	334	P	P	21 07 21.8	-1.1
	baz=108						
SKT	Skwentna	97.02	332	P	P	21 07 22.8	-0.5
SKT				IAmb	IAmb	21 07 23.4	
	comp=Z,8.3nm,1.0s						
SKT	Skwentna	97.02	332	P	P	21 07 22.1	-1.2
	baz=107						
WATA	Walderalm	97.06	43	*i* pP	pP	21 07 47.4	+3.9
	comp=Z,4.3nm,1.2s						
I23K	Minto, Yukon-K	97.08	336	P	P	21 07 22.6	-0.7
	baz=109						
N20K	Mount Spurr	97.11	331	P	P	21 07 22.8	-0.9
	baz=107						
SPCR	Spurr Chakacha	97.11	331	P	P	21 07 23.0	-0.8
	baz=107						
LSZ	Lusaka	97.13	108	LR	LR	21 51 28.3	
	comp=Z,30nm,18.4s,baz=186,slow=36						
H23K	Yukon River	97.36	336	P	P	21 07 23.8	-0.9
	baz=108						
D25K	Kavik River	97.40	340	P	P	21 07 23.9	-0.9
	baz=111						
BPAW	Bear Paw Mtn.	97.42	334	P	P	21 07 24.1	-0.9
BPAW	Bear Paw Mtn.	97.42	334	P	P	21 07 24.4	-0.6
	baz=107						
ABTA	Abfaltersbach	97.55	44	*e*pP	pP	21 07 49.7	+4.1
	comp=Z,6.6nm,1.0s						
PPLA	Purkeypile	97.58	333	P	P	21 07 24.9	-1.0
	baz=106						
CAST	Castle Rocks	97.69	334	P	P	21 07 25.0	-1.2
CAST	Castle Rocks	97.69	334	P	P	21 07 25.4	-0.8
	baz=106						
Q18K	Katmai Hardscr	97.78	329	P	P	21 07 26.6	-0.2
	baz=105						
G23K	Bananza Creek	97.83	337	P	P	21 07 26.6	-0.2
	baz=108						
CHUM	Lake Minchumin	97.92	334	P	P	21 07 26.6	-0.6
	baz=106						
COLD	Coldfoot	98.05	337	P	P	21 07 27.4	-0.3
	baz=108						
E23K	Chandalar	98.09	338	P	P	21 07 27.6	-0.5
	baz=108						
O18K	Koktuh Hills	98.18	330	P	P	21 07 27.6	-0.9
	baz=104						
KBA	Koelnbreinsper	98.18	44	*e*pP	pP	21 07 51.0	+2.4
	comp=Z,3.9nm,1.0s						
L20K	Farewell, AK	98.22	332	P	P	21 07 28.0	-0.7
	baz=105						
C24K	Franklin Bluff	98.31	340	P	P	21 07 28.5	-0.3
	baz=109						
GERES	GERESS Array B	98.78	42	P	P	21 07 30.7	-0.9
	comp=Z,0.1nm,0.3s,baz=252,slow=12,SNR=1.6						
GERES				pP	pP	21 07 53.2	+2.0
	comp=Z,0.5nm,0.7s,baz=299,slow=6.0,SNR=2.9						
GERES				LR	LR	21 50 54.3	
	comp=Z,44nm,18.7s,baz=348,slow=35						
	comp=Z,0.1nm,0.3s						
MOA	Molln	98.95	43	*e*pPdiff	pP	21 07 55.8	+4.0
	comp=Z,6.9nm,1.7s						
IMAR	Indian Mountai	99.06	336	P	Pdif	21 07 31.5	-0.8
G21K	Allakaket	99.11	336	P	Pdif	21 07 32.7	+0.2
	baz=105						
M17K	Holitna River	99.60	331	P	Pdif	21 07 34.9	+0.1
	baz=102						
NOA	NORSAR Array B	99.83	29	LR	LR	21 48 49.8	
	comp=Z,21nm,20.0s,baz=315,slow=33						
H19K	Roundabout Mou	100.04	335	P	Pdif	21 07 36.6	0.0
	baz=102						
L17K	Donlin	100.15	332	P	Pdif	21 07 37.3	+0.1
	baz=101						
E19K	Redstone River	100.75	337	P	Pdif	21 07 40.4	+0.6
	baz=101						
G18K	Tagagawik	101.01	335	P	Pdif	21 07 41.5	+0.5
	baz=100						
O14K	Tigyukauivet M	101.07	328	P	Pdif	21 07 42.2	+0.9
	baz=99						
B20K	Meade River	101.21	340	P	Pdif	21 07 42.8	+1.0
	baz=101						
D19K	Kuna River	101.27	338	P	Pdif	21 07 43.1	+0.9
	baz=100						
H16K	Elim	102.31	334	P	Pdif	21 07 47.4	+0.6
	baz=97						
C18K	Utukok River	102.41	338	P	Pdif	21 07 47.6	+0.4
	baz=97						
KBZ	Khabaz	118.75	48	PKP	PKPdf	21 12 39.7	-0.1
	comp=Z,2.7nm,0.8s,baz=282,slow=4.4,SNR=5.0						
STKA	Stephens Creek	123.10	216	PKP	PKPdf	21 12 48.4	-0.3
	comp=Z,1.5nm,0.5s,baz=116,slow=2.9,SNR=10						
ARU	Arti	124.38	30	PKPdf	PKiKP	21 12 50.5	0.0
ABKAR	Abkulak array	128.46	37	PKPdf	PKiKP	21 12 59.2	+0.3
ABKAR	Abkulak array	128.46	37	PKPdf	PKiKP	21 12 59.2	+0.3
BRVK	Borovoye	131.88	29	PKPdf	PKPdf	21 13 05.1	+0.4
BVAR	Borovoye Array	131.96	29	PKP	PKPdf	21 13 05.2	+0.4
	comp=Z,0.6nm,0.5s,baz=222,slow=2.0,SNR=5.0						
ASAR	Alice Springs	133.74	216	PKPdf	PKPdf	21 13 08.5	-0.7
ASAR	Alice Springs	133.74	216	PKhKP	PKPpre	21 12 53.8	
	comp=Z,0.4nm,0.7s,baz=155,slow=2.7,SNR=4.2						
ASAR				PKP	PKPdf	21 13 08.7	-0.6
	comp=Z,4.6nm,0.7s,baz=128,slow=2.1,SNR=57						
AS31	Alice Springs	133.74	216	PKPdf	PKPdf	21 13 08.5	-0.7
WRA	Warramunga Arr	136.34	219	PKPdf	PKPdf	21 13 13.2	-0.9
WRA	Warramunga Arr	136.34	219	PKhKP	PKPpre	21 13 00.8	
	comp=Z,0.5nm,0.8s,baz=145,slow=2.8,SNR=6.1						
WRA				PKP	PKPdf	21 13 13.8	-0.3
	comp=Z,6.4nm,0.7s,baz=143,slow=1.9,SNR=46						
WB0	Warramunga Arr	136.44	220	PKPdf	PKPdf	21 13 14.0	-0.3
ZAA0	Zalesovo Array	136.93	19	PKPdf	PKPdf	21 13 14.2	+0.1
ZALV	Zalesovo Beam	136.93	19	PKhKP	PKPpre	21 13 07.9	
	comp=Z,0.6nm,0.6s,baz=0.0,slow=3.3,SNR=2.2						
ZALV				PKP	PKPdf	21 13 14.2	+0.1
	comp=Z,7.9nm,0.8s,baz=297,slow=3.2,SNR=28						
ZALV				pPKP	pPKPdf	21 13 38.2	+3.7
	comp=Z,5.5nm,0.8s,baz=290,slow=2.4,SNR=5.8						
KURBB	Kurchatov Arra	137.26	26	PKP	PKPdf	21 13 15.4	+0.6
	comp=Z,1.3nm,0.6s,baz=304,slow=2.5,SNR=10						
KURBB				pPKP	pPKPdf	21 13 38.9	+3.7
	comp=Z,1.1nm,0.9s,baz=304,slow=2.6,SNR=2.8						
KKAR	Karatay Array	137.85	40	PKPdf	PKPdf	21 13 16.4	+0.2
HEH	HeiHe	140.35	339	*e*P	PKPdf	21 13 13.8	-6.7
MKAR	Makanchi Array	141.79	27	PKPdf	PKPdf	21 13 21.3	-1.9
MKAR	Makanchi Array	141.79	27	PKhKP	PKPpre	21 13 17.4	
	comp=Z,0.6nm,0.8s,baz=328,slow=2.6,SNR=2.8						
PSA00	Pilbara Seismi	142.02	200	PKPdf	PKPdf	21 13 22.2	-2.2
KSH	Kashi	143.25	41	PKP	PKiKP	21 13 28.0	-1.5
MJAR	Matsushiro Arr	144.12	314	PKP	PKPab	21 13 24.5	-0.9
	comp=Z,1.7nm,0.6s,baz=79,slow=3.4,SNR=9.0						
WMQ	Urumqi	146.46	25	*e*P	PKPdf	21 13 32.0	+0.5
SONM	Songino Array	146.59	0	PKPdf	PKPdf	21 13 32.0	+0.3
SONM	Songino Array	146.59	0	PKPbc	PKPbc	21 13 33.1	-0.1
	comp=Z,9.0nm,0.7s,baz=331,slow=1.6,SNR=52						
FAKI	Fak Fak	149.31	238	PKPbc	PKPbc	21 13 40.6	-0.8
XLT	XiLinHaoTe	149.42	346	*e*PKPbc	PKPbc	21 13 40.9	0.0
KSRS	Korea Array	150.14	324	PKPbc	PKPbc	21 13 42.5	-0.3
	comp=Z,5.9nm,0.8s,baz=15,slow=2.0,SNR=16						
KSRS				PKPab	PKPab	21 13 48.5	-0.3
	comp=Z,3.0nm,0.8s,baz=74,slow=5.8,SNR=4.6						
KSAR	Wonju Array Be	150.17	324	PKPbc	PKPbc	21 13 42.1	-0.7
SOEI	Soe	150.32	217	PKPbc	PKPbc	21 13 42.0	-2.0
HYB	Hyderabad	152.89	80	*e*PKPdf	PKPdf	21 13 41.3	-1.1
HYB				*e*PKiKP	PKPbc	21 13 49.6	-0.1
HHC	Hu-ho-hao-te	153.22	352	*e*P	PKPdf	21 13 44.3	+2.0
BTO	Baotou	153.64	354	*e*PKPbc	PKPdf	21 13 45.8	+2.8
BTO				pPKP	PKiKP	21 13 56.6	+5.8
BTO				sPKP		21 14 01.5	
BTO				PKPab	pPKPdf	21 14 08.3	+4.9
BTO				PP	PP	21 17 42.5	+5.9
GTA	Gaotai	154.31	12	*e*PKPbc	PKPdf	21 13 44.8	+0.8
GTA				pPKP	PKPbc	21 13 51.9	-0.4
GTA				PKPab	PKPab	21 14 06.3	0.0
NJ2	Nanjing	159.08	330	*e*P	PKPdf	21 13 51.5	+1.4
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
PZH	PanZhiHua	167.07	20	PKP	PKPdf	21 13 55.9	-2.2
CMAR	Chiang Mai Arr	171.61	60	PKP	PKPdf	21 14 00.5	-0.5
	comp=Z,1.6nm,0.8s,baz=295,slow=2.1,SNR=11						

*IDC **14** 21:03:15.5±1.2, 33°.79N×137°.10E, h361km±15km, mb2.7/5, mbtmp3.4/7, Error ellipse: s-maj=32.3km s-min=19.6km az=69.0*

*JMA **14** 21:03:15.8±0.4, 34°N±3°×13°7E±°, h356km±3km, MV2.8/34, SE OFF KII PENINSULA*

ISC 14 21:03:15.7±1.1, 33.8N±0°.1×136°.9E±0°.1, h350km, n10, σ1§34/12, mb2.8/5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	Miekihoku	0.74	311	P	Pn	21 04 02.3	+1.8
HMMJ	Hamamatsu 2	1.28	30	P	Pn	21 04 04.3	+1.7
JSGW	Sagamiharawaka	2.63	45	P	Pn	21 04 12.8	+1.1
JSGW				S	S	21 04 57.9	+1.1
MJAR	Matsushiro Arr	2.97	20	P	Pn	21 04 15.1	+0.3
	0.7nm,0.5s,baz=180,slow=8.8,SNR=8.1						
MJAR				S	S	21 05 02.6	+0.3
	1.4nm,0.8s,baz=206,slow=15,SNR=2.4						
JNU	Nakatsue	5.11	265	P	Pn	21 04 38.2	+1.6
	11nm,0.9s,baz=78,slow=1.1,SNR=4.8						
SONM	Songino Array	26.86	311	P	P	21 08 26.2	+0.7
	0.6nm,0.7s,baz=122,slow=7.5,SNR=3.6						
	0.6nm,0.7s						
MKAR	Makanchi Array	42.86	305	P	P	21 10 39.9	-0.8
	0.2nm,0.3s,baz=85,slow=9.2,SNR=5.2						
	0.2nm,0.3s						
KURBB	Kurchatov Arra	45.23	310	P	P	21 10 58.1	-1.0
	0.3nm,0.4s,baz=93,slow=6.7,SNR=4.5						
	0.3nm,0.4s						
BVAR	Borovoye Array	50.14	314	P	P	21 11 35.1	-1.4
	0.1nm,0.3s,baz=86,slow=7.4,SNR=2.0						
	0.1nm,0.3s						
WRA	Warramunga Arr	53.45	183	P	P	21 11 59.9	-1.1
	0.1nm,0.3s,baz=0.1,slow=7.8,SNR=6.9						
	0.1nm,0.3s						

*NEIC **14** 21:28:58.0±1.7, 17°.8S±0°.2×179°.9W±0°.2, h614km±12km, mb4.2/18, Error ellipse: s-maj=40.2km s-min=20.5km az=147.0*

*IDC **14** 21:29:00.7±2.2, 17°.33S×179°.57E, h624km±16km, mb3.6/3, mbtmp4.7/3, Error ellipse: s-maj=94.1km s-min=32.9km az=144.0*

ISC 14 21:28:55.8±0.9, 17°.5S±0°.3×179°.9W±0°.2, h600km, n34, σ0§69/34, mb4.3/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.97	263	P	P	21 30 15.0	+5.0
MSVF	Nonsavu	1.97	263	P	P	21 30 15.4	+5.4
	9.1nm,0.7s,baz=329,slow=5.8,SNR=6.7						
AFI	Afiamalu	8.60	67	P	P	21 31 01.3	+0.3
MARNC	Mare, Loyalty	12.05	249	P	P	21 31 35.9	+0.8
DZM	Mont Dzumac	13.63	248	P	P	21 31 51.2	0.0
KOUNC	Koumac, New Ca	15.26	256	P	P	21 32 05.2	-1.2
KOUNC				IAmb	IAmb	21 32 11.7	
	comp=Z,22nm,1.2s						
EIDS	Eidsvold	28.08	249	P	P	21 34 01.1	+0.1
EIDS				IAmb	IAmb	21 34 13.8	
	comp=Z,8.9nm,1.2s						
ARMA	Armidale	28.93	238	P	P	21 34 08.8	+0.3
CTAO	Charters Tower	32.12	260	P	P	21 34 36.3	+0.6
CTAO				IAmb	IAmb	21 34 36.6	
	comp=Z,5.8nm,0.8s						
CAN	Canberra	32.84	231	P	P	21 34 41.4	-0.3
CAN				IAmb	IAmb	21 35 07.7	
	comp=Z,12nm,1.4s						
COEN	Coen	35.68	270	P	P	21 35 06.8	+1.2
TOO	Toolangi	36.34	230	P	P	21 35 10.6	-0.1
TOO				IAmb	IAmb	21 35 27.0	
	comp=Z,7.8nm,1.2s						
STKA	Stephens Creek	37.59	240	P	P	21 35 21.7	+0.7
STKA	Stephens Creek	37.59	240	P	P	21 35 21.6	+0.7
	comp=Z,4.6nm,0.4s,baz=87,slow=10,SNR=21						
	comp=Z,4.6nm,0.4s						
BBOO	Buckleboo	42.37	240	P	P	21 35 59.3	+0.4
BBOO				IAmb	IAmb	21 36 00.1	
	comp=Z,11nm,0.9s						
WB0	Warramunga Arr	43.27	260	P	P	21 36 05.3	-0.9
WB0				IAmb	IAmb	21 36 06.7	
	comp=Z,9.6nm,1.1s						
WRA	Warramunga Arr	43.31	259	P	P	21 36 05.0	-1.4
WRA	Warramunga Arr	43.31	259	P	P	21 36 05.9	-0.6
	comp=Z,2.0nm,0.5s,baz=94,slow=7.8,SNR=65						
WRA				PcP	PcP	21 37 42.2	+0.7
	comp=Z,0.3nm,0.8s,baz=100,slow=2.8,SNR=2.3						
	comp=Z,2.0nm,0.5s						
AS31	Alice Springs	43.53	254	P	P	21 36 08.1	-0.1
ASAR	Alice Springs	43.54	254	P	P	21 36 08.2	0.0
	comp=Z,19nm,0.5s,baz=88,slow=8.1,SNR=408						
ASAR				PcP	PcP	21 37 42.8	+0.6
	comp=Z,0.3nm,0.4s,baz=92,slow=4.6,SNR=2.3						
	comp=Z,19nm,0.5s						
FORT	Forrest	48.90	244	P	P	21 36 48.0	-0.5
KNRA	Kununurra	49.12	264	P	P	21 36 50.4	+0.1
KNRA				IAmb	IAmb	21 36 51.2	
	comp=Z,8.1nm,0.7s						
PSA00	Pilbara Seismi	56.64	255	P	P	21 37 43.2	-0.3
MBWA	Marble Bar	56.80	256	P	P	21 37 44.2	-0.5
MBWA				IAmb	IAmb	21 38 04.0	
	comp=Z,10nm,1.1s						
NWAO	Narrogin (SRO)	58.15	242	P	P	21 37 53.2	-0.4
NWAO				IAmb	IAmb	21 38 10.8	
	comp=Z,14nm,1.1s						
MORW	Morawa	59.34	246	P	P	21 38 01.0	-0.7
BRTR	Keskin Array B	143.49	314	PKPbc	PKPdf	21 47 22.6	-0.9
BUR08	Bucovina Ar. S	143.57	331	PKPbc	PKPdf	21 47 23.7	+0.4
ANTO	Ankara	143.99	315	PKPbc	PKPab	21 47 23.9	-0.2
GERES	GERESS Array B	146.84	344	PKPbc	PKiKP	21 47 32.4	-1.3
GERES	GERESS Array B	146.84	344	PKPbc	PKiKP	21 47 33.0	-0.7
	comp=Z,0.3nm,0.5s,baz=71,slow=4.6,SNR=2.6						
PRED	Cave del Predi	149.06	342	PKPbc	PKiKP	21 47 38.1	-0.2
FUORN	Ofenpass-Fuorn	149.77	346	PKPbc	PKiKP	21 47 40.2	+0.3
BNI	Bardonecchia	151.98	350	PKPbc	PKiKP	21 47 45.3	+0.8

*SJA **14** 21:43:11.0±0.7, 28°.71S×71°.80W, h8km±10km, ML4.1, MW3.7*

*NEIC **14** 21:43:16.6±1.2, 28°.72S±0°.04×71°.62W±0°.07, h28km±5km, mb4.3/9, Mwr3.8/49, ML4.0(GUC), Error ellipse: s-maj=9.0km s-min=5.1km az=95.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}5.57; $M_{\theta\theta}$0.46; $M_{\phi\phi}$-6.03; $M_{r\theta}$2.17; $M_{\phi\phi}$1.47; $M_{\phi r}$-1.45; Fault plane solution: $M_0$6.54000×10^{14} NP1:ϕ_s150.90000°, δ56.28000°, λ69.29000°. NP2:ϕ_s5.15000°, δ38.92000°, λ117.91000°. Principal axes: T 6.4297, Plg71.0000°, Azm12.0000°; N 0.2168, Plg17.0000°, Azm163.0000°; P -6.6465, Plg9.0000°, Azm256.0000°;*

*GUC **14** 21:43:17.1±0.8, 28°.77S×71°.49W, h22km±5km, ML4.0*

*NEIC **14** 21:43:17, 28°.72S×71°.58W, h28km*

*IDC **14** 21:43:21.3±3.2, 28°.79S×71°.33W, h57km±27km, mb3.5/5, mbtmp3.7/8, ML3.8/3, MS3.1/8, Error ellipse: s-maj=33.9km s-min=18.9km az=83.0*

ISC 14 21:43:16.6±1.3, 28°.76S±0°.02×71°.53W±0°.05, h23km±10km, n117, σ1§68/126, mb4.2/9, MS3.3/3, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	Llanos de Chal	0.68	36		Pb	21 43 29.7	-0.1
AC04				Sn	Sb	21 43 38.5	-0.3
AC04	Llanos de Chal	0.68	36	⇓*i*P	Pb	21 43 29.7	-0.1
AC04				*e*S	Sb	21 43 38.6	-0.3
AC04				IAML		21 43 42.2	
	comp=N,13μm,0.2s						
AC04	Llanos de Chal	0.68	36	*e*P	Pb	21 43 29.8	-0.1
AC04				*e*S	Sb	21 43 38.9	0.0
AC04				IAML		21 43 40.5	
	comp=Z,4μm,0.2s						
LCO	Las Campanas	0.77	109		Pb	21 43 30.9	-0.5
LCO				Sn	Sb	21 43 41.0	-0.6
LCO	Las Campanas	0.77	109	*e*P	Pb	21 43 30.3	-1.2
LCO				*e*S	Sb	21 43 40.2	-1.3
LCO	Las Campanas	0.77	109	*e*P	Pb	21 43 31.0	-0.5
LCO				IAML		21 43 48.3	
	comp=Z,5μm,0.6s						
AC05	El Transito	1.10	94		Pn	21 43 36.5	-0.2
AC05				Sn	Sb	21 43 50.3	-0.8
AC05	El Transito	1.10	94	*i* P	Pn	21 43 36.4	-0.4
AC05				*e*S	Sb	21 43 50.4	-0.8
AC05				IAML		21 43 51.2	
	comp=N,5μm,0.4s						
AC05	El Transito	1.10	94	*e*P	Pn	21 43 36.6	-0.2
AC05				IAML		21 43 59.6	
	comp=Z,2μm,0.6s						
CO05	La Serena	1.18	168		Pn	21 43 37.9	+0.1
CO05	La Serena	1.18	168	*e*P	Pn	21 43 37.5	-0.2
CO05				*e*S	Sb	21 43 52.6	-0.6
CO05				IAML		21 43 54.4	
	comp=E,7μm,0.3s						
GO04	Tololo Observa	1.54	156		Pn	21 43 43.3	+0.4
GO04	Tololo Observa	1.54	156	⇑*i*P	Pn	21 43 43.2	+0.2
GO04				*e*S	Sb	21 44 03.5	-0.5
GO04	Tololo Observa	1.54	156	*e*P	Pn	21 43 43.4	+0.4
GO04				*e*S	Sb	21 44 04.5	+0.6
GO03	Copiap	1.63	45		Pn	21 43 44.3	+0.4
GO03	Copiap	1.63	45	⇑*i*P	Pn	21 43 44.4	+0.4
GO03				*e*S	Sb	21 44 05.7	-0.5
GO03				IAML		21 44 07.7	
	comp=E,3μm,0.4s						
GO03	Copiap	1.63	45	*e*P	Pn	21 43 44.4	+0.4
GO03				*e*S	Sb	21 44 06.5	+0.4
AC06	Mina Casimiro	1.74	37		Pn	21 43 45.7	+0.2
AC06	Mina Casimiro	1.74	37	*e*P	Pn	21 43 46.0	+0.6
AC06				*e*S	Sb	21 44 08.7	-0.6
AC06				IAML		21 44 14.1	
	comp=E,3μm,0.3s						
CO01	Juntas del Tor	1.74	134		Pn	21 43 46.7	+1.1
CO01	Juntas del Tor	1.74	134	*e*P	Pn	21 43 46.7	+1.1
CO01				*e*S	Sb	21 44 09.0	-0.6
CO01				IAML		21 44 10.3	
	comp=N,4μm,0.4s						
CO01	Juntas del Tor	1.74	134	*e*P	Pn	21 43 46.8	+1.1
CO01				IAML		21 44 16.3	
	comp=Z,774nm,0.7s						
CO06	Fray Jorge	1.91	183	Pn	Pn	21 43 47.5	-0.3
CO06	Fray Jorge	1.91	183	⇓*i*P	Pn	21 43 47.5	-0.3
CO03	El Pedregal	2.20	161	Pn	Pn	21 43 52.6	+0.8
CO03	El Pedregal	2.20	161	*e*P	Pn	21 43 52.4	+0.6
CO03				*e*S	Sn	21 44 17.6	-0.7
CO03				IAML		21 44 25.4	
	comp=E,1μm,0.3s						
CO03	El Pedregal	2.20	161	*e*P	Pn	21 43 52.5	+0.8
CO03				IAML		21 44 27.4	
	comp=Z,764nm,0.5s						
AROD	Rodeo	2.28	129	*e*P	Pb	21 43 56.0	-1.1
AROD				*e*S	Sb	21 44 25.9	+0.9
CO02	Combarbal	2.48	169		Pn	21 43 56.1	+0.5
CO02	Combarbal	2.48	169	*e*P	Pn	21 43 56.0	+0.3
CO02	Combarbal	2.48	169	*e*P	Pn	21 43 55.9	+0.3
CO02				*e*S	Sb	21 44 34.8	+4.2
CO02				IAML		21 44 39.0	
	comp=Z,2μm,0.4s						
ACDV	Cuesta del Vie	2.53	124	*e*P	Pb	21 44 00.9	-0.5
ACDV				IAML		21 44 41.8	
	comp=Z,465nm,1.0s						
AC01	Pan de Azucar	2.73	18		Pn	21 43 58.0	-1.1
AC01	Pan de Azucar	2.73	18	*e*P	Pn	21 43 58.0	-1.1
AC01				IAML		21 44 55.4	
	comp=E,630nm,0.4s						
AC01	Pan de Azucar	2.73	18	*e*P	Pn	21 43 58.0	-1.1
AC01				*e*S	Sb	21 44 45.5	+7.7
AC01				IAML		21 44 47.4	
	comp=Z,565nm,0.4s						
AGUA	GUANDACOL	2.75	106	*e*P	Pb	21 44 03.8	-1.4
AGUA				*e*S	Sb	21 44 44.2	+5.6
AGUA				IAML		21 44 49.1	
	comp=Z,1μm,1.0s						
ACCO	Cerro Coronel	2.81	131	*e*P	Pb	21 44 04.1	-2.3
ACCO				*e*S	Sb	21 44 44.5	+4.0
ACCO				IAML		21 44 48.9	
	comp=Z,622nm,0.4s						
AC02	Maricunga	2.86	49		Pn	21 44 02.4	+1.1
AC02	Maricunga	2.86	49	*e*P	Pn	21 44 02.6	+1.3
AC02				IAML		21 44 54.4	
	comp=E,1μm,0.4s						
AC02	Maricunga	2.86	49	*e*P	Pn	21 44 02.8	+1.5
AC02				IAML		21 44 45.2	
	comp=Z,473nm,0.2s						
VCA	Vinchina	2.92	90	*e*P	Pb	21 44 06.5	-1.5
VCA				IAML		21 44 55.6	
	comp=Z,900nm,0.3s						
DOCA	Reserva Natura

H03N3				S	Sn	21 46 20.4	-18	
	baz=82,slow=72,SNR=3.9							
H03N3				T	T	21 53 11.5		
	baz=59,slow=72,SNR=856							
VA04	**Juan Fernndez**	**7.92**	**230**	Pn	**Pn**	**21 45 08.3**	**-2.1**	
H03S3	**Juan Fernandez**	**8.08**	**230**	P	**Pn**	**21 45 10.4**	**-1.9**	
	baz=8.1,slow=77,SNR=15							
H03S3				S	Sn	21 46 32.4	-10	
	baz=56,slow=23,SNR=9.3							
H03S1	**Juan Fernandez**	**8.09**	**229**	P	**Pn**	**21 45 08.6**	**-3.9**	
	baz=8.1,slow=77,SNR=10							
H03S1				S	Sn	21 46 32.0	-11	
	baz=56,slow=23,SNR=6.3							
H03S2	**Juan Fernandez**	**8.10**	**229**	P	**Pn**	**21 45 09.9**	**-2.7**	
	baz=8.1,slow=77,SNR=10							
H03S2				S	Sn	21 46 32.4	-11	
	baz=56,slow=23,SNR=10							
PB08	**IPOC Station P**	**8.85**	**15**	Pn	**Pn**	**21 45 22.3**	**-1.1**	
PLCA	**Paso Flores**	**11.97**	**176**	P	**Pn**	**21 46 10.2**	**+4.3**	
	comp=Z,0.1nm,0.3s,baz=354,slow=10,SNR=1.0							
PLCA				LR	LR	21 51 26.8		
	comp=Z,135nm,19.8s,baz=352,slow=41							
	comp=Z,0.5nm,0.5s							
TRQA	**Tornquist**	**12.22**	**142**	Pn	**Pn**	**21 46 08.5**	**-0.8**	
LPAZ	**La Paz**	**12.80**	**15**	Pn	**Pn**	**21 46 19.0**	**+1.2**	
LPAZ	**La Paz**	**12.80**	**15**	P	**Pn**	**21 46 21.3**	**+3.4**	
	comp=Z,0.2nm,0.3s,baz=196,slow=9.6,SNR=4.9							
	comp=Z,1.9nm,0.6s							
CPUP	**Villa Florida**	**12.83**	**82**	P	**Pn**	**21 46 17.4**	**-0.2**	
	comp=Z,0.2nm,0.3s,baz=257,slow=13,SNR=3.3							
CPUP				LR	LR	21 51 46.2		
	comp=Z,75nm,18.8s,baz=238,slow=40							
	comp=Z,1.1nm,0.6s							
ITQB	**Itaqui**	**13.05**	**98**	Pn	**Pn**	**21 46 20.1**	**-0.5**	
PLTB	**Pedras Altas**	**15.78**	**105**	Pn	**Pn**	**21 46 57.5**	**+0.2**	
ITAB	**Concordia**	**17.20**	**90**		**P**	**21 47 16.9**	**0.0**	
NNA	**Nana**	**17.41**	**342**	LR	LR	21 53 01.0		
	comp=Z,15nm,21.3s,baz=196,slow=33							
SAML	**Samuel**	**21.21**	**23**	P	**P**	**21 47 59.9**	**-0.9**	
BDFB	**Brasilia**	**25.32**	**64**	P	**P**	**21 48 40.5**	**-1.4**	
BDFB				IAmb	IAmb	21 48 57.5		
	comp=Z,14nm,1.4s							
BDFB	**Brasilia**	**25.32**	**64**	LR	LR	21 59 30.2		
	comp=Z,46nm,18.4s,baz=147,slow=38							
MDP	**Montagnes des**	**38.26**	**31**	LR	LR	22 08 26.6		
	comp=Z,41nm,18.6s,baz=63,slow=39							
TEIG	**Tepich**	**51.32**	**340**	P	**P**	**21 52 20.0**	**+0.9**	
	comp=Z,16nm,0.5s,baz=158,slow=5.2,SNR=1.8							
SNAA	**Sanae**	**56.29**	**159**	P	**P**	**21 52 54.6**	**-0.4**	
SNAA				IAmb	IAmb	21 52 59.1		
	comp=Z,1.7nm,1.0s							
SNAA	**Sanae**	**56.29**	**159**	P	**P**	**21 52 54.8**	**-0.3**	
	comp=Z,1.0nm,0.7s,baz=265,slow=7.1,SNR=9.5							
	comp=Z,1.0nm,0.7s							
QSPA	**South Pole Qui**	**61.46**	**180**	P	**P**	**21 53 31.2**	**0.0**	
QSPA	**South Pole Qui**	**61.46**	**180**	P	**P**	**21 53 31.6**	**+0.5**	
	comp=Z,0.8nm,0.6s,baz=228,slow=2.4,SNR=3.7							
	comp=Z,0.8nm,0.6s							
TXAR	**Lajitas Array**	**65.43**	**329**	P	**P**	**21 53 59.3**	**+1.6**	
	comp=Z,0.2nm,0.6s,baz=152,slow=10,SNR=2.5							
	comp=Z,0.2nm,0.6s							
DBIC	**Dimbokro**	**73.14**	**72**	P	**P**	**21 54 44.5**	**-1.2**	
KOWA	**Kowa**	**78.10**	**66**	P	**P**	**21 55 13.6**	**-0.5**	
KOWA				IAmb	IAmb	21 55 14.7		
	comp=Z,4.2nm,0.7s							
PDAR	**Pinedale Array**	**79.31**	**333**	P	**P**	**21 55 21.1**	**+0.7**	
	comp=Z,0.3nm,0.5s,baz=127,slow=5.7,SNR=2.3							
	comp=Z,0.3nm,0.5s							
TOA0	**Torodi Ar. Sit**	**82.03**	**70**	P	**P**	**21 55 34.7**	**-0.6**	
TOA0				IAmb	IAmb	21 55 35.4		
	comp=Z,2.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**82.03**	**70**	P	**P**	**21 55 34.8**	**-0.5**	
TORD				IAmb	IAmb	21 55 35.6		
	comp=Z,1.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**82.03**	**70**	P	**P**	**21 55 34.7**	**-0.7**	
	comp=Z,1.6nm,0.6s,baz=274,slow=5.1,SNR=17							
	comp=Z,1.6nm,0.6s							
MDT	**Midelt**	**88.19**	**51**	LR	LR	22 34 17.4		
	comp=Z,49nm,19.0s,baz=14,slow=35							
ASAR	**Alice Springs**	**122.41**	**208**	PKP	**PKPdf**	**22 02 09.7**	**-0.9**	
	comp=Z,0.2nm,0.5s,baz=105,slow=2.1,SNR=4.7							
WRA	**Warramunga Arr**	**125.52**	**210**	PKP	**PKPdf**	**22 02 16.3**	**-0.3**	
	comp=Z,0.6nm,0.5s,baz=153,slow=1.6,SNR=13							
H11S2	**WAKE ISLAND Hyl**	**26.12**	**273**	T	T	00 21 02.7		
	baz=115,slow=75,SNR=10.0							
H11S1	**WAKE ISLAND Hyl**	**26.14**	**273**	T	T	00 21 03.3		
	baz=115,slow=75,SNR=13							
H11S3	**WAKE ISLAND Hyl**	**26.14**	**273**	T	T	00 21 07.3		
	baz=115,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hyl**	**26.40**	**274**	T	T	00 21 23.1		
	baz=113							
H11N1	**WAKE ISLAND Hyl**	**26.42**	**274**	T	T	00 21 24.5		
	baz=113							
H11N2	**WAKE ISLAND Hyl**	**26.42**	**274**	T	T	00 21 27.2		
	baz=113							
KURBB	**Kurchatov Arra**	**148.61**	**38**	PKPbc	**PKPbc**	**22 03 02.0**	**+0.6**	
	comp=Z,1.0nm,0.5s,baz=302,slow=3.2,SNR=8.9							
ZALV	**Zalesovo Beam**	**149.48**	**28**	PKPbc	**PKPbc**	**22 03 04.0**	**+0.5**	
	comp=Z,4.0nm,0.6s,baz=302,slow=3.5,SNR=16							
MKAR	**Makanchi Array**	**152.77**	**41**	PKPbc	**PKPbc**	**22 03 11.2**	**-0.2**	
	comp=Z,0.9nm,0.7s,baz=316,slow=2.4,SNR=6.3							
PZH	**PanZhiHua**	**173.62**	**109**	PKP	**PKPdf**	**22 03 23.5**	**-1.2**	

*IDC **14** 22:06:41.6±2.1, 1°.17N×126°.24E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=181.8km s-min=26.3km az=65.0*
*DJA **14** 22:06:56.7±0.6, 2°.N±5°.×12°.7E±°, h107km±8km, M3.4/8, MLv3.4/8*
ISC 14 22:06:53.0±1.6, 1°.7N±0°.2×127°.3E±0°.2, h100km, n8, σ2.56/8, mb3.1/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.91**	**173**	P	**Pn**	**22 07 15.1**	**+2.6**
LBMI	**Labuha**	**2.32**	**174**	P	**Pn**	**22 07 32.0**	**+2.3**
SANI	**Sanana**	**3.92**	**199**	P	**Pn**	**22 07 51.4**	**+0.3**
GTOI	**Gorontalo**	**4.37**	**256**	P	**Pn**	**22 07 58.8**	**+1.6**
NLAI	**Namlea**	**4.89**	**182**	P	**Pn**	**22 08 05.9**	**+1.6**
WRA	**Warramunga Arr**	**22.59**	**162**	P	**P**	**22 11 42.5**	**-2.9**
	0.3nm,0.3s,baz=338,slow=11,SNR=5.8						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**26.01**	**166**	P	**P**	**22 12 14.2**	**-2.7**
	0.2nm,0.6s,baz=344,slow=12,SNR=1.7						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**59.53**	**326**	P	**P**	**22 16 46.0**	**0.0**
	0.3nm,0.4s,baz=119,slow=7.9,SNR=6.9						
	0.3nm,0.4s						

IDC 14 22:23:05.4±2.1, 7°.91S×130°.18E, h0km, mb3.8/1, mbtmp3.3/3, ML3.1/2, MS2.9/1, Error ellipse: s-maj=91.6km s-min=27.7km az=72.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.62**	**162**	Pn	Pn	22 26 06.6	+0.2
	0.1nm,0.3s,baz=339,slow=13,SNR=1.3						
WRA				Sn	Sn	22 28 27.2	-0.6
	0.1nm,0.3s,baz=345,slow=22,SNR=1.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**16.07**	**168**	Pn	Pn	22 26 53.4	+0.4
	0.1nm,0.3s,baz=343,slow=8.8,SNR=5.0						
ASAR				Sn	Sn	22 29 53.8	+1.9
	baz=349,slow=24						
	0.2nm,0.5s						
LEM	**Lembang**	**22.40**	**271**	LR	LR	22 38 01.5	
	comp=Z,30nm,18.2s,baz=300,slow=40						
ZALV	**Zalesovo Beam**	**72.47**	**334**	P	P	22 34 33.7	0.0
	0.5nm,0.5s,baz=134,slow=4.2,SNR=1.6						
	0.5nm,0.5s						

*SJA **14** 22:43:41.4±0.8, 18°.67S×69°.78W, h97km±9km, ML3.7, MW3.7*
*GUC **14** 22:43:43.3±0.8, 18°.59S×69°.75W, h89km±4km, ML3.8*
*IDC **14** 22:43:44.2±1.8, 18°.67S×69°.47W, h108km±12km, mb3.5/5, mbtmp3.8/8, MS2.6/1, Error ellipse: s-maj=32.2km s-min=9.1km az=104.0*
ISC 14 22:43:42.3±0.8, 18°.60S±0°.04×69°.76W±0°.07, h96km±7km, n40, σ1.08/51, mb3.7/4, 2C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.35**	**43**	⇓*i*P	**Pn**	**22 43 57.7**	**+0.3**
PB16				*e*S	**Sn**	**22 44 08.8**	**+0.2**
PB16	**IPOC Station P**	**0.35**	**43**	*i* P	**Pn**	**22 43 57.9**	**+0.5**
PB16				*i* S	**Sn**	**22 44 09.7**	**+1.1**
PB16				IAML		22 44 12.7	
	comp=Z,2μm,0.5s						
PB12	**IPOC Station P**	**0.54**	**268**	⇑*i*P	**Pn**	**22 43 57.7**	**-0.3**
PB12				*e*S	**Sn**	**22 44 09.5**	**-0.4**
PB12				IAML		22 44 10.5	
	comp=E,8μm,0.3s						
PB12	**IPOC Station P**	**0.54**	**268**	*i* P	**Pn**	**22 43 57.8**	**-0.3**
PB12				*i* S	**Sn**	**22 44 10.2**	**+0.3**
PB12				IAML		22 44 10.4	
	comp=Z,2μm,0.2s						
AP01	**Chacalluta**	**0.60**	**292**	⇑*i*P	**Pn**	**22 43 58.5**	**+0.1**
AP01				*e*S	**Sn**	**22 44 10.1**	**-0.4**
AP01				IAML		22 44 12.1	
	comp=N,11μm,0.1s						
AP01	**Chacalluta**	**0.60**	**292**	*i* P	**Pn**	**22 43 58.5**	**+0.1**
AP01				*e*S	**Sn**	**22 44 10.9**	**+0.4**
AP01				IAML		22 44 12.6	
	comp=Z,6μm,0.1s						
GO01	**Chusmiza**	**1.19**	**154**	*e*P	**Pn**	**22 44 06.1**	**+1.0**
GO01				*e*S	**Sn**	**22 44 23.7**	**+1.5**
GO01				IAML		22 44 25.6	
	comp=E,3μm,0.2s						
GO01	**Chusmiza**	**1.19**	**154**	*i* P	**Pn**	**22 44 06.4**	**+1.2**
PB08	**IPOC Station P**	**1.64**	**160**	⇓*i*P	**Pn**	**22 44 11.6**	**+1.1**
PB08				*e*S	**Sn**	**22 44 32.7**	**+0.9**
PB08				IAML		22 44 34.5	
	comp=E,2μm,0.5s						
PB08	**IPOC Station P**	**1.64**	**160**	*i* P	**Pn**	**22 44 11.7**	**+1.2**
PB08				*i* S	**Sn**	**22 44 33.4**	**+1.6**
PB08				IAML		22 44 34.8	
	comp=Z,788nm,0.3s						
TA02	**Huaiquique**	**1.70**	**192**	*e*P	**Pn**	**22 44 10.6**	**-0.3**
TA02				*e*S	**Sn**	**22 44 32.2**	**-0.5**
TA02				IAML		22 44 37.2	
	comp=N,1μm,0.1s						
TA01	**Diego Aracena**	**2.00**	**191**	*e*P	**Pn**	**22 44 13.8**	**-1.0**
TA01				*e*S	**Sn**	**22 44 37.1**	**-2.3**
TA01				IAML		22 44 44.5	
	comp=N,392nm,0.4s						
TA01	**Diego Aracena**	**2.00**	**191**	*i* P	**Pn**	**22 44 13.7**	**-1.0**
TA01				IAML		22 44 45.6	
	comp=Z,194nm,0.7s						
PATCX	**Punta Patache**	**2.25**	**189**	*i* P	**Pn**	**22 44 17.2**	**-0.8**
PATCX				IAML		22 45 18.2	
	comp=Z,146nm,0.7s						
PB01	**IPOC Station P**	**2.45**	**174**	*e*P	**Pn**	**22 44 20.7**	**0.0**
PB01				*e*S	**Sn**	**22 44 50.3**	**+0.1**
PB01				IAML		22 44 58.9	
	comp=E,378nm,0.4s						
PB01	**IPOC Station P**	**2.45**	**174**	*i* P	**Pn**	**22 44 20.8**	**+0.1**
PB01				IAML		22 44 56.3	
	comp=Z,278nm,0.2s						
PB02	**IPOC Station P**	**2.71**	**183**	*e*P	**Pn**	**22 44 24.1**	**-0.1**
PB02				IAML		22 45 05.6	
	comp=E,618nm,0.4s						
PB02	**IPOC Station P**	**2.71**	**183**	*i* P	**Pn**	**22 44 24.1**	**-0.1**
PB02				IAML		22 45 07.2	
	comp=Z,510nm,0.3s						
LPAZ	**La Paz**	**2.77**	**34**	P	**Pn**	**22 44 27.9**	**+2.4**
	comp=Z,9.8nm,0.3s,baz=212,slow=7.8,SNR=71						
LPAZ				S	**Sn**	**22 44 59.5**	**+0.9**
	comp=Z,23nm,0.7s,baz=229,slow=11,SNR=7.7						
PB07	**IPOC Station P**	**3.12**	**182**	*e*P	**Pn**	**22 44 29.4**	**-0.4**
PB07				*e*S	**Sn**	**22 45 07.1**	**+0.9**
PB07				IAML		22 45 16.4	
	comp=E,294nm,0.4s						
PB07	**IPOC Station P**	**3.12**	**182**	*e*P	**Pn**	**22 44 29.4**	**-0.4**
PB07				IAML		22 45 18.6	
	comp=Z,342nm,0.4s						
PB09	**IPOC Station P**	**3.22**	**171**	*e*P	**Pn**	**22 44 31.6**	**+0.5**
PB09				*e*S	**Sn**	**22 45 09.9**	**+1.2**
PB09				IAML		22 45 22.1	
	comp=E,178nm,0.4s						
PB09	**IPOC Station P**	**3.22**	**171**	*e*P	**Pn**	**22 44 32.0**	**+0.9**
PB09				IAML		22 45 21.4	
	comp=Z,175nm,1.1s						
PB04	**IPOC Station P**	**3.74**	**186**	*i* P	**Pn**	**22 44 37.1**	**-1.0**
PB04				IAML		22 45 39.8	
	comp=Z,85nm,0.4s						
LVC	**Limon Verde**	**4.07**	**169**	P	**Pn**	**22 44 43.3**	**+0.6**
	comp=Z,7.6nm,0.3s,baz=346,slow=12,SNR=24						
LVC				S	**Sn**	**22 45 28.8**	**-0.8**
	comp=Z,25nm,0.3s,baz=15,slow=7.6,SNR=5.6						
LVC	**Limon Verde**	**4.07**	**169**	*i* P	**Pn**	**22 44 44.1**	**+1.3**
LVC				IAML		22 45 45.1	
	comp=Z,105nm,0.7s						
PB06	**IPOC Station P**	**4.09**	**178**	*i* P	**Pn**	**22 44 42.2**	**-0.7**
PB06				IAML		22 45 54.0	
	comp=Z,61nm,0.4s						
PB15	**IPOC Station P**	**4.60**	**177**	*e*P	**Pn**	**22 44 49.2**	**-0.6**
PB15				IAML		22 46 04.3	
	comp=Z,166nm,0.3s						
SIV	**San Ignacio**	**8.69**	**74**	P	**Pn**	**22 45 44.0**	**-1.3**
	comp=Z,6.1nm,0.7s,baz=254,slow=12,SNR=28						
SIV				S	**Sn**	**22 47 18.2**	**-3.5**
	comp=Z,1.0nm,0.5s,baz=327,slow=23,SNR=0.8						
SIV				LR	LR	22 49 27.0	
	comp=Z,45nm,21.6s,baz=317,slow=41						
H03N1	**Juan Fernandez**	**16.91**	**207**	T	T	23 04 37.2	
	baz=31,slow=72,SNR=13						
H03N2	**Juan Fernandez**	**16.91**	**207**	T	T	23 04 27.6	
	baz=31,slow=72,SNR=14						
H03N3	**Juan Fernandez**	**16.92**	**207**	T	T	23 04 26.7	
	baz=31,slow=72,SNR=20						
BDFB	**Brasilia**	**20.99**	**85**	P	**P**	**22 48 17.1**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=253,slow=8.4,SNR=4.4						
	comp=Z,2.0nm,0.4s						
PLCA	**Paso Flores**	**22.07**	**182**	P	**P**	**22 48 30.6**	**+1.1**
	comp=Z,2.8nm,0.9s,baz=319,slow=11,SNR=4.3						
	comp=Z,2.8nm,0.9s						
QSPA	**South Pole Qui**	**71.58**	**180**	P	**P**	**22 54 53.9**	**+0.9**
	comp=Z,1.4nm,1.1s,baz=281,slow=3.7,SNR=1.9						
	comp=Z,1.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**77.16**	**71**	P	**P**	**22 55 24.6**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=253,slow=5.4,SNR=16						
	comp=Z,1.0nm,0.5s						
ESDC	**Sonseca Array**	**84.34**	**45**	P	**P**	**22 56 03.8**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=256,slow=6.0,SNR=2.4						
	comp=Z,0.4nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**26.67**	**280**	T	T	01 21 40.2	
	baz=100,slow=74,SNR=16						
H11S1	**WAKE ISLAND Hyl**	**26.68**	**280**	T	T	01 21 50.2	
	baz=100,slow=74,SNR=9.4						
H11S3	**WAKE ISLAND Hyl**	**26.69**	**280**	T	T	01 21 50.6	
	baz=100,slow=74,SNR=8.4						

*IDC **14** 23:03:27.3±1.3, 44°.62N×80°.56E, h0km, mb3.6/3, mbtmp3.5/10, ML3.2/7, MS2.9/1, Error ellipse: s-maj=18.7km s-min=11.9km az=137.0*
*SOME **14** 23:03:27.4, 44°.48N×80°.40E, h5km*
*NNC **14** 23:03:27.3±0.5, 44°.52N×80°.39E, h0km±2km, mb4.1, mpv4.1, Error ellipse: s-maj=3.3km s-min=2.4km az=107.0*
ISC 14 23:03:27.0±1.2, 44°.47N±0°.03×80°.48E±0°.03, h8km±8km, n80, σ1.52/108, mb3.5/3, 15C-14D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.52**	**254**	P	**Pg**	**23 03 37.4**	**+0.5**
	168nm,0.1s						
DJR				S	**Sg**	**23 03 44.2**	**+0.4**
	1μm,0.1s						
DJR	**Jarkent**	**0.52**	**254**	*e*P	**Pg**	**23 03 37.4**	**+0.5**
	168nm,0.1s						
DJR				*e*S	**Sg**	**23 03 44.2**	**+0.4**
	1μm,0.1s						
KNOS	**Konyrlen**	**0.94**	**264**	P	**Pg**	**23 03 44.7**	**-0.4**
	681nm,0.1s						
KNOS				S	**Sg**	**23 03 56.7**	**-0.6**
	1μm,0.1s						
KTMS	**Ketmen**	**1.03**	**185**	P	**Pg**	**23 03 46.4**	**-0.4**
	73nm,0.1s						
KTMS				S	**Sg**	**23 03 59.6**	**-0.6**
	667nm,0.2s						
KTMS	**Ketmen**	**1.03**	**185**	*e*P	**Pg**	**23 03 46.4**	**-0.4**
	73nm,0.1s						
KTMS				*e*S	**Sg**	**23 03 59.6**	**-0.6**
	667nm,0.2s						
PDGK	**Podgornoye**	**1.35**	**212**	P	**Pb**	**23 03 53.0**	**+0.4**
	177nm,0.1s						
PDGK				S	**Sg**	**23 04 11.1**	**+0.7**
	392nm,0.4s						
PDGK	**Podgornoye**	**1.35**	**212**	⇓P	**Pb**	**23 03 53.0**	**+0.4**
	131nm,0.3s						
PDGK				⇑S	**Sg**	**23 04 11.2**	**+0.9**
	822nm,0.6s						
BLB	**Baldybastay**	**1.49**	**256**	P	**Pn**	**23 03 54.6**	**+0.4**
	237nm,0.1s						
BLB				S	**Sn**	**23 04 13.8**	**-0.1**
	302nm,0.2s						
SHLS	**Shalkode**	**1.51**	**210**	P	**Pn**	**23 03 53.9**	**-0.6**
	353nm,0.2s						
SHLS				S	**Sn**	**23 04 12.6**	**-1.8**
	901nm,0.5s						
SHLS	**Shalkode**	**1.51**	**210**	*e*P	**Pn**	**23 03 53.9**	**-0.6**
	353nm,0.2s						
SHLS				*e*S	**Sn**	**23 04 12.6**	**-1.8**
	901nm,0.5s						
TDK	**Taldyqorghan**	**1.57**	**290**	P	**Pn**	**23 03 54.9**	**-0.4**
	97nm,0.3s						
TDK				S	**Sn**	**23 04 14.0**	**-1.8**
	460nm,0.3s						
TDK	**Taldyqorghan**	**1.57**	**290**	*e*P	**Pn**	**23 03 54.9**	**-0.4**
	97nm,0.3s						
TDK				*e*S	**Sn**	**23 04 14.0**	**-1.8**
	460nm,0.3s						
KPKS	**Kokpek**	**1.64**	**233**	P	**Pb**	**23 03 57.7**	**+0.1**
	233nm,0.1s						
KPKS				S	**Sb**	**23 04 19.2**	**+0.7**
	1μm,0.2s						
KPKS	**Kokpek**	**1.64**	**233**	*e*P	**Pb**	**23 03 57.7**	**+0.1**
	233nm,0.1s						
KPKS				*e*S	**Sb**	**23 04 19.2**	**+0.7**
	1μm,0.2s						
UZB	**Uzynbulak**	**1.69**	**219**	P	**Pb**	**23 03 58.7**	**+0.2**
	103nm,0.2s						
UZB				S	**Sg**	**23 04 21.1**	**-0.3**
	443nm,0.2s						
UZB	**Uzynbulak**	**1.69**	**219**	*e*P	**Pb**	**23 03 58.7**	**+0.2**
	103nm,0.2s						
UZB				*e*S	**Sg**	**23 04 21.1**	**-0.3**
	443nm,0.2s						
ARXS	**Arharly**	**1.92**	**263**	P	**Pb**	**23 04 01.9**	**-0.4**
	85nm,0.2s						
ARXS				S	**Sb**	**23 04 26.1**	**-0.4**
	1μm,0.2s						
ARXS	**Arharly**	**1.92**	**263**	*e*P	**Pb**	**23 04 01.9**	**-0.4**
	85nm,0.2s						
ARXS				*e*S	**Sb**	**23 04 26.1**	**-0.4**
	1μm,0.2s						
KURS	**Kuram**	**1.94**	**240**	P	**Pb**	**23 04 03.1**	**+0.5**
	48nm,0.3s						
KURS				S	**Sb**	**23 04 28.3**	**+1.3**
	378nm,0.3s						
KURS	**Kuram**	**1.94**	**240**	*e*P	**Pb**	**23 04 03.1**	**+0.5**
	48nm,0.3s						
KURS				*e*S	**Sb**	**23 04 28.3**	**+1.3**
	378nm,0.3s						
ZHN	**Zhinishke**	**1.97**	**229**	Pg	**Pb**	**23 04 03.7**	**+0.4**
	51nm,0.1s						
ZHN				Lg	Lg	23 04 29.3	
	2μm,0.2s						
ZHN	**Zhinishke**	**1.97**	**229**	*e*P	**Pn**	**23 04 01.7**	**+0.9**
	97nm,0.3s						
ZHN				*e*S	**Sb**	**23 04 27.2**	**-0.9**
	2μm,0.2s						
SATY	**Saty**	**2.06**	**227**	Pg	**Pb**	**23 04 05.4**	**+0.6**
	84nm,0.0s						
SATY				Lg	Lg	23 04 32.5	
	3μm,0.2s						
SATY	**Saty**	**2.06**	**227**	*e*Pg	**Pb**	**23 04 05.4**	**+0.6**
	84nm,0.0s						
SATY				*e*Lg	Lg	23 04 32.5	
	3μm,0.2s						
MAKZ	**Makanchi**	**2.56**	**24**	⇓Pn	**Pn**	**23 04 09.8**	**+0.9**
	5.6nm,0.2s						
MAKZ				⇑Lg	Lg	23 04 44.5	
	176nm,0.7s						
CHKK	**Chushkaly**	**2.59**	**257**	Pg	**Pb**	**23 04 13.7**	**0.0**
	39nm,0.2s						
CHKK				Lg	Lg	23 04 46.2	
	902nm,0.2s						
CHKK	**Chushkaly**	**2.59**	**257**	*e*Pg	**Pb**	**23 04 13.7**	**0.0**
	39nm,0.2s						
CHKK				*e*Lg	Lg	23 04 46.2	
	902nm,0.2s						
MK31	**Makanchi Array**	**2.65**	**28**	Pn	**Pn**	**23 04 11.6**	**+1.6**
	8.3nm,0.2s,baz=212,slow=13,SNR=900						
MK31				Lg	Lg	23 04 47.0	
	71nm,0.3s,baz=212,slow=29,SNR=36						
MKAR	**Makanchi Array**	**2.65**	**28**	Pn	**Pn**	**23 04 11.4**	**+1.4**
	10nm,0.3s,baz=205,slow=17,SNR=308						
MKAR				Lg	Lg	23 04 45.7	
	126nm,0.3s,baz=208,slow=23,SNR=37						
MKAR				LR	LR	23 04 57.2	
	comp=Z,195nm,18.1s,baz=246,slow=36						
	12nm,0.3s						
KOTS	**Kotyrbulak**	**2.73**	**244**	Pg	**Pb**	**23 04 16.7**	**+0.4**
	21nm,0.2s						
KOTS				Lg	Lg	23 04 51.5	
	775nm,0.2s						
KOTS	**Kotyrbulak**	**2.73**	**244**	*e*Pg	**Pb**	**23 04 16.7**	**+0.4**
	21nm,0.2s						
KOTS				*e*Lg	Lg	23 04 51.5	
	775nm,0.2s						
KNDC	**Almaty**	**2.84**	**245**	⇓Pg	**Pb**	**23 04 19.2**	**+1.3**
	37nm,0.4s						
KNDC				⇑Lg	Lg	23 04 55.1	
	366nm,0.5s						
KTBS	**Karatobe**	**2.84**	**256**	Pg	**Pb**	**23 04 18.2**	**+0.2**
	47nm,0.2s						
KTBS				Lg	Lg	23 04 54.0	
	279nm,0.5s						
KTBS	**Karatobe**	**2.84**	**256**	*e*Pg	**Pb**	**23 04 18.2**	**+0.2**
	47nm,0.2s						
KTBS				*e*Lg	Lg	23 04 54.0	
	279nm,0.5s						
AAA	**Alma-Ata**	**2.87**	**245**	Pg	**Pb**	**23 04 19.6**	**+1.0**
	34nm,0.1s						

KST				Lg	Lg	23 05 16.9
	169nm,0.3s					
KST	**Kastek**	**3.57 248**	*e*Pg		**Pb**	**23 04 31.5 +1.0**
	11nm,0.4s					
KST				*e*Lg	Lg	23 05 16.9
	169nm,0.3s					
DGS	**Degeres**	**3.62 252**	Pg		**Pb**	**23 04 32.3 +1.0**
	25nm,0.3s					
DGS				Lg	Lg	23 05 18.3
	158nm,0.3s					
DGS	**Degeres**	**3.62 252**	*e*Pg		**Pb**	**23 04 32.3 +1.0**
	25nm,0.3s					
DGS				*e*Lg	Lg	23 05 18.3
	158nm,0.3s					
TKM2	**Tokmak 2**	**3.87 248**	⇓Pg		**Pb**	**23 04 37.6 +2.0**
	24nm,0.8s					
TKM2				⇓Lg	Lg	23 05 27.5
	61nm,0.4s					
ZSN	**Zaisan**	**4.27 44**	Pg		**Pb**	**23 04 43.7 +1.4**
	16nm,0.3s					
ZSN				Lg	Lg	23 05 38.2
	114nm,0.4s					
ZSN	**Zaisan**	**4.27 44**	*e*Pg		**Pb**	**23 04 43.7 +1.4**
	16nm,0.3s					
ZSN				*e*Lg	Lg	23 05 38.2
	114nm,0.4s					
CHMS	**Chumysh**	**4.41 252**	⇑Pg		**Pb**	**23 04 46.3 +1.6**
	10nm,0.5s					
CHMS				⇑Lg	Lg	23 05 43.9
	56nm,0.6s					
BTLS	**Baital**	**4.62 279**	Pg		**Pb**	**23 04 51.2 +3.0**
	8.3nm,0.5s					
BTLS				Lg	Lg	23 05 50.3
	24nm,0.4s					
BTLS	**Baital**	**4.62 279**	*e*Pg		**Pb**	**23 04 51.2 +3.0**
	8.3nm,0.5s					
BTLS				*e*Lg	Lg	23 05 50.3
	24nm,0.4s					
AAK	**Ala-Archa**	**4.72 249**	Pn		**Pn**	**23 04 43.4 +4.7**
	0.7nm,0.3s,baz=58,slow=19,SNR=2.5					
AAK				Pg	**Pb**	**23 04 52.0 +1.9**
	2.9nm,0.3s,baz=102,slow=5.8,SNR=14					
AAK				Lg	Lg	23 05 53.0
	4.3nm,0.3s,baz=201,slow=20,SNR=5.7					
	1.6nm,0.4s					
AML	**Almayashu**	**5.48 247**	⇓Pn		**Pn**	**23 04 51.4 +2.1**
	0.2nm,0.5s					
AML				⇑Pg	**Pb**	**23 05 06.9 +3.7**
	1.5nm,0.8s					
AML				⇑Lg	Lg	23 06 16.6
	4.6nm,0.6s					
MRKS	**Merke**	**5.54 254**	Pg		**Pg**	**23 05 09.2 -3.9**
	3.7nm,0.3s					
MRKS				Lg	Lg	23 06 21.5
	29nm,0.8s					
MRKS	**Merke**	**5.54 254**	*e*Pg		**Pg**	**23 05 09.2 -3.9**
	3.7nm,0.3s					
MRKS				*e*Lg	Lg	23 06 21.5
	29nm,0.8s					
SEM	**Semipalatinsk**	**5.94 359**	Pg		**Pg**	**23 05 18.7 -2.0**
	4.8nm,0.2s					
SEM				Lg	Lg	23 06 38.0
	34nm,0.7s					
SEM	**Semipalatinsk**	**5.94 359**	*e*Pg		**Pg**	**23 05 18.7 -2.0**
	4.8nm,0.2s					
SEM				*e*Lg	Lg	23 06 38.0
	34nm,0.7s					
KURBB	**Kurchatov Arra**	**6.29 349**	⇑Pn		**Pn**	**23 05 00.2 +0.1**
	1.4nm,0.5s					
KURBB				⇓Pg	**Pb**	**23 05 19.4 +2.7**
	6.6nm,0.6s					
KURBB				⇓Lg	Lg	23 06 42.9
	110nm,0.7s					
KURBB	**Kurchatov Arra**	**6.29 349**	Pn		**Pn**	**23 04 59.7 -0.3**
	0.2nm,0.3s,baz=173,slow=12,SNR=8.6					
KURBB				Pg	**Pb**	**23 05 13.9 -2.8**
	0.3nm,0.3s,baz=167,slow=15,SNR=5.5					
KURBB				Sn	**Sn**	**23 06 10.2 -1.9**
	0.6nm,0.3s,baz=179,slow=17,SNR=4.3					
KURBB				Lg	Lg	23 06 38.0
	0.8nm,0.3s,baz=178,slow=28,SNR=9.9					
	0.5nm,0.3s					
KURK	**Kurchatov**	**6.37 349**	⇓Pn		**Pn**	**23 05 00.8 -0.3**
	3.4nm,1.0s					
KURK				⇓Pg	**Pb**	**23 05 21.5 +3.4**
	3.9nm,0.6s					
KURK				⇑Lg	Lg	23 06 45.9
	64nm,0.6s					
KK31	**Karatay Array**	**7.34 263**	Pn		**Pn**	**23 05 15.7 +1.1**
	0.1nm,0.3s,baz=69,slow=13,SNR=15					
KK31				⇓Pg	Pb	23 05 40.0 +5.3
	0.8nm,0.4s,baz=74,slow=16,SNR=6.0					
KK31				⇑Lg	Lg	23 07 16.7
	9.8nm,0.5s,baz=73,slow=28,SNR=19					
IUG	**Iuzhnay**	**7.97 257**	Pg		Pg	23 05 54.5 -5.0
	4.0nm,0.3s					
IUG				Lg	Lg	23 07 39.2
	33nm,0.8s					
IUG	**Iuzhnay**	**7.97 257**	*e*Pg		Pg	23 05 54.5 -5.0
	4.0nm,0.3s					
IUG				*e*Lg	Lg	23 07 39.2
	33nm,0.8s					
ZAA0	**Zalesovo Array**	**9.90 15**	⇑Pn		**Pn**	**23 05 50.5 +1.0**
	0.4nm,0.8s					
ZAA0				⇓Sn	**Sn**	**23 07 40.2 -0.5**
	1.6nm,0.8s					
ZALV	**Zalesovo Beam**	**9.90 15**	Pn		**Pn**	**23 05 48.6 -0.8**
	0.6nm,0.3s,baz=198,slow=13,SNR=10					
ZALV				Sn	**Sn**	**23 07 37.6 -3.1**
	2.5nm,0.3s,baz=207,slow=26,SNR=14					
ZALV				Lg	Lg	23 08 36.7
	0.3nm,0.3s,baz=199,slow=27,SNR=2.7					
	0.9nm,0.3s					
BVA0	**Borovoye Array**	**10.84 326**	⇓Pn		**Pn**	**23 06 01.3 -1.1**
	5.0nm,1.5s,baz=135,slow=12,SNR=4.7					
BVA0				⇓Lg	Lg	23 09 07.2
	11nm,1.1s,baz=129,slow=26,SNR=6.8					
BVAR	**Borovoye Array**	**10.84 326**	Pn		**Pn**	**23 06 01.9 -0.5**
	baz=133,slow=12,SNR=4.9					
BVAR				Sn	**Sn**	**23 07 59.4 -4.4**
	0.1nm,0.3s,baz=140,slow=25,SNR=2.2					
BVAR				Lg	Lg	23 09 02.4
	0.1nm,0.3s,baz=120,slow=24,SNR=7.6					
	0.5nm,0.5s					
BRVK	**Borovoye**	**10.90 326**	⇑Pn		**Pn**	**23 06 03.4 +0.2**
	2.9nm,1.0s					
BRVK				⇑Lg	Lg	23 09 09.3
	26nm,1.2s					
AB31	**Akbulak array**	**14.83 296**	Pn		**Pn**	**23 06 56.2 -0.7**
	0.5nm,0.2s,baz=111,slow=9.1,SNR=9.5					
AKTO	**Aktyubinsk**	**16.29 299**	Pn		**Pn**	**23 07 13.6 -2.5**
	0.2nm,0.3s,baz=102,slow=9.3,SNR=1.8					
	0.6nm,0.3s					
SONM	**Songino Array**	**18.23 70**	P		**Pn**	**23 07 40.6 +0.1**
	0.4nm,0.3s,baz=267,slow=12,SNR=6.6					
	0.9nm,0.4s					
NOA	**NORSAR Array B**	**42.84 318**	P		**P**	**23 11 25.0 -0.2**
	0.4nm,0.4s,baz=80,slow=8.2,SNR=2.1					
	0.4nm,0.4s					
ILAR	**Eielson Array**	**64.98 20**	P		**P**	**23 14 07.0 +0.1**
	0.7nm,0.7s,baz=327,slow=5.6,SNR=7.5					
	0.7nm,0.7s					
TORD	**Torodi Ar. Bea**	**72.94 272**	P		**P**	**23 15 00.6 +3.5**
	0.3nm,0.8s,baz=44,slow=5.4,SNR=1.8					
	0.3nm,0.8s					

IDC 14 23:20:46.9±3.1, 9°.46N×123°.51E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=361.1km s-min=22.8km az=64.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.10**	**160**	P	P	23 27 07.2	0.0
	0.3nm,0.9s,baz=343,slow=8.0,SNR=1.6						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**34.45**	**163**	P	P	23 27 36.4	-0.1
	0.4nm,0.3s,baz=340,slow=7.4,SNR=15						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**51.06**	**324**	P	P	23 29 51.7	+0.6
	0.7nm,0.6s,baz=106,slow=7.6,SNR=7.1						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**55.23**	**327**	P	P	23 30 20.7	-1.0
	0.4nm,0.4s,baz=126,slow=6.8,SNR=1.8						
	0.4nm,0.4s						

*BJI **14** 23:34:04.8±0.0, 30°.67N×130°.69E, h154km, mb4.8/70, mB5.0/30*

*MOS **14** 23:34:08.1±0.9, 30°.95N×130°.23E, h154km, mb5.0/80, Error ellipse: s-maj=6.3km s-min=3.5km az=114.2*

*NEIC **14** 23:34:09.8, 30°.93N×130°.28E, h140km*

*NEIC **14** 23:34:09.4±1.3, 30°.93N±0°.05×130°.31E±0°.09, h148km±4km, mb5.0/176, Mww5.0/28, Error ellipse: s-maj=10.7km s-min=7.8km az=99.0*

*NEIC **14** 23:34:09.8, 30°.73N×130°.63E, h140km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10^16 Nm; Mrr2.72; Mθθ-3.79; Mφφ1.07; Mrθ0.29; Mθφ-0.16; Mφr-1.11; Fault plane solution: M0 3.54000×10^16 NP1: φs112.18000°, δ52.96000°, λ124.25000°. NP2: φs243.67000°, δ48.72000°, λ53.28000°. Principal axes: T 3.2875, Plg63.0000°, Azm84.0000°; N 0.5138, Plg27.0000°, Azm270.0000°; P -3.8014, Plg2.0000°, Azm179.0000°;*

*GCMT **14** 23:34:10.4±0.2, 30°.92N±0°.01×130°.28E±0°.02, h161km±2km, MW5.1/122, Moment Tensor Solution. s50, c60; s122, c190; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.42±.10; Mθθ-5.52±.11; Mφφ2.10±.11; Mrθ1.44±.10; Mθφ-0.45±.13; Mφr-0.71±.09; Best double couple: M=4.86300×10^16 NP1: φs107.00000°, δ58.00000°, λ117.00000°. NP2: φs243.00000°, δ41.00000°, λ54.00000°. Principal axes: T 3.9660, Plg66.0000°, Azm68.0000°; N 1.7950, Plg23.0000°, Azm271.0000°; P -5.7600, Plg9.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **14** 23:34:10.1±0.6, 31°.02N×130°.31E, h159km±5km, mb4.5/30, mbtmp4.9/38, MS3.7/12 Error ellipse: s-maj=9.9km s-min=7.0km az=75.0*

*JMA **14** 23:34:10.2±0.1, 31°.0N±0°.3×130°.3E±0°.6, h143km±1km, MD4.7/30, MW5.0/30, NEAR TANEGASHIMA ISLAND*

JMA Felt II J1 at NEAR TANEGASHIMA ISLAND .

*NIED **14** 23:34:10.2, 30°.95N×130°.33E, h143km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr1.97; Mθθ-3.40; Mφφ1.43; Mrθ1.56; Mθφ-0.38; Mφr-0.65; Fault plane solution: M0 3.31000×10^16 NP1: φs110.00000°, δ65.00000°, λ121.00000°. NP2: φs235.00000°, δ39.00000°, λ42.00000°.*

ISC 14 23:34:09.5±0.3, 30°.94N±0°.03×130°.31E±0°.03, h154km±2km, h154km: pP-P, n1122, σ0=94/1164, mb4.9/244, 102C-69D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKC	**Kuchinoerabu**	**0.48**	**192**	*i* P	**Pn**	**23 34 30.9**	**-0.4**
JKC				*e*S	**Sn**	**23 34 46.6**	**-1.2**
JKC	**Kuchinoerabu**	**0.48**	**192**	A	A	23 34 30.9	
	comp=E,24nm,2.3s,comp=N,36nm,4.4s						
JTSR	**Tashiro 2**	**0.57**	**67**	*i* P	**Pn**	**23 34 31.0**	**-0.8**
JTSR				S	**Sn**	**23 34 46.8**	**-1.9**
JTSR	**Tashiro 2**	**0.57**	**67**	A	A	23 34 31.0	
	comp=E,32nm,0.4s,comp=N,57nm,1.1s						
JSU	**Suzuyama**	**0.58**	**13**	Pn	**Pn**	**23 34 31.6**	**-0.2**
JSU				Sn	**Sn**	**23 34 47.8**	**-1.1**
JSU	**Suzuyama**	**0.58**	**13**	P	**Pn**	**23 34 31.3**	**-0.5**
JSU	**Suzuyama**	**0.58**	**13**	*i* P	**Pn**	**23 34 31.3**	**-0.5**
JSU				*e*S	**Sn**	**23 34 47.4**	**-1.5**
JSU	**Suzuyama**	**0.58**	**13**	A	A	23 34 31.3	
	comp=E,37nm,3.1s,comp=N,61nm,3.1s						
JTN	**Tanegashima 3**	**0.64**	**116**	*i* P	**Pn**	**23 34 31.7**	**-0.4**
JTN				*e*S	**Sn**	**23 34 48.4**	**-0.9**
JTN	**Tanegashima 3**	**0.64**	**116**	A	A	23 34 31.7	
	comp=E,28nm,1.5s,comp=N,32nm,0.6s						
JYAK	**Yakushimahirau**	**0.72**	**166**	P	**Pn**	**23 34 32.2**	**-0.4**
JYAK				*e*S	**Sn**	**23 34 48.9**	**-1.4**
JYAK	**Yakushimahirau**	**0.72**	**166**	A	A	23 34 32.2	
	comp=E,76nm,0.9s,comp=N,63nm,2.0s						
JMTN	**Minamitane**	**0.74**	**136**	*e*P	**Pn**	**23 34 32.3**	**-0.5**
JMTN				*e*S	**Sn**	**23 34 49.1**	**-1.4**
JMTN	**Minamitane**	**0.74**	**136**	A	A	23 34 32.3	
	comp=E,48nm,0.8s,comp=N,44nm,4.2s						
JSJ	**Shimokoshiki**	**0.89**	**326**	⇓P	**Pn**	**23 34 33.0**	**-0.8**
JSJ				⇓*e*S	**Sn**	**23 34 51.2**	**-1.4**
JSJ	**Shimokoshiki**	**0.89**	**326**	A	A	23 34 33.0	
	comp=E,43nm,2.8s,comp=N,50nm,2.4s						
JNAR	**Kushima--Naru**	**1.01**	**54**	P	**Pn**	**23 34 34.6**	**-0.1**
JNAR				*e*S	**Sn**	**23 34 52.5**	**-1.6**
JNAR	**Kushima--Naru**	**1.01**	**54**	A	A	23 34 34.6	
	comp=E,42nm,2.3s,comp=N,41nm,1.5s						
JNN	**Nakanoshima**	**1.16**	**199**	P	**Pn**	**23 34 35.9**	**-0.2**
JNN				*e*S	**Sn**	**23 34 55.9**	**-0.5**
JNN	**Nakanoshima**	**1.16**	**199**	A	A	23 34 35.9	
	comp=E,42nm,1.5s,comp=N,51nm,3.2s						
JNKG	**Nichinankitago**	**1.16**	**51**	A	A	23 34 35.8	
	comp=E,34nm,1.5s,comp=N,39nm,2.2s						
JTZ	**Takazaki**	**1.17**	**35**	⇓*e*P	**Pn**	**23 34 35.8**	**-0.3**
JTZ				⇓*e*S	**Sn**	**23 34 54.6**	**-2.0**
JTZ	**Takazaki**	**1.17**	**35**	A	A	23 34 35.8	
	comp=E,20nm,1.0s,comp=N,45nm,2.1s						
JZO	**Okuchi**	**1.22**	**12**	A	A	23 34 36.4	
	comp=E,19nm,3.0s,comp=N,36nm,2.8s						
JHD	**Hondo**	**1.53**	**355**	A	A	23 34 39.7	
	comp=E,27nm,3.2s,comp=N,26nm,3.1s						
JTSN	**Tsuno**	**1.66**	**38**	A	A	23 34 41.0	
	comp=E,10.0nm,1.6s,comp=N,20nm,4.8s						
JIU3	**Izumi3**	**1.66**	**15**	⇓*e*P	**Pn**	**23 34 41.2**	**+0.1**
JIU3				⇓*e*S	**Sn**	**23 35 04.5**	**-1.0**
JIU3	**Izumi3**	**1.66**	**15**	A	A	23 34 41.2	
	comp=E,24nm,2.8s,comp=N,29nm,2.8s						
NGSJ	**Nagasakinomoza**	**1.74**	**346**	A	A	23 34 42.1	
	comp=E,15nm,3.1s,comp=N,15nm,4.3s						
JHHC	**Hyugahichiya**	**1.88**	**37**	A	A	23 34 43.5	
	comp=E,8.0nm,1.4s,comp=N,15nm,3.5s						
JKIT	**Kitakata**	**1.94**	**30**	A	A	23 34 44.3	
	comp=E,14nm,1.5s,comp=N,15nm,1.6s						
JTAJ	**Takarajima**	**2.02**	**209**	A	A	23 34 45.7	
	comp=E,15nm,3.2s,comp=N,25nm,3.0s						
JTA	**Tamana**	**2.03**	**5**	A	A	23 34 45.4	
	comp=E,7.0nm,3.1s,comp=N,17nm,3.5s						
JFU	**Fukue jima 2**	**2.17**	**323**	A	A	23 34 47.3	
	comp=Z,11nm,3.9s,comp=E,9.0nm,2.9s,comp=N,18nm,2.4s						
JNU	**Nakatsue**	**2.23**	**12**	**Pn**	**23 34 47.4**	**-0.2**	
JNU	**Nakatsue**	**2.23**	**12**	P	**Pn**	**23 34 47.6**	**0.0**
JNU	**Nakatsue**	**2.23**	**12**	A	A	23 34 47.8	
	comp=E,9.0nm,2.1s,comp=N,22nm,2.9s						
JNU	**Nakatsue**	**2.23**	**12**	P	**Pn**	**23 34 47.3**	**-0.3**
	comp=N,750nm,0.3s,baz=208,slow=1.7,SNR=827						
JNU				S	**Sn**	**23 35 16.0**	**-1.1**
	comp=N,2μm,0.7s,baz=197,slow=23,SNR=20						
JSKE	**Saikikamae**	**2.30**	**36**	A	A	23 34 48.6	
	comp=E,12nm,1.8s,comp=N,13nm,5.1s						
JUS	**Usuki**	**2.45**	**30**	A	A	23 34 50.5	
	comp=E,8.0nm,4.1s,comp=N,13nm,3.5s						
JFI	**Itaya**	**2.48**	**2**	A	A	23 34 51.0	
	comp=E,6.0nm,3.0s,comp=N,10.0nm,3.2s						
JBEP	**Beppuamama**	**2.57**	**21**	A	A	23 34 52.0	
	comp=E,10.0nm,1.7s,comp=N,15nm,1.5s						
JAM	**Amami Oshima**	**2.59**	**194**	A	A	23 34 52.7	
	comp=E,10.0nm,3.2s,comp=N,20nm,3.8s						
JZK	**Kikaishima**	**2.63**	**186**	A	A	23 34 53.2	
	comp=E,40nm,2.3s,comp=N,58nm,3.9s						
JFA	**Akaike**	**2.79**	**8**	A	A	23 34 55.0	
	comp=E,7.0nm,3.0s,comp=N,10.0nm,3.8s						
JTO	**Tosashimizu**	**2.86**	**47**	A	A	23 34 55.7	
	comp=E,13nm,1.9s,comp=N,5.0nm,2.4s						
JAMN	**Amaminishikomi**	**2.86**	**200**	A	A	23 34 56.2	
	comp=E,18nm,0.2s,comp=N,26nm,2.2s						
JKI	**Kunimi**	**2.89**	**21**	A	A	23 34 56.2	
	comp=E,7.0nm,3.8s,comp=N,6.0nm,3.3s						
UWA2	**Uwa jima 2**	**3.00**	**40**	A	A	23 34 57.6	
	comp=E,3.0nm,1.5s,comp=N,5.0nm,0.9s						
JTK	**Tokunoshima**	**3.36**	**201**	A	A	23 35 02.6	
	comp=E,10.0nm,1.7s,comp=N,6.0nm,1.8s						
JTY	**Toyota**	**3.38**	**11**	A	A	23 35 02.5	
	comp=E,4.0nm,5.5s,comp=N,4.0nm,3.2s						
JTU	**Tsushima**	**3.66**	**348**	Pn	**Pn**	**23 35 05.3**	**0.0**
JTU	**Tsushima**	**3.66**	**348**	P	**Pn**	**23 35 05.6**	**+0.2**
JHM	**Kurahashi**	**3.70**	**30**	A	A	23 35 06.8	
	comp=E,3.0nm,4.6s,comp=N,3.0nm,1.8s						
JKHR	**Kochiharuno**	**3.73**	**46**	A	A	23 35 07.0	
	comp=E,7.0nm,4.9s,comp=N,8.0nm,0.8s						
MRT2	**Murotomisaki 2**	**4.07**	**52**	A	A	23 35 11.5	
	comp=E,6.0nm,1.9s,comp=N,7.0nm,1.8s						
JMN	**Monobe**	**4.11**	**46**	Pn	**Pn**	**23 35 10.9**	**-0.4**
JMN	**Monobe**	**4.11**	**46**	P	**Pn**	**23 35 10.8**	**-0.4**
JMN	**Monobe**	**4.11**	**46**	A	A	23 35 12.1	
	comp=E,8.0nm,0.3s,comp=N,8.0nm,1.5s						
JOW	**Kunigami**	**4.46**	**204**	Pn	**Pn**	**23 35 14.7**	**-1.2**
JOW	**Kunigami**	**4.46**	**204**	P	**Pn**	**23 35 14.8**	**-1.2**
JOW	**Kunigami**	**4.46**	**204**	P	**Pn**	**23 35 14.8**	**-1.2**
	comp=N,209nm,0.3s,baz=35,slow=9.2,SNR=386						
JOW				S	**Sn**	**23 36 04.5**	**-3.3**
	comp=N,557nm,0.2s,baz=149,slow=26,SNR=7.2						
JWM	**Minabe**	**5.16**	**54**	A	A	23 35 26.2	
	comp=E,5.0nm,1.3s,comp=N,5.0nm,1.1s						
JMZ	**Minamidaito 2**	**5.16**	**171**	Pn	**Pn**	**23 35 24.5**	**-0.7**
JMZ	**Minamidaito 2**	**5.16**	**171**	P	**Pn**	**23 35 25.0**	**-0.2**
JTNC	**Tanabenakahech**	**5.33**	**56**	A	A	23 35 28.4	
	comp=E,5.0nm,2.3s,comp=N,4.0nm,0.7s						
TJN	**Taejon**	**5.95**	**336**	Pn	**Pn**	**23 35 36.3**	**+0.8**
TJN	**Taejon**	**5.95**	**336**	P	**Pn**	**23 35 36.9**	**+1.3**
TJN	**Taejon**	**5.95**	**336**	*ce*P	**Pn**	**23 35 36.3**	**+0.8**
KSAR	**Wonju Array Be**	**6.79**	**343**		**Pn**	**23 35 47.2**	**+0.5**
KSAR	**Wonju Array Be**	**6.79**	**343**	P	**Pn**	**23 35 47.2**	**+0.5**
KSRS	**Korea Array**	**6.79**	**344**	P	**Pn**	**23 35 47.0**	**+0.3**
KSRS	**Korea Array**	**6.79**	**344**	P	**Pn**	**23 35 47.0**	**+0.3**
	comp=N,57nm,0.7s,baz=165,slow=14,SNR=117						
KSRS				PcP	**PcP**	**23 42 23.8**	**+0.8**
	comp=N,1.3nm,0.9s,baz=205,slow=1.0,SNR=4.5						
KS19	**Wonju Array Si**	**6.85**	**344**		**Pn**	**23 35 47.5**	**0.0**
INU	**Inuyama**	**7.14**	**50**	Pn	**Pn**	**23 35 51.7**	**+0.4**
INU	**Inuyama**	**7.14**	**50**	P	**Pn**	**23 35 53.3**	**+1.9**
INCN	**Inchon**	**7.20**	**336**		**Pn**	**23 35 52.6**	**+0.4**
INCN	**Inchon**	**7.20**	**336**	P	**Pn**	**23 35 52.6**	**+0.4**
JSG	**Sagara**	**7.61**	**59**	Pn	**Pn**	**23 35 58.6**	**+1.1**
JSG	**Sagara**	**7.61**	**59**	P	**Pn**	**23 35 59.1**	**+1.5**
JHJ	**Hachijo jima 2**	**8.33**	**72**	P	**Pn**	**23 36 10.8**	**+3.5**
	comp=N,167nm,0.3s,baz=137,slow=13,SNR=30						
JHJ				S	**Sn**	**23 37 41.5**	**+1.4**
	comp=N,170nm,0.7s,baz=261,slow=22,SNR=1.5						
MAJO	**Matsushiro**	**8.63**	**48**	P	**Pn**	**23 36 11.9**	**+0.7**
MAJO	**Matsushiro**	**8.63**	**48**	*i* P	**Pn**	**23 36 11.6**	**+0.4**
MJB9	**Matsu-Tunnel**	**8.63**	**48**		**Pn**	**23 36 12.5**	**+1.3**
MJAR	**Matsushiro Arr**	**8.63**	**48**	P	**Pn**	**23 36 12.0**	**+0.8**
	comp=N,44nm,0.5s,baz=240,slow=15,SNR=52						
MJAR				S	**Sn**	**23 37 42.3**	**-4.9**
	comp=N,30nm,0.8s,baz=235,slow=11,SNR=5.7						
TATO	**Taipei**	**9.80**	**235**	Pn	**Pn**	**23 36 28.1**	**+1.2**
TATO	**Taipei**	**9.80**	**235**	P	**Pn**	**23 36 28.8**	**+2.0**
YHNB	**Yeheng**	**10.07**	**234**		**Pn**	**23 36 30.1**	**-0.5**
YHNB	**Yeheng**	**10.07**	**234**	P	**Pn**	**23 36 30.7**	**+0.2**
SSLB	**Suanglung**	**10.94**	**232**	P	**Pn**	**23 36 40.5**	**-1.5**
JMM	**Marumori**	**11.07**	**49**		**Pn**	**23 36 43.1**	**-0.4**
JMM	**Marumori**	**11.07**	**49**	P	**Pn**	**23 36 46.9**	**+3.4**
JCJ	**Chichijima**	**11.08**	**107**		**Pn**	**23 36 44.6**	**+0.9**
JCJ	**Chichijima**	**11.08**	**107**	P	**Pn**	**23 36 46.7**	**+3.0**
JCJ	**Chichijima**	**11.08**	**107**	P	**Pn**	**23 36 42.8**	**-0.9**
	comp=N,78nm,0.4s,baz=287,slow=18,SNR=12						
TPUB	**Ta-pu**	**11.49**	**231**	P	**Pn**	**23 36 48.1**	**-1.0**
MSHR	**Mys Shultsa**	**11.64**	**3**	*i* P	**Pn**	**23 36 51.2**	**+0.4**
QZH	**Quanzhou**	**11.95**	**243**	⇓*i* P	**Pn**	**23 36 56.5**	**+1.4**
SNY	**Shenyang**	**12.14**	**335**	⇓P	**Pn**	**23 36 57.6**	**+0.3**
SNY				S	**Sn**	**23 39 17.0**	**+5.5**
SNY				pmax	pmax		
	comp=N,20nm,2.0s						
SNY				pmax	pmax		
	comp=N,320nm,4.4s						
SNY				LR	LR		
	comp=N,590nm,9.1s						
SNY				LR	LR		
	comp=N,800nm,7.1s						
SNY				LR	LR		
	comp=N,770nm,6.2s						
JTM	**Tenmabayashi**	**13.13**	**39**		**Pn**	**23 37 11.0**	**+0.9**
JTM	**Tenmabayashi**	**13.13**	**39**	P	**Pn**	**23 37 11.8**	**+1.7**
USA0B	**Ussuriysk Arra**	**13.30**	**5**		**Pn**	**23 37 13.2**	**+0.9**
USA0B	**Ussuriysk Arra**	**13.30**	**5**	P	**Pn**	**23 37 13.2**	**+0.9**
USRK	**Ussuriysk Ar.**	**13.30**	**5**	P	**Pn**	**23 37 13.2**	**+1.0**
	comp=N,9.6nm,1.1s,baz=183,slow=12,SNR=14						
CN2	**Changchun**	**13.40**	**345**	*e*P	**Pn**	**23 37 13.6**	**0.0**
CN2				*e*S	**Sn**	**23 39 36.1**	**-5.8**
CN2				pmax	pmax		
	comp=N,20nm,0.1s						
CN2				pmax	pmax		
	comp=N,100nm,3.0s						
CN2				LR	LR		
	comp=N,100nm,10.0s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=N,100nm,10.0s						
MDJ	**Mudanjiang**	**13.67**	**358**	P	**Pn**	**23 37 18.8**	**+1.9**
MDJ				sP	P	23 37 55.3	+35
MDJ				S	**Sn**	**23 39 51.5**	**+3.3**
MDJ				pmax	pmax		
	comp=N,14nm,0.9s						
MDJ				pmax	pmax		
	comp=N,260nm,6.8s						
MDJ	**Mudanjiang**	**13.67**	**358**	Pn	**Pn**	**23 37 17.5**	**+0.6**
WHN	**Wuhan**	**13.73**	**272**	⇓P	**Pn**	**23 37 19.4**	**+1.5**
HNS	**HongShan**	**14.43**	**301**	⇓P	**Pn**	**23 37 27.9**	**+1.4**
HNS				pmax	pmax		
	comp=N,32nm,1.4s						
BJT	**Baijiatuau**	**14.64**	**312**	P	**Pn**	**23 37 30.4**	**+1.2**
BJT	**Baijiatuau**	**14.64**	**312**	P	**Pn**	**23 37 30.4**	**+1.2**
BJI	**Beijing**	**14.65**	**312**	P	**P**	**23 37 33.9**	**+2.5**
BJI				S	**Sn**	**23 40 13.5**	**+1.7**
BJI				pmax	pmax		
	comp=N,40nm,0.9s						
TEY	**Ternei**	**14.91**	**18**

comp=Z,170nm,16.0s
GYA Guiyang 21.20 264 P P 23 38 43.1 -0.1
GYA pP pP 23 39 14.3 +4.0
GYA pmax pmax
comp=Z,29nm,0.8s
GUMO Guam 21.86 139 P P 23 38 49.6 -0.5
GUMO Guam 21.86 139 P P 23 38 49.6 -0.5
GUMO pmax pmax
comp=Z,458nm,1.6s
LZH Lanzhou 22.62 290 ⇓P **P 23 38 57.8 +0.3**
LZH pP pP 23 39 26.1 +0.4
LZH sP sP 23 39 48.4 +3.5
LZH pmax pmax
comp=Z,130nm,1.7s
CD2 Chengdu 22.76 277 P P 23 38 58.1 -0.7
CD2 pP pP 23 39 29.8 +2.6
CD2 pmax pmax
comp=Z,90nm,1.3s
ULN Ulaanbaatar 24.52 320 P P 23 39 14.6 -0.1
ULN IAmb IAmb 23 39 18.0
comp=Z,38nm,1.1s
ULN Ulaanbaatar 24.52 320⇑*i*P **P 23 39 14.3 -0.5**
ULN pmax pmax
comp=Z,37nm,1.2s
SONM Songino Array 24.87 320 P P 23 39 17.7 -0.2
SONM Songino Array 24.87 320 P P 23 39 17.7 -0.2
SONM pmax pmax
comp=Z,24nm,0.9s
SONM Songino Array 24.87 320 P P 23 39 17.4 -0.4
comp=Z,21nm,0.8s,baz=136,slow=9.4,SNR=68
SONM PcP **PcP 23 42 49.0 -0.6**
comp=Z,0.8nm,0.6s,baz=126,slow=2.5,SNR=3.7
SONM ScP **ScP 23 46 13.7 -0.3**
comp=Z,0.6nm,0.7s,baz=138,slow=5.0,SNR=3.6
comp=Z,21nm,0.8s
KMI Kunming 24.98 263 ⇓P **P 23 39 21.1 +1.9**
KMI pP pP 23 39 54.3 +3.4
KMI sP sP 23 40 08.0 -0.8
KMI pmax pmax
comp=Z,19nm,0.8s
PZH PanZhiHua 25.41 267 P P 23 39 23.8 +0.9
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,460nm,4.7s
GTA Gaotai 26.22 297 *e*P **P 23 39 30.3 +0.1**
GTA pmax pmax
comp=Z,14nm,0.9s
DLV T Lat 27.65 232 P P 23 39 43.8 +0.7
DLV IAmb IAmb 23 39 45.5
comp=Z,43nm,0.9s
ZAK Zakamensk 27.99 322 *e*P **P 23 39 44.5 -1.3**
ZAK *e* 23 40 15.5
ZAK pmax pmax
comp=Z,5.0nm,1.5s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TNCH TengChong 28.62 266 *e*P **P 23 39 52.8 +1.0**
TNCH pP pP 23 40 23.8 -0.2
TNCH pmax pmax
comp=Z,15nm,0.5s
CRAI Chiangrai 28.95 256 P P 23 39 55.2 +0.7
PETK Petropavlovsk- 29.76 34 P P 23 40 01.9 +0.6
PETK Petropavlovsk- 29.76 34 P P 23 40 01.0 -0.3
comp=Z,6.1nm,0.8s,baz=224,slow=6.2,SNR=4.8
comp=Z,6.1nm,0.8s
GOMU GeErMu 29.93 290 P P 23 40 04.3 +0.9
GOMU pmax pmax
comp=Z,16nm,0.8s
GOMU pmax pmax
comp=Z,140nm,4.9s
PET Petropavlovsk 30.17 35 *i*P **P 23 40 06.1 +1.2**
PET pmax pmax
comp=Z,9.0nm,0.4s
CHTO Chiang Mai 30.80 254 P P 23 40 10.9 +0.1
CHTO Chiang Mai 30.80 254 P P 23 40 10.9 +0.1
CHTO pmax pmax
comp=Z,15nm,0.9s
CM31 Chiang Mai Arr 30.98 254 P P 23 40 12.3 -0.1
CMAR Chiang Mai Arr 30.98 254 P P 23 40 12.5 +0.1
CMAR PcP **PcP 23 43 05.8 +0.9**
CMAR Chiang Mai Arr 30.98 254 P P 23 40 12.5 +0.1
comp=Z,4.5nm,0.7s,baz=51,slow=6.9,SNR=28
CMAR PcP **PcP 23 43 05.4 +0.5**
comp=Z,4.3nm,0.7s,baz=25,slow=1.3,SNR=17
CMAR ScP **ScP 23 46 33.9 +0.7**
comp=Z,0.8nm,0.3s,baz=337,slow=2.6,SNR=4.3
comp=Z,4.5nm,0.7s
TOLI2 Tolitoli 31.01 199 P P 23 40 12.3 -0.3
YAK Yakutsk 31.10 359 *i*P **P 23 40 12.4 -0.5**
YAK pmax pmax
comp=Z,7.0nm,0.6s
MA2 Magadan 31.78 20 P P 23 40 18.7 -0.2
MA2 Magadan 31.78 20 P P 23 40 18.7 -0.2
MA2 pmax pmax
comp=Z,97nm,1.5s
SANI Sanana 33.06 188 P P 23 40 28.9 -1.7
comp=Z,19nm,1.3s
SMPI Sarmi 33.71 165 P P 23 40 37.4 +1.2
comp=Z,33nm,1.2s
FAKI Fak Fak 33.72 177 P P 23 40 36.3 +0.1
FAKI Fak Fak 33.72 177 P P 23 40 37.3 +1.0
FAKI Fak Fak 33.72 177 P P 23 40 35.5 -0.8
comp=Z,84nm,1.2s,comp=Z,939nm
NLAI Namlea 34.12 186 P P 23 40 39.3 -0.4
comp=Z,11nm,1.4s,comp=Z,5μm
SEY Seymchan 35.00 17 *i*P **P 23 40 47.1 +0.4**
SEY pmax pmax
comp=Z,6.0nm,0.6s
WMQ Urumqi 35.84 303 *e*P **P 23 40 54.1 -0.2**
WMQ pP pP 23 41 31.8 +4.6
WMQ PcP **PcP 23 43 18.8 +0.5**
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ LR LR
comp=Z,110nm,14.7s
TAPN Taplejung 37.21 275 *e*P **P 23 41 08.9 +2.5**
comp=Z,22nm,0.8s
BBKI Banjar Baru 37.26 206 P P 23 41 07.7 +1.2
comp=Z,82nm,0.8s
KULM Kulim 37.78 234 P P 23 41 11.1 +0.2
KULM IAmb IAmb 23 41 13.0
comp=Z,52nm,0.9s
RAMN Ramite 38.27 275 *e*P **P 23 41 15.9 +0.6**
comp=Z,22nm,0.7s
ZSN Zaisan 38.29 309 *e*P **P 23 41 14.1 -0.8**
baz=309
ZSN Zaisan 38.29 309 *e*P **P 23 41 14.1 -0.8**
JIRN Jiri 38.43 277 *e*P **P 23 41 18.1 +1.4**
comp=Z,55nm,0.8s
GUN Gumba 38.63 277 *e*P **P 23 41 19.7 +1.4**
comp=Z,147nm,0.8s
PKI Pulchoki 39.12 277 *e*P **P 23 41 22.7 +0.3**
comp=Z,25nm,0.7s
PKIN Phulchoki 39.13 277 *e*P **P 23 41 23.4 +1.0**
comp=Z,21nm,0.6s
KKN Kakani 39.17 277 *e*P **P 23 41 23.5 +0.8**
comp=Z,49nm,0.8s
GKN Gorkha 39.66 278 *e*P **P 23 41 27.4 +0.7**
comp=Z,17nm,0.5s
ZAA0 Zalesovo Array 39.76 319 P P 23 41 26.1 -0.8
ZAA0 PcP **PcP 23 43 29.6 -0.5**
ZALV Zalesovo Beam 39.76 319 P P 23 41 26.0 -0.9
ZALV Zalesovo Beam 39.76 319 P P 23 41 26.1 -0.8
comp=Z,1.1nm,0.4s,baz=101,slow=7.7,SNR=10
ZALV PcP **PcP 23 43 29.2 -0.9**
comp=Z,7.3nm,0.8s,baz=92,slow=5.2,SNR=14
ZALV ScP **ScP 23 47 02.2 -2.3**
comp=Z,0.6nm,0.3s,baz=132,slow=2.1,SNR=2.4
comp=Z,1.1nm,0.4s
MK31 Makanchi Array 39.95 307 P P 23 41 28.0 -0.7
MK31 Makanchi Array 39.95 307 *i*P **P 23 41 27.7 -1.0**
MKAR Makanchi Array 39.95 307 P P 23 41 28.1 -0.6
MKAR Makanchi Array 39.95 307 *ce*P **P 23 41 28.5 -0.2**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 39.95 307 P P 23 41 28.2 -0.5
comp=Z,8.1nm,0.8s,baz=97,slow=10.0,SNR=23
MKAR PcP **PcP 23 43 30.4 -0.5**
comp=Z,4.6nm,0.8s,baz=74,slow=4.4,SNR=6.5
MKAR ScP **ScP 23 47 03.9 -1.6**
comp=Z,1.0nm,0.7s,baz=83,slow=2.9,SNR=5.5
MKAR S **S 23 47 19.2 -3.1**
comp=Z,0.2nm,0.4s,baz=76,slow=18,SNR=1.8
comp=Z,8.1nm,0.8s
MAKZ Makanchi 40.17 307 P P 23 41 30.3 -0.2

MAKZ Makanchi 40.17 307 P P 23 41 30.3 -0.2
MAKZ pmax pmax
comp=Z,11nm,1.0s
MAKZ Makanchi 40.17 307 P P 23 41 30.2 -0.2
MAKZ pP **pP 23 42 05.7 +1.8**
MAKZ PcP **PcP 23 43 31.1 -0.5**
DANN Dangsing 40.31 279 *e*P **P 23 41 33.0 +0.8**
comp=Z,41nm,0.6s
KOLN Koldanda 40.61 278 *e*P **P 23 41 34.1 -0.4**
comp=Z,33nm,0.9s
PSI Prapat 40.76 233 P P 23 41 35.7 0.0
PSI pmax pmax
comp=Z,47nm,0.7s
TIXI Tiksi 40.77 359 P P 23 41 34.0 -1.0
TIXI Tiksi 40.77 359 *ce*P **P 23 41 33.9 -1.1**
TIXI pmax pmax
comp=Z,5.0nm,0.6s
TIXI Tiksi 40.77 359 P P 23 41 33.9 -1.1
TIXI pP **pP 23 42 09.2 +0.4**
RPSI Rantau Prapat 40.83 233 P P 23 41 35.7 -0.5
RPSI IAmb IAmb 23 41 37.8
comp=Z,47nm,0.7s
PYUN Piuthan 41.03 278 *e*P **P 23 41 37.0 -1.1**
comp=Z,39nm,0.8s
BATI Baumata 41.40 190 P P 23 41 39.3 -1.5
comp=Z,50nm,0.9s
MLSI Meulaboh, Aceh 41.50 237 P P 23 41 40.9 -0.7
comp=Z,84nm,0.7s
TWSI Taliwang, Sumb 41.50 200 P P 23 41 41.5 -0.1
comp=Z,87nm,1.1s
SEM Semipalatinsk 41.74 313 *e*P **P 23 41 42.1 -1.5**
baz=313
SEM Semipalatinsk 41.74 313 *e*P **P 23 41 42.0 -1.5**
SDSI Sungai Dareh 41.93 226 P P 23 41 45.2 +0.1
comp=Z,8.6nm,0.5s,comp=Z,1μm
UZB Uzynbulak 42.10 302 *e*P **P 23 41 45.4 -1.2**
baz=302
UZB Uzynbulak 42.10 302 *e*P **P 23 41 45.3 -1.2**
KPKS Kokpek 42.35 302 *e*P **P 23 41 47.2 -1.2**
baz=302
KPKS Kokpek 42.35 302 *e*P **P 23 41 47.2 -1.2**
TDK Taldyqorghan 42.55 304 *e*P **P 23 41 49.5 -0.5**
baz=304
TDK Taldyqorghan 42.55 304 *e*P **P 23 41 49.4 -0.5**
SATY Saty 42.56 301 *e*P **P 23 41 49.5 -0.6**
baz=302
SATY Saty 42.56 301 *e*P **P 23 41 49.5 -0.6**
GSI Gunungsitoli 42.76 233 P P 23 41 51.9 0.0
GSI Gunungsitoli 42.76 233 P P 23 41 52.4 +0.5
GSI Gunungsitoli 42.76 233 P P 23 41 51.7 -0.2
comp=Z,126nm,1.1s
KURK Kurchatov 42.82 313 P P 23 41 51.4 -0.5
KURK Kurchatov 42.82 313 *ce*P **P 23 41 51.2 -0.7**
KURK pmax pmax
comp=Z,9.0nm,0.7s
KURK Kurchatov 42.82 313 P P 23 41 51.6 -0.3
KURK pP **pP 23 42 27.6 +1.9**
KURK PcP **PcP 23 43 39.4 -0.8**
KURBB Kurchatov Arra 42.86 313 P P 23 41 51.5 -0.7
comp=Z,4.9nm,0.2s,baz=100,slow=8.6,SNR=14
KURBB pP **pP 23 42 27.9 +1.8**
comp=Z,4.7nm,0.9s,baz=100,slow=9.2,SNR=4.0
KURBB PcP **PcP 23 43 39.4 -0.9**
comp=Z,1.7nm,0.2s,baz=99,slow=3.9,SNR=5.1
KURBB LR LR 00 01 27.7
comp=Z,111nm,18.9s,baz=182,slow=38
comp=Z,4.9nm,0.2s
UGM Wanagama 43.03 209 P P 23 41 54.4 +0.3
TARG Taragay, Kyrgy 43.05 300 P P 23 41 54.6 +0.1
TARG Taragay, Kyrgy 43.05 300 P P 23 41 54.6 +0.1
TARG pmax pmax
comp=Z,17nm,0.8s
MASI Maura Aman, Be 43.18 223 P P 23 41 56.4 +1.1
comp=Z,84nm,1.0s
KPJI Karang Pucung 43.22 212 P P 23 41 56.6 +1.1
comp=Z,86nm,0.8s
PBSI Pulau Batu 43.28 231 P P 23 41 55.9 -0.2
comp=Z,122nm,1.3s
LEM Lembang 43.38 214 P P 23 41 58.3 +1.3
comp=Z,125nm,0.8s
MTN Manton Dam 43.54 179 P P 23 41 57.9 -0.1
MTN IAmb IAmb 23 41 58.7
comp=Z,22nm,0.9s
CHKK Chushkaly 43.57 303 *e*P **P 23 41 57.6 -0.6**
baz=303
CHKK Chushkaly 43.57 303 *e*P **P 23 41 57.5 -0.6**
TNSS Tian-Shan 43.63 301 *e*P **P 23 41 58.9 -0.1**
baz=302
TNSS Tian-Shan 43.63 301 *e*P **P 23 41 58.9 -0.1**
AAA Alma-Ata 43.64 302 *e*P **P 23 41 59.0 +0.2**
comp=Z,13nm,0.7s,baz=302
AAA Alma-Ata 43.64 302 *e*P **P 23 41 58.9 +0.2**
AAA pmax pmax
comp=Z,13nm,0.7s
SISI Saibi 43.71 229 P P 23 41 58.6 -0.9
comp=Z,42nm,0.7s
KUU Kurty 44.04 303 *e*P **P 23 42 01.1 -0.8**
comp=Z,24nm,1.2s,baz=303
KUU Kurty 44.04 303 *e*P **P 23 42 01.1 -0.8**
KUU pmax pmax
comp=Z,24nm,1.2s
NRN Naryn 44.42 299 P P 23 42 04.5 -0.8
NRN Naryn 44.42 299 P P 23 42 04.5 -0.8
NRN pmax pmax
comp=Z,7.0nm,0.8s
KSH Kashi 44.62 297 P P 23 42 09.3 +2.6
KSH pmax pmax
comp=Z,10.0nm,1.5s
SGDS Sogindy 45.30 302 *e*P **P 23 42 10.5 -1.4**
baz=302
SGDS Sogindy 45.30 302 *e*P **P 23 42 10.5 -1.4**
AAK Ala-Archa 45.45 301 P P 23 42 13.4 +0.2
AAK Ala-Archa 45.45 301 *i*P **P 23 42 12.6 -0.6**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 45.45 301 P P 23 42 14.4 +1.2
AAK Ala-Archa 45.45 301 P P 23 42 13.9 +0.7
comp=Z,2.8nm,0.6s,baz=76,slow=9.7,SNR=4.1
comp=Z,2.8nm,0.6s
BTLS Baital 45.64 304 *e*P **P 23 42 13.4 -1.2**
baz=304
BTLS Baital 45.64 304 *e*P **P 23 42 13.3 -1.2**
KNRA Kununurra 46.37 182 P P 23 42 20.8 +0.4
KNRA Kununurra 46.37 182 P P 23 42 21.1 +0.8
BRZS Berezniki 46.55 311 *e*P **P 23 42 20.6 -1.0**
baz=311
BRZS Berezniki 46.55 311 *e*P **P 23 42 20.5 -1.0**
NIL Nilore 47.78 289 P P 23 42 32.4 +1.0
NIL IAmb IAmb 23 42 34.2
comp=Z,16nm,0.6s
NIL Nilore 47.78 289 P P 23 42 32.4 +1.0
NIL pmax pmax
comp=Z,16nm,0.6s
NIL Nilore 47.78 289 P P 23 42 33.1 +1.8
BVAR Borovoye Array 48.10 315 P P 23 42 33.4 0.0
comp=Z,4.0nm,0.4s,baz=98,slow=9.6,SNR=45
BVAR PcP **PcP 23 43 58.4 -0.2**
comp=Z,7.3nm,0.6s,baz=94,slow=2.7,SNR=8.9
comp=Z,4.0nm,0.4s
BRVK Borovoye 48.16 315 P P 23 42 33.6 -0.3
BRVK Borovoye 48.16 315 *ce*P **P 23 42 33.4 -0.5**
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 48.16 315 P P 23 42 33.8 -0.1
BRVK pP **pP 23 43 11.1 +2.7**
BRVK PcP **PcP 23 43 58.4 -0.4**
SPIA Saint Paul Isl 48.17 39 P P 23 42 34.7 +0.9
baz=263
KK31 Karatay Array 48.33 302 P P 23 42 35.0 -0.3
KK31 Karatay Array 48.33 302 P P 23 42 35.1 -0.3
KK31 pmax pmax
comp=Z,27nm,1.8s
KKAR Karatay Array 48.33 302 P P 23 42 35.2 -0.1
KKAR Karatay Array 48.33 302 P P 23 42 35.2 -0.1
BTK Batken 48.49 298 P P 23 42 36.8 +0.1
BTK Batken 48.49 298 P P 23 42 36.8 +0.1
BTK pmax pmax
comp=Z,5.0nm,0.9s
GAMB Gambell 48.65 30 P P 23 42 38.4 +1.0
baz=256
NIKH Nikolski High 48.65 45 P P 23 42 38.2 +0.6
baz=268
HYB Hyderabad 48.70 266 *e*P **P 23 42 39.0 +0.5**
HYB *ep*P **pP 23 43 12.3 -0.9**
HYB *e*PcP **PcP 23 44 01.7 +0.3**

HYB *e*S **S 23 49 30.5 +1.1**
IUG Iuzhnay 48.79 301 *e*P **P 23 42 37.6 -1.5**
baz=301
IUG Iuzhnay 48.79 301 *e*P **P 23 42 37.5 -1.5**
CHM Chimkent 49.08 301 *e*P **P 23 42 40.7 -0.5**
baz=301
CHM Chimkent 49.08 301 *e*P **P 23 42 40.6 -0.5**
UNV Unalaska Valle 50.08 44 P P 23 42 48.8 +0.5
baz=269
SIMJ Simiganj 50.11 296 P P 23 42 49.1 0.0
SIMJ PcP **PcP 23 44 06.2 -0.2**
WB0 Warramunga Arr 50.57 175 P P 23 42 52.4 0.0
M11K Mekoryuk 50.62 35 P P 23 42 53.7 +1.3
baz=264
TNA Tin City 50.63 28 P P 23 42 53.8 +1.4
baz=258
WRAB Tennant Creek 50.73 175 P P 23 42 53.9 +0.3
WRAB Tennant Creek 50.73 175 *ce*P **P 23 42 54.4 +0.8**
WRAB pmax pmax
comp=Z,12nm,1.0s
WRAB Tennant Creek 50.73 175 P P 23 42 53.9 +0.3
WRAB pP **pP 23 43 29.6 +1.0**
WRA Warramunga Arr 50.74 175 P P 23 42 54.0 +0.2
comp=Z,6.1nm,0.5s,baz=354,slow=8.0,SNR=74
WRA PcP **PcP 23 44 09.5 +0.8**
comp=Z,0.7nm,0.8s,baz=349,slow=3.8,SNR=4.6
WRA ScP **ScP 23 47 49.6 -0.5**
comp=Z,0.4nm,1.0s,baz=96,slow=7.6,SNR=5.3
WRA S **S 23 49 54.4 -3.0**
comp=Z,2.8nm,1.1s,baz=356,slow=14,SNR=8.1
comp=Z,6.1nm,0.5s
WB2 Warramunga Arr 50.74 175 P P 23 42 53.8 +0.1
KBL Kabul 50.97 291 P P 23 42 55.6 -0.1
KBL IAmb IAmb 23 42 58.3
comp=Z,63nm,1.9s
KBL PcP **PcP 23 44 10.1 +0.3**
F14K Arctic Creek 51.27 29 P P 23 42 58.2 +1.0
baz=260
ANM Nome 51.52 30 P P 23 43 00.5 +1.4
ANM Nome 51.52 30 P P 23 43 00.5 +1.4
ANM pmax pmax
comp=Z,191nm,1.5s
QIS Mount Isa 51.98 169 P P 23 43 03.2 +0.3
F15K North Star Dit 51.99 28 P P 23 43 03.7 +1.2
baz=261
M13K Dall Lake 52.03 35 P P 23 43 04.3 +1.4
baz=267
J14K Nanvaranak Lak 52.11 32 P P 23 43 04.4 +1.1
baz=265
G15K Niukluk 52.15 29 P P 23 43 04.9 +1.2
baz=262
L14K Kuka Creek 52.41 34 P P 23 43 07.1 +1.5
L14K IAmb IAmb 23 43 08.5
comp=Z,67nm,1.4s
L14K Kuka Creek 52.41 34 P P 23 43 07.1 +1.5
baz=267,SNR=8.6
M14K Bethel 52.73 35 P P 23 43 09.2 +1.2
baz=268,SNR=5.2
MBWA Marble Bar 52.79 192 P P 23 43 09.0 +0.1
MBWA IAmb IAmb 23 43 10.4
comp=Z,22nm,1.2s
MBWA PcP **PcP 23 44 15.7 -0.6**
MBWA Marble Bar 52.79 192 P P 23 43 09.3 +0.5
MBWA PcP **PcP 23 44 14.7 -1.6**
N14K Kuskokwak Cree 52.84 36 P P 23 43 09.8 +1.0
baz=268
H16K Elim 52.87 30 P P 23 43 09.4 +0.4
baz=264
G16K Koyuk River 52.90 29 P P 23 43 09.7 +0.5
baz=264
D17K Noatak River 52.91 26 P P 23 43 09.9 +0.7
baz=261
C17K DeLong Mountai 53.00 25 P P 23 43 10.2 +0.3
baz=261
CTAO Charters Tower 53.00 161 P P 23 43 10.9 +0.4
CTAO IAmb IAmb 23 43 31.9
comp=Z,25nm,1.6s
CTAO Charters Tower 53.00 161 P P 23 43 10.9 +0.4
CTAO pmax pmax
comp=Z,25nm,1.6s
K15K Wolf Creek Mou 53.01 33 P P 23 43 10.4 +0.4
baz=267
O14K Tigyukauivet M 53.04 37 P P 23 43 10.9 +0.6
baz=269
PSA00 Pilbara Seismi 53.17 192 P P 23 43 11.8 +0.2
PSA00 IAmb IAmb 23 43 13.1
comp=Z,16nm,0.9s
PSA00 Pilbara Seismi 53.17 192 P P 23 43 12.0 +0.4
PSA00 IAmb IAmb 23 43 13.1
comp=Z,26nm,0.9s
PSA00 PcP **PcP 23 44 17.9 +0.2**
PSA00 Pilbara Seismi 53.17 192 P P 23 43 12.3 +0.6
E17K Hotham Inlet 53.31 27 P P 23 43 12.8 +0.6
baz=263
M15K Kasigluk River 53.35 35 P P 23 43 13.1 +0.5
baz=269
F17K Baldwin Pennin 53.46 28 P P 23 43 14.1 +0.8
baz=264
J16K Anvik River 53.49 32 P P 23 43 14.4 +0.8
baz=267
G17K Kiwalik Mounta 53.62 29 P P 23 43 15.3 +0.8
baz=265
B18K Kokolik River 53.63 24 P P 23 43 15.1 +0.7
baz=261
N15K Kwethluk River 53.64 36 P P 23 43 15.9 +1.1
N15K Kwethluk River 53.64 36 P P 23 43 15.4 +0.7
baz=270
SVE Sverdlovsk 53.74 320 *e*P **P 23 43 16.3 +0.8**
SVE pmax pmax
comp=Z,18nm,0.8s
C18K Utukok River 53.74 25 P P 23 43 15.9 +0.4
baz=262
O15K Ungalikthiuk R 53.78 37 P P 23 43 16.5 +0.8
baz=271
E18K Tukpahlearik C 53.82 27 P P 23 43 16.7 +0.8
baz=264
H17K Granite Mounta 53.89 30 P P 23 43 17.4 +1.0
baz=266
L16K Owhat River 53.96 34 P P 23 43 17.8 +0.8
baz=269
S14K Fog Glacier 54.02 40 P P 23 43 18.1 +0.5
baz=273
J17K VABM Dome 54.18 32 P P 23 43 19.8 +1.2
J17K IAmb IAmb 23 43 20.9
comp=Z,56nm,1.5s
J17K VABM Dome 54.18 32 P P 23 43 19.5 +0.9
baz=268
M16K Timber Creek 54.20 35 P P 23 43 19.7 +0.9
baz=270
N16K Nishlik Lake 54.30 35 P P 23 43 20.4 +0.9
baz=271
C19K Lookout Ridge 54.38 25 P P 23 43 20.4 +0.4
baz=264
AS31 Alice Springs 54.40 176 P P 23 43 20.6 -0.1
ASAR Alice Springs 54.40 176 P P 23 43 20.8 +0.1
ASAR Alice Springs 54.40 176 P P 23 43 21.4 +0.7
comp=Z,9.8nm,0.8s,baz=7.0,slow=14,SNR=122
ASAR PcP **PcP 23 44 23.0 +0.6**
comp=Z,1.8nm,0.7s,baz=353,slow=4.0,SNR=2.6
ASAR ScP **ScP 23 48 06.0 -0.1**
comp=Z,0.6nm,0.8s,baz=352,slow=2.8,SNR=3.7
ASAR S **S 23 50 47.6 +0.4**
comp=Z,1.4nm,1.0s,baz=8.9,slow=19,SNR=10
comp=Z,9.8nm,0.8s
G18K Tagagawik 54.47 29 P P 23 43 21.2 +0.6
baz=267
L17K Donlin 54.52 33 P P 23 43 22.3 +1.2
baz=270,SNR=5.8
K17K Iditarod 54.52 32 P P 23 43 22.1 +1.0
baz=270
H18K Honhosa River 54.56 29 P P 23 43 21.9 +0.7
baz=268
CHGN Chignik 54.66 40 P P 23 43 22.8 +0.8
baz=274
O16K Kokwok River B 54.66 36 P P 23 43 22.9 +0.9
baz=272
P16K Nushagak River 54.73 37 P P 23 43 23.7 +1.1
baz=272
ABKAR Akbulak array 54.85 311 P P 23 43 23.6 -0.1
ABKAR Akbulak array 54.85 311 P P 23 43 23.8 +0.2
ABKAR IAmb IAmb 23 43 25.8
comp=Z,14nm,0.7s
D19K Kuna River 54.85 25 P P 23 43 23.7 +0.3
baz=266
F19K Shaleruckik Mo 54.88 27 P P 23 43 24.3 +0.8
baz=267
ARU Arti 54.91 320 P P 23 43 24.0 +0.1

ARU IAmb IAmb 23 43 25.8
comp=Z,61nm,1.7s
ARU Arti 54.91 320 *d* iP **P 23 43 24.6 +0.7**
ARU *PP **pP 23 44 00.3 +0.9**
ARU 23 45 27.1
ARU S **S 23 50 55.1 +1.9**
ARU SS **SS 23 54 40.5 +2.1**
ARU pmax pmax
comp=Z,33nm,1.6s
ARU Arti 54.91 320 P **P 23 43 24.6 +0.7**
ARU PcP **PcP 23 44 23.1 -0.8**
M17K Holitna River 54.94 34 P **P 23 43 25.3 +1.3**
baz=271,SNR=6.6
R16K Pilot Point 55.03 39 P **P 23 43 25.6 +0.9**
baz=274
N17K Nushagak Hills 55.08 35 P **P 23 43 26.3 +1.2**
baz=272
E19K Redstone River 55.12 27 P **P 23 43 26.0 +0.8**
baz=267
G19K Purcell Mounta 55.12 28 P **P 23 43 26.1 +0.8**
baz=268
O17K Koliganek Bris 55.16 36 P **P 23 43 26.3 +0.6**
baz=273
GCSA Galena City Sc 55.18 30 P **P 23 43 26.5 +0.8**
baz=269
J18K Innoko River 55.24 32 P **P 23 43 27.0 +0.7**
baz=270
L18K Granite Mounta 55.27 33 P **P 23 43 27.6 +1.2**
baz=271
B20K Meade River 55.31 24 P **P 23 43 27.5 +0.9**
baz=265
H19K Roundabout Mou 55.37 29 P **P 23 43 28.1 +1.1**
baz=269,SNR=8.5
D20K Etivluk River 55.42 25 P **P 23 43 28.3 +0.9**
baz=267
Q16K King Salmon 55.45 37 P **P 23 43 28.3 +0.7**
baz=274
P17K Kvichak River 55.52 37 P **P 23 43 29.1 +0.8**
baz=274
E20K Nigu River 55.55 26 P **P 23 43 28.9 +0.5**
baz=268
TTA Tatalina 55.57 32 P **P 23 43 29.2 +0.5**
TTA IAmb IAmb 23 43 30.6
comp=Z,23nm,1.4s
TTA Tatalina 55.57 32 P **P 23 43 29.5 +0.8**
TTA Tatalina 55.57 32 P **P 23 43 29.2 +0.5**
TTA pmax pmax
comp=Z,23nm,1.4s
TTA Tatalina 55.57 32 P **P 23 43 29.3 +0.7**
baz=271,SNR=5.1
R17K Ugashik Creek 55.66 39 P **P 23 43 30.6 +1.3**
baz=275
F20K Avaraart Lake 55.69 27 P **P 23 43 30.1 +0.7**
baz=269
WRKA Warakurna 55.69 182 P **P 23 43 30.6 +0.7**
M18K Stony River 55.71 34 P **P 23 43 30.4 +0.9**
baz=272
N18K Kilae Creek 55.72 35 P **P 23 43 30.6 +0.9**
baz=273
J19K Poorman 55.73 31 P **P 23 43 30.6 +0.9**
baz=271,SNR=8.1
SVW2 Sparrevohn 55.84 34 P **P 23 43 31.6 +1.0**
SVW2 Sparrevohn 55.84 34 P **P 23 43 32.0 +1.4**
Q17K Contact Creek 55.88 38 P **P 23 43 31.4 +0.5**
baz=275
H20K Anotleneega Mo 56.02 29 P **P 23 43 32.3 +0.5**
baz=271
C21K Knifeblade Rid 56.10 25 P **P 23 43 33.0 +0.8**
baz=268
O18K Koktuh Hills 56.11 36 P **P 23 43 33.4 +1.0**
baz=274,SNR=5.6
P18K Big Mountain, 56.13 36 P **P 23 43 32.9 +0.3**
baz=274
L19K White Mountain 56.14 33 P **P 23 43 33.5 +0.8**
baz=273,SNR=7.1
B21K Ikpikpuk River 56.17 24 P **P 23 43 33.0 +0.3**
B21K Ikpikpuk River 56.17 24 P **P 23 43 33.6 +0.9**
baz=268
I20K Naaghedeneel 56.21 30 P **P 23 43 34.0 +1.0**
baz=271
Q18K Katmai Hardscr 56.31 37 P **P 23 43 34.1 +0.1**
baz=275
J20K Nowinta River 56.37 31 P **P 23 43 35.1 +0.9**
baz=272,SNR=7.1
M19K Big River Lodg 56.37 33 P **P 23 43 35.1 +0.8**
baz=273
E21K Killik River 56.38 25 P **P 23 43 34.7 +0.4**
baz=269
N19K Bonanza Creek 56.40 35 P **P 23 43 35.3 +0.7**
baz=274
HRA Herat 56.42 293 P **P 23 43 35.6 +0.2**
HRA IAmb IAmb 23 43 37.7
comp=Z,16nm,0.9s
K20K Telida 56.44 32 P **P 23 43 36.0 +1.3**
baz=273
IMAR Indian Mountai 56.48 28 P **P 23 43 35.4 +0.4**
O19K Port Alsworth 56.52 35 P **P 23 43 36.5 +1.2**
baz=275
F21K Alatna River 56.57 27 P **P 23 43 36.6 +1.0**
baz=271
G21K Allakaket 56.57 28 P **P 23 43 36.5 +0.9**
baz=271
L20K Farewell, AK 56.57 33 P **P 23 43 37.0 +1.2**
baz=274,SNR=5.3
R18K Karluk 56.71 39 P **P 23 43 36.7 +0.1**
baz=276
D22K Ayikyak River 56.85 25 P **P 23 43 38.5 +0.9**
baz=270
H21K Melozitna Rive 56.88 29 P **P 23 43 38.8 +1.0**
baz=272
Q19K Cape Douglas, 56.98 37 P **P 23 43 38.8 +0.1**
baz=276
F22K John River 57.06 27 P **P 23 43 39.9 +0.7**
baz=272
P19K Oil Pt 57.12 36 P **P 23 43 40.5 +0.8**
baz=276
E22K Anaktuvuk Pass 57.19 26 P **P 23 43 40.6 +0.7**
baz=272,SNR=5.8
CHUM Lake Minchumin 57.19 31 P **P 23 43 40.9 +0.9**
baz=274
RSO Redoubt South 57.28 35 P **P 23 43 41.5 +0.6**
PPLA Purkeypile 57.32 32 P **P 23 43 41.4 +0.3**
baz=275,SNR=5.4
CAST Castle Rocks 57.33 31 P **P 23 43 42.0 +1.0**
CAST IAmb IAmb 23 43 43.3
comp=Z,61nm,1.7s
CAST Castle Rocks 57.33 31 P **P 23 43 41.8 +0.8**
baz=274,SNR=8.9
G22K Bettles 57.35 27 P **P 23 43 41.5 +0.4**
baz=273
H22K Ishtalitna Cre 57.46 28 P **P 23 43 43.0 +1.1**
baz=274,SNR=8.6
N20K Mount Spurr 57.47 34 P **P 23 43 42.8 +0.7**
baz=276,SNR=8.8
SPCR Spurr Chakacha 57.47 34 P **P 23 43 42.9 +0.8**
baz=276,SNR=7.1
D23K Nanushuk River 57.57 25 P **P 23 43 43.3 +0.7**
baz=272
Q20K Shuyak Island 57.67 37 P **P 23 43 43.4 0.0**
baz=277
KDAK Kodiak Island 57.68 38 P **P 23 43 43.5 +0.1**
KDAK Kodiak Island 57.68 38 P **P 23 43 43.5 +0.1**
KDAK pmax pmax
comp=Z,118nm,1.8s
KDAK Kodiak Island 57.68 38 P **P 23 43 43.6 +0.1**
baz=278
KDAK Kodiak Island 57.68 38 P **P 23 43 43.6 +0.1**
SKT Skwentna 57.71 33 P **P 23 43 44.0 +0.4**
SKT IAmb IAmb 23 44 21.8
comp=Z,25nm,1.5s
SKT Skwentna 57.71 33 P **P 23 43 44.1 +0.4**
baz=276
BPAW Bear Paw Mtn. 57.76 31 P **P 23 43 44.5 +0.5**
baz=275,SNR=5.9
COLD Coldfoot 57.84 27 P **P 23 43 45.2 +0.7**
baz=274
HOM Homer 57.92 36 P **P 23 43 46.1 +0.9**
baz=277
G23K Bananza Creek 57.95 27 P **P 23 43 45.9 +0.6**
baz=274,SNR=6.5
TOLK Toolik Lake Re 57.99 25 P **P 23 43 46.1 +0.5**
baz=273
E23K Chandalar 58.01 26 P **P 23 43 46.5 +0.7**
baz=274
CAPN Captain Cook N 58.03 35 P **P 23 43 46.1 +0.3**
baz=277
TRF Thorofare Moun 58.13 31 P **P 23 43 46.9 +0.1**
baz=276
SUA Susitna One 58.14 34 P **P 23 43 46.8 0.0**
SUA IAmb IAmb 23 43 48.4
comp=Z,18nm,0.7s
SUA Susitna One 58.14 34 P **P 23 43 47.6 +0.8**
baz=277
H23K Yukon River 58.22 29 P **P 23 43 47.5 +0.3**
H23K Yukon River 58.22 29 P **P 23 43 48.2 +1.1**
baz=275
D24K Happy Valley 58.23 25 P **P 23 43 47.7 +0.6**
baz=274
C24K Franklin Bluff 58.24 24 P **P 23 43 47.8 +0.6**
baz=274
CUT Chulitna 58.25 33 P **P 23 43 47.8 +0.4**
baz=277
MEEK Meekatharra 58.33 192 P **P 23 43 48.5 +0.1**
I23K Minto, Yukon-K 58.36 29 P **P 23 43 49.0 +0.9**
baz=276
BRSE Bradley Lake S 58.36 36 P **P 23 43 48.6 +0.3**
baz=278
M22K Willow 58.40 33 P **P 23 43 49.4 +1.0**
baz=277
E24K Your Creek 58.43 26 P **P 23 43 49.6 +0.9**
baz=275
NEA2 Nenana 58.54 30 P **P 23 43 50.0 +0.6**
NEA2 IAmb IAmb 23 43 51.2
comp=Z,25nm,1.0s
NEA2 Nenana 58.54 30 P **P 23 43 50.2 +0.8**
baz=276,SNR=18
GEYT Alibeck 58.60 298 P **P 23 43 51.1 +0.8**
GEYT Alibeck 58.60 298 P **P 23 43 51.1 +0.8**
GEYT pmax pmax
comp=Z,7.0nm,0.7s
GEYT Alibeck 58.60 298 P **P 23 43 51.4 +1.0**
comp=Z,7.7nm,0.7s,baz=71,slow=5.3,SNR=14
comp=Z,7.7nm,0.7s
GYA0B ALIBECK ARRAY 58.60 298 P **P 23 43 50.8 +0.5**
OOD Oodnadatta 58.63 174 P **P 23 43 51.1 +0.7**
RC01 Rabbit Creek A 58.67 34 P **P 23 43 50.6 +0.2**
baz=278
MCK McKinley 58.70 31 P **P 23 43 50.8 +0.3**
baz=277,SNR=6.1
F24K Squaw Lake 58.71 26 P **P 23 43 51.2 +0.6**
baz=276,SNR=5.4
PMR Palmer 58.89 33 P **P 23 43 52.0 +0.2**
baz=278
H24K Noodor Dome 58.90 28 P **P 23 43 53.1 +1.2**
baz=277,SNR=7.0
SEW Seward 58.95 35 P **P 23 43 52.3 +0.1**
baz=279
G24K Hadweenzic Riv 58.96 27 P **P 23 43 53.0 +0.7**
baz=276
WRH Wood River Hil 58.97 30 P **P 23 43 52.6 +0.2**
WRH IAmb IAmb 23 44 41.3
comp=Z,14nm,1.0s
WAT1 Susitna Watana 58.99 32 P **P 23 43 53.0 +0.4**
baz=278
COLA College 59.02 30 ⇑P **P 23 43 54.0 +1.3**
COLA College 59.02 30 P **P 23 43 53.7 +1.0**
D25K Kavik River 59.09 24 P **P 23 43 53.6 +0.5**
baz=276
POKR Poker Plat Res 59.17 29 P **P 23 43 54.6 +0.9**
baz=278,SNR=9.0
KNK Knik Glacier 59.23 34 P **P 23 43 54.4 +0.1**
KNK Knik Glacier 59.23 34 P **P 23 43 54.6 +0.4**
baz=279,SNR=8.2
SML Sawmill 59.23 33 P **P 23 43 54.4 +0.1**
SML IAmb IAmb 23 43 55.7
comp=Z,38nm,1.4s
SML Sawmill 59.23 33 P **P 23 43 54.5 +0.1**
baz=279
PWL Port Wells 59.38 34 P **P 23 43 55.4 +0.1**
baz=279
WAT6 Susitna Watana 59.39 32 P **P 23 43 55.5 0.0**
baz=279,SNR=5.2
ILAR Eielson Array 59.45 30 P **P 23 43 54.9 -0.8**
comp=Z,3.1nm,0.7s,baz=265,slow=5.2,SNR=33
ILAR pP **pP 23 44 32.9 +1.0**
comp=Z,1.1nm,0.7s,baz=274,slow=7.1,SNR=3.6
comp=Z,3.1nm,0.7s
HDA Harding Lake 59.47 30 P **P 23 43 55.5 -0.3**
baz=278,SNR=12
DHY Denali Highway 59.48 32 P **P 23 43 56.8 +0.7**
baz=279
G25K Bearman Lake 59.49 27 P **P 23 43 56.9 +1.0**
baz=278
E25K Arctic Village 59.52 26 P **P 23 43 56.9 +0.7**
baz=277
M23K Glacier View 59.52 33 P **P 23 43 57.0 +0.8**
baz=279
KIRV Kirov 59.53 323 *ce*P **P 23 43 56.4 +0.1**
F25K Christian Rive 59.56 26 P **P 23 43 57.4 +1.0**
baz=278,SNR=5.9
H25L Birch Creek 59.67 28 P **P 23 43 58.6 +1.4**
baz=278
SCM Sheep Creek Mo 59.70 33 P **P 23 43 57.6 +0.1**
SCM Sheep Creek Mo 59.70 33 P **P 23 43 57.6 +0.1**
SCM pmax pmax
comp=Z,52nm,1.4s
SCM Sheep Creek Mo 59.70 33 P **P 23 43 57.8 +0.3**
baz=280
FYU Fort Yukon 59.86 27 P **P 23 43 59.2 +0.7**
FYU IAmb IAmb 23 44 01.0
comp=Z,47nm,1.5s
PRP Porcupine Dome 59.91 29 P **P 23 43 58.2 -0.7**
PRP Porcupine Dome 59.91 29 P **P 23 43 59.1 +0.2**
baz=279,SNR=5.9
GLI Glacier Island 59.98 34 P **P 23 43 59.6 +0.3**
baz=280
P23K Montague Islan 59.98 35 P **P 23 44 00.1 +0.7**
baz=280
BMAR Burnt Mountain 59.99 26 P **P 23 44 00.2 +0.9**
K24K Donnelly Dome 60.08 31 P **P 23 44 00.1 +0.1**
baz=280
F26K Sheenjek River 60.11 26 P **P 23 44 01.3 +1.1**
baz=279,SNR=9.6
J25K Salcha River, 60.12 30 P **P 23 44 00.9 +0.6**
baz=280
M24K Tolsona, Glenn 60.19 33 P **P 23 44 01.5 +0.7**
baz=280
PAX Paxson 60.36 32 P **P 23 44 02.6 +0.6**
baz=280
G26K Porcupine Rive 60.37 27 P **P 23 44 03.0 +1.2**
baz=280,SNR=5.4
KLU Klutina 60.42 33 P **P 23 44 02.3 -0.1**
KLU Klutina 60.42 33 P **P 23 44 02.9 +0.4**
baz=281
RIDG Independent Ri 60.49 31 P **P 23 44 02.7 -0.1**
RIDG IAmb IAmb 23 44 47.5
comp=Z,14nm,0.8s
RIDG Independent Ri 60.49 31 P **P 23 44 03.7 +0.8**
baz=280
HARP HAARP 60.60 32 P **P 23 44 04.4 +0.8**
baz=281
EYAK Cordova Ski Ar 60.69 34 P **P 23 44 04.6 +0.5**
baz=282
PRGR Permogore 60.82 327 *e*P **P 23 44 03.4 -1.6**
PRGR *e**PP **pP 23 44 40.4 -0.7**
PRGR *e* 23 44 44.5
PRGR pmax pmax
comp=Z,22nm,0.6s
SCRK Sand Creek 60.82 30 P **P 23 44 05.1 -0.1**
SCRK IAmb IAmb 23 44 06.3
comp=Z,35nm,1.4s
SCRK Sand Creek 60.82 30 P **P 23 44 04.9 -0.3**
baz=281,SNR=13
J26L Joseph Creek 60.90 30 P **P 23 44 05.4 -0.2**
baz=281
I26K Coal Creek Min 60.92 29 P **P 23 44 05.4 -0.3**
baz=281
E27K Coleen River 60.98 25 P **P 23 44 06.7 +0.7**
baz=281
MULG Mulgathing 60.99 176 P **P 23 44 06.9 +0.5**
D27M Malcolm River 61.00 24 P **P 23 44 06.4 +0.2**
baz=281
N25K Chitina, Valde 61.02 33 P **P 23 44 06.9 +0.4**
baz=282
BMRM Bremner River 61.15 34 P **P 23 44 07.6 +0.2**
baz=282
MORW Morawa 61.20 194 P **P 23 44 07.9 0.0**
MORW IAmb IAmb 23 44 08.9
comp=Z,15nm,1.1s
G27K Doyon Strip 61.22 27 P **P 23 44 08.5 +0.7**
baz=282,SNR=5.7
L26K Log Cabin Wild 61.30 31 P **P 23 44 08.6 +0.4**
baz=282,SNR=8.5
H27K Steamboat Moun 61.39 27 P **P 23 44 09.6 +0.8**
baz=282,SNR=5.4
FORT Forrest 61.42 182 P **P 23 44 09.7 +0.4**
FORT Forrest 61.42 182 P **P 23 44 09.9 +0.6**
GLB Gilahina Butte 61.42 33 P **P 23 44 09.9 +0.8**
GLB IAmb IAmb 23 44 10.9
comp=Z,20nm,1.3s
I27K Kandik River 61.49 28 P **P 23 44 10.5 +0.9**
baz=282,SNR=10.0
M26K Nabesna, AK 61.59 32 P **P 23 44 11.0 +0.7**
baz=283,SNR=14
K27K Chicken 61.64 30 P **P 23 44 10.9 +0.5**
baz=283
E28M Babbage River 61.64 25 P **P 23 44 11.3 +0.9**
baz=282
F28M Old Crow 61.73 26 P **P 23 44 12.2 +1.1**
baz=283,SNR=6.3
MCARA McCarthy VSAT 61.81 33 P **P 23 44 12.3 +0.6**
MCARA IAmb IAmb 23 44 13.7
comp=Z,54nm,1.5s
MCARA McCarthy VSAT 61.81 33 P **P 23 44 12.2 +0.6**
baz=283
BELG Belogornoye 61.88 316 *i* P **P 23 44 11.7 -0.6**
BELG pmax pmax
comp=Z,9.0nm,0.9s
BELG Belogornoye 61.88 316 LR LR 00 12 09.8
comp=Z,97nm,21.5s,baz=19,slow=37
CRQE Cirque 61.92 34 P **P 23 44 13.1 +0.5**
baz=284
L27K Beaver Creek, 61.96 31 P **P 23 44 13.8 +1.0**
baz=283,SNR=12
BCAR Beaver Creek A 61.98 31 P **P 23 44 13.8 +0.9**
M27K Edge Creek, AK 62.11 32 P **P 23 44 14.5 +0.6**
baz=284,SNR=6.1
I28M Miner Creek 62.20 28 P **P 23 44 15.5 +1.1**
baz=284,SNR=11
E29M Blow River 62.28 25 P **P 23 44 15.4 +0.8**
baz=284
BVCY Beaver Creek 62.55 32 P **P 23 44 17.6 +0.9**
baz=284
BLDU Ballidu 62.56 193 P **P 23 44 17.0 0.0**
G29M Pine Creek 62.60 26 P **P 23 44 17.9 +1.1**
baz=285,SNR=5.5
MESA MESA 62.61 34 P **P 23 44 17.8 +0.5**
baz=285
H29M Whitestone 62.64 27 P **P 23 44 18.1 +1.0**
baz=285
CTG Chitna Glacier 62.70 33 P **P 23 44 17.9 +0.1**
baz=285
DAWY Dawson 62.77 30 P **P 23 44 18.1 0.0**
DAWY IAmb IAmb 23 44 19.5
comp=Z,26nm,1.7s
DAWY Dawson 62.77 30 P **P 23 44 18.6 +0.5**
baz=285
I29M Ogilvie Camp, 62.89 28 P **P 23 44 19.3 +0.5**
baz=285,SNR=6.1
YUK3 Moose Creek 62.90 32 P **P 23 44 19.6 +0.4**
baz=285
J29N Klondike Camp 63.17 29 P **P 23 44 21.4 +0.7**
baz=286
EPYK Eagle Plains 63.24 27 P **P 23 44 21.8 +0.6**
baz=286,SNR=13
F30M Barrier River 63.25 25 P **P 23 44 21.8 +0.7**
baz=286
G30M tAoh Zraii Nji 63.26 26 P **P 23 44 21.6 +0.4**
baz=286,SNR=6.4
O28M Mount Upton 63.29 33 P **P 23 44 22.5 +0.6**
baz=286
KLBR Kellerberrin 63.32 192 P **P 23 44 22.3 +0.3**
STKA Stephens Creek 63.38 169 P **P 23 44 22.8 +0.4**
STKA Stephens Creek 63.38 169 P **P 23 44 23.4 +1.0**
STKA Stephens Creek 63.38 169 P **P 23 44 22.8 +0.4**
STKA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 63.38 169 P **P 23 44 23.4 +1.0**
comp=Z,7.9nm,0.5s,baz=341,slow=7.1,SNR=14
comp=Z,7.9nm,0.5s
PINM Pinnacle 63.45 34 P **P 23 44 23.3 +0.6**
baz=286
ADZR Andozero 63.54 330 *e*P **P 23 44 23.6 +0.5**
ADZR pmax pmax
comp=Z,36nm,0.6s
L29M L29M 63.58 31 P **P 23 44 24.5 +1.1**
baz=286,SNR=14
M29M Somme Creek 63.62 31 P **P 23 44 24.9 +1.1**
baz=286,SNR=8.4
K29M Barlow Dome 63.63 30 P **P 23 44 24.7 +0.8**
K29M IAmb IAmb 23 44 25.9
comp=Z,17nm,1.2s
K29M Barlow Dome 63.63 30 P **P 23 44 24.7 +0.8**
baz=287,SNR=6.8
BBOO Buckleboo 63.64 175 P **P 23 44 23.9 -0.2**
BBOO IAmb IAmb 23 45 33.6
comp=Z,49nm,1.9s
BBOO Buckleboo 63.64 175 P **P 23 44 24.4 +0.4**
I30M Mount Dempster 63.70 28 P **P 23 44 25.1 +0.8**
baz=287,SNR=12
LVZ Lovozero 63.80 335 P **P 23 44 23.9 -0.9**
LVZ Lovozero 63.80 335 P **P 23 44 23.9 -0.9**
LVZ pmax pmax
comp=Z,144nm,1.9s
YUK4 Talbot Arm 63.85 32 P **P 23 44 25.9 +0.5**
baz=287
INK Inuvik 63.86 24 P **P 23 44 25.2 +0.1**
INK Inuvik 63.86 24 P **P 23 44 25.2 +0.1**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 63.86 24 P **P 23 44 25.6 +0.5**
baz=288
KLMR Klimovskoe 63.88 327 *e*P **P 23 44 21.1 -4.2**
KLMR AMP 23 44 25.7
comp=Z,57nm,1.4s
KLMR *e*pP **PcP 23 44 57.6 -2.1**
KLMR Klimovskoe 63.88 327 *e*P **P 23 44 21.1 -4.2**
KLMR *e**PP **PcP 23 44 57.5 -2.1**
KLMR pmax pmax
comp=Z,57nm,1.4s
J30M Hart River 63.91 29 P **P 23 44 26.2 +0.5**
baz=287
PNL Peninsula 63.99 34 P **P 23 44 25.8 -0.3**
baz=287
G31M Satah River 64.01 26 P **P 23 44 26.1 0.0**
baz=288
F31M Tsiigehtchic 64.05 25 P **P 23 44 26.0 -0.3**
baz=288
YUK6 Outpost Mounta 64.10 33 P **P 23 44 27.0 -0.1**
baz=287
O29M Mount Kennedy 64.19 34 P **P 23 44 27.6 0.0**
baz=287
SHME Shamm 64.26 286 P **P 23 44 30.1 +1.7**
M30M Minto, Yukon 64.32 31 P **P 23 44 28.8 +0.5**
baz=288,SNR=6.1
H31M Peel River 64.33 27 P **P 23 44 28.8 +0.4**
baz=288,SNR=6.5
APA Apatity 64.36 335 ||*i* P P 23 44 23.5 -4.8
APA pmax pmax
comp=Z,22nm,0.8s
APA MLR MLR
comp=Z,1μm,22.0s
N30M Aishikik Lake 64.53 32 P **P 23 44 30.5 +0.8**
baz=288
HYT Haines Junctio 64.54 33 P **P 23 44 30.7 +0.8**
HYT IAmb IAmb 23 44 32.1
comp=Z,26nm,1.4s
HYT Haines Junctio 64.54 33 P **P 23 44 30.6 +0.8**
baz=288
SPITS Spitsbergen Ar 64.61 348 P **P 23 44 29.4 -0.5**
SPITS pmax pmax
comp=Z,120nm,1.5s
SPITS Spitsbergen Ar 64.61 348 P **P 23 44 28.9 -1.0**
comp=Z,11nm,0.6s,baz=88,slow=8.8,SNR=10
comp=Z,11nm,0.6s
UOSS Minazif 64.65 285 P **P 23 44 31.5 +0.5**
SOHO SOHO 64.70 284 *i* P **P 23 44 32.2 +0.8**
SNR=14
NWAO Narrogin (SRO) 64.71 192 P **P 23 44 30.9 -0.1**
NWAO Narrogin (SRO) 64.71 192 P **P 23 44 31.3 +0.3**
NWAO Narrogin (SRO) 64.71 192 P **P 23 44 31.0 -0.1**
NWAO pmax pmax
comp=Z,80nm,1.8s
NWAO Narrogin (SRO) 64.71 192 P **P 23 44 31.1 +0.1**
NWAO pP **pP 23 45 09.7 +2.0**
HATD Hatta, Dubai 64.75 285 P **P 23 44 32.9 +1.2**
P29M Windy Craggy 64.80 34 P **P 23 44 32.6 +1.1**
baz=288
ASHO Ashiyiah 64.87 285 *i* P **P 23 44 33.4 +0.9**
SNR=8.5
KBS Kingsbay 64.97 349 P **P 23 44 31.8 -0.4**

KBS **Kingsbay** 64.97 349 P **P** 23 44 31.8 -0.4
KBS pmax pmax
comp=Z,146nm,1.9s
KBS **Kingsbay** 64.97 349 *e*P **P** 23 44 31.4 -0.8
KBS **Kingsbay** 64.97 349 *e*P **P** 23 44 30.9 -1.3
P30M **Million Dollar** 65.02 33 P **P** 23 44 33.9 +1.1
baz=289
N31M **Braeburn, Yuko** 65.12 32 P **P** 23 44 34.1 +0.7
baz=289
A36M **Sachs Harbour** 65.20 19 P **P** 23 44 34.2 +0.5
baz=294
O30N **Mendenhall** 65.21 33 P **P** 23 44 34.7 +0.7
baz=289
FAQ **Al Faqa, Dubai** 65.23 285 *i* P **P** 23 44 35.2 +0.4
SNR=10
LKRN **Lenkeran, Azer** 65.31 302 P **P** 23 44 33.9 -1.1
ALNE **Al Ain** 65.38 284 *i* P **P** 23 44 36.7 +0.9
SNR=7.2
M31M **Drury Creek, Y** 65.50 31 P **P** 23 44 36.5 +0.6
baz=290,SNR=5.6
ASUD **Al Ashush, Dub** 65.50 285 P **P** 23 44 37.5 +1.0
PLBC **Pleasant Camp** 65.52 34 P **P** 23 44 37.0 +1.0
baz=290
SEKA **Sheki** 65.57 305 P **P** 23 44 35.2 -1.6
VRH **Novokhopyorsk** 65.73 316*c* *i* P **P** 23 44 36.7 -0.8
VRH pmax pmax
comp=Z,28nm,0.8s
KEV **Kevo** 65.75 338 P **P** 23 44 36.4 -0.9
KEV IAmb IAmb 23 44 37.4
comp=Z,27nm,0.9s
KEV **Kevo** 65.75 338 P **P** 23 44 36.4 -0.9
KEV pmax pmax
comp=Z,27nm,0.9s
KEV **Kevo** 65.75 338 P **P** 23 44 36.4 -0.9
WHY **Whitehorse** 65.81 33 P **P** 23 44 38.9 +0.8
WHY **Whitehorse** 65.81 33 P **P** 23 44 38.8 +0.8
baz=290
GROC **Groznyy** 65.85 307 *e*P **P** 23 44 39.0 +0.6
GROC *e**SP **sP** 23 45 33.4 +1.6
GROC *e*S **S** 23 53 12.0 -1.0
GROC pmax pmax
comp=Z,26nm,1.1s
FARO **Faro, Yukon** 65.95 31 P **P** 23 44 39.3 +0.5
FARO IAmb IAmb 23 44 40.6
comp=Z,62nm,1.7s
FARO **Faro, Yukon** 65.95 31 P **P** 23 44 39.4 +0.6
baz=291,SNR=9.1
ARA0 **ARCESS Array S** 66.32 338 *e*P **P** 23 44 40.5 -0.5
ARCES **ARCESS Array B** 66.32 338 P **P** 23 44 40.1 -0.8
ARCES **ARCESS Array B** 66.32 338 P **P** 23 44 40.1 -0.8
ARCES pmax pmax
comp=Z,127nm,1.9s
ARCES **ARCESS Array B** 66.32 338 P **P** 23 44 40.0 -1.0
comp=Z,10.0nm,0.8s,baz=69,slow=7.2,SNR=18
ARCES LR LR 00 21 08.1
comp=Z,129nm,20.1s,baz=263,slow=42
comp=Z,10.0nm,0.8s
GANJ **Ganja** 66.39 304 P **P** 23 44 40.8 -1.2
HAMF **Hammerfest** 66.40 340 *e*P **P** 23 44 40.7 -0.7
NOR **Nord** 66.42 355 *e*P **P** 23 44 40.2 -1.3
NOR IAmb IAmb 23 44 41.1
comp=Z,2.0nm,0.6s
MOS **Moscow** 66.47 322 *e*P **P** 23 44 40.8 -1.3
MOS *e* 23 45 17.1
MOS pmax pmax
comp=Z,81nm,0.7s
ALE **Alert** 66.61 2 P **P** 23 44 42.9 +0.2
C36M **Paulatuk** 66.66 22 P **P** 23 44 43.2 +0.2
C36M IAmb IAmb 23 44 43.7
comp=Z,23nm,0.7s
C36M **Paulatuk** 66.66 22 P **P** 23 44 43.3 +0.2
baz=296
MMPY **Sheldon Lake,** 66.71 30 P **P** 23 44 44.3 +0.7
baz=292
LPSR **Galich'ya Gora** 66.87 318 *e*P **P** 23 44 41.6 -3.1
LPSR pmax pmax
comp=Z,30nm,0.9s
P33M **Teslin, Yukon** 66.93 33 P **P** 23 44 45.8 +0.7
baz=292
VORR **Voronezh** 67.05 317 *e*P **P** 23 44 45.5 -0.3
VORR pmax pmax
comp=Z,33nm,0.8s
GOF **Gofitskoye** 67.05 310*ce*P **P** 23 44 46.4 +0.4
S32K **Killisnoo** 67.10 36 P **P** 23 44 46.8 +0.7
baz=292
VSR **Storozhevoye** 67.23 317 *e*P **P** 23 44 44.8 -2.2
VSR pmax pmax
comp=Z,20nm,0.9s
NCK **Nalchik** 67.25 308 *i* P **P** 23 44 45.6 -1.7
NCK pmax pmax
comp=Z,14nm,0.9s
VORD **Divnogorie** 67.25 317 *e*P **P** 23 44 44.6 -2.5
VORD pmax pmax
comp=Z,10.0nm,1.0s
OBN **Obninsk** 67.26 322 P **P** 23 44 46.4 -0.7
OBN IAmb IAmb 23 44 47.6
comp=Z,37nm,1.0s
OBN **Obninsk** 67.26 322*d* *i* P **P** 23 44 46.8 -0.3
OBN 23 45 14.0
OBN *PP **pP** 23 45 22.0 -2.0
OBN *e*S **S** 23 53 27.0 -2.4
OBN SSS SSS 00 00 50.0
OBN pmax pmax
comp=Z,56nm,1.3s
OBN MLR MLR
comp=Z,119nm,15.0s
OBN **Obninsk** 67.26 322 P **P** 23 44 46.7 -0.4
KTK1 **Kautokeino** 67.27 338 *e*P **P** 23 44 45.3 -1.7
ZEI **Tsey** 67.30 307 *e*P **P** 23 44 47.0 -0.9
ZEI pmax pmax
comp=Z,55nm,1.4s
KBZ **Khabaz** 67.63 308*ce*P **P** 23 44 50.3 +0.6
KBZ pmax pmax
comp=Z,49nm,0.9s
KBZ **Khabaz** 67.63 308 P **P** 23 44 50.0 +0.4
comp=Z,40nm,0.8s,baz=88,slow=4.1,SNR=54
comp=Z,40nm,0.8s
KIV **Kislovodsk** 67.69 309 ⇑P **P** 23 44 51.0 +0.8
KIV **Kislovodsk** 67.69 309 P **P** 23 44 50.5 +0.3
KIV **Kislovodsk** 67.69 309 *e*P **P** 23 44 50.7 +0.5
KIV pmax pmax
comp=Z,68nm,1.1s
KIV **Kislovodsk** 67.69 309 *i* P **P** 23 44 50.8 +0.6
SNR=20
KIV **Kislovodsk** 67.69 309 P **P** 23 44 50.8 +0.6
GNI **Garni** 67.70 304 P **P** 23 44 51.2 +0.8
GNI IAmb IAmb 23 44 52.8
comp=Z,23nm,0.8s
GNI **Garni** 67.70 304 *i* P **P** 23 44 51.5 +1.1
GNI pmax pmax
comp=Z,29nm,0.9s
GNI **Garni** 67.70 304 P **P** 23 44 51.7 +1.3
GNI **Garni** 67.70 304 P **P** 23 44 51.8 +1.3
MZR **Muzera** 67.72 284 *i* P **P** 23 44 50.8 +0.2
SNR=8.9
JETT **Jettan, Norway** 67.90 339 *e*P **P** 23 44 51.0 0.0
SHAO **Shalim** 68.08 278 P **P** 23 44 53.3 +0.4
AKH **Akhalkalaki** 68.10 306 P **P** 23 44 53.9 +1.0
AKH **Akhalkalaki** 68.10 306 P **P** 23 44 53.9 +1.0
AKH pmax pmax
comp=Z,79nm,0.9s
R33M **Jennings River** 68.11 33 P **P** 23 44 53.0 +0.4
baz=294
CAN **Canberra** 68.22 164 P **P** 23 44 54.6 +1.3
CAN IAmb IAmb 23 46 32.5
comp=Z,27nm,1.5s
CAN **Canberra** 68.22 164 P **P** 23 44 54.6 +1.3
CAN pmax pmax
comp=Z,27nm,1.5s
CAN **Canberra** 68.22 164 P **P** 23 44 54.9 +1.6
TGTN **Hyland Airport** 68.44 30 P **P** 23 44 55.4 +0.9
baz=295,SNR=5.8
KARS **Kars** 68.69 305 P **P** 23 44 57.5 +1.0
KARS **Kars** 68.69 305 P **P** 23 44 57.5 +1.0
KARS pmax pmax
comp=Z,84nm,1.0s
DLBC **Dease Lake** 68.95 34 P **P** 23 44 58.6 +0.9
baz=295
T35M **Bob Quinn** 69.46 35 P **P** 23 45 01.4 +0.6
baz=295
TOO **Toolangi** 69.62 167 P **P** 23 45 03.2 +1.3
TOO **Toolangi** 69.62 167 P **P** 23 45 03.7 +1.8
TOO **Toolangi** 69.62 167 P **P** 23 45 03.2 +1.3
TOO pmax pmax
comp=Z,7.0nm,0.8s

FINES **FINESS Array B** 69.69 330 P **P** 23 45 01.1 -0.9
comp=Z,30nm,0.6s,baz=71,slow=6.2,SNR=236
comp=Z,30nm,0.6s
SOC **Sochi** 69.82 309 *e*P **P** 23 45 01.6 -1.6
SOC *e**PP **pP** 23 45 37.9 -2.5
SOC *e**SP **sP** 23 45 54.6 -2.4
SOC *e* 23 47 36.7
SOC *e*PPP PPP 23 49 19.9
SOC *e*S **S** 23 53 59.4 -0.7
SOC *e*SS **SS** 23 58 35.2 +4.0
SOC pmax pmax
comp=Z,45nm,0.7s
GURO **Guroymak-BITLI** 70.26 304 P **P** 23 45 06.1 -0.1
GURO IAmb IAmb 23 45 08.3
comp=Z,28nm,0.8s
SIRT **Sirnak** 70.39 302 P **P** 23 45 07.4 +0.4
RES **Resolute Bay** 70.59 12 LR LR 00 18 52.2
comp=Z,20nm,18.2s,baz=36,slow=38
VSU **Vasula** 70.78 327 *i* P **P** 23 45 07.0 -1.7
VSU **Vasula** 70.78 327 *e*P **P** 23 45 08.7 0.0
KOTAN **Kotaneelee Air** 70.92 31 P **P** 23 45 10.1 +0.5
baz=299
MEF **Metsahovi** 70.99 329 *e*P **P** 23 45 08.9 -1.1
MOR8 **Moi Rana** 71.63 337 *e*P **P** 23 45 11.7 -2.1
RAF **Rauma** 71.71 331 *e*P **P** 23 45 13.4 -0.9
NEEM **North Greenlan** 71.86 0 *i* P **P** 23 45 15.0 -0.4
NEEM IAmb IAmb 23 45 15.8
comp=Z,28nm,1.0s
MTSE **Matsula** 72.00 328 *e*P **P** 23 45 16.0 -0.1
MNK **Minsk** 72.08 323 *i* P **P** 23 45 15.0 -1.6
comp=E,14nm,1.1s
MNK *i* P **P** 23 45 15.0 -1.6
comp=N,17nm,0.8s
MNK *i* P **P** 23 45 15.0 -1.6
comp=Z,51nm,0.8s,baz=62
MNK *i* pP **pP** 23 45 50.8 -3.2
MNK *i* PP **PP** 23 47 56.4 -1.9
MNK *i* PPP PPP 23 49 41.2
MNK *i* S **S** 23 54 25.0 -0.8
MNK *i* sS **sS** 23 55 28.4 -2.0
MNK *i* SS **SS** 23 59 06.3 +1.1
MNK *i* SSS SSS 00 02 28.3
MNK *i* LRM MLR 00 19 20.9
comp=E,82nm,15.3s
MNK *i* LRM MLR 00 19 23.8
comp=Z,78nm,22.1s
MNK *i* LRM MLR 00 19 25.9
comp=N,179nm,15.7s
MNK **Minsk** 72.08 323 *i* P **P** 23 45 15.0 -1.6
MNK *i* *PP **pP** 23 45 50.7 -3.2
MNK *i* 23 47 56.3
MNK *i* PPP PPP 23 49 41.1
MNK *i* S **S** 23 54 24.9 -0.8
MNK *i* SS **SS** 23 59 06.3 +1.1
MNK pmax pmax
comp=Z,51nm,0.9s
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=E,14nm,1.1s
MNK MLR MLR
comp=E,82nm,15.0s
MNK MLR MLR
comp=Z,78nm,22.0s
MNK MLR MLR
comp=N,179nm,16.0s
IDID **Didziasalis** 72.27 324 *e*P **P** 23 45 18.0 +0.3
NACGM **Naroch** 72.45 324⇑*i*P **P** 23 45 19.2 +0.4
comp=Z,78nm,0.9s,baz=61
ISAL **Salakas** 72.45 325 *e*P **P** 23 45 19.2 +0.4
IIGN **Ignalina** 72.51 324 *e*P **P** 23 45 19.6 +0.4
SIM **Simferopol'** 72.88 312 *e*P **P** 23 45 21.3 -0.3
SIM pmax pmax
comp=Z,56nm,0.8s
AAL **Aland** 72.90 331 *e*P **P** 23 45 19.6 -1.8
AKASG **Malin Array Be** 73.16 319 P **P** 23 45 22.3 -0.8
AKASG **Malin Array Be** 73.16 319 P **P** 23 45 22.3 -0.8
comp=Z,22nm,0.6s,baz=52,slow=6.1,SNR=62
comp=Z,22nm,0.6s
AKBB **Malin Array Si** 73.16 319 P **P** 23 45 22.3 -0.8
AKBB IAmb IAmb 23 45 23.2
comp=Z,29nm,0.7s
AKBB **Malin Array Si** 73.16 319*ce*P **P** 23 45 22.1 -1.0
AKBB pmax pmax
comp=Z,26nm,0.6s
VSVD **Vaisvydziai** 73.32 326 *e*P **P** 23 45 24.2 +0.3
YKA **Yellowknife Ar** 73.50 26 P **P** 23 45 24.9 0.0
comp=Z,3.5nm,0.6s,baz=305,slow=5.9,SNR=14
YKA LR LR 00 19 29.1
comp=Z,22nm,18.6s,baz=341,slow=37
comp=Z,3.5nm,0.6s
PABE **Paberze** 73.55 325 P **P** 23 45 25.2 0.0
PABE **Paberze** 73.55 325 *e*P **P** 23 45 25.2 0.0
UPP **Uppsala** 74.07 331 *e*P **P** 23 45 27.5 -0.7
PBUR **Paburge** 74.26 326 *e*P **P** 23 45 29.9 +0.5
GAZ **Gaziantep** 74.29 304 P **P** 23 45 30.5 +0.4
BNN **Bunyan** 74.49 306 P **P** 23 45 31.0 -0.3
KULLO **Kullorsuaq** 74.63 2 *e*P **P** 23 45 31.0 -0.2
SUW **Suwalki** 74.71 324 P **P** 23 45 31.1 -0.9
SUW **Suwalki** 74.71 324 P **P** 23 45 31.1 -0.9
SUW pmax pmax
comp=Z,75nm,0.8s
SUW **Suwalki** 74.71 324 *e*P **P** 23 45 32.3 +0.2
SORM **Soroca** 74.89 317 ⇑P **P** 23 45 32.5 -0.7
SORM **Soroca** 74.89 317 ⇑P **P** 23 45 32.5 -0.7
VIKU **Vikbolandet** 75.24 330 *e*P **P** 23 45 34.2 -0.8
HFS **Hagfors** 75.51 332 P **P** 23 45 35.1 -1.4
comp=Z,14nm,0.7s,baz=31,slow=3.4,SNR=24
comp=Z,14nm,0.7s
BR131 **Keskin Array S** 75.60 308 P **P** 23 45 37.6 0.0
BR131 **Keskin Array S** 75.60 308⇑*i*P **P** 23 45 36.3 -1.3
BRTR **Keskin Array B** 75.60 308 P **P** 23 45 37.5 -0.1
BRTR **Keskin Array B** 75.60 308 P **P** 23 45 37.5 -0.1
BRTR **Keskin Array B** 75.60 308 P **P** 23 45 37.6 0.0
comp=Z,43nm,0.8s,baz=98,slow=4.4,SNR=200
comp=Z,43nm,0.8s
NC405 **NORSAR Array S** 75.67 334 P **P** 23 45 36.3 -1.1
NC405 IAmb IAmb 23 45 37.3
comp=Z,38nm,0.8s
NB2 **NORSAR Subarra** 75.90 334 P **P** 23 45 37.2 -1.6
comp=Z,8.7nm,0.7s,baz=47,slow=5.6
NOA **NORSAR Array B** 75.90 334 P **P** 23 45 37.5 -1.3
comp=Z,12nm,0.7s,baz=49,slow=5.6,SNR=36
comp=Z,12nm,0.7s
VASR **Vaslui** 75.97 316 ⇓P **P** 23 45 39.5 +0.1
TLCR 76.08 314 ⇑P **P** 23 45 39.7 -0.3
TLCR 76.08 314 ⇑P **P** 23 45 39.7 -0.3
ANTO **Ankara** 76.10 308 P **P** 23 45 40.0 -0.4
ANTO IAmb IAmb 23 45 41.6
comp=Z,43nm,0.9s
ANTO **Ankara** 76.10 308 P **P** 23 45 40.0 -0.4
ANTO pmax pmax
comp=Z,43nm,0.9s
BR231 **Keskin MP Arra** 76.13 308 P **P** 23 45 40.7 +0.2
BR231 IAmb IAmb 23 45 42.3
comp=Z,34nm,0.8s
VLDR **Vladesti** 76.19 315 ⇑P **P** 23 45 40.9 +0.3
MOL **Molde** 76.22 336 *e*P **P** 23 45 40.5 0.0
JURR **Jurilovca** 76.25 314 ⇑P **P** 23 45 40.9 -0.1
SCTR **Scanteiesti** 76.33 315 ⇑P **P** 23 45 41.8 +0.4
SUMG **Summit** 76.47 357 P **P** 23 45 42.7 +0.4
SUMG IAmb IAmb 23 45 43.7
comp=Z,31nm,0.9s
SUMG **Summit** 76.47 357 P **P** 23 45 42.7 +0.4
SUMG pmax pmax
comp=Z,31nm,0.9s
SUMG **Summit** 76.47 357 *e*P **P** 23 45 42.4 +0.1
SUMG IAmb IAmb 23 45 43.5
comp=Z,26nm,0.8s
LVV **L'vov** 76.48 320 *e*P **P** 23 45 41.8 -0.4
TPGR **Topolog** 76.48 314 ⇓P **P** 23 45 42.6 +0.3
GHRR 76.49 316 ⇓P **P** 23 45 43.0 +0.7
CFR **Carcaliu** 76.50 315 ⇓P **P** 23 45 42.2 -0.1
CFR **Carcaliu** 76.50 315 ⇓P **P** 23 45 42.2 -0.1
SLCR **Slobozia Conac** 76.51 315 ⇓P **P** 23 45 42.8 +0.4
PRAR **RASCA** 76.52 317 ⇑P **P** 23 45 42.5 0.0
IZVR **Izvoarele** 76.54 315 ⇓P **P** 23 45 42.6 +0.1
TUDR 76.57 315 ⇑P **P** 23 45 43.3 +0.5
GIRR **Girov** 76.57 317 ⇑P **P** 23 45 44.8 +2.0
AKN **Aaknes** 76.68 336 *e*P **P** 23 45 42.3 -0.9
TIRR **Tirgusor** 76.69 314 ⇑P **P** 23 45 43.9 +0.4
TIRR **Tirgusor** 76.69 314 P **P** 23 45 43.0 -0.5
TIRR IAmb IAmb 23 45 44.3
comp=Z,42nm,0.9s

TIRR **Tirgusor** 76.69 314 ⇑P **P** 23 45 43.9 +0.4
TESR **Tescani** 76.71 316 ⇓P **P** 23 45 43.6 0.0
PANC **Panciu** 76.74 316 ⇓P **P** 23 45 44.7 +0.9
OSL **Oslo** 76.80 333 *e*P **P** 23 45 43.1 -0.7
MFTR **Murfatlar** 76.82 314 ⇓P **P** 23 45 44.9 +0.6
ODBI **Odobesti** 76.85 316 ⇑P **P** 23 45 46.0 +1.6
HARR **Harsova** 76.87 314 ⇓P **P** 23 45 44.7 +0.3
HARR **Harsova** 76.87 314 ⇓P **P** 23 45 44.7 +0.3
MDUB **Mudurnu** 76.88 309 P **P** 23 45 44.4 -0.4
BUR08 **Bucovina Ar. S** 76.97 318 P **P** 23 45 45.2 0.0
BUR08 IAmb IAmb 23 45 46.2
comp=Z,22nm,0.8s
BURAR **Bucovina Array** 76.98 318 ⇓P **P** 23 45 45.5 +0.3
BURAR **Bucovina Array** 76.98 318 P **P** 23 45 45.2 +0.1
BURAR IAmb IAmb 23 45 46.5
comp=Z,25nm,0.8s
BURAR **Bucovina Array** 76.98 318 ⇓P **P** 23 45 45.5 +0.3
VRI **Vrincioaia** 77.00 316 ⇑P **P** 23 45 45.3 +0.1
VRI **Vrincioaia** 77.00 316 ⇑P **P** 23 45 45.3 +0.1
PLOR **Plostina** 77.05 316 ⇑P **P** 23 45 45.9 +0.3
PLOR **Plostina** 77.05 316 ⇑P **P** 23 45 45.9 +0.3
BEL **Belsk** 77.11 323 *e*P **P** 23 45 46.0 +0.3
KWP **Kalwaria Pacla** 77.31 321 *e*P **P** 23 45 47.2 +0.4
KWP **Kalwaria Pacla** 77.31 321 P **P** 23 45 47.1 +0.2
KWP **Kalwaria Pacla** 77.31 321 P **P** 23 45 47.1 +0.2
KWP pmax pmax
comp=Z,67nm,0.8s
COVR **Voineasa-Covas** 77.32 316 ⇓P **P** 23 45 47.3 +0.3
PGOR **Pogoanele** 77.34 315 ⇑P **P** 23 45 48.6 +1.5
OZUR 77.44 316 ⇑P **P** 23 45 48.3 +0.6
MMAI **Mount Meron Ar** 77.54 301 P **P** 23 45 48.5 0.0
comp=Z,18nm,0.8s,baz=71,slow=10,SNR=29
comp=Z,18nm,0.8s
LEHL **Lehliu** 77.66 315 ⇑P **P** 23 45 49.7 +0.8
MLR **Muntele Rosu** 77.66 316 ⇑P **P** 23 45 49.0 -0.1
MLR **Muntele Rosu** 77.66 316 P **P** 23 45 48.5 -0.5
MLR IAmb IAmb 23 45 50.7
comp=Z,33nm,1.3s
MLR **Muntele Rosu** 77.66 316 ⇑P **P** 23 45 49.0 -0.1
DOPR **Dopca** 77.74 316 ⇓P **P** 23 45 50.2 +0.9
ARCR **ARCALIA** 77.75 318 ⇑P **P** 23 45 50.4 +1.0
SULR 77.90 315 ⇓P **P** 23 45 51.0 +0.8
KOLS **Kolonicke sedl** 77.93 320 *e*P **P** 23 45 50.3 0.0
KOLS pmax pmax
comp=Z,23nm,0.7s
KOLS **Kolonicke sedl** 77.93 320 *e*P **P** 23 45 50.3 0.0
BMR **Baia Mare** 77.93 319 ⇓P **P** 23 45 51.2 +0.8
BMR **Baia Mare** 77.93 319 ⇓P **P** 23 45 51.2 +0.8
TGMR **Targu Mures** 77.95 317 ⇓P **P** 23 45 51.7 +1.2
PRD **Provadia** 77.97 313 *e*P **P** 23 45 50.8 +0.2
BSD **Bornholm Skovb** 78.05 328 *e*P **P** 23 45 50.9 0.0
BSD **Bornholm Skovb** 78.05 328 *i* P **P** 23 45 49.8 -1.0
BSD IAmb IAmb 23 45 50.8
comp=Z,67nm,0.7s
GKP **Gorka Klasztor** 78.07 326 *e*P **P** 23 45 50.9 -0.1
GKP **Gorka Klasztor** 78.07 326 *e*P **P** 23 45 51.2 +0.3
CSS **Mathiatis** 78.11 304 P **P** 23 45 51.1 -0.4
CSS IAmb IAmb 23 45 52.2
comp=Z,26nm,0.8s
TRPA **Tarpa** 78.22 319 ⇑P **P** 23 45 52.6 +0.7
STHS **Stebnicka Huta** 78.22 321 *e*P **P** 23 45 51.3 -0.6
STHS pmax pmax
comp=Z,24nm,1.3s
STHS **Stebnicka Huta** 78.22 321 *e*P **P** 23 45 51.3 -0.6
VOIR 78.22 316 ⇓P **P** 23 45 51.5 -0.6
VOIR 78.22 316 ⇓P **P** 23 45 51.5 -0.6
MDB **Medias** 78.24 317 ⇑P **P** 23 45 53.1 +1.0
MDB **Medias** 78.24 317 ⇑P **P** 23 45 53.1 +1.0
GHAJ **Ghor Haditha** 78.25 299 P **P** 23 45 52.9 +0.5
RAZG **Razgrad** 78.33 314 ⇑P **P** 23 45 52.9 +0.3
LOZB **Loznitsa** 78.38 314 ⇓P **P** 23 45 53.2 +0.4
CBBR **Cluj-Babes-Bol** 78.39 318 ⇑P **P** 23 45 52.9 0.0
CRVS **Cervenica-Dubn** 78.39 320 *e*P **P** 23 45 53.2 +0.3
CRVS pmax pmax
comp=Z,26nm,1.0s
CRVS **Cervenica-Dubn** 78.39 320 *e*P **P** 23 45 53.2 +0.3
CJR **Cluj-Napoca** 78.39 318 ⇓P **P** 23 45 53.9 +0.9
CJR **Cluj-Napoca** 78.39 318 ⇓P **P** 23 45 53.9 +0.9
ARR **Arges** 78.51 316 ⇑P **P** 23 45 54.4 +0.7
MESR **Meseseni** 78.53 318 ⇓P **P** 23 45 54.6 +1.0
OJC **Ojcow** 78.54 322 *e*P **P** 23 45 53.9 +0.2
OJC **Ojcow** 78.54 322 P **P** 23 45 53.8 +0.2
OJC **Ojcow** 78.54 322 P **P** 23 45 53.8 +0.2
OJC pmax pmax
comp=Z,85nm,0.8s
MARR **Marisel-Cluj** 78.69 318 ⇑P **P** 23 45 54.9 +0.3
NIE **Niedzica** 78.73 321 *e*P **P** 23 45 56.2 +1.5
SZH **Strazhitsa** 78.81 314 *e*P **P** 23 45 54.9 -0.4
COPA **Copaceanca** 78.82 315 ⇓P **P** 23 45 54.9 -0.3
JMB **Yambol** 78.88 313 *e*P **P** 23 45 55.7 +0.1
LOT **Lotru** 78.98 317 ⇓P **P** 23 45 56.6 +0.3
LANS **Liptovska Anna** 79.33 321 *e*P **P** 23 45 58.9 +0.9
LANS pmax pmax
comp=Z,11nm,0.6s
LANS **Liptovska Anna** 79.33 321 *e*P **P** 23 45 58.9 +0.9
VLAD **Vladila** 79.39 315 ⇑P **P** 23 45 58.4 +0.1
MSEY **Mahe Island** 79.47 258 P **P** 23 45 58.9 -0.4
MSEY IAmb IAmb 23 46 00.9
comp=Z,20nm,0.9s
MSEY **Mahe Island** 79.47 258 P **P** 23 45 58.9 -0.4
MSEY pmax pmax
comp=Z,20nm,1.0s
MSEY **Mahe Island** 79.47 258 P **P** 23 45 60.0 +0.6
EIL **Elat** 79.51 298 LR LR 00 26 19.0
comp=Z,20nm,18.0s,baz=293,slow=39
GZR **Gura Zlata** 79.59 317 ⇑P **P** 23 45 59.7 +0.2
GZR **Gura Zlata** 79.59 317 ⇑P **P** 23 45 59.7 +0.2
ELL **Elmali** 79.62 307 P **P** 23 45 59.7 -0.2
ELL **Elmali** 79.62 307 P **P** 23 45 59.7 -0.2
ELL pmax pmax
comp=Z,170nm,0.7s
OKC **Ostrava-Krasne** 79.63 322 *e*P **P** 23 45 59.8 +0.2
OKC **Ostrava-Krasne** 79.63 322⇑*e*P **P** 23 45 59.8 +0.2
MUD **Monsted U'grnd** 79.70 331 *e*P **P** 23 45 59.3 -0.4
MUD IAmb IAmb 23 45 59.9
comp=Z,26nm,1.0s
DIM **Dimitrovgrad** 79.71 313 *e*P **P** 23 46 00.3 +0.2
SIRR **Siria** 79.75 318 ⇓P **P** 23 46 00.7 +0.4
PSZ **Piszkesteto** 79.81 320 ⇑P **P** 23 46 01.2 +0.5
PSZ **Piszkesteto** 79.81 320 P **P** 23 46 00.9 +0.2
PSZ IAmb IAmb 23 46 02.1
comp=Z,26nm,1.1s
PSZ **Piszkesteto** 79.81 320 ⇑P **P** 23 46 01.2 +0.5
HOOD **Mount Hood Mea** 79.93 43 P **P** 23 46 02.0 +0.5
HOOD IAmb IAmb 23 46 03.6
comp=Z,32nm,1.4s
BSZH **Besenyszg** 79.96 320 ⇓P **P** 23 46 02.0 +0.7
MORC **Moravsky Berou** 79.98 323 ⇓P **P** 23 46 02.2 +0.6
MORC **Moravsky Berou** 79.98 323 P **P** 23 46 01.6 0.0
MORC IAmb IAmb 23 46 02.8
comp=Z,22nm,0.8s
MORC **Moravsky Berou** 79.98 323 *e*P **P** 23 46 01.6 0.0
MORC **Moravsky Berou** 79.98 323 ⇓P **P** 23 46 02.2 +0.6
KSP **Ksiaz** 79.98 324 *e*P **P** 23 46 01.7 +0.3
ICESG **Greenland Ices** 79.99 356 *e*P **P** 23 46 01.4 -0.2
ICESG IAmb IAmb 23 46 02.4
comp=Z,18nm,0.9s
ALN **Alexandroupoli** 80.03 312 P **P** 23 46 01.5 -0.4
ALN **Alexandroupoli** 80.03 312 P **P** 23 46 01.5 -0.4
ALN pmax pmax
comp=Z,17nm,0.9s
VYHS **Vyhne** 80.05 321 *e*P **P** 23 46 02.5 +0.6
VYHS pmax pmax
comp=Z,39nm,1.2s
VYHS **Vyhne** 80.05 321 *e*P **P** 23 46 02.5 +0.6
MAUC **Maruska** 80.08 322⇑*i*P **P** 23 46 02.3 +0.3
KDZ **Kurdzhali** 80.08 313 *e*P **P** 23 46 01.7 -0.5
HERR **Herculane** 80.09 317 ⇑P **P** 23 46 01.6 -0.6
PUNG **Punghina** 80.12 316 ⇓P **P** 23 46 01.9 -0.4
MPEP **Malo Peshtene** 80.14 315 *e*P **P** 23 46 02.5 0.0
BZS **Buzias** 80.14 318 ⇑P **P** 23 46 02.2 -0.2
BZS **Buzias** 80.14 318 ⇑P **P** 23 46 02.2 -0.2
PLD **Plovdiv** 80.18 313 *e*P **P** 23 46 02.4 -0.3
DBO **Dodson Butte** 80.20 45 P **P** 23 46 03.3 +0.4
DBO IAmb IAmb 23 48 26.0
comp=Z,34nm,1.6s
RUE **Ruedersdorf** 80.21 326 *e*P **P** 23 46 03.2 +0.7
RDO **Rodhopi** 80.22 312 P **P** 23 46 02.6 -0.3
RDO IAmb IAmb 23 46 03.8
comp=Z,23nm,0.9s
AMBH **Ambrzfalva** 80.24 319 ⇓P **P** 23 46 03.7 +0.8
CHVC **Chvalec** 80.26 324⇑*i*P **P** 23 46 03.3 +0.3

CHVC Chvalec 80.26 324⇑ iP P 23 46 03.3 +0.3
DPC Dobruska-Polom 80.27 324⇑ iP P 23 46 03.5 +0.4
DPC Dobruska-Polom 80.27 324⇑ iP P 23 46 03.5 +0.4
I04A Tendick Farm, 80.33 45 P **P 23 46 04.0 +0.5**
UPC Upice 80.33 324⇑ iP P 23 46 03.6 +0.3
UPC Upice 80.33 324⇑ iP P 23 46 03.6 +0.3
PGB Panagyurishte 80.33 314 eP **P 23 46 03.6 0.0**
RZN Rozhen 80.43 313 eP **P 23 46 04.3 0.0**
JAVC Velka Javorina 80.46 322 eP **P 23 46 05.5 +1.4**
MDVR Moldovita 80.56 317⇑ P 23 46 04.4 -0.3
SRO Srobarova 80.73 321 eP **P 23 46 06.4 +0.9**
SRO pmax pmax
comp=Z,18nm,0.9s
SRO Srobarova 80.73 321 eP **P 23 46 06.4 +0.9**
VRAC Vranov 80.76 323 ⇓P **P 23 46 06.6 +0.9**
VRAC Vranov 80.76 323 eP **P 23 46 06.0 +0.3**
VRAC Vranov 80.76 323 ⇓P **P 23 46 06.6 +0.9**
NEW Newport 80.78 39 P **P 23 46 06.1 +0.3**
baz=307
SMOL Smolenice 80.79 322 eP **P 23 46 06.8 +0.9**
SMOL pmax pmax
comp=Z,18nm,0.9s
VTS Vitosha 80.86 314⇑ P P 23 46 06.8 +0.3
VTS Vitosha 80.86 314⇑ P P 23 46 06.8 +0.3
VTS Vitosha 80.86 314 eP **P 23 46 06.6 +0.1**
MODS Modra-Piesok 80.96 322 eP **P 23 46 07.7 +1.0**
MODS pmax pmax
comp=Z,71nm,1.1s
MODS Modra-Piesok 80.96 322 eP **P 23 46 07.7 +1.0**
KRUC Moravsky 81.01 322 eP **P 23 46 07.3 +0.3**
PVCC Panska Ves 81.04 324⇑ iP P 23 46 07.5 +0.4
PVCC Panska Ves 81.04 324⇑ iP P 23 46 07.5 +0.4
MMB Musomishta 81.13 313 eP **P 23 46 06.9 -0.9**
BRG Berggiesshubel 81.14 325⇑ iP P 23 46 08.2 +0.6
BRG Amp 23 46 08.9
comp=Z,15nm,0.8s
BRG Berggiesshubel 81.14 325⇑ iP P 23 46 08.2 +0.6
BRG pmax pmax
comp=Z,15nm,0.8s
BRG pmax pmax
comp=Z,8.0nm,1.1s
ZST Bratislava 81.16 322 eP **P 23 46 08.8 +1.0**
ZST pmax pmax
comp=Z,97nm,1.7s
ZST Bratislava 81.16 322 eP **P 23 46 08.8 +1.0**
BOVS Bovan 81.21 316⇑ P P 23 46 07.1 -1.0
PINE Pine Mountain 81.21 44 P **P 23 46 09.4 +1.0**
PINE IAmb IAmb 23 46 10.9
comp=Z,39nm,1.4s
GOPC GO Pecny, Ondr 81.31 324 eP **P 23 46 08.9 +0.3**
GOPC GO Pecny, Ondr 81.31 324⇑ eP **P 23 46 08.9 +0.3**
J05D Fort Rock, OR 81.32 44 P **P 23 46 09.9 +0.9**
CLL Collm 81.32 326 iP **P 23 46 08.4 -0.2**
CLL Collm 81.32 326⇑ iP P 23 46 08.4 -0.2
comp=Z,64nm,0.8s
TREC Trest 81.34 323⇑ iP P 23 46 08.9 +0.2
TREC Trest 81.34 323⇑ iP P 23 46 08.9 +0.2
KKB Krupnik 81.35 314 eP **P 23 46 08.8 -0.1**
PRU Pruhonice 81.39 324⇑ iP P 23 46 09.1 +0.1
PRU Pruhonice 81.39 324⇑ iP P 23 46 09.1 +0.1
PRA Prague 81.40 324 eP **P 23 46 09.2 +0.2**
PRA Prague 81.40 324⇑ eP **P 23 46 09.2 +0.2**
FRGS Fruska Gora 81.45 318 ⇓P **P 23 46 09.7 +0.3**
FRGS Fruska Gora 81.45 318⇑ iP P 23 46 09.2 -0.2
MORH Mrgy, Hungar 81.50 319 ⇓P **P 23 46 09.8 +0.2**
URZ Urewera 81.52 145 LR LR 00 22 21.9
comp=Z,25nm,18.1s,baz=31,slow=35
PEHC Pehcevo 81.53 314 eP **P 23 46 10.3 +0.4**
HSKC Hora Svate Kat 81.56 325⇑ iP P 23 46 10.1 +0.2
RONA Rosalia, Austr 81.89 321 iP **P 23 46 11.7 0.0**
comp=Z,4.6nm,0.8s,SNR=6.9
BKZ Black Stump Fm 81.91 145 P **P 23 46 11.6 -0.1**
BKZ IAmb IAmb 23 47 13.2
comp=Z,103nm,2.0s
ZVC Zvikov 81.91 324⇑ eP **P 23 46 12.0 +0.3**
DIVS Divibare 81.96 317 P **P 23 46 11.8 -0.4**
DIVS IAmb IAmb 23 46 14.8
comp=Z,27nm,1.2s
DIVS Divibare 81.96 317⇑ iP P 23 46 11.6 -0.6
TEKS Tekeris 81.97 318 eP **P 23 46 11.9 -0.2**
CONA Conrad Observa 81.98 322 eP **P 23 46 12.9 +0.7**
comp=Z,22nm,0.7s,SNR=17
VAY Valandovo 81.99 314 eP **P 23 46 12.0 -0.3**
ATD Arta Tunnel 82.02 279 P **P 23 46 13.0 +0.1**
ATD IAmb IAmb 23 46 15.6
comp=Z,31nm,1.0s
STIP Stip 82.02 314 eP **P 23 46 11.8 -0.6**
KARP Karpathos 82.14 307 P **P 23 46 12.8 -0.4**
CKRC Cesky Krumlov 82.24 323⇑ iP P 23 46 13.7 +0.2
CKRC Cesky Krumlov 82.24 323⇑ iP P 23 46 13.7 +0.2
NKC Novy Kostel 82.28 325 eP **P 23 46 13.9 +0.2**
NKC Novy Kostel 82.28 325⇑ eP **P 23 46 13.9 +0.2**
SKO Skopje 82.32 315 eP **P 23 46 14.3 +0.4**
SFJD Kangerlussuaq 82.37 0 P **P 23 46 13.0 -0.7**
SFJD IAmb IAmb 23 47 15.8
comp=Z,59nm,1.8s
SFJD Kangerlussuaq 82.37 0 P **P 23 46 13.0 -0.7**
SFJD pmax pmax
comp=Z,59nm,1.8s
SFJD Kangerlussuaq 82.37 0 eP **P 23 46 12.5 -1.2**
KHC Kasperske Hory 82.42 324 P **P 23 46 14.3 0.0**
KHC Kasperske Hory 82.42 324⇑ iP P 23 46 14.4 0.0
KHC e 23 47 09.0
KHC Kasperske Hory 82.42 324⇑ iP P 23 46 14.4 0.0
KHC ex x 23 47 09.0
BBLS Lazići 82.44 317⇑ iP P 23 46 14.5 -0.2
SJES Sjenica 82.46 316⇑ iP P 23 46 14.8 0.0
GEC2 GERESS Array S 82.54 323 P **P 23 46 14.6 -0.5**
GERES GERESS Array B 82.54 323 P **P 23 46 14.4 -0.7**
GERES GERESS Array B 82.54 323 P **P 23 46 14.9 -0.2**
comp=Z,8.5nm,0.7s,baz=46,slow=5.8,SNR=54
comp=Z,8.5nm,0.7s
ARSA Arzberg 82.58 321 iP **P 23 46 15.1 -0.2**
comp=Z,4.5nm,0.7s,SNR=9.5
RUDO Rudo 82.61 317 eP **P 23 46 14.4 -1.1**
MRZ Mangatainoka R 82.65 147 P **P 23 46 14.8 -0.7**
BMO Blue Mountains 82.71 42 P **P 23 46 16.0 -0.1**
BMO Blue Mountains 82.71 42 P **P 23 46 16.0 -0.1**
BMO pmax pmax
comp=Z,13nm,1.4s
DY2G Dye2 82.86 359 eP **P 23 46 16.3 -0.3**
DY2G IAmb IAmb 23 46 17.1
comp=Z,22nm,0.9s
MOA Molln 82.87 322 iP **P 23 46 17.0 +0.2**
comp=Z,11nm,0.7s,SNR=21
FNA Florina 83.04 314 P **P 23 46 16.9 -0.9**
FNA Florina 83.04 314 P **P 23 46 16.9 -0.9**
FNA pmax pmax
comp=Z,20nm,1.8s
RPZ Rata Peaks 83.12 152 LR LR 00 20 41.6
comp=Z,39nm,20.2s,baz=273,slow=34
BLY Banja Luka 83.19 319⇑ iP P 23 46 18.3 -0.1
SOKA Soboth 83.20 321 eP **P 23 46 18.6 +0.1**
comp=Z,24nm,0.9s,SNR=42
OHR Ohrid 83.21 314 eP **P 23 46 18.2 -0.5**
GRA1 Grafenberg Arr 83.24 325 P **P 23 46 18.7 +0.1**
GRF Grafenberg Arr 83.24 325 P **P 23 46 18.7 +0.1**
GRF pmax pmax
comp=Z,71nm,0.9s
GRFO Grafenberg 83.24 325 P **P 23 46 18.7 +0.1**
GRFO Grafenberg 83.24 325 P **P 23 46 18.7 +0.1**
GRFO pmax pmax
comp=Z,69nm,0.9s
BIOA Bad Ischl, Aus 83.30 323 iP **P 23 46 19.2 +0.2**
comp=Z,14nm,0.7s,SNR=18
MSO Missoula 83.36 39 P **P 23 46 19.8 +0.4**
baz=309
PDG Podgorica 83.37 316 ⇓P **P 23 46 19.4 0.0**
PDG Podgorica 83.37 316⇑ iP P 23 46 18.8 -0.6
MGRS Mrkonjic Grad 83.45 318 eP **P 23 46 20.6 +0.8**
ISOG Isortoq, Green 83.47 356 eP P 23 46 13.7 -5.7
ISOG IAmb IAmb 23 46 14.4
comp=Z,91nm,1.2s
KBN Korca 83.50 314 P **P 23 46 19.4 -0.7**
KBN IAmb IAmb 23 46 20.2
comp=Z,26nm,0.8s
KBN Korca 83.50 314 P **P 23 46 19.4 -0.7**
KBN pmax pmax
comp=Z,26nm,0.8s
CRES Cresnjev 83.50 320 iP **P 23 46 19.9 -0.1**
BRY Bratogost 83.52 317⇑ iP P 23 46 19.2 -1.1
DRME Dracevica, Mon 83.56 316⇑ iP P 23 46 20.2 -0.2
OBKA Obir 83.57 321 eP **P 23 46 20.4 0.0**
comp=Z,21nm,0.7s
OBKA Obir 83.57 321⇑ iP P 23 46 20.3 -0.1
FFC Flin Flon 83.58 28 P **P 23 46 20.3 +0.1**
FFC IAmb IAmb 23 46 21.6
comp=Z,32nm,1.4s
FFC Flin Flon 83.58 28 P **P 23 46 20.3 +0.1**
FFC pmax pmax
comp=Z,31nm,1.5s
A050A Klekovaca 83.73 319⇑ iP P 23 46 21.3 0.0
TREB Trebinje 83.74 317 eP P 23 46 16.4 -4.9
HCY Herceg Novi 83.82 316⇑ iP P 23 46 20.4 -1.3
IDI Anoyia 83.84 308 ⇓P **P 23 46 21.7 -0.3**
KBA Koelnbreinsper 83.85 322 eP **P 23 46 21.8 -0.1**
comp=Z,18nm,0.7s
LJU Ljubljana 83.87 321 iP **P 23 46 21.7 -0.2**
LESA Schwarzleotal 83.97 323 eP **P 23 46 22.3 -0.2**
comp=Z,34nm,0.8s
MYKA Terra Mystica 83.97 322 eP **P 23 46 22.1 -0.4**
comp=Z,20nm,0.7s,SNR=12
CEY Cerknica 84.12 321⇑ iP P 23 46 22.7 -0.4
CEY Cerknica 84.12 321 iP **P 23 46 22.8 -0.4**
SABO M.te Sabotino 84.41 321 P **P 23 46 23.7 -0.9**
SABO IAmb IAmb 23 46 24.9
comp=Z,52nm,0.9s
MFID Camas Ranch 84.43 42 P **P 23 46 25.2 +0.3**
SKDS Skadanscina 84.46 321⇑ iP P 23 46 24.1 -0.8
CLUD Cludinico 84.49 322 P **P 23 46 24.1 -0.9**
TRI Trieste 84.50 321 P **P 23 46 24.2 -0.8**
TRI IAmb IAmb 23 46 25.3
comp=Z,35nm,0.9s
TRI Trieste 84.50 321 P **P 23 46 24.2 -0.8**
TRI pmax pmax
comp=Z,35nm,0.9s
ABTA Abfaltersbach 84.50 322 iP **P 23 46 24.1 -1.0**
comp=Z,14nm,0.7s,SNR=16
PAHR Pah Rah Range 84.52 47 P **P 23 46 26.0 +0.5**
PAHR IAmb IAmb 23 46 27.4
comp=Z,21nm,1.1s
WATA Walderalm 84.60 323 eP **P 23 46 25.5 -0.2**
comp=Z,7.0nm,0.7s,SNR=7.1
WTTA Wattenberg 84.62 323 iP **P 23 46 25.6 -0.2**
comp=Z,9.1nm,0.8s,SNR=9.1
STAL STALIGIAL 84.71 322 P **P 23 46 25.3 -0.8**
EGMT Eagleton 84.76 36 P **P 23 46 26.4 -0.1**
EGMT IAmb IAmb 23 46 28.1
comp=Z,24nm,1.1s
EGMT Eagleton 84.76 36 P **P 23 46 26.7 +0.3**
baz=312
RAR Rarotonga 84.77 118 LR LR 00 17 51.8
comp=Z,26nm,20.0s,baz=336,slow=31
MOTA Moosalm 84.84 323 iP **P 23 46 26.6 -0.3**
comp=Z,8.9nm,0.7s,SNR=8.5
STU Stuttgart 84.84 325 P **P 23 46 26.4 -0.3**
STU IAmb IAmb 23 46 27.6
comp=Z,34nm,0.8s
STU Stuttgart 84.84 325 P **P 23 46 26.4 -0.3**
STU pmax pmax
comp=Z,34nm,0.8s
CMB Columbia Colle 84.86 48 P **P 23 46 27.3 +0.2**
CMB IAmb IAmb 23 46 28.8
comp=Z,20nm,1.2s
CMB Columbia Colle 84.86 48 P **P 23 46 27.3 +0.2**
CMB pmax pmax
comp=Z,20nm,1.2s
SQTA Sankt Quirin 84.86 323 iP **P 23 46 27.0 0.0**
comp=Z,8.6nm,0.7s,SNR=8.8
RETA Reutte 84.92 324 eP **P 23 46 27.1 -0.1**
comp=Z,12nm,0.9s,SNR=5.6
BTNL Ternell 85.04 328 dP **P 23 46 26.8 -0.9**
comp=Z,12nm,1.1s
MEM Membach 85.08 328 dP **P 23 46 27.2 -0.6**
comp=Z,16nm,1.0s
HLID Hailey 85.15 41 P **P 23 46 29.2 +0.6**
HLID Hailey 85.15 41 P **P 23 46 29.6 +1.0**
baz=309
FETA Feichten 85.24 323 eP **P 23 46 28.7 -0.2**
comp=Z,6.8nm,0.8s,SNR=5.3
BHOU Houvegnez 85.26 328 dP **P 23 46 28.6 -0.2**
comp=Z,11nm,1.1s
EKA Eskdalemuir Ar 85.29 335 P **P 23 46 27.4 -1.4**
comp=Z,12nm,0.8s,baz=42,slow=4.9,SNR=22
comp=Z,12nm,0.8s
BSTI Sart Tilman 85.30 328 dP **P 23 46 28.8 -0.1**
comp=Z,3.5nm,0.8s
BOZ Bozeman (W) 85.38 38 P **P 23 46 29.9 +0.2**
BOZ Bozeman (W) 85.38 38 P **P 23 46 29.9 +0.2**
BOZ pmax pmax
comp=Z,12nm,1.2s
BOZ Bozeman (W) 85.38 38 P **P 23 46 30.3 +0.6**
baz=311
CTI Castel Tesino 85.41 322 P **P 23 46 29.0 -0.7**
CTI IAmb IAmb 23 46 29.8
comp=Z,19nm,1.0s
CTI Castel Tesino 85.41 322 P **P 23 46 29.0 -0.7**
CTI pmax pmax
comp=Z,19nm,1.0s
DAVA Damuels 85.50 324 iP **P 23 46 29.8 -0.4**
comp=Z,1.3nm,0.3s,SNR=6.5
BCLA Clavier 85.53 328 dP **P 23 46 28.3 -1.7**
comp=Z,8.4nm,1.2s
BFO Black Forest 85.56 325 P **P 23 46 29.4 -0.9**
BFO IAmb IAmb 23 46 31.7
comp=Z,36nm,1.4s
BFO Black Forest 85.56 325 P **P 23 46 29.4 -0.9**
BFO pmax pmax
comp=Z,36nm,1.4s
BGES Gesves 85.65 328 dP **P 23 46 30.0 -0.6**
comp=Z,7.6nm,1.1s
WLF Walferdange 85.67 327 P **P 23 46 30.9 +0.1**
WLF IAmb IAmb 23 46 32.0
comp=Z,46nm,1.1s
WLF Walferdange 85.67 327 P **P 23 46 30.9 +0.1**
WLF pmax pmax
comp=Z,46nm,1.1s
WLF Walferdange 85.67 327 dP **P 23 46 30.3 -0.5**
comp=Z,23nm,1.1s
FUORN Ofenpass-Fuorn 85.75 323 P **P 23 46 31.0 -0.5**
FUORN IAmb IAmb 23 46 32.6
comp=Z,18nm,1.1s
RCHB Rochefort 85.75 328 dP **P 23 46 30.0 -1.1**
comp=Z,16nm,1.0s
DAVOX Davos/Dischmat 85.84 324 LR LR 00 30 58.5
comp=Z,111nm,18.2s,baz=54,slow=40
BMRD Maredsous 85.86 328 dP **P 23 46 31.2 -0.4**
comp=Z,14nm,1.1s
NVAR Mina Array Bea 85.95 47 P **P 23 46 33.0 +0.3**
NVAR Mina Array Bea 85.95 47 P **P 23 46 33.4 +0.7**
comp=Z,4.8nm,0.7s,baz=296,slow=5.5,SNR=40
NVAR pP **pP 23 47 12.1 +0.7**
comp=Z,1.7nm,0.8s,baz=296,slow=4.9,SNR=3.2
comp=Z,4.8nm,0.7s
NV11 Mina Array Sit 86.05 47 P **P 23 46 33.4 +0.3**
DOU Dourbes 86.08 328 dP **P 23 46 31.4 -1.4**
comp=Z,7.4nm,1.1s
MLAC Mammoth, Mammo 86.09 48 P **P 23 46 34.4 +0.9**
baz=306
YHL Hebgen Lake 86.11 39 P **P 23 46 34.1 +0.6**
YHL IAmb IAmb 23 46 35.9
comp=Z,19nm,1.2s
ECH Echery 86.21 326 P **P 23 46 32.5 -1.0**
ECH IAmb IAmb 23 46 34.0
comp=Z,27nm,1.4s
ECH Echery 86.21 326 P **P 23 46 32.5 -1.0**
ECH pmax pmax
comp=Z,27nm,1.4s
NRCA Norcia 86.69 319 P **P 23 46 36.1 0.0**
SMMC Simmler 86.70 50 P **P 23 46 36.9 +0.7**
baz=306
H17A Grant Village 86.73 39 P **P 23 46 37.9 +1.5**
baz=311
DSP Deep Springs 86.80 48 P **P 23 46 37.2 +0.6**
DSP IAmb IAmb 23 46 39.2
comp=Z,24nm,1.5s
AQU L'Aquila 86.84 319 P **P 23 46 36.8 +0.1**
AQU L'Aquila 86.84 319 P **P 23 46 36.8 +0.1**
AQU pmax pmax
comp=Z,36nm,0.9s
TPH Tonopah 86.85 47 P **P 23 46 37.1 +0.1**
TPH Tonopah 86.85 47 P **P 23 46 37.1 +0.1**
TPH pmax pmax
comp=Z,79nm,1.1s
CUC Castrocucco 86.91 316 P **P 23 46 36.2 -1.0**
RLMT Red Lodge 86.95 38 P **P 23 46 37.9 +0.4**
baz=312
VES Vestal, Richgr 86.99 50 P **P 23 46 37.9 +0.4**
baz=306
PKM Mcpherson Peak 87.07 51 P **P 23 46 38.5 +0.3**
baz=306
HVU Hansel Valley 87.21 42 P **P 23 46 39.9 +1.2**
HVU IAmb IAmb 23 46 41.2
comp=Z,16nm,1.3s
HVU Hansel Valley 87.21 42 P **P 23 46 39.9 +1.2**
HVU pmax pmax
comp=Z,17nm,1.3s
OSSC Osservatorio P 87.28 320 P **P 23 46 38.0 -0.7**
OSSC IAmb IAmb 23 46 39.7
comp=Z,20nm,1.1s
CWC Cottonwood Cre 87.29 49 P **P 23 46 39.7 +0.6**
baz=307
LAO LASA Array 87.43 35 P **P 23 46 40.3 +0.8**
LAO IAmb IAmb 23 46 41.8
comp=Z,35nm,1.4s
LAO LASA Array 87.43 35 P **P 23 46 40.4 +0.8**
baz=314
ARVC Arvin 87.58 50 P **P 23 46 41.6 +1.2**
baz=307
R11B Troy Canyon, C 87.70 46 P **P 23 46 41.8 +0.7**
baz=308
MPMC Manual Prospec 87.90 49 P **P 23 46 42.8 +0.7**
baz=307
HWUT Hardware Ranch 88.01 41 P **P 23 46 43.5 +1.0**
HWUT IAmb IAmb 23 46 45.2
comp=Z,33nm,1.3s
FURC Furnace Creek, 88.05 48 P **P 23 46 43.6 +1.1**
baz=308
TPNV Topopah Spring 88.15 47 P **P 23 46 43.5 +0.3**
TPNV IAmb IAmb 23 46 45.4
comp=Z,17nm,1.4s
TPNV Topopah Spring 88.15 47 P **P 23 46 43.5 +0.3**
TPNV pmax pmax
comp=Z,17nm,1.5s
TPNV Topopah Spring 88.15 47 P **P 23 46 44.1 +0.9**
baz=308
DUG Dugway, Tooele 88.20 43 P **P 23 46 44.1 +0.7**
DUG IAmb IAmb 23 46 46.0
comp=Z,20nm,1.4s
DUG Dugway, Tooele 88.20 43 P **P 23 46 44.1 +0.7**
DUG pmax pmax
comp=Z,20nm,1.4s
DUG Dugway, Tooele 88.20 43 P **P 23 46 45.1 +1.7**
baz=310
EDW2 Edwards Air Fo 88.28 50 P **P 23 46 44.7 +0.9**
baz=307
BW06 Boulder Array 88.37 40 P **P 23 46 44.7 +0.4**
baz=312
PD31 Pinedale Array 88.37 40 P **P 23 46 44.4 +0.2**
PDAR Pinedale Array 88.37 40 P **P 23 46 44.5 +0.2**
PDAR Pinedale Array 88.37 40 P **P 23 46 44.6 +0.4**
comp=Z,4.3nm,0.8s,baz=319,slow=0.9,SNR=30
PDAR pP **pP 23 47 23.3 +0.2**
comp=Z,0.8nm,0.7s,baz=347,slow=1.9,SNR=2.9
comp=Z,4.3nm,0.8s
GSC Goldstone, Bar 88.80 49 P **P 23 46 47.4 +1.2**
baz=308
BFSC Mount Baldy Ra 88.88 50 P **P 23 46 47.9 +1.2**
baz=307
HEC Hector,Ludlow 89.39 49 P **P 23 46 49.6 +0.6**
baz=308
ULM Lac du Bonnet 89.41 28 P **P 23 46 48.8 +0.1**
ULM Lac du Bonnet 89.41 28 P **P 23 46 48.8 +0.1**
ULM pmax pmax
comp=Z,35nm,1.0s
ULM Lac du Bonnet 89.41 28 P **P 23 46 49.0 +0.3**
comp=Z,30nm,1.0s,baz=321,slow=5.2,SNR=21
comp=Z,30nm,1.0s
MURC Murrieta 89.58 50 P **P 23 46 51.0 +1.2**
baz=308
GMRC Granite Mounta 89.86 49 P **P 23 46 52.1 +0.9**
baz=308
PFO Pinyon Flats O 90.06 50 P **P 23 46 52.9 +0.7**
baz=308
TPFO Pinon Flats 90.06 50 P **P 23 46 53.2 +1.0**
baz=308
K22A Casper 90.08 38 P **P 23 46 52.6 +0.5**
baz=314
BELC Belle Mtn. Jos 90.12 50 P **P 23 46 53.3 +0.8**
baz=308
RSSD Black Hills 90.33 36 P **P 23 46 54.0 +0.6**
RSSD IAmb IAmb 23 46 55.5
comp=Z,37nm,1.4s
RSSD Black Hills 90.33 36 P **P 23 46 54.0 +0.6**
RSSD pmax pmax
comp=Z,37nm,1.5s
RSSD Black Hills 90.33 36 P **P 23 46 54.3 +0.9**
baz=316
BC3 Big Chuckawall 90.69 50 P **P 23 46 56.1 +1.0**
baz=308
PPT Papeete 90.73 110 LR LR 00 22 42.6
comp=Z,30nm,20.3s,baz=2.0,slow=32
W13A Hualapai Mount 90.80 48 P **P 23 46 56.5 +0.8**
O20A White River Ci 90.87 41 P **P 23 46 56.4 +0.5**
O20A IAmb IAmb 23 46 58.0
comp=Z,12nm,1.0s
O20A White River Ci 90.87 41 P **P 23 46 56.9 +1.0**
baz=313
IKP In-Ko-Pah, Jac 90.88 51 P **P 23 46 56.2 +0.3**
baz=308
PDMCI Parker Dam,Lak 91.13 48 P **P 23 46 57.9 +0.9**
baz=309
GLA Glamis 91.47 50 P **P 23 46 59.7 +1.0**
baz=309
N23A Red Feather La 91.62 39 P **P 23 47 00.6 +1.1**
baz=314
WUAZ Wupatki 92.10 46 P **P 23 47 02.3 +0.6**
WUAZ IAmb IAmb 23 47 04.3
comp=Z,21nm,1.2s
WUAZ Wupatki 92.10 46 P **P 23 47 02.9 +1.3**
baz=311
ISCO Idaho Springs 92.56 40 P **P 23 47 04.9 +1.0**
baz=315
MVCO Mesa Verde 92.71 43 P **P 23 47 05.6 +1.1**
baz=313
EYMN Ely 92.97 27 P **P 23 47 05.4 +0.2**
baz=325
S22A 4UR Ranch, Cre 93.31 42 P **P 23 47 07.6 +0.2**
baz=314
W18A Petrified Fore 93.37 45 P **P 23 47 08.1 +0.5**
baz=312
Q24A Divide 93.41 40 P **P 23 47 08.5 +0.6**
baz=315
214A Organ Pipe Nat 93.48 49 P **P 23 47 08.4 +0.4**
214A IAmb IAmb 23 47 09.7
comp=Z,6.6nm,0.9s
214A Organ Pipe Nat 93.48 49 P **P 23 47 08.8 +0.9**
baz=310
KEST Kesra 93.57 316 P **P 23 47 07.9 -0.4**
KEST IAmb IAmb 23 47 09.9
comp=Z,10.0nm,1.1s
KEST Kesra 93.57 316 P **P 23 47 07.7 -0.6**
comp=Z,6.7nm,0.9s,baz=37,slow=10,SNR=8.0
comp=Z,6.7nm,0.9s
SDCO Great Sand Dun 94.07 41 P **P 23 47 10.9 +0.1**
baz=315
ECSD EROS Data Cent 94.18 32 P **P 23 47 11.3 +0.4**
baz=321
TUC Tucson 94.56 48 P **P 23 47 13.3 +0.4**
TUC IAmb IAmb 23 47 14.7
comp=Z,8.3nm,1.3s
TUC Tucson 94.56 48 P **P 23 47 13.3 +0.4**
TUC pmax pmax
comp=Z,8.0nm,1.3s
TUC Tucson 94.56 48 P **P 23 47 13.7 +0.8**
baz=311
SPMN Marine on St. 94.67 29 P **P 23 47 13.5 +0.5**
baz=324
T25A Trinidad 95.11 41 P **P 23 47 15.6 0.0**
baz=315
ANMO Albuquerque 95.46 44 P **P 23 47 17.4 +0.3**
baz=314
ESDC Sonseca Array 97.91 326 P **P 23 47 26.4 -1.5**
ESDC Sonseca Array 97.91 326 P **P 23 47 26.8 -1.1**
comp=Z,2.3nm,0.9s,baz=24,slow=4.3,SNR=14
ESDC LR LR 00 38 27.7
comp=Z,76nm,18.0s,baz=3.5,slow=39
comp=Z,2.3nm,0.9s
TXAR Lajitas Array 101.06 46 P **Pdif 23 47 42.1 -0.2**
comp=Z,0.6nm,0.8s,baz=286,slow=3.3,SNR=7.0
TXAR PKiKP **PKiKP 23 52 06.4 -0.2**
comp=Z,0.2nm,0.6s,baz=120,slow=0.6,SNR=3.7
TORD Torodi Ar. Bea 114.00 304 PKiKP **PKiKP 23 52 29.9 -1.0**
comp=Z,0.6nm,0.5s,baz=26,slow=2.5,SNR=11
TORD PKKPbc **PKKPbc 00 03 12.1 +0.4**
comp=Z,0.9nm,0.7s,baz=262,slow=2.0,SNR=5.1

BOSA Boshof 116.10 251 PKP **PKPdf** **23 52 34.4 -0.3**
comp=Z,2.0nm,0.6s,baz=40,slow=2.7,SNR=9.4
QSPA South Pole Qui 120.70 180 **PKPdf** **23 52 42.2 -0.1**
QSPA South Pole Qui 120.70 180 PKP **PKPdf** **23 52 41.8 -0.5**
comp=Z,2.5nm,0.6s,baz=298,slow=1.5,SNR=18
DBIC Dimbokro 123.11 303 PKP **PKPdf** **23 52 47.7 -0.7**
comp=Z,5.5nm,0.8s,baz=75,slow=3.4,SNR=7.5
ELIB Princess Elisa 124.35 201 *d*PKPdf **PKPdf** **23 52 49.2 0.0**
TROLL Troll, Antarti 130.53 199 ⇓PKPdf **PKPdf** **23 53 01.7 +0.7**
comp=Z,172nm,0.6s
SNAA Sanae 132.16 198 PKPdf **PKPdf** **23 53 04.6 +0.6**
comp=Z,40nm,1.4s
SNAA Sanae 132.16 198 PKP **PKPdf** **23 53 04.0 0.0**
comp=Z,1.6nm,1.1s,baz=159,slow=1.9,SNR=4.0
VNA2 Neumayer--Watz 133.80 198 ⇓PKPdf **PKPdf** **23 53 07.6 +0.5**
baz=108,slow=1.0
ROSC El Rosal 137.34 38 PKIKP **PKPdf** **23 53 16.0 +0.1**
ROSC El Rosal 137.34 38 PKP **PKPdf** **23 53 16.0 +0.1**
comp=Z,3.3nm,0.4s,baz=62,slow=23,SNR=4.4
ATAH Atahualpa 144.20 55 PKP PKPbc 23 53 27.6 +0.9
comp=Z,22nm,0.9s,baz=293,slow=1.7,SNR=10
NNA Nana 148.61 59 PKPbc **PKPbc** **23 53 38.1 -1.0**
comp=Z,18nm,0.7s,baz=299,slow=7.6,SNR=6.4
SIV San Ignacio 161.84 38 PKP **PKPdf** **23 53 53.7 +0.8**
comp=Z,6.3nm,0.8s,baz=322,slow=3.6,SNR=7.5
SIV PKPab **PKPab** **23 54 38.9 -0.3**
comp=Z,6.6nm,1.1s,baz=0.2,slow=6.8,SNR=6.0

---

*SJA **14** 23:43:47.1±0.6, 30°.55S×71°.89W, h8km, ML3.5, MW3.4*
*GUC **14** 23:43:50.7±0.8, 30°.65S×71°.59W, h27km±2km, ML3.5*
ISC 14 23:43:49.5±1.2, 30°.67S±0°.02×71°.79W±0°.05, h26km±9km, n47, σ2§16/66, 4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.14**	**94**	*eP*	**Pn**	**23 43 55.6**	**-0.4**
CO06				*eS*	**Sb**	**23 43 59.3**	**+1.2**
CO06				IAML		23 43 59.6	
comp=E,8μm,0.1s							
CO02	**Combarbal**	**0.87**	**128**	⇓*iP*	**Pn**	**23 44 05.8**	**-0.5**
CO02				*eS*	**Sb**	**23 44 16.9**	**-0.5**
CO02	**Combarbal**	**0.87**	**128**	*eP*	**Pn**	**23 44 05.8**	**-0.5**
CO02				*eS*	**Sb**	**23 44 17.1**	**-0.2**
CO02				IAML		23 44 17.3	
comp=Z,2μm,0.5s							
CO05	**La Serena**	**0.89**	**33**	*eP*	**Pb**	**23 44 06.1**	**-0.2**
CO05				IAML		23 44 20.2	
comp=N,2μm,0.4s							
CO03	**El Pedregal**	**0.97**	**101**	⇓*iP*	**Pn**	**23 44 07.0**	**-0.6**
CO03				*eS*	**Sn**	**23 44 18.8**	**-1.8**
CO03				IAML		23 44 19.7	
comp=E,3μm,0.2s							
CO03	**El Pedregal**	**0.97**	**101**	*eP*	**Pn**	**23 44 07.0**	**-0.6**
CO03				*eS*	**Sn**	**23 44 19.1**	**-1.4**
CO03				IAML		23 44 19.4	
comp=Z,2μm,0.5s							
GO04	**Tololo Observa**	**0.99**	**61**	*eP*	**Pb**	**23 44 07.5**	**-0.7**
GO04				*eS*	**Sb**	**23 44 20.0**	**-0.9**
GO04	**Tololo Observa**	**0.99**	**61**	*eP*	**Pb**	**23 44 07.8**	**-0.4**
GO04				*eS*	**Sn**	**23 44 21.5**	**+0.2**
CO01	**Juntas del Tor**	**1.62**	**65**	*eP*	**Pb**	**23 44 18.0**	**-1.0**
CO01				*eS*	**Sb**	**23 44 38.2**	**-0.9**
CO01				IAML		23 44 40.8	
comp=N,627nm,0.3s							
CO01	**Juntas del Tor**	**1.62**	**65**	*eP*	**Pb**	**23 44 17.9**	**-1.0**
CO01				*eS*	**Sb**	**23 44 38.6**	**-0.5**
CO01				IAML		23 44 40.5	
comp=Z,400nm,0.3s							
LCO	**Las Campanas**	**1.90**	**30**	*eP*	**Pb**	**23 44 21.3**	**-2.4**
LCO				*eS*	**Sb**	**23 44 44.9**	**-2.3**
LCO	**Las Campanas**	**1.90**	**30**	*eP*	**Pb**	**23 44 21.6**	**-2.2**
LCO				*eS*	**Sb**	**23 44 47.5**	**+0.3**
LCO				IAML		23 44 53.0	
comp=Z,1μm,0.5s							
AROD	**Rodeo**	**2.06**	**77**	*eP*	**Pb**	**23 44 26.0**	**-0.5**
AROD				*eS*	**Sb**	**23 44 52.9**	**+0.9**
AC05	**El Transito**	**2.25**	**36**	*eP*	**Pb**	**23 44 27.6**	**-2.0**
AC05				IAML		23 44 58.3	
comp=N,915nm,0.5s							
AC05	**El Transito**	**2.25**	**36**	*eP*	**Pb**	**23 44 27.6**	**-2.0**
AC05				*eS*	**Sb**	**23 44 56.1**	**-1.0**
AC05				IAML		23 44 59.3	
comp=Z,405nm,0.9s							
VA03	**San Esteban**	**2.34**	**153**	*eP*	**Pn**	**23 44 28.8**	**+2.3**
DOCA	**Reserva Natura**	**2.35**	**98**	*eP*	**Pb**	**23 44 30.1**	**-1.3**
ACCO	**Cerro Coronel**	**2.35**	**89**	*eP*	**Pb**	**23 44 30.9**	**-0.6**
ACCO				*eS*	**Sb**	**23 45 04.2**	**+4.0**
ACCO				IAML		23 45 05.3	
comp=Z,135nm,0.6s							
ACDV	**Cuesta del Vie**	**2.36**	**79**	*eP*	**Pb**	**23 44 31.5**	**0.0**
ACDV				*eS*	**Sb**	**23 45 02.5**	**+2.2**
ACDV				IAML		23 45 05.9	
comp=Z,133nm,0.6s							
ROC1	**El Roble**	**2.40**	**164**	*eP*	**Pn**	**23 44 29.1**	**+1.7**
RTLS	**Leoncito**	**2.42**	**118**	*eP*	**Pb**	**23 44 32.1**	**-0.5**
RTLS				IAML		23 45 11.0	
comp=Z,461nm,0.7s							
AC04	**Llanos de Chal**	**2.53**	**15**	*eP*	**Pn**	**23 44 29.2**	**+0.3**
AC04				IAML		23 45 15.8	
comp=E,172nm,0.4s							
AC04	**Llanos de Chal**	**2.53**	**15**	*eP*	**Pn**	**23 44 29.3**	**+0.3**
AC04				IAML		23 45 12.3	
comp=Z,184nm,0.8s							
PEL	**Peldehue**	**2.65**	**159**	*eP*	**Pb**	**23 44 34.0**	**-2.2**
PEL				*eS*	**Sb**	**23 45 07.4**	**-0.9**
PEL				IAML		23 45 20.2	
comp=E,149nm,0.6s							
PEL	**Peldehue**	**2.65**	**159**	*eP*	**Pb**	**23 44 34.6**	**-1.6**
MT02	**Curacav**	**2.65**	**168**	*eP*	**Pn**	**23 44 32.2**	**+1.7**
MT02	**Curacav**	**2.65**	**168**	*eP*	**Pn**	**23 44 32.7**	**+2.1**
MT02				*eS*	**Sn**	**23 45 00.1**	**-1.8**
MT02				IAML		23 45 17.3	
comp=Z,111nm,0.7s							
ZON	**Zonda**	**2.81**	**109**	*eP*	**Pb**	**23 44 37.1**	**-2.0**
MT05	**Renca**	**2.86**	**162**	*eP*	**Pn**	**23 44 35.8**	**+2.2**
MT05				IAML		23 45 25.8	
comp=E,258nm,0.4s							
MT05	**Renca**	**2.86**	**162**	*eP*	**Pb**	**23 44 37.7**	**-2.3**
MT05				IAML		23 45 22.6	
comp=Z,99nm,0.6s							
MT14	**Cerro Cal¡n**	**2.92**	**159**	*eP*	**Pb**	**23 44 39.7**	**-1.4**
MT14				IAML		23 45 28.9	
comp=E,218nm,0.4s							
RTLL	**Cerro Villicun**	**2.93**	**104**	*eP*	**Pn**	**23 44 37.2**	**+2.7**
FCH	**Farellones**	**2.95**	**155**	*eP*	**Pb**	**23 44 38.5**	**-3.1**
FCH				IAML		23 45 30.9	
comp=E,70nm,0.2s							
MT03	**Universidad Ad**	**3.02**	**159**	*eP*	**Pb**	**23 44 40.4**	**-2.4**
MT03				IAML		23 45 27.4	
comp=Z,141nm,0.5s							
AGUA	**GUANDACOL**	**3.09**	**69**	*eP*	**Pb**	**23 44 42.2**	**-1.8**
AGUA				IAML		23 45 32.5	
comp=Z,200nm,1.2s							
ASAL	**Salagasta**	**3.17**	**128**	*eP*	**Pb**	**23 44 43.0**	**-2.2**
ASAL				*eS*	**Sb**	**23 45 27.1**	**+3.6**
ASAL				IAML		23 45 45.8	
comp=Z,76nm,0.9s							
CFA	**Coronel Fontan**	**3.19**	**108**	*eP*	**Pb**	**23 44 41.8**	**-3.8**
CFA				IAML		23 45 29.9	
comp=Z,69nm,0.6s							
ARCO	**CERRO ARCO**	**3.26**	**132**	*eP*	**Pb**	**23 44 45.4**	**-1.4**
ARCO				IAML		23 45 35.1	
comp=Z,98nm,0.7s							
GO03	**Copiap**	**3.35**	**24**	*eP*	**Pn**	**23 44 40.7**	**+0.4**
GO03				IAML		23 45 39.2	
comp=N,194nm,0.5s							
GO03	**Copiap**	**3.35**	**24**	*eP*	**Pn**	**23 44 41.5**	**+1.2**
GO03				*eS*	**Sb**	**23 45 34.6**	**+6.0**
AAGR	**Agrelo**	**3.49**	**134**	*eP*	**Pb**	**23 44 51.2**	**+0.4**
AAGR				IAML		23 45 49.0	
comp=Z,69nm,0.8s							
VCA	**Vinchina**	**3.67**	**59**	*eP*	**Pb**	**23 44 49.9**	**-3.9**
VCA				*eS*	**Sb**	**23 45 38.6**	**+0.8**
VCA				IAML		23 45 49.7	
comp=Z,200nm,0.5s							
APLL	**PUNTA DE LOS L**	**4.55**	**88**	*eP*	**Pn**	**23 44 59.9**	**+3.1**
AC01	**Pan de Azucar**	**4.62**	**13**	*eP*	**Pn**	**23 44 56.5**	**-1.3**
AC01				*eS*	**Sb**	**23 46 11.4**	**+6.2**
AC01				IAML		23 46 13.8	
comp=Z,41nm,0.9s							
RFA	**San Rafael**	**4.96**	**146**	*eP*	**Pn**	**23 45 07.0**	**+4.5**
RFA				IAML		23 46 11.9	
comp=Z,18nm,1.1s							

VNA3 Neumayer Olymp 52.37 159 ⇓PKPdf P 23 53 08.0 +9.0
comp=Z,4.0nm,0.7s
VNA1 Neumayer--Stat 52.66 158 ⇓PKPdf P 23 53 07.9 +6.7
comp=Z,7.0nm,0.8s

---

*SJA **14** 23:48:36.4±0.6, 21°.03S×68°.83W, h130km±4km, ML4.1, MW4.1*
*VAO **14** 23:48:37.4±0.3, 20°.91S×68°.62W, h109km, mb4.5*
*NEIC **14** 23:48:37.4±2.4, 21°.05S±0°.04×68°.81W±0°.07, h120km±7km, mb4.4/22, ML4.2(GUC), Error ellipse: s-maj=10.1km s-min=6.2km az=88.0*
*GUC **14** 23:48:38.3±0.8, 21°.07S×68°.75W, h116km±5km, ML4.2*
*IDC **14** 23:48:38.4±1.1, 21°.13S×68°.30W, h113km±10km, mb3.9/6, mbtmp4.3/10, Error ellipse: s-maj=25.5km s-min=12.0km az=117.0*
ISC 14 23:48:37.0±0.6, 21°.01S±0°.03×68°.71W±0°.05, h119km±6km, n152, σ1§22/172, mb4.3/12, 7C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.73**	**268**	Pn	**Pn**	**23 48 56.4**	**-0.2**
PB01				Sn	**Sn**	**23 49 10.5**	**-0.8**
PB01	**IPOC Station P**	**0.73**	**268**	⇑*iP*	**Pn**	**23 48 56.5**	**-0.1**
PB01				*eS*	**Sn**	**23 49 10.4**	**-0.9**
PB01				IAML		23 49 11.7	
comp=N,12μm,0.3s							
PB01	**IPOC Station P**	**0.73**	**268**	*eP*	**Pn**	**23 48 56.5**	**-0.1**
PB01				*eS*	**Sn**	**23 49 11.0**	**-0.3**
PB01				IAML		23 49 12.4	
comp=Z,9μm,0.2s							
PB09	**IPOC Station P**	**0.93**	**213**	Pn	**Pn**	**23 48 58.5**	**+0.2**
PB09	**IPOC Station P**	**0.93**	**213**	⇑*iP*	**Pn**	**23 48 58.7**	**+0.4**
PB09				*eS*	**Sn**	**23 49 14.9**	**+0.3**
PB09				IAML		23 49 16.3	
comp=N,4μm,0.3s							
PB09	**IPOC Station P**	**0.93**	**213**	*eP*	**Pn**	**23 48 58.8**	**+0.4**
PB09				*eS*	**Sn**	**23 49 15.6**	**+1.1**
PB09				IAML		23 49 16.0	
comp=Z,2μm,0.4s							
PB08	**IPOC Station P**	**0.96**	**334**		**Pn**	**23 48 59.9**	**+0.9**
PB08				Sn	**Sn**	**23 49 15.9**	**+0.4**
PB08	**IPOC Station P**	**0.96**	**334**	⇓*iP*	**Pn**	**23 48 60.0**	**+0.9**
PB08				*eS*	**Sn**	**23 49 16.5**	**+0.9**
PB08				IAML		23 49 18.3	
comp=E,3μm,0.2s							
PB08	**IPOC Station P**	**0.96**	**334**	*eP*	**Pn**	**23 48 59.9**	**+0.9**
PB08				*eS*	**Sn**	**23 49 18.3**	**+2.8**
PB08				IAML		23 49 19.9	
comp=Z,1μm,0.3s							
PB02	**IPOC Station P**	**1.15**	**254**		**Pn**	**23 49 00.6**	**0.0**
PB02	**IPOC Station P**	**1.15**	**254**	⇑*iP*	**Pn**	**23 49 00.6**	**0.0**
PB02				*eS*	**Sn**	**23 49 17.7**	**-0.7**
PB02	**IPOC Station P**	**1.15**	**254**	*eP*	**Pn**	**23 49 00.6**	**0.0**
PB02				*eS*	**Sn**	**23 49 18.4**	**-0.1**
PB07	**IPOC Station P**	**1.31**	**237**		**Pn**	**23 49 02.0**	**-0.3**
PB07	**IPOC Station P**	**1.31**	**237**	⇑*iP*	**Pn**	**23 49 02.1**	**-0.2**
PB07				*eS*	**Sn**	**23 49 20.9**	**-0.6**
PB07				IAML		23 49 24.8	
comp=N,2μm,0.2s							
PB07	**IPOC Station P**	**1.31**	**237**	*eP*	**Pn**	**23 49 02.2**	**-0.2**
PB07				*eS*	**Sn**	**23 49 22.4**	**+0.8**
PB07				IAML		23 49 27.7	
comp=Z,2μm,0.2s							
HMBC	**Humberstone**	**1.33**	**303**	*eP*	**Pn**	**23 49 02.5**	**0.0**
HMBC				*eS*	**Sn**	**23 49 21.8**	**0.0**
PATCX	**Punta Patache**	**1.37**	**278**		**Pn**	**23 49 03.1**	**+0.2**
PATCX	**Punta Patache**	**1.37**	**278**	⇑*iP*	**Pn**	**23 49 02.9**	**0.0**
PATCX				*eS*	**Sn**	**23 49 21.9**	**-0.7**
PATCX				IAML		23 49 25.2	
comp=E,9μm,0.3s							
PATCX	**Punta Patache**	**1.37**	**278**	*eP*	**Pn**	**23 49 03.0**	**0.0**
PATCX				*eS*	**Sn**	**23 49 22.8**	**+0.2**
GO01	**Chusmiza**	**1.41**	**341**	Pn	**Pn**	**23 49 04.8**	**+0.9**
GO01	**Chusmiza**	**1.41**	**341**	⇓*iP*	**Pn**	**23 49 04.8**	**+0.9**
GO01				*eS*	**Sn**	**23 49 26.2**	**+2.0**
GO01				IAML		23 49 29.4	
comp=N,5μm,0.1s							
GO01	**Chusmiza**	**1.41**	**341**	*eP*	**Pn**	**23 49 04.7**	**+0.8**
GO01				*eS*	**Sn**	**23 49 27.2**	**+3.0**
TA01	**Diego Aracena**	**1.45**	**288**		**Pn**	**23 49 03.5**	**-0.2**
TA01	**Diego Aracena**	**1.45**	**288**	*eP*	**Pn**	**23 49 03.5**	**-0.2**
TA01				*eS*	**Sn**	**23 49 23.2**	**-0.9**
TA01				IAML		23 49 23.9	
comp=E,11μm,0.2s							
TA01	**Diego Aracena**	**1.45**	**288**	*eP*	**Pn**	**23 49 03.6**	**-0.2**
TA01				*eS*	**Sn**	**23 49 23.7**	**-0.4**
TA01				IAML		23 49 24.2	
comp=Z,2μm,0.3s							
TA02	**Huaiquique**	**1.53**	**299**		**Pn**	**23 49 04.5**	**-0.1**
LVC	**Limon Verde**	**1.60**	**187**		**Pn**	**23 49 06.4**	**+0.5**
LVC	**Limon Verde**	**1.60**	**187**	*eP*	**Pn**	**23 49 06.9**	**+1.0**
LVC	**Limon Verde**	**1.60**	**187**	P	**Pn**	**23 49 06.6**	**+0.8**
comp=Z,149nm,0.2s,baz=32,slow=12,SNR=482							
LVC				S	**Sn**	**23 49 28.1**	**+0.3**
comp=Z,581nm,0.3s,baz=108,slow=22,SNR=22							
LVC	**Limon Verde**	**1.60**	**187**	*eP*	**Pn**	**23 49 06.4**	**+0.5**
LVC				*eS*	**Sn**	**23 49 27.8**	**0.0**
LVC				IAML		23 49 29.5	
comp=Z,9μm,0.4s							
LVC	**Limon Verde**	**1.60**	**187**	*eP*	**Pn**	**23 49 06.7**	**+0.8**
LVC				*eS*	**Sn**	**23 49 28.5**	**+0.6**
PB06	**IPOC Station P**	**1.87**	**205**		**Pn**	**23 49 08.9**	**+0.1**
PB06	**IPOC Station P**	**1.87**	**205**	⇑*iP*	**Pn**	**23 49 09.0**	**+0.1**
PB06				*eS*	**Sn**	**23 49 32.2**	**-1.1**
PB06				IAML		23 49 33.7	
comp=E,4μm,0.4s							
PB06	**IPOC Station P**	**1.87**	**205**	*eP*	**Pn**	**23 49 09.0**	**+0.1**
PB06				*eS*	**Sn**	**23 49 33.0**	**-0.3**
PB06				IAML		23 49 33.8	
comp=Z,2μm,0.4s							
PB04	**IPOC Station P**	**1.88**	**225**		**Pn**	**23 49 08.8**	**-0.3**
PB04	**IPOC Station P**	**1.88**	**225**	⇑*iP*	**Pn**	**23 49 08.6**	**-0.4**
PB04				*eS*	**Sn**	**23 49 31.9**	**-1.6**
PB04				IAML		23 49 35.2	
comp=N,2μm,0.3s							
PB04	**IPOC Station P**	**1.88**	**225**	*eP*	**Pn**	**23 49 08.8**	**-0.3**
PB04				*eS*	**Sn**	**23 49 33.2**	**-0.3**
PB04				IAML		23 49 39.5	
comp=Z,1μm,0.3s							
AF01	**San Pedro de A**	**1.99**	**166**		**Pn**	**23 49 11.8**	**+1.3**
PB15	**IPOC Station P**	**2.30**	**198**		**Pn**	**23 49 14.6**	**+0.3**
PB15	**IPOC Station P**	**2.30**	**198**	*eP*	**Pn**	**23 49 15.0**	**+0.6**
PB15				*eS*	**Sn**	**23 49 42.7**	**-0.3**
PB16	**IPOC Station P**	**2.77**	**344**		**Pn**	**23 49 22.1**	**+1.3**
PB16	**IPOC Station P**	**2.77**	**344**	*eP*	**Pn**	**23 49 21.6**	**+0.8**
PB16				IAML		23 50 00.7	
comp=Z,278nm,0.7s							
PB12	**IPOC Station P**	**2.83**	**327**		**Pn**	**23 49 20.4**	**-0.8**
PB12	**IPOC Station P**	**2.83**	**327**	*eP*	**Pn**	**23 49 20.4**	**-0.8**
PB12				IAML		23 50 02.6	
comp=Z,402nm,0.4s							
AP01	**Chacalluta**	**3.05**	**329**	*eP*	**Pn**	**23 49 23.0**	**-0.9**
AP01				IAML		23 50 26.1	
comp=Z,731nm,0.6s							
YJA	**Yavi**	**3.19**	**112**	*eP*	**Pn**	**23 49 29.2**	**+3.0**
PB18	**Visviri**	**3.48**	**348**	Pn	**Pn**	**23 49 32.5**	**+2.4**
PB14	**IPOC Station P**	**3.92**	**203**	Pn	**Pn**	**23 49 33.8**	**-2.0**
PB14	**IPOC Station P**	**3.92**	**203**	*eP*	**Pn**	**23 49 34.1**	**-1.7**
PB14				*eS*	Sn	23 50 11.7	-10
PB14				IAML		23 50 26.6	
comp=Z,253nm,0.3s							
GO02	**Mina Guanaco**	**4.21**	**191**	Pn	**Pn**	**23 49 38.9**	**-0.8**
GO02	**Mina Guanaco**	**4.21**	**191**	*eP*	**Pn**	**23 49 38.8**	**-0.8**
GO02				*eS*	Sn	23 50 17.4	-11
SLA	**San Lorenzo**	**4.73**	**142**	*eP*	**Pn**	**23 49 48.5**	**+2.1**
SLA				*eS*	Sn	23 50 51.1	+11
LPAZ	**La Paz**	**4.73**	**7**	Pn	**Pn**	**23 49 49.0**	**+2.0**
LPAZ	**La Paz**	**4.73**	**7**	P	**Pn**	**23 49 49.5**	**+2.6**
comp=Z,15nm,0.3s,baz=193,slow=4.5,SNR=79							
LPAZ				S	**Sn**	**23 50 42.6**	**+1.5**
comp=Z,17nm,0.7s,baz=207,slow=13,SNR=3.5							
ALOL	**LOMAS DE OLMED**	**5.18**	**123**	*eP*	**Pn**	**23 49 53.1**	**+0.7**
AC01	**Pan de Azucar**	**5.40**	**198**		**Pn**	**23 49 53.2**	**-2.1**
AC01	**Pan de Azucar**	**5.40**	**198**	*eP*	**Pn**	**23 49 52.8**	**-2.5**
AC01				IAML		23 51 16.1	
comp=Z,101nm,0.8s							
AC02	**Maricunga**	**5.81**	**184**	Pn	**Pn**	**23 50 00.5**	**-0.8**
AC06	**Mina Casimiro**	**6.49**	**193**		**Pn**	**23 50 07.5**	**-2.6**
GO03	**Copiap**	**6.70**	**192**	Pn	**Pn**	**23 50 10.0**	**-2.9**
BBSD	**Serra de San D**	**8.55**	**65**	*eP*	**Pn**	**23 50 35.5**	**-2.4**

SIV San Ignacio 8.80 57 P **Pn** **23 50 38.5 -2.8**
comp=Z,40nm,0.7s,baz=248,slow=9.3,SNR=140
SIV S **Sn** **23 52 13.4 -5.4**
comp=Z,3.1nm,0.8s,baz=274,slow=18,SNR=3.3
TICA Tres Isletas 9.31 127 *eP* **Pn** **23 50 47.8 -0.4**
ESFA Espinillo Form 10.20 115 *eP* **Pn** **23 51 00.1 0.0**
MURT Porto Murtinho 10.36 96 *eP* **Pn** **23 51 01.2 -1.2**
CFA Coronel Fontan 10.56 178 P **Pn** **23 51 01.2 -3.8**
comp=Z,3.1nm,0.4s,baz=23,slow=15,SNR=14
CFA S Sn 23 52 50.0 -11
comp=Z,2.3nm,0.3s,baz=124,slow=23,SNR=2.2
PTLB Pontes e Lacer 10.64 60 Pn **Pn** **23 51 04.1 -2.1**
PTLB Pontes e Lacer 10.64 60 *eP* **Pn** **23 51 04.1 -2.1**
ETMB Extrema 11.39 13 Pn **Pn** **23 51 15.0 -1.3**
ETMB Extrema 11.39 13 *eP* **Pn** **23 51 15.7 -0.6**
VILB Vilhena 11.42 47 Pn **Pn** **23 51 15.6 -1.0**
VILB Vilhena 11.42 47 *eP* **Pn** **23 51 15.7 -0.9**
CPUP Villa Florida 11.69 119 Pn **Pn** **23 51 18.2 -1.9**
CPUP Villa Florida 11.69 119 *eP* **Pn** **23 51 19.5 -0.6**
CPUP Villa Florida 11.69 119 P **Pn** **23 51 17.7 -2.4**
comp=Z,2.7nm,0.6s,baz=299,slow=12,SNR=5.1
CPUP S Sn 23 53 19.9 -8.9
comp=Z,1.5nm,0.8s,baz=127,slow=14,SNR=1.7
ROC1 El Roble 12.09 189 Pn **Pn** **23 51 25.7 +0.1**
AQDB Aquidauana 12.18 90 Pn **Pn** **23 51 25.6 -1.0**
LMEL Las Melosas 12.85 186 Pn **Pn** **23 51 34.4 -1.1**
MT01 Popeta 13.00 189 **Pn** **23 51 35.0 -2.2**
SAML Samuel 13.12 25 Pn **Pn** **23 51 39.4 +0.4**
SALV Santo Antonio 13.35 70 *eP* **Pn** **23 51 41.5 -0.3**
BO01 Tunca 13.49 188 Pn **Pn** **23 51 42.1 -1.5**
CRSM Crissiumal (Br 14.84 119 *eP* **Pn** **23 52 02.2 +1.3**
RODS Rosario do Sul 15.31 130 *eP* **Pn** **23 52 07.0 +0.2**
H03N1 Juan Fernandez 15.34 214 T T 00 07 43.7
baz=35,slow=72,SNR=7.2
H03N2 Juan Fernandez 15.35 214 T T 00 07 38.9
baz=35,slow=72,SNR=3.0
H03N3 Juan Fernandez 15.36 214 T T 00 07 38.5
baz=35,slow=72,SNR=5.7
CLDB Colider 15.98 53 *eP* **Pn** **23 52 15.4 +0.2**
PCMB Pacaembu 16.27 95 *eP* **Pn** **23 52 20.0 +1.3**
ITAB Concordia 16.34 115 Pn **Pn** **23 52 18.9 -0.7**
ITAB Concordia 16.34 115 *eP* **P** **23 52 21.1 +0.8**
LDASE Londrina, Braz 16.46 102 *eP* **P** **23 52 22.5 +0.8**
CPSB Cacapava Do Su 16.62 127 *eP* **Pn** **23 52 23.5 +0.5**
ARAG Araguaiana, MT 16.88 75 *eP* **Pn** **23 52 26.8 +0.6**
PLTB Pedras Altas 17.23 131 **P** **23 52 27.2 -2.9**
PLTB Pedras Altas 17.23 131 *eP* **Pn** **23 52 31.7 +1.3**
ITRB Iturama 17.25 89 *eP* **P** **23 52 31.4 +1.0**
TEFE Tefe 17.84 13 *eP* **P** **23 52 38.0 +1.1**
TRQA Tornquist 17.95 163 **P** **23 52 36.9 -1.1**
TRQA IAmb IAmb 23 52 40.2
comp=Z,19nm,1.1s
GO06 Curarrehue 18.66 187 P **P** **23 52 45.6 -0.2**
GO06 IAmb IAmb 23 52 50.0
comp=Z,31nm,1.5s
BB19B Bebedouro 18.84 94 *eP* **P** **23 52 47.7 -0.1**
SNDB Serra Nova Dou 18.95 64 *eP* **P** **23 52 48.4 -0.6**
NPGB Novo Progresso 18.96 45 *eP* **P** **23 52 48.1 -1.1**
PLCA Paso Flores 19.72 184 P **P** **23 52 57.8 +0.5**
PLCA IAmb IAmb 23 53 02.9
comp=Z,9.8nm,0.8s
PLCA Paso Flores 19.72 184 *eP* **P** **23 52 58.5 +1.3**
PLCA Paso Flores 19.72 184 P **P** **23 52 57.9 +0.6**
comp=Z,8.2nm,0.7s,baz=8.5,slow=11,SNR=14
RCLB Rio Claro- Sao 19.72 98 *eP* **P** **23 52 57.2 -0.3**
MCRA Macar, Loja 19.83 325 P **P** **23 52 58.8 +0.1**
BOSC San Juan Bosco 20.15 330 P **P** **23 53 02.4 +0.1**
VAO Valinhos 20.25 100 *eP* **P** **23 53 03.6 +0.4**
BDFB Brasilia 20.35 78 P **P** **23 53 03.8 -0.4**
BDFB IAmb IAmb 23 53 08.2
comp=Z,6.6nm,0.5s
BDFB Brasilia 20.35 78 P **P** **23 53 03.9 -0.4**
comp=Z,6.4nm,0.5s,baz=263,slow=7.5,SNR=12
comp=Z,6.4nm,0.5s
ITTB Itaituba 20.80 39 *eP* **P** **23 53 08.5 -0.5**
SGCB S¦o Gabriel d 20.83 5 *eP* **P** **23 53 08.8 -0.5**
PMNB Patos De Minas 21.10 87 *eP* **P** **23 53 11.7 -0.6**
LL01 San Ignacio de 21.53 188 P **P** **23 53 16.5 -0.1**
LL01 IAmb IAmb 23 53 20.1
comp=Z,12nm,1.0s
CHSH Refugio Sur-Vo 21.79 332 P **P** **23 53 20.5 +0.3**
CHSH IAmb IAmb 23 53 35.0
comp=Z,22nm,1.0s
BSCB Bom Sucesso 22.34 94 *eP* **P** **23 53 26.3 +0.9**
TULM Tulcn-Chalpat 23.35 337 P **P** **23 53 35.0 -0.6**
TULM IAmb IAmb 23 53 36.5
comp=Z,14nm,0.5s
PRPB Paraupebas 23.51 54 *eP* **P** **23 53 35.9 -0.6**
SMTB Santa Maria do 23.67 62 *eP* **P** **23 53 37.8 -0.2**
MALB Monte Alegre 23.68 38 *eP* **P** **23 53 36.6 -1.4**
DIAM Diamantina, MG 23.72 88 *eP* **P** **23 53 38.7 +0.1**
JANB Januaria 23.92 80 *eP* **P** **23 53 40.1 -0.2**
SDBA SAO DESIDERIO 24.32 73 *eP* **P** **23 53 43.8 -0.1**
BOAV Boa Vista 24.61 20 *eP* **P** **23 53 46.3 0.0**
BAUV El Baul 29.78 1 P **P** **23 54 32.3 -0.3**
BAUV IAmb IAmb 23 55 00.9
comp=Z,8.8nm,0.9s
RCBR Riachuelo 35.19 69 *eP* **P** **23 55 21.8 +1.8**
SJG San Juan 38.96 4 P **P** **23 55 50.4 -1.3**
W57A Gilead 56.88 349 P **P** **23 58 10.1 +0.7**
SWET Sewanee 58.26 343 P **P** **23 58 18.8 -0.4**
WVT Waverly 59.65 342 P **P** **23 58 28.2 -0.5**
WVT

45nm,0.1s
CHM eLg Lg 23 51 53.4
114nm,0.4s
MRKS Merke 5.66 9 *e*Pg **Pn 23 50 52.2 -0.5**
5.5nm,0.4s
MRKS eLg Lg 23 51 50.1
13nm,0.3s
DZA Taraz 5.75 355 *e*Pg **Pn 23 50 55.5 +1.6**
32nm,0.2s
DZA eLg Lg 23 51 56.2
85nm,0.6s
AAK Ala-Archa 5.80 18 P **Pn 23 50 54.7 +0.1**
5.2nm,0.6s,baz=215,slow=4.8,SNR=8.3
AAK S **Sn 23 52 00.2 -1.5**
4.9nm,0.3s,baz=9.9,slow=14,SNR=10.0
KST Kastek 6.62 26 *e*Pg **Pn 23 51 08.3 +3.2**
1.0nm,0.2s
KST eLg Lg 23 52 18.1
8.8nm,1.0s
DGS Degeres 6.73 24 *e*Pg Pn 23 51 11.5 +4.9
1.5nm,0.4s
DGS eLg Lg 23 52 23.5
2.1nm,0.9s
BTLS Baital 8.03 10 *e*Pg Pn 23 51 37.1 +14
0.6nm,0.2s
BTLS eLg Lg 23 53 07.7
2.2nm,0.4s
MKAR Makanchi Array 12.29 35 P **Pn 23 52 19.2 +0.9**
0.3nm,0.4s,baz=208,slow=8.8,SNR=6.2
KURBB Kurchatov Arra 14.25 17 P **Pn 23 52 42.4 -0.3**
1.1nm,0.2s,baz=153,slow=19,SNR=1.8
BVAR Borovoye Array 15.91 356 P **Pn 23 53 02.7 -0.1**
0.7nm,0.3s,baz=158,slow=8.4,SNR=6.1
AKTO Aktyubinsk 16.64 327 P **Pn 23 53 11.2 -0.4**
1.7nm,0.5s,baz=132,slow=10,SNR=4.9
ZALV Zalesovo Beam 18.99 24 P **P 23 53 35.2 -0.9**
6.1nm,0.3s,baz=223,slow=11,SNR=27
GNI Garni 21.47 286 LR LR 00 03 50.3
comp=Z,45nm,18.5s,baz=38,slow=40
FINES FINESS Array B 37.40 325 P **P 23 56 23.3 +0.2**
0.7nm,0.7s,baz=120,slow=8.2,SNR=3.4
0.7nm,0.7s
ARCESS ARCESS Array B 40.85 337 P **P 23 56 51.1 -0.6**
3.8nm,1.1s,baz=95,slow=7.4,SNR=3.9
3.8nm,1.1s
TORD Torodi Ar. Bea 66.54 269 P **P 23 59 58.0 -0.6**
0.2nm,0.4s,baz=44,slow=6.6,SNR=5.1
0.2nm,0.4s

*IDC **14** 23:55:59.9±2.1, 37.°92N×142.°25E, h0km, mb3.7/5, mbtmp3.6/6, ML2.3/1, MS2.3/1, Error ellipse: s-maj=44.3km s-min=29.6km az=75.0*
*JMA **14** 23:56:05.4±0.1, 37.°8N±0.°3×141.°8E±0.°7, h41km±1km, MV3.4/39, SE OFF MIYAGI PREF*
ISC 14 23:56:05.4±2.7, 37.°73N±0.°05×141.°94E±0.°09, h28km±17km, n27, σ1§18/34, mb3.5/5, 21D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.69**	**327**	⇓*i*P		**Pn**	**23 56 19.7**	**+0.5**
JIKH				⇓*e*S		**Sb**	**23 56 28.2**	**+0.2**
JMST	**Minamisoumatoc**	**0.83**	**270**	⇓*i*P		**Pn**	**23 56 21.6**	**+0.4**
JMST				⇓S		**Sn**	**23 56 31.3**	**-1.2**
JIO	**Ouri**	**0.86**	**327**	⇓*i*P		**Pn**	**23 56 22.1**	**+0.6**
JIO				⇓S		**Sn**	**23 56 32.2**	**-1.0**
JMM	**Marumori**	**0.92**	**279**	⇓*i*P		**Pn**	**23 56 22.8**	**+0.4**
JMM				⇓S		**Sn**	**23 56 33.6**	**-1.1**
JFK	**Kawauchi**	**0.92**	**247**	⇓*i*P		**Pn**	**23 56 23.0**	**+0.5**
JFK				⇓S		**Sn**	**23 56 34.1**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.11**	**236**	⇓*i*P		**Pn**	**23 56 25.8**	**+0.7**
ONAJ				⇓S		**Sn**	**23 56 38.7**	**-0.7**
JKMT	**Kesennumamotoy**	**1.14**	**341**	⇓*i*P		**Pn**	**23 56 26.2**	**+0.8**
JKMT				⇓S		**Sn**	**23 56 39.1**	**-0.9**
JOU	**Okura**	**1.19**	**302**	⇓*i*P		**Pn**	**23 56 27.0**	**+0.8**
JOU				⇓*e*S		**Sn**	**23 56 41.2**	**-0.2**
JOTO	**OTAMA OYAMA**	**1.29**	**263**	*i* P		**Pn**	**23 56 29.0**	**+1.5**
JOTO				S		**Sn**	**23 56 44.4**	**+0.6**
JMK	**Ichinoseki**	**1.34**	**335**	⇓*i*P		**Pn**	**23 56 29.3**	**+1.1**
JMK				⇓*e*S		**Sn**	**23 56 45.2**	**+0.1**
JYS	**Shiratake**	**1.56**	**289**	⇓*i*P		**Pn**	**23 56 32.2**	**+1.0**
JYS				⇓*e*S		**Sn**	**23 56 51.8**	**+1.3**
JYK	**Kaneyama**	**1.72**	**314**	*i* P		**Pn**	**23 56 34.5**	**+1.1**
JFY	**Yanaizu**	**1.81**	**260**	P		**Pn**	**23 56 36.2**	**+1.6**
JFY				*e*S		**Sn**	**23 56 59.1**	**+2.5**
JOM	**Ohasama**	**1.81**	**344**	⇓*i*P		**Pn**	**23 56 36.2**	**+1.5**
JYA	**Atsumi**	**1.95**	**297**	*e*P		**Pn**	**23 56 38.4**	**+1.8**
MJAR	**Matsushiro Arr**	**3.21**	**249**	Pn		**Pn**	**23 56 55.4**	**+1.5**
	0.3nm,0.3s,baz=142,slow=8.3,SNR=18							
MJAR				Sn		**Sb**	**23 57 38.4**	**-2.0**
	0.4nm,0.3s,baz=344,slow=8.6,SNR=5.7							
MJAR				LR		LR	23 58 26.8	
	comp=Z,45nm,18.4s,baz=83,slow=42							
	1.4nm,0.4s							
SONM	**Songino Array**	**27.75**	**303**	P		**P**	**00 01 51.4**	**-0.3**
	0.6nm,0.8s,baz=103,slow=10,SNR=4.0							
	0.6nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**28.16**	**123**	T		T	00 32 03.4	
	baz=315,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**28.17**	**123**	T		T	00 31 37.6	
	baz=315,slow=75,SNR=26							
H11N3	**WAKE ISLAND Hy**	**28.18**	**123**	T		T	00 31 37.9	
	baz=315,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hy**	**28.90**	**125**	T		T	00 32 38.3	
	baz=317,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**28.90**	**125**	T		T	00 32 30.3	
	baz=317,slow=76,SNR=12							
H11S2	**WAKE ISLAND Hy**	**28.92**	**125**	T		T	00 32 34.8	
	baz=317,slow=76,SNR=9.1							
ZALV	**Zalesovo Beam**	**41.76**	**312**	P		**P**	**00 03 49.6**	**-2.3**
	0.5nm,0.5s,baz=90,slow=10,SNR=1.8							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**44.11**	**302**	P		**P**	**00 04 11.1**	**0.0**
	0.2nm,0.5s,baz=73,slow=10,SNR=2.4							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**45.91**	**308**	P		**P**	**00 04 25.4**	**+0.1**
	1.4nm,0.3s,baz=83,slow=8.5,SNR=4.5							
	1.4nm,0.3s							
WRA	**Warramunga Arr**	**57.81**	**188**	P		**P**	**00 05 54.6**	**+0.3**
	0.4nm,0.8s,baz=4.7,slow=7.0,SNR=4.8							
	0.4nm,0.8s							

*BUL **15** 00:26:45.3±0.4, 24.°74S×33.°20E, h10km, MD4.1*
*EAF **15** 00:26:46.1, 24.°60S×33.°07E, h10km, MC3.8*
*PRE **15** 00:26:51.0±1.7, 24.°62S×32.°63E, h10km, ML3.0*
ISC 15 00:26:51.9±2.0, 24.°66S±0.°04×32.°49E±0.°09, h16km±9km, n50, σ2§73/98, 1C-4D, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**1.44**	**280**	⇓*i*P		**Pg**	**00 27 19.9**	**+0.2**
HOED				*e*S		**Sg**	**00 27 39.3**	**+0.9**
HOED				IAML			00 27 41.1	
	comp=Z,248nm,0.1s							
MOPA	**Mopani**	**1.51**	**319**	*i* P		Pn	00 27 14.1	-4.3
MOPA				*i* S		**Sn**	**00 27 35.1**	**-2.7**
MOPA	**Mopani**	**1.51**	**319**	⇑*i*P		**Pb**	**00 27 19.6**	**-0.1**
MOPA				*e*S		**Sg**	**00 27 39.5**	**-1.4**
MOPA	**Mopani**	**1.51**	**319**	*i* P		Pn	00 27 14.1	-4.3
	baz=305							
MOPA				*i* S		**Sn**	**00 27 35.1**	**-2.7**
	baz=305							
MMAL	**MMAL**	**1.81**	**220**	⇓*i*P		**Pg**	**00 27 26.3**	**-0.3**
MMAL				*e*S		**Sg**	**00 27 49.4**	**-0.8**
MMAL				IAML			00 27 52.6	
	comp=Z,615nm,0.2s							
DULL	**Dullstroom, Mp**	**2.21**	**251**	*e*P		**Pb**	**00 27 30.8**	**-0.9**
DULL				*e*S		**Sb**	**00 27 58.4**	**-0.5**
DULL				IAML			00 28 13.0	
	comp=Z,91nm,0.5s							
CRLN	**Carolina, Mapu**	**2.60**	**239**	*e*P		**Pb**	**00 27 36.8**	**-1.4**
CRLN				*e*S		**Sb**	**00 28 09.3**	**-0.6**
CRLN				IAML			00 28 21.7	
	comp=Z,72nm,0.3s							
MPHEP	**Siloam, Limpop**	**2.75**	**309**	*e*P		**Pn**	**00 27 37.3**	**+1.9**
MPHEP				*e*S		**Sn**	**00 28 10.2**	**+1.9**
MPHEP				IAML			00 28 19.4	
	comp=Z,239nm,0.3s							
WTBG	**Waterberg Wild**	**3.32**	**277**	*e*P		**Pn**	**00 27 46.4**	**+3.1**
WTBG				*e*S		**Sn**	**00 28 26.6**	**+4.1**
WTBG				IAML			00 28 41.5	
	comp=Z,98nm,0.2s							
MUSN	**Musina, Limpop**	**3.38**	**314**	*i* P		**Pn**	**00 27 45.2**	**+1.2**
MUSN				*i* S		**Sb**	**00 28 29.1**	**-3.2**
MUSN	**Musina, Limpop**	**3.38**	**314**	⇓*i*P		**Pn**	**00 27 46.7**	**+2.6**
MUSN				*e*S		**Sn**	**00 28 25.6**	**+1.8**
MUSN				IAML			00 28 40.1	
	comp=Z,179nm,0.6s							
MUSN	**Musina, Limpop**	**3.38**	**314**	*i* P		**Pn**	**00 27 45.2**	**+1.2**
	baz=307							
MUSN				*i* S		**Sb**	**00 28 29.1**	**-3.2**
	baz=307							
RUST	**Rust De Winter**	**3.64**	**260**	*e*P		**Pn**	**00 27 51.4**	**+3.6**
RUST				*e*S		**Sn**	**00 28 34.5**	**+4.0**
RUST				IAML			00 28 50.5	
	comp=Z,47nm,0.5s							
SLR	**Silverton**	**3.96**	**253**	*e*P		**Pn**	**00 27 55.7**	**+3.6**
SLR				*e*S		**Sn**	**00 28 42.0**	**+3.8**
SLR				IAML			00 29 04.1	
	comp=Z,34nm,0.3s							
TSWA	**Tswaing Meteor**	**4.07**	**258**	*e*P		**Pn**	**00 27 57.1**	**+3.5**
TSWA				*e*S		**Sn**	**00 28 43.8**	**+2.8**
TSWA				IAML			00 29 14.5	
	comp=Z,38nm,0.3s							
LEPH	**Lephalale, Lim**	**4.36**	**280**	⇓*i*P		**Pn**	**00 27 59.9**	**+2.4**
LEPH				*e*S		**Sn**	**00 28 50.2**	**+2.1**
LEPH				IAML			00 29 16.6	
	comp=Z,65nm,0.5s							
HRAO	**HartRAO**	**4.52**	**253**	*e*P		**Pn**	**00 28 02.8**	**+3.0**
HRAO				*e*S		**Sn**	**00 28 54.2**	**+2.2**
HRAO				IAML			00 29 23.5	
	comp=Z,39nm,0.5s							
NYAT	**Nyati, Northwe**	**4.52**	**260**	*e*P		**Pn**	**00 28 03.0**	**+3.2**
NYAT				*e*S		**Sn**	**00 28 56.6**	**+4.5**
NYAT				IAML			00 29 23.8	
	comp=Z,26nm,0.4s							
NHAM	**Northam, North**	**4.71**	**266**	*e*P		**Pn**	**00 28 06.1**	**+3.7**
NHAM				*e*S		**Sn**	**00 28 58.8**	**+2.1**
NHAM				IAML			00 29 24.4	
	comp=Z,25nm,0.7s							
WDLM	**Western Deep L**	**4.90**	**248**	*e*P		**Pn**	**00 28 07.9**	**+2.8**
WDLM				*e*S		**Sn**	**00 29 03.4**	**+1.8**
WDLM				IAML			00 29 08.0	
	comp=Z,41nm,0.3s							
MTLB	**Matlabas, Limp**	**5.03**	**279**	*e*P		**Pn**	**00 28 09.1**	**+2.3**
MTLB				*e*S		**Sn**	**00 29 05.9**	**+1.2**
MTLB				IAML			00 29 38.4	
	comp=Z,86nm,0.6s							
PRYS	**Parys**	**5.14**	**243**	*e*P		**Pn**	**00 28 10.7**	**+2.3**
PRYS				*e*S		**Sn**	**00 29 10.0**	**+2.5**
PRYS				IAML			00 29 44.1	
	comp=Z,15nm,0.6s							
KSR	**Koster**	**5.20**	**256**	*e*P		**Pn**	**00 28 13.5**	**+4.3**
KSR				*e*S		**Sn**	**00 29 11.9**	**+3.0**
KSR				IAML			00 29 43.0	
	comp=Z,44nm,0.4s							
SNKL	**Senekal, Frees**	**5.55**	**229**	*e*P		**Pn**	**00 28 15.5**	**+1.5**
SNKL				*e*S		**Sn**	**00 29 20.4**	**+2.8**
SNKL				IAML			00 30 00.2	
	comp=Z,32nm,0.5s							
MRCO	**Marico , North**	**5.58**	**260**	*e*P		**Pn**	**00 28 17.8**	**+3.4**
MRCO				*e*S		**Sn**	**00 29 19.8**	**+1.6**
MRCO				IAML			00 30 01.4	
	comp=Z,23nm,0.5s							
MATP	**Matopo**	**5.60**	**318**	*i* P		**Pn**	**00 28 14.9**	**+0.2**
MATP				*i* S		**Sn**	**00 29 20.3**	**+1.5**
MATP	**Matopo**	**5.60**	**318**	*i* P		**Pn**	**00 28 14.9**	**+0.2**
	baz=314							
MATP				*i* S		**Sn**	**00 29 20.3**	**+1.5**
	baz=314							
LBTB	**Lobatse**	**6.27**	**265**	*i* P		**Pn**	**00 28 25.9**	**+2.0**
LBTB				*i* S		**Sn**	**00 29 39.4**	**+4.2**
LBTB	**Lobatse**	**6.27**	**265**	*e*P		**Pn**	**00 28 25.6**	**+1.7**
LBTB				*e*S		**Sn**	**00 29 36.3**	**+1.1**
LBTB				IAML			00 30 14.8	
	comp=Z,26nm,0.7s							
LBTB	**Lobatse**	**6.27**	**265**	*i* P		**Pn**	**00 28 25.9**	**+2.0**
	baz=265							
LBTB				*i* S		**Sn**	**00 29 39.4**	**+4.2**
	baz=265							
KSTD	**Kokstad**	**6.57**	**205**	*e*P		**Pn**	**00 28 31.6**	**+3.6**
KSTD				*e*S		**Sn**	**00 29 43.4**	**+0.8**
KSTD				IAML			00 29 45.9	
	comp=Z,28nm,0.3s							
SWZ	**Schweizer**	**6.92**	**247**	*e*P		**Pn**	**00 28 35.6**	**+2.8**
SWZ				*e*S		**Sn**	**00 29 52.5**	**+1.3**
SWZ				IAML			00 30 38.2	
	comp=Z,14nm,0.5s							
BOSA	**Boshof**	**7.57**	**237**	*i* P		**Pn**	**00 28 41.7**	**-0.1**
BOSA				*i* S		**Sn**	**00 30 05.6**	**-1.8**
BOSA	**Boshof**	**7.57**	**237**	*e*P		**Pn**	**00 28 44.6**	**+2.9**
BOSA				*e*S		**Sn**	**00 30 07.3**	**0.0**
BOSA				IAML			00 31 02.3	
	comp=Z,12nm,0.5s							
BOSA	**Boshof**	**7.57**	**237**	*i* P		**Pn**	**00 28 41.7**	**-0.1**
	baz=239							
BOSA				*i* S		**Sn**	**00 30 05.6**	**-1.8**
	baz=239							
SOE	**Somerset East**	**10.06**	**216**	*e*P		**Pn**	**00 29 17.9**	**+2.1**
SOE				*e*S		**Sn**	**00 31 07.7**	**-0.7**
SOE				IAML			00 32 13.7	
	comp=Z,4.6nm,0.7s							
GRAF	**Camdeboo Natio**	**10.35**	**221**	*e*P		**Pn**	**00 29 22.5**	**+2.8**
GRAF				*e*S		**Sn**	**00 31 13.9**	**-1.5**
GRAF				IAML			00 31 16.0	
	comp=Z,4.7nm,0.5s							
UPI	**Upington**	**10.71**	**247**	*e*P		**Pn**	**00 29 26.3**	**+1.5**
UPI				*e*S		**Sn**	**00 31 22.8**	**-1.7**
UPI				IAML			00 31 24.7	
	comp=Z,4.3nm,0.3s							
BRAK	**Brakfontein**	**11.04**	**228**	*e*P		**Pn**	**00 29 31.6**	**+2.4**
BRAK				*e*S		**Sn**	**00 31 27.9**	**-4.4**
BRAK				IAML			00 32 52.2	
	comp=Z,4.6nm,0.6s							
KEIM	**Keimoes**	**11.06**	**246**	*e*P		**Pn**	**00 29 31.4**	**+1.9**
KEIM				*e*S		**Sn**	**00 31 32.0**	**-0.9**
KEIM				IAML			00 32 42.1	
	comp=Z,4.2nm,0.6s							
ROOI	**Rooidraai Farm**	**11.07**	**223**	*e*P		**Pn**	**00 29 30.9**	**+1.3**
ROOI				*e*S		**Sn**	**00 31 31.1**	**-2.0**
ROOI				IAML			00 32 53.1	
	comp=Z,4.4nm,0.8s							
GRAN	**Grantham**	**11.84**	**228**	*e*P		**Pn**	**00 29 42.4**	**+2.2**
GRAN				*e*S		**Sn**	**00 31 50.5**	**-1.5**
GRAN				IAML			00 33 16.6	
	comp=Z,4.9nm,0.8s							
FRAZ	**Fraserburg**	**12.15**	**231**	*e*P		**Pn**	**00 29 46.0**	**+1.5**
FRAZ				*e*S		**Sn**	**00 31 54.6**	**-5.1**
FRAZ				IAML			00 31 56.2	
	comp=Z,4.7nm,0.4s							
MERW	**Merweville**	**12.50**	**228**	*e*P		**Pn**	**00 29 51.4**	**+2.1**
MERW				*e*S		**Sn**	**00 32 03.1**	**-5.1**
MERW				IAML			00 33 33.3	
	comp=Z,4.3nm,0.6s							
SUR	**Sutherland**	**12.82**	**231**	*e*P		**Pn**	**00 29 55.8**	**+2.1**
SUR				*e*S		**Sn**	**00 32 11.3**	**-4.9**
CVNA	**Calvinia**	**13.12**	**236**	*e*P		**Pn**	**00 30 00.0**	**+2.2**
CVNA				*e*S		**Sn**	**00 32 18.6**	**-4.9**
CVNA				IAML			00 34 09.0	
	comp=Z,4.8nm,0.7s							
MATJ	**Matjiesfontein**	**13.49**	**228**	*e*P		**Pn**	**00 30 04.7**	**+2.0**
MATJ				*e*S		**Sn**	**00 32 29.4**	**-2.9**
MATJ				IAML			00 34 08.8	
	comp=Z,4.8nm,0.6s							
KOMG	**Komaggas**	**14.29**	**246**	*e*P		**Pn**	**00 30 16.8**	**+3.2**
KOMG				*e*S		**Sn**	**00 32 46.1**	**-5.7**
KOMG				IAML			00 34 35.8	
	comp=Z,21nm,0.6s							
PRTV	**Porterville,We**	**14.41**	**231**	*e*P		**Pn**	**00 30 17.1**	**+1.8**
PRTV				*e*S		**Sn**	**00 32 48.0**	**-6.7**
CER	**Ceres**	**14.43**	**230**	*e*P		**Pn**	**00 30 17.6**	**+2.1**
CER				*e*S		**Sn**	**00 32 52.3**	**-2.9**
CER				IAML			00 34 32.9	
	comp=Z,1.5nm,1.0s							

*IDC **15** 00:34:33.5±2.6, 54.°03N×167.°06E, h0km, mb3.1/2, mbtmp3.1/3, ML2.6/1, Error ellipse: s-maj=119.1km s-min=26.8km az=166.0*
*KRSC **15** 00:34:34.3±1.1, 55.°35N×166.°46E, h34km±5km, Ml3.7*
ISC 15 00:34:37.0±1.6, 55.°4N±0.°1×166.°4E±0.°1, h20km, n19, σ0§88/21, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.36**	**229**	*e*S		**Sb**	**00 34 48.8**	**-1.0**
KBTR	**Krutoberegovo**	**2.19**	**292**	*e*P		**Pn**	**00 35 10.2**	**-2.0**
MKZ	**Mys Kozlova**	**2.86**	**254**	*e*P		**Pn**	**00 35 20.4**	**-0.9**
MKZ				*e*S		**Sn**	**00 35 54.1**	**-0.9**
CIRR	**Tsirk**	**3.29**	**284**	*e*P		**Pn**	**00 35 28.3**	**+0.9**
BZMR	**Bezymyannaya**	**3.41**	**281**	*e*P		**Pn**	**00 35 29.1**	**+0.1**
BZWR	**Bezymyannyi-We**	**3.41**	**281**	*e*P		**Pn**	**00 35 30.0**	**+0.9**
TUMD	**Tumrok D**	**3.46**	**269**	*e*P		**Pn**	**00 35 30.0**	**+0.4**
TUMD				*e*S		**Sn**	**00 36 10.8**	**+0.7**
KZV	**Kizimen**	**3.53**	**267**	*e*P		**Pn**	**00 35 30.9**	**+0.1**
TUMR	**Tumrok**	**3.60**	**270**	*e*P		**Pn**	**00 35 32.4**	**+0.8**
KII	**Karymskiy**	**4.29**	**254**	*e*S		**Sn**	**00 36 32.0**	**+1.4**
NLC	**Nalytchevo**	**4.74**	**244**	*e*S		**Sn**	**00 36 40.7**	**-0.7**
SMAR	**Somma**	**4.97**	**247**	*e*P		**Pn**	**00 35 51.1**	**+0.5**
KRER	**Koryakskii**	**4.98**	**248**	*e*P		**Pn**	**00 35 51.2**	**+0.5**
KRX	**Arik**	**5.01**	**249**	*e*P		**Pn**	**00 35 51.2**	**+0.1**
KOK	**Koryaka**	**5.05**	**248**	*e*P		**Pn**	**00 35 52.0**	**+0.4**
GNL	**Ganaly**	**5.25**	**254**	*e*P		**Pn**	**00 35 55.1**	**+0.8**
PETK	**Petropavlovsk-**	**5.63**	**249**	Pn		**Pn**	**00 35 59.4**	**-0.1**
	0.9nm,0.3s,baz=77,slow=16,SNR=15							
PETK				Sn		**Sn**	**00 37 04.2**	**+0.7**
	0.5nm,0.3s,baz=68,slow=28,SNR=5.1							
	2.0nm,0.5s							
ILAR	**Eielson Array**	**24.49**	**49**	P		P	00 40 00.3	+6.0
	0.3nm,0.6s,baz=261,slow=8.5,SNR=4.2							
	0.3nm,0.6s							
TXAR	**Lajitas Array**	**66.33**	**72**	P		**P**	**00 45 24.2**	**+0.1**
	0.1nm,0.6s,baz=299,slow=6.1,SNR=1.8							
	0.1nm,0.6s							

IDC 15 00:40:25.2±7.1, 6.°80S×147.°00E, h132km±75km, mb2.4/1, mbtmp3.1/3, Error ellipse: s-maj=115.0km s-min=55.6km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.59**	**176**	P		Pn	00 41 07.3	+0.6
	6.3nm,0.2s,baz=313,slow=7.8,SNR=3.7							
PMG				S		Sn	00 41 39.1	+0.5
	22nm,0.3s,baz=184,slow=18,SNR=16							
WRA	**Warramunga Arr**	**17.93**	**222**	P		Pn	00 44 26.1	-0.4
	0.3nm,0.5s,baz=43,slow=11,SNR=3.0							
ASAR	**Alice Springs**	**20.97**	**215**	P		P	00 44 57.9	-0.2
	0.3nm,0.8s,baz=52,slow=9.2,SNR=4.3							
	0.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**145.28**	**283**	PKPbc		PKPdf	00 59 47.4	-1.0
	2.1nm,1.3s,baz=81,slow=2.8,SNR=7.1							

*DJA **15** 00:45:02.3±0.3, 8.°5S±3.°×11.°9E±.°, h10km, M3.6/7, MLv3.6/7*
*IDC **15** 00:45:08.2±2.2, 7.°24S×120.°59E, h0km, mb3.2/2, mbtmp3.2/4, ML3.2/2, Error ellipse: s-maj=164.6km s-min=20.9km az=60.0*
ISC 15 00:44:58.8±0.8, 7.°47S±0.°05×119.°02E±0.°06, h10km, n11, σ1§65/14, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.82**	**222**	P		**Pb**	**00 45 31.5**	**-0.8**
PLAI				S		**Sb**	**00 45 53.2**	**-2.0**
BKSI	**Bulukumba**	**2.40**	**27**	P		**Pg**	**00 45 44.5**	**-0.4**
BKSI				S		**Sb**	**00 46 13.0**	**+1.1**
TWSI	**Taliwang, Sumb**	**2.46**	**239**	P		**Pb**	**00 45 42.9**	**-0.3**
KAPI	**Kappang**	**2.55**	**17**	Pn		**Pg**	**00 45 47.5**	**-0.2**
	3.1nm,0.3s,baz=192,slow=4.6,SNR=10							
KAPI				Sn		**Sb**	**00 46 17.2**	**+1.1**
	9.9nm,0.3s,baz=172,slow=22,SNR=7.3							
	8.3nm,0.3s							
BASI	**Baing, Sumba**	**3.13**	**151**	P		**Pn**	**00 45 49.7**	**+1.4**
MMRI	**Maumere**	**3.39**	**110**	P		**Pn**	**00 45 53.7**	**+1.9**
MMRI				S		**Sn**	**00 46 30.5**	**-1.6**
SRBI	**Singaraja**	**3.82**	**261**	P		**Pn**	**00 45 59.6**	**+1.9**
TTSI	**Tana Toraja**	**4.47**	**10**	P		**Pb**	**00 46 15.1**	**-2.4**
WRA	**Warramunga Arr**	**19.34**	**131**	P		**Pn**	**00 49 24.4**	**-1.3**
	0.1nm,0.3s,baz=306,slow=13,SNR=1.9							
	0.2nm,0.7s							
ASAR	**Alice Springs**	**21.52**	**140**	P		**P**	**00 49 50.2**	**+1.9**
	0.2nm,0.3s,baz=314,slow=9.6,SNR=8.3							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**63.12**	**333**	P		P	00 55 42.0	+15
	0.3nm,0.5s,baz=148,slow=7.1,SNR=4.0							
	0.3nm,0.5s							

*IDC **15** 00:57:51.6±0.8, 38.°50N×76.°17E, h0km, mb3.9/19, mbtmp3.9/26, ML3.4/7, MS3.4/11, Error ellipse: s-maj=15.9km s-min=13.0km az=105.0*
*SOME **15** 00:57:53.0, 38.°68N×76.°18E, h5km, MS3.9*
*BJI **15** 00:57:55.4±0.0, 38.°59N×76.°13E, h10km, mb4.1/4, ML4.2/8, Ms3.7/5, Ms7 3.6/4*
*NNC **15** 00:57:57.1±1.0, 38.°80N×76.°15E, h0km, mb4.7, mpv4.5, Error ellipse: s-maj=8.0km s-min=5.9km az=150.0*
*NEIC **15** 00:58:00.1±1.1, 38.°63N±0.°05×76.°22E±0.°09, h52km±7km, mb4.4/41, Error ellipse: s-maj=11.0km s-min=5.9km az=111.0*
ISC 15 00:57:53.5±0.4, 38.°47N±0.°03×76.°21E±0.°04, h10km, n182, σ1§66/177, mb4.3/37, MS3.4/8, 11C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.06**	**350**	Pg		Pg	00 58 08.0	-5.9
KSH				Sg		Sg	00 58 18.6	-9.2
KSH				smax		smax		
	comp=N,3μm,0.7s							
KSH				smax		smax		
	comp=E,3μm,1.1s							
NRN	**Naryn**	**2.96**	**357**			**Pn**	**00 58 42.7**	**+1.8**
NRN				Sn		**Sn**	**00 59 15.6**	**-1.1**
TARG	**Taragay, Kyrgy**	**3.48**	**20**			**Pn**	**00 58 50.0**	**+2.0**
ULHL	**Ulahol**	**3.77**	**0**	P		**Pn**	**00 58 54.0**	**+2.1**
	SNR=13							
BOOM	**Boomskoye usch**	**4.02**

TNSS Tian-Shan 4.60 7 *e*Pg Pb 00 59 14.3 -0.2
116nm,0.7s
TNSS *e*Lg Lg 01 00 12.5
66nm,0.6s
CHMS Chumysh 4.66 347 P Pn 00 59 05.8 +1.9
SNR=8.7
MTBS Maitube 4.66 2 Pg Pb 00 59 14.6 -0.7
60nm,0.6s
MTBS Lg Lg 01 00 14.1
121nm,0.4s
MTBS Maitube 4.66 2 *e*Pg Pb 00 59 14.9 -0.4
60nm,0.6s
MTBS *e*Lg Lg 01 00 14.1
121nm,0.4s
KASK Kaskelen 4.75 4 ⇓Pn Pn 00 59 07.8 +2.6
KASK ⇓Pg Pb 00 59 19.0 +2.1
KASK ⇓Lg Lg 01 00 18.3
AAA Alma-Ata 4.76 6 Pg Pb 00 59 17.8 +0.7
129nm,0.4s
AAA Lg Lg 01 00 18.4
210nm,0.5s
AAA Alma-Ata 4.76 6 *e*Pg Pb 00 59 17.8 +0.7
129nm,0.4s
AAA *e*Lg Lg 01 00 18.4
210nm,0.5s
KNDC Almaty 4.78 7 ⇑Pn Pn 00 59 07.7 +2.1
20nm,0.2s
KNDC ⇑Pg Pb 00 59 17.8 +0.5
204nm,0.7s
KNDC ⇑Lg Lg 01 00 19.9
645nm,0.6s
DGS Degeres 4.78 356 *e*Pg Pb 00 59 19.4 +2.0
110nm,0.3s
DGS *e*Lg Lg 01 00 21.4
219nm,0.5s
KOTS Kotyrbulak 4.81 8 Pg Pb 00 59 19.0 +1.0
97nm,0.7s
KOTS Lg Lg 01 00 20.5
712nm,0.6s
KOTS Kotyrbulak 4.81 8 *e*Pg Pb 00 59 18.9 +1.0
97nm,0.7s
KOTS *e*Lg Lg 01 00 20.5
712nm,0.6s
MRKS Merke 4.84 333 *e*Pg Pb 00 59 19.5 +1.1
52nm,0.6s
MRKS *e*Lg Lg 01 00 21.8
125nm,0.7s
SATY Saty 4.88 19 Pg Pb 00 59 20.3 +1.3
122nm,0.5s
SATY Lg Lg 01 00 23.6
233nm,0.5s
SATY Saty 4.88 19 *e*Pg Pb 00 59 20.6 +1.5
122nm,0.5s
SATY *e*Lg Lg 01 00 23.6
233nm,0.5s
USP Ospenovka 4.97 345 P Pn 00 59 10.3 +2.1
SNR=6.4
ZHN Zhinishke 4.99 19 Pg Pb 00 59 22.2 +1.3
48nm,0.3s
ZHN Lg Lg 01 00 26.8
166nm,0.4s
ZHN Zhinishke 4.99 19 *e*Pg Pb 00 59 22.5 +1.6
48nm,0.3s
ZHN *e*Lg Lg 01 00 26.8
166nm,0.4s
UZB Uzynbulak 5.14 24 Pg Pb 00 59 24.1 +0.6
58nm,0.4s
UZB Lg Lg 01 00 30.1
60nm,0.4s
UZB Uzynbulak 5.14 24 *e*Pg Pb 00 59 24.4 +0.9
38nm,0.3s
UZB *e*Lg Lg 01 00 30.1
60nm,0.4s
KURS Kuram 5.23 16 Pg Pb 00 59 27.1 +2.1
79nm,0.6s
KURS Lg Lg 01 00 34.8
123nm,0.7s
KURS Kuram 5.23 16 *e*Pg Pb 00 59 27.1 +2.1
79nm,0.6s
KURS *e*Lg Lg 01 00 34.8
123nm,0.7s
KRBS Karabastau 5.24 356 Pg Pb 00 59 26.9 +1.7
44nm,0.5s
KRBS Lg Lg 01 00 34.4
209nm,0.6s
KRBS Karabastau 5.24 356 *e*Pg Pb 00 59 26.9 +1.7
44nm,0.5s
KRBS *e*Lg Lg 01 00 34.4
209nm,0.6s
KTBS Karatobe 5.25 4 Pg Pb 00 59 26.6 +1.3
49nm,0.4s
KTBS Lg Lg 01 00 34.0
157nm,0.6s
KTBS Karatobe 5.25 4 *e*Pg Pb 00 59 26.6 +1.3
49nm,0.4s
KTBS *e*Lg Lg 01 00 34.0
157nm,0.6s
SHLS Shalkode 5.29 27 Pg Pb 00 59 31.4 +5.3
84nm,0.4s
SHLS Lg Lg 01 00 42.6
200nm,0.4s
SHLS Shalkode 5.29 27 *e*Pg Pg 00 59 31.8 -3.0
62nm,0.2s
SHLS *e*Lg Lg 01 00 42.6
200nm,0.4s
KPKS Kokpek 5.33 20 Pg Pb 00 59 29.1 +2.4
78nm,0.3s
KPKS Lg Lg 01 00 38.3
256nm,0.5s
KPKS Kokpek 5.33 20 *e*Pg Pb 00 59 29.1 +2.4
78nm,0.3s
KPKS *e*Lg Lg 01 00 38.3
256nm,0.5s
CHCP Chirah Chowk 5.36 207 P Pb 00 59 21.1 -6.2
NIL Nilore 5.37 207 Pn Pn 00 59 20.0 +6.3
CHKK Chushkaly 5.41 6 Pg Pb 00 59 29.4 +1.3
44nm,0.5s
CHKK Lg Lg 01 00 38.3
63nm,0.3s
CHKK Chushkaly 5.41 6 *e*Pg Pb 00 59 29.4 +1.3
44nm,0.5s
CHKK *e*Lg Lg 01 00 38.3
63nm,0.3s
KUU Kurty 5.42 1 Pg Pb 00 59 29.7 +1.4
39nm,0.7s
KUU Lg Lg 01 00 38.6
65nm,0.4s
KUU Kurty 5.42 1 *e*Pg Pb 00 59 29.6 +1.4
39nm,0.7s
KUU *e*Lg Lg 01 00 38.6
65nm,0.4s
PDGK Podgornoye 5.45 26 Pg Pb 00 59 31.6 +2.7
39nm,0.5s
PDGK Lg Lg 01 00 43.2
90nm,0.6s
PDGK Podgornoye 5.45 26 ⇓Pn Pn 00 59 15.9 +1.0
5.5nm,0.5s
PDGK ⇓Pg Pb 00 59 29.0 +0.2
46nm,0.5s
PDGK ⇓Lg Lg 01 00 39.9
54nm,0.7s
DZA Taraz 5.77 322 Pg Pb 00 59 28.4 -5.8
25nm,0.1s
DZA Lg Lg 01 00 36.3
102nm,0.1s
CEP Cherat 5.80 218 P Pn 00 59 25.8 +6.2
ARXS Arharly 5.87 11 Pg Pb 00 59 38.3 +2.4
59nm,0.6s
ARXS Lg Lg 01 00 53.4
67nm,0.6s
ARXS Arharly 5.87 11 *e*Pg Pb 00 59 38.3 +2.4
59nm,0.6s
ARXS *e*Lg Lg 01 00 53.4
67nm,0.6s
BLB Baldybastay 5.88 16 Pg Pb 00 59 37.2 +1.2
130nm,0.5s
BLB Lg Lg 01 00 51.7
46nm,0.7s
KTMS Ketmen 5.88 31 Pg Pb 00 59 40.8 +4.7
20nm,0.4s
KTMS Lg Lg 01 00 58.2
30nm,0.6s
KTMS Ketmen 5.88 31 *e*Pg Pb 00 59 40.8 +4.7
20nm,0.4s
KTMS *e*Lg Lg 01 00 58.2
30nm,0.6s
KNOS Konyrlen 6.29 20 Pg Pb 00 59 47.1 +3.9
73nm,0.6s
KNOS Lg Lg 01 01 09.0
31nm,0.5s
KK31 Karatay Array 6.33 319 ⇑Pn Pn 00 59 27.5 +0.6
1.9nm,0.3s,baz=128,slow=12,SNR=90
KK31 ⇑Sn Sn 01 00 37.1 -2.2
20nm,0.5s,baz=161,slow=24,SNR=4.0
KK31 ⇓Lg Lg 01 01 08.8
38nm,0.7s
KK31 Karatay Array 6.33 319 Pn Pn 00 59 27.4 +0.6
KKAR Karatay Array 6.33 319 Pn Pn 00 59 27.1 +0.2
DJR Jarkent 6.45 24 Pg Pb 00 59 48.3 +2.6
18nm,0.6s
DJR Lg Lg 01 01 10.7
34nm,0.4s
DJR Jarkent 6.45 24 *e*Pg Pb 00 59 48.3 +2.6
18nm,0.6s
DJR *e*Lg Lg 01 01 10.8
34nm,0.4s
THW Thamme Wali 6.73 214 P Pn 00 59 37.4 +5.0
TDK Taldyqorghan 6.73 13 Pg Pb 00 59 52.4 +1.9
80nm,0.6s
TDK Lg Lg 01 01 18.5
131nm,0.5s
TDK Taldyqorghan 6.73 13 *e*Pg Pb 00 59 52.4 +1.9
80nm,0.6s
TDK *e*Lg Lg 01 01 18.5
131nm,0.5s
BTLS Baital 6.76 347 Pg Pb 00 59 53.9 +2.8
12nm,0.6s
BTLS Lg Lg 01 01 20.3
12nm,0.6s
BTLS Baital 6.76 347 *e*Pg Pb 00 59 53.9 +2.8
12nm,0.6s
BTLS *e*Lg Lg 01 01 20.3
12nm,0.6s
KBL Kabul 6.98 238 Pn Pn 00 59 40.2 +4.3
SARP Sargodha 7.15 205 P Pn 00 59 42.7 +4.7
MAKZ Makanchi 9.35 25 Pn 01 00 09.2 +1.0
MK31 Makanchi Array 9.45 26 ⇑P Pn 01 00 09.5 0.0
1.8nm,0.5s,baz=205,slow=13,SNR=37
MK31 Makanchi Array 9.45 26 Pn Pn 01 00 09.7 +0.2
MKAR Makanchi Array 9.45 26 Pn Pn 01 00 09.4 -0.1
1.1nm,0.3s,baz=207,slow=13,SNR=32
MKAR Lg Lg 01 02 45.5
0.6nm,0.3s,baz=214,slow=28,SNR=2.0
MKAR LR LR 01 03 59.2
comp=Z,110nm,18.2s,baz=144,slow=39
2.0nm,0.5s
WMQ Urumqi 10.17 55 *e*P Pn 01 00 24.3 +4.7
PYUN Piuthan 11.79 149 *e*P Pn 01 00 42.1 +0.2
9.7nm,0.4s
PYUN *e*S Sn 01 02 48.8 -4.8
DANN Dangsing 11.89 146 *e*P Pn 01 00 43.5 +0.1
24nm,0.4s
HRA Herat 11.96 254 Pn Pn 01 00 47.0 +2.8
KURBB Kurchatov Arra 12.26 7 ⇑P Pn 01 00 45.4 -2.6
5.3nm,0.7s
KURBB Kurchatov Arra 12.26 7 Pn Pn 01 00 46.0 -2.0
0.1nm,0.3s,baz=192,slow=12,SNR=37
KURBB Sn Sn 01 03 00.6 -4.1
baz=195,slow=28,SNR=1.9
KURBB Lg Lg 01 04 19.0
0.1nm,0.3s,baz=202,slow=28,SNR=8.1
4.4nm,0.8s
KURK Kurchatov 12.36 7 ⇑P Pn 01 00 47.8 -1.6
10nm,0.8s
KURK Kurchatov 12.36 7 Pn Pn 01 00 47.9 -1.5
GKN Gorkha 12.59 144 *e*P Pn 01 00 52.7 -0.1
DMN Daman 13.14 143 *e*P Pn 01 01 00.5 +0.1
12nm,0.3s
GUN Gumba 13.27 140 *e*P Pn 01 01 01.9 -0.4
PKIN Phulchoki 13.31 142 *e*P Pn 01 01 02.2 -0.5
PKI Pulchoki 13.32 142 *e*P Pn 01 01 02.4 -0.5
JIRN Jiri 13.63 139 *e*P Pn 01 01 07.1 -0.1
26nm,0.4s
GEYT Alibeck 14.24 273 Pn Pn 01 01 12.8 -2.5
GEYT Alibeck 14.24 273 Pn Pn 01 01 12.1 -3.1
1.8nm,0.3s,baz=101,slow=12,SNR=16
GEYT Sn Sn 01 03 50.9 -2.4
1.0nm,0.3s,baz=321,slow=30,SNR=6.3
GEYT LR LR 01 06 49.1
comp=Z,69nm,20.5s,baz=21,slow=38
4.7nm,0.5s
GYA0B ALIBECK ARRAY 14.24 273 Pn Pn 01 01 12.5 -2.7
RAMN Ramite 14.42 140 *e*P Pn 01 01 16.9 -1.0
TAPN Taplejung 14.69 136 *e*P Pn 01 01 21.0 -0.6
GOMU GeErMu 14.97 93 P Pn 01 01 23.3 -2.2
GOMU pP P 01 01 26.4 -4.7
GOMU sP 01 01 30.8
GOMU pmax pmax
comp=Z,3.0nm,0.6s
GOMU pmax pmax
comp=Z,96nm,6.6s
BVAR Borovoye Array 15.11 346 Pn Pn 01 01 24.1 -2.7
baz=155,slow=12,SNR=8.3
BVAR Lg Lg 01 05 38.3
comp=Z,0.4nm,0.3s,baz=150,slow=27,SNR=72
BVAR LR LR 01 07 43.4
comp=Z,164nm,19.7s,baz=158,slow=39
comp=Z,2.3nm,0.8s
BRVK Borovoye 15.16 346 Pn Pn 01 01 29.5 +2.0
AB31 Akbulak array 15.90 318 ⇑P Pn 01 01 35.5 -1.6
comp=Z,1.3nm,0.5s,baz=128,slow=13,SNR=37
ABKAR Akbulak array 15.90 318 Pn 01 01 35.7 -1.5
ABKAR Akbulak array 15.90 318 Pn 01 01 36.3 -0.9
ZALV Zalesovo Beam 16.57 18 Pn Pn 01 01 46.2 +0.5
comp=Z,1.1nm,0.3s,baz=214,slow=12,SNR=13
comp=Z,6.0nm,0.5s
AKTO Aktyubinsk 17.60 319 ⇑P P 01 02 02.0 +2.3
comp=Z,2.8nm,0.7s
AKTO Aktyubinsk 17.60 319 Pn Pn 01 01 55.0 -3.8
comp=Z,0.1nm,0.3s,baz=186,slow=5.9,SNR=1.7
comp=Z,0.7nm,0.5s
GTA Gaotai 18.38 80 *e*P Pn 01 02 09.3 +0.8
GTA sP sP 01 02 17.0 +3.3
GTA pmax pmax
comp=Z,8.0nm,0.9s
SHL Shillong 18.46 130 P Pn 01 02 11.5 +1.9
SHL IAmb IAmb 01 02 41.4
comp=Z,9.5nm,0.5s
BRDH Bariadhala 20.55 136 LR LR 01 11 07.7
comp=Z,102nm,18.4s,baz=268,slow=39
WSAR Wadi Sarin 21.35 230 P P 01 02 42.2 +1.3
comp=Z,7.7nm,0.5s,baz=250,slow=3.1,SNR=17
comp=Z,7.7nm,0.5s
ARU Arti 21.46 333 P 01 02 42.1 +0.4
ARU Arti 21.46 333 P P 01 02 40.9 -0.9
comp=Z,1.5nm,0.3s,baz=118,slow=22,SNR=3.8
ARU LR LR 01 10 25.5
comp=Z,81nm,18.7s,baz=318,slow=35
comp=Z,1.5nm,0.3s
SONM Songino Array 23.80 57 P P 01 03 07.1 +0.7
SONM Songino Array 23.80 57 P P 01 03 07.5 +1.1
comp=Z,7.0nm,0.6s,baz=254,slow=10,SNR=27
comp=Z,7.0nm,0.6s
ULN Ulaanbaatar 24.24 57 P P 01 03 10.6 0.0
GNI Garni 24.35 284 P P 01 03 13.6 +1.9
GNI IAmb IAmb 01 03 32.2
comp=Z,11nm,0.8s
KBZ Khabaz 25.54 293 P P 01 03 20.1 -2.1
comp=Z,1.9nm,0.8s,baz=20,slow=1.8,SNR=2.7
comp=Z,1.9nm,0.8s
KIV Kislovodsk 25.70 293 P P 01 03 25.3 +1.5
KIV IAmb IAmb 01 03 50.4
comp=Z,5.6nm,0.8s
SIRT Sirnak 26.55 279 P P 01 03 33.3 +1.7
CMAR Chiang Mai Arr 28.09 129 P P 01 03 52.8 +7.3
comp=Z,0.8nm,0.3s,baz=308,slow=10,SNR=4.8
BRTR Keskin Array B 32.84 286 P P 01 04 27.9 +0.5
BRTR Keskin Array B 32.84 286 P P 01 04 27.0 -0.4
comp=Z,1.5nm,0.8s,baz=97,slow=8.5,SNR=8.0
comp=Z,1.5nm,0.8s
EIL Elat 35.05 268 LR LR 01 21 37.7
comp=Z,44nm,18.0s,baz=64,slow=41
AKASG Malin Array Be 35.05 306 P P 01 04 46.1 -0.2
comp=Z,0.5nm,0.4s,baz=76,slow=8.4,SNR=4.3
comp=Z,0.5nm,0.4s
AKBB Malin Array Si 35.05 306 P P 01 04 46.1 -0.1
AKBB IAmb IAmb 01 04 55.1
comp=Z,5.8nm,0.8s
ELL Elmali 36.43 282 P P 01 04 59.0 +0.6
BURAR Bucovina Array 37.77 301 P P 01 05 10.2 +0.5
BUR08 Bucovina Ar. S 37.78 301 P P 01 05 09.9 +0.2
BUR08 IAmb IAmb 01 05 10.7
comp=Z,11nm,1.4s
FINES FINESS Array B 38.27 323 P P 01 05 13.7 +0.2
FINES FINESS Array B 38.27 323 P P 01 05 13.2 -0.4
comp=Z,2.0nm,0.9s,baz=114,slow=6.6,SNR=6.9
comp=Z,2.0nm,0.9s
KSRS Korea Array 40.34 75 LR LR 01 24 45.3
comp=Z,60nm,18.6s,baz=320,slow=40
ARCES ARCESS Array B 40.99 335 P P 01 05 35.7 -0.4
comp=Z,1.5nm,0.4s,baz=100,slow=6.3,SNR=12
comp=Z,1.5nm,0.4s
AGG Ágios Georgios 41.50 288 P P 01 05 40.3 -0.5
AGG IAmb IAmb 01 05 52.8
comp=Z,7.3nm,1.3s
USRK Ussuriysk Ar. 41.59 64 LR LR 01 25 15.0
comp=Z,68nm,21.3s,baz=325,slow=40
FNA Florina 41.72 291 P P 01 05 42.6 +0.1
DIVS Divibare 41.92 296 P P 01 05 44.8 +0.6
DIVS IAmb IAmb 01 06 01.2
comp=Z,9.8nm,1.5s
TIXI Tiksi 42.40 22 P P 01 05 47.4 -0.2
PDG Podgorica 42.83 294 P P 01 05 52.0 +0.4
PDG IAmb IAmb 01 05 52.5
comp=Z,5.0nm,0.6s
HFS Hagfors 44.14 320 P P 01 06 02.5 +0.7
comp=Z,2.1nm,0.9s,baz=105,slow=11,SNR=1.6
comp=Z,2.1nm,0.9s
NC405 NORSAR Array S 45.11 322 P P 01 06 10.6 +1.0
GERES GERESS Array B 45.21 304 P P 01 06 10.3 -0.4
comp=Z,0.2nm,0.3s,baz=72,slow=7.5,SNR=2.4
comp=Z,0.2nm,0.3s
NC303 NORSAR Array S 45.28 322 P P 01 06 12.2 +1.3
NB2 NORSAR Subarra 45.36 322 P P 01 06 13.7 +2.1
comp=Z,1.3nm,0.8s,baz=88,slow=8.6
NOA NORSAR Array B 45.36 322 P P 01 06 10.0 -1.6
comp=Z,1.0nm,0.8s,baz=90,slow=7.9,SNR=2.2
comp=Z,1.0nm,0.8s
TRI Trieste 45.86 300 P P 01 06 15.7 0.0
TRI IAmb IAmb 01 06 26.6
comp=Z,4.8nm,0.8s
CUC Castrocucco 46.01 292 P P 01 06 17.8 +0.8
CUC IAmb IAmb 01 06 23.7
comp=Z,5.4nm,0.8s
FUORN Ofenpass-Fuorn 47.98 302 P P 01 06 33.2 +0.6
TUE Stuetta 48.63 302 P P 01 06 37.6 +0.1
TUE IAmb IAmb 01 07 02.1
comp=Z,3.0nm,1.1s
SENIN Lac Senin/Sane 50.02 303 P P 01 06 48.5 +0.3
BNI Bardonecchia 50.84 301 P P 01 06 54.5 +0.2
BNI IAmb IAmb 01 07 10.0
comp=Z,4.6nm,1.1s
KEST Kesra 52.33 289 P P 01 07 05.9 +0.3
KEST IAmb IAmb 01 07 33.5
comp=Z,5.6nm,1.2s
KEST Kesra 52.33 289 P P 01 07 05.3 -0.2
comp=Z,3.4nm,0.9s,baz=315,slow=2.9,SNR=5.8
comp=Z,3.4nm,0.9s
EKA Eskdalemuir Ar 53.76 316 P P 01 07 15.9 +0.2
comp=Z,0.4nm,0.5s,baz=85,slow=8.6,SNR=1.4
comp=Z,0.4nm,0.5s
PETK Petropavlovsk- 55.64 46 LR LR 01 34 30.9
comp=Z,27nm,18.6s,baz=89,slow=40
ESDC Sonseca Array 60.18 299 P P 01 08 01.1 -0.4
comp=Z,0.3nm,0.4s,baz=59,slow=6.7,SNR=6.5
comp=Z,0.3nm,0.4s
C19K Lookout Ridge 65.17 19 P P 01 08 34.3 0.0
VOI Vohitsoka 66.10 210 P P 01 08 42.8 +1.9
TOLK Toolik Lake Re 67.92 16 P P 01 08 51.3 -0.6
IMAR Indian Mountai 68.99 20 P P 01 08 57.9 -0.6
TOA0 Torodi Ar. Sit 69.87 271 P P 01 09 03.6 -1.2
TOA0 IAmb IAmb 01 09 04.8
comp=Z,8.1nm,1.4s
TORD Torodi Ar. Bea 69.87 271 P P 01 09 03.6 -1.2
TORD Torodi Ar. Bea 69.87 271 P P 01 09 03.5 -1.2
comp=Z,1.6nm,0.6s,baz=50,slow=6.0,SNR=20
comp=Z,1.6nm,0.6s
BMAR Burnt Mountain 70.00 16 P P 01 09 05.3 +0.5
K17K Iditarod 70.13 24 P P 01 09 05.1 -0.5
K20K Telida 70.92 22 P P 01 09 10.8 +0.3
K20K IAmb IAmb 01 09 27.3
comp=Z,6.5nm,1.4s
ILAR Eielson Array 71.69 18 P P 01 09 14.2 -1.0
comp=Z,0.5nm,0.9s,baz=312,slow=4.3,SNR=3.2
ILAR LR LR 01 47 16.8
comp=Z,30nm,18.6s,baz=339,slow=41
comp=Z,0.5nm,0.9s
H29M Whitestone 72.29 14 P P 01 09 18.5 -0.1
H29M IAmb IAmb 01 09 29.7
comp=Z,12nm,1.4s
DHY Denali Highway 72.98 19 P P 01 09 22.5 -0.5
DHY IAmb IAmb 01 09 32.4
comp=Z,5.7nm,1.2s
KOWA Kowa 73.55 276 P P 01 09 26.4 -0.6
KOWA IAmb IAmb 01 09 36.2
comp=Z,4.0nm,0.8s
KDAK Kodiak Island 75.75 25 P P 01 09 38.7 -0.3
DBIC Dimbokro 78.90 270 P P 01 09 57.8 +0.5
TSUM Tsumeb 79.42 235 LR LR 01 51 08.9
comp=Z,30nm,18.9s,baz=148,slow=40
WRA Warramunga Arr 79.64 126 P P 01 10 01.9 +0.7
comp=Z,0.4nm,0.8s,baz=320,slow=5.0,SNR=2.1
comp=Z,0.4nm,0.8s
WB2 Warramunga Arr 79.64 126 P P 01 10 02.4 +1.1
WB2 IAmb IAmb 01 10 28.4
comp=Z,9.3nm,1.5s
BOSA Boshof 81.98 224 P P 01 10 13.5 -0.1
BOSA IAmb IAmb 01 10 41.7
comp=Z,3.5nm,0.9s
BOSA Boshof 81.98 224 P P 01 10 12.4 -1.2
comp=Z,1.1nm,0.6s,baz=310,slow=1.4,SNR=3.7
comp=Z,1.1nm,0.6s
ASAR Alice Springs 82.10 129 P P 01 10 16.1 +1.8
ASAR Alice Springs 82.10 129 P P 01 10 12.8 -1.5
comp=Z,0.5nm,0.7s,baz=318,slow=5.8,SNR=5.8
comp=Z,0.5nm,0.7s

BUL ***15*** *01:12:38.8±0.4,25°.20S×32°.51E,h10km,MD3.4*
EAF ***15*** *01:12:39.2,24°.75S×32°.75E,h10km,MC3.3*
PRE 15 01:12:39.5±1.1,24°.57S×32°.50E,h10km,ML1.9,
Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**1.44**	**276**	*e*P	Pb	01 13 06.7	+0.2
HOED				*e*S	Sg	01 13 25.7	-0.2
HOED				IAML		01 13 28.1	
	comp=Z,22nm,0.2s						
MOPA	**Mopani**	**1.46**	**316**	*i* P	Pn	01 13 05.5	-0.4
MOPA				*i* S	Sb	01 13 25.3	-0.1
MOPA	**Mopani**	**1.46**	**316**	*e*P	Pn	01 13 05.7	-0.2
MOPA				*e*S	Sg	01 13 26.0	-0.5
MOPA	**Mopani**	**1.46**	**316**	*i* P	Pn	01 13 05.5	-0.4
	baz=315						
MOPA				*i* S	Sb	01 13 25.3	-0.1
	baz=315						
PILG	**Pilgrimsrest,**	**1.67**	**257**	*e*P	Pn	01 13 09.4	+0.4
PILG				*e*S	Sb	01 13 31.5	-0.2
PILG				IAML		01 13 32.9	
	comp=Z,27nm,0.2s						
MPHEP	**Siloam, Limpop**	**2.70**	**307**	*e*P	Pn	01 13 24.3	+1.2
MPHEP				*e*S	Sn	01 13 56.6	+0.7
MPHEP				IAML		01 14 05.8	
	comp=Z,17nm,0.3s						
POGA	**Pongola**	**2.85**	**194**	*e*P	Pn	01 13 25.8	+0.7
POGA				*e*S	Sn	01 14 00.2	+0.6
POGA				IAML		01 14 11.6	
	comp=Z,1.3nm,0.2s						
MUSN	**Musina, Limpop**	**3.33**	**313**	*i* P	Pb	01 13 36.7	-2.0
MUSN				*i* S	Sb	01 14 19.1	-0.1
MUSN	**Musina, Limpop**	**3.33**	**313**	*e*P	Pn	01 13 33.1	+1.4
MUSN				*e*S	Sn	01 14 10.4	-0.9
MUSN				IAML		01 14 31.2	
	comp=Z,9.1nm,0.6s						
MUSN	**Musina, Limpop**	**3.33**	**313**	*i* P	Pb	01 13 36.7	-2.0
	baz=312						
MUSN				*i* S	Sb	01 14 19.1	-0.1
	baz=312						
NWCL	**Newcastle**	**3.93**	**216**	*e*P	Pn	01 13 40.9	+0.9
NWCL				*e*S	Sn	01 14 25.0	-1.3
NWCL				IAML		01 14 43.7	
	comp=Z,4.3nm,0.3s						
LEPH	**Lephalale, Lim**	**4.36**	**278**	*e*P	Pn	01 13 47.6	+1.7
LEPH				*e*S	Sn	01 14 36.4	-0.4
LEPH				IAML		01 15 02.4	
	comp=Z,4.2nm,0.4s						
MATP	**Matopo**	**5.54**	**317**	*i* P	Pn	01 14 07.6	+5.4
MATP				*i* S	Sn	01 15 11.8	+5.7
MATP	**Matopo**	**5.54**	**317**	*i* P	Pn	01 14 07.6	+5.4
	baz=317						

MATP *i* S Sn 01 15 11.8 +5.7
baz=317
LBTB Lobatse 6.29 265 *e*P Pn 01 14 13.0 +0.5
LBTB *e*S Sn 01 15 22.8 -1.8
LBTB IAML 01 16 00.1
comp=Z,2.0nm,0.6s
KSTD Kokstad 6.66 204 *e*P Pn 01 14 18.8 +1.3
KSTD *e*S Sn 01 15 30.2 -3.4
KSTD IAML 01 15 32.1
comp=Z,1.7nm,0.4s

IDC 15 01:17:28.2±2.1, 5.79N×126.72E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=195.3km s-min=28.1km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.64**	**164**	P	P	01 23 08.9	0.0
	0.2nm,0.6s,baz=344,slow=10,SNR=5.4 0.2nm,0.6s						
MKAR	**Makanchi Array**	**55.88**	**324**	P	P	01 27 08.0	+0.2
	0.7nm,0.4s,baz=120,slow=7.4,SNR=10 0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**58.77**	**333**	P	P	01 27 27.5	-0.5
	0.4nm,0.3s,baz=124,slow=7.2,SNR=2.1 0.4nm,0.3s						

IDC 15 01:34:18.8±2.3, 33.92S×178.67W, h0km, mb4.0/2, mbtmp4.0/3, ML3.8/1, Error ellipse: s-maj=62.4km s-min=33.6km az=129.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.52**	**217**	Pn	Pn	01 35 43.1	+0.8
	3.0nm,0.3s,baz=134,slow=4.7,SNR=15						
URZ				Sn	Sn	01 36 46.0	-0.4
	3.7nm,0.3s,baz=227,slow=23,SNR=8.1 16nm,0.5s						
ASAR	**Alice Springs**	**42.48**	**271**	P	P	01 42 15.7	-0.2
	1.7nm,0.7s,baz=110,slow=7.5,SNR=18 1.7nm,0.7s						
WRA	**Warramunga Arr**	**43.78**	**276**	P	P	01 42 26.4	-0.1
	1.6nm,0.6s,baz=119,slow=7.4,SNR=20 1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**123.06**	**312**	PKP	PKiKP	01 53 17.0	0.0
	0.3nm,0.5s,baz=126,slow=1.6,SNR=2.5						
FINES	**FINESS Array B**	**148.21**	**338**	PKPbc	PKPbc	01 54 04.9	-1.0
	2.3nm,0.7s,baz=44,slow=4.4,SNR=11						

*NEIC **15** 01:41:51.8±1.8, 46.87N±0.04×112.54W±0.07, h7km±6km, ML3.9/72, Mwr3.6/14, ML4.0/34(BUT), Error ellipse: s-maj=7.6km s-min=5.5km az=112.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.64; $M_{\theta\theta}$-2.28; $M_{\phi\phi}$1.64; $M_{r\theta}$-0.53; $M_{\theta\phi}$-1.61; $M_{\phi r}$-1.02; Fault plane solution: $M_0$2.84000×10^{14} NP1:ϕ_s114.32000°, δ63.60000°, λ172.21000°. NP2:ϕ_s207.80000°, δ83.02000°, λ26.61000°. Principal axes: T 2.5588, Plg24.0000°, Azm74.0000°; N 0.4994, Plg63.0000°, Azm221.0000°; P -3.0582, Plg13.0000°, Azm338.0000°;*
*IDC **15** 01:41:52.1±0.8, 46.90N×112.62W, h0km, mb3.3/1, mbtmp3.3/7, ML2.9/5, MS2.6/2 Error ellipse: s-maj=11.3km s-min=7.5km az=51.0*
*BUT **15** 01:41:52.2±1.9, 46.91N±0.04×112.51W±0.07, h9km±4km, Error ellipse: s-maj=7.3km s-min=5.2km az=128.0*
*NEIC **15** 01:41:52, 46.87N×112.54W, h7km*
*ANF **15** 01:41:53.0±1.5, 46.83N×112.60W, h7km±15km, ML4.2/8, Error ellipse: s-maj=8.5km s-min=6.4km az=165.0*

ISC 15 01:41:52.0±0.7, 46.94N±0.03×112.64W±0.03, h10km, n79, σ1$58/88, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.24**	**81**	Pg	**Pg**	**01 41 56.0**	**-1.0**
OVMT	**Ovando**	**0.28**	**298**		**Pb**	**01 41 59.5**	**+0.3**
BEMT	**Mount Belmont**	**0.28**	**131**	Pg	**Pg**	**01 41 56.3**	**-1.4**
CHMT	**Chamberlain Mo**	**0.42**	**267**		**Pb**	**01 42 02.1**	**+0.4**
ELMT	**Elliston**	**0.42**	**167**	Pg	**Pg**	**01 41 59.6**	**-0.7**
BPMT	**Black Pine Rid**	**0.75**	**229**	Pg	**Pb**	**01 42 07.0**	**-0.2**
MSO	**Missoula**	**0.90**	**264**		**Pn**	**01 42 10.6**	**-0.2**
MSO				IAML		01 42 27.9	
	3μm,0.7s						
MSO				IAML		01 42 28.1	
	3μm,0.7s						
MSO	**Missoula**	**0.90**	**264**	P	**Pn**	**01 42 10.6**	**-0.2**
	baz=87,SNR=338						
MSO				S	**Sn**	**01 42 23.7**	**-0.2**
	baz=87						
BOZ	**Bozeman (W)**	**1.51**	**152**		**Pn**	**01 42 18.5**	**-0.7**
BOZ				IAML		01 42 40.8	
	1μm,0.5s						
BOZ				IAML		01 42 40.9	
	1μm,0.4s						
BOZ	**Bozeman (W)**	**1.51**	**152**	P	**Pn**	**01 42 18.7**	**-0.5**
	baz=334,SNR=977						
BOZ				S	**Sn**	**01 42 38.1**	**-0.9**
	baz=334						
DLMT	**Dillon**	**1.57**	**179**		**Pn**	**01 42 19.9**	**-0.1**
DLMT				IAML		01 42 44.5	
	1μm,0.3s						
DLMT				IAML		01 42 46.4	
	1μm,1.0s						
EGMT	**Eagleton**	**2.24**	**60**	Pn	**Pn**	**01 42 29.7**	**+0.5**
EGMT				IAML		01 43 03.5	
	1μm,0.6s						
EGMT				IAML		01 43 04.9	
	1μm,0.6s						
EGMT	**Eagleton**	**2.24**	**60**	P	**Pn**	**01 42 29.7**	**+0.5**
	baz=240,SNR=95						
EGMT				S	**Sb**	**01 43 00.4**	**+0.1**
	baz=240						
YHL	**Hebgen Lake**	**2.32**	**154**		**Pn**	**01 42 30.7**	**+0.2**
YHL				IAML		01 43 07.4	
	comp=E,1μm,1.1s						
GCR	**Grayling Creek**	**2.39**	**153**		**Pb**	**01 42 35.7**	**+0.5**
YHB	**Horse Butte**	**2.41**	**155**		**Pn**	**01 42 32.1**	**+0.5**
YPDC	**Denny Creek**	**2.43**	**156**		**Pn**	**01 42 32.4**	**+0.4**
YHH	**Holmes Hill**	**2.48**	**149**		**Pn**	**01 42 32.9**	**+0.2**
HSPGA	**Hill Springs,**	**2.52**	**345**		**Pb**	**01 42 36.4**	**-0.9**
YMR	**Madison River**	**2.55**	**152**		**Pn**	**01 42 34.1**	**+0.5**
YMR				IAML		01 43 20.3	
	comp=N,790nm,0.7s						
YMR				IAML		01 43 20.5	
	comp=E,603nm,0.7s						
YPWB	**West Boundary**	**2.56**	**155**		**Pn**	**01 42 35.8**	**+2.0**
YPM	**Purple Mountai**	**2.59**	**151**		**Pn**	**01 42 35.2**	**+1.0**
PZCI	**Patelzick Cree**	**2.60**	**175**		**Pn**	**01 42 34.8**	**+0.5**
YNR	**Norris Junctio**	**2.61**	**148**		**Pn**	**01 42 33.7**	**-0.7**
YNR				IAML		01 43 20.4	
	comp=E,296nm,0.4s						
BCYI	**Bear Canyon**	**2.68**	**192**		**Pn**	**01 42 35.3**	**0.0**
YMP	**Mirror Lake Pl**	**2.80**	**141**		**Pn**	**01 42 37.4**	**+0.4**
YMP				IAML		01 43 20.4	
	comp=E,854nm,0.7s						
YMP				IAML		01 43 21.0	
	comp=N,786nm,0.8s						
YPPC	**Pelican Cone**	**2.86**	**142**		**Pg**	**01 42 45.9**	**-0.8**
EMI	**Eightmile Cany**	**2.87**	**184**		**Pn**	**01 42 38.2**	**+0.3**
YPK	**Parker Peak, Y**	**2.91**	**138**		**Pn**	**01 42 40.5**	**+1.9**
H17A	**Grant Village**	**2.92**	**150**		**Pn**	**01 42 39.0**	**+0.3**
H17A	**Grant Village**	**2.92**	**150**	Pb	**Pb**	**01 42 42.9**	**-1.4**
	baz=332						
MCID	**Moose Creek**	**2.93**	**159**		**Pn**	**01 42 39.5**	**+0.7**
RLMT	**Red Lodge**	**2.97**	**126**	Pn	**Pn**	**01 42 40.2**	**+0.9**
RLMT				IAML		01 43 23.8	
	comp=N,572nm,0.5s						
RLMT				IAML		01 43 26.4	
	comp=N,461nm,0.7s						
RLMT	**Red Lodge**	**2.97**	**126**	P	**Pn**	**01 42 39.3**	**0.0**
	baz=309,SNR=24						
RLMT				Sb	**Sb**	**01 43 22.3**	**+1.0**
	baz=309						
PLID	**Pearl Lake**	**2.98**	**233**		**Pn**	**01 42 40.8**	**+1.2**
PLID				IAML		01 43 32.5	
	comp=N,202nm,0.7s						
PLID				IAML		01 43 37.9	
	comp=N,194nm,0.8s						
FLWY	**Flagg Ranch**	**3.16**	**154**		**Pn**	**01 42 42.6**	**+0.7**
FLWY				IAML		01 43 32.3	
	comp=N,280nm,1.2s						
FLWY				IAML		01 43 32.3	
	comp=N,347nm,1.1s						
IMW	**Indian Meadow**	**3.27**	**158**	Pn	**Pn**	**01 42 44.5**	**+1.1**
IMW				IAML		01 43 34.5	
	comp=N,327nm,0.5s						
NEW	**Newport**	**3.31**	**295**		**Pn**	**01 42 45.4**	**+1.5**
NEW				IAML		01 43 39.8	
	comp=N,226nm,0.6s						
NEW				IAML		01 43 41.5	
	comp=N,283nm,0.6s						
NEW	**Newport**	**3.31**	**295**	P	**Pn**	**01 42 45.4**	**+1.5**
	baz=112,SNR=23						
NEW				Sb	**Sg**	**01 43 37.0**	**-1.3**
	baz=112						
NEW	**Newport**	**3.31**	**295**	Pn	**Pn**	**01 42 46.4**	**+2.5**
	comp=N,18nm,0.3s,baz=116,slow=11,SNR=79						
NEW				Lg	Lg	01 43 36.4	
	comp=N,53nm,0.3s,baz=18,slow=17,SNR=15						
NEW				LR	LR	01 43 47.7	
	comp=N,32nm,20.5s,baz=110,slow=35						
F10A	**Beach Ranch, E**	**3.32**	**255**	Pn	**Pn**	**01 42 45.8**	**+1.8**
MOOW	**Moose Ponds**	**3.45**	**157**	Pn	**Pn**	**01 42 44.5**	**-1.5**
FXWY	**Fox Creek**	**3.49**	**160**		**Pn**	**01 42 47.0**	**+0.5**
HLID	**Hailey**	**3.60**	**201**	Pn	**Pn**	**01 42 48.2**	**+0.3**
HLID				IAML		01 43 45.5	
	comp=N,348nm,0.5s						
HLID				IAML		01 43 47.6	
	comp=N,408nm,0.4s						
HLID	**Hailey**	**3.60**	**201**	P	**Pn**	**01 42 48.9**	**+1.0**
	baz=21,SNR=17						
HLID				Sb	**Sg**	**01 43 43.2**	**-4.3**
	baz=21						
LOHW	**Long Hollow**	**3.62**	**156**	Pn	**Pn**	**01 42 48.5**	**+0.2**
TPAW	**Teton Pass**	**3.65**	**160**	Pn	**Pn**	**01 42 48.5**	**-0.1**
TPAW				IAML		01 43 55.8	
	comp=N,230nm,1.0s						
SNOW	**Snow King Moun**	**3.72**	**158**		**Pn**	**01 42 50.2**	**+0.6**
SNOW				IAML		01 43 49.8	
	comp=N,124nm,1.0s						
SNOW				IAML		01 44 10.3	
	comp=N,129nm,0.9s						
REDW	**Red Top Meadow**	**3.79**	**160**		**Pn**	**01 42 52.2**	**+1.6**
E09A	**Wood Farm, Sta**	**3.81**	**266**		**Pn**	**01 42 52.2**	**+1.5**
E09A				IAML		01 44 01.9	
	comp=E,234nm,0.5s						
BMO	**Blue Mountains**	**3.87**	**239**		**Pn**	**01 42 52.2**	**+0.6**
C09A	**Chrisman Ranch**	**3.93**	**285**		**Pn**	**01 42 53.3**	**+1.0**
LNOR	**Lincton Mounta**	**4.05**	**257**		**Pn**	**01 42 57.1**	**+3.1**
ID08	**Devils Gate**	**4.08**	**172**		**Pn**	**01 42 56.0**	**+1.4**
ID08				IAML		01 44 02.7	
	comp=E,102nm,0.9s						
ID08				IAML		01 44 04.9	
	comp=E,120nm,0.9s						
MFID	**Camas Ranch**	**4.18**	**214**	Pn	**Pn**	**01 42 56.8**	**+0.9**
LAO	**LASA Array**	**4.41**	**91**	Pn	**Pn**	**01 43 00.1**	**+1.1**
LAO	**LASA Array**	**4.41**	**91**	P	**Pn**	**01 43 00.1**	**+1.1**
	baz=275,SNR=11						
LAO				Sb	**Sb**	**01 44 06.4**	**+3.6**
	baz=275						
E08A	**Dider Farm, El**	**4.44**	**267**		**Pn**	**01 42 59.6**	**+0.3**
E08A				IAML		01 44 17.9	
	comp=E,114nm,0.8s						
G08A	**Pilot Rock**	**4.69**	**252**	Pn	**Pn**	**01 43 03.0**	**+0.1**
G08A				IAML		01 44 26.7	
	comp=N,51nm,0.9s						
G08A				IAML		01 44 38.1	
	comp=E,53nm,1.1s						
PD31	**Pinedale Array**	**4.71**	**151**	Pn	**Pn**	**01 43 02.3**	**-0.9**
PDAR	**Pinedale Array**	**4.71**	**151**	Pn	**Pn**	**01 43 01.8**	**-1.4**
PDAR	**Pinedale Array**	**4.71**	**151**	Pn	**Pn**	**01 43 06.7**	**+3.5**
	comp=E,0.5nm,0.3s,baz=354,slow=14,SNR=15						
PDAR				Lg	Lg	01 44 17.2	
	comp=E,1.4nm,0.3s,baz=358,slow=28,SNR=14 comp=E,1.1nm,0.6s						
HAWA	**Hanford**	**4.78**	**266**		**Pn**	**01 43 04.5**	**+0.5**
HAWA				IAML		01 44 35.5	
	comp=E,107nm,0.7s						
ID09	**Alton**	**4.80**	**167**	Pn	**Pn**	**01 43 03.1**	**-1.5**
E07A	**Sunnyside**	**4.98**	**268**	Pn	**Pn**	**01 43 08.0**	**+1.2**
F07A	**Phinny Hill Vi**	**5.15**	**261**		**Pn**	**01 43 08.6**	**-0.5**
LTY	**Liberty**	**5.50**	**276**		**Pn**	**01 43 16.2**	**+2.3**
I07A	**Izee**	**5.61**	**242**	Pn	**Pn**	**01 43 15.7**	**+0.2**
DGMT	**Dagmar**	**5.90**	**72**	Pn	**Pn**	**01 43 19.5**	**0.0**
DGMT	**Dagmar**	**5.90**	**72**	P	**Pn**	**01 43 20.2**	**+0.8**
	baz=257						
DGMT				Sb	**Sb**	**01 44 50.2**	**+4.6**
	baz=257						
K22A	**Casper**	**6.10**	**132**	Sb	**Sb**	**01 44 54.6**	**+3.0**
	baz=317						
ELK	**Elko**	**6.47**	**198**	Pn	**Pn**	**01 43 31.4**	**+4.0**
	comp=E,0.1nm,0.3s,baz=339,slow=18,SNR=2.5						
ELK				Pg	**Pb**	**01 43 47.0**	**+2.3**
	comp=E,0.3nm,0.3s,baz=14,slow=13,SNR=9.9						
ELK				Lg	Lg	01 45 10.3	
	comp=E,0.8nm,0.3s,baz=134,slow=17,SNR=5.3 comp=E,0.9nm,0.8s						
PINE	**Pine Mountain**	**6.64**	**245**	Pn	**Pn**	**01 43 29.1**	**-0.6**
RSSD	**Black Hills**	**6.66**	**112**	Sb	**Sb**	**01 45 12.3**	**+4.6**
	baz=298						
NVAR	**Mina Array Bea**	**9.47**	**208**	Pn	**Pn**	**01 44 11.0**	**+2.5**
	baz=23,slow=15,SNR=1.3						
NVAR				Pg		01 44 40.4	
	comp=E,0.1nm,0.3s,baz=22,slow=17,SNR=3.2						
NVAR				Lg	Lg	01 46 47.8	
	comp=E,0.1nm,0.3s,baz=27,slow=23,SNR=2.6 comp=E,0.3nm,0.6s						
ULM	**Lac du Bonnet**	**11.58**	**67**	Pn	**Pn**	**01 44 36.4**	**-0.9**
	comp=E,0.2nm,0.3s,baz=357,slow=15,SNR=2.1						
ULM				Pg		01 45 20.2	
	comp=E,0.6nm,0.3s,baz=263,slow=14,SNR=5.4						
ULM				Lg	Lg	01 47 47.0	
	comp=E,0.8nm,0.3s,baz=178,slow=12,SNR=4.4 comp=E,2.9nm,0.8s						
YKA	**Yellowknife Ar**	**15.63**	**357**	Pn	**Pn**	**01 45 29.4**	**-2.7**
	comp=E,0.2nm,0.3s,baz=169,slow=14,SNR=4.4						
YKA				Sn	Sn	01 48 14.3	-11
	comp=E,0.1nm,0.3s,baz=178,slow=18,SNR=2.1						
YKA				Lg	Lg	01 49 53.0	
	baz=167,slow=28						
YKA				LR	LR	01 52 11.1	
	comp=E,65nm,18.5s,baz=96,slow=40 comp=E,0.7nm,0.6s						
ILAR	**Eielson Array**	**25.74**	**326**	P	**P**	**01 47 23.8**	**+1.5**
	comp=E,0.4nm,0.6s,baz=122,slow=7.2,SNR=7.4 comp=E,0.4nm,0.6s						
HHC	**Hu-ho-hao-te**	**84.16**	**328**	*e*P	**P**	**01 54 23.3**	**0.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,470nm,4.9s						

*LDG **15** 01:43:35.4±0.2, 36.62N×4.39W, h83km, Ml2.4/3, Error ellipse: s-maj=5.8km s-min=3.8km az=161.0*
*SFS **15** 01:43:36.6, 36.53N×4.41W, h85km, ML2.4/14, MLv2.4/14*
*MDD **15** 01:43:37.1±0.3, 36.57N×4.40W, h83km±4km, Mb2.7/30, Error ellipse: s-maj=2.4km s-min=1.7km az=149.0*
*INMG **15** 01:43:37.2±1.4, 36.58N×4.39W, h78km±3km, ML2.1, Error ellipse: s-maj=2.2km s-min=2.2km az=132.0*
*CNRM **15** 01:43:37.0, 36.37N×4.55W, h111km, ml1.8*
*IGIL **15** 01:43:38.1, 36.56N×4.40W, h83km, ML2.5*

ISC 15 01:43:35.4±1.2, 36.58N±0.03×4.38W±0.02, h91km±6km, n83, σ1$67/150, 20C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.19**	**348**	Sn	**Sn**	**01 43 57.1**	**-1.0**
EMAL				Pn	**Pn**	**01 43 49.1**	**+0.7**
EMIJ	**Mijas**	**0.31**	**268**	P	**Pn**	**01 43 49.0**	**0.0**
EMIJ				S	**Sn**	**01 43 58.3**	**-0.9**
EMIJ	**Mijas**	**0.31**	**268**	Sn	**Sn**	**01 43 58.0**	**-1.2**
EMIJ				Pn	**Pn**	**01 43 49.1**	**0.0**
EGOR	**Sierra Gorda,**	**0.57**	**22**	P	**Pn**	**01 43 52.2**	**+1.2**
EGOR				S	**Sn**	**01 44 03.6**	**+1.0**
EGOR	**Sierra Gorda,**	**0.57**	**22**	Sn	**Sn**	**01 44 03.8**	**+1.1**
EGOR				Pn	**Pn**	**01 43 52.1**	**+1.1**
ELGU	**Los Guajares,**	**0.67**	**64**	P	**Pn**	**01 43 51.8**	**+0.1**
ELGU				S	**Sn**	**01 44 03.4**	**-0.6**
ELGU	**Los Guajares,**	**0.67**	**64**	Sn	**Sn**	**01 44 04.2**	**+0.2**
ELGU				Pn	**Pn**	**01 43 51.9**	**+0.1**
EJIM	**Jimena Fronter**	**0.88**	**262**	*e*P	**Pn**	**01 43 54.4**	**+0.6**
EJIM				*e*S	**Sn**	**01 44 07.7**	**0.0**
EJIM	**Jimena Fronter**	**0.88**	**262**	P	**Pn**	**01 43 54.4**	**+0.6**
EJIM				S	**Sn**	**01 44 07.5**	**-0.2**
EQTA	**Presa de Quent**	**0.98**	**50**	Sn	**Sn**	**01 44 10.7**	**+0.9**
EQTA				Pn	**Pn**	**01 43 56.8**	**+1.8**
EQUE	**Quentar**	**0.98**	**50**	P	**Pn**	**01 43 56.8**	**+1.8**
EQUE				S	**Sn**	**01 44 09.7**	**-0.1**
CEU	**Ceuta**	**1.05**	**230**	Pn	**Pn**	**01 43 55.3**	**-0.3**
ECEU	**Ceuta**	**1.05**	**230**	P	**Pn**	**01 43 56.6**	**+0.9**
ECEU				⇑*i*Vmb_V		01 43 59.0	
	329nm,SNR=4.6						
ECEU				S	**Sn**	**01 44 10.1**	**-0.9**
SMIR	**Smir Dam**	**1.21**	**222**	P	**Pn**	**01 43 57.6**	**+0.1**
SMIR				S	**Sn**	**01 44 15.3**	**+1.1**
EBER	**Berja**	**1.24**	**75**	P	**Pn**	**01 43 58.7**	**+0.6**
EBER				⇑*i*Vmb_V		01 44 00.3	
	164nm,SNR=1.9						
EBER				S	**Sn**	**01 44 14.9**	**-0.3**
EBER	**Berja**	**1.24**	**75**	Sn	**Sn**	**01 44 15.1**	**-0.1**
EBER				Pn	**Pn**	**01 43 58.7**	**+0.6**
EALB	**Alboran**	**1.26**	**120**	S	**Sn**	**01 44 14.1**	**-1.3**
EALB	**Alboran**	**1.26**	**120**	Sn	**Sn**	**01 44 14.0**	**-1.4**
PALE	**Palemas**	**1.41**	**165**	P	**Pn**	**01 44 00.8**	**+0.8**
PALE				S	**Sn**	**01 44 20.3**	**+1.7**
EADA	**Adamuz**	**1.59**	**354**	⇑P	**Pn**	**01 44 03.7**	**+1.3**
EADA				⇑*i*Vmb_V		01 44 04.2	
	558nm,SNR=15						
EADA				S	**Sn**	**01 44 22.6**	**-0.3**
EADA	**Adamuz**	**1.59**	**354**	Pn	**Pn**	**01 44 03.8**	**+1.3**
EADA				Sn	**Sn**	**01 44 21.6**	**-1.3**
EQES	**Quesada**	**1.61**	**40**	P	**Pn**	**01 44 04.1**	**+1.5**
EQES				⇑*i*Vmb_V		01 44 05.0	
	222nm,SNR=4.3						
EQES				S	**Sn**	**01 44 23.5**	**+0.2**
ECAB	**El Cabril**	**1.71**	**331**	P	**Pn**	**01 44 04.5**	**+0.7**
ECAB				⇑*i*Vmb_V		01 44 05.6	
	132nm,SNR=3.8						
ECAB				S	**Sn**	**01 44 25.0**	**-0.5**
ECAB	**El Cabril**	**1.71**	**331**	Pn	**Pn**	**01 44 04.6**	**+0.7**
ECAB				Sn	**Sn**	**01 44 23.9**	**-1.6**
GOG	**Mont Gurugu**	**1.76**	**140**	P	**Pn**	**01 44 05.9**	**+1.3**
GOG				S	**Sn**	**01 44 28.9**	**+2.2**
ENIJ	**Nijar**	**1.79**	**77**	P	**Pn**	**01 44 05.6**	**+0.7**
ENIJ				⇑*i*Vmb_V		01 44 06.3	
	153nm,SNR=1.2						
ENIJ				S	**Sn**	**01 44 26.0**	**-1.3**
ENIJ	**Nijar**	**1.79**	**77**	Pn	**Pn**	**01 44 05.6**	**+0.7**
CHAS	**Isla Isabel II**	**2.11**	**131**	Pn	**Pn**	**01 44 08.3**	**-0.7**
EMIN	**Mina Concepcio**	**2.18**	**304**	P	**Pn**	**01 44 10.6**	**+0.7**
EMIN				⇑*i*Vmb_V		01 44 13.4	
	151nm,SNR=3.2						
EMIN				S	**Sn**	**01 44 35.1**	**-1.3**
EZAR	**Zarzadilla de**	**2.51**	**58**	P	**Pn**	**01 44 16.7**	**+2.4**
EZAR				S	**Sn**	**01 44 44.6**	**+0.3**
PBAR	**Barrancos**	**2.65**	**308**	*e*P	**Pn**	**01 44 17.6**	**+1.4**
PBAR				*e*S	**Sn**	**01 44 46.4**	**-1.1**
PBAR				A	A	01 44 49.3	
	4.0nm,0.3s						
PBAR	**Barrancos**	**2.65**	**308**	Pn	**Pn**	**01 44 17.3**	**+1.1**
EGRO	**El Granado**	**2.66**	**292**	P	**Pn**	**01 44 17.2**	**+0.9**
EGRO				⇑*i*Vmb_V		01 44 17.9	
	306nm,SNR=5.2						
EGRO				S	**Sn**	**01 44 46.4**	**-1.3**
EGRO	**El Granado**	**2.66**	**292**	Pn	**Pn**	**01 44 17.4**	**+1.2**
EGRO				Sn	**Sn**	**01 44 46.1**	**-1.6**
JBK	**JBK**	**2.68**	**146**	P	**Pn**	**01 44 17.1**	**+0.2**
JBK				S	**Sn**	**01 44 48.0**	**-0.7**
PVAQ	**Vaqueiros**	**2.79**	**288**	*e*P	**Pn**	**01 44 19.3**	**+1.2**
PVAQ				*e*S	**Sn**	**01 44 49.1**	**-1.9**
PVAQ				A	A	01 44 52.4	
	11nm,0.1s						
PVAQ	**Vaqueiros**	**2.79**	**288**	P	**Pn**	**01 44 19.5**	**+1.4**
PVAQ				S	**Sn**	**01 44 51.4**	**+0.4**
PVAQ	**Vaqueiros**	**2.79**	**288**	Pn	**Pn**	**01 44 18.8**	**+0.7**
PBDV	**Barranco-do-Ve**	**2.92**	**284**	⇓*e*P	**Pn**	**01 44 21.1**	**+1.3**
PBDV				*e*S	**Sn**	**01 44 53.5**	**-0.6**
PBDV				A	A	01 44 55.6	
	4.7nm,0.2s						
PAB	**San Pablo**	**2.96**	**1**	P	**Pn**	**01 44 21.9**	**+1.4**
PAB				⇑*i*Vmb_V		01 44 22.7	
	79nm,SNR=2.3						
PAB				S	**Sn**	**01 44 53.8**	**-1.4**
EBAD	**Badajoz**	**3.01**	**317**	P	**Pn**	**01 44 22.1**	**+1.1**
EBAD				⇑*i*Vmb_V		01 44 23.4	
	166nm,SNR=4.8						
EBAD				S	**Sn**	**01 44 55.2**	**-1.1**
EBAD	**Badajoz**	**3.01**	**317**	Pn	**Pn**	**01 44 22.3**	**+1.3**
EBAD				Sn	**Sn**	**01 44 55.3**	**-1.0**
ETOB	**Tobarra**	**3.05**	**47**	P	**Pn**	**01 44 22.8**	**+1.2**
ETOB				⇑*i*Vmb_V		01 44 23.8	
	221nm,SNR=2.5						
ETOB				S	**Sn**	**01 44 55.0**	**-2.4**
ETOB	**Tobarra**	**3.05**	**47**	Pn	**Pn**	**01 44 22.8**	**+1.2**
ETOB				Sn	**Sn**	**01 44 56.0**	**-1.3**
PCVE	**Castro Verde**	**3.11**	**291**	*e*P	**Pn**	**01 44 23.3**	**+1.0**
PCVE				*e*S	**Sn**	**01 44 58.4**	**-0.1**
PCVE				A	A	01 44 59.5	
	3.6nm,0.3s						
PCVE	**Castro Verde**	**3.11**	**291**	Pn	**Pn**	**01 44 23.0**	**+0.6**
ESDC	**Sonseca Array**	**3.11**	**6**	S	**Sn**	**01 44 57.1**	**-1.5**
PBEJ	**Beja**	**3.13**	**299**	*e*P	**Pn**	**01 44 24.0**	**+1.3**
PBEJ				*e*S	**Sn**	**01 44 57.8**	**-1.3**
PBEJ				A	A	01 44 58.2	
	2.1nm,0.2s						
PESTR	**Estremoz**	**3.42**	**313**	*e*P	**Pn**	**01 44 28.1**	**+1.6**
PESTR				*e*S	**Sn**	**01 45 04.8**	**-1.3**
PESTR				A	A	01 45 05.0	
	1.7nm,0.1s						
PESTR	**Estremoz**	**3.42**	**313**	P	**Pn**	**01 44 29.3**	**+2.8**
PESTR				S	**Sn**	**01 45 11.9**	**+5.8**
EVO	**Evora**	**3.48**	**305**	*e*P	**Pn**	**01 44 29.1**	**+1.7**
EVO				*e*S	**Sn**	**01 45 06.4**	**-1.2**
EVO				A	A	01 45 08.8	
	3.6nm,0.1s						
MORF	**Marmelete**	**3.50**	**283**	*e*P	**Pn**	**01 44 28.6**	**+1.0**
MORF				*e*S	**Sn**	**01 45 06.6**	**-1.4**
MORF				A	A	01 45 11.2	
	7.1nm,0.1s						
MORF	**Marmelete**	**3.50**	**283**	*e*P	**Pn**	**01 44 28.4**	**+0.8**
MORF				*e*S	**Sn**	**01 45 05.1**	**-2.9**
MORF				IAML		01 45 09.1	
	comp=E,13nm,0.3s						
**

GUD				S	Sn	01 45 20.0	-1.9
PCBR	Castelo Branco	4.07	324	eS	Sn	01 45 19.7	-2.1
PCBR				A	A	01 45 20.1	
	comp=E,1.6nm,0.3s						
PMAFR	Mafra	4.55	303	eS	Sn	01 45 34.0	+0.5
PSBE	So Bento	4.55	311	eP	Pn	01 44 44.7	+2.8
PSBE				eS	Sn	01 45 32.7	-0.9
ETOR	Torete	4.61	23	P	Pn	01 44 44.2	+1.5
ETOR				⇑iVmb_V		01 44 44.8	
	comp=E,81nm,SNR=1.5						
ETOR				S	Sn	01 45 32.6	-2.5
PCAS	Casmilo, Conde	4.74	318	eS	Sn	01 45 36.2	-2.0
PCAS				A	A	01 45 40.6	
	comp=E,1.6nm,0.3s						
EMOS	Mosqueruela	4.87	38	P	Pn	01 44 47.2	+0.9
EMOS				⇑iVmb_V		01 44 50.8	
	comp=E,65nm,SNR=0.9						
EMOS				S	Sn	01 45 38.6	-2.9
MVO	Moncorvo	5.02	337	eP	Pn	01 44 51.0	+2.7
MVO				eS	Sn	01 45 44.0	-1.1
MVO				A	A	01 45 45.6	
	comp=E,1.6nm,0.5s						
PVRL	Vila Real	5.36	332	eS	Sn	01 45 51.6	-1.7
PVRL				A	A	01 45 55.1	
	comp=E,2.7nm,0.3s						
PBRG	Braganca	5.53	341	eP	Pn	01 44 57.7	+2.5
PBRG				eS	Sn	01 45 55.1	-2.4
ECAL	Calabor	5.66	342	P	Pn	01 44 59.1	+2.1
ECAL				⇑iVmb_V		01 45 01.7	
	comp=E,41nm,SNR=0.7						
ECAL				S	Sn	01 45 58.0	-2.7
OUZM	OUZ	5.99	200	P	Pn	01 45 02.4	+0.8
OUZM				S	Sn	01 46 08.1	-0.8
ELOB	Lobios	6.00	333	S	Sn	01 46 05.9	-3.1
OUK	Oukaimeden	6.09	209	P	Pn	01 45 02.3	-0.9
OUK				S	Sn	01 46 07.6	-3.9
SJPF	Ste Jean	6.96	19	eP	Pn	01 45 15.4	+0.7
SJPF				eSn	Sn	01 46 26.9	-5.4
	comp=E,0.3nm,0.2s						
ETSF	Etsaut	6.96	24	eP	Pn	01 45 17.6	+2.8
ETSF				eSn	Sn	01 46 28.3	-4.1
	comp=E,0.4nm,0.3s						
EPF	Esparros	7.40	28	eP	Pn	01 45 21.2	+0.6
EPF				eSn	Sn	01 46 38.1	-4.9
	comp=E,0.4nm,0.3s						

*NNC **15** 01:46:06.5±2.7, 37.06N×70.49E, h222km±38km, mb2.6, mpv3.7, Error ellipse: s-maj=28.4km s-min=22.6km az=178.0*
*DMN **15** 01:47:48.1±31.0, 31.91N×79.60E, h2km, Mb4.7/4, Error ellipse: s-maj=862.4km s-min=38.4km az=134.0*

ISC 15 01:46:00.3±1.6, 36.64N±0.10×70.5E±0.1, h200km, n10, σ1§70/13, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.01	23	⇑P	Pn	01 47 29.5	+1.5
	3.1nm,0.5s						
AML				⇓S	Sn	01 48 36.6	-0.7
	3.2nm,0.6s						
KK31	Karatay Array	6.46	360	⇑P	Pn	01 47 35.2	+1.8
	0.6nm,0.2s,baz=182,slow=14,SNR=49						
KK31				⇑S	Sn	01 48 44.1	-3.2
	6.4nm,0.6s,baz=87,slow=52,SNR=5.1						
TKM2	Tokmak 2	7.39	30	⇑P	Pn	01 47 47.2	+1.5
	12nm,0.5s						
TKM2				⇑S	Sn	01 49 08.8	-0.7
	2.8nm,0.9s						
PYUN	Piuthan	13.54	125	eP	Pn	01 49 03.5	-1.2
	6.6nm,0.4s						
DANN	Dangsing	13.88	123	eP	Pn	01 49 07.0	-2.2
	5.3nm,0.4s						
AB31	Akbulak array	14.78	332	⇓P	Pn	01 49 19.4	-0.3
	0.3nm,0.4s,baz=162,slow=11,SNR=14						
PKIN	Phulchoki	15.49	121	eP	Pn	01 49 29.6	+0.8
	6.9nm,0.4s						
PKI	Pulchoki	15.50	121	eP	Pn	01 49 29.9	+0.9
	8.8nm,0.5s						
JIRN	Jiri	15.99	120	eP	Pn	01 49 36.3	+1.4
	17nm,0.4s						
AKTO	Aktyubinsk	16.47	331	⇓P	Pn	01 49 40.7	+0.6
	2.1nm,0.8s						

*IDC **15** 01:48:19.0±1.5, 25.40S×179.54E, h508km±15km, mb3.4/8, mbtmp4.2/11, Error ellipse: s-maj=17.0km s-min=12.5km az=155.0*
*NOU **15** 01:48:20.0, 25.66S×178.15E, h339km, mb4.1/16, South of Fiji Islands*
*NEIC **15** 01:48:20.2±1.3, 25.4S±0.1×179.6E±0.1, h517km±8km, mb4.3/21, Error ellipse: s-maj=25.0km s-min=13.9km az=140.0*

ISC 15 01:48:18.6±0.6, 25.39S±0.10×179.64E±0.09, h507km, n69, σ1§13/71, mb4.2/20, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.76	349	P	P	01 50 11.7	-1.3
MSVF	Nonsavu	7.76	349	P	P	01 50 12.4	-0.5
MSVF	Nonsavu	7.76	349	P	P	01 50 11.9	-1.0
	2.8nm,0.4s,baz=252,slow=22,SNR=7.1						
MARNC	Mare, Loyalty	11.34	288	P	P	01 50 51.0	+0.8
PINNC	Pines Island,	11.48	281	P	P	01 50 52.4	+0.7
OUENC	Ouen Island, N	12.07	282	P	P	01 51 00.2	+2.3
DZM	Mont Dzumac	12.53	283	P	P	01 51 04.9	+2.1
DZM	Mont Dzumac	12.53	283	P	P	01 51 02.6	-0.3
	12nm,0.8s,baz=120,slow=12,SNR=9.1						
URZ	Urewera	13.01	189	P	P	01 51 08.9	+1.3
URZ	Urewera	13.01	189	P	P	01 51 04.4	-3.2
	8.5nm,0.8s,baz=154,slow=3.9,SNR=2.2						
KOUNC	Koumac, New Ca	14.93	286	P	P	01 51 28.3	+0.3
QRZ	Quartz Range	16.50	199	P	P	01 51 43.2	-0.8
RPZ	Rata Peaks	19.58	199	P	P	01 52 12.0	-0.8
	8.5nm,0.8s,baz=57,slow=15,SNR=1.2						
ARMA	Armidale	25.22	252	P	P	01 53 04.7	+0.9
EIDS	Eidsvold	25.78	264	P	P	01 53 09.2	+0.5
EIDS	Eidsvold	25.78	264	P	P	01 53 09.7	+1.0
MGCD	Mangrove Creek	26.01	246	P	P	01 53 11.7	+1.1
RMQ	Roma	27.76	261	P	P	01 53 27.0	+0.9
CAN	Canberra	28.13	242	P	P	01 53 29.5	+0.2
CAN				IAmb	IAmb	01 53 43.9	
	comp=Z,18nm,1.5s						
CMSA	Cobar Meteorol	30.38	251	P	P	01 53 50.1	+1.2
CTAO	Charters Tower	31.18	273	P	P	01 53 55.8	-0.1
CTAO	Charters Tower	31.18	273	P	P	01 53 57.8	+1.9
TOO	Toolangi	31.38	239	P	P	01 53 58.5	+1.1
TOO				IAmb	IAmb	01 54 16.4	
	comp=Z,8.4nm,1.2s						
QLP	Quilpie	31.79	260	P	P	01 54 02.5	+1.5
STKA	Stephens Creek	33.88	250	P	P	01 54 19.4	+0.6
STKA	Stephens Creek	33.88	250	P	P	01 54 19.8	+1.1
STKA	Stephens Creek	33.88	250	P	P	01 54 19.0	+0.3
	comp=Z,1.8nm,0.5s,baz=87,slow=12,SNR=5.1						
	comp=Z,1.8nm,0.5s						
COEN	Coen	36.05	281	P	P	01 54 36.6	-0.5
COEN				IAmb	IAmb	01 54 39.6	
	comp=Z,6.5nm,0.6s						
COEN	Coen	36.05	281	P	P	01 54 39.3	+2.3
HTT	Hallett	36.18	248	P	P	01 54 38.6	+0.6
QIS	Mount Isa	37.07	269	P	P	01 54 47.4	+2.0
	comp=Z,4.4nm,1.1s						
BBOO	Buckleboo	38.58	249	P	P	01 54 56.8	-0.8
BBOO				IAmb	IAmb	01 54 58.6	
	comp=Z,8.9nm,1.1s						
OOD	Oodnadatta	39.22	256	P	P	01 55 04.3	+1.5
AS31	Alice Springs	41.49	262	P	P	01 55 21.9	+0.7
AS31				IAmb	IAmb	01 55 23.5	
	comp=Z,4.7nm,0.3s						
ASAR	Alice Springs	41.49	262	P	P	01 55 21.6	+0.5
	comp=Z,3.5nm,0.3s,baz=92,slow=8.1,SNR=120						
ASAR				ScP	ScP	02 00 09.8	+1.2
	comp=Z,0.2nm,0.6s,baz=100,slow=4.1,SNR=1.8						
ASAR				S	S	02 00 57.0	-2.8
	comp=Z,0.4nm,0.9s,baz=93,slow=17,SNR=2.5						
	comp=Z,3.5nm,0.3s						
WR0	Warramunga Arr	41.81	268	P	P	01 55 24.2	+0.5
WR0				IAmb	IAmb	01 55 25.2	
	comp=Z,12nm,1.2s						
WB2	Warramunga Arr	41.99	268	P	P	01 55 24.7	-0.4
WB2				IAmb	IAmb	01 55 26.4	
	comp=Z,7.6nm,0.6s						
WRA	Warramunga Arr	42.00	268	P	P	01 55 25.5	+0.3
WRA	Warramunga Arr	42.00	268	P	P	01 55 25.2	0.0
	comp=Z,5.4nm,0.5s,baz=104,slow=7.9,SNR=44						
WRA				ScP	ScP	02 00 11.8	+1.0
	comp=Z,0.4nm,0.9s,baz=100,slow=3.5,SNR=2.2						
WRA				S	S	02 01 04.3	-2.8
	comp=Z,0.7nm,0.9s,baz=100,slow=14,SNR=4.3						
	comp=Z,5.4nm,0.5s						
FORT	Forrest	45.50	251	P	P	01 55 52.3	+0.1
KNRA	Kununurra	48.37	271	P	P	01 56 14.4	+0.3
QSPA	South Pole Qui	64.70	180	P	P	01 58 06.6	+0.6
QSPA	South Pole Qui	64.70	180	P	P	01 58 05.9	-0.1
	comp=Z,2.0nm,0.8s,baz=12,slow=0.6,SNR=14						
	comp=Z,2.0nm,0.8s						
PETK	Petropavlovsk-	80.46	347	P	P	01 59 36.4	-0.5
	comp=Z,1.3nm,0.6s,baz=160,slow=8.9,SNR=1.7						
	comp=Z,1.3nm,0.6s						
GMN	Gold Mountain	86.04	45	P	P	02 00 06.1	+0.6
NVAR	Mina Array Bea	86.05	44	P	P	02 00 05.8	+0.4
NVAR	Mina Array Bea	86.05	44	P	P	02 00 06.3	+0.8
	comp=Z,1.0nm,0.7s,baz=218,slow=9.9,SNR=5.5						
	comp=Z,1.0nm,0.7s						
KVN	Kaiserville	86.55	44	P	P	02 00 09.0	+1.3
TUC	Tucson	87.68	53	P	P	02 00 14.1	+0.9
TUC				IAmb	IAmb	02 00 16.2	
	comp=Z,2.4nm,0.9s						
PINE	Pine Mountain	87.75	39	P	P	02 00 14.9	+1.6
PINE				IAmb	IAmb	02 00 16.0	
	comp=Z,6.3nm,0.9s						
J08A	Circle Bar Ran	88.90	40	P	P	02 00 18.6	+0.1
TMUT	Trail Mountain	91.10	46	P	P	02 00 29.4	+0.2
TMUT				IAmb	IAmb	02 00 31.2	
	comp=Z,2.5nm,0.7s						
TXAR	Lajitas Array	91.50	58	P	P	02 00 31.9	+1.0
	comp=Z,0.9nm,0.9s,baz=217,slow=6.3,SNR=7.7						
	comp=Z,0.9nm,0.9s						
BSUT	Blindstream Ca	92.05	46	P	P	02 00 34.0	+0.4
BSUT				IAmb	IAmb	02 00 35.5	
	comp=Z,2.8nm,0.7s						
ILAR	Eielson Array	93.55	14	P	P	02 00 38.2	-1.1
	comp=Z,0.2nm,0.6s,baz=202,slow=4.5,SNR=2.2						
	comp=Z,0.2nm,0.6s						
KURBB	Kurchatov Arra	116.08	316	PKP	PKPdf	02 06 03.2	-0.2
	comp=Z,0.5nm,0.4s,baz=119,slow=1.2,SNR=2.4						
BVAR	Borovoye Array	121.33	318	PKP	PKPdf	02 06 13.4	-0.1
	comp=Z,1.0nm,0.5s,baz=142,slow=3.1,SNR=4.6						
ARCES	ARCESS Array B	133.27	348	PKP	PKPdf	02 06 36.1	+0.3
	comp=Z,1.7nm,0.7s,baz=64,slow=2.8,SNR=6.7						
FINES	FINESS Array B	139.74	341	PKhKP	PKPpre	02 06 39.5	
	comp=Z,1.8nm,0.9s,baz=197,slow=2.0,SNR=5.3						
FINES				PKP	PKiKP	02 06 49.4	-1.0
	comp=Z,2.3nm,0.8s,baz=17,slow=1.5,SNR=1.2						
FINES				SKPbc	SKPbc	02 09 34.8	-0.8
	comp=Z,4.5nm,1.0s,baz=166,slow=32,SNR=5.3						
NB2	NORSAR Subarra	143.49	351	PKP	PKPbc	02 06 53.2	0.0
	comp=Z,1.5nm,0.6s,baz=17,slow=3.4						
NOA	NORSAR Array B	143.49	351	PKP	PKPbc	02 06 53.3	+0.1
	comp=Z,2.9nm,0.7s,baz=22,slow=3.8,SNR=10.0						
HFS	Hagfors	143.93	348	PKP	PKPbc	02 06 54.5	0.0
	comp=Z,4.7nm,0.5s,baz=64,slow=3.4,SNR=32						
AKASG	Malin Array Be	146.02	326	PKPbc	PKPbc	02 07 01.1	0.0
	comp=Z,0.8nm,0.4s,baz=43,slow=3.7,SNR=5.3						
MMAI	Mount Meron Ar	147.98	292	PKPbc	PKiKP	02 07 08.4	0.0
	comp=Z,1.3nm,0.4s,baz=76,slow=7.0,SNR=9.7						
BRTR	Keskin Array B	148.18	305	PKPbc	PKPbc	02 07 07.8	+0.3
	comp=Z,0.6nm,0.6s,baz=135,slow=3.5,SNR=6.3						
EKA	Eskdalemuir Ar	150.01	3	PKPbc	PKPbc	02 07 10.0	-1.1
	comp=Z,0.6nm,0.4s,baz=351,slow=2.7,SNR=5.7						
CLL	Collm	152.17	342	*i* PKPbc	PKiKP	02 07 16.8	+0.5
ESDC	Sonseca Array	165.44	11	PKPab	PKPab	02 08 26.1	-0.3
	comp=Z,0.4nm,0.8s,baz=358,slow=9.5,SNR=4.7						
TORD	Torodi Ar. Bea	167.67	189	PKPab	PKPab	02 08 36.1	-0.5
	comp=Z,0.4nm,0.6s,baz=160,slow=3.2,SNR=2.5						

IDC 15 01:51:12.8±3.2, 10.76S×111.78E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=158.8km s-min=30.3km az=45.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.56	115	P	P	01 56 24.3	-0.9
	1.6nm,1.1s,baz=287,slow=11,SNR=4.0						
	1.6nm,1.1s						
ASAR	Alice Springs	24.68	124	P	P	01 56 36.0	+0.3
	0.5nm,0.5s,baz=307,slow=9.9,SNR=4.1						
	0.5nm,0.5s						
MKAR	Makanchi Array	63.07	338	P	P	02 01 42.4	+0.5
	0.3nm,0.5s,baz=145,slow=6.2,SNR=2.9						
	0.3nm,0.5s						

*NEIC **15** 02:09:28.1±1.6, 65.3N±0.1×91.3W±0.2, h10km±2km, mb3.9/6, ML4.1(OTT), Error ellipse: s-maj=20.8km s-min=11.1km az=5.0*
*OTT **15** 02:09:32.5±0.6, 65.40N×91.29W, h18km, ML4.1/1, MN3.8/5, 231km Nnw of Chesterfield Inlet, Nu*

ISC 15 02:09:25.3±0.8, 65.49N±0.07×90.88W±0.07, h10km, n14, σ2§44/16, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILON	Igloolik, Nuna	5.23	38	Pn	Pb	02 10 52.1	-4.5
ILON				Sn	Sn	02 11 49.9	+6.3
ILON				Sg	Sg	02 12 14.1	+1.2
RES	Resolute Bay	9.34	353	Sn	Sn	02 13 24.9	+0.2
RES				Sg		02 14 18.7	
FRB	Frobisher Bay	9.73	90	Pn	Pn	02 11 51.8	+6.8
FRB				Sn	Sn	02 13 35.0	+0.8
YKAW3	Yellowknife Wh	10.78	265	Pn	Pn	02 12 01.5	+2.0
YKAW3				Sn	Sn	02 13 50.8	-9.2
YKA	Yellowknife Ar	10.81	265	Pn	Pn	02 12 01.4	+1.6
FFC	Flin Flon	12.11	212	Pn	Pn	02 12 17.7	+0.1
FFC	Flin Flon	12.11	212	Pn	Pn	02 12 18.5	+0.9
FFC				Sn	Sn	02 14 24.6	-7.9
EUNU	Eureka	14.69	3	Pn	P	02 12 57.8	-1.3
ULM	Lac du Bonnet	15.50	192	Pn	Pn	02 13 03.4	-0.3
ULM				IAmb	IAmb	02 13 04.7	
	comp=Z,6.1nm,1.1s						
INK	Inuvik	16.71	299	Pn	Pn	02 13 20.1	+1.0
B35A	Bob, Littlefor	17.24	186	Pn	Pn	02 13 26.4	+0.5
B35A				IAmb	IAmb	02 13 44.2	
	comp=Z,14nm,1.4s						
FARO	Faro, Yukon	18.72	280		Pn	02 13 45.0	+1.0
FARO				IAmb	IAmb	02 14 03.4	
	comp=Z,10.0nm,1.4s						
N32M	Quiet Lake	19.15	277	P	P	02 13 48.3	-0.1
N32M				IAmb	IAmb	02 13 50.9	
	comp=Z,7.2nm,0.7s						
EGMT	Eagleton	20.18	219	P	P	02 13 57.8	-2.0

*MOS **15** 02:20:09.7±0.9, 41.93N×142.21E, h64km, mb4.5/17, Error ellipse: s-maj=7.8km s-min=5.8km az=88.8*
*NIED **15** 02:20:10.7, 41.92N×142.23E, h70km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.46; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$-0.96; $M_{r\theta}$0.01; $M_{\theta\phi}$0.44; $M_{\phi r}$-0.20; Fault plane solution: $M_0$1.36000×10^{15} NP1: ϕ_s152.00000°, δ49.00000°, λ94.00000°. NP2: ϕ_s326.00000°, δ41.00000°, λ85.00000°.*
*JMA **15** 02:20:10.7±0.2, 41.9N±0.7×142.2E±0.8, h70km±2km, MD4.0/39, MV4.0/39, S OFF URAKAWA*
JMA Felt II J1 at S OFF URAKAWA .
*NEIC **15** 02:20:11.5±1.5, 41.94N±0.05×142.20E±0.05, h61km±4km, mb4.4/43, Mwr4.1/11, Error ellipse: s-maj=8.4km s-min=5.0km az=155.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.64; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$-1.38; $M_{r\theta}$-0.64; $M_{\theta\phi}$-0.32; $M_{\phi r}$-0.49; Fault plane solution: $M_0$1.76000×10^{15} NP1:ϕ_s3.41000°, δ35.03000°, λ68.24000°. NP2:ϕ_s209.40000°, δ57.78000°, λ104.57000°. Principal axes: T 1.8825, Plg73.0000°, Azm157.0000°; N -0.2830, Plg12.0000°, Azm22.0000°; P -1.5995, Plg12.0000°, Azm289.0000°;*
*NEIC **15** 02:20:11.8, 41.92N×142.22E, h61km*
*IDC **15** 02:20:12.0±1.4, 41.97N×142.19E, h71km±11km, mb3.8/25, mbtmp4.1/30, MS2.8/4, Error ellipse: s-maj=13.8km s-min=9.8km az=114.0*

ISC 15 02:20:11.4±0.7, 41.93N±0.03×142.24E±0.03, h65km±6km, n215, σ1§03/212, mb4.2/71, 9C-19D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	Hidakashinhida	0.51	19	⇓P	Pn	02 20 23.8	-0.1
JSHD	Hidakashinhida	0.51	19	A	A	02 20 23.8	
	comp=E,28nm,0.7s,comp=N,31nm,2.0s						
JNBK	Urakawa-nobuka	0.52	47	eP	Pn	02 20 23.2	-0.7
JNBK				eS	Sn	02 20 32.5	-0.7
JNBK	Urakawa-nobuka	0.52	47	A	A	02 20 23.2	
	comp=E,15nm,0.5s,comp=N,18nm,0.4s						
ERM	Erimo	0.69	82	Pn	Pn	02 20 26.0	+0.1
ERM				Sn	Sn	02 20 36.6	+0.2
ERM	Erimo	0.69	82	*ce*P	Pn	02 20 25.9	+0.1
ERM				pmax	pmax		
	comp=Z,545nm,0.5s						
JEM	Erimo	0.69	82	eP	Pn	02 20 26.0	+0.2
JEM				eS	Sn	02 20 37.1	+0.7
JEM	Erimo	0.69	82	A	A	02 20 26.0	
	comp=E,7.0nm,3.9s,comp=N,6.0nm,4.8s						
JIAM	Iburiatsuma	0.73	341	eP	Pn	02 20 26.8	+0.4
JIAM	Iburiatsuma	0.73	341	A	A	02 20 26.8	
	comp=E,22nm,0.3s,comp=N,34nm,0.4s						
JBT2	Biratori 2	0.86	6	⇓P	Pn	02 20 27.4	-0.4
JBT2				⇓eS	Sn	02 20 40.0	0.0
JBT2	Biratori 2	0.86	6	A	A	02 20 27.4	
	comp=E,6.0nm,0.4s,comp=N,4.0nm,1.2s						
JTHR	Tokachihiroo	0.87	65	A	A	02 20 27.8	
	comp=E,19nm,1.9s,comp=N,14nm,0.4s						
JKB	Kayabe	0.90	268	⇓P	Pn	02 20 27.9	-0.5
JKB				⇓eS	Sn	02 20 40.2	-0.7
JKB	Kayabe	0.90	268	A	A	02 20 27.9	
	comp=E,17nm,0.8s,comp=N,9.0nm,0.4s						
JAHD	Aomorihigashid	0.95	226	A	A	02 20 28.6	
	comp=E,36nm,0.5s,comp=N,28nm,0.7s						
JNB	Noboribetsu	1.04	302	⇓P	Pn	02 20 29.2	-1.0
JNB				⇓eS	Sn	02 20 42.6	-1.6
JNB	Noboribetsu	1.04	302	A	A	02 20 29.2	
	comp=E,4.0nm,0.7s,comp=N,8.0nm,0.3s						
JOT	Ohata	1.05	239	⇓P	Pn	02 20 30.0	-0.3
JOT				⇓eS	Sn	02 20 43.8	-0.4
JOT	Ohata	1.05	239	A	A	02 20 30.0	
	comp=E,4.0nm,2.3s,comp=N,3.0nm,1.1s						
JCH	Churui	1.08	50	⇓P	Pn	02 20 30.8	+0.1
JCH				⇓eS	Sn	02 20 46.0	+1.0
JCH	Churui	1.08	50	A	A	02 20 30.8	
	comp=E,7.0nm,1.1s,comp=N,5.0nm,1.2s						
JEW	Eniwo	1.08	328	eP	Pn	02 20 30.6	-0.1
JEW				eS	Sn	02 20 45.3	+0.2
JEW	Eniwo	1.08	328	A	A	02 20 30.6	
	comp=E,5.0nm,1.5s,comp=N,5.0nm,1.0s						
JFR	Furan	1.26	12	eP	Pn	02 20 32.5	-0.6
JFR				eS	Sn	02 20 49.1	-0.2
JYM2	Yakumo 2	1.41	278	eP	Pn	02 20 34.4	-0.5
JYM2				eS	Sn	02 20 53.0	+0.4
JSR	Shiriuchi	1.42	254	P	Pn	02 20 34.8	-0.3
JSR				eS	Sn	02 20 53.2	+0.2
JTM	Tenmabayashi	1.44	218	Pn	Pn	02 20 35.5	+0.1
JTM				Sn	Sn	02 20 53.2	-0.3
JTM	Tenmabayashi	1.44	218	⇓eP	Pn	02 20 35.5	+0.1
JTM				⇓eS	Sn	02 20 54.1	+0.7
JISS	Ishikarishitsu	1.48	336	eP	Pn	02 20 35.8	-0.1
JISS				eS	Sn	02 20 54.4	+0.1
JISS	Ishikarishitsu	1.48	336	A	A	02 20 35.8	
	comp=E,6.0nm,0.3s,comp=N,8.0nm,2.4s						
JOB	Onbets	1.53	50	⇓eP	Pn	02 20 37.4	+0.8
JOB	Onbets	1.53	50	A	A	02 20 37.4	
	comp=E,5.0nm,1.1s,comp=N,4.0nm,0.8s						
JAB	Ashibetsu	1.58	360	A	A	02 20 37.2	
	comp=E,4.0nm,1.5s,comp=N,3.0nm,0.7s						
JSI2	Shiura 2	1.62	238	A	A	02 20 37.6	
	comp=E,4.0nm,1.0s,comp=N,3.0nm,0.9s						
JANG	Nango	1.65	200	⇓eP	Pn	02 20 38.0	-0.2
JANG				⇓eS	Sn	02 20 58.6	+0.2
JANG	Nango	1.65	200	A	A	02 20 38.0	
	comp=E,4.0nm,0.3s,comp=N,4.0nm,1.6s						
JOMM	Oshimamatsumae	1.72	257	eP	Pn	02 20 38.9	-0.2
JKEN	Kujiedanarisaw	1.77	193	A	A	02 20 39.6	
	comp=E,6.0nm,0.5s,comp=N,7.0nm,1.5s						
JAR	Ashorobuto	1.77	39	⇓eP	Pn	02 20 39.8	-0.1
JAR				⇓eS	Sn	02 21 01.6	+0.1
JAR	Ashorobuto	1.77	39	A	A	02 20 39.8	
	comp=E,4.0nm,0.6s,comp=N,4.0nm,1.3s						
ASAJ	Asahikawa	2.20	7	P	Pn	02 20 46.1	+0.4
	comp=N,110nm,0.3s,baz=223,slow=11,SNR=104						
ASAJ				S	Sn	02 21 12.3	+0.4
	comp=N,172nm,0.4s,baz=307,slow=31,SNR=12						
JKA	Kamikawa-asahi	2.20	7	Pn	Pn	02 20 45.7	0.0
JOM	Ohasama	2.56	197	A	A	02 20 50.5	
	comp=E,2.0nm,0.3s,comp=N,2.0nm,1.1s						
NMR	Nemuro--Hokkai	2.95	60	⇑*i*P	Pn	02 20 54.7	-1.1
NMR				*i* S	Sn	02 21 27.4	-2.7
RUSJ	Misakicho	3.10	44	*i* P	Pn	02 20 58.6	+0.7
RUSJ				eS	Sn	02 21 37.0	+3.3
YUK	Yuzh-Kuril'sk	3.39	50	*i* P	Pn	02 21 02.7	+0.8
SHO	Shikotan	3.89	59	⇓*i*P	Pn	02 21 08.0	-0.7
SHO				*i* S	Sn	02 21 49.9	-3.2
SHO				pmax	pmax		
	comp=N,154nm,0.2s						
SHO				pmax	pmax		
	comp=Z,353nm,0.2s						
SHO				pmax	pmax		
	comp=E,123nm,0.1s						
SHO				smax	smax		
	comp=E,383nm,0.3s						
SHO				smax	smax		
	comp=N,462nm,0.5s						
JMM	Marumori	4.21	196		Pn	02 21 13.3	+0.3
JSD	Sado	4.94	219		Pn	02 21 22.2	-0.9
YSS	Yuzh-Sakhalins	5.04	4	Pn	Pn	02 21 24.6	+0.2
YSS	Yuzh-Sakhalins	5.04	4	eP	Pn	02 21 26.5	+2.1
YSS				eS	Sn	02 22 21.9	+0.7

comp=Z,9.9nm,1.0s,baz=174,slow=14,SNR=4.2
MA2 LR LR 02 30 38.1
comp=Z,22nm,20.9s,baz=88,slow=34
YAK Yakutsk 21.49 344 *i* P **P 02 24 55.5 +1.1**
YAK pmax pmax
comp=Z,9.0nm,0.6s
SEY Seymchan 21.88 12 P **P 02 24 57.2 -1.3**
comp=Z,1.1nm,0.3s,baz=209,slow=16,SNR=4.3
comp=Z,1.1nm,0.3s
HHC Hu-ho-hao-te 22.98 278 *e*P **P 02 25 12.3 +1.6**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,300nm,4.8s
ULN Ulaanbaatar 25.47 296 *i* P **P 02 25 32.2 -1.2**
ULN pmax pmax
comp=Z,8.0nm,2.4s
SONM Songino Array 25.91 295 P **P 02 25 36.8 -0.6**
SONM Songino Array 25.91 295 P **P 02 25 36.8 -0.6**
SONM pmax pmax
comp=Z,3.0nm,1.4s
SONM Songino Array 25.91 295 P **P 02 25 37.3 -0.1**
comp=Z,1.3nm,0.5s,baz=79,slow=8.9,SNR=10
comp=Z,1.3nm,0.5s
H11N2 WAKE ISLAND Hy 30.43 129 T T 02 59 59.6
baz=317,slow=75,SNR=171
H11N1 WAKE ISLAND Hy 30.44 129 T T 03 00 02.9
baz=317,slow=75,SNR=149
H11N3 WAKE ISLAND Hy 30.45 129 T T 03 00 01.1
baz=317,slow=75,SNR=127
H11S1 WAKE ISLAND Hy 31.29 131 T T 03 00 02.3
baz=324,slow=74
H11S3 WAKE ISLAND Hy 31.29 131 T T 02 59 57.9
baz=324,slow=74
H11S2 WAKE ISLAND Hy 31.30 131 T T 03 00 18.8
baz=324,slow=74
PZH PanZhiHua 36.49 258 P **P 02 27 11.5 +1.0**
PZH pmax pmax
comp=Z,20nm,1.5s
PZH pmax pmax
comp=Z,630nm,3.5s
ZAA0 Zalesovo Array 39.24 308 P **P 02 27 33.3 +0.1**
ZAA0 IAmb IAmb 02 27 33.8
comp=Z,4.1nm,0.8s
ZALV Zalesovo Beam 39.24 308 P **P 02 27 33.8 +0.5**
ZALV Zalesovo Beam 39.24 308 P **P 02 27 33.2 0.0**
comp=Z,5.6nm,0.9s,baz=92,slow=8.0,SNR=13
ZALV PcP **PcP 02 29 39.9 -1.1**
comp=Z,0.9nm,0.6s,baz=90,slow=1.4,SNR=2.7
comp=Z,5.6nm,0.9s
WMQ Urumqi 39.41 292 *e*P **P 02 27 37.4 +2.5**
L16K Owhat River 39.45 40 P **P 02 27 35.5 +0.6**
L16K IAmb IAmb 02 27 54.0
comp=Z,7.3nm,1.4s
E18K Tukpahlearik C 39.62 31 P **P 02 27 35.2 -1.0**
E18K IAmb IAmb 02 27 38.5
comp=Z,7.8nm,1.1s
G18K Tagagawik 40.15 33 P **P 02 27 40.4 -0.3**
G18K IAmb IAmb 02 27 50.0
comp=Z,4.9nm,1.2s
H18K Honhosa River 40.19 34 P **P 02 27 40.3 -0.7**
C19K Lookout Ridge 40.31 28 P **P 02 27 41.4 -0.6**
C19K IAmb IAmb 02 27 48.2
comp=Z,4.3nm,1.0s
M17K Holitna River 40.42 40 P **P 02 27 42.6 -0.3**
N17K Nushagak Hills 40.55 41 P **P 02 27 45.1 +1.1**
F19K Shaleruckik Mo 40.62 32 P **P 02 27 43.8 -0.7**
D19K Kuna River 40.73 29 P **P 02 27 45.3 -0.2**
L18K Granite Mounta 40.78 39 P **P 02 27 47.1 +1.2**
G19K Purcell Mounta 40.82 33 P **P 02 27 47.3 +1.2**
G19K IAmb IAmb 02 28 04.5
comp=Z,6.4nm,1.4s
E19K Redstone River 40.91 31 P **P 02 27 46.6 -0.3**
H19K Roundabout Mou 41.03 34 P **P 02 27 47.9 +0.1**
H19K IAmb IAmb 02 27 57.2
comp=Z,5.8nm,1.4s
TTA Tatalina 41.10 38 P **P 02 27 49.3 +0.7**
TTA Tatalina 41.10 38 P **P 02 27 49.3 +0.7**
TTA pmax pmax
comp=Z,5.0nm,1.4s
SVW2 Sparrevohn 41.32 41 P **P 02 27 51.3 +1.0**
SVW2 IAmb IAmb 02 27 51.6
comp=Z,6.9nm,1.2s
L19K White Mountain 41.64 39 P **P 02 27 54.5 +1.5**
J20K Nowinta River 41.95 36 P **P 02 27 56.5 +1.1**
J20K IAmb IAmb 02 28 09.4
comp=Z,7.5nm,1.4s
K20K Telida 41.99 37 P **P 02 27 55.4 -0.4**
IMAR Indian Mountai 42.16 33 P **P 02 27 57.1 0.0**
MK31 Makanchi Array 42.23 298 P **P 02 27 58.2 +0.2**
MK31 Makanchi Array 42.23 298 P **P 02 27 58.2 +0.2**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 42.23 298 P **P 02 27 58.1 +0.1**
MKAR Makanchi Array 42.23 298 *ce*P **P 02 27 58.0 0.0**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 42.23 298 P **P 02 27 56.7 -1.3**
comp=Z,2.7nm,0.7s,baz=84,slow=9.8,SNR=15
comp=Z,2.7nm,0.7s
MAKZ Makanchi 42.43 298 P **P 02 27 59.7 0.0**
MAKZ IAmb IAmb 02 27 59.9
comp=Z,3.1nm,0.7s
MAKZ Makanchi 42.43 298 P **P 02 27 59.7 0.0**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
H21K Melozitna Rive 42.54 34 P **P 02 28 01.8 +1.5**
H21K IAmb IAmb 02 28 13.0
comp=Z,8.5nm,1.5s
CMAR Chiang Mai Arr 43.53 251 P **P 02 28 09.1 +0.4**
comp=Z,0.8nm,0.3s,baz=50,slow=6.0,SNR=1.7
comp=Z,0.8nm,0.3s
KURK Kurchatov 43.56 304 P **P 02 28 08.6 -0.1**
KURK IAmb IAmb 02 28 09.1
comp=Z,7.7nm,0.8s
KURK Kurchatov 43.56 304 *ce*P **P 02 28 08.8 +0.2**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURBB Kurchatov Arra 43.64 304 P **P 02 28 08.7 -0.6**
comp=Z,5.6nm,0.5s,baz=77,slow=8.8,SNR=16
comp=Z,5.6nm,0.5s
ILAR Eielson Array 45.07 35 P **P 02 28 20.2 -0.3**
comp=Z,0.5nm,0.5s,baz=259,slow=5.2,SNR=19
ILAR PcP **PcP 02 29 58.9 -1.2**
comp=Z,0.1nm,0.5s,baz=296,slow=4.2,SNR=1.3
comp=Z,0.5nm,0.5s
RAMN Ramite 47.47 270 *e*P **P 02 28 39.7 -0.4**
comp=Z,13nm,0.8s
GUN Gumba 47.48 272 *e*P **P 02 28 40.8 +0.5**
comp=Z,27nm,0.6s
BVAR Borovoye Array 47.86 309 P **P 02 28 42.6 +0.1**
comp=Z,2.4nm,0.4s,baz=73,slow=8.5,SNR=23
BVAR LR LR 02 50 17.8
comp=Z,80nm,20.7s,baz=317,slow=38
comp=Z,2.4nm,0.4s
BRVK Borovoye 47.91 309 *ce*P **P 02 28 42.8 -0.1**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BOOM Boomskoye usch 47.94 294 P **P 02 28 43.8 +0.3**
BOOM IAmb IAmb 02 28 44.7
comp=Z,3.7nm,0.7s
BOOM Boomskoye usch 47.94 294 P **P 02 28 43.8 +0.3**
BOOM pmax pmax
comp=Z,4.0nm,0.7s
PKI Pulchoki 48.02 272 *e*P **P 02 28 44.8 +0.3**
comp=Z,13nm,0.8s
GKN Gorkha 48.36 273 *e*P **P 02 28 46.8 -0.1**
comp=Z,11nm,0.5s
DANN Dangsing 48.83 273 *e*P **P 02 28 51.1 +0.5**
comp=Z,11nm,0.3s
AAK Ala-Archa 48.87 295 *i* P **P 02 28 50.4 -0.2**
AAK pmax pmax
comp=Z,1.0nm,0.5s
PYUN Piuthan 49.53 274 *e*P **P 02 28 55.5 -0.5**
comp=Z,7.5nm,0.4s
KK31 Karatay Array 51.35 297 P **P 02 29 08.2 -1.0**
KK31 IAmb IAmb 02 29 09.5
comp=Z,2.9nm,0.6s
KK31 Karatay Array 51.35 297 P **P 02 29 08.2 -1.0**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 51.35 297 P **P 02 29 08.2 -1.0**
KKAR Karatay Array 51.35 297 P **P 02 29 08.2 -1.0**
N32M Quiet Lake 51.99 38 P **P 02 29 12.9 -0.9**
MMPY Sheldon Lake, 52.31 36 P **P 02 29 15.9 -0.2**
Q32M Nakina River 53.15 40 P **P 02 29 24.3 +1.8**
Q32M IAmb IAmb 02 29 46.1
comp=Z,5.1nm,0.9s
ARU Arti 53.19 316 P **P 02 29 22.5 -0.1**
ARU Arti 53.19 316 *ce* P **P 02 29 22.6 0.0**
ARU S **S 02 36 53.0 +4.7**
ARU SS **SKiKP 02 40 33.0 -0.4**
ARU pmax pmax
comp=Z,42nm,4.5s
R33M Jennings River 53.61 39 P **P 02 29 26.8 +1.0**
ABKAR Akbulak array 55.36 308 **P 02 29 38.6 +0.1**
ABKAR IAmb IAmb 02 29 39.4
comp=Z,7.3nm,1.2s
MTN Manton Dam 55.45 193 P **P 02 29 39.2 -0.2**
KIRV Kirov 56.78 321 *ce*P **P 02 29 48.6 +0.2**
YKA Yellowknife Ar 59.29 32 P **P 02 30 06.1 +0.2**
comp=Z,0.8nm,0.8s,baz=298,slow=7.0,SNR=4.7
comp=Z,0.8nm,0.8s
ARCES ARCESS Array B 59.66 339 P **P 02 30 07.7 -0.7**
comp=Z,3.5nm,0.9s,baz=53,slow=6.2,SNR=4.3
comp=Z,3.5nm,0.9s
WRAB Tennant Creek 61.98 188 *ce*P **P 02 30 26.6 +2.0**
WRAB pmax pmax
comp=Z,18nm,2.5s
WRA Warramunga Arr 61.99 188 P **P 02 30 24.3 -0.4**
comp=Z,0.8nm,0.5s,baz=6.2,slow=6.8,SNR=17
comp=Z,0.8nm,0.5s
GEYT Alibeck 62.10 297 P **P 02 30 24.9 -0.6**
comp=Z,1.0nm,0.4s,baz=69,slow=7.9,SNR=2.9
comp=Z,1.0nm,0.4s
FINES FINESS Array B 64.80 332 P **P 02 30 42.2 -0.6**
comp=Z,2.5nm,0.4s,baz=44,slow=8.3,SNR=34
comp=Z,2.5nm,0.4s
ASAR Alice Springs 65.72 188 P **P 02 30 49.4 +0.2**
comp=Z,0.4nm,0.5s,baz=8.5,slow=7.9,SNR=5.4
comp=Z,0.4nm,0.5s
KIV Kislovodsk 68.22 310 *e*P **P 02 31 04.7 -0.4**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ Khabaz 68.24 310 P **P 02 31 05.2 +0.1**
comp=Z,2.0nm,0.7s,baz=194,slow=4.0,SNR=5.4
comp=Z,2.0nm,0.7s
HFS Hagfors 69.90 335 P **P 02 31 14.7 -0.4**
comp=Z,2.1nm,0.4s,baz=44,slow=6.1,SNR=17
comp=Z,2.1nm,0.4s
NB2 NORSAR Subarra 69.93 337 P **P 02 31 14.5 -0.8**
comp=Z,1.1nm,0.5s,baz=36,slow=6.5
NOA NORSAR Array B 69.93 337 P **P 02 31 14.2 -1.1**
comp=Z,1.0nm,0.6s,baz=53,slow=7.8,SNR=5.3
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 70.84 322 *i* P **P 02 31 20.3 -0.7**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 70.84 322 P **P 02 31 20.4 -0.5**
comp=Z,2.2nm,0.5s,baz=43,slow=6.6,SNR=15
comp=Z,2.2nm,0.5s
KVN Kaiserville 71.33 54 P **P 02 31 25.5 +1.1**
KVN IAmb IAmb 02 31 26.5
comp=Z,3.9nm,1.2s
KVN Kaiserville 71.33 54 P **P 02 31 25.5 +1.1**
KVN pmax pmax
comp=Z,4.0nm,1.2s
NVAR Mina Array Bea 71.59 55 P **P 02 31 25.8 -0.3**
NVAR Mina Array Bea 71.59 55 P **P 02 31 27.5 +1.4**
comp=Z,0.8nm,0.7s,baz=296,slow=6.0,SNR=8.6
comp=Z,0.8nm,0.7s
GURO Guroymak-BITLI 71.97 306 P **P 02 31 28.0 -0.3**
GURO IAmb IAmb 02 31 30.1
comp=Z,4.4nm,0.6s
PDAR Pinedale Array 73.82 47 P **P 02 31 39.4 +0.3**
PDAR Pinedale Array 73.82 47 P **P 02 31 39.1 -0.1**
comp=Z,0.9nm,0.6s,baz=265,slow=2.2,SNR=10
comp=Z,0.9nm,0.6s
BURAR Bucovina Array 74.88 321 P **P 02 31 44.0 -1.1**
OJC Ojcow 75.34 326 P **P 02 31 47.6 0.0**
OJC IAmb IAmb 02 31 48.9
comp=Z,4.8nm,0.9s
OJC Ojcow 75.34 326 P **P 02 31 47.6 0.0**
OJC pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 76.10 311 P **P 02 31 51.8 -0.5**
comp=Z,1.9nm,1.1s,baz=56,slow=5.4,SNR=3.6
comp=Z,1.9nm,1.1s
LANS Liptovska Anna 76.30 325 *e*P **P 02 31 54.5 +1.4**
LANS pmax pmax
comp=Z,2.0nm,0.9s
LANS Liptovska Anna 76.30 325 *e*P **P 02 31 54.5 +1.4**
CHVC Chvalec 76.58 328 *e*P P 02 32 06.5 +12
VYHS Vyhne 77.07 325 *e*P **P 02 31 58.4 +1.0**
VYHS Vyhne 77.07 325 *e*P **P 02 31 58.4 +1.0**
CLL Collm 77.18 330 *i* P **P 02 31 57.9 0.0**
CLL Collm 77.18 330 *i* P **P 02 31 57.9 0.0**
CKRC Cesky Krumlov 78.67 328 *e*P **P 02 32 05.8 -0.5**
CKRC Cesky Krumlov 78.67 328 *e*P **P 02 32 05.8 -0.5**
KHC Kasperske Hory 78.71 328 *e*P **P 02 32 06.5 -0.1**
KHC Kasperske Hory 78.71 328 *e*P **P 02 32 06.5 -0.1**
EKA Eskdalemuir Ar 78.73 341 P **P 02 32 06.2 -0.3**
comp=Z,2.1nm,0.7s,baz=30,slow=5.8,SNR=4.9
comp=Z,2.1nm,0.7s
CONA Conrad Observa 78.75 326 *e*P **P 02 32 07.4 +0.5**
comp=Z,1.6nm,0.7s
RONA Rosalia, Austr 78.76 326 *e*P **P 02 32 06.9 0.0**
comp=Z,2.1nm,0.5s
GERES GERESS Array B 78.89 328 P **P 02 32 06.5 -1.2**
comp=Z,0.5nm,0.5s,baz=45,slow=5.8,SNR=5.4
comp=Z,0.5nm,0.5s
BIOA Bad Ischl, Aus 79.85 328 *e*P **P 02 32 13.2 +0.4**
comp=Z,1.8nm,0.8s
SOKA Soboth 80.09 326 *e*P **P 02 32 14.6 +0.5**
comp=Z,2.2nm,0.6s,SNR=5.2
OBKA Obir 80.43 326 *e*P **P 02 32 15.9 0.0**
comp=Z,1.6nm,0.5s
LESA Schwarzleotal 80.45 328 *e*P **P 02 32 16.0 0.0**
comp=Z,1.0nm,0.5s
KBA Koelnbreinsper 80.46 327 *e*P **P 02 32 16.3 0.0**
comp=Z,1.1nm,0.4s
WATA Walderalm 80.95 329 *i* P **P 02 32 18.9 +0.1**
comp=Z,1.5nm,0.5s
WTTA Wattenberg 80.99 328 *i* P **P 02 32 19.2 +0.2**
comp=Z,2.6nm,0.7s
MOTA Moosalm 81.13 329 *e*P **P 02 32 19.9 +0.1**
comp=Z,3.3nm,0.7s,SNR=5.6
RETA Reutte 81.14 329 *e*P **P 02 32 19.9 +0.2**
comp=Z,3.9nm,1.0s
SQTA Sankt Quirin 81.19 329 *e*P **P 02 32 20.2 +0.2**
comp=Z,5.8nm,1.5s
FETA Feichten 81.54 329 *e*P **P 02 32 21.9 -0.1**
comp=Z,1.8nm,0.8s
DAVA Damuels 81.64 329 *e*P **P 02 32 22.7 +0.1**
comp=Z,3.9nm,0.9s
FUORN Ofenpass-Fuorn 82.05 329 P **P 02 32 24.4 -0.4**
FUORN IAmb IAmb 02 32 26.0
comp=Z,2.9nm,0.7s
TUE Stuetta 82.53 329 P **P 02 32 27.6 +0.4**
TUE IAmb IAmb 02 32 28.1
comp=Z,2.1nm,0.8s
MNTX Cornudas Mount 83.92 52 P **P 02 32 33.5 -1.0**
NRCA Norcia 84.00 325 P **P 02 32 34.1 -0.6**
TXAR Lajitas Array 86.65 53 P **P 02 32 48.2 0.0**
comp=Z,0.6nm,0.7s,baz=297,slow=4.4,SNR=9.1
comp=Z,0.6nm,0.7s
ESDC Sonseca Array 93.17 335 P **P 02 33 18.2 -0.3**
comp=Z,0.2nm,0.4s,baz=31,slow=3.2,SNR=2.3
comp=Z,0.2nm,0.4s
TORD Torodi Ar. Bea 114.25 317 PKP **PKiKP 02 38 43.1 -0.9**
comp=Z,0.1nm,0.3s,baz=15,slow=1.8,SNR=1.4
QSPA South Pole Qui 131.66 180 PKP **PKPdf 02 39 15.4 -0.4**
comp=Z,1.3nm,1.1s,baz=73,slow=12,SNR=1.6
SNAA Sanae 145.60 199 PKPbc **PKPdf 02 39 38.9 -2.1**
comp=Z,1.2nm,0.8s,baz=183,slow=5.4,SNR=3.9
H03N2 Juan Fernandez 146.60 89 T T 05 23 08.0
baz=300
H03N3 Juan Fernandez 146.61 89 T T 05 23 09.0
baz=300
H03N1 Juan Fernandez 146.61 89 T T 05 23 05.5
baz=300

NIED ***15*** *02:23:53.1,38.°7ON×142.°27E,h38km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.86; $M_{\theta\theta}$-0.22; $M_{\phi\phi}$-1.64; $M_{r\theta}$0.50; $M_{\theta\phi}$-0.46; $M_{\phi r}$2.43; Fault plane solution: $M_0$3.08000×10^{14} NP1:ϕ_s13.00000°, δ72.00000°,λ88.00000°. NP2:ϕ_s200.00000°,δ18.00000°, λ97.00000°.*
JMA ***15*** *02:23:53.1±0.1,38.°7N±0.°3×142.°3E±0.°7,h38km±1km, MV3.7/40,E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .

IDC ***15*** *02:23:56.6±1.5,39.°27N×140.°92E,h0km,mb3.6/5, mbtmp3.5/7,ML2.9/2,Error ellipse: s-maj=36.3km s-min=22.6km az=107.0*
ISC 15 02:23:51.1±2.4,38.°69N±0.°05×142.°33E±0.°09,h17km±12km, n18,σ1°29/25,mb3.6/5,11D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.65**	**308**	⇓*i*P		**Pb**	**02 24 05.3**	**+1.5**
OFUJ				⇓S		**Sb**	**02 24 13.8**	**+1.2**
JKMT	**Kesennumamotoy**	**0.68**	**281**	⇓*i*P		**Pb**	**02 24 05.7**	**+1.3**
JKMT				⇓S		**Sb**	**02 24 14.2**	**+0.7**
JIKH	**Ishinomakikobu**	**0.77**	**241**	⇓*i*P		**Pb**	**02 24 07.0**	**+1.0**
JIKH				⇓*e*S		**Sb**	**02 24 16.8**	**+0.6**
JIO	**Ouri**	**0.80**	**253**	⇓*i*P		**Pb**	**02 24 07.3**	**+0.9**
JIO				⇓*e*S		**Sb**	**02 24 17.1**	**+0.2**
JMK	**Ichinoseki**	**0.90**	**287**	⇓*i*P		**Pb**	**02 24 09.1**	**+0.8**
JOM	**Ohasama**	**1.12**	**315**	⇓*i*P		**Pg**	**02 24 12.4**	**-0.4**
JOM				⇓S		**Sg**	**02 24 26.1**	**-1.4**
JTH	**Tanohata**	**1.30**	**344**	P		**Pn**	**02 24 15.0**	**+0.6**
JTH				S		**Sb**	**02 24 31.3**	**-0.1**
JOU	**Okura**	**1.34**	**257**	P		**Pn**	**02 24 15.6**	**+0.6**
JOU				S		**Sb**	**02 24 32.3**	**-0.3**
JMM	**Marumori**	**1.46**	**236**	P		**Pn**	**02 24 16.6**	**+0.1**
JMM				S		**Sn**	**02 24 34.5**	**-0.8**
JRG	**Rokugo**	**1.50**	**299**	*e*P		**Pn**	**02 24 17.9**	**+0.8**
JYK	**Kaneyama**	**1.55**	**279**	P		**Pn**	**02 24 18.6**	**+0.8**
MJAR	**Matsushiro Arr**	**3.91**	**238**	Pn		**Pn**	**02 24 52.9**	**+2.6**
	0.3nm,0.3s,baz=39,slow=11,SNR=12							
	6.1nm,0.6s							
ASAJ	**Asahikawa**	**5.43**	**2**	Pn		**Pn**	**02 25 12.4**	**+1.3**
	0.6nm,0.3s,baz=8.3,slow=21,SNR=1.2							
ASAJ				Sn		**Sn**	**02 26 13.9**	**+0.8**
	0.4nm,0.3s,baz=297,slow=34,SNR=1.5							
	2.4nm,0.3s							
ZALV	**Zalesovo Beam**	**41.35**	**311**	P		**P**	**02 31 33.8**	**-2.0**
	0.9nm,0.5s,baz=93,slow=8.6,SNR=2.7							
	0.9nm,0.5s							
MKAR	**Makanchi Array**	**43.87**	**301**	P		**P**	**02 31 53.7**	**-2.7**
	0.3nm,0.6s,baz=72,slow=9.3,SNR=2.2							
	0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**45.57**	**307**	P		**P**	**02 32 08.8**	**-1.0**
	1.2nm,0.5s,baz=82,slow=8.0,SNR=6.5							
	1.2nm,0.5s							
ILAR	**Eielson Array**	**47.72**	**33**	P		P	02 32 35.9	+10
	0.3nm,0.8s,baz=278,slow=6.2,SNR=1.9							
	0.3nm,0.8s							
WRA	**Warramunga Arr**	**58.80**	**189**	P		P	02 33 59.1	+11
	0.6nm,1.0s,baz=4.8,slow=6.8,SNR=2.8							
	0.6nm,1.0s							

BUT ***15*** *02:24:48.7±1.7,46.°91N±0.°04×112.°51W±0.°06,h9km±6km, Error ellipse: s-maj=5.8km s-min=4.8km az=125.0*
NEIC ***15*** *02:24:49.5±1.1,46.°85N±0.°03×112.°60W±0.°05,h5km±6km, ML3.4/78,ML3.6/31(BUT),Error ellipse: s-maj=5.9km s-min=3.6km az=129.0*
IDC ***15*** *02:24:50.8±2.0,46.°94N×112.°05W,h0km,mbtmp3.0/3, ML2.7/3,Error ellipse: s-maj=21.4km s-min=14.5km az=117.0*
ISC 15 02:24:49.2±1.3,46.°90N±0.°03×112.°55W±0.°03,h5km±13km, n56,σ0°87/59,Montana

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.20**	**67**	Pg		**Pg**	**02 24 52.6**	**-0.5**
BEMT	**Mount Belmont**	**0.21**	**134**	Pg		**Pg**	**02 24 52.8**	**-0.6**
OVMT	**Ovando**	**0.35**	**299**	Pg		**Pg**	**02 24 56.1**	**+0.1**
ELMT	**Elliston**	**0.38**	**174**	Pg		**Pg**	**02 24 56.1**	**-0.4**
CHMT	**Chamberlain Mo**	**0.48**	**273**			**Pg**	**02 24 58.6**	**+0.2**
BPMT	**Black Pine Rid**	**0.77**	**234**			**Pg**	**02 25 03.6**	**-0.3**
MSO	**Missoula**	**0.95**	**267**	Pg		**Pg**	**02 25 07.2**	**-0.3**
MSO				Sg		**Sg**	**02 25 20.2**	**+0.3**
MSO				IAML			02 25 24.4	
	1μm,0.3s							
MSO				IAML			02 25 24.8	
	1μm,0.7s							
BOZ	**Bozeman (W)**	**1.45**	**153**			**Pn**	**02 25 15.2**	**-0.9**
BOZ				Sn		**Sb**	**02 25 34.2**	**-1.2**
BOZ				IAML			02 25 35.6	
	553nm,0.5s							
BOZ				IAML			02 25 37.3	
	625nm,0.3s							
DLMT	**Dillon**	**1.53**	**181**	Pn		**Pn**	**02 25 16.5**	**-0.8**
DLMT				Sn		**Sb**	**02 25 38.1**	**+0.2**
DLMT				IAML			02 25 40.3	
	400nm,0.5s							
DLMT				IAML			02 25 42.7	
	432nm,0.8s							
EGMT	**Eagleton**	**2.21**	**58**	Pn		**Pn**	**02 25 26.1**	**-0.4**
EGMT				Sn		**Sb**	**02 25 56.5**	**-0.8**
EGMT				IAML			02 26 01.5	
	399nm,0.5s							
EGMT				IAML			02 26 01.8	
	332nm,0.4s							
YHL	**Hebgen Lake**	**2.26**	**154**			**Pn**	**02 25 27.5**	**+0.1**
YHL				IAML			02 26 01.2	
	comp=E,317nm,0.7s							
MKRVA	**Milk River, Al**	**2.31**	**13**			**Pn**	**02 25 29.1**	**+1.2**
YHB	**Horse Butte**	**2.34**	**156**			**Pn**	**02 25 28.1**	**-0.4**
YHH	**Holmes Hill**	**2.42**	**150**			**Pn**	**02 25 29.6**	**0.0**
CMI	**Centennial Mou**	**2.46**	**164**			**Pn**	**02 25 29.8**	**-0.3**
YMR	**Madison River**	**2.49**	**153**			**Pn**	**02 25 30.4**	**-0.1**
YMR				IAML			02 26 08.8	
	comp=E,248nm,0.4s							
YMR				IAML			02 26 11.4	
	comp=N,305nm,0.8s							
YNR	**Norris Junctio**	**2.54**	**148**			**Pn**	**02 25 31.7**	**+0.4**
YNR				IAML			02 26 10.5	
	comp=E,109nm,0.4s							
PZCI	**Patelzick Cree**	**2.56**	**176**			**Pn**	**02 25 31.1**	**-0.3**
BCYI	**Bear Canyon**	**2.65**	**193**			**Pb**	**02 25 38.5**	**+1.3**
YFT	**Old Faithful**	**2.72**	**153**			**Pb**	**02 25 39.4**	**+1.0**
YMP	**Mirror Lake Pl**	**2.73**	**141**			**Pb**	**02 25 39.2**	**+0.6**
YMP				IAML			02 26 16.4	
	comp=E,220nm,0.5s							
YMP				IAML			02 26 17.7	
	comp=N,241nm,0.3s							
LKWY	**Lake**	**2.77**	**146**	Pn		**Pn**	**02 25 34.5**	**+0.1**
H17A	**Grant Village**	**2.86**	**150**			**Pn**	**02 25 34.9**	**-0.7**
RLMT	**Red Lodge**	**2.90**	**127**	Pn		**Pn**	**02 25 36.3**	**+0.3**
RLMT				IAML			02 26 24.1	
	comp=N,162nm,0.5s							
PLID	**Pearl Lake**	**3.01**	**234**	Pn		**Pn**	**02 25 36.8**	**-0.9**
PLID				IAML			02 26 28.8	
	comp=N,102nm,0.7s							
PLID				IAML			02 26 30.0	
	comp=N,93nm,0.7s							
FLWY	**Flagg Ranch**	**3.10**	**154**			**Pn**	**02 25 39.1**	**+0.2**
FLWY				IAML			02 26 28.6	
	comp=N,73nm,1.3s							
FLWY				IAML			02 26 28.6	
	comp=N,87nm,1.2s							
IMW	**Indian Meadow**	**3.21**	**159**	Pn		**Pn**	**02 25 40.6**	**+0.2**
IMW				IAML			02 26 30.0	
	comp=N,143nm,0.5s							
F10A	**Beach Ranch, E**	**3.36**	**256**			**Pn**	**02 25 42.7**	**+0.3**
NEW	**Newport**	**3.38**	**296**	Pn		**Pn**	**02 25 41.9**	**-0.7**
NEW				IAML			02 26 37.9	
	comp=N,89nm,0.5s							
NEW				IAML			02 26 37.9	
	comp=N,69nm,0.3s							
MOOW	**Moose Ponds**	**3.39**	**157**			**Pn**	**02 25 43.0**	**+0.1**
FXWY	**Fox Creek**	**3.43**	**161**			**Pn**	**02 25 43.8**	**+0.3**
LOHW	**Long Hollow**	**3.56**	**157**			**Pn**	**02 25 47.5**	**+2.3**
HLID	**Hailey**	**3.58**	**202**	Pn		**Pn**	**02 25 45.0**	**-0.5**
HLID				IAML			02 26 41.5	
	comp=N,86nm,0.3s							
HLID				IAML			02 26 43.8	
	comp=N,106nm,0.4s							
TPAW	**Teton Pass**	**3.59**	**161**			**Pn**	**02 25 45.6**	**0.0**
TPAW				IAML			02 26 43.8	
	comp=N,47nm,0.7s							
TPAW				IAML			02 26 45.6	
	comp=N,61nm,0.5s							
SNOW	**Snow King Moun**	**3.66**	**159**			**Pn**	**02 25 46.8**	**+0.1**
SNOW				IAML			02 26 46.6	
	comp=N,43nm,0.5s							
REDW	**Red Top Meadow**	**3.73**	**161**			**Pn**	**02 25 47.7**	**+0.1**
E09A	**Wood Farm, Sta**	**3.87**	**266**			**Pn**	**02 25 49.3**	**+0.1**
E09A				IAML			02 27 01.7	
	comp=E,86nm,0.6s							
BMO	**Blue Mountains**	**3.90**	**240**	Pn		**Pn**	**02 25 49.1**	**-0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMO				IAML		02 26 56.9	
	comp=E,36nm,0.4s						
ECR	**Eagle Creek**	**3.93**	**167**	Pn	**Pn**	**02 25 50.2**	**-0.1**
C09A	**Chrisman Ranch**	**3.99**	**285**	Pn	**Pn**	**02 25 49.3**	**-1.7**
ID08	**Devils Gate**	**4.03**	**173**		**Pn**	**02 25 52.0**	**+0.3**
ID08				IAML		02 26 58.9	
	comp=E,32nm,0.8s						
ID08				IAML		02 26 59.4	
	comp=E,37nm,0.8s						
MFID	**Camas Ranch**	**4.18**	**215**	Pn	**Pn**	**02 25 53.2**	**-0.4**
MFID				IAML		02 27 04.5	
	comp=E,83nm,0.3s						
ID05	**Sulphur Canyon**	**4.32**	**169**	Pn	**Pn**	**02 25 55.0**	**-0.7**
LAO	**LASA Array**	**4.35**	**90**	Pn	**Pn**	**02 25 55.2**	**-0.7**
D08A	**Wollman Farm,**	**4.36**	**274**	Pn	**Pn**	**02 25 55.6**	**-0.4**
D08A				IAML		02 27 16.6	
	comp=E,36nm,0.6s						
E08A	**Dider Farm, El**	**4.50**	**267**		**Pn**	**02 25 57.5**	**-0.3**
E08A				IAML		02 27 14.3	
	comp=E,44nm,0.7s						
PDAR	**Pinedale Array**	**4.64**	**152**	Pn	**Pn**	**02 26 00.3**	**+0.2**
PDAR	**Pinedale Array**	**4.64**	**152**	Pn	**Pn**	**02 26 04.3**	**+4.2**
	comp=E,0.3nm,0.3s,baz=349,slow=19,SNR=9.0						
PDAR				Pg	**Pb**	**02 26 11.2**	**0.0**
	comp=E,0.4nm,0.3s,baz=348,slow=18,SNR=9.1						
PDAR				Lg	Lg	02 27 11.2	
	comp=E,0.5nm,0.3s,baz=358,slow=30,SNR=12						
	comp=E,0.2nm,0.3s						
G08A	**Pilot Rock**	**4.74**	**253**	Pn	**Pn**	**02 26 00.6**	**-0.7**
G08A				IAML		02 27 36.2	
	comp=E,19nm,0.8s						
HAWA	**Hanford**	**4.83**	**267**		**Pn**	**02 26 01.8**	**-0.7**
HAWA				IAML		02 27 31.8	
	comp=E,35nm,0.7s						
E07A	**Sunnyside**	**5.03**	**269**	Pn	**Pn**	**02 26 04.5**	**-0.7**
LTY	**Liberty**	**5.56**	**277**	Pn	**Pn**	**02 26 12.3**	**-0.2**
DGMT	**Dagmar**	**5.86**	**71**	Pn	**Pn**	**02 26 17.1**	**+0.5**
BGU	**Big Grassy Mou**	**5.98**	**183**	Pn	**Pn**	**02 26 18.7**	**+0.4**
NVAR	**Mina Array Bea**	**9.46**	**209**	Pn	Pn	02 27 12.5	+6.4
	baz=67,slow=17,SNR=1.6						
NVAR				Pg		02 27 45.8	
	comp=E,0.1nm,0.3s,baz=31,slow=16,SNR=2.1						
	comp=E,0.2nm,0.6s						
ULM	**Lac du Bonnet**	**11.55**	**67**	Pn	Pn	02 27 28.6	-5.8
	comp=E,0.2nm,0.3s,baz=243,slow=9.0,SNR=2.2						
ULM				Lg	Lg	02 30 36.9	
	comp=E,0.3nm,0.3s,baz=331,slow=11,SNR=2.0						
	comp=E,2.7nm,0.9s						

*IPEC **15** 02:33:31.8±0.2, 49°.83N×18°.57E, h1km, ML1.2/4, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0*

PRU 15 02:33:32.4, 49°.87N×18°.51E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**262**	*e*PG	Pg	02 33 36.8	-0.1
OKC				*e*SG	Sg	02 33 41.0	+1.0
	comp=Z,6.1nm,0.6s						
MORC	**Moravsky Berou**	**0.63**	**262**	*e*Pg	Pg	02 33 44.5	0.0
	baz=85						
MORC				*e*Sg	Sg	02 33 52.8	+0.1
	3.4nm,0.3s,baz=85						
MAUC	**Maruska**	**0.67**	**222**	*e*PG	Pg	02 33 45.1	-0.2
MAUC				*e*SG	Sg	02 33 53.7	-0.3
OJC	**Ojcow**	**0.90**	**67**	*e*Pg	Pg	02 33 49.0	-0.7
OJC				*e*Sg	Sg	02 34 00.5	-0.9
LANS	**Liptovska Anna**	**0.95**	**139**	*e*PG	Pg	02 33 49.0	-1.6
LANS				*e*SG	Sg	02 34 02.9	-0.1
JAVC	**Velka Javorina**	**1.15**	**209**	*e*Pg	Pg	02 33 53.9	-0.5
	baz=31						
NIE	**Niedzica**	**1.25**	**111**	*e*Pg	Pg	02 33 56.0	-0.3
NIE				*e*Sg	Sb	02 34 13.7	+0.2
VRAC	**Vranov**	**1.37**	**246**	*e*Pg	Pg	02 33 57.3	-1.3
	baz=67						
VRAC				*e*Sg	Sg	02 34 15.5	-0.8
	3.0nm,0.4s,baz=67						
VYHS	**Vyhne**	**1.39**	**171**	*e*PG	Pg	02 33 56.8	-2.3
VYHS				*e*SG	Sg	02 34 15.1	-2.0
DPC	**Dobruska-Polom**	**1.49**	**290**	*e*PG	Pn	02 33 59.7	-0.8
DPC				*e*SG	Sg	02 34 19.6	-0.6
KRUC	**Moravsky**	**1.60**	**240**	*e*Pg	Pn	02 34 00.8	-1.1
	baz=61						
KRUC				*e*Sg	Sn	02 34 22.3	-1.0
	1.8nm,0.2s,baz=61						
OSTC	**Ostas**	**1.63**	**296**	*e*PG	Pn	02 34 01.3	-1.0
OSTC				*e*SG	Sn	02 34 23.5	-0.5
CHVC	**Chvalec**	**1.73**	**295**	*e*PG	Pn	02 34 03.0	-0.8
CHVC				*e*SG	Sg	02 34 28.1	+0.1
CKRC	**Cesky Krumlov**	**2.94**	**251**	*e*SG	Sg	02 35 06.3	-0.5
CKRC	**Cesky Krumlov**	**2.94**	**251**	*e*	Sg	02 35 06.3	-0.5
KHC	**Kasperske Hory**	**3.30**	**259**	*e*SG	Sg	02 35 16.2	-2.1

*NAO **15** 02:42:09.9±0.7, 65°.17N×22°.85E, ML2.4*
*IDC **15** 02:42:10.5±0.9, 65°.14N×23°.37E, h0km, mbtmp3.0/4, ML1.6/3, Error ellipse: s-maj=17.9km s-min=7.5km az=95.0*
*UPP **15** 02:42:10.9±0.2, 65°.17N×22°.67E, h9km±4km, ML2.5, Confirmed Earthquake*
*HEL **15** 02:42:11.6±0.1, 65°.18N×22°.65E, h7km, ML2.3, ML2.5(UPP), Confirmed Earthquake*
*BER **15** 02:42:12.9±3.0, 65°.19N×22°.66E, h10km, ML1.9, ML2.5(UPP), Confirmed Earthquake*

ISC 15 02:42:10.3±1.0, 65°.18N±0°.01×22°.67E±0°.02, h8km±9km, n72, σ1°25/145, 8C-7D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJUU	**Sjulsmark**	**0.56**	**307**	⇓P	**Pg**	**02 42 21.4**	**+0.4**
SJUU				S	**Sg**	**02 42 28.8**	**+0.4**
SJUU	**Sjulsmark**	**0.56**	**307**	⇓P	**Pg**	**02 42 21.4**	**+0.4**
SJUU				S	**Sg**	**02 42 28.8**	**+0.4**
SJUU	**Sjulsmark**	**0.56**	**307**	⇓*i*P	**Pg**	**02 42 21.4**	**+0.4**
SJUU				*i* S	**Sg**	**02 42 28.8**	**+0.4**
KALU	**Kalix**	**0.74**	**22**	⇑P	**Pb**	**02 42 24.8**	**-0.6**
KALU				S	**Sb**	**02 42 35.0**	**-0.6**
KALU	**Kalix**	**0.74**	**22**	*e*P	**Pb**	**02 42 24.8**	**-0.6**
KALU				*e*S	**Sb**	**02 42 35.0**	**-0.6**
KALU	**Kalix**	**0.74**	**22**	*e*P	**Pb**	**02 42 24.8**	**-0.6**
KALU				*e*S	**Sg**	**02 42 34.5**	**+0.3**
OBF0	**Syolatti, Pyha**	**0.95**	**135**	*e*P	**Pb**	**02 42 28.9**	**-0.2**
OBF0				*e*S	**Sb**	**02 42 41.7**	**-0.1**
OBF0	**Syolatti, Pyha**	**0.95**	**135**	*e*P	**Pb**	**02 42 28.9**	**-0.2**
OBF0				*e*S	**Sb**	**02 42 41.6**	**-0.2**
OBF0				MSG		02 42 42.8	
	comp=Z,38nm,0.1s						
OBF4	**Vikkela, Lumij**	**1.09**	**108**	*e*P	**Pb**	**02 42 31.2**	**-0.2**
OBF4				*e*S	**Sb**	**02 42 46.2**	**+0.4**
TOF	**Tornio**	**1.14**	**36**	*e*P	**Pg**	**02 42 31.8**	**-0.3**
TOF				*e*S	**Sg**	**02 42 46.4**	**-0.4**
TOF	**Tornio**	**1.14**	**36**	*e*P	**Pg**	**02 42 31.8**	**-0.3**
TOF				*e*S	**Sg**	**02 42 46.4**	**-0.4**
ODEU	**Stanfors**	**1.14**	**228**	⇑P	**Pg**	**02 42 31.7**	**-0.5**
ODEU				S	**Sg**	**02 42 46.2**	**-0.7**
ODEU	**Stanfors**	**1.14**	**228**	⇑P	**Pg**	**02 42 31.7**	**-0.5**
ODEU				S	**Sg**	**02 42 46.2**	**-0.7**
ODEU	**Stanfors**	**1.14**	**228**	⇑*e*P	**Pg**	**02 42 31.7**	**-0.5**
ODEU				*e*S	**Sg**	**02 42 46.2**	**-0.7**
LILU	**Lilltraesk**	**1.20**	**276**	⇓P	**Pg**	**02 42 32.6**	**-0.6**
LILU				S	**Sg**	**02 42 48.3**	**-0.4**
LILU	**Lilltraesk**	**1.20**	**276**	⇓*e*P	**Pg**	**02 42 32.6**	**-0.6**
LILU				*e*S	**Sg**	**02 42 48.3**	**-0.4**
OUF	**Merijarvi**	**1.20**	**132**	*e*P	**Pb**	**02 42 33.1**	**-0.1**
OUF				*e*S	**Sb**	**02 42 49.0**	**+0.2**
OUF				MSG		02 42 52.7	
	comp=Z,56nm,0.1s						
OUF	**Merijarvi**	**1.20**	**132**	*e*P	**Pb**	**02 42 33.1**	**-0.1**
OUF				*e*S	**Sb**	**02 42 49.0**	**+0.2**
OUF				MSG		02 42 52.7	
	comp=Z,56nm,0.1s						
HARU	**Harads**	**1.22**	**325**	⇓P	**Pg**	**02 42 33.0**	**-0.6**
HARU				S	**Sg**	**02 42 49.0**	**-0.4**
HARU	**Harads**	**1.22**	**325**	⇓*e*P	**Pg**	**02 42 33.0**	**-0.6**
HARU				*e*S	**Sg**	**02 42 49.0**	**-0.4**
OUL	**Oulu**	**1.37**	**92**	Pn	**Pg**	**02 42 36.1**	**-0.3**
OUL				Sn	**Sn**	**02 42 53.9**	**+0.1**
OUL	**Oulu**	**1.37**	**92**	*e*P	**Pg**	**02 42 36.2**	**-0.3**
OUL				*e*S	**Sn**	**02 42 53.8**	**+0.1**
OUL	**Oulu**	**1.37**	**92**	*e*P	**Pg**	**02 42 36.2**	**-0.3**
OUL				*e*S	**Sn**	**02 42 53.8**	**+0.1**
ERTU	**Ertsjaerv**	**1.40**	**352**	⇑P	**Pb**	**02 42 36.3**	**-0.3**
ERTU				S	**Sg**	**02 42 55.1**	**0.0**
ERTU	**Ertsjaerv**	**1.40**	**352**	*e*P	**Pb**	**02 42 36.3**	**-0.3**
ERTU				*e*SG	**Sg**	**02 42 54.8**	**-0.4**
ERTU	**Ertsjaerv**	**1.40**	**352**	*e*P	**Pb**	**02 42 36.3**	**-0.3**
ERTU				*e*SG	**Sg**	**02 42 54.8**	**-0.4**
SVAU	**Svanoeiden**	**1.50**	**244**	⇑P	**Pn**	**02 42 37.8**	**+0.4**
SVAU				S	**Sn**	**02 42 57.1**	**+0.1**
SVAU	**Svanoeiden**	**1.50**	**244**	⇑*e*P	**Pn**	**02 42 37.8**	**+0.4**
SVAU				*e*S	**Sn**	**02 42 57.1**	**+0.1**
UMAU	**Umeaa**	**1.56**	**214**	⇑P	**Pb**	**02 42 39.0**	**-0.3**
UMAU				S	**Sn**	**02 42 59.1**	**+0.5**
UMAU	**Umeaa**	**1.56**	**214**	*e*P	**Pb**	**02 42 39.1**	**-0.3**
UMAU				*e*S	**Sn**	**02 42 58.9**	**+0.3**
UMAU	**Umeaa**	**1.56**	**214**	*e*P	**Pb**	**02 42 39.1**	**-0.3**
UMAU				*e*S	**Sn**	**02 42 59.1**	**+0.5**
PAJU	**Pajala**	**1.86**	**5**	P	**Pb**	**02 42 43.8**	**-0.7**
PAJU	**Pajala**	**1.86**	**5**	*e*P	**Pb**	**02 42 43.9**	**-0.7**
PAJU				*e*S	**Sb**	**02 43 07.8**	**-0.1**
PAJU	**Pajala**	**1.86**	**5**	*e*P	**Pb**	**02 42 43.9**	**-0.7**
PAJU				*e*PB	**Pg**	**02 42 44.3**	**-1.7**
PAJU				*e*S	**Sb**	**02 43 07.8**	**-0.1**
RNF	**Rovaniemi**	**1.99**	**42**	*e*P	**Pn**	**02 42 45.2**	**+1.1**
RNF				*e*PB	**Pb**	**02 42 46.5**	**-0.1**
RNF				*e*SG	**Sb**	**02 43 12.3**	**+0.9**
RNF				MSG		02 43 13.6	
	comp=Z,17nm,0.1s						
KLF	**Kolari**	**2.13**	**14**	*e*P	**Pb**	**02 42 47.8**	**-1.3**
KLF				*e*PB	**Pn**	**02 42 48.4**	**+2.3**
KLF				*e*SG	**Sg**	**02 43 16.9**	**-1.8**
KLF	**Kolari**	**2.13**	**14**	*e*P	**Pb**	**02 42 47.8**	**-1.3**
KLF				*e*PB	**Pn**	**02 42 48.4**	**+2.3**
KLF				*e*SB	**Sb**	**02 43 16.1**	**+0.5**
VAF	**Ylistaro**	**2.14**	**180**	*e*P	**Pn**	**02 42 47.5**	**+1.3**
VAF				*e*PB	**Pb**	**02 42 48.9**	**-0.4**
VAF				*e*SB	**Sb**	**02 43 16.2**	**+0.2**
VAF				MSG		02 43 19.9	
	comp=Z,12nm,0.1s						
VAF	**Ylistaro**	**2.14**	**180**	*e*P	**Pn**	**02 42 47.5**	**+1.3**
VAF				*e*PB	**Pb**	**02 42 48.9**	**-0.4**
VAF				*e*SB	**Sb**	**02 43 16.1**	**+0.2**
VAF				MSG		02 43 19.9	
	comp=Z,12nm,0.1s						
HUSU	**Husum**	**2.38**	**221**	*e*P	**Pn**	**02 42 50.9**	**+1.3**
HUSU				*e*PB	**Pb**	**02 42 52.4**	**-0.9**
HUSU				*e*S	**Sn**	**02 43 19.4**	**+0.5**
HUSU	**Husum**	**2.38**	**221**	*e*P	**Pn**	**02 42 50.8**	**+1.3**
HUSU				*e*PB	**Pb**	**02 42 52.4**	**-0.9**
HUSU				*e*S	**Sn**	**02 43 19.7**	**+0.9**
SALU	**Saltoluokta**	**2.78**	**325**	*e*P	**Pn**	**02 42 56.3**	**+1.3**
SALU				*e*S	**Sn**	**02 43 29.4**	**+0.6**
KU6	**Riekki**	**3.11**	**71**	*e*P	**Pn**	**02 43 00.7**	**+1.1**
HEF	**Hetta**	**3.27**	**6**	Pn	**Pn**	**02 43 02.8**	**+1.0**
HEF				Pg	**Pb**	**02 43 07.6**	**-0.9**
HEF				Sn	**Sn**	**02 43 40.9**	**+0.2**
HEF				Lg	Lg	02 43 51.1	
HEF	**Hetta**	**3.27**	**6**	*e*P	**Pn**	**02 43 02.7**	**+1.0**
HEF	**Hetta**	**3.27**	**6**	*e*P	**Pn**	**02 43 02.7**	**+1.0**
MOR8	**Moi Rana**	**3.55**	**290**	*e*P	**Pn**	**02 43 06.0**	**+0.4**
MOR8				*e*Sg	**Sb**	**02 43 58.6**	**+2.2**
MOR8				IAML		02 44 01.0	
	comp=Z,9.4nm,0.3s						
FAUS	**Fauske**	**3.71**	**310**	*e*P	**Pn**	**02 43 08.5**	**+0.7**
FAUS				*e*Sg	**Sg**	**02 44 06.9**	**-2.6**
FAUS				IAML		02 44 08.5	
	comp=Z,11nm,0.7s						
KTK1	**Kautokeino**	**3.86**	**3**	Pn	**Pn**	**02 43 10.9**	**+1.0**
KTK1				Sn	**Sn**	**02 43 55.3**	**+0.1**
KTK1				Lg	Lg	02 44 09.4	
KTK1	**Kautokeino**	**3.86**	**3**	*e*P	**Pn**	**02 43 11.0**	**+1.2**
KTK1				IAML		02 44 13.8	
	comp=Z,4.2nm,0.5s						
KIF	**Kilpisjarvi**	**3.91**	**350**	Pn	**Pn**	**02 43 12.1**	**+1.5**
KIF				Pg	**Pb**	**02 43 20.5**	**+1.1**
KIF				Sn	**Sn**	**02 43 57.0**	**+0.5**
KIF				Lg	Lg	02 44 13.7	
KIF	**Kilpisjarvi**	**3.91**	**350**	*e*P	**Pn**	**02 43 12.2**	**+1.7**
KIF				*e*Pg	**Pb**	**02 43 20.7**	**+1.3**
FIA0	**FINESS Array S**	**4.05**	**156**	Pn	**Pn**	**02 43 14.1**	**+1.7**
	baz=345,slow=14						
FIA0				Sn	**Sn**	**02 44 00.1**	**+0.1**
	baz=350,slow=18						
FIA0				Lg	Lg	02 44 14.3	
	baz=348,slow=28						
FIA0	**FINESS Array S**	**4.05**	**156**	Pn	**Pn**	**02 43 14.1**	**+1.7**
	baz=345,slow=14						
FIA0				Sn	**Sn**	**02 44 00.1**	**+0.1**
	baz=350,slow=18						
FIA0				Sg	**Sb**	**02 44 14.3**	**+3.5**
	baz=348,slow=28						
FINES	**FINESS Array B**	**4.05**	**156**	Pn	**Pn**	**02 43 13.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=346,slow=14,SNR=2.0						
FINES				Lg	Lg	02 44 11.8	
	comp=Z,0.7nm,0.3s,baz=341,slow=22,SNR=5.4						
	comp=Z,3.2nm,1.0s						
STEI	**Steigen**	**4.06**	**316**	*e*P	**Pn**	**02 43 13.5**	**+1.0**
STEI				*e*S	**Sn**	**02 43 59.0**	**-1.1**
STEI				IAML		02 44 19.6	
	comp=Z,8.6nm,0.5s						
STEI	**Steigen**	**4.06**	**316**	*e*P	**Pn**	**02 43 13.5**	**+1.0**
KONS	**Konsvik**	**4.15**	**293**	*e*	**Pb**	**02 43 24.6**	**+1.2**
KONS				IAML		02 44 22.7	
	comp=Z,9.6nm,0.4s						
ARA0	**ARCESS Array S**	**4.51**	**13**	Pn	**Pn**	**02 43 19.4**	**+0.6**
	baz=194,slow=16						
ARA0				Sn	**Sn**	**02 44 10.2**	**-1.1**
	baz=196,slow=28						
ARA0				Lg	Lg	02 44 26.9	
	baz=187,slow=37						
ARA0	**ARCESS Array S**	**4.51**	**13**	Pn	**Pn**	**02 43 19.4**	**+0.6**
	baz=194,slow=16						
ARA0				*e*		02 43 30.6	
ARA0				Sn	**Sn**	**02 44 10.2**	**-1.1**
	baz=196,slow=28						
ARA0				Sg	**Sb**	**02 44 26.9**	**+2.8**
	baz=187,slow=37						
ARA0				IAML		02 44 33.9	
	comp=Z,3.9nm,0.4s						
ARA0	**ARCESS Array S**	**4.51**	**13**	*e*P	**Pn**	**02 43 19.1**	**+0.4**
ARCES	**ARCESS Array B**	**4.51**	**13**	Pn	**Pn**	**02 43 19.4**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=192,slow=14,SNR=108						
ARCES				Pg	**Pb**	**02 43 28.5**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=190,slow=15,SNR=13						
ARCES				Sn	**Sn**	**02 44 08.8**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=194,slow=22,SNR=1.7						
ARCES				Lg	Lg	02 44 29.4	
	comp=Z,0.5nm,0.3s,baz=184,slow=29,SNR=7.3						
TRO	**Tromso**	**4.70**	**344**	*e*P	**Pn**	**02 43 22.3**	**+1.0**
TRO				*e*S	**Sn**	**02 44 14.1**	**-1.8**
TRO				IAML		02 44 20.6	
	comp=Z,1.9nm,0.1s						
APA0	**Apatity Array**	**4.81**	**55**	Sn	**Sn**	**02 44 16.9**	**-1.7**
	baz=240,slow=18						
APA0				Lg	Lg	02 44 37.0	
	baz=238,slow=22						
APA0	**Apatity Array**	**4.81**	**55**	Sn	**Sn**	**02 44 16.9**	**-1.7**
	baz=240,slow=18						
APA0				Sg	**Sb**	**02 44 37.0**	**+4.4**
	baz=238,slow=22						
KEV	**Kevo**	**4.89**	**18**	Pn	**Pn**	**02 43 24.1**	**+0.1**
KEV				Sn	**Sn**	**02 44 18.2**	**-2.4**
KEV				Lg	Lg	02 44 39.4	
KEV	**Kevo**	**4.89**	**18**	*e*P	**Pn**	**02 43 24.2**	**+0.2**
VADS	**Vadso**	**5.58**	**24**	*e*P	**Pn**	**02 43 33.3**	**-0.1**
VADS				IAML		02 44 47.9	
	comp=Z,4.0nm,0.8s						
HFS	**Hagfors**	**6.53**	**223**	Pn	**Pn**	**02 43 46.4**	**-0.2**
HFS				Sn	**Sn**	**02 44 56.5**	**-4.6**
	baz=49,slow=18						
HFS	**Hagfors**	**6.53**	**223**	Pn	**Pn**	**02 43 46.4**	**-0.2**
HFS				Sn	**Sn**	**02 44 56.5**	**-4.6**
	baz=49,slow=18						
HFS	**Hagfors**	**6.53**	**223**	Pn	**Pn**	**02 43 46.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=47,slow=19,SNR=1.7						
HFS				Sn	**Sn**	**02 44 56.9**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=52,slow=17,SNR=1.1						
HFS				Lg	Lg	02 45 31.7	
	comp=Z,0.8nm,0.3s,baz=48,slow=31,SNR=10						
	comp=Z,2.2nm,0.9s						
NOA	**NORSAR Array B**	**6.65**	**237**	Pn	**Pn**	**02 43 50.8**	**+2.7**
	baz=41,slow=15,SNR=1.2						
NOA				Sn	**Sn**	**02 45 03.6**	**-0.4**
	baz=46,slow=23,SNR=2.2						
NOA				Lg	Lg	02 45 34.9	
	comp=Z,0.1nm,0.3s,baz=55,slow=16,SNR=6.5						
	comp=Z,0.3nm,0.8s						

*SJA **15** 02:54:55.5±1.8, 22°.80S×68°.90W, h90km, ML4.6, MW4.4*
*IDC **15** 02:54:57.4±0.3, 22°.63S×68°.87W, h112km±2km, mb4.2/12, mbtmp4.6/14, MS3.2/8, Error ellipse: s-maj=12.8km s-min=9.3km az=38.0*
*VAO **15** 02:54:57.1±0.3, 22°.71S×68°.71W, h104km, mb5.0*
*NEIC **15** 02:54:57.6±1.2, 22°.80S±0°.04×68°.97W±0°.02, h112km±4km, mb4.5/149, ML4.9(GUC), Error ellipse: s-maj=6.7km s-min=2.1km az=189.0*
*GUC **15** 02:54:58.1±0.7, 22°.78S×68°.94W, h112km±3km, ML4.9*

ISC 15 02:54:56.7±0.3, 22°.76S±0°.03×68°.93W±0°.04, h111km±2km, n356, σ1°44/409, mb4.5/84, 8C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.15**	**6**	Pn	**Pn**	**02 55 13.7**	**+1.1**
LVC				Sn	**Sn**	**02 55 25.4**	**+0.9**
LVC	**Limon Verde**	**0.15**	**6**	*e*P	**Pn**	**02 55 13.0**	**+0.3**
LVC	**Limon Verde**	**0.15**	**6**	P	**Pn**	**02 55 13.2**	**+0.6**
	11μm,0.3s,baz=83,slow=5.3						
LVC				S	**Sn**	**02 55 25.3**	**+0.9**
	16μm,0.3s,baz=9.1,slow=23,SNR=24						
LVC	**Limon Verde**	**0.15**	**6**	⇓*i*P	**Pn**	**02 55 13.7**	**+1.1**
LVC				*e*S	**Sn**	**02 55 25.3**	**+0.9**
LVC	**Limon Verde**	**0.15**	**6**	*e*P	**Pn**	**02 55 12.9**	**+0.3**
LVC				*e*S	**Sn**	**02 55 26.3**	**+1.8**
LVC				IAML		02 55 27.7	
	comp=Z,17μm,0.2s						
PB06	**IPOC Station P**	**0.60**	**275**		**Pn**	**02 55 15.3**	**+0.8**
PB06				Sn	**Sn**	**02 55 29.1**	**+1.2**
PB06	**IPOC Station P**	**0.60**	**275**	⇑*i*P	**Pn**	**02 55 15.6**	**+1.1**
PB06				*e*S	**Sn**	**02 55 29.3**	**+1.3**
PB06				IAML		02 55 31.9	
	comp=E,32μm,0.3s						
PB06	**IPOC Station P**	**0.60**	**275**	*e*P	**Pn**	**02 55 15.4**	**+0.9**
PB06				*e*S	**Sn**	**02 55 29.4**	**+1.4**
PB06				IAML		02 55 33.8	
	comp=Z,22μm,0.2s						
PB15	**IPOC Station P**	**0.67**	**228**		**Pn**	**02 55 15.6**	**+0.4**
AF01	**San Pedro de A**	**0.72**	**106**		**Pn**	**02 55 17.1**	**+1.5**
AF01				Sn	**Sn**	**02 55 31.9**	**+2.0**
AF01	**San Pedro de A**	**0.72**	**106**	*e*P	**Pn**	**02 55 17.2**	**+1.6**
AF01				*e*S	**Sn**	**02 55 31.9**	**+2.0**
AF01				IAML		02 55 39.9	
	comp=E,55μm,0.6s						
PB09	**IPOC Station P**	**1.00**	**343**		**Pn**	**02 55 19.2**	**+1.0**
PB09				Sn	**Sn**	**02 55 36.0**	**+1.6**
PB09	**IPOC Station P**	**1.00**	**343**	⇓*i*P	**Pn**	**02 55 19.9**	**+1.7**
PB09				*e*S	**Sn**	**02 55 36.2**	**+1.8**
PB09				IAML		02 55 38.0	
	comp=N,29μm,0.2s						
PB04	**IPOC Station P**	**1.21**	**290**		**Pn**	**02 55 21.2**	**+0.8**
PB04	**IPOC Station P**	**1.21**	**290**	⇑*i*P	**Pn**	**02 55 21.2**	**+0.8**
PB04				*e*S	**Sn**	**02 55 39.0**	**+0.7**
PB04				IAML		02 55 42.4	
	comp=N,15μm,0.3s						
PB04	**IPOC Station P**	**1.21**	**290**	*e*P	**Pn**	**02 55 21.1**	**+0.8**
PB04				*e*S	**Sn**	**02 55 40.4**	**+2.1**
PB04				IAML		02 55 45.2	
	comp=Z,13μm,0.5s						
PB07	**IPOC Station P**	**1.36**	**319**		**Pn**	**02 55 23.1**	**+1.0**
PB07	**IPOC Station P**	**1.36**	**319**	*i* P	**Pn**	**02 55 23.2**	**+1.1**
PB07				*e*S	**Sn**	**02 55 41.8**	**+0.5**
PB07				IAML		02 55 43.9	
	comp=E,34μm,0.4s						
PB02	**IPOC Station P**	**1.69**	**328**		**Pn**	**02 55 26.9**	**+0.9**
PB02	**IPOC Station P**	**1.69**	**328**	⇑*i*P	**Pn**	**02 55 27.0**	**+0.9**
PB02				*i* S	**Sn**	**02 55 48.9**	**+0.6**
PB02				IAML		02 55 49.7	
	comp=N,25μm,0.3s						
PB01	**IPOC Station P**	**1.78**	**343**	Pn	**Pn**	**02 55 28.0**	**+0.9**
PB01	**IPOC Station P**	**1.78**	**343**	⇑*i*P	**Pn**	**02 55 28.2**	**+1.1**
PB01				*e*S	**Sn**	**02 55 51.1**	**+0.8**
PB01				IAML		02 55 52.6	
	comp=E,28μm,0.2s						
PATCX	**Punta Patache**	**2.24**	**329**	Pn	**Pn**	**02 55 33.0**	**+0.1**
PATCX	**Punta Patache**	**2.24**	**329**	⇑*i*P	**Pn**	**02 55 33.0**	**+0.1**
PATCX				*i* S	**Sn**	**02 55 59.0**	**-1.6**
PATCX				IAML		02 56 04.9	
	comp=E,6μm,0.4s						
PB14	**IPOC Station P**	**2.30**	**216**		**Pn**	**02 55 34.1**	**+0.2**
PB14	**IPOC Station P**	**2.30**	**216**	⇑*i*P	**Pn**	**02 55 33.6**	**-0.3**
PB14				*e*S	**Sn**	**02 56 02.1**	**-0.2**
PB14	**IPOC Station P**	**2.30**	**216**	*e*P	**Pn**

AC05 El Transito 6.17 191 Pn **Pn 02 56 24.5 -1.0**
LCO Las Campanas 6.43 194 Pn **Pn 02 56 26.4 -2.7**
LPAZ La Paz 6.48 7 Pn **Pn 02 56 31.0 +0.9**
LPAZ La Paz 6.48 7 eP **Pn 02 56 31.5 +1.3**
LPAZ La Paz 6.48 7 P **Pn 02 56 32.0 +1.8**
baz=186,slow=7.5
CO01 Juntas del Tor 7.27 188 Pn **Pn 02 56 39.9 -0.5**
CO05 La Serena 7.43 196 Pn **Pn 02 56 38.6 -3.7**
GO04 Tololo Observa 7.57 192 Pn **Pn 02 56 41.9 -2.7**
CO03 El Pedregal 8.20 191 Pn **Pn 02 56 49.7 -3.2**
CO06 Fray Jorge 8.25 196 Pn 02 56 48.9 -4.5
TICA Tres Isletas 8.57 117 eP **Pn 02 56 57.0 -0.9**
CO02 Combarbal 8.61 192 Pn **Pn 02 56 54.9 -3.7**
ZON Zonda 8.76 179 **Pn 02 57 00.9 +0.5**
CFA Coronel Fontan 8.83 176 P **Pn 02 56 59.6 -1.9**
comp=Z,11nm,0.5s,baz=326,slow=9.6,SNR=89
CFA S **Sn 02 58 30.8 -8.5**
comp=Z,12nm,0.3s,baz=332,slow=22,SNR=1.4
CFA LR LR 03 00 38.7
comp=Z,91nm,21.0s,baz=110,slow=38
BBSD Serra de San D 9.58 56 eP **Pn 02 57 08.7 -3.0**
BBRB Robore, Bolivi 9.63 64 eP **Pn 02 57 08.3 -4.1**
ESFA Espinillo Form 9.80 105 eP **Pn 02 57 12.8 -1.8**
SIV San Ignacio 10.01 49 P **Pn 02 57 15.1 -2.4**
comp=Z,42nm,0.4s,baz=232,slow=11,SNR=211
SIV S Sn 02 58 54.0 -14
comp=Z,8.5nm,0.5s,baz=240,slow=12,SNR=1.4
VA03 San Esteban 10.07 188 **Pn 02 57 18.3 +0.1**
ROC1 El Roble 10.35 190 Pn **Pn 02 57 22.6 +0.5**
MURT Porto Murtinho 10.54 86 eP **Pn 02 57 22.3 -2.3**
MT09 Talagante 11.13 189 Pn **Pn 02 57 31.2 -1.4**
CPUP Villa Florida 11.14 111 **Pn 02 57 30.9 -1.7**
CPUP Villa Florida 11.14 111 eP **Pn 02 57 31.2 -1.5**
CPUP Villa Florida 11.14 111 P **Pn 02 57 30.4 -2.3**
comp=Z,14nm,0.8s,baz=293,slow=11,SNR=34
CPUP LR LR 03 02 24.7
comp=Z,51nm,21.9s,baz=246,slow=40
MT01 Popeta 11.25 190 Pn 02 57 29.6 -4.5
BO04 La Punta 11.29 187 Pn **Pn 02 57 34.7 +0.1**
BDQN Bodoquena, MS 11.56 81 eP **Pn 02 57 36.0 -2.3**
MECA Mercedes 11.65 126 eP **Pn 02 57 38.6 -0.9**
BO01 Tunca 11.74 189 **Pn 02 57 41.3 +0.6**
PTLB Pontes e Lacer 11.76 54 **Pn 02 57 38.1 -2.9**
PTLB Pontes e Lacer 11.76 54 eP **Pn 02 57 37.0 -4.1**
ANTJ Antonio Joao (11.98 89 eP **Pn 02 57 42.0 -2.0**
BO02 Sierra Bellavi 12.10 187 **Pn 02 57 45.5 0.0**
GO05 Huala 12.49 191 Pn **Pn 02 57 51.1 +0.6**
AQDB Aquidauana 12.51 82 **Pn 02 57 51.1 +0.2**
AQDB Aquidauana 12.51 82 eP **Pn 02 57 50.1 -0.8**
VILB Vilhena 12.80 42 Pn **Pn 02 57 52.8 -2.0**
VILB Vilhena 12.80 42 eP **Pn 02 57 52.4 -2.3**
AMBA Amambai (Brazi 12.85 93 eP **Pn 02 57 54.2 -1.2**
ITQB Itaqui 13.01 125 Pn **Pn 02 57 56.6 -0.7**
ITQB Itaqui 13.01 125 eP **Pn 02 57 54.9 -2.3**
NNA Nana 13.10 324 S **Sn 03 00 15.9 -7.1**
comp=Z,8.3nm,0.5s,baz=228,slow=5.2,SNR=2.3
ETMB Extrema 13.13 12 Pn **Pn 02 57 56.6 -2.4**
ETMB Extrema 13.13 12 eP **Pn 02 57 56.4 -2.6**
ML02 Panimavida 13.14 189 Pn **Pn 02 57 58.8 -0.2**
MCR1 Marechal Candi 13.76 100 eP **Pn 02 58 05.4 -1.7**
UNIS Unistalda (Bra 13.96 120 eP **Pn 02 58 08.9 -0.8**
PP1B Ponte de Pedra 14.15 71 eP **Pn 02 58 10.3 -1.9**
SALV Santo Antonio 14.22 64 eP **Pn 02 58 10.0 -3.2**
CRSM Crissiumal (Br 14.28 112 eP **Pn 02 58 11.7 -2.1**
RPRD Ribas do Rio P 14.34 84 eP **Pn 02 58 13.6 -1.1**
RODS Rosario do Sul 14.42 125 eP **Pn 02 58 13.6 -1.9**
BI05 Punta Hualpn 14.42 194 Pn **Pn 02 58 14.4 -1.1**
SAML Samuel 14.80 23 Pn **Pn 02 58 19.0 -1.4**
FRBT Francisco Belt 14.81 106 eP **Pn 02 58 19.0 -1.5**
TRCB Terra Rica 15.03 93 Pn **Pn 02 58 21.6 -1.8**
TRCB Terra Rica 15.03 93 eP **Pn 02 58 22.2 -1.2**
CZSB Cruzeiro do Su 15.38 346 eP **Pn 02 58 28.7 +1.0**
ALGR Alto Alegre (B 15.53 116 eP **Pn 02 58 27.3 -2.3**
PTGB Pitanga 15.56 101 eP **Pn 02 58 28.7 -1.4**
CPSB Cacapava Do Su 15.80 122 eP **Pn 02 58 31.4 -1.5**
ITAB Concordia 15.86 110 Pn **Pn 02 58 32.5 -1.2**
ITAB Concordia 15.86 110 eP **Pn 02 58 33.1 -0.6**
PDRB Porto dos Gac 16.07 48 eP **Pn 02 58 34.8 -1.5**
PLTB Pedras Altas 16.30 127 Pn **Pn 02 58 36.8 -2.2**
PLTB IAmb IAmb 02 58 38.2
comp=Z,30nm,0.9s
PLTB Pedras Altas 16.30 127 eP **Pn 02 58 36.2 -2.8**
TRQA Tornquist 16.37 160 **Pn 02 58 38.8 -1.1**
LDASE Londrina, Braz 16.40 96 eP **Pn 02 58 39.7 -0.8**
PCMB Pacaembu 16.40 89 eP **Pn 02 58 39.2 -1.2**
GO06 Curarrehue 16.91 187 **Pn 02 58 45.5 -1.1**
GO06 IAmb IAmb 02 58 50.3
comp=Z,22nm,0.9s
CLDB Colider 17.23 49 eP **P 02 58 49.7 -0.8**
CNLB Canela 17.50 116 eP **P 02 58 52.4 -0.9**
ITRB Iturama 17.57 84 eP **P 02 58 54.1 -0.1**
ARAG Araguaiana, MT 17.61 70 eP **P 02 58 53.3 -1.2**
FRTB Fartura 17.83 96 eP **P 02 58 57.0 0.0**
PLCA Paso Flores 17.97 184 P **P 02 58 58.6 +0.1**
PLCA Paso Flores 17.97 184 eP **P 02 58 59.4 +0.9**
PLCA Paso Flores 17.97 184 P **P 02 58 59.3 +0.8**
comp=Z,5.6nm,0.8s,baz=12,slow=12,SNR=17
PLCA PcP **PcP 03 03 30.2 +1.6**
comp=Z,1.4nm,0.6s,baz=284,slow=0.9,SNR=4.4
TBTG Tabatinga, AM 18.49 357 eP **Pn 02 59 06.3 +0.6**
LL05 Los Muermos 18.98 191 P **P 02 59 09.8 +0.4**
BB19B Bebedouro 19.00 89 eP **P 02 59 08.6 -1.2**
TEFE Tefe 19.58 13 eP **P 02 59 16.1 0.0**
RCLB Rio Claro- Sao 19.76 93 eP **P 02 59 16.4 -1.6**
LL01 San Ignacio de 19.78 188 P **P 02 59 18.8 +0.7**
LL06 Loncomilla 19.80 190 P **P 02 59 18.3 +0.1**
SNDB Serra Nova Dou 19.93 60 eP **P 02 59 18.3 -1.6**
VAO Valinhos 20.23 95 eP **P 02 59 21.1 -2.1**
NPGB Novo Progresso 20.37 42 eP **P 02 59 22.4 -2.2**
LL02 Futaleuf 20.52 186 P **P 02 59 26.0 0.0**
LL02 IAmb IAmb 02 59 29.5
comp=Z,18nm,1.1s
BDFB Brasilia 20.96 74 P **P 02 59 30.9 -0.3**
BDFB Brasilia 20.96 74 P **P 02 59 30.2 -0.9**
comp=Z,26nm,0.4s,baz=250,slow=11,SNR=84
BDFB LR LR 03 09 24.9
comp=Z,41nm,19.9s,baz=313,slow=42
comp=Z,26nm,0.4s
MCRA Macar, Loja 21.17 328 P **P 02 59 34.9 +1.6**
MCRA Macar, Loja 21.17 328 eP **P 02 59 34.7 +1.5**
PARB Paraibuna 21.45 96 eP **P 02 59 34.4 -1.8**
PMNB Patos De Minas 21.45 83 eP **P 02 59 35.4 -1.0**
BOSC San Juan Bosco 21.59 333 P **P 02 59 40.3 +2.5**
AY01 Puyuhuapi 21.82 187 P **P 02 59 39.6 -0.2**
AY01 IAmb IAmb 02 59 40.2
comp=Z,12nm,0.7s
ITTB Itaituba 22.30 37 eP **P 02 59 43.4 -1.8**
BSCB Bom Sucesso 22.48 90 eP **P 02 59 46.0 -1.0**
COHC Cochancay 22.52 332 eP **P 02 59 51.0 +3.6**
ESAR Angra dos Reis 22.56 95 eP **P 02 59 47.7 0.0**
SGCB SEo Gabriel d 22.57 5 eP **P 02 59 47.9 0.0**
DIAM Diamantina, MG 24.05 84 eP **P 03 00 00.7 -1.2**
OTAV Otavalo 24.67 337 P **P 03 00 07.2 -0.6**
OTAV Otavalo 24.67 337 eP **P 03 00 10.4 +2.6**
OTAV Otavalo 24.67 337 eP **P 03 00 08.6 +0.8**
SMTB Santa Maria do 24.70 59 eP **P 03 00 07.2 -0.5**
PAC1 Pacto, Paraso 24.82 336 eP **P 03 00 12.3 +3.5**
FLOC Florencia 25.07 344 eP **P 03 00 12.1 +1.1**
SDBA SAO DESIDERIO 25.07 70 eP **P 03 00 09.7 -1.3**
GARC Garzon, Huila 25.61 345 eP **P 03 00 16.8 +0.7**
BBAC Balboa, Cauca 25.93 341 eP **P 03 00 21.5 +2.6**
SJMB Sao Joao De Ma 26.24 86 eP **P 03 00 22.0 +0.4**
POPC Popayan, Colom 26.26 342 eP **P 03 00 24.0 +2.1**
BOAV Boa Vista 26.31 19 P **P 03 00 23.5 +1.3**
BOAV Boa Vista 26.31 19 eP **P 03 00 23.2 +1.1**
BOAV Boa Vista 26.31 19 eP **P 03 00 23.2 +1.1**
PRAC Prado 26.95 347 eP **P 03 00 33.3 +5.4**
VILC Villavicencio, 27.11 350 eP P 03 00 36.8 +7.3
ORTC Ortega, Tolima 27.21 346 eP **P 03 00 31.8 +1.5**
YOTC Yotoco, Valle 27.55 344 eP **P 03 00 34.0 +0.6**
CHIC Chingaza 27.62 350 eP P 03 00 46.0 +12
PLMC San Jos del P 28.42 344 eP **P 03 00 41.5 +0.5**
GUY2C Guyana, Caldas 28.51 346 eP **P 03 00 43.1 +0.7**
TMAB Tom-Au,PA,Br 28.62 48 eP **P 03 00 42.7 -0.1**
NORC Norcasia 28.74 348 eP **P 03 00 41.5 -2.4**
RUSC La Rusia 28.76 351 eP **P 03 00 45.7 +1.1**
PTBC PUERTO BERRIO, 29.62 349 eP **P 03 00 49.9 -1.7**
ZARC Zaragoza, Cauc 30.62 348 eP **P 03 00 59.6 -0.8**
SDV Santo Domingo 31.49 357 LR LR 03 16 55.8
comp=Z,30nm,20.7s,baz=156,slow=42
MDP Montagnes des 31.94 32 LR LR 03 15 39.1
comp=Z,74nm,19.2s,baz=158,slow=39
BELA Belgrano 2 57.51 172 P **P 03 04 34.6 +0.8**
BELA IAmb IAmb 03 04 36.3
comp=Z,5.7nm,1.0s
VNA3 Neumayer Olymp 58.90 161 P **P 03 04 45.0 +1.4**
comp=Z,6.0nm,0.7s
VNA1 Neumayer--Stat 59.11 160 ⇓P **P 03 04 45.9 +0.9**
comp=Z,3.2nm,0.6s
X48A Hartselle 59.45 343 P **P 03 04 48.1 +0.4**
VNA2 Neumayer--Watz 59.48 160 ⇓P **P 03 04 48.8 +1.2**
comp=Z,4.6nm,0.6s,baz=286,slow=8.0
V53A Saluda 59.58 347 P **P 03 04 49.3 +0.6**
HNDO Hondo 59.63 329 P **P 03 04 49.6 +0.5**
HNDO IAmb IAmb 03 04 51.1
comp=Z,7.0nm,0.8s
Y45A Yeager Farm, C 59.63 340 P **P 03 04 49.4 +0.4**
W50A Signal Mountai 59.70 344 P **P 03 04 50.1 +0.5**
CPCT Cooper Cave 59.75 345 P **P 03 04 50.2 +0.4**
CPCT IAmb IAmb 03 04 51.1
comp=Z,6.8nm,1.0s
TKL Tuckaleechee C 59.78 346 P **P 03 04 50.4 +0.4**
U54A Nelsons Funny 60.20 348 P **P 03 04 54.0 +0.9**
PLAL Pickwick Lake 60.23 342 P **P 03 04 53.1 0.0**
TZTN Tazewell 60.58 347 P **P 03 04 56.1 +0.6**
TZTN IAmb IAmb 03 04 59.2
comp=Z,9.8nm,1.1s
V48A Smith Brothers 60.60 343 P **P 03 04 55.9 +0.3**
JCT Junction City 60.67 329 P **P 03 04 57.3 +1.0**
CLTN Cedars of Leba 60.80 344 P **P 03 04 57.5 +0.5**
BRDY Brady 60.98 331 P **P 03 04 59.1 +0.7**
BRDY IAmb IAmb 03 04 59.7
comp=Z,3.8nm,0.9s
SLBS Sierra La Lagu 61.00 317 P **P 03 04 58.3 -0.4**
U49A Red Boiling Sp 61.06 345 P **P 03 04 59.0 +0.3**
SNAA Sanae 61.10 161 P **P 03 04 59.7 +1.0**
SNAA IAmb IAmb 03 05 00.6
comp=Z,5.4nm,0.8s
SNAA Sanae 61.10 161 ⇓P **P 03 04 59.8 +1.1**
comp=Z,70nm,0.4s
SNAA Sanae 61.10 161 P **P 03 04 59.8 +1.1**
comp=Z,4.5nm,0.6s,baz=285,slow=7.7,SNR=56
SNAA pP **pP 03 05 27.5 +0.7**
comp=Z,2.1nm,0.7s,baz=300,slow=5.8,SNR=2.3
SNAA sP **sP 03 05 40.0 +0.6**
comp=Z,3.6nm,0.8s,baz=249,slow=5.1,SNR=5.7
comp=Z,4.5nm,0.6s
WVT Waverly 61.24 343 P **P 03 04 59.9 0.0**
X40A Basin Creek Fa 61.30 338 P **P 03 05 00.9 +0.5**
T50A Nancy 61.32 346 P **P 03 05 00.8 +0.3**
T50A IAmb IAmb 03 05 01.3
comp=Z,4.8nm,0.7s
S54A Dingess, Beckl 61.35 349 P **P 03 05 01.1 +0.4**
SAND Sanderson 61.36 327 P **P 03 05 01.9 +0.9**
SAND IAmb IAmb 03 05 02.7
comp=Z,4.2nm,0.8s
MIAR Mount Ida 61.62 337 P **P 03 05 03.2 +0.7**
R55A Marlinton 61.62 350 P **P 03 05 03.8 +1.3**
R55A IAmb IAmb 03 05 09.2
comp=Z,10nm,1.2s
S51A Beattyville 61.64 347 P **P 03 05 02.3 -0.3**
S51A IAmb IAmb 03 05 20.5
comp=Z,6.7nm,1.1s
TXAR Lajitas Array 61.65 326 P **P 03 05 04.2 +1.2**
TXAR Lajitas Array 61.65 326 P **P 03 05 03.7 +0.7**
comp=Z,0.7nm,0.6s,baz=149,slow=8.4,SNR=10
TXAR pP **pP 03 05 31.2 +0.4**
comp=Z,0.9nm,0.8s,baz=133,slow=7.3,SNR=4.0
TXAR sP **PcP 03 05 43.8 +0.3**
comp=Z,1.0nm,0.8s,baz=168,slow=6.4,SNR=5.6
comp=Z,0.7nm,0.6s
TX31 Lajitas Ar. Si 61.65 326 P **P 03 05 03.6 +0.6**
TX31 IAmb IAmb 03 05 18.5
comp=Z,8.9nm,1.3s
TX32 Lajitas Array 61.65 326 P **P 03 05 03.9 +0.9**
OZNA Ozona 61.67 329 P **P 03 05 03.6 +0.6**
OZNA IAmb IAmb 03 05 04.1
comp=Z,3.0nm,0.5s
T47A Sharon Grove 61.85 344 P **P 03 05 04.1 +0.1**
T45A Paducah 62.30 342 P **P 03 05 07.3 +0.3**
X37A Clayton 62.32 335 P **P 03 05 08.0 +0.8**
X37A IAmb IAmb 03 05 14.8
comp=Z,6.5nm,0.9s
FCAR Ozark Folk Cen 62.33 339 P **P 03 05 07.0 -0.2**
FCAR IAmb IAmb 03 05 08.3
comp=Z,12nm,1.3s
PBMO Poplar Bluff 62.60 341 P **P 03 05 08.7 -0.4**
PBMO IAmb IAmb 03 05 10.0
comp=Z,6.2nm,0.7s
TROLL Troll, Antarti 62.82 161 ⇓P **P 03 05 11.5 +1.2**
comp=Z,285nm,0.6s
APMT Aspermont 63.21 331 P **P 03 05 14.1 +0.9**
APMT IAmb IAmb 03 05 14.8
comp=Z,6.1nm,0.7s
HHAR Hobbs 63.30 338 P **P 03 05 13.6 -0.1**
425A Indio Mountain 63.49 326 P **P 03 05 16.4 +1.1**
425A IAmb IAmb 03 05 17.5
comp=Z,8.5nm,1.1s
MGMO Mountain Grove 63.52 339 P **P 03 05 15.5 +0.3**
MGMO IAmb IAmb 03 05 16.3
comp=Z,8.7nm,0.9s
FVM French Village 63.71 341 P **P 03 05 17.0 +0.6**
O53A New Philadelph 63.72 350 P **P 03 05 15.9 -0.4**
CCM Cathedral Cave 64.03 341 P **P 03 05 18.5 +0.1**
CCM IAmb IAmb 03 05 19.3
comp=Z,7.6nm,0.7s
S39A Bolivar 64.36 339 P **P 03 05 21.2 +0.5**
MNTX Cornudas Mount 64.42 326 P **P 03 05 21.6 +0.4**
MNTX IAmb IAmb 03 05 22.7
comp=Z,7.9nm,1.3s
R40A Maddies Statio 64.56 340 P **P 03 05 22.3 +0.4**
R40A IAmb IAmb 03 05 22.6
comp=Z,7.4nm,0.8s
MSTX Muleshoe 64.96 329 P **P 03 05 25.0 +0.3**
MSTX IAmb IAmb 03 05 26.9
comp=Z,12nm,1.1s
121A Cookes Peak, D 66.34 325 P **P 03 05 35.3 +1.6**
121A IAmb IAmb 03 05 37.0
comp=Z,8.5nm,1.1s
FRNY Flat Rock 67.40 356 P **P 03 05 41.4 +1.4**
FRNY IAmb IAmb 03 05 54.4
comp=Z,9.8nm,1.4s
QSPA South Pole Qui 67.44 180 P **P 03 05 42.0 +1.8**
comp=Z,15nm,0.5s,baz=184,slow=0.5,SNR=172
QSPA pP **pP 03 06 11.2 +2.4**
comp=Z,4.5nm,0.5s,baz=161,slow=1.7,SNR=3.8
comp=Z,15nm,0.5s
ANMO Albuquerque 67.54 327 P **P 03 05 43.3 +1.9**
ANMO IAmb IAmb 03 05 43.7
comp=Z,4.2nm,0.8s
GGN Saint George 67.57 2 P **P 03 05 42.2 +1.2**
GGN IAmb IAmb 03 05 55.1
comp=Z,14nm,1.3s
TUC Tucson 67.82 322 P **P 03 05 43.7 +0.8**
TUC IAmb IAmb 03 05 46.2
comp=Z,8.4nm,1.1s
DBIC Dimbokro 69.11 73 P **P 03 05 51.5 +0.2**
comp=Z,2.7nm,0.6s,baz=247,slow=4.9,SNR=5.8
DBIC pP **pP 03 06 19.8 -0.3**
comp=Z,12nm,0.9s,baz=207,slow=4.3,SNR=4.8
DBIC LR LR 03 35 42.0
comp=Z,16nm,18.0s,baz=87,slow=35
comp=Z,2.7nm,0.6s
SDCO Great Sand Dun 69.32 330 P **P 03 05 54.2 +1.8**
SDCO IAmb IAmb 03 05 55.2
comp=Z,7.3nm,1.1s
Q24A Divide 70.14 331 P **P 03 05 59.3 +1.8**
Q24A IAmb IAmb 03 06 00.2
comp=Z,5.9nm,0.7s
E46A Sault Ste Mari 70.20 349 P **P 03 05 57.7 +0.5**
MVCO Mesa Verde 70.34 327 P **P 03 06 00.5 +1.8**
MVCO IAmb IAmb 03 06 01.1
comp=Z,5.1nm,0.8s
WUAZ Wupatki 70.54 324 P **P 03 06 00.4 +0.6**
WUAZ IAmb IAmb 03 06 03.3
comp=Z,7.8nm,0.9s
K30B Basset 71.00 337 P **P 03 06 01.9 -0.3**
BLYC Blythe 71.01 321 P **P 03 06 01.1 -1.4**
BLYC IAmb IAmb 03 06 06.0
comp=Z,8.1nm,1.0s
SMCO Snowmass 71.16 330 P **P 03 06 04.6 +0.9**
SMCO IAmb IAmb 03 06 06.8
comp=Z,5.0nm,0.8s
O20A White River Ci 72.51 329 P **P 03 06 12.7 +1.1**
O20A IAmb IAmb 03 06 14.5
comp=Z,10nm,0.9s
ELS Elsinore Mount 72.66 319 P **P 03 06 13.2 +0.8**
ELS IAmb IAmb 03 06 15.2
comp=Z,6.6nm,0.9s
MTPU Mount Pierson 72.86 326 P **P 03 06 14.5 +0.6**
WTNK Soaring Height 73.04 322 P **P 03 06 13.9 -0.7**
P18A Preston Nutter 73.08 328 P **P 03 06 14.8 -0.3**
P18A IAmb IAmb 03 06 18.2
comp=Z,6.0nm,0.9s
P17A Butcher Ranch, 73.20 327 P **P 03 06 15.9 +0.3**
P17A IAmb IAmb 03 06 18.5
comp=Z,5.1nm,0.8s
RDMU Red Mountain 73.48 329 P **P 03 06 17.8 +0.4**
RDMU IAmb IAmb 03 06 19.8
comp=Z,5.0nm,0.7s
KOWA Kowa 73.53 66 P **P 03 06 17.9 0.0**
KOWA IAmb IAmb 03 06 26.0
comp=Z,7.4nm,0.8s
KOWA Kowa 73.53 66 LR LR 03 38 41.5
comp=Z,33nm,18.3s,baz=137,slow=36
RSSD Black Hills 73.92 334 P **P 03 06 18.8 -1.0**
RSSD IAmb IAmb 03 06 22.3
comp=Z,7.2nm,0.8s
GWY Greenwater Val 73.97 321 P **P 03 06 20.7 +0.4**
GWY IAmb IAmb 03 06 23.2
comp=Z,6.5nm,1.0s
BSUT Blindstream Ca 74.03 328 P **P 03 06 21.1 +0.4**
CCAC Calif City Air 74.05 320 P **P 03 06 20.6 +0.1**
CCAC IAmb IAmb 03 06 23.7
comp=Z,7.3nm,0.8s
MPU Maple Canyon 74.06 327 P **P 03 06 21.1 +0.3**
PSUT Pine Spring 74.10 325 P **P 03 06 21.7 +0.7**
NLU North Lily Min 74.24 327 P **P 03 06 22.4 +0.7**
TPNV Topopah Spring 74.27 322 P **P 03 06 22.6 +0.6**
TPNV IAmb IAmb 03 06 25.6
comp=Z,7.0nm,1.2s
WCT Wildcat Mounta 74.38 322 P **P 03 06 23.2 +0.7**
WCT IAmb IAmb 03 06 26.2
comp=Z,8.3nm,1.2s
SPR3 Spring Creek 3 74.70 325 P **P 03 06 25.6 +1.1**
DUG Dugway, Tooele 74.79 327 P **P 03 06 25.1 +0.2**
R11B Troy Canyon, C 74.90 324 P **P 03 06 27.0 +1.4**
GMN Gold Mountain 75.09 322 P **P 03 06 26.9 +0.1**
PD31 Pinedale Array 75.19 330 P **P 03 06 28.2 +1.1**
PDAR Pinedale Array 75.19 330 P **P 03 06 27.1 -0.1**
PDAR Pinedale Array 75.19 330 P **P 03 06 28.3 +1.1**
comp=Z,0.8nm,0.5s,baz=129,slow=7.3,SNR=11
PDAR pP **pP 03 06 56.3 +0.1**
comp=Z,0.6nm,0.8s,baz=130,slow=8.3,SNR=2.0
PDAR LR LR 03 42 24.6
comp=Z,18nm,19.5s,baz=55,slow=38
comp=Z,0.8nm,0.5s
HWUT Hardware Ranch 75.24 328 P **P 03 06 28.4 +0.9**
HWUT IAmb IAmb 03 06 31.0
comp=Z,5.5nm,0.7s
MDND Maddock 75.50 339 P **P 03 06 29.3 +0.8**
DSP Deep Springs 75.55 322 P **P 03 06 30.5 +1.5**
ID09 Alton 75.55 329 P **P 03 06 29.7 +0.4**
ID09 IAmb IAmb 03 06 31.7
comp=Z,5.3nm,0.7s
TPH Tonopah 75.61 323 P **P 03 06 30.5 +0.8**
ID10 Lander Cutoff 75.62 329 P **P 03 06 30.6 +0.9**
ID10 IAmb IAmb 03 06 32.2
comp=Z,11nm,0.9s
AHID Auburn Hatcher 75.90 329 P **P 03 06 31.2 -0.1**
AHID IAmb IAmb 03 06 33.7
comp=Z,9.8nm,0.9s
HVU Hansel Valley 75.96 328 P **P 03 06 32.0 +0.5**
ID05 Sulphur Canyon 75.98 329 P **P 03 06 32.6 +0.8**
REDW Red Top Meadow 76.25 330 P **P 03 06 34.1 +0.9**
SNOW Snow King Moun 76.28 330 P **P 03 06 34.4 +1.0**
SNOW IAmb IAmb 03 06 36.2
comp=Z,5.8nm,0.8s
LOHW Long Hollow 76.33 330 P **P 03 06 34.4 +0.8**
LOHW IAmb IAmb 03 06 36.3
comp=Z,3.9nm,0.7s
ID08 Devils Gate 76.35 329 P **P 03 06 34.5 +0.7**
MDPB Devils Postpil 76.37 321 P **P 03 06 34.7 +0.7**
TPAW Teton Pass 76.39 330 P **P 03 06 34.7 +0.7**
TPAW IAmb IAmb 03 06 36.9
comp=Z,5.9nm,0.8s
ELK Elko 76.45 326 P **P 03 06 33.5 -0.9**
NVAR Mina Array Bea 76.47 322 P **P 03 06 35.1 +0.6**
NVAR Mina Array Bea 76.47 322 P **P 03 06 34.6 0.0**
comp=Z,1.9nm,0.9s,baz=154,slow=6.7,SNR=14
NVAR pP **pP 03 07 03.6 +0.3**
comp=Z,0.4nm,0.7s,baz=152,slow=5.8,SNR=2.0
NVAR sP **sP 03 07 15.7 +0.2**
comp=Z,2.4nm,0.9s,baz=153,slow=6.7,SNR=7.8
comp=Z,1.9nm,0.9s
MOOW Moose Ponds 76.50 330 P **P 03 06 35.4 +0.8**
ULM Lac du Bonnet 76.51 343 P **P 03 06 34.4 +0.2**
comp=Z,4.4nm,0.5s,baz=160,slow=6.1,SNR=7.7
ULM pP **pP 03 07 02.0 -1.2**
comp=Z,6.2nm,0.7s,baz=154,slow=6.4,SNR=4.2
comp=Z,4.4nm,0.5s
FXWY Fox Creek 76.54 330 P **P 03 06 35.4 +0.6**
IMW Indian Meadow 76.70 330 P **P 03 06 36.8 +0.9**
IMW IAmb IAmb 03 06 38.6
comp=Z,4.7nm,0.8s
FLWY Flagg Ranch 76.73 330 P **P 03 06 37.1 +1.2**
FLWY IAmb IAmb 03 06 39.2
comp=Z,7.7nm,0.8s
KVN Kaiserville 76.79 323 P **P 03 06 37.1 +0.7**
KVN IAmb IAmb 03 06 39.2
comp=Z,6.8nm,1.1s
LAO LASA Array 76.91 335 P **P 03 06 37.2 +0.6**
LAO IAmb IAmb 03 06 39.1
comp=Z,11nm,1.0s
RLMT Red Lodge 76.91 332 P **P 03 06 37.5 +0.6**
RLMT IAmb IAmb 03 06 39.6
comp=Z,5.0nm,0.7s
YHH Holmes Hill 77.35 331 P **P 03 06 42.1 +2.6**
DGMT Dagmar 77.62 337 P **P 03 06 40.6 +0.1**
PNTR Pine Nut 77.66 322 P **P 03 06 41.8 +0.6**
PNTR IAmb IAmb 03 06 44.6
comp=Z,9.1nm,0.9s
TOA0 Torodi Ar. Sit 77.79 70 P **P 03 06 41.9 -0.3**
TOA0 IAmb IAmb 03 06 43.0
comp=Z,9.2nm,0.7s
TORD Torodi Ar. Bea 77.79 70 P **P 03 06 42.1 -0.1**
TORD IAmb IAmb 03 06 43.0
comp=Z,7.1nm,0.7s
TORD Torodi Ar. Bea 77.79 70 P **P 03 06 42.2 0.0**
comp=Z,7.2nm,0.6s,baz=257,slow=5.0,SNR=102
TORD pP **pP 03 07 10.9 -0.5**
comp=Z,5.4nm,0.7s,baz=259,slow=5.2,SNR=3.3
comp=Z,7.2nm,0.6s
PAHR Pah Rah Range 77.96 323 P **P 03 06 43.6 +0.8**
PAHR IAmb IAmb 03 06 46.1
comp=Z,9.9nm,0.8s
HLID Hailey 78.09 328 P **P 03 06 44.5 +1.0**
HLID IAmb IAmb 03 06 46.9
comp=Z,7.2nm,0.8s
BCYI Bear Canyon 78.17 329 P **P 03 06 44.4 +0.4**
MCMT McKenzie Canyo 78.30 330 P **P 03 06 45.8 +1.1**
DLMT Dillon 78.58 330 P **P 03 06 46.5 +0.4**
MFID Camas Ranch 78.69 327 P **P 03 06 47.1 +0.4**
MFID IAmb IAmb 03 06 49.9
comp=Z,9.0nm,1.4s
WVOR Wild Horse Val 79.44 325 P **P 03 06 51.4 +0.6**
PLID Pearl Lake 79.99 328 P **P 03 06 54.3 +0.4**
PLID IAmb IAmb 03 06 56.4
comp=Z,7.4nm,0.8s
J08A Circle Bar Ran 80.00 326 P **P 03 06 53.9 +0.1**
BMO Blue Mountains 80.46 327 P **P 03 06 56.7 +0.5**
BMO IAmb IAmb 03 06 58.9
comp=Z,5.6nm,1.0s
K05A Summer Lake 80.85 324 P **P 03 06 58.6 +0.2**
K05A IAmb IAmb 03 07 01.6
comp=Z,10nm,0.8s
I07A Izee 81.04 326 P **P 03 06 59.2 -0.1**
F10A Beach Ranch, E 81.22 328 P **P 03 07 01.7 +1.5**
F10A IAmb IAmb 03 07 03.6
comp=Z,4.7nm,0.8s
J05D Fort Rock, OR 81.41 324 P **P 03 07 02.7 +1.3**
PINE Pine Mountain 81.60 325 P **P 03 07 03.6 +1.2**
PINE IAmb IAmb 03 07 05.1
comp=Z,8.6nm,0.7s
G08A Pilot Rock 81.60 327 P **P 03 07 03.0 +0.7**
I05D Terrebonne, OR 82.18 325 P **P 03 07 06.5 +1.2**
HAWA Hanford 82.66 327 P **P 03 07 08.0 +0.4**
HAWA IAmb IAmb 03 07 10.2
comp=Z,4.3nm,0.7s
BOSA Boshof 82.87 118 P **P 03 07 09.4 -0.1**
comp=Z,2.8nm,0.9s,baz=260,slow=8.0,SNR=3.1

BOSA pP **pP** **03 07 37.8 -1.2**
comp=Z,4.0nm,0.8s,baz=323,slow=3.1,SNR=2.9
comp=Z,2.8nm,0.9s
C09A Chrisman Ranch 83.03 329 P **P** **03 07 10.2 +0.7**
MAW Mawson 83.14 163 P **P** **03 07 10.0 +0.2**
MAW Mawson 83.14 163 P **P** **03 07 10.8 +0.9**
comp=Z,3.6nm,0.8s,baz=220,slow=6.6,SNR=15
MAW pP **pP** **03 07 40.3 +0.9**
comp=Z,4.0nm,0.6s,baz=213,slow=6.2,SNR=6.5
comp=Z,3.6nm,0.8s
LTY Liberty 83.82 327 P **P** **03 07 14.8 +1.1**
LTY IAmb IAmb 03 07 18.9
comp=Z,9.9nm,1.5s
E03A Lebam 84.81 326 P **P** **03 07 19.9 +1.4**
E03A IAmb IAmb 03 07 20.5
comp=Z,9.9nm,1.1s
RADR Rader Ridge 84.86 325 P **P** **03 07 20.0 +1.1**
EDM Edmonton 84.89 335 P **P** **03 07 19.2 +0.4**
EDM IAmb IAmb 03 07 37.9
comp=Z,5.4nm,0.7s
ESDC Sonseca Array 86.74 44 P **P** **03 07 28.1 -0.3**
comp=Z,0.1nm,0.5s,baz=240,slow=5.1,SNR=1.4
ESDC pP **pP** **03 07 57.8 -0.2**
comp=Z,0.9nm,1.0s,baz=266,slow=3.9,SNR=3.5
YKA Yellowknife Ar 92.36 341 P **P** **03 07 54.4 +0.4**
comp=Z,3.0nm,0.7s,baz=137,slow=4.6,SNR=5.8
YKA pP **pP** **03 08 24.7 +0.9**
comp=Z,1.2nm,0.6s,baz=137,slow=5.0,SNR=1.9
YKA sP **sP** **03 08 36.7 +0.9**
comp=Z,2.3nm,0.7s,baz=131,slow=4.0,SNR=4.1
comp=Z,3.0nm,0.7s
ASAR Alice Springs 128.79 207 PKP **PKPdf** **03 13 52.6 +0.8**
comp=Z,2.5nm,0.8s,baz=150,slow=2.2,SNR=24
ASAR pPKP **pPKPdf** **03 14 23.1 +0.2**
comp=Z,1.0nm,0.9s,baz=139,slow=1.9,SNR=2.1
WRA Warramunga Arr 131.86 210 PKP **PKPdf** **03 13 58.7 +1.0**
comp=Z,1.9nm,0.7s,baz=157,slow=1.8,SNR=39
WRA pPKP **pPKPdf** **03 14 29.9 +1.1**
comp=Z,0.7nm,0.6s,baz=154,slow=1.8,SNR=3.7
WRA SKPbc **SKPbc** **03 17 12.8 -0.8**
comp=Z,0.5nm,1.0s,baz=167,slow=2.5,SNR=2.9
BVAR Borovoye Array 136.83 35 PKP **PKPdf** **03 14 06.1 +0.2**
comp=Z,0.9nm,0.8s,baz=282,slow=2.9,SNR=3.7
BVAR pPKP **pPKPdf** **03 14 36.4 -0.6**
comp=Z,0.4nm,0.5s,baz=352,slow=2.9,SNR=2.0
KURBB Kurchatov Arra 142.39 34 PKP **PKPdf** **03 14 13.4 -2.6**
comp=Z,0.5nm,0.7s,baz=298,slow=2.8,SNR=2.7
KURBB pPKP **pPKPdf** **03 14 45.5 -1.7**
comp=Z,0.4nm,0.7s,baz=301,slow=2.6,SNR=2.3
ZALV Zalesovo Beam 143.09 26 PKP PKPbc 03 14 14.7 +0.3
comp=Z,1.7nm,0.6s,baz=314,slow=4.8,SNR=6.8
ZALV pPKP pPKPdf 03 14 47.3 -1.1
comp=Z,2.4nm,0.7s,baz=323,slow=2.2,SNR=2.8
KSH Kashi 145.89 52 PKPbc **PKPab** **03 14 25.1 +0.9**
KSH pPKP pPKPab 03 14 55.5 +0.9
MKAR Makanchi Array 146.65 37 PKPbc **PKPdf** **03 14 24.8 +1.2**
comp=Z,2.0nm,0.6s,baz=339,slow=2.4,SNR=12
MKAR pPKPbc **pPKPdf** **03 14 55.4 +0.6**
comp=Z,4.5nm,0.9s,baz=306,slow=2.9,SNR=5.6
KLR Kul'dur 148.94 333 PKPbc **PKPbc** **03 14 31.1 -0.2**
comp=Z,2.2nm,0.5s,baz=75,slow=4.6,SNR=8.1
USRK Ussuriysk Ar. 152.55 326 PKPbc **PKPbc** **03 14 39.1 -0.9**
comp=Z,2.2nm,0.8s,baz=198,slow=0.5,SNR=3.6
USRK pPKPbc **pPKPbc** **03 15 10.5 -0.5**
comp=Z,2.3nm,0.9s,baz=325,slow=2.3,SNR=3.1
MJAR Matsushiro Arr 152.82 306 PKPbc **PKPbc** **03 14 40.8 -0.1**
comp=Z,1.9nm,0.9s,baz=19,slow=33,SNR=5.1
MJAR PKPab **PKPab** **03 14 53.0 +0.7**
comp=Z,2.3nm,0.7s,baz=78,slow=3.6,SNR=6.2
SONM Songino Array 154.70 7 PKP **PKPdf** **03 14 35.8 -0.4**
comp=Z,0.2nm,0.4s,baz=104,slow=24,SNR=3.5
SONM PKPbc **PKPbc** **03 14 44.8 0.0**
comp=Z,0.5nm,0.5s,baz=90,slow=1.5,SNR=3.6
SONM PKPab **PKPab** **03 14 59.2 -0.7**
comp=Z,0.6nm,0.5s,baz=344,slow=4.0,SNR=3.3
SONM pPKP **pPKPdf** **03 15 06.5 -0.9**
comp=Z,0.8nm,0.7s,baz=330,slow=2.4,SNR=3.5
KSRS Korea Array 159.38 319 PKPab **PKPab** **03 15 20.6 +0.3**
comp=Z,1.7nm,0.8s,baz=67,slow=3.7,SNR=4.1
PZH PanZhiHua 170.73 64 PKP **PKPdf** **03 14 51.1 -1.3**

---

*IDC **15** 03:42:41.4±0.8, 34°.98N×26°.65E, h0km, mb3.9/15, mbtmp3.7/27, ML3.4/11, MS3.5/28, Error ellipse: s-maj=16.6km s-min=9.7km az=179.0*
*ISK **15** 03:42:42.0, 35°.09N×26°.69E, h5km, ML4.0/25*
*NEIC **15** 03:42:42.1±1.8, 34°.80N±0°.09×26°.61E±0°.06, h10km±2km, mb4.1/12, Error ellipse: s-maj=14.7km s-min=7.6km az=187.0*
*THE **15** 03:42:43.4, 35°.07N×26°.67E, h1km±3km, ML3.9/4, Error ellipse: s-maj=6.6km s-min=1.0km az=156.0*
*ATH **15** 03:42:44.3, 35°.08N×26°.64E, h4km±1km, ML3.9/10, Error ellipse: s-maj=3.3km s-min=1.0km az=158.0*
ISC 15 03:42:41.3±1.2, 34°.97N±0°.03×26°.68E±0°.02, h6km±7km, n222, σ2°01/215, mb4.0/22, MS3.5/21, 11C-12D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.41**	**291**	Pg	**Pb**	**03 42 50.2**	**-0.7**
ZKR				Sg	**Sb**	**03 42 57.0**	**-0.4**
ZKR	**Zakros**	**0.41**	**291**	P	**Pb**	**03 42 50.1**	**-0.8**
ZKR				S	**Sb**	**03 42 56.4**	**-1.0**
21μm,0.5s
ZKR	**Zakros**	**0.41**	**291**	P	**Pb**	**03 42 50.3**	**-0.7**
ZKR				S	**Sb**	**03 42 56.2**	**-1.2**
ZKR				AML	AML	03 42 58.4	
comp=N,20784μm,0.4s
ZKR				AML	AML	03 43 01.1	
comp=E,61131μm,0.4s
KARP	**Karpathos**	**0.70**	**34**	Pg	**Pg**	**03 42 54.6**	**-0.1**
KARP				Sg	**Sb**	**03 43 04.2**	**-1.6**
KARP	**Karpathos**	**0.70**	**34**	P	**Pg**	**03 42 54.7**	**0.0**
KARP				S	**Sb**	**03 43 05.4**	**-0.4**
comp=E,11μm,0.4s
KARP	**Karpathos**	**0.70**	**34**	P	**Pg**	**03 42 54.1**	**-0.6**
KARP	**Karpathos**	**0.70**	**34**	P	**Pb**	**03 42 55.7**	**-0.2**
KARP				S	**Sb**	**03 43 05.6**	**-0.2**
KARP				AML	AML	03 43 08.3	
comp=N,18264μm,0.2s
KARP				AML	AML	03 43 10.1	
comp=E,22485μm,0.4s
FRMA	**Ierapetra Chan**	**0.78**	**274**	P	**Pg**	**03 42 55.7**	**-0.6**
FRMA	**Ierapetra Chan**	**0.78**	**274**	P	**Pg**	**03 42 55.4**	**-0.8**
FRMA				S	**Sg**	**03 43 05.2**	**-1.2**
FRMA				AML	AML	03 43 10.2	
comp=N,24951μm,0.5s
FRMA				AML	AML	03 43 11.6	
comp=E,20325μm,0.5s
HRKL	**Herakleio**	**1.34**	**285**	Pn	**Pg**	**03 43 08.6**	**+1.6**
HRKL				Sn	**Sg**	**03 43 27.7**	**+3.4**
HRKL	**Herakleio**	**1.34**	**285**	P	**Pg**	**03 43 07.3**	**+0.3**
HRKL	**Herakleio**	**1.34**	**285**	P	**Pg**	**03 43 08.0**	**+1.1**
HRKL				S	**Sg**	**03 43 24.8**	**+0.5**
KSTL	**Kastelli Herak**	**1.36**	**285**	P	**Pn**	**03 43 04.3**	**-2.5**
KSTL				S	**Sb**	**03 43 19.9**	**-5.0**
IACM	**Heraklion**	**1.36**	**285**	P	**Pg**	**03 43 08.1**	**+0.7**
IACM	**Heraklion**	**1.36**	**285**	P	**Pg**	**03 43 08.6**	**+1.2**
IACM				S	**Sg**	**03 43 26.7**	**+1.6**
IDI	**Anoyia**	**1.50**	**283**	⇓P	**Pg**	**03 43 10.8**	**+0.7**
IDI				⇑S	**Sg**	**03 43 33.8**	**+4.2**
IDI	**Anoyia**	**1.50**	**283**	Pn	**Pg**	**03 43 11.3**	**+1.2**
IDI				Sn	**Sg**	**03 43 32.4**	**+2.8**
IDI	**Anoyia**	**1.50**	**283**	P	**Pg**	**03 43 09.9**	**-0.2**
IDI	**Anoyia**	**1.50**	**283**	Pn	**Pb**	**03 43 09.2**	**-0.5**
IDI	**Anoyia**	**1.50**	**283**	P	**Pn**	**03 43 05.5**	**-3.4**
IDI	**Anoyia**	**1.50**	**283**	Pg	**Pg**	**03 43 10.5**	**+0.4**
comp=E,42nm,0.3s,baz=164,slow=6.6,SNR=114
IDI				Lg	Lg	03 43 28.4	
comp=E,214nm,0.3s,baz=338,slow=18,SNR=6.9
IDI				LR	LR	03 43 46.8	
comp=E,729nm,19.9s,baz=98,slow=44
IDI	**Anoyia**	**1.50**	**283**	P	**Pg**	**03 43 10.7**	**+0.6**
IDI				S	**Sg**	**03 43 29.6**	**0.0**
IDI				AML	AML	03 43 39.1	
comp=E,6398μm,0.5s
IDI				AML	AML	03 43 44.9	
comp=N,5554μm,0.5s
NISR	**Nisiros**	**1.68**	**12**	P	**Pb**	**03 43 11.9**	**-0.7**
NISR				AML	AML	03 43 46.5	
comp=E,6394μm,0.5s
NISR				AML	AML	03 43 46.8	
comp=N,4427μm,0.4s
ARG	**Arkhangelos**	**1.71**	**43**	Pn	**Pg**	**03 43 13.4**	**-0.7**
ARG	**Arkhangelos**	**1.71**	**43**	P	**Pb**	**03 43 12.1**	**-1.1**
ARG	**Arkhangelos**	**1.71**	**43**	P	**Pg**	**03 43 14.0**	**-0.1**
ARG	**Arkhangelos**	**1.71**	**43**	P	**Pg**	**03 43 14.3**	**+0.2**
ARG				S	**Sb**	**03 43 34.0**	**-0.9**
ARG				AML	AML	03 43 50.9	
comp=E,5479μm,1.0s
ARG				AML	AML	03 43 51.4	
comp=N,4438μm,0.8s
SANT	**Santorini**	**1.72**	**325**	⇑P	**Pb**	**03 43 12.1**	**-1.2**
SANT				⇓S	**Sb**	**03 43 34.3**	**-0.8**
SANT	**Santorini**	**1.72**	**325**	Pn	**Pb**	**03 43 12.8**	**-0.5**
SANT				Sn	**Sg**	**03 43 35.5**	**-1.0**
SANT	**Santorini**	**1.72**	**325**	P	**Pg**	**03 43 13.3**	**-0.9**
SANT	**Santorini**	**1.72**	**325**	P	**Pb**	**03 43 12.3**	**-1.0**
SANT				S	**Sb**	**03 43 33.4**	**-1.8**
SANT				AML	AML	03 43 41.2	
comp=N,6361μm,0.6s
SANT				AML	AML	03 43 41.4	
comp=E,17866μm,0.4s
THR6	**Thira Island,**	**1.73**	**323**	P	**Pb**	**03 43 12.9**	**-0.6**
THR6	**Thira Island,**	**1.73**	**323**	P	**Pb**	**03 43 12.7**	**-0.9**
THR8	**Santorini-Mono**	**1.74**	**326**	P	**Pb**	**03 43 12.2**	**-1.4**
THR8	**Santorini-Mono**	**1.74**	**326**	P	**Pb**	**03 43 12.6**	**-1.0**
THR9	**Santorini-Faro**	**1.76**	**322**	P	**Pg**	**03 43 13.8**	**-1.1**
THR3	**Thira Island,**	**1.77**	**324**	P	**Pb**	**03 43 12.9**	**-1.3**
THR3	**Thira Island,**	**1.77**	**324**	P	**Pb**	**03 43 13.4**	**-0.8**
KOSK	**Kos Island**	**1.79**	**8**	Pn	**Pg**	**03 43 14.6**	**-1.1**
THR5	**Thira Island,**	**1.81**	**323**	P	**Pb**	**03 43 13.3**	**-1.5**
PRNS	**Prines Rethymn**	**1.83**	**283**	P	**Pg**	**03 43 15.4**	**-0.9**
RFTD	**Palamutbuku-Ka**	**1.83**	**21**	Pn	**Pb**	**03 43 13.7**	**-1.5**
DAT	**Datca**	**1.90**	**22**	Pn	**Pb**	**03 43 15.3**	**-1.1**
DAT	**Datca**	**1.90**	**22**	P	**Pb**	**03 43 14.6**	**-1.8**
RFTC	**Emecik-Datca**	**2.03**	**27**	Pn	**Pb**	**03 43 16.7**	**-1.8**
RFTB	**Kemer-Bodrum**	**2.05**	**13**	Pn	**Pn**	**03 43 16.5**	**+0.3**
GVDS	**Gavdos**	**2.13**	**267**	Pn	**Pg**	**03 43 21.3**	**-0.9**
GVD	**Gavdhos**	**2.14**	**267**	Pn	**Pb**	**03 43 20.8**	**+0.4**
BODT	**Bodrum**	**2.15**	**14**	Pn	**Pb**	**03 43 19.4**	**-1.2**
BODT	**Bodrum**	**2.15**	**14**	P	**Pn**	**03 43 17.9**	**+0.2**
RFTAA	**Mazikoy-Bodrum**	**2.20**	**23**	Pn	**Pb**	**03 43 19.8**	**-1.7**
TURN	**Turunc**	**2.20**	**35**	Pn	**Pb**	**03 43 19.4**	**-2.1**
IMMV	**Iera Moni Meta**	**2.27**	**283**	Pn	**Pb**	**03 43 21.3**	**-1.3**
IMMV	**Iera Moni Meta**	**2.27**	**283**	P	**Pb**	**03 43 20.2**	**-2.4**
IMMV	**Iera Moni Meta**	**2.27**	**283**	P	**Pb**	**03 43 22.2**	**-0.4**
IMMV				AML	AML	03 44 08.4	
comp=E,7382μm,1.1s
IMMV				AML	AML	03 44 12.8	
comp=N,3771μm,0.9s
APE	**Apeiranthos**	**2.29**	**336**	⇓P	**Pn**	**03 43 20.1**	**+0.4**
APE				⇑S	**Sn**	**03 43 47.6**	**-0.7**
APE	**Apeiranthos**	**2.29**	**336**	Pn	**Pb**	**03 43 20.5**	**-2.6**
APE	**Apeiranthos**	**2.29**	**336**	P	**Pn**	**03 43 19.9**	**+0.2**
APE	**Apeiranthos**	**2.29**	**336**	P	**Pb**	**03 43 20.6**	**-2.5**
APE				S	**Sn**	**03 43 47.6**	**-0.7**
APE				AML	AML	03 43 54.3	
comp=N,3938μm,0.6s
APE				AML	AML	03 43 55.8	
comp=E,1822μm,0.5s
DALY	**Dalyan (Mula)**	**2.44**	**40**	Pn	**Pb**	**03 43 23.4**	**-2.2**
RODP	**Rodopos**	**2.46**	**285**	Pn	**Pb**	**03 43 24.3**	**-1.7**
RODP	**Rodopos**	**2.46**	**285**	P	**Pb**	**03 43 23.4**	**-2.6**
KNDR	**Palaiochora Ch**	**2.47**	**277**	Pn	**Pb**	**03 43 25.6**	**-0.5**
KNDR	**Palaiochora Ch**	**2.47**	**277**	P	**Pb**	**03 43 24.2**	**-1.9**
KNDR	**Palaiochora Ch**	**2.47**	**277**	P	**Pb**	**03 43 26.3**	**+0.2**
MLSB	**Milas**	**2.48**	**21**	Pn	**Pb**	**03 43 23.8**	**-2.5**
YER	**Yerkesik**	**2.52**	**31**	Pn	**Pb**	**03 43 24.4**	**-2.6**
YER	**Yerkesik**	**2.52**	**31**	P	**Pn**	**03 43 23.4**	**+0.6**
MHLO	**Agia Marina, M**	**2.53**	**313**	P	**Pn**	**03 43 23.1**	**+0.2**
MHLO	**Agia Marina, M**	**2.53**	**313**	P	**Pb**	**03 43 25.1**	**-1.9**
FETY	**Fethiye**	**2.56**	**49**	Pn	**Pb**	**03 43 25.1**	**-2.6**
AKAS	**Kas**	**2.69**	**61**	Pn	**Pn**	**03 43 26.9**	**+1.6**
AKAS	**Kas**	**2.69**	**61**	Pn	**Pn**	**03 43 26.7**	**+1.4**
GCAM	**G?zelcaml?**	**2.76**	**9**	Pn	**Pb**	**03 43 27.7**	**-3.3**
CAME	**Cameli-Denizli**	**2.90**	**46**	Pn	**Pb**	**03 43 30.2**	**-3.3**
ANKY	**Antikythira Is**	**2.90**	**289**	P	**Pb**	**03 43 30.2**	**-3.2**
ANKY				AML	AML	03 44 16.9	
comp=E,2239μm,0.7s
ANKY				AML	AML	03 44 21.7	
comp=N,1755μm,0.9s
ELL	**Elmali**	**3.16**	**55**		**Pn**	**03 43 33.4**	**+1.6**
KTHA	**Kythira Island**	**3.22**	**295**	Pn	**Pb**	**03 43 35.0**	**-3.9**
KTHA	**Kythira Island**	**3.22**	**295**	P	**Pb**	**03 43 34.9**	**-3.9**
VLI	**Veliai**	**3.51**	**301**	P	**Pn**	**03 43 37.6**	**+1.2**
VLY	**Voula,Athens**	**3.70**	**322**	P	**Pn**	**03 43 39.8**	**+0.8**
MANT	**Manisa**	**3.82**	**23**	Pn	**Pn**	**03 43 43.6**	**+2.7**
KULA	**Kula-Manisa**	**3.88**	**24**	P	**Pn**	**03 43 42.9**	**+1.4**
GUR	**Goura**	**4.58**	**311**	P	**Pn**	**03 43 51.9**	**+0.7**
KLV	**Kalavryta, Ach**	**4.77**	**311**	P	**Pn**	**03 43 56.5**	**+2.8**
ANX	**Ano Chora**	**5.26**	**315**	P	**Pn**	**03 44 01.6**	**+1.0**
AGG	**Agios Georgios**	**5.34**	**321**	Pn	**Pn**	**03 44 04.6**	**+3.0**
BORA	**Eskisehir**	**5.75**	**30**	Pn	**Pn**	**03 44 09.5**	**+2.3**
ALN	**Alexandroupoli**	**5.94**	**355**	Pn	**Pn**	**03 44 11.0**	**+1.2**
RDO	**Rodhopi**	**6.23**	**352**	Pn	**Pn**	**03 44 15.1**	**+1.3**
MDUB	**Mudurnu**	**6.55**	**32**		**Pn**	**03 44 20.5**	**+2.2**
KDZ	**Kurdzhali**	**6.73**	**351**	*e*P	**Pn**	**03 44 22.1**	**+1.4**
ANTO	**Ankara**	**6.89**	**43**		**Pn**	**03 44 26.3**	**+3.3**
MMB	**Musomishta**	**6.96**	**342**	*e*P	**Pn**	**03 44 26.7**	**+2.9**
VAY	**Valandovo**	**7.12**	**334**	*e*Pn	Pn	03 44 34.1	+8.1
FNA	**Florina**	**7.16**	**326**	Pn	**Pn**	**03 44 29.3**	**+2.7**
BR131	**Keskin Array S**	**7.29**	**47**		**Pn**	**03 44 31.2**	**+2.7**
BRTR	**Keskin Array B**	**7.29**	**47**	Pn	**Pn**	**03 44 32.0**	**+3.5**
comp=N,0.3nm,0.3s,baz=232,slow=15,SNR=9.8
BRTR				Sn	**Sn**	**03 45 53.3**	**+1.6**
baz=270,slow=30
BRTR				LR	LR	03 48 04.4	
comp=N,482nm,21.2s,baz=234,slow=44
comp=N,1.5nm,0.6s
KBN	**Korca**	**7.32**	**322**	Pn	**Pn**	**03 44 31.3**	**+2.4**
KKB	**Krupnik**	**7.41**	**339**	*e*P	Pn	03 44 34.6	+4.7
PEHC	**Pehcevo**	**7.42**	**338**	*e*Pn	**Pn**	**03 44 33.8**	**+3.6**
PEHC				*e*Sn	**Sn**	**03 45 59.2**	**+4.6**
MMAI	**Mount Meron Ar**	**7.50**	**103**	Pn	**Pn**	**03 44 33.5**	**+2.2**
comp=N,0.9nm,0.3s,baz=301,slow=17,SNR=2.4
MMAI				Sn	**Sn**	**03 45 54.9**	**-1.8**
comp=N,1.7nm,0.3s,baz=331,slow=26,SNR=1.6
comp=N,0.5nm,0.2s
JMB	**Yambol**	**7.51**	**359**	*e*P	Pn	03 44 40.0	+8.7
STIP	**Stip**	**7.58**	**334**	*e*Pn	Pn	03 44 38.2	+5.8
KZIT	**Kziot**	**7.64**	**120**	P	Pn	03 44 26.8	-6.4
OHR	**Ohrid**	**7.69**	**325**	*e*Pn	Pb	03 44 43.7	-11
OHR				*e*Sn	**Sn**	**03 46 07.6**	**+6.3**
NATI	**Neve Ativ**	**7.70**	**100**	P	**Pn**	**03 44 29.5**	**-4.4**
HMDT	**Nahal Hemdat**	**7.86**	**108**	P	**Pn**	**03 44 32.7**	**-3.4**
UJAP	**Al Uja**	**7.93**	**110**	P	Pn	03 44 31.9	-5.2
VTS	**Vitosha**	**8.10**	**342**	⇑P	**Pn**	**03 44 42.0**	**+2.4**
VTS				⇓S	**Sn**	**03 46 14.1**	**+2.7**
VTS	**Vitosha**	**8.10**	**342**	*e*P	**Pn**	**03 44 41.9**	**+2.4**
MDBI	**Mazsada**	**8.14**	**114**	P	Pn	03 44 34.6	-5.3
PRD	**Provadia**	**8.20**	**4**	*e*P	Pn	03 44 29.5	-11
GHAJ	**Ghor Haditha**	**8.30**	**114**	P	Pn	03 44 36.1	-6.0
TIR	**Tirane**	**8.33**	**322**	⇑P	Pb	03 45 01.1	-4.7
TIR				⇓S	**Sn**	**03 46 16.7**	**-0.2**
WALJ	**Wala**	**8.37**	**111**	P	**Pn**	**03 44 39.3**	**-3.8**
LOZB	**Loznitsa**	**8.39**	**360**	⇑P	**Pn**	**03 44 43.8**	**+0.4**
PRNI	**Paran**	**8.39**	**121**	P	**Pn**	**03 44 40.4**	**-3.1**
HSUJ	**Al Zarqa**	**8.44**	**107**	P	**Pn**	**03 44 40.0**	**-4.1**
MBRI	**Mt Berech**	**8.66**	**124**	P	**Pn**	**03 44 44.0**	**-3.3**
MPEP	**Malo Peshtene**	**8.68**	**346**	*e*P	**Pn**	**03 44 50.5**	**+3.1**
EIL	**Elat**	**8.77**	**125**	P	Pn	03 44 42.2	-6.4
EIL	**Elat**	**8.77**	**125**	Pn	**Pn**	**03 44 47.9**	**-0.8**
comp=N,0.2nm,0.3s,baz=159,slow=18,SNR=1.8
EIL				Sn	**Sn**	**03 46 23.1**	**-4.7**
baz=70,slow=18
comp=N,2.2nm,0.6s
MANR	**Mangalia**	**8.96**	**9**	⇑P	Pn	03 44 41.7	-9.4
ASF	**Jabal al Asfar**	**8.97**	**105**	Pn	**Pn**	**03 44 52.2**	**+0.8**
comp=N,0.2nm,0.3s,baz=359,slow=16,SNR=1.3
ASF				Sn	**Sn**	**03 46 34.3**	**+1.4**
comp=N,0.3nm,0.3s,baz=145,slow=20,SNR=1.3
comp=N,0.8nm,0.4s
BLKB	**Belogradchik**	**9.18**	**341**	⇑P	**Pn**	**03 44 54.6**	**+0.4**
PDG	**Podgorica**	**9.44**	**324**	⇓P	Pn	03 45 07.5	+10
PDG				⇑S	**Sn**	**03 46 43.2**	**-1.0**
BOVS	**Bovan**	**9.47**	**337**	⇓P	Pn	03 44 47.2	-11
MATE	**Matera**	**9.72**	**309**	⇑P	Pn	03 45 11.3	+10
CUC	**Castrocucco**	**9.98**	**303**	Pn	**Pn**	**03 45 05.3**	**0.0**
RAFF	**Raffo Rosso**	**10.22**	**286**	Pn	**Pn**	**03 45 08.4**	**-0.2**
VAE	**Valguarnera**	**10.22**	**288**	Pn	**Pn**	**03 45 10.2**	**+1.6**
comp=N,0.4nm,0.3s,baz=219,slow=18,SNR=1.8
VAE				Sn	**Sn**	**03 47 01.4**	**-2.2**
comp=N,1.0nm,0.3s,baz=61,slow=10,SNR=5.1
VAE				LR	LR	03 49 46.6	
comp=N,142nm,18.6s,baz=132,slow=42
comp=N,1.6nm,0.4s
HERR	**Herculane**	**10.43**	**343**	⇓P	**Pn**	**03 45 06.9**	**-4.4**
MDVR	**Moldovita**	**10.51**	**340**	⇓P	Pn	03 45 20.7	+8.2
MLR	**Muntele Rosu**	**10.52**	**357**	⇓P	Pn	03 45 04.1	-8.6
MLR	**Muntele Rosu**	**10.52**	**357**	Pn	**Pn**	**03 45 15.8**	**+3.0**
MLR	**Muntele Rosu**	**10.52**	**357**	Pn	**Pn**	**03 45 13.8**	**+1.1**
comp=N,0.2nm,0.3s,baz=293,slow=8.2,SNR=3.6
MLR				LR	LR	03 49 49.5	
comp=N,192nm,21.1s,baz=196,slow=41
comp=N,0.7nm,0.3s
GZR	**Gura Zlata**	**10.83**	**345**	⇑P	**Pn**	**03 45 14.2**	**-2.7**
INTR	**Introdacqua**	**12.22**	**309**	Pn	**Pn**	**03 45 37.6**	**+1.6**
BURAR	**Bucovina Array**	**12.68**	**355**	⇓P	Pn	03 45 37.7	-4.5
PSZ	**Piszkesteto**	**13.89**	**341**	Pn	**Pn**	**03 46 01.0**	**+2.2**
KEST	**Kesra**	**14.17**	**278**	Pn	**Pn**	**03 46 05.1**	**+2.4**
baz=262,slow=20,SNR=2.2
KEST				Sn	**Sn**	**03 48 42.9**	**+2.6**
comp=N,0.1nm,0.3s,baz=37,slow=18,SNR=1.6
KEST				LR	LR	03 53 27.2	
comp=N,112nm,18.2s,baz=192,slow=46
comp=N,2.0nm,1.0s
KOLS	**Kolonicke sedl**	**14.33**	**348**	*e*PN	**P**	**03 46 14.8**	**+2.9**
SOKA	**Soboth**	**14.63**	**327**	*e*P	**P**	**03 46 16.7**	**+1.3**
comp=N,2.3nm,1.2s
RONA	**Rosalia, Austr**	**14.90**	**332**	*e*Pn	**P**	**03 46 17.7**	**-0.6**
comp=N,4.1nm,1.2s
STHS	**Stebnicka Huta**	**14.98**	**346**	*e*PN	P	03 46 24.2	+5.0
GNI	**Garni**	**15.22**	**65**	LR	LR	03 53 22.5	
comp=N,195nm,18.1s,baz=282,slow=42
KIV	**Kislovodsk**	**15.25**	**49**	Pn	**P**	**03 46 19.2**	**-3.1**
KIV				IAmb	IAmb	03 46 50.5	
comp=Z,9.3nm,0.9s
KBZ	**Khabaz**	**15.27**	**50**	Pn	**P**	**03 46 21.9**	**-0.5**
baz=28,slow=17,SNR=3.0
KBZ				LR	LR	03 52 57.3	
comp=Z,109nm,21.9s,baz=242,slow=40
comp=Z,2.8nm,0.9s
KBA	**Koelnbreinsper**	**15.71**	**324**	*e*Pn	**P**	**03 46 28.9**	**+1.5**
comp=Z,3.8nm,1.1s
AKASG	**Malin Array Be**	**15.83**	**6**	Pn	**P**	**03 46 25.8**	**-2.8**
comp=Z,0.5nm,0.3s,baz=194,slow=10,SNR=4.8
AKASG				LR	LR	03 52 58.8	
comp=Z,163nm,18.3s,baz=229,slow=39
comp=Z,0.2nm,0.3s
AKBB	**Malin Array Si**	**15.83**	**6**	Pn	**P**	**03 46 25.9**	**-2.6**
MOA	**Molln**	**15.86**	**328**	*e*Pn	**P**	**03 46 29.7**	**+0.8**
comp=Z,1.7nm,0.8s
ABTA	**Abfaltersbach**	**15.89**	**322**	*e*P	**P**	**03 46 33.1**	**+3.9**
comp=Z,1.0nm,0.5s
KRUC	**Moravsky**	**16.00**	**335**	*e*PN	**P**	**03 46 31.2**	**+0.8**
BIOA	**Bad Ischl, Aus**	**16.02**	**326**	*e*P	**P**	**03 46 34.8**	**+4.2**
comp=Z,4.2nm,1.0s
VRAC	**Vranov**	**16.14**	**336**	Pn	**P**	**03 46 30.6**	**-1.4**
comp=Z,1.4nm,0.3s,baz=198,slow=3.7,SNR=2.4
MORC	**Moravsky Berou**	**16.25**	**338**	⇓P	**P**	**03 46 35.8**	**+2.6**
MORC	**Moravsky Berou**	**16.25**	**338**	*e*PN	**P**	**03 46 33.5**	**+0.3**
LESA	**Schwarzleotal**	**

ZALV	**Zalesovo Beam**	**44.23**	**46**	P		**P**	**03 50 53.8**	**+2.6**
ZALV	**Zalesovo Beam**	**44.23**	**46**	P		**P**	**03 50 52.9**	**+1.7**
	comp=Z,1.6nm,0.5s,baz=257,slow=7.5,SNR=4.1							
	comp=Z,1.6nm,0.5s							
SFJD	**Kangerlussuaq**	**53.45**	**331**	LR	LR		04 17 16.9	
	comp=Z,48nm,18.7s,baz=140,slow=39							
TSUM	**Tsumeb**	**54.56**	**191**	LR	LR		04 18 52.4	
	comp=Z,68nm,18.3s,baz=332,slow=40							
SONM	**Songino Array**	**58.64**	**51**	P		**P**	**03 52 42.1**	**+2.7**
	comp=Z,1.0nm,0.7s,baz=292,slow=7.0,SNR=5.8							
	comp=Z,1.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**64.70**	**57**	*e*P	P		03 53 25.3	+4.9
HHC				pmax	pmax			
	comp=Z,36nm,0.5s							
HHC				pmax	pmax			
	comp=Z,560nm,5.1s							
SUR	**Sutherland**	**67.22**	**185**	LR	LR		04 23 47.2	
	comp=Z,50nm,18.6s,baz=342,slow=37							
SEY	**Seymchan**	**73.25**	**23**	LR	LR		04 28 44.2	
	comp=Z,22nm,18.4s,baz=357,slow=38							
MA2	**Magadan**	**75.11**	**26**	LR	LR		04 29 06.9	
	comp=Z,36nm,18.4s,baz=300,slow=37							
ILAR	**Eielson Array**	**80.46**	**357**	P		**P**	**03 54 55.0**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=25,slow=3.0,SNR=1.8							
	comp=Z,0.2nm,0.7s							
ULM	**Lac du Bonnet**	**81.16**	**327**	LR	LR		04 29 53.7	
	comp=Z,29nm,21.9s,baz=62,slow=35							
TKL	**Tuckaleechee C**	**84.41**	**310**	LR	LR		04 33 13.5	
	comp=Z,30nm,18.6s,baz=355,slow=36							
MJAR	**Matsushiro Arr**	**84.52**	**49**	P		**P**	**03 55 16.6**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=300,slow=4.1,SNR=2.7							
	comp=Z,1.0nm,0.7s							
DLBC	**Dease Lake**	**84.92**	**348**	LR	LR		04 33 47.5	
	comp=Z,41nm,19.2s,baz=30,slow=36							
SIV	**San Ignacio**	**97.20**	**256**	LR	LR		04 44 21.9	
	comp=Z,26nm,18.0s,baz=122,slow=38							
ANMO	**Albuquerque**	**97.81**	**323**	LR	LR		04 41 30.2	
	comp=Z,33nm,18.6s,baz=137,slow=36							
QSPA	**South Pole Qui**	**124.82**	**180**	PKP		**PKiKP**	**04 01 42.0**	**+0.5**
	comp=Z,1.1nm,1.1s,baz=118,slow=15,SNR=2.3							

MOS ***15*** *03:45:17.9±0.8, 42°.39N×145°.43E, h49km, mb4.0/1, Error ellipse: s-maj=24.8km s-min=12.0km az=95.7*
IDC ***15*** *03:45:20.0±8.2, 42°.36N×145°.34E, h47km±53km, mb3.6/6, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=74.6km s-min=60.3km az=15.0*
JMA ***15*** *03:45:19.2±0.1, 42°.5N±0°.2×145°.4E±0°.7, h46km±1km, MV3.4/36, OFF NEMURO PENINSULA*
SKHL ***15*** *03:45:19.4±0.1, 42°.50N×145°.40E, h56km±3km, mb4.5/2*
ISC 15 03:45:17.6±2.4, 42°.4N±0°.1×145°.46E±0°.06, h26km±13km, n34, σ0°73/39, mb3.9/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.67**	**341**	P		**Pb**	**03 45 31.1**	**+0.3**
JKHN				*e*S		**Sb**	**03 45 39.5**	**-0.2**
AKK	**Akkeshi**	**0.73**	**322**	*e*P		**Pb**	**03 45 31.6**	**-0.1**
JAK	**Akkeshi**	**0.79**	**315**	P		**Pb**	**03 45 32.5**	**-0.2**
JAK				*e*S		**Sb**	**03 45 42.5**	**-0.4**
NEM2	**Nemuro 2**	**0.94**	**13**	*e*P		**Pn**	**03 45 35.6**	**+0.4**
NEM2				*e*S		**Sn**	**03 45 47.5**	**-0.3**
NMR	**Nemuro--Hokkai**	**0.95**	**12**	*e*PN		**Pn**	**03 45 35.5**	**+0.3**
NMR				*e*S		**Sn**	**03 45 47.5**	**-0.4**
NMR	**Nemuro--Hokkai**	**0.95**	**12**	*e*P		**Pn**	**03 45 35.5**	**+0.3**
NMR				*e*S		**Sn**	**03 45 47.5**	**-0.4**
JNK	**Nakash**	**1.26**	**335**	*e*P		**Pn**	**03 45 38.9**	**-0.7**
JOB	**Onbets**	**1.28**	**292**	*e*P		**Pn**	**03 45 39.8**	**0.0**
JAR	**Ashorobuto**	**1.50**	**305**	*e*P		**Pn**	**03 45 42.5**	**-0.5**
JRA	**Rausu**	**1.51**	**351**	*e*P		**Pn**	**03 45 43.0**	**0.0**
JCH	**Churui**	**1.56**	**277**	*e*P		**Pn**	**03 45 44.3**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**1.62**	**10**	*e*PN		**Pn**	**03 45 45.2**	**+0.8**
YUK				*e*S		**Sn**	**03 46 04.6**	**+0.2**
YUK				pmax	pmax			
	comp=N,45nm,0.2s							
YUK				pmax	pmax			
	comp=Z,228nm,0.2s							
YUK				pmax	pmax			
	comp=E,105nm,0.1s							
YUK				smax	smax			
	comp=N,613nm,0.5s							
YUK				smax	smax			
	comp=E,721nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.62**	**10**	*e*P		**Pn**	**03 45 45.2**	**+0.8**
YUK				AMB	AMB		03 45 46.8	
	comp=E,230nm,0.2s							
YUK				*e*S		**Sn**	**03 46 04.6**	**+0.2**
YUK				A	A		03 46 09.6	
	comp=E,610nm,0.5s							
YUK				A	A		03 46 09.6	
	comp=E,720nm,0.5s							
RUSJ	**Misakicho**	**1.67**	**355**	*e*PN		**Pn**	**03 45 46.2**	**+1.1**
RUSJ				*e*S		**Sn**	**03 46 06.4**	**+0.8**
SHO	**Shikotan**	**1.74**	**35**	*e*PN		**Pn**	**03 45 48.1**	**+1.9**
SHO				*e*S		**Sn**	**03 46 06.9**	**-0.6**
SHO				pmax	pmax			
	comp=Z,11nm,0.2s							
SHO				smax	smax			
	comp=N,241nm,0.2s							
SHO				smax	smax			
	comp=E,119nm,0.2s							
SHO	**Shikotan**	**1.74**	**35**	*e*P		**Pn**	**03 45 46.6**	**+0.4**
SHO				AMB	AMB		03 45 50.2	
	comp=E,50nm,0.2s							
SHO				*e*S		**Sn**	**03 46 06.9**	**-0.6**
SHO				A	A		03 46 11.2	
	comp=E,240nm,0.2s							
SHO				A	A		03 46 11.2	
	comp=E,120nm,0.2s							
JKA	**Kamikawa-asahi**	**2.67**	**310**	*e*P		**Pn**	**03 46 00.5**	**+1.5**
ASAJ	**Asahikawa**	**2.67**	**310**	P		**Pn**	**03 46 00.5**	**+1.5**
	comp=E,10nm,0.3s,baz=178,slow=13,SNR=50							
ASAJ				S		**Sn**	**03 46 32.1**	**+1.6**
	comp=E,31nm,0.6s,baz=206,slow=33,SNR=2.8							
	comp=E,27nm,0.4s							
SONM	**Songino Array**	**27.86**	**295**	P		**P**	**03 51 04.9**	**-0.2**
	comp=E,0.7nm,0.5s,baz=84,slow=8.5,SNR=4.0							
	comp=E,0.7nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.99**	**135**	T	T		04 22 22.8	
	baz=327,slow=76,SNR=32							
H11N1	**WAKE ISLAND Hy**	**29.00**	**135**	T	T		04 22 19.9	
	baz=327,slow=76,SNR=12							
H11N3	**WAKE ISLAND Hy**	**29.01**	**135**	T	T		04 22 24.1	
	baz=327,slow=76,SNR=18							
H11S1	**WAKE ISLAND Hy**	**29.91**	**136**	T	T		04 23 29.9	
	baz=328,slow=76,SNR=34							
H11S3	**WAKE ISLAND Hy**	**29.91**	**136**	T	T		04 23 31.9	
	baz=328,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy**	**29.93**	**136**	T	T		04 23 30.9	
	baz=328,slow=76,SNR=11							
MKAR	**Makanchi Array**	**44.10**	**298**	P		**P**	**03 53 22.6**	**-0.9**
	comp=E,0.3nm,0.6s,baz=68,slow=8.3,SNR=1.8							
	comp=E,0.3nm,0.6s							
KURK	**Kurchatov**	**45.24**	**305**	P		**P**	**03 53 32.2**	**-0.3**
KURK	**Kurchatov**	**45.24**	**305**	*e*P		**P**	**03 53 32.2**	**-0.3**
KURBB	**Kurchatov Arra**	**45.32**	**304**	P		**P**	**03 53 32.2**	**-0.9**
	comp=E,0.7nm,0.6s,baz=76,slow=8.7,SNR=4.7							
	comp=E,0.7nm,0.6s							
BVAR	**Borovoye Array**	**49.38**	**310**	P		**P**	**03 54 05.0**	**+0.3**
BVAR	**Borovoye Array**	**49.38**	**310**	P		**P**	**03 54 05.0**	**+0.3**
	comp=E,0.7nm,0.4s,baz=73,slow=9.3,SNR=4.7							
	comp=E,0.7nm,0.4s							
FINES	**FINESS Array B**	**65.47**	**333**	P		**P**	**03 55 58.0**	**+0.1**
FINES	**FINESS Array B**	**65.47**	**333**	P		**P**	**03 55 58.0**	**+0.1**
	comp=E,6.0nm,1.1s,baz=38,slow=9.6,SNR=8.1							
	comp=E,6.0nm,1.1s							
HFS	**Hagfors**	**70.40**	**337**	P		**P**	**03 56 28.6**	**-0.3**
	comp=E,2.4nm,0.9s,baz=36,slow=7.5,SNR=1.7							
	comp=E,2.4nm,0.9s							

TRN 15 03:55:03.8, 15°.70N×61°.49W, h143km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDBA	**Terre de Bas,**	**0.21**	**318**	*e*P		Pn	03 55 25.2	+2.0
MAGL	**Barre de l'ile**	**0.32**	**39**	*e*P		Pn	03 55 25.0	+1.4
MAGL				*e*S		Sn	03 55 40.1	+1.5
CBE	**Ff, Capester**	**0.39**	**343**	*e*P		Pn	03 55 25.5	+1.7
ABD	**La Joyeuse, An**	**0.78**	**0**	*e*P		Pn	03 55 27.7	+1.7
SVN	**Savane Anatole**	**0.90**	**160**	*e*P		Pn	03 55 28.2	+1.0
SVN				*e*S		Sn	03 55 46.2	+1.3
PCM	**Pelee Case Pet**	**0.92**	**163**	*e*P		Pn	03 55 28.1	+0.9
CXM	**Morne La Croix**	**0.93**	**160**	*e*P		Pn	03 55 29.1	+1.6
BAMF	**Morne Balai**	**0.94**	**159**	*e*P		Pn	03 55 28.7	+1.2
GBMF	**Grand Be**	**0.95**	**160**	*e*P		Pn	03 55 28.9	+1.3
PML	**Morne Lenard**	**0.96**	**162**	*e*P		Pn	03 55 29.0	+1.4
FDF	**Fort de France**	**1.01**	**161**	*e*P		Pn	03 55 29.0	+0.9
FDF				*e*S		Sn	03 55 47.3	+0.8
ILAM	**Ilet Lapin Mar**	**1.09**	**147**	*e*S		Sn	03 55 47.8	0.0
MLYT	**Lee's Yard**	**1.22**	**327**	*e*P		Pn	03 55 31.0	+1.0
MLYT				*e*S		Sn	03 55 50.6	+0.5
BIM	**Bigot**	**1.24**	**161**	*e*P		Pn	03 55 31.5	+1.3
BIM				*e*S		Sn	03 55 52.5	+2.2
MBFL	**Flemmings, Mon**	**1.26**	**327**	*e*P		Pn	03 55 30.3	0.0
MBFL				*e*S		Sn	03 55 51.4	+0.8
MVM	**Montagne Vaucl**	**1.27**	**153**	*e*P		Pn	03 55 31.9	+1.3
ANBD	**Bethesda, Anti**	**1.37**	**349**	*e*P		Pn	03 55 32.8	+1.4
ANBD				*e*S		Sn	03 55 53.1	+0.5
MPOM	**Morne Pois Mar**	**1.39**	**154**	*e*P		Pn	03 55 32.5	+0.9
ANDO	**Antigua, Disas**	**1.45**	**347**	*e*P		Pn	03 55 33.7	+1.5
ANDO				*e*S		Sn	03 55 54.6	+0.6
SLBI	**Saint Lucia, B**	**1.74**	**163**	*e*P		Pn	03 55 36.0	+0.6
SLBI				*e*S		Sn	03 55 59.5	-0.2
SLB	**Belfond**	**1.91**	**167**	*e*S		Sn	03 56 04.7	+1.4
MCLT	**Moule a Chique**	**2.04**	**165**	*e*S		Sn	03 56 05.9	-0.3

DJA 15 03:57:53.7±0.5, 11°.S±4°.×11°.2E±°, h10km, M4.1/11, mb4.2/4, mB4.9/1, MLv4.0/11, Mw(mB)4.2/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.83**	**26**	P		Pn	03 58 38.2	-0.9
JAGI	**Jajag, Banyuwa**	**3.04**	**39**	P		Pn	03 58 41.5	-0.4
WOJI	**Wonogiri, Jawa**	**3.25**	**337**	P		Pn	03 58 44.9	+0.1
UGM	**Wanagama**	**3.36**	**330**	P		Pn	03 58 46.7	+0.4
BLJI	**Banyuglugur**	**3.38**	**24**	P		Pn	03 58 46.9	+0.4
SRBI	**Singaraja**	**4.04**	**47**	P		Pn	03 58 56.3	+0.7
SMRI	**Semarang**	**4.16**	**335**	P		Pn	03 58 57.4	+0.1
UWJI	**Ujung Watu**	**4.58**	**344**	P		Pn	03 59 03.2	+0.2
BWJI	**Bawean**	**4.99**	**5**	P		Pn	03 59 08.6	-0.1
TWSI	**Taliwang, Sumb**	**5.06**	**66**	P		Pn	03 59 09.8	+0.1
	18nm,1.7s,1μm0.1nm							
PLAI	**Plampang**	**5.84**	**70**	P		Pn	03 59 20.8	+0.4
	25nm,1.2s,0.1nm							

SNET ***15*** *04:26:06.6±10.0, 15°.32N×94°.54W, h10km, ML4.9*
NEIC ***15*** *04:26:17.9±2.5, 15°.18N±0°.06×94°.14W±0°.05, h43km±9km, mb4.2/67, Md4.4/84(MEX), Error ellipse: s-maj=9.3km s-min=6.1km az=198.0*
MEX ***15*** *04:26:18.0±1.0, 15°.15N×94°.13W, h16km±11km, MD4.6*
IDC ***15*** *04:26:19.1±2.4, 15°.46N×93°.93W, h46km±20km, mb3.7/6, mbtmp4.0/8, ML3.8/2, MS3.3/7, Error ellipse: s-maj=31.5km s-min=11.7km az=36.0*
GCG ***15*** *04:26:21.2±1.5, 15°.05N×93°.89W, h26km±999km, MD4.4*
ISC 15 04:26:16.8±0.8, 15°.12N±0°.04×94°.15W±0°.03, h38km±1km, n195, σ2°16/260, mb4.2/20, MS3.3/5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.07**	**57**		**Pn**	**04 26 34.3**	**-0.9**
PCIG					**Sn**	**04 26 46.1**	**-2.7**
PCIG		**1.07**	**57**	*i* P	**Pn**	**04 26 34.3**	**-0.9**
PCIG				*i* S	**Sn**	**04 26 46.1**	**-2.7**
NILT	**Santiago Nilte**	**1.50**	**343**	*i* P	**Pn**	**04 26 41.0**	**-0.3**
NILT				*i* S	**Sn**	**04 26 58.3**	**-1.3**
THIG		**1.83**	**96**		**Pn**	**04 26 45.5**	**-0.2**
THIG					**Sn**	**04 27 06.4**	**-1.3**
THIG		**1.83**	**96**	*i* P	**Pn**	**04 26 45.5**	**-0.2**
THIG				*i* S	**Sn**	**04 27 06.4**	**-1.3**
PATR	**El Naranjo**	**1.85**	**90**	*i* P	**Pn**	**04 26 45.5**	**-0.7**
PATR				*e*S	**Sn**	**04 27 06.2**	**-2.3**
PAVE	**Pavencul**	**1.91**	**88**	*i* P	**Pn**	**04 26 46.6**	**-0.3**
PAVE				*e*S	**Sn**	**04 27 08.4**	**-1.4**
TGIG		**1.92**	**31**		**Pn**	**04 26 47.3**	**+0.3**
TGIG					**Sn**	**04 27 09.4**	**-0.5**
TGIG		**1.92**	**31**	*i* P	**Pn**	**04 26 47.3**	**+0.3**
TGIG				*e*S	**Sn**	**04 27 09.4**	**-0.5**
TGBT	**Tuxtla Gutierr**	**1.94**	**32**		**Pn**	**04 26 47.3**	**+0.2**
TGBT					**Sn**	**04 27 10.8**	**+0.5**
TGBT	**Tuxtla Gutierr**	**1.94**	**32**	*i* P	**Pn**	**04 26 47.3**	**+0.2**
TGBT				*i* S	**Sn**	**04 27 10.8**	**+0.5**
CHUJ	**Union Juarez**	**1.97**	**91**	*i* P	**Pn**	**04 26 47.1**	**-0.8**
CHUJ				*e*S	**Sn**	**04 27 09.8**	**-1.7**
HUIG	**Huatulco**	**2.00**	**289**		**Pn**	**04 26 47.9**	**0.0**
HUIG					**Sn**	**04 27 09.0**	**-2.7**
HUIG	**Huatulco**	**2.00**	**289**	*i* P	**Pn**	**04 26 47.9**	**0.0**
HUIG				*i* S	**Sn**	**04 27 09.0**	**-2.7**
CMIG	**Matias Romero**	**2.08**	**340**		**Pn**	**04 26 49.5**	**+0.3**
CMIG					**Sn**	**04 27 13.2**	**-0.7**
CMIG	**Matias Romero**	**2.08**	**340**	P	**Pn**	**04 26 49.4**	**+0.3**
	113nm,0.3s,baz=186,slow=9.6,SNR=287						
CMIG				S	**Sn**	**04 27 10.9**	**-2.9**
	238nm,0.3s,baz=9.4,slow=23,SNR=16						
CMIG				LR	LR	04 27 24.9	
	comp=Z,56nm,19.3s,baz=204,slow=35						
CMIG	**Matias Romero**	**2.08**	**340**	*i* P	**Pn**	**04 26 49.5**	**+0.3**
CMIG				*i* S	**Sn**	**04 27 13.2**	**-0.7**
UXUV	**UXUV**	**2.19**	**0**	*i* P	**Pn**	**04 26 51.9**	**+1.3**
UXUV				*e*S	**Sn**	**04 27 16.8**	**+0.4**
CCIG	**Comitan**	**2.26**	**59**	*e*P	**Pn**	**04 26 53.0**	**+1.3**
CCIG				*e*S	**Sn**	**04 27 19.4**	**+1.0**
PANG	**Puerto Angel**	**2.31**	**284**		**Pn**	**04 26 52.2**	**0.0**
PANG					**Sn**	**04 27 16.2**	**-3.2**
PANG	**Puerto Angel**	**2.31**	**284**	*e*P	**Pn**	**04 26 52.2**	**0.0**
PANG				*e*S	**Sn**	**04 27 16.2**	**-3.2**
RTAL	**Retalhuleu**	**2.45**	**104**		**Pn**	**04 26 54.3**	**+0.1**
STG3	**Santiaguito 3,**	**2.53**	**99**	*e*P	**Pn**	**04 26 56.2**	**+0.8**
HUEH	**Huehuetenango**	**2.56**	**85**		**Pn**	**04 26 56.9**	**+0.9**
SULM	**Suchitepequez,**	**2.63**	**108**	*e*P	**Pn**	**04 26 58.7**	**+2.0**
SULM				*e*S	**Sn**	**04 27 27.1**	**-0.3**
TUIG	**Tuzandepetl**	**2.91**	**355**	*e*P	**Pn**	**04 27 01.4**	**+0.9**
TUIG				*e*S	**Sn**	**04 27 33.1**	**-1.2**
PEIG	**Puerto Escondi**	**3.02**	**287**		**Pn**	**04 27 02.2**	**+0.1**
PEIG					**Sn**	**04 27 33.2**	**-3.7**
PEIG	**Puerto Escondi**	**3.02**	**287**	*e*P	**Pn**	**04 27 02.2**	**+0.1**
PEIG				*e*S	**Sn**	**04 27 33.2**	**-3.7**
NEUV	**Arroyo Zacate**	**3.03**	**329**	*e*P	**Pn**	**04 27 02.8**	**+0.7**
NEUV				*e*S	**Sn**	**04 27 36.6**	**-0.5**
OXLC	**Oaxaca**	**3.12**	**309**	*e*S	**Sn**	**04 27 39.6**	**-0.3**
OXBJ	**Oaxaca**	**3.14**	**308**		**Sn**	**04 27 39.6**	**-0.7**
OXBJ	**Oaxaca**	**3.14**	**308**	*e*S	**Sn**	**04 27 39.6**	**-0.7**
OXIG	**Oaxaca**	**3.15**	**308**		**Pn**	**04 27 06.5**	**+2.5**
OXIG					**Sn**	**04 27 40.5**	**0.0**
VHO	**Vista Hermosa**	**3.15**	**308**	*i* P	**Pn**	**04 27 06.5**	**+2.5**
VHO				*e*S	**Sn**	**04 27 40.5**	**0.0**
FUG	**Fuego 3**	**3.27**	**101**	*e*P	**Pn**	**04 27 08.3**	**+2.7**
FUG				*e*S	**Sn**	**04 27 44.0**	**+0.6**
PCG	**Pacaya**	**3.50**	**101**	*e*P	**Pn**	**04 27 09.9**	**+1.0**
PCG				*e*S	**Sn**	**04 27 51.1**	**+1.8**
PMUV	**Sontecomapan**	**3.53**	**345**	*e*P	**Pn**	**04 27 07.7**	**-1.5**
PMUV				*e*S	**Sn**	**04 27 48.1**	**-1.6**
YOIG	**Yosondua**	**3.69**	**298**		**Pn**	**04 27 13.9**	**+2.3**
YOIG					**Sn**	**04 27 52.2**	**-1.8**
YOIG	**Yosondua**	**3.69**	**298**	*i* P	**Pn**	**04 27 13.9**	**+2.3**
YOIG				*e*S	**Sn**	**04 27 52.2**	**-1.8**
NBG	**Las Nubes**	**3.72**	**98**	*e*P	**Pn**	**04 27 15.9**	**+4.0**
PNIG	**Pinotepa**	**4.03**	**289**		**Pn**	**04 27 17.2**	**+1.2**
PNIG					**Sn**	**04 27 57.4**	**-4.7**
PNIG	**Pinotepa**	**4.03**	**289**	*e*P	**Pn**	**04 27 17.2**	**+1.2**
PNIG				*e*S	**Sn**	**04 27 57.4**	**-4.7**
TOIG	**Toxpalan**	**4.07**	**317**		**Pn**	**04 27 19.4**	**+2.8**
TOIG					**Sn**	**04 28 04.0**	**+0.9**
TOIG	**Toxpalan**	**4.07**	**317**	*e*P	**Pn**	**04 27 19.4**	**+2.8**
TOIG				*e*S	**Sn**	**04 28 04.0**	**+0.9**
TXIG	**Tlaxiaco**	**4.07**	**302**		**Pn**	**04 27 19.6**	**+2.8**
TXIG					**Sn**	**04 28 02.3**	**-1.1**
TXIG	**Tlaxiaco**	**4.07**	**302**	*e*P	**Pn**	**04 27 19.6**	**+2.8**
TXIG				*e*S	**Sn**	**04 28 02.3**	**-1.1**
NUBE	**Las Nubes**	**4.40**	**105**	*e*P	**Pn**	**04 27 22.6**	**+1.4**
HLIG	**Huajuapan de L**	**4.42**	**308**		**Pn**	**04 27 24.5**	**+3.0**
HLIG					**Sn**	**04 28 13.7**	**+1.8**
HLIG	**Huajuapan de L**	**4.42**	**308**	*e*P	**Pn**	**04 27 24.5**	**+3.0**
HLIG				*e*S	**Sn**	**04 28 13.7**	**+1.8**
PETF	**Flores**	**4.49**	**66**		**Pn**	**04 27 22.4**	**+0.1**
TPIG	**Tehuac#an**	**4.50**	**317**		**Pn**	**04 27 25.7**	**+3.2**
TPIG					**Sn**	**04 28 17.1**	**+3.4**
TPIG	**Tehuac#an**	**4.50**	**317**	*e*P	**Pn**	**04 27 25.7**	**+3.2**
TPIG				*e*S	**Sn**	**04 28 17.1**	**+3.4**
SNJE	**San Jose**	**4.57**	**105**	*e*P	**Pn**	**04 27 26.0**	**+2.3**
ESQI	**Esquipulas**	**4.68**	**96**	Pn	**Pn**	**04 27 25.9**	**+0.8**
MTO3	**Montecristo**	**4.69**	**98**	Pn	**Pn**	**04 27 25.4**	**+0.2**
FTIG	**Fresnillo de T**	**4.72**	**307**		**Pn**	**04 27 28.6**	**+3.0**
FTIG					**Sn**	**04 28 18.1**	**-1.0**
FTIG	**Fresnillo de T**	**4.72**	**307**	*e*P	**Pn**	**04 27 28.6**	**+3.0**
FTIG				*e*S	**Sn**	**04 28 18.1**	**-1.0**
SCIG	**Sabancuy**	**4.76**	**36**	*i* P	**Pn**	**04 27 26.1**	**+0.1**
SCIG				*i* S	**Sn**	**04 28 19.5**	**-0.4**
JAYA	**Jayaque - finc**	**4.78**	**107**	*e*P	**Pn**	**04 27 28.0**	**+1.5**
JAYA				*e*S	**Sn**	**04 28 17.9**	**-2.8**
MGIG	**Malinaltepec**	**4.79**	**297**		**Pn**	**04 27 29.4**	**+2.8**
MGIG					**Sn**	**04 28 19.1**	**-2.0**
MGIG	**Malinaltepec**	**4.79**	**297**	*e*P	**Pn**	**04 27 29.4**	**+2.8**
MGIG				*e*S	**Sn**	**04 28 19.1**	**-2.0**
TLIG	**Tlapa**	**4.89**	**300**	*e*P	**Pn**	**04 27 31.0**	**+3.1**
TLIG				*e*S	**Sn**	**04 28 22.9**	**-0.4**
JAUV	**Jalcomulco**	**4.92**	**329**	*e*P	**Pn**	**04 27 28.1**	**-0.2**
JAUV				*e*S	**Sn**	**04 28 22.3**	**-1.8**
SNET	**Serv Nac Est T**	**4.97**	**106**		**Pn**	**04 27 29.1**	**+0.1**
LOMA	**Loma Larga**	**5.04**	**106**	*e*P	**Pn**	**04 27 31.9**	**+1.9**
LVIG	**Laguna Verde**	**5.06**	**335**	*e*P	**Pn**	**04 27 28.9**	**-1.2**
LVIG				*e*S	**Sn**	**04 28 22.0**	**-5.3**
SJTE	**Alcalda de S**	**5.20**	**106**	*e*P	**Pn**	**04 27 35.2**	**+3.0**
SJTE				*e*S	**Sn**	**04 28 31.1**	**+0.1**
PAVA	**Las Pavas**	**5.24**	**105**	*e*P	**Pn**	**04 27 35.8**	**+3.1**
DAIG	**Los Arroyos**	**5.62**	**290**		**Pn**	**04 27 39.7**	**+2.0**
DAIG					**Sn**	**04 28 36.7**	**-4.4**
DAIG	**Los Arroyos**	**5.62**	**290**	*e*P	**Pn**	**04 27 39.7**	**+2.0**
DAIG				*e*S	**Sn**	**04 28 36.7**	**-4.4**
PPM	**Popocatepetl**	**5.81**	**313**	*e*P	**Pn**	**04 27 45.5**	**+4.7**
PPM				*e*S	**Sn**	**04 28 42.8**	**-3.7**
PPIG	**Popocatepetl**	**5.81**	**313**		**Pn**	**04 27 45.5**	**+4.7**
PPIG					**Sn**	**04 28 42.8**	**-3.7**
MEIG	**Mezcala**	**5.94**	**299**		**Pn**	**04 27 45.9**	**+3.6**
MEIG					**Sn**	**04 28 46.7**	**-2.5**
MEIG	**Mezcala**	**5.94**	**299**	*e*P	**Pn**	**04 27 45.9**	**+3.6**
MEIG				*e*S	**Sn**	**04 28 46.7**	**-2.5**
AMVM	**AMECAMECA**	**5.96**	**313**	*e*P	Pn	04 27 29.1	-14
YAIG	**Yautepec**	**6.00**	**309**		**Pn**	**04 27 47.0**	**+3.9**
YAIG					**Sn**	**04 28 48.9**	**-1.8**
YAIG	**Yautepec**	**6.00**	**309**	*e*P	**Pn**	**04 27 47.0**	**+3.9**
YAIG				*e*S	**Sn**	**04 28 48.9**	**-1.8**
CXUV	**Coxquihui**	**6.00**	**327**	*e*P	**Pn**	**04 27 44.1**	**+1.0**
CXUV				*e*S	**Sn**	**04 28 51.6**	**+1.1**
PLIG	**Platanillo**	**6.07**	**303**		**Pn**	**04 27 47.9**	**+3.8**
PLIG					**Sn**	**04 28 49.7**	**-2.7**
PLIG	**Platanillo**	**6.07**	**303**	*e*P	**Pn**	**04 27 47.9**	**+3.8**
PLIG				*e*S	**Sn**	**04 28 49.7**	**-2.7**
MPVM	**San Francisco**	**6.17**	**312**	*e*P	**Pn**	**04 27 46.7**	**+1.1**
CAIG	**El Cayaco**	**6.18**	**289**		**Pn**	**04 27 47.1**	**+1.5**
CAIG					**Sn**	**04 28 48.2**	**-6.8**
CAIG	**El Cayaco**	**6.18**	**289**	*e*P	**Pn**	**04 27 47.1**	**+1.5**
CAIG				*e*S	**Sn**	**04 28 48.2**	**-6.8**
TLVM	**San Miguel Top**	**6.28**	**311**	*e*P	**Pn**	**04 27 47.0**	**-0.2**
LCND	**La Caada**	**6.33**	**106**	*e*P	**Pn**	**04 27 50.5**	**+2.9**
UNM	**Universidad Na**	**6.37**	**312**	Pn	**Pn**	**04 27 50.2**	**+1.8**
AOVM	**Tlapan**	**6.44**	**311**	*e*P	**Pn**	**04 27 53.6**	**+4.1**
TOVM	**TOLUCA**

POST	**Post**	**19.07 341**	P	**P**	**04 30 35.8**	**-0.3**
POST			IAmb	IAmb	04 30 38.1	
	comp=Z,9.1nm,0.6s					
MIAR	**Mount Ida**	**19.35 1**	P	**P**	**04 30 38.0**	**-1.0**
MNTX	**Cornudas Mount**	**19.43 330**	P	**P**	**04 30 40.2**	**+0.2**
DKNS	**Dickens**	**19.46 343**	P	**P**	**04 30 39.2**	**-1.1**
DKNS			IAmb	IAmb	04 30 56.6	
	comp=Z,13nm,1.1s					
X34A	**Smith Ranch, M**	**19.68 351**	P	**P**	**04 30 41.6**	**-1.1**
W35A	**Tecumseh**	**20.10 353**	P	**P**	**04 30 45.8**	**-1.4**
W35A			IAmb	IAmb	04 30 48.2	
	comp=Z,6.7nm,0.5s					
MSTX	**Muleshoe**	**20.32 339**		**P**	**04 30 49.5**	**-0.3**
MSTX			IAmb	IAmb	04 30 54.8	
	comp=Z,27nm,1.2s					
FPAL	**Fort Paine**	**20.81 20**		**P**	**04 30 52.4**	**-2.6**
FPAL			IAmb	IAmb	04 31 01.3	
	comp=Z,12nm,1.0s					
319A	**Douglas**	**21.29 322**	P	**P**	**04 31 00.3**	**0.0**
319A			IAmb	IAmb	04 31 03.8	
	comp=Z,12nm,1.0s					
121A	**Cookes Peak, D**	**21.32 327**	P	**P**	**04 31 01.3**	**+0.6**
ROSC	**El Rosal**	**22.02 116**	P	**P**	**04 31 09.7**	**+1.2**
ROSC			IAmb	IAmb	04 31 26.6	
	comp=Z,9.0nm,0.7s					
ROSC	**El Rosal**	**22.02 116**	P	**P**	**04 31 09.9**	**+1.4**
	comp=Z,4.7nm,0.4s,baz=237,slow=22,SNR=5.2					
	comp=Z,4.7nm,0.4s					
DUN6	**Lazy B Ranch**	**22.04 325**	P	**P**	**04 31 08.4**	**0.0**
DUN6			IAmb	IAmb	04 31 11.9	
	comp=Z,12nm,1.0s					
Y22D	**IRIS PASSCAL I**	**22.12 331**	P	**P**	**04 31 07.4**	**-1.8**
U49A	**Red Boiling Sp**	**22.58 18**	P	**P**	**04 31 12.3**	**-1.6**
U49A			IAmb	IAmb	04 31 22.8	
	comp=Z,9.8nm,1.1s					
ANMO	**Albuquerque**	**22.63 333**	P	**P**	**04 31 14.8**	**0.0**
TUC	**Tucson**	**22.85 321**	P	**P**	**04 31 16.4**	**-0.6**
TUC			IAmb	IAmb	04 31 20.2	
	comp=Z,6.8nm,1.1s					
T25A	**Trinidad**	**23.75 339**		**P**	**04 31 27.6**	**+1.7**
T25A			IAmb	IAmb	04 31 44.7	
	comp=Z,5.4nm,0.9s					
SDV	**Santo Domingo**	**23.81 102**	LR	LR	04 41 35.5	
	comp=Z,37nm,19.8s,baz=296,slow=39					
X18A	**Snowflake**	**24.00 326**	P	**P**	**04 31 29.2**	**+0.9**
X18A			IAmb	IAmb	04 31 31.8	
	comp=Z,5.1nm,0.9s					
WCI	**Wyandotte Cave**	**24.04 15**	P	**P**	**04 31 27.4**	**-1.0**
WCI			IAmb	IAmb	04 31 27.9	
	comp=Z,8.9nm,1.4s					
PIX	**Pinacate**	**24.06 316**	P	**P**	**04 31 29.0**	**+0.4**
PIX			IAmb	IAmb	04 31 47.0	
	comp=Z,6.2nm,0.9s					
WUAZ	**Wupatki**	**25.51 326**	P	**P**	**04 31 42.0**	**0.0**
WUAZ			IAmb	IAmb	04 31 47.0	
	comp=Z,7.5nm,0.8s					
PFO	**Pinyon Flats O**	**27.32 316**	LR	LR	04 42 17.4	
	comp=Z,75nm,18.6s,baz=63,slow=35					
SPR3	**Spring Creek 3**	**29.68 327**		**P**	**04 32 19.9**	**+0.5**
PDAR	**Pinedale Array**	**30.57 337**	P	**P**	**04 32 26.5**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=137,slow=9.4,SNR=2.5					
	comp=Z,0.1nm,0.4s					
NVAR	**Mina Array Bea**	**31.50 322**	P	**P**	**04 32 37.0**	**+1.6**
	comp=Z,4.0nm,0.9s,baz=136,slow=9.1,SNR=22					
NVAR			PcP	**PcP**	**04 35 27.1**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=111,slow=2.3,SNR=4.0					
NVAR			LR	LR	04 46 39.8	
	comp=Z,56nm,18.4s,baz=98,slow=39					
	comp=Z,4.0nm,0.9s					
SNOW	**Snow King Moun**	**31.61 337**	P	**P**	**04 32 36.7**	**+0.3**
SNOW			IAmb	IAmb	04 32 38.2	
	comp=Z,4.7nm,0.7s					
J08A	**Circle Bar Ran**	**34.99 328**	P	**P**	**04 33 06.6**	**+1.0**
J08A			IAmb	IAmb	04 33 07.4	
	comp=Z,3.7nm,0.8s					
PLID	**Pearl Lake**	**35.12 333**	P	**P**	**04 33 07.4**	**+0.5**
BOAV	**Boa Vista**	**35.49 108**	P	**P**	**04 33 08.3**	**-1.8**
YBH	**Yreka Blue Hor**	**36.21 323**	LR	LR	04 49 06.6	
	comp=Z,68nm,21.1s,baz=146,slow=38					
F10A	**Beach Ranch, E**	**36.35 333**	P	**P**	**04 33 17.6**	**+0.3**
F10A			IAmb	IAmb	04 33 18.5	
	comp=Z,3.8nm,1.1s					
DBO	**Dodson Butte**	**37.39 324**	P	**P**	**04 33 25.6**	**-0.6**
CPUP	**Villa Florida**	**54.59 139**	LR	LR	04 58 01.5	
	comp=Z,17nm,18.1s,baz=44,slow=35					
BDFB	**Brasília**	**54.88 122**	P	**P**	**04 35 45.7**	**+1.6**
	comp=Z,2.1nm,0.6s,baz=175,slow=17,SNR=2.5					
	comp=Z,2.1nm,0.6s					
ILAR	**Eielson Array**	**61.00 337**	P	**P**	**04 36 25.8**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=149,slow=3.7,SNR=7.7					
	comp=Z,0.7nm,0.8s					
H24K	**Noodor Dome**	**61.87 338**	P	**P**	**04 36 32.0**	**-0.1**
I23K	**Minto, Yukon-K**	**62.11 337**	P	**P**	**04 36 33.7**	**+0.1**
BPAW	**Bear Paw Mtn.**	**62.30 335**	P	**P**	**04 36 34.4**	**-0.5**
G23K	**Bananza Creek**	**63.04 338**	P	**P**	**04 36 39.8**	**-0.1**
G23K			IAmb	IAmb	04 36 47.9	
	comp=Z,4.2nm,1.2s					
D25K	**Kavik River**	**63.10 342**	P	**P**	**04 36 40.4**	**+0.1**
TOLK	**Toolik Lake Re**	**63.77 340**	P	**P**	**04 36 44.9**	**+0.2**
F21K	**Alatna River**	**64.50 338**	P	**P**	**04 36 50.0**	**+0.6**
H19K	**Roundabout Mou**	**65.00 336**	P	**P**	**04 36 52.4**	**-0.3**
EUNU	**Eureka**	**65.06 1**	P	**P**	**04 36 52.2**	**-0.7**
F20K	**Avaraart Lake**	**65.24 338**	P	**P**	**04 36 54.1**	**-0.1**
G19K	**Purcell Mounta**	**65.45 337**	P	**P**	**04 36 54.8**	**-0.8**
G19K			IAmb	IAmb	04 36 57.9	
	comp=Z,2.8nm,1.1s					
NOA	**NORSAR Array B**	**84.15 28**	P	**P**	**04 38 43.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=292,slow=5.1,SNR=3.5					
	comp=Z,1.2nm,0.8s					
HHC	**Hu-ho-hao-te**	**119.42 338**	*e*P	**PKiKP**	**04 45 05.8**	**+3.0**
WRA	**Warramunga Arr**	**133.64 257**	PKP	**PKPdf**	**04 45 29.3**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=83,slow=2.1,SNR=5.4					
PZH	**PanZhiHua**	**135.83 339**	PKP	**PKPdf**	**04 45 34.6**	**+0.2**

IDC 15 04:33:02.8±27.0, 18°.19S×179°.00W, h379km±26km, mb3.4/3, mbtmp4.0/4, Error ellipse: s-maj=480.9km s-min=94.1km az=86.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.84**	**279**	P	Pn	04 34 03.1	0.0
	10nm,0.8s,baz=103,slow=14,SNR=4.2						
STKA	**Stephens Creek**	**38.00**	**241**	P	P	04 39 46.5	+0.3
	1.2nm,0.5s,baz=73,slow=8.0,SNR=4.6						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**44.03**	**260**	P	P	04 40 34.4	-0.5
	1.0nm,0.6s,baz=97,slow=7.0,SNR=26						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**44.17**	**255**	P	P	04 40 36.0	0.0
	4.8nm,0.5s,baz=89,slow=8.6,SNR=112						
	4.8nm,0.5s						

KRNET ***15*** *05:05:11.4±0.1, 42°.88N×78°.34E, h23km, mb3.0*
SOME ***15*** *05:05:11.2, 42°.87N×78°.30E, h10km*
NNC ***15*** *05:05:11.1±0.5, 42°.88N×78°.33E, h0km, mb3.2, mpv3.3, Error ellipse: s-maj=3.9km s-min=1.8km az=166.0*

ISC 15 05:05:11.9±0.9, 42°.88N±0°.02×78°.29E±0°.02, h9km±7km, n64, σ1°18/118, 20C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.20**	**25**	P	**Pg**	**05 05 16.2**	**+0.1**
	64nm,0.1s						
SATY				S	**Sg**	**05 05 19.6**	**+0.7**
	864nm,0.1s						
SATY	**Saty**	**0.20**	**25**	*e*P	**Pg**	**05 05 16.2**	**+0.1**
	baz=15						
SATY				*e*S	**Sg**	**05 05 19.6**	**+0.7**
	baz=15						
SATY	**Saty**	**0.20**	**25**	*e*P	**Pg**	**05 05 16.2**	**+0.1**
	60nm,0.1s						
SATY				*e*S	**Sg**	**05 05 19.6**	**+0.7**
	864nm,0.1s						
ZHN	**Zhinishke**	**0.31**	**20**	P	**Pg**	**05 05 17.8**	**-0.3**
	26nm,0.1s						
ZHN				S	**Sg**	**05 05 22.3**	**+0.1**
	785nm,0.2s						
ZHN	**Zhinishke**	**0.31**	**20**	*e*P	**Pg**	**05 05 17.8**	**-0.3**
	baz=13						
ZHN				*e*S	**Sg**	**05 05 22.3**	**+0.1**
	baz=13						
ZHN	**Zhinishke**	**0.31**	**20**	*e*P	**Pg**	**05 05 17.8**	**-0.3**
	32nm,0.1s						
ZHN				*e*S	**Sg**	**05 05 22.3**	**+0.1**
	785nm,0.2s						
PRZ	**Przheval'sk**	**0.40**	**169**	⇑*i*P	**Pg**	**05 05 19.7**	**-0.2**
	baz=74						
PRZ				⇑*i*S	**Sb**	**05 05 25.7**	**-2.0**
	baz=74						
ANVS	**Anan'yevo**	**0.47**	**258**	⇑*e*P	**Pg**	**05 05 21.5**	**+0.4**
	baz=59						
ANVS				⇑*e*S	**Sb**	**05 05 28.5**	**-1.2**
	baz=59						
UZB	**Uzynbulak**	**0.60**	**63**	P	**Pg**	**05 05 22.3**	**-1.2**
	45nm,0.1s						
UZB				S	**Sg**	**05 05 30.4**	**-1.0**
	176nm,0.2s						
UZB	**Uzynbulak**	**0.60**	**63**	*e*P	**Pg**	**05 05 22.3**	**-1.2**
	baz=62						
UZB				*e*S	**Sg**	**05 05 30.4**	**-1.0**
	baz=62						
UZB	**Uzynbulak**	**0.60**	**63**	*e*P	**Pg**	**05 05 22.3**	**-1.2**
	45nm,0.1s						
UZB				*e*S	**Sg**	**05 05 30.4**	**-1.0**
	176nm,0.2s						
KURS	**Kuram**	**0.61**	**352**	P	**Pg**	**05 05 23.5**	**-0.3**
	17nm,0.2s						
KURS				S	**Sg**	**05 05 32.3**	**+0.4**
	50nm,0.3s						
KURS	**Kuram**	**0.61**	**352**	*e*P	**Pg**	**05 05 23.5**	**-0.3**
	baz=48						
KURS				*e*S	**Sg**	**05 05 32.3**	**+0.4**
	baz=48						
KURS	**Kuram**	**0.61**	**352**	*e*P	**Pg**	**05 05 23.5**	**-0.3**
	17nm,0.2s						
KURS				*e*S	**Sg**	**05 05 32.3**	**+0.4**
	35nm,0.1s						
SHLS	**Shalkode**	**0.90**	**72**	P	**Pn**	**05 05 33.4**	**+2.5**
	15nm,0.3s						
SHLS				S	**Sn**	**05 05 50.0**	**+5.9**
	36nm,0.2s						
SHLS	**Shalkode**	**0.90**	**72**	*e*P	**Pn**	**05 05 33.4**	**+2.5**
	12nm,0.1s						
SHLS				*e*S	**Sn**	**05 05 50.0**	**+5.9**
	36nm,0.2s						
KOTS	**Kotyrbulak**	**0.94**	**293**	P	**Pg**	**05 05 29.6**	**-0.3**
	8.4nm,0.2s						
KOTS				S	**Sb**	**05 05 42.8**	**-0.2**
	83nm,0.3s						
KOTS	**Kotyrbulak**	**0.94**	**293**	*e*P	**Pg**	**05 05 29.6**	**-0.3**
	baz=92						
KOTS				*e*S	**Sb**	**05 05 42.8**	**-0.2**
	baz=92						
KOTS	**Kotyrbulak**	**0.94**	**293**	*e*P	**Pg**	**05 05 29.6**	**-0.3**
	8.4nm,0.2s						
KOTS				*e*S	**Sb**	**05 05 42.8**	**-0.2**
	83nm,0.3s						
PDGK	**Podgornoye**	**0.98**	**62**	P	**Pg**	**05 05 28.9**	**-2.0**
	4.9nm,0.4s						
PDGK				S	**Sg**	**05 05 42.0**	**-1.6**
	8.4nm,0.2s						
PDGK	**Podgornoye**	**0.98**	**62**	⇓P	**Pg**	**05 05 28.7**	**-2.2**
	4.6nm,0.5s						
PDGK				⇑S	**Sg**	**05 05 42.4**	**-1.3**
	13nm,0.5s						
TNSS	**Tian-Shan**	**1.00**	**279**	P	**Pg**	**05 05 30.7**	**-0.5**
	3.6nm,0.1s						
TNSS				S	**Sg**	**05 05 44.4**	**+0.2**
	9.3nm,0.2s						
TNSS	**Tian-Shan**	**1.00**	**279**	*e*P	**Pg**	**05 05 30.7**	**-0.5**
	baz=79						
TNSS				*e*S	**Sg**	**05 05 44.4**	**+0.2**
	baz=79						
TNSS	**Tian-Shan**	**1.00**	**279**	*e*P	**Pg**	**05 05 30.7**	**-0.5**
	3.6nm,0.1s						
TNSS				*e*S	**Sg**	**05 05 44.4**	**+0.2**
	9.3nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.21**	**198**	⇑*i*P	**Pb**	**05 05 33.9**	**-1.3**
	baz=99						
TARG				⇑*i*S	**Sg**	**05 05 50.1**	**-0.7**
	baz=99						
BLB	**Baldybastay**	**1.22**	**6**	P	**Pn**	**05 05 34.1**	**-1.3**
	53nm,0.2s						
BLB				S	**Sb**	**05 05 50.5**	**-0.8**
	69nm,0.3s						
IZV	**Izvestkoviy**	**1.24**	**278**	P	**Pn**	**05 05 35.2**	**-0.5**
	4.7nm,0.2s						
IZV				S	**Sn**	**05 05 52.3**	**-0.3**
	48nm,0.4s						
IZV	**Izvestkoviy**	**1.24**	**278**	*e*P	**Pn**	**05 05 35.2**	**-0.5**
	baz=77						
IZV				*e*S	**Sn**	**05 05 52.4**	**-0.3**
	baz=77						
IZV	**Izvestkoviy**	**1.24**	**278**	*e*P	**Pn**	**05 05 35.2**	**-0.5**
	2.9nm,0.1s						
IZV				*e*S	**Sn**	**05 05 52.4**	**-0.3**
	56nm,0.1s						
CHKK	**Chushkaly**	**1.36**	**316**	P	**Pn**	**05 05 36.8**	**-0.4**
	12nm,0.3s						
CHKK				S	**Sn**	**05 05 55.1**	**-0.3**
	15nm,0.3s						
CHKK	**Chushkaly**	**1.36**	**316**	*e*P	**Pn**	**05 05 36.8**	**-0.4**
	baz=15						
CHKK				*e*S	**Sn**	**05 05 55.1**	**-0.3**
	baz=15						
CHKK	**Chushkaly**	**1.36**	**316**	*e*P	**Pn**	**05 05 36.8**	**-0.4**
	9.7nm,0.1s						
CHKK				*e*S	**Sn**	**05 05 55.1**	**-0.3**
	31nm,0.2s						
ARXS	**Arharly**	**1.38**	**346**	P	**Pn**	**05 05 36.8**	**-0.6**
	16nm,0.3s						
ARXS				S	**Sb**	**05 05 55.1**	**-0.5**
	43nm,0.2s						
ARXS	**Arharly**	**1.38**	**346**	*e*P	**Pn**	**05 05 36.8**	**-0.6**
	16nm,0.3s						
ARXS				*e*S	**Sb**	**05 05 55.1**	**-0.5**
	43nm,0.1s						
MTBS	**Maitube**	**1.39**	**281**	P	**Pb**	**05 05 37.8**	**-0.3**
	3.2nm,0.1s						
MTBS				S	**Sg**	**05 05 56.8**	**+0.2**
	23nm,0.2s						
MTBS	**Maitube**	**1.39**	**281**	*e*P	**Pb**	**05 05 37.8**	**-0.3**
	baz=81						
MTBS				*e*S	**Sg**	**05 05 56.8**	**+0.2**
	baz=81						
MTBS	**Maitube**	**1.39**	**281**	*e*P	**Pb**	**05 05 37.8**	**-0.3**
	3.2nm,0.1s						
MTBS				*e*S	**Sg**	**05 05 56.8**	**+0.2**
	23nm,0.2s						
KTBS	**Karatobe**	**1.44**	**306**	P	**Pb**	**05 05 38.3**	**-0.7**
	9.2nm,0.2s						
KTBS				S	**Sb**	**05 05 57.8**	**+0.3**
	42nm,0.4s						
KTBS	**Karatobe**	**1.44**	**306**	*e*P	**Pb**	**05 05 38.3**	**-0.7**
	baz=5.0						
KTBS				*e*S	**Sb**	**05 05 57.8**	**+0.3**
	baz=5.0						
KTBS	**Karatobe**	**1.44**	**306**	*e*P	**Pb**	**05 05 38.3**	**-0.7**
	9.2nm,0.2s						
KTBS				*e*S	**Sb**	**05 05 57.8**	**+0.3**
	42nm,0.4s						
KNOS	**Konyrlen**	**1.61**	**23**	P	**Pb**	**05 05 41.0**	**-1.0**
	4.7nm,0.1s						
KNOS				S	**Sg**	**05 06 02.3**	**-1.5**
	26nm,0.2s						
ULHL	**Ulahol**	**1.64**	**248**	⇑*e*P	**Pb**	**05 05 41.6**	**-0.9**
	baz=48						
ULHL				⇑*i*S	**Sb**	**05 06 03.5**	**+0.1**
	baz=48						
KST	**Kastek**	**1.72**	**276**	P	**Pb**	**05 05 43.6**	**-0.2**
	3.1nm,0.2s						
KST				S	**Sg**	**05 06 06.7**	**-0.4**
	17nm,0.3s						
KST	**Kastek**	**1.72**	**276**	*e*P	**Pb**	**05 05 43.6**	**-0.2**
	3.1nm,0.2s						
KST				*e*S	**Sg**	**05 06 06.7**	**-0.4**
	17nm,0.3s						
KUU	**Kurty**	**1.75**	**306**	P	**Pb**	**05 05 43.3**	**-0.9**
	10nm,0.1s						
KUU				S	**Sb**	**05 06 06.3**	**0.0**
	88nm,0.2s						
KUU	**Kurty**	**1.75**	**306**	*e*P	**Pb**	**05 05 43.3**	**-0.9**
	10nm,0.1s						
KUU				*e*S	**Sb**	**05 06 06.3**	**0.0**
	88nm,0.2s						
BOOM	**Boomskoye usch**	**1.78**	**258**	⇑*i*P	**Pb**	**05 05 43.6**	**-1.2**
	baz=58						
BOOM				⇑*i*S	**Sb**	**05 06 06.4**	**-0.9**
	baz=58						
DJR	**Jarkent**	**1.81**	**36**	P	**Pb**	**05 05 43.8**	**-1.6**
	4.5nm,0.1s						
DJR				S	**Sb**	**05 06 07.0**	**-1.3**
	24nm,0.2s						
DJR	**Jarkent**	**1.81**	**36**	*e*P	**Pb**	**05 05 43.8**	**-1.6**
	4.5nm,0.1s						
DJR				*e*S	**Sb**	**05 06 07.0**	**-1.3**
	45nm,0.2s						
DGS	**Degeres**	**1.88**	**282**	P	**Pb**	**05 05 46.3**	**-0.3**
	3.6nm,0.2s						
DGS				S	**Sb**	**05 06 11.3**	**+1.1**
	21nm,0.2s						
DGS	**Degeres**	**1.88**	**282**	*e*P	**Pb**	**05 05 46.3**	**-0.3**
	2.9nm,0.1s						
DGS				*e*S	**Sb**	**05 06 11.3**	**+1.1**
	28nm,0.2s						
TKM2	**Tokmak 2**	**1.98**	**272**	⇓Pn	**Pb**	**05 05 48.1**	**-0.2**
	1.9nm,0.5s						
TKM2				⇑Sn	**Sg**	**05 06 15.2**	**-0.4**
	11nm,0.3s						
TKM2	**Tokmak 2**	**1.98**	**272**	⇓*i*P	**Pb**	**05 05 46.7**	**-1.6**
	baz=72						
TKM2				⇓*i*S	**Sb**	**05 06 12.3**	**-0.9**
	baz=72						
KRBS	**Karabastau**	**2.08**	**294**	Pg	**Pb**	**05 05 49.0**	**-0.9**
	2.0nm,0.2s						
KRBS				Lg	Lg	05 06 16.2	
	24nm,0.3s						
KRBS	**Karabastau**	**2.08**	**294**	*e*Pg	**Pb**	**05 05 49.0**	**-0.9**
	2.0nm,0.2s						
KRBS				*e*Lg	Lg	05 06 16.2	
	24nm,0.3s						
KBK	**Karagaybulak**	**2.47**	**266**	⇑*i*P	**Pn**	**05 05 53.5**	**+0.9**
	baz=66						
KBK				⇑*i*S	**Sn**	**05 06 23.9**	**+0.9**
	baz=66						
CHMS	**Chumysh**	**2.60**	**274**	⇓Lg	Lg	05 06 34.0	
	5.7nm,0.4s						
SGDS	**Sogindy**	**2.74**	**283**	Pg	**Pb**	**05 06 01.0**	**-0.2**
	1.2nm,0.1s						
SGDS				Lg	Lg	05 06 37.2	
	3.4nm,0.1s						
USP	**Ospenovka**	**2.81**	**279**	⇑*i*P	**Pn**	**05 05 58.0**	**+1.0**
	baz=79						
USP				⇑*i*S	**Sn**	**05 06 32.0**	**+1.0**
	baz=79						
AAK	**Ala-Archa**	**2.81**	**266**	⇑*e*P	**Pn**	**05 05 58.0**	**+0.8**
	baz=66						
AAK				⇑*i*S	**Sn**	**05 06 32.0**	**+0.8**
	baz=66						
MRKS	**Merke**	**3.73**	**270**	Pg	**Pb**	**05 06 18.9**	**+0.9**
	1.8nm,0.3s						
MRKS				Lg	Lg	05 07 07.3	
	2.8nm,0.3s						
MRKS	**Merke**	**3.73**	**270**	*e*Pg	**Pb**	**05 06 18.9**	**+0.9**
	1.8nm,0.3s						
MRKS				*e*Lg	Lg	05 07 07.3	
	4.4nm,0.3s						
MK31	**Makanchi Array**	**4.84**	**35**	⇑Pn	**Pn**	**05 06 27.6**	**+2.7**
	0.1nm,0.3s,baz=211,slow=15,SNR=3.8						
MK31				⇓Lg	Lg	05 07 38.9	
	0.6nm,0.5s,baz=218,slow=28,SNR=3.6						
KK31	**Karatay Array**	**5.71**	**275**	⇑Lg	Lg	05 08 09.1	
	0.6nm,0.5s,baz=91,slow=28,SNR=5.0						

CNRM ***15*** *05:09:37.1, 36°.32N×8°.04W, h82km, ml3.1*
INMG ***15*** *05:09:41.8±1.3, 36°.39N×8°.13W, h15km±4km, ML1.3, Error ellipse: s-maj=6.0km s-min=4.9km az=42.0*
MDD ***15*** *05:09:42.7±2.0, 36°.38N×8°.14W, h36km±6km, mb_Lg1.9/3, Error ellipse: s-maj=16.0km s-min=8.6km az=9.0*
SFS ***15*** *05:09:43.1, 36°.49N×8°.14W, h25km, ML2.1/7, MLv2.0/7*

ISC 15 05:09:39.0±1.3, 36°.23N±0°.04×8°.07W±0°.06, h44km±56km, n28, σ1°05/42, 2C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.02**	**6**	*e*P	**Pn**	**05 09 57.7**	**+0.8**
PBDV				*e*S	**Sn**	**05 10 09.4**	**-0.6**
PBDV				A	A	05 10 15.1	
	3.9nm,0.8s						
PFVI	**Vila Bisbo**	**1.09**	**326**	*e*S	**Sn**	**05 10 11.0**	**-0.7**
PFVI				A	A	05 10 19.6	
	7.3nm,0.5s						
PFVI	**Vila Bisbo**	**1.09**	**326**	Pn	**Pn**	**05 09 58.1**	**+0.4**
PVAQ	**Vaqueiros**	**1.21**	**14**	*e*P	**Pn**	**05 10 00.5**	**+1.1**
PVAQ				*e*S	**Sn**	**05 10 14.0**	**-0.6**
PVAQ				A	A	05 10 19.3	
	1.7nm,0.3s						
PVAQ	**Vaqueiros**	**1.21**	**14**	P	Pn	05 09 56.6	-2.8
PVAQ				S	**Sn**	**05 10 13.9**	**-0.6**
PVAQ	**Vaqueiros**	**1.21**	**14**	Pn	**Pn**	**05 10 00.2**	**+0.7**
EGRO	**El Granado**	**1.38**	**20**	Pg	**Pn**	**05 10 03.2**	**+1.4**
EGRO				Sg	**Sn**	**05 10 18.6**	**-0.4**
EGRO				*i* Vmb_Lg		05 10 22.9	
EGRO	**El Granado**	**1.38**	**20**	Sn	**Sn**	**05 10 17.3**	**-1.6**
EGRO				Pn	**Pn**	**05 10 02.8**	**+0.9**
PCVE	**Castro Verde**	**1.40**	**1**	*e*P	**Pn**	**05 10 03.1**	**+1.0**
PCVE				*e*S	**Sn**	**05 10 18.8**	**-0.5**
PCVE				A	A	05 10 19.1	
	2.6nm,0.2s						
PCVE	**Castro Verde**	**1.40**	**1**	Pn	**Pn**	**05 10 02.3**	**+0.2**
PTEO	**Sao Teotonio**	**1.41**	**338**	⇑*e*P	**Pn**	**05 10 03.1**	**+0.8**
PTEO				*e*S	**Sn**	**05 10 19.3**	**-0.4**
PBEJ	**Beja**	**1.80**	**5**	*e*S	**Sn**	**05 10 29.4**	**+0.2**
PNCL	**Nicolau / Gran**	**1.91**	**349**	⇑*e*P	**Pn**	**05 10 09.7**	**+0.6**
PNCL				*e*S	**Sn**	**05 10 31.0**	**-1.0**
PNCL				A	A	05 10 35.1	
	1.8nm,0.4s						
PNCL	**Nicolau / Gran**	**1.91**	**349**	Pn	**Pn**	**05 10 09.7**	**+0.6**
PBAR	**Barrancos**	**2.11**	**23**	*e*S	**Sn**	**05 10 36.5**	**-0.3**
PBAR				A	A	05 10 49.0	
	1.0nm,0.4s						
EVO	**Evora**	**2.30**	**1**	*e*S	**Sn**	**05 10 40.7**	**-0.8**
EVO				A	A	05 10 42.0	
	1.7nm,0.3s						
EVO	**Evora**	**2.30**	**1**	Sn	**Sn**	**05 10 38.6**	**-2.9**
EVO				Pn	**Pn**	**05 10 14.4**	**0.0**
EBAD	**Badajoz**	**2.66**	**18**	Sg	**Sn**	**05 10 49.1**	**-1.2**
EBAD				*i* Vmb_Lg		05 11 00.7	
EBAD	**Badajoz**	**2.66**	**18**	Pn	**Pn**	**05 10 20.2**	**+0.9**
PESTR	**Estremoz**	**2.66**	**8**	*e*S	**Sn**	**05 10 49.9**	**-0.5**
ECAB	**El Cabril**	**2.81**	**48**	Sn	**Sn**	**05 10 54.9**	**+0.8**
ECAB				*i* Vmb_Lg		05 11 05.5	
PMTG	**Montargil**	**2.84**	**358**	*e*P	**Pn**	**05 10 22.9**	**+1.1**
PMTG				*e*S	**Sn**	**05 10 53.7**	**-1.0**
PMTG				A	A	05 10 54.4	
	1.2nm,0.3s						
PMAFR	**Mafra**	**2.88**	**341**	*e*P	**Pn**

Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.94**	**161**	Pn	Pn	05 41 19.7	+0.1
	8.9nm,0.3s,baz=252,slow=13,SNR=1.7						
PMG				Sn	Sn	05 42 03.8	-2.7
	5.4nm,0.3s,baz=144,slow=18,SNR=8.3						
WRA	**Warramunga Arr**	**18.11**	**217**	P	Pn	05 44 30.0	-0.9
	0.1nm,0.3s,baz=41,slow=12,SNR=2.7						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**21.30**	**212**	P	P	05 45 06.2	-0.1
	0.4nm,0.6s,baz=36,slow=12,SNR=3.2						
	0.4nm,0.6s						
JNU	**Nakatsue**	**41.10**	**341**	LR	LR	06 02 12.0	
	comp=Z,17nm,21.8s,baz=216,slow=32						
ILAR	**Eielson Array**	**85.60**	**23**	P	P	05 52 58.1	+0.3
	0.2nm,0.6s,baz=261,slow=5.1,SNR=1.8						
	0.2nm,0.6s						

*EAF **15** 05:56:03.2, 21.°91S×30.°10E, h0km, MC3.3*
BUL 15 05:56:00.8±0.3, 22.°69S×29.°47E, h10km±2km, MD3.3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUSN	**Musina, Limpop**	**0.54**	**42**	*i* P	Pg	05 56 11.1	-0.2
MUSN	**Musina, Limpop**	**0.54**	**42**	*i* P	Pg	05 56 11.1	-0.2
	baz=210						
MOPA	**Mopani**	**1.96**	**115**	*i* P	Pb	05 56 37.1	+0.6
MOPA				*i* S	Sg	05 57 03.8	0.0
MOPA	**Mopani**	**1.96**	**115**	*i* P	Pb	05 56 37.1	+0.6
	baz=143						
MOPA				*i* S	Sg	05 57 03.8	0.0
	baz=143						
MATP	**Matopo**	**2.43**	**338**	*i* P	Pn	05 56 38.6	-2.0
MATP				*i* S	Sn	05 57 06.2	-4.3
MATP	**Matopo**	**2.43**	**338**	*i* P	Pn	05 56 38.6	-2.0
	baz=314						
MATP				*i* S	Sn	05 57 06.2	-4.3
	baz=314						

*IDC **15** 06:23:29.2±2.2, 0.°55N×134.°42E, h0km, mb4.2/6, mbtmp4.2/6, MS3.4/7, Error ellipse: s-maj=112.8km s-min=12.5km az=81.0*
ISC 15 06:23:33.6±5.4, 0.°7N±0.°3×13.°5E±.°, h35km, n12, σ1°17/8, mb4.1/5, MS3.5/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**11.22**	**304**	LR	LR	06 30 30.7	
	comp=Z,48nm,18.6s,baz=113,slow=38						
WRA	**Warramunga Arr**	**20.57**	**181**	P	**P**	**06 28 08.7**	**-0.9**
	6.4nm,0.8s,baz=360,slow=11,SNR=63						
WRA				S	**S**	**06 31 56.5**	**-1.3**
	2.0nm,1.1s,baz=2.7,slow=20,SNR=5.1						
	6.4nm,0.8s						
CTA	**Charters Tower**	**23.50**	**152**	LR	LR	06 38 16.4	
	comp=Z,86nm,18.9s,baz=273,slow=38						
ASAR	**Alice Springs**	**24.28**	**182**	P	**P**	**06 28 48.0**	**+0.1**
	5.9nm,0.9s,baz=10,slow=11,SNR=48						
ASAR				S	**S**	**06 33 06.7**	**+2.0**
	1.7nm,1.1s,baz=9.9,slow=18,SNR=7.1						
ASAR				LR	LR	06 38 18.3	
	comp=Z,63nm,20.8s,baz=8.0,slow=37						
	5.9nm,0.9s						
DZM	**Mont Dzumac**	**38.22**	**128**	LR	LR	06 46 11.9	
	comp=Z,47nm,18.1s,baz=246,slow=35						
RPZ	**Rata Peaks**	**54.79**	**148**	LR	LR	06 54 55.3	
	comp=Z,73nm,18.7s,baz=250,slow=34						
MKAR	**Makanchi Array**	**64.75**	**323**	P	**P**	**06 34 08.6**	**0.0**
	0.8nm,0.6s,baz=105,slow=7.7,SNR=8.2						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**68.73**	**325**	P	**P**	**06 34 33.5**	**-0.4**
	1.6nm,0.2s,baz=110,slow=5.4,SNR=2.9						
	1.6nm,0.2s						
BVAR	**Borovoye Array**	**74.32**	**326**	P	**P**	**06 35 07.5**	**-0.1**
	2.1nm,0.6s,baz=122,slow=7.2,SNR=9.0						
	2.1nm,0.6s						
AKTO	**Aktyubinsk**	**81.08**	**321**	LR	LR	07 14 28.0	
	comp=Z,41nm,18.9s,baz=50,slow=38						
MAW	**Mawson**	**83.90**	**202**	P	**P**	**06 36 00.0**	**+0.5**
	0.8nm,0.7s,baz=90,slow=10,SNR=1.9						
	0.8nm,0.7s						
KBZ	**Khabaz**	**90.94**	**314**	LR	LR	07 22 56.5	
	comp=Z,30nm,18.2s,baz=9.5,slow=39						

*ANF **15** 06:26:17.4±0.7, 32.°55N×116.°98W, h20km±4km, ML2.5/13, Error ellipse: s-maj=5.0km s-min=2.6km az=15.0*
*PAS **15** 06:26:17.7±1.2, 32.°519N±0.°005×116.°97W±0.°01, h12km±2km, ML2.8/25, ML2.6/32(NEIC), Error ellipse: s-maj=1.7km s-min=0.5km az=109.0*
*NEIC **15** 06:26:17.1±1.3, 32.°51N±0.°02×116.°97W±0.°02, h15km±2km, Error ellipse: s-maj=3.4km s-min=1.4km az=214.0*
*ECX **15** 06:26:18.1±0.4, 32.°51N×116.°95W, h9km±1km, MD2.7, ML3.0, Fault plane solution: NP1:φs138.00000°, δ58.00000°, λ-162.00000°.*
ISC 15 06:26:16.5±0.8, 32.°49N±0.°02×116.°99W±0.°02, h18km±1km, n113, σ0°72/177, 20C-15D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUTJ	**Tijuana**	**0.02**	**216**	⇓*eP*	**Pg**	**06 26 19.9**	**+0.1**
HGTTJ	**Hospital Gral.**	**0.04**	**335**	⇓*iP*	**Pg**	**06 26 19.8**	**0.0**
HGTTJ				*eS*	**Sg**	**06 26 21.3**	**-0.8**
DRETJ	**Distrito Refor**	**0.04**	**131**	⇓*iP*	**Pg**	**06 26 19.7**	**-0.1**
DRETJ				*eS*	**Sg**	**06 26 21.1**	**-0.9**
TJX	**Tijuana**	**0.06**	**288**		**Pg**	**06 26 20.3**	**+0.4**
TJX				Sg	**Sg**	**06 26 22.3**	**0.0**
TJX				IAML		06 26 22.4	
	comp=N,2μm,0.6s						
TJX				IAML		06 26 22.5	
	comp=E,4μm,0.5s						
TJX	**Tijuana**	**0.06**	**288**	⇑*iP*	**Pg**	**06 26 20.3**	**+0.4**
TJX				*eS*	**Sg**	**06 26 22.2**	**0.0**
TJX	**Tijuana**	**0.06**	**288**	⇑*iP*	**Pg**	**06 26 20.3**	**+0.4**
TJX				*eS*	**Sg**	**06 26 21.9**	**-0.4**
CNATK	**Presa El Carri**	**0.07**	**100**	⇑*eP*	**Pg**	**06 26 22.3**	**+2.2**
CNATK				*eS*	**Sg**	**06 26 25.4**	**+3.0**
CNATJ	**Tijuana**	**0.08**	**123**	⇓*eP*	**Pg**	**06 26 20.0**	**-0.1**
CNATJ				*eS*	**Sg**	**06 26 21.5**	**-1.0**
PIPTJ	**Tijuana**	**0.09**	**86**	⇓*iP*	**Pg**	**06 26 20.1**	**-0.1**
PIPTJ				⇑*iP*	**Pg**	**06 26 21.1**	**+0.9**
PIPTJ				*eS*	**Sg**	**06 26 23.7**	**+1.1**
OLP	**Otay Lakes Par**	**0.12**	**24**	⇓*iP*	**Pg**	**06 26 20.5**	**0.0**
OLP				*i* S	**Sg**	**06 26 22.3**	**-0.9**
OLP				IAML		06 26 22.4	
	comp=E,7μm,0.1s						
OLP				*e*		06 26 22.4	
OLP				⇑*e*		06 26 22.5	
OLP				IAML		06 26 22.5	
	comp=N,7μm,0.2s						
DUZA	**Dulzura**	**0.21**	**58**		**Pb**	**06 26 21.9**	**+0.3**
DUZA					**Sb**	**06 26 24.7**	**-0.1**
DUZA	**Dulzura**	**0.21**	**58**	⇑*iP*	**Pb**	**06 26 21.9**	**+0.3**
DUZA				*eS*	**Sb**	**06 26 24.6**	**-0.3**
SDRC	**San Diego Road**	**0.24**	**10**		**Pb**	**06 26 22.4**	**+0.2**
SDRC					**Sg**	**06 26 25.6**	**-0.5**
SDRC	**San Diego Road**	**0.24**	**10**	⇓*iP*	**Pb**	**06 26 22.4**	**+0.2**
SDRC				*eS*	**Sg**	**06 26 25.6**	**-0.5**
SDRC				IAML		06 26 25.8	
	comp=E,2μm,0.1s						
SDRC				⇓*e*		06 26 25.8	
TJIG	**Tijuana**	**0.27**	**102**	⇑*eP*	**Pg**	**06 26 22.8**	**+0.1**
TJIG				*i* S	**Sg**	**06 26 26.2**	**-0.7**
TJIG				IAML		06 26 26.4	
	comp=E,2μm,0.2s						
TJIG				*e*		06 26 26.4	
TJIG				IAML		06 26 26.5	
	comp=N,2μm,0.4s						
TJIG				⇓*e*		06 26 26.5	
SDMC	**San Diego Miss**	**0.32**	**337**		**Pb**	**06 26 23.9**	**+0.2**
SDMC					**Sg**	**06 26 28.2**	**+0.2**
SDMC	**San Diego Miss**	**0.32**	**337**	⇓*iP*	**Pb**	**06 26 23.9**	**+0.2**
BAR	**Barrett**	**0.33**	**55**		**Pg**	**06 26 23.8**	**+0.2**
BAR				Sg	**Sg**	**06 26 27.8**	**-0.6**
BAR	**Barrett**	**0.33**	**55**	⇑*iP*	**Pg**	**06 26 23.8**	**+0.2**
BAR				*eS*	**Sg**	**06 26 27.9**	**-0.6**
BAR				⇑*e*		06 26 28.6	
BAR				IAML		06 26 28.6	
	comp=N,3μm,0.1s						
CBX	**Cerro Bola**	**0.33**	**123**	Pg	**Pb**	**06 26 24.1**	**+0.2**
CBX				Sg	**Sg**	**06 26 28.7**	**+0.2**
CBX				IAML		06 26 29.9	
	comp=N,855nm,0.5s						
CBX				IAML		06 26 30.3	
	comp=E,1μm,0.3s						
CBX	**Cerro Bola**	**0.33**	**123**	⇑*iP*	**Pb**	**06 26 24.1**	**+0.2**
CBX				*eS*	**Sg**	**06 26 28.8**	**+0.2**
MTRP	**Mission Trails**	**0.33**	**350**		**Pb**	**06 26 24.0**	**0.0**
MTRP					**Sg**	**06 26 28.3**	**-0.2**
MTRP	**Mission Trails**	**0.33**	**350**	⇓*iP*	**Pb**	**06 26 24.0**	**0.0**
TKX	**Tecate**	**0.33**	**77**	Pg	**Pg**	**06 26 23.7**	**0.0**
TKX	**Tecate**	**0.33**	**77**	⇑*iP*	**Pg**	**06 26 23.7**	**0.0**
TKX				*eS*	**Sg**	**06 26 27.9**	**-0.7**
TKX				IAML		06 26 28.1	
	comp=E,2μm,0.1s						
TKX				IAML		06 26 28.1	
	comp=N,1μm,0.1s						
109C	**Camp Elliot, M**	**0.41**	**346**	Pg	**Pg**	**06 26 25.3**	**+0.3**
109C	**Camp Elliot, M**	**0.41**	**346**	P	**Pg**	**06 26 25.3**	**+0.3**
	baz=163,SNR=46						
109C				S	**Sg**	**06 26 30.5**	**-0.2**
	baz=163						
CPE	**Camp Elliot**	**0.41**	**346**		**Pg**	**06 26 25.3**	**+0.3**
CPE					**Sg**	**06 26 30.6**	**-0.1**
CPE	**Camp Elliot**	**0.41**	**346**	⇓*iP*	**Pg**	**06 26 25.3**	**+0.3**
EML	**El Monte Cty P**	**0.41**	**17**		**Pg**	**06 26 25.2**	**+0.1**
EML					**Sg**	**06 26 30.6**	**-0.4**
EML	**El Monte Cty P**	**0.41**	**17**	⇓*iP*	**Pg**	**06 26 25.2**	**+0.1**
EML				*i* S	**Sg**	**06 26 30.5**	**-0.4**
EML				IAML		06 26 30.6	
	comp=N,2μm,0.1s						
EML				⇓*e*		06 26 30.6	
DPP	**Dos Picos Cty**	**0.51**	**5**		**Pg**	**06 26 26.8**	**0.0**
DPP					**Sg**	**06 26 33.5**	**-0.2**
MONP2	**Monument Peak**	**0.62**	**50**		**Pb**	**06 26 28.9**	**0.0**
MONP2					**Sg**	**06 26 37.0**	**-0.4**
MONP2	**Monument Peak**	**0.62**	**50**	⇑*eP*	**Pb**	**06 26 28.9**	**0.0**
MONP2				*eS*	**Sg**	**06 26 36.8**	**-0.7**
MONP2	**Monument Peak**	**0.62**	**50**	P	**Pb**	**06 26 29.0**	**0.0**
	baz=231,SNR=48						
MONP2				S	**Sg**	**06 26 37.0**	**-0.4**
	baz=231						
JUEM	**Julian Eagle M**	**0.67**	**29**		**Pb**	**06 26 29.7**	**-0.1**
JUEM					Pn	06 26 38.4	+7.1
CCX	**Cicese**	**0.68**	**156**		**Pg**	**06 26 30.6**	**+0.6**
CCX				IAML		06 26 42.8	
	comp=N,237nm,0.3s						
CCX				IAML		06 26 43.4	
	comp=E,425nm,0.3s						
CCX	**Cicese**	**0.68**	**156**	*eP*	**Pb**	**06 26 29.6**	**-0.2**
CCX				*eS*	**Sg**	**06 26 39.1**	**0.0**
GORC	**Green Oak Ranc**	**0.69**	**343**		**Pb**	**06 26 29.8**	**-0.1**
GORC					**Sb**	**06 26 39.0**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**0.76**	**78**		**Pb**	**06 26 31.4**	**+0.1**
IKP					**Sb**	**06 26 41.1**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**0.76**	**78**	⇑*iP*	**Pb**	**06 26 31.4**	**+0.1**
IKP				*eS*	**Sb**	**06 26 41.3**	**0.0**
IKP	**In-Ko-Pah, Jac**	**0.76**	**78**	P	**Pb**	**06 26 31.3**	**+0.1**
	baz=260,SNR=43						
IKP				S	**Sb**	**06 26 41.3**	**0.0**
	baz=260						
MATG	**Mataguay Scout**	**0.76**	**22**		**Pb**	**06 26 31.2**	**-0.1**
MATG					**Sb**	**06 26 40.9**	**-0.5**
RMX	**La Rumorosa**	**0.78**	**82**		**Pn**	**06 26 32.5**	**-0.3**
RMX					**Sg**	**06 26 42.7**	**+0.5**
RMX				IAML		06 26 42.9	
	comp=N,309nm,0.2s						
RMX				IAML		06 26 44.0	
	comp=E,268nm,0.3s						
RMX	**La Rumorosa**	**0.78**	**82**	⇑*iP*	**Pn**	**06 26 32.5**	**-0.3**
RMX				*eS*	**Sg**	**06 26 42.2**	**0.0**
PBX	**Punta Banda**	**0.78**	**163**	*eP*	**Pg**	**06 26 32.3**	**+0.5**
PLM	**Palomar**	**0.86**	**7**		**Pb**	**06 26 32.9**	**-0.3**
BORC	**Borrego Spring**	**0.91**	**32**		**Pb**	**06 26 34.0**	**+0.2**
BORC					**Sb**	**06 26 45.3**	**-0.3**
YUH	**Yuha Desert**	**0.92**	**80**	Pg	**Pb**	**06 26 34.1**	**+0.2**
YUH				IAML		06 26 46.0	
	comp=N,125nm,0.1s						
YUH	**Yuha Desert**	**0.92**	**80**		**Sb**	**06 26 45.6**	**-0.1**
YUH2	**Yuha Desert**	**0.92**	**80**	⇑*eP*	**Pb**	**06 26 34.1**	**+0.2**
SLH	**Sleepy Hollow**	**0.93**	**41**		**Pg**	**06 26 34.8**	**+0.1**
SLH					**Sg**	**06 26 47.0**	**-0.1**
CRR	**Carrizo Plain**	**0.95**	**65**		**Pn**	**06 26 35.0**	**+0.2**
CRR					**Sn**	**06 26 48.0**	**+0.1**
ESJX	**Sierra Juarez**	**1.01**	**119**		**Pb**	**06 26 35.7**	**+0.1**
BZNA	**Buzz No.'s Pla**	**1.03**	**15**		**Pb**	**06 26 36.0**	**+0.1**
BZNA					**Sb**	**06 26 49.1**	**-0.1**
FRD	**Ford Ranch, An**	**1.05**	**18**		**Pb**	**06 26 36.5**	**+0.2**
FRD					**Sb**	**06 26 49.8**	**+0.1**
FRD	**Ford Ranch, An**	**1.05**	**18**		**Pb**	**06 26 36.5**	**+0.2**
FRD					**Sb**	**06 26 50.0**	**+0.3**
SGL	**Mount Signal**	**1.08**	**81**		**Pg**	**06 26 37.4**	**-0.1**
CRY	**Cary Ranch**	**1.09**	**11**		**Pb**	**06 26 36.9**	**0.0**
CRY					**Sb**	**06 26 51.1**	**+0.3**
WESC	**Westside Schoo**	**1.09**	**76**		**Pg**	**06 26 38.1**	**+0.3**
SWSC	**Sam W. Stewart**	**1.10**	**65**		**Pg**	**06 26 37.8**	**-0.1**
SWSC					**Sg**	**06 26 52.3**	**0.0**
SWSC	**Sam W. Stewart**	**1.10**	**65**	P	**Pg**	**06 26 37.7**	**-0.2**
	baz=247,SNR=48						
SWSC				S	**Sn**	**06 26 51.7**	**-0.1**
	baz=247						
SNDA	**J Saunders Pla**	**1.10**	**17**		**Pn**	**06 26 37.5**	**+0.3**
SNDA					**Sn**	**06 26 51.9**	**-0.1**
DNR	**Dunn Ranch,Anz**	**1.11**	**16**		**Pn**	**06 26 37.7**	**+0.3**
BACC	**Bachelor Mtn.**	**1.12**	**358**		**Pn**	**06 26 37.0**	**-0.3**
BACC					**Sb**	**06 26 51.6**	**0.0**
MURC	**Murrieta**	**1.12**	**351**		**Pg**	**06 26 38.0**	**-0.2**
MURC	**Murrieta**	**1.12**	**351**	P	**Pn**	**06 26 37.1**	**-0.2**
	baz=170,SNR=31						
MURC				S	**Sb**	**06 26 51.8**	**+0.2**
	baz=170						
COK2	**Cook Ranch 2**	**1.12**	**71**		**Pg**	**06 26 38.6**	**+0.3**
SJX	**San Joaquin**	**1.14**	**129**	⇑*eP*	**Pn**	**06 26 35.7**	**-1.8**
SJX				*eS*	**Sb**	**06 26 48.6**	**-3.5**
SJX				⇓*e*		06 26 49.4	
SJX				IAML		06 26 49.4	
	comp=N,353nm,0.1s						
SJX				⇑*e*		06 26 49.5	
SJX				IAML		06 26 49.5	
	comp=E,430nm,0.1s						
DGR	**Domenigoni Val**	**1.15**	**359**		**Pn**	**06 26 37.6**	**-0.2**
DGR					**Sb**	**06 26 52.7**	**+0.1**
ERRC	**Elmore Ranch**	**1.16**	**57**		**Pg**	**06 26 39.2**	**+0.1**
ALAMX	**Rancho Alamar**	**1.19**	**114**	⇑*eP*	**Pb**	**06 26 38.7**	**+0.1**
ALAMX				*eS*	**Sb**	**06 26 53.9**	**+0.3**
ALAMX				⇓*e*		06 26 55.9	
ALAMX				IAML		06 26 55.9	
	comp=E,228nm,0.1s						
ALAMX				IAML		06 26 57.1	
	comp=N,241nm,0.2s						
ALAMX				⇑*e*		06 26 57.1	
POB	**Polly Butte**	**1.19**	**3**		**Pn**	**06 26 38.4**	**0.0**
PFO	**Pinyon Flats O**	**1.20**	**22**	Pn	**Pb**	**06 26 39.1**	**+0.3**
PFO				IAML		06 26 55.0	
	comp=N,126nm,0.2s						
PFO	**Pinyon Flats O**	**1.20**	**22**		**Pb**	**06 26 39.3**	**+0.5**
PFO					**Sn**	**06 26 54.8**	**+0.4**
PFO	**Pinyon Flats O**	**1.20**	**22**	P	**Pb**	**06 26 38.9**	**+0.1**
	baz=202,SNR=17						
PFO				S	**Sb**	**06 26 54.4**	**+0.3**
	baz=202						
XPFO	**Pion Flat**	**1.20**	**22**		**Pb**	**06 26 39.2**	**+0.4**
ELS	**Elsinore Mount**	**1.21**	**342**		**Pn**	**06 26 38.6**	**0.0**
ELS				IAML		06 26 56.7	
	comp=E,81nm,0.3s						
ELS	**Elsinore Mount**	**1.21**	**342**		**Sn**	**06 26 54.7**	**+0.2**
HMTC	**Hemet**	**1.21**	**359**		**Pn**	**06 26 38.5**	**-0.1**
HMTC					**Sb**	**06 26 54.1**	**-0.2**
PMD	**Palm Desert**	**1.26**	**24**		**Pb**	**06 26 40.2**	**+0.4**
PMD				IAML		06 26 57.3	
	comp=E,117nm,0.1s						
PMD				IAML		06 27 00.8	
	comp=N,82nm,0.6s						
WEMD	**Westmorland, C**	**1.31**	**65**		**Pg**	**06 26 42.4**	**+0.6**
SV2X	**San Vicente**	**1.32**	**151**	*eP*	**Pb**	**06 26 40.8**	**+0.1**
SCI2	**San Clemente I**	**1.40**	**291**	S	**Sb**	**06 26 59.7**	**+0.1**
	baz=109						
PEC	**Perris**	**1.40**	**354**		**Pb**	**06 26 42.0**	**-0.2**
RHX	**Rio Hardy**	**1.49**	**103**	*eP*	**Pb**	**06 26 43.3**	**-0.3**
CIAC	**Catalina I. Ai**	**1.50**	**308**		**Sn**	**06 27 01.6**	**0.0**
CIS	**Catalina Islan**	**1.50**	**308**	P	**Pn**	**06 26 42.7**	**+0.2**
	baz=126						
CIS				S	**Sn**	**06 27 01.5**	**-0.2**
	baz=126						
VTX	**Valle De La Tr**	**1.50**	**137**		**Pb**	**06 26 44.4**	**+0.5**
VTX					**Sb**	**06 27 03.4**	**+0.8**
VTX				IAML		06 27 03.5	
	comp=N,56nm,0.3s						
VTX				IAML		06 27 03.5	
	comp=E,72nm,0.3s						
CTW	**Cottonwood Mou**	**1.51**	**38**		**Pg**	**06 26 45.4**	**-0.3**
CTW					**Sg**	**06 27 04.7**	**-0.7**
BLAC	**Blackrock camp**	**1.65**	**18**		**Pb**	**06 26 46.6**	**+0.1**
BELC	**Belle Mtn. Jos**	**1.72**	**29**	Pb	**Pb**	**06 26 48.4**	**+0.7**
	baz=209						
BELC				Sb	**Sb**	**06 27 10.0**	**+1.0**
	baz=209						
RPV	**Rancho Palos V**	**1.72**	**317**		**Sn**	**06 27 07.4**	**+0.4**
BC3	**Big Chuckawall**	**1.73**	**48**	Sb	**Sb**	**06 27 10.1**	**+0.7**
	baz=229						
PSRC	**Puddingstone R**	**1.73**	**337**		**Pb**	**06 26 48.8**	**+0.9**
BBRC	**Big Bear Solar**	**1.77**	**2**		**Pb**	**06 26 49.2**	**+0.7**
BBRC	**Big Bear Solar**	**1.77**	**2**	Pb	**Pb**	**06 26 48.5**	**0.0**
	baz=182						
BBRC				Sb	**Sb**	**06 27 11.4**	**+1.0**
	baz=182						
TPC	**Twentynine Pal**	**1.79**	**26**		**Pb**	**06 26 49.8**	**+0.9**
PEM	**Pine Mountain**	**1.82**	**336**		**Pb**	**06 26 50.6**	**+1.3**
BFSC	**Mount Baldy Ra**	**1.83**	**342**	Pb	**Pb**	**06 26 49.4**	**-0.1**
	baz=161						
BFSC				Sb	**Sb**	**06 27 13.2**	**+1.0**
	baz=161						
GLA	**Glamis**	**1.91**	**72**		**Pn**	**06 26 49.5**	**+1.3**
GLA				IAML		06 27 15.8	
	comp=E,34nm,0.4s						
GLA	**Glamis**	**1.91**	**72**	P	**Pn**	**06 26 49.0**	**+0.8**
	baz=254						
GLA				Sb	**Sb**	**06 27 15.3**	**+1.1**
	baz=254						
ECBX	**El Chinero**	**1.94**	**121**	*eP*	**Pb**	**06 26 50.4**	**-0.9**
XTL	**Crystal Lake,**	**1.94**	**338**		**Pb**	**06 26 50.8**	**-0.7**
PASC	**Pasadena Art C**	**1.95**	**329**	Pn	**Pn**	**06 26 50.2**	**+1.5**
BLYC	**Blythe**	**2.42**	**58**	Pn	**Pn**	**06 26 56.3**	**+1.1**
EDW2	**Edwards Air Fo**	**2.52**	**341**	Pb	**Pb**	**06 26 59.3**	**-2.1**
	baz=160						
EDW2				Sb	**Sb**	**06 27 33.7**	**+1.6**
	baz=160						
113A	**Mohawk Valley,**	**2.73**	**83**	Pn	**Pn**	**06 27 00.7**	**+1.2**
WORM	**Onyx Ranch**	**3.36**	**342**		**Pb**	**06 27 12.4**	**-3.1**
ISA	**Isabella, Lake**	**3.39**	**339**		**Sg**	**06 28 06.2**	**+0.7**
QSM	**Queen of Sheba**	**3.46**	**2**		**Sg**	**06 28 06.3**	**-1.5**
V12A	**Nelson**	**3.68**	**28**		**Sg**	**06 28 12.3**	**-2.5**
SHPR	**Sheep Range**	**4.28**	**20**		**Sg**	**06 28 33.1**	**-0.9**

*MOS **15** 06:33:53.8±1.1, 49.°05N×155.°56E, h64km, mb4.7/9, Error ellipse: s-maj=9.1km s-min=3.4km az=71.2*
*KRSC **15** 06:33:56.2±2.0, 49.°27N×156.°69E, h15km±23km, Ml5.0*
*NEIC **15** 06:33:57.5±1.4, 49.°3N±0.°1×155.°2E±0.°1, h67km±9km, mb4.5/65, Error ellipse: s-maj=20.3km s-min=8.3km az=144.0*
*IDC **15** 06:33:58.9±2.3, 49.°40N×155.°08E, h88km±20km, mb3.8/22, mbtmp4.1/27, MS3.3/21, Error ellipse: s-maj=15.0km s-min=10.9km az=139.0*
ISC 15 06:33:54.3±0.4, 49.°14N±0.°05×155.°54E±0.°05, h51km, n229, σ2°11/227, mb4.4/74, MS3.6/14, 8C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.59**	**13**	⇑*iPN*	**Pn**	**06 34 20.1**	**+0.1**
SKR				*i* S	**Sn**	**06 34 38.0**	**-1.4**
SKR				pmax	pmax		
	comp=Z,1μm,0.6s						
SKR				smax	smax		
	comp=N,14μm,0.6s						
SKR				smax	smax		
	comp=E,7μm,0.6s						
SKR	**Severo-Kuril's**	**1.59**	**13**	*eP*	**Pn**	**06 34 20.5**	**+0.5**
SKR				*eS*	**Sn**	**06 34 39.5**	**+0.1**
PAU	**Pauzhetka**	**2.47**	**19**	PN	**Pn**	**06 34 34.4**	**+2.4**
PAU				S	**Sn**	**06 35 03.1**	**+2.2**
PAU	**Pauzhetka**	**2.47**	**19**	*eP*	**Pn**	**06 34 34.4**	**+2.4**
PAU				*eS*	**Sn**	**06 35 03.1**	**+2.2**
KDTR	**Khodutka, Kamc**	**3.13**	**30**	PN	**Pn**	**06 34 41.8**	**+0.8**
KDTR				S	**Sn**	**06 35 14.8**	**-2.3**
KDTR	**Khodutka, Kamc**	**3.13**	**30**	*eP*	**Pn**	**06 34 41.8**	**+0.8**
KDTR				*eS*	**Sn**	**06 35 14.8**	**-2.3**
ASAK	**Asacha**	**3.58**	**24**	PN	**Pn**	**06 34 49.6**	**+2.3**
ASAK	**Asacha**	**3.58**	**24**	*eP*	**Pn**	**06 34 49.6**	**+2.3**
MTVR	**Mutnovka**	**3.74**	**26**	PN	**Pn**	**06 34 52.1**	**+2.4**
MTVR				S	**Sn**	**06 35 31.2**	**-1.3**
MTVR	**Mutnovka**	**3.74**	**26**	*eP*	**Pn**	**06 34 52.1**	**+2.4**
MTVR				*eS*	**Sn**	**06 35 31.2**	**-1.3**
GRL	**Gorelyy**	**3.77**	**24**	PN	**Pn**	**06 34 52.4**	**+2.4**
GRL	**Gorelyy**	**3.77**	**24**	*eP*	**Pn**	**06 34 52.4**	**+2.4**
RUS	**Russkaya**	**3.80**	**29**	PN	**Pn**	**06 34 51.5**	**+1.3**
RUS				S	**Sn**	**06 35 33.3**	**-0.3**
RUS	**Russkaya**	**3.80**	**29**	*eP*	**Pn**	**06 34 51.5**	**+1.3**
RUS				*eS*	**Sn**	**06 35 33.3**	**-0.3**
APC	**Apacha**	**3.93**	**14**	PN	**Pn**	**06 34 54.8**	**+2.8**
APC	**Apacha**	**3.93**	**14**	*eP*	**Pn**	**06 34 54.8**	**+2.8**
KRMR	**Karymshinskiy**	**4.04**	**23**	PN	**Pn**	**06 34 56.5**	**+2.9**
KRMR				S	**

TUMR Tumrok 6.77 23 *e*P Pn 06 35 35.3 +4.2
ESO Esso 7.06 15 PN **Pn 06 35 38.5 +3.5**
ESO Esso 7.06 15 *e*P **Pn 06 35 38.5 +3.5**
KMNR Kamenistaya 7.22 22 PN Pn 06 35 41.5 +4.3
KMNR Kamenistaya 7.22 22 *e*P Pn 06 35 41.5 +4.3
KPT Kopyto 7.41 21 PN **Pn 06 35 43.7 +4.0**
KPT Kopyto 7.41 21 *e*P **Pn 06 35 43.7 +4.0**
BZWR Bezymyannyi-We 7.47 22 PN **Pn 06 35 44.5 +3.8**
BZWR Bezymyannyi-We 7.47 22 *e*P **Pn 06 35 44.5 +3.8**
SRDR Sredinnyy 7.62 18 PN Pn 06 35 47.1 +4.4
SRDR Sredinnyy 7.62 18 *e*P Pn 06 35 47.1 +4.4
CIRR Tsirk 7.67 22 PN **Pn 06 35 47.0 +3.6**
CIRR Tsirk 7.67 22 *e*P **Pn 06 35 47.0 +3.6**
SHO Shikotan 7.99 232 *e*PN **Pn 06 35 47.2 -0.5**
SHO pmax pmax
comp=Z,62nm,0.3s
SHO pmax pmax
comp=E,55nm,0.4s
SHO pmax pmax
comp=N,29nm,0.3s
SMKR Semkarok 8.27 23 PN **Pn 06 35 53.6 +2.0**
SMKR Semkarok 8.27 23 *e*P **Pn 06 35 53.6 +2.0**
KBTR Krutoberegovo 8.34 29 PN **Pn 06 35 53.7 +1.2**
KBTR Krutoberegovo 8.34 29 *e*P **Pn 06 35 53.7 +1.2**
YUK Yuzh-Kuril'sk 8.39 236 *e*PN **Pn 06 35 54.5 +1.3**
YUK pmax pmax
comp=Z,452nm,0.3s
YUK pmax pmax
comp=N,132nm,0.2s
YUK pmax pmax
comp=E,72nm,0.1s
TYV Tymovskoe 8.48 287 *e*PN Pn 06 35 58.6 +4.2
TYV *e*S **Sn 06 37 32.0 +3.5**
TYV pmax pmax
comp=Z,16nm,0.9s
TYV pmax pmax
comp=Z,100nm,3.1s
TYV smax smax
comp=N,14nm,1.5s
TYV smax smax
comp=E,16nm,1.5s
TYV smax smax
comp=N,200nm,4.4s
RUSJ Misakicho 8.69 238 *e*PN **Pn 06 35 59.4 +2.2**
RUSJ *e*S **Sn 06 37 35.2 +1.5**
BKI Bering 8.82 43 *e*S **Sn 06 37 30.0 -7.0**
YSS Yuzh-Sakhalins 8.84 261 **Pn 06 36 00.1 +0.8**
YSS Yuzh-Sakhalins 8.84 261⇓ *i*PN **Pn 06 36 02.8 +3.5**
YSS pmax pmax
comp=Z,40nm,0.6s
YSS MLR MLR
comp=Z,300nm,12.0s
UGL Uglegorsk 8.84 275 *e*PN **Pn 06 36 03.0 +3.7**
UGL pmax pmax
comp=Z,100nm,0.8s
NMR Nemuro--Hokkai 8.91 233 *e*PN **Pn 06 35 58.9 -1.4**
JKA Kamikawa-asahi 10.22 245 Pn **Pn 06 36 19.8 +1.6**
ASAJ Asahikawa 10.22 245 PN **Pn 06 36 19.8 +1.6**
ASAJ Asahikawa 10.22 245 P **Pn 06 36 21.5 +3.3**
comp=Z,61nm,0.8s,baz=69,slow=15,SNR=37
ASAJ LR LR 06 39 44.9
comp=Z,129nm,21.7s,baz=9.5,slow=34
MA2 Magadan 10.82 347 LR LR 06 41 01.5
comp=Z,86nm,18.0s,baz=181,slow=40
ERM Erimo 11.22 235 **Pn 06 36 31.9 0.0**
ERM Erimo 11.22 235 *ce*PN **Pn 06 36 32.8 +1.0**
SHEM Shemya Is, Ala 12.24 66 P **Pn 06 36 46.3 +0.6**
comp=Z,75nm,0.5s,baz=110,slow=3.0,SNR=16
SHEM S **Sn 06 38 53.8 -6.7**
comp=Z,73nm,1.0s,baz=330,slow=19,SNR=1.9
SHEM LR LR 06 41 09.3
comp=Z,58nm,21.7s,baz=287,slow=35
SMY Shemya 12.24 66 Pn **Pn 06 36 46.9 +1.2**
SMY Shemya 12.24 66 PN **Pn 06 36 46.9 +1.2**
SEY Seymchan 13.94 354⇑ *e*P **Pn 06 37 10.9 +2.1**
SEY pmax pmax
comp=Z,11nm,1.5s
SEY Seymchan 13.94 354 P **Pn 06 37 10.2 +1.5**
comp=Z,3.0nm,0.7s,baz=166,slow=11,SNR=4.5
SEY LR LR 06 42 53.6
comp=Z,55nm,19.6s,baz=189,slow=39
KLR Kul'dur 15.54 279 P **P 06 37 32.4 -1.0**
comp=Z,2.9nm,0.6s,baz=98,slow=14,SNR=4.0
KLR LR LR 06 43 23.7
comp=Z,162nm,19.1s,baz=360,slow=37
JSD Sado 16.69 235 Pn **P 06 37 44.9 -1.2**
JSD IAmb IAmb 06 37 48.1
comp=Z,35nm,0.9s
USA0B Ussuriysk Arra 16.88 262⇑ *e*P **P 06 37 47.5 -0.7**
USRK Ussuriysk Ar. 16.88 262 P **P 06 37 47.4 -0.8**
USRK Ussuriysk Ar. 16.88 262 P **P 06 37 48.1 -0.1**
comp=Z,7.0nm,0.8s,baz=57,slow=14,SNR=6.7
MJAR Matsushiro Arr 17.84 232 P **P 06 37 59.0 +0.1**
MJAR Matsushiro Arr 17.84 232 P **P 06 37 59.0 +0.1**
comp=Z,2.9nm,0.6s,baz=17,slow=12,SNR=11
MJAR LR LR 06 44 29.4
comp=Z,92nm,18.6s,baz=13,slow=36
MJB9 Matsu-Tunnel 17.84 232 P **P 06 37 59.0 +0.2**
MAJO Matsushiro 17.84 232 P **P 06 37 58.4 -0.5**
MAJO Matsushiro 17.84 232 P **P 06 37 58.4 -0.5**
MAJO pmax pmax
comp=Z,11nm,0.7s
HEH HeiHe 18.19 284 *e*P **Pn 06 38 03.3 +0.4**
HEH pmax pmax
comp=Z,25nm,0.9s
MDJ Mudanjiang 18.27 265 P **Pn 06 38 05.1 +1.2**
MDJ pmax pmax
comp=Z,7.0nm,0.8s
MDJ pmax pmax
comp=Z,330nm,6.5s
YAK Yakutsk 19.32 322 *e*P **Pn 06 38 15.7 -0.7**
YAK *e*S **Sn 06 41 50.7 -1.3**
YAK pmax pmax
comp=Z,19nm,1.4s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.6s
YAK smax smax
comp=E,144nm,4.8s
YAK smax smax
comp=N,53nm,4.3s
INU Inuyama 19.37 232 **Pn 06 38 16.3 -0.8**
KSRS Korea Array 23.11 250 P **P 06 38 55.3 -0.4**
comp=N,3.2nm,0.6s,baz=47,slow=9.8,SNR=12
KSRS LR LR 06 47 06.7
comp=N,65nm,19.3s,baz=170,slow=34
comp=N,3.2nm,0.6s
JNU Nakatsue 24.36 238 P **P 06 39 07.0 -0.4**
JNU Nakatsue 24.36 238 LR LR 06 49 12.0
comp=N,46nm,19.5s,baz=36,slow=38
TIXI Tiksi 25.69 341 P **P 06 39 16.9 -2.1**
TIXI Tiksi 25.69 341⇓ *e*P **P 06 39 16.7 -2.3**
TIXI pmax pmax
comp=Z,27nm,3.3s
N18K Kilae Creek 29.50 49 P **P 06 39 54.7 +1.4**
N18K IAmb IAmb 06 40 03.0
comp=Z,16nm,1.4s
J20K Nowinta River 30.50 42 P **P 06 40 03.6 +1.5**
H11N2 WAKE ISLAND Hy 30.73 159 T T 07 12 28.0
baz=345,slow=76,SNR=85
H11N1 WAKE ISLAND Hy 30.74 159 T T 07 12 27.7
baz=345,slow=76,SNR=128
H11N3 WAKE ISLAND Hy 30.74 159 T T 07 12 32.5
baz=345,slow=76,SNR=104
M20K Styx River 30.85 46 P **P 06 40 06.9 +1.6**
M20K IAmb IAmb 06 40 11.1
comp=Z,10nm,1.5s
IMAR Indian Mountai 30.88 38 P **P 06 40 06.2 +0.8**
H21K Melozitna Rive 31.22 39 P **P 06 40 09.7 +1.3**
H21K IAmb IAmb 06 40 34.9
comp=Z,10nm,1.5s
CAST Castle Rocks 31.36 43 P **P 06 40 11.9 +2.1**
ULN Ulaanbaatar 31.72 286 P **P 06 40 11.8 -1.4**
ULN Ulaanbaatar 31.72 286 P **P 06 40 11.8 -1.4**
ULN pmax pmax
comp=Z,4.0nm,1.3s
HHC Hu-ho-hao-te 31.80 272 *e*P **P 06 40 15.5 +1.6**
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,310nm,4.8s
H11S1 WAKE ISLAND Hy 31.86 160 T T 07 13 54.8
baz=345,slow=76,SNR=1570
H11S3 WAKE ISLAND Hy 31.87 160 T T 07 13 55.6
baz=345,slow=76,SNR=2050
H11S2 WAKE ISLAND Hy 31.88 160 T T 07 13 54.3
baz=345,slow=76,SNR=1057
SONM Songino Array 32.14 287 PcP **PcP 06 43 03.5 -1.2**
comp=Z,0.5nm,0.6s,baz=62,slow=3.9,SNR=2.2
NJ2 Nanjing 32.28 252 *e*P **P 06 40 18.8 +0.8**
NJ2 pP **sP 06 40 33.4 -3.6**
NJ2 sP pP 06 40 41.3 +10
NJ2 pmax pmax
comp=Z,29nm,0.6s
NJ2 pmax pmax
comp=Z,2μm,4.2s
H23K Yukon River 32.58 39 IAmb IAmb 06 40 23.4
comp=Z,9.3nm,1.2s
TOLK Toolik Lake Re 32.85 34 P **P 06 40 23.6 +0.9**
TOLK IAmb IAmb 06 40 24.5
comp=Z,5.5nm,0.6s
MDM Murphy Dome 33.09 40 P **P 06 40 27.0 +2.1**
MDM IAmb IAmb 06 40 27.6
comp=Z,4.5nm,0.8s
SML Sawmill 33.12 46 P **P 06 40 26.5 +1.3**
COLA College 33.25 41 P **P 06 40 27.3 +1.1**
COLA College 33.25 41 P **P 06 40 27.3 +1.1**
COLA pmax pmax
comp=Z,9.0nm,0.7s
CCB Clear Creek Bu 33.27 41 P **P 06 40 28.1 +1.7**
CCB IAmb IAmb 06 40 31.5
comp=Z,6.2nm,1.1s
POKR Poker Plat Res 33.43 40 IAmb IAmb 06 40 30.8
comp=Z,6.9nm,0.8s
ILAR Eielson Array 33.67 41 P **P 06 40 30.2 +0.4**
comp=Z,1.4nm,0.8s,baz=255,slow=4.7,SNR=16
comp=Z,1.4nm,0.8s
D25K Kavik River 34.08 33 P **P 06 40 34.5 +1.0**
PRP Porcupine Dome 34.23 39 P **P 06 40 35.0 +0.1**
PRP IAmb IAmb 06 40 37.8
comp=Z,9.1nm,1.1s
J25K Salcha River, 34.32 41 P **P 06 40 35.7 +0.1**
J25K IAmb IAmb 06 40 59.6
comp=Z,7.8nm,1.4s
BMAR Burnt Mountain 34.62 36 P **P 06 40 39.7 +1.6**
K27K Chicken 35.79 42 IAmb IAmb 06 40 50.5
comp=Z,9.0nm,1.2s
L27K Beaver Creek, 36.02 43 IAmb IAmb 06 41 06.9
comp=Z,6.0nm,1.0s
BCAR Beaver Creek A 36.03 43 P **P 06 40 52.3 +2.0**
F28M Old Crow 36.43 36 P **P 06 40 55.5 +1.9**
F28M IAmb IAmb 06 40 57.5
comp=Z,6.2nm,1.1s
I28M Miner Creek 36.57 39 P **P 06 40 56.4 +1.5**
I29M Ogilvie Camp, 37.25 39 IAmb IAmb 06 41 02.9
comp=Z,9.0nm,1.1s
I30M Mount Dempster 38.08 39 P **P 06 41 08.9 +1.3**
I30M IAmb IAmb 06 41 12.2
comp=Z,3.8nm,0.7s
ZALV Zalesovo Beam 42.57 304 P **P 06 41 42.6 -2.1**
comp=Z,0.5nm,0.3s,baz=75,slow=7.6,SNR=2.1
ZALV PcP **PcP 06 43 35.9 -0.4**
comp=Z,1.5nm,0.6s,baz=98,slow=3.0,SNR=4.6
comp=Z,0.5nm,0.3s
DGZ Jazzator, Alta 42.90 298⇑ *e*P **P 06 41 46.9 -0.8**
DGZ pmax pmax
comp=Z,6.0nm,2.2s
WMQ Urumqi 45.60 290 *e*P **P 06 42 10.1 +0.8**
EUNU Eureka 46.45 12 P **P 06 42 15.8 +0.3**
EUNU IAmb IAmb 06 42 16.3
comp=Z,4.8nm,0.6s
PZH PanZhiHua 46.98 262 P **P 06 42 21.1 +0.8**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,1μm,5.3s
MK31 Makanchi Array 47.31 296 P **P 06 42 22.1 -0.5**
MK31 Makanchi Array 47.31 296⇑ *i*P **P 06 42 21.9 -0.7**
MKAR Makanchi Array 47.31 296 P **P 06 42 21.4 -1.2**
MKAR Makanchi Array 47.31 296 *i*P **P 06 42 21.7 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.31 296 P **P 06 42 20.4 -2.2**
comp=Z,0.9nm,0.6s,baz=72,slow=7.9,SNR=9.2
MKAR PcP **PcP 06 43 52.0 -0.8**
comp=Z,0.2nm,0.3s,baz=57,slow=5.3,SNR=2.6
comp=Z,0.9nm,0.6s
KURK Kurchatov 47.42 303⇓ *e*P **P 06 42 22.1 -1.2**
KURK pmax pmax
comp=Z,11nm,2.2s
KURBB Kurchatov Arra 47.52 303 P **P 06 42 20.5 -3.5**
comp=Z,1.1nm,0.7s,baz=68,slow=8.4,SNR=7.9
KURBB PcP **PcP 06 43 52.9 -0.5**
comp=Z,2.2nm,0.8s,baz=64,slow=3.4,SNR=9.9
KURBB LR LR 07 02 40.0
comp=Z,59nm,18.8s,baz=184,slow=36
comp=Z,1.1nm,0.7s
BVAR Borovoye Array 50.61 309 P **P 06 42 45.5 -2.3**
comp=Z,0.9nm,0.4s,baz=59,slow=9.1,SNR=4.3
BVAR PcP **PcP 06 44 04.2 -0.4**
comp=Z,1.3nm,0.4s,baz=67,slow=3.9,SNR=5.1
BVAR LR LR 07 05 32.0
comp=Z,71nm,20.9s,baz=24,slow=38
comp=Z,0.9nm,0.4s
BRVK Borovoye 50.65 309⇑ *e*P **P 06 42 46.6 -1.4**
C09A Chrisman Ranch 54.10 56 P **P 06 43 14.2 +0.6**
C09A IAmb IAmb 06 43 31.8
comp=Z,9.0nm,1.5s
CHTO Chiang Mai 54.25 257 P **P 06 43 15.6 +0.5**
CHTO Chiang Mai 54.25 257 P **P 06 43 15.6 +0.5**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
ARU Arti 54.36 317 *d i*P **P 06 43 13.5 -1.8**
ARU 06 44 14.2
ARU S **S 06 50 47.9 -1.5**
ARU SS **SS 06 54 27.7 -3.6**
ARU pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 54.36 317 LR LR 07 08 31.4
comp=Z,74nm,18.1s,baz=104,slow=38
CMAR Chiang Mai Arr 54.51 257 P **P 06 43 17.6 +0.7**
comp=Z,3.9nm,0.8s,baz=29,slow=7.3,SNR=16
comp=Z,3.9nm,0.8s
YBH Yreka Blue Hor 55.21 64 LR LR 07 06 36.1
comp=Z,10.0nm,18.1s,baz=12,slow=35
ARCES ARCESS Array B 56.12 341 P **P 06 43 25.1 -2.8**
comp=Z,3.1nm,1.0s,baz=50,slow=7.4,SNR=1.3
comp=Z,3.1nm,1.0s
PLID Pearl Lake 56.99 58 P **P 06 43 37.0 +2.2**
PLID IAmb IAmb 06 43 37.6
comp=Z,3.9nm,0.7s
ABKAR Akbulak array 58.15 310 P **P 06 43 41.2 -1.2**
ABKAR IAmb IAmb 06 44 05.0
comp=Z,4.1nm,1.4s
SUMG Summit 58.19 5 P **P 06 43 42.7 -0.2**
SUMG Summit 58.19 5 P **P 06 43 42.7 -0.2**
SUMG pmax pmax
comp=Z,19nm,1.4s
SUMG Summit 58.19 5 *i* P **P 06 43 41.0 -1.9**
HLID Hailey 58.84 58 P **P 06 43 49.7 +2.1**
BCYI Bear Canyon 58.92 57 P **P 06 43 49.6 +1.4**
KVN Kaiserville 59.63 64 P **P 06 43 55.6 +2.5**
KVN IAmb IAmb 06 44 10.7
comp=Z,6.6nm,1.4s
KVN Kaiserville 59.63 64 P **P 06 43 55.6 +2.5**
KVN pmax pmax
comp=Z,7.0nm,1.4s
NVAR Mina Array Bea 59.91 65 P **P 06 43 57.1 +2.0**
comp=Z,1.1nm,0.7s,baz=298,slow=7.4,SNR=11
comp=Z,1.1nm,0.7s
ID08 Devils Gate 60.70 57 IAmb IAmb 06 44 04.1
comp=Z,3.7nm,1.0s
TPAW Teton Pass 60.80 56 P **P 06 44 03.9 +2.7**
TPAW IAmb IAmb 06 44 05.1
comp=Z,2.9nm,0.8s
DSP Deep Springs 60.80 66 IAmb IAmb 06 44 04.6
comp=Z,4.9nm,1.2s
SPR3 Spring Creek 3 61.87 62 P **P 06 44 11.4 +2.9**
SPR3 IAmb IAmb 06 44 12.2
comp=Z,2.8nm,0.9s
DUG Dugway, Tooele 61.94 60 IAmb IAmb 06 44 12.1
comp=Z,4.5nm,1.1s
PDAR Pinedale Array 62.04 56 P **P 06 44 11.3 +1.8**
comp=Z,3.0nm,0.9s,baz=328,slow=1.9,SNR=22
comp=Z,3.0nm,0.9s
NLU North Lily Min 62.52 60 P **P 06 44 14.5 +1.7**
NLU IAmb IAmb 06 44 15.9
comp=Z,3.0nm,1.0s
FINES FINESS Array B 62.56 335 P **P 06 44 10.2 -2.2**
comp=Z,1.7nm,0.4s,baz=42,slow=8.0,SNR=24
FINES LR LR 07 14 48.6
comp=Z,71nm,18.3s,baz=14,slow=39
comp=Z,1.7nm,0.4s
TMUT Trail Mountain 63.46 60 IAmb IAmb 06 44 22.2
comp=Z,3.5nm,1.0s
HMU Henry Mountain 64.66 61 IAmb IAmb 06 44 29.8
comp=Z,4.6nm,0.9s
ISCO Idaho Springs 66.23 56 IAmb IAmb 06 44 40.4
comp=Z,3.8nm,0.9s
NOA NORSAR Array B 66.47 342 P **P 06 44 35.5 -2.5**
comp=Z,0.7nm,0.7s,baz=26,slow=6.6,SNR=7.2
comp=Z,0.7nm,0.7s
HFS Hagfors 66.77 340 P **P 06 44 37.5 -2.3**
comp=Z,0.8nm,0.3s,baz=52,slow=4.0,SNR=8.9
comp=Z,0.8nm,0.3s
CTA Charters Tower 69.41 189 LR LR 07 16 03.8
comp=Z,9.1nm,18.0s,baz=80,slow=36
AKASG Malin Array Be 70.45 327 P **P 06 45 00.0 -2.9**
AKASG Malin Array Be 70.45 327 P **P 06 44 60.0 -2.9**
comp=Z,0.3nm,0.3s,baz=30,slow=6.2,SNR=3.7
AKASG LR LR 07 20 43.5
comp=Z,45nm,18.1s,baz=288,slow=40
comp=Z,0.3nm,0.3s
SCHQ Schefferville 70.46 24 P **P 06 45 03.1 +0.1**
comp=Z,3.4nm,0.5s,baz=357,slow=7.3,SNR=10
comp=Z,3.4nm,0.5s
WRA Warramunga Arr 71.32 201 P **P 06 45 08.5 +0.1**
comp=Z,1.2nm,0.6s,baz=17,slow=6.3,SNR=12
comp=Z,1.2nm,0.6s
EKA Eskdalemuir Ar 74.38 348 P **P 06 45 24.1 -2.1**
comp=Z,0.6nm,0.3s,baz=19,slow=5.1,SNR=8.7
comp=Z,0.6nm,0.3s
TX32 Lajitas Array 74.92 63 IAmb IAmb 06 45 32.6
comp=Z,5.1nm,1.1s
TXAR Lajitas Array 74.92 63 P **P 06 45 31.6 +1.7**
comp=Z,2.2nm,0.9s,baz=299,slow=4.7,SNR=23
comp=Z,2.2nm,0.9s
CLL Collm 74.94 337 *e*P **P 06 45 29.0 -0.5**
CLL Collm 74.94 337 *e*P **P 06 45 29.0 -0.5**
ASAR Alice Springs 75.01 200 P **P 06 45 31.2 +1.1**
comp=Z,1.3nm,0.7s,baz=12,slow=5.6,SNR=18
ASAR LR LR 07 23 29.4
comp=Z,6.5nm,18.0s,baz=42,slow=40
comp=Z,1.3nm,0.7s
VRAC Vranov 75.76 334 LR LR 07 21 54.3
comp=Z,58nm,20.0s,baz=356,slow=38
GERES GERESS Array B 76.99 335 P **P 06 45 40.6 -0.8**
comp=Z,0.8nm,0.4s,baz=36,slow=5.6,SNR=6.3
GERES LR LR 07 23 51.5
comp=Z,54nm,19.2s,baz=5.5,slow=39
comp=Z,0.8nm,0.4s
CONA Conrad Observa 77.21 333 *e*P **P 06 45 42.1 -0.5**
comp=Z,0.8nm,0.5s
RONA Rosalia, Austr 77.29 333 *e*P **P 06 45 42.1 -0.9**
comp=Z,1.5nm,0.9s
LESA Schwarzleotal 78.57 335 *i* P **P 06 45 50.0 -0.2**
comp=Z,2.2nm,0.5s
SOKA Soboth 78.58 333 *i* P **P 06 45 49.7 -0.6**
comp=Z,1.6nm,0.7s
KBA Koelnbreinsper 78.70 335 *i* P **P 06 45 51.2 +0.1**
comp=Z,6.5nm,0.5s
BFO Black Forest 78.86 338 *i* P **P 06 45 48.9 -2.8**
OBKA Obir 78.88 334 *i* P **P 06 45 51.4 -0.5**
comp=Z,1.7nm,0.5s
WATA Walderalm 78.95 336 *e*P **P 06 45 52.2 -0.1**
comp=Z,1.7nm,0.5s
WTTA Wattenberg 79.00 336 *e*P **P 06 45 52.3 -0.4**
comp=Z,3.6nm,0.8s
MOTA Moosalm 79.07 336 *i* P **P 06 45 52.9 -0.1**
comp=Z,7.5nm,1.2s
PRED Cave del Predi 79.22 334 P **P 06 45 52.9 -0.9**
PRED IAmb IAmb 06 45 53.2
comp=Z,4.1nm,0.6s
ABTA Abfaltersbach 79.24 335 *e*P **P 06 45 53.5 -0.3**
comp=Z,2.2nm,0.7s
FETA Feichten 79.47 336 *i* P **P 06 45 55.0 -0.2**
comp=Z,2.0nm,0.7s
DAVOX Davos/Dischmat 79.91 337 LR LR 07 27 50.4
comp=Z,45nm,18.9s,baz=1.0,slow=41
FUORN Ofenpass-Fuorn 79.96 337 P **P 06 45 58.0 0.0**
TUE Stuetta 80.33 337 P **P 06 45 59.9 -0.1**
TUE IAmb IAmb 06 46 00.6
comp=Z,6.4nm,0.9s
MMAI Mount Meron Ar 82.42 313 P **P 06 46 09.8 -1.2**
comp=Z,4.3nm,0.6s,baz=14,slow=7.7,SNR=5.3
comp=Z,4.3nm,0.6s
EIL Elat 85.38 311 LR LR 07 27 55.0
comp=Z,15nm,19.5s,baz=66,slow=38
ESDC Sonseca Array 89.73 344 P **P 06 46 45.1 -1.8**
comp=Z,0.7nm,0.7s,baz=7.2,slow=3.3,SNR=8.9
comp=Z,0.7nm,0.7s
H03N2 Juan Fernandez 137.12 89 T T 09 26 23.8
baz=311,slow=77,SNR=37
H03N1 Juan Fernandez 137.13 89 T T 09 26 23.2
baz=311,slow=77,SNR=52
H03N3 Juan Fernandez 137.13 89 T T 09 26 22.5
baz=311,slow=77,SNR=39
PLCA Paso Flores 146.75 93 PKPbc **PKPbc 06 53 30.8 +0.6**
comp=Z,1.3nm,0.7s,baz=291,slow=5.2,SNR=5.4
ELIB Princess Elisa 148.66 206 *d*PKPdf **PKPbc 06 53 34.4 0.0**
ELIB *dp*PKPdf **sPKPdf 06 53 50.5 -0.8**
SNAA Sanae 155.31 196 PKPbc PKPdf 06 53 48.5 +8.1
comp=Z,0.8nm,0.9s,baz=202,slow=1.8,SNR=2.8
SNAA PKPab pPKPbc 06 54 05.0 +0.3
comp=Z,1.7nm,0.8s,baz=198,slow=7.8,SNR=10.0

NEIC ***15*** *06:36:20.4±1.0, 19°.413N±0°.007×155°.312W±0°.007, h9km±2km, Error ellipse: s-maj=1.0km s-min=0.9km az=162.0*

HVO 15 06:36:20.2±0.7, 19°.431N±0°.008×155°.305W±0°.007, h6km±1km, ML3.6/36, ML3.6/48(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=174.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.01**	**130**	Pg	Pg	06 36 21.8	+0.2
UWE					Sg	06 36 22.9	+0.4
OBL	**Observatory Le**	**0.02**	**123**		Pg	06 36 21.9	+0.2
WRMHI	**West Rim**	**0.03**	**168**		Sg	06 36 22.8	+0.2
UWB	**Uwekahuna B**	**0.03**	**103**		Pg	06 36 21.8	+0.2
UWB				IAML		06 36 23.1	
	comp=N,36μm,0.5s						
UWB				IAML		06 36 23.2	
	comp=E,32μm,0.1s						
NPH	**North Pit**	**0.03**	**129**	Pg	Pg	06 36 21.8	+0.2
NPH					Sg	06 36 22.8	+0.1
NPH				IAML		06 36 23.0	
	comp=E,68μm,0.2s						
SBLHI	**Steaming Bluff**	**0.04**	**96**	Pg	Pg	06 36 21.9	+0.2
SBLHI				IAML		06 36 23.4	
	comp=N,55μm,0.4s						
SBLHI				IAML		06 36 23.6	
	comp=E,61μm,0.3s						
SDHHI	**Sand Hill**	**0.04**	**165**		Pg	06 36 22.0	+0.2
SDHHI				IAML		06 36 23.4	
	comp=E,73μm,0.4s						
HATHI	**Halema'uma'u T**	**0.04**	**101**		Pg	06 36 22.0	+0.2
HATHI				IAML		06 36 23.5	
	comp=E,51μm,0.3s						
HATHI				IAML		06 36 23.8	
	comp=N,40μm,0.2s						
RIM	**Rim**	**0.05**	**140**		Pg	06 36 22.1	+0.3
RIM				IAML		06 36 23.7	
	comp=E,74μm,0.4s						
RIM				IAML		06 36 23.9	
	comp=N,40μm,0.3s						
BYL	**Byron's Ledge**	**0.05**	**114**		Pg	06 36 22.1	+0.3
KKO	**Keanakako`i**	**0.05**	**131**		Pg	06 36 22.4	+0.5
KKO				IAML		06 36 24.1	
	comp=E,38μm,0.4s						
KKO				IAML		06 36 24.2	
	comp=N,49μm,0.5s						
PUH	**Pauahi**	**0.10**	**124**		Pg	06 36 22.9	+0.3
HLP	**Hilina Pali**	**0.13**	**181**		Pg	06 36 23.5	+0.5
HLP					Sg	06 36 23.6	-1.4
HLP				IAML		06 36 26.2	
	comp=N,16μm,0.6s						
HLP				IAML		06 36 26.4	
	comp=E,14μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.14**	**112**		Pg	06 36 23.6	+0.4
AIN	**Ainahou**	**0.16**	**248**		Pg	06 36 24.3	+0.8
AIN					Sg	06 36 27.1	+1.4
STCH	**Steam Cracks**	**0.18**	**105**		Pg	06 36 24.2	+0.3
STCH					Sg	06 36 27.1	+0.8
NPOC	**North of Pu'u**	**0.19**	**101**		Pg	06 36 24.4	+0.4
NPOC					Sg	06 36 27.4	+0.7

JCUZ	Jacuzzi	0.20	104		Pg	06 36 24.5	+0.3
JCUZ					Sg	06 36 27.6	+0.7
HTC	Hot Caves	0.21	204		Pg	06 36 24.8	+0.3
HMH	Humu'ula Sheep	0.24	316		Pg	06 36 25.5	+0.5
HMH					Sg	06 36 29.3	+0.9
HMH				IAML		06 36 32.8	
	comp=N,15μm,0.3s						
MLOA	Mauna Loa Obse	0.28	292		Pg	06 36 26.0	+0.2
MLOA					Sg	06 36 30.1	+0.6
MLOA				IAML		06 36 32.9	
	comp=E,9μm,0.4s						
MLOA				IAML		06 36 34.6	
	comp=N,13μm,0.4s						
MWH	Moku'aweowe	0.28	281		Pg	06 36 26.1	+0.1
MWH				IAML		06 36 34.8	
	comp=N,9μm,0.4s						
MWH				IAML		06 36 35.4	
	comp=E,9μm,0.6s						
JOKA	Jonika Flow	0.28	89		Pg	06 36 25.8	-0.1
JOKA					Sg	06 36 30.0	+0.4
ALEP	Alea Permanent	0.34	289		Pg	06 36 26.9	-0.1
ALEP					Sg	06 36 31.9	+0.4
KHU	Kahuku	0.34	238	Pg	Pg	06 36 27.0	-0.1
KHU					Sg	06 36 32.0	+0.3
KHU				IAML		06 36 32.3	
	comp=E,12μm,0.2s						
KHU				IAML		06 36 32.6	
	comp=N,5μm,0.1s						
POHA	Pohakuloa	0.39	327	Pg	Pg	06 36 27.6	-0.3
POHA	Pohakuloa	0.39	327		Sg	06 36 34.4	+1.4
POHA	Pohakuloa	0.39	327	IAML		06 36 34.5	
	comp=N,7μm,0.3s						
POHA				IAML		06 36 41.2	
	comp=N,15μm,0.5s						
PHO	Puu Honuaula	0.40	83		Pg	06 36 28.5	+0.6
HUH	Hualalai	0.56	297		Pg	06 36 31.3	+0.2
KHLU	Kahalu`u	0.58	286		Pg	06 36 31.0	-0.4
KHLU					Sg	06 36 39.0	0.0
KHLU				IAML		06 36 40.1	
	comp=N,5μm,0.3s						
KHLU				IAML		06 36 45.4	
	comp=E,3μm,0.3s						
CPH	Captain Cook	0.58	276		Pg	06 36 30.7	-0.7
HPAH	Hawaii Prepara	0.70	328		Pg	06 36 32.5	-1.3
KKH	Kailua Kona	0.71	289		Pg	06 36 32.5	-1.4
KKH					Sg	06 36 43.0	-0.1
MHA	Mahukona	0.94	323	Pg	Pg	06 36 36.2	-2.1

*IDC **15** 06:50:29.1±1.1,56.°21N×168.°56W,h0km,mb3.8/12, mbtmp3.8/15,ML3.7/3,MS2.9/5,Error ellipse: s-maj=28.3km s-min=15.3km az=3.0*
*AEIC **15** 06:50:30.7±1.6,56.°55N±0.°05×168.°4W±0.°1,h30km±8km, Error ellipse: s-maj=9.4km s-min=6.6km az=76.0*
*NEIC **15** 06:50:31.4±1.2,56.°52N±0.°05×168.°45W±0.°05,h17km±6km, mb3.7/3,ML4.2(AEIC),Error ellipse: s-maj=8.1km s-min=3.0km az=201.0*

ISC 15 06:50:31.5±0.6,56.°52N±0.°05×168.°41W±0.°05,h10km, n117,σ0$9$4/117,mb3.8/12,MS3.0/3,Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIA	Saint Paul Isl	1.20	304		Pn	06 50 53.7	-0.6
SPIA	Saint Paul Isl	1.20	304		Sn	06 51 10.1	-0.5
SPIA	Saint Paul Isl	1.20	304	P	Pn	06 50 53.8	-0.5
LVA	Lava Point	2.73	149		Pn	06 51 14.8	-0.5
LVA					Sn	06 51 48.6	+0.3
MTBL	Makushin Table	2.74	158		Pn	06 51 15.5	0.0
AKRB	Akutan Reef Bi	2.75	150		Pn	06 51 14.8	-0.8
AKRB					Sn	06 51 48.7	0.0
MSW	Makushin Switc	2.77	160		Pn	06 51 16.2	+0.2
MSW					Sn	06 51 50.2	+0.8
AKBBA	Akutan Broad B	2.81	149		Pn	06 51 15.5	-1.0
MNAT	Makushin Natee	2.82	159		Pn	06 51 16.1	-0.5
AKUT	Akutan	2.83	147		Pn	06 51 15.8	-0.8
AKUT	Akutan	2.83	147	P	Pn	06 51 16.0	-0.6
MAPS	Pakushin South	2.85	162		Pn	06 51 16.8	-0.1
WECS	Westdahl Cape	2.87	132		Pn	06 51 16.1	-1.1
WECS					Sn	06 51 53.2	+1.4
UNV	Unalaska Valle	2.90	157		Pn	06 51 16.7	-0.9
UNV	Unalaska Valle	2.90	157		Sn	06 51 53.0	+0.6
UNV	Unalaska Valle	2.90	157	P	Pn	06 51 17.1	-0.5
WESP	Westdahl Peak	2.92	133		Pn	06 51 16.4	-1.6
SSBA	Shishaldin	3.00	124		Pn	06 51 17.6	-1.4
OKER	Okmok East Rim	3.08	176		Pn	06 51 19.8	-0.4
OKER					Sn	06 51 58.1	+1.0
OKWR	Okmok West Rim	3.10	178		Pn	06 51 19.6	-0.8
ISNN	Isanotski Nort	3.12	121		Pn	06 51 20.3	-0.4
OKFG	Magazine Ridge	3.13	174		Pn	06 51 19.6	-1.2
OKFG					Sn	06 51 57.7	-0.5
ISLZ	Isanotski Laza	3.22	122		Pn	06 51 20.6	-1.4
FALS	False Pass	3.28	118		Pn	06 51 21.6	-1.3
NIKH	Nikolski High	3.57	184		Pn	06 51 25.5	-1.3
NIKH	Nikolski High	3.57	184	P	Pn	06 51 26.3	-0.5
PN7A	Pavlof North-7	3.77	104		Pn	06 51 28.9	-0.7
CLES	Cleveland East	3.80	194	Pn	Pn	06 51 28.1	-2.0
PS1A	Pavlof South-1	3.91	104		Pn	06 51 30.0	-1.4
M11K	Mekoryuk	4.05	16		Pn	06 51 32.5	-0.8
SDPT	Sand Point	4.62	101	Pn	Pn	06 51 40.0	-1.2
SDPT	Sand Point	4.62	101	P	Pn	06 51 39.8	-1.4
O14K	Tigyukauivet M	4.70	51		Pn	06 51 41.8	-0.5
N14K	Kuskokwak Cree	4.93	43		Pn	06 51 45.1	-0.3
VNFG	Fog Glacier, M	4.93	89		Pn	06 51 45.2	-0.4
VNWF	Veniaminof 8	4.94	91		Pn	06 51 45.0	-0.8
VNSS	Veniaminof 8	4.99	90		Pn	06 51 45.7	-0.8
CNBA	Chernabura Isl	5.28	105	Pn	Pn	06 51 50.3	+0.1
O15K	Ungalikthiuk R	5.30	56		Pn	06 51 48.7	-2.0
M14K	Bethel	5.42	36		Pn	06 51 52.5	+0.3
ATKA	Atka Island	5.49	220	P	Pn	06 51 54.2	+1.0
CHGN	Chignik	5.56	88		Pn	06 51 53.2	-0.9
L14K	Kuka Creek	5.67	29	Pn	Pn	06 51 56.0	+0.4
N15K	Kwethluk River	5.71	47	Pn	Pn	06 51 56.0	-0.2
M15K	Kasigluk River	5.81	41		Pn	06 51 55.8	-1.9
P16K	Nushagak River	6.12	61		Pn	06 52 00.4	-1.3
O16K	Kokwok River B	6.28	56		Pn	06 52 03.4	-0.7
GSTR	Great Sitkin T	6.30	228	Pn	Pn	06 52 02.4	-2.0
N16K	Nishlik Lake	6.42	48		Pn	06 52 04.4	-1.6
R17K	Ugashik Creek	6.65	75	Pn	Pn	06 52 08.6	-0.6
M16K	Timber Creek	6.67	44		Pn	06 52 09.4	+0.1
ADK	Adak	6.71	230	Pn	Pn	06 52 09.3	-0.7
K15K	Wolf Creek Mou	6.77	28		Pn	06 52 10.5	-0.2
O17K	Koliganek Bris	6.82	57		Pn	06 52 10.4	-1.0
P17K	Kvichak River	6.93	62		Pn	06 52 12.4	-0.5
L16K	Owhat River	6.94	38	Pn	Pn	06 52 12.6	-0.5
CNTC	Contact Creek	6.99	70		Pn	06 52 13.1	-0.8
N17K	Nushagak Hills	7.12	51		Pn	06 52 14.7	-0.8
ANCK	Angle Creek	7.19	71		Pn	06 52 15.7	-0.8
ACHA	Angle Creek He	7.28	71		Pn	06 52 16.9	-0.9
KAKN	Katmai Knife C	7.43	71		Pn	06 52 19.1	-0.8
M17K	Holitna River	7.49	45		Pn	06 52 19.6	-0.9
KAHC	Katmai Hardscr	7.51	68		Pn	06 52 20.4	-0.7
P18K	Big Mountain,	7.58	62	Pn	Pn	06 52 21.2	-0.7
L17K	Donlin	7.64	38		Pn	06 52 21.2	-1.4
KAHG	Katmai Hook Gl	7.73	69		Pn	06 52 23.5	-0.4
O18K	Koktuh Hills	7.74	59	Pn	Pn	06 52 24.7	+0.7
N18K	Kilae Creek	7.75	52		Pn	06 52 23.5	-0.8
K17K	Iditarod	8.05	35		Pn	06 52 28.9	+0.6
SVW2	Sparrevohn	8.08	50	Pn	Pn	06 52 28.4	-0.3
SVW2	Sparrevohn	8.08	50	P	Pn	06 52 27.8	-0.9
M18K	Stony River	8.18	47		Pn	06 52 28.7	-1.4
L18K	Granite Mounta	8.27	41		Pn	06 52 30.9	-0.4
N19K	Bonanza Creek	8.43	54		Pn	06 52 33.8	+0.1
KDAK	Kodiak Island	8.70	75	Pn	Pn	06 52 38.7	+1.5
KDAK	Kodiak Island	8.70	75	Pn	Pn	06 52 38.4	+1.3
	3.3nm,0.3s,baz=263,slow=5.3,SNR=17						
	7.1nm,0.3s						
L19K	White Mountain	8.94	45		Pn	06 52 40.2	-0.3
TTA	Tatalina	8.96	39	Pn	Pn	06 52 39.6	-1.2
TTA	Tatalina	8.96	39	P	Pn	06 52 42.1	+1.3
M20K	Styx River	9.49	49		Pn	06 52 48.3	+0.2
SKT	Skwentna	10.21	51		Pn	06 52 58.4	+0.5
SUA	Susitna One	10.36	54		Pn	06 53 00.8	+0.8
J20K	Nowinta River	10.41	37		Pn	06 52 59.7	-0.8
CAST	Castle Rocks	10.69	43		Pn	06 53 03.2	-1.2
SHEM	Shemya Is, Ala	10.82	257	LR	LR	06 56 48.3	
	comp=Z,31nm,18.6s,baz=73,slow=36						
BPAW	Bear Paw Mtn.	11.47	41		Pn	06 53 14.4	-0.7
I21K	Tanana	11.77	36		Pn	06 53 18.2	-1.0
NEA2	Nenana	12.44	42		Pn	06 53 27.5	-0.8
WRH	Wood River Hil	12.74	43		Pn	06 53 31.8	-0.6
ILAR	Eielson Array	13.34	43	Pn	Pn	06 53 41.9	+1.3
	0.1nm,0.3s,baz=244,slow=13,SNR=15						
ILAR				LR	LR	06 58 25.0	
	comp=Z,44nm,19.8s,baz=236,slow=35						
	1.8nm,0.8s						
H24K	Noodor Dome	13.54	38	Pn	Pn	06 53 42.6	-0.7
J25K	Salcha River,	13.85	45		Pn	06 53 46.9	-0.8
SCRK	Sand Creek	14.16	48	Pn	Pn	06 53 50.8	-1.2
E24K	Your Creek	14.73	30	Pn	Pn	06 53 58.7	-1.0
L27K	Beaver Creek,	14.81	53		Pn	06 54 00.9	+0.1
DAWY	Dawson	16.12	50	Pn	Pn	06 54 16.9	-1.0
DAWY				IAmb	IAmb	06 54 26.9	
	comp=Z,4.4nm,0.7s						
J30M	Hart River	17.54	50		Pn	06 54 34.6	-1.2
J30M				IAmb	IAmb	06 54 39.3	
	comp=Z,9.7nm,1.2s						
I30M	Mount Dempster	17.67	47		Pn	06 54 37.2	-0.2
I30M				IAmb	IAmb	06 54 49.2	
	comp=Z,6.7nm,1.3s						
INK	Inuvik	19.66	39	P	Pn	06 55 03.6	+2.3
	comp=Z,0.2nm,0.3s,baz=242,slow=2.4,SNR=5.1						
	comp=Z,3.0nm,0.9s						
SEY	Seymchan	20.51	304	P	Pn	06 55 12.8	+1.4
	comp=Z,2.2nm,0.8s,baz=172,slow=23,SNR=2.7						
DLBC	Dease Lake	20.54	69	P	Pn	06 55 11.7	-0.3
	comp=Z,2.2nm,0.9s,baz=211,slow=9.9,SNR=2.2						
	comp=Z,2.2nm,0.9s						
MA2	Magadan	21.57	295	LR	LR	07 04 55.4	
	comp=Z,12nm,18.4s,baz=104,slow=40						
NVAR	Mina Array Bea	37.40	97	P	P	06 57 44.8	+0.2
	comp=Z,0.8nm,0.6s,baz=311,slow=7.6,SNR=7.2						
	comp=Z,0.8nm,0.6s						
PDAR	Pinedale Array	39.27	85	P	P	06 57 59.5	-0.7
	comp=Z,0.4nm,0.8s,baz=301,slow=7.0,SNR=2.5						
	comp=Z,0.4nm,0.8s						
SONM	Songino Array	49.73	298	P	P	06 59 24.6	+1.0
	comp=Z,0.7nm,0.8s,baz=60,slow=6.8,SNR=2.5						
	comp=Z,0.7nm,0.8s						
HHC	Hu-ho-hao-te	52.03	289	*e*P	P	06 59 41.8	+0.8
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,900nm,4.8s						
SCHQ	Schefferville	52.08	46	P	P	06 59 41.9	+0.9
	comp=Z,3.9nm,0.8s,baz=255,slow=16,SNR=2.0						
	comp=Z,3.9nm,0.8s						
TXAR	Lajitas Array	52.25	93	P	P	06 59 42.0	-0.8
	comp=Z,0.6nm,0.9s,baz=330,slow=3.4,SNR=6.1						
	comp=Z,0.6nm,0.9s						
KURBB	Kurchatov Arra	59.77	317	P	P	07 00 37.1	+0.9
	comp=Z,0.9nm,0.9s,baz=32,slow=6.6,SNR=4.7						
	comp=Z,0.9nm,0.9s						
BVAR	Borovoye Array	60.66	324	P	P	07 00 43.2	+0.9
	comp=Z,2.1nm,0.8s,baz=56,slow=9.1,SNR=5.7						
	comp=Z,2.1nm,0.8s						
MKAR	Makanchi Array	61.38	312	P	P	07 00 47.2	0.0
	comp=Z,0.5nm,0.8s,baz=54,slow=7.3,SNR=3.2						
	comp=Z,0.5nm,0.8s						
WMQ	Urumqi	61.44	307	*e*P	P	07 00 47.9	+0.1
FINES	FINESS Array B	61.83	352	P	P	07 00 49.9	-0.1
	comp=Z,2.9nm,0.9s,baz=48,slow=2.8,SNR=6.8						
	comp=Z,2.9nm,0.9s						
AKASG	Malin Array Be	72.15	348	P	P	07 01 55.0	-0.7
	comp=Z,0.5nm,0.5s,baz=14,slow=5.9,SNR=2.2						
	comp=Z,0.5nm,0.5s						
SJG	San Juan	81.65	70	LR	LR	07 38 20.5	
	comp=Z,8.1nm,21.8s,baz=3.0,slow=35						
ASAR	Alice Springs	93.47	231	P	P	07 03 45.8	-1.2
	comp=Z,0.3nm,0.7s,baz=28,slow=4.2,SNR=2.3						
	comp=Z,0.3nm,0.7s						
STKA	Stephens Creek	97.72	221	LR	LR	07 51 16.6	
	comp=Z,24nm,18.7s,baz=24,slow=37						

*IDC **15** 06:59:48.3±4.6,36.°47N×71.°05E,h250km±44km,mb3.1/6, mbtmp3.8/12,Error ellipse: s-maj=34.9km s-min=19.8km az=27.0*
*NNC **15** 06:59:54.6±1.3,37.°08N×71.°04E,h262km±14km,mb2.4, mpv3.3,Error ellipse: s-maj=15.6km s-min=10.8km az=150.0*

ISC 15 06:59:48.9±1.1,36.°7N±0.°1×71.°0E±0.°1,h250km,n18, σ1$9$36/22,mb3.4/6,3C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.84	20	⇓P	Pn	07 01 16.4	+1.0
	0.2nm,0.3s						
AML				⇑S	S	07 02 22.4	-2.1
	25nm,0.6s						
KK31	Karatay Array	6.44	357	P	Pn	07 01 23.6	+1.2
	3.6nm,0.5s,baz=177,slow=12,SNR=55						
KK31				⇓S	S	07 02 33.8	-3.7
	2.5nm,0.4s,baz=179,slow=16,SNR=3.7						
AAK	Ala-Archa	6.54	23	P	Pn	07 01 25.5	+1.7
	8.6nm,0.4s,baz=199,slow=6.4,SNR=28						
AAK				S	S	07 02 39.9	-0.1
	14nm,0.7s,baz=142,slow=23,SNR=16						
TKM2	Tokmak 2	7.18	28	⇑P	Pn	07 01 32.8	+0.9
	2.3nm,0.5s						
TKM2				⇓S	S	07 02 52.9	-1.7
	6.9nm,0.8s						
MK31	Makanchi Array	13.15	36	⇓P	Pn	07 02 47.2	+0.6
	0.8nm,0.3s,baz=224,slow=14,SNR=8.9						
MKAR	Makanchi Array	13.15	36	P	Pn	07 02 47.1	+0.6
	1.9nm,0.6s,baz=227,slow=12,SNR=13						
KURBB	Kurchatov Arra	14.96	19	⇑P	P	07 03 08.4	+0.3
	2.4nm,0.5s						
KURBB	Kurchatov Arra	14.96	19	P	P	07 03 08.7	+0.6
	1.9nm,0.7s,baz=208,slow=11,SNR=10						
BVA0	Borovoye Array	16.37	359	⇓P	P	07 03 24.4	+1.0
	1.3nm,0.5s,baz=165,slow=8.8,SNR=9.3						
BVAR	Borovoye Array	16.37	359	P	Pn	07 03 25.5	+0.4
	1.9nm,0.4s,baz=159,slow=11,SNR=14						
AKTO	Aktyubinsk	16.64	330	P	Pn	07 03 28.4	+0.1
	2.9nm,0.5s,baz=132,slow=9.3,SNR=10						
ZALV	Zalesovo Beam	19.76	25	P	P	07 04 01.0	+0.9
	1.2nm,0.5s,baz=218,slow=11,SNR=4.3						
FINES	FINESS Array B	37.35	326	P	P	07 06 38.4	+1.1
	1.1nm,0.8s,baz=151,slow=13,SNR=3.4						
	1.1nm,0.8s						
ARCES	ARCESS Array B	41.00	338	P	P	07 07 07.9	+0.7
	2.6nm,0.9s,baz=111,slow=7.2,SNR=1.3						
	2.6nm,0.9s						
NOA	NORSAR Array B	44.26	323	P	P	07 07 33.8	+0.3
	0.9nm,0.9s,baz=100,slow=8.1,SNR=3.1						
	0.9nm,0.9s						
TORD	Torodi Ar. Bea	65.73	269	P	P	07 10 06.5	-0.7
	1.0nm,0.7s,baz=47,slow=6.4,SNR=7.8						
	1.0nm,0.7s						
WRA	Warramunga Arr	82.07	122	P	P	07 11 40.4	-1.2
	0.2nm,0.5s,baz=325,slow=4.9,SNR=5.7						
	0.2nm,0.5s						
ASAR	Alice Springs	84.34	125	P	P	07 11 52.0	-1.1
	0.3nm,0.6s,baz=302,slow=4.8,SNR=6.4						
	0.3nm,0.6s						

*NEIC **15** 07:04:43.0±0.5,19.°6N±0.°1×146.°2E±0.°2,h94km±14km, mb3.9/8,Error ellipse: s-maj=22.7km s-min=14.9km az=64.0*
*IDC **15** 07:04:44.4±3.5,19.°45N×146.°07E,h106km±32km, mb3.6/10,mbtmp3.9/12,MS3.3/2,Error ellipse: s-maj=46.2km s-min=15.2km az=86.0*

ISC 15 07:04:43.7±1.0,19.°51N±0.°06×146.°0E±0.°2,h100km,n27, σ0$9$89/23,mb3.9/14,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.99	191	Pn	Pn	07 06 10.9	+0.9
GUMO	Guam	5.99	191	P	Pn	07 06 11.6	+1.6
	18nm,0.3s,baz=315,slow=22,SNR=1.5						
GUMO				S	Sn	07 07 16.0	-1.3
	42nm,0.8s,baz=215,slow=22,SNR=1.7						
JCJ	Chichijima	8.34	336	Pn	Pn	07 06 40.2	-1.7
MJAR	Matsushiro Art	18.31	340	P	Pn	07 08 50.8	-0.3
	0.3nm,0.3s,baz=141,slow=16,SNR=2.1						
H11S3	WAKE ISLAND Hy	19.55	90	T	T	07 30 08.8	
	baz=275,slow=75,SNR=3.8						
H11S1	WAKE ISLAND Hy	19.56	90	T	T	07 30 10.9	
	baz=275,slow=75,SNR=4.0						
H11S2	WAKE ISLAND Hy	19.56	90	T	T	07 30 09.5	
	baz=275,slow=75,SNR=4.2						
KSRS	Korea Array	23.87	322	P	P	07 09 47.5	-0.4
	1.1nm,0.7s,baz=150,slow=8.0,SNR=3.6						
	1.1nm,0.7s						
KLR	Kul'dur	31.80	342	P	P	07 11 00.0	+1.4
	2.1nm,0.3s,baz=164,slow=7.4,SNR=7.3						
	2.1nm,0.3s						
MTN	Manton Dam	35.34	206	P	P	07 11 29.6	-0.1
MTN				IAmb	IAmb	07 11 47.8	
	comp=Z,1.9nm,0.9s						
KNRA	Kununurra	38.88	207	P	P	07 12 00.1	+0.6
CTAO	Charters Tower	39.35	180	P	P	07 12 01.9	-1.6
CTAO				IAmb	IAmb	07 12 23.4	
	comp=Z,2.5nm,0.9s						
WB0	Warramunga Arr	40.67	197	P	P	07 12 14.5	+0.1
WR0	Warramunga Arr	40.81	197	P	P	07 12 15.8	+0.2
WR0				IAmb	IAmb	07 12 18.7	
	comp=Z,1.6nm,0.9s						
WB2	Warramunga Arr	40.85	197	P	P	07 12 16.2	+0.4
WB2				IAmb	IAmb	07 12 25.6	
	comp=Z,1.6nm,1.0s						
WRA	Warramunga Arr	40.85	197	P	P	07 12 16.1	+0.2
WRA	Warramunga Arr	40.85	197	P	P	07 12 15.5	-0.4
	comp=Z,0.7nm,0.4s,baz=17,slow=8.3,SNR=19						
	comp=Z,0.7nm,0.4s						
JAGI	Jajag, Banyuwa	41.95	231	P	P	07 12 25.0	0.0
SONM	Songino Array	42.72	321	P	P	07 12 31.7	+0.6
	comp=Z,0.5nm,0.4s,baz=128,slow=10,SNR=2.7						
	comp=Z,0.5nm,0.4s						
ASAR	Alice Springs	44.52	196	P	P	07 12 45.8	+0.2
	comp=Z,0.2nm,0.3s,baz=15,slow=10,SNR=5.4						
	comp=Z,0.2nm,0.3s						
LEM	Lembang	46.00	239	LR	LR	07 34 09.0	
	comp=Z,19nm,19.5s,baz=340,slow=38						
ZALV	Zalesovo Beam	57.58	322	P	P	07 14 23.1	+0.2
	comp=Z,0.9nm,0.4s,baz=115,slow=6.5,SNR=3.6						
	comp=Z,0.9nm,0.4s						
KURBB	Kurchatov Arra	60.94	318	P	P	07 14 46.9	+0.7
	comp=Z,1.9nm,0.5s,baz=94,slow=7.5,SNR=8.8						
	comp=Z,1.9nm,0.5s						
ILAR	Eielson Array	62.78	26	P	P	07 14 58.3	+0.1
	comp=Z,0.4nm,0.8s,baz=251,slow=5.6,SNR=2.3						
	comp=Z,0.4nm,0.8s						
BVAR	Borovoye Array	66.06	320	P	P	07 15 20.9	+1.0
	comp=Z,2.1nm,0.5s,baz=85,slow=6.5,SNR=7.9						
	comp=Z,2.1nm,0.5s						
NEW	Newport	80.10	42	LR	LR	07 44 11.5	
	comp=Z,26nm,20.4s,baz=54,slow=30						
FINES	FINESS Array B	86.29	335	P	P	07 17 13.7	-0.5
	comp=Z,0.5nm,0.4s,baz=76,slow=5.9,SNR=9.1						
	comp=Z,0.5nm,0.4s						

DJA 15 07:11:02.0±0.6,6.°S±6.°×107.°E±.°,h210km±5km,M4.0/9, mb4.6/1,MLv3.7/9,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.96	253	P	Pn	07 11 33.3	+0.8
CGJI				S	S	07 11 55.7	-0.5
CNJI	Cibinong	1.10	153	P	Pn	07 11 33.6	+0.1
LEM	Lembang	1.11	117	P	Pn	07 11 34.0	+0.3
KASI	Kota Agung	2.26	291	P	Pn	07 11 44.2	+0.3
CMJI	Cimerak	2.32	129	P	Pn	07 11 44.4	-0.2
MNAI	Manna	4.14	298	P	Pn	07 12 06.1	+0.2
UGM	Wanagama	4.18	112	P	Pn	07 12 06.1	-0.3
GRJI	Gresik	5.85	96	P	Pn	07 12 27.2	-0.3

NNC 15 07:11:08.7±0.4,50.°01N×78.°69E,h0km,mb3.6,mpv3.1, 18C-5D,Error ellipse: s-maj=6.6km s-min=2.1km az=84.0,Suspected Mining explosion.,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.58	349	⇓P	Pg	07 11 20.0	+0.2
KUR07				⇑S	Sg	07 11 28.3	+0.9
KUR06	Kurchatov Arra	0.60	350	⇑P	Pg	07 11 20.6	+0.4
KUR06				⇑S	Sg	07 11 29.1	+1.1
KUR14	Kurchatov Arra	0.61	354	⇓P	Pg	07 11 20.2	-0.1
KUR14				⇑S	Sg	07 11 28.9	+0.7
KUR15	Kurchatov Arra	0.61	352	⇓P	Pg	07 11 20.6	+0.2
KUR15				⇑S	Sg	07 11 29.4	+1.1
KURBB	Kurchatov Arra	0.62	350	⇑P	Pg	07 11 20.7	+0.2
	15nm,0.3s						
KURBB				⇑S	Sb	07 11 30.2	-1.4
	58nm,0.4s						
KUR16	Kurchatov Arra	0.63	349	⇑P	Pg	07 11 21.0	+0.3
KUR16				⇑S	Sg	07 11 29.8	+0.9
KUR17	Kurchatov Arra	0.64	347	⇑P	Pg	07 11 21.4	+0.6
KUR17				⇑S	Sb	07 11 30.8	-1.3
KUR05	Kurchatov Arra	0.64	351	⇑P	Pg	07 11 21.0	+0.1
KUR05				⇑S	Sg	07 11 30.0	+0.8
KUR04	Kurchatov Arra	0.66	352	⇑P	Pg	07 11 21.6	+0.3
KUR04				⇑S	Sg	07 11 30.7	+0.9
KURK	Kurchatov	0.71	356	⇑P	Pg	07 11 22.1	-0.1
	8.9nm,0.4s						
KURK				⇑S	Sg	07 11 31.6	+0.2
	28nm,0.5s						
BRZS	Berezniki	3.88	272	Pg	Pb	07 12 19.7	+1.7
	4.9nm,0.2s						
BRZS				Lg	Lg	07 13 09.9	
	3.4nm,0.1s						
MK31	Makanchi Array	4.01	142	Pn	Pn	07 12 13.1	+1.7
	0.1n

JTK	**Tokunoshima**	**2.04**	**329**	P	**Pn**	**07 40 51.1**	**-0.1**
JTK				S	**Sn**	**07 41 14.2**	**-2.4**
JJT3	**Tamagusuku3**	**2.10**	**274**	P	**Pn**	**07 40 51.8**	**-0.3**
JJT3				*e*S	**Sn**	**07 41 16.3**	**-1.9**
JIH	**Iheya**	**2.18**	**298**	P	**Pn**	**07 40 52.7**	**-0.3**
JIH				S	**Sn**	**07 41 18.2**	**-1.7**
JZK	**Kikaishima**	**2.28**	**357**	*e*P	**Pn**	**07 40 54.1**	**-0.4**
JZK				*e*S	**Sn**	**07 41 21.6**	**-1.0**
JAMN	**Amaminishikomi**	**2.36**	**339**	P	**Pn**	**07 40 55.3**	**-0.3**
JAMN				*e*S	**Sn**	**07 41 23.0**	**-1.6**
JAM	**Amami Oshima**	**2.42**	**349**	P	**Pn**	**07 40 56.3**	**-0.1**
JAM				*e*S	**Sn**	**07 41 24.8**	**-1.2**
JAGN	**Aguni-jima**	**2.64**	**283**	P	**Pn**	**07 40 59.1**	**-0.4**
JAGN				*e*S	**Sn**	**07 41 29.1**	**-2.4**
JKE	**Kume jima 2**	**3.01**	**276**	P	**Pn**	**07 41 03.4**	**-1.2**
JKE				*e*S	**Sn**	**07 41 36.7**	**-3.9**
JTAJ	**Takarajima**	**3.22**	**346**	P	**Pn**	**07 41 07.7**	**+0.3**
JTAJ				*e*S	**Sn**	**07 41 42.4**	**-3.3**
JNN	**Nakanoshima**	**3.81**	**357**	*e*P	**Pn**	**07 41 16.1**	**+0.6**
JNN				*e*S	**Sn**	**07 41 58.6**	**-1.7**
JYAK	**Yakushimahirau**	**4.21**	**5**	P	**Pn**	**07 41 21.6**	**+0.6**
JYAK				*e*S	**Sn**	**07 42 06.8**	**-3.3**
JMTN	**Minamitane**	**4.41**	**9**	*e*S	**Sn**	**07 42 13.4**	**-1.6**
JMJ2	**Miyako jima3**	**4.52**	**255**	*e*P	**Pn**	**07 41 25.2**	**-0.1**
JMJ2				S	**Sn**	**07 42 15.9**	**-1.9**
JNU	**Nakatsue**	**7.10**	**5**	Pn	**Pn**	**07 42 03.2**	**+2.4**
JNU	**Nakatsue**	**7.10**	**5**	Pn	**Pn**	**07 42 00.7**	**-0.1**
JNU	comp=N,1.1nm,0.3s,baz=333,slow=5.9,SNR=8.1			Sn	**Sn**	**07 43 15.5**	**-5.9**
	baz=110,slow=8.7,SNR=1.0						
	comp=N,4.8nm,0.4s						
YHNB	**Yeheng**	**8.03**	**262**	Pn	**Pn**	**07 42 13.6**	**+0.1**
JMN	**Monobe**	**8.34**	**22**	Pn	**Pn**	**07 42 19.9**	**+2.1**
JTU	**Tsushima**	**8.49**	**356**	Pn	**Pn**	**07 42 22.2**	**+2.4**
JCJ	**Chichijima**	**10.85**	**82**	Pn	**Pn**	**07 42 49.1**	**-3.1**
JCJ	comp=N,5.8nm,0.3s,baz=282,slow=22,SNR=5.6			Sn	Sn	07 44 41.4	-12
	comp=N,3.6nm,0.3s,baz=226,slow=7.8,SNR=1.6						
	comp=N,18nm,0.3s						
INU	**Inuyama**	**11.02**	**31**	Pn	**Pn**	**07 42 55.6**	**+1.1**
KSRS	**Korea Array**	**11.54**	**351**	LR	LR	07 47 10.3	
	comp=N,24nm,19.6s,baz=160,slow=36						
MJAR	**Matsushiro Arr**	**12.55**	**31**	LR	LR	07 47 37.4	
	comp=N,74nm,19.2s,baz=204,slow=36						
GUMO	**Guam**	**18.57**	**129**	LR	LR	07 50 00.7	
	comp=N,75nm,20.2s,baz=323,slow=32						
DAV	**Davao City (W)**	**19.34**	**194**	LR	LR	07 53 45.6	
	comp=N,44nm,18.0s,baz=20,slow=42						
KLR	**Kul'dur**	**23.20**	**3**	LR	LR	07 53 59.7	
	comp=N,47nm,20.9s,baz=228,slow=36						
SONM	**Songino Array**	**28.66**	**326**	P	**P**	**07 46 14.6**	**+0.9**
	comp=N,0.4nm,0.4s,baz=133,slow=8.1,SNR=1.8						
	comp=N,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.77**	**262**	LR	LR	07 58 16.6	
	comp=N,23nm,19.1s,baz=85,slow=36						
KAPI	**Kappang**	**32.45**	**200**	LR	LR	08 00 07.8	
	comp=N,17nm,20.1s,baz=14,slow=37						
PETK	**Petropavlovsk-**	**34.01**	**30**	LR	LR	08 00 26.1	
	comp=N,28nm,20.3s,baz=159,slow=36						
KNRA	**Kununurra**	**41.47**	**182**	P	**P**	**07 48 03.9**	**0.0**
KNRA				IAmb	IAmb	07 48 08.2	
	comp=Z,4.0nm,0.7s						
MK31	**Makanchi Array**	**42.94**	**312**	P	**P**	**07 48 17.8**	**+2.1**
MK31				IAmb	IAmb	07 48 18.1	
	comp=Z,1.8nm,0.7s						
MKAR	**Makanchi Array**	**42.94**	**312**	P	**P**	**07 48 17.4**	**+1.6**
MKAR	**Makanchi Array**	**42.94**	**312**	P	**P**	**07 48 17.1**	**+1.3**
	comp=Z,2.3nm,0.6s,baz=98,slow=9.9,SNR=18						
	comp=Z,2.3nm,0.6s						
MAKZ	**Makanchi**	**43.15**	**312**	P	**P**	**07 48 19.0**	**+1.5**
MAKZ				IAmb	IAmb	07 48 19.9	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**43.44**	**322**	P	**P**	**07 48 20.7**	**+1.1**
ZALV	**Zalesovo Beam**	**43.44**	**322**	P	**P**	**07 48 20.6**	**+0.9**
	comp=Z,1.8nm,0.5s,baz=107,slow=7.9,SNR=4.3						
	comp=Z,1.8nm,0.5s						
WB0	**Warramunga Arr**	**45.71**	**174**	P	**P**	**07 48 38.9**	**+0.8**
WB0				IAmb	IAmb	07 48 41.8	
	comp=Z,3.4nm,1.0s						
WRA	**Warramunga Arr**	**45.88**	**174**	P	**P**	**07 48 40.5**	**+1.1**
WRA	**Warramunga Arr**	**45.88**	**174**	P	**P**	**07 48 40.1**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=354,slow=8.5,SNR=13						
	comp=Z,1.1nm,0.7s						
WB2	**Warramunga Arr**	**45.88**	**174**	P	**P**	**07 48 40.2**	**+0.8**
WR0	**Warramunga Arr**	**45.91**	**174**	P	**P**	**07 48 40.5**	**+0.8**
WR0				IAmb	IAmb	07 48 56.8	
	comp=Z,3.8nm,1.0s						
KURK	**Kurchatov**	**46.14**	**316**	P	**P**	**07 48 42.1**	**+0.9**
KURBB	**Kurchatov Arra**	**46.17**	**316**	P	**P**	**07 48 42.9**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=104,slow=8.6,SNR=17						
	comp=Z,2.2nm,0.7s						
AS31	**Alice Springs**	**49.53**	**175**	P	**P**	**07 49 08.6**	**+0.8**
ASAR	**Alice Springs**	**49.54**	**175**	P	**P**	**07 49 08.5**	**+0.7**
ASAR	**Alice Springs**	**49.54**	**175**	P	**P**	**07 49 09.4**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=5.3,slow=13,SNR=14						
	comp=Z,0.5nm,0.6s						
KKAR	**Karatay Array**	**50.91**	**306**	P	**P**	**07 49 21.1**	**+2.9**
BVAR	**Borovoye Array**	**51.56**	**318**	P	**P**	**07 49 24.4**	**+1.6**
	comp=Z,2.7nm,0.7s,baz=88,slow=10,SNR=6.5						
BVAR				LR	LR	08 11 55.1	
	comp=Z,75nm,19.1s,baz=107,slow=37						
	comp=Z,2.7nm,0.7s						
ARU	**Arti**	**58.60**	**322**	LR	LR	08 17 42.7	
	comp=Z,73nm,18.3s,baz=16,slow=38						
KDAK	**Kodiak Island**	**61.67**	**36**	LR	LR	08 24 06.9	
	comp=Z,8.1nm,18.1s,baz=79,slow=43						
KIRV	**Kirov**	**63.39**	**325**	LR	LR	08 22 33.3	
	comp=Z,91nm,18.3s,baz=321,slow=40						
FINES	**FINESS Array B**	**73.87**	**331**	P	**P**	**07 51 52.0**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=100,slow=5.8,SNR=1.5						
	comp=Z,1.9nm,0.9s						
PPT	**Papeete**	**89.22**	**110**	LR	LR	08 24 54.6	
	comp=Z,13nm,20.7s,baz=44,slow=30						

*OSPL **15** 08:34:30.0±1.9, 19°.52N×72°.80W, h0km±12km, ML2.6*
*SSNC **15** 08:34:30.9±2.8, 19°.30N×72°.75W, h25km±281km, MD2.9, ML2.0, MW2.3*

ISC 15 08:34:27.7±4.1, 19°.4N±0°.2×72°.82W±0°.05, h6km±29km, n6, σ1°.15/12, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODA1	**ITESIL, Dajabo**	**1.06**	**81**	*i* P	**Pb**	**08 34 47.5**	**-1.0**
LODA1				*e*S	**Sb**	**08 35 02.8**	**+0.2**
LODA1				IAML		08 35 06.0	
	comp=Z,718nm,2.4s						
MASC	**Masc**	**1.55**	**301**	*e*P	**Pn**	**08 34 57.0**	**+1.2**
MASC				*e*S	**Sn**	**08 35 16.5**	**+0.3**
MASC				IAML		08 35 17.0	
	comp=E,17nm,0.3s						
MASC				IAML		08 35 17.2	
	comp=N,16nm,0.3s						
MASC	**Masc**	**1.55**	**301**	*i* P	**Pn**	**08 34 57.1**	**+1.3**
MASC				*e*S	**Sn**	**08 35 14.6**	**-1.6**
MASC				IAML		08 35 19.7	
	comp=Z,17nm,1.2s						
SC01	**Santiago de lo**	**1.97**	**88**	*i* P	**Pn**	**08 35 02.2**	**+0.6**
SC01				*e*S	**Sn**	**08 35 27.1**	**+0.4**
GTBY	**Guantanamo Bay**	**2.23**	**284**	*e*P	**Pn**	**08 35 06.2**	**+1.1**
GTBY				*e*S	**Sn**	**08 35 32.2**	**-0.8**
RCC	**Rio Carpintero**	**2.78**	**283**	*e*P	**Pn**	**08 35 13.6**	**+0.8**
RCC				*e*S	**Sn**	**08 35 45.6**	**-1.0**

IDC 15 08:35:03.2±7.7, 1°.67S×133°.93E, h0km, mb3.0/2, mbtmp3.0/3, ML2.8/1, Error ellipse: s-maj=437.1km s-min=30.8km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.17**	**179**	P	Pn	08 39 16.0	-1.0
	baz=7.2,slow=12,SNR=2.3						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**21.87**	**180**	P	P	08 39 58.3	+0.5
	0.3nm,0.7s,baz=6.7,slow=9.4,SNR=4.5						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**66.10**	**324**	P	P	08 45 52.2	0.0
	0.2nm,0.4s,baz=112,slow=6.4,SNR=2.0						
	0.2nm,0.4s						

IDC 15 09:08:07.1±8.9, 0°.64S×97°.59E, h0km, mb3.3/3, mbtmp3.3/3, MS2.5/2, Error ellipse: s-maj=434.7km s-min=30.0km az=54.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**11.74**	**122**	LR	LR	09 15 34.8	
	comp=Z,26nm,19.1s,baz=122,slow=38						
CMAR	**Chiang Mai Arr**	**19.03**	**4**	LR	LR	09 20 29.7	
	comp=Z,12nm,18.1s,baz=275,slow=39						
H01W3	**Cape Leeuwin H**	**37.40**	**157**	T	T	09 55 31.2	
	baz=332,slow=74						
H01W2	**Cape Leeuwin H**	**37.42**	**157**	T	T	09 55 36.2	
	baz=332,slow=74						
H01W1	**Cape Leeuwin H**	**37.42**	**157**	T	T	09 55 31.6	
	baz=332						
WRA	**Warramunga Arr**	**40.75**	**120**	P	P	09 15 50.2	-0.1
	0.4nm,0.9s,baz=298,slow=8.6,SNR=2.7						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**41.99**	**126**	P	P	09 15 60.0	-0.5
	0.2nm,0.7s,baz=303,slow=8.0,SNR=4.2						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**49.11**	**346**	P	P	09 16 56.0	-0.4
	0.4nm,0.5s,baz=169,slow=8.0,SNR=4.9						
	0.4nm,0.5s						
TXAR	**Lajitas Array**	**145.00**	**34**	PKPbc	PKPab	09 27 46.3	-0.2
	0.3nm,0.6s,baz=262,slow=1.6,SNR=5.6						

*KRNET **15** 09:14:51.1±0.1, 39°.71N×72°.56E, h14km, mb3.2*
*ISU **15** 09:14:53.3, 39°.78N×72°.43E, h5km*
*SOME **15** 09:14:54.9, 39°.97N×72°.25E, h0km*
*NNC **15** 09:14:59.4±4.3, 39°.99N×72°.46E, h0km, mb3.6, mpv3.2,*
Error ellipse: s-maj=32.6km s-min=22.7km az=160.0

ISC 15 09:14:52.5±1.0, 39°.74N±0°.04×72°.55E±0°.03, h10km, n50, σ1°.80/72, 23C-21D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.64**	**246**	⇑*e*P	**Pg**	**09 15 03.5**	**-1.4**
DRK	baz=49			⇑*e*S	**Sg**	**09 15 12.4**	**-0.9**
SFK	**Sufi-Kurgan**	**0.78**	**69**	⇓*i*P	**Pg**	**09 15 06.3**	**-1.3**
SFK	baz=67			⇓*i*S	**Sg**	**09 15 17.5**	**-0.3**
OHH	**Osh**	**0.80**	**13**	⇑*i*P	**Pg**	**09 15 07.2**	**-0.8**
OHH	baz=12			⇑*i*S	**Sb**	**09 15 19.0**	**-0.5**
OHH	**Osh**	**0.80**	**13**	P	**Pg**	**09 15 07.2**	**-0.8**
OHH				S	**Sb**	**09 15 19.1**	**-0.5**
TSTA	**Tashata**	**0.84**	**356**	P	**Pg**	**09 15 07.4**	**-1.2**
TSTA				S	**Sg**	**09 15 19.4**	**-0.2**
FRG	**Fergana**	**0.86**	**317**	S	**Sg**	**09 15 20.2**	**-0.2**
CHMI	**Chimion**	**0.95**	**304**	P	**Pb**	**09 15 10.4**	**-0.7**
CHMI				P	**Pb**	**09 15 10.4**	**-0.7**
CHMI				S	**Sb**	**09 15 22.9**	**-0.8**
CHMI				S	**Sb**	**09 15 22.9**	**-0.8**
ANR	**Andizhan**	**1.02**	**352**	S	**Sn**	**09 15 27.8**	**+0.5**
BTK	**Batken**	**1.37**	**284**	⇑*i*P	**Pn**	**09 15 17.4**	**-0.4**
BTK	baz=85			⇑*i*S	**Sg**	**09 15 36.3**	**-0.3**
MINT	**Mingtut**	**1.41**	**301**	P	**Sg**	**09 15 39.3**	**+1.5**
NAM	**Namangan**	**1.42**	**332**	P	**Sg**	**09 15 38.6**	**+0.4**
TRKS	**Terek-Say**	**2.08**	**329**	⇓*e*P	**Pb**	**09 15 28.8**	**-1.7**
TRKS	baz=29			⇑*e*S	**Sb**	**09 15 56.2**	**-0.3**
ARK	**Arkit**	**2.10**	**348**	⇓*i*P	**Pb**	**09 15 29.9**	**-0.9**
ARK	baz=48			⇓*e*S	**Sg**	**09 15 58.4**	**-1.6**
ARLS	**Aral**	**2.51**	**32**	⇓*i*P	**Pb**	**09 15 35.4**	**-2.3**
ARLS	baz=32			⇓*i*S	**Sb**	**09 16 07.8**	**-0.9**
AML	**Almayashu**	**2.54**	**20**	⇑Pn	**Pg**	**09 15 39.9**	**-1.3**
AML	2.7nm,0.6s			⇓Sn	**Sg**	**09 16 13.4**	**-0.6**
AML	**Almayashu**	**2.54**	**20**	⇑*i*P	**Pb**	**09 15 36.2**	**-2.2**
AML	13nm,0.6s			⇑*i*S	**Sb**	**09 16 09.1**	**-0.7**
CHMG	**Chimgan**	**2.65**	**314**	P	**Pb**	**09 15 40.7**	**+0.7**
CHMG				S	**Sg**	**09 16 17.6**	**+0.1**
MNAS	**Manas**	**2.74**	**359**	⇑*i*P	**Pb**	**09 15 38.7**	**-3.0**
MNAS	baz=59			⇑*i*S	**Sb**	**09 16 13.9**	**-1.5**
TGS	**TashGRES**	**2.85**	**307**	S	**Sg**	**09 16 25.1**	**+0.9**
MRKS	**Merke**	**3.04**	**9**	Lg	Lg	09 16 27.0	
	64nm,0.3s						
MRKS	**Merke**	**3.04**	**9**	*e*Pg	**Pg**	**09 15 49.5**	**-1.3**
MRKS	14nm,0.4s			*e*Lg	Lg	09 16 28.2	
	64nm,0.1s						
EKS2	**Erkin-Say**	**3.06**	**17**	⇓*i*P	**Pn**	**09 15 43.0**	**+2.0**
EKS2	baz=17			⇓*i*S	**Sb**	**09 16 21.4**	**-3.1**
NRN	**Naryn**	**3.12**	**56**	⇓*i*P	**Pn**	**09 15 43.3**	**+1.2**
NRN	baz=56			⇓*i*S	**Sn**	**09 16 21.8**	**+2.2**
AAK	**Ala-Archa**	**3.24**	**26**	⇓*i*P	**Pn**	**09 15 45.6**	**+2.0**
AAK	baz=26			⇓*i*S	**Sb**	**09 16 25.6**	**-4.2**
KBK	**Karagaybulak**	**3.43**	**31**	⇓*i*P	**Pn**	**09 15 48.0**	**+1.9**
KBK	baz=31			⇓*i*S	**Sn**	**09 16 30.2**	**+3.3**
CHMS	**Chumysh**	**3.65**	**26**	⇓*i*P	**Pn**	**09 15 51.1**	**+2.0**
CHMS	baz=26			⇓*i*S	**Sn**	**09 16 35.3**	**+3.1**
KK31	**Karatay Array**	**3.69**	**336**	⇑Pg	**Pb**	**09 15 59.5**	**+1.7**
	1.8nm,0.3s,baz=146,slow=15						
KK31				⇑Lg	Lg	09 16 46.5	
	5.0nm,0.3s,baz=140,slow=30,SNR=4.7						
KKAR	**Karatay Array**	**3.69**	**336**	⇑*i*P	**Pn**	**09 15 51.6**	**+2.0**
KKAR	baz=36			⇑*i*S	**Sn**	**09 16 36.2**	**+3.0**
KRSA	**Karasay**	**3.72**	**277**	S	**Sg**	**09 16 50.6**	**-1.3**
ULHL	**Ulahol**	**3.75**	**47**	⇑*i*P	**Pn**	**09 15 52.6**	**+2.0**
ULHL	baz=47			⇑*i*S	**Sn**	**09 16 37.5**	**+2.6**
BOOM	**Boomskoye usch**	**3.75**	**42**	⇑*i*P	**Pn**	**09 15 52.6**	**+2.0**
BOOM	baz=42			⇑*i*S	**Sn**	**09 16 37.8**	**+2.9**
USP	**Ospenovka**	**3.81**	**22**	⇓*i*P	**Pn**	**09 15 53.5**	**+2.2**
USP	baz=22			⇓*i*S	**Sn**	**09 16 39.3**	**+3.1**
TKM2	**Tokmak 2**	**3.92**	**35**	⇓Pg	**Pg**	**09 16 07.0**	**-0.6**
TKM2	5.1nm,0.6s			⇓Lg	Lg	09 16 56.0	
	6.1nm,0.6s						
TKM2	**Tokmak 2**	**3.92**	**35**	⇑*i*P	**Pn**	**09 15 54.9**	**+2.0**
TKM2	baz=35			⇑*i*S	**Sn**	**09 16 41.9**	**+2.9**
KST	**Kastek**	**4.18**	**37**	Lg	Lg	09 17 10.0	
	18nm,0.3s						
KST	**Kastek**	**4.18**	**37**	*e*Pg	**Pg**	**09 16 11.7**	**-0.9**
KST	2.6nm,0.4s			*e*Lg	Lg	09 17 05.6	
	7.1nm,0.3s						
DGS	**Degeres**	**4.25**	**34**	Lg	Lg	09 17 10.5	
	11nm,0.6s						
DGS	**Degeres**	**4.25**	**34**	*e*Pg	**Pg**	**09 16 13.6**	**-0.3**
DGS	7.1nm,0.3s			*e*Lg	Lg	09 17 08.9	
	5.0nm,0.2s						
KRBS	**Karabastau**	**4.59**	**30**	Lg	Lg	09 17 15.9	
	8.0nm,0.4s						
KRBS	**Karabastau**	**4.59**	**30**	*e*Pg	**Pg**	**09 16 18.5**	**-1.9**
KRBS	5.6nm,0.1s			*e*Lg	Lg	09 17 16.8	
	8.0nm,0.4s						
TNSS	**Tian-Shan**	**4.67**	**44**	Pg	**Pg**	**09 16 20.8**	**-1.1**
TNSS	3.4nm,0.5s			Lg	Lg	09 17 19.6	
	4.2nm,0.4s						
TNSS	**Tian-Shan**	**4.67**	**44**	*e*Pg	**Pg**	**09 16 21.7**	**-0.2**
TNSS	3.4nm,0.5s			*e*Lg	Lg	09 17 22.6	
	4.2nm,0.3s						
KUU	**Kurty**	**5.02**	**33**	Pg	**Pg**	**09 16 27.8**	**-0.8**
KUU	2.6nm,0.6s			Lg	Lg	09 17 31.8	
	9.9nm,0.5s						
KUU	**Kurty**	**5.02**	**33**	*e*Pg	**Pg**	**09 16 27.2**	**-1.4**
KUU	2.6nm,0.6s			*e*Lg	Lg	09 17 32.0	
	11nm,0.3s						
KTBS	**Karatobe**	**5.03**	**37**	Pg	**Pg**	**09 16 28.5**	**-0.3**
KTBS	3.0nm,0.5s			Lg	Lg	09 17 32.9	
	8.9nm,0.5s						
KTBS	**Karatobe**	**5.03**	**37**	*e*Pg	**Pg**	**09 16 28.7**	**-0.1**
KTBS	3.0nm,0.5s			*e*Lg	Lg	09 17 34.6	
	13nm,0.1s						
CHKK	**Chushkaly**	**5.28**	**37**	Pg	**Pg**	**09 16 32.0**	**-1.5**
CHKK	2.7nm,0.5s			Lg	Lg	09 17 39.3	
	6.2nm,0.3s						
CHKK	**Chushkaly**	**5.28**	**37**	*e*Pg	**Pg**	**09 16 33.0**	**-0.5**
CHKK	1.4nm,0.2s			*e*Lg	Lg	09 17 41.9	
	6.2nm,0.3s						
BTLS	**Baital**	**5.41**	**11**	Pg	**Pg**	**09 16 32.2**	**-3.8**
BTLS	3.6nm,1.1s			Lg	Lg	09 17 39.9	
	4.8nm,0.5s						
BTLS	**Baital**	**5.41**	**11**	*e*Pg	**Pg**	**09 16 32.2**	**-3.8**
BTLS	3.5nm,0.4s			*e*Lg	Lg	09 17 40.5	
	6.3nm,0.2s						

*KRNET **15** 09:29:56.5±0.1, 39°.74N×72°.58E, h8km, mb2.5*
*ISU **15** 09:29:57.3, 39°.79N×72°.49E, h15km*
*SOME **15** 09:29:58.5, 39°.92N×72°.52E, h0km*

ISC 15 09:29:56.6±1.3, 39°.77N±0°.05×72°.56E±0°.03, h7km±12km, n13, σ0°.72/26, 8C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.66**	**244**	⇑*e*P	**Pg**	**09 30 09.2**	**0.0**
DRK	baz=47			⇑*e*S	**Sg**	**09 30 18.3**	**+0.5**
SFK	**Sufi-Kurgan**	**0.76**	**71**	⇑*i*P	**Pg**	**09 30 11.3**	**0.0**
SFK	baz=69			⇑*i*S	**Sg**	**09 30 21.8**	**+0.6**
OHH	**Osh**	**0.77**	**13**	⇑*i*P	**Pg**	**09 30 12.0**	**+0.6**
OHH	baz=11			⇑*i*S	**Sb**	**09 30 22.9**	**-0.2**
OHH	**Osh**	**0.77**	**13**	P	**Pg**	**09 30 12.0**	**+0.6**
OHH				S	**Sb**	**09 30 23.0**	**-0.2**
TSTA	**Tashata**	**0.81**	**355**	P	**Pg**	**09 30 12.1**	**-0.1**
TSTA				S	**Sg**	**09 30 23.1**	**+0.4**
FRG	**Fergana**	**0.85**	**316**	P	**Pg**	**09 30 12.8**	**-0.1**
FRG				S	**Sb**	**09 30 24.2**	**-1.1**
CHMI	**Chimion**	**0.94**	**302**	P	**Pb**	**09 30 15.0**	**-0.3**
CHMI				S	**Sb**	**09 30 27.2**	**-0.8**
BTK	**Batken**	**1.37**	**283**	⇑*e*P	**Pg**	**09 30 22.9**	**0.0**
BTK	baz=84			⇑*i*S	**Sn**	**09 30 42.2**	**+1.5**
TRKS	**Terek-Say**	**2.07**	**329**	⇓*e*P	**Pb**	**09 30 34.0**	**-0.5**
TRKS	baz=29			⇓*e*S	**Sb**	**09 31 00.6**	**+0.2**
ARK	**Arkit**	**2.08**	**348**	⇓*i*P	**Pb**	**09 30 35.2**	**+0.5**
ARK	baz=47			⇓*i*S	**Sg**	**09 31 03.5**	**+0.2**
ARLS	**Aral**	**2.48**	**32**	⇓*e*P	**Pb**	**09 30 40.5**	**-1.1**
ARLS	baz=32			⇓*i*S	**Sb**	**09 31 12.4**	**0.0**
AML	**Almayashu**	**2.51**	**20**	⇓*i*P	**Pb**	**09 30 41.4**	**-0.8**
AML	baz=19			⇓*i*S	**Sb**	**09 31 13.8**	**+0.3**
MNAS	**Manas**	**2.72**	**359**	⇓*i*P	**Pb**	**09 30 43.8**	**-1.8**
MNAS	baz=59			⇓*i*S	**Sb**	**09 31 18.7**	**-0.4**

*NNC **15** 09:30:03.6±6.8, 40°.00N×72°.43E, h0km, mb3.3, mpv2.9,*
Error ellipse: s-maj=51.1km s-min=27.0km az=173.0
*ISU **15** 09:30:10.0, 39°.77N×72°.50E, h15km*
*KRNET **15** 09:30:10.0±0.1, 39°.79N×72°.50E, h14km, mb2.5*

ISC 15 09:30:09.9±1.0, 39°.82N±0°.04×72°.46E±0°.03, h10km, n24, σ1°.77/32, 17C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.61**	**236**	⇓*e*P	**Pg**	**09 30 22.2**	**+0.5**
DRK	baz=40			⇓*i*S	**Sg**	**09 30 30.9**	**+1.1**
OHH	**Osh**	**0.75**	**20**	⇑*i*P	**Pg**	**09 30 24.8**	**+0.4**
OHH	baz=17			⇑*i*S	**Sb**	**09 30 36.0**	**+0.6**
OHH	**Osh**	**0.75**	**20**	P	**Pg**	**09 30 24.8**	**+0.4**
OHH				S	**Sb**	**09 30 36.1**	**+0.6**
FRG	**Fergana**	**0.76**	**317**	S	**Sb**	**09 30 37.3**	**+1.7**
TSTA	**Tashata**	**0.76**	**1**	S	**Sb**	**09 30 36.6**	**+0.9**
SFK	**Sufi-Kurgan**	**0.83**	**76**	⇑*i*P	**Pg**	**09 30 25.4**	**-0.5**
SFK	baz=73			⇑*i*S	**Sb**	**09 30 37.4**	**-0.4**
CHMI	**Chimion**	**0.85**	**302**	S	**Sb**	**09 30 39.4**	**+1.3**
BTK	**Batken**	**1.28**	**281**	⇓*e*P	**Pg**	**09 30 35.1**	**+0.6**
TRKS	**Terek-Say**	**1.98**	**330**	⇑*e*P	**Pb**	**09 30 46.5**	**+0.4**
TRKS	baz=29			⇑*e*S	**Sb**	**09 31 12.9**	**+2.0**
ARK	**Arkit**	**2.01**	**349**	⇑*i*P	**Pb**	**09 30 47.9**	**+1.3**
ARK	baz=49			⇑*i*S	**Sg**	**09 31 15.3**	**+0.7**
ARK	**Arkit**	**2.01**	**349**	P	**Pb**	**09 30 47.5**	**+0.9**
ARK				S	**Sg**	**09 31 15.3**	**+0.7**
ARLS	**Aral**	**2.48**	**34**	⇑*i*P	**Pb**	**09 30 53.7**	**-1.0**
ARLS	baz=33			⇑*i*S	**Sb**	**09 31 26.2**	**+0.8**
AML	**Almayashu**	**2.49**	**22**	⇓Pn	Pn	09 30 43.6	-7.3
AML	0.7nm,0.5s			⇓Sn	**Sn**	**09 31 17.2**	**-4.4**
AML	**Almayashu**	**2.49**	**22**	⇑*i*P	**Pb**	**09 30 54.2**	**-0.8**
AML	baz=21			⇑*i*S	**Sb**	**09 31 27.1**	**+1.2**
MNAS	**Manas**	**2.67**	**1**	⇑*i*P	**Pb**	**09 30 56.6**	**-1.2**
MNAS	baz=0.0			⇑*i*S	**Sb**	**09 31 31.0**	**+0.3**
IUG	**Iuzhnay**	**2.96**	**323**	Pg	**Pn**	**09 30 53.3**	**-3.8**
IUG	16nm,0.5s			Lg	Lg	09 31 33.2	
	13nm,0.6s						
IUG	**Iuzhnay**	**2.96**	**323**	*e*Pg	**Pn**	**09 30 53.3**	**-3.8**
IUG	8.1nm,0.2s			*e*Lg	Lg	09 31 33.2	
	14nm,0.2s						
MRKS	**Merke**	**2.98**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	1.0nm,0.5s						
TKM2				⇑Lg	Lg	09 32 03.6	
	3.8nm,0.6s						
KST	**Kastek**	**4.16**	**38**	*e*Pg	**Pn**	**09 31 15.3**	**+1.7**
	1.6nm,0.2s						
KST				*e*Lg	Lg	09 32 10.9	
	4.5nm,0.2s						
KRBS	**Karabastau**	**4.56**	**31**	Pg	**Pn**	**09 31 21.3**	**+2.2**
	1.7nm,0.4s						
KRBS	**Karabastau**	**4.56**	**31**	*e*Pg	**Pn**	**09 31 21.2**	**+2.2**
	1.7nm,0.4s						
KRBS				*e*Lg	Lg	09 32 21.1	
	2.5nm,0.3s						

ISU ***15*** *09:30:29.0, 39°.80N×72°.54E, h10km*
KRNET ***15*** *09:30:29.7±0.1, 39°.79N×72°.44E, h13km, mb2.8*
ISC 15 09:30:29.4±1.4, 39°.79N±0°.05×72°.48E±0°.04, h11km±13km, n14, σ0°71/24, 12C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.61**	**240**	⇓*e*P	**Pg**	**09 30 41.2**	**-0.1**
	baz=38						
DRK				⇓*e*S	**Sg**	**09 30 49.3**	**-0.1**
	baz=38						
OHH	**Osh**	**0.77**	**18**	⇑*i*P	**Pb**	**09 30 44.8**	**0.0**
	baz=20						
OHH				⇑*i*S	**Sb**	**09 30 56.1**	**+0.8**
	baz=20						
OHH	**Osh**	**0.77**	**18**	P	**Pb**	**09 30 44.8**	**0.0**
OHH				S	**Sb**	**09 30 56.2**	**+0.9**
TSTA	**Tashata**	**0.79**	**360**	S	**Sb**	**09 30 56.4**	**+0.6**
FRG	**Fergana**	**0.79**	**318**	S	**Sb**	**09 30 56.2**	**+0.4**
SFK	**Sufi-Kurgan**	**0.82**	**74**	⇑*i*P	**Pb**	**09 30 46.1**	**+0.4**
	baz=74						
SFK				⇑*i*S	**Sn**	**09 30 58.1**	**-1.1**
	baz=74						
CHMI	**Chimion**	**0.88**	**303**	S	**Sn**	**09 31 00.1**	**-0.3**
BTK	**Batken**	**1.30**	**282**	⇑*e*P	**Pb**	**09 30 54.1**	**+0.2**
	baz=83						
BTK				⇑*e*S	**Sg**	**09 31 11.7**	**+0.3**
	baz=83						
BTK	**Batken**	**1.30**	**282**	⇓*e*S	**Pb**	**09 30 53.8**	**-0.1**
	baz=82						
TRKS	**Terek-Say**	**2.01**	**330**	⇓*e*P	**Pb**	**09 31 05.4**	**-0.7**
	baz=30						
TRKS				⇓*e*S	**Sb**	**09 31 32.2**	**+1.0**
	baz=30						
ARK	**Arkit**	**2.04**	**349**	⇑*i*P	**Pb**	**09 31 07.2**	**+0.7**
	baz=50						
ARK				⇑*i*S	**Sg**	**09 31 34.8**	**-0.2**
	baz=50						
ARK	**Arkit**	**2.04**	**349**	P	**Pb**	**09 31 07.2**	**+0.7**
ARK				S	**Sg**	**09 31 34.8**	**-0.2**
ARLS	**Aral**	**2.50**	**33**	⇑*i*P	**Pb**	**09 31 13.8**	**-0.5**
	baz=34						
ARLS				⇑*i*S	**Sb**	**09 31 46.5**	**+1.4**
	baz=34						
MNAS	**Manas**	**2.69**	**0**	⇑*i*P	**Pb**	**09 31 16.4**	**-1.2**
	baz=1.0						
MNAS				⇑*i*S	**Sb**	**09 31 50.7**	**0.0**
	baz=1.0						

NEIC ***15*** *09:31:23.9±1.9, 57°.99S±0°.09×25°.4W±0°.3, h35km±1km, mb4.4/24, Error ellipse: s-maj=25.9km s-min=7.7km az=59.0*
IDC ***15*** *09:31:27.8±4.7, 57°.97S×25°.49W, h70km±41km, mb4.0/9, mbtmp4.3/11, ML4.3/2, MS3.1/11, Error ellipse: s-maj=24.3km s-min=15.2km az=54.0*
ISC 15 09:31:25.1±0.5, 58°.00S±0°.08×25°.3W±0°.1, h49km, n61, σ1⇕69/52, mb4.4/14, MS3.1/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.25**	**296**		Pn	09 33 13.2	+4.9
VNA1	**Neumayer--Stat**	**14.61**	**157**	P	**Pn**	**09 34 49.0**	**+0.7**
	comp=Z,4.9nm,0.3s						
VNA3	**Neumayer Olymp**	**14.81**	**160**	P	**Pn**	**09 34 51.4**	**+0.3**
	comp=Z,2.8nm,0.3s						
VNA2	**Neumayer--Watz**	**15.00**	**157**	P	**Pn**	**09 34 54.4**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=322,slow=14						
SNAA	**Sanae**	**16.55**	**155**		**Pn**	**09 35 14.8**	**+1.4**
SNAA	**Sanae**	**16.55**	**155**	P	**Pn**	**09 35 14.7**	**+1.4**
	comp=Z,100nm,0.4s						
SNAA				S	Sn	09 38 02.9	-13
	comp=Z,20nm,0.6s						
SNAA	**Sanae**	**16.55**	**155**	P	**Pn**	**09 35 14.4**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=349,slow=13,SNR=11						
SNAA				S	Sn	09 38 02.6	-13
	comp=Z,0.6nm,0.6s,baz=215,slow=2.8,SNR=1.3						
SNAA				LR	LR	09 39 45.3	
	comp=Z,50nm,21.4s,baz=9.5,slow=30						
	comp=Z,3.9nm,0.4s						
TROLL	**Troll, Antarti**	**18.05**	**152**	P	**Pn**	**09 35 35.1**	**+3.1**
	comp=Z,95nm,0.3s						
TROLL				S	**Sn**	**09 38 43.1**	**-9.1**
	comp=Z,17nm,0.4s						
PMSA	**Palmer Station**	**19.47**	**234**	P	**Pn**	**09 35 50.5**	**+1.5**
PMSA				IAmb	IAmb	09 35 56.8	
	comp=Z,14nm,0.9s						
PMSA	**Palmer Station**	**19.47**	**234**	P	**Pn**	**09 35 49.5**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=58,slow=3.9,SNR=11						
PMSA				LR	LR	09 41 57.4	
	comp=Z,120nm,19.8s,baz=48,slow=32						
	comp=Z,5.9nm,0.6s						
BELA	**Belgrano 2**	**20.22**	**186**	P	**P**	**09 35 56.0**	**+0.5**
QSPA	**South Pole Qui**	**32.25**	**180**	P	**P**	**09 37 50.2**	**+1.6**
QSPA				IAmb	IAmb	09 37 50.6	
	comp=Z,5.7nm,0.6s						
QSPA	**South Pole Qui**	**32.25**	**180**	P	**P**	**09 37 50.1**	**+1.6**
	comp=Z,4.8nm,0.5s,baz=24,slow=1.8,SNR=106						
QSPA				PcP	**PcP**	**09 40 35.6**	**0.0**
	comp=Z,0.9nm,0.8s,baz=223,slow=2.3,SNR=1.9						
QSPA				LR	LR	09 50 46.5	
	comp=Z,35nm,18.5s,baz=199,slow=36						
	comp=Z,4.8nm,0.5s						
PLTB	**Pedras Altas**	**32.55**	**311**	P	**P**	**09 37 51.0**	**-0.3**
PLCA	**Paso Flores**	**33.36**	**281**	P	**P**	**09 37 58.2**	**-0.1**
PLCA				IAmb	IAmb	09 38 32.2	
	comp=Z,6.5nm,1.3s						
PLCA	**Paso Flores**	**33.36**	**281**	P	**P**	**09 37 58.1**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=142,slow=3.5,SNR=15						
PLCA				LR	LR	09 50 53.0	
	comp=Z,35nm,19.2s,baz=154,slow=35						
	comp=Z,1.5nm,0.4s						
GO06	**Curarrehue**	**34.68**	**282**	P	**P**	**09 38 08.8**	**-1.0**
GO06				IAmb	IAmb	09 38 48.3	
	comp=Z,11nm,1.4s						
LR04	**Corral**	**35.48**	**279**	P	**P**	**09 38 16.2**	**-0.4**
MAW	**Mawson**	**37.98**	**142**	P	**P**	**09 38 38.3**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=242,slow=5.1,SNR=6.4						
MAW				PcP	**PcP**	**09 40 51.4**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=307,slow=5.1,SNR=1.8						
	comp=Z,0.6nm,0.4s						
CPUP	**Villa Florida**	**38.86**	**311**	P	**P**	**09 38 43.9**	**-1.4**
CPUP				IAmb	IAmb	09 39 11.6	
	comp=Z,7.2nm,1.4s						
CPUP	**Villa Florida**	**38.86**	**311**	P	**P**	**09 38 44.1**	**-1.2**
	comp=Z,2.2nm,0.9s,baz=172,slow=6.7,SNR=4.0						
CPUP				PcP	**PcP**	**09 40 55.2**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=55,slow=3.3,SNR=3.7						
CPUP				LR	LR	09 56 50.4	
	comp=Z,4.2nm,18.3s,baz=219,slow=39						
	comp=Z,2.2nm,0.9s						
MT09	**Talagante**	**38.88**	**288**	P	**P**	**09 38 43.8**	**-1.8**
CFA	**Coronel Fontan**	**39.26**	**293**	LR	LR	09 55 21.4	
	comp=Z,31nm,20.2s,baz=271,slow=37						
MT02	**Curacav**	**39.37**	**289**	P	**P**	**09 38 48.8**	**-0.8**
AC02	**Maricunga**	**43.65**	**296**	P	**P**	**09 39 24.8**	**-0.4**
AC02				IAmb	IAmb	09 39 55.7	
	comp=Z,10nm,1.4s						
SBA	**Scott Base**	**44.20**	**184**	P	**P**	**09 39 31.1**	**+2.7**
BOSA	**Boshof**	**45.53**	**72**	LR	LR	09 53 30.2	
	comp=Z,22nm,21.8s,baz=226,slow=29						
BDFB	**Brasilia**	**45.56**	**329**	P	**P**	**09 39 40.9**	**+0.9**
BDFB				IAmb	IAmb	09 39 41.7	
	comp=Z,4.7nm,0.8s						
BDFB	**Brasilia**	**45.56**	**329**	P	**P**	**09 39 40.8**	**+0.7**
	comp=Z,3.2nm,0.6s,baz=168,slow=6.9,SNR=6.2						
BDFB				LR	LR	09 58 48.6	
	comp=Z,25nm,18.6s,baz=108,slow=36						
	comp=Z,3.2nm,0.6s						
H04S2	**CROZET ISLANDS**	**45.86**	**111**	T	T	10 30 12.3	
	baz=225,slow=75,SNR=35						
H04S3	**CROZET ISLANDS**	**45.87**	**111**	T	T	10 30 13.5	
	baz=225,slow=75,SNR=30						
H04S1	**CROZET ISLANDS**	**45.88**	**111**	T	T	10 30 13.4	
	baz=225,slow=75,SNR=32						
H10S2	**ASCENSION HYDR**	**49.61**	**14**	T	T	10 34 44.3	
	baz=188,slow=74,SNR=6.9						
H10S3	**ASCENSION HYDR**	**49.62**	**14**	T	T	10 34 44.6	
	baz=32,slow=74,SNR=15						
TSUM	**Tsumeb**	**49.81**	**57**	LR	LR	09 57 50.3	
	comp=Z,43nm,18.4s,baz=262,slow=32						
H10N1	**ASCENSION HYDR**	**50.73**	**14**	T	T	10 36 10.2	
	baz=188,slow=75,SNR=5.2						
H10N3	**ASCENSION HYDR**	**50.73**	**14**	T	T	10 36 11.1	
	baz=188,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**50.75**	**14**	T	T	10 36 09.8	
	baz=188,slow=75,SNR=10						
LPAZ	**La Paz**	**52.32**	**304**	P	**P**	**09 40 31.7**	**-0.8**
LPAZ				IAmb	IAmb	09 40 32.4	
	comp=Z,2.2nm,0.7s						
LPAZ	**La Paz**	**52.32**	**304**	P	**P**	**09 40 31.9**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=146,slow=6.1,SNR=9.3						
LPAZ				PcP	**PcP**	**09 41 42.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=80,slow=4.1,SNR=1.8						
	comp=Z,1.5nm,0.4s						
SAML	**Samuel**	**56.89**	**314**	P	**P**	**09 41 04.1**	**-0.7**
SAML				IAmb	IAmb	09 41 05.8	
	comp=Z,4.6nm,0.7s						
ETMB	**Extrema**	**57.30**	**310**	P	**P**	**09 41 06.3**	**-1.4**
NNA	**Nana**	**60.07**	**298**	LR	LR	10 05 45.9	
	comp=Z,14nm,21.9s,baz=140,slow=34						
BOAV	**Boa Vista**	**66.44**	**321**	P	**P**	**09 42 08.3**	**-0.8**
BOAV				IAmb	IAmb	09 42 09.7	
	comp=Z,6.7nm,0.9s						
DBIC	**Dimbokro**	**66.55**	**22**	P	**P**	**09 42 10.3**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=283,slow=13,SNR=2.0						
	comp=Z,3.4nm,0.9s						
MCRA	**Macar, Loja**	**68.19**	**299**	P	**P**	**09 42 19.0**	**-1.2**
COHC	**Cochancay**	**69.54**	**300**	P	**P**	**09 42 28.5**	**-0.1**
MBAR	**Mbarara**	**72.18**	**61**	LR	LR	10 11 26.3	
	comp=Z,19nm,18.6s,baz=348,slow=33						
TOA0	**Torodi Ar. Sit**	**74.29**	**27**	P	**P**	**09 42 57.9**	**+1.0**
TOA0				IAmb	IAmb	09 42 58.7	
	comp=Z,6.6nm,1.3s						
TORD	**Torodi Ar. Bea**	**74.29**	**27**	P	**P**	**09 42 57.7**	**+0.8**
TORD				IAmb	IAmb	09 42 58.7	
	comp=Z,2.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.29**	**27**	P	**P**	**09 42 57.9**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=198,slow=5.9,SNR=19						
	comp=Z,2.2nm,0.6s						
DSZ	**Denniston Nort**	**79.59**	**193**	P	**P**	**09 43 25.8**	**-0.8**
BKZ	**Black Stump Fm**	**81.48**	**197**	P	**P**	**09 43 37.6**	**+0.8**
ASAR	**Alice Springs**	**96.82**	**161**	P	**P**	**09 44 50.4**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=180,slow=3.7,SNR=10						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**122.22**	**300**	PKP	**PKPdf**	**09 50 12.1**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=105,slow=4.8,SNR=7.7						
ULM	**Lac du Bonnet**	**122.35**	**314**	PKP	**PKPdf**	**09 50 12.7**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=172,slow=2.9,SNR=1.4						
NVAR	**Mina Array Bea**	**123.06**	**291**	PKP	**PKiKP**	**09 50 16.7**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=146,slow=4.6,SNR=4.2						
FINES	**FINESS Array B**	**125.64**	**28**	PKP	**PKPdf**	**09 50 19.4**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=183,slow=1.9,SNR=15						
ARCES	**ARCESS Array B**	**132.38**	**22**	PKP	**PKPdf**	**09 50 32.0**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=277,slow=1.0,SNR=5.1						
SONM	**Songino Array**	**149.80**	**88**	PKPbc	**PKPbc**	**09 51 09.1**	**+0.5**
	comp=Z,3.4nm,0.7s,baz=226,slow=3.3,SNR=14						
ILAR	**Eielson Array**	**152.15**	**309**	PKPbc	**PKPbc**	**09 51 13.6**	**+0.1**
	comp=Z,3.7nm,0.4s,baz=154,slow=1.6,SNR=72						

IDC ***15*** *09:51:45.2±1.4, 37°.11N×16°.54E, h0km, mb3.9/3, mbtmp3.7/7, ML3.7/4, MS3.2/1, Error ellipse: s-maj=26.9km s-min=20.9km az=137.0*
ROM ***15*** *09:51:48.2±0.2, 36°.95N±0°.02×16°.40E±0°.03, h37km±4km, ML3.5/122, Error ellipse: s-maj=2.9km s-min=1.1km az=128.0*
TIR ***15*** *09:51:49.9, 37°.45N×16°.70E, h52km±24km, Ml3.8*
ISC 15 09:51:45.5±1.5, 37°.03N±0°.05×16°.50E±0°.04, h8km±11km, n159, σ1⇕38/171, mb3.8/3, 18C-7D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGST	**Augusta-Monte**	**1.04**	**283**	⇑P	**Pg**	**09 52 05.1**	**-0.4**
AGST				AML	AML		
	comp=E,2645μm,0.8s						
AGST				AML	AML		
	comp=N,2395μm,1.1s						
AGST				AML	AML		
	comp=N,2440μm,1.5s						
AGST				AML	AML		
	comp=N,2440μm,0.5s						
SOI	**Samo**	**1.10**	**341**	P	**Pb**	**09 52 07.8**	**+1.0**
SOI				S	**Sb**	**09 52 23.3**	**+2.0**
SOI				AML	AML		
	comp=E,358μm,0.6s						
SOI				AML	AML		
	comp=E,358μm,0.6s						
SOI				AML	AML		
	comp=N,380μm,0.7s						
SOI				AML	AML		
	comp=E,358μm,1.4s						
HAGA	**Augusta**	**1.10**	**284**	⇑P	**Pg**	**09 52 06.0**	**-0.7**
HAGA				AML	AML		
	comp=E,1635μm,0.4s						
HAGA				AML	AML		
	comp=N,1110μm,0.9s						
SSY	**Sortino**	**1.15**	**277**	⇑P	**Pg**	**09 52 06.7**	**-0.9**
SSY				S	**Sg**	**09 52 21.0**	**-1.4**
SSY				AML	AML		
	comp=N,5740μm,0.3s						
SSY				AML	AML		
	comp=E,2840μm,1.4s						
SSY				AML	AML		
	comp=N,6175μm,0.3s						
SSY				AML	AML		
	comp=E,2840μm,0.6s						
HPAC	**Pachino**	**1.16**	**254**	⇑P	**Pg**	**09 52 08.2**	**+0.4**
HPAC				S	**Sb**	**09 52 22.9**	**0.0**
HPAC				AML	AML		
	comp=E,5605μm,0.3s						
HPAC				AML	AML		
	comp=N,6005μm,0.3s						
HPAC				AML	AML		
	comp=E,5605μm,1.7s						
EPOZ	**Pozzillo**	**1.23**	**294**	P	**Pb**	**09 52 08.8**	**-0.2**
EPOZ				S	**Sb**	**09 52 24.4**	**-0.6**
EPOZ				AML	AML		
	comp=E,1217μm,1.3s						
EPOZ				AML	AML		
	comp=N,1615μm,1.2s						
GMB	**Gambarie**	**1.26**	**335**	AML	AML		
	comp=E,3415μm,1.4s						
GMB				AML	AML		
	comp=E,3415μm,0.6s						
GMB				AML	AML		
	comp=N,2860μm,0.5s						
MEU	**Monte Lauro**	**1.26**	**274**	⇑P	**Pb**	**09 52 09.5**	**0.0**
MEU				AML	AML		
	comp=E,5290μm,0.4s						
MEU				AML	AML		
	comp=N,6385μm,0.3s						
CEL	**Celeste**	**1.32**	**339**	AML	AML		
	comp=E,908μm,1.1s						
CEL				AML	AML		
	comp=E,750μm,1.1s						
CEL				AML	AML		
	comp=N,566μm,0.8s						
CEL				AML	AML		
	comp=E,751μm,1.1s						
CEL				AML	AML		
	comp=N,634μm,0.8s						
CEL				AML	AML		
	comp=N,566μm,1.2s						
CEL				AML	AML		
	comp=N,634μm,1.2s						
CEL				AML	AML		
	comp=E,908μm,0.9s						
CEL				AML	AML		
	comp=E,751μm,0.9s						
HLNI	**Lentini**	**1.34**	**284**	⇑P	**Pn**	**09 52 09.6**	**-0.9**
HLNI				S	**Sb**	**09 52 25.1**	**-3.0**
HLNI				AML	AML		
	comp=N,4255μm,0.3s						
HLNI				AML	AML		
	comp=E,2605μm,1.1s						
HLNI				AML	AML		
	comp=E,2605μm,0.9s						
HMDC	**Modica**	**1.38**	**268**	⇑P	**Pn**	**09 52 10.3**	**-0.7**
HMDC				S	**Sb**	**09 52 26.7**	**-2.5**
HMDC				AML	AML		
	comp=N,2640μm,0.4s						
HMDC				AML	AML		
	comp=E,2225μm,0.3s						
AIO	**Antillo**	**1.38**	**313**	P	**Pn**	**09 52 11.0**	**0.0**
AIO				AML	AML		
	comp=E,817μm,0.5s						
AIO				AML	AML		
	comp=N,1068μm,0.3s						
ESLN	**Serra La Nave**	**1.39**	**299**	P	**Pn**	**09 52 11.4**	**+0.2**
ESLN				AML	AML		
	comp=N,1249μm,0.6s						
ESLN				AML	AML		
	comp=E,1810μm,0.4s						
ESLN				AML	AML		
	comp=E,1810μm,1.6s						
PLAC	**Placanica**	**1.42**	**358**	P	**Pn**	**09 52 13.0**	**+1.4**
PLAC				S	**Sn**	**09 52 31.3**	**+0.8**
PLAC				AML	AML		
	comp=E,550μm,1.6s						
PLAC				AML	AML		
	comp=E,644μm,0.4s						
PLAC				AML	AML		
	comp=N,546μm,1.6s						
PLAC				AML	AML		
	comp=N,600μm,0.4s						
PLAC				AML	AML		
	comp=E,549μm,1.6s						
ESML	**S. M. di Licod**	**1.42**	**295**	P	**Pn**	**09 52 11.5**	**-0.1**
ESML				S	**Sb**	**09 52 28.0**	**-2.5**
ESML				AML	AML		
	comp=E,1530μm,0.6s						
ESML				AML	AML		
	comp=N,1705μm,0.4s						
MSRU	**Castanea**	**1.46**	**328**	P	**Pn**	**09 52 12.8**	**+0.6**
MSRU				S	**Sn**	**09 52 31.2**	**-0.3**
EMSG	**Monte Spagnolo**	**1.47**	**303**	P	**Pn**	**09 52 12.8**	**+0.5**
EMSG				AML	AML		
	comp=E,3040μm,0.8s						
EMSG				AML	AML		
	comp=N,3445μm,0.3s						
EPZF	**Pizzo Felice**	**1.53**	**302**	P	**Pn**	**09 52 14.1**	**+0.9**
EPZF				AML	AML		
	comp=E,4710μm,0.9s						
EPZF				AML	AML		
	comp=E,4710μm,1.1s						
EPZF				AML	AML		
	comp=N,4050μm,0.4s						
MILZ	**Milazzo**	**1.60**	**321**	P	**Pn**	**09 52 14.7**	**+0.7**
MILZ				S	**Sn**	**09 52 34.4**	**-0.4**
MILZ				AML	AML		
	comp=E,2095μm,1.1s						
MILZ				AML	AML		
	comp=E,2095μm,0.9s						
MILZ				AML	AML		
	comp=N,1440μm,0.6s						
MUCR	**Ucria**	**1.64**	**309**	P	**Pn**	**09 52 15.4**	**+0.7**
MUCR				S	**Sn**	**09 52 35.3**	**-0.8**
MUCR				AML	AML		
	comp=N,1730μm,0.4s						
MUCR				AML	AML		
	comp=E,1585μm,0.3s						
JOPP	**Joppolo**	**1.65**	**343**	⇓P	**Pn**	**09 52 16.2**	**+1.4**
JOPP				AML	AML		
	comp=E,289μm,0.6s						
JOPP				AML	AML		
	comp=E,289μm,1.4s						
JOPP				AML	AML		
	comp=N,296μm,0.3s						
GALF	**Gagliano Caste**	**1.68**	**294**	P	**Pn**	**09 52 16.2**	**+1.0**
GALF				AML	AML		
	comp=N,1520μm,0.7s						
GALF				AML	AML		
	comp=N,1520μm,1.3s						
GALF				AML	AML		
	comp=E,1245μm,0.3s						
MNO	**Monte Soro**	**1.70**	**303**	P	**Pn**	**09 52 16.7**	**+1.1**
MNO				AML	AML		
	comp=N,2075μm,1.2s						
MNO				AML	AML		
	comp=E,3375μm,1.0s						
CAGR	**Agira**	**1.70**	**291**	P	**Pn**	**09 52 16.1**	**+0.6**
CAGR				AML	AML		
	comp=N,1355μm,0.7s						
CAGR				AML	AML		
	comp=E,1285μm,1.2s						
CAGR				AML	AML		
	comp=E,1285μm,0.8s						
RAFF	**Raffo Rosso**	**1.72**	**277**	⇑P	**Pn**	**09 52 15.9**	**+0.2**
RAFF				AML	AML		
	comp=N,1051μm,0.3s						
RAFF				AML	AML		
	comp=N,1051μm,1.7s						
RAFF				AML	AML		
	comp=E,1790μm,0.7s						
VAE	**Valguarnera**	**1.73**	**286**	Pn	**Pn**	**09 52 17.5**	**+1.7**
	comp=E,15nm,0.3s,baz=8.7,slow=13,SNR=17						
VAE				Sn	**Sn**	**09 52 37.5**	**-0.5**
	comp=E,42nm,0.3s,baz=131,slow=1.6,SNR=10						
GRI	**Girifalco**	**1.79**	**358**	P	**Pn**	**09 52 18.0**	**+1.3**
VPL	**Vulcano Piano**	**1.81**	**319**	⇓P	**Pn**	**09 52 17.7**	**+0.8**
VPL				S	**Sn**	**09 52 39.7**	**-0.4**
VPL				AML	AML		
	comp=E,7865μm,0.7s						
VPL				AML	AML		
	comp=N,10500μm,0.5s						
VPL				AML	AML		
	comp=E,7865μm,1.3s						
VPL				AML	AML		
	comp=N,10500μm,1.5s						
MSFR	**San Fratello**	**1.82**	**304**	P	**Pn**	**09 52 18.1**	**+1.0**
MSFR				S	**Sn**	**09 52 39.4**	**-1.0**
MSFR				AML	AML		
	comp=N,456μm,0.7s						
MSFR				AML	AML		
	comp=E,712μm,0.7s						
IVGP	**Vulcano Grotta**	**1.83**	**319**	P	**Pn**	**09 52 17.8**	**+0.6**
IVGP				S	**Sn**	**09 52 40.2**	**-0.3**
IVGP				AML	AML		
	comp=E,1260μm,0.3s						
IVGP				AML	AML		
	comp=N,1230μm,0.3s						
LLI	**Lipari**	**1.88**	**319**	P	**Pn**	**09 52 18.8**	**+1.0**
LLI				AML	AML		
	comp=E,2975μm,0.9s						
LLI				AML	AML		
	comp=E,2975μm,1.1s						
LLI				AML	AML		
	comp=N,4165μm,0.6s						
WDD	**Wied Dalam**	**1.99**	**234**	⇑P	**Pn**	**09 52 19.5**	**+0.2**
WDD				AML	AML		
	comp=E,2675μm,1.1s						
WDD				AML	AML		
	comp=N,2215μm,1.0s						
WDD				AML	AML		
	comp=E,2675μm,0.9s						
WDD				AML	AML		
	comp=N,2215μm,1.0s						
SERS	**Sersale**	**2.01**	**4**	P	**Pn**	**09 52 21.3**	**+1.5**
SERS				S	**Sn**	**09 52 44.9**	**-0.3**
RESU	**Resuttano**	**2.04**	**288**	P	**Pn**	**09 52 21.4**	**+1.2**
RESU				AML	AML		
	comp=E,1675μm,0.4s						
RESU				AML	AML		
	comp=N,1024μm,0.6s						
PETRA	**Petralia Sopra**	**2.06**	**294**	P	**Pn**	**09 52 21.7**	**+1.1**
PETRA				AML	AML		
	comp=N,827μm,1.2s						
PETRA				AML	AML		
	comp=N,827μm,0.8s						
PETRA				AML	AML		
	comp=E,1110μm,0.4s						
CSLB	**Castelbuono**	**2.14**	**296**	P	**Pn**	**09 52 22.7**	**+1.1**
CSLB				AML	AML		
	comp=E,212μm,0.4s						
CSLB				AML	AML		
	comp=N,279μm,0.4s						
TIP	**Timpagrande**	**2.16**	**5**	P	**Pn**	**09 52 22.9**	**+1.1**
TIP				S	**Sn**	**09 52 48.5**	**-0.3**
TIP				AML	AML		
	comp=N,160μm,1.4s						
TIP				AML	AML		

comp=E,134μm,0.5s
IFIL Filicudi I Eol 2.17 316 P Pn 09 52 22.6 +0.7
IFIL S Sn 09 52 47.3 -1.6
IFIL AML AML
comp=E,4230μm,0.4s
IFIL AML AML
comp=N,1590μm,1.3s
IFIL AML AML
comp=E,4230μm,1.6s
GIB Gibilmanna 2.19 297 P Pn 09 52 23.5 +1.2
GIB AML AML
comp=E,788μm,0.8s
GIB AML AML
comp=N,884μm,1.3s
GIB AML AML
comp=E,788μm,1.2s
CAR1 CAROLEI 2.23 354 P Pn 09 52 24.4 +1.5
CAR1 AML AML
comp=E,760μm,0.4s
CAR1 AML AML
comp=N,572μm,0.4s
SPS2 Spezzano della 2.27 357 P Pn 09 52 25.4 +2.2
SPS2 AML AML
comp=E,142μm,1.3s
SPS2 AML AML
comp=N,145μm,0.8s
SPS2 AML AML
comp=N,145μm,1.2s
SPS2 AML AML
comp=E,142μm,0.7s
IACL Alicudi 2.27 312 P Pn 09 52 23.7 +0.5
LADO San Nicola del 2.28 9 P Pn 09 52 25.3 +1.8
CELI Celico 2.37 0 P Pn 09 52 26.7 +1.9
CELI AML AML
comp=N,395μm,1.0s
CELI AML AML
comp=E,359μm,0.9s
PIPA Pietrapaola 2.47 6 P Pn 09 52 27.9 +2.0
PIPA AML AML
comp=E,527μm,0.3s
PIPA AML AML
comp=E,518μm,0.3s
PIPA AML AML
comp=N,386μm,0.3s
PIPA AML AML
comp=E,518μm,1.7s
PIPA AML AML
comp=E,527μm,1.7s
PIPA AML AML
comp=N,418μm,0.3s
CET2 Cetraro 2.53 350 P Pn 09 52 27.7 +0.8
CET2 AML AML
comp=E,314μm,0.3s
CET2 AML AML
comp=N,664μm,0.3s
CET2 AML AML
comp=N,664μm,1.7s
TDS Terranova Siba 2.63 357 P Pn 09 52 30.6 +2.4
TDS AML AML
comp=E,83μm,0.9s
TDS AML AML
comp=N,86μm,0.4s
TDS AML AML
comp=E,83μm,1.1s
CORL Corleone 2.69 290 P Pn 09 52 30.5 +1.5
CORL AML AML
comp=E,672μm,1.0s
CORL AML AML
comp=N,834μm,0.6s
CORL AML AML
comp=E,672μm,1.0s
MPG Monte Pellegri 2.74 295 P Pn 09 52 31.0 +1.3
MPG AML AML
comp=N,103μm,0.3s
MPG AML AML
comp=E,97μm,0.8s
SALB San Lorenzo Be 2.85 358 P Pn 09 52 33.4 +2.1
SALB AML AML
comp=E,184μm,0.3s
SALB AML AML
comp=N,122μm,0.7s
CRJA Costa Raja 2.89 287 P Pn 09 52 33.0 +1.2
CRJA AML AML
comp=E,326μm,0.9s
CRJA AML AML
comp=N,123μm,0.8s
CRJA AML AML
comp=N,123μm,1.2s
CUC Castrocucco 3.01 350 P Pn 09 52 34.1 +0.7
CUC AML AML
comp=E,134μm,1.0s
CUC AML AML
comp=N,114μm,1.5s
CUC AML AML
comp=N,114μm,0.5s
CUC AML AML
comp=E,130μm,0.3s
CUC AML AML
comp=N,144μm,1.1s
BULG Bulgheria - Ca 3.17 344 P Pn 09 52 36.4 +0.7
BULG AML AML
comp=N,302μm,0.3s
BULG AML AML
comp=E,176μm,0.4s
SIRI Monte Sirino - 3.19 351 P Pn 09 52 36.8 +0.8
SIRI AML AML
comp=E,227μm,0.3s
SIRI AML AML
comp=N,136μm,0.8s
SIRI AML AML
comp=E,234μm,0.3s
SIRI AML AML
comp=N,135μm,1.3s
SIRI AML AML
comp=E,234μm,1.7s
SIRI AML AML
comp=E,227μm,1.7s
SIRI AML AML
comp=N,136μm,1.2s
SIRI AML AML
comp=N,135μm,0.7s
MGR Morigerati 3.19 347 P Pn 09 52 37.0 +1.1
MGR AML AML
comp=E,156μm,1.6s
MGR AML AML
comp=N,186μm,0.3s
MGR AML AML
comp=E,156μm,0.4s
MTSN Montesano sull 3.29 350 P Pn 09 52 38.1 +0.8
MTSN AML AML
comp=E,104μm,0.3s
MTSN AML AML
comp=N,121μm,0.7s
SCTE Santa Cesarea 3.41 26 P Pn 09 52 38.4 -0.5
baz=27
SCTE S Sn 09 53 14.9 -4.6
baz=27
SCTE AMP
comp=E,0.2nm,0.1s,baz=27
SCTE Santa Cesarea 3.41 26 P Pn 09 52 39.1 +0.2
SCTE AML AML
comp=E,516μm,1.3s
SCTE AML AML
comp=N,576μm,1.5s
SCTE AML AML
comp=N,576μm,0.5s
SCTE AML AML
comp=E,516μm,0.7s
CMPR Campora 3.42 344 P Pn 09 52 39.9 +0.8
SLCN Sala Consilina 3.42 349 P Pn 09 52 40.7 +1.4
SLCN AML AML
comp=E,192μm,1.6s
SLCN AML AML
comp=N,117μm,0.6s
SLCN AML AML
comp=N,117μm,1.4s
SLCN AML AML
comp=E,192μm,0.4s
VLS Valsamata 3.44 69 AML AML
comp=E,148μm,0.3s
VLS AML AML
comp=N,154μm,0.8s
LPDG Lampedusa Capo 3.47 245 ⇓P Pn 09 52 39.6 -0.2
LPDG AML AML
comp=E,222μm,0.2s
LPDG AML AML
comp=N,292μm,1.1s

PTRP Pietrapertosa 3.51 355 P Pn 09 52 43.6 +3.3
PTRP AML AML
comp=E,138μm,0.4s
PTRP AML AML
comp=N,124μm,0.4s
TAR1 Taranto 3.55 10 P Pn 09 52 40.9 +0.1
TAR1 AML AML
comp=E,466μm,0.2s
TAR1 AML AML
comp=N,450μm,1.0s
TAR1 AML AML
comp=E,466μm,1.8s
MIGL Miglionico 3.57 359 P Pn 09 52 42.5 +1.4
LTRZ Laterza 3.58 4 ⇓P Pn 09 52 41.5 +0.2
CDRU Civita di Ruta 3.58 345 P Pn 09 52 42.5 +1.2
CDRU AML AML
comp=N,42μm,0.3s
CDRU AML AML
comp=N,42μm,1.7s
CDRU AML AML
comp=E,66μm,0.2s
MATE Matera 3.62 2 ⇑P Pn 09 52 42.4 +0.6
MATE Matera 3.62 2 P Pn 09 52 42.0 +0.3
MATE AML AML
comp=N,236μm,0.5s
MATE AML AML
comp=E,268μm,0.3s
MATE AML AML
comp=N,236μm,1.5s
PZUN Potenza 3.65 352 AML AML
comp=N,152μm,0.6s
PZUN AML AML
comp=E,101μm,0.3s
MESG Mesagne 3.71 16 P Pn 09 52 42.9 -0.1
LKD2 Lefkada island 3.73 61 P Pn 09 52 44.5 +1.2
baz=65
LKD2 S Sn 09 53 25.0 -2.4
baz=65
ACER Acerenza 3.78 354 P Pn 09 52 45.8 +1.7
ACER AML AML
comp=N,122μm,0.4s
ACER AML AML
comp=E,170μm,0.4s
NOCI Noci 3.78 7 P Pn 09 52 43.9 -0.2
baz=4.0
NOCI S Sn 09 53 23.7 -5.0
baz=4.0
NOCI Noci 3.78 7 P Pn 09 52 43.9 -0.2
NOCI AML AML
comp=E,386μm,1.1s
NOCI AML AML
comp=N,468μm,0.6s
NOCI AML AML
comp=E,386μm,0.9s
MRLC Muro Lucano 3.81 348 P Pn 09 52 47.4 +2.9
MRLC AML AML
comp=N,70μm,1.5s
MRLC AML AML
comp=N,70μm,0.5s
MRLC AML AML
comp=E,54μm,1.1s
AMUR Altamura 3.88 1 P Pn 09 52 45.7 +0.4
AMUR AML AML
comp=N,300μm,0.3s
AMUR AML AML
comp=E,361μm,0.4s
IGT Igoumenitsa 3.92 49 P Pn 09 52 46.5 +0.6
baz=52
IGT S Sn 09 53 28.8 -3.2
baz=52
PALZ Palazzo San Ge 3.93 354 P Pn 09 52 47.5 +1.3
SRN Sarande 3.96 43 P Pn 09 52 46.7 +0.3
baz=45
SRN S Sn 09 53 28.6 -4.3
baz=45
SRN AMP
comp=E,2μm,0.2s,baz=45
SRN Sarande 3.96 43 P Pn 09 52 47.0 +0.6
VULT Monte Vulture 3.98 350 AML AML
comp=E,97μm,0.8s
VULT AML AML
comp=E,97μm,1.2s
VULT AML AML
comp=N,112μm,0.6s
MRVN Minervino Murg 4.04 357 P Pn 09 52 48.1 +0.5
MRVN AML AML
comp=E,99μm,0.8s
MRVN AML AML
comp=N,96μm,1.1s
MRVN AML AML
comp=N,96μm,0.9s
MRVN AML AML
comp=E,99μm,1.2s
MTMR Montemarano 4.06 344 P Pn 09 52 49.8 +2.0
MTMR AML AML
comp=N,77μm,1.6s
MTMR AML AML
comp=N,77μm,0.4s
MTMR AML AML
comp=E,93μm,0.3s
VLO Vlora 4.16 33 P Pn 09 52 50.1 +0.9
baz=34
VLO S Sn 09 53 34.0 -3.9
baz=34
LSK Leskovik 4.48 45 P Pn 09 52 54.6 +0.9
baz=47
LSK S Sn 09 53 43.1 -2.9
baz=47
SGRT San Giovanni R 4.76 353 P Pn 09 52 57.8 +0.3
baz=351
SGRT S Sn 09 53 50.2 -2.7
baz=351
APRC Apricena 4.78 351 AML AML
comp=E,96μm,0.4s
APRC AML AML
comp=N,142μm,1.2s
TIR Tirane 5.04 30 ⇑P Pn 09 52 59.7 -1.7
TIR Tirane 5.04 30 P Pn 09 53 02.1 +0.7
baz=31
TIR S Sn 09 53 57.3 -2.5
baz=31
TIR AMP
comp=N,0.2nm,0.2s,baz=31
OHR Ohrid 5.27 38 *e*Pn **Pn 09 53 05.0 +0.4**
OHR *e*Sg **Sn 09 54 04.1 -1.5**
FNA Florina 5.34 44 P Pn 09 53 06.8 +1.3
baz=46
FNA S Sn 09 54 04.8 -2.5
baz=46
DRME Dracevica, Mon 5.55 21 *e*Pn Pn 09 53 07.1 -1.3
HCY Herceg Novi 5.63 15 *e*Pn Pn 09 53 07.8 -1.6
LSTV Lastovo 5.74 3 *e*Pn **Pn 09 53 10.2 -0.7**
LSTV Sn Sn 09 54 10.6 -6.3
DBRK Dubrovnik 5.78 12 *e*Pn **Pn 09 53 10.5 -0.9**
PDG Podgorica 5.80 21 ⇑P Pn 09 53 10.4 -1.3
TREB Trebinje 5.86 13 *e*Pn Pn 09 53 11.0 -1.6
STON Ston 5.91 9 *e*Pn **Pn 09 53 12.5 -0.7**
STON Ston 5.91 9 *e*Pn Pn 09 53 11.9 -1.3
KEST Kesra 5.91 260 Pn **Pn 09 53 15.1 +1.7**
comp=N,2.8nm,0.3s,baz=52,slow=8.0,SNR=34
KEST Sn **Sn 09 54 18.7 -2.7**
baz=319,slow=23
comp=N,7.5nm,0.4s
BCI Bajram Curri 6.00 26 P Pn 09 53 16.0 +1.5
baz=26
BCI S Sn 09 54 20.9 -2.5
baz=26
BRY Bratogost 6.07 14 *e*Pn **Pn 09 53 15.0 -0.6**
HVAR Hvar 6.14 360 *e*Pn **Pn** 09 53 15.9 -0.6
HVAR Sn Sn 09 54 19.7 -7.2
MAKA Makarska 6.27 3 *e*Pn **Pn 09 53 17.2 -0.9**
VAY Valandovo 6.37 46 *e*Pn **Pn 09 53 19.9 +0.3**
NEVS Nevesinje 6.38 11 *e*Pn Pn 09 53 16.3 -3.5
STIP Stip 6.41 42 *e*Pn **Pn 09 53 21.7 +1.6**
STIP *e*Pn **Pn 09 53 22.9 +2.7**
UPM Unac-Piva 6.44 16 *e*Pn Pn 09 53 19.2 -1.5
RICI Ricice 6.48 4 *e*Pn **Pn 09 53 20.5 -0.6**
ZIRJ Zirje 6.65 355 *e*Pn **Pn 09 53 23.5 0.0**
SJES Sjenica 6.77 22 *e*Pn **Pn 09 53 25.1 -0.1**
MORI Morici 6.86 355 *e*Pn **Pn 09 53 26.5 +0.2**
RUDO Rudo 6.94 18 *e*Pn **Pn 09 53 26.4 -1.0**
KIJV Kijevo 6.97 359 *e*Pn **Pn 09 53 28.4 +0.6**
IDI Anoyia 7.01 102 Pn **Pn 09 53 29.7 +1.3**
comp=N,2.5nm,0.3s,baz=343,slow=10,SNR=11
IDI Sn **Sn 09 54 44.2 -4.1**
comp=N,3.6nm,0.3s,baz=33,slow=14,SNR=2.6

comp=N,5.8nm,0.3s
DUGI Dugi Otok 7.04 351 *e*Pn **Pn 09 53 29.4 +0.6**
SRKY Kupres RS 7.05 4 *e*Pn **Pn 09 53 29.1 +0.1**
BBLS Lazići 7.18 17 *e*Pn **Pn 09 53 30.7 -0.1**
VIRC Vir 7.34 352 *e*Pn **Pn 09 53 33.5 +0.6**
MGRS Mrkonjic Grad 7.39 3 *e*Pn **Pn 09 53 35.4 +1.7**
A050A Klekovaca 7.45 0 *e*Pn **Pn 09 53 35.4 +1.0**
UDBI Udbina 7.51 356 *e*Pn **Pn 09 53 37.7 +2.3**
DIVS Divibare 7.55 20 *e*Pn **Pn 09 53 35.0 -0.8**
VTS Vitosha 7.62 41 ⇑P Pn 09 53 40.1 +3.3
NVLJ Novalja 7.63 351 *e*Pn **Pn 09 53 37.6 +0.7**
BLY Banja Luka 7.73 4 *e*Pn **Pn 09 53 38.6 +0.3**
TEKS Tekeris 7.86 16 *e*Pn **Pn 09 53 39.4 -0.6**
BRJN Brijuni 8.14 346 *e*Pn **Pn 09 53 45.1 +1.3**
A252A Venje 8.46 6 *e*Pn **Pn 09 53 47.8 -0.5**
FRGS Fruska Gora 8.50 16 ⇑P Pn 09 53 47.4 -1.4
FRGS Fruska Gora 8.50 16 *e*Pn Pn 09 53 47.2 -1.6
MOSL Moslavina 8.58 1 *e*Pn **Pn 09 53 49.5 -0.4**
OZLJ Ozalj 8.62 355 *e*Pn **Pn 09 53 51.5 +1.2**
MDVR Moldovita 8.69 25 ⇑P Pn 09 53 50.3 -1.2
SKDS Skadanscina 8.71 348 *e*Pn **Pn 09 53 53.5 +1.7**
CEY Cerknica 8.84 351 *e*Pn **Pn 09 53 54.6 +1.1**
PTJ Puntijarka 8.88 358 *e*Pn **Pn 09 53 53.7 -0.4**
HERR Herculane 9.03 28 ⇓P Pn 09 53 55.4 -0.6
KALN Kalnik 9.10 360 *e*Pn **Pn 09 53 56.9 -0.1**
MORH Mrgy, Hungar 9.32 9 ⇓P Pn 09 53 58.8 -1.2
BZS Buzias 9.40 23 ⇑P Pn 09 54 00.3 -0.9
OBKA Obir 9.59 352 *e*Pn **Pn 09 54 05.0 +1.2**
comp=N,1.5nm,0.2s
OBKA Obir 9.59 352 *e*Pn **Pn 09 54 04.7 +0.9**
GZR Gura Zlata 9.60 28 ⇓P Pn 09 54 03.3 -0.7
SOKA Soboth 9.71 354 *e*Pn **Pn 09 54 05.8 +0.5**
comp=N,1.0nm,0.3s
ARSA Arzberg 10.24 356 *i* Pn **Pn 09 54 13.7 +1.0**
comp=N,4.2nm,0.4s
ARR Arges 10.34 34 ⇑P Pn 09 54 14.8 +0.8
VOIR 10.58 35 ⇑P Pn 09 54 18.3 +1.0
RONA Rosalia, Austr 10.67 359 *i* Pn **Pn 09 54 19.1 +0.6**
comp=N,3.8nm,0.3s
LESA Schwarzleotal 10.77 346 *e*Pn **Pn 09 54 21.6 +1.7**
comp=N,1.1nm,0.4s
CONA Conrad Observa 10.90 358 *i* Pn **Pn 09 54 22.5 +0.7**
comp=N,1.0nm,0.2s
MOA Molln 10.94 352 *e*Pn **Pn 09 54 24.0 +1.8**
comp=N,1.1nm,0.4s
GERES GERESS Array B 11.99 351 Pn **Pn 09 54 37.6 +1.0**
comp=N,0.1nm,0.3s,baz=171,slow=14,SNR=2.4
comp=N,0.4nm,0.4s
ESDC Sonseca Array 16.27 286 Pn **Pn 09 55 36.7 +2.4**
baz=91,slow=10,SNR=4.1
comp=N,0.5nm,0.9s
AKASG Malin Array Be 16.43 30 Pn **Pn 09 55 38.5 +2.3**
comp=N,0.2nm,0.3s,baz=220,slow=9.2,SNR=2.3
FINES FINESS Array B 25.17 11 P P 09 57 12.1 +1.1
comp=N,0.9nm,0.4s,baz=178,slow=9.0,SNR=15
comp=N,0.9nm,0.4s
TORD Torodi Ar. Bea 27.23 213 P P 09 57 31.1 +1.2
comp=N,0.4nm,0.5s,baz=25,slow=10,SNR=4.3
TORD LR LR 10 09 01.7
comp=N,49nm,18.4s,baz=176,slow=38
comp=N,0.4nm,0.5s
ARCES ARCESS Array B 32.93 6 P P 09 58 18.7 -1.3
comp=N,3.2nm,0.9s,baz=181,slow=7.3,SNR=4.7
comp=N,3.2nm,0.9s

IDC ***15*** *10:16:23.6±0.8, 35°.97N×90°.11W, h0km, mb3.0/3, mbtmp3.5/9, ML3.6/5, Error ellipse: s-maj=13.6km s-min=7.7km az=174.0*
NEIC ***15*** *10:16:25.8, 35°.84N×90°.12W, h17km*
SLM ***15*** *10:16:25.9±0.8, 35°.83N±0°.01×90°.12W±0°.01, h17km±2km, Md3.7/46, mb_Lg3.9/175(NEIC), ML4.4/20(NEIC), Mwr3.6/14(NEIC), Error ellipse: s-maj=2.3km s-min=0.6km az=146.0*
ANF ***15*** *10:16:25.6±0.4, 35°.82N×90°.11W, h15km, ML4.8/10, Error ellipse: s-maj=7.2km s-min=5.0km az=154.0*
NEIC ***15*** *10:16:26.1±0.8, 35°.834N±0°.010×90°.11W±0°.01, h17km±2km, Error ellipse: s-maj=1.8km s-min=0.6km az=141.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.04; $M_{\theta\theta}$3.16; $M_{\phi\phi}$-3.12; $M_{r\theta}$0.22; $M_{\theta\phi}$-0.83; $M_{\phi r}$-0.03; Fault plane solution: $M_0$3.25000×10^{14} NP1:ϕ_s142.51000°, δ87.35000°, λ2.73000°. NP2: ϕ_s52.38000°, δ87.27000°, λ177.35000°. Principal axes: T 3.2813, Plg4.0000°, Azm7.0000°; N -0.0571, Plg86.0000°, Azm187.0000°; P -3.2242, Plg0.0000°, Azm277.0000°;*
ISC 15 10:16:24.8±0.8, 35°.81N±0°.02×90°.12W±0°.02, h20km±2km, n305, σ1°34/316, Arkansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAR	**Manila South**	**0.04**	**217**		**Pg**	**10 16 29.1**	**+0.7**
MSAR					**Sg**	**10 16 31.7**	**+1.0**
DLAR	**Dell**	**0.09**	**92**		**Pg**	**10 16 29.4**	**+0.7**
DLAR					**Sg**	**10 16 32.2**	**+0.9**
LVAR	**Leachville**	**0.13**	**321**		**Pg**	**10 16 29.7**	**+0.6**
LVAR					**Sg**	**10 16 32.7**	**+0.7**
GNAR	**Gosnell**	**0.17**	**29**		**Pg**	**10 16 30.2**	**+0.5**
GNAR				Sg	**Sg**	**10 16 33.5**	**+0.6**
GNAR				IAML		10 16 33.8	
comp=E,122μm,0.8s							
GSAR	**Gosnell High S**	**0.19**	**39**		**Pg**	**10 16 30.5**	**+0.6**
GSAR					**Sg**	**10 16 34.2**	**+0.9**
LPAR	**Lepanto**	**0.26**	**215**		**Pg**	**10 16 31.9**	**+1.1**
LPAR					**Sg**	**10 16 36.7**	**+1.8**
CHNM	**Channel**	**0.28**	**34**		**Pb**	**10 16 31.8**	**+0.7**
CHNM					**Sg**	**10 16 36.2**	**+0.7**
V43A	**Jonesboro**	**0.35**	**266**		**Pb**	**10 16 33.3**	**+1.0**
V43A					**Sb**	**10 16 38.9**	**+1.5**
PEBM	**Pemiscott Bayo**	**0.37**	**35**		**Pb**	**10 16 33.1**	**+0.5**
PEBM				Sg	**Sb**	**10 16 38.4**	**+0.4**
PEBM				IAML		10 16 38.7	
comp=E,39μm,0.4s							
PEBM				IAML		10 16 38.7	
comp=N,43μm,0.2s							
ARPT	**Arp**	**0.37**	**99**		**Pb**	**10 16 33.6**	**+0.9**
BRGM	**Braggadocio**	**0.45**	**28**		**Pb**	**10 16 34.5**	**+0.4**
CWPT	**Cottonwood Poi**	**0.45**	**64**		**Pb**	**10 16 34.9**	**+0.8**
CWPT					**Sb**	**10 16 41.4**	**+1.1**
QUAR	**Qualls**	**0.46**	**249**		**Pb**	**10 16 35.4**	**+1.1**
SFTN	**Shelby Forest**	**0.46**	**170**		**Pb**	**10 16 35.4**	**+1.1**
EDIT	**Edith**	**0.46**	**84**		**Pb**	**10 16 35.1**	**+0.8**
CVTN	**Covington**	**0.47**	**125**		**Pb**	**10 16 35.3**	**+0.8**
CVTN					**Sb**	**10 16 42.5**	**+1.5**
HBAR	**Harrisburg**	**0.51**	**240**		**Pg**	**10 16 36.2**	**+1.2**
HBAR	**Harrisburg**	**0.51**	**240**		**Sn**	**10 16 43.9**	**-1.2**
HBAR	**Harrisburg**	**0.51**	**240**	P	**Pg**	**10 16 36.2**	**+1.2**
baz=57,SNR=616							
HBAR				S	**Sb**	**10 16 43.6**	**+1.6**
baz=57							
FPST	**Four Points**	**0.56**	**73**		**Pg**	**10 16 36.9**	**+0.9**
TWAR	**Twist**	**0.57**	**219**		**Pn**	**10 16 37.5**	**-0.3**
TWAR					**Sn**	**10 16 46.4**	**-0.3**
LNXT	**Lenox**	**0.59**	**60**		**Pg**	**10 16 37.2**	**+0.9**
LNXT				Sg	**Sg**	**10 16 45.1**	**+0.8**
LNXT				IAML		10 16 46.1	
comp=E,23μm,0.4s							
LNXT	**Lenox**	**0.59**	**60**	P	**Pg**	**10 16 37.3**	**+0.9**
baz=242,SNR=295							
LNXT				S	**Sg**	**10 16 45.4**	**+1.1**
baz=242							
WADM	**Wardell**	**0.61**	**25**		**Pg**	**10 16 37.4**	**+0.5**
MIST	**Miston**	**0.62**	**54**		**Pg**	**10 16 37.8**	**+0.9**
HALT	**Halls**	**0.64**	**81**		**Pg**	**10 16 38.0**	**+0.6**
PVMO	**Portageville**	**0.69**	**29**		**Pg**	**10 16 38.5**	**+0.4**
PVMO	**Portageville**	**0.69**	**29**	IAML		10 16 48.7	
comp=E,17μm,0.3s							
RELT	**Roellen**	**0.70**	**71**		**Pn**	**10 16 39.3**	**-0.3**
POBM	**Portage Bay**	**0.70**	**32**		**Pg**	**10 16 38.8**	**+0.5**
MET	**Memphis--Engin**	**0.71**	**167**		**Pg**	**10 16 39.4**	**+0.9**
MET				IAML		10 16 50.2	
comp=E,17μm,0.5s							
MET				IAML		10 16 50.3	
comp=N,15μm,0.3s							
PGVM	**Portageville**	**0.72**	**26**		**Pg**	**10 16 39.1**	**+0.4**
PPLM	**Point Pleasant**	**0.73**	**36**		**Pg**	**10 16 39.4**	**+0.5**
TOPM	**Tallapoosa**	**0.74**	**15**		**Pb**	**10 16 39.2**	**+0.3**
PENMO	**Penman**	**0.75**	**32**		**Pb**	**10 16 39.6**	**+0.3**
GLAT	**Glass**	**0.81**	**56**		**Pg**	**10 16 41.2**	**+0.8**
GLAT				IAML		10 16 56.2	
comp=N,19μm,0.3s							
GLAT				IAML		10 16 57.9	

comp=E,14µm,0.3s
LCAR Lake Charles 0.88 287 P Pb 10 16 41.7 +0.3
baz=105,SNR=1000
PARMO Parma 0.90 19 Pb 10 16 42.0 +0.2
PARMO IAML 10 16 54.7
comp=N,15µm,0.4s
EBZ Ebenezer Churc 0.92 137 Pn 10 16 42.9 +0.3
PBMO Poplar Bluff 1.00 346 Pb 10 16 43.5 +0.2
PBMO Poplar Bluff 1.00 346 P Pb 10 16 43.6 +0.2
baz=165,SNR=308
PBMO S **Sb 10 16 56.5 +0.4**
baz=165
HENM Henderson Moun 1.04 30 Pb 10 16 44.4 +0.2
UTMT University of 1.15 62 Pg 10 16 46.8 +1.0
T42A Van Buren 1.45 327 Pb 10 16 51.2 +0.1
T42A Van Buren 1.45 327 P Pb 10 16 51.2 +0.1
baz=146
T42A S **Sb 10 17 09.9 +0.9**
baz=146
CGM3 Cape Girardeau 1.53 14 Pb 10 16 52.1 -0.4
CGM3 IAmb_Lg 10 17 12.3
comp=Z,533nm,0.8s
FCAR Ozark Folk Cen 1.63 273 Pn Pb 10 16 54.2 0.0
FCAR IAmb_Lg 10 17 16.1
comp=Z,679nm,0.8s
T45B Paducah 1.69 44 P Pn 10 16 54.4 +1.2
baz=226,SNR=215
T45B S **Sb 10 17 15.9 -0.1**
baz=226
T45A Paducah 1.69 44 Pn 10 16 54.5 +1.2
PLAL Pickwick Lake 1.86 116 Pb 10 16 57.4 -0.9
PWLA Pickwick Lake 1.87 116 Pn 10 16 57.1 +1.4
WVT Waverly 1.89 80 Pn Pn 10 16 56.9 +1.0
WVT Waverly 1.89 80 P Pn 10 16 57.0 +1.1
baz=262
WVT S **Sb 10 17 21.0 -0.7**
baz=262
WVT Waverly 1.89 80 P Pn 10 16 57.0 +1.1
baz=262,SNR=667
Y45A Yeager Farm, C 2.00 166 Pn Pb 10 16 59.6 -0.9
Y45A Yeager Farm, C 2.00 166 P Pb 10 16 59.7 -0.9
baz=347,SNR=520
Y45A S **Sb 10 17 25.0 0.0**
baz=347
S44A Carbondale 2.00 20 Pn 10 16 58.8 +1.2
S44A IAmb_Lg 10 17 31.1
comp=Z,392nm,0.8s
S44A Carbondale 2.00 20 P Pn 10 16 58.7 +1.2
baz=201,SNR=191
SIUC Southern Illin 2.03 21 Pn 10 16 59.0 +1.1
UALR University of 2.09 241 Pb 10 17 00.8 -1.2
UALR IAmb_Lg 10 17 33.3
comp=Z,503nm,0.7s
FVM French Village 2.18 354 Pn Pn 10 17 01.3 +1.3
FVM French Village 2.18 354 P Pn 10 17 01.2 +1.2
baz=173,SNR=801
FVM S **Sb 10 17 31.0 +0.8**
baz=173
MGMO Mountain Grove 2.19 308 Pn 10 17 01.9 +1.8
MGMO IAmb_Lg 10 17 38.4
comp=Z,656nm,0.8s
U40A Yellville 2.28 285 Pn 10 17 03.0 +1.7
U40A Yellville 2.28 285 P Pn 10 17 03.0 +1.7
baz=102,SNR=276
U40A P **Pn 10 17 03.0 +1.7**
baz=102,SNR=276
CCAR Cane Creek 2.33 216 P Pb 10 17 04.6 -1.5
baz=35,SNR=30
CCM Cathedral Cave 2.41 338 Pn 10 17 04.7 +1.5
CCM Cathedral Cave 2.41 338 P Pn 10 17 04.5 +1.3
baz=158
CCM S **Sn 10 17 34.3 +2.1**
baz=158
CCM Cathedral Cave 2.41 338 P Pn 10 17 04.3 +1.1
baz=158,SNR=185
CCM S **Sb 10 17 38.8 +1.9**
baz=158
X40A Basin Creek Fa 2.59 240 P Pn 10 17 07.3 +1.8
baz=58,SNR=63
X40A P **Pn 10 17 07.3 +1.8**
baz=58,SNR=63
X40A S **Sn 10 17 39.0 +2.6**
baz=58
X40A S **Sn 10 17 39.0 +2.6**
baz=58
V48A Smith Brothers 2.68 91 Pn 10 17 08.2 +1.3
V48A IAmb_Lg 10 17 52.8
comp=Z,316nm,0.8s
V48A Smith Brothers 2.68 91 P Pn 10 17 08.2 +1.3
baz=273,SNR=185
T47A Sharon Grove 2.70 63 Pn Pn 10 17 08.5 +1.4
T47A IAmb_Lg 10 17 49.9
comp=Z,472nm,0.8s
T47A Sharon Grove 2.70 63 P Pn 10 17 08.5 +1.4
baz=245,SNR=161
T47A S **Sn 10 17 41.3 +2.1**
baz=245
SLM Saint Louis 2.82 358 Pn 10 17 10.2 +1.4
SLM Saint Louis 2.82 358 P Pn 10 17 10.4 +1.6
baz=178
X48A Hartselle 2.86 117 Pn Pn 10 17 11.2 +1.8
X48A IAmb_Lg 10 17 56.8
comp=Z,317nm,0.8s
X48A Hartselle 2.86 117 P Pn 10 17 10.9 +1.6
baz=300,SNR=125
NHIN New Harmony 2.90 36 Pn 10 17 11.3 +1.5
USIN University of 2.91 42 Pn Pn 10 17 11.4 +1.4
R40A Maddies Statio 3.01 326 Pn Pn 10 17 13.3 +1.9
R40A IAmb_Lg 10 18 00.2
comp=Z,370nm,0.7s
R40A Maddies Statio 3.01 326 P Pn 10 17 13.3 +1.9
baz=144,SNR=144
CLTN Cedars of Leba 3.09 84 IAmb_Lg 10 18 03.9
comp=Z,250nm,0.8s
MIAR Mount Ida 3.10 247 Pn Pn 10 17 14.8 +2.2
MIAR IAmb_Lg 10 18 07.2
comp=Z,494nm,0.8s
MIAR Mount Ida 3.10 247 P Pn 10 17 14.8 +2.2
baz=64
MIAR S **Sn 10 17 50.4 +1.3**
baz=64
MIAR Mount Ida 3.10 247 P Pn 10 17 14.7 +2.0
baz=64,SNR=123
MIAR S **Sn 10 17 50.5 +1.3**
baz=64
Z47A Carrollton 3.11 146 Pn Pn 10 17 15.2 +2.5
Z47A IAmb_Lg 10 18 10.2
comp=Z,361nm,0.7s
Z47A Carrollton 3.11 146 P Pn 10 17 15.1 +2.4
baz=328,SNR=74
S39A Bolivar 3.18 307 Pn Pn 10 17 15.9 +2.1
S39A Bolivar 3.18 307 P Pn 10 17 15.1 +1.3
baz=125,SNR=150
Q44A Meyer Farm, Va 3.21 16 Pn Pn 10 17 15.9 +1.8
Q44A Meyer Farm, Va 3.21 16 P Pn 10 17 15.9 +1.8
baz=196,SNR=59
WLAR White Oak Lake 3.25 230 Pn 10 17 16.9 +2.2
143A Socs Landing, 3.28 199 Pn 10 17 16.9 +1.8
143A Socs Landing, 3.28 199 P Pn 10 17 16.8 +1.7
baz=18,SNR=26
146A Union 3.29 164 Pn Pn 10 17 17.4 +2.2
146A Union 3.29 164 P Pn 10 17 17.4 +2.2
baz=345,SNR=34
OLIL Olney 3.33 28 Pn 10 17 16.6 +0.8
OLIL Olney 3.33 28 P Pn 10 17 17.1 +1.3
baz=210,SNR=9.0
Z41A Richland Creek 3.38 222 Pn Pn 10 17 17.6 +1.2
Z41A Richland Creek 3.38 222 P Pn 10 17 17.6 +1.2
baz=40,SNR=18
Z41A P **Pn 10 17 17.6 +1.2**
baz=40,SNR=18
SWET Sewanee 3.47 99 IAmb_Lg 10 18 19.9
comp=Z,216nm,0.8s
U38A Gravette 3.51 282 Pn Pn 10 17 19.7 +1.4
U38A Gravette 3.51 282 P Pn 10 17 19.8 +1.5
baz=99,SNR=71
U49A Red Boiling Sp 3.58 77 Pn Pn 10 17 20.6 +1.3
U49A Red Boiling Sp 3.58 77 P Pn 10 17 20.7 +1.5
baz=260,SNR=31
VBMS Vicksburg 3.60 185 Pn 10 17 20.3 +0.8
VBMS Vicksburg 3.60 185 P Pn 10 17 20.7 +1.2
baz=5.1
VBMS S **Sn 10 18 04.6 +3.2**
baz=5.1
VBMS Vicksburg 3.60 185 P Pn 10 17 21.3 +1.8
baz=5.1
VBMS S **Sn 10 18 04.2 +2.8**
baz=5.1
Y49A Blount Mountai 3.62 122 Pn Pn 10 17 21.4 +1.6
Y49A IAmb_Lg 10 18 22.8
comp=Z,376nm,0.8s
Y49A Blount Mountai 3.62 122 P Pn 10 17 21.5 +1.6
baz=304,SNR=340
LRAL Lakeview Retre 3.79 136 Pn Pn 10 17 23.4 +1.4
LRAL IAmb_Lg 10 18 32.1
comp=Z,358nm,0.8s
LRAL Lakeview Retre 3.79 136 P Pn 10 17 23.5 +1.4
baz=318
LRAL S **Sn 10 18 06.7 +0.7**
baz=318
LRAL Lakeview Retre 3.79 136 P Pn 10 17 23.6 +1.5
baz=318,SNR=49
P43A Skaggs, Pawnee 3.85 7 IAmb_Lg 10 18 30.0
comp=Z,204nm,0.8s
P43A Skaggs, Pawnee 3.85 7 P Pn 10 17 24.3 +1.4
baz=187,SNR=22
WCI Wyandotte Cave 3.90 51 Pn 10 17 24.8 +1.2
WCI IAmb_Lg 10 18 32.2
comp=Z,342nm,0.8s
WCI Wyandotte Cave 3.90 51 P Pn 10 17 24.9 +1.2
baz=233
WCI S **Sn 10 18 10.6 +1.9**
baz=233
WCI Wyandotte Cave 3.90 51 P Pn 10 17 25.1 +1.5
baz=233,SNR=31
FPAL Fort Paine 3.91 108 IAmb_Lg 10 18 36.5
comp=Z,260nm,0.7s
W50A Signal Mountai 3.97 97 Pn Pn 10 17 26.4 +1.7
W50A IAmb_Lg 10 18 40.4
comp=Z,336nm,0.8s
W50A Signal Mountai 3.97 97 P Pn 10 17 26.3 +1.7
baz=281,SNR=93
RCG Rock City 3.99 101 Pn 10 17 27.0 +2.2
RLO Rose Lookout 3.99 276 Pn 10 17 26.7 +1.8
P40A Paris 4.01 338 P Pn 10 17 26.5 +1.3
baz=157
344A Westbrook Farm 4.38 187 Pn 10 17 31.0 +0.8
T50A Nancy 4.43 73 Pn 10 17 32.7 +1.8
T50A Nancy 4.43 73 P Pn 10 17 32.2 +1.4
baz=256
T50A P **Pn 10 17 32.2 +1.4**
baz=256
P46A Rosedale 4.45 30 Pn 10 17 31.2 +0.1
346A Big Creek Wild 4.45 173 Pn 10 17 33.3 +2.2
346A Big Creek Wild 4.45 173 P Pn 10 17 33.1 +2.0
baz=353,SNR=17
X37A Clayton 4.47 256 IAmb_Lg 10 18 57.4
comp=Z,294nm,0.8s
X37A Clayton 4.47 256 P Pn 10 17 33.5 +2.0
baz=72,SNR=24
X51A Calhoun 4.49 105 IAmb_Lg 10 19 00.5
comp=Z,306nm,0.7s
X51A Calhoun 4.49 105 P Pn 10 17 33.8 +2.1
baz=288,SNR=49
X51A P **Pn 10 17 33.8 +2.1**
baz=288,SNR=49
O44A Mansfield 4.53 16 Pn 10 17 33.1 +0.9
O44A IAmb_Lg 10 19 01.0
comp=Z,186nm,0.7s
CPCT Cooper Cave 4.58 93 IAmb_Lg 10 18 52.9
comp=Z,180nm,1.0s
TUL3 Leonard 4.61 273 Pn 10 17 34.4 +1.1
TUL3 Leonard 4.61 273 P Pn 10 17 34.5 +1.1
baz=89
TUL3 Leonard 4.61 273 P Pn 10 17 34.2 +0.9
baz=89,SNR=41
P38A Dawn 4.67 326 Pn Pn 10 17 35.3 +1.1
P38A IAmb_Lg 10 18 58.7
comp=Z,292nm,0.7s
P38A Dawn 4.67 326 P Pn 10 17 35.2 +1.0
baz=144,SNR=124
R49A Shelbyville 4.67 57 Pn 10 17 34.4 +0.2
R49A Shelbyville 4.67 57 P Pn 10 17 35.4 +1.2
baz=240,SNR=31
R49A P **Pn 10 17 35.4 +1.2**
baz=240,SNR=31
V51A Loudon 4.69 88 Pn 10 17 36.1 +1.7
V51A IAmb_Lg 10 19 02.8
comp=Z,167nm,0.8s
V51A Loudon 4.69 88 P Pn 10 17 36.4 +1.9
baz=272,SNR=60
Z38A Mt. Pleasant 4.75 239 Pn 10 17 37.0 +1.6
Z38A Mt. Pleasant 4.75 239 P Pn 10 17 37.1 +1.8
baz=56
HDIL Hopedale 4.78 8 IAmb_Lg 10 19 06.0
comp=Z,273nm,0.7s
HDIL Hopedale 4.78 8 P Pn 10 17 37.3 +1.6
baz=188
HDIL Hopedale 4.78 8 P Pn 10 17 37.1 +1.4
baz=188
N41A Harden Midland 4.92 353 Pn 10 17 38.6 +0.9
N41A IAmb_Lg 10 19 03.1
comp=Z,251nm,0.8s
N41A Harden Midland 4.92 353 P Pn 10 17 38.9 +1.2
baz=173,SNR=12
250A Grady 4.99 139 Pn 10 17 40.3 +1.7
250A IAmb_Lg 10 19 15.3
comp=Z,214nm,0.7s
250A Grady 4.99 139 P Pn 10 17 40.2 +1.6
baz=321,SNR=27
W52A Murphy 5.11 96 Pn 10 17 41.9 +1.6
W52A IAmb_Lg 10 19 16.5
comp=Z,163nm,0.8s
W52A Murphy 5.11 96 P Pn 10 17 42.1 +1.8
baz=280,SNR=36
SFIN Lafyette 5.14 27 IAmb_Lg 10 19 16.0
comp=Z,178nm,0.8s
SFIN Lafayette 5.14 27 P Pn 10 17 41.3 +0.6
baz=209
SFIN Lafayette 5.14 27 P Pn 10 17 41.7 +0.9
baz=209,SNR=11
TKL Tuckaleechee C 5.17 90 Pn Pn 10 17 42.7 +1.6
TKL IAmb_Lg 10 19 11.3
comp=Z,156nm,0.7s
TKL Tuckaleechee C 5.17 90 P Pn 10 17 42.5 +1.5
baz=274,SNR=57
TKL Tuckaleechee C 5.17 90 Pn Pn 10 17 42.9 +1.9
comp=Z,2.6nm,0.3s,baz=255,slow=12,SNR=67
TKL Pg **Pb 10 17 54.4 0.0**
comp=Z,8.3nm,0.3s,baz=256,slow=13,SNR=13
TKL Sn **Sn 10 18 41.1 +1.0**
comp=Z,9.0nm,0.3s,baz=313,slow=19,SNR=4.3
TKL Lg Lg 10 19 03.0
comp=Z,21nm,0.3s,baz=350,slow=19,SNR=4.6
comp=Z,7.8nm,0.2s
DEOK Depew 5.18 272 IAmb_Lg 10 19 23.7
comp=Z,173nm,0.8s
P48A Milroy 5.21 44 IAmb_Lg 10 19 10.5
comp=Z,157nm,0.7s
R50A Paris 5.25 60 Pn 10 17 43.0 +0.9
R50A IAmb_Lg 10 19 10.8
comp=Z,160nm,0.8s
R50A Paris 5.25 60 P Pn 10 17 43.4 +1.3
baz=244
R50A P **Pn 10 17 43.4 +1.3**
baz=244
T35A Sooner Cattle 5.27 284 Pn Pn 10 17 43.6 +1.1
T35B Sooner Cattle 5.27 284 P Pn 10 17 43.6 +1.0
baz=100,SNR=34
BRAL Brewton 5.29 150 IAmb_Lg 10 19 19.3
comp=Z,268nm,0.7s
V52A Sevierville 5.30 88 Pn 10 17 44.1 +1.2
V52A IAmb_Lg 10 19 15.2
comp=Z,191nm,0.8s
V52A Sevierville 5.30 88 P Pn 10 17 44.6 +1.7
baz=272,SNR=46
Y52A Lilburn 5.35 110 Pn 10 17 44.4 +0.9
Y52A IAmb_Lg 10 19 17.3
comp=Z,237nm,0.8s
Y52A Lilburn 5.35 110 P Pn 10 17 44.9 +1.3
baz=293,SNR=14
Y52A P **Pn 10 17 44.9 +1.3**
baz=293,SNR=14
QUOK Quay 5.35 276 IAmb_Lg 10 19 26.4
comp=Z,162nm,0.9s
TZTN Tazewell 5.37 80 IAmb_Lg 10 19 16.7
comp=Z,186nm,0.8s
TZTN Tazewell 5.37 80 P Pn 10 17 45.1 +1.4
baz=264
TZTN Tazewell 5.37 80 P Pn 10 17 45.7 +1.9
baz=264,SNR=32
OK052 Battle Ridge R 5.43 274 IAmb_Lg 10 19 27.4
comp=Z,175nm,0.8s
OK031 S. Brethren Rd 5.46 273 Pn Pn 10 17 45.3 +0.3
OK031 IAmb_Lg 10 19 23.0
comp=Z,180nm,0.8s
152A Waverly Hall 5.46 123 Pn 10 17 46.5 +1.4
152A Waverly Hall 5.46 123 P Pn 10 17 46.6 +1.4
baz=307
OK051 E0350 and S346 5.48 279 IAmb_Lg 10 19 27.5
comp=Z,221nm,0.8s
NATX Nacogdoches 5.53 224 IAmb_Lg 10 19 36.6
comp=Z,156nm,1.0s
NATX Nacogdoches 5.53 224 P Pn 10 17 47.5 +1.4
baz=42
OK033 Mehan 5.54 274 IAmb_Lg 10 19 33.4
comp=Z,164nm,0.8s
N38A Joes South For 5.54 335 P Pn 10 17 47.0 +0.8
baz=153
S51A Beattyville 5.55 69 Pn 10 17 47.4 +1.1
S51A Beattyville 5.55 69 P Pn 10 17 48.0 +1.7
baz=253,SNR=49
S51A P **Pn 10 17 48.0 +1.7**
baz=253,SNR=49
OK048 Pawnee Station 5.56 278 IAmb_Lg 10 19 32.9
comp=Z,249nm,0.9s
P49A Miami Univ. Ec 5.67 47 P Pn 10 17 48.2 +0.2
baz=231
P49A Miami Univ. Ec 5.67 47 P Pn 10 17 48.3 +0.4
baz=231,SNR=22
M44A Midewin, Midew 5.80 16 IAmb_Lg 10 19 27.5
comp=Z,163nm,1.0s
O48B Farmland 5.92 40 IAmb_Lg 10 19 46.8
comp=Z,222nm,0.7s
BG3 Lake Jocassee 5.93 96 Pn 10 17 53.6 +2.1
BG3 IAmb_Lg 10 19 41.2
comp=Z,134nm,0.9s
CASEE Lake Jocassee 5.93 96 P Pn 10 17 53.4 +1.9
baz=280
V53A Saluda 5.95 89 Pn Pn 10 17 53.0 +1.2
V53A IAmb_Lg 10 19 46.4
comp=Z,184nm,0.8s
V53A Saluda 5.95 89 P Pn 10 17 53.5 +1.7
baz=274,SNR=40
V53A P **Pn 10 17 53.5 +1.7**
baz=274,SNR=40
OKCSW OKLAHOMA CITY 5.97 268 IAmb_Lg 10 19 34.1
comp=Z,151nm,0.7s
GOGA Godfrey 5.99 112 P Pn 10 17 53.0 +0.7
baz=296,SNR=17
237A Washetta, Mont 6.07 233 Pn 10 17 55.2 +1.8
237A Washetta, Mont 6.07 233 P Pn 10 17 54.9 +1.5
baz=49,SNR=17
N47A Urbana 6.14 33 Pn 10 17 53.9 -0.5
N47A IAmb_Lg 10 19 38.3
comp=Z,178nm,0.9s
SSFO Shawnee State 6.23 60 Pn 10 17 57.3 +1.7
Q51A Peebles 6.27 57 Pn 10 17 56.9 +0.6
Q51A Peebles 6.27 57 P Pn 10 17 57.3 +1.1
baz=241,SNR=17
Q51A P **Pn 10 17 57.3 +1.1**
baz=241,SNR=17
L40A Anamosa 6.30 353 Pn Pn 10 17 56.6 0.0
O49A Covington 6.32 45 IAmb_Lg 10 19 46.8
comp=Z,162nm,0.7s
O49A Covington 6.32 45 P Pn 10 17 57.4 +0.5
baz=228
O49A P **Pn 10 17 57.4 +0.5**
baz=228
451A Vernon 6.35 144 IAmb_Lg 10 19 49.9
comp=Z,137nm,0.9s
451A Vernon 6.35 144 P Pn 10 17 59.0 +1.8
baz=326,SNR=7.2
CROK Carrier 6.40 278 IAmb_Lg 10 19 45.5
comp=Z,111nm,0.9s
KAN14 Manchester OK 6.43 283 Pn 10 17 59.1 +0.7
L44A Lake County Fo 6.58 14 IAmb_Lg 10 19 55.0
comp=Z,159nm,1.0s
OK032 Salt Plains WL 6.61 281 IAmb_Lg 10 20 03.0
comp=Z,112nm,0.9s
154A Montrose 6.63 117 Pn 10 18 02.7 +1.6
154A Montrose 6.63 117 P Pn 10 18 02.4 +1.3
baz=301,SNR=14
N35A Tabor 6.65 321 Pn 10 18 02.6 +1.2
P51A Williamsport 6.69 55 Pn 10 18 02.8 +0.9
U54A Nelsons Funny 6.75 82 Pn Pn 10 18 03.6 +0.8
U54A IAmb_Lg 10 20 08.4
comp=Z,172nm,0.8s
U54A Nelsons Funny 6.75 82 P Pn 10 18 03.6 +0.8
baz=267,SNR=93
U54A P **Pn 10 18 03.6 +0.8**
baz=267,SNR=93
FW06 Azle 6.77 247 IAmb_Lg 10 20 20.1
comp=Z,53nm,1.1s
L46A Eue Claire 6.87 25 Pn 10 18 05.4 +1.0
L46A IAmb_Lg 10 20 07.2
comp=Z,161nm,0.8s
L46A Eue Claire 6.87 25 P Pn 10 18 05.8 +1.4
baz=207,SNR=13
L46A P **Pn 10 18 05.8 +1.4**
baz=207,SNR=13
N49A Columbus Grove 6.91 41 IAmb_Lg 10 20 04.2
comp=Z,166nm,0.8s
N49A Columbus Grove 6.91 41 P Pn 10 18 05.8 +0.8
baz=224
N49A P **Pn 10 18 05.8 +0.8**
baz=224
OK035 E0210 Rd and N 7.00 280 IAmb_Lg 10 20 23.9
comp=Z,155nm,0.9s
Q52A Bidwell 7.00 61 Pn 10 18 07.5 +1.3
Q52A Bidwell 7.00 61 P Pn 10 18 07.3 +1.1
baz=246,SNR=25
Q52A P **Pn 10 18 07.3 +1.1**
baz=246,SNR=25
R53A Hurricane 7.00 67 P Pn 10 18 07.0 +0.8
baz=252,SNR=14
R53A P **Pn 10 18 07.0 +0.8**
baz=252,SNR=14
K43A Burlington 7.02 11 IAmb_Lg 10 20 05.3
comp=Z,110nm,0.9s
FW07 Weatherford 7.06 246 IAmb_Lg 10 20 29.6
comp=Z,32nm,0.8s
JFWS Jewell Farm 7.09 359 IAmb_Lg 10 20 21.3
comp=Z,133nm,0.8s
JFWS Jewell Farm 7.09 359 P Pn 10 18 07.8 +0.3
baz=179,SNR=5.1
FW03 Perrin-Whitt E 7.12 249 IAmb_Lg 10 20 24.0
comp=Z,30nm,0.7s
K38A Parkersburg 7.13 344 IAmb_Lg 10 20 15.3
comp=Z,181nm,0.9s
ACSO Alum Creek Sta 7.16 50 Pn 10 18 09.4 +1.0
WMOK Wichita Mounta 7.16 264 Pn 10 18 09.1 +0.5
WMOK Wichita Mounta 7.16 264 P Pn 10 18 09.4 +0.9
baz=79
KMSC Kings Mountain 7.20 93 Pn 10 18 10.7 +1.6
KMSC IAmb_Lg 10 20 19.1
comp=Z,127nm,0.8s
KMSC Kings Mountain 7.20 93 P Pn 10 18 10.6 +1.6
baz=278,SNR=7.7
V55A Taylorsville 7.23 87 Pn 10 18 10.0 +0.6
V55A IAmb_Lg 10 20 26.2
comp=Z,94nm,0.8s
V55A Taylorsville 7.23 87 P Pn 10 18 10.4 +0.9
baz=272,SNR=22
V55A P **Pn 10 18 10.4 +0.9**
baz=272,SNR=22
S54A Dingess, Beckl 7.34 72 Pn 10 18 12.0 +1.1
S54A IAmb_Lg 10 20 17.4
comp=Z,176nm,0.7s
S54A Dingess, Beckl 7.34 72 P Pn 10 18 11.4 +0.5
baz=257,SNR=14
S54A P **Pn 10 18 11.4 +0.5**
baz=257,SNR=14
R32A Long Quarter, 7.34 293 IAmb_Lg 10 20 28.6
comp=Z,131nm,0.8s
R32A Long Quarter, 7.34 293 P Pn 10 18 12.2 +1.2
baz=108
P52A Corning 7.39 57 Pn 10 18 12.4 +0.9
JSC Jenkinsville 7.43 99 IAmb_Lg 10 20 20.2
comp=Z,91nm,0.9s
HAW Hawthorne Fire 7.43 107 P Pn 10 18 12.3 +0.2
baz=292,SNR=9.4
255A Hazlehurst 7.45 119 Pn 10 18 12.2 -0.1
255A IAmb_Lg 10 20 30.0
comp=Z,176nm,0.8s
255A Hazlehurst 7.45 119 P Pn 10 18 12.4 +0.1
baz=304,SNR=29
ELIS Ellis County 7.55 275 IAmb_Lg 10 20 35.8
comp=Z,101nm,0.9s
L48A N Adams 7.56 34 P Pn 10 18 14.8 +1.0

baz=218,SNR=20
L48A P **Pn** **10 18 14.8 +1.0**
baz=218,SNR=20
O52A Adamsville 7.83 54 P **Pn** **10 18 18.9 +1.4**
baz=239,SNR=7.0
O52A P **Pn** **10 18 18.9 +1.4**
baz=239,SNR=7.0
P53A Whipple 7.84 60 **Pn** **10 18 18.3 +0.7**
P53A Whipple 7.84 60 P **Pn** **10 18 18.2 +0.5**
baz=245,SNR=47
P53A P **Pn** **10 18 18.2 +0.5**
baz=245,SNR=47
L34A Svendsen Farm, 7.84 323 P **Pn** **10 18 18.9 +1.1**
baz=140
M50A Fremont 7.86 43 IAmb_Lg 10 20 36.1
comp=Z,124nm,0.8s
U56A King 7.90 83 IAmb_Lg 10 20 44.2
comp=Z,105nm,0.7s
U56A King 7.90 83 P **Pn** **10 18 19.6 +1.0**
baz=269,SNR=9.0
U56A P **Pn** **10 18 19.6 +1.0**
baz=269,SNR=9.0
BLA Blacksburg 7.94 77 **Pn** **10 18 19.8 +0.7**
BLA Blacksburg 7.94 77 P **Pn** **10 18 19.9 +0.7**
baz=263,SNR=17
N51A Ashland 7.94 48 IAmb_Lg 10 20 39.5
comp=Z,144nm,0.9s
N51A Ashland 7.94 48 P **Pn** **10 18 20.1 +1.1**
baz=232
N51A P **Pn** **10 18 20.1 +1.1**
baz=232
Q54A Coxs Mills 8.04 64 **Pn** **10 18 22.4 +1.9**
Q54A Coxs Mills 8.04 64 P **Pn** **10 18 21.6 +1.1**
baz=250,SNR=9.8
Q54A P **Pn** **10 18 21.6 +1.1**
baz=250,SNR=9.8
I40A Norwalk 8.08 357 IAmb_Lg 10 20 46.7
comp=Z,97nm,0.8s
Y57A Sumter 8.19 100 IAmb_Lg 10 20 56.2
comp=Z,125nm,0.7s
AAM Ann Arbor 8.20 36 **Pn** **10 18 23.6 +1.0**
AAM IAmb_Lg 10 20 50.6
comp=Z,110nm,0.8s
CBKS Cedar Bluff 8.23 294 Pn **Pn** **10 18 23.8 +0.8**
CBKS IAmb_Lg 10 21 08.8
comp=Z,79nm,0.9s
CBKS Cedar Bluff 8.23 294 P **Pn** **10 18 24.2 +1.1**
baz=108,SNR=12
W57A Gilead 8.29 92 **Pn** **10 18 23.6 -0.2**
W57A Gilead 8.29 92 P **Pn** **10 18 24.8 +1.0**
baz=278,SNR=9.6
W57A P **Pn** **10 18 24.8 +1.0**
baz=278,SNR=9.6
O53A New Philadelph 8.31 55 IAmb_Lg 10 20 53.1
comp=Z,143nm,0.8s
R55A Marlinton 8.37 70 P **Pn** **10 18 25.5 +0.4**
baz=256,SNR=29
R55A P **Pn** **10 18 25.5 +0.4**
baz=256,SNR=29
456A Hilliard 8.47 125 IAmb_Lg 10 20 54.8
comp=Z,124nm,0.8s
J47A Sunmer 8.47 27 IAmb_Lg 10 20 58.6
comp=Z,151nm,0.9s
257A Skidaway Islan 8.47 114 IAmb_Lg 10 21 03.6
comp=Z,148nm,0.7s
I37A Lemond, Waseca 8.57 344 IAmb_Lg 10 21 00.6
comp=Z,86nm,0.8s
NHSC New Hope 8.64 105 IAmb_Lg 10 21 05.5
comp=Z,142nm,0.8s
H43A Windswept, Lux 8.83 11 IAmb_Lg 10 21 08.9
comp=Z,78nm,0.7s
O54A Avella 8.84 58 IAmb_Lg 10 21 14.2
comp=Z,123nm,0.8s
T57A Hurt 8.84 79 **Pn** **10 18 32.2 +0.8**
T57A Hurt 8.84 79 P **Pn** **10 18 32.7 +1.3**
baz=266,SNR=8.9
T57A P **Pn** **10 18 32.7 +1.3**
baz=266,SNR=8.9
K50A Casco 9.06 38 IAmb_Lg 10 21 19.0
comp=Z,83nm,0.8s
DKNS Dickens 9.15 260 **Pn** **10 18 36.7 +0.9**
S57A Dark Hollow, R 9.17 74 **Pn** **10 18 36.1 +0.2**
S57A Dark Hollow, R 9.17 74 P **Pn** **10 18 36.6 +0.7**
baz=261,SNR=6.8
S57A P **Pn** **10 18 36.6 +0.7**
baz=261,SNR=6.8
ECSD EROS Data Cent 9.35 330 **Pn** **10 18 39.4 +0.9**
ECSD EROS Data Cent 9.35 330 P **Pn** **10 18 39.2 +0.7**
baz=146,SNR=31
SPMN Marine on St. 9.62 349 IAmb_Lg 10 21 25.3
comp=Z,70nm,0.9s
K30B Basset 10.05 316 P **Pn** **10 18 49.7 +1.6**
baz=130,SNR=6.0
M55A Ridgway 10.52 54 P **Pn** **10 18 55.1 +0.6**
baz=241
M55A P **Pn** **10 18 55.1 +0.6**
baz=241
E43A Lone Tree Farm 10.81 12 P **Pn** **10 18 57.5 -1.0**
baz=194,SNR=17
SADO Sadowa 12.25 40 Pn **Pn** **10 19 15.3 -2.8**
comp=Z,0.7nm,0.3s,baz=235,slow=11,SNR=10
SADO Sn Sn 10 21 25.6 -8.3
comp=Z,1.0nm,0.3s,baz=227,slow=15,SNR=1.7
SADO Lg Lg 10 22 39.0
comp=Z,1.2nm,0.3s,baz=323,slow=20,SNR=1.7
comp=Z,14nm,1.0s
ISCO Idaho Springs 12.88 293 P **Pn** **10 19 26.5 -0.6**
baz=103
TXAR Lajitas Array 13.12 244 Pn **Pn** **10 19 29.3 -0.8**
comp=Z,0.2nm,0.3s,baz=62,slow=12,SNR=13
TXAR Sn **Sn** **10 21 51.2 -4.3**
comp=Z,0.2nm,0.3s,baz=61,slow=9.5,SNR=1.0
TXAR Lg Lg 10 23 12.1
comp=Z,0.4nm,0.3s,baz=57,slow=22,SNR=3.6
comp=Z,0.3nm,0.3s
ANMO Albuquerque 13.36 271 Pn **Pn** **10 19 36.1 +2.6**
comp=Z,0.3nm,0.3s,baz=2.3,slow=12,SNR=1.4
ANMO Lg Lg 10 23 20.8
comp=Z,0.4nm,0.3s,baz=93,slow=17,SNR=2.2
ULM Lac du Bonnet 15.02 346 Pn **Pn** **10 19 51.4 -4.5**
comp=Z,0.5nm,0.3s,baz=165,slow=14,SNR=1.8
ULM Sn Sn 10 22 29.0 -13
comp=Z,0.5nm,0.3s,baz=142,slow=18,SNR=1.7
ULM Lg Lg 10 24 03.5
comp=Z,0.1nm,0.3s,baz=248,slow=19,SNR=2.9
comp=Z,1.1nm,0.3s
TEIG Tepich 15.61 174 Pn **P** **10 20 06.1 -1.7**
comp=Z,7.8nm,0.3s,baz=355,slow=0.6,SNR=6.2
TEIG Sn Sn 10 22 46.7 -10
comp=Z,4.0nm,0.3s,baz=270,slow=20,SNR=1.5
PDAR Pinedale Array 16.55 301 Pn **Pn** **10 20 14.9 -1.1**
comp=Z,0.1nm,0.3s,baz=104,slow=17,SNR=2.6
PDAR Sn **Sn** **10 23 16.5 -2.8**
comp=Z,0.1nm,0.3s,baz=112,slow=19,SNR=1.0
PDAR Lg Lg 10 24 55.0
comp=Z,0.1nm,0.3s,baz=44,slow=48,SNR=1.9
comp=Z,0.2nm,0.5s
ELK Elko 20.30 292 P Pn 10 21 02.1 +0.5
comp=Z,0.4nm,0.4s,baz=55,slow=12,SNR=2.4
comp=Z,0.4nm,0.4s
NVAR Mina Array Bea 22.59 285 P **P** **10 21 23.9 -0.4**
comp=Z,0.4nm,0.7s,baz=83,slow=10,SNR=1.7
comp=Z,0.4nm,0.7s
ILAR Eielson Array 44.17 329 P **P** **10 24 31.0 -0.9**
comp=Z,0.1nm,0.6s,baz=95,slow=9.1,SNR=1.8
comp=Z,0.1nm,0.6s

*IDC **15** 10:21:00.3±0.7, 36.°24N×102.°26E, h0km, mb3.8/17, mbtmp3.8/20, ML3.5/2, MS3.1/5, Error ellipse: s-maj=23.9km s-min=14.8km az=54.0*
*NEIC **15** 10:21:00.3±1.8, 36.°35N±0.°10×102.°8E±0.°1, h12km±5km, mb4.3/13, Error ellipse: s-maj=15.7km s-min=13.1km az=48.0*
ISC 15 10:21:01.6±0.6, 36.°14N±0.°09×102.°26E±0.°10, h10km, n41, σ1°06/36, mb4.0/21, MS3.0/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**8.42**	**132**	Pn		**Pn**	**10 23 03.7**	**0.0**
LSA	**Lhasa**	**11.32**	**239**	Pn		Pn	10 23 53.0	+9.1
SONM	**Songino Array**	**12.08**	**13**	Pn		**Pn**	**10 23 55.1**	**+1.3**
SONM	**Songino Array**	**12.08**	**13**	Pn		**Pn**	**10 23 54.4**	**+0.5**
	0.7nm,0.3s,baz=197,slow=15,SNR=13							
SONM					Lg	Lg	10 27 20.6	
	0.3nm,0.3s,baz=206,slow=31,SNR=5.7							
	1.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**17.86**	**190**	P		**P**	**10 25 12.4**	**+1.5**
	0.5nm,0.3s,baz=3.1,slow=12,SNR=4.7							
CMAR					LR	LR	10 32 49.8	
	comp=Z,65nm,20.3s,baz=5.0,slow=40							
HIA	**Hailar**	**18.30**	**39**	P		Pn	10 25 06.0	-10
HIA					IAmb	IAmb	10 25 10.7	
	comp=Z,9.4nm,0.8s							
MKAR	**Makanchi Array**	**18.31**	**312**	P		**Pn**	**10 25 14.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=115,slow=13,SNR=6.7							
MKAR					LR	LR	10 33 06.8	
	comp=Z,74nm,18.9s,baz=122,slow=40							
	comp=Z,0.6nm,0.6s							
KSRS	**Korea Array**	**20.58**	**79**	P		**P**	**10 25 41.4**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=273,slow=8.5,SNR=2.5							
KSRS					LR	LR	10 33 23.4	
	comp=Z,27nm,18.8s,baz=185,slow=36							
	comp=Z,1.3nm,0.6s							
BOOM	**Boomskoye usch**	**21.28**	**295**	P		**P**	**10 25 49.2**	**+0.9**
BOOM					IAmb	IAmb	10 25 50.3	
	comp=Z,4.9nm,0.8s							
ZALV	**Zalesovo Beam**	**21.55**	**331**	P		**P**	**10 25 49.7**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=129,slow=10,SNR=8.0							
	comp=Z,2.3nm,0.8s							
AAK	**Ala-Archa**	**22.35**	**295**	P		**P**	**10 26 00.7**	**+0.9**
AAK	**Ala-Archa**	**22.35**	**295**	LR		LR	10 35 41.2	
	comp=Z,53nm,20.1s,baz=85,slow=40							
KURBB	**Kurchatov Arra**	**22.38**	**318**	P		**P**	**10 25 59.0**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=120,slow=11,SNR=17							
	comp=Z,2.7nm,0.7s							
KURK	**Kurchatov**	**22.38**	**318**	P		**P**	**10 25 59.0**	**-0.8**
KURK					IAmb	IAmb	10 26 09.9	
	comp=Z,9.8nm,1.2s							
USRK	**Ussuriysk Ar.**	**24.01**	**61**	P		P	10 26 08.7	-7.7
KK31	**Karatay Array**	**25.32**	**296**	P		**P**	**10 26 29.6**	**+1.2**
KKAR	**Karatay Array**	**25.32**	**296**	P		**P**	**10 26 29.6**	**+1.2**
KKAR	**Karatay Array**	**25.32**	**296**	P		**P**	**10 26 29.8**	**+1.4**
BVAR	**Borovoye Array**	**27.97**	**317**	P		**P**	**10 26 51.6**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=95,slow=9.3,SNR=1.7							
	comp=Z,0.3nm,0.4s							
GEYT	**Alibeck**	**35.03**	**286**	P		**P**	**10 27 56.3**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=61,slow=12,SNR=1.3							
	comp=Z,1.3nm,0.3s							
PETK	**Petropavlovsk-**	**41.82**	**48**	LR		LR	10 46 48.4	
	comp=Z,29nm,18.9s,baz=68,slow=37							
JAGI	**Jajag, Banyuwa**	**45.77**	**163**	P		**P**	**10 29 20.9**	**-2.4**
ARCES	**ARCESS Array B**	**52.05**	**334**	P		**P**	**10 30 11.1**	**0.0**
	comp=Z,3.7nm,1.0s,baz=75,slow=8.5,SNR=2.0							
	comp=Z,3.7nm,1.0s							
FINES	**FINESS Array B**	**52.56**	**324**	P		**P**	**10 30 14.6**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=90,slow=7.8,SNR=8.2							
	comp=Z,3.5nm,0.9s							
AKASG	**Malin Array Be**	**52.89**	**310**	P		**P**	**10 30 17.4**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=66,slow=7.6,SNR=3.5							
	comp=Z,1.1nm,0.5s							
BRTR	**Keskin Array B**	**53.03**	**296**	P		**P**	**10 30 19.6**	**+0.6**
BRTR	**Keskin Array B**	**53.03**	**296**	P		**P**	**10 30 19.8**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=97,slow=5.9,SNR=6.6							
	comp=Z,1.4nm,0.6s							
HFS	**Hagfors**	**58.77**	**324**	P		**P**	**10 30 59.1**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=101,slow=15,SNR=2.0							
	comp=Z,2.1nm,0.7s							
NC405	**NORSAR Array S**	**59.36**	**326**	P		**P**	**10 31 03.0**	**-0.6**
NOA	**NORSAR Array B**	**59.62**	**326**	P		**P**	**10 31 04.3**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=77,slow=7.8,SNR=3.8							
	comp=Z,0.5nm,0.5s							
NC204	**NORSAR Array S**	**59.74**	**326**	P		**P**	**10 31 05.2**	**-1.1**
GERES	**GERESS Array B**	**62.98**	**312**	P		**P**	**10 31 28.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=65,slow=6.3,SNR=4.1							
	comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**63.51**	**146**	P		**P**	**10 31 32.8**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=338,slow=6.8,SNR=3.8							
	comp=Z,0.8nm,0.9s							
ILAR	**Eielson Array**	**65.98**	**26**	P		**P**	**10 31 46.9**	**-0.8**
	comp=Z,0.7nm,1.1s,baz=291,slow=5.5,SNR=3.1							
	comp=Z,0.7nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**66.04**	**311**	P		**P**	**10 31 48.5**	**-0.3**
FUORN					IAmb	IAmb	10 31 50.0	
	comp=Z,1.9nm,0.8s							
ASAR	**Alice Springs**	**66.58**	**148**	P		**P**	**10 31 52.7**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=326,slow=6.5,SNR=7.7							
	comp=Z,0.3nm,0.7s							
MSSA	**Maissana**	**67.60**	**309**	P		**P**	**10 31 57.4**	**-1.1**
MSSA					IAmb	IAmb	10 32 35.0	
	comp=Z,7.6nm,1.2s							
EKA	**Eskdalemuir Ar**	**68.96**	**324**	P		**P**	**10 32 05.5**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=80,slow=8.9,SNR=3.4							
	comp=Z,0.5nm,0.4s							
BNI	**Bardonecchia**	**69.00**	**311**	P		**P**	**10 32 06.2**	**-1.1**
BNI					IAmb	IAmb	10 32 46.0	
	comp=Z,5.4nm,1.4s							
PDAR	**Pinedale Array**	**96.27**	**23**	P		**P**	**10 34 32.1**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=352,slow=4.6,SNR=2.1							
	comp=Z,0.2nm,0.8s							
QSPA	**South Pole Qui**	**125.91**	**180**	PKP		**PKPdf**	**10 40 02.2**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=1.8,slow=2.5,SNR=2.4							

*SJA **15** 10:25:58.6±0.7, 20.°17S×69.°07W, h30km±2km, ML3.7, MW3.8*
*GUC **15** 10:25:59.8±0.8, 20.°13S×69.°13W, h94km±3km, ML3.8*
*IDC **15** 10:26:01.4±6.4, 19.°95S×68.°77W, h124km±58km, mb3.1/4, mbtmp3.5/5, Error ellipse: s-maj=38.7km s-min=30.5km az=80.0*
ISC 15 10:25:59.1±0.8, 20.°14S±0.°03×69.°19W±0.°05, h96km±6km, n44, σ1°79/60, mb3.6/3, 3C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.03**	**97**	↓*i*P		**Pn**	**10 26 13.4**	**+0.4**
PB08				*i* S		**Sn**	**10 26 23.3**	**-0.1**
PB08					IAML		10 26 25.1	
	comp=N,6μm,0.2s							
PB08	**IPOC Station P**	**0.03**	**97**	*e*P		Pn	10 26 04.7	-8.3
PB08					IAML		10 26 13.7	
	comp=Z,5μm,0.2s							
GO01	**Chusmiza**	**0.47**	**359**	↓↓*i*P		**Pn**	**10 26 15.2**	**+0.4**
GO01				*i* S		**Sn**	**10 26 27.6**	**+1.0**
GO01	**Chusmiza**	**0.47**	**359**	*e*S		**Sn**	**10 26 28.2**	**+1.7**
GO01					IAML		10 26 29.3	
	comp=Z,3μm,0.1s							
TA02	**Huaiquique**	**0.90**	**261**	↑*i*P		**Pn**	**10 26 18.6**	**+0.5**
TA02				*i* S		**Sn**	**10 26 33.5**	**+1.1**
TA02	**Huaiquique**	**0.90**	**261**	*e*P		**Pn**	**10 26 18.1**	**-0.1**
TA02				*e*S		**Sn**	**10 26 34.2**	**+1.8**
TA02					IAML		10 26 35.7	
	comp=Z,7μm,0.6s							
PB01	**IPOC Station P**	**0.94**	**197**	↓↓*i*P		**Pn**	**10 26 19.0**	**+0.2**
PB01				*i* S		**Sn**	**10 26 34.1**	**+0.6**
PB01					IAML		10 26 35.5	
	comp=E,5μm,0.4s							
PB01	**IPOC Station P**	**0.94**	**197**	*e*P		**Pn**	**10 26 18.9**	**+0.2**
PB01				*e*S		**Sn**	**10 26 34.7**	**+1.2**
PB01					IAML		10 26 35.2	
	comp=Z,2μm,0.3s							
TA01	**Diego Aracena**	**1.02**	**245**	↑*i*P		**Pn**	**10 26 19.6**	**+0.1**
TA01				*i* S		**Sn**	**10 26 35.1**	**+0.3**
TA01					IAML		10 26 38.9	
	comp=E,1μm,0.6s							
TA01	**Diego Aracena**	**1.02**	**245**	*e*P		**Pn**	**10 26 19.8**	**+0.3**
TA01				*e*S		**Sn**	**10 26 36.3**	**+1.4**
TA01					IAML		10 26 37.3	
	comp=Z,682nm,0.5s							
PATCX	**Punta Patache**	**1.13**	**233**	↑*i*P		**Pn**	**10 26 21.1**	**+0.2**
PATCX				*i* S		**Sn**	**10 26 37.6**	**+0.4**
PATCX					IAML		10 26 43.1	
	comp=N,2μm,0.2s							
PATCX	**Punta Patache**	**1.13**	**233**	*e*P		**Pn**	**10 26 21.0**	**+0.2**
PATCX				*e*S		**Sn**	**10 26 38.1**	**+0.9**
PATCX					IAML		10 26 43.6	
	comp=Z,766nm,0.3s							
PB02	**IPOC Station P**	**1.35**	**209**	*i* P		**Pn**	**10 26 23.7**	**+0.2**
PB02				*i* S		**Sn**	**10 26 43.0**	**+1.2**
PB02					IAML		10 26 49.0	
	comp=E,3μm,0.1s							
PB02	**IPOC Station P**	**1.35**	**209**	*e*P		**Pn**	**10 26 23.9**	**+0.5**
PB02				*e*S		**Sn**	**10 26 41.6**	**-0.3**
PB02					IAML		10 26 50.3	
	comp=Z,2μm,0.4s							
PB09	**IPOC Station P**	**1.65**	**182**	↓*i*P		**Pn**	**10 26 27.9**	**+0.6**
PB09				*i* S		**Sn**	**10 26 49.8**	**+1.2**
PB09	**IPOC Station P**	**1.65**	**182**	*e*P		**Pn**	**10 26 28.2**	**+0.9**
PB09				*e*S		**Sn**	**10 26 51.8**	**+3.2**
PB09					IAML		10 26 54.4	
	comp=Z,516nm,0.6s							
PB07	**IPOC Station P**	**1.71**	**202**	*i* P		**Pn**	**10 26 28.1**	**+0.1**
PB07					IAML		10 26 58.1	
	comp=E,1μm,0.5s							
PB07	**IPOC Station P**	**1.71**	**202**	*e*P		**Pn**	**10 26 28.2**	**+0.2**
PB07				*e*S		**Sn**	**10 26 51.6**	**+1.7**
PB07					IAML		10 26 55.5	
	comp=Z,1μm,0.5s							
PB16	**IPOC Station P**	**1.82**	**350**	*e*P		**Pn**	**10 26 30.9**	**+1.1**
PB16				*e*S		**Sn**	**10 26 54.3**	**+1.3**
PB16	**IPOC Station P**	**1.82**	**350**	*e*P		**Pn**	**10 26 31.4**	**+1.6**
PB16				*e*S		**Sn**	**10 26 56.9**	**+3.9**
PB12	**IPOC Station P**	**1.86**	**324**	*i* P		**Pn**	**10 26 30.2**	**+0.4**
PB12				*i* S		**Sn**	**10 26 53.9**	**+0.7**
PB12					IAML		10 27 03.5	
	comp=E,1μm,0.4s							
PB12	**IPOC Station P**	**1.86**	**324**	*e*P		**Pn**	**10 26 30.5**	**+0.7**
PB12				*e*S		**Sn**	**10 26 56.4**	**+3.2**
PB12					IAML		10 27 03.1	
	comp=Z,546nm,0.4s							
AP01	**Chacalluta**	**2.07**	**328**	*e*P		**Pn**	**10 26 34.8**	**+2.4**
AP01					IAML		10 27 07.8	
	comp=Z,874nm,0.6s							
PB04	**IPOC Station P**	**2.36**	**202**	*i* P		**Pn**	**10 26 37.0**	**+0.5**
PB04					IAML		10 27 13.2	
	comp=N,452nm,0.5s							
PB04	**IPOC Station P**	**2.36**	**202**	*e*P		**Pn**	**10 26 37.3**	**+0.9**
PB04				*e*S		**Sn**	**10 27 10.4**	**+5.3**
PB04					IAML		10 27 15.6	
	comp=Z,389nm,0.3s							
LVC	**Limon Verde**	**2.47**	**174**	*e*P		**Pn**	**10 26 39.1**	**+1.0**
LVC	**Limon Verde**	**2.47**	**174**	*e*P		**Pn**	**10 26 39.2**	**+1.1**
LVC				*e*S		**Sn**	**10 27 07.6**	**-0.3**
LVC					IAML		10 27 19.1	
	comp=Z,136nm,0.6s							
PB06	**IPOC Station P**	**2.58**	**188**	*i* P		**Pn**	**10 26 40.0**	**+0.7**
PB06				*i* S		**Sn**	**10 27 11.5**	**+1.3**
PB06					IAML		10 27 19.0	
	comp=E,395nm,0.3s							
PB06	**IPOC Station P**	**2.58**	**188**	*e*P		**Pn**	**10 26 40.1**	**+0.8**
PB06				*e*S		**Sn**	**10 27 13.9**	**+3.7**
PB06					IAML		10 27 17.9	
	comp=Z,338nm,0.4s							
PB15	**IPOC Station P**	**3.07**	**185**	*e*P		**Pn**	**10 26 47.7**	**+1.8**
PB15				*e*S		**Sn**	**10 27 28.1**	**+6.3**
PB15					IAML		10 27 34.9	
	comp=Z,536nm,0.3s							
YJA	**Yavi**	**3.98**	**121**	*e*P		**Pn**	**10 27 01.0**	**+2.6**
GO02	**Mina Guanaco**	**5.01**	**184**	*e*P		**Pn**	**10 27 12.6**	**+0.4**
GO02				*e*S		Sn	10 28 30.0	+21
GO02					IAML		10 28 39.6	
	comp=Z,93nm,0.5s							
CPUP	**Villa Florida**	**12.52**	**122**	P		**Pn**	**10 28 52.0**	**-1.7**
	comp=Z,1.9nm,0.8s,baz=294,slow=12,SNR=3.8							
PLCA	**Paso Flores**	**20.56**	**183**	P		Pn	10 30 32.9	-0.3
	comp=Z,1.2nm,0.8s,baz=359,slow=9.9,SNR=3.5							
	comp=Z,1.2nm,0.8s							
TXAR	**Lajitas Array**	**59.37**	**325**	P		**P**	**10 35 51.3**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=153,slow=10,SNR=1.9							
	comp=Z,0.1nm,0.6s							
SNAA	**Sanae**	**63.65**	**161**	P		**P**	**10 36 19.1**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=265,slow=7.4,SNR=5.7							
	comp=Z,0.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**77.15**	**71**	P		**P**	**10 37 39.6**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=258,slow=5.0,SNR=6.5							
	comp=Z,0.3nm,0.3s							
H11S2	**WAKE ISLAND Hyl**	**27.44**	**278**	T		T	13 04 42.1	
	baz=102,slow=74,SNR=23							
H11S1	**WAKE ISLAND Hyl**	**27.45**	**278**	T		T	13 04 41.7	
	baz=102,slow=74,SNR=16							
H11S3	**WAKE ISLAND Hyl**	**27.46**	**278**	T		T	13 04 40.3	
	baz=102,slow=74,SNR=18							
H11N3	**WAKE ISLAND Hyl**	**27.48**	**280**	T		T	13 04 46.7	
	baz=102,slow=74,SNR=6.9							
H11N2	**WAKE ISLAND Hyl**	**27.50**	**280**	T		T	13 04 50.7	
	baz=102,slow=74,SNR=6.3							
H11N1	**WAKE ISLAND Hyl**	**27.50**	**280**	T		T	13 04 45.6	
	baz=102,slow=74,SNR=4.6							
MKAR	**Makanchi Array**	**144.68**	**35**	PKP		**PKPab**	**10 45 23.0**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=316,slow=3.1,SNR=2.9							

*SOME **15** 10:32:08.6, 39.°80N×72.°65E, h0km*
*KRNET **15** 10:32:10.5±0.1, 39.°84N×72.°41E, h11km, mb3.1*
*ISU **15** 10:32:11.5, 39.°77N×72.°50E, h15km*
*NNC **15** 10:32:13.2±2.2, 39.°93N×72.°53E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=17.3km s-min=9.6km az=174.0*
ISC 15 10:32:06.1±1.3, 39.°68N±0.°05×72.°78E±0.°03, h9km±10km, n46, σ1°44/73, 21C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.78**	**256**	↑*e*P		**Pg**	**10 32 21.7**	**+0.4**
	baz=33							
DRK				↑*e*S		**Sg**	**10 32 30.5**	**-1.0**
	baz=33							
OHH	**Osh**	**0.85**	**0**	↑*i*P		**Pn**	**10 32 24.8**	**+0.4**
	baz=23							
OHH				↑*i*S		**Sn**	**10 32 35.6**	**-1.4**
	baz=23							
OHH	**Osh**	**0.85**	**0**	P		**Pn**	**10 32 24.7**	**+0.4**
OHH				S		**Sn**	**10 32 35.7**	**-1.3**
TSTA	**Tashata**	**0.93**	**346**	P		Pn	10 32 25.3	-0.2
TSTA				S		**Sb**	**10 32 36.8**	**-0.2**
FRG	**Fergana**	**1.04**	**313**	P		**Pn**	**10 32 26.8**	**-0.1**
ANR	**Andizhan**	**1.12**	**343**	S		Sn	**10 32 44.9**	**+1.2**
CHMI	**Chimion**	**1.14**	**302**	P		**Pg**	**10 32 28.0**	**+0.1**
CHMI				P		**Pg**	**10 32 28.0**	**+0.1**
CHMI				S		**Sg**	**10 32 40.4**	**-2.3**
CHMI				S		**Sg**	**10 32 40.4**	**-2.3**
BTK	**Batken**	**1.56**	**285**	↑*i*P		**Pn**	**10 32 34.3**	**+0.2**
	baz=81							
BTK				↑*i*S		**Sn**	**10 32 51.4**	**-3.1**
	baz=81							
NAM	**Namangan**	**1.57**	**327**	P		**Sg**	**10 33 01.9**	**+5.3**
MINT	**Mingtut**	**1.60**	**300**	P		**Pg**	**10 32 38.4**	**+1.7**
MINT				S		**Sg**	**10 32 57.1**	**-0.3**
ARK	**Arkit**	**2.21**	**344**	↓↓*i*P		**Pg**	**10 32 47.4**	**-1.1**
	baz=50							
ARK				↓↓*i*S		**Sb**	**10 33 14.4**	**+0.5**
	baz=50							
TRKS	**Terek-Say**	**2.23**	**326**	↓↓*e*P		**Pb**	**10 32 45.8**	**-1.0**
	baz=30							
TRKS				↓↓*e*S		**Sn**	**10 33 11.0**	**-0.3**
	baz=30							
ARLS	**Aral**	**2.48**	**28**	↑↑*e*P		**Pg**	**10 32 54.4**	**+0.8**
	baz=35							
ARLS				↑↑*i*S		**Sg**	**10 33 26.2**	**+0.5**
	baz=35							
AML	**Almayashu**	**2.55**	**15**	↑↑Pg		**Pg**	**10 32 56.7**	**+1.7**
	2.2nm,0.5s							
AML				↓↓Lg		Lg	10 33 30.1	
	11nm,0.6s							
AML	**Almayashu**	**2.55**	**15**	↑↑*i*P		**Pg**	**10 32 54.6**	**-0.4**
	baz=23							

IUG *e*Lg Lg 10 33 46.4
43nm,0.3s
KBK Karagaybulak 3.40 28⇑*e*P Pb 10 33 07.0 +0.4
baz=33
KBK ⇑*e*S **Sb 10 33 48.5 +0.4**
baz=33
FRU1 Bishkek 3.43 23⇑*e*P Pb 10 33 07.1 0.0
baz=29
FRU1 ⇑*e*S **Sb 10 33 48.7 -0.1**
baz=29
CHMS Chumysh 3.63 23⇓*i*P Pb 10 33 09.8 -0.8
baz=28
CHMS ⇓*i*S **Sb 10 33 53.2 -1.6**
baz=28
ULHL Ulahol 3.67 44⇓*i*P Pb 10 33 12.1 +0.9
baz=49
ULHL ⇓*i*S **Sb 10 33 57.1 +1.2**
baz=49
BOOM Boomskoye usch 3.69 39⇓*i*P Pb 10 33 12.0 +0.4
baz=44
BOOM ⇓*i*S **Sb 10 33 56.9 +0.5**
baz=44
USP Ospenovka 3.81 19⇓*i*P Pb 10 33 12.0 -1.6
baz=24
USP ⇓*i*S **Sb 10 33 56.9 -3.0**
baz=24
KK31 Karatay Array 3.83 334 ⇑Pn **Pb 10 33 09.9 -3.9**
0.2nm,0.2s,baz=155,slow=12,SNR=7.0
KK31 ⇑Pg **Pg 10 33 20.5 +1.0**
1.9nm,0.3s,baz=151,slow=16,SNR=8.4
KK31 ⇓Lg Lg 10 34 03.0
4.0nm,0.3s,baz=194,slow=30,SNR=4.4
KKAR Karatay Array 3.83 334⇑*i*P **Pn 10 33 09.2 +3.9**
baz=37
KKAR ⇑*i*S **Sn 10 33 51.8 +1.4**
baz=37
TKM2 Tokmak 2 3.87 32 ⇑Pn **Pb 10 33 15.6 +0.9**
3.7nm,0.7s
TKM2 ⇑Lg Lg 10 34 13.2
5.3nm,0.6s
TKM2 Tokmak 2 3.87 32⇓*i*P Pb 10 33 14.0 -0.8
baz=37
TKM2 ⇓*i*S **Sb 10 34 00.4 -1.4**
baz=37
DGS Degeres 4.21 31 Pg **Pg 10 33 27.1 +0.3**
6.1nm,0.4s
DGS Lg Lg 10 34 24.0
8.4nm,0.7s
DGS Degeres 4.21 31 *e*Pg **Pg 10 33 27.1 +0.3**
3.3nm,0.4s
DGS *e*Lg Lg 10 34 24.0
7.9nm,0.2s
KRBS Karabastau 4.56 27 *e*Pg **Pg 10 33 33.5 0.0**
0.8nm,0.2s
KRBS *e*Lg Lg 10 34 34.5
5.9nm,0.3s
TNSS Tian-Shan 4.59 42 Pg **Pg 10 33 35.0 +0.9**
3.3nm,0.4s
TNSS Lg Lg 10 34 37.3
3.5nm,0.7s
TNSS Tian-Shan 4.59 42 *e*Pg **Pg 10 33 35.0 +0.9**
1.5nm,0.3s
TNSS *e*Lg Lg 10 34 37.3
4.4nm,0.8s
KUU Kurty 4.98 31 Pg **Pg 10 33 39.6 -1.9**
1.8nm,0.5s
KUU Lg Lg 10 34 45.4
11nm,0.5s
KUU Kurty 4.98 31 *e*Pg **Pg 10 33 39.6 -1.9**
0.8nm,0.1s
KUU *e*Lg Lg 10 34 45.4
11nm,0.5s
CHKK Chushkaly 5.23 36 Pg **Pg 10 33 45.8 -0.4**
0.3nm,0.0s
CHKK Lg Lg 10 34 56.1
6.8nm,0.4s
CHKK Chushkaly 5.23 36 *e*Pg **Pg 10 33 45.9 -0.4**
0.3nm,0.0s
CHKK *e*Lg Lg 10 34 56.1
6.8nm,0.4s
ARXS Arharly 5.89 38 Pg **Pg 10 33 59.5 +0.5**
1.2nm,0.3s
ARXS Lg Lg 10 35 19.6
3.1nm,0.3s
ARXS Arharly 5.89 38 *e*Pg **Pg 10 33 59.5 +0.5**
1.2nm,0.2s
ARXS *e*Lg Lg 10 35 19.6
5.8nm,0.4s
BLB Baldybastay 6.13 42 Pg **Pg 10 34 03.3 -0.2**
1.9nm,0.5s
BLB Lg Lg 10 35 26.1
2.4nm,0.8s

---

*IDC **15** 10:43:07.2±2.1,36°.54N×140°.82E,h51km±18km,mb3.6/8, mbtmp3.9/11,ML3.3/3,MS2.9/4,Error ellipse: s-maj=17.3km s-min=11.3km az=78.0*
*JMA **15** 10:43:09.0±0.1,36°.5N±0°.3×140°.6E±0°.5,h58km,MD3.6/35, MV4.0/35,NORTHERN IBARAKI PREF*
JMA Felt II J1 at NORTHERN IBARAKI PREF .
*NEIC **15** 10:43:09.2±2.1,36°.56N±0°.05×140°.71E±0°.09,h67km±8km, mb4.5/14,Error ellipse: s-maj=10.7km s-min=7.2km az=92.0*
*NIED **15** 10:43:09.0,36°.52N×140°.57E,h58km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}2.24; $M_{\theta\theta}$0.36; $M_{\phi\phi}$-2.60; $M_{r\theta}$1.08; $M_{\theta\phi}$-0.98; $M_{\phi r}$2.45; Fault plane solution: $M_0$3.71000×10¹⁴ NP1:ϕ_s23.00000°, δ68.00000°,λ96.00000°. NP2:ϕ_s188.00000°,δ22.00000°, λ76.00000°.*

ISC 15 10:43:08.1±0.7,36°.51N±0°.04×140°.72E±0°.05,h60km±6km, n71,σ1°37/63,mb4.2/15,4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.16**	**312**	*i* P		**Pn**	**10 43 17.8**	**+0.4**
JHO				S		**Sn**	**10 43 23.7**	**-0.4**
JHO	**Hitachi**	**0.16**	**312**	A		A	10 43 17.8	
comp=E,12nm,0.3s,comp=N,7.0nm,1.0s								
JHYU	**Hitachinakayam**	**0.19**	**212**	*i* P		**Pn**	**10 43 18.2**	**+0.7**
JHYU				S		**Sn**	**10 43 24.7**	**+0.4**
JHYU	**Hitachinakayam**	**0.19**	**212**	A		A	10 43 18.2	
comp=E,13nm,0.6s,comp=N,11nm,0.3s								
JYT	**Yasato**	**0.50**	**237**	*i* P		**Pn**	**10 43 20.1**	**0.0**
JYT				S		**Sn**	**10 43 27.7**	**-1.1**
JYT	**Yasato**	**0.50**	**237**	A		A	10 43 20.1	
comp=E,29nm,0.5s,comp=N,26nm,0.2s								
ONAJ	**Iwakimizuishiy**	**0.60**	**6**	*i* P		**Pn**	**10 43 21.6**	**+0.4**
ONAJ				S		**Sn**	**10 43 30.9**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.60**	**6**	A		A	10 43 21.6	
comp=E,14nm,0.3s,comp=N,9.0nm,0.2s								
JSB	**Shiboa**	**0.79**	**306**	A		A	10 43 23.1	
comp=E,6.0nm,0.9s,comp=N,3.0nm,0.7s								
JFK	**Kawauchi**	**0.87**	**8**	*i* P		**Pn**	**10 43 24.8**	**+0.3**
JFK				S		**Sn**	**10 43 36.4**	**-0.2**
JAG	**Ashikaga**	**1.02**	**266**	⇓*i*P		**Pn**	**10 43 25.9**	**-0.4**
JAG				⇓S		**Sn**	**10 43 37.8**	**-2.2**
JAG	**Ashikaga**	**1.02**	**266**	A		A	10 43 25.9	
comp=E,4.0nm,0.6s,comp=N,3.0nm,0.3s								
JOTO	**OTAMA OYAMA**	**1.10**	**344**	*i* P		**Pn**	**10 43 27.7**	**+0.3**
JOTO				S		**Sn**	**10 43 41.4**	**-0.4**
TOK	**Tokyo**	**1.13**	**224**	A		A	10 43 28.0	
comp=E,5.0nm,1.7s,comp=N,9.0nm,0.2s								
JKT	**Katashina**	**1.21**	**283**	⇓*i*P		**Pn**	**10 43 28.6**	**-0.4**
JKT				⇓S		**Sn**	**10 43 43.4**	**-1.1**
JFY	**Yanaizu**	**1.21**	**318**	*i* P		**Pn**	**10 43 29.0**	**0.0**
JMST	**Minamisoumatoc**	**1.23**	**6**	A		A	10 43 30.3	
comp=E,3.0nm,2.2s,comp=N,3.0nm,0.4s								
JMM	**Marumori**	**1.36**	**3**	Pn		**Pn**	**10 43 31.5**	**+0.6**
MJAR	**Matsushiro Arr**	**2.02**	**272**	P		**Pn**	**10 43 38.5**	**-1.3**
comp=N,1.2nm,0.3s,baz=96,slow=11,SNR=5.7								
MJAR				S		**Sn**	**10 44 05.2**	**+1.2**
comp=N,35nm,0.3s,baz=92,slow=35,SNR=4.2								
MJAR				LR		LR	10 44 47.9	
comp=N,76nm,21.7s,baz=56,slow=48 comp=N,42nm,0.3s								
MAJO	**Matsushiro**	**2.02**	**272**	Pn		**Pn**	**10 43 40.0**	**+0.2**
MJB9	**Matsu-Tunnel**	**2.02**	**272**	Pn		**Pn**	**10 43 41.0**	**+1.1**
JSD	**Sado**	**2.48**	**309**	Pn		**Pn**	**10 43 45.8**	**-0.3**
JSG	**Sagara**	**2.75**	**229**	Pn		**Pn**	**10 43 53.8**	**+4.0**
INU	**Inuyama**	**3.21**	**250**	Pn		**Pn**	**10 43 57.3**	**+1.1**
JHJ	**Hachijo jima 2**	**3.46**	**193**	P		**Pn**	**10 44 01.1**	**+1.5**
comp=N,15nm,0.3s,baz=66,slow=20,SNR=1.5								
JHJ				S		**Sn**	**10 44 39.2**	**-0.1**
comp=N,157nm,0.5s,baz=92,slow=23,SNR=1.7								
comp=N,84nm,0.4s								
JHJ2	**Mitsune**	**3.46**	**193**	Pn		**Pn**	**10 44 02.6**	**+3.0**
JTM	**Tenmabayashi**	**4.28**	**4**	Pn		**Pn**	**10 44 11.6**	**+0.9**
ERM	**Erimo**	**5.82**	**18**	Pn		**Pn**	**10 44 32.0**	**+0.3**
JMN	**Monobe**	**6.25**	**246**	Pn		**Pn**	**10 44 37.4**	**-0.4**
ASAJ	**Asahikawa**	**7.74**	**10**	P		**Pn**	**10 44 56.9**	**-1.1**
comp=N,0.8nm,0.3s,baz=213,slow=12,SNR=11								
ASAJ				S		**Sn**	**10 46 22.7**	**-1.4**
comp=N,8.9nm,0.8s,baz=261,slow=24,SNR=1.7 comp=N,3.6nm,0.4s								
JKA	**Kamikawa-asahi**	**7.74**	**10**	Pn		**Pn**	**10 44 56.1**	**-1.9**
JCJ	**Chichijima**	**9.46**	**172**	Pn		**Pn**	**10 45 19.6**	**-2.1**
JCJ	**Chichijima**	**9.46**	**172**	P		Pn	10 45 15.7	-6.0
comp=N,20nm,0.3s,baz=300,slow=20,SNR=6.9								
JCJ				S		Sn	10 46 53.0	-14
comp=N,51nm,0.8s,baz=317,slow=14,SNR=1.7								
USRK	**Ussuriysk Ar.**	**10.16**	**322**	P		**Pn**	**10 45 35.0**	**+3.8**
comp=N,0.9nm,0.5s,baz=148,slow=19,SNR=3.7								
KSRS	**Korea Array**	**10.28**	**279**	P		**Pn**	**10 45 36.0**	**+3.2**
comp=N,1.0nm,0.6s,baz=95,slow=14,SNR=4.7								
PET	**Petropavlovsk**	**20.76**	**32**	P		**P**	**10 47 39.8**	**-4.0**
PET				IAmb		IAmb	10 48 16.4	
comp=Z,27nm,1.1s								
SONM	**Songino Array**	**27.62**	**305**	P		**P**	**10 48 49.2**	**-0.7**
comp=Z,0.5nm,0.4s,baz=112,slow=7.2,SNR=3.7 comp=Z,0.5nm,0.4s								
H11N2	**WAKE ISLAND Hy**	**28.37**	**119**	T		T	11 19 00.7	
baz=313,slow=75,SNR=39								
H11N1	**WAKE ISLAND Hy**	**28.38**	**119**	T		T	11 19 01.1	
baz=313,slow=75,SNR=44								
H11N3	**WAKE ISLAND Hy**	**28.39**	**119**	T		T	11 19 01.9	
baz=313,slow=75,SNR=42								
H11S1	**WAKE ISLAND Hy**	**29.06**	**121**	T		T	11 19 50.2	
baz=314,slow=76,SNR=78								
H11S3	**WAKE ISLAND Hy**	**29.06**	**121**	T		T	11 19 50.6	
baz=314,slow=76,SNR=67								
H11S2	**WAKE ISLAND Hy**	**29.07**	**121**	T		T	11 19 47.3	
baz=314,slow=76,SNR=46								
ZAA0	**Zalesovo Array**	**41.86**	**313**	P		**P**	**10 50 52.1**	**+0.1**
ZAA0				IAmb		IAmb	10 50 52.8	
comp=Z,2.5nm,0.6s								
ZALV	**Zalesovo Beam**	**41.86**	**313**	P		**P**	**10 50 52.5**	**+0.5**
ZALV	**Zalesovo Beam**	**41.86**	**313**	P		**P**	**10 50 52.3**	**+0.3**
comp=Z,2.0nm,0.6s,baz=103,slow=6.6,SNR=5.6 comp=Z,2.0nm,0.6s								
RABL	**Rabaul**	**41.88**	**163**	P		**P**	**10 50 52.3**	**-0.2**
MK31	**Makanchi Array**	**43.93**	**302**	P		**P**	**10 51 09.7**	**+0.8**
MKAR	**Makanchi Array**	**43.93**	**302**	P		**P**	**10 51 08.8**	**-0.1**
MKAR	**Makanchi Array**	**43.93**	**302**	P		**P**	**10 51 09.7**	**+0.8**
comp=Z,0.9nm,0.6s,baz=85,slow=10,SNR=8.3								
MKAR				LR		LR	11 08 46.8	
comp=Z,19nm,19.2s,baz=12,slow=35 comp=Z,0.9nm,0.6s								
KURBB	**Kurchatov Arra**	**45.89**	**308**	P		**P**	**10 51 23.9**	**-0.5**
comp=Z,1.8nm,0.2s,baz=82,slow=7.8,SNR=3.4 comp=Z,1.8nm,0.2s								
I23K	**Minto, Yukon-K**	**49.18**	**32**	P		**P**	**10 51 50.1**	**+0.5**
I23K				IAmb		IAmb	10 52 20.5	
comp=Z,3.5nm,1.3s								
BVAR	**Borovoye Array**	**50.51**	**313**	P		**P**	**10 51 59.6**	**-0.4**
comp=Z,0.3nm,0.3s,baz=75,slow=7.1,SNR=2.1 comp=Z,0.3nm,0.3s								
BCAR	**Beaver Creek A**	**52.65**	**34**	P		**P**	**10 52 18.5**	**+2.7**
KNRA	**Kununurra**	**53.11**	**194**	P		**P**	**10 52 18.6**	**-1.0**
KNRA				IAmb		IAmb	10 52 40.2	
comp=Z,24nm,1.4s								
WB0	**Warramunga Arr**	**56.28**	**187**	P		**P**	**10 52 42.4**	**-0.1**
WB0				IAmb		IAmb	10 52 50.7	
comp=Z,4.5nm,1.3s								
WR0	**Warramunga Arr**	**56.46**	**187**	P		**P**	**10 52 44.1**	**+0.3**
WR0				IAmb		IAmb	10 53 21.0	
comp=Z,4.5nm,1.1s								
WB2	**Warramunga Arr**	**56.46**	**187**	P		**P**	**10 52 44.7**	**+0.9**
WB2				IAmb		IAmb	10 53 20.6	
comp=Z,6.1nm,1.2s								
WRA	**Warramunga Arr**	**56.46**	**187**	P		**P**	**10 52 43.5**	**-0.3**
WRA	**Warramunga Arr**	**56.46**	**187**	P		**P**	**10 52 44.2**	**+0.3**
comp=Z,0.5nm,0.6s,baz=1.1,slow=7.5,SNR=7.0 comp=Z,0.5nm,0.6s								
CTA	**Charters Tower**	**56.53**	**174**	LR		LR	11 19 23.3	
comp=Z,13nm,18.2s,baz=64,slow=38								
ABKAR	**Akbulak array**	**57.85**	**310**	P		**P**	**10 52 52.9**	**-0.5**
AS31	**Alice Springs**	**60.19**	**187**	P		**P**	**10 53 11.1**	**+1.3**
ASAR	**Alice Springs**	**60.19**	**187**	P		**P**	**10 53 10.7**	**+0.9**
comp=Z,0.2nm,0.6s,baz=358,slow=5.9,SNR=1.0								
ASAR				LR		LR	11 16 25.4	
comp=Z,22nm,21.2s,baz=36,slow=33 comp=Z,0.2nm,0.6s								
HOLB	**Holberg**	**63.49**	**45**	P		**P**	**10 53 32.2**	**+0.5**
OUENC	**Ouen Island, N**	**63.59**	**153**	P		**P**	**10 53 33.5**	**+0.9**
FINES	**FINESS Array B**	**69.02**	**332**	P		**P**	**10 54 07.2**	**+0.3**
comp=Z,2.2nm,0.9s,baz=52,slow=9.1,SNR=4.0 comp=Z,2.2nm,0.9s								
NC405	**NORSAR Array S**	**74.24**	**337**	P		**P**	**10 54 38.2**	**-0.1**
NC405				IAmb		IAmb	10 55 03.6	
comp=Z,13nm,1.1s								
H03N2	**Juan Fernandez**	**147.52**	**96**	T		T	13 47 57.0	
baz=292,slow=76,SNR=7.2								
H03N3	**Juan Fernandez**	**147.53**	**97**	T		T	13 47 58.6	
baz=292,slow=76,SNR=7.2								
H03N1	**Juan Fernandez**	**147.54**	**96**	T		T	13 48 00.1	
baz=292,slow=76,SNR=5.9								

---

*IDC **15** 10:44:33.3±0.8, 14°.36N×119°.22E,h0km,mb4.0/13, mbtmp4.0/13,MS2.8/3,Error ellipse: s-maj=25.7km s-min=14.9km az=55.0*
*NEIC **15** 10:44:38.9±1.4, 14°.40N±0°.07×119°.3E±0°.1,h33km±6km, mb4.5/12,Error ellipse: s-maj=16.3km s-min=8.9km az=73.0*

ISC 15 10:44:38.7±0.6,14°.38N±0°.08×119°.25E±0°.08,h35km,n37, σ0°81/36,mb4.3/19,MS2.8/3,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.66**	**99**	Pn		**Pn**	**10 45 05.3**	**0.0**
418nm,0.3s,baz=307,slow=10,SNR=15								
TGY				Sn		**Sn**	**10 45 27.3**	**+1.8**
297nm,0.3s,baz=276,slow=19,SNR=3.8								
TWG	**Pinlang**	**8.57**	**11**	Pn		**Pn**	**10 46 39.2**	**-1.1**
KKM	**Kota Kinabalu**	**8.81**	**200**	Pn		**Pn**	**10 46 43.0**	**-0.6**
QIZ	**Qiongzhong**	**10.12**	**298**	Pn		**Pn**	**10 47 03.6**	**+2.0**
CMAR	**Chiang Mai Arr**	**19.89**	**285**	P		**P**	**10 49 06.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**19.89**	**285**	P		**Pn**	**10 49 09.8**	**+0.8**
0.5nm,0.5s,baz=95,slow=10,SNR=4.5								
CMAR				LR		LR	10 57 39.7	
comp=Z,21nm,18.3s,baz=120,slow=40								
KSRS	**Korea Array**	**24.24**	**17**	P		**P**	**10 49 51.1**	**-1.1**
1.7nm,0.8s,baz=199,slow=11,SNR=4.1								
KSRS				LR		LR	11 01 10.9	
comp=Z,19nm,19.5s,baz=200,slow=41 1.7nm,0.8s								
GUMO	**Guam**	**24.87**	**89**	LR		LR	10 59 32.3	
comp=Z,29nm,19.1s,baz=254,slow=36								
USRK	**Ussuriysk Ar.**	**31.64**	**18**	P		**P**	**10 50 58.4**	**-0.1**
1.2nm,0.6s,baz=225,slow=5.3,SNR=1.9 1.2nm,0.6s								
SONM	**Songino Array**	**35.02**	**345**	P		**P**	**10 51 27.6**	**-0.5**
0.8nm,0.6s,baz=159,slow=9.5,SNR=3.6 0.8nm,0.6s								
KLR	**Kul'dur**	**36.23**	**14**	P		**P**	**10 51 38.0**	**-0.3**
5.6nm,0.8s,baz=232,slow=5.5,SNR=15 5.6nm,0.8s								
WB0	**Warramunga Arr**	**37.06**	**156**	P		**P**	**10 51 45.4**	**-0.3**
WRA	**Warramunga Arr**	**37.20**	**156**	P		**P**	**10 51 46.8**	**0.0**
WRA	**Warramunga Arr**	**37.20**	**156**	P		**P**	**10 51 45.6**	**-1.2**
0.5nm,0.6s,baz=331,slow=10.0,SNR=9.1 0.5nm,0.6s								
WB2	**Warramunga Arr**	**37.21**	**156**	P		**P**	**10 51 46.6**	**-0.3**
WB2				IAmb		IAmb	10 52 21.7	
comp=Z,8.7nm,1.4s								
WR0	**Warramunga Arr**	**37.30**	**156**	P		**P**	**10 51 46.9**	**-0.7**
WR0				IAmb		IAmb	10 51 58.7	
comp=Z,11nm,1.4s								
AS31	**Alice Springs**	**40.44**	**159**	P		**P**	**10 52 13.5**	**-0.5**
ASAR	**Alice Springs**	**40.44**	**159**	P		**P**	**10 52 13.9**	**-0.1**
ASAR	**Alice Springs**	**40.44**	**159**	P		**P**	**10 52 13.7**	**-0.2**
comp=Z,0.8nm,0.6s,baz=336,slow=7.2,SNR=15 comp=Z,0.8nm,0.6s								
MKAR	**Makanchi Array**	**44.65**	**324**	P		**P**	**10 52 48.7**	**+0.7**
comp=Z,0.5nm,0.6s,baz=120,slow=8.9,SNR=4.6 comp=Z,0.5nm,0.6s								
HNR	**Honiara**	**46.79**	**118**	LR		LR	11 09 51.2	
comp=Z,636nm,20.3s,baz=92,slow=32								
KURBB	**Kurchatov Arra**	**48.84**	**327**	P		**P**	**10 53 21.0**	**+0.3**
comp=Z,0.5nm,0.3s,baz=118,slow=8.5,SNR=5.2 comp=Z,0.5nm,0.3s								
KURK	**Kurchatov**	**48.84**	**327**	P		**P**	**10 53 20.4**	**-0.3**
KURK				IAmb		IAmb	10 53 21.7	
comp=Z,3.6nm,0.6s								
BBOO	**Buckleboo**	**49.60**	**161**	P		**P**	**10 53 26.2**	**-0.5**
BBOO				IAmb		IAmb	10 53 44.3	
comp=Z,6.3nm,1.1s								
BVAR	**Borovoye Array**	**54.42**	**326**	P		**P**	**10 54 02.2**	**-0.1**
comp=Z,0.7nm,0.6s,baz=120,slow=8.8,SNR=4.9 comp=Z,0.7nm,0.6s								
ABKAR	**Akbulak array**	**59.30**	**319**	P		**P**	**10 54 37.4**	**+0.4**
M16K	**Timber Creek**	**73.56**	**30**	P		**P**	**10 56 07.5**	**-0.5**
D19K	**Kuna River**	**74.02**	**22**	P		**P**	**10 56 10.2**	**-0.4**
F20K	**Avaraart Lake**	**74.93**	**24**	P		**P**	**10 56 15.0**	**-0.8**
IMAR	**Indian Mountai**	**75.76**	**25**	P		**P**	**10 56 20.9**	**+0.3**
CAST	**Castle Rocks**	**76.67**	**28**	P		**P**	**10 56 26.5**	**+0.6**
CAST				IAmb		IAmb	10 56 44.0	
comp=Z,8.7nm,1.4s								
ARCES	**ARCESS Array B**	**77.95**	**339**	P		**P**	**10 56 34.3**	**+1.5**
comp=Z,4.1nm,0.9s,baz=55,slow=4.7,SNR=2.3 comp=Z,4.1nm,0.9s								
D25K	**Kavik River**	**78.20**	**21**	P		**P**	**10 56 34.2**	**-0.2**
D25K				IAmb		IAmb	10 57 17.9	
comp=Z,7.4nm,1.3s								
FINES	**FINESS Array B**	**79.00**	**331**	P		**P**	**10 56 38.9**	**+0.1**
comp=Z,3.3nm,1.0s,baz=63,slow=6.7,SNR=1.1 comp=Z,3.3nm,1.0s								
BCAR	**Beaver Creek A**	**81.31**	**27**	P		**P**	**10 56 52.6**	**+1.3**
HFS	**Hagfors**	**85.20**	**331**	P		**P**	**10 57 10.7**	**-0.7**
comp=Z,1.9nm,0.7s,baz=46,slow=4.3,SNR=4.3 comp=Z,1.9nm,0.7s								
NOA	**NORSAR Array B**	**86.01**	**332**	P		**P**	**10 57 14.5**	**-0.9**
comp=Z,0.6nm,0.7s,baz=60,slow=5.7,SNR=3.4 comp=Z,0.6nm,0.7s								

DJA 15 10:48:11.7±0.4,11°S±4°×11°2E±°,h10km,M4.2/13, mb4.3/6,MLv4.1/13,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.77**	**25**	P		Pn	10 48 56.2	0.0
JAGI	**Jajag, Banyuwa**	**2.97**	**39**	P		Pn	10 48 59.5	+0.5
WOJI	**Wonogiri, Jawa**	**3.23**	**336**	P		Pn	10 49 02.4	0.0
UGM	**Wanagama**	**3.34**	**329**	P		Pn	10 49 04.5	+0.4
IGBI	**Denpasar**	**3.46**	**56**	P		Pn	10 49 04.8	-0.9
YOGI	**Yogyakarta**	**3.54**	**327**	P		Pn	10 49 06.3	-0.5
GRJI	**Gresik**	**3.87**	**3**	P		Pn	10 49 11.6	+0.3
SRBI	**Singaraja**	**3.97**	**47**	P		Pn	10 49 13.5	+0.8
KPJI	**Karang Pucung**	**4.76**	**316**	P		Pn	10 49 23.6	0.0
CMJI	**Cimerak**	**4.81**	**308**	P		Pn	10 49 23.8	-0.4
TWSI	**Taliwang, Sumb**	**5.00**	**66**	P		Pn	10 49 25.7	-1.1
PLAI	**Plampang**	**5.78**	**71**	P		Pn	10 49 38.2	+0.6
26nm,1.2s,0.1nm								
LEM	**Lembang**	**6.05**	**310**	P		Pn	10 49 41.2	-0.3
15nm,1.1s,0.1nm								
CNJI	**Cibinong**	**6.14**	**304**	P		Pn	10 49 43.0	+0.5
36nm,1.3s,0.2nm								

---

*IDC **15** 10:56:10.6±2.6, 10°.55S×112°.34E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=119.2km s-min=28.5km az=46.0*
*DJA **15** 10:56:12.3±0.3, 11°S±3°×11°2E±°,h10km,M4.1/10, mb4.0/5,MLv4.2/10,MwMwp5.3/1,Mwp5.5/1*

ISC 15 10:56:14.6±1.4,10°.7S±0°.1×112°.29E±0°.07,h24km,n17, σ0°66/14,mb3.6/3,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.67**	**25**	P		**Pn**	**10 56 56.5**	**+0.4**
JAGI	**Jajag, Banyuwa**	**2.88**	**40**	P		**Pn**	**10 56 59.6**	**+0.6**
WOJI	**Wonogiri, Jawa**	**3.15**	**335**	P		**Pn**	**10 57 02.8**	**+0.1**
BLJI	**Banyuglugur**	**3.21**	**24**	P		**Pn**	**10 57 03.7**	**+0.2**
UGM	**Wanagama**	**3.27**	**328**	P		**Pn**	**10 57 04.8**	**+0.3**
IGBI	**Denpasar**	**3.38**	**57**	P		**Pn**	**10 57 06.6**	**+0.7**
GRJI	**Gresik**	**3.77**	**3**	P		**Pn**	**10 57 11.4**	**+0.2**
SRBI	**Singaraja**	**3.88**	**48**	P		**Pn**	**10 57 13.9**	**+1.1**
KPJI	**Karang Pucung**	**4.71**	**315**	P		**Pn**	**10 57 25.4**	**+1.2**
CMJI	**Cimerak**	**4.77**	**307**	P		**Pn**	**10 57 25.6**	**+0.6**
TWSI	**Taliwang, Sumb**	**4.93**	**67**	P		**Pn**	**10 57 27.6**	**+0.4**
WRA	**Warramunga Arr**	**23.14**	**116**	P		**P**	**11 01 18.9**	**-0.5**
1.3nm,0.6s,baz=290,slow=11,SNR=12 1.3nm,0.6s								
ASAR	**Alice Springs**	**24.30**	**125**	P		**P**	**11 01 30.4**	**-0.1**
0.8nm,0.7s,baz=301,slow=8.6,SNR=15 0.8nm,0.7s								
H08S2	**Diego Garcia H**	**39.38**	**271**	T		T	11 45 52.6	
baz=99								
H08S3	**Diego Garcia H**	**39.40**	**271**	T		T	11 45 53.6	
baz=99								
H08S1	**Diego Carcia H**	**39.40**	**271**	T		T	11 45 51.1	
baz=99								
MKAR	**Makanchi Array**	**63.21**	**337**	P		**P**	**11 06 40.2**	**-0.6**
0.3nm,0.5s,baz=133,slow=7.5,SNR=2.6 0.3nm,0.5s								

---

*GUC **15** 10:59:10.9±0.8, 32°.21S×73°.07W,h14km±20km,ML4.7*
*IDC **15** 10:59:13.1±0.5, 32°.26S×72°.84W,h0km,mb4.6/13, mbtmp4.6/17,ML4.7/4,MS3.6/33,Error ellipse: s-maj=19.6km s-min=13.7km az=85.0*
*NEIC **15** 10:59:14.4, 32°.24S×72°.89W,h16km*
*NEIC **15** 10:59:14.4, 32°.24S×72°.89W,h10km*
*NEIC **15** 10:59:14.4, 32°.34S×72°.65W,h16km,Moment Tensor Solution. Duration: 1ŝ1 Moment tensor: Scale 10¹⁶Nm; M_{rr}-1.30; $M_{\theta\theta}$0.90; $M_{\phi\phi}$0.40; $M_{r\theta}$-0.07; $M_{\theta\phi}$0.46; $M_{\phi r}$0.80; Fault plane solution: $M_0$1.43000×10¹⁶ NP1:ϕ_s76.45000°, δ39.79000°,λ-56.01000°. NP2:ϕ_s215.19000°,δ57.95000°, λ-114.97000°. Principal axes: T 1.2267, Plg10.0000°, Azm323.0000°; N 0.4119, Plg21.0000°, Azm229.0000°; P -1.6386, Plg67.0000°, Azm76.0000°;*
*VAO **15** 10:59:14.4±0.3, 32°.44S×72°.75W,h10km,mb4.7*
*NEIC **15** 10:59:14.8±2.0, 32°.24S±0°.04×72°.84W±0°.09,h10km±1km, mb4.9/28,Mwr4.5/80,Mww4.7/18,Mwr4.5(GUC),Error ellipse: s-maj=13.1km s-min=5.0km az=287.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; M_{rr}-5.80; $M_{\theta\theta}

```
CO06                                IAML                    11 00 07.6
     comp=N,2µm,0.3s
CO02 Combarbal      1.96  59                Pn   10 59 45.8 -1.7
CO02 Combarbal      1.96  59⇑i P             Pn   10 59 45.7 -1.8
CO02                             i S         Sn   11 00 08.6 -3.5
VA03 San Esteban    2.11 105                 Pn   10 59 48.0 -1.6
VA03 San Esteban    2.11 105⇓i P             Pn   10 59 47.9 -1.6
VA03                             i S         Sn   11 00 11.2 -4.6
VA03                                IAML                    11 00 14.8
     comp=E,5µm,0.3s
PEL  Peldehue       2.13 116                 Pn   10 59 48.8 -0.9
PEL  Peldehue       2.13 116  i P            Pn   10 59 48.6 -1.2
PEL                              i S         Sn   11 00 12.0 -4.2
PEL                                 IAML                    11 00 15.7
     comp=E,12µm,0.5s
MT01 Popeta         2.17 139                 Pn   10 59 48.6 -1.8
MT01 Popeta         2.17 139⇑i P             Pn   10 59 48.6 -1.8
MT01                             i S         Sn   11 00 11.4 -5.9
MT01                                IAML                    11 00 14.3
     comp=N,4µm,0.4s
MT05 Renca          2.20 122                 Pn   10 59 50.3 -0.5
MT05 Renca          2.20 122  i P            Pn   10 59 50.1 -0.7
MT05                             eS          Sn   11 00 14.2 -3.9
MT05                                IAML                    11 00 18.0
     comp=N,11µm,0.4s
MT09 Talagante      2.27 134                 Pn   10 59 50.6 -1.1
MT09 Talagante      2.27 134  eP             Pn   10 59 50.5 -1.3
MT09                             eS          Sn   11 00 14.1 -5.7
MT09                                IAML                    11 00 18.3
     comp=N,4µm,0.3s
MT14 Cerro Calµn    2.35 120  i P            Pn   10 59 52.3 -0.6
MT14                             eS          Sn   11 00 16.3 -5.5
MT14                                IAML                    11 00 21.7
     comp=E,11µm,0.5s
CO03 El Pedregal    2.38  55                 Pn   10 59 52.6 -0.7
CO03 El Pedregal    2.38  55⇑i P             Pn   10 59 52.2 -1.1
CO03                             i S         Sn   11 00 19.6 -3.0
CO03                                IAML                    11 00 22.2
     comp=N,3µm,0.3s
BO03 Pichilemu      2.41 160  i P            Pn   10 59 52.1 -1.6
BO03                             i S         Sn   11 00 17.3 -5.9
MT03 Universidad Ad 2.42 122                 Pn   10 59 53.5 -0.3
MT03 Universidad Ad 2.42 122⇓i P             Pn   10 59 53.5 -0.3
MT03                             eS          Sn   11 00 19.9 -3.6
MT03                                IAML                    11 00 26.2
     comp=E,7µm,0.6s
FCH  Farellones     2.50 117  i P            Pn   10 59 54.2 -1.0
FCH                              i S         Sn   11 00 22.9 -3.0
MT12 Pirque         2.52 127  eP             Pn   10 59 54.9 -0.3
MT12                             eS          Sn   11 00 21.4 -4.6
MT12                                IAML                    11 00 25.6
     comp=N,9µm,0.6s
BO04 La Punta       2.64 132                 Pn   10 59 56.3 -0.6
BO04 La Punta       2.64 132  eP             Pn   10 59 56.1 -0.8
BO01 Tunca          2.67 144     Pn          Pn   10 59 55.8 -1.3
BO01 Tunca          2.67 144⇑i P             Pn   10 59 55.7 -1.5
MT13 San Alfonso    2.71 125                 Pn   10 59 57.6 -0.3
MT13 San Alfonso    2.71 125  i P            Pn   10 59 57.6 -0.3
MT13                             i S         Sn   11 00 28.3 -2.4
MT13                                IAML                    11 00 31.0
     comp=E,4µm,0.3s
CO05 La Serena      2.73  33                 Pn   10 59 56.8 -1.3
CO05 La Serena      2.73  33⇑i P             Pn   10 59 56.8 -1.3
CO05                             i S         Sn   11 00 26.9 -4.2
CO05                                IAML                    11 00 29.4
     comp=N,2µm,0.2s
GO04 Tololo Observa 2.76  43                 Pn   10 59 57.3 -1.4
GO04 Tololo Observa 2.76  43⇑i P             Pn   10 59 57.2 -1.4
LMEL Las Melosas    2.83 126                 Pn   10 59 59.3 -0.1
LMEL Las Melosas    2.83 126  i P            Pn   10 59 59.4 -0.1
LMEL                                IAML                    11 00 33.2
     comp=N,5µm,0.4s
GO05 Huala          2.91 163                 Pn   10 59 59.1 -1.4
GO05 Huala          2.91 163  i P            Pn   10 59 59.1 -1.4
BO02 Sierra Bellavi 3.14 145     Pn          Pn   11 00 03.3 -0.4
BO02 Sierra Bellavi 3.14 145⇑i P             Pn   11 00 03.1 -0.6
CO01 Juntas del Tor 3.33  48                 Pn   11 00 06.3 -0.2
CO01 Juntas del Tor 3.33  48⇑i P             Pn   11 00 06.3 -0.2
LCO  Las Campanas   3.75  32     Pn          Pn   11 00 10.9 -1.4
LCO  Las Campanas   3.75  32⇑i P             Pn   11 00 10.9 -1.4
ML02 Panimavida     3.75 160     Pn          Pn   11 00 11.8 -0.3
ML02 Panimavida     3.75 160  eP             Pn   11 00 11.6 -0.4
CFA  Coronel Fontan 4.07  82     Pn          Pn   11 00 17.3 +0.9
     comp=N,8.6nm,0.3s,baz=250,slow=11,SNR=85
CFA                                 Sn          Sn   11 01 03.6 -0.4
     comp=N,52nm,0.3s,baz=210,slow=20,SNR=14
CFA                                 LR          LR   11 01 37.3
     comp=N,354nm,20.1s,baz=304,slow=36
     comp=N,23nm,0.4s
AC05 El Transito    4.10  35                 Pn   11 00 16.8 -0.2
AC04 Llanos de Chal 4.33  23                 Pn   11 00 17.8 -2.2
BI05 Punta Hualpn   4.51 182                 Pn   11 00 21.0 -1.5
H03N1 Juan Fernandez 5.15 255     Pn          Pn   11 00 32.8 +1.7
     baz=145,slow=75
H03N1                               Sn          Sn   11 01 24.5 -6.0
H03N1                               T           T    11 07 44.3
     baz=86,slow=73,SNR=8.9
H03N3 Juan Fernandez 5.17 255     Pn          Pn   11 00 32.5 +1.2
     baz=145,slow=75
H03N3                               Sn          Sn   11 01 24.3 -6.5
H03N3                               T           T    11 07 43.7
     baz=86,slow=73,SNR=29
H03N2 Juan Fernandez 5.17 255     Pn          Pn   11 00 32.9 +1.6
     baz=145,slow=75
H03N2                               Sn          Sn   11 01 24.5 -6.3
H03N2                               T           T    11 07 47.4
     baz=86,slow=73,SNR=48
GO03 Copiap         5.19  28                 Pn   11 00 30.4 -1.5
H03S3 Juan Fernandez 5.24 251     Pn          Pn   11 00 32.1 -0.2
H03S3                               Sn          Sn   11 01 25.0 -7.7
     baz=345,slow=74
H03S3                               T           T    11 07 25.2
     baz=81,slow=76,SNR=20
H03S1 Juan Fernandez 5.25 251     Pn          Pn   11 00 31.9 -0.5
H03S1                               Sn          Sn   11 01 24.7 -8.0
     baz=196,slow=74
H03S1                               T           T    11 07 22.9
     baz=81,slow=76,SNR=14
H03S2 Juan Fernandez 5.26 251     Pn          Pn   11 00 32.1 -0.4
H03S2                               Sn          Sn   11 01 24.9 -8.1
H03S2                               T           T    11 07 24.1
     baz=81,slow=76,SNR=12
AC06 Mina Casimiro  5.36  26     Pn          Pn   11 00 32.3 -1.8
AC02 Maricunga      6.33  33                 Pn   11 00 46.7 -1.2
AC01 Pan de Azucar  6.40  19                 Pn   11 00 45.4 -3.1
LR03 Panguipulli    7.41 176                 Pn   11 01 01.6 -0.7
GO06 Curarrehue     7.44 171     Pn          Pn   11 01 02.7 -0.1
GO02 Mina Guanaco   7.63  24                 Pn   11 01 02.7 -3.0
LR04 Corral         7.65 183                 Pn   11 01 03.9 -1.6
PLCA Paso Flores    8.71 168                 Pn   11 01 19.9 -0.3
PLCA Paso Flores    8.71 168     Pn          Pn   11 01 20.4 +0.2
     comp=N,4.7nm,0.3s,baz=335,slow=12,SNR=197
PLCA                                Sn          Sn   11 03 05.0 +6.6
     comp=N,0.3nm,0.3s,baz=256,slow=21,SNR=1.8
PLCA                                LR          LR   11 04 50.4
     comp=N,447nm,21.9s,baz=340,slow=39
     comp=N,14nm,0.4s
PB15 IPOC Station P 9.50  20                 Pn   11 01 27.5 -3.8
LVC  Limon Verde    10.23 22                 Pn   11 01 37.2 -4.2
LVC  Limon Verde    10.23 22     Pn          Pn   11 01 36.9 -4.4
     comp=N,1.9nm,0.3s,baz=167,slow=5.7,SNR=23
LVC                                 Sn          Sn   11 03 29.0 -7.3
     comp=N,0.8nm,0.3s,baz=298,slow=18,SNR=2.3
LVC                                 LR          LR   11 05 34.7
     comp=N,390nm,19.0s,baz=209,slow=37
TRQA Tornquist      10.70 126                 Pn   11 01 46.7 -0.8
PB07 IPOC Station P 10.81  15                 Pn   11 01 44.7 -4.4
PB01 IPOC Station P 11.56  16                 Pn   11 01 54.4 -5.0
MECA Mercedes       13.05  81  eP             Pn   11 02 16.8 -2.7
ITQB Itaqui         14.25  84  eP             Pn   11 02 35.2 -0.8
CPUP Villa Florida  14.85  71  eP             Pn   11 02 42.0 -2.1
CPUP Villa Florida  14.85  71     Pn          Pn   11 02 46.4 +2.2
     comp=N,0.1nm,0.3s,baz=259,slow=9.9,SNR=5.8
CPUP                                LR          LR   11 08 29.7
     comp=N,70nm,18.1s,baz=242,slow=38
RODS Rosario do Sul 15.30  88  eP             Pn   11 02 47.5 -2.8
LPAZ La Paz         16.46  17  eP             P    11 03 07.2 -1.4
LPAZ La Paz         16.46  17     Pn          P    11 03 07.2 -1.4
     comp=N,4.0nm,0.3s,baz=182,slow=7.5,SNR=137
     comp=N,68nm,0.8s
CRSM Crissiumal (Br 17.07  79  eP             P    11 03 13.7 -1.0
MURT Porto Murtinho 17.25  56  eP             Pn   11 03 15.4 +0.3
ANTJ Antonio Joao ( 18.19  60  eP             Pn   11 03 26.0 -0.8
BBRB Robore, Bolivi 18.26  44  eP             Pn   11 03 27.5 -0.3
MCR1 Marechal Candi 18.35  70  eP             Pn   11 03 27.1 -1.8
BDQN Bodoquena, MS  18.65  55  eP             Pn   11 03 32.9 +0.5
BBSD Serra de San D 18.69  40  eP             P    11 03 32.1 -0.5
ITAB Concordia      18.75  80                 P    11 03 32.3 -1.0
ITAB Concordia      18.75  80  eP             P    11 03 31.6 -1.6
CNLB Canela         19.21  87  eP             P    11 03 37.9 -0.5
AQDB Aquidauana     19.37  57  P              P    11 03 38.0 -2.0
AQDB Aquidauana     19.37  57  eP             Pn   11 03 40.6 -0.5
SIV  San Ignacio    19.44  37  P              P    11 03 39.6 -1.3
     comp=N,0.1nm,0.3s,baz=219,slow=10.0,SNR=37
SIV                                 PcP         PcP  11 08 02.5 +0.3
     comp=N,1.8nm,0.6s,baz=236,slow=3.6,SNR=3.7
SIV                                 LR          LR   11 12 05.5
     comp=N,204nm,19.7s,baz=254,slow=40
     comp=N,7.1nm,0.7s
PTGB Pitanga        19.82  73  eP             P    11 03 45.0  0.0
TRCB Terra Rica     20.30  68  eP             P    11 03 50.4 +0.1
NNA  Nana           20.46 349  P              Pn   11 03 53.7 -0.4
     comp=N,22nm,0.8s,baz=197,slow=12,SNR=8.2
NNA                                 LR          LR   11 09 57.8
     comp=N,193nm,19.8s,baz=164,slow=31
     comp=N,22nm,0.8s
RPRD Ribas do Rio P 20.81  61  eP             Pn   11 03 57.1 -1.1
PTLB Pontes e Lacer 20.91  40  P              P    11 03 56.9 +0.1
PTLB Pontes e Lacer 20.91  40  eP             Pn   11 03 58.3 -1.0
LDASE Londrina, Braz 21.20 71  eP             P    11 03 59.1 -0.8
PP1B Ponte de Pedra 21.88  53  eP             P    11 04 07.5 +0.2
PCMB Pacaembu       22.01  67  eP             P    11 04 07.1 -1.6
VILB Vilhena        22.47  34  P              P    11 04 13.6 -0.1
VILB                                IAmb        IAmb 11 04 27.7
     comp=Z,49nm,0.9s
FRTB Fartura        22.48  73  eP             P    11 04 14.2 +0.5
C2SB Chapadao do Su 22.52  58  eP             P    11 04 14.6 +0.5
SALV Santo Antonio  22.59  48  eP             P    11 04 14.6 -0.3
ETMB Extrema        23.16  17  eP             P    11 04 22.9 +2.1
ITRB Iturama        23.78  64  eP             P    11 04 25.8 -1.2
CZSB Cruzeiro do Su 24.38   1  eP             P    11 04 34.6 +2.0
BB19B Bebedouro     24.45  69  eP             P    11 04 32.1 -1.2
RCLB Rio Claro- Sao 24.56  73  eP             P    11 04 32.9 -1.4
VAO  Valinhos       24.75  75  eP             P    11 04 35.4 -0.6
SAML Samuel         24.88  24  P              P    11 04 38.5 +1.5
SAML Samuel         24.88  24  eP             P    11 04 39.2 +2.1
ARAG Araguaiana, MT 25.30  54  eP             P    11 04 41.7 +0.8
PDRB Porto dos Gac  25.38  40  eP             P    11 04 42.9 +1.2
ATAH Atahualpa      25.47 347  LR             LR   11 13 10.5
     comp=Z,130nm,19.1s,baz=193,slow=33
CLDB Colider        26.50  41  eP             P    11 04 52.9 +1.1
PMNB Patos De Minas 27.48  67  eP             P    11 04 59.5 -1.2
BSCB Bom Sucesso    27.49  73  eP             P    11 05 00.1 -0.7
TBTG Tabatinga, AM  28.04   6  eP             P    11 05 07.3 +1.7
BDFB Brasilia       28.05  60  P              P    11 05 05.5 -0.3
BDFB                                IAmb        IAmb 11 05 15.4
     comp=Z,12nm,0.7s
BDFB Brasilia       28.05  60  P              P    11 05 05.3 -0.5
     comp=Z,8.1nm,0.7s,baz=234,slow=11,SNR=13
BDFB                                LR          LR   11 16 24.8
     comp=Z,88nm,18.2s,baz=64,slow=37
     comp=Z,8.1nm,0.7s
MCRA Macar, Loja    28.48 345  P              P    11 05 10.9 +1.3
TEFE Tefe           29.62  17  eP             P    11 05 21.2 +1.5
NPGB Novo Progresso 29.95  37  eP             P    11 05 22.5  0.0
JANB Januaria       31.18  63  eP             P    11 05 32.1 -1.4
ITTB Itaituba       32.08  34  eP             P    11 05 41.5 +0.2
SGCB São Gabriel d  32.42  11  eP             P    11 05 45.9 +1.5
SDBA SAO DESIDERIO  32.44  59  eP             P    11 05 44.0 -0.6
OTAV Otavalo        32.70 350  eP             P    11 05 50.0 +2.7
PMSA Palmer Station 33.04 173  LR             LR   11 18 21.0
     comp=Z,162nm,19.2s,baz=356,slow=35
SMTB Santa Maria do 33.07  51  eP             P    11 05 50.5 +0.3
PRPB Parauapebas    33.74  45  eP             P    11 05 55.9 -0.1
ABR01 Abrolhos, BA  33.96  74  eP             P    11 05 56.5 -1.3
MACC Macarena, Meta 34.20 358  eP             P    11 06 02.4 +2.5
MALB Monte Alegre   34.97  34  eP             P    11 06 07.1 +0.6
PRAC Prado          35.79 357  eP             P    11 06 16.8 +3.1
ORTC Ortega, Tolima 36.00 356  eP             P    11 06 18.1 +2.7
YOTC Yotoco, Valle  36.15 354  eP             P    11 06 19.0 +2.1
BOAV Boa Vista      36.40  21  eP             P    11 06 21.9 +3.1
CHIC Chingaza       36.66 359  eP             P    11 06 23.9 +2.5
ROSC El Rosal       36.88 358  P              P    11 06 24.1 +0.8
     comp=Z,2.7nm,0.3s,baz=125,slow=11,SNR=1.3
ROSC                                LR          LR   11 22 00.6
     comp=Z,114nm,20.0s,baz=224,slow=37
     comp=Z,2.7nm,0.3s
PLMC San Jos del P  37.06 355  eP             P    11 06 27.6 +3.1
GUY2C Guyana, Caldas 37.31 356 eP             P    11 06 26.0 -1.1
MCPB Macapa, AP     37.34  36  eP             P    11 06 29.4 +2.6
NORC Norcasia       37.62 357  eP             P    11 06 31.7 +2.4
RUSC La Rusia       37.91 360  eP             P    11 06 34.7 +2.6
PTBC PUERTO BERRIO, 38.58 358  eP             P    11 06 36.1 -1.1
ZARC Zaragoza, Cauc 39.54 357  eP             P    11 06 41.2 -4.1
SDV  Santo Domingo  40.94   4  eP             P    11 07 00.2 +3.0
SDV  Santo Domingo  40.94   4  LR             LR   11 23 51.3
     comp=Z,96nm,19.6s,baz=212,slow=36
MDP  Montagnes des  41.86  31  LR             LR   11 26 44.1
     comp=Z,106nm,18.6s,baz=164,slow=40
PCRV Puerto La Cruz 42.91  12  LR             LR   11 25 06.3
     comp=Z,106nm,19.9s,slow=36
RCBR Riachuelo      43.41  61  LR             LR   11 25 36.2
     comp=Z,44nm,18.4s,baz=162,slow=36
JTS  Las Juntas de  43.80 343  LR             LR   11 22 52.8
     comp=Z,32nm,19.7s,baz=138,slow=32
SJG  San Juan       50.48   8  LR             LR   11 29 52.0
     comp=Z,34nm,19.3s,baz=207,slow=36
VNA3 Neumayer Olymp 51.29 158  ⇓P             P    11 08 18.7 +0.8
     comp=Z,15nm,0.6s
VNA1 Neumayer--Stat 51.60 157  ⇓P             P    11 08 20.7 +0.5
     comp=Z,9.1nm,0.8s
VNA2 Neumayer--Watz 51.94 158  ⇓P             P    11 08 23.6 +0.8
     comp=Z,20nm,0.6s,baz=288,slow=9.0
CMIG Matias Romero  53.35 334  LR             LR   11 26 51.0
     comp=Z,35nm,19.3s,baz=146,slow=31
SNAA Sanae          53.51 158  P              P    11 08 35.0 +0.5
SNAA                                IAmb        IAmb 11 08 36.1
     comp=Z,18nm,1.0s
SNAA Sanae          53.51 158  ⇓P             P    11 08 35.1 +0.7
     comp=Z,211nm,0.6s
SNAA Sanae          53.51 158  P              P    11 08 34.8 +0.4
     comp=Z,14nm,0.9s,baz=275,slow=7.4,SNR=87
SNAA                                PcP         PcP  11 09 41.3 +0.2
     comp=Z,2.2nm,0.6s,baz=330,slow=5.3,SNR=1.5
SNAA                                LR          LR   11 29 10.1
     comp=Z,67nm,21.6s,baz=289,slow=34
     comp=Z,14nm,0.9s
TEIG Tepich         54.18 342  P              P    11 08 41.0 +1.3
TEIG                                IAmb        IAmb 11 08 44.2
     comp=Z,13nm,0.9s
TROLL Troll, Antarti 55.22 159 ⇓P             P    11 08 47.7 +0.8
     comp=Z,555nm,0.7s
QSPA South Pole Qui 58.00 180  P              P    11 09 07.6 +0.8
QSPA South Pole Qui 58.00 180  P              P    11 09 07.3 +0.5
     comp=Z,7.7nm,1.0s,baz=146,slow=2.0,SNR=23
     comp=Z,7.7nm,1.0s
SBA  Scott Base     64.65 192  P              P    11 09 53.9 +2.5
SBA                                IAmb        IAmb 11 09 54.6
     comp=Z,11nm,1.1s
JCT  Junction City  67.36 335  P              P    11 10 10.5 +1.1
JCT                                IAmb        IAmb 11 10 15.4
     comp=Z,7.1nm,1.1s
SAND Sanderson      67.75 333  P              P    11 10 13.3 +1.4
SAND                                IAmb        IAmb 11 10 17.7
     comp=Z,9.9nm,1.4s
TXAR Lajitas Array  67.81 331  P              P    11 10 13.9 +1.5
     comp=Z,0.7nm,0.7s,baz=154,slow=7.8,SNR=9.3
TXAR                                LR          LR   11 35 42.7
     comp=Z,77nm,18.0s,baz=144,slow=32
     comp=Z,0.7nm,0.7s
V48A Smith Brothers 68.85 348  P              P    11 10 19.1 +0.5
V48A                                IAmb        IAmb 11 10 23.2
     comp=Z,17nm,1.2s
T59A Double "B" Far 68.97 356  P              P    11 10 20.1 +0.8
WVT  Waverly        69.41 347  P              P    11 10 22.3 +0.2
WVT                                IAmb        IAmb 11 10 26.4
     comp=Z,10nm,0.9s
LCAR Lake Charles   70.05 344  P              P    11 10 26.4 +0.4
LCAR                                IAmb        IAmb 11 10 30.1
     comp=Z,7.7nm,0.8s
T47A Sharon Grove   70.12 348  P              P    11 10 26.6 +0.2
CCM  Cathedral Cave 71.97 345  P              P    11 10 38.7 +1.1
CCM                                IAmb        IAmb 11 10 42.2
     comp=Z,16nm,1.1s
ANMO Albuquerque    73.86 332  LR             LR   11 38 51.1
     comp=Z,76nm,20.1s,baz=240,slow=32
LIC  Lamto          74.97  73⇓i P              P    11 10 56.1 +0.2
     comp=Z,26nm,0.6s
MAW  Mawson         75.09 164  P              P    11 10 56.7 +0.9
MAW  Mawson         75.09 164  P              P    11 10 56.4 +0.7
     comp=Z,13nm,0.8s,baz=213,slow=7.1,SNR=34
MAW                                 LR          LR   11 42 22.9
     comp=Z,96nm,21.9s,baz=234,slow=34
     comp=Z,13nm,0.8s
TIC  Toumodi        75.22  72⇑i P              P    11 10 56.3 -1.1
     comp=Z,11nm,0.5s
KIC  Kosan Boka     75.28  73⇓i P              P    11 10 58.0 +0.3
     comp=Z,37nm,0.8s
DBIC Dimbokro       75.36  72  P              P    11 10 58.5 +0.4
DBIC Dimbokro       75.36  72  P              P    11 10 58.4 +0.2
     comp=Z,16nm,0.7s,baz=221,slow=5.4,SNR=15
     comp=Z,16nm,0.7s
SUR  Sutherland     76.37 120  LR             LR   11 40 52.1
     comp=Z,48nm,21.9s,baz=182,slow=33
WUAZ Wupatki        76.42 329  P              P    11 11 05.3 +1.4
PFO  Pinyon Flats O 77.25 324  LR             LR   11 38 11.3
     comp=Z,55nm,18.1s,baz=149,slow=30
SMCO Snowmass       77.75 334  P              P    11 11 14.5 +2.9
F64A Sherman        77.84   3  P              P    11 11 13.0 +1.7
F64A                                IAmb        IAmb 11 11 23.4
     comp=Z,22nm,1.3s
ECSD EROS Data Cent 78.63 343  P              P    11 11 16.8 +0.9
ECSD                                IAmb        IAmb 11 11 20.7
     comp=Z,13nm,1.1s
TSUM Tsumeb         80.45 107  LR             LR   11 41 47.6
     comp=Z,78nm,20.1s,baz=151,slow=32
KOWA Kowa           80.62  66  P              P    11 11 27.8 +0.5
BOSA Boshof         81.58 118  P              P    11 11 32.5 -0.1
     comp=Z,10nm,1.0s,baz=223,slow=5.9,SNR=8.4
BOSA                                LR          LR   11 45 06.3
     comp=Z,62nm,19.7s,baz=200,slow=34
     comp=Z,10nm,1.0s
CASY Casey          81.77 181  P              P    11 11 34.2 +1.5
PDAR Pinedale Array 81.83 334  P              P    11 11 33.8 +0.3
     comp=Z,1.1nm,0.9s,baz=104,slow=6.3,SNR=5.2
     comp=Z,1.1nm,0.9s
NVAR Mina Array Bea 81.99 326  P              P    11 11 36.3 +1.9
NVAR Mina Array Bea 81.99 326  P              P    11 11 36.4 +2.0
     comp=Z,2.6nm,1.0s,baz=163,slow=6.0,SNR=12
NVAR                                LR          LR   11 44 52.7
     comp=Z,26nm,18.0s,baz=130,slow=33
     comp=Z,2.6nm,1.0s
LBTB Lobatse        83.76 116  P              P    11 11 41.7 -2.2
TOA0 Torodi Ar. Sit 84.35  71  P              P    11 11 47.3 +0.5
TORD Torodi Ar. Bea 84.35  71  P              P    11 11 47.0 +0.2
     comp=Z,18nm,0.7s,baz=291,slow=5.8,SNR=133
     comp=Z,18nm,0.7s
YBH  Yreka Blue Hor 86.68 325  LR             LR   11 44 00.2
     comp=Z,19nm,21.4s,baz=42,slow=31
SCHQ Schefferville  86.86   4  LR             LR   11 50 31.0
     comp=Z,32nm,20.0s,baz=284,slow=35
NEW  Newport        89.35 332  LR             LR   11 49 28.8
     comp=Z,49nm,18.2s,baz=128,slow=34
LSZ  Lusaka         91.10 109  LR             LR   11 49 37.3
     comp=Z,90nm,19.1s,baz=172,slow=33
MDT  Midelt         91.32  52  LR             LR   11 53 55.3
     comp=Z,39nm,18.5s,baz=44,slow=36
FRB  Frobisher Bay  95.71   2  LR             LR   11 57 44.7
     comp=Z,20nm,19.1s,baz=327,slow=37
ESDC Sonseca Array  95.91  46  P              P    11 12 41.0  0.0
     comp=Z,1.0nm,0.9s,baz=237,slow=3.7,SNR=5.4
ESDC                                LR          LR   11 58 20.8
     comp=Z,26nm,18.0s,baz=153,slow=37
     comp=Z,1.0nm,0.9s
ILAR Eielson Array  112.27 334 PKiKP        PKiKP 11 17 48.9 -0.3
     comp=Z,0.4nm,0.7s,baz=162,slow=2.8,SNR=6.6
ASAR Alice Springs  118.78 208 PKP          PKPdf 11 18 02.5 -0.7
     comp=Z,0.9nm,0.7s,baz=134,slow=1.6,SNR=16
AKASG Malin Array Be 121.56 47 PKP          PKPdf 11 18 06.3 -1.1
     comp=Z,1.2nm,0.5s,baz=260,slow=3.3,SNR=7.7
MNK  Minsk          121.61  42 i PKP        PKPdf 11 18 06.6 -0.8
MNK                             i PKP        PKPdf 11 18 06.6 -0.8
MNK                             i PKP        PKPdf 11 18 06.6 -0.8
     baz=258
MNK                             i PP         PP    11 19 38.8 -1.5
MNK                             i PPP        PPP   11 22 12.9
MNK                             i SKS        SKSdf 11 25 18.3 -0.8
MNK                             i SKKS       SKKSdf 11 35 52.8 -3.5
MNK                             i SS         SS    11 36 15.5 -0.6
MNK                             i SSS        SSS   11 40 44.9
MNK                             i LQ         LQ    12 03 34.5
MNK                             i LR         LR    12 08 13.9
MNK                             i LRM        MLR   12 09 55.9
     comp=Z,161nm,15.2s
MNK                             i LRM        MLR   12 10 50.9
     comp=N,327nm,10.8s
MNK                             i LRM        MLR   12 11 00.7
     comp=E,188nm,14.8s
BRTR Keskin Array B 121.64 60 PKP           PKPdf 11 18 07.9 -0.3
     comp=E,1.6nm,0.8s,baz=212,slow=4.4,SNR=5.3
WRA  Warramunga Arr 121.91 211 PKP          PKPdf 11 18 09.3 +0.1
     comp=E,2.7nm,0.6s,baz=157,slow=1.6,SNR=66
FINES FINESS Array B 121.97 34 PKP          PKPdf 11 18 07.8 -0.1
     comp=E,1.7nm,0.8s,baz=346,slow=2.3,SNR=6.6
ARCES ARCESS Array B 122.73 24 PKP          PKPdf 11 18 09.1 -0.1
     comp=E,4.8nm,1.0s,baz=345,slow=8,SNR=4.4
PETK Petropavlovsk- 138.36 315 PKP          PKiKP 11 18 41.5 +0.2
     comp=E,5.4nm,0.8s,baz=104,slow=6.3,SNR=5.2
BVAR Borovoye Array 146.48  41 PKPbc        PKPbc 11 18 55.1  0.0
     comp=E,12nm,0.5s,baz=306,slow=2.8,SNR=53
EKS2 Erkin-Say      151.78  59 P            PKiKP 11 19 10.4 +1.0
     SNR=10
AML  Almayashu      151.81  60 P            PKiKP 11 19 10.5 +0.7
     SNR=9.5
KURBB Kurchatov Arra 152.07 40 PKP          PKPdf 11 19 03.4 +0.8
     comp=E,0.4nm,0.3s,baz=289,slow=2.1,SNR=4.6
KURBB                               PKPbc       PKiKP 11 19 10.0 +0.4
     comp=E,15nm,0.5s,baz=306,slow=2.8,SNR=16
KURBB                               PKPab       PKPab 11 19 19.4 +0.7
     comp=E,9.0nm,0.6s,baz=301,slow=3.3,SNR=13
USP  Ospenovka      152.18  57 P            PKiKP 11 19 10.8 +0.7
     SNR=6.3
AAK  Ala-Archa      152.30  59 P            PKiKP 11 19 11.6 +1.1
     SNR=13
TKM2 Tokmak 2       153.03  58 P            PKiKP 11 19 12.9 +0.8
     SNR=6.6
ZALV Zalesovo Beam  153.11  30 PKP          PKPdf 11 19 04.9 +0.9
     comp=E,2.8nm,0.8s,baz=270,slow=1.5,SNR=8.0
ZALV                                PKPbc       PKiKP 11 19 11.9 +0.3
     comp=E,21nm,0.7s,baz=298,slow=3.1,SNR=46
ZALV                                PKPab       PKPab 11 19 21.4 -1.6
     comp=E,12nm,0.7s,baz=299,slow=2.9,SNR=11
KSH  Kashi          153.89  65 PKPbc        PKPdf 11 19 07.6 +1.8
KSH                                 pPKP        pPKPbc 11 19 15.3 -0.6
KSH                                 PKPab       PKPab 11 19 27.3 +0.3
KSH                                 PP          PP    11 23 01.6 -0.3
MKAR Makanchi Array 156.13  45 PKP          PKPdf 11 19 08.5  0.0
     comp=E,1.8nm,0.9s,baz=301,slow=0.7,SNR=5.5
MKAR                                PKPab       PKPab 11 19 36.9 +0.7
     comp=E,5.0nm,0.8s,baz=306,slow=4.2,SNR=13
MKAR                                PP          PP    11 23 16.2 +2.4
     comp=E,1.1nm,0.9s,baz=274,slow=6.0,SNR=4.1
MDJ  Mudanjiang     158.51 312 P            PKPdf 11 19 09.4 -2.1
MDJ                                 pmax        pmax
     comp=Z,6.0nm,1.5s
MDJ                                 pmax        pmax
     comp=Z,330nm,4.3s
WMQ  Urumqi         160.91  47 eP            PKPdf 11 19 14.1 -0.3
SONM Songino Array  164.40   2 PKPab        PKPab 11 20 13.7 +1.5
     comp=Z,2.7nm,1.0s,baz=347,slow=2.2,SNR=7.0
CMAR Chiang Mai Arr 164.47 150 PKP          PKPdf 11 19 19.8 +1.2
     comp=Z,1.3nm,0.8s,baz=241,slow=2.8,SNR=7.0
CMAR                                PKPab       PKPab 11 20 12.7 -0.4
     comp=Z,0.5nm,0.3s,baz=223,slow=6.1,SNR=5.4
NJ2  Nanjing        169.98 272 eP            PKPdf 11 19 22.3 +0.1
NJ2                                 pmax        pmax
     comp=Z,23nm,0.6s
HHC  Hu-ho-hao-te   170.66 338 eP            PKPdf 11 19 25.5 +3.0
PZH  PanZhiHua      172.66 140 PKP          PKPdf 11 19 23.6 -0.3
```

*IDC **15** 11:01:47.4±0.9,2°.25S×140°.25E,h0km,mb3.9/10,*
mbtmp3.9/11,ML4.0/1,Error ellipse: s-maj=43.4km
s-min=17.6km az=84.0
*DJA **15** 11:01:51.0±0.6,3°S±10°×14°0E±°,h30km±4km,M3.5/2,*
mb4.1/2,MLv3.2/2

ISC 15 11:01:50.6±0.7,2°38S±0°.06×140°34E±0°.06,h24km,n28,
σ1$71/28,mb4.0/10,Near north coast of Irian Jaya

```
Code Station Name        Δ°   AZ°      Phase ID      Time     Res
                                      Op    ISC     h m  s   ISC
GENI Genyem         0.28 219  P       Pn    11 01 59.6 +0.4
GENI Genyem         0.28 219  P       Pn    11 01 59.6 +0.4
GENI                          S       Sn    11 02 03.7 -0.9
```

JAY Jayapura 0.39 111 P Pn 11 02 00.4 -0.3
SMPI Sarmi 1.68 283 P Pn 11 02 18.7 +0.3
FAKI Fak Fak 8.10 266 P Pn 11 03 46.6 -0.2
8.2nm,1.4s
KDU Kakadu 12.87 217 P Pn 11 04 52.7 +0.6
MTN Manton Dam 13.83 221 P Pn 11 05 06.0 +0.7
KNRA Kununurra 17.46 220 P P 11 05 54.0 +0.3
QIS Mount Isa 18.08 182 P P 11 06 03.6 +3.0
WRAB Tennant Creek 18.41 198 P Pn 11 06 04.8 +0.5
WRA Warramunga Arr 18.42 198 P Pn 11 06 05.1 +0.7
0.6nm,0.3s,baz=18,slow=12,SNR=24
WRA S **Sn 11 09 23.0 -6.7**
0.4nm,0.6s,baz=25,slow=23,SNR=3.3
1.9nm,0.5s
ASAR Alice Springs 22.06 196 P P 11 06 44.8 +0.9
1.3nm,0.5s,baz=27,slow=10,SNR=27
ASAR S **S 11 10 48.1 +1.8**
0.4nm,1.0s,baz=19,slow=26,SNR=3.7
1.3nm,0.5s
WRKA Warakurna 25.35 206 P P 11 07 16.5 +0.6
OOD Oodnadatta 25.66 190 P P 11 07 20.3 +1.6
STKA Stephens Creek 29.37 178 P P 11 07 54.1 +2.2
0.7nm,0.6s,baz=330,slow=11,SNR=2.9
0.7nm,0.6s
H11N1 WAKE ISLAND Hy 34.08 49 T T 11 44 46.2
baz=231,slow=74
H11N2 WAKE ISLAND Hy 34.10 49 T T 11 44 49.9
baz=231,slow=74
H11N3 WAKE ISLAND Hy 34.10 49 T T 11 44 50.0
baz=231
MJAR Matsushiro Arr 38.77 357 P P 11 09 13.5 +0.3
1.2nm,0.8s,baz=170,slow=8.6,SNR=2.1
1.2nm,0.8s
CMAR Chiang Mai Arr 45.70 299 P P 11 10 09.3 -0.8
0.7nm,0.3s,baz=106,slow=5.3,SNR=4.4
0.7nm,0.3s
MKAR Makanchi Array 70.53 322 P P 11 13 03.4 -0.2
0.7nm,0.6s,baz=114,slow=7.4,SNR=6.4
0.7nm,0.6s
ZALV Zalesovo Beam 72.48 329 P P 11 13 13.5 -1.6
0.6nm,0.4s,baz=99,slow=9.2,SNR=2.2
0.6nm,0.4s
KURBB Kurchatov Arra 74.40 324 P P 11 13 26.5 0.0
0.5nm,0.3s,baz=115,slow=4.5,SNR=4.7
0.5nm,0.3s
BVAR Borovoye Array 79.98 325 P P 11 13 58.3 +0.5
1.4nm,0.6s,baz=114,slow=7.3,SNR=7.4
1.4nm,0.6s
ILAR Eielson Array 84.86 24 P P 11 14 22.3 -0.7
0.3nm,0.6s,baz=269,slow=5.4,SNR=5.5
0.3nm,0.6s
QSPA South Pole Qui 87.57 180 P P 11 14 37.1 +0.6
0.7nm,0.6s,baz=352,slow=1.2,SNR=7.3
0.7nm,0.6s
DBIC Dimbokro 145.06 278 PKP PKPab 11 21 26.6 +0.1
5.5nm,0.7s,baz=117,slow=2.0,SNR=5.9
CPUP Villa Florida 146.74 150 PKPbc PKiKP 11 21 33.3 -0.8
1.1nm,0.6s,baz=135,slow=1.4,SNR=3.1

---

*IDC **15** 11:08:13.5±2.1, 10°.51S×161°.65E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=49.3km s-min=33.0km az=130.0*
ISC 15 11:08:19.8±1.5, 10°.4S±0°.2×161°.4E±0°.2, h35km, n5, σ0=91/6, mb3.4/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.77**	**304**	Pn	**Pn**	**11 08 49.1**	**+1.1**
	305nm,0.3s,baz=162,slow=20,SNR=7.7						
HNR				Sn	**Sn**	**11 09 08.3**	**-1.0**
	4μm,0.3s,baz=41,slow=16,SNR=18						
WRA	**Warramunga Arr**	**27.78**	**247**	P	**P**	**11 14 05.8**	**0.0**
	0.3nm,0.4s,baz=76,slow=9.1,SNR=5.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**29.37**	**240**	P	**P**	**11 14 19.7**	**-0.2**
	0.4nm,0.9s,baz=62,slow=10,SNR=2.3						
	0.4nm,0.9s						
SONM	**Songino Array**	**75.70**	**325**	P	**P**	**11 20 01.4**	**-0.4**
	1.4nm,0.6s,baz=130,slow=5.2,SNR=7.2						
	1.4nm,0.6s						
ILAR	**Eielson Array**	**84.31**	**20**	P	**P**	**11 20 47.8**	**0.0**
	0.4nm,1.0s,baz=213,slow=6.5,SNR=2.1						
	0.4nm,1.0s						

---

*IDC **15** 11:33:52.5±1.8, 42°.69N×111°.67W, h0km, mbtmp2.7/2, ML3.0/1, Error ellipse: s-maj=32.7km s-min=6.9km az=161.0*
*UUSS **15** 11:33:56.4±0.7, 42°.609N±0°.008×111°.46W±0°.01, h3km±2km, Error ellipse: s-maj=1.4km s-min=1.2km az=72.0*
*NEIC **15** 11:33:56.0±0.5, 42°.613N±0°.010×111°.47W±0°.01, h7km, ML3.2/60, ML3.3/16(UUSS), Error ellipse: s-maj=1.5km s-min=1.4km az=220.0*
ISC 15 11:33:56.2±0.9, 42°.61N±0°.02×111°.49W±0°.02, h5km±7km, n55, σ1=00/56, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ID06	**Fossil Canyon**	**0.04**	**138**	Pg	**Pg**	**11 33 57.3**	**-0.3**
ID06				Sg	**Sg**	**11 33 58.3**	**-0.3**
AHID	**Auburn Hatcher**	**0.32**	**62**		**Pg**	**11 34 02.6**	**+0.1**
AHID	**Auburn Hatcher**	**0.32**	**62**	Sg	**Sg**	**11 34 07.2**	**+0.4**
AHID				IAML		11 34 07.7	
	14μm,0.2s						
AHID				IAML		11 34 09.8	
	9μm,0.7s						
GRRI	**Grays Lake**	**0.33**	**8**		**Pg**	**11 34 03.0**	**+0.4**
ID08	**Devils Gate**	**0.38**	**318**		**Pg**	**11 34 04.0**	**+0.3**
ID08				IAML		11 34 10.8	
	4μm,0.6s						
ID08				IAML		11 34 13.2	
	3μm,0.5s						
ID08	**Devils Gate**	**0.38**	**318**		**Sg**	**11 34 10.1**	**+1.3**
ID09	**Alton**	**0.43**	**149**		**Pg**	**11 34 04.2**	**-0.3**
ID09	**Alton**	**0.43**	**149**	Sg	**Sg**	**11 34 10.5**	**+0.4**
ID09				IAML		11 34 11.5	
	2μm,0.6s						
ID09				IAML		11 34 11.8	
	2μm,0.4s						
ID07	**Smith Canyon R**	**0.44**	**260**		**Pg**	**11 34 05.2**	**+0.4**
ID07				Sg	**Sg**	**11 34 11.7**	**+1.0**
ID07				IAML		11 34 12.6	
	2μm,0.4s						
ID07				IAML		11 34 12.9	
	3μm,0.7s						
ECR	**Eagle Creek**	**0.45**	**11**		**Pg**	**11 34 05.3**	**+0.4**
ID10	**Lander Cutoff**	**0.45**	**102**		**Pg**	**11 34 04.8**	**-0.1**
ID10	**Lander Cutoff**	**0.45**	**102**	IAML		11 34 15.6	
	2μm,0.8s						
BEI	**Bear River Ran**	**0.54**	**204**		**Pg**	**11 34 06.8**	**+0.2**
BMUT	**Black Mountain**	**0.68**	**164**		**Pg**	**11 34 08.8**	**-0.5**
L17A	**Cokeville**	**0.69**	**138**		**Pg**	**11 34 09.1**	**-0.4**
MLI	**Malad Range**	**0.75**	**219**		**Pg**	**11 34 10.8**	**+0.1**
HDU	**Hyde Park**	**0.83**	**194**		**Pg**	**11 34 12.0**	**-0.2**
REDW	**Red Top Meadow**	**0.88**	**32**		**Pg**	**11 34 12.7**	**-0.5**
NPI	**North Pocatell**	**0.90**	**239**		**Pg**	**11 34 13.5**	**+0.1**
PTU	**Portage**	**0.93**	**223**		**Pg**	**11 34 13.9**	**0.0**
TPAW	**Teton Pass**	**0.96**	**24**	Pg	**Pg**	**11 34 14.6**	**-0.1**
TPAW				IAML		11 34 29.7	
	673nm,0.2s						
SNOW	**Snow King Moun**	**1.00**	**32**		**Pg**	**11 34 14.9**	**-0.5**
SNOW				IAML		11 34 32.7	
	604nm,0.7s						
SNOW				IAML		11 34 36.5	
	729nm,0.7s						
HWUT	**Hardware Ranch**	**1.01**	**183**		**Pg**	**11 34 15.2**	**-0.4**
WVUT	**Wellsville**	**1.06**	**199**		**Pg**	**11 34 16.5**	**-0.1**
FXWY	**Fox Creek**	**1.08**	**18**		**Pg**	**11 34 16.4**	**-0.5**
MCU	**Monte Cristo P**	**1.15**	**181**		**Pg**	**11 34 17.6**	**-0.7**
LTU	**Little Mountai**	**1.17**	**209**		**Pg**	**11 34 18.2**	**-0.3**
LOHW	**Long Hollow**	**1.19**	**33**		**Pg**	**11 34 18.5**	**-0.5**
LOHW				IAML		11 34 38.9	
	559nm,0.5s						
LOHW				IAML		11 34 39.0	
	443nm,0.7s						
MOOW	**Moose Ponds**	**1.26**	**25**		**Pg**	**11 34 19.5**	**-0.8**
HVU	**Hansel Valley**	**1.27**	**229**		**Pg**	**11 34 19.9**	**-0.6**
IMW	**Indian Meadow**	**1.34**	**17**		**Pg**	**11 34 20.8**	**-1.1**
EPU	**East Promontor**	**1.40**	**210**		**Pn**	**11 34 22.0**	**-0.6**
BW06	**Boulder Array**	**1.43**	**83**		**Pn**	**11 34 23.0**	**0.0**
PD31	**Pinedale Array**	**1.43**	**83**		**Pn**	**11 34 22.9**	**-0.2**
PDAR	**Pinedale Array**	**1.43**	**83**	Pg	**Pn**	**11 34 22.9**	**-0.2**
	14nm,0.3s,baz=257,slow=14,SNR=159						
PDAR				Lg	Lg	11 34 41.7	
	18nm,0.3s,baz=261,slow=24,SNR=7.7						
TCUT	**Toone Canyon**	**1.50**	**178**		**Pg**	**11 34 24.9**	**0.0**
FLWY	**Flagg Ranch**	**1.58**	**21**		**Pn**	**11 34 25.1**	**+0.1**
FLWY	**Flagg Ranch**	**1.58**	**21**	IAML		11 34 52.5	
	221nm,0.9s						
FLWY				IAML		11 34 54.2	
	342nm,1.1s						
MCID	**Moose Creek**	**1.59**	**8**		**Pn**	**11 34 25.2**	**-0.1**
CTU	**Camp Tracy**	**1.93**	**186**		**Pn**	**11 34 30.8**	**+1.0**
CTU				IAML		11 35 01.5	
	comp=N,175nm,0.7s						
CTU				IAML		11 35 08.7	
	comp=E,232nm,0.8s						
BGU	**Big Grassy Mou**	**2.04**	**215**		**Pn**	**11 34 31.4**	**0.0**
BGU				IAML		11 35 04.1	
	comp=E,128nm,0.6s						
YMR	**Madison River**	**2.09**	**10**		**Pn**	**11 34 32.9**	**+0.8**
YMR				IAML		11 35 08.5	
	comp=E,236nm,0.9s						
BCYI	**Bear Canyon**	**2.20**	**321**		**Pb**	**11 34 35.5**	**-1.1**
YHH	**Holmes Hill**	**2.22**	**12**		**Pn**	**11 34 35.1**	**+1.1**
HLID	**Hailey**	**2.34**	**295**		**Pn**	**11 34 36.6**	**+1.1**
HLID				IAML		11 35 11.8	
	comp=E,102nm,0.5s						
HLID				IAML		11 35 12.3	
	comp=E,147nm,0.6s						
RDMU	**Red Mountain**	**2.50**	**144**		**Pn**	**11 34 38.5**	**+0.8**
RDMU				IAML		11 35 14.7	
	comp=E,98nm,0.5s						
RDMU				IAML		11 35 16.3	
	comp=N,92nm,0.6s						
DUG	**Dugway, Tooele**	**2.62**	**203**		**Pn**	**11 34 39.4**	**+0.2**
DUG				IAML		11 35 22.6	
	comp=N,67nm,0.5s						
DUG				IAML		11 35 33.3	
	comp=N,69nm,1.0s						
NLU	**North Lily Min**	**2.69**	**190**	Pn	**Pn**	**11 34 41.0**	**+0.6**
P18A	**Preston Nutter**	**3.13**	**162**		**Pn**	**11 34 48.5**	**+2.1**
P18A				IAML		11 35 43.6	
	comp=N,85nm,0.6s						
P18A				IAML		11 35 46.9	
	comp=E,75nm,0.8s						
RWWY	**Rawlins**	**3.31**	**105**		**Pn**	**11 34 49.9**	**+1.0**
TMUT	**Trail Mountain**	**3.32**	**176**		**Pn**	**11 34 51.3**	**+2.2**
TMUT				IAML		11 35 46.4	
	comp=N,81nm,0.8s						
TMUT				IAML		11 35 48.1	
	comp=E,96nm,0.8s						
O20A	**White River Ci**	**3.48**	**134**		**Pn**	**11 34 53.3**	**+2.1**
K22A	**Casper**	**3.66**	**88**		**Pn**	**11 34 55.5**	**+1.9**
K22A				IAML		11 36 02.5	
	comp=E,64nm,1.0s						
K22A				IAML		11 36 04.4	
	comp=N,68nm,0.9s						
NVAR	**Mina Array Bea**	**6.67**	**233**	Pn	**Pn**	**11 35 31.2**	**-3.7**
	comp=N,0.3nm,0.3s,baz=39,slow=26,SNR=8.1						
NVAR				Sn	**Sn**	**11 36 49.3**	**-2.0**
	baz=54,slow=33						
NVAR				Lg	Lg	11 37 21.6	
	baz=64,slow=40						
	comp=N,0.1nm,0.3s						
TXAR	**Lajitas Array**	**14.68**	**152**	Pn	**Pn**	**11 37 25.3**	**+0.8**
	comp=N,0.2nm,0.8s,baz=342,slow=19,SNR=3.0						

---

*AZER **15** 11:38:09.0±0.0, 40°.84N×47°.04E, h32km, Error ellipse: s-maj=0.4km s-min=0.2km az=11.0*
*TIF **15** 11:38:09.5, 40°.72N×47°.11E, h30km±1km*
*MOS **15** 11:38:10.7±0.8, 40°.80N×46°.96E, h11km, mb3.6/1, Error ellipse: s-maj=7.5km s-min=4.6km az=92.9*
*DRS **15** 11:38:11.6±0.0, 40°.70N×46°.95E, h20km*
*NSSP **15** 11:38:11.3, 40°.67N×46°.97E, h5km, Ms3.2*
ISC 15 11:38:11.7±0.9, 40°.71N±0°.02×47°.09E±0°.01, h26km±5km, n93, σ1=36/172, 11C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNGR	**Mingechevir, A**	**0.06**	**355**	P	**Pb**	**11 38 15.6**	**-0.7**
	SNR=22						
MNGR				S	**Sb**	**11 38 20.5**	**+1.1**
MNGR	**Mingechevir, A**	**0.06**	**355**	PG	**Pb**	**11 38 15.6**	**-0.7**
BRDA	**Brd**	**0.45**	**172**	P	**Pn**	**11 38 21.7**	**-0.7**
	SNR=12						
BRDA				S	**Sn**	**11 38 31.3**	**+1.6**
SEKA	**Sheki**	**0.51**	**9**	P	**Pb**	**11 38 20.0**	**-2.1**
	SNR=16						
SEKA				S	**Sb**	**11 38 27.4**	**-1.7**
SEKA	**Sheki**	**0.51**	**9**	PG	**Pb**	**11 38 19.8**	**-2.3**
GANJ	**Ganja**	**0.59**	**264**	P	**Pb**	**11 38 21.7**	**-1.7**
	SNR=41						
GANJ				S	**Sb**	**11 38 30.3**	**-1.2**
GANJ	**Ganja**	**0.59**	**264**	PG	**Pb**	**11 38 21.8**	**-1.7**
AGDM	**Agdam**	**0.60**	**179**	P	**Pn**	**11 38 23.5**	**-1.0**
	SNR=51						
AGDM				S	**Sn**	**11 38 34.2**	**+0.8**
QBL	**Gabala**	**0.61**	**67**	P	**Pb**	**11 38 22.3**	**-1.5**
	SNR=14						
QBL				S	**Sb**	**11 38 32.0**	**-0.1**
ZRD	**Zardab**	**0.62**	**133**	P	**Pn**	**11 38 23.9**	**-0.9**
	SNR=21						
ZRD				S	**Sn**	**11 38 35.8**	**+1.9**
IML	**Ismayilli**	**0.83**	**84**	P	**Pb**	**11 38 26.0**	**-1.6**
	SNR=44						
IML				S	**Sn**	**11 38 38.2**	**-1.0**
KDMR	**Kurdemir**	**0.90**	**112**	P	**Pb**	**11 38 27.6**	**-1.0**
	SNR=14						
KDMR				S	**Sn**	**11 38 41.8**	**+1.2**
AKT	**Akhty**	**0.91**	**32**	*i* Pg	**Pb**	**11 38 26.8**	**-2.1**
	109nm,0.2s						
AKT				*e*Sg	**Sb**	**11 38 39.4**	**-1.2**
	29nm,0.3s						
AKT	**Akhty**	**0.91**	**32**	⇓*i*PG	**Pb**	**11 38 26.7**	**-2.1**
AKT				*i* S	**Sb**	**11 38 39.5**	**-1.1**
AKT				pmax	pmax		
	comp=Z,110nm,0.2s						
AKT				smax	smax		
	comp=E,666nm,0.3s						
XNQ	**Khinaliq**	**0.92**	**59**	P	**Pb**	**11 38 26.8**	**-2.3**
	SNR=208						
XNQ				S	**Sb**	**11 38 39.7**	**-1.3**
ZKTA	**Zakatala**	**0.99**	**339**	P	**Pn**	**11 38 27.9**	**-2.1**
	SNR=92						
ZKTA				S	**Sb**	**11 38 41.7**	**-1.2**
ZKTA	**Zakatala**	**0.99**	**339**	PG	**Pn**	**11 38 27.8**	**-2.1**
GDB	**GEDABAY**	**1.02**	**271**	P	**Pn**	**11 38 28.4**	**-2.0**
	SNR=232						
GDB				S	**Sb**	**11 38 42.0**	**-1.8**
DDFL	**Dedoflistskaro**	**1.04**	**315**	P	**Pb**	**11 38 31.8**	**+0.7**
DDFL				S	**Sn**	**11 38 48.1**	**+3.8**
BLQ	**Beylaqan**	**1.05**	**160**	P	**Pn**	**11 38 29.9**	**-0.8**
	SNR=4.7						
BLQ				S	**Sn**	**11 38 45.4**	**+0.9**
PQL	**Pirkuli**	**1.14**	**86**	P	**Pn**	**11 38 30.8**	**-1.3**
	SNR=26						
PQL				S	**Sb**	**11 38 46.6**	**-0.7**
KSMR	**Kasumkent**	**1.19**	**41**	*e*Pg	**Pn**	**11 38 32.6**	**-0.1**
	comp=E,354nm,0.2s						
KSMR				*e*Sg	**Sb**	**11 38 48.6**	**+0.1**
	comp=E,254nm,0.2s						
KSMR	**Kasumkent**	**1.19**	**41**	*e*PG	**Pn**	**11 38 32.5**	**-0.1**
KSMR				*i* S	**Sb**	**11 38 49.0**	**+0.5**
KSMR				pmax	pmax		
	comp=Z,355nm,0.2s						
KSMR				smax	smax		
	comp=E,516nm,0.5s						
QSAR	**Qusar**	**1.20**	**47**	P	**Pn**	**11 38 32.6**	**-0.2**
	SNR=19						
QSAR				S	**Sb**	**11 38 49.1**	**+0.3**
QUBA	**Quba, Azerbaij**	**1.24**	**58**	P	**Pn**	**11 38 33.1**	**-0.3**
	SNR=11						
QUBA				S	**Sb**	**11 38 50.0**	**0.0**
QRD	**Qoradiz**	**1.26**	**172**	Pn	**Pb**	**11 38 33.2**	**-1.6**
	SNR=7.0						
QRD				Sn	**Sb**	**11 38 50.9**	**+0.4**
LGD	**Lagodekhi**	**1.29**	**331**	PG	**Pn**	**11 38 33.0**	**-1.1**
LGD				S	**Sn**	**11 38 51.0**	**+0.4**
LGD	**Lagodekhi**	**1.29**	**331**	P	**Pn**	**11 38 33.0**	**-1.1**
LGD				S	**Sn**	**11 38 51.0**	**+0.4**
SAAT	**Saatly**	**1.32**	**129**	Sn	**Sb**	**11 38 51.1**	**-1.3**
GRS	**Goris**	**1.34**	**206**	⇑*i*P	**Pn**	**11 38 34.0**	**-0.8**
GRS				⇓*i*S	**Sn**	**11 38 51.0**	**-0.9**
QZX	**Qazax, Azerbai**	**1.35**	**285**	P	**Pn**	**11 38 33.7**	**-1.2**
	SNR=248						
QZX				S	**Sn**	**11 38 51.9**	**0.0**
ATGJ	**Altiaghaj**	**1.41**	**83**	Pn	**Pn**	**11 38 35.7**	**-0.1**
	SNR=6.3						
ATGJ				Sn	**Sb**	**11 38 55.4**	**+0.5**
SIZA	**Siyzn**	**1.42**	**74**	Pg	**Pn**	**11 38 35.7**	**-0.1**
	SNR=6.5						
SIZA				Sg	**Sb**	**11 38 56.4**	**+1.2**
GBS	**Qobustan**	**1.42**	**96**	Pg	**Pb**	**11 38 36.6**	**-0.9**
GBS				Sg	**Sb**	**11 38 58.2**	**+3.0**
KMKR	**Kumukh**	**1.42**	**0**	*i* Pg	**Pn**	**11 38 35.7**	**-0.4**
	comp=E,56nm,0.2s						
KMKR				*e*Sg	**Sb**	**11 38 54.9**	**-0.4**
	comp=E,173nm,0.5s						
KMKR	**Kumukh**	**1.42**	**0**	⇑*i*PG	**Pn**	**11 38 35.6**	**-0.4**
KMKR				*i* S	**Sb**	**11 38 55.2**	**-0.2**
KMKR				pmax	pmax		
	comp=Z,56nm,0.2s						
KMKR				smax	smax		
	comp=E,306nm,0.2s						
URKR	**Urkarakh**	**1.51**	**15**	*e*Pg	**Pn**	**11 38 37.8**	**+0.6**
	comp=E,35nm,0.2s						
URKR				*e*Sg	**Sb**	**11 38 58.2**	**+0.3**
	comp=E,79nm,0.4s						
URKR	**Urkarakh**	**1.51**	**15**	*e*PG	**Pn**	**11 38 37.7**	**+0.6**
URKR				*i* S	**Sb**	**11 38 58.4**	**+0.5**
URKR				pmax	pmax		
	comp=Z,35nm,0.2s						
URKR				smax	smax		
	comp=N,192nm,0.2s						
DRN	**Derbent**	**1.61**	**35**	*e*Pg	**Pn**	**11 38 37.9**	**-0.5**
	comp=N,81nm,0.7s						
DRN				*e*Sg	**Sn**	**11 38 59.3**	**+1.0**
	comp=N,70nm,0.6s						
DRN	**Derbent**	**1.61**	**35**	⇓*e*PG	**Pb**	**11 38 40.0**	**-0.8**
DRN				*i* S	**Sb**	**11 39 02.7**	**+2.0**
DRN				pmax	pmax		
	comp=Z,179nm,2.5s						
DRN				smax	smax		
	comp=Z,264nm,2.1s						
ALIB	**Äli-Bayra**	**1.64**	**117**	Pn	**Pb**	**11 38 40.2**	**-1.1**
	SNR=8.8						
ALIB				Sg	**Sb**	**11 39 05.1**	**+3.5**
GNBR	**Gunib**	**1.68**	**357**	*e*Pg	**Pn**	**11 38 39.6**	**+0.2**
	comp=Z,29nm,0.3s						
GNBR				*e*Sg	**Sb**	**11 39 02.4**	**-0.3**
	comp=Z,119nm,0.4s						
GNBR	**Gunib**	**1.68**	**357**	*e*PG	**Pn**	**11 38 39.6**	**+0.2**
GNBR				*i* S	**Sb**	**11 39 02.6**	**-0.1**
GNBR				pmax	pmax		
	comp=Z,30nm,0.3s						
GNBR				smax	smax		
	comp=E,94nm,0.9s						
SBZ	**Shahbuz**	**1.77**	**223**	Sg	**Sb**	**11 39 06.6**	**+1.4**
GLBA	**Clilabad**	**1.77**	**145**	Pn	**Pn**	**11 38 41.0**	**+0.4**
	SNR=6.3						
GLBA				Sn	**Sb**	**11 39 06.2**	**+0.9**
SGKR	**Sergokala**	**1.80**	**13**	*e*Pg	**Pn**	**11 38 41.8**	**+0.7**
	comp=E,2.0nm,0.4s						
SGKR				*e*Sg	**Sb**	**11 39 06.5**	**+0.4**
	comp=E,28nm,0.6s						
SGKR	**Sergokala**	**1.80**	**13**	*e*PN	**Pn**	**11 38 41.7**	**+0.7**
SGKR				*i* S	**Sb**	**11 39 06.8**	**+0.7**
SGKR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SGKR				smax	smax		
	comp=N,107nm,0.3s						
XNZR	**Khunzakh**	**1.85**	**351**	*e*Pg	**Pn**	**11 38 42.2**	**+0.3**
	comp=N,20nm,0.3s						
XNZR				*e*Sg	**Sb**	**11 39 07.1**	**-0.7**
	comp=N,48nm,0.4s						
KAPZ	**Kaputan**	**1.86**	**259**	⇑*i*P	**Pb**	**11 38 43.5**	**-1.6**
KAPZ				⇑*i*S	**Sb**	**11 39 08.8**	**+0.6**
HNZR	**Khunzah**	**1.87**	**351**	*e*PN	**Pn**	**11 38 42.2**	**+0.1**
HNZR				*i* S	**Sb**	**11 39 07.3**	**-0.9**
HNZR				pmax	pmax		
	comp=Z,21nm,0.3s						
HNZR				smax	smax		
	comp=E,42nm,0.6s						
GNI	**Garni**	**1.88**	**253**	⇓*i*P	**Pb**	**11 38 44.3**	**-1.1**
GNI				⇑*i*S	**Sb**	**11 39 09.2**	**+0.7**
GNI	**Garni**	**1.88**	**253**	*de*PN	**Pb**	**11 38 43.3**	**-2.1**
GNI				*i* S	**Sb**	**11 39 11.2**	**+2.7**
GNI				pmax	pmax		
	comp=Z,41nm,1.0s						
GNI				smax	smax		
	comp=Z,88nm,0.6s						
ARKR	**Arakani**	**1.89**	**358**	*e*Pg	**Pn**	**11 38 43.5**	**+1.1**
	comp=Z,23nm,0.4s						
ARKR				*e*Sg	**Sb**	**11 39 08.9**	**+0.1**
	comp=Z,43nm,0.4s						
ARKR	**Arakani**	**1.89**	**358**	*e*PN	**Pn**	**11 38 43.4**	**+1.1**
ARKR				*i* S	**Sb**	**11 39 09.1**	**+0.3**
ARKR				pmax	pmax		
	comp=Z,23nm,0.4s						
ARKR				smax	smax		
	comp=N,66nm,0.5s						
NAX	**Nakhchivan**	**1.96**	**219**	Pg	**Pb**	**11 38 46.9**	**0.0**
NAX				Sg	**Sb**	**11 39 13.7**	**+2.8**
NAX	**Nakhchivan**	**1.96**	**219**	PN	**Pb**	**11 38 45.3**	**-1.5**
ORD	**Ordubad**	**1.97**	**206**	Pn	**Pb**	**11 38 45.1**	**-1.8**
	SNR=6.1						
ORD				Sn	**Sb**	**11 39 10.9**	**-0.2**
HYR	**Heyderabad**	**1.98**	**241**	Sg	**Sb**	**11 39 12.1**	**+0.8**
NRKZ	**NAREK**	**1.99**	**250**	⇓*i*P	**Pb**	**11 38 46.1**	**-1.1**
NRKZ				⇑*i*S	**Sb**	**11 39 13.0**	**+1.3**
YRD	**Yardimli**	**2.00**	**153**	Pn	**Pb**	**11 38 44.6**	**-2.8**
	SNR=5.2						
YRD				Sn	**Sb**	**11 39 08.8**	**-3.2**
UNCR	**Uncukul**	**2.01**	**354**	*e*Pg	**Pn**	**11 38 45.6**	**+1.5**
	comp=N,19nm,0.2s						
UNCR				*e*Sg	**Sb**	**11 39 12.7**	**+0.4**
	comp=N,27nm,0.2s						
UNCR	**Uncukul**	**2.01**	**354**	*e*PN	**Pn**	**11 38 45.5**	**+1.5**
UNCR				*i* S	**Sb**	**11 39 12.9**	**+0.6**
UNCR				pmax	pmax		
	comp=Z,20nm,0.2s						
UNCR				smax	smax		
	comp=E,86nm,0.5s						
BTLR	**Botlikh**	**2.06**	**342**	*e*Pg	**Pn**	**11 38 45.1**	**+0.5**
	comp=E,12nm,0.4s						
BTLR				*e*Sg	**Sb**	**11 39 12.0**	**-1.6**
	comp=E,71nm,0.6s						
BTLR	**Botlikh**	**2.06**	**342**	*e*PN	**Pn**	**11 38 45.1**	**+0.5**
BTLR				*i* S	**Sb**	**11 39 12.2**	**-1.4**
BTLR				pmax	pmax		
	comp=Z,12nm,0.4s						
BTLR				smax	smax		
	comp=N,34nm,0.4s						
KRNR	**Karanay**	**2.12**	**356**	*e*Pg	**Pn**	**11 38 46.8**	**+1.3**
	comp=N,8.0nm,0.3s						
KRNR				*e*Sg	**Sb**	**11 39 15.1**	**-0.3**
	comp=N,35nm,0.3s						
KRNR	**Karanay**	**2.12**	**356**	*e*PN	**Pn**	**11 38 46.8**	**+1.3**
KRNR				*i* S	**Sb**	**11 39 15.2**	**-0.2**
KRNR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KRNR				smax	smax		
	comp=E,37nm,0.3s						
KZRT	**Kazreti**	**2.15**	**289**	PN	**Pn**	**11 38 45.9**	**+0.1**
KZRT	**Kazreti**	**2.15**	**289**	P	**Pn**	**11 38 45.9**	**+0.1**
KZRT				S	**Sn**	**11 39 12.7**	**+1.1**
AMBZ	**Amberd**	**2.18**	**262**	⇑*i*P	**Pb**	**11 38

TRLG	**Trialeti**	**2.41 291**	PN	**Pn**	**11 38 49.7**	**+0.2**
TRLG			S	**Sn**	**11 39 19.0**	**+0.8**
TRLG	**Trialeti**	**2.41 291**	P	**Pn**	**11 38 49.7**	**+0.2**
TRLG			S	**Sn**	**11 39 18.9**	**+0.8**
SHTL	**Shatili**	**2.43 324**	PN	**Pn**	**11 38 49.9**	**+0.1**
SHTL			S	**Sn**	**11 39 19.8**	**+1.1**
SHTL	**Shatili**	**2.43 324**	P	**Pn**	**11 38 49.9**	**+0.1**
SHTL			S	**Sn**	**11 39 19.8**	**+1.1**
ASTR	**Astara**	**2.52 148**	Pn	**Pn**	**11 38 52.3**	**+1.5**
ASTR			Sn	**Sn**	**11 39 21.2**	**+0.6**
GROC	**Groznyy**	**2.67 339**	*e*PN	**Pn**	**11 38 51.5**	**-1.5**
GROC			*e*		11 38 56.9	
GROC			*e*		11 39 35.3	
GROC			pmax	pmax		
	comp=Z,49nm,0.4s					
GROC			pmax	pmax		
	comp=Z,49nm,0.4s					
GROC			smax	smax		
	comp=N,46nm,0.5s					
GROC			smax	smax		
	comp=N,47nm,0.9s					
BGD	**Bogdanovka**	**2.70 283**	PN	**Pn**	**11 38 56.0**	**+2.4**
BGD			S	**Sb**	**11 39 30.2**	**-2.0**
BGD	**Bogdanovka**	**2.70 283**	P	**Pn**	**11 38 56.0**	**+2.4**
BGD			S	**Sb**	**11 39 30.2**	**-2.0**
MTEO	**Meteo**	**2.75 317**	PN	**Pn**	**11 38 54.4**	**0.0**
MTEO			S	**Sn**	**11 39 27.8**	**+0.8**
MTEO	**Meteo**	**2.75 317**	P	**Pn**	**11 38 54.4**	**0.0**
MTEO			S	**Sn**	**11 39 27.8**	**+0.8**
AKH	**Akhalkalaki**	**2.81 286**	PN	**Pn**	**11 38 55.7**	**+0.6**
AKH			S	**Sn**	**11 39 31.3**	**+3.1**
AKH	**Akhalkalaki**	**2.81 286**	P	**Pn**	**11 38 55.7**	**+0.6**
AKH			S	**Sn**	**11 39 31.2**	**+3.1**
ALIG	**Mtskhetisjvari**	**2.94 299**	PN	**Pn**	**11 38 56.5**	**-0.3**
ALIG			S	**Sn**	**11 39 30.8**	**-0.4**
ALIG	**Mtskhetisjvari**	**2.94 299**	P	**Pn**	**11 38 56.5**	**-0.3**
ALIG			S	**Sn**	**11 39 30.8**	**-0.4**
KBZ	**Khabaz**	**4.34 315**	||*e*PN	**Pn**	**11 39 17.3**	**+1.5**
RPOR	**Krasnaya Polya**	**5.88 303**	*ce*P	**Pn**	**11 39 37.2**	**0.0**
MKAR	**Makanchi Array**	**25.99 65**	*i* P	**P**	**11 43 43.7**	**+1.5**

IDC 15 11:40:53.7±11.0, 4°.96N×89°.35E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=480.6km s-min=33.7km az=59.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.12**	**353**	P	P	11 48 47.4	-0.2
	0.3nm,0.7s,baz=159,slow=8.5,SNR=2.4						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**50.67**	**121**	P	P	11 49 54.6	-0.7
	0.6nm,0.9s,baz=288,slow=11,SNR=4.1						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**51.92**	**125**	P	P	11 50 05.2	+0.5
	0.3nm,0.9s,baz=305,slow=8.6,SNR=4.2						
	0.3nm,0.9s						

IDC 15 11:46:05.5±7.8, 2°.23S×138°.56E, h0km, mb3.3/4, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=356.9km s-min=28.1km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.09**	**193**	P	Pn	11 50 18.6	+0.2
	0.1nm,0.3s,baz=11,slow=12,SNR=2.4						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**21.79**	**192**	P	P	11 50 59.1	-0.1
	0.2nm,0.4s,baz=21,slow=10,SNR=3.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**69.32**	**322**	P	P	11 57 15.0	+0.2
	0.1nm,0.4s,baz=102,slow=6.2,SNR=2.5						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**73.25**	**325**	P	P	11 57 38.8	+0.3
	0.4nm,0.7s,baz=132,slow=5.2,SNR=2.0						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**78.83**	**325**	P	P	11 58 09.9	-0.4
	0.3nm,0.5s,baz=95,slow=7.2,SNR=1.6						
	0.3nm,0.5s						

*IDC **15** 11:54:06.1±1.4, 41°.02N×140°.13E, h156km±13km, mb3.3/10, mbtmp3.7/13, Error ellipse: s-maj=17.8km s-min=12.7km az=132.0*
*JMA **15** 11:54:06.9±0.1, 41°.0N±0°.3×140°.1E±0°.8, h159km±1km, MV2.9/37, W OFF AOMORI PREF*
ISC 15 11:54:06.6±0.7, 41°.00N±0°.04×140°.14E±0°.07, h163km±5km, n29, σ0§58/39, mb3.5/10, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.21**	**75**	*i* P	**Pn**	**11 54 28.4**	**0.0**
JSI2				S	**Sn**	**11 54 45.0**	**-0.1**
JHHS	**Hirosakihyakuz**	**0.39**	**154**	P	**Pn**	**11 54 29.4**	**+0.4**
JHHS				S	**Sn**	**11 54 46.2**	**+0.2**
JIW	**Iwasaki**	**0.42**	**194**	*i* P	**Pn**	**11 54 29.2**	**+0.1**
JIW				S	**Sn**	**11 54 46.0**	**-0.2**
JOMM	**Oshimamatsumae**	**0.53**	**349**	P	**Pn**	**11 54 29.7**	**+0.2**
JOMM				S	**Sn**	**11 54 46.6**	**-0.5**
JSR	**Shiriuchi**	**0.57**	**22**	P	**Pn**	**11 54 29.6**	**-0.1**
JTM	**Tenmabayashi**	**0.74**	**107**	*i* P	**Pn**	**11 54 30.8**	**+0.2**
JTM				S	**Sn**	**11 54 48.9**	**-0.2**
JOT	**Ohata**	**0.79**	**61**	P	**Pn**	**11 54 31.1**	**+0.1**
JAH	**Hinai**	**0.90**	**155**	P	**Pn**	**11 54 31.9**	**+0.1**
JAH				*e*S	**Sn**	**11 54 51.3**	**+0.2**
JKB	**Kayabe**	**1.11**	**37**	P	**Pn**	**11 54 33.6**	**+0.2**
JYM2	**Yakumo 2**	**1.13**	**9**	P	**Pn**	**11 54 33.8**	**+0.2**
JOSM	**Okushiri--Mats**	**1.19**	**335**	P	**Pn**	**11 54 34.0**	**-0.1**
JOSM				S	**Sn**	**11 54 54.5**	**-0.9**
JANG	**Nango**	**1.22**	**120**	*i* P	**Pn**	**11 54 34.1**	**-0.4**
JOM	**Ohasama**	**1.76**	**150**	*i* P	**Pn**	**11 54 39.5**	**-0.4**
JYK	**Kaneyama**	**2.09**	**175**	P	**Pn**	**11 54 43.6**	**+0.1**
JMK	**Ichinoseki**	**2.21**	**158**	P	**Pn**	**11 54 44.5**	**-0.5**
JMK				S	**Sn**	**11 55 13.4**	**-1.1**
JNBK	**Urakawa-nobuka**	**2.34**	**56**	P	**Pn**	**11 54 46.5**	**+0.1**
JNBK				S	**Sn**	**11 55 16.6**	**-0.6**
ASAJ	**Asahikawa**	**3.60**	**29**	P	**Pn**	**11 55 02.2**	**+0.2**
	10.0nm,0.4s,baz=215,slow=18,SNR=68						
ASAJ				S	**Sn**	**11 55 43.4**	**-1.9**
	12nm,0.5s,baz=253,slow=19,SNR=8.6						
MJAR	**Matsushiro Arr**	**4.70**	**199**	P	**Pn**	**11 55 17.3**	**+1.0**
	1.0nm,0.4s,baz=319,slow=16,SNR=8.5						
USRK	**Ussuriysk Ar.**	**6.81**	**301**	P	**Pn**	**11 55 44.6**	**+0.5**
	2.5nm,0.5s,baz=104,slow=14,SNR=5.8						
ZALV	**Zalesovo Beam**	**38.58**	**309**	P	**P**	**12 01 13.1**	**-0.2**
	0.5nm,0.3s,baz=74,slow=6.2,SNR=1.6						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**41.27**	**298**	P	**P**	**12 01 35.4**	**-0.3**
	2.4nm,0.6s,baz=85,slow=9.4,SNR=14						
	2.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**41.73**	**250**	P	**P**	**12 01 39.8**	**+0.1**
	0.5nm,0.5s,baz=41,slow=8.4,SNR=1.8						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**42.86**	**305**	P	**P**	**12 01 48.2**	**-0.2**
	1.3nm,0.5s,baz=82,slow=8.6,SNR=12						
	1.3nm,0.5s						
ILAR	**Eielson Array**	**46.73**	**34**	P	**P**	**12 02 19.7**	**+0.9**
	0.8nm,0.6s,baz=280,slow=7.9,SNR=16						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**47.23**	**309**	P	**P**	**12 02 22.6**	**-0.2**
	1.5nm,0.4s,baz=66,slow=9.3,SNR=9.1						
	1.5nm,0.4s						
WRA	**Warramunga Arr**	**60.87**	**186**	P	**P**	**12 04 00.8**	**-1.1**
	0.3nm,0.9s,baz=2.6,slow=7.0,SNR=6.1						
	0.3nm,0.9s						
FINES	**FINESS Array B**	**64.86**	**331**	P	**P**	**12 04 27.5**	**-0.2**
	1.3nm,0.8s,baz=48,slow=6.2,SNR=1.6						
	1.3nm,0.8s						
PDAR	**Pinedale Array**	**75.59**	**45**	P	**P**	**12 05 34.3**	**+0.6**
	0.2nm,0.5s,baz=90,slow=1.5,SNR=3.6						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**88.46**	**52**	P	**P**	**12 06 41.5**	**+0.8**
	0.2nm,0.9s,baz=316,slow=5.0,SNR=1.8						
	0.2nm,0.9s						

*IDC **15** 12:00:16.4±1.3, 30°.48N×138°.26E, h439km±26km, mb2.7/2, mbtmp3.8/8, Error ellipse: s-maj=52.7km s-min=13.2km az=72.0*
*JMA **15** 12:00:18.6±0.4, 31°.N±3°.×13°.8E±°., h496km, MV3.3/27, NEAR TORISHIMA IS*
ISC 15 12:00:16.7±1.0, 30°.47N±0°.08×138°.3E±0°.2, h440km, n13, σ1§53/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.79**	**134**	P	**P**	**12 01 38.7**	**+0.2**
	133nm,1.1s,baz=300,slow=20,SNR=2.1						
JCJ				S	**S**	**12 02 45.1**	**-0.1**
	90nm,0.8s,baz=256,slow=17,SNR=2.9						
JOD2	**Odawara 2**	**4.82**	**8**	*e*P	**P**	**12 01 42.2**	**+3.5**
JHU	**Hanno**	**5.43**	**8**	*e*P	**P**	**12 01 46.2**	**+1.6**
JHU				*e*S	**S**	**12 02 56.3**	**-0.3**
JRY	**Ryogami san**	**5.55**	**5**	*e*P	**P**	**12 01 48.2**	**+2.2**
JRY				*e*S	**S**	**12 02 58.9**	**0.0**
JAG	**Ashikaga**	**6.01**	**9**	*e*P	**P**	**12 01 51.7**	**+1.1**
JAG				*e*S	**S**	**12 03 04.9**	**-2.6**
MJAR	**Matsushiro Arr**	**6.05**	**359**	P	**P**	**12 01 51.8**	**+0.8**
	0.7nm,0.6s,baz=125,slow=15,SNR=1.6						
JHO	**Hitachi**	**6.41**	**17**	*e*S	**S**	**12 03 13.5**	**-1.5**
KSRS	**Korea Array**	**11.08**	**312**	P	**P**	**12 02 44.7**	**-0.8**
	1.8nm,0.7s,baz=128,slow=9.9,SNR=7.4						
ASAJ	**Asahikawa**	**14.04**	**13**	P	**P**	**12 03 17.9**	**+0.4**
	8.7nm,0.9s,baz=180,slow=19,SNR=1.2						
USRK	**Ussuriysk Ar.**	**14.59**	**342**	P	**P**	**12 03 23.0**	**-0.4**
	5.1nm,0.6s,baz=146,slow=11,SNR=12						
KLR	**Kul'dur**	**19.39**	**347**	P	**P**	**12 04 11.9**	**-0.9**
	1.4nm,0.7s,baz=172,slow=4.9,SNR=4.3						
WRA	**Warramunga Arr**	**50.27**	**185**	P	**P**	**12 08 30.9**	**-0.2**
	0.6nm,0.5s,baz=360,slow=7.6,SNR=12						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**53.99**	**185**	P	**P**	**12 08 57.8**	**-0.3**
	0.3nm,0.7s,baz=24,slow=12,SNR=12						
	0.3nm,0.7s						

IDC 15 12:05:41.6±1.0, 4°.29S×151°.14E, h124km±16km, mb3.2/2, mbtmp3.6/3, Error ellipse: s-maj=36.0km s-min=15.2km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.89**	**91**	P	Pn	12 06 03.2	+0.2
	163nm,0.3s,baz=282,slow=24,SNR=68						
KRVT				S	Sn	12 06 19.7	+0.6
	55nm,0.3s,baz=258,slow=23,SNR=7.1						
PMG	**Port Moresby**	**6.44**	**218**	P	Pn	12 07 15.7	+1.7
	2.0nm,0.3s,baz=312,slow=20,SNR=1.7						
PMG				S	Sn	12 08 26.2	0.0
	3.2nm,0.3s,baz=210,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**22.58**	**225**	P	P	12 10 31.8	-0.1
	0.7nm,0.4s,baz=52,slow=9.8,SNR=20						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**25.45**	**219**	P	P	12 10 57.9	-0.2
	0.3nm,0.3s,baz=54,slow=9.1,SNR=14						
	0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**148.57**	**288**	PKPbc	PKPbc	12 25 14.7	-0.4
	0.1nm,0.3s,baz=106,slow=1.8,SNR=1.6						

*NEIC **15** 12:28:51.5±2.5, 7°.92S±0°.08×107°.73E±0°.08, h41km±8km, mb4.3/15, Error ellipse: s-maj=11.8km s-min=11.2km az=134.0*
*DJA **15** 12:28:52.6±0.8, 8°.S±4°.×10°.8E±°., h19km±7km, M4.5/19, mb4.5/12, MLv4.5/19*
*IDC **15** 12:28:58.0±0.8, 7°.68S×108°.14E, h99km±6km, mb3.8/14, mbtmp4.1/15, MS2.7/2, Error ellipse: s-maj=26.3km s-min=12.3km az=54.0*
ISC 15 12:28:54.6±0.5, 8°.06S±0°.06×107°.87E±0°.06, h70km, n75, σ1§45/73, mb4.2/23, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.63**	**64**	P	**Pn**	**12 29 06.5**	**-2.3**
BBJI	**Bungbulang**	**0.64**	**340**	P	**Pn**	**12 29 07.2**	**-1.8**
CNJI	**Cibinong**	**1.05**	**315**	P	**Pn**	**12 29 12.9**	**-0.9**
LEM	**Lembang**	**1.25**	**348**	P	**Pn**	**12 29 16.5**	**-0.1**
LEM	**Lembang**	**1.25**	**348**	LR	LR	12 29 15.8	
	comp=Z,50nm,19.4s,baz=166,slow=18						
LEM				P	**Pn**	**12 29 17.1**	**+0.5**
	1μm,0.5s,baz=100,slow=8.0,SNR=137						
LEM				S	**Sn**	**12 29 34.5**	**+1.6**
	746nm,0.4s,baz=343,slow=20,SNR=10						
KPJI	**Karang Pucung**	**1.27**	**55**	P	**Pn**	**12 29 15.7**	**-1.0**
CGJI	**Cibinong**	**2.60**	**304**	P	**Pn**	**12 29 34.1**	**-0.3**
UGM	**Wanagama**	**2.63**	**87**	Pn	**Pn**	**12 29 33.1**	**-1.7**
UGM	**Wanagama**	**2.63**	**87**	P	**Pn**	**12 29 33.6**	**-1.3**
UGM	**Wanagama**	**2.63**	**87**	P	**Pn**	**12 29 33.5**	**-1.3**
SMRI	**Semarang**	**2.74**	**69**	Pn	**Pn**	**12 29 36.1**	**-0.2**
SMRI	**Semarang**	**2.74**	**69**	P	**Pn**	**12 29 36.5**	**+0.2**
WOJI	**Wonogiri, Jawa**	**3.03**	**86**	P	**Pn**	**12 29 38.7**	**-1.6**
XMI	**Christmas Isla**	**3.20**	**222**	P	**Pn**	**12 29 41.1**	**-1.6**
XMIS	**Christmas Isla**	**3.25**	**222**	Pn	**Pn**	**12 29 41.1**	**-2.2**
XMIS	**Christmas Isla**	**3.25**	**222**	P	**Pn**	**12 29 41.5**	**-1.8**
UWJI	**Ujung Watu**	**3.46**	**62**	P	**Pn**	**12 29 45.7**	**-0.5**
NGJI	**Ngawi**	**3.62**	**79**	P	**Pn**	**12 29 48.4**	**0.0**
KASI	**Kota Agung**	**4.20**	**307**	P	**Pn**	**12 29 56.9**	**+0.7**
KLI	**Kotabumi**	**4.37**	**317**	P	**Pn**	**12 29 59.6**	**+1.0**
GRJI	**Gresik**	**4.71**	**76**	P	**Pn**	**12 30 02.6**	**-0.6**
GMJI	**Gumukmas**	**5.52**	**93**	P	**Pn**	**12 30 14.4**	**+0.1**
	29nm,0.6s						
PMBI	**Palembang**	**5.96**	**329**	P	**Pn**	**12 30 22.3**	**+1.9**
	356nm,0.6s,1.9nm						
MNAI	**Manna**	**6.12**	**307**	P	**Pn**	**12 30 26.6**	**+4.1**
MNAI	**Manna**	**6.12**	**307**	P	**Pn**	**12 30 23.2**	**+0.7**
	180nm,1.1s,0.9nm						
JAGI	**Jajag, Banyuwa**	**6.23**	**94**	Pn	**Pn**	**12 30 23.5**	**-0.5**
JAGI	**Jajag, Banyuwa**	**6.23**	**94**	P	**Pn**	**12 30 24.6**	**+0.6**
JAGI	**Jajag, Banyuwa**	**6.23**	**94**	P	**Pn**	**12 30 24.2**	**+0.2**
	47nm,0.5s,0.4nm						
SRBI	**Singaraja**	**7.27**	**91**	P	**Pn**	**12 30 39.1**	**+0.9**
	53nm,1.7s,0.2nm						
DSRI	**Dabo**	**8.22**	**336**	P	**Pn**	**12 30 52.9**	**+1.6**
	26nm,1.1s						
TWSI	**Taliwang, Sumb**	**8.94**	**95**	P	**Pn**	**12 31 01.5**	**+0.4**
	17nm,1.3s						
PLAI	**Plampang**	**9.83**	**95**	P	**Pn**	**12 31 13.3**	**+0.1**
PLAI	**Plampang**	**9.83**	**95**	P	**Pn**	**12 31 13.1**	**-0.1**
	35nm,1.2s						
KAPI	**Kappang**	**12.18**	**76**	LR	LR	12 36 19.1	
	comp=Z,42nm,18.0s,baz=315,slow=37						
MMRI	**Maumere**	**14.22**	**93**		**Pn**	**12 32 11.2**	**-1.5**
BBSI	**Bau Bau**	**14.82**	**81**	P	**Pn**	**12 32 21.5**	**+1.0**
	6.9nm,0.9s						
GIRL	**Giralia**	**15.73**	**158**		**Pn**	**12 32 30.0**	**-2.1**
GIRL	**Giralia**	**15.73**	**158**	P	**Pn**	**12 32 31.2**	**-0.9**
BATI	**Baumata**	**15.73**	**99**	P	**Pn**	**12 32 31.9**	**-0.3**
	9.0nm,0.3s,baz=236,slow=3.6,SNR=2.7						
MBWA	**Marble Bar**	**17.34**	**140**	P	**Pn**	**12 32 50.9**	**-1.3**
GTOI	**Gorontalo**	**17.39**	**61**	P	**P**	**12 32 54.2**	**+1.0**
	8.9nm,1.0s						
KNRA	**Kununurra**	**21.78**	**112**	P	**P**	**12 33 42.3**	**+1.4**
KNRA				IAmb	IAmb	12 33 43.1	
	comp=Z,19nm,1.2s						
MTN	**Manton Dam**	**23.35**	**104**	P	**P**	**12 33 56.6**	**-0.6**
MTN				IAmb	IAmb	12 34 22.4	
	comp=Z,18nm,1.2s						
FAKI	**Fak Fak**	**24.79**	**79**	P	**P**	**12 34 09.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**27.79**	**342**	LR	LR	12 48 08.0	
	comp=Z,11nm,19.7s,baz=230,slow=42						
WB0	**Warramunga Arr**	**28.20**	**117**	P	**P**	**12 34 41.2**	**+0.3**
WB0				IAmb	IAmb	12 35 14.2	
	comp=Z,7.8nm,1.4s						
WRA	**Warramunga Arr**	**28.21**	**118**	P	**P**	**12 34 41.4**	**+0.3**
WRA	**Warramunga Arr**	**28.21**	**118**	P	**P**	**12 34 41.2**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=296,slow=11,SNR=10.0						
WRA				PcP	**PcP**	**12 37 53.2**	**-0.2**
	comp=Z,0.3nm,0.9s,baz=306,slow=2.0,SNR=1.9						
	comp=Z,0.2nm,0.6s						
WB2	**Warramunga Arr**	**28.22**	**118**	P	**P**	**12 34 41.7**	**+0.5**
WB2				IAmb	IAmb	12 34 53.3	
	comp=Z,13nm,1.5s						
WR0	**Warramunga Arr**	**28.39**	**117**	P	**P**	**12 34 43.5**	**+0.7**
WR0				IAmb	IAmb	12 34 54.6	
	comp=Z,11nm,1.4s						
ASAR	**Alice Springs**	**29.37**	**125**	P	**P**	**12 34 51.3**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=304,slow=9.0,SNR=7.7						
ASAR				PcP	**PcP**	**12 37 56.5**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=301,slow=2.0,SNR=5.1						
	comp=Z,0.4nm,0.8s						
H08S2	**Diego Garcia H**	**35.04**	**268**	T	T	13 13 11.6	
	baz=93,slow=76,SNR=118						
H08S3	**Diego Garcia H**	**35.05**	**268**	T	T	13 13 12.3	
	baz=93,slow=76,SNR=89						
H08S1	**Diego Carcia H**	**35.06**	**268**	T	T	13 13 13.0	
	baz=93,slow=76,SNR=104						
STKA	**Stephens Creek**	**39.29**	**132**	P	**P**	**12 36 17.3**	**+0.4**
STKA	**Stephens Creek**	**39.29**	**132**	P	**P**	**12 36 17.9**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=319,slow=7.6,SNR=7.3						
	comp=Z,1.3nm,0.4s						
HHC	**Hu-ho-hao-te**	**48.79**	**4**	*e*P	P	12 37 37.8	+5.0
HHC				pmax	pmax		
	comp=Z,28nm,0.5s						
HHC				pmax	pmax		
	comp=Z,670nm,5.1s						
SONM	**Songino Array**	**55.67**	**359**	P	**P**	**12 38 21.7**	**-2.0**
	comp=Z,0.8nm,0.5s,baz=177,slow=9.8,SNR=5.5						
SONM				PcP	**PcP**	**12 39 21.8**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=164,slow=3.8,SNR=6.3						
	comp=Z,0.8nm,0.5s						
MK31	**Makanchi Array**	**59.18**	**340**	P	**P**	**12 38 45.5**	**-2.8**
MK31				IAmb	IAmb	12 38 48.0	
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**59.18**	**340**	P	**P**	**12 38 45.5**	**-2.8**
MKAR	**Makanchi Array**	**59.18**	**340**	P	**P**	**12 38 46.0**	**-2.3**
	comp=Z,1.8nm,0.5s,baz=146,slow=7.4,SNR=22						
	comp=Z,1.8nm,0.5s						
KURBB	**Kurchatov Arra**	**63.74**	**340**	P	**P**	**12 39 17.1**	**-1.8**
	comp=Z,0.7nm,0.2s,baz=171,slow=6.6,SNR=8.0						
	comp=Z,0.7nm,0.2s						
ZALV	**Zalesovo Beam**	**64.77**	**345**	P	**P**	**12 39 23.3**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=179,slow=7.3,SNR=2.5						
	comp=Z,0.6nm,0.3s						
GEYT	**Alibeck**	**65.13**	**318**	P	**P**	**12 39 27.5**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=139,slow=7.7,SNR=2.7						
	comp=Z,1.1nm,0.4s						
MAW	**Mawson**	**66.61**	**197**	P	**P**	**12 39 40.2**	**+2.9**
	comp=Z,1.1nm,0.8s,baz=68,slow=5.3,SNR=1.8						
	comp=Z,1.1nm,0.8s						
BVAR	**Borovoye Array**	**68.68**	**337**	P	**P**	**12 39 48.8**	**-1.7**
	comp=Z,1.5nm,0.5s,baz=142,slow=7.0,SNR=7.4						
	comp=Z,1.5nm,0.5s						
ABKAR	**Akbulak array**	**70.77**	**329**		**P**	**12 40 02.0**	**-1.4**
SBA	**Scott Base**	**75.84**	**169**	P	**P**	**12 40 34.6**	**+1.7**
SBA				IAmb	IAmb	12 41 06.7	
	comp=Z,4.0nm,1.5s						
BOSA	**Boshof**	**79.73**	**242**	P	**P**	**12 40 56.6**	**+1.0**
BOSA	**Boshof**	**79.73**	**242**	P	**P**	**12 40 57.9**	**+2.3**
	comp=Z,1.3nm,0.5s,baz=105,slow=3.6,SNR=5.1						
	comp=Z,1.3nm,0.5s						
QSPA	**South Pole Qui**	**81.93**	**180**	P	**P**	**12 41 07.6**	**+1.0**
QSPA				IAmb	IAmb	12 41 50.2	
	comp=Z,4.0nm,1.4s						
SNAA	**Sanae**	**88.77**	**197**		**P**	**12 41 41.9**	**+1.4**
SNAA				IAmb	IAmb	12 42 22.5	
	comp=Z,4.3nm,1.5s						
SNAA	**Sanae**	**88.77**	**197**	P	**P**	**12 41 42.7**	**+2.2**
	comp=Z,0.7nm,0.6s,baz=169,slow=7.1,SNR=8.5						
	comp=Z,0.7nm,0.6s						
FINES	**FINESS Array B**	**93.11**	**332**	P	**P**	**12 41 59.6**	**-1.0**
	comp=Z,3.6nm,1.0s,baz=140,slow=12,SNR=5.2						
	comp=Z,3.6nm,1.0s						
ARCES	**ARCESS Array B**	**94.83**	**340**	P	**P**	**12 42 06.6**	**-1.8**
	comp=Z,4.3nm,0.9s,baz=64,slow=8.2,SNR=3.6						
	comp=Z,4.3nm,0.9s						

*IDC **15** 12:44:57.1±1.3, 15°.82N×94°.68W, h0km, mb3.7/5, mbtmp3.6/6, ML4.2/2, MS3.4/8, Error ellipse: s-maj=31.6km s-min=19.9km az=67.0*
*MEX **15** 12:44:58.4±0.5, 15°.48N×95°.04W, h15km, MD4.5*
*NEIC **15** 12:44:58.4±2.2, 15°.69N±0°.05×95°.08W±0°.03, h18km±2km, mb4.3/12, Md4.4/12(MEX), Error ellipse: s-maj=6.8km s-min=3.5km az=196.0*
ISC 15 12:44:54.9±3.2, 15°.53N±0°.04×95°.02W±0°.03, h2km±21km, n81, σ2§12/103, mb3.9/9, MS3.4/7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.07**	**283**		**Sb**	**12 45 28.4**	**-2.3**
HUIG	**Huatulco**	**1.07**	**283**	*e*P	**Pb**	**12 45 15.1**	**-1.2**
HUIG				*e*S	**Sb**	**12 45 28.4**	**-2.3**
NILT	**Santiago Nilte**	**1.10**	**21**	*e*P	**Pn**	**12 45 15.3**	**-2.0**
NILT				*i* S	**Sb**	**12 45 29.7**	**-1.8**
PANG	**Puerto Angel**	**1.41**	**276**	*e*P	**Pn**	**12 45 19.3**	**-2.3**
CMIG	**Matias Romero**	**1.55**	**5**	Pn	Pn	12 45 21.5	-2.2
	41nm,0.3s,baz=186,slow=12,SNR=84						
CMIG				Sn	**Sn**	**12 45 39.8**	**-4.6**
	187nm,0.3s,baz=182,slow=16,SNR=21						
CMIG	**Matias Romero**	**1.55**	**5**	*e*P	Pn	12 45 21.5	-2.2
CMIG				*i* S	**Sn**	**12 45 39.9**	**-4.6**
PCIG		**1.74**	**84**	*e*P	**Pn**	**12 45 24.6**	**-1.7**
PCIG				*e*S	**Sn**	**12 45 44.8**	**-4.3**
UXUV	**UXUV**	**1.96**	**25**	*e*P	**Pn**	**12 45 28.2**	**-1.1**
UXUV				*e*S	**Sn**	**12 45 52.4**	**-2.1**
PEIG	**Puerto Escondi**	**2.10**	**283**	*e*P	**Pn**	**12 45 29.4**	**-1.8**
PEIG				*e*S	**Sn**	**12 45 53.5**	**-4

DEIG	Demacu	6.09	322	eP		Pn	12 46 23.3 -2.9
TEIG	Tepich	7.94	53			Pn	12 46 51.1 -0.3
TEIG	Tepich	7.94	53	Pn		Pn	12 46 49.3 -2.1
	38nm,0.3s,baz=102,slow=0.4,SNR=30						
TEIG				Sn		Sn	12 48 14.9 -7.0
	73nm,0.3s,baz=157,slow=21,SNR=8.7						
TEIG				LR		LR	12 50 21.8
	comp=Z,1μm,18.9s,baz=9.5,slow=43						
ORTG	Ortega, Santa	10.64	118	Pn		Pn	12 47 32.0 +3.3
435B	Jarrell	15.36	352			Pn	12 48 30.1 -2.7
435B				IAmb		IAmb	12 48 40.8
	comp=Z,13nm,0.9s						
TXAR	Lajitas Array	15.88	331	Pn		Pn	12 48 42.8 +3.0
	comp=Z,0.1nm,0.3s,baz=163,slow=16,SNR=1.5						
	comp=Z,0.5nm,0.7s						
BCIP	Isla Barro Col	16.12	111	P		P	12 48 47.9 +1.7
ANMO	Albuquerque	21.89	334	P		P	12 49 51.7 +2.1
	comp=Z,0.6nm,0.6s,baz=237,slow=11,SNR=3.7						
	comp=Z,0.6nm,0.6s						
TKL	Tuckaleechee C	22.43	25	LR		LR	12 58 57.6
	comp=Z,34nm,20.3s,baz=168,slow=38						
X16A	Lo Mia Camp, P	23.92	325	P		P	12 50 09.9 -0.7
SDCO	Great Sand Dun	23.99	339	P		P	12 50 08.9 -2.5
WUAZ	Wupatki	24.71	327	P		P	12 50 16.6 -1.2
WUAZ				IAmb		IAmb	12 50 25.6
	comp=Z,5.6nm,1.1s						
SDV	Santo Domingo	24.72	103	LR		LR	13 00 21.1
	comp=Z,40nm,19.4s,baz=282,slow=38						
BOSC	San Juan Bosco	24.74	137			P	12 50 21.4 +3.1
BCW	Bitter Crk WRg	29.20	316	P		P	12 50 58.1 -0.1
BCW				IAmb		IAmb	12 51 17.0
	comp=Z,7.3nm,0.6s						
I45A	Fountain	29.38	13	P		P	12 50 58.4 -1.0
NVAR	Mina Array Bea	30.67	323	P		P	12 51 10.6 -0.6
NVAR	Mina Array Bea	30.67	323	P		P	12 51 14.2 +3.0
	comp=Z,0.7nm,0.8s,baz=132,slow=9.3,SNR=7.3						
NVAR				LR		LR	13 04 28.0
	comp=Z,92nm,20.0s,baz=133,slow=38						
	comp=Z,0.7nm,0.8s						
MFID	Camas Ranch	32.98	332	P		P	12 51 30.6 -0.9
MFID				IAmb		IAmb	12 51 43.3
	comp=Z,1.9nm,1.1s						
YBH	Yreka Blue Hor	35.38	323	LR		LR	13 06 40.8
	comp=Z,33nm,20.7s,baz=184,slow=37						
F62A	Pittston Farm,	36.84	30	P		P	12 52 02.2 -2.3
SCHQ	Schefferville	44.88	23	LR		LR	13 12 32.8
	comp=Z,39nm,18.8s,baz=299,slow=37						
I30M	Mount Dempster	56.89	341	P		P	12 54 41.0 -0.3
I30M				IAmb		IAmb	12 55 18.8
	comp=Z,6.1nm,1.5s						
BCAR	Beaver Creek A	57.48	337	P		P	12 54 45.2 -0.2
RES	Resolute Bay	59.15	0	LR		LR	13 21 30.6
	comp=Z,34nm,21.4s,baz=26,slow=37						
ILAR	Eielson Array	60.29	337	P		P	12 55 06.3 +1.5
	comp=Z,0.6nm,0.9s,baz=153,slow=4.9,SNR=6.3						
	comp=Z,0.6nm,0.9s						
PLCA	Paso Flores	60.41	159	P		P	12 55 08.8 +2.8
	comp=Z,1.7nm,0.8s,baz=350,slow=11,SNR=3.5						
	comp=Z,1.7nm,0.8s						
ESDC	Sonseca Array	81.05	51	P		P	12 57 12.1 +0.2
	comp=Z,1.3nm,1.0s,baz=291,slow=5.5,SNR=4.9						
	comp=Z,1.3nm,1.0s						
VAE	Valguarnera	95.39	49	LR		LR	13 38 16.9
	comp=Z,19nm,18.3s,baz=322,slow=34						

*IDC **15** 12:46:13.2±1.6,23°.88S×179°.99E,h506km±17km, mb3.3/10,mbtmp4.2/12,Error ellipse: s-maj=19.9km s-min=16.0km az=147.0*
*NEIC **15** 12:46:15.4±1.0,23°.8S±0°.2×179°.9W±0°.2,h546km±16km, mb4.3/22,Error ellipse: s-maj=29.9km s-min=20.6km az=224.0*
ISC 15 12:46:14.8±0.6,23°.92S±0°.08×180°.0E±0°.1,h526km,n46, σ1§05/48,mb4.1/22,4D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.42	343	P		12 47 56.3	-0.2
MSVF	Nonsavu	6.42	343	P		12 47 55.2	-1.2
	7.2nm,0.5s,baz=260,slow=12,SNR=9.1						
PINNC	Pines Island,	11.60	274	P		12 48 50.8	+1.6
LIFNC	LIFOU	12.20	282	P		12 48 55.4	-0.1
TOZ	Tahuroa Road	14.29	195	P		12 49 18.3	+1.2
URZ	Urewera	14.50	189	P		12 49 18.6	-0.7
	9.1nm,0.7s,baz=27,slow=6.8,SNR=2.5						
URZ				S		12 51 48.3	-3.1
	2.3nm,0.5s,baz=143,slow=20,SNR=1.1						
ARMA	Armidale	26.00	249	P		12 51 06.9	+1.0
ARMA				IAmb		IAmb	12 51 12.0
	comp=Z,17nm,1.2s						
EIDS	Eidsvold	26.29	261	P		12 51 08.8	+0.5
CAN	Canberra	29.12	240	P		12 51 33.7	+0.7
CTAO	Charters Tower	31.46	270	P		12 51 53.8	+0.5
TOO	Toolangi	32.42	237	P		12 52 01.8	+0.4
TOO				IAmb		IAmb	12 52 35.5
	comp=Z,13nm,1.4s						
PMG	Port Moresby	34.48	289	P		12 52 18.2	-0.7
STKA	Stephens Creek	34.70	248	P		12 52 19.9	-0.7
	comp=Z,1.5nm,0.8s,baz=76,slow=8.7,SNR=5.4						
	comp=Z,1.5nm,0.8s						
BBOO	Buckleboo	39.42	247	P		12 52 58.8	-0.6
BBOO				IAmb		IAmb	12 53 34.7
	comp=Z,16nm,1.4s						
AS31	Alice Springs	42.02	261	P		12 53 20.3	+0.1
ASAR	Alice Springs	42.02	261	P		12 53 19.5	-0.8
ASAR	Alice Springs	42.02	261	P		12 53 20.0	-0.2
	comp=Z,4.6nm,0.7s,baz=96,slow=7.5,SNR=88						
ASAR				ScP		ScP	12 58 06.4 +2.9
	comp=Z,1.7nm,0.7s,baz=106,slow=4.3,SNR=18						
	comp=Z,4.6nm,0.7s						
WR0	Warramunga Arr	42.20	266	P		12 53 20.7	-0.9
WR0				IAmb		IAmb	12 53 21.5
	comp=Z,5.0nm,0.8s						
WB2	Warramunga Arr	42.38	266	P		12 53 22.4	-0.7
WB2				IAmb		IAmb	12 53 22.8
	comp=Z,6.9nm,0.5s						
WRAB	Tennant Creek	42.38	266	P		12 53 22.1	-1.0
WRAB				IAmb		IAmb	12 53 22.9
	comp=Z,5.7nm,0.8s						
WB0	Warramunga Arr	42.38	266	P		12 53 22.5	-0.6
WB0				IAmb		IAmb	12 53 23.0
	comp=Z,10nm,0.7s						
WRA	Warramunga Arr	42.39	266	P		12 53 22.3	-0.9
WRA	Warramunga Arr	42.39	266	P		12 53 22.4	-0.8
	comp=Z,6.3nm,0.5s,baz=96,slow=8.4,SNR=320						
WRA				ScP		ScP	12 58 08.0 +3.0
	comp=Z,1.4nm,0.9s,baz=95,slow=3.8,SNR=8.7						
	comp=Z,6.3nm,0.5s						
FORT	Forrest	46.29	250	P		12 53 52.8	-0.3
MTN	Manton Dam	47.44	274	P		12 54 01.0	-1.0
MTN				IAmb		IAmb	12 54 18.3
	comp=Z,24nm,1.4s						
KNRA	Kununurra	48.67	270	P		12 54 10.3	-0.8
KNRA				IAmb		IAmb	12 54 11.7
	comp=Z,16nm,1.2s						
SBA	Scott Base	54.36	183	P		12 54 52.1	+0.8
MORW	Morawa	56.85	250	P		12 55 08.6	-0.9
MORW				IAmb		IAmb	12 55 16.3
	comp=Z,9.0nm,1.1s						
QSPA	South Pole Qui	66.16	180	P		12 56 11.1	+1.3
QSPA				IAmb		IAmb	12 56 12.0
	comp=Z,3.7nm,0.8s						
QSPA	South Pole Qui	66.16	180	P		12 56 10.8	+0.9
	comp=Z,3.1nm,0.6s,baz=341,slow=0.7,SNR=37						
	comp=Z,3.1nm,0.6s						
BELA	Belgrano 2	76.42	173	P		12 57 09.6	+0.1
MAW	Mawson	77.73	200	P		12 57 17.3	+0.5
MAW	Mawson	77.73	200	P		12 57 17.3	+0.5
	comp=Z,1.0nm,0.6s,baz=151,slow=5.8,SNR=8.9						
	comp=Z,1.0nm,0.6s						
TROLL	Troll, Antarti	84.31	181	⇓P		12 57 50.9	0.0
	comp=Z,108nm,0.3s						
SNAA	Sanae	84.65	179	P		12 57 51.8	-0.7
SNAA				IAmb		IAmb	12 58 22.0
	comp=Z,5.9nm,1.5s						
SNAA	Sanae	84.65	179	⇓P		12 57 52.0	-0.5
	comp=Z,11nm,0.4s						
SNAA	Sanae	84.65	179	P		12 57 51.9	-0.5
	comp=Z,0.5nm,0.5s,baz=205,slow=9.9,SNR=18						
	comp=Z,0.5nm,0.5s						
NVAR	Mina Array Bea	84.78	44	P		12 57 53.1	-0.7
	comp=Z,0.7nm,0.7s,baz=222,slow=8.3,SNR=6.0						
	comp=Z,0.7nm,0.7s						
VNA3	Neumayer Olymp	84.86	177	⇓P		12 57 53.1	-0.3
	comp=Z,0.8nm,0.3s						
VNA2	Neumayer--Watz	85.27	178	⇓P		12 57 55.4	-0.1
	comp=Z,1.5nm,0.4s,baz=186,slow=3.0						
TXAR	Lajitas Array	90.45	58	P		12 58 21.0	+0.4
	comp=Z,1.2nm,0.7s,baz=224,slow=6.9,SNR=5.6						
	comp=Z,1.2nm,0.7s						
ANMO	Albuquerque	90.98	52	P		12 58 22.9	-0.1
	comp=Z,0.7nm,0.8s,baz=195,slow=5.9,SNR=3.3						
	comp=Z,0.7nm,0.8s						
PDAR	Pinedale Array	92.72	44	P		12 58 30.2	-0.6
	comp=Z,0.3nm,0.6s,baz=219,slow=3.8,SNR=3.6						
	comp=Z,0.3nm,0.6s						
FINES	FINESS Array B	138.46	341	PKP		PKPdf	13 04 40.2 +0.3
	comp=Z,2.3nm,1.0s,baz=92,slow=4.2,SNR=1.6						
HFS	Hagfors	142.56	349	PKhKP		PKPpre	13 04 43.2
	comp=Z,1.0nm,0.4s,baz=48,slow=2.2,SNR=7.4						
CLL	Collm	150.87	343	i PKPbc		PKPbc	13 05 07.0 -0.6
	comp=Z,4.0nm,0.8s						

*ANF **15** 13:20:00.7±0.3,32°.87N×115°.63W,h20km±2km, ML2.9/17, Error ellipse: s-maj=3.5km s-min=1.9km az=178.0*
*PAS **15** 13:20:01.7±2.6,32°.840N±0°.010×115°.627W±0°.007, h15km±1km,ML3.0/108,ML2.9/37(NEIC),Error ellipse: s-maj=1.5km s-min=0.8km az=156.0*
*NEIC **15** 13:20:01±1.4,32°.84N±0°.01×115°.64W±0°.01,h20km±2km, Error ellipse: s-maj=1.6km s-min=1.6km az=91.0*
*ECX **15** 13:20:02.3±0.6,32°.83N×115°.65W,h15km±2km,MD2.8, ML3.0*
ISC 15 13:20:01.1±0.8,32°.83N±0°.01×115°.63W±0°.01,h18km±2km, n143,σ0§86/200,23C-13D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COK2	Cook Ranch 2	0.08	282		Pg	13 20 04.5	-0.1
COK2					Sg	13 20 07.1	+0.1
COK2	Cook Ranch 2	0.08	282	⇑iP	Pg	13 20 04.5	-0.1
COK2				i S	Sg	13 20 07.1	+0.1
IMPE	Imperial	0.09	40		Pg	13 20 04.5	-0.2
IMPE					Sg	13 20 07.2	+0.1
WESC	Westside Schoo	0.11	229		Pg	13 20 08.2	+3.4
WESC	Westside Schoo	0.11	229	⇑iP	Pg	13 20 05.1	+0.2
DREC	Desert Rsrch C	0.16	100		Pg	13 20 05.9	+0.5
DREC					Sg	13 20 09.9	+1.5
DREC	Desert Rsrch C	0.16	100	⇑iP	Pg	13 20 05.9	+0.5
DREC				eS	Sg	13 20 09.5	+1.2
SNR	Schaffner Ranc	0.17	80		Pg	13 20 05.9	+0.4
SNR					Sg	13 20 09.6	+1.1
SWSC	Sam W. Stewart	0.18	308		Pb	13 20 05.6	+0.1
SWSC					Sb	13 20 08.6	+0.2
SWSC	Sam W. Stewart	0.18	308	⇑iP	Pb	13 20 05.6	+0.1
SWSC				IAML		13 20 09.0	
	comp=N,3μm,0.5s						
SWSC				⇑e		13 20 09.0	
SWSC	Sam W. Stewart	0.18	308	P	Pb	13 20 05.6	+0.1
	baz=126,SNR=726						
SWSC				S	Sb	13 20 08.6	+0.2
	baz=126						
CEA0	Mexicali	0.18	190	eP	Pg	13 20 06.0	+0.2
CEA0				eS	Sg	13 20 09.6	+0.6
SGL	Mount Signal	0.20	204		Pb	13 20 06.2	+0.3
SGL					Sb	13 20 09.2	+0.2
SGL	Mount Signal	0.20	204	⇑iP	Pb	13 20 06.2	+0.3
SGL				eS	Sb	13 20 09.2	+0.2
5053	Calexico	0.20	144		Pg	13 20 06.8	+0.8
5053					Sg	13 20 11.0	+1.6
SUP	Superstition M	0.20	307		Pb	13 20 06.0	0.0
SUP					Sb	13 20 09.2	-0.1
WEMD	Westmorland, C	0.21	11		Pg	13 20 06.5	+0.3
WEMD					Sg	13 20 10.7	+1.1
WEMD	Westmorland, C	0.21	11	⇓iP	Pg	13 20 06.5	+0.3
ICBC	Inst. de Cultu	0.21	141	⇓iP	Pg	13 20 06.9	+0.7
UABX	UABC, Campus M	0.26	141		Pg	13 20 07.8	+0.9
UABX					Sg	13 20 12.8	+1.9
UABX	UABC, Campus M	0.26	141	IAML		13 20 13.0	
	comp=N,5μm,0.7s						
UABX				IAML		13 20 13.4	
	comp=E,3μm,0.5s						
UABX	UABC, Campus M	0.26	141	⇓iP	Pg	13 20 07.8	+0.9
CRR	Carrizo Plain	0.29	281		Pg	13 20 07.7	+0.2
CRR					Sb	13 20 12.3	+0.1
CRR	Carrizo Plain	0.29	281	⇑iP	Pg	13 20 07.7	+0.2
CRR				eS	Sb	13 20 12.3	+0.1
CLI2	Calipatria 2	0.29	8		Pb	13 20 08.1	+0.4
CLI2					Sg	13 20 13.5	+1.7
POT2	Potabilizadora	0.29	135	eP	Pb	13 20 08.3	+0.6
JARAX	Ej. Heriberto	0.30	172	⇓iP	Pg	13 20 07.8	+0.2
YUH2	Yuha Desert	0.31	233	⇑iP	Pg	13 20 08.0	+0.2
YUH2				eS	Sg	13 20 12.5	+0.2
YUH	Yuha Desert	0.31	233		Sg	13 20 12.5	+0.2
YUH	Yuha Desert	0.31	233	Pg	Pg	13 20 07.9	+0.1
YUH	Yuha Desert	0.31	233	IAML		13 20 12.7	
	comp=N,1μm,0.3s						
YUH				IAML		13 20 12.7	
	comp=E,1μm,0.3s						
ERRC	Elmore Ranch	0.33	330		Pb	13 20 08.9	+0.5
ERRC					Sb	13 20 14.4	+1.1
COA	Coachella	0.43	86		Pb	13 20 10.3	+0.1
COA					Sb	13 20 17.3	+1.0
COA	Coachella	0.43	86	⇑iP	Pb	13 20 10.3	+0.1
COA				eS	Sb	13 20 17.3	+1.0
RMX	La Rumorosa	0.44	239		Pg	13 20 10.4	+0.2
RMX					Sg	13 20 16.4	+0.1
RMX	La Rumorosa	0.44	239	IAML		13 20 16.7	
	comp=E,1μm,0.2s						
RMX				IAML		13 20 17.2	
	comp=N,986nm,0.2s						
RMX	La Rumorosa	0.44	239	⇑iP	Pg	13 20 10.4	+0.2
RMX				eS	Sg	13 20 16.4	+0.1
RMX				IAML		13 20 16.7	
	comp=E,1μm,0.2s						
RMX				⇑e		13 20 16.7	
RMX				e		13 20 17.2	
RMX				IAML		13 20 17.2	
	comp=N,998nm,0.2s						
IKP	In-Ko-Pah, Jac	0.44	246		Pg	13 20 10.4	+0.2
IKP					Sg	13 20 16.7	+0.4
IKP	In-Ko-Pah, Jac	0.44	246	⇑iP	Pg	13 20 10.4	+0.2
IKP	In-Ko-Pah, Jac	0.44	246	P	Pg	13 20 10.4	+0.2
	baz=65,SNR=308						
IKP				S	Sg	13 20 16.6	+0.3
	baz=65						
CPBX	Cerro Prieto	0.49	146		Pb	13 20 11.2	-0.1
CPBX					Sb	13 20 19.2	+1.0
CPBX	Cerro Prieto	0.49	146	IAML		13 20 21.3	
	comp=E,3μm,0.2s						
CPBX				IAML		13 20 22.4	
	comp=N,2μm,0.1s						
CPBX	Cerro Prieto	0.49	146	eP	Pb	13 20 11.2	-0.1
CPBX				eS	Sb	13 20 18.4	+0.3
CPBX				IAML		13 20 21.3	
	comp=E,4μm,0.2s						
CPBX				⇑e		13 20 21.3	
CPBX				⇑e		13 20 22.5	
CPBX				IAML		13 20 22.5	
	comp=N,3μm,0.1s						
YUCAX	Ej. Yucatn	0.51	116	eP	Pg	13 20 11.8	+0.5
BOMB	Bombay Beach	0.54	351		Pb	13 20 12.0	0.0
BOMB					Sg	13 20 20.1	+0.9
SALN	Salton City	0.54	326		Pb	13 20 12.1	+0.1
SALN					Sg	13 20 20.4	+1.3
CTLX	Tlaxcala, TLX	0.54	131	eP	Pg	13 20 13.0	+1.1
EMSC	East Mesa	0.55	100		Pg	13 20 12.4	+0.2
EMSC	East Mesa	0.55	100	⇓eP	Pg	13 20 12.4	+0.2
MBIG	Mexicali	0.56	139	⇓eP	Pg	13 20 12.6	+0.3
RUN	Ruthven	0.57	76		Pb	13 20 12.1	-0.4
RUN					Sb	13 20 19.9	-0.3
SALX	Saltillo	0.59	134	⇑eP	Pb	13 20 12.1	-0.7
SALX				eS	Sb	13 20 19.4	-1.3
SLH	Sleepy Hollow	0.64	305		Pb	13 20 13.3	-0.3
SLH					Sg	13 20 23.1	+0.9
SLH	Sleepy Hollow	0.64	305	⇑eP	Pb	13 20 13.3	-0.3
GUVIX	Guadalupe Vict	0.71	138	Pg	Pb	13 20 14.8	0.0
GLA	Glamis	0.71	72		Pb	13 20 14.5	-0.5
GLA				IAML		13 20 25.2	
	comp=E,822nm,0.3s						
GLA				IAML		13 20 26.4	
	comp=N,667nm,0.6s						
GLA	Glamis	0.71	72		Sb	13 20 23.6	-0.8
GLA	Glamis	0.71	72	⇑iP	Pb	13 20 14.5	-0.5
GLA				IAML		13 20 25.0	
	comp=N,653nm,0.3s						
GLA				⇓e		13 20 25.0	
GLA				IAML		13 20 25.2	
	comp=E,769nm,0.3s						
GLA				⇓e		13 20 25.2	
GLA	Glamis	0.71	72	P	Pb	13 20 14.5	-0.5
	baz=253						
GLA				S	Sb	13 20 23.6	-0.8
	baz=253						
RHX	Rio Hardy	0.76	157	⇓iP	Pb	13 20 15.2	-0.5
BORC	Borrego Spring	0.79	304		Pb	13 20 15.5	-0.8
BORC					Sb	13 20 27.0	+0.3
ALAMX	Rancho Alamar	0.82	185	⇓iP	Pb	13 20 16.9	0.0
ALAMX				eS	Sb	13 20 27.8	+0.2
ALAMX				IAML		13 20 29.6	
	comp=E,673nm,0.2s						
ALAMX				⇓e		13 20 29.6	
ALAMX				IAML		13 20 31.4	
	comp=N,555nm,0.4s						
ALAMX				⇓e		13 20 31.4	
BC3	Big Chuckawall	0.83	10		Pb	13 20 17.0	-0.1
BC3					Sb	13 20 28.5	+0.4
BC3	Big Chuckawall	0.83	10	P	Pb	13 20 16.9	-0.2
	baz=190,SNR=89						
BC3				Sn	Sb	13 20 28.5	+0.4
	baz=190						
JUEM	Julian Eagle M	0.85	287		Pb	13 20 16.9	-0.5
JUEM					Sb	13 20 28.7	+0.2
TKX	Tecate	0.86	253		Pb	13 20 17.9	+0.3
TKX					Sb	13 20 29.1	+0.2
TKX	Tecate	0.86	253	IAML		13 20 29.7	
	comp=E,453nm,0.2s						
TKX				IAML		13 20 29.8	
	comp=N,519nm,0.2s						
CTW	Cottonwood Mou	0.87	347		Pb	13 20 17.2	-0.4
CTW					Sb	13 20 29.2	+0.3
ESJX	Sierra Juarez	0.87	198		Pb	13 20 17.8	0.0
ESJX					Sb	13 20 29.4	+0.3
ESJX	Sierra Juarez	0.87	198	IAML		13 20 31.4	
	comp=N,398nm,0.1s						
CTCC	Cactus City	0.87	340		Pb	13 20 17.4	-0.4
CTCC					Sb	13 20 29.7	+0.5
HAY	Hayfield	0.87	357		Pb	13 20 17.7	-0.1
HAY					Sg	13 20 29.8	0.0
BAR	Barrett	0.89	260		Pb	13 20 17.8	-0.2
BAR				IAML		13 20 30.7	
	comp=N,313nm,0.3s						
BAR				IAML		13 20 32.7	
	comp=E,259nm,0.3s						
BAR	Barrett	0.89	260		Sb	13 20 29.9	+0.3
BAR	Barrett	0.89	260	⇑eP	Pb	13 20 17.8	-0.2
MATG	Mataguay Scout	0.93	293		Pb	13 20 18.1	-0.7
MATG					Sb	13 20 31.0	+0.2
MATG	Mataguay Scout	0.93	293	⇑eP	Pb	13 20 18.1	-0.7
TJIG	Tijuana	0.97	246	eP	Pb	13 20 19.0	-0.3
DUZA	Dulzura	0.99	257		Pb	13 20 19.4	-0.4
DUZA					Sg	13 20 34.0	+0.6
CBX	Cerro Bola	1.01	240		Sn	13 20 34.1	-0.4
CBX	Cerro Bola	1.01	240		Pb	13 20 20.0	-0.2
CBX	Cerro Bola	1.01	240	⇑eP	Pb	13 20 20.2	0.0
EML	El Monte Cty P	1.02	274		Pb	13 20 19.5	-0.8
EML					Sb	13 20 33.8	+0.4
EML	El Monte Cty P	1.02	274	⇑eP	Pb	13 20 19.5	-0.8
PMD	Palm Desert	1.03	323		Pb	13 20 18.9	-1.5
PMD	Palm Desert	1.03	323		Sb	13 20 32.6	-0.9
PMD	Palm Desert	1.03	323	IAML		13 20 32.7	
	comp=E,264nm,0.4s						
PMD				IAML		13 20 34.7	
	comp=N,185nm,0.3s						
TPFO	Pinon Flats	1.03	318	P	Pb	13 20 19.4	-1.2
	baz=138,SNR=100						
XPFO	Pion Flat	1.04	319		Pb	13 20 19.4	-1.2
XPFO					Sb	13 20 33.0	-1.0
PFO	Pinyon Flats O	1.04	318		Pb	13 20 19.4	-1.3
PFO	Pinyon Flats O	1.04	318		Pb	13 20 19.5	-1.3
PFO					Sb	13 20 33.1	-1.0
PFO	Pinyon Flats O	1.04	318	P	Pb	13 20 19.5	-1.3
	baz=138,SNR=91						
PFO				S	Sb	13 20 33.0	-1.1
	baz=138						
FRD	Ford Ranch, An	1.05	309		Pb	13 20 19.7	-1.1
FRD					Sb	13 20 33.6	-0.7
FRD	Ford Ranch, An	1.05	309		Pb	13 20 19.7	-1.1
FRD					Sb	13 20 33.6	-0.7
BZNA	Buzz No.'s Pla	1.09	307		Pb	13 20 20.4	-1.1
BZNA					Sb	13 20 34.7	-0.7
SNDA	J Saunders Pla	1.09	311		Pn	13 20 20.5	-1.1
SNDA					Sb	13 20 35.2	-0.4
SJX	San Joaquin	1.10	195	⇓eP	Pn	13 20 17.8	-3.8
SDRC	San Diego Road	1.11	265		Pn	13 20 21.1	-0.7
SDRC					Sn	13 20 36.8	+0.3
SDRC	San Diego Road	1.11	265	⇑eP	Pn	13 20 21.0	-0.7
DNR	Dunn Ranch,Anz	1.11	311		Pn	13 20 20.9	-1.1
DNR					Sb	13 20 36.1	0.0
OLP	Otay Lakes Par	1.12	259		Pn	13 20 21.4	-0.5
OLP					Sn	13 20 37.2	+0.5
OLP	Otay Lakes Par	1.12	259	⇑eP	Pn	13 20 21.4	-0.5
PLM	Palomar	1.16	297		Pn	13 20 21.5	-1.1
CRY	Cary Ranch	1.18	309		Pn	13 20 21.7	-1.1
BELC	Belle Mtn. Jos	1.21	345	P	Pn	13 20 22.6	-0.6
	baz=165						
BELC				S	Sb	13 20 38.4	-0.4
	baz=165						
109C	Camp Elliot, M	1.24	273	Pn	Pn	13 20 22.6	-1.0
109C	Camp Elliot, M	1.24	273	P	Pn	13 20 22.6	-1.0
	baz=92,SNR=31						
109C				S	Sn	13 20 40.1	+0.2
	baz=92						
CPE	Camp Elliot	1.24	273		Pn	13 20 22.9	-0.7
CPE					Sn	13 20 40.3	+0.4
TJX	Tijuana	1.24	255		Pn	13 20 23.2	-0.3
TJX				IAML		13 20 43.3	
	comp=E,306nm,0.5s						
CCX	Cicese	1.30	223		Pn	13 20 24.4	+0.1
BLYC	Blythe	1.30	45		Pn	13 20 23.9	-0.5
BLYC				IAML		13 20 43.8	
	comp=N,148nm,0.5s						
BLYC	

ISA	Isabella, Lake	3.68	321	Pn	Pn	13 20 57.6	+0.5
BCW	Bitter Crk WRg	3.78	305	Pn	Pn	13 20 59.6	+1.0
X16A	Lo Mia Camp, P	3.84	65	Pn	Pn	13 20 59.0	-0.4
TUC	Tucson	4.12	96	Pn	Pn	13 21 02.0	-1.3
TUC	Tucson	4.12	96	IAML		13 22 18.1	
	comp=N,8.6nm,0.8s						
PRN	Pahroc Range	4.59	6	Pn	Pn	13 21 09.1	-0.7
LCMT	Little Creek M	4.61	25	Pn	Pn	13 21 09.0	-1.0
121A	Cookes Peak, D	6.62	90	Pn	Pn	13 21 38.1	+0.4

NEIC ***15*** *13:27:11.9±1.7, 13°.49N±0°.07×90°.17W±0°.01, h49km±10km, mb4.2/17, Error ellipse: s-maj=9.9km s-min=1.7km az=185.0*
SNET ***15*** *13:27:14.7±3.2, 13°.58N×90°.00W, h42km, ML4.3*
GCG ***15*** *13:27:18.6±0.3, 13°.87N×90°.47W, h48km±14km, MD4.1*
ISC 15 13:27:11.7±1.2, 13°.43N±0°.06×90°.19W±0°.06, h54km±11km, n76, σ0°75/84, mb4.2/8, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	Las Nubes	0.62	40	*i* P	Pn	13 27 24.1	-0.8
NUBE				*e*S	Sn	13 27 34.0	-0.3
SBLS	San Blas	0.69	53	⇓*i*P	Pn	13 27 25.0	-0.7
RTR	El Retiro	0.70	49	*i* P	Pn	13 27 25.4	-0.5
SLOZ	Alcaldia de Sa	0.71	34	*i* P	Pn	13 27 25.5	-0.4
SLOZ				*e*S	Sn	13 27 36.6	+0.4
SNJE	San Jose	0.72	52	*e*P	Pn	13 27 25.5	-0.6
SNJE				*i* P		13 27 25.5	
JAYA	Jayaque - finc	0.76	73	*e*P	Pn	13 27 25.7	-0.8
JAYA				*e*S	Sn	13 27 36.5	-0.8
UNIC	Universidad Ca	0.83	49	*e*S	Sn	13 27 39.1	+0.2
LALI	Alcalda de L	0.85	86	*e*P	Pn	13 27 26.8	-0.7
CEDA	San Andres	0.86	64	*e*P	Pn	13 27 27.2	-0.6
CEDA				*e*S	Sn	13 27 39.6	+0.1
PMON	Piamonte	0.90	72	*e*P	Pn	13 27 28.0	-0.3
MAGS	Ministerio de	0.92	74	*e*P	Pn	13 27 28.2	-0.4
BOQS	Boqueron	0.94	71	*e*P	Pn	13 27 28.8	-0.1
SNET	Serv Nac Est T	0.97	75		Pn	13 27 28.9	-0.4
SNET				Sn	Sn	13 27 40.9	-1.3
SNET	Serv Nac Est T	0.97	75	*e*P	Pn	13 27 29.3	+0.1
UEES	Universidad Ev	0.97	73	*e*P	Pn	13 27 29.1	-0.2
UEES				*e*S	Sn	13 27 42.2	+0.1
SEMO	Seminario San	0.98	74	*e*P	Pn	13 27 29.6	+0.2
SEMO				*e*P		13 27 29.6	
LOMA	Loma Larga	1.01	78	*e*P	Pn	13 27 29.5	-0.4
PCG	Pacaya	1.04	337	*e*P	Pn	13 27 30.9	+0.6
UDBS	Universidad Do	1.05	74	*e*P	Pn	13 27 30.1	-0.1
AEIL	Aeropuerto Ilo	1.08	76	*e*P	Pn	13 27 30.1	-0.6
LFU	La Fuente	1.09	73	*e*P	Pn	13 27 30.9	0.0
LBRS	Las Brisas	1.16	74	*e*P	Pn	13 27 31.7	0.0
NBG	Las Nubes	1.16	353	*e*P	Pn	13 27 33.5	+1.4
SJTE	Alcalda de S	1.17	81	*e*P	Pn	13 27 31.6	-0.3
FUG	Fuego 3	1.19	328	*e*P	Pn	13 27 32.6	+0.2
PAVA	Las Pavas	1.25	77	*e*P	Pn	13 27 33.2	+0.2
MTO3	Montecristo	1.26	40	Pn	Pn	13 27 32.5	-0.8
MTO3	Montecristo	1.26	40	*e*P	Pn	13 27 32.7	-0.5
MTO3				*e*S	Sn	13 27 49.4	+0.2
COEG	Centro de Oper	1.29	81	*e*P	Pn	13 27 33.2	-0.3
SNVI	San Vicente	1.33	82	*e*P	Pn	13 27 33.7	-0.4
UESV	Universidad de	1.38	81	*e*P	Pn	13 27 35.0	+0.2
ESQI	Esquipulas	1.39	36		Pn	13 27 34.4	-0.6
ESQI	Esquipulas	1.39	36	*e*P	Pn	13 27 34.7	-0.3
ESQI				*e*S	Sn	13 27 52.9	+0.5
LLGN	La Laguna	1.41	59	*e*P	Pn	13 27 34.3	-0.9
SCLA	Alcaldia de Sa	1.45	79	*e*P	Pn	13 27 35.5	-0.2
ALJI	Alcalda de J	1.58	94	*e*P	Pn	13 27 36.8	-0.6
SULM	Suchitepequez,	1.59	303	*e*P	Pn	13 27 38.2	+0.6
TECA	Tecapa	1.64	88	*e*P	Pn	13 27 38.1	-0.3
RTAL	Retalhuleu	1.82	307	Pn	Pn	13 27 40.2	-0.4
RTAL	Retalhuleu	1.82	307	*e*P	Pn	13 27 40.3	-0.4
LCY	Lacayo	1.84	90	*e*P	Pn	13 27 41.1	0.0
STG3	Santiaguito 3,	1.85	314	*e*P	Pn	13 27 41.7	+0.4
RANC	El Ranchito	1.85	90	*e*P	Pn	13 27 41.0	-0.2
TGUH	Tegucigalpa,Un	2.90	77	Pn	Pn	13 27 55.0	-0.6
CRIN	San Cristobal	3.15	103		Pn	13 27 58.4	-0.5
PETF	Flores	3.48	5		Pn	13 28 03.7	+0.3
CNGN	Cerro Negro	3.53	105	Pn	Pn	13 28 02.8	-1.3
MATN	Matagalpa	4.18	96	Pn	Pn	13 28 11.2	-1.9
ACON	Acoyapa	5.11	106		Pn	13 28 24.7	-1.0
HZTE	Horizontes, Gu	5.24	120	Pn	Pn	13 28 28.6	+1.0
ORTG	Ortega, Santa	5.54	123	Pn	Pn	13 28 32.5	+0.7
DUNO	Dulce Nombre,	5.68	125		Pn	13 28 33.8	+0.2
ARE1	Arenal 1	6.11	118		Pn	13 28 40.2	+0.7
JACO	JACO, Garabito	6.59	124	Pn	Pn	13 28 47.4	+1.3
TEIG	Tepich	7.00	15	Pn	Pn	13 28 52.2	+0.5
RIMA	Rio Macho	7.19	120	Pn	Pn	13 28 55.2	+0.7
CDITO	Canoas	8.65	123	Pn	Pn	13 29 17.0	+2.7
SOR	Soroa	11.54	35	Pn	Pn	13 29 55.2	+1.3
OZNA	Ozona	20.12	332	P	P	13 31 41.4	+0.2
OZNA				IAmb	IAmb	13 31 47.3	
	comp=Z,5.2nm,1.1s						
X37A	Clayton	21.58	348	P	P	13 31 57.9	+1.0
X37A				IAmb	IAmb	13 32 20.0	
	comp=Z,8.1nm,1.1s						
WMOK	Wichita Mounta	22.60	341	P	P	13 32 06.9	-0.9
WVT	Waverly	22.70	5	P	P	13 32 07.8	-1.1
WVT				IAmb	IAmb	13 32 11.9	
	comp=Z,9.7nm,1.4s						
TKL	Tuckaleechee C	22.88	14	P	P	13 32 09.6	-1.1
TKL				IAmb	IAmb	13 32 30.1	
	comp=Z,13nm,1.1s						
U49A	Red Boiling Sp	23.32	9	P	P	13 32 14.3	-0.8
U49A				IAmb	IAmb	13 32 37.7	
	comp=Z,11nm,1.3s						
T47A	Sharon Grove	23.62	6	P	P	13 32 17.1	-0.8
T47A				IAmb	IAmb	13 32 18.8	
	comp=Z,5.7nm,0.6s						
U54A	Nelsons Funny	24.19	17	P	P	13 32 22.6	-0.6
U54A				IAmb	IAmb	13 32 51.6	
	comp=Z,14nm,1.4s						
NV11	Mina Array Sit	35.13	320	P	P	13 34 00.8	+0.4
NVAR	Mina Array Bea	35.23	320	P	P	13 34 02.5	+1.2
LHV	Little Huntoon	35.24	320	P	P	13 34 01.8	+0.7
LHV				IAmb	IAmb	13 34 03.7	
	comp=Z,2.6nm,0.8s						
MDPB	Devils Postpil	35.25	318	P	P	13 34 01.9	+0.5
PNTR	Pine Nut	36.43	320	P	P	13 34 12.2	+0.6
PNTR				IAmb	IAmb	13 34 13.9	
	comp=Z,3.1nm,0.7s						
PB16	IPOC Station P	37.58	147	P	P	13 34 21.7	-0.2
AIN	Ainahou	62.59	285	P	P	13 37 31.4	+0.4
NC405	NORSAR Array S	84.02	29	P	P	13 39 35.8	-0.3
NC602	NORSAR Array S	84.04	29	P	P	13 39 36.4	+0.1
PZH	PanZhiHua	138.65	344	PKP	PKPdf	13 46 31.3	-1.2

IDC 15 13:29:52.8±58.0, 17°.29S×175°.11W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=1092.0km s-min=180.4km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.69	241	P	P	13 37 44.1	+0.6
	1.4nm,0.9s,baz=76,slow=8.3,SNR=2.5						
	1.4nm,0.9s						
WRA	Warramunga Arr	47.84	259	P	P	13 38 32.0	-0.8
	0.5nm,0.5s,baz=97,slow=7.2,SNR=14						
	0.5nm,0.5s						
ASAR	Alice Springs	47.99	254	P	P	13 38 33.9	0.0
	3.3nm,0.8s,baz=94,slow=7.7,SNR=76						
	3.3nm,0.8s						

IDC ***15*** *13:35:43.4±0.7, 26°.19N×129°.82E, h0km, mb4.2/18, mbtmp4.2/22, ML3.6/4, MS3.5/33, Error ellipse: s-maj=19.5km s-min=15.4km az=77.0*
BJI ***15*** *13:35:43.2±0.0, 26°.12N×129°.83E, h10km, mb4.4/43, mB5.1/13, Ms4.1/5, Ms7 3.8/9*
JMA ***15*** *13:35:45.4±0.1, 26°.2N±0°.5×129°.8E±0°.3, h46km, MD4.4/20, MV4.6/20, NEAR MINAMI-DAITOJIMA IS*
NIED ***15*** *13:35:45.4, 26°.18N×129°.81E, h46km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.74; $M_{\theta\theta}$0.76; $M_{\phi\phi}$2.98; $M_{r\theta}$0.47; $M_{\theta\phi}$1.54; $M_{\phi r}$0.18; Fault plane solution: $M_0$3.79000×10^{15} NP1: ϕ_s212.00000°, δ48.00000°, λ-83.00000°. NP2:ϕ_s22.00000°, δ42.00000°, λ-98.00000°.*
NEIC ***15*** *13:35:45.9±1.1, 26°.17N±0°.08×129°.8E±0°.1, h10km±1km, mb4.9/87 Error ellipse: s-maj=20.1km s-min=13.5km az=275.0*
ISC 15 13:35:45.8±0.9, 26°.17N±0°.04×129°.85E±0°.03, h15km±5km, n199, σ1°58/195, mb4.8/67, MS3.6/33, 1C-4D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	Minamidaito 2	1.29	106	Pn	Pn	13 36 07.6	-1.6
JMZ	Minamidaito 2	1.29	106	P	Pn	13 36 07.8	-1.4
JMZ				*e*S	Sg	13 36 24.2	-3.1
JMZ	Minamidaito 2	1.29	106	A	A	13 36 07.8	
	comp=E,14nm,4.4s,comp=N,19nm,4.1s						
JKDJ	Kitadaitoujima	1.32	99	P	Pn	13 36 08.4	-1.3
JKDJ				S	Sg	13 36 25.4	-3.1
JKDJ	Kitadaitoujima	1.32	99	A	A	13 36 08.4	
	comp=E,13nm,3.5s,comp=N,14nm,4.0s						
JYRO	Yoronjima	1.51	304	*i* P	Pn	13 36 10.3	-2.0
JYRO				*e*S	Sn	13 36 28.2	-3.5
JOW	Kunigami	1.55	295	P	Pn	13 36 11.2	-1.7
JOW				S	Sn	13 36 29.1	-3.7
JOW	Kunigami	1.55	295	Pn	Pn	13 36 11.2	-1.7
	comp=N,1μm,0.3s,baz=122,slow=25,SNR=4170						
JOW				Sn	Sn	13 36 28.5	-4.3
	comp=N,549nm,0.3s,baz=309,slow=26,SNR=19						
JOKE	Okinoerabujima	1.64	316	*i* P	Pn	13 36 12.4	-1.8
JOKE				S	Sn	13 36 31.8	-3.2
JNTH	Nagotoyohara	1.67	282	P	Pn	13 36 12.4	-2.1
JNTH				*e*S	Sn	13 36 31.6	-4.2
JTK	Tokunoshima	1.79	334	P	Pn	13 36 14.5	-1.7
JTK				*e*S	Sn	13 36 35.7	-3.0
JJT3	Tamagusuku3	1.85	270	P	Pn	13 36 15.5	-1.5
JJT3				S	Sn	13 36 37.4	-2.8
JIH	Iheya	1.89	297	P	Pn	13 36 15.9	-1.5
JIH				S	Sn	13 36 37.5	-3.5
JZK	Kikaishima	2.13	3	P	Pn	13 36 20.4	-0.5
JZK				*e*S	Sn	13 36 45.4	-1.7
JAMN	Amaminishikomi	2.15	344	P	Pn	13 36 19.4	-1.6
JAMN				*e*S	Sn	13 36 44.2	-3.3
JAM	Amami Oshima	2.24	355	P	Pn	13 36 20.9	-1.4
JAM				*e*S	Sn	13 36 47.3	-2.4
JAGN	Aguni-jima	2.37	281	P	Pn	13 36 22.6	-1.5
JAGN				S	Sn	13 36 49.4	-3.5
JKE	Kume jima 2	2.75	274	P	Pn	13 36 27.1	-2.3
JKE				S	Sn	13 36 59.2	-3.1
JTAJ	Takarajima	3.02	349	P	Pn	13 36 31.6	-1.5
JTAJ				S	Sn	13 37 04.1	-4.9
JNN	Nakanoshima	3.65	0	*e*P	Pn	13 36 40.9	-0.9
JNN				S	Sn	13 37 20.1	-4.6
JNU	Nakatsue	6.98	7		Pn	13 37 28.3	+0.7
JNU	Nakatsue	6.98	7	Pn	Pn	13 37 27.8	+0.2
	comp=N,2.6nm,0.3s,baz=231,slow=3.1,SNR=17						
JNU				Sn	Sn	13 38 39.8	-7.0
	comp=N,3.0nm,0.3s,baz=294,slow=24,SNR=6.3						
	comp=N,12nm,0.4s						
YHNB	Yeheng	7.80	261	Pn	Pn	13 37 37.4	-1.5
JMN	Monobe	8.30	24	Pn	Pn	13 37 45.0	-0.6
TWG	Pinlang	8.66	249	Pn	Pn	13 37 49.0	-1.6
TPUB	Ta-pu	8.85	253	Pn	Pn	13 37 50.2	-3.1
JCJ	Chichijima	11.08	83	Pn	Pn	13 38 22.4	-1.3
JCJ	Chichijima	11.08	83	Pn	Pn	13 38 18.6	-5.1
	comp=N,11nm,0.3s,baz=280,slow=20,SNR=7.0						
JCJ				Sn	Sn	13 40 14.8	-13
	comp=N,2.0nm,0.3s,baz=74,slow=19,SNR=1.5						
NJ2	Nanjing	11.25	304	*e*P	Pn	13 38 25.8	-0.3
NJ2				pmax	pmax		
	comp=N,15nm,0.7s						
KSRS	Korea Array	11.37	352	Pn	Pn	13 38 28.1	+0.6
	comp=N,0.5nm,0.3s,baz=175,slow=14,SNR=15						
KSRS				LR	LR	13 42 45.1	
	comp=N,34nm,19.3s,baz=180,slow=37						
	comp=N,2.5nm,0.6s						
KS19	Wonju Array Si	11.42	352	Pn	Pn	13 38 28.3	0.0
MJAR	Matsushiro Arr	12.56	33	Pn	Pn	13 38 44.6	+0.7
	baz=226,slow=17,SNR=4.6						
MJAR				LR	LR	13 43 14.1	
	comp=N,55nm,20.3s,baz=166,slow=36						
	comp=N,0.6nm,0.6s						
SNY	Shenyang	16.45	343	⇓P	P	13 39 39.8	+1.1
SNY				pmax	pmax		
	comp=N,15nm,1.0s						
HNS	HongShan	17.03	315	⇓P	Pn	13 39 45.4	+2.0
HNS				pmax	pmax		
	comp=N,17nm,0.9s						
LYN	LuoYang	17.15	303	⇓P	Pn	13 39 47.0	+2.1
LYN				pmax	pmax		
	comp=N,43nm,1.3s						
BJI	Beijing	17.92	324	P	Pn	13 39 56.1	+1.6
BJI				pmax	pmax		
	comp=N,8.0nm,0.7s						
USRK	Ussuriysk Ar.	18.07	5	P	Pn	13 39 57.6	+1.3
	comp=N,0.2nm,0.3s,baz=186,slow=11,SNR=8.7						
	comp=N,2.8nm,0.7s						
MDJ	Mudanjiang	18.40	359	P	P	13 40 02.8	+2.5
MDJ				pP	Pn	13 40 05.0	+4.7
MDJ				sP	pwP	13 40 06.3	-4.5
MDJ				PP	pP	13 40 13.8	+11
MDJ				S	Sn	13 43 23.0	-2.6
MDJ				sS	S	13 43 27.0	-3.1
MDJ				pmax	pmax		
	comp=N,5.0nm,0.8s						
MDJ				pmax	pmax		
	comp=N,210nm,7.1s						
MDJ				LR	LR		
	comp=N,380nm,17.6s						
MDJ				LR	LR		
	comp=N,340nm,15.2s						
MDJ				LR	LR		
	comp=N,370nm,17.1s						
GUMO	Guam	18.85	129	LR	LR	13 46 04.8	
	comp=N,84nm,18.9s,baz=316,slow=33						
XAN	Xi'an	19.70	298	P	P	13 40 13.3	-1.4
XAN				pP	Pn	13 40 17.4	+1.2
XAN				pmax	pmax		
	comp=N,39nm,0.8s						
ASAJ	Asahikawa	20.67	27	P	Pn	13 40 30.9	+3.5
	comp=N,6.7nm,0.6s,baz=204,slow=13,SNR=9.6						
GYA	Guiyang	20.78	276	P	P	13 40 27.0	+0.5
GYA				pmax	pmax		
	comp=N,17nm,0.7s						
HHC	Hu-ho-hao-te	21.07	319	*e*P	P	13 40 31.0	+1.5
HHC				pmax	pmax		
	comp=N,23nm,0.5s						
HHC				pmax	pmax		
	comp=N,340nm,4.8s						
HHC				LR	LR		
	comp=N,520nm,11.9s						
HHC				LR	LR		
	comp=N,490nm,10.5s						
HHC				LR	LR		
	comp=N,880nm,14.3s						
BTO	Baotou	21.87	316	*e*P	P	13 40 39.9	+1.8
BTO				pP	pwP	13 40 44.3	-4.3
BTO				sP	pP	13 40 46.8	+6.2
BTO				pmax	pmax		
	comp=N,17nm,0.4s						
BTO				pmax	pmax		
	comp=N,580nm,4.8s						
KLR	Kul'dur	23.07	3	LR	LR	13 50 33.6	
	comp=N,34nm,18.2s,baz=211,slow=39						
HEH	HeiHe	24.12	356	*e*P	P	13 40 58.6	-2.2
KMI	Kunming	24.45	274	⇑P	P	13 41 05.6	+1.2
KMI				pmax	pmax		
	comp=N,14nm,1.2s						
KMI				LR	LR		
	comp=N,100nm,15.7s						
PZH	PanZhiHua	25.17	277	P	P	13 41 12.6	+1.8
PZH				pmax	pmax		
	comp=N,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=N,420nm,4.7s						
TNCH	TengChong	28.24	275	*e*P	P	13 41 40.4	+1.8
TNCH				pmax	pmax		
	comp=N,17nm,1.8s						
GTA	Gaotai	28.34	305	*e*P	P	13 41 37.9	-1.4
GTA				sP	pP	13 41 44.3	+2.3
GTA				pmax	pmax		
	comp=N,4.0nm,1.0s						
SONM	Songino Array	28.40	326	P	P	13 41 40.2	+0.5
	comp=N,1.1nm,0.7s,baz=140,slow=11,SNR=6.9						
	comp=N,1.1nm,0.7s						
CMAR	Chiang Mai Arr	29.55	261	P	P	13 41 50.9	+0.8
	comp=N,1.0nm,0.7s,baz=60,slow=9.4,SNR=2.5						
CMAR				LR	LR	13 54 03.4	
	comp=N,49nm,19.8s,baz=70,slow=37						
	comp=N,1.0nm,0.7s						
KSM	Kuching	30.93	221	P	P	13 42 03.2	+1.0
KAPI	Kappang	32.51	199	LR	LR	13 57 29.6	
	comp=N,11nm,19.1s,baz=36,slow=40						
PETK	Petropavlovsk-	34.00	30	P	P	13 42 28.8	0.0
PETK	Petropavlovsk-	34.00	30	P	P	13 42 28.9	+0.1
	comp=N,5.0nm,0.9s,baz=200,slow=7.5,SNR=4.4						
PETK				LR	LR	13 57 25.3	
	comp=N,29nm,19.0s,baz=169,slow=38						
	comp=N,5.0nm,0.9s						
PET	Petropavlovsk	34.38	31	P	P	13 42 32.2	+0.1
YAK	Yakutsk	35.85	360	P	P	13 42 43.9	-0.7
TAPN	Taplejung	37.51	281	*e*P	P	13 43 00.5	+0.9
	comp=N,12nm,0.7s						
WMQ	Urumqi	38.29	308	*e*P	P	13 43 05.0	-0.7
WMQ				sP	pwP	13 43 15.1	-1.4
WMQ				pmax	pmax		
	comp=N,10.0nm,0.8s						
WMQ				LR	LR		
	comp=N,170nm,27.9s						
RAMN	Ramite	38.55	281	*e*P	P	13 43 09.3	+1.0
	comp=N,6.6nm,0.6s						
MTN	Manton Dam	38.80	178	P	P	13 43 09.2	-0.9
GUN	Gumba	39.04	283	*e*P	P	13 43 13.3	+0.7
	comp=N,26nm,0.9s						
PKI	Pulchoki	39.51	282	*e*P	P	13 43 16.7	+0.3
	comp=N,15nm,0.8s						
PKIN	Phulchoki	39.52	282	*e*P	P	13 43 16.6	+0.2
	comp=N,14nm,0.7s						
DANN	Dangsing	40.84	284	*e*P	P	13 43 27.8	+0.4
	comp=N,34nm,0.8s						
PYUN	Piuthan	41.55	284	*e*P	P	13 43 33.4	+0.2
	comp=N,19nm,0.7s						
KNRA	Kununurra	41.61	182	P	P	13 43 33.2	-0.2
MK31	Makanchi Array	42.66	312	P	P	13 43 41.7	0.0
MKAR	Makanchi Array	42.66	312	P	P	13 43 41.3	-0.5
	comp=N,1.2nm,0.6s,baz=96,slow=10,SNR=18						
MKAR				PcP	PcP	13 45 33.7	+0.1
	comp=N,0.4nm,0.5s,baz=110,slow=1.5,SNR=2.5						
MKAR				LR	LR	14 02 35.4	
	comp=N,54nm,19.4s,baz=74,slow=38						
	comp=N,1.2nm,0.6s						
ZALV	Zalesovo Beam	43.17	322	P	P	13 43 44.4	-1.4
ZALV	Zalesovo Beam	43.17	322	P	P	13 43 44.9	-0.9
	comp=N,1.8nm,0.7s,baz=108,slow=9.3,SNR=6.1						
ZALV				LR	LR	14 03 46.8	
	comp=N,72nm,18.2s,baz=84,slow=39						
	comp=N,1.8nm,0.7s						
TIXI	Tiksi	45.52	360	P	P	13 44 03.5	-0.7
WB0	Warramunga Arr	45.88	174	P	P	13 44 07.3	-0.4
KURBB	Kurchatov Arra	45.90	316	P	P	13 44 07.0	-0.5
	comp=N,1.9nm,0.6s,baz=103,slow=8.7,SNR=8.0						
KURBB				LR	LR	14 05 16.8	
	comp=N,72nm,18.7s,baz=178,slow=39						
	comp=N,1.9nm,0.6s						
HNR	Honiara	45.92	136	LR	LR	13 59 54.4	
	comp=N,408nm,20.0s,baz=281,slow=32						
WRA	Warramunga Arr	46.05	174	P	P	13 44 08.7	-0.4
WRA	Warramunga Arr	46.05	174	P	P	13 44 08.9	-0.1
	comp=N,5.2nm,0.9s,baz=353,slow=8.4,SNR=26						
	comp=N,5.2nm,0.9s						
WB2	Warramunga Arr	46.05	174	P	P	13 44 08.8	-0.2
WB2				IAmb	IAmb	13 44 09.5	
	comp=Z,31nm,1.7s						
WR0	Warramunga Arr	46.08	174	P	P	13 44 09.1	-0.2
WR0				IAmb	IAmb	13 44 10.3	
	comp=Z,11nm,1.1s						
ADK	Adak	47.48	43	P	P	13 44 20.4	+0.4
AAK	Ala-Archa	47.70	305	LR	LR	14 08 12.9	
	comp=Z,51nm,18.3s,baz=73,slow=41						
PSA00	Pilbara Seismi	48.44	192	P	P	13 44 27.7	0.0
PSA00	Pilbara Seismi	48.44	192	P	P	13 44 27.7	0.0
PSA00				IAmb	IAmb	13 44 28.4	
	comp=Z,10nm,0.8s						
CTA	Charters Tower	48.67	159	LR	LR	14 06 00.6	
	comp=Z,12nm,18.1s,baz=50,slow=37						
CTAO	Charters Tower	48.67	159	P	P	13 44 30.0	+0.5
CTAO				IAmb	IAmb	13 44 42.1	
	comp=Z,16nm,1.2s						
AS31	Alice Springs	49.70	175	P	P	13 44 37.3	0.0
ASAR	Alice Springs	49.70	175	P	P	13 44 37.4	+0.1
ASAR	Alice Springs	49.70	175	P	P	13 44 37.8	+0.4
	comp=Z,1.9nm,0.8s,baz=4.9,slow=14,SNR=32						
	comp=Z,1.9nm,0.8s						
KK31	Karatay Array	50.63	305	P	P	13 44 45.3	+1.0
KKAR	Karatay Array	50.63	305	P	P	13 44 44.8	+0.5
KKAR	Karatay Array	50.63	305	P	P	13 44 45.2	+0.9
KKAR				IAmb	IAmb	13 44 57.1	
	comp=Z,3.3nm,0.8s						
BVAR	Borovoye Array	51.28	318	P	P	13 44 49.9	+0.8
	comp=Z,8.3nm,0.7s,baz=88,slow=9.0,SNR=49						
BVAR				PcP	PcP	13 46 03.8	-0.1
	comp=Z,2.6nm,0.6s,baz=85,slow=4.0,SNR=6.1						
BVAR				LR	LR	14 07 51.4	
	comp=Z,143nm,20.8s,baz=98,slow=38						
	comp=Z,8.3nm,0.7s						
BRVK	Borovoye	51.35	318	P	P	13 44 50.0	+0.5
EIDS	Eidsvold	55.19	156	P	P	13 45 17.9	-0.1
ANM	Nome	55.87	28	P	P	13 45 23.4	+0.9
F15K	North Star Dit	56.39	27	P	P	13 45 27.5	+1.3
F15K				IAmb	IAmb	13 47 14.9	
	comp=Z,22nm,1.4s						
FORT	Forrest	56.66	182	P	P	13 45 29.0	+0.6
ABKAR	Akbulak array	57.74	313	P	P	13 45 35.5	-0.6
ARU	Arti	58.33	322	LR	LR	14 13 53.5	
	comp=Z,93nm,18.5s,baz=78,slow=39						
K17K	Iditarod	58.78	31	P	P	13 45 43.0	0.0
K17K				IAmb	IAmb	13 45 55.1	
	comp=Z,24nm,1.6s						
AKTO	Aktyubinsk	58.90	315	LR	LR	14 14 22.3	
	comp=Z,86nm,18.3s,baz=176,slow=39						
D19K	Kuna River	59.34	24	P	P	13 45 47.8	+0.9
E19K	Redstone River	59.57	25	P	P	13 45 49.4	+1.0
E19K				IA

comp=Z,14nm,1.2s
F28M Old Crow 66.20 25 P **P 13 46 34.0 +1.4**
L27K Beaver Creek, 66.26 30 P **P 13 46 33.9 +0.7**
L27K IAmb IAmb 13 48 10.8
comp=Z,19nm,1.7s
BCAR Beaver Creek A 66.28 30 P **P 13 46 34.1 +0.8**
M27K Edge Creek, AK 66.38 31 P **P 13 46 34.4 +0.4**
I28M Miner Creek 66.60 27 P **P 13 46 36.4 +1.1**
I28M IAmb IAmb 13 46 37.6
comp=Z,6.9nm,1.0s
G29M Pine Creek 67.05 25 P **P 13 46 39.2 +1.2**
H29M Whitestone 67.07 26 P **P 13 46 39.3 +1.2**
H29M IAmb IAmb 13 46 40.3
comp=Z,9.1nm,1.1s
KLMR Klimovskoe 67.66 328 *e*P P 13 46 30.3 -12
KLMR AMP 13 46 45.0
comp=Z,30nm,1.7s
EPYK Eagle Plains 67.68 26 P **P 13 46 42.8 +0.7**
G30M tAoh Zraii Nji 67.72 25 P **P 13 46 42.9 +0.5**
K29M Barlow Dome 67.98 29 P **P 13 46 44.9 +0.8**
K29M IAmb IAmb 13 46 59.1
comp=Z,22nm,1.8s
I30M Mount Dempster 68.11 27 P **P 13 46 45.7 +0.8**
I30M IAmb IAmb 13 48 17.2
comp=Z,18nm,1.8s
J30M Hart River 68.29 28 P **P 13 46 46.8 +0.7**
J30M IAmb IAmb 13 47 14.2
comp=Z,21nm,1.7s
INK Inuvik 68.36 23 P **P 13 46 46.7 +0.5**
INK IAmb IAmb 13 49 12.3
comp=Z,16nm,1.6s
M30M Minto, Yukon 68.62 30 P **P 13 46 49.3 +1.2**
H31M Peel River 68.76 26 P **P 13 46 49.6 +0.8**
HYT Haines Junctio 68.77 32 P **P 13 46 50.3 +1.2**
KEV Kevo 70.02 339 P **P 13 46 56.5 +0.1**
GNI Garni 70.09 306 LR LR 14 21 16.7
comp=Z,29nm,18.2s,baz=12,slow=39
FARO Faro, Yukon 70.26 30 P **P 13 46 58.9 +0.7**
FARO IAmb IAmb 13 47 00.2
comp=Z,7.0nm,0.8s
KBZ Khabaz 70.31 310 P **P 13 46 59.3 +0.6**
comp=Z,6.7nm,0.8s,baz=99,slow=2.6,SNR=9.3
KBZ LR LR 14 20 27.9
comp=Z,44nm,20.4s,baz=60,slow=38
comp=Z,6.7nm,0.8s
ARCES ARCESS Array B 70.58 339 P **P 13 46 59.6 -0.4**
ARCES ARCESS Array B 70.58 339 P **P 13 46 59.3 -0.7**
comp=Z,2.6nm,0.8s,baz=61,slow=6.3,SNR=1.9
comp=Z,2.6nm,0.8s
C36M Paulatuk 71.22 21 P **P 13 47 04.4 +0.6**
EUNU Eureka 72.18 6 P **P 13 47 09.4 -0.2**
EUNU IAmb IAmb 13 49 03.1
comp=Z,38nm,2.0s
FINES FINESS Array B 73.62 331 P **P 13 47 18.3 0.0**
FINES FINESS Array B 73.62 331 P **P 13 47 18.0 -0.2**
comp=Z,2.2nm,0.7s,baz=58,slow=4.7,SNR=8.5
comp=Z,2.2nm,0.7s
AKASG Malin Array Be 76.51 320 P **P 13 47 34.4 -0.8**
comp=Z,3.1nm,0.7s,baz=57,slow=6.4,SNR=10
AKASG LR LR 14 23 54.8
comp=Z,117nm,18.4s,baz=60,slow=38
comp=Z,3.1nm,0.7s
AKBB Malin Array Si 76.51 320 P **P 13 47 34.8 -0.3**
AKBB IAmb IAmb 13 47 46.5
comp=Z,6.7nm,0.7s
RTZ Ruatahuna 78.10 144 P **P 13 47 44.2 0.0**
BR131 Keskin Array S 78.21 308 P **P 13 47 45.3 +0.2**
BR131 IAmb IAmb 13 47 57.7
comp=Z,12nm,1.2s
BRTR Keskin Array B 78.21 308 P **P 13 47 45.4 +0.3**
BRTR Keskin Array B 78.21 308 P **P 13 47 45.0 -0.1**
comp=Z,2.8nm,1.0s,baz=87,slow=4.7,SNR=6.8
comp=Z,2.8nm,1.0s
HFS Hagfors 79.54 333 LR LR 14 30 22.8
comp=Z,93nm,18.3s,baz=16,slow=41
MMAI Mount Meron Ar. 79.66 302 LR LR 14 27 55.4
comp=Z,24nm,20.7s,baz=71,slow=39
NOA NORSAR Array B 80.00 334 P **P 13 47 53.5 -0.8**
comp=Z,1.3nm,0.9s,baz=53,slow=5.3,SNR=2.6
NOA LR LR 14 25 27.0
comp=Z,18nm,20.0s,baz=5.0,slow=37
comp=Z,1.3nm,0.9s
BUR08 Bucovina Ar. S 80.24 318 P **P 13 47 56.3 +0.3**
BURAR Bucovina Array 80.24 318 P **P 13 47 56.7 +0.7**
CSS Mathiatis 80.42 304 P **P 13 47 57.5 +0.4**
CSS IAmb IAmb 13 49 00.7
comp=Z,18nm,1.2s
SUMG Summit 81.19 356 P **P 13 48 01.7 +0.8**
SUMG IAmb IAmb 13 50 01.4
comp=Z,21nm,1.6s
NLWA Neilton Lookou 81.33 41 P **P 13 48 02.5 +0.7**
NLWA IAmb IAmb 13 48 49.7
comp=Z,34nm,1.9s
LTY Liberty 83.28 40 P **P 13 48 12.5 +0.5**
VYHS Vyhne 83.50 321 *e*P **P 13 48 14.9 +1.9**
MORC Moravsky Berou 83.52 323 *e*P **P 13 48 13.5 +0.4**
JAVC Velka Javorina 83.95 322 *e*P **P 13 48 19.1 +3.7**
VRAC Vranov 84.29 323 *e*P **P 13 48 18.2 +1.1**
VRAC Vranov 84.29 323 LR LR 14 29 22.3
comp=Z,45nm,20.4s,baz=22,slow=38
C09A Chrisman Ranch 84.36 39 P **P 13 48 18.5 +1.0**
C09A IAmb IAmb 13 48 19.5
comp=Z,6.8nm,1.0s
D08A Wollman Farm, 84.40 40 P **P 13 48 18.5 +0.9**
D08A IAmb IAmb 13 48 19.6
comp=Z,8.3nm,0.9s
KRUC Moravsky 84.54 323 *e*P **P 13 48 19.5 +1.2**
NEW Newport 84.75 38 P **P 13 48 20.5 +1.0**
NEW IAmb IAmb 13 48 21.3
comp=Z,7.8nm,1.1s
PINE Pine Mountain 84.93 43 P **P 13 48 21.9 +1.2**
PINE IAmb IAmb 13 48 23.3
comp=Z,8.0nm,0.9s
J05D Fort Rock, OR 85.01 44 P **P 13 48 22.3 +1.3**
CLL Collm 85.02 326 *e*P **P 13 48 22.0 +1.3**
CLL *e*PP **PP 13 51 38.0 +1.0**
E09A Wood Farm, Sta 85.14 40 P **P 13 48 22.6 +1.2**
E09A IAmb IAmb 13 48 23.6
comp=Z,7.9nm,1.1s
K05A Summer Lake 85.52 44 P **P 13 48 25.2 +1.6**
GERES GERESS Array B 86.11 324 LR LR 14 29 25.1
comp=Z,39nm,18.4s,baz=32,slow=37
BMO Blue Mountains 86.55 41 P **P 13 48 29.4 +0.8**
DLMT Dillon 88.97 39 P **P 13 48 41.3 +1.1**
DLMT IAmb IAmb 13 48 42.4
comp=Z,7.0nm,0.8s
DAVOX Davos/Dischmat 89.41 323 LR LR 14 34 48.6
comp=Z,44nm,19.6s,baz=72,slow=40
PPT Papeete 89.50 110 LR LR 14 19 36.8
comp=Z,25nm,21.5s,baz=322,slow=29
ID08 Devils Gate 90.90 40 P **P 13 48 50.5 +1.2**
ID08 IAmb IAmb 13 48 52.1
comp=Z,6.1nm,0.9s
HVU Hansel Valley 91.03 42 P **P 13 48 50.9 +1.0**
HVU IAmb IAmb 13 48 52.5
comp=Z,4.8nm,0.9s
HWUT Hardware Ranch 91.85 41 P **P 13 48 54.4 +0.7**
HWUT IAmb IAmb 13 48 56.4
comp=Z,5.3nm,0.9s
PDAR Pinedale Array 92.29 39 P **P 13 48 55.9 0.0**
comp=Z,1.0nm,0.9s,baz=354,slow=1.5,SNR=7.0
comp=Z,1.0nm,0.9s
PSUT Pine Spring 92.30 45 P **P 13 48 56.9 +1.0**
PSUT IAmb IAmb 13 49 00.6
comp=Z,5.0nm,1.2s
PFO Pinyon Flats O 93.42 50 P **P 13 49 01.8 +0.8**
PFO IAmb IAmb 13 49 03.5
comp=Z,12nm,1.4s
PFO Pinyon Flats O 93.42 50 LR LR 14 32 10.1
comp=Z,22nm,18.4s,baz=334,slow=36
LCMT Little Creek M 93.59 46 P **P 13 49 03.2 +1.4**
KEST Kesra 96.66 315 LR LR 14 36 49.2
comp=Z,29nm,18.2s,baz=308,slow=38
MBAR Mbarara 98.44 273 LR LR 14 37 30.9
comp=Z,28nm,18.1s,baz=328,slow=38
ELIB Princess Elisa 119.76 200 *d*PKP **PKPdf 13 54 34.4 -0.3**

DJA 15 13:40:07.6±0.3, 6°S±4°×10°4E±°, h78km±6km, M4.2/12, mb4.6/2, MLv3.9/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	Kota Agung	0.25	32	P	Pn	13 40 21.4	+2.0
KASI				S	Sn	13 40 31.2	+3.1
LWLI	Liwa	0.78	337	P	Pn	13 40 25.4	+1.3
LWLI				S	Sn	13 40 37.6	+1.3
KLI	Kotabumi	1.00	30	P	Pn	13 40 26.1	-0.5
KLI				S	Sn	13 40 39.5	-1.2
CGJI	Cibinong	1.58	123	P	Pn	13 40 35.7	+1.8
MNAI	Manna	1.96	314	P	Pn	13 40 40.3	+1.4
CBJI	Citeko	2.57	105	P	Pn	13 40 51.7	+4.6
CNJI	Cibinong	3.16	120	P	Pn	13 40 55.9	+0.8
CMJI	Cimerak	4.54	117	P	Pn	13 41 13.3	-0.6
KPJI	Karang Pucung	4.81	109	P	Pn	13 41 17.5	-0.1
PPSI	Pulau Pagai 86nm,1.1s,0.3nm	5.25	304	P	Pn	13 41 23.5	-0.1
JAGI	Jajag, Banyuwa	10.09	106	P	Pn	13 42 29.3	-0.4

*MEX **15** 13:46:00.3±1.3, 15°.47N×98°.83W, h15km±44km, MD4.4*
*NEIC **15** 13:46:01.0±1.4, 15°.58N±0°.05×98°.53W±0°.06, h8km±6km, mb4.3/27, Md4.1/17(MEX), Error ellipse: s-maj=8.6km s-min=6.9km az=85.0*

ISC 15 13:45:57.2±1.9, 15°.51N±0°.05×98°.72W±0°.04, h3km±11km, n78, σ2°.33/117, mb4.3/6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	1.05	33		Pg	13 46 17.9	+0.6
PNIG					Sn	13 46 32.1	-2.0
PNIG	Pinotepa	1.05	33	*e*P	Pg	13 46 17.6	+0.3
PNIG				*e*S	Sn	13 46 32.1	-2.0
PEIG	Puerto Escondi	1.59	72		Pn	13 46 25.8	-0.5
PEIG					Sn	13 46 45.2	-2.3
PEIG	Puerto Escondi	1.59	72	*e*P	Pn	13 46 25.8	-0.5
PEIG				*e*S	Sn	13 46 45.3	-2.2
MGIG	Malinaltepec	1.72	3		Pn	13 46 27.6	-0.6
MGIG					Sn	13 46 47.8	-3.0
MGIG	Malinaltepec	1.72	3	*e*P	Pn	13 46 27.6	-0.6
MGIG				*e*S	Sn	13 46 47.8	-3.0
DAIG	Los Arroyos	1.75	329	*e*P	Pn	13 46 27.0	-1.5
DAIG				*e*S	Sn	13 46 45.6	-5.7
YOIG	Yosondua	1.75	40		Pn	13 46 28.3	-0.5
YOIG					Sg	13 46 52.1	-1.5
YOIG	Yosondua	1.75	40	*e*P	Pn	13 46 28.3	-0.5
YOIG				*e*S	Sg	13 46 52.1	-1.5
ACP2	Acapulco	1.76	321	*e*P	Pn	13 46 30.3	+1.6
ACP2				*e*S	Sn	13 46 45.6	-6.0
TXIG	Tlaxiaco	1.96	28		Pn	13 46 31.7	0.0
TXIG	Tlaxiaco	1.96	28	*e*P	Pn	13 46 31.7	0.0
TLIG	Tlapa	2.05	4	*e*P	Pn	13 46 32.3	-0.4
TLIG				*e*S	Sn	13 46 56.5	-2.3
CAIG	El Cayaco	2.13	316	*e*P	Pn	13 46 31.7	-2.0
CAIG				*e*S	Sn	13 46 53.9	-6.8
HMTT	Tlapaneco	2.28	4	*i* P	Pn	13 46 35.9	-0.1
HMTT				*i* S	Sn	13 47 02.9	-1.7
FTIG	Fresnillo de T	2.45	13		Pn	13 46 38.9	+0.6
FTIG					Sn	13 47 08.3	-0.5
FTIG	Fresnillo de T	2.45	13	*e*P	Pn	13 46 38.9	+0.6
FTIG				*i* S	Sn	13 47 08.3	-0.5
VHO	Vista Hermosa	2.46	51	*e*P	Pn	13 46 38.8	+0.3
VHO				*e*S	Sn	13 47 08.6	-0.6
OXBJ	Oaxaca	2.47	51	*i* P	Pn	13 46 39.2	+0.7
OXBJ				*e*S	Sb	13 47 10.5	-2.8
HLIG	Huajuapan de L	2.47	21	*e*P	Pn	13 46 38.8	+0.2
HLIG				*e*S	Sn	13 47 09.0	-0.4
OXLC	Oaxaca	2.48	51	*i* P	Pn	13 46 39.8	+1.0
OXLC				*e*S	Sb	13 47 10.7	-2.9
HUIG	Huatulco	2.53	84		Pn	13 46 39.1	-0.2
HUIG					Sn	13 47 07.2	-3.5
HUIG	Huatulco	2.53	84	*e*P	Pn	13 46 39.1	-0.2
HUIG				*e*S	Sn	13 47 07.2	-3.5
MEIG	Mezcala	2.55	340	*e*P	Pn	13 46 39.8	+0.2
MEIG				*e*S	Sn	13 47 08.0	-3.3
PLIG	Platanillo	2.96	346	*e*P	Pn	13 46 46.0	+0.8
PLIG				*e*S	Sn	13 47 18.4	-3.0
TOIG	Toxpalan	3.02	31	*e*P	Pn	13 46 46.4	+0.3
TOIG				*e*S	Sn	13 47 22.7	-0.3
TPIG	Tehuac#an	3.17	24	*e*P	Pn	13 46 49.0	+0.8
TPIG				*e*S	Sn	13 47 24.5	-2.3
YAIG	Yautepec	3.35	354	*e*P	Pn	13 46 51.9	+1.3
YAIG				*e*S	Sn	13 47 27.6	-3.5
PPM	Popocatepetl	3.54	1	*e*P	Pn	13 46 54.3	+0.7
PPM				*e*S	Sn	13 47 35.3	-1.0
NEUV	Arroyo Zacate	3.56	52	*e*P	Pn	13 46 53.6	+0.3
NEUV				*e*S	Sn	13 47 35.9	-0.1
TEJU	Tejupilco	3.64	338	*e*S	Sn	13 47 32.3	-6.0
MPVM	San Francisco	3.68	356	*e*P	Pn	13 47 00.0	+4.7
MPVM				*e*S	Sb	13 47 46.7	-1.5
TLVM	San Miguel Top	3.70	354	*e*P	Pn	13 46 56.4	+0.7
TLVM				*e*S	Sn	13 47 35.4	-4.6
AOVM	Tlapan	3.78	351	*e*P	Pn	13 46 57.9	+1.0
AOVM				*e*S	Sn	13 47 38.8	-3.4
THVM	De Xico	3.79	356	*e*P	Pn	13 46 56.1	-0.7
THVM				*e*S	Sn	13 47 40.9	-1.1
UNM	Universidad Na	3.82	354	Pn	Pn	13 46 59.9	+2.6
BJVM	Benito Juarez	3.87	354	*e*P	Pb	13 47 05.2	-1.1
CMIG	Matias Romero	4.01	66		Pn	13 46 59.8	+0.2
CMIG					Sn	13 47 45.9	-1.2
CMIG	Matias Romero	4.01	66	*e*P	Pn	13 46 59.8	+0.2
CMIG				*e*S	Sn	13 47 45.9	-1.2
NILT	Santiago Nilte	4.09	75	*i* P	Pn	13 47 02.0	+1.4
NILT				*e*S	Sn	13 47 48.0	-1.0
JAUV	Jalcomulco	4.25	25	*e*P	Pn	13 47 03.3	+0.3
JAUV				*e*S	Sn	13 47 47.4	-5.7
LVIG	Laguna Verde	4.73	27	*e*P	Pn	13 47 06.0	-3.6
UXUV	UXUV	4.75	67	*e*P	Pn	13 47 10.4	+0.7
UXUV				*e*S	Sn	13 48 05.0	-0.3
CXUV	Coxquihui	4.76	13	*e*P	Pn	13 47 08.8	-1.2
CXUV				*e*S	Sn	13 48 07.9	+2.1
DEIG	Demacu	4.78	356	*e*P	Pn	13 47 14.4	+4.1
PCIG		5.31	87	*e*P	Pn	13 47 18.4	+1.0
PCIG				*e*S	Sn	13 48 14.1	-5.0
TGIG		5.53	76	*e*P	Pn	13 47 21.3	+0.8
TGIG				*e*S	Sn	13 48 23.4	-1.3
PATR	El Naranjo	6.27	93	*e*P	Pn	13 47 32.0	+1.0
PATR				*e*S	Sn	13 48 38.2	-5.1
PAVE	Pavencul	6.32	92	*e*P	Pn	13 47 31.1	-0.5
CCIG	Comitan	6.38	82	*e*P	Pn	13 47 32.5	+0.1
CCIG				*e*S	Sn	13 48 37.9	-8.1
CHUJ	Union Juarez	6.40	93	*e*P	Pn	13 47 33.9	+1.2
CHUJ				*e*S	Sn	13 48 41.1	-5.3
TEIG	Tepich	10.99	63	Pn	Pn	13 48 35.0	-0.5
BRDY	Brady	15.71	359		P	13 49 45.7	+2.0
BRDY				IAmb	IAmb	13 49 48.0	
comp=Z,6.6nm,1.0s							
425A	Indio Mountain	16.25	340	Pn	Pn	13 49 48.2	+1.4
ABTX	Abilene, Hawle	17.06	357	P	P	13 50 02.0	+3.3
ABTX				IAmb	IAmb	13 50 03.4	
comp=Z,24nm,0.8s							
FW07	Weatherford	17.14	3	P	P	13 50 02.4	+2.8
FW07				IAmb	IAmb	13 50 04.0	
comp=Z,34nm,1.1s							
FW06	Azle	17.42	3	Pn	Pn	13 50 01.7	+0.3
FW06				IAmb	IAmb	13 50 38.8	
comp=Z,17nm,1.0s							
319A	Douglas	18.51	330	P	P	13 50 16.8	+1.9
AMTX	Amarillo	19.48	353	P	Pn	13 50 27.8	+1.3
AMTX				IAmb	IAmb	13 50 29.6	
comp=Z,11nm,0.8s							
DEOK	Depew	20.35	5	P	Pn	13 50 37.0	+0.2
DEOK				IAmb	IAmb	13 50 39.9	
comp=Z,29nm,1.3s							
OK031	S. Brethren Rd	20.43	4	P	P	13 50 37.1	+1.4
OK031				IAmb	IAmb	13 50 40.9	
comp=Z,12nm,1.0s							
OK052	Battle Ridge R	20.47	4	P	Pn	13 50 38.3	0.0
TUL3	Leonard	20.48	7	P	P	13 50 38.1	+1.8
ANMO	Albuquerque	20.56	342	P	Pn	13 50 40.2	+0.6
OK048	Pawnee Station	20.88	4	P	P	13 50 42.5	+1.9
OK048				IAmb	IAmb	13 50 46.4	
comp=Z,18nm,0.9s							
FCAR	Ozark Folk Cen	21.14	15	P	P	13 50 45.3	+2.0
T35A	Sooner Cattle	21.41	5	P	P	13 50 48.0	+1.7
T35A				IAmb	IAmb	13 50 48.7	
comp=Z,15nm,0.9s							
PLAL	Pickwick Lake	21.62	24	P	P	13 50 50.0	+1.4
S39A	Bolivar	22.61	11	P	P	13 51 00.3	+1.2
S39A				IAmb	IAmb	13 51 03.8	
comp=Z,7.0nm,0.9s							
WVT	Waverly	22.72	23	P	P	13 51 01.4	+1.1
WVT				IAmb	IAmb	13 51 04.3	
comp=Z,9.9nm,1.1s							
V48A	Smith Brothers	22.79	26	P	P	13 51 01.9	+0.8
V48A				IAmb	IAmb	13 51 02.9	
comp=Z,20nm,1.4s							
R40A	Maddies Statio	23.40	13	P	P	13 51 08.8	+1.5
R40A				IAmb	IAmb	13 51 16.3	
comp=Z,8.1nm,0.8s							
P40A	Paris	24.63	12	P	P	13 51 20.2	+1.2
P40A				IAmb	IAmb	13 51 22.7	
comp=Z,11nm,1.1s							
WCI	Wyandotte Cave	25.15	24	P	P	13 51 25.8	+2.2
W57A	Gilead	25.78	37	P	P	13 51 30.4	+0.9
S51A	Beattyville	25.79	28	P	P	13 51 30.8	+1.2
LYMT	Lyon Mountain	33.34	343	P	P	13 52 37.9	+1.1
GO03	Copiap	50.98	147	P	P	13 55 02.0	+1.5

KRSC 15 13:51:31.4±1.5, 48°.37N×156°.16E, h14km±27km, MI3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.31	359	*e*P	Pn	13 52 09.6	+0.6
SKR				*e*S	Sn	13 52 38.5	+1.2
KDTR	Khodutka, Kamc	3.66	19	*e*P	Pn	13 52 30.8	+3.3
KDTR				*e*S	Sb	13 53 15.2	-4.7
ASAK	Asacha	4.17	15	*e*P	Pn	13 52 38.8	+4.2
RUS	Russkaya	4.34	19	*e*P	Pn	13 52 39.8	+3.0
RUS				*e*S	Sn	13 53 31.5	+4.4
GRL	Gorelyy	4.36	16	*e*P	Pn	13 52 41.7	+4.4
KRMR	Karymshinskiy	4.64	15	*e*P	Pn	13 52 43.4	+2.5
DALK	Dalny	4.95	19	*e*P	Pn	13 52 49.2	+4.0
DALK				*e*S	Sn	13 53 48.5	+6.3
AVH	Avacha	5.17	18	*e*P	Pn	13 52 52.9	+4.6
KOK	Koryaka	5.17	17	*e*P	Pn	13 52 53.1	+4.8
KRER	Koryakskii	5.20	17	*e*P	Pn	13 52 53.4	+4.5
KRX	Arik	5.24	17	*e*P	Pn	13 52 52.7	+3.4
GNL	Ganaly	5.45	11	*e*P	Pn	13 52 56.8	+4.6

*TAP **15** 13:55:52.8, 24°.69N×122°.52E, h12km±1km, ML2.9, C*
*JMA **15** 13:55:53.4±0.1, 24°.7N±0°.7×122°.6E±0°.2, h29km, MV2.3/13, NW OFF ISHIGAKIJIMA IS*

ISC 15 13:55:51.8±1.1, 24°.70N±0°.04×122°.60E±0°.02, h10km±10km, n44, σ0°.44/77, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.40	127	P	Pb	13 56 01.8	+0.8
JYNG				S	Sb	13 56 07.9	+0.8
EOS2	EOS2 baz=233	0.43	231	*i* P	Pb	13 56 01.4	-0.1
EOS2				S	Sb	13 56 07.7	-0.3
YOJ	Yonaguni jima baz=233	0.44	122	P	Pb	13 56 02.5	+0.8
YOJ				S	Sb	13 56 09.1	+0.7
YOJ	Yonaguni jima baz=107	0.44	122	*i* P	Pb	13 56 02.6	+0.9
YOJ				*e*S	Sb	13 56 08.9	+0.5
EOS3	EOS3 baz=213	0.48	212	*i* P	Pb	13 56 02.4	0.0
EOS3				S	Sb	13 56 10.1	+0.7
EOS4	EOS4 baz=188	0.63	204	*e*P	Pb	13 56 05.0	+0.3
TWB1	Santiao Chiao baz=304	0.64	300	*i* P	Pb	13 56 04.8	-0.2
TWB1				*e*S	Sg	13 56 12.2	-0.3
TWC	Suao baz=263	0.69	263	P	Pg	13 56 04.9	-0.2
TWC				*e*S	Sg	13 56 14.2	+0.1
SXI1	Grass Mountain baz=305	0.77	301	P	Pb	13 56 07.5	+0.1
SXI1				*e*S	Sg	13 56 16.9	+0.3
EWUT	Wuta baz=250	0.79	252	*e*P	Pg	13 56 07.2	+0.2
EWUT				*e*S	Sg	13 56 17.2	-0.1
NDS	Dongshan baz=256	0.81	266	P	Pg	13 56 07.1	-0.2
NDS				S	Sg	13 56 18.0	+0.1
ENA	Nanau baz=256	0.82	251	P	Pg	13 56 07.9	+0.2
NWF	Wu-fen Shan baz=300	0.83	297	*e*P	Pb	13 56 08.8	+0.4
NWF				*e*S	Sg	13 56 18.6	-0.1
WFSB	Wu-fen Shan baz=300	0.83	297	*e*P	Pg	13 56 08.2	+0.4
WFSB				*e*S	Sg	13 56 19.1	+0.4
TWE	Neicheng baz=264	0.85	272	P	Pg	13 56 07.9	-0.2
TWE				*e*S	Sb	13 56 20.2	+0.1
FUSB	Fushanzhiwuyua baz=275	0.92	274	P	Pg	13 56 09.6	0.0
FUSB				S	Sg	13 56 21.5	-0.1
ENTT	Nioudou baz=267	0.94	267	*e*P	Pb	13 56 10.3	+0.1
ENTT				*e*S	Sg	13 56 22.2	0.0
LATG	Datong baz=250	0.99	261	*e*P	Pg	13 56 10.9	+0.1
LATG				*e*S	Sg	13 56 23.9	+0.2
NDT	Datong Townshi baz=265	0.99	265	*e*P	Pg	13 56 10.8	-0.1
NDT				*e*S	Sb	13 56 24.5	+0.2
NWLT	Wulai baz=275	1.00	275	*e*P	Pb	13 56 11.5	+0.2
NWLT				S	Sg	13 56 24.0	-0.1
NHDH	Xindian Distri baz=287	1.01	286	*e*P	Pb	13 56 12.0	+0.5
NHDH				*e*S	Sg	13 56 24.1	-0.3
TWY	Chenhua baz=305	1.07	303	*e*P	Pg	13 56 12.0	-0.5
TWY				*e*S	Sg	13 56 26.2	-0.2
IRIF	Iriomote-Funau	1.09	109	P	Pb	13 56 12.8	0.0
IRIF				*e*S	Sg	13 56 26.9	-0.1
TWD	Chiawan baz=240	1.10	236	*e*P	Pn	13 56 13.9	+0.6
YHNB	Yeheng baz=263	1.11	269	*e*P	Pg	13 56 13.2	0.0
YHNB				*e*S	Sg	13 56 27.7	0.0
ETLH	Xiulin Townshi baz=253	1.13	245	*e*P	Pg	13 56 13.0	-0.5
ETLH				*e*S	Sn	13 56 29.4	0.0
NSK	Sanguang baz=269	1.13	269	*e*P	Pb	13 56 13.7	+0.2
NSK				*e*S	Sg	13 56 27.5	-0.7
NNSB	Datong baz=256	1.14	257	P	Pb	13 56 13.8	+0.1
NNSB				*e*S	Sg	13 56 27.7	-0.8
NNS	Nan Shan baz=256	1.14	257	*e*P	Pn	13 56 14.2	+0.2
NNS				*e*S	Sg	13 56 28.4	-0.3
TWS1	Kuangyinshan baz=292	1.15	291	*e*P	Pb	13 56 14.0	+0.3
TWS1				*e*S	Sg	13 56 27.9	-0.9
HATJ	Hateruma jima baz=292	1.27	120	P	Pn	13 56 15.1	-0.6
HATJ				*e*S	Sg	13 56 31.5	-1.2
WHF	Hehuan Shan baz=244	1.33	246	*e*P	Pb	13 56 17.3	+0.1
NFF	Wufeng Townshi baz=258	1.35	268	*e*P	Pb	13 56 17.3	0.0
NFF				*e*S	Sb	13 56 35.0	+0.4
JKRS	Kuro-shima baz=258	1.36	109	*e*P	Pn	13 56 17.2	+0.2
JKRS				*e*S	Sb	13 56 34.5	-0.5
LIOB	Emei baz=286	1.44	268	*e*P	Pg	13 56 19.5	0.0
CHGB	Renai baz=226	1.44	244	*e*P	Pn	13 56 18.4	+0.1

JIJ Ishigaki jima 1.45 103 *eP* **Pn 13 56 18.1 0.0**
JIJ S **Sn 13 56 36.3 -0.9**
NSTT Nanjuang 1.45 268 *eP* **Pg 13 56 20.3 +0.5**
baz=285
WUSB Renai 1.52 243 *eP* **Pg 13 56 20.6 -0.5**
baz=225
JISG Ishigakijimahi 1.56 94 *eP* **Pn 13 56 20.2 +0.5**
JISG *eS* **Sn 13 56 39.2 -0.8**
WHP Taichung City 1.56 255 *eP* **Pg 13 56 21.8 0.0**
baz=262
WHP *eS* **Sb 13 56 41.2 +0.4**
baz=262
WCS Beigang Elemen 1.66 248 *eP* **Pg 13 56 23.5 -0.2**
baz=233
NSY Sanyi 1.70 261 *eP* **Pg 13 56 23.9 -0.5**
baz=259
TWQ1 Liyutan 1.70 259 *eP* **Pg 13 56 24.8 +0.4**
baz=271

*IDC **15** 14:01:17.1±1.7,2°.06N×126°.79E,h0km,mb3.4/4,*
mbtmp3.4/4,Error ellipse: s-maj=172.2km s-min=22.1km
az=66.0
*DJA **15** 14:01:23.1±0.6,3°N±5°×12°9E±°,h45km±15km,M4.1/9,*
mb4.3/6,mB4.9/1,MLv4.0/9,Mw(mB)4.2/1
ISC 15 14:01:20.1±1.2,**3°.0**N±0°.1×**128°.8E**±0°.1,**h35**km,**n9,**
σ1§43/11,mb3.5/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**4.55 147**		P	**Pn**	**14 02 28.5**	**+2.0**
SWI				S	**Sn**	**14 03 16.9**	**-1.3**
SANI	**Sanana**	**5.73 209**		P	**Pn**	**14 02 44.4**	**+1.7**
GTOI	**Gorontalo**	**6.23 248**		P	**Pn**	**14 02 49.3**	**-0.2**
13nm,0.5s,0.1nm
FAKI **Fak Fak** **6.81 149** P **Pn** **14 02 59.3** **+1.7**
33nm,1.4s,0.1nm
MRSI **Marisa** **7.28 250** P **Pn** **14 03 04.3** **+0.3**
41nm,0.5s,785nm0.2nm
WRA **Warramunga Arr** **23.43 167** P **P** **14 06 24.9** **-1.4**
0.3nm,0.3s,baz=339,slow=11,SNR=15
0.3nm,0.3s
ASAR **Alice Springs** **26.96 170** P **P** **14 06 57.0** **-1.5**
0.1nm,0.3s,baz=348,slow=7.3,SNR=5.4
ASAR PcP **PcP** **14 10 19.5** **-0.5**
0.1nm,0.5s,baz=339,slow=1.8,SNR=1.3
0.1nm,0.3s
MKAR **Makanchi Array** **59.34 325** P **P** **14 11 19.4** **+0.6**
0.4nm,0.4s,baz=110,slow=8.7,SNR=5.8
0.4nm,0.4s
KURBB **Kurchatov Arra** **63.47 327** P **P** **14 11 46.4** **-0.1**
0.5nm,0.5s,baz=127,slow=5.9,SNR=3.3
0.5nm,0.5s

*SOME **15** 14:04:35.6,45°.47N×84°.82E,h15km*
*NNC **15** 14:04:35.1±2.2,45°.35N×84°.85E,h0km,mb3.6,mpv3.0,*
Error ellipse: s-maj=17.3km s-min=8.1km az=114.0
ISC 15 14:04:34.0±2.1,**45°.38**N±0°.07×**84°.7E**±0°.1,**h10**km,**n13,**
σ1§11/16,3C-1D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**2.08**	**4**	Pg	**Pb**	**14 05 12.5**	**+0.7**
9.2nm,0.2s
ZSN Lg Lg 14 05 39.8
19nm,0.2s
ZSN **Zaisan** **2.08 4** *e*Pg **Pb** **14 05 12.5** **+0.7**
9.2nm,0.2s
ZSN *e*Lg Lg 14 05 39.8
19nm,0.2s
MK31 **Makanchi Array** **2.18 311** ⇑Pn **Pg** **14 05 15.1** **-0.8**
0.3nm,0.1s,baz=126,slow=14,SNR=101
MK31 ⇑Sn **Sg** **14 05 44.3** **+0.2**
7.1nm,0.3s,baz=124,slow=30,SNR=31
MAKZ **Makanchi** **2.36 308** ⇑Pn **Pg** **14 05 18.4** **-0.9**
1.7nm,0.3s
MAKZ ⇓Sn **Sg** **14 05 49.3** **-0.6**
4.7nm,0.3s
KNOS **Konyrlen** **4.04 257** Pg **Pg** **14 05 51.5** **+0.2**
1.6nm,0.4s
KNOS Lg Lg 14 06 46.1
3.3nm,0.5s
PDGK **Podgornoye** **4.24 243** Pg **Pg** **14 05 54.8** **-0.5**
0.4nm,0.3s
PDGK Lg Lg 14 06 51.4
2.4nm,0.8s
BLB **Baldybastay** **4.59 256** Pg **Pg** **14 06 01.9** **-0.1**
1.6nm,0.4s
BLB Lg Lg 14 07 04.1
4.6nm,0.1s
UZB **Uzynbulak** **4.63 243** Pg **Pg** **14 06 00.3** **-2.4**
2.6nm,0.2s
UZB Lg Lg 14 07 01.2
3.2nm,0.9s
UZB **Uzynbulak** **4.63 243** *e*Pg **Pg** **14 06 02.2** **-0.5**
2.6nm,0.1s
UZB *e*Lg Lg 14 07 04.8
3.2nm,0.9s
KPKS **Kokpek** **4.70 248** Pg **Pg** **14 06 02.2** **-1.7**
0.8nm,0.2s
KPKS Lg Lg 14 07 04.2
3.8nm,0.5s
KPKS **Kokpek** **4.70 248** *e*Pg **Pg** **14 06 04.0** **0.0**
1.1nm,0.1s
KPKS *e*Lg Lg 14 07 07.6
6.3nm,0.2s
ARXS **Arharly** **5.01 259** Pg **Pg** **14 06 09.1** **-0.8**
ARXS Lg Lg 14 07 16.4
ARXS **Arharly** **5.01 259** *e*P **Pg** **14 06 09.1** **-0.8**
ARXS *e*S **Sg** **14 07 16.4** **+1.6**

*BUT **15** 14:13:57.4±1.0,44°.40N±0°.03×115°.41W±0°.06,h13km±7km,*
Error ellipse: s-maj=6.0km s-min=4.2km az=71.0
NEIC 15 14:13:56.8±1.0,**44°.35**N±0°.04×**115°.46W**±0°.05,**h13**km±5km,
ML2.7/52,**ML3.0**/22(BUT),**Error ellipse: s-maj=5.7km**
s-min=5.2km az=66.0,Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLID	**Pearl Lake**	**0.83 333**			Sg	14 14 23.8	+0.1
PLID	**Pearl Lake**	**0.83 333**		Pg	Pg	14 14 12.6	-0.3
PLID	**Pearl Lake**	**0.83 333**		IAML		14 14 27.9
148nm,0.3s
PLID IAML 14 14 28.8
105nm,0.3s
MFID **Camas Ranch** **0.97 196** Pn 14 14 16.3 0.0
MFID Sn 14 14 30.5 +0.4
HLID **Hailey** **1.09 136** Pb 14 14 17.6 -0.1
HLID **Hailey** **1.09 136** IAML 14 14 34.4
260nm,0.2s
HLID IAML 14 14 35.1
251nm,0.2s
BMO **Blue Mountains** **1.41 291** Pn Pn 14 14 22.6 +0.3
BCYI **Bear Canyon** **1.48 91** Pn 14 14 23.4 +0.1
EMI **Eightmile Camp** **1.85 98** Pb 14 14 29.8 -0.7
F10A **Beach Ranch, E** **2.04 323** Pn Pn 14 14 31.6 +0.6
F10A IAML 14 15 04.2
comp=E,94nm,0.3s
PZCI **Patelzick Cree** **2.26 89** Pb 14 14 37.0 -0.5
DLMT **Dillon** **2.27 63** Pn 14 14 34.3 +0.1
DLMT IAML 14 15 08.5
comp=E,58nm,0.2s
J08A **Circle Bar Ran** **2.39 246** Pn 14 14 36.8 +1.0
J08A IAML 14 15 21.5
comp=N,39nm,0.5s
J08A IAML 14 15 22.6
comp=E,49nm,0.6s
LNOR **Lincton Mounta** **2.51 308** Pn 14 14 38.8 +1.5
BPMT **Black Pine Rid** **2.52 34** Pn Pn 14 14 37.5 -0.2
G08A **Pilot Rock** **2.66 292** Pn Pn 14 14 37.6 -1.8
MSO **Missoula** **2.70 23** Pn Pn 14 14 40.0 0.0
MSO IAML 14 15 29.3
comp=E,42nm,0.8s
CMI **Centennial Mou** **2.76 85** Pb 14 14 45.3 -0.8
E09A **Wood Farm, Sta** **2.87 320** Pn Pn 14 14 42.1 -0.1
E09A IAML 14 15 30.2
comp=N,16nm,1.0s
BOZ **Bozeman (W)** **2.99 64** Pn 14 14 44.4 +0.4
BOZ IAML 14 15 33.2
comp=N,32nm,0.5s
CHMT **Chamberlain Mo** **2.99 30** Pn Pn 14 14 43.9 -0.3
ID08 **Devils Gate** **3.01 118** Pn Pn 14 14 44.3 0.0
ID08 IAML 14 15 37.8
comp=N,19nm,0.5s
ID08 IAML 14 15 39.8
comp=N,19nm,0.7s
ID07 **Smith Canyon R** **3.06 125** Pn Pn 14 14 45.6 +0.5
ID07 IAML 14 15 38.4
comp=N,16nm,1.0s
MCID **Moose Creek** **3.08 92** Pb 14 14 50.3 -1.3
YPWB **West Boundary** **3.13 84** Pb 14 14 54.2 +1.8
YMR **Madison River** **3.23 83** Pn Pn 14 14 46.4 -1.0
HVU **Hansel Valley** **3.24 142** Pn 14 14 47.5 0.0
FXWY **Fox Creek** **3.28 101** Pn 14 14 48.1 0.0
IMW **Indian Meadow** **3.29 96** Pn 14 14 48.0 -0.3
IMW IAML 14 15 40.4
comp=N,25nm,0.5s
TPAW **Teton Pass** **3.37 103** Pn 14 14 47.6 -1.8
TPAW IAML 14 15 48.9
comp=N,16nm,0.9s
TPAW IAML 14 15 52.3
comp=N,20nm,0.8s
LYMT **Lyon Mountain** **3.44 39** Pn Pn 14 14 50.0 -0.2
FLWY **Flagg Ranch** **3.44 93** Pn 14 14 49.8 -0.4
FLWY IAML 14 15 46.2
comp=N,22nm,0.8s
FLWY IAML 14 15 49.6
comp=N,21nm,0.9s
MOOW **Moose Ponds** **3.46 98** Pn 14 14 47.2 -3.3
SPUT **South Promonto** **3.77 143** Pn 14 14 55.0 +0.3
SPUT IAML 14 16 00.4
comp=E,8.7nm,0.8s
SPUT IAML 14 16 02.6
comp=N,8.2nm,1.0s
BGU **Big Grassy Mou** **3.87 152** Pn Pn 14 14 55.3 -0.8
NEW **Newport** **4.08 344** Pn Pn 14 14 58.7 -0.2
NEW IAML 14 15 38.6
comp=N,8.5nm,3.9s
NEW IAML 14 16 05.6
comp=N,13nm,0.8s
LTY **Liberty** **4.66 310** Pn 14 15 06.7 -0.2
LTY IAML 14 15 42.3
comp=E,7.3nm,4.1s
LTY IAML 14 16 26.6
comp=N,6.3nm,3.9s

*IDC **15** 14:19:21.9±1.2,45°.46N×84°.74E,h0km,mb3.4/2,*
mbtmp3.5/6,ML3.0/4,Error ellipse: s-maj=24.3km
s-min=11.1km az=46.0
*NNC **15** 14:19:23.6±2.5,45°.37N×84°.83E,h0km,mb4.0,mpv3.6,*
Error ellipse: s-maj=21.4km s-min=15.3km az=74.0
*SOME **15** 14:19:25.0,45°.67N×84°.47E,h0km*
ISC 15 14:19:22.4±0.8,**45°.34N**±0°.05×**84°.65E**±0°.04,**h10**km,**n32,**
σ1§66/38,8C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**2.11**	**4**	*e*P	**Pb**	**14 20 00.5**	**-0.3**
159nm,0.5s
ZSN *e*S **Sb** **14 20 27.2** **+0.1**
254nm,0.3s
MK31 **Makanchi Array** **2.19 312** ⇑Pn **Pb** **14 20 02.9** **+0.8**
22nm,0.3s,baz=127,slow=15,SNR=1414
MK31 ⇑Sn **Sg** **14 20 32.1** **-0.6**
95nm,0.4s,baz=124,slow=30,SNR=49
MKAR **Makanchi Array** **2.19 312** Pn **Pb** **14 20 02.2** **+0.1**
24nm,0.3s,baz=129,slow=16,SNR=579
MKAR Lg Lg 14 20 31.0
74nm,0.3s,baz=126,slow=29,SNR=69
39nm,0.3s
MAKZ **Makanchi** **2.37 309** ⇑Pn **Pb** **14 20 05.1** **0.0**
14nm,0.3s
MAKZ ⇓Sn **Sg** **14 20 37.0** **-1.4**
136nm,0.7s
WMQ **Urumqi** **2.66 124** *e*Pn **Pg** **14 20 12.5** **-0.9**
WMQ Sn **Sb** **14 20 42.8** **0.0**
WMQ smax smax
comp=N,180nm,0.9s
WMQ smax smax
comp=E,190nm,0.7s
DJR **Jarkent** **3.60 255** *e*Pg **Pg** **14 20 31.9** **+0.5**
comp=E,4.7nm,0.2s
DJR *e*Lg Lg 14 21 20.1
comp=E,22nm,0.3s
PDGK **Podgornoye** **4.21 243** ⇑Pg **Pg** **14 20 43.3** **+0.3**
comp=E,5.0nm,0.8s
PDGK ⇑Lg Lg 14 21 38.1
comp=E,99nm,1.2s
SHLS **Shalkode** **4.32 241** *e*Pg **Pg** **14 20 41.8** **-3.4**
comp=E,16nm,0.3s
SHLS *e*Lg Lg 14 21 36.2
comp=E,42nm,2.2s
TDK **Taldyqorghan** **4.43 268** *e*Pg **Pg** **14 20 48.5** **+1.3**
comp=E,15nm,0.2s
TDK *e*Lg Lg 14 21 48.1
comp=E,82nm,0.3s
UZB **Uzynbulak** **4.60 243** *e*Pg **Pg** **14 20 49.1** **-1.3**
comp=E,1.9nm,0.2s
UZB *e*Lg Lg 14 21 49.7
comp=E,17nm,0.4s
KPKS **Kokpek** **4.67 248** *e*Pg **Pg** **14 20 51.3** **-0.5**
comp=E,5.0nm,0.4s
KPKS *e*Lg Lg 14 21 52.9
comp=E,64nm,0.6s
ARXS **Arharly** **4.98 259** *e*Pg **Pg** **14 20 57.7** **-0.2**
comp=E,5.5nm,0.6s
ARXS *e*Lg Lg 14 22 03.6
comp=E,19nm,0.7s
KURS **Kuram** **5.00 250** *e*Pg **Pg** **14 20 58.8** **+0.7**
comp=E,2.5nm,0.5s
KURS *e*Lg Lg 14 22 05.7
comp=E,13nm,0.8s
CHKK **Chushkaly** **5.67 257** *e*Pg **Pg** **14 21 10.1** **-0.9**
comp=E,2.0nm,0.3s
CHKK *e*Lg Lg 14 22 24.8
comp=E,12nm,0.5s
KOTS **Kotyrbulak** **5.80 251** *e*Pg **Pg** **14 21 13.2** **-0.3**
comp=E,8.6nm,1.6s
KOTS *e*Lg Lg 14 22 30.9
comp=E,33nm,0.8s
KTBS **Karatobe** **5.92 257** *e*Pg **Pg** **14 21 14.0** **-1.8**
comp=E,1.5nm,0.5s
KTBS *e*Lg Lg 14 22 31.9
comp=E,16nm,0.9s
TNSS **Tian-Shan** **6.00 250** *e*Pg **Pg** **14 21 16.2** **-1.0**
comp=E,1.7nm,0.7s
TNSS *e*Lg Lg 14 22 36.2
comp=E,3.8nm,0.7s
KUU **Kurty** **6.10 259** *e*Pg **Pg** **14 21 16.9** **-2.4**
comp=E,1.5nm,0.1s
KUU *e*Lg Lg 14 22 38.3
comp=E,11nm,0.6s
IZV **Izvestkoviy** **6.22 251** *e*Pg **Pg** **14 21 21.1** **-0.4**
comp=E,0.3nm,0.2s
IZV *e*Lg Lg 14 22 43.7
comp=E,4.2nm,0.4s
MTBS **Maitube** **6.30 252** *e*Pg **Pg** **14 21 22.4** **-0.8**
comp=E,1.1nm,0.2s
MTBS *e*Lg Lg 14 22 46.1
comp=E,9.3nm,0.5s
KRBS **Karabastau** **6.62 259** *e*Pg **Pg** **14 21 26.0** **-3.1**
comp=E,0.8nm,0.5s
KRBS *e*Lg Lg 14 22 52.3
comp=E,1.9nm,0.5s
KST **Kastek** **6.65 253** *e*Pg **Pg** **14 21 28.8** **-1.0**
comp=E,1.9nm,0.4s
KST *e*Lg Lg 14 22 57.2
comp=E,11nm,0.9s
KURBB **Kurchatov Arra** **6.69 324** ⇑Pn **Pn** **14 21 02.2** **+1.6**
comp=E,1.5nm,0.4s
KURBB ⇑Pg **Pb** **14 21 22.9** **+4.2**
comp=E,6.1nm,0.7s
KURBB ⇓Lg Lg 14 22 53.0
comp=E,113nm,0.8s
KURBB **Kurchatov Arra** **6.69 324** Pn **Pn** **14 21 02.0** **+1.4**
comp=E,0.2nm,0.3s,baz=137,slow=12,SNR=15
KURBB Pg **Pb** **14 21 20.6** **+1.9**
comp=E,0.3nm,0.3s,baz=135,slow=17,SNR=5.3
KURBB Sn **Sn** **14 22 17.5** **+0.7**
comp=E,0.3nm,0.3s,baz=246,slow=10,SNR=4.6
KURBB Lg Lg 14 22 51.9
comp=E,0.5nm,0.3s,baz=150,slow=32,SNR=10
comp=E,1.0nm,0.4s
DGS **Degeres** **6.71 255** *e*Pg **Pg** **14 21 29.4** **-1.4**
comp=E,3.0nm,0.6s
DGS *e*Lg Lg 14 22 57.9
comp=E,13nm,0.7s
TKM2 **Tokmak 2** **6.95 253** ⇑Lg Lg 14 23 06.4
comp=E,8.8nm,0.7s
AAK **Ala-Archa** **7.80 253** Pg Pg 14 21 44.3 -7.5
comp=E,0.2nm,0.3s,baz=306,slow=13,SNR=1.5
AAK Lg Lg 14 23 33.0
comp=E,0.3nm,0.3s,baz=261,slow=19,SNR=1.3
ZALV **Zalesovo Beam** **8.61 1** Pn **Pn** **14 21 27.0** **0.0**
comp=E,0.6nm,0.3s,baz=187,slow=14,SNR=6.1
ZALV Sn **Sn** **14 23 01.2** **-3.0**
comp=E,1.3nm,0.3s,baz=179,slow=24,SNR=7.7
ZALV Lg Lg 14 23 50.5
comp=E,0.5nm,0.3s,baz=196,slow=27,SNR=6.2
comp=E,1.0nm,0.3s
BVAR **Borovoye Array** **12.07 315** Pn **Pn** **14 22 14.2** **-0.2**
baz=108,slow=11,SNR=5.1
BVAR Sn **Sn** **14 24 25.3** **-3.6**
baz=147,slow=22,SNR=4.1
BVAR Lg Lg 14 25 43.9
baz=233,slow=44,SNR=2.3
comp=E,0.8nm,0.6s
HHC **Hu-ho-hao-te** **20.12 93** *e*P Pn 14 24 02.4 +4.1
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,540nm,4.9s
WRA **Warramunga Arr** **79.12 133** P **P** **14 31 28.4** **+1.3**
comp=Z,0.3nm,0.8s,baz=334,slow=4.8,SNR=4.8
comp=Z,0.3nm,0.8s
ASAR **Alice Springs** **82.01 135** P **P** **14 31 43.8** **+1.2**
comp=Z,0.3nm,0.8s,baz=327,slow=5.3,SNR=4.3
comp=Z,0.3nm,0.8s

*IDC **15** 14:26:23.9±4.0,0°.45N×99°.90E,h168km±33km,mb3.4/9,*
mbtmp3.9/9,Error ellipse: s-maj=62.2km s-min=13.3km
az=53.0
*NEIC **15** 14:26:25.4±1.3,0°.60N±0°.06×100°.06E±0°.08,h177km±8km,*
mb4.0/6,Error ellipse: s-maj=12.5km s-min=6.8km
az=61.0
*DJA **15** 14:26:26.4±0.4,1°N±3°×10°0E±°,h168km±5km,M4.1/13,*
mb4.5/2,MLv3.9/13
ISC 15 14:26:25.1±0.6,**0°.60N**±0°.06×**100°.06E**±0°.05,**h177**km,**n41,**
σ0§85/41,mb3.9/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**1.02 106**		Pn	**Pn**	**14 26 53.2**	**+0.6**
BKNI Sn **Sn** **14 27 12.2** **-1.7**
BKNI **Bangkinang** **1.02 106** P **Pn** **14 26 53.4** **+0.7**
PDSI **Padang** **1.56 165** P **Pn** **14 26 58.4** **+1.0**
PDSI S **Sn** **14 27 23.0** **+0.5**
PBSI **Pulau Batu** **1.89 250** P **Pn** **14 27 01.7** **+0.9**
PBSI S **Sn** **14 27 27.5** **-0.9**
SDSI **Sungai Dareh** **2.05 138** P **Pn** **14 27 03.7** **+1.2**
SISI **Saibi** **2.15 207** P **Pn** **14 27 03.8** **+0.2**
RPSI **Rantau Prapat** **2.37 331** Pn **Pn** **14 27 05.7** **-0.4**
GSI **Gunungsitoli** **2.58 286** **Pn** **14 27 09.1** **+0.6**
GSI **Gunungsitoli** **2.58 286** P **Pn** **14 27 09.6** **+1.0**
PPSI **Pulau Pagai** **3.34 181** P **Pn** **14 27 17.6** **-0.3**
MYKOM **Kota Tinggi** **3.97 73** Pn **Pn** **14 27 26.5** **+0.7**
SNSI **Sinabang, Aceh** **4.14 296** P **Pn** **14 27 28.8** **+0.9**
MASI **Maura Aman, Be** **4.31 150** P **Pn** **14 27 30.3** **+0.1**
KULM **Kulim** **4.70 7** Pn **Pn** **14 27 35.4** **+0.3**
MLSI **Meulaboh, Aceh** **5.16 315** P **Pn** **14 27 41.9** **+0.8**
24nm,0.5s,0.4nm
MNAI **Manna** **5.72 150** P **Pn** **14 27 48.5** **+0.1**
H08S2 **Diego Garcia H** **28.68 253** T T 14 59 55.8
baz=72,slow=76
H08S3 **Diego Garcia H** **28.69 253** T T 14 59 54.2
baz=72,slow=76
H08S1 **Diego Carcia H** **28.70 253** T T 14 59 55.8
baz=72,slow=76
WB0 **Warramunga Arr** **39.27 123** P **P** **14 33 36.6** **-0.3**
WB0 IAmb IAmb 14 34 19.0
comp=Z,9.3nm,1.4s
WRA **Warramunga Arr** **39.31 123** P **P** **14 33 37.0** **-0.2**
comp=Z,0.8nm,0.5s,baz=303,slow=8.9,SNR=15
WRA PcP **PcP** **14 35 42.9** **+0.5**
comp=Z,0.5nm,1.0s,baz=310,slow=2.8,SNR=2.0
comp=Z,0.8nm,0.5s
WB2 **Warramunga Arr** **39.32 123** P **P** **14 33 37.0** **-0.3**
WB2 IAmb IAmb 14 33 55.9
comp=Z,3.5nm,1.2s
WR0 **Warramunga Arr** **39.48 123** P **P** **14 33 37.0** **-1.7**
WR0 IAmb IAmb 14 33 41.1
comp=Z,6.5nm,1.2s
ASAR **Alice Springs** **40.77 129** P **P** **14 33 48.6** **-0.7**
comp=Z,0.2nm,0.5s,baz=305,slow=7.6,SNR=7.6
ASAR PcP **PcP** **14 35 47.7** **+0.6**
comp=Z,0.5nm,1.1s,baz=306,slow=2.5,SNR=1.9
ASAR ScP **ScP** **14 39 19.8** **-0.3**
comp=Z,0.6nm,1.0s,baz=305,slow=4.4,SNR=4.5
comp=Z,0.2nm,0.5s
SONM **Songino Array** **47.37 6** P **P** **14 34 43.3** **+1.9**
comp=Z,0.4nm,0.5s,baz=182,slow=11,SNR=2.2
comp=Z,0.4nm,0.5s
MK31 **Makanchi Array** **48.56 344** P **P** **14 34 50.6** **+0.1**
MKAR **Makanchi Array** **48.56 344** P **P** **14 34 50.5** **+0.1**
MKAR **Makanchi Array** **48.56 344** P **P** **14 34 51.1** **+0.7**
comp=Z,1.4nm,0.4s,baz=162,slow=8.3,SNR=9.3
comp=Z,1.4nm,0.4s
KURBB **Kurchatov Arra** **53.09 343** P **P** **14 35 24.6** **+0.5**
comp=Z,0.5nm,0.4s,baz=158,slow=7.0,SNR=4.2
comp=Z,0.5nm,0.4s
ZALV **Zalesovo Beam** **54.64 349** P **P** **14 35 35.2** **-0.2**
comp=Z,1.1nm,0.4s,baz=151,slow=6.5,SNR=4.7
comp=Z,1.1nm,0.4s
BVAR **Borovoye Array** **57.78 339** P **P** **14 35 57.3** **-0.4**
comp=Z,2.1nm,0.5s,baz=140,slow=9.9,SNR=17
comp=Z,2.1nm,0.5s
BRVK **Borovoye** **57.85 339** P **P** **14 35 56.1** **-2.0**
BRVK IAmb IAmb 14 35 58.8
comp=Z,2.0nm,0.9s
ABKAR **Akbulak array** **59.41 331** P **P** **14 36 08.6** **-0.3**
H04N2 **CROZET ISLANDS** **62.92 216** T T 15 43 09.6
baz=55,slow=75,SNR=3.3
H04N1 **CROZET ISLANDS** **62.93 216** T T 15 43 09.9
baz=55,slow=75,SNR=3.4
H04N3 **CROZET ISLANDS** **62.94 216** T T 15 43 08.5
baz=55,slow=75,SNR=4.6
BRTR **Keskin Array B** **71.63 312** P **P** **14 37 26.4** **-1.4**
BRTR **Keskin Array B** **71.63 312** P **P** **14 37 27.5** **-0.2**
comp=Z,0.7nm,0.6s,baz=123,slow=5.3,SNR=4.0
comp=Z,0.7nm,0.6s
FINES **FINESS Array B** **81.85 332** P **P** **14 38 23.6** **-0.7**
FINES **FINESS Array B** **81.85 332** P **P** **14 38 25.1** **+0.8**
comp=Z,2.8nm,1.1s,baz=127,slow=5.0,SNR=5.7
comp=Z,2.8nm,1.1s
NC303 **NORSAR Array S** **88.84 331** **P** **14 38 59.0** **0.0**

*NEIC **15** 14:42:29.1±0.1,32°.1S±0°.2×179°.9W±0°.2,h190km±11km,*
mb4.3/8,Error ellipse: s-maj=32.3km s-min=21.9km
az=207.0
*IDC **15** 14:42:30.4±9.3,31°.82S×179°.28E,h147km±94km,mb3.7/4,*
mbtmp4.1/5,Error ellipse: s-maj=79.7km s-min=32.9km
az=1.0
*WEL **15** 14:42:40.7±0.7,33°S±13°×17°9W±3°1,h33km,M4.6/16,*
mB5.2/5,ML4.5/10,MLv4.6/16,Mw(mB)4.5/5,Error ellipse:
s-maj=0.0km s-min=0.0km az=111.5,confirmed
ISC 15 14:42:29.5±0.7,**31°.95S**±0°.06×**179°.98W**±0°.10,**h200**km,
n78,σ2§05/71,mb4.1/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.21**	**34**	P	Pn	14 43 37.1	+15
GLKZ S Sn 14 44 20.6 +18
RAO **Raoul Island** **3.22 34** Pn **Pn** **14 43 22.0** **+0.2**
MXZ **Matakaoa Point** **5.77 194** Pn **Pn** **14 43 55.1** **+1.4**
MXZ **Matakaoa Point** **5.77 194** P **Pn** **14 43 55.6** **+1.9**
KUZ **Kuaotunu** **5.96 215** P Pn 14 44 02.2 +6.1
WMGZ **Waiomatatini S** **6.00 192** P **Pn** **14 43 58.8** **+2.1**
HAZ **Te Kaha** **6.08 197** P **Pn** **14 44 00.4** **+2.8**
HAZ S **Sn** **14 45 06.6** **-0.9**
PKGZ **Pakihiroa** **6.13 195** P **Pn** **14 44 00.1** **+1.6**
PUZ **Puketiti** **6.28 193** P **Pn** **14 44 01.2** **+1.0**
RUGZ **Raukumara Rang** **6.30 197** P **Pn** **14 44 02.9** **+2.2**
TWGZ **Tauwhareparae** **6.43 195** P **Pn** **14 44 04.3** **+2.0**
OPRZ **Ohinepanea** **6.53 205** P **Pn** **14 44 08.0** **+4.5**
MARZ **Manawahe** **6.62 204** P Pn 14 44 10.1 +5.4
MWZ **Matawai** **6.69 197** P **Pn** **14 44 06.4** **+0.8**
TKGZ **Te Karaka** **6.71 195** P **Pn** **14 44 06.1** **+0.2**
URZ **Urewera** **6.73 200** P **Pn** **14 44 07.3** **+1.2**
URZ S **Sn** **14 45 20.4** **-2.4**
URZ **Urewera** **6.73 200** P **Pn** **14 44 06.8** **+0.7**
13nm,0.3s,baz=355,slow=5.4,SNR=59

URZ			S		Sn	14 45 19.8	-3.0
	12nm,0.4s,baz=348,slow=23,SNR=16						
RIGZ	Rimuhau	6.99 195	P		Pn	14 44 11.1	+1.6
RRRZ	Republican Roa	6.99 203	P		Pn	14 44 14.8	+5.2
MUGZ	Murupara	7.03 201	P		Pn	14 44 14.1	+4.0
RTZ	Ruatahuna	7.10 200	P		Pn	14 44 12.0	+1.0
SNGZ	Shannon Statio	7.16 197	P		Pn	14 44 13.9	+2.2
PRGZ	Paritu Road	7.17 193	P		Pn	14 44 14.2	+2.3
PRRZ	Plateau Road	7.18 203	P		Pn	14 44 16.7	+4.8
ALRZ	Allen Road	7.25 203	P		Pn	14 44 17.1	+4.2
KNZ	Kokohu	7.31 195	P		Pn	14 44 14.3	+0.6
TLZ	Tolley Road	7.35 209	P		Pn	14 44 20.8	+6.6
RAHZ	Arahi	7.35 198	P		Pn	14 44 16.8	+2.6
MTHZ	Maungataniwha	7.36 200	P		Pn	14 44 15.9	+1.6
MHGZ	Mahia Peninsul	7.39 193	P		Pn	14 44 16.3	+1.6
WHHZ	Waihua	7.46 197	P		Pn	14 44 18.6	+3.0
MRHZ	Matea Rd	7.47 202	P		Pn	14 44 17.7	+1.9
NMHZ	Naumai	7.60 199	P		Pn	14 44 20.8	+3.3
ARHZ	Aropaoanui	7.70 198	P		Pn	14 44 18.5	-0.3
BKZ	Black Stump Fm	7.75 201	Pn		Pn	14 44 18.5	-0.9
BKZ	Black Stump Fm	7.75 201	P		Pn	14 44 19.0	-0.5
RITZ	Rihia Road	7.79 205	P		Pn	14 44 23.9	+4.0
HIZ	Hauiti	7.79 211	P		Pn	14 44 26.4	+6.5
TMVZ	Te Maari	7.97 205	P		Pn	14 44 25.1	+2.8
ETVZ	East Tongariro	7.98 205	P		Pn	14 44 25.7	+3.2
NNVZ	North Ngauruho	8.01 205	P		Pn	14 44 27.2	+4.3
TWVZ	Taurewa	8.03 206	P		Pn	14 44 26.6	+3.5
CKHZ	Cape Kidnapper	8.05 196	P		Pn	14 44 25.0	+1.7
NGZ	Ngauruhoe	8.06 205	P		Pn	14 44 26.8	+3.2
WHVZ	Whangaehu Hut	8.16 205	P		Pn	14 44 26.5	+1.6
BHHZ	Black Hill Sta	8.18 202	P		Pn	14 44 26.9	+1.9
WNVZ	Wahianoa	8.19 205	P		Pn	14 44 27.7	+2.4
MOVZ	Moawhango	8.21 204	P		Pn	14 44 26.5	+1.0
KRHZ	Kereru	8.23 200	P		Pn	14 44 26.4	+0.8
KAHZ	Kahuranaki	8.23 197	P		Pn	14 44 27.7	+2.0
PKVZ	Pokaka	8.25 206	P		Pn	14 44 28.1	+2.2
PXZ	Pawanui	8.46 197	P		Pn	14 44 27.8	-0.8
PNHZ	Pukenui	8.53 200	P		Pn	14 44 30.4	+0.9
PRHZ	Porangahau	8.74 197	P		Pn	14 44 33.3	+1.1
ANWZ	Angora Road	8.96 198	P		Pn	14 44 35.8	+0.7
PRWZ	Pori Road	9.19 200	P		Pn	14 44 38.8	+0.7
BFZ	Birch Farm	9.23 198	P		Pn	14 44 38.7	+0.1
MRZ	Mangatainoka R	9.40 201	Pn		Pn	14 44 40.6	-0.2
TIWZ	Tintock	9.42 200	P		Pn	14 44 41.2	+0.2
QRZ	Quartz Range	10.71 212	Pn		Pn	14 44 56.1	-1.8
CTZ	Chatham Island	12.06 168	P		P	14 45 32.4	+13
INZ	Inchbonnie	12.73 210	Pn		Pn	14 45 20.4	-3.0
RPZ	Rata Peaks	13.71 208	P		Pn	14 45 30.1	-5.5
	8.9nm,0.7s,baz=45,slow=20,SNR=1.4						
RPZ			S		S	14 47 50.4	-18
	5.3nm,0.7s,baz=123,slow=22,SNR=6.8						
LBZ	Lake Benmore	14.61 209	Pn		Pn	14 45 44.1	-2.7
STKA	Stephens Creek	32.51 260	P		P	14 48 42.7	+1.3
	1.1nm,0.7s,baz=104,slow=12,SNR=1.9						
	1.1nm,0.7s						
BBOO	Buckleboo	36.94 257	P		P	14 49 19.6	+0.2
BBOO			IAmb		IAmb	14 49 31.2	
	comp=Z,16nm,1.5s						
AS31	Alice Springs	41.37 270	P		P	14 49 56.6	+0.4
ASAR	Alice Springs	41.37 270	P		P	14 49 56.7	+0.5
ASAR	Alice Springs	41.37 270	P		P	14 49 56.9	+0.7
	comp=Z,1.0nm,0.5s,baz=108,slow=7.6,SNR=38						
	comp=Z,1.0nm,0.5s						
WR0	Warramunga Arr	42.32 275	P		P	14 50 04.6	+0.7
WR0			IAmb		IAmb	14 50 40.5	
	comp=Z,11nm,1.4s						
WB2	Warramunga Arr	42.49 275	P		P	14 50 05.9	+0.6
WRAB	Tennant Creek	42.49 275	P		P	14 50 06.0	+0.7
WRAB			IAmb		IAmb	14 50 06.6	
	comp=Z,13nm,1.5s						
WRA	Warramunga Arr	42.50 275	P		P	14 50 06.1	+0.8
	comp=Z,1.6nm,0.3s,baz=115,slow=8.0,SNR=78						
	comp=Z,1.6nm,0.3s						
WB0	Warramunga Arr	42.53 275	P		P	14 50 06.2	+0.6
WB0			IAmb		IAmb	14 50 38.0	
	comp=Z,16nm,1.5s						
KNRA	Kununurra	49.17 277	P		P	14 50 58.6	+1.1
MAW	Mawson	70.26 201	P		P	14 53 21.1	+0.7
SNAA	Sanae	76.65 179	P		P	14 53 56.3	-1.4
TXAR	Lajitas Array	94.65 58	P		P	14 55 35.8	+7.8
	comp=Z,0.3nm,0.4s,baz=186,slow=2.7,SNR=1.8						
	comp=Z,0.3nm,0.4s						

IDC 15 15:18:15.1±7.1,3°.21N×127°.79E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=144.2km s-min=110.8km az=77.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.89	165	P	P	15 23 30.6	-0.1
	0.4nm,0.4s,baz=344,slow=11,SNR=21						
	0.4nm,0.4s						
ASAR	Alice Springs	27.37	168	P	P	15 24 02.6	+0.3
	0.3nm,0.5s,baz=354,slow=7.8,SNR=18						
	0.3nm,0.5s						
STKA	Stephens Creek	37.28	160	P	P	15 25 28.4	-0.5
	0.6nm,0.6s,baz=333,slow=9.0,SNR=1.6						
	0.6nm,0.6s						

*AEIC **15** 16:09:25.5±1.0,63°.18N±0°.05×172°.3W±0°.3,h32km±8km, Error ellipse: s-maj=17.2km s-min=7.2km az=88.0*

NEIC 15 16:09:26.4±1.1,63°.17N±0°.05×172°.4W±0°.2,h16km±7km, ML3.7(AEIC),**Error ellipse: s-maj=16.0km s-min=6.1km az=108.0,Bering Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	Gambell	0.67	25		Pg	16 09 39.0	-0.6
GAMB					Sb	16 09 49.2	+0.4
TNA	Tin City	3.08	37		Pn	16 10 13.5	-0.6
TNA					Sn	16 10 49.1	-1.4
ANM	Nome	3.39	63		Pn	16 10 18.4	-0.1
ANM					Sn	16 10 57.7	-0.6
F14K	Arctic Creek	3.50	46		Pn	16 10 18.8	-1.2
J14K	Nanvaranak Lak	4.04	92		Pn	16 10 27.0	-0.4
J14K					Sn	16 11 13.2	-1.1
M11K	Mekoryuk	4.04	131		Pn	16 10 27.6	+0.2
M11K					Sn	16 11 13.5	-0.8
G15K	Niukluk	4.08	60		Pn	16 10 27.8	-0.2
G15K					Sn	16 11 15.4	+0.1
F15K	North Star Dit	4.20	49		Pn	16 10 29.4	-0.2
F15K					Sn	16 11 18.2	0.0
L14K	Kuka Creek	4.88	108		Pn	16 10 39.3	+0.5
K15K	Wolf Creek Mou	5.05	95		Pn	16 10 41.0	-0.3
M13K	Dall Lake	5.08	119		Pn	16 10 41.1	-0.6
I17K	Unalakleet	5.26	77		Pn	16 10 43.2	-1.0
J16K	Anvik River	5.31	84		Pn	16 10 44.5	-0.4
M14K	Bethel	5.47	112		Pn	16 10 45.9	-1.1
H17K	Granite Mounta	5.74	67		Pn	16 10 50.5	-0.3
C16K	Lisburne Hills	5.88	26		Pn	16 10 52.4	-0.3
M15K	Kasigluk River	6.04	109		Pn	16 10 54.8	-0.1
SPIA	Saint Paul Isl	6.10	169		Pn	16 10 56.1	+0.3
L16K	Owhat River	6.15	98		Pn	16 10 56.7	+0.3
K17K	Iditarod	6.43	88	Pn	Pn	16 11 00.4	+0.2
H18K	Honhosa River	6.43	66	Pn	Pn	16 11 00.7	+0.5
E18K	Tukpahlearik C	6.51	44	Pn	Pn	16 11 01.4	+0.1
N15K	Kwethluk River	6.56	112		Pn	16 11 02.1	0.0
O14K	Tigyukauivet M	6.64	121	Pn	Pn	16 11 03.1	0.0
M16K	Timber Creek	6.64	103		Pn	16 11 02.8	-0.4
N16K	Nishlik Lake	6.97	107		Pn	16 11 08.3	+0.6
J18K	Innoko River	7.05	81		Pn	16 11 08.6	-0.1
C18K	Utukok River	7.14	35	Pn	Pn	16 11 09.7	-0.2
M17K	Holitna River	7.17	98		Pn	16 11 11.2	+0.7
F19K	Shaleruckik Mo	7.18	53	Pn	Pn	16 11 10.2	-0.3
G19K	Purcell Mounta	7.19	59	Pn	Pn	16 11 10.2	-0.4
H19K	Roundabout Mou	7.29	64	Pn	Pn	16 11 12.0	0.0
TTA	Tatalina	7.43	85	Pn	Pn	16 11 13.6	-0.4
J19K	Poorman	7.50	76	Pn	Pn	16 11 14.9	0.0
E19K	Redstone River	7.64	49	Pn	Pn	16 11 17.2	+0.4
N17K	Nushagak Hills	7.64	103		Pn	16 11 17.5	+0.7
M18K	Stony River	7.87	95		Pn	16 11 21.0	+1.0
D19K	Kuna River	7.90	41	Pn	Pn	16 11 20.7	+0.3
F20K	Avaraart Lake	8.01	54	Pn	Pn	16 11 22.4	+0.7
O17K	Koliganek Bris	8.05	108		Pn	16 11 23.3	+0.9
SVW2	Sparrevohn	8.12	97	Pn	Pn	16 11 23.0	-0.4
J20K	Nowinta River	8.15	75	Pn	Pn	16 11 23.4	-0.4
N18K	Kilae Creek	8.15	100	Pn	Pn	16 11 24.1	+0.2
M19K	Big River Lodg	8.39	91	Pn	Pn	16 11 27.0	-0.1
O18K	Koktuh Hills	8.83	104	Pn	Pn	16 11 33.6	+0.4
M20K	Styx River	8.97	90	Pn	Pn	16 11 35.7	+0.5
B20K	Meade River	9.12	35	Pn	Pn	16 11 37.1	+0.1
CAST	Castle Rocks	9.12	79	Pn	Pn	16 11 37.5	+0.3
BPAW	Bear Paw Mtn.	9.54	75	Pn	Pn	16 11 42.6	-0.2
Q19K	Cape Douglas,	10.00	107	Pn	Pn	16 11 49.2	+0.1
NEA2	Nenana	10.34	72	Pn	Pn	16 11 54.1	+0.2
C23K	Itkillik River	10.89	43	Pn	Pn	16 12 01.1	-0.2

*SJA **15** 16:12:32.9±0.5,23°.02S×66°.57W,h259km±5km,ML3.9, MW3.7*

*NEIC **15** 16:12:36.1±1.1,23°.13S±0°.08×66°.9W±0°.2,h256km±10km, mb4.3/3,ML3.9(GUC),Error ellipse: s-maj=24.2km s-min=10.9km az=90.0*

*GUC **15** 16:12:36.5±0.4,23°.06S×66°.89W,h250km±6km,ML3.9*

ISC 15 16:12:34.9±0.8,23°.09S±0°.04×66°.77W±0°.06,h244km±9km, n67,σ1§22/94,2C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	1.31	276	Pn	Pn	16 13 11.7	+0.1
YJA	Yavi	1.47	52	eP	Pn	16 13 11.7	-1.3
AZAP	Zapla	1.93	126	eP	Pn	16 13 14.6	-2.0
SLA	San Lorenzo	2.00	145	eP	Pn	16 13 17.3	+0.3
LVC	Limon Verde	2.03	283	Pn	Pn	16 13 18.3	+0.6
LVC	Limon Verde	2.03	283	||eP	Pn	16 13 18.2	+0.6
LVC				i S	S	16 13 50.1	-1.0
LVC				IAML		16 13 56.5	
	226nm,0.1s						
LVC	Limon Verde	2.03	283	eP	Pn	16 13 18.4	+0.8
LVC				eS	S	16 13 52.6	+1.5
ASTB	Santa Barbara	2.29	112	eP	Pn	16 13 18.0	-1.8
PB15	IPOC Station P	2.49	267		Pn	16 13 22.5	+0.7
PB15	IPOC Station P	2.49	267	eP	Pn	16 13 22.8	+0.9
PB15				i S	S	16 13 58.2	-0.6
PB15	IPOC Station P	2.49	267	eP	Pn	16 13 23.4	+1.5
PB15				eS	S	16 13 58.6	-0.3
PB06	IPOC Station P	2.61	278		Pn	16 13 23.7	+0.6
PB06	IPOC Station P	2.61	278	eP	Pn	16 13 23.9	+0.8
PB06				i S	S	16 13 59.8	-1.2
PB06				IAML		16 14 02.7	
	comp=E,320nm,0.2s						
PB06	IPOC Station P	2.61	278	eP	Pn	16 13 24.2	+1.1
PB06				eS	S	16 14 00.8	-0.3
PB06				IAML		16 14 05.4	
	comp=Z,150nm,0.3s						
PB09	IPOC Station P	2.62	299		Pn	16 13 24.7	+1.5
PB09	IPOC Station P	2.62	299	eP	Pn	16 13 24.6	+1.3
PB09				i S	S	16 14 00.6	-0.7
PB09				IAML		16 14 02.8	
	comp=N,149nm,0.7s						
PB09	IPOC Station P	2.62	299	eP	Pn	16 13 24.5	+1.2
PB09				eS	S	16 14 01.7	+0.4
PB09				IAML		16 14 02.8	
	comp=Z,115nm,0.7s						
ALOL	LOMAS DE OLMED	2.66	106	eP	Pn	16 13 21.2	-2.2
FSA	Cafayete	3.10	167	eP	Pn	16 13 28.1	-0.2
PB07	IPOC Station P	3.19	295		Pn	16 13 30.2	+0.9
PB07	IPOC Station P	3.19	295	eP	Pn	16 13 30.2	+0.9
PB07				i S	S	16 14 10.1	-2.2
PB07	IPOC Station P	3.19	295	eP	Pn	16 13 30.1	+0.7
PB07				eS	S	16 14 11.0	-1.3
PB07				IAML		16 14 12.8	
	comp=Z,212nm,0.3s						
PB04	IPOC Station P	3.21	283		Pn	16 13 30.4	+0.8
PB04	IPOC Station P	3.21	283	||eP	Pn	16 13 30.6	+1.0
PB04				i S	S	16 14 11.3	-1.4
PB04	IPOC Station P	3.21	283	eP	Pn	16 13 30.4	+0.8
PB04				eS	S	16 14 11.0	-1.7
PB04				IAML		16 14 14.9	
	comp=Z,216nm,0.1s						
PB01	IPOC Station P	3.24	308		Pn	16 13 30.5	+0.8
PB01	IPOC Station P	3.24	308	eP	Pn	16 13 30.8	+1.0
PB01				i S	S	16 14 12.1	-1.1
PB01	IPOC Station P	3.24	308	eP	Pn	16 13 30.6	+0.8
PB01				eS	S	16 14 12.4	-0.8
PB01				IAML		16 14 14.1	
	comp=Z,144nm,0.2s						
GO02	Mina Guanaco	3.31	231	Pn	Pn	16 13 31.5	+0.9
GO02	Mina Guanaco	3.31	231	eP	Pn	16 13 31.6	+0.9
GO02				i S	S	16 14 14.3	-0.5
GO02	Mina Guanaco	3.31	231	eP	Pn	16 13 31.9	+1.2
GO02				eS	S	16 14 14.6	-0.2
PB02	IPOC Station P	3.39	301		Pn	16 13 32.0	+0.4
PB02	IPOC Station P	3.39	301	||eP	Pn	16 13 32.2	+0.7
PB02				i S	S	16 14 14.1	-2.1
PB02	IPOC Station P	3.39	301	eP	Pn	16 13 32.2	+0.7
PB02				eS	S	16 14 14.2	-2.0
PB02				IAML		16 14 16.7	
	comp=Z,266nm,0.2s						
PB14	IPOC Station P	3.66	245	Pn	Pn	16 13 35.2	+0.3
PB14	IPOC Station P	3.66	245	eP	Pn	16 13 35.7	+0.9
PB14				i S	S	16 14 20.3	-1.9
PB14	IPOC Station P	3.66	245	eP	Pn	16 13 35.7	+0.9
PB14				eS	S	16 14 21.3	-1.0
PB14				IAML		16 14 24.2	
	comp=Z,134nm,0.3s						
PB08	IPOC Station P	3.67	322	Pn	Pn	16 13 36.9	+1.8
PB08	IPOC Station P	3.67	322	eP	Pn	16 13 36.6	+1.5
PB08				i S	S	16 14 22.4	-0.3
PATCX	Punta Patache	3.87	305	Pn	Pn	16 13 38.0	+1.0
PATCX	Punta Patache	3.87	305	eP	Pn	16 13 37.4	+0.4
PATCX				i S	S	16 14 24.1	-2.1
PATCX	Punta Patache	3.87	305	eP	Pn	16 13 37.6	+0.6
PATCX				eS	S	16 14 25.3	-0.9
HMBC	Humberstone	4.03	313	eP	Pn	16 13 39.4	+0.4
HMBC				i S	S	16 14 27.2	-2.5
HMBC	Humberstone	4.03	313	eP	Pn	16 13 39.1	+0.1
HMBC				eS	S	16 14 27.3	-2.4
TA01	Diego Aracena	4.04	308	Pn	Pn	16 13 40.4	+1.4
TA01	Diego Aracena	4.04	308	eP	Pn	16 13 40.8	+1.8
TA01				i S	S	16 14 26.8	-3.0
TA01	Diego Aracena	4.04	308	eP	Pn	16 13 40.8	+1.8
TA01				eS	S	16 14 27.7	-2.1
TA01				IAML		16 14 29.4	
	comp=Z,51nm,0.5s						
GO01	Chusmiza	4.08	326	Pn	Pn	16 13 41.0	+1.0
GO01	Chusmiza	4.08	326	eP	Pn	16 13 41.6	+1.6
GO01				i S	S	16 14 30.3	-1.2
GO01	Chusmiza	4.08	326	eP	Pn	16 13 41.8	+1.8
GO01				eS	S	16 14 32.1	+1.0
TA02	Huaiquique	4.20	311	Pn	Pn	16 13 41.2	+0.4
AC01	Pan de Azucar	4.63	228	Pn	Pn	16 13 46.2	+0.2
AC01	Pan de Azucar	4.63	228	eP	Pn	16 13 45.9	-0.1
AC01				eS	S	16 14 39.6	-2.9
AC06	Mina Casimiro	5.35	217	Pn	Pn	16 13 54.4	-0.5
PB16	IPOC Station P	5.38	331	Pn	Pn	16 13 57.0	+1.1
CYA	Choya	5.40	171	eP	Pn	16 13 56.4	+0.9
GO03	Copiap	5.47	214	Pn	Pn	16 13 56.0	-0.4
PB12	IPOC Station P	5.56	323	Pn	Pn	16 13 57.1	-0.5
LCO	Las Campanas	6.88	210	Pn	Pn	16 14 13.7	-0.5
LPAZ	La Paz	6.88	349	Pn	Pn	16 14 15.9	+1.2
CO01	Juntas del Tor	7.48	203	Pn	Pn	16 14 22.4	+0.6
GO05	Huala	12.71	200		Pn	16 15 28.0	+0.6
ETMB	Extrema	13.21	2		Pn	16 15 34.5	+0.8
SAML	Samuel	14.47	14		P	16 15 50.6	+1.2
TRQA	Tornquist	15.48	166	P	P	16 16 00.8	+0.6
TRQA				IAmb	IAmb	16 16 08.4	
	comp=Z,5.4nm,1.1s						
SALI	Salinas	24.94	324	P	P	16 17 34.4	-1.8
SALI				IAmb	IAmb	16 18 01.7	
	comp=Z,60nm,1.2s						
SOR	Soroa	48.26	340	P	P	16 20 50.9	-0.7
SOR				IAmb	IAmb	16 21 33.0	
	comp=Z,20nm,1.3s						

*NEIC **15** 16:35:46.1±1.4,19°.3N±0°.2×143°.2E±0°.2,h10km±2km, mb4.4/16,Error ellipse: s-maj=34.4km s-min=19.8km az=232.0*

*IDC **15** 16:36:27.9±2.0,21°.71N×143°.14E,h274km±17km, mb3.3/14,mbtmp4.0/16,Error ellipse: s-maj=21.4km s-min=14.6km az=75.0*

ISC 15 16:36:30.3±0.7,21°.78N±0°.09×142°.9E±0°.2,h300km,n38, σ1§63/42,mb3.8/19,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.34	353	P	Pn	16 37 50.3	-1.4
	26nm,0.4s,baz=251,slow=23,SNR=11						
JCJ				S	S	16 38 54.4	-2.8
	46nm,0.7s,baz=261,slow=23,SNR=6.6						
JMN	Monobe	14.33	328	Pn	P	16 39 38.0	-2.1
JMN				IAmb	IAmb	16 39 58.2	
	comp=Z,31nm,1.2s						
INU	Inuyama	14.47	340	Pn	P	16 39 42.6	+1.1
MJAR	Matsushiro Arr	15.27	345	P	P	16 39 51.4	+1.1
	comp=Z,1.3nm,0.4s,baz=169,slow=11,SNR=11						
MAJO	Matsushiro	15.27	345		Pn	16 39 52.8	+0.9
MJB9	Matsu-Tunnel	15.28	345	P	Pn	16 39 53.6	+1.7
JNU	Nakatsue	15.54	319	Pn	P	16 39 50.3	-3.0
JNU				IAmb	IAmb	16 39 53.7	
	comp=Z,55nm,1.5s						
KSRS	Korea Array	20.30	324	P	P	16 40 45.8	+1.6
KSRS	Korea Array	20.30	324	P	P	16 40 45.8	+1.6
	comp=Z,0.7nm,0.6s,baz=148,slow=8.5,SNR=5.3						
	comp=Z,0.7nm,0.6s						
WRA	Warramunga Arr	42.30	192	P	P	16 43 54.6	-0.8
	comp=Z,1.8nm,0.8s,baz=15,slow=9.6,SNR=5.5						
	comp=Z,1.8nm,0.8s						
ASAR	Alice Springs	46.01	192	P	P	16 44 23.8	-0.9
	comp=Z,0.2nm,0.5s,baz=18,slow=10,SNR=1.8						
	comp=Z,0.2nm,0.5s						
ZALV	Zalesovo Beam	53.99	322	P	P	16 45 25.7	+1.8
	comp=Z,0.4nm,0.3s,baz=122,slow=7.0,SNR=2.1						
ZALV				PcP	PcP	16 46 25.2	+0.5
	comp=Z,1.1nm,0.5s,baz=94,slow=4.3,SNR=2.8						
	comp=Z,0.4nm,0.3s						
MKAR	Makanchi Array	54.46	313	P	P	16 45 29.4	+2.0
MKAR	Makanchi Array	54.46	313	P	P	16 45 29.6	+2.2
	comp=Z,0.4nm,0.6s,baz=89,slow=9.4,SNR=4.1						
MKAR				PcP	PcP	16 46 27.2	+0.4
	comp=Z,0.3nm,0.4s,baz=57,slow=6.0,SNR=4.4						
	comp=Z,0.4nm,0.6s						
K15K	Wolf Creek Mou	55.12	28	P	P	16 45 33.6	+1.8
K17K	Iditarod	56.68	28	P	P	16 45 43.8	+1.1
KURBB	Kurchatov Arra	57.30	317	P	P	16 45 48.9	+1.7
	comp=Z,1.3nm,0.4s,baz=94,slow=7.5,SNR=15						
KURBB				PcP	PcP	16 46 38.2	+0.5
	comp=Z,0.3nm,0.2s,baz=94,slow=3.5,SNR=2.2						
	comp=Z,1.3nm,0.4s						
J19K	Poorman	58.21	27	P	P	16 45 54.7	+1.4
J19K				IAmb	IAmb	16 46 33.1	
	comp=Z,6.2nm,1.5s						
CAST	Castle Rocks	59.59	28	P	P	16 46 04.1	+1.2
ILAR	Eielson Array	62.08	27	P	P	16 46 18.9	-0.5
	comp=Z,0.3nm,0.7s,baz=258,slow=5.7,SNR=5.4						
	comp=Z,0.3nm,0.7s						
BVAR	Borovoye Array	62.45	319	P	P	16 46 23.9	+1.8
	comp=Z,3.3nm,0.3s,baz=95,slow=7.3,SNR=38						
	comp=Z,3.3nm,0.3s						
BRVK	Borovoye	62.51	320	P	P	16 46 23.9	+1.4
BRVK				IAmb	IAmb	16 46 25.0	
	comp=Z,1.5nm,0.6s						
KKAR	Karatay Array	62.81	308	P	P	16 46 22.7	-1.9
I28M	Miner Creek	65.07	27	P	P	16 46 40.3	+1.3
I28M				IAmb	IAmb	16 46 41.2	
	comp=Z,3.4nm,1.1s						
H29M	Whitestone	65.74	26	P	P	16 46 44.5	+1.4
H29M				IAmb	IAmb	16 47 06.2	
	comp=Z,4.8nm,1.4s						
ABKAR	Akbulak array	69.32	316	P	P	16 47 06.7	+1.1
YKA	Yellowknife Ar	76.50	28	P	P	16 47 47.9	+0.6
	comp=Z,0.9nm,0.7s,baz=299,slow=5.7,SNR=4.1						
	comp=Z,0.9nm,0.7s						
ARCES	ARCESS Array B	78.77	341	P	P	16 48 01.2	+1.6
ARCES	ARCESS Array B	78.77	341	P	P	16 48 00.2	+0.5
	comp=Z,2.2nm,0.7s,baz=70,slow=8.9,SNR=14						
	comp=Z,2.2nm,0.7s						
FINES	FINESS Array B	83.00	334	P	P	16 48 22.1	+0.1
FINES	FINESS Array B	83.00	334	P	P	16 48 22.1	+0.1
	comp=Z,1.6nm,0.5s,baz=58,slow=5.2,SNR=20						
	comp=Z,1.6nm,0.5s						
NVAR	Mina Array Bea	83.29	51	P	P	16 48 23.8	-0.5
	comp=Z,0.7nm,0.8s,baz=269,slow=4.5,SNR=4.5						
	comp=Z,0.7nm,0.8s						
BW06	Boulder Array	87.51	45	P	P	16 48 41.4	-3.6
BW06				IAmb	IAmb	16 49 18.3	
	comp=Z,4.6nm,1.5s						
PD31	Pinedale Array	87.51	45	P	P	16 48 41.3	-3.6
PD31				IAmb	IAmb	16 49 18.3	
	comp=Z,3.7nm,1.4s						
HFS	Hagfors	88.56	337	P	P	16 48 48.5	-0.6
	comp=Z,6.0nm,1.1s,baz=57,slow=5.3,SNR=5.2						
	comp=Z,6.0nm,1.1s						
BRTR	Keskin Array B	90.11	313	P	P	16 48 57.2	+0.2
	comp=Z,0.6nm,0.8s,baz=32,slow=5.6,SNR=2.4						
	comp=Z,0.6nm,0.8s						
PLCA	Paso Flores	146.00	131	PKPbc	PKPbc	16 55 35.2	0.0
	comp=Z,1.7nm,0.6s,baz=225,slow=5.8,SNR=7.2						
LPAZ	La Paz	150.18	85	PKPbc	PKiKP	16 55 48.0	-0.1
	baz=294,slow=1.9						

*NEIC **15** 16:36:36.2±1.5,8°.07S±0°.06×154°.59E±0°.07,h10km±1km, mb4.6/13,Error ellipse: s-maj=12.3km s-min=8.3km az=125.0*

*IDC **15** 16:36:40.

comp=Z,11nm,0.9s
MJAR Matsushiro Arr 46.98 342 P **P 16 45 07.4 +0.1**
comp=Z,1.1nm,0.9s,baz=173,slow=11,SNR=2.3
MJAR LR LR 17 04 55.5
comp=Z,10nm,18.3s,baz=189,slow=36
comp=Z,1.1nm,0.9s
KSRS Korea Array 51.70 333 P **P 16 45 43.9 +0.6**
comp=Z,3.3nm,0.8s,baz=150,slow=8.5,SNR=9.7
KSRS LR LR 17 08 05.7
comp=Z,7.0nm,18.0s,baz=170,slow=36
comp=Z,3.3nm,0.8s
ASAJ Asahikawa 53.09 349 LR LR 17 06 54.2
comp=Z,35nm,20.4s,baz=200,slow=34
PPT Papeete 55.17 106 LR LR 17 04 19.9
comp=Z,35nm,21.7s,baz=276,slow=30
USRK Ussuriysk Ar. 55.91 341 P **P 16 46 13.6 -0.4**
USRK Ussuriysk Ar. 55.91 341 P **P 16 46 14.6 +0.6**
comp=Z,4.9nm,1.0s,baz=155,slow=4.8,SNR=7.0
comp=Z,4.9nm,1.0s
USA0B Ussuriysk Arra 55.91 341 P **P 16 46 13.7 -0.2**
USA0B IAmb IAmb 16 46 26.6
comp=Z,12nm,1.1s
KLR Kul'dur 60.48 343 LR LR 17 11 30.9
comp=Z,14nm,20.5s,baz=155,slow=34
CMAR Chiang Mai Arr 60.82 296 P **P 16 46 47.4 -1.5**
comp=Z,0.6nm,0.5s,baz=130,slow=5.1,SNR=6.0
comp=Z,0.6nm,0.5s
PETK Petropavlovsk- 61.04 2 P **P 16 46 51.5 +1.8**
comp=Z,2.5nm,0.8s,baz=211,slow=8.1,SNR=2.6
comp=Z,2.5nm,0.8s
SHEM Shemya Is, Ala 62.88 13 LR LR 17 09 53.0
comp=Z,66nm,19.6s,baz=253,slow=32
PBA Port Blair 64.47 287 P **P 16 47 13.5 +0.3**
MA2 Magadan 67.53 358 LR LR 17 14 39.6
comp=Z,12nm,21.2s,baz=176,slow=34
SONM Songino Array 70.01 328 P **P 16 47 48.7 +0.8**
comp=Z,2.1nm,0.9s,baz=126,slow=5.1,SNR=7.6
comp=Z,2.1nm,0.9s
H19K Roundabout Mou 81.79 19 P **P 16 48 54.1 -0.3**
H19K IAmb IAmb 16 49 00.1
comp=Z,6.4nm,1.1s
QSPA South Pole Qui 81.87 180 P **P 16 48 54.8 -0.4**
QSPA IAmb IAmb 16 49 05.0
comp=Z,5.2nm,1.1s
QSPA South Pole Qui 81.87 180 P **P 16 48 55.0 -0.2**
comp=Z,1.9nm,0.9s,baz=320,slow=0.9,SNR=5.8
comp=Z,1.9nm,0.9s
IMAR Indian Mountai 82.94 19 P **P 16 49 00.4 -0.2**
MAW Mawson 83.18 203 P **P 16 49 03.0 +1.2**
MAW Mawson 83.18 203 P **P 16 49 02.3 +0.5**
comp=Z,1.0nm,1.0s,baz=62,slow=17,SNR=1.6
comp=Z,1.0nm,1.0s
MKAR Makanchi Array 83.91 319 **P 16 49 06.4 +0.4**
MKAR Makanchi Array 83.91 319 P **P 16 49 04.8 -1.2**
comp=Z,1.5nm,0.8s,baz=109,slow=5.6,SNR=11
comp=Z,1.5nm,0.8s
ILAR Eielson Array 84.59 22 P **P 16 49 07.5 -1.5**
comp=Z,0.4nm,0.6s,baz=236,slow=6.4,SNR=2.8
ILAR LR LR 17 21 27.1
comp=Z,56nm,20.0s,baz=262,slow=32
comp=Z,0.4nm,0.6s
ZALV Zalesovo Beam 84.83 326 **P 16 49 09.6 -0.8**
ZALV Zalesovo Beam 84.83 326 P **P 16 49 08.8 -1.6**
comp=Z,1.7nm,0.7s,baz=104,slow=6.1,SNR=6.1
ZALV LR LR 17 27 44.2
comp=Z,12nm,20.7s,baz=66,slow=36
comp=Z,1.7nm,0.7s
D22K Ayikyak River 85.06 17 P **P 16 49 11.2 -0.1**
D22K IAmb IAmb 16 49 20.7
comp=Z,9.4nm,1.1s
BCPM Bancas Point 85.27 27 P **P 16 49 11.5 -1.0**
KURBB Kurchatov Arra 87.43 322 P **P 16 49 23.6 +0.3**
comp=Z,0.9nm,0.2s,baz=117,slow=5.1,SNR=2.1
comp=Z,0.9nm,0.2s
AAK Ala-Archa 88.15 313 LR LR 17 28 14.8
comp=Z,16nm,20.6s,baz=42,slow=35
YBH Yreka Blue Hor 90.00 48 LR LR 17 22 52.7
comp=Z,38nm,20.8s,baz=290,slow=31
INK Inuvik 90.93 21 LR LR 17 25 24.2
comp=Z,35nm,19.7s,baz=184,slow=32
NVAR Mina Array Bea 92.80 52 P **P 16 49 49.5 +0.4**
comp=Z,0.8nm,0.8s,baz=232,slow=5.3,SNR=5.1
comp=Z,0.8nm,0.8s
BVAR Borovoye Array 92.88 323 P **P 16 49 49.5 +0.6**
comp=Z,0.5nm,0.5s,baz=88,slow=7.8,SNR=3.4
comp=Z,0.5nm,0.5s
NEW Newport 94.91 42 LR LR 17 27 03.5
comp=Z,21nm,18.9s,baz=302,slow=32
YKA Yellowknife Ar 97.55 28 LR LR 17 30 59.0
comp=Z,19nm,20.0s,baz=156,slow=33
SNAA Sanae 98.98 187 LR LR 17 34 11.2
comp=Z,23nm,18.1s,baz=188,slow=35
TORD Torodi Ar. Bea 152.81 283 PKPbc **PKPbc 16 56 33.2 -0.8**
comp=Z,0.5nm,0.6s,baz=47,slow=3.9,SNR=2.4
TORD PKPab **PKPab 16 56 44.9 -0.1**
comp=Z,2.0nm,0.7s,baz=54,slow=3.0,SNR=6.9

*AEIC **15** 16:41:45.4±1.4, 52°.3N±0°.1×175°.68W±0°.07, h180km±5km, Error ellipse: s-maj=20.4km s-min=3.4km az=166.0*
NEIC 15 16:41:45.9±1.3, 52°.3N±0°.1×175°.6W±0°.1, h188km±5km, mb4.0/47, ML3.0(AEIC), Error ellipse: s-maj=20.7km s-min=9.4km az=164.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**0.31**	**240**		Pn	16 42 10.7	-0.3
GSTR					Sn	16 42 29.6	-0.6
GSMY	**Great Sitkin M**	**0.33**	**232**		Pn	16 42 10.6	-0.5
GSMY					Sn	16 42 30.0	-0.3
GSCK	**Great Sitkin C**	**0.41**	**234**		Pn	16 42 11.0	-0.3
GSCK					Sn	16 42 30.7	0.0
ADK	**Adak**	**0.75**	**241**		Pn	16 42 12.2	-0.6
KOKL	**Mount Kliuchef**	**0.88**	**85**		Pn	16 42 13.8	+0.2
ATKA	**Atka Island**	**0.88**	**93**		Pn	16 42 13.2	-0.4
ATKA					Sn	16 42 34.4	-0.4
KOFP	**Korovin Flat P**	**0.94**	**88**		Pn	16 42 14.1	+0.1
KIWB	**Kanaga Island**	**1.02**	**248**		Pn	16 42 13.9	-0.6
KIMD	**Kanaga Island**	**1.11**	**244**		Pn	16 42 14.9	-0.2
TAFP	**Tanaga Falls P**	**1.49**	**257**		Pn	16 42 18.4	0.0
GANE	**Gareloi Northe**	**1.99**	**259**		Pn	16 42 23.4	0.0
CEPE	**Semis' Perret**	**2.92**	**266**		Pn	16 42 34.0	0.0
AMKA	**Amchitka**	**3.26**	**256**		Pn	16 42 37.6	-0.4
SDPT	**Sand Point**	**9.49**	**65**	Pn	Pn	16 43 57.7	-0.7
CNBA	**Chernabura Isl**	**9.89**	**69**	Pn	Pn	16 44 04.0	+0.4
CHGN	**Chignik**	**10.85**	**61**	Pn	Pn	16 44 15.3	-0.8
R17K	**Ugashik Creek**	**12.29**	**56**	Pn	Pn	16 44 33.6	-0.9
J14K	**Nanvaranak Lak**	**12.34**	**27**	Pn	Pn	16 44 34.9	-0.2
K15K	**Wolf Creek Mou**	**12.60**	**31**	Pn	Pn	16 44 38.3	-0.1
L16K	**Owhat River**	**12.90**	**36**	P	P	16 44 46.3	+0.3
N17K	**Nushagak Hills**	**13.12**	**44**	P	P	16 44 49.1	+0.7
SII	**Sitkinak Islan**	**13.20**	**62**	P	P	16 44 49.2	-0.1
M17K	**Holitna River**	**13.49**	**40**	P	P	16 44 53.2	+0.7
J16K	**Anvik River**	**13.61**	**30**	P	P	16 44 54.3	+0.4
O18K	**Koktuh Hills**	**13.67**	**48**	P	P	16 44 54.6	0.0
N18K	**Kilae Creek**	**13.75**	**44**	P	P	16 44 56.1	+0.7
K17K	**Iditarod**	**13.97**	**35**	P	P	16 44 58.4	+0.5
Q19K	**Cape Douglas,**	**14.07**	**53**	Pn	Pn	16 44 56.9	-0.1
SVW2	**Sparrevohn**	**14.08**	**43**	Pn	Pn	16 44 57.0	-0.1
L18K	**Granite Mounta**	**14.25**	**38**		Pn	16 44 59.6	+0.5
N19K	**Bonanza Creek**	**14.42**	**45**		Pn	16 45 01.7	+0.4
P19K	**Oil Pt**	**14.52**	**51**	P	P	16 45 03.6	-0.4
SYI	**Shuyak Island**	**14.60**	**55**	Pn	Pn	16 45 02.6	-0.8
TTA	**Tatalina**	**14.93**	**37**		Pn	16 45 07.9	+0.4
L19K	**White Mountain**	**14.94**	**40**	P	P	16 45 08.8	+0.2
M19K	**Big River Lodg**	**14.98**	**42**		Pn	16 45 08.0	-0.1
H17K	**Granite Mounta**	**15.06**	**26**	P	P	16 45 10.1	+0.2
H17K				IAmb	IAmb	16 45 48.0	
comp=Z,7.6nm,1.2s							
CNPM	**China Poot**	**15.44**	**52**		Pn	16 45 13.1	-0.6
BRLK	**Bradley Lake**	**15.68**	**52**		Pn	16 45 16.7	0.0
K20K	**Telida**	**15.89**	**37**	P	Pn	16 45 19.4	+0.1
SKT	**Skwentna**	**16.21**	**44**	P	P	16 45 22.4	-0.3
SKT				IAmb	IAmb	16 45 29.5	
comp=Z,14nm,1.3s							
CAST	**Castle Rocks**	**16.68**	**39**	P	P	16 45 28.1	+0.4
G19K	**Purcell Mounta**	**16.75**	**27**	P	P	16 45 28.6	+0.1
G19K				IAmb	IAmb	16 45 46.9	
comp=Z,8.0nm,1.4s							
KTH	**Kantishna Hill**	**17.20**	**39**	P	P	16 45 34.0	+0.5
KTH				IAmb	IAmb	16 45 37.5	
comp=Z,10.0nm,1.1s							
TRF	**Thorofare Moun**	**17.40**	**40**	P	P	16 45 36.2	+0.4
TRF				IAmb	IAmb	16 45 42.8	
comp=Z,8.6nm,1.0s							
IMAR	**Indian Mountai**	**17.62**	**30**	P	P	16 45 37.8	-0.1
E19K	**Redstone River**	**17.70**	**24**	P	P	16 45 39.0	0.0
E19K				IAmb	IAmb	16 45 44.8	
comp=Z,13nm,1.4s							
H21K	**Melozitna Rive**	**17.71**	**32**	P	P	16 45 39.4	+0.4
C18K	**Utukok River**	**17.84**	**17**	P	P	16 45 40.5	+0.1
G21K	**Allakaket**	**18.04**	**29**	P	P	16 45 43.0	+0.4
FID	**Port Fidalgo**	**18.06**	**50**	P	P	16 45 42.4	-0.5
D19K	**Kuna River**	**18.32**	**21**	P	P	16 45 46.2	+0.5
D19K				IAmb	IAmb	16 45 55.8	
comp=Z,16nm,1.5s							
DHY	**Denali Highway**	**18.42**	**43**	P	P	16 45 46.8	-0.1
DHY				IAmb	IAmb	16 45 52.4	
comp=Z,6.5nm,1.2s							
NEA2	**Nenana**	**18.42**	**38**	P	P	16 45 47.0	+0.3
NEA2				IAmb	IAmb	16 45 50.6	
comp=Z,7.3nm,1.4s							
F21K	**Alatna River**	**18.53**	**28**	P	P	16 45 48.3	+0.4
I23K	**Minto, Yukon-K**	**18.60**	**36**	P	P	16 45 48.7	+0.1
WRH	**Wood River Hil**	**18.73**	**39**	P	P	16 45 50.4	+0.3
WRH				IAmb	IAmb	16 46 06.5	
comp=Z,8.9nm,1.4s							
MDM	**Murphy Dome**	**18.91**	**37**	P	P	16 45 52.3	+0.2
MDM				IAmb	IAmb	16 45 56.9	
comp=Z,4.7nm,0.9s							
G23K	**Bananza Creek**	**19.25**	**31**	P	P	16 45 55.7	0.0
E21K	**Killik River**	**19.26**	**24**	P	P	16 45 55.3	-0.5
E21K				IAmb	IAmb	16 46 26.1	
comp=Z,10nm,1.4s							
H24K	**Noodor Dome**	**19.48**	**35**	P	P	16 45 58.5	+0.2
E22K	**Anaktuvuk Pass**	**19.62**	**27**	P	P	16 45 59.6	-0.1
E22K				IAmb	IAmb	16 46 07.7	
comp=Z,12nm,1.4s							
RIDG	**Independent Ri**	**19.73**	**42**	P	P	16 45 59.9	-1.0
RIDG				IAmb	IAmb	16 46 16.8	
comp=Z,8.5nm,1.3s							
D22K	**Ayikyak River**	**19.91**	**25**	P	P	16 46 02.3	-0.4
B21K	**Ikpikpuk River**	**19.99**	**22**	P	P	16 46 03.0	-0.6
SCRK	**Sand Creek**	**20.17**	**42**	P	P	16 46 04.3	-1.3
SCRK				IAmb	IAmb	16 46 29.4	
comp=Z,5.3nm,1.4s							
F24K	**Squaw Lake**	**20.40**	**31**	P	P	16 46 07.9	-0.1
F24K				IAmb	IAmb	16 46 50.6	
comp=Z,6.2nm,1.5s							
J26L	**Joseph Creek**	**20.53**	**41**	P	P	16 46 08.9	-0.6
E24K	**Your Creek**	**20.54**	**29**	P	P	16 46 08.4	-1.1
E24K				IAmb	IAmb	16 46 18.1	
comp=Z,7.6nm,1.4s							
TOLK	**Toolik Lake Re**	**20.58**	**27**	P	P	16 46 08.6	-1.3
TOLK				IAmb	IAmb	16 46 12.9	
comp=Z,10nm,1.4s							
K27K	**Chicken**	**20.98**	**43**	P	P	16 46 14.7	+0.6
K27K				IAmb	IAmb	16 46 38.6	
comp=Z,5.5nm,1.4s							
C23K	**Itkillik River**	**21.10**	**24**	P	P	16 46 14.8	-0.6
BMAR	**Burnt Mountain**	**21.43**	**33**	P	P	16 46 19.2	+0.3
E25K	**Arctic Village**	**21.47**	**31**	P	P	16 46 19.0	-0.3
E25K				IAmb	IAmb	16 46 21.3	
comp=Z,11nm,1.4s							
I28M	**Miner Creek**	**22.31**	**40**	P	P	16 46 27.0	-0.7
K29M	**Barlow Dome**	**22.87**	**45**	P	P	16 46 32.7	-0.2
K29M				IAmb	IAmb	16 46 37.0	
comp=Z,3.5nm,1.1s							
J30M	**Hart River**	**23.54**	**43**	P	P	16 46 39.2	+0.3
J30M				IAmb	IAmb	16 47 18.7	
comp=Z,5.7nm,1.4s							
I30M	**Mount Dempster**	**23.67**	**42**	P	P	16 46 39.3	-0.8
I30M				IAmb	IAmb	16 46 41.3	
comp=Z,2.6nm,0.8s							
NLWA	**Neilton Lookou**	**33.15**	**77**	P	P	16 48 03.2	-1.1
EUNU	**Eureka**	**38.91**	**16**	P	P	16 48 52.0	-0.7
EUNU				IAmb	IAmb	16 49 08.1	
comp=Z,5.3nm,1.2s							
PD31	**Pinedale Array**	**44.17**	**75**	P	P	16 49 37.1	+1.0
PDAR	**Pinedale Array**	**44.17**	**75**	P	P	16 49 37.1	+1.0
JSC	**Jenkinsville**	**66.21**	**64**	P	P	16 52 11.8	-1.5
DZM	**Mont Dzumac**	**75.64**	**197**	P	P	16 53 10.7	+0.5
GRFO	**Grafenberg**	**78.27**	**355**	P	P	16 53 23.4	-1.1
GRFO				IAmb	IAmb	16 53 28.9	
comp=Z,6.1nm,1.1s							
CAMP	**Campotosto**	**85.27**	**353**	P	P	16 53 59.4	-1.9

DJA 15 17:16:53.2±0.8, 7°S±4°×12°7E±°, h378km±16km, M3.8/10, mb3.6/6, MLv3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.50**	**47**	P	Pn	17 17 56.5	-2.7
NLAI	**Namlea**	**3.65**	**357**	P	Pn	17 18 03.1	+2.5
SOEI	**Soe**	**4.14**	**227**	P	Pn	17 18 05.2	-0.2
BATI	**Baumata**	**4.88**	**228**	P	Pn	17 18 12.6	-0.3
SANI	**Sanana**	**5.01**	**345**	P	Pn	17 18 13.4	-0.9
6.7nm,1.1s,0.0nm							
LBMI	**Labuha**	**6.23**	**2**	P	Pn	17 18 27.8	+0.1
29nm,1.8s,0.1nm							
FAKI	**Fak Fak**	**6.31**	**51**	P	Pn	17 18 28.3	-0.3
46nm,1.3s,0.3nm							

DJA 15 17:41:54.1±0.8, 8°S±7°×12°8E±°, h194km±24km, M3.9/7, mb3.7/3, MLv4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.52**	**97**	P	Pn	17 42 49.6	-0.2
SOEI	**Soe**	**4.09**	**238**	P	Pn	17 42 56.9	-0.1
BATI	**Baumata**	**4.83**	**237**	P	Pn	17 43 06.8	+0.5
FAKI	**Fak Fak**	**6.41**	**44**	P	Pn	17 43 26.8	+0.1
52nm,1.1s,0.2nm							

*IDC **15** 18:16:37.5±1.8, 4°.18N×94°.46E, h0km, mb3.6/7, mbtmp3.6/8, ML3.7/1, Error ellipse: s-maj=87.2km s-min=19.8km az=56.0*
ISC 15 18:16:45.9±1.6, 4°.7N±0°.2×95°.1E±0°.3, h48km, n11, σ0$33/8, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.22**	**15**	Pn	**P**	**18 20 10.8**	**-0.1**
0.1nm,0.3s,baz=128,slow=35,SNR=2.4							
1.2nm,0.6s							
H08S2	**Diego Garcia H**	**25.67**	**242**	T	T	18 49 15.5	
baz=62,slow=76,SNR=12							
H08S3	**Diego Garcia H**	**25.67**	**242**	T	T	18 49 14.7	
baz=62,slow=76,SNR=6.0							
H08S1	**Diego Garcia H**	**25.68**	**242**	T	T	18 49 15.9	
baz=62,slow=76,SNR=10							
MKAR	**Makanchi Array**	**43.42**	**347**	P	**P**	**18 24 43.9**	**-0.1**
0.3nm,0.4s,baz=166,slow=8.2,SNR=6.8							
0.3nm,0.4s							
WRA	**Warramunga Arr**	**45.64**	**124**	P	**P**	**18 25 02.5**	**+0.4**
0.4nm,0.7s,baz=301,slow=9.4,SNR=6.8							
0.4nm,0.7s							
ASAR	**Alice Springs**	**47.14**	**128**	P	**P**	**18 25 13.5**	**-0.3**
0.4nm,0.8s,baz=298,slow=7.7,SNR=8.5							
0.4nm,0.8s							
KURBB	**Kurchatov Arra**	**47.89**	**346**	P	**P**	**18 25 19.6**	**+0.4**
0.5nm,0.6s,baz=171,slow=7.1,SNR=8.6							
0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**49.86**	**352**	P	**P**	**18 25 34.3**	**+0.1**
0.4nm,0.4s,baz=200,slow=15,SNR=2.1							
0.4nm,0.4s							
BVAR	**Borovoye Array**	**52.33**	**341**	P	**P**	**18 25 52.9**	**+0.1**
1.4nm,0.7s,baz=141,slow=9.6,SNR=6.5							
1.4nm,0.7s							
FINES	**FINESS Array B**	**76.00**	**332**	P	**P**	**18 28 27.6**	**-0.2**
0.3nm,0.3s,baz=96,slow=6.1,SNR=6.8							
0.3nm,0.3s							

IDC 15 18:20:41.0±4.4, 2°.77N×97°.72E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=177.5km s-min=31.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.22**	**247**	T	T	18 53 16.6	
baz=70,slow=75,SNR=96							
H08S3	**Diego Garcia H**	**27.22**	**248**	T	T	18 53 16.8	
baz=70,slow=75,SNR=88							
H08S1	**Diego Garcia H**	**27.23**	**248**	T	T	18 53 17.9	
baz=70,slow=75,SNR=115							
WRA	**Warramunga Arr**	**42.44**	**124**	P	P	18 28 37.9	-0.1
0.2nm,0.7s,baz=302,slow=8.9,SNR=1.4							
0.2nm,0.7s							
SONM	**Songino Array**	**45.51**	**8**	P	P	18 29 02.3	-0.1
0.3nm,0.4s,baz=198,slow=9.1,SNR=2.1							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**45.86**	**345**	P	P	18 29 05.0	0.0
0.4nm,0.6s,baz=160,slow=8.3,SNR=4.2							
0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**52.10**	**350**	P	P	18 29 52.6	-0.2
1.1nm,0.5s,baz=167,slow=7.6,SNR=4.5							
1.1nm,0.5s							
H04N2	**CROZET ISLANDS**	**63.36**	**214**	T	T	19 38 27.4	
baz=52,slow=75,SNR=31							
H04N1	**CROZET ISLANDS**	**63.37**	**214**	T	T	19 38 28.0	
baz=52,slow=75,SNR=30							
H04N3	**CROZET ISLANDS**	**63.38**	**214**	T	T	19 38 24.8	
baz=52,slow=75,SNR=31							
H04S1	**CROZET ISLANDS**	**63.70**	**213**	T	T	19 38 49.2	
baz=51,slow=75,SNR=16							
H04S3	**CROZET ISLANDS**	**63.72**	**213**	T	T	19 38 49.5	
baz=51,slow=75,SNR=35							
H04S2	**CROZET ISLANDS**	**63.72**	**213**	T	T	19 38 52.3	
baz=51,slow=75,SNR=16							

*IDC **15** 18:35:31.3±2.2, 4°.83N×78°.38W, h0km, mb3.5/2, mbtmp3.6/3, ML2.1/1, MS2.9/6, Error ellipse: s-maj=83.5km s-min=40.9km az=9.0*
*RSNC **15** 18:35:37.6±1.2, 5°.08N×78°.06W, h28km±7km, ML3.0, Mw3.3*
ISC 15 18:35:32.4±1.8, 5°.10N±0°.03×78°.28W±0°.04, h5km±11km, n46, σ2$50/68, MS2.9/3, 10C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**0.92**	**98**	↑*i*P	**Pg**	**18 35 50.0**	**-0.1**
PIZC				*e*S	**Sg**	**18 36 01.0**	**-1.0**
PIZC				*i*		18 36 06.2	
comp=Z,876nm,0.5s							
MALC	**Bahia Malaga**	**1.43**	**139**	↑*i*P	**Pn**	**18 35 58.5**	**-0.4**
MALC				*e*S	**Sb**	**18 36 15.2**	**-2.8**
MALC				*i*		18 36 18.2	
comp=Z,180nm,0.2s							
PLMC	**San Jos del P**	**1.99**	**95**	↑*i*P	**Pn**	**18 36 05.0**	**-1.8**
PLMC				*e*S	**Sn**	**18 36 27.5**	**-4.8**
PLMC				*i*		18 36 29.7	
comp=Z,312nm,0.3s							
GR1C	**Gorgona, Isla**	**2.08**	**177**	*e*P	**Pn**	**18 36 07.8**	**-0.1**
GR1C				*e*S	**Sn**	**18 36 30.3**	**-4.0**
GR1C				*i*		18 36 33.1	
comp=Z,331nm,0.3s							
PTAC	**Punta Ardita,**	**2.09**	**13**	*e*P	**Pn**	**18 36 08.4**	**+0.4**
PTAC				*e*S	**Sn**	**18 36 27.2**	**-7.3**
YOTC	**Yotoco, Valle**	**2.22**	**120**	↑*i*P	**Pn**	**18 36 08.7**	**-1.2**
YOTC				*e*S	**Sn**	**18 36 33.6**	**-4.2**
YOTC				*i*		18 36 34.6	
comp=Z,46nm,0.2s							
JAMC	**Jamundi, Valle**	**2.46**	**139**	↑*e*P	**Pn**	**18 36 12.4**	**-0.9**
JAMC				*e*S	**Sn**	**18 36 40.6**	**-3.3**
JAMC				*i*		18 36 43.6	
comp=Z,61nm,0.2s							
DBBC	**Dabeiba**	**2.80**	**47**	*e*P	**Pn**	**18 36 17.4**	**-0.6**
DBBC				*e*S	**Sn**	**18 36 50.9**	**-1.4**
DBBC				*i*		18 36 57.8	
comp=Z,22nm,0.4s							
GUY2C	**Guyana, Caldas**	**2.90**	**87**	*e*P	**Pn**	**18 36 19.6**	**0.0**
GUY2C				*e*S	**Sn**	**18 36 52.0**	**-3.2**
GUY2C				*i*		18 36 59.4	
comp=Z,68nm,0.6s							
ANIL	**Santa Ana**	**2.92**	**102**	↑*e*P	**Pn**	**18 36 19.6**	**-0.2**
ANIL				*e*S	**Sn**	**18 36 53.3**	**-2.2**
ANIL				*i*		18 37 02.9	
comp=Z,133nm,0.2s							
POPC	**Popayan, Colom**	**3.00**	**148**	↑*i*P	**Pn**	**18 36 20.4**	**-0.4**
POPC				*e*S	**Sn**	**18 36 54.8**	**-2.4**
POPC				*i*		18 36 56.9	
comp=Z,22nm,0.4s							
BBAC	**Balboa, Cauca**	**3.22**	**161**	*e*P	**Pn**	**18 36 23.2**	**-0.6**
BBAC				*e*S	**Sn**	**18 37 03.4**	**+0.6**
BBAC				*i*		18 37 09.3	
comp=Z,22nm,0.3s							
ORTC	**Ortega, Tolima**	**3.24**	**111**	↑*i*P	**Pn**	**18 36 24.7**	**+0.7**
ORTC				*e*S	**Sn**	**18 36 58.0**	**-5.0**
ORTC				*i*		18 37 13.0	
comp=Z,37nm,0.5s							
AZU	**Azuero**	**3.33**	**324**	*e*P	**Pn**	**18 36 23.8**	**-1.4**
AZU				*e*S	**Sn**	**18 37 02.4**	**-2.8**
NORC	**Norcasia**	**3.42**	**82**	↓*e*P	**Pn**	**18 36 27.7**	**+1.2**
NORC				*e*S	**Sn**	**18 37 04.5**	**-3.0**
NORC				*i*		18 37 10.9	
comp=Z,51nm,0.5s							
PRAC	**Prado**	**3.65**	**112**	↑*i*P	**Pn**	**18 36 30.6**	**+1.1**
PRAC				*e*S	**Sn**	**18 37 08.7**	**-4.3**
PRAC				*i*		18 37 16.6	
comp=Z,22nm,0.4s							
BETC	**Betania**	**3.71**	**130**	*e*P	**Pn**	**18 36 33.0**	**+2.6**
CRUC	**La Cruz**	**3.75**	**159**	*e*P	**Pn**	**18 36 32.5**	**+1.3**
CRUC				*e*S	**Sn**	**18 37 14.2**	**-1.7**
UREC	**San Jos de Ur**	**3.79**	**46**	*e*P	**Pn**	**18 36 32.3**	**+0.8**
UREC				*e*S	**Sn**	**18 37 13.7**	**-2.8**
UREC				*i*		18 37 17.8	
comp=Z,20nm,0.4s							
ROSC	**El Rosal**	**3.95**	**94**	*e*P	**Pn**	**18 36 37.4**	**+3.4**
ROSC	**El Rosal**	**3.95**	**94**	Pn	**Pn**	**18 36 34.7**	**+0.7**
comp=Z,2.4nm,0.3s,baz=291,slow=17,SNR=3.0							
ROSC				Sn	**Sn**	**18 37 20.1**	**-0.8**
comp=Z,3.1nm,0.3s,baz=108,slow=20,SNR=1.3							
ROSC				LR	LR	18 38 37.0	
comp=Z,143nm,20.8s,baz=158,slow=46							
comp=Z,10nm,0.5s							
GCUF	**Volcan Galeras**	**3.96**	**166**	*e*P	**Pn**	**18 36 36.5**	**+2.4**
GCUF				*e*S	**Sn**	**18 37 18.5**	**-2.8**
GCUF				*i*		18 37 23.8	
comp=Z,16nm,0.3s							
GARC	**Garzon, Huila**	**4.01**	**136**	*e*P	**Pn**	**18 36 36.9**	**+2.2**
GARC				*i*		18 37 25.8	
comp=Z,29nm,0.3s							
PTBC	**PUERTO BERRIO,**	**4.06**	**69**	*i* P	**Pn**	**18 36 36.8**	**+1.5**
PTBC				*e*S	**Sn**	**18 37 20.7**	**-2.5**
PTBC				*i*		18 37 25.6	
comp=Z,12nm,0.6s							
ZARC	**Zaragoza, Cauc**	**4.15**	**55**	*e*P	**Pn**	**18 36 37.4**	**+1.0**
ZARC				*e*S	**Sn**	**18 37 23.4**	**-1.9**
ZARC				*i*		18 37 25.6	
comp=Z,18nm,0.3s

ESDC Sonseca Array 74.69 50 P **P 18 47 14.7 +1.3**
comp=Z,0.3nm,0.6s,baz=256,slow=9.1,SNR=1.5
comp=Z,0.3nm,0.6s
ILAR Eielson Array 76.38 336 P **P 18 47 23.4 +0.9**
comp=Z,0.3nm,0.6s,baz=117,slow=4.3,SNR=4.6
comp=Z,0.3nm,0.6s
ASAR Alice Springs 143.92 236 PKP **PKPab 18 55 07.7 +0.7**
comp=Z,0.8nm,0.9s,baz=126,slow=3.5,SNR=6.1
WRA Warramunga Arr 145.01 242 PKP **PKPab 18 55 11.3 +0.2**
comp=Z,0.7nm,0.8s,baz=102,slow=3.1,SNR=3.0

IDC 15 18:54:48.6±1.9, 29°.49N×141°.15E, h0km, mb3.9/3, mbtmp3.8/5, ML3.0/2, MS3.2/2, Error ellipse: s-maj=119.8km s-min=22.5km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.56**	**159**	Pn	Pn	18 55 30.9	-0.3
8.1nm,0.3s,baz=309,slow=19,SNR=12							
JCJ				Sn	Sn	18 55 57.9	-5.2
10nm,0.3s,baz=261,slow=23,SNR=2.2							
35nm,0.4s							
MJAR	**Matsushiro Arr**	**7.45**	**341**	Pn	Pn	18 56 40.3	+1.8
0.1nm,0.3s,baz=154,slow=10,SNR=7.2							
0.7nm,0.4s							
SHEM	**Shemya Is, Ala**	**33.52**	**37**	LR	LR	19 16 05.7	
comp=Z,5.6nm,18.8s,baz=324,slow=38							
HNR	**Honiara**	**42.73**	**152**	LR	LR	19 17 40.9	
comp=Z,216nm,21.6s,baz=66,slow=32							
WRA	**Warramunga Arr**	**49.58**	**188**	P	P	19 03 42.0	+0.4
0.3nm,0.3s,baz=4.2,slow=7.6,SNR=9.3							
0.3nm,0.3s							
FINES	**FINESS Array B**	**75.40**	**333**	P	P	19 06 33.5	-0.3
1.9nm,0.8s,baz=83,slow=6.0,SNR=4.5							
1.9nm,0.8s							
BRTR	**Keskin Array B**	**83.72**	**312**	P	P	19 07 19.0	-0.7
1.0nm,0.7s,baz=69,slow=4.1,SNR=5.4							
1.0nm,0.7s							

---

*NEIC **15** 19:03:55.8±2.5, 17°.4S±0°.1×170°.3E±0°.1, h160km±7km, mb4.4/19, Error ellipse: s-maj=19.0km s-min=16.3km az=123.0*
*IDC **15** 19:04:14.8±1.6, 18°.93S×169°.44E, h259km±14km, mb3.6/9, mbtmp4.2/11, Error ellipse: s-maj=18.7km s-min=14.7km az=141.0*
*NOU **15** 19:04:15.8, 18°.87S×169°.38E, h223km, MLv4.2/12, Vanuatu Islands*
ISC 15 19:04:13.4±0.6, 18°.81S±0°.08×169°.38E±0°.08, h246km, n46, σ1§42/46, mb4.1/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.80**	**225**	Pn	**Pn**	**19 05 03.4**	**-0.1**
LIFNC	**LIFOU**	**2.80**	**225**	P	**Pn**	**19 05 03.6**	**+0.1**
MARNC	**Mare, Loyalty**	**2.94**	**205**		**Pn**	**19 05 04.3**	**-0.6**
MARNC	**Mare, Loyalty**	**2.94**	**205**	P	**Pn**	**19 05 04.8**	**-0.2**
YATNC	**Mamie plateau,**	**3.98**	**215**	P	**Pn**	**19 05 16.5**	**-0.3**
PINNC	**Pines Island,**	**4.19**	**205**	Pn	**Pn**	**19 05 19.8**	**+0.5**
DZM	**Mont Dzumac**	**4.25**	**220**	P	**Pn**	**19 05 21.2**	**+1.1**
DZM	**Mont Dzumac**	**4.25**	**220**	P	**Pn**	**19 05 20.8**	**+0.8**
38nm,0.5s,baz=46,slow=17,SNR=64							
DZM				S	**S**	**19 06 14.9**	**+1.9**
20nm,0.4s,baz=59,slow=20,SNR=3.8							
OUENC	**Ouen Island, N**	**4.30**	**213**		**Pn**	**19 05 21.0**	**+0.4**
OUENC	**Ouen Island, N**	**4.30**	**213**	P	**Pn**	**19 05 21.8**	**+1.2**
NOUC	**Port Laguerre**	**4.36**	**221**	P	**Pn**	**19 05 22.6**	**+1.3**
ONTNC	**Ouen Toro**	**4.42**	**218**	Pn	**Pn**	**19 05 23.4**	**+1.3**
ONTNC	**Ouen Toro**	**4.42**	**218**	P	**Pn**	**19 05 23.4**	**+1.3**
KOUNC	**Koumac, New Ca**	**5.10**	**249**	Pn	**Pn**	**19 05 27.7**	**-2.5**
KOUNC	**Koumac, New Ca**	**5.10**	**249**	P	**Pn**	**19 05 33.3**	**+3.0**
MSVF	**Nonsavu**	**8.31**	**84**	P	**Pn**	**19 06 12.6**	**+1.8**
9.8nm,0.9s,baz=269,slow=12,SNR=3.9							
HNR	**Honiara**	**13.05**	**314**	P	**P**	**19 07 12.6**	**+0.6**
2μm,0.7s,baz=150,slow=20,SNR=6.4							
EIDS	**Eidsvold**	**18.16**	**246**	P	**Pn**	**19 08 10.7**	**-0.4**
ARMA	**Armidale**	**19.82**	**231**	P	**P**	**19 08 27.9**	**+2.0**
ARMA				IAmb	IAmb	19 09 11.8	
comp=Z,16nm,1.2s							
BKZ	**Black Stump Fm**	**21.20**	**165**	P	**P**	**19 08 38.8**	**-1.4**
BKZ				IAmb	IAmb	19 08 58.7	
comp=Z,36nm,1.4s							
CTAO	**Charters Tower**	**21.84**	**263**	P	**P**	**19 08 48.0**	**+1.6**
CTAO				IAmb	IAmb	19 09 19.0	
comp=Z,20nm,1.4s							
STKA	**Stephens Creek**	**28.18**	**237**	P	**P**	**19 09 42.2**	**-1.2**
STKA	**Stephens Creek**	**28.18**	**237**	P	**P**	**19 09 44.4**	**+1.0**
comp=Z,4.0nm,0.6s,baz=66,slow=9.1,SNR=15							
comp=Z,4.0nm,0.6s							
WR0	**Warramunga Arr**	**32.85**	**262**	P	**P**	**19 10 24.2**	**-0.2**
WR0				IAmb	IAmb	19 10 46.5	
comp=Z,14nm,1.4s							
WB0	**Warramunga Arr**	**33.00**	**262**	P	**P**	**19 10 26.1**	**+0.3**
WB0				IAmb	IAmb	19 10 26.6	
comp=Z,6.6nm,0.7s							
WB2	**Warramunga Arr**	**33.03**	**262**	P	**P**	**19 10 25.9**	**-0.2**
WB2				IAmb	IAmb	19 10 26.8	
comp=Z,6.4nm,0.9s							
WRA	**Warramunga Arr**	**33.04**	**262**	P	**P**	**19 10 24.9**	**-1.2**
WRA	**Warramunga Arr**	**33.04**	**262**	P	**P**	**19 10 26.1**	**-0.1**
comp=Z,4.0nm,0.5s,baz=97,slow=8.6,SNR=45							
comp=Z,4.0nm,0.5s							
AS31	**Alice Springs**	**33.36**	**255**	P	**P**	**19 10 29.5**	**+0.6**
ASAR	**Alice Springs**	**33.36**	**255**	P	**P**	**19 10 29.4**	**+0.5**
comp=Z,29nm,0.5s,baz=82,slow=8.9,SNR=1106							
MTN	**Manton Dam**	**37.22**	**273**	P	**P**	**19 10 59.1**	**-2.6**
KNRA	**Kununurra**	**38.86**	**268**	P	**P**	**19 11 13.5**	**-1.8**
PSA00	**Pilbara Seismi**	**46.42**	**258**	P	**P**	**19 12 13.1**	**-2.8**
MBWA	**Marble Bar**	**46.56**	**258**	P	**P**	**19 12 14.5**	**-2.6**
MBWA				IAmb	IAmb	19 12 38.3	
comp=Z,14nm,1.2s							
SBA	**Scott Base**	**59.09**	**181**	P	**P**	**19 13 48.4**	**+0.9**
SBA				IAmb	IAmb	19 13 59.7	
comp=Z,6.0nm,1.5s							
SBUM	**Sibu**	**60.02**	**284**	P	P	19 13 47.4	-7.5
SBUM				IAmb	IAmb	19 14 07.6	
comp=Z,3.7nm,1.2s							
MJAR	**Matsushiro Arr**	**62.44**	**332**	P	**P**	**19 14 12.6**	**+2.0**
comp=Z,0.8nm,0.6s,baz=153,slow=4.6,SNR=7.0							
comp=Z,0.8nm,0.6s							
QSPA	**South Pole Qui**	**71.24**	**180**	P	**P**	**19 15 04.9**	**-0.8**
QSPA	**South Pole Qui**	**71.24**	**180**	P	**P**	**19 15 05.5**	**-0.3**
comp=Z,2.0nm,0.8s,baz=38,slow=1.4,SNR=11							
comp=Z,2.0nm,0.8s							
PETK	**Petropavlovsk-**	**72.33**	**353**	P	**P**	**19 15 11.7**	**-0.4**
comp=Z,3.5nm,0.9s,baz=77,slow=17,SNR=2.7							
comp=Z,3.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**78.45**	**294**	P	**P**	**19 15 48.9**	**+1.2**
comp=Z,0.4nm,0.3s,baz=134,slow=3.8,SNR=5.7							
comp=Z,0.4nm,0.3s							
NVAR	**Mina Array Bea**	**88.42**	**48**	P	**P**	**19 16 38.5**	**+0.4**
comp=Z,0.8nm,0.7s,baz=228,slow=8.4,SNR=5.8							
comp=Z,0.8nm,0.7s							
SNAA	**Sanae**	**89.59**	**182**	P	**P**	**19 16 40.6**	**-2.2**
SNAA				IAmb	IAmb	19 16 49.6	
comp=Z,3.7nm,1.5s							
SNAA	**Sanae**	**89.59**	**182**	P	**P**	**19 16 41.4**	**-1.4**
comp=Z,0.9nm,0.7s,baz=240,slow=5.2,SNR=4.2							
comp=Z,0.9nm,0.7s							
ILAR	**Eielson Array**	**89.79**	**17**	P	**P**	**19 16 42.1**	**-1.4**
comp=Z,0.7nm,1.0s,baz=197,slow=2.8,SNR=3.4							
comp=Z,0.7nm,1.0s							
ARCES	**ARCESS Array B**	**124.69**	**345**	PKP	**PKPdf**	**19 22 42.7**	**-0.3**
comp=Z,3.3nm,0.9s,baz=354,slow=8.3,SNR=1.8							

---

*IDC **15** 19:16:13.1±0.8, 33°.16N×139°.38E, h108km±28km, mb3.0/3, mbtmp3.3/4, Error ellipse: s-maj=100.6km s-min=11.6km az=68.0*
*JMA **15** 19:16:13.5±0.1, 33°.5N±0°.3×139°.9E±0°.9, h111km±1km, MV3.0/31, E OFF HACHIJOJIMA ISLAND*
ISC 15 19:16:12.6±1.0, 33°.43N±0°.05×139°.9E±0°.1, h117km±7km, n22, σ0§87/29, mb3.2/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.33**	**196**	P	**Pn**	**19 16 29.9**	**+0.5**
JHJ2				*e*S	**Sn**	**19 16 42.5**	**+0.5**
JHJ	**Hachijo jima 2**	**0.33**	**201**	P	**Pn**	**19 16 29.9**	**+0.5**
202nm,0.5s,baz=356,slow=19,SNR=19							
JHJ				S	**Sn**	**19 16 42.7**	**+0.7**
422nm,0.3s,baz=0.0,slow=20,SNR=21							
JHCJ	**Hachijojimakas**	**0.38**	**197**	*e*P	**Pn**	**19 16 30.2**	**+0.6**
JHCJ				*e*S	**Sn**	**19 16 43.0**	**+0.6**
JMKN	**Mikurajimanish**	**0.54**	**329**	P	**Pn**	**19 16 30.1**	**-0.3**
JMKN				*e*S	**Sn**	**19 16 42.8**	**-1.2**
JMYK	**Miyake Tsubota**	**0.70**	**333**	*e*P	**Pn**	**19 16 31.5**	**-0.2**
JMYK				*e*S	**Sn**	**19 16 45.7**	**-0.4**
JAOM	**Aogashimamukai**	**0.97**	**188**	*e*P	**Pn**	**19 16 35.2**	**+1.1**
JTHY	**Toshimahigashi**	**1.21**	**334**	P	**Pn**	**19 16 36.9**	**+0.3**
JTHY				*e*S	**Sn**	**19 16 55.0**	**+0.2**
JIM2	**Oshima 3**	**1.35**	**342**	P	**Pn**	**19 16 38.2**	**+0.1**
JIM2				*e*S	**Sn**	**19 16 56.9**	**-0.6**
BSO3	**Boso 3**	**1.45**	**19**	P	**Pn**	**19 16 39.6**	**+0.7**
BSO1	**Boso 1**	**1.50**	**35**	*e*P	**Pn**	**19 16 39.9**	**+0.7**
JIZS	**Izushimoda**	**1.55**	**326**	P	**Pn**	**19 16 40.6**	**+0.2**
JIZS				*e*S	**Sn**	**19 17 01.5**	**-0.1**
BSO4	**Boso 4**	**1.59**	**12**	P	**Pn**	**19 16 41.6**	**+0.8**
JOD2	**Odawara 2**	**1.95**	**339**	P	**Pn**	**19 16 45.8**	**+0.5**
JOD2				*e*S	**Sn**	**19 17 10.0**	**-0.4**
JFNN	**Fujinakano**	**2.04**	**330**	*e*P	**Pn**	**19 16 47.3**	**+0.9**
SHZ3	**Shizuoka 3**	**2.16**	**319**	*e*P	**Pn**	**19 16 49.0**	**+1.0**
MJAR	**Matsushiro Arr**	**3.41**	**336**	P	**Pn**	**19 17 05.0**	**+0.8**
2.3nm,0.4s,baz=165,slow=14,SNR=16							
MJAR				S	**Sn**	**19 17 46.5**	**+2.4**
2.2nm,0.4s,baz=156,slow=17,SNR=3.8							
H11N2	**WAKE ISLAND Hy**	**27.61**	**113**	T	T	19 50 50.8	
baz=306,slow=74,SNR=3.5							
H11N1	**WAKE ISLAND Hy**	**27.62**	**113**	T	T	19 50 56.9	
baz=306,slow=74,SNR=3.0							
H11N3	**WAKE ISLAND Hy**	**27.63**	**113**	T	T	19 50 48.5	
baz=306,slow=74,SNR=3.1							
MKAR	**Makanchi Array**	**45.09**	**305**	P	**P**	**19 24 17.0**	**+0.2**
0.2nm,0.4s,baz=82,slow=8.7,SNR=1.8							
0.2nm,0.4s							
WRA	**Warramunga Arr**	**53.34**	**187**	P	**P**	**19 25 18.4**	**-1.5**
0.3nm,0.4s,baz=1.3,slow=7.7,SNR=11							
0.3nm,0.4s							
ASAR	**Alice Springs**	**57.07**	**187**	P	**P**	**19 25 45.8**	**-0.8**
0.1nm,0.4s,baz=1.0,slow=6.7,SNR=12							
0.1nm,0.4s							

---

*IDC **15** 19:18:35.3±0.8, 29°.71N×139°.49E, h371km±13km, mb3.2/8, mbtmp3.9/13, Error ellipse: s-maj=32.4km s-min=11.6km az=71.0*
ISC 15 19:18:34.6±0.8, 29°.7N±0°.1×139°.3E±0°.1, h350km, n13, σ1§42/15, mb3.5/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.66**	**135**	P	**Pn**	**19 19 41.0**	**+0.7**
35nm,0.3s,baz=24,slow=9.6,SNR=30							
JCJ				S	**S**	**19 20 33.9**	**+0.8**
74nm,0.3s,baz=314,slow=23,SNR=17							
MJAR	**Matsushiro Arr**	**6.88**	**353**	P	**Pn**	**19 20 17.9**	**+2.5**
1.3nm,0.4s,baz=172,slow=11,SNR=6.1							
JOW	**Kunigami**	**10.10**	**256**	P	**P**	**19 20 56.4**	**+1.3**
24nm,0.8s,baz=117,slow=16,SNR=4.0							
KSRS	**Korea Array**	**12.21**	**312**	P	**Pn**	**19 21 20.4**	**+1.8**
0.9nm,0.7s,baz=129,slow=9.9,SNR=2.9							
USRK	**Ussuriysk Ar.**	**15.58**	**340**	P	**Pn**	**19 21 57.1**	**-0.9**
1.0nm,0.6s,baz=235,slow=42,SNR=2.9							
ZALV	**Zalesovo Beam**	**45.84**	**318**	P	**P**	**19 26 22.6**	**0.0**
1.0nm,0.4s,baz=51,slow=29,SNR=6.3							
1.0nm,0.4s							
MKAR	**Makanchi Array**	**46.84**	**308**	P	**P**	**19 26 29.8**	**-0.7**
0.2nm,0.6s,baz=70,slow=11,SNR=2.3							
0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**49.38**	**313**	P	**P**	**19 26 48.5**	**-1.2**
1.7nm,0.2s,baz=147,slow=12,SNR=1.6							
1.7nm,0.2s							
WRA	**Warramunga Arr**	**49.58**	**186**	P	**P**	**19 26 50.7**	**-0.8**
0.4nm,0.3s,baz=1.0,slow=7.7,SNR=12							
0.4nm,0.3s							
ASAR	**Alice Springs**	**53.31**	**186**	P	**P**	**19 27 18.2**	**-0.6**
0.2nm,0.6s,baz=20,slow=11,SNR=7.3							
0.2nm,0.6s							
BVAR	**Borovoye Array**	**54.39**	**316**	P	**P**	**19 27 25.8**	**-0.4**
1.1nm,0.4s,baz=88,slow=7.5,SNR=9.4							
BVAR				PcP	**PcP**	**19 28 22.6**	**-2.5**
0.2nm,0.5s,baz=42,slow=2.3,SNR=1.7							
1.1nm,0.4s							
ARCES	**ARCESS Array B**	**70.23**	**340**	P	**P**	**19 29 09.7**	**-0.3**
2.4nm,0.9s,baz=29,slow=2.8,SNR=5.2							
2.4nm,0.9s							
FINES	**FINESS Array B**	**74.47**	**333**	P	**P**	**19 29 33.7**	**-1.2**
0.9nm,0.7s,baz=57,slow=4.1,SNR=6.4							
0.9nm,0.7s							

---

*EAF **15** 19:35:44.3, 24°.60S×32°.94E, h10km, MC3.5*
*BUL **15** 19:35:44.6±0.7, 24°.83S×33°.02E, h10km, MD3.7*
*PRE **15** 19:35:48.4±1.3, 24°.59S×32°.59E, h10km, ML2.7*
ISC 15 19:35:41.3±2.4, 24°.55S±0°.04×33°.0E±0°.1, h28km±14km, n21, σ2§72/38, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**1.78**	**305**	*i* P	**Pb**	**19 36 12.0**	**-1.3**
MOPA				*i* S	**Sn**	**19 36 31.5**	**-0.5**
MOPA	**Mopani**	**1.78**	**305**	*e*P	**Pb**	**19 36 16.5**	**+3.1**
MOPA				*e*S	**Sb**	**19 36 36.5**	**+1.1**
MOPA	**Mopani**	**1.78**	**305**	*i* P	**Pb**	**19 36 12.0**	**-1.3**
baz=307							
MOPA				*i* S	**Sn**	**19 36 31.5**	**-0.5**
baz=307							
HOED	**Hoedspruit, Li**	**1.88**	**274**	*e*P	**Pb**	**19 36 16.6**	**+1.5**
HOED				*e*S	**Sn**	**19 36 36.2**	**+1.8**
HOED				IAML		19 36 38.0	
comp=Z,116nm,0.3s							
PILG	**Pilgrimsrest,**	**2.11**	**259**	*e*P	**Pb**	**19 36 19.1**	**+0.1**
PILG				*e*S	**Sn**	**19 36 41.6**	**+1.3**
PILG				IAML		19 36 42.9	
comp=Z,118nm,0.2s							
MMAL	**MMAL**	**2.20**	**227**	*e*P	**Pb**	**19 36 22.9**	**+2.4**
MMAL				*e*S	**Sb**	**19 36 47.4**	**0.0**
MMAL				IAML		19 36 48.6	
comp=Z,204nm,0.2s							
DULL	**Dullstroom, Mp**	**2.68**	**252**	*e*S	**Sn**	**19 36 56.7**	**+2.2**
DULL				IAML		19 37 10.4	
comp=Z,34nm,0.3s							
CRLN	**Carolina, Mapu**	**3.05**	**241**	*e*P	**Pb**	**19 36 32.2**	**-2.8**
CRLN				*e*S	**Sn**	**19 37 06.3**	**+2.9**
CRLN				IAML		19 37 20.2	
comp=Z,24nm,0.4s							
MPHEP	**Siloam, Limpop**	**3.05**	**302**	*e*P	**Pb**	**19 36 33.6**	**-1.4**
MPHEP				*e*S	**Sn**	**19 37 06.4**	**+2.9**
MPHEP				IAML		19 37 16.6	
comp=Z,84nm,0.6s							
MUSN	**Musina, Limpop**	**3.65**	**307**	*i* P	**Pb**	**19 36 43.8**	**-1.5**
MUSN				*i* S	**Sb**	**19 37 26.4**	**-2.7**
MUSN	**Musina, Limpop**	**3.65**	**307**	*e*P	**Pb**	**19 36 43.4**	**-1.8**
MUSN				*e*S	**Sn**	**19 37 22.6**	**+4.4**
MUSN				IAML		19 37 41.5	
comp=Z,53nm,0.5s							
MUSN	**Musina, Limpop**	**3.65**	**307**	*i* P	**Pb**	**19 36 43.8**	**-1.5**
baz=308							
MUSN				*i* S	**Sb**	**19 37 26.4**	**-2.7**
baz=308							
LEPH	**Lephalale, Lim**	**4.79**	**277**	*e*P	**Pn**	**19 36 55.7**	**+4.0**
LEPH				*e*S	**Sn**	**19 37 46.8**	**+0.4**
LEPH				IAML		19 38 13.0	
comp=Z,21nm,0.4s							
LBTB	**Lobatse**	**6.74**	**265**	*i* P	**Pn**	**19 37 23.0**	**+4.6**
LBTB				*i* S	**Sn**	**19 38 34.9**	**+0.6**
LBTB	**Lobatse**	**6.74**	**265**	*e*P	Pn	19 37 24.0	+5.6
LBTB				*e*S	**Sn**	**19 38 33.7**	**-0.6**
LBTB				IAML		19 39 10.1	
comp=Z,8.6nm,0.7s							
LBTB	**Lobatse**	**6.74**	**265**	*i* P	**Pn**	**19 37 23.0**	**+4.6**
baz=265							
LBTB				*i* S	**Sn**	**19 38 34.9**	**+0.6**
baz=265							
KSTD	**Kokstad**	**6.87**	**208**	*e*P	Pn	19 37 28.2	+7.9
KSTD				*e*S	**Sn**	**19 38 40.4**	**+2.8**
KSTD				IAML		19 38 42.7	
comp=Z,11nm,0.5s							
BOSA	**Boshof**	**8.02**	**238**	*i* P	**Pn**	**19 37 37.2**	**+1.2**
BOSA				*i* S	**Sn**	**19 39 00.8**	**-5.0**
BOSA	**Boshof**	**8.02**	**238**	*e*P	Pn	19 37 41.5	+5.4
BOSA				*e*S	**Sn**	**19 39 05.9**	**0.0**
BOSA				IAML		19 39 58.8	
comp=Z,3.3nm,0.6s							
BOSA	**Boshof**	**8.02**	**238**	*i* P	**Pn**	**19 37 37.2**	**+1.2**
baz=238							
BOSA				*i* S	**Sn**	**19 39 00.8**	**-5.0**
baz=238							
SUR	**Sutherland**	**13.24**	**231**	*e*P	**P**	**19 38 54.0**	**-3.2**
SUR				*e*S	**Sn**	**19 41 09.7**	**-4.4**

---

*NCEDC **15** 19:37:06.1±0.9, 41°.85N±0°.07×127°.0W±0°.2, h6km±9km, Error ellipse: s-maj=16.4km s-min=10.0km az=82.0*
NEIC 15 19:37:07.1±0.8, 41°.81N±0°.07×126°.73W±0°.06, h10km±9km, ML2.8/44, Md3.2/23(NCEDC), Error ellipse: s-maj=10.4km s-min=6.3km az=161.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.91**	**77**		Pn	19 37 39.2	-0.6
KBO					Sb	19 38 05.5	-0.4
KBO	**Bosley Butte**	**1.91**	**77**	IAML		19 38 05.5	
comp=N,54nm,2.5s							
KBO				IAML		19 38 28.2	
comp=E,74nm,2.6s							
KEBM	**Edson Butte**	**2.06**	**58**		Pn	19 37 41.1	-0.8
KEBM	**Edson Butte**	**2.06**	**58**	IAML		19 38 32.6	
comp=N,53nm,1.7s							
KEBM				IAML		19 38 40.1	
comp=E,68nm,1.6s							
KSXB	**Camp Six Broad**	**2.13**	**89**		Pn	19 37 42.6	-0.2
KRMB	**Red Mountain**	**2.13**	**97**		Pn	19 37 42.9	0.0
KRPM	**Rodgers**	**2.13**	**107**		Pn	19 37 42.9	+0.1
KRPM	**Rodgers**	**2.13**	**107**	IAML		19 38 10.8	
comp=E,70nm,3.1s							
KRPM				IAML		19 38 29.4	
comp=N,66nm,2.5s							
KCTM	**Capetown**	**2.25**	**126**		Pn	19 37 44.5	+0.1
JCC	**Jacoby Creek,**	**2.26**	**115**		Pn	19 37 44.2	-0.3
KMPM	**Mount Pierce**	**2.41**	**124**		Pn	19 37 46.6	-0.1
KMPM	**Mount Pierce**	**2.41**	**124**	IAML		19 37 55.4	
comp=E,54nm,1.9s							
KMPM				IAML		19 39 16.3	
comp=N,55nm,3.6s							
K02D	**Willamette Mer**	**2.44**	**68**		Pn	19 37 46.7	-0.4
KHMM	**Horse Mountain**	**2.44**	**112**		Pn	19 37 47.4	+0.3
KHMM				IAML		19 38 23.7	
comp=E,31nm,3.5s							
J01E	**Myrtle Point**	**2.47**	**56**		Pn	19 37 46.5	-0.8
KSMM	**Slide Mountain**	**2.52**	**129**		Pn	19 37 47.7	-0.5
KCRM	**Chalk Rock**	**2.60**	**121**		Pn	19 37 49.2	0.0
KMRM	**Mail Ridge**	**2.78**	**124**		Pn	19 37 51.7	-0.1
KMRM				IAML		19 38 27.8	
comp=E,42nm,3.5s							
KHBM	**Hayfork Bally**	**2.88**	**112**		Pn	19 37 53.5	+0.2
DBO	**Dodson Butte**	**2.89**	**62**		Pn	19 37 53.1	-0.1
DBO				IAML		19 38 32.9	
comp=E,22nm,2.1s							
DBO				IAML		19 39 09.4	
comp=N,19nm,3.0s							
M02C	**Callahan**	**2.93**	**97**		Pn	19 37 54.7	+0.8
YBH	**Yreka Blue Hor**	**3.00**	**90**		Pn	19 37 56.1	+1.3
LGPM	**Granite Peak**	**3.07**	**106**		Pn	19 37 56.3	+0.5
LAMM	**Antelope Mount**	**3.08**	**92**		Pn	19 37 57.6	+1.7
I03D	**Drain, OR**	**3.12**	**52**		Pn	19 37 55.6	-0.7
I03D				IAML		19 38 36.6	
comp=N,16nm,2.5s							
I03D				IAML		19 39 04.5	
comp=E,18nm,4.0s							
KIPM	**Iron Peak**	**3.17**	**128**		Pn	19 37 57.5	+0.3
BBOR	**Butler Butte**	**3.19**	**69**		Pn	19 37 58.0	+0.6
KCPM	**Cahto Peak**	**3.20**	**131**	Pn	Pn	19 37 57.0	-0.5
B040	**Montague**	**3.22**	**88**		Pn	19 37 59.1	+1.4
KBNM	**Bluenose Ridge**	**3.29**	**124**		Pn	19 37 59.7	+0.8
L04D	**Klamath Falls**	**3.32**	**82**		Pn	19 37 59.0	-0.3
LMPM	**Military Pass**	**3.44**	**94**		Pn	19 38 03.5	+2.6
BUCK	**Buck Mountain**	**3.63**	**48**		Pn	19 38 03.5	+0.1
BUCK				IAML		19 39 21.0	
comp=N,22nm,4.1s							
LBFM	**Black Fox Moun**	**3.66**	**96**		Pn	19 38 06.7	+2.8
COR	**Corvallis**	**3.73**	**41**	Pn	Pn	19 38 04.8	+0.1
I04A	**Tendick Farm,**	**3.74**	**57**		Pn	19 38 05.4	+0.5
H04D	**Lebanon**	**3.98**	**46**		Pn	19 38 09.0	+0.9
H04A	**Detroit Lake**	**4.38**	**48**		Pn	19 38 13.1	-0.6
H04A				IAML		19 39 31.2	
comp=N,8.2nm,4.1s							
H04A				IAML		19 40 26.9	
comp=E,9.3nm,4.2s							
K05A	**Summer Lake**	**4.42**	**76**	Pn	Pn	19 38 15.4	+0.9
K05A				IAML		19 38 59.9	
comp=E,12nm,4.2s							
ORV	**Oroville**	**4.57**	**118**	Pn	Pn	19 38 17.6	+1.4
ORV				IAML		19 38 54.8	
comp=E,7.0nm,0.1s							
ORV				IAML		19 39 27.3	
comp=N,7.3nm,0.3s							
PINE	**Pine Mountain**	**4.69**	**63**	Pn	Pn	19 38 19.4	+1.3

---

*EAF **15** 19:48:03.6, 24°.55S×32°.76E, h0km, MC3.7*
*BUL **15** 19:48:04.5±1.7, 24°.76S×33°.03E, h10km±88km, MD4.0*
*PRE **15** 19:48:05.5±1.3, 24°.58S×32°.48E, h10km, ML2.6*
ISC 15 19:48:04.5±2.8, 24°.56S±0°.04×32°.6E±0°.1, h15km±16km, n15, σ2§22/30, Mozambique

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

LYMT	**Lyon Mountain**	**0.32 73**	Pg	Pg	19 49 33.9	-0.6
CHMT	**Chamberlain Mo**	**0.35 276**		Pg	19 49 34.9	-0.2
ELMT	**Elliston**	**0.39 155**		Pg	19 49 36.4	+0.6
BPMT	**Black Pine Rid**	**0.66 228**		Pg	19 49 40.8	0.0
MSO	**Missoula**	**0.83 267**		Pg	19 49 43.4	-0.6
BOZ	**Bozeman (W)**	**1.50 149**		Pn	19 49 54.8	-0.2
DLMT	**Dillon**	**1.52 176**		Pb	19 49 56.0	-0.3
DLMT			IAML		19 50 18.8	
	41nm,0.6s					
DLMT			IAML		19 50 19.8	
	57nm,0.2s					
YHL	**Hebgen Lake**	**2.30 151**		Pn	19 50 05.3	-0.9
YHL			IAML		19 50 44.8	
	comp=E,21nm,1.0s					
YHL			IAML		19 50 44.8	
	comp=N,26nm,0.6s					
EGMT	**Eagleton**	**2.33 59**	Pn	Pn	19 50 06.8	+0.4
BCYI	**Bear Canyon**	**2.61 191**		Pn	19 50 10.6	+0.1
PLID	**Pearl Lake**	**2.90 233**	Pn	Pn	19 50 14.9	+0.5
F10A	**Beach Ranch, E**	**3.24 255**		Pn	19 50 18.7	-0.2
IMW	**Indian Meadow**	**3.24 156**		Pn	19 50 19.2	+0.1
IMW			IAML		19 51 12.7	
	comp=N,7.9nm,0.5s					
IMW			IAML		19 51 15.6	
	comp=N,12nm,0.5s					
NEW	**Newport**	**3.28 297**	Pn	Pn	19 50 19.5	+0.1
NEW			IAML		19 51 10.7	
	comp=N,11nm,0.7s					
NEW			IAML		19 51 11.0	
	comp=N,17nm,0.3s					
TPAW	**Teton Pass**	**3.62 159**	Pn	Pn	19 50 24.0	-0.3
TPAW			IAML		19 51 34.6	
	comp=N,6.6nm,4.5s					
TPAW			IAML		19 52 36.2	
	comp=N,7.1nm,4.9s					

*IDC **15** 19:56:44.0±3.0, 24°.92S×176°.49W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=68.4km s-min=32.8km az=42.0*

ISC 15 19:56:49.2±2.1, 24°.8S±0°.2×176°.6W±0°.3, h35km, n6, σ1§32/6, mb4.0/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.55**	**195**	Sn	**Sn**	**19 58 47.4**	**+0.3**
	152nm,0.3s,baz=42,slow=23,SNR=5.6						
STKA	**Stephens Creek**	**37.27**	**249**	P	**P**	**20 03 56.3**	**-1.5**
	0.4nm,0.3s,baz=101,slow=16,SNR=4.1						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**44.94**	**261**	P	**P**	**20 05 02.0**	**+0.9**
	0.5nm,0.6s,baz=99,slow=7.8,SNR=15						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**45.43**	**266**	P	**P**	**20 05 05.9**	**+0.9**
	0.8nm,0.4s,baz=105,slow=6.2,SNR=12						
	0.8nm,0.4s						
QSPA	**South Pole Qui**	**65.25**	**180**	P	**P**	**20 07 26.4**	**-0.7**
	1.5nm,0.8s,baz=20,slow=2.3,SNR=5.7						
	1.5nm,0.8s						
MAW	**Mawson**	**77.93**	**200**	P	**P**	**20 08 44.1**	**+0.8**
	1.6nm,0.6s,baz=140,slow=9.5,SNR=12						
	1.6nm,0.6s						

WEL 15 19:59:56.8±1.0, 38°S±5°×17°9E±°, h22km±7km, M3.0/15, ML3.3/12, MLv3.0/15, Error ellipse: s-maj=0.0km s-min=0.0km az=80.6, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.45**	**253**	P	Pn	20 00 07.6	-0.3
PUZ	**Puketiti**	**0.49**	**305**	P	Pb	20 00 07.2	+0.6
PUZ				S	Sn	20 00 15.3	-0.9
WMGZ	**Waiomatatini S**	**0.60**	**333**	P	Pn	20 00 09.4	-0.6
WMGZ				S	Sn	20 00 19.2	+0.3
TWGZ	**Tauwhareparae**	**0.64**	**286**	P	Pb	20 00 09.1	-0.2
TWGZ				S	Sn	20 00 20.0	-0.1
PKGZ	**Pakihiroa**	**0.71**	**310**	P	Pb	20 00 11.0	+0.5
PKGZ				S	Sn	20 00 22.0	+0.2
TKGZ	**Te Karaka**	**0.72**	**263**	P	Pn	20 00 11.5	-0.1
RIGZ	**Rimuhau**	**0.86**	**245**	P	Pn	20 00 13.5	-0.1
MXZ	**Matakaoa Point**	**0.87**	**335**	P	Pn	20 00 13.4	-0.2
PRGZ	**Paritu Road**	**0.89**	**230**	P	Pn	20 00 14.0	-0.1
RUGZ	**Raukumara Rang**	**0.94**	**294**	P	Pb	20 00 14.5	+0.1
RUGZ				S	Sn	20 00 27.8	+0.3
MWZ	**Matawai**	**0.97**	**271**	P	Pb	20 00 14.8	-0.1
MWZ				S	Sn	20 00 28.0	-0.2
HAZ	**Te Kaha**	**0.97**	**307**	P	Pb	20 00 14.7	-0.3
HAZ				S	Sn	20 00 28.2	0.0
MHGZ	**Mahia Peninsul**	**1.04**	**220**	P	Pn	20 00 15.8	-0.3
RAGZ	**Rawiri**	**1.07**	**262**	P	Pb	20 00 17.2	+0.6
KNZ	**Kokohu**	**1.08**	**232**	P	Pn	20 00 16.1	-0.5
SNGZ	**Shannon Statio**	**1.19**	**249**	P	Pb	20 00 19.6	+0.9
URZ	**Urewera**	**1.30**	**274**	P	Pb	20 00 21.1	+0.6
RTZ	**Ruatahuna**	**1.42**	**259**	P	Pb	20 00 22.2	-0.4
WHRZ	**Whale Island**	**1.49**	**289**	P	Pb	20 00 24.0	+0.2
MTHZ	**Maungataniwha**	**1.58**	**251**	P	Pn	20 00 24.2	+0.6
ARHZ	**Aropaoanui**	**1.65**	**236**	P	Pb	20 00 25.5	-1.0
NMHZ	**Naumai**	**1.70**	**243**	P	Pn	20 00 23.9	-1.3
MCHZ	**McNeill Hill**	**1.94**	**235**	P	Pn	20 00 28.6	+0.2
BKZ	**Black Stump Fm**	**1.95**	**245**	P	Pn	20 00 28.9	+0.3

*EAF **15** 20:22:53.5, 24°.90S×32°.59E, h10km, MC3.6*
*PRE **15** 20:22:56.6±1.1, 24°.64S×32°.53E, h10km, ML2.2*
*BUL **15** 20:22:57.3±2.9, 25°.11S×32°.38E, h10km, MD3.7*

ISC 15 20:22:56.3±2.3, 24°.81S±0°.05×32°.5E±0°.1, h10km, n15, σ2§75/27, 1D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**1.45**	**286**	⇓*i* P	**Pg**	**20 23 24.2**	**+0.1**
HOED				*e*S	**Sb**	**20 23 43.4**	**+1.6**
HOED				IAML		20 23 49.7	
	comp=Z,27nm,0.3s						
PILG	**Pilgrimsrest,**	**1.59**	**265**	*e*P	**Pb**	**20 23 26.1**	**+0.1**
PILG				*e*S	**Sb**	**20 23 49.4**	**+3.1**
PILG				IAML		20 23 50.8	
	comp=Z,28nm,0.2s						
MOPA	**Mopani**	**1.61**	**323**	*i* P	**Pn**	**20 23 23.0**	**-1.8**
MOPA				*i* S	**Sn**	**20 23 41.8**	**-4.0**
MOPA	**Mopani**	**1.61**	**323**	*e*P	**Pn**	**20 23 24.0**	**-0.9**
MOPA				*e*S	**Sn**	**20 23 44.7**	**-1.1**
MOPA	**Mopani**	**1.61**	**323**	*i* P	**Pn**	**20 23 23.0**	**-1.8**
	baz=326						
MOPA				*i* S	**Sn**	**20 23 41.8**	**-4.0**
	baz=326						
MMAL	**MMAL**	**1.67**	**222**	*e*P	**Pg**	**20 23 30.2**	**+1.8**
MMAL				*e*S	**Sg**	**20 23 54.2**	**+4.1**
MMAL				IAML		20 23 56.4	
	comp=Z,53nm,0.4s						
MPHEP	**Siloam, Limpop**	**2.82**	**312**	*e*P	**Pn**	**20 23 42.3**	**+0.8**
MPHEP				*e*S	**Sn**	**20 24 14.5**	**-1.2**
MPHEP				IAML		20 24 23.9	
	comp=Z,23nm,0.5s						
MUSN	**Musina, Limpop**	**3.46**	**316**	*i* P	**Pn**	**20 23 51.7**	**+1.3**
MUSN				*i* S	**Sn**	**20 24 31.4**	**-0.1**
MUSN	**Musina, Limpop**	**3.46**	**316**	*e*P	**Pn**	**20 23 51.1**	**+0.7**
MUSN				*e*S	**Sn**	**20 24 30.4**	**-1.1**
MUSN				IAML		20 24 49.1	
	comp=Z,15nm,0.5s						
MUSN	**Musina, Limpop**	**3.46**	**316**	*i* P	**Pn**	**20 23 51.7**	**+1.3**
	baz=317						
MUSN				*i* S	**Sn**	**20 24 31.4**	**-0.1**
	baz=317						
LEPH	**Lephalale, Lim**	**4.36**	**282**	*e*S	**Sn**	**20 24 54.2**	**+0.6**
LEPH				IAML		20 25 20.6	
	comp=Z,5.8nm,0.5s						
LBTB	**Lobatse**	**6.23**	**267**	*i* P	**Pn**	**20 24 27.5**	**-1.0**
LBTB				*i* S	**Sn**	**20 25 33.4**	**-6.5**
LBTB	**Lobatse**	**6.23**	**267**	*i* P	**Pn**	**20 24 27.5**	**-1.0**
	baz=267						
LBTB				*i* S	**Sn**	**20 25 33.4**	**-6.5**
	baz=267						
BOSA	**Boshof**	**7.47**	**238**	*i* P	**Pn**	**20 24 42.8**	**-2.7**
BOSA				*i* S	Sn	20 25 59.8	-11
BOSA	**Boshof**	**7.47**	**238**	*i* P	**Pn**	**20 24 42.8**	**-2.7**
	baz=238						
BOSA				*i* S	Sn	20 25 59.8	-11
	baz=238						

IDC 15 21:11:03.5±4.0, 4°.67S×153°.22E, h0km, mb3.1/2, mbtmp3.2/2, Error ellipse: s-maj=193.4km s-min=51.1km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.85**	**229**	P	P	21 16 18.5	-0.1
	0.5nm,0.6s,baz=54,slow=9.8,SNR=5.3						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**26.53**	**223**	P	P	21 16 43.5	+0.3
	0.1nm,0.3s,baz=54,slow=9.6,SNR=1.5						
	0.1nm,0.3s						
QSPA	**South Pole Qui**	**85.29**	**180**	P	P	21 23 41.4	-0.8
	0.4nm,1.0s,baz=175,slow=3.4,SNR=0.9						
TORD	**Torodi Ar. Bea**	**150.67**	**289**	PKPbc	PKPbc	21 30 58.2	-0.5
	0.2nm,0.5s,baz=80,slow=1.2,SNR=4.7						

*IDC **15** 21:15:06.3±1.8, 19°.00S×169°.23E, h246km±22km, mb3.8/10, mbtmp4.3/12, Error ellipse: s-maj=40.0km s-min=14.0km az=159.0*
*NOU **15** 21:15:06.0, 18°.90S×169°.27E, h205km, MLv4.5/14, Vanuatu Islands*

ISC 15 21:15:06.5±0.6, 19°.1S±0°.1×169°.28E±0°.10, h250km, n31, σ1§11/31, mb4.0/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.53**	**328**	P	Pn	21 15 39.4	-5.7
LIFNC	**LIFOU**	**2.55**	**229**	P	**Pn**	**21 15 51.2**	**-3.0**
MARNC	**Mare, Loyalty**	**2.65**	**206**	P	**Pn**	**21 15 53.4**	**-1.9**
YATNC	**Mamie plateau,**	**3.70**	**217**	P	**Pn**	**21 16 04.9**	**-2.0**
DZM	**Mont Dzumac**	**3.98**	**221**	P	**Pn**	**21 16 09.7**	**-0.5**
DZM	**Mont Dzumac**	**3.98**	**221**	P	**Pn**	**21 16 09.1**	**-1.1**
	59nm,0.5s,baz=44,slow=21,SNR=72						
DZM				S	**S**	**21 17 01.8**	**+1.1**
	38nm,0.5s,baz=315,slow=20,SNR=3.2						
OUENC	**Ouen Island, N**	**4.02**	**214**	P	**Pn**	**21 16 10.5**	**0.0**
NOUC	**Port Laguerre**	**4.09**	**223**	P	**Pn**	**21 16 10.9**	**-0.5**
ONTNC	**Ouen Toro**	**4.15**	**219**	P	**Pn**	**21 16 11.8**	**-0.3**
KOUNC	**Koumac, New Ca**	**4.92**	**252**	P	**Pn**	**21 16 21.2**	**-0.2**
MSVF	**Nonsavu**	**8.43**	**82**	P	**Pn**	**21 17 06.5**	**+1.1**
	16nm,0.9s,baz=241,slow=9.8,SNR=5.8						
CTA	**Charters Tower**	**21.72**	**264**	P	**P**	**21 19 37.0**	**-1.1**
	5.6nm,0.6s,baz=89,slow=10,SNR=6.1						
	5.6nm,0.6s						
PMG	**Port Moresby**	**23.48**	**291**	P	**P**	**21 19 54.6**	**+0.4**
	6.4nm,0.7s,baz=80,slow=18,SNR=2.3						
	6.4nm,0.7s						
STKA	**Stephens Creek**	**27.95**	**237**	P	**P**	**21 20 36.0**	**+1.9**
	2.8nm,0.6s,baz=73,slow=11,SNR=2.9						
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**32.91**	**263**	P	**P**	**21 21 16.4**	**-1.4**
	2.1nm,0.5s,baz=97,slow=8.4,SNR=23						
	2.1nm,0.5s						
ASAR	**Alice Springs**	**33.20**	**256**	P	**P**	**21 21 20.2**	**-0.1**
	15nm,0.5s,baz=83,slow=8.8,SNR=293						
	15nm,0.5s						
PETK	**Petropavlovsk-**	**72.60**	**353**	P	**P**	**21 26 06.3**	**-0.1**
	4.8nm,0.7s,baz=141,slow=8.4,SNR=6.5						
	4.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**78.48**	**294**	P	**P**	**21 26 41.8**	**+1.3**
	0.4nm,0.3s,baz=129,slow=16,SNR=1.6						
	0.4nm,0.3s						
NVAR	**Mina Array Bea**	**88.68**	**48**	P	**P**	**21 27 32.2**	**+0.2**
	0.7nm,0.8s,baz=227,slow=8.4,SNR=6.0						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**90.08**	**17**	P	**P**	**21 27 36.3**	**-1.4**
	0.7nm,0.6s,baz=239,slow=4.9,SNR=12						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**96.66**	**61**	P	**P**	**21 28 07.9**	**-0.9**
	2.8nm,0.6s,baz=202,slow=5.4,SNR=2.2						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**124.94**	**345**	PKP	**PKPdf**	**21 33 36.4**	**+0.2**
	2.4nm,0.8s,baz=15,slow=5.0,SNR=4.8						
RONA	**Rosalia, Austr**	**143.99**	**329**	*e*PKP	**PKPdf**	**21 34 12.6**	**+0.4**
	2.5nm,0.8s						
GERES	**GERESS Array B**	**144.39**	**332**	PKP	**PKPab**	**21 34 12.0**	**+0.1**
	1.6nm,0.8s,baz=46,slow=3.9,SNR=8.7						
MOA	**Molln**	**144.86**	**330**	*e*PKiKP	**PKPdf**	**21 34 14.8**	**+1.1**
	5.8nm,0.7s						
SOKA	**Soboth**	**145.31**	**328**	*e*PKiKP	**PKPab**	**21 34 15.7**	**+0.2**
	4.7nm,0.8s						
OBKA	**Obir**	**145.67**	**328**	*e*PKiKP	**PKPab**	**21 34 17.2**	**+0.4**
	4.0nm,1.2s						
KBA	**Koelnbreinsper**	**145.85**	**330**	*e*PKiKP	**PKPab**	**21 34 17.7**	**+0.2**
	1.1nm,0.7s						
LESA	**Schwarzleotal**	**145.90**	**331**	*e*PKiKP	**PKPab**	**21 34 17.6**	**0.0**
	2.8nm,0.6s						
ABTA	**Abfaltersbach**	**146.48**	**331**	*e*PKP	**PKPbc**	**21 34 18.1**	**-0.3**
	5.0nm,1.7s						
FETA	**Feichten**	**147.07**	**333**	*i* PKP	**PKPbc**	**21 34 20.8**	**+0.6**
	1.8nm,0.7s						

*IDC **15** 21:29:06.3±1.0, 29°.36S×71°.52W, h0km, mb3.6/5, mbtmp3.6/7, ML3.3/2, MS2.7/3, Error ellipse: s-maj=40.8km s-min=25.7km az=77.0*
*SJA **15** 21:29:13.3±0.7, 29°.43S×71°.21W, h45km±17km, ML3.7, MW3.9*
*GUC **15** 21:29:14.2±0.9, 29°.44S×71°.20W, h54km±2km, ML3.8*

ISC 15 21:29:13.9±0.8, 29°.46S±0°.03×71°.25W±0°.05, h56km±7km, n55, σ2§55/64, mb3.7/5, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.46**	**179**	⇑*i* P	**Pn**	**21 29 25.5**	**+0.4**
CO05				*e*S	**Sn**	**21 29 33.5**	**+0.3**
CO05				IAML		21 29 34.0	
	comp=N,15μm,0.1s						
LCO	**Las Campanas**	**0.66**	**47**	*i* P	**Pn**	**21 29 27.1**	**-0.5**
LCO				*e*S	**Sn**	**21 29 36.3**	**-1.3**
LCO	**Las Campanas**	**0.66**	**47**	*e*P	**Pn**	**21 29 27.2**	**-0.5**
LCO				*e*S	**Sn**	**21 29 36.6**	**-1.0**
LCO				IAML		21 29 37.8	
	comp=Z,17μm,0.3s						
GO04	**Tololo Observa**	**0.81**	**151**	*i* P	**Pn**	**21 29 29.8**	**+0.1**
GO04				*e*S	**Sn**	**21 29 40.8**	**-0.3**
GO04				IAML		21 29 43.3	
	comp=N,11μm,0.4s						
GO04	**Tololo Observa**	**0.81**	**151**	*e*P	**Pn**	**21 29 29.7**	**+0.1**
GO04				*e*S	**Sn**	**21 29 40.4**	**-0.7**
AC05	**El Transito**	**1.05**	**54**	*i* P	**Pn**	**21 29 32.8**	**+0.1**
AC05				*e*S	**Sn**	**21 29 46.7**	**+0.2**
AC05				IAML		21 29 47.4	
	comp=N,4μm,0.4s						
AC05	**El Transito**	**1.05**	**54**	*e*P	**Pn**	**21 29 33.0**	**+0.3**
AC05				IAML		21 29 48.8	
	comp=Z,1μm,0.5s						
CO01	**Juntas del Tor**	**1.13**	**118**	⇓*i* P	**Pn**	**21 29 34.3**	**+0.5**
CO01				*e*S	**Sn**	**21 29 49.0**	**+0.5**
CO01				IAML		21 29 49.8	
	comp=N,3μm,0.3s						
CO01	**Juntas del Tor**	**1.13**	**118**	*e*P	**Pn**	**21 29 34.3**	**+0.5**
CO01				*e*S	**Sn**	**21 29 49.4**	**+0.8**
CO01				IAML		21 29 49.9	
	comp=Z,1μm,0.2s						
CO06	**Fray Jorge**	**1.26**	**195**	*i* P	**Pn**	**21 29 36.0**	**+0.8**
AC04	**Llanos de Chal**	**1.26**	**7**	*i* P	**Pn**	**21 29 35.8**	**+0.5**
AC04				*e*S	**Sn**	**21 29 51.7**	**+0.5**
AC04				IAML		21 29 56.5	
	comp=E,2μm,0.2s						
AC04	**Llanos de Chal**	**1.26**	**7**	*e*P	**Pn**	**21 29 36.0**	**+0.8**
AC04				*e*S	**Sn**	**21 29 51.6**	**+0.4**
AC04				IAML		21 29 54.4	
	comp=Z,1μm,0.5s						
CO03	**El Pedregal**	**1.46**	**161**	*i* P	**Pn**	**21 29 38.8**	**+0.7**
CO03				IAML		21 30 00.6	
	comp=E,1μm,0.2s						
CO03	**El Pedregal**	**1.46**	**161**	*e*P	**Pn**	**21 29 38.8**	**+0.7**
CO03				*e*S	**Sn**	**21 29 57.9**	**+1.6**
AROD	**Rodeo**	**1.70**	**115**	*e*P	**Pn**	**21 29 44.0**	**+2.5**
AROD				*e*S	**Sn**	**21 29 55.5**	**-6.8**
CO02	**Combarbal**	**1.75**	**173**	*i* P	**Pn**	**21 29 42.7**	**+0.5**
CO02	**Combarbal**	**1.75**	**173**	*e*P	**Pn**	**21 29 42.6**	**+0.5**
CO02				*e*S	**Sn**	**21 29 56.8**	**-6.6**
CO02				IAML		21 30 07.9	
	comp=Z,722nm,0.3s						
ACDV	**Cuesta del Vie**	**1.98**	**112**	*e*P	**Pn**	**21 29 47.6**	**+2.3**
ACDV				*e*S	**Sn**	**21 30 01.9**	**-7.1**
GO03	**Copiap**	**2.06**	**26**	*i* P	**Pn**	**21 29 46.7**	**+0.5**
GO03	**Copiap**	**2.06**	**26**	*e*P	**Pn**	**21 29 46.9**	**+0.7**
GO03				*e*S	Sn	21 30 00.7	-10
ACCO	**Cerro Coronel**	**2.20**	**121**	*e*P	**Pn**	**21 29 51.0**	**+2.6**
ACCO				*e*S	**Sn**	**21 30 05.9**	**-8.8**
ACCO				IAML		21 30 08.8	
	comp=Z,337nm,0.3s						
AC06	**Mina Casimiro**	**2.24**	**21**	*i* P	**Pn**	**21 29 49.4**	**+0.8**
DOCA	**Reserva Natura**	**2.39**	**129**	*e*P	**Pn**	**21 29 53.6**	**+2.6**
DOCA				*e*S	Sn	21 30 09.4	-10
AGUA	**GUANDACOL**	**2.41**	**91**	*e*P	**Pn**	**21 29 54.1**	**+3.1**
AGUA				IAML		21 30 31.8	
	comp=Z,403nm,0.5s						
VCA	**Vinchina**	**2.76**	**76**	*e*P	**Pn**	**21 29 59.8**	**+3.9**
VCA				*e*S	Sn	21 30 17.7	-10
VCA				IAML		21 30 17.8	
	comp=Z,532nm,0.4s						
RTLS	**Leoncito**	**2.88**	**145**	*e*P	**Pn**	**21 30 01.5**	**+3.9**
RTLS				*e*S	Sn	21 30 17.8	-13
RTLS				IAML		21 30 47.2	
	comp=Z,516nm,0.7s						
ZON	**Zonda**	**3.04**	**134**	*e*P	Pn	21 30 06.1	+6.5
ZON				*e*S	Sn	21 30 21.7	-13
AC02	**Maricunga**	**3.21**	**36**	*i* P	**Pn**	**21 30 03.5**	**+1.1**
AC02	**Maricunga**	**3.21**	**36**	*e*P	**Pn**	**21 30 03.5**	**+1.1**
AC02				IAML		21 30 55.9	
	comp=Z,192nm,0.5s						
AC01	**Pan de Azucar**	**3.35**	**10**	*e*P	**Pn**	**21 30 03.0**	**-0.8**
AC01				IAML		21 30 54.3	
	comp=Z,123nm,0.5s						
VA03	**San Esteban**	**3.35**	**170**	*i* P	**Pn**	**21 30 05.8**	**+2.0**
VA03	**San Esteban**	**3.35**	**170**	*e*P	**Pn**	**21 30 07.0**	**+3.1**
VA03				IAML		21 31 10.2	
	comp=Z,198nm,0.3s						
CFA	**Coronel Fontan**	**3.37**	**130**	LR	LR	21 31 27.0	
	comp=Z,54nm,19.3s,baz=55,slow=39						
CFA	**Coronel Fontan**	**3.37**	**130**	*e*P	**Pn**	**21 30 06.2**	**+2.1**
ROC1	**El Roble**	**3.51**	**177**	*e*P	**Pn**	**21 30 10.3**	**+4.1**
ASAL	**Salagasta**	**3.75**	**147**	*e*P	**Pn**	**21 30 12.9**	**+3.6**
ASAL				IAML		21 31 19.5	
	comp=Z,64nm,1.2s						
MT02	**Curacav**	**3.79**	**179**	*e*P	**Pn**	**21 30 11.5**	**+1.7**
MT02				*e*S	Sn	21 31 07.7	+15
MT02				IAML		21 31 20.9	
	comp=Z,97nm,0.4s						
MT03	**Universidad Ad**	**4.07**	**171**	*e*P	**Pn**	**21 30 18.5**	**+4.7**
MT03				IAML		21 31 24.0	
	comp=Z,156nm,0.7s						
APLL	**PUNTA DE LOS L**	**4.20**	**104**	*e*P	**Pn**	**21 30 17.0**	**+1.5**
MT01	**Popeta**	**4.39**	**180**	*e*P	**Pn**	**21 30 19.5**	**+1.4**
MT01				IAML		21 31 29.1	
	comp=Z,66nm,0.6s						
GO02	**Mina Guanaco**	**4.53**	**19**	*e*P	**Pn**	**21 30 20.3**	**0.0**
CYA	**Choya**	**4.88**	**79**	*e*P	**Pn**	**21 30 25.8**	**+1.0**
CYA				IAML		21 31 27.0	
	comp=Z,93nm,0.9s						
H03N1	**Juan Fernandez**	**7.66**	**237**	T	T	21 38 46.3	
	baz=64,slow=72,SNR=692						
H03N2	**Juan Fernandez**	**7.67**	**237**	T	T	21 38 46.7	
	baz=64,slow=72,SNR=570						
H03N3	**Juan Fernandez**	**7.67**	**237**	T	T	21 38 37.9	
	baz=64,slow=72,SNR=483						
PLCA	**Paso Flores**	**11.26**	**177**	Pn	**Pn**	**21 31 49.5**	**-2.7**
	baz=124,slow=0.9,SNR=2.0						
PLCA				LR	LR	21 36 42.1	
	comp=Z,62nm,18.1s,baz=22,slow=40						
	comp=Z,1.5nm,1.0s						
CPUP	**Villa Florida**	**12.70**	**79**	Pn	**Pn**	**21 32 13.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=241,slow=19,SNR=1.5						
	comp=Z,0.4nm,0.4s						
LPAZ	**La Paz**	**13.42**	**13**	Pn	**Pn**	**21 32 22.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=182,slow=3.1,SNR=2.9						
SIV	**San Ignacio**	**16.35**	**37**	LR	LR	21 39 18.5	
	comp=Z,31nm,18.5s,baz=232,slow=37						
SNAA	**Sanae**	**55.55**	**159**	P	**P**	**21 38 44.2**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=95,slow=1.2,SNR=2.8						
	comp=Z,1.1nm,0.9s						
QSPA	**South Pole Qui**	**60.77**	**180**	P	**P**	**21 39 20.8**	**+1.0**
	comp=Z,1.3nm,1.1s,baz=128,slow=8.8,SNR=2.3						
	comp=Z,1.3nm,1.1s						
TXAR	**Lajitas Array**	**66.15**	**329**	P	**P**	**21 39 54.7**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=160,slow=13,SNR=1.8						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**80.04**	**332**	P	**P**	**21 41 16.2**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=128,slow=5.8,SNR=2.1						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**82.03**	**70**	P	**P**	**21 41 28.7**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=279,slow=6.6,SNR=6.2						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**149.98**	**29**	PKPbc	**PKiKP**	**21 48 58.6**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=279,slow=3.9,SNR=6.2						

IDC 15 21:38:13.3±21.0, 19°.09S×177°.16W, h176km±195km, mb3.2/6, mbtmp3.7/6, Error ellipse: s-maj=47.3km s-min=29.8km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.59**	**260**	P	P	21 46 16.3	0.0
	0.5nm,0.3s,baz=97,slow=7.5,SNR=16						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**45.62**	**255**	P	P	21 46 16.4	-0.1
	0.6nm,0.5s,baz=96,slow=7.6,SNR=10						
	0.6nm,0.5s						
MJAR	**Matsushiro Arr**	**69.56**	**323**	P	P	21 49 03.0	-0.3
	0.5nm,0.4s,baz=103,slow=9.7,SNR=1.6						
	0.5nm,0.4s						
QSPA	**South Pole Qui**	**70.97**	**180**	P	P	21 49 11.5	-0.1
	0.4nm,0.5s,baz=198,slow=2.4,SNR=6.9						
	0.4

comp=Z,86nm,21.6s,baz=35,slow=32
comp=Z,1.6nm,1.0s
NWAO Narrogin (SRO) 39.02 84 LR LR 22 41 48.4
comp=Z,169nm,18.3s,baz=224,slow=31
BOSA Boshof 39.15 285 P **P** **22 28 57.3 -1.0**
BOSA Boshof 39.15 285 LR LR 22 41 48.3
comp=Z,175nm,19.7s,baz=182,slow=31
SUR Sutherland 39.52 277 LR LR 22 42 01.5
comp=Z,234nm,18.4s,baz=142,slow=31
QSPA South Pole Qui 41.06 180 P **P** **22 29 15.6 +1.8**
QSPA South Pole Qui 41.06 180 P **P** **22 29 12.9 -0.9**
comp=Z,3.4nm,0.6s,baz=277,slow=2.0,SNR=48
QSPA LR LR 22 45 02.3
comp=Z,44nm,20.5s,baz=248,slow=34
comp=Z,3.4nm,0.6s
BELA Belgrano 2 45.27 197 P **P** **22 29 47.6 +0.1**
BELA IAmb IAmb 22 29 50.6
comp=Z,11nm,1.3s
LSZ Lusaka 47.44 301 P **P** **22 30 05.0 -0.4**
LSZ IAmb IAmb 22 30 12.6
comp=Z,7.0nm,1.3s
LSZ Lusaka 47.44 301 LR LR 22 46 45.6
comp=Z,222nm,20.2s,baz=150,slow=32
TSUM Tsumeb 50.76 287 LR LR 22 49 20.2
comp=Z,126nm,18.2s,baz=153,slow=33
BBOO Buckleboo 51.43 98 P **P** **22 30 36.4 +0.8**
BBOO IAmb IAmb 22 30 55.2
comp=Z,15nm,1.2s
LEM Lembang 53.15 51 LR LR 22 48 39.9
comp=Z,47nm,21.5s,baz=222,slow=31
STKA Stephens Creek 55.62 101 P **P** **22 31 05.9 -0.4**
STKA Stephens Creek 55.62 101 P **P** **22 31 03.6 -2.7**
comp=Z,0.7nm,0.3s,baz=243,slow=2.3,SNR=2.0
STKA LR LR 22 50 32.4
comp=Z,122nm,19.8s,baz=205,slow=31
comp=Z,0.7nm,0.3s
ASAR Alice Springs 56.10 88 P **P** **22 31 09.0 -0.9**
ASAR Alice Springs 56.10 88 P **P** **22 31 08.7 -1.2**
comp=Z,0.4nm,0.6s,baz=218,slow=7.1,SNR=2.2
ASAR PcP **PcP** **22 32 08.2 +0.2**
comp=Z,0.2nm,0.3s,baz=203,slow=4.5,SNR=1.9
ASAR LR LR 22 50 43.8
comp=Z,72nm,21.8s,baz=194,slow=31
comp=Z,0.4nm,0.6s
AS31 Alice Springs 56.10 88 P **P** **22 31 09.1 -0.9**
AS31 IAmb IAmb 22 31 39.5
comp=Z,1.2nm,0.3s
MBAR Mbarara 58.48 313 LR LR 22 53 57.0
comp=Z,57nm,20.2s,baz=152,slow=33
WRA Warramunga Arr 59.01 85 P **P** **22 31 29.8 -0.6**
comp=Z,1.4nm,0.8s,baz=219,slow=6.1,SNR=4.9
WRA PcP **PcP** **22 32 19.5 +0.2**
comp=Z,0.4nm,0.7s,baz=220,slow=3.1,SNR=5.1
comp=Z,1.4nm,0.8s
WR0 Warramunga Arr 59.13 85 P **P** **22 31 33.5 +2.2**
WR0 IAmb IAmb 22 31 39.5
comp=Z,9.7nm,1.4s
WB0 Warramunga Arr 59.17 85 P **P** **22 31 34.2 +2.6**
BATI Baumata 59.46 69 LR LR 22 53 33.1
comp=Z,134nm,20.9s,baz=236,slow=32
PMSA Palmer Station 60.76 201 P **P** **22 31 40.8 -1.0**
PMSA Palmer Station 60.76 201 LR LR 22 57 17.7
comp=Z,40nm,18.7s,baz=116,slow=35
KAPI Kappang 61.26 61 LR LR 22 53 58.9
comp=Z,38nm,20.7s,baz=254,slow=32
RPZ Rata Peaks 65.12 129 LR LR 22 55 49.0
comp=Z,255nm,19.1s,baz=238,slow=32
CTA Charters Tower 66.73 94 LR LR 22 57 43.7
comp=Z,26nm,20.7s,baz=263,slow=33
PLWZ Palliser 68.81 129 P **P** **22 32 34.9 +0.2**
URZ Urewera 72.23 128 LR LR 22 59 41.5
comp=Z,150nm,19.1s,baz=213,slow=32
CMAR Chiang Mai Arr 72.31 30 P **P** **22 32 57.5 +1.4**
comp=Z,0.5nm,0.4s,baz=218,slow=5.7,SNR=4.9
CMAR LR LR 22 58 45.2
comp=Z,27nm,21.6s,baz=190,slow=31
comp=Z,0.5nm,0.4s
DAV Davao City (W) 74.44 59 LR LR 22 58 46.0
comp=Z,33nm,21.9s,baz=156,slow=30
PMG Port Moresby 75.11 87 P **P** **22 33 11.6 -1.1**
PMG IAmb IAmb 22 33 51.1
comp=Z,12nm,1.1s
DZM Mont Dzumac 78.22 110 LR LR 23 01 28.3
comp=Z,52nm,18.4s,baz=134,slow=31
KBL Kabul 83.29 360 P **P** **22 33 57.3 +0.1**
HNR Honiara 83.48 97 LR LR 23 07 09.4
comp=Z,1μm,19.4s,baz=123,slow=33
PLCA Paso Flores 83.73 210 P **P** **22 33 59.8 +0.3**
comp=Z,1.5nm,0.8s,baz=141,slow=6.5,SNR=6.6
PLCA LR LR 23 09 25.1
comp=Z,12nm,18.5s,baz=175,slow=34
comp=Z,1.5nm,0.8s
DBIC Dimbokro 84.67 286 LR LR 23 08 57.2
comp=Z,91nm,18.7s,baz=124,slow=34
TORD Torodi Ar. Bea 85.69 296 P **P** **22 34 09.9 +0.4**
comp=Z,0.7nm,0.8s,baz=112,slow=3.9,SNR=5.1
comp=Z,0.7nm,0.8s
CPUP Villa Florida 91.03 226 P **P** **22 34 35.8 +0.8**
comp=Z,1.5nm,0.8s,baz=116,slow=3.3,SNR=3.7
CPUP LR LR 23 08 14.2
comp=Z,20nm,20.8s,baz=104,slow=31
comp=Z,1.5nm,0.8s
CFA Coronel Fontan 91.11 215 LR LR 23 08 44.5
comp=Z,21nm,21.3s,baz=106,slow=31
BDFB Brasilia 94.99 239 LR LR 23 10 28.3
comp=Z,52nm,19.0s,baz=59,slow=31
KURBB Kurchatov Arra 99.68 6 P **Pdif** **22 35 12.1 -1.4**
comp=Z,0.4nm,0.8s,baz=191,slow=1.9,SNR=1.9
comp=Z,0.4nm,0.8s

*BUL **15** 23:17:45.4±0.9, 24°.85S×33°.03E, h10km, MD4.2*
*EAF **15** 23:17:49.0, 24°.64S×32°.57E, h10km, MC4.2*
*PRE **15** 23:17:50.5±1.1, 24°.57S×32°.46E, h10km, ML2.7*
ISC 15 23:17:51.5±2.2, 24°.57S±0°.03×32°.39E±0°.09, h15km±10km, n25, σ2°.9 12/49, 1C-2D, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**1.33**	**277**		*eP*	**Pg**	**23 18 17.0**	**-0.2**
HOED					*eS*	**Sg**	**23 18 35.4**	**+0.7**
HOED					IAML		23 18 39.0	
comp=Z,185nm,0.3s								
MOPA	**Mopani**	**1.39**	**319**		*i P*	**Pn**	**23 18 13.7**	**-2.7**
MOPA					*i* S	**Sn**	**23 18 33.1**	**-1.4**
MOPA	**Mopani**	**1.39**	**319**	⇑	*iP*	**Pn**	**23 18 16.5**	**+0.2**
MOPA					*eS*	**Sg**	**23 18 36.7**	**+0.4**
MOPA	**Mopani**	**1.39**	**319**		*i P*	**Pn**	**23 18 13.7**	**-2.7**
baz=309								
MOPA					*i* S	**Sn**	**23 18 33.1**	**-1.4**
baz=309								
MOPA	**Mopani**	**1.39**	**319**		*i P*	**Pn**	**23 18 14.9**	**-1.5**
baz=319								
MOPA					*i* S	**Sn**	**23 18 30.0**	**-4.4**
baz=319								
PILG	**Pilgrimsrest,**	**1.57**	**256**	⇓	*iP*	**Pb**	**23 18 20.1**	**-0.2**
PILG					*eS*	**Sg**	**23 18 41.7**	**-0.4**
PILG					IAML		23 18 43.6	
comp=Z,174nm,0.2s								
MMAL	**MMAL**	**1.82**	**216**		*eP*	**Pn**	**23 18 23.4**	**+1.0**
MMAL					*eS*	**Sb**	**23 18 48.2**	**+1.0**
MMAL					IAML		23 18 49.1	
comp=Z,199nm,0.2s								
DULL	**Dullstroom, Mp**	**2.16**	**248**		*eP*	**Pn**	**23 18 27.7**	**+0.6**
DULL					*eS*	**Sn**	**23 18 55.5**	**+1.7**
DULL					IAML		23 19 10.7	
comp=Z,45nm,0.7s								
CRLN	**Carolina, Mapu**	**2.57**	**236**		*eP*	**Pn**	**23 18 34.5**	**+1.7**
CRLN					*eS*	**Sn**	**23 19 06.4**	**+2.6**
CRLN					IAML		23 19 17.6	
comp=Z,26nm,0.7s								
MPHEP	**Siloam, Limpop**	**2.62**	**309**		*eP*	**Pn**	**23 18 34.5**	**+1.1**
MPHEP					*eS*	**Sn**	**23 19 06.6**	**+1.6**
MPHEP					IAML		23 19 16.4	
comp=Z,124nm,0.5s								
POGA	**Pongola**	**2.83**	**192**	⇓	*iP*	**Pn**	**23 18 36.3**	**+0.2**
POGA					*eS*	**Sn**	**23 19 10.7**	**+0.6**
POGA					IAML		23 19 35.8	
comp=Z,6.7nm,0.2s								
MUSN	**Musina, Limpop**	**3.25**	**314**		*i P*	**Pn**	**23 18 43.8**	**+1.7**
MUSN					*i* S	**Sb**	**23 19 28.0**	**-0.4**
MUSN	**Musina, Limpop**	**3.25**	**314**		*eP*	**Pn**	**23 18 43.7**	**+1.7**
MUSN					*eS*	**Sn**	**23 19 21.4**	**+0.8**
MUSN					IAML		23 19 42.0	
comp=Z,89nm,0.7s								
MUSN	**Musina, Limpop**	**3.25**	**314**		*i P*	**Pn**	**23 18 43.8**	**+1.7**
baz=310								
MUSN					*i* S	**Sb**	**23 19 28.0**	**-0.4**
baz=310								
MUSN	**Musina, Limpop**	**3.25**	**314**		*i P*	**Pn**	**23 18 43.8**	**+1.7**
baz=314								
MUSN					*i* S	**Sb**	**23 19 26.1**	**-2.4**
baz=314								
NWCL	**Newcastle**	**3.87**	**215**		*eP*	**Pn**	**23 18 52.2**	**+1.7**
NWCL					*eS*	**Sn**	**23 19 36.4**	**+0.6**
NWCL					IAML		23 19 58.8	
comp=Z,31nm,0.7s								
LEPH	**Lephalale, Lim**	**4.25**	**279**		*eP*	**Pn**	**23 18 57.0**	**+1.1**
LEPH					*eS*	**Sn**	**23 19 45.6**	**+0.4**
LEPH					IAML		23 20 13.8	
comp=Z,34nm,0.5s								
MATP	**Matopo**	**5.47**	**318**		*i P*	**Pn**	**23 19 13.8**	**+1.1**
MATP					*i* S	**Sn**	**23 20 19.7**	**+4.2**
MATP	**Matopo**	**5.47**	**318**		*i P*	**Pn**	**23 19 13.8**	**+1.1**
baz=315								
MATP					*i* S	**Sn**	**23 20 19.7**	**+4.2**
baz=315								
LBTB	**Lobatse**	**6.19**	**265**		*i P*	**Pn**	**23 19 24.1**	**+1.7**
LBTB					*i* S	**Sn**	**23 20 34.9**	**+1.8**
LBTB	**Lobatse**	**6.19**	**265**		*i P*	**Pn**	**23 19 24.1**	**+1.7**
baz=266								
LBTB					*i* S	**Sn**	**23 20 34.9**	**+1.8**
baz=266								
LBTB	**Lobatse**	**6.19**	**265**		*i P*	**Pn**	**23 19 22.8**	**+0.4**
baz=265								
LBTB					*i* S	**Sn**	**23 20 30.4**	**-2.6**
baz=265								
BOSA	**Boshof**	**7.54**	**236**		*i P*	**Pn**	**23 19 39.5**	**-1.7**
BOSA					*i* S	**Sn**	**23 21 01.5**	**-5.0**
BOSA	**Boshof**	**7.54**	**236**		*i P*	**Pn**	**23 19 39.5**	**-1.7**
baz=239								
BOSA					*i* S	**Sn**	**23 21 01.5**	**-5.0**
baz=239								
BOSA	**Boshof**	**7.54**	**236**		*i P*	**Pn**	**23 19 38.7**	**-2.5**
baz=237								
BOSA					*i* S	Sn	23 20 58.0	-8.5
baz=237								

IDC 15 23:17:56.1±11.0, 28°.28N×83°.30E, h0km, mb3.7/3, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=214.8km s-min=90.2km az=132.0, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.50**	**358**		P	Pn	23 22 14.2	+0.4
0.3nm,0.3s,baz=179,slow=11,SNR=16								
0.6nm,0.4s								
KURBB	**Kurchatov Arra**	**22.61**	**352**		P	P	23 22 57.7	-0.5
1.5nm,0.7s,baz=178,slow=10,SNR=18								
1.5nm,0.7s								
ZALV	**Zalesovo Beam**	**25.67**	**2**		P	P	23 23 27.4	-0.1
0.7nm,0.5s,baz=182,slow=8.7,SNR=4.2								
0.7nm,0.5s								
FINES	**FINESS Array B**	**50.00**	**328**		P	P	23 26 51.9	+0.1
0.8nm,0.6s,baz=109,slow=7.5,SNR=1.1								
0.8nm,0.6s								

*SJA **15** 23:35:54.2±0.7, 19°.75S×69°.29W, h94km±5km, ML4.1, MW3.9*
*IDC **15** 23:36:30.1±1.4, 21°.43S×68°.87W, h95km±11km, mb3.3/4, mbtmp3.5/7, Error ellipse: s-maj=32.4km s-min=15.7km az=109.0*
*VAO **15** 23:36:33.8±0.4, 21°.59S×68°.60W, h86km, mb4.0*
*GUC **15** 23:36:34.6±0.8, 21°.87S×68°.59W, h110km±4km, ML3.7*
ISC 15 23:36:34.0±0.7, 21°.84S±0°.04×68°.50W±0°.06, h110km±7km, n54, σ1°.83/73, mb3.6/3, 7C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.69**	**273**		*eP*	**Pn**	**23 36 52.7**	**+0.2**
PB09					*eS*	**Sn**	**23 37 06.3**	**-0.1**
PB09	**IPOC Station P**	**0.69**	**273**		*eS*	**Sn**	**23 37 07.2**	**+0.8**
PB09					IAML		23 37 07.4	
comp=Z,959nm,0.2s								
LVC	**Limon Verde**	**0.86**	**206**		*eP*	**Pn**	**23 36 53.8**	**-0.4**
LVC					*eS*	**Sn**	**23 37 09.4**	**0.0**
LVC	**Limon Verde**	**0.86**	**206**		P	**Pn**	**23 36 53.6**	**-0.6**
comp=Z,308nm,0.3s,baz=11,slow=7.2,SNR=1305								
LVC					S	**Sn**	**23 37 09.2**	**-0.2**
comp=Z,243nm,0.3s,baz=270,slow=20,SNR=72								
LVC	**Limon Verde**	**0.86**	**206**	⇑	*eP*	**Pn**	**23 36 53.9**	**-0.3**
LVC					*eS*	**Sn**	**23 37 08.9**	**-0.4**
LVC					IAML		23 37 10.3	
comp=Z,5μm,0.3s								
LVC	**Limon Verde**	**0.86**	**206**		*eS*	**Sn**	**23 37 09.7**	**+0.4**
LVC					IAML		23 37 10.2	
comp=Z,485nm,0.4s								
AF01	**San Pedro de A**	**1.15**	**165**		*eP*	**Pn**	**23 36 57.2**	**+0.2**
AF01					*eS*	**Sn**	**23 37 14.8**	**+0.3**
AF01					IAML		23 37 20.0	
comp=E,2μm,0.5s								
PB01	**IPOC Station P**	**1.22**	**310**	⇑	*eP*	**Pn**	**23 36 57.1**	**-0.5**
PB01					*eS*	**Sn**	**23 37 14.8**	**-0.6**
PB01					IAML		23 37 16.7	
comp=N,2μm,0.2s								
PB07	**IPOC Station P**	**1.30**	**275**	⇑	*eP*	**Pn**	**23 36 58.0**	**-0.6**
PB07					*eS*	**Sn**	**23 37 15.8**	**-1.4**
PB07					IAML		23 37 17.4	
comp=N,1μm,0.3s								
PB06	**IPOC Station P**	**1.32**	**229**	⇑	*eP*	**Pn**	**23 36 58.5**	**-0.3**
PB06					*eS*	**Sn**	**23 37 16.5**	**-1.1**
PB06					IAML		23 37 18.0	
comp=E,2μm,0.4s								
PB06	**IPOC Station P**	**1.32**	**229**		*eP*	**Pn**	**23 36 58.4**	**-0.3**
PB06					*eS*	**Sn**	**23 37 17.3**	**-0.4**
PB06					IAML		23 37 19.2	
comp=Z,536nm,0.4s								
PB02	**IPOC Station P**	**1.40**	**291**		*eP*	**Pn**	**23 36 58.3**	**-1.5**
PB02					*eS*	**Sn**	**23 37 17.8**	**-1.4**
PB02					IAML		23 37 19.7	
comp=E,2μm,0.3s								
PB04	**IPOC Station P**	**1.61**	**252**	⇑	*eP*	**Pn**	**23 37 01.1**	**-1.2**
PB04					*eS*	**Sn**	**23 37 21.4**	**-2.4**
PB04					IAML		23 37 24.0	
comp=N,935nm,0.3s								
PB15	**IPOC Station P**	**1.63**	**213**		*eP*	**Pn**	**23 37 02.4**	**-0.2**
PB15					*eS*	**Sn**	**23 37 23.9**	**-0.4**
PB15	**IPOC Station P**	**1.63**	**213**		*eP*	**Pn**	**23 37 02.4**	**-0.2**
PB15					*eS*	**Sn**	**23 37 24.0**	**-0.4**
PB08	**IPOC Station P**	**1.80**	**340**		*eP*	**Pn**	**23 37 05.3**	**+0.5**
PB08					*eS*	**Sn**	**23 37 28.9**	**+0.7**
PB08					IAML		23 37 31.5	
comp=E,395nm,0.6s								
PB08					IAML		23 37 32.9	
comp=N,417nm,0.3s								
PATCX	**Punta Patache**	**1.85**	**303**		*eP*	**Pn**	**23 37 04.2**	**-1.0**
PATCX					*eS*	**Sn**	**23 37 27.4**	**-1.5**
PATCX					IAML		23 37 32.1	
comp=N,1μm,0.3s								
TA01	**Diego Aracena**	**2.02**	**309**		*eP*	**Pn**	**23 37 06.9**	**-0.3**
TA01					*eS*	**Sn**	**23 37 30.6**	**-1.9**
TA01					IAML		23 37 32.5	
comp=N,774nm,0.4s								
TA02	**Huaiquique**	**2.18**	**315**	⇑	*eP*	**Pn**	**23 37 08.4**	**-0.9**
TA02					*eS*	**Sn**	**23 37 34.8**	**-1.6**
TA02					IAML		23 37 40.0	
comp=N,996nm,0.1s								
GO01	**Chusmiza**	**2.26**	**343**		*eP*	**Pn**	**23 37 11.6**	**+0.8**
GO01					*eS*	**Sn**	**23 37 39.0**	**+0.3**
GO01					IAML		23 37 42.6	
comp=N,864nm,0.1s								
PB12	**IPOC Station P**	**3.64**	**331**		*eP*	**Pn**	**23 37 28.2**	**-0.5**
PB12					*eS*	**Sn**	**23 38 07.8**	**-3.1**
PB12					IAML		23 38 28.2	
comp=E,88nm,0.2s								
LPAZ	**La Paz**	**5.53**	**4**		*eP*	**Pn**	**23 37 51.5**	**-3.1**
LPAZ	**La Paz**	**5.53**	**4**		P	Pn	23 37 46.6	-8.0
comp=E,0.6nm,0.7s,baz=172,slow=15,SNR=1.3								
BBSD	**Serra de San D**	**8.76**	**59**		*eP*	**Pn**	**23 38 36.6**	**-1.2**
BBRB	**Robore, Bolivi**	**8.90**	**68**		*eP*	**Pn**	**23 38 37.9**	**-1.8**
SIV	**San Ignacio**	**9.12**	**52**		P	**Pn**	**23 38 39.8**	**-3.0**
comp=E,1.3nm,0.4s,baz=233,slow=12,SNR=10								
SIV					S	**Sn**	**23 40 17.0**	**-6.7**
comp=E,1.6nm,1.1s,baz=293,slow=8.3,SNR=3.4								
CFA	**Coronel Fontan**	**9.73**	**179**		P	**Pn**	**23 38 47.4**	**-3.5**
comp=E,0.6nm,0.3s,baz=321,slow=14,SNR=7.5								
CFA					S	**Sn**	**23 40 30.3**	**-8.1**
comp=E,0.7nm,0.3s,baz=119,slow=23,SNR=1.8								
PTLB	**Pontes e Lacer**	**10.91**	**56**		*eP*	**Pn**	**23 39 06.0**	**-1.0**
BDQN	**Bodoquena, MS**	**11.05**	**85**		*eP*	**Pn**	**23 39 10.8**	**+1.9**
MECA	**Mercedes**	**11.91**	**131**		*eP*	**Pn**	**23 39 24.3**	**+4.1**
SALV	**Santo Antonio**	**13.48**	**66**		*eP*	**Pn**	**23 39 42.6**	**+1.7**
PP1B	**Ponte de Pedra**	**13.50**	**74**		*eP*	**Pn**	**23 39 42.0**	**+0.9**
CRSM	**Crissiumal (Br**	**14.29**	**116**		*eP*	**P**	**23 39 55.9**	**+0.7**
RODS	**Rosario do Sul**	**14.64**	**128**		*eP*	**P**	**23 39 59.4**	**+0.4**
FRBT	**Francisco Belt**	**14.70**	**109**		*eP*	**P**	**23 40 00.3**	**+0.5**
PDRB	**Porto dos Gac**	**15.17**	**50**		*eP*	**Pn**	**23 40 03.0**	**+0.5**
PTGB	**Pitanga**	**15.37**	**104**		*eP*	**P**	**23 40 08.6**	**+1.3**
ALGR	**Alto Alegre (B**	**15.60**	**119**		*eP*	**P**	**23 40 10.0**	**+0.2**
ITAB	**Concordia**	**15.83**	**113**		*eP*	**P**	**23 40 13.0**	**+0.8**
PCMB	**Pacaembu**	**16.02**	**92**		*eP*	**P**	**23 40 16.2**	**+1.7**
LDASE	**Londrina, Braz**	**16.12**	**99**		*eP*	**P**	**23 40 16.3**	**+0.7**
CLDB	**Colider**	**16.34**	**50**		*eP*	**P**	**23 40 17.6**	**-0.4**
ARAG	**Araguaiana, MT**	**16.93**	**72**		*eP*	**P**	**23 40 25.8**	**+1.3**
PLCA	**Paso Flores**	**18.92**	**185**		P	**Pn**	**23 40 48.9**	**+0.8**
comp=E,1.5nm,0.8s,baz=6.7,slow=8.3,SNR=4.2								
NPGB	**Novo Progresso**	**19.42**	**43**		*eP*	**P**	**23 40 51.0**	**-0.8**
BDFB	**Brasilia**	**20.34**	**76**		P	**P**	**23 41 00.5**	**-1.4**
comp=E,1.3nm,0.5s,baz=200,slow=12,SNR=2.5								
comp=E,1.3nm,0.5s								
ITTB	**Itaituba**	**21.33**	**37**		*eP*	**P**	**23 41 11.3**	**-1.0**
SMTB	**Santa Maria do**	**23.89**	**61**		*eP*	**P**	**23 41 38.2**	**+0.5**
MALB	**Monte Alegre**	**24.22**	**37**		*eP*	**P**	**23 41 40.9**	**+0.2**
BOAV	**Boa Vista**	**25.32**	**19**		*eP*	**P**	**23 41 51.1**	**+0.4**
ROSB	**Rosrio**	**30.25**	**55**		*eP*	**P**	**23 42 36.9**	**+2.2**
QSPA	**South Pole Qui**	**68.36**	**180**		P	**P**	**23 47 24.0**	**+0.5**
comp=E,0.7nm,0.8s,baz=164,slow=6.4,SNR=6.5								
comp=E,0.7nm,0.8s								
NVAR	**Mina Array Bea**	**76.00**	**322**		P	P	23 48 03.0	-6.4
comp=E,0.2nm,0.5s,baz=142,slow=5.5,SNR=1.7								
comp=E,0.2nm,0.5s								
TORD	**Torodi Ar. Bea**	**77.11**	**70**		P	**P**	**23 48 15.1**	**-0.8**
comp=E,0.4nm,0.3s,baz=261,slow=5.2,SNR=15								
comp=E,0.4nm,0.3s								

*SJA **16** 00:19:35.8±0.7, 18°.53S×69°.85W, h102km±3km, ML4.1, MW3.9*
*GUC **16** 00:19:37.9±0.8, 18°.51S×69°.77W, h92km±5km, ML4.0*
*NEIC **16** 00:19:38.6±1.4, 18°.62S±0°.04×69°.96W±0°.10, h89km±7km, mb3.9/4, ML4.0(GUC), Error ellipse: s-maj=13.5km s-min=5.8km az=101.0*
*IDC **16** 00:19:41.0±2.1, 18°.68S×69°.40W, h110km±16km, mb3.6/6, mbtmp4.0/9, MS2.0/1, Error ellipse: s-maj=29.1km s-min=12.0km az=110.0*
ISC 16 00:19:37.9±0.7, 18°.58S±0°.03×69°.79W±0°.05, h92km±5km, n83, σ1°.57/117, mb3.9/7, 1C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.36**	**48**			**Pn**	**00 19 52.1**	**-0.6**
PB16					Sn	**Sn**	**00 20 03.8**	**+0.3**
PB16	**IPOC Station P**	**0.36**	**48**	⇓	*iP*	**Pn**	**00 19 52.5**	**-0.1**
PB16					*i* S	**Sn**	**00 20 03.9**	**+0.3**
PB16					IAML		00 20 05.3	
comp=E,8μm,0.4s								
PB16	**IPOC Station P**	**0.36**	**48**		*eP*	**Pn**	**00 19 52.6**	**-0.1**
PB16					*eS*	**Sn**	**00 20 04.3**	**+0.8**
PB16					IAML		00 20 05.5	
comp=Z,6μm,0.5s								
PB12	**IPOC Station P**	**0.51**	**266**			**Pn**	**00 19 52.1**	**-1.0**
PB12					Sn	**Sn**	**00 20 03.4**	**-1.0**
PB12	**IPOC Station P**	**0.51**	**266**	⇓	*iP*	**Pn**	**00 19 52.6**	**-0.5**
PB12					*i* S	**Sn**	**00 20 03.6**	**-0.8**
PB12					IAML		00 20 05.3	
comp=N,5μm,0.2s								
PB12	**IPOC Station P**	**0.51**	**266**		*eP*	**Pn**	**00 19 52.6**	**-0.5**
PB12					*eS*	**Sn**	**00 20 04.7**	**+0.2**
PB12					IAML		00 20 05.7	
comp=Z,2μm,0.2s								
AP01	**Chacalluta**	**0.56**	**291**			**Pn**	**00 19 53.1**	**-0.3**
AP01					Sn	**Sn**	**00 20 04.8**	**-0.1**
AP01	**Chacalluta**	**0.56**	**291**	⇓	*iP*	**Pn**	**00 19 53.3**	**-0.1**
AP01					*i* S	**Sn**	**00 20 04.9**	**0.0**
AP01					IAML		00 20 10.4	
comp=E,12μm,0.3s								
AP01	**Chacalluta**	**0.56**	**291**		*eP*	**Pn**	**00 19 52.7**	**-0.7**
AP01					*eS*	**Sn**	**00 20 07.6**	**+2.7**
AP01					IAML		00 20 09.3	
comp=Z,6μm,0.1s								
PB18	**Visviri**	**1.03**	**17**		Pn	**Pn**	**00 20 00.4**	**+1.7**
PB18					Sn	**Sn**	**00 20 18.1**	**+4.0**
PB18	**Visviri**	**1.03**	**17**		*eP*	**Pn**	**00 20 01.0**	**+2.4**
PB18					*i* S	**Sn**	**00 20 17.5**	**+3.3**
GO01	**Chusmiza**	**1.22**	**153**		Pn	**Pn**	**00 20 01.4**	**+0.6**
GO01					Sn	**Sn**	**00 20 20.1**	**+2.0**
GO01	**Chusmiza**	**1.22**	**153**	⇓	*iP*	**Pn**	**00 20 01.7**	**+0.9**
GO01					*i* S	**Sn**	**00 20 20.3**	**+2.3**
GO01					IAML		00 20 26.1	
comp=N,4μm,0.1s								
GO01	**Chusmiza**	**1.22**	**153**		*eP*	**Pn**	**00 20 01.9**	**+1.1**
GO01					*eS*	**Sn**	**00 20 20.1**	**+2.0**
GO01					*eS*		00 20 21.9	
GO01					IAML		00 20 23.5	
comp=Z,829nm,0.1s								
PB08	**IPOC Station P**	**1.67**	**159**		Pn	**Pn**	**00 20 06.8**	**+0.5**
PB08					Sn	**Sn**	**00 20 28.8**	**+1.1**
PB08	**IPOC Station P**	**1.67**	**159**	⇓	*iP*	**Pn**	**00 20 07.2**	**+0.9**
PB08					*i* S	**Sn**	**00 20 29.1**	**+1.4**
PB08					IAML		00 20 31.8	
comp=E,1μm,0.2s								
PB08	**IPOC Station P**	**1.67**	**159**		*eP*	**Pn**	**00 20 07.1**	**+0.8**
PB08					*eS*	**Sn**	**00 20 29.2**	**+1.6**
PB08					*eS*		00 20 29.9	
PB08					IAML		00 20 31.0	
comp=Z,918nm,0.6s								
HMBC	**Humberstone**	**1.69**	**183**	⇑	*iP*	**Pn**	**00 20 06.3**	**0.0**
HMBC					*i* S	**Sn**	**00 20 27.6**	**-0.4**
HMBC					IAML		00 20 33.3	
comp=N,2μm,0.3s								
HMBC	**Humberstone**	**1.69**	**183**		*eP*	**Pn**	**00 20 06.3**	**0.0**
HMBC					*eS*	**Sn**	**00 20 29.2**	**+1.3**
HMBC					*eS*		00 20 30.6	
HMBC					IAML		00 20 33.8	
comp=Z,1μm,0.3s								
TA02	**Huaiquique**	**1.71**	**191**			**Pn**	**00 20 06.2**	**-0.3**
TA02					Sn	**Sn**	**00 20 28.0**	**-0.

LPAZ				S	Sn	00 20 52.5	-1.6
	comp=Z,19nm,0.7s,baz=191,slow=11,SNR=2.0						
LPAZ				LR	LR	00 21 22.5	
	comp=Z,30nm,21.4s,baz=236,slow=38						
LPAZ	**La Paz**	**2.77**	**35**	*eP*	**Pn**	**00 20 23.9**	**+2.9**
PB07	**IPOC Station P**	**3.13**	**182**		**Pn**	**00 20 25.4**	**-0.1**
PB07	**IPOC Station P**	**3.13**	**182**	*eP*	**Pn**	**00 20 25.3**	**-0.1**
PB07	**IPOC Station P**	**3.13**	**182**	*eP*	**Pn**	**00 20 25.4**	**-0.1**
PB07				*eS*	**Sn**	**00 20 57.6**	**-4.4**
PB07				IAML		00 21 11.3	
	comp=Z,571nm,0.4s						
PB09	**IPOC Station P**	**3.24**	**171**		**Pn**	**00 20 27.4**	**+0.4**
PB09	**IPOC Station P**	**3.24**	**171**	*eP*	**Pn**	**00 20 27.3**	**+0.4**
PB09				*eS*	**Sn**	**00 21 05.4**	**+0.7**
PB09				IAML		00 21 18.2	
	comp=Z,352nm,0.4s						
PB04	**IPOC Station P**	**3.75**	**185**	Pn	**Pn**	**00 20 33.5**	**-0.3**
PB04	**IPOC Station P**	**3.75**	**185**	*eP*	**Pn**	**00 20 33.0**	**-0.7**
PB04	**IPOC Station P**	**3.75**	**185**	*eP*	**Pn**	**00 20 33.7**	**-0.1**
PB04				*eS*	**Sn**	**00 21 16.3**	**-0.7**
PB04				IAML		00 21 31.7	
	comp=Z,292nm,0.3s						
LVC	**Limon Verde**	**4.09**	**169**	Pn	**Pn**	**00 20 39.7**	**+1.1**
LVC	**Limon Verde**	**4.09**	**169**	P	**Pn**	**00 20 40.1**	**+1.5**
	comp=Z,13nm,0.3s,baz=343,slow=8.2,SNR=30						
LVC				S	**Sn**	**00 21 24.7**	**-0.9**
	comp=Z,51nm,0.4s,baz=230,slow=23,SNR=9.6						
LVC	**Limon Verde**	**4.09**	**169**	*eP*	**Pn**	**00 20 39.1**	**+0.5**
LVC				*eS*	**Sn**	**00 21 26.4**	**+0.8**
PB06	**IPOC Station P**	**4.11**	**177**		**Pn**	**00 20 38.8**	**+0.2**
PB06	**IPOC Station P**	**4.11**	**177**	*eP*	**Pn**	**00 20 37.9**	**-0.8**
PB06	**IPOC Station P**	**4.11**	**177**	*eP*	**Pn**	**00 20 38.6**	**0.0**
PB06				*eS*	**Sn**	**00 21 26.4**	**+0.7**
PB06				IAML		00 21 45.5	
	comp=Z,179nm,0.3s						
AF01	**San Pedro de A**	**4.60**	**161**	Pn	**Pn**	**00 20 46.2**	**+0.7**
PB15	**IPOC Station P**	**4.62**	**176**		**Pn**	**00 20 45.4**	**-0.2**
PB15	**IPOC Station P**	**4.62**	**176**	*eP*	**Pn**	**00 20 45.7**	**+0.1**
PB15				*eS*	**Sn**	**00 21 36.1**	**-1.9**
PB15				IAML		00 21 57.5	
	comp=Z,343nm,0.2s						
PB14	**IPOC Station P**	**6.04**	**185**	Pn	**Pn**	**00 21 03.2**	**-1.9**
AC01	**Pan de Azucar**	**7.57**	**186**	Pn	**Pn**	**00 21 22.8**	**-2.8**
AC02	**Maricunga**	**8.24**	**176**	Pn	**Pn**	**00 21 34.2**	**-1.0**
SIV	**San Ignacio**	**8.71**	**74**	P	**Pn**	**00 21 39.9**	**-1.4**
	comp=Z,6.7nm,0.5s,baz=256,slow=8.1,SNR=47						
SIV				S	**Sn**	**00 23 14.4**	**-3.5**
	comp=Z,1.8nm,0.8s,baz=155,slow=22,SNR=0.8						
ETMB	**Extrema**	**9.37**	**22**		**Pn**	**00 21 49.0**	**-1.2**
NNA	**Nana**	**9.45**	**313**	S	**Sn**	**00 23 40.8**	**+5.0**
	comp=Z,2.0nm,0.3s,baz=142,slow=15,SNR=0.9						
PTLB	**Pontes e Lacer**	**10.65**	**75**		**Pn**	**00 22 07.7**	**+0.1**
VILB	**Vilhena**	**10.79**	**60**		**Pn**	**00 22 09.1**	**-0.5**
SAML	**Samuel**	**11.52**	**35**		**Pn**	**00 22 17.6**	**-1.8**
CO03	**El Pedregal**	**12.23**	**184**	Pn	**Pn**	**00 22 28.3**	**-0.6**
TRQA	**Tornquist**	**20.57**	**162**	P	**P**	**00 24 09.8**	**+0.5**
TRQA				IAmb	IAmb	00 24 10.4	
	comp=Z,6.6nm,0.9s						
BDFB	**Brasilia**	**21.01**	**85**	P	**P**	**00 24 15.9**	**+1.5**
BDFB	**Brasilia**	**21.01**	**85**	P	**P**	**00 24 13.6**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=242,slow=10.0,SNR=5.0						
	comp=Z,1.3nm,0.3s						
PLCA	**Paso Flores**	**22.09**	**182**	P	**P**	**00 24 25.9**	**+0.4**
PLCA	**Paso Flores**	**22.09**	**182**	P	**P**	**00 24 27.4**	**+1.9**
	comp=Z,2.6nm,0.9s,baz=3.8,slow=15,SNR=4.0						
	comp=Z,2.6nm,0.9s						
BOAV	**Boa Vista**	**22.75**	**25**	P	**P**	**00 24 31.3**	**-1.3**
BOAV				IAmb	IAmb	00 24 58.3	
	comp=Z,8.6nm,1.4s						
QSPA	**South Pole Qui**	**71.60**	**180**	P	**P**	**00 30 50.7**	**+1.5**
	comp=Z,0.8nm,0.4s,baz=151,slow=3.2,SNR=14						
	comp=Z,0.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**77.18**	**71**	P	**P**	**00 31 20.5**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=256,slow=5.4,SNR=15						
	comp=Z,0.9nm,0.5s						
ESDC	**Sonseca Array**	**84.35**	**45**	P	**P**	**00 32 00.1**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=242,slow=4.7,SNR=2.6						
	comp=Z,0.6nm,0.8s						
YKA	**Yellowknife Ar**	**88.17**	**341**	P	**P**	**00 32 19.3**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=129,slow=4.9,SNR=5.3						
	comp=Z,2.3nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**26.64**	**280**	T	T	02 57 47.2	
	baz=101,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**26.64**	**281**	T	T	02 57 50.4	
	baz=100,slow=74						
H11S1	**WAKE ISLAND Hy**	**26.64**	**280**	T	T	02 57 44.8	
	baz=101,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**26.66**	**280**	T	T	02 57 45.6	
	baz=101,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**26.66**	**281**	T	T	02 57 52.2	
	baz=100,slow=74						
H11N1	**WAKE ISLAND Hy**	**26.66**	**281**	T	T	02 57 49.6	
	baz=100						
WRA	**Warramunga Arr**	**134.99**	**213**	PKP	**PKPdf**	**00 38 47.6**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=137,slow=1.6,SNR=6.1						
KURBB	**Kurchatov Arra**	**139.31**	**31**	PKP	**PKiKP**	**00 38 55.2**	**-1.3**
	comp=Z,0.3nm,0.8s,baz=298,slow=2.0,SNR=1.5						
ZALV	**Zalesovo Beam**	**139.64**	**23**	PKP	**PKPdf**	**00 38 55.1**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=321,slow=2.0,SNR=2.5						

SKHL ***16*** *00:27:27.5±0.6, 46°.50N×150°.60E, h169km±9km, mb5.2/7, msha5.8/7*
MOS ***16*** *00:27:27.6±1.2, 46°.64N×150°.45E, h180km, mb4.2/21, Error ellipse: s-maj=8.8km s-min=5.9km az=70.9*
NEIC ***16*** *00:27:28.4±1.4, 46°.6N±0°.1×150°.4E±0°.1, h165km±8km, mb4.2/115, Error ellipse: s-maj=16.4km s-min=10.1km az=149.0*
JMA ***16*** *00:27:30.0±0.7, 46°N×3°×15°1E±°, h174km, MV4.4/14, KURILE ISLANDS REGION*
IDC ***16*** *00:27:31.2±1.7, 46°.76N×150°.33E, h193km±15km, mb3.7/29, mbtmp4.2/36, Error ellipse: s-maj=13.0km s-min=9.0km az=154.0*
ISC 16 00:27:27.2±0.4, 46°.48N±0°.05×150°.56E±0°.05, h167km, n471, σ1$48/486, mb4.1/107, 5C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.26**	**237**	*e*PN	**Pn**	**00 28 09.0**	**+2.7**
KUR				*e*S	**Sn**	**00 28 39.4**	**+2.9**
KUR				pmax	pmax		
	comp=Z,120nm,0.4s						
KUR				pmax	pmax		
	comp=N,61nm,0.5s						
KUR				smax	smax		
	comp=E,750nm,0.5s						
KUR				smax	smax		
	comp=N,673nm,0.3s						
KUR	**Kuril'sk**	**2.26**	**237**	*e*P	**Pn**	**00 28 08.1**	**+1.8**
KUR				AMB	AMB	00 28 10.4	
	comp=N,120nm,0.3s						
KUR				*e*S	**Sn**	**00 28 39.4**	**+2.9**
KUR				A	A	00 28 45.0	
	comp=N,710nm,0.3s						
KUR				A	A	00 28 45.0	
	comp=N,920nm,0.3s						
SHO	**Shikotan**	**3.71**	**227**	*e*PN	**Pn**	**00 28 24.6**	**+0.4**
SHO				pmax	pmax		
	comp=Z,107nm,0.4s						
SHO				pmax	pmax		
	comp=N,38nm,0.3s						
SHO				pmax	pmax		
	comp=E,55nm,0.2s						
SHO	**Shikotan**	**3.71**	**227**	*e*P	**Pn**	**00 28 24.6**	**+0.4**
SHO				AMB	AMB	00 28 25.3	
	comp=E,110nm,0.4s						
SHO				*e*S	**Sn**	**00 29 06.5**	**-2.1**
SHO				A	A	00 29 08.1	
	comp=E,250nm,0.5s						
SHO				A	A	00 29 08.1	
	comp=E,650nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.12**	**235**	*d i*PN	**Pn**	**00 28 31.3**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**4.12**	**235**	*i* P	**Pn**	**00 28 30.6**	**+1.1**
YUK				AMB	AMB	00 28 31.8	
	comp=E,350nm,0.3s						
YUK				*e*S	**Sn**	**00 29 20.3**	**+2.3**
YUK				A	A	00 29 22.9	
	comp=E,330nm,0.3s						
YUK				A	A	00 29 22.9	
	comp=E,590nm,0.3s						
RUSJ	**Misakicho**	**4.44**	**240**	*e*PN	**Pn**	**00 28 35.5**	**+1.9**
RUSJ				*e*S	**Sn**	**00 29 32.8**	**+7.4**
JRA	**Rausu**	**4.61**	**238**	*e*P	**Pn**	**00 28 37.3**	**+1.5**
NEM2	**Nemuro 2**	**4.63**	**229**	*e*P	**Pn**	**00 28 35.5**	**-0.5**
NEM2				*e*S	**Sn**	**00 29 26.4**	**-3.4**
NMR	**Nemuro--Hokkai**	**4.63**	**230**	*e*PN	**Pn**	**00 28 35.7**	**-0.4**
NMR	**Nemuro--Hokkai**	**4.63**	**230**	*e*P	**Pn**	**00 28 35.7**	**-0.4**
JNK	**Nakash**	**5.05**	**237**	*e*P	**Pn**	**00 28 43.0**	**+1.5**
JNK				*e*S	**Sn**	**00 29 40.6**	**+0.9**
JTKR	**Abashiri--Toko**	**5.33**	**244**	*e*P	**Pn**	**00 28 47.1**	**+1.9**
JTKR				*e*S	**Sn**	**00 29 47.8**	**+1.6**
AKK	**Akkeshi**	**5.35**	**232**	*e*P	**Pn**	**00 28 45.7**	**+0.3**
YSS	**Yuzh-Sakhalins**	**5.39**	**278**	Pn	**Pn**	**00 28 45.0**	**-1.0**
YSS	**Yuzh-Sakhalins**	**5.39**	**278**	*e*PN	**Pn**	**00 28 48.4**	**+2.5**
YSS				*e*S	**Sn**	**00 29 52.4**	**+4.8**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
YSS				smax	smax		
	comp=E,20nm,1.1s						
YSS	**Yuzh-Sakhalins**	**5.39**	**278**	*e*P	**Pn**	**00 28 47.9**	**+2.0**
YSS				*e*S	**Sn**	**00 29 50.3**	**+2.7**
JAK	**Akkeshi**	**5.44**	**232**	*e*P	**Pn**	**00 28 46.5**	**-0.1**
JAK				*e*S	**Sn**	**00 29 45.3**	**-3.6**
SKR	**Severo-Kuril's**	**5.59**	**39**	*e*PN	**Pn**	**00 28 48.3**	**-0.2**
SKR				*e*S	**Sn**	**00 29 49.7**	**-2.7**
SKR				pmax	pmax		
	comp=Z,241nm,0.8s						
SKR				smax	smax		
	comp=N,168nm,0.9s						
SKR				smax	smax		
	comp=E,142nm,1.0s						
SKR				MLR	MLR		
	comp=Z,900nm,15.0s						
SKR	**Severo-Kuril's**	**5.59**	**39**	*e*P	**Pn**	**00 28 48.3**	**-0.2**
SKR				AMB	AMB	00 28 50.1	
	comp=Z,240nm,0.8s						
SKR				*e*S	**Sn**	**00 29 52.1**	**-0.3**
SKR				A	A	00 29 56.5	
	comp=Z,170nm,0.8s						
SKR				A	A	00 29 56.5	
	comp=Z,140nm,0.8s						
JAR	**Ashorobuto**	**5.78**	**239**	*e*P	**Pn**	**00 28 52.8**	**+1.6**
JAR				*e*S	**Sn**	**00 29 57.2**	**+0.2**
JOB	**Onbets**	**5.98**	**236**	*e*P	**Pn**	**00 28 54.1**	**+0.3**
JOB				*e*S	**Sn**	**00 29 58.8**	**-2.9**
JKA	**Kamikawa-asahi**	**6.09**	**250**		**Pn**	**00 28 55.6**	**+0.4**
JKA	**Kamikawa-asahi**	**6.09**	**250**	*e*P	**Pn**	**00 28 58.4**	**+3.1**
ASAJ	**Asahikawa**	**6.09**	**250**	P	**Pn**	**00 28 58.4**	**+3.1**
	comp=Z,189nm,0.6s,baz=68,slow=14,SNR=137						
JKK2	**Kamakawa 2**	**6.11**	**248**	*e*P	**Pn**	**00 28 58.0**	**+2.5**
JWK2	**Keihoku**	**6.16**	**262**	*e*P	**Pn**	**00 29 00.4**	**+4.3**
JCH	**Churui**	**6.43**	**236**	*e*P	**Pn**	**00 28 59.3**	**-0.5**
JCH				*e*S	**Sn**	**00 30 07.8**	**-4.7**
PAU	**Pauzhetka**	**6.46**	**37**	*e*P	**Pn**	**00 29 00.6**	**+0.5**
PAU				AMB	AMB	00 29 01.6	
	comp=Z,70nm,0.6s						
PAU				*e*S	**Sn**	**00 30 11.0**	**-2.1**
PAU				A	A	00 30 12.1	
	comp=Z,130nm,0.2s						
PAU				A	A	00 30 12.1	
	comp=Z,110nm,0.2s						
ERM	**Erimo**	**6.94**	**233**	Pn	**Pn**	**00 29 05.3**	**-1.2**
ERM				Sn	**Sn**	**00 30 22.5**	**-2.0**
ERM	**Erimo**	**6.94**	**233**	PN	**Pn**	**00 29 05.3**	**-1.2**
ERM						00 30 22.5	
PEA0B	**Petropavlovsk-**	**8.08**	**32**	Pn	**Pn**	**00 29 18.6**	**-2.8**
PEA0B	**Petropavlovsk-**	**8.08**	**32**	*i e*PN	**Pn**	**00 29 20.2**	**-1.3**
PETK	**Petropavlovsk-**	**8.08**	**32**	Pn	**Pn**	**00 29 19.9**	**-1.6**
PETK	**Petropavlovsk-**	**8.08**	**32**	P	**Pn**	**00 29 22.2**	**+0.7**
	comp=Z,5.1nm,0.7s,baz=211,slow=12,SNR=8.1						
PET	**Petropavlovsk**	**8.38**	**36**	Pn	**Pn**	**00 29 23.3**	**-2.1**
JTM	**Tenmabayashi**	**8.93**	**234**	Pn	**Pn**	**00 29 30.2**	**-2.5**
JANG	**Nango**	**8.97**	**230**	*e*S	Sn	00 31 03.5	-10
JMM	**Marumori**	**11.24**	**224**	Pn	**Pn**	**00 30 01.1**	**-2.1**
KLR	**Kul'dur**	**12.93**	**289**	P	**Pn**	**00 30 25.4**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=99,slow=17,SNR=1.8						
USRK	**Ussuriysk Ar.**	**13.26**	**267**	P	**Pn**	**00 30 30.4**	**+1.4**
	comp=Z,2.6nm,0.5s,baz=64,slow=12,SNR=4.7						
MJB9	**Matsu-Tunnel**	**13.56**	**227**	P	**P**	**00 30 35.6**	**-0.6**
MAJO	**Matsushiro**	**13.56**	**227**	P	**P**	**00 30 35.6**	**-0.6**
MAJO	**Matsushiro**	**13.56**	**227**	P	**P**	**00 30 35.6**	**-0.6**
MJAR	**Matsushiro Arr**	**13.56**	**227**	P	**P**	**00 30 37.8**	**+1.6**
	comp=Z,1.5nm,0.3s,baz=21,slow=11,SNR=7.8						
SEY	**Seymchan**	**16.52**	**3**	P	**P**	**00 31 08.3**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=174,slow=8.5,SNR=8.7						
ZEA	**Zeya**	**16.57**	**304**	*e*P	**Pn**	**00 31 11.2**	**+1.4**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ZEA	**Zeya**	**16.57**	**304**	*e*P	**Pn**	**00 31 10.1**	**+0.3**
KSRS	**Korea Array**	**19.05**	**250**	P	**Pn**	**00 31 40.1**	**+1.0**
	comp=Z,5.6nm,0.7s,baz=54,slow=11,SNR=12						
YAK	**Yakutsk**	**19.64**	**330**	P	**P**	**00 31 41.7**	**-0.9**
YAK	**Yakutsk**	**19.64**	**330**	*e*P	**P**	**00 31 42.0**	**-0.6**
YAK				pmax	pmax		
	comp=Z,20nm,0.8s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.9s						
YAK	**Yakutsk**	**19.64**	**330**	*e*P	**P**	**00 31 42.3**	**-0.3**
GAMB	**Gambell**	**27.08**	**37**	P	**P**	**00 32 54.6**	**+0.8**
	baz=249						
TIXI	**Tiksi**	**27.25**	**345**	P	**P**	**00 32 53.3**	**-2.0**
TIXI				IAmb	IAmb	00 32 53.8	
	comp=Z,4.9nm,0.5s						
TIXI	**Tiksi**	**27.25**	**345**	*i i*P	**P**	**00 32 53.3**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.5s						
TIXI	**Tiksi**	**27.25**	**345**	*e*P	**P**	**00 32 53.3**	**-2.0**
HHC	**Hu-ho-hao-te**	**28.55**	**273**	*e*P	**P**	**00 33 08.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,280nm,5.0s						
ULN	**Ulaanbaatar**	**29.32**	**289**	*i e*P	**P**	**00 33 13.1**	**-1.0**
ULN				pmax	pmax		
	comp=Z,9.0nm,3.3s						
ULN	**Ulaanbaatar**	**29.32**	**289**	*e*P	**P**	**00 33 13.1**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**29.86**	**148**	T	T	01 04 51.5	
	baz=336,slow=76,SNR=69						
H11N1	**WAKE ISLAND Hy**	**29.87**	**148**	T	T	01 04 53.3	
	baz=336,slow=76,SNR=69						
H11N3	**WAKE ISLAND Hy**	**29.88**	**148**	T	T	01 04 48.5	
	baz=336,slow=76,SNR=68						
M13K	**Dall Lake**	**30.07**	**46**	P	**P**	**00 33 21.4**	**+1.0**
	baz=264						
J14K	**Nanvaranak Lak**	**30.33**	**41**	P	**P**	**00 33 23.6**	**+1.0**
	baz=260						
L14K	**Kuka Creek**	**30.51**	**44**	P	**P**	**00 33 25.0**	**+0.8**
L14K				IAmb	IAmb	00 33 27.9	
	comp=Z,4.4nm,1.0s						
L14K	**Kuka Creek**	**30.51**	**44**	P	**P**	**00 33 25.3**	**+1.1**
	baz=263						
M14K	**Bethel**	**30.79**	**45**	P	**P**	**00 33 27.9**	**+1.2**
	baz=264						
N14K	**Kuskokwak Cree**	**30.86**	**47**	P	**P**	**00 33 28.0**	**+0.8**
	baz=266						
H11S1	**WAKE ISLAND Hy**	**30.91**	**149**	T	T	01 05 50.0	
	baz=337,slow=76,SNR=112						
H11S3	**WAKE ISLAND Hy**	**30.92**	**149**	T	T	01 05 59.4	
	baz=337,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**	**30.93**	**149**	T	T	01 06 03.3	
	baz=337,slow=76,SNR=80						
C16K	**Lisburne Hills**	**31.17**	**30**	P	**P**	**00 33 31.4**	**+1.5**
	baz=249						
M15K	**Kasigluk River**	**31.41**	**45**	P	**P**	**00 33 33.4**	**+1.3**
	baz=266						
SDPT	**Sand Point**	**31.52**	**55**	P	**P**	**00 33 34.5**	**+1.4**
	baz=275						
N15K	**Kwethluk River**	**31.67**	**46**	P	**P**	**00 33 35.7**	**+1.2**
N15K				IAmb	IAmb	00 33 43.5	
	comp=Z,6.2nm,0.9s						
N15K	**Kwethluk River**	**31.67**	**46**	P	**P**	**00 33 35.8**	**+1.4**
	baz=267						
O15K	**Ungalikthiuk R**	**31.77**	**48**	P	**P**	**00 33 36.4**	**+1.1**
	baz=269						
S14K	**Fog Glacier**	**31.97**	**54**	P	**P**	**00 33 38.3**	**+1.0**
	baz=274						
C17K	**DeLong Mountai**	**31.99**	**30**	P	**P**	**00 33 38.4**	**+1.2**
	baz=251						
E17K	**Hotham Inlet**	**32.06**	**33**	P	**P**	**00 33 38.8**	**+1.1**
	baz=254						
L16K	**Owhat River**	**32.08**	**43**	P	**P**	**00 33 39.0**	**+1.0**
L16K				IAmb	IAmb	00 33 44.9	
	comp=Z,4.8nm,1.0s						
L16K	**Owhat River**	**32.08**	**43**	P	**P**	**00 33 38.7**	**+0.7**
	baz=265						
F17K	**Baldwin Pennin**	**32.11**	**34**	P	**P**	**00 33 38.8**	**+0.7**
	baz=256						
G17K	**Kiwalik Mounta**	**32.13**	**36**	P	**P**	**00 33 39.2**	**+0.8**
	baz=258						
M16K	**Timber Creek**	**32.28**	**45**	P	**P**	**00 33 40.8**	**+1.1**
	baz=267						
N16K	**Nishlik Lake**	**32.34**	**46**	P	**P**	**00 33 41.1**	**+0.8**
	baz=268						
O16K	**Kokwok River B**	**32.66**	**47**	P	**P**	**00 33 44.7**	**+1.7**
	baz=270						
L17K	**Donlin**	**32.67**	**43**	P	**P**	**00 33 43.6**	**+0.5**
	baz=266						
P16K	**Nushagak River**	**32.71**	**48**	P	**P**	**00 33 44.9**	**+1.4**
	baz=271						
K17K	**Iditarod**	**32.72**	**42**	P	**P**	**00 33 44.6**	**+1.0**
K17K				IAmb	IAmb	00 33 45.8	
	comp=Z,4.4nm,0.9s						
K17K	**Iditarod**	**32.72**	**42**	P	**P**	**00 33 44.1**	**+0.6**
	baz=265						
C18K	**Utukok River**	**32.74**	**30**	P	**P**	**00 33 43.9**	**+0.2**
	baz=253						
H18K	**Honhosa River**	**33.01**	**37**	P	**P**	**00 33 47.7**	**+1.6**
H18K				IAmb	IAmb	00 33 48.1	
	comp=Z,3.3nm,0.9s						
H18K	**Honhosa River**	**33.01**	**37**	P	**P**	**00 33 46.9**	**+0.8**
	baz=261						
G18K	**Tagagawik**	**33.02**	**36**	P	**P**	**00 33 47.6**	**+1.5**
	baz=260						
M17K	**Holitna River**	**33.03**	**44**	P	**P**	**00 33 47.2**	**+0.9**
	baz=268						
N17K	**Nushagak Hills**	**33.13**	**46**	P	**P**	**00 33 48.4**	**+1.3**
	baz=269						
O17K	**Koliganek Bris**	**33.17**	**47**	P	**P**	**00 33 48.7**	**+1.3**
	baz=270						
C19K	**Lookout Ridge**	**33.43**	**30**	P	**P**	**00 33 50.4**	**+0.8**
	baz=254						
L18K	**Granite Mounta**	**33.43**	**43**	P	**P**	**00 33 50.7**	**+1.0**
	baz=267						
J18K	**Innoko River**	**33.51**	**40**	P	**P**	**00 33 51.3**	**+0.9**
	baz=265						
P17K	**Kvichak River**	**33.51**	**48**	P	**P**	**00 33 51.8**	**+1.4**
	baz=272						
F19K	**Shaleruckik Mo**	**33.55**	**34**	P	**P**	**00 33 51.4**	**+0.8**
	baz=259						
G19K	**Purcell Mounta**	**33.69**	**35**	P	**P**	**00 33 52.8**	**+0.9**
	baz=261						
N18K	**Kilae Creek**	**33.77**	**45**	P	**P**	**00 33 54.3**	**+1.6**
N18K				IAmb	IAmb	00 33 57.3	
	comp=Z,5.2nm,1.1s						
N18K	**Kilae Creek**	**33.77**	**45**	P	**P**	**00 33 53.9**	**+1.2**
	baz=270						
D19K	**Kuna River**	**33.78**	**31**	P	**P**	**00 33 53.8**	**+1.1**
D19K	**Kuna River**	**33.78**	**31**	P	**P**	**00 33 53.8**	**+1.1**
	baz=256						
TTA	**Tatalina**	**33.79**	**41**	P	**P**	**00 33 54.1**	**+1.2**
TTA				IAmb	IAmb	00 33 54.7	
	comp=Z,3.3nm,0.6s						
TTA	**Tatalina**	**33.79**	**41**	P	**P**	**00 33 54.1**	**+1.2**
TTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TTA	**Tatalina**	**33.79**	**41**	P	**P**	**00 33 53.9**	**+1.0**
	baz=267						
M18K	**Stony River**	**33.81**	**44**	P	**P**	**00 33 54.4**	**+1.4**
	baz=269						
H19K	**Roundabout Mou**	**33.86**	**37**	P	**P**	**00 33 54.6**	**+1.2**
	baz=262						
E19K	**Redstone River**	**33.88**	**33**	P	**P**	**00 33 55.0**	**+1.4**
E19K				IAmb	IAmb	00 33 58.1	
	comp=Z,7.5nm,1.1s						
E19K	**Redstone River**	**33.88**	**33**	P	**P**	**00 33 54.7**	**+1.1**
	baz=259						
SVW2	**Sparrevohn**	**33.92**	**45**	P	**P**	**00 33 55.4**	**+1.4**
SVW2				IAmb	IAmb	00 33 58.2	
	comp=Z,3.0nm,0.8s						
J19K	**Poorman**	**34.04**	**39**	P	**P**	**00 33 55.7**	**+0.7**
	baz=265						
CHIR	**Chirikof Islan**	**34.21**	**54**	P	**P**	**00 33 57.2**	**+0.7**
Q18K	**Katmai Hardscr**	**34.28**	**49**	P	**P**	**00 33 58.2**	**+1.0**
	baz=274						
L19K	**White Mountain**	**34.29**	**43**	P	**P**	**00 33 57.9**	**+0.7**
L19K				IAmb	IAmb	00 34 14.1	
	comp=Z,4.4nm,1.1s						
D20K	**Etivluk River**	**34.37**	**31**	P	**P**	**00 33 59.1**	**+1.3**
	baz=258,SNR=6.5						
F20K	**Avaraart Lake**	**34.38**	**34**	P	**P**	**00 33 59.1**	**+1.3**
	baz=261						
E20K	**Nigu River**	**34.43**	**32**	P	**P**	**00 33 59.7**	**+1.4**
	baz=259,SNR=7.1						
N19K	**Bonanza Creek**	**34.46**	**45**	P	**P**	**00 34 00.2**	**+1.5**
N19K				IAmb	IAmb	00 34 02.7	
	comp=Z,4.9nm,1.1s						
B20K	**Meade River**	**34.50**	**29**	P	**P**	**00 33 59.7**	**+1.0**
	baz=255						
M19K	**Big River Lodg**	**34.50**	**43**	P	**P**	**00 34 00.0**	**+1.1**
M19K	**Big River Lodg**	**34.50**	**43**	P	**P**	**00 34 00.0**	**+1.1**
	baz=270						
H20K	**Anotleneega Mo**	**34.50**	**37**	P	**P**	**00 33 59.9**	**+1.0**
	baz=264						
K20K	**Telida**	**34.69**	**41**	P	**P**	**00 34 02.0**	**+1.5**
K20K	**Telida**	**34.69**	**41**	P	**P**	**00 34 01.9**	**+1.3**
	baz=268						
J20K	**Nowinta River**	**34.70**	**39**	P	**P**	**00 34 02.1**	**+1.5**
J

SUA Susitna One 36.25 44 P P 00 34 14.6 +0.6
SUA IAmb IAmb 00 34 18.4
comp=Z,4.9nm,0.9s
BRLK Bradley Lake 36.30 47 P P 00 34 14.6 +0.2
BRSE Bradley Lake S 36.38 47 P P 00 34 16.0 +1.0
baz=276
TRF Thorofare Moun 36.39 41 P P 00 34 16.7 +1.5
TRF Thorofare Moun 36.39 41 P P 00 34 16.6 +1.4
baz=271
D23K Nanushuk River 36.54 31 P P 00 34 17.5 +1.3
baz=263
COLD Coldfoot 36.54 34 P P 00 34 17.5 +1.2
baz=266
G23K Bananza Creek 36.58 35 P P 00 34 17.8 +1.2
baz=267
C23K Itkillik River 36.68 30 P P 00 34 18.4 +1.0
baz=262
H23K Yukon River 36.73 37 P P 00 34 19.5 +1.5
H23K IAmb IAmb 00 34 20.1
comp=Z,2.9nm,0.7s
H23K Yukon River 36.73 37 P P 00 34 19.4 +1.5
baz=269
BWN Browne 36.75 39 P P 00 34 20.1 +2.0
RC01 Rabbit Creek A 36.76 45 P P 00 34 19.3 +1.2
RC01 IAmb IAmb 00 34 20.0
comp=Z,3.2nm,0.6s
RC01 Rabbit Creek A 36.76 45 P P 00 34 19.6 +1.5
baz=275
I23K Minto, Yukon-K 36.80 38 P P 00 34 19.7 +1.3
I23K IAmb IAmb 00 34 20.1
comp=Z,1.9nm,0.5s
I23K Minto, Yukon-K 36.80 38 P P 00 34 19.6 +1.2
baz=270
E23K Chandalar 36.83 33 P P 00 34 20.3 +1.5
baz=266,SNR=5.4
TOLK Toolik Lake Re 36.90 32 P P 00 34 20.8 +1.4
TOLK IAmb IAmb 00 34 22.9
comp=Z,4.6nm,0.5s
TOLK Toolik Lake Re 36.90 32 P P 00 34 20.2 +0.9
baz=265
NEA2 Nenana 36.92 39 P P 00 34 20.6 +1.1
NEA2 Nenana 36.92 39 P P 00 34 20.6 +1.1
baz=271
RND Reindeer 37.04 41 P P 00 34 21.3 +0.7
RND Reindeer 37.04 41 P P 00 34 21.3 +0.7
RND pmax pmax
comp=Z,3.0nm,1.2s
GHO Glory Hole Cre 37.10 43 P P 00 34 22.2 +1.1
GHO IAmb IAmb 00 34 26.2
comp=Z,5.5nm,1.0s
D24K Happy Valley 37.22 31 P P 00 34 23.3 +1.3
D24K Happy Valley 37.22 31 P P 00 34 23.1 +1.2
baz=265
E24K Your Creek 37.26 33 P P 00 34 23.9 +1.6
baz=267
MDM Murphy Dome 37.27 38 P P 00 34 23.9 +1.4
MDM IAmb IAmb 00 34 24.6
comp=Z,4.2nm,0.9s
C24K Franklin Bluff 37.32 30 P P 00 34 23.8 +1.0
baz=264
WRH Wood River Hil 37.34 39 P P 00 34 24.4 +1.3
WRH IAmb IAmb 00 34 32.5
comp=Z,4.9nm,1.0s
SML Sawmill 37.38 43 P P 00 34 24.6 +1.2
SML Sawmill 37.38 43 P P 00 34 24.5 +1.0
baz=275
H24K Noodor Dome 37.42 37 P P 00 34 25.4 +1.6
H24K IAmb IAmb 00 34 26.9
comp=Z,3.8nm,1.1s
H24K Noodor Dome 37.42 37 P P 00 34 25.0 +1.3
baz=270
COLA College 37.44 38 P P 00 34 24.9 +1.1
COLA College 37.44 38 P P 00 34 24.9 +1.1
COLA pmax pmax
comp=Z,12nm,0.4s
COLA College 37.44 38 P P 00 34 25.0 +1.2
baz=271
F24K Squaw Lake 37.45 34 P P 00 34 25.3 +1.3
baz=268
PWL Port Wells 37.46 45 P P 00 34 23.8 -0.3
PWL Port Wells 37.46 45 P P 00 34 25.5 +1.4
baz=276
CCB Clear Creek Bu 37.46 39 P P 00 34 25.1 +1.1
CCB IAmb IAmb 00 34 26.3
comp=Z,4.0nm,0.4s
G24K Hadweenzic Riv 37.59 35 P P 00 34 26.9 +1.7
baz=269,SNR=7.0
POKR Poker Plat Res 37.61 38 P P 00 34 26.8 +1.4
POKR IAmb IAmb 00 34 39.5
comp=Z,6.9nm,0.9s
POKR Poker Plat Res 37.61 38 P P 00 34 26.8 +1.4
baz=271
M23K Glacier View 37.66 43 P P 00 34 26.5 +0.7
baz=276
DHY Denali Highway 37.72 41 P P 00 34 27.1 +0.6
DHY IAmb IAmb 00 34 36.5
comp=Z,4.2nm,1.2s
DHY Denali Highway 37.72 41 P P 00 34 27.2 +0.7
baz=274
HDA Harding Lake 37.84 39 P P 00 34 28.0 +0.7
HDA Harding Lake 37.84 39 P P 00 34 28.3 +1.0
baz=273,SNR=5.8
SCM Sheep Creek Mo 37.85 43 P P 00 34 28.5 +1.1
SCM IAmb IAmb 00 34 36.6
comp=Z,3.3nm,0.8s
SCM Sheep Creek Mo 37.85 43 P P 00 34 28.5 +1.1
SCM pmax pmax
comp=Z,3.0nm,0.8s
IL31 37.85 38 P P 00 34 28.1 +0.9
IL31 IAmb IAmb 00 34 28.4
comp=Z,3.0nm,0.8s
ILAR Eielson Array 37.85 38 P P 00 34 28.4 +1.1
ILAR Eielson Array 37.85 38 P P 00 34 28.1 +0.7
comp=Z,1.4nm,0.5s,baz=267,slow=7.1,SNR=33
ILAR PcP **PcP 00 36 39.2 -0.7**
comp=Z,0.2nm,0.6s,baz=290,slow=4.3,SNR=2.1
comp=Z,1.4nm,0.5s
IL03 Eielson Array 37.87 38 P P 00 34 28.5 +1.0
D25K Kavik River 38.10 31 P P 00 34 30.5 +1.0
D25K Kavik River 38.10 31 P P 00 34 31.2 +1.7
baz=267
G25K Bearman Lake 38.14 35 P P 00 34 31.6 +2.0
baz=270
H25L Birch Creek 38.26 36 P P 00 34 32.5 +1.8
baz=271
F25K Christian Rive 38.32 34 P P 00 34 32.9 +1.7
baz=270
E25K Arctic Village 38.35 33 P P 00 34 33.4 +1.9
baz=269
M24K Tolsona, Glenn 38.36 43 P P 00 34 33.1 +1.4
M24K IAmb IAmb 00 34 51.1
comp=Z,8.7nm,1.1s
M24K Tolsona, Glenn 38.36 43 P P 00 34 33.3 +1.6
baz=276
FID Port Fidalgo 38.38 45 P P 00 34 32.6 +0.8
K24K Donnelly Dome 38.39 40 P P 00 34 32.9 +1.0
baz=275
PRP Porcupine Dome 38.40 37 P P 00 34 33.5 +1.5
PRP IAmb IAmb 00 34 34.1
comp=Z,4.3nm,0.6s
PRP Porcupine Dome 38.40 37 P P 00 34 33.6 +1.5
baz=273,SNR=6.2
FYU Fort Yukon 38.49 35 P P 00 34 34.4 +1.8
J25K Salcha River, 38.51 39 P P 00 34 32.9 0.0
J25K Salcha River, 38.51 39 P P 00 34 33.8 +0.9
baz=274
KLU Klutina 38.55 44 P P 00 34 34.4 +1.1
KLU Klutina 38.55 44 P P 00 34 34.6 +1.3
baz=277
BMAR Burnt Mountain 38.73 34 P P 00 34 36.8 +2.1
EYAK Cordova Ski Ar 38.76 45 P P 00 34 35.9 +1.0
baz=279
HARP HAARP 38.80 42 P P 00 34 36.5 +1.2
baz=277
RIDG Independent Ri 38.81 40 P P 00 34 36.4 +1.0
RIDG Independent Ri 38.81 40 P P 00 34 36.5 +1.1
baz=275
F26K Sheenjek River 38.89 34 P P 00 34 38.0 +2.0
baz=271
G26K Porcupine Rive 39.05 35 P P 00 34 39.0 +1.8
baz=272
SCRK Sand Creek 39.16 39 P P 00 34 38.8 +0.4
SCRK IAmb IAmb 00 34 39.4
comp=Z,2.5nm,0.6s
SCRK Sand Creek 39.16 39 P P 00 34 38.8 +0.4
baz=276

BMRM Bremner River 39.26 44 P P 00 34 40.3 +1.1
baz=279
J26L Joseph Creek 39.30 39 P P 00 34 39.9 +0.4
J26L Joseph Creek 39.30 39 P P 00 34 40.0 +0.6
baz=276
RAGM Ragged Mountai 39.31 45 P 00 34 41.1 +1.5
I26K Coal Creek Min 39.40 37 P P 00 34 41.0 +0.8
KAIM Kayak Island 39.52 46 P P 00 34 41.7 +0.4
L26K Log Cabin Wild 39.55 41 P P 00 34 43.5 +1.9
L26K IAmb IAmb 00 34 44.1
comp=Z,2.7nm,0.7s
L26K Log Cabin Wild 39.55 41 P P 00 34 43.3 +1.8
baz=278
GLB Gilahina Butte 39.56 43 P P 00 34 41.8 +0.1
VRDI Verde Repeater 39.77 44 P P 00 34 44.9 +1.3
VRDI IAmb IAmb 00 35 02.6
comp=Z,6.8nm,1.2s
BERG Berg Lake 39.79 45 P P 00 34 44.9 +1.4
M26K Nabesna, AK 39.80 42 P P 00 34 45.7 +2.1
M26K IAmb IAmb 00 34 46.5
comp=Z,2.8nm,0.7s
M26K Nabesna, AK 39.80 42 P P 00 34 44.9 +1.2
baz=279
E27K Coleen River 39.84 33 P P 00 34 45.5 +1.7
baz=273
G27K Doyon Strip 39.90 35 P P 00 34 46.0 +1.7
baz=274
H27K Steamboat Moun 39.99 36 P P 00 34 47.0 +1.8
baz=275
K27K Chicken 39.99 39 P P 00 34 46.0 +0.9
K27K IAmb IAmb 00 34 47.4
comp=Z,5.8nm,0.8s
K27K Chicken 39.99 39 P P 00 34 46.6 +1.4
baz=277
CRQE Cirque 40.02 44 P P 00 34 47.2 +1.7
baz=280
D27M Malcolm River 40.03 31 P P 00 34 46.8 +1.4
baz=272
L27K Beaver Creek, 40.24 41 P P 00 34 48.6 +1.5
L27K IAmb IAmb 00 34 49.9
comp=Z,5.3nm,0.6s
L27K Beaver Creek, 40.24 41 P P 00 34 49.2 +2.0
baz=279,SNR=6.5
BCAR Beaver Creek A 40.26 41 P P 00 34 48.7 +1.4
M27K Edge Creek, AK 40.32 42 P P 00 34 49.6 +1.6
baz=280
F28M Old Crow 40.53 34 P P 00 34 51.1 +1.7
baz=275
E28M Babbage River 40.58 32 P P 00 34 51.3 +1.5
baz=274
I28M Miner Creek 40.73 37 P P 00 34 52.5 +1.2
I28M IAmb IAmb 00 34 53.5
comp=Z,5.8nm,0.6s
I28M Miner Creek 40.73 37 P P 00 34 53.1 +1.9
baz=278,SNR=5.8
CTG Chitna Glacier 40.82 44 P P 00 34 53.7 +1.6
baz=282
DAWY Dawson 41.16 39 P P 00 34 56.2 +1.5
DAWY Dawson 41.16 39 P P 00 34 56.2 +1.5
baz=280
DGZ Jazzator, Alta 41.19 298 ↓*i* P **P 00 34 55.4 +0.1**
DGZ pmax pmax
comp=Z,5.0nm,1.8s
E29M Blow River 41.20 32 P P 00 34 57.2 +2.3
baz=276,SNR=5.4
H29M Whitestone 41.27 36 P P 00 34 57.4 +1.8
G29M Pine Creek 41.31 34 P P 00 34 58.1 +2.2
G29M IAmb IAmb 00 34 59.0
comp=Z,4.5nm,0.6s
G29M Pine Creek 41.31 34 P P 00 34 57.9 +2.0
baz=278
ZALV Zasovo Beam 41.34 305 P P 00 34 54.1 -2.1
comp=Z,0.7nm,0.4s,baz=75,slow=5.7,SNR=3.9
ZALV PcP **PcP 00 36 51.0 -0.2**
comp=Z,0.5nm,0.4s,baz=100,slow=2.1,SNR=3.7
comp=Z,0.7nm,0.4s
I29M Ogilvie Camp, 41.42 37 P P 00 34 58.5 +1.7
I29M IAmb IAmb 00 34 58.9
comp=Z,4.5nm,0.6s
I29M Ogilvie Camp, 41.42 37 P P 00 34 58.1 +1.3
baz=279
M29M Somme Creek 41.87 41 P P 00 35 02.5 +1.9
M29M IAmb IAmb 00 35 03.2
comp=Z,5.3nm,1.1s
M29M Somme Creek 41.87 41 P P 00 35 02.7 +2.1
baz=282
L29M L29M 41.89 40 P P 00 35 02.4 +1.8
baz=282
EPYK Eagle Plains 41.91 35 P P 00 35 02.5 +1.8
EPYK IAmb IAmb 00 35 03.3
comp=Z,10nm,1.1s
EPYK Eagle Plains 41.91 35 P P 00 35 02.5 +1.8
baz=279
G30M tAoh Zraii Nji 42.01 34 P P 00 35 03.1 +1.6
G30M tAoh Zraii Nji 42.01 34 P P 00 35 03.2 +1.6
baz=279
K29M Barlow Dome 42.01 39 P P 00 35 03.2 +1.4
K29M Barlow Dome 42.01 39 P P 00 35 03.1 +1.4
baz=281
F30M Barrier River 42.08 33 P P 00 35 04.7 +2.6
baz=279,SNR=5.8
I30M Mount Dempster 42.24 37 P P 00 35 05.1 +1.5
I30M Mount Dempster 42.24 37 P P 00 35 05.2 +1.6
baz=281,SNR=11
J30M Hart River 42.38 38 P P 00 35 06.5 +1.7
J30M Hart River 42.38 38 P P 00 35 06.4 +1.7
baz=282
M30M Minto, Yukon 42.60 41 P P 00 35 08.4 +2.0
M30M Minto, Yukon 42.60 41 P P 00 35 08.8 +2.4
baz=283
HYT Haines Junctio 42.68 43 P P 00 35 09.6 +2.4
HYT IAmb IAmb 00 35 20.1
comp=Z,9.1nm,1.2s
HYT Haines Junctio 42.68 43 P P 00 35 09.6 +2.4
baz=285
MAYO Mayo, Yukon 42.77 39 P P 00 35 07.7 -0.1
G31M Satah River 42.77 34 P P 00 35 08.7 +1.0
baz=281
INK Inuvik 42.81 32 P P 00 35 09.4 +1.4
INK IAmb IAmb 00 35 22.6
comp=Z,5.6nm,1.1s
INK Inuvik 42.81 32 P P 00 35 09.4 +1.4
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 42.81 32 P P 00 35 09.1 +1.2
baz=280
INK Inuvik 42.81 32 P P 00 35 08.9 +1.0
comp=Z,1.6nm,0.3s,baz=304,slow=9.5,SNR=17
comp=Z,1.6nm,0.3s
P29M Windy Craggy 42.88 45 P P 00 35 10.8 +2.1
P29M IAmb IAmb 00 35 25.3
comp=Z,7.3nm,1.0s
P29M Windy Craggy 42.88 45 P P 00 35 10.7 +2.0
baz=286
F31M Tsiigehtchic 42.88 33 P P 00 35 09.6 +1.0
F31M Tsiigehtchic 42.88 33 P P 00 35 09.7 +1.2
baz=281
H31M Peel River 42.96 36 P P 00 35 10.9 +1.7
H31M IAmb IAmb 00 35 11.5
comp=Z,5.4nm,0.6s
H31M Peel River 42.96 36 P P 00 35 10.8 +1.6
baz=282
P30M Million Dollar 43.12 44 P P 00 35 12.5 +1.8
baz=286
PZH PanZhiHua 43.23 260 P P 00 35 12.3 +0.2
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,300nm,4.3s
N31M Braeburn, Yuko 43.33 42 P P 00 35 14.4 +2.2
baz=285
WMQ Urumqi 43.38 290 *eP* **P 00 35 13.6 +0.7**
PLBC Pleasant Camp 43.60 45 P P 00 35 16.6 +2.2
baz=287
M31M Drury Creek, Y 43.77 41 P P 00 35 17.9 +2.1
baz=286
WHY Whitehorse 43.97 43 P P 00 35 19.5 +2.0
baz=287
SKAG Skagway 44.10 45 P P 00 35 20.9 +2.5
baz=288
R31K City Hall, Gus 44.22 46 P P 00 35 22.0 +2.7
baz=288
FARO Faro, Yukon 44.24 41 P P 00 35 22.0 +2.5
baz=286
MMPY Sheldon Lake, 45.06 40 P P 00 35 28.2 +2.2
baz=287
P33M Teslin, Yukon 45.08 43 P P 00 35 28.4 +2.2
baz=289
MK31 Makanchi Array 45.49 297 P P 00 35 29.3 -0.3
MK31 Makanchi Array 45.49 297 P P 00 35 29.3 -0.3
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 45.49 297 P P 00 35 29.2 -0.4
MKAR Makanchi Array 45.49 297 P P 00 35 29.2 -0.4
MKAR Makanchi Array 45.49 297 P P 00 35 29.0 -0.6
comp=Z,1.5nm,0.6s,baz=70,slow=8.0,SNR=17
comp=Z,1.5nm,0.6s
MAKZ Makanchi 45.68 297 P P 00 35 30.3 -0.8
MAKZ Makanchi 45.68 297 P P 00 35 30.3 -0.8
MAKZ pmax pmax
comp=Z,3.0nm,1.0s
Q32M Nakina River 45.76 45 P P 00 35 34.0 +2.3
C36M Paulatuk 45.92 29 P P 00 35 33.5 +0.9
C36M Paulatuk 45.92 29 P P 00 35 33.7 +1.1
baz=287
KURK Kurchatov 46.04 303 P P 00 35 32.4 -1.4
KURK Kurchatov 46.04 303 P P 00 35 32.4 -1.4
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 46.04 303 *eP* **P 00 35 32.4 -1.4**
KURBB Kurchatov Arra 46.13 303 P P 00 35 33.2 -1.3
comp=Z,1.8nm,0.6s,baz=72,slow=8.6,SNR=15
KURBB PcP **PcP 00 37 07.9 +0.3**
comp=Z,0.3nm,0.5s,baz=64,slow=4.2,SNR=2.6
comp=Z,1.8nm,0.6s
R33M Jennings River 46.23 44 P P 00 35 37.6 +2.2
R33M Jennings River 46.23 44 P P 00 35 37.6 +2.2
baz=291
DLBC Dease Lake 47.03 45 P P 00 35 42.7 +1.2
baz=292
BVAR Borovoye Array 49.66 309 P P 00 36 00.7 -0.9
comp=Z,1.1nm,0.4s,baz=60,slow=8.7,SNR=6.7
BVAR PcP **PcP 00 37 20.1 -0.2**
comp=Z,0.6nm,0.3s,baz=72,slow=5.1,SNR=2.8
comp=Z,1.1nm,0.4s
CMAR Chiang Mai Arr 50.60 254 P P 00 36 11.4 +2.4
comp=Z,1.5nm,0.3s,baz=62,slow=9.5,SNR=1.2
comp=Z,1.5nm,0.3s
RES Resolute Bay 51.64 18 P P 00 36 16.3 +0.3
RES Resolute Bay 51.64 18 P P 00 36 16.3 +0.3
RES pmax pmax
comp=Z,11nm,0.9s
RES Resolute Bay 51.64 18 P P 00 36 15.9 -0.2
comp=Z,9.0nm,0.8s,baz=333,slow=9.5,SNR=9.1
comp=Z,9.0nm,0.8s
TAPN Taplejung 52.35 272 *eP* **P 00 36 23.9 +1.5**
AAK Ala-Archa 52.37 295 P P 00 36 21.6 -0.5
AAK Ala-Archa 52.37 295⇑ *eP* **P 00 36 21.8 -0.3**
AAK pmax pmax
comp=Z,8.0nm,2.5s
AAK Ala-Archa 52.37 295 *eP* **P 00 36 21.8 -0.3**
SPITS Spitsbergen Ar 52.56 349 P P 00 36 20.9 -1.9
comp=Z,5.2nm,0.8s,baz=14,slow=7.1,SNR=6.5
comp=Z,5.2nm,0.8s
KSH Kashi 53.12 291 P 00 36 32.8 +5.2
KSH pmax pmax
comp=Z,5.0nm,0.6s
JIRN Jiri 53.21 273 *eP* **P 00 36 29.8 +1.1**
GUN Gumba 53.27 273 *eP* **P 00 36 30.2 +1.1**
RAMN Ramite 53.37 272 *eP* **P 00 36 31.1 +1.3**
PKI Pulchoki 53.80 273 *eP* **P 00 36 33.9 +0.9**
PKIN Phulchoki 53.81 273 *eP* **P 00 36 34.1 +1.1**
DMN Daman 53.99 274 *eP* **P 00 36 35.9 +1.6**
ARU Arti 54.01 317 *d i P* **P 00 36 32.1 -1.6**
ARU 00 37 34.9
ARU 00 38 38.5
ARU S **S 00 43 55.3 -0.9**
ARU SS **SS 00 47 34.7 -4.5**
ARU pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 54.01 317 *eP* **P 00 36 32.1 -1.6**
GKN Gorkha 54.06 274 *eP* **P 00 36 35.8 +1.1**
DANN Dangsing 54.45 275 *eP* **P 00 36 39.2 +1.6**
PYUN Piuthan 55.14 276 *eP* **P 00 36 43.4 +0.9**
ABKAR Akbulak array 57.24 309 P P 00 36 55.4 -1.4
ABKAR Akbulak array 57.24 309 P P 00 36 55.2 -1.6
ABKAR IAmb IAmb 00 36 56.3
comp=Z,5.6nm,1.1s
ARCES ARCESS Array B 57.52 340 P P 00 36 57.8 -0.7
comp=Z,6.4nm,1.0s,baz=48,slow=5.4,SNR=6.4
comp=Z,6.4nm,1.0s
NEW Newport 58.73 51 P P 00 37 08.9 +1.7
baz=306
SUMG Summit 61.08 3 P P 00 37 23.0 -0.3
SUMG Summit 61.08 3 P P 00 37 23.0 -0.3
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 61.08 3 *i P* **P 00 37 23.0 -0.3**
PLID Pearl Lake 61.26 54 P P 00 37 25.8 +1.1
PLID IAmb IAmb 00 37 26.8
comp=Z,4.5nm,1.1s
MSO Missoula 61.31 51 P P 00 37 26.0 +1.1
baz=309
EGMT Eagleton 62.76 48 P P 00 37 35.2 +0.7
baz=310
HLID Hailey 63.10 54 P P 00 37 37.7 +0.7
baz=310
BOZ Bozeman (W) 63.33 51 P P 00 37 39.5 +1.1
BOZ IAmb IAmb 00 37 41.3
comp=Z,2.6nm,0.7s
BOZ Bozeman (W) 63.33 51 P P 00 37 39.5 +1.1
BOZ pmax pmax
comp=Z,3.0nm,0.7s
BOZ Bozeman (W) 63.33 51 P P 00 37 39.6 +1.2
baz=310
FINES FINESS Array B 63.52 334 *i P* **P 00 37 36.7 -2.4**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 63.52 334 P P 00 37 37.3 -1.8
comp=Z,1.4nm,0.5s,baz=38,slow=7.4,SNR=15
comp=Z,1.4nm,0.5s
NVAR Mina Array Bea 64.11 61 P P 00 37 45.5 +1.8
comp=Z,0.9nm,0.7s,baz=295,slow=7.3,SNR=8.3
comp=Z,0.9nm,0.7s
ICESG Greenland Ices 64.50 4 *eP* **P 00 37 44.2 -1.6**
RLMT Red Lodge 64.91 50 P P 00 37 49.4 +0.6
baz=312
GEYT Alibeck 65.22 300 P P 00 37 50.6 -0.1
comp=Z,3.5nm,0.6s,baz=69,slow=8.1,SNR=8.5
comp=Z,3.5nm,0.6s
R11B Troy Canyon, C 65.79 59 P P 00 37 54.4 -0.1
baz=311
MPMC Manual Prospec 66.14 62 P P 00 37 57.5 +0.7
baz=311
DUG Dugway, Tooele 66.20 56 P P 00 37 57.8 +0.8
baz=312
TPNV Topopah Spring 66.31 61 P P 00 37 59.4 +1.6
TPNV IAmb IAmb 00 37 59.6
comp=Z,3.5nm,1.1s
TPNV Topopah Spring 66.31 61 P P 00 37 59.4 +1.6
TPNV pmax pmax
comp=Z,4.0nm,1.2s
TPNV Topopah Spring 66.31 61 P P 00 37 58.7 +0.9
baz=311
BW06 Boulder Array 66.31 52 P P 00 37 59.1 +1.2
BW06 Boulder Array 66.31 52 P P 00 37 58.4 +0.5
baz=312
PD31 Pinedale Array 66.31 52 P P 00 37 59.0 +1.2
PDAR Pinedale Array 66.31 52 P P 00 37 59.0 +1.2
comp=Z,1.4nm,0.6s,baz=283,slow=1.5,SNR=22
comp=Z,1.4nm,0.6s
GWY Greenwater Val 66.55 62 P P 00 38 01.0 +1.7
BSUT Blindstream Ca 67.14 55 P P 00 38 04.3 +1.1
BFSC Mount Baldy Ra 67.23 64 P P 00 38 04.5 +0.9
baz=312
WB0 Warramunga Arr 67.54 196 P P 00 38 06.3 +1.0
WB0 IAmb IAmb 00 38 21.2
comp=Z,3.9nm,1.1s
MSU Marysvale 67.68 57 P P 00 38 07.8 +1.3
MSU Marysvale 67.68 57 P P 00 38 07.8 +1.3
NC303 NORSAR Array S 67.70 340 P P 00 38 04.9 -1.1
NC405 NORSAR Array S 67.71 340 P P 00 38 04.9 -1.1
NC405 IAmb IAmb 00 38 21.1
comp=Z,3.3nm,0.8s
WB2 Warramunga Arr 67.72 196 P P 00 38 07.3 +0.9
WRA Warramunga Arr 67.72 196 P P 00 38 07.7 +1.2
WRA Warramunga Arr 67.72 196 P P 00 38 07.7 +1.2
WRA Warramunga Arr 67.72 196 P P 00 38 07.4 +0.8
comp=Z,0.8nm,0.7s,baz=10,slow=6.8,SNR=4.5
comp=Z,0.8nm,0.7s
RDMU Red Mountain 67.79 54 P P 00 38 07.6 +0.5
RDMU IAmb IAmb 00 38 09.8
comp=Z,4.4nm,0.9s

NC204	NORSAR Array S	67.79	340	P	P	00 38 06.7 +0.1
NC204				IAmb	IAmb	00 38 22.3
	comp=Z,3.3nm,0.9s					
ULM	Lac du Bonnet	67.86	39	P	P	00 38 07.2 +0.1
ULM				IAmb	IAmb	00 38 08.0
	comp=Z,3.5nm,0.9s					
ULM	Lac du Bonnet	67.86	39	P	P	00 38 07.2 +0.1
ULM				pmax	pmax	
	comp=Z,3.0nm,1.0s					
NB201	NORSAR Array S	67.87	340	P	P	00 38 06.0 -1.1
NB2	NORSAR Subarra	67.90	340	P	P	00 38 05.8 -1.4
	comp=Z,2.5nm,0.6s,baz=30,slow=6.5					
NOA	NORSAR Array B	67.90	340	P	P	00 38 06.0 -1.2
	comp=Z,1.5nm,0.5s,baz=29,slow=6.7,SNR=10.0					
	comp=Z,1.5nm,0.5s					
K22A	Casper	68.04	51	P	P	00 38 09.6 +1.0
	baz=314					
HFS	Hagfors	68.08	338	P	P	00 38 06.7 -1.6
	comp=Z,1.5nm,0.3s,baz=42,slow=4.6,SNR=13					
	comp=Z,1.5nm,0.3s					
NAO01	NORSAR Array S	68.14	340	P	P	00 38 08.1 -0.6
RSSD	Black Hills	68.33	48	P	P	00 38 10.8 +0.4
	baz=314					
O20A	White River Ci	68.83	54	P	P	00 38 14.9 +1.3
	baz=314					
IRM	Iron Mountain	68.83	62	P	P	00 38 14.6 +1.1
	baz=313					
BORG	Borgarnes	68.93	356	P	P	00 38 14.8 +1.3
BORG	Borgarnes	68.93	356	P	P	00 38 14.8 +1.3
BORG				pmax	pmax	
	comp=Z,15nm,1.2s					
KBZ	Khabaz	69.76	313	P	P	00 38 18.6 -0.4
	comp=Z,1.6nm,0.9s,baz=63,slow=6.8,SNR=1.4					
	comp=Z,1.6nm,0.9s					
MVCO	Mesa Verde	70.70	56	P	P	00 38 26.2 +1.1
	baz=314					
AKASG	Malin Array Be	70.77	325	*ce*P	P	00 38 24.2 -0.8
AKASG				pmax	pmax	
	comp=Z,4.0nm,0.5s					
AKASG	Malin Array Be	70.77	325	P	P	00 38 23.6 -1.3
	comp=Z,4.4nm,0.5s,baz=37,slow=6.2,SNR=13					
	comp=Z,4.4nm,0.5s					
AKBB	Malin Array Si	70.77	325⇓	*e*P	P	00 38 24.2 -0.8
AKBB				pmax	pmax	
	comp=Z,4.0nm,0.6s					
S22A	4UR Ranch, Cre	71.27	55	P	P	00 38 29.7 +1.1
	baz=315					
ASAR	Alice Springs	71.43	196	P	P	00 38 30.9 +1.7
	comp=Z,1.0nm,0.8s,baz=18,slow=7.6,SNR=7.8					
	comp=Z,1.0nm,0.8s					
SOC	Sochi	71.47	314	*e*P	P	00 38 26.4 -2.9
SOC				*e*		00 41 07.8
SOC				*e*PPP	PPP	00 42 52.3
SOC				*e*S	S	00 47 30.0 -3.9
SOC				*e*SS	SS	00 52 07.8 -3.4
214A	Organ Pipe Nat	71.76	63	P	P	00 38 32.6 +1.3
	baz=314					
SDCO	Great Sand Dun	72.02	54	P	P	00 38 34.2 +1.1
	baz=316					
ECSD	EROS Data Cent	72.32	45	P	P	00 38 35.3 +0.9
	baz=318					
T25A	Trinidad	73.06	54	P	P	00 38 40.2 +1.0
	baz=316					
ANMO	Albuquerque	73.46	57⇑	*e*P	P	00 38 39.6 -1.9
ANMO				pmax	pmax	
	comp=Z,11nm,4.5s					
ANMO	Albuquerque	73.46	57	P	P	00 38 42.3 +0.8
	baz=316					
SCHQ	Schefferville	74.22	21	P	P	00 38 45.6 +0.3
	comp=Z,3.9nm,0.6s,baz=2.4,slow=6.1,SNR=8.3					
	comp=Z,3.9nm,0.6s					
STHS	Stebnicka Huta	74.84	328	*e*P	P	00 38 48.6 -0.4
STHS	Stebnicka Huta	74.84	328	*e*P	P	00 38 48.6 -0.4
LANS	Liptovska Anna	75.70	329	*e*P	P	00 38 54.8 +0.9
LANS	Liptovska Anna	75.70	329	*e*P	P	00 38 54.8 +0.9
KSU1	Kansas State U	75.79	48	P	P	00 38 55.6 +1.0
	baz=319					
CLL	Collm	75.96	334	*i*P	P	00 38 55.3 0.0
EKA	Eskdalemuir Ar	76.16	345	P	P	00 38 55.6 -0.8
	comp=Z,0.4nm,0.3s,baz=17,slow=5.1,SNR=17					
	comp=Z,0.4nm,0.3s					
AMTX	Amarillo	76.22	54	P	P	00 38 57.6 +0.4
	baz=318					
BRTR	Keskin Array B	77.36	315	P	P	00 39 03.5 0.0
	comp=Z,1.0nm,0.8s,baz=65,slow=5.9,SNR=4.6					
	comp=Z,1.0nm,0.8s					
KHC	Kasperske Hory	77.69	333⇑	*i*P	P	00 39 05.1 0.0
KHC				pmax	pmax	
	comp=Z,25nm,2.7s					
GERES	GERESS Array B	77.90	332	P	P	00 39 05.1 -1.2
	comp=Z,0.6nm,0.4s,baz=359,slow=11,SNR=5.0					
	comp=Z,0.6nm,0.4s					
WMOK	Wichita Mounta	77.92	52	P	P	00 39 07.4 +0.8
	baz=319					
CONA	Conrad Observa	77.99	331	*i*P	P	00 39 07.0 +0.1
	comp=Z,1.0nm,0.5s					
TXAR	Lajitas Array	79.15	59	P	P	00 39 14.7 +1.2
	comp=Z,0.7nm,0.5s,baz=300,slow=4.7,SNR=7.2					
	comp=Z,0.7nm,0.5s					
LESA	Schwarzleotal	79.48	332	*i*P	P	00 39 14.9 -0.1
	comp=Z,1.2nm,0.5s					
KBA	Koelnbreinsper	79.57	332	*e*P	P	00 39 16.5 +0.9
	comp=Z,1.5nm,0.5s					
OBKA	Obir	79.67	331	*i*P	P	00 39 16.1 +0.1
	comp=Z,0.6nm,0.4s					
WATA	Walderalm	79.91	333	*i*P	P	00 39 17.4 0.0
	comp=Z,1.8nm,0.7s					
WTTA	Wattenberg	79.95	333	*i*P	P	00 39 17.7 0.0
	comp=Z,3.2nm,0.4s					
RETA	Reutte	80.03	334	*e*P	P	00 39 18.7 +0.8
	comp=Z,1.1nm,0.5s					
MOTA	Moosalm	80.05	333	*i*P	P	00 39 18.1 0.0
	comp=Z,1.9nm,0.6s					
DAVA	Damuels	80.47	334	*i*PcP	P	00 39 23.0 +2.6
	comp=Z,2.3nm,0.5s					
MIAR	Mount Ida	80.84	49	P	P	00 39 23.1 +0.7
	baz=321					
P49A	Miami Univ. Ec	81.15	40	P	P	00 39 24.6 +0.7
	baz=325					
MMAI	Mount Meron Ar	81.65	310	P	P	00 39 27.6 +0.9
	comp=Z,0.7nm,0.3s,baz=53,slow=5.5,SNR=8.6					
	comp=Z,0.7nm,0.3s					
WVT	Waverly	82.47	44	P	P	00 39 31.5 +0.7
	baz=324					
TIGA	Tifton	88.32	44	P	P	00 40 00.8 +0.9
	baz=326					
KEST	Kesra	91.03	329	P	P	00 40 12.3 -0.2
	comp=Z,1.8nm,0.8s,baz=326,slow=7.3,SNR=1.9					
	comp=Z,1.8nm,0.8s					
ESDC	Sonseca Array	91.25	341	P	P	00 40 13.0 -0.5
	comp=Z,0.7nm,0.9s,baz=1.8,slow=4.6,SNR=2.2					
	comp=Z,0.7nm,0.9s					
TORD	Torodi Ar. Bea	114.38	326	PKiKP	PKiKP	00 45 46.8 -0.6
	comp=Z,0.2nm,0.3s,baz=35,slow=2.2,SNR=8.3					
H03N2	Juan Fernandez	140.51	89	T	T	03 22 57.6
	baz=310,slow=74					
H03N1	Juan Fernandez	140.53	89	T	T	03 23 02.0
	baz=310					
H03N3	Juan Fernandez	140.53	89	T	T	03 23 03.4
	baz=310,slow=74					
BDFB	Brasilia	145.56	33	PKPbc	PKPdf	00 46 46.2 +0.4
	comp=Z,1.4nm,0.5s,baz=336,slow=7.2,SNR=3.1					
PLCA	Paso Flores	149.94	94	PKPbc	PKPbc	00 46 58.1 +0.8
	comp=Z,0.9nm,0.6s,baz=316,slow=4.9,SNR=5.5					
CPUP	Villa Florida	150.11	57	PKPbc	PKPbc	00 46 58.4 +0.4
	comp=Z,0.8nm,0.8s,baz=90,slow=1.0,SNR=3.4					

*IDC **16** 00:42:41.8±1.7,3.°53N×93.°02E, h0km, mb3.8/8, mbtmp3.8/9, ML4.3/1, Error ellipse: s-maj=55.7km s-min=26.2km az=53.0*

*NEIC **16** 00:42:45.8±1.5,3.°5N±0.°1×92.°9E±0.°1, h28km±3km, mb4.1/12, Error ellipse: s-maj=23.8km s-min=15.3km az=46.0*

ISC 16 00:42:46.0±0.9,3.°4N±0.°1×92.°9E±0.°1, h35km, n39, σ0§85/30, mb4.0/14, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	5.09	114		Pn	00 43 59.0	-0.8
RPSI	Rantau Prapat	6.03	97	Pn	Pn	00 44 14.7	+1.9
KULM	Kulim	7.92	76	Pn	Pn	00 44 38.5	-0.3
CMAR	Chiang Mai Arr	16.07	21	Pn	Pn	00 46 29.0	-0.5
	0.4nm,0.3s,baz=218,slow=13,SNR=5.2						
	0.6nm,0.3s						
H08S2	Diego Garcia H	23.16	242	T	T	01 13 22.7	
	baz=62,slow=75,SNR=14						
H08S3	Diego Garcia H	23.16	242	T	T	01 13 19.4	
	baz=62,slow=75,SNR=18						
H08S1	Diego Carcia H	23.18	242	T	T	01 13 27.8	
	baz=62,slow=75,SNR=11						
H01W3	Cape Leeuwin H	42.99	154	T	T	01 37 22.5	
	baz=330						
H01W2	Cape Leeuwin H	43.00	154	T	T	01 37 09.7	
	baz=330,slow=74						
H01W1	Cape Leeuwin H	43.00	154	T	T	01 37 05.3	
	baz=330,slow=74						
MK31	Makanchi Array	44.20	350	P	P	00 50 51.3	-0.3
MK31				IAmb	IAmb	00 50 52.6	
	comp=Z,2.8nm,1.1s						
MKAR	Makanchi Array	44.20	350	P	P	00 50 51.2	-0.5
MKAR	Makanchi Array	44.20	350	P	P	00 50 51.7	+0.1
	comp=Z,0.8nm,0.5s,baz=170,slow=8.4,SNR=8.3						
	comp=Z,0.8nm,0.5s						
MAKZ	Makanchi	44.27	349	P	P	00 50 51.4	-0.8
KK31	Karatay Array	44.27	336	P	P	00 50 51.4	-0.9
KKAR	Karatay Array	44.27	336	P	P	00 50 51.8	-0.4
SONM	Songino Array	45.76	13	P	P	00 51 04.4	+0.2
SONM	Songino Array	45.76	13	P	P	00 51 03.9	-0.3
	comp=Z,0.7nm,0.5s,baz=187,slow=8.1,SNR=5.0						
	comp=Z,0.7nm,0.5s						
WB0	Warramunga Arr	46.79	121	P	P	00 51 13.7	+1.1
WB0				IAmb	IAmb	00 51 20.2	
	comp=Z,1.8nm,0.9s						
WRA	Warramunga Arr	46.82	121	P	P	00 51 13.1	+0.3
WRA	Warramunga Arr	46.82	121	P	P	00 51 13.7	+0.9
	comp=Z,0.6nm,0.7s,baz=297,slow=9.0,SNR=7.2						
	comp=Z,0.6nm,0.7s						
WRAB	Tennant Creek	46.82	121	P	P	00 51 11.6	-1.2
GEYT	Alibeck	46.83	322	P	P	00 51 14.4	+1.8
	comp=Z,1.8nm,0.8s,baz=166,slow=7.4,SNR=2.2						
	comp=Z,1.8nm,0.8s						
WB2	Warramunga Arr	46.83	121	P	P	00 51 13.0	+0.1
WB2				IAmb	IAmb	00 51 26.6	
	comp=Z,1.6nm,0.9s						
WR0	Warramunga Arr	47.00	121	P	P	00 51 15.1	+1.0
WR0				IAmb	IAmb	00 51 25.7	
	comp=Z,3.3nm,1.1s						
KURBB	Kurchatov Arra	48.59	348	P	P	00 51 26.2	+0.1
	comp=Z,0.5nm,0.6s,baz=164,slow=7.1,SNR=5.6						
	comp=Z,0.5nm,0.6s						
ZAA0	Zalesovo Array	50.82	354	P	P	00 51 42.8	-0.1
ZAA0				IAmb	IAmb	00 51 43.6	
	comp=Z,1.5nm,0.5s						
ZALV	Zalesovo Beam	50.82	354	P	P	00 51 43.6	+0.7
ZALV	Zalesovo Beam	50.82	354	P	P	00 51 42.8	-0.1
	comp=Z,1.1nm,0.4s,baz=172,slow=7.5,SNR=5.6						
	comp=Z,1.1nm,0.4s						
BVAR	Borovoye Array	52.85	343	P	P	00 51 57.8	-0.3
	comp=Z,0.7nm,0.5s,baz=154,slow=4.3,SNR=3.0						
	comp=Z,0.7nm,0.5s						
ABKAR	Akbulak array	53.62	334	P	P	00 52 02.5	-1.2
BBOO	Buckleboo	54.43	135	P	P	00 52 09.8	-0.2
H04N2	CROZET ISLANDS	61.30	211	T	T	02 01 11.1	
	baz=49,slow=75,SNR=5.7						
H04N1	CROZET ISLANDS	61.31	211	T	T	02 01 13.9	
	baz=49,slow=75,SNR=6.9						
H04N3	CROZET ISLANDS	61.32	211	T	T	02 01 12.1	
	baz=49,slow=75,SNR=8.8						
ARMA	Armidale	65.28	126	P	P	00 53 23.9	-0.9
GERES	GERESS Array B	80.35	319	P	P	00 54 54.9	+1.0
GERES	GERESS Array B	80.35	319	P	P	00 54 54.7	+0.8
	comp=Z,0.7nm,0.6s,baz=104,slow=4.1,SNR=2.7						
	comp=Z,0.7nm,0.6s						
CLUD	Cludinico	80.68	316	P	P	00 54 55.7	+0.1
CLUD				IAmb	IAmb	00 55 00.7	
	comp=Z,3.4nm,1.1s						

*NEIC **16** 01:35:33.3,42.°61N×111.°51W, h9km*

*ANF **16** 01:35:33.2±0.3,42.°66N×111.°35W, h10km, ML3.5/12, Error ellipse: s-maj=4.9km s-min=3.8km az=175.0*

*UUSS **16** 01:35:34.6±0.8,42.°56N±0.°01×111.°42W±0.°01, h8km±2km, Error ellipse: s-maj=2.0km s-min=1.4km az=157.0*

*NEIC **16** 01:35:34.3±0.8,42.°55N±0.°01×111.°417W±0.°006, h9km±3km, ML3.3/100, Mwr3.6/55, ML3.4/16(UUSS), Error ellipse: s-maj=1.8km s-min=0.5km az=194.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.73; $M_{\theta\theta}$-0.47; $M_{\phi\phi}$2.20; $M_{r\theta}$-0.84; $M_{\theta\phi}$0.80; $M_{\phi r}$-1.47; Fault plane solution: $M_0$2.74000×10^{14} NP1: ϕ_s178.56000°, δ27.67000°, λ-115.96000°. NP2: ϕ_s27.36000°, δ65.32000°, λ-77.07000°. Principal axes: T 2.9945, Plg19.0000°, Azm108.0000°; N -0.6014, Plg12.0000°, Azm202.0000°; P -2.3931, Plg67.0000°, Azm321.0000°;*

*IDC **16** 01:35:35.5±1.0,42.°24N×111.°13W, h0km, mbtmp3.4/3, ML2.9/3 Error ellipse: s-maj=31.1km s-min=6.1km az=150.0*

ISC 16 01:35:34.7±0.8,42.°56N±0.°02×111.°38W±0.°02, h7km±6km, n91, σ1§55/108, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ID06	Fossil Canyon	0.06	293	Pg	Pg	01 35 36.7	0.0
ID06				Sg	Sg	01 35 38.1	+0.1
ID05	Sulphur Canyon	0.10	323		Pg	01 35 37.1	-0.1
ID05				Sg	Sg	01 35 38.9	0.0
AHID	Auburn Hatcher	0.29	45	Pg	Pg	01 35 41.0	+0.5
AHID				Sg	Sb	01 35 45.8	-1.7
ID09	Alton	0.35	157	Pg	Pg	01 35 41.4	-0.2
ID09				Sg	Sg	01 35 46.5	+0.4
ID09				IAML		01 35 47.5	
	4μm,0.6s						
ID10	Lander Cutoff	0.36	97	Pg	Pg	01 35 42.1	+0.3
ID10				Sg	Sb	01 35 47.7	-1.9
ID10				IAML		01 35 48.7	
	4μm,0.7s						
ID10				IAML		01 35 49.5	
	4μm,0.8s						
GRRI	Grays Lake	0.38	355		Pg	01 35 42.4	+0.2
ID08	Devils Gate	0.48	315	Pg	Pg	01 35 43.4	-0.6
ID08				Sg	Sg	01 35 50.1	-0.2
ID07	Smith Canyon R	0.52	267	Pg	Pg	01 35 44.0	-0.8
ID07				Sg	Sg	01 35 50.4	-1.3
ID07				IAML		01 35 51.2	
	3μm,0.8s						
ID07				IAML		01 35 52.0	
	2μm,0.6s						
BEI	Bear River Ran	0.54	214		Pg	01 35 44.6	-0.5
L17A	Cokeville	0.59	141		Pb	01 35 46.5	-1.1
BMUT	Black Mountain	0.61	170		Pg	01 35 46.4	-0.1
MLI	Malad Range	0.77	226		Pg	01 35 49.3	-0.3
HDU	Hyde Park	0.81	201		Pg	01 35 49.9	-0.4
REDW	Red Top Meadow	0.89	26	Pg	Pg	01 35 51.9	+0.1
RSUT	Red Spur Mount	0.92	182		Pb	01 35 53.3	0.0
NPI	North Pocatell	0.94	244		Pg	01 35 52.0	-0.8
PTU	Portage	0.95	228		Pg	01 35 52.3	-0.6
HWUT	Hardware Ranch	0.96	188	Pg	Pg	01 35 52.9	-0.3
HWUT				IAML		01 36 16.5	
	656nm,0.8s						
TPAW	Teton Pass	0.98	18	Pg	Pg	01 35 53.4	-0.2
TPAW				IAML		01 36 11.0	
	975nm,0.6s						
SNOW	Snow King Moun	1.01	27	Pg	Pg	01 35 53.9	-0.2
SNOW				IAML		01 36 15.4	
	654nm,0.7s						
WVUT	Wellsville	1.04	205		Pg	01 35 54.5	-0.3
FXWY	Fox Creek	1.10	13	Pg	Pg	01 35 55.0	-0.9
BCUT	Brigham City	1.14	203		Pg	01 35 56.4	-0.3
LTU	Little Mountai	1.17	214		Pb	01 35 56.0	-1.4
LOHW	Long Hollow	1.19	28	Pg	Pg	01 35 56.8	-0.8
LOHW				IAML		01 36 16.8	
	534nm,0.6s						
MOOW	Moose Ponds	1.27	21		Pn	01 35 58.0	-1.1
MOOW				IAML		01 36 18.1	
	447nm,0.8s						
HVU	Hansel Valley	1.30	234		Pn	01 35 57.8	-1.7
BW06	Boulder Array	1.36	81		Pg	01 36 00.4	-0.3
BW06				IAML		01 36 22.6	
	380nm,1.6s						
BW06				IAML		01 36 22.9	
	526nm,1.1s						
BW06	Boulder Array	1.36	81	P	Pn	01 35 57.3	-3.0
	baz=262,SNR=301						
BW06				Sb	Sn	01 36 18.5	-0.2
	baz=262						
PD31	Pinedale Array	1.36	81	Pn	Pg	01 36 00.5	-0.3
PDAR	Pinedale Array	1.36	81	Pg	Pg	01 36 00.5	-0.3
	5.4nm,0.3s,baz=247,slow=13,SNR=98						
PDAR				Lg	Lg	01 36 16.2	
	53nm,0.3s,baz=270,slow=18,SNR=14						
IMW	Indian Meadow	1.37	13	Pn	Pn	01 35 59.7	-0.9
TCUT	Toone Canyon	1.44	181		Pg	01 36 02.8	+0.3
TCUT	Toone Canyon	1.44	181	Pn	Pg	01 36 02.3	-0.2
TCUT				IAML		01 36 32.7	
	comp=N,2μm,0.6s						
TCUT				IAML		01 36 32.7	
	comp=E,2μm,0.6s						
WBC	Weber Canyon	1.47	196		Pb	01 36 02.6	0.0
SPUT	South Promonto	1.49	213	Pn	Pn	01 36 00.8	-1.2
SPUT				IAML		01 36 22.3	
	comp=N,614nm,0.5s						
SPUT				IAML		01 36 22.9	
	comp=E,504nm,0.4s						
FLWY	Flagg Ranch	1.60	18	Pn	Pn	01 36 03.7	+0.1
FLWY				IAML		01 36 31.8	
	comp=E,274nm,0.8s						
FLWY				IAML		01 36 34.7	
	comp=E,372nm,0.8s						
CTU	Camp Tracy	1.89	189	Pn	Pb	01 36 09.6	0.0
CTU				IAML		01 36 37.8	
	comp=E,404nm,0.5s						
CTU				IAML		01 36 38.3	
	comp=N,328nm,0.8s						
H17A	Grant Village	1.92	17	Pb	Pb	01 36 08.9	-1.4
	baz=199						
YFT	Old Faithful	1.93	12	Pn	Pb	01 36 09.8	-0.6
BGU	Big Grassy Mou	2.05	218	Pn	Pn	01 36 08.8	-1.0
BGU				IAML		01 36 42.3	
	comp=N,216nm,0.5s						
BGU				IAML		01 36 46.9	
	comp=E,216nm,0.6s						
BSUT	Blindstream Ca	2.08	167	Pn	Pb	01 36 12.4	-0.5
YNR	Norris Junctio	2.21	13	Pn	Pn	01 36 13.1	+1.0
YHH	Holmes Hill	2.26	10	Pn	Pn	01 36 13.3	+0.5
YHL	Hebgen Lake	2.29	3	Pn	Pn	01 36 14.0	+0.8
YHL				IAML		01 36 52.2	
	comp=E,155nm,1.1s						
RDMU	Red Mountain	2.41	145	Pn	Pb	01 36 17.6	-0.9
RDMU				IAML		01 36 50.1	
	comp=E,188nm,0.9s						
RDMU				IAML		01 36 53.3	
	comp=N,193nm,0.8s						
HLID	Hailey	2.44	295	Pn	Pn	01 36 16.2	+1.1
HLID				IAML		01 36 50.8	
	comp=N,243nm,0.6s						
HLID				IAML		01 36 55.4	
	comp=N,210nm,0.9s						
HLID	Hailey	2.44	295	P	Pn	01 36 12.9	-2.3
	baz=114,SNR=292						
HLID				Sb	Sb	01 36 48.7	-0.7
	baz=114						
MPU	Maple Canyon	2.55	184	Pn	Pn	01 36 17.2	+0.5
MPU				IAML		01 37 01.9	
	comp=E,100nm,1.5s						
DUG	Dugway, Tooele	2.60	205	Pn	Pn	01 36 16.7	-0.7
DUG				IAML		01 37 03.6	
	comp=E,121nm,1.1s						
DUG				IAML		01 37 11.1	
	comp=E,103nm,0.9s						
DUG	Dugway, Tooele	2.60	205	P	Pn	01 36 16.5	-0.9
	baz=24,SNR=43						
DUG				Sb	Sb	01 36 54.7	+0.8
	baz=24						
NLU	North Lily Min	2.66	192	Pn	Pn	01 36 17.8	-0.4
DLMT	Dillon	2.93	343	Pn	Pn	01 36 21.7	-0.3
DLMT				IAML		01 37 12.1	
	comp=E,150nm,1.1s						
DLMT				IAML		01 37 12.7	
	comp=E,101nm,1.1s						
RLMT	Red Lodge	2.98	30	P	Pn	01 36 19.0	-3.6
RLMT	baz=212						
RLMT				Sg	Sg	01 37 07.5	-2.9
	baz=212						
BOZ	Bozeman (W)	3.04	357	Pn	Pn	01 36 25.7	+2.3
BOZ				IAML		01 37 12.1	
	comp=E,59nm,1.1s						
BOZ	Bozeman (W)	3.04	357	Pb	Pb	01 36 27.3	-1.9
	baz=177,SNR=50						
BOZ				Sg	Sg	01 37 10.0	-2.3
	baz=177						
P18A	Preston Nutter	3.05	163	Pn	Pn	01 36 25.4	+1.6
P18A				IAML		01 37 14.0	
	comp=E,131nm,1.0s						
P18A				IAML		01 37 15.3	
	comp=N,149nm,0.8s						
MFID	Camas Ranch	3.38	286	Pn	Pn	01 36 28.9	+1.0
MFID				IAML		01 37 26.7	
	comp=N,148nm,0.7s						
MFID				IAML		01 37 27.1	
	comp=N,141nm,1.0s						
O20A	White River Ci	3.38	135	Pn	Pn	01 36 29.9	+1.7
O20A	White River Ci	3.38	135	P	Pn	01 36 27.4	-0.8
	baz=316,SNR=26						
O20A				Sb	Sg	01 37 19.6	-3.8
	baz=316						
ELK	Elko	3.42	239	Pn	Pn	01 36 28.1	-0.5
K22A	Casper	3.58	87	Pn	Pn	01 36 31.7	+0.8
K22A				IAML		01 37 40.5	
	comp=E,118nm,1.1s						
K22A	Casper	3.58	87	P	Pn	01 36 27.7	-3.2
	baz=270,SNR=58						
K22A				Sb	Sb	01 37 24.0	+1.7
	baz=270						
Q16A	Castle Valley	3.64	177	Pn	Pn	01 36 32.4	+0.6
Q16A				IAML		01 37 28.2	
	comp=N,67nm,0.8s						
Q16A				IAML		01 37 28.5	
	comp=E,76nm,1.7s						
TCRU	Three Creeks R	4.03	192	Pn	Pn	01 36 36.9	-0.2
TCRU				IAML		01 37 53.8	
	comp=N,37nm,1.0s						
TCRU				IAML		01 38 06.1	
	comp=E,54nm,1.1s						
SPR3	Spring Creek 3	4.21	213	Pn	Pn	01 36 41.4	+1.8
SPR3				IAML		01 37 49.8	
	comp=N,26nm,0.7s						
SPR3				IAML		01 37 57.8	
	comp=E,26nm,0.7s						
N23A	Red Feather La	4.39	110	Pn	Pn	01 36 42.9	+0.8
N23A	Red Feather La	4.39	110	P	Pn	01 36 40.6	-1.5
	baz=294,SNR=30						
PSUT	Pine Spring	4.45	206	Pn	Pn	01 36 43.3	+0.6
PSUT				IAML		01 38 07.3	
	comp=N,27nm,0.9s						
PSUT				IAML		01 38 14.5	
	comp=E,29nm,1.0s						
CHMT	Chamberlain Mo	4.55	344	Pn	Pn	01 36 46.2	+1.9
MTPU	Mount Pierson	4.56	188	Pn	Pn	01 36 45.3	+0.9
MTPU				IAML		01 38 01.9	
	comp=E,27nm,1.0s						
MTPU				IAML		01 38 02.2	
	comp=N,23nm,0.9s						
PHWY	Pilot Hill	4.59	104	Pn	Pn	01 36 45.2	+0.4
PHWY				IAML		01 38 08.1	
	comp=N,55nm,0.8s						
MSO	Missoula	4.64	338	Sb	Sb	01 37 55.5	+2.9
	baz=156						
HMU	Henry Mountain	4.64	174	Pn	Pn	01 36 45.6	0.0
SMCO	Snowmass	4.75	134	Pn	Pn	01 36 47.7	+0.5
BMO	Blue Mountains	4.87	300	Pn	Pn

comp=E,0.2nm,0.3s,baz=55,slow=11,SNR=12
NVAR Pg **Pb** **01 37 31.9 +0.2**
comp=E,0.7nm,0.3s,baz=45,slow=17,SNR=6.4
NVAR Sn **Sn** **01 38 33.6 +3.2**
comp=E,0.4nm,0.3s,baz=42,slow=21,SNR=1.6
NVAR Lg Lg 01 39 05.9
comp=E,1.2nm,0.3s,baz=60,slow=27,SNR=5.0
comp=E,1.6nm,0.7s
ULM Lac du Bonnet 13.16 49 Pn **Pn** **01 38 41.3 -0.5**
comp=E,0.3nm,0.3s,baz=243,slow=14,SNR=1.9
comp=E,1.3nm,0.5s
TXAR Lajitas Array 14.59 152 Pn **Pn** **01 39 00.7 -1.0**
comp=E,0.1nm,0.3s,baz=335,slow=8.2,SNR=3.8
comp=E,0.2nm,0.4s

---

*SOME **16** 01:51:33.4, 47°.98N×80°.05E, h10km*
*NNC **16** 01:51:34.5±0.6, 47°.93N×80°.23E, h20km±5km, mb4.0, mpv3.7, Error ellipse: s-maj=4.8km s-min=3.3km az=76.0*
*ASRS **16** 01:51:35.2±0.4, 48°.N±1°×8°.1E±°, h0km, MLh3.9/10, Error ellipse: s-maj=4.5km s-min=3.2km az=80.8, confirmed*
ISC 16 01:51:31.9±0.7, **47°.96N**±0°.03×**80°.25E**±0°.03, **h10**km, **n64**, σ**2**s**45**/92, **15C-8D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi** 17nm,0.2s	**1.65**	**134**	⇑P	**Pb**	**01 52 02.0**	**-0.4**
MAKZ	298nm,0.7s			⇓S	**Sb**	**01 52 23.0**	**-0.2**
MAKZ	**Makanchi**	**1.65**	**134**	Pg	**Pb**	**01 52 02.5**	**+0.1**
MAKZ				Sg	**Sb**	**01 52 23.5**	**+0.3**
MK31	**Makanchi Array** 8.2nm,0.1s,baz=318,slow=16,SNR=2491	**1.81**	**129**	⇓P	**Pb**	**01 52 04.8**	**-0.4**
MK31	39nm,0.2s,baz=313,slow=27,SNR=28			⇑S	**Sb**	**01 52 27.3**	**-0.7**
MKAR	**Makanchi Array**	**1.81**	**129**	Pg	**Pb**	**01 52 05.3**	**+0.1**
MKAR				Sg	**Sb**	**01 52 27.7**	**-0.3**
SEM	**Semipalatinsk** 23nm,0.3s	**2.45**	**0**	Pg	**Pb**	**01 52 16.1**	**0.0**
SEM	58nm,0.2s			Lg	Lg	01 52 48.1	
SEM	**Semipalatinsk** 23nm,0.3s	**2.45**	**0**	*e*Pg	**Pg**	**01 52 16.5**	**-2.3**
SEM	103nm,0.2s			*e*Lg	Lg	01 52 48.0	
KURBB	**Kurchatov Arra** 1.7nm,0.3s	**2.89**	**338**	⇑Pn	**Pb**	**01 52 20.7**	**-2.8**
KURBB	6.7nm,0.3s			⇓Pg	**Pg**	**01 52 27.7**	**+0.4**
KURBB	131nm,0.6s			⇓Lg	Lg	01 53 08.4	
KURK	**Kurchatov** 0.8nm,0.4s	**2.96**	**340**	⇓Pn	**Pb**	**01 52 21.6**	**-3.0**
KURK	69nm,0.6s			⇑Lg	Lg	01 53 09.3	
KURK	**Kurchatov**	**2.96**	**340**	Pn	**Pb**	**01 52 21.7**	**-3.0**
KURK				Pg	**Pg**	**01 52 29.6**	**+1.1**
KURK				Sg	**Sg**	**01 53 09.1**	**+2.3**
ZSN	**Zaisan** 16nm,0.7s	**3.16**	**98**	Pg	**Pb**	**01 52 29.2**	**+1.0**
ZSN	26nm,0.6s			Lg	Lg	01 53 10.2	
ZSN	**Zaisan** 20nm,0.3s	**3.16**	**98**	*e*Pg	**Pb**	**01 52 29.6**	**+1.4**
ZSN	26nm,0.6s			*e*Lg	Lg	01 53 10.1	
DJR	**Jarkent** 34nm,0.3s	**3.64**	**185**	Pg	**Pg**	**01 52 41.9**	**+0.2**
DJR	42nm,0.4s			Lg	Lg	01 53 31.5	
DJR	**Jarkent** 34nm,0.3s	**3.64**	**185**	*e*Pg	**Pg**	**01 52 41.9**	**+0.2**
DJR	42nm,0.4s			*e*Lg	Lg	01 53 31.5	
KNOS	**Konyrlen** 26nm,0.2s	**3.68**	**192**	Pg	**Pg**	**01 52 42.7**	**+0.4**
KNOS	43nm,0.5s			Lg	Lg	01 53 32.6	
BLB	**Baldybastay** 20nm,0.3s	**4.05**	**198**	Pg	**Pg**	**01 52 49.1**	**-0.4**
BLB	24nm,0.6s			Lg	Lg	01 53 44.1	
ARXS	**Arharly** 8.5nm,0.3s	**4.11**	**205**	Pg	**Pg**	**01 52 49.1**	**-1.5**
ARXS	65nm,0.5s			Lg	Lg	01 53 44.1	
ARXS	**Arharly** 8.5nm,0.3s	**4.11**	**205**	*e*Pg	**Pg**	**01 52 49.1**	**-1.5**
ARXS	65nm,0.5s			*e*Lg	Lg	01 53 44.1	
UKR	**Ust'-Kan**	**4.20**	**43**	Pn	**Pn**	**01 52 39.5**	**+3.5**
UKR				Pg	**Pg**	**01 52 52.3**	**+0.1**
UKR				S	**Sn**	**01 53 27.7**	**+2.6**
UKR				Sg	**Sg**	**01 53 42.3**	**-4.2**
KTMS	**Ketmen** 3.4nm,0.4s	**4.52**	**179**	Pg	**Pg**	**01 52 55.4**	**-2.9**
KTMS	8.9nm,0.4s			Lg	Lg	01 53 54.2	
KTMS	**Ketmen** 3.4nm,0.4s	**4.52**	**179**	*e*Pg	**Pg**	**01 52 55.4**	**-2.9**
KTMS	8.9nm,0.4s			*e*Lg	Lg	01 53 54.2	
KPKS	**Kokpek** 9.8nm,0.3s	**4.63**	**194**	Pg	**Pg**	**01 52 58.3**	**-2.2**
KPKS	34nm,0.4s			Lg	Lg	01 53 59.3	
KPKS	**Kokpek** 9.8nm,0.3s	**4.63**	**194**	*e*Pg	**Pg**	**01 52 58.3**	**-2.2**
KPKS	34nm,0.4s			*e*Lg	Lg	01 53 59.3	
PDGK	**Podgornoye** 8.0nm,0.4s	**4.66**	**187**	Pg	**Pg**	**01 52 58.4**	**-2.8**
PDGK	9.9nm,0.5s			Lg	Lg	01 53 59.3	
PDGK	**Podgornoye** 1.2nm,0.2s	**4.66**	**187**	⇑Pn	**Pn**	**01 52 45.0**	**+2.6**
PDGK	11nm,0.6s			⇑Pg	**Pg**	**01 53 00.3**	**-0.9**
PDGK	17nm,0.6s			⇓Lg	Lg	01 54 00.1	
CHKK	**Chushkaly** 2.1nm,0.2s	**4.69**	**210**	Pg	**Pg**	**01 52 59.0**	**-2.8**
CHKK	54nm,0.4s			Lg	Lg	01 54 01.3	
CHKK	**Chushkaly** 2.1nm,0.2s	**4.69**	**210**	*e*Pg	**Pg**	**01 52 59.0**	**-2.8**
CHKK	54nm,0.4s			*e*Lg	Lg	01 54 01.3	
SHLS	**Shalkode** 11nm,0.3s	**4.83**	**187**	Pg	**Pg**	**01 53 00.9**	**-3.6**
SHLS	30nm,0.5s			Lg	Lg	01 54 03.6	
SHLS	**Shalkode** 11nm,0.3s	**4.83**	**187**	*e*Pg	**Pg**	**01 53 00.9**	**-3.6**
SHLS	30nm,0.5s			*e*Lg	Lg	01 54 03.5	
UZB	**Uzynbulak** 8.2nm,0.3s	**4.89**	**191**	Pg	**Pg**	**01 53 03.4**	**-2.1**
UZB	17nm,0.5s			Lg	Lg	01 54 07.8	
UZB	**Uzynbulak** 8.2nm,0.3s	**4.89**	**191**	*e*Pg	**Pg**	**01 53 03.5**	**-2.1**
UZB	17nm,0.5s			*e*Lg	Lg	01 54 07.8	
KUU	**Kurty** 1.7nm,0.3s	**4.90**	**215**	Pg	**Pg**	**01 53 03.3**	**-2.4**
KUU	76nm,0.4s			Lg	Lg	01 54 07.8	
KUU	**Kurty** 1.7nm,0.3s	**4.90**	**215**	*e*Pg	**Pg**	**01 53 03.3**	**-2.4**
KUU	76nm,0.4s			*e*Lg	Lg	01 54 07.8	
KTBS	**Karatobe** 2.8nm,0.2s	**4.92**	**212**	Pg	**Pg**	**01 53 04.6**	**-1.6**
KTBS	39nm,0.5s			Lg	Lg	01 54 09.9	
KTBS	**Karatobe** 2.8nm,0.2s	**4.92**	**212**	*e*Pg	**Pg**	**01 53 04.5**	**-1.6**
KTBS	39nm,0.5s			*e*Lg	Lg	01 54 09.9	
ZHN	**Zhinishke** 5.9nm,0.2s	**4.96**	**196**	Pg	**Pg**	**01 53 05.2**	**-1.7**
ZHN	50nm,0.2s			Lg	Lg	01 54 10.6	
ZHN	**Zhinishke** 5.9nm,0.2s	**4.96**	**196**	*e*Pg	**Pg**	**01 53 05.2**	**-1.7**
ZHN	50nm,0.2s			*e*Lg	Lg	01 54 10.6	
ELDR	**Elanda**	**5.01**	**47**	Pn	**Pn**	**01 52 50.6**	**+3.5**
ELDR				Pg	**Pg**	**01 53 05.8**	**-1.9**
ELDR				S	**Sn**	**01 53 47.2**	**+2.2**
ELDR				Sg	**Sg**	**01 54 08.4**	**-4.1**
DGZ	**Jazzator, Alta**	**5.05**	**67**	Pn	**Pn**	**01 52 51.6**	**+3.7**
DGZ				Pg	**Pg**	**01 53 04.9**	**-3.8**
DGZ				S	**Sn**	**01 53 45.7**	**-0.7**
SATY	**Saty** 3.3nm,0.2s	**5.07**	**195**	Pg	**Pg**	**01 53 07.6**	**-1.4**
SATY	20nm,0.4s			Lg	Lg	01 54 15.0	
SATY	**Saty** 3.3nm,0.2s	**5.07**	**195**	*e*Pg	**Pg**	**01 53 07.6**	**-1.4**
SATY	20nm,0.4s			*e*Lg	Lg	01 54 15.0	
BTLS	**Baital** 2.2nm,0.2s	**5.18**	**238**	Pg	**Pg**	**01 53 09.1**	**-1.9**
BTLS	23nm,0.6s			Lg	Lg	01 54 17.5	
BTLS	**Baital** 2.2nm,0.2s	**5.18**	**238**	*e*Pg	**Pg**	**01 53 09.2**	**-1.9**
BTLS	23nm,0.6s			*e*Lg	Lg	01 54 17.5	
KOTS	**Kotyrbulak** 3.9nm,0.3s	**5.21**	**206**	Pg	**Pg**	**01 53 09.6**	**-2.1**
KOTS	29nm,0.6s			Lg	Lg	01 54 18.8	
KOTS	**Kotyrbulak** 3.9nm,0.3s	**5.21**	**206**	*e*Pg	**Pg**	**01 53 09.6**	**-2.1**
KOTS	29nm,0.6s			*e*Lg	Lg	01 54 18.8	
OTUK	**Ortayu** 2.3nm,0.5s	**5.31**	**276**	⇑Pn	**Pn**	**01 52 55.0**	**+3.8**
OTUK	11nm,0.4s			⇑Lg	Lg	01 54 22.6	
CHBI	**Chibit, Altay**	**5.31**	**61**	Pn	**Pn**	**01 52 51.0**	**-0.4**
CHBI				Pg	**Pg**	**01 53 09.9**	**-3.8**
CHBI				S	**Sn**	**01 53 52.6**	**0.0**
CHBI				Sg	**Sb**	**01 54 13.7**	**+5.0**
KRBS	**Karabastau** 1.3nm,0.2s	**5.33**	**218**	Pg	**Pg**	**01 53 10.7**	**-3.2**
KRBS	18nm,0.6s			Lg	Lg	01 54 20.5	
KRBS	**Karabastau** 1.3nm,0.2s	**5.33**	**218**	*e*Pg	**Pg**	**01 53 10.7**	**-3.2**
KRBS	18nm,0.6s			*e*Lg	Lg	01 54 20.5	
AKAR	**Aktash**	**5.38**	**61**	Pn	**Pn**	**01 52 55.9**	**+3.5**
AKAR				Pg	**Pg**	**01 53 12.4**	**-2.6**
AKAR				S	**Sn**	**01 53 56.8**	**+2.3**
AKAR				Sg	**Sg**	**01 54 17.8**	**-6.9**
TNSS	**Tian-Shan** 6.5nm,0.4s	**5.44**	**206**	Pg	**Pg**	**01 53 14.0**	**-2.1**
TNSS	10nm,0.4s			Lg	Lg	01 54 26.0	
TNSS	**Tian-Shan** 6.5nm,0.4s	**5.44**	**206**	*e*Pg	**Pg**	**01 53 14.1**	**-2.1**
TNSS	10nm,0.4s			*e*Lg	Lg	01 54 26.0	
IZV	**Izvestkoviy** 1.9nm,0.2s	**5.55**	**209**	Pg	**Pg**	**01 53 15.7**	**-2.4**
IZV	17nm,0.6s			Lg	Lg	01 54 29.4	
IZV	**Izvestkoviy** 1.9nm,0.2s	**5.55**	**209**	*e*Pg	**Pg**	**01 53 15.7**	**-2.4**
IZV	17nm,0.6s			*e*Lg	Lg	01 54 29.4	
DGS	**Degeres** 7.6nm,0.4s	**5.67**	**215**	Pg	**Pg**	**01 53 17.9**	**-2.5**
DGS	30nm,0.6s			Lg	Lg	01 54 33.2	
DGS	**Degeres** 7.6nm,0.4s	**5.67**	**215**	*e*Pg	**Pg**	**01 53 17.9**	**-2.5**
DGS	30nm,0.6s			*e*Lg	Lg	01 54 33.2	
ULGR	**Ulagan, Altay**	**5.71**	**59**	Pn	Pn	01 53 02.5	+5.7
ULGR				Pg	**Pg**	**01 53 19.3**	**-1.8**
ULGR				S	**Sn**	**01 54 05.7**	**+3.4**
ULGR				Sg	**Sg**	**01 54 33.9**	**-1.2**
KST	**Kastek** 4.0nm,0.5s	**5.76**	**213**	Pg	**Pg**	**01 53 20.1**	**-2.2**
KST	32nm,0.7s			Lg	Lg	01 54 36.6	
KST	**Kastek** 4.0nm,0.5s	**5.76**	**213**	*e*Pg	**Pg**	**01 53 20.1**	**-2.2**
KST	32nm,0.7s			*e*Lg	Lg	01 54 36.6	
TKM2	**Tokmak 2** 0.5nm,0.3s	**6.01**	**215**	⇑Pn	**Pn**	**01 53 03.4**	**+2.4**
TKM2	23nm,1.1s			⇑Lg	Lg	01 54 42.8	
YALR	**Yailyu, Altay**	**6.10**	**49**	P	**Pn**	**01 53 05.0**	**+2.9**
YALR				Pg	**Pg**	**01 53 27.0**	**-1.7**
YALR				S	**Sn**	**01 54 12.4**	**+0.5**
YALR				Sg	**Sg**	**01 54 44.3**	**-3.3**
CHMS	**Chumysh** 1.6nm,0.4s	**6.29**	**220**	⇑Pn	**Pn**	**01 53 05.4**	**+0.8**
CHMS	20nm,0.9s			⇓Lg	Lg	01 54 49.9	
ELT	**Eltsovka**	**6.53**	**33**	P	Pn	01 53 13.3	+5.3
ELT				S	**Sn**	**01 54 20.4**	**-2.1**
ELT				Sg	**Sg**	**01 54 59.4**	**-2.1**
AML	**Almayashu** 2.6nm,0.9s	**7.45**	**221**	⇑Pg	Pb	01 53 46.1	+4.7
AML				⇓Lg	Lg	01 55 28.2	
KK31	**Karatay Array** 0.2nm,0.3s,baz=54,slow=12,SNR=3.0	**8.38**	**238**	⇑Pn	**Pn**	**01 53 35.6**	**+2.2**
KK31	0.7nm,0.5s,baz=52,slow=21,SNR=4.7			⇑Sn	**Sn**	**01 55 06.5**	**-1.5**
KK31	5.4nm,0.7s,baz=50,slow=32,SNR=4.2			⇑Lg	Lg	01 55 59.0	

---

*CRAAG **16** 02:09:32.7, 36°.22N×1°.65E, Ml4.0, Algerie 02km NW El-Attaf*
*IDC **16** 02:09:32.0±1.1, 36°.27N×1°.52E, h0km, mb3.6/6, mbtmp3.7/12, ML3.9/6, MS3.7/1, Error ellipse: s-maj=24.6km s-min=19.5km az=129.0*
*INMG **16** 02:09:32.8±2.0, 36°.22N×1°.64E, h7km, ML3.2, Error ellipse: s-maj=7.2km s-min=4.4km az=140.0*
*MDD **16** 02:09:33.2±0.4, 36°.13N×1°.66E, h14km±3km, Mb4.5/63, M_mb3.9/65, Error ellipse: s-maj=3.7km s-min=1.6km az=150.0*
*NEIC **16** 02:09:33.9±2.7, 36°.27N±0°.07×1°.52E±0°.07, h10km±2km, mb4.0/8, Error ellipse: s-maj=12.4km s-min=8.8km az=193.0*
*LDG **16** 02:09:35.1±0.2, 36°.19N×1°.58E, h10km, Ml3.3/20, Error ellipse: s-maj=3.9km s-min=2.0km az=159.0*
*CNRM **16** 02:09:36.3, 36°.31N×1°.51E, h37km, ml3.8*
ISC 16 02:09:33.0±1.0, **36°.29N**±0°.04×**1°.57E**±0°.03, **h14**km±7km, **n197**, σ**1**s**97**/279, **mb3.9**/6, **44C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.03**	**265**	P	**Pg**	**02 09 35.6**	**-0.1**
ECHA	**Ech Chlef**	**0.22**	**229**	P	**Pg**	**02 09 36.3**	**-1.6**
EOFD	**Oued Fodda**	**0.25**	**172**	P	**Pg**	**02 09 37.5**	**-0.9**
EARB	**Arib**	**0.35**	**89**	P	**Pg**	**02 09 39.5**	**-0.8**
EHRZ	**Djelida**	**0.45**	**102**	P	**Pg**	**02 09 41.1**	**-0.9**
OKGL	**Djebel Kef Gue**	**0.79**	**251**	P	**Pg**	**02 09 48.0**	**-0.4**
OJGS	**Djebel Guires**	**1.03**	**220**	P	**Pb**	**02 09 52.0**	**-0.7**
EMHD	**Djebel Mahouad**	**1.12**	**94**	P	**Pb**	**02 09 53.9**	**-0.4**
OJBR	**Djebel Berber**	**1.22**	**235**	P	Pn	02 09 49.0	-6.7
ODJA	**Bouhanifia**	**1.69**	**236**	P	**Pg**	**02 10 05.0**	**-0.6**
CART	**Cartagena**	**2.43**	**303**		**Pn**	**02 10 11.4**	**-0.8**
CART	**Cartagena**	**2.43**	**303**	P	**Pn**	**02 10 11.9**	**-0.3**
CART				S	**Sn**	**02 10 38.4**	**-3.3**
CART	**Cartagena**	**2.43**	**303**	S	**Sn**	**02 10 38.6**	**-3.1**
CART				P	**Pn**	**02 10 11.7**	**-0.6**
ETRV	**Los Montesinos**	**2.54**	**313**	Pn	**Pn**	**02 10 14.1**	**+0.4**
ETRV	1μm,SNR=1.8			⇑iVmb_V		02 10 19.8	
ETRV				Sn	**Sn**	**02 10 43.3**	**-1.0**
EMUR	**La Murta**	**2.73**	**305**	Pn	**Pn**	**02 10 16.5**	**0.0**
EMUR	694nm,SNR=6.1			⇑iVmb_V		02 10 17.7	
EMUR				Sn	**Sn**	**02 10 48.5**	**-0.7**
EMUR	**La Murta**	**2.73**	**305**	S	**Sn**	**02 10 47.4**	**-1.8**
EMUR				P	**Pn**	**02 10 16.4**	**0.0**
EIBI	**Ibiza**	**2.73**	**356**	Pn	**Pn**	**02 10 17.4**	**+0.9**
EIBI				⇑iVmb_V		02 10 18.3	
EIBI	3μm,SNR=12			Sn	**Sn**	**02 10 47.7**	**-1.6**
EIBI	**Ibiza**	**2.73**	**356**	S	**Sn**	**02 10 46.6**	**-2.6**
EIBI				P	**Pn**	**02 10 17.2**	**+0.8**
EBEN2	**Beniarda presa**	**2.76**	**330**	Pn	**Pn**	**02 10 17.5**	**+0.6**
EBEN2	1μm,SNR=3.9			⇑iVmb_V		02 10 24.1	
EBEN2				Sn	**Sn**	**02 10 49.2**	**-0.7**
AFON	**Font Roja**	**2.90**	**325**	Pn	**Pn**	**02 10 19.7**	**+0.9**
AFON	823nm,SNR=5.0			⇑iVmb_V		02 10 30.9	
AFON				Sn	**Sn**	**02 10 53.5**	**-0.1**
TLOR	**Lorca, Murcia**	**2.94**	**299**	Pn	**Pn**	**02 10 19.4**	**0.0**
TLOR				Sn	**Sn**	**02 10 52.1**	**-2.3**
TLOR	**Lorca, Murcia**	**2.94**	**299**	P	**Pn**	**02 10 19.3**	**0.0**
TLOR				S	**Sn**	**02 10 51.6**	**-2.8**
ELOR	**Lorca, Murcia**	**2.97**	**298**	Pn	**Pn**	**02 10 19.8**	**+0.1**
ELOR	1μm,SNR=5.1			⇑iVmb_V		02 10 23.6	
ELOR				Sn	**Sn**	**02 10 52.8**	**-2.4**
EZAR	**Zarzadilla de**	**3.05**	**302**	Pn	**Pn**	**02 10 21.5**	**+0.6**
EZAR	1μm,SNR=5.5			⇑iVmb_V		02 10 22.0	
EZAR				Sn	**Sn**	**02 10 58.3**	**+1.1**
SET	**Setif**	**3.10**	**91**	P	**Pn**	**02 10 23.0**	**+1.4**
ENIJ	**Nijar**	**3.11**	**284**	Pn	**Pn**	**02 10 21.2**	**-0.4**
ENIJ	530nm,SNR=2.8			⇑iVmb_V		02 10 23.3	
ENIJ				Sn	**Sn**	**02 10 56.5**	**-2.1**
ENIJ	**Nijar**	**3.11**	**284**	P	**Pn**	**02 10 21.1**	**-0.6**
ENIJ				S	**Sn**	**02 10 56.8**	**-1.8**
ETOB	**Tobarra**	**3.41**	**314**	Pn	**Pn**	**02 10 27.1**	**+1.2**
ETOB	2μm,SNR=12			⇑iVmb_V		02 10 27.8	
ETOB				Sn	**Sn**	**02 11 07.2**	**+1.1**
ETOB	**Tobarra**	**3.41**	**314**	P	**Pn**	**02 10 27.1**	**+1.2**
ETOB				S	**Sn**	**02 11 05.8**	**-0.3**
TAF	**Taforalt**	**3.57**	**247**	P	**Pn**	**02 10 29.5**	**+1.5**
TAF	**Taforalt**	**3.57**	**247**	P	**Pn**	**02 10 28.3**	**+0.3**
TAF				S	**Sn**	**02 11 05.8**	**-4.1**
ETOS	**Mallorca**	**3.61**	**15**	Pn	**Pn**	**02 10 28.2**	**-0.3**
ETOS	787nm,SNR=4.1			⇑iVmb_V		02 10 34.4	
ETOS				Sn	**Sn**	**02 11 07.5**	**-3.3**
ETOS	**Mallorca**	**3.61**	**15**	P	**Pn**	**02 10 28.2**	**-0.3**
ETOS				S	**Sn**	**02 11 09.3**	**-1.5**
EBER	**Berja**	**3.64**	**281**	Pn	**Pn**	**02 10 29.1**	**+0.1**
EBER	1μm,SNR=4.2			⇑iVmb_V		02 10 30.7	
EBER				Sn	**Sn**	**02 11 12.7**	**+0.9**
EBER	**Berja**	**3.64**	**281**	P	**Pn**	**02 10 29.1**	**+0.1**
EBER				S	**Sn**	**02 11 11.3**	**-0.5**
EVIV	**Cofrentes, Val**	**3.65**	**325**	Pn	**Pn**	**02 10 30.5**	**+1.4**
EVIV	1μm,SNR=7.9			⇑iVmb_V		02 10 33.5	
EVIV				Sn	**Sn**	**02 11 11.9**	**-0.1**
ECOL	**Islas Columbre**	**3.67**	**349**	Pn	**Pn**	**02 10 30.1**	**+0.9**
ECOL				Sn	**Sn**	**02 11 11.6**	**-0.6**
ECHE	**Chera**	**3.85**	**329**	Pn	**Pn**	**02 10 32.8**	**+1.0**
ECHE	697nm,SNR=5.6			⇑iVmb_V		02 10 35.9	
ECHE				Sn	**Sn**	**02 11 17.6**	**+0.7**
ECHE	**Chera**	**3.85**	**329**	P	**Pn**	**02 10 33.2**	**+1.3**
GOG	**Mont Gurugu**	**3.86**	**255**	P	**Pn**	**02 10 31.6**	**-0.4**
GOG				S	**Sn**	**02 11 12.9**	**-4.3**
JBK	**JBK**	**3.91**	**241**	P	**Pn**	**02 10 34.0**	**+1.2**
JBK	**JBK**	**3.91**	**241**	P	**Pn**	**02 10 33.9**	**+1.1**
JBK				S	**Sn**	**02 11 17.1**	**-1.3**
EQES	**Quesada**	**4.00**	**293**	Pn	**Pn**	**02 10 35.8**	**+1.7**
EQES	654nm,SNR=6.5			⇑iVmb_V		02 10 39.5	
EQES				Sn	**Sn**	**02 11 21.2**	**+0.4**
EQUE	**Quentar**	**4.12**	**284**	Pn	**Pn**	**02 10 36.8**	**+1.2**
EQUE	1μm,SNR=14			⇑iVmb_V		02 10 40.0	
EQUE				Sn	**Sn**	**02 11 20.1**	**-3.6**
EQTA	**Presa de Quent**	**4.13**	**284**	P	**Pn**	**02 10 37.0**	**+1.3**
MAHO	**Mahon**	**4.18**	**30**	Pn	**Pn**	**02 10 34.0**	**-2.3**
MAHO	**Mahon**	**4.18**	**30**	P	**Pn**	**02 10 35.5**	**-0.8**
ELGU	**Los Guajares,**	**4.22**	**279**	Pn	**Pn**	**02 10 37.4**	**+0.5**
ELGU	686nm,SNR=4.8			⇑iVmb_V		02 10 40.3	
ELGU				Sn	**Sn**	**02 11 25.9**	**-0.2**
ELGU	**Los Guajares,**	**4.22**	**279**	P	**Pn**	**02 10 37.3**	**+0.4**
EMOS	**Mosqueruela**	**4.37**	**339**	Pn	**Pn**	**02 10 40.6**	**+1.5**
EMOS	1μm,SNR=13			⇑iVmb_V		02 10 41.7	
EMOS				Sn	**Sn**	**02 11 28.9**	**-1.0**
EGOR	**Sierra Gorda,**	**4.63**	**282**	Pn	**Pn**	**02 10 44.9**	**+2.2**
EGOR	459nm,SNR=2.0			⇑iVmb_V		02 10 53.8	
EGOR				Sn	**Sn**	**02 11 39.2**	**+2.8**
EGOR	**Sierra Gorda,**	**4.63**	**282**	P	**Pn**	**02 10 44.8**	**+2.2**
ERTA	**Horta de San J**	**4.76**	**349**	Pn	**Pn**	**02 10 45.8**	**+1.5**
ERTA	470nm,SNR=5.8			⇑iVmb_V		02 10 46.6	
ERTA				Sn	**Sn**	**02 11 38.2**	**-1.0**
FIGM	**Figuig**	**4.77**	**210**	P	**Pn**	**02 10 45.4**	**+0.8**
FIGM	**Figuig**	**4.77**	**210**	P	**Pn**	**02 10 45.5**	**+1.0**
FIGM				S	**Sn**	**02 11 40.8**	**+1.2**
EMAL	**Malaga-Limoner**	**4.85**	**277**	P	**Pn**	**02 10 47.2**	**+1.6**
EPOB	**Poblet**	**5.07**	**356**	Pn	**Pn**	**02 10 49.2**	**+0.7**
EPOB	454nm,SNR=7.4			⇑iVmb_V		02 10 51.6	
EPOB				Sn	**Sn**	**02 11 46.5**	**-0.4**
EMIJ	**Mijas**	**5.12**	**275**	Pn	**Pn**	**02 10 48.6**	**-0.7**
EMIJ	260nm,SNR=2.5			⇑iVmb_V		02 10 52.7	
EMIJ				Sn	**Sn**	**02 11 44.8**	**-3.3**
EMIJ	**Mijas**	**5.12**	**275**	P	**Pn**	**02 10 48.8**	**-0.5**
EADA	**Adamuz**	**5.25**	**293**	Pn	**Pn**	**02 10 51.6**	**+0.5**
EADA	139nm,SNR=1.4			⇑iVmb_V		02 10 54.4	
EADA				Sn	**Sn**	**02 11 50.7**	**-0.6**
EADA	**Adamuz**	**5.25**	**293**	P	**Pn**	**02 10 51.5**	**+0.5**
ETOR	**Torete**	**5.34**	**329**	Pn	**Pn**	**02 10 55.5**	**+3.2**
ETOR	268nm,SNR=2.7			⇑iVmb_V		02 11 09.2	
ETOR				Sn	**Sn**	**02 11 54.9**	**+1.4**
ESBB	**Sonseca Array**	**5.52**	**309**	Pn	**Pn**	**02 10 55.0**	**+0.2**
ESDC	**Sonseca Array**	**5.52**	**309**	Pn	**Pn**	**02 10 54.7**	**-0.1**
ESDC	**Sonseca Array**	**5.52**	**309**	Pn	**Pn**	**02 10 55.3**	**+0.5**
ESDC	343nm,SNR=3.7			⇑iVmb_V		02 10 57.3	
ESDC				Sn	**Sn**	**02 11 57.0**	**-1.1**
ESDC	**Sonseca Array** 3.3nm,0.3s,baz=122,slow=14,SNR=84	**5.52**	**309**	Pn	**Pn**	**02 10 55.5**	**+0.7**
ESDC	1.0nm,0.3s,baz=121,slow=23,SNR=5.5			Sn	**Sn**	**02 11 57.1**	**-0.9**
ESDC	1.9nm,0.3s,baz=131,slow=28,SNR=6.2			Lg	Lg	02 12 12.6	
EMIR	**Miracle** 8.0nm,0.3s	**5.61**	**360**	Pn	**Pn**	**02 10 57.6**	**+1.6**
EMIR	859nm,SNR=3.3			⇑iVmb_V		02 10 58.3	
EMIR				Sn	**Sn**	**02 12 00.2**	**-0.1**
ECEU	**Ceuta**	**5.64**	**268**	Pn	**Pn**	**02 10 59.1**	**+2.8**
ECEU	98nm,SNR=1.8			⇑iVmb_V		02 11 02.5	
ECEU				Sn	**Sn**	**02 11 58.0**	**-2.8**
ESAC	**San Caprasio**	**5.65**	**344**	Pn	**Pn**	**02 10 59.3**	**+2.8**
ESAC	1μm,SNR=7.4			⇑iVmb_V		02 11 03.8	
SMIR	**Smir Dam**	**5.67**	**266**	P	**Pn**	**02 10 55.9**	**-0.8**
SMIR				S	**Sn**	**02 11 56.2**	**-5.4**
EJIM	**Jimena Fronter**	**5.68**	**274**	Pn	**Pn**	**02 11 00.3**	**+3.4**
EJIM				Sn	**Sn**	**02 12 01.0**	**-0.9**
PAB	**San Pablo**	**5.69**	**307**	Pn	**Pn**	**02 10 57.7**	**+0.5**
PAB	**San Pablo**	**5.69**	**307**	P	**Pn**	**02 10 57.9**	**+0.7**
PAB	**San Pablo**	**5.69**	**307**	Pn	**Pn**	**02 10 57.9**	**+0.7**
PAB	191nm,SNR=2.0			⇑iVmb_V		02 10 58.2	
PAB				Sn	**Sn**	**02 12 01.4**	**-0.9**
ECAB	**El Cabril**	**5.86**	**290**	Pn	**Pn**	**02 10 59.7**	**+0.3**
ECAB	192nm,SNR=2.1			⇑iVmb_V		02 11 01.7	
ECAB

MDT Midelt 6.16 238 P **Pn** **02 11 04.5 +0.8**
MDT S **Sn** **02 12 10.0 -4.0**
MDT Midelt 6.16 238 Pn **Pn** **02 11 04.5 +0.8**
0.6nm,0.3s,baz=45,slow=14,SNR=29
MDT Lg Lg 02 12 39.7
0.6nm,0.3s,baz=60,slow=20,SNR=1.8
1.3nm,0.3s
EJON La Jonquera 6.23 9 Pn **Pn** **02 11 05.3 +0.8**
EJON ⇑*i*Vmb_V 02 11 07.3
116nm,SNR=4.0
EJON Sn **Sn** **02 12 12.3 -3.2**
EJON La Jonquera 6.23 9 P **Pn** **02 11 05.2 +0.6**
GUD Guadarrama 6.25 316 Pn **Pn** **02 11 05.8 +1.0**
GUD ⇑*i*Vmb_V 02 11 16.9
138nm,SNR=2.0
GUD Sn **Sn** **02 12 14.5 -1.6**
KEST Kesra 6.33 93 Pn **Pn** **02 11 07.5 +1.6**
KEST Kesra 6.33 93 Pn **Pn** **02 11 08.7 +2.8**
3.2nm,0.3s,baz=204,slow=4.0,SNR=33
KEST Sn **Sn** **02 12 21.9 +3.8**
0.4nm,0.3s,baz=286,slow=9.7,SNR=2.0
14nm,0.5s
ECHI Chisagues Biel 6.45 351 Pn **Pn** **02 11 09.8 +2.1**
ECHI ⇑*i*Vmb_V 02 11 17.3
138nm,SNR=2.2
EMIN Mina Concepcio 6.75 285 Pn **Pn** **02 11 11.6 -0.1**
EMIN ⇑*i*Vmb_V 02 11 14.9
107nm,SNR=4.4
EMIN Sn **Sn** **02 12 24.8 -3.6**
EMIN Mina Concepcio 6.75 285 P **Pn** **02 11 12.0 +0.3**
EPF Esparros 6.79 352 *e*Pn **Pn** **02 11 14.8 +2.5**
EPF *e*Sn **Sn** **02 12 27.8 -1.6**
2.0nm,0.3s
ETSF Etsaut 6.80 347 *e*Pn **Pn** **02 11 14.9 +2.5**
ETSF *e*Sn **Sn** **02 12 27.8 -1.7**
3.6nm,0.5s
ARF Arif 6.83 226 P **Pn** **02 11 14.1 +1.2**
EORO Oroz-Betelu 6.96 342 Pn **Pn** **02 11 17.1 +2.6**
EORO ⇑*i*Vmb_V 02 11 20.0
194nm,SNR=2.2
MTLF Montolieu 7.06 4 *e*Pn **Pn** **02 11 17.9 +2.1**
MTLF *e*Sn **Sn** **02 12 34.0 -1.8**
3.5nm,0.5s
EPLA Plasencia 7.10 304 Pn **Pn** **02 11 17.3 +0.8**
EPLA ⇑*i*Vmb_V 02 11 25.6
102nm,SNR=1.0
EPLA Sn **Sn** **02 12 35.8 -1.2**
SJPF Ste Jean 7.14 343 *e*Pn **Pn** **02 11 19.6 +2.6**
SJPF *e*Sn **Sn** **02 12 35.6 -2.3**
6.0nm,0.6s
EBAD Badajoz 7.25 292 Pn **Pn** **02 11 18.1 -0.3**
EBAD ⇑*i*Vmb_V 02 11 19.7
125nm,SNR=1.6
EBAD Sn **Sn** **02 12 37.0 -3.5**
EALK Alkurruntz 7.31 342 Pn **Pn** **02 11 20.9 +1.5**
EALK ⇑*i*Vmb_V 02 11 29.5
381nm,SNR=2.9
EGRO El Granado 7.36 282 Pn **Pn** **02 11 19.5 -0.5**
EGRO ⇑*i*Vmb_V 02 11 26.0
66nm,SNR=2.1
EGRO Sn **Sn** **02 12 39.5 -3.7**
PVAQ Vaqueiros 7.53 281 *e*P **Pn** **02 11 22.9 +0.6**
PVAQ *e*S **Sn** **02 12 44.3 -3.1**
PVAQ A A 02 12 49.5
7.7nm,0.8s
PVAQ Vaqueiros 7.53 281 Pn **Pn** **02 11 22.5 +0.2**
PVAQ Vaqueiros 7.53 281 P **Pn** **02 11 22.9 +0.6**
PVAQ Vaqueiros 7.53 281 P **Pn** **02 11 22.2 0.0**
PVAQ S **Sn** **02 12 43.1 -4.3**
EJUZ Juzbado, Salam 7.54 312 Pn **Pn** **02 11 24.1 +1.6**
PESTR Estremoz 7.71 292 *e*P **Pn** **02 11 25.2 +0.3**
PESTR *e*S **Sn** **02 12 49.7 -2.3**
PESTR A A 02 13 26.6
9.5nm,0.6s
PESTR Estremoz 7.71 292 Pn **Pn** **02 11 24.9 0.0**
PESTR Estremoz 7.71 292 P **Pn** **02 11 25.1 +0.2**
PESTR S **Sn** **02 12 45.8 -6.2**
PBEJ Beja 7.73 286 *e*P **Pn** **02 11 25.5 +0.4**
PBEJ *e*S **Sn** **02 12 50.4 -2.0**
PBEJ A A 02 12 52.7
9.4nm,0.7s
PMRV Marv??o 7.75 297 *e*P **Pn** **02 11 26.6 +1.3**
PMRV *e*S **Sn** **02 12 50.9 -1.9**
PMRV A A 02 13 23.2
13nm,0.5s
PCVE Castro Verde 7.81 283 *e*P **Pn** **02 11 27.1 +1.0**
PCVE *e*S **Sn** **02 12 52.4 -1.9**
PCVE A A 02 12 54.6
6.2nm,0.7s
ELAN Lanestosa 7.93 332 Pn **Pn** **02 11 30.3 +2.5**
ELAN ⇑*i*Vmb_V 02 11 31.3
579nm,SNR=4.8
ELAN Sn **Sn** **02 12 57.3 +0.1**
EVO Evora 7.95 289 *e*P **Pn** **02 11 29.2 +1.2**
EVO *e*S **Sn** **02 12 55.2 -2.5**
EVO A A 02 13 28.9
8.7nm,0.6s
PCBR Castelo Branco 7.96 299 *e*P **Pn** **02 11 29.8 +1.5**
PCBR *e*S **Sn** **02 12 56.2 -1.9**
PCBR A A 02 13 40.0
9.5nm,0.6s
LASF Ste Croix 7.97 12 *e*Pn **Pn** **02 11 29.0 +0.6**
LASF *e*Sn **Sn** **02 12 55.6 -2.7**
1.7nm,0.5s
LMR La Mourre 7.99 27 *e*Pn **Pn** **02 11 29.0 +0.3**
LMR *e*Sn **Sn** **02 12 54.1 -4.7**
3.4nm,0.3s
PMTG Montargil 8.24 293 *e*S **Sn** **02 13 01.2 -3.8**
PMTG A A 02 13 44.9
9.0nm,0.5s
MTE Manteigas 8.25 303 *e*P **Pn** **02 11 33.8 +1.5**
MTE *e*S **Sn** **02 13 04.3 -0.9**
MTE A A 02 13 45.1
10nm,0.6s
MTE Manteigas 8.25 303 Pn **Pn** **02 11 33.1 +0.9**
PNCL Nicolau / Gran 8.26 286 *e*P **Pn** **02 11 32.8 +0.5**
PNCL *e*S **Sn** **02 13 04.3 -1.1**
MORF Marmelete 8.26 280 *e*P **Pn** **02 11 33.6 +1.2**
MORF *e*S **Sn** **02 13 02.4 -3.1**
MORF Marmelete 8.26 280 Pn **Pn** **02 11 32.1 -0.3**
SMRF Simiane la Rot 8.26 21 *e*Pn **Pn** **02 11 34.5 +2.1**
SMRF *e*Sn **Sn** **02 13 02.7 -2.8**
1.6nm,0.4s
MVO Moncorvo 8.29 309 *e*P **Pn** **02 11 33.7 +0.8**
MVO *e*S **Sn** **02 13 04.8 -1.5**
MVO A A 02 13 51.0
5.6nm,0.8s
PBRG Braganca 8.49 313 *e*P **Pn** **02 11 36.9 +1.4**
PGF Pioggiola 8.49 40 *e*Pn **Pn** **02 11 35.9 +0.3**
PGF *e*Sn **Sn** **02 13 04.6 -6.5**
4.9nm,0.4s
ECAL Calabor 8.57 314 Pn **Pn** **02 11 37.7 +1.0**
ECAL ⇑*i*Vmb_V 02 11 40.7
264nm,SNR=2.1
ZGR Zagora 8.61 226 P **Pn** **02 11 38.7 +1.4**
PVIS Viseu 8.63 304 *e*P **Pn** **02 11 38.9 +1.4**
PVIS *e*S **Sn** **02 13 10.7 -3.9**
PVIS A A 02 14 01.3
6.2nm,0.6s
LFF La Frestale 8.66 356 *e*Pn **Pn** **02 11 39.3 +1.5**
EARI Arriondas 8.73 325 Pn **Pn** **02 11 40.9 +2.1**
EARI ⇑*i*Vmb_V 02 11 45.4
283nm,SNR=1.9
EARI Sn **Sn** **02 13 21.2 +4.3**
COI Coimbra 8.77 299 Pn **Pn** **02 11 40.2 +0.9**
PCAS Casmilo, Conde 8.77 298 *e*P **Pn** **02 11 40.9 +1.6**
PCAS *e*S **Sn** **02 13 15.1 -2.9**
PCAS A A 02 14 01.0
12nm,0.6s
SBF Sospel 8.79 29 *e*Pn **Pn** **02 11 39.6 -0.1**
SBF *e*Sn **Sn** **02 13 14.7 -3.9**
4.4nm,0.3s
PSBE So Bento 8.80 295 *e*P **Pn** **02 11 41.2 +1.4**
PSBE *e*S **Sn** **02 13 14.8 -3.9**
PSBE A A 02 14 10.2
8.3nm,0.7s
VIVF Saint-Julien-l 8.87 14 *e*Pn **Pn** **02 11 41.6 +0.8**
VIVF *e*Sn **Sn** **02 13 17.0 -3.5**
2.8nm,0.6s
POLO Lamas de Olo 8.89 308 *e*P **Pn** **02 11 42.4 +1.3**
RJF Les Rejaudoux 9.00 360 *e*Pn **Pn** **02 11 44.2 +1.7**
RJF *e*Sn **Sn** **02 13 20.4 -3.2**
1.0nm,0.3s
ORIF Oris-en-Rattie 9.22 19 *e*Pn **Pn** **02 11 48.0 +2.5**
ORIF *e*Sn **Sn** **02 13 25.5 -3.5**
0.7nm,0.5s
SSB Saint Sauveur 9.26 13 Pn **Pn** **02 11 47.4 +1.4**
MBDF Montbardon 9.31 24 *e*Pn **Pn** **02 11 49.3 +2.5**
MBDF *e*Sn **Sn** **02 13 27.6 -3.7**
1.3nm,0.5s
ELOB Lobios 9.33 310 Pn **Pn** **02 11 48.0 +0.9**
ELOB ⇑*i*Vmb_V 02 11 49.0
82nm,SNR=2.1
PGAV Gavieira, Arco 9.51 310 *e*P **Pn** **02 11 50.9 +1.3**
BNI Bardonecchia 9.57 22 Pn **Pn** **02 11 51.4 +1.0**
BNI Bardonecchia 9.57 22 Pn **Pn** **02 11 51.8 +1.4**
CASP Castiglione de 9.67 45 Pn **Pn** **02 11 52.5 +0.7**
EPON Pontenova 9.71 319 Pn **Pn** **02 11 53.8 +1.6**
EPON ⇑*i*Vmb_V 02 11 57.1
197nm,SNR=0.8
EAGO Agolada(Pontev 9.89 314 Pn **Pn** **02 11 55.7 +1.0**
EAGO ⇑*i*Vmb_V 02 11 55.9
52nm,SNR=3.7
LPG La Plagne 9.99 21 *e*Pn **Pn** **02 11 59.8 +3.4**
TCF Toulx Ste Croi 10.00 3 *e*Pn **Pn** **02 11 56.9 +0.7**
LPL La Plagne 10.01 21 *e*Pn **Pn** **02 12 00.0 +3.5**
MSSA Maissana 10.05 35 Pn **Pn** **02 11 57.1 +0.2**
MFF Saint Martin d 10.38 353 *e*Pn **Pn** **02 12 02.6 +1.2**
MFF *e*Sn **Sn** **02 13 53.4 -4.0**
3.4nm,0.6s
SMF Signal de Mont 10.48 9 *e*Pn **Pn** **02 12 04.1 +1.3**
AVF Avril sur Loir 10.57 7 *e*Pn **Pn** **02 12 05.4 +1.4**
CABF La Chapelle 10.85 17 *e*Pn **Pn** **02 12 09.3 +1.4**
SSF Saint Saulge 10.86 7 *e*Pn **Pn** **02 12 10.6 +2.7**
SENIN Lac Senin/Sane 10.94 21 Pn **Pn** **02 12 12.1 +2.8**
NRCA Norcia 11.04 50 Pn **Pn** **02 12 13.3 +2.7**
TUE Stuetia 11.72 27 Pn **Pn** **02 12 21.8 +1.9**
QUIF Quistinic 12.13 345 *e*Pn **Pn** **02 12 26.4 +1.1**
HINF Hinteralfeld 12.16 17 *e*Pn **Pn** **02 12 26.7 +0.9**
DAVOX Davos/Dischmat 12.18 28 Pn **Pn** **02 12 27.9 +1.8**
0.2nm,0.3s,baz=196,slow=10,SNR=2.6
0.6nm,0.4s
GRR Gorron 12.22 352 *e*Pn **Pn** **02 12 27.7 +1.7**
HAU Haudompre 12.23 15 *e*Pn **Pn** **02 12 27.3 +0.7**
SGMF Saint Gilles 12.33 347 *e*Pn **Pn** **02 12 29.6 +1.5**
LDF La Druitiere 12.36 355 *e*Pn **Pn** **02 12 29.7 +1.3**
FLN La Foliniere 12.55 354 *e*Pn **Pn** **02 12 32.2 +1.1**
baz=172
ROSF Rostrenen 12.55 345 *e*Pn **Pn** **02 12 32.2 +1.1**
FETA Feichten 12.71 30 *i* Pn **P** **02 12 41.4 -3.2**
0.2nm,0.3s
CDF Champ du Feu 12.82 17 *e*Pn **Pn** **02 12 35.8 +1.0**
SQTA Sankt Quirin 13.06 30 *e*Pn **P** **02 12 44.1 -4.4**
0.3nm,0.2s
MOTA Moosalm 13.12 30 *i* Pn **Pn** **02 12 42.1 +3.1**
0.2nm,0.3s
CLUD Cludinico 13.22 36 Pn **Pn** **02 12 42.1 +1.8**
TAM Tamanrasset 13.89 165 Pn **Pn** **02 12 49.0 -0.6**
BAIF Baives 13.89 7 *e*Pn **Pn** **02 12 51.5 +2.2**
KBA Koelnbreinsper 13.89 36 *e*Pn **Pn** **02 12 50.1 +0.5**
0.2nm,0.2s
OBKA Obir 14.09 40 *e*Pn **Pn** **02 12 53.1 +0.9**
0.6nm,0.5s
GERES GERESS Array B 15.38 32 Pn **P** **02 13 11.9 -2.3**
0.1nm,0.3s,baz=208,slow=12,SNR=4.4
0.8nm,0.8s
ESK Eskdalemuir 19.31 352 P **Pn** **02 14 02.0 +3.5**
ESK IAmb IAmb 02 14 26.2
comp=Z,18nm,1.3s
EKA Eskdalemuir Ar 19.32 352 P **Pn** **02 13 59.7 +1.1**
baz=163,slow=15
comp=Z,1.7nm,0.8s
EKB Eskdalemuir 19.32 352 P **Pn** **02 14 00.6 +2.0**
MLR Muntele Rosu 20.53 56 P Pn 02 14 16.4 +3.2
MLR IAmb IAmb 02 14 23.4
comp=Z,6.6nm,1.0s
MLR Muntele Rosu 20.53 56 P Pn 02 14 13.4 +0.3
comp=Z,1.4nm,0.5s,baz=202,slow=11,SNR=3.2
comp=Z,1.4nm,0.5s
BURAR Bucovina Array 20.83 50 P Pn 02 14 17.8 +1.2
BURAR IAmb IAmb 02 14 30.8
comp=Z,4.8nm,1.4s
KOWA Kowa 22.27 194 P **P** **02 14 29.4 -0.4**
TOA0 Torodi Ar. Sit 23.05 180 P **P** **02 14 38.3 +0.4**
TORD Torodi Ar. Bea 23.05 180 P **P** **02 14 39.7 +1.8**
TORD Torodi Ar. Bea 23.05 180 P **P** **02 14 39.0 +1.1**
comp=Z,1.0nm,0.6s,baz=358,slow=10,SNR=8.8
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 24.51 45 P **P** **02 14 53.2 +1.5**
comp=Z,0.7nm,0.6s,baz=243,slow=10,SNR=2.8
comp=Z,0.7nm,0.6s
KURBB Kurchatov Arra 55.22 49 P **P** **02 19 06.5 +1.3**
comp=Z,0.8nm,0.5s,baz=288,slow=7.8,SNR=8.0
comp=Z,0.8nm,0.5s
LSZ Lusaka 57.13 149 LR LR 02 46 01.7
comp=Z,65nm,18.2s,baz=312,slow=38
ZALV Zalesovo Beam 57.90 44 P **P** **02 19 24.5 +0.3**
comp=Z,0.6nm,0.5s,baz=289,slow=4.4,SNR=1.8
comp=Z,0.6nm,0.5s
MK31 Makanchi Array 58.82 52 P **P** **02 19 35.1 +4.2**
MK31 IAmb IAmb 02 19 48.6
comp=Z,2.0nm,1.2s
MKAR Makanchi Array 58.82 52 P **P** **02 19 35.5 +4.6**
MKAR Makanchi Array 58.82 52 P **P** **02 19 32.1 +1.2**
comp=Z,0.4nm,0.5s,baz=291,slow=6.9,SNR=3.9
comp=Z,0.4nm,0.5s
STKA Stephens Creek 146.77 94 PKPbc **PKPbc** **02 29 15.0 +0.3**
comp=Z,0.8nm,0.2s,baz=331,slow=3.9,SNR=3.7

*JMA **16** 02:12:03.1±0.2, 42°.0N±0°.7×142°.6E±0°.6, h68km±1km, MV3.4/38, S OFF URAKAWA*
*IDC **16** 02:12:04.5±2.9, 42°.10N×142°.73E, h89km±23km, mb3.3/8, mbtmp3.7/9, Error ellipse: s-maj=25.2km s-min=24.0km az=130.0*
ISC 16 02:12:02.6±0.8, **42°.01N**±0°.04×**142°.57E**±0°.04, **h72**km±6km, **n33**, σ0**.92**/42, **mb3.7/8, 7D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.30**	**27**	⇓P	**Pn**	**02 12 13.8**	**-0.1**
JNBK				⇓*e*S	**Sn**	**02 12 22.1**	**-0.2**
JSHD	**Hidakashinhida**	**0.40**	**349**	⇓P	**Pn**	**02 12 14.9**	**+0.2**
JSHD				⇓*e*S	**Sn**	**02 12 24.1**	**+0.5**
JEM	**Erimo**	**0.44**	**89**	⇓P	**Pn**	**02 12 15.5**	**+0.5**
JTHR	**Tokachihiroo**	**0.61**	**63**	⇓P	**Pn**	**02 12 17.1**	**+0.5**
JTHR				⇓*e*S	**Sn**	**02 12 27.9**	**+1.0**
JIAM	**Iburiatsuma**	**0.78**	**322**	*e*P	**Pn**	**02 12 18.7**	**+0.3**
JBT2	**Biratori 2**	**0.78**	**349**	*e*P	**Pn**	**02 12 18.4**	**-0.1**
JBT2				*e*S	**Sn**	**02 12 30.0**	**-0.3**
JCH	**Churui**	**0.84**	**44**	P	**Pn**	**02 12 19.6**	**+0.3**
JCH				*e*S	**Sn**	**02 12 31.9**	**+0.4**
JFR	**Furan**	**1.15**	**1**	*e*P	**Pn**	**02 12 22.8**	**-0.3**
JKB	**Kayabe**	**1.15**	**264**	P	**Pn**	**02 12 23.3**	**+0.2**
JKB				*e*S	**Sn**	**02 12 38.1**	**-0.2**
JEW	**Eniwo**	**1.17**	**315**	*e*P	**Pn**	**02 12 23.8**	**+0.5**
JEW				*e*S	**Sn**	**02 12 39.0**	**+0.2**
JNB	**Noboribetsu**	**1.22**	**292**	*e*P	**Pn**	**02 12 24.1**	**+0.1**
JNB				*e*S	**Sn**	**02 12 39.7**	**-0.3**
JOB	**Onbets**	**1.29**	**46**	*e*P	**Pn**	**02 12 26.1**	**+1.3**
JOT	**Ohata**	**1.30**	**242**	*e*P	**Pn**	**02 12 25.4**	**+0.4**
JOT				*e*S	**Sn**	**02 12 41.8**	**0.0**
JAB	**Ashibetsu**	**1.51**	**350**	*e*P	**Pn**	**02 12 28.4**	**+0.7**
JAB				*e*S	**Sn**	**02 12 49.3**	**+2.6**
JISS	**Ishikarishitsu**	**1.52**	**326**	*e*P	**Pn**	**02 12 28.5**	**+0.7**
JISS				*e*S	**Sn**	**02 12 47.9**	**+1.0**
JAR	**Ashorobuto**	**1.56**	**34**	*e*P	**Pn**	**02 12 28.7**	**+0.3**
JAR				*e*S	**Sn**	**02 12 47.4**	**-0.4**
JYM2	**Yakumo 2**	**1.64**	**274**	*e*P	**Pn**	**02 12 29.8**	**+0.4**
JYM2				*e*S	**Sn**	**02 12 50.1**	**+0.4**
JTM	**Tenmabayashi**	**1.67**	**223**	*e*P	**Pn**	**02 12 30.8**	**+1.0**
JTM				*e*S	**Sn**	**02 12 51.7**	**+1.4**
ASAJ	**Asahikawa**	**2.10**	**1**	P	**Pn**	**02 12 37.0**	**+1.3**
	32nm,0.3s,baz=206,slow=16,SNR=28						
ASAJ				S	**Sn**	**02 13 02.2**	**+1.4**
	117nm,0.6s,baz=351,slow=28,SNR=15						
H11N2	**WAKE ISLAND Hy 30.29**	**130**		T	T	02 49 50.2	
	baz=324,slow=75,SNR=10.0						
H11N1	**WAKE ISLAND Hy 30.30**	**130**		T	T	02 49 38.4	
	baz=324,slow=75,SNR=8.3						
H11N3	**WAKE ISLAND Hy 30.31**	**130**		T	T	02 49 50.2	
	baz=324,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy 31.16**	**131**		T	T	02 50 56.2	
	baz=325,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy 31.16**	**131**		T	T	02 50 52.4	
	baz=325,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy 31.17**	**131**		T	T	02 50 55.2	
	baz=325,slow=76,SNR=9.3						
MKAR	**Makanchi Array**	**42.41**	**298**	P	**P**	**02 19 49.3**	**-0.7**
	0.4nm,0.6s,baz=88,slow=8.8,SNR=3.5						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**43.79**	**304**	P	**P**	**02 20 01.5**	**+0.5**
	0.5nm,0.3s,baz=77,slow=8.9,SNR=4.0						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**48.00**	**309**	P	**P**	**02 20 35.0**	**+1.0**
	0.7nm,0.5s,baz=82,slow=8.2,SNR=4.0						
	0.7nm,0.5s						
YKA	**Yellowknife Ar**	**59.09**	**32**	P	**P**	**02 21 52.2**	**-2.8**
	2.9nm,0.8s,baz=301,slow=6.4,SNR=4.0						
	2.9nm,0.8s						
WRA	**Warramunga Arr**	**62.11**	**189**	P	**P**	**02 22 16.6**	**+0.6**
	0.4nm,0.7s,baz=6.9,slow=6.8,SNR=6.7						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**64.84**	**332**	P	**P**	**02 22 33.8**	**+0.3**
	2.0nm,0.9s,baz=50,slow=9.2,SNR=5.8						
	2.0nm,0.9s						
NVAR	**Mina Array Bea**	**71.34**	**55**	P	**P**	**02 23 13.7**	**-1.2**
	0.1nm,0.5s,baz=298,slow=6.0,SNR=3.5						
	0.1nm,0.5s						
PDAR	**Pinedale Array**	**73.58**	**47**	P	**P**	**02 23 29.1**	**+0.9**
	0.1nm,0.5s,baz=292,slow=4.8,SNR=1.5						
	0.1nm,0.5s						

*THE **16** 03:41:02.9, 40°.87N×21°.29E, h10km±1km, ML2.2/3, Error ellipse: s-maj=1.7km s-min=0.7km az=155.0*
*TIR **16** 03:41:03.0, 40°.82N×21°.23E, h0km±3km, Md2.9, Ml2.1*
*SKO **16** 03:41:03.4, 40°.89N×21°.35E, h9km, ML2.2*
*ATH **16** 03:41:04.7, 40°.74N×21°.43E, h7km±3km, ML2.2/6, Error ellipse: s-maj=4.7km s-min=1.6km az=310.0*
*BEO **16** 03:41:04.3±0.7, 40°.91N×21°.37E, h1km±6km, ML2.1/4*
ISC 16 03:41:03.4±0.8, **40°.85N**±0°.02×**21°.31E**±0°.02, **h11**km±4km, **n44**, σ1**.11**/75, **3C-1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.09**	**144**	P	**Pg**	**03 41 06.0**	**-0.1**
FNA				S	**Sg**	**03 41 08.4**	**+0.4**
FNA	**Florina**	**0.09**	**144**	P	**Pg**	**03 41 06.1**	**-0.1**
	baz=109						
FNA				S	**Sg**	**03 41 08.2**	**+0.2**
	baz=109						
FNA	**Florina**	**0.09**	**144**	*e*Pg	**Pg**	**03 41 06.0**	**-0.1**
FNA				*e*Sg	**Sg**	**03 41 08.4**	**+0.4**
FNA	**Florina**	**0.09**	**144**	⇑*i*Pg	**Pg**	**03 41 06.1**	**-0.1**
FNA				*i* Sg	**Sg**	**03 41 08.4**	**+0.4**
FNA	**Florina**	**0.09**	**144**	P	**Pg**	**03 41 06.1**	**-0.1**
FNA				S	**Sg**	**03 41 08.0**	**-0.1**
FNA				AML	AML	03 41 08.5	
	comp=N,36338μm,0.3s						
FNA				AML	AML	03 41 08.7	
	comp=E,28849μm,0.3s						
KBN	**Korca**	**0.46**	**240**	P	**Pg**	**03 41 11.7**	**-0.8**
KBN				S	**Sg**	**03 41 19.2**	**+0.6**
	comp=E,225nm,0.5s						
KBN	**Korca**	**0.46**	**240**	P	**Pg**	**03 41 12.2**	**-0.3**
	baz=240						
KBN				S	**Sg**	**03 41 18.1**	**-0.5**
	baz=240						
KBN				AMP			
	comp=E,0.5nm,0.3s,baz=240						
OHR	**Ohrid**	**0.47**	**304**	*e*Pg	**Pb**	**03 41 12.8**	**-0.9**
OHR				*e*Sg	**Sb**	**03 41 20.4**	**-0.2**
OHR	**Ohrid**	**0.47**	**304**	⇑*i*Pg	**Pb**	**03 41 12.6**	**-1.0**
OHR				*i* Sg	**Sb**	**03 41 20.6**	**+0.1**
	comp=N,257nm,0.7s						
OHR				*e*Sg	**Sg**	**03 41 21.5**	**+2.7**
	comp=E,317nm,0.4s						
NEST	**Nestorio**	**0.48**	**204**	P	**Pg**	**03 41 11.8**	**-1.1**
NEST				S	**Sg**	**03 41 19.2**	**-0.1**
NEST	**Nestorio**	**0.48**	**204**	P	**Pg**	**03 41 11.8**	**-1.1**
NEST				S	**Sg**	**03 41 19.0**	**-0.3**
NEST				AML	AML	03 41 20.0	
	comp=E,1515μm,0.3s						
NEST				AML	AML	03 41 20.1	
	comp=N,872μm,0.4s						
PENT	**Pentalofos**	**0.67**	**191**	P	**Pg**	**03 41 15.3**	**-1.2**
PENT				S	**Sb**	**03 41 26.8**	**+0.3**
PENT	**Pentalofos**	**0.67**	**191**	P	**Pg**	**03 41 15.2**	**-1.2**
KTI	**Kastanea**	**0.77**	**127**	P	**Pg**	**03 41 17.6**	**-0.7**
GRG	**Griva**	**0.83**	**83**	P	**Pg**	**03 41 18.8**	**-0.7**
GRG				S	**Sb**	**03 41 31.1**	**0.0**
GRG	**Griva**	**0.83**	**83**	*i* Pg	**Pg**	**03 41 19.1**	**-0.5**
GRG				*i* Sg	**Sb**	**03 41 30.9**	**-0.2**
GRG	**Griva**	**0.83**	**83**	P	**Pg**	**03 41 19.0**	**-0.5**
GRG				AML	AML	03 41 38.4	
	comp=N,223μm,0.3s						
GRG				AML	AML	03 41 38.7	
	comp=E,173μm,0.5s						
LSK	**Leskovik**	**0.89**	**218**	P	**Pg**	**03 41 19.3**	**-1.3**
LSK				S	**Sg**	**03 41 32.6**	**+0.5**
LSK	**Leskovik**	**0.89**	**218**	P	**Pg**	**03 41 19.6**	**-1.0**
	baz=216						
LSK				S	**Sg**	**03 41 32.7**	**+0.5**
	baz=216						
LSK				AMP			
	comp=E,0.3nm,0.4s,baz=216						
KPRO	**Kipourio**	**0.90**	**177**	P	**Pg**	**03 41 20.2**	**-0.6**
KPRO				S	**Sg**	**03 41 33.0**	**+0.5**
	comp=E,210nm,0.7s						
KPRO	**Kipourio**	**0.90**	**177**	P	**Pg**	**03 41 19.7**	**-1.1**
KPRO				AML	AML	03 41 37.7	
	comp=E,392μm,0.7s						
KPRO				AML	AML	03 41 38.6	
	comp=N,408μm,0.6s						
VAY	**Valandovo**	**1.06**	**63**	*e*Pg	**Pn**	**03 41 23.8**	**-0.4**
VAY				*e*Sg	**Sg**	**03 41 36.6**	**-1.1**
VAY	**Valandovo**	**1.06**	**63**	*i* Pg	**Pg**	**03 41 22.9**	**-1.0**
VAY				*i* Sg	**Sb**	**03 41 37.9**	**+0.2**
VAY				*e*Lg	Lg	03 41 41.6	
	comp=N,39nm,0.8s						
VAY				*e*Lg	Lg	03 41 43.1	
	comp=E,19nm,0.6s						
STIP	**Stip**	**1.07**	**38**	*i* Pg	**Pn**	**03 41 26.3**	**+2.0**
STIP				*i* Sg	**Sn**	**03 41 44.3**	**+5.2**
SKO	**Skopje**	**1.12**	**5**	*i* Pg	**Pn**	**03 41 24.4**	**-0.6**
SKO				*i* Sg	**Sn**	**03 41 41.1**	**+0.6**
KNT	**Kendrikon**	**1.24**	**75**	P	**Pb**	**03 41 26.4**	**-0.4**
KNT				S	**Sb**	**03 41 43.0**	**+0.2**
KNT	**Kendrikon**	**1.24**	**75**	⇓*i*Pg	**Pb**	**03 41 26.4**	**-0.4**
KNT				*i* Sg	**Sn**	**03 41 44.4**	**+1.0**
KNT	**Kendrikon**	**1.24**	**75**	P	**Pb**	**03 41 26.4**	**-0.4**
HORT	**Hortiatis**	**1.38**	**100**	P	**Pn**	**03 41 28.0**	**-0.8**
SRN	**Saranda**	**1.40**	**226**	P	**Pg**	**03 41 30.5**	**+0.3**
	baz=226						
SRN				S	**Sg**	**03 41 49.1**	**+0.7**
	baz=226						
THL	**Klokotos Trika**	**1.40**	**157**	P	**Pn**	**03 41 27.6**	**-1.2**
THL				S	**Sn**	**03 41 48.3**	**+1.1**
	comp=E,75nm,1.0s						
THL	**Klokotos Trika**	**1.40**	**157**	P	**Pn**	**03 41 28.0**	**-0.8**
THL				AML	AML	03 41 52.1	
	comp=E,147μm,1.0s						
THL				AML	AML	03 41 52.3	
	comp=N,142μm,0.6s						
PEHC	**Pehcevo**	**1.51**	**52**	*i* Pn	**Pn**	**03 41 30.3**	**-0.2**
PEHC				*i* Sg	**Sg**	**03 41 53.5**	**+1.3**
IGT	**Igoumenitsa**	**1.52**	**210**	P	**Pg**	**03 41 32.0**	**-0.6**
	baz=209						
IGT				S	**Sg**	**03 41 54.6**	**+2.4**
	baz=209						
IGT	**Igoumenitsa**	**1.52**	**210**	P	**Pb**	**03 41 31.5**	**-0.1**
IGT				AML	AML	03 41 58.6	
	comp=E,88μm,0.7s						
IGT				AML	AML	03 41 58.7	
	comp=N,80μm,0.6s						
KKB	**Krupnik**	**1.69**	**54**	*i* Pn	**Pb**	**03 41 33.9**	**-0.6**
KKB				*i* Sg	**Sb**	**03 41 55.0**	**-0.7**
SRS	**Serrai**	**1.75**	**81**	*i* Pn	**Pb**	**03 41 35.6**	**+0.1**
PRVS	**Prvonek**	**1.75**	**19**	*e*Pg	**Pb**	**03 41 34.1**	**-1.4**
PRVS				*e*Sg	**Sb**	**03 41 56.5**	**-1.0**
ULC	**Ulcinj**	**1.91**	**306**	*i* Pn	**Pb**	**03 41 37.8**	**-0.4**
MMB	**Musomishta**	**1.97**	**69**	*i* Pn	**Pb**	**03 41 37.9**	**-1.3**
AGG	**Agios Georgios**	**1

*IDC **16** 03:52:22.1±1.3, 3°.87N×123°.40E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=190.7km s-min=18.9km az=63.0*
*DJA **16** 03:52:55.1±1.3, 4°.N±13°.×12°.5E±°, h304km±8km, M4.2/9, mb4.1/7, mB5.1/2, MLv4.3/9, Mw(mB)4.5/2*
ISC 16 03:52:52.6±1.3, 4°.3N±0°.1×124.7E±0°.1, h300km, n12, σ1§16/12, mb3.5/5, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**4.05**	**205**	P	**Pn**	**03 53 59.7**	**+0.3**
MRSI	**Marisa**	**4.73**	**216**	P	**Pn**	**03 54 08.4**	**+1.3**
LBMI	**Labuha**	**5.66**	**151**	P	**Pn**	**03 54 20.0**	**+2.1**
	65nm,0.5s,3μm1.2nm						
MPSI	**Mapaga**	**6.25**	**231**	P	**Pn**	**03 54 25.4**	**+0.5**
	20nm,0.9s,0.1nm						
SANI	**Sanana**	**6.46**	**169**	P	**Pn**	**03 54 26.2**	**-1.3**
	43nm,0.5s,5μm0.6nm						
NLAI	**Namlea**	**7.88**	**162**	P	**Pn**	**03 54 45.9**	**+1.1**
	11nm,0.8s,0.3nm						
TTSI	**Tana Toraja**	**8.82**	**214**	P	**Pn**	**03 54 57.3**	**+1.0**
	23nm,0.7s						
WRA	**Warramunga Arr**	**25.91**	**159**	P	**P**	**03 57 57.0**	**-1.0**
	1.3nm,0.4s,baz=333,slow=10,SNR=13						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**29.23**	**163**	P	**P**	**03 58 26.8**	**-0.6**
	0.4nm,0.3s,baz=342,slow=7.6,SNR=12						
	0.4nm,0.3s						
STKA	**Stephens Creek**	**39.42**	**157**	P	**P**	**03 59 54.0**	**-0.3**
	2.9nm,0.4s,baz=322,slow=6.9,SNR=10.0						
	2.9nm,0.4s						
MKAR	**Makanchi Array**	**55.94**	**326**	P	**P**	**04 02 00.2**	**+0.1**
	0.4nm,0.5s,baz=130,slow=7.3,SNR=5.7						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**60.17**	**328**	P	**P**	**04 02 28.9**	**-0.3**
	0.7nm,0.5s,baz=130,slow=6.3,SNR=8.9						
	0.7nm,0.5s						

DJA 16 04:15:42.7±0.6, 9°.S±9°.×12°.0E±°, h130km±10km, M3.9/7, mb4.2/2, MLv3.8/7, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.38**	**176**	P	Pn	04 16 09.9	+0.4
MMRI	**Maumere**	**1.74**	**84**	P	Pn	04 16 13.9	+0.4
MMRI				S	Sn	04 16 37.6	+0.5
PLAI	**Plampang**	**2.68**	**270**	P	Pn	04 16 26.1	+0.9
PLAI				S	Sn	04 16 58.5	+0.5
BATI	**Baumata**	**3.42**	**114**	P	Pn	04 16 34.5	-0.3
TWSI	**Taliwang, Sumb**	**3.57**	**271**	P	Pn	04 16 37.1	+0.3
SOEI	**Soe**	**3.84**	**104**	P	Pn	04 16 40.1	-0.4
IGBI	**Denpasar**	**5.28**	**270**	P	Pn	04 16 59.3	-0.3
	52nm,1.3s,0.3nm						
GMJI	**Gumukmas**	**6.99**	**274**	P	Pn	04 17 22.3	-0.3
NLAI	**Namlea**	**8.60**	**50**	P	Pn	04 17 50.3	+6.0

*IDC **16** 04:27:55.9±0.7, 6°.66N×92°.37E, h0km, mb4.0/14, mbtmp4.0/15, ML4.5/1, MS3.1/7, Error ellipse: s-maj=32.7km s-min=16.4km az=56.0*
ISC 16 04:27:59.8±0.7, 6°.6N±0°.1×92°.4E±0°.2, h26km, n37, σ0§89/28, mb4.1/14, MS3.2/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.35**	**28**	Pn	**Pn**	**04 31 07.2**	**-0.5**
	0.8nm,0.3s,baz=229,slow=14,SNR=2.1						
CMAR				LR	LR	04 36 09.5	
	comp=Z,48nm,18.2s,baz=275,slow=37						
	1.0nm,0.3s						
RAMN	**Ramite**	**20.95**	**345**	*e*P	**P**	**04 32 42.7**	**+1.6**
	17nm,0.6s						
TAPN	**Taplejung**	**21.08**	**348**	*e*P	**P**	**04 32 43.5**	**+0.9**
PKI	**Pulchoki**	**21.86**	**343**	*e*P	**P**	**04 32 52.7**	**+1.7**
	35nm,1.1s						
PKIN	**Phulchoki**	**21.87**	**343**	*e*P	**P**	**04 32 52.4**	**+1.4**
	14nm,0.7s						
GUN	**Gumba**	**22.05**	**344**	*e*P	**P**	**04 32 54.1**	**+1.1**
	23nm,0.8s						
DANN	**Dangsing**	**23.10**	**340**	*e*P	**P**	**04 33 05.3**	**+1.2**
	13nm,0.7s						
PYUN	**Piuthan**	**23.14**	**338**	*e*P	**P**	**04 33 06.2**	**+1.8**
	20nm,0.9s						
H08S3	**Diego Garcia H**	**24.43**	**235**	T	T	04 59 36.8	
	baz=54,slow=74						
H08S2	**Diego Garcia H**	**24.43**	**235**	T	T	04 59 37.7	
	baz=54,slow=74						
H08S1	**Diego Garcia H**	**24.45**	**235**	T	T	04 59 32.7	
	baz=54						
MKAR	**Makanchi Array**	**40.95**	**349**	P	**P**	**04 35 40.1**	**-0.1**
	1.7nm,0.6s,baz=169,slow=7.9,SNR=18						
	1.7nm,0.6s						
SONM	**Songino Array**	**42.74**	**14**	P	**P**	**04 35 54.5**	**-0.5**
	0.8nm,0.5s,baz=190,slow=7.0,SNR=2.5						
SONM				PcP	**PcP**	**04 37 47.3**	**+0.9**
	0.5nm,0.4s,baz=203,slow=2.8,SNR=2.6						
	0.8nm,0.5s						
JNU	**Nakatsue**	**44.32**	**48**	LR	LR	04 55 33.0	
	comp=Z,31nm,20.1s,baz=229,slow=37						
KSRS	**Korea Array**	**44.50**	**41**	LR	LR	04 55 09.2	
	comp=Z,15nm,18.2s,baz=345,slow=37						
KURBB	**Kurchatov Arra**	**45.35**	**348**	P	**P**	**04 36 15.5**	**-0.2**
	3.2nm,0.7s,baz=171,slow=7.0,SNR=31						
KURBB				PcP	**PcP**	**04 37 55.1**	**+0.2**
	1.0nm,0.7s,baz=155,slow=3.3,SNR=6.9						
	3.2nm,0.7s						
ZALV	**Zalesovo Beam**	**47.57**	**354**	P	**P**	**04 36 32.6**	**-0.5**
	1.6nm,0.5s,baz=169,slow=6.8,SNR=4.8						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**48.96**	**124**	P	**P**	**04 36 44.3**	**0.0**
	1.6nm,0.9s,baz=302,slow=8.6,SNR=9.1						
	1.6nm,0.9s						
BVAR	**Borovoye Array**	**49.63**	**343**	P	**P**	**04 36 48.7**	**-0.2**
	1.8nm,0.7s,baz=144,slow=8.8,SNR=7.5						
BVAR				PcP	**PcP**	**04 38 10.4**	**+0.2**
	1.0nm,0.6s,baz=145,slow=5.3,SNR=2.6						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**50.46**	**128**	P	**P**	**04 36 56.3**	**+0.5**
	1.2nm,0.9s,baz=306,slow=7.3,SNR=9.3						
	1.2nm,0.9s						
MJAR	**Matsushiro Arr**	**51.24**	**48**	LR	LR	05 00 23.7	
	comp=Z,20nm,18.5s,baz=161,slow=38						
KLR	**Kul'dur**	**53.80**	**31**	LR	LR	05 01 48.2	
	comp=Z,18nm,20.2s,baz=244,slow=38						
KMBO	**Kilima Mbogo**	**55.61**	**264**	LR	LR	04 57 08.9	
	comp=Z,21nm,21.1s,baz=38,slow=32						
STKA	**Stephens Creek**	**60.51**	**132**	P	**P**	**04 38 07.8**	**-0.1**
	0.6nm,0.4s,baz=162,slow=23,SNR=2.8						
	0.6nm,0.4s						
BRTR	**Keskin Array B**	**61.96**	**312**	P	**P**	**04 38 16.8**	**-1.1**
	1.0nm,0.8s,baz=97,slow=5.8,SNR=4.0						
	1.0nm,0.8s						
MBAR	**Mbarara**	**61.98**	**266**	LR	LR	05 00 57.4	
	comp=Z,26nm,21.9s,baz=26,slow=32						
H04N2	**CROZET ISLANDS**	**63.81**	**210**	T	T	05 48 39.8	
	baz=48,slow=75,SNR=14						
H04N1	**CROZET ISLANDS**	**63.82**	**210**	T	T	05 48 42.6	
	baz=48,slow=75,SNR=13						
H04N3	**CROZET ISLANDS**	**63.83**	**210**	T	T	05 48 46.9	
	baz=48,slow=75,SNR=13						
GERES	**GERESS Array B**	**77.62**	**318**	P	**P**	**04 39 53.7**	**-0.3**
	1.2nm,0.7s,baz=79,slow=6.9,SNR=6.1						
	1.2nm,0.7s						
HFS	**Hagfors**	**78.67**	**330**	P	**P**	**04 39 58.5**	**-1.0**
	3.1nm,1.0s,baz=94,slow=24,SNR=1.8						
	3.1nm,1.0s						
EKA	**Eskdalemuir Ar**	**87.77**	**325**	P	**P**	**04 40 46.2**	**-0.3**
	1.4nm,0.8s,baz=66,slow=5.8,SNR=3.5						
	1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**89.23**	**283**	P	**P**	**04 40 54.2**	**0.0**
	0.5nm,0.9s,baz=94,slow=4.6,SNR=3.1						
	0.5nm,0.9s						
ESDC	**Sonseca Array**	**90.71**	**310**	P	**P**	**04 41 01.2**	**+0.5**
	0.8nm,0.8s,baz=45,slow=3.8,SNR=4.8						
	0.8nm,0.8s						
NVAR	**Mina Array Bea**	**126.83**	**30**	PKP	**PKiKP**	**04 47 03.4**	**+1.0**
	0.5nm,0.6s,baz=273,slow=2.2,SNR=6.4						
PDAR	**Pinedale Array**	**126.91**	**20**	PKP	**PKiKP**	**04 47 02.6**	**+0.1**
	0.4nm,0.6s,baz=70,slow=3.0,SNR=5.5						
CPUP	**Villa Florida**	**145.17**	**232**	PKPbc	**PKPdf**	**04 47 35.8**	**0.0**
	3.4nm,1.0s,baz=102,slow=3.6,SNR=5.8						

*IDC **16** 04:39:59.2±1.3, 32°.89S×178°.00W, h0km, mb4.2/3, mbtmp4.2/4, ML3.7/1, MS3.6/3, Error ellipse: s-maj=37.9km s-min=36.2km az=143.0*
ISC 16 04:40:04.4±1.3, 33°.0S±0°.2×178°.1W±0°.3, h34km, n10, σ0§69/8, mb4.1/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.57**	**215**	Pn	**Pn**	**04 41 39.0**	**+0.4**
	1.6nm,0.3s,baz=75,slow=1.4,SNR=7.9						
URZ				Sn	**Sn**	**04 42 51.5**	**-0.7**
	7.5nm,0.3s,baz=132,slow=22,SNR=11						
	7.5nm,0.5s						
DZM	**Mont Dzumac**	**17.45**	**305**	LR	LR	04 49 29.3	
	comp=Z,175nm,18.0s,baz=182,slow=33						
ASAR	**Alice Springs**	**42.94**	**270**	P	**P**	**04 48 00.8**	**+0.5**
	3.0nm,0.8s,baz=110,slow=7.5,SNR=27						
	3.0nm,0.8s						
WRA	**Warramunga Arr**	**44.16**	**275**	P	**P**	**04 48 10.2**	**0.0**
	3.3nm,0.6s,baz=116,slow=7.6,SNR=35						
	3.3nm,0.6s						
SNAA	**Sanae**	**75.61**	**178**	P	**P**	**04 51 45.7**	**+0.3**
	1.4nm,0.9s,baz=182,slow=6.3,SNR=4.2						
	1.4nm,0.9s						
NNA	**Nana**	**92.81**	**106**	LR	LR	05 27 27.2	
	comp=Z,27nm,19.1s,baz=246,slow=31						
CMIG	**Matias Romero**	**93.63**	**72**	LR	LR	05 24 22.6	
	comp=Z,29nm,20.8s,baz=222,slow=28						
KURBB	**Kurchatov Arra**	**122.76**	**313**	PKP	**PKPdf**	**04 58 55.1**	**-1.1**
	0.4nm,0.6s,baz=121,slow=2.0,SNR=2.7						
FINES	**FINESS Array B**	**147.50**	**339**	PKPbc	**PKPbc**	**04 59 44.0**	**-0.1**
	3.3nm,0.6s,baz=49,slow=3.9,SNR=17						
NOA	**NORSAR Array B**	**151.26**	**351**	PKPbc	**PKiKP**	**04 59 54.3**	**+0.2**
	0.8nm,0.9s,baz=16,slow=4.2,SNR=1.6						

*NNC **16** 04:57:36.8±1.2, 44°.31N×83°.14E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=10.7km s-min=4.0km az=123.0*
*SOME **16** 04:57:36.2, 44°.18N×83°.20E, h15km*
ISC 16 04:57:37.0±2.2, 44°.2N±0°.1×83°.4E±0°.1, h10km, n23, σ1§17/23, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.58**	**275**	Pg	**Pb**	**04 58 22.4**	**-1.0**
	3.5nm,0.2s						
DJR				Lg	Lg	04 58 55.7	
	17nm,0.4s						
DJR	**Jarkent**	**2.58**	**275**	*e*Pg	**Pb**	**04 58 22.4**	**-1.0**
	3.5nm,0.2s						
DJR				*e*Lg	Lg	04 58 55.7	
	17nm,0.4s						
MK31	**Makanchi Array**	**2.74**	**344**	⇑Pg	**Pn**	**04 58 22.8**	**+1.7**
	0.5nm,0.3s,baz=163,slow=17,SNR=53						
MK31				⇑Lg	Lg	04 58 57.1	
	5.4nm,0.5s,baz=163,slow=28,SNR=6.1						
MAKZ	**Makanchi**	**2.82**	**340**	⇓Pg	**Pb**	**04 58 25.3**	**-2.3**
	0.7nm,0.3s						
MAKZ				⇑Lg	Lg	04 58 59.4	
	5.4nm,0.7s						
PDGK	**Podgornoye**	**2.93**	**255**	Pg	**Pb**	**04 58 28.1**	**-1.3**
	0.6nm,0.6s						
PDGK				Lg	Lg	04 59 06.0	
	11nm,0.4s						
PDGK	**Podgornoye**	**2.93**	**255**	⇑Pg	**Pb**	**04 58 28.4**	**-1.1**
	0.6nm,0.3s						
PDGK				⇑Lg	Lg	04 59 06.2	
	11nm,0.8s						
SHLS	**Shalkode**	**3.01**	**252**	Pg	**Pn**	**04 58 25.3**	**+0.5**
	4.2nm,0.3s						
SHLS				Lg	Lg	04 59 01.0	
	52nm,0.7s						
SHLS	**Shalkode**	**3.01**	**252**	*e*Pg	**Pn**	**04 58 25.3**	**+0.5**
	4.2nm,0.3s						
SHLS				*e*Lg	Lg	04 59 01.0	
	52nm,0.7s						
KNOS	**Konyrlen**	**3.02**	**275**	Pg	**Pb**	**04 58 29.5**	**-1.4**
	5.0nm,0.3s						
KNOS				Lg	Lg	04 59 08.4	
	9.9nm,0.3s						
UZB	**Uzynbulak**	**3.31**	**254**	Pg	**Pb**	**04 58 34.5**	**-1.5**
	2.1nm,0.4s						
UZB				Lg	Lg	04 59 16.8	
	2.9nm,0.5s						
UZB	**Uzynbulak**	**3.31**	**254**	*e*Pg	**Pb**	**04 58 34.5**	**-1.5**
	2.1nm,0.4s						
UZB				*e*Lg	Lg	04 59 16.8	
	2.9nm,0.5s						
ZSN	**Zaisan**	**3.45**	**17**	*e*Pg	**Pb**	**04 58 37.7**	**-0.6**
	6.9nm,0.1s						
ZSN				*e*Lg	Lg	04 59 21.7	
	8.9nm,0.2s						
KPKS	**Kokpek**	**3.46**	**260**	Pg	**Pb**	**04 58 37.4**	**-1.1**
	1.9nm,0.3s						
KPKS				Lg	Lg	04 59 21.4	
	12nm,0.6s						
KPKS	**Kokpek**	**3.46**	**260**	*e*Pg	**Pb**	**04 58 37.4**	**-1.1**
	1.9nm,0.3s						
KPKS				*e*Lg	Lg	04 59 21.4	
	12nm,0.6s						
BLB	**Baldybastay**	**3.52**	**271**	Pg	**Pb**	**04 58 38.4**	**-1.1**
	2.7nm,0.3s						
BLB				Lg	Lg	04 59 23.3	
	6.1nm,0.3s						
SATY	**Saty**	**3.77**	**255**	Pg	**Pb**	**04 58 43.1**	**-0.6**
	1.2nm,0.3s						
SATY				Lg	Lg	04 59 31.5	
	7.0nm,0.1s						
SATY	**Saty**	**3.77**	**255**	*e*Pg	**Pb**	**04 58 43.1**	**-0.6**
	1.2nm,0.3s						
SATY				*e*Lg	Lg	04 59 31.5	
	7.0nm,0.1s						
ARXS	**Arharly**	**3.99**	**273**	Pg	**Pb**	**04 58 46.9**	**-0.5**
	0.9nm,0.2s						
ARXS				Lg	Lg	04 59 37.8	
	4.2nm,0.6s						
ARXS	**Arharly**	**3.99**	**273**	*e*Pg	**Pb**	**04 58 46.9**	**-0.5**
	0.9nm,0.2s						
ARXS				*e*Lg	Lg	04 59 37.8	
	4.2nm,0.6s						
KTBS	**Karatobe**	**4.85**	**267**	Pg	**Pb**	**04 59 02.8**	**+0.7**
	0.8nm,0.6s						
KTBS				Lg	Lg	05 00 04.9	
	5.6nm,0.6s						
KTBS	**Karatobe**	**4.85**	**267**	*e*Pg	**Pb**	**04 59 02.8**	**+0.7**
	0.8nm,0.6s						
KTBS				*e*Lg	Lg	05 00 04.9	
	5.6nm,0.6s						
KUU	**Kurty**	**5.08**	**269**	Pg	**Pb**	**04 59 06.6**	**+0.7**
	1.2nm,1.0s						
KUU				Lg	Lg	05 00 11.4	
	4.7nm,0.7s						
KUU	**Kurty**	**5.08**	**269**	*e*Pg	**Pb**	**04 59 06.6**	**+0.7**
	1.2nm,1.0s						
KUU				*e*Lg	Lg	05 00 11.4	
	4.7nm,0.7s						

*NEIC **16** 05:28:09.2±2.8, 45°.91N±0°.01×123°.45W±0°.03, h26km±7km, Error ellipse: s-maj=2.6km s-min=1.8km az=77.0*
SEA 16 05:28:09.4±2.8, 45°.92N±0°.02×123°.46W±0°.03, h24km±6km, ML3.4/26, ML3.2/26(NEIC), Error ellipse: s-maj=3.1km s-min=2.8km az=133.0, Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F03A	**Seaside**	**0.07**	**282**		Pb	05 28 12.7	-1.1
F03A					Sb	05 28 15.4	-1.4
B022	**Seaside**	**0.33**	**277**		Pb	05 28 16.1	-0.7
B022					Sb	05 28 21.6	-0.2
B023	**Clatskanie**	**0.33**	**54**		Pb	05 28 15.9	-0.9
B023					Sb	05 28 21.0	-0.9
SEAS	**Seaside SMO**	**0.33**	**284**		Pb	05 28 16.4	-0.5
SEAS					Sb	05 28 22.0	+0.1
ALST	**Alston**	**0.35**	**57**		Pb	05 28 16.6	-0.6
ALST					Sb	05 28 22.2	-0.3
F04D	**Rainier, OR**	**0.35**	**62**		Pb	05 28 16.5	-0.7
F04D	**Rainier, OR**	**0.35**	**62**		Sb	05 28 22.4	-0.2
RVW	**Rose Valley**	**0.55**	**65**		Pb	05 28 19.6	-0.9
RADR	**Rader Ridge**	**0.56**	**335**		Pb	05 28 19.6	-1.0
RADR				IAML		05 28 28.2	
	comp=E,3μm,0.5s						
RADR				IAML		05 28 28.4	
	comp=N,2μm,0.8s						
RADR	**Rader Ridge**	**0.56**	**335**		Sb	05 28 27.8	-0.4
BMW	**Boistfort Moun**	**0.58**	**16**		Pb	05 28 19.7	-1.4
WPO	**West Portland**	**0.58**	**126**		Pb	05 28 20.4	-0.6
WPO					Sb	05 28 28.6	-0.2
ROSS	**Ross**	**0.62**	**114**		Pb	05 28 20.7	-0.9
E03A	**Lebam**	**0.63**	**354**		Pb	05 28 20.7	-1.1
E03A	**Lebam**	**0.63**	**354**		Sb	05 28 30.2	-0.2
HUBA	**Hudson Bay Hig**	**0.63**	**117**		Pb	05 28 21.2	-0.7
EYES	**Ewing Young ES**	**0.65**	**154**		Pb	05 28 21.6	-0.6
G03D	**McMinnville, O**	**0.72**	**169**		Pb	05 28 22.3	-1.0
G03D				IAML		05 28 33.0	
	comp=E,2μm,0.4s						
G03D				IAML		05 28 34.4	
	comp=N,1μm,0.2s						
G03D	**McMinnville, O**	**0.72**	**169**		Sb	05 28 32.8	+0.1
F04A	**Amboy**	**0.73**	**88**		Pb	05 28 22.4	-1.0
F04A				IAML		05 28 32.9	
	comp=N,2μm,0.5s						
F04A	**Amboy**	**0.73**	**88**		Sb	05 28 32.5	-0.5
B019	**Raymond**	**0.75**	**350**		Pb	05 28 22.9	-0.9
LVP	**Lakeview Peak**	**0.75**	**78**		Pn	05 28 25.2	+0.6
FL2	**Flat Top 2**	**0.82**	**70**		Pb	05 28 24.0	-1.1
B203	**Quarry, Mount**	**0.82**	**72**		Pb	05 28 24.0	-1.1
B203					Sb	05 28 35.3	-0.6
PGO	**Gresham**	**0.84**	**122**		Pb	05 28 24.7	-0.6
PGO					Sb	05 28 35.8	-0.3
ERK	**Elk Rock**	**0.87**	**63**		Pb	05 28 24.5	-1.5
MTMW	**Mount Mitchell**	**0.88**	**82**		Pb	05 28 25.2	-0.9
B201	**Coldwater, Mou**	**0.92**	**65**		Pb	05 28 25.3	-1.4
B201					Sb	05 28 37.1	-1.4
STD	**Studebaker Rid**	**0.92**	**69**		Pb	05 28 25.5	-1.3
STD					Sb	05 28 38.0	-0.7
HSR	**South Ridge**	**0.93**	**73**		Pb	05 28 26.1	-0.8
SEPW	**September Lobe**	**0.93**	**72**		Pb	05 28 26.1	-0.9
RRHS	**Rochester High**	**0.93**	**18**		Pb	05 28 25.5	-1.4
VALT	**Mount Saint He**	**0.93**	**71**		Pb	05 28 26.1	-1.0
JRO	**Jston Ridge Ob**	**0.94**	**67**		Pb	05 28 25.8	-1.3
JRO					Sb	05 28 38.4	-0.7
BOLM	**Sugar Bowl**	**0.94**	**71**		Pb	05 28 26.4	-0.9
ESD	**East Dome**	**0.95**	**72**		Pb	05 28 26.5	-0.9
TDL	**Tradedollar La**	**0.97**	**63**		Pb	05 28 26.2	-1.4
SOSW	**Source of Smit**	**0.98**	**70**		Pn	05 28 26.5	-1.2
B202	**Windy Ridge, M**	**0.98**	**70**		Pn	05 28 26.4	-1.3
B202					Sb	05 28 39.3	-1.0
G04A	**Mulino**	**0.99**	**135**		Pn	05 28 27.1	-0.7
CDFW	**Cedar Flats**	**1.00**	**78**		Pn	05 28 27.3	-0.7
CPW	**Capitol Peak**	**1.08**	**12**		Pn	05 28 27.8	-1.3
B017	**Montesano**	**1.08**	**357**		Pn	05 28 28.4	-0.6
WISH	**Wishkah**	**1.22**	**350**		Pb	05 28 30.8	-0.1
HIYU	**Hiyu Mountain**	**1.25**	**112**		Pn	05 28 31.6	0.0
APM	**Augspurger Mou**	**1.26**	**98**		Pn	05 28 31.7	+0.1
ASR	**Mount Adams--S**	**1.32**	**79**		Pn	05 28 32.8	+0.3
VLL	**Laurance Lake**	**1.33**	**109**		Pn	05 28 32.8	+0.3
TDH	**Tom, Dick, Har**	**1.33**	**118**		Pn	05 28 32.6	0.0
COR	**Corvallis**	**1.34**	**175**		Pn	05 28 32.6	+0.1
COR				IAML		05 28 53.2	
	comp=N,400nm,0.6s						
COR				IAML		05 28 55.9	
	comp=N,565nm,0.6s						
PALME	**Palmer Lift, M**	**1.35**	**114**		Pn	05 28 33.5	+0.4
TIMB	**Timberline**	**1.36**	**115**		Pn	05 28 33.5	+0.4
B941	**Kapowsin**	**1.37**	**38**		Pn	05 28 32.1	-0.9
GHW	**Garrison Hill**	**1.39**	**36**		Pn	05 28 33.4	+0.1
HOOD	**Mount Hood Mea**	**1.40**	**114**		Pn	05 28 33.9	+0.3
HOOD				IAML		05 28 58.3	
	comp=N,210nm,1.0s						
HOOD				IAML		05 29 01.1	
	comp=E,197nm,0.8s						
SMW	**South Mountain**	**1.41**	**3**		Pn	05 28 33.6	+0.1
MPOR	**Mary's Peak**	**1.41**	**183**		Pn	05 28 33.8	0.0
LON	**Longmire**	**1.42**	**53**		Pn	05 28 33.5	-0.2
LON				IAML		05 28 59.4	
	comp=E,165nm,0.8s						
LON	**Longmire**	**1.42**	**53**		Pn	05 28 33.5	-0.2
SHRK	**Shell Rock**	**1.43**	**108**		Pn	05 28 34.4	+0.5
REMR	**Mount Rainier-**	**1.44**	**51**		Pn	05 28 34.0	-0.2
RVC	**Mount Rainier-**	**1.46**	**45**		Pn	05 28 34.2	0.0
H04D	**Lebanon**	**1.48**	**160**		Pn	05 28 34.9	+0.3
NLWA	**Neilton Lookou**	**1.50**	**349**		Pn	05 28 35.0	+0.1
OBSR	**Observation Ro**	**1.50**	**49**		Pn	05 28 35.1	-0.1
RCM	**Mount Rainier-**	**1.51**	**52**		Pn	05 28 35.2	-0.1
VFP	**Flag Point**	**1.52**	**112**		Pn	05 28 36.2	+0.9
RCS	**Mount Rainier-**	**1.53**	**51**		Pn	05 28 35.5	0.0
VBEM	**Beaver Butte**	**1.57**	**122**		Pb	05 28 37.1	-0.8
FMW	**Mount Fremont**	**1.60**	**50**		Pn	05 28 36.5	+0.1
OLQ	**Olympics--Lake**	**1.62**	**352**		Pn	05 28 36.9	+0.5
GMW	**Gold Mountain**	**1.70**	**16**		Pn	05 28 37.5	-0.1
GSM	**Grass Mountain**	**1.73**	**41**		Pn	05 28 38.7	+0.7
HDW	**Hoodsport**	**1.75**	**9**		Pn	05 28 38.8	+0.4
BROR	**Big Rock Looko**	**1.80**	**156**		Pn	05 28 40.1	+1.2
I02E	**Swisshome, OR**	**1.83**	**189**		Pb	05 28 40.9	-1.3
C04A	**Brinnon**	**1.83**	**10**		Pn	05 28 39.8	+0.4
SP2	**Seward Park 2**	**1.84**	**27**		Pn	05 28 40.8	+1.4
RATT	**Rattlesnake La**	**1.89**	**37**		Pn	05 28 41.3	+1.1
OSD	**Olympics--Snow**	**1.91**	**355**		Pn	05 28 37.8	-2.8
B013	**Quilcene**	**1.93**	**11**		Pn	05 28 41.4	+0.6
B013	**Quilcene**	**1.93**	**11**		Pn	05 28 41.3	+0.6
NAC	**Naches**	**2.00**	**65**		Pb	05 28 44.2	-1.0
PRLK	**Prince Lake**	**2.01**	**148**		Pb	05 28 44.3	-1.1
TCBUT	**Trout Creek Bu**	**2.10**	**142**		Pb	05 28 46.8	-0.2
B04A	**Port Angeles**	**2.14**	**359**		Pn	05 28 44.6	+0.9
C05A	**Tolt Reservoir**	**2.15**	**34**		Pn	05 28 45.4	+1.6
SQM	**Sequim**	**2.18**	**7**		Pb	05 28 46.1	-1.9
WIFE	**Three Sisters-**	**2.19**	**147**		Pb	05 28 47.1

RTZ	Ruatahuna	2.34 227	P	Pn	05 33 48.8	+0.7
MTHZ	Maungataniwha	2.58 225	P	Pn	05 33 52.0	+0.6
MTHZ			S	Sn	05 34 22.6	-0.1
KMRZ	Kaimai	2.69 252	P	Pn	05 33 50.6	-2.2
NMHZ	Naumai	2.77 221	P	Pn	05 33 54.3	+0.3
KUZ	Kuaotunu	2.78 275	P	Pn	05 33 53.7	-0.3
KUZ	Kuaotunu	2.78 275	P	Pn	05 33 53.2	-0.7
ARHZ	Aropaoanui	2.80 217	P	Pn	05 33 53.8	-0.5
BKZ	Black Stump Fm	2.99 224	P	Pn	05 33 57.3	+0.3
BKZ	Black Stump Fm	2.99 224	P	Pn	05 33 56.9	-0.2
TOZ	Tahuroa Road	3.00 256	P	Pn	05 33 57.2	+0.2
GRZ	Great Barrier	3.09 284	P	Pn	05 33 58.4	+0.2
MCHZ	McNeill Hill	3.09 218	P	Pn	05 33 58.2	-0.1
MKAZ	Moumakai	3.21 268	P	Pn	05 33 59.1	-0.7
KAHZ	Kahuranaki	3.29 212	P	Pn	05 33 59.7	-1.3
ETAZ	East Tamaki Re	3.40 270	P	Pn	05 34 02.2	-0.2
TMVZ	Te Maari	3.43 232	P	Pn	05 34 03.1	0.0
MBAZ	Motutapu North	3.43 273	P	Pn	05 34 03.4	+0.5
TWVZ	Taurewa	3.58 234	P	Pn	05 34 07.7	+2.7
HIZ	Hauiti	3.72 245	P	Pn	05 34 08.5	+1.6
HIZ	Hauiti	3.72 245	P	Pn	05 34 09.0	+2.0
BFZ	Birch Farm	4.29 211	P	Pn	05 34 13.8	-1.0
OUZ	Omahuta	4.86 290	P	Pn	05 34 23.5	+0.9
OUZ	Omahuta	4.86 290	P	Pn	05 34 23.2	+0.6

IDC 16 05:54:49.1±2.4,53°.64N×86°.88E,h0km,mbtmp2.9/2, ML2.6/2,1D,Error ellipse: s-maj=23.5km s-min=12.4km az=74.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.26 285		I	I	06 04 00.0	
baz=101,slow=334,SNR=6.4							
ZALV	Zalesovo Beam	1.26 285		Pg	Pg	05 55 12.1	-1.1
2.2nm,0.3s,baz=106,slow=17,SNR=31							
ZALV				Lg	Lg	05 55 29.8	
2.6nm,0.3s,baz=106,slow=29,SNR=15							
KURBB	Kurchatov Arra	5.96 243		Pn	Pn	05 56 19.7	+1.2
0.1nm,0.3s,baz=56,slow=14,SNR=4.6							
0.4nm,0.5s							
MK31	Makanchi Array	7.46 205		Pn	Pn	05 56 40.9	+1.8
0.1nm,0.3s,baz=27,slow=14,SNR=18							
MK31				⇓Lg	Lg	05 57 14.7	
0.6nm,0.7s,baz=265,slow=24,SNR=5.1							
MKAR	Makanchi Array	7.46 205		Pn	Pn	05 56 40.6	+1.5
0.2nm,0.3s,baz=23,slow=13,SNR=14							
MKAR				Sn	Sn	05 58 03.5	-0.8
0.1nm,0.3s,baz=29,slow=18,SNR=1.5							
MKAR				Lg	Lg	05 58 44.2	
0.1nm,0.3s,baz=26,slow=30,SNR=2.4							
0.5nm,0.3s							

*IDC **16** 06:30:49.7±11.0,2°.75S×101°.78E,h233km±106km, mb3.2/6,mbtmp3.8/6,Error ellipse: s-maj=109.6km s-min=23.5km az=55.0*
*DJA **16** 06:30:55.7±0.6,2°.5±4°.×10°.2E±°.,h212km±5km,M3.8/8, mb4.0/1,mB5.4/1,MLv3.7/8,Mw(mB)4.9/1*
ISC 16 06:30:53.0±0.9,2°.19S±0°.08×102°.26E±0°.09,h250km,n14, σ2§11/17,mb3.3/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	Maura Aman, Be	0.95 181		P	Pn	06 31 28.0	+0.2
SDSI	Sungai Dareh	1.50 326		P	Pn	06 31 30.0	-1.3
SDSI				S	S	06 31 57.2	-4.3
PDSI	Padang	2.20 305		P	Pn	06 31 36.9	-0.5
PDSI				S	S	06 32 09.1	-3.3
MNAI	Manna	2.27 162		P	Pn	06 31 37.4	-0.6
MNAI				S	S	06 32 10.7	-2.8
PPSI	Pulau Pagai	2.33 256		P	Pn	06 31 39.3	+0.8
PPSI				S	S	06 32 13.8	-0.6
SISI	Saibi	3.29 285		P	Pn	06 31 48.6	0.0
SISI				S	S	06 32 29.8	-2.8
KLI	Kotabumi	3.71 136		P	Pn	06 32 08.0	+15
GSI	Gunungsitoli	5.83 306		P	Pn	06 32 19.2	+0.2
14nm,0.4s,8μm0.5nm							
CMAR	Chiang Mai Arr	20.77 351		P	Pn	06 35 18.1	-3.1
1.1nm,0.3s,baz=158,slow=11,SNR=1.5							
1.1nm,0.3s							
WRA	Warramunga Arr	35.96 122		P	P	06 37 29.4	-0.9
0.4nm,0.9s,baz=303,slow=8.9,SNR=2.4							
0.4nm,0.9s							
SONM	Songino Array	49.95 4		P	P	06 39 24.8	+3.0
2.0nm,0.6s,baz=186,slow=9.2,SNR=12							
2.0nm,0.6s							
MKAR	Makanchi Array	51.85 343		P	P	06 39 37.1	+1.4
0.5nm,0.4s,baz=153,slow=8.2,SNR=6.3							
0.5nm,0.4s							
KURBB	Kurchatov Arra	56.39 342		P	P	06 40 09.0	+0.6
0.3nm,0.4s,baz=158,slow=7.4,SNR=2.3							
0.3nm,0.4s							
ZALV	Zalesovo Beam	57.80 348		P	P	06 40 19.4	+1.3
0.8nm,0.3s,baz=161,slow=6.6,SNR=2.0							
0.8nm,0.3s							

*NOU **16** 06:37:37.6,19°.90S×177°.08W,h596km,mb4.4/17,Fiji Islands Region*
*IDC **16** 06:37:42.5±1.9,20°.83S×177°.92W,h497km±20km, mb3.5/14,mbtmp4.4/17,Error ellipse: s-maj=18.4km s-min=14.0km az=102.0*
*NEIC **16** 06:37:42.4±1.5,20°.6S±0°.1×177°.8W±0°.1,h514km±10km, mb4.6/23,Error ellipse: s-maj=20.2km s-min=14.3km az=176.0*
ISC 16 06:37:42.6±0.4,20°.88S±0°.07×177°.93W±0°.07,h500km, n107,σ1§66/112,mb4.4/34,2C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	Taveuni	4.55 335		P	P	06 39 05.6	-0.1
MSVF	Nonsavu	4.92 309		P	P	06 39 09.1	+0.1
MSVF	Nonsavu	4.92 309		P	P	06 39 09.2	+0.2
113nm,0.5s,baz=109,slow=23,SNR=138							
DGTI	Dogotuki	5.06 334		P	P	06 39 09.6	-0.6
YSA	Yasawairara	5.95 314		P	P	06 39 18.0	-0.5
NIUE	Niue	7.74 78		P	P	06 39 34.3	-2.0
GLKZ	Green Lake	8.35 180		P	P	06 39 42.4	0.0
AFI	Afiamalu	9.08 41		P	P	06 39 45.7	-4.8
AFI	Afiamalu	9.08 41		P	P	06 39 34.8	-16
PINNC	Pines Island,	13.70 260		P	P	06 40 40.3	+1.2
YATNC	Mamie plateau,	14.18 263		P	P	06 40 46.2	+2.0
OUENC	Ouen Island, N	14.24 261		P	P	06 40 49.2	+4.3
DZM	Mont Dzumac	14.60 263		P	P	06 40 49.3	+0.6
DZM	Mont Dzumac	14.60 263		P	P	06 40 48.2	-0.4
13nm,0.6s,baz=84,slow=18,SNR=7.1							
NOUC	Port Laguerre	14.73 262		P	P	06 40 50.3	+0.4
OUZ	Omahuta	16.11 206		P	P	06 41 07.1	+2.9
OUZ	Omahuta	16.11 206		P	P	06 41 07.7	+3.5
WCZ	Waipu Caves	16.46 203		P	P	06 41 11.0	+3.2
KOUNC	Koumac, New Ca	16.64 268		P	P	06 41 12.4	+2.4
KUZ	Kuaotunu	16.75 198		P	P	06 41 14.3	+3.4
KUZ	Kuaotunu	16.75 198		P	P	06 41 13.5	+2.6
WMGZ	Waiomatatini S	17.18 190		P	P	06 41 16.6	+1.6
HAZ	Te Kaha	17.22 192		P	P	06 41 16.3	+0.8
MKAZ	Moumakai	17.25 199		P	P	06 41 17.8	+2.0
RUGZ	Raukumara Rang	17.45 192		P	P	06 41 17.7	-0.1
PUZ	Puketiti	17.45 190		P	P	06 41 18.7	+1.0
TWGZ	Tauwhareparae	17.60 191		P	P	06 41 19.2	0.0
TOZ	Tahuroa Road	17.73 197		P	P	06 41 21.3	+1.0
TOZ				IAmb	IAmb	06 41 23.0	
comp=Z,41nm,1.4s							
TOZ	Tahuroa Road	17.73 197		P	P	06 41 22.0	+1.7
MWZ	Matawai	17.83 192		P	P	06 41 21.3	0.0
URZ	Urewera	17.84 193		P	P	06 41 22.5	+1.2
URZ	Urewera	17.84 193		P	P	06 41 18.6	-2.7
URZ	Urewera	17.84 193		P	P	06 41 20.3	-1.0
comp=Z,8.6nm,0.3s,baz=342,slow=3.9,SNR=15							
URZ				S	S	06 44 13.1	-6.8
comp=Z,9.9nm,1.1s,baz=102,slow=7.8,SNR=2.4							
CNGZ	Carnagh Statio	17.86 190		P	P	06 41 24.1	+2.6
MUGZ	Murupara	18.12 193		P	P	06 41 23.0	-0.9
RIGZ	Rimuhau	18.15 191		P	P	06 41 24.5	+0.3
KNZ	Kokohu	18.47 191		P	P	06 41 27.6	+0.5
NMHZ	Naumai	18.71 193		P	P	06 41 29.7	+0.3
BKZ	Black Stump Fm	18.85 194		P	P	06 41 29.8	-0.7
comp=Z,11nm,0.5s							
BKZ	Black Stump Fm	18.85 194		P	P	06 41 29.9	-0.7
MCHZ	McNeill Hill	19.07 193		P	P	06 41 32.4	-0.2
KWHZ	Kaweka Forest	19.11 193		P	P	06 41 33.4	+0.5
WNVZ	Wahianoa	19.21 195		P	P	06 41 33.2	-0.8
MOVZ	Moawhango	19.25 195		P	P	06 41 34.0	-0.2
BHHZ	Black Hill Sta	19.25 194		P	P	06 41 33.0	-1.3
KRHZ	Kereru	19.33 193		P	P	06 41 34.2	-0.7
KAHZ	Kahuranaki	19.37 192		P	P	06 41 35.7	+0.4
BFZ	Birch Farm	20.35 193		P	P	06 41 45.6	+1.4
TCW	Tory Channel	21.32 196		P	P	06 41 52.9	-0.1
QRZ	Quartz Range	21.48 200		P	P	06 41 54.8	+0.4
comp=Z,81nm,2.0s							
KHZ	Kahutara	22.64 197		P	P	06 42 05.1	+0.3
JCZ	Jackson Bay	25.63 203		P	P	06 42 31.1	-0.5
comp=Z,35nm,1.9s							
EIDS	Eidsvold	28.81 255		P	P	06 43 00.2	+0.5
EIDS				IAmb	IAmb	06 43 00.8	
comp=Z,13nm,0.7s							
CTAO	Charters Tower	33.52 265		P	P	06 43 40.5	+0.3
CTAO				IAmb	IAmb	06 43 40.9	
comp=Z,15nm,0.8s							
TOO	Toolangi	35.73 234		P	P	06 43 59.7	+1.2
TOO				IAmb	IAmb	06 44 00.3	
comp=Z,11nm,0.7s							
COEN	Coen	37.67 274		P	P	06 44 15.1	+0.3
COEN				IAmb	IAmb	06 44 15.9	
comp=Z,11nm,0.8s							
STKA	Stephens Creek	37.68 245		P	P	06 44 14.8	+0.1
STKA	Stephens Creek	37.68 245		P	P	06 44 15.5	+0.8
comp=Z,7.0nm,0.6s,baz=92,slow=10,SNR=22							
comp=Z,7.0nm,0.6s							
BBOO	Buckleboo	42.44 244		P	P	06 44 53.0	+0.1
BBOO				IAmb	IAmb	06 44 53.8	
comp=Z,17nm,0.8s							
AS31	Alice Springs	44.49 257		P	P	06 45 09.3	+0.1
AS31				IAmb	IAmb	06 45 10.9	
comp=Z,8.7nm,0.8s							
ASAR	Alice Springs	44.50 257		P	P	06 45 09.2	0.0
comp=Z,25nm,0.5s,baz=94,slow=8.0,SNR=343							
ASAR				PcP	pP	06 46 40.5	-0.2
comp=Z,1.2nm,0.7s,baz=113,slow=4.2,SNR=3.2							
ASAR				S	S	06 51 04.5	-3.2
comp=Z,1.2nm,0.8s,baz=99,slow=16,SNR=7.7							
comp=Z,25nm,0.5s							
WB2	Warramunga Arr	44.60 262		P	P	06 45 09.5	-0.5
WB2				IAmb	IAmb	06 45 10.2	
comp=Z,18nm,0.8s							
WRA	Warramunga Arr	44.61 262		P	P	06 45 09.4	-0.7
WRA	Warramunga Arr	44.61 262		P	P	06 45 09.7	-0.4
comp=Z,16nm,0.7s,baz=96,slow=6.8,SNR=410							
WRA				S	S	06 51 04.0	-5.4
comp=Z,0.5nm,1.0s,baz=100,slow=16,SNR=2.9							
comp=Z,16nm,0.7s							
FORT	Forrest	49.20 247		P	P	06 45 44.0	-0.6
MTN	Manton Dam	49.23 271		P	P	06 45 44.6	-0.5
MTN				IAmb	IAmb	06 45 45.4	
comp=Z,25nm,0.8s							
KNRA	Kununurra	50.70 267		P	P	06 45 55.5	-0.3
SBA	Scott Base	57.50 184		P	P	06 46 45.9	+3.1
PSA00	Pilbara Seismi	57.65 257		P	P	06 46 44.4	-0.4
PSA00				IAmb	IAmb	06 46 45.5	
comp=Z,14nm,0.7s							
MBWA	Marble Bar	57.83 258		P	P	06 46 45.8	-0.4
MBWA				IAmb	IAmb	06 46 46.6	
comp=Z,12nm,0.7s							
GIRL	Giralia	62.51 255		P	P	06 47 17.8	+0.6
CASY	Casey	63.65 205		P	P	06 47 24.3	+0.6
TOLI2	Tolitoli	63.75 282		P	P	06 47 24.1	-1.1
TOLI2				IAmb	IAmb	06 47 33.9	
comp=Z,22nm,0.8s							
JAGI	Jajag, Banyuwa	66.44 270		P	P	06 47 41.5	-0.8
QSPA	South Pole Qui	69.19 180		P	P	06 48 00.2	+1.9
QSPA				IAmb	IAmb	06 48 01.1	
comp=Z,13nm,1.4s							
QSPA	South Pole Qui	69.19 180		P	P	06 47 59.6	+1.3
comp=Z,4.5nm,0.6s,baz=2.4,slow=0.6,SNR=42							
comp=Z,4.5nm,0.6s							
MJAR	Matsushiro Arr	70.55 324		P	P	06 48 06.3	-0.5
comp=Z,2.6nm,0.6s,baz=157,slow=5.3,SNR=5.8							
comp=Z,2.6nm,0.6s							
PETK	Petropavlovsk-	76.65 345		P	P	06 48 40.9	-0.3
comp=Z,4.0nm,0.7s,baz=128,slow=7.4,SNR=6.0							
comp=Z,4.0nm,0.7s							
KSRS	Korea Array	77.21 319		P	P	06 48 41.5	-3.0
comp=Z,0.8nm,0.4s,baz=124,slow=4.6,SNR=1.8							
BELA	Belgrano 2	79.17 173		P	P	06 48 54.8	+0.2
USRK	Ussuriysk Ar.	79.31 326		P	P	06 48 56.9	+1.2
comp=Z,3.4nm,0.8s,baz=181,slow=4.1,SNR=6.1							
comp=Z,3.4nm,0.8s							
NJ2	Nanjing	80.17 310		eP	P	06 49 01.3	+0.8
NJ2				pP	pP	06 50 47.6	-0.6
NJ2				sP	sP	06 51 38.0	-1.3
NJ2				pmax	pmax		
comp=Z,25nm,0.7s							
NJ2				pmax	pmax		
comp=Z,2μm,4.1s							
MDJ	Mudanjiang	80.86 325		P	P	06 49 04.3	+0.5
MDJ				PcP	PcP	06 49 12.3	+3.6
MDJ				pP	pP	06 50 50.4	-1.6
MDJ				sP	sP	06 51 44.9	+1.8
MDJ				S	SKSac	06 58 34.3	0.0
MDJ				ScS	ScS	06 58 45.8	+0.6
MDJ	Mudanjiang	80.86 325		SS	SS	07 04 05.1	+5.9
MDJ				pmax	pmax		
comp=Z,9.0nm,1.0s							
MDJ				pmax	pmax		
comp=Z,170nm,4.1s							
MAW	Mawson	81.23 200		P	P	06 49 05.7	+0.3
comp=Z,0.6nm,0.5s,baz=143,slow=18,SNR=1.7							
comp=Z,0.6nm,0.5s							
NVAR	Mina Array Bea	81.25 43		P	P	06 49 06.2	-0.1
comp=Z,0.6nm,0.8s,baz=233,slow=9.1,SNR=4.9							
comp=Z,0.6nm,0.8s							
WHN	Wuhan	82.72 306		P	P	06 49 13.8	+0.2
ELIB	Princess Elisa	86.28 187		dPcP	P	06 49 30.1	-0.5
comp=Z,4.0nm,0.8s							
ELIB				dpP	pP	06 51 15.2	-5.0
TXAR	Lajitas Array	87.21 57		P	P	06 49 36.3	+0.6
comp=Z,0.4nm,0.6s,baz=235,slow=6.3,SNR=3.1							
comp=Z,0.4nm,0.6s							
TROLL	Troll, Antarti	87.35 180		⇑P	P	06 49 35.9	+0.3
comp=Z,37nm,0.4s							
SNAA	Sanae	87.63 178		P	P	06 49 36.8	-0.1
comp=Z,0.5nm,0.5s,baz=36,slow=4.9,SNR=2.2							
comp=Z,0.5nm,0.5s							
VNA3	Neumayer Olymp	87.76 176		⇑P	P	06 49 37.5	+0.1
comp=Z,6.6nm,0.6s							
ILAR	Eielson Array	88.67 13		P	P	06 49 39.6	-2.0
comp=Z,0.6nm,0.8s,baz=213,slow=5.1,SNR=4.9							
comp=Z,0.6nm,0.8s							
PDAR	Pinedale Array	89.19 43		P	P	06 49 45.0	+0.1
comp=Z,0.6nm,0.7s,baz=204,slow=3.3,SNR=4.9							
comp=Z,0.6nm,0.7s							
HHC	Hu-ho-hao-te	89.66 314		eP	P	06 49 48.6	+1.7
HHC				pmax	pmax		
comp=Z,30nm,0.6s							
HHC				pmax	pmax		
comp=Z,100nm,4.3s							
CMAR	Chiang Mai Arr	90.30 290		P	P	06 49 51.2	+1.0
comp=Z,1.4nm,0.4s,baz=126,slow=4.6,SNR=6.6							
comp=Z,1.4nm,0.4s							
PZH	PanZhiHua	90.94 298		P	P	06 49 52.3	-0.9
PZH				pmax	pmax		
comp=Z,10.0nm,0.9s							
PZH				pmax	pmax		
comp=Z,100nm,3.8s							
BVAR	Borovoye Array	119.41 320		PKP	PKPdf	06 55 33.6	-1.0
comp=Z,0.8nm,0.3s,baz=104,slow=3.9,SNR=3.3							
FINES	FINESS Array B	136.15 344		PKP	PKPdf	06 56 07.3	+1.2
comp=Z,1.7nm,0.8s,baz=101,slow=4.4,SNR=3.9							
HFS	Hagfors	139.92 351		PKhKP	PKPpre	06 56 07.2	
comp=Z,1.0nm,0.3s,baz=86,slow=4.6,SNR=5.4							
AKASG	Malin Array Be	143.38 331		PKhKP	PKPpre	06 56 16.6	
comp=Z,3.9nm,0.5s,baz=43,slow=4.3,SNR=26							
STHS	Stebnicka Huta	147.69 336		ePKP	PKPab	06 56 35.5	+1.1
CRVS	Cervenica-Dubn	148.02 336		ePKP	PKPab	06 56 36.2	+0.4
MMAI	Mount Meron Ar	148.06 299		PKPbc	PKPbc	06 56 32.0	0.0
comp=Z,2.3nm,0.4s,baz=66,slow=5.0,SNR=4.4							
CLL	Collm	148.44 347		ePKPbc	PKPdf	06 56 30.0	+2.0
LANS	Liptovska Anna	148.56 338		ePKP	PKPab	06 56 40.1	+2.1
TORD	Torodi Ar. Bea	172.30 177		PKPab	PKPab	06 58 22.3	+0.4
comp=Z,0.8nm,0.9s,baz=178,slow=1.8,SNR=2.9							

*IDC **16** 06:58:09.5±1.5,28°.80S×67°.19W,h120km±12km,mb3.7/5, mbtmp4.0/9,Error ellipse: s-maj=28.9km s-min=12.8km az=111.0*
*SJA **16** 06:58:09.8±1.1,28°.78S×67°.37W,h140km±4km,ML3.7, MW3.7*
*NEIC **16** 06:58:10.3±2.4,28°.80S±0°.06×67°.4W±0°.1,h138km±10km, mb4.1/9,Error ellipse: s-maj=13.6km s-min=8.7km az=95.0*
*VAO **16** 06:58:28.6±2.0,27°.65S×66°.40W,h199km±15km,mb3.7*
ISC 16 06:58:10.4±0.6,28°.74S±0°.03×67°.39W±0°.04,h143km±5km, n113,σ1§31/128,mb4.0/7,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AANI	Anillaco	0.40 100		iP	Pn	06 58 34.4	+3.8
AANI				iS	Sn	06 58 48.5	+2.5
TINO	Tinogasta	0.70 346		iP	Pn	06 58 32.4	+0.1
TINO				iS	Sn	06 58 48.7	-0.3
VCA	Vinchina	0.72 270		iP	Pn	06 58 32.7	+0.2
VCA				iS	Sn	06 58 48.3	-0.9
ACLC	CERRO LA CRUZ	0.78 151		iP	Pn	06 58 32.9	-0.1
ACLC				iS	Sn	06 58 48.9	-1.2
ACLC				IAML		06 58 49.7	
comp=Z,2μm,0.4s							
AGUA	GUANDACOL	1.22 232		iP	Pn	06 58 36.8	+0.1
AGUA				iS	Sn	06 58 56.0	-0.7
CYA	Choya	1.42 78		iP	Pn	06 58 39.0	+0.3
CYA				iS	Sn	06 58 59.4	-0.9
CYA				IAML		06 58 59.8	
comp=Z,560nm,0.7s							
APLL	PUNTA DE LOS L	1.81 156		iP	Pn	06 58 42.9	0.0
APLL				iS	Sn	06 59 06.2	-1.7
ACDV	Cuesta del Vie	2.08 226		iP	Pn	06 58 46.7	+0.5
ACDV				IAML		06 59 19.4	
comp=Z,175nm,0.5s							
AROD	Rodeo	2.31 232		iP	Pn	06 58 49.9	+0.8
AROD				iS	Sn	06 59 19.9	+1.0
ACCO	Cerro Coronel	2.35 218		iP	Pn	06 58 49.8	+0.1
ACCO				IAML		06 59 23.7	
comp=Z,184nm,0.4s							
AC02	Maricunga	2.45 320		Pn	Pn	06 58 52.2	+1.2
AC02				Sn	Sn	06 59 23.5	+1.3
AC02	Maricunga	2.45 320		eP	Pn	06 58 52.1	+1.0
ACHE	Chepes	2.49 166		iP	Pn	06 58 51.3	+0.1
ACHE				iS	Sn	06 59 21.1	-1.5
AC05	El Transito	2.54 267		Pn	Pn	06 58 52.5	+0.7
AC05				Sn	Sn	06 59 23.3	-0.3
AHML	Horco Molle	2.67 43		iP	Pn	06 58 53.2	-0.1
CO01	Juntas del Tor	2.67 242		Pn	Pn	06 58 54.8	+1.3
CO01				Sn	Sn	06 59 28.3	+1.6
CO01	Juntas del Tor	2.67 242		iP	Pn	06 58 54.8	+1.3
RTLL	Cerro Villicun	2.75 200		iP	Pn	06 58 54.1	-0.2
GO03	Copiap	2.76 294		Pn	Pn	06 58 54.5	-0.1
GO03	Copiap	2.76 294		iP	Pn	06 58 54.3	-0.3
FSA	Cafayete	2.90 26		iP	Pn	06 58 57.8	+1.3
LCO	Las Campanas	2.92 264		Pn	Pn	06 58 56.6	-0.1
CFA	Coronel Fontan	2.95 194		P	Pn	06 58 56.4	-0.4
comp=Z,93nm,0.3s,baz=44,slow=19,SNR=992							
CFA				S	Sn	06 59 30.1	-2.7
comp=Z,288nm,0.3s,baz=266,slow=21,SNR=46							
CFA	Coronel Fontan	2.95 194		iP	Pn	06 58 56.6	-0.2
CFA				iS	Sn	06 59 31.3	-1.4
CFA				IAML		06 59 31.6	
comp=Z,289nm,0.3s							
SJA	San Juan	2.96 200		iP	Pn	06 58 57.3	+0.4
AC06	Mina Casimiro	2.96 297		Pn	Pn	06 58 56.6	-0.5
ZON	Zonda	3.01 202			Pn	06 58 57.5	-0.1
ZON	Zonda	3.01 202		iP	Pn	06 58 57.5	-0.1
AC04	Llanos de Chal	3.29 278		Pn	Pn	06 59 00.5	-0.8
AC04	Llanos de Chal	3.29 278		iP	Pn	06 59 00.2	-1.0
AC04				IAML		06 59 46.7	
comp=Z,151nm,0.5s							
GO04	Tololo Observa	3.30 244			Pn	06 59 01.2	-0.3
GO04	Tololo Observa	3.30 244		iP	Pn	06 59 01.2	-0.3
RTLS	Leoncito	3.47 208		iP	Pn	06 59 03.8	+0.1
RTLS				IAML		06 59 50.5	
comp=Z,209nm,1.0s							
CO03	El Pedregal	3.55 233		Pn	Pn	06 59 04.3	-0.3
CO03	El Pedregal	3.55 233		iP	Pn	06 59 04.3	-0.3
CO03				IAML		06 59 48.9	
comp=Z,120nm,0.3s							
CO05	La Serena	3.56 250			Pn	06 59 03.4	-1.3
AC01	Pan de Azucar	3.85 311			Pn	06 59 08.2	-0.4
AC01	Pan de Azucar	3.85 311		iP	Pn	06 59 08.0	-0.6
AC01				IAML		06 59 56.2	
comp=Z,64nm,0.5s							
CO02	Combarbal	3.98 231			Pn	06 59 09.2	-1.2
CO02	Combarbal	3.98 231		iP	Pn	06 59 09.1	-1.2
CO02				IAML		06 59 57.1	
comp=Z,111nm,0.2s							
GO02	Mina Guanaco	4.07 331		Pn	Pn	06 59 12.1	+0.3
CO06	Fray Jorge	4.17 241		Pn	Pn	06 59 10.5	-2.1
AAGR	Agrelo	4.50 196		iP	Pn	06 59 16.7	-0.5
AAGR				IAML		07 00 10.3	
comp=Z,90nm,0.4s							
VA03	San Esteban	4.85 213			Pn	06 59 21.0	-0.7
PB14	IPOC Station P	4.91 326		Pn	Pn	06 59 22.6	-0.2
PEL	Peldehue	5.22 212			Pn	06 59 25.8	-0.9
ROC1	El Roble	5.25 216			Pn	06 59 25.2	-2.0
MT03	Universidad Ad	5.44 209		Pn	Pn	06 59 28.8	-0.9
MT05	Renca	5.45 211			Pn	06 59 28.6	-1.2
MT02	Curacav	5.54 215			Pn	06 59 28.5	-2.3
MT13	San Alfonso	5.57 206			Pn	06 59 31.5	+0.1
LMEL	Las Melosas	5.63 205			Pn	06 59 32.4	+0.2
AF01	San Pedro de A	5.81 353		Pn	Pn	06 59 35.3	+0.4
PB15	IPOC Station P	5.82 341			Pn	06 59 35.0	+0.1
MT09	Talagante	5.89 211		Pn	Pn	06 59 33.7	-1.9
BO04	La Punta	5.91 207			Pn	06 59 34.6	-1.2
MT01	Popeta	6.08 212			Pn	06 59 35.1	-3.0
VA05	Santo Domingo	6.09 215			Pn	06 59 35.8	-2.4

SNAA Sanae 55.02 160 P **P 07 07 27.7 +1.1**
comp=Z,1.7nm,0.7s,baz=273,slow=9.5,SNR=11
comp=Z,1.7nm,0.7s
QSPA South Pole Qui 61.48 180 P **P 07 08 12.9 +1.3**
QSPA South Pole Qui 61.48 180 P **P 07 08 13.3 +1.7**
comp=Z,2.6nm,0.7s,baz=195,slow=0.7,SNR=14
comp=Z,2.6nm,0.7s
TOA0 Torodi Ar. Sit 78.62 68 P **P 07 09 57.8 +1.1**
TOA0 IAmb IAmb 07 10 23.0
comp=Z,3.3nm,1.1s
TORD Torodi Ar. Bea 78.62 68 P **P 07 09 57.9 +1.2**
TORD Torodi Ar. Bea 78.62 68 P **P 07 09 58.5 +1.8**
comp=Z,0.6nm,0.5s,baz=279,slow=4.5,SNR=4.8
comp=Z,0.6nm,0.5s
BOSA Boshof 78.91 116 P **P 07 09 59.1 +0.8**
comp=Z,1.6nm,0.6s,baz=254,slow=6.5,SNR=4.1
comp=Z,1.6nm,0.6s
ASAR Alice Springs 124.00 204 PKP **PKiKP 07 16 52.9 +0.3**
comp=Z,0.6nm,0.7s,baz=146,slow=1.9,SNR=8.6
WRA Warramunga Arr 127.25 206 PKP **PKiKP 07 16 59.5 +0.4**
comp=Z,1.1nm,0.6s,baz=167,slow=1.6,SNR=25
WRA pPKP **pPKPdf 07 17 36.2 -0.9**
comp=Z,0.3nm,0.5s,baz=159,slow=1.6,SNR=2.0
KURBB Kurchatov Arra 146.31 40 PKPbc **PKPab 07 17 35.4 +0.4**
comp=Z,0.5nm,0.7s,baz=290,slow=3.3,SNR=5.3
ZALV Zalesovo Beam 147.68 31 PKPbc **PKiKP 07 17 39.2 -0.3**
comp=Z,0.8nm,0.5s,baz=304,slow=3.3,SNR=2.3
MKAR Makanchi Array 150.27 44 PKPbc **PKiKP 07 17 45.6 +0.5**
comp=Z,0.2nm,0.5s,baz=267,slow=2.9,SNR=2.0

---

*CRAAG **16** 07:03:12.9, 36°.23N×1°.65E, Ml3.4, Algerie 02km NW El-Attaf*
*MDD **16** 07:03:13.9±0.5, 36°.29N×1°.64E, h0km, Mb4.1/24, M_mb3.4/25, Error ellipse: s-maj=5.7km s-min=3.3km az=175.0*
ISC 16 07:03:13.2±1.3, 36°.27N±0°.05×1°.66E±0°.04, h19km±4km, n37, σ1§30/53, 19C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.10**	**280**	P	**Pg**	**07 03 15.8**	**-1.4**
EOFD	**Oued Fodda**	**0.23**	**190**	P	**Pb**	**07 03 17.6**	**-0.8**
EARB	**Arib**	**0.28**	**84**	P	**Pg**	**07 03 19.6**	**0.0**
EHRZ	**Djelida**	**0.37**	**102**	P	**Pg**	**07 03 21.2**	**+0.1**
EMHD	**Djebel Mahouad**	**1.05**	**93**	P	**Pg**	**07 03 34.1**	**+0.5**
OJGS	**Djebel Guires**	**1.06**	**224**	P	**Pb**	**07 03 32.5**	**-0.5**
CART	**Cartagena**	**2.50**	**302**	S	**Sn**	**07 04 19.8**	**-3.0**
CART				P	**Pn**	**07 03 53.6**	**+0.8**
EIBI	**Ibiza**	**2.76**	**355**	P	**Pn**	**07 03 57.6**	**+1.2**
EIBI				⇑*i*Vmb_V		07 03 58.6	
579nm,SNR=3.0							
EIBI				S	**Sn**	**07 04 27.8**	**-1.4**
EMUR	**La Murta**	**2.80**	**305**	P	**Pn**	**07 03 57.3**	**+0.4**
EMUR				S	**Sn**	**07 04 30.8**	**+0.7**
EMUR	**La Murta**	**2.80**	**305**	P	**Pn**	**07 03 56.8**	**-0.2**
EBEN2	**Beniarda presa**	**2.81**	**329**	P	**Pn**	**07 03 58.0**	**+0.8**
EBEN2				⇑*i*Vmb_V		07 04 00.8	
584nm,SNR=1.6							
EBEN2				S	**Sn**	**07 04 31.1**	**+0.6**
AFON	**Font Roja**	**2.96**	**324**	P	**Pn**	**07 04 00.2**	**+1.0**
AFON				⇑*i*Vmb_V		07 04 03.4	
376nm,SNR=1.8							
EZAR	**Zarzadilla de**	**3.12**	**302**	P	**Pn**	**07 04 01.9**	**+0.4**
EZAR				⇑*i*Vmb_V		07 04 05.5	
262nm,SNR=1.6							
ETOB	**Tobarra**	**3.48**	**314**	P	**Pn**	**07 04 07.5**	**+1.2**
ETOB				⇑*i*Vmb_V		07 04 08.8	
278nm,SNR=1.6							
ETOB				S	**Sn**	**07 04 47.8**	**+0.7**
ETOB	**Tobarra**	**3.48**	**314**	S	**Sn**	**07 04 45.9**	**-1.2**
ETOB				P	**Pn**	**07 04 07.1**	**+0.8**
ETOS	**Mallorca**	**3.61**	**14**	P	**Pn**	**07 04 08.4**	**+0.3**
ETOS				⇑*i*Vmb_V		07 04 14.3	
274nm,SNR=1.7							
ETOS				S	**Sn**	**07 04 47.4**	**-2.8**
ETOS	**Mallorca**	**3.61**	**14**	P	**Pn**	**07 04 08.1**	**+0.1**
ETOS				S	**Sn**	**07 04 47.3**	**-2.8**
ECOL	**Islas Columbre**	**3.70**	**348**	P	**Pn**	**07 04 10.3**	**+1.0**
ECOL				S	**Sn**	**07 04 52.2**	**-0.2**
EVIV	**Cofrentes, Val**	**3.71**	**324**	P	**Pn**	**07 04 10.9**	**+1.4**
EVIV				⇑*i*Vmb_V		07 04 12.9	
259nm,SNR=1.9							
EVIV				S	**Sn**	**07 04 54.0**	**+1.2**
EBER	**Berja**	**3.71**	**281**	P	**Pn**	**07 04 09.7**	**0.0**
EBER				⇑*i*Vmb_V		07 04 14.3	
378nm,SNR=1.5							
EBER				S	**Sn**	**07 04 53.8**	**+0.9**
EBER	**Berja**	**3.71**	**281**	P	**Pn**	**07 04 09.7**	**0.0**
ECHE	**Chera**	**3.91**	**329**	P	**Pn**	**07 04 13.7**	**+1.5**
ECHE				⇑*i*Vmb_V		07 04 14.6	
197nm,SNR=1.1							
ECHE				S	**Sn**	**07 04 58.9**	**+1.4**
ECHE	**Chera**	**3.91**	**329**	P	**Pn**	**07 04 13.5**	**+1.3**
EQES	**Quesada**	**4.08**	**293**	P	**Pn**	**07 04 16.2**	**+1.6**
EQES				⇑*i*Vmb_V		07 04 19.0	
169nm,SNR=1.5							
EQES				S	**Sn**	**07 05 01.6**	**-0.3**
EQUE	**Quentar**	**4.20**	**284**	P	**Pn**	**07 04 17.6**	**+1.3**
EQUE				⇑*i*Vmb_V		07 04 20.1	
162nm,SNR=2.0							
EQUE				S	**Sn**	**07 05 06.3**	**+1.5**
EQTA	**Presa de Quent**	**4.20**	**284**	P	**Pn**	**07 04 17.2**	**+0.9**
ELGU	**Los Guajares,**	**4.29**	**280**	P	**Pn**	**07 04 17.8**	**+0.3**
ELGU				⇑*i*Vmb_V		07 04 23.0	
159nm,SNR=1.0							
ELGU				S	**Sn**	**07 05 08.0**	**+0.8**
ELGU	**Los Guajares,**	**4.29**	**280**	P	**Pn**	**07 04 17.6**	**+0.1**
EMOS	**Mosqueruela**	**4.42**	**338**	P	**Pn**	**07 04 21.4**	**+2.1**
EMOS				⇑*i*Vmb_V		07 04 23.1	
205nm,SNR=1.5							
EMOS				S	**Sn**	**07 05 09.3**	**-1.0**
EGOR	**Sierra Gorda,**	**4.71**	**282**	P	**Pn**	**07 04 26.3**	**+3.0**
EGOR				⇑*i*Vmb_V		07 04 28.4	
162nm,SNR=1.7							
EGOR	**Sierra Gorda,**	**4.71**	**282**	P	**Pn**	**07 04 24.9**	**+1.6**
ERTA	**Horta de San J**	**4.79**	**348**	P	**Pn**	**07 04 26.5**	**+2.1**
ERTA				⇑*i*Vmb_V		07 04 27.5	
106nm,SNR=1.2							
EPOB	**Poblet**	**5.09**	**355**	P	**Pn**	**07 04 30.2**	**+1.7**
EPOB				⇑*i*Vmb_V		07 04 32.0	
98nm,SNR=1.2							
EADA	**Adamuz**	**5.32**	**293**	P	**Pn**	**07 04 32.4**	**+0.8**
EADA				⇑*i*Vmb_V		07 04 40.9	
133nm,SNR=1.3							
EADA	**Adamuz**	**5.32**	**293**	P	**Pn**	**07 04 31.0**	**-0.7**
PAB	**San Pablo**	**5.76**	**306**	P	**Pn**	**07 04 38.2**	**+0.4**
PAB				⇑*i*Vmb_V		07 04 45.2	
82nm,SNR=0.7							
ECAB	**El Cabril**	**5.93**	**290**	P	**Pn**	**07 04 40.1**	**+0.2**
ECAB				⇑*i*Vmb_V		07 04 49.5	
128nm,SNR=1.3							

IDC 16 07:13:54.3±1.2, 15°.18S×173°.70W, h0km, mb3.8/5, mbtmp3.8/5, MS3.3/11, Error ellipse: s-maj=53.0km s-min=27.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.31**	**251**	LR	LR	07 18 50.6	
comp=Z,198nm,21.1s,baz=187,slow=36							
DZM	**Mont Dzumac**	**20.02**	**247**	*e*LR	LR	07 23 40.9	
comp=Z,147nm,26.4s							
DZM	**Mont Dzumac**	**20.02**	**247**	LR	LR	07 24 55.8	
comp=Z,91nm,20.7s,baz=20,slow=33							
PPT	**Papeete**	**23.26**	**99**	LR	LR	07 25 23.1	
comp=Z,26nm,20.1s,baz=264,slow=30							
PAE	**Paea**	**23.26**	**99**	*e*T	T	07 42 40.4	
2.0nm,0.2s							
PPT2	**Papeete2**	**23.26**	**99**	*e*LR	LR	07 24 04.1	
comp=Z,95nm,25.8s							
PPT2	**Papeete2**	**23.26**	**99**	*e*T	T	07 42 38.9	
1.9nm,0.3s							
HNR	**Honiara**	**26.36**	**279**	LR	LR	07 28 03.7	
comp=Z,870nm,21.0s,baz=128,slow=32							
TAOE	**Nuku Hiva Isla**	**33.38**	**83**	*e*LR	LR	07 28 26.4	
comp=Z,51nm,23.4s							
WRA	**Warramunga Arr**	**49.62**	**257**	P	P	07 22 47.8	-0.1
0.8nm,0.7s,baz=93,slow=6.7,SNR=16							
0.8nm,0.7s							
ASAR	**Alice Springs**	**49.91**	**252**	P	P	07 22 49.9	-0.2
4.8nm,0.7s,baz=86,slow=8.0,SNR=43							
ASAR				LR	LR	07 41 43.5	
comp=Z,57nm,21.0s,baz=89,slow=33							
4.8nm,0.7s							
MJAR	**Matsushiro Arr**	**68.58**	**320**	LR	LR	07 48 57.1	
comp=Z,26nm,21.2s,baz=164,slow=31							
ASAJ	**Asahikawa**	**71.20**	**328**	LR	LR	07 50 51.1	
comp=Z,22nm,22.0s,baz=152,slow=31							
PFO	**Pinyon Flats O**	**72.98**	**47**	LR	LR	07 50 03.7	
comp=Z,37nm,19.7s,baz=281,slow=30							
NVAR	**Mina Array Bea**	**74.36**	**42**	P	P	07 25 34.4	+0.1
0.2nm,0.6s,baz=230,slow=5.6,SNR=3.1							
0.2nm,0.6s							
QSPA	**South Pole Qui**	**74.87**	**180**	P	P	07 25 36.9	+0.2
1.1nm,0.9s,baz=51,slow=3.9,SNR=3.0							
1.1nm,0.9s							
KSRS	**Korea Array**	**75.80**	**316**	LR	LR	07 52 50.9	
comp=Z,8.3nm,20.5s,baz=355,slow=31							
MA2	**Magadan**	**79.87**	**343**	LR	LR	07 57 04.5	
comp=Z,12nm,20.7s,baz=177,slow=32							
ANMO	**Albuquerque**	**80.88**	**50**	LR	LR	07 54 56.9	
comp=Z,20nm,20.3s,baz=284,slow=30							
ILAR	**Eielson Array**	**82.28**	**11**	P	P	07 26 17.3	0.0
0.4nm,0.8s,baz=207,slow=3.8,SNR=5.0							
0.4nm,0.8s							
MAW	**Mawson**	**87.91**	**199**	LR	LR	08 02 39.2	
comp=Z,24nm,21.8s,baz=131,slow=33							

---

*IDC **16** 07:19:05.0±3.6, 10°.08S×161°.05E, h41km±33km, mb3.5/4, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=76.8km s-min=19.3km az=39.0*
ISC 16 07:19:05.9±3.3, 9°.9S±0°.4×161°.1E±0°.4, h67km, n6, σ1§62/7, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.19**	**293**	P	**Pn**	**07 19 25.2**	**-1.5**
13μm,0.5s,baz=179,slow=7.4,SNR=18							
HNR				S	**Sn**	**07 19 42.2**	**0.0**
18μm,0.3s,baz=355,slow=22,SNR=10.0							
DZM	**Mont Dzumac**	**13.16**	**158**	P	**Pn**	**07 22 08.0**	**-2.0**
0.2nm,0.3s,baz=31,slow=10,SNR=7.4							
4.9nm,0.8s							
WRA	**Warramunga Arr**	**27.64**	**246**	P	**P**	**07 24 47.8**	**+0.3**
0.5nm,0.8s,baz=75,slow=9.1,SNR=2.8							
0.5nm,0.8s							
ASAR	**Alice Springs**	**29.31**	**239**	P	**P**	**07 25 02.9**	**+0.6**
0.2nm,0.3s,baz=65,slow=10,SNR=1.6							
0.2nm,0.3s							
QSPA	**South Pole Qui**	**80.10**	**180**	P	**P**	**07 31 09.7**	**+1.3**
0.6nm,0.6s,baz=49,slow=9.5,SNR=7.0							
0.6nm,0.6s							
MAW	**Mawson**	**84.03**	**202**	P	**P**	**07 31 30.3**	**+1.5**
1.1nm,0.6s,baz=110,slow=7.3,SNR=6.5							
1.1nm,0.6s							

---

*IDC **16** 07:23:47.8±1.0, 36°.93N×27°.41E, h0km, mb3.9/5, mbtmp3.7/11, ML3.4/6, MS3.0/3, Error ellipse: s-maj=22.7km s-min=16.3km az=154.0*
*ISK **16** 07:23:48.8, 36°.97N×27°.40E, h4km, ML3.6/34*
*AFAD **16** 07:23:48.9±0.0, 36°.95N×27°.38E, h10km, ML3.6*
*ATH **16** 07:23:49.9, 36°.93N×27°.29E, h19km±5km, ML3.5/6, Manual Solution by M.Papanikolaou First location: 2019/05/14 20:14:47, This location: 2019/05/14 20:14:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km*
*THE **16** 07:23:49.2, 36°.97N×27°.39E, h10km, ML3.5/8, Error ellipse: s-maj=0.9km s-min=0.6km az=232.0*
ISC 16 07:23:49.1±0.7, 36°.95N±0°.02×27°.38E±0°.02, h11km±4km, n88, σ1§26/128, mb3.8/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTB	**Kemer-Bodrum**	**0.09**	**277**	Pg	**Pg**	**07 23 51.6**	**0.0**
RFTB				Sg	**Sg**	**07 23 53.4**	**0.0**
BDRM	**Kayabasi**	**0.12**	**24**	P	**Pg**	**07 23 51.9**	**-0.2**
BDRM				S	**Sg**	**07 23 53.9**	**-0.4**
BDRM				*i* AML	AML	07 23 54.0	
comp=E,9μm,0.3s							
BODT	**Bodrum**	**0.12**	**333**	Pg	**Pg**	**07 23 51.9**	**-0.2**
BODT				Sg	**Sg**	**07 23 54.1**	**-0.2**
BODT	**Bodrum**	**0.12**	**333**	P	**Pg**	**07 23 52.0**	**-0.2**
BODT				S	**Sg**	**07 23 54.3**	**0.0**
DAT	**Datca**	**0.27**	**145**	Pg	**Pg**	**07 23 54.9**	**+0.2**
DAT	**Datca**	**0.27**	**145**	P	**Pg**	**07 23 54.9**	**+0.2**
DAT				S	**Sb**	**07 23 59.6**	**-1.2**
DAT	**Datca**	**0.27**	**145**	P	**Pg**	**07 23 54.9**	**+0.2**
DAT				S	**Sb**	**07 23 59.4**	**-1.4**
DAT				*i* AML	AML	07 24 01.0	
comp=N,5μm,0.2s							
DAT				*i* AML	AML	07 24 01.0	
comp=E,6μm,0.2s							
RFTD	**Palamutbuku-Ka**	**0.29**	**161**	Pg	**Pg**	**07 23 55.1**	**+0.2**
RFTD				Sg	**Sb**	**07 23 59.9**	**-1.1**
RFTAA	**Mazikoy-Bodrum**	**0.30**	**81**	Pg	**Pg**	**07 23 54.9**	**-0.2**
RFTAA				Sg	**Sg**	**07 23 59.5**	**+0.4**
KLNA	**Kalymnos**	**0.33**	**271**	P	**Pg**	**07 23 55.7**	**+0.1**
KLNA				S	**Sg**	**07 24 00.1**	**+0.1**
KOSK	**Kos Island**	**0.38**	**238**	Pg	**Pg**	**07 23 56.9**	**+0.3**
KOSK	**Kos Island**	**0.38**	**238**	P	**Pg**	**07 23 57.0**	**+0.3**
KOSK				S	**Sb**	**07 24 03.0**	**-0.8**
6μm,0.4s							
KOSK	**Kos Island**	**0.38**	**238**	P	**Pg**	**07 23 56.9**	**+0.3**
KOSK				S	**Sg**	**07 24 01.6**	**0.0**
RFTC	**Emecik-Datca**	**0.39**	**116**	Pg	**Pg**	**07 23 56.8**	**0.0**
RFTC				Sg	**Sb**	**07 24 02.9**	**-1.2**
NISR	**Nisiros**	**0.40**	**211**	P	**Pg**	**07 23 57.4**	**+0.5**
NISR				S	**Sb**	**07 24 04.0**	**-0.2**
10μm,0.4s							
MLSB	**Milas**	**0.47**	**43**	Pg	**Pg**	**07 23 57.8**	**-0.4**
MLSB				Sg	**Sg**	**07 24 04.9**	**+0.5**
DDIM	**Aydin, Didim**	**0.52**	**348**	P	**Pg**	**07 23 58.8**	**-0.3**
DDIM				S	**Sb**	**07 24 07.0**	**-0.7**
DDIM				*i* AML	AML	07 24 08.0	
comp=E,5μm,0.5s							
DDIM				*i* AML	AML	07 24 09.0	
comp=N,6μm,0.4s							
TURN	**Turunc**	**0.71**	**104**	Pg	**Pg**	**07 24 02.7**	**-0.2**
TURN	**Turunc**	**0.71**	**104**	P	**Pg**	**07 24 02.5**	**-0.4**
TURN				S	**Sb**	**07 24 14.0**	**+0.5**
TURN				*i* AML	AML	07 24 15.0	
comp=N,4μm,0.6s							
TURN				*i* AML	AML	07 24 17.0	
comp=E,5μm,0.5s							
YER	**Yerkesik**	**0.74**	**76**	Pg	**Pg**	**07 24 03.4**	**-0.1**
YER	**Yerkesik**	**0.74**	**76**	P	**Pg**	**07 24 03.2**	**-0.3**
YER				S	**Sb**	**07 24 13.7**	**-0.7**
GCAM	**G?zelcaml?**	**0.76**	**351**	Pg	**Pg**	**07 24 03.1**	**-0.6**
GCAM	**G?zelcaml?**	**0.76**	**351**	P	**Pg**	**07 24 03.0**	**-0.7**
GCAM				S	**Sb**	**07 24 14.9**	**+0.3**
GCAM				*i* AML	AML	07 24 17.0	
comp=E,3μm,0.5s							
GCAM				*i* AML	AML	07 24 17.0	
comp=N,4μm,0.5s							
MULA	**Mugla, Merkez-**	**0.81**	**68**	P	**Pg**	**07 24 04.6**	**-0.1**
MULA				S	**Sb**	**07 24 16.3**	**0.0**
MULA				*i* AML	AML	07 24 19.0	
comp=N,1μm,0.3s							
MULA				*i* AML	AML	07 24 23.0	
comp=E,1μm,0.4s							
AYDN	**Tasoluk**	**0.81**	**29**	P	**Pg**	**07 24 04.1**	**-0.7**
AYDN				S	**Sb**	**07 24 15.6**	**-0.7**
AYDN				*i* AML	AML	07 24 19.0	
comp=N,7μm,0.4s							
AYDN				*i* AML	AML	07 24 20.0	
comp=E,3μm,0.4s							
SMG	**Samos**	**0.87**	**330**	P	**Pg**	**07 24 05.1**	**-0.8**
SMG				S	**Sb**	**07 24 17.9**	**0.0**
6μm,0.3s							
ARG	**Arkhangelos**	**0.95**	**141**	Pg	**Pb**	**07 24 07.6**	**0.0**
ARG				Sg	**Sn**	**07 24 21.4**	**-0.5**
ARG	**Arkhangelos**	**0.95**	**141**	P	**Pg**	**07 24 07.0**	**-0.4**
ARG				S	**Sn**	**07 24 21.6**	**-0.3**
6μm,0.5s							
ARG	**Arkhangelos**	**0.95**	**141**	P	**Pg**	**07 24 07.1**	**-0.2**
ARG				S	**Sn**	**07 24 21.1**	**-0.8**
DALY	**Dalyan (Mula)**	**1.03**	**97**	Pg	**Pb**	**07 24 08.9**	**0.0**
DALY				Sg	**Sn**	**07 24 23.9**	**0.0**
DGB	**zmir**	**1.17**	**340**	P	**Pb**	**07 24 10.1**	**-1.2**
DGB				S	**Sn**	**07 24 28.8**	**+1.5**
TAVA	**DENIZLI_Tavas**	**1.33**	**67**	P	**Pg**	**07 24 14.1**	**-0.5**
TAVA				S	**Sg**	**07 24 32.4**	**+0.5**
TAVA				*i* AML	AML	07 24 40.0	
comp=N,513nm,0.8s							
FETY	**Fethiye**	**1.40**	**103**	Pn	**Pg**	**07 24 15.9**	**-0.1**
KARP	**Karpathos**	**1.41**	**187**	Pn	**Pn**	**07 24 13.9**	**-0.9**
KARP	**Karpathos**	**1.41**	**187**	P	**Pn**	**07 24 14.0**	**-0.9**
KARP				S	**Sn**	**07 24 32.5**	**-1.0**
1μm,0.6s							
KARP	**Karpathos**	**1.41**	**187**	P	**Pn**	**07 24 13.9**	**-0.9**
ZEYE	**Izmir, Urla-Ze**	**1.46**	**332**	P	**Pb**	**07 24 16.1**	**-0.2**
ZEYE				S	**Sg**	**07 24 36.8**	**+0.7**
ZEYE				*i* AML	AML	07 24 38.0	
comp=N,504nm,0.5s							
DNIZ	**Denizli-Tavas-**	**1.48**	**63**	P	**Pb**	**07 24 16.3**	**-0.5**
DNIZ				S	**Sg**	**07 24 40.0**	**+3.1**
DNIZ				*i* AML	AML	07 24 43.0	
comp=N,1μm,0.3s							
DNIZ				*i* AML	AML	07 24 45.0	
comp=E,2μm,0.3s							
APE	**Apeiranthos**	**1.48**	**275**	Pn	**Pn**	**07 24 15.1**	**-0.8**
APE	**Apeiranthos**	**1.48**	**275**	P	**Pn**	**07 24 15.2**	**-0.6**
APE				S	**Sn**	**07 24 34.6**	**-0.7**
595nm,0.5s							
APE	**Apeiranthos**	**1.48**	**275**	P	**Pn**	**07 24 15.1**	**-0.8**
URLA	**Izmir**	**1.54**	**336**	Pn	**Pb**	**07 24 17.1**	**-0.5**
URLA	**Izmir**	**1.54**	**336**	P	**Pn**	**07 24 17.0**	**+0.4**
URLA				S	**Sg**	**07 24 39.5**	**+0.9**
URLA				*i* AML	AML	07 24 41.0	
comp=E,639nm,0.6s							
URLA				*i* AML	AML	07 24 44.0	
comp=N,832nm,0.7s							
CAME	**Cameli-Denizli**	**1.54**	**90**	P	**Pg**	**07 24 17.9**	**-0.8**
IZZE	**Mula-Seydike**	**1.57**	**109**	P	**Pb**	**07 24 18.1**	**0.0**
IZZE				S	**Sg**	**07 24 41.6**	**+2.0**
IZZE				*i* AML	AML	07 24 44.0	
comp=N,4μm,0.4s							
IZZE				*i* AML	AML	07 24 44.0	
comp=E,1μm,0.3s							
APMY	**Acipayam-Deniz**	**1.62**	**71**	Pn	**Pb**	**07 24 19.3**	**+0.2**
SANT	**Santorini**	**1.65**	**250**	Pn	**Pb**	**07 24 19.8**	**+0.2**
RFT5	**Foca**	**1.77**	**344**	Pn	**Pb**	**07 24 20.8**	**-0.9**
CHOS	**Chios island**	**1.78**	**324**	Pn	**Pn**	**07 24 20.2**	**+0.3**
CHOS	**Chios island**	**1.78**	**324**	P	**Pn**	**07 24 19.3**	**-0.6**
CHOS				S	**Sn**	**07 24 40.8**	**-1.7**
672nm,0.9s							
CHOS	**Chios island**	**1.78**	**324**	P	**Pn**	**07 24 19.6**	**-0.3**
GOMA	**Golmarmara-Man**	**1.80**	**13**	Pn	**Pb**	**07 24 21.7**	**-0.4**
KULA	**Kula-Manisa**	**1.86**	**33**	Pn	**Pn**	**07 24 21.2**	**+0.2**
KULA	**Kula-Manisa**	**1.86**	**33**	P	**Pn**	**07 24 20.6**	**-0.4**
KARB	**zmir-Karabur**	**1.87**	**336**	P	**Pn**	**07 24 20.1**	**-1.0**
KARB				S	**Sg**	**07 24 50.4**	**+1.1**
AKAS	**Kas**	**1.93**	**111**	Pn	**Pb**	**07 24 23.8**	**-0.6**
AKAS	**Kas**	**1.93**	**111**	P	**Pb**	**07 24 24.2**	**-0.2**
AKAS				S	**Sg**	**07 24 53.0**	**+1.9**
AKAS				*i* AML	AML	07 24 55.0	
comp=N,795nm,0.9s							
AKAS				*i* AML	AML	07 25 00.0	
comp=E,653nm,0.6s							
KSL	**Kastellorizon**	**1.95**	**114**	P	**Pn**	**07 24 23.0**	**+0.9**
AKS	**Akhisar**	**1.95**	**10**	Pn	**Pb**	**07 24 23.5**	**-1.2**
RFT7	**Candarli**	**2.03**	**350**	Pn	**Pb**	**07 24 25.0**	**-1.1**
ELL	**Elmali**	**2.04**	**95**	Pn	**Pb**	**07 24 25.5**	**-0.7**
ELL	**Elmali**	**2.04**	**95**	P	**Pb**	**07 24 25.5**	**-0.7**
OKL	**Dikili**	**2.15**	**350**	Pn	**Pb**	**07 24 26.7**	**-1.3**
PASA	**Karahalli, USA**	**2.18**	**50**	P	**Pn**	**07 24 25.5**	**+0.1**
PASA				S	**Sg**	**07 25 00.5**	**+1.4**
KHL	**Karahalli**	**2.18**	**51**	Pn	**Pb**	**07 24 27.1**	**-1.6**
BASM	**Basmaki-Afyon**	**2.33**	**65**	Pn	**Pn**	**07 24 28.7**	**+1.2**
KORT	**Korkueli**	**2.38**	**88**	Pn	**Pn**	**07 24 29.6**	**+1.4**
KORT	**Korkueli**	**2.38**	**88**	P	**Pb**	**07 24 30.9**	**-1.2**
KORT				S	**Sb**	**07 25 01.2**	**-0.3**
SIMA	**Simav-Kutahya**	**2.48**	**30**	Pn	**Pn**	**07 24 29.4**	**-0.1**
RFT2	**Karaagac**	**2.50**	**351**	Pn	**Pn**	**07 24 31.6**	**+1.9**
SIGR	**SIGRI**	**2.56**	**332**	P	**Pn**	**07 24 30.1**	**-0.4**
SIGR	**SIGRI**	**2.56**	**332**	P	**Pn**	**07 24 30.1**	**-0.4**
BCK	**Bucak**	**2.61**	**78**	Pn	**Pn**	**07 24 33.1**	**+1.8**
IDI	**Anoyia**	**2.61**	**231**	Pn	**Pn**	**07 24 33.3**	**+1.9**
1.7nm,0.3s,baz=48,slow=16,SNR=11							
5.8nm,0.4s							
GEDZ	**Gediz**	**2.63**	**37**	Pn	**Pn**	**07 24 33.4**	**+1.8**
BRTR	**Keskin Array B**	**5.64**	**59**	Pn	**Pn**	**07 25 14.9**	**+1.8**
0.6nm,0.3s,baz=239,slow=14,SNR=6.6							
BRTR				Sn	**Sn**	**07 26 16.7**	**-1.3**
0.1nm,0.3s,baz=260,slow=15,SNR=1.3							
2.5nm,0.5s							
MMAI	**Mount Meron Ar**	**7.67**	**118**	Pn	**Pn**	**07 25 39.7**	**-1.1**
1.5nm,0.3s,baz=304,slow=14,SNR=2.9							
MMAI				Sn	**Sn**	**07 27 01.9**	**-5.8**
5.2nm,0.3s,baz=307,slow=24,SNR=4.0							
1.1nm,0.2s							
MLR	**Muntele Rosu**	**8.60**	**353**	Pn	**Pn**	**07 25 56.4**	**+2.8**
0.2nm,0.3s,baz=156,slow=18,SNR=1.5							
MLR				LR	LR	07 29 16.3	
comp=Z,78nm,20.5s,baz=220,slow=38							
1.2nm,0.5s							
ASF	**Jabal al Asfar**	**9.18**	**119**	Pn	**Pn**	**07 26 01.9**	**+0.3**
0.4nm,0.3s,baz=333,slow=2.3,SNR=1.8							
ASF				Sn	**Sn**	**07 27 40.6**	**-4.3**
0.2nm,0.3s,baz=13,slow=9.0,SNR=1.5							
1.6nm,0.4s							
EIL	**Elat**	**9.63**	**137**	Pn	**Pn**	**07 26 08.

TWC				*e*S	**Sb**	**07 58 43.9**	**-1.9**
	baz=264						
HATJ	**Hateruma jima**	**1.09 134**	*e*S		**Sn**	**07 58 48.5**	**+1.0**
EWUT	**Wuta**	**1.13 251**	*e*P		**Pn**	**07 58 33.6**	**-0.1**
	baz=255						
EWUT				*e*S	**Sb**	**07 58 47.0**	**-1.8**
	baz=255						
JKRS	**Kuro-shima**	**1.13 121**	P		**Pn**	**07 58 33.7**	**-0.1**
JKRS			S		**Sn**	**07 58 49.5**	**+1.1**
NDS	**Dongshan**	**1.14 261**	*e*P		**Pb**	**07 58 34.8**	**+0.1**
	baz=266						
NDS				*e*S	**Sn**	**07 58 49.1**	**+0.5**
	baz=266						
ENA	**Nanau**	**1.17 251**	*e*P		**Pn**	**07 58 34.7**	**+0.4**
	baz=255						
ENA				*e*S	**Sb**	**07 58 48.0**	**-1.9**
	baz=255						
TWE	**Neicheng**	**1.17 265**	*e*P		**Pb**	**07 58 35.1**	**-0.2**
	baz=271						
TWE				*e*S	**Sb**	**07 58 49.7**	**-0.3**
	baz=271						
JIJ	**Ishigaki jima**	**1.18 112**	P		**Pn**	**07 58 34.2**	**-0.3**
FUSB	**Fushanzhiwuyua**	**1.24 267**	*e*P		**Pb**	**07 58 36.1**	**-0.4**
	baz=273						
FUSB				*e*S	**Sb**	**07 58 51.2**	**-0.8**
	baz=273						
JISG	**Ishigakijimahi**	**1.26 100**	P		**Pn**	**07 58 34.9**	**-0.7**
ENTT	**Nioudou**	**1.27 262**	P		**Pn**	**07 58 36.2**	**+0.4**
	baz=267						
ENTT			S		**Sn**	**07 58 50.8**	**-1.1**
	baz=267						
NDT	**Datong Townshi**	**1.32 261**	P		**Pn**	**07 58 37.0**	**+0.5**
	baz=265						
NDT			S		**Sn**	**07 58 52.3**	**-1.0**
	baz=265						
LATG	**Datong**	**1.32 258**	*e*P		**Pb**	**07 58 37.7**	**-0.3**
	baz=262						
LATG				*e*S	**Sn**	**07 58 53.7**	**+0.2**
	baz=262						
TATO	**Taipei**	**1.33 277**	P		**Pb**	**07 58 41.2**	**+3.1**
NACB	**Ninganchiao**	**1.39 243**	P		**Pb**	**07 58 39.0**	**0.0**
NACB	**Ninganchiao**	**1.39 243**	*e*P		**Pb**	**07 58 38.7**	**-0.3**
	baz=245						
NACB			S		**Sn**	**07 58 55.0**	**0.0**
	baz=245						
TWD	**Chiawan**	**1.44 239**	*e*P		**Pn**	**07 58 38.9**	**+0.9**
	baz=241						
TWD				*e*S	**Sn**	**07 58 56.4**	**+0.4**
	baz=241						
YHNB	**Yeheng**	**1.44 264**	P		**Pb**	**07 58 41.0**	**+1.1**
YHNB	**Yeheng**	**1.44 264**	*e*P		**Pb**	**07 58 39.5**	**-0.4**
	baz=268						
YHNB				*e*S	**Sn**	**07 58 56.8**	**+0.6**
	baz=268						
NSK	**Sanguang**	**1.45 265**	*e*P		**Pb**	**07 58 39.6**	**-0.6**
	baz=269						
NSK				*e*S	**Sn**	**07 58 57.4**	**+0.8**
	baz=269						
NNSB	**Datong**	**1.48 255**	*e*P		**Pn**	**07 58 39.4**	**+0.7**
	baz=258						
NNSB				*e*S	**Sn**	**07 58 57.0**	**-0.2**
	baz=258						
NNS	**Nan Shan**	**1.48 255**	P		**Pb**	**07 58 39.9**	**-0.7**
	baz=259						
NNS			S		**Sn**	**07 58 57.4**	**0.0**
	baz=259						
NFF	**Wufeng Townshi**	**1.67 264**	*e*P		**Pb**	**07 58 43.1**	**-0.8**
	baz=267						
NFF				*e*S	**Sn**	**07 59 02.9**	**+0.8**
	baz=267						
TDCB	**Techi**	**1.72 251**	*e*P		**Pn**	**07 58 43.2**	**+1.1**
	baz=254						
TDCB				*e*S	**Sn**	**07 59 03.6**	**+0.2**
	baz=254						
LIOB	**Emei**	**1.77 265**	*e*P		**Pn**	**07 58 43.8**	**+1.2**
	baz=268						
LIOB				*e*S	**Sn**	**07 59 05.4**	**+1.2**
	baz=268						
NSTT	**Nanjuang**	**1.78 264**	*e*P		**Pb**	**07 58 44.2**	**-1.4**
	baz=267						
NSTT				*e*S	**Sn**	**07 59 05.4**	**+0.9**
	baz=267						
CHGB	**Renai**	**1.79 245**	*e*P		**Pn**	**07 58 44.1**	**+1.0**
	baz=247						
CHGB				*e*S	**Sn**	**07 59 05.4**	**+0.4**
	baz=247						
WARBT	**Fenglin Townsh**	**1.80 233**	*e*P		**Pn**	**07 58 44.3**	**+1.3**
	baz=234						
WARBT				*e*S	**Sn**	**07 59 04.6**	**-0.5**
	baz=234						
WUSB	**Renai**	**1.86 244**	P		**Pn**	**07 58 45.0**	**+1.0**
	baz=246						
WUSB			S		**Sn**	**07 59 06.9**	**+0.2**
	baz=246						
WHP	**Taichung City**	**1.90 254**	P		**Pb**	**07 58 46.2**	**-1.6**
	baz=256						
WHP			S		**Sn**	**07 59 08.0**	**+0.3**
	baz=256						
HGSD	**Ruisui**	**1.92 227**	*e*P		**Pn**	**07 58 45.8**	**+1.1**
	baz=227						
HGSD				*e*S	**Sn**	**07 59 08.2**	**+0.2**
	baz=227						
VWDT	**VWDT**	**1.96 238**	P		**Pn**	**07 58 46.2**	**+1.0**
	baz=239						
VWDT				*e*S	**Sn**	**07 59 08.7**	**-0.3**
	baz=239						
WCS	**Beigang Elemen**	**2.00 248**	*e*P		**Pn**	**07 58 47.4**	**+1.5**
	baz=250						
WCS				*e*S	**Sn**	**07 59 11.1**	**+1.0**
	baz=250						
YULB	**Yu-li**	**2.07 227**	P		**Pb**	**07 58 49.9**	**-0.8**
YULB	**Yu-li**	**2.07 227**	*e*P		**Pn**	**07 58 47.6**	**+0.7**
	baz=227						
SMLT	**Sun Moon Lake**	**2.09 244**	*e*P		**Pn**	**07 58 48.8**	**+1.6**
	baz=245						
SSLB	**Suanglung**	**2.09 241**	P		**Pb**	**07 58 50.4**	**-0.6**
SSLB	**Suanglung**	**2.09 241**	*e*P		**Pn**	**07 58 48.8**	**+1.7**
	baz=242						
SSLB				*e*S	**Sn**	**07 59 12.6**	**+0.3**
	baz=242						
EYUL	**Yuli**	**2.09 226**	*e*P		**Pn**	**07 58 48.1**	**+1.0**
	baz=226						
TWF1	**Yuli**	**2.10 226**	*e*P		**Pn**	**07 58 47.6**	**+0.4**
	baz=226						
TYC	**Yuchr**	**2.11 245**	*e*P		**Pn**	**07 58 48.9**	**+1.5**
	baz=246						
FULB	**Fuli**	**2.21 223**	*e*P		**Pn**	**07 58 50.3**	**+1.5**
	baz=223						
FULB				*e*S	**Sn**	**07 59 15.5**	**+0.2**
	baz=223						
WHYT	**Xinyi Township**	**2.21 240**	*e*P		**Pn**	**07 58 50.5**	**+1.7**
	baz=241						
WHYT				*e*S	**Sn**	**07 59 15.7**	**+0.3**
	baz=241						
EHD	**Haiduan**	**2.30 224**	*e*P		**Pn**	**07 58 51.0**	**+1.0**
	baz=224						
ALS	**Alishan**	**2.35 237**	*e*P		**Pn**	**07 58 53.1**	**+2.2**
	baz=237						
WCKO	**Fanlu**	**2.54 238**	*e*P		**Pn**	**07 58 55.0**	**+1.7**
	baz=238						
STYH	**Taoyuan**	**2.58 231**	*e*P		**Pn**	**07 58 55.7**	**+1.9**
	baz=231						
CHN4	**Tsaushan**	**2.60 236**	*e*P		**Pn**	**07 58 56.2**	**+2.1**
	baz=237						
TPUB	**Ta-pu**	**2.60 235**	P		**Pb**	**07 58 57.6**	**-2.1**
TPUB	**Ta-pu**	**2.60 235**	*e*P		**Pn**	**07 58 55.2**	**+1.1**
	baz=235						
WTP	**Ta-pu**	**2.65 234**	*e*P		**Pn**	**07 58 56.2**	**+1.5**
	baz=234						
SLGT	**Liugui**	**2.78 230**	*e*P		**Pn**	**07 58 58.3**	**+1.7**
	baz=230						
TSMG	**Majia**	**2.98 225**	*e*P		**Pn**	**07 59 00.9**	**+1.6**
	baz=225						
MASBT	**Mashibuluo**	**3.06 224**	*e*P		**Pn**	**07 59 02.2**	**+1.9**
	baz=224						

*JMA **16** 08:18:45.1±0.1,24°.9N±0°.8×123°.0E±0°.6, h25km±2km, MV2.1/8, NW OFF ISHIGAKIJIMA IS*
*TAP **16** 08:18:45.6,24°.86N×122°.85E, h48km±1km, ML3.2, D*
ISC 16 08:18:43.9±1.4,24°.91N±0°.05×122°.94E±0°.04, h25km±12km, n54,σ1°.02/89, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45 172**		P	**Pb**	**08 18 53.2**	**0.0**
YOJ	**Yonaguni jima**	**0.45 172**		*e*P	**Pn**	**08 18 54.2**	**-0.6**
	baz=156						
YOJ				*e*S	**Sn**	**08 19 02.7**	**+0.7**
	baz=156						
JYNG	**Yonagunijimaku**	**0.45 180**		P	**Pb**	**08 18 53.6**	**+0.2**
JYNG				S	**Sb**	**08 18 59.5**	**-0.3**
EOS2	**EOS2**	**0.81 233**		*e*P	**Pn**	**08 19 00.2**	**+0.6**
	baz=237						
EOS2				*e*S	**Sn**	**08 19 11.2**	**+0.5**
	baz=237						
EOS3	**EOS3**	**0.84 223**		*e*P	**Pn**	**08 19 00.5**	**+0.5**
	baz=225						
EOS3				*e*S	**Sb**	**08 19 11.2**	**+0.6**
	baz=225						
TWB1	**Santiao Chiao**	**0.87 277**		*e*P	**Pn**	**08 19 00.6**	**0.0**
	baz=281						
TWB1				*e*S	**Sb**	**08 19 11.6**	**-0.1**
	baz=281						
EOS4	**EOS4**	**0.97 216**		P	**Pn**	**08 19 01.6**	**0.0**
	baz=214						
EOS4				S	**Sb**	**08 19 13.4**	**-0.6**
	baz=214						
SXI1	**Grass Mountain**	**0.99 281**		*e*P	**Pn**	**08 19 01.4**	**-0.9**
	baz=285						
SXI1				*e*S	**Sb**	**08 19 14.7**	**-0.4**
	baz=285						
TWC	**Suao**	**1.04 254**		P	**Pn**	**08 19 02.9**	**0.0**
	baz=255						
TWC				S	**Sb**	**08 19 14.6**	**-1.8**
	baz=255						
NDS	**Dongshan**	**1.15 257**		*e*P	**Pb**	**08 19 05.0**	**-0.1**
	baz=249						
NDS				*e*S	**Sn**	**08 19 18.9**	**-0.4**
	baz=249						
EWUT	**Wuta**	**1.16 247**		*e*P	**Pn**	**08 19 04.7**	**+0.3**
	baz=257						
EWUT				*e*S	**Sn**	**08 19 18.6**	**-0.8**
	baz=257						
TWE	**Neicheng**	**1.17 261**		*e*P	**Pb**	**08 19 05.3**	**-0.2**
	baz=254						
TWE				*e*S	**Sn**	**08 19 19.4**	**-0.5**
	baz=254						
JKRS	**Kuro-shima**	**1.18 124**		P	**Pn**	**08 19 05.1**	**+0.3**
ENA	**Nanau**	**1.19 247**		P	**Pb**	**08 19 05.6**	**-0.2**
	baz=255						
ENA				S	**Sn**	**08 19 18.6**	**-1.8**
	baz=255						
FUSB	**Fushanzhiwuyua**	**1.24 264**		P	**Pb**	**08 19 06.4**	**-0.3**
	baz=266						
FUSB				*e*S	**Sn**	**08 19 21.1**	**-0.6**
	baz=266						
ENTT	**Nioudou**	**1.28 258**		*e*P	**Pb**	**08 19 07.8**	**+0.5**
	baz=253						
ENTT				*e*S	**Sn**	**08 19 21.9**	**-0.7**
	baz=253						
JISG	**Ishigakijimahi**	**1.28 104**		*e*P	**Pn**	**08 19 06.3**	**+0.1**
TATO	**Taipei**	**1.32 273**		P	**Pb**	**08 19 12.2**	**+4.1**
NDT	**Datong Townshi**	**1.33 257**		*e*P	**Pb**	**08 19 07.9**	**-0.4**
	baz=251						
NDT				*e*S	**Sn**	**08 19 23.4**	**-0.6**
	baz=251						
LATG	**Datong**	**1.34 254**		P	**Pb**	**08 19 07.8**	**-0.7**
	baz=256						
LATG				S	**Sn**	**08 19 23.3**	**-0.9**
	baz=256						
NACB	**Ninganchiao**	**1.43 240**		P	**Pb**	**08 19 10.2**	**+0.3**
NACB	**Ninganchiao**	**1.43 240**		P	**Pb**	**08 19 09.4**	**-0.5**
	baz=235						
NACB				S	**Sn**	**08 19 25.6**	**-0.6**
	baz=235						
YHNB	**Yeheng**	**1.44 261**		P	**Pb**	**08 19 12.2**	**+2.0**
YHNB	**Yeheng**	**1.44 261**		*e*P	**Pb**	**08 19 09.7**	**-0.5**
	baz=255						
YHNB				*e*S	**Sn**	**08 19 26.5**	**-0.3**
	baz=255						
NSK	**Sanguang**	**1.46 261**		*e*P	**Pb**	**08 19 09.7**	**-0.7**
	baz=256						
NSK				*e*S	**Sn**	**08 19 26.7**	**-0.4**
	baz=256						
TWD	**Chiawan**	**1.48 236**		*e*P	**Pb**	**08 19 10.6**	**-0.1**
	baz=236						
TWD				*e*S	**Sn**	**08 19 27.7**	**+0.2**
	baz=236						
NNSB	**Datong**	**1.50 252**		*e*P	**Pn**	**08 19 09.8**	**+0.5**
	baz=253						
NNSB				*e*S	**Sn**	**08 19 27.1**	**-1.0**
	baz=253						
NNS	**Nan Shan**	**1.50 252**		*e*P	**Pn**	**08 19 10.2**	**+0.8**
	baz=253						
NNS				*e*S	**Sn**	**08 19 27.2**	**-1.0**
	baz=253						
NFF	**Wufeng Townshi**	**1.68 261**		*e*P	**Pb**	**08 19 13.2**	**-1.1**
	baz=262						
NFF				*e*S	**Sn**	**08 19 32.2**	**-0.4**
	baz=262						
TDCB	**Techi**	**1.75 249**		*e*P	**Pb**	**08 19 14.6**	**-0.9**
	baz=238						
TDCB				*e*S	**Sn**	**08 19 34.4**	**0.0**
	baz=238						
ESL	**Shilin**	**1.75 232**		*e*P	**Pn**	**08 19 13.4**	**+0.6**
	baz=231						
LIOB	**Emei**	**1.77 262**		*e*P	**Pb**	**08 19 14.5**	**-1.2**
	baz=263						
LIOB				*e*S	**Sn**	**08 19 34.6**	**-0.2**
	baz=263						
NSTT	**Nanjuang**	**1.79 262**		*e*P	**Pb**	**08 19 14.6**	**-1.4**
	baz=263						
NSTT				*e*S	**Sn**	**08 19 34.7**	**-0.4**
	baz=263						
CHGB	**Renai**	**1.82 243**		*e*P	**Pn**	**08 19 14.2**	**+0.4**
	baz=243						
CHGB				*e*S	**Sn**	**08 19 34.9**	**-1.3**
	baz=243						
WARBT	**Fenglin Townsh**	**1.85 231**		*e*P	**Pn**	**08 19 15.4**	**+1.4**
	baz=229						
WUSB	**Renai**	**1.90 242**		*e*P	**Pn**	**08 19 15.8**	**+1.0**
	baz=231						
WUSB				*e*S	**Sn**	**08 19 37.0**	**-1.0**
	baz=231						
WHP	**Taichung City**	**1.92 251**		*e*P	**Pb**	**08 19 17.6**	**-0.8**
	baz=243						
WHP				*e*S	**Sn**	**08 19 39.9**	**+1.3**
	baz=243						
HGSD	**Ruisui**	**1.98 225**		*e*P	**Pn**	**08 19 15.5**	**-0.3**
	baz=215						
VWDT	**VWDT**	**2.00 235**		*e*P	**Pn**	**08 19 17.1**	**+1.0**
	baz=235						
VWDT				*e*S	**Sn**	**08 19 39.5**	**-0.9**
	baz=235						
WCS	**Beigang Elemen**	**2.04 246**		*e*P	**Pn**	**08 19 18.0**	**+1.4**
	baz=236						
WCS				*e*S	**Sn**	**08 19 41.9**	**+0.7**
	baz=236						
SSLB	**Suanglung**	**2.13 239**		P	**Pb**	**08 19 23.1**	**+1.3**
SSLB	**Suanglung**	**2.13 239**		*e*P	**Pn**	**08 19 18.9**	**+1.0**
	baz=230						
SSLB				*e*S	**Sn**	**08 19 42.1**	**-1.5**
	baz=230						
YULB	**Yu-li**	**2.13 225**		P	**Pb**	**08 19 21.0**	**-0.8**
YULB	**Yu-li**	**2.13 225**		*e*P	**Pn**	**08 19 18.5**	**+0.6**
	baz=235						
EYUL	**Yuli**	**2.15 224**		*e*P	**Pn**	**08 19 19.0**	**+0.9**
	baz=215						
TYC	**Yuchr**	**2.15 243**		*e*P	**Pn**	**08 19 19.8**	**+1.6**
	baz=233						
TYC				*e*S	**Sn**	**08 19 44.3**	**+0.3**
	baz=233						
WHYT	**Xinyi Township**	**2.26 238**		*e*P	**Pn**	**08 19 21.0**	**+1.3**
	baz=228						
WHYT				*e*S	**Sn**	**08 19 47.4**	**+0.7**
	baz=228						
EHD	**Haiduan**	**2.36 223**		*e*P	**Pn**	**08 19 22.1**	**+0.9**
	baz=232						
CHN5	**Tsauling**	**2.44 238**		*e*P	**Pn**	**08 19 23.9**	**+1.5**
	baz=237						
CHN4	**Tsaushan**	**2.65 235**		*e*P	**Pn**	**08 19 27.5**	**+2.5**
	baz=225						
CHN4				*e*S	**Sn**	**08 19 58.2**	**+1.8**
	baz=225						
TPUB	**Ta-pu**	**2.65 233**		P	**Pb**	**08 19 30.0**	**-0.7**
TPUB	**Ta-pu**	**2.65 233**		*e*P	**Pn**	**08 19 26.5**	**+1.4**
	baz=223						
WTP	**Ta-pu**	**2.69 233**		*e*P	**Pn**	**08 19 27.1**	**+1.4**
	baz=223						
CHN1	**Nanshi**	**2.79 233**		*e*P	**Pn**	**08 19 28.2**	**+1.1**
	baz=231						

*IDC **16** 08:25:53.2±36.0, 1°.17N×122°.23E, h226km±161km, mb3.1/3, mbtmp3.7/4, Error ellipse: s-maj=482.3km s-min=214.0km az=166.0*
*DJA **16** 08:26:10.0±1.3, 0°S±23°×12°2E±°, h259km±10km, M2.6/5, MLv2.6/5*
ISC 16 08:26:08.2±1.1, 0°.7S±0°.1×122°.0E±0°.1, h250km, n7, σ0°.43/8, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.12 358**		P	**Pn**	**08 26 43.9**	**0.0**
MRSI				S	**S**	**08 27 11.8**	**-0.3**
GTOI	**Gorontalo**	**1.65 39**		P	**Pn**	**08 26 47.7**	**+0.1**
GTOI				S	**S**	**08 27 19.0**	**+0.3**
MPSI	**Mapaga**	**2.30 295**		P	**Pn**	**08 26 53.6**	**+0.2**
KAPI	**Kappang**	**4.87 207**		P	Pn	08 27 28.8	+6.4
	6.7nm,0.5s,baz=18,slow=16,SNR=4.1						
WRA	**Warramunga Arr**	**22.67 148**		P	**P**	**08 30 48.8**	**+0.3**
	0.6nm,0.5s,baz=328,slow=10,SNR=22						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**25.64 154**		P	**P**	**08 31 15.9**	**+0.6**
	0.4nm,0.6s,baz=333,slow=8.2,SNR=14						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**36.17 151**		P	**P**	**08 32 46.6**	**-0.5**
	0.7nm,0.4s,baz=328,slow=10,SNR=4.5						
	0.7nm,0.4s						

IDC 16 09:36:49.4±38.0, 17°.69S×178°.45E, h491km±300km, mb2.5/3, mbtmp3.5/3, Error ellipse: s-maj=1006.0km s-min=16.6km az=82.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**0.38 264**		P	P	09 37 48.8	+0.1
	5.8nm,0.6s,baz=82,slow=22,SNR=4.3						
STKA	**Stephens Creek**	**36.13 240**		P	P	09 43 09.6	+0.3
	0.5nm,0.4s,baz=67,slow=13,SNR=1.7						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**41.72 260**		P	P	09 43 54.2	-0.6
	0.3nm,1.0s,baz=95,slow=7.8,SNR=5.4						
	0.3nm,1.0s						
ASAR	**Alice Springs**	**41.97 254**		P	P	09 43 56.8	0.0
	0.4nm,0.5s,baz=88,slow=8.0,SNR=12						
	0.4nm,0.5s						

ATH 16 09:59:35.0, 38°.39N×22°.80E, h66km±9km, ML2.0/8, Manual Solution by M.Papanikolaou First location: 2019/05/14 20:48:24, This location: 2019/05/14 20:47:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 4 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.31 31**		P	Pn	09 59 45.7	-0.1
LKR				S	Sn	09 59 53.6	0.0
ATAL	**Atalanti**	**0.35 29**		P	Pn	09 59 46.3	+0.2
ATAL				S	Sn	09 59 55.2	+0.9
AXAR	**Agios Charalam**	**0.40 344**		P	Pn	09 59 46.9	+0.4
AXAR				S	Sn	09 59 56.3	+1.3
VIL2	**Platees**	**0.41 115**		P	Pn	09 59 47.3	+0.7
VIL2				S	Sn	09 59 56.8	+1.7
LOUT	**Loutraki**	**0.42 161**		P	Pn	09 59 46.9	+0.2
KALE	**Kalithea**	**0.52 271**		P	Pn	09 59 48.0	+0.3
GUR	**Goura**	**0.58 219**		P	Pn	09 59 48.6	+0.2
KLV	**Kalavryta, Ach**	**0.62 236**		P	Pn	09 59 48.8	+0.1
KLV				S	Sn	09 59 59.2	+0.4
LAKA	**Lakka**	**0.66 258**		P	Pn	09 59 49.8	+0.5
EFP	**Efpalio**	**0.70 274**		P	Pn	09 59 49.1	-0.5
ANX	**Ano Chora**	**0.72 287**		P	Pn	09 59 49.9	-0.1
AGG	**Agios Georgios**	**0.73 330**		P	Pn	09 59 49.8	-0.3
MAKR	**Makrakomi, Fth**	**0.82 320**		P	Pn	09 59 51.1	+0.1
DION	**Dionisos Attik**	**0.94 109**		P	Pn	09 59 52.7	+0.1
VLY	**Voula,Athens**	**0.95 124**		P	Pn	09 59 51.9	-0.7
NEO	**Neokhori**	**0.98 20**		P	Pn	09 59 51.8	-1.2

*AFAD **16** 10:00:19.7±0.0, 39°.69N×24°.15E, h2km±2km, ML2.7*
*ISK **16** 10:00:19.2, 39°.64N×24°.15E, h4km, ML2.6/13*
*THE **16** 10:00:21.4, 39°.62N×24°.20E, h22km±2km, ML2.6/7, Error ellipse: s-maj=2.0km s-min=0.8km az=195.0*
ISC 16 10:00:19.7±1.1, 39°.65N±0°.02×24°.16E±0°.02, h4km±10km, n43, σ0°.89/69, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XOR	**Xorichti**	**0.80 250**		P	**Pb**	**10 00 36.6**	**+0.4**
XOR				S	**Sb**	**10 00 47.5**	**+0.1**
	360nm,0.5s						
NEO	**Neokhori**	**0.80 245**		P	**Pb**	**10 00 36.6**	**+0.4**
NEO				S	**Sb**	**10 00 48.0**	**+0.6**
SKY	**Skiros Island**	**0.83 158**		P	**Pb**	**10 00 36.5**	**-0.2**
SKY				S	**Sg**	**10 00 46.8**	**+0.5**
	2μm,0.2s						
LIA	**Limnos Island**	**0.83 72**		P	**Pb**	**10 00 36.5**	**-0.2**
LIA				S	**Sb**	**10 00 47.7**	**-0.5**
	1μm,0.4s						
KYMI	**Kymi, Euboea I**	**1.01 183**		P	**Pb**	**10 00 39.5**	**-0.3**
KYMI				S	**Sg**	**10 00 52.4**	**+0.1**
	422nm,0.3s						
THAS	**Thassos island**	**1.05 24**		P	**Pg**	**10 00 39.7**	**-0.1**
KOKK	**Kokkinochori,**	**1.18 354**		P	**Pg**	**10 00 42.2**	**0.0**
KOKK				S	**Sg**	**10 00 57.7**	**+0.2**
	70nm,0.4s						
HORT	**Hortiatis**	**1.25 320**		Pn	**Pg**	**10 00 43.8**	**+0.2**
HORT				Sn	**Sn**	**10 01 01.8**	**+0.4**
HORT	**Hortiatis**	**1.25 320**		P	**Pb**	**10 00 43.9**	**0.0**
ATAL	**Atalanti**	**1.30 223**		P	**Pg**	**10 00 43.9**	**-0.7**
ATAL				S	**Sg**	**10 01 00.6**	**-0.8**
	92nm,0.6s						
SOH	**Sokhos**	**1.32 333**		P	**Pn**	**10 00 45.1**	**0.0**
SOH				S	**Sb**	**10 01 02.8**	**+0.3**
SMTH	**Samothraki Isl**	**1.34 52**		P	**Pn**	**10 00 43.1**	**-2.1**
SMTH				S	**Sg**	**10 01 00.4**	**-2.2**
KAVA	**Kavala**	**1.37 11**		P	**Pn**	**10 00 44.6**	**-1.1**
SIGR	**SIGRI**	**1.39 108**		Pn	**Pb**	**10 00 46.0**	**-0.2**
SIGR	**SIGRI**	**1.39 108**		P	**Pn**	**10 00 45.1**	**-0.7**
SIGR				S	**Sb**	**10 01 01.9**	**-2.3**
	98nm,0.5s						
GADA	**Gvkgeada**	**1.45 67**		Pn	**Pn**	**10 00 46.8**	**+0.1**
GADA				Sn	**Sg**	**10 01 07.2**	**+1.1**
GOKA	**anakkale-Gk**	**1.45 68**		P	**Pn**	**10 00 46.5**	**-0.3**
GOKA				S	**Sg**	**10 01 07.3**	**+1.0**
GOKA				*i* AML	AML	10 01 10.0	
	comp=N,254nm,0.5s						
GOKA				*i* AML	AML	10 01 10.0	
	comp=E,190nm,0.8s						
TYRN	**Tyrnavos**	**1.49 273**		P	**Pb**	**10 00 47.7**	**-0.2**
SRS	**Serrai**	**1.53 344**		P	**Pn**	**10 00 47.5**	**-0.4**
KOCA	**Canakkale, Ayv**	**1.54 95**		S	**Sn**	**10 01 07.9**	**-0.5**
EZN	**Ezine**	**1.68 83**		Pn	**Pn**	**10 00 50.3**	**+0.4**
EZN				Sn	**Sb**	**10 01 12.8**	**+0.1**
CNKL	**anakkale-Mer**	**1.77 76**		P	**Pb**	**10 00 53.0**	**+0.4**
CNKL				S	**Sg**	**10 01 17.1**	**+0.6**
CNKL				*i* AML	AML	10 01 22.0	
	comp=N,53nm,0.6s						
KNT	**Kendrikon**	**1.79 328**		P	**Pn**	**10 00 51.7**	**+0.2**
RDO	**Rodhopi**	**1.83 35**		Pn	**Pn**	**10 00 50.6**	**-1.4**
RDO	**Rodhopi**	**1.83 35**		P	**Pn**	**10 00 50.6**	**-1.4**
BAYC	**CANAKKALE_Bayr**	**1.85 86**		P	**Pb**	**10 00 54.1**	**0.0**
BAYC				S	**Sb**	**10 01 18.3**	**+0.8**
CAVK	**Edirne/Enez-Ca**	**1.86 55**		P	**Pg**	**10 00 55.2**	**-0.1**
CAVK				S	**Sg**	**10 01 21.6**	**+2.1**
ENEZ	**Enez**	**1.88 54**		Pn	**Pn**	**10 00 53.1**	**+0.5**
ENEZ				Sn	**Sb**

BUHA	**Balikesir, Bur**	**2.26**	**93**	P	**Pg**	**10 01 04.1**	**+1.1**
BUHA				S	**Sg**	**10 01 31.6**	**-0.7**
BUHA				*i* AML	AML	10 01 38.0	
	comp=N,38nm,0.6s						
PEHC	**Pehcevo**	**2.33**	**336**	*i* Pn	**Pn**	**10 00 59.5**	**+0.6**
PEHC				*i* Sn	**Sn**	**10 01 28.1**	**-0.1**
STIP	**Stip**	**2.54**	**324**	*i* Pn	**Pn**	**10 01 01.5**	**-0.1**
BALY	**Balya**	**2.67**	**87**	P	**Pg**	**10 01 11.3**	**+0.4**
BALY				S	**Sg**	**10 01 44.2**	**-1.3**

NIED ***16*** *10:05:56.7, 39°.42N×142°.46E, h33km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.98; Mθθ=1.55; Mφφ=0.43; Mrθ=0.64; Mφθ=1.22; Mφr=0.39; Fault plane solution: M0=2.30000×10^15 NP1: φs=256.00000°, δ=52.00000°, λ=-65.00000°. NP2: φs=39.00000°, δ=44.00000°, λ=-119.00000°.*
JMA ***16*** *10:05:56.7±0.1, 39°.4N±0°.2×142°.5E±0°.6, h33km, MD4.2/40, MV4.2/40, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .
IDC ***16*** *10:05:60.0±2.1, 39°.37N×142°.42E, h61km±18km, mb3.7/17, mbtmp4.0/22, MS3.2/14, Error ellipse: s-maj=18.0km s-min=12.1km az=111.0*
NEIC ***16*** *10:05:59.2±1.4, 39°.40N±0°.06×142°.5E±0°.1, h51km±9km, mb4.4/11, Error ellipse: s-maj=15.4km s-min=8.6km az=108.0*

ISC 16 10:05:56.9±1.5, 39°.38N±0°.04×142°.45E±0°.07, h30km±10km, n92, σ1.952/74, mb4.1/23, MS3.5/8, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.53**	**292**	*i* P	**Pb**	**10 06 07.3**	**-0.4**
MIYJ				S	**Sb**	**10 06 14.6**	**-0.5**
OFUJ	**Ofunato**	**0.67**	**244**	⇓*i*P	**Pb**	**10 06 10.1**	**-0.1**
OFUJ				⇓S	**Sb**	**10 06 19.6**	**+0.4**
OFUJ	**Ofunato**	**0.67**	**244**	A	A	10 06 10.1	
	comp=E,3.0nm,1.3s,comp=N,5.0nm,1.3s						
JTH	**Tanohata**	**0.72**	**321**	*i* P	**Pb**	**10 06 09.7**	**-1.2**
JTH				S	**Sb**	**10 06 19.2**	**-1.3**
JTH	**Tanohata**	**0.72**	**321**	A	A	10 06 09.7	
	comp=E,7.0nm,1.1s,comp=N,10.0nm,0.8s						
JOM	**Ohasama**	**0.90**	**276**	*i* P	**Pn**	**10 06 13.2**	**-0.2**
JOM				S	**Sb**	**10 06 25.0**	**-0.6**
JOM	**Ohasama**	**0.90**	**276**	A	A	10 06 13.2	
	comp=E,13nm,0.3s,comp=N,8.0nm,1.9s						
JKMT	**Kesennumamotoy**	**0.95**	**234**	⇓*i*P	**Pn**	**10 06 14.0**	**-0.1**
JKMT				⇓S	**Sn**	**10 06 26.2**	**-0.4**
JKEN	**Kujiedanarisaw**	**1.00**	**326**	A	A	10 06 14.2	
	comp=E,20nm,0.9s,comp=N,21nm,0.8s						
JMK	**Ichinoseki**	**1.04**	**246**	⇓*i*P	**Pn**	**10 06 15.6**	**+0.1**
JMK				⇓S	**Sb**	**10 06 29.5**	**-0.2**
JKZ	**Kuzumaki**	**1.05**	**305**	*i* P	**Pn**	**10 06 15.4**	**-0.2**
JKZ				S	**Sn**	**10 06 29.2**	**-0.2**
JKZ	**Kuzumaki**	**1.05**	**305**	A	A	10 06 15.4	
	comp=E,11nm,0.6s,comp=N,11nm,0.6s						
JSZI	**Iwateshizukuis**	**1.21**	**288**	A	A	10 06 17.8	
	comp=E,26nm,1.1s,comp=N,28nm,1.2s						
JANG	**Nango**	**1.23**	**324**	*i* P	**Pn**	**10 06 17.2**	**-0.8**
JANG	**Nango**	**1.23**	**324**	A	A	10 06 17.2	
	comp=E,3.0nm,1.2s,comp=N,4.0nm,0.8s						
JIO	**Ouri**	**1.26**	**223**	⇓*i*P	**Pn**	**10 06 18.6**	**+0.2**
JIO				⇓S	**Sn**	**10 06 34.0**	**-0.3**
JRG	**Rokugo**	**1.41**	**271**	*i* P	**Pn**	**10 06 21.3**	**+0.8**
JRG				S	**Sb**	**10 06 40.9**	**+0.8**
JRG	**Rokugo**	**1.41**	**271**	A	A	10 06 21.3	
	comp=E,7.0nm,0.4s,comp=N,6.0nm,2.9s						
JAH	**Hinai**	**1.61**	**301**	A	A	10 06 23.6	
	comp=E,8.0nm,2.3s,comp=N,5.0nm,1.0s						
JOU	**Okura**	**1.72**	**235**	A	A	10 06 25.8	
	comp=E,4.0nm,1.0s,comp=N,4.0nm,1.0s						
JYW	**Yuwa**	**1.74**	**276**	A	A	10 06 25.7	
	comp=E,15nm,0.9s,comp=N,15nm,1.5s						
JTM	**Tenmabayashi**	**1.76**	**323**		**Pn**	**10 06 25.6**	**+0.2**
JTM	**Tenmabayashi**	**1.76**	**323**	P	**Pn**	**10 06 25.8**	**+0.5**
JNTW	**Noshirotokiwa**	**1.97**	**298**	A	A	10 06 28.8	
	comp=E,11nm,1.5s,comp=N,12nm,2.7s						
JMM	**Marumori**	**1.99**	**221**		**Pn**	**10 06 29.2**	**+0.8**
JHHS	**Hirosakihyakuz**	**2.05**	**309**	A	A	10 06 29.8	
	comp=E,5.0nm,3.2s,comp=N,5.0nm,0.8s						
JAHD	**Aomorihigashid**	**2.07**	**336**	A	A	10 06 29.9	
	comp=E,5.0nm,2.3s,comp=N,7.0nm,1.4s						
JIW	**Iwasaki**	**2.23**	**304**	A	A	10 06 32.6	
	comp=E,4.0nm,1.2s,comp=N,4.0nm,3.8s						
JYA	**Atsumi**	**2.27**	**251**	A	A	10 06 33.6	
	comp=E,3.0nm,1.3s,comp=N,3.0nm,0.9s						
JSI2	**Shiura 2**	**2.29**	**318**	A	A	10 06 33.2	
	comp=E,4.0nm,2.0s,comp=N,5.0nm,0.9s						
JOG3	**Oga3**	**2.66**	**283**	A	A	10 06 30.9	
	comp=E,4.0nm,2.5s,comp=N,4.0nm,1.3s						
ERM	**Erimo**	**2.69**	**11**		**Pn**	**10 06 38.8**	**+0.7**
ERM	**Erimo**	**2.69**	**11**	P	**Pn**	**10 06 39.3**	**+1.2**
JEM	**Erimo**	**2.69**	**11**	P	**Pn**	**10 06 39.3**	**+1.2**
JSD	**Sado**	**3.54**	**249**		**Pn**	**10 06 51.7**	**+1.9**
JSD	**Sado**	**3.54**	**249**	P	**Pn**	**10 06 52.1**	**+2.3**
MAJO	**Matsushiro**	**4.39**	**231**	Pn	**Pn**	**10 07 04.6**	**+3.2**
MAJO	**Matsushiro**	**4.39**	**231**	P	**Pn**	**10 07 05.2**	**+3.7**
MJAR	**Matsushiro Arr**	**4.39**	**231**	P	**Pn**	**10 07 03.2**	**+1.7**
	comp=N,58nm,0.9s,baz=33,slow=11,SNR=152						
MJAR				LR	LR	10 08 55.5	
	comp=N,201nm,19.9s,baz=30,slow=40						
MJB9	**Matsu-Tunnel**	**4.39**	**231**		**Pn**	**10 07 04.5**	**+3.0**
ASAJ	**Asahikawa**	**4.74**	**1**	P	**Pn**	**10 07 07.2**	**+1.0**
	comp=N,14nm,0.4s,baz=159,slow=18,SNR=19						
ASAJ				S	**Sn**	**10 08 03.7**	**+3.6**
	comp=N,37nm,0.7s,baz=261,slow=7.6,SNR=4.4						
JKA	**Kamikawa-asahi**	**4.74**	**1**		**Pn**	**10 07 07.5**	**+1.3**
INU	**Inuyama**	**5.91**	**229**	Pn	**Pn**	**10 07 24.5**	**+2.2**
INU	**Inuyama**	**5.91**	**229**	P	**Pn**	**10 07 25.0**	**+2.7**
JMN	**Monobe**	**8.90**	**233**	P	**Pn**	**10 08 06.7**	**+3.2**
USA0B	**Ussuriysk Arra**	**9.18**	**305**	Pn	**Pn**	**10 08 10.3**	**+3.1**
USRK	**Ussuriysk Ar.**	**9.18**	**305**		**Pn**	**10 08 10.4**	**+3.3**
USRK	**Ussuriysk Ar.**	**9.18**	**305**	P	**Pn**	**10 08 09.9**	**+2.8**
	comp=N,4.7nm,0.6s,baz=122,slow=14,SNR=8.2						
USRK				LR	LR	10 11 28.9	
	comp=N,172nm,18.7s,baz=131,slow=36						
KSRS	**Korea Array**	**11.56**	**265**	P	**Pn**	**10 08 43.7**	**+4.0**
	comp=N,1.8nm,0.8s,baz=65,slow=32,SNR=3.7						
KSRS				LR	LR	10 12 41.5	
	comp=N,63nm,19.0s,baz=75,slow=35						
JCJ	**Chichijima**	**12.25**	**181**	LR	LR	10 17 58.3	
	comp=N,25nm,18.4s,baz=122,slow=59						
KLR	**Kul'dur**	**12.46**	**326**	P	**Pn**	**10 08 55.4**	**+3.3**
	comp=N,1.2nm,0.6s,baz=143,slow=1,SNR=3.9						
KLR				LR	LR	10 13 35.6	
	comp=N,118nm,21.1s,baz=166,slow=36						
PETK	**Petropavlovsk-**	**17.26**	**32**	LR	LR	10 16 04.2	
	comp=N,46nm,21.6s,baz=211,slow=35						
MA2	**Magadan**	**20.89**	**12**	P	**P**	**10 10 36.8**	**+0.4**
	comp=N,4.6nm,0.5s,baz=192,slow=12,SNR=4.2						
MA2				LR	LR	10 20 03.4	
	comp=N,46nm,18.2s,baz=190,slow=40						
	comp=N,4.6nm,0.5s						
GUMO	**Guam**	**25.78**	**175**	LR	LR	10 21 00.3	
	comp=N,32nm,21.3s,baz=358,slow=35						
SONM	**Songino Array**	**27.24**	**300**	P	**P**	**10 11 37.6**	**-0.7**
	comp=N,0.5nm,0.4s,baz=97,slow=10,SNR=3.2						
	comp=N,0.5nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.75**	**126**	T	T	10 42 18.8	
	baz=318,slow=75,SNR=186						
H11N1	**WAKE ISLAND Hy**	**28.76**	**126**	T	T	10 42 19.5	
	baz=318,slow=75,SNR=132						
H11N3	**WAKE ISLAND Hy**	**28.77**	**126**	T	T	10 42 20.2	
	baz=318,slow=75,SNR=144						
H11S1	**WAKE ISLAND Hy**	**29.55**	**128**	T	T	10 43 28.4	
	baz=318,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**29.55**	**128**	T	T	10 43 27.9	
	baz=318,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy**	**29.57**	**128**	T	T	10 43 26.5	
	baz=318,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**40.98**	**310**	P	**P**	**10 13 36.6**	**-0.1**
	comp=N,1.8nm,0.5s,baz=86,slow=8.2,SNR=4.8						
ZALV				PcP	**PcP**	**10 15 36.3**	**-0.1**
	comp=N,0.7nm,0.4s,baz=92,slow=3.3,SNR=2.5						
ZALV				LR	LR	10 31 18.6	
	comp=N,55nm,18.6s,baz=168,slow=37						
	comp=N,1.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**42.91**	**254**	P	**P**	**10 13 52.5**	**-0.4**
	comp=N,0.6nm,0.3s,baz=47,slow=5.8,SNR=4.5						
	comp=N,0.6nm,0.3s						
E19K	**Redstone River**	**43.03**	**29**	P	**P**	**10 13 53.2**	**-0.1**
E19K				IAmb	IAmb	10 14 06.4	
	comp=Z,9.5nm,1.2s						
MK31	**Makanchi Array**	**43.60**	**300**	P	**P**	**10 13 58.1**	**-0.2**
MKAR	**Makanchi Array**	**43.60**	**300**	P	**P**	**10 13 57.2**	**-1.0**
MKAR	**Makanchi Array**	**43.60**	**300**	P	**P**	**10 13 57.9**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=85,slow=9.9,SNR=7.5						
MKAR				PcP	**PcP**	**10 15 45.0**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=77,slow=4.2,SNR=2.1						
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**45.16**	**306**	P	**P**	**10 14 10.0**	**-0.6**
KURK				IAmb	IAmb	10 14 11.0	
	comp=Z,5.0nm,0.9s						
KURBB	**Kurchatov Arra**	**45.24**	**306**	P	**P**	**10 14 10.6**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=81,slow=8.2,SNR=13						
	comp=Z,2.3nm,0.5s						
MLY	**Manley**	**45.44**	**33**	P	**P**	**10 14 12.5**	**-0.2**
MLY				IAmb	IAmb	10 14 49.2	
	comp=Z,4.8nm,1.3s						
ILAR	**Eielson Array**	**47.09**	**34**	P	**P**	**10 14 25.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=265,slow=6.4,SNR=11						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**49.62**	**311**	P	**P**	**10 14 44.1**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=69,slow=9.4,SNR=4.7						
	comp=Z,1.2nm,0.6s						
AAK	**Ala-Archa**	**50.12**	**297**	LR	LR	10 35 40.9	
	comp=Z,20nm,19.1s,baz=138,slow=36						
ABKAR	**Akbulak array**	**57.07**	**309**	P	**P**	**10 15 39.8**	**-0.2**
ABKAR				IAmb	IAmb	10 15 40.4	
	comp=Z,3.1nm,0.7s						
EUNU	**Eureka**	**57.75**	**9**	P	**P**	**10 15 44.5**	**+0.1**
EUNU				IAmb	IAmb	10 16 19.5	
	comp=Z,4.0nm,1.3s						
WB0	**Warramunga Arr**	**59.31**	**189**	P	**P**	**10 15 55.5**	**-0.5**
WRAB	**Tennant Creek**	**59.48**	**189**	P	**P**	**10 15 56.5**	**-0.6**
WRAB				IAmb	IAmb	10 15 57.0	
	comp=Z,4.1nm,0.8s						
WR0	**Warramunga Arr**	**59.49**	**189**	P	**P**	**10 15 55.7**	**-1.4**
WB2	**Warramunga Arr**	**59.49**	**189**	P	**P**	**10 15 56.5**	**-0.6**
WB2				IAmb	IAmb	10 15 56.9	
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**59.49**	**189**	P	**P**	**10 15 56.3**	**-0.9**
WRA	**Warramunga Arr**	**59.49**	**189**	P	**P**	**10 15 56.3**	**-0.9**
	comp=Z,3.5nm,0.7s,baz=6.4,slow=6.9,SNR=51						
	comp=Z,3.5nm,0.7s						
ASAR	**Alice Springs**	**63.22**	**189**	P	**P**	**10 16 22.1**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=9.4,slow=6.0,SNR=23						
	comp=Z,1.7nm,0.8s						
FINES	**FINESS Array B**	**67.12**	**332**	P	**P**	**10 16 47.1**	**-0.1**
FINES	**FINESS Array B**	**67.12**	**332**	P	**P**	**10 16 46.4**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=46,slow=4.0,SNR=2.3						
	comp=Z,2.8nm,0.8s						
HFS	**Hagfors**	**72.29**	**336**	P	**P**	**10 17 18.7**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=54,slow=7.3,SNR=1.8						
HFS				LR	LR	10 52 14.0	
	comp=Z,43nm,19.3s,baz=352,slow=38						
	comp=Z,1.3nm,0.6s						
NOA	**NORSAR Array B**	**72.34**	**337**	P	**P**	**10 17 18.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=43,slow=17,SNR=1.4						
NOA				LR	LR	10 52 21.8	
	comp=Z,23nm,19.5s,baz=250,slow=38						
	comp=Z,0.2nm,0.3s						
AKASG	**Malin Array Be**	**72.94**	**322**	P	**P**	**10 17 21.8**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=44,slow=5.6,SNR=5.1						
	comp=Z,0.8nm,0.4s						
NVAR	**Mina Array Bea**	**72.94**	**54**	P	**P**	**10 17 23.1**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=297,slow=7.0,SNR=4.5						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**75.45**	**46**	P	**P**	**10 17 37.9**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=331,slow=2.3,SNR=5.2						
	comp=Z,0.3nm,0.5s						
MLR	**Muntele Rosu**	**78.12**	**320**	LR	LR	10 53 15.1	
	comp=Z,26nm,21.5s,baz=67,slow=36						
TXAR	**Lajitas Array**	**88.06**	**53**	P	**P**	**10 18 44.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=314,slow=5.7,SNR=2.8						
	comp=Z,0.2nm,0.5s						
ESDC	**Sonseca Array**	**95.54**	**335**	LR	LR	11 11 09.2	
	comp=Z,54nm,20.1s,baz=328,slow=41						

ROM 16 10:09:58.5±0.1, 42°.840N±0°.004×13°.221E±0°.004, h9km, ML1.3/22, Error ellipse: s-maj=0.3km s-min=0.3km az=3.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	**Monte Cornacci**	**0.08**	**343**	P	Pg	10 10 01.0	+0.2
NRCA	**Norcia**	**0.08**	**265**	P	Pg	10 10 00.9	+0.2
NRCA				S	Sg	10 10 02.5	+0.2
NRCA				AML	AML		
	comp=E,2430μm,0.1s						
NRCA				AML	AML		
	comp=N,1890μm,0.1s						
NRCA				AML	AML		
	comp=N,2095μm,0.1s						
NRCA				AML	AML		
	comp=E,2615μm,0.1s						
NRCA				AML	AML		
	comp=N,1895μm,0.1s						
T1214	**Arquata del Tr**	**0.08**	**186**	P	Pg	10 10 01.0	+0.2
T1214				S	Sg	10 10 02.8	+0.3
T1214				AML	AML		
	comp=E,584μm,0.2s						
T1214				AML	AML		
	comp=N,543μm,0.3s						
T1214				AML	AML		
	comp=N,543μm,0.3s						
T1214				AML	AML		
	comp=E,584μm,0.2s						
T1214				AML	AML		
	comp=N,526μm,0.1s						
T1214				AML	AML		
	comp=E,616μm,0.2s						
MMO1	**Montemonaco**	**0.10**	**53**	P	Pg	10 10 01.2	+0.3
MMO1				S	Sg	10 10 03.2	+0.5
MTRA	**Matera**	**0.15**	**123**	P	Pg	10 10 02.5	+0.7
MTRA				S	Sg	10 10 05.2	+1.1
MTRA				AML	AML		
	comp=E,257μm,0.4s						
MTRA				AML	AML		
	comp=N,263μm,0.5s						
MTRA				AML	AML		
	comp=E,257μm,1.6s						
MTRA				AML	AML		
	comp=E,296μm,0.5s						
MTRA				AML	AML		
	comp=N,220μm,0.2s						
FDMO	**Fiordimonte**	**0.22**	**333**	P	Pg	10 10 03.9	+1.0
FDMO				AML	AML		
	comp=E,54μm,0.7s						
FDMO				AML	AML		
	comp=N,64μm,0.6s						
FDMO				AML	AML		
	comp=N,64μm,1.4s						
FDMO				AML	AML		
	comp=E,54μm,1.3s						
MF5	**Montefalcone A**	**0.23**	**50**	P	Pg	10 09 56.8	-6.4
T1221	**Campello sul C**	**0.28**	**274**	P	Pg	10 10 04.7	+0.7
T1221				S	Sb	10 10 09.5	-1.0
GAVE	**Gavelli**	**0.28**	**239**	P	Pg	10 10 04.9	+0.8
GAVE				S	Sb	10 10 09.8	-0.9
CESI	**CESI - Serrava**	**0.28**	**305**	P	Pg	10 10 05.0	+0.8
CESI				S	Sb	10 10 09.9	-0.9
CESI				AML	AML		
	comp=E,66μm,1.0s						
CESI				AML	AML		
	comp=N,101μm,1.6s						
CESI				AML	AML		
	comp=N,101μm,0.4s						
RM33	**Pellescritta (**	**0.33**	**181**	P	Pg	10 10 05.7	+0.6
RM33				S	Sb	10 10 11.8	-0.2
RM33				AML	AML		
	comp=E,39μm,1.6s						
RM33				AML	AML		
	comp=N,26μm,0.4s						
RM33				AML	AML		
	comp=E,39μm,1.6s						
TERO	**Teramo**	**0.36**	**127**	P	Pg	10 10 06.0	+0.5
TERO				S	Sb	10 10 11.6	-1.1
TERO				AML	AML		
	comp=E,41μm,0.5s						
TERO				AML	AML		
	comp=N,42μm,0.4s						
ASSB	**Assisi San Ben**	**0.46**	**296**	P	Pg	10 10 08.1	+0.7
ASSB				AML	AML		
	comp=N,20μm,0.3s						
ASSB				AML	AML		
	comp=E,21μm,0.3s						
EL6	**Elcito**	**0.50**	**350**	P	Pb	10 10 08.9	-0.5

STR 16 10:11:31.5±0.6, 45°.7N±3°.×°.±°, h5km, MLv0.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=89.4, preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Stroppo**	**0.04**	**256**	Pg	Pg	10 11 33.0	+0.1
PZZ				Sg	Sg	10 11 34.1	+0.2
STV	**Sant Anna di V**	**0.29**	**159**	Sg	Sg	10 11 41.4	+0.3
STV	**Sant Anna di V**	**0.29**	**159**	Pg	Pg	10 11 37.3	+0.1
BHB	**Bricherasio**	**0.33**	**11**	Pg	Pg	10 11 37.7	-0.2
BHB	**Bricherasio**	**0.33**	**11**	Sg	Sg	10 11 42.4	+0.1
ENR	**Entracque**	**0.34**	**149**	Pg	Pg	10 11 38.0	-0.1
ENR	**Entracque**	**0.34**	**149**	Sg	Sg	10 11 42.9	+0.3
ISO	**Isola**	**0.35**	**195**	Pg	Pg	10 11 38.2	-0.1
ISO				Sg	Sg	10 11 42.8	-0.1
CREF	**Crivoux**	**0.40**	**275**	Pg	Pg	10 11 37.3	-2.0
SPIF	**crte de Spivo**	**0.46**	**175**	Pg	Pg	10 11 40.5	0.0
SPIF				Sg	Sg	10 11 46.9	+0.4
ENAUX	**Enaux**	**0.50**	**215**	Pg	Pg	10 11 41.4	+0.2
ENAUX				Sg	Sg	10 11 48.0	+0.3

JMA ***16*** *10:14:20.1±0.3, 25°.0N±0°.9×123°.0E±0°.8, h13km, MV2.0/10, NW OFF ISHIGAKIJIMA IS*
TAP ***16*** *10:14:22.4, 24°.81N×122°.89E, h4km±1km, ML2.7, D*

ISC 16 10:14:19.4±1.5, 24°.88N±0°.07×122°.96E±0°.03, h20km±10km, n18, σ0.955/24, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42**	**174**	P	**Pn**	**10 14 29.9**	**-0.4**
YOJ				S	**Sn**	**10 14 36.7**	**-0.9**
YOJ	**Yonaguni jima**	**0.42**	**174**	*e*P	**Pn**	**10 14 30.0**	**-0.4**
	baz=162						
YOJ				*i* S	**Sb**	**10 14 34.2**	**0.0**
	baz=162						
JYNG	**Yonagunijimaku**	**0.43**	**182**	P	**Pn**	**10 14 30.0**	**-0.5**
EOS2	**EOS2**	**0.81**	**235**	*e*P	**Pn**	**10 14 35.9**	**+0.3**
	baz=237						
EOS3	**EOS3**	**0.83**	**225**	*e*P	**Pn**	**10 14 36.2**	**+0.3**
	baz=224						
EOS3				*i* S	**Sg**	**10 14 46.8**	**0.0**
	baz=224						
IRIF	**Iriomote-Funau**	**0.89**	**128**	*e*P	**Pn**	**10 14 37.7**	**+0.9**
IRIF				*e*S	**Sn**	**10 14 49.6**	**+0.6**
EOS4	**EOS4**	**0.96**	**218**	*e*P	**Pg**	**10 14 38.2**	**+0.1**
	baz=217						
EOS4				*i* S	**Sg**	**10 14 50.8**	**+0.1**
	baz=217						
SXI1	**Grass Mountain**	**1.01**	**282**	*e*P	**Pg**	**10 14 37.8**	**-1.3**
	baz=287						
JKRS	**Kuro-shima**	**1.15**	**124**	*e*P	**Pg**	**10 14 42.0**	**+0.2**
JKRS				S	**Sg**	**10 14 56.9**	**0.0**
JIJ	**Ishigaki jima**	**1.19**	**115**	*e*P	**Pg**	**10 14 42.3**	**-0.3**
ENA	**Nanau**	**1.20**	**248**	*e*P	**Pg**	**10 14 42.8**	**+0.1**
	baz=249						
FUSB	**Fushanzhiwuyua**	**1.25**	**265**	*e*P	**Pg**	**10 14 44.3**	**+0.6**
	baz=267						
JISG	**Ishigakijimahi**	**1.26**	**103**	*e*P	**Pg**	**10 14 43.6**	**-0.3**
ENTT	**Nioudou**	**1.29**	**260**	*e*P	**Pg**	**10 14 45.2**	**+0.8**
	baz=261						
LATG	**Datong**	**1.35**	**255**	*i* P	**Pg**	**10 14 45.6**	**+0.1**
	baz=257						
NACB	**Ninganchiao**	**1.43**	**241**	*e*P	**Pg**	**10 14 46.8**	**-0.3**
	baz=241						
YHNB	**Yeheng**	**1.46**	**262**	*e*P	**Pg**	**10 14 48.3**	**+0.7**
	baz=264						
NNSB	**Datong**	**1.50**	**253**	*e*P	**Pg**	**10 14 48.2**	**-0.3**
	baz=254						

SOME ***16*** *10:29:59.6, 41°.78N×70°.30E, h0km*
KRNET ***16*** *10:29:59.0±0.1, 41°.84N×70°.19E, h19km, mb2.4*
NNC ***16*** *10:30:00.2±1.1, 41°.81N×70°.21E, h6km±4km, mb2.7, mpv2.5, Error ellipse: s-maj=7.7km s-min=3.9km az=35.0*
ISU ***16*** *10:30:00.9, 41°.81N×70°.33E, h6km*

ISC 16 10:30:00.9±1.1, 41°.83N±0°.03×70°.22E±0°.04, h9km±11km, n19, σ0.993/32, 17C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMG	**Chimgan**	**0.32**	**209**	P	**Pg**	**10 30 06.6**	**-0.7**
CHMG				S	**Sg**	**10 30 12.1**	**+0.5**
IUG	**Iuzhnay**	**0.34**	**336**	P	**Pg**	**10 30 07.9**	**+0.2**
	77nm,0.4s						
IUG				S	**Sb**	**10 30 14.1**	**-0.8**
	96nm,0.4s						
IUG	**Iuzhnay**	**0.34**	**336**	*e*P	**Pg**	**10 30 07.9**	**+0.2**
	76nm,0.1s						
IUG				*e*S	**Sg**	**10 30 13.3**	**+1.0**
	75nm,0.3s						
TRKS	**Terek-Say**	**0.76**	**113**	⇑*e*P	**Pg**	**10 30 14.8**	**-0.6**
	baz=17						
TRKS				⇑*e*S	**Sb**	**10 30 26.4**	**-0.3**
	baz=17						
KK31	**Karatay Array**	**1.29**	**10**	⇑P	**Pn**	**10 30 24.6**	**-0.5**
	0.4nm,0.3s,baz=193,slow=17,SNR=18						
KK31				⇑S	**Sg**	**10 30 42.4**	**0.0**
	5.1nm,0.6s,baz=190,slow=30,SNR=9.8						
KKAR	**Karatay Array**	**1.29**	**10**	⇑*e*P	**Pn**	**10 30 22.9**	**-2.2**
	baz=11						
KKAR				⇑*e*S	**Sb**	**10 30 40.4**	**-1.6**
	baz=11						
ARK	**Arkit**	**1.31**	**91**	⇑*e*P	**Pn**	**10 30 24.0**	**-1.4**
	baz=91						
ARK				⇑*e*S	**Sb**	**10 30 41.6**	**-1.0**
	baz=91						
ARK	**Arkit**	**1.31**	**91**	P	**Pn**	**10 30 24.0**	**-1.4**
ARK				S	**Sb**	**10 30 41.6**	**-1.0**
MNAS	**Manas**	**1.82**	**68**	⇓*e*P	**Pn**	**

HNR LR LR 10 33 11.0
comp=Z,3μm,18.8s,baz=202,slow=42
DZM Mont Dzumac 12.62 157 P **Pn 10 35 01.2 -1.0**
0.2nm,0.3s,baz=10,slow=11,SNR=10
6.3nm,0.8s
CTA Charters Tower 17.24 235 P **P 10 36 03.5 +0.7**
0.2nm,0.3s,baz=52,slow=7.4,SNR=5.0
CTA LR LR 10 41 18.0
comp=Z,68nm,19.8s,baz=80,slow=32
4.1nm,0.8s
WRA Warramunga Arr 27.49 247 P **P 10 37 46.5 +0.4**
0.9nm,0.7s,baz=76,slow=9.1,SNR=14
0.9nm,0.7s
STKA Stephens Creek 27.95 217 P **P 10 37 51.0 +1.0**
1.1nm,0.7s,baz=25,slow=4.9,SNR=2.2
1.1nm,0.7s
ASAR Alice Springs 29.09 240 P **P 10 37 59.7 -0.6**
0.6nm,0.9s,baz=64,slow=10,SNR=6.3
ASAR LR LR 10 49 33.8
comp=Z,80nm,18.6s,baz=62,slow=36
0.6nm,0.9s
KAPI Kappang 41.33 274 LR LR 10 57 59.3
comp=Z,18nm,18.2s,baz=102,slow=38
KSRS Korea Array 56.92 329 LR LR 11 05 58.6
comp=Z,6.1nm,18.1s,baz=355,slow=36
USRK Ussuriysk Ar. 60.48 336 P **P 10 42 09.2 +0.5**
1.4nm,0.6s,baz=197,slow=5.8,SNR=4.1
1.4nm,0.6s
SONM Songino Array 75.56 325 P **P 10 43 44.3 +0.8**
0.8nm,0.4s,baz=140,slow=5.6,SNR=3.6
0.8nm,0.4s
QSPA South Pole Qui 79.55 180 P **P 10 44 05.8 +0.4**
1.7nm,0.9s,baz=47,slow=0.1,SNR=6.1
1.7nm,0.9s
ILAR Eielson Array 84.44 20 P **P 10 44 31.2 +0.3**
0.2nm,0.4s,baz=245,slow=5.1,SNR=6.9
0.2nm,0.4s
MKAR Makanchi Array 90.01 318 P **P 10 44 57.7 -0.5**
0.1nm,0.4s,baz=90,slow=4.3,SNR=2.1
0.1nm,0.4s

---

*IDC **16** 10:58:01.0±1.8, 18°.92N×145°.50E, h195km±17km,*
mb3.3/11, mbtmp3.9/13, MS2.6/2, Error ellipse:
s-maj=24.5km s-min=11.1km az=87.0
*NEIC **16** 10:58:01.4±1.0, 18°.9N±0°.1×145°.3E±0°.3, h187km±11km,*
mb4.2/21, Error ellipse: s-maj=36.3km s-min=15.6km
az=94.0
ISC 16 10:58:02.8±0.7,**18°.87N**±0°.06×**145°.3E**±0°.2,**h214**km,**n44,**
σ1°**38**/45,**mb4.0**/22,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.27**	**184**	Pn	**Pn**	**10 59 17.4**	**-3.6**
GUMO	**Guam**	**5.27**	**184**	P	**Pn**	**10 59 20.5**	**-0.5**
	96nm,1.1s,baz=158,slow=7.3,SNR=2.3						
GUMO				S	**S**	**11 00 22.3**	**-0.4**
	19nm,0.3s,baz=251,slow=23,SNR=1.3						
JCJ	**Chichijima**	**8.66**	**341**	P	**Pn**	**11 00 03.8**	**-0.7**
	60nm,0.9s,baz=302,slow=21,SNR=1.9						
JCJ				S	**S**	**11 01 37.5**	**-4.6**
	30nm,0.6s,baz=272,slow=24,SNR=1.3						
MJAR	**Matsushiro Arr**	**18.66**	**342**	LR	LR	11 08 31.0	
	comp=Z,17nm,18.3s,baz=250,slow=34						
ASAJ	**Asahikawa**	**25.27**	**355**	LR	LR	11 13 28.8	
	comp=Z,17nm,20.3s,baz=62,slow=37						
WB0	**Warramunga Arr**	**39.86**	**196**	P	**P**	**11 05 16.4**	**+0.6**
WB0				IAmb	IAmb	11 05 40.2	
	comp=Z,9.4nm,1.4s						
WRAB	**Tennant Creek**	**40.03**	**196**	P	**P**	**11 05 17.9**	**+0.7**
WRAB				IAmb	IAmb	11 05 42.7	
	comp=Z,10.0nm,1.4s						
WB2	**Warramunga Arr**	**40.03**	**196**	P	**P**	**11 05 18.1**	**+0.9**
WRA	**Warramunga Arr**	**40.04**	**196**	P	**P**	**11 05 18.2**	**+0.9**
WRA	**Warramunga Arr**	**40.04**	**196**	P	**P**	**11 05 17.8**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=25,slow=8.6,SNR=23						
WRA				PcP	**PcP**	**11 07 17.3**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=17,slow=3.5,SNR=1.5						
	comp=Z,0.4nm,0.4s						
SONM	**Songino Array**	**42.75**	**321**	P	**P**	**11 05 40.9**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=138,slow=9.1,SNR=1.8						
	comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	**43.71**	**195**	P	**P**	**11 05 46.9**	**0.0**
ASAR	**Alice Springs**	**43.71**	**195**	P	**P**	**11 05 47.7**	**+0.7**
ASAR	**Alice Springs**	**43.71**	**195**	P	**P**	**11 05 47.4**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=13,slow=6.3,SNR=9.8						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.05**	**314**	P	**P**	**11 07 35.0**	**+1.4**
MKAR	**Makanchi Array**	**58.05**	**314**	P	**P**	**11 07 35.5**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=87,slow=8.8,SNR=5.1						
	comp=Z,0.4nm,0.6s						
H18K	**Honhosa River**	**59.13**	**24**	P	**P**	**11 07 41.5**	**+0.8**
H18K				IAmb	IAmb	11 08 07.5	
	comp=Z,5.4nm,1.2s						
C19K	**Lookout Ridge**	**60.38**	**20**	P	**P**	**11 07 50.3**	**+1.2**
KURBB	**Kurchatov Arra**	**60.92**	**318**	P	**P**	**11 07 53.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=101,slow=5.0,SNR=2.0						
	comp=Z,0.4nm,0.3s						
CAST	**Castle Rocks**	**61.12**	**27**	P	**P**	**11 07 55.2**	**+1.0**
CAST				IAmb	IAmb	11 07 55.8	
	comp=Z,2.4nm,0.9s						
IMAR	**Indian Mountai**	**61.23**	**24**	P	**P**	**11 07 56.0**	**+1.2**
H21K	**Melozitna River**	**61.49**	**25**	P	**P**	**11 07 57.5**	**+0.9**
H21K				IAmb	IAmb	11 08 12.0	
	comp=Z,4.9nm,1.3s						
BPAW	**Bear Paw Mtn.**	**61.78**	**27**	P	**P**	**11 07 59.6**	**+1.0**
BPAW				IAmb	IAmb	11 08 38.0	
	comp=Z,7.1nm,1.4s						
MLY	**Manley**	**62.14**	**26**	P	**P**	**11 08 01.9**	**+0.9**
MLY				IAmb	IAmb	11 08 44.1	
	comp=Z,5.4nm,1.5s						
D22K	**Ayikyak River**	**62.58**	**21**	P	**P**	**11 08 05.4**	**+1.6**
E22K	**Anaktuvuk Pass**	**62.64**	**22**	P	**P**	**11 08 05.8**	**+1.6**
E22K				IAmb	IAmb	11 08 12.6	
	comp=Z,4.4nm,1.1s						
H24K	**Noodor Dome**	**63.50**	**25**	P	**P**	**11 08 10.6**	**+0.6**
HDA	**Harding Lake**	**63.57**	**27**	P	**P**	**11 08 09.5**	**-0.9**
HDA				IAmb	IAmb	11 08 19.3	
	comp=Z,8.4nm,1.4s						
TOLK	**Toolik Lake Re**	**63.58**	**22**	P	**P**	**11 08 11.6**	**+1.2**
ILAR	**Eielson Array**	**63.67**	**26**	P	**P**	**11 08 10.0**	**-1.0**
ILAR	**Eielson Array**	**63.67**	**26**	P	**P**	**11 08 10.0**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=255,slow=5.2,SNR=7.1						
	comp=Z,0.5nm,0.7s						
G24K	**Hadweenzic Riv**	**63.86**	**24**	P	**P**	**11 08 12.8**	**+0.6**
G24K				IAmb	IAmb	11 08 55.1	
	comp=Z,6.7nm,1.4s						
D24K	**Happy Valley**	**63.98**	**21**	P	**P**	**11 08 14.0**	**+1.0**
J25K	**Salcha River,**	**64.28**	**27**	P	**P**	**11 08 13.2**	**-1.9**
J25K				IAmb	IAmb	11 08 37.2	
	comp=Z,5.8nm,1.4s						
SCRK	**Sand Creek**	**64.77**	**27**	P	**P**	**11 08 18.5**	**+0.2**
D25K	**Kavik River**	**64.87**	**21**	P	**P**	**11 08 19.3**	**+0.5**
BMAR	**Burnt Mountain**	**65.12**	**24**	P	**P**	**11 08 21.9**	**+1.5**
BCAR	**Beaver Creek A**	**65.62**	**29**	P	**P**	**11 08 24.6**	**+0.9**
BVAR	**Borovoye Array**	**66.08**	**320**	P	**P**	**11 08 27.7**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=96,slow=5.3,SNR=3.3						
	comp=Z,0.9nm,0.4s						
ABKAR	**Akbulak array**	**72.93**	**317**	P	**P**	**11 09 09.0**	**+0.3**
ARCES	**ARCESS Array B**	**82.20**	**342**	P	**P**	**11 10 01.1**	**+1.6**
	comp=Z,10nm,1.1s,baz=50,slow=5.3,SNR=5.5						
	comp=Z,10nm,1.1s						
NVAR	**Mina Array Bea**	**83.35**	**52**	P	**P**	**11 10 06.4**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=268,slow=5.8,SNR=16						
	comp=Z,1.5nm,0.7s						
FINES	**FINESS Array B**	**86.56**	**335**	P	**P**	**11 10 20.7**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=66,slow=5.0,SNR=7.9						
	comp=Z,0.5nm,0.3s						
PDAR	**Pinedale Array**	**87.99**	**45**	P	**P**	**11 10 27.7**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=294,slow=3.1,SNR=2.2						
	comp=Z,0.2nm,0.7s						

---

*NIED **16** 11:07:03.5, 35°.94N×141°.05E, h18km, MW3.4, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^14Nm;
Mrr=0.47; Mθθ=0.93; Mφφ=1.41; Mrθ=0.28; Mφφ=0.09; Mφr=0.26;
Fault plane solution: M0=1.26000×10^14 NP1:
φs=141.00000°, δ=77.00000°, λ=-155.00000°. NP2:
φs=45.00000°, δ=66.00000°, λ=-14.00000°.
*JMA **16** 11:07:03.5±0.2, 35°.9N±0°.4×141°.1E±0°.8, h18km±1km,*
MV3.7/36, E OFF IBARAKI PREF
*IDC **16** 11:07:10.5±1.6, 34°.90N×137°.96E, h0km, mb3.5/2,*
mbtmp3.5/2, Error ellipse: s-maj=117.7km s-min=24.6km
az=97.0
ISC 16 11:07:05.6±1.3,**36°.02N**±0°.04×**140°.90E**±0°.09,**h32**km±9km,
n10,σ0°**98**/18,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.31**	**261**	P	**Pb**	**11 07 12.6**	**-0.8**
JIHU				S	**Sb**	**11 07 19.4**	**+0.8**
JHYU	**Hitachinakayam**	**0.41**	**322**	*i* P	**Pb**	**11 07 14.8**	**0.0**
JHYU				S	**Sb**	**11 07 22.2**	**+1.1**
JSMT	**Sammumatsuo**	**0.52**	**225**	*e* P	**Pb**	**11 07 15.3**	**-1.2**
JSMT				S	**Sb**	**11 07 23.2**	**-0.7**
JYT	**Yasato**	**0.61**	**291**	*i* P	**Pb**	**11 07 17.5**	**-0.4**
JYT				*e* S	**Sb**	**11 07 27.6**	**+1.3**
JHO	**Hitachi**	**0.65**	**336**	*i* P	**Pb**	**11 07 18.1**	**-0.5**
JHO				S	**Sn**	**11 07 28.6**	**+0.8**
ONAJ	**Iwakimizuishiy**	**1.09**	**356**	P	**Pn**	**11 07 23.8**	**-0.8**
ONAJ				*e* S	**Sb**	**11 07 39.8**	**-0.1**
BSO4	**Boso 4**	**1.12**	**204**	*e* P	**Pb**	**11 07 26.2**	**-0.2**
BSO4				*e* S	**Sb**	**11 07 42.4**	**+1.8**
MJAR	**Matsushiro Arr**	**2.24**	**284**	Pn	**Pn**	**11 07 40.6**	**+0.2**
	1.0nm,0.3s,baz=191,slow=8.6,SNR=53						
MJAR				Sn	**Sb**	**11 08 11.2**	**-1.4**
	1.1nm,0.3s,baz=339,slow=25,SNR=3.4						
WRA	**Warramunga Arr**	**56.00**	**187**	P	**P**	**11 16 41.0**	**0.0**
	0.8nm,0.9s,baz=6.4,slow=7.5,SNR=3.9						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**59.73**	**187**	P	**P**	**11 17 07.5**	**+0.4**
	0.3nm,0.8s,baz=21,slow=8.6,SNR=5.5						
	0.3nm,0.8s						

---

*MEX **16** 11:11:32.6±0.4, 15°.10N×93°.04W, h89km±6km, MD4.0*
*GCG **16** 11:11:35.8±1.1, 15°.11N×92°.94W, h35km±999km, MD3.7*
ISC 16 11:11:34.2±1.4,**15°.13N**±0°.07×**93°.04W**±0°.05,**h58**km±17km,
n14,σ1°**06**/26,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.60**	**343**	*i* P	**Pn**	**11 11 47.1**	**-0.1**
PCIG				*e* S	**Sn**	**11 11 58.4**	**+1.8**
PATR	**El Naranjo**	**0.78**	**90**	*i* P	**Pn**	**11 11 48.6**	**-1.0**
PATR				*i* S	**Sn**	**11 12 01.0**	**+0.3**
THIG		**0.78**	**106**	*e* P	**Pn**	**11 11 48.3**	**-1.0**
THIG				*e* S	**Sn**	**11 12 00.5**	**+0.2**
PAVE	**Pavencul**	**0.84**	**85**	*i* P	**Pn**	**11 11 49.5**	**-0.7**
PAVE				*i* S	**Sn**	**11 12 02.8**	**+0.7**
CHUJ	**Union Juarez**	**0.90**	**92**	*i* P	**Pn**	**11 11 50.0**	**-1.0**
CHUJ				*i* S	**Sn**	**11 12 03.7**	**+0.2**
CCIG	**Comitan**	**1.44**	**37**	*i* P	**Pn**	**11 11 58.7**	**+0.5**
CCIG				*i* S	**Sn**	**11 12 15.8**	**-0.4**
STG3	**Santiaguito 3,**	**1.48**	**106**	*e* P	**Pn**	**11 11 58.5**	**-0.2**
STG3				*e* S	**Sn**	**11 12 17.2**	**+0.1**
SULM	**Suchitepequez,**	**1.64**	**120**	*e* P	**Pn**	**11 12 01.1**	**+0.3**
SULM				*e* S	**Sn**	**11 12 20.4**	**-0.5**
TGIG		**1.65**	**357**	*i* P	**Pn**	**11 11 59.6**	**-1.2**
TGIG				*e* S	**Sn**	**11 12 19.6**	**-1.4**
NILT	**Santiago Nilte**	**2.09**	**314**	*e* P	**Pn**	**11 12 07.2**	**+0.4**
NILT				*i* S	**Sn**	**11 12 32.3**	**+0.6**
FUG	**Fuego 3**	**2.23**	**107**	*e* P	**Pn**	**11 12 10.2**	**+1.2**
FUG				*e* S	**Sn**	**11 12 36.5**	**+1.1**
UXUV	**UXUV**	**2.43**	**334**	*e* P	**Pn**	**11 12 10.8**	**-0.6**
UXUV				*i* S	**Sn**	**11 12 42.5**	**+2.5**
CMIG	**Matias Romero**	**2.64**	**318**	*e* P	**Pn**	**11 12 13.0**	**-1.4**
CMIG				*e* S	Sn	11 12 38.8	-6.4
HUIG	**Huatulco**	**3.03**	**283**	*e* P	**Pn**	**11 12 18.5**	**-1.2**

---

*JMA **16** 11:31:01.7±0.1, 24°.9N±0°.7×123°.0E±0°.5, h21km±2km,*
MV2.7/14, NW OFF ISHIGAKIJIMA IS
*IDC **16** 11:31:16.8±9.7, 24°.80N×122°.61E, h148km±104km,*
mb3.4/7, mbtmp3.9/8, MS3.0/9, Error ellipse: s-maj=87.5km
s-min=14.4km az=64.0
ISC 16 11:31:01.1±0.8,**24°.85N**±0°.06×**122°.94E**±0°.06,**h10**km,**n24,**
σ1°**28**/20,**mb3.7**/7,**MS3.0**/5,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.39**	**170**	P	**Pn**	**11 31 10.9**	**-1.9**
YOJ				*e* S	**Sb**	**11 31 17.2**	**+1.1**
JYNG	**Yonagunijimaku**	**0.39**	**179**	P	**Pn**	**11 31 11.0**	**-1.8**
JYNG				*e* S	**Sb**	**11 31 17.8**	**+1.6**
IRIF	**Iriomote-Funau**	**0.88**	**125**	P	**Pb**	**11 31 18.6**	**+0.1**
IRIF				S	**Sg**	**11 31 30.4**	**+0.7**
HATJ	**Hateruma jima**	**1.11**	**135**	*e* S	**Sb**	**11 31 37.3**	**+0.2**
JKRS	**Kuro-shima**	**1.15**	**122**	P	**Pn**	**11 31 22.9**	**-0.4**
JIJ	**Ishigaki jima**	**1.20**	**113**	P	**Pn**	**11 31 22.9**	**-1.0**
JIJ				S	**Sb**	**11 31 37.3**	**-2.2**
JISG	**Ishigakijimahi**	**1.28**	**101**	P	**Pn**	**11 31 23.5**	**-1.5**
JTJ	**Tarama**	**1.62**	**97**	*e* P	**Pn**	**11 31 29.4**	**-0.3**
JOW	**Kunigami**	**5.20**	**66**	LR	LR	11 34 28.6	
	comp=Z,103nm,18.1s,baz=10,slow=35						
JNU	**Nakatsue**	**10.78**	**38**	LR	LR	11 39 31.4	
	comp=Z,39nm,18.9s,baz=200,slow=45						
KSRS	**Korea Array**	**13.27**	**18**	P	**P**	**11 34 21.7**	**+2.2**
	2.1nm,1.0s,baz=191,slow=12,SNR=4.3						
KSRS				LR	LR	11 40 12.1	
	comp=Z,38nm,19.4s,baz=195,slow=40						
MJAR	**Matsushiro Arr**	**17.54**	**45**	LR	LR	11 41 57.4	
	comp=Z,33nm,21.3s,baz=212,slow=36						
ASAJ	**Asahikawa**	**25.03**	**35**	LR	LR	11 46 57.6	
	comp=Z,49nm,18.5s,baz=303,slow=37						
KLR	**Kul'dur**	**25.30**	**14**	LR	LR	11 47 12.1	
	comp=Z,32nm,18.1s,baz=198,slow=38						
SONM	**Songino Array**	**26.42**	**334**	P	**P**	**11 36 38.0**	**-0.1**
	0.4nm,0.3s,baz=155,slow=8.6,SNR=4.4						
	0.4nm,0.3s						
PETK	**Petropavlovsk-**	**38.43**	**34**	LR	LR	11 54 58.1	
	comp=Z,22nm,18.1s,baz=184,slow=37						
MKAR	**Makanchi Array**	**38.99**	**315**	P	**P**	**11 38 27.6**	**-0.1**
	1.0nm,0.7s,baz=101,slow=10,SNR=7.4						
	1.0nm,0.7s						
MA2	**Magadan**	**39.77**	**22**	LR	LR	11 55 17.3	
	comp=Z,25nm,18.4s,baz=228,slow=36						
ZALV	**Zalesovo Beam**	**40.58**	**326**	P	**P**	**11 38 40.2**	**-0.4**
	1.4nm,0.7s,baz=108,slow=9.5,SNR=4.6						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**42.65**	**319**	P	**P**	**11 38 56.9**	**-0.8**
	0.8nm,0.8s,baz=110,slow=9.0,SNR=5.1						
	0.8nm,0.8s						
AAK	**Ala-Archa**	**43.39**	**307**	LR	LR	12 00 38.9	
	comp=Z,29nm,18.1s,baz=36,slow=41						
WRA	**Warramunga Arr**	**45.88**	**165**	P	**P**	**11 39 24.0**	**+0.1**
	2.1nm,0.8s,baz=346,slow=8.5,SNR=17						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**49.38**	**167**	P	**P**	**11 39 52.1**	**+1.1**
	0.8nm,0.9s,baz=348,slow=8.5,SNR=12						
	0.8nm,0.9s						
FINES	**FINESS Array B**	**71.68**	**330**	P	**P**	**11 42 21.7**	**-1.2**
	3.0nm,0.8s,baz=57,slow=10,SNR=4.4						
	3.0nm,0.8s						

---

*MEX **16** 11:32:34.0±0.6, 13°.64N×92°.57W, h10km, MD4.0*
*GCG **16** 11:32:37.4±0.3, 13°.96N×92°.35W, h79km±13km, MD4.1*
ISC 16 11:32:33.8±3.0,**13°.7N**±0°.2×**92°.5W**±0°.1,**h28**km±18km,**n10,**
σ1°**03**/18,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**1.06**	**55**	*e* P	**Pb**	**11 32 54.4**	**+1.0**
THIG		**1.21**	**9**	*e* P	**Pn**	**11 32 54.9**	**-0.1**
THIG				*e* S	**Sn**	**11 33 09.1**	**-1.4**
STG3	**Santiaguito 3,**	**1.32**	**41**	*e* P	**Pb**	**11 32 57.9**	**-0.3**
STG3				*e* S	**Sn**	**11 33 13.8**	**+0.3**
PATR	**El Naranjo**	**1.42**	**9**	*i* P	**Pn**	**11 32 57.5**	**-0.6**
PATR				*i* S	**Sn**	**11 33 16.1**	**0.0**
CHUJ	**Union Juarez**	**1.42**	**14**	*i* P	**Pn**	**11 32 57.7**	**-0.4**
CHUJ				*i* S	**Sn**	**11 33 16.6**	**+0.6**
PAVE	**Pavencul**	**1.51**	**11**	*i* P	**Pn**	**11 32 58.8**	**-0.4**
PAVE				*i* S	**Sn**	**11 33 17.8**	**-0.3**
FUG	**Fuego 3**	**1.74**	**65**	*e* P	**Pb**	**11 33 03.9**	**-1.3**
PCIG		**2.12**	**340**	*e* P	**Pn**	**11 33 07.2**	**-0.2**
PCIG				*i* S	**Sn**	**11 33 32.0**	**-0.9**
CCIG	**Comitan**	**2.58**	**7**	*e* P	**Pn**	**11 33 16.6**	**+2.6**
CCIG				*e* S	**Sb**	**11 33 50.8**	**-0.2**
TGIG		**3.12**	**348**	*e* P	**Pn**	**11 33 22.6**	**+1.3**
TGIG				*i* S	**Sn**	**11 33 57.8**	**0.0**

---

*NIED **16** 11:47:01.2, 35°.95N×141°.06E, h18km, MW3.4, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^14Nm;
Mrr=0.35; Mθθ=1.17; Mφφ=1.53; Mrθ=0.48; Mφφ=0.30; Mφr=0.32;
Fault plane solution: M0=1.53000×10^14 NP1:
φs=144.00000°, δ=78.00000°, λ=-156.00000°. NP2:
φs=49.00000°, δ=66.00000°, λ=-13.00000°.
*JMA **16** 11:47:01.2±0.2, 36°.0N±0°.4×141°.1E±0°.8, h18km±1km,*
MV3.9/36, E OFF IBARAKI PREF
JMA Felt I J1 at E OFF IBARAKI PREF .
*IDC **16** 11:47:08.1±1.4, 34°.91N×138°.12E, h0km, mb3.6/2,*
mbtmp3.6/2, Error ellipse: s-maj=93.1km s-min=23.8km
az=94.0
ISC 16 11:47:01.1±1.6,**35°.97N**±0°.04×**141°.08E**±0°.08,**h17**km±10km,
n10,σ0°**78**/18,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.45**	**270**	*i* P	**Pb**	**11 47 10.3**	**-0.2**
JIHU				S	**Sb**	**11 47 17.2**	**+0.3**
JHYU	**Hitachinakayam**	**0.54**	**313**	*i* P	**Pg**	**11 47 12.1**	**+0.2**
JHYU				S	**Sb**	**11 47 19.7**	**0.0**
JSMT	**Sammumatsuo**	**0.60**	**238**	*i* P	**Pb**	**11 47 13.2**	**-0.1**
JSMT				S	**Sb**	**11 47 21.2**	**-0.3**
JHO	**Hitachi**	**0.76**	**328**	*i* P	**Pb**	**11 47 15.8**	**0.0**
JHO				S	**Sg**	**11 47 26.5**	**+0.5**
JYT	**Yasato**	**0.76**	**290**	*i* P	**Pb**	**11 47 15.2**	**-0.7**
JYT				S	**Sb**	**11 47 25.2**	**-0.7**
BSO4	**Boso 4**	**1.15**	**212**	*e* P	**Pg**	**11 47 22.9**	**-0.4**
BSO4				*e* S	**Sg**	**11 47 39.3**	**+1.0**
ONAJ	**Iwakimizuishiy**	**1.15**	**349**	*i* P	**Pn**	**11 47 21.6**	**-0.9**
ONAJ				*e* S	**Sb**	**11 47 37.5**	**+0.2**
MJAR	**Matsushiro Arr**	**2.39**	**285**	Pn	**Pn**	**11 47 38.1**	**-1.4**
	1.4nm,0.3s,baz=188,slow=12,SNR=78						
MJAR				Sn	**Sn**	**11 48 10.0**	**+1.7**
	0.7nm,0.3s,baz=106,slow=32,SNR=2.8						
WRA	**Warramunga Arr**	**55.97**	**188**	P	**P**	**11 56 39.0**	**+0.4**
	0.9nm,0.8s,baz=4.5,slow=7.2,SNR=12						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**59.70**	**188**	P	**P**	**11 57 05.1**	**+0.4**
	0.4nm,0.8s,baz=14,slow=8.5,SNR=7.7						
	0.4nm,0.8s						

---

*BJI **16** 12:02:31.9±0.0, 6°.36S×147°.65E, h192km, mb4.5/20,*
mB5.1/14
*IDC **16** 12:02:37.7±1.6, 5°.52S×147°.49E, h204km±17km, mb3.9/11,*
mbtmp4.5/15, MS2.9/2, Error ellipse: s-maj=20.7km
s-min=12.2km az=107.0
*DJA **16** 12:02:38.5±0.4, 6°.S±3°×14°.7E±°, h187km±6km, M4.7/18,*
mB4.9/6, mb4.6/18, MLv5.1/3, Mw(mB)4.2/6
*NEIC **16** 12:02:38.4±1.3, 5°.59S±0°.06×147°.35E±0°.09, h184km±6km,*
mb4.9/20, Error ellipse: s-maj=13.6km s-min=6.6km
az=115.0
ISC 16 12:02:38.2±0.4,**5°.63S**±0°.05×**147°.39E**±0°.05,**h200**km,**n179,**
σ1°**58**/176,**mb4.6**/29,**1C-1D,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.56**	**360**		**Pn**	**12 03 33.9**	**-0.7**
PMG	**Port Moresby**	**3.76**	**183**	P	**Pn**	**12 03 37.0**	**-0.1**
PMG	**Port Moresby**	**3.76**	**183**	P	**Pn**	**12 03 36.9**	**-0.1**
	100nm,0.3s,baz=35,slow=9.8,SNR=158						
PMG				S	**Sn**	**12 04 19.6**	**-3.8**
	251nm,0.4s,baz=24,slow=7.1,SNR=5.3						
KRVT	**Keravat (AS076**	**4.80**	**74**	P	**Pn**	**12 03 48.7**	**-1.4**
	332nm,0.7s,baz=322,slow=0.7,SNR=53						
RABL	**Rabaul**	**4.96**	**74**		**Pn**	**12 03 51.9**	**-0.3**
RABL	**Rabaul**	**4.96**	**74**	P	**Pn**	**12 03 52.5**	**+0.3**
COEN	**Coen**	**9.26**	**206**	P	**Pn**	**12 04 44.4**	**-3.6**
	baz=9.7						
COEN	**Coen**	**9.26**	**206**	Pn	**Pn**	**12 04 50.0**	**+2.0**
COEN	**Coen**	**9.26**	**206**	P	**Pn**	**12 04 50.3**	**+2.3**
MTSU	**Mount Surprise**	**12.79**	**193**	P	**P**	**12 05 35.6**	**-1.1**
	baz=13,SNR=16						
HNR	**Honiara**	**13.01**	**108**		**P**	**12 05 36.4**	**-2.7**
HNR	**Honiara**	**13.01**	**108**	P	**P**	**12 05 39.4**	**+0.3**
HNR	**Honiara**	**13.01**	**108**	P	**Pn**	**12 05 35.0**	**-0.9**
	3μm,0.5s,baz=324,slow=2.9,SNR=11						
TV1H	**Townsville Har**	**13.57**	**182**	P	**P**	**12 05 45.6**	**+0.3**
CTA	**Charters Tower**	**14.42**	**184**	P	**P**	**12 05 55.9**	**+1.2**
CTA	**Charters Tower**	**14.42**	**184**	P	**P**	**12 05 55.5**	**+0.8**
	49nm,0.8s,baz=3.2,slow=12,SNR=37						
CTAO	**Charters Tower**	**14.42**	**184**	P	**P**	**12 05 55.6**	**+0.8**
CTAO	**Charters Tower**	**14.42**	**184**	P	**P**	**12 05 56.0**	**+1.2**
FAKI	**Fak Fak**	**15.34**	**279**		**P**	**12 06 03.8**	**-1.2**
SAUI	**Saumlaki**	**16.15**	**261**	P	**Pn**	**12 06 13.3**	**-1.1**
SAUI	**Saumlaki**	**16.15**	**261**	P	**Pn**	**12 06 14.4**	**-0.1**
	79nm,0.7s						
KDU	**Kakadu**	**16.31**	**243**	P	**Pn**	**12 06 15.3**	**-1.1**
	baz=16,SNR=28						
KDU	**Kakadu**	**16.31**	**243**	P	**Pn**	**12 06 15.8**	**-0.6**
PATS	**Pohnpei**	**16.49**	**42**	P	**P**	**12 06 14.8**	**-2.9**
	baz=16,SNR=4.9						
PATS	**Pohnpei**	**16.49**	**42**	P	**Pn**	**12 06 18.4**	**-0.2**
QIS	**Mount Isa**	**16.66**	**206**	P	**Pn**	**12 06 21.3**	**+0.8**
	baz=17,SNR=44						
QIS	**Mount Isa**	**16.66**	**206**	P	**Pn**	**12 06 21.4**	**+0.8

MULG	Mulgathing	27.55	206	P	P	12 08 07.3 +0.7
HTT	Hallett	28.77	195	P	P	12 08 18.4 +1.0
	baz=29,SNR=13					
HTT	Hallett	28.77	195	P	P	12 08 18.5 +1.1
BBOO	Buckleboo	29.04	200	P	P	12 08 20.3 +0.5
	baz=30,SNR=20					
BBOO	Buckleboo	29.04	200	P	P	12 08 20.4 +0.5
BBOO				IAmb	IAmb	12 08 49.0
	comp=Z,28nm,1.6s					
BBOO	Buckleboo	29.04	200	P	P	12 08 20.2 +0.5
CAN	Canberra	29.59	177	P	P	12 08 25.9 +1.3
CAN				IAmb	IAmb	12 08 26.6
	comp=Z,10nm,0.8s					
CAN	Canberra	29.59	177	P	P	12 08 26.4 +1.8
CNB	Canberra Magne	29.60	177	P	P	12 08 26.1 +1.3
	baz=30,SNR=6.9					
CNB	Canberra Magne	29.60	177	P	P	12 08 26.3 +1.5
FORT	Forrest	30.92	214	P	P	12 08 37.3 +0.9
	baz=31,SNR=10					
FORT	Forrest	30.92	214	P	P	12 08 36.8 +0.4
FORT	Forrest	30.92	214	P	P	12 08 37.2 +0.9
ARPS	Mount Arapiles	31.41	189	P	P	12 08 42.0 +1.4
	baz=32,SNR=16					
ARPS	Mount Arapiles	31.41	189	P	P	12 08 42.1 +1.5
TOO	Toolangi	31.84	183	P	P	12 08 46.2 +1.8
	baz=32,SNR=4.3					
TOO	Toolangi	31.84	183	P	P	12 08 45.9 +1.4
TOO				IAmb	IAmb	12 08 46.9
	comp=Z,11nm,0.9s					
MEEK	Meekatharra	34.49	230	P	P	12 09 08.1 +0.6
	baz=35,SNR=5.7					
MEEK	Meekatharra	34.49	230	P	P	12 09 07.9 +0.4
GRJI	Gresik	34.72	266	P	P	12 09 10.4 +0.8
KMBL	Kambalda	35.04	220	P	P	12 09 12.6 +0.5
TAU	Tasmania Unive	37.13	180	P	P	12 09 30.7 +1.1
TAU				IAmb	IAmb	12 10 02.5
	comp=Z,76nm,1.7s					
MORW	Morawa	37.71	228	P	P	12 09 34.8 +0.1
BLDU	Ballidu	38.07	226	P	P	12 09 38.0 +0.3
OUZ	Omahuta	38.09	144	P	P	12 09 40.3 +2.5
OUZ	Omahuta	38.09	144	P	P	12 09 40.3 +2.5
NWAO	Narrogin (SRO)	39.07	222	P	P	12 09 46.1 +0.2
KUZ	Kuaotunu	40.39	144	P	P	12 09 58.3 +1.6
AFI	Afiamalu	41.02	105	P	P	12 10 03.1 +0.8
HIZ	Hauiti	41.14	147	P	P	12 10 05.9 +3.0
VRZ	Vera Road	41.52	147	P	P	12 10 08.7 +2.7
QRZ	Quartz Range	41.66	151	P	P	12 10 09.6 +2.6
URZ	Urewera	42.23	144	P	P	12 10 13.0 +1.3
URZ	Urewera	42.23	144	P	P	12 10 13.1 +1.4
HAZ	Te Kaha	42.28	143	P	P	12 10 13.8 +1.6
RUGZ	Raukumara Rang	42.36	144	P	P	12 10 14.2 +1.3
RTZ	Ruatahuna	42.40	145	P	P	12 10 14.7 +1.5
RTZ				IAmb	IAmb	12 10 15.8
	comp=Z,12nm,0.6s					
RTZ	Ruatahuna	42.40	145	P	P	12 10 14.7 +1.5
MXZ	Matakaoa Point	42.47	143	P	P	12 10 16.2 +2.5
MXZ	Matakaoa Point	42.47	143	P	P	12 10 15.8 +2.2
MTHZ	Maungataniwha	42.48	145	P	P	12 10 15.3 +1.5
BHHZ	Black Hill Sta	42.49	147	P	P	12 10 15.6 +1.7
BKZ	Black Stump Fm	42.50	146	P	P	12 10 15.2 +1.3
BKZ				IAmb	IAmb	12 10 47.2
	comp=Z,97nm,2.0s					
BKZ	Black Stump Fm	42.50	146	P	P	12 10 15.5 +1.5
BKZ	Black Stump Fm	42.50	146	P	P	12 10 15.3 +1.3
MWZ	Matawai	42.52	144	P	P	12 10 16.1 +2.0
NMHZ	Naumai	42.63	146	P	P	12 10 17.1 +2.1
KWHZ	Kaweka Forest	42.64	146	P	P	12 10 17.1 +2.0
INZ	Inchbonnie	42.65	154	P	P	12 10 18.8 +3.8
JCZ	Jackson Bay	42.66	157	P	P	12 10 18.6 +3.4
JCZ	Jackson Bay	42.66	157	P	P	12 10 17.4 +2.2
TWGZ	Tauwhareparae	42.68	144	P	P	12 10 17.6 +2.2
WMGZ	Waiomatatini S	42.70	143	P	P	12 10 17.2 +1.7
KRHZ	Kereru	42.77	147	P	P	12 10 17.4 +1.3
PUZ	Puketiti	42.77	143	P	P	12 10 17.6 +1.5
TKGZ	Te Karaka	42.78	144	P	P	12 10 17.7 +1.6
TUWZ	Tuamarina	42.81	150	P	P	12 10 17.5 +1.2
MCHZ	McNeill Hill	42.81	146	P	P	12 10 18.5 +2.1
TCW	Tory Channel	42.81	150	P	P	12 10 17.9 +1.5
TSZ	Takapari Road	42.84	147	P	P	12 10 18.3 +1.6
PNHZ	Pukenui	42.87	147	P	P	12 10 18.6 +1.8
RIGZ	Rimuhau	42.91	144	P	P	12 10 18.8 +1.6
CNGZ	Carnagh Statio	43.02	144	P	P	12 10 19.7 +1.7
LTZ	Lake Taylor	43.06	153	P	P	12 10 20.4 +2.0
KNZ	Kokohu	43.07	145	P	P	12 10 19.8 +1.4
MRZ	Mangatainoka R	43.07	148	P	P	12 10 19.7 +1.2
MRZ				IAmb	IAmb	12 11 19.2
	comp=Z,63nm,1.4s					
MRZ	Mangatainoka R	43.07	148	P	P	12 10 19.7 +1.2
KAHZ	Kahuranaki	43.15	146	P	P	12 10 20.7 +1.5
RPZ	Rata Peaks	43.28	155	P	P	12 10 22.2 +2.1
PXZ	Pawanui	43.31	147	P	P	12 10 21.8 +1.5
BFZ	Birch Farm	43.44	148	P	P	12 10 22.6 +1.1
BFZ				IAmb	IAmb	12 10 54.4
	comp=Z,75nm,1.3s					
BFZ	Birch Farm	43.44	148	P	P	12 10 22.5 +1.1
BFZ	Birch Farm	43.44	148	P	P	12 10 22.5 +1.1
LBZ	Lake Benmore	43.47	156	P	P	12 10 22.7 +1.0
MLZ	Mavora Lakes	43.51	159	P	P	12 10 23.6 +1.7
MLZ	Mavora Lakes	43.51	159	P	P	12 10 23.7 +1.7
PLWZ	Palliser	43.57	149	P	P	12 10 23.1 +0.7
TMZ	Timaru	43.80	155	P	P	12 10 24.9 +0.6
WHZ	Wether Hill Ro	43.90	159	P	P	12 10 26.0 +1.0
MQZ	McQueen's Vall	43.96	154	P	P	12 10 27.4 +1.9
NJ2	Nanjing	46.29	326	eP	P	12 10 47.3 +3.4
NJ2				pP	pwP	12 11 26.8 -2.6
NJ2				sP	sP	12 11 47.3 -1.8
NJ2				pmax	pmax	
	comp=Z,29nm,0.5s					
LYN	LuoYang	51.79	323	⇑P	P	12 11 29.4 +3.7
LYN				pP	pwP	12 12 12.8 +0.9
LYN				sP	PcP	12 12 32.3 -3.7
LYN				pmax	pmax	
	comp=Z,12nm,0.6s					
LYN				pmax	pmax	
	comp=Z,570nm,4.4s					
MDJ	Mudanjiang	52.51	344	P	P	12 11 34.6 +3.8
MDJ				pP	pP	12 12 11.9 -2.9
MDJ				PcP	PcP	12 12 39.0 +0.6
MDJ				PcS	PcS	12 16 38.0 +1.0
MDJ				S	S	12 18 45.4 +3.7
MDJ				SS	SKiKP	12 22 29.8 -0.9
MDJ				pmax	pmax	
	comp=Z,9.0nm,2.4s					
MDJ				pmax	pmax	
	comp=Z,170nm,4.7s					
CN2	Changchun	53.04	340	eP	P	12 11 38.1 +3.4
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
CMAR	Chiang Mai Arr	53.42	298	P	P	12 11 37.5 -0.4
	comp=Z,0.6nm,0.3s,baz=130,slow=6.7,SNR=4.4					
	comp=Z,0.6nm,0.3s					
PZH	PanZhiHua	54.53	308	P	P	12 11 48.5 +2.5
PZH				pmax	pmax	
	comp=Z,10.0nm,0.9s					
PZH				pmax	pmax	
	comp=Z,220nm,4.3s					
HHC	Hu-ho-hao-te	56.72	328	eP	P	12 12 04.3 +3.0
HHC				pmax	pmax	
	comp=Z,19nm,0.7s					
HHC				pmax	pmax	
	comp=Z,180nm,5.2s					
BTO	Baotou	57.38	327	eP	P	12 12 10.0 +4.1
BTO				pP	PcP	12 12 53.8 -3.7
BTO				pmax	pmax	
	comp=Z,20nm,0.4s					
BTO				pmax	pmax	
	comp=Z,230nm,3.7s					
PETK	Petropavlovsk-	59.16	7	P	P	12 12 18.1 +0.3
DRV	Dumont d'Urvil	61.15	183	P	P	12 12 32.0 +0.9
SONM	Songino Array	64.27	331	P	P	12 12 52.1 -0.1
	comp=Z,1.5nm,0.8s,baz=150,slow=5.5,SNR=6.5					
	comp=Z,1.5nm,0.8s					
CCD	Concordia, Ant	70.79	186	P	P	12 13 33.3 +0.4
WMQ	Urumqi	72.76	319	eP	P	12 13 47.5 +2.7
SBA	Scott Base	72.90	176	P	P	12 13 46.7 +1.8
MKAR	Makanchi Array	77.46	320	P	P	12 14 10.4 -1.1
	comp=Z,1.0nm,0.5s,baz=100,slow=7.9,SNR=13					
	comp=Z,1.0nm,0.5s					
ZALV	Zalesovo Beam	78.90	328	P	P	12 14 17.3 -1.9
	comp=Z,2.2nm,0.4s,baz=102,slow=5.8,SNR=9.0					
	comp=Z,2.2nm,0.4s					
KURBB	Kurchatov Arra	81.17	323	P	P	12 14 30.2 -1.3
	comp=Z,1.7nm,0.2s,baz=123,slow=4.0,SNR=3.4					
	comp=Z,1.7nm,0.2s					
MAW	Mawson	82.74	203	P	P	12 14 38.4 -0.9
	comp=Z,1.5nm,0.8s,baz=109,slow=8.3,SNR=7.9					
	comp=Z,1.5nm,0.8s					
QSPA	South Pole Qui	84.34	180	P	P	12 14 47.7 0.0
QSPA	South Pole Qui	84.34	180	P	P	12 14 47.7 0.0
	comp=Z,2.6nm,0.5s,baz=326,slow=1.1,SNR=42					
	comp=Z,2.6nm,0.5s					
H23K	Yukon River	84.44	22	P	P	12 14 48.5 +0.5
ILAR	Eielson Array	84.99	23	P	P	12 14 48.9 -1.9
	comp=Z,1.3nm,0.6s,baz=253,slow=4.8,SNR=23					
	comp=Z,1.3nm,0.6s					
J25K	Salcha River,	85.52	23	P	P	12 14 53.2 -0.3
BVAR	Borovoye Array	86.70	324	P	P	12 14 57.3 -2.1
	comp=Z,1.1nm,0.5s,baz=123,slow=6.2,SNR=4.6					
	comp=Z,1.1nm,0.5s					
ELIB	Princess Elisa	94.66	195	dP	P	12 15 35.9 -0.4
SIV	San Ignacio	144.57	128	PKP	PKPdf	12 21 50.6 -1.3
	comp=Z,3.7nm,0.5s,baz=230,slow=4.1,SNR=21					
TOA0	Torodi Ar. Sit	145.37	285		PKPab	12 21 53.3 -0.7
TORD	Torodi Ar. Bea	145.37	285		PKPab	12 21 52.9 -1.1
TORD	Torodi Ar. Bea	145.37	285	PKPbc	PKPab	12 21 52.5 -1.5
	comp=Z,2.8nm,0.6s,baz=57,slow=4.2,SNR=20					
SAML	Samuel	146.26	115		PKPab	12 21 55.5 -1.9

*IDC **16** 12:17:01.3±1.5,36°.98N×71°.84E,h0km,mb3.8/7,*
mbtmp3.8/12,ML3.2/5,MS3.0/4,Error ellipse:
s-maj=27.5km s-min=22.4km az=143.0
*NNC **16** 12:17:08.1±3.2,37°.46N×71°.21E,h5km±17km,mb3.9,*
mpv3.5,Error ellipse: s-maj=20.2km s-min=15.8km
az=73.0

ISC 16 12:17:02.5±0.6,**37°.08N**±0°.04×**71°.56E**±0°.07,**h10**km,**n29,**
σ2.52/33,mb3.7/7,MS4.6/3,**8C-5D,**
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	3.26	175	P	Pg	12 18 03.2	-1.8
CEP				S	Sg	12 18 49.0	+1.7
CHCP	Chirah Chowk	3.69	157	P	Pb	12 18 07.3	-0.4
THW	Thamme Wali	4.28	178	P	Pb	12 18 16.0	-1.8
AML	Almayashu	5.31	17	⇓Pn	Pn	12 18 23.7	+1.5
	0.7nm,0.5s						
AML				⇑Lg	Lg	12 19 49.4	
	4.1nm,0.6s						
AAK	Ala-Archa	5.99	21	Pn	Pn	12 18 34.6	+3.3
	1.9nm,0.3s,baz=193,slow=4.5,SNR=11						
AAK				Sn	Sn	12 19 36.0	-4.1
	1.0nm,0.3s,baz=45,slow=20,SNR=1.3						
AAK				Lg	Lg	12 20 04.3	
	0.5nm,0.3s,baz=68,slow=19,SNR=1.9						
AAK				LR	LR	12 20 58.8	
	comp=Z,57nm,20.5s,baz=240,slow=40						
	5.3nm,0.5s						
KK31	Karatay Array	6.07	353	⇑Pn	Pn	12 18 32.8	+0.5
	3.3nm,0.3s,baz=174,slow=12,SNR=72						
KK31				⇑Sn	Sn	12 19 39.8	-2.0
	10.0nm,0.5s,baz=171,slow=20,SNR=5.5						
KK31				⇓Lg	Lg	12 20 06.7	
	16nm,0.6s,baz=170,slow=28,SNR=4.5						
CHMS	Chumysh	6.40	21	⇓Pn	Pn	12 18 41.3	+4.5
	4.2nm,0.5s						
CHMS				⇑Lg	Lg	12 20 27.4	
	13nm,0.9s						
TKM2	Tokmak 2	6.60	27	⇑Pn	Pn	12 18 42.9	+3.1
	3.9nm,0.5s						
TKM2				⇑Lg	Lg	12 20 28.8	
	6.9nm,0.7s						
GEYT	Alibeck	10.72	279	Pn	Pn	12 19 35.7	-0.4
	0.7nm,0.3s,baz=104,slow=12,SNR=3.1						
GEYT				Sn	Sn	12 21 33.6	-2.6
	2.8nm,0.3s,baz=116,slow=20,SNR=6.7						
GEYT				LR	LR	12 24 48.5	
	comp=Z,57nm,19.6s,baz=41,slow=43						
MKAR	Makanchi Array	12.56	36	Pn	Pn	12 20 01.3	+0.1
	0.1nm,0.3s,baz=218,slow=14,SNR=1.8						
	0.6nm,0.7s						
PYUN	Piuthan	13.14	130	eP	Pn	12 20 08.9	-0.5
	8.3nm,0.3s						
DANN	Dangsing	13.45	127	eP	Pn	12 20 12.2	-1.5
	14nm,0.6s						
AB31	Akbulak array	14.81	329	⇓Pn	Pn	12 20 32.1	+0.2
	0.3nm,0.3s						
AB31				⇑Sn	Sn	12 23 10.4	-5.5
	4.0nm,0.6s						
PKIN	Phulchoki	15.04	125	eP	Pn	12 20 33.3	-2.0
	13nm,0.6s						
JIRN	Jiri	15.51	123	eP	Pn	12 20 38.7	-2.9
	12nm,0.4s						
BVAR	Borovoye Array	15.97	357	Pn	Pn	12 20 46.1	-1.0
	baz=151,slow=9.3,SNR=3.2						
	1.0nm,0.6s						
RAMN	Ramite	16.25	124	eP	Pn	12 20 48.6	-2.5
	6.2nm,0.4s						
AKTO	Aktyubinsk	16.52	328	⇑Pn	Pn	12 20 55.9	+1.8
	1.8nm,0.6s						
AKTO				⇓Sn	Sn	12 23 53.6	-3.8
	2.2nm,0.8s						
AKTO	Aktyubinsk	16.52	328	Pn	Pn	12 20 54.0	-0.2
	0.1nm,0.3s,baz=136,slow=7.3,SNR=1.7						
AKTO				Sn	Sn	12 23 45.2	-12
	0.2nm,0.3s,baz=310,slow=17,SNR=1.8						
	1.5nm,0.4s						
ZALV	Zalesovo Beam	19.20	24	P	P	12 21 25.2	-1.1
	0.6nm,0.3s,baz=217,slow=11,SNR=8.6						
ZALV				LR	LR	12 29 03.4	
	comp=Z,23nm,21.8s,baz=36,slow=38						
	1.5nm,0.4s						
KBZ	Khabaz	22.75	296	P	P	12 22 08.9	+4.2
	2.0nm,0.7s,baz=122,slow=9.5,SNR=4.8						
	2.0nm,0.7s						
FINES	FINESS Array B	37.26	326	P	P	12 24 16.0	+1.9
	1.2nm,0.8s,baz=117,slow=8.3,SNR=4.3						
	1.2nm,0.8s						
ARCES	ARCESS Array B	40.78	337	P	P	12 24 46.6	+3.0
	3.4nm,1.0s,baz=91,slow=8.2,SNR=4.4						
ARCES				LR	LR	12 42 40.4	
	comp=Z,104nm,18.1s,baz=260,slow=38						
	3.4nm,1.0s						
HFS	Hagfors	42.89	321	P	P	12 25 03.5	+2.7
	2.0nm,0.7s,baz=93,slow=12,SNR=1.9						
	2.0nm,0.7s						
ESDC	Sonseca Array	57.59	298	P	P	12 26 53.1	+0.5
	0.5nm,0.6s,baz=68,slow=7.6,SNR=2.1						
	0.5nm,0.6s						
TORD	Torodi Ar. Bea	66.18	269	P	P	12 27 50.7	0.0
	0.3nm,0.5s,baz=45,slow=7.2,SNR=2.5						
	0.3nm,0.5s						
GUMO	Guam	68.68	89	LR	LR	13 00 10.4	
	comp=Z,428nm,20.2s,baz=7.5,slow=38						
WRA	Warramunga Arr	81.92	122	P	P	12 29 23.1	+0.6
	0.4nm,0.8s,baz=323,slow=5.1,SNR=1.9						
	0.4nm,0.8s						
KRVT	Keravat (AS076	84.99	99	LR	LR	13 08 33.9	
	comp=Z,230nm,19.5s,baz=267,slow=36						

*IDC **16** 12:21:05.2±2.1,31°.40S×69°.55W,h108km±16km,mb3.5/1,*
mbtmp3.8/5,MS3.8/1,Error ellipse: s-maj=32.6km
s-min=24.2km az=103.0
*SJA **16** 12:21:06.2±1.2,31°.47S×69°.39W,h118km±4km,ML3.7,*
MW3.9
*GUC **16** 12:21:06.9±0.8,31°.48S×69°.67W,h153km±7km,ML4.3*

ISC 16 12:21:06.1±0.8,**31°.46S**±0°.03×**69°.39W**±0°.03,**h123**km±6km,
n53,σ15.24/82,5C-4D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	Leoncito	0.35	166	eP	Pn	12 21 24.1	+0.1
RTLS				eS	Sn	12 21 37.1	-0.4
DOCA	Reserva Natura	0.57	28	i P	Pn	12 21 25.6	+0.2
DOCA				i S	Sn	12 21 39.8	0.0
ZON	Zonda	0.62	98	i P	Pn	12 21 25.6	+0.4
ZON				i S	Sn	12 21 39.7	+0.1
ZON				IAML		12 21 40.4	
	comp=Z,941nm,0.3s						
SJA	San Juan	0.71	96	i P	Pn	12 21 26.6	+0.7
SJA				i S	Sn	12 21 41.7	+0.8
SJA				IAML		12 21 45.8	
	comp=Z,986nm,0.2s						
RTLL	Cerro Villicun	0.80	81	⇓iP	Pn	12 21 26.7	+0.1
RTLL				i S	Sn	12 21 41.6	-0.5
ACCO	Cerro Coronel	0.91	18	i P	Pn	12 21 28.8	+0.8
ACCO				i S	Sn	12 21 45.6	+1.1
ACCO				IAML		12 21 49.4	
	comp=Z,1μm,0.7s						
CFA	Coronel Fontan	1.00	99	P	Pn	12 21 28.6	+0.1
	comp=Z,539nm,0.3s,baz=251,slow=7.7,SNR=3665						
CFA				LR	LR	12 21 33.7	
	comp=Z,56nm,18.9s,baz=182,slow=25						
CFA				S	Sn	12 21 44.8	-0.5
	comp=Z,1μm,0.5s,baz=54,slow=19,SNR=30						
CFA	Coronel Fontan	1.00	99	i P	Pn	12 21 28.8	+0.4
CFA				i S	Sn	12 21 44.7	-0.6
CFA				IAML		12 21 45.4	
	comp=Z,1μm,0.6s						
ASAL	Salagasta	1.22	157	⇓iP	Pn	12 21 31.6	+0.9
ASAL				i S	Sn	12 21 50.3	+0.8
ASAL				IAML		12 21 51.7	
	comp=Z,1μm,0.5s						
CO03	El Pedregal	1.27	299	⇑iP	Pn	12 21 32.0	+0.8
CO03				eS	Sn	12 21 51.0	+0.6
CO03				IAML		12 21 52.8	
	comp=E,7μm,0.3s						
CO03	El Pedregal	1.27	299	i P	Pn	12 21 32.0	+0.8
CO03				IAML		12 21 53.9	
	comp=Z,2μm,0.2s						
AROD	Rodeo	1.29	357	i P	Pn	12 21 33.1	+1.3
AROD				i S	Sn	12 21 52.5	+1.3
ACDV	Cuesta del Vie	1.31	10	eP	Pn	12 21 32.9	+1.1
ACDV				eS	Sn	12 21 52.6	+1.4
ACDV				IAML		12 21 54.7	
	comp=Z,833nm,0.4s						
CO02	Combarbal	1.40	280	⇑iP	Pn	12 21 33.2	+0.5
CO02				eS	Sn	12 21 53.4	+0.5
CO02	Combarbal	1.40	280	i P	Pn	12 21 33.2	+0.5
ARCO	CERRO ARCO	1.43	164	eP	Pn	12 21 33.9	+0.8
ARCO				eS	Sn	12 21 54.9	+1.2
CO01	Juntas del Tor	1.60	338	⇑iP	Pn	12 21 37.0	+1.9
CO01				eS	Sn	12 21 59.5	+2.3
CO01	Juntas del Tor	1.60	338	i P	Pn	12 21 37.2	+2.0
VA03	San Esteban	1.63	217	⇓iP	Pn	12 21 36.0	+0.7
VA03				eS	Sn	12 21 57.9	+0.3
VA03				IAML		12 22 00.0	
	comp=E,4μm,0.3s						
VA03	San Esteban	1.63	217	i P	Pn	12 21 35.9	+0.6
VA03				IAML		12 22 00.1	
	comp=Z,1μm,0.2s						
AAGR	Agrelo	1.69	164	i P	Pn	12 21 36.8	+0.7
AAGR				i S	Sn	12 21 59.4	+0.5
AAGR				IAML		12 22 02.6	
	comp=Z,646nm,0.5s						
GO04	Tololo Observa	1.76	316	⇑iP	Pn	12 21 37.5	+0.5
GO04				eS	Sn	12 22 00.6	-0.1
GO04				IAML		12 22 03.1	
	comp=N,5μm,0.5s						
GO04	Tololo Observa	1.76	316	i P	Pn	12 21 37.6	+0.5
AVFE	Valle Fertil	1.84	65	eP	Pn	12 21 38.6	+0.7
AVFE				IAML		12 22 04.7	
	comp=Z,337nm,0.6s						
PEL	Peldehue	2.00	213	i P	Pn	12 21 40.1	+0.3
PEL				eS	Sn	12 22 05.4	-0.2
PEL				IAML		12 22 07.6	
	comp=E,1μm,0.8s						
PEL	Peldehue	2.00	213	eP	Pn	12 21 40.1	+0.3
PEL				eS	Sn	12 22 05.7	+0.1
FCH	Farellones	2.01	202	i P	Pn	12 21 41.5	+1.3
FCH				eS	Sn	12 22 07.6	+1.4
FCH				IAML		12 22 09.5	
	comp=E,1μm,0.2s						
ROCH	El Roble	2.04	222	i P	Pn	12 21 40.3	-0.1
ROCH				eS	Sn	12 22 06.1	-0.5
ROCH				IAML		12 22 08.6	
	comp=N,1μm,0.3s						
AGUA	GUANDACOL	2.12	22	eP	Pn	12 21 43.2	+1.9
AGUA				eS	Sn	12 22 09.5	+1.4
AVIZ	Vizcacheras	2.14	160	i P	Pn	12 21 42.5	+0.9
AVIZ				i S	Sn	12 22 08.4	-0.3
MT14	Cerro Cal¡n	2.16	206	i P	Pn	12 21 42.5	+0.8
MT14				eS	Sn	12 22 09.4	+0.3
MT14				IAML		12 22 15.1	
	comp=E,2μm,0.4s						
CO05	La Serena	2.21	314	⇑iP	Pn	12 21 42.3	0.0
CO05				eS	Sn	12 22 08.8	-1.3
CO05				IAML		12 22 10.3	
	comp=E,2μm,0.3s						
MT03	Universidad Ad	2.24	205	i P	Pn	12 21 43.7	+1.0
MT05	Renca	2.24	210	i P	Pn	12 21 43.2	+0.5
MT05				eS	Sn	12 22 10.4	-0.4
MT05				IAML		12 22 13.6	
	comp=N,2μm,0.2s						
MT05	Renca	2.24	210	i P	Pn	12 21 43.2	+0.5
MT05				IAML		12 22 13.6	
	comp=Z,504nm,0.2s						
ACHE	Chepes	2.36	83	eP	Pn	12 21 44.9	+0.6
APLL	PUNTA DE LOS L	2.68	67	i P	Pn	12 21 49.0	+0.6
APLL				i S	Sn	12 22 21.0	0.0
VCA	Vinchina	2.90	21	eP	Pn	12 21 52.8	+1.5
VCA	Vinchina	2.90	21	i P	Pn	12 21 52.9	+1.5
VCA				i S	Sn	12 22 27.5	+1.2
ACLC	CERRO LA CRUZ	2.92	47	eP	Pn	12 21 52.5	+0.8
ACLC				IAML		12 22 55.2	
	comp=Z,148nm,0.4s						
BO01	Tunca	3.25	205	i P	Pn	12 21 55.0	-0.8
BO01				IAML		12 22 34.7	
	comp=Z,122nm,0.7s						
RFA	San Rafael	3.39	167	i P	Pn	12 21 57.5	-0.1
RFA				IAML		12 22 38.8	
	comp=Z,171nm,0.3s						
CYA	Choya	4.33	47	⇓eP	Pn	12 22 09.6	-0.5
CYA	Choya	4.33	47	i P	Pn	12 22 09.8	-0.4
AC02	Maricunga	4.61	3	i P	Pn	12 22 15.4	+1.0
AC02				IAML		12 23 14.4	
	comp=Z,46nm,0.5s						
LVC	Limon Verde	8.82	3	P	Pn	12 23 07.5	-3.6
	comp=Z,1.8nm,0.3s,baz=189,slow=9.2,SNR=6.3						
LVC				S	Sn	12 24 42.2	-6.8
	comp=Z,3.3nm,0.6s,baz=105,slow=20,SNR=1.8						
PLCA	Paso Flores	9.30	185	P	Pn	12 23 16.7	-0.4
	comp=Z,1.0nm,0.6s,baz=349,slow=12,SNR=4.6						
CPUP	Villa Florida	11.74	67	P	Pn	12 23 51.1	+1.3
	comp=Z,0.7nm,0.3s,baz=262,slow=17,SNR=1.8						
SIV	San Ignacio	17.17	28	P	Pn	12 24 59.1	+0.5
	comp=Z,4.1nm,0.8s,baz=221,slow=13,SNR=13				

AKASG Malin Array Be 36.23 73 P **P 12 38 10.5 +1.5**
0.4nm,0.4s,baz=307,slow=8.4,SNR=4.6
0.4nm,0.4s
ULM Lac du Bonnet 36.41 286 LR LR 12 51 46.2
comp=Z,55nm,18.6s,baz=70,slow=34
YKA Yellowknife Ar 38.58 313 LR LR 12 53 43.6
comp=Z,162nm,18.5s,baz=54,slow=35
INK Inuvik 41.98 327 LR LR 12 55 40.0
comp=Z,45nm,18.8s,baz=182,slow=35
DLBC Dease Lake 47.11 315 LR LR 12 58 41.4
comp=Z,121nm,20.1s,baz=82,slow=35
ILAR Eielson Array 48.30 328 P **P 12 39 47.2 +0.2**
0.4nm,0.8s,baz=46,slow=5.2,SNR=2.9
0.4nm,0.8s
NEW Newport 48.39 297 LR LR 12 58 52.5
comp=Z,58nm,19.7s,baz=21,slow=34
PDAR Pinedale Array 48.43 287 P **P 12 39 48.8 +0.2**
0.4nm,0.5s,baz=48,slow=7.5,SNR=7.5
PDAR LR LR 12 58 52.5
comp=Z,44nm,18.4s,baz=18,slow=34
0.4nm,0.5s
TORD Torodi Ar. Bea 51.45 134 P **P 12 40 10.2 -1.2**
0.3nm,0.5s,baz=342,slow=7.6,SNR=2.5
0.3nm,0.5s
DBIC Dimbokro 55.14 145 LR LR 13 01 24.9
comp=Z,43nm,19.5s,baz=12,slow=33
NVAR Mina Array Bea 56.13 290 P **P 12 40 46.2 +0.4**
0.2nm,0.7s,baz=61,slow=7.4,SNR=2.2
0.2nm,0.7s
ZALV Zalesovo Beam 58.35 38 P **P 12 41 00.4 -0.6**
0.7nm,0.6s,baz=336,slow=3.2,SNR=2.0
0.7nm,0.6s
KURBB Kurchatov Arra 58.84 44 P **P 12 41 03.6 -0.9**
0.7nm,0.4s,baz=326,slow=7.1,SNR=2.0
0.7nm,0.4s
MKAR Makanchi Array 63.41 44 P **P 12 41 35.5 -0.1**
0.4nm,0.5s,baz=330,slow=5.6,SNR=5.0
0.4nm,0.5s
H10N2 ASCENSION HYDR 66.65 160 T T 13 54 01.6
baz=350,slow=74
H10N3 ASCENSION HYDR 66.66 160 T T 13 53 57.7
baz=350
H10N1 ASCENSION HYDR 66.67 160 T T 13 53 58.1
baz=350,slow=74
ASAR Alice Springs 145.24 21 PKPbc **PKPdf 12 50 43.2 -0.5**
0.5nm,0.5s,baz=342,slow=2.9,SNR=12

---

*BJI **16** 12:47:18.6±0.0,31°.22N×142°.02E,h5km,mb4.8/61, mB5.1/42,Ms4.8/56,Ms7 4.7/54*
*IDC **16** 12:47:20.6±0.4,31°.21N×141°.93E,h0km,mb4.8/28, mbtmp4.8/32,ML4.0/4,MS4.2/58,Error ellipse: s-maj=14.8km s-min=10.3km az=85.0*
*MOS **16** 12:47:22.3±1.2,31°.32N×142°.03E,h23km,mb5.2/39, MS4.5/9,Error ellipse: s-maj=8.4km s-min=4.2km az=113.4*
*JMA **16** 12:47:23.5±0.4,31°N±1°×14°2E±°,h90km,MV4.4/19,FAR E OFF IZU ISLANDS*
*NIED **16** 12:47:23.5,31°.28N×142°.40E,h90km,MW5.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr1.91; Mθθ-0.13; Mφφ-1.78; Mrθ-1.07; Mθφ0.44; Mφr2.05; Fault plane solution: M0 2.99000×10^16 NP1: φs336.00000°,δ70.00000°,λ83.00000°. NP2: φs175.00000°,δ21.00000°,λ109.00000°.*
*NEIC **16** 12:47:23.3±1.6,31°.18N±0°.06×141°.89E±0°.10,h10km±1km, mb4.9/88 Error ellipse: s-maj=14.6km s-min=9.8km az=77.0*
*GCMT **16** 12:47:26.3±0.3,31°.25N±0°.03×142°.08E±0°.02,h14km, MW4.9/99,Moment Tensor Solution. s36,c42; s99,c155; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.28±.12; Mθθ-0.11±.07; Mφφ-2.17±.09; Mrθ-0.20±.18; Mθφ0.08±.05; Mφr1.04±.17; Best double couple: M0 2.46500×10^16 NP1:φs354.00000°,δ58.00000°,λ86.00000°. NP2: φs181.00000°,δ32.00000°,λ96.00000°. Principal axes: T 2.5230, Plg77.0000°, Azm252.0000°; N -0.1150, Plg3.0000°, Azm356.0000°; P -2.4080, Plg13.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 12:47:23.1±0.5,31°.17N±0°.03×142°.13E±0°.04,h19km±1km, h19km:pP-P,n634,σ1↓99/655,mb5.0/118,MS4.4/77,7C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.39**	**303**	*eP*	**Pn**	**12 48 03.3**	**+2.0**
JHJ2	**Mitsune**	**2.76**	**315**	Pn	**Pn**	**12 48 05.5**	**-0.8**
JHJ	**Hachijo jima 2**	**2.78**	**315**	Pn	**Pn**	**12 48 04.8**	**-1.8**
	53nm,0.3s,baz=249,slow=23,SNR=1.4						
JHJ				Sn	**Sn**	**12 48 34.9**	**-4.8**
	68nm,0.3s,baz=185,slow=16,SNR=3.7						
JHJ				LR	LR	12 49 07.8	
	comp=Z,5μm,18.8s,baz=136,slow=41						
JMKN	**Mikurajimanish**	**3.46**	**322**	*eP*	**Pn**	**12 48 16.7**	**+0.7**
BSO1	**Boso 1**	**3.61**	**345**	P	**Pn**	**12 48 17.1**	**-0.4**
BSO1				*eS*	**Sn**	**12 48 58.6**	**-0.8**
BSO2	**Boso 2**	**3.76**	**342**	*eS*	**Sn**	**12 49 05.5**	**+2.1**
BSO3	**Boso 3**	**3.87**	**340**	P	**Pn**	**12 48 22.8**	**+1.4**
BSO3				*eS*	**Sn**	**12 49 06.5**	**+0.3**
CBIJ	**Chichi jima**	**4.06**	**179**	P	**Pn**	**12 48 25.8**	**+1.6**
CBIJ				*eS*	**Sn**	**12 49 15.2**	**+4.1**
JCJ	**Chichijima**	**4.06**	**179**	Pn	**Pn**	**12 48 25.3**	**+1.2**
JCJ	**Chichijima**	**4.06**	**179**	P	**Pn**	**12 48 25.1**	**+0.9**
JCJ	**Chichijima**	**4.06**	**179**	Pn	**Pn**	**12 48 21.9**	**-2.3**
	33nm,0.3s,baz=289,slow=21,SNR=42						
JCJ				Sn	**Sn**	**12 49 07.9**	**-3.3**
	64nm,0.3s,baz=87,slow=22,SNR=5.7						
JOD2	**Odawara 2**	**4.81**	**329**	*eP*	**Pn**	**12 48 35.9**	**+1.3**
JOD2				*eS*	**Sn**	**12 49 31.4**	**+1.5**
JRY	**Ryogami san**	**5.54**	**332**	P	**Pn**	**12 48 44.9**	**+0.4**
JRY				*eS*	**Sn**	**12 49 47.7**	**+0.1**
INU	**Inuyama**	**5.98**	**316**	Pn	**Pn**	**12 48 50.0**	**-0.6**
JTNC	**Tanabenakahech**	**6.11**	**297**	*eP*	**Pn**	**12 48 53.9**	**+1.5**
MJAR	**Matsushiro Arr**	**6.27**	**330**	Pn	**Pn**	**12 48 54.8**	**+0.1**
	1.7nm,0.3s,baz=160,slow=11,SNR=68						
MJAR				Sn	**Sn**	**12 50 06.8**	**+0.9**
	0.9nm,0.3s,baz=116,slow=24,SNR=1.5						
MJAR				LR	LR	12 51 45.3	
	comp=Z,2μm,18.3s,baz=145,slow=43						
MAJO	**Matsushiro**	**6.28**	**330**	Pn	**Pn**	**12 48 55.1**	**+0.4**
MAJO	**Matsushiro**	**6.28**	**330**	P	**Pn**	**12 48 55.7**	**+1.0**
MAJO	**Matsushiro**	**6.28**	**330**	*i* P	**Pn**	**12 48 55.2**	**+0.5**
MJB9	**Matsu-Tunnel**	**6.28**	**330**		**Pn**	**12 48 56.3**	**+1.5**
JMM	**Marumori**	**6.77**	**351**		**Pn**	**12 48 59.9**	**-1.6**
JMM	**Marumori**	**6.77**	**351**	P	**Pn**	**12 49 00.7**	**-0.8**
JMN	**Monobe**	**7.42**	**292**	Pn	**Pn**	**12 49 09.4**	**-1.0**
JMN	**Monobe**	**7.42**	**292**	P	**Pn**	**12 49 13.6**	**+3.1**
JSD	**Sado**	**7.56**	**336**		**Pn**	**12 49 11.0**	**-1.2**
JMK	**Ichinoseki**	**7.80**	**355**	*eP*	**Pn**	**12 49 14.3**	**-1.3**
JMK				*eS*	**Sn**	**12 50 36.2**	**-7.2**
JTO	**Tosashimizu**	**8.10**	**284**	*eP*	**Pn**	**12 49 23.1**	**+3.5**
JHS	**Saijyo**	**8.47**	**299**	*eP*	Pn	12 49 31.0	+6.2
JOI	**OKI**	**8.99**	**307**	*eP*	**Pn**	**12 49 33.8**	**+1.9**
JTM	**Tenmabayashi**	**9.64**	**355**	Pn	**Pn**	**12 49 39.2**	**-1.6**
JTM	**Tenmabayashi**	**9.64**	**355**	P	**Pn**	**12 49 39.5**	**-1.3**
JNU	**Nakatsue**	**9.73**	**284**		**Pn**	**12 49 40.9**	**-1.3**
JNU	**Nakatsue**	**9.73**	**284**	Pn	**Pn**	**12 49 43.2**	**+1.0**
	0.4nm,0.3s,baz=94,slow=7.5,SNR=8.8						
JNU				LR	LR	12 53 27.4	
	comp=Z,1μm,18.1s,baz=100,slow=38						
JOT	**Ohata**	**10.23**	**355**	*eP*	**Pn**	**12 49 47.5**	**-1.4**
ERM	**Erimo**	**10.86**	**4**	Pn	**Pn**	**12 49 55.1**	**-2.4**
ERM	**Erimo**	**10.86**	**4**	P	**Pn**	**12 49 54.4**	**-3.1**
ERM	**Erimo**	**10.86**	**4**	P	**Pn**	**12 49 55.1**	**-2.4**
NMR	**Nemuro--Hokkai**	**12.51**	**12**	*eP*	**Pn**	**12 50 17.3**	**-2.8**
JOW	**Kunigami**	**12.87**	**254**	Pn	**Pn**	**12 50 23.8**	**-1.3**
JOW	**Kunigami**	**12.87**	**254**	Pn	**Pn**	**12 50 27.4**	**+2.4**
	0.9nm,0.3s,baz=76,slow=12,SNR=1.9						
JKA	**Kamikawa-asahi**	**12.93**	**2**	Pn	**Pn**	**12 50 23.3**	**-2.5**
ASAJ	**Asahikawa**	**12.93**	**2**	Pn	**Pn**	**12 50 23.4**	**-2.5**
	1.9nm,0.3s,baz=211,slow=11,SNR=16						
ASAJ				Sn	Sn	12 52 38.5	-11
	0.6nm,0.3s,baz=356,slow=33,SNR=7.2						
ASAJ				LR	LR	12 56 19.9	
	comp=Z,1μm,20.6s,baz=186,slow=42						
	7.9nm,0.5s						
RUSJ	**Misakicho**	**13.15**	**10**	*eP*	**Pn**	**12 50 26.0**	**-2.8**
YUK	**Yuzh-Kuril'sk**	**13.18**	**12**	*eP*	**Pn**	**12 50 27.0**	**-2.2**
SHO	**Shikotan**	**13.22**	**15**	*eP*	**Pn**	**12 50 27.4**	**-2.3**
KSRS	**Korea Array**	**13.30**	**302**	Pn	**Pn**	**12 50 32.1**	**+1.2**
	0.3nm,0.3s,baz=113,slow=13,SNR=28						
KSRS				LR	LR	12 55 49.9	
	comp=Z,1μm,18.1s,baz=115,slow=39						
KS19	**Wonju Array Si**	**13.37**	**302**		**Pn**	**12 50 28.1**	**-3.7**
INCN	**Inchon**	**14.26**	**300**		**Pn**	**12 50 44.8**	**+0.8**
INCN	**Inchon**	**14.26**	**300**	P	**Pn**	**12 50 44.8**	**+0.8**
USA0B	**Ussuriysk Arra**	**15.27**	**331**		**Pn**	**12 50 54.8**	**-2.8**
USA0B	**Ussuriysk Arra**	**15.27**	**331**	P	**Pn**	**12 50 54.8**	**-2.8**
USA0B				pmax	pmax		
	comp=Z,39nm,1.8s						
USRK	**Ussuriysk Ar.**	**15.27**	**331**	Pn	**Pn**	**12 50 55.5**	**-2.1**
USRK	**Ussuriysk Ar.**	**15.27**	**331**	P	**Pn**	**12 50 55.5**	**-2.1**
USRK	**Ussuriysk Ar.**	**15.27**	**331**	Pn	**Pn**	**12 50 55.9**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=144,slow=11,SNR=12						
	comp=Z,7.1nm,0.8s						
YSS	**Yuzh-Sakhalins**	**15.77**	**2**	*cePP*	**Pn**	**12 51 01.7**	**-2.4**
YSS				pmax	pmax		
	comp=Z,85nm,2.5s						
MDJ	**Mudanjiang**	**16.65**	**327**	P	**Pn**	**12 51 14.1**	**-1.2**
MDJ				sP	P	12 51 17.6	-0.1
MDJ				S	**Sn**	**12 54 18.6**	**-1.1**
MDJ				sS	S	12 54 23.4	-7.4
MDJ				SS	**SnSn**	**12 54 34.9**	**+1.9**
MDJ				PcP	**PcP**	**12 56 02.6**	**-2.0**
MDJ				ScP	**ScP**	**12 59 37.3**	**-1.0**
MDJ				ScS	**ScS**	**13 03 17.9**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,150nm,3.5s						
MDJ				LR	LR		
	comp=Z,2μm,13.8s						
MDJ				LR	LR		
	comp=Z,1μm,13.2s						
MDJ				LR	LR		
	comp=Z,2μm,14.5s						
MDJ	**Mudanjiang**	**16.65**	**327**		**Pn**	**12 51 14.2**	**-1.2**
GUMO	**Guam**	**17.68**	**171**	Pn	**Pn**	**12 51 25.4**	**-2.9**
GUMO	**Guam**	**17.68**	**171**	P	**Pn**	**12 51 25.4**	**-2.9**
GUMO				pmax	pmax		
	comp=Z,210nm,1.1s						
GUMO	**Guam**	**17.68**	**171**	P	**P**	**12 51 29.9**	**+0.7**
	comp=Z,148nm,1.1s,baz=24,slow=15,SNR=2.0						
SNY	**Shenyang**	**18.28**	**311**	⇓P	**Pn**	**12 51 34.3**	**-1.3**
SNY				S	**Sn**	**12 55 01.3**	**+2.1**
SNY				pmax	pmax		
	comp=Z,79nm,0.9s						
SNY				pmax	pmax		
	comp=Z,240nm,3.6s						
SNY				LR	LR		
	comp=Z,2μm,14.6s						
SNY				LR	LR		
	comp=Z,880nm,12.4s						
SNY				LR	LR		
	comp=Z,1μm,15.3s						
DL2	**Dalian**	**18.45**	**300**	P	**Pn**	**12 51 43.8**	**+6.1**
DL2				S	S	12 55 23.3	+16
DL2				pmax	pmax		
	comp=Z,22nm,1.3s						
DL2				pmax	pmax		
	comp=Z,560nm,11.0s						
DL2				LR	LR		
	comp=N,2μm,13.0s						
DL2				LR	LR		
	comp=E,1μm,17.6s						
DL2				LR	LR		
	comp=Z,2μm,15.3s						
BNX	**BinXian**	**18.52**	**326**	⇑P	**P**	**12 51 35.8**	**-2.5**
BNX				pmax	pmax		
	comp=Z,15nm,0.9s						
BNX				pmax	pmax		
	comp=Z,450nm,4.6s						
TATO	**Taipei**	**19.22**	**256**	P	**Pn**	**12 51 46.8**	**-0.3**
YHNB	**Yeheng**	**19.43**	**256**	P	**P**	**12 51 47.5**	**-1.0**
YHNB				IAmb	IAmb	12 52 00.4	
	comp=Z,92nm,1.0s						
NACB	**Ninganchiao**	**19.46**	**254**	P	**P**	**12 51 47.0**	**-1.7**
NACB				IAmb	IAmb	12 51 49.9	
	comp=Z,66nm,1.0s						
KLR	**Kul'dur**	**19.67**	**339**	P	**P**	**12 51 48.9**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=127,slow=12,SNR=12						
	comp=Z,8.7nm,1.1s						
TYV	**Tymovskoe**	**19.68**	**1**	*eP*	**Pn**	**12 51 57.1**	**+4.7**
TYV				pmax	pmax		
	comp=Z,24nm,1.2s						
TYV				pmax	pmax		
	comp=Z,300nm,2.9s						
NJ2	**Nanjing**	**19.84**	**279**	*eP*	**P**	**12 51 52.0**	**-0.8**
NJ2				pP	**Pn**	**12 51 55.0**	**+0.5**
NJ2				sP	**sP**	**12 51 58.1**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,45nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,1μm,4.2s						
GRNR	**Gornyy**	**20.04**	**349**	⇑*iP*	**P**	**12 51 54.8**	**-0.1**
GRNR				pmax	pmax		
	comp=E,4.0nm,1.0s						
GRNR				pmax	pmax		
	comp=N,10.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
YULB	**Yu-li**	**20.05**	**252**	P	**P**	**12 51 53.4**	**-1.9**
SSLB	**Suanglung**	**20.15**	**254**	P	**P**	**12 51 55.9**	**-0.5**
TWG	**Pinlang**	**20.50**	**251**	P	**P**	**12 51 59.4**	**-0.7**
TWG				IAmb	IAmb	12 52 14.5	
	comp=Z,111nm,1.3s						
TPUB	**Ta-pu**	**20.64**	**253**	P	**P**	**12 52 00.6**	**-1.0**
HEH	**HeiHe**	**22.02**	**334**	*eP*	**P**	**12 52 14.3**	**-1.9**
HEH				pP	**pP**	**12 52 16.8**	**-2.7**
HEH				S	**S**	**12 56 13.8**	**-4.4**
HEH				sS	**pS**	**12 56 18.9**	**-4.6**
HEH				pmax	pmax		
	comp=Z,11nm,0.8s						
HEH				pmax	pmax		
	comp=Z,260nm,3.6s						
HEH				LR	LR		
	comp=Z,630nm,14.8s						
HEH				LR	LR		
	comp=Z,1μm,14.3s						
HEH				LR	LR		
	comp=Z,1μm,19.3s						
BJI	**Beijing**	**22.82**	**300**	P	**P**	**12 52 22.3**	**-2.6**
BJI				S	**S**	**12 56 31.0**	**-2.2**
BJI				pmax	pmax		
	comp=Z,16nm,0.8s						
BJI				pmax	pmax		
	comp=Z,160nm,4.2s						
BJI				LR	LR		
	comp=Z,450nm,13.4s						
BJI				LR	LR		
	comp=Z,500nm,15.0s						
BJI				LR	LR		
	comp=Z,630nm,13.6s						
BJT	**Baijiatuau**	**22.82**	**300**	P	**P**	**12 52 22.1**	**-2.8**
BJT				IAmb	IAmb	12 52 27.4	
	comp=Z,26nm,0.9s						
BJT	**Baijiatuau**	**22.82**	**300**	P	**P**	**12 52 22.1**	**-2.8**
BJT				pmax	pmax		
	comp=Z,26nm,0.9s						
HNS	**HongShan**	**23.45**	**293**	⇓P	**P**	**12 52 28.5**	**-2.8**
HNS				S	**S**	**12 56 41.0**	**-2.8**
HNS				pmax	pmax		
	comp=Z,13nm,1.0s						
HNS				LR	LR		
	comp=Z,510nm,17.9s						
HNS				LR	LR		
	comp=Z,2μm,15.6s						
HNS				LR	LR		
	comp=Z,2μm,16.3s						
WHN	**Wuhan**	**23.83**	**276**	P	P	12 52 46.5	+11
XLT	**XiLinHaoTe**	**24.14**	**309**	*eP*	**P**	**12 52 36.8**	**-1.2**
XLT				sP	sP	12 52 43.6	+1.2
XLT				PP	**PnPn**	**12 53 11.8**	**+4.5**
XLT				S	**S**	**12 56 55.6**	**+0.6**
XLT				pmax	pmax		
	comp=Z,22nm,1.0s						
XLT				pmax	pmax		
	comp=Z,250nm,6.7s						
XLT				LR	LR		
	comp=Z,1μm,14.7s						
XLT				LR	LR		
	comp=Z,810nm,14.5s						
PETK	**Petropavlovsk-**	**24.68**	**23**	LR	LR	13 02 47.7	
	comp=Z,686nm,20.6s,baz=211,slow=38						
HIA	**Hailar**	**24.73**	**323**	P	**P**	**12 52 42.3**	**-0.9**
HIA				IAmb	IAmb	12 52 44.0	
	comp=Z,31nm,0.8s						
HIA	**Hailar**	**24.73**	**323**	P	**P**	**12 52 42.3**	**-0.9**
HIA				pmax	pmax		
	comp=Z,31nm,0.8s						
PET	**Petropavlovsk**	**24.93**	**24**	*eP*	**P**	**12 52 48.5**	**+3.6**
PET				*eS*	**S**	**12 57 04.9**	**-2.4**
PET				MLR	MLR		
	comp=Z,900nm,16.0s						
PET				MLR	MLR		
	comp=Z,900nm,15.0s						
ZEA	**Zeya**	**24.98**	**339**	*eP*	**P**	**12 52 45.5**	**+0.1**
ZEA				*e*		12 52 46.8	
ZEA				*eS*	**S**	**12 57 07.0**	**-1.2**
ZEA				*e*		12 57 22.4	
ZEA				pmax	pmax		
	comp=E,100nm,4.7s						
ZEA				pmax	pmax		
	comp=N,100nm,2.3s						
ZEA				pmax	pmax		
	comp=Z,100nm,3.6s						
ZEA				pmax	pmax		
	comp=E,20nm,0.8s						
ZEA				pmax	pmax		
	comp=N,50nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,80nm,1.1s						
ZEA				smax	smax		
	comp=Z,200nm,7.8s						
ZEA				smax	smax		
	comp=E,300nm,9.6s						
H11N2	**WAKE ISLAND Hy**	**25.04**	**111**	T	T	13 19 04.0	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**25.04**	**111**	T	T	13 19 03.4	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**25.06**	**111**	T	T	13 19 03.8	
	baz=305						
LYN	**LuoYang**	**25.10**	**286**	⇑P	**P**	**12 52 44.5**	**-2.2**
LYN				pP	pP	12 52 48.1	-1.9
LYN				sP	sP	12 52 51.5	+0.3
LYN				S	**S**	**12 57 10.4**	**0.0**
LYN				pmax	pmax		
	comp=E,28nm,0.5s						
LYN				pmax	pmax		
	comp=E,570nm,4.2s						
LYN				LR	LR		
	comp=E,1μm,10.7s						
LYN				LR	LR		
	comp=E,2μm,13.7s						
LYN				LR	LR		
	comp=E,2μm,15.1s						
TIY	**Taiyuan**	**25.28**	**293**	*eP*	**P**	**12 52 46.8**	**-1.6**
TIY				pmax	pmax		
	comp=E,25nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**25.54**	**114**	T	T	13 19 38.4	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**25.55**	**114**	T	T	13 19 49.1	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**25.56**	**114**	T	T	13 19 47.8	
	baz=304						
HHC	**Hu-ho-hao-te**	**26.43**	**300**	*eP*	**P**	**12 52 56.8**	**-2.0**
HHC				sP	sP	12 53 03.6	+0.4
HHC				PP	**PnPn**	**12 53 40.1**	**+1.4**
HHC				S	**S**	**12 57 28.5**	**-3.1**
HHC				pmax	pmax		
	comp=E,29nm,0.7s						
HHC				pmax	pmax		
	comp=E,330nm,6.6s						
HHC				LR	LR		
	comp=E,560nm,10.7s						
HHC				LR	LR		
	comp=E,3μm,12.8s						
HHC				LR	LR		
	comp=E,3μm,11.9s						
BTO	**Baotou**	**27.54**	**299**	*eP*	**P**	**12 53 08.4**	**-0.4**
BTO				pP	**pP**	**12 53 12.9**	**+0.8**
BTO				sP	**sP**	**12 53 15.6**	**+2.4**
BTO				PP	**PnPn**	**12 53 56.9**	**+3.1**
BTO				S	**S**	**12 57 51.4**	**+2.3**
BTO				sS	**sS**	**12 57 59.4**	**+4.5**
BTO				SS	**SnSn**	**12 59 06.0**	**+6.1**
BTO				pmax	pmax		
	comp=E,100nm,1.0s						
BTO				pmax	pmax		
	comp=E,510nm,8.5s						
BTO				LR	LR		
	comp=E,2μm,15.3s						
BTO				LR	LR		
	comp=E,5μm,14.7s						
BTO				LR	LR		
	comp=E,6μm,15.7s						
XAN	**Xi'an**	**28.05**	**285**	⇑P	**P**	**12 53 11.5**	**-1.9**
XAN				pP	sP	12 53 18.0	+0.2
XAN				pmax	pmax		
	comp=E,40nm,0.8s						
XAN				pmax	pmax		
	comp=E,480nm,5.9s						
XAN				LR	LR		
	comp=E,1μm,11.0s						
XAN				LR	LR		
	comp=E,1μm,13.1s						
XAN				LR	LR		
	comp=E,2μm,12.4s						
DAV	**Davao City (W)**	**28.54**	**216**	LR	LR	13 03 16.9	
	comp=E,463nm,20.6s,baz=28,slow=34						
MA2	**Magadan**	**29.00**	**9**	LR	LR	13 05 01.2	
	comp=E,98nm,21.3s,baz=186,slow=37						
ULN	**Ulaanbaatar**	**31.45**	**312**	P	**P**	**12 53 43.4**	**0.0**
ULN				IAmb	IAmb	12 53 56.7	
	comp=Z,25nm,0.9s						
ULN	**Ulaanbaatar**	**31.45**	**312**	*i* P	**P**	**12 53 44.2**	**+0.8**
ULN				pmax	pmax		
	comp=Z,34nm,1.4s						
ULN	**Ulaanbaatar**	**31.45**	**312**	P	**P**	**12 53 44.7**	**+1.3**
ULN				P	**P**	**12 53 44.7**	**+1.3**
QIZ	**Qiongzhong**	**31.52**	**255**	P	**P**	**12 53 43.4**	**-0.7**
QIZ				S	**S**	**12 58 51.9**	**+0.2**
QIZ				LR	LR		
	comp=Z,360nm,10.4s						
QIZ				LR	LR		
	comp=Z,380nm,9.2s						
QIZ				LR	LR		
	comp=Z,370nm,11.2s						
SHEM	**Shemya Is, Ala**	**31.68**	**38**	LR	LR	13 04 53.7	
	comp=Z,468nm,20.5s,baz=254,slow=33						
SONM	**Songino Array**	**31.86**	**312**	P	**P**	**12 53 47.1**	**+0.2**
SONM				IAmb	IAmb	12 53 49.4	
	comp=Z,18nm,0.9s						
SONM	**Songino Array**	**31.86**	**312**	P	**P**	**12 53 47.2**	**+0.2**
SONM				pmax	pmax		
	comp=Z,18nm,0.9s						
SONM	**Songino Array**	**31.86**	**312**	P	**P**	**12 53 47.3**	**+0.3**
	comp=Z,20nm,0.9s,baz=119,slow=8.2,SNR=70						
	comp=Z,20nm,0.9s						
YAK	**Yakutsk**	**31.92**	**349**	*eP*	**P**	**12 53 46.5**	**-0.7**
YAK				*e*PP	**pwP**	**12 53 57.1**	**-4.8**
YAK				*e*		12 54 50.7	
YAK				*e*		12 56 32.9	
YAK				*eS*	**S**	**12 58 56.2**	**-0.9**
YAK				*e*SS	**SnSn**	**13 00 45.7**	**-0.2**
YAK				pmax	pmax		
	comp=N,9.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,22nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,168nm,4.4s						
YAK				pmax	pmax		
	comp=N,108nm,3.3s						
YAK				pmax	pmax		
	comp=E,45nm,2.8s						
YAK				smax	smax		
	comp=E,153nm,4.9s						
YAK				smax	smax		
	comp=N,78nm,3.4s						
YAK				MLR	MLR		
	comp=Z,692nm,17.0s						
YAK				MLR	MLR		
	comp=N,493nm,17.0s						
YAK				MLR	MLR		
	comp=E,128nm,14.0s						
LZH	**Lanzhou**	**32.11**	**289**	*eP*	**P**	**12 53 47.5**	**-1.9**
LZH				sP	sP	12 53 57.3	+3.5
LZH				S	**S**	**12 59 03.5**	**+2.4**
LZH				sS	sS	12 59 13.5	+6.6
LZH				pmax	pmax		
	comp=E,28nm,1.6s						

LZH LR LR
comp=E,750nm,11.0s
LZH LR LR
comp=E,910nm,11.7s
LZH LR LR
comp=E,910nm,11.7s
SEY Seymchan 32.46 9 *i* P **P 12 53 51.1 -0.8**
CD2 Chengdu 32.77 280 P **P 12 53 53.3 -1.8**
CD2 pmax pmax
comp=E,20nm,0.4s
BOD Bodaibo 32.90 332 *e*P **P 12 53 54.8 -1.0**
BOD pmax pmax
comp=Z,14nm,0.9s
MYLDM Lahad Datu 34.07 225 P **P 12 54 05.7 -0.8**
ZAK Zakamensk 34.61 315 *e*P **P 12 54 11.3 +0.3**
ZAK pmax pmax
comp=Z,20nm,1.3s
FAKI Fak Fak 35.18 197 P **P 12 54 16.1 0.0**
FAKI IAmb IAmb 12 55 30.0
comp=Z,41nm,1.4s
GTA Gaotai 35.24 295 *e*P **P 12 54 14.8 -1.8**
GTA sP pwP 12 54 26.3 -3.8
GTA sS sS 12 59 53.9 -1.4
GTA pmax pmax
comp=Z,15nm,0.9s
GTA LR LR
comp=Z,580nm,17.1s
GTA LR LR
comp=Z,1μm,15.5s
GTA LR LR
comp=Z,1μm,16.3s
PZH PanZhiHua 35.54 273 P **P 12 54 17.8 -1.5**
PZH S **S 12 59 49.1 -5.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,150nm,4.5s
PZH LR LR
comp=Z,650nm,15.1s
PZH LR LR
comp=Z,440nm,14.5s
PZH LR LR
comp=Z,380nm,13.5s
MOY Mondy 36.39 316 *e*P **P 12 54 25.9 -0.3**
MOY pmax pmax
comp=Z,30nm,3.3s
SANI Sanana 36.43 208 P **P 12 54 24.9 -1.8**
comp=Z,30nm,0.5s
LUWI Luwuk 36.93 213 P **P 12 54 32.9 +1.8**
comp=Z,44nm,1.0s,comp=Z,8μm
PMG Port Moresby 40.63 172 P **P 12 55 02.7 +0.7**
comp=Z,10.0nm,0.8s,baz=338,slow=19,SNR=2.9
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 40.79 263 P **P 12 55 02.0 -1.4**
CHTO Chiang Mai 40.79 263 P **P 12 55 02.0 -1.4**
CMAR Chiang Mai Arr 40.95 262 P **P 12 55 03.0 -1.7**
comp=Z,1.9nm,0.6s,baz=59,slow=6.9,SNR=12
CMAR LR LR 13 13 44.6
comp=Z,386nm,18.8s,baz=70,slow=39
comp=Z,1.9nm,0.6s
BBSI Bau Bau 40.96 211 P **P 12 55 07.0 +2.2**
comp=Z,23nm,1.1s
TIXI Tiksi 41.17 354 *i* P **P 12 55 06.6 +0.7**
TIXI pmax pmax
comp=Z,5.0nm,1.4s
KAPI Kappang 41.84 215 P **P 12 55 10.9 -1.1**
KAPI IAmb IAmb 12 55 13.5
comp=Z,24nm,0.9s
KAPI Kappang 41.84 215 P **P 12 55 10.9 -1.1**
KAPI pmax pmax
comp=Z,25nm,1.0s
KAPI Kappang 41.84 215 P **P 12 55 11.1 -0.9**
comp=Z,22nm,0.8s,baz=22,slow=6.2,SNR=8.6
KAPI LR LR 13 12 18.2
comp=Z,125nm,20.8s,baz=34,slow=36
comp=Z,22nm,0.8s
BKSI Bulukumba 41.93 214 P **P 12 55 13.1 +0.4**
comp=Z,11nm,1.0s
KSM Kuching 42.16 232 P **P 12 55 15.0 +0.3**
KSM IAmb IAmb 12 55 17.0
comp=Z,16nm,0.5s
SOEI Soe 44.15 206 P **P 12 55 32.0 +1.2**
comp=Z,21nm,1.4s
WMQ Urumqi 44.26 302 *e*P **P 12 55 35.0 +3.6**
WMQ sP pwP 12 55 40.8 -4.0
WMQ pmax pmax
comp=Z,46nm,1.1s
WMQ pmax pmax
comp=Z,220nm,4.9s
WMQ LR LR
comp=Z,990nm,12.1s
WMQ LR LR
comp=Z,610nm,16.5s
WMQ LR LR
comp=Z,400nm,14.3s
DGZ Jazzator, Alta 44.49 311 *i* P **P 12 55 33.4 0.0**
DGZ pmax pmax
comp=Z,40nm,1.1s
BATI Baumata 44.79 206 P **P 12 55 35.8 0.0**
comp=Z,25nm,0.5s,baz=290,slow=5.5,SNR=3.5
BATI LR LR 13 12 21.4
comp=Z,217nm,20.4s,baz=5.5,slow=34
comp=Z,25nm,0.5s
COEN Coen 44.88 179 P **P 12 55 36.6 +0.2**
MTN Manton Dam 45.01 195 P **P 12 55 37.6 0.0**
MTN IAmb IAmb 12 55 58.7
comp=Z,17nm,0.7s
ZSN Zaisan 46.14 308 *e*P **P 12 55 46.8 +0.4**
comp=Z,27nm,1.1s,baz=308
ZSN *e*S **S 13 02 34.2 +2.8**
baz=308
ZSN *i* S S 13 02 34.7 +3.3
baz=308
ZSN Zaisan 46.14 308 *e*P **P 12 55 46.7 +0.4**
ZSN *e*S **S 13 02 34.2 +2.8**
ZSN pmax pmax
comp=Z,27nm,1.1s
F14K Arctic Creek 46.33 27 P **P 12 55 48.7 +1.2**
baz=248
ZAA0 Zalesovo Array 46.45 317 P **P 12 55 48.5 0.0**
ZALV Zalesovo Beam 46.45 317 P **P 12 55 47.6 -0.9**
ZALV Zalesovo Beam 46.45 317 P **P 12 55 48.2 -0.3**
comp=Z,7.4nm,0.7s,baz=100,slow=7.3,SNR=36
ZALV PcP **PcP 12 57 23.5 +0.5**
comp=Z,6.5nm,0.8s,baz=102,slow=3.6,SNR=5.5
ZALV LR LR 13 15 54.5
comp=Z,514nm,18.3s,baz=98,slow=37
comp=Z,7.4nm,0.7s
M14K Bethel 46.80 34 P **P 12 55 53.6 +2.4**
baz=257
O14K Tigyukauivet M 46.83 36 P **P 12 55 53.6 +2.2**
baz=259
G15K Niukluk 47.07 28 P **P 12 55 54.6 +1.4**
baz=251
F15K North Star Dit 47.07 27 P **P 12 55 54.9 +1.6**
baz=250
CHNA Chernabura Isl 47.10 42 P **P 12 55 55.3 +1.7**
baz=265
K15K Wolf Creek Mou 47.37 32 P **P 12 55 57.7 +2.1**
baz=256
M15K Kasigluk River 47.40 34 P **P 12 55 57.1 +1.2**
baz=258
O15K Ungalikthiuk R 47.54 36 P **P 12 55 59.4 +2.3**
baz=261
N15K Kwethluk River 47.59 35 P **P 12 55 59.5 +2.1**
baz=259
ODAN Odare 47.66 279 *e*P **P 12 55 56.9 -1.8**
comp=Z,56nm,1.9s
MK31 Makanchi Array 47.92 307 P **P 12 55 59.5 -0.7**
MK31 Makanchi Array 47.92 307 P **P 12 55 59.5 -0.7**
MK31 pmax pmax
comp=Z,19nm,0.9s
MKAR Makanchi Array 47.92 307 P **P 12 55 59.7 -0.5**
MKAR Makanchi Array 47.92 307 P **P 12 55 59.7 -0.5**
MKAR Makanchi Array 47.92 307 P **P 12 56 00.0 -0.2**
comp=Z,21nm,0.9s,baz=90,slow=8.5,SNR=105
MKAR LR LR 13 17 07.9
comp=Z,422nm,19.0s,baz=104,slow=37
comp=Z,21nm,0.9s
I17K Unalakleet 48.13 30 P **P 12 56 03.2 +1.7**
baz=256
MAKZ Makanchi 48.14 307 P **P 12 56 01.4 -0.5**
MAKZ IAmb IAmb 12 56 02.9
comp=Z,10nm,0.8s
MAKZ Makanchi 48.14 307 P **P 12 56 01.4 -0.5**
MAKZ pmax pmax
comp=Z,10.0nm,0.9s

L16K Owhat River 48.18 33 P **P 12 56 03.6 +1.6**
baz=259
N16K Nishlik Lake 48.29 35 P **P 12 56 04.4 +1.6**
baz=260
M16K Timber Creek 48.29 34 P **P 12 56 05.3 +2.5**
baz=260
RAMN Ramite 48.30 280 *e*P **P 12 56 02.7 -1.0**
comp=Z,43nm,0.7s
JIRN Jiri 48.42 281 *e*P **P 12 56 03.7 -1.0**
comp=Z,33nm,0.4s
O16K Kokwok River B 48.48 36 P **P 12 56 06.8 +2.5**
baz=262
G17K Kiwalik Mounta 48.58 28 P **P 12 56 06.3 +1.4**
baz=254
E17K Hotham Inlet 48.60 26 P **P 12 56 05.8 +0.7**
baz=252
GUN Gumba 48.60 281 *e*P **P 12 56 04.8 -1.3**
comp=Z,59nm,0.9s
F17K Baldwin Pennin 48.62 27 P **P 12 56 06.4 +1.2**
baz=253
H17K Granite Mounta 48.73 29 P **P 12 56 08.9 +2.8**
baz=255
L17K Donlin 48.81 33 P **P 12 56 09.6 +2.8**
baz=259
K17K Iditarod 48.92 32 P **P 12 56 10.6 +2.9**
K17K IAmb IAmb 12 56 12.9
comp=Z,9.9nm,0.8s
K17K Iditarod 48.92 32 P **P 12 56 10.4 +2.8**
baz=259
O17K Koliganek Bris 49.01 36 P **P 12 56 08.1 -0.2**
baz=263
N17K Nushagak Hills 49.07 35 P **P 12 56 11.3 +2.5**
N17K Nushagak Hills 49.07 35 P **P 12 56 10.9 +2.1**
baz=262
M17K Holitna River 49.08 34 P **P 12 56 10.5 +1.6**
M17K IAmb IAmb 12 56 14.1
comp=Z,17nm,0.8s
M17K Holitna River 49.08 34 P **P 12 56 11.7 +2.8**
baz=261
Q16K King Salmon 49.10 37 P **P 12 56 12.0 +3.0**
baz=264
PKI Pulchoki 49.10 281 *e*P **P 12 56 09.2 -0.8**
comp=Z,20nm,0.9s
PKIN Phulchoki 49.11 281 *e*P **P 12 56 09.0 -0.9**
comp=Z,24nm,1.0s
SEM Semipalatinsk 49.13 312 *e*P **P 12 56 08.4 -1.4**
baz=312
SEM LR LR 13 16 45.0
comp=Z,291nm,14.2s,baz=312
SEM Semipalatinsk 49.13 312 *e*P **P 12 56 08.3 -1.4**
SEM MLR MLR
comp=Z,291nm,14.0s
KKN Kakani 49.14 281 *e*P **P 12 56 09.4 -0.7**
comp=Z,45nm,0.8s
P17K Kvichak River 49.27 37 P **P 12 56 12.4 +2.1**
baz=264
C18K Utukok River 49.33 24 P **P 12 56 14.0 +3.2**
baz=251
H18K Honhosa River 49.42 29 P **P 12 56 13.1 +1.6**
baz=257
Q17K Contact Creek 49.46 38 P **P 12 56 13.0 +1.0**
baz=265
G18K Tagagawik 49.48 28 P **P 12 56 14.5 +2.6**
baz=256,SNR=7.3
L18K Granite Mounta 49.57 33 P **P 12 56 13.9 +1.4**
baz=261
GKN Gorkha 49.62 282 *e*P **P 12 56 12.5 -1.2**
comp=Z,16nm,0.6s
N18K Kilae Creek 49.73 35 P **P 12 56 16.0 +2.2**
baz=263
J18K Innoko River 49.77 31 P **P 12 56 16.2 +2.0**
baz=260
M18K Stony River 49.86 34 P **P 12 56 16.2 +1.4**
baz=262
P18K Big Mountain, 49.91 36 P **P 12 56 17.3 +2.0**
baz=265
GCSA Galena City Sc 49.95 29 P **P 12 56 16.3 +0.9**
baz=259
Q18K Katmai Hardscr 49.95 37 P **P 12 56 16.0 +0.3**
baz=265
O18K Koktuh Hills 49.97 36 P **P 12 56 16.5 +0.9**
baz=264
TTA Tatalina 49.99 32 P **P 12 56 16.9 +1.0**
baz=261
C19K Lookout Ridge 50.03 23 P **P 12 56 18.7 +2.6**
baz=252
G19K Purcell Mounta 50.16 28 P **P 12 56 18.6 +1.6**
baz=257
KURK Kurchatov 50.16 312 P **P 12 56 16.5 -0.7**
KURK Kurchatov 50.16 312 *i* P **P 12 56 16.8 -0.5**
KURK pmax pmax
comp=Z,37nm,1.1s
KURK Kurchatov 50.16 312 P **P 12 56 17.2 -0.1**
LEM Lembang 50.16 227 P **P 12 56 17.6 -0.3**
comp=Z,63nm,0.7s,baz=82,slow=7.4,SNR=12
LEM LR LR 13 19 47.8
comp=Z,118nm,18.0s,baz=210,slow=39
comp=Z,63nm,0.7s
KURBB Kurchatov Arra 50.22 312 P **P 12 56 17.4 -0.4**
comp=Z,19nm,1.0s,baz=87,slow=7.1,SNR=77
KURBB LR LR 13 18 43.9
comp=Z,964nm,18.3s,baz=180,slow=38
comp=Z,19nm,1.0s
PDGK Podgornoye 50.24 303 P **P 12 56 17.4 -0.7**
DANN Dangsing 50.24 283 *e*P **P 12 56 17.9 -0.7**
comp=Z,29nm,0.8s
SHLS Shalkode 50.28 302 *e*P **P 12 56 15.3 -3.1**
baz=302
SHLS Shalkode 50.28 302 *e*P **P 12 56 15.3 -3.1**
H19K Roundabout Mou 50.28 28 P **P 12 56 18.8 +0.9**
baz=258,SNR=7.1
J19K Poorman 50.34 30 P **P 12 56 20.6 +2.2**
baz=260
D19K Kuna River 50.37 24 P **P 12 56 20.2 +1.6**
baz=254
L19K White Mountain 50.41 33 P **P 12 56 20.1 +1.1**
baz=263
E19K Redstone River 50.42 26 P **P 12 56 21.4 +2.4**
E19K IAmb IAmb 12 56 24.1
comp=Z,8.6nm,0.8s
E19K Redstone River 50.42 26 P **P 12 56 20.6 +1.6**
baz=256
N19K Bonanza Creek 50.43 35 P **P 12 56 21.9 +2.6**
baz=264
KOLN Koldanda 50.56 282 *e*P **P 12 56 19.7 -1.2**
comp=Z,112nm,2.2s
UZB Uzynbulak 50.60 302 *e*P **P 12 56 20.7 -0.3**
baz=302
UZB Uzynbulak 50.60 302 *e*P **P 12 56 20.6 -0.3**
OHAK Old Harbor 50.78 39 P **P 12 56 24.1 +2.2**
baz=268
KPKS Kokpek 50.80 303 *e*P **P 12 56 22.1 -0.2**
baz=303
KPKS Kokpek 50.80 303 *e*P **P 12 56 22.1 -0.2**
F20K Avaraart Lake 50.89 27 P **P 12 56 24.7 +2.2**
baz=258
L20K Farewell, AK 50.90 33 P **P 12 56 25.4 +2.7**
baz=263
H20K Anotleneega Mo 50.92 29 P **P 12 56 24.9 +2.1**
baz=260
K20K Telida 50.93 31 P **P 12 56 25.7 +2.8**
K20K IAmb IAmb 12 56 54.1
comp=Z,19nm,1.4s
K20K Telida 50.93 31 P **P 12 56 26.1 +3.2**
baz=262
P19K Oil Pt 50.95 36 P **P 12 56 24.4 +1.3**
baz=266
D20K Etivluk River 50.96 24 P **P 12 56 25.2 +2.2**
baz=256
PYUN Piuthan 50.97 283 *e*P **P 12 56 22.9 -1.0**
comp=Z,83nm,0.9s
I20K Naaghedeneel 50.97 30 P **P 12 56 25.3 +2.2**
baz=261
E20K Nigu River 50.99 25 P **P 12 56 26.5 +3.1**
baz=256
J20K Nowinta River 51.01 30 P **P 12 56 26.2 +2.7**
J20K IAmb IAmb 12 56 54.0
comp=Z,11nm,1.1s
J20K Nowinta River 51.01 30 P **P 12 56 26.2 +2.7**
baz=262,SNR=5.7
SATY Saty 51.06 302 *e*P **P 12 56 24.0 -0.3**
baz=302
SATY Saty 51.06 302 *e*P **P 12 56 24.0 -0.3**
CTA Charters Tower 51.11 175 P **P 12 56 25.3 +0.6**
comp=Z,3.0nm,0.5s,baz=353,slow=6.5,SNR=6.2
comp=Z,3.0nm,0.5s
WB0 Warramunga Arr 51.18 189 P **P 12 56 26.0 +0.8**
KDAK Kodiak Island 51.19 39 P **P 12 56 27.6 +2.8**

KDAK Kodiak Island 51.19 39 P **P 12 56 27.6 +2.8**
KDAK pmax pmax
comp=Z,121nm,1.7s
KDAK Kodiak Island 51.19 39 P **P 12 56 24.8 0.0**
baz=268
KDAK Kodiak Island 51.19 39 P **P 12 56 26.6 +1.7**
comp=Z,9.9nm,0.6s,baz=265,slow=8.6,SNR=9.2
KDAK LR LR 13 16 33.1
comp=Z,583nm,21.4s,baz=275,slow=34
comp=Z,9.9nm,0.6s
M20K Styx River 51.19 33 P **P 12 56 27.3 +2.4**
M20K IAmb IAmb 12 57 33.5
comp=Z,21nm,1.6s
M20K Styx River 51.19 33 P **P 12 56 26.1 +1.2**
baz=264
ARXS Arharly 51.30 304 *e*P **P 12 56 25.1 -1.0**
SYI Shuyak Island 51.32 38 P **P 12 56 27.1 +1.3**
WR0 Warramunga Arr 51.35 189 P **P 12 56 27.3 +0.8**
WR0 IAmb IAmb 12 56 30.2
comp=Z,22nm,1.0s
WRAB Tennant Creek 51.35 189 P **P 12 56 27.0 +0.5**
WRAB IAmb IAmb 12 56 30.3
comp=Z,20nm,0.8s
WRAB Tennant Creek 51.35 189 *i* P **P 12 56 27.8 +1.3**
WRAB pmax pmax
comp=Z,26nm,0.9s
WB2 Warramunga Arr 51.36 189 P **P 12 56 27.3 +0.8**
WB2 IAmb IAmb 12 56 30.4
comp=Z,25nm,0.9s
WRA Warramunga Arr 51.36 189 P **P 12 56 27.3 +0.7**
WRA Warramunga Arr 51.36 189 P **P 12 56 27.3 +0.7**
WRA pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 51.36 189 P **P 12 56 27.0 +0.5**
comp=Z,11nm,0.5s,baz=9.9,slow=8.1,SNR=55
comp=Z,11nm,0.5s
IMAR Indian Mountai 51.47 28 P **P 12 56 28.9 +2.0**
GSI Gunungsitoli 51.51 244 P **P 12 56 25.8 -2.1**
GSI IAmb IAmb 12 57 07.4
comp=Z,29nm,1.1s
N20K Mount Spurr 51.56 34 P **P 12 56 29.7 +1.9**
baz=266
G21K Allakaket 51.65 27 P **P 12 56 30.1 +1.8**
G21K Allakaket 51.65 27 P **P 12 56 31.2 +2.9**
baz=260,SNR=5.5
A21K Barrow 51.66 21 P **P 12 56 29.7 +1.5**
baz=254
C21K Knifeblade Rid 51.70 24 P **P 12 56 30.8 +2.2**
baz=257
TARG Taragay, Kyrgy 51.72 301 P **P 12 56 29.0 -0.6**
TARG IAmb IAmb 12 56 32.7
comp=Z,21nm,1.0s
TARG Taragay, Kyrgy 51.72 301 P **P 12 56 29.0 -0.6**
TARG pmax pmax
comp=Z,21nm,1.0s
PPLA Purkeypile 51.72 32 P **P 12 56 31.5 +2.5**
baz=264
CHUM Lake Minchumin 51.77 31 P **P 12 56 32.4 +3.3**
baz=264
F21K Alatna River 51.79 27 P **P 12 56 32.5 +3.2**
baz=260
H21K Melozitna Rive 51.80 29 P **P 12 56 32.0 +2.6**
H21K Melozitna Rive 51.80 29 P **P 12 56 31.6 +2.2**
baz=262,SNR=7.2
CAST Castle Rocks 51.83 31 P **P 12 56 32.3 +2.6**
baz=264,SNR=6.9
E21K Killik River 51.84 25 P **P 12 56 32.5 +2.8**
E21K Killik River 51.84 25 P **P 12 56 31.7 +2.1**
baz=258
B21K Ikpikpuk River 51.87 23 P **P 12 56 31.9 +2.2**
baz=257
SKT Skwentna 51.95 33 P **P 12 56 33.2 +2.7**
baz=266
CHKK Chushkaly 51.96 304 *e*P **P 12 56 30.5 -0.5**
baz=304
CHKK Chushkaly 51.96 304 *e*P **P 12 56 30.4 -0.5**
MDOK Medeo 52.02 303 *e*P **P 12 56 31.6 -0.1**
baz=303
MDOK LR LR 13 19 20.4
comp=Z,262nm,15.1s,baz=303
MDOK Medeo 52.02 303 *e*P **P 12 56 31.5 -0.1**
MDOK MLR MLR
comp=Z,261nm,15.0s
I21K Tanana 52.07 29 P **P 12 56 33.7 +2.2**
I21K IAmb IAmb 12 57 12.0
comp=Z,24nm,1.6s
I21K Tanana 52.07 29 P **P 12 56 33.6 +2.2**
baz=263
AAA Alma-Ata 52.11 303 *e*P **P 12 56 32.5 +0.4**
baz=303
AAA Alma-Ata 52.11 303 *e*P **P 12 56 32.5 +0.4**
TNSS Tian-Shan 52.12 303 *i* P **P 12 56 32.8 +0.2**
baz=303
TNSS Tian-Shan 52.12 303 *i* P **P 12 56 32.8 +0.2**
BRSE Bradley Lake S 52.21 36 P **P 12 56 35.2 +2.7**
baz=268
SUA Susitna One 52.29 34 P **P 12 56 34.7 +1.5**
baz=267
F22K John River 52.33 26 P **P 12 56 36.2 +2.9**
baz=261
BPAW Bear Paw Mtn. 52.38 31 P **P 12 56 35.8 +2.1**
baz=265
D22K Ayikyak River 52.39 25 P **P 12 56 36.3 +2.6**
baz=259
H22K Ishtalitna Cre 52.41 28 P **P 12 56 36.6 +2.6**
baz=263
KUU Kurty 52.41 304 *e*P **P 12 56 34.0 -0.4**
comp=Z,28nm,1.1s,baz=304
KUU LR LR 13 20 32.1
baz=304
KUU Kurty 52.41 304 *e*P **P 12 56 33.9 -0.4**
KUU pmax pmax
comp=Z,28nm,1.1s
G22K Bettles 52.50 27 P **P 12 56 35.4 +0.8**
baz=262
CUT Chulitna 52.57 33 P **P 12 56 36.7 +1.6**
baz=267
E22K Anaktuvuk Pass 52.57 26 P **P 12 56 36.6 +1.5**
baz=261
MLY Manley 52.58 30 P **P 12 56 37.9 +2.6**
MLY Manley 52.58 30 P **P 12 56 37.8 +2.6**
baz=264
M22K Willow 52.60 34 P **P 12 56 35.3 0.0**
baz=267
TRF Thorofare Moun 52.63 32 P **P 12 56 37.2 +1.4**
baz=266
COLD Coldfoot 53.05 27 P **P 12 56 40.3 +1.7**
baz=263
G23K Bananza Creek 53.06 27 P **P 12 56 41.0 +2.2**
baz=264,SNR=6.9
PMR Palmer 53.07 34 P **P 12 56 39.9 +1.1**
baz=268
D23K Nanushuk River 53.12 25 P **P 12 56 42.2 +3.2**
baz=261
TKM2 Tokmak 2 53.12 303 P **P 12 56 40.7 +0.9**
SNR=12
TKM2 Tokmak 2 53.12 303 P **P 12 56 39.1 -0.7**
H23K Yukon River 53.16 29 P **P 12 56 42.4 +2.9**
H23K IAmb IAmb 12 57 11.6
comp=Z,21nm,1.4s
H23K Yukon River 53.16 29 P **P 12 56 41.1 +1.7**
baz=265
I23K Minto, Yukon-K 53.17 29 P **P 12 56 41.1 +1.6**
baz=265
NEA2 Nenana 53.25 30 P **P 12 56 43.2 +3.0**
baz=266,SNR=12
MCK McKinley 53.26 31 P **P 12 56 41.7 +1.5**
baz=267
C23K Itkillik River 53.28 24 P **P 12 56 42.4 +2.2**
baz=261
E23K Chandalar 53.38 26 P **P 12 56 43.4 +2.3**
baz=263
KNK Knik Glacier 53.38 34 P **P 12 56 43.3 +2.2**
baz=269
WAT1 Susitna Watana 53.38 32 P **P 12 56 43.2 +2.1**
baz=268
SML Sawmill 53.45 34 P **P 12 56 42.9 +1.2**
baz=269
TOLK Toolik Lake Re 53.47 25 P **P 12 56 44.2 +2.5**
TOLK IAmb IAmb 12 57 36.7
comp=Z,22nm,1.4s
TOLK Toolik Lake Re 53.47 25 P **P 12 56 42.4 +0.7**
baz=263
KSH Kashi 53.53 298 P **P 12 56 47.0 +4.3**
KSH pP sP 12 56 51.5 +4.3
KSH pmax pmax
comp=Z,15nm,1.0s

KSH LR LR
comp=Z,790nm,15.1s
KSH LR LR
comp=Z,720nm,14.8s
KSH LR LR
comp=Z,1μm,17.2s
KBK Karagaybulak 53.63 302 P **P 12 56 44.3 +0.8**
SNR=18
SGDS Sogindy 53.71 303 *e*P **P 12 56 43.8 -0.2**
SGDS *i* S **S 13 04 19.8 +2.6**
baz=304
SGDS Sogindy 53.71 303 *e*P **P 12 56 43.7 -0.2**
M23K Glacier View 53.74 34 P **P 12 56 45.0 +1.2**
baz=269
WAT6 Susitna Watana 53.75 33 P **P 12 56 46.5 +2.4**
baz=269
COLA College 53.79 30 *i* P **P 12 56 41.1 -2.9**
COLA College 53.79 30 P **P 12 56 46.7 +2.7**
baz=267
CCB Clear Creek Bu 53.80 30 P **P 12 56 48.4 +4.3**
E24K Your Creek 53.80 26 P **P 12 56 46.2 +2.0**
baz=264
D24K Happy Valley 53.80 24 P **P 12 56 46.2 +2.1**
baz=263
BTLS Baital 53.84 305 *e*P **P 12 56 44.6 -0.1**
comp=Z,12nm,0.9s,baz=306
BTLS Baital 53.84 305 *e*P **P 12 56 44.6 -0.1**
BTLS pmax pmax
comp=Z,12nm,0.9s
USP Ospenovka 53.84 303 P **P 12 56 45.2 +0.4**
SNR=11
H24K Noodor Dome 53.84 29 P **P 12 56 46.0 +1.5**
baz=266
DHY Denali Highway 53.93 32 P **P 12 56 47.2 +1.9**
baz=269
SCM Sheep Creek Mo 53.93 34 P **P 12 56 47.3 +2.0**
baz=270
AAK Ala-Archa 53.97 302 P **P 12 56 46.4 +0.4**
SNR=7.7
AAK Ala-Archa 53.97 302 P **P 12 56 45.0 -0.9**
AAK IAmb IAmb 12 56 47.9
comp=Z,13nm,0.8s
AAK Ala-Archa 53.97 302 P **P 12 56 45.0 -0.9**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK Ala-Archa 53.97 302 P **P 12 56 46.5 +0.5**
AAK Ala-Archa 53.97 302 LR LR 13 20 27.2
comp=Z,404nm,18.4s,baz=73,slow=37
F24K Squaw Lake 53.97 27 P **P 12 56 48.0 +2.6**
baz=265
POKR Poker Plat Res 53.98 30 P **P 12 56 48.7 +3.2**
baz=267
BRZS Berezniki 54.02 312 *e*P **P 12 56 45.6 -0.4**
baz=312
BRZS Berezniki 54.02 312 *e*P **P 12 56 45.6 -0.4**
GLI Glacier Island 54.04 35 P **P 12 56 50.3 +4.3**
baz=271
G24K Hadweenzic Riv 54.06 28 P **P 12 56 49.6 +3.5**
baz=266
HDA Harding Lake 54.16 30 P **P 12 56 48.0 +1.2**
baz=268,SNR=6.0
IL31 54.20 30 P **P 12 56 48.2 +1.2**
IL31 IAmb IAmb 12 56 50.5
comp=Z,7.1nm,0.8s
ILAR Eielson Array 54.20 30 P **P 12 56 47.3 +0.2**
ILAR Eielson Array 54.20 30 P **P 12 56 47.3 +0.2**
ILAR Eielson Array 54.20 30 P **P 12 56 47.8 +0.7**
comp=Z,5.6nm,0.8s,baz=261,slow=6.0,SNR=38
ILAR LR LR 13 17 38.6
comp=Z,102nm,22.0s,baz=274,slow=34
comp=Z,5.6nm,0.8s
M24K Tolsona, Glenn 54.47 33 P **P 12 56 51.3 +2.1**
baz=270
EKS2 Erkin-Say 54.48 303 P **P 12 56 50.1 +0.4**
SNR=8.1
KLU Klutina 54.60 34 P **P 12 56 52.2 +2.1**
baz=271
G25K Bearman Lake 54.61 28 P **P 12 56 52.4 +2.4**
baz=267
AML Almayashu 54.65 302 P **P 12 56 52.5 +1.3**
SNR=17
K24K Donnelly Dome 54.66 31 P **P 12 56 52.8 +2.3**
baz=270
D25K Kavik River 54.69 24 P **P 12 56 52.5 +1.8**
baz=265
H25L Birch Creek 54.70 28 P **P 12 56 53.1 +2.4**
baz=268
PAX Paxson 54.80 32 P **P 12 56 54.1 +2.5**
baz=271
PRP Porcupine Dome 54.80 29 P **P 12 56 52.6 +1.0**
baz=269
F25K Christian Rive 54.84 27 P **P 12 56 54.5 +2.7**
baz=267
J25K Salcha River, 54.85 30 P **P 12 56 54.2 +2.3**
baz=270
E25K Arctic Village 54.89 26 P **P 12 56 54.7 +2.6**
baz=267
HARP HAARP 54.95 33 P **P 12 56 54.5 +1.9**
baz=271
BVA0 Borovoye Array 55.06 316 *i* P **P 12 56 52.7 -0.8**
BVAR Borovoye Array 55.06 316 P **P 12 56 53.0 -0.5**
comp=Z,14nm,0.8s,baz=92,slow=7.6,SNR=34
BVAR LR LR 13 22 07.3
comp=Z,193nm,18.8s,baz=79,slow=38
comp=Z,14nm,0.8s
RIDG Independent Ri 55.07 31 P **P 12 56 53.9 +0.4**
baz=271
AS31 Alice Springs 55.09 189 P **P 12 56 54.8 +0.8**
ASAR Alice Springs 55.09 189 P **P 12 56 54.6 +0.7**
ASAR Alice Springs 55.09 189 P **P 12 56 54.3 +0.3**
comp=Z,7.1nm,0.7s,baz=3.1,slow=6.4,SNR=47
ASAR LR LR 13 18 60.0
comp=Z,352nm,21.4s,baz=18,slow=34
comp=Z,7.1nm,0.7s
BRVK Borovoye 55.12 316 P **P 12 56 52.1 -1.9**
BRVK IAmb IAmb 12 56 55.9
comp=Z,14nm,0.9s
BRVK Borovoye 55.12 316 P **P 12 56 52.1 -1.9**
BRVK pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 55.12 316 P **P 12 56 54.4 +0.4**
N25K Chitina, Valde 55.23 34 P **P 12 56 56.7 +2.0**
baz=272
BMRM Bremner River 55.25 35 P **P 12 56 57.4 +2.5**
baz=273
KAIM Kayak Island 55.40 36 P **P 12 56 59.0 +3.2**
baz=274
F26K Sheenjek River 55.41 26 P **P 12 56 57.9 +2.1**
baz=268
SCRK Sand Creek 55.45 31 P **P 12 56 57.9 +1.5**
SCRK Sand Creek 55.45 31 P **P 12 56 57.8 +1.5**
baz=271
MENT Mentasta 55.60 32 P **P 12 56 55.3 -2.0**
J26L Joseph Creek 55.63 30 P **P 12 56 59.0 +1.5**
baz=271,SNR=12
L26K Log Cabin Wild 55.76 32 P **P 12 57 01.0 +2.6**
L26K Log Cabin Wild 55.76 32 P **P 12 57 00.5 +2.1**
baz=272,SNR=5.5
I26K Coal Creek Min 55.79 29 P **P 12 56 59.8 +1.2**
baz=271
M26K Nabesna, AK 55.95 33 P **P 12 57 00.2 +0.4**
baz=273
MCARA McCarthy VSAT 56.00 34 P **P 12 57 02.7 +2.6**
MCARA McCarthy VSAT 56.00 34 P **P 12 57 02.0 +1.9**
baz=274
K27K Chicken 56.29 31 P **P 12 57 05.7 +3.6**
K27K IAmb IAmb 12 57 32.5
comp=Z,22nm,1.5s
K27K Chicken 56.29 31 P **P 12 57 03.8 +1.7**
baz=273
E27K Coleen River 56.38 26 P **P 12 57 04.2 +1.4**
baz=270
I27K Kandik River 56.42 29 P **P 12 57 04.5 +1.3**
baz=272
H27K Steamboat Moun 56.44 28 P **P 12 57 04.4 +1.1**
baz=272
L27K Beaver Creek, 56.45 32 P **P 12 57 05.8 +2.4**
L27K Beaver Creek, 56.45 32 P **P 12 57 04.8 +1.4**
baz=274
BCAR Beaver Creek A 56.47 32 P **P 12 57 05.9 +2.3**
M27K Edge Creek, AK 56.48 33 P **P 12 57 05.6 +1.9**
baz=274
KK31 Karatay Array 56.73 304 P **P 12 57 05.8 +0.2**
KK31 Karatay Array 56.73 304 P **P 12 57 05.8 +0.2**
KK31 pmax pmax
comp=Z,50nm,0.9s
KKAR Karatay Array 56.73 304 P **P 12 57 05.2 -0.4**
KKAR Karatay Array 56.73 304 P **P 12 57 05.3 -0.4**
KKAR IAmb IAmb 12 57 07.8
comp=Z,50nm,0.9s
KKAR Karatay Array 56.73 304 P **P 12 57 05.3 -0.4**
KKAR pmax pmax
comp=Z,50nm,0.9s
F28M Old Crow 57.05 27 P **P 12 57 10.3 +2.7**
baz=272
I28M Miner Creek 57.13 29 P **P 12 57 10.9 +2.7**
I28M Miner Creek 57.13 29 P **P 12 57 10.9 +2.7**
baz=274,SNR=5.2
E28M Babbage River 57.14 25 P **P 12 57 10.4 +2.3**
baz=272
YUK3 Moose Creek 57.19 34 P **P 12 57 10.1 +1.2**
baz=276
NIL Nilore 57.20 292 P **P 12 57 09.9 +0.7**
IUG Iuzhnay 57.30 303 *e*P **P 12 57 10.3 +0.4**
baz=303
IUG Iuzhnay 57.30 303 *e*P **P 12 57 10.2 +0.4**
DAWY Dawson 57.47 31 P **P 12 57 13.6 +3.0**
DAWY IAmb IAmb 12 57 41.6
comp=Z,25nm,1.5s
DAWY Dawson 57.47 31 P **P 12 57 12.4 +1.8**
baz=275
H29M Whitestone 57.72 28 P **P 12 57 15.0 +2.8**
baz=275
E29M Blow River 57.75 26 P **P 12 57 15.0 +2.5**
baz=274
G29M Pine Creek 57.80 27 P **P 12 57 17.0 +4.2**
G29M IAmb IAmb 12 57 44.5
comp=Z,19nm,1.1s
G29M Pine Creek 57.80 27 P **P 12 57 15.4 +2.5**
baz=275
I29M Ogilvie Camp, 57.82 29 P **P 12 57 13.3 +0.3**
baz=275
DZM Mont Dzumac 57.85 153 *e*LR LR 13 13 41.8
comp=Z,204nm,20.4s
DZM Mont Dzumac 57.85 153 LR LR 13 22 14.7
comp=Z,160nm,19.4s,baz=30,slow=36
M29M Somme Creek 58.05 33 P **P 12 57 17.8 +3.0**
M29M Somme Creek 58.05 33 P **P 12 57 17.6 +2.9**
baz=277,SNR=11
YUK4 Talbot Arm 58.10 34 P **P 12 57 18.9 +3.6**
baz=278
L29M L29M 58.13 32 P **P 12 57 18.6 +3.4**
baz=277,SNR=21
O29M Mount Kennedy 58.27 35 P **P 12 57 19.7 +3.3**
baz=278
YUK6 Outpost Mounta 58.29 34 P **P 12 57 18.9 +2.3**
baz=278
K29M Barlow Dome 58.31 31 P **P 12 57 18.7 +2.2**
baz=277,SNR=6.3
EPYK Eagle Plains 58.37 28 P **P 12 57 19.4 +2.5**
EPYK Eagle Plains 58.37 28 P **P 12 57 19.3 +2.5**
baz=276,SNR=7.2
G30M tAoh Zraii Nji 58.51 27 P **P 12 57 20.3 +2.5**
baz=276
F30M Barrier River 58.61 26 P **P 12 57 20.4 +2.0**
baz=276
I30M Mount Dempster 58.64 29 P **P 12 57 21.9 +3.0**
I30M IAmb IAmb 12 58 20.7
comp=Z,10nm,1.1s
I30M Mount Dempster 58.64 29 P **P 12 57 21.2 +2.4**
baz=277
HYT Haines Junctio 58.72 34 P **P 12 57 22.4 +2.8**
baz=279
J30M Hart River 58.74 30 P **P 12 57 21.2 +1.7**
baz=278
M30M Minto, Yukon 58.80 32 P **P 12 57 22.8 +2.9**
M30M IAmb IAmb 12 57 51.8
comp=Z,12nm,1.0s
M30M Minto, Yukon 58.80 32 P **P 12 57 22.3 +2.4**
baz=278,SNR=7.2
MAYO Mayo, Yukon 59.06 31 P **P 12 57 24.7 +3.1**
baz=278
P30M Million Dollar 59.10 35 P **P 12 57 24.5 +2.5**
baz=280
G31M Satah River 59.27 27 P **P 12 57 25.6 +2.6**
baz=278
INK Inuvik 59.37 25 P **P 12 57 25.7 +2.0**
baz=278
INK Inuvik 59.37 25 P **P 12 57 24.9 +1.2**
comp=Z,6.7nm,0.9s,baz=321,slow=2.7,SNR=4.2
INK LR LR 13 27 44.4
comp=Z,71nm,19.5s,baz=197,slow=41
comp=Z,6.7nm,0.9s
H31M Peel River 59.40 28 P **P 12 57 26.5 +2.5**
baz=278
F31M Tsiigehtchic 59.41 26 P **P 12 57 26.0 +2.1**
baz=278
N31M Braeburn, Yuko 59.44 34 P **P 12 57 28.9 +4.5**
N31M Braeburn, Yuko 59.44 34 P **P 12 57 27.6 +3.2**
baz=280
PLBC Pleasant Camp 59.51 36 P **P 12 57 27.1 +2.3**
baz=280
MSVF Nonsavu 59.62 140 LR LR 13 18 48.9
comp=Z,184nm,20.9s,baz=22,slow=32
M31M Drury Creek, Y 59.97 33 P **P 12 57 30.9 +2.9**
M31M IAmb IAmb 12 57 43.7
comp=Z,12nm,0.9s
M31M Drury Creek, Y 59.97 33 P **P 12 57 30.9 +2.9**
baz=281,SNR=5.2
SVE Sverdlovsk 60.01 321 *e*P **P 12 57 29.0 +0.7**
SVE pmax pmax
comp=Z,39nm,0.9s
WHY Whitehorse 60.02 34 P **P 12 57 30.4 +1.9**
baz=281
KBL Kabul 60.23 295 P **P 12 57 30.6 +0.2**
SNR=5.9
FARO Faro, Yukon 60.44 32 P **P 12 57 33.7 +2.5**
baz=281
P33M Teslin, Yukon 61.11 35 P **P 12 57 38.3 +2.4**
baz=283
ARU Arti 61.21 321 P **P 12 57 36.2 -0.3**
ARU Arti 61.21 321 *c i* P **P 12 57 36.6 +0.1**
ARU 12 59 52.1
ARU S **S 13 06 00.9 +5.7**
ARU SS **SS 13 09 55.4 +0.6**
ARU pmax pmax
comp=Z,43nm,0.9s
ARU MLR MLR
comp=Z,297nm,16.0s
AB31 Akbulak array 62.26 313 *i* P **P 12 57 43.6 -0.1**
ABKAR Akbulak array 62.26 313 P **P 12 57 43.9 +0.2**
ABKAR Akbulak array 62.26 313 P **P 12 57 43.6 -0.1**
ABKAR IAmb IAmb 12 57 45.5
comp=Z,19nm,1.1s
S34M Telegraph Cree 62.52 37 P **P 12 57 47.1 +1.8**
baz=286
STKA Stephens Creek 62.70 181 P **P 12 57 48.8 +2.1**
comp=Z,3.8nm,0.7s,baz=340,slow=5.5,SNR=10
comp=Z,3.8nm,0.7s
DLBC Dease Lake 62.94 36 P **P 12 57 50.6 +2.4**
baz=286
DLBC Dease Lake 62.94 36 LR LR 13 23 41.3
comp=Z,232nm,20.5s,baz=286,slow=35
TGTN Hyland Airport 62.94 33 P **P 12 57 49.8 +1.7**
baz=286
AKTO Aktyubinsk 63.12 315 P **P 12 57 48.8 -0.6**
AKTO Aktyubinsk 63.12 315 LR LR 13 25 26.5
comp=Z,129nm,18.8s,baz=112,slow=36
BBOO Buckleboo 63.89 186 P **P 12 57 55.6 +1.0**
LIRD Liard River Hi 64.60 34 P **P 12 58 01.7 +2.7**
baz=289
KIRV Kirov 65.33 325 *i* P **P 12 58 04.3 +0.6**
KIRV Kirov 65.33 325 LR LR 13 29 02.3
comp=Z,513nm,18.9s,baz=67,slow=38
EUNU Eureka 65.89 8 P **P 12 58 08.4 +1.3**
PRGR Permogore 66.04 329 *e*P **P 12 58 08.3 +0.1**
PRGR *e* 12 58 22.2
PRGR pmax pmax
comp=Z,16nm,0.9s
GEYT Alibeck 67.30 302 P **P 12 58 16.8 0.0**
comp=Z,13nm,0.9s,baz=61,slow=13,SNR=15
comp=Z,13nm,0.9s
NWAO Narrogin (SRO) 67.95 202 LR LR 13 26 20.4
comp=Z,65nm,21.4s,baz=26,slow=34
RES Resolute Bay 68.13 14 LR LR 13 33 47.5
comp=Z,71nm,19.2s,baz=17,slow=41
BELG Belogornoye 68.55 319 *i* P **P 12 58 24.4 +0.1**
BELG pmax pmax
comp=Z,5.0nm,0.9s
BELG Belogornoye 68.55 319 LR LR 13 31 34.1
comp=Z,294nm,18.0s,baz=97,slow=39
YKA Yellowknife Ar 68.61 29 LR LR 13 29 23.7
comp=Z,50nm,20.8s,baz=298,slow=37
KLMR Klimovskoe 69.06 329 *e*P **P 12 58 26.7 -0.6**
KLMR AMP 12 58 33.4
comp=Z,29nm,1.7s
KLMR Klimovskoe 69.06 329 *e*P **P 12 58 26.7 -0.6**
KLMR pmax pmax
comp=Z,29nm,1.7s
ARCES ARCESS Array B 69.70 340 P **P 12 58 30.1 -1.1**
comp=Z,10nm,1.0s,baz=54,slow=6.2,SNR=6.7
ARCES LR LR 13 32 05.6
comp=Z,255nm,20.8s,baz=63,slow=39
comp=Z,10nm,1.0s
VRH Novokhopyorsk 72.37 320 *e*P **P 12 58 47.3 -0.4**
VRH pmax pmax
comp=Z,10.0nm,0.6s
MAK Makhachkala 72.60 310 *e*P P 12 58 44.2 -5.0
MAK *e* 13 01 25.5
MAK *e*S **S 13 08 06.9 -6.2**
MAK *e*SS **SS 13 12 53.4 +1.7**
MAK pmax pmax
comp=Z,202nm,1.0s
MAK MLR MLR
comp=Z,543nm,16.0s
JLN Jalan Bani Buh 72.91 286 P **P 12 58 51.9 +0.4**
SNR=5.1
WSAR Wadi Sarin 73.06 287 P **P 12 58 52.0 -0.3**
WSAR Wadi Sarin 73.06 287 LR LR 13 34 36.6
comp=Z,77nm,18.4s,baz=50,slow=39
WBK Wadi Bani Khal 73.07 286 P **P 12 58 53.1 +0.7**
OBN Obninsk 73.18 325 *c e*P **P 12 58 53.0 +0.6**
OBN *e* 12 59 10.4
OBN *e* 13 01 33.3
OBN *e*S **SKiKP 13 08 24.6 +1.3**
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,509nm,18.0s
OBN Obninsk 73.18 325 LR LR 13 33 47.6
comp=Z,550nm,19.8s,baz=5.5,slow=38
LPSR Galich'ya Gora 73.22 322 *e*P **P 12 58 52.6 -0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
BIDO Bidbid 73.34 288 P **P 12 58 54.9 +0.9**
YBH Yreka Blue Hor 73.51 51 P **P 12 58 57.0 +2.2**
YBH IAmb IAmb 12 59 26.1
comp=Z,23nm,1.7s
YBH Yreka Blue Hor 73.51 51 P **P 12 58 57.0 +2.2**
YBH pmax pmax
comp=Z,23nm,1.7s
YBH Yreka Blue Hor 73.51 51 LR LR 13 27 49.9
comp=Z,226nm,18.8s,baz=271,slow=33
SMDO Samad 73.62 287 P **P 12 58 56.1 +0.4**
VSR Storozhevoye 73.77 320 *e*P **P 12 58 55.6 -0.4**
VSR pmax pmax
comp=Z,10.0nm,1.4s
SHME Shamm 73.81 291 P **P 12 58 57.7 +1.0**
SNR=7.7
VORD Divnogorie 73.83 320 *e*P **P 12 58 55.4 -0.9**
VORD pmax pmax
comp=Z,10.0nm,1.2s
JMDO Jabal Madar 73.89 287 P **P 12 58 57.4 +0.2**
NEW Newport 73.96 43 P **P 12 58 59.6 +2.3**
baz=299
NEW Newport 73.96 43 LR LR 13 34 21.5
comp=Z,52nm,18.3s,baz=316,slow=38
HOQ Hoqain 73.98 288 P **P 12 58 58.7 +1.0**
MASF Masafi 74.10 290 P **P 12 58 59.6 +1.2**
UOSS Minazif 74.26 290 P **P 12 58 59.7 +0.4**
FINES FINESS Array B 74.29 333 P **P 12 58 58.6 -0.2**
FINES FINESS Array B 74.29 333 P **P 12 58 58.6 -0.2**
FINES FINESS Array B 74.29 333 P **P 12 58 58.1 -0.7**
comp=Z,9.4nm,0.9s,baz=81,slow=12,SNR=9.1
comp=Z,9.4nm,0.9s
SOHO SOHO 74.36 289 P **P 12 59 00.5 +0.6**
HATD Hatta, Dubai 74.37 290 P **P 12 59 01.1 +1.1**
SNR=7.6
BSY Bisya 74.46 287 P **P 12 59 01.2 +0.6**
SNR=6.9
ASHO Ashiyiah 74.49 290 P **P 12 59 01.5 +0.7**
MHTO MHTO 74.64 285 P **P 12 59 01.8 +0.2**
SNR=7.2
ARQ Araqi 74.74 288 P **P 12 59 03.1 +1.0**
SNR=6.7
ARQ P **P 12 59 04.0 +1.8**
SNR=7.3
FAQ Al Faqa, Dubai 74.84 290 P **P 12 59 03.5 +0.8**
ALNE Al Ain 75.03 289 P **P 12 59 05.1 +1.3**
SNR=7.1
ZEI Tsey 75.03 311 *e*P **P 12 59 03.4 -0.4**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
ASUD Al Ashush, Dub 75.11 290 P **P 12 59 05.3 +1.1**
SNR=8.2
KBZ Khabaz 75.22 312 P **P 12 59 05.0 +0.5**
comp=Z,21nm,0.8s,baz=70,slow=2.4,SNR=18
KBZ LR LR 13 35 13.9
comp=Z,219nm,18.2s,baz=52,slow=38
comp=Z,21nm,0.8s
KIV Kislovodsk 75.25 313 *e*P **P 12 59 02.9 -1.9**
KIV pmax pmax
comp=Z,21nm,1.1s
KIV MLR MLR
comp=Z,221nm,18.0s
BMO Blue Mountains 75.51 46 P **P 12 59 08.8 +2.4**
BMO Blue Mountains 75.51 46 P **P 12 59 08.8 +2.4**
BMO pmax pmax
comp=Z,9.0nm,1.4s
GNI Garni 75.74 308 *i* P P 12 59 14.4 +6.6
GNI pmax pmax
comp=Z,30nm,1.1s
GNI Garni 75.74 308 LR LR 13 35 19.1
comp=Z,277nm,18.4s,baz=54,slow=38
RAR Rarotonga 76.27 125 LR LR 13 28 42.3
comp=Z,160nm,18.6s,baz=342,slow=32
URZ Urewera 76.39 152 LR LR 13 29 16.9
comp=Z,76nm,21.9s,baz=32,slow=33
MSO Missoula 76.55 43 P **P 12 59 13.7 +1.5**
baz=301
SOC Sochi 77.30 313 *e*P **P 12 59 15.2 -1.1**
SOC *e* 13 02 03.6
SOC *e*PPP PPP 13 04 01.2
SOC *e*S **S 13 09 07.8 +2.4**
SOC *e*SS **SS 13 14 05.4 +2.5**
SOC pmax pmax
comp=Z,45nm,0.8s
MNK Minsk 77.70 327 *i* P **P 12 59 15.5 -2.9**
comp=E,6.0nm,0.8s
MNK *i* P **P 12 59 15.5 -2.9**
comp=N,19nm,0.8s
MNK *i* P **P 12 59 15.5 -2.9**
comp=Z,17nm,1.1s,baz=233
MNK *i* PcP **sP 12 59 25.2 +1.9**
MNK *i* PP **PP 13 02 10.9 -2.3**
MNK *i* PPP PPP 13 03 58.4
MNK *i* S **S 13 09 09.0 -0.4**
MNK *i* ScS **ScS 13 09 34.5 -1.6**
MNK *i* SS **SS 13 14 10.3 +1.9**
MNK *i* SSS SSS 13 17 34.6
MNK *i* LQ LQ 13 28 30.8
MNK *i* LR LR 13 34 26.3
MNK *i* LRM MLR 13 38 03.7
comp=E,130nm,14.2s
MNK *i* LRM MLR 13 38 23.7
comp=N,216nm,14.8s
MNK *i* LRM MLR 13 38 29.5
comp=Z,314nm,16.1s
MNK Minsk 77.70 327 *i* P **P 12 59 15.5 -2.9**
MNK *i* 12 59 25.1
MNK *i* 13 02 10.8
MNK *i* PPP PPP 13 03 58.3
MNK *i* S **S 13 09 09.0 -0.4**
MNK *i* 13 09 34.5
MNK *i* SS **SS 13 14 10.3 +1.9**
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=N,19nm,0.8s
MNK pmax pmax
comp=Z,17nm,1.0s
MNK MLR MLR
comp=E,130nm,14.0s
MNK MLR MLR
comp=N,216nm,15.0s
MNK MLR MLR
comp=Z,314nm,16.0s
HLID Hailey 77.96 46 P **P 12 59 22.4 +2.1**

baz=302,SNR=6.3
NACGM **Naroch** 77.97 328 *e*P P 12 59 23.0 +3.1
comp=Z,27nm,0.8s,baz=52
NVAR **Mina Array Bea** 78.06 52 P P 12 59 22.9 +1.9
comp=Z,6.1nm,0.7s,baz=286,slow=5.6,SNR=42
NVAR LR LR 13 30 18.1
comp=Z,262nm,19.6s,baz=288,slow=33
comp=Z,6.1nm,0.7s
NV11 **Mina Array Sit** 78.16 52 P P 12 59 23.7 +2.2
NV11 IAmb IAmb 12 59 26.2
comp=Z,18nm,1.9s
BOZ **Bozeman (W)** 78.56 43 P P 12 59 24.3 +0.7
baz=303
PKM **Mcpherson Peak** 78.79 56 P P 12 59 27.9 +2.8
baz=300
VES **Vestal, Richgr** 78.83 55 P P 12 59 26.4 +1.4
baz=300
DOK **Doka** 78.94 285 P P 12 59 26.1 +0.2
MZP **Montezuma Peak** 79.06 53 P P 12 59 28.6 +2.1
CWC **Cottonwood Cre** 79.22 54 P P 12 59 28.6 +1.2
baz=301
AKASG **Malin Array Be** 79.32 323 P P 12 59 26.7 -0.7
comp=Z,1.0nm,0.4s,baz=47,slow=5.9,SNR=11
AKASG LR LR 13 37 40.8
comp=Z,639nm,18.9s,baz=44,slow=38
comp=Z,1.0nm,0.4s
AKBB **Malin Array Si** 79.32 323 P P 12 59 27.6 +0.3
AKBB IAmb IAmb 12 59 42.3
comp=Z,31nm,1.6s
AKBB **Malin Array Si** 79.32 323 *i*P P 12 59 27.4 0.0
AKBB pmax pmax
comp=Z,35nm,3.1s
ISA **Isabella, Lake** 79.34 55 P P 12 59 29.8 +1.8
baz=301
GMN **Gold Mountain** 79.35 53 P P 12 59 30.3 +2.2
WHFO **Wadi Hawf** 79.58 285 P P 12 59 29.1 -0.3
HFS **Hagfors** 79.68 337 P P 12 59 28.3 -0.9
comp=Z,3.2nm,0.7s,baz=50,slow=2.3,SNR=3.4
comp=Z,3.2nm,0.7s
SNCC **San Nicolas Is** 79.82 57 P P 12 59 31.8 +1.3
baz=301
NB2 **NORSAR Subarra** 79.83 338 P P 12 59 29.9 -0.1
comp=Z,7.6nm,0.9s,baz=41,slow=5.3
NOA **NORSAR Array B** 79.83 338 P P 12 59 29.5 -0.6
comp=Z,5.3nm,0.8s,baz=41,slow=5.4,SNR=15
NOA LR LR 13 41 17.4
comp=Z,228nm,18.3s,baz=40,slow=41
comp=Z,5.3nm,0.8s
MPMC **Manual Prospec** 79.83 54 P P 12 59 32.8 +2.0
baz=301,SNR=5.7
H17A **Grant Village** 79.84 44 P P 12 59 33.8 +3.1
baz=304
R11B **Troy Canyon, C** 79.94 51 P P 12 59 33.5 +2.2
baz=302,SNR=7.9
LRMC **Laurel Mtn Rad** 79.99 55 P P 12 59 34.4 +2.8
baz=301
FURC **Furnace Creek,** 80.05 53 P P 12 59 34.1 +2.5
baz=302
EDW2 **Edwards Air Fo** 80.08 55 P P 12 59 33.6 +1.7
baz=301,SNR=6.0
TPAW **Teton Pass** 80.12 45 P P 12 59 35.2 +2.9
TPAW IAmb IAmb 12 59 37.6
comp=Z,7.8nm,0.8s
RLMT **Red Lodge** 80.21 43 P P 12 59 34.2 +1.6
baz=305
TPNV **Topopah Spring** 80.22 53 P P 12 59 34.6 +1.8
TPNV IAmb IAmb 12 59 36.1
comp=Z,41nm,1.9s
TPNV **Topopah Spring** 80.22 53 P P 12 59 34.6 +1.8
TPNV pmax pmax
comp=Z,41nm,2.0s
TPNV **Topopah Spring** 80.22 53 P P 12 59 35.0 +2.2
baz=302,SNR=8.2
ABTO **Aybut** 80.25 284 P P 12 59 34.1 +1.0
BFSC **Mount Baldy Ra** 80.65 56 P P 12 59 37.4 +2.3
baz=302
GSC **Goldstone, Bar** 80.70 54 P P 12 59 36.9 +1.6
baz=302
DUG **Dugway, Tooele** 80.77 49 P P 12 59 38.1 +2.4
DUG IAmb IAmb 12 59 40.6
comp=Z,11nm,0.8s
DUG **Dugway, Tooele** 80.77 49 P P 12 59 38.1 +2.4
DUG pmax pmax
comp=Z,11nm,0.9s
DUG **Dugway, Tooele** 80.77 49 P P 12 59 38.3 +2.6
baz=303,SNR=14
TUQ **Turquoise Moun** 81.24 54 P P 12 59 40.5 +2.3
baz=302
HEC **Hector,Ludlow** 81.27 55 P P 12 59 40.4 +2.1
baz=302
MURC **Murrieta** 81.31 56 P P 12 59 40.7 +2.2
baz=302
BW06 **Boulder Array** 81.37 45 P P 12 59 40.5 +1.5
BW06 **Boulder Array** 81.37 45 P P 12 59 40.8 +1.9
baz=305,SNR=5.9
PD31 **Pinedale Array** 81.37 45 P P 12 59 41.2 +2.3
PDAR **Pinedale Array** 81.37 45 P P 12 59 40.5 +1.6
PDAR **Pinedale Array** 81.37 45 P P 12 59 40.0 +1.0
comp=Z,3.0nm,0.8s,baz=281,slow=2.4,SNR=24
PDAR LR LR 13 32 03.4
comp=Z,96nm,21.1s,baz=316,slow=33
comp=Z,3.0nm,0.8s
PPT **Papeete** 81.50 116 LR LR 13 30 25.1
comp=Z,176nm,20.9s,baz=306,slow=32
PPT2 **Papeete2** 81.51 116 *e*LR LR 13 24 18.1
PPT2 comp=Z,212nm,21.2s *e*LR LR 13 24 29.5
comp=Z,220nm,23.2s
SFJD **Kangerlussuaq** 81.67 5 LR LR 13 36 27.0
comp=Z,90nm,21.9s,baz=346,slow=36
GMRC **Granite Mounta** 81.77 54 P P 12 59 43.3 +2.3
baz=302
PFO **Pinyon Flats O** 81.83 56 P P 12 59 42.6 +1.3
PFO IAmb IAmb 12 59 45.7
comp=Z,10nm,0.8s
PFO **Pinyon Flats O** 81.83 56 *i*P P 12 59 42.5 +1.1
PFO pmax pmax
comp=Z,16nm,0.9s
PFO **Pinyon Flats O** 81.83 56 P P 12 59 43.6 +2.2
baz=302,SNR=9.2
PFO **Pinyon Flats O** 81.83 56 LR LR 13 32 17.2
comp=Z,297nm,19.0s,baz=284,slow=33
TPFO **Pinon Flats** 81.83 56 P P 12 59 43.3 +1.9
baz=302,SNR=11
BELC **Belle Mtn. Jos** 81.95 55 P P 12 59 43.4 +1.4
baz=302,SNR=8.1
FRB **Frobisher Bay** 82.34 13 LR LR 13 41 20.5
comp=Z,76nm,19.7s,baz=352,slow=39
IRM **Iron Mountain** 82.46 55 P P 12 59 47.0 +2.4
baz=303
BC3 **Big Chuckawall** 82.51 55 P P 12 59 47.0 +2.1
baz=303,SNR=8.3
IKP **In-Ko-Pah, Jac** 82.58 56 P P 12 59 47.6 +2.4
baz=302
SWSC **Sam W. Stewart** 82.65 56 P P 12 59 48.0 +2.5
baz=303
P18A **Preston Nutter** 82.72 48 P P 12 59 48.6 +2.4
P18A IAmb IAmb 13 00 02.4
comp=Z,9.2nm,0.9s
ESJX **Sierra Juarez** 83.04 57 P P 12 59 50.4 +2.5
PDMCI **Parker Dam,Lak** 83.08 54 P P 12 59 49.1 +1.4
baz=303
BRTR **Keskin Array B** 83.21 313 P P 12 59 49.5 +1.0
comp=Z,10nm,1.0s,baz=102,slow=4.0,SNR=15
BRTR LR LR 13 41 03.2
comp=Z,178nm,18.9s,baz=70,slow=39
comp=Z,10nm,1.0s
K22A **Casper** 83.26 44 P P 12 59 49.6 +0.9
baz=307
GLA **Glamis** 83.28 55 P P 12 59 51.2 +2.4
baz=303
O20A **White River Ci** 83.69 47 P P 12 59 53.2 +2.1
baz=306,SNR=12
RSSD **Black Hills** 83.81 42 P P 12 59 53.7 +2.1
baz=308
ULM **Lac du Bonnet** 84.07 33 LR LR 13 35 58.5
comp=Z,162nm,20.8s,baz=316,slow=35
TAOE **Nuku Hiva Isla** 84.18 104 *e*LR LR 13 25 35.6
comp=Z,222nm,21.4s
WUAZ **Wupatki** 84.31 52 P P 12 59 56.7 +2.5
baz=305,SNR=14
N23A **Red Feather La** 84.66 45 P P 12 59 58.8 +2.8
baz=307,SNR=6.6
MVCO **Mesa Verde** 85.23 49 P P 13 00 01.0 +2.0
baz=306,SNR=6.2
214A **Organ Pipe Nat** 85.30 55 P P 13 00 01.5 +2.4
baz=304
ISCO **Idaho Springs** 85.52 46 P P 13 00 02.3 +1.9
baz=308
MMAI **Mount Meron Ar** 85.87 306 LR LR 13 41 51.5
comp=Z,104nm,18.9s,baz=24,slow=38
S22A **4UR Ranch, Cre** 85.99 48 P P 13 00 03.6 +0.8
S22A IAmb IAmb 13 00 07.8
comp=Z,5.9nm,0.9s
S22A **4UR Ranch, Cre** 85.99 48 P P 13 00 05.4 +2.6
baz=307,SNR=10
Q24A **Divide** 86.31 46 P P 13 00 06.7 +2.4
baz=308
VRAC **Vranov** 86.37 328 LR LR 13 41 39.8
comp=Z,96nm,19.2s,baz=59,slow=38
CLL **Collm** 86.48 331 *e*P P 13 00 04.0 -0.5
CLL *e*S S 13 10 38.0 -1.8
CLL pmax pmax
comp=Z,11nm,1.2s
CLL **Collm** 86.48 331 *e*P P 13 00 04.0 -0.5
comp=Z,11nm,1.2s
CLL *e*x x 13 00 19.0
CLL *e*S S 13 10 38.0 -1.8
CLL *e*PS PnS 13 11 44.0 +5.4
CLL *e*SS SS 13 16 24.0 +5.2
CLL *e*SSS SSS 13 20 06.0
TUC **Tucson** 86.52 54 P P 13 00 07.0 +1.8
baz=305
SDCO **Great Sand Dun** 86.83 47 P P 13 00 08.8 +1.9
baz=308,SNR=9.7
T25A **Trinidad** 87.89 47 P P 13 00 14.1 +2.2
baz=308
ANMO **Albuquerque** 87.91 50 *i*P P 13 00 10.6 -1.4
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO **Albuquerque** 87.91 50 P P 13 00 14.1 +2.0
baz=307
ANMO **Albuquerque** 87.91 50 LR LR 13 37 39.4
comp=Z,402nm,18.2s,baz=52,slow=34
EIL **Elat** 88.09 304 LR LR 13 44 14.4
comp=Z,99nm,19.6s,baz=64,slow=39
ECSD **EROS Data Cent** 88.15 38 P P 13 00 13.2 +0.5
baz=313
MNTX **Cornudas Mount** 90.59 52 P P 13 00 24.5 +0.1
baz=308
DAVOX **Davos/Dischmat** 91.26 329 LR LR 13 45 29.4
comp=Z,296nm,18.1s,baz=82,slow=38
IDI **Anoyia** 91.42 313 LR LR 13 46 59.9
comp=Z,94nm,18.2s,baz=86,slow=39
WMOK **Wichita Mounta** 92.93 46 P P 13 00 36.8 +1.6
baz=312
TXAR **Lajitas Array** 93.20 53 P P 13 00 38.2 +1.5
comp=Z,8.8nm,0.8s,baz=298,slow=3.2,SNR=58
TXAR LR LR 13 40 14.2
comp=Z,242nm,19.3s,baz=300,slow=34
comp=Z,8.8nm,0.8s
ABTX **Abilene, Hawle** 93.78 48 P P 13 00 39.7 +0.5
baz=311
CCM **Cathedral Cave** 95.03 39 P P 13 00 44.2 -0.6
baz=317
JCT **Junction City** 95.07 50 P P 13 00 44.9 -0.2
baz=311
MIAR **Mount Ida** 96.20 43 P P 13 00 48.9 -1.3
baz=315
KEST **Kesra** 100.04 323 LR LR 13 50 17.9
comp=Z,137nm,18.8s,baz=342,slow=38
QSPA **South Pole Qui** 120.92 180 PKP PKPdf 13 06 13.1 -0.3
comp=Z,0.7nm,0.9s,baz=305,slow=2.4,SNR=1.8
TORD **Torodi Ar. Bea** 121.82 313 PKP PKPdf 13 06 16.4 -0.3
comp=Z,0.2nm,0.4s,baz=29,slow=3.1,SNR=3.6
KOWA **Kowa** 124.15 319 PKP PKPdf 13 06 21.2 0.0
comp=Z,1.3nm,0.6s,baz=273,slow=3.9,SNR=4.9
LPAZ **La Paz** 148.72 69 PKPbc PKPbc 13 07 11.5 +0.9
comp=Z,4.5nm,1.0s,baz=16,slow=6.4,SNR=6.7
PLCA **Paso Flores** 152.01 119 PKPbc PKPbc 13 07 16.8 -0.3
comp=Z,1.1nm,0.8s,baz=94,slow=4.0,SNR=2.9

JMA 16 12:48:30.8±0.1, 35°.1N±0°.1×138°.2E±0°.1, h13km, MV0.2/16, CENTRAL SHIZUOKA PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHZ3	Shizuoka 3	0.05	160	P	Pg	12 48 33.3	-0.1
SHZ3				S	Sg	12 48 35.2	0.0

IDC 16 13:00:40.4±4.2, 30°.90N×140°.93E, h0km, mb3.3/2, mbtmp3.2/3, ML2.3/1, Error ellipse: s-maj=228.8km s-min=33.6km az=79.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	3.95	164	Pn	Pn	13 01 37.5	-4.7
2.3nm,0.3s,baz=246,slow=21,SNR=1.4							
JCJ				Sn	Sn	13 02 21.0	-8.2
2.9nm,0.3s,baz=294,slow=17,SNR=1.4							
MJAR	Matsushiro Arr	6.07	339	Pn	Pn	13 02 11.0	-0.3
0.1nm,0.3s,baz=159,slow=11,SNR=6.8							
0.8nm,0.5s							
WRA	Warramunga Arr	50.95	188	P	P	13 09 43.4	-0.3
0.2nm,0.3s,baz=6.5,slow=7.7,SNR=11							
0.2nm,0.3s							
ASAR	Alice Springs	54.67	188	P	P	13 10 11.3	+0.1
0.2nm,0.8s,baz=3.1,slow=5.8,SNR=5.2							
0.2nm,0.8s							

*IDC **16** 13:03:02.2±1.0, 40°.10N×77°.13E, h0km, mb4.0/16, mbtmp4.1/22, ML3.8/6, MS3.6/2, Error ellipse: s-maj=18.3km s-min=13.8km az=146.0*
*MOS **16** 13:03:03.0±1.4, 39°.97N×77°.11E, h23km, mb5.0/5, Error ellipse: s-maj=7.7km s-min=3.7km az=95.0*
*BJI **16** 13:03:05.0±0.0, 40°.38N×77°.09E, h8km, mb4.5/22, mB4.5/4, ML4.3/8, Ms4.0/11, Ms7 4.0/10*
*SOME **16** 13:03:07.0, 40°.50N×77°.00E, h10km, MS3.8*
*KRNET **16** 13:03:07.8±0.1, 40°.46N×76°.95E, mb4.5*
*NNC **16** 13:03:08.4±1.3, 40°.47N×77°.08E, h1km±8km, mb4.8, mpv4.5, Error ellipse: s-maj=8.9km s-min=6.0km az=174.0*
*NEIC **16** 13:03:09.1±1.4, 40°.37N±0°.06×77°.04E±0°.04, h35km±2km, mb4.6/40, Error ellipse: s-maj=10.7km s-min=4.9km az=163.0*

ISC 16 13:03:05.5±0.8, 40°.29N±0°.03×77°.04E±0°.02, h14km±4km, n287, σ2$25/347, mb4.6/44, MS4.0/4, 50C-27D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.13	227	Pn	Pg	13 03 37.5	+10
KSH				Sn	Sn	13 04 02.0	+20
KSH				smax	smax		
comp=N,6μm,0.4s							
KSH				smax	smax		
comp=E,8μm,0.6s							
NRN	Naryn	1.39	326	⇑*i*P	Pb	13 03 31.0	-0.4
baz=23							
NRN				⇑*i*S	Sb	13 03 48.1	-1.0
baz=23							
NRN	Naryn	1.39	326	Pn	Pg	13 03 31.3	-0.9
NRN	Naryn	1.39	326	PN	Pg	13 03 31.3	-0.9
TARG	Taragay, Kyrgy	1.55	22	Pn	Pg	13 03 33.6	-1.7
TARG	Taragay, Kyrgy	1.55	22	PN	Pg	13 03 33.6	-1.7
ULHL	Ulahol	2.04	343	P	Pg	13 03 42.7	-1.9
SNR=289							
ULHL	Ulahol	2.04	343	⇓*i*P	Pg	13 03 42.8	-1.9
baz=44							
ULHL				⇓*i*S	Sb	13 04 07.9	+0.1
baz=44							
BOOM	Boomskoye usch	2.35	340	⇓*i*P	Pb	13 03 47.6	-0.1
baz=40							
BOOM				⇓*i*S	Sb	13 04 16.3	-0.3
baz=40							
BOOM	Boomskoye usch	2.35	340		Pb	13 03 47.9	+0.2
BOOM	Boomskoye usch	2.35	340	PN	Pb	13 03 47.9	+0.2
PRZ	Przheval'sk	2.42	25	⇑*i*P	Pb	13 03 49.1	+0.3
baz=28							
PRZ				⇑*i*S	Sg	13 04 19.9	-3.3
baz=28							
PRZ	Przheval'sk	2.42	25		Pb	13 03 48.5	-0.4
PRZ	Przheval'sk	2.42	25	PN	Pb	13 03 48.5	-0.4
ANVS	Anan'yevo	2.53	10	⇑*e*P	Pb	13 03 50.0	-0.8
baz=13							
ANVS				⇑*e*S	Sb	13 04 21.4	-0.5
baz=13							
ARLS	Aral	2.58	308	⇓*i*P	Pb	13 03 50.7	-1.0
baz=6.0							
ARLS				⇓*i*S	Sb	13 04 22.6	-0.8
baz=6.0							
SFK	Sufi-Kurgan	2.73	265	⇑*i*P	Pb	13 03 54.1	0.0
baz=62							
SFK				⇑*i*S	Sb	13 04 28.5	+1.0
baz=62							
TNSS	Tian-Shan	2.74	359	Pg	Pg	13 03 56.0	-2.1
512nm,0.5s							
TNSS				Lg	Lg	13 04 30.9	
1μm,0.8s							
TNSS	Tian-Shan	2.74	359	*e*Pn	Pb	13 03 52.8	-1.8
baz=358							
TNSS				*e*Pb	Pg	13 03 56.0	-2.1
baz=358							
TNSS				*e*Pg	Pg	13 03 58.4	+0.3
baz=358							
TNSS				*i* Sn	Sn	13 04 22.6	0.0
baz=358							
TNSS				*e*Sb	Sg	13 04 31.7	-2.0
baz=358							
TNSS				*i* Lg	Lg	13 04 37.1	
baz=358							
TNSS	Tian-Shan	2.74	359	*e*Pg	Pg	13 03 56.0	-2.1
507nm,0.4s							
TNSS				*e*Lg	Lg	13 04 30.9	
1μm,0.3s							
TNSS	Tian-Shan	2.74	359	*e*PN	Pb	13 03 52.7	-1.8
TNSS				*e*		13 03 58.3	
TNSS				*e*		13 04 31.6	
IZV	Izvestkoviy	2.76	353	Pg	Pg	13 03 56.0	-2.4
155nm,0.7s							
IZV				Lg	Lg	13 04 31.0	
2μm,0.6s							
IZV	Izvestkoviy	2.76	353	*e*Pg	Pg	13 03 56.0	-2.4
155nm,0.7s							
IZV				*e*Lg	Lg	13 04 31.0	
2μm,0.2s							
KBK	Karagaybulak	2.84	327	P	Pb	13 03 55.1	-0.9
SNR=290							
KBK	Karagaybulak	2.84	327	⇑*i*P	Pb	13 03 54.2	-1.8
baz=26							
KBK				⇑*i*S	Sb	13 04 27.8	-2.9
baz=26							
TKM2	Tokmak 2	2.84	338	P	Pb	13 03 55.0	-1.1
SNR=530							
TKM2	Tokmak 2	2.84	338	⇑Pg	Pb	13 03 54.6	-1.5
95nm,0.3s							
TKM2				⇓Lg	Lg	13 04 34.3	
2μm,0.5s							
TKM2	Tokmak 2	2.84	338	⇑*i*P	Pb	13 03 54.3	-1.8
baz=38							
TKM2				⇑*i*S	Sb	13 04 28.1	-2.7
baz=38							
TKM2	Tokmak 2	2.84	338	PN	Pb	13 03 54.6	-1.5
TKM2						13 04 34.2	
KST	Kastek	2.87	344	Pg	Pg	13 03 58.2	-2.2
380nm,0.6s							
KST				Lg	Lg	13 04 35.1	
2μm,0.3s							
KST	Kastek	2.87	344	*e*Pg	Pg	13 03 58.2	-2.2
380nm,0.6s							
KST				*e*Lg	Lg	13 04 35.1	
2μm,0.3s							
MDOK	Medeo	2.87	0	Pg	Pg	13 03 58.2	-2.2
189nm,0.5s							
MDOK				Lg	Lg	13 04 34.6	
1μm,0.8s							
MDOK	Medeo	2.87	0	*e*Pn	Pb	13 03 54.4	-2.2
baz=359							
MDOK				*i* Pb	Pg	13 03 58.3	-2.2
baz=359							
MDOK				*i* Pg	Pg	13 04 00.6	+0.1
baz=359							
MDOK				*i* Sn	Sn	13 04 25.7	+0.3
baz=359							
MDOK				*i* Sb	Sg	13 04 36.5	-1.1
baz=359							
MDOK				*i* Lg	Lg	13 04 41.1	
baz=359							
MDOK	Medeo	2.87	0	*e*Pg	Pg	13 03 58.2	-2.2
189nm,0.5s							
MDOK				*e*Lg	Lg	13 04 34.6	
1μm,0.8s							
MDOK	Medeo	2.87	0	*e*PN	Pb	13 03 54.3	-2.2
MDOK				*i*		13 04 00.5	
MTBS	Maitube	2.87	351	Pg	Pg	13 03 58.3	-2.3
127nm,0.4s							
MTBS				Lg	Lg	13 04 34.6	
677nm,0.5s							
MTBS	Maitube	2.87	351	*e*Pg	Pg	13 03 58.2	-2.3
127nm,0.4s							
MTBS				*e*Lg	Lg	13 04 34.6	
677nm,0.5s							
AAA	Alma-Ata	2.92	358	Pg	Pg	13 03 59.5	-1.9
313nm,0.4s							
AAA				Lg	Lg	13 04 36.9	
4μm,0.6s							
AAA	Alma-Ata	2.92	358	*e*Pn	Pb	13 03 55.4	-1.9
baz=358							
AAA				*e*Pb	Pg	13 03 59.3	-2.1
baz=358							
AAA				*e*Pg	Pg	13 04 01.4	+0.1
baz=358							
AAA	Alma-Ata	2.92	358	*e*Pg	Pg	13 03 59.5	-1.9
313nm,0.4s							
AAA				*e*Lg	Lg	13 04 36.9	
4μm,0.6s							
AAA	Alma-Ata	2.92	358	*e*PN	Pb	13 03 55.4	-1.9
AAA				*e*		13 04 01.4	
KNDC	Almaty	2.92	359	⇓Pg	Pg	13 04 02.8	+1.3
2μm,1.1s							
KNDC				⇑Lg	Lg	13 04 37.1	
3μm,0.6s							
KNDC	Almaty	2.92	359	PN	Pg	13 04 02.8	+1.3
KASK	Kaskelen	2.94	354	⇑Pg	Pg	13 04 01.8	0.0
KASK				⇑Lg	Lg	13 04 37.8	
KOTS	Kotyrbulak	2.94	1	Pg	Pg	13 03 59.5	-2.3
262nm,0.5s							
KOTS				Lg	Lg	13 04 37.3	
6μm,0.7s							
KOTS	Kotyrbulak	2.94	1	*e*Pg	Pg	13 03 59.5	-2.3
259nm,0.4s							
KOTS				*e*Lg	Lg	13 04 37.3	
5μm,0.4s							
SATY	Saty	2.95	20	Pg	Pg	13 03 59.2	-2.8
147nm,0.8s							
SATY				Lg	Lg	13 04 36.6	
2μm,0.4s							
SATY	Saty	2.95	20	*e*Pn	Pb	13 03 55.4	-2.5
baz=18							
SATY				*e*Pg	Pg	13 04 01.4	-0.6
baz=18							
SATY	Saty	2.95	20	*e*Pg	Pg	13 03 59.1	-2.8
147nm,0.3s							
SATY				*e*Lg	Lg	13 04 36.6	
2μm,0.4s							
SATY	Saty	2.95	20	*e*PN	Pb	13 03 55.4	-2.5
SATY				*e*		13 04 01.3	
AAK	Ala-Archa	3.03	322	P	Pb	13 03 57.8	-1.4
SNR=116							
AAK	Ala-Archa	3.03	322	⇑*i*P	Pb	13 03 57.2	-2.0
baz=21							
AAK				⇑*i*S	Sb	13 04 32.5	-3.5
baz=21							
AAK	Ala-Archa	3.03	322		Pb	13 03 57.5	-1.6
AAK	Ala-Archa	3.03	322	*i* PN	Pn	13 03 52.9	-0.2
AAK	Ala-Archa	3.03	322	Pn	Pb	13 03 57.2	-2.0
40nm,0.3s,baz=137,slow=8.6,SNR=174							
AAK				Lg	Lg	13 04 39.7	
82nm,0.3s,baz=15,slow=22,SNR=18							
132nm,0.4s							
ZHN	Zhinishke	3.06	19	Pg	Pg	13 04 01.4	-2.6
134nm,0.9s							
ZHN				Lg	Lg	13 04 40.1	
2μm,0.6s							
ZHN	Zhinishke	3.06	19	*e*Pn	Pb	13 03 57.0	-2.8
baz=18							
ZHN				*e*Pg	Pg	13 04 03.6	-0.5
baz=18							
ZHN	Zhinishke	3.06	19	*e*Pg	Pg	13 04 01.4	-2.6
126nm,0.2s							
ZHN				*e*Lg	Lg	13 04 40.1	
2μm,0.6s							
ZHN	Zhinishke	3.06	19	*e*PN	Pb	13 03 56.9	-2.8
ZHN				*e*		13 04 03.6	
DGS	Degeres	3.10	343	Pg	Pg	13 04 02.4	-2.4
250nm,0.5s							
DGS				Lg	Lg	13 04 42.0	
1μm,0.8s							

DGS	**Degeres**	3.10	343	*e*Pg	Pg	13 04 02.4	-2.4
	285nm,0.3s						
DGS				*e*Lg	Lg	13 04 42.0	
	999nm,0.6s						
FRU1	**Bishkek**	3.10	325	⇓*i*P	Pb	13 03 57.8	-2.6
	baz=24						
FRU1				⇓*i*S	Sn	13 04 33.7	+2.8
	baz=24						
FRU1	**Bishkek**	3.10	325		Pb	13 03 57.9	-2.5
FRU1	**Bishkek**	3.10	325	PN	Pb	13 03 57.9	-2.5
AML	**Almayashu**	3.12	307	P	Pb	13 03 59.4	-1.6
	SNR=39						
AML	**Almayashu**	3.12	307	⇓Pn	Pb	13 03 59.3	-1.6
	17nm,0.8s						
AML				⇓Lg	Lg	13 04 40.3	
	49nm,0.6s						
AML	**Almayashu**	3.12	307	⇓*i*P	Pb	13 03 58.6	-2.4
	baz=5.0						
AML				⇓*i*S	Sn	13 04 35.3	+3.4
	baz=5.0						
AML	**Almayashu**	3.12	307	PN	Pb	13 03 59.3	-1.7
AML						13 04 40.2	
CHMS	**Chumysh**	3.20	328	P	Pb	13 04 00.1	-2.1
	SNR=385						
CHMS	**Chumysh**	3.20	328	⇑Pn	Pb	13 03 59.8	-2.3
	558nm,0.5s						
CHMS				⇑Lg	Lg	13 04 45.3	
	2μm,0.6s						
CHMS	**Chumysh**	3.20	328	⇓*i*P	Pb	13 03 59.1	-3.0
	baz=28						
CHMS				⇓*i*S	Sn	13 04 36.3	+2.9
	baz=28						
CHMS	**Chumysh**	3.20	328	PN	Pb	13 03 59.3	-2.8
UZB	**Uzynbulak**	3.22	27	Pg	Pg	13 04 03.7	-3.4
	115nm,0.7s						
UZB				Lg	Lg	13 04 44.6	
	733nm,0.8s						
UZB	**Uzynbulak**	3.22	27	*e*Pn	Pb	13 03 58.9	-3.6
	baz=25						
UZB				*e*Pb	Pg	13 04 03.7	-3.4
	baz=25						
UZB	**Uzynbulak**	3.22	27	*e*Pg	Pg	13 04 03.7	-3.4
	115nm,0.5s						
UZB				*e*Lg	Lg	13 04 44.5	
	729nm,0.5s						
UZB	**Uzynbulak**	3.22	27	*e*PN	Pb	13 03 58.8	-3.6
ARSB	**Arslanbob**	3.25	290	⇑*i*P	Pb	13 04 00.5	-2.5
	baz=87						
ARSB				⇑*i*S	Sb	13 04 39.4	-3.0
	baz=87						
OHH	**Osh**	3.26	275	⇑*i*P	Pb	13 04 01.1	-2.0
	baz=73						
OHH				⇑*i*S	Sb	13 04 40.2	-2.4
	baz=73						
SHLS	**Shalkode**	3.39	32	Pg	Pg	13 04 10.8	+0.4
	182nm,0.7s						
SHLS				Lg	Lg	13 04 56.6	
	1μm,0.9s						
SHLS	**Shalkode**	3.39	32	*e*Pn	Pb	13 04 03.4	-1.9
	baz=34						
SHLS				*e*Pb	Pg	13 04 09.7	-0.7
	baz=34						
SHLS	**Shalkode**	3.39	32	*e*Pg	Pg	13 04 10.8	+0.4
	183nm,0.5s						
SHLS				*e*Lg	Lg	13 04 56.6	
	1μm,0.5s						
SHLS	**Shalkode**	3.39	32	*e*PN	Pb	13 04 03.4	-1.9
KPKS	**Kokpek**	3.40	21	Pg	Pg	13 04 07.5	-3.1
	131nm,0.4s						
KPKS				Lg	Lg	13 04 50.9	
	3μm,1.0s						
KPKS	**Kokpek**	3.40	21	*i* Pn	Pb	13 04 01.4	-4.1
	baz=19						
KPKS				*e*Pb	Pg	13 04 07.1	-3.6
	baz=19						
KPKS	**Kokpek**	3.40	21	*e*Pg	Pg	13 04 07.5	-3.1
	131nm,0.4s						
KPKS				*e*Lg	Lg	13 04 50.9	
	3μm,1.0s						
KPKS	**Kokpek**	3.40	21	*i* PN	Pb	13 04 01.4	-4.1
EKS2	**Erkin-Say**	3.41	315	P	Pb	13 04 03.6	-2.1
	SNR=114						
EKS2	**Erkin-Say**	3.41	315	⇑*i*P	Pb	13 04 02.2	-3.5
	baz=14						
EKS2				⇑*i*S	Sn	13 04 41.5	+2.9
	baz=14						
KTBS	**Karatobe**	3.43	356	Pg	Pg	13 04 07.8	-3.4
	204nm,0.6s						
KTBS				Lg	Lg	13 04 51.5	
	1μm,0.9s						
KTBS	**Karatobe**	3.43	356	*e*Pg	Pg	13 04 07.8	-3.4
	204nm,0.6s						
KTBS				*e*Lg	Lg	13 04 51.5	
	1μm,0.9s						
USP	**Ospenovka**	3.53	328	P	Pb	13 04 04.2	-3.5
	SNR=35						
USP	**Ospenovka**	3.53	328	⇑*i*P	Pb	13 04 03.7	-4.0
	baz=28						
USP				⇑*i*S	Sn	13 04 44.8	+3.4
	baz=28						
PDGK	**Podgornoye**	3.54	30	Pg	Pg	13 04 09.7	-3.7
	90nm,0.5s						
PDGK				Lg	Lg	13 04 54.8	
	1μm,0.8s						
PDGK	**Podgornoye**	3.54	30	⇑Pg	Pg	13 04 09.6	-3.9
	182nm,0.8s						
PDGK				⇑Lg	Lg	13 04 54.9	
	3μm,0.8s						
PDGK	**Podgornoye**	3.54	30	PN	Pg	13 04 09.5	-3.9
KRBS	**Karabastau**	3.55	344	Pg	Pb	13 04 09.7	+1.6
	132nm,0.4s						
KRBS				Lg	Lg	13 04 54.7	
	854nm,0.7s						
KRBS	**Karabastau**	3.55	344	*e*Pg	Pb	13 04 09.7	+1.6
	132nm,0.4s						
KRBS				*e*Lg	Lg	13 04 54.7	
	854nm,0.7s						
CHKK	**Chushkaly**	3.56	359	Pg	Pg	13 04 10.4	-3.2
	140nm,0.6s						
CHKK				Lg	Lg	13 04 55.7	
	1μm,0.5s						
CHKK	**Chushkaly**	3.56	359	*e*Pn	Pb	13 04 03.8	-4.4
	baz=359						
CHKK				*e*Pb	Pg	13 04 10.1	-3.6
	baz=359						
CHKK	**Chushkaly**	3.56	359	*e*Pg	Pg	13 04 10.4	-3.2
	140nm,0.6s						
CHKK				*e*Lg	Lg	13 04 55.7	
	1μm,0.5s						
CHKK	**Chushkaly**	3.56	359	*e*PN	Pb	13 04 03.8	-4.4
SGDS	**Sogindy**	3.63	331	Pg	Pg	13 04 11.9	-3.2
	83nm,0.4s						
SGDS				Lg	Lg	13 04 58.3	
	625nm,0.7s						
SGDS	**Sogindy**	3.63	331	*e*Pn	Pn	13 04 05.0	+3.6
	baz=332						
SGDS				*e*Pb	Pb	13 04 11.4	+1.9
	baz=332						
SGDS	**Sogindy**	3.63	331	*e*PN	Pn	13 04 04.9	+3.6
KUU	**Kurty**	3.64	352	Pg	Pb	13 04 11.0	+1.5
	61nm,0.6s						
KUU				Lg	Lg	13 04 56.9	
	1μm,0.7s						
KUU	**Kurty**	3.64	352	*e*Pn	Pn	13 04 04.7	+3.3
	baz=352						
KUU				*e*Pb	Pb	13 04 11.0	+1.5
	baz=352						
KUU	**Kurty**	3.64	352	*e*Pg	Pb	13 04 11.0	+1.5
	59nm,0.3s						
KUU				*e*Lg	Lg	13 04 56.9	
	1μm,0.7s						
KUU	**Kurty**	3.64	352	*e*PN	Pn	13 04 04.6	+3.3
MRKS	**Merke**	3.77	312	Pg	Pb	13 04 14.1	+2.2
	54nm,0.3s						
MRKS				Lg	Lg	13 05 02.3	
	192nm,0.6s						
MRKS	**Merke**	3.77	312	*e*Pg	Pb	13 04 14.1	+2.2
	54nm,0.3s						
MRKS				*e*Lg	Lg	13 05 02.3	
	192nm,0.6s						
BLB	**Baldybastay**	3.95	15	Pg	Pb	13 04 15.8	+0.9
	82nm,0.8s						
BLB				Lg	Lg	13 05 05.3	
	303nm,0.3s						
ARXS	**Arharly**	3.96	8	Pg	Pb	13 04 17.0	+1.9
	104nm,0.5s						
ARXS				Lg	Lg	13 05 07.1	
	579nm,0.5s						
ARXS	**Arharly**	3.96	8	*e*Pg	Pb	13 04 17.0	+1.9
	103nm,0.3s						
ARXS				*e*Lg	Lg	13 05 07.1	
	579nm,0.5s						
ARXS	**Arharly**	3.96	8	*i* PN	Pn	13 04 09.4	+3.5
KTMS	**Ketmen**	4.01	37	Pg	Pb	13 04 17.2	+1.3
	37nm,0.7s						
KTMS				Lg	Lg	13 05 07.3	
	440nm,0.8s						
KTMS	**Ketmen**	4.01	37	*e*Pg	Pb	13 04 17.2	+1.3
	37nm,0.1s						
KTMS				*e*Lg	Lg	13 05 07.3	
	440nm,0.4s						
MNAS	**Manas**	4.06	304	⇑*e*P	Pn	13 04 11.8	+4.6
	baz=3.0						
MNAS				⇑*i*S	Sn	13 04 58.1	+3.5
	baz=3.0						
ARK	**Arkit**	4.12	293	⇑*i*P	Pn	13 04 12.5	+4.4
	baz=91						
ARK				⇑*i*S	Sn	13 04 59.9	+3.7
	baz=91						
KNOS	**Konyrlen**	4.36	21	Pg	Pb	13 04 23.9	+1.9
	84nm,0.9s						
KNOS				Lg	Lg	13 05 18.5	
	152nm,0.9s						
DJR	**Jarkent**	4.52	26	Pg	Pb	13 04 26.7	+2.0
	40nm,0.7s						
DJR				Lg	Lg	13 05 24.1	
	207nm,0.4s						
DJR	**Jarkent**	4.52	26	*e*Pg	Pb	13 04 26.7	+2.0
	40nm,0.3s						
DJR				*e*Lg	Lg	13 05 24.1	
	207nm,0.4s						
TRKS	**Terek-Say**	4.64	287	⇑*i*P	Pn	13 04 19.4	+4.2
	baz=85						
TRKS				⇑*i*S	Sn	13 05 12.0	+3.0
	baz=85						
BTK	**Batken**	4.77	269	⇑*i*P	Pn	13 04 22.3	+5.3
	baz=67						
BTK				⇑*i*S	Sn	13 05 17.3	+5.2
	baz=67						
BTK	**Batken**	4.77	269	Pn	Pn	13 04 18.1	+1.1
BTK	**Batken**	4.77	269	PN	Pn	13 04 18.1	+1.1
TDK	**Taldyqorghan**	4.81	12	Pg	Pb	13 04 29.4	-0.2
	218nm,0.5s						
TDK				Lg	Lg	13 05 28.4	
	921nm,0.6s						
TDK	**Taldyqorghan**	4.81	12	*e*Pn	Pn	13 04 16.8	-0.7
	baz=11						
TDK	**Taldyqorghan**	4.81	12	*e*Pg	Pb	13 04 29.4	-0.2
	218nm,0.5s						
TDK				*e*Lg	Lg	13 05 28.4	
	921nm,0.6s						
TDK	**Taldyqorghan**	4.81	12	*e*PN	Pn	13 04 16.8	-0.7
BTLS	**Baital**	5.24	336	Pg	Pb	13 04 40.2	+3.5
	45nm,0.7s						
BTLS				Lg	Lg	13 05 46.6	
	93nm,0.6s						
BTLS	**Baital**	5.24	336	*e*Pn	Pn	13 04 26.5	+3.2
	baz=336						
BTLS				*e*Pg	Pg	13 04 43.5	-2.2
	baz=336						
BTLS	**Baital**	5.24	336	*e*Pg	Pb	13 04 40.2	+3.5
	45nm,0.7s						
BTLS				*e*Lg	Lg	13 05 46.6	
	93nm,0.6s						
BTLS	**Baital**	5.24	336	*e*PN	Pn	13 04 26.4	+3.2
BTLS				*e*		13 04 43.5	
IUG	**Iuzhnay**	5.60	292	*e*Pn	Pn	13 04 31.1	+2.7
	baz=293						
IUG				*e*Pg	Pg	13 04 49.2	-3.5
	baz=293						
IUG	**Iuzhnay**	5.60	292	*e*PN	Pn	13 04 31.1	+2.7
IUG				*e*		13 04 49.2	
KK31	**Karatay Array**	5.64	302	⇓Pn	Pn	13 04 31.5	+2.7
	0.8nm,0.3s,baz=120,slow=10.0,SNR=16						
KK31				⇑Pg	Pg	13 04 50.1	-3.3
	12nm,0.5s,baz=134,slow=18,SNR=23						
KK31				⇓Lg	Lg	13 06 02.4	
	55nm,0.7s,baz=128,slow=29,SNR=4.9						
KK31	**Karatay Array**	5.64	302	Pn	Pn	13 04 30.7	+1.9
KK31	**Karatay Array**	5.64	302	PN	Pn	13 04 30.7	+1.9
KKAR	**Karatay Array**	5.64	302	⇓*e*P	Pn	13 04 33.1	+4.3
	baz=1.0						
KKAR				⇓*i*S	Sn	13 05 35.6	+2.3
	baz=1.0						
KKAR	**Karatay Array**	5.64	302		Pn	13 04 28.4	-0.4
KKAR	**Karatay Array**	5.64	302	PN	Pn	13 04 28.4	-0.4
CHCP	**Chirah Chowk**	7.28	206	P	Pn	13 04 55.6	+4.2
NIL	**Nilore**	7.29	206	Pn	Pn	13 04 54.9	+3.4
NIL	**Nilore**	7.29	206	PN	Pn	13 04 54.9	+3.4
MAKZ	**Makanchi**	7.43	27	⇑Pn	Pn	13 04 56.0	+2.5
	2.2nm,0.4s						
MAKZ				⇑Lg	Lg	13 07 01.6	
	77nm,1.1s						
MAKZ	**Makanchi**	7.43	27	P	Pn	13 04 55.9	+2.5
MK31	**Makanchi Array**	7.53	29	⇓Pn	Pn	13 04 56.3	+1.4
	4.6nm,0.4s,baz=204,slow=13,SNR=105						
MK31				⇑Lg	Lg	13 07 03.8	
	43nm,0.8s,baz=213,slow=29,SNR=5.3						
MK31	**Makanchi Array**	7.53	29	Pn	Pn	13 04 55.4	+0.5
MK31	**Makanchi Array**	7.53	29	*c i*P	Pn	13 04 56.5	+1.6
MKAR	**Makanchi Array**	7.53	29	Pn	Pn	13 04 55.6	+0.8
MKAR	**Makanchi Array**	7.53	29	*i* P	Pn	13 04 56.7	+1.8
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MKAR	**Makanchi Array**	7.53	29	Pn	Pn	13 04 56.1	+1.2
	comp=Z,2.7nm,0.3s,baz=201,slow=16,SNR=87						
MKAR				Sn	Sn	13 06 20.6	+0.6
	comp=Z,1.0nm,0.3s,baz=203,slow=18,SNR=3.6						
MKAR				Lg	Lg	13 07 00.4	
	comp=Z,3.0nm,0.3s,baz=206,slow=24,SNR=5.9						
MKAR				LR	LR	13 08 11.8	
	comp=Z,353nm,20.1s,baz=250,slow=40						
	comp=Z,3.9nm,0.3s						
CEP	**Cherat**	7.65	214	P	Pn	13 04 59.8	+3.3
JMU	**Jammu**	7.75	193	*e*P	Pn	13 05 01.1	+3.3
JMU				*e*S	Sn	13 06 29.1	+3.7
THN	**Thein Dam**	7.91	188	*e*P	Pn	13 05 02.8	+2.7
THN				*e*S	Sn	13 06 32.1	+2.7
THN				IAML		13 06 37.7	
	comp=E,60nm,0.4s						
DHRM	**DHARAMSHALA**	8.05	184	*e*P	Pn	13 05 04.8	+2.7
DHRM				*e*S	Sn	13 06 33.4	+0.4
DHRM				IAML		13 06 48.8	
	comp=N,234nm,0.8s						
KBL	**Kabul**	8.57	230	Pn	Pn	13 05 11.5	+2.3
KBL	**Kabul**	8.57	230	P	Pn	13 05 11.5	+2.3
THW	**Thamme Wali**	8.61	211	P	Pn	13 05 11.6	+2.0
OTUK	**Ortayu**	8.64	339	⇑Pn	Pn	13 05 12.6	+2.7
	comp=N,2.1nm,0.5s						
OTUK				⇑Lg	Lg	13 07 37.2	
	comp=N,597nm,1.2s						
OTUK	**Ortayu**	8.64	339	P	Pn	13 05 12.6	+2.7
WMQ	**Urumqi**	8.68	63	*e*P	Pn	13 05 14.5	+4.0
WMQ				S	Sn	13 06 50.6	+2.5
WMQ				smax	smax		
	comp=N,51nm,0.9s						
WMQ				smax	smax		
	comp=N,61nm,1.1s						
BHK	**Bhakra**	8.87	183	*e*P	Pn	13 05 15.5	+2.3
BHK				*e*S	Sn	13 06 50.2	-2.8
BHK				IAML		13 06 58.2	
	comp=N,82nm,0.5s						
SARP	**Sargodha**	9.07	204	P	Pn	13 05 18.3	+2.4
ZSN	**Zaisan**	9.11	36	*e*Pn	Pn	13 05 19.0	+2.4
	baz=35						
ZSN				*e*Pg		13 05 53.4	
	baz=35						
ZSN				*i* Sn	Sn	13 06 58.5	-0.4
	baz=35						
ZSN				*e*Sn	Sn	13 06 58.9	0.0
	baz=35						
ZSN				*i* Lg	Lg	13 07 57.6	
	baz=35						
ZSN	**Zaisan**	9.11	36	*e*P	Pn	13 05 18.9	+2.4
ZSN				*e*		13 06 58.8	
DDI	**Dehra Dun**	9.98	175	*e*P	Pn	13 05 29.7	+1.3
BRZS	**Berezniki**	10.17	344	*e*Pn	Pn	13 05 33.2	+2.3
	baz=344						
BRZS	**Berezniki**	10.17	344	*e*P	Pn	13 05 33.1	+2.2
SEM	**Semipalatinsk**	10.37	11	*e*Pn	Pn	13 05 35.5	+1.6
	baz=11						
SEM				*e*Sn	Sn	13 07 30.5	+0.7
	baz=11						
SEM	**Semipalatinsk**	10.37	11	*e*P	Pn	13 05 35.4	+1.6
SEM				*e*		13 07 30.4	
KURBB	**Kurchatov Arra**	10.38	5	⇓Pn	Pn	13 05 34.4	+0.6
	comp=N,4.6nm,0.5s						
KURBB				⇓Lg	Lg	13 08 34.1	
	comp=N,147nm,0.8s						
KURBB	**Kurchatov Arra**	10.38	5	Pn	Pn	13 05 34.3	+0.5
	comp=N,0.6nm,0.3s,baz=194,slow=12,SNR=90						
KURBB				Lg	Lg	13 08 29.1	
	comp=N,0.5nm,0.3s,baz=208,slow=30,SNR=7.3						
	comp=N,9.7nm,0.6s						
KURK	**Kurchatov**	10.48	6	⇑Pn	Pn	13 05 36.0	+0.8
	comp=N,3.3nm,0.4s						
KURK				⇑Lg	Lg	13 08 37.1	
	comp=N,149nm,1.0s						
KURK	**Kurchatov**	10.48	6	Pn	Pn	13 05 34.9	-0.3
KURK	**Kurchatov**	10.48	6	P	Pn	13 05 34.9	-0.3
PTH	**Pithoragarh**	11.03	165	*e*P	Pn	13 05 41.9	-1.1
PTH				*e*S	Sn	13 07 40.9	-5.2
NDI	**New Delhi**	11.58	179	*e*P	Pn	13 05 51.0	+0.7
DGZ	**Jazzator, Alta**	11.93	35	*i* P	Pn	13 05 55.6	+0.4
PYUN	**Piuthan**	13.11	156	*e*P	Pn	13 06 09.2	-2.3
	comp=N,109nm,0.6s						
DANN	**Dangsing**	13.14	153	*e*P	Pn	13 06 08.9	-3.0
	comp=N,15nm,0.2s						
BVA0	**Borovoye Array**	13.52	343	⇓P	Pn	13 06 17.1	+0.3
	comp=N,8.5nm,0.7s,baz=154,slow=13,SNR=82						
BVA0	**Borovoye Array**	13.52	343	P	Pn	13 06 17.6	+0.9
BVAR	**Borovoye Array**	13.52	343	Pn	Pn	13 06 16.1	-0.7
	comp=N,0.2nm,0.3s,baz=152,slow=13,SNR=64						
BVAR				Lg	Lg	13 10 05.8	
	comp=N,0.1nm,0.3s,baz=153,slow=20,SNR=4.9						
	comp=N,23nm,0.8s						
BRVK	**Borovoye**	13.58	342	⇓P	Pn	13 06 18.3	+0.8
	comp=N,7.7nm,0.6s						
BRVK	**Borovoye**	13.58	342	Pn	Pn	13 06 17.0	-0.5
BRVK	**Borovoye**	13.58	342	P	Pn	13 06 17.0	-0.5
KOLN	**Koldanda**	13.62	155	*e*P	Pn	13 06 15.1	-3.2
	comp=N,23nm,0.3s						
GKN	**Gorkha**	13.77	151	*e*P	Pn	13 06 17.6	-2.8
	comp=N,40nm,0.3s						
KKN	**Kakani**	14.21	149	*e*P	Pn	13 06 23.6	-2.8
	comp=N,60nm,0.5s						
DMN	**Daman**	14.30	150	*e*P	Pn	13 06 24.7	-3.1
	comp=N,33nm,0.6s						
GUN	**Gumba**	14.35	147	*e*P	Pn	13 06 25.5	-2.9
	comp=N,36nm,0.4s						
PKIN	**Phulchoki**	14.44	149	*e*P	Pn	13 06 26.7	-3.0
	comp=N,58nm,0.5s						
PKI	**Pulchoki**	14.45	149	*e*P	Pn	13 06 26.8	-3.1
	comp=N,48nm,0.5s						
ZAA0	**Zalesovo Array**	14.64	18	⇑P	Pn	13 06 31.8	-0.2
	comp=N,1.8nm,0.8s						
ZAA0	**Zalesovo Array**	14.64	18	Pn	Pn	13 06 30.9	-1.1
ZALV	**Zalesovo Beam**	14.64	18	Pn	Pn	13 06 31.0	-0.9
ZALV	**Zalesovo Beam**	14.64	18	*i* P	Pn	13 06 31.7	-0.3
ZALV				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZALV	**Zalesovo Beam**	14.64	18	Pn	Pn	13 06 30.9	-1.1
	comp=Z,0.8nm,0.3s,baz=201,slow=12,SNR=22						
ZALV				Lg	Lg	13 10 43.7	
	comp=Z,0.2nm,0.3s,baz=194,slow=24,SNR=1.5						
	comp=Z,8.9nm,0.7s						
JIRN	**Jiri**	14.70	146	*e*P	Pn	13 06 30.5	-2.8
	comp=Z,49nm,0.4s						
GEYT	**Alibeck**	14.88	267	Pn	Pn	13 06 32.8	-2.6
	comp=Z,0.4nm,0.3s,baz=97,slow=12,SNR=3.0						
GEYT				Sn	Sn	13 09 11.9	-8.1
	comp=Z,0.4nm,0.3s,baz=355,slow=6.1,SNR=2.3						
	comp=Z,1.9nm,0.5s						
AB31	**Akbulak array**	15.06	312	P	Pn	13 06 38.0	+0.2
	comp=Z,4.2nm,0.6s,baz=116,slow=13,SNR=24						
ABKAR	**Akbulak array**	15.06	312	Pn	Pn	13 06 37.2	-0.5
ABKAR	**Akbulak array**	15.06	312	Pn	Pn	13 06 37.4	-0.3
RAMN	**Ramite**	15.49	146	*e*P	Pn	13 06 40.6	-3.1
	comp=Z,57nm,0.6s						
TAPN	**Taplejung**	15.64	142	*e*P	Pn	13 06 43.6	-2.1
	comp=Z,13nm,0.5s						
ODAN	**Odare**	15.91	144	*e*P	Pn	13 06 46.5	-2.7
	comp=Z,50nm,1.0s						
AKTO	**Aktyubinsk**	16.73	314	⇑P	Pn	13 06 59.6	+0.3
	comp=Z,5.2nm,0.8s						
AKTO	**Aktyubinsk**	16.73	314	Pn	Pn	13 06 59.6	+0.3
	comp=Z,0.3nm,0.3s,baz=113,slow=11,SNR=14						
AKTO				Lg	Lg	13 11 49.6	
	comp=Z,0.2nm,0.3s,baz=58,slow=7.0,SNR=1.9						
AKTO				LR	LR	13 13 53.8	
	comp=Z,242nm,18.2s,baz=47,slow=38						
GTA	**Gaotai**	17.51	86	*e*P	P	13 07 11.8	+1.5
GTA				pP	sP	13 07 16.8	-0.2
ARU	**Arti**	20.18	329	P	P	13 07 39.8	+0.5
ARU	**Arti**	20.18	329	*d i*P	Pn	13 07 42.8	+1.6
ARU						13 08 02.2	
ARU				S	Sn	13 11 34.1	+6.2
ARU				SS	SnSn	13 11 55.0	+13
ARU				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ARU	**Arti**	20.18	329	P	P	13 07 39.9	+0.6
	comp=Z,2.2nm,0.3s,baz=132,slow=8.0,SNR=12						
ARU				Lg	Lg	13 13 35.8	
	comp=Z,0.3nm,0.3s,baz=97,slow=22,SNR=1.2						
	comp=Z,2.2nm,0.3s						
ZAK	**Zakamensk**	20.92	52	*e*P	P	13 07 47.1	-0.5
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MAK	**Makhachkala**	22.19	287	*e*P	P	13 07 59.7	-1.4
MAK				*e*S	S	13 12 03.3	-1.6
MAK				pmax	pmax		
	comp=Z,217nm,1.3s						
MAK				MLR	MLR		
	comp=Z,750nm,15.0s						
SONM	**Songino Array**	22.30	60	P	P	13 08 01.5	-0.9
	comp=Z,3.2nm,0.8s,baz=262,slow=10,SNR=12						
	comp=Z,3.2nm,0.8s						
WSAR	**Wadi Sarin**	23.03	228	P	P	13 08 08.8	-1.4
	comp=Z,2.7nm,0.8s,baz=49,slow=9.8,SNR=1.8						
	comp=Z,2.7nm,0.8s						
TNCH	**TengChong**	23.55	124	P	P	13 08 13.4	-2.2
TNCH				PP	PnPn	13 08 45.9	+3.6
TNCH				pmax	pmax		
	comp=Z,24nm,0.9s						
PZH	**PanZhiHua**	24.68	116	P	P	13 08 28.6	+2.5
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC	**Hu-ho-hao-te**	26.13	77	*e*P	P	13 08 38.3	-0.8
HHC				pmax	pmax		
	comp=Z,58nm,0.5s						
SOC	**Sochi**	27.81	289	*e*P	P	13 08 51.6	-2.4
SOC				*e*		13 09 36.2	
SOC				*e*PPP	PPP	13 09 50.4	
SOC				*e*S	S	13 13 33.9	-2.5
SOC				*e*SS	SnSn	13 14 51.5	+2.3
SOC				*e*SSS	SSS	13 15 07.7	
SOC				MLR	MLR		
	comp=Z,323nm,22.0s						
GYA	**Guiyang**	28.17	110	⇓P	P	13 09 00.3	+2.7
GYA

MDJ				PP	**PP**	**13 11 54.4**	**-0.2**
MDJ				PcP	**PcP**	**13 12 38.3**	**-1.3**
MDJ				S	**S**	**13 16 20.3**	**-1.1**
MDJ				PcS	**PcS**	**13 16 27.3**	**-1.4**
MDJ				sS	sS	13 16 37.8	+7.9
MDJ				pmax	pmax		
	comp=Z,9.0nm,2.1s						
MDJ				LR	LR		
	comp=Z,280nm,10.2s						
MDJ				LR	LR		
	comp=Z,320nm,10.9s						
KLR	**Kul'dur**	**39.09**	**58**	P	**P**	**13 10 31.5**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=297,slow=8.1,SNR=5.2						
	comp=Z,1.4nm,0.5s						
ARCES	**ARCESS Array B**	**39.62**	**334**	P	**P**	**13 10 37.2**	**+1.1**
ARCES	**ARCESS Array B**	**39.62**	**334**	P	**P**	**13 10 37.2**	**+1.1**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.3s						
ARCES	**ARCESS Array B**	**39.62**	**334**	P	**P**	**13 10 37.4**	**+1.2**
	comp=Z,6.8nm,0.8s,baz=103,slow=7.9,SNR=15						
	comp=Z,6.8nm,0.8s						
HFS	**Hagfors**	**43.16**	**319**	P	**P**	**13 11 05.5**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=83,slow=12,SNR=3.5						
	comp=Z,2.7nm,0.7s						
NC405	**NORSAR Array S**	**44.10**	**321**	P	**P**	**13 11 13.4**	**+0.5**
NC405				IAmb	IAmb	13 11 48.3	
	comp=Z,9.3nm,1.1s						
NC602	**NORSAR Array S**	**44.20**	**320**	P	**P**	**13 11 14.0**	**+0.3**
NC602				IAmb	IAmb	13 11 26.3	
	comp=Z,24nm,1.4s						
NB2	**NORSAR Subarra**	**44.34**	**321**	P	**P**	**13 11 15.6**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=87,slow=7.9						
NOA	**NORSAR Array B**	**44.34**	**321**	P	**P**	**13 11 14.4**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=88,slow=7.9,SNR=7.4						
	comp=Z,2.0nm,0.6s						
NAO01	**NORSAR Array S**	**44.52**	**320**	P	**P**	**13 11 16.7**	**+0.5**
NBO00	**NORSAR Array S**	**44.56**	**321**	P	**P**	**13 11 17.3**	**+0.8**
NBO00				IAmb	IAmb	13 11 55.0	
	comp=Z,19nm,1.4s						
GERES	**GERESS Array B**	**44.74**	**303**	P	**P**	**13 11 17.9**	**-0.4**
GERES	**GERESS Array B**	**44.74**	**303**	P	**P**	**13 11 17.9**	**-0.4**
GERES	**GERESS Array B**	**44.74**	**303**	P	**P**	**13 11 18.7**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=64,slow=9.1,SNR=7.3						
	comp=Z,2.4nm,0.7s						
NRCA	**Norcia**	**46.87**	**295**	P	**P**	**13 11 35.8**	**+0.7**
NRCA				IAmb	IAmb	13 11 38.2	
	comp=Z,3.8nm,0.6s						
SBUM	**Sibu**	**49.31**	**131**	P	**P**	**13 11 53.2**	**-1.0**
EKA	**Eskdalemuir Ar**	**52.91**	**315**	P	**P**	**13 12 20.0**	**-0.8**
EKA	**Eskdalemuir Ar**	**52.91**	**315**	P	**P**	**13 12 19.9**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=95,slow=8.3,SNR=5.1						
	comp=Z,1.4nm,0.6s						
SUMG	**Summit**	**59.00**	**342**	P	**P**	**13 13 05.7**	**+1.1**
SUMG				IAmb	IAmb	13 13 29.6	
	comp=Z,4.4nm,0.7s						
SUMG	**Summit**	**59.00**	**342**	P	**P**	**13 13 05.7**	**+1.1**
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EUNU	**Eureka**	**59.55**	**357**	P	**P**	**13 13 08.3**	**+0.4**
EUNU				IAmb	IAmb	13 13 16.8	
	comp=Z,5.7nm,1.1s						
ESDC	**Sonseca Array**	**59.87**	**298**	P	**P**	**13 13 10.4**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=66,slow=8.4,SNR=5.9						
	comp=Z,0.8nm,0.8s						
D19K	**Kuna River**	**64.05**	**20**	P	**P**	**13 13 38.2**	**-0.1**
F15K	**North Star Dit**	**64.13**	**24**	P	**P**	**13 13 39.3**	**+0.5**
ILULI	**Ilulissat**	**64.34**	**342**	P	**P**	**13 13 40.6**	**+0.5**
ILULI	**Ilulissat**	**64.34**	**342**	P	**P**	**13 13 40.6**	**+0.5**
ILULI				pmax	pmax		
	comp=Z,19nm,1.0s						
E19K	**Redstone River**	**65.03**	**20**	P	**P**	**13 13 43.8**	**-0.9**
E19K				IAmb	IAmb	13 14 01.2	
	comp=Z,5.5nm,1.1s						
TOLK	**Toolik Lake Re**	**65.99**	**17**	P	**P**	**13 13 50.9**	**0.0**
H18K	**Honhosa River**	**66.40**	**22**	P	**P**	**13 13 53.4**	**-0.2**
H18K				IAmb	IAmb	13 14 18.8	
	comp=Z,9.5nm,1.4s						
IMAR	**Indian Mountai**	**67.06**	**20**	P	**P**	**13 13 57.1**	**-0.6**
L14K	**Kuka Creek**	**67.76**	**27**	P	**P**	**13 14 03.2**	**+1.0**
L14K				IAmb	IAmb	13 14 38.6	
	comp=Z,7.3nm,1.2s						
VOI	**Vohitsoka**	**68.00**	**210**	P	**P**	**13 14 05.5**	**+1.3**
I21K	**Tanana**	**68.15**	**20**	P	**P**	**13 14 04.9**	**+0.4**
I21K				IAmb	IAmb	13 14 19.0	
	comp=Z,11nm,1.4s						
K17K	**Iditarod**	**68.21**	**24**	P	**P**	**13 14 05.6**	**+0.5**
K17K				IAmb	IAmb	13 14 25.5	
	comp=Z,7.9nm,1.1s						
J20K	**Nowinta River**	**68.34**	**22**	P	**P**	**13 14 06.0**	**+0.2**
L16K	**Owhat River**	**68.57**	**25**	P	**P**	**13 14 08.2**	**+0.9**
L16K				IAmb	IAmb	13 14 40.6	
	comp=Z,7.9nm,1.3s						
H24K	**Noodor Dome**	**68.65**	**18**	P	**P**	**13 14 08.1**	**+0.3**
K20K	**Telida**	**68.99**	**22**	P	**P**	**13 14 10.4**	**+0.4**
K20K				IAmb	IAmb	13 14 17.2	
	comp=Z,10nm,1.4s						
BPAW	**Bear Paw Mtn.**	**69.27**	**20**	P	**P**	**13 14 11.6**	**-0.1**
KTH	**Kantishna Hill**	**69.72**	**21**	P	**P**	**13 14 14.3**	**-0.2**
ILAR	**Eielson Array**	**69.76**	**18**	P	**P**	**13 14 13.7**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=324,slow=5.7,SNR=6.2						
	comp=Z,0.6nm,0.9s						
G30M	**tAoh Zraii Nji**	**70.08**	**13**	P	**P**	**13 14 17.7**	**+1.0**
H29M	**Whitestone**	**70.37**	**14**	P	**P**	**13 14 18.2**	**-0.2**
H29M				IAmb	IAmb	13 14 43.8	
	comp=Z,7.1nm,1.2s						
TORD	**Torodi Ar. Bea**	**70.48**	**271**	P	**P**	**13 14 18.4**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=41,slow=5.2,SNR=5.8						
	comp=Z,0.4nm,0.4s						
SKT	**Skwentna**	**70.81**	**22**	P	**P**	**13 14 20.4**	**-0.7**
SKT				IAmb	IAmb	13 14 58.0	
	comp=Z,14nm,1.4s						
DHY	**Denali Highway**	**71.05**	**20**	P	**P**	**13 14 22.4**	**-0.4**
RIDG	**Independent Ri**	**71.12**	**18**	P	**P**	**13 14 22.3**	**-0.8**
RIDG				IAmb	IAmb	13 14 25.0	
	comp=Z,8.4nm,1.3s						
SCRK	**Sand Creek**	**71.12**	**18**	P	**P**	**13 14 22.7**	**-0.4**
SCRK				IAmb	IAmb	13 14 23.9	
	comp=Z,8.7nm,1.5s						
SUA	**Susitna One**	**71.44**	**22**	P	**P**	**13 14 24.7**	**-0.4**
H31M	**Peel River**	**71.47**	**13**	P	**P**	**13 14 24.6**	**-0.5**
H31M				IAmb	IAmb	13 14 59.9	
	comp=Z,14nm,1.4s						
I30M	**Mount Dempster**	**71.63**	**14**	P	**P**	**13 14 26.0**	**-0.2**
I30M				IAmb	IAmb	13 14 40.0	
	comp=Z,7.1nm,1.3s						
SCM	**Sheep Creek Mo**	**72.09**	**20**	P	**P**	**13 14 28.6**	**-0.3**
SCM	**Sheep Creek Mo**	**72.09**	**20**	P	**P**	**13 14 28.6**	**-0.3**
SCM				pmax	pmax		
	comp=Z,27nm,1.4s						
BCAR	**Beaver Creek A**	**72.42**	**17**	P	**P**	**13 14 31.1**	**+0.2**
HYT	**Haines Junctio**	**75.36**	**17**	P	**P**	**13 14 48.1**	**-0.1**
ASAR	**Alice Springs**	**82.75**	**129**	P	**P**	**13 15 28.3**	**-0.6**
	comp=Z,0.5nm,1.0s,baz=340,slow=7.1,SNR=2.0						
	comp=Z,0.5nm,1.0s						

***IDC* 16** *13:27:29.2±14.0,* **5°.81S**×**127°.26E, h243**km±159km**,**
mb3.1/2**, mbtmp3.9**/4**, Error ellipse: s-maj=137.9km**
s-min=47.8km az=59.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.65**	**155**	P	P	13 30 55.8	-0.8
	2.1nm,0.4s,baz=333,slow=11,SNR=100						
ASAR	**Alice Springs**	**18.87**	**161**	P	P	13 31 30.8	-1.0
	1.2nm,0.4s,baz=346,slow=12,SNR=12						
STKA	**Stephens Creek**	**29.20**	**154**	P	P	13 33 09.9	+1.5
	1.0nm,0.6s,baz=342,slow=9.6,SNR=1.9						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**65.76**	**328**	P	P	13 37 48.1	-0.1
	0.3nm,0.4s,baz=120,slow=5.2,SNR=4.9						
	0.3nm,0.4s						

TUN **16** *13:40:45.4,35°.80N×11°.62E, h9km±4km, MD3.9*
LDG **16** *13:40:45.2±0.3,35°.66N×11°.57E, h10km, MI3.5/5, Error ellipse: s-maj=7.7km s-min=6.6km az=17.0*
ISC 16 13:40:45.9±1.0**,35°.71N**±0°.06×**11°.54E**±0°.04**, h19**km**, n24,**
σ2S42/30, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKLT	**Bekalta**	**0.45**	**259**	*i* P	**Pb**	**13 40 56.3**	**+1.0**
HANT	**Hania**	**0.97**	**278**	*i* P	**Pn**	**13 41 05.8**	**+1.4**
BTHT	**Jabal bu Thady**	**1.18**	**241**	*i* P	**Pg**	**13 41 09.3**	**+0.7**
TROT	**Trozza**	**1.59**	**265**	*i* P	**Pb**	**13 41 14.9**	**+0.2**
MEDT	**Meda**	**2.08**	**220**	*i* P	**Pn**	**13 41 20.7**	**+1.0**
KRIT	**Krib**	**2.10**	**288**	*i* P	**Pb**	**13 41 25.2**	**+1.9**
BLIT	**Baltah**	**2.32**	**296**	*i* P	**Pn**	**13 41 24.8**	**+1.7**
SGNT	**Sidi Gnaou**	**2.46**	**215**	*i* P	**Pb**	**13 41 27.6**	**-2.0**
BERT	**Berda**	**2.54**	**236**	*i* P	**Pb**	**13 41 31.1**	**+0.3**
RAFF	**Raffo Rosso**	**2.73**	**56**	P	**Pn**	**13 41 29.9**	**+1.2**
RAFF				AML	AML		
	comp=E,75μm,1.6s						
RAFF				AML	AML		
	comp=E,75μm,0.4s						
RAFF				AML	AML		
	comp=N,81μm,1.3s						
GHAT	**Ghardimaou**	**2.74**	**288**	*i* P	**Pn**	**13 41 30.3**	**+1.4**
HMDC	**Modica**	**2.90**	**64**	P	**Pn**	**13 41 31.2**	**+0.1**
HMDC				S	**Sn**	**13 42 05.2**	**-0.2**
PETRA	**Petralia Sopra**	**2.96**	**43**	P	**Pn**	**13 41 34.3**	**+2.2**
PETRA				AML	AML		
	comp=E,54μm,0.9s						
PETRA				AML	AML		
	comp=E,42μm,0.6s						
PETRA				AML	AML		
	comp=N,44μm,1.0s						
PETRA				AML	AML		
	comp=E,54μm,1.1s						
PETRA				AML	AML		
	comp=N,47μm,1.0s						
CSLB	**Castelbuono**	**3.01**	**41**	P	**Pn**	**13 41 34.3**	**+1.7**
CSLB				AML	AML		
	comp=E,18μm,0.8s						
CSLB				AML	AML		
	comp=N,19μm,0.9s						
CSLB				AML	AML		
	comp=N,17μm,0.4s						
CSLB				AML	AML		
	comp=N,19μm,1.1s						
CSLB				AML	AML		
	comp=E,18μm,1.2s						
HPAC	**Pachino**	**3.05**	**70**	P	**Pn**	**13 41 32.9**	**-0.2**
MEU	**Monte Lauro**	**3.07**	**62**	P	**Pn**	**13 41 33.5**	**+0.1**
MEU				S	**Sn**	**13 42 08.5**	**-1.2**
MEU				AML	AML		
	comp=E,305μm,0.3s						
MEU				AML	AML		
	comp=E,305μm,0.3s						
MEU				AML	AML		
	comp=N,73μm,0.3s						
MEU				AML	AML		
	comp=N,364μm,0.3s						
MEU				AML	AML		
	comp=E,305μm,1.7s						
HLNI	**Lentini**	**3.14**	**58**	P	**Pn**	**13 41 35.0**	**+0.6**
HLNI				AML	AML		
	comp=E,96μm,0.8s						
HLNI				AML	AML		
	comp=N,122μm,0.2s						
HLNI				AML	AML		
	comp=N,39μm,0.2s						
HLNI				AML	AML		
	comp=E,23μm,0.2s						
HLNI				AML	AML		
	comp=E,96μm,1.2s						
SSY	**Sortino**	**3.19**	**62**	P	**Pn**	**13 41 36.1**	**+1.0**
SSY				S	**Sn**	**13 42 12.9**	**+0.2**
SSY				AML	AML		
	comp=E,180μm,0.8s						
SSY				AML	AML		
	comp=N,269μm,1.6s						
SSY				AML	AML		
	comp=E,119μm,0.3s						
SSY				AML	AML		
	comp=N,235μm,0.3s						
SSY				AML	AML		
	comp=E,180μm,1.2s						
SSY				AML	AML		
	comp=N,269μm,0.4s						
MNO	**Monte Soro**	**3.37**	**48**	P	**Pn**	**13 41 40.1**	**+2.4**
MNO				AML	AML		
	comp=N,115μm,0.5s						
MSFR	**San Fratello**	**3.37**	**46**	P	**Pn**	**13 41 40.1**	**+2.5**
VPL	**Vulcano Piano**	**3.83**	**45**	P	**Pn**	**13 41 45.0**	**+1.1**
PGF	**Pioggiola**	**7.11**	**345**	*e*P	**Pn**	**13 42 32.3**	**+3.3**
PGF				*e*Sn	**Sn**	**13 43 44.5**	**-4.8**
	comp=N,3.8nm,0.5s						
LMR	**La Mourre**	**8.55**	**335**	*e*P	**Pn**	**13 42 51.2**	**+2.6**
LMR				*e*Sn	**Sn**	**13 44 18.6**	**-5.9**
	comp=N,4.0nm,0.6s						
SBF	**Sospel**	**8.74**	**340**	*e*P	**Pn**	**13 42 53.5**	**+2.2**
SBF				*e*Sn	**Sn**	**13 44 23.4**	**-5.8**
	comp=N,5.2nm,0.3s						

IDC **16** *13:43:42.6±1.4,6°.17S×104°.17E, h0km, mb3.9/9, mbtmp4.0/11, ML4.1/2, Error ellipse: s-maj=55.0km s-min=15.6km az=52.0*
DJA **16** *13:43:45.9±0.4,7°.5S±4°.×10°.4E±°, h10km, M4.4/13, mb4.5/3, mB5.0/1, MLv4.3/13, Mw(mB)4.3/1*
NEIC **16** *13:43:46.7±2.8,6°.56S±0°.09×104°.14E±0°.08, h29km±5km, mb4.3/12, Error ellipse: s-maj=14.2km s-min=8.2km az=217.0*
ISC 16 13:43:48.0±0.7**,6°.51S**±0°.07×**104°.07E**±0°.07**, h48**km**, n59,**
σ1S78/56, mb4.1/14**, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.06**	**23**	P	**Pn**	**13 44 06.0**	**-0.6**
KASI				S	**Sn**	**13 44 17.7**	**-2.5**
LWLI	**Liwa**	**1.48**	**360**	P	**Pn**	**13 44 13.6**	**+1.3**
CGJI	**Cibinong**	**1.61**	**94**	P	**Pn**	**13 44 13.5**	**-0.6**
CGJI				S	**Sn**	**13 44 30.5**	**-3.2**
KLI	**Kotabumi**	**1.81**	**26**	P	**Pn**	**13 44 17.8**	**+1.1**
MNAI	**Manna**	**2.40**	**332**	Pn	**Pn**	**13 44 25.6**	**+0.7**
MNAI	**Manna**	**2.40**	**332**	P	**Pn**	**13 44 28.1**	**+3.2**
CBJI	**Citeko**	**2.76**	**88**	P	**Pn**	**13 44 32.3**	**+2.5**
CNJI	**Cibinong**	**3.14**	**105**	P	**Pn**	**13 44 34.4**	**-0.6**
LEM	**Lembang**	**3.54**	**95**	P	**Pn**	**13 44 39.4**	**-1.2**
LEM	**Lembang**	**3.54**	**95**	Pn	**Pn**	**13 44 38.3**	**-2.3**
	1.8nm,0.3s,baz=198,slow=22,SNR=1.4						
LEM				Sn	**Sn**	**13 45 24.6**	**+3.4**
	6.2nm,0.3s,baz=352,slow=22,SNR=7.2						
	12nm,0.3s						
BBJI	**Bungbulang**	**3.68**	**105**	P	**Pn**	**13 44 43.7**	**+1.2**
MASI	**Maura Aman, Be**	**3.81**	**331**	P	**Pn**	**13 44 47.5**	**+3.3**
XMI	**Christmas Isla**	**4.23**	**158**	P	**Pn**	**13 44 49.6**	**-0.5**
XMIS	**Christmas Isla**	**4.25**	**159**	Pn	**Pn**	**13 44 47.3**	**-3.0**
XMIS	**Christmas Isla**	**4.25**	**159**	P	**Pn**	**13 44 47.5**	**-2.8**
CMJI	**Cimerak**	**4.53**	**107**	P	**Pn**	**13 44 53.9**	**-0.1**
PPSI	**Pulau Pagai**	**5.50**	**312**	P	**Pn**	**13 45 10.4**	**+3.0**
	45nm,1.1s,0.5nm						
UGM	**Wanagama**	**6.55**	**103**	Pn	**Pn**	**13 45 24.3**	**+2.4**
UGM	**Wanagama**	**6.55**	**103**	P	**Pn**	**13 45 24.5**	**+2.6**
UGM	**Wanagama**	**6.55**	**103**	P	**Pn**	**13 45 22.6**	**+0.7**
GSI	**Gunungsitoli**	**10.11**	**320**	Pn	**Pn**	**13 46 10.2**	**-0.5**
JAGI	**Jajag, Banyuwa**	**10.18**	**102**	Pn	**Pn**	**13 46 11.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**10.18**	**102**	P	**Pn**	**13 46 12.1**	**+0.4**
BATI	**Baumata**	**19.73**	**102**	P	**P**	**13 48 13.5**	**-0.4**
	5.6nm,0.3s,baz=13,slow=18,SNR=2.7						
	11nm,0.3s						
SOEI	**Soe**	**20.25**	**101**	P	**P**	**13 48 18.4**	**-1.3**
SOEI				IAmb	IAmb	13 48 33.1	
	comp=Z,19nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.32**	**349**	P	**P**	**13 49 06.7**	**-3.7**
	comp=Z,0.6nm,0.7s,baz=226,slow=12,SNR=1.9						
	comp=Z,0.6nm,0.7s						
KNRA	**Kununurra**	**25.86**	**113**	P	**P**	**13 49 15.3**	**-0.1**
KNRA				IAmb	IAmb	13 49 54.6	
	comp=Z,8.5nm,0.9s						
H01W3	**Cape Leeuwin H**	**29.73**	**163**	T	T	14 21 15.6	
	baz=344,slow=74						
H01W2	**Cape Leeuwin H**	**29.74**	**163**	T	T	14 21 15.9	
	baz=344						
H01W1	**Cape Leeuwin H**	**29.74**	**163**	T	T	14 21 17.0	
	baz=344,slow=74						
H08S2	**Diego Garcia H**	**31.36**	**266**	T	T	14 23 43.5	
	baz=89,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**31.36**	**266**	T	T	14 23 45.8	
	baz=89,slow=76,SNR=23						
H08S1	**Diego Carcia H**	**31.37**	**266**	T	T	14 23 44.6	
	baz=89,slow=76,SNR=13						
WRA	**Warramunga Arr**	**32.27**	**117**	P	**P**	**13 50 11.8**	**-0.6**
WRA	**Warramunga Arr**	**32.27**	**117**	P	**P**	**13 50 13.2**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=303,slow=9.0,SNR=5.0						
WRA				PcP	**PcP**	**13 53 02.3**	**+2.2**
	comp=Z,0.1nm,0.6s,baz=292,slow=1.9,SNR=1.1						
	comp=Z,0.6nm,0.8s						
WB2	**Warramunga Arr**	**32.28**	**117**	P	**P**	**13 50 11.9**	**-0.7**
ASAR	**Alice Springs**	**33.36**	**124**	P	**P**	**13 50 23.2**	**+1.3**
ASAR	**Alice Springs**	**33.36**	**124**	P	**P**	**13 50 23.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=298,slow=7.7,SNR=10						
ASAR				PcP	**PcP**	**13 53 05.7**	**+2.6**
	comp=Z,0.3nm,1.0s,baz=304,slow=1.8,SNR=1.7						
	comp=Z,0.1nm,0.3s						
AS31	**Alice Springs**	**33.36**	**124**	P	**P**	**13 50 22.4**	**+0.4**
AS31				IAmb	IAmb	13 51 03.0	
	comp=Z,1.7nm,1.3s						
YHNB	**Yeheng**	**35.28**	**28**	P	**P**	**13 50 36.7**	**-1.8**
YOJ	**Yonaguni jima**	**35.89**	**30**	P	**P**	**13 50 41.7**	**-2.0**
PMG	**Port Moresby**	**42.75**	**97**	P	**P**	**13 51 40.8**	**-0.3**
STKA	**Stephens Creek**	**43.15**	**131**	P	**P**	**13 51 45.3**	**+1.2**
STKA	**Stephens Creek**	**43.15**	**131**	P	**P**	**13 51 46.2**	**+2.1**
	comp=Z,1.8nm,0.5s,baz=305,slow=10,SNR=9.7						
	comp=Z,1.8nm,0.5s						
SONM	**Songino Array**	**54.14**	**2**	P	**P**	**13 53 08.6**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=185,slow=9.2,SNR=5.9						
SONM				PcP	**PcP**	**13 54 14.1**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=225,slow=1.2,SNR=2.0						
	comp=Z,1.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**56.40**	**24**	P	**P**	**13 53 24.0**	**-0.6**
USRK	**Ussuriysk Ar.**	**56.40**	**24**	P	**P**	**13 53 23.5**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=128,slow=2.4,SNR=5.2						
	comp=Z,2.8nm,0.7s						
USA0B	**Ussuriysk Arra**	**56.41**	**24**	P	**P**	**13 53 23.9**	**-0.7**
USA0B				IAmb	IAmb	13 53 24.8	
	comp=Z,3.8nm,0.7s						
MK31	**Makanchi Array**	**56.48**	**342**	P	**P**	**13 53 26.2**	**+1.0**
MK31				IAmb	IAmb	13 53 27.0	
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**56.48**	**342**	P	**P**	**13 53 25.7**	**+0.6**
MKAR	**Makanchi Array**	**56.48**	**342**	P	**P**	**13 53 23.9**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=149,slow=8.1,SNR=9.7						
	comp=Z,1.8nm,0.6s						
H04N2	**CROZET ISLANDS**	**59.77**	**220**	T	T	14 59 27.1	
	baz=65,slow=75,SNR=26						
H04N1	**CROZET ISLANDS**	**59.78**	**220**	T	T	14 59 27.8	
	baz=65,slow=75,SNR=31						
H04N3	**CROZET ISLANDS**	**59.78**	**220**	T	T	14 59 26.1	
	baz=65,slow=75,SNR=18						
KURBB	**Kurchatov Arra**	**61.03**	**342**	P	**P**	**13 53 54.8**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=153,slow=6.3,SNR=2.9						
	comp=Z,0.6nm,0.6s						
ZAA0	**Zalesovo Array**	**62.37**	**347**	P	**P**	**13 54 04.9**	**-0.7**
ZAA0				IAmb	IAmb	13 54 07.2	
	comp=Z,2.6nm,0.7s						
ZALV	**Zalesovo Beam**	**62.37**	**347**	P	**P**	**13 54 04.9**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=144,slow=6.4,SNR=7.6						
	comp=Z,2.3nm,0.6s						
ABKAR	**Akbulak array**	**67.53**	**330**	P	**P**	**13 54 40.5**	**+1.3**
TXAR	**Lajitas Array**	**145.36**	**46**	PKPbc	**PKPbc**	**14 03 20.9**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=234,slow=0.9,SNR=5.9						

IDC **16** *13:47:03.0±1.2,44°.09N×87°.98E, h0km, mb3.6/3, mbtmp3.5/5, ML3.0/2, MS2.9/2, Error ellipse: s-maj=79.1km s-min=15.8km az=42.0*
ISC 16 13:47:04.9±1.3**,44°.3N**±0°.4×**88°.3E**±0°.3**, h10**km**, n9,** σ0S**80**/9**,**
mb3.5/3**, 3C, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.88**	**302**	Pn	**Pn**	**13 48 18.5**	**+0.2**
	0.7nm,0.5s,baz=122,slow=15,SNR=19						
MK31				⇑Lg	Lg	13 49 41.5	
	5.3nm,0.7s,baz=127,slow=27,SNR=3.7						
MKAR	**Makanchi Array**	**4.88**	**302**	Pn	**Pn**	**13 48 17.9**	**-0.3**
	0.6nm,0.3s,baz=120,slow=15,SNR=22						
MKAR				Sn	**Sn**	**13 49 14.1**	**-0.7**
	0.5nm,0.3s,baz=124,slow=26,SNR=6.4						
MKAR				Lg	Lg	13 49 36.4	
	0.5nm,0.3s,baz=123,slow=28,SNR=4.1						
MKAR				LR	LR	13 50 15.3	
	comp=Z,58nm,18.3s,baz=320,slow=40						
	1.8nm,0.5s						
MAKZ	**Makanchi**	**5.08**	**301**	⇑Pn	**Pn**	**13 48 20.1**	**-0.9**
	1.6nm,0.5s						
MAKZ				⇑Lg	Lg	13 49 50.9	
	5.9nm,0.7s						
KURBB	**Kurchatov Arra**	**9.12**	**317**	Pn	**Pn**	**13 49 15.5**	**-0.9**
	0.1nm,0.3s,baz=133,slow=12,SNR=8.5						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**14.64**	**313**	Pn	**Pn**	**13 50 32.1**	**+0.2**
	baz=116,slow=13,SNR=2.1						
GEYT	**Alibeck**	**23.52**	**265**	LR	LR	14 01 51.2	
	comp=Z,62nm,18.0s,baz=8.5,slow=38						
FINES	**FINESS Array B**	**39.51**	**318**	P	**P**	**13 54 36.3**	**+1.1**
	1.7nm,0.8s,baz=108,slow=8.9,SNR=3.4						
	1.7nm,0.8s						
WRA	**Warramunga Arr**	**76.56**	**136**	P	**P**	**13 58 55.2**	**-0.2**
	0.4nm,1.0s,baz=340,slow=6.7,SNR=2.1						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**79.50**	**138**	P	**P**	**13 59 11.1**	**-0.6**
	0.2nm,0.5s,baz=334,slow=4.9,SNR=7.1						
	0.2nm,0.5s						

IDC **16** *13:54:37.2±0.6,63°.25N×172°.75W, h0km, mb4.1/24, mbtmp4.1/29, ML3.0/4, MS3.7/49, Error ellipse: s-maj=17.6km s-min=10.7km az=9.0*
MOS **16** *13:54:37.0±1.5,63°.16N×172°.21W, h14km, mb4.8/18, MS4.0/5, Error ellipse: s-maj=13.5km s-min=7.8km az=94.3*
AEIC **16** *13:54:37.1±1.7,63°.18N±0°.05×172°.4W±0°.1, h30km±5km, Error ellipse: s-maj=7.6km s-min=7.1km az=220.0*
NEIC **16** *13:54:38.4±1.2,63°.17N±0°.05×172°.5W±0°.1, h14km±4km, mb4.5/44, ML4.7(AEIC), Error ellipse: s-maj=9.2km s-min=

K15K	Wolf Creek Mou	5.06	96	P		Pn	13 55 54.0 -0.5
	baz=285,SNR=18						
M13K	Dall Lake	5.12	119			Pn	13 55 54.5 -0.7
M13K	Dall Lake	5.12	119	P		Pn	13 55 54.5 -0.7
	baz=307,SNR=24						
I17K	Unalakleet	5.25	78			Pn	13 55 56.8 -0.3
I17K	Unalakleet	5.25	78	P		Pn	13 55 56.8 -0.3
	baz=268						
L15K	Ungalak Mounta	5.28	102			Pn	13 55 56.3 -1.2
L15K	Ungalak Mounta	5.28	102	P		Pn	13 55 56.1 -1.4
	baz=291						
J16K	Anvik River	5.31	84			Pn	13 55 57.7 -0.2
J16K	Anvik River	5.31	84	P		Pn	13 55 57.3 -0.6
	baz=274,SNR=10						
M14K	Bethel	5.49	112			Pn	13 55 59.4 -0.9
M14K	Bethel	5.49	112	P		Pn	13 55 59.5 -0.9
	baz=301,SNR=106						
G17K	Kiwalik Mounta	5.57	61			Pn	13 56 00.2 -1.3
G17K	Kiwalik Mounta	5.57	61	P		Pn	13 56 00.5 -1.0
	baz=251						
H17K	Granite Mounta	5.72	67			Pn	13 56 03.0 -0.6
H17K	Granite Mounta	5.72	67	P		Pn	13 56 03.1 -0.4
	baz=258,SNR=10						
F17K	Baldwin Pennin	5.73	51			Pn	13 56 02.9 -0.8
F17K	Baldwin Pennin	5.73	51	P		Pn	13 56 02.5 -1.1
	baz=241						
C16K	Lisburne Hills	5.83	27			Pn	13 56 04.2 -0.9
C16K	Lisburne Hills	5.83	27	P		Pn	13 56 04.6 -0.5
	baz=213						
E17K	Hotham Inlet	5.88	44	P		Pn	13 56 05.0 -0.8
	baz=234						
M15K	Kasigluk River	6.06	110			Pn	13 56 07.0 -1.2
M15K	Kasigluk River	6.06	110	P		Pn	13 56 07.1 -1.1
	baz=299,SNR=40						
N14K	Kuskokwak Cree	6.08	118			Pn	13 56 07.3 -1.1
N14K	Kuskokwak Cree	6.08	118	P		Pn	13 56 07.1 -1.3
	baz=307,SNR=15						
SPIA	Saint Paul Isl	6.16	169			Pn	13 56 07.3 -2.2
SPIA	Saint Paul Isl	6.16	169	P		Pn	13 56 07.2 -2.4
	baz=351						
L16K	Owhat River	6.16	99	Pn		Pn	13 56 08.4 -1.2
L16K	Owhat River	6.16	99	P		Pn	13 56 08.8 -0.9
	baz=290,SNR=65						
H18K	Honhosa River	6.41	66			Pn	13 56 13.0 0.0
H18K	Honhosa River	6.41	66	P		Pn	13 56 12.6 -0.4
	baz=259						
K17K	Iditarod	6.43	88			Pn	13 56 12.8 -0.5
K17K	Iditarod	6.43	88	P		Pn	13 56 12.4 -0.9
	baz=280						
E18K	Tukpahlearik C	6.47	44			Pn	13 56 13.6 -0.2
E18K	Tukpahlearik C	6.47	44	P		Pn	13 56 13.3 -0.5
	baz=235						
C17K	DeLong Mountai	6.47	31			Pn	13 56 14.1 +0.3
C17K	DeLong Mountai	6.47	31	P		Pn	13 56 14.2 +0.4
	baz=220						
G18K	Tagagawik	6.48	60			Pn	13 56 13.7 -0.3
G18K	Tagagawik	6.48	60	P		Pn	13 56 13.5 -0.4
	baz=252						
L17K	Donlin	6.56	93			Pn	13 56 14.7 -0.5
L17K	Donlin	6.56	93	P		Pn	13 56 15.2 +0.1
	baz=285						
N15K	Kwethluk River	6.59	112	Pn		Pn	13 56 14.4 -1.1
N15K	Kwethluk River	6.59	112	P		Pn	13 56 14.8 -0.7
	baz=303,SNR=22						
M16K	Timber Creek	6.66	103			Pn	13 56 16.1 -0.3
M16K	Timber Creek	6.66	103	P		Pn	13 56 16.1 -0.3
	baz=295,SNR=26						
O14K	Tigyukauivet M	6.67	122			Pn	13 56 15.5 -1.1
O14K	Tigyukauivet M	6.67	122	P		Pn	13 56 15.1 -1.4
	baz=311						
GCSA	Galena City Sc	6.97	71			Pn	13 56 20.9 +0.2
GCSA	Galena City Sc	6.97	71	P		Pn	13 56 21.4 +0.7
	baz=264						
N16K	Nishlik Lake	6.99	107			Pn	13 56 20.6 -0.4
N16K	Nishlik Lake	6.99	107	P		Pn	13 56 20.6 -0.4
	baz=299,SNR=12						
J18K	Innoko River	7.04	81			Pn	13 56 21.8 +0.2
J18K	Innoko River	7.04	81	P		Pn	13 56 21.8 +0.2
	baz=275,SNR=19						
C18K	Utukok River	7.09	35	P		Pn	13 56 23.1 +0.7
	baz=225						
F19K	Shaleruckik Mo	7.15	53	P		Pn	13 56 23.1 0.0
	baz=246						
G19K	Purcell Mounta	7.16	59	P		Pn	13 56 23.9 +0.5
	baz=253						
M17K	Holitna River	7.19	98			Pn	13 56 23.5 -0.1
M17K	Holitna River	7.19	98	P		Pn	13 56 23.8 +0.1
	baz=291						
H19K	Roundabout Mou	7.27	64			Pn	13 56 23.7 -1.1
H19K	Roundabout Mou	7.27	64	P		Pn	13 56 24.8 0.0
	baz=259						
L18K	Granite Mounta	7.27	91			Pn	13 56 24.7 -0.1
L18K	Granite Mounta	7.27	91	P		Pn	13 56 24.7 -0.1
	baz=284						
O15K	Ungalikthiuk R	7.28	118			Pn	13 56 24.0 -1.0
O15K	Ungalikthiuk R	7.28	118	P		Pn	13 56 24.4 -0.6
	baz=309						
TTA	Tatalina	7.42	85	Pn		Pn	13 56 27.1 +0.1
TTA	Tatalina	7.42	85	P		Pn	13 56 27.1 +0.1
TTA	Tatalina	7.42	85	P		Pn	13 56 27.4 +0.4
	baz=279,SNR=9.7						
J19K	Poorman	7.49	77			Pn	13 56 27.7 -0.2
J19K	Poorman	7.49	77	P		Pn	13 56 28.2 +0.3
	baz=271						
E19K	Redstone River	7.60	49			Pn	13 56 29.8 +0.4
E19K	Redstone River	7.60	49	P		Pn	13 56 29.4 0.0
	baz=243						
N17K	Nushagak Hills	7.66	104			Pn	13 56 29.6 -0.6
N17K	Nushagak Hills	7.66	104	P		Pn	13 56 29.6 -0.6
	baz=297,SNR=6.4						
O16K	Kokwok River B	7.75	112			Pn	13 56 30.6 -0.8
O16K	Kokwok River B	7.75	112	P		Pn	13 56 30.2 -1.1
	baz=304						
C19K	Lookout Ridge	7.83	36	P		Pn	13 56 32.9 +0.4
	baz=227						
D19K	Kuna River	7.86	42			Pn	13 56 33.5 +0.6
D19K	Kuna River	7.86	42	P		Pn	13 56 33.5 +0.6
	baz=234						
M18K	Stony River	7.88	95			Pn	13 56 32.9 -0.3
M18K	Stony River	7.88	95	P		Pn	13 56 33.3 +0.1
	baz=290						
H20K	Anotleneega Mo	7.91	66			Pn	13 56 34.0 +0.4
H20K	Anotleneega Mo	7.91	66	P		Pn	13 56 34.1 +0.5
	baz=261						
F20K	Avaraart Lake	7.97	54	P		Pn	13 56 34.8 +0.3
	baz=249						
I20K	Naaghedeneel	8.00	71			Pn	13 56 34.8 0.0
I20K	Naaghedeneel	8.00	71	P		Pn	13 56 34.9 0.0
	baz=267						
O17K	Koliganek Bris	8.07	109			Pn	13 56 35.3 -0.5
O17K	Koliganek Bris	8.07	109	P		Pn	13 56 35.3 -0.5
	baz=302,SNR=11						
L19K	White Mountain	8.11	90	Pn		Pn	13 56 36.2 -0.2
L19K	White Mountain	8.11	90	P		Pn	13 56 36.5 +0.1
	baz=285,SNR=15						
P16K	Nushagak River	8.12	115	P		Pn	13 56 36.5 0.0
	baz=307						
SVW2	Sparrevohn	8.13	98	Pn		Pn	13 56 36.3 -0.4
J20K	Nowinta River	8.14	75	Pn		Pn	13 56 36.9 +0.2
J20K	Nowinta River	8.14	75	P		Pn	13 56 36.7 0.0
	baz=271,SNR=15						
N18K	Kilae Creek	8.16	101	Pn		Pn	13 56 36.7 -0.4
N18K	Kilae Creek	8.16	101	P		Pn	13 56 36.7 -0.4
	baz=295,SNR=11						
K20K	Telida	8.23	81			Pn	13 56 37.8 -0.2
K20K	Telida	8.23	81	P		Pn	13 56 38.1 +0.1
	baz=277						
E20K	Nigu River	8.33	46			Pn	13 56 39.9 +0.5
E20K	Nigu River	8.33	46	P		Pn	13 56 39.8 +0.4
	baz=240						
M19K	Big River Lodg	8.40	91			Pn	13 56 40.0 -0.3
M19K	Big River Lodg	8.40	91	P		Pn	13 56 40.6 +0.4
	baz=287						
D20K	Etivluk River	8.44	42			Pn	13 56 41.5 +0.7
D20K	Etivluk River	8.44	42	P		Pn	13 56 41.7 +0.9
	baz=237						
IMAR	Indian Mountai	8.45	63	Pn		Pn	13 56 41.3 +0.4
L20K	Farewell, AK	8.48	87			Pn	13 56 41.4 0.0
L20K	Farewell, AK	8.48	87	P		Pn	13 56 41.2 -0.2
	baz=283,SNR=10						
P17K	Kvichak River	8.67	111			Pn	13 56 43.7 -0.3
P17K	Kvichak River	8.67	111	P		Pn	13 56 43.7 -0.3
	baz=304,SNR=8.2						
N19K	Bonanza Creek	8.74	98			Pn	13 56 44.9 -0.1
N19K	Bonanza Creek	8.74	98	P		Pn	13 56 44.7 -0.3
	baz=294						
H21K	Melozitna Rive	8.78	65			Pn	13 56 45.6 0.0
H21K	Melozitna Rive	8.78	65	P		Pn	13 56 46.0 +0.5
	baz=263						
O18K	Koktuh Hills	8.85	105	Pn		Pn	13 56 46.0 -0.5
O18K	Koktuh Hills	8.85	105	P		Pn	13 56 45.8 -0.7
	baz=300,SNR=10						
F21K	Alatna River	8.86	55	P		Pn	13 56 47.5 +0.9
	baz=252						
Q16K	King Salmon	8.88	114	P		Pn	13 56 46.9 0.0
	baz=307						
CHUM	Lake Minchumin	8.96	77	P		Pn	13 56 48.5 +0.6
	baz=275						
M20K	Styx River	8.97	90			Pn	13 56 48.5 +0.3
M20K	Styx River	8.97	90	P		Pn	13 56 48.6 +0.4
	baz=287						
B20K	Meade River	9.07	35			Pn	13 56 49.6 +0.2
B20K	Meade River	9.07	35	P		Pn	13 56 49.8 +0.4
	baz=229						
O19K	Port Alsworth	9.08	101			Pn	13 56 48.9 -0.7
O19K	Port Alsworth	9.08	101	P		Pn	13 56 49.7 +0.1
	baz=297						
P18K	Big Mountain,	9.08	107	Pn		Pn	13 56 49.1 -0.5
P18K	Big Mountain,	9.08	107	P		Pn	13 56 49.5 -0.2
	baz=302						
I21K	Tanana	9.08	69			Pn	13 56 49.5 -0.2
I21K	Tanana	9.08	69	P		Pn	13 56 49.1 -0.6
	baz=267						
CAST	Castle Rocks	9.11	80	Pn		Pn	13 56 50.1 0.0
CAST	Castle Rocks	9.11	80	P		Pn	13 56 49.8 -0.3
	baz=278,SNR=9.3						
E21K	Killik River	9.15	47			Pn	13 56 51.3 +0.8
E21K	Killik River	9.15	47	P		Pn	13 56 51.0 +0.5
	baz=244,SNR=10						
PPLA	Purkeypile	9.15	83			Pn	13 56 51.4 +0.6
PPLA	Purkeypile	9.15	83	P		Pn	13 56 51.3 +0.6
	baz=281						
C21K	Knifeblade Rid	9.23	42	P		Pn	13 56 52.8 +1.1
	baz=238						
H22K	Ishtalitna Cre	9.40	64	P		Pn	13 56 54.6 +0.7
	baz=263						
Q17K	Contact Creek	9.46	114	P		Pn	13 56 55.1 +0.2
	baz=308						
BPAW	Bear Paw Mtn.	9.53	75	Pn		Pn	13 56 55.8 0.0
BPAW	Bear Paw Mtn.	9.53	75	P		Pn	13 56 56.1 +0.4
	baz=274,SNR=12						
B21K	Ikpikpuk River	9.54	40	P		Pn	13 56 57.4 +1.6
	baz=236						
FALS	False Pass	9.56	147	P		Pn	13 56 56.5 +0.3
	baz=335						
Q18K	Katmai Hardscr	9.59	111	P		Pn	13 56 56.6 -0.2
	baz=306,SNR=16						
MLY	Manley	9.60	70	Pn		Pn	13 56 55.8 -1.0
MLY	Manley	9.60	70	P		Pn	13 56 57.4 +0.5
	baz=269						
KTH	Kantishna Hill	9.61	78	Pn		Pn	13 56 57.5 +0.6
RSO	Redoubt South	9.66	98	Pn		Pn	13 56 57.5 -0.3
R17K	Ugashik Creek	9.66	118	Pn		Pn	13 56 56.6 -1.0
R17K	Ugashik Creek	9.66	118	P		Pn	13 56 57.7 +0.1
	baz=312						
SKT	Skwentna	9.67	88	Pn		Pn	13 56 58.0 +0.3
SKT	Skwentna	9.67	88	P		Pn	13 56 57.9 +0.3
	baz=286						
AKUT	Akutan	9.73	156	Pn		Pn	13 56 55.8 -2.7
D22K	Ayikyak River	9.76	46	P		Pn	13 56 59.8 +0.8
	baz=244,SNR=6.0						
P19K	Oil Pt	9.82	103			Pn	13 56 59.7 -0.1
P19K	Oil Pt	9.82	103	P		Pn	13 56 59.4 -0.3
	baz=299						
CHGN	Chignik	9.86	128	Pn		Pn	13 56 59.8 -0.5
O20K	Slope Mountain	9.88	100	P		Pn	13 57 01.4 +0.7
	baz=297						
UNV	Unalaska Valle	9.89	159	P		Pn	13 57 00.6 0.0
	baz=344						
TRF	Thorofare Moun	9.91	79			Pn	13 57 01.1 0.0
TRF	Thorofare Moun	9.91	79	P		Pn	13 57 01.8 +0.7
	baz=278						
SDPT	Sand Point	9.95	137	Pn		Pn	13 57 00.7 -0.8
SDPT	Sand Point	9.95	137	P		Pn	13 57 02.1 +0.6
	baz=327						
Q19K	Cape Douglas,	10.02	107			Pn	13 57 02.1 -0.3
Q19K	Cape Douglas,	10.02	107	P		Pn	13 57 02.3 -0.2
	baz=303						
CUT	Chulitna	10.13	85	Pn		Pn	13 57 04.8 +0.9
H23K	Yukon River	10.14	65			Pn	13 57 04.2 0.0
H23K	Yukon River	10.14	65	P		Pn	13 57 04.8 +0.6
	baz=266						
BWN	Browne	10.18	74	Pn		Pn	13 57 05.7 +1.0
SUA	Susitna One	10.19	90	Pn		Pn	13 57 05.0 +0.2
SUA	Susitna One	10.19	90	P		Pn	13 57 04.7 -0.1
	baz=289						
B22K	Teshekpuk Lake	10.28	38	P		Pn	13 57 06.8 +0.8
	baz=235						
NEA2	Nenana	10.33	72	P		Pn	13 57 06.7 0.0
	baz=273						
M22K	Willow	10.38	88	P		Pn	13 57 08.3 +1.0
	baz=288						
NIKH	Nikolski High	10.45	168	P		Pn	13 57 06.7 -1.6
	baz=351						
D23K	Nanushuk River	10.46	47	P		Pn	13 57 09.6 +1.1
	baz=247						
MCK	McKinley	10.47	77	P		Pn	13 57 09.2 +0.6
	baz=278						
R18K	Karluk	10.49	115	P		Pn	13 57 10.1 +1.2
	baz=310						
E23K	Chandalar	10.52	53	P		Pn	13 57 10.6 +1.2
	baz=253						
RND	Reindeer	10.55	79	Pn		Pn	13 57 10.1 +0.3
RND	Reindeer	10.55	79	P		Pn	13 57 10.1 +0.3
CHNA	Chernabura Isl	10.66	136	P		Pn	13 57 11.6 +0.4
	baz=327						
MDM	Murphy Dome	10.67	70			Pn	13 57 11.3 -0.1
TOLK	Toolik Lake Re	10.72	50	Pn		Pn	13 57 11.7 -0.3
TOLK	Toolik Lake Re	10.72	50	P		Pn	13 57 13.3 +1.3
	baz=250						
Q20K	Shuyak Island	10.74	106	P		Pn	13 57 13.2 +1.0
	baz=304						
SYI	Shuyak Island	10.74	106	Pn		Pn	13 57 11.8 -0.5
WRH	Wood River Hil	10.76	73			Pn	13 57 12.1 -0.4
CNPM	China Poot	10.77	101	Pn		Pn	13 57 12.6 -0.1
RC01	Rabbit Creek A	10.77	91	P		Pn	13 57 13.3 +0.5
	baz=291						
WAT1	Susitna Watana	10.80	81	P		Pn	13 57 14.1 +0.9
	baz=282						
BRLK	Bradley Lake	10.81	99	Pn		Pn	13 57 13.5 +0.2
H24K	Noodor Dome	10.83	65	Pn		Pn	13 57 12.3 -1.2
H24K	Noodor Dome	10.83	65	P		Pn	13 57 14.5 +1.0
	baz=267						
COLA	College	10.84	70			Pn	13 57 14.4 +0.8
COLA	College	10.84	70	P		Pn	13 57 14.4 +0.8
COLA	College	10.84	70	P		Pn	13 57 14.6 +1.0
	baz=272						
C23K	Itkillik River	10.85	43	P		Pn	13 57 14.9 +1.1
	baz=243						
CCB	Clear Creek Bu	10.87	72			Pn	13 57 13.5 -0.5
PMR	Palmer	10.87	88			Pn	13 57 13.3 -0.8
PMR	Palmer	10.87	88	P		Pn	13 57 13.3 -0.8
PMR	Palmer	10.87	88	P		Pn	13 57 14.4 +0.2
	baz=289						
BRSE	Bradley Lake S	10.88	99	P		Pn	13 57 14.9 +0.6
	baz=298						
E24K	Your Creek	10.93	53	P		Pn	13 57 15.8 +0.8
	baz=255,SNR=11						
POKR	Poker Plat Res	11.00	69	P		Pn	13 57 17.5 +1.6
	baz=271						
O22K	Cooper Landing	11.02	94	P		Pn	13 57 16.9 +0.8
	baz=294						
F24K	Squaw Lake	11.03	56	P		Pn	13 57 18.6 +2.3
	baz=259						
G24K	Hadweenzic Riv	11.06	61	P		Pn	13 57 18.8 +2.1
	baz=263						
ATKA	Atka Island	11.10	186	Pn		Pn	13 57 13.7 -3.6
KDAK	Kodiak Island	11.14	110			Pn	13 57 17.8 0.0
KDAK	Kodiak Island	11.14	110	P		Pn	13 57 17.8 0.0
KDAK	Kodiak Island	11.14	110	P		Pn	13 57 18.6 +0.8
	baz=307						
KDAK	Kodiak Island	11.14	110	Pn		Pn	13 57 18.3 +0.5
	6.7nm,0.3s,baz=347,slow=6.2,SNR=56						
KDAK				LR		LR	14 01 55.0
	comp=Z,573nm,19.1s,baz=320,slow=39						
D24K	Happy Valley	11.15	48	Pn		Pn	13 57 17.6 -0.3
D24K	Happy Valley	11.15	48	P		Pn	13 57 19.4 +1.6
	baz=249						
SML	Sawmill	11.17	87			Pn	13 57 18.6 +0.4
SML	Sawmill	11.17	87	P		Pn	13 57 20.0 +1.7
	baz=288						
WAT6	Susitna Watana	11.22	82	P		Pn	13 57 19.3 +0.2
	baz=284						
IL31		11.25	71			Pn	13 57 19.3 0.0
ILAR	Eielson Array	11.25	71	Pn		Pn	13 57 19.8 +0.4
ILAR	Eielson Array	11.25	71	Pn		Pn	13 57 17.4 -1.9
	0.1nm,0.3s,baz=265,slow=13,SNR=14						
ILAR				Sn		Sn	13 59 20.3 -4.7
	0.3nm,0.3s,baz=296,slow=8.7,SNR=4.3						
ILAR				LR		LR	14 02 30.0
	comp=Z,314nm,18.2s,baz=284,slow=41						
	1.1nm,0.6s						
HDA	Harding Lake	11.26	73			Pn	13 57 18.9 -0.5
HDA	Harding Lake	11.26	73	P		Pn	13 57 19.6 +0.2
	baz=275						
DHY	Denali Highway	11.27	80			Pn	13 57 19.8 +0.1
DHY	Denali Highway	11.27	80	P		Pn	13 57 20.1 +0.3
	baz=282,SNR=11						
SEW	Seward	11.30	96	P		Pn	13 57 19.6 -0.4
	baz=296						
GSTR	Great Sitkin T	11.34	192	Pn		Pn	13 57 17.1 -3.4
C24K	Franklin Bluff	11.40	45	P		Pn	13 57 21.5 +0.2
	baz=247						
M23K	Glacier View	11.45	86	P		Pn	13 57 22.4 +0.4
	baz=288,SNR=7.4						
PWL	Port Wells	11.49	91	P		Pn	13 57 23.0 +0.4
	baz=292						
ADK	Adak	11.61	193	Pn		Pn	13 57 22.4 -1.8
ADK	Adak	11.61	193	P		Pn	13 57 22.4 -1.8
SCM	Sheep Creek Mo	11.61	86	P		Pn	13 57 24.7 +0.4
	baz=288						
PRP	Porcupine Dome	11.80	67	Pn		Pn	13 57 26.0 -0.8
PRP	Porcupine Dome	11.80	67	P		Pn	13 57 27.2 +0.3
	baz=271						
K24K	Donnelly Dome	11.84	75	P		Pn	13 57 28.1 +0.7
	baz=279,SNR=7.9						
F25K	Christian Rive	11.89	57	P		Pn	13 57 29.0 +0.9
	baz=261						
J25K	Salcha River,	11.92	71	P		Pn	13 57 29.1 +0.7
	baz=276,SNR=6.2						
FYU	Fort Yukon	11.94	62	Pn		Pn	13 57 28.4 -0.3
E25K	Arctic Village	12.01	54	P		Pn	13 57 30.9 +1.2
	baz=259						
D25K	Kavik River	12.03	48	Pn		Pn	13 57 30.5 +0.5
D25K	Kavik River	12.03	48	P		Pn	13 57 32.7 +2.8
	baz=252						
M24K	Tolsona, Glenn	12.05	84			Pn	13 57 31.9 +1.5
M24K	Tolsona, Glenn	12.05	84	P		Pn	13 57 31.8 +1.5
	baz=287						
PAX	Paxson	12.14	79	P		Pn	13 57 33.1 +1.5
	baz=283						
RIDG	Independent Ri	12.26	75	Pn		Pn	13 57 33.0 -0.2
RIDG	Independent Ri	12.26	75	P		Pn	13 57 34.1 +0.9
	baz=280,SNR=7.6						
P23K	Montague Islan	12.27	94	P		Pn	13 57 34.0 +0.8
	baz=296						
BMAR	Burnt Mountain	12.27	58	Pn		Pn	13 57 34.1 +0.9
KLU	Klutina	12.36	86	Pn		Pn	13 57 34.4 -0.1
KLU	Klutina	12.36	86	P		Pn	13 57 36.6 +2.0
	baz=290						
HARP	HAARP	12.43	82	P		Pn	13 57 37.5 +2.2
	baz=286						
F26K	Sheenjek River	12.47	57	P		Pn	13 57 37.8 +1.8
	baz=262						
G26K	Porcupine Rive	12.54	60	P		Pn	13 57 37.9 +1.1
	baz=266						
SCRK	Sand Creek	12.60	74	P		Pn	13 57 38.0 +0.2
	baz=279,SNR=16						
C26K	Camden Bay	12.70	46	P		Pn	13 57 39.8 +0.8
	baz=252						
J26L	Joseph Creek	12.70	71	Pn		Pn	13 57 39.9 +0.6
J26L	Joseph Creek	12.70	71	P		Pn	13 57 39.6 +0.4
	baz=277,SNR=10						
SHEM	Shemya Is, Ala	12.71	220	LR		LR	14 02 30.7
	comp=Z,281nm,18.5s,baz=102,slow=38						
EYAK	Cordova Ski Ar	12.79	90	P		Pn	13 57 40.5 +0.3
	baz=293						
I26K	Coal Creek Min	12.80	68	Pn		Pn	13 57 40.7 +0.3
I26K	Coal Creek Min	12.80	68	P		Pn	13 57 41.4 +1.0
	baz=274						
N25K	Chitina, Valde	12.92	85	P		Pn	13 57 42.0 -0.1
	baz=289						
MENT	Mentasta	12.93	78			Pn	13 57 42.5 +0.3
Q23K	Middleton Isla	13.00	95	P		Pn	13 57 43.7 +0.5
	baz=298						
L26K	Log Cabin Wild	13.07	78	P		Pn	13 57 46.1 +2.0
	baz=284						
BMRM	Bremner River	13.14	87	P		Pn	13 57 46.4 +1.2
	baz=292						
GLB	Gilahina Butte	13.33	85	Pn		Pn	13 57 48.0 +0.3
G27K	Doyon Strip	13.37	61	P		Pn	13 57 49.2 +1.0
	baz=269						
M26K	Nabesna, AK	13.39	80	Pn		Pn	13 57 49.1 +0.6
M26K	Nabesna, AK	13.39	80	P		Pn	13 57 49.3 +0.7
	baz=286						
I27K	Kandik River	13.42	66	P		Pn	13 57 50.2 +1.3
	baz=274						
K27K	Chicken	13.42	73			Pn	13 57 49.2 +0.3
K27K	Chicken	13.42	73	P		Pn	13 57 49.9 +1.1
	baz=280						
H27K	Steamboat Moun	13.42	63	P		Pn	13 57 50.1 +1.1
	baz=271						
E27K	Coleen River	13.49	55	P		Pn	13 57 51.1 +1.2
	baz=263						
KAIM	Kayak Island	13.65	91	P		Pn	13 57 52.7 +0.6
	baz=296						
MCARA	McCarthy VSAT	13.70	84	P		Pn	13 57 53.5 +0.7
	baz=290						
L27K	Beaver Creek,	13.73	77			Pn	13 57 53.0 -0.2
L27K	Beaver Creek,	13.73	77	P		Pn	13 57 53.1 -0.2
	baz=284,SNR=7.0						
BCAR	Beaver Creek A	13.75	77	Pn		Pn	13 57 53.6 +0.1
D27M	Malcolm River	13.88	51	P		Pn	13 57 56.1 +1.0
	baz=260						
M27K	Edge Creek, AK	13.90	80			Pn	13 57 56.0 +0.4
M27K	Edge Creek, AK	13.90	80	P		Pn	13 57 55.6 0.0
	baz=287,SNR=8.4						
CRQE	Cirque	13.91	87	P		Pn	13 57 56.2 +0.5
	baz=293						
TGL	Tana Glacier	14.03	87	Pn		Pn	13 57 57.9 +0.6
F28M	Old Crow	14.09	58	Pn		Pn	13 57 59.5 +1.4
F28M	Old Crow	14.09	58	P		Pn	13 57 58.4 +0.4
	baz=267

G30M tAoh Zraii Nji 15.51 60 P **Pn 13 58 18.8 +1.6**
baz=273
I30M Mount Dempster 15.64 67 P **Pn 13 58 20.4 +1.5**
baz=279
F30M Barrier River 15.66 58 P **Pn 13 58 19.5 +0.5**
baz=271,SNR=6.3
YUK4 Talbot Arm 15.69 82 P **Pn 13 58 19.6 0.0**
baz=291
J30M Hart River 15.77 69 P **P 13 58 24.8 +0.1**
J30M Hart River 15.77 69 P **Pn 13 58 20.4 -0.3**
baz=282,SNR=7.6
SEY Seymchan 15.85 285 *ce*P **P 13 58 23.8 -1.5**
SEY pmax pmax
comp=Z,21nm,2.5s
SEY Seymchan 15.85 285 Pn **Pn 13 58 17.9 -3.6**
baz=356,slow=24,SNR=1.7
SEY LR LR 14 04 17.6
comp=Z,370nm,19.9s,baz=82,slow=37
comp=Z,1.1nm,0.5s
M30M Minto, Yukon 16.09 76 Pn **Pn 13 58 25.3 +0.6**
M30M Minto, Yukon 16.09 76 P **Pn 13 58 26.3 +1.6**
baz=288
O29M Mount Kennedy 16.13 85 P **Pn 13 58 25.8 +0.4**
baz=295
MAYO Mayo, Yukon 16.19 72 P **P 13 58 29.5 +0.4**
MAYO IAmb IAmb 13 58 40.4
comp=Z,26nm,1.0s
MAYO Mayo, Yukon 16.19 72 P **Pn 13 58 27.2 +1.3**
baz=285
G31M Satah River 16.28 60 P **Pn 13 58 28.5 +1.5**
baz=275
N30M Aishikik Lake 16.34 80 P **Pn 13 58 29.5 +1.5**
baz=292
H31M Peel River 16.38 64 P **P 13 58 32.5 +1.2**
H31M Peel River 16.38 64 P **Pn 13 58 28.7 +0.3**
baz=279
HYT Haines Junctio 16.40 83 Pn **Pn 13 58 28.6 -0.1**
HYT Haines Junctio 16.40 83 P **Pn 13 58 28.6 -0.1**
baz=294
F31M Tsiigehtchic 16.45 58 P **Pn 13 58 29.4 +0.3**
baz=274
INK Inuvik 16.50 55 **P 13 58 34.0 +1.5**
INK IAmb IAmb 13 58 45.4
comp=Z,24nm,0.9s
INK Inuvik 16.50 55 P **P 13 58 34.0 +1.5**
INK pmax pmax
comp=Z,24nm,0.9s
INK Inuvik 16.50 55 P **Pn 13 58 29.7 -0.1**
baz=271,SNR=6.3
INK Inuvik 16.50 55 Pn **Pn 13 58 30.8 +1.0**
comp=Z,0.1nm,0.3s,baz=174,slow=8.9,SNR=7.0
INK LR LR 14 04 36.5
comp=Z,201nm,18.9s,baz=188,slow=36
comp=Z,21nm,1.0s
N31M Braeburn, Yuko 16.91 79 Pn **Pn 13 58 34.7 -0.5**
N31M Braeburn, Yuko 16.91 79 P **Pn 13 58 35.5 +0.4**
baz=292
P30M Million Dollar 16.94 84 P **Pn 13 58 35.8 +0.3**
baz=296
O30N Mendenhall 17.05 82 P **Pn 13 58 37.1 +0.1**
baz=294
M31M Drury Creek, Y 17.27 76 P **Pn 13 58 40.2 +0.6**
baz=290
PLBC Pleasant Camp 17.51 86 P **Pn 13 58 42.9 +0.3**
baz=298
WHY Whitehorse 17.64 81 P **Pn 13 58 44.1 -0.3**
baz=294
MA2 Magadan 17.86 275 LR LR 14 05 16.6
comp=Z,118nm,20.3s,baz=86,slow=36
PET Petropavlovsk 18.23 249 P **P 13 58 51.6 0.0**
PET IAmb IAmb 13 59 16.1
comp=Z,27nm,1.1s
N32M Quiet Lake 18.24 79 **Pn 13 58 51.5 -0.2**
N32M IAmb IAmb 13 59 27.4
comp=Z,27nm,1.3s
N32M Quiet Lake 18.24 79 P **P 13 58 52.6 +0.7**
baz=294
S31K Pelican 18.31 90 **P 13 58 52.8 +0.3**
S31K IAmb IAmb 13 59 32.1
comp=Z,60nm,1.4s
PETK Petropavlovsk- 18.58 251 P **P 13 58 54.2 -1.3**
comp=Z,0.2nm,0.3s,baz=69,slow=14,SNR=2.9
PETK LR LR 14 05 33.7
comp=Z,89nm,18.1s,baz=27,slow=36
comp=Z,4.2nm,0.8s
P32M Atlin 18.64 84 P **P 13 58 56.5 +0.2**
baz=298
P33M Teslin, Yukon 18.76 81 P **P 13 58 57.4 -0.2**
baz=296
R32K Eaglecrest 18.93 88 P **P 13 58 58.8 -0.5**
baz=301
SIT Sitka 19.22 92 P **P 13 59 02.0 -0.5**
baz=304
A36M Sachs Harbour 19.40 43 P **Pn 13 59 06.7 +1.2**
baz=267
Q32M Nakina River 19.59 84 Pn **Pn 13 59 09.3 +1.2**
Q32M IAmb IAmb 13 59 24.1
comp=Z,22nm,1.1s
Q32M Nakina River 19.59 84 P **Pn 13 59 07.7 -0.5**
baz=300
R33M Jennings River 19.97 82 **Pn 13 59 13.2 +0.7**
R33M IAmb IAmb 13 59 18.6
comp=Z,20nm,0.8s
R33M Jennings River 19.97 82 P **P 13 59 10.6 -0.3**
baz=299,SNR=12
TGTN Hyland Airport 20.21 75 P **P 13 59 13.4 +0.1**
baz=294
S34M Telegraph Cree 20.65 86 P **P 13 59 18.7 +0.6**
baz=302
DLBC Dease Lake 20.87 84 P Pn 13 59 22.0 -1.0
DLBC Dease Lake 20.87 84 P Pn 13 59 22.4 -0.6
comp=Z,2.8nm,0.9s,baz=277,slow=8.4,SNR=2.0
DLBC LR LR 14 07 32.4
comp=Z,287nm,18.6s,baz=306,slow=37
comp=Z,2.8nm,0.9s
KOTAN Kotaneelee Air 22.68 76 P **P 13 59 39.1 -0.8**
baz=299,SNR=5.3
TIXI Tiksi 23.07 316 P **P 13 59 43.6 -0.2**
TIXI Tiksi 23.07 316 *ce*P **P 13 59 43.6 -0.2**
TIXI pmax pmax
comp=Z,19nm,2.5s
BBB Bella Bella 25.54 95 LR LR 14 09 40.0
comp=Z,160nm,20.6s,baz=300,slow=35
YAK Yakutsk 25.90 294 P **P 14 00 09.9 -0.4**
YAK Yakutsk 25.90 294 *eP* **P 14 00 09.2 -1.1**
YAK *e**PP **sP 14 00 16.6 +2.0**
YAK *e* 14 00 45.4
YAK *e*S **S 14 04 39.9 0.0**
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,44nm,2.1s
YAK pmax pmax
comp=N,25nm,1.9s
YAK pmax pmax
comp=E,29nm,2.1s
YAK smax smax
comp=N,52nm,3.5s
YAK smax smax
comp=E,26nm,3.2s
YAK MLR MLR
comp=Z,268nm,16.0s
YAK MLR MLR
comp=N,147nm,20.0s
YAK MLR MLR
comp=E,101nm,15.0s
TYV Tymovskoe 26.79 264 *eP* **P 14 00 24.7 +6.2**
TYV pmax pmax
comp=Z,21nm,1.3s
TYV pmax pmax
comp=Z,200nm,3.1s
RES Resolute Bay 27.67 34 LR LR 14 13 50.5
comp=Z,108nm,18.4s,baz=178,slow=42
EUNU Eureka 27.92 22 P **P 14 00 27.9 -0.5**
EUNU IAmb IAmb 14 01 11.9
comp=Z,6.9nm,1.2s
YSS Yuzh-Sakhalins 29.62 258 *eP* **P 14 00 44.0 +0.3**
YSS *eS* **S 14 05 38.8 +0.1**
YSS pmax pmax
comp=Z,30nm,1.6s
YSS MLR MLR
comp=N,400nm,16.0s
YSS MLR MLR
comp=Z,400nm,16.0s
ASAJ Asahikawa 31.90 255 LR LR 14 16 00.4
comp=Z,106nm,18.1s,baz=26,slow=40
KLR Kul'dur 32.89 272 *i* P **P 14 01 14.1 +1.6**
KLR pmax pmax
comp=Z,9.0nm,1.4s
KLR Kul'dur 32.89 272 LR LR 14 15 49.9
comp=Z,95nm,18.6s,baz=54,slow=39
NEW Newport 33.29 90 LR LR 14 15 00.2
comp=Z,169nm,20.5s,baz=318,slow=36
HEH HeiHe 34.11 276 *eP* **P 14 01 23.8 +0.7**
HEH pmax pmax
comp=Z,8.0nm,1.2s
DBO Dodson Butte 34.48 102 P **P 14 01 27.7 +1.2**
DBO IAmb IAmb 14 01 51.2
comp=Z,5.7nm,1.1s
MSO Missoula 35.80 89 P **P 14 01 38.3 +0.5**
baz=319
YBH Yreka Blue Hor 35.83 103 LR LR 14 14 03.0
comp=Z,83nm,21.4s,baz=312,slow=32
PLID Pearl Lake 36.19 93 **P 14 01 41.3 -0.1**
PLID IAmb IAmb 14 01 49.4
comp=Z,4.1nm,0.8s
BOZ Bozeman (W) 37.78 88 P **P 14 01 50.8 -4.0**
baz=320
SPITS Spitsbergen Ar 38.73 357 LR LR 14 17 17.9
comp=Z,134nm,21.0s,baz=344,slow=35
MJAR Matsushiro Arr 40.03 252 P **P 14 02 13.1 -0.5**
comp=Z,0.9nm,0.6s,baz=20,slow=7.3,SNR=2.3
MJAR LR LR 14 19 24.2
comp=Z,66nm,20.8s,baz=43,slow=37
comp=Z,0.9nm,0.6s
NVAR Mina Array Bea 40.48 102 P **P 14 02 16.7 -0.8**
NVAR Mina Array Bea 40.48 102 P **P 14 02 19.5 +2.0**
comp=Z,1.8nm,0.8s,baz=311,slow=7.9,SNR=13
NVAR LR LR 14 17 12.1
comp=Z,62nm,19.3s,baz=341,slow=33
comp=Z,1.8nm,0.8s
NV11 Mina Array Sit 40.54 101 P **P 14 02 17.7 -0.2**
BW06 Boulder Array 40.92 89 P **P 14 02 18.0 -3.1**
baz=322
PDAR Pinedale Array 40.92 89 P **P 14 02 21.8 +0.7**
comp=Z,0.7nm,0.7s,baz=331,slow=5.8,SNR=7.2
PDAR LR LR 14 20 04.0
comp=Z,151nm,18.1s,baz=354,slow=37
comp=Z,0.7nm,0.7s
SUMG Summit 40.93 19 P **P 14 02 21.2 +0.2**
SUMG IAmb IAmb 14 02 23.3
comp=Z,11nm,0.9s
SUMG Summit 40.93 19 P **P 14 02 21.2 +0.2**
SUMG pmax pmax
comp=Z,11nm,0.9s
ULM Lac du Bonnet 41.27 71 P **P 14 02 24.6 +1.0**
comp=Z,2.9nm,0.6s,baz=242,slow=4.0,SNR=3.7
comp=Z,2.9nm,0.6s
FRB Frobisher Bay 41.37 41 LR LR 14 21 35.8
comp=Z,92nm,19.8s,baz=11,slow=39
CWC Cottonwood Cre 42.23 103 P **P 14 02 33.4 +1.6**
baz=327
K22A Casper 42.38 87 P **P 14 02 33.1 +0.1**
baz=322
TPNV Topopah Spring 42.61 101 P **P 14 02 35.9 +1.0**
baz=326
PKM Mcpherson Peak 42.77 106 P **P 14 02 37.4 +1.2**
baz=328
MPMC Manual Prospec 42.80 103 P **P 14 02 38.5 +1.9**
baz=327
LRMC Laurel Mtn Rad 43.20 103 P **P 14 02 41.5 +1.8**
baz=327
SFJD Kangerlussuaq 43.43 29 LR LR 14 23 44.2
comp=Z,35nm,18.0s,baz=352,slow=40
GSC Goldstone, Bar 43.74 103 P **P 14 02 46.2 +2.3**
baz=327
KSRS Korea Array 43.81 263 LR LR 14 20 43.4
comp=Z,74nm,20.9s,baz=30,slow=36
XLT XiLinHaoTe 43.98 279 *eP* **P 14 02 49.4 +3.6**
XLT pP sP 14 02 53.9 +3.8
XLT sP pP 14 02 55.5 +6.6
XLT pmax pmax
comp=Z,10.0nm,1.2s
XLT pmax pmax
comp=Z,190nm,4.3s
HMU Henry Mountain 44.27 95 P **P 14 02 47.6 -0.7**
HMU IAmb IAmb 14 02 56.2
comp=Z,8.5nm,0.8s
SNCC San Nicolas Is 44.29 107 P **P 14 02 48.3 0.0**
baz=329
CIS Catalina Islan 44.64 106 P **P 14 02 53.5 +2.4**
baz=329
SONM Songino Array 45.15 290 P **P 14 02 53.6 -1.5**
SONM IAmb IAmb 14 03 18.4
comp=Z,6.0nm,1.5s
SONM Songino Array 45.15 290 P **P 14 02 54.6 -0.5**
comp=Z,0.9nm,0.6s,baz=45,slow=7.3,SNR=6.8
SONM PcP **PcP 14 04 35.7 +0.4**
comp=Z,0.5nm,0.5s,baz=39,slow=5.5,SNR=1.7
comp=Z,0.9nm,0.6s
BELC Belle Mtn. Jos 45.19 103 P **P 14 02 57.3 +1.6**
baz=328
PFO Pinyon Flats O 45.32 104 P **P 14 02 58.3 +1.7**
baz=328
PFO Pinyon Flats O 45.32 104 LR LR 14 19 20.4
comp=Z,107nm,20.5s,baz=344,slow=33
TPFO Pinon Flats 45.33 104 P **P 14 02 58.4 +1.7**
baz=328
IRM Iron Mountain 45.44 102 P **P 14 02 59.0 +1.6**
baz=328
WUAZ Wupatki 45.98 97 P **P 14 03 03.3 +1.4**
baz=327
JNU Nakatsue 46.12 257 LR LR 14 22 41.9
comp=Z,61nm,20.2s,baz=46,slow=37
S22A 4UR Ranch, Cre 46.19 91 P **P 14 03 04.3 +0.6**
baz=325
SDCO Great Sand Dun 46.79 90 P **P 14 03 09.8 +1.4**
baz=325
X16A Lo Mia Camp, P 46.87 98 P **P 14 03 08.8 -0.1**
X16A IAmb IAmb 14 03 18.9
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 46.92 352 P **P 14 03 08.2 -0.5**
ARCES IAmb IAmb 14 03 18.7
comp=Z,13nm,1.4s
ARCES ARCESS Array B 46.92 352 *eP* **P 14 03 08.9 +0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 46.92 352 P **P 14 03 08.0 -0.6**
comp=Z,2.3nm,0.6s,baz=7.0,slow=8.2,SNR=6.6
ARCES LR LR 14 25 06.5
comp=Z,82nm,18.2s,baz=354,slow=39
comp=Z,2.3nm,0.6s
LVZ Lovozero 47.73 347 P **P 14 03 14.9 -0.1**
LVZ Lovozero 47.73 347 P **P 14 03 14.9 -0.1**
LVZ pmax pmax
comp=Z,53nm,1.5s
HHC Hu-ho-hao-te 48.43 280 *eP* **P 14 03 21.3 +0.4**
HHC pmax pmax
comp=Z,49nm,0.7s
HHC pmax pmax
comp=Z,340nm,6.0s
ANMO Albuquerque 48.67 93 LR LR 14 25 32.4
comp=Z,75nm,19.0s,baz=86,slow=38
ZALV Zalesovo Beam 48.72 310 P **P 14 03 21.7 -1.0**
comp=Z,0.7nm,0.5s,baz=22,slow=6.6,SNR=2.7
comp=Z,0.7nm,0.5s
BORG Borgarnes 50.55 16 LR LR 14 27 48.9
comp=Z,48nm,18.2s,baz=326,slow=39
DGZ Jazzator, Alta 51.25 305 *i* P **P 14 03 45.1 +2.8**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
MNTX Cornudas Mount 51.89 94 P **P 14 03 47.9 +0.8**
baz=328
WMOK Wichita Mounta 52.32 86 P **P 14 03 50.2 -0.1**
WMOK IAmb IAmb 14 04 04.2
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 52.32 86 P **P 14 03 50.2 -0.1**
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 52.32 86 P **P 14 03 51.6 +1.3**
baz=327
NJ2 Nanjing 52.41 267 *eP* **P 14 03 47.6 -3.3**
NJ2 pP **pP 14 03 53.6 -0.5**
NJ2 sP **sP 14 03 57.0 +1.7**
NJ2 pmax pmax
comp=Z,50nm,0.5s
NJ2 pmax pmax
comp=Z,1μm,4.6s
KURK Kurchatov 53.53 312 P **P 14 03 58.8 -0.2**
KURK IAmb IAmb 14 04 07.6
comp=Z,3.6nm,0.8s
KURK Kurchatov 53.53 312 *ce*P **P 14 04 01.5 +2.6**
KURK pmax pmax
comp=Z,5.0nm,1.3s
KURBB Kurchatov Arra 53.64 312 P **P 14 03 59.1 -0.7**
comp=Z,2.1nm,0.8s,baz=32,slow=7.5,SNR=7.7
comp=Z,2.1nm,0.8s
KLMR Klimovskoe 53.90 341 *eP* **P 14 03 59.3 -2.2**
KLMR AMP 14 04 06.6
comp=Z,40nm,1.8s
KLMR Klimovskoe 53.90 341 *eP* **P 14 03 59.2 -2.2**
KLMR pmax pmax
comp=Z,40nm,1.8s
BVAR Borovoye Array 54.18 319 P **P 14 04 03.2 -0.5**
comp=Z,2.2nm,0.6s,baz=46,slow=8.3,SNR=4.2
comp=Z,2.2nm,0.6s
BRVK Borovoye 54.18 319 P **P 14 04 03.4 -0.2**
BRVK IAmb IAmb 14 04 08.1
comp=Z,4.5nm,0.8s
BRVK Borovoye 54.18 319 *ce*P **P 14 04 05.0 +1.3**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 54.36 328 *c i*P **P 14 04 03.2 -1.7**
ARU S **S 14 11 40.4 -2.1**
ARU SS **SKiKP 14 15 18.1 +3.6**
ARU pmax pmax
comp=Z,5.0nm,1.1s
KIRV Kirov 54.37 335 LR LR 14 31 23.7
comp=Z,110nm,19.3s,slow=41
TXAR Lajitas Array 54.67 94 P **P 14 04 07.2 -0.5**
TXAR Lajitas Array 54.67 94 P **P 14 04 09.0 +1.3**
TXAR Lajitas Array 54.67 94 P **P 14 04 09.0 +1.3**
comp=Z,0.8nm,0.8s,baz=331,slow=9.2,SNR=6.8
TXAR LR LR 14 26 34.6
comp=Z,93nm,21.6s,baz=347,slow=35
comp=Z,0.8nm,0.8s
GTA Gaotai 54.76 289 *eP* **P 14 04 11.6 +3.4**
GTA pP sP 14 04 15.9 +3.3
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA LR LR
comp=N,210nm,14.3s
GTA LR LR
comp=E,300nm,15.1s
GTA LR LR
comp=Z,300nm,15.1s
E62A Clayton Lake 54.79 55 P **P 14 04 07.9 -0.2**
FINES FINESS Array B 54.87 349 P **P 14 04 08.1 -0.4**
FINES FINESS Array B 54.87 349 *eP* **P 14 04 10.8 +2.3**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 54.87 349 P **P 14 04 07.6 -0.9**
comp=Z,2.0nm,0.5s,baz=23,slow=7.5,SNR=15
FINES LR LR 14 30 52.5
comp=Z,72nm,18.2s,baz=52,slow=40
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 55.57 307 P **P 14 04 13.4 -0.4**
comp=Z,0.3nm,0.8s,baz=60,slow=8.5,SNR=1.5
MKAR LR LR 14 31 23.5
comp=Z,87nm,19.0s,baz=21,slow=40
comp=Z,0.3nm,0.8s
LZH Lanzhou 55.77 283 *eP* **P 14 04 16.6 +1.0**
LZH pP sP 14 04 20.0 0.0
LZH pmax pmax
comp=Z,18nm,1.5s
LZH LR LR
comp=N,230nm,8.6s
LZH LR LR
comp=E,320nm,8.2s
LZH LR LR
comp=Z,190nm,8.9s
NC204 NORSAR Array S 55.79 358 P **P 14 04 15.8 +0.5**
NC204 IAmb IAmb 14 04 16.2
comp=Z,8.9nm,1.0s
NC303 NORSAR Array S 55.83 358 P **P 14 04 16.0 +0.5**
NC303 IAmb IAmb 14 04 30.1
comp=Z,22nm,1.4s
NC405 NORSAR Array S 55.94 358 P **P 14 04 16.1 -0.2**
DRIO Del Rio 55.97 92 P **P 14 04 16.3 -0.6**
DRIO IAmb IAmb 14 04 21.3
comp=Z,5.8nm,0.7s
NB201 NORSAR Array S 56.01 358 P **P 14 04 17.2 +0.4**
NB2 NORSAR Subarra 56.02 358 P **P 14 04 17.0 +0.1**
comp=Z,14nm,1.1s,baz=360,slow=7.4
NOA NORSAR Array B 56.02 358 *eP* **P 14 04 17.3 +0.4**
NOA pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 56.02 358 P **P 14 04 16.5 -0.4**
comp=Z,3.6nm,0.9s,baz=0.1,slow=7.2,SNR=8.1
NOA LR LR 14 28 13.1
comp=Z,37nm,21.1s,baz=235,slow=36
comp=Z,3.6nm,0.9s
NBO00 NORSAR Array S 56.04 358 P **P 14 04 17.0 0.0**
WMQ Urumqi 56.05 301 *eP* **P 14 04 18.6 +1.2**
HFS Hagfors 56.88 356 P **P 14 04 22.6 -0.3**
comp=Z,3.5nm,0.4s,baz=56,slow=5.6,SNR=7.1
comp=Z,3.5nm,0.4s
TZTN Tazewell 57.58 73 P **P 14 04 26.8 -1.4**
GUMO Guam 57.90 231 LR LR 14 26 59.4
comp=Z,21nm,20.4s,baz=32,slow=34
TKL Tuckaleechee C 58.23 73 LR LR 14 31 23.8
comp=Z,149nm,18.5s,baz=336,slow=38
OBN Obninsk 59.87 341 *eP* **P 14 04 43.4 -0.4**
OBN *e* 14 05 31.7
OBN *e* 14 06 54.4
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,104nm,18.0s
AKTO Aktyubinsk 59.95 325 P **P 14 04 43.6 -1.0**
comp=Z,3.4nm,0.9s,baz=358,slow=3.5,SNR=6.6
comp=Z,3.4nm,0.9s
ABKAR Akbulak array 60.52 323 P **P 14 04 47.9 -0.5**
BELG Belogornoye 60.53 333 *i* P **P 14 04 51.3 +2.9**
BELG pmax pmax
comp=Z,4.0nm,1.0s
PABE Paberze 60.92 349 P **P 14 04 51.0 -0.1**
NACGM Naroch 61.27 348 *eP* **P 14 04 51.4 -2.0**
comp=Z,17nm,0.9s,baz=10.0
EKA Eskdalemuir Ar 61.48 7 P **P 14 04 55.6 +0.7**
comp=Z,0.9nm,0.5s,baz=353,slow=5.2,SNR=4.4
comp=Z,0.9nm,0.5s
MNK Minsk 61.55 347 *i* P **P 14 04 53.8 -1.6**
comp=E,5.0nm,0.8s
MNK *i* P **P 14 04 53.8 -1.6**
comp=N,17nm,0.8s
MNK *i* P **P 14 04 53.8 -1.6**
comp=Z,12nm,0.7s,baz=190
MNK *i* PP **PP 14 07 08.9 -1.3**
MNK *i* PPP PPP 14 08 33.7
MNK *i* S **S 14 13 15.3 -1.2**
MNK *i* SS **SS 14 17 17.3 +0.7**
MNK *i* SSS SSS 14 20 05.6
MNK *i* LR LR 14 32 04.9
MNK *i* LRM MLR 14 33 28.6
comp=Z,155nm,17.9s
MNK *i* LRM MLR 14 33 45.2
comp=E,56nm,16.6s
MNK *i* LRM MLR 14 33 48.4
comp=N,122nm,18.5s
MNK Minsk 61.55 347 *i* P **P 14 04 53.7 -1.6**
MNK *i* 14 07 08.9
MNK *i* S **S 14 13 15.3 -1.2**
MNK *i* SS **SS 14 17 17.2 +0.7**
MNK *i* SSS SSS 14 20 05.6
MNK pmax pmax
comp=Z,12nm,0.7s
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK MLR MLR
comp=Z,155nm,18.0s
MNK MLR MLR
comp=E,56nm,17.0s
MNK MLR MLR
comp=N,122nm,19.0s
AAK Ala-Archa 61.95 310 *i* P **P 14 05 00.7 +2.3**
AAK pmax pmax
comp=Z,7.0nm,1.8s
AAK Ala-Archa 61.95 310 LR LR 14 33 59.4
comp=Z,130nm,19.1s,baz=21,slow=38
PZH PanZhiHua 64.87 279 P **P 14 05 17.3 -0.6**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax

comp=Z,160nm,4.2s
AKASG Malin Array Be 65.15 345 *e*P **P 14 05 18.4 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 65.15 345 P **P 14 05 18.2 -1.0**
comp=Z,1.5nm,0.5s,baz=9.8,slow=6.2,SNR=6.8
comp=Z,1.5nm,0.5s
AKBB Malin Array Si 65.15 345 *e*P **P 14 05 21.0 +1.8**
AKBB pmax pmax
comp=Z,45nm,3.7s
061Z Ochoppi 67.88 76 P **P 14 05 35.4 -1.6**
KHC Kasperske Hory 67.89 356 *i* P **P 14 05 36.6 -0.2**
KHC pmax pmax
comp=Z,7.0nm,1.0s
KHC Kasperske Hory 67.89 356 *e*P **P 14 05 37.0 +0.2**
GERES GERESS Array B 68.17 356 P **P 14 05 38.1 -0.6**
comp=Z,0.4nm,0.2s,baz=20,slow=6.3,SNR=3.4
comp=Z,0.4nm,0.2s
KIV Kislovodsk 69.58 334 *e*P **P 14 05 49.5 +2.0**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,55nm,17.0s
ANN Anapa 69.74 338 *e*P **P 14 05 48.7 +0.4**
ANN *e*S **S 14 14 56.4 -0.4**
ANN pmax pmax
comp=Z,99nm,1.5s
KBZ Khabaz 69.75 334 LR LR 14 39 23.8
comp=Z,74nm,18.6s,baz=358,slow=39
GEYT Alibeck 71.47 320 P **P 14 05 59.0 -0.1**
GEYT Alibeck 71.47 320 P **P 14 05 59.0 -0.1**
comp=Z,3.5nm,0.9s,baz=50,slow=12,SNR=1.4
GEYT LR LR 14 40 25.6
comp=Z,146nm,18.2s,baz=21,slow=38
comp=Z,3.5nm,0.9s
GNI Garni 72.80 331 LR LR 14 42 52.8
comp=Z,68nm,19.0s,baz=358,slow=40
CMAR Chiang Mai Arr 73.12 277 P **P 14 06 07.9 -1.2**
comp=Z,2.4nm,0.8s,baz=9.9,slow=7.0,SNR=13
CMAR LR LR 14 40 23.9
comp=Z,56nm,18.6s,baz=25,slow=38
comp=Z,2.4nm,0.8s
MTO3 Montecristo 74.11 90 P **P 14 06 14.6 -0.6**
BRTR Keskin Array B 75.31 340 P **P 14 06 21.6 -0.1**
BRTR Keskin Array B 75.31 340 P **P 14 06 21.7 -0.1**
BRTR Keskin Array B 75.31 340 P **P 14 06 21.1 -0.6**
comp=Z,2.0nm,0.9s,baz=20,slow=4.7,SNR=3.7
BRTR LR LR 14 43 17.4
comp=Z,62nm,19.0s,baz=346,slow=39
comp=Z,2.0nm,0.9s
HNR Honiara 75.50 208 LR LR 14 38 26.2
comp=Z,256nm,19.7s,baz=207,slow=35
JTS Las Juntas de 79.72 88 LR LR 14 45 22.4
comp=Z,58nm,18.4s,baz=341,slow=38
MSVF Nonsavu 81.05 189 LR LR 14 37 19.8
comp=Z,50nm,19.3s,baz=164,slow=32
SJG San Juan 81.07 68 LR LR 14 45 20.4
comp=Z,47nm,19.5s,baz=335,slow=38
ASF Jabal al Asfar 82.11 335 LR LR 14 48 34.0
comp=Z,40nm,18.5s,baz=311,slow=40
RAR Rarotonga 84.74 168 LR LR 14 38 13.5
comp=Z,59nm,19.1s,baz=2.5,slow=31
WSAR Wadi Sarin 84.98 314 LR LR 14 49 30.7
comp=Z,60nm,18.1s,baz=41,slow=39
SDV Santo Domingo 87.37 76 LR LR 14 49 16.6
comp=Z,54nm,19.1s,baz=354,slow=38
CTA Charters Tower 89.15 218 LR LR 14 40 40.5
comp=Z,29nm,20.3s,baz=72,slow=31
WRA Warramunga Arr 92.74 229 *e*P **P 14 07 52.7 +2.0**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 92.74 229 P **P 14 07 50.7 0.0**
comp=Z,1.5nm,0.9s,baz=29,slow=5.4,SNR=7.8
comp=Z,1.5nm,0.9s
ASAR Alice Springs 96.33 228 P **P 14 08 06.9 -0.3**
comp=Z,0.3nm,0.8s,baz=12,slow=5.1,SNR=4.8
comp=Z,0.3nm,0.8s
MDP Montagnes des 98.33 61 LR LR 14 53 44.8
comp=Z,24nm,20.0s,baz=62,slow=36
QSPA South Pole Qui 153.02 180 PKPbc **PKPbc 14 14 33.4 -1.1**
comp=Z,3.9nm,0.8s,baz=90,slow=1.0,SNR=18
ELIB Princess Elisa 169.44 207 *d*PKP **PKPdf 14 14 46.9 +2.5**

---

*IDC **16** 14:10:50.5±1.0, 1°.14S×120°.62E, h0km, mb3.6/7, mbtmp3.6/8, ML3.7/1, MS2.7/2, Error ellipse: s-maj=59.8km s-min=17.9km az=65.0*
*DJA **16** 14:10:54.0±1.3, 1°.5±2°×12°.0E±°, h16km±10km, M4.0/12, mb4.1/2, MLv3.9/12*
ISC 16 14:10:56.7±0.8, 1°.24S±0°.04×120°.46E±0°.06, h49km, n18, σ1°33/21, mb3.7/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.66**	**340**	P	**Pn**	**14 11 21.4**	**-2.0**
MPSI				S	**Sn**	**14 11 42.8**	**-0.8**
TTSI	**Tana Toraja**	**1.91**	**200**	P	**Pn**	**14 11 25.7**	**-1.0**
TTSI				S	**Sn**	**14 11 50.6**	**+1.1**
MRSI	**Marisa**	**2.26**	**41**	P	**Pn**	**14 11 30.9**	**-0.7**
MRSI				S	**Sn**	**14 11 59.5**	**+1.3**
LUWI	**Luwuk**	**2.32**	**85**	P	**Pn**	**14 11 31.4**	**-1.0**
GTOI	**Gorontalo**	**3.16**	**54**	P	**Pn**	**14 11 43.9**	**0.0**
KAPI	**Kappang**	**3.82**	**191**	Pn	**Pn**	**14 11 52.0**	**-0.9**
	4.6nm,0.3s,baz=359,slow=11,SNR=11						
KAPI				Sn	**Sn**	**14 12 36.0**	**-0.6**
	1.4nm,0.3s,baz=38,slow=22,SNR=1.6						
KAPI				LR	LR	14 12 45.6	
	comp=Z,24nm,21.7s,baz=23,slow=29						
	30nm,0.5s						
BKSI	**Bulukumba**	**4.07**	**185**	P	**Pn**	**14 11 54.9**	**-1.6**
BBSI	**Bau Bau**	**4.72**	**154**	P	**Pn**	**14 12 05.6**	**+0.2**
SANI	**Sanana**	**5.59**	**98**	P	**Pn**	**14 12 14.4**	**-2.9**
LBMI	**Labuha**	**7.07**	**85**	P	**Pn**	**14 12 36.1**	**-1.5**
	17nm,1.1s,0.1nm						
WRA	**Warramunga Arr**	**23.02**	**145**	P	**P**	**14 15 56.2**	**-1.5**
	0.8nm,0.9s,baz=319,slow=11,SNR=4.4						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**25.83**	**151**	P	**P**	**14 16 24.8**	**+1.2**
	0.3nm,0.7s,baz=320,slow=7.7,SNR=6.7						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**28.82**	**314**	P	**P**	**14 16 51.4**	**+0.9**
	0.7nm,0.3s,baz=146,slow=8.3,SNR=4.6						
	0.7nm,0.3s						
SONM	**Songino Array**	**50.39**	**348**	P	**P**	**14 19 49.9**	**+0.8**
	0.4nm,0.4s,baz=157,slow=7.8,SNR=1.7						
	0.4nm,0.4s						
KLR	**Kul'dur**	**51.21**	**9**	LR	LR	14 43 12.3	
	comp=Z,27nm,18.4s,baz=14,slow=38						
MKAR	**Makanchi Array**	**58.37**	**330**	P	**P**	**14 20 48.5**	**+1.4**
	0.7nm,0.8s,baz=139,slow=7.7,SNR=5.3						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**62.42**	**337**	P	**P**	**14 21 13.8**	**-0.7**
	0.3nm,0.4s,baz=142,slow=4.9,SNR=2.0						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**62.79**	**331**	P	**P**	**14 21 17.2**	**+0.2**
	0.4nm,0.6s,baz=146,slow=6.5,SNR=5.3						
	0.4nm,0.6s						

JMA 16 14:24:48.1±0.2, 25°N±2°×14°1E±°, h113km, MV4.6/8, IOTO ISLANDS REGION, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.38**	**36**	P	Pn	14 25 26.6	+0.5
JHH2				*e*S	Sn	14 25 55.7	+0.5
CBIJ	**Chichi jima**	**2.77**	**30**	P	Pn	14 25 31.7	+0.5
CBIJ				S	Sn	14 26 05.3	+1.0
BSO1	**Boso 1**	**9.92**	**2**	*e*P	Pn	14 27 07.6	+0.5

---

*IDC **16** 14:38:19.8±1.8, 49°.95N×18°.43E, h0km, mbtmp3.4/3, ML2.8/3, Error ellipse: s-maj=33.0km s-min=10.6km az=136.0*
*IPEC **16** 14:38:19.0±0.2, 50°.04N×18°.55E, h1km, ML2.8/4, Error ellipse: s-maj=2.0km s-min=1.0km az=164.0*
*PRU **16** 14:38:21.1, 50°.02N×18°.43E, h0km*
ISC 16 14:38:17.8±0.8, 50°.10N±0°.04×18°.57E±0°.03, h0km, n29, σ1°18/56, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.24**	**266**	*e*PG	**Pb**	**14 38 24.6**	**+2.2**
RAC				*e*SG	**Sb**	**14 38 28.4**	**+2.9**
OKC	**Ostrava-Krasne**	**0.38**	**226**	*e*PG	**Pg**	**14 38 25.8**	**+0.8**
	516nm,1.1s						
OKC				*e*SG	**Sg**	**14 38 30.7**	**+0.8**
MORC	**Moravsky Berou**	**0.74**	**244**	*e*Pg	**Pg**	**14 38 32.1**	**+0.2**
	baz=68						
MORC				*e*Sg	**Sg**	**14 38 41.2**	**-0.3**
	171nm,0.8s,baz=68						
OJC	**Ojcow**	**0.80**	**81**	*e*Pg	**Pb**	**14 38 35.0**	**+0.4**
OJC				*e*Sg	**Sn**	**14 38 47.4**	**-1.6**
NIE	**Niedzica**	**1.31**	**121**	*e*Pg	**Pn**	**14 38 44.7**	**+1.2**
NIE				*e*Sg	**Sn**	**14 39 04.3**	**+2.6**
JAVC	**Velka Javorina**	**1.37**	**206**	*e*Pg	**Pg**	**14 38 44.0**	**-0.1**
	baz=26						
DPC	**Dobruska-Polom**	**1.46**	**281**	*e*PG	**Pb**	**14 38 45.9**	**-0.1**
	65nm,0.4s						
DPC				*e*SG	**Sn**	**14 39 06.5**	**+1.1**
VRAC	**Vranov**	**1.51**	**239**	*e*Pg	**Pn**	**14 38 45.9**	**-0.2**
	baz=59						
VRAC				*e*Sg	**Sg**	**14 39 05.1**	**-1.1**
	111nm,0.8s,baz=59						
VRAC	**Vranov**	**1.51**	**239**	Pg	**Pn**	**14 38 46.1**	**0.0**
	8.9nm,0.3s,baz=63,slow=16,SNR=35						
VRAC				Lg	Lg	14 39 04.6	
	19nm,0.3s,baz=321,slow=22,SNR=13						
OSTC	**Ostas**	**1.57**	**288**	*e*PG	**Pg**	**14 38 48.2**	**+0.2**
	156nm,1.1s						
OSTC				*e*SG	**Sg**	**14 39 10.0**	**+1.6**
CHVC	**Chvalec**	**1.68**	**288**	*e*PG	**Pg**	**14 38 50.1**	**0.0**
	138nm,1.0s						
CHVC				*e*SG	**Sg**	**14 39 13.3**	**+1.5**
UPC	**Upice**	**1.69**	**285**	*e*PG	**Pg**	**14 38 50.3**	**+0.1**
	136nm,1.2s						
UPC				*e*SG	**Sg**	**14 39 13.4**	**+1.4**
KRUC	**Moravsky**	**1.75**	**235**	*e*Pn	**Pn**	**14 38 49.7**	**+0.2**
	baz=54						
KRUC				*e*Sg	**Sn**	**14 39 12.7**	**+0.2**
	80nm,1.1s,baz=54						
MODS	**Modra-Piesok**	**1.92**	**207**	*e*PG	**Pn**	**14 38 51.5**	**-0.3**
MODS				*e*SG	**Sn**	**14 39 16.9**	**+0.2**
TREC	**Trest**	**2.16**	**249**	*e*PN	**Pn**	**14 38 54.9**	**-0.1**
TREC				*e*PG	**Pb**	**14 38 56.9**	**-0.8**
	38nm,0.6s						
TREC				*e*SG	**Sb**	**14 39 25.0**	**0.0**
GOPC	**GO Pecny, Ondr**	**2.45**	**267**	*e*PN	**Pn**	**14 38 58.6**	**-0.4**
GOPC				*e*PG	**Pb**	**14 39 01.8**	**-0.9**
GOPC				*e*SG	**Sg**	**14 39 35.3**	**-1.1**
	comp=Z,64nm,1.2s						
PRU	**Pruhonice**	**2.60**	**269**	*e*PG	**Pb**	**14 39 05.1**	**-0.1**
PRU				*e*SG	**Sg**	**14 39 39.6**	**-1.6**
	comp=Z,60nm,1.4s						
PVCC	**Panska Ves**	**2.60**	**281**	*e*PG	**Pg**	**14 39 06.3**	**-1.3**
PVCC				*e*SG	**Sg**	**14 39 40.8**	**-0.5**
	comp=Z,284nm,1.5s						
ZVC	**Zvikov**	**2.91**	**259**	*e*PN	**Pn**	**14 39 07.8**	**+2.4**
ZVC				*e*PG	**Pg**	**14 39 12.5**	**-1.1**
ZVC				*e*SG	**Sg**	**14 39 50.4**	**-0.9**
	comp=Z,24nm,0.7s						
BRG	**Berggiesshubel**	**3.05**	**286**	Pg	**Pg**	**14 39 15.6**	**-0.7**
BRG				Sg	**Sg**	**14 39 55.7**	**-0.2**
BRG				Amp		14 39 58.3	
	comp=Z,16nm,0.5s						
CKRC	**Cesky Krumlov**	**3.06**	**247**	*e*PN	**Pn**	**14 39 08.2**	**+0.8**
CKRC				*e*PG	**Pb**	**14 39 13.4**	**+0.3**
CKRC				*e*SG	**Sg**	**14 39 53.8**	**-2.2**
	comp=Z,80nm,1.2s						
HSKC	**Hora Svate Kat**	**3.33**	**281**	*e*PN	**Pn**	**14 39 11.1**	**0.0**
HSKC				*e*PG	**Pb**	**14 39 19.3**	**+1.6**
HSKC				*e*SG	**Sg**	**14 40 04.0**	**-0.7**
	comp=Z,47nm,1.2s						
KHC	**Kasperske Hory**	**3.39**	**255**	*e*PN	**Pn**	**14 39 12.1**	**+0.1**
KHC				*e*PG	**Pb**	**14 39 20.1**	**+1.4**
KHC				*e*SG	**Sg**	**14 40 04.2**	**-2.3**
	comp=Z,63nm,1.6s						
GERES	**GERESS Array B**	**3.41**	**250**	Pn	**Pn**	**14 39 12.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=67,slow=16,SNR=2.6						
GERES				Pg	**Pb**	**14 39 18.7**	**-0.5**
	comp=Z,2.5nm,0.3s,baz=65,slow=18,SNR=10						
GERES				Lg	Lg	14 40 03.7	
	comp=Z,3.6nm,0.3s,baz=68,slow=30,SNR=8.5						
	comp=Z,0.9nm,0.4s						
NKC	**Novy Kostel**	**3.94**	**274**	*e*PG	**Pg**	**14 39 30.9**	**-2.3**
NKC				*e*SG	**Sg**	**14 40 23.8**	**-0.4**
	comp=Z,40nm,1.1s						
DAVOX	**Davos/Dischmat**	**6.66**	**243**	Lg	Lg	14 41 44.7	
	comp=Z,0.5nm,0.3s,baz=334,slow=19,SNR=1.6						
AKASG	**Malin Array Be**	**6.84**	**81**	Lg	Lg	14 41 55.2	
	comp=Z,0.7nm,0.3s,baz=266,slow=25,SNR=2.6						
FINES	**FINESS Array B**	**12.12**	**17**	Pn	**Pn**	**14 41 10.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=203,slow=14,SNR=10						
FINES				Sn	Sn	14 43 17.0	-10
	comp=Z,0.1nm,0.3s,baz=180,slow=23,SNR=1.3						
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**19.78**	**7**	Pn	**P**	**14 42 48.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=190,slow=14,SNR=1.2						
	comp=Z,1.2nm,0.8s						

---

*IDC **16** 14:44:38.8±4.2, 58°.05N×155°.09W, h66km±36km, mb3.7/5, mbtmp3.9/7, ML3.7/2, Error ellipse: s-maj=43.2km s-min=24.0km az=69.0*
*NEIC **16** 14:44:39±1.2, 57°.71N±0°.03×155°.06W±0°.06, h73km±5km, Error ellipse: s-maj=4.8km s-min=4.6km az=121.0*
*AEIC **16** 14:44:40.3±1.6, 57°.72N±0°.03×155°.07W±0°.06, h64km±5km, ML3.4, ML3.6/106(NEIC), Error ellipse: s-maj=4.8km s-min=4.3km az=127.0*
ISC 16 14:44:38.8±0.7, 57°.74N±0°.04×155°.04W±0°.03, h80km±6km, n362, σ0°80/385, mb4.0/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R18K	**Karluk**	**0.36**	**118**		**Pn**	**14 44 50.8**	**-0.6**
R18K					**Sn**	**14 45 00.1**	**-0.6**
R18K	**Karluk**	**0.36**	**118**	P	**Pn**	**14 44 50.8**	**-0.6**
	baz=295						
R18K				S	**Sn**	**14 45 00.1**	**-0.6**
	baz=295						
KABR	**Katmai Barrier**	**0.40**	**5**		**Pn**	**14 44 51.3**	**-0.5**
ACHA	**Angle Creek He**	**0.50**	**342**		**Pn**	**14 44 52.3**	**-0.3**
ACHA					**Sn**	**14 45 02.2**	**-0.6**
KCE	**Katmai Mt Cerb**	**0.52**	**351**		**Pn**	**14 44 52.7**	**0.0**
ANCK	**Angle Creek**	**0.52**	**333**		**Pn**	**14 44 52.5**	**-0.3**
ANCK					**Sn**	**14 45 02.5**	**-0.6**
KABU	**Katmai Buttres**	**0.55**	**347**		**Pn**	**14 44 53.0**	**-0.1**
KABU					**Sn**	**14 45 03.6**	**0.0**
KAKN	**Katmai Knife C**	**0.56**	**359**		**Pn**	**14 44 52.8**	**-0.4**
KAKN					**Sn**	**14 45 03.2**	**-0.6**
PLK3	**Peulik 3**	**0.66**	**266**		**Pn**	**14 44 54.0**	**-0.1**
KAWH	**Katmai**	**0.66**	**11**		**Pn**	**14 44 53.7**	**-0.4**
KVTA	**Katmai Vly 10**	**0.66**	**348**		**Pn**	**14 44 53.9**	**-0.1**
CNTC	**Contact Creek**	**0.69**	**320**		**Pn**	**14 44 54.1**	**-0.4**
CNTC					**Sn**	**14 45 05.4**	**-0.7**
Q17K	**Contact Creek**	**0.70**	**320**	P	**Pn**	**14 44 54.0**	**-0.5**
	baz=141						
Q17K				S	**Sn**	**14 45 05.4**	**-0.7**
	baz=141						
R17K	**Ugashik Creek**	**0.73**	**263**		**Pn**	**14 44 54.4**	**-0.3**
R17K				IAML		14 45 07.1	
	comp=E,2μm,0.6s						
R17K				IAML		14 45 07.3	
	comp=N,2μm,0.3s						
R17K	**Ugashik Creek**	**0.73**	**263**		**Sn**	**14 45 05.7**	**-0.8**
R17K	**Ugashik Creek**	**0.73**	**263**	P	**Pn**	**14 44 54.5**	**-0.2**
	baz=83						
R17K				S	**Sn**	**14 45 05.7**	**-0.8**
	baz=83						
KARR	**Katmai Rainbow**	**0.79**	**13**		**Pn**	**14 44 55.4**	**0.0**
KAHG	**Katmai Hook Gl**	**0.80**	**19**		**Pn**	**14 44 55.9**	**+0.3**
KAHG					**Sn**	**14 45 08.5**	**+0.4**
PLK1	**Peulik 1**	**0.84**	**275**		**Pn**	**14 44 55.8**	**-0.1**
KAHC	**Katmai Hardscr**	**0.92**	**1**		**Pn**	**14 44 56.9**	**0.0**
KAHC	**Katmai Hardscr**	**0.92**	**1**		**Pn**	**14 44 56.8**	**-0.1**
KAHC					**Sn**	**14 45 10.2**	**-0.3**
KAHC	**Katmai Hardscr**	**0.92**	**1**	P	**Pn**	**14 44 56.9**	**0.0**
	baz=182						
Q18K	**Katmai Hardscr**	**0.92**	**1**	P	**Pn**	**14 44 56.8**	**-0.2**
	baz=182						
Q18K				S	**Sn**	**14 45 10.2**	**-0.3**
	baz=182						
KAPH	**Katmai Pasha**	**0.94**	**23**		**Pn**	**14 44 57.4**	**+0.3**
KAPH					**Sn**	**14 45 11.4**	**+0.6**
PLBL	**Peulik Blue Cr**	**0.96**	**269**		**Pn**	**14 44 57.3**	**0.0**
SII	**Sitkinak Islan**	**1.27**	**158**	Pn	**Pn**	**14 45 00.8**	**-0.3**
SII				IAML		14 45 27.1	
	comp=N,1μm,0.7s						
SII	**Sitkinak Islan**	**1.27**	**158**		**Sn**	**14 45 17.6**	**-0.3**
SII	**Sitkinak Islan**	**1.27**	**158**	P	**Pn**	**14 45 00.8**	**-0.3**
SII	**Sitkinak Islan**	**1.27**	**158**	P	**Pn**	**14 45 00.8**	**-0.3**
	baz=338						
SII				S	**Sn**	**14 45 17.6**	**-0.3**
	baz=338						
Q16K	**King Salmon**	**1.27**	**319**		**Pn**	**14 45 00.9**	**-0.2**
Q16K				IAML		14 45 18.0	
	comp=E,1μm,0.3s						
Q16K				IAML		14 45 19.7	
	comp=N,1μm,0.5s						
Q16K	**King Salmon**	**1.27**	**319**		**Sn**	**14 45 17.1**	**-0.8**
Q16K	**King Salmon**	**1.27**	**319**	P	**Pn**	**14 45 01.1**	**-0.1**
	baz=138						
Q16K				S	**Sn**	**14 45 17.6**	**-0.3**
	baz=138						
KDAK	**Kodiak Island**	**1.32**	**87**	Pn	**Pn**	**14 45 01.9**	**+0.2**
KDAK				IAML		14 45 24.4	
	comp=N,488nm,0.3s						
KDAK	**Kodiak Island**	**1.32**	**87**	P	**Pn**	**14 45 01.9**	**+0.2**
	comp=N,298nm,0.2s,baz=296,slow=12,SNR=3010						
KDAK				S	**Sn**	**14 45 18.9**	**0.0**
	comp=N,182nm,0.4s,baz=245,slow=23,SNR=13						
R16K	**Pilot Point**	**1.37**	**264**		**Pn**	**14 45 02.1**	**-0.3**
R16K					**Sn**	**14 45 19.7**	**-0.4**
R16K	**Pilot Point**	**1.37**	**264**	IAML		14 45 20.6	
	comp=E,624nm,0.4s						
R16K				IAML		14 45 21.0	
	comp=N,463nm,0.7s						
Q19K	**Cape Douglas,**	**1.41**	**31**		**Pn**	**14 45 03.1**	**+0.2**
Q19K				IAML		14 45 27.7	
	comp=N,1μm,0.8s						
P17K	**Kvichak River**	**1.64**	**334**		**Pn**	**14 45 06.0**	**+0.2**
P17K	**Kvichak River**	**1.64**	**334**	P	**Pn**	**14 45 06.0**	**+0.2**
	baz=153						
Q20K	**Shuyak Island**	**1.65**	**57**	P	**Pn**	**14 45 06.9**	**+0.9**
	baz=239						
Q20K				S	**Sn**	**14 45 27.8**	**+1.2**
	baz=239						
SYI	**Shuyak Island**	**1.66**	**57**	Pn	**Pn**	**14 45 06.9**	**+0.8**
SYI				IAML		14 45 31.7	
	comp=N,396nm,0.6s						
SYI				IAML		14 45 31.7	
	comp=E,469nm,0.6s						
SYI	**Shuyak Island**	**1.66**	**57**		**Sn**	**14 45 27.8**	**+1.1**
P18K	**Big Mountain,**	**1.66**	**357**	Pn	**Pn**	**14 45 06.2**	**-0.1**
P18K				IAML		14 45 27.3	
	comp=N,359nm,0.5s						
P18K	**Big Mountain,**	**1.66**	**357**	P	**Pn**	**14 45 06.2**	**-0.1**
	baz=177						
ANNE	**Aniakchak Nort**	**1.83**	**245**		**Pn**	**14 45 08.2**	**-0.3**
AUQ	**Augustine Qik'**	**1.83**	**27**		**Pn**	**14 45 09.5**	**+1.0**
ANON	**Aniakchak**	**1.89**	**246**		**Pn**	**14 45 09.3**	**+0.1**
ANNW	**Aniakchak Nort**	**1.89**	**247**		**Pn**	**14 45 09.7**	**+0.5**
ANNW					**Sn**	**14 45 32.4**	**+0.1**
CHIR	**Chirikof Islan**	**1.95**	**190**		**Pn**	**14 45 09.2**	**-0.8**
CHIR				IAML		14 45 44.8	
	comp=E,397nm,0.5s						
CHIR				IAML		14 45 52.7	
	comp=N,387nm,1.7s						
CHIR	**Chirikof Islan**	**1.95**	**190**	P	**Pn**	**14 45 09.1**	**-0.8**
	baz=8.9						
P16K	**Nushagak River**	**2.03**	**311**		**Pn**	**14 45 11.2**	**+0.3**
P16K					**Sn**	**14 45 35.2**	**-0.2**
P16K	**Nushagak River**	**2.03**	**311**	P	**Pn**	**14 45 11.2**	**+0.3**
	baz=129						
P16K				S	**Sn**	**14 45 35.2**	**-0.2**
	baz=129						
O18K	**Koktuh Hills**	**2.13**	**358**	Pn	**Pn**	**14 45 12.6**	**+0.3**
O18K	**Koktuh Hills**	**2.13**	**358**		**Sn**	**14 45 37.6**	**-0.4**
O18K	**Koktuh Hills**	**2.13**	**358**	P	**Pn**	**14 45 12.7**	**+0.3**
	baz=178						
O18K				S	**Sn**	**14 45 37.6**	**-0.4**
	baz=178						
P19K	**Oil Pt**	**2.14**	**25**		**Pn**	**14 45 13.4**	**+0.8**
P19K				IAML		14 45 41.4	
	comp=E,421nm,0.4s						
P19K				IAML		14 45 41.4	
	comp=N,379nm,0.5s						
P19K	**Oil Pt**	**2.14**	**25**		**Sn**	**14 45 39.1**	**+0.8**
P19K	**Oil Pt**	**2.14**	**25**	P	**Pn**	**14 45 13.4**	**+0.8**
	baz=207						
P19K				S	**Sn**	**14 45 39.1**	**+0.8**
	baz=207						
O17K	**Koliganek Bris**	**2.31**	**333**		**Pn**	**14 45 14.9**	**+0.2**
O17K	**Koliganek Bris**	**2.31**	**333**	P	**Pn**	**14 45 14.9**	**+0.2**
	baz=152						
CHGN	**Chignik**	**2.34**	**233**		**Pn**	**14 45 15.0**	**-0.1**
CHGN				IAML		14 45 46.5	
	comp=N,399nm,0.1s						
CHGN	**Chignik**	**2.34**	**233**	P	**Pn**	**14 45 15.2**	**+0.1**
	baz=51						
O16K	**Kokwok River B**	**2.45**	**321**		**Pn**	**14 45 16.8**	**+0.1**
O16K					**Sn**	**14 45 45.4**	**-0.3**
O16K	**Kokwok River B**	**2.45**	**321**	P	**Pn**	**14 45 16.8**	**+0.1**
	baz=139						
O16K				S	**Sn**	**14 45 45.4**	**-0.3**
	baz=139						
O19K	**Port Alsworth**	**2.50**	**8**		**Pn**	**14 45 17.7**	**+0.6**
O19K	**Port Alsworth**	**2.50**	**8**	P	**Pn**	**14 45 17.8**	**+0.6**
	baz=189						
IVE	**Iliamna Volcan**	**2.52**	**24**		**Pn**	**14 45 18.7**	**+1.0**
ILW	**Iliamna West**	**2.53**	**22**		**Pn**	**14 45 18.8**	**+0.8**
HOM	**Homer**	**2.62**	**41**	Pn	**Pn**	**14 45 20.3**	**+1.4**
HOM	**Homer**	**2.62**	**41**	P	**Pn**	**14 45 20.1**	**+1.2**
	baz=224						
O20K	**Slope Mountain**	**2.67**	**27**		**Pn**	**14 45 20.8**	**+1.2**
O20K	**Slope Mountain**	**2.67**	**27**	P	**Pn**	**14 45 20.8**	**+1.2**
	baz=209						
CNPM	**China Poot**	**2.68**	**46**	Pn	**Pn**	**14 45 20.4**	**+0.6**
CNPM				IAML		14 45 57.9	
	comp=E,169nm,0.6s						
CNPM				IAML		14 45 58.1	
	comp=N,217nm,1.0s						
VNSG	**Veniaminof 6**	**2.74**	**236**		**Pn**	**14 45 21.1**	**+0.5**
VNSS	**Veniaminof 8**	**2.85**	**240**		**Pn**	**14 45 22.8**	**+0.5**
S14K	**Fog Glacier**	**2.87**	**241**	P	**Pn**	**14 45 23.1**	**+0.7**
	baz=58						
VNFG	**Fog Glacier, M**	**2.87**	**241**		**Pn**	**14 45 22.9**	**+0.6**
VNFG				IAML		14 46 08.2	
	comp=N,280nm,0.7s						
VNFG				IAML		14 46 10.3	
	comp=E,241nm,0.9s						
O15K	**Ungalikthiuk R**	**2.90**	**302**		**Pn**	**14 45 23.3**	**+0.6**
O15K	**Ungalikthiuk R**	**2.90**	**302**	P	**Pn**	**14 45 23.3**	**+0.6**
	baz=118						
RED	**Redoubt Volcan**	**2.94**	**23**		**Pn**	**14 45 24.5**	**+1.3**
VNWF	**Veniaminof 8**	**2.94**	**239**		**Pn**	**14 45 24.3**	**+0.9**
BRLK	**Bradley Lake**	**2.97**	**45**		**Pn**	**

O14K	Tigyukauivet M	3.60 298		Pn		14 45 32.8 +0.5
O14K	Tigyukauivet M	3.60 298	P	Pn		14 45 32.8 +0.5
	baz=113					
SLKM	Skilak Lake	3.73 40		Pn		14 45 34.1 +0.1
SEW	Seward	3.75 48		Pn		14 45 33.6 -0.5
SEW	Seward	3.75 48	P	Pn		14 45 33.6 -0.5
	baz=233					
N20K	Mount Spurr	3.76 21	P	Pn		14 45 36.0 +1.5
	baz=204					
SPCR	Spurr Chakacha	3.76 21		Pn		14 45 36.0 +1.5
SPCR	Spurr Chakacha	3.76 21		Pn		14 45 36.0 +1.5
SPCR	Spurr Chakacha	3.76 21	P	Pn		14 45 36.0 +1.5
	baz=204					
M18K	Stony River	3.79 354		Pn		14 45 35.4 +0.7
M18K	Stony River	3.79 354	P	Pn		14 45 35.4 +0.7
	baz=174					
SPBG	Spurr Blockage	3.79 20		Pn		14 45 36.9 +2.1
SPNN	North Nagishla	3.83 17		Pn		14 45 36.9 +1.4
SPCP	Crater Peak Br	3.83 21		Pn		14 45 37.5 +2.0
SDPT	Sand Point	3.84 234	Pn	Pn		14 45 35.5 0.0
SDPT			IAML			14 46 24.4
	comp=N,62nm,0.7s					
SDPT			IAML			14 46 57.1
	comp=E,87nm,1.1s					
SDPT	Sand Point	3.84 234	P	Pn		14 45 36.1 +0.6
SDPT	Sand Point	3.84 234	P	Pn		14 45 35.9 +0.4
	baz=49					
M16K	Timber Creek	3.86 330		Pn		14 45 36.4 +0.7
M16K	Timber Creek	3.86 330	P	Pn		14 45 36.4 +0.7
	baz=147					
CHNA	Chernabura Isl	3.86 223	P	Pn		14 45 34.7 -1.0
	baz=39					
CNBA	Chernabura Isl	3.87 223		Pn		14 45 34.5 -1.4
CNBA			IAML			14 46 31.4
	comp=N,50nm,1.0s					
CNBA			IAML			14 46 33.0
	comp=E,61nm,0.6s					
M17K	Holitna River	3.87 343		Pn		14 45 36.6 +0.7
M17K	Holitna River	3.87 343	IAML			14 46 21.6
	comp=E,63nm,0.9s					
M17K			IAML			14 46 39.6
	comp=N,66nm,0.7s					
M17K	Holitna River	3.87 343	P	Pn		14 45 36.6 +0.7
	baz=161					
SPCG	Spurr Capps Gl	3.88 22		Pn		14 45 37.6 +1.4
O22K	Cooper Landing	3.88 43	Pn	Pn		14 45 37.2 +1.2
N14K	Kuskokwak Cree	4.09 305		Pn		14 45 39.7 +0.8
N14K	Kuskokwak Cree	4.09 305	P	Pn		14 45 39.7 +0.8
	baz=120					
STLK	Strandline Lak	4.11 22		Pn		14 45 40.7 +1.5
M15K	Kasigluk River	4.15 318		Pn		14 45 40.0 +0.4
M15K	Kasigluk River	4.15 318	P	Pn		14 45 40.0 +0.4
	baz=134					
M19K	Big River Lodg	4.19 4		Pn		14 45 41.1 +0.9
M19K	Big River Lodg	4.19 4	P	Pn		14 45 41.1 +0.9
	baz=185					
M20K	Styx River	4.27 12		Pn		14 45 42.8 +1.4
M20K	Styx River	4.27 12	P	Pn		14 45 42.7 +1.3
	baz=194					
RC01	Rabbit Creek A	4.32 37	Pn	Pn		14 45 42.4 +0.4
RC01			IAML			14 46 32.2
	comp=E,79nm,0.3s					
RC01			IAML			14 46 32.6
	comp=N,69nm,0.4s					
RC01	Rabbit Creek A	4.32 37	P	Pn		14 45 42.4 +0.4
	baz=221					
SUA	Susitna One	4.33 28	Pn	Pn		14 45 43.3 +1.1
SUA			IAML			14 46 34.9
	comp=E,81nm,0.9s					
SUA			IAML			14 46 37.5
	comp=N,55nm,0.8s					
SUA	Susitna One	4.33 28	P	Pn		14 45 43.3 +1.1
	baz=212					
PS1A	Pavlof South-1	4.37 241		Pn		14 45 43.4 +0.6
L19K	White Mountain	4.46 1	Pn	Pn		14 45 44.7 +0.8
L19K			IAML			14 47 00.4
	comp=E,37nm,1.4s					
L19K			IAML			14 47 00.7
	comp=N,56nm,0.9s					
L19K	White Mountain	4.46 1	P	Pn		14 45 44.8 +0.8
	baz=181					
PS4A	Pavlof South-4	4.47 240		Pn		14 45 44.9 +0.8
PN7A	Pavlof North-7	4.49 242		Pn		14 45 45.4 +1.1
HAG	Hague Volcano	4.51 240		Pn		14 45 45.2 +0.6
P23K	Montague Islan	4.57 57		Pn		14 45 45.1 -0.2
P23K	Montague Islan	4.57 57	P	Pn		14 45 45.1 -0.2
	baz=243					
L18K	Granite Mounta	4.57 350		Pn		14 45 46.0 +0.6
L18K			IAML			14 46 38.5
	comp=N,49nm,0.9s					
L18K	Granite Mounta	4.57 350	P	Pn		14 45 45.9 +0.5
	baz=169					
L16K	Owhat River	4.58 332	Pn	Pn		14 45 45.4 0.0
L16K	Owhat River	4.58 332	P	Pn		14 45 45.4 0.0
	baz=149					
SKT	Skwentna	4.61 21	Pn	Pn		14 45 46.6 +0.7
SKT	Skwentna	4.61 21	P	Pn		14 45 46.9 +1.0
	baz=204					
PWL	Port Wells	4.65 45		Pn		14 45 46.1 -0.3
PWL			IAML			14 46 43.0
	comp=E,68nm,0.4s					
PWL	Port Wells	4.65 45	P	Pn		14 45 46.2 -0.3
	baz=230					
M14K	Bethel	4.67 313		Pn		14 45 47.2 +0.5
M14K			IAML			14 46 46.6
	comp=E,31nm,2.1s					
M14K			IAML			14 47 11.2
	comp=N,30nm,3.1s					
M14K	Bethel	4.67 313	P	Pn		14 45 47.4 +0.8
	baz=128					
L17K	Donlin	4.71 341		Pn		14 45 47.5 +0.3
L17K	Donlin	4.71 341	P	Pn		14 45 47.5 +0.3
	baz=158					
L20K	Farewell, AK	4.79 6		Pn		14 45 49.6 +1.2
L20K	Farewell, AK	4.79 6	P	Pn		14 45 49.6 +1.2
	baz=188					
Q23K	Middleton Isla	4.85 66	Pn	Pn		14 45 49.1 -0.1
Q23K	Middleton Isla	4.85 66	P	Pn		14 45 49.3 +0.1
	baz=253					
MID	Middleton Isla	4.86 66	Pn	Pn		14 45 49.1 -0.2
MID	Middleton Isla	4.86 66	P	Pn		14 45 49.1 -0.2
KNK	Knik Glacier	4.98 39		Pn		14 45 51.1 +0.2
KNK			IAML			14 47 08.8
	comp=E,43nm,1.2s					
KNK	Knik Glacier	4.98 39	P	Pn		14 45 51.1 +0.2
	baz=225					
M13K	Dall Lake	5.06 306		Pn		14 45 52.9 +0.8
M13K	Dall Lake	5.06 306	IAML			14 46 57.7
	comp=N,47nm,3.5s					
M13K			IAML			14 48 19.3
	comp=E,40nm,3.0s					
M13K	Dall Lake	5.06 306	P	Pn		14 45 52.8 +0.8
	baz=119					
GHO	Glory Hole Cre	5.09 35		Pn		14 45 52.7 +0.1
GHO			IAML			14 47 00.2
	comp=N,47nm,0.9s					
L15K	Ungalak Mounta	5.13 323		Pn		14 45 53.2 +0.3
L15K	Ungalak Mounta	5.13 323	P	Pn		14 45 53.2 +0.3
	baz=138					
GLI	Glacier Island	5.15 49	Pn	Pn		14 45 52.1 -1.1
GLI			IAML			14 46 52.3
	comp=N,48nm,0.3s					
GLI	Glacier Island	5.15 49	P	Pn		14 45 52.2 -1.1
	baz=236					
HIN	Hinchinbrook I	5.15 55	Pn	Pn		14 45 53.2 -0.1
TTA	Tatalina	5.23 355	Pn	Pn		14 45 55.2 +0.7
TTA			IAML			14 47 30.7
	comp=E,18nm,1.1s					
TTA	Tatalina	5.23 355	P	Pn		14 45 55.5 +1.0
TTA	Tatalina	5.23 355	P	Pn		14 45 55.2 +0.7
	baz=174					
K17K	Iditarod	5.25 343		Pn		14 45 55.5 +0.8
K17K			IAML			14 46 55.6
	comp=E,32nm,0.8s					
K17K	Iditarod	5.25 343	P	Pn		14 45 55.5 +0.8
	baz=161					
CUT	Chulitna	5.26 25	Pn	Pn		14 45 56.3 +1.6
SML	Sawmill	5.30 37	Pn	Pn		14 45 55.2 -0.2
SML			IAML			14 47 11.3
	comp=E,36nm,2.0s					
SML			IAML			14 47 20.8
	comp=N,34nm,1.4s					
SML	Sawmill	5.30 37	P	Pn		14 45 55.0 -0.4
	baz=223					
L14K	Kuka Creek	5.31 316	Pn	Pn		14 45 56.0 +0.5
L14K			IAML			14 46 56.9
	comp=N,23nm,1.2s					
L14K			IAML			14 48 13.5
	comp=E,17nm,1.2s					
L14K	Kuka Creek	5.31 316	P	Pn		14 45 55.9 +0.5
	baz=130					
FID	Port Fidalgo	5.33 52	Pn	Pn		14 45 54.6 -1.2
FALS	False Pass	5.49 242	P	Pn		14 45 59.6 +1.8
EYAK	Cordova Ski Ar	5.55 56		Pn		14 45 58.0 -0.7
EYAK	Cordova Ski Ar	5.55 56	P	Pn		14 45 58.7 0.0
EYAK	Cordova Ski Ar	5.55 56	P	Pn		14 45 58.2 -0.6
	baz=243					
K15K	Wolf Creek Mou	5.61 327		Pn		14 46 00.4 +0.8
K15K	Wolf Creek Mou	5.61 327	P	Pn		14 46 00.2 +0.6
	baz=142					
SCM	Sheep Creek Mo	5.66 40	Pn	Pn		14 46 00.1 -0.2
SCM	Sheep Creek Mo	5.66 40	P	Pn		14 45 60.0 -0.3
	baz=227					
K20K	Telida	5.66 4		Pn		14 46 01.1 +0.9
K20K	Telida	5.66 4	P	Pn		14 46 01.3 +1.0
	baz=185					
ISLZ	Isanotski Laza	5.70 242		Pn		14 46 01.1 +0.2
J18K	Innoko River	5.81 353		Pn		14 46 03.2 +1.0
J18K	Innoko River	5.81 353	P	Pn		14 46 03.2 +1.0
	baz=171					
DIV	Divide	5.83 50		Pn		14 46 02.5 0.0
CAST	Castle Rocks	5.88 13	Pn	Pn		14 46 04.2 +0.9
CAST	Castle Rocks	5.88 13	P	Pn		14 46 04.2 +0.9
	baz=196					
KAIM	Kayak Island	5.94 64	Pn	Pn		14 46 04.3 +0.4
KAIM	Kayak Island	5.94 64	P	Pn		14 46 04.2 +0.2
	baz=253					
KLU	Klutina	5.96 47		Pn		14 46 04.4 0.0
KLU	Klutina	5.96 47	P	Pn		14 46 04.5 0.0
	baz=235					
WAT7	Susitna Watana	5.97 28		Pn		14 46 04.4 -0.1
RAGM	Ragged Mountai	5.97 59		Pn		14 46 04.6 +0.1
GOAT	Goat Mountain	6.02 57		Pn		14 46 05.2 0.0
WAT1	Susitna Watana	6.04 30		Pn		14 46 05.3 -0.1
WAT1	Susitna Watana	6.04 30	P	Pn		14 46 05.3 -0.1
	baz=215					
WAT6	Susitna Watana	6.07 34		Pn		14 46 05.4 -0.6
WAT6	Susitna Watana	6.07 34	P	Pn		14 46 05.4 -0.6
	baz=220					
HMT	Hamilton	6.14 60	Pn	Pn		14 46 07.0 +0.1
KTH	Kantishna Hill	6.18 17	Pn	Pn		14 46 07.4 0.0
TRF	Thorofare Moun	6.19 20	Pn	Pn		14 46 07.6 0.0
TRF	Thorofare Moun	6.19 20	P	Pn		14 46 08.3 +0.7
	baz=204					
J16K	Anvik River	6.21 336		Pn		14 46 07.9 +0.3
J16K	Anvik River	6.21 336	P	Pn		14 46 07.9 +0.3
	baz=152					
BMRM	Bremner River	6.24 54		Pn		14 46 07.5 -0.7
BMRM	Bremner River	6.24 54	P	Pn		14 46 07.5 -0.7
	baz=243					
M24K	Tolsona, Glenn	6.25 42	Pn	Pn		14 46 08.6 +0.2
M24K	Tolsona, Glenn	6.25 42	P	Pn		14 46 08.8 +0.5
	baz=229					
NICHA	Nichawak Mount	6.25 62		Pn		14 46 08.2 -0.1
J19K	Poorman	6.29 358		Pn		14 46 09.4 +0.7
J19K	Poorman	6.29 358	P	Pn		14 46 09.4 +0.7
	baz=177					
SUCK	Suckling Hills	6.29 63	Pn	Pn		14 46 09.0 +0.2
CHUM	Lake Minchumin	6.31 11		Pn		14 46 10.2 +1.1
CHUM	Lake Minchumin	6.31 11	P	Pn		14 46 10.2 +1.1
	baz=194					
BERG	Berg Lake	6.42 61	Pn	Pn		14 46 10.4 -0.3
J20K	Nowinta River	6.48 3	Pn	Pn		14 46 11.5 +0.1
N25K	Chitina, Valde	6.56 49	Pn	Pn		14 46 12.6 +0.1
N25K	Chitina, Valde	6.56 49	P	Pn		14 46 12.3 -0.2
	baz=238					
DHY	Denali Highway	6.56 32	Pn	Pn		14 46 12.8 +0.2
DHY	Denali Highway	6.56 32	P	Pn		14 46 12.0 -0.7
	baz=219					
J14K	Nanvaranak Lak	6.57 323		Pn		14 46 13.1 +0.5
J14K	Nanvaranak Lak	6.57 323	P	Pn		14 46 13.1 +0.5
	baz=136					
BPAW	Bear Paw Mtn.	6.68 15	Pn	Pn		14 46 14.2 0.0
BPAW	Bear Paw Mtn.	6.68 15	P	Pn		14 46 14.5 +0.3
	baz=199					
MCK	McKinley	6.72 24		Pn		14 46 14.9 +0.2
MCK	McKinley	6.72 24	P	Pn		14 46 15.2 +0.6
	baz=209					
SNH	Sunshine Point	6.77 64	Pn	Pn		14 46 15.7 +0.3
GLB	Gilahina Butte	6.80 52	Pn	Pn		14 46 15.4 -0.5
HARP	HAARP	6.80 42		Pn		14 46 16.3 +0.5
HARP	HAARP	6.80 42	P	Pn		14 46 16.3 +0.5
	baz=231					
CRQM	Cirque	6.81 59	Pn	Pn		14 46 15.9 -0.2
CRQE	Cirque	6.83 59	P	Pn		14 46 15.8 -0.5
	baz=249					
VRDI	Verde Repeater	6.86 54	Pn	Pn		14 46 16.2 -0.6
TGL	Tana Glacier	6.95 59		Pn		14 46 18.0 +0.1
BARK	Barkley Ridge	7.00 62		Pn		14 46 18.5 0.0
AKUT	Akutan	7.02 244	Pn	Pn		14 46 19.8 +1.0
AKUT	Akutan	7.02 244	P	Pn		14 46 20.1 +1.3
GCSA	Galena City Sc	7.09 354		Pn		14 46 20.3 +0.6
GCSA	Galena City Sc	7.09 354	P	Pn		14 46 20.3 +0.6
	baz=172					
MCARA	McCarthy VSAT	7.11 54	Pn	Pn		14 46 20.3 +0.2
MESA	MESA	7.20 65	Pn	Pn		14 46 21.7 +0.3
MESA	MESA	7.20 65	P	Pn		14 46 21.7 +0.3
	baz=256					
PTPK	Patty Peak	7.28 56		Pn		14 46 22.3 -0.2
GRNC	Granite Creek	7.45 61		Pn		14 46 25.1 +0.3
NEA2	Nenana	7.46 20		Pn		14 46 23.5 -1.3
RKAV	Rock Avalanche	7.52 64		Pn		14 46 26.3 +0.6
UNV	Unalaska Valle	7.54 244		Pn		14 46 25.6 -0.3
UNV	Unalaska Valle	7.54 244	P	Pn		14 46 26.2 +0.3
UNV	Unalaska Valle	7.54 244	P	Pn		14 46 25.6 -0.3
	baz=54					
WRH	Wood River Hil	7.54 24	Pn	Pn		14 46 24.6 -1.3
MTBL	Makushin Table	7.56 245		Pn		14 46 27.0 +0.8
H17K	Granite Mounta	7.59 344		Pn		14 46 27.8 +1.2
H17K	Granite Mounta	7.59 344	P	Pn		14 46 27.8 +1.2
	baz=160					
BARN	Barnard Glacie	7.59 58	Pn	Pn		14 46 26.8 0.0
MLY	Manley	7.60 14	Pn	Pn		14 46 26.1 -0.7
H18K	Honhosa River	7.61 349		Pn		14 46 27.6 +0.8
H18K	Honhosa River	7.61 349	P	Pn		14 46 27.2 +0.4
	baz=167					
I21K	Tanana	7.61 10		Pn		14 46 27.2 +0.4
I21K	Tanana	7.61 10	P	Pn		14 46 27.0 +0.2
	baz=192					
M26K	Nabesna, AK	7.62 47	Pn	Pn		14 46 27.5 +0.5
M26K	Nabesna, AK	7.62 47	P	Pn		14 46 27.4 +0.5
	baz=238					
MSW	Makushin Switc	7.64 245		Pn		14 46 27.3 0.0
CTG	Chitna Glacier	7.71 59	P	Pn		14 46 28.7 +0.3
	baz=251					
CTGM	Chitina Glacie	7.71 59		Pn		14 46 28.8 +0.4
MGOD	Makushin Gods	7.75 244		Pn		14 46 28.9 0.0
HDA	Harding Lake	7.75 27		Pn		14 46 28.1 -0.7
SAMH	Samovar Hills	7.76 66		Pn		14 46 29.5 +0.6
CCB	Clear Creek Bu	7.76 24		Pn		14 46 27.1 -1.7
H20K	Anotleneega Mo	7.79 0		Pn		14 46 29.7 +0.5
H20K	Anotleneega Mo	7.79 0	P	Pn		14 46 29.7 +0.5
	baz=181					
RIDG	Independent Ri	7.82 35	Pn	Pn		14 46 30.0 +0.4
LOGN	Logan Glacier	7.82 61	Pn	Pn		14 46 29.9 0.0
H19K	Roundabout Mou	7.85 356		Pn		14 46 30.5 +0.5
H19K	Roundabout Mou	7.85 356	P	Pn		14 46 30.5 +0.5
	baz=175					
I23K	Minto, Yukon-K	7.92 18	Pn	Pn		14 46 30.1 -0.8
MDM	Murphy Dome	7.95 21		Pn		14 46 30.3 -1.1
PCA	Pinnacle	8.01 67		Pn		14 46 32.6 +0.3
PINM	Pinnacle	8.01 67	P	Pn		14 46 32.6 +0.3
	baz=259					
H21K	Melozitna Rive	8.02 7		Pn		14 46 33.3 +0.9
H21K	Melozitna Rive	8.02 7	P	Pn		14 46 32.9 +0.5
	baz=189					
M27K	Edge Creek, AK	8.05 49	Pn	Pn		14 46 33.5 +0.6
IL31		8.07 26		Pn		14 46 32.1 -1.0
ILAR	Eielson Array	8.07 26	P	Pn		14 46 31.2 -1.9
	comp=E,0.7nm,0.3s,baz=213,slow=14,SNR=23					
ILAR			S	Sn		14 47 55.6 -7.0
	comp=E,0.8nm,0.4s,baz=261,slow=7.0,SNR=8.5					
	comp=E,1.5nm,0.4s					
O28M	Mount Upton	8.19 62		Pn		14 46 35.4 +0.4
O28M	Mount Upton	8.19 62	P	Pn		14 46 35.4 +0.4
	baz=255					
SPIA	Saint Paul Isl	8.22 273	P	Pn		14 46 36.4 +1.3
POKR	Poker Plat Res	8.25 23	Pn	Pn		14 46 35.3 -0.2
SCRK	Sand Creek	8.25 36	Pn	Pn		14 46 35.4 -0.3
BCPM	Bancas Point	8.29 68	Pn	Pn		14 46 36.3 +0.2
IMAR	Indian Mountai	8.30 4	Pn	Pn		14 46 36.9 +0.7
J25K	Salcha River,	8.32 30		Pn		14 46 37.0 +0.4
G18K	Tagagawik	8.36 350		Pn		14 46 38.1 +1.0
G18K	Tagagawik	8.36 350	P	Pn		14 46 38.1 +1.0
	baz=167					
PNL	Peninsula	8.37 70		Pn		14 46 37.0 -0.2
PNL	Peninsula	8.37 70	P	Pn		14 46 37.0 -0.2
PNL	Peninsula	8.37 70	P	Pn		14 46 37.0 -0.2
	baz=263					
YUK3	Moose Creek	8.39 55		Pn		14 46 38.0 +0.3
YUK3	Moose Creek	8.39 55	P	Pn		14 46 38.0 +0.3
	baz=248					
L27K	Beaver Creek,	8.43 45	Pn	Pn		14 46 38.6 +0.5
BCAR	Beaver Creek A	8.45 45	Pn	Pn		14 46 38.7 +0.3
ANM	Nome	8.47 328	Pn	Pn		14 46 39.0 +0.5
H23K	Yukon River	8.52 15		Pn		14 46 38.5 -0.7
H24K	Noodor Dome	8.80 20	Pn	Pn		14 46 42.0 -1.0
G21K	Allakaket	8.84 4		Pn		14 46 43.8 +0.2
G21K	Allakaket	8.84 4	P	Pn		14 46 43.8 +0.2
	baz=185					
O29M	Mount Kennedy	8.87 66	Pn	Pn		14 46 44.8 +0.7
K27K	Chicken	8.92 40	Pn	Pn		14 46 46.1 +1.5
PRP	Porcupine Dome	9.01 26	Pn	Pn		14 46 45.4 -0.7
F15K	North Star Dit	9.19 334	Pn	Pn		14 46 50.1 +1.8
P29M	Windy Craggy	9.21 71	Pn	Pn		14 46 48.4 -0.2
I26K	Coal Creek Min	9.46 32	Pn	Pn		14 46 52.3 +0.3
HYT	Haines Junctio	9.49 64	Pn	Pn		14 46 52.9 +0.4
M29M	Somme Creek	9.52 53	Pn	Pn		14 46 53.5 +0.6
E19K	Redstone River	9.81 355	Pn	Pn		14 46 58.5 +1.7
N30M	Aishikik Lake	9.82 60	Pn	Pn		14 46 57.0 -0.1
DAWY	Dawson	9.90 44	Pn	Pn		14 46 58.6 +0.6
FYU	Fort Yukon	9.96 23	Pn	Pn		14 46 58.1 -0.7
S31K	Pelican	10.03 81	Pn	Pn		14 46 58.7 -1.0
O30N	Mendenhall	10.16 65	Pn	Pn		14 47 01.4 -0.2
M30M	Minto, Yukon	10.29 54	Pn	Pn		14 47 03.5 +0.1
SKAG	Skagway	10.42 72	Pn	Pn		14 47 04.8 -0.3
N31M	Braeburn, Yuko	10.44 61	Pn	Pn		14 47 04.3 -1.1
WHY	Whitehorse	10.73 66	Pn	Pn		14 47 09.9 +0.4
E21K	Killik River	10.76 2	Pn	Pn		14 47 10.0 +0.3
BMAR	Burnt Mountain	10.84 22	Pn	Pn		14 47 09.7 -1.0
D19K	Kuna River	10.89 354	Pn	Pn		14 47 13.3 +1.8
S32K	Killisnoo	10.98 83	Pn	Pn		14 47 13.0 +0.3
P32M	Atlin	11.25 72	Pn	Pn		14 47 16.6 +0.2
M31M	Drury Creek, Y	11.25 58	Pn	Pn		14 47 16.5 +0.1
H29M	Whitestone	11.53 36	Pn	Pn		14 47 21.0 +0.9
P33M	Teslin, Yukon	11.71 68	Pn	Pn		14 47 23.2 +0.4
FARO	Faro, Yukon	11.73 58	Pn	Pn		14 47 23.3 +0.4
Q32M	Nakina River	12.01 75	Pn	Pn		14 47 27.1 +0.2
U33K	Whale Pass	12.07 88	Pn	Pn		14 47 26.3 -1.2
ATKA	Atka Island	12.30 251	Pn	Pn		14 47 30.9 +0.3
R33M	Jennings River	12.65 72	Pn	Pn		14 47 36.5 +0.9
G30M	tAoh Zraii Nji	12.67 35	Pn	Pn		14 47 36.5 +0.8
DLBC	Dease Lake	13.23 76	P	Pn		14 47 43.9 +0.7
	comp=E,0.2nm,0.3s,baz=260,slow=18,SNR=7.3					
	comp=E,1.5nm,0.7s					
AMKA	Amchitka	16.12 258	Pn	Pn		14 48 21.9 +1.6
FINES	FINESS Array B	61.15 359	P	P		14 54 43.0 -1.2
	comp=E,2.2nm,0.8s,baz=10,slow=8.5,SNR=5.1					
	comp=E,2.2nm,0.8s					
HFS	Hagfors	62.14 6	P	P		14 54 50.4 -0.4
	comp=E,1.6nm,0.6s,baz=10,slow=8.8,SNR=2.4					
	comp=E,1.6nm,0.6s					
BVAR	Borovoye Array	63.56 331	P	P		14 54 59.0 -1.4
	comp=E,0.9nm,0.6s,baz=46,slow=8.5,SNR=4.1					
	comp=E,0.9nm,0.6s					
AKASG	Malin Array Be	71.87 357	P	P		14 55 51.4 -1.3
	comp=E,0.2nm,0.3s,baz=12,slow=6.6,SNR=1.5					
	comp=E,0.2nm,0.3s					
ESDC	Sonseca Array	79.96 22	P	P		14 56 39.9 +1.0
	comp=E,1.2nm,0.6s,baz=335,slow=4.9,SNR=7.3					
	comp=E,1.2nm,0.6s					

*IDC **16** 15:26:15.8±0.6, 13°.64N×121°.03E, h192km±6km, mb3.2/7, mbtmp3.7/7, MS3.2/1, Error ellipse: s-maj=45.6km s-min=13.6km az=61.0*

ISC 16 15:26:16.1±1.0, 13°.7N±0°.2×121°.1E±0°.3, h200km, n9, σ0.91/10, mb3.4/7, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.46	341	P	Pn	15 26 43.0	-0.2
	2μm,0.5s,baz=216,slow=2.4,SNR=36						
TGY				S	Sn	15 27 02.4	-1.9
	372nm,0.3s,baz=235,slow=22,SNR=3.2						
CMAR	Chiang Mai Arr	21.80	286	P	P	15 30 52.4	-0.1
	1.3nm,0.8s,baz=91,slow=8.5,SNR=7.6						
	1.3nm,0.8s						
WRA	Warramunga Arr	35.85	158	P	P	15 32 57.2	+0.2
	0.4nm,0.4s,baz=330,slow=10.0,SNR=12						
	0.4nm,0.4s						
SONM	Songino Array	36.20	343	P	P	15 33 00.7	+0.9
	0.3nm,0.4s,baz=159,slow=12,SNR=2.6						
	0.3nm,0.4s						
ASAR	Alice Springs	39.16	161	P	P	15 33 25.1	+0.3
	0.7nm,0.4s,baz=333,slow=6.9,SNR=58						
ASAR				LR	LR	15 51 58.5	
	comp=Z,29nm,18.1s,baz=157,slow=39						
	0.7nm,0.4s						
MKAR	Makanchi Array	46.28	323	P	P	15 34 22.3	+0.6
	0.6nm,0.8s,baz=134,slow=6.9,SNR=4.4						
	0.6nm,0.8s						
KURBB	Kurchatov Arra	50.43	326	P	P	15 34 53.7	+0.6
	0.3nm,0.4s,baz=114,slow=9.2,SNR=2.0						
	0.3nm,0.4s						
HFS	Hagfors	86.69	331	P	P	15 38 36.4	-0.7
	0.8nm,0.5s,baz=64,slow=3.4,SNR=1.4						
	0.8nm,0.5s						
TORD	Torodi Ar. Bea	114.31	291	PKP	PKiKP	15 44 32.8	-0.1
	0.3nm,0.6s,baz=136,slow=1.0,SNR=1.5						

*IDC **16** 15:45:08.9±0.8, 15°.86N×95°.12W, h0km, mb4.0/10, mbtmp4.0/12, ML3.4/2, MS3.5/11, Error ellipse: s-maj=23.3km s-min=12.1km az=82.0*
*NEIC **16** 15:45:12.4±2.0, 15°.94N±0°.06×95°.17W±0°.04, h10km±1km, mb4.3/56, Md4.6/20(MEX), Error ellipse: s-maj=10.9km s-min=6.6km az=194.0*
*MEX **16** 15:45:13.0±0.9, 15°.73N×95°.21W, h11km±10km, MD4.6*

ISC 16 15:45:09.2±2.0, 15°.83N±0°.03×95°.21W±0°.02, h1km±13km, n156, σ1.84/197, mb4.3/27, MS3.3/9, Near coast of Oaxaca

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

TGIG eS **Sn** **15 46 09.8 -5.4**
TGBT Tuxtla Gutierr 2.24 65 eP **Pn** **15 45 47.6 +0.1**
TGBT eS **Sn** **15 46 14.5 -1.3**
TUIG Tuzandepetl 2.31 19 eP **Pn** **15 45 47.3 -1.2**
YOIG Yosondua 2.47 295 **Pn** **15 45 52.4 +1.5**
YOIG **Sb** **15 46 25.0 -0.5**
YOIG Yosondua 2.47 295 eP **Pn** **15 45 52.4 +1.5**
YOIG eS **Sb** **15 46 25.0 -0.5**
PMUV Sontecomapan 2.70 2 eP **Pn** **15 45 52.0 -1.9**
TXIG Tlaxiaco 2.83 300 eP **Pn** **15 45 53.4 -2.5**
TXIG eS **Sb** **15 46 33.8 -2.4**
PNIG Pinotepa 2.86 282 eP **Pn** **15 45 55.6 -0.5**
PNIG eS **Sn** **15 46 27.2 -4.0**
TOIG Toxpalan 2.87 322 **Pn** **15 45 59.0 +2.7**
TOIG **Sb** **15 46 37.2 +0.2**
TOIG Toxpalan 2.87 322 eP **Pn** **15 45 59.0 +2.7**
TOIG eS **Sb** **15 46 37.2 +0.2**
PATR El Naranjo 2.95 104 eP **Pn** **15 45 56.6 -0.9**
PATR eS **Sn** **15 46 30.8 -3.0**
THIG 2.98 108 eP **Pn** **15 45 55.9 -1.8**
THIG eS **Sn** **15 46 29.9 -4.2**
CCIG Comitan 2.98 81 Pn **Pn** **15 45 57.9 0.0**
CCIG Comitan 2.98 81 eP **Pn** **15 45 58.4 +0.5**
CCIG eS **Sn** **15 46 34.1 -0.4**
PAVE Pavencul 2.99 102 eP **Pn** **15 45 57.1 -0.9**
PAVE eS **Sn** **15 46 33.0 -1.7**
CHUJ Union Juarez 3.08 103 eP **Pn** **15 45 58.9 -0.3**
CHUJ eS **Sn** **15 46 33.4 -3.4**
HLIG Huajuapan de L 3.18 309 eP **Pb** **15 46 05.3 -1.4**
HLIG eS **Sn** **15 46 39.2 -0.2**
TPIG Tehuac#an 3.30 322 eP **Pb** **15 46 06.7 -2.0**
TPIG eS **Sn** **15 46 43.3 +1.1**
FTIG Fresnillo de T 3.48 307 eP **Pn** **15 46 07.3 +2.6**
FTIG eS **Sn** **15 46 44.9 -1.7**
HUEH Huehuetenango 3.61 98 Pn **Pn** **15 46 05.6 -0.8**
RTAL Retalhuleu 3.63 111 Pn **Pn** **15 46 06.6 -0.1**
TLIG Tlapa 3.65 299 Pn **Pn** **15 46 08.8 +1.7**
TLIG Tlapa 3.65 299 eP **Pn** **15 46 07.9 +0.9**
TLIG eS **Sn** **15 46 52.8 +2.0**
HMTT Tlapaneco 3.76 302 eP **Pn** **15 46 08.7 +0.2**
HMTT eS **Sn** **15 46 53.7 +0.2**
JAUV Jalcomulco 3.83 337 eP **Pn** **15 46 07.1 -2.3**
JAUV eS **Sn** **15 46 49.3 -5.8**
LVIG Laguna Verde 4.04 344 eP **Pn** **15 46 11.9 -0.3**
DAIG Los Arroyos 4.43 286 eP **Pn** **15 46 16.2 -1.4**
DAIG eS **Sn** **15 47 04.2 -5.6**
PPM Popocatepetl 4.58 315 eP **Pn** **15 46 20.4 +0.2**
PPM eS **Sn** **15 47 11.2 -3.1**
MEIG Mezcala 4.71 297 eP **Pn** **15 46 23.4 +1.8**
MEIG eS **Sn** **15 47 16.2 -0.7**
YAIG Yautepec 4.76 310 eP **Pn** **15 46 23.5 +1.2**
YAIG eS **Sn** **15 47 16.8 -1.5**
PLIG Platanillo 4.83 302 eP **Pn** **15 46 26.7 +3.5**
PLIG eS **Sn** **15 47 20.8 +0.9**
CXUV Coxquihui 4.88 333 eP **Pn** **15 46 22.5 -1.3**
CXUV eS **Sn** **15 47 19.0 -2.0**
MPVM San Francisco 4.94 313 eP Pn 15 46 30.6 +5.8
MPVM eS **Sn** **15 47 25.6 +2.8**
SCIG Sabancuy 4.95 50 eP **Pn** **15 46 24.3 -0.4**
THVM De Xico 4.99 314 eP **Pn** **15 46 28.9 +3.4**
CAIG El Cayaco 5.00 285 eP **Pn** **15 46 23.2 -2.3**
CAIG eS **Sn** **15 47 21.1 -2.9**
TLVM San Miguel Top 5.05 312 eP **Pn** **15 46 29.4 +3.0**
TLVM eS **Sn** **15 47 25.7 +0.1**
UNM Universidad Na 5.14 313 Pn **Pn** **15 46 31.9 +4.2**
UNM Universidad Na 5.14 313 eP **Pn** **15 46 28.6 +0.9**
UNM eS **Sn** **15 47 27.7 -0.2**
BJVM Benito Juarez 5.17 314 eS **Sn** **15 47 32.8 +4.4**
AOVM Tlapan 5.20 312 eP **Pn** **15 46 32.6 +4.0**
AOVM eS **Sn** **15 47 27.6 -2.1**
PETF Flores 5.24 77 Pn **Pn** **15 46 29.1 +0.4**
ARIG Puente Sto Nin 5.49 297 eP **Pn** **15 46 30.6 -1.6**
ARIG eS **Sn** **15 47 31.5 -4.5**
DEIG Demacu 5.75 321 eP **Pn** **15 46 38.7 +2.8**
DEIG eS **Sn** **15 47 41.9 -0.8**
MTO3 Montecristo 5.82 103 Pn **Pn** **15 46 36.9 -0.1**
ZIIG Zihuatanejo 6.25 287 eP **Pn** **15 46 40.7 -1.9**
ZIIG eS **Sn** **15 47 51.7 -3.0**
MYIG Mrida 7.28 45 eP **Pn** **15 46 56.9 +0.2**
RPIG Rio Verde 7.53 324 eS **Sn** **15 48 24.4 -2.1**
TEIG Tepich 7.91 55 Pn **Pn** **15 47 04.0 -1.4**
TEIG Tepich 7.91 55 Pn **Pn** **15 47 04.5 -0.9**
261nm,0.3s,baz=83,slow=0.5,SNR=50
TEIG Sn Sn 15 48 25.7 -10
23nm,0.3s,baz=119,slow=18,SNR=1.1
TEIG LR LR 15 50 25.6
comp=Z,2μm,19.0s,baz=4.0,slow=40
GTIG Gomez Farias 8.11 333 eP **Pn** **15 47 08.6 +0.4**
GTIG eS **Sn** **15 48 40.6 0.0**
MMIG Aquila 8.16 289 eP **Pn** **15 47 05.4 -3.4**
MMIG eS **Sn** **15 48 36.8 -5.0**
ZAIG Zacatecas 9.79 316 eP **Pn** **15 47 28.4 -3.2**
LNIG Linares 9.86 337 eP **Pn** **15 47 30.9 -1.4**
CJM Chamela 10.06 293 eP **Pn** **15 47 32.5 -2.4**
ORTG Ortega, Santa 10.94 119 Pn **Pn** **15 47 50.1 +3.0**
JTS Las Juntas de 11.40 118 Pn **Pn** **15 47 51.4 -2.0**
1.3nm,0.3s,baz=324,slow=22,SNR=2.2
3.9nm,0.5s
RIMA Rio Macho 12.59 117 Pn **Pn** **15 48 11.6 +1.7**
833A Chaparral WMA, 13.02 343 Pn **Pn** **15 48 16.9 +1.5**
JCT Junction City 15.18 345 **P** **15 48 51.6 +1.4**
JCT IAmb IAmb 15 48 59.8
comp=Z,13nm,0.8s
SAND Sanderson 15.43 337 **P** **15 48 52.9 -0.1**
SAND IAmb IAmb 15 49 22.4
comp=Z,11nm,1.5s
TXAR Lajitas Array 15.53 331 Pn **Pn** **15 48 51.4 +1.8**
baz=152,slow=12,SNR=6.0
TXAR LR LR 15 54 52.5
comp=Z,41nm,21.6s,baz=142,slow=38
comp=Z,2.1nm,1.0s
BRDY Brady 15.77 348 **P** **15 48 56.3 -0.4**
BRDY IAmb IAmb 15 49 11.4
comp=Z,10nm,0.9s
OZNA Ozona 15.97 341 **P** **15 48 57.8 -1.2**
OZNA IAmb IAmb 15 49 08.3
comp=Z,10.0nm,1.0s
WHTX Lake Whitney, 16.22 353 **P** **15 49 00.8 -0.9**
WHTX IAmb IAmb 15 49 06.7
comp=Z,26nm,0.6s
425A Indio Mountain 17.37 331 **P** **15 49 17.1 +2.5**
SN01 Snyder 1 17.72 344 **P** **15 49 18.5 +0.1**
SN01 IAmb IAmb 15 49 27.5
comp=Z,11nm,0.7s
APMT Aspermont 17.98 347 **P** **15 49 21.4 +0.2**
APMT IAmb IAmb 15 49 27.6
comp=Z,17nm,1.0s
POST Post 18.08 343 P **P** **15 49 22.5 +0.2**
POST IAmb IAmb 15 49 44.5
comp=Z,7.7nm,0.8s
LOOK Love County 18.17 355 P **P** **15 49 24.3 +1.0**
MNTX Cornudas Mount 18.32 331 P **P** **15 49 26.6 +1.6**
DKNS Dickens 18.49 345 P **Pn** **15 49 27.4 +0.4**
DKNS IAmb IAmb 15 49 48.8
comp=Z,25nm,1.4s
MIAR Mount Ida 18.69 4 **Pn** **15 49 30.4 +1.2**
MSTX Muleshoe 19.31 341 P **Pn** **15 49 37.8 +1.0**
MSTX IAmb IAmb 15 49 43.5
comp=Z,10nm,0.8s
DEOK Depew 19.96 357 P **Pn** **15 49 44.4 -0.2**
DEOK IAmb IAmb 15 49 49.0
comp=Z,16nm,0.7s
OK031 S. Brethren Rd 20.09 356 Pn 15 49 45.1 -1.0
OK031 IAmb IAmb 15 49 50.4
comp=Z,22nm,0.7s
FCAR Ozark Folk Cen 20.16 7 P **P** **15 49 44.5 -0.5**
FCAR IAmb IAmb 15 49 51.0
comp=Z,10nm,0.8s
121A Cookes Peak, D 20.17 328 Pn Pn 15 49 47.9 +0.7
OK033 Mehan 20.19 356 **P** **15 49 44.8 -0.5**
OK033 IAmb IAmb 15 49 52.0
comp=Z,28nm,1.0s
LCAR Lake Charles 20.48 9 P **P** **15 49 49.0 +0.5**
OK048 Pawnee Station 20.56 356 P **P** **15 49 49.5 +0.2**
OK048 IAmb IAmb 15 49 55.3
comp=Z,16nm,0.7s
ANMO Albuquerque 21.55 334 P **P** **15 50 01.0 +0.8**
comp=Z,1.6nm,0.7s,baz=167,slow=14,SNR=1.5
comp=Z,1.6nm,0.7s
TUC Tucson 21.67 322 P **P** **15 50 04.5 +3.1**
S39A Bolivar 21.84 4 P **P** **15 50 02.8 -0.3**
S39A IAmb IAmb 15 50 11.5
comp=Z,19nm,1.4s
R40A Maddies Statio 22.52 6 P **P** **15 50 11.4 +0.9**
R40A IAmb IAmb 15 50 31.8
comp=Z,5.7nm,0.7s
214A Organ Pipe Nat 22.68 318 P **P** **15 50 11.9 -0.4**
214A IAmb IAmb 15 50 34.4
comp=Z,7.8nm,1.1s
T25A Trinidad 22.74 341 P **P** **15 50 14.2 +1.2**
T25A IAmb IAmb 15 50 22.8
comp=Z,15nm,1.0s
X16A Lo Mia Camp, P 23.57 325 P **P** **15 50 22.8 +1.2**
X16A IAmb IAmb 15 50 31.1
comp=Z,7.2nm,0.9s
SDCO Great Sand Dun 23.65 339 P **P** **15 50 23.1 +0.6**
SDCO IAmb IAmb 15 50 30.8
comp=Z,9.4nm,1.1s
WUAZ Wupatki 24.36 327 P **P** **15 50 31.6 +2.6**
WUAZ IAmb IAmb 15 50 34.8
comp=Z,7.5nm,1.0s
N38A Joes South For 24.93 4 P **P** **15 50 32.8 -1.2**
SDV Santo Domingo 24.96 103 LR LR 16 00 48.6
comp=Z,114nm,21.8s,baz=309,slow=38
PFO Pinyon Flats O 26.10 317 LR LR 16 00 39.3
comp=Z,69nm,20.5s,baz=150,slow=36
MTPU Mount Pierson 26.72 329 P **P** **15 50 53.2 +2.6**
ATAH Atahualpa 28.25 143 LR LR 15 59 14.3
comp=Z,37nm,20.2s,baz=349,slow=30
PDAR Pinedale Array 29.53 338 P **P** **15 51 15.5 -0.1**
comp=Z,0.2nm,0.5s,baz=152,slow=7.9,SNR=1.9
PDAR LR LR 16 04 42.6
comp=Z,45nm,18.5s,baz=162,slow=40
comp=Z,0.2nm,0.5s
MDPB Devils Postpil 30.27 320 P **P** **15 51 24.5 +2.2**
MDPB IAmb IAmb 15 51 32.0
comp=Z,3.3nm,0.9s
LHV Little Huntoon 30.32 322 P **P** **15 51 24.9 +2.6**
LHV IAmb IAmb 15 51 47.6
comp=Z,4.4nm,0.9s
NVAR Mina Array Bea 30.32 322 P **P** **15 51 23.0 +0.4**
NVAR Mina Array Bea 30.32 322 P **P** **15 51 22.8 +0.1**
comp=Z,3.2nm,0.9s,baz=142,slow=9.2,SNR=17
NVAR LR LR 16 05 27.0
comp=Z,95nm,18.7s,baz=138,slow=40
comp=Z,3.2nm,0.9s
KVN Kaiserville 30.62 324 P **P** **15 51 27.8 +2.6**
KVN IAmb IAmb 15 51 34.7
comp=Z,3.5nm,1.1s
NNA Nana 33.08 146 LR LR 16 02 58.6
comp=Z,64nm,18.1s,baz=336,slow=32
YBH Yreka Blue Hor 35.03 323 LR LR 16 06 44.1
comp=Z,83nm,20.1s,baz=152,slow=37
ETMB Extrema 38.39 130 P **P** **15 52 33.4 +1.0**
ETMB IAmb IAmb 15 52 35.5
comp=Z,10nm,1.5s
SAML Samuel 40.15 126 P **P** **15 52 48.8 +1.7**
LPAZ La Paz 41.62 139 P **P** **15 52 58.0 -2.0**
comp=Z,1.1nm,0.6s,baz=49,slow=20,SNR=2.8
comp=Z,1.1nm,0.6s
PB16 IPOC Station P 42.35 142 P **P** **15 53 08.4 +2.6**
PB16 IAmb IAmb 15 53 14.2
comp=Z,4.5nm,0.8s
MDP Montagnes des 43.10 100 LR LR 16 12 48.6
comp=Z,29nm,18.6s,baz=232,slow=39
BDFB Brasilia 56.12 122 P **P** **15 54 51.1 +0.2**
comp=Z,1.6nm,0.4s,baz=171,slow=5.7,SNR=3.1
comp=Z,1.6nm,0.4s
I30M Mount Dempster 56.55 341 P **P** **15 54 53.8 +0.6**
I30M IAmb IAmb 15 55 26.2
comp=Z,7.4nm,1.3s
GLB Gilahina Butte 57.07 335 P **P** **15 54 58.1 +1.2**
BCAR Beaver Creek A 57.13 337 P **P** **15 54 58.4 +1.1**
L27K Beaver Creek, 57.15 337 P **P** **15 54 59.0 +1.6**
L27K IAmb IAmb 15 55 41.7
comp=Z,3.1nm,1.4s
K27K Chicken 57.78 338 P **P** **15 55 03.5 +1.6**
K27K IAmb IAmb 15 55 07.0
comp=Z,7.2nm,1.3s
G29M Pine Creek 58.16 342 P **P** **15 55 04.7 +0.3**
F28M Old Crow 59.16 342 P **P** **15 55 12.6 +1.2**
SYI Shuyak Island 59.73 329 P **P** **15 55 17.9 +2.4**
IL31 59.95 337 P **P** **15 55 17.6 +0.8**
IL31 IAmb IAmb 15 55 20.8
comp=Z,5.8nm,1.2s
ILAR Eielson Array 59.95 337 P **P** **15 55 17.7 +0.8**
ILAR Eielson Array 59.95 337 P **P** **15 55 16.1 -0.8**
comp=Z,1.6nm,1.0s,baz=146,slow=4.8,SNR=8.3
comp=Z,1.6nm,1.0s
BMAR Burnt Mountain 60.52 340 P **P** **15 55 21.9 +1.1**
MDM Murphy Dome 60.55 337 P **P** **15 55 21.4 +0.5**
PLCA Paso Flores 60.76 159 P **P** **15 55 25.2 +2.5**
PLCA IAmb IAmb 15 55 25.7
comp=Z,3.3nm,0.9s
PLCA Paso Flores 60.76 159 P **P** **15 55 23.1 +0.4**
comp=Z,2.9nm,0.9s,baz=331,slow=5.6,SNR=6.3
comp=Z,2.9nm,0.9s
H24K Noodor Dome 60.83 338 P **P** **15 55 23.0 0.0**
H24K IAmb IAmb 15 55 47.1
comp=Z,5.4nm,1.3s
I23K Minto, Yukon-K 61.06 337 P **P** **15 55 25.1 +0.7**
M19K Big River Lodg 61.82 333 P **P** **15 55 30.7 +1.0**
TRQA Tornquist 62.02 151 P **P** **15 55 33.1 +1.8**
D25K Kavik River 62.11 342 P **P** **15 55 32.6 +1.1**
K20K Telida 62.20 334 P **P** **15 55 32.4 +0.2**
J20K Nowinta River 62.53 335 P **P** **15 55 33.7 -0.7**
TTA Tatalina 62.88 333 P **P** **15 55 36.6 -0.2**
EKA Eskdalemuir Ar 78.30 36 P **P** **15 57 10.5 -0.4**
comp=Z,1.5nm,0.6s,baz=218,slow=17,SNR=2.6
comp=Z,1.5nm,0.6s
ESDC Sonseca Array 81.01 51 P **P** **15 57 24.9 -1.2**
comp=Z,2.1nm,1.0s,baz=306,slow=5.0,SNR=5.4
comp=Z,2.1nm,1.0s
NOA NORSAR Array B 84.01 28 P **P** **15 57 41.1 -0.2**
comp=Z,1.3nm,0.9s,baz=293,slow=4.9,SNR=3.2
comp=Z,1.3nm,0.9s
ARCES ARCESS Array B 85.36 18 LR LR 16 37 04.9
comp=Z,94nm,18.1s,baz=328,slow=36
WRA Warramunga Arr 132.80 257 PKP **PKPdf** **16 04 27.4 +0.4**
comp=Z,0.4nm,0.8s,baz=70,slow=1.6,SNR=2.1
ASAR Alice Springs 133.31 252 PKP **PKPdf** **16 04 27.6 -0.3**
comp=Z,0.3nm,0.7s,baz=77,slow=1.9,SNR=4.2
PZH PanZhiHua 134.81 338 PKP **PKPdf** **16 04 30.0 -0.8**

---

*IDC **16** 16:19:25.3±3.7, 21°.31S×174°.38W, h91km±31km, mb3.6/3, mbtmp4.0/4, MS3.2/3, Error ellipse: s-maj=41.5km s-min=27.2km az=150.0*
ISC 16 16:19:26.0±1.3, 21°.3S±0°.1×174°.4W±0°.2, h100km, n9, σ0§85/7, mb3.7/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.96**	**296**	P	**Pn**	**16 21 18.8**	**-0.2**
	16nm,1.0s,baz=128,slow=19,SNR=4.1						
RAO	**Raoul Island**	**8.49**	**201**	P	**Pn**	**16 21 25.8**	**-0.3**
	261nm,0.3s,baz=73,slow=19,SNR=3.3						
DZM	**Mont Dzumac**	**17.80**	**264**	LR	LR	16 29 28.6	
	comp=Z,112nm,18.0s,baz=186,slow=34						
PPT	**Papeete**	**23.71**	**85**	LR	LR	16 32 02.7	
	comp=Z,70nm,19.0s,baz=261,slow=32						
ASAR	**Alice Springs**	**47.59**	**257**	P	**P**	**16 27 52.5**	**+0.4**
	2.0nm,0.8s,baz=100,slow=7.7,SNR=19						
	2.0nm,0.8s						
WRA	**Warramunga Arr**	**47.80**	**262**	P	**P**	**16 27 54.0**	**+0.2**
	0.9nm,0.7s,baz=96,slow=8.2,SNR=16						
WRA				PcP	**PcP**	**16 29 22.4**	**+1.2**
	0.5nm,0.8s,baz=100,slow=4.8,SNR=2.3						
	0.9nm,0.7s						
NVAR	**Mina Array Bea**	**79.38**	**42**	P	**P**	**16 31 21.4**	**+0.1**
	1.0nm,0.8s,baz=225,slow=8.8,SNR=7.9						
	1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.55**	**288**	LR	LR	17 13 16.2	
	comp=Z,4.1nm,20.1s,baz=5.0,slow=34						
AKASG	**Malin Array Be**	**145.32**	**333**	PKPbc	**PKPbc**	**16 38 50.8**	**-1.1**
	0.3nm,0.4s,baz=41,slow=3.6,SNR=1.7						

---

*IDC **16** 16:57:24.4±7.9, 1°.77N×127°.32E, h51km±72km, mb3.9/5, mbtmp4.1/6, ML4.0/1, MS4.1/2, Error ellipse: s-maj=56.6km s-min=18.8km az=56.0*
*DJA **16** 16:57:31.7±0.4, 2°.N±2°×12°.7E±°, h104km±5km, M4.0/13, mb4.1/5, mB5.1/1, MLv3.9/13, Mw(mB)4.5/1*
*NEIC **16** 16:57:32.6±0.9, 1°.78N±0°.09×127°.4E±0°.1, h129km±3km, mb4.3/14, Error ellipse: s-maj=19.4km s-min=11.3km az=65.0*
ISC 16 16:57:29.9±0.8, 1°.96N±0°.07×127°.47E±0°.10, h112km, n37, σ1§56/38, mb4.1/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.19**	**185**	Pn	**Pn**	**16 57 55.3**	**+2.1**
TNTI				Sn	**Sn**	**16 58 12.3**	**+1.5**
TNTI	**Ternate**	**1.19**	**185**	P	**Pn**	**16 57 55.3**	**+2.1**
TNTI				S	**Sn**	**16 58 12.5**	**+1.6**
LBMI	**Labuha**	**2.58**	**179**	P	**Pn**	**16 58 12.1**	**+1.6**
LBMI				S	**Sn**	**16 58 42.8**	**+1.1**
SGSI	**Sangihe**	**2.59**	**311**	P	**Pn**	**16 58 10.0**	**-0.6**
SGSI				S	**Sn**	**16 58 42.2**	**+0.3**
SANI	**Sanana**	**4.25**	**200**	P	**Pn**	**16 58 32.0**	**-0.7**
GTOI	**Gorontalo**	**4.65**	**254**	P	**Pn**	**16 58 40.4**	**+2.3**
SWI	**Sorong**	**4.71**	**127**	P	**Pn**	**16 58 41.0**	**+2.2**
NLAI	**Namlea**	**5.18**	**184**	P	**Pn**	**16 58 45.5**	**+0.3**
	10nm,0.9s,2μm0.1nm						
LUWI	**Luwuk**	**5.57**	**238**	Pn	**Pn**	**16 58 51.3**	**+0.9**
LUWI	**Luwuk**	**5.57**	**238**	P	**Pn**	**16 58 51.2**	**+0.8**
	15nm,0.6s,0.6nm						
MRSI	**Marisa**	**5.72**	**255**	P	**Pn**	**16 58 54.6**	**+2.0**
TOLI2	**Tolitoli**	**6.74**	**263**	Pn	**Pn**	**16 59 07.2**	**+0.8**
FAKI	**Fak Fak**	**6.80**	**135**	Pn	Pn	16 59 10.2	+3.0
KAPI	**Kappang**	**10.37**	**228**	Pn	**Pn**	**16 59 55.6**	**0.0**
KAPI	**Kappang**	**10.37**	**228**	P	Pn	16 59 47.6	-7.9
	1.3nm,0.3s,baz=286,slow=15,SNR=5.1						
KAPI				S	Sn	17 01 37.3	-13
	6.2nm,0.4s,baz=312,slow=3.3,SNR=4.3						
	3.1nm,0.2s						
MTN	**Manton Dam**	**15.15**	**166**	Pn	**Pn**	**17 00 57.3**	**-0.7**
MTN				IAmb	IAmb	17 01 30.7	
	comp=Z,31nm,1.4s						
KNRA	**Kununurra**	**17.57**	**176**	P	**P**	**17 01 26.6**	**-0.7**
KNRA				IAmb	IAmb	17 01 55.4	
	comp=Z,34nm,1.4s						
TPUB	**Ta-pu**	**22.23**	**343**	P	**P**	**17 02 20.3**	**+2.7**
WB0	**Warramunga Arr**	**22.64**	**163**	P	**P**	**17 02 20.6**	**-1.1**
WB0				IAmb	IAmb	17 02 21.4	
	comp=Z,16nm,1.1s						
WRAB	**Tennant Creek**	**22.78**	**163**	P	**P**	**17 02 21.3**	**-1.8**
WRAB				IAmb	IAmb	17 02 22.8	
	comp=Z,10nm,0.5s						
WRA	**Warramunga Arr**	**22.79**	**163**	P	**P**	**17 02 21.7**	**-1.5**
	comp=Z,6.1nm,0.5s,baz=347,slow=11,SNR=182						
	comp=Z,6.1nm,0.5s						
WB2	**Warramunga Arr**	**22.79**	**163**	P	**P**	**17 02 22.0**	**-1.2**
WB2				IAmb	IAmb	17 02 22.9	
	comp=Z,9.2nm,0.7s						
WR0	**Warramunga Arr**	**22.86**	**163**	P	**P**	**17 02 22.9**	**-1.0**
WR0				IAmb	IAmb	17 02 23.6	
	comp=Z,9.6nm,1.0s						
PSA00	**Pilbara Seismi**	**24.55**	**197**	P	**P**	**17 02 35.1**	**-4.2**
PSA00				IAmb	IAmb	17 02 35.8	
	comp=Z,6.5nm,0.8s						
AS31	**Alice Springs**	**26.23**	**167**	P	**P**	**17 02 53.7**	**-0.9**
ASAR	**Alice Springs**	**26.23**	**167**	P	**P**	**17 02 53.6**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=346,slow=7.6,SNR=138						
ASAR				PcP	**PcP**	**17 06 18.1**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=1.4,slow=2.5,SNR=1.5						
	comp=Z,2.3nm,0.5s						
BBOO	**Buckleboo**	**35.52**	**168**	P	**P**	**17 04 15.2**	**-0.9**
STKA	**Stephens Creek**	**36.22**	**159**	P	**P**	**17 04 21.6**	**-0.5**
STKA	**Stephens Creek**	**36.22**	**159**	P	**P**	**17 04 21.9**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=336,slow=8.0,SNR=8.2						
	comp=Z,2.0nm,0.5s						
DZM	**Mont Dzumac**	**44.92**	**124**	LR	LR	17 26 02.7	
	comp=Z,48nm,18.1s,baz=29,slow=38						
MK31	**Makanchi Array**	**59.42**	**326**	P	**P**	**17 07 21.5**	**+0.7**
MK31				IAmb	IAmb	17 07 25.9	
	comp=Z,1.9nm,1.3s						
MKAR	**Makanchi Array**	**59.42**	**326**	P	**P**	**17 07 21.5**	**+0.7**
MKAR	**Makanchi Array**	**59.42**	**326**	P	**P**	**17 07 22.2**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=113,slow=7.5,SNR=8.6						
	comp=Z,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**63.62**	**328**	P	**P**	**17 07 51.6**	**+2.7**
	comp=Z,0.6nm,0.5s,baz=129,slow=6.0,SNR=5.9						
	comp=Z,0.6nm,0.5s						
HRA	**Herat**	**68.57**	**306**	P	**P**	**17 08 20.0**	**-1.2**
SBA	**Scott Base**	**82.49**	**172**	P	**P**	**17 09 39.6**	**+0.1**
BBB	**Bella Bella**	**97.26**	**37**	LR	LR	17 46 42.5	
	comp=Z,299nm,21.3s,baz=219,slow=30						

---

*IDC **16** 17:06:04.9±4.7, 36°.29N×70°.88E, h180km±41km, mb3.3/9, mbtmp3.7/14, Error ellipse: s-maj=35.0km s-min=17.4km az=34.0*
*NEIC **16** 17:06:08.3±1.1, 36°.48N±0°.07×70°.7E±0°.1, h204km±8km, mb4.2/7, Error ellipse: s-maj=14.8km s-min=10.9km az=90.0*
*NNC **16** 17:06:09.1±6.3, 36°.67N×70°.50E, h148km±106km, mb3.3, mpv4.3, Error ellipse: s-maj=52.9km s-min=41.9km az=35.0*
ISC 16 17:06:08.0±0.6, 36°.52N±0°.06×70°.69E±0°.06, h204km, n58, σ1§62/64, mb3.5/12, 8C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.39**	**215**	Pn	**Pn**	**17 06 50.8**	**-0.4**
BTK	**Batken**	**3.54**	**2**	Pn	**Pn**	**17 07 06.2**	**+1.9**
NIL	**Nilore**	**3.54**	**143**	Pn	**Pn**	**17 07 04.4**	**0.0**
AML	**Almayashu**	**6.07**	**22**	P	**Pn**	**17 07 37.4**	**+0.9**
	SNR=66						
AML	**Almayashu**	**6.07**	**22**	⇓P	**Pn**	**17 07 36.1**	**-0.4**
	7.6nm,0.5s						
AML				⇑S	**S**	**17 08 43.9**	**-2.4**
	24nm,0.7s						
NRN	**Naryn**	**6.42**	**38**	Pn	**Pn**	**17 07 39.9**	**-1.0**
KK31	**Karatay Array**	**6.58**	**359**	P	**Pn**	**17 07 43.6**	**+0.9**
	7.1nm,0.4s,baz=180,slow=12,SNR=68						
KK31				⇑S	**S**	**17 08 55.1**	**-2.6**
	20nm,0.7s,baz=189,slow=21,SNR=4.7						
KK31	**Karatay Array**	**6.58**	**359**	Pn	**Pn**	**17 07 43.3**	**+0.6**
KKAR	**Karatay Array**	**6.58**	**359**	Pn	**Pn**	**17 07 43.2**	**+0.5**
KKAR	**Karatay Array**	**6.58**	**359**		**Pn**	**17 07 43.4**	**+0.7**
EKS2	**Erkin-Say**	**6.58**	**20**	P	**Pn**	**17 07 43.9**	**+1.1**
	SNR=21						
AAK	**Ala-Archa**	**6.78**	**24**	P	**Pn**	**17 07 46.5**	**+1.1**
	SNR=25						
AAK	**Ala-Archa**	**6.78**	**24**	Pn	**Pn**	**17 07 46.3**	**+0.9**
AAK	**Ala-Archa**	**6.78**	**24**	P	**Pn**	**17 07 45.5**	**0.0**
	17nm,0.5s,baz=196,slow=6.9,SNR=41						
AAK				S	**S**	**17 09 01.7**	**-1.0**
	18nm,0.7s,baz=145,slow=24,SNR=18						
KBK	**Karagaybulak**	**6.96**	**27**	P	**Pn**	**17 07 48.9**	**+1.2**
	SNR=12						
FRU1	**Bishkek**	**6.98**	**25**		**Pn**	**17 07 49.3**	**+1.4**
ULHL	**Ulahol**	**7.15**	**35**	P	**Pn**	**17 07 51.2**	**+0.9**
	SNR=7.5						
CHMS	**Chumysh**	**7.19**	**25**	P	**Pn**	**17 07 51.4**	**+0.8**
	SNR=15						
CHMS	**Chumysh**	**7.19**	**25**	⇑P	**Pn**	**17 07 50.7**	**+0.1**
	14nm,0.5s						
CHMS				⇓S	**S**	**17 09 09.9**	**-2.2**
	14nm,0.6s						
USP	**Ospenovka**	**7.35**	**22**	P	**Pn**	**17 07 53.5**	**+0.8**
	SNR=10						
TKM2	**Tokmak 2**	**7.43**	**29**	P	**Pn**	**17 07 54.8**	**+0.9**
	SNR=68						
TKM2	**Tokmak 2**	**7.43**	**29**	⇑P	**Pn**	**17 07 53.7**	**-0.2**
	22nm,0.5s						
TKM2				⇑S	**S**	**17 09 16.5**	**-1.5**
	12nm,1.1s						
TARG	**Taragay, Kyrgy**	**7.59**	**45**	Pn	**Pn**	**17 07 55.9**	**-0.3**
GEYT	**Alibeck**	**10.13**	**282**	S	**S**	**17 10 20.2**	**-2.2**
	0.9nm,0.4s,baz=70,slow=43,SNR=1.7						
MAKZ	**Makanchi**	**13.29**	**36**		**Pn**	**17 09 07.1**	**-1.7**
PYUN	**Piuthan**	**13.35**	**125**	*eP*	**P**	**17 09 13.8**	**+1.2**
	7.9nm,0.4s						
MK31	**Makanchi Array**	**13.42**	**37**		Pn	17 09 06.0	-4.4
MKAR	**Makanchi Array**	**13.42**	**37**	Pn	**Pn**	**17 09 06.5**	**-4.0**
MKAR	**Makanchi Array**	**13.42**	**37**	P	**Pn**	**17 09 09.0**	**-1.5**
	0.8nm,0.7s,baz=221,slow=13,SNR=6.8						
DANN	**Dangsing**	**13.70**	**123**	*eP*	**P**	**17 09 19.1**	**+2.5**
	7.9nm,0.4s						
GKN	**Gorkha**	**14.52**	**122**

PKI	**Pulchoki**	**15.32**	**121**	*eP*	**P**	**17 09 36.8 +2.3**
	16nm,0.7s					
GUN	**Gumba**	**15.44**	**119**	*eP*	**P**	**17 09 39.2 +3.4**
	25nm,1.0s					
BVAR	**Borovoye Array**	**16.51**	**359**	P	**P**	**17 09 47.6 +0.6**
	0.7nm,0.4s,baz=156,slow=10,SNR=4.1					
RAMN	**Ramite**	**16.53**	**121**	*eP*	**P**	**17 09 48.3 +0.5**
	7.1nm,0.5s					
AKTO	**Aktyubinsk**	**16.65**	**331**	⇑P	**P**	**17 09 48.6 +0.1**
	0.4nm,0.5s					
AKTO				⇑S	**S**	**17 12 57.0 +5.1**
	1.3nm,1.1s					
AKTO	**Aktyubinsk**	**16.65**	**331**	P	**Pn**	**17 09 50.3 +0.7**
	1.5nm,0.6s,baz=144,slow=9.6,SNR=4.3					
TAPN	**Taplejung**	**17.07**	**118**	*eP*	**Pn**	**17 09 55.4 +0.2**
ZAA0	**Zalesovo Array**	**20.00**	**25**	P	**P**	**17 10 24.8 0.0**
ZALV	**Zalesovo Beam**	**20.00**	**25**	P	**P**	**17 10 24.7 -0.2**
ZALV	**Zalesovo Beam**	**20.00**	**25**	P	**P**	**17 10 25.1 +0.3**
	3.0nm,0.3s,baz=211,slow=11,SNR=15					
	3.0nm,0.3s					
SHL	**Shillong**	**21.14**	**115**	P	**P**	**17 10 37.5 +0.2**
SHL				IAmb	IAmb	17 10 40.6
	comp=Z,7.2nm,1.0s					
FINES	**FINESS Array B**	**37.33**	**326**	P	**P**	**17 13 02.3 +2.0**
	comp=Z,2.0nm,0.7s,baz=108,slow=6.2,SNR=5.7					
	comp=Z,2.0nm,0.7s					
LVZ	**Lovozero**	**37.35**	**338**	P	**P**	**17 13 01.6 +1.1**
DIVS	**Divibare**	**38.88**	**297**	P	**P**	**17 13 13.7 0.0**
DIVS				IAmb	IAmb	17 13 34.5
	comp=Z,3.6nm,0.9s					
ARCES	**ARCESS Array B**	**41.04**	**338**	P	**P**	**17 13 32.9 +2.0**
	comp=Z,0.7nm,0.5s,baz=110,slow=7.8,SNR=7.7					
	comp=Z,0.7nm,0.5s					
HFS	**Hagfors**	**42.90**	**322**	P	**P**	**17 13 47.3 +1.2**
	comp=Z,1.1nm,0.5s,baz=85,slow=3.0,SNR=1.9					
	comp=Z,1.1nm,0.5s					
YAK	**Yakutsk**	**44.10**	**35**	P	**P**	**17 13 55.8 +0.3**
YAK				IAmb	IAmb	17 13 56.9
	comp=Z,9.8nm,1.3s					
NOA	**NORSAR Array B**	**44.22**	**323**	P	**P**	**17 13 56.2 -0.4**
	comp=Z,0.3nm,0.5s,baz=103,slow=7.4,SNR=1.4					
	comp=Z,0.3nm,0.5s					
TIXI	**Tiksi**	**45.85**	**22**	P	**P**	**17 14 09.5 +0.3**
TIXI				IAmb	IAmb	17 14 11.6
	comp=Z,3.8nm,0.4s					
TORD	**Torodi Ar. Bea**	**65.47**	**268**	P	**P**	**17 16 29.4 -0.1**
	comp=Z,0.2nm,0.3s,baz=48,slow=5.3,SNR=1.7					
	comp=Z,0.2nm,0.3s					
ILAR	**Eielson Array**	**74.83**	**16**	P	**P**	**17 17 26.0 +0.5**
	comp=Z,0.2nm,0.6s,baz=328,slow=6.4,SNR=2.9					
	comp=Z,0.2nm,0.6s					
WRA	**Warramunga Arr**	**82.21**	**122**	P	**P**	**17 18 04.2 -2.2**
	comp=Z,0.7nm,0.7s,baz=324,slow=4.9,SNR=9.9					
	comp=Z,0.7nm,0.7s					
ASAR	**Alice Springs**	**84.47**	**125**	P	**P**	**17 18 16.9 -1.0**
	comp=Z,0.5nm,0.8s,baz=311,slow=4.5,SNR=11					
	comp=Z,0.5nm,0.8s					

*SJA **16** 17:40:46.2±0.8, 21°.95S×68°.62W, h134km±9km, ML3.4, MW3.5*

*GUC **16** 17:40:48.4±0.5, 21°.91S×68°.59W, h125km±3km, ML3.6*

ISC 16 17:40:47.2±1.6,**21°.93S**±0°.04×**68°.64W**±0°.06,
h133km±12km,**n28**,σ0°.48/40,**5C**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.58**	**283**	⇑*iP*	**Pn**	**17 41 07.6**	**+0.3**
PB09				*eS*	**Sn**	**17 41 23.5**	**+1.0**
PB09	**IPOC Station P**	**0.58**	**283**	*iP*	**Pn**	**17 41 07.0**	**-0.3**
PB09				IAML		17 41 26.4	
	comp=Z,386nm,0.5s						
LVC	**Limon Verde**	**0.72**	**200**	*iP*	**Pn**	**17 41 07.5**	**-1.0**
LVC				IAML		17 41 24.9	
	comp=Z,352nm,0.2s						
AF01	**San Pedro de A**	**1.10**	**158**	*iP*	**Pn**	**17 41 11.5**	**-0.2**
AF01				*eS*	**Sn**	**17 41 30.1**	**-0.4**
AF01				IAML		17 41 43.1	
	comp=N,825nm,0.5s						
PB06	**IPOC Station P**	**1.16**	**228**	⇑*iP*	**Pn**	**17 41 12.8**	**+0.6**
PB06				*eS*	**Sn**	**17 41 31.6**	**+0.5**
PB06				IAML		17 41 33.3	
	comp=N,948nm,0.6s						
PB06	**IPOC Station P**	**1.16**	**228**	*iP*	**Pn**	**17 41 12.2**	**0.0**
PB06				IAML		17 41 33.5	
	comp=Z,610nm,0.2s						
PB07	**IPOC Station P**	**1.18**	**280**	*iP*	**Pn**	**17 41 12.8**	**+0.5**
PB07				*eS*	**Sn**	**17 41 31.2**	**-0.2**
PB07				IAML		17 41 33.5	
	comp=N,1μm,0.1s						
PB07	**IPOC Station P**	**1.18**	**280**	*iP*	**Pn**	**17 41 12.4**	**+0.1**
PB07				IAML		17 41 33.6	
	comp=Z,695nm,0.4s						
PB01	**IPOC Station P**	**1.18**	**318**	*iP*	**Pn**	**17 41 12.2**	**-0.1**
PB01				*eS*	**Sn**	**17 41 31.0**	**-0.4**
PB01				IAML		17 41 32.8	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**1.18**	**318**	*iP*	**Pn**	**17 41 11.8**	**-0.5**
PB01				IAML		17 41 32.7	
	comp=Z,774nm,0.2s						
PB02	**IPOC Station P**	**1.32**	**297**	⇑*iP*	**Pn**	**17 41 14.0**	**+0.3**
PB02				*eS*	**Sn**	**17 41 33.4**	**-0.5**
PB02				IAML		17 41 35.8	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**1.32**	**297**	*iP*	**Pn**	**17 41 13.6**	**-0.1**
PB02				IAML		17 41 35.3	
	comp=Z,2μm,0.5s						
PB04	**IPOC Station P**	**1.46**	**254**	⇑*iP*	**Pn**	**17 41 15.8**	**+0.6**
PB04				*eS*	**Sn**	**17 41 36.8**	**+0.1**
PB04				IAML		17 41 43.0	
	comp=N,758nm,0.6s						
PB04	**IPOC Station P**	**1.46**	**254**	*iP*	**Pn**	**17 41 15.4**	**+0.1**
PB04				IAML		17 41 39.9	
	comp=Z,469nm,0.2s						
PB15	**IPOC Station P**	**1.49**	**211**	*iP*	**Pn**	**17 41 16.2**	**+0.5**
PB15				*eS*	**Sn**	**17 41 38.2**	**+0.9**
PB15	**IPOC Station P**	**1.49**	**211**	*iP*	**Pn**	**17 41 16.0**	**+0.3**
PB15				IAML		17 41 42.8	
	comp=Z,2μm,0.2s						
PATCX	**Punta Patache**	**1.79**	**308**	*iP*	**Pn**	**17 41 19.3**	**+0.4**
PATCX				*eS*	**Sn**	**17 41 42.5**	**-0.7**
PATCX				IAML		17 41 46.3	
	comp=E,640nm,0.3s						
PATCX	**Punta Patache**	**1.79**	**308**	*iP*	**Pn**	**17 41 19.1**	**+0.1**
PATCX				IAML		17 41 44.9	
	comp=Z,302nm,0.4s						
PB08	**IPOC Station P**	**1.84**	**345**	⇑*iP*	**Pn**	**17 41 20.4**	**+0.5**
PB08				*eS*	**Sn**	**17 41 44.7**	**-0.1**
PB08				IAML		17 41 47.8	
	comp=E,262nm,0.3s						
PB08	**IPOC Station P**	**1.84**	**345**	*iP*	**Pn**	**17 41 20.4**	**+0.5**
PB08				IAML		17 41 48.6	
	comp=Z,150nm,0.2s						
TA01	**Diego Aracena**	**1.98**	**313**	*iP*	**Pn**	**17 41 21.0**	**-0.1**
TA01				*eS*	**Sn**	**17 41 46.4**	**-0.6**
TA01				IAML		17 41 49.8	
	comp=N,470nm,0.4s						
TA01	**Diego Aracena**	**1.98**	**313**	*iP*	**Pn**	**17 41 21.1**	**+0.1**
TA01				IAML		17 41 49.1	
	comp=Z,154nm,0.2s						
GO01	**Chusmiza**	**2.31**	**347**	*iP*	**Pn**	**17 41 25.7**	**0.0**
GO01				*eS*	**Sn**	**17 41 54.7**	**-0.3**
GO01				IAML		17 41 58.8	
	comp=N,361nm,0.2s						
GO01	**Chusmiza**	**2.31**	**347**	*iP*	**Pn**	**17 41 26.0**	**+0.4**
GO01				IAML		17 41 57.1	
	comp=Z,138nm,0.5s						
YJA	**Yavi**	**2.91**	**95**	*iP*	**Pn**	**17 41 33.9**	**+0.7**
YJA				IAML		17 42 09.9	
	comp=Z,5.7nm,0.9s						
PB14	**IPOC Station P**	**3.14**	**211**	*iP*	**Pn**	**17 41 36.1**	**0.0**
PB14				IAML		17 42 26.1	
	comp=Z,54nm,0.5s						
GO02	**Mina Guanaco**	**3.34**	**195**	*iP*	**Pn**	**17 41 38.3**	**-0.3**
GO02				IAML		17 42 29.1	
	comp=Z,88nm,0.5s						
AC02	**Maricunga**	**4.91**	**185**	*iP*	**Pn**	**17 41 58.9**	**-0.7**
AC02				IAML		17 43 27.6	
	comp=Z,16nm,0.9s						

*HVO **16** 17:51:12.5±0.8, 19°.66N±0°.09×157°.48W±0°.07, h5km±7km, Error ellipse: s-maj=15.1km s-min=6.3km az=213.0*

NEIC 16 17:51:09.2±2.1,**19°.74N**±0°.04×**157°.38W**±0°.04,**h10**km±2km,
ML3.8/56,**ML4.0**/49(HVO),**Error ellipse: s-maj=8.0km s-min=5.2km az=214.0,Hawaiian Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**1.29**	**94**		Pg	17 51 34.0	+0.1
KHLU	**Kahalu`u**	**1.41**	**96**		Pn	17 51 35.2	+0.2
KHLU					Sn	17 51 52.6	-1.2
KHLH	**Kahului Airpor**	**1.46**	**38**		Pg	17 51 37.1	-0.1
KHLH					Sn	17 51 54.0	-0.7
KHLH	**Kahului Airpor**	**1.46**	**38**	IAML		17 51 55.4	
	comp=E,1μm,0.4s						
KHLH				IAML		17 51 55.6	
	comp=N,2μm,0.4s						
HUH	**Hualalai**	**1.46**	**92**		Pb	17 51 36.3	-0.3
HUH					Sn	17 51 53.9	-1.3
HUH	**Hualalai**	**1.46**	**92**	IAML		17 51 57.2	
	comp=E,2μm,0.2s						
MHA	**Mahukona**	**1.46**	**72**		Sn	17 51 54.1	-0.7
MHA	**Mahukona**	**1.46**	**72**		Pb	17 51 36.6	+0.1
MHA	**Mahukona**	**1.46**	**72**	Sn	Sn	17 51 51.4	-3.4
HLK	**Haleakala**	**1.47**	**46**		Pb	17 51 36.9	+0.2
HLK					Sn	17 51 53.8	-1.6
HLK	**Haleakala**	**1.47**	**46**	IAML		17 51 59.5	
	comp=N,2μm,0.4s						
HLK				IAML		17 51 59.8	
	comp=E,1μm,0.3s						
KPA	**Kalaupapa**	**1.49**	**14**		Pb	17 51 36.6	-0.3
DHH	**Diamond Head**	**1.56**	**346**		Pn	17 51 37.4	+0.3
DHH					Sn	17 51 54.7	-2.6
WMR	**Waimanalo Ridg**	**1.59**	**350**		Sn	17 51 55.5	-2.6
HPAH	**Hawaii Prepara**	**1.61**	**79**		Sn	17 51 56.3	-2.4
HPAH	**Hawaii Prepara**	**1.61**	**79**	Pn	Pn	17 51 37.5	-0.2
HPAH				IAML		17 51 56.9	
	comp=N,1μm,0.1s						
ALEP	**Alea Permanent**	**1.65**	**97**		Pn	17 51 39.1	+0.6
ALEP					Sn	17 51 59.1	-0.9
MWH	**Moku'aweowe**	**1.70**	**98**		Pn	17 51 39.5	0.0
MWH					Sn	17 51 59.9	-1.7
MWH	**Moku'aweowe**	**1.70**	**98**	IAML		17 52 06.1	
	comp=E,1μm,0.9s						
MWH				IAML		17 52 09.6	
	comp=N,1μm,0.3s						
MLOA	**Mauna Loa Obse**	**1.71**	**97**		Pn	17 51 40.0	+0.5
KHU	**Kahuku**	**1.74**	**106**		Pn	17 51 39.5	-0.2
POHA	**Pohakuloa**	**1.74**	**89**		Pb	17 51 40.6	-0.8
POHA					Sn	17 52 00.3	-1.9
POHA	**Pohakuloa**	**1.74**	**89**	IAML		17 52 02.0	
	comp=N,1μm,0.3s						
POHA				IAML		17 52 10.5	
	comp=N,1μm,0.2s						
KIP	**Kipapa**	**1.77**	**341**		Pn	17 51 40.2	+0.3
KIP					Sn	17 52 00.2	-2.3
HMH	**Humu'ula Sheep**	**1.80**	**94**		Pn	17 51 41.1	+0.6
HMH	**Humu'ula Sheep**	**1.80**	**94**	IAML		17 52 03.7	
	comp=N,1μm,0.2s						
HMH				IAML		17 52 03.7	
	comp=E,630nm,0.7s						
AIN	**Ainahou**	**1.85**	**101**		Pn	17 51 41.3	+0.1
AIN	**Ainahou**	**1.85**	**101**	IAML		17 52 04.7	
	comp=N,997nm,0.4s						
AIN				IAML		17 52 06.4	
	comp=E,587nm,0.3s						
MLH	**Mauna Loa**	**1.90**	**97**		Pn	17 51 42.2	+0.4
MLH					Sn	17 52 04.3	-1.6
HTC	**Hot Caves**	**1.94**	**105**		Pn	17 51 42.2	0.0
WRMHI	**West Rim**	**1.99**	**99**	Pn	Pn	17 51 42.1	-0.9
WRMHI				IAML		17 52 15.7	
	comp=N,1μm,0.5s						
UWE	**Uwekahuna**	**2.00**	**99**		Pn	17 51 41.1	-2.0
UWE				IAML		17 52 12.7	
	comp=N,1μm,0.3s						
SDHHI	**Sand Hill**	**2.00**	**100**	Pn	Pn	17 51 42.2	-1.0
RSD	**Rainshed**	**2.00**	**98**	Pn	Pn	17 51 42.1	-1.1
RSD				IAML		17 52 11.1	
	comp=E,881nm,0.2s						
OBL	**Observatory Le**	**2.00**	**99**	Pn	Pn	17 51 42.3	-0.9
HLP	**Hilina Pali**	**2.01**	**102**	Pn	Pn	17 51 43.4	+0.2
HLP				IAML		17 52 19.7	
	comp=E,647nm,1.8s						
HLP				IAML		17 52 39.6	
	comp=N,556nm,4.1s						
UWB	**Uwekahuna B**	**2.01**	**99**	Pn	Pn	17 51 42.0	-1.3
RIM	**Rim**	**2.02**	**99**	Pn	Pn	17 51 42.7	-0.7
RIM				IAML		17 52 19.8	
	comp=N,899nm,1.3s						
RIM				IAML		17 52 40.7	
	comp=E,631nm,1.4s						
SBLHI	**Steaming Bluff**	**2.02**	**99**	Pn	Pb	17 51 45.8	-0.3
OPA	**Opana**	**2.02**	**343**		Pn	17 51 43.4	0.0
OPA					Sn	17 52 05.1	-3.6
OPA	**Opana**	**2.02**	**343**	IAML		17 52 06.1	
	comp=E,558nm,0.2s						
KKO	**Keanakako`i**	**2.02**	**99**	Pn	Pn	17 51 42.4	-1.1
KKO				IAML		17 52 23.6	
	comp=E,561nm,1.3s						
BYL	**Byron's Ledge**	**2.03**	**99**	Pn	Pn	17 51 41.7	-1.8
BYL				IAML		17 52 17.8	
	comp=N,564nm,1.1s						
PUH	**Pauahi**	**2.08**	**100**	Pn	Pn	17 51 42.9	-1.2
PUH				IAML		17 52 20.4	
	comp=N,522nm,1.6s						
STCH	**Steam Cracks**	**2.16**	**99**	Pn	Pn	17 51 43.9	-1.4
STCH				IAML		17 52 10.6	
	comp=N,539nm,0.3s						
STCH				IAML		17 52 11.3	
	comp=E,492nm,0.2s						
KEKH	**Kekaha**	**3.12**	**316**		Pn	17 51 57.7	-0.7
KEKH	**Kekaha**	**3.12**	**316**		Sn	17 52 30.4	-5.3
KEKH	**Kekaha**	**3.12**	**316**	IAML		17 52 30.4	
	comp=E,240nm,3.5s						

*NOU **16** 17:59:01.0, 21°.58S×178°.61W, h572km, mb4.4/22, Fiji Islands Region*

*NEIC **16** 17:59:06.5±1.6, 22°.1S±0°.1×179°.3W±0°.1, h568km±5km, mb4.5/89, Error ellipse: s-maj=17.3km s-min=13.6km az=137.0*

*IDC **16** 17:59:07.8±1.2, 21°.97S×179°.40W, h585km±12km, mb3.5/12, mbtmp4.5/14, Error ellipse: s-maj=19.5km s-min=13.1km az=135.0*

ISC 16 17:59:07.8±0.5,**22°.12S**±0°.07×**179°.34W**±0°.08,**h592**km,
n144,σ1°.**24**/141,**mb4.4**/52,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.00**	**330**	P	**P**	**18 00 39.9**	**-0.6**
MSVF	**Nonsavu**	**5.00**	**330**	P	**P**	**18 00 39.2**	**-1.3**
	131nm,0.4s,baz=110,slow=14,SNR=221						
MSVF				S	**S**	**18 01 55.5**	**-0.4**
	46nm,1.1s,baz=274,slow=23,SNR=6.5						
NIUE	**Niue**	**9.32**	**73**	P	**P**	**18 01 17.1**	**-2.7**
MARNC	**Mare, Loyalty**	**11.75**	**271**	P	**P**	**18 01 43.7**	**-0.4**
MARNC	**Mare, Loyalty**	**11.75**	**271**	P	**P**	**18 01 44.1**	**0.0**
LIFNC	**LIFOU**	**12.57**	**274**	P	**P**	**18 01 51.2**	**-1.2**
OUENC	**Ouen Island, N**	**12.80**	**266**	P	**P**	**18 01 51.5**	**-3.1**
DZM	**Mont Dzumac**	**13.18**	**268**	P	**P**	**18 01 54.3**	**-4.4**
DZM	**Mont Dzumac**	**13.18**	**268**	P	**P**	**18 01 58.9**	**+0.2**
DZM	**Mont Dzumac**	**13.18**	**268**	P	**P**	**18 01 57.3**	**-1.4**
	12nm,0.6s,baz=100,slow=20,SNR=3.2						
KOUNC	**Koumac, New Ca**	**15.34**	**273**	P	**P**	**18 02 21.2**	**+1.8**
MXZ	**Matakaoa Point**	**15.53**	**187**	P	**P**	**18 02 19.1**	**-1.8**
TOZ	**Tahuroa Road**	**16.19**	**195**	P	**P**	**18 02 26.0**	**-1.1**
TOZ				IAmb	IAmb	18 02 50.4	
	comp=Z,15nm,1.1s						
URZ	**Urewera**	**16.38**	**190**	P	**P**	**18 02 26.8**	**-2.0**
	comp=Z,5.5nm,0.4s,baz=99,slow=7.9,SNR=3.6						
URZ				S	**S**	**18 05 06.9**	**-5.6**
	comp=Z,5.0nm,0.8s,baz=128,slow=18,SNR=1.8						
RTZ	**Ruatahuna**	**16.75**	**190**	P	**P**	**18 02 31.0**	**-1.3**
RTZ				IAmb	IAmb	18 02 41.6	
	comp=Z,16nm,1.3s						
BKZ	**Black Stump Fm**	**17.37**	**191**	P	**P**	**18 02 36.0**	**-1.9**
BKZ				IAmb	IAmb	18 02 37.8	
	comp=Z,8.5nm,0.9s						
BKZ	**Black Stump Fm**	**17.37**	**191**	P	**P**	**18 02 36.8**	**-1.1**
BFZ	**Birch Farm**	**18.88**	**190**	P	**P**	**18 02 50.3**	**-1.3**
BFZ				IAmb	IAmb	18 02 53.6	
	comp=Z,35nm,1.3s						
BFZ	**Birch Farm**	**18.88**	**190**	P	**P**	**18 02 52.1**	**+0.5**
TCW	**Tory Channel**	**19.79**	**194**	P	**P**	**18 02 58.7**	**-1.1**
QRZ	**Quartz Range**	**19.88**	**198**	P	**P**	**18 03 01.6**	**+0.9**
QRZ	**Quartz Range**	**19.88**	**198**	P	**P**	**18 03 01.8**	**+1.1**
NNZ	**Nelson**	**20.01**	**196**	P	**P**	**18 03 01.8**	**0.0**
DSZ	**Denniston Nort**	**20.94**	**199**	P	**P**	**18 03 08.3**	**-1.9**
KHZ	**Kahutara**	**21.10**	**195**	P	**P**	**18 03 10.2**	**-1.4**
GVZ	**Greta Valley S**	**21.75**	**195**	P	**P**	**18 03 16.5**	**-0.9**
LBZ	**Lake Benmore**	**23.84**	**199**	P	**P**	**18 03 35.1**	**-0.9**
JCZ	**Jackson Bay**	**24.00**	**201**	P	**P**	**18 03 38.3**	**+0.8**
WKZ	**Wanaka**	**24.59**	**200**	P	**P**	**18 03 42.1**	**-0.6**
WHZ	**Wether Hill Ro**	**25.89**	**201**	P	**P**	**18 03 55.8**	**+1.8**
EIDS	**Eidsvold**	**27.24**	**257**	P	**P**	**18 04 06.4**	**+0.2**
EIDS				IAmb	IAmb	18 04 43.6	
	comp=Z,20nm,1.1s						
EIDS	**Eidsvold**	**27.24**	**257**	P	**P**	**18 04 06.8**	**+0.6**
ARMA	**Armidale**	**27.26**	**246**	P	**P**	**18 04 05.9**	**-0.5**
ARMA				IAmb	IAmb	18 04 09.0	
	comp=Z,18nm,0.8s						
SYDH	**Sydney Hard Ro**	**28.76**	**240**	P	**P**	**18 04 21.3**	**+2.0**
RMQ	**Roma**	**29.36**	**255**	P	**P**	**18 04 26.4**	**+1.8**
CNB	**Canberra Magne**	**30.30**	**237**	P	**P**	**18 04 34.2**	**+1.6**
CAN	**Canberra**	**30.58**	**238**	P	**P**	**18 04 35.0**	**-0.1**
CAN				IAmb	IAmb	18 04 37.3	
	comp=Z,20nm,0.9s						
CAN	**Canberra**	**30.58**	**238**	P	**P**	**18 04 36.5**	**+1.5**
TV1H	**Townsville Har**	**31.77**	**269**	P	**P**	**18 04 45.6**	**+0.3**
CTA	**Charters Tower**	**32.12**	**267**	P	**P**	**18 04 48.7**	**+0.4**
CTAO	**Charters Tower**	**32.12**	**267**	P	**P**	**18 04 48.4**	**+0.2**
CTAO	**Charters Tower**	**32.12**	**267**	P	**P**	**18 04 48.7**	**+0.4**
CMSA	**Cobar Meteorol**	**32.47**	**246**	P	**P**	**18 04 51.9**	**+0.9**
QLP	**Quilpie**	**33.41**	**255**	P	**P**	**18 04 59.6**	**+0.6**
TOO	**Toolangi**	**33.94**	**235**	P	**P**	**18 05 04.3**	**+0.9**
TOO				IAmb	IAmb	18 05 05.4	
	comp=Z,12nm,0.8s						
TOO	**Toolangi**	**33.94**	**235**	P	**P**	**18 05 04.5**	**+1.1**
PMG	**Port Moresby**	**34.53**	**286**	P	**P**	**18 05 08.2**	**-0.3**
TAU	**Tasmania Unive**	**34.60**	**225**	P	**P**	**18 05 09.8**	**+1.1**
TAU				IAmb	IAmb	18 05 26.5	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**35.98**	**246**	P	**P**	**18 05 21.3**	**+1.0**
STKA	**Stephens Creek**	**35.98**	**246**	P	**P**	**18 05 20.8**	**+0.5**
	comp=Z,11nm,0.5s,baz=90,slow=12,SNR=46						
STKA				ScP	**ScP**	**18 10 24.2**	**+3.3**
	comp=Z,2.3nm,0.8s,baz=156,slow=9.2,SNR=3.5						
	comp=Z,11nm,0.5s						
COEN	**Coen**	**36.48**	**276**	P	**P**	**18 05 23.5**	**-1.1**
COEN				IAmb	IAmb	18 05 26.1	
	comp=Z,9.5nm,0.7s						
COEN	**Coen**	**36.48**	**276**	P	**P**	**18 05 24.2**	**-0.4**
INKA	**Innaminka**	**36.51**	**253**	P	**P**	**18 05 24.9**	**+0.2**
QIS	**Mount Isa**	**38.19**	**265**	P	**P**	**18 05 37.9**	**-0.6**
HTT	**Hallett**	**38.38**	**244**	P	**P**	**18 05 40.5**	**+0.6**
LCRK	**Leigh Creek**	**38.77**	**249**	P	**P**	**18 05 43.8**	**+0.8**
BBOO	**Buckleboo**	**40.72**	**245**	P	**P**	**18 05 58.0**	**-0.6**
BBOO				IAmb	IAmb	18 05 59.6	
	comp=Z,15nm,0.8s						
AS31	**Alice Springs**	**42.95**	**259**	P	**P**	**18 06 16.4**	**+0.2**
AS31				IAmb	IAmb	18 06 17.1	
	comp=Z,6.8nm,0.7s						
ASAR	**Alice Springs**	**42.95**	**259**	P	**P**	**18 06 16.5**	**+0.2**
ASAR	**Alice Springs**	**42.95**	**259**	P	**P**	**18 06 16.1**	**-0.1**
	comp=Z,28nm,0.8s,baz=100,slow=8.0,SNR=175						
ASAR				PcP	**PcP**	**18 07 53.5**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=118,slow=3.1,SNR=4.9						
ASAR				ScP	**ScP**	**18 10 51.4**	**+2.9**
	comp=Z,1.6nm,1.1s,baz=94,slow=4.5,SNR=4.3						
	comp=Z,28nm,0.8s						
WR0	**Warramunga Arr**	**42.98**	**264**	P	**P**	**18 06 15.9**	**-0.5**
WR0				IAmb	IAmb	18 06 16.3	
	comp=Z,9.1nm,0.9s						
WB0	**Warramunga Arr**	**43.15**	**264**	P	**P**	**18 06 17.3**	**-0.5**
WB0				IAmb	IAmb	18 06 18.1	
	comp=Z,21nm,0.8s						
WB2	**Warramunga Arr**	**43.15**	**264**	P	**P**	**18 06 17.3**	**-0.6**
WB2				IAmb	IAmb	18 06 18.2	
	comp=Z,25nm,0.9s						
WRAB	**Tennant Creek**	**43.16**	**264**	P	**P**	**18 06 17.2**	**-0.6**
WRAB				IAmb	IAmb	18 06 18.2	
	comp=Z,25nm,0.9s						
WRA	**Warramunga Arr**	**43.16**	**264**	P	**P**	**18 06 17.0**	**-0.9**
WRA	**Warramunga Arr**	**43.16**	**264**	P	**P**	**18 06 16.8**	**-1.1**
	comp=Z,17nm,0.8s,baz=96,slow=7.8,SNR=135						
WRA				ScP	**ScP**	**18 10 52.4**	**+3.1**
	comp=Z,2.9nm,0.9s,baz=95,slow=4.2,SNR=11						
	comp=Z,17nm,0.8s						
FORT	**Forrest**	**47.52**	**248**	P	**P**	**18 06 50.8**	**-0.1**
KNRA	**Kununurra**	**49.33**	**268**	P	**P**	**18 07 04.5**	**+0.1**
SAUI	**Saumlaki**	**49.47**	**279**	P	**P**	**18 07 04.9**	**-0.7**
SOEI	**Soe**	**55.32**	**273**	P	**P**	**18 07 47.9**	**+0.5**
PSA00	**Pilbara Seismi**	**56.10**	**258**	P	**P**	**18 07 52.4**	**-0.1**
PSA00	**Pilbara Seismi**	**56.10**	**258**	P	**P**	**18 07 52.4**	**-0.1**
PSA00				IAmb	IAmb	18 07 53.6	
	comp=Z,20nm,0.9s						
MBWA	**Marble Bar**	**56.30**	**259**	P	**P**	**18 07 53.7**	**-0.1**
MBWA				IAmb	IAmb	18 07 54.4	
	comp=Z,22nm,0.8s						
NWAO	**Narrogin (SRO)**	**56.54**	**244**	P	**P**	**18 07 55.4**	**0.0**
NWAO	**Narrogin (SRO)**	**56.54**	**244**	P	**P**	**18 07 55.3**	**-0.1**
NWAO				IAmb	IAmb	18 08 10.6	
	comp=Z,113nm,1.5s						
MMRI	**Maumere**	**57.59**	**274

SUA Susitna One 86.41 13 P **P 18 10 48.1 +0.1**
SUA IAmb IAmb 18 11 24.2
comp=Z,10.0nm,1.2s
G08A Pilot Rock 86.65 38 P **P 18 10 50.9 +1.3**
G08A IAmb IAmb 18 10 51.7
comp=Z,5.0nm,1.2s
GHO Glory Hole Cre 87.08 14 P **P 18 10 51.5 +0.3**
GHO IAmb IAmb 18 11 04.4
comp=Z,9.7nm,1.2s
K20K Telida 87.48 11 P **P 18 10 52.7 -0.2**
K20K IAmb IAmb 18 11 28.7
comp=Z,8.3nm,1.5s
SCM Sheep Creek Mo 87.50 15 P **P 18 10 53.3 +0.1**
SCM IAmb IAmb 18 11 34.0
comp=Z,8.6nm,1.0s
CAST Castle Rocks 87.90 12 P **P 18 10 54.5 -0.4**
CAST IAmb IAmb 18 10 58.2
comp=Z,5.9nm,1.2s
N25K Chitina, Valde 87.97 16 P **P 18 10 54.9 -0.5**
N25K IAmb IAmb 18 11 38.9
comp=Z,10nm,1.3s
F10A Beach Ranch, E 88.04 38 P **P 18 10 55.8 -0.3**
F10A IAmb IAmb 18 10 57.9
comp=Z,4.4nm,0.8s
TMUT Trail Mountain 88.17 46 P **P 18 10 58.4 +1.2**
TMUT IAmb IAmb 18 10 59.6
comp=Z,3.4nm,0.8s
PLID Pearl Lake 88.25 39 P **P 18 10 58.0 +0.7**
HLID Hailey 88.36 41 P **P 18 10 59.2 +1.5**
HLID IAmb IAmb 18 11 00.5
comp=Z,4.1nm,1.4s
HVU Hansel Valley 88.43 43 P **P 18 10 59.3 +1.2**
O29M Mount Kennedy 88.56 19 IAmb IAmb 18 11 01.9
comp=Z,6.4nm,0.7s
MNTX Cornudas Mount 88.70 55 P **P 18 10 59.8 +0.4**
MNTX IAmb IAmb 18 11 01.6
comp=Z,3.2nm,0.8s
TX31 Lajitas Ar. Si 88.97 58 IAmb IAmb 18 11 03.4
comp=Z,9.5nm,1.1s
TX32 Lajitas Array 88.97 58 IAmb IAmb 18 11 03.4
comp=Z,3.2nm,1.1s
TXAR Lajitas Array 88.97 58 P **P 18 11 02.2 +1.4**
comp=Z,2.1nm,0.9s,baz=224,slow=5.2,SNR=13
comp=Z,2.1nm,0.9s
BSUT Blindstream Ca 89.10 45 IAmb IAmb 18 11 03.6
comp=Z,5.7nm,1.0s
CMAR Chiang Mai Arr 89.48 290 P **P 18 11 02.8 -0.5**
CMAR Chiang Mai Arr 89.48 290 P **P 18 11 04.6 +1.3**
comp=Z,4.0nm,0.9s,baz=139,slow=3.3,SNR=20
comp=Z,4.0nm,0.9s
ILAR Eielson Array 90.16 13 P **P 18 11 04.6 -0.8**
comp=Z,0.3nm,0.8s,baz=211,slow=3.2,SNR=2.1
comp=Z,0.3nm,0.8s
PDAR Pinedale Array 90.99 44 P **P 18 11 10.1 0.0**
comp=Z,0.8nm,0.8s,baz=208,slow=2.9,SNR=6.2
comp=Z,0.8nm,0.8s
DRIO Del Rio 91.42 59 IAmb IAmb 18 11 13.7
comp=Z,4.9nm,0.7s
KURBB Kurchatov Arra 114.37 317 PKP PKPdf 18 16 40.4 -0.5
comp=Z,0.3nm,0.2s,baz=148,slow=2.1,SNR=1.7
BVAR Borovoye Array 119.50 319 PKP **PKPdf 18 16 50.0 -0.7**
comp=Z,0.7nm,0.3s,baz=128,slow=1.7,SNR=7.5
HFS Hagfors 140.91 350 PKhKP PKPpre 18 17 25.3
comp=Z,0.7nm,0.4s,baz=58,slow=3.8,SNR=1.3
MBAR Mbarara 142.99 236 **PKPdf 18 17 35.6 -0.6**
AKASG Malin Array Be 143.78 329 PKP PKPbc 18 17 34.6 -0.9
comp=Z,2.1nm,0.4s,baz=38,slow=4.4,SNR=15
AKBB Malin Array Si 143.78 329 PKPbc 18 17 34.9 -0.5
BRTR Keskin Array B 146.95 310 PKPbc **PKPbc 18 17 45.4 +0.2**
comp=Z,0.8nm,0.5s,baz=134,slow=4.2,SNR=3.0
MMAI Mount Meron Ar 147.48 297 PKPbc **PKPbc 18 17 46.9 +0.2**
comp=Z,1.8nm,0.4s,baz=70,slow=5.4,SNR=6.1

IDC ***16*** *18:08:27.1±0.5,0°.89N×27°.74W,h0km,mb4.4/22, mbtmp4.4/22,MS4.3/27,Error ellipse: s-maj=20.0km s-min=12.6km az=139.0*
NEIC ***16*** *18:08:29.0±2.1,1°.1N±0°.1×27°.9W±0°.1,h10km±1km, mb4.9/112,Error ellipse: s-maj=19.8km s-min=15.8km az=142.0*
GCMT ***16*** *18:08:32.0±0.2,1°.18N±0°.01×27°.85W±0°.01,h16km±1km, MW5.1/121,Moment Tensor Solution. s51,c64; s121,c179; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.92±.15; $M_{\theta\theta}$1.80±.16; $M_{\phi\phi}$-0.88±.14; $M_{r\theta}$0.79±.40; $M_{\theta\phi}$-4.99±.15; $M_{\phi r}$0.85±.42; Best double couple: $M_0$5.33100×10^16^ NP1ϕ_s264.00000°,δ80.00000°, λ-168.00000°. NP2ϕ_s171.00000°,δ78.00000°, λ-11.00000°. Principal axes: T 5.6250, Plg1.0000°, Azm37.0000°; N -0.5940, Plg74.0000°, Azm304.0000°; P -5.0370, Plg16.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 18:08:29.3±0.3,1°.02N±0°.07×27°.90W±0°.07,h17km,n252, σ1°29/203,mb4.8/90,MS4.2/27,11C-9D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.50**	**230**	*eP*	**Pn**	**18 10 56.6**	**-2.6**
RCBR	**Riachuelo**	**10.50**	**230**	Pn	**Pn**	**18 10 56.5**	**-2.6**
	16nm,0.3s,baz=47,slow=17,SNR=62						
RCBR				LR	LR	18 14 00.2	
	comp=Z,2μm,21.5s,baz=58,slow=32						
SACV	**Santiago Islan**	**14.49**	**17**		**Pn**	**18 11 51.2**	**-2.7**
H10N3	**ASCENSION HYDR**	**16.00**	**124**	T	T	18 28 35.6	
	baz=302,slow=74,SNR=91						
H10N2	**ASCENSION HYDR**	**16.00**	**124**	T	T	18 28 32.3	
	baz=302,slow=74,SNR=110						
H10N1	**ASCENSION HYDR**	**16.02**	**124**	T	T	18 28 36.9	
	baz=302,slow=74,SNR=145						
H10S3	**ASCENSION HYDR**	**16.50**	**127**	T	T	18 29 12.6	
	baz=302,slow=74,SNR=49						
H10S2	**ASCENSION HYDR**	**16.51**	**127**	T	T	18 29 19.3	
	baz=278,slow=74,SNR=13						
ROSB	**Rosrio**	**16.68**	**256**	*eP*	**Pn**	**18 12 22.2**	**-0.3**
GUA01	**Guaratinga, BA**	**21.07**	**213**	*eP*	**P**	**18 13 13.5**	**+0.5**
ABR01	**Abrolhos, BA**	**21.66**	**209**	*eP*	**P**	**18 13 19.7**	**+0.6**
LIC	**Lamto**	**23.39**	**77⇑**	*eP*	**P**	**18 13 36.5**	**-1.1**
	63nm,0.8s						
TIC	**Toumodi**	**23.49**	**76⇑**	*eP*	**P**	**18 13 41.8**	**+3.2**
	59nm,0.4s						
DBIC	**Dimbokro**	**23.66**	**76**	P	**P**	**18 13 38.6**	**-1.6**
	982nm,0.5s,baz=221,slow=0.0,SNR=9.2						
KIC	**Kosan Boka**	**23.70**	**77⇑**	*iP*	**P**	**18 13 39.8**	**-0.8**
	40nm,1.1s						
BDFB	**Brasilia**	**25.87**	**229**	P	**P**	**18 14 00.2**	**-0.4**
BDFB				IAmb	IAmb	18 14 04.2	
	comp=Z,20nm,0.9s						
BDFB	**Brasilia**	**25.87**	**229**	P	**P**	**18 14 00.5**	**-0.1**
	comp=Z,16nm,0.8s,baz=41,slow=9.6,SNR=10						
BDFB				LR	LR	18 23 01.6	
	comp=Z,1μm,20.4s,baz=58,slow=34						
	comp=Z,16nm,0.8s						
KOWA	**Kowa**	**27.14**	**59**	P	**P**	**18 14 11.3**	**-0.6**
KOWA				IAmb	IAmb	18 14 12.6	
	comp=Z,22nm,0.8s						
KOWA	**Kowa**	**27.14**	**59**	LR	LR	18 23 45.0	
	comp=Z,1μm,18.8s,baz=242,slow=34						
ITTB	**Itaituba**	**28.32**	**259**	*eP*	**P**	**18 14 22.1**	**-0.5**
NPGB	**Novo Progresso**	**28.55**	**253**	*eP*	**P**	**18 14 23.3**	**-1.3**
ESAR	**Angra dos Reis**	**28.82**	**213**	*eP*	**P**	**18 14 27.1**	**+0.3**
ARAG	**Araguaiana, MT**	**28.89**	**234**	*eP*	**P**	**18 14 27.8**	**+0.2**
PARB	**Paraibuna**	**29.73**	**214**	*eP*	**P**	**18 14 35.7**	**+0.7**
BB19B	**Bebedouro**	**29.82**	**221**	*eP*	**P**	**18 14 36.0**	**+0.3**
CLDB	**Colider**	**30.16**	**246**	*eP*	**P**	**18 14 38.5**	**-0.3**
ITRB	**Iturama**	**30.16**	**226**	*eP*	**P**	**18 14 39.4**	**+0.6**
PDRB	**Porto dos Gac**	**31.28**	**246**	*eP*	**P**	**18 14 49.1**	**+0.4**
C2SB	**Chapadao do Su**	**31.43**	**230**	*eP*	**P**	**18 14 51.4**	**+1.5**
TOA0	**Torodi Ar. Sit**	**31.69**	**66**	P	**P**	**18 14 50.7**	**-1.6**
TOA0				IAmb	IAmb	18 14 53.1	
	comp=Z,20nm,1.1s						
TORD	**Torodi Ar. Bea**	**31.69**	**66**	P	**P**	**18 14 51.3**	**-1.1**
TORD				IAmb	IAmb	18 14 53.1	
	comp=Z,16nm,1.1s						
TORD	**Torodi Ar. Bea**	**31.69**	**66**	P	**P**	**18 14 52.0**	**-0.4**
	comp=Z,11nm,0.8s,baz=261,slow=8.4,SNR=48						
TORD				LR	LR	18 25 44.4	
	comp=Z,457nm,21.2s,baz=245,slow=33						
	comp=Z,11nm,0.8s						
PCMB	**Pacaembu**	**32.04**	**224**	*eP*	**P**	**18 14 56.5**	**+1.1**
FRTB	**Fartura**	**32.11**	**220**	*eP*	**P**	**18 14 57.0**	**+1.0**
SALV	**Santo Antonio**	**32.20**	**237**	*eP*	**P**	**18 14 57.6**	**+0.8**
PP1B	**Ponte de Pedra**	**32.38**	**234**	*eP*	**P**	**18 14 59.4**	**+1.0**

BOAV	**Boa Vista**	**32.64**	**273**	P	**P**	**18 15 01.0**	**+0.2**
BOAV				IAmb	IAmb	18 15 06.1	
	comp=Z,19nm,1.1s						
BOAV	**Boa Vista**	**32.64**	**273**	*eP*	**P**	**18 15 01.1**	**+0.4**
LDASE	**Londrina, Braz**	**33.15**	**221**	*eP*	**P**	**18 15 05.9**	**+0.7**
TRCB	**Terra Rica**	**33.78**	**224**	P	**P**	**18 15 10.0**	**-0.6**
TRCB	**Terra Rica**	**33.78**	**224**	*eP*	**P**	**18 15 12.0**	**+1.4**
AQDB	**Aquidauana**	**34.61**	**230**	P	**P**	**18 15 16.6**	**-1.2**
AQDB	**Aquidauana**	**34.61**	**230**	*eP*	**P**	**18 15 18.3**	**+0.5**
PTGB	**Pitanga**	**34.69**	**221**	*eP*	**P**	**18 15 19.9**	**+1.3**
VILB	**Vilhena**	**34.92**	**246**	P	**P**	**18 15 19.9**	**-0.7**
VILB				IAmb	IAmb	18 15 22.6	
	comp=Z,24nm,0.9s						
VILB	**Vilhena**	**34.92**	**246**	*eP*	**P**	**18 15 21.7**	**+1.1**
PTLB	**Pontes e Lacer**	**34.95**	**241**	P	**P**	**18 15 20.7**	**-0.1**
PTLB				IAmb	IAmb	18 15 25.7	
	comp=Z,22nm,1.1s						
PTLB	**Pontes e Lacer**	**34.95**	**241**	*eP*	**P**	**18 15 21.7**	**+1.0**
BDQN	**Bodoquena, MS**	**35.41**	**231**	*eP*	**P**	**18 15 25.6**	**+0.9**
ANTJ	**Antonio Joao (**	**35.72**	**228**	*eP*	**P**	**18 15 28.3**	**+0.9**
MCR1	**Marechal Candi**	**35.84**	**223**	*eP*	**P**	**18 15 28.6**	**+0.3**
FRBT	**Francisco Belt**	**36.21**	**220**	*eP*	**P**	**18 15 33.4**	**+1.8**
ITAB	**Concordia**	**36.51**	**218**	P	**P**	**18 15 34.5**	**+0.4**
ITAB	**Concordia**	**36.51**	**218**	*eP*	**P**	**18 15 36.0**	**+1.9**
SAML	**Samuel**	**36.52**	**254**	P	**P**	**18 15 34.7**	**+0.4**
SAML				IAmb	IAmb	18 15 35.9	
	comp=Z,26nm,1.0s						
SAML	**Samuel**	**36.52**	**254**	*eP*	**P**	**18 15 35.1**	**+0.7**
MURT	**Porto Murtinho**	**36.74**	**230**	*eP*	**P**	**18 15 36.9**	**+0.8**
BBRB	**Robore, Bolivi**	**36.78**	**237**	*eP*	**P**	**18 15 37.7**	**+1.2**
SIV	**San Ignacio**	**36.87**	**241**	LR	LR	18 29 37.0	
	comp=Z,755nm,18.6s,baz=80,slow=34						
BBSD	**Serra de San D**	**36.97**	**239**	*eP*	**P**	**18 15 38.9**	**+0.8**
CNLB	**Canela**	**37.30**	**214**	*eP*	**P**	**18 15 42.8**	**+1.9**
PCRV	**Puerto La Cruz**	**37.63**	**285**	LR	LR	18 30 02.5	
	comp=Z,147nm,21.6s,slow=34						
CRSM	**Crissiumal (Br**	**37.89**	**220**	*eP*	**P**	**18 15 47.2**	**+1.4**
ALGR	**Alto Alegre (B**	**38.19**	**217**	*eP*	**P**	**18 15 49.2**	**+0.9**
MDT	**Midelt**	**38.47**	**32**	LR	LR	18 30 17.6	
	comp=Z,245nm,18.8s,baz=240,slow=34						
TAM	**Tamanrasset**	**39.02**	**54**	P	**P**	**18 15 54.2**	**-1.3**
SGCB	**S£o Gabriel d**	**39.15**	**269**	*eP*	**P**	**18 15 56.9**	**+0.3**
CPUP	**Villa Florida**	**39.32**	**224**	P	**P**	**18 15 58.2**	**+0.5**
CPUP				IAmb	IAmb	18 15 59.7	
	comp=Z,36nm,1.1s						
CPUP	**Villa Florida**	**39.32**	**224**	*eP*	**P**	**18 15 58.8**	**+1.0**
CPUP	**Villa Florida**	**39.32**	**224**	P	**P**	**18 15 58.5**	**+0.7**
	comp=Z,27nm,1.1s,baz=51,slow=8.3,SNR=26						
CPUP				LR	LR	18 31 48.6	
	comp=Z,1μm,19.0s,baz=38,slow=36						
	comp=Z,27nm,1.1s						
CPSB	**Cacapava Do Su**	**39.60**	**216**	*eP*	**P**	**18 16 00.8**	**+0.6**
ETMB	**Extrema**	**39.63**	**253**	P	**P**	**18 16 00.2**	**-0.4**
ETMB	**Extrema**	**39.63**	**253**	*eP*	**P**	**18 16 00.6**	**0.0**
UNIS	**Unistalda (Bra**	**39.64**	**219**	*eP*	**P**	**18 16 01.1**	**+0.6**
RODS	**Rosario do Sul**	**40.61**	**218**	*eP*	**P**	**18 16 09.5**	**+1.0**
PLTB	**Pedras Altas**	**40.70**	**215**	P	**P**	**18 16 10.9**	**+1.7**
PLTB				IAmb	IAmb	18 16 11.8	
	comp=Z,36nm,1.2s						
PLTB	**Pedras Altas**	**40.70**	**215**	*eP*	**P**	**18 16 10.1**	**+0.9**
ITQB	**Itaqui**	**41.03**	**220**	P	**P**	**18 16 12.2**	**+0.3**
ITQB	**Itaqui**	**41.03**	**220**	*eP*	**P**	**18 16 12.7**	**+0.8**
SJG	**San Juan**	**41.22**	**297**	P	**P**	**18 16 12.5**	**-1.1**
SJG	**San Juan**	**41.22**	**297**	LR	LR	18 29 34.0	
	comp=Z,262nm,21.3s,baz=128,slow=31						
TICA	**Tres Isletas**	**41.52**	**227**	*eP*	**P**	**18 16 17.2**	**+1.2**
MECA	**Mercedes**	**41.79**	**221**	*eP*	**P**	**18 16 19.2**	**+1.0**
SDV	**Santo Domingo**	**43.25**	**282**	P	**P**	**18 16 31.1**	**+0.6**
SDV				IAmb	IAmb	18 16 34.9	
	comp=Z,16nm,0.8s						
SDV	**Santo Domingo**	**43.25**	**282**	*eP*	**P**	**18 16 31.3**	**+0.8**
LPAZ	**La Paz**	**43.27**	**245**	P	**P**	**18 16 30.7**	**-0.4**
LPAZ				IAmb	IAmb	18 16 36.1	
	comp=Z,21nm,1.1s						
LPAZ	**La Paz**	**43.27**	**245**	*eP*	**P**	**18 16 30.9**	**-0.3**
LPAZ	**La Paz**	**43.27**	**245**	*eP*	**P**	**18 16 31.4**	**+0.2**
ESDC	**Sonseca Array**	**44.23**	**27**	P	**P**	**18 16 39.0**	**+1.2**
ESDC	**Sonseca Array**	**44.23**	**27**	P	**P**	**18 16 39.0**	**+1.2**
	comp=Z,5.6nm,0.9s,baz=221,slow=8.8,SNR=24						
	comp=Z,5.6nm,0.9s						
PB18	**Visviri**	**44.92**	**244**	P	**P**	**18 16 43.2**	**-1.1**
PB18				IAmb	IAmb	18 16 48.8	
	comp=Z,15nm,1.0s						
URIC	**Uribia, Colomb**	**45.02**	**285**	*eP*	**P**	**18 16 42.6**	**-1.8**
PAMC	**Pamplona, Colo**	**45.09**	**279**	*eP*	**P**	**18 16 49.7**	**+4.0**
PB16	**IPOC Station P**	**45.21**	**243**	P	**P**	**18 16 45.2**	**-1.4**
RUSC	**La Rusia**	**45.34**	**277**	*eP*	**P**	**18 16 50.5**	**+2.9**
BARC	**Barichara**	**45.50**	**278**	*eP*	**P**	**18 16 40.2**	**-8.4**
CZSB	**Cruzeiro do Su**	**45.52**	**258**	P	**P**	**18 16 46.4**	**-2.1**
CZSB	**Cruzeiro do Su**	**45.52**	**258**	*eP*	**P**	**18 16 49.1**	**+0.6**
LVC	**Limon Verde**	**46.34**	**237**	*eP*	**P**	**18 16 54.9**	**-0.4**
ROSC	**El Rosal**	**46.51**	**276**	P	**P**	**18 16 59.6**	**+2.9**
	comp=Z,14nm,0.6s,baz=166,slow=17,SNR=6.4						
	comp=Z,14nm,0.6s						
PB07	**IPOC Station P**	**46.81**	**239**	IAmb	IAmb	18 17 01.1	
	comp=Z,14nm,1.0s						
NORC	**Norcasia**	**47.09**	**277**	*eP*	**P**	**18 16 59.1**	**-1.8**
ZARC	**Zaragoza, Cauc**	**47.24**	**279**	*eP*	**P**	**18 17 00.4**	**-1.6**
ORTC	**Ortega, Tolima**	**47.38**	**274**	*eP*	**P**	**18 17 03.3**	**+0.1**
GUY2C	**Guyana, Caldas**	**47.57**	**276**	*eP*	**P**	**18 17 03.9**	**-1.3**
AC02	**Maricunga**	**48.40**	**232**	P	**P**	**18 17 11.7**	**+0.3**
PB14	**IPOC Station P**	**48.43**	**235**	P	**P**	**18 17 11.3**	**-0.2**
YOTC	**Yotoco, Valle**	**48.48**	**274**	*eP*	**P**	**18 17 08.3**	**-3.5**
KEST	**Kesra**	**48.86**	**41**	P	**P**	**18 17 13.8**	**-0.5**
KEST				IAmb	IAmb	18 17 26.0	
	comp=Z,8.1nm,0.9s						
KEST	**Kesra**	**48.86**	**41**	P	**P**	**18 17 15.4**	**+1.1**
	comp=Z,2.3nm,0.5s,baz=231,slow=4.2,SNR=4.4						
KEST				LR	LR	18 37 29.3	
	comp=Z,426nm,21.7s,baz=194,slow=36						
	comp=Z,2.3nm,0.5s						
TSUM	**Tsumeb**	**48.95**	**117**	LR	LR	18 33 18.9	
	comp=Z,138nm,20.8s,baz=302,slow=31						
GTBY	**Guantanamo Bay**	**49.83**	**295**	P	**P**	**18 17 21.7**	**-0.2**
GTBY	**Guantanamo Bay**	**49.83**	**295**	*eP*	**P**	**18 17 24.3**	**+2.4**
TRQA	**Tornquist**	**50.00**	**215**	*eP*	**P**	**18 17 24.5**	**+1.6**
OTAV	**Otavalo**	**50.55**	**269**	*eP*	**P**	**18 17 28.5**	**+0.4**
COHC	**Cochancay**	**51.46**	**266**	*eP*	**P**	**18 17 33.5**	**-0.8**
MCRA	**Macar, Loja**	**52.29**	**264**	P	**P**	**18 17 39.1**	**-1.5**
MCRA	**Macar, Loja**	**52.29**	**264**	*eP*	**P**	**18 17 40.0**	**-0.6**
CLTB	**Caltabellotta**	**52.47**	**41**	P	**P**	**18 17 41.0**	**-0.5**
CLTB				IAmb	IAmb	18 17 49.2	
	comp=Z,23nm,0.9s						
VAE	**Valguarnera**	**53.20**	**42**	LR	LR	18 41 40.0	
	comp=Z,444nm,18.0s,baz=190,slow=38						
ZCCA	**Zocca**	**55.20**	**33**	IAmb	IAmb	18 18 04.2	
	comp=Z,13nm,1.0s						
MURB	**Monte Urbino**	**55.38**	**35**	IAmb	IAmb	18 18 28.4	
	comp=Z,14nm,1.1s						
NRCA	**Norcia**	**55.46**	**36**	P	**P**	**18 18 03.0**	**-0.3**
DAVOX	**Davos/Dischmat**	**56.22**	**30**	LR	LR	18 41 51.6	
	comp=Z,166nm,18.1s,baz=254,slow=36						
BMRD	**Maredsous**	**56.40**	**25**	*d*PcP	**PcP**	**18 19 06.9**	**+0.2**
DAVA	**Damuels**	**56.56**	**30**	*eP*	**P**	**18 18 11.0**	**-0.2**
	comp=Z,15nm,1.4s						
BGES	**Gesves**	**56.60**	**25**	*d*PcP	**PcP**	**18 19 07.5**	**-0.1**
SUR	**Sutherland**	**56.72**	**130**	LR	LR	18 37 33.1	
	comp=Z,90nm,20.5s,baz=321,slow=31						
GO06	**Curarrehue**	**56.73**	**220**	IAmb	IAmb	18 18 13.3	
	comp=Z,13nm,0.7s						
FETA	**Feichten**	**56.81**	**31**	*iP*	**P**	**18 18 13.0**	**0.0**
	comp=Z,11nm,1.0s						
PLCA	**Paso Flores**	**56.82**	**218**	P	**P**	**18 18 12.7**	**-0.3**
	comp=Z,3.1nm,1.0s,baz=30,slow=6.3,SNR=4.8						
	comp=Z,3.1nm,1.0s						
SQTA	**Sankt Quirin**	**57.19**	**31**	*iP*	**P**	**18 18 15.5**	**-0.1**
	comp=Z,15nm,1.1s						
MOTA	**Moosalm**	**57.22**	**31**	*iP*	**P**	**18 18 15.7**	**-0.2**
	comp=Z,7.8nm,1.0s						
STAL	**STALIGIAL**	**57.36**	**32**	IAmb	IAmb	18 18 18.2	
	comp=Z,14nm,1.2s						
WTTA	**Wattenberg**	**57.44**	**31**	*iP*	**P**	**18 18 17.5**	**0.0**
	comp=Z,10nm,1.2s						
WATA	**Walderalm**	**57.46**	**31**	*eP*	**P**	**18 18 18.2**	**+0.6**
	comp=Z,6.3nm,0.9s						
ABTA	**Abfaltersbach**	**57.56**	**32**	*iP*	**P**	**18 18 18.9**	**+0.7**
	comp=Z,16nm,1.1s						
CLUD	**Cludinico**	**57.57**	**32**	IAmb	IAmb	18 18 19.8	
	comp=Z,12nm,1.0s						
TRI	**Trieste**	**57.59**	**33**	P	**P**	**18 18 17.4**	**-0.8**
TRI				IAmb	IAmb	18 18 18.5	
	comp=Z,7.1nm,0.8s						
SABO	**M.te Sabotino**	**57.66**	**33**	IAmb	IAmb	18 18 20.4	
	comp=Z,11nm,1.1s						

LSZ	**Lusaka**	**57.74**	**109**	LR	LR	18 38 03.5	
	comp=Z,208nm,21.8s,baz=288,slow=31						
EKA	**Eskdalemuir Ar**	**57.76**	**16**	P	**P**	**18 18 19.4**	**0.0**
	comp=Z,1.5nm,0.6s,baz=234,slow=6.9,SNR=2.0						
	comp=Z,1.5nm,0.6s						
LBTB	**Lobatse**	**57.85**	**121**	P	**P**	**18 18 20.5**	**-0.1**
LBTB				IAmb	IAmb	18 18 21.5	
	comp=Z,12nm,1.1s						
JAVS	**Javornik**	**57.86**	**33**	*eP*	**P**	**18 18 21.2**	**+0.8**
PRED	**Cave del Predi**	**57.93**	**33**	IAmb	IAmb	18 18 22.1	
	comp=Z,8.5nm,1.1s						
LESA	**Schwarzleotal**	**58.08**	**31**	*iP*	**P**	**18 18 21.8**	**-0.1**
	comp=Z,13nm,1.4s						
MYKA	**Terra Mystica**	**58.09**	**33**	*iP*	**P**	**18 18 22.7**	**+0.8**
	comp=Z,10nm,1.0s						
KBA	**Koelnbreinsper**	**58.21**	**32**	*iP*	**P**	**18 18 22.4**	**-0.5**
	comp=Z,4.8nm,0.9s						
BOJS	**Bojanci**	**58.29**	**34**	*iP*	**P**	**18 18 23.9**	**+0.7**
BOSA	**Boshof**	**58.75**	**125**	P	**P**	**18 18 26.0**	**-1.0**
	comp=Z,4.4nm,1.0s,baz=311,slow=9.6,SNR=3.8						
BOSA				LR	LR	18 38 43.6	
	comp=Z,206nm,21.9s,baz=312,slow=31						
	comp=Z,4.4nm,1.0s						
BIOA	**Bad Ischl, Aus**	**58.76**	**32**	*eP*	**P**	**18 18 26.9**	**+0.4**
	comp=Z,12nm,1.5s						
SOKA	**Soboth**	**58.88**	**33**	*iP*	**P**	**18 18 28.0**	**+0.6**
	comp=Z,12nm,1.4s						
MOA	**Molln**	**59.18**	**32**	*iP*	**P**	**18 18 29.2**	**-0.3**
	comp=Z,7.7nm,1.2s						
GEC2	**GERESS Array S**	**59.52**	**31**	IAmb	IAmb	18 18 43.4	
	comp=Z,7.1nm,1.1s						
GERES	**GERESS Array B**	**59.52**	**31**	P	**P**	**18 18 32.1**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=224,slow=5.2,SNR=13						
GERES				LR	LR	18 41 10.9	
	comp=Z,164nm,21.7s,baz=240,slow=33						
	comp=Z,2.4nm,0.7s						
FNA	**Florina**	**59.54**	**42**	P	**P**	**18 18 32.6**	**+0.5**
KHC	**Kasperske Hory**	**59.64**	**30**	*eP*	**P**	**18 18 33.1**	**+0.5**
IDI	**Anoyia**	**59.68**	**49**	LR	LR	18 45 01.1	
	comp=Z,262nm,21.4s,baz=257,slow=37						
CKRC	**Cesky Krumlov**	**59.81**	**31**	*eP*	**P**	**18 18 34.4**	**+0.6**
CONA	**Conrad Observa**	**60.08**	**32**	*iP*	**P**	**18 18 36.0**	**+0.3**
	comp=Z,7.9nm,1.4s						
RONA	**Rosalia, Austr**	**60.18**	**33**	*iP*	**P**	**18 18 37.1**	**+0.8**
	comp=Z,16nm,1.6s						
DIVS	**Divibare**	**60.31**	**38**	IAmb	IAmb	18 18 39.5	
	comp=Z,7.6nm,1.0s						
CLL	**Collm**	**60.78**	**28**	*eP*	**P**	**18 18 41.0**	**+0.7**
CLL				*ex*	x	18 18 56.0	
CLL				*eS*	**S**	**18 27 01.0**	**+4.2**
CLL				*e*SSS	SSS	18 33 48.0	
KRUC	**Moravsky**	**61.05**	**32**	*eP*	**P**	**18 18 42.0**	**-0.2**
MODS	**Modra-Pìesok**	**61.11**	**33**	*eP*	**P**	**18 18 43.7**	**+1.1**
VRAC	**Vranov**	**61.30**	**32**	*eP*	**P**	**18 18 44.0**	**+0.1**
VRAC	**Vranov**	**61.30**	**32**	LR	LR	18 43 34.2	
	comp=Z,122nm,18.4s,baz=231,slow=34						
UPC	**Upice**	**61.73**	**30**	*eP*	**P**	**18 18 47.3**	**+0.5**
DPC	**Dobruska-Polom**	**61.79**	**30**	*eP*	**P**	**18 18 47.6**	**+0.3**
OSTC	**Ostas**	**61.87**	**30**	*eP*	**P**	**18 18 47.5**	**-0.2**
MORC	**Moravsky Berou**	**62.08**	**32**	IAmb	IAmb	18 19 01.3	
	comp=Z,6.3nm,1.1s						
MORC	**Moravsky Berou**	**62.08**	**32**	*eP*	**P**	**18 18 49.5**	**+0.3**
PSZ	**Piszkesteto**	**62.29**	**34**	⇑P	**P**	**18 18 52.7**	**+2.0**
PSZ	**Piszkesteto**	**62.29**	**34**	P	**P**	**18 18 51.4**	**+0.6**
SCHQ	**Schefferville**	**62.33**	**336**	P	**P**	**18 18 53.8**	**+3.1**
	comp=Z,3.5nm,0.8s,baz=105,slow=12,SNR=2.0						
	comp=Z,3.5nm,0.8s						
SIRR	**Siria**	**62.44**	**37**	⇑P	**P**	**18 18 52.9**	**+1.3**
SURR	**Surduc**	**62.46**	**37**	⇓P	**P**	**18 18 52.9**	**+1.2**
GZR	**Gura Zlata**	**62.67**	**38**	⇑P	**P**	**18 18 52.6**	**-0.7**
LANS	**Liptovska Anna**	**62.74**	**33**	*eP*	**P**	**18 18 55.5**	**+1.9**
LODK	**Lodwar**	**63.25**	**87**	P	**P**	**18 18 58.4**	**+0.7**
R50A	**Paris**	**63.51**	**313**	IAmb	IAmb	18 19 03.1

ELIB	**Princess Elisa**	**79.73**	**166**	*dP*		**P**	**18 20 37.5**	**+1.4**
	comp=Z,6.4nm,1.0s							
N23A	**Red Feather La**	**80.30**	**311**	P		**P**	**18 20 38.7**	**-1.3**
N23A				IAmb		IAmb	18 20 45.1	
	comp=Z,14nm,1.1s							
S22A	**4UR Ranch, Cre**	**80.62**	**308**	P		**P**	**18 20 39.6**	**-2.2**
O20A	**White River Ci**	**81.95**	**310**	P		**P**	**18 20 48.8**	**0.0**
O20A				IAmb		IAmb	18 20 58.8	
	comp=Z,12nm,0.9s							
PD31	**Pinedale Array**	**83.18**	**313**	P		**P**	**18 20 55.7**	**+0.5**
PDAR	**Pinedale Array**	**83.18**	**313**	P		**P**	**18 20 55.5**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=95,slow=4.5,SNR=3.8							
	comp=Z,1.3nm,0.7s							
RLMT	**Red Lodge**	**83.18**	**315**	IAmb		IAmb	18 21 22.8	
	comp=Z,5.1nm,0.9s							
P18A	**Preston Nutter**	**83.45**	**310**	P		**P**	**18 20 56.8**	**0.0**
P18A				IAmb		IAmb	18 21 13.0	
	comp=Z,7.3nm,1.1s							
SRU	**San Rafael Swe**	**83.63**	**309**	P		**P**	**18 20 57.4**	**-0.1**
SRU				IAmb		IAmb	18 21 10.1	
	comp=Z,4.4nm,0.9s							
EUNU	**Eureka**	**83.79**	**351**	P		**P**	**18 20 58.3**	**+1.0**
EUNU				IAmb		IAmb	18 21 08.0	
	comp=Z,12nm,0.9s							
BSUT	**Blindstream Ca**	**83.91**	**310**	P		**P**	**18 20 57.6**	**-1.5**
BSUT				IAmb		IAmb	18 21 15.3	
	comp=Z,6.5nm,1.1s							
LOHW	**Long Hollow**	**84.01**	**314**	P		**P**	**18 20 57.9**	**-1.5**
YHL	**Hebgen Lake**	**84.51**	**315**	IAmb		IAmb	18 21 07.7	
	comp=Z,12nm,1.2s							
HWUT	**Hardware Ranch**	**84.58**	**312**	IAmb		IAmb	18 21 06.1	
	comp=Z,5.8nm,0.8s							
MTPU	**Mount Pierson**	**84.87**	**308**	IAmb		IAmb	18 21 17.3	
	comp=Z,7.3nm,1.0s							
MVU	**Marysvale**	**84.91**	**308**	P		**P**	**18 21 04.4**	**+0.3**
EDM	**Edmonton**	**86.45**	**323**	P		**P**	**18 21 11.2**	**0.0**
HLID	**Hailey**	**86.77**	**313**	IAmb		IAmb	18 21 24.0	
	comp=Z,5.0nm,1.0s							
BMO	**Blue Mountains**	**88.86**	**315**	IAmb		IAmb	18 21 32.7	
	comp=Z,5.5nm,1.0s							
NVAR	**Mina Array Bea**	**89.69**	**308**	P		**P**	**18 21 29.4**	**+2.2**
	comp=Z,0.9nm,0.9s,baz=93,slow=5.5,SNR=5.5							
	comp=Z,0.9nm,0.9s							
INK	**Inuvik**	**94.80**	**339**	LR		LR	19 02 29.6	
	comp=Z,523nm,20.0s,baz=184,slow=34							
BTO	**Baotou**	**123.61**	**38**	SS		SS	18 45 48.9	-6.0
BTO				pmax		pmax		
	comp=Z,16nm,0.4s							
BTO				pmax		pmax		
	comp=Z,400nm,4.8s							
BTO				LR		LR		
	comp=N,840nm,16.9s							
BTO				LR		LR		
	comp=E,630nm,20.1s							
BTO				LR		LR		
	comp=Z,2μm,19.6s							
HHC	**Hu-ho-hao-te**	**124.39**	**37**	*eP*		**PKiKP**	**18 27 29.6**	**+1.2**
XLT	**XiLinHaoTe**	**124.91**	**31**	*eP*		**PKPdf**	**18 27 26.5**	**-2.5**
XLT	**XiLinHaoTe**	**124.91**	**31**	*eP*		**PKPdf**	**18 27 29.0**	**0.0**
XLT				pmax		pmax		
	comp=Z,100nm,5.5s							
XLT				pmax		pmax		
	comp=Z,7.0nm,1.0s							
XLT				pmax		pmax		
	comp=Z,100nm,5.4s							
MDJ	**Mudanjiang**	**130.34**	**21**	PKP		**PKPdf**	**18 27 38.8**	**-0.4**
MDJ				PP		**PP**	**18 29 44.6**	**-7.1**
NJ2	**Nanjing**	**134.48**	**41**	*eP*		**PKPdf**	**18 27 47.5**	**+0.2**
NJ2				pmax		pmax		
	comp=Z,37nm,0.5s							

*NEIC **16** 18:09:23.8, 23°.82S×175°.21W, h26km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.16; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$-2.15; $M_{r\theta}$0.62; $M_{\theta\phi}$-0.48; $M_{\phi r}$0.44; Fault plane solution: M_o2.33000×10^{17} NP1: ϕ_s179.41000°, δ39.30000°, λ69.86000°. NP2:ϕ_s24.77000°, δ53.51000°, λ105.74000°. Principal axes: T 2.3443, Plg75.0000°, Azm344.0000°; N -0.0233, Plg13.0000°, Azm195.0000°; P -2.3209, Plg7.0000°, Azm104.0000°;*

*BJI **16** 18:09:23.9±0.0, 23°.51S×175°.26W, h14km, mb5.4/53, mB5.9/49, Ms5.4/50, Ms7 5.2/50*

*NEIC **16** 18:09:23.8, 23°.72S×175°.43W, h26km*

*NEIC **16** 18:09:23.8, 23°.72S×175°.43W, h10km*

*IDC **16** 18:09:24.0±0.4, 23°.88S×176°.27W, h0km, mb5.2/17, mbtmp5.1/19, ML4.9/2, MS5.2/51, Error ellipse: s-maj=15.8km s-min=13.1km az=141.0*

*MOS **16** 18:09:25.6±1.4, 23°.88S×176°.03W, h21km, mb5.5/39, MS5.4/32, Error ellipse: s-maj=10.7km s-min=9.4km az=107.8*

*NEIC **16** 18:09:26.3±2.7, 23°.85S±0°.09×175°.9W±0°.1, h14km±1km, mb5.4/291, Ms_20 5.5/426, Mwb5.5/48, Mww5.5/22, Error ellipse: s-maj=18.5km s-min=14.7km az=91.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; M_{rr}1.64; $M_{\theta\theta}$0.79; $M_{\phi\phi}$-2.42; $M_{r\theta}$0.47; $M_{\theta\phi}$-0.54; $M_{\phi r}$0.53; Fault plane solution: M_o2.32000×10^{17} NP1:ϕ_s27.73000°, δ56.31000°, λ114.93000°. NP2:ϕ_s167.77000°, δ41.01000°, λ57.69000°. Principal axes: T 1.8658, Plg68.0000°, Azm350.0000°; N 0.7315, Plg21.0000°, Azm193.0000°; P -2.5973, Plg8.0000°, Azm100.0000°;*

*GCMT **16** 18:09:30.3±0.1, 24°.05S±0°.01×175°.41W±0°.01, h22km, MW5.5/152, Moment Tensor Solution. s123,c226; s152,c281; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}2.51±.04; $M_{\theta\theta}$-0.38±.03; $M_{\phi\phi}$-2.13±.03; $M_{r\theta}$0.60±.05; $M_{\theta\phi}$-0.81±.02; $M_{\phi r}$0.83±.05; Best double couple: M_o2.68000×10^{17} NP1:ϕ_s27.00000°, δ56.00000°, λ96.00000°. NP2:ϕ_s196.00000°, δ34.00000°, λ81.00000°. Principal axes: T 2.7220, Plg78.0000°, Azm317.0000°; N -0.0810, Plg5.0000°, Azm203.0000°; P -2.6390, Plg11.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **16** 18:09:31.2, 23°.89S×174°.97W, h113km, mb5.5/41, Tonga Islands Region*

ISC 16 18:09:24.8±0.4, 23°.98S±0°.04×175°.51W±0°.05, h15km±1km, h15km:pP-P, n1186, σ1s79/892, mb5.4/230, MS5.5/311, 51C-37D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.68**	**202**	Pn	**Pn**	**18 10 48.3**	**-0.4**
RAO	**Raoul Island**	**5.68**	**202**	Pn	**Pn**	**18 10 48.0**	**-0.6**
	46nm,0.3s,baz=116,slow=23,SNR=2.1						
RAO				Sn	**Sn**	**18 11 52.9**	**-0.7**
	140nm,0.3s,baz=75,slow=23,SNR=5.6						
	227nm,0.4s						
GLKZ	**Green Lake**	**5.69**	**202**	P	**Pn**	**18 10 50.4**	**+1.6**
GLKZ				P	**Sn**	**18 11 55.0**	**+1.2**
NIUE	**Niue**	**7.12**	**48**	P	**Pn**	**18 11 03.7**	**-4.8**
	baz=6.9,SNR=57						
NIUE				S	Sn	18 12 15.2	-14
	baz=6.9						
NIUE	**Niue**	**7.12**	**48**		**Pn**	**18 11 05.0**	**-3.5**
NIUE	**Niue**	**7.12**	**48**	P	**Pn**	**18 11 05.3**	**-3.2**
TAVE	**Taveuni**	**8.32**	**329**	P	Pn	18 11 32.9	+7.9
MSVF	**Nonsavu**	**8.65**	**315**	Pn	**Pn**	**18 11 32.2**	**+2.8**
MSVF	**Nonsavu**	**8.65**	**315**	P	**Pn**	**18 11 32.3**	**+2.8**
MSVF	**Nonsavu**	**8.65**	**315**	Pn	**Pn**	**18 11 33.1**	**+3.6**
	6.3nm,0.3s,baz=134,slow=14,SNR=74						
MSVF				LR	LR	18 14 22.4	
	comp=Z,33μm,20.4s,baz=113,slow=37						
DGTI	**Dogotuki**	**8.84**	**329**	P	Pn	18 11 38.8	+6.7
YSA	**Yasawairara**	**9.72**	**317**	P	Pn	18 11 53.8	+10
AFI	**Afiamalu**	**10.62**	**20**	Pn	**Pn**	**18 11 52.1**	**-4.4**
AFI	**Afiamalu**	**10.62**	**20**	P	**Pn**	**18 11 55.6**	**-0.9**
AFI	**Afiamalu**	**10.62**	**20**	P	**Pn**	**18 11 52.1**	**-4.4**
MXZ	**Matakaoa Point**	**14.54**	**200**	Pn	**Pn**	**18 12 50.3**	**+0.3**
MXZ	**Matakaoa Point**	**14.54**	**200**	P	**Pn**	**18 12 47.0**	**-3.0**
OUZ	**Omahuta**	**14.66**	**218**	P	**P**	**18 12 56.3**	**-1.5**
WMGZ	**Waiomatatini S**	**14.75**	**199**	P	**Pn**	**18 12 52.6**	**-0.1**
RAR	**Rarotonga**	**14.79**	**82**		Pn	18 12 48.5	-5.0
RAR	**Rarotonga**	**14.79**	**82**	P	**Pn**	**18 12 50.3**	**-3.2**
RAR	**Rarotonga**	**14.79**	**82**	Pn	**Pn**	**18 12 50.0**	**-3.4**
	23nm,0.3s,baz=256,slow=7.0,SNR=31						
RAR				Sn	Sn	18 15 22.5	-15
	6.9nm,0.3s,baz=142,slow=15,SNR=2.7						
RAR				LR	LR	18 19 20.5	
	comp=Z,9μm,18.6s,baz=252,slow=39						
WCZ	**Waipu Caves**	**14.80**	**214**	P	**P**	**18 13 00.2**	**+0.8**
HAZ	**Te Kaha**	**14.89**	**201**	P	**Pn**	**18 12 50.7**	**-4.0**
PKGZ	**Pakihiroa**	**14.91**	**200**	P	**Pn**	**18 12 51.4**	**-3.7**
RUGZ	**Raukumara Rang**	**15.11**	**201**	P	**Pn**	**18 12 54.7**	**-3.2**
TWGZ	**Tauwhareparae**	**15.21**	**200**	P	**Pn**	**18 12 58.6**	**-0.5**
MARNC	**Mare, Loyalty**	**15.39**	**276**	P	**Pn**	**18 13 03.1**	**+1.6**
URZ	**Urewera**	**15.57**	**202**	P	**P**	**18 13 07.6**	**-0.3**
URZ	**Urewera**	**15.57**	**202**	Pn	**Pn**	**18 13 04.2**	**+0.6**
	3.9nm,0.3s,baz=72,slow=3.2,SNR=18						
URZ				Sn	Sn	18 15 43.7	-12
	4.8nm,0.3s,baz=355,slow=22,SNR=7.5						
	5.2nm,0.3s						
PINNC	**Pines Island,**	**15.72**	**272**		**Pn**	**18 13 02.4**	**-3.3**
PINNC	**Pines Island,**	**15.72**	**272**	P	**P**	**18 13 10.8**	**+1.1**
RIGZ	**Rimuhau**	**15.76**	**200**	P	**Pn**	**18 13 04.2**	**-2.1**
MUGZ	**Murupara**	**15.88**	**203**	P	**Pn**	**18 13 07.0**	**-0.8**
PRGZ	**Paritu Road**	**15.92**	**199**	P	**Pn**	**18 13 06.6**	**-1.8**
RTZ	**Ruatahuna**	**15.93**	**202**	Pn	**Pn**	**18 13 07.0**	**-1.5**
FUNA	**Funafuti**	**16.18**	**341**	Pn	**Pn**	**18 13 09.1**	**-2.5**
FUNA	**Funafuti**	**16.18**	**341**	P	**Pn**	**18 13 12.0**	**+0.3**
RTV	**Rentapao**	**16.22**	**289**	P	**P**	**18 13 18.7**	**+3.5**
LIFNC	**LIFOU**	**16.27**	**278**		**Pn**	**18 13 09.9**	**-2.9**
LIFNC	**LIFOU**	**16.27**	**278**	P	**P**	**18 13 19.1**	**+3.3**
OUENC	**Ouen Island, N**	**16.30**	**272**		**Pn**	**18 13 08.8**	**-4.4**
OUENC	**Ouen Island, N**	**16.30**	**272**	P	**P**	**18 13 19.4**	**+3.2**
YATNC	**Mamie plateau,**	**16.32**	**273**	P	**P**	**18 13 20.0**	**+3.7**
DZM	**Mont Dzumac**	**16.72**	**273**	*e*LR	LR	18 17 09.5	
	comp=Z,14μm,24.3s						
DZM	**Mont Dzumac**	**16.72**	**273**	Pn	**P**	**18 13 21.3**	**+0.3**
	1.1nm,0.3s,baz=67,slow=20,SNR=12						
DZM				LR	LR	18 17 18.8	
	comp=Z,3μm,20.7s,baz=104,slow=30						
BFZ	**Birch Farm**	**18.04**	**201**	P	**Pn**	**18 13 29.1**	**-5.8**
MRZ	**Mangatainoka R**	**18.24**	**202**	P	**Pn**	**18 13 31.2**	**-6.2**
MRZ	**Mangatainoka R**	**18.24**	**202**	P	**Pn**	**18 13 34.7**	**-2.7**
HOWZ	**Holdsworth Sta**	**18.48**	**202**	P	**P**	**18 13 38.5**	**-1.6**
OGWZ	**Otaki Gorge**	**18.52**	**203**	P	**P**	**18 13 38.6**	**-2.0**
TMWZ	**Te Maipa**	**18.54**	**201**	P	**P**	**18 13 39.6**	**-1.2**
MTW	**Mount Morrison**	**18.71**	**202**	P	**Pn**	**18 13 43.3**	**+0.2**
PAWZ	**Paruwai Farm**	**18.94**	**201**	P	**P**	**18 13 44.8**	**-0.4**
SNZO	**South Karori**	**19.13**	**203**	P	**P**	**18 13 43.3**	**-3.9**
PLWZ	**Palliser**	**19.16**	**202**	P	**P**	**18 13 44.9**	**-2.8**
PLWZ	**Palliser**	**19.16**	**202**	P	**P**	**18 13 47.1**	**-0.6**
TCW	**Tory Channel**	**19.20**	**204**	P	**P**	**18 13 46.6**	**-1.3**
TUWZ	**Tuamarina**	**19.51**	**204**	P	**P**	**18 13 48.9**	**-2.5**
NNZ	**Nelson**	**19.55**	**206**	P	**P**	**18 13 50.2**	**-1.6**
QRZ	**Quartz Range**	**19.57**	**208**	P	**P**	**18 13 51.4**	**-0.6**
CMWZ	**Cape Campbell**	**19.69**	**203**	P	**P**	**18 13 52.3**	**-1.0**
THZ	**Tophouse**	**20.20**	**206**	P	**P**	**18 13 56.1**	**-2.9**
KHZ	**Kahutara**	**20.51**	**204**	P	**P**	**18 14 00.4**	**-1.9**
DSZ	**Denniston Nort**	**20.64**	**208**	P	**P**	**18 14 01.1**	**-2.6**
DSZ	**Denniston Nort**	**20.64**	**208**	P	Pn	18 14 06.0	0.0
GVZ	**Greta Valley S**	**21.18**	**204**	P	**P**	**18 14 09.0**	**-0.5**
LTZ	**Lake Taylor**	**21.31**	**205**	P	**P**	**18 14 12.2**	**+1.2**
INZ	**Inchbonnie**	**21.59**	**207**	P	**P**	**18 14 15.9**	**+1.9**
LBZ	**Lake Benmore**	**23.48**	**206**	IAMs_20	IAMs_20	18 24 12.5	
	comp=Z,11μm,18.0s						
PAE	**Paea**	**25.01**	**80**	*e*T	T	18 40 59.0	
	comp=Z,18nm,0.3s						
PPT2	**Papeete2**	**25.04**	**80**	*e*P	P	18 14 29.3	-19
	comp=Z,728nm,16.0s						
PPT2				*e*S	**S**	**18 19 03.2**	**-9.3**
	comp=Z,2μm,30.8s						
PPT2				*e*LR	LR	18 20 48.1	
	comp=Z,11μm,26.8s						
PPT2				*e*LR	LR	18 20 58.0	
	comp=Z,8μm,29.2s						
PPT2	**Papeete2**	**25.04**	**80**	*e*T	T	18 41 03.3	
	comp=Z,14nm,0.4s						
PPT	**Papeete**	**25.05**	**80**	LR	LR	18 24 04.9	
	comp=Z,6μm,18.5s,baz=256,slow=34						
WHZ	**Wether Hill Ro**	**25.63**	**207**	P	**P**	**18 14 51.2**	**-2.5**
WHZ				IAmb	IAmb	18 14 53.2	
	comp=Z,92nm,1.3s						
MEH	**Mehetia**	**26.32**	**82**	*e*T	T	18 42 40.2	
	comp=Z,47nm,0.3s						
HNR	**Honiara**	**27.53**	**298**	P	**P**	**18 15 09.1**	**-2.0**
HNR	**Honiara**	**27.53**	**298**	P	**P**	**18 15 12.8**	**+1.7**
HNR	**Honiara**	**27.53**	**298**	P	**P**	**18 15 09.1**	**-2.0**
HNR				pmax	pmax		
	comp=Z,198nm,1.0s						
HNR				MLR	MLR		
	comp=Z,4μm,20.0s						
HNR	**Honiara**	**27.53**	**298**	LR	LR	18 24 25.4	
	comp=Z,50μm,20.1s,baz=151,slow=34						
ARMA	**Armidale**	**29.85**	**250**	P	**P**	**18 15 32.9**	**+1.1**
	baz=30,SNR=9.9						
ARMA	**Armidale**	**29.85**	**250**	P	**P**	**18 15 32.4**	**+0.6**
ARMA				IAmb	IAmb	18 15 36.4	
	comp=Z,44nm,0.9s						
EIDS	**Eidsvold**	**30.35**	**260**	P	**P**	**18 15 35.1**	**-1.0**
	baz=30,SNR=4.1						
EIDS	**Eidsvold**	**30.35**	**260**	P	**P**	**18 15 35.2**	**-0.8**
EIDS				IAmb	IAmb	18 15 38.6	
	comp=Z,48nm,1.2s						
MGCD	**Mangrove Creek**	**30.61**	**245**	P	**P**	**18 15 40.1**	**+1.8**
	baz=31,SNR=6.4						
RMQ	**Roma**	**32.36**	**258**	P	**P**	**18 15 54.4**	**+0.6**
	baz=32,SNR=24						
MILA	**Mila**	**32.92**	**238**	P	**P**	**18 16 00.8**	**+2.1**
	baz=33,SNR=3.3						
CMSA	**Cobar Meteorol**	**35.01**	**249**	P	**P**	**18 16 16.0**	**-0.8**
	baz=35,SNR=26						
CMSA	**Cobar Meteorol**	**35.01**	**249**	P	**P**	**18 16 17.3**	**+0.5**
TV1H	**Townsville Har**	**35.29**	**270**	P	**P**	**18 16 18.9**	**-0.4**
CTA	**Charters Tower**	**35.58**	**269**	LR	LR	18 29 25.9	
	comp=Z,2μm,19.3s,baz=104,slow=34						
CTAO	**Charters Tower**	**35.58**	**269**	P	**P**	**18 16 20.2**	**-1.7**
CTAO	**Charters Tower**	**35.58**	**269**	P	**P**	**18 16 21.3**	**-0.6**
CTAO	**Charters Tower**	**35.58**	**269**	P	**P**	**18 16 20.2**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,100nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,3μm,18.0s						
MOO	**Moorlands**	**35.88**	**230**	P	**P**	**18 16 26.3**	**+2.2**
	baz=36,SNR=3.6						
TOO	**Toolangi**	**35.89**	**239**	P	**P**	**18 16 25.6**	**+1.3**
	baz=36,SNR=6.4						
TOO	**Toolangi**	**35.89**	**239**	P	**P**	**18 16 23.7**	**-0.6**
TOO	**Toolangi**	**35.89**	**239**	P	**P**	**18 16 23.7**	**-0.6**
TOO				pmax	pmax		
	comp=Z,14nm,0.9s						
QLP	**Quilpie**	**36.39**	**257**	P	**P**	**18 16 27.5**	**-1.3**
	baz=36,SNR=17						
QLP	**Quilpie**	**36.39**	**257**	P	**P**	**18 16 28.9**	**+0.2**
KRVT	**Keravat (AS076**	**36.89**	**297**	LR	LR	18 29 55.4	
	comp=Z,2μm,19.6s,baz=326,slow=34						
TAOE	**Nuku Hiva Isla**	**36.97**	**72**	*e*P	P	18 16 19.7	-14
	comp=Z,223nm,25.7s						
TAOE				*e*S	S	18 22 06.9	-12
	comp=Z,830nm,26.2s						
TAOE				*e*LR	LR	18 26 17.3	
	comp=Z,4μm,30.6s						
MTSU	**Mount Surprise**	**37.85**	**271**	P	**P**	**18 16 39.8**	**-1.4**
	baz=38,SNR=49						
MTSU	**Mount Surprise**	**37.85**	**271**	P	**P**	**18 16 40.6**	**-0.6**
PMG	**Port Moresby**	**38.44**	**286**	P	**P**	**18 16 42.5**	**-3.6**
PMG	**Port Moresby**	**38.44**	**286**	IAMs_20	IAMs_20	18 31 58.8	
	comp=Z,6μm,18.0s						
PMG	**Port Moresby**	**38.44**	**286**	P	**P**	**18 16 45.4**	**-0.8**
PMG	**Port Moresby**	**38.44**	**286**	P	**P**	**18 16 45.1**	**-1.1**
PMG	**Port Moresby**	**38.44**	**286**	*ce*P	**P**	**18 16 43.6**	**-2.6**
PMG				pmax	pmax		
	comp=Z,221nm,1.0s						
STKA	**Stephens Creek**	**38.51**	**248**	P	**P**	**18 16 44.1**	**-2.5**
	comp=Z,14nm,0.5s,baz=101,slow=12,SNR=33						
STKA				LR	LR	18 31 32.9	
	comp=Z,7μm,18.7s,baz=81,slow=35						
	comp=Z,14nm,0.5s						
INKA	**Innaminka**	**39.39**	**255**	P	**P**	**18 16 54.1**	**0.0**
PATS	**Pohnpei**	**39.88**	**317**	IAMs_20	IAMs_20	18 30 31.7	
	comp=Z,6μm,20.0s						
PATS	**Pohnpei**	**39.88**	**317**	P	**P**	**18 16 57.5**	**-0.7**
COEN	**Coen**	**40.20**	**277**	P	**P**	**18 16 59.3**	**-1.6**
COEN	**Coen**	**40.20**	**277**	P	**P**	**18 17 00.5**	**-0.4**
HTT	**Hallett**	**40.79**	**246**	P	**P**	**18 17 04.5**	**-1.2**
	baz=41,SNR=25						
HTT	**Hallett**	**40.79**	**246**	P	**P**	**18 17 05.8**	**+0.1**
LCRK	**Leigh Creek**	**41.43**	**251**	P	**P**	**18 17 11.4**	**+0.5**
QIS	**Mount Isa**	**41.55**	**266**	P	**P**	**18 17 10.1**	**-1.9**
	baz=42,SNR=16						
QIS	**Mount Isa**	**41.55**	**266**	P	**P**	**18 17 10.4**	**-1.6**
WHYH	**Whyalla**	**41.92**	**247**	P	**P**	**18 17 14.4**	**-0.5**
BBOO	**Buckleboo**	**43.20**	**247**	P	**P**	**18 17 23.5**	**-1.8**
	baz=43,SNR=17						
BBOO	**Buckleboo**	**43.20**	**247**	P	**P**	**18 17 22.4**	**-2.9**
BBOO				IAmb	IAmb	18 17 27.4	
	comp=Z,45nm,0.9s						
BBOO	**Buckleboo**	**43.20**	**247**	P	**P**	**18 17 25.3**	**0.0**
OOD	**Oodnadatta**	**43.85**	**254**	P	**P**	**18 17 30.2**	**-0.4**
MULG	**Mulgathing**	**45.03**	**250**	P	**P**	**18 17 40.0**	**0.0**
AS31	**Alice Springs**	**46.07**	**260**	P	**P**	**18 17 45.7**	**-2.7**
ASAR	**Alice Springs**	**46.07**	**260**	P	**P**	**18 17 45.2**	**-3.2**
ASAR	**Alice Springs**	**46.07**	**260**	P	**P**	**18 17 45.8**	**-2.6**
	comp=Z,47nm,1.0s,baz=94,slow=7.6,SNR=60						
ASAR				S	**S**	**18 24 26.9**	**-6.8**
	comp=Z,2.6nm,1.1s,baz=99,slow=17,SNR=4.1						
ASAR				LR	LR	18 36 26.4	
	comp=Z,6μm,18.6s,baz=106,slow=36						
	comp=Z,47nm,1.0s						
WR0	**Warramunga Arr**	**46.31**	**265**	IAmb	IAmb	18 18 50.0	
	comp=Z,34nm,0.6s						
WAKE	**Wake Island**	**46.38**	**336**	IAMs_20	IAMs_20	18 34 09.3	
	comp=Z,3μm,18.0s						
WB2	**Warramunga Arr**	**46.48**	**265**	IAmb	IAmb	18 17 53.3	
	comp=Z,60nm,1.0s						
WRAB	**Tennant Creek**	**46.49**	**265**	P	**P**	**18 17 48.2**	**-3.5**
WRAB				IAmb	IAmb	18 17 53.3	
	comp=Z,57nm,1.0s						
WRAB	**Tennant Creek**	**46.49**	**265**	IAMs_20	IAMs_20	18 36 05.3	
	comp=Z,5μm,20.0s						
WRAB	**Tennant Creek**	**46.49**	**265**	P	**P**	**18 17 49.9**	**-1.8**
WRAB	**Tennant Creek**	**46.49**	**265**	*ce*P	**P**	**18 17 48.9**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,54nm,1.0s						
WRA	**Warramunga Arr**	**46.50**	**265**	P	**P**	**18 17 49.1**	**-2.7**
	comp=Z,34nm,0.7s,baz=102,slow=8.3,SNR=97						
WRA				S	S	18 24 29.8	-10
	comp=Z,9.8nm,1.1s,baz=101,slow=14,SNR=7.2						
WRA				LR	LR	18 36 26.2	
	comp=Z,5μm,19.1s,baz=108,slow=35						
	comp=Z,34nm,0.7s						
JAY	**Jayapura**	**47.36**	**290**	P	**P**	**18 17 56.0**	**-2.6**
	comp=Z,35nm,0.9s						
GENI	**Genyem**	**47.79**	**290**	P	**P**	**18 18 00.5**	**-1.3**
GENI	**Genyem**	**47.79**	**290**	P	**P**	**18 17 59.9**	**-1.9**
	comp=Z,63nm,0.9s						
SMPI	**Sarmi**	**49.35**	**289**	P	**P**	**18 18 11.0**	**-2.8**
	comp=Z,29nm,1.2s						
KDU	**Kakadu**	**50.39**	**273**	P	**P**	**18 18 18.9**	**-2.9**
	baz=50,SNR=22						
WRKA	**Warakurna**	**50.82**	**256**	P	**P**	**18 18 22.5**	**-2.6**
	baz=51,SNR=126						
WRKA	**Warakurna**	**50.82**	**256**	P	**P**	**18 18 23.4**	**-1.6**
MTN	**Manton Dam**	**51.56**	**272**	P	**P**	**18 18 27.8**	**-2.8**
	baz=52,SNR=7.4						
KNRA	**Kununurra**	**52.79**	**268**	P	**P**	**18 18 37.8**	**-2.0**
	baz=53,SNR=35						
KNRA	**Kununurra**	**52.79**	**268**	IAmb	IAmb	18 18 45.5	
	comp=Z,40nm,0.8s						
KNRA	**Kununurra**	**52.79**	**268**	P	**P**	**18 18 38.3**	**-1.5**
SAUI	**Saumlaki**	**53.23**	**278**	P	**P**	**18 18 42.2**	**-0.9**
SAUI	**Saumlaki**	**53.23**	**278**	P	**P**	**18 18 40.8**	**-2.3**
	comp=Z,147nm,0.9s,comp=Z,3μm						
GUMO	**Guam**	**53.79**	**310**	LR	LR	18 38 58.8	
	comp=Z,1μm,21.8s,baz=134,slow=33						
FAKI	**Fak Fak**	**54.56**	**284**	P	**P**	**18 18 51.1**	**-1.7**
FAKI				IAmb	IAmb	18 19 01.4	
	comp=Z,46nm,0.9s						
FAKI	**Fak Fak**	**54.56**	**284**	P	**P**	**18 18 50.7**	**-2.1**
	comp=Z,65nm,1.0s						
SBA	**Scott Base**	**54.59**	**185**	P	**P**	**18 18 55.3**	**+3.3**
SBA				IAmb	IAmb	18 19 13.5	
	comp=Z,40nm,1.1s						
SBA	**Scott Base**	**54.59**	**185**	P	**P**	**18 18 55.3**	**+3.3**
SBA				pmax	pmax		
	comp=Z,40nm,1.1s						
SBA				MLR	MLR		
	comp=Z,1μm,18.0s						
BNDI	**Bandanaira**	**55.94**	**281**	P	**P**	**18 19 00.6**	**-2.1**
	comp=Z,198nm,1.0s						
SWI	**Sorong**	**56.39**	**286**	P	**P**	**18 19 04.2**	**-1.7**
	comp=Z,242nm,0.9s,comp=Z,2μm						
KLBR	**Kellerberrin**	**58.74**	**247**	P	**P**	**18 19 22.3**	**0.0**
	baz=59,SNR=13						
NWAO	**Narrogin (SRO)**	**58.94**	**245**	IAMs_20	IAMs_20	18 43 55.2	
	comp=Z,2μm,18.0s						
NWAO	**Narr

comp=Z,23nm,1.3s
STKI Sintang 74.53 277 P P 18 21 03.1 -0.3
LEM Lembang 75.29 269 P P 18 21 08.1 +0.1
comp=Z,56nm,0.9s
LEM Lembang 75.29 269 LR LR 18 53 44.6
comp=Z,2µm,20.3s,baz=137,slow=36
ERM Erimo 75.97 330 IAMs_20 IAMs_20 18 49 42.8
comp=Z,2µm,21.0s
ERM Erimo 75.97 330 *i* P **P 18 21 09.3 -1.7**
ERM pmax pmax
comp=Z,27nm,0.9s
JTM Tenmabayashi 76.02 327 P P 18 21 12.4 +1.1
JTM IAmb IAmb 18 21 16.4
comp=Z,32nm,1.0s
KSM Kuching 76.18 278 P P 18 21 11.9 -1.0
KSM IAmb IAmb 18 21 16.1
comp=Z,45nm,1.1s
JNU Nakatsue 76.37 316 P P 18 21 11.7 -1.8
JNU IAmb IAmb 18 21 16.9
comp=Z,32nm,1.0s
JNU Nakatsue 76.37 316 LR LR 18 50 36.5
comp=Z,799nm,20.7s,baz=106,slow=33
NIKH Nikolski High 76.84 4 P P 18 21 17.3 +1.6
baz=186
SHEM Shemya Is, Ala 76.91 354 LR LR 18 52 10.4
comp=Z,2µm,18.7s,baz=138,slow=33
CGJI Cibinong 77.13 268 P P 18 21 17.1 -1.2
comp=Z,67nm,0.9s
PMSA Palmer Station 77.19 156 LR LR 18 52 16.7
comp=Z,912nm,18.1s,baz=248,slow=33
SSLB Suanglung 77.80 303 P P 18 21 19.0 -2.8
SSLB IAMs_20 IAMs_20 18 49 43.4
comp=Z,2µm,21.0s
ASAJ Asahikawa 77.87 331 LR LR 18 51 03.8
comp=Z,881nm,21.0s,baz=164,slow=32
UNV Unalaska Valle 77.89 5 P P 18 21 23.3 +1.9
baz=188
SNCC San Nicolas Is 77.98 45 P P 18 21 23.5 +1.0
baz=231
SCZ2 Santa Cruz Isl 78.38 45 P P 18 21 26.0 +1.2
baz=232
SCI2 San Clemente I 78.45 46 P P 18 21 25.5 +0.4
baz=232
KASI Kota Agung 78.65 269 P P 18 21 25.6 -1.1
comp=Z,90nm,0.9s
CIS Catalina Islan 78.80 46 P P 18 21 27.7 +0.6
baz=232
PKM Mcpherson Peak 78.83 44 P P 18 21 27.8 +0.3
baz=230
SAO San Andreas Ge 79.03 41 P P 18 21 30.4 +2.1
SAO IAmb IAmb 18 21 48.4
comp=Z,31nm,1.2s
SAO San Andreas Ge 79.03 41 P P 18 21 30.4 +2.1
SAO pmax pmax
comp=Z,31nm,1.2s
SAO MLR MLR
comp=Z,3µm,18.0s
PMPB Monarch Peak 79.07 42 P P 18 21 31.0 +2.4
PMPB IAmb IAmb 18 21 53.1
comp=Z,23nm,1.0s
MAW Mawson 79.08 199 P P 18 21 30.2 +2.1
baz=79,SNR=23
MAW Mawson 79.08 199 P P 18 21 29.8 +1.7
MAW Mawson 79.08 199 P P 18 21 29.8 +1.7
MAW pmax pmax
comp=Z,14nm,1.2s
MAW Mawson 79.08 199 P P 18 21 30.0 +1.9
comp=Z,52nm,1.0s,baz=138,slow=8.1,SNR=53
comp=Z,52nm,1.0s
MCCM Marconi Confer 79.09 40 IAMs_20 IAMs_20 18 51 05.1
comp=Z,2µm,18.0s
LWLI Liwa 79.25 269 P P 18 21 28.6 -1.6
comp=Z,100nm,0.8s
PASC Pasadena Art C 79.42 45 IAMs_20 IAMs_20 18 52 49.5
comp=Z,2µm,19.0s
PMBI Palembang 79.42 271 IAMs_20 IAMs_20 18 58 52.2
comp=Z,2µm,19.0s
HOPS Hopland Field 79.55 39 IAMs_20 IAMs_20 18 51 30.2
comp=Z,3µm,19.0s
CHNA Chernabura Isl 79.67 9 P P 18 21 33.4 +2.1
baz=195
MONP2 Monument Peak 79.81 47 P P 18 21 34.3 +1.4
baz=233,SNR=9.9
BFSC Mount Baldy Ra 79.81 45 P P 18 21 34.5 +1.7
baz=232
IKP In-Ko-Pah, Jac 79.87 48 P P 18 21 35.0 +1.9
baz=233
PET Petropavlovsk 79.90 344 *e*P **P 18 21 33.6 +1.0**
PET *e* 18 24 34.4
PET *e*S **S 18 31 36.3 +1.0**
PET *e*SS **SS 18 36 47.5 +1.9**
PET pmax pmax
comp=Z,500nm,11.9s
PET pmax pmax
comp=Z,29nm,1.3s
PET pmax pmax
comp=Z,700nm,11.7s
PET pmax pmax
comp=Z,200nm,15.7s
PET MLR MLR
comp=Z,900nm,18.0s
PET MLR MLR
comp=Z,900nm,19.0s
EDW2 Edwards Air Fo 79.99 45 P P 18 21 35.3 +1.7
baz=232,SNR=12
YUH Yuha Desert 80.00 48 P P 18 21 32.3 -1.3
YSS Yuzh-Sakhalins 80.02 332 P P 18 21 32.2 -1.2
YSS IAmb IAmb 18 21 38.5
comp=Z,60nm,1.0s
YSS Yuzh-Sakhalins 80.02 332 *e*P **P 18 21 31.7 -1.7**
YSS *e* 18 24 32.4
YSS *e*S **S 18 31 37.0 +0.1**
YSS *e*PS **SKSac 18 31 54.2 +4.2**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=E,30nm,1.1s
YSS pmax pmax
comp=Z,600nm,7.2s
YSS MLR MLR
comp=Z,800nm,17.0s
SDPT Sand Point 80.04 9 P P 18 21 35.9 +2.6
baz=194
ISA Isabella, Lake 80.17 44 P P 18 21 34.5 -0.1
ISA Isabella, Lake 80.17 44 P P 18 21 34.5 -0.1
ISA pmax pmax
comp=Z,23nm,1.1s
ISA Isabella, Lake 80.17 44 P P 18 21 36.2 +1.6
baz=231,SNR=12
PFO Pinyon Flats O 80.22 47 P P 18 21 36.3 +1.3
PFO Pinyon Flats O 80.22 47 P P 18 21 36.3 +1.3
PFO pmax pmax
comp=Z,13nm,1.1s
PFO MLR MLR
comp=Z,3µm,18.0s
PFO Pinyon Flats O 80.22 47 P P 18 21 36.2 +1.3
baz=233
PFO Pinyon Flats O 80.22 47 LR LR 18 52 56.4
comp=Z,3µm,18.4s,baz=242,slow=32
TPFO Pinon Flats 80.22 47 P P 18 21 36.5 +1.6
baz=233
PEA0B Petropavlovsk- 80.22 344 *ce*P **P 18 21 32.2 -2.1**
PETK Petropavlovsk- 80.22 344 P P 18 21 35.3 +1.0
comp=Z,64nm,0.9s,baz=111,slow=8.1,SNR=21
PETK LR LR 18 51 55.1
comp=Z,1µm,20.4s,baz=161,slow=32
comp=Z,64nm,0.9s
JCC Jacoby Creek, 80.25 37 IAMs_20 IAMs_20 18 51 49.4
comp=Z,2µm,19.0s
SWSC Sam W. Stewart 80.26 47 P P 18 21 36.4 +1.4
baz=233
PMD Palm Desert 80.29 47 P P 18 21 36.4 +1.1
CMB Columbia Colle 80.50 41 P P 18 21 38.5 +2.2
CMB IAMs_20 IAMs_20 18 53 06.2
comp=Z,2µm,19.0s
CMB Columbia Colle 80.50 41 P P 18 21 38.5 +2.2
CMB pmax pmax
comp=Z,24nm,1.4s
CMB MLR MLR
comp=Z,2µm,19.0s
LRMC Laurel Mtn Rad 80.56 44 P P 18 21 37.8 +1.0
baz=232,SNR=7.3
DSRI Dabo 80.59 274 P P 18 21 37.0 -0.3
comp=Z,18nm,1.0s,comp=Z,471nm
AFDM Forest Hills D 80.74 40 P P 18 21 40.5 +3.0
BELC Belle Mtn. Jos 80.75 46 P P 18 21 39.4 +1.5
baz=233,SNR=11

CWC Cottonwood Cre 80.90 43 P P 18 21 40.5 +1.8
baz=231
BC3 Big Chuckawall 80.91 47 P P 18 21 40.9 +2.3
baz=233,SNR=10
SPIA Saint Paul Isl 80.95 3 P P 18 21 39.4 +1.3
baz=185
GLA Glamis 80.98 48 P P 18 21 41.2 +2.2
baz=234
KSRS Korea Array 81.00 318 P P 18 21 39.0 +0.1
KSRS Korea Array 81.00 318 P P 18 21 39.0 +0.1
comp=Z,9.1nm,1.0s,baz=139,slow=6.2,SNR=14
KSRS LR LR 18 52 51.2
comp=Z,1µm,20.6s,baz=135,slow=32
comp=Z,9.1nm,1.0s
GSC Goldstone, Bar 81.01 45 P P 18 21 40.9 +1.8
baz=232
MDPB Devils Postpil 81.03 42 IAmb IAmb 18 21 46.4
comp=Z,34nm,1.5s
HEC Hector,Ludlow 81.03 46 P P 18 21 40.6 +1.3
baz=233
MPMC Manual Prospec 81.04 44 P P 18 21 40.6 +1.2
baz=232,SNR=11
S14K Fog Glacier 81.08 9 P P 18 21 40.6 +1.6
baz=195
CHGN Chignik 81.26 10 IAmb IAmb 18 21 58.4
comp=Z,49nm,1.0s
CHGN Chignik 81.26 10 P P 18 21 41.5 +1.7
baz=196
CHIR Chirikof Islan 81.26 11 P P 18 21 41.4 +1.6
baz=198
EMB Emerald Bay 81.27 40 IAmb IAmb 18 21 53.4
comp=Z,43nm,1.8s
WAKR Walker 81.37 41 P P 18 21 43.2 +2.0
WAKR IAmb IAmb 18 21 47.8
comp=Z,32nm,1.2s
TEY Ternei 81.37 328 *e*P P 18 21 34.9 -5.8
TEY *e* 18 31 49.5
IRM Iron Mountain 81.42 47 P P 18 21 42.9 +1.7
baz=234,SNR=9.1
GMRC Granite Mounta 81.45 46 P P 18 21 42.4 +0.9
baz=233
DSP Deep Springs 81.55 43 P P 18 21 44.2 +2.4
YBH Yreka Blue Hor 81.61 37 IAMs_20 IAMs_20 18 52 15.2
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 81.61 37 LR LR 18 52 36.2
comp=Z,1µm,19.8s,baz=232,slow=32
PNTR Pine Nut 81.65 41 IAmb IAmb 18 21 58.6
comp=Z,19nm,0.8s
MASI Maura Aman, Be 81.65 270 P P 18 21 43.2 +0.2
comp=Z,182nm,1.1s
TUQ Turquoise Moun 81.67 45 P P 18 21 43.0 +0.3
baz=233
GRAC Grapevine Rang 81.70 43 IAmb IAmb 18 22 08.8
comp=Z,44nm,1.1s
GRAC Grapevine Rang 81.70 43 P P 18 21 44.4 +1.8
baz=232,SNR=6.2
214A Organ Pipe Nat 81.73 50 P P 18 21 43.8 +0.8
baz=235
NVAR Mina Array Bea 82.01 42 P P 18 21 47.7 +3.2
comp=Z,5.0nm,0.7s,baz=224,slow=8.6,SNR=3.6
NVAR LR LR 18 53 32.7
comp=Z,2µm,18.8s,baz=236,slow=32
comp=Z,5.0nm,0.7s
NV11 Mina Array Sit 82.10 42 P P 18 21 46.1 +1.2
NV11 IAmb IAmb 18 21 51.9
comp=Z,27nm,1.4s
H03S2 Juan Fernandez 82.14 123 T T 19 53 36.2
baz=244,slow=74,SNR=212
L04D Klamath Falls 82.16 37 P P 18 21 46.6 +1.5
H03S1 Juan Fernandez 82.16 123 T T 19 53 39.7
baz=244,slow=74,SNR=187
H03S3 Juan Fernandez 82.16 123 T T 19 53 33.9
baz=244,slow=74,SNR=228
PDMCI Parker Dam,Lak 82.17 47 P P 18 21 46.3 +1.2
baz=234
SII Sitkinak Islan 82.22 12 P P 18 21 46.0 +1.1
SII IAMs_20 IAMs_20 18 53 47.2
comp=Z,3µm,20.0s
SII Sitkinak Islan 82.22 12 P P 18 21 46.4 +1.5
baz=200
H03N2 Juan Fernandez 82.30 123 T T 19 53 24.7
baz=238,slow=74,SNR=79
H03N3 Juan Fernandez 82.30 123 T T 19 53 15.3
baz=238,SNR=102
H03N1 Juan Fernandez 82.31 123 T T 19 53 53.5
baz=238,slow=74,SNR=50
TPNV Topopah Spring 82.37 44 P P 18 21 48.7 +2.3
TPNV IAmb IAmb 18 22 12.3
comp=Z,47nm,1.4s
TPNV Topopah Spring 82.37 44 P P 18 21 48.7 +2.3
TPNV pmax pmax
comp=Z,47nm,1.5s
TPNV MLR MLR
comp=Z,3µm,19.0s
TPNV Topopah Spring 82.37 44 P P 18 21 46.6 +0.2
baz=232
VLA Vladivostok 82.44 324 *i* P **P 18 21 43.9 -2.4**
VLA pmax pmax
comp=Z,18nm,1.1s
MSHR Mys Shultsa 82.47 323 *i* P **P 18 21 41.9 -4.6**
KVN Kaiserville 82.52 41 P P 18 21 50.0 +2.8
KVN Kaiserville 82.52 41 P P 18 21 50.0 +2.8
KVN pmax pmax
comp=Z,15nm,1.0s
V12A Nelson 82.54 46 IAmb IAmb 18 21 53.2
comp=Z,41nm,1.6s
R17K Ugashik Creek 82.87 10 IAmb IAmb 18 21 53.0
comp=Z,35nm,1.0s
R17K Ugashik Creek 82.87 10 P P 18 21 49.3 +1.1
baz=198
USA0B Ussuriysk Arra 83.12 325 IAmb IAmb 18 21 55.4
comp=Z,46nm,1.1s
USA0B Ussuriysk Arra 83.12 325 *i* P **P 18 21 48.8 -1.1**
USRK Ussuriysk Ar. 83.12 325 P P 18 21 50.2 +0.3
comp=Z,23nm,0.8s,baz=131,slow=2.6,SNR=26
USRK LR LR 18 58 15.9
comp=Z,673nm,18.2s,baz=136,slow=36
comp=Z,23nm,0.8s
R18K Karluk 83.13 11 P P 18 21 50.6 +1.1
baz=199
TYV Tymovskoe 83.15 335 *e*P **P 18 21 51.4 +1.6**
TYV *e*S **S 18 32 14.2 +5.2**
TYV pmax pmax
comp=Z,300nm,2.6s
TYV pmax pmax
comp=Z,76nm,1.1s
TYV smax smax
comp=N,400nm,5.2s
K05A Summer Lake 83.27 37 P P 18 21 51.3 +0.4
SDSI Sungai Dareh 83.28 272 P P 18 21 51.4 -0.1
comp=N,12nm,0.9s
TUC Tucson 83.35 50 P P 18 21 53.2 +1.7
TUC IAmb IAmb 18 21 59.1
comp=Z,53nm,1.6s
TUC Tucson 83.35 50 P P 18 21 53.2 +1.7
TUC pmax pmax
comp=Z,53nm,1.6s
TUC MLR MLR
comp=Z,4µm,19.0s
TUC Tucson 83.35 50 P P 18 21 50.3 -1.1
baz=236
PRN Pahroc Range 83.41 44 IAmb IAmb 18 21 59.4
comp=Z,55nm,1.5s
ELIB Princess Elisa 83.45 186 *d*P **P 18 21 53.0 +1.5**
comp=Z,74nm,1.2s
ELIB *d*S **S 18 32 11.3 -0.9**
J05D Fort Rock, OR 83.45 37 P P 18 21 53.7 +1.9
H04D Lebanon 83.48 35 P P 18 21 53.8 +2.0
Q17K Contact Creek 83.55 10 P P 18 21 52.0 +0.1
baz=198,SNR=6.3
R11B Troy Canyon, C 83.64 43 IAMs_20 IAMs_20 18 54 23.8
comp=Z,2µm,19.0s
R11B Troy Canyon, C 83.64 43 P P 18 21 53.3 +0.3
baz=233
KDAK Kodiak Island 83.68 12 IAMs_20 IAMs_20 18 54 10.6
comp=Z,2µm,21.0s
KDAK Kodiak Island 83.68 12 P P 18 21 54.1 +1.7
baz=201
KDAK Kodiak Island 83.68 12 LR LR 18 54 53.4
comp=Z,1µm,19.6s,baz=231,slow=33
O14K Tigyukauivet M 83.75 7 IAMs_20 IAMs_20 19 00 21.9
comp=Z,2µm,20.0s
O14K Tigyukauivet M 83.75 7 P P 18 21 54.1 +1.4
baz=193
Q16K King Salmon 83.82 10 P P 18 21 54.3 +1.2
baz=197
O15K Ungalikthiuk R 83.85 8 P P 18 21 53.8 +0.6
baz=194
NJ2 Nanjing 83.86 309 *e*P **P 18 21 54.5 +0.6**
NJ2 pP **pP 18 21 57.3 0.0**
NJ2 sP **pwP 18 22 01.1 -2.8**
NJ2 pmax pmax
comp=Z,48nm,0.5s
NJ2 pmax pmax
comp=Z,820nm,4.3s
H04A Detroit Lake 83.88 35 P P 18 21 54.7 +0.9
H04A IAmb IAmb 18 22 17.8
comp=Z,39nm,1.4s
319A Douglas 83.91 52 IAmb IAmb 18 22 17.6
comp=Z,25nm,1.1s
PINE Pine Mountain 83.95 36 P P 18 21 56.5 +2.1
PINE IAmb IAmb 18 22 00.8
comp=Z,18nm,0.9s
P16K Nushagak River 83.96 9 P P 18 21 54.3 +0.5
baz=196
Q18K Katmai Hardscr 84.06 11 P P 18 21 55.1 +0.6
baz=199,SNR=11
X16A Lo Mia Camp, P 84.07 48 IAmb IAmb 18 22 04.5
comp=Z,19nm,0.9s
BKNI Bangkinang 84.14 273 IAMs_20 IAMs_20 18 59 27.2
comp=Z,2µm,20.0s
PDSI Padang 84.17 272 P P 18 21 57.1 +1.0
comp=Z,22nm,1.1s
TROLL Troll, Antarti 84.26 179 ⇑P **P 18 21 58.0 +2.4**
comp=Z,3µm,0.7s
LCMT Little Creek M 84.34 45 IAmb IAmb 18 22 03.3
comp=Z,17nm,1.0s
P17K Kvichak River 84.35 10 P P 18 21 56.1 +0.3
baz=197,SNR=6.6
WVOR Wild Horse Val 84.35 39 IAmb IAmb 18 22 09.6
comp=Z,21nm,1.1s
WVOR IAMs_20 IAMs_20 18 54 37.1
comp=Z,2µm,20.0s
N14K Kuskokwak Cree 84.36 7 P P 18 21 56.7 +0.9
baz=193,SNR=9.1
QIZ Qiongzhong 84.37 294 P P 18 21 56.6 -0.3
QIZ S **S 18 32 22.3 -0.4**
QIZ pmax pmax
comp=Z,600nm,7.1s
QIZ LR LR
comp=Z,300nm,10.6s
QIZ LR LR
comp=Z,530nm,12.4s
QIZ LR LR
comp=Z,680nm,16.3s
M11K Mekoryuk 84.40 5 P P 18 21 57.4 +1.5
baz=188
SNAA Sanae 84.48 178 P P 18 21 57.5 +0.9
SNAA Sanae 84.48 178 *i* P **P 18 21 56.7 +0.1**
SNAA pmax pmax
comp=Z,61nm,1.1s
SNAA Sanae 84.48 178 ⇑P **P 18 21 57.8 +1.2**
comp=Z,616nm,0.9s
SNAA Sanae 84.48 178 P P 18 21 58.2 +1.5
comp=Z,31nm,1.0s,baz=206,slow=4.4,SNR=24
SNAA LR LR 18 58 05.7
comp=Z,743nm,18.7s,baz=192,slow=34
comp=Z,31nm,1.0s
O16K Kokwok River B 84.49 9 IAMs_20 IAMs_20 19 00 10.6
comp=Z,2µm,19.0s
O16K Kokwok River B 84.49 9 P P 18 21 57.0 +0.5
baz=196
Q20K Shuyak Island 84.49 12 P P 18 21 57.9 +1.4
baz=201
SYI Shuyak Island 84.49 12 IAMs_20 IAMs_20 18 55 20.0
comp=Z,2µm,19.0s
VNA3 Neumayer Olymp 84.53 175 ⇑P **P 18 21 58.6 +1.7**
comp=Z,56nm,0.7s
Q19K Cape Douglas, 84.56 11 IAMs_20 IAMs_20 18 57 20.8
comp=Z,2µm,20.0s
Q19K Cape Douglas, 84.56 11 P P 18 21 57.9 +1.0
baz=200
CCUT Cedar City 84.58 45 IAmb IAmb 18 22 05.5
comp=Z,28nm,1.3s
U15A North Rim 84.63 46 IAmb IAmb 18 22 05.2
comp=Z,24nm,0.8s
M13K Dall Lake 84.67 6 IAMs_20 IAMs_20 19 01 04.9
comp=Z,1µm,19.0s
M13K Dall Lake 84.67 6 P P 18 21 58.4 +1.0
baz=191
MDJ Mudanjiang 84.67 324 P P 18 21 59.8 +2.0
MDJ pP sP 18 22 02.6 +0.2
MDJ S **S 18 32 24.8 +0.1**
MDJ ScS **ScS 18 32 35.3 -0.6**
MDJ SS **SS 18 37 55.8 -1.2**
MDJ pmax pmax
comp=Z,35nm,1.1s
MDJ pmax pmax
comp=Z,850nm,5.9s
MDJ LR LR
comp=Z,440nm,15.0s
MDJ LR LR
comp=Z,940nm,20.6s
MDJ LR LR
comp=Z,1µm,21.8s
MDJ Mudanjiang 84.67 324 IAmb IAmb 18 22 03.4
comp=Z,32nm,1.0s
G05A Wamic 84.71 35 P P 18 21 59.6 +1.6
G05A IAmb IAmb 18 22 26.9
comp=Z,24nm,1.1s
P18K Big Mountain, 84.73 10 IAmb IAmb 18 22 04.5
comp=Z,22nm,0.9s
P18K IAMs_20 IAMs_20 19 00 17.1
comp=Z,2µm,19.0s
P18K Big Mountain, 84.73 10 P P 18 21 58.3 +0.6
baz=198
WUAZ Wupatki 84.73 47 IAmb IAmb 18 22 05.4
comp=Z,27nm,1.1s
WUAZ Wupatki 84.73 47 P P 18 21 59.3 +0.8
baz=236,SNR=12
N15K Kwethluk River 84.78 8 P P 18 22 00.6 +2.6
N15K IAmb IAmb 18 22 03.5
comp=Z,39nm,1.2s
N15K IAMs_20 IAMs_20 19 00 53.2
comp=Z,2µm,20.0s
N15K Kwethluk River 84.78 8 P P 18 21 58.7 +0.7
baz=194
SZCU Shurtz Canyon 84.78 45 IAmb IAmb 18 22 25.0
comp=Z,23nm,1.1s
O17K Koliganek Bris 84.80 9 P P 18 21 58.7 +0.7
baz=197
PSUT Pine Spring 84.84 44 IAmb IAmb 18 22 05.5
comp=Z,36nm,1.7s
NLWA Neilton Lookou 84.88 32 IAMs_20 IAMs_20 19 00 15.5
comp=Z,2µm,18.0s
VNA2 Neumayer--Watz 84.99 176 ⇑P **P 18 22 02.2 +3.1**
comp=Z,46nm,0.9s,baz=198,slow=3.0
J08A Circle Bar Ran 85.03 38 IAmb IAmb 18 22 23.3
comp=Z,30nm,1.4s
G06A Carlson Farm, 85.07 35 IAmb IAmb 18 22 26.1
comp=Z,18nm,1.2s
M14K Bethel 85.14 7 IAMs_20 IAMs_20 19 01 08.5
comp=Z,2µm,20.0s
M14K Bethel 85.14 7 P P 18 22 00.0 +0.3
baz=192,SNR=12
X18A Snowflake 85.15 49 IAmb IAmb 18 22 07.7
comp=Z,15nm,0.9s
O18K Koktuh Hills 85.17 10 IAMs_20 IAMs_20 19 00 40.8
comp=Z,2µm,20.0s
O18K Koktuh Hills 85.17 10 P P 18 22 00.5 +0.5
baz=198,SNR=16
VNA1 Neumayer--Stat 85.20 176 ⇑P **P 18 22 02.5 +2.4**
comp=Z,69nm,1.0s
M15K Kasigluk River 85.22 7 P P 18 22 01.0 +0.9
baz=194,SNR=32
PLCA Paso Flores 85.23 133 P P 18 22 04.6 +3.6
PLCA IAmb IAmb 18 22 21.7
comp=Z,50nm,1.8s
PLCA Paso Flores 85.23 133 P P 18 22 04.6 +3.6
comp=Z,7.8nm,1.1s,baz=266,slow=8.3,SNR=3.7
PLCA LR LR 18 53 50.7
comp=Z,630nm,19.4s,baz=250,slow=31
comp=Z,7.8nm,1.1s
N16K Nishlik Lake 85.25 8 P P 18 21 59.9 -0.5
baz=195
SISI Saibi 85.26 271 P P 18 22 02.2 +0.7
comp=Z,33nm,1.6s
ELK Elko 85.30 41 IAMs_20 IAMs_20 18 56 57.4
comp=Z,2µm,19.0s
ELK Elko 85.30 41 LR LR 18 56 03.9
comp=Z,2µm,18.4s,baz=222,slow=33
P19K Oil Pt 85.31 11 IAMs_20 IAMs_20 19 00 53.7
comp=Z,2µm,19.0s
P19K Oil Pt 85.31 11 P P 18 22 01.2 +0.5
baz=200

NVL	N'lazarevskaya	85.38	182	eP	P	18 22 01.8	+0.7
NVL				eS	SKSac	18 32 24.6	-0.7
NVL				pmax	pmax		
	comp=Z,19nm,1.3s						
NVL				smax	smax		
	comp=N,729nm,15.2s						
NVL				MLR	MLR		
	comp=Z,2μm,18.0s						
GNW	Green Mountain	85.51	33	IAmb	IAmb	18 22 07.3	
	comp=Z,35nm,1.6s						
N17K	Nushagak Hills	85.51	9	IAMs_20	IAMs_20	19 00 51.7	
	comp=Z,1μm,19.0s						
N17K	Nushagak Hills	85.51	9	P	P	18 22 02.2	+0.5
	baz=197						
CNPM	China Poot	85.56	12	IAmb	IAmb	18 22 06.2	
	comp=Z,40nm,1.1s						
CNPM				IAMs_20	IAMs_20	18 57 38.5	
	comp=Z,3μm,20.0s						
121A	Cookes Peak, D	85.60	52	IAmb	IAmb	18 22 21.7	
	comp=Z,18nm,1.1s						
121A	Cookes Peak, D	85.60	52	P	P	18 22 03.0	0.0
	baz=238						
HOM	Homer	85.61	12	IAMs_20	IAMs_20	18 58 19.6	
	comp=Z,2μm,20.0s						
W18A	Petrified Fore	85.62	49	IAmb	IAmb	18 22 10.5	
	comp=Z,44nm,1.4s						
W18A	Petrified Fore	85.62	49	P	P	18 22 02.9	-0.1
	baz=237,SNR=7.3						
MTPU	Mount Pierson	85.62	45	IAmb	IAmb	18 22 10.6	
	comp=Z,55nm,1.6s						
O19K	Port Alsworth	85.64	10	IAMs_20	IAMs_20	19 00 46.2	
	comp=Z,2μm,19.0s						
O19K	Port Alsworth	85.64	10	P	P	18 22 02.9	+0.7
	baz=199						
GRNR	Gornyy	85.64	332	⇓iP	P	18 22 04.0	+1.5
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
L14K	Kuka Creek	85.64	6	IAMs_20	IAMs_20	19 01 25.8	
	comp=Z,2μm,20.0s						
L14K	Kuka Creek	85.64	6	P	P	18 22 03.4	+1.2
	baz=192						
M16K	Timber Creek	85.75	8	IAMs_20	IAMs_20	19 01 22.9	
	comp=Z,2μm,19.0s						
M16K	Timber Creek	85.75	8	P	P	18 22 04.2	+1.4
	baz=195,SNR=26						
O20K	Slope Mountain	85.82	11	P	P	18 22 04.2	+0.9
	baz=201						
DL2	Dalian	85.83	316	P	P	18 22 04.1	+0.4
DL2				S	S	18 32 39.8	+3.5
DL2				pmax	pmax		
	comp=Z,22nm,1.3s						
DL2				pmax	pmax		
	comp=Z,310nm,6.5s						
DL2				LR	LR		
	comp=Z,420nm,17.1s						
DL2				LR	LR		
	comp=Z,640nm,20.7s						
DL2				LR	LR		
	comp=Z,960nm,18.4s						
N18K	Kilae Creek	85.85	10	IAMs_20	IAMs_20	19 01 10.7	
	comp=Z,1μm,19.0s						
N18K	Kilae Creek	85.85	10	P	P	18 22 04.2	+0.9
	baz=198						
BRLK	Bradley Lake	85.85	12	IAmb	IAmb	18 22 08.1	
	comp=Z,47nm,1.2s						
BRLK				IAMs_20	IAMs_20	18 57 54.7	
	comp=Z,2μm,19.0s						
BRSE	Bradley Lake S	85.86	12	P	P	18 22 04.4	+1.0
	baz=203						
EPT	El Paso	86.13	53	IAMs_20	IAMs_20	18 55 44.4	
	comp=Z,2μm,19.0s						
N19K	Bonanza Creek	86.20	10	IAmb	IAmb	18 22 09.2	
	comp=Z,38nm,1.1s						
N19K				IAMs_20	IAMs_20	19 01 32.0	
	comp=Z,2μm,19.0s						
N19K	Bonanza Creek	86.20	10	P	P	18 22 05.1	0.0
	baz=199,SNR=8.9						
M17K	Holitna River	86.32	9	IAMs_20	IAMs_20	19 01 29.0	
	comp=Z,2μm,20.0s						
M17K	Holitna River	86.32	9	P	P	18 22 06.1	+0.5
	baz=196,SNR=17						
WHN	Wuhan	86.34	306	P	P	18 22 08.1	+1.6
L16K	Owhat River	86.36	8	IAmb	IAmb	18 22 11.2	
	comp=Z,35nm,1.1s						
L16K				IAMs_20	IAMs_20	19 01 32.8	
	comp=Z,2μm,19.0s						
L16K	Owhat River	86.36	8	P	P	18 22 05.8	0.0
	baz=195,SNR=15						
BBB	Bella Bella	86.40	27	LR	LR	18 56 11.8	
	comp=Z,872nm,18.8s,baz=205,slow=32						
HAWA	Hanford	86.41	35	IAmb	IAmb	18 22 41.0	
	comp=Z,31nm,1.6s						
CN2	Changchun	86.45	322	eP	P	18 22 08.0	+1.4
CN2				esP	pwP	18 22 15.0	-1.5
CN2				eS	S	18 32 42.3	+0.1
CN2				pmax	pmax		
	comp=Z,30nm,1.2s						
CN2				pmax	pmax		
	comp=Z,400nm,6.0s						
CN2				LR	LR		
	comp=Z,600nm,14.0s						
CN2				LR	LR		
	comp=Z,800nm,14.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s						
DUG	Dugway, Tooele	86.47	43	IAMs_20	IAMs_20	18 56 31.5	
	comp=Z,2μm,19.0s						
Q23K	Middleton Isla	86.50	14	IAMs_20	IAMs_20	19 00 34.7	
	comp=Z,2μm,18.0s						
KULM	Kulim	86.52	277	IAMs_20	IAMs_20	19 05 14.2	
	comp=Z,1μm,18.0s						
BNX	BinXian	86.58	324	⇓P	P	18 22 07.5	+0.2
BNX				pP	sP	18 22 12.4	+0.5
BNX				sP	pwP	18 22 14.0	-3.1
BNX				PP	PP	18 25 28.3	-1.3
BNX				S	S	18 32 49.5	+6.1
BNX				sS	ScS	18 32 57.9	+6.3
BNX				pmax	pmax		
	comp=Z,27nm,1.1s						
BNX				pmax	pmax		
	comp=Z,630nm,8.6s						
BNX				LR	LR		
	comp=Z,790nm,17.2s						
BNX				LR	LR		
	comp=Z,320nm,7.9s						
BNX				LR	LR		
	comp=Z,890nm,21.4s						
BMO	Blue Mountains	86.63	37	IAMs_20	IAMs_20	18 55 50.1	
	comp=Z,2μm,20.0s						
M18K	Stony River	86.64	9	P	P	18 22 07.9	+0.8
	baz=198,SNR=6.5						
KLR	Kul'dur	86.68	328	iP	P	18 22 08.2	+0.5
KLR				pmax	pmax		
	comp=Z,19nm,0.9s						
KLR	Kul'dur	86.68	328	LR	LR	18 56 34.5	
	comp=Z,1μm,20.4s,baz=140,slow=33						
K15K	Wolf Creek Mou	86.69	6	IAMs_20	IAMs_20	19 01 56.6	
	comp=Z,2μm,19.0s						
K15K	Wolf Creek Mou	86.69	6	P	P	18 22 08.8	+1.4
	baz=193,SNR=15						
O22K	Cooper Landing	86.74	12	IAMs_20	IAMs_20	18 58 49.7	
	comp=Z,2μm,19.0s						
P23K	Montague Islan	86.78	14	P	P	18 22 07.7	-0.2
	baz=206						
L17K	Donlin	86.91	8	P	P	18 22 09.0	+0.5
	baz=196,SNR=16						
MNTX	Cornudas Mount	86.92	53	P	P	18 22 08.5	-0.8
	baz=240						
N20K	Mount Spurr	86.94	11	P	P	18 22 09.2	+0.4
	baz=201,SNR=5.8						
SPCR	Spurr Chakacha	86.94	11	P	P	18 22 08.6	-0.2
	baz=201						
J14K	Nanvaranak Lak	86.95	5	IAMs_20	IAMs_20	19 02 39.2	
	comp=Z,2μm,20.0s						
J14K	Nanvaranak Lak	86.95	5	P	P	18 22 09.5	+0.9
	baz=191						
TMUT	Trail Mountain	86.97	44	IAmb	IAmb	18 22 28.0	
	comp=Z,20nm,1.0s						
CRAG	Craig	86.99	23	P	P	18 22 09.0	+0.1
	baz=218						
TX32	Lajitas Array	87.02	56	IAmb	IAmb	18 22 16.6	
	comp=Z,28nm,1.3s						
TXAR	Lajitas Array	87.02	56	P	P	18 22 13.5	+3.6
	comp=Z,13nm,1.1s,baz=216,slow=6.2,SNR=23						
TXAR				LR	LR	18 55 54.2	
	comp=Z,1μm,18.9s,baz=230,slow=32						
	comp=Z,13nm,1.1s						
RPSI	Rantau Prapat	87.03	274	P	P	18 22 09.3	-1.0
RPSI				IAMs_20	IAMs_20	19 05 21.8	
	comp=Z,1μm,18.0s						
PSI	Prapat	87.08	274	P	P	18 22 09.3	-1.3
PSI				pmax	pmax		
	comp=Z,52nm,1.0s						
PSI				MLR	MLR		
	comp=Z,1μm,18.0s						
L18K	Granite Mounta	87.21	9	IAMs_20	IAMs_20	19 02 06.5	
	comp=Z,2μm,20.0s						
L18K	Granite Mounta	87.21	9	P	P	18 22 10.5	+0.5
	baz=197,SNR=20						
M19K	Big River Lodg	87.25	10	IAmb	IAmb	18 22 14.5	
	comp=Z,16nm,1.0s						
M19K				IAMs_20	IAMs_20	19 02 04.6	
	comp=Z,2μm,20.0s						
M19K	Big River Lodg	87.25	10	P	P	18 22 11.0	+0.9
	baz=199						
FIS	Fire Island	87.26	12	IAMs_20	IAMs_20	18 57 18.2	
	comp=Z,2μm,19.0s						
RC01	Rabbit Creek A	87.30	12	IAMs_20	IAMs_20	18 58 31.3	
	comp=Z,1μm,19.0s						
RC01	Rabbit Creek A	87.30	12	P	P	18 22 10.9	+0.5
	baz=203,SNR=10						
SRU	San Rafael Swe	87.30	45	IAmb	IAmb	18 22 37.1	
	comp=Z,15nm,1.0s						
TIA	Tai'an	87.31	312	⇓P	P	18 22 12.3	+1.2
TIA				pmax	pmax		
	comp=Z,24nm,1.2s						
HIN	Hinchinbrook I	87.34	14	IAMs_20	IAMs_20	18 56 14.6	
	comp=Z,2μm,21.0s						
PWL	Port Wells	87.37	13	IAMs_20	IAMs_20	18 59 04.3	
	comp=Z,2μm,20.0s						
PWL	Port Wells	87.37	13	P	P	18 22 11.2	+0.5
	baz=205						
F10A	Beach Ranch, E	87.38	36	IAmb	IAmb	18 22 37.0	
	comp=Z,16nm,1.2s						
KAIM	Kayak Island	87.40	15	P	P	18 22 11.6	+0.7
	baz=208						
V35K	Ketchikan	87.42	23	P	P	18 22 10.8	-0.2
	baz=219						
M20K	Styx River	87.43	10	IAmb	IAmb	18 22 15.1	
	comp=Z,16nm,1.2s						
M20K	Styx River	87.43	10	P	P	18 22 10.6	-0.5
	baz=200						
L19K	White Mountain	87.44	10	IAmb	IAmb	18 22 16.4	
	comp=Z,32nm,1.1s						
L19K				IAMs_20	IAMs_20	19 02 19.7	
	comp=Z,1μm,19.0s						
L19K	White Mountain	87.44	10	P	P	18 22 11.8	+0.7
	baz=199,SNR=12						
SUA	Susitna One	87.45	12	IAmb	IAmb	18 22 42.1	
	comp=Z,29nm,1.2s						
SUA	Susitna One	87.45	12	P	P	18 22 12.0	+0.7
	baz=202						
K17K	Iditarod	87.47	8	IAmb	IAmb	18 22 17.3	
	comp=Z,29nm,1.2s						
K17K	Iditarod	87.47	8	P	P	18 22 12.0	+0.8
	baz=196,SNR=7.9						
HLID	Hailey	87.48	40	P	P	18 22 11.7	-0.3
	baz=233						
U33K	Whale Pass	87.50	22	P	P	18 22 12.2	+0.8
	baz=218						
PLID	Pearl Lake	87.50	38	IAMs_20	IAMs_20	18 56 48.3	
	comp=Z,2μm,20.0s						
GAMB	Gambell	87.51	2	P	P	18 22 13.0	+1.7
	baz=183						
ALPN	Alpine	87.55	55	IAmb	IAmb	18 22 19.5	
	comp=Z,56nm,1.6s						
EYAK	Cordova Ski Ar	87.64	14	P	P	18 22 12.9	+0.9
	baz=207						
GLI	Glacier Island	87.64	13	IAMs_20	IAMs_20	18 56 34.7	
	comp=Z,2μm,20.0s						
GLI	Glacier Island	87.64	13	P	P	18 22 12.5	+0.4
	baz=206						
FID	Port Fidalgo	87.66	14	IAMs_20	IAMs_20	18 56 24.9	
	comp=Z,2μm,20.0s						
SUCK	Suckling Hills	87.68	15	IAMs_20	IAMs_20	18 56 19.9	
	comp=Z,2μm,20.0s						
GSI	Gunungsitoli	87.70	272	P	P	18 22 13.7	+0.2
GSI				IAMs_20	IAMs_20	19 06 23.3	
	comp=Z,1μm,18.0s						
GSI	Gunungsitoli	87.70	272	P	P	18 22 13.9	+0.4
	comp=Z,133nm,1.0s,comp=Z,2μm						
MA2	Magadan	87.74	344	iP	P	18 22 09.4	-3.2
MA2				pmax	pmax		
	comp=Z,70nm,2.1s						
MA2	Magadan	87.74	344	LR	LR	18 56 40.8	
	comp=Z,1μm,20.3s,baz=150,slow=32						
J16K	Anvik River	87.76	7	IAMs_20	IAMs_20	19 02 38.8	
	comp=Z,2μm,19.0s						
J16K	Anvik River	87.76	7	P	P	18 22 14.2	+1.6
	baz=194,SNR=9.9						
SKT	Skwentna	87.79	11	IAMs_20	IAMs_20	19 02 14.3	
	comp=Z,2μm,19.0s						
SKT	Skwentna	87.79	11	P	P	18 22 13.5	+0.7
	baz=202						
ANMO	Albuquerque	87.81	50	P	P	18 22 16.6	+2.9
ANMO	Albuquerque	87.81	50	P	P	18 22 16.7	+2.9
ANMO				pmax	pmax		
	comp=Z,11nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,4μm,19.0s						
ANMO	Albuquerque	87.81	50	P	P	18 22 13.5	-0.2
	baz=239						
ANMO	Albuquerque	87.81	50	LR	LR	18 57 19.6	
	comp=Z,4μm,18.7s,baz=327,slow=33						
M22K	Willow	87.84	12	IAMs_20	IAMs_20	18 59 13.6	
	comp=Z,2μm,20.0s						
M22K	Willow	87.84	12	P	P	18 22 14.1	+1.1
	baz=203						
KNK	Knik Glacier	87.85	13	IAmb	IAmb	18 22 18.0	
	comp=Z,28nm,1.1s						
KNK				IAMs_20	IAMs_20	18 59 11.9	
	comp=Z,2μm,20.0s						
KNK	Knik Glacier	87.85	13	P	P	18 22 14.5	+1.5
	baz=205						
L20K	Farewell, AK	87.87	10	P	P	18 22 14.1	+1.0
	baz=200,SNR=7.5						
PMR	Palmer	87.88	12	IAmb	IAmb	18 22 17.9	
	comp=Z,40nm,1.2s						
PMR	Palmer	87.88	12	P	P	18 22 13.7	+0.5
	baz=204						
BSUT	Blindstream Ca	87.95	44	IAmb	IAmb	18 22 39.9	
	comp=Z,14nm,0.9s						
S31K	Pelican	87.96	20	P	P	18 22 14.0	+0.4
	baz=215						
C09A	Chrisman Ranch	87.98	35	IAmb	IAmb	18 22 19.6	
	comp=Z,16nm,1.1s						
TTA	Tatalina	87.98	9	P	P	18 22 14.6	+0.9
	baz=198,SNR=30						
J17K	VABM Dome	88.04	7	IAmb	IAmb	18 22 18.7	
	comp=Z,24nm,1.1s						
J17K				IAMs_20	IAMs_20	19 02 45.3	
	comp=Z,2μm,20.0s						
J17K	VABM Dome	88.04	7	P	P	18 22 15.1	+1.3
	baz=195						
HWUT	Hardware Ranch	88.05	42	IAMs_20	IAMs_20	18 58 00.4	
	comp=Z,2μm,19.0s						
S32K	Killisnoo	88.09	21	P	P	18 22 15.3	+1.1
	baz=217						
MESA	MESA	88.22	16	IAMs_20	IAMs_20	19 06 35.4	
	comp=Z,2μm,19.0s						
MESA	MESA	88.22	16	P	P	18 22 15.8	+0.7
	baz=210						
SML	Sawmill	88.23	13	IAmb	IAmb	18 22 34.3	
	comp=Z,20nm,0.9s						
SML				IAMs_20	IAMs_20	18 59 44.1	
	comp=Z,1μm,19.0s						
SML	Sawmill	88.23	13	P	P	18 22 15.8	+0.9
	baz=205						
ID07	Smith Canyon R	88.27	41	IAMs_20	IAMs_20	18 57 36.9	
	comp=Z,2μm,19.0s						
BMRM	Bremner River	88.27	15	P	P	18 22 15.6	+0.4
	baz=208						
I17K	Unalakleet	88.34	6	IAMs_20	IAMs_20	19 02 57.0	
	comp=Z,2μm,19.0s						
I17K	Unalakleet	88.34	6	P	P	18 22 16.2	+1.0
	baz=194						
M23K	Glacier View	88.34	13	P	P	18 22 16.0	+0.6
	baz=205						
J18K	Innoko River	88.40	8	IAMs_20	IAMs_20	19 02 44.9	
	comp=Z,2μm,20.0s						
J18K	Innoko River	88.40	8	P	P	18 22 15.2	-0.4
	baz=197,SNR=31						
CUT	Chulitna	88.41	11	P	P	18 22 16.2	+0.5
	baz=203						
KCSI	Kotacane, Aceh	88.42	275	P	P	18 22 14.8	-2.1
	comp=Z,17nm,1.1s						
CRQM	Cirque	88.43	15	IAMs_20	IAMs_20	18 59 09.0	
	comp=Z,2μm,20.0s						
CRQE	Cirque	88.44	15	P	P	18 22 16.7	+0.6
	baz=209						
KLU	Klutina	88.45	14	IAmb	IAmb	18 22 22.7	
	comp=Z,23nm,1.1s						
KLU				IAMs_20	IAMs_20	18 56 52.0	
	comp=Z,2μm,20.0s						
KLU	Klutina	88.45	14	P	P	18 22 16.0	0.0
	baz=207,SNR=6.6						
SCM	Sheep Creek Mo	88.46	13	IAMs_20	IAMs_20	18 59 30.1	
	comp=Z,1μm,20.0s						
SCM	Sheep Creek Mo	88.46	13	P	P	18 22 16.6	+0.6
	baz=206,SNR=5.5						
PNL	Peninsula	88.46	17	P	P	18 22 15.5	-0.5
	baz=213						
SAND	Sanderson	88.50	56	IAmb	IAmb	18 22 22.7	
	comp=Z,18nm,1.6s						
TGL	Tana Glacier	88.51	15	IAmb	IAmb	18 22 22.9	
	comp=Z,36nm,1.1s						
TGL				IAMs_20	IAMs_20	18 58 41.7	
	comp=Z,2μm,21.0s						
PPLA	Purkeypile	88.53	10	P	P	18 22 16.8	+0.3
	baz=201						
PINM	Pinnacle	88.59	17	P	P	18 22 17.7	+1.0
	baz=212						
ANM	Nome	88.60	4	P	P	18 22 17.2	+0.6
	baz=189						
PEL	Peldehue	88.65	126	IAMs_20	IAMs_20	18 55 35.8	
	comp=Z,1μm,19.0s						
K20K	Telida	88.67	9	P	P	18 22 17.4	+0.4
	baz=200,SNR=17						
ID06	Fossil Canyon	88.68	42	IAMs_20	IAMs_20	18 58 30.8	
	comp=Z,2μm,19.0s						
GRNC	Granite Creek	88.75	16	IAMs_20	IAMs_20	18 56 33.3	
	comp=Z,1μm,20.0s						
R32K	Eaglecrest	88.75	20	P	P	18 22 18.7	+1.3
	baz=217						
VRDI	Verde Repeater	88.77	15	IAMs_20	IAMs_20	18 58 59.7	
	comp=Z,2μm,19.0s						
N25K	Chitina, Valde	88.84	14	IAmb	IAmb	18 22 22.4	
	comp=Z,21nm,0.8s						
N25K	Chitina, Valde	88.84	14	P	P	18 22 19.1	+1.2
	baz=208,SNR=6.6						
GLB	Gilahina Butte	88.88	15	IAmb	IAmb	18 22 23.3	
	comp=Z,23nm,1.0s						
P29M	Windy Craggy	88.89	18	IAmb	IAmb	18 22 23.3	
	comp=Z,54nm,1.6s						
P29M	Windy Craggy	88.89	18	P	P	18 22 18.1	0.0
	baz=214						
H16K	Elim	88.92	6	P	P	18 22 19.1	+1.1
	baz=192						
M24K	Tolsona, Glenn	88.94	13	IAMs_20	IAMs_20	18 59 53.0	
	comp=Z,2μm,20.0s						
M24K	Tolsona, Glenn	88.94	13	P	P	18 22 18.6	+0.3
	baz=207,SNR=5.4						
ID10	Lander Cutoff	88.98	42	IAMs_20	IAMs_20	19 02 58.9	
	comp=Z,2μm,20.0s						
AHID	Auburn Hatcher	88.99	42	IAMs_20	IAMs_20	18 58 19.2	
	comp=Z,2μm,19.0s						
S22A	4UR Ranch, Cre	89.01	48	IAmb	IAmb	18 22 26.5	
	comp=Z,17nm,1.4s						
S22A	4UR Ranch, Cre	89.01	48	P	P	18 22 19.7	+0.2
	baz=238						
MCARA	McCarthy VSAT	89.01	15	IAMs_20	IAMs_20	18 59 27.0	
	comp=Z,1μm,19.0s						
MCARA	McCarthy VSAT	89.01	15	P	P	18 22 19.5	+0.9
	baz=209,SNR=10						
LOGN	Logan Glacier	89.02	16	IAMs_20	IAMs_20	18 56 52.4	
	comp=Z,2μm,20.0s						
CAST	Castle Rocks	89.04	10	P	P	18 22 17.6	-1.1
CAST				IAmb	IAmb	18 22 22.2	
	comp=Z,34nm,1.1s						
CAST	Castle Rocks	89.04	10	P	P	18 22 18.7	+0.1
	baz=201,SNR=21						
J19K	Poorman	89.05	9	IAMs_20	IAMs_20	19 00 14.2	
	comp=Z,2μm,20.0s						
J19K	Poorman	89.05	9	P	P	18 22 20.3	+1.6
	baz=198,SNR=9.5						
WAT6	Susitna Watana	89.05	12	P	P	18 22 19.4	+0.5
	baz=205,SNR=19						
CTG	Chitna Glacier	89.06	16	P	P	18 22 18.6	-0.3
	baz=211						
CTGM	Chitina Glacie	89.06	16	IAmb	IAmb	18 22 31.7	
	comp=Z,37nm,1.2s						
WAT1	Susitna Watana	89.12	12	P	P	18 22 19.3	+0.2
	baz=204						
G15K	Niukluk	89.12	5	P	P	18 22 19.3	+0.4
	baz=190,SNR=7.1						
PLBC	Pleasant Camp	89.14	19	P	P	18 22 19.5	+0.3
	baz=215						
T35M	Bob Quinn	89.18	23	P	P	18 22 20.2	+0.7
	baz=220						
O28M	Mount Upton	89.18	16	P	P	18 22 20.5	+0.8
	baz=212,SNR=5.4						
O29M	Mount Kennedy	89.22	17	IAmb	IAmb	18 22 32.9	
	comp=Z,59nm,1.6s						
O29M	Mount Kennedy	89.22	17	P	P	18 22 19.9	+0.2
	baz=213						
SNSI	Sinabang, Aceh	89.29	273	P	P	18 22 20.1	-0.9
	comp=Z,58nm,0.5s						
O20A	White River Ci	89.34	45	P	P	18 22 20.8	-0.1
	baz=238						
KTH	Kantishna Hill	89.36	11	IAmb	IAmb	18 22 23.9	
	comp=Z,28nm,1.0s						
TRF	Thorofare Moun	89.38	11	P	P	18 22 21.2	+0.8
	baz=203,SNR=19						
DRIO	Del Rio	89.40	57	IAmb	IAmb	18 25 39.4	
	comp=Z,32nm,0.6s						
HARP	HAARP	89.42	14	P	P	18 22 21.1	+0.6
	baz=208						
J20K	Nowinta River	89.44	9	P	P	18 22 21.2	+0.8
	baz=199,SNR=21						
CHUM	Lake Minchumin	89.44	10	P	P	18 22 20.9	+0.5
	baz=201						
TNA	Tin City	89.44	3	P	P	18 22 21.0	+0.6
	baz=187						
F14K	Arctic Creek	89.44	4	P	P	18 22 21.8	+1.4
	baz=188						
H17K	Granite Mounta	89.44	7	IAMs_20	IAMs_20	19 03 42.3	
	comp=Z,2μm,19.0s						
H17K	Granite Mounta	89.44	7	P	P	18 22 21.0	+0.5
	baz=194,SNR=7.5						
SKAG	Skagway	89.46	19	IAmb	IAmb	18 22 27.2	
	comp=Z,44nm,1.2s						
SKAG	Skagway	89.46	19	P	P	18 22 20.7	+0.1
	baz=216						
HEH	HeiHe	89.47	327	eP	P	18 22 20.9	0.0
HEH				S	S	18 33 11.4	+0.7
HEH				ScS	ScS	18 33 14.5	-0.8
HEH				sS	sS	18 33 19.8	+3.5
HEH				pmax	pmax		
	comp=Z,42nm,1.0s						
HEH				pmax	pmax		
	comp=Z,500nm,5.8s						
HEH				LR	LR		
	comp=Z,460nm,20.1s						
HEH				LR	LR		
	comp=Z,980nm,20.5s						
HEH				LR	LR		
	comp=Z,1μm,21.7s						
TPAW	Teton Pass	89.49	41	IAMs_20	IAMs_20	18 58 07.2	
	comp=Z,2μm,19.0s						
P30M	Million Dollar	89.52	18	P	P	18 22 22.0	+1.0
	baz=215,SNR=5.4						
FXWY	Fox Creek	89.53	41	IAMs_20	IAMs_20	18 58 19.2	
	comp=Z,1μm,20.0s						
DHY	Denali Highway	89.57	12	IAmb	IAmb	18 22 26.3	
	comp=Z,35nm,1.3s						
DHY	Denali Highway	89.57	12	P	P	18 22 22.4	+1.0
	baz=206,SNR=7.7						
HNS	HongShan	89.58	312	⇑P	P	18 22 23.1	+1.4
HNS				S	S	18 33 03.0	-9.3
HNS				pmax	pmax		
	comp=Z,19nm,1.0s						
HNS				LR	LR		
	comp=Z,530nm,16.0s						
HNS				LR	LR		
	comp=Z,840nm,16.8s						
HNS				LR	LR		
	comp=Z,960nm,20.0s						
S34M	Telegraph Cree	89.58	22	IAmb	IAmb	18 22 27.1	
	comp=Z,44nm,1.4s						
S34M	Telegraph Cree	89.58	22	P	P	18 22 22.6	+1.3
	baz=220,SN

	comp=Z,2µm,19.0s						
DLMT	**Dillon**	**89.59**	**39**	IAMs_20	IAMs_20	18 58 06.9	
	comp=Z,2µm,20.0s						
GCSA	**Galena City Sc**	**89.61**	**8**	P	**P**	**18 22 22.0**	**+0.8**
	baz=197						
G16K	**Koyuk River**	**89.66**	**5**	IAMs_20	IAMs_20	19 04 31.7	
	comp=Z,1µm,20.0s						
G16K	**Koyuk River**	**89.66**	**5**	P	**P**	**18 22 22.0**	**+0.5**
	baz=192						
SMCO	**Snowmass**	**89.66**	**46**	IAMs_20	IAMs_20	18 57 52.7	
	comp=Z,2µm,19.0s						
MSO	**Missoula**	**89.70**	**37**	IAMs_20	IAMs_20	18 58 26.3	
	comp=Z,2µm,20.0s						
MSO	**Missoula**	**89.70**	**37**	P	**P**	**18 22 22.0**	**-0.3**
	baz=234						
LYN	**LuoYang**	**89.72**	**308**	⇓P	**P**	**18 22 24.6**	**+2.1**
LYN				sP	pwP	18 22 33.1	+0.7
LYN				S	**S**	**18 33 08.8**	**-5.0**
LYN				pmax	pmax		
	comp=Z,62nm,1.2s						
LYN				pmax	pmax		
	comp=Z,810nm,3.9s						
LYN				LR	LR		
	comp=Z,590nm,16.2s						
LYN				LR	LR		
	comp=Z,1µm,16.2s						
LYN				LR	LR		
	comp=Z,1µm,16.8s						
IMW	**Indian Meadow**	**89.73**	**41**	IAMs_20	IAMs_20	19 01 05.3	
	comp=Z,1µm,18.0s						
MOOW	**Moose Ponds**	**89.76**	**41**	IAMs_20	IAMs_20	18 58 36.4	
	comp=Z,2µm,19.0s						
LOHW	**Long Hollow**	**89.77**	**41**	IAMs_20	IAMs_20	18 57 57.6	
	comp=Z,2µm,19.0s						
F15K	**North Star Dit**	**89.78**	**4**	P	**P**	**18 22 23.1**	**+1.0**
	baz=190						
YUK6	**Outpost Mounta**	**89.81**	**17**	P	**P**	**18 22 23.7**	**+1.1**
	baz=214						
H18K	**Honhosa River**	**89.82**	**7**	IAmb	IAmb	18 22 26.7	
	comp=Z,28nm,1.3s						
H18K				IAMs_20	IAMs_20	19 04 01.4	
	comp=Z,2µm,19.0s						
H18K	**Honhosa River**	**89.82**	**7**	P	**P**	**18 22 23.4**	**+1.1**
	baz=196,SNR=5.7						
833A	**Chaparral WMA,**	**89.84**	**59**	P	**P**	**18 22 22.9**	**-0.3**
	baz=243						
BPAW	**Bear Paw Mtn.**	**89.86**	**11**	IAMs_20	IAMs_20	19 03 29.8	
	comp=Z,2µm,19.0s						
BPAW	**Bear Paw Mtn.**	**89.86**	**11**	P	**P**	**18 22 23.7**	**+1.3**
	baz=202						
PAX	**Paxson**	**89.86**	**13**	P	**P**	**18 22 22.7**	**+0.1**
	baz=207,SNR=9.2						
MCK	**McKinley**	**89.88**	**11**	P	**P**	**18 22 23.1**	**+0.6**
	baz=204,SNR=12						
M26K	**Nabesna, AK**	**89.90**	**14**	IAmb	IAmb	18 22 28.2	
	comp=Z,23nm,1.0s						
M26K				IAMs_20	IAMs_20	19 04 44.6	
	comp=Z,1µm,20.0s						
M26K	**Nabesna, AK**	**89.90**	**14**	P	**P**	**18 22 23.1**	**+0.3**
	baz=209,SNR=13						
SDCO	**Great Sand Dun**	**89.91**	**48**	P	**P**	**18 22 24.0**	**+0.3**
	baz=239,SNR=7.9						
G17K	**Kiwalik Mounta**	**89.92**	**6**	P	**P**	**18 22 23.5**	**+0.8**
	baz=194,SNR=11						
BW06	**Boulder Array**	**89.94**	**42**	IAMs_20	IAMs_20	19 04 21.2	
	comp=Z,1µm,18.0s						
BW06	**Boulder Array**	**89.94**	**42**	P	**P**	**18 22 22.2**	**-1.5**
	baz=237						
PDAR	**Pinedale Array**	**89.94**	**42**	P	**P**	**18 22 22.9**	**-0.8**
PDAR	**Pinedale Array**	**89.94**	**42**	P	**P**	**18 22 27.4**	**+3.8**
	comp=Z,2.0nm,0.8s,baz=205,slow=3.1,SNR=6.3						
	comp=Z,2.0nm,0.8s						
HYT	**Haines Junctio**	**89.95**	**18**	IAmb	IAmb	18 22 29.6	
	comp=Z,27nm,1.3s						
HYT	**Haines Junctio**	**89.95**	**18**	P	**P**	**18 22 23.7**	**+0.6**
	baz=214						
MSTX	**Muleshoe**	**89.95**	**53**	P	**P**	**18 22 22.7**	**-1.1**
	baz=241						
BJT	**Baijiatuau**	**89.96**	**314**	IAmb	IAmb	18 22 39.4	
	comp=Z,56nm,1.8s						
MLSI	**Meulaboh, Aceh**	**89.97**	**275**	P	**P**	**18 22 22.9**	**-1.3**
	comp=Z,79nm,1.0s						
BJI	**Beijing**	**89.97**	**314**	P	**P**	**18 22 24.9**	**+1.4**
BJI				SKS	**SKSac**	**18 32 55.3**	**+1.5**
BJI				sS	**sS**	**18 33 25.9**	**+4.8**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.5s						
BJI				pmax	pmax		
	comp=Z,200nm,6.7s						
BJI				LR	LR		
	comp=Z,360nm,17.8s						
BJI				LR	LR		
	comp=Z,200nm,18.2s						
BJI				LR	LR		
	comp=Z,480nm,18.3s						
YUK3	**Moose Creek**	**89.97**	**16**	P	**P**	**18 22 23.7**	**+0.4**
	baz=212,SNR=26						
FLWY	**Flagg Ranch**	**89.97**	**41**	IAmb	IAmb	18 22 37.4	
	comp=Z,17nm,1.1s						
FLWY				IAMs_20	IAMs_20	19 04 29.0	
	comp=Z,1µm,18.0s						
I20K	**Naaghedeneel**	**89.97**	**9**	IAMs_20	IAMs_20	18 58 05.6	
	comp=Z,2µm,21.0s						
I20K	**Naaghedeneel**	**89.97**	**9**	P	**P**	**18 22 24.3**	**+1.3**
	baz=199,SNR=9.1						
Q32M	**Nakina River**	**90.02**	**21**	IAmb	IAmb	18 22 28.3	
	comp=Z,45nm,1.5s						
Q32M	**Nakina River**	**90.02**	**21**	P	**P**	**18 22 24.3**	**+0.7**
	baz=219						
P32M	**Atlin**	**90.05**	**20**	IAmb	IAmb	18 22 29.5	
	comp=Z,22nm,1.3s						
P32M	**Atlin**	**90.05**	**20**	P	**P**	**18 22 25.1**	**+1.5**
	baz=218						
YHL	**Hebgen Lake**	**90.12**	**40**	IAmb	IAmb	18 22 39.0	
	comp=Z,19nm,1.1s						
M27K	**Edge Creek, AK**	**90.13**	**15**	IAMs_20	IAMs_20	19 00 04.5	
	comp=Z,2µm,20.0s						
M27K	**Edge Creek, AK**	**90.13**	**15**	P	**P**	**18 22 25.3**	**+1.4**
	baz=210,SNR=31						
MENT	**Mentasta**	**90.21**	**14**	IAmb	IAmb	18 22 34.7	
	comp=Z,28nm,1.0s						
H17A	**Grant Village**	**90.22**	**40**	P	**P**	**18 22 24.1**	**-0.9**
	baz=236						
SEY	**Seymchan**	**90.28**	**346**	*i* P	**P**	**18 22 24.6**	**+0.2**
SEY				pmax	pmax		
	comp=Z,33nm,1.2s						
SEY	**Seymchan**	**90.28**	**346**	LR	LR	18 59 14.2	
	comp=Z,722nm,20.1s,baz=152,slow=33						
BOZ	**Bozeman (W)**	**90.28**	**39**	IAmb	IAmb	18 22 31.7	
	comp=Z,26nm,1.4s						
BOZ				IAMs_20	IAMs_20	18 58 47.2	
	comp=Z,2µm,20.0s						
BOZ	**Bozeman (W)**	**90.28**	**39**	P	**P**	**18 22 25.6**	**+0.5**
	baz=235,SNR=10						
O30N	**Mendenhall**	**90.30**	**18**	IAmb	IAmb	18 22 31.1	
	comp=Z,45nm,1.3s						
O30N				IAMs_20	IAMs_20	19 08 03.6	
	comp=Z,1µm,19.0s						
O30N	**Mendenhall**	**90.30**	**18**	P	**P**	**18 22 25.1**	**+0.4**
	baz=216,SNR=10.0						
T25A	**Trinidad**	**90.35**	**49**	P	**P**	**18 22 25.0**	**-0.7**
	baz=240						
GYA	**Guiyang**	**90.35**	**299**	⇓P	**P**	**18 22 27.4**	**+1.6**
GYA				S	**S**	**18 33 19.9**	**-0.4**
GYA				pmax	pmax		
	comp=Z,18nm,1.2s						
GYA				pmax	pmax		
	comp=Z,730nm,8.5s						
GYA				LR	LR		
	comp=Z,560nm,11.6s						
GYA				LR	LR		
	comp=Z,450nm,13.5s						
GYA				LR	LR		
	comp=Z,780nm,22.6s						
DLBC	**Dease Lake**	**90.36**	**22**	IAmb	IAmb	18 22 31.1	
	comp=Z,48nm,1.6s						
DLBC	**Dease Lake**	**90.36**	**22**	P	**P**	**18 22 25.8**	**+0.8**
	baz=221						
DLBC	**Dease Lake**	**90.36**	**22**	LR	LR	18 57 50.7	
	comp=Z,613nm,19.8s,baz=240,slow=32						
L26K	**Log Cabin Wild**	**90.37**	**14**	IAmb	IAmb	18 22 35.5	
	comp=Z,21nm,1.1s						
L26K				IAMs_20	IAMs_20	18 57 52.9	
	comp=Z,2µm,20.0s						
L26K	**Log Cabin Wild**	**90.37**	**14**	P	**P**	**18 22 26.1**	**+1.2**
	baz=209,SNR=12						
SLVN	**Son La**	**90.38**	**293**	IAmb	IAmb	18 22 32.0	
	comp=Z,30nm,1.4s						
H19K	**Roundabout Mou**	**90.41**	**8**	IAMs_20	IAMs_20	19 04 08.0	
	comp=Z,2µm,19.0s						
H19K	**Roundabout Mou**	**90.41**	**8**	P	**P**	**18 22 25.9**	**+0.9**
	baz=197,SNR=21						
POST	**Post**	**90.45**	**54**	IAmb	IAmb	18 22 31.5	
	comp=Z,21nm,1.2s						
HNDO	**Hondo**	**90.48**	**58**	IAmb	IAmb	18 25 07.9	
	comp=Z,20nm,0.6s						
G18K	**Tagagawik**	**90.51**	**7**	IAMs_20	IAMs_20	19 04 34.5	
	comp=Z,2µm,19.0s						
G18K	**Tagagawik**	**90.51**	**7**	P	**P**	**18 22 25.9**	**+0.5**
	baz=195,SNR=16						
JCT	**Junction City**	**90.51**	**57**	IAMs_20	IAMs_20	18 57 26.0	
	comp=Z,2µm,19.0s						
K24K	**Donnelly Dome**	**90.55**	**13**	P	**P**	**18 22 27.1**	**+1.4**
	baz=207,SNR=16						
WHY	**Whitehorse**	**90.56**	**19**	IAmb	IAmb	18 22 32.3	
	comp=Z,24nm,1.3s						
WHY	**Whitehorse**	**90.56**	**19**	P	**P**	**18 22 26.6**	**+0.7**
	baz=216						
LCO	**Las Campanas**	**90.56**	**122**	P	**P**	**18 22 30.5**	**+3.4**
LCO				IAmb	IAmb	18 23 04.0	
	comp=Z,17nm,1.1s						
LCO	**Las Campanas**	**90.56**	**122**	P	**P**	**18 22 30.5**	**+3.4**
LCO				pmax	pmax		
	comp=Z,17nm,1.2s						
H20K	**Anotleneega Mo**	**90.58**	**8**	P	**P**	**18 22 26.9**	**+1.1**
	baz=199,SNR=12						
N30M	**Aishikik Lake**	**90.59**	**17**	P	**P**	**18 22 27.9**	**+1.9**
	baz=215						
NEA2	**Nenana**	**90.64**	**11**	P	**P**	**18 22 26.9**	**+0.8**
	baz=204						
KVTX	**Kingsville**	**90.67**	**60**	IAMs_20	IAMs_20	19 00 15.6	
	comp=Z,2µm,19.0s						
RIDG	**Independent Ri**	**90.68**	**13**	IAMs_20	IAMs_20	18 58 24.9	
	comp=Z,2µm,20.0s						
RIDG	**Independent Ri**	**90.68**	**13**	P	**P**	**18 22 27.5**	**+1.2**
	baz=208,SNR=14						
I21K	**Tanana**	**90.70**	**10**	IAmb	IAmb	18 23 04.4	
	comp=Z,29nm,1.3s						
I21K				IAMs_20	IAMs_20	19 04 04.0	
	comp=Z,1µm,19.0s						
I21K	**Tanana**	**90.70**	**10**	P	**P**	**18 22 26.5**	**+0.2**
	baz=201						
WRH	**Wood River Hil**	**90.71**	**12**	IAMs_20	IAMs_20	19 00 55.3	
	comp=Z,1µm,20.0s						
L27K	**Beaver Creek,**	**90.75**	**15**	IAmb	IAmb	18 22 32.1	
	comp=Z,52nm,1.6s						
L27K				IAMs_20	IAMs_20	19 03 32.9	
	comp=Z,1µm,19.0s						
L27K	**Beaver Creek,**	**90.75**	**15**	P	**P**	**18 22 27.0**	**+0.4**
	baz=210,SNR=15						
MLY	**Manley**	**90.76**	**10**	IAmb	IAmb	18 22 31.2	
	comp=Z,18nm,1.2s						
MLY	**Manley**	**90.76**	**10**	P	**P**	**18 22 27.1**	**+0.4**
	baz=202						
R33M	**Jennings River**	**90.78**	**21**	IAmb	IAmb	18 22 32.5	
	comp=Z,45nm,1.5s						
R33M				IAMs_20	IAMs_20	19 08 53.7	
	comp=Z,2µm,19.0s						
R33M	**Jennings River**	**90.78**	**21**	P	**P**	**18 22 27.3**	**+0.2**
	baz=220,SNR=8.1						
F17K	**Baldwin Pennin**	**90.78**	**6**	P	**P**	**18 22 27.4**	**+0.7**
	baz=193						
SN01	**Snyder 1**	**90.80**	**54**	IAmb	IAmb	18 22 33.1	
	comp=Z,14nm,1.1s						
P33M	**Teslin, Yukon**	**90.82**	**20**	P	**P**	**18 22 28.4**	**+1.2**
	baz=218						
HDA	**Harding Lake**	**90.86**	**12**	IAmb	IAmb	18 22 31.0	
	comp=Z,22nm,1.0s						
HDA	**Harding Lake**	**90.86**	**12**	P	**P**	**18 22 28.4**	**+1.3**
	baz=206,SNR=12						
ISCO	**Idaho Springs**	**90.88**	**46**	IAMs_20	IAMs_20	18 59 03.0	
	comp=Z,2µm,19.0s						
CCB	**Clear Creek Bu**	**90.92**	**12**	IAmb	IAmb	18 22 31.7	
	comp=Z,41nm,1.2s						
CCB				IAMs_20	IAMs_20	18 58 44.9	
	comp=Z,1µm,21.0s						
G19K	**Purcell Mounta**	**90.93**	**7**	IAMs_20	IAMs_20	19 04 35.6	
	comp=Z,1µm,20.0s						
G19K	**Purcell Mounta**	**90.93**	**7**	P	**P**	**18 22 28.1**	**+0.8**
	baz=197,SNR=17						
N31M	**Braeburn, Yuko**	**90.97**	**18**	P	**P**	**18 22 28.5**	**+0.8**
	baz=216,SNR=6.9						
H21K	**Melozitna Rive**	**91.03**	**9**	P	**P**	**18 22 27.8**	**-0.1**
H21K				IAmb	IAmb	18 22 33.0	
	comp=Z,18nm,1.2s						
H21K				IAMs_20	IAMs_20	18 59 00.5	
	comp=Z,1µm,20.0s						
H21K	**Melozitna Rive**	**91.03**	**9**	P	**P**	**18 22 28.9**	**+1.0**
	baz=201,SNR=7.0						
M29M	**Somme Creek**	**91.04**	**16**	IAmb	IAmb	18 22 33.0	
	comp=Z,20nm,0.9s						
M29M				IAMs_20	IAMs_20	18 58 18.9	
	comp=Z,1µm,20.0s						
M29M	**Somme Creek**	**91.04**	**16**	P	**P**	**18 22 29.0**	**+0.8**
	baz=213,SNR=11						
SCRK	**Sand Creek**	**91.07**	**13**	IAmb	IAmb	18 22 33.4	
	comp=Z,11nm,1.0s						
SCRK				IAMs_20	IAMs_20	18 58 46.2	
	comp=Z,2µm,20.0s						
SCRK	**Sand Creek**	**91.07**	**13**	P	**P**	**18 22 28.2**	**-0.1**
	baz=208,SNR=12						
F18K	**Selawik**	**91.09**	**6**	P	**P**	**18 22 28.6**	**+0.5**
	baz=194						
I23K	**Minto, Yukon-K**	**91.10**	**11**	IAmb	IAmb	18 22 32.5	
	comp=Z,17nm,1.2s						
I23K	**Minto, Yukon-K**	**91.10**	**11**	P	**P**	**18 22 28.6**	**+0.4**
	baz=204,SNR=5.4						
COLA	**College**	**91.11**	**11**	IAMs_20	IAMs_20	19 01 07.1	
	comp=Z,2µm,20.0s						
DKNS	**Dickens**	**91.16**	**54**	IAmb	IAmb	18 22 35.7	
	comp=Z,8.4nm,1.0s						
AMTX	**Amarillo**	**91.18**	**52**	P	**P**	**18 22 29.4**	**-0.1**
	baz=242						
IL31		**91.20**	**12**	IAmb	IAmb	18 22 33.1	
	comp=Z,40nm,1.4s						
ILAR	**Eielson Array**	**91.20**	**12**	P	**P**	**18 22 27.9**	**-0.8**
ILAR	**Eielson Array**	**91.20**	**12**	P	**P**	**18 22 29.4**	**+0.7**
	comp=Z,9.3nm,1.0s,baz=219,slow=5.5,SNR=34						
ILAR				PP	**PP**	**18 26 05.8**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=216,slow=7.5,SNR=3.0						
ILAR				LR	LR	18 59 49.1	
	comp=Z,506nm,19.2s,baz=196,slow=33						
	comp=Z,9.3nm,1.0s						
CFA	**Coronel Fontan**	**91.20**	**125**	LR	LR	18 58 23.9	
	comp=Z,833nm,18.1s,baz=198,slow=32						
TIY	**Taiyuan**	**91.30**	**311**	*e*P	**P**	**18 22 30.1**	**+0.2**
TIY				pmax	pmax		
	comp=Z,510nm,4.9s						
J25K	**Salcha River,**	**91.35**	**13**	IAmb	IAmb	18 22 33.8	
	comp=Z,21nm,0.9s						
J25K				IAMs_20	IAMs_20	19 04 36.5	
	comp=Z,2µm,19.0s						
J25K	**Salcha River,**	**91.35**	**13**	P	**P**	**18 22 30.5**	**+1.0**
	baz=207,SNR=19						
E17K	**Hotham Inlet**	**91.36**	**5**	P	**P**	**18 22 30.0**	**+0.7**
	baz=192,SNR=15						
RLMT	**Red Lodge**	**91.40**	**40**	IAMs_20	IAMs_20	19 00 52.7	
	comp=Z,1µm,18.0s						
POKR	**Poker Plat Res**	**91.41**	**11**	IAmb	IAmb	18 22 33.9	
	comp=Z,37nm,1.4s						
POKR				IAMs_20	IAMs_20	18 59 01.0	
	comp=Z,2µm,20.0s						
POKR	**Poker Plat Res**	**91.41**	**11**	P	**P**	**18 22 30.1**	**+0.4**
	baz=206						
H22K	**Ishtalitna Cre**	**91.46**	**10**	P	**P**	**18 22 30.5**	**+0.6**
	baz=202,SNR=12						
N32M	**Quiet Lake**	**91.48**	**19**	P	**P**	**18 22 30.4**	**+0.2**
	baz=218						
BRDY	**Brady**	**91.50**	**56**	IAmb	IAmb	18 25 21.5	
	comp=Z,17nm,0.7s						
F19K	**Shaleruckik Mo**	**91.51**	**7**	IAMs_20	IAMs_20	19 04 46.0	
	comp=Z,2µm,20.0s						
F19K	**Shaleruckik Mo**	**91.51**	**7**	P	**P**	**18 22 30.7**	**+0.7**
	baz=196,SNR=19						
K27K	**Chicken**	**91.53**	**14**	IAmb	IAmb	18 22 36.0	
	comp=Z,35nm,1.2s						
K27K				IAMs_20	IAMs_20	18 58 49.5	
	comp=Z,1µm,20.0s						
K27K	**Chicken**	**91.53**	**14**	P	**P**	**18 22 30.8**	**+0.5**
	baz=210						
M30M	**Minto, Yukon**	**91.59**	**17**	IAmb	IAmb	18 22 35.9	
	comp=Z,24nm,1.2s						
M30M				IAMs_20	IAMs_20	18 58 45.4	
	comp=Z,1µm,20.0s						
M30M	**Minto, Yukon**	**91.59**	**17**	P	**P**	**18 22 31.4**	**+0.8**
	baz=215,SNR=7.9						
APMT	**Aspermont**	**91.59**	**54**	IAmb	IAmb	18 22 36.9	
	comp=Z,30nm,1.3s						
J26L	**Joseph Creek**	**91.62**	**13**	IAMs_20	IAMs_20	18 58 53.8	
	comp=Z,1µm,21.0s						
J26L	**Joseph Creek**	**91.62**	**13**	P	**P**	**18 22 32.0**	**+1.2**
	baz=209,SNR=44						
ABTX	**Abilene, Hawle**	**91.62**	**55**	P	**P**	**18 22 31.4**	**0.0**
	baz=243						
L29M	**L29M**	**91.68**	**16**	P	**P**	**18 22 32.1**	**+1.1**
	baz=214,SNR=34						
H23K	**Yukon River**	**91.69**	**10**	IAmb	IAmb	18 23 14.3	
	comp=Z,14nm,1.4s						
H23K	**Yukon River**	**91.69**	**10**	P	**P**	**18 22 31.1**	**+0.1**
	baz=204						
G21K	**Allakaket**	**91.74**	**9**	IAMs_20	IAMs_20	19 04 58.2	
	comp=Z,1µm,20.0s						
G21K	**Allakaket**	**91.74**	**9**	P	**P**	**18 22 32.7**	**+1.5**
	baz=200,SNR=12						
K22A	**Casper**	**91.76**	**44**	P	**P**	**18 22 32.6**	**+0.5**
	baz=239						
ZEA	**Zeya**	**91.78**	**330**	*e*P	**P**	**18 22 33.5**	**+1.9**
ZEA				*e*		18 26 17.8	
ZEA				*e*S	**S**	**18 33 36.4**	**+4.7**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,200nm,7.7s						
ZEA				smax	smax		
	comp=N,400nm,16.6s						
ZEA				MLR	MLR		
	comp=E,200nm,17.0s						
E18K	**Tukpahlearik C**	**91.80**	**6**	P	**P**	**18 22 32.9**	**+1.5**
	baz=194,SNR=19						
M31M	**Drury Creek, Y**	**91.94**	**18**	IAmb	IAmb	18 22 36.4	
	comp=Z,26nm,1.6s						
M31M				IAMs_20	IAMs_20	19 09 24.9	
	comp=Z,1µm,18.0s						
M31M	**Drury Creek, Y**	**91.94**	**18**	P	**P**	**18 22 33.5**	**+1.3**
	baz=217						
F20K	**Avaraart Lake**	**91.96**	**8**	IAMs_20	IAMs_20	19 04 47.8	
	comp=Z,2µm,19.0s						
F20K	**Avaraart Lake**	**91.96**	**8**	P	**P**	**18 22 32.9**	**+0.8**
	baz=198,SNR=8.8						
H24K	**Noodor Dome**	**91.99**	**11**	P	**P**	**18 22 33.5**	**+1.1**
	baz=205						
XAN	**Xi'an**	**92.05**	**306**	⇑P	**P**	**18 22 34.9**	**+1.4**
XAN				pP	pwP	18 22 43.6	+0.2
XAN				pmax	pmax		
	comp=Z,55nm,0.9s						
XLT	**XiLinHaoTe**	**92.06**	**318**	*e*P	**P**	**18 22 31.8**	**-1.5**
XLT				pP	pP	18 22 36.1	-0.6
XLT				sP	sP	18 22 38.8	+0.9
XLT				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XLT				LR	LR		
	comp=Z,690nm,17.9s						
XLT				LR	LR		
	comp=Z,1µm,20.0s						
PRP	**Porcupine Dome**	**92.13**	**12**	IAmb	IAmb	18 22 37.8	
	comp=Z,32nm,1.2s						
PRP				IAMs_20	IAMs_20	19 04 45.0	
	comp=Z,1µm,19.0s						
PRP	**Porcupine Dome**	**92.13**	**12**	P	**P**	**18 22 33.9**	**+0.7**
	baz=207,SNR=16						
BRIGG	**Briggsdale**	**92.13**	**46**	IAMs_20	IAMs_20	19 00 36.1	
	comp=Z,1µm,19.0s						
E19K	**Redstone River**	**92.17**	**7**	IAMs_20	IAMs_20	19 05 27.5	
	comp=Z,2µm,20.0s						
E19K	**Redstone River**	**92.17**	**7**	P	**P**	**18 22 34.2**	**+1.1**
	baz=197,SNR=17						
DAWY	**Dawson**	**92.18**	**15**	IAmb	IAmb	18 22 39.9	
	comp=Z,26nm,1.2s						
DAWY	**Dawson**	**92.18**	**15**	P	**P**	**18 22 34.1**	**+0.8**
	baz=213,SNR=13						
FARO	**Faro, Yukon**	**92.26**	**18**	P	**P**	**18 22 34.7**	**+1.0**
	baz=218						
C16K	**Lisburne Hills**	**92.28**	**4**	P	**P**	**18 22 34.9**	**+1.4**
	baz=189						
435B	**Jarrell**	**92.35**	**57**	IAMs_20	IAMs_20	19 01 25.8	
	comp=Z,2µm,18.0s						
BRLDA	**Berland Lookou**	**92.40**	**30**	IAmb	IAmb	18 22 40.5	
	comp=Z,16nm,0.9s						
G22K	**Bettles**	**92.40**	**9**	P	**P**	**18 22 35.5**	**+1.3**
	baz=202						
F21K	**Alatna River**	**92.41**	**8**	IAMs_20	IAMs_20	19 05 28.9	
	comp=Z,2µm,20.0s						
F21K	**Alatna River**	**92.41**	**8**	P	**P**	**18 22 35.1**	**+0.8**
	baz=200						
I26K	**Coal Creek Min**	**92.41**	**13**	IAmb	IAmb	18 22 44.3	
	comp=Z,16nm,0.9s						
I26K				IAMs_20	IAMs_20	19 01 52.6	
	comp=Z,2µm,20.0s						
I26K	**Coal Creek Min**	**92.41**	**13**	P	**P**	**18 22 35.5**	**+1.2**
	baz=209						
G23K	**Bananza Creek**	**92.43**	**10**	P	**P**	**18 22 35.3**	**+0.9**
	baz=203,SNR=6.4						
K29M	**Barlow Dome**	**92.45**	**16**	IAMs_20	IAMs_20	18 59 23.0	
	comp=Z,2µm,20.0s						
K29M	**Barlow Dome**	**92.45**	**16**	P	**P**	**18 22 35.7**	**+1.0**
	baz=214,SNR=12						
C17K	**DeLong Mountai**	**92.62**	**5**	P	**P**	**18 22 36.5**	**+1.3**
	baz=191						
EGMT	**Eagleton**	**92.71**	**38**	IAMs_20	IAMs_20	18 59 53.2	
	comp=Z,2µm,20.0s						
J29N	**Klondike Camp**	**92.78**	**15**	P	**P**	**18 22 37.7**	**+1.6**
	baz=214						
HIA	**Hailar**	**92.85**	**324**	IAmb	IAmb	18 22 40.3	
	comp=Z,14nm,0.9s						
F22K	**John River**	**92.85**	**9**	P	**P**	**18 22 37.2**	**+0.9**
	baz=201						
COLD	**Coldfoot**	**92.88**	**10**	P	**P**	**18 22 37.1**	**+0.7**
	baz=203						
C18K	**Utukok River**	**92.95**	**5**	IAMs_20	IAMs_20	19 06 19.7	
	comp=Z,2µm,19.0s						
C18K	**Utukok River**	**92.95**	**5**	P	**P**	**18 22 37.9**	**+1.1**
	baz=193						
NNA	**Nana**	**92.95**	**104**	IAMs_20	IAMs_20	18 57 10.1	
	comp=Z,2µm,18.0s						
NNA	**Nana**	**92.95**	**104**	LR	LR	18 56 54.8	
	comp=Z,2µm,19.1s,baz=220,slow=30						
KMI	**Kunming**	**92.96**	**296**	⇑P	**P**	**18 22 39.1**	**+1.0**
KMI				PP	**PP**	**18 26 26.3**	**+5.2**
KMI				S	**S**	**18 33 49.6**	**+5.5**
KMI				pmax	pmax		
	comp=Z,41nm,0.9s						
KMI				pmax	pmax		
	comp=Z,440nm,4.5s						
KMI				LR	LR		
	comp=Z,590nm,18.7s						
KMI				LR	LR		
	comp=Z,920nm,20.2s						
KMI				LR	LR		

comp=Z,8,8nm,0.9s
J30M IAMs_20 IAMs_20 19 00 01.8
comp=Z,2μm,20.0s
J30M Hart River 93.35 16 P P 18 22 40.2 +1.4
baz=215
HKT Hockley 93.35 59 IAMs_20 IAMs_20 18 59 45.4
comp=Z,1μm,20.0s
HHC Hu-ho-hao-te 93.41 313 *e*P **P 18 22 40.1 +0.4**
HHC PP **PP 18 26 27.3 +3.0**
HHC SKS **SKSac 18 33 06.5 -7.1**
HHC S **SKKSac 18 33 38.8 +5.8**
HHC sS sS 18 33 56.3 +3.7
HHC SS **SS 18 40 00.9 -3.6**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC LR LR
comp=Z,550nm,17.0s
HHC LR LR
comp=Z,950nm,17.0s
HHC LR LR
comp=Z,2μm,18.7s
CMAR Chiang Mai Arr 93.43 289 P **P 18 22 40.6 +0.5**
comp=Z,68nm,1.0s,baz=137,slow=3.0,SNR=76
CMAR LR LR 19 03 56.5
comp=Z,157nm,19.1s,baz=120,slow=35
comp=Z,68nm,1.0s
D20K Etivluk River 93.45 7 P **P 18 22 40.2 +1.1**
baz=197
E22K Anaktuvuk Pass 93.49 9 P **P 18 22 40.6 +1.3**
baz=202
E21K Killik River 93.50 8 IAmb IAmb 18 23 00.3
comp=Z,18nm,1.1s
E21K IAMs_20 IAMs_20 19 06 06.6
comp=Z,2μm,19.0s
E21K Killik River 93.50 8 P **P 18 22 40.5 +1.2**
baz=200
F24K Squaw Lake 93.51 10 P **P 18 22 40.3 +0.9**
baz=205
I29M Ogilvie Camp, 93.52 15 IAMs_20 IAMs_20 19 00 10.2
comp=Z,1μm,20.0s
I29M Ogilvie Camp, 93.52 15 P **P 18 22 40.5 +1.1**
baz=214
C19K Lookout Ridge 93.53 6 IAMs_20 IAMs_20 19 07 17.2
comp=Z,1μm,19.0s
C19K Lookout Ridge 93.53 6 P **P 18 22 40.6 +1.1**
baz=194
H27K Steamboat Moun 93.55 13 P **P 18 22 40.9 +1.4**
baz=211,SNR=8.0
CHTO Chiang Mai 93.57 289 P **P 18 22 40.4 -0.3**
CHTO Chiang Mai 93.57 289 P **P 18 22 40.4 -0.3**
CHTO pmax pmax
comp=Z,72nm,1.0s
CHTO MLR MLR
comp=Z,500nm,20.0s
ATAH Atahualpa 93.59 99 LR LR 18 57 34.8
comp=Z,2μm,18.6s,baz=249,slow=31
B18K Kokolik River 93.60 5 P **P 18 22 41.0 +1.3**
baz=192
KOTAN Kotaneelee Air 93.70 23 P **P 18 22 42.0 +1.7**
baz=226
G26K Porcupine Rive 93.73 12 P **P 18 22 41.5 +1.2**
baz=209,SNR=7.6
E23K Chandalar 93.74 9 P **P 18 22 41.4 +0.9**
baz=204
I30M Mount Dempster 93.87 15 IAmb IAmb 18 22 46.3
comp=Z,30nm,1.4s
I30M IAMs_20 IAMs_20 19 00 09.5
comp=Z,1μm,20.0s
I30M Mount Dempster 93.87 15 P **P 18 22 42.4 +1.2**
baz=215,SNR=5.6
E24K Your Creek 93.92 10 IAMs_20 IAMs_20 19 03 32.2
comp=Z,2μm,20.0s
E24K Your Creek 93.92 10 P **P 18 22 42.2 +0.9**
baz=205
F25K Christian Rive 93.96 11 P **P 18 22 43.1 +1.6**
baz=207
G27K Doyon Strip 94.02 13 IAMs_20 IAMs_20 19 00 31.2
comp=Z,1μm,20.0s
G27K Doyon Strip 94.02 13 P **P 18 22 43.7 +1.9**
baz=211
RSSD Black Hills 94.07 43 P **P 18 22 40.1 -2.7**
RSSD IAmb IAmb 18 23 01.5
comp=Z,9.5nm,0.8s
RSSD Black Hills 94.07 43 P **P 18 22 40.1 -2.7**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD MLR MLR
comp=Z,2μm,19.0s
RSSD Black Hills 94.07 43 P **P 18 22 43.6 +0.9**
baz=240
D22K Ayikyak River 94.07 8 IAMs_20 IAMs_20 19 06 35.8
comp=Z,2μm,19.0s
D22K Ayikyak River 94.07 8 P **P 18 22 43.3 +1.4**
baz=201
C21K Knifeblade Rid 94.08 7 P **P 18 22 43.3 +1.4**
baz=199
H29M Whitestone 94.22 14 IAmb IAmb 18 22 53.2
comp=Z,25nm,1.1s
H29M IAMs_20 IAMs_20 19 04 55.7
comp=Z,1μm,20.0s
H29M Whitestone 94.22 14 P **P 18 22 44.0 +1.4**
baz=214
TOLK Toolik Lake Re 94.28 9 P **P 18 22 44.6 +1.7**
baz=204
F26K Sheenjek River 94.32 11 P **P 18 22 44.2 +1.1**
baz=208
BTO Baotou 94.33 313 *e*PKP **PKiKP 18 27 21.8 -5.7**
BTO Baotou 94.33 313 *e*P **P 18 22 46.3 +2.4**
BTO pP **pwP 18 22 51.0 -2.8**
BTO sP **sP 18 22 53.3 +4.8**
BTO S **S 18 34 00.3 +5.1**
BTO sS **sS 18 34 04.0 +3.4**
BTO pmax pmax
comp=Z,49nm,1.0s
BTO pmax pmax
comp=Z,590nm,8.4s
BTO LR LR
comp=Z,1μm,20.6s
BTO LR LR
comp=Z,1μm,17.5s
BTO LR LR
comp=Z,2μm,21.0s
PZH PanZhiHua 94.35 297 PKP **PKiKP 18 27 26.1 -1.9**
PZH PanZhiHua 94.35 297 P **P 18 22 44.6 +0.3**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,410nm,5.2s
PZH LR LR
comp=Z,350nm,19.0s
PZH LR LR
comp=Z,340nm,18.6s
PZH LR LR
comp=Z,540nm,18.6s
E25K Arctic Village 94.45 11 P **P 18 22 44.8 +1.2**
baz=207
CD2 Chengdu 94.58 302 P **P 18 22 47.5 +2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,130nm,7.7s
CD2 LR LR
comp=Z,530nm,11.0s
CD2 LR LR
comp=Z,390nm,13.3s
CD2 LR LR
comp=Z,620nm,17.0s
JTS Las Juntas de 94.61 81 LR LR 18 57 47.1
comp=Z,416nm,19.7s,baz=244,slow=30
B20K Meade River 94.64 6 IAMs_20 IAMs_20 19 07 02.4
comp=Z,2μm,19.0s
EPYK Eagle Plains 94.73 15 IAMs_20 IAMs_20 19 02 42.1
comp=Z,1μm,20.0s
H31M Peel River 94.84 16 IAMs_20 IAMs_20 19 02 43.2
comp=Z,1μm,19.0s
H31M Peel River 94.84 16 P **P 18 22 46.3 +0.8**
baz=217
D24K Happy Valley 94.86 9 P **P 18 22 46.4 +0.9**
baz=204
G29M Pine Creek 94.88 14 IAMs_20 IAMs_20 19 01 04.0
comp=Z,1μm,21.0s
LVC Limon Verde 94.99 117 IAMs_20 IAMs_20 18 59 06.0
comp=Z,2μm,20.0s
LVC Limon Verde 94.99 117 LR LR 18 59 09.1
comp=Z,1μm,18.6s,baz=241,slow=31
NATX Nacogdoches 95.03 58 IAMs_20 IAMs_20 19 00 44.8
comp=Z,2μm,19.0s
F28M Old Crow 95.08 13 IAMs_20 IAMs_20 19 03 48.1
comp=Z,2μm,19.0s
F28M Old Crow 95.08 13 P **P 18 22 47.5 +1.0**
baz=212
OK031 S. Brethren Rd 95.19 53 IAMs_20 IAMs_20 19 01 04.1
comp=Z,2μm,20.0s
E27K Coleen River 95.22 12 IAMs_20 IAMs_20 19 06 58.9
comp=Z,2μm,20.0s
E27K Coleen River 95.22 12 P **P 18 22 48.0 +0.8**
baz=211
OK052 Battle Ridge R 95.23 53 IAMs_20 IAMs_20 19 01 36.3
comp=Z,2μm,20.0s
G30M tAoh Zraii Nji 95.34 14 IAMs_20 IAMs_20 19 05 21.3
comp=Z,1μm,19.0s
G30M tAoh Zraii Nji 95.34 14 P **P 18 22 49.2 +1.4**
baz=216
B22K Teshekpuk Lake 95.36 7 IAMs_20 IAMs_20 19 07 19.7
comp=Z,1μm,19.0s
OK051 E0350 and S346 95.43 53 IAMs_20 IAMs_20 19 01 13.4
comp=Z,2μm,20.0s
TEIG Tepich 95.59 70 LR LR 19 01 53.0
comp=Z,4μm,18.3s,baz=11,slow=33
G31M Satah River 95.75 15 P **P 18 22 50.9 +1.4**
baz=217
E28M Babbage River 95.98 13 P **P 18 22 50.3 -0.3**
baz=213
DGMT Dagmar 96.12 39 IAMs_20 IAMs_20 19 01 35.6
comp=Z,2μm,20.0s
YAK Yakutsk 96.19 337 P **P 18 22 50.5 -1.1**
YAK IAmb IAmb 18 22 56.3
comp=Z,20nm,1.0s
YAK Yakutsk 96.19 337 *e*P **P 18 22 50.6 -1.1**
YAK *e**PP **pP 18 22 54.6 -0.5**
YAK *e* 18 26 41.8
YAK *e*S **SKSac 18 33 26.8 -0.4**
YAK *e*SS **SS 18 40 35.4 -7.3**
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=Z,94nm,3.2s
YAK pmax pmax
comp=N,47nm,2.2s
YAK pmax pmax
comp=E,39nm,2.3s
YAK smax smax
comp=E,52nm,2.5s
YAK smax smax
comp=N,46nm,1.9s
F31M Tsiigehtchic 96.29 15 IAmb IAmb 18 22 58.4
comp=Z,21nm,0.9s
F31M IAMs_20 IAMs_20 19 01 34.4
comp=Z,1μm,20.0s
F31M Tsiigehtchic 96.29 15 P **P 18 22 52.7 +0.7**
baz=218
TNCH TengChong 96.41 294 P **P 18 22 54.8 +0.9**
TNCH pmax pmax
comp=Z,220nm,3.5s
OTAV Otavalo 96.55 93 IAMs_20 IAMs_20 18 58 39.8
comp=Z,2μm,19.0s
LZH Lanzhou 96.69 306 *e*P **P 18 22 56.4 +1.6**
LZH pP sP 18 23 00.9 +1.4
LZH sP pwP 18 23 05.3 +0.5
LZH pmax pmax
comp=Z,14nm,1.6s
LZH pmax pmax
comp=Z,210nm,5.5s
LZH LR LR
comp=Z,350nm,14.8s
LZH LR LR
comp=Z,800nm,16.2s
LZH LR LR
comp=Z,830nm,15.5s
MIAR Mount Ida 97.02 55 IAMs_20 IAMs_20 19 01 42.9
comp=Z,1μm,19.0s
ULN Ulaanbaatar 99.48 318 P **Pdif 18 23 05.0 -2.0**
ULN Ulaanbaatar 99.48 318 *i* P **Pdif 18 23 05.1 -2.0**
ULN pmax pmax
comp=Z,5.0nm,1.1s
SONM Songino Array 99.87 318 P **Pdif 18 23 09.4 +0.6**
comp=Z,1.6nm,1.0s,baz=112,slow=3.9,SNR=5.6
SONM PP **PP 18 27 06.5 -7.5**
comp=Z,0.9nm,0.9s,baz=131,slow=4.4,SNR=3.4
comp=Z,1.6nm,1.0s
FFC Flin Flon 100.29 34 IAMs_20 IAMs_20 19 08 41.6
comp=Z,2μm,19.0s
GTA Gaotai 100.94 308 *e*P **Pdif 18 23 14.8 +1.1**
GTA sP pwP 18 23 23.3 -0.4
GTA SKS **SKSac 18 33 52.9 +0.3**
GTA sS sS 18 34 58.4 +1.2
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA pmax pmax
comp=Z,110nm,7.6s
GTA LR LR
comp=Z,230nm,13.9s
GTA LR LR
comp=Z,500nm,20.7s
GTA LR LR
comp=Z,650nm,20.7s
PLAL Pickwick Lake 101.36 57 IAMs_20 IAMs_20 19 05 56.2
comp=Z,1μm,19.0s
LRAL Lakeview Retre 101.49 59 IAMs_20 IAMs_20 19 08 42.1
comp=Z,1μm,18.0s
WVT Waverly 101.96 56 IAMs_20 IAMs_20 19 10 28.9
comp=Z,1μm,18.0s
TIXI Tiksi 102.69 344 IAMs_20 IAMs_20 19 05 57.7
comp=Z,1μm,20.0s
EYMN Ely 103.59 43 IAMs_20 IAMs_20 19 06 51.8
comp=Z,2μm,20.0s
GOGA Godfrey 104.40 60 IAMs_20 IAMs_20 19 09 47.2
comp=Z,1μm,19.0s
O48B Farmland 105.33 53 IAMs_20 IAMs_20 19 07 38.6
comp=Z,1μm,19.0s
TZTN Tazewell 105.35 57 IAMs_20 IAMs_20 19 11 36.8
comp=Z,979nm,18.0s
TAPN Taplejung 106.30 293 *e*P **PKiKP 18 27 51.7 +2.1**
comp=Z,16nm,1.0s
SAML Samuel 106.31 108 IAMs_20 IAMs_20 19 05 17.9
comp=Z,1μm,20.0s
NHSC New Hope 106.92 61 IAMs_20 IAMs_20 19 09 07.0
comp=Z,1μm,20.0s
RAMN Ramite 107.11 292 *e*P **PKiKP 18 27 51.9 +0.8**
comp=Z,9.0nm,0.7s
BLA Blacksburg 107.94 57 IAMs_20 IAMs_20 19 12 58.5
comp=Z,1μm,19.0s
GUN Gumba 108.02 293 *e*P **PKiKP 18 27 53.4 +0.5**
comp=Z,55nm,1.6s
PKI Pulchoki 108.31 293 *e*P **PKiKP 18 27 53.7 +0.3**
comp=Z,13nm,1.0s
PKIN Phulchoki 108.33 293 *e*P **PKiKP 18 27 53.2 -0.1**
comp=Z,10nm,0.8s
GKN Gorkha 109.09 293 *e*P **PKiKP 18 27 53.6 -1.0**
comp=Z,12nm,1.0s
CNNC Cliffs of the 109.35 59 IAMs_20 IAMs_20 19 09 39.2
comp=Z,1μm,19.0s
DANN Dangsing 109.94 293 *e*P **PKiKP 18 27 54.0 -2.4**
comp=Z,12nm,0.7s
PYUN Piuthan 110.52 292 *e*P **PKiKP 18 27 54.8 -2.6**
comp=Z,11nm,0.7s
CBN Corbin Frederi 110.54 56 IAMs_20 IAMs_20 19 16 02.1
comp=Z,1μm,18.0s
WMQ Urumqi 110.92 310 *e*PKP **PKiKP 18 27 57.3 -0.2**
WMQ LR LR
comp=Z,440nm,13.5s
WMQ LR LR
comp=Z,730nm,20.3s
WMQ LR LR
comp=Z,760nm,18.3s
DGZ Jazzator, Alta 112.35 316 *i* PKIKP **PKiKP 18 27 58.5 -1.6**
ZALV Zalesovo Beam 114.63 320 PKP PKPdf 18 28 03.7 -0.4
comp=Z,1.8nm,0.6s,baz=98,slow=3.0,SNR=8.2
L61B Northampton 114.96 53 P PKPdf 18 28 04.5 -0.6
baz=260
MK31 Makanchi Array 115.24 312 *i* PKIKP **PKPdf 18 28 03.4 -2.2**
MKAR Makanchi Array 115.24 312 PKP **PKPdf 18 28 04.9 -0.7**
comp=Z,3.6nm,0.9s,baz=97,slow=2.0,SNR=12
MAKZ Makanchi 115.45 312 **PKPdf 18 28 04.3 -1.6**
MAKZ Makanchi 115.45 312 *i* PKIKP **PKPdf 18 28 04.3 -1.6**
MAKZ MLR MLR
comp=Z,700nm,22.0s
SVN Savane Anatole 117.87 85 IAMs_20 IAMs_20 19 27 28.8
comp=Z,823nm,19.0s
KURK Kurchatov 118.09 316 **PKPdf 18 28 10.2 -0.7**
KURK Kurchatov 118.09 316 IAMs_20 IAMs_20 19 20 14.5
comp=Z,1μm,19.0s
KURK Kurchatov 118.09 316 PKIKP **PKPdf 18 28 10.2 -0.7**
KURK MLR MLR
comp=Z,1μm,19.0s
KURBB Kurchatov Arra 118.14 316 PKP **PKPdf 18 28 10.2 -0.7**
comp=Z,5.3nm,1.0s,baz=95,slow=1.9,SNR=14
VOI Vohitsoka 118.58 225 IAMs_20 IAMs_20 19 10 41.9
comp=Z,1μm,19.0s
KSH Kashi 118.74 303 PKP **PKiKP 18 28 14.9 +2.2**
KSH LR LR
comp=Z,450nm,22.0s
KSH LR LR
comp=Z,250nm,20.6s
KSH LR LR
comp=Z,480nm,17.2s
NIL Nilore 119.95 296 PKPdf **PKPdf 18 28 14.3 -0.8**
NIL Nilore 119.95 296 PKIKP **PKPdf 18 28 14.3 -0.8**
NIL MLR MLR
comp=Z,500nm,20.0s
AAK Ala-Archa 120.23 307 **PKPdf 18 28 14.8 -0.7**
AAK Ala-Archa 120.23 307 PKIKP **PKPdf 18 28 14.8 -0.7**
AAK MLR MLR
comp=Z,600nm,20.0s
MSEY Mahe Island 122.77 247 IAMs_20 IAMs_20 19 20 39.2
comp=Z,1μm,18.0s
BVAR Borovoye Array 123.21 319 PKP **PKPdf 18 28 20.5 -0.1**
comp=Z,17nm,1.1s,baz=86,slow=1.9,SNR=15
BRVK Borovoye 123.27 319 PKPdf **PKiKP 18 28 21.1 +0.1**
BRVK Borovoye 123.27 319 *i* PKIKP **PKPdf 18 28 19.7 -1.0**
KBL Kabul 123.54 297 PKPdf **PKiKP 18 28 22.2 -0.2**
KBL Kabul 123.54 297 PKIKP **PKiKP 18 28 22.2 -0.2**
BOSA Boshof 124.02 202 PKPdf **PKiKP 18 28 25.0 +1.5**
BOSA Boshof 124.02 202 PKP **PKiKP 18 28 25.8 +2.2**
comp=Z,12nm,1.1s,baz=87,slow=3.5,SNR=4.8
ILULI Ilulissat 124.19 21 IAMs_20 IAMs_20 19 23 40.7
comp=Z,982nm,20.0s
SUMG Summit 125.95 15 PKPdf **PKiKP 18 28 27.9 +1.7**
SUMG Summit 125.95 15 PKIKP **PKiKP 18 28 28.0 +1.7**
SUMG Summit 125.95 15 *i* P **PKiKP 18 28 28.0 +1.7**
DY2G Dye2 127.04 23 *e*P **PKiKP 18 28 29.7 +1.3**
SVE Sverdlovsk 128.15 325 *e*PKIKP **PKiKP 18 28 31.7 +1.1**
SVE pmax pmax
comp=Z,20nm,1.1s
ARU Arti 129.36 324 PKPdf **PKPdf 18 28 31.7 -0.5**
ARU IAMs_20 IAMs_20 19 34 24.5
comp=Z,840nm,18.0s
ARU Arti 129.36 324 *i* PKIKP **PKPdf 18 28 31.6 -0.7**
ARU 18 30 39.5
RCBR Riachuelo 130.72 122 IAMs_20 IAMs_20 19 22 20.8
comp=Z,887nm,19.0s
GEYT Alibeck 132.56 300 PKP **PKiKP 18 28 40.3 +0.2**
comp=Z,9.5nm,0.8s,baz=117,slow=2.3,SNR=12
GEYT PP **PP 18 31 01.3 -1.9**
comp=Z,3.7nm,0.9s,baz=89,slow=7.9,SNR=3.8
ARCES ARCESS Array B 132.73 350 PKP **PKiKP 18 28 39.3 -0.2**
comp=Z,5.7nm,1.0s,baz=24,slow=1.2,SNR=9.4
APA Apatity 132.88 345 ⇓ *i* PKHKP PKPpre 18 28 27.2
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,1μm,26.0s
KIRV Kirov 133.11 330 *i* PKIKP **PKPdf 18 28 39.4 +0.1**
UOSS Minazif 133.16 282 PKPdf **PKPdf 18 28 40.0 -0.5**
PRGR Permogore 133.16 334 *e*PKIKP **PKPdf 18 28 35.4 -3.9**
PRGR pmax pmax
comp=Z,12nm,1.0s
LSZ Lusaka 134.63 213 PKPdf **PKPdf 18 28 44.1 +0.4**
LSZ Lusaka 134.63 213 PKIKP **PKPdf 18 28 44.1 +0.4**
KLMR Klimovskoe 135.97 336 *e*PKPdf **PKPdf 18 28 41.5 -3.1**
KLMR AMP 18 28 52.0
comp=Z,28nm,1.5s
KLMR *e*SKPab **SKPab 18 32 20.5 -0.4**
KLMR LQ LQ 19 22 30.6
KLMR LQ LQ 19 22 30.6
KLMR LR LR 19 26 20.5
KLMR AMP 19 35 40.7
comp=Z,1μm,15.8s
KLMR Klimovskoe 135.97 336 *e*PKIKP **PKPdf 18 28 41.4 -3.1**
KLMR pmax pmax
comp=Z,28nm,1.5s
BELG Belogornoye 136.75 322 *i* PKIKP **PKPdf 18 28 44.2 -2.1**
KIBK Kibwezi 138.18 236 PKPpre 18 28 46.1
KMBO Kilima Mbogo 139.57 237 IAMs_20 IAMs_20 19 31 00.7
comp=Z,996nm,18.0s
KMBO Kilima Mbogo 139.57 237 PKhKP PKPpre 18 28 47.2
comp=Z,3.6nm,1.1s,baz=174,slow=9.3,SNR=6.4
FINES FINESS Array B 139.74 344 PKhKP PKPpre 18 28 43.3
comp=Z,5.1nm,1.0s,baz=69,slow=4.6,SNR=6.9
FINES PKP **PKiKP 18 28 53.4 -0.5**
comp=Z,4.3nm,0.8s,baz=87,slow=2.9,SNR=7.0
MAK Makhachkala 139.94 309 *e*P **Pdif 18 26 01.2 -5.7**
MAK *e*PPP PPP 18 34 51.3
MAK *e* 18 35 55.9
MAK *e*SS SS 18 49 59.0 -12
MAK *e*SSS SSS 18 55 15.9
MAK pmax pmax
comp=Z,181nm,0.8s
MOS Moscow 140.04 331 *i* PKIKP **PKPdf 18 28 52.5 +0.3**
MOS *e* 18 31 58.0
VRH Novokhopyorsk 140.56 323 *e*PKIKP **PKiKP 18 28 57.3 +1.4**
VRH pmax pmax
comp=Z,19nm,0.9s
OBN Obninsk 140.90 331 ⇑ *e*PKIKP **PKPdf 18 28 50.5 -3.3**
OBN *e* 18 31 52.9
OBN *e*PPP PPP 18 34 56.7
OBN pmax pmax
comp=Z,25nm,1.4s
ATD Arta Tunnel 141.56 258 IAMs_20 IAMs_20 19 26 19.2
comp=Z,741nm,20.0s
ATD Arta Tunnel 141.56 258 *e*P PKPpre 18 28 48.7
ATD Arta Tunnel 141.56 258 *e*P PKPpre 18 28 48.7
baz=348
VORR Voronezh 141.66 325 *e*PKIKP **PKPdf 18 28 53.5 -1.8**
VORR pmax pmax
comp=Z,30nm,0.4s
VSR Storozhevoye 141.93 325 *e*PKIKP **PKPdf 18 28 54.4 -1.4**
VSR pmax pmax
comp=Z,5.0nm,0.5s
VORD Divnogorie 142.00 324 *e*PKIKP **PKPdf 18 28 52.9 -3.0**
VORD pmax pmax
comp=Z,10.0nm,0.6s
NB2 NORSAR Subarra 142.67 355 PKP PKPpre 18 28 52.3
comp=Z,4.3nm,0.9s,baz=15,slow=2.5
NOA NORSAR Array B 142.67 355 PKhKP PKPpre 18 28 53.6
comp=Z,2.5nm,0.8s,baz=22,slow=3.9,SNR=7.7
KIV Kislovodsk 143.00 312 IAMs_20 IAMs_20 19 38 33.5
comp=Z,859nm,20.0s
KIV Kislovodsk 143.00 312 *i* PKIKP **PKPdf 18 28 58.8 +0.7**
KIV pmax pmax
comp=Z,11nm,1.1s
DILA Dilla 143.17 247 *e*P PKPbc 18 28 55.7 -0.6
DILA Dilla 143.17 247 *e*P PKPbc 18 28 55.7 -0.6
baz=312
HFS Hagfors 143.30 352 PKhKP PKPpre 18 28 55.5
comp=Z,4.3nm,0.6s,baz=90,slow=3.0,SNR=5.0
TEND Ethiopian Broa 143.31 257 *e*P **PKPdf 18 28 59.8 +0.4**
baz=340
LODK Lodwar 143.87 240 PKPdf PKPbc 18 28 58.3 +0.1
LODK IAMs_20 IAMs_20 19 28 40.7
comp=Z,731nm,20.0s
LODK Lodwar 143.87 240 *e*P PKPab 18 28 57.5 -0.1
LODK Lodwar 143.87 240 *e*P PKPab 18 28 57.5 -0.1
baz=250
FURI Furi 144.07 251 IAMs_20 IAMs_20 19 33 10.9
comp=Z,893nm,18.0s
FURI Furi 144.07 251 *e*P **PKPab 18 28 56.9 -1.7**
FURI IAMs_20 IAMs_20 19 53 20.1
comp=Z,599nm,23.3s
FURI Furi 144.07 251 *e*P **PKPab 18 28 56.9 -1.7**
baz=324
FURI IAMs_20 IAMs_20 19 53 20.1
comp=Z,599nm,23.3s,baz=324
KONO Kongsberg 144.17 356 ⇑ PKHKP PKPpre 18 28 55.5
ISAL Salakas 144.64 339 *e*P **PKPdf 18 29 01.9 +1.5**
IDID Didziasalis 144.64 338 *e*P **PKPdf 18 29 01.3 +0.8**
MBAR Mbarara 144.70 230 PKPbc 18 29 01.0 +0.1
MBAR Mbarara 144.70 230 PKIKP PKPbc 18 29 01.0 +0.1
MBAR MLR MLR
comp=Z,1μm,18.0s
MBAR Mbarara 144.70 230 *e*P **PKPdf 18 29 02.2 +0.1**
MBAR Mbarara 144.70 230 *e*P **PKPdf 18 29 02.2 +0.1**
baz=267
IIGN Ignalina 144.78 338 *e*P **PKPdf 18 29 02.2 +1.5**
MNK Minsk 144.87 336 *i* PKP **PKPdf 18 29 01.2 +0.3**

comp=E,14nm,0.9s
MNK *i* PKP **PKPdf** **18 29 01.2 +0.3**
comp=N,29nm,0.8s
MNK *i* PKP **PKPdf** **18 29 01.2 +0.3**
comp=Z,95nm,0.8s,baz=219
MNK *i* PP **PP** **18 32 18.9 +0.7**
MNK *i* PPP PPP 18 35 30.8
MNK *i* SKS **SKSdf** **18 36 10.6 +1.1**
MNK *i* SS **SS** **18 51 08.6 +2.5**
MNK *i* SSS SSS 18 56 39.9
MNK *i* LQ LQ 19 25 36.3
MNK *i* LR LR 19 29 39.9
MNK *i* LRM MLR 19 33 21.0
comp=Z,353nm,20.6s
MNK *i* LRM MLR 19 33 29.7
comp=N,328nm,20.6s
MNK *i* LRM MLR 19 33 48.4
comp=E,182nm,20.6s
MNK Minsk 144.87 336 *i* PKIKP **PKPdf** **18 29 01.2 +0.3**
MNK *i* 18 32 18.8
MNK *i* PPP PPP 18 35 30.7
MNK *i* 18 36 10.5
MNK *i* SS SS 18 51 08.5 +2.4
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=Z,95nm,0.9s
MNK pmax pmax
comp=N,30nm,0.9s
MNK MLR MLR
comp=Z,353nm,21.0s
MNK MLR MLR
comp=N,328nm,21.0s
MNK MLR MLR
comp=E,182nm,21.0s
SIRT Sirnak 144.95 302 PKPdf **PKPab** **18 28 58.6 -2.4**
NACGM Naroch 144.95 338 *e*PKP **PKPdf** **18 29 00.9 0.0**
GURO Guroymak-BITLI 145.03 304 PKPdf **PKPdf** **18 29 01.5 -0.4**
SOC Sochi 145.14 313 *e*PKIKP **PKPbc** **18 28 59.1 -2.1**
SOC *e* 18 32 18.6
SOC *e*PPP PPP 18 35 32.4
SOC *e*SS SS 18 51 03.8 -6.8
SOC *e*SSS SSS 18 56 31.2
PABE Paberze 145.38 340 *e*P **PKPab** **18 29 02.6 +0.8**
PBUR Paburge 145.52 343 *e*P **PKPab** **18 29 03.2 +1.0**
SNART Snartemo 145.61 357 *e*P **PKPdf** **18 29 01.0 -1.0**
BORU Boraas 145.85 352 *e*P **PKPab** **18 29 03.2 -0.2**
ANN Anapa 146.13 316 *i* PKP2 **PKPab** **18 29 04.9 0.0**
ANN *e* 18 36 09.0
ANN *e*SSS SSS 18 56 45.8
ANN pmax pmax
comp=Z,92nm,0.9s
ONAU Onsala 146.18 353 *e*P **PKPbc** **18 29 04.2 +0.2**
FABU Falkenberg 146.47 352 *e*P **PKPbc** **18 29 04.2 -0.7**
BLEU Blekinge 146.66 349 *e*P **PKPdf** **18 29 04.4 +0.6**
DEL Delary 146.82 350 *e*P **PKPab** **18 29 06.5 -0.7**
DEL Delary 146.82 350 *i* P **PKPbc** **18 29 06.0 +0.1**
SUW Suwalki 146.89 340 *e*P **PKPbc** **18 29 06.4 +0.2**
AKASG Malin Array Be 147.16 331 PKPbc **PKPbc** **18 29 07.0 -0.1**
comp=Z,32nm,0.7s,baz=39,slow=3.7,SNR=64
AKBB Malin Array Si 147.16 331 *i* PKIKP **PKPdf** **18 29 05.0 +0.1**
BJUU Bjuv 147.33 351 *e*P **PKPbc** **18 29 07.9 +0.5**
MUD Monsted U'grnd 147.38 355 *e*P **PKPbc** **18 29 07.2 -0.2**
MUD *i* P **pPKPdf** **18 29 08.0 -0.6**
BSD Bornholm Skovb 147.95 349 *e*P **PKiKP** **18 29 10.2 -0.7**
BSD Bornholm Skovb 147.95 349 *e*P **PKPbc** **18 29 09.6 +0.6**
BSD *e*P **pPKPdf** **18 29 10.1 +0.5**
SIM Simferopol' 148.12 318 *e*PKP2 **PKiKP** **18 29 10.9 -0.8**
SIM pmax pmax
comp=Z,195nm,1.6s
EKA Eskdalemuir Ar 148.17 8 PKPbc **PKiKP** **18 29 10.7 -0.7**
comp=Z,17nm,0.8s,baz=330,slow=2.9,SNR=8.3
GRD1 Great Renaissa 148.27 252 *e*P **PKPbc** **18 29 11.0 -0.2**
baz=318
GKP Gorka Klasztor 149.20 345 *e*P **PKPdf** **18 29 08.1 0.0**
SORM Soroca 149.36 328 ⇑P **PKiKP** **18 29 13.8 -0.3**
SORM Soroca 149.36 328 ⇑PKP2 **PKiKP** **18 29 13.8 -0.3**
BEL Belsk 149.50 340 *e*PKP **PKiKP** **18 29 15.0 +0.8**
BSEG Bad Segeberg 149.76 353 *e*PKPab **PKiKP** **18 29 14.9 +0.2**
baz=14,slow=3.8
BSEG *e*L L 19 46 45.5
comp=Z,454nm,21.0s
KIS Kishinev 149.89 326 *e*PKP **PKPdf** **18 29 10.0 +0.5**
comp=Z,240nm,8.0s
KIS *e*L L 19 31 10.0
KIS LRM MLR 19 35 35.0
comp=Z,300nm,20.5s
KIS Kishinev 149.89 326 *e*PKHKP PKPpre 18 29 10.0
KIS pmax pmax
comp=Z,240nm,8.0s
KIS MLR MLR
comp=Z,300nm,20.5s
LVV L'vov 150.02 334 *e*PKP2 **PKiKP** **18 29 15.6 +0.2**
VASR Vaslui 150.66 326 ⇓P **PKiKP** **18 29 17.9 +1.1**
RUE Ruedersdorf 150.67 348 *e*P **PKPdf** **18 29 12.9 +2.5**
RUE Ruedersdorf 150.67 348 *e*PKPab **PKiKP** **18 29 17.9 +1.3**
baz=14,slow=3.8
KWP Kalwaria Pacla 150.69 335 *e*PKP **PKiKP** **18 29 17.1 +0.3**
BRTR Keskin Array B 150.85 310 PKPbc **PKiKP** **18 29 17.6 -0.1**
comp=Z,22nm,0.9s,baz=128,slow=2.4,SNR=18
PRAR RASCA 150.92 329 ⇑P **PKiKP** **18 29 20.0 +2.6**
VLDR Vladesti 151.04 325 ⇓P **PKiKP** **18 29 18.2 +0.6**
RETH Rethem/Aller, 151.04 354 *e*PKPab **PKiKP** **18 29 18.5 +1.2**
baz=14,slow=3.8
BUR08 Bucovina Ar. S 151.19 330 **PKPdf** **18 29 11.8 +0.1**
BURAR Bucovina Array 151.21 330 ⇓P **PKiKP** **18 29 19.5 +1.4**
OJC Ojcow 151.22 339 *e*PKP **PKiKP** **18 29 18.4 +0.5**
FLTG Flechtingen 151.22 351 *e*PKPab **PKiKP** **18 29 18.3 +0.6**
baz=14,slow=3.8
GHRR 151.24 326 ⇑P **PKiKP** **18 29 19.6 +1.5**
TESR Tescani 151.32 327 ⇓P **PKiKP** **18 29 18.3 0.0**
ANTO Ankara 151.38 310 ⇑P **PKiKP** **18 29 19.4 +0.7**
ANTO Ankara 151.38 310 **PKPdf** **18 29 11.5 -0.6**
ANTO Ankara 151.38 310 ⇑PKIKP **PKiKP** **18 29 19.4 +0.7**
KOLS Kolonicke sedl 151.42 335 *e*PKIKP **PKiKP** **18 29 19.4 +1.0**
KOLS Kolonicke sedl 151.42 335 *e*PKP **PKiKP** **18 29 19.4 +1.0**
CFR Carcaliu 151.44 324 ⇑P **PKiKP** **18 29 19.2 +0.7**
CFR Carcaliu 151.44 324 ⇑PKIKP **PKiKP** **18 29 19.2 +0.7**
MMAI Mount Meron Ar 151.46 295 PKPbc **PKiKP** **18 29 19.8 +0.8**
comp=Z,62nm,0.9s,baz=64,slow=3.9,SNR=47
TPGR Topolog 151.49 323 ⇑P **PKiKP** **18 29 19.5 +0.8**
ASSE Asse, Remlinge 151.49 352 *e*PKPab **PKiKP** **18 29 19.0 +0.7**
baz=14,slow=3.8
GHAJ Ghor Haditha 151.59 292 IAMs_20 IAMs_20 19 42 58.4
comp=Z,624nm,19.0s
KSP Ksiaz 151.66 344 *e*PKP **PKiKP** **18 29 19.3 +0.6**
VRI Vrincioaia 151.72 326 ⇓P **PKiKP** **18 29 19.2 +0.1**
VRI Vrincioaia 151.72 326 ⇓PKIKP **PKiKP** **18 29 19.2 +0.1**
NIE Niedzica 151.74 338 *e*PKP **PKiKP** **18 29 21.4 +2.4**
TIRR Tirgusor 151.74 322 ⇓P **PKiKP** **18 29 19.4 +0.3**
TIRR Tirgusor 151.74 322 ⇓PKIKP **PKiKP** **18 29 19.4 +0.3**
PLOR Plostina 151.78 326 ⇓P **PKiKP** **18 29 19.1 -0.1**
PLOR Plostina 151.78 326 ⇓PKIKP **PKiKP** **18 29 19.1 -0.1**
CLZ Clausthal 151.81 352 *e*PKPab **PKiKP** **18 29 20.0 +0.9**
baz=14,slow=3.8
HARR Harsova 151.86 323 ⇓P **PKiKP** **18 29 20.3 +0.9**
HARR Harsova 151.86 323 ⇓PKIKP **PKiKP** **18 29 20.3 +0.9**
MFTR Murfatlar 151.91 322 ⇓P **PKiKP** **18 29 20.1 +0.7**
BMR Baia Mare 151.92 332 ⇓P **PKPab** **18 29 29.8 +1.6**
CLL Collm 151.93 349 *e*PKIKP **PKPdf** **18 29 13.0 +0.5**
CLL *i* 18 29 19.9
CLL *i* 18 29 27.0
CLL pmax pmax
comp=Z,46nm,1.0s
CLL MLR MLR
comp=Z,900nm,18.8s
CLL Collm 151.93 349 *e*PKPab **PKiKP** **18 29 20.1 +0.8**
baz=14,slow=3.8
CLL *e*L L 19 47 42.6
comp=Z,853nm,18.8s
CLL Collm 151.93 349 AMS AMS 19 47 00.0
comp=N,500nm,19.6s
CLL Collm 151.93 349 *e*PKPdf **PKPdf** **18 29 13.0 +0.5**
CLL Collm 151.93 349 *i* PKPbc **PKiKP** **18 29 19.9 +0.6**
comp=Z,46nm,1.0s
CLL Collm 151.93 349 ⇓*i* PKPab **PKPab** **18 29 28.9 +0.8**
comp=Z,50nm,1.2s
CLL Collm 151.93 349 *i* pPKPab pPKPab 18 29 31.3 -0.3
CLL Collm 151.93 349 *e*PP PP 18 32 58.0 -1.1
CLL Collm 151.93 349 *e*SKKSdf SKKSdf 18 45 06.0 -1.4
CLL Collm 151.93 349 *e*PPS PPS 18 45 54.0
CLL Collm 151.93 349 *e*SS SS 18 52 24.0 -0.9
CLL Collm 151.93 349 *e*SSS SSS 18 58 12.0

CLL Collm 151.93 349 *e*SSSS 19 02 00.0
CLL Collm 151.93 349 AMS AMS 19 47 00.0
comp=E,500nm,19.4s
CLL Collm 151.93 349 AMS AMS 19 47 00.0
comp=Z,900nm,18.8s
OSTC Ostas 151.94 344 *e*PKIKP **PKiKP** **18 29 20.5 +1.1**
OSTC MLR MLR
comp=Z,700nm,16.6s
OSTC Ostas 151.94 344 ⇑*e*PKP **PKiKP** **18 29 20.5 +1.1**
OSTC AMS AMS 19 41 00.0
comp=Z,700nm,16.6s
CHVC Chvalec 151.96 344 *e*PKIKP **PKiKP** **18 29 19.7 +0.3**
CHVC MLR MLR
comp=Z,1μm,6.4s
CHVC Chvalec 151.96 344 ⇑*e*PKP **PKiKP** **18 29 19.7 +0.3**
CHVC AMS AMS 19 50 10.0
comp=Z,1μm,6.4s
TRPA Tarpa 151.96 334 ⇓P **PKiKP** **18 29 22.1 +2.6**
ARCR ARCALIA 151.99 330 ⇓P **PKiKP** **18 29 23.0 +3.4**
COVR Voineasa-Covas 152.00 327 ⇓P **PKiKP** **18 29 20.2 +0.5**
MANR Mangalia 152.03 321 ⇑P **PKiKP** **18 29 20.9 +1.1**
OZUR 152.04 327 ⇑P **PKiKP** **18 29 20.7 +1.0**
UPC Upice 152.04 344 *e*PKIKP **PKiKP** **18 29 20.4 +0.8**
UPC MLR MLR
comp=Z,1μm,18.3s
UPC Upice 152.04 344 ⇑*e*PKP **PKiKP** **18 29 20.4 +0.8**
UPC AMS AMS 19 50 10.0
comp=Z,1μm,18.3s
OKC Ostrava-Krasne 152.06 341 *e*PKIKP **PKiKP** **18 29 20.7 +1.1**
OKC MLR MLR
comp=Z,1μm,18.0s
OKC Ostrava-Krasne 152.06 341 ⇑*e*PKP **PKiKP** **18 29 20.7 +1.1**
OKC AMS AMS 19 49 30.0
comp=Z,1μm,18.0s
DPC Dobruska-Polom 152.11 344 *e*PKIKP **PKPbc** **18 29 17.1 -2.4**
DPC *e* 18 29 20.9
DPC MLR MLR
comp=Z,600nm,23.0s
DPC Dobruska-Polom 152.11 344 *e*PKPDF **PKPbc** **18 29 17.1 -2.4**
DPC ⇑*e*PKP **PKiKP** **18 29 20.9 +1.1**
DPC *e*PKPAB **pPKPab** **18 29 32.6 +0.1**
DPC AMS AMS 19 45 20.0
comp=Z,600nm,23.0s
BRG Berggiesshubel 152.17 347 Amp 18 29 16.0
comp=Z,2.2nm,0.9s
BRG Berggiesshubel 152.17 347 P **PKiKP** **18 29 21.4 +1.6**
BRG Amp 18 29 24.9
comp=Z,40nm,1.1s
BRG Berggiesshubel 152.17 347 P **PKPab** **18 29 30.3 +1.2**
BRG Amp 18 29 32.9
comp=Z,34nm,0.9s
BRG Berggiesshubel 152.17 347 *e*PKIKP **PKPdf** **18 29 15.7 +2.9**
BRG 18 29 21.4
BRG pmax pmax
comp=Z,2.0nm,0.9s
BRG pmax pmax
comp=Z,40nm,1.1s
BRG pmax pmax
comp=Z,34nm,1.0s
BRG Berggiesshubel 152.17 347 *e*PKPab **PKiKP** **18 29 21.3 +1.6**
baz=14,slow=3.8
BRG Berggiesshubel 152.17 347 *e*PKP **PKPdf** **18 29 15.8 +2.9**
FBE Freiberg 152.24 348 *e*PKPab **PKiKP** **18 29 20.9 +0.9**
baz=14,slow=3.8
NEHR Nehoiu 152.25 326 ⇑P **PKiKP** **18 29 20.9 +0.7**
LANS Liptovska Anna 152.25 339 *e*PKIKP **PKiKP** **18 29 21.9 +1.8**
LANS Liptovska Anna 152.25 339 *e*PKP **PKiKP** **18 29 21.9 +1.8**
MORC Moravsky Berou 152.29 342 ⇑P **PKiKP** **18 29 21.4 +1.2**
MORC Moravsky Berou 152.29 342 *e*PKP **PKiKP** **18 29 20.9 +0.7**
MORC Moravsky Berou 152.29 342 ⇑PKIKP **PKiKP** **18 29 21.4 +1.2**
DOPR Dopca 152.32 328 ⇓P **PKiKP** **18 29 21.4 +1.0**
PVCC Panska Ves 152.36 346 *e*PKIKP **PKiKP** **18 29 21.2 +1.0**
PVCC MLR MLR
comp=Z,1μm,18.1s
PVCC Panska Ves 152.36 346 ⇑*e*PKP **PKiKP** **18 29 21.2 +1.0**
PVCC AMS AMS 19 48 00.0
comp=Z,1μm,18.1s
MLR Muntele Rosu 152.38 326 ⇑P **PKiKP** **18 29 21.3 +0.7**
MLR Muntele Rosu 152.38 326 IAMs_20 IAMs_20 19 37 15.6
comp=Z,1μm,22.0s
MLR Muntele Rosu 152.38 326 ⇑PKIKP **PKiKP** **18 29 21.3 +0.7**
RICC Richard 152.45 347 ⇑*e*PKP **PKiKP** **18 29 22.0 +1.6**
RICC *e*PKPAB **pPKPab** **18 29 33.9 +0.1**
RICC AMS AMS 19 48 10.0
comp=Z,1μm,19.9s
HSKC Hora Svate Kat 152.52 348 ⇑*e*PKP **PKiKP** **18 29 21.7 +1.1**
HSKC AMS AMS 19 48 00.0
comp=Z,1μm,18.2s
MAUC Maruska 152.58 341 ⇑*e*PKP **PKiKP** **18 29 21.9 +1.1**
MAUC AMS AMS 19 50 50.0
comp=Z,2μm,16.6s
KASTN Kahler Asten 152.65 355 *e*PKPab **PKiKP** **18 29 20.8 -0.1**
baz=14,slow=3.8
CSS Mathiatis 152.70 300 **PKPbc** **18 29 20.8 -0.5**
CSS IAMs_20 IAMs_20 19 49 15.5
comp=Z,698nm,18.0s
MOX Moxa 152.81 350 *e*L L 19 47 04.3
comp=Z,696nm,19.2s
PRA Prague 152.82 346 AMS AMS 19 46 30.0
comp=Z,2μm,20.2s
MARR Marisel-Cluj 152.86 331 ⇑P **PKiKP** **18 29 23.3 +1.8**
VOIR 152.87 327 ⇑P **PKiKP** **18 29 25.5 +4.0**
PRU Pruhonice 152.87 346 *e*PKIKP **PKiKP** **18 29 22.1 +0.8**
PRU MLR MLR
comp=Z,1μm,18.5s
PRU Pruhonice 152.87 346 ⇑*e*PKP **PKiKP** **18 29 22.1 +0.8**
PRU AMS AMS 19 46 40.0
comp=Z,1μm,18.5s
WERD Werda 152.88 349 *e*PKPab **PKiKP** **18 29 22.3 +0.9**
baz=14,slow=3.8
GOPC GO Pecny, Ondr 152.89 345 ⇑*e*PKP **PKiKP** **18 29 24.3 +2.9**
GOPC AMS AMS 19 43 30.0
comp=Z,1μm,17.2s
VRAC Vranov 152.99 342 *e*PKP **PKiKP** **18 29 22.1 +0.5**
NKC Novy Kostel 153.06 349 AMS AMS 19 46 10.0
comp=Z,1μm,19.0s
ARR Arges 153.12 328 ⇓P **PKiKP** **18 29 23.5 +1.4**
KRUC Moravsky 153.26 342 *e*PKP **PKiKP** **18 29 22.6 +0.5**
TREC Trest 153.29 344 AMS AMS 19 48 00.0
comp=Z,1μm,18.0s
MANZ Manzenberg 153.36 349 *e*PKPab **PKiKP** **18 29 24.0 +1.6**
baz=14,slow=3.8
MEM Membach 153.39 358 *d*PKP **PKiKP** **18 29 25.1 +2.8**
BTNL Ternell 153.41 358 *d*PKP **PKiKP** **18 29 25.3 +2.9**
ZVC Zvikov 153.47 346 AMS AMS 19 43 10.0
comp=Z,1μm,17.8s
LOT Lotru 153.48 329 ⇑P **PKiKP** **18 29 25.7 +2.9**
BCLA Clavier 153.59 359 *d*PKP **PKPab** **18 29 36.2 +1.0**
TNS Taunus Mts 153.62 354 *e*L L 19 43 57.9
comp=Z,814nm,20.0s
MODS Modra-Piesok 153.63 341 *e*PKP **PKiKP** **18 29 25.5 +2.5**
BGES Gesves 153.63 359 *d*PKP **PKPab** **18 29 36.6 +1.3**
BHOU Houvegnez 153.64 358 *d*PKP **PKPab** **18 29 36.8 +1.5**
BMRD Maredsous 153.72 360 *d*PKP **PKiKP** **18 29 24.0 +1.0**
GRF Grafenberg Arr 153.79 350 *e*PKPab **PKPab** **18 29 29.7 -6.3**
comp=Z,28nm,1.1s,baz=14,slow=3.8
GRF *e*L L 19 47 30.6
comp=Z,841nm,19.0s
SIRR Siria 153.81 332 ⇑P **PKiKP** **18 29 23.5 +0.1**
KHC Kasperske Hory 153.89 346 *e*PKIKP **PKPdf** **18 29 17.3 +1.8**
KHC *e* 18 29 25.5
KHC *e* 18 33 16.0
KHC MLR MLR
comp=Z,1μm,17.2s
KHC Kasperske Hory 153.89 346 *e*PKPDF **PKPdf** **18 29 17.3 +1.8**
KHC ⇑*e*PKP **pPKPbc** **18 29 25.5 -1.5**
KHC *e*PP **PP** **18 33 16.0 +5.7**
KHC AMS AMS 19 47 00.0
comp=Z,1μm,17.2s
DOU Dourbes 153.93 360 *d*PKP **PKPbc** **18 29 22.1 -1.3**
GZR Gura Zlata 153.99 330 ⇓P **PKiKP** **18 29 24.2 +0.3**
GZR Gura Zlata 153.99 330 ⇓PKIKP **PKiKP** **18 29 24.2 +0.3**
SURR Surduc 154.01 331 ⇑P **PKiKP** **18 29 27.6 +3.8**
CKRC Cesky Krumlov 154.02 345 *e*PKIKP **PKPdf** **18 29 16.8 +1.2**
CKRC *e* 18 29 25.7
CKRC MLR MLR
comp=Z,1μm,17.3s
CKRC Cesky Krumlov 154.02 345 *e*PKPDF **PKPdf** **18 29 16.8 +1.2**
CKRC ⇑*e*PKP **pPKPbc** **18 29 25.7 -1.6**
CKRC AMS AMS 19 45 30.0
comp=Z,1μm,17.3s
WET Wettzell 154.03 347 *e*L L 19 47 51.6
comp=Z,960nm,18.2s
GEC2 GERESS Array S 154.13 346 *e*L L 19 44 01.8

comp=Z,1μm,19.2s
GERES GERESS Array B 154.13 346 PKP **PKPdf** **18 29 17.6 +1.6**
comp=Z,3.2nm,1.1s,baz=90,slow=1.0,SNR=8.2
CONA Conrad Observa 154.44 342 *e*pPKP **PKPdf** **18 29 16.7 +0.3**
CONA comp=Z,4.8nm,1.5s *i* pPKP **PKPab** **18 29 40.3 +1.4**
comp=Z,23nm,1.2s
RONA Rosalia, Austr 154.52 341 *i* pPKP **pPKPdf** **18 29 18.1 -1.9**
RONA comp=Z,7.5nm,1.5s *i* pPKP pPKPab 18 29 41.9 -0.9
comp=Z,27nm,0.9s
HERR Herculane 154.54 329 ⇑P **PKiKP** **18 29 25.5 +0.6**
MOA Molin 154.94 344 *i* pPKP **PKPab** **18 29 43.1 +2.1**
comp=Z,6.8nm,0.4s
MDVR Moldovita 154.94 330 ⇑P **PKPdf** **18 29 17.6 +0.5**
MORH Mrgy, Hungar 155.05 336 ⇑P **PKPdf** **18 29 18.1 +1.0**
ARSA Arzberg 155.15 342 *e*pPKP **PKPdf** **18 29 18.2 +0.9**
comp=Z,4.2nm,1.2s
ARSA *i* pPKP **PKPab** **18 29 43.1 +1.2**
comp=Z,7.9nm,0.9s
BIOA Bad Ischl, Aus 155.24 345 *e*pPKP **PKPdf** **18 29 18.7 +1.3**
comp=Z,8.5nm,1.5s
BIOA *i* pPKP **PKPab** **18 29 43.7 +1.4**
comp=Z,25nm,1.0s
FUR Furstenfeldbru 155.26 349 *e*L L 19 46 42.7
comp=Z,1μm,19.0s
BFO Black Forest 155.50 354 *e*L L 19 44 23.8
comp=Z,618nm,20.0s
LESA Schwarzleotal 155.70 346 *i* pPKP **PKPdf** **18 29 19.5 +1.5**
comp=Z,8.2nm,1.1s
LESA *e*pPKP **pPKPab** **18 29 46.4 -1.5**
comp=Z,27nm,1.2s
SOKA Soboth 155.81 342 *i* pPKP **PKPdf** **18 29 19.5 +1.3**
comp=Z,5.4nm,1.3s
SOKA *i* pPKP **PKPab** **18 29 45.6 +0.8**
comp=Z,22nm,1.0s
BOVS Bovan 155.82 328 ⇑P **PKPdf** **18 29 19.1 +0.9**
KBA Koelnbreinsper 155.88 345 *i* pPKP **PKPdf** **18 29 19.4 +1.0**
comp=Z,6.5nm,1.2s
KBA *i* pPKP **pPKPab** **18 29 47.0 -1.7**
comp=Z,17nm,0.9s
RETA Reutte 156.01 350 *e*PKP **PKPdf** **18 29 17.6 -0.9**
comp=Z,7.4nm,1.6s
RETA *i* pPKP **PKPab** **18 29 47.1 +1.5**
comp=Z,12nm,1.1s
WATA Walderalm 156.01 348 *i* pPKP pPKPdf 18 29 20.4 -1.8
comp=Z,7.9nm,1.5s
WTTA Wattenberg 156.07 348 *i* pPKP **pPKPdf** **18 29 21.5 -0.8**
comp=Z,11nm,1.3s
WTTA *i* pPKP **PKPab** **18 29 46.9 +0.9**
comp=Z,13nm,1.0s
MOTA Moosalm 156.09 349 *i* pPKP **pPKPdf** **18 29 21.4 -0.9**
comp=Z,7.4nm,1.1s
MOTA *i* pPKP **PKPab** **18 29 46.8 +0.7**
comp=Z,13nm,1.1s
OBKA Obir 156.10 343 *i* pPKP **PKPdf** **18 29 20.0 +1.3**
comp=Z,3.0nm,0.9s
OBKA *i* pPKP **PKPab** **18 29 46.6 +0.5**
comp=Z,8.6nm,0.9s
SQTA Sankt Quirin 156.19 349 *i* pPKP **PKPdf** **18 29 20.5 +1.7**
comp=Z,5.4nm,1.1s
MYKA Terra Mystica 156.23 344 *e*pPKP **PKPab** **18 29 47.8 +1.2**
comp=Z,17nm,1.2s
DAVA Damuels 156.34 351 *i* pPKP **PKPab** **18 29 47.9 +0.8**
comp=Z,11nm,1.0s
ABTA Abfaltersbach 156.38 346 *i* pPKP **PKPdf** **18 29 20.2 +1.2**
comp=Z,15nm,1.3s
ABTA *i* pPKP **PKPab** **18 29 48.5 +1.2**
comp=Z,18nm,1.0s
FETA Feichten 156.47 349 *i* pPKP **pPKPdf** **18 29 21.1 -1.7**
comp=Z,8.4nm,1.3s
FETA *i* pPKP **PKPab** **18 29 48.7 +1.0**
comp=Z,16nm,1.2s
LJU Ljubljana 156.54 342 *e*PKPdf **PKPdf** **18 29 18.8 -0.3**
LJU *i* PKPab **PKPab** **18 29 49.3 +1.4**
CLUD Cludinico 156.57 345 PKPdf **PKPdf** **18 29 18.6 -0.6**
CEY Cerknica 156.84 342 *e*PKPab **PKPab** **18 29 50.7 +1.5**
STIP Stip 156.99 324 *i* P **PKPab** **18 29 50.9 +1.0**
VAY Valandovo 157.04 323 *i* P **PKPab** **18 29 52.2 +2.0**
TRI Trieste 157.05 343 PKPdf **PKPdf** **18 29 19.0 -0.8**
TRI PKPab **PKPab** **18 29 48.8 -1.2**
TRI Trieste 157.05 343 PKIKP **PKPdf** **18 29 19.0 -0.8**
SKO Skopje 157.18 326 *i* P **PKPab** **18 29 53.1 +2.3**
PDG Podgorica 157.89 330 IAMs_20 IAMs_20 19 52 04.5
comp=Z,658nm,19.0s
MVO Moncorvo 160.33 27 *e*PKPdf **PKPdf** **18 29 27.7 +3.8**
MTE Manteigas 160.75 29 *e*PKPdf **PKPdf** **18 29 28.6 +4.2**
ESDC Sonseca Array 162.79 23 **PKPdf** **18 29 28.4 +1.9**
ESDC PKPab **PKPab** **18 30 14.6 -0.7**
ESDC Sonseca Array 162.79 23 PKP **PKPdf** **18 29 27.6 +1.0**
comp=Z,2.6nm,1.1s,baz=335,slow=2.5,SNR=8.0
ESDC PKPab **PKPab** **18 30 15.8 +0.5**
comp=Z,3.2nm,1.0s,baz=343,slow=4.0,SNR=4.1
KEST Kesra 167.55 341 PKPab **PKPab** **18 30 34.9 -1.4**
comp=Z,5.5nm,0.9s,baz=17,slow=1.1,SNR=3.4
TOA0 Torodi Ar. Sit 168.91 166 **PKPdf** **18 29 32.0 -0.1**
TORD Torodi Ar. Bea 168.91 166 **PKPdf** **18 29 32.0 -0.1**
TORD Torodi Ar. Bea 168.91 166 PKP **PKPdf** **18 29 32.7 +0.6**
comp=Z,8.5nm,1.1s,baz=9.6,slow=1.1,SNR=19
TORD PKPab **pPKPab** **18 30 44.2 -2.0**
comp=Z,4.1nm,0.7s,baz=184,slow=2.9,SNR=8.6
TORD PP **PP** **18 34 33.1 +2.5**
comp=Z,2.0nm,1.1s,baz=138,slow=3.5,SNR=3.7

NEIC ***16*** *18:18:30.3±3.0,23°.61S±0°.08×175°.5W±0°.1,h10km±1km, mb4.7/33, Error ellipse: s-maj=16.5km s-min=13.9km az=104.0*
IDC ***16*** *18:18:31.0±0.6,23°.86S×176°.01W,h0km,mb4.5/14, mbtmp4.5/16,ML3.8/2, Error ellipse: s-maj=23.0km s-min=18.2km az=116.0*

ISC 16 18:18:35.2±0.5,23°.96S±0°.06×175°.99W±0°.10,h31km,n91, σ2.201/77,mb4.6/27,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.55**	**198**	Pn	**Pn**	**18 19 59.4**	**+3.8**
RAO				Sn	**Sn**	**18 20 59.3**	**+0.9**
RAO	**Raoul Island**	**5.55**	**198**	Sn	**Sn**	**18 20 58.0**	**-0.3**
	32nm,0.3s,baz=82,slow=23,SNR=2.1						
MSVF	**Nonsavu**	**8.33**	**317**	Pn	**Pn**	**18 20 32.6**	**-1.3**
MSVF	**Nonsavu**	**8.33**	**317**	Pn	Pn	18 20 39.4	+5.5
	1.2nm,0.3s,baz=140,slow=12,SNR=20						
AFI	**Afiamalu**	**10.76**	**22**	Pn	Pn	18 20 57.5	-10
RAR	**Rarotonga**	**15.23**	**83**	Pn	Pn	18 21 58.7	-9.3
RAR	**Rarotonga**	**15.23**	**83**	Pn	Pn	18 21 59.3	-8.7
	3.7nm,0.3s,baz=270,slow=7.4,SNR=4.2						
URZ	**Urewera**	**15.42**	**201**	Pn	**Pn**	**18 22 10.3**	**-0.1**
	1.0nm,0.3s,baz=51,slow=10,SNR=1.6						
URZ				Sn	**Sn**	**18 24 52.3**	**-8.0**
	1.3nm,0.3s,baz=243,slow=21,SNR=1.5						
DZM	**Mont Dzumac**	**16.28**	**273**	Pn	**Pn**	**18 22 21.6**	**-0.1**
	0.2nm,0.3s,baz=112,slow=19,SNR=1.8						
	13nm,1.1s						
BFZ	**Birch Farm**	**17.91**	**200**	P	**Pn**	**18 22 37.5**	**-4.3**
BFZ				IAmb	IAmb	18 23 05.5	
	comp=Z,55nm,1.5s						
MRZ	**Mangatainoka R**	**18.10**	**201**	P	**Pn**	**18 22 41.8**	**-2.4**
PLWZ	**Palliser**	**19.02**	**201**	P	**Pn**	**18 22 55.4**	**0.0**
TCW	**Tory Channel**	**19.03**	**203**	P	**P**	**18 22 49.5**	**-5.2**
KHZ	**Kahutara**	**20.36**	**203**	P	**P**	**18 23 07.3**	**-1.7**
KHZ				IAmb	IAmb	18 23 25.8	
	comp=Z,41nm,1.3s						
ARMA	**Armidale**	**29.45**	**250**	P	**P**	**18 24 37.0**	**+0.6**
CTAO	**Charters Tower**	**35.14**	**269**	P	**P**	**18 25 27.9**	**+1.6**
CTAO				IAmb	IAmb	18 25 28.8	
	comp=Z,15nm,0.9s						
PMG	**Port Moresby**	**38.01**	**286**	P	**P**	**18 25 50.6**	**-0.1**
PMG				IAmb	IAmb	18 25 54.1	
	comp=Z,23nm,1.0s						
STKA	**Stephens Creek**	**38.11**	**248**	P	**P**	**18 25 51.9**	**+0.5**
STKA	**Stephens Creek**	**38.11**	**248**	P	**P**	**18 25 51.4**	**0.0**
	comp=Z,3.6nm,0.9s,baz=58,slow=9.5,SNR=6.9						
	comp=Z,3.6nm,0.9s						
BBOO	**Buckleboo**	**42.80**	**247**	P	**P**	**18 26 30.3**	**+0.1**
BBOO				IAmb	IAmb	18 26 31.3	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**45.64**	**260**	P	**P**	**18 26 53.6**	**+0.4**
ASAR	**Alice Springs**	**45.64**	**260**	P	**P**	**18 26 54.3**	**+1.2**
ASAR	**Alice Springs**	**45.64**	**260**	P	**P**	**18 26 53.4**	**+0.2**
	comp=Z,5.9nm,0.9s,baz=88,slow=6.4,SNR=22						
	comp=Z,5.9nm,0.9s						
WR0	**Warramunga Arr**	**45.87**	**265**	P	**P**	**18 26 55.1**	**+0.1**
WR0				IAmb	IAmb	18 26 57.3	
	comp=Z,4.6nm,0.9s						

WB2	**Warramunga Arr**	**46.05 265**	P	**P**	**18 26 56.6 +0.2**		
WB2			IAmb	IAmb	18 26 57.6		
comp=Z,12nm,1.1s							
WRA	**Warramunga Arr**	**46.06 265**	P	**P**	**18 26 56.3 -0.1**		
WRA	**Warramunga Arr**	**46.06 265**	P	**P**	**18 26 56.2 -0.3**		
comp=Z,5.9nm,0.8s,baz=102,slow=8.2,SNR=70							
comp=Z,5.9nm,0.8s							
FORT	**Forrest**	**49.72 249**	P	**P**	**18 27 24.9 +0.3**		
MTN	**Manton Dam**	**51.12 273**	P	**P**	**18 27 35.5 +0.1**		
KNRA	**Kununurra**	**52.35 268**	P	**P**	**18 27 44.8 +0.2**		
SBA	**Scott Base**	**54.57 184**	P	**P**	**18 28 02.5 +2.5**		
SBA			IAmb	IAmb	18 28 15.7		
comp=Z,5.6nm,1.0s							
SOEI	**Soe**	**58.51 273**	P	**P**	**18 28 30.8 +1.7**		
QSPA	**South Pole Qui**	**66.13 180**	P	**P**	**18 29 21.3 +2.0**		
QSPA			IAmb	IAmb	18 29 22.0		
comp=Z,6.7nm,0.9s							
QSPA	**South Pole Qui**	**66.13 180**	P	**P**	**18 29 21.2 +1.8**		
comp=Z,5.5nm,0.9s,baz=39,slow=2.2,SNR=11							
comp=Z,5.5nm,0.9s							
BELA	**Belgrano 2**	**75.90 172**	P	**P**	**18 30 18.7 +0.4**		
MAW	**Mawson**	**78.95 200**	P	**P**	**18 30 37.4 +2.0**		
MAW	**Mawson**	**78.95 200**	P	**P**	**18 30 37.3 +2.0**		
comp=Z,6.1nm,0.9s,baz=131,slow=9.2,SNR=11							
comp=Z,6.1nm,0.9s							
PETK	**Petropavlovsk-**	**80.08 344**	P	**P**	**18 30 42.5 +0.9**		
comp=Z,6.5nm,1.0s,baz=132,slow=4.3,SNR=4.2							
comp=Z,6.5nm,1.0s							
DSP	**Deep Springs**	**81.84 43**	P	P	18 30 45.7 -5.6		
NVAR	**Mina Array Bea**	**82.29 42**	P	**P**	**18 30 54.5 +0.5**		
comp=Z,1.1nm,0.8s,baz=210,slow=8.4,SNR=5.6							
comp=Z,1.1nm,0.8s							
H03S2	**Juan Fernandez**	**82.52 124**	T	T	20 02 37.5		
baz=244							
H03S1	**Juan Fernandez**	**82.53 124**	T	T	20 02 05.3		
baz=244							
H03S3	**Juan Fernandez**	**82.54 124**	T	T	20 02 36.8		
baz=244							
H03N2	**Juan Fernandez**	**82.68 123**	T	T	20 02 16.9		
baz=248							
H03N3	**Juan Fernandez**	**82.68 123**	T	T	20 02 50.3		
baz=248							
H03N1	**Juan Fernandez**	**82.69 123**	T	T	20 02 47.8		
baz=248							
USRK	**Ussuriysk Ar.**	**82.85 325**	P	**P**	**18 30 58.1 +1.7**		
comp=Z,4.0nm,0.9s,baz=134,slow=4.2,SNR=5.2							
comp=Z,4.0nm,0.9s							
ELIB	**Princess Elisa**	**83.42 186**	P	**P**	**18 31 00.6 +1.3**		
X16A	**Lo Mia Camp, P**	**84.39 49**	P	P	18 30 58.4 -6.4		
X16A			IAmb	IAmb	18 31 07.3		
comp=Z,6.2nm,1.4s							
SNAA	**Sanae**	**84.51 178**	P	**P**	**18 31 04.8 0.0**		
SNAA			IAmb	IAmb	18 31 06.8		
comp=Z,6.8nm,1.1s							
SNAA	**Sanae**	**84.51 178**	P	**P**	**18 31 05.5 +0.7**		
comp=Z,5.0nm,1.1s,baz=188,slow=2.9,SNR=6.6							
comp=Z,5.0nm,1.1s							
U15A	**North Rim**	**84.94 47**	P	P	18 31 01.7 -6.1		
U15A			IAmb	IAmb	18 31 23.0		
comp=Z,8.7nm,1.3s							
KLR	**Kul'dur**	**86.44 329**	P	**P**	**18 31 15.6 +1.1**		
comp=Z,2.5nm,0.9s,baz=116,slow=11,SNR=3.8							
comp=Z,2.5nm,0.9s							
TX31	**Lajitas Ar. Si**	**87.38 56**	P	P	18 31 12.2 -7.5		
TX32	**Lajitas Array**	**87.38 56**	P	P	18 31 12.6 -7.1		
TX32			IAmb	IAmb	18 31 22.7		
comp=Z,4.1nm,1.3s							
TXAR	**Lajitas Array**	**87.38 56**		**P**	**18 31 16.7 -3.0**		
TXAR	**Lajitas Array**	**87.38 56**	P	**P**	**18 31 20.4 +0.7**		
comp=Z,0.6nm,0.7s,baz=210,slow=6.3,SNR=5.2							
comp=Z,0.6nm,0.7s							
TTA	**Tatalina**	**88.03 9**	P	**P**	**18 31 21.8 -0.2**		
CAST	**Castle Rocks**	**89.11 11**	P	**P**	**18 31 24.7 -2.2**		
CAST			IAmb	IAmb	18 31 27.3		
comp=Z,6.8nm,1.2s							
TRF	**Thorofare Moun**	**89.44 11**	P	**P**	**18 31 27.2 -1.5**		
TRF			IAmb	IAmb	18 31 28.9		
comp=Z,6.5nm,1.0s							
SEY	**Seymchan**	**90.16 346**	P	**P**	**18 31 31.9 +0.1**		
comp=Z,3.8nm,1.0s,baz=180,slow=8.1,SNR=4.3							
comp=Z,3.8nm,1.0s							
MLY	**Manley**	**90.83 10**	P	**P**	**18 31 33.3 -1.7**		
BCAR	**Beaver Creek A**	**90.86 15**	P	**P**	**18 31 35.3 +0.1**		
G19K	**Purcell Mounta**	**90.97 8**	P	**P**	**18 31 33.2 -2.3**		
G19K			IAmb	IAmb	18 31 37.0		
comp=Z,6.5nm,1.1s							
MDM	**Murphy Dome**	**91.19 11**	P	**P**	**18 31 34.4 -2.2**		
IMAR	**Indian Mountai**	**91.25 9**	P	**P**	**18 31 36.0 -0.9**		
IL31		**91.28 12**	P	**P**	**18 31 33.1 -3.8**		
IL31			IAmb	IAmb	18 31 37.7		
comp=Z,5.3nm,1.1s							
ILAR	**Eielson Array**	**91.28 12**	P	**P**	**18 31 32.7 -4.3**		
ILAR	**Eielson Array**	**91.28 12**	P	**P**	**18 31 37.0 -0.1**		
comp=Z,2.1nm,1.1s,baz=226,slow=5.1,SNR=7.7							
comp=Z,2.1nm,1.1s							
CMAR	**Chiang Mai Arr**	**93.00 289**	P	**P**	**18 31 48.4 +2.3**		
comp=Z,9.5nm,1.0s,baz=123,slow=2.9,SNR=34							
comp=Z,9.5nm,1.0s							
MKAR	**Makanchi Array**	**114.90 312**	PKP	PKPdf	18 37 12.3 -0.5		
comp=Z,0.3nm,0.7s,baz=157,slow=0.8,SNR=3.6							
KURBB	**Kurchatov Arra**	**117.83 316**	PKP	**PKiKP**	**18 37 18.4 +0.1**		
comp=Z,1.3nm,0.2s,baz=70,slow=3.3,SNR=4.5							
BVAR	**Borovoye Array**	**122.90 319**	PKP	**PKPdf**	**18 37 27.6 -0.3**		
comp=Z,0.5nm,0.4s,baz=90,slow=4.4,SNR=4.6							
HFS	**Hagfors**	**143.22 352**	PKhKP	PKPpre	18 38 02.7		
comp=Z,1.4nm,0.6s,baz=113,slow=3.3,SNR=2.1							
LODK	**Lodwar**	**143.50 241**	PKPdf	PKPbc	18 38 05.7 +0.7		
MBAR	**Mbarara**	**144.37 231**	PKPdf	**PKPab**	**18 38 05.9 -1.6**		
SIRT	**Sirnak**	**144.56 302**	PKPdf	**PKPab**	**18 38 07.4 0.0**		
PABE	**Paberze**	**145.21 340**		**PKPbc**	**18 38 08.1 -0.9**		
SUW	**Suwalki**	**146.72 339**	PKPdf	**PKPdf**	**18 38 07.7 -4.2**		
AKASG	**Malin Array Be**	**146.93 330**		**PKPdf**	**18 38 10.7 -1.7**		
AKASG	**Malin Array Be**	**146.93 330**	PKPbc	**PKPbc**	**18 38 13.8 -0.5**		
comp=Z,10nm,1.1s,baz=38,slow=3.4,SNR=16							
AKBB	**Malin Array Si**	**146.93 330**	PKPdf	**PKPdf**	**18 38 09.9 -2.4**		
AK05	**Malin Array Si**	**146.99 330**	PKPdf	**PKPdf**	**18 38 09.0 -3.5**		
EKA	**Eskdalemuir Ar**	**148.22 8**	PKPbc	**PKPbc**	**18 38 17.6 -0.1**		
comp=Z,0.8nm,0.4s,baz=312,slow=1.7,SNR=2.2							
BNN	**Bunyan**	**149.22 306**		**PKPdf**	**18 38 16.1 -0.6**		
BRTR	**Keskin Array B**	**150.50 309**	PKPdf	**PKPdf**	**18 38 16.0 -2.7**		
BRTR	**Keskin Array B**	**150.50 309**	PKPbc	**PKPbc**	**18 38 23.2 -0.9**		
comp=Z,2.9nm,0.8s,baz=90,slow=1.2,SNR=7.3							
MMAI	**Mount Meron Ar**	**151.06 295**	PKPbc	**PKiKP**	**18 38 26.2 +0.1**		
comp=Z,9.8nm,0.9s,baz=46,slow=2.4,SNR=8.9							
CLL	**Collm**	**151.83 348**	*i* PKPbc	**PKiKP**	**18 38 27.4 +0.4**		
comp=Z,20nm,1.4s							
CLL			*e*pPKPab	**sPKPbc**	**18 38 38.0 -1.4**		
CLL			*ex*	x	18 38 51.0		
GERES	**GERESS Array B**	**154.01 345**	PKPbc	**PKPbc**	**18 38 31.6 0.0**		
comp=Z,0.3nm,0.4s,baz=316,slow=2.7,SNR=3.4							
TORD	**Torodi Ar. Bea**	**169.03 168**	PKP	**PKPdf**	**18 38 38.5 -1.5**		
comp=Z,1.2nm,0.9s,baz=98,slow=3.1,SNR=3.8							
TORD			PKPab	**PKPab**	**18 39 53.2 +2.1**		
comp=Z,0.9nm,0.8s,baz=170,slow=1.3,SNR=3.8							

NEIC ***16*** *18:19:58.1±1.3,23°.95S±0°.07×175°.4W±0°.1,h10km±1km, mb5.1/64,Error ellipse: s-maj=19.9km s-min=4.4km az=236.0*

BJI ***16*** *18:19:58.7±0.0,23°.55S×175°.49W,h4km,mb5.2/31, mB5.6/20,Ms5.5/17,Ms7 5.2/17*

IDC ***16*** *18:19:59.6±0.5,23°.82S×175°.96W,h0km,mb4.8/19, mbtmp4.7/21,ML4.4/1,MS4.8/4,Error ellipse: s-maj=21.0km s-min=16.9km az=116.0*

GCMT ***16*** *18:20:05.1±0.4,24°.11S±0°.04×175°.39W±0°.03,h30km, MW5.2/77,Moment Tensor Solution. s32,c39; s77,c105; Duration: 0 Moment tensor: Scale 10^{17}Nm M_{rr}0.75±.06; $M_{\theta\theta}$-0.20±.03; $M_{\phi\phi}$-0.54±.03; $M_{r\theta}$0.35±.05; $M_{\theta\phi}$-0.19±.02; $M_{r\phi}$0.15±.03; Best double couple: $M_0$0.77600×10^{17} NP1:ϕ_s40.00000°,δ58.00000°,λ106.00000°. NP2: ϕ_s193.00000°,δ35.00000°,λ67.00000°. Principal axes: T 0.8670, Plg72.0000°, Azm349.0000°; N -0.1800, Plg13.0000°, Azm212.0000°; P -0.6850, Plg12.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 18:20:02.1±0.6,24°.08S±0°.06×175°.94W±0°.09,h19km±1km, h20km:pP-P,n337,σ1§10/321,mb5.1/72,MS5.2/10,9C-3D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.44**	**199**	Sn	**Sn**	**18 22 26.9**	**+2.5**
20nm,0.3s,baz=276,slow=22,SNR=1.5							
NIUE	**Niue**	**7.49**	**49**	Pn	Pn	18 21 40.1	-10
NIUE				Sn	Sn	18 22 52.1	-23
MSVF	**Nonsavu**	**8.45**	**317**	Pn	**Pn**	**18 22 05.9**	**+2.2**
MSVF	**Nonsavu**	**8.45**	**317**	Pn	Pn	18 22 09.1	+5.4
2.8nm,0.3s,baz=140,slow=13,SNR=14							
MSVF				LR	LR	18 24 56.8	
comp=Z,6μm,18.9s,baz=114,slow=36							
AFI	**Afiamalu**	**10.86**	**22**				
RAR	**Rarotonga**	**15.20**	**82**	Pn	Pn	18 22 28.7	-8.0
RAR	**Rarotonga**	**15.20**	**82**	Pn	Pn	18 23 26.4	-9.5
7.2nm,0.3s,baz=249,slow=7.1,SNR=13						18 23 27.0	-8.8
RAR				Sn	Sn	18 25 58.3	-25
2.8nm,0.3s,baz=264,slow=20,SNR=3.7							
RAR				LR	LR	18 30 54.1	
comp=Z,751nm,18.4s,baz=272,slow=43							
URZ	**Urewera**	**15.32**	**201**	Pn	**Pn**	**18 23 39.6**	**+2.2**
1.5nm,0.3s,baz=40,slow=10,SNR=1.8							
URZ				Sn	**Sn**	**18 26 18.5**	**-8.0**
1.0nm,0.3s,baz=172,slow=16,SNR=1.6							
2.5nm,0.3s							
DZM	**Mont Dzumac**	**16.33**	**274**	Pn	**Pn**	**18 23 50.0**	**-0.6**
9.6nm,1.0s,baz=114,slow=19,SNR=1.3							
DZM				LR	LR	18 29 15.2	
comp=Z,2μm,18.3s,baz=110,slow=34							
BFZ	**Birch Farm**	**17.80**	**200**		**Pn**	**18 24 08.2**	**-0.6**
MRZ	**Mangatainoka R**	**18.00**	**201**		**P**	**18 24 12.5**	**+0.9**
HNR	**Honiara**	**27.23**	**298**	LR	LR	18 34 37.5	
comp=Z,17μm,19.1s,baz=145,slow=32							
CTAO	**Charters Tower**	**35.19**	**269**	P	**P**	**18 26 55.9**	**+0.7**
CTAO				IAmb	IAmb	18 26 57.7	
comp=Z,23nm,0.7s							
PMG	**Port Moresby**	**38.09**	**286**	P	**P**	**18 27 19.5**	**-0.4**
STKA	**Stephens Creek**	**38.10**	**249**	P	**P**	**18 27 20.9**	**+0.9**
comp=Z,7.2nm,1.0s,baz=74,slow=11,SNR=5.3							
comp=Z,7.2nm,1.0s							
COEN	**Coen**	**39.81**	**277**	P	**P**	**18 27 35.5**	**+1.0**
AS31	**Alice Springs**	**45.66**	**260**	P	**P**	**18 28 22.4**	**+0.4**
ASAR	**Alice Springs**	**45.66**	**260**	P	**P**	**18 28 22.5**	**+0.6**
comp=Z,12nm,1.0s,baz=94,slow=8.0,SNR=15							
comp=Z,12nm,1.0s							
WR0	**Warramunga Arr**	**45.91**	**265**	P	**P**	**18 28 24.1**	**+0.2**
WB2	**Warramunga Arr**	**46.08**	**265**	P	**P**	**18 28 25.1**	**-0.1**
WB2				IAmb	IAmb	18 28 26.6	
comp=Z,25nm,1.0s							
WRAB	**Tennant Creek**	**46.09**	**265**	P	**P**	**18 28 25.1**	**-0.2**
WRAB				IAmb	IAmb	18 28 26.6	
comp=Z,19nm,0.9s							
WB0	**Warramunga Arr**	**46.09**	**265**	P	**P**	**18 28 25.1**	**-0.3**
WB0				IAmb	IAmb	18 28 26.6	
comp=Z,18nm,0.7s							
WRA	**Warramunga Arr**	**46.09**	**265**	P	**P**	**18 28 25.2**	**-0.1**
WRA	**Warramunga Arr**	**46.09**	**265**	P	**P**	**18 28 25.3**	**-0.1**
comp=Z,18nm,0.9s,baz=103,slow=8.1,SNR=20							
comp=Z,18nm,0.9s							
SBA	**Scott Base**	**54.45**	**184**	P	P	18 29 33.0	+5.2
SBA				IAmb	IAmb	18 29 47.4	
comp=Z,35nm,1.7s							
SWI	**Sorong**	**56.04**	**286**	P	**P**	**18 29 39.3**	**-0.9**
comp=Z,49nm,1.0s							
SOEI	**Soe**	**58.56**	**273**	P	**P**	**18 29 59.1**	**+1.0**
SOEI	**Soe**	**58.56**	**273**	P	**P**	**18 29 56.8**	**-1.3**
comp=Z,43nm,0.9s							
NLAI	**Namlea**	**58.65**	**281**	P	**P**	**18 29 57.3**	**-1.3**
comp=Z,7.4nm,0.5s,comp=Z,3μm							
BATI	**Baumata**	**58.94**	**272**	P	**P**	**18 29 59.5**	**-1.2**
comp=Z,11nm,0.4s							
SANI	**Sanana**	**60.16**	**282**	P	**P**	**18 30 07.5**	**-1.6**
comp=Z,13nm,0.9s							
TNTI	**Ternate**	**60.23**	**286**	P	**P**	**18 30 08.6**	**-1.0**
comp=Z,79nm,1.7s							
BKSI	**Bulukumba**	**64.07**	**276**	P	**P**	**18 30 34.0**	**-1.3**
comp=Z,9.5nm,0.9s							
TWSI	**Taliwang, Sumb**	**65.69**	**271**	P	**P**	**18 30 46.1**	**+0.2**
comp=Z,21nm,1.0s							
QSPA	**South Pole Qui**	**66.00**	**180**	P	**P**	**18 30 49.6**	**+2.4**
comp=Z,9.2nm,1.1s,baz=40,slow=3.4,SNR=5.5							
comp=Z,9.2nm,1.1s							
MPSI	**Mapaga**	**66.67**	**281**	P	**P**	**18 30 50.3**	**-1.9**
comp=Z,20nm,1.0s							
MJAR	**Matsushiro Arr**	**74.21**	**323**	P	**P**	**18 31 36.3**	**-1.4**
comp=Z,4.0nm,1.0s,baz=152,slow=5.5,SNR=4.9							
comp=Z,4.0nm,1.0s							
BELA	**Belgrano 2**	**75.77**	**172**	P	P	18 31 38.7	-7.6
BELA				IAmb	IAmb	18 31 49.4	
comp=Z,14nm,1.3s							
JNU	**Nakatsue**	**76.17**	**316**	P	**P**	**18 31 47.5**	**-1.7**
comp=Z,18nm,1.0s,baz=153,slow=6.1,SNR=3.9							
comp=Z,18nm,1.0s							
SCZ2	**Santa Cruz Isl**	**78.73**	**45**	P	**P**	**18 32 03.6**	**+0.1**
baz=231							
SCI2	**San Clemente I**	**78.81**	**46**	P	**P**	**18 32 04.4**	**+0.5**
baz=232							
MAW	**Mawson**	**78.85**	**200**	P	**P**	**18 32 04.3**	**+0.8**
MAW	**Mawson**	**78.85**	**200**	P	**P**	**18 32 06.3**	**+2.7**
comp=Z,11nm,0.9s,baz=125,slow=5.5,SNR=11							
comp=Z,11nm,0.9s							
CIS	**Catalina Islan**	**79.16**	**46**	P	**P**	**18 32 06.5**	**+0.7**
baz=232							
PKM	**Mcpherson Peak**	**79.18**	**44**	P	**P**	**18 32 07.0**	**+0.8**
baz=230							
SMMC	**Simmler**	**79.34**	**44**	P	**P**	**18 32 06.9**	**+0.1**
baz=230							
YSS	**Yuzh-Sakhalins**	**79.94**	**333**	P	**P**	**18 32 05.2**	**-4.5**
ESJX	**Sierra Juarez**	**79.96**	**48**	P	P	18 32 02.9	-7.6
BFSC	**Mount Baldy Ra**	**80.17**	**46**	P	**P**	**18 32 12.3**	**+0.9**
baz=232							
MONP2	**Monument Peak**	**80.17**	**47**	P	**P**	**18 32 12.7**	**+1.2**
baz=233							
SDPT	**Sand Point**	**80.21**	**9**	P	**P**	**18 32 12.9**	**+2.0**
baz=194							
PETK	**Petropavlovsk-**	**80.21**	**344**	P	**P**	**18 32 06.8**	**-4.2**
PETK	**Petropavlovsk-**	**80.21**	**344**	P	**P**	**18 32 10.8**	**-0.3**
comp=Z,20nm,1.0s,baz=133,slow=7.3,SNR=10.0							
comp=Z,20nm,1.0s							
IKP	**In-Ko-Pah, Jac**	**80.24**	**48**	P	**P**	**18 32 12.5**	**+0.7**
baz=233							
VES	**Vestal, Richgr**	**80.24**	**44**	P	**P**	**18 32 12.8**	**+1.2**
baz=231							
EDW2	**Edwards Air Fo**	**80.34**	**45**	P	**P**	**18 32 12.7**	**+0.4**
baz=232							
YUH	**Yuha Desert**	**80.36**	**48**	P	**P**	**18 32 11.8**	**-0.5**
ISA	**Isabella, Lake**	**80.52**	**44**	P	**P**	**18 32 13.8**	**+0.5**
baz=231							
PFO	**Pinyon Flats O**	**80.58**	**47**	P	**P**	**18 32 14.2**	**+0.6**
baz=233							
TPFO	**Pinon Flats**	**80.58**	**47**	P	**P**	**18 32 14.0**	**+0.4**
baz=233							
SWSC	**Sam W. Stewart**	**80.62**	**48**	P	**P**	**18 32 14.1**	**+0.4**
baz=233							
KSRS	**Korea Array**	**80.82**	**318**	P	**P**	**18 32 13.2**	**-1.4**
comp=Z,3.7nm,1.0s,baz=140,slow=7.0,SNR=6.2							
comp=Z,3.7nm,1.0s							
LRMC	**Laurel Mtn Rad**	**80.91**	**45**	P	**P**	**18 32 16.0**	**+0.6**
baz=232							
BELC	**Belle Mtn. Jos**	**81.12**	**47**	P	**P**	**18 32 16.8**	**+0.3**
baz=233							
CWC	**Cottonwood Cre**	**81.25**	**44**	P	**P**	**18 32 17.6**	**+0.3**
baz=232							
BC3	**Big Chuckawall**	**81.27**	**47**	P	**P**	**18 32 18.0**	**+0.6**
baz=234							
GLA	**Glamis**	**81.34**	**48**	P	**P**	**18 32 18.3**	**+0.7**
baz=234							
HEC	**Hector,Ludlow**	**81.39**	**46**	P	**P**	**18 32 17.9**	**0.0**
baz=233							
MPMC	**Manual Prospec**	**81.39**	**44**	P	**P**	**18 32 18.3**	**+0.3**
baz=232							
IRM	**Iron Mountain**	**81.78**	**47**	P	**P**	**18 32 20.7**	**+0.8**
baz=234							
GMRC	**Granite Mounta**	**81.81**	**46**	P	**P**	**18 32 20.5**	**+0.3**
baz=233							
TUQ	**Turquoise Moun**	**82.02**	**46**	P	**P**	**18 32 21.7**	**+0.4**
baz=233							
GRAC	**Grapevine Rang**	**82.05**	**44**	P	**P**	**18 32 22.1**	**+0.8**
baz=232							
214A	**Organ Pipe Nat**	**82.10**	**50**	P	**P**	**18 32 22.0**	**+0.3**
baz=235							
LHV	**Little Huntoon**	**82.12**	**42**	P	**P**	**18 32 21.2**	**-0.2**
LHV				IAmb	IAmb	18 32 42.7	
comp=Z,15nm,1.4s							
GMN	**Gold Mountain**	**82.30**	**43**	P	**P**	**18 32 22.1**	**-0.7**
NVAR	**Mina Array Bea**	**82.35**	**42**	P	P	18 32 16.2	-6.8
NVAR	**Mina Array Bea**	**82.35**	**42**	P	**P**	**18 32 22.6**	**-0.5**
comp=Z,2.8nm,0.8s,baz=223,slow=8.5,SNR=10							
comp=Z,2.8nm,0.8s							
H03S2	**Juan Fernandez**	**82.42**	**124**	T	T	20 04 12.8	
baz=245,slow=74							
H03S1	**Juan Fernandez**	**82.43**	**124**	T	T	20 04 14.9	
baz=245,slow=74							
H03S3	**Juan Fernandez**	**82.43**	**124**	T	T	20 04 12.8	
baz=245,slow=74							
NV11	**Mina Array Sit**	**82.45**	**42**	P	P	18 32 16.9	-6.5
PDMCI	**Parker Dam,Lak**	**82.54**	**47**	P	**P**	**18 32 24.3**	**+0.5**
baz=234							
H03N2	**Juan Fernandez**	**82.57**	**123**	T	T	20 03 55.0	
baz=239							
H03N3	**Juan Fernandez**	**82.57**	**123**	T	T	20 04 11.2	
baz=239							
H03N1	**Juan Fernandez**	**82.59**	**123**	T	T	20 03 47.4	
baz=239							
TPNV	**Topopah Spring**	**82.72**	**44**	P	**P**	**18 32 23.8**	**-1.2**
TPNV	**Topopah Spring**	**82.72**	**44**	P	**P**	**18 32 25.3**	**+0.3**
baz=233							
TPH	**Tonopah**	**82.80**	**43**	P	P	18 32 17.6	-7.8
USA0B	**Ussuriysk Arra**	**82.98**	**325**	P	**P**	**18 32 25.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**82.98**	**325**	P	**P**	**18 32 26.6**	**+0.7**
comp=Z,13nm,1.0s,baz=116,slow=3.4,SNR=11							
comp=Z,13nm,1.0s							
ELIB	**Princess Elisa**	**83.31**	**186**	*d*P	**P**	**18 32 28.1**	**+0.6**
comp=Z,12nm,1.4s							
R18K	**Karluk**	**83.31**	**11**	P	**P**	**18 32 28.3**	**+1.1**
baz=200							
NJ2	**Nanjing**	**83.62**	**309**	*e*P	**P**	**18 32 30.8**	**+1.4**
NJ2				pP	**PcP**	**18 32 34.3**	**+0.7**
NJ2				sP	**sP**	**18 32 36.3**	**-0.2**
NJ2				pmax	pmax		
comp=Z,16nm,0.5s							
NJ2				pmax	pmax		
comp=Z,1μm,4.2s							
TUC	**Tucson**	**83.72**	**51**	P	**P**	**18 32 30.6**	**+0.5**
baz=236							
R11B	**Troy Canyon, C**	**83.99**	**43**	P	**P**	**18 32 31.7**	**+0.2**
baz=233							
P16K	**Nushagak River**	**84.13**	**9**	P	**P**	**18 32 32.2**	**+0.8**
baz=196							
Q18K	**Katmai Hardscr**	**84.24**	**11**	P	**P**	**18 32 32.0**	**-0.1**
baz=199							
SNAA	**Sanae**	**84.39**	**178**	P	**P**	**18 32 30.3**	**-2.6**
SNAA				IAmb	IAmb	18 32 55.2	
comp=Z,17nm,1.3s							
SNAA	**Sanae**	**84.39**	**178**	P	**P**	**18 32 34.1**	**+1.2**
comp=Z,7.7nm,1.1s,baz=201,slow=4.6,SNR=6.0							
comp=Z,7.7nm,1.1s							
N14K	**Kuskokwak Cree**	**84.51**	**7**	P	**P**	**18 32 33.7**	**+0.4**
baz=193							
P17K	**Kvichak River**	**84.52**	**10**	P	**P**	**18 32 33.7**	**+0.4**
baz=198							
MDJ	**Mudanjiang**	**84.53**	**324**	P	**P**	**18 32 34.6**	**+0.8**
MDJ				pP	PcP	18 32 37.6	+0.3
MDJ				sP	pP	18 32 38.8	-0.7
MDJ				S	**S**	**18 43 01.1**	**+1.5**
MDJ				ScS	**ScS**	**18 43 13.3**	**+2.3**
MDJ				SS	**SS**	**18 48 31.1**	**-0.1**
MDJ				pmax	pmax		
comp=Z,20nm,1.2s							
MDJ				pmax	pmax		
comp=Z,410nm,5.1s							
MDJ				LR	LR		
comp=Z,470nm,15.8s							
MDJ				LR	LR		
comp=Z,800nm,17.6s							
MDJ				LR	LR		
comp=Z,1μm,18.0s							
MDJ	**Mudanjiang**	**84.53**	**324**	IAmb	IAmb	18 32 36.4	
comp=Z,17nm,1.0s							
M13K	**Dall Lake**	**84.81**	**6**	P	**P**	**18 32 36.1**	**+1.3**
baz=191							
P18K	**Big Mountain,**	**84.90**	**10**	P	**P**	**18 32 35.4**	**0.0**
baz=199							
N15K	**Kwethluk River**	**84.94**	**8**	P	**P**	**18 32 36.7**	**+1.2**
baz=194							
O17K	**Koliganek Bris**	**84.97**	**9**	P	**P**	**18 32 36.5**	**+0.8**
baz=197							
WUAZ	**Wupatki**	**85.09**	**48**	P	**P**	**18 32 37.2**	**+0.1**
baz=236							
M14K	**Bethel**	**85.29**	**7**	P	**P**	**18 32 37.6**	**+0.5**
baz=193							
O18K	**Koktuh Hills**	**85.35**	**10**	P	**P**	**18 32 37.7**	**+0.2**
baz=199							
M15K	**Kasigluk River**	**85.38**	**7**	P	**P**	**18 32 37.7**	**+0.1**
baz=194,SNR=6.7							
N16K	**Nishlik Lake**	**85.41**	**8**	P	**P**	**18 32 38.2**	**+0.3**
baz=196							
L14K	**Kuka Creek**	**85.79**	**6**	P	**P**	**18 32 37.0**	**-2.7**
L14K	**Kuka Creek**	**85.79**	**6**	P	**P**	**18 32 39.6**	**-0.1**
baz=192,SNR=5.8							
M16K	**Timber Creek**	**85.91**	**8**	P	**P**	**18 32 39.9**	**-0.4**
baz=195,S

	baz=204						
TTA	Tatalina	88.15	9	P	P	18 32 49.9	-1.3
TTA				IAmb	IAmb	18 32 52.3	
	comp=Z,12nm,1.0s						
TTA	Tatalina	88.15	9	P	P	18 32 50.8	-0.5
	baz=198,SNR=9.8						
ANMO	Albuquerque	88.18	50	P	P	18 32 51.8	-0.5
ANMO	Albuquerque	88.18	50	P	P	18 32 51.5	-0.8
	baz=239						
J17K	VABM Dome	88.20	8	P	P	18 32 52.3	+0.9
	baz=195						
GHO	Glory Hole Cre	88.27	12	P	P	18 32 48.2	-3.7
BMRM	Bremner River	88.48	15	P	P	18 32 52.6	-0.2
	baz=208						
M23K	Glacier View	88.53	13	P	P	18 32 53.4	+0.4
	baz=205						
J18K	Innoko River	88.56	9	P	P	18 32 52.6	-0.5
	baz=197,SNR=9.2						
KLU	Klutina	88.65	14	P	P	18 32 54.0	+0.3
	baz=207						
CRQE	Cirque	88.65	15	P	P	18 32 53.9	+0.2
	baz=210						
SCM	Sheep Creek Mo	88.65	13	P	P	18 32 54.1	+0.4
	baz=206						
K20K	Telida	88.84	10	IAmb	IAmb	18 32 55.1	
	comp=Z,12nm,1.1s						
K20K	Telida	88.84	10	P	P	18 32 53.4	-1.1
	baz=200,SNR=6.2						
VRDI	Verde Repeater	88.98	15	IAmb	IAmb	18 32 56.2	
	comp=Z,18nm,1.3s						
R32K	Eaglecrest	88.99	20	P	P	18 32 55.2	0.0
	baz=217						
N25K	Chitina, Valde	89.04	14	P	P	18 32 55.2	-0.3
	baz=208						
M24K	Tolsona, Glenn	89.14	14	P	P	18 32 56.6	+0.7
	baz=207						
MCARA	McCarthy VSAT	89.21	15	P	P	18 32 56.6	+0.4
	baz=210						
CAST	Castle Rocks	89.22	10	IAmb	IAmb	18 32 55.5	
	comp=Z,12nm,1.0s						
CAST	Castle Rocks	89.22	10	P	P	18 32 54.4	-1.8
	baz=202,SNR=6.4						
J19K	Poorman	89.22	9	P	P	18 32 56.4	+0.2
	baz=198						
WAT6	Susitna Watana	89.24	13	P	P	18 32 55.7	-0.8
	baz=205,SNR=7.5						
G15K	Niukluk	89.27	5	P	P	18 32 56.5	+0.2
	baz=191						
CTG	Chitna Glacier	89.27	16	P	P	18 32 56.6	-0.1
	baz=211						
WAT1	Susitna Watana	89.31	12	P	P	18 32 56.6	0.0
	baz=205						
HEH	HeiHe	89.34	328	eP	P	18 32 57.0	-0.1
HEH				pmax	pmax		
	comp=Z,15nm,1.2s						
HEH				LR	LR		
	comp=Z,380nm,18.0s						
HEH				LR	LR		
	comp=Z,470nm,18.1s						
HEH				LR	LR		
	comp=Z,510nm,18.6s						
S22A	4UR Ranch, Cre	89.37	48	P	P	18 32 56.7	-1.3
	baz=239						
O28M	Mount Upton	89.40	17	P	P	18 32 57.5	+0.1
	baz=212						
T35M	Bob Quinn	89.43	23	P	P	18 32 57.5	+0.1
	baz=221						
LYN	LuoYang	89.47	308	⇓P	P	18 32 59.9	+1.8
LYN				pP	sP	18 33 05.3	+0.2
LYN				sP	pwP	18 33 07.9	+1.8
LYN				pmax	pmax		
	comp=Z,30nm,0.5s						
LYN				pmax	pmax		
	comp=Z,250nm,6.1s						
LYN				LR	LR		
	comp=Z,570nm,16.8s						
LYN				LR	LR		
	comp=Z,1μm,16.5s						
LYN				LR	LR		
	comp=Z,1μm,16.1s						
KTH	Kantishna Hill	89.54	11	IAmb	IAmb	18 32 57.8	
	comp=Z,9.6nm,0.9s						
TRF	Thorofare Moun	89.56	11	P	P	18 32 56.5	-1.4
	baz=203,SNR=9.4						
F14K	Arctic Creek	89.58	4	P	P	18 32 58.1	+0.3
	baz=189						
H17K	Granite Mounta	89.60	7	P	P	18 32 57.5	-0.4
	baz=194						
J20K	Nowinta River	89.61	9	IAmb	IAmb	18 32 58.7	
	comp=Z,12nm,1.0s						
J20K	Nowinta River	89.61	9	P	P	18 32 57.1	-0.8
	baz=200,SNR=5.8						
CHUM	Lake Minchumin	89.61	10	P	P	18 32 58.0	0.0
	baz=201						
HARP	HAARP	89.62	14	P	P	18 32 58.2	0.0
	baz=208						
P30M	Million Dollar	89.74	18	P	P	18 32 58.8	0.0
	baz=215						
BJI	Beijing	89.76	315	P	P	18 33 00.5	+1.2
BJI				pmax	pmax		
	comp=Z,5.0nm,1.5s						
G16K	Koyuk River	89.80	6	P	P	18 32 58.8	0.0
	baz=192						
S34M	Telegraph Cree	89.83	22	P	P	18 32 59.7	+0.5
	baz=220						
MSO	Missoula	90.02	37	P	P	18 33 00.0	-0.5
	baz=234						
YUK6	Outpost Mounta	90.03	17	P	P	18 33 01.0	+0.7
	baz=214						
GYA	Guiyang	90.06	299	⇑P	P	18 33 01.3	+0.1
GYA				pmax	pmax		
	comp=Z,11nm,0.9s						
PAX	Paxson	90.06	13	P	P	18 32 59.9	-0.4
	baz=207						
MCK	McKinley	90.06	12	P	P	18 32 59.8	-0.4
	baz=204						
G17K	Kiwalik Mounta	90.07	6	P	P	18 33 00.4	+0.3
	baz=194						
M26K	Nabesna, AK	90.11	15	P	P	18 32 59.2	-1.3
	baz=210,SNR=5.3						
I20K	Naaghedeneel	90.14	9	P	P	18 33 01.0	+0.6
	baz=199						
YUK3	Moose Creek	90.18	16	P	P	18 33 01.1	+0.1
	baz=212						
PDAR	Pinedale Array	90.28	42	P	P	18 33 01.2	-0.8
	comp=Z,0.5nm,0.8s,baz=188,slow=2.7,SNR=2.6						
	comp=Z,0.5nm,0.8s						
SEY	Seymchan	90.29	346	P	P	18 33 00.6	-0.6
	comp=Z,8.8nm,1.0s,baz=126,slow=6.1,SNR=8.2						
	comp=Z,8.8nm,1.0s						
M27K	Edge Creek, AK	90.33	15	P	P	18 33 00.1	-1.5
	baz=211,SNR=9.9						
O30N	Mendenhall	90.52	18	P	P	18 33 03.0	+0.6
	baz=216						
H19K	Roundabout Mou	90.57	8	P	P	18 33 02.9	+0.5
	baz=198						
L26K	Log Cabin Wild	90.57	14	P	P	18 33 03.0	+0.5
	baz=209						
DLBC	Dease Lake	90.61	22	P	P	18 33 03.1	+0.2
	baz=221						
BOZ	Bozeman (W)	90.62	39	IAmb	IAmb	18 33 13.9	
	comp=Z,12nm,1.4s						
BOZ	Bozeman (W)	90.62	39	P	P	18 33 02.7	-0.7
	baz=235						
G18K	Tagagawik	90.66	7	P	P	18 33 02.9	0.0
	baz=196						
K24K	Donnelly Dome	90.74	13	P	P	18 33 02.7	-0.6
	baz=207,SNR=7.5						
H20K	Anotleneega Mo	90.75	9	P	P	18 33 03.7	+0.4
	baz=199						
WHY	Whitehorse	90.79	19	P	P	18 33 04.0	+0.2
	baz=217						
RIDG	Independent Ri	90.88	13	P	P	18 33 03.5	-0.5
	baz=208,SNR=6.4						
I21K	Tanana	90.88	10	P	P	18 33 03.9	+0.1
	baz=202						
MLY	Manley	90.94	10	P	P	18 33 03.6	-0.6
	baz=203						
L27K	Beaver Creek,	90.95	15	P	P	18 33 04.3	0.0
	baz=211						
R33M	Jennings River	91.02	21	P	P	18 33 04.9	0.0
	baz=220						
HDA	Harding Lake	91.05	12	IAmb	IAmb	18 33 05.4	
	comp=Z,7.2nm,0.8s						
HDA	Harding Lake	91.05	12	P	P	18 33 04.4	-0.4
	baz=206,SNR=5.0						
P33M	Teslin, Yukon	91.06	20	P	P	18 33 04.9	-0.1
	baz=218						
G19K	Purcell Mounta	91.08	8	P	P	18 33 05.3	+0.4
	baz=197						
CCB	Clear Creek Bu	91.10	12	IAmb	IAmb	18 33 05.0	
	comp=Z,8.4nm,1.0s						
H21K	Melozitna Rive	91.20	9	P	P	18 33 05.5	+0.1
	baz=201						
M29M	Somme Creek	91.25	16	IAmb	IAmb	18 33 07.0	
	comp=Z,7.7nm,0.9s						
M29M	Somme Creek	91.25	16	P	P	18 33 06.0	+0.2
	baz=214						
SCRK	Sand Creek	91.27	14	IAmb	IAmb	18 33 06.2	
	comp=Z,8.5nm,1.2s						
SCRK	Sand Creek	91.27	14	P	P	18 33 05.3	-0.6
	baz=209,SNR=5.1						
I23K	Minto, Yukon-K	91.28	11	P	P	18 33 05.8	+0.1
	baz=204						
MDM	Murphy Dome	91.31	11	IAmb	IAmb	18 33 06.6	
	comp=Z,12nm,1.1s						
ILAR	Eielson Array	91.39	12	P	P	18 33 05.5	-0.8
	comp=Z,3.1nm,0.9s,baz=223,slow=5.7,SNR=16						
	comp=Z,3.1nm,0.9s						
E17K	Hotham Inlet	91.50	5	P	P	18 33 06.8	+0.1
	baz=193						
J25K	Salcha River,	91.54	13	IAmb	IAmb	18 33 07.7	
	comp=Z,7.8nm,0.9s						
J25K	Salcha River,	91.54	13	P	P	18 33 06.5	-0.6
	baz=208,SNR=5.3						
H22K	Ishtalitna Cre	91.64	10	P	P	18 33 07.4	0.0
	baz=202						
F19K	Shaleruckik Mo	91.67	7	P	P	18 33 07.7	+0.3
	baz=196						
K27K	Chicken	91.73	14	P	P	18 33 08.2	+0.3
	baz=210						
XAN	Xi'an	91.80	307	⇑P	P	18 33 10.0	+1.0
XAN				pP	sP	18 33 16.0	0.0
XAN				pmax	pmax		
	comp=Z,23nm,1.0s						
M30M	Minto, Yukon	91.80	17	P	P	18 33 08.3	0.0
	baz=215						
J26L	Joseph Creek	91.81	13	P	P	18 33 08.1	-0.3
	baz=209,SNR=15						
H23K	Yukon River	91.87	11	P	P	18 33 09.3	+0.8
	baz=204						
XLT	XiLinHaoTe	91.87	318	eP	P	18 33 07.8	-1.3
XLT				pP	PcP	18 33 12.5	+2.5
XLT				sP	pP	18 33 15.0	+0.1
XLT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,110nm,4.8s						
XLT				LR	LR		
	comp=Z,710nm,21.3s						
XLT				LR	LR		
	comp=Z,1μm,20.8s						
L29M	L29M	91.89	16	P	P	18 33 08.7	-0.1
	baz=214,SNR=8.8						
G21K	Allakaket	91.90	9	P	P	18 33 08.9	+0.3
	baz=200						
E18K	Tukpahlearik C	91.94	6	P	P	18 33 09.0	+0.3
	baz=194						
ABTX	Abilene, Hawle	92.01	55	P	P	18 33 09.8	-0.2
	baz=243						
F20K	Avaraart Lake	92.11	8	P	P	18 33 09.9	+0.3
	baz=198						
M31M	Drury Creek, Y	92.16	18	P	P	18 33 10.1	+0.1
	baz=217						
PRP	Porcupine Dome	92.32	12	IAmb	IAmb	18 33 11.2	
	comp=Z,10nm,1.1s						
PRP	Porcupine Dome	92.32	12	P	P	18 33 10.2	-0.6
	baz=207,SNR=5.5						
E19K	Redstone River	92.33	7	P	P	18 33 11.0	+0.4
	baz=197						
DAWY	Dawson	92.38	15	IAmb	IAmb	18 33 12.1	
	comp=Z,9.9nm,1.1s						
DAWY	Dawson	92.38	15	P	P	18 33 11.4	+0.4
	baz=213,SNR=5.3						
FARO	Faro, Yukon	92.48	18	P	P	18 33 11.3	-0.1
	baz=218						
CRAI	Chiangrai	92.58	291	P	P	18 33 12.2	-0.7
G23K	Bananza Creek	92.61	10	P	P	18 33 12.2	+0.3
	baz=203						
I26K	Coal Creek Min	92.61	13	IAmb	IAmb	18 33 12.9	
	comp=Z,9.1nm,1.1s						
I26K	Coal Creek Min	92.61	13	P	P	18 33 12.6	+0.7
	baz=210						
KMI	Kunming	92.65	296	⇑P	P	18 33 15.4	+2.0
KMI				pmax	pmax		
	comp=Z,18nm,1.1s						
KMI				LR	LR		
	comp=Z,340nm,20.8s						
KMI				LR	LR		
	comp=Z,440nm,17.7s						
KMI				LR	LR		
	comp=Z,570nm,15.7s						
K29M	Barlow Dome	92.66	16	IAmb	IAmb	18 33 13.6	
	comp=Z,8.0nm,0.9s						
K29M	Barlow Dome	92.66	16	P	P	18 33 12.2	-0.2
	baz=214,SNR=6.1						
COLD	Coldfoot	93.05	10	P	P	18 33 14.1	+0.1
	baz=203						
CMAR	Chiang Mai Arr	93.08	289	P	P	18 33 16.8	+1.5
CMAR	Chiang Mai Arr	93.08	289	P	P	18 33 17.1	+1.9
	comp=Z,19nm,1.0s,baz=132,slow=3.1,SNR=34						
	comp=Z,19nm,1.0s						
I27K	Kandik River	93.19	14	P	P	18 33 14.6	0.0
	baz=211						
HHC	Hu-ho-hao-te	93.20	314	eP	P	18 33 15.0	-0.4
HHC				pmax	pmax		
	comp=Z,50nm,0.9s						
HHC				pmax	pmax		
	comp=Z,260nm,4.7s						
E20K	Nigu River	93.21	7	P	P	18 33 15.0	+0.2
	baz=198						
CHTO	Chiang Mai	93.23	289	P	P	18 33 17.2	+1.3
D19K	Kuna River	93.23	6	P	P	18 33 15.6	+0.8
	baz=196						
G25K	Bearman Lake	93.32	11	P	P	18 33 15.6	+0.5
	baz=207						
I28M	Miner Creek	93.42	14	P	P	18 33 16.0	+0.2
	baz=212						
TGTN	Hyland Airport	93.51	21	P	P	18 33 16.4	+0.2
	baz=222						
J30M	Hart River	93.56	16	P	P	18 33 17.0	+0.5
	baz=216						
D20K	Etivluk River	93.60	7	P	P	18 33 16.7	+0.3
	baz=198						
E22K	Anaktuvuk Pass	93.66	9	P	P	18 33 17.2	+0.4
	baz=202						
I29M	Ogilvie Camp,	93.72	15	P	P	18 33 17.2	+0.1
	baz=214						
H27K	Steamboat Moun	93.75	13	P	P	18 33 17.5	+0.3
	baz=211						
G26K	Porcupine Rive	93.92	12	P	P	18 33 17.6	-0.3
	baz=209						
PZH	PanZhiHua	94.05	297	P	P	18 33 21.3	+1.6
PZH				S	S	18 44 29.3	-0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,180nm,5.1s						
PZH				LR	LR		
	comp=Z,290nm,19.4s						
PZH				LR	LR		
	comp=Z,430nm,16.7s						
PZH				LR	LR		
	comp=Z,480nm,20.1s						
I30M	Mount Dempster	94.08	16	P	P	18 33 18.9	0.0
	baz=216						
BTO	Baotou	94.11	313	eP	P	18 33 20.1	+0.5
BTO				pP	pP	18 33 25.0	-0.3
BTO				sP	sP	18 33 27.1	+0.5
BTO				S	S	18 44 28.8	-0.8
BTO				sS	pS	18 44 36.5	-0.9
BTO				SS	SS	18 50 52.8	+2.0
BTO				pmax	pmax		
	comp=Z,19nm,0.5s						
BTO				pmax	pmax		
	comp=Z,140nm,3.7s						
BTO				LR	LR		
	comp=Z,1μm,15.9s						
BTO				LR	LR		
	comp=Z,2μm,18.3s						
BTO				LR	LR		
	comp=Z,2μm,18.2s						
G27K	Doyon Strip	94.22	13	P	P	18 33 19.2	-0.1
	baz=211						
A22K	Sinclair Lake	95.97	7	P	P	18 33 27.3	+0.2
	baz=199						
TNCH	TengChong	96.10	295	eP	P	18 33 24.5	-4.6
TNCH				pmax	pmax		
	comp=Z,23nm,3.7s						
YAK	Yakutsk	96.14	337	P	P	18 33 26.0	-2.1
YAK				IAmb	IAmb	18 33 29.0	
	comp=Z,6.3nm,0.7s						
LZH	Lanzhou	96.44	307	eP	P	18 33 41.3	+11
LZH				pP	pwP	18 33 45.8	+7.4
LZH				pmax	pmax		
	comp=Z,18nm,1.6s						
F31M	Tsiigehtchic	96.50	15	P	P	18 33 29.1	-0.5
	baz=218						
GTA	Gaotai	100.69	308	eP	Pdif	18 33 50.3	+0.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
WMQ	Urumqi	110.69	310	ePKP	PKiKP	18 38 34.8	+1.1
WMQ				LR	LR		
	comp=Z,320nm,16.3s						
WMQ				LR	LR		
	comp=Z,480nm,20.1s						
WMQ				LR	LR		
	comp=Z,500nm,19.3s						
MKAR	Makanchi Array	115.02	312	PKP	PKPdf	18 38 40.4	-1.5
	comp=Z,1.2nm,0.8s,baz=117,slow=0.5,SNR=6.7						
KURBB	Kurchatov Arra	117.95	316	PKP	PKPdf	18 38 46.3	-1.0
	comp=Z,0.9nm,0.6s,baz=109,slow=2.0,SNR=5.0						
KK31	Karatay Array	122.94	307		PKPdf	18 38 56.8	-0.4
KKAR	Karatay Array	122.94	307		PKPdf	18 38 56.5	-0.7
BVAR	Borovoye Array	123.03	319	PKP	PKPdf	18 38 56.4	-0.6
	comp=Z,2.5nm,0.8s,baz=103,slow=3.3,SNR=8.4						
BRVK	Borovoye	123.09	319		PKPdf	18 38 56.6	-0.5
GEYT	Alibeck	132.27	300	PKP	PKiKP	18 39 16.2	0.0
	comp=Z,4.4nm,0.8s,baz=259,slow=1.5,SNR=5.9						
ARCES	ARCESS Array B	132.77	350	PKP	PKPdf	18 39 14.9	-0.2
	comp=Z,2.1nm,0.8s,baz=29,slow=2.1,SNR=3.8						
FINES	FINESS Array B	139.73	344	PKP	PKPdf	18 39 28.3	+0.1
	comp=Z,7.8nm,1.2s,baz=10,slow=1.6,SNR=1.8						
HFS	Hagfors	143.35	352	PKhKP	PKPpre	18 39 31.4	
	comp=Z,1.8nm,0.5s,baz=5.7,slow=4.3,SNR=2.7						
GURO	Guroymak-BITLI	144.76	303		PKPab	18 39 34.5	-2.5
MNK	Minsk	144.81	336	i PKP	PKPbc	18 39 37.0	+0.5
	comp=E,7.0nm,0.9s						
MNK				i PKP	PKPbc	18 39 37.0	+0.5
	comp=N,13nm,0.7s						
MNK				i PKP	PKPbc	18 39 37.0	+0.5
	comp=Z,28nm,0.8s,baz=219						
MNK				i PP	PP	18 42 54.3	-0.3
MNK				i PPP	PPP	18 46 06.0	
MNK				i SKS	SKSdf	18 46 46.4	+0.7
MNK				i SS	SS	19 01 43.5	+1.8
MNK				i SSS	SSS	19 07 08.7	
MNK				i LQ	LQ	19 36 59.8	
MNK				i LR	LR	19 43 47.8	
MNK				i LRM	MLR	19 45 02.5	
	comp=N,229nm,17.4s						
MNK				i LRM	MLR	19 45 08.3	
	comp=E,87nm,16.1s						
MNK				i LRM	MLR	19 45 30.3	
	comp=Z,326nm,18.7s						
NACGM	Naroch	144.90	337	ePKP	PKPab	18 39 32.9	-3.8
PABE	Paberze	145.35	340		PKPbc	18 39 37.7	-0.4
AKASG	Malin Array Be	147.06	330	PKPbc	PKPbc	18 39 42.8	-0.7
	comp=Z,6.6nm,0.6s,baz=37,slow=3.4,SNR=19						
AKBB	Malin Array Si	147.06	330		PKPdf	18 39 42.1	+0.7
EKA	Eskdalemuir Ar	148.33	8	PKPbc	PKPbc	18 39 45.7	-1.1
	comp=Z,3.9nm,0.8s,baz=316,slow=3.5,SNR=4.5						
GAZ	Gaziantep	148.80	303		PKPbc	18 39 48.1	-0.6
BRTR	Keskin Array B	150.61	309		PKPbc	18 39 52.7	-0.5
BRTR	Keskin Array B	150.61	309	PKPbc	PKPbc	18 39 53.0	-0.1
	comp=Z,6.4nm,0.8s,baz=117,slow=1.6,SNR=9.8						
MMAI	Mount Meron Ar	151.15	295	PKPbc	PKiKP	18 39 55.4	+0.3
	comp=Z,36nm,1.0s,baz=81,slow=5.2,SNR=16						
KOLS	Kolonicke sedl	151.35	335	ePKP	PKiKP	18 39 55.8	+0.9
KOLS				e		18 40 03.0	
OSTC	Ostas	151.94	343	⇑ePKP	PKiKP	18 39 56.6	+0.5
OSTC				ePKPab	PKPab	18 40 05.1	+0.2
CHVC	Chvalec	151.95	344	⇑ePKP	PKiKP	18 39 56.6	+0.5
CLL	Collm	151.96	348	e(PKPdf)	PKPdf	18 39 49.0	-0.2
CLL				i PKPbc	pPKPdf	18 39 55.4	+0.2
	comp=Z,22nm,1.0s						
CLL				ex	x	18 40 00.0	
CLL				ePKPab	sPKPbc	18 40 04.0	+0.3
CLL				eSS	SS	19 02 59.0	-2.5
DPC	Dobruska-Polom	152.10	343	⇑ePKP	PKiKP	18 39 57.1	+0.6
DPC				ePKPab	PKPab	18 40 05.9	+0.3
BRG	Berggiesshubel	152.18	347	i PKP	PKiKP	18 39 57.6	+1.1
BRG				Amp		18 39 58.3	
	comp=Z,15nm,0.9s						
BRG	Berggiesshubel	152.18	347	P	PKPab	18 40 06.7	+0.8
BRG				Amp		18 40 07.0	
	comp=Z,13nm,1.1s						
MORC	Moravsky Berou	152.27	341	ePKP	PKiKP	18 39 56.9	+0.1
MAUC	Maruska	152.55	340	⇑ePKP	PKiKP	18 39 58.2	+0.8
MAUC				ePKPAB	sPKPbc	18 40 06.1	+1.0
PRU	Pruhonice	152.88	345	⇑ePKP	PKiKP	18 39 59.0	+1.0
PRU				ePKPAB	PKPab	18 40 07.9	-0.9
VRAC	Vranov	152.97	342	ePKP	PKPbc	18 39 58.2	+0.1
VRAC				e		18 40 08.3	
KRUC	Moravsky	153.24	342	ePKP	PKiKP	18 39 59.1	+0.3
KHC	Kasperske Hory	153.90	346	⇑ePKP	PKiKP	18 40 00.5	+0.3
KHC				ePKPAB	PKPab	18 40 13.1	-0.2
GERES	GERESS Array B	154.14	345	PKPbc	PKiKP	18 40 01.2	+0.4
	comp=Z,1.0nm,0.8s,baz=20,slow=5.8,SNR=3.5						
CONA	Conrad Observa	154.42	341	ePKP	PKPab	18 40 15.5	-0.1
	comp=Z,6.9nm,1.1s						
RONA	Rosalia, Austr	154.50	341	i PKP	PKPab	18 40 17.0	+1.1
	comp=Z,11nm,1.1s						
BIOA	Bad Ischl, Aus	155.23	344	i PKP	PKPab	18 40 19.8	+0.9
	comp=Z,13nm,1.2s						
LESA	Schwarzleotal	155.71	346	i PKP	PKPab	18 40 21.7	+0.6
	comp=Z,8.2nm,1.4s						
SOKA	Soboth	155.79	341	i PKP	PKPab	18 40 21.8	+0.4
	comp=Z,8.4nm,1.2s						
KBA	Koelnbreinsper	155.88	344	i PKP	PKPab	18 40 22.4	+0.4
	comp=Z,7.6nm,1.1s						
OBKA	Obir	156.08	342	i PKP	PKPab	18 40 22.8	0.0
	comp=Z,3.6nm,0.9s						
ABTA	Abfaltersbach	156.39	345	i PKP	PKPab	18 40 23.8	-0.2
	comp=Z,6.5nm,1.5s						
PRED	Cave del Predi	156.41	343		PKPab	18 40 23.2	-0.9
TORD	Torodi Ar. Bea	168.90	168	PKP	PKPdf	18 40 07.3	-1.5
	comp=Z,1.8nm,1.0s,baz=284,slow=0.6,SNR=4.8						
TORD				PKPab	PKPab	18 41 21.8	+2.5
	comp=Z,1.0nm,0.8s,baz=199,slow=3.3,SNR=2.3						

ROM 16 18:26:42.1±0.0, 42°.960N±0°.003×13°.156E±0°.004,
h8km, ML1.5/49, 3C-2D, Error ellipse: s-maj=0.4km
s-min=0.0km az=234.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MC2	Monte Cornacci	0.05	152	P	Pg	18 26 44.0	0.0
MC2				S	Sg	18 26 45.5	0.0
FEMA	Monte Fema	0.08	271	P	Pg	18 26 44.5	+0.3
FEMA				S	Sg	18 26 46.0	+0.2
FDMO	Fiordimonte	0.09	326	P	Pg	18 26 44.7	+0.3
FDMO				S	Sg	18 26 46.6	+0.6
FDMO				AML	AML		
	comp=E,455μm,0.7s						
FDMO				AML	AML		
	comp=N,782μm,0.2s						
FDMO				AML	AML		
	comp=N,782μm,0.2s						
FDMO				AML	AML		
	comp=E,410μm,0.2s						
NRCA	Norcia	0.13	194	⇑P	Pg	18 26 45.4	+0.4
NRCA				S	Sg	18 26 47.9	+0.9
NRCA				AML	AML		
	comp=E,580μm,0.8s						
NRCA				AML	AML		
	comp=N,512μm,0.4s						
NRCA				AML	AML		
	comp=E,550μm,0.1s						
NRCA				AML	AML		
	comp=N,478μm,0.1s						
NRCA				AML	AML		
	comp=E,579μm,0.2s						
NRCA				AML	AML		
	comp=N,511μm,0.1s						
NRCA				AML	AML		
	comp=E,579μm,1.8s						
NRCA				AML	AML		
	comp=E,550μm,1.9s						
CSP1	Cessapalombo	0.14	15	⇓P	Pg	18 26 45.8	+0.6

CSP1 S Sg 18 26 48.4 +1.1
CSP1 AML AML
comp=N,306μm,0.3s
CSP1 AML AML
comp=E,278μm,1.5s
CSP1 AML AML
comp=E,225μm,0.3s
CSP1 AML AML
comp=N,306μm,0.3s
MMO1 Montemonaco 0.14 116 ⇓P Pg 18 26 45.6 +0.5
MMO1 S Sg 18 26 48.1 +0.9
GUMA Gualdo di Mace 0.17 52 AML AML
comp=E,313μm,0.3s
GUMA AML AML
comp=E,384μm,0.4s
GUMA AML AML
comp=N,466μm,0.5s
GUMA AML AML
comp=N,466μm,0.5s
GUMA AML AML
comp=N,410μm,0.4s
CESI CESI - Serrava 0.19 284 P Pg 18 26 46.7 +0.7
CESI S Sg 18 26 50.0 +1.3
CESI AML AML
comp=E,228μm,0.6s
CESI AML AML
comp=N,305μm,0.4s
CESI AML AML
comp=N,305μm,0.4s
CESI AML AML
comp=E,192μm,0.4s
CESI AML AML
comp=E,192μm,1.6s
T1214 Arquata del Tr 0.20 169 ⇑P Pg 18 26 46.9 +0.6
T1214 S Sg 18 26 50.6 +1.5
T1214 AML AML
comp=E,165μm,0.2s
T1214 AML AML
comp=N,109μm,1.6s
T1214 AML AML
comp=N,109μm,1.6s
T1214 AML AML
comp=E,170μm,0.2s
T1214 AML AML
comp=E,165μm,0.2s
T1214 AML AML
comp=N,104μm,0.3s
T1214 AML AML
comp=N,129μm,0.3s
MTRA Matera 0.27 139 P Pg 18 26 48.0 +0.6
MTRA S Sb 18 26 52.7 -1.3
MTRA AML AML
comp=E,209μm,0.2s
MTRA AML AML
comp=N,196μm,0.5s
MTRA AML AML
comp=N,185μm,0.2s
MTRA AML AML
comp=N,224μm,0.2s
MTRA AML AML
comp=E,221μm,0.2s
MTRA AML AML
comp=E,209μm,0.2s
GAVE Gavelli 0.33 216 AML AML
comp=E,130μm,0.2s
GAVE AML AML
comp=N,178μm,0.5s
GAVE AML AML
comp=N,163μm,0.2s
GAVE AML AML
comp=E,130μm,0.2s
GAVE AML AML
comp=N,33038μm,51.0s
GAVE AML AML
GAVE AML AML
comp=N,33038μm,1.0s
GAVE AML AML
comp=E,130μm,1.8s
GAVE AML AML
SNTG Esanatoglia 0.33 332 P Pg 18 26 49.1 +0.5
SNTG S Sb 18 26 55.3 -0.6
SNTG AML AML
comp=E,38μm,1.5s
SNTG AML AML
comp=N,40μm,1.0s
SNTG AML AML
comp=N,187μm,1.1s
SNTG AML AML
comp=N,37μm,0.2s
SNTG AML AML
comp=N,187μm,0.8s
SNTG AML AML
comp=E,35μm,0.2s
SMA1 SAN MARTINO 0.35 158 ⇑P Pg 18 26 49.5 +0.4
SMA1 S Sb 18 26 55.4 -1.0
SMA1 AML AML
comp=E,54μm,0.4s
SMA1 AML AML
comp=N,48μm,0.6s
SMA1 AML AML
comp=E,50μm,0.5s
EL6 Elcito 0.37 354 P Pg 18 26 50.0 +0.6
EL6 S Sb 18 26 56.6 -0.4
EL6 AML AML
comp=E,95μm,1.4s
EL6 AML AML
comp=N,71μm,0.8s
EL6 AML AML
comp=N,63μm,0.1s
EL6 AML AML
comp=E,93μm,0.3s
ASSB Assisi San Ben 0.37 283 P Pg 18 26 49.9 +0.5
ASSB S Sb 18 26 56.2 -0.8
ASSB AML AML
comp=E,54μm,1.2s
ASSB AML AML
comp=N,73μm,0.2s
ASSB AML AML
comp=E,52μm,0.2s
ASSB AML AML
comp=N,73μm,0.2s
ASSB AML AML
comp=E,52μm,1.8s
ATCC AVT- Casa Cast 0.44 301 P Pg 18 26 51.4 +0.7
ATCC S Sb 18 26 58.6 -0.3
ATCC AML AML
comp=E,55μm,1.4s
ATCC AML AML
comp=N,67μm,1.5s
ATCC AML AML
comp=N,53μm,0.2s
ATCC AML AML
comp=E,51μm,0.4s
FOSV Fossato di Vic 0.44 319 S Sb 18 26 58.7 -0.2
FOSV AML AML
comp=E,38μm,0.7s
FOSV AML AML
comp=N,39μm,0.4s
FOSV AML AML
comp=E,26μm,0.2s
FOSV AML AML
comp=N,39μm,0.4s
RM33 Pellescritta (0.45 175 P Pb 18 26 51.8 -0.6
RM33 S Sb 18 26 58.9 -0.4
RM33 AML AML
comp=E,26μm,1.2s
RM33 AML AML
comp=N,38μm,0.3s
RM33 AML AML
comp=E,159μm,1.0s
RM33 AML AML
comp=E,24μm,0.1s
RM33 AML AML
comp=N,38μm,0.3s
RM33 AML AML
comp=N,146μm,1.1s
RM33 AML AML
comp=E,159μm,1.0s
CAMP Campotosto 0.46 156 P Pb 18 26 51.9 -0.7
CAMP S Sb 18 26 59.2 -0.4
CAMP AML AML
comp=N,23μm,0.2s
CAMP AML AML
comp=E,36μm,0.2s
CAMP AML AML
comp=N,23μm,1.8s
TERO Teramo 0.47 136 P Pg 18 26 51.5 +0.3
TERO S Sb 18 26 59.4 -0.4
TERO AML AML
comp=E,75μm,0.2s
TERO AML AML
comp=N,49μm,1.2s
TERO AML AML
comp=E,287μm,0.8s
TERO AML AML
comp=E,75μm,0.2s
TERO AML AML
comp=N,42μm,0.1s
TERO AML AML
comp=E,287μm,1.1s
MURB Monte Urbino 0.55 303 P Pg 18 26 53.3 +0.5
MURB AML AML
comp=E,65μm,0.6s
MURB AML AML
comp=N,89μm,0.8s
MURB AML AML
comp=E,60μm,0.2s
MURB AML AML
comp=N,79μm,0.2s
MURB AML AML
comp=N,145μm,0.7s
MURB AML AML
comp=E,60μm,1.8s
ARVD Arcevia 0.56 344 P Pb 18 26 53.6 -0.5
ARVD S Sb 18 27 01.5 -0.9
ARVD AML AML
comp=N,19μm,0.2s
ARVD AML AML
comp=E,33μm,0.2s
MA9 Marino 1.25 197 P Pg 18 27 06.6 +0.7
MA9 AML AML
comp=E,124μm,0.1s
MA9 AML AML
comp=N,95μm,0.1s
LRP Arpino 1.35 166 S Sb 18 27 25.0 0.0

---

*IDC **16** 18:36:42.0±0.4,23°.82S×175°.98W,h0km,mb4.8/21, mbtmp4.8/24,ML3.4/2,MS5.0/50,Error ellipse: s-maj=16.9km s-min=14.6km az=118.0*
*BJI **16** 18:36:42.3±0.0,23°.43S×175°.12W,h14km,mb5.3/43, mB5.8/33,Ms5.4/29,Ms7 5.1/29*
*MOS **16** 18:36:42.8±1.2,23°.87S×176°.11W,h10km,mb5.4/23, MS5.2/6,Error ellipse: s-maj=11.7km s-min=9.4km az=123.7*
*NEIC **16** 18:36:43.7,23°.63S×175°.25W,h26km,Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10^17^Nm; Mrr1.98; Mθθ-0.12; Mφφ-1.86; Mrθ-0.54; Mθφ-0.59; Mφr0.60; Fault plane solution: M0 2.16000×10^17^ NP1: φs213.61000°,δ41.62000°,λ116.47000°. NP2: φs359.95000°,δ53.52000°,λ68.40000°. Principal axes: T 2.2348, Plg72.0000°, Azm214.0000°; N -0.1502, Plg17.0000°, Azm13.0000°; P -2.0846, Plg6.0000°, Azm105.0000°;*
*NEIC **16** 18:36:43.6±2.9,23°.73S±0°.09×175°.7W±0°.1,h10km±1km, mb5.3/180,Ms_20 5.4/140,Mww5.5/22 Error ellipse: s-maj=17.1km s-min=13.2km az=125.0*
*NEIC **16** 18:36:43.7,23°.73S×175°.68W,h26km*
*GCMT **16** 18:36:47.6±0.1,24°.00S±0°.01×175°.39W±0°.01,h21km, MW5.5/147,Moment Tension Solution. s110,c201; s147,c266; Duration: 1s4 Moment tensor: Scale 10^17^ Nm; Mrr2.06±.04; Mθθ-0.26±.02; Mφφ-1.80±.03; Mrθ0.32±.05; Mθφ-0.62±.01; Mφr0.93±.04; Best double couple: M0 2.26100×10^17^ NP1:φs19.00000°,δ58.00000°, λ90.00000°. NP2:φs200.00000°,δ32.00000°,λ90.00000°. Principal axes: T 2.2830, Plg77.0000°, Azm288.0000°; N -0.0450, Plg0.0000°, Azm19.0000°; P -2.2400, Plg13.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 18:36:44.6±0.5,23°.97S±0°.05×175°.72W±0°.06,h20km±2km, h20km:pP-P,n740,σ1s34/591,mb5.3/149,MS5.3/138, 27C-31D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.61**	**200**	Pn	**Pn**	**18 38 08.3**	**+1.3**
RAO				Sn	**Sn**	**18 39 11.1**	**+0.1**
RAO	**Raoul Island**	**5.61**	**200**	P	**Pn**	**18 38 08.3**	**+1.3**
RAO						18 39 11.1	
RAO	**Raoul Island**	**5.61**	**200**	Pn	**Pn**	**18 38 09.7**	**+2.7**
	244nm,0.2s,baz=218,slow=20,SNR=2.6						
RAO				Sn	**Sn**	**18 39 08.3**	**-2.6**
	20nm,0.3s,baz=78,slow=23,SNR=2.1						
NIUE	**Niue**	**7.27**	**49**	P	Pn	18 38 22.8	-6.9
	baz=6.8,SNR=51						
NIUE	**Niue**	**7.27**	**49**		Pn	18 38 23.6	-6.1
NIUE				Sn	Sn	18 39 33.7	-18
MSVF	**Nonsavu**	**8.51**	**316**	Pn	**Pn**	**18 38 49.6**	**+2.7**
MSVF	**Nonsavu**	**8.51**	**316**	*i* P	**Pn**	**18 38 47.5**	**+0.6**
MSVF	**Nonsavu**	**8.51**	**316**	Pn	**Pn**	**18 38 50.8**	**+3.9**
	4.0nm,0.3s,baz=139,slow=15,SNR=53						
MSVF				LR	LR	18 41 39.8	
	comp=Z,21μm,20.2s,baz=114,slow=36						
AFI	**Afiamalu**	**10.68**	**21**	Pn	Pn	18 39 10.7	-6.0
AFI	**Afiamalu**	**10.68**	**21**	P	Pn	18 39 10.7	-6.0
RAR	**Rarotonga**	**14.98**	**83**	Pn	**Pn**	**18 40 09.1**	**-6.2**
RAR	**Rarotonga**	**14.98**	**83**	Pn	Pn	18 40 08.6	-6.7
	8.2nm,0.3s,baz=233,slow=6.5,SNR=18						
RAR				Sn	Sn	18 42 38.8	-22
	2.3nm,0.3s,baz=254,slow=23,SNR=1.2						
RAR				LR	LR	18 45 23.9	
	comp=Z,5μm,19.2s,baz=264,slow=34						
URZ	**Urewera**	**15.50**	**202**	Pn	**P**	**18 40 24.2**	**-2.1**
	1.3nm,0.3s,baz=66,slow=4.6,SNR=9.3						
URZ				Sn	Sn	18 43 00.6	-13
	1.5nm,0.3s,baz=121,slow=16,SNR=1.7						
	6.7nm,0.4s						
PINNC	**Pines Island,**	**15.53**	**272**	Pn	**Pn**	**18 40 23.4**	**+0.9**
RTZ	**Ruatahuna**	**15.87**	**201**	P	**P**	**18 40 32.3**	**+1.8**
LIFNC	**LIFOU**	**16.08**	**278**		**P**	**18 40 31.3**	**-1.6**
ONTNC	**Ouen Toro**	**16.48**	**272**		**P**	**18 40 36.4**	**-1.0**
DZM	**Mont Dzumac**	**16.53**	**273**	*e*P	**Pn**	**18 40 29.2**	**-6.3**
	2μm,28.9s						
DZM				*e*LR	LR	18 44 27.6	
	comp=Z,8μm,24.1s						
DZM	**Mont Dzumac**	**16.53**	**273**		**P**	**18 40 40.0**	**+2.0**
DZM	**Mont Dzumac**	**16.53**	**273**	Pn	**Pn**	**18 40 34.3**	**-1.2**
	baz=74,slow=20,SNR=1.7						
	9.4nm,1.0s						
PAE	**Paea**	**25.20**	**81**	*e*T	T	19 08 10.6	
	16nm,0.4s						
PPT2	**Papeete2**	**25.23**	**80**	*e*P	P	18 41 51.4	-18
	477nm,25.2s						
PPT2				*e*LR	LR	18 48 05.4	
	comp=Z,5μm,22.5s						
PPT2				*e*LR	LR	18 48 15.9	
	comp=Z,5μm,28.5s						
PPT	**Papeete**	**25.24**	**80**	LR	LR	18 51 23.5	
	comp=Z,4μm,18.5s,baz=254,slow=35						
HNR	**Honiara**	**27.36**	**298**	P	**P**	**18 42 27.2**	**-1.5**
	405nm,0.7s,baz=180,slow=15,SNR=2.2						
HNR				LR	LR	18 52 40.5	
	comp=Z,40μm,18.4s,baz=154,slow=35						
ARMA	**Armidale**	**29.67**	**250**	P	**P**	**18 42 51.2**	**+1.8**
	baz=30,SNR=4.6						
ARMA	**Armidale**	**29.67**	**250**	P	**P**	**18 42 50.4**	**+1.0**
EIDS	**Eidsvold**	**30.16**	**260**	P	**P**	**18 42 53.8**	**+0.3**
	baz=30,SNR=4.5						
RMQ	**Roma**	**32.17**	**258**	P	**P**	**18 43 12.6**	**+1.3**
	baz=32,SNR=4.4						
CMSA	**Cobar Meteorol**	**34.83**	**249**	P	**P**	**18 43 34.6**	**+0.2**
	baz=35,SNR=6.6						
CTA	**Charters Tower**	**35.39**	**269**	P	**P**	**18 43 37.5**	**-1.9**
	12nm,0.4s,baz=97,slow=10,SNR=24						
CTA				LR	LR	18 55 43.9	
	comp=Z,2μm,21.8s,baz=114,slow=32						
	12nm,0.4s						
CTAO	**Charters Tower**	**35.39**	**269**	P	**P**	**18 43 38.1**	**-1.3**
CTAO				IAmb	IAmb	18 43 40.0	
	comp=Z,41nm,0.9s						
CTAO	**Charters Tower**	**35.39**	**269**	P	**P**	**18 43 38.1**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,41nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,2μm,18.0s						
TOO	**Toolangi**	**35.72**	**238**	P	**P**	**18 43 42.9**	**+0.8**
	baz=36,SNR=3.9						
TOO	**Toolangi**	**35.72**	**238**	P	**P**	**18 43 41.5**	**-0.6**
TOO	**Toolangi**	**35.72**	**238**	P	**P**	**18 43 41.5**	**-0.6**
TOO				pmax	pmax		
	comp=Z,12nm,0.9s						
QLP	**Quilpie**	**36.21**	**257**	P	**P**	**18 43 46.6**	**+0.3**
	baz=36,SNR=7.6						
KRVT	**Keravat (AS076**	**36.72**	**297**	LR	LR	18 57 02.9	
	comp=Z,1μm,20.4s,baz=171,slow=34						
TAOE	**Nuku Hiva Isla**	**37.15**	**72**	*e*LR	LR	18 53 34.8	
	comp=Z,3μm,30.2s						
MTSU	**Mount Surprise**	**37.66**	**271**	P	**P**	**18 43 58.6**	**-0.1**
	baz=38,SNR=36						
PMG	**Port Moresby**	**38.25**	**286**	P	**P**	**18 44 01.6**	**-2.1**
PMG	**Port Moresby**	**38.25**	**286**	P	**P**	**18 44 01.6**	**-2.1**
PMG				pmax	pmax		
	comp=Z,82nm,0.9s						
PMG				MLR	MLR		
	comp=Z,3μm,19.0s						
STKA	**Stephens Creek**	**38.34**	**248**	P	**P**	**18 44 02.8**	**-1.5**
	comp=Z,11nm,1.0s,baz=88,slow=11,SNR=10						
STKA				LR	LR	18 58 42.3	
	comp=Z,5μm,19.1s,baz=82,slow=35						
	comp=Z,11nm,1.0s						
COEN	**Coen**	**40.00**	**277**	P	**P**	**18 44 17.6**	**-0.8**
HTT	**Hallett**	**40.62**	**246**	P	**P**	**18 44 22.8**	**-0.6**
	baz=41,SNR=8.8						
QIS	**Mount Isa**	**41.36**	**266**	P	**P**	**18 44 28.1**	**-1.5**
	baz=42,SNR=7.0						
MMPI	**Merauke**	**44.67**	**283**	P	**P**	**18 44 53.3**	**-3.1**
	comp=Z,119nm,0.8s						
AS31	**Alice Springs**	**45.88**	**260**	P	**P**	**18 45 04.4**	**-1.7**
ASAR	**Alice Springs**	**45.88**	**260**	P	**P**	**18 45 03.7**	**-2.4**
ASAR	**Alice Springs**	**45.88**	**260**	P	**P**	**18 45 03.7**	**-2.4**
ASAR	**Alice Springs**	**45.88**	**260**	P	**P**	**18 45 04.4**	**-1.6**
	comp=Z,16nm,1.0s,baz=93,slow=8.2,SNR=36						
ASAR				LR	LR	19 03 35.2	
	comp=Z,4μm,18.9s,baz=105,slow=35						
	comp=Z,16nm,1.0s						
WR0	**Warramunga Arr**	**46.12**	**265**	P	**P**	**18 45 05.5**	**-2.4**
WB2	**Warramunga Arr**	**46.29**	**265**	P	**P**	**18 45 07.0**	**-2.3**
WB2				IAmb	IAmb	18 45 09.4	
	comp=Z,30nm,0.8s						
WRAB	**Tennant Creek**	**46.30**	**265**	P	**P**	**18 45 06.9**	**-2.4**
WRAB				IAmb	IAmb	18 45 13.4	
	comp=Z,29nm,0.9s						
WRAB	**Tennant Creek**	**46.30**	**265**	IAMs_20	IAMs_20	19 03 04.1	
	comp=Z,4μm,20.0s						
WRAB	**Tennant Creek**	**46.30**	**265**	*i* P	**P**	**18 45 06.3**	**-3.0**
WRAB				pmax	pmax		
	comp=Z,29nm,0.9s						
WRA	**Warramunga Arr**	**46.30**	**265**	P	**P**	**18 45 07.2**	**-2.1**
	comp=Z,15nm,0.7s,baz=96,slow=8.5,SNR=85						
	comp=Z,15nm,0.7s						
JAY	**Jayapura**	**47.18**	**290**	P	**P**	**18 45 13.4**	**-2.9**
	comp=Z,15nm,0.7s						
SMPI	**Sarmi**	**49.16**	**289**	P	**P**	**18 45 28.4**	**-3.2**
	comp=Z,17nm,1.2s						
KDU	**Kakadu**	**50.20**	**273**	P	**P**	**18 45 36.9**	**-2.5**
	baz=50,SNR=16						
WRKA	**Warakurna**	**50.64**	**257**	P	**P**	**18 45 40.5**	**-2.2**
	baz=51,SNR=44						
MTN	**Manton Dam**	**51.37**	**273**	P	**P**	**18 45 45.9**	**-2.4**
	baz=52,SNR=9.3						
KNRA	**Kununurra**	**52.60**	**268**	P	**P**	**18 45 55.9**	**-1.6**
	baz=53,SNR=19						
KMPI	**Kaimana, Papua**	**52.74**	**284**	P	**P**	**18 45 56.2**	**-2.3**
	comp=Z,136nm,0.7s						
SAUI	**Saumlaki**	**53.04**	**278**	P	**P**	**18 45 58.7**	**-2.1**
	comp=Z,76nm,0.7s,comp=Z,3μm						
RKPI	**Ransiki, Papua**	**53.34**	**287**	P	**P**	**18 46 00.3**	**-2.6**
	comp=Z,68nm,1.1s						
GUMO	**Guam**	**53.64**	**310**	LR	LR	19 07 12.1	
	comp=Z,430nm,21.1s,baz=142,slow=34						
SBA	**Scott Base**	**54.58**	**184**	P	**P**	**18 46 14.8**	**+3.8**
SBA	**Scott Base**	**54.58**	**184**	P	**P**	**18 46 14.8**	**+3.8**
SBA				pmax	pmax		
	comp=Z,157nm,2.0s						
SWI	**Sorong**	**56.20**	**286**	P	**P**	**18 46 21.9**	**-1.8**
	comp=Z,87nm,0.9s,comp=Z,864nm						
SOEI	**Soe**	**58.76**	**273**	P	**P**	**18 46 39.9**	**-2.0**
	comp=Z,116nm,0.8s						
NWAO	**Narrogin (SRO)**	**58.76**	**245**	LR	LR	19 11 07.6	
	comp=Z,1μm,18.5s,baz=60,slow=35						
NLAI	**Namlea**	**58.82**	**281**	P	**P**	**18 46 41.4**	**-0.8**
	comp=Z,20nm,0.8s						
MEEK	**Meekatharra**	**58.83**	**252**	P	**P**	**18 46 40.6**	**-1.6**
	baz=59,SNR=4.9						
BATI	**Baumata**	**59.14**	**272**	P	**P**	**18 46 43.4**	**-1.0**
	comp=Z,34nm,0.7s						
BATI	**Baumata**	**59.14**	**272**	LR	LR	19 11 30.6	
	comp=Z,3μm,20.7s,baz=148,slow=36						
MBWA	**Marble Bar**	**59.21**	**259**	IAMs_20	IAMs_20	19 13 14.9	
	comp=Z,2μm,20.0s						
RPN	**Rapa Nui**	**59.35**	**108**	LR	LR	19 06 27.5	
	comp=Z,297nm,19.0s,baz=267,slow=30						
BLDU	**Ballidu**	**59.63**	**247**	P	**P**	**18 46 48.1**	**+0.6**
	baz=60,SNR=8.6						
SANI	**Sanana**	**60.34**	**282**	P	**P**	**18 46 48.5**	**-4.2**
	comp=Z,27nm,0.8s						
MORW	**Morawa**	**60.52**	**249**	P	**P**	**18 46 54.4**	**+0.7**
	baz=61,SNR=7.6						
BBSI	**Bau Bau**	**61.97**	**277**	P	**P**	**18 47 01.6**	**-2.1**
	comp=Z,21nm,0.8s						
LUWI	**Luwuk**	**63.67**	**281**	P	**P**	**18 47 11.9**	**-3.1**
	comp=Z,46nm,1.1s,comp=Z,738nm						
BKSI	**Bulukumba**	**64.26**	**276**	P	**P**	**18 47 16.9**	**-2.0**
KAPI	**Kappang**	**64.72**	**276**	LR	LR	19 16 09.1	
	comp=Z,746nm,18.9s,baz=114,slow=37						
DAV	**Davao City (W)**	**65.02**	**291**	LR	LR	19 12 16.9	
	comp=Z,419nm,21.5s,baz=114,slow=33						
JCJ	**Chichijima**	**65.04**	**319**	LR	LR	19 10 48.7	
	comp=Z,1μm,21.1s,baz=122,slow=32						
QSPA	**South Pole Qui**	**66.11**	**180**	P	**P**	**18 47 31.5**	**+1.2**
QSPA	**South Pole Qui**	**66.11**	**180**	P	**P**	**18 47 32.2**	**+1.9**
	comp=Z,22nm,0.8s,baz=43,slow=3.5,SNR=93						
QSPA				LR	LR	19 13 38.0	
	comp=Z,1μm,19.3s,baz=35,slow=33						
	comp=Z,22nm,0.8s						
TOLI2	**Tolitoli**	**66.40**	**282**	P	**P**	**18 47 29.9**	**-3.0**
TOLI2				IAmb	IAmb	18 47 42.6	
	comp=Z,15nm,0.8s						
JHJ	**Hachijo jima 2**	**70.86**	**321**	LR	LR	19 13 26.4	
	comp=Z,470nm,20.4s,baz=340,slow=31						
TGY	**Tagaytay City**	**72.52**	**295**	LR	LR	19 17 53.6	
	comp=Z,618nm,19.8s,baz=111,slow=34						
JOW	**Kunigami**	**74.00**	**310**	LR	LR	19 17 28.2	
	comp=Z,779nm,20.0s,baz=122,slow=33						
MJAR	**Matsushiro Arr**	**74.24**	**323**	P	**P**	**18 48 18.9**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=166,slow=6.4,SNR=5.2						
MJAR				LR	LR	19 16 07.4	
	comp=Z,991nm,21.8s,baz=136,slow=32						
	comp=Z,1.3nm,0.6s						
MAJO	**Matsushiro**	**74.25**	**323**	*i* P	**P**	**18 48 19.4**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,27nm,2.2s						
LEM	**Lembang**	**75.09**	**269**	LR	LR	19 20 42.9	
	comp=Z,1μm,20.4s,baz=150,slow=35						
BELA	**Belgrano 2**	**75.85**	**172**	P	**P**	**18 48 29.4**	**+0.3**
BELA				IAmb	IAmb	18 48 44.9	
	comp=Z,41nm,1.3s						
JNU	**Nakatsue**	**76.24**	**316**	P	**P**	**18 48 29.5**	**-2.4**
	comp=Z,8.6nm,0.8s,baz=124,slow=11,SNR=1.7						
JNU				LR	LR	19 17 24.0	
	comp=Z,478nm,20.7s,baz=102,slow=32						
	comp=Z,8.6nm,0.8s						
NIKH	**Nikolski High**	**76.85**	**4**	P	**P**	**18 48 36.4**	**+1.6**
	baz=186						
SHEM	**Shemya Is, Ala**	**76.89**	**354**	LR	LR	19 17 23.8	
	comp=Z,963nm,20.1s,baz=134,slow=32						
PMSA	**Palmer Station**	**77.27**	**156**	LR	LR	19 19 27.4	
	comp=Z,450nm,18.2s,baz=256,slow=33						
UNV	**Unalaska Valle**	**77.90**	**6**	P	**P**	**18 48 42.4**	**+1.7**
	baz=188						
SNCC	**San Nicolas Is**	**78.11**	**45**	P	**P**	**18 48 43.1**	**+0.8**
	baz=231						
SCZ2	**Santa Cruz Isl**	**78.51**	**45**	P	**P**	**18 48 45.5**	**+0.9**
	baz=231						
SCI2	**San Clemente I**	**78.58**	**46**	P	**P**	**18 48 46.3**	**+1.3**
	baz=232						
PKM	**Mcpherson Peak**	**78.96**	**44**	P	**P**	**18 48 48.0**	**+0.7**
	baz=230						
MAW	**Mawson**	**79.02**	**199**	P	**P**	**18 48 48.7**	**+1.9**
	baz=79,SNR=27						
MAW	**Mawson**	**79.02**	**199**	P	**P**	**18 48 48.4**	**+1.5**
MAW	**Mawson**	**79.02**	**199**	P	**P**	**18 48 48.3**	**+1.5**
	comp=Z,28nm,0.9s,baz=122,slow=6.0,SNR=37						
MAW				LR	LR	19 22 15.0	
	comp=Z,653nm,19.2s,baz=116,slow=35						

comp=Z,28nm,0.9s
FALS False Pass 79.21 7 P **P 18 48 49.8 +1.9**
baz=191
OSI Osito Audit: C 79.48 45 P **P 18 48 51.1 +1.1**
baz=231
109C Camp Elliot, M 79.49 47 IAMs_20 IAMs_20 19 19 44.9
comp=Z,2µm,18.0s
109C Camp Elliot, M 79.49 47 P **P 18 48 50.4 +0.5**
baz=232
DECC Green Verdugo 79.51 45 P **P 18 48 50.5 +0.4**
baz=231
PASC Pasadena Art C 79.56 45 IAMs_20 IAMs_20 19 19 01.7
comp=Z,2µm,19.0s
HOPS Hopland Field 79.67 39 IAMs_20 IAMs_20 19 18 19.1
comp=Z,2µm,18.0s
CNBA Chernabura Isl 79.69 9 IAMs_20 IAMs_20 19 19 12.1
comp=Z,2µm,21.0s
CHNA Chernabura Isl 79.70 9 P **P 18 48 52.8 +2.4**
baz=195
ARVC Arvin 79.74 44 P **P 18 48 52.1 +0.8**
baz=231
PET Petropavlovsk 79.85 345 *i* P **P 18 48 48.9 -2.5**
PET pmax pmax
comp=Z,60nm,2.1s
MURC Murrieta 79.86 46 P **P 18 48 52.1 +0.1**
baz=232
YSS Yuzh-Sakhalins 79.93 333 P **P 18 48 52.2 +0.3**
YSS IAmb IAmb 18 48 54.2
comp=Z,51nm,1.2s
YSS Yuzh-Sakhalins 79.93 333 *i* P **P 18 48 52.3 +0.3**
YSS pmax pmax
comp=Z,38nm,1.1s
BFSC Mount Baldy Ra 79.94 46 P **P 18 48 53.3 +0.7**
baz=232
MONP2 Monument Peak 79.94 47 P **P 18 48 53.1 +0.4**
baz=233
IKP In-Ko-Pah, Jac 80.01 48 P **P 18 48 53.1 +0.2**
baz=233
SDPT Sand Point 80.07 9 P **P 18 48 54.6 +2.1**
baz=194
EDW2 Edwards Air Fo 80.12 45 P **P 18 48 54.0 +0.6**
baz=232,SNR=8.8
PEA0B Petropavlovsk- 80.16 344 P **P 18 48 53.0 -0.1**
PEA0B Petropavlovsk- 80.16 344 P **P 18 48 53.0 -0.1**
PEA0B pmax pmax
comp=Z,93nm,1.2s
PETK Petropavlovsk- 80.16 344 P **P 18 48 53.1 -0.1**
comp=Z,13nm,0.8s,baz=139,slow=3.2,SNR=14
PETK LR LR 19 19 13.4
comp=Z,891nm,20.6s,baz=166,slow=32
comp=Z,13nm,0.8s
ISA Isabella, Lake 80.30 44 P **P 18 48 55.1 +0.7**
baz=231,SNR=10
PFO Pinyon Flats O 80.35 47 IAMs_20 IAMs_20 19 20 19.9
comp=Z,2µm,18.0s
PFO Pinyon Flats O 80.35 47 P **P 18 48 55.4 +0.7**
baz=233
PFO Pinyon Flats O 80.35 47 LR LR 19 20 14.9
comp=Z,2µm,18.4s,baz=240,slow=32
TPFO Pinon Flats 80.35 47 P **P 18 48 55.6 +0.8**
baz=233
SWSC Sam W. Stewart 80.40 48 P **P 18 48 55.6 +0.8**
baz=233
BBRC Big Bear Solar 80.44 46 P **P 18 48 55.9 +0.5**
baz=232
LRMC Laurel Mtn Rad 80.69 45 P **P 18 48 57.5 +1.0**
baz=232
KSRS Korea Array 80.87 318 P **P 18 48 57.5 +0.2**
comp=Z,1.7nm,0.8s,baz=138,slow=5.8,SNR=4.7
KSRS LR LR 19 19 17.4
comp=Z,846nm,21.6s,baz=135,slow=32
comp=Z,1.7nm,0.8s
BELC Belle Mtn. Jos 80.89 47 P **P 18 48 58.5 +0.8**
baz=233
CWC Cottonwood Cre 81.03 44 P **P 18 48 59.4 +1.0**
baz=231
BC3 Big Chuckawall 81.05 47 P **P 18 48 59.5 +1.0**
baz=233
GLA Glamis 81.12 48 P **P 18 48 59.8 +1.0**
baz=234
GSC Goldstone, Bar 81.15 45 P **P 18 48 59.6 +0.7**
baz=232
HEC Hector,Ludlow 81.17 46 P **P 18 49 00.4 +1.4**
baz=233
MPMC Manual Prospec 81.17 44 P **P 18 48 59.8 +0.6**
baz=232,SNR=12
CHGN Chignik 81.29 10 P **P 18 49 00.3 +1.3**
baz=196
CHIR Chirikof Islan 81.30 11 P **P 18 49 01.4 +2.3**
baz=198
MLAC Mammoth, Mammo 81.31 42 P **P 18 49 00.9 +1.0**
baz=231
TIN Tinemaha, Big 81.32 43 P **P 18 49 00.7 +0.8**
baz=231
IRM Iron Mountain 81.55 47 P **P 18 49 01.2 +0.1**
baz=234
GMRC Granite Mounta 81.58 46 P **P 18 49 01.7 +0.3**
baz=233
YBH Yreka Blue Hor 81.72 37 LR LR 19 20 04.5
comp=Z,1µm,19.5s,baz=230,slow=32
TUQ Turquoise Moun 81.80 45 P **P 18 49 03.1 +0.7**
baz=233
FURC Furnace Creek, 81.82 44 P **P 18 49 03.0 +0.6**
baz=232
GRAC Grapevine Rang 81.83 44 P **P 18 49 03.3 +0.9**
baz=232
214A Organ Pipe Nat 81.88 50 P **P 18 49 03.0 +0.2**
baz=235
NVAR Mina Array Bea 82.14 42 P **P 18 49 05.7 +1.4**
comp=Z,7.3nm,1.0s,baz=222,slow=8.4,SNR=15
NVAR LR LR 19 20 22.2
comp=Z,1µm,19.1s,baz=240,slow=32
comp=Z,7.3nm,1.0s
NEE2 Needles Airpor 82.27 47 P **P 18 49 06.2 +1.4**
baz=234
L04D Klamath Falls 82.27 37 IAmb IAmb 18 49 07.3
comp=Z,70nm,1.8s
PAHR Pah Rah Range 82.29 40 IAmb IAmb 18 49 31.7
comp=Z,27nm,1.6s
H03S2 Juan Fernandez 82.31 123 T T 20 20 41.8
baz=244,slow=74,SNR=94
PDMCI Parker Dam,Lak 82.31 47 P **P 18 49 05.8 +0.8**
baz=234
H03S1 Juan Fernandez 82.32 124 T T 20 20 52.9
baz=244,slow=74,SNR=101
H03S3 Juan Fernandez 82.32 123 T T 20 20 38.0
baz=244,slow=74,SNR=77
H03N2 Juan Fernandez 82.46 123 T T 20 20 30.9
baz=239
H03N3 Juan Fernandez 82.46 123 T T 20 21 06.0
baz=239,slow=74
H03N1 Juan Fernandez 82.47 123 T T 20 21 00.5
baz=239,slow=74
TPNV Topopah Spring 82.50 44 IAMs_20 IAMs_20 19 21 18.6
comp=Z,2µm,18.0s
TPNV Topopah Spring 82.50 44 P **P 18 49 06.3 +0.2**
baz=232,SNR=8.5
V12A Nelson 82.68 46 IAmb IAmb 18 49 23.3
comp=Z,22nm,1.5s
R17K Ugashik Creek 82.90 10 IAMs_20 IAMs_20 19 26 26.9
comp=Z,2µm,20.0s
R17K Ugashik Creek 82.90 10 P **P 18 49 09.0 +1.5**
baz=198
USA0B Ussuriysk Arra 83.01 325 *c i* P **P 18 49 07.7 -0.7**
USRK Ussuriysk Ar. 83.01 325 P **P 18 49 08.5 +0.1**
USRK Ussuriysk Ar. 83.01 325 P **P 18 49 08.5 +0.1**
USRK Ussuriysk Ar. 83.01 325 P **P 18 49 07.7 -0.6**
comp=Z,6.2nm,0.6s,baz=129,slow=3.6,SNR=20
comp=Z,6.2nm,0.6s
TYV Tymovskoe 83.06 335 *e*P **P 18 49 09.4 +0.9**
TYV *e*S **SKSac 18 59 29.7 +0.7**
TYV pmax pmax
comp=Z,300nm,2.5s
TYV pmax pmax
comp=Z,33nm,1.4s
TYV smax smax
comp=E,600nm,6.3s
R18K Karluk 83.16 11 P **P 18 49 10.1 +1.3**
baz=199
K05A Summer Lake 83.39 37 IAmb IAmb 18 49 37.9
comp=Z,38nm,1.2s
ELIB Princess Elisa 83.44 186 *d*P **P 18 49 11.5 +1.0**
comp=Z,34nm,1.2s
ELIB *d*S **S 18 59 30.5 -0.1**
TUC Tucson 83.50 51 P **P 18 49 12.9 +1.6**
TUC IAmb IAmb 18 49 31.7
comp=Z,31nm,1.6s
TUC Tucson 83.50 51 P **P 18 49 12.9 +1.6**
TUC pmax pmax
comp=Z,31nm,1.6s
TUC MLR MLR
comp=Z,2µm,19.0s
TUC Tucson 83.50 51 P **P 18 49 11.5 +0.2**
baz=236
PRN Pahroc Range 83.54 44 IAmb IAmb 18 49 14.7
comp=Z,31nm,1.4s
J05D Fort Rock, OR 83.57 37 IAmb IAmb 18 49 39.2
comp=Z,27nm,1.3s
Q17K Contact Creek 83.58 10 P **P 18 49 12.0 +0.9**
baz=198
NJ2 Nanjing 83.70 309 *e*P **P 18 49 14.6 +2.4**
NJ2 pP **pP 18 49 17.3 -0.6**
NJ2 sP **sP 18 49 19.3 -0.3**
NJ2 pmax pmax
comp=Z,26nm,0.5s
NJ2 pmax pmax
comp=Z,890nm,4.2s
KDAK Kodiak Island 83.72 12 IAMs_20 IAMs_20 19 20 57.5
comp=Z,2µm,20.0s
KDAK Kodiak Island 83.72 12 P **P 18 49 12.0 +0.3**
baz=201
KDAK Kodiak Island 83.72 12 P **P 18 49 12.2 +0.5**
comp=Z,9.6nm,1.1s,baz=180,slow=13,SNR=1.9
KDAK LR LR 19 21 09.7
comp=Z,998nm,20.6s,baz=230,slow=32
comp=Z,9.6nm,1.1s
R11B Troy Canyon, C 83.77 43 P **P 18 49 12.8 +0.1**
baz=233
O14K Tigyukauivet M 83.77 7 IAMs_20 IAMs_20 19 27 20.9
comp=Z,1µm,20.0s
O14K Tigyukauivet M 83.77 7 P **P 18 49 12.7 +0.8**
baz=193
O15K Ungalikthiuk R 83.88 8 P **P 18 49 12.3 -0.2**
baz=194
BKNI Bangkinang 83.95 273 IAMs_20 IAMs_20 19 26 35.5
comp=Z,1µm,20.0s
P16K Nushagak River 83.99 9 P **P 18 49 13.1 +0.1**
baz=196
H04A Detroit Lake 83.99 35 IAmb IAmb 18 49 36.2
comp=Z,17nm,1.0s
Q18K Katmai Hardscr 84.09 11 P **P 18 49 13.6 -0.1**
baz=199
X16A Lo Mia Camp, P 84.21 48 IAmb IAmb 18 49 21.7
comp=Z,18nm,1.0s
TROLL Troll, Antarti 84.27 179 ⇓P **P 18 49 16.2 +1.5**
comp=Z,2µm,0.8s
P17K Kvichak River 84.38 10 P **P 18 49 15.1 +0.1**
baz=197
N14K Kuskokwak Cree 84.38 7 P **P 18 49 15.6 +0.6**
baz=193
M11K Mekoryuk 84.41 5 P **P 18 49 15.7 +0.6**
baz=188
WVOR Wild Horse Val 84.47 39 IAmb IAmb 18 49 35.1
comp=Z,22nm,1.3s
LCMT Little Creek M 84.48 45 IAmb IAmb 18 49 22.7
comp=Z,17nm,1.0s
SNAA Sanae 84.49 178 P **P 18 49 16.1 +0.3**
SNAA IAmb IAmb 18 49 20.5
comp=Z,31nm,1.1s
SNAA Sanae 84.49 178 ⇓P **P 18 49 16.9 +1.1**
comp=Z,447nm,1.1s
SNAA Sanae 84.49 178 P **P 18 49 17.0 +1.3**
comp=Z,21nm,1.0s,baz=191,slow=3.2,SNR=35
SNAA LR LR 19 25 05.3
comp=Z,422nm,19.0s,baz=192,slow=34
comp=Z,21nm,1.0s
O16K Kokwok River B 84.52 9 P **P 18 49 15.5 -0.2**
baz=196
Q20K Shuyak Island 84.53 12 P **P 18 49 15.9 +0.1**
baz=201
SYI Shuyak Island 84.53 12 IAMs_20 IAMs_20 19 21 34.9
comp=Z,1µm,20.0s
VNA3 Neumayer Olymp 84.54 176 ⇓P **P 18 49 17.0 +1.1**
comp=Z,60nm,0.8s
MDJ Mudanjiang 84.56 324 P **P 18 49 17.3 +1.0**
MDJ pP PcP 18 49 19.6 -0.2
MDJ sP pP 18 49 22.0 +0.3
MDJ S **SKSac 18 59 38.0 -1.1**
MDJ pmax pmax
comp=Z,16nm,1.3s
MDJ pmax pmax
comp=Z,680nm,8.0s
MDJ LR LR
comp=Z,500nm,16.0s
MDJ LR LR
comp=Z,620nm,16.9s
MDJ LR LR
comp=Z,1µm,18.8s
MDJ Mudanjiang 84.56 324 IAmb IAmb 18 49 26.5
comp=Z,27nm,1.1s
Q19K Cape Douglas, 84.59 11 IAMs_20 IAMs_20 19 24 38.7
comp=Z,2µm,20.0s
Q19K Cape Douglas, 84.59 11 P **P 18 49 16.5 +0.3**
baz=200
M13K Dall Lake 84.69 6 P **P 18 49 17.6 +1.1**
baz=191
CCUT Cedar City 84.71 45 IAmb IAmb 18 49 24.3
comp=Z,16nm,1.0s
KNB Kanab 84.76 46 IAmb IAmb 18 50 01.6
comp=Z,32nm,1.3s
P18K Big Mountain, 84.76 10 IAmb IAmb 18 49 23.2
comp=Z,24nm,1.0s
P18K Big Mountain, 84.76 10 P **P 18 49 17.6 +0.6**
baz=198
U15A North Rim 84.77 46 IAmb IAmb 18 49 24.6
comp=Z,20nm,1.0s
N15K Kwethluk River 84.81 8 IAMs_20 IAMs_20 19 22 14.2
comp=Z,2µm,22.0s
N15K Kwethluk River 84.81 8 P **P 18 49 17.1 -0.1**
baz=194
O17K Koliganek Bris 84.83 9 P **P 18 49 17.1 -0.2**
baz=197
WUAZ Wupatki 84.87 48 IAmb IAmb 18 49 37.9
comp=Z,20nm,1.2s
WUAZ IAMs_20 IAMs_20 19 22 09.6
comp=Z,2µm,19.0s
WUAZ Wupatki 84.87 48 P **P 18 49 18.3 -0.1**
baz=236
SZCU Shurtz Canyon 84.92 45 IAmb IAmb 18 50 02.5
comp=Z,20nm,1.2s
VNA2 Neumayer--Watz 85.01 176 ⇓P **P 18 49 19.7 +1.4**
comp=Z,29nm,0.8s,baz=194,slow=2.0
J08A Circle Bar Ran 85.15 38 IAmb IAmb 18 49 41.5
comp=Z,25nm,1.4s
M14K Bethel 85.16 7 P **P 18 49 19.2 +0.4**
baz=192,SNR=7.1
G06A Carlson Farm, 85.18 36 IAmb IAmb 18 49 41.5
comp=Z,54nm,1.9s
O18K Koktuh Hills 85.20 10 IAMs_20 IAMs_20 19 28 08.8
comp=Z,1µm,19.0s
O18K Koktuh Hills 85.20 10 P **P 18 49 19.5 +0.3**
baz=199
VNA1 Neumayer--Stat 85.22 176 ⇓P **P 18 49 21.5 +2.1**
M15K Kasigluk River 85.25 7 P **P 18 49 20.1 +0.7**
baz=194,SNR=9.5
N16K Nishlik Lake 85.27 8 P **P 18 49 19.9 +0.4**
baz=195
X18A Snowflake 85.30 49 IAmb IAmb 18 49 27.0
comp=Z,15nm,1.1s
P19K Oil Pt 85.35 11 IAMs_20 IAMs_20 19 22 58.6
comp=Z,1µm,20.0s
P19K Oil Pt 85.35 11 P **P 18 49 20.2 +0.3**
baz=200
PLCA Paso Flores 85.37 133 P **P 18 49 21.4 +0.6**
comp=Z,1.9nm,0.9s,baz=252,slow=13,SNR=2.1
PLCA LR LR 19 21 09.4
comp=Z,318nm,19.0s,baz=330,slow=31
comp=Z,1.9nm,0.9s
NVL N'lazarevskaya 85.37 183 *e*P **P 18 49 20.3 +0.2**
NVL pmax pmax
comp=Z,27nm,1.7s
ELK Elko 85.42 42 LR LR 19 23 03.5
comp=Z,936nm,18.6s,baz=222,slow=32
N17K Nushagak Hills 85.54 9 P **P 18 49 20.9 0.0**
baz=197
HOM Homer 85.65 12 P **P 18 49 21.1 -0.3**
baz=202
L14K Kuka Creek 85.66 6 IAmb IAmb 18 49 43.2
comp=Z,24nm,0.9s
L14K Kuka Creek 85.66 6 P **P 18 49 22.1 +0.7**
baz=192,SNR=6.2
O19K Port Alsworth 85.67 11 IAMs_20 IAMs_20 19 28 04.2
comp=Z,1µm,20.0s
DL2 Dalian 85.69 316 P **P 18 49 23.6 +1.5**
DL2 pmax pmax
comp=Z,24nm,1.7s
DL2 pmax pmax
comp=Z,430nm,5.4s
DL2 LR LR
comp=Z,420nm,14.9s
DL2 LR LR
comp=Z,510nm,14.1s
DL2 LR LR
comp=Z,730nm,18.8s
121A Cookes Peak, D 85.75 52 IAmb IAmb 18 49 44.5
comp=Z,48nm,1.8s
121A Cookes Peak, D 85.75 52 P **P 18 49 21.2 -1.6**
baz=238
MTPU Mount Pierson 85.76 45 IAmb IAmb 18 49 43.1
comp=Z,45nm,1.6s
W18A Petrified Fore 85.77 49 IAmb IAmb 18 49 29.9
comp=Z,33nm,1.4s
W18A Petrified Fore 85.77 49 P **P 18 49 20.9 -2.0**
baz=237
M16K Timber Creek 85.78 8 IAMs_20 IAMs_20 19 25 40.9
comp=Z,1µm,20.0s
M16K Timber Creek 85.78 8 P **P 18 49 22.7 +0.7**
baz=195,SNR=6.5
O20K Slope Mountain 85.86 11 P **P 18 49 22.1 -0.4**
baz=201
N18K Kilae Creek 85.88 10 P **P 18 49 22.4 -0.1**
baz=198
BRSE Bradley Lake S 85.90 12 P **P 18 49 22.4 -0.2**
baz=203
G08A Pilot Rock 86.11 36 IAmb IAmb 18 49 34.2
comp=Z,57nm,1.9s
WHN Wuhan 86.19 306 P **P 18 49 26.9 +2.1**
SNY Shenyang 86.21 319 ⇓P **P 18 49 25.8 +1.2**
SNY pmax pmax
comp=Z,17nm,1.4s
SNY pmax pmax
comp=Z,130nm,4.1s
SNY LR LR
comp=Z,410nm,20.1s
SNY LR LR
comp=Z,400nm,18.8s
SNY LR LR
comp=Z,620nm,19.4s
N19K Bonanza Creek 86.23 10 IAmb IAmb 18 49 25.4
comp=Z,18nm,1.2s
N19K IAMs_20 IAMs_20 19 28 30.9
comp=Z,1µm,19.0s
N19K Bonanza Creek 86.23 10 P **P 18 49 23.3 -1.0**
baz=199
CN2 Changchun 86.32 322 *e*P **P 18 49 25.5 +0.4**
CN2 *es*P sP 18 49 32.0 -0.5
CN2 *e*S **S 18 59 59.3 -0.3**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,500nm,5.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,600nm,18.0s
CN2 LR LR
comp=Z,600nm,19.0s
KULM Kulim 86.33 277 P **P 18 49 25.9 0.0**
M17K Holitna River 86.35 9 IAMs_20 IAMs_20 19 23 11.0
comp=Z,1µm,21.0s
M17K Holitna River 86.35 9 P **P 18 49 25.3 +0.5**
baz=196,SNR=5.2
L16K Owhat River 86.38 8 IAmb IAmb 18 49 27.6
comp=Z,36nm,1.4s
L16K IAMs_20 IAMs_20 19 29 00.8
comp=Z,1µm,19.0s
L16K Owhat River 86.38 8 P **P 18 49 25.6 +0.6**
baz=195,SNR=6.5
BBB Bella Bella 86.48 27 LR LR 19 23 21.3
comp=Z,696nm,18.5s,baz=216,slow=32
SEW Seward 86.49 13 P **P 18 49 25.8 +0.3**
baz=204
KLR Kul'dur 86.58 329 *i* P **P 18 49 26.4 +0.2**
KLR pmax pmax
comp=Z,26nm,1.5s
KLR Kul'dur 86.58 329 LR LR 19 23 42.7
comp=Z,940nm,20.8s,baz=138,slow=33
DUG Dugway, Tooele 86.59 43 P **P 18 49 25.5 -1.2**
baz=234
M18K Stony River 86.66 9 P **P 18 49 26.1 -0.3**
baz=198
K15K Wolf Creek Mou 86.71 7 IAMs_20 IAMs_20 19 29 24.7
comp=Z,1µm,18.0s
K15K Wolf Creek Mou 86.71 7 P **P 18 49 27.4 +0.8**
baz=193,SNR=7.2
BMO Blue Mountains 86.74 37 IAmb IAmb 18 49 37.0
comp=Z,28nm,1.7s
BMO IAMs_20 IAMs_20 19 23 47.1
comp=Z,1µm,19.0s
CAPN Captain Cook N 86.77 12 P **P 18 49 26.2 -0.6**
baz=202
O22K Cooper Landing 86.78 13 P **P 18 49 26.6 -0.3**
baz=204
P23K Montague Islan 86.82 14 P **P 18 49 26.6 -0.6**
baz=206
RPSI Rantau Prapat 86.84 274 P **P 18 49 27.0 -1.4**
RPSI IAmb IAmb 18 49 29.3
comp=Z,19nm,1.1s
PSI Prapat 86.89 274 P **P 18 49 27.0 -1.8**
PSI pmax pmax
comp=Z,19nm,1.1s
425A Indio Mountain 86.91 54 IAmb IAmb 18 49 34.5
comp=Z,28nm,1.5s
L17K Donlin 86.94 8 P **P 18 49 27.8 +0.1**
baz=196,SNR=6.3
J14K Nanvaranak Lak 86.97 6 P **P 18 49 27.9 +0.1**
baz=191
N20K Mount Spurr 86.98 11 P **P 18 49 27.3 -0.7**
baz=201
SPCR Spurr Chakacha 86.98 11 P **P 18 49 26.8 -1.2**
baz=201
MNTX Cornudas Mount 87.07 53 P **P 18 49 27.8 -1.3**
MNTX IAmb IAmb 18 49 40.5
comp=Z,18nm,1.1s
MNTX Cornudas Mount 87.07 53 P **P 18 49 27.1 -2.1**
baz=240
TMUT Trail Mountain 87.10 45 IAmb IAmb 18 49 35.8
comp=Z,16nm,0.9s
TIA Tai'an 87.16 312 *e*P **P 18 49 28.3 -1.1**
TIA pmax pmax
comp=Z,17nm,2.8s
TIA pmax pmax
comp=Z,470nm,11.8s
TIA LR LR
comp=Z,340nm,23.0s
TIA LR LR
comp=Z,880nm,19.6s
TIA LR LR
comp=Z,1µm,22.6s
Y22D IRIS PASSCAL I 87.17 51 P **P 18 49 27.8 -1.9**
baz=238
Y22F Passcal Instru 87.17 51 P **P 18 49 28.3 -1.4**
baz=238
TX32 Lajitas Array 87.18 56 IAmb IAmb 18 49 41.4
comp=Z,26nm,1.3s
TXAR Lajitas Array 87.18 56 P **P 18 49 31.5 +1.7**
comp=Z,5.1nm,1.0s,baz=210,slow=7.2,SNR=19
TXAR LR LR 19 23 22.7
comp=Z,914nm,18.9s,baz=244,slow=32
comp=Z,5.1nm,1.0s
L18K Granite Mounta 87.23 9 IAMs_20 IAMs_20 19 23 50.5
comp=Z,1µm,20.0s
L18K Granite Mounta 87.23 9 P **P 18 49 29.5 +0.4**
baz=197,SNR=9.0
M19K Big River Lodg 87.28 10 IAmb IAmb 18 49 34.4
comp=Z,18nm,1.4s
M19K Big River Lodg 87.28 10 P **P 18 49 29.0 -0.4**
baz=199
RC01 Rabbit Creek A 87.34 12 P **P 18 49 29.7 0.0**
baz=203
PWL Port Wells 87.41 13 IAMs_20 IAMs_20 19 24 00.1
comp=Z,2µm,20.0s
PWL Port Wells 87.41 13 P **P 18 49 29.0 -1.1**
baz=205
SRU San Rafael Swe 87.44 45 IAmb IAmb 18 49 45.0
comp=Z,11nm,1.0s
M20K Styx River 87.46 10 IAMs_20 IAMs_20 19 23 34.5
comp=Z,1µm,20.0s
M20K Styx River 87.46 10 P **P 18 49 30.0 -0.4**
baz=200
L19K White Mountain 87.47 10 P **P 18 49 29.9 -0.4**
L19K IAmb IAmb 18 49 33.3
comp=Z,24nm,1.3s
L19K White Mountain 87.47 10 P **P 18 49 30.4 0.0**

	baz=199,SNR=6.8							
V35K	Ketchikan	87.49	23	P	P	18 49 30.4	-0.1	
	baz=219							
SUA	Susitna One	87.49	12	IAmb	IAmb	18 49 43.5		
	comp=Z,18nm,0.9s							
SUA				IAMs_20	IAMs_20	19 23 23.3		
	comp=Z,2µm,21.0s							
SUA	Susitna One	87.49	12	P	P	18 49 30.3	-0.2	
	baz=202							
K17K	Iditarod	87.50	8	P	P	18 49 30.0	-0.4	
K17K				IAmb	IAmb	18 49 32.8		
	comp=Z,31nm,1.4s							
K17K				IAMs_20	IAMs_20	19 29 35.4		
	comp=Z,1µm,19.0s							
K17K	Iditarod	87.50	8	P	P	18 49 30.5	+0.1	
	baz=196							
GSI	Gunungsitoli	87.51	273	P	P	18 49 31.1	-0.6	
U33K	Whale Pass	87.57	22	P	P	18 49 30.5	-0.3	
	baz=218							
SIT	Sitka	87.58	21	P	P	18 49 30.3	-0.5	
	baz=216							
HLID	Hailey	87.60	40	P	P	18 49 30.2	-1.4	
	baz=233							
PLID	Pearl Lake	87.62	38	IAmb	IAmb	18 49 48.1		
	comp=Z,18nm,1.6s							
PLID				IAMs_20	IAMs_20	19 24 35.3		
	comp=Z,2µm,19.0s							
EYAK	Cordova Ski Ar	87.69	14	P	P	18 49 30.0	-1.3	
	baz=207							
GLI	Glacier Island	87.69	14	IAMs_20	IAMs_20	19 23 47.5		
	comp=Z,1µm,20.0s							
GLI	Glacier Island	87.69	14	P	P	18 49 30.3	-1.1	
	baz=206							
MA2	Magadan	87.69	344	LR	LR	19 23 58.9		
	comp=Z,712nm,20.6s,baz=150,slow=32							
ALPN	Alpine	87.71	55	IAmb	IAmb	18 49 54.6		
	comp=Z,14nm,0.9s							
J16K	Anvik River	87.78	7	P	P	18 49 31.8	+0.1	
	baz=194							
SKT	Skwentna	87.83	11	IAMs_20	IAMs_20	19 26 43.2		
	comp=Z,1µm,20.0s							
SKT	Skwentna	87.83	11	P	P	18 49 31.3	-0.7	
	baz=202							
KNK	Knik Glacier	87.89	13	IAMs_20	IAMs_20	19 24 16.8		
	comp=Z,1µm,19.0s							
KNK	Knik Glacier	87.89	13	P	P	18 49 31.8	-0.5	
	baz=205							
L20K	Farewell, AK	87.90	10	P	P	18 49 32.3	-0.1	
	baz=200							
P18A	Preston Nutter	87.90	45	IAmb	IAmb	18 49 47.4		
	comp=Z,10nm,1.0s							
PMR	Palmer	87.92	12	P	P	18 49 32.0	-0.3	
	baz=204							
ANMO	Albuquerque	87.95	50	P	P	18 49 32.2	-1.4	
ANMO	Albuquerque	87.95	50	*i* P	P	18 49 32.3	-1.2	
ANMO				pmax	pmax			
	comp=Z,36nm,3.3s							
ANMO	Albuquerque	87.95	50	P	P	18 49 31.1	-2.4	
	baz=239							
ANMO	Albuquerque	87.95	50	LR	LR	19 24 38.0		
	comp=Z,3µm,18.6s,baz=342,slow=33							
TTA	Tatalina	88.01	9	IAmb	IAmb	18 49 35.1		
	comp=Z,32nm,1.3s							
TTA	Tatalina	88.01	9	P	P	18 49 32.7	-0.2	
	baz=198,SNR=9.3							
J17K	VABM Dome	88.06	7	IAmb	IAmb	18 49 35.5		
	comp=Z,23nm,1.3s							
J17K	VABM Dome	88.06	7	P	P	18 49 33.8	+0.7	
	baz=195							
BSUT	Blindstream Ca	88.08	44	IAmb	IAmb	18 49 50.0		
	comp=Z,17nm,1.2s							
SML	Sawmill	88.27	13	IAMs_20	IAMs_20	19 24 28.9		
	comp=Z,1µm,19.0s							
SML	Sawmill	88.27	13	P	P	18 49 34.6	+0.5	
	baz=205							
MESA	MESA	88.27	16	P	P	18 49 33.8	-0.6	
	baz=210							
BMRM	Bremner River	88.32	15	P	P	18 49 34.8	+0.4	
	baz=208							
I17K	Unalakleet	88.36	7	P	P	18 49 35.4	+1.0	
	baz=194							
M23K	Glacier View	88.38	13	P	P	18 49 35.1	+0.5	
	baz=205							
J18K	Innoko River	88.42	8	IAMs_20	IAMs_20	19 24 35.9		
	comp=Z,1µm,20.0s							
J18K	Innoko River	88.42	8	P	P	18 49 35.0	+0.2	
	baz=197,SNR=13							
CUT	Chulitna	88.45	12	IAMs_20	IAMs_20	19 24 56.7		
	comp=Z,2µm,20.0s							
CUT	Chulitna	88.45	12	P	P	18 49 34.8	-0.1	
	baz=203							
CRQM	Cirque	88.48	15	IAMs_20	IAMs_20	19 26 35.8		
	comp=Z,2µm,19.0s							
CRQE	Cirque	88.49	15	P	P	18 49 35.9	+0.6	
	baz=209							
KLU	Klutina	88.49	14	P	P	18 49 35.2	-0.1	
	baz=207							
SCM	Sheep Creek Mo	88.50	13	P	P	18 49 35.5	+0.2	
	baz=206							
PNL	Peninsula	88.51	18	P	P	18 49 35.8	+0.5	
	baz=213							
ANM	Nome	88.61	4	P	P	18 49 35.6	0.0	
	baz=189							
K20K	Telida	88.70	10	IAmb	IAmb	18 49 53.6		
	comp=Z,16nm,1.0s							
K20K	Telida	88.70	10	P	P	18 49 36.0	-0.1	
	baz=200,SNR=8.5							
CMIG	Matias Romero	88.78	71	LR	LR	19 23 09.8		
	comp=Z,618nm,18.1s,baz=244,slow=31							
GRNC	Granite Creek	88.80	16	IAMs_20	IAMs_20	19 23 51.1		
	comp=Z,1µm,20.0s							
PEL	Peldehue	88.81	126	IAMs_20	IAMs_20	19 32 02.1		
	comp=Z,1µm,19.0s							
R32K	Eaglecrest	88.82	20	P	P	18 49 37.4	+0.6	
	baz=217							
N25K	Chitina, Valde	88.89	14	IAmb	IAmb	18 49 39.3		
	comp=Z,33nm,1.4s							
N25K	Chitina, Valde	88.89	14	P	P	18 49 37.8	+0.7	
	baz=208,SNR=6.3							
H16K	Elim	88.94	6	P	P	18 49 37.3	+0.1	
	baz=192							
P29M	Windy Craggy	88.95	18	P	P	18 49 36.2	-1.2	
	baz=214							
NEW	Newport	88.97	35	P	P	18 49 37.2	-0.7	
	baz=231							
NEW	Newport	88.97	35	LR	LR	19 23 47.8		
	comp=Z,1µm,20.2s,baz=221,slow=32							
M24K	Tolsona, Glenn	88.99	13	P	P	18 49 37.8	+0.2	
	baz=207							
MCARA	McCarthy VSAT	89.06	15	P	P	18 49 37.1	-0.7	
	baz=209							
LOGN	Logan Glacier	89.07	16	IAMs_20	IAMs_20	19 24 10.2		
	comp=Z,1µm,20.0s							
CAST	Castle Rocks	89.07	10	IAmb	IAmb	18 49 38.9		
	comp=Z,12nm,0.9s							
CAST				IAMs_20	IAMs_20	19 27 21.1		
	comp=Z,1µm,20.0s							
CAST	Castle Rocks	89.07	10	P	P	18 49 38.1	+0.2	
	baz=201,SNR=10							
J19K	Poorman	89.08	9	IAMs_20	IAMs_20	19 27 33.2		
	comp=Z,1µm,20.0s							
J19K	Poorman	89.08	9	P	P	18 49 38.7	+0.9	
	baz=198,SNR=5.5							
WAT6	Susitna Watana	89.09	13	P	P	18 49 38.5	+0.3	
	baz=205,SNR=6.5							
CTG	Chitna Glacier	89.11	16	P	P	18 49 38.2	-0.1	
	baz=211							
CTGM	Chitina Glacie	89.11	16	IAmb	IAmb	18 49 40.6		
	comp=Z,34nm,1.3s							
CTGM				IAMs_20	IAMs_20	19 24 01.1		
	comp=Z,1µm,20.0s							
AHID	Auburn Hatcher	89.12	42	IAMs_20	IAMs_20	19 25 37.4		
	comp=Z,1µm,18.0s							
G15K	Niukluk	89.14	5	P	P	18 49 37.4	-0.7	
	baz=190							
S22A	4UR Ranch, Cre	89.15	48	P	P	18 49 38.0	-1.2	
	baz=238							
WAT1	Susitna Watana	89.16	12	P	P	18 49 37.9	-0.5	
	baz=204							
PLBC	Pleasant Camp	89.20	19	P	P	18 49 37.9	-0.6	
	baz=215							
O28M	Mount Upton	89.23	17	P	P	18 49 38.1	-1.0	
	baz=212							
T35M	Bob Quinn	89.25	23	P	P	18 49 37.7	-1.2	
	baz=220							
O29M	Mount Kennedy	89.27	17	P	P	18 49 39.1	+0.1	
	baz=213							
HEH	HeiHe	89.36	327	*e*P	P	18 49 37.6	-1.9	
HEH				pmax	pmax			
	comp=Z,28nm,1.2s							
HEH				LR	LR			
	comp=Z,420nm,20.4s							
HEH				LR	LR			
	comp=Z,650nm,21.5s							
HEH				LR	LR			
	comp=Z,1µm,21.5s							
KTH	Kantishna Hill	89.39	11	IAmb	IAmb	18 51 16.6		
	comp=Z,14nm,0.7s							
KTH				IAMs_20	IAMs_20	19 30 32.6		
	comp=Z,2µm,19.0s							
TRF	Thorofare Moun	89.41	11	IAmb	IAmb	18 49 43.9		
	comp=Z,21nm,0.8s							
TRF	Thorofare Moun	89.41	11	P	P	18 49 39.3	-0.3	
	baz=203,SNR=17							
HNS	HongShan	89.43	312	⇓P	P	18 49 41.8	+1.7	
HNS				pmax	pmax			
	comp=Z,22nm,1.8s							
H17K	Granite Mounta	89.46	7	P	P	18 49 39.4	-0.3	
	baz=194							
J20K	Nowinta River	89.46	9	IAmb	IAmb	18 49 41.6		
	comp=Z,34nm,1.4s							
J20K	Nowinta River	89.46	9	P	P	18 49 40.0	+0.3	
	baz=199,SNR=10							
HARP	HAARP	89.47	14	P	P	18 49 39.9	+0.1	
	baz=208							
O20A	White River Ci	89.47	45	P	P	18 49 39.3	-1.3	
	baz=238							
SKAG	Skagway	89.52	19	P	P	18 49 40.5	+0.5	
	baz=216							
DRIO	Del Rio	89.56	57	IAmb	IAmb	18 49 46.3		
	comp=Z,25nm,1.4s							
P30M	Million Dollar	89.58	18	P	P	18 49 41.6	+1.2	
	baz=215							
DHY	Denali Highway	89.61	12	IAmb	IAmb	18 49 42.3		
	comp=Z,38nm,1.6s							
DHY	Denali Highway	89.61	12	P	P	18 49 40.6	0.0	
	baz=206							
RND	Reindeer	89.63	12	IAMs_20	IAMs_20	19 24 59.8		
	comp=Z,2µm,21.0s							
GCSA	Galena City Sc	89.63	8	P	P	18 49 40.9	+0.5	
	baz=197							
S34M	Telegraph Cree	89.65	22	IAmb	IAmb	18 49 51.4		
	comp=Z,26nm,1.1s							
G16K	Koyuk River	89.67	6	P	P	18 49 41.3	+0.7	
	baz=192							
YUK8	Steele Glacier	89.78	16	P	P	18 49 41.4	-0.2	
	baz=212							
F15K	North Star Dit	89.80	5	P	P	18 49 41.7	+0.5	
	baz=190							
BJI	Beijing	89.83	315	P	P	18 49 43.1	+1.2	
BJI				pmax	pmax			
	comp=Z,9.0nm,1.7s							
BJI				pmax	pmax			
	comp=Z,190nm,6.9s							
BJI				LR	LR			
	comp=Z,180nm,15.3s							
BJI				LR	LR			
	comp=Z,240nm,18.8s							
BJI				LR	LR			
	comp=Z,310nm,17.7s							
H18K	Honhosa River	89.84	7	IAMs_20	IAMs_20	19 30 41.4		
	comp=Z,1µm,19.0s							
H18K	Honhosa River	89.84	7	P	P	18 49 41.5	+0.1	
	baz=196							
YUK6	Outpost Mounta	89.87	17	P	P	18 49 42.6	+0.7	
	baz=214							
BPAW	Bear Paw Mtn.	89.89	11	IAMs_20	IAMs_20	19 25 11.7		
	comp=Z,1µm,20.0s							
LOHW	Long Hollow	89.89	41	IAmb	IAmb	18 49 53.3		
	comp=Z,26nm,1.8s							
PAX	Paxson	89.91	13	P	P	18 49 42.3	+0.4	
	baz=207,SNR=6.8							
MCK	McKinley	89.91	12	P	P	18 49 42.3	+0.5	
	baz=204,SNR=8.3							
G17K	Kiwalik Mounta	89.94	6	P	P	18 49 42.1	+0.3	
	baz=194							
M26K	Nabesna, AK	89.95	15	IAmb	IAmb	18 49 56.6		
	comp=Z,19nm,1.0s							
M26K	Nabesna, AK	89.95	15	P	P	18 49 43.2	+1.2	
	baz=209,SNR=8.8							
833A	Chaparral WMA,	90.00	59	P	P	18 49 42.1	-1.0	
	baz=243							
HYT	Haines Junctio	90.00	18	P	P	18 49 42.2	-0.2	
	baz=214							
I20K	Naaghedeneel	90.00	9	P	P	18 49 42.4	+0.2	
	baz=199							
YUK3	Moose Creek	90.02	16	P	P	18 49 43.1	+0.5	
	baz=212,SNR=9.0							
SDCO	Great Sand Dun	90.05	48	IAMs_20	IAMs_20	19 25 52.8		
	comp=Z,2µm,18.0s							
SDCO	Great Sand Dun	90.05	48	P	P	18 49 41.9	-1.5	
	baz=239							
BW06	Boulder Array	90.06	42	P	P	18 49 43.0	-0.3	
	baz=237							
PDAR	Pinedale Array	90.06	42	P	P	18 49 44.2	+0.9	
	comp=Z,1.2nm,0.9s,baz=203,slow=2.7,SNR=7.5							
PDAR				LR	LR	19 25 25.8		
	comp=Z,587nm,19.2s,baz=262,slow=32							
	comp=Z,1.2nm,0.9s							
Q32M	Nakina River	90.08	21	P	P	18 49 42.7	-0.2	
	baz=219							
FLWY	Flagg Ranch	90.10	41	P	P	18 49 43.4	0.0	
FLWY				IAmb	IAmb	18 50 16.5		
	comp=Z,30nm,1.6s							
MSTX	Muleshoe	90.10	53	P	P	18 49 43.3	-0.2	
	baz=241							
YUK4	Talbot Arm	90.13	17	P	P	18 49 44.2	+1.1	
	baz=213							
M27K	Edge Creek, AK	90.17	15	P	P	18 49 43.9	+0.7	
	baz=210,SNR=14							
GYA	Guiyang	90.18	299	⇓P	P	18 49 45.3	+1.2	
GYA				pmax	pmax			
	comp=Z,17nm,1.4s							
GYA				pmax	pmax			
	comp=Z,480nm,11.2s							
GYA				LR	LR			
	comp=Z,510nm,18.0s							
GYA				LR	LR			
	comp=Z,830nm,25.5s							
GYA				LR	LR			
	comp=Z,890nm,21.0s							
SEY	Seymchan	90.23	346	*i* P	P	18 49 41.6	-1.6	
SEY				pmax	pmax			
	comp=Z,33nm,1.5s							
SEY	Seymchan	90.23	346	LR	LR	19 26 41.7		
	comp=Z,432nm,20.1s,baz=154,slow=33							
YHL	Hebgen Lake	90.24	40	IAmb	IAmb	18 50 07.0		
	comp=Z,22nm,1.2s							
MENT	Mentasta	90.26	14	IAmb	IAmb	18 49 53.6		
	comp=Z,18nm,1.0s							
O30N	Mendenhall	90.36	18	IAmb	IAmb	18 49 53.9		
	comp=Z,15nm,1.1s							
O30N	Mendenhall	90.36	18	P	P	18 49 45.1	+1.1	
	baz=216							
BOZ	Bozeman (W)	90.41	39	IAmb	IAmb	18 50 07.0		
	comp=Z,18nm,1.2s							
BOZ	Bozeman (W)	90.41	39	P	P	18 49 45.3	+0.6	
	baz=235							
DLBC	Dease Lake	90.43	22	IAmb	IAmb	18 49 58.3		
	comp=Z,18nm,1.2s							
DLBC	Dease Lake	90.43	22	P	P	18 49 44.8	+0.4	
	baz=221							
DLBC	Dease Lake	90.43	22	P	P	18 49 44.9	+0.4	
	comp=Z,6.4nm,1.0s,baz=239,slow=12,SNR=7.6							
DLBC				LR	LR	19 25 08.1		
	comp=Z,518nm,19.3s,baz=246,slow=32							
	comp=Z,6.4nm,1.0s							
H19K	Roundabout Mou	90.44	8	IAMs_20	IAMs_20	19 25 50.1		
	comp=Z,1µm,21.0s							
H19K	Roundabout Mou	90.44	8	P	P	18 49 44.7	+0.6	
	baz=197							
T25A	Trinidad	90.49	49	IAmb	IAmb	18 50 34.6		
	comp=Z,35nm,1.9s							
T25A	Trinidad	90.49	49	P	P	18 49 44.9	-0.6	
	baz=240							
G18K	Tagagawik	90.53	7	IAMs_20	IAMs_20	19 31 32.5		
	comp=Z,1µm,19.0s							
G18K	Tagagawik	90.53	7	P	P	18 49 44.6	0.0	
	baz=195							
K24K	Donnelly Dome	90.59	13	P	P	18 49 45.9	+0.9	
	baz=207,SNR=10.0							
H20K	Anotleneega Mo	90.61	9	P	P	18 49 45.6	+0.6	
	baz=199							
WHY	Whitehorse	90.62	19	P	P	18 49 46.7	+1.4	
	baz=216							
N30M	Aishikik Lake	90.64	17	P	P	18 49 45.8	+0.5	
	baz=215							
JCT	Junction City	90.67	57	P	P	18 49 44.7	-1.5	
	baz=242							
NEA2	Nenana	90.68	11	IAmb	IAmb	18 50 45.8		
	comp=Z,12nm,0.9s							
RIDG	Independent Ri	90.72	13	P	P	18 49 46.3	+0.7	
	baz=208,SNR=7.3							
WRH	Wood River Hil	90.74	12	IAMs_20	IAMs_20	19 25 36.2		
	comp=Z,1µm,21.0s							
L27K	Beaver Creek,	90.79	15	P	P	18 49 46.8	+0.9	
	baz=210,SNR=5.9							
F17K	Baldwin Pennin	90.80	6	P	P	18 49 46.4	+0.6	
	baz=193							
AC04	Llanos de Chal	90.81	121	P	P	18 49 46.6	-0.4	
R33M	Jennings River	90.84	21	P	P	18 49 46.5	+0.1	
	baz=220							
P33M	Teslin, Yukon	90.89	20	P	P	18 49 46.7	+0.2	
	baz=218							
HDA	Harding Lake	90.90	12	P	P	18 49 46.7	+0.3	
	baz=206,SNR=11							
G19K	Purcell Mounta	90.95	7	P	P	18 49 46.8	+0.2	
	baz=197							
ISCO	Idaho Springs	91.02	46	P	P	18 49 46.8	-1.1	
	baz=239							
N31M	Braeburn, Yuko	91.03	18	P	P	18 49 46.4	-0.7	
	baz=216							
H21K	Melozitna Rive	91.06	9	P	P	18 49 47.7	+0.6	
	baz=201							
M29M	Somme Creek	91.09	16	IAmb	IAmb	18 49 51.2		
	comp=Z,14nm,1.0s							
M29M	Somme Creek	91.09	16	P	P	18 49 47.9	+0.5	
	baz=213,SNR=6.8							
SCRK	Sand Creek	91.11	13	IAmb	IAmb	18 49 53.3		
	comp=Z,10nm,1.0s							
SCRK	Sand Creek	91.11	13	P	P	18 49 47.8	+0.3	
	baz=209,SNR=14							
COLA	College	91.15	12	IAMs_20	IAMs_20	19 26 10.0		
	comp=Z,2µm,20.0s							
MDM	Murphy Dome	91.16	11	IAMs_20	IAMs_20	19 26 00.3		
	comp=Z,2µm,21.0s							
ILAR	Eielson Array	91.24	12	P	P	18 49 47.8	-0.2	
	comp=Z,4.6nm,1.0s,baz=222,slow=4.8,SNR=22							
	comp=Z,4.6nm,1.0s							
AMTX	Amarillo	91.33	52	P	P	18 49 48.1	-1.1	
	baz=242							
N23A	Red Feather La	91.36	45	P	P	18 49 48.7	-0.8	
	baz=239							
E17K	Hotham Inlet	91.37	5	P	P	18 49 48.9	+0.4	
	baz=192							
J25K	Salcha River,	91.39	13	IAmb	IAmb	18 49 50.5		
	comp=Z,17nm,1.2s							
J25K	Salcha River,	91.39	13	P	P	18 49 49.5	+0.8	
	baz=207,SNR=10.0							
POKR	Poker Plat Res	91.45	12	P	P	18 49 48.8	-0.2	
	baz=206							
H22K	Ishtalitna Cre	91.49	10	P	P	18 49 49.7	+0.5	
	baz=202							
RLMT	Red Lodge	91.52	40	P	P	18 49 48.9	-1.1	
	baz=237							
F19K	Shaleruckik Mo	91.53	7	P	P	18 49 49.6	+0.4	
	baz=196							
N32M	Quiet Lake	91.55	19	P	P	18 49 49.7	+0.2	
	baz=218							
K27K	Chicken	91.57	14	IAmb	IAmb	18 49 52.2		
	comp=Z,24nm,1.4s							
K27K	Chicken	91.57	14	P	P	18 49 49.9	+0.4	
	baz=210							
M30M	Minto, Yukon	91.64	17	IAmb	IAmb	18 49 59.2		
	comp=Z,18nm,1.2s							
M30M	Minto, Yukon	91.64	17	P	P	18 49 49.9	0.0	
	baz=215							
BRDY	Brady	91.66	56	IAmb	IAmb	18 49 55.8		
	comp=Z,13nm,1.4s							
J26L	Joseph Creek	91.66	13	P	P	18 49 51.0	+0.9	
	baz=209,SNR=26							
ZEA	Zeya	91.68	330	*e*P	P	18 49 51.0	+0.8	
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
H23K	Yukon River	91.72	10	IAMs_20	IAMs_20	19 29 56.2		
	comp=Z,2µm,20.0s							
H23K	Yukon River	91.72	10	P	P	18 49 50.0	-0.2	
	baz=204							
L29M	L29M	91.73	16	P	P	18 49 50.8	+0.4	
	baz=214,SNR=11							
G21K	Allakaket	91.76	9	P	P	18 49 50.6	+0.3	
	baz=200							
ABTX	Abilene, Hawle	91.78	55	P	P	18 49 50.8	-0.4	
	baz=243							
E18K	Tukpahlearik C	91.81	6	P	P	18 49 50.9	+0.4	
	baz=194							
K22A	Casper	91.89	44	P	P	18 49 50.4	-1.3	
	baz=239							
XAN	Xi'an	91.90	306	⇓P	P	18 49 53.5	+1.7	
XAN				pP	pwP	18 50 02.1	+1.0	
XAN				pmax	pmax			
	comp=Z,28nm,1.1s							
XLT	XiLinHaoTe	91.93	318	*e*P	P	18 49 52.6	+0.9	
XLT				pP	pP	18 49 55.8	-1.3	
XLT				sP	sP	18 50 00.5	+1.4	
XLT				S	S	19 00 53.8	+1.5	
XLT				pmax	pmax			
	comp=Z,12nm,0.9s							
XLT				pmax	pmax			
	comp=Z,230nm,5.0s							
XLT				LR	LR			
	comp=Z,530nm,20.8s							
XLT				LR	LR			
	comp=Z,920nm,20.4s							
F20K	Avaraart Lake	91.98	8	IAMs_20	IAMs_20	19 31 55.9		
	comp=Z,1µm,19.0s							
F20K	Avaraart Lake	91.98	8	P	P	18 49 51.6	+0.3	
	baz=198							
M31M	Drury Creek, Y	92.00	18	P	P	18 49 51.5	0.0	
	baz=217							
H24K	Noodor Dome	92.02	11	P	P	18 49 51.6	0.0	
	baz=205							
PRP	Porcupine Dome	92.17	12	IAmb	IAmb	18 51 28.8		
	comp=Z,10nm,0.9s							
PRP	Porcupine Dome	92.17	12	P	P	18 49 52.8	+0.4	
	baz=207,SNR=7.3							
E19K	Redstone River	92.19	7	IAmb	IAmb	18 49 58.0		
	comp=Z,17nm,0.9s							
E19K	Redstone River	92.19	7	P	P	18 49 52.9	+0.6	
	baz=197							
DAWY	Dawson	92.22	15	IAmb	IAmb	18 50 02.0		
	comp=Z,18nm,1.2s							
DAWY	Dawson	92.22	15	P	P	18 49 53.5	+0.9	
	baz=213,SNR=5.6							
WAPA	Wapiti River	92.36	29	P	P	18 49 50.2	-3.2	
F21K	Alatna River	92.43	8	P	P	18 49 54.3	+0.9	
	baz=200							
G23K	Bananza Creek	92.46	10	P	P	18 49 53.8	+0.2	
	baz=203							
K29M	Barlow Dome	92.50	16	IAmb	IAmb	18 50 17.9		
	comp=Z,19nm,1.0s							
K29M	Barlow Dome	92.50	16	P	P	18 49 54.8	+0.9	
	baz=214,SNR=9.3							
435B	Jarrell	92.52	57	P	P	18 49 53.8	-0.8	
	baz=244							
CRAI	Chiangrai	92.73	291	P	P	18 49 56.2	+0.3	
CRAI				IAmb	IAmb	18 49 58.7		
	comp=Z,16nm,1.1s							
KMI	Kunming	92.79	296	⇑P	P	18 49 57.8	+1.5	
KMI				pmax	pmax			
	comp=Z,25nm,2.5s							
KMI				LR	LR			
	comp=Z,480nm,16.3s							
KMI				LR	LR			
	comp=Z,550nm,18.8s							
KMI				LR	LR			
	comp=Z,700nm,20.3s							
EGMT	Eagleton	92.83	38	IAMs_20	IAMs_20	19 26 31.2		
	comp=Z,1µm,20.0s							
F22K	John River	92.88	9	P	P	18 49 56.3	+0.8	
	baz=201							
COLD	Coldfoot	92.91	10	P	P	18 49 56.6	+1.0	
	baz=203							
C18K	Utukok River	92.96	5	P	P	18 49 56.0	+0.1	
	baz=193							
E20K

baz=220
CMAR Chiang Mai Arr 93.24 289 P P 18 49 59.0 +0.7
CMAR Chiang Mai Arr 93.24 289 P P 18 49 59.2 +0.9
comp=Z,17nm,0.9s,baz=137,slow=3.1,SNR=63
CMAR LR LR 19 31 06.0
comp=Z,129nm,20.1s,baz=125,slow=35
comp=Z,17nm,0.9s
I28M Miner Creek 93.27 14 IAmb IAmb 18 50 35.2
comp=Z,12nm,1.2s
I28M Miner Creek 93.27 14 P P 18 49 57.7 +0.3
baz=212
HHC Hu-ho-hao-te 93.27 313 *e*P **P 18 49 58.3 +0.2**
HHC pmax pmax
comp=Z,78nm,0.5s
HHC pmax pmax
comp=Z,490nm,5.1s
TGTN Hyland Airport 93.33 21 P P 18 49 58.5 +0.7
baz=222
WMOK Wichita Mounta 93.38 53 P P 18 49 58.1 -0.5
baz=243
J30M Hart River 93.40 16 P P 18 49 58.6 +0.5
baz=215
D20K Etivluk River 93.47 7 P P 18 49 58.7 +0.5
baz=197
E22K Anaktuvuk Pass 93.52 9 IAms_20 IAms_20 19 27 47.5
comp=Z,2μm,20.0s
E22K Anaktuvuk Pass 93.52 9 P P 18 49 58.7 +0.3
baz=202
E21K Killik River 93.52 8 P P 18 49 59.6 +1.1
baz=200
F24K Squaw Lake 93.55 10 P P 18 49 59.4 +0.8
baz=205
I29M Ogilvie Camp, 93.57 15 P P 18 49 59.2 +0.5
baz=214
H27K Steamboat Moun 93.59 13 P P 18 49 59.9 +1.1
baz=211
B18K Kokolik River 93.61 5 P P 18 49 59.1 +0.3
baz=192
E23K Chandalar 93.77 10 P P 18 50 00.7 +1.0
baz=204
ATAH Atahualpa 93.78 99 LR LR 19 24 44.4
comp=Z,981nm,18.8s,baz=237,slow=31
I30M Mount Dempster 93.92 16 IAmb IAmb 18 50 12.4
comp=Z,13nm,1.1s
I30M Mount Dempster 93.92 16 P P 18 50 00.3 -0.1
baz=215
E24K Your Creek 93.96 10 IAms_20 IAms_20 19 27 42.1
comp=Z,2μm,20.0s
F25K Christian Rive 94.00 11 P P 18 50 01.4 +0.7
baz=207
G27K Doyon Strip 94.06 13 IAms_20 IAms_20 19 28 10.1
comp=Z,1μm,20.0s
G27K Doyon Strip 94.06 13 P P 18 50 00.9 -0.1
baz=211
C21K Knifeblade Rid 94.10 7 P P 18 50 01.2 +0.1
baz=199
PZH PanZhiHua 94.18 297 P P 18 50 04.5 +1.9
PZH S **S 19 01 19.5 +6.4**
PZH pmax pmax
comp=Z,10.0nm,1.6s
PZH pmax pmax
comp=Z,210nm,6.7s
PZH LR LR
comp=Z,290nm,16.7s
PZH LR LR
comp=Z,440nm,18.1s
PZH LR LR
comp=Z,480nm,18.1s
BTO Baotou 94.19 313 *e*P **P 18 50 04.3 +2.0**
BTO pP **sP 18 50 09.0 -0.6**
BTO sP **pwP 18 50 11.3 -0.2**
BTO S **S 19 01 13.8 +1.3**
BTO sS **sS 19 01 25.0 +3.5**
BTO SS **SS 19 07 39.3 +5.1**
BTO pmax pmax
comp=Z,24nm,1.3s
BTO pmax pmax
comp=Z,650nm,8.6s
BTO LR LR
comp=Z,840nm,16.9s
BTO LR LR
comp=Z,620nm,19.9s
BTO LR LR
comp=Z,2μm,19.9s
RSSD Black Hills 94.20 43 IAms_20 IAms_20 19 27 24.1
comp=Z,1μm,19.0s
F26K Sheenjek River 94.36 12 P P 18 50 03.1 +0.8
baz=208
E25K Arctic Village 94.48 11 IAms_20 IAms_20 19 27 54.0
comp=Z,2μm,20.0s
B21K Ikpikpuk River 94.56 7 IAms_20 IAms_20 19 33 54.0
comp=Z,1μm,19.0s
EPYK Eagle Plains 94.77 15 P P 18 50 04.8 +0.5
baz=215
JTS Las Juntas de 94.80 81 LR LR 19 24 45.7
comp=Z,234nm,21.7s,baz=234,slow=30
G29M Pine Creek 94.92 14 P P 18 50 05.4 +0.5
baz=214
LVC Limon Verde 95.16 117 LR LR 19 26 00.2
comp=Z,800nm,18.7s,baz=232,slow=31
E27K Coleen River 95.26 12 P P 18 50 06.6 +0.1
baz=211
C23K Itkillik River 95.26 8 P P 18 50 07.4 +1.0
baz=203
OK033 Mehan 95.31 53 IAms_20 IAms_20 19 28 40.4
comp=Z,2μm,19.0s
B22K Teshekpuk Lake 95.38 7 P P 18 50 08.2 +1.4
baz=200
G30M tAoh Zraii Nji 95.39 15 P P 18 50 07.4 +0.3
baz=216
OK051 E0350 and S346 95.58 53 IAms_20 IAms_20 19 28 21.6
comp=Z,2μm,21.0s
TEIG Tepich 95.77 71 LR LR 19 29 20.7
comp=Z,2μm,18.3s,baz=9.0,slow=33
G31M Satah River 95.80 15 P P 18 50 09.1 +0.3
baz=217
A22K Sinclair Lake 95.83 7 P P 18 50 09.4 +0.5
baz=199
YAK Yakutsk 96.11 337 *e*P **P 18 50 10.2 -0.2**
YAK pmax pmax
comp=Z,10.0nm,1.2s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.1s
TNCH TengChong 96.24 294 P P 18 50 12.3 +0.2
TNCH pmax pmax
comp=E,16nm,1.9s
TNCH pmax pmax
comp=E,280nm,4.2s
F31M Tsiigehtchic 96.34 15 P P 18 50 11.0 -0.2
baz=218
LZH Lanzhou 96.54 306 *e*P P 18 50 06.1 -7.1
LZH sP PcP 18 50 15.3 +2.0
LZH pmax pmax
comp=Z,12nm,1.5s
LZH LR LR
comp=N,340nm,14.4s
LZH LR LR
comp=E,680nm,15.5s
LZH LR LR
comp=Z,650nm,14.1s
INK Inuvik 97.07 15 P P 18 50 14.6 0.0
baz=218
YKA Yellowknife Ar 98.78 24 LR LR 19 29 28.2
comp=Z,212nm,19.1s,baz=260,slow=32
ULN Ulaanbaatar 99.35 318 *i* P **Pdif 18 50 22.5 -3.1**
ULN pmax pmax
comp=Z,13nm,3.0s
SONM Songino Array 99.74 318 P Pdif 18 50 27.8 +0.5
comp=Z,0.6nm,0.6s,baz=98,slow=2.9,SNR=2.5
comp=Z,0.6nm,0.6s
GTA Gaotai 100.79 308 *e*P **Pdif 18 50 32.6 +0.5**
GTA sP pwP 18 50 42.0 +0.5
GTA pmax pmax
comp=Z,5.0nm,2.0s
GTA LR LR
comp=Z,370nm,18.3s
GTA LR LR
comp=Z,450nm,20.3s
GTA LR LR
comp=Z,420nm,24.3s
JFWS Jewell Farm 102.77 49 IAms_20 IAms_20 19 33 19.5
comp=Z,1μm,20.0s
WCI Wyandotte Cave 103.99 54 IAms_20 IAms_20 19 33 24.5
comp=Z,1μm,19.0s
WMQ Urumqi 110.78 310 *e*PKP **PKiKP 18 55 16.3 +0.1**
WMQ LR LR
comp=Z,670nm,21.9s
WMQ LR LR
comp=Z,620nm,21.9s
DGZ Jazzator, Alta 112.22 316 *i* PKIKP **PKiKP 18 55 16.8 -2.1**
ZALV Zalesovo Beam 114.50 320 PKP PKPdf 18 55 21.1 -1.8
comp=Z,1.5nm,0.7s,baz=116,slow=3.4,SNR=5.9
MKAR Makanchi Array 115.10 312 PKP **PKPdf 18 55 23.2 -1.1**
comp=Z,1.3nm,0.8s,baz=55,slow=1.5,SNR=10
MKAR PKKPbc **PKKPab 19 06 03.2 -1.1**
comp=Z,0.4nm,0.8s,baz=285,slow=3.9,SNR=3.0
MAKZ Makanchi 115.31 312 PKPdf 18 55 24.0 -0.7
MAKZ Makanchi 115.31 312 *i* PKIKP **PKPdf 18 55 24.0 -0.7**
KURK Kurchatov 117.96 316 PKPdf 18 55 28.1 -1.5
KURK Kurchatov 117.96 316 PKIKP **PKPdf 18 55 28.8 -0.8**
KURBB Kurchatov Arra 118.01 316 PKP **PKPdf 18 55 28.8 -1.0**
comp=Z,2.3nm,0.8s,baz=99,slow=2.0,SNR=22
KSH Kashi 118.58 303 PKP **PKiKP 18 55 33.8 +2.4**
BVAR Borovoye Array 123.08 319 PKP **PKPdf 18 55 38.2 -1.2**
comp=Z,4.1nm,0.8s,baz=82,slow=3.3,SNR=15
BRVK Borovoye 123.14 319 PKPdf 18 55 39.6 +0.1
BRVK Borovoye 123.14 319 PKIKP **PKPdf 18 55 39.7 +0.1**
KBL Kabul 123.37 297 PKPdf 18 55 40.6 -0.3
KBL Kabul 123.37 297 PKIKP **PKPdf 18 55 40.6 -0.3**
BOSA Boshof 123.95 202 PKP **PiKiKP 18 55 43.2 +0.8**
comp=Z,6.0nm,0.9s,baz=148,slow=6.7,SNR=4.9
SVE Sverdlovsk 128.03 324 *e*PKIKP **PKiKP 18 55 49.4 0.0**
ARU Arti 129.24 324 PKPdf **PKiKP 18 55 51.8 0.0**
ARU Arti 129.24 324 *i* PKIKP **PKPdf 18 55 49.7 -1.4**
ARU 18 57 58.8
ARU SS SS 19 15 13.2 -6.4
ABKAR Akbulak array 130.04 315 PKPdf 18 55 52.4 -0.5
GEYT Alibeck 132.39 300 PKP **PiKiKP 18 55 58.7 -0.1**
comp=Z,5.3nm,0.8s,baz=66,slow=3.7,SNR=8.3
ARCES ARCESS Array B 132.70 350 PKP **PiKiKP 18 55 59.4 +1.0**
comp=Z,5.5nm,1.0s,baz=31,slow=3.7,SNR=7.4
KIRV Kirov 133.01 329 *i* PKIKP **PKPdf 18 55 57.1 -1.0**
KLMR Klimovskoe 135.89 336 *e*PKPdf **PKPdf 18 56 02.5 -1.0**
KLMR AMP 18 56 19.7
comp=Z,37nm,2.1s
KLMR Klimovskoe 135.89 336 *e*PKIKP **PKPdf 18 56 02.5 -1.0**
KLMR pmax pmax
comp=Z,37nm,2.1s
KMBO Kilima Mbogo 139.41 237 PKP **PiKiKP 18 56 13.7 -0.4**
comp=Z,1.3nm,0.6s,baz=112,slow=2.3,SNR=5.7
FINES FINESS Array B 139.68 344 PKP **PiKiKP 18 56 12.7 -0.1**
comp=Z,6.6nm,0.9s,baz=24,slow=1.7,SNR=4.7
MAK Makhachkala 139.79 309 *e*P **Pdif 18 53 19.5 -5.8**
MAK *e* 18 59 01.6
MAK *e* 19 03 12.4
MAK *e*SS SS 19 17 25.0 -2.4
MAK pmax pmax
comp=Z,263nm,1.4s
MOS Moscow 139.94 331 *e*PKIKP **PKiKP 18 56 18.3 +4.8**
MOS MLR MLR
comp=Z,500nm,18.0s
VRH Novokhopyorsk 140.44 323 *e*PKHKP PKPpre 18 55 59.5
VRH pmax pmax
comp=Z,5.0nm,0.7s
OBN Obninsk 140.80 331 *i* *e*PKIKP **PKPdf 18 56 10.2 -2.5**
OBN *e* 18 59 08.6
OBN *e*SS SS 19 17 35.4 -2.5
OBN pmax pmax
comp=Z,61nm,2.9s
VORR Voronezh 141.55 325 *e*PKIKP **PKPdf 18 56 14.6 +0.5**
VORR pmax pmax
comp=Z,43nm,0.4s
VSR Storozhevoye 141.82 324 *e*PKIKP **PKPdf 18 56 10.5 -4.1**
VSR pmax pmax
comp=Z,10.0nm,1.6s
NB2 NORSAR Subarra142.65 354 PKPdf **PKPdf 18 56 13.9 -2.0**
comp=Z,1.1nm,0.8s,baz=18,slow=1.7
NOA NORSAR Array B142.65 354 PKhKP PKPpre 18 56 13.1
comp=Z,1.2nm,0.8s,baz=13,slow=2.8,SNR=4.7
KIV Kislovodsk 142.86 312 *i* PKIKP **PKPdf 18 56 18.1 +1.2**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,663nm,24.0s
HFS Hagfors 143.27 352 PKhKP PKPpre 18 56 13.2
comp=Z,2.5nm,0.6s,baz=27,slow=3.5,SNR=4.0
MBAR Mbarara 144.56 230 PKPbc 18 56 19.9 +0.4
MBAR Mbarara 144.56 230 PKIKP PKPbc 18 56 19.9 +0.4
STRU Stroemstad 144.62 354 *e*P **PKPdf 18 56 19.4 +0.1**
SIRT Sirnak 144.78 302 PKPab 18 56 18.6 -0.8
MNK Minsk 144.79 336 *i* PKP **PKPab 18 56 18.9 +0.1**
MNK *i* PKP **PKPab 18 56 18.9 +0.1**
MNK *i* PKP **PKPab 18 56 18.9 +0.1**
comp=Z,33nm,0.9s,baz=220
MNK *i* PP **PP 18 59 36.3 -0.4**
MNK *i* PPP PPP 19 02 48.1
MNK *i* SKS **SKSdf 19 03 28.2 +0.4**
MNK *i* SS **SS 19 18 25.8 +2.1**
MNK *i* SSS SSS 19 23 51.2
MNK *i* LR LR 19 58 37.6
MNK *i* LRM MLR 20 01 24.1
comp=Z,537nm,17.1s
MNK *i* LRM MLR 20 01 56.9
comp=N,648nm,19.7s
MNK *i* LRM MLR 20 02 10.7
comp=E,259nm,19.0s
MNK Minsk 144.79 336 *i* PKIKP **PKPab 18 56 18.8 +0.1**
MNK *i* 18 59 36.3
MNK *i* PPP PPP 19 02 48.1
MNK *i* 19 03 28.2
MNK *i* SS SS 19 18 25.8 +2.0
MNK *i* SSS SSS 19 23 51.1
MNK pmax pmax
comp=Z,33nm,0.9s
MNK MLR MLR
comp=Z,537nm,17.0s
MNK MLR MLR
comp=N,648nm,20.0s
MNK MLR MLR
comp=E,259nm,19.0s
NACGM Naroch 144.88 337 *e*PKP **PKPdf 18 56 19.7 -0.2**
SOC Sochi 145.00 313 *e*PKIKP **PKPbc 18 56 17.5 -2.3**
SOC *e* 18 59 35.2
SOC *e*SS SS 19 18 25.0 -2.6
SOC *e*SSS SSS 19 23 50.9
TJOU Tjoern 145.56 353 *e*P **PKPab 18 56 21.8 +0.4**
HOMB Homborsund 145.60 356 *e*P **PKPab 18 56 22.6 +1.1**
BORU Boraas 145.82 352 *e*P **PKPbc 18 56 22.2 +0.2**
ANN Anapa 145.99 316 *e*PKHKP PKPpre 18 56 17.8
ANN *i* 18 56 23.9
ANN *e* 19 03 27.6
ANN pmax pmax
comp=Z,199nm,3.0s
BLEU Blekinge 146.62 348 *e*P **PKPab 18 56 25.6 +0.2**
DEL Delary 146.79 350 *e*P **PKPbc 18 56 25.6 +0.7**
SUW Suwalki 146.82 340 *e*PKP **PKPab 18 56 26.0 -0.3**
AKASG Malin Array Be 147.06 330 PKPbc **PKPdf 18 56 24.9 +1.1**
comp=Z,12nm,0.6s,baz=39,slow=3.7,SNR=49
AKBB Malin Array Si 147.06 330 PKPbc 18 56 25.5 -0.3
AKBB Malin Array Si 147.06 330 PKP2 **PKPbc 18 56 25.5 -0.3**
MUD Monsted U'grnd 147.36 355 *i* P **PKPbc 18 56 26.0 -0.4**
COP Copenhagen 147.76 351 *e*P **PKiKP 18 56 29.8 +0.2**
BSD Bornholm Skovb 147.91 348 *e*P **PKiKP 18 56 30.4 +0.5**
EKA Eskdalemuir Ar 148.20 8 PKPbc **PKPdf 18 56 27.2 +1.7**
comp=Z,4.5nm,0.5s,baz=350,slow=2.2,SNR=5.5
SSRD Sdr. Stenderup 148.28 354 *e*P **PKPab 18 56 33.4 +1.4**
SORM Soroca 149.26 328 ↓P **PKPbc 18 56 31.8 +0.1**
SORM Soroca 149.26 328 ↓PKP2 **PKPbc 18 56 31.8 +0.1**
LVV L'vov 149.94 334 *e*PKP2 **PKiKP 18 56 34.4 +0.1**
BRTR Keskin Array B 150.70 309 PKPdf 18 56 28.7 -1.5
BRTR Keskin Array B 150.70 309 PKPbc **PKiKP 18 56 36.4 -0.1**
comp=Z,9.4nm,0.9s,baz=129,slow=2.0,SNR=19
BURAR Bucovina Array 151.11 330 ↑↑P **PKiKP 18 56 38.1 +1.1**
OJC Ojcow 151.15 339 *e*PKP **PKPbc 18 56 34.3 -2.0**
TESR Tescani 151.21 327 ↑↑P **PKPbc 18 56 35.8 -0.7**
ANTO Ankara 151.23 310 IAms_20 IAms_20 19 47 40.0
comp=Z,739nm,19.0s
MMAI Mount Meron Ar 151.29 295 PKPbc **PKiKP 18 56 38.1 +0.4**
comp=Z,31nm,0.9s,baz=64,slow=3.8,SNR=34
CFR Carcaliu 151.32 323 ↓P **PKPbc 18 56 37.0 +0.2**
CFR Carcaliu 151.32 323 ↓PKIKP **PKPbc 18 56 37.0 +0.2**
KOLS Kolonicke sedl 151.34 335 *e*PKIKP **PKiKP 18 56 38.7 +1.5**
KOLS Kolonicke sedl 151.34 335 *e*PKP **PKiKP 18 56 38.7 +1.5**
TPGR Topolog 151.37 323 ↓P **PKiKP 18 56 38.4 +0.9**
KSP Ksiaz 151.61 344 *e*PKP **PKiKP 18 56 38.8 +1.0**
VRI Vrincioaia 151.62 326 ↓P **PKiKP 18 56 38.9 +1.0**
VRI Vrincioaia 151.62 326 ↓PKIKP **PKiKP 18 56 38.9 +1.0**
NIE Niedzica 151.66 338 *e*PKP **PKiKP 18 56 40.0 +2.1**
PLOR Plostina 151.67 326 ↓P **PKiKP 18 56 38.9 +0.8**
PLOR Plostina 151.67 326 ↓PKIKP **PKiKP 18 56 38.9 +0.8**
HARR Harsova 151.75 323 ↓P **PKiKP 18 56 38.8 +0.6**
HARR Harsova 151.75 323 ↓PKIKP **PKiKP 18 56 38.8 +0.6**
TRPA Tarpa 151.88 334 ↓P **PKPab 18 56 43.4 -3.6**
OSTC Ostas 151.89 344 *e*PKIKP **PKiKP 18 56 39.0 +0.7**
OSTC Ostas 151.89 344 ↑↑*e*PKP **PKiKP 18 56 39.0 +0.7**
CLL Collm 151.89 348 *e*PKIKP **PKPdf 18 56 32.0 +0.6**
CLL *i* 18 56 38.8
CLL *i* 18 56 46.0
CLL pmax pmax
comp=Z,29nm,1.0s
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 151.89 348 *e*PKPdf **PKPdf 18 56 32.0 +0.6**
CLL *i* PKPbc **PKiKP 18 56 38.8 +0.5**
comp=Z,29nm,1.0s
CLL *i* x x 18 56 44.4
CLL *i* PKPab **sPKPbc 18 56 46.0 +0.6**
comp=Z,15nm,1.0s
CLL *i* pPKPab **PKPab 18 56 48.3 +1.3**
CLL *e*PP **PP 19 00 20.0 +2.1**
CLL *e*x x 19 00 31.0
CLL AMS AMS 20 15 00.0
comp=N,400nm,20.3s
CLL AMS AMS 20 15 00.0
comp=E,300nm,18.8s
CLL AMS AMS 20 15 00.0
comp=Z,600nm,18.8s
COVR Voineasa-Covas 151.90 326 ↓P **PKiKP 18 56 39.2 +0.7**
CHVC Chvalec 151.90 344 *e*PKIKP **PKPbc 18 56 38.3 +0.3**
CHVC Chvalec 151.90 344 ↑↑*e*PKP **PKPbc 18 56 38.3 +0.3**
MANR Mangalia 151.91 321 ↑↑P **PKiKP 18 56 39.1 +0.6**
OZUR 151.93 327 ↑↑P **PKiKP 18 56 41.3 +2.7**
UPC Upice 151.99 344 ↑↑*e*PKP **PKiKP 18 56 39.9 +1.4**
UPC *e*PKPAB **pPKPab 18 56 54.0 +1.1**
DPC Dobruska-Polom 152.05 343 ↑↑*e*PKP **PKiKP 18 56 40.2 +1.5**
DPC *e*PKPAB **pPKPab 18 56 53.9 +0.7**
MDUB Mudurnu 152.06 313 PKPbc 18 56 38.3 +0.5
BRG Berggiesshubel 152.12 347 *i* PKP **PKiKP 18 56 39.4 +0.6**
BRG Amp 18 56 41.6
comp=Z,30nm,1.1s
BRG Berggiesshubel 152.12 347 *i* PKIKP **PKiKP 18 56 39.3 +0.6**
BRG pmax pmax
comp=Z,30nm,1.1s
LANS Liptovska Anna 152.18 338 *e*PKIKP **PKiKP 18 56 41.8 +2.8**
LANS Liptovska Anna 152.18 338 *e*PKP **PKiKP 18 56 41.8 +2.8**
DOPR Dopca 152.22 327 ↑↑P **PKiKP 18 56 40.7 +1.6**
MORC Moravsky Berou 152.23 341 ↑↑P **PKiKP 18 56 40.8 +1.7**
MORC Moravsky Berou 152.23 341 *e*PKP **PKiKP 18 56 39.4 +0.3**
MORC Moravsky Berou 152.23 341 ↑↑PKIKP **PKiKP 18 56 40.8 +1.7**
MLR Muntele Rosu 152.27 326 ↓P **PKiKP 18 56 40.5 +1.1**
MLR Muntele Rosu 152.27 326 PKPbc 18 56 38.2 -0.9
MLR Muntele Rosu 152.27 326 ↓PKIKP **PKiKP 18 56 40.5 +1.1**
PVCC Panska Ves 152.31 346 *e*PKIKP **PKiKP 18 56 40.3 +1.1**
PVCC Panska Ves 152.31 346 ↑↑*e*PKP **PKiKP 18 56 40.3 +1.1**
HSKC Hora Svate Kat 152.48 347 ↑↑*e*PKP **PKPbc 18 56 39.2 -0.1**
HSKC *e*PKPAB **PKPab 18 56 48.9 -0.6**
MAUC Maruska 152.51 341 ↑↑*e*PKP **PKiKP 18 56 41.0 +1.3**
MARR Marisel-Cluj 152.76 331 ↓P **PKiKP 18 56 41.2 +0.9**
VOIR 152.76 327 ↓P **PKiKP 18 56 41.4 +1.0**
VOIR 152.76 327 ↓PKIKP **PKiKP 18 56 41.4 +1.0**
PRU Pruhonice 152.82 345 *e*PKIKP **PKiKP 18 56 41.0 +0.8**
PRU Pruhonice 152.82 345 ↑↑*e*PKP **PKiKP 18 56 41.0 +0.8**
PRU *e*PKPAB **PKPab 18 56 53.8 +2.8**
GOPC GO Pecny, Ondr 152.83 345 *e*PKIKP **PKiKP 18 56 41.6 +1.3**
GOPC GO Pecny, Ondr 152.83 345 ↑↑*e*PKP **PKiKP 18 56 41.6 +1.3**
VRAC Vranov 152.92 342 *e*PKP **PKPbc 18 56 39.6 -0.7**
VRAC *e* 18 56 50.4
JAVC Velka Javorina 153.01 340 *e*PKP **PKiKP 18 56 43.1 +2.3**
ARR Arges 153.02 327 ↓P **PKiKP 18 56 41.8 +0.9**
NKC Novy Kostel 153.02 348 *e*PKIKP **PKPbc 18 56 40.5 0.0**
NKC *e* 18 56 51.9
NKC Novy Kostel 153.02 348 ↑↑*e*PKP **PKPbc 18 56 40.5 0.0**
NKC *e*PKPAB **PKPab 18 56 51.9 +0.1**
KRUC Moravsky 153.20 342 *e*PKP **PKiKP 18 56 42.2 +1.1**
LOT Lotru 153.38 328 ↑↑P **PKiKP 18 56 43.5 +1.8**
ZVC Zvikov 153.42 345 ↑↑*e*PKP **PKiKP 18 56 42.9 +1.4**
ZVC *e*PKPAB **PKPab 18 56 54.3 +0.8**
MODS Modra-Piesok 153.56 340 *e*PKP **PKiKP 18 56 44.7 +2.8**
MODS *e* 18 56 55.9
SIRR Siria 153.72 332 ↑↑P **PKPbc 18 56 41.8 -0.4**
KHC Kasperske Hory 153.84 346 PKPbc 18 56 42.1 -0.3
KHC Kasperske Hory 153.84 346 *e*PKIKP **PKPdf 18 56 34.4 -0.1**
KHC Kasperske Hory 153.84 346 *e*PKPDF **PKPdf 18 56 34.4 -0.1**
KHC ↑↑*e*PKP **PKiKP 18 56 43.6 +1.2**
KHC *e*PKPAB **PKPab 18 56 56.4 +1.0**
GZR Gura Zlata 153.89 329 ↑↑P **PKiKP 18 56 48.7 +6.0**
SURR Surduc 153.91 331 ↓P **PKPbc 18 56 42.5 0.0**
GERES GERESS Array B 154.09 346 PKP PKPdf 18 56 36.0 +1.1
comp=Z,0.6nm,0.7s,baz=7.6,slow=3.0,SNR=3.7
GERES PKPbc **PKiKP 18 56 43.5 +0.5**
comp=Z,1.5nm,0.8s,baz=11,slow=2.7,SNR=7.8
CONA Conrad Observa 154.38 342 *e*PKiKP **PKiKP 18 56 45.1 +1.4**
comp=Z,9.9nm,1.2s
HERR Herculane 154.44 329 ↑↑P **PKiKP 18 56 44.8 +1.1**
RONA Rosalia, Austr 154.46 341 *e*PKiKP **PKiKP 18 56 45.2 +1.4**
comp=Z,8.3nm,1.3s
MOA Molln 154.88 344 *e*PKiKP **PKiKP 18 56 45.2 +0.6**
comp=Z,7.5nm,1.5s
MORH Mrgy, Hungar 154.97 336 ↑↑P **PKPdf 18 56 37.1 +1.0**
ARSA Arzberg 155.09 342 *i* PKiKP PKPdf 18 56 45.9 +10
comp=Z,2.4nm,1.0s
BIOA Bad Ischl, Aus 155.18 345 *i* PKP PKPdf 18 56 45.5 +9.2
comp=Z,8.0nm,1.5s
LESA Schwarzleotal 155.66 346 *e*PKP **PKPdf 18 56 37.4 +0.4**
comp=Z,7.5nm,1.2s
SOKA Soboth 155.75 342 *e*PKP **PKPdf 18 56 37.5 +0.3**
comp=Z,3.7nm,1.3s
KBA Koelnbreinsper 155.83 345 *e*PKP **PKPdf 18 56 37.6 +0.2**
comp=Z,4.1nm,1.1s
WATA Walderalm 155.97 348 *e*PKP **PKPdf 18 56 37.0 -0.6**
comp=Z,5.6nm,0.7s
WTTA Wattenberg 156.03 348 *e*PKP **PKPdf 18 56 36.7 -0.9**
comp=Z,6.2nm,1.2s
ABTA Abfaltersbach 156.33 346 *e*PKP **PKPdf 18 56 37.7 -0.2**
comp=Z,5.8nm,1.2s
FETA Feichten 156.43 349 *e*PKP **PKPdf 18 56 38.1 -0.1**
comp=Z,10nm,1.6s
STIP Stip 156.87 324 *i* P **PKPab 18 57 08.6 0.0**
VAY Valandovo 156.92 323 *i* P **PKPab 18 57 08.3 -0.5**
OHR Ohrid 158.02 325 *i* P **PKPab 18 57 13.5 0.0**
ESDC Sonseca Array 162.86 22 PKPdf 18 56 44.1 -1.6
ESDC Sonseca Array 162.86 22 PKP **PKPdf 18 56 46.3 +0.7**
comp=Z,1.0nm,0.9s,baz=323,slow=3.8,SNR=5.2
TOA0 Torodi Ar. Sit 168.96 167 PKPab 18 58 01.7 -0.2
TORD Torodi Ar. Bea 168.96 167 PKPdf 18 56 49.3 -1.9
TORD PKPab **18 58 02.7 +0.8**
TORD Torodi Ar. Bea 168.96 167 PKP **PKPdf 18 56 50.8 -0.3**
comp=Z,3.0nm,1.0s,baz=3.4,slow=2.0,SNR=11
TORD PKPab **PKPab 18 58 02.9 +1.0**
comp=Z,4.5nm,0.8s,baz=161,slow=2.5,SNR=7.3

IDC ***16*** *18:43:00.7±0.7,23°.75S×176°.10W,h0km,mb4.2/11, mbtmp4.2/13,MLS.7/2,Error ellipse: s-maj=25.7km s-min=19.9km az=124.0*
NEIC ***16*** *18:43:05.7±2.3,24°.1S±0°.1×176°.6W±0°.1,h10km±2km, mb4.7/19,Error ellipse: s-maj=24.3km s-min=19.3km az=39.0*
ISC 16 18:43:02.4±0.6,**23°.77S**±0°.10×**176°.1W**±0°.1,**h10**km,**n52,**
σ1°.**44/42,mb4.6/21,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.44**	**52**		Pn	18 44 44.3	-6.8
MSVF	**Nonsavu**	**8.10**	**317**		**Pn**	**18 45 01.5**	**+1.2**
MSVF	**Nonsavu**	**8.10**	**317**	Pn	Pn	18 45 09.5	+9.2
1.4nm,0.3s,baz=134,slow=4.1,SNR=8.2							
RAR	**Rarotonga**	**15.34**	**84**	Pn	Pn	18 46 28.6	-11
2.4nm,0.3s,baz=212,slow=2.8,SNR=3.9							
URZ	**Urewera**	**15.55**	**200**	Pn	**Pn**	**18 46 40.1**	**-1.7**
0.5nm,0.3s,baz=0.0,slow=4.0,SNR=1.5							
URZ				Sn	Sn	18 49 18.5	-16
0.3nm,0.3s,baz=96,slow=22,SNR=1.8							
4.7nm,0.8s							
DZM	**Mont Dzumac**	**16.14**	**273**	Pn	**Pn**	**18 46 48.5**	**-1.0**
0.1nm,0.3s,baz=86,slow=19,SNR=1.2							
7.3nm,0.9s							
CTAO	**Charters Tower**	**35.01**	**269**	P	**P**	**18 49 56.2**	**+0.8**
CTAO				IAmb	IAmb	18 49 60.0	
comp=Z,11nm,0.9s							
PMG	**Port Moresby**	**37.83**	**286**	P	**P**	**18 50 18.0**	**-1.5**
PMG				IAmb	IAmb	18 50 35.3	

comp=Z,9.6nm,0.8s
STKA Stephens Creek 38.05 248 P **P 18 50 18.9 -2.4**
STKA Stephens Creek 38.05 248 P **P 18 50 21.1 -0.1**
comp=Z,1.2nm,0.5s,baz=102,slow=13,SNR=5.5
comp=Z,1.2nm,0.5s
BBOO Buckleboo 42.74 247 P **P 18 51 00.2 +0.1**
BBOO IAmb IAmb 18 51 41.0
comp=Z,20nm,1.3s
AS31 Alice Springs 45.54 260 P **P 18 51 22.1 -0.5**
ASAR Alice Springs 45.54 260 P **P 18 51 22.2 -0.5**
ASAR Alice Springs 45.54 260 P **P 18 51 22.5 -0.2**
comp=Z,1.7nm,0.6s,baz=93,slow=8.1,SNR=19
comp=Z,1.7nm,0.6s
WR0 Warramunga Arr 45.75 265 P **P 18 51 25.6 +1.3**
WR0 IAmb IAmb 18 51 58.8
comp=Z,9.1nm,0.6s
WB2 Warramunga Arr 45.93 265 P **P 18 51 24.1 -1.6**
WB2 IAmb IAmb 18 52 04.5
comp=Z,9.7nm,1.1s
WB0 Warramunga Arr 45.93 265 P **P 18 51 24.4 -1.5**
WB0 IAmb IAmb 18 51 28.8
comp=Z,7.6nm,0.6s
WRA Warramunga Arr 45.94 265 P **P 18 51 23.8 -2.0**
WRA Warramunga Arr 45.94 265 P **P 18 51 24.7 -1.2**
comp=Z,5.1nm,0.7s,baz=103,slow=8.2,SNR=15
comp=Z,5.1nm,0.7s
MTN Manton Dam 50.97 273 P **P 18 52 04.0 -0.8**
KNRA Kununurra 52.22 268 P **P 18 52 13.5 -0.5**
KNRA IAmb IAmb 18 52 52.3
comp=Z,18nm,1.1s
SBA Scott Base 54.74 184 P **P 18 52 32.2 +0.5**
SBA IAmb IAmb 18 52 50.2
comp=Z,9.0nm,1.4s
SOEI Soe 58.36 273 P **P 18 52 57.9 -0.7**
MORW Morawa 60.23 249 P **P 18 53 10.4 -0.7**
QSPA South Pole Qui 66.31 180 P **P 18 53 49.6 -1.4**
QSPA IAmb IAmb 18 54 10.6
comp=Z,4.6nm,0.9s
QSPA South Pole Qui 66.31 180 P **P 18 53 52.0 +1.0**
comp=Z,2.9nm,0.8s,baz=33,slow=1.8,SNR=10
comp=Z,2.9nm,0.8s
BELA Belgrano 2 76.10 172 P **P 18 54 51.7 +1.8**
BELA IAmb IAmb 18 54 56.3
comp=Z,4.9nm,1.0s
MAW Mawson 79.08 200 P **P 18 55 09.0 +2.4**
MAW Mawson 79.08 200 P **P 18 55 05.8 -0.8**
comp=Z,2.6nm,0.6s,baz=134,slow=9.1,SNR=11
comp=Z,2.6nm,0.6s
PETK Petropavlovsk- 79.87 344 P **P 18 55 10.3 -0.6**
comp=Z,2.0nm,0.6s,baz=251,slow=4.5,SNR=6.0
comp=Z,2.0nm,0.6s
NVAR Mina Array Bea 82.25 42 P **P 18 55 22.7 -1.6**
comp=Z,0.7nm,0.8s,baz=221,slow=9.5,SNR=5.3
comp=Z,0.7nm,0.8s
USRK Ussuriysk Ar. 82.62 325 P **P 18 55 26.8 +1.0**
comp=Z,2.1nm,0.7s,baz=107,slow=7.8,SNR=3.9
comp=Z,2.1nm,0.7s
H03S2 Juan Fernandez 82.74 124 T T 20 26 52.6
baz=244,slow=74,SNR=9.5
H03S1 Juan Fernandez 82.75 124 T T 20 26 58.4
baz=244,slow=74,SNR=4.4
H03S3 Juan Fernandez 82.75 124 T T 20 26 57.2
baz=244,slow=74,SNR=12
H03N2 Juan Fernandez 82.89 123 T T 20 26 51.6
baz=247
H03N3 Juan Fernandez 82.89 123 T T 20 26 43.7
baz=247
H03N1 Juan Fernandez 82.91 123 T T 20 26 55.2
baz=247
SNAA Sanae 84.70 178 P **P 18 55 37.7 +1.4**
SNAA IAmb IAmb 18 55 52.0
comp=Z,5.1nm,1.0s
SNAA Sanae 84.70 178 P **P 18 55 36.7 +0.4**
comp=Z,1.0nm,0.5s,baz=151,slow=10,SNR=3.5
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 87.39 56 P **P 18 55 48.2 -2.1**
comp=Z,0.4nm,0.8s,baz=216,slow=7.5,SNR=3.4
comp=Z,0.4nm,0.8s
ILAR Eielson Array 91.12 12 P **P 18 56 06.8 -0.1**
comp=Z,0.6nm,0.7s,baz=219,slow=5.0,SNR=4.1
comp=Z,0.6nm,0.7s
CMAR Chiang Mai Arr 92.81 289 P **P 18 56 19.3 +3.5**
CMAR Chiang Mai Arr 92.81 289 P **P 18 56 19.4 +3.6**
comp=Z,3.2nm,0.8s,baz=133,slow=3.3,SNR=15
CHTO Chiang Mai 92.96 289 P P 18 56 20.6 +4.1
MKAR Makanchi Array 114.68 312 PKP **PKiKP 19 01 42.4 -0.6**
comp=Z,0.4nm,0.8s,baz=90,slow=1.4,SNR=2.6
KURBB Kurchatov Arra 117.60 316 PKP **PKiKP 19 01 48.9 +0.4**
comp=Z,0.2nm,0.3s,baz=105,slow=2.1,SNR=1.5
BVAR Borovoye Array 122.67 319 PKP **PKiKP 19 01 59.5 +1.1**
comp=Z,0.7nm,0.6s,baz=48,slow=2.1,SNR=2.6
AKASG Malin Array Be 146.70 330 PKPbc **PKPab 19 02 45.3 -0.1**
comp=Z,3.4nm,0.6s,baz=39,slow=3.7,SNR=17
BRTR Keskin Array B 150.28 309 PKPbc **PKPbc 19 02 52.6 -1.6**
comp=Z,1.6nm,0.8s,baz=131,slow=4.4,SNR=3.6
MMAI Mount Meron Ar 150.85 296 PKPbc **PKiKP 19 02 56.4 0.0**
comp=Z,3.6nm,0.6s,baz=90,slow=5.8,SNR=7.0
CLL Collm 151.62 348 *e*PKPbc **PKiKP 19 02 58.0 +0.8**

---

*IDC **16** 18:49:20.6±4.6, 22°.67N×144°.24E, h83km±30km, mb3.6/5, mbtmp3.9/6, Error ellipse: s-maj=111.3km s-min=21.7km az=78.0*
ISC 16 18:49:22.8±3.0, **22°.7N**±0°.2×**144°.1E**±0°.9, **h100**km, **n7,**
σ0$90/7, **mb4.0**/5, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.72**	**339**	P	**Pn**	**18 50 32.2**	**+0.4**
	24nm,0.3s,baz=358,slow=9.2,SNR=24						
JCJ				S	**Sn**	**18 51 24.1**	**-1.3**
	60nm,0.6s,baz=292,slow=21,SNR=5.9						
KSRS	**Korea Array**	**20.25**	**320**	P	Pn	18 53 55.3	+2.3
	1.2nm,0.6s,baz=144,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**43.40**	**193**	P	**P**	**18 57 15.0**	**-0.7**
	0.1nm,0.3s,baz=16,slow=9.4,SNR=8.9						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**54.64**	**312**	P	**P**	**18 58 42.2**	**+0.8**
	0.6nm,0.6s,baz=84,slow=9.2,SNR=5.4						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**57.37**	**316**	P	**P**	**18 59 01.1**	**+0.5**
	0.7nm,0.3s,baz=92,slow=7.7,SNR=7.2						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**62.47**	**319**	P	**P**	**18 59 35.6**	**+0.2**
	1.2nm,0.5s,baz=88,slow=5.7,SNR=6.7						
	1.2nm,0.5s						
FINES	**FINESS Array B**	**82.66**	**335**	P	**P**	**19 01 34.9**	**0.0**
	1.0nm,0.5s,baz=70,slow=4.6,SNR=6.6						
	1.0nm,0.5s						

VIE 16 18:54:27.9±0.3, **47°.64N×15°.87E, h9**km±3km, **ml0.6**/3,
Error ellipse: s-maj=1.4km s-min=1.1km az=135.0 2 km E of Semmering, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.28**	**359**	*i* Pg	Pg	18 54 33.6	0.0
	0.2nm,0.1s						
CONA				*i* Sg	Sg	18 54 38.1	+0.6
	0.5nm,0.1s						
RONA	**Rosalia, Austr**	**0.30**	**79**	*i* Pg	Pg	18 54 33.6	-0.2
	0.1nm,0.0s						
RONA				*i* Sg	Sg	18 54 37.9	+0.2
	0.4nm,0.1s						
ARSA	**Arzberg**	**0.46**	**211**	*e*Pg	Pg	18 54 37.0	+0.3
	0.1nm,0.1s						
ARSA				*e*Sg	Sg	18 54 42.5	-0.3
	1.0nm,0.1s						

---

*IDC **16** 19:04:03.8±0.7, 23°.77S×175°.97W, h0km, mb4.2/10, mbtmp4.2/10, MS3.9/2, Error ellipse: s-maj=27.7km s-min=21.9km az=139.0*
*NEIC **16** 19:04:03.4±2.3, 23°.56S±0°.09×175°.60W±0°.04, h10km±1km, mb4.6/18, Error ellipse: s-maj=16.1km s-min=5.1km az=8.0*
ISC 16 19:04:08.4±0.6, **23°.72S**±0°.08×**176°.1W**±0°.1, **h33**km, **n48,**
σ1$81/38, **mb4.4**/16, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.76**	**196**	Pn	**Pn**	**19 05 31.7**	**+0.1**
NIUE	**Niue**	**7.34**	**52**	Pn	Pn	19 05 44.7	-8.7
NIUE				Sn	Sn	19 06 56.1	-20
MSVF	**Nonsavu**	**8.12**	**316**		**Pn**	**19 06 03.1**	**-1.0**
MSVF	**Nonsavu**	**8.12**	**316**	Pn	Pn	19 06 11.4	+7.3
	0.5nm,0.3s,baz=158,slow=14,SNR=5.7						
MSVF				LR	LR	19 08 45.3	
	comp=Z,709nm,21.6s,baz=156,slow=34						
AFI	**Afiamalu**	**10.56**	**23**	Pn	**Pn**	**19 06 34.2**	**-3.4**
RAR	**Rarotonga**	**15.26**	**84**	Pn	Pn	19 07 31.4	-10
	2.2nm,0.3s,baz=95,slow=16,SNR=2.6						
OUENC	**Ouen Island, N**	**15.80**	**271**	Pn	**Pn**	**19 07 46.2**	**-2.3**
OUENC				IAmb	IAmb	19 08 11.2	
	comp=Z,69nm,1.4s						
MRZ	**Mangatainoka R**	**18.30**	**201**		**P**	**19 08 14.2**	**-5.4**
MRZ				IAmb	IAmb	19 08 28.7	
	comp=Z,46nm,1.5s						
KHZ	**Kahutara**	**20.55**	**202**	P	**P**	**19 08 39.9**	**-4.3**
KHZ				IAmb	IAmb	19 08 46.3	
	comp=Z,33nm,1.2s						
CTAO	**Charters Tower**	**35.09**	**268**	P	**P**	**19 11 01.3**	**+2.4**
CTAO				IAmb	IAmb	19 11 14.0	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**38.14**	**248**	P	**P**	**19 11 25.2**	**+0.5**
STKA	**Stephens Creek**	**38.14**	**248**	P	**P**	**19 11 25.0**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=103,slow=10,SNR=5.3						
	comp=Z,0.9nm,0.5s						
COEN	**Coen**	**39.67**	**277**	P	**P**	**19 11 40.2**	**+2.5**
COEN				IAmb	IAmb	19 12 05.1	
	comp=Z,22nm,1.4s						
BBOO	**Buckleboo**	**42.84**	**247**	P	**P**	**19 12 03.3**	**-0.2**
AS31	**Alice Springs**	**45.62**	**259**	P	**P**	**19 12 26.3**	**+0.3**
ASAR	**Alice Springs**	**45.62**	**259**	P	**P**	**19 12 26.2**	**+0.2**
ASAR	**Alice Springs**	**45.62**	**259**	P	**P**	**19 12 26.9**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=92,slow=6.6,SNR=24						
	comp=Z,1.2nm,0.6s						
WR0	**Warramunga Arr**	**45.84**	**265**	P	**P**	**19 12 28.4**	**+0.8**
WR0				IAmb	IAmb	19 12 51.8	
	comp=Z,5.7nm,1.2s						
WB2	**Warramunga Arr**	**46.01**	**265**	P	**P**	**19 12 29.0**	**-0.1**
WB2				IAmb	IAmb	19 12 46.8	
	comp=Z,6.7nm,1.1s						
WRAB	**Tennant Creek**	**46.02**	**265**	P	**P**	**19 12 30.1**	**+0.9**
WRAB				IAmb	IAmb	19 12 40.0	
	comp=Z,4.8nm,0.7s						
WB0	**Warramunga Arr**	**46.02**	**265**	P	**P**	**19 12 29.7**	**+0.6**
WB0				IAmb	IAmb	19 12 33.0	
	comp=Z,5.4nm,0.8s						
WRA	**Warramunga Arr**	**46.02**	**265**	P	**P**	**19 12 28.5**	**-0.7**
WRA	**Warramunga Arr**	**46.02**	**265**	P	**P**	**19 12 28.9**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=96,slow=8.4,SNR=42						
	comp=Z,2.8nm,0.7s						
KNRA	**Kununurra**	**52.30**	**268**	P	**P**	**19 13 18.6**	**+1.4**
SBA	**Scott Base**	**54.80**	**184**	P	**P**	**19 13 36.7**	**+2.1**
NWAO	**Narrogin (SRO)**	**58.59**	**245**	P	**P**	**19 13 59.1**	**-3.2**
QSPA	**South Pole Qui**	**66.37**	**180**	P	**P**	**19 14 54.1**	**+0.3**
QSPA				IAmb	IAmb	19 14 57.3	
	comp=Z,6.6nm,1.1s						
QSPA	**South Pole Qui**	**66.37**	**180**	P	**P**	**19 14 54.3**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=36,slow=1.3,SNR=22						
	comp=Z,5.1nm,0.9s						
MJAR	**Matsushiro Arr**	**73.86**	**323**	LR	LR	19 46 24.6	
	comp=Z,75nm,18.2s,baz=28,slow=34						
MAW	**Mawson**	**79.15**	**200**	P	**P**	**19 16 11.0**	**+1.5**
MAW	**Mawson**	**79.15**	**200**	P	**P**	**19 16 10.6**	**+1.1**
	comp=Z,3.7nm,0.9s,baz=129,slow=7.3,SNR=10						
	comp=Z,3.7nm,0.9s						
NVAR	**Mina Array Bea**	**82.15**	**42**	P	**P**	**19 16 27.0**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=216,slow=9.1,SNR=4.7						
	comp=Z,0.8nm,0.8s						
H03S2	**Juan Fernandez**	**82.70**	**124**	T	T	20 47 42.2	
	baz=244,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**82.72**	**124**	T	T	20 48 09.8	
	baz=244,slow=74,SNR=9.5						
H03S3	**Juan Fernandez**	**82.72**	**124**	T	T	20 47 52.8	
	baz=244,slow=74,SNR=9.6						
H03N2	**Juan Fernandez**	**82.86**	**123**	T	T	20 48 00.1	
	baz=248						
H03N3	**Juan Fernandez**	**82.86**	**123**	T	T	20 47 51.4	
	baz=248						
H03N1	**Juan Fernandez**	**82.87**	**123**	T	T	20 47 55.8	
	baz=248						
SNAA	**Sanae**	**84.75**	**178**	P	**P**	**19 16 38.4**	**-0.6**
SNAA	**Sanae**	**84.75**	**178**	P	**P**	**19 16 38.6**	**-0.4**
	comp=Z,4.0nm,0.9s,baz=171,slow=7.9,SNR=6.8						
	comp=Z,4.0nm,0.9s						
TXAR	**Lajitas Array**	**87.30**	**56**	P	**P**	**19 16 52.3**	**0.0**
	comp=Z,1.3nm,1.1s,baz=211,slow=6.7,SNR=5.9						
	comp=Z,1.3nm,1.1s						
ILAR	**Eielson Array**	**91.05**	**12**	P	**P**	**19 17 09.9**	**+1.0**
	comp=Z,0.7nm,1.0s,baz=222,slow=5.9,SNR=5.5						
	comp=Z,0.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**92.87**	**289**	P	**P**	**19 17 21.1**	**+2.6**
	comp=Z,2.4nm,1.0s,baz=129,slow=3.2,SNR=10						
	comp=Z,2.4nm,1.0s						
MKAR	**Makanchi Array**	**114.70**	**312**	PKP	PKPdf	19 22 45.3	-0.1
	comp=Z,0.2nm,0.7s,baz=90,slow=2.0,SNR=2.1						
KURBB	**Kurchatov Arra**	**117.61**	**316**	PKP	**PKPdf**	**19 22 50.1**	**-0.7**
	comp=Z,0.2nm,0.2s,baz=106,slow=1.3,SNR=4.9						
AKASG	**Malin Array Be**	**146.69**	**330**	PKPbc	**PKPbc**	**19 23 46.9**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=42,slow=3.3,SNR=7.1						
MMAI	**Mount Meron Ar**	**150.90**	**296**	PKPbc	**PKiKP**	**19 23 59.5**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=108,slow=3.2,SNR=4.2						
CLL	**Collm**	**151.58**	**348**	*e*PKPbc	**PKiKP**	**19 24 00.0**	**+0.6**
CLL				*e*PKPab	**PKPab**	**19 24 09.0**	**+1.4**

---

*ISK **16** 19:08:56.9, 37°.69N×26°.83E, h5km, ML2.2/20*
*AFAD **16** 19:08:57.7±0.0, 37°.72N×26°.88E, h7km±2km, ML2.4*
*ATH **16** 19:08:58.5, 37°.68N×26°.84E, h8km±1km, ML2.6/2, Error ellipse: s-maj=2.0km s-min=1.3km az=73.0*
*THE **16** 19:08:58.0, 37°.69N×26°.88E, h9km±1km, ML2.3/1, Error ellipse: s-maj=1.8km s-min=0.7km az=45.0*
ISC 16 19:08:57.7±0.8, **37°.70N**±0°.02×**26°.86E**±0°.02, **h13**km±4km,
n46, σ0$75/68, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.02**	**288**	P	**Pg**	**19 08 59.8**	**-0.2**
SMG				S	**Sg**	**19 09 01.3**	**-0.4**
SMG	**Samos**	**0.02**	**288**	P	**Pg**	**19 08 59.8**	**-0.2**
SMG				S	**Sg**	**19 09 01.2**	**-0.4**
SMG				AML	AML	19 09 01.4	
	comp=E,24986μm,0.2s						
SMG				AML	AML	19 09 01.5	
	comp=N,32524μm,0.2s						
GCAM	**G?zelcaml?**	**0.29**	**90**	Pg	**Pg**	**19 09 03.9**	**+0.2**
GCAM				Sg	**Sb**	**19 09 09.1**	**-0.5**
GCAM	**G?zelcaml?**	**0.29**	**90**	P	**Pg**	**19 09 03.6**	**-0.2**
GCAM				S	**Sg**	**19 09 08.0**	**+0.2**
GCAM				*i* AML	AML	19 09 10.0	
	comp=N,508nm,0.1s						
GCAM				*i* AML	AML	19 09 11.0	
	comp=N,638nm,0.4s						
DGB	**zmir**	**0.35**	**3**	P	**Pg**	**19 09 04.5**	**-0.3**
DGB				S	**Sg**	**19 09 09.3**	**-0.2**
DDIM	**Aydin, Didim**	**0.39**	**129**	P	**Pg**	**19 09 05.8**	**+0.4**
DDIM				S	**Sg**	**19 09 11.4**	**+0.7**
DDIM				*i* AML	AML	19 09 12.0	
	comp=N,438nm,0.3s						
DDIM				*i* AML	AML	19 09 12.0	
	comp=N,651nm,0.5s						
IKRA	**Agios-Kirikos-**	**0.46**	**259**	P	**Pg**	**19 09 06.6**	**-0.1**
IKRA				S	**Sg**	**19 09 13.2**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**0.61**	**332**	P	**Pg**	**19 09 09.9**	**+0.4**
ZEYE				S	**Sg**	**19 09 17.5**	**-0.1**
ZEYE				*i* AML	AML	19 09 18.0	
	comp=N,165nm,0.2s						
ZEYE				*i* AML	AML	19 09 20.0	
	comp=N,196nm,0.2s						
URLA	**Izmir**	**0.69**	**342**	Pg	**Pg**	**19 09 10.6**	**-0.5**
URLA				Sg	**Sg**	**19 09 20.8**	**+0.6**
URLA	**Izmir**	**0.69**	**342**	P	**Pg**	**19 09 10.8**	**-0.3**
URLA				S	**Sg**	**19 09 19.3**	**-0.9**
URLA				*i* AML	AML	19 09 23.0	
	comp=N,148nm,0.5s						
BODT	**Bodrum**	**0.73**	**151**	Pg	**Pg**	**19 09 11.5**	**-0.4**
BODT				Sg	**Sb**	**19 09 22.1**	**-0.1**
BODT	**Bodrum**	**0.73**	**151**	P	**Pg**	**19 09 11.8**	**-0.1**
BODT				S	**Sb**	**19 09 22.3**	**+0.1**
KLNA	**Kalymnos**	**0.75**	**173**	P	**Pg**	**19 09 12.3**	**+0.1**
KLNA				S	**Sg**	**19 09 22.2**	**+0.2**
BDRM	**Kayabasi**	**0.79**	**144**	P	**Pb**	**19 09 14.4**	**+1.2**
BDRM				S	**Sg**	**19 09 23.3**	**0.0**
BDRM				*i* AML	AML	19 09 27.0	
	comp=N,126nm,0.3s						
RFTB	**Kemer-Bodrum**	**0.81**	**156**	Pg	**Pg**	**19 09 12.7**	**-0.6**
RFTB				Sg	**Sb**	**19 09 24.4**	**+0.1**
AYDN	**Tasoluk**	**0.81**	**93**	P	**Pg**	**19 09 12.7**	**-0.6**
MLSB	**Milas**	**0.83**	**119**	Pg	**Pg**	**19 09 13.3**	**-0.5**
CHOS	**Chios island**	**0.94**	**317**	P	**Pg**	**19 09 15.8**	**0.0**
CHOS				S	**Sg**	**19 09 29.0**	**+1.0**
	comp=N,192nm,0.2s						
CHOS	**Chios island**	**0.94**	**317**	P	**Pg**	**19 09 15.7**	**0.0**
CHOS				S	**Sg**	**19 09 28.8**	**+0.8**
CHOS				AML	AML	19 09 30.0	
	comp=E,468μm,0.4s						
CHOS				AML	AML	19 09 30.5	
	comp=N,316μm,0.2s						
KOSK	**Kos Island**	**0.95**	**174**	Pg	**Pg**	**19 09 15.7**	**-0.4**
RFT5	**Foca**	**0.96**	**355**	Pg	**Pg**	**19 09 16.2**	**0.0**
RFTAA	**Mazikoy-Bodrum**	**0.99**	**135**	Pg	**Pg**	**19 09 16.6**	**-0.2**
KARB	**zmir-Karabur**	**1.02**	**340**	P	**Pg**	**19 09 15.8**	**-1.7**
KARB				S	**Sg**	**19 09 31.4**	**+0.6**
DAT	**Datca**	**1.13**	**149**	Pn	**Pg**	**19 09 18.7**	**-0.7**
DAT	**Datca**	**1.13**	**149**	P	**Pg**	**19 09 18.3**	**-1.1**
DAT				S	**Sb**	**19 09 34.2**	**+0.5**
DAT	**Datca**	**1.13**	**149**	P	**Pg**	**19 09 18.6**	**-0.8**
RFTD	**Palamutbuku-Ka**	**1.14**	**153**	Pn	**Pg**	**19 09 18.8**	**-0.8**
RFTC	**Emecik-Datca**	**1.20**	**140**	Pn	**Pb**	**19 09 19.8**	**-0.4**
APE	**Apeiranthos**	**1.23**	**240**	Pn	**Pn**	**19 09 21.1**	**+0.4**
APE	**Apeiranthos**	**1.23**	**240**	P	**Pn**	**19 09 19.6**	**-1.1**
APE				S	**Sg**	**19 09 38.1**	**+0.6**
RFT7	**Candarli**	**1.25**	**2**	Pn	**Pn**	**19 09 21.7**	**+0.8**
YER	**Yerkesik**	**1.26**	**116**	Pn	**Pn**	**19 09 21.7**	**+0.6**
YER	**Yerkesik**	**1.26**	**116**	P	**Pn**	**19 09 21.2**	**+0.1**
YER				S	**Sb**	**19 09 37.3**	**-0.3**
GOMA	**Golmarmara-Man**	**1.30**	**39**	Pn	**Pn**	**19 09 22.6**	**+1.0**
DKL	**Dikili**	**1.37**	**1**	Pn	**Pb**	**19 09 23.8**	**+0.7**
AKHS	**Akhisar**	**1.39**	**32**	P	**Pn**	**19 09 22.5**	**-0.3**
TURN	**Turunc**	**1.44**	**130**	Pn	**Pn**	**19 09 24.3**	**+0.9**
EAG1	**Polichnitos, L**	**1.47**	**340**	P	**Pn**	**19 09 25.0**	**+1.1**
MANT	**Manisa**	**1.55**	**59**	P	**Pn**	**19 09 26.4**	**+1.1**
MANT				S	**Sn**	**19 09 42.6**	**-2.7**
PRK	**Paraskevi**	**1.61**	**343**	P	**Pb**	**19 09 27.5**	**+0.3**
KULA	**Kula-Manisa**	**1.63**	**60**	Pn	**Pn**	**19 09 27.5**	**+1.3**
TAVA	**DENIZLI_Tavas**	**1.65**	**98**	P	**Pn**	**19 09 27.6**	**+1.2**
DALY	**Dalyan (Mula)**	**1.68**	**121**	Pn	**Pn**	**19 09 27.8**	**+1.1**
SIGR	**SIGRI**	**1.70**	**333**	Pn	**Pn**	**19 09 28.5**	**+1.4**
SIGR	**SIGRI**	**1.70**	**333**	P	**Pn**	**19 09 27.4**	**+0.3**
SIGR	**SIGRI**	**1.70**	**333**	P	**Pn**	**19 09 27.1**	**+0.1**

---

*NEIC **16** 19:11:16.7±2.9, 24°.27S±0°.09×175°.2W±0°.1, h10km±1km, mb4.6/14, Error ellipse: s-maj=16.9km s-min=13.0km az=51.0*
*IDC **16** 19:11:20.9±0.7, 23°.85S×175°.97W, h0km, mb4.1/10, mbtmp4.1/11, ML3.9/1, MS3.9/2, Error ellipse: s-maj=28.7km s-min=20.5km az=134.0*
ISC 16 19:11:22.0±0.7, **24°.28S**±0°.09×**176°.0W**±0°.1, **h10**km, **n46,**
σ1$68/33, **mb4.4**/16, **South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.24**	**199**	LR	LR	19 14 46.8	
	comp=Z,655nm,20.2s,baz=48,slow=36						
NIUE	**Niue**	**7.65**	**49**	Pn		19 13 01.1	-12
NIUE				Sn	Sn	19 14 12.8	-28
MSVF	**Nonsavu**	**8.57**	**318**		**Pn**	**19 13 26.5**	**+0.2**
MSVF	**Nonsavu**	**8.57**	**318**	Pn	**Pn**	**19 13 28.5**	**+2.2**
	1.3nm,0.3s,baz=138,slow=14,SNR=12						
AFI	**Afiamalu**	**11.06**	**22**	Pn		19 13 49.5	-11
URZ	**Urewera**	**15.12**	**201**	Pn	**P**	**19 15 02.0**	**+1.1**
	0.5nm,0.3s,baz=192,slow=16,SNR=1.9						
URZ				Sn	**Sn**	**19 17 39.4**	**-3.8**
	0.3nm,0.3s,baz=58,slow=22,SNR=1.3						
	1.3nm,0.3s						
RAR	**Rarotonga**	**15.26**	**82**	Pn		19 14 42.0	-16
RAR	**Rarotonga**	**15.26**	**82**	Pn	Pn	19 14 46.6	-11
	5.3nm,0.3s,baz=254,slow=6.0,SNR=6.5						
RAR				Sn	Sn	19 17 18.3	-28
	1.9nm,0.3s,baz=276,slow=4.7,SNR=1.5						
BFZ	**Birch Farm**	**17.60**	**200**		**Pn**	**19 15 23.9**	**-3.4**
BFZ				IAmb	IAmb	19 15 28.7	
	comp=Z,34nm,1.5s						
RPZ	**Rata Peaks**	**22.11**	**206**	LR	LR	19 24 26.7	
	comp=Z,428nm,19.0s,baz=35,slow=35						
LHI	**Lord Howe Isla**	**23.17**	**246**	P	**P**	**19 16 27.4**	**-1.4**
CTAO	**Charters Tower**	**35.15**	**269**	P	**P**	**19 18 17.2**	**+1.0**
STKA	**Stephens Creek**	**38.00**	**249**	P	**P**	**19 18 40.2**	**-0.2**
STKA	**Stephens Creek**	**38.00**	**249**	P	**P**	**19 18 42.5**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=94,slow=13,SNR=5.8						
	comp=Z,1.4nm,0.8s						
PMG	**Port Moresby**	**38.11**	**286**	P	**P**	**19 18 39.7**	**-1.7**
PMG				IAmb	IAmb	19 18 42.0	
	comp=Z,14nm,1.1s						
COEN	**Coen**	**39.80**	**277**	P	**P**	**19 18 54.4**	**-1.3**
COEN				IAmb	IAmb	19 19 20.7	
	comp=Z,17nm,1.3s						
AS31	**Alice Springs**	**45.59**	**260**	P	**P**	**19 19 43.1**	**+0.5**
AS31				IAmb	IAmb	19 20 07.0	
	comp=Z,2.7nm,1.4s						
ASAR	**Alice Springs**	**45.59**	**260**	P	**P**	**19 19 42.5**	**-0.1**
ASAR	**Alice Springs**	**45.59**	**260**	P	**P**	**19 19 43.1**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=91,slow=6.8,SNR=16						
	comp=Z,0.7nm,0.6s						
WR0	**Warramunga Arr**	**45.85**	**265**	P	**P**	**19 19 45.1**	**+0.4**
WR0				IAmb	IAmb	19 19 50.6	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**46.03**	**265**	P	**P**	**19 19 47.1**	**+0.9**
WB2				IAmb	IAmb	19 20 01.5	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**46.04**	**265**	P	**P**	**19 19 46.3**	**+0.2**
WB0				IAmb	IAmb	19 19 50.7	
	comp=Z,8.1nm,1.1s						
WRA	**Warramunga Arr**	**46.04**	**265**	P	**P**	**19 19 46.3**	**+0.1**
WRA	**Warramunga Arr**	**46.04**	**265**	P	**P**	**19 19 46.6**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=97,slow=8.3,SNR=21						
	comp=Z,2.0nm,0.6s						
KNRA	**K

mb4.0/22, ML3.1(AEIC), Error ellipse: s-maj=23.2km s-min=14.9km az=165.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.20**	**64**		**Pn**	19 17 54.5	-0.6
LSNW					Sn	19 18 08.4	-0.8
LSSE	**Little Sitkin**	**0.22**	**77**		**Pn**	19 17 55.0	-0.1
LSPA	**Little Sitkin**	**0.23**	**71**		**Pn**	19 17 55.0	-0.1
LSPA					Sn	19 18 09.2	-0.2
CETU	**Semis' Tuman**	**0.79**	**84**		**Pn**	19 17 57.9	-0.3
CETU					Sn	19 18 14.6	0.0
AMKA	**Amchitka**	**0.84**	**127**	Pn	**Pn**	19 17 58.1	-0.4
CEAP	**Semis' Anvil P**	**0.84**	**81**		**Pn**	19 17 58.6	0.0
CERB	**Semis' Cerberu**	**0.87**	**86**		**Pn**	19 17 59.1	+0.4
CERB					Sn	19 18 16.6	+0.8
CEPE	**Semis' Perret**	**0.88**	**84**		**Pn**	19 17 58.9	0.0
GANE	**Gareloi Northe**	**1.86**	**91**		**Pn**	19 18 08.9	-0.2
TASE	**Tanaga Southea**	**2.32**	**90**		**Pn**	19 18 14.6	-0.1
KIMD	**Kanaga Island**	**2.82**	**91**		**Pn**	19 18 20.8	-0.1
KIWB	**Kanaga Island**	**2.86**	**89**	Pn	**Pn**	19 18 20.9	-0.5
K15K	**Wolf Creek Mou**	**15.08**	**38**	P	P	19 21 04.2	+0.1
K15K				IAmb	IAmb	19 21 08.8	
	comp=Z,12nm,1.3s						
O19K	**Port Alsworth**	**17.33**	**51**		pP	19 21 52.5	-0.2
BRLK	**Bradley Lake**	**18.91**	**53**	P	P	19 21 46.0	-0.2
J20K	**Nowinta River**	**18.92**	**39**	Pn	Pn	19 21 48.0	-0.3
J20K				IAmb	IAmb	19 22 16.1	
	comp=Z,9.4nm,1.4s						
IMAR	**Indian Mountai**	**19.96**	**34**	P	P	19 21 56.7	-0.7
SML	**Sawmill**	**20.57**	**48**	P	P	19 22 04.8	+0.7
SML				IAmb	IAmb	19 22 43.5	
	comp=Z,12nm,1.2s						
DHY	**Denali Highway**	**21.32**	**45**	P	P	19 22 13.0	+0.7
DHY				IAmb	IAmb	19 22 46.9	
	comp=Z,8.9nm,1.4s						
MDM	**Murphy Dome**	**21.57**	**40**	P	P	19 22 15.0	+0.3
H24K	**Noodor Dome**	**22.03**	**38**	P	P	19 22 21.0	+1.4
H24K				IAmb	IAmb	19 22 22.3	
	comp=Z,7.1nm,1.3s						
IL31		**22.04**	**41**	P	P	19 22 18.7	-0.8
IL31				IAmb	IAmb	19 22 47.9	
	comp=Z,7.7nm,1.4s						
G24K	**Hadweenzic Riv**	**22.53**	**36**	P	P	19 22 25.2	+0.7
G24K				IAmb	IAmb	19 22 44.0	
	comp=Z,6.7nm,1.4s						
RIDG	**Independent Ri**	**22.59**	**44**	P	P	19 22 24.4	-0.7
RIDG				IAmb	IAmb	19 22 32.7	
	comp=Z,9.4nm,1.4s						
TOLK	**Toolik Lake Re**	**22.73**	**30**	P	P	19 22 26.1	-0.3
F24K	**Squaw Lake**	**22.74**	**34**	P	P	19 22 27.3	+0.8
F24K				IAmb	IAmb	19 22 27.4	
	comp=Z,8.3nm,1.4s						
VRDI	**Verde Repeater**	**22.77**	**51**	P	P	19 22 27.2	+0.2
SCRK	**Sand Creek**	**23.02**	**44**	P	P	19 22 27.5	-1.8
J26L	**Joseph Creek**	**23.33**	**43**	P	P	19 22 31.6	-0.5
L27K	**Beaver Creek,**	**23.79**	**46**	P	P	19 22 37.9	+1.8
E25K	**Arctic Village**	**23.79**	**33**	P	P	19 22 36.9	+0.7
E25K				IAmb	IAmb	19 22 50.4	
	comp=Z,11nm,1.4s						
BCAR	**Beaver Creek A**	**23.80**	**46**	P	P	19 22 36.9	+0.5
D25K	**Kavik River**	**24.07**	**30**	P	P	19 22 38.9	+0.3
I28M	**Miner Creek**	**25.05**	**41**	P	P	19 22 47.3	-0.4
I28M				IAmb	IAmb	19 22 59.1	
	comp=Z,7.3nm,1.4s						
J30M	**Hart River**	**26.41**	**44**	P	P	19 23 00.4	+0.5
J30M				IAmb	IAmb	19 23 23.0	
	comp=Z,8.4nm,1.4s						
I30M	**Mount Dempster**	**26.48**	**42**	P	P	19 23 00.0	-0.5
MMPY	**Sheldon Lake,**	**28.59**	**48**	P	P	19 23 19.9	+0.6

*NEIC **16** 19:23:25.2±1.7, 23°.38S±0°.09×175°.7W±0°.1, h10km±1km, mb4.4/13, Error ellipse: s-maj=21.5km s-min=14.3km az=115.0*
*IDC **16** 19:23:26.6±1.2, 23°.89S×176°.06W, h0km, mb4.0/7, mbtmp4.0/8, ML3.9/1, Error ellipse: s-maj=33.8km s-min=30.4km az=2.0*
ISC 16 19:23:27.0±0.6, 23°.44S±0°.10×175°.52W±0°.10, h30km, n34, σ2°.39/27, mb4.2/13, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.18**	**200**	Pn	**Pn**	**19 24 57.2**	**+1.1**
NIUE	**Niue**	**6.78**	**51**	Pn	**Pn**	**19 25 05.3**	**+0.8**
NIUE				Sn	**Sn**	**19 26 16.3**	**-4.4**
MSVF	**Nonsavu**	**8.28**	**312**	Pn	Pn	19 25 35.3	+10
	1.2nm,0.3s,baz=116,slow=12,SNR=5.6						
AFI	**Afiamalu**	**10.12**	**21**	Pn	**Pn**	**19 25 50.4**	**0.0**
RAR	**Rarotonga**	**14.74**	**84**	Pn	**Pn**	**19 26 54.0**	**+0.5**
URZ	**Urewera**	**16.06**	**201**	Pn	**Pn**	**19 27 05.4**	**-5.2**
	0.5nm,0.3s,baz=354,slow=18,SNR=1.5						
URZ				Sn	Sn	19 29 48.8	-19
	0.4nm,0.3s,baz=169,slow=5.6,SNR=1.9						
	8.4nm,1.1s						
DSZ	**Denniston Nort**	**21.11**	**207**	P	**P**	**19 28 10.0**	**+0.9**
GVZ	**Greta Valley S**	**21.66**	**203**	P	**P**	**19 28 13.6**	**-1.4**
OXZ	**Oxford**	**22.34**	**204**	P	**P**	**19 28 22.2**	**-0.2**
OXZ				IAmb	IAmb	19 28 40.3	
	comp=Z,11nm,0.7s						
CTAO	**Charters Tower**	**35.59**	**268**	P	**P**	**19 30 22.1**	**+0.1**
STKA	**Stephens Creek**	**38.70**	**248**	P	**P**	**19 30 45.8**	**-2.5**
	comp=Z,0.8nm,0.5s,baz=52,slow=12,SNR=2.4						
	comp=Z,0.8nm,0.5s						
BBOO	**Buckleboo**	**43.40**	**246**	P	**P**	**19 31 24.0**	**-3.0**
BBOO				IAmb	IAmb	19 31 43.0	
	comp=Z,2.5nm,0.8s						
AS31	**Alice Springs**	**46.16**	**259**	P	**P**	**19 31 45.3**	**-3.9**
ASAR	**Alice Springs**	**46.16**	**259**	P	**P**	**19 31 45.5**	**-3.7**
ASAR	**Alice Springs**	**46.16**	**259**	P	**P**	**19 31 48.8**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=90,slow=6.6,SNR=18						
	comp=Z,0.5nm,0.4s						
WR0	**Warramunga Arr**	**46.35**	**264**	P	**P**	**19 31 50.0**	**-0.7**
WR0				IAmb	IAmb	19 32 01.1	
	comp=Z,2.9nm,1.0s						
WB2	**Warramunga Arr**	**46.53**	**264**	P	**P**	**19 31 51.8**	**-0.3**
WB2				IAmb	IAmb	19 31 56.3	
	comp=Z,3.5nm,0.9s						
WB0	**Warramunga Arr**	**46.53**	**264**	P	**P**	**19 31 52.0**	**-0.1**
WB0				IAmb	IAmb	19 31 58.3	
	comp=Z,10.0nm,1.3s						
WRA	**Warramunga Arr**	**46.54**	**264**	P	**P**	**19 31 50.9**	**-1.3**
WRA	**Warramunga Arr**	**46.54**	**264**	P	**P**	**19 31 51.6**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=91,slow=6.1,SNR=45						
	comp=Z,1.3nm,0.6s						
KNRA	**Kununurra**	**52.80**	**268**	P	**P**	**19 32 39.3**	**-0.6**
KNRA				IAmb	IAmb	19 32 46.1	
	comp=Z,8.0nm,0.9s						
QSPA	**South Pole Qui**	**66.65**	**180**	P	**P**	**19 34 16.2**	**+1.6**
QSPA				IAmb	IAmb	19 34 28.3	
	comp=Z,1.4nm,0.8s						
QSPA	**South Pole Qui**	**66.65**	**180**	P	**P**	**19 34 16.1**	**+1.5**
	comp=Z,1.2nm,0.5s,baz=91,slow=3.5,SNR=11						
	comp=Z,1.2nm,0.5s						
MAW	**Mawson**	**79.58**	**199**	P	**P**	**19 35 32.1**	**+1.3**
MAW	**Mawson**	**79.58**	**199**	P	**P**	**19 35 33.3**	**+2.5**
	comp=Z,1.2nm,0.7s,baz=125,slow=6.2,SNR=2.5						
	comp=Z,1.2nm,0.7s						
H03S2	**Juan Fernandez**	**82.45**	**123**	T	T	21 07 39.7	
	baz=245,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**82.46**	**123**	T	T	21 07 24.7	
	baz=245,slow=74,SNR=5.8						
H03S3	**Juan Fernandez**	**82.46**	**123**	T	T	21 07 34.4	
	baz=245,slow=74,SNR=8.0						
H03N2	**Juan Fernandez**	**82.60**	**123**	T	T	21 07 13.6	
	baz=250						
H03N3	**Juan Fernandez**	**82.60**	**123**	T	T	21 07 20.2	
	baz=250						
H03N1	**Juan Fernandez**	**82.61**	**123**	T	T	21 07 35.4	
	baz=250						
TXAR	**Lajitas Array**	**86.73**	**56**	P	P	19 36 15.0	+6.5
	comp=Z,0.3nm,0.8s,baz=209,slow=7.2,SNR=2.0						
	comp=Z,0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.25**	**289**	P	**P**	**19 36 43.9**	**+4.7**
	comp=Z,1.1nm,0.9s,baz=137,slow=5.2,SNR=6.3						
	comp=Z,1.1nm,0.9s						
AKASG	**Malin Array Be**	**146.69**	**331**	PKPbc	**PKiKP**	**19 43 09.8**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=41,slow=3.8,SNR=4.9						

*IDC **16** 19:29:34.4±0.5, 35°.43S×74°.03W, h0km, mb4.8/12, mbtmp4.6/17, ML4.4/5, MS4.2/16, Error ellipse: s-maj=23.7km s-min=14.1km az=82.0*
*NEIC **16** 19:29:35.0±1.8, 35°.36S±0°.04×74°.16W±0°.06, h7km±3km, mb5.1/157, Mwr4.7/41, Mww4.9/15, Mwr4.8(GUC), Error ellipse: s-maj=7.9km s-min=4.8km az=119.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}-1.55; $M_{\theta\theta}$0.54; $M_{\phi\phi}$1.01; $M_{r\theta}$0.71; $M_{\theta\phi}$0.55; $M_{r\phi}$0.17; Fault plane solution: $M_0$1.64000×10^16^ NP1:ϕ_s21.55000°, δ36.19000°, λ-112.77000°. NP2:ϕ_s229.03000°, δ57.01000°, λ-74.19000°. Principal axes: T 1.4685, Plg11.0000°, Azm308.0000°; N 0.2989, Plg13.0000°, Azm40.0000°; P -1.7674, Plg73.0000°, Azm180.0000°;*
*NEIC **16** 19:29:36.4, 35°.30S×74°.50W, h14km, Moment Tensor Solution. Duration: 1ϕ5 Moment tensor: Scale 10^16^Nm; M_{rr}-2.28; $M_{\theta\theta}$0.41; $M_{\phi\phi}$1.87; $M_{r\theta}$1.09; $M_{\theta\phi}$0.96; $M_{r\phi}$0.78; Fault plane solution: $M_0$2.67000×10^16^ NP1:ϕ_s13.54000°, δ32.79000°, λ-112.51000°. NP2:ϕ_s219.78000°, δ59.98000°, λ-76.15000°. Principal axes: T 2.6404, Plg14.0000°, Azm300.0000°; N 0.0668, Plg12.0000°, Azm33.0000°; P -2.7072, Plg71.0000°, Azm162.0000°;*
*VAO **16** 19:29:36.2±0.4, 35°.43S×74°.18W, h10km, mb4.7*
*NEIC **16** 19:29:36.4, 35°.39S×74°.01W, h7km*
*NEIC **16** 19:29:36.4, 35°.40S×74°.01W, h14km*
*GCMT **16** 19:29:38.0±0.4, 35°.50S±0°.03×74°.36W±0°.03, h20km±1km, MW5.0/73, Moment Tensor Solution. s21,c21; s73,c90; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.32±.25; $M_{\theta\theta}$0.59±.13; $M_{\phi\phi}$2.72±.17; $M_{r\theta}$0.33±.28; $M_{\theta\phi}$1.37±.09; $M_{r\phi}$0.80±.29; Best double couple: $M_0$3.46400×10^16^ NP1:ϕ_s205.00000°, δ52.00000°, λ-91.00000°. NP2: ϕ_s27.00000°, δ38.00000°, λ-88.00000°. Principal axes: T 3.4990, Plg7.0000°, Azm296.0000°; N -0.0760, Plg1.0000°, Azm206.0000°; P -3.4290, Plg83.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GUC **16** 19:29:38.0±0.6, 35°.54S×73°.92W, h42km±13km, ML4.9*
ISC 16 19:29:38.0±2.9, 35°.45S±0°.03×74°.04W±0°.06, h23km±20km, n361, σ1°15/294, mb5.0/86, MS4.0/13, 17C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**1.47**	**152**		**Pn**	**19 30 02.0**	**-1.0**
BI05				Sn	**Sn**	**19 30 19.1**	**-2.3**
BI05	**Punta Hualpn**	**1.47**	**152**	⇑*e*P	Pn	19 30 00.9	-2.1
BI05				*e*S	**Sn**	**19 30 17.5**	**-4.0**
BI05				IAML		19 30 20.9	
	comp=E,10μm,0.2s						
CCSP	**San Pedro de C**	**1.58**	**152**	⇑*e*P	Pn	19 30 01.6	-3.0
CCSP				*e*S	**Sn**	**19 30 20.5**	**-3.9**
CCSP				IAML		19 30 27.1	
	comp=E,14μm,0.3s						
GO05	**Huala**	**1.78**	**76**		**Pn**	**19 30 06.6**	**-0.8**
GO05				Sn	**Sn**	**19 30 26.5**	**-2.9**
GO05	**Huala**	**1.78**	**76**	*e*P	Pn	19 30 05.9	-1.5
GO05				*e*S	**Sn**	**19 30 26.8**	**-2.6**
BO03	**Pichilemu**	**1.96**	**61**	⇑*e*P	**Pn**	**19 30 08.5**	**-1.3**
BO03				*e*S	**Sn**	**19 30 31.9**	**-1.7**
BO03				IAML		19 30 33.5	
	comp=E,8μm,0.4s						
ML02	**Panimavida**	**2.16**	**99**		**Pn**	**19 30 13.3**	**+0.8**
ML02	**Panimavida**	**2.16**	**99**	IAML		19 30 42.7	
	comp=E,9μm,0.6s						
BO01	**Tunca**	**2.65**	**67**		**Pn**	**19 30 18.4**	**-0.9**
BO01	**Tunca**	**2.65**	**67**	*e*P	**Pn**	**19 30 18.1**	**-1.2**
BO01				*e*S	**Sn**	**19 30 48.3**	**-2.4**
BO01				IAML		19 30 51.5	
	comp=N,1μm,0.5s						
VA05	**Santo Domingo**	**2.69**	**49**		Pn	19 30 17.9	-1.9
VA05	**Santo Domingo**	**2.69**	**49**	⇑*i*P	Pn	19 30 17.9	-1.9
VA05				*e*S	**Sn**	**19 30 48.2**	**-3.3**
VA05				IAML		19 30 53.1	
	comp=E,8μm,0.4s						
BO02	**Sierra Bellavi**	**2.75**	**77**		**Pn**	**19 30 20.6**	**-0.2**
BO02	**Sierra Bellavi**	**2.75**	**77**	*e*P	**Pn**	**19 30 19.7**	**-1.1**
BO02				*e*S	**Sn**	**19 30 50.4**	**-3.0**
BO02				IAML		19 30 54.9	
	comp=N,7μm,0.6s						
MT01	**Popeta**	**2.79**	**56**		Pn	19 30 19.4	-1.9
MT01	**Popeta**	**2.79**	**56**	⇑*e*P	Pn	19 30 19.4	-1.9
MT01				*e*S	**Sn**	**19 30 50.9**	**-3.3**
MT01				IAML		19 30 52.7	
	comp=N,2μm,0.3s						
BI04	**Isla Mocha**	**2.96**	**178**	*e*P	**Pn**	**19 30 21.8**	**-1.8**
BI04				*i*S	**Sn**	**19 30 53.5**	**-4.8**
BI04				IAML		19 30 59.0	
	comp=E,7μm,0.3s						
MT09	**Talagante**	**3.02**	**57**		Pn	19 30 22.9	-1.6
MT09	**Talagante**	**3.02**	**57**	⇑*i*P	Pn	19 30 22.9	-1.6
MT09				*i*S	**Sn**	**19 30 58.3**	**-1.8**
MT09				IAML		19 31 00.7	
	comp=N,5μm,0.4s						
BO04	**La Punta**	**3.18**	**64**		**Pn**	**19 30 26.1**	**-0.5**
BO04	**La Punta**	**3.18**	**64**	*e*P	**Pn**	**19 30 25.4**	**-1.3**
BO04				*e*S	**Sn**	**19 31 01.0**	**-2.9**
BO04				IAML		19 31 06.2	
	comp=N,2μm,0.2s						
MT02	**Curacav**	**3.25**	**49**		Pn	19 30 25.5	-2.0
MT02	**Curacav**	**3.25**	**49**	⇑*i*P	Pn	19 30 25.6	-2.0
MT12	**Pirque**	**3.35**	**60**	*e*P	**Pn**	**19 30 28.3**	**-0.7**
MT12				*i*S	**Sn**	**19 31 06.4**	**-1.7**
MT12				IAML		19 31 12.5	
	comp=E,5μm,0.5s						
MT05	**Renca**	**3.42**	**54**		**Pn**	**19 30 28.4**	**-1.5**
MT05	**Renca**	**3.42**	**54**	*e*P	**Pn**	**19 30 28.8**	**-1.1**
MT05				*e*S	**Sn**	**19 31 07.6**	**-2.2**
MT05				IAML		19 31 12.5	
	comp=E,2μm,0.4s						
MT03	**Universidad Ad**	**3.51**	**57**		**Pn**	**19 30 30.2**	**-1.0**
MT03	**Universidad Ad**	**3.51**	**57**	⇑*i*P	**Pn**	**19 30 30.3**	**-0.9**
MT03				*e*S	**Sn**	**19 31 10.7**	**-1.4**
MT03				IAML		19 31 19.3	
	comp=E,2μm,0.2s						
ROC1	**El Roble**	**3.52**	**46**		**Pn**	**19 30 29.8**	**-1.7**
ROCH	**El Roble**	**3.52**	**46**	*e*P	**Pn**	**19 30 30.0**	**-1.5**
ROCH				*i*S	**Sn**	**19 31 10.5**	**-2.1**
ROCH				IAML		19 31 14.1	
	comp=N,2μm,0.4s						
MT13	**San Alfonso**	**3.54**	**62**		**Pn**	**19 30 31.0**	**-0.5**
MT13	**San Alfonso**	**3.54**	**62**	*e*P	**Pn**	**19 30 31.1**	**-0.5**
MT13				*i*S	**Sn**	**19 31 12.1**	**-0.6**
MT13				IAML		19 31 15.1	
	comp=N,3μm,0.8s						
LMEL	**Las Melosas**	**3.54**	**64**		**Pn**	**19 30 31.4**	**-0.3**
LMEL	**Las Melosas**	**3.54**	**64**	⇑*i*P	**Pn**	**19 30 31.5**	**-0.3**
MT14	**Cerro Calın**	**3.55**	**56**	⇑*i*P	**Pn**	**19 30 30.8**	**-0.9**
MT14				*i*S	**Sn**	**19 31 12.0**	**-1.1**
MT14				IAML		19 31 17.4	
	comp=N,3μm,1.0s						
PEL	**Peldehue**	**3.61**	**51**		**Pn**	**19 30 31.4**	**-1.2**
PEL	**Peldehue**	**3.61**	**51**	⇑*i*P	**Pn**	**19 30 31.5**	**-1.0**
PEL				*i*S	**Sn**	**19 31 13.1**	**-1.4**
MT08	**Bocatoma Ro**	**3.88**	**60**		**Pn**	**19 30 36.1**	**-0.3**
VA03	**San Esteban**	**3.95**	**48**		**Pn**	**19 30 36.1**	**-1.2**
VA03	**San Esteban**	**3.95**	**48**	⇑*i*P	**Pn**	**19 30 36.2**	**-1.0**
VA03				*i*S	**Sn**	**19 31 21.2**	**-1.6**
H03S1	**Juan Fernandez**	**4.32**	**290**	Pn	Pn	19 30 37.3	-4.7
H03S1				T	T	19 34 52.4	
	baz=112,slow=72,SNR=30						
H03S3	**Juan Fernandez**	**4.33**	**291**	Pn	Pn	19 30 37.8	-4.3
	baz=67,slow=74						
H03S3				T	T	19 34 50.9	
	baz=112,slow=72,SNR=21						
H03S2	**Juan Fernandez**	**4.34**	**290**	Pn	Pn	19 30 37.9	-4.3
	baz=233,slow=74						
H03S2				T	T	19 34 51.9	
	baz=112,slow=72,SNR=24						
VA04	**Juan Fernndez**	**4.34**	**293**		Pn	19 30 38.0	-4.5
LR03	**Panguipulli**	**4.39**	**163**		**Pn**	**19 30 42.9**	**-0.3**
LR04	**Corral**	**4.45**	**174**		**Pn**	**19 30 42.0**	**-2.0**
H03N1	**Juan Fernandez**	**4.50**	**295**	Pn	Pn	19 30 40.2	-4.2
	baz=136,slow=26						
H03N3	**Juan Fernandez**	**4.50**	**295**	Pn	Pn	19 30 40.5	-4.0
	baz=136,slow=26						
H03N2	**Juan Fernandez**	**4.51**	**295**	Pn	Pn	19 30 40.7	-3.9
	baz=136,slow=26						
GO06	**Curarrehue**	**4.60**	**154**	Pn	**Pn**	**19 30 47.0**	**+0.7**
CO02	**Combarbal**	**4.94**	**32**		Pn	19 30 48.7	-2.2
CO06	**Fray Jorge**	**5.17**	**24**	Pn	Pn	19 30 50.4	-3.6
CO03	**El Pedregal**	**5.39**	**32**	Pn	**Pn**	**19 30 55.3**	**-1.8**
PLCA	**Paso Flores**	**5.95**	**153**	Pn	**Pn**	**19 31 05.6**	**+0.9**
PLCA	**Paso Flores**	**5.95**	**153**	*e*P	**Pn**	**19 31 06.5**	**+1.8**
PLCA	**Paso Flores**	**5.95**	**153**	Pn	**Pn**	**19 31 06.1**	**+1.4**
	comp=N,7.8nm,0.3s,baz=322,slow=11,SNR=92						
PLCA				Sn	Sn	19 32 05.5	-6.6
	comp=N,3.5nm,0.3s,baz=298,slow=17,SNR=4.5						
PLCA				LR	LR	19 33 26.2	
	comp=N,2μm,20.1s,baz=348,slow=39						
	comp=N,23nm,0.4s						
LCO	**Las Campanas**	**7.02**	**25**	Pn	Pn	19 31 16.2	-3.3
LL01	**San Ignacio de**	**7.03**	**170**		**Pn**	**19 31 19.4**	**-0.1**
TRQA	**Tornquist**	**10.02**	**109**	Pn	**Pn**	**19 32 00.8**	**+0.3**
PB14	**IPOC Station P**	**11.24**	**17**	Pn	Pn	19 32 14.0	-3.5
LVC	**Limon Verde**	**13.55**	**21**	*e*P	**Pn**	**19 32 50.0**	**+0.7**
LVC	**Limon Verde**	**13.55**	**21**	Pn	**Pn**	**19 32 49.6**	**+0.3**
	comp=N,0.3nm,0.3s,baz=203,slow=13,SNR=4.8						
LVC				LR	LR	19 37 19.5	
	comp=N,553nm,18.9s,baz=208,slow=34						
	comp=N,5.3nm,0.8s						
TICA	**Tres Isletas**	**14.79**	**56**	*e*P	**Pn**	**19 33 07.5**	**+1.9**
SCCA	**San Cayetano,**	**15.30**	**63**	*e*P	**Pn**	**19 33 14.4**	**+2.0**
GO09	**Cerro Castillo**	**15.86**	**176**	Pn	**Pn**	**19 33 16.9**	**-2.8**
CPUP	**Villa Florida**	**16.96**	**62**	P	**Pn**	**19 33 32.8**	**-1.0**
CPUP	**Villa Florida**	**16.96**	**62**	Pn	**Pn**	**19 33 34.3**	**+0.5**
	comp=N,0.3nm,0.3s,baz=230,slow=11,SNR=9.4						
CPUP				LR	LR	19 40 40.9	
	comp=N,606nm,18.0s,baz=238,slow=39						
	comp=N,5.0nm,0.8s						
PB12	**IPOC Station P**	**17.09**	**12**		**Pn**	**19 33 33.7**	**-1.9**
UNIS	**Unistalda (Bra**	**17.25**	**74**	*e*P	**Pn**	**19 33 36.8**	**-0.6**
PB16	**IPOC Station P**	**17.52**	**14**	P	**Pn**	**19 33 40.6**	**-0.7**
CPSB	**Cacapava Do Su**	**18.00**	**80**	*e*P	**Pn**	**19 33 47.8**	**+1.1**
CRSM	**Crissiumal (Br**	**18.79**	**71**	*e*P	**P**	**19 33 55.4**	**-0.4**
ALGR	**Atto Alegre (B**	**18.98**	**75**	*e*P	**P**	**19 33 57.7**	**-0.1**
USHA	**Ushuaia**	**19.77**	**170**	P	**P**	**19 34 06.6**	**+0.4**
	comp=N,1.8nm,0.3s,baz=325,slow=3.0,SNR=2.2						
	comp=N,20nm,0.8s						
LPAZ	**La Paz**	**19.80**	**17**		**P**	**19 34 07.3**	**-0.2**
LPAZ	**La Paz**	**19.80**	**17**	P	**P**	**19 34 08.8**	**+1.3**
	comp=N,0.2nm,0.3s,baz=184,slow=7.9,SNR=15						
	comp=N,3.6nm,0.7s						
EFI	**East Falkland**	**19.85**	**150**	P	**P**	**19 34 08.2**	**+1.1**
EFI				IAmb	IAmb	19 34 14.3	
	comp=Z,201nm,1.5s						
MURT	**Porto Murtinho**	**19.89**	**51**	*e*P	**P**	**19 34 08.6**	**+0.8**
FRBT	**Francisco Belt**	**20.33**	**68**	*e*P	**P**	**19 34 13.9**	**+1.2**
ITAB	**Concordia**	**20.40**	**72**	P	**P**	**19 34 12.2**	**-1.1**
ITAB	**Concordia**	**20.40**	**72**	*e*P	**P**	**19 34 14.0**	**+0.7**
MCR1	**Marechal Candi**	**20.46**	**63**	*e*P	**P**	**19 34 16.2**	**+2.2**
CNLB	**Canela**	**20.50**	**79**	*e*P	**P**	**19 34 15.9**	**+1.5**
ANTJ	**Antonio Joao (**	**20.69**	**54**	*e*P	**P**	**19 34 17.9**	**+1.4**
BBRB	**Robore, Bolivi**	**21.26**	**40**	*e*P	**P**	**19 34 23.3**	**+0.6**
BDQN	**Bodoquena, MS**	**21.32**	**50**	*e*P	**P**	**19 34 23.7**	**+0.4**
BBSD	**Serra de San D**	**21.77**	**37**	*e*P	**P**	**19 34 28.2**	**0.0**
PTGB	**Pitanga**	**21.77**	**67**	*e*P	**P**	**19 34 29.7**	**+1.4**
AQDB	**Aquidauana**	**21.97**	**52**	P	**P**	**19 34 30.0**	**-0.2**
AQDB	**Aquidauana**	**21.97**	**52**	*e*P	**P**	**19 34 30.7**	**+0.5**
TRCB	**Terra Rica**	**22.50**	**62**	*e*P	**P**	**19 34 37.6**	**+1.6**
SIV	**San Ignacio**	**22.59**	**34**	LR	LR	19 43 30.2	
	comp=Z,131nm,19.6s,baz=211,slow=37						
LDASE	**Londrina, Braz**	**23.24**	**65**	*e*P	**P**	**19 34 44.0**	**+0.3**
NNA	**Nana**	**23.50**	**353**	LR	LR	19 41 06.8	
	comp=Z,327nm,20.3s,baz=185,slow=30						
PTLB	**Pontes e Lacer**	**23.98**	**38**	P	**P**	**19 34 49.6**	**-1.2**
PTLB	**Pontes e Lacer**	**23.98**	**38**	*e*P	**P**	**19 34 51.2**	**+0.4**
PCMB	**Pacaembu**	**24.23**	**61**	*e*P	**P**	**19 34 54.2**	**+1.0**
FRTB	**Fartura**	**24.43**	**67**	*e*P	**P**	**19 34 56.4**	**+1.4**
PP1B	**Ponte de Pedra**	**24.62**	**49**	*e*P	**P**	**19 34 57.1**	**+0.3**
C2SB	**Chapadao do Su**	**25.06**	**54**	*e*P	**P**	**19 35 01.8**	**+1.1**
SALV	**Santo Antonio**	**25.46**	**45**	*e*P	**P**	**19 35 04.9**	**+0.6**
VILB	**Vilhena**	**25.65**	**33**	P	**P**	**19 35 05.2**	**-0.9**
VILB				IAmb	IAmb	19 35 11.7	
	comp=Z,41nm,0.9s						
VILB	**Vilhena**	**25.65**	**33**	*e*P	**P**	**19 35 06.1**	**0.0**
PET01	**Itanhaem-SP**	**25.66**	**72**	*e*P	**P**	**19 35 06.9**	**+0.8**
ITRB	**Iturama**	**26.11**	**59**	*e*P	**P**	**19 35 11.6**	**+1.4**
RCLB	**Rio Claro- Sao**	**26.49**	**68**	*e*P	**P**	**19 35 14.1**	**+0.3**

TX31	Lajitas Ar. Si	70.23 333	P	P	19 40 49.4 +0.2
	baz=155				
TX32	Lajitas Array	70.23 333	IAmb	IAmb	19 40 50.8
	comp=Z,13nm,1.1s				
TXAR	Lajitas Array	70.23 333	P	P	19 40 49.7 +0.5
	comp=Z,3.9nm,0.6s,baz=154,slow=8.3,SNR=35				
TXAR			LR	LR	20 04 17.7
	comp=Z,154nm,19.0s,baz=6.0,slow=30				
	comp=Z,3.9nm,0.6s				
X51A	Calhoun	70.39 351	P	P	19 40 50.1 +0.2
	baz=171				
X51A			P	P	19 40 50.1 +0.2
	baz=171				
BRDY	Brady	70.41 337	P	P	19 40 49.6 -0.6
BRDY			IAmb	IAmb	19 40 54.1
	comp=Z,12nm,1.3s				
CNNC	Cliffs of the	70.42 357	P	P	19 40 50.9 +0.8
	baz=177				
W57A	Gilead	70.46 355	P	P	19 40 49.4 -0.9
	baz=175				
W57A			P	P	19 40 49.4 -0.9
	baz=175				
KMSC	Kings Mountain	70.56 354	P	P	19 40 50.7 -0.3
	baz=174				
KMSC	Kings Mountain	70.56 354	P	P	19 40 50.6 -0.3
	baz=174				
X48A	Hartselle	70.60 349	P	P	19 40 51.1 -0.1
	baz=169,SNR=5.2				
WHTX	Lake Whitney,	70.60 339	P	P	19 40 52.1 +0.8
	baz=160				
OZNA	Ozona	70.77 336	P	P	19 40 51.3 -1.1
OZNA			IAmb	IAmb	19 40 56.6
	comp=Z,27nm,1.3s				
W50A	Signal Mountai	71.07 350	IAmb	IAmb	19 40 58.1
	comp=Z,20nm,1.1s				
W50A	Signal Mountai	71.07 350	P	P	19 40 53.5 -0.6
	baz=170,SNR=5.5				
V55A	Taylorsville	71.25 354	P	P	19 40 53.8 -1.3
	baz=174				
V55A			P	P	19 40 53.8 -1.3
	baz=174				
PLAL	Pickwick Lake	71.29 348	IAmb	IAmb	19 40 55.9
	comp=Z,10nm,0.9s				
V48A	Smith Brothers	71.82 349	P	P	19 40 58.2 -0.3
	baz=169,SNR=14				
ABTX	Abilene, Hawle	71.85 337	IAmb	IAmb	19 41 00.0
	comp=Z,20nm,1.1s				
ABTX	Abilene, Hawle	71.85 337	P	P	19 40 59.6 +0.8
	baz=158				
U54A	Nelsons Funny	71.97 353	P	P	19 40 59.2 -0.3
	baz=173				
U54A			P	P	19 40 59.2 -0.3
	baz=173				
MIAR	Mount Ida	71.99 343	P	P	19 40 59.3 -0.3
	baz=163				
CLTN	Cedars of Leba	72.09 350	IAmb	IAmb	19 41 01.1
	comp=Z,21nm,1.0s				
TZTN	Tazewell	72.17 352	P	P	19 40 60.0 -0.7
	baz=172				
TZTN	Tazewell	72.17 352	P	P	19 41 00.3 -0.4
	baz=172				
MAW	Mawson	72.25 164	P	P	19 41 01.1 +0.2
	comp=Z,11nm,1.0s,baz=192,slow=6.4,SNR=11				
MAW			LR	LR	20 12 22.3
	comp=Z,191nm,18.1s,baz=232,slow=36				
	comp=Z,11nm,1.0s				
ODSA	Odessa	72.35 335	IAmb	IAmb	19 41 06.0
	comp=Z,36nm,1.0s				
WVT	Waverly	72.36 348	P	P	19 41 01.2 -0.6
WVT	Waverly	72.36 348	P	P	19 41 01.6 -0.2
	baz=168				
WVT	Waverly	72.36 348	P	P	19 41 01.1 -0.6
	baz=168,SNR=9.9				
BLA	Blacksburg	72.54 355	P	P	19 41 02.6 -0.3
	baz=175				
APMT	Aspermont	72.65 337	IAmb	IAmb	19 41 07.8
	comp=Z,46nm,1.6s				
POST	Post	72.86 336	IAmb	IAmb	19 41 06.8
	comp=Z,9.2nm,0.8s				
LCAR	Lake Charles	72.92 346	IAmb	IAmb	19 41 05.6
	comp=Z,22nm,1.1s				
FCAR	Ozark Folk Cen	72.95 345	IAmb	IAmb	19 41 05.3
	comp=Z,8.5nm,0.8s				
S57A	Dark Hollow, R	72.99 356	P	P	19 41 05.3 -0.1
	baz=176				
S57A			P	P	19 41 05.3 -0.1
	baz=176				
MNTX	Cornudas Mount	72.99 332	P	P	19 41 04.7 -0.9
	baz=154				
MNTX	Cornudas Mount	72.99 332	P	P	19 41 04.8 -0.9
	baz=154,SNR=11				
T47A	Sharon Grove	73.09 349	IAmb	IAmb	19 41 08.7
	comp=Z,32nm,1.4s				
T47A	Sharon Grove	73.09 349	P	P	19 41 05.9 -0.2
	baz=169				
DKNS	Dickens	73.22 337	IAmb	IAmb	19 41 17.3
	comp=Z,5.9nm,0.7s				
PBMO	Poplar Bluff	73.46 346	IAmb	IAmb	19 41 11.8
	comp=Z,24nm,1.2s				
PBMO	Poplar Bluff	73.46 346	P	P	19 41 07.8 -0.5
	baz=166				
WMOK	Wichita Mounta	73.55 339	P	P	19 41 08.4 -0.5
	baz=159				
WMOK	Wichita Mounta	73.55 339	P	P	19 41 08.3 -0.7
	baz=159				
U40A	Yellville	73.56 344	P	P	19 41 08.5 -0.4
	baz=164,SNR=7.5				
U40A			P	P	19 41 08.5 -0.4
	baz=164,SNR=7.5				
HHAR	Hobbs	73.73 343	IAmb	IAmb	19 41 21.1
	comp=Z,36nm,1.8s				
TUL3	Leonard	73.83 342	P	P	19 41 09.7 -0.8
	baz=162				
T42A	Van Buren	73.83 346	IAmb	IAmb	19 41 13.9
	comp=Z,20nm,1.3s				
T42A	Van Buren	73.83 346	P	P	19 41 10.1 -0.4
	baz=166				
R49A	Shelbyville	74.09 351	P	P	19 41 11.6 -0.3
	baz=171				
R49A			P	P	19 41 11.6 -0.3
	baz=171				
MSTX	Muleshoe	74.11 335	P	P	19 41 12.4 +0.1
	baz=156				
MSTX	Muleshoe	74.11 335	P	P	19 41 12.6 +0.2
	baz=156				
S44A	Carbondale	74.13 348	IAmb	IAmb	19 41 15.8
	comp=Z,34nm,1.4s				
S44A	Carbondale	74.13 348	P	P	19 41 11.5 -0.7
	baz=167				
AMTX	Amarillo	74.58 337	IAmb	IAmb	19 41 19.4
	comp=Z,28nm,1.3s				
AMTX	Amarillo	74.58 337	P	P	19 41 15.4 +0.4
	baz=157				
FVM	French Village	74.63 347	IAmb	IAmb	19 41 15.9
	comp=Z,34nm,1.5s				
121A	Cookes Peak, D	74.67 331	IAmb	IAmb	19 41 20.9
	comp=Z,11nm,0.9s				
121A	Cookes Peak, D	74.67 331	P	P	19 41 16.9 +1.2
	baz=152				
121A	Cookes Peak, D	74.67 331	P	P	19 41 16.7 +1.1
	baz=152,SNR=6.4				
OK051	E0350 and S346	74.67 341	IAmb	IAmb	19 41 16.4
	comp=Z,22nm,0.9s				
CCM	Cathedral Cave	74.86 346	P	P	19 41 16.2 -0.2
CCM	Cathedral Cave	74.86 346	P	P	19 41 16.2 -0.2
	baz=166				
CCM	Cathedral Cave	74.86 346	P	P	19 41 16.2 -0.2
	baz=166,SNR=10				
S39A	Bolivar	74.94 344	IAmb	IAmb	19 41 17.7
	comp=Z,51nm,2.0s				
S39A	Bolivar	74.94 344	P	P	19 41 16.4 -0.6
	baz=164				
T35B	Sooner Cattle	74.97 342	P	P	19 41 17.5 +0.4
	baz=161,SNR=6.4				
P52A	Corning	75.09 354	P	P	19 41 17.5 -0.2
	baz=173				
P49A	Miami Univ. Ec	75.26 351	P	P	19 41 18.0 -0.8
	baz=171				
R40A	Maddies Statio	75.29 345	IAmb	IAmb	19 41 22.6
	comp=Z,21nm,1.2s				
R40A	Maddies Statio	75.29 345	P	P	19 41 18.7 -0.2
	baz=165,SNR=6.8				
SUR	Sutherland	75.56 119	LR	LR	20 10 17.8
	comp=Z,166nm,19.6s,baz=332,slow=32				
O53A	New Philadelph	75.62 354	P	P	19 41 20.4 -0.3
	baz=174				
TUC	Tucson	75.71 328	P	P	19 41 21.9 +0.3
TUC	Tucson	75.71 328	P	P	19 41 22.6 +1.0
	baz=150				
ACSO	Alum Creek Sta	75.76 353	P	P	19 41 21.2 -0.3
	baz=172				
214A	Organ Pipe Nat	76.29 327	P	P	19 41 26.1 +1.3
	baz=148				
ANMO	Albuquerque	76.29 333	P	P	19 41 23.3 -1.7
ANMO			IAmb	IAmb	19 41 30.7
	comp=Z,17nm,1.2s				
ANMO	Albuquerque	76.29 333	P	P	19 41 26.1 +1.1
	baz=153				
ANMO	Albuquerque	76.29 333	P	P	19 41 25.9 +1.0
	baz=153,SNR=10.0				
P40A	Paris	76.44 346	P	P	19 41 25.1 -0.3
	baz=165,SNR=7.9				
LIC	Lamto	76.79 72⇑	eP	P	19 41 28.3 +0.2
	comp=Z,30nm,0.9s				
P38A	Dawn	76.84 345	P	P	19 41 27.5 -0.2
	baz=154				
TIC	Toumodi	77.06 72⇑	eP	P	19 41 31.5 +1.9
	comp=Z,72nm,1.0s				
KIC	Kosan Boka	77.10 73⇓	iP	P	19 41 30.7 +0.9
	comp=Z,31nm,0.9s				
DBIC	Dimbokro	77.20 72	P	P	19 41 30.4 0.0
DBIC			IAmb	IAmb	19 41 32.4
	comp=Z,23nm,1.1s				
DBIC	Dimbokro	77.20 72	P	P	19 41 29.7 -0.7
	comp=Z,14nm,0.9s,baz=229,slow=4.7,SNR=13				
	comp=Z,14nm,0.9s				
T25A	Trinidad	77.54 336	P	P	19 41 33.3 +1.3
	baz=155				
X16A	Lo Mia Camp, P	77.80 329	IAmb	IAmb	19 41 38.8
	comp=Z,16nm,1.3s				
YUH	Yuha Desert	78.30 325	IAmb	IAmb	19 41 41.6
	comp=Z,15nm,1.4s				
IKP	In-Ko-Pah, Jac	78.39 325	P	P	19 41 37.7 +1.0
	baz=146				
SDCO	Great Sand Dun	78.46 335	P	P	19 41 37.2 0.0
	baz=154				
SDCO	Great Sand Dun	78.46 335	P	P	19 41 36.2 -0.9
	baz=154,SNR=6.8				
SWSC	Sam W. Stewart	78.49 325	P	P	19 41 38.5 +1.4
	baz=146				
WUAZ	Wupatki	78.72 330	P	P	19 41 39.7 +1.2
	baz=150				
L40A	Anamosa	78.73 347	IAmb	IAmb	19 41 41.5
	comp=Z,22nm,1.1s				
MONP2	Monument Peak	78.74 325	P	P	19 41 39.3 +0.6
	baz=146				
BC3	Big Chuckawall	78.92 326	P	P	19 41 39.8 +0.2
	baz=147				
S22A	4UR Ranch, Cre	78.92 334	P	P	19 41 40.5 +0.8
	baz=153				
MVCO	Mesa Verde	79.06 333	IAmb	IAmb	19 41 45.5
	comp=Z,19nm,1.4s				
MVCO	Mesa Verde	79.06 333	P	P	19 41 41.2 +0.7
	baz=152				
IRM	Iron Mountain	79.20 326	P	P	19 41 41.5 +0.5
	baz=147				
LBNH	Lisbon	79.34 2	P	P	19 41 42.5 +1.0
	baz=182				
PFO	Pinyon Flats O	79.35 325	P	P	19 41 39.7 -2.2
PFO			IAmb	IAmb	19 41 47.6
	comp=Z,16nm,1.2s				
PFO	Pinyon Flats O	79.35 325	P	P	19 41 42.7 +0.7
	baz=146				
JFWS	Jewell Farm	79.38 348	P	P	19 41 40.3 -1.5
JFWS			IAmb	IAmb	19 41 45.5
	comp=Z,29nm,1.2s				
JFWS	Jewell Farm	79.38 348	P	P	19 41 41.9 +0.1
	baz=167				
BELC	Belle Mtn. Jos	79.45 326	P	P	19 41 43.8 +1.2
	baz=146				
GMRC	Granite Mounta	79.95 326	P	P	19 41 46.5 +1.3
	baz=147				
SMCO	Snowmass	80.25 335	IAmb	IAmb	19 41 52.4
	comp=Z,22nm,1.1s				
HEC	Hector,Ludlow	80.30 326	P	P	19 41 48.6 +1.6
	baz=146				
ISCO	Idaho Springs	80.34 336	P	P	19 41 48.0 +0.5
	baz=154				
ISCO	Idaho Springs	80.34 336	P	P	19 41 48.2 +0.7
	baz=154				
TSUM	Tsumeb	80.39 107	LR	LR	20 13 32.9
	comp=Z,368nm,18.5s,baz=330,slow=33				
BFSC	Mount Baldy Ra	80.43 325	P	P	19 41 48.6 +0.8
	baz=145				
KNB	Kanab	80.60 329	IAmb	IAmb	19 41 54.3
	comp=Z,22nm,1.2s				
TUQ	Turquoise Moun	80.61 326	P	P	19 41 50.0 +1.3
	baz=147				
BOSA	Boshof	80.84 118	P	P	19 41 49.7 -0.7
BOSA			IAmb	IAmb	19 41 51.7
	comp=Z,21nm,1.0s				
BOSA	Boshof	80.84 118	P	P	19 41 49.4 -1.0
	comp=Z,15nm,0.9s,baz=228,slow=3.5,SNR=15				
	comp=Z,15nm,0.9s				
GSC	Goldstone, Bar	80.90 326	P	P	19 41 51.0 +0.8
	baz=146				
I37A	Lemond, Waseca	81.03 346	IAmb	IAmb	19 41 53.9
	comp=Z,13nm,0.7s				
EDW2	Edwards Air Fo	81.11 325	P	P	19 41 52.1 +0.8
	baz=145				
N23A	Red Feather La	81.44 336	IAmb	IAmb	19 41 58.2
	comp=Z,12nm,1.1s				
N23A	Red Feather La	81.44 336	P	P	19 41 53.6 +0.5
	baz=154				
ECSD	EROS Data Cent	81.45 344	IAmb	IAmb	19 41 53.8
	comp=Z,22nm,0.9s				
ECSD	EROS Data Cent	81.45 344	P	P	19 41 52.6 -0.2
	baz=162				
ECSD	EROS Data Cent	81.45 344	P	P	19 41 52.7 -0.1
	baz=162				
LRMC	Laurel Mtn Rad	81.45 325	P	P	19 41 54.0 +0.7
	baz=145				
SRU	San Rafael Swe	81.49 332	IAmb	IAmb	19 41 58.0
	comp=Z,16nm,1.4s				
O20A	White River Ci	81.55 334	IAmb	IAmb	19 41 58.5
	comp=Z,19nm,1.2s				
O20A	White River Ci	81.55 334	P	P	19 41 54.6 +0.9
	baz=152				
Q16A	Castle Valley	81.57 332	IAmb	IAmb	19 41 59.1
	comp=Z,20nm,1.3s				
P18A	Preston Nutter	81.84 333	IAmb	IAmb	19 42 00.5
	comp=Z,25nm,1.2s				
MPMC	Manual Prospec	81.84 326	P	P	19 41 56.0 +0.6
	baz=146				
P17A	Butcher Ranch,	81.89 332	IAmb	IAmb	19 42 00.2
	comp=Z,13nm,1.2s				
TMUT	Trail Mountain	81.92 332	IAmb	IAmb	19 42 01.0
	comp=Z,13nm,1.3s				
ISA	Isabella, Lake	81.97 325	P	P	19 41 57.5 +1.6
	baz=145				
PKM	Mcpherson Peak	81.99 323	P	P	19 41 57.4 +1.2
	baz=144				
TPNV	Topopah Spring	82.02 327	P	P	19 41 57.2 +1.0
	baz=146				
RDMU	Red Mountain	82.41 333	IAmb	IAmb	19 42 02.8
	comp=Z,17nm,1.2s				
CWC	Cottonwood Cre	82.43 326	P	P	19 41 59.7 +1.3
	baz=145				
GRAC	Grapevine Rang	82.56 326	P	P	19 42 00.3 +1.4
	baz=146				
KOWA	Kowa	82.73 67	P	P	19 42 01.0 +0.7
NLU	North Lily Min	82.82 331	IAmb	IAmb	19 42 05.7
	comp=Z,15nm,1.3s				
BSUT	Blindstream Ca	82.82 333	IAmb	IAmb	19 42 05.6
	comp=Z,14nm,1.2s				
R11B	Troy Canyon, C	82.89 328	P	P	19 42 02.2 +1.4
	baz=147				
SPR3	Spring Creek 3	82.91 329	IAmb	IAmb	19 42 06.0
	comp=Z,30nm,1.6s				
K22A	Casper	83.20 336	P	P	19 42 03.0 +0.7
	baz=154				
K22A	Casper	83.20 336	P	P	19 42 03.0 +0.7
	baz=154				
DUG	Dugway, Tooele	83.32 331	IAmb	IAmb	19 42 08.0
	comp=Z,17nm,1.1s				
DUG	Dugway, Tooele	83.32 331	P	P	19 42 03.6 +0.7
	baz=149				
OMMB	Old Mammoth Mi	83.81 326	IAmb	IAmb	19 42 10.9
	comp=Z,9.6nm,1.3s				
BGU	Big Grassy Mou	84.03 331	IAmb	IAmb	19 42 11.2
	comp=Z,14nm,1.5s				
LHV	Little Huntoon	84.10 326	IAmb	IAmb	19 42 12.6
	comp=Z,14nm,1.1s				
NVAR	Mina Array Bea	84.16 327	P	P	19 42 07.9 +0.6
	comp=Z,2.5nm,0.8s,baz=155,slow=6.1,SNR=16				
	comp=Z,2.5nm,0.8s				
PDAR	Pinedale Array	84.33 335	P	P	19 42 07.8 -0.3
	comp=Z,4.2nm,1.1s,baz=138,slow=5.6,SNR=11				
	comp=Z,4.2nm,1.1s				
BW06	Boulder Array	84.33 335	IAmb	IAmb	19 42 12.3
	comp=Z,11nm,1.3s				
BW06	Boulder Array	84.33 335	P	P	19 42 08.7 +0.6
	baz=152				
KVN	Kaiserville	84.57 327	IAmb	IAmb	19 42 14.3
	comp=Z,10nm,1.2s				
HVU	Hansel Valley	84.66 332	IAmb	IAmb	19 42 11.1
	comp=Z,13nm,1.0s				
WAKR	Walker	84.73 326	IAmb	IAmb	19 42 16.1
	comp=Z,8.9nm,1.2s				
ID08	Devils Gate	85.27 333	IAmb	IAmb	19 42 17.3
	comp=Z,14nm,1.1s				
PNTR	Pine Nut	85.28 326	IAmb	IAmb	19 42 18.5
	comp=Z,8.2nm,0.9s				
EMB	Emerald Bay	85.42 326	IAmb	IAmb	19 42 19.2
	comp=Z,13nm,1.4s				
TPAW	Teton Pass	85.46 334	IAmb	IAmb	19 42 18.4
	comp=Z,12nm,1.1s				
MOOW	Moose Ponds	85.61 334	IAmb	IAmb	19 42 26.7
	comp=Z,20nm,2.0s				
AFDM	Forest Hills D	85.80 325	IAmb	IAmb	19 42 20.4
	comp=Z,15nm,1.4s				
IMW	Indian Meadow	85.81 334	IAmb	IAmb	19 42 20.2
	comp=Z,11nm,1.1s				
FLWY	Flagg Ranch	85.89 334	IAmb	IAmb	19 42 20.7
	comp=Z,26nm,1.4s				
TORD	Torodi Ar. Bea	86.25 71	P	P	19 42 18.0 -0.1
TORD			IAmb	IAmb	19 42 19.7
	comp=Z,16nm,1.1s				
TORD	Torodi Ar. Bea	86.25 71	P	P	19 42 18.0 -0.1
	comp=Z,8.7nm,1.0s,baz=282,slow=2.9,SNR=32				
TORD			LR	LR	20 20 29.2
	comp=Z,487nm,19.4s,baz=334,slow=35				
	comp=Z,8.7nm,1.0s				
RLMT	Red Lodge	86.31 336	P	P	19 42 18.0 +0.1
	baz=152				
ORV	Oroville	86.53 325	IAmb	IAmb	19 42 24.5
	comp=Z,26nm,1.4s				
YHL	Hebgen Lake	86.73 335	IAmb	IAmb	19 42 25.4
	comp=Z,22nm,1.5s				
LAO	LASA Array	86.74 338	P	P	19 42 20.1 +0.3
	baz=154				
HLID	Hailey	86.81 332	IAmb	IAmb	19 42 25.8
	comp=Z,13nm,1.2s				
HLID	Hailey	86.81 332	P	P	19 42 21.7 +1.3
	baz=148				
MFID	Camas Ranch	87.24 331	IAmb	IAmb	19 42 24.3
	comp=Z,11nm,1.2s				
ULM	Lac du Bonnet	87.49 346	P	P	19 42 21.5 -1.7
	comp=Z,4.7nm,0.8s,baz=110,slow=4.7,SNR=4.3				
	comp=Z,4.7nm,0.8s				
WVOR	Wild Horse Val	87.58 329	IAmb	IAmb	19 42 26.1
	comp=Z,11nm,1.1s				
DLMT	Dillon	87.67 334	IAmb	IAmb	19 42 29.5
	comp=Z,17nm,1.2s				
PINE	Pine Mountain	89.67 328	IAmb	IAmb	19 42 36.5
	comp=Z,15nm,1.1s				
G08A	Pilot Rock	90.05 330	IAmb	IAmb	19 42 40.8
	comp=Z,20nm,1.6s				
LSZ	Lusaka	90.90 109	P	P	19 42 41.9 +1.5
LSZ	Lusaka	90.90 109	LR	LR	20 18 15.8
	comp=Z,610nm,19.5s,baz=311,slow=32				
ESDC	Sonseca Array	98.77 47	P	P	19 43 13.7 -2.0
	comp=Z,0.9nm,1.0s,baz=242,slow=2.8,SNR=2.2				
	comp=Z,0.9nm,1.0s				
ILAR	Eielson Array	114.74 333	PKP	PKPdf	19 48 14.7 -0.9
	comp=Z,0.3nm,0.9s,baz=200,slow=1.3,SNR=4.8				
WRA	Warramunga Arr	118.69 211	PKP	PKPdf	19 48 24.0 -0.7
	comp=Z,1.0nm,1.0s,baz=163,slow=1.5,SNR=7.9				
AKASG	Malin Array Be	124.39 49	PKP	PKPdf	19 48 33.6 -0.9
	comp=Z,0.3nm,0.4s,baz=275,slow=2.4,SNR=4.7				
BVAR	Borovoye Array	149.47 44	PKP	PKPdf	19 49 20.9 +0.7
	comp=Z,4.4nm,0.4s,baz=318,slow=2.0,SNR=10				
BVAR			PKPbc	PKPbc	19 49 25.4 +0.7
	comp=Z,4.4nm,0.4s,baz=306,slow=2.3,SNR=25				
KURBB	Kurchatov Arra	155.06 44	PKP	PKPdf	19 49 28.6 +0.1
	comp=Z,2.1nm,0.2s,baz=295,slow=2.0,SNR=6.5				
KURBB			PKPab	PKPab	19 49 53.3 +0.2
	comp=Z,3.5nm,0.2s,baz=298,slow=4.9,SNR=7.2				
KSH	Kashi	155.92 71	PKP	PKPdf	19 49 31.4 +1.1
ZALV	Zalesovo Beam	156.33 32	PKP	PKPdf	19 49 29.9 -0.2
	comp=Z,6.8nm,1.0s,baz=283,slow=2.6,SNR=22				
ZALV			PKPab	PKPab	19 49 59.0 +0.6
	comp=Z,6.3nm,1.0s,baz=306,slow=5.0,SNR=6.7				
CMAR	Chiang Mai Arr	161.97 158	PKP	PKPdf	19 49 37.8 0.0
	comp=Z,1.8nm,1.1s,baz=238,slow=1.6,SNR=6.1				
CMAR			PKPab	PKPab	19 50 23.8 0.0
	comp=Z,1.4nm,1.0s,baz=226,slow=3.6,SNR=5.7				
WMQ	Urumqi	163.66 54	eP	PKPdf	19 49 38.9 +0.1
SONM	Songino Array	167.62 359	PKPab	PKPab	19 50 48.3 +0.2
	comp=Z,2.9nm,1.1s,baz=337,slow=6.4,SNR=6.8				
XLT	XiLinHaoTe	168.52 320	eP	PKPdf	19 49 40.9 -1.8
XLT			pmax	pmax	
	comp=Z,6.0nm,0.8s				
XLT			pmax	pmax	
	comp=Z,91nm,4.9s				
NJ2	Nanjing	168.74 256	eP	PKPdf	19 49 43.1 0.0
NJ2			pmax	pmax	
	comp=Z,46nm,0.5s				
PZH	PanZhiHua	170.38 157	PKP	PKPdf	19 49 43.9 -0.5
HHC	Hu-ho-hao-te	173.03 322	eP	PKPdf	19 49 42.6 -2.6
LYN	LuoYang	174.58 262	⇑PKP	PKPdf	19 49 45.8 0.0
LYN			PP	PP	19 54 55.3 -17
LYN			AMB	AMB	
	comp=Z,480nm,10.3s				

*IDC **16** 19:45:07.9±0.9, 34.72N×101.93E, h0km, mb3.8/9, mbtmp3.8/12, ML3.6/3, Error ellipse: s-maj=33.6km s-min=17.3km az=55.0*

ISC 16 19:45:12.6±0.8, 34.68N±0.10×101.8E±0.1, h35km, n20, σ1.9 06/20, mb3.8/9, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	13.58	13	Pn	Pn	19 48 22.6	-0.2
	0.4nm,0.3s,baz=193,slow=15,SNR=8.8						
	1.1nm,0.5s						
TAPN	Taplejung	14.12	243	eP	Pn	19 48 30.8	+0.4
	60nm,1.8s						
RAMN	Ramite	15.16	244	eP	Pn	19 48 43.4	-1.0
	5.9nm,0.5s						
GUN	Gumba	15.19	248	eP	Pn	19 48 42.5	-2.4
	15nm,0.6s						
PKI	Pulchoki	15.72	248	eP	Pn	19 48 50.1	-1.6
	7.6nm,0.5s						
PKIN	Phulchoki	15.72	248	eP	Pn	19 48 50.0	-1.8
	7.1nm,0.4s						
GKN	Gorkha	16.10	250	eP	Pn	19 48 55.3	-1.2
CMAR	Chiang Mai Arr	16.36	190	Pn	Pn	19 49 00.5	+0.8
	0.1nm,0.3s,baz=358,slow=13,SNR=1.5						
	0.3nm,0.5s						
DANN	Dangsing	16.62	253	eP	Pn	19 49 03.5	+0.3
PYUN	Piuthan	17.34	253	eP	P	19 49 13.8	+0.5
	15nm,0.9s						
MKAR	Makanchi Array	19.05	315	P	Pn	19 49 33.3	+0.6
	0.1nm,0.3s,baz=119,slow=12,SNR=21						
	3.4nm,0.9s						
KSRS	Korea Array	21.27	75	P	P	19 49 55.8	-0.2
	1.2nm,0.6s,baz=265,slow=11,SNR=3.6						
	1.2nm,0.6s						
ZALV	Zalesovo Beam	22.67	333	P	P	19 50 11.3	+0.7
	3.3nm,0.6s,baz=135,slow=11,SNR=9.3						
	3.3nm,0.6s						
KURBB	Kurchatov Arra	23.24	320	P	P	19 50 16.7	+0.1
	3.2nm,0.2s,baz=127,slow=9.6,SNR=7.0						
	3.2nm,0.2s						
FINES	FINESS Array B	53.53	325	P	P	19 54 30.4	+0.9
	1.4nm,0.5s,baz=90,slow=9.1,SNR=17						
	1.4nm,0.5s						
HFS	Hagfors	59.73	325	P	P	19 55 13.9	+0.4
	1.7nm,0.8s,baz=120,slow=8.5,SNR=1.8						
	1.7nm,0.8s						
NOA	NORSAR Array B	60.61	326	P	P	19 55 20.0	+0.4
	0.6nm,0.8s,baz=76,slow=5.5,SNR=2.5						
	0.6nm,0.8s						
WRA	Warramunga Arr	62.51	145	P	P	19 55 32.9	+0.1
	0.3nm,0.7s,baz=340,slow=6.8,SNR=1.9						
	0.3nm,0.7s						
ASAR	Alice Springs	65.54	148	P	P	19 55 53.4	+0.7
	0.3nm,0.5s,baz=335,slow=6.8,SNR=5.7						
	0.3nm,0.5s						
ILAR	Eielson Array	67.45	26	P	P	19 56 03.1	-1.4
	0.3nm,0.6s,baz=290,slow=8.0,SNR=2.7						
	0.3nm,0.6s						

*NEIC **16** 19:49:45.7±2.9,24°.1S±0°.2×175°.3W±0°.2,h10km±1km, mb4.3/13,Error ellipse: s-maj=32.4km s-min=17.9km az=137.0*
*IDC **16** 19:49:48.6±1.6,23°.74S×176°.11W,h0km,mb3.9/5, mbtmp3.9/5,Error ellipse: s-maj=51.0km s-min=39.1km az=137.0*

ISC 16 19:49:48.6±0.7,24°.03S±0°.1×175°.4W±0°.1,h28km,n28, σ2§18/22,mb4.2/12,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.05**	**47**	Pn	**Pn**	**19 51 27.9**	**-2.1**
NIUE				Sn	Sn	19 52 38.5	-11
MSVF	**Nonsavu**	**8.78**	**314**	Pn	**Pn**	**19 51 54.9**	**+1.0**
	0.5nm,0.3s,baz=141,slow=15,SNR=2.8						
CTAO	**Charters Tower**	**35.72**	**269**	P	**P**	**19 56 45.1**	**-0.1**
CTAO				IAmb	IAmb	19 57 05.8	
	comp=Z,4.3nm,0.9s						
COEN	**Coen**	**40.34**	**277**	P	**P**	**19 57 20.7**	**-3.4**
COEN				IAmb	IAmb	19 57 26.5	
	comp=Z,4.1nm,0.8s						
BBOO	**Buckleboo**	**43.31**	**247**	P	**P**	**19 57 47.1**	**-1.1**
BBOO				IAmb	IAmb	19 57 56.4	
	comp=Z,4.3nm,0.9s						
ASAR	**Alice Springs**	**46.20**	**260**	P	**P**	**19 58 09.9**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=92,slow=7.0,SNR=6.5						
	comp=Z,0.4nm,0.5s						
WR0	**Warramunga Arr**	**46.45**	**265**	P	**P**	**19 58 12.3**	**-1.1**
WR0				IAmb	IAmb	19 58 21.2	
	comp=Z,3.2nm,1.0s						
WB2	**Warramunga Arr**	**46.62**	**265**	P	**P**	**19 58 12.2**	**-2.6**
WB2				IAmb	IAmb	19 58 17.9	
	comp=Z,6.0nm,1.0s						
WRAB	**Tennant Creek**	**46.63**	**265**	P	**P**	**19 58 12.2**	**-2.5**
WB0	**Warramunga Arr**	**46.63**	**265**	P	**P**	**19 58 14.2**	**-0.7**
WB0				IAmb	IAmb	19 58 31.1	
	comp=Z,2.2nm,0.9s						
WRA	**Warramunga Arr**	**46.63**	**265**	P	**P**	**19 58 11.9**	**-3.0**
WRA	**Warramunga Arr**	**46.63**	**265**	P	**P**	**19 58 13.7**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=97,slow=8.3,SNR=41						
	comp=Z,1.8nm,0.7s						
MHA	**Mahukona**	**47.85**	**25**	P	**P**	**19 58 23.3**	**-0.8**
MTN	**Manton Dam**	**51.70**	**272**	P	**P**	**19 58 53.5**	**-0.1**
KNRA	**Kununurra**	**52.93**	**268**	P	**P**	**19 59 02.2**	**-0.5**
SBA	**Scott Base**	**54.55**	**185**	P	**P**	**19 59 12.3**	**-1.4**
MAW	**Mawson**	**79.08**	**199**	P	**P**	**20 01 50.4**	**+0.4**
MAW	**Mawson**	**79.08**	**199**	P	**P**	**20 01 54.8**	**+4.7**
	comp=Z,1.1nm,0.6s,baz=146,slow=9.7,SNR=7.4						
	comp=Z,1.1nm,0.6s						
SLBS	**Sierra La Lagu**	**79.22**	**58**	P	**P**	**20 01 51.7**	**+0.1**
SLBS				IAmb	IAmb	20 02 12.0	
	comp=Z,6.1nm,1.0s						
H03S2	**Juan Fernandez**	**82.00**	**123**	T	T	21 33 43.1	
	baz=242						
H03S1	**Juan Fernandez**	**82.01**	**123**	T	T	21 33 46.3	
	baz=242						
H03S3	**Juan Fernandez**	**82.02**	**123**	T	T	21 33 47.5	
	baz=242						
H03N2	**Juan Fernandez**	**82.15**	**123**	T	T	21 33 50.4	
	baz=240						
H03N3	**Juan Fernandez**	**82.16**	**123**	T	T	21 33 42.2	
	baz=240						
H03N1	**Juan Fernandez**	**82.17**	**123**	T	T	21 33 51.1	
	baz=240						
ILAR	**Eielson Array**	**91.22**	**12**	P	**P**	**20 02 54.2**	**+3.6**
	comp=Z,0.3nm,0.7s,baz=214,slow=4.4,SNR=2.5						
	comp=Z,0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.58**	**288**	P	**P**	**20 03 05.0**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=107,slow=2.2,SNR=5.8						
	comp=Z,0.7nm,0.7s						
AKASG	**Malin Array Be**	**147.27**	**331**	PKPbc	**PKPab**	**20 09 30.6**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=45,slow=3.7,SNR=6.1						

IDC 16 20:00:30.8±7.1,6°.87S×128°.66E,h214km±77km,mb2.9/1, mbtmp3.5/4,Error ellipse: s-maj=74.5km s-min=25.8km az=41.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.95**	**236**	P	Pn	20 01 58.6	+0.9
	12nm,0.5s,baz=152,slow=2.0,SNR=7.0						
BATI				S	S	20 03 06.4	-0.1
	8.0nm,0.6s,baz=298,slow=18,SNR=2.1						
WRA	**Warramunga Arr**	**14.12**	**158**	P	P	20 03 43.8	+0.6
	0.9nm,0.9s,baz=336,slow=13,SNR=12						
ASAR	**Alice Springs**	**17.45**	**164**	P	P	20 04 19.0	-0.8
	0.2nm,0.3s,baz=344,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**67.39**	**327**	P	P	20 11 03.1	-0.1
	0.2nm,0.5s,baz=113,slow=6.9,SNR=1.5						
	0.2nm,0.5s						

*BJI **16** 20:03:09.0±0.0,23°.80S×175°.50W,h10km,mb5.3/33, mB5.7/17,Ms5.2/6,Ms7 4.9/6*
*NEIC **16** 20:03:11.0±2.5,23°.76S±0°.09×175°.6W±0°.1,h10km±1km, mb5.0/71,Error ellipse: s-maj=19.1km s-min=12.9km az=123.0*
*GCMT **16** 20:03:16.0±0.3,23°.91S±0°.03×175°.31W±0°.02,h30km±1km, MW5.0/88,Moment Tensor Solution. s29,c33; s88,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.00±.32; $M_{\theta\theta}$-0.48±.18; $M_{\phi\phi}$-3.52±.18; $M_{r\theta}$-0.05±.31; $M_{\theta\phi}$-0.98±.11; $M_{\phi r}$2.30±.19; Best double couple: $M_0$4.52900×10^{16} NP1:ϕ_s8.00000°,δ60.00000°,λ82.00000°. NP2: ϕ_s204.00000°,δ31.00000°,λ104.00000°. Principal axes: T 4.6680, Plg74.0000°, Azm257.0000°; N -0.2750, Plg7.0000°, Azm12.0000°; P -4.3900, Plg15.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **16** 20:03:20.5±2.3,23°.79S×176°.02W,h79km±19km,mb4.3/13, mbtmp4.7/15,MS4.3/13 Error ellipse: s-maj=17.4km s-min=12.4km az=162.0*

ISC 16 20:03:14.2±0.4,24°.03S±0°.05×175°.85W±0°.08,h31km, n324,σ§55/290,mb5.0/57,MS4.2/16,25C-12D,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.53**	**199**	Pn	**Pn**	**20 04 35.8**	**+1.4**
RAO					**Sn**	**20 05 42.6**	**+5.7**
RAO	**Raoul Island**	**5.53**	**199**	S	**Sn**	**20 05 38.4**	**+1.6**
	400nm,0.5s,baz=116,slow=23,SNR=2.4						
NIUE	**Niue**	**7.39**	**49**		Pn	20 04 51.5	-8.5
MSVF	**Nonsavu**	**8.47**	**317**	Pn	**Pn**	**20 05 18.4**	**+3.4**
MSVF	**Nonsavu**	**8.47**	**317**	P	**Pn**	**20 05 18.1**	**+3.2**
	196nm,1.1s,baz=138,slow=12,SNR=37						
MSVF				LR	LR	20 08 06.7	
	comp=Z,3μm,20.7s,baz=149,slow=35						
AFI	**Afiamalu**	**10.77**	**22**		Pn	20 05 38.0	-8.5
AFI					Sn	20 07 28.2	-18
RAR	**Rarotonga**	**15.10**	**82**	P	Pn	20 06 36.9	-8.6
	333nm,1.1s,baz=254,slow=5.3,SNR=19						
RAR				S	Sn	20 09 07.1	-25
	25nm,0.6s,baz=61,slow=20,SNR=2.6						
RAR				LR	LR	20 12 48.6	
	comp=Z,677nm,18.5s,baz=302,slow=37						
URZ	**Urewera**	**15.41**	**201**	P	**Pn**	**20 06 49.3**	**0.0**
	2.2nm,0.3s,baz=19,slow=18,SNR=1.7						
URZ				S	**Sn**	**20 09 30.7**	**-8.3**
	9.6nm,0.8s,baz=278,slow=23,SNR=1.5						
LIFNC	**LIFOU**	**15.97**	**278**	P	**P**	**20 06 59.5**	**-0.5**
LIFNC				IAmb	IAmb	20 07 06.6	
	comp=Z,237nm,1.0s						
DZM	**Mont Dzumac**	**16.42**	**273**	*e*Pn	**Pn**	**20 06 59.9**	**-2.7**
	comp=Z,143nm,1.5s						
DZM				*e*LR	LR	20 10 32.0	
	comp=Z,932nm,28.0s						
DZM	**Mont Dzumac**	**16.42**	**273**		**P**	**20 07 04.5**	**-0.6**
DZM	**Mont Dzumac**	**16.42**	**273**	P	**P**	**20 07 05.5**	**+0.5**
	comp=Z,24nm,1.2s,baz=128,slow=16,SNR=4.2						
PAE	**Paea**	**25.32**	**81**	*e*T	T	20 34 33.4	
	comp=Z,10nm,0.5s						
PPT2	**Papeete2**	**25.35**	**80**	*e*LR	LR	20 14 36.8	
	comp=Z,916nm,25.5s						
PPT2				*e*LR	LR	20 14 45.5	
	comp=Z,714nm,27.2s						
PPT	**Papeete**	**25.36**	**80**	LR	LR	20 17 51.8	
	comp=Z,449nm,18.5s,baz=256,slow=34						
HNR	**Honiara**	**27.28**	**298**	LR	LR	20 18 20.0	
	comp=Z,5μm,19.0s,baz=150,slow=33						
ARMA	**Armidale**	**29.55**	**250**	P	**P**	**20 09 18.3**	**+2.0**
CTA	**Charters Tower**	**35.28**	**269**	P	**P**	**20 10 06.7**	**+0.1**
	comp=Z,11nm,0.4s,baz=92,slow=11,SNR=11						
	comp=Z,11nm,0.4s						
KRVT	**Keravat (AS076**	**36.64**	**297**	LR	LR	20 23 49.7	
	comp=Z,241nm,18.9s,baz=72,slow=34						
TAOE	**Nuku Hiva Isla**	**37.27**	**72**	*e*LR	LR	20 20 04.3	
	comp=Z,350nm,28.4s						
PMG	**Port Moresby**	**38.16**	**286**	P	**P**	**20 10 30.5**	**-0.6**
PMG				IAmb	IAmb	20 10 32.2	
	comp=Z,54nm,1.1s						
PMG	**Port Moresby**	**38.16**	**286**	P	**P**	**20 10 30.4**	**-0.6**
	comp=Z,48nm,1.0s,baz=126,slow=5.8,SNR=6.4						
	comp=Z,48nm,1.0s						
STKA	**Stephens Creek**	**38.21**	**248**	P	**P**	**20 10 31.4**	**0.0**
STKA	**Stephens Creek**	**38.21**	**248**	P	**P**	**20 10 32.2**	**+0.9**
	comp=Z,9.1nm,0.9s,baz=64,slow=9.0,SNR=8.9						
	comp=Z,9.1nm,0.9s						
AS31	**Alice Springs**	**45.76**	**260**	P	**P**	**20 11 33.1**	**-0.1**
ASAR	**Alice Springs**	**45.76**	**260**	P	**P**	**20 11 31.9**	**-1.2**
	comp=Z,8.1nm,0.9s,baz=83,slow=8.9,SNR=19						
ASAR				PcP	**PcP**	**20 13 10.7**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=104,slow=4.8,SNR=1.7						
ASAR				S	**S**	**20 18 11.5**	**-3.5**
	comp=Z,0.8nm,0.9s,baz=96,slow=17,SNR=3.6						
	comp=Z,8.1nm,0.9s						
WB0	**Warramunga Arr**	**46.18**	**265**	P	**P**	**20 11 35.9**	**-0.6**
WRA	**Warramunga Arr**	**46.19**	**265**	P	**P**	**20 11 34.8**	**-1.8**
WRA	**Warramunga Arr**	**46.19**	**265**	P	**P**	**20 11 35.4**	**-1.1**
	comp=Z,15nm,0.7s,baz=103,slow=8.1,SNR=11						
WRA				S	**S**	**20 18 16.8**	**-4.3**
	comp=Z,1.3nm,0.9s,baz=101,slow=13,SNR=5.0						
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**52.48**	**268**	P	**P**	**20 12 25.1**	**+0.4**
KNRA				IAmb	IAmb	20 12 25.9	
	comp=Z,23nm,0.7s						
GUMO	**Guam**	**53.59**	**310**	LR	LR	20 32 44.0	
	comp=Z,155nm,21.9s,baz=140,slow=33						
SBA	**Scott Base**	**54.52**	**184**	P	**P**	**20 12 42.4**	**+3.7**
SBA				IAmb	IAmb	20 12 55.4	
	comp=Z,13nm,0.9s						
RPN	**Rapa Nui**	**59.44**	**108**	LR	LR	20 36 17.5	
	comp=Z,13nm,18.9s,baz=20,slow=33						
JCJ	**Chichijima**	**65.00**	**319**	LR	LR	20 36 44.7	
	comp=Z,219nm,21.8s,baz=128,slow=31						
QSPA	**South Pole Qui**	**66.06**	**180**	P	**P**	**20 13 59.8**	**+1.8**
QSPA				IAmb	IAmb	20 14 09.8	
	comp=Z,13nm,1.0s						
QSPA	**South Pole Qui**	**66.06**	**180**	P	**P**	**20 14 00.6**	**+2.6**
	comp=Z,5.5nm,0.6s,baz=37,slow=2.8,SNR=14						
	comp=Z,5.5nm,0.6s						
JOW	**Kunigami**	**73.95**	**310**	LR	LR	20 44 04.3	
	comp=Z,121nm,18.8s,baz=47,slow=33						
BELA	**Belgrano 2**	**75.82**	**172**	P	**P**	**20 14 57.0**	**+0.2**
PMSA	**Palmer Station**	**77.27**	**156**	LR	LR	20 45 56.9	
	comp=Z,83nm,18.9s,baz=311,slow=33						
SCI2	**San Clemente I**	**78.70**	**46**	P	**P**	**20 15 11.9**	**-1.7**
	baz=232						
MAW	**Mawson**	**78.93**	**199**	P	**P**	**20 15 16.1**	**+1.7**
MAW	**Mawson**	**78.93**	**199**	P	**P**	**20 15 16.9**	**+2.5**
	comp=Z,9.2nm,0.6s,baz=136,slow=6.7,SNR=56						
	comp=Z,9.2nm,0.6s						
PKM	**Mcpherson Peak**	**79.08**	**44**	P	**P**	**20 15 13.7**	**-2.2**
	baz=230						
YSS	**Yuzh-Sakhalins**	**79.93**	**333**	P	**P**	**20 15 19.1**	**-0.9**
BFSC	**Mount Baldy Ra**	**80.06**	**46**	P	**P**	**20 15 20.1**	**-1.1**
	baz=232						
MONP2	**Monument Peak**	**80.06**	**47**	P	**P**	**20 15 19.2**	**-2.1**
	baz=233						
IKP	**In-Ko-Pah, Jac**	**80.13**	**48**	P	**P**	**20 15 20.4**	**-1.2**
	baz=233						
PETK	**Petropavlovsk-**	**80.18**	**344**	P	**P**	**20 15 20.3**	**-0.9**
PETK	**Petropavlovsk-**	**80.18**	**344**	P	**P**	**20 15 20.6**	**-0.6**
	comp=Z,12nm,0.8s,baz=113,slow=7.5,SNR=10						
	comp=Z,12nm,0.8s						
EDW2	**Edwards Air Fo**	**80.24**	**45**	P	**P**	**20 15 21.0**	**-1.0**
	baz=232						
ISA	**Isabella, Lake**	**80.42**	**44**	P	**P**	**20 15 20.2**	**-2.8**
ISA	**Isabella, Lake**	**80.42**	**44**	P	**P**	**20 15 22.4**	**-0.6**
	baz=231						
PFO	**Pinyon Flats O**	**80.47**	**47**	P	**P**	**20 15 22.4**	**-1.1**
	baz=233						
LRMC	**Laurel Mtn Rad**	**80.81**	**45**	P	**P**	**20 15 24.0**	**-1.2**
	baz=232						
KSRS	**Kcna Array**	**80.83**	**318**	LR	LR	20 45 45.1	
	comp=Z,124nm,21.9s,baz=50,slow=32						
BELC	**Belle Mtn. Jos**	**81.01**	**47**	P	**P**	**20 15 25.4**	**-0.9**
	baz=233						
CWC	**Cottonwood Cre**	**81.15**	**44**	P	**P**	**20 15 26.6**	**-0.5**
	baz=231						
BC3	**Big Chuckawall**	**81.17**	**47**	P	**P**	**20 15 26.8**	**-0.4**
	baz=233						
HEC	**Hector,Ludlow**	**81.29**	**46**	P	**P**	**20 15 27.5**	**-0.1**
	baz=233						
MPMC	**Manual Prospec**	**81.29**	**44**	P	**P**	**20 15 27.6**	**-0.2**
	baz=232						
IRM	**Iron Mountain**	**81.67**	**47**	P	**P**	**20 15 29.6**	**-0.1**
	baz=234						
GMRC	**Granite Mounta**	**81.70**	**46**	P	**P**	**20 15 30.1**	**+0.1**
	baz=233						
GMN	**Gold Mountain**	**82.20**	**43**	P	**P**	**20 15 28.9**	**-3.8**
NVAR	**Mina Array Bea**	**82.25**	**42**	P	**P**	**20 15 31.6**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=225,slow=8.8,SNR=9.4						
	comp=Z,1.5nm,0.8s						
H03S2	**Juan Fernandez**	**82.37**	**124**	T	T	21 47 14.3	
	baz=245,slow=74,SNR=25						
H03S1	**Juan Fernandez**	**82.39**	**124**	T	T	21 47 27.9	
	baz=245,slow=74,SNR=34						
H03S3	**Juan Fernandez**	**82.39**	**124**	T	T	21 47 29.8	
	baz=245,slow=74,SNR=26						
TPNV	**Topopah Spring**	**82.62**	**44**	P	**P**	**20 15 34.3**	**-0.4**
	baz=232						
KVN	**Kaiserville**	**82.76**	**42**	P	**P**	**20 15 33.4**	**-2.1**
W13A	**Hualapai Mount**	**83.07**	**47**	IAmb	IAmb	20 15 58.1	
	comp=Z,18nm,1.9s						
ELIB	**Princess Elisa**	**83.37**	**186**	*d*P	**P**	**20 15 39.3**	**+1.2**
	comp=Z,16nm,1.2s						
ELIB				*d*x	x	20 15 51.2	
ELIB	**Princess Elisa**	**83.37**	**186**	S	**SKSac**	**20 25 53.3**	**-4.8**
K05A	**Summer Lake**	**83.50**	**37**	IAmb	IAmb	20 15 48.9	
	comp=Z,11nm,1.1s						
TUC	**Tucson**	**83.62**	**51**	P	**P**	**20 15 38.8**	**-1.1**
	baz=236						
NJ2	**Nanjing**	**83.65**	**309**	*e*P	**P**	**20 15 42.8**	**+2.9**
NJ2				pP	**PcP**	**20 15 45.4**	**+1.3**
NJ2				sP	**pP**	**20 15 47.4**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,32nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,880nm,4.7s						
Q17K	**Contact Creek**	**83.65**	**10**	P	**P**	**20 15 40.4**	**+1.0**
	baz=198						
TROLL	**Troll, Antarti**	**84.22**	**179**	⇑P	**P**	**20 15 44.2**	**+1.8**
	comp=Z,323nm,0.6s						
TROLL				⇑SKSac	**SKSac**	**20 25 57.7**	**-5.9**
	comp=Z,325nm,0.6s						
SNAA	**Sanae**	**84.44**	**178**	P	**P**	**20 15 44.7**	**+1.2**
SNAA				IAmb	IAmb	20 15 57.2	
	comp=Z,8.9nm,1.0s						
SNAA	**Sanae**	**84.44**	**178**	⇑P	**P**	**20 15 44.7**	**+1.2**
	comp=Z,139nm,1.0s						
SNAA				⇑SKSac	**SKSac**	**20 25 58.4**	**-6.4**
	comp=Z,124nm,0.9s						
SNAA	**Sanae**	**84.44**	**178**	P	**P**	**20 15 44.4**	**+0.9**
	comp=Z,4.1nm,0.9s,baz=186,slow=3.5,SNR=10						
	comp=Z,4.1nm,0.9s						
N14K	**Kuskokwak Cree**	**84.44**	**7**	P	**P**	**20 15 44.0**	**+0.7**
	baz=193						
P17K	**Kvichak River**	**84.45**	**10**	P	**P**	**20 15 43.9**	**+0.6**
	baz=197						
VNA3	**Neumayer Olymp**	**84.50**	**176**	⇑P	**P**	**20 15 44.1**	**+0.4**
	comp=Z,7.3nm,0.6s						
MDJ	**Mudanjiang**	**84.53**	**324**	P	**P**	**20 15 44.1**	**-0.1**
MDJ				pP	PcP	20 15 46.6	-1.1
MDJ				S	**S**	**20 26 14.1**	**+5.3**
MDJ				sS	ScS	20 26 20.0	-0.1
MDJ				pmax	pmax		
	comp=Z,160nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.3s						
MDJ				LR	LR		
	comp=Z,230nm,10.5s						
MDJ				LR	LR		
	comp=Z,160nm,10.0s						
MDJ				LR	LR		
	comp=Z,250nm,10.9s						
MDJ	**Mudanjiang**	**84.53**	**324**	P	**P**	**20 15 43.8**	**-0.3**
CCUT	**Cedar City**	**84.83**	**45**	P	**P**	**20 15 43.2**	**-2.9**
CCUT				IAmb	IAmb	20 15 57.9	
	comp=Z,11nm,1.4s						
P18K	**Big Mountain,**	**84.83**	**10**	P	**P**	**20 15 44.8**	**-0.5**
	baz=198						
KNB	**Kanab**	**84.88**	**46**	P	**P**	**20 15 41.9**	**-4.4**
KNB				IAmb	IAmb	20 16 12.4	
	comp=Z,30nm,1.7s						
O17K	**Koliganek Bris**	**84.90**	**9**	P	**P**	**20 15 45.9**	**+0.3**
	baz=197						
WUAZ	**Wupatki**	**84.99**	**48**	P	**P**	**20 15 45.6**	**-1.3**
	baz=236						
VNA1	**Neumayer--Stat**	**85.18**	**176**	⇑SKSac	**SKSac**	**20 26 02.1**	**-7.3**
	comp=Z,12nm,1.0s						
M14K	**Bethel**	**85.22**	**7**	P	**P**	**20 15 47.9**	**+0.7**
	baz=192						
O18K	**Koktuh Hills**	**85.27**	**10**	P	**P**	**20 15 47.4**	**-0.2**
	baz=198						
M15K	**Kasigluk River**	**85.31**	**7**	P	**P**	**20 15 48.2**	**+0.5**
	baz=194,SNR=5.5						
N16K	**Nishlik Lake**	**85.34**	**8**	P	**P**	**20 15 47.4**	**-0.4**
	baz=195						
HOM	**Homer**	**85.72**	**12**	P	**P**	**20 15 49.3**	**-0.4**
	baz=202						
L14K	**Kuka Creek**	**85.73**	**6**	IAmb	IAmb	20 16 05.2	
	comp=Z,11nm,1.0s						
L14K	**Kuka Creek**	**85.73**	**6**	P	**P**	**20 15 50.1**	**+0.4**
	baz=192						
O19K	**Port Alsworth**	**85.74**	**11**	IAmb	IAmb	20 15 50.0	
	comp=Z,19nm,0.9s						
O19K	**Port Alsworth**	**85.74**	**11**	P	**P**	**20 15 49.7**	**-0.1**
	baz=199						
M16K	**Timber Creek**	**85.84**	**8**	P	**P**	**20 15 51.6**	**+1.3**
	baz=195						
MTPU	**Mount Pierson**	**85.88**	**45**	IAmb	IAmb	20 16 19.6	
	comp=Z,24nm,2.0s						
BRSE	**Bradley Lake S**	**85.97**	**12**	P	**P**	**20 15 51.1**	**+0.1**
	baz=202						
N19K	**Bonanza Creek**	**86.30**	**10**	IAmb	IAmb	20 15 52.6	
	comp=Z,6.9nm,0.8s						
N19K	**Bonanza Creek**	**86.30**	**10**	P	**P**	**20 15 52.1**	**-0.6**
	baz=199						
M17K	**Holitna River**	**86.41**	**9**	P	**P**	**20 15 53.4**	**+0.3**
	baz=196						
BNX	**BinXian**	**86.44**	**324**	⇑P	**P**	**20 15 54.4**	**+0.8**
BNX				pmax	pmax		
	comp=Z,14nm,0.9s						
BNX				pmax	pmax		
	comp=Z,150nm,3.5s						
L16K	**Owhat River**	**86.45**	**8**	P	**P**	**20 15 53.9**	**+0.6**
	baz=195						
M18K	**Stony River**	**86.73**	**9**	P	**P**	**20 15 53.9**	**-0.7**
	baz=198						
K15K	**Wolf Creek Mou**	**86.78**	**7**	P	**P**	**20 15 55.3**	**+0.4**
	baz=193						
L17K	**Donlin**	**87.00**	**8**	P	**P**	**20 15 56.9**	**+0.9**
	baz=196						
CRAG	**Craig**	**87.15**	**23**	P	**P**	**20 15 57.1**	**+0.3**
	baz=218						
MNTX	**Cornudas Mount**	**87.19**	**54**	P	**P**	**20 15 57.3**	**-0.4**
	baz=240						
TMUT	**Trail Mountain**	**87.22**	**45**	IAmb	IAmb	20 16 07.0	
	comp=Z,7.7nm,1.2s						
TX32	**Lajitas Array**	**87.30**	**56**	P	P	20 15 53.5	-4.9
L18K	**Granite Mounta**	**87.30**	**9**	P	**P**	**20 15 57.4**	**-0.1**
	baz=197						
TXAR	**Lajitas Array**	**87.30**	**56**	P	**P**	**20 15 59.0**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=201,slow=6.7,SNR=8.5						
	comp=Z,1.2nm,0.9s						
M19K	**Big River Lodg**	**87.35**	**10**	P	**P**	**20 15 58.2**	**+0.5**
	baz=199						
RC01	**Rabbit Creek A**	**87.41**	**12**	P	**P**	**20 15 58.1**	**+0.1**
	baz=203						
SUA	**Susitna One**	**87.56**	**12**	P	**P**	**20 15 58.5**	**-0.4**
	baz=202						
K17K	**Iditarod**	**87.57**	**8**	P	**P**	**20 15 57.6**	**-1.1**
K17K				IAmb	IAmb	20 17 31.9	
	comp=Z,10nm,1.1s						
K17K	**Iditarod**	**87.57**	**8**	P	**P**	**20 15 58.6**	**0.0**
	baz=196						
V35K	**Ketchikan**	**87.58**	**24**	P	**P**	**20 15 59.2**	**+0.4**
	baz=219						
J16K	**Anvik River**	**87.84**	**7**	P	**P**	**20 16 00.3**	**+0.2**
	baz=194						
KNK	**Knik Glacier**	**87.96**	**13**	P	**P**	**20 16 00.2**	**-0.5**
	baz=204						
L20K	**Farewell, AK**	**87.97**	**10**	P	**P**	**20 16 01.2**	**+0.5**
	baz=200						
ANMO	**Albuquerque**	**88.08**	**50**	P	**P**	**20 15 59.1**	**-2.9**
ANMO				IAmb	IAmb	20 16 27.6	
	comp=Z,14nm,1.8s						
ANMO	**Albuquerque**	**88.08**	**50**	P	**P**	**20 16 01.7**	**-0.3**
	baz=239						
TTA	**Tatalina**	**88.08**	**9**	IAmb	IAmb	20 16 02.4	
	comp=Z,11nm,1.1s						
TTA	**Tatalina**	**88.08**	**9**	P	**P**	**20 16 01.5**	**+0.3**
	baz=198,SNR=6.3						
BMRM	**Bremner River**	**88.40**	**15**	P	**P**	**20 16 03.0**	**+0.2**
	baz=208						
M23K	**Glacier View**	**88.46**	**13**	P	**P**	**20 16 03.3**	**+0.4**
	baz=205						
J18K	**Innoko River**	**88.49**	**8**	P	**P**	**20 16 03.3**	**+0.1**
	baz=197,SNR=8.5						
CUT	**Chulitna**	**88.52**	**12**	P	**P**	**20 16 02.7**	**-0.5**
	baz=203						
SCM	**Sheep Creek Mo**	**88.58**	**13**	P	**P**	**20 16 03.6**	**-0.1**
	baz=206						
PNL	**Peninsula**	**88.60**	**18**	P	**P**	**20 16 03.2**	**-0.5**
	baz=213						
K20K	**Telida**	**88.77**	**10**	IAmb	IAmb	20 16 05.2	
	comp=Z,6.8nm,0.9s						
K20K	**Telida**	**88.77**	**10**	P	**P**	**20 16 04.3**	**-0.2**
	baz=199						
N25K	**Chitina, Valde**	**88.97**	**14**	P	**P**	**20 16 05.2**	**-0.3**
	baz=208						
H16K	**Elim**	**89.00**	**6**	P	**P**	**20 16 06.2**	**+0.7**
	baz=192						
P29M	**Windy Craggy**	**89.03**	**18**	P	**P**	**20

comp=Z,5.0nm,1.0s
PAX Paxson 89.98 13 P **P 20 16 09.9 -0.3**
baz=207
MCK McKinley 89.99 12 P **P 20 16 10.1 0.0**
baz=204
G17K Kiwalik Mounta 90.00 6 P **P 20 16 10.5 +0.4**
baz=194
M26K Nabesna, AK 90.03 15 IAmb IAmb 20 17 49.5
comp=Z,6.5nm,0.8s
M26K Nabesna, AK 90.03 15 P **P 20 16 10.3 -0.1**
baz=209
YUK3 Moose Creek 90.10 16 P **P 20 16 10.9 -0.1**
baz=212,SNR=8.4
GYA Guiyang 90.11 299 ⇓P **P 20 16 12.8 +1.1**
GYA pmax pmax
comp=Z,13nm,1.4s
SDCO Great Sand Dun 90.17 48 P **P 20 16 10.0 -2.0**
baz=239
Q32M Nakina River 90.17 21 P **P 20 16 11.7 +0.4**
baz=219
PDAR Pinedale Array 90.18 42 P **P 20 16 11.5 -0.3**
comp=Z,0.5nm,0.8s,baz=241,slow=3.7,SNR=3.3
comp=Z,0.5nm,0.8s
M27K Edge Creek, AK 90.25 15 IAmb IAmb 20 16 18.4
comp=Z,15nm,1.1s
M27K Edge Creek, AK 90.25 15 P **P 20 16 11.9 +0.4**
baz=210,SNR=5.7
MENT Mentasta 90.33 14 IAmb IAmb 20 16 13.0
comp=Z,7.7nm,0.7s
O30N Mendenhall 90.44 18 P **P 20 16 12.5 +0.1**
baz=215
L26K Log Cabin Wild 90.49 14 P **P 20 16 13.0 +0.4**
baz=209
H19K Roundabout Mou 90.50 8 P **P 20 16 12.6 +0.2**
baz=197
DLBC Dease Lake 90.52 22 P **P 20 16 13.1 +0.3**
baz=221
G18K Tagagawik 90.59 7 P **P 20 16 13.0 +0.1**
baz=195
K24K Donnelly Dome 90.66 13 P **P 20 16 13.9 +0.6**
baz=207,SNR=5.6
H20K Anotleneega Mo 90.68 9 P **P 20 16 13.4 +0.1**
baz=199
WHY Whitehorse 90.70 19 P **P 20 16 13.9 +0.3**
baz=216
NEA2 Nenana 90.75 11 P **P 20 16 14.6 +0.9**
baz=204
RIDG Independent Ri 90.80 13 P **P 20 16 14.1 +0.1**
baz=208
I21K Tanana 90.81 10 P **P 20 16 13.6 -0.2**
baz=201
WRH Wood River Hil 90.82 12 IAmb IAmb 20 16 14.5
comp=Z,9.8nm,1.0s
MLY Manley 90.87 10 P **P 20 16 14.3 +0.1**
baz=202
L27K Beaver Creek, 90.87 15 IAmb IAmb 20 17 48.2
comp=Z,26nm,1.8s
L27K Beaver Creek, 90.87 15 P **P 20 16 14.4 +0.1**
baz=210
R33M Jennings River 90.94 21 P **P 20 16 14.8 0.0**
baz=220
HDA Harding Lake 90.97 12 P **P 20 16 14.8 +0.1**
baz=206
P33M Teslin, Yukon 90.97 20 P **P 20 16 14.9 0.0**
baz=218
G19K Purcell Mounta 91.02 8 P **P 20 16 15.1 +0.3**
baz=197
CCB Clear Creek Bu 91.03 12 IAmb IAmb 20 16 15.1
comp=Z,5.8nm,1.0s
H21K Melozitna Rive 91.13 9 P **P 20 16 15.2 -0.1**
baz=201
M29M Somme Creek 91.17 16 IAmb IAmb 20 16 16.7
comp=Z,6.3nm,0.9s
M29M Somme Creek 91.17 16 P **P 20 16 15.5 -0.3**
baz=213
SCRK Sand Creek 91.19 13 P **P 20 16 15.4 -0.5**
baz=208
ILAR Eielson Array 91.31 12 P **P 20 16 15.7 -0.5**
comp=Z,2.1nm,0.8s,baz=221,slow=5.2,SNR=16
comp=Z,2.1nm,0.8s
E17K Hotham Inlet 91.44 5 P **P 20 16 16.6 -0.2**
baz=192
J25K Salcha River, 91.47 13 P **P 20 16 17.2 +0.2**
baz=207,SNR=5.8
POKR Poker Plat Res 91.52 12 P **P 20 16 17.2 0.0**
baz=205
H22K Ishtalitna Cre 91.56 10 P **P 20 16 16.9 -0.5**
baz=202
F19K Shaleruckik Mo 91.60 7 P **P 20 16 17.5 0.0**
baz=196
K27K Chicken 91.65 14 P **P 20 16 18.0 +0.1**
baz=210
M30M Minto, Yukon 91.72 17 P **P 20 16 18.5 +0.3**
baz=215
J26L Joseph Creek 91.74 13 P **P 20 16 18.7 +0.4**
baz=209
L29M 91.81 16 P **P 20 16 19.3 +0.7**
baz=214
G21K Allakaket 91.83 9 P **P 20 16 19.1 +0.5**
baz=200
E18K Tukpahlearik C 91.88 6 P **P 20 16 19.2 +0.4**
baz=194
XLT XiLinHaoTe 91.89 318 *e*P **P 20 16 22.6 +3.1**
XLT pP pP 20 16 26.1 -2.6
XLT sP sP 20 16 29.1 -2.9
XLT pmax pmax
comp=Z,58nm,0.8s
XLT pmax pmax
comp=Z,120nm,4.1s
F20K Avaraart Lake 92.05 8 P **P 20 16 20.2 +0.6**
baz=198
M31M Drury Creek, Y 92.08 18 P **P 20 16 19.5 -0.4**
baz=217
PRP Porcupine Dome 92.24 12 IAmb IAmb 20 19 10.5
comp=Z,7.0nm,0.8s
PRP Porcupine Dome 92.24 12 P **P 20 16 19.9 -0.8**
baz=207
E19K Redstone River 92.26 7 IAmb IAmb 20 17 43.1
comp=Z,8.3nm,0.9s
E19K Redstone River 92.26 7 P **P 20 16 20.5 -0.1**
baz=197
DAWY Dawson 92.31 15 P **P 20 16 21.1 +0.2**
baz=213
I26K Coal Creek Min 92.53 13 P **P 20 16 21.6 -0.3**
baz=209
K29M Barlow Dome 92.58 16 IAmb IAmb 20 16 23.8
comp=Z,5.0nm,0.8s
K29M Barlow Dome 92.58 16 P **P 20 16 22.0 -0.2**
baz=214
KMI Kunming 92.71 296 ⇑P **P 20 16 25.3 +1.4**
KMI pmax pmax
comp=Z,11nm,1.0s
F22K John River 92.95 9 P **P 20 16 24.2 +0.4**
baz=201
I27K Kandik River 93.11 14 P **P 20 16 25.0 +0.4**
baz=211
CM31 Chiang Mai Arr 93.15 289 P **P 20 16 24.0 -1.8**
D19K Kuna River 93.16 6 P **P 20 16 25.3 +0.5**
baz=196
HHC Hu-ho-hao-te 93.22 314 *e*P **P 20 16 26.6 +0.8**
HHC pmax pmax
comp=Z,39nm,0.7s
HHC pmax pmax
comp=Z,150nm,3.9s
NNA Nana 93.24 105 LR LR 20 50 32.6
comp=Z,180nm,19.5s,baz=214,slow=30
FW03 Perrin-Whitt E 93.27 55 IAmb IAmb 20 16 47.5
comp=Z,633nm,1.1s
CHTO Chiang Mai 93.30 289 P **P 20 16 24.5 -2.0**
I28M Miner Creek 93.35 14 P **P 20 16 26.0 +0.2**
baz=212
J30M Hart River 93.48 16 P **P 20 16 26.4 0.0**
baz=215
D20K Etivluk River 93.53 7 P **P 20 16 26.8 +0.3**
baz=197
FW06 Azle 93.63 56 IAmb IAmb 20 16 51.6
comp=Z,356nm,0.9s
ATAH Atahualpa 93.88 100 LR LR 20 51 22.0
comp=Z,127nm,18.2s,baz=323,slow=31
I30M Mount Dempster 94.00 16 P **P 20 16 28.8 0.0**
baz=215
PZH PanZhiHua 94.10 297 P **P 20 16 30.4 +0.2**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,210nm,5.0s
BTO Baotou 94.14 313 *e*P **P 20 16 31.8 +1.8**
BTO pP **pP 20 16 36.4 -2.7**
BTO S **S 20 27 42.5 +3.5**
BTO sS **pS 20 27 49.5 -1.5**
BTO pmax pmax
comp=Z,18nm,0.9s
BTO pmax pmax
comp=Z,580nm,5.0s
BTO LR LR
comp=Z,250nm,10.3s
BTO LR LR
comp=Z,410nm,17.4s
BTO LR LR
comp=Z,490nm,16.9s
C21K Knifeblade Rid 94.17 7 P **P 20 16 28.9 -0.5**
baz=199
H29M Whitestone 94.35 14 P **P 20 16 29.6 -0.6**
baz=214
LVC Limon Verde 95.24 117 LR LR 20 52 19.1
comp=Z,96nm,18.7s,baz=248,slow=31
CHSH Refugio Sur-Vo 95.77 94 P P 20 16 33.6 -5.2
TNCH TengChong 96.16 295 P **P 20 16 39.9 +0.2**
TNCH sP pP 20 16 46.5 -2.7
TNCH pmax pmax
comp=Z,12nm,1.6s
LZH Lanzhou 96.47 307 *e*P **P 20 16 42.3 +1.4**
LZH sP pP 20 16 49.4 -0.6
LZH pmax pmax
comp=Z,12nm,1.5s
WMQ Urumqi 110.72 310 *e*PKP **PKiKP 20 21 44.4 +0.4**
ZALV Zalesovo Beam 114.47 320 PKP PKPdf 20 21 49.8 -0.9
comp=Z,1.0nm,0.6s,baz=169,slow=2.3,SNR=5.5
MKAR Makanchi Array 115.05 312 PKP **PKPdf 20 21 51.3 -0.8**
comp=Z,0.8nm,0.8s,baz=170,slow=0.3,SNR=5.5
KURBB Kurchatov Arra 117.97 316 PKP **PKPdf 20 21 56.4 -1.2**
comp=Z,0.6nm,0.4s,baz=93,slow=2.0,SNR=6.3
KSH Kashi 118.51 303 PKP **PKiKP 20 22 00.9 +1.7**
KKAR Karatay Array 122.97 307 **PKPdf 20 22 07.2 -0.3**
BVAR Borovoye Array 123.04 319 PKP **PKPdf 20 22 06.9 -0.4**
comp=Z,1.2nm,0.5s,baz=52,slow=1.6,SNR=7.4
AKTO Aktyubinsk 131.00 317 PKP **PKPdf 20 22 22.8 +0.2**
comp=Z,1.0nm,0.5s,baz=88,slow=4.1,SNR=2.3
ARCES ARCESS Array B 132.73 350 PKP **PKPdf 20 22 24.1 -1.2**
comp=Z,3.3nm,0.9s,baz=288,slow=1.2,SNR=4.2
FINES FINESS Array B 139.70 344 PKhKP PKPpre 20 22 28.9
comp=Z,2.8nm,0.8s,baz=142,slow=4.3,SNR=3.7
FINES PKP **PKPdf 20 22 37.5 -0.8**
comp=Z,1.6nm,0.7s,baz=64,slow=3.2,SNR=1.5
NB2 NORSAR Subarra 142.69 354 PKP **PKPdf 20 22 39.4 -4.5**
comp=Z,0.9nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B 142.69 354 PKhKP PKPpre 20 22 38.2
comp=Z,0.5nm,0.7s,baz=51,slow=5.6,SNR=1.9
NOA PKP **PKPdf 20 22 44.8 +0.9**
comp=Z,0.5nm,0.7s,baz=48,slow=1.3,SNR=3.6
HFS Hagfors 143.30 352 PKhKP PKPpre 20 22 40.7
comp=Z,2.6nm,0.8s,baz=132,slow=2.1,SNR=3.2
LODK Lodwar 143.58 241 PKPdf PKPbc 20 22 45.5 +1.2
MBAR Mbarara 144.43 230 **PKPab 20 22 45.0 -1.7**
SIRT Sirnak 144.71 301 PKPdf PKPbc 20 22 47.5 +0.3
NACGM Naroch 144.88 337 *e*PKP **PKPab 20 22 46.7 -0.2**
BORU Boraas 145.85 352 *e*P **PKPdf 20 22 48.6 -0.8**
ONAU Onsala 146.19 352 *e*P **PKPdf 20 22 48.6 -1.3**
FABU Falkenberg 146.47 352 *e*P **PKPdf 20 22 49.2 -1.2**
BLEU Blekinge 146.64 348 *e*P **PKPdf 20 22 51.6 +0.8**
DEL Delary 146.82 350 *i*P **PKPdf 20 22 52.0 +0.9**
AKASG Malin Array Be 147.05 330 PKPbc **PKPbc 20 22 52.9 -0.8**
comp=Z,9.9nm,0.7s,baz=40,slow=3.8,SNR=36
AKBB Malin Array Si 147.05 330 **PKPbc 20 22 53.3 -0.4**
BJUU Bjuv 147.33 351 *e*P **PKPdf 20 22 52.8 +0.9**
LUNU Lund 147.69 350 *e*P **PKPbc 20 22 55.8 +0.4**
EKA Eskdalemuir Ar 148.26 8 PKPbc **PKPbc 20 22 56.6 -0.3**
comp=Z,2.3nm,0.6s,baz=348,slow=3.0,SNR=4.5
SORM Soroca 149.24 328 ⇓P **PKPbc 20 22 59.7 +0.1**
BRTR Keskin Array B 150.64 309 **PKPbc 20 23 03.1 -0.4**
BRTR Keskin Array B 150.64 309 PKPbc **PKPbc 20 23 03.3 -0.2**
comp=Z,4.5nm,0.8s,baz=153,slow=4.1,SNR=7.3
BURAR Bucovina Array 151.10 330 ⇓P **PKiKP 20 23 05.1 +0.3**
GHRR 151.11 325 ⇓P **PKiKP 20 23 05.5 +0.7**
ANTO Ankara 151.18 310 ⇑P **PKPbc 20 23 04.1 -0.5**
TESR Tescani 151.19 327 ⇑P **PKPbc 20 23 04.6 +0.2**
MMAI Mount Meron Ar 151.21 295 PKPbc **PKiKP 20 23 06.2 +0.7**
comp=Z,9.2nm,0.7s,baz=68,slow=4.8,SNR=17
KOLS Kolonicke sedl 151.34 335 *e*PKP **PKiKP 20 23 06.1 +0.9**
VRI Vrincioaia 151.59 326 ⇓P **PKPbc 20 23 05.3 -0.1**
PLOR Plostina 151.64 326 ⇑P **PKiKP 20 23 07.6 +1.7**
CRVS Cervenica-Dubn 151.67 336 *e*PKP **PKiKP 20 23 06.4 +0.5**
TRPA Tarpa 151.87 333 ⇑P **PKPbc 20 23 03.9 -1.9**
COVR Voineasa-Covas 151.88 326 ⇓P **PKPbc 20 23 05.9 -0.1**
OSTC Ostas 151.91 344 ⇑*e*PKP **PKiKP 20 23 06.7 +0.4**
CHVC Chvalec 151.92 344 ⇑*e*PKP **PKiKP 20 23 06.7 +0.4**
CLL Collm 151.92 348 *i* PKPbc **PKPbc 20 23 06.1 +0.2**
comp=Z,12nm,0.8s
CLL *e*(PKPab) **pPKPbc 20 23 17.0 +1.6**
CLL *e*PP **PP 20 26 42.0 -4.1**
UPC Upice 152.00 344 ⇑*e*PKP **PKiKP 20 23 06.8 +0.3**
DPC Dobruska-Polom 152.07 343 ⇑*e*PKP **PKiKP 20 23 06.8 +0.1**
NEHR Nehoiu 152.11 325 ⇓P **PKPbc 20 23 06.7 +0.1**
BRG Berggiesshubel 152.15 347 *i* PKP **PKiKP 20 23 07.7 +1.0**
BRG Amp 20 23 08.3
comp=Z,12nm,0.8s
LANS Liptovska Anna 152.18 338 *e*PKP **PKiKP 20 23 08.2 +1.3**
DOPR Dopca 152.20 327 ⇑P **PKiKP 20 23 07.4 +0.4**
MORC Moravsky Berou 152.24 341 ⇑P **PKiKP 20 23 07.2 +0.2**
MORC Moravsky Berou 152.24 341 *e*PKP **PKPbc 20 23 06.8 +0.1**
MLR Muntele Rosu 152.25 326 ⇑P **PKPbc 20 23 06.6 -0.4**
MLR Muntele Rosu 152.25 326 **PKPbc 20 23 06.6 -0.4**
CSS Mathiatis 152.46 300 **PKiKP 20 23 07.9 0.0**
MARR Marsel-Cluj 152.75 331 ⇑P **PKiKP 20 23 08.5 +0.3**
PRU Pruhonice 152.84 345 ⇑*e*PKP **PKiKP 20 23 08.2 0.0**
VRAC Vranov 152.94 342 *e*PKP **PKPbc 20 23 07.3 -1.0**
VRAC *e* 20 23 19.9
ARR Arges 153.00 327 ⇓P **PKiKP 20 23 09.8 +1.0**
KRUC Moravsky 153.22 342 *e*PKP **PKiKP 20 23 09.1 +0.1**
SIRR Siria 153.71 332 ⇓P **PKiKP 20 23 10.4 +0.3**
KHC Kasperske Hory 153.87 346 ⇑*e*PKP **PKiKP 20 23 10.7 +0.3**
GZR Gura Zlata 153.88 329 ⇑P **PKPbc 20 23 09.8 -0.8**
SURR Surduc 153.90 331 ⇓P **PKPbc 20 23 09.7 -0.8**
GERES GERESS Array B 154.11 345 PKPbc **PKPbc 20 23 10.6 -0.4**
comp=Z,1.0nm,0.8s,baz=347,slow=4.1,SNR=5.1
CONA Conrad Observa 154.39 342 *e*PKP **PKPab 20 23 26.2 +0.4**
comp=Z,3.5nm,0.8s
HERR Herculane 154.43 329 ⇑P **PKPbc 20 23 10.3 -1.3**
RONA Rosalia, Austr 154.47 341 *e*PKP **PKPab 20 23 26.6 +0.6**
comp=Z,6.8nm,0.9s
BIOA Bad Ischl, Aus 155.20 345 *i* PKP **PKPab 20 23 29.8 +0.6**
comp=Z,7.6nm,0.9s
LESA Schwarzleotal 155.68 346 *e*PKP **PKPab 20 23 30.5 -0.7**
comp=Z,6.6nm,1.3s
SOKA Soboth 155.77 342 *i* PKP **PKPab 20 23 32.0 +0.3**
comp=Z,8.1nm,1.4s
KBA Koelnbreinsper 155.85 345 *i* PKP **PKPab 20 23 32.5 +0.5**
comp=Z,5.5nm,1.0s
OBKA Obir 156.06 342 *i* PKP **PKPab 20 23 32.8 -0.1**
comp=Z,4.1nm,0.8s
MYKA Terra Mystica 156.19 344 *i* PKP **PKPab 20 23 33.0 -0.5**
comp=Z,2.9nm,0.6s
ABTA Abfaltersbach 156.35 346 *e*PKP **PKPab 20 23 31.9 -2.3**
comp=Z,5.9nm,1.1s
PRED Cave del Predi 156.38 344 **PKPab 20 23 33.7 -0.5**
ESDC Sonseca Array 162.96 22 PKPab **PKPab 20 24 02.3 -0.7**
comp=Z,0.5nm,0.5s,baz=317,slow=3.9,SNR=2.6
TORD Torodi Ar. Bea 168.93 167 PKP **PKPdf 20 23 19.0 -0.1**
comp=Z,1.1nm,0.9s,baz=203,slow=1.1,SNR=4.5
TORD PKPab **PKPab 20 24 31.3 +1.5**
comp=Z,1.1nm,0.7s,baz=188,slow=4.3,SNR=5.6

NOU ***16*** *20:05:17.4, 10.°22S×161.°76E, h69km, mb5.1/41, Solomon Islands*
IDC ***16*** *20:05:18.8±1.4, 10.°36S×161.°59E, h75km±10km, mb4.3/20, mbtmp4.6/25, MS4.2/13, Error ellipse: s-maj=11.9km s-min=11.0km az=35.0*
NEIC ***16*** *20:05:18.2±1.5, 10.°32S±0.°09×161.°63E±0.°09, h69km±4km, mb4.9/58, Error ellipse: s-maj=14.9km s-min=10.5km az=49.0*
GCMT ***16*** *20:05:18.2±0.4, 10.°35S±0.°02×161.°62E±0.°02, h44km±2km, MW5.0/80, Moment Tensor Solution. s20,c23; s80,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.77±.29; $M_{\theta\theta}$-1.47±.22; $M_{\phi\phi}$0.69±.20; $M_{r\theta}$0.47±.20; $M_{\theta\phi}$3.42±.16; $M_{\phi r}$-1.53±.18; Best double couple: $M_0$3.93200×10^{16} NP1:ϕ_s169.00000°, δ86.00000°, λ155.00000°. NP2: ϕ_s261.00000°, δ65.00000°, λ4.00000°. Principal axes: T 3.5580, Plg20.0000°, Azm123.0000°; N 0.7450, Plg65.0000°, Azm341.0000°; P -4.3050, Plg14.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 20:05:16.7±0.4, 10.°31S±0.°05×161.°66E±0.°06, h61km, n179, σ1.°39/177, mb4.9/57, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.90**	**297**			**Pn**		**20 05 47.6**	**+0.7**
HNR					Sn		**Sn**	**20 06 11.8**	**+2.0**
HNR	**Honiara**	**1.90**	**297**	P		**Pn**		**20 05 48.0**	**+1.1**
HNR	**Honiara**	**1.90**	**297**	P		**Pn**		**20 05 47.7**	**+0.8**
	82μm,0.6s,baz=110,slow=18,SNR=264								
HNR				S			**Sn**	**20 06 12.1**	**+2.3**
	129μm,0.4s,baz=178,slow=22,SNR=25								
RTV	**Rentapao**	**9.91**	**139**	P		**Pn**		**20 07 37.4**	**+0.9**
KOUNC	**Koumac, New Ca**	**10.49**	**166**	Pn		**Pn**		**20 07 44.7**	**+0.4**
KOUNC	**Koumac, New Ca**	**10.49**	**166**	P		**Pn**		**20 07 45.7**	**+1.3**
RABL	**Rabaul**	**11.21**	**302**	Pn		**Pn**		**20 07 54.9**	**+0.6**
KRVT	**Keravat (AS076**	**11.26**	**301**	P		**Pn**		**20 07 56.6**	**+1.6**
	6.4nm,0.3s,baz=19,slow=23,SNR=1.9								
LIFNC	**LIFOU**	**11.71**	**153**	Pn		**Pn**		**20 07 59.8**	**-1.2**
LIFNC	**LIFOU**	**11.71**	**153**	P		**Pn**		**20 08 00.1**	**-0.9**
NOUC	**Port Laguerre**	**12.54**	**160**	P		**Pn**		**20 08 14.2**	**+1.8**
DZM	**Mont Dzumac**	**12.56**	**159**	Pn		**Pn**		**20 08 13.6**	**+0.8**
DZM	**Mont Dzumac**	**12.56**	**159**	P		**Pn**		**20 08 14.3**	**+1.6**
DZM	**Mont Dzumac**	**12.56**	**159**	P		**Pn**		**20 08 14.2**	**+1.4**
	11nm,0.3s,baz=153,slow=17,SNR=84								
DZM				S			**Sn**	**20 10 28.3**	**-2.8**
	6.1nm,0.5s,baz=151,slow=18,SNR=2.1								
MARNC	**Mare, Loyalty**	**12.68**	**152**	Pn		**Pn**		**20 08 14.1**	**-0.2**
MARNC	**Mare, Loyalty**	**12.68**	**152**	P		**Pn**		**20 08 16.0**	**+1.7**
YATNC	**Mamie plateau,**	**12.71**	**157**	P		**Pn**		**20 08 14.8**	**+0.1**
ONTNC	**Ouen Toro**	**12.78**	**160**	Pn		**Pn**		**20 08 17.1**	**+1.4**
ONTNC	**Ouen Toro**	**12.78**	**160**	P		**Pn**		**20 08 18.9**	**+3.2**
OUENC	**Ouen Island, N**	**13.02**	**158**	Pn		**Pn**		**20 08 19.7**	**+0.8**
PINNC	**Pines Island,**	**13.43**	**156**	Pn		**Pn**		**20 08 25.7**	**+1.3**
PMG	**Port Moresby**	**14.32**	**272**			**Pn**		**20 08 38.2**	**+1.8**
PMG	**Port Moresby**	**14.32**	**272**	P		**Pn**		**20 08 35.9**	**-0.5**
	10nm,0.9s,baz=84,slow=19,SNR=1.6								
PMG				LR		LR		20 13 45.3	
	comp=Z,995nm,21.1s,baz=112,slow=36								
RK1H	**Rockhampton Ha**	**16.82**	**218**	P		**P**		**20 09 11.3**	**+1.8**
PATS	**Pohnpei**	**17.36**	**349**	P		**Pn**		**20 09 14.4**	**-0.5**
	baz=17,SNR=3.8								
PATS	**Pohnpei**	**17.36**	**349**			**Pn**		**20 09 14.5**	**-0.5**
MSVF	**Nonsavu**	**17.52**	**117**	P		**P**		**20 09 18.7**	**+1.4**
	8.4nm,0.9s,baz=270,slow=11,SNR=1.9								
CTA	**Charters Tower**	**17.75**	**235**	P		**P**		**20 09 21.4**	**+1.5**
	38nm,0.8s,baz=57,slow=12,SNR=36								
CTA				LR		LR		20 15 52.2	
	comp=Z,569nm,18.2s,baz=62,slow=36								
CTAO	**Charters Tower**	**17.75**	**235**			**Pn**		**20 09 19.8**	**0.0**
CTAO	**Charters Tower**	**17.75**	**235**	P		**P**		**20 09 22.1**	**+2.2**
EIDS	**Eidsvold**	**18.03**	**212**	P		**P**		**20 09 21.9**	**-1.0**
	baz=18,SNR=8.1								
EIDS	**Eidsvold**	**18.03**	**212**	P		**P**		**20 09 21.6**	**-1.3**
EIDS	**Eidsvold**	**18.03**	**212**	P		**Pn**		**20 09 25.5**	**+2.4**
COEN	**Coen**	**18.43**	**257**	P		**P**		**20 09 27.7**	**+0.3**
COEN	**Coen**	**18.43**	**257**	P		**Pn**		**20 09 30.6**	**+2.5**
MTSU	**Mount Surprise**	**18.52**	**243**	P		**P**		**20 09 28.2**	**-0.1**
	baz=18,SNR=92								
MTSU	**Mount Surprise**	**18.52**	**243**	P		**Pn**		**20 09 31.7**	**+2.6**
RMQ	**Roma**	**20.19**	**215**	P		P		20 09 39.4	-7.1
	baz=20,SNR=13								
RMQ	**Roma**	**20.19**	**215**	P		Pn		20 09 48.2	-0.7
ARMA	**Armidale**	**22.08**	**204**	P		**P**		**20 10 05.1**	**-1.8**
	baz=22,SNR=5.1								
ARMA	**Armidale**	**22.08**	**204**	P		**P**		**20 10 06.9**	**0.0**
ARMA				IAmb		IAmb		20 10 08.6	
	comp=Z,37nm,1.1s								
ARMA	**Armidale**	**22.08**	**204**	P		**P**		**20 10 07.8**	**+0.9**
JAY	**Jayapura**	**22.21**	**289**	P		**P**		**20 10 09.6**	**+1.3**
	comp=Z,57nm,1.1s,comp=Z,967nm								
QIS	**Mount Isa**	**23.55**	**242**	P		**P**		**20 10 19.8**	**-2.1**
	baz=24,SNR=8.2								
QIS	**Mount Isa**	**23.55**	**242**	P		**P**		**20 10 22.7**	**+0.9**
SMPI	**Sarmi**	**24.25**	**288**	P		**P**		**20 10 27.5**	**-0.8**
	comp=Z,156nm,1.2s,comp=Z,2μm								
MGCD	**Mangrove Creek**	**24.77**	**201**	P		**P**		**20 10 33.5**	**+0.7**
	baz=25,SNR=4.6								
CMSA	**Cobar Meteorol**	**25.79**	**213**	P		**P**		**20 10 42.2**	**+0.1**
	baz=26,SNR=6.7								
CMSA	**Cobar Meteorol**	**25.79**	**213**	P		**P**		**20 10 42.5**	**+0.4**
OUZ	**Omahuta**	**27.08**	**158**	P		**P**		**20 10 56.2**	**+2.6**
WR0	**Warramunga Arr**	**27.84**	**247**	P		**P**		**20 10 59.5**	**-1.2**
WB0	**Warramunga Arr**	**27.93**	**247**	P		**P**		**20 11 00.9**	**-0.5**
WB0				IAmb		IAmb		20 11 02.3	
	comp=Z,28nm,0.8s								
WRAB	**Tennant Creek**	**28.01**	**247**	P		**P**		**20 11 01.7**	**-0.5**
WRAB				IAmb		IAmb		20 11 02.9	
	comp=Z,18nm,0.8s								
WRAB	**Tennant Creek**	**28.01**	**247**	P		**P**		**20 11 02.2**	**0.0**
WB2	**Warramunga Arr**	**28.01**	**247**	P		**P**		**20 11 01.9**	**-0.3**
WB2				IAmb		IAmb		20 11 20.2	
	comp=Z,39nm,1.4s								
WRA	**Warramunga Arr**	**28.02**	**247**	P		**P**		**20 11 01.5**	**-0.8**
WRA	**Warramunga Arr**	**28.02**	**247**	P		**P**		**20 11 02.0**	**-0.3**
	comp=Z,14nm,0.7s,baz=77,slow=9.2,SNR=39								
WRA				S			**S**	**20 15 41.6**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=77,slow=15,SNR=2.7								
WRA				ScP			**ScP**	**20 17 51.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=76,slow=3.6,SNR=5.3								
	comp=Z,14nm,0.7s								
STKA	**Stephens Creek**	**28.38**	**218**	P		**P**		**20 11 05.5**	**+0.2**
	comp=Z,7.3nm,0.8s,baz=25,slow=13,SNR=4.3								
STKA				LR		LR		20 22 27.1	
	comp=Z,1μm,19.4s,baz=57,slow=36								
	comp=Z,7.3nm,0.8s								
KDU	**Kakadu**	**28.70**	**262**	P		**P**		**20 11 07.7**	**-0.6**
	baz=29,SNR=8.7								
KDU	**Kakadu**	**28.70**	**262**	P		**P**		**20 11 08.0**	**-0.3**
AS31	**Alice Springs**	**29.61**	**240**	P		**P**		**20 11 14.6**	**-1.8**
ASAR	**Alice Springs**	**29.61**	**240**	P		**P**		**20 11 14.5**	**-1.9**
ASAR	**Alice Springs**	**29.61**	**240**	P		**P**		**20 11 15.3**	**-1.1**
	comp=Z,4.2nm,0.7s,baz=72,slow=9.4,SNR=36								
ASAR				S			**S**	**20 16 06.7**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=66,slow=17,SNR=2.1								
ASAR				ScP			**ScP**	**20 17 56.2**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=72,slow=3.0,SNR=3.6								
ASAR				LR		LR		20 23 21.0	
	comp=Z,860nm,18.3s,baz=74,slow=37								
	comp=Z,4.2nm,0.7s								
LCRK	**Leigh Creek**	**29.62**	**224**	P		**P**		**20 11 17.2**	**+0.8**
TOO	**Toolangi**	**30.80**	**206**	P		**P**		**20 11 28.1**	**+1.3**
	baz=31,SNR=12								
TOO	**Toolangi**	**30.80**	**206**			**P**		**20 11 27.4**	**+0.7**
TOO				IAmb		IAmb		20 11 29.1	
	comp=Z,30nm,0.8s								
TOO	**Toolangi**	**30.80**	**206**	P		**P**		**20 11 28.3**	**+1.5**
MXZ	**Matakaoa Point**	**31.00**	**154**	P		**P**		**20 11 29.7**	**+1.3**
RUGZ	**Raukumara Rang**	**31.07**	**155**	P		**P**		**20 11 29.9**	**+0.7**
HTT	**Hallett**	**31.08**	**219**	P		**P**		**20 11 30.1**	**+0.8**
	baz=31,SNR=3.2								
HTT	**Hallett**	**31.08**	**219**	P		**P**		**20 11 29.6**	**+0.3**
URZ	**Urewera**	**31.09**	**156**	P		**P**		**20 11 30.1**	**+0.9**
URZ	**Urewera**	**31.09**	**156**	P		**P**		**20 11 30.0**	**+0.8**
	comp=Z,9.4nm,0.8s,baz=321,slow=9.9,SNR=2.2								
	comp=Z,9.4nm,0.8s								
PKGZ	**Pakihiroa**	**31.17**	**154**	P		**P**		**20 11 31.3**	**+1.3**
MWZ	**Matawai**	**31.32**	**156**	P		**P**		**20 11 33.3**	**+2.0**
RTZ	**Ruatahuna**	**31.35**	**157**	P		**P**		**20 11 31.9**	**+0.3**
RTZ				IAmb		IAmb		20 11 34.8	
	comp=Z,28nm,0.8s								
RTZ	**Ruatahuna**	**31.35**	**157**	P		**P**		**20 11 32.6**	**+1.1**
TWGZ	**Tauwhareparae**	**31.38**	**155**	P		**P**		**20 11 33.3**	**+1.5**
PUZ	**Puketiti**	**31.40**	**154**	P		**P**		**20 11 32.7**	**+0.6**
RAGZ	**Rawiri**	**31.42**	**156**	P		**P**		**20 11 34.2**	**+2.0**
MTHZ	**Maungataniwha**	**31.50**	**157**	P		**P**		**20 11 35.4**	**+2.5**
BKZ	**Black Stump Fm**	**31.64**	**158**	P		**P**		**20 11 34.8**	**+0.7**
BKZ				IAmb		IAmb		20 11 39.2	
	comp=Z,21nm,0.6s	

PXZ	Pawanui	32.53 158	P	P	20 11 42.9	+1.1
MRZ	Mangatainoka R	32.64 160	P	P	20 11 43.5	+0.7
TUWZ	Tuamarina	32.83 163	P	P	20 11 45.1	+0.6
WRKA	Warakurna	34.88 241	P	P	20 12 01.6	-1.0
	baz=35,SNR=36					
WRKA	Warakurna	34.88 241	P	P	20 12 02.0	-0.6
SANI	Sanana	36.37 281	P	P	20 12 16.5	+1.1
	comp=Z,34nm,1.0s					
BATI	Baumata	37.38 267	P	P	20 12 24.2	+0.2
	comp=Z,32nm,1.1s					
MMRI	Maumere	38.91 269	P	P	20 12 35.4	-1.4
	comp=Z,79nm,1.3s,comp=Z,1μm					
BBSI	Bau Bau	39.00 274	P	P	20 12 39.1	+1.5
	comp=Z,31nm,1.0s,comp=Z,501nm					
LUWI	Luwuk	39.73 281	P	P	20 12 44.9	+1.2
	comp=Z,56nm,1.4s,comp=Z,1μm					
DAV	Davao City (W)	39.87 294	LR	LR	20 30 00.3	
	comp=Z,123nm,18.5s,baz=96,slow=37					
BKSI	Bulukumba	41.43 274	P	P	20 12 56.7	-1.0
	comp=Z,17nm,1.4s					
MBWA	Marble Bar	41.66 250	P	P	20 12 59.1	-0.4
MBWA	Marble Bar	41.66 250	P	P	20 12 59.0	-0.6
MBWA			pP	pP	20 13 11.8	-3.1
MBWA			sP	sP	20 13 17.2	-4.7
KAPI	Kappang	41.84 274	P	P	20 13 01.2	+0.1
	comp=Z,5.4nm,0.5s,baz=93,slow=9.2,SNR=4.3					
	comp=Z,5.4nm,0.5s					
KAPI	Kappang	41.84 274	P	P	20 13 00.1	-0.9
KAPI			pP	pP	20 13 12.3	-4.1
TOLI2	Tolitoli	42.23 283	P	P	20 13 05.2	+0.9
PLAI	Plampang	43.28 268	P	P	20 13 11.8	-1.0
MEEK	Meekatharra	43.70 242	P	P	20 13 15.2	-0.9
	baz=44,SNR=12					
MEEK	Meekatharra	43.70 242	P	P	20 13 16.4	+0.3
NWAO	Narrogin (SRO)	46.59 234	P	P	20 13 39.4	+0.6
NWAO	Narrogin (SRO)	46.59 234	LR	LR	20 33 12.6	
	comp=Z,326nm,20.2s,baz=44,slow=36					
JAGI	Jajag, Banyuwa	46.88 268	P	P	20 13 39.6	-1.7
JAGI	Jajag, Banyuwa	46.88 268	P	P	20 13 40.2	-1.2
PPT	Papeete	47.77 104	LR	LR	20 28 55.8	
	comp=Z,174nm,21.4s,baz=243,slow=30					
INU	Inuyama	51.04 334	P	P	20 14 12.9	+0.1
INU			pP	pP	20 14 26.3	-2.0
INU			sP	sP	20 14 32.0	-3.0
JMN	Monobe	51.15 330	P	P	20 14 14.7	+1.0
MJAR	Matsushiro Arr	51.57 336	P	P	20 14 15.9	-0.8
	comp=Z,2.8nm,0.7s,baz=173,slow=8.8,SNR=10					
	comp=Z,2.8nm,0.7s					
MAJO	Matsushiro	51.57 336	P	P	20 14 15.8	-1.0
MAJO			IAmb	IAmb	20 14 31.1	
	comp=Z,11nm,0.7s					
MAJO	Matsushiro	51.57 336	P	P	20 14 16.9	+0.1
MAJO	Matsushiro	51.57 336	P	P	20 14 15.9	-0.9
MAJO			pP	pP	20 14 28.9	-3.3
MAJO			sP	sP	20 14 33.8	-5.2
MJB9	Matsu-Tunnel	51.57 336	P	P	20 14 16.8	0.0
MJB9			IAmb	IAmb	20 14 32.1	
	comp=Z,11nm,0.7s					
JMM	Marumori	51.75 339	P	P	20 14 18.1	0.0
ASAJ	Asahikawa	56.87 344	LR	LR	20 36 46.2	
	comp=Z,193nm,21.1s,baz=160,slow=33					
KSRS	Korea Array	57.08 328	P	P	20 14 57.4	+0.7
	comp=Z,3.1nm,0.8s,baz=149,slow=8.5,SNR=8.7					
	comp=Z,3.1nm,0.8s					
KSAR	Wonju Array Be	57.09 328		P	20 14 56.9	+0.1
USA0B	Ussuriysk Arra	60.57 336	P	P	20 15 21.4	+0.5
USRK	Ussuriysk Ar.	60.57 336	P	P	20 15 20.9	0.0
USRK	Ussuriysk Ar.	60.57 336	P	P	20 15 21.8	+0.9
	comp=Z,10nm,0.7s,baz=150,slow=6.4,SNR=22					
	comp=Z,10nm,0.7s					
PETK	Petropavlovsk-	63.26 357	P	P	20 15 39.8	+1.1
	comp=Z,6.6nm,0.8s,baz=167,slow=8.7,SNR=2.6					
PETK			LR	LR	20 38 13.0	
	comp=Z,175nm,21.9s,baz=163,slow=31					
	comp=Z,6.6nm,0.8s					
GSI	Gunungsitoli	64.79 276	P	P	20 15 48.3	-1.3
CRAI	Chiangrai	67.49 297	P	P	20 16 07.0	+0.2
CRAI			IAmb	IAmb	20 16 26.5	
	comp=Z,27nm,1.5s					
SBA	Scott Base	67.58 179	P	P	20 16 07.8	+1.5
SBA			IAmb	IAmb	20 16 21.8	
	comp=Z,30nm,1.9s					
SBA	Scott Base	67.58 179	P	P	20 16 08.2	+1.8
SBA			pP	pP	20 16 21.7	-1.3
SBA			sP	sP	20 16 27.2	-2.7
CMAR	Chiang Mai Arr	68.15 295	P	P	20 16 12.1	+1.1
	comp=Z,1.5nm,0.7s,baz=125,slow=5.1,SNR=11					
	comp=Z,1.5nm,0.7s					
CCD	Concordia, Ant	68.20 190	P	P	20 16 11.4	+0.6
CCD			pP	pP	20 16 25.6	-1.8
ULN	Ulaanbaatar	75.39 325	P	P	20 16 54.1	+0.1
ULN			IAmb	IAmb	20 17 09.6	
	comp=Z,16nm,0.9s					
SONM	Songino Array	75.74 325	P	P	20 16 56.8	+0.8
	comp=Z,8.3nm,0.7s,baz=141,slow=5.6,SNR=60					
	comp=Z,8.3nm,0.7s					
YAK	Yakutsk	76.31 345	P	P	20 16 58.5	-0.2
QSPA	South Pole Qui	79.69 180	P	P	20 17 17.7	0.0
QSPA	South Pole Qui	79.69 180	P	P	20 17 18.4	+0.7
	comp=Z,5.9nm,0.6s,baz=9.1,slow=2.6,SNR=9.7					
	comp=Z,5.9nm,0.6s					
M19K	Big River Lodg	79.70 20	IAmb	IAmb	20 17 26.4	
	comp=Z,15nm,0.7s					
L19K	White Mountain	79.75 19	IAmb	IAmb	20 17 26.4	
	comp=Z,10nm,0.6s					
CAST	Castle Rocks	81.53 19	P	P	20 17 27.7	+0.3
CAST			IAmb	IAmb	20 17 34.9	
	comp=Z,14nm,0.8s					
MAW	Mawson	83.88 202	P	P	20 17 40.1	+0.6
MAW	Mawson	83.88 202	P	P	20 17 40.3	+0.8
	comp=Z,4.2nm,0.8s,baz=124,slow=7.5,SNR=9.7					
MAW			LR	LR	20 50 46.1	
	comp=Z,120nm,19.7s,baz=66,slow=32					
	comp=Z,4.2nm,0.8s					
HDA	Harding Lake	83.88 20	IAmb	IAmb	20 17 46.9	
	comp=Z,8.7nm,0.8s					
H23K	Yukon River	83.98 18	IAmb	IAmb	20 18 01.6	
	comp=Z,19nm,1.6s					
ILAR	Eielson Array	84.14 20	P	P	20 17 41.8	+1.0
	comp=Z,4.9nm,1.2s,baz=240,slow=5.4,SNR=8.0					
	comp=Z,4.9nm,1.2s					
J25K	Salcha River,	84.55 20	IAmb	IAmb	20 19 21.4	
	comp=Z,8.1nm,0.6s					
SCRK	Sand Creek	84.64 21	P	P	20 17 44.0	+0.5
SCRK			IAmb	IAmb	20 17 51.5	
	comp=Z,5.3nm,0.8s					
TIXI	Tiksi	84.64 350	P	P	20 17 44.1	+0.9
TIXI			IAmb	IAmb	20 17 58.5	
	comp=Z,14nm,1.5s					
YBH	Yreka Blue Hor	86.28 47	LR	LR	20 50 42.7	
	comp=Z,130nm,18.9s,baz=306,slow=32					
DAWY	Dawson	86.36 22	IAmb	IAmb	20 18 31.9	
	comp=Z,42nm,1.9s					
M30M	Minto, Yukon	86.59 24	P	P	20 17 54.2	+1.1
M30M			IAmb	IAmb	20 18 01.5	
	comp=Z,4.9nm,0.7s					
I29M	Ogilvie Camp,	87.44 21	IAmb	IAmb	20 18 31.8	
	comp=Z,19nm,1.5s					
I30M	Mount Dempster	88.07 22	IAmb	IAmb	20 18 09.0	
	comp=Z,4.5nm,0.8s					
DSP	Deep Springs	88.64 52	P	P	20 18 02.9	-0.6
DSP			IAmb	IAmb	20 18 07.1	
	comp=Z,18nm,1.8s					
NVAR	Mina Array Bea	88.64 51	P	P	20 18 05.9	+2.1
	comp=Z,1.4nm,0.7s,baz=235,slow=7.4,SNR=8.4					
	comp=Z,1.4nm,0.7s					
KVN	Kaiserville	88.95 50	P	P	20 18 05.5	+0.4
KVN			IAmb	IAmb	20 18 14.3	
	comp=Z,7.0nm,1.3s					
PFO	Pinyon Flats O	88.96 56	LR	LR	20 48 45.4	
	comp=Z,240nm,21.6s,baz=314,slow=29					
WVOR	Wild Horse Val	89.39 47	IAmb	IAmb	20 18 16.4	
	comp=Z,12nm,1.2s					
MK31	Makanchi Array	90.26 318	P	P	20 18 10.2	-0.7
MKAR	Makanchi Array	90.26 318	P	P	20 18 10.4	-0.5
	comp=Z,1.5nm,0.4s,baz=94,slow=6.1,SNR=26					
	comp=Z,1.5nm,0.4s					
MAKZ	Makanchi	90.47 317	P	P	20 18 11.7	-0.1
MAKZ			IAmb	IAmb	20 18 25.4	
	comp=Z,17nm,1.8s					
ZALV	Zalesovo Beam	90.63 325	P	P	20 18 10.9	-1.4
	comp=Z,0.6nm,0.5s,baz=130,slow=4.8,SNR=4.6					
	comp=Z,0.6nm,0.5s					
BELA	Belgrano 2	91.48 177	P	P	20 18 14.9	-1.2
BELA			IAmb	IAmb	20 18 16.6	
	comp=Z,7.5nm,0.9s					
PLID	Pearl Lake	91.86 45	P	P	20 18 19.4	+0.8
PLID			IAmb	IAmb	20 18 27.4	
	comp=Z,8.6nm,1.4s					
HLID	Hailey	92.66 46	IAmb	IAmb	20 18 31.9	
	comp=Z,7.2nm,1.4s					
KURBB	Kurchatov Arra	93.56 321	P	P	20 18 24.9	-1.1
	comp=Z,0.8nm,0.7s,baz=106,slow=3.8,SNR=9.6					
	comp=Z,0.8nm,0.7s					
SNAA	Sanae	97.55 185	P	P	20 18 44.0	0.0
	comp=Z,1.4nm,0.7s,baz=242,slow=13,SNR=3.0					
	comp=Z,1.4nm,0.7s					
BVAR	Borovoye Array	98.91 322	P	P	20 18 49.3	-0.9
	comp=Z,0.6nm,0.6s,baz=112,slow=6.5,SNR=2.7					
	comp=Z,0.6nm,0.6s					
TXAR	Lajitas Array	99.01 62	LR	LR	20 53 44.5	
	comp=Z,11nm,21.8s,baz=326,slow=29					
ARCES	ARCESS Array B	114.59 344	PKiKP	PKiKP	20 23 49.0	-0.4
	comp=Z,1.0nm,0.5s,baz=74,slow=1.3,SNR=9.9					
NACGM	Naroch	123.11 331	*e*PKP	PKiKP	20 24 09.4	+3.0
KEST	Kesra	144.33 320	PKP	PKPdf	20 24 45.9	-0.6
	comp=Z,3.4nm,0.8s,baz=38,slow=4.4,SNR=4.0					
ESDC	Sonseca Array	148.08 339	PKPbc	PKiKP	20 24 57.8	+0.1
	comp=Z,0.5nm,0.6s,baz=22,slow=3.8,SNR=6.1					

*NEIC **16** 20:12:29.9±1.9,23°.95S±0°.09×175°.6W±0°.2,h10km±2km, mb4.2/18, Error ellipse: s-maj=27.4km s-min=6.8km az=121.0*

*IDC **16** 20:12:31.6±1.1,23°.76S×176°.02W,h0km,mb4.3/8, mbtmp4.3/8, Error ellipse: s-maj=32.6km s-min=28.4km az=27.0*

ISC 16 20:12:32.7±0.5,23°.94S±0°.08×175°.58W±0°.08,h28km,n41, σ2°.24/40,mb4.3/14,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.69	201	Pn	Pn	20 13 53.3	-2.0
RAO	Raoul Island	5.69	201	Pn	Pn	20 13 54.4	-0.9
	115nm,0.3s,baz=275,slow=21,SNR=4.6						
NIUE	Niue	7.15	48	Pn	Pn	20 14 14.2	-1.3
MSVF	Nonsavu	8.58	315		Pn	20 14 31.1	-4.0
MSVF	Nonsavu	8.58	315	Pn	Pn	20 14 38.5	+3.4
	0.9nm,0.3s,baz=117,slow=9.8,SNR=6.7						
AFI	Afiamalu	10.61	20	Pn	Pn	20 15 00.2	-2.8
RAR	Rarotonga	14.85	83	Pn	Pn	20 15 59.5	-1.4
RAR	Rarotonga	14.85	83	Pn	Pn	20 15 58.8	-2.0
	5.3nm,0.3s,baz=231,slow=4.7,SNR=4.4						
MARNC	Mare, Loyalty	15.32	276	Pn	Pn	20 15 59.2	-7.8
BKZ	Black Stump Fm	16.60	202		Pn	20 16 22.7	-0.8
BFZ	Birch Farm	18.05	200	Pn	Pn	20 16 36.4	-5.0
BFZ				IAmb	IAmb	20 16 47.9	
	comp=Z,18nm,1.0s						
MRZ	Mangatainoka R	18.25	202		P	20 16 44.4	+0.6
MRZ				IAmb	IAmb	20 16 59.1	
	comp=Z,7.8nm,1.0s						
CTA	Charters Tower	35.52	269	P	P	20 19 27.8	+0.4
	comp=Z,4.5nm,0.4s,baz=95,slow=10,SNR=8.4						
	comp=Z,4.5nm,0.4s						
CTAO	Charters Tower	35.52	269	P	P	20 19 27.4	0.0
CTAO				IAmb	IAmb	20 19 28.7	
	comp=Z,8.2nm,0.9s						
STKA	Stephens Creek	38.46	248	P	P	20 19 52.3	0.0
STKA	Stephens Creek	38.46	248	P	P	20 19 53.0	+0.7
	comp=Z,0.9nm,0.6s,baz=91,slow=9.9,SNR=5.3						
	comp=Z,0.9nm,0.6s						
BBOO	Buckleboo	43.15	247	P	P	20 20 28.5	-2.4
BBOO				IAmb	IAmb	20 20 41.0	
	comp=Z,4.4nm,0.8s						
AS31	Alice Springs	46.01	260	P	P	20 20 52.7	-1.3
AS31				IAmb	IAmb	20 20 54.6	
	comp=Z,1.1nm,0.9s						
ASAR	Alice Springs	46.01	260	P	P	20 20 51.1	-2.9
ASAR	Alice Springs	46.01	260	P	P	20 20 53.4	-0.6
	comp=Z,1.0nm,0.4s,baz=97,slow=7.5,SNR=14						
	comp=Z,1.0nm,0.4s						
WR0	Warramunga Arr	46.24	265	P	P	20 20 54.9	-0.9
WR0				IAmb	IAmb	20 20 56.5	
	comp=Z,3.3nm,0.8s						
WB2	Warramunga Arr	46.42	265	P	P	20 20 56.2	-1.0
WB0	Warramunga Arr	46.43	265	P	P	20 20 56.2	-1.0
WRA	Warramunga Arr	46.43	265	P	P	20 20 56.0	-1.3
WRA	Warramunga Arr	46.43	265	P	P	20 20 56.3	-1.0
	comp=Z,4.1nm,0.7s,baz=90,slow=5.9,SNR=47						
	comp=Z,4.1nm,0.7s						
MTN	Manton Dam	51.49	272	P	P	20 21 34.8	-1.4
MTN				IAmb	IAmb	20 21 44.6	
	comp=Z,8.5nm,1.0s						
KNRA	Kununurra	52.73	268	P	P	20 21 45.2	-0.1
SBA	Scott Base	54.62	185	P	P	20 21 57.4	-0.9
SBA				IAmb	IAmb	20 22 18.5	
	comp=Z,7.4nm,1.2s						
SOEI	Soe	58.88	273	P	P	20 22 26.6	-3.0
QSPA	South Pole Qui	66.14	180	P	P	20 23 22.0	+4.7
	comp=Z,2.3nm,0.8s,baz=13,slow=2.8,SNR=5.4						
	comp=Z,2.3nm,0.8s						
BELA	Belgrano 2	75.87	172	P	P	20 24 14.8	-1.2
BELA				IAmb	IAmb	20 24 34.6	
	comp=Z,1.6nm,0.7s						
MAW	Mawson	79.09	199	P	P	20 24 35.0	+0.9
MAW				IAmb	IAmb	20 24 39.3	
	comp=Z,0.7nm,0.8s						
MAW	Mawson	79.09	199	P	P	20 24 38.2	+4.1
	comp=Z,3.2nm,0.7s,baz=140,slow=8.3,SNR=16						
	comp=Z,3.2nm,0.7s						
ELIB	Princess Elisa	83.48	186	P	P	20 25 01.5	+4.0
ILAR	Eielson Array	91.18	12	P	P	20 25 36.5	+2.0
	comp=Z,0.5nm,0.9s,baz=218,slow=5.6,SNR=2.8						
	comp=Z,0.5nm,0.9s						
CMAR	Chiang Mai Arr	93.35	289	P	P	20 25 49.0	+3.3
CMAR	Chiang Mai Arr	93.35	289	P	P	20 25 48.4	+2.8
	comp=Z,2.2nm,0.8s,baz=130,slow=3.1,SNR=14						
	comp=Z,2.2nm,0.8s						
AKASG	Malin Array Be	147.10	331	PKPbc	PKPab	20 32 14.6	+0.3
	comp=Z,1.4nm,0.6s,baz=42,slow=3.8,SNR=8.9						
MMAI	Mount Meron Ar	151.39	295	PKPbc	PKiKP	20 32 27.1	+2.4
	comp=Z,1.7nm,0.7s,baz=26,slow=5.9,SNR=4.1						
CLL	Collm	151.89	349	*e*PKPbc	PKiKP	20 32 27.0	+2.0
CLL				*e*(PKPab)	PKPab	20 32 33.0	-0.8
TORD	Torodi Ar. Bea	168.96	166	PKPab	PKPab	20 33 51.9	+3.2
	comp=Z,0.4nm,0.8s,baz=196,slow=2.9,SNR=1.3						

*NEIC **16** 20:13:24.8±2.4,23°.78S±0°.08×175°.5W±0°.1,h10km±1km, mb4.9/29, Error ellipse: s-maj=16.8km s-min=13.9km az=107.0*

*IDC **16** 20:13:33.9±4.5,23°.95S×176°.06W,h75km±37km,mb4.2/14, mbtmp4.5/15,ML5.1/1,MS3.9/3,Error ellipse: s-maj=22.8km s-min=18.7km az=105.0*

ISC 16 20:13:28.4±0.5,23°.89S±0°.09×176°.0W±0°.1,h31km,n70, σ1°.09/64,mb4.8/25,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.62	198	Pn	Pn	20 14 51.4	+1.6
NIUE	Niue	7.38	51	Pn	Pn	20 15 04.9	-9.0
MSVF	Nonsavu	8.31	316	Pn	Pn	20 15 27.7	+0.9
MSVF	Nonsavu	8.31	316	P	Pn	20 15 32.7	+5.8
	0.7nm,0.3s,baz=136,slow=16,SNR=11						
MSVF				LR	LR	20 18 20.7	
	comp=Z,989nm,18.7s,baz=144,slow=35						
	54nm,0.9s						
AFI	Afiamalu	10.69	22	Pn	Pn	20 15 53.1	-6.3
RAR	Rarotonga	15.18	83	P	Pn	20 16 51.1	-10
	111nm,1.0s,baz=231,slow=8.0,SNR=7.1						
DZM	Mont Dzumac	16.32	273	LR	LR	20 21 08.8	
	comp=Z,282nm,19.8s,baz=70,slow=28						
CTA	Charters Tower	35.18	269	P	P	20 20 20.1	+0.3
	15nm,0.9s,baz=94,slow=9.6,SNR=7.9						
	15nm,0.9s						
CTAO	Charters Tower	35.18	269	P	P	20 20 20.1	+0.3
CTAO				IAmb	IAmb	20 20 21.2	
	comp=Z,15nm,0.8s						
PMG	Port Moresby	38.03	286	P	P	20 20 44.1	0.0
PMG				IAmb	IAmb	20 20 45.2	
	comp=Z,28nm,0.9s						
PMG	Port Moresby	38.03	286	P	P	20 20 44.2	+0.1
	comp=Z,23nm,0.8s,baz=117,slow=5.2,SNR=6.3						
	comp=Z,23nm,0.8s						
STKA	Stephens Creek	38.17	248	P	P	20 20 45.1	0.0
	comp=Z,2.8nm,0.9s,baz=79,slow=10,SNR=2.8						
	comp=Z,2.8nm,0.9s						
ASAR	Alice Springs	45.69	260	P	P	20 21 44.5	-2.3
ASAR	Alice Springs	45.69	260	P	P	20 21 46.2	-0.6
	comp=Z,6.0nm,1.1s,baz=91,slow=8.4,SNR=10						
ASAR				PcP	PcP	20 23 24.8	+0.3
	comp=Z,1.1nm,0.8s,baz=108,slow=5.0,SNR=3.6						
	comp=Z,6.0nm,1.1s						
WR0	Warramunga Arr	45.91	265	P	P	20 21 46.9	-1.7
WB2	Warramunga Arr	46.09	265	P	P	20 21 48.2	-1.7
WB2				IAmb	IAmb	20 21 50.6	
	comp=Z,16nm,1.1s						
WRAB	Tennant Creek	46.10	265	P	P	20 21 48.0	-2.0
WRAB				IAmb	IAmb	20 21 50.6	
	comp=Z,8.3nm,0.8s						
WB0	Warramunga Arr	46.10	265	P	P	20 21 48.3	-1.7
WB0				IAmb	IAmb	20 21 50.1	
	comp=Z,9.7nm,0.8s						
WRA	Warramunga Arr	46.10	265	P	P	20 21 48.1	-1.9
WRA	Warramunga Arr	46.10	265	P	P	20 21 48.4	-1.6
	comp=Z,7.1nm,0.8s,baz=100,slow=8.4,SNR=13						
WRA				PcP	PcP	20 23 26.6	+0.6
	comp=Z,1.7nm,0.9s,baz=97,slow=4.0,SNR=4.5						
	comp=Z,7.1nm,0.8s						
QSPA	South Pole Qui	66.19	180	P	P	20 24 12.4	-0.6
QSPA				IAmb	IAmb	20 24 16.8	
	comp=Z,7.0nm,0.9s						
QSPA	South Pole Qui	66.19	180	P	P	20 24 12.9	-0.1
	comp=Z,2.4nm,0.3s,baz=44,slow=1.2,SNR=7.6						
	comp=Z,2.4nm,0.3s						
BELA	Belgrano 2	75.96	172	P	P	20 25 10.9	-0.9
MAW	Mawson	79.02	200	P	P	20 25 29.7	+0.7
MAW	Mawson	79.02	200	P	P	20 25 29.7	+0.7
	comp=Z,6.4nm,1.0s,baz=105,slow=4.5,SNR=7.3						
	comp=Z,6.4nm,1.0s						
PETK	Petropavlovsk-	80.03	344	P	P	20 25 35.0	+0.4
	comp=Z,5.8nm,0.8s,baz=134,slow=8.5,SNR=4.2						
	comp=Z,5.8nm,0.8s						
DSP	Deep Springs	81.77	43	P	P	20 25 43.4	-0.7
NVAR	Mina Array Bea	82.22	42	P	P	20 25 49.0	+2.1
	comp=Z,0.4nm,0.6s,baz=226,slow=8.3,SNR=3.8						
	comp=Z,0.4nm,0.6s						
H03S2	Juan Fernandez	82.53	124	T	T	21 56 54.4	
	baz=245,slow=74,SNR=18						
H03S1	Juan Fernandez	82.54	124	T	T	21 56 54.4	
	baz=245,slow=74,SNR=22						
H03S3	Juan Fernandez	82.54	124	T	T	21 56 54.4	
	baz=245,slow=74,SNR=24						
USRK	Ussuriysk Ar.	82.82	325	P	P	20 25 49.4	-0.1
	comp=Z,3.9nm,0.9s,baz=147,slow=3.4,SNR=1.6						
	comp=Z,3.9nm,0.9s						
SNAA	Sanae	84.57	178	P	P	20 25 57.5	-0.7
SNAA				IAmb	IAmb	20 25 59.7	
	comp=Z,7.6nm,1.0s						
SNAA	Sanae	84.57	178	P	P	20 25 57.6	-0.7
	comp=Z,7.7nm,1.0s,baz=175,slow=5.5,SNR=10						
	comp=Z,7.7nm,1.0s						
GSI	Gunungsitoli	87.30	273	P	P	20 26 13.2	+0.4
TXAR	Lajitas Array	87.31	56	P	P	20 26 12.9	+0.3
	comp=Z,0.6nm,0.9s,baz=188,slow=7.6,SNR=3.7						
	comp=Z,0.6nm,0.9s						
TTA	Tatalina	87.96	9	P	P	20 26 15.1	+0.3
CAST	Castle Rocks	89.03	10	P	P	20 26 18.8	-1.1
CAST				IAmb	IAmb	20 26 20.3	
	comp=Z,7.6nm,1.1s						
KTH	Kantishna Hill	89.36	11	P	P	20 26 20.0	-1.4
TRF	Thorofare Moun	89.37	11	P	P	20 26 21.0	-0.6
TRF				IAmb	IAmb	20 26 21.8	
	comp=Z,7.9nm,0.8s						
RND	Reindeer	89.59	12	P	P	20 26 22.5	0.0
M27K	Edge Creek, AK	90.15	15	P	P	20 26 25.8	+0.6
M27K				IAmb	IAmb	20 26 28.5	
	comp=Z,16nm,1.2s						
WRH	Wood River Hil	90.71	12	P	P	20 26 27.7	+0.1
WRH				IAmb	IAmb	20 26 29.2	
	comp=Z,7.5nm,1.0s						
BCAR	Beaver Creek A	90.78	15	P	P	20 26 28.4	+0.4
HDA	Harding Lake	90.87	12	P	P	20 26 27.8	-0.5
HDA				IAmb	IAmb	20 26 29.8	
	comp=Z,4.2nm,0.8s						
M29M	Somme Creek	91.08	16	P	P	20 26 29.9	+0.4
SCRK	Sand Creek	91.08	14	P	P	20 26 30.0	+0.5
COLA	College	91.11	12	P	P	20 26 29.0	-0.4
MDM	Murphy Dome	91.12	11	P	P	20 26 28.6	-0.9
MDM				IAmb	IAmb	20 26 31.3	
	comp=Z,7.0nm,1.2s						
ILAR	Eielson Array	91.20	12	P	P	20 26 28.8	-1.0
ILAR	Eielson Array	91.20	12	P	P	20 26 29.4	-0.4
	comp=Z,1.2nm,0.9s,baz=226,slow=5.2,SNR=6.9						
	comp=Z,1.2nm,0.9s						
J25K	Salcha River,	91.36	13	P	P	20 26 30.3	-0.4
J25K				IAmb	IAmb	20 29 02.6	
	comp=Z,22nm,1.9s						
J26L	Joseph Creek	91.63	13	P	P	20 26 32.5	+0.5
J26L				IAmb	IAmb	20 26 34.1	
	comp=Z,8.2nm,0.8s						
CM31	Chiang Mai Arr	93.02	289	P	P	20 26 40.9	+1.5
CMAR	Chiang Mai Arr	93.02	289	P	P	20 26 40.7	+1.3
	comp=Z,7.3nm,0.9s,baz=138,slow=3.3,SNR=24						
	comp=Z,7.3nm,0.9s						
CHTO	Chiang Mai	93.16	289	P	P	20 26 41.0	+1.0
JTS	Las Juntas de	95.00	81	LR	LR	20 59 12.4	
	comp=Z,70nm,20.9s,baz=347,slow=29						
KURBB	Kurchatov Arra	117.81	316	PKP	PKPdf	20 32 10.0	-1.4
	comp=Z,0.3nm,0.3s,baz=104,slow=2.0,SNR=6.0						
KK31	Karatay Array	122.82	307	PKPdf	PKPdf	20 32 18.8	-2.5
KKAR	Karatay Array	122.82	307		PKPdf	20 32 20.3	-1.0
KKAR	Karatay Array	122.82	307	PKPdf	PKPdf	20 32 18.8	-2.5
BVAR	Borovoye Array	122.88	319	PKP	PKPdf	20 32 19.7	-1.5
	comp=Z,1.6nm,0.9s,baz=57,slow=5.5,SNR=5.3

HATOM	Hato Mayor del	2.33	280	*e*Pg	Pb	20 29 55.7	-0.5
HATOM			⇑	*e*Sg	Sb	20 30 23.8	-0.9
HATOM				IAML		20 30 27.6	
	comp=N,22nm,1.4s						

TIF 16 20:38:55.1, 43.42N×44.88E, h13km±1km
NORS 16 20:38:55.2±0.0, 43.37N×44.94E, h8km, MPVA3.8
MOS 16 20:38:55.3±0.0, 43.37N×44.86E, h12km, MPVA3.6
DRS 16 20:38:57.8±0.0, 43.21N×44.70E, h19km
ISC 16 20:38:56.0±1.0, **43.41N**±0.03×**44.91E**±0.02, **h18**km±3km, **n33**, σ0.96/65, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTKR	**Batakoyurt**	**0.27**	**262**	*e*Pg	**Pg**	**20 39 01.8**	**-0.3**
BTKR				*e*Sg	**Sg**	**20 39 06.4**	**+0.1**
TRKR	**Terskaya**	**0.34**	**338**	*e*Pg	**Pn**	**20 39 04.7**	**-1.3**
TRKR				*e*Sg	**Sb**	**20 39 09.5**	**+0.9**
KMGR	**Komgaron**	**0.35**	**185**	*e*Pg	**Pg**	**20 39 03.3**	**-0.2**
KMGR				*e*Sg	**Sg**	**20 39 08.2**	**-0.3**
VLKR	**Vladikavkaz**	**0.40**	**205**	*e*Pg	**Pg**	**20 39 04.3**	**0.0**
VLKR				*e*Sg	**Sg**	**20 39 09.9**	**0.0**
PRTR	**Priterechnaya**	**0.57**	**307**	*i* Pg	**Pn**	**20 39 08.8**	**-0.4**
PRTR				*e*Sg	**Sg**	**20 39 16.3**	**+1.2**
STDR	**Stavd-Durt**	**0.62**	**267**	*e*Pg	**Pn**	**20 39 09.9**	**+0.1**
STDR				*e*Sg	**Sg**	**20 39 17.4**	**+0.9**
GROC	**Groznyy**	**0.68**	**107**	*e*Pg	**Pn**	**20 39 11.2**	**+0.5**
GROC				*e*Sg	**Sn**	**20 39 21.0**	**+0.2**
KORR	**Kora**	**0.69**	**243**	*e*Pg	**Pn**	**20 39 10.8**	**-0.1**
KORR				*e*Sg	**Sg**	**20 39 19.9**	**+1.0**
LACR	**Lac**	**0.73**	**218**	*i* Pg	**Pg**	**20 39 10.6**	**+0.2**
LACR				*e*Sg	**Sg**	**20 39 20.5**	**+0.3**
SHTL	**Shatili**	**0.77**	**166**	P	**Pg**	**20 39 11.1**	**-0.1**
SHTL				S	**Sn**	**20 39 22.3**	**-1.0**
MTEO	**Meteo**	**0.78**	**201**	P	**Pb**	**20 39 11.2**	**0.0**
MTEO				S	**Sn**	**20 39 23.6**	**-0.3**
NCK	**Nalchik**	**0.96**	**276**	*e*Pg	**Pn**	**20 39 14.6**	**0.0**
NCK				*e*Sg	**Sn**	**20 39 29.1**	**+1.3**
GUDG	**Gudauri**	**1.00**	**199**	P	**Pb**	**20 39 14.9**	**+0.1**
GUDG				S	**Sn**	**20 39 29.0**	**0.0**
DVE	**Vedeno**	**1.00**	**116**	*e*Pg	**Pg**	**20 39 15.4**	**0.0**
DVE				*e*Sg	**Sn**	**20 39 28.9**	**+0.1**
KBTC	**Kuba-Taba**	**1.16**	**291**	*e*Pg	**Pg**	**20 39 18.5**	**0.0**
KBTC				*e*Sg	**Sg**	**20 39 35.7**	**+2.0**
BTLR	**Botlikh**	**1.22**	**127**	*e*Pg	**Pg**	**20 39 19.2**	**-0.4**
BTLR				*e*Sg	**Sg**	**20 39 35.9**	**+0.3**
DLMR	**Dylym**	**1.30**	**104**	*e*Pg	**Pg**	**20 39 21.7**	**+0.6**
DLMR				*e*Sg	**Sg**	**20 39 40.8**	**+2.6**
DBC	**Dubki**	**1.46**	**105**	*e*Pg	**Pg**	**20 39 23.4**	**-0.8**
DBC				*e*Sg	**Sg**	**20 39 44.0**	**+0.9**
KBZ	**Khabaz**	**1.50**	**283**	*e*Pg	**Pn**	**20 39 22.4**	**+0.5**
KBZ				*e*Sg	**Sg**	**20 39 43.7**	**-0.6**
UNCR	**Uncukul**	**1.55**	**116**	*e*Pg	**Pb**	**20 39 24.6**	**+0.4**
UNCR				*e*Sg	**Sg**	**20 39 45.9**	**-0.1**
KRNR	**Karanay**	**1.57**	**111**	*e*Pg	**Pg**	**20 39 25.2**	**-1.1**
KRNR				*e*Sg	**Sg**	**20 39 46.5**	**-0.4**
XNZR	**Khunzakh**	**1.58**	**123**	*e*Pg	**Pb**	**20 39 25.0**	**+0.3**
XNZR				*e*Sg	**Sg**	**20 39 46.6**	**-0.4**
ALIG	**Mtskhetisjvari**	**1.60**	**216**	P	**Pb**	**20 39 25.2**	**+0.1**
ALIG				S	**Sg**	**20 39 47.2**	**-0.4**
BEYR	**Belyy Ugol+**	**1.63**	**292**	*e*Pg	**Pn**	**20 39 23.1**	**-0.7**
BEYR				*e*Sg	**Sb**	**20 39 46.1**	**+0.3**
SHA1	**Shidzhatmaz**	**1.67**	**282**	*e*Pg	**Pb**	**20 39 26.0**	**-0.3**
SHA1				*e*Sg	**Sg**	**20 39 48.6**	**-1.2**
KIV	**Kislovodsk**	**1.70**	**289**	*e*Pg	**Pb**	**20 39 26.4**	**-0.4**
KIV				*e*Sg	**Sg**	**20 39 49.8**	**-1.1**
BUJR	**Buynaksk**	**1.71**	**109**	*e*Pg	**Pg**	**20 39 28.6**	**-0.3**
BUJR				*e*Sg	**Sg**	**20 39 52.9**	**+1.6**
ARKR	**Arakani**	**1.73**	**117**	*e*Pg	**Pg**	**20 39 28.1**	**-1.2**
ARKR				*e*Sg	**Sg**	**20 39 52.1**	**+0.3**
TKB	**Tkibuli**	**1.76**	**234**	P	**Pg**	**20 39 29.8**	**-0.1**
TKB				S	**Sg**	**20 39 54.4**	**+1.6**
GNBR	**Gunib**	**1.82**	**123**	*e*Pg	**Pb**	**20 39 28.8**	**0.0**
GNBR				*e*Sg	**Sg**	**20 39 53.6**	**-1.2**
LGD	**Lagodekhi**	**1.86**	**148**	P	**Pb**	**20 39 30.0**	**+0.7**
KMKR	**Kumukh**	**2.06**	**128**	*e*Pg	**Pb**	**20 39 32.4**	**-0.6**
KMKR				*e*Sg	**Sb**	**20 39 59.9**	**+1.6**
KSMR	**Kasumkent**	**2.99**	**126**	*e*Pn	**Pn**	**20 39 44.1**	**+1.6**
KSMR				*e*Sn	**Sb**	**20 40 21.1**	**-3.8**

IDC 16 20:46:00.3±7.5, **4.21S×142.66E, h0**km, **mb3.3**/2, **mbtmp3.4**/3, **ML3.2**/1, **Error ellipse: s-maj=265.5km s-min=35.3km az=94.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.62**	**207**	P	Pn	20 50 06.3	-1.1
	0.1nm,0.3s,baz=30,slow=13,SNR=5.6 1.1nm,0.8s						
ASAR	**Alice Springs**	**21.11**	**203**	P	P	20 50 47.6	+0.9
	0.6nm,0.7s,baz=34,slow=9.9,SNR=2.0 0.6nm,0.7s						
MKAR	**Makanchi Array**	**73.39**	**321**	P	P	20 57 34.3	-0.1
	0.4nm,0.8s,baz=111,slow=6.8,SNR=3.8 0.4nm,0.8s						

IDC 16 21:20:45.8±3.9, 17.83S×175.21W, h293km±33km, mb3.6/6, mbtmp4.3/7, Error ellipse: s-maj=32.4km s-min=26.8km az=95.0
ISC 16 21:20:46.5±1.4, **17.8S**±0.2×**175.3W**±0.2, **h300**km, **n7**, σ0.31/8, **mb3.8**/6, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.37**	**270**	P	**Pn**	**21 22 20.2**	**-0.1**
	22nm,0.9s,baz=129,slow=6.5,SNR=6.6						
URZ	**Urewera**	**21.44**	**197**	P	**P**	**21 25 10.8**	**-0.5**
	3.0nm,0.3s,baz=26,slow=4.6,SNR=2.2 3.0nm,0.3s						
STKA	**Stephens Creek**	**41.31**	**242**	P	**P**	**21 28 03.8**	**+0.2**
	1.5nm,0.5s,baz=68,slow=11,SNR=1.7 1.5nm,0.5s						
WRA	**Warramunga Arr**	**47.59**	**259**	P	**P**	**21 28 53.1**	**0.0**
	1.7nm,0.5s,baz=100,slow=7.4,SNR=7.0 1.7nm,0.5s						
ASAR	**Alice Springs**	**47.70**	**254**	P	**P**	**21 28 54.0**	**+0.1**
	13nm,0.7s,baz=87,slow=8.7,SNR=40						
ASAR				PcP	**PcP**	**21 30 18.3**	**+0.2**
	0.7nm,0.6s,baz=102,slow=4.2,SNR=1.5 13nm,0.7s						
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	**21 31 39.5**	**+0.3**
	2.6nm,0.9s,baz=61,slow=3.6,SNR=5.6 2.6nm,0.9s						
ILAR	**Eielson Array**	**85.15**	**12**	P	**P**	**21 32 48.5**	**-0.1**
	0.5nm,0.6s,baz=222,slow=5.6,SNR=12 0.5nm,0.6s						

IDC 16 21:21:05.4±1.5, 23.65S×179.83W, h511km±15km, mb3.6/12, mbtmp4.4/15, Error ellipse: s-maj=16.6km s-min=13.5km az=112.0
NEIC 16 21:21:07.7±2.3, 23.7S±0.1×179.8W±0.1, h545km±7km, mb4.5/33, Error ellipse: s-maj=18.9km s-min=17.4km az=92.0
ISC 16 21:21:06.7±0.5, **23.72S**±0.07×**179.88W**±0.08, **h532**km, **n85**, σ1.39/86, **mb4.4**/26, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.79**	**163**	P	**P**	**21 22 42.7**	**+0.3**
MSVF	**Nonsavu**	**6.26**	**342**	P	**P**	**21 22 46.5**	**-0.6**
MSVF	**Nonsavu**	**6.26**	**342**	P	**P**	**21 22 46.1**	**-1.0**
	13nm,0.4s,baz=217,slow=9.1,SNR=13						
PINNC	**Pines Island,**	**11.71**	**273**		**P**	**21 23 43.5**	**+1.3**
DZM	**Mont Dzumac**	**12.71**	**275**	P	**P**	**21 23 54.3**	**+1.5**
DZM	**Mont Dzumac**	**12.71**	**275**	P	**P**	**21 23 53.3**	**+0.5**
	9.7nm,0.9s,baz=133,slow=21,SNR=2.3						
MXZ	**Matakaoa Point**	**13.89**	**186**	P	**P**	**21 24 06.8**	**+2.0**
TOZ	**Tahuroa Road**	**14.52**	**195**	P	**P**	**21 24 14.7**	**+3.4**
URZ	**Urewera**	**14.72**	**189**	P	**P**	**21 24 12.8**	**-0.6**
	5.0nm,0.3s,baz=74,slow=2.0,SNR=9.7						
URZ				S	**S**	**21 26 42.8**	**-4.5**
	5.5nm,0.5s,baz=95,slow=23,SNR=2.3						
RTZ	**Ruatahuna**	**15.09**	**189**	P	**P**	**21 24 15.9**	**-1.5**
RTZ				IAmb	IAmb	21 24 42.0	
	comp=Z,12nm,1.2s						
MRZ	**Mangatainoka R**	**17.32**	**192**	P	**P**	**21 24 34.8**	**-4.3**
MRZ				IAmb	IAmb	21 24 50.6	
	comp=Z,23nm,1.1s						
QRZ	**Quartz Range**	**18.21**	**199**	P	**P**	**21 24 46.7**	**-0.5**

MRNZ	**Matariki Terra**	**18.68**	**198**	P	**P**	**21 24 50.5**	**-1.0**
THZ	**Tophouse**	**18.98**	**197**	P	**P**	**21 24 53.0**	**-1.2**
THZ				IAmb	IAmb	21 24 59.5	
	comp=Z,25nm,1.1s						
LTZ	**Lake Taylor**	**20.10**	**197**	P	**P**	**21 25 01.8**	**-2.6**
OXZ	**Oxford**	**20.66**	**197**	P	**P**	**21 25 08.6**	**-0.9**
RPZ	**Rata Peaks**	**21.30**	**198**	P	**P**	**21 25 15.4**	**+0.2**
	comp=Z,11nm,0.5s,baz=322,slow=1.4,SNR=11 comp=Z,11nm,0.5s						
MLZ	**Mavora Lakes**	**23.70**	**201**	P	**P**	**21 25 35.8**	**-0.9**
MLZ				IAmb	IAmb	21 25 45.0	
	comp=Z,20nm,1.1s						
ARMA	**Armidale**	**26.19**	**249**	P	**P**	**21 26 00.8**	**+1.8**
ARMA				IAmb	IAmb	21 26 01.5	
	comp=Z,9.5nm,0.7s						
EIDS	**Eidsvold**	**26.44**	**260**	P	**P**	**21 26 01.8**	**+0.6**
EIDS				IAmb	IAmb	21 26 22.3	
	comp=Z,15nm,1.1s						
CAN	**Canberra**	**29.32**	**240**	P	**P**	**21 26 27.3**	**+0.9**
CTAO	**Charters Tower**	**31.58**	**270**	P	**P**	**21 26 46.9**	**+0.9**
TOO	**Toolangi**	**32.64**	**237**	P	**P**	**21 26 55.6**	**+0.9**
TOO				IAmb	IAmb	21 26 56.0	
	comp=Z,11nm,0.6s						
TAU	**Tasmania Unive**	**33.14**	**227**	P	**P**	**21 26 59.9**	**+1.1**
TAU				IAmb	IAmb	21 27 24.1	
	comp=Z,17nm,1.1s						
PMG	**Port Moresby**	**34.53**	**289**	P	**P**	**21 27 11.2**	**+0.2**
	comp=Z,8.9nm,0.7s,baz=107,slow=8.3,SNR=3.9 comp=Z,8.9nm,0.7s						
STKA	**Stephens Creek**	**34.89**	**248**	P	**P**	**21 27 14.0**	**+0.2**
STKA	**Stephens Creek**	**34.89**	**248**	P	**P**	**21 27 14.4**	**+0.7**
	comp=Z,4.4nm,0.5s,baz=95,slow=11,SNR=9.7 comp=Z,4.4nm,0.5s						
BBOO	**Buckleboo**	**39.61**	**247**	P	**P**	**21 27 52.0**	**-0.5**
BBOO				IAmb	IAmb	21 27 52.6	
	comp=Z,12nm,0.7s						
AS31	**Alice Springs**	**42.17**	**260**	P	**P**	**21 28 13.1**	**+0.2**
ASAR	**Alice Springs**	**42.17**	**260**	P	**P**	**21 28 12.3**	**-0.7**
ASAR	**Alice Springs**	**42.17**	**260**	P	**P**	**21 28 13.2**	**+0.2**
	comp=Z,11nm,0.8s,baz=97,slow=7.4,SNR=82						
ASAR				ScP	**ScP**	**21 32 59.1**	**+4.1**
	comp=Z,2.1nm,0.8s,baz=109,slow=3.9,SNR=11						
ASAR				S	**S**	**21 33 54.1**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=97,slow=15,SNR=3.2 comp=Z,11nm,0.8s						
WR0	**Warramunga Arr**	**42.34**	**266**	P	**P**	**21 28 14.0**	**-0.3**
WR0				IAmb	IAmb	21 28 14.6	
	comp=Z,9.2nm,0.9s						
WB2	**Warramunga Arr**	**42.51**	**266**	P	**P**	**21 28 15.4**	**-0.2**
WB2				IAmb	IAmb	21 28 16.1	
	comp=Z,14nm,0.7s						
WB0	**Warramunga Arr**	**42.52**	**266**	P	**P**	**21 28 15.2**	**-0.5**
WB0				IAmb	IAmb	21 28 16.0	
	comp=Z,16nm,0.7s						
WRAB	**Tennant Creek**	**42.52**	**266**	P	**P**	**21 28 15.2**	**-0.4**
WRAB				IAmb	IAmb	21 28 16.1	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**42.52**	**266**	P	**P**	**21 28 15.5**	**-0.3**
WRA	**Warramunga Arr**	**42.52**	**266**	P	**P**	**21 28 15.5**	**-0.3**
	comp=Z,12nm,0.5s,baz=94,slow=8.4,SNR=195						
WRA				ScP	**ScP**	**21 33 00.5**	**+4.0**
	comp=Z,1.1nm,0.8s,baz=102,slow=3.9,SNR=5.1						
WRA				S	**S**	**21 33 57.3**	**-2.5**
	comp=Z,0.9nm,0.8s,baz=95,slow=13,SNR=5.4 comp=Z,12nm,0.5s						
FORT	**Forrest**	**46.48**	**249**	P	**P**	**21 28 44.8**	**-1.2**
MTN	**Manton Dam**	**47.55**	**274**	P	**P**	**21 28 53.3**	**-1.0**
MTN				IAmb	IAmb	21 29 19.4	
	comp=Z,8.9nm,1.0s						
KNRA	**Kununurra**	**48.79**	**270**	P	**P**	**21 29 03.5**	**-0.1**
KNRA				IAmb	IAmb	21 29 05.8	
	comp=Z,12nm,0.9s						
PSA00	**Pilbara Seismi**	**55.30**	**259**	P	**P**	**21 29 50.0**	**-0.3**
MBWA	**Marble Bar**	**55.51**	**260**	P	**P**	**21 29 51.6**	**-0.2**
MORW	**Morawa**	**57.04**	**250**	P	**P**	**21 30 02.2**	**-0.1**
MORW				IAmb	IAmb	21 30 02.6	
	comp=Z,14nm,0.8s						
QSPA	**South Pole Qui**	**66.37**	**180**	P	**P**	**21 31 03.3**	**+0.7**
QSPA	**South Pole Qui**	**66.37**	**180**	P	**P**	**21 31 03.6**	**+1.1**
	comp=Z,2.8nm,0.7s,baz=305,slow=0.8,SNR=22 comp=Z,2.8nm,0.7s						
MJAR	**Matsushiro Arr**	**71.81**	**326**	P	**P**	**21 31 35.6**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=141,slow=6.2,SNR=2.4 comp=Z,0.7nm,0.3s						
ADK	**Adak**	**75.32**	**2**	P	**P**	**21 31 55.0**	**-0.1**
BELA	**Belgrano 2**	**76.60**	**173**	P	**P**	**21 32 01.6**	**-0.4**
PETK	**Petropavlovsk-**	**78.95**	**346**	P	**P**	**21 32 14.6**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=103,slow=6.7,SNR=4.4 comp=Z,3.8nm,1.0s						
NVAR	**Mina Array Bea**	**84.55**	**44**	P	**P**	**21 32 44.2**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=232,slow=7.9,SNR=5.5 comp=Z,0.7nm,0.8s						
N15K	**Kwethluk River**	**85.14**	**10**	P	**P**	**21 32 46.8**	**+0.6**
N15K				IAmb	IAmb	21 32 47.8	
	comp=Z,7.3nm,0.8s						
G08A	**Pilot Rock**	**88.22**	**38**	P	**P**	**21 33 00.9**	**-0.3**
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**21 33 12.2**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=218,slow=6.8,SNR=14 comp=Z,1.2nm,0.7s						
BSUT	**Blindstream Ca**	**90.57**	**45**	P	**P**	**21 33 13.2**	**+0.5**
ILAR	**Eielson Array**	**91.83**	**14**	P	**P**	**21 33 16.6**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=209,slow=5.9,SNR=2.6 comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**92.48**	**44**	P	**P**	**21 33 20.8**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=251,slow=2.8,SNR=3.2 comp=Z,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**115.19**	**316**	PKP	**PKPdf**	**21 38 46.4**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=99,slow=1.9,SNR=1.2						
KKAR	**Karatay Array**	**119.84**	**307**	PKPdf	**PKPdf**	**21 38 55.8**	**-0.8**
BVAR	**Borovoye Array**	**120.37**	**319**	PKP	**PKPdf**	**21 38 56.7**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=97,slow=1.8,SNR=5.4						
ARU	**Arti**	**126.80**	**324**	PKP	**PKPdf**	**21 39 09.4**	**0.0**
	comp=Z,1.9nm,0.4s,baz=88,slow=20,SNR=4.5						
ABKAR	**Akbulak array**	**127.15**	**315**	PKPdf	**PKiKP**	**21 39 10.8**	**-0.2**
ARCES	**ARCESS Array B**	**131.73**	**348**	PKP	**PKPdf**	**21 39 18.0**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=42,slow=2.0,SNR=11						
FINES	**FINESS Array B**	**138.31**	**342**	PKhKP	PKPpre	21 39 22.3	
	comp=Z,2.3nm,0.8s,baz=42,slow=2.3,SNR=5.1						
FINES				PKP	**PKPdf**	**21 39 31.5**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=85,slow=3.3,SNR=5.6						
NC405	**NORSAR Array S**	**141.78**	**351**	PKPdf	**PKPdf**	**21 39 33.3**	**-3.9**
NB2	**NORSAR Subarra**	**141.92**	**351**	PKP	PKPpre	21 39 33.3	
	comp=Z,0.5nm,0.5s,baz=20,slow=3.6						
NOA	**NORSAR Array B**	**141.92**	**351**	PKhKP	PKPpre	21 39 32.1	
	comp=Z,0.3nm,0.5s,baz=11,slow=3.6,SNR=5.9						
KONO	**Kongsberg**	**143.48**	**352**	PKPdf	PKPab	21 39 37.8	-0.8
PABE	**Paberze**	**143.69**	**337**	PKPdf	PKPab	21 39 39.5	-0.1
AKASG	**Malin Array Be**	**144.87**	**327**	PKP	**PKPdf**	**21 39 42.6**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=40,slow=4.0,SNR=13						
BRTR	**Keskin Array B**	**147.55**	**307**	PKPbc	**PKPbc**	**21 39 51.0**	**-0.5**
MMAI	**Mount Meron Ar**	**147.72**	**295**	PKPbc	**PKiKP**	**21 39 53.4**	**-0.1**
	comp=Z,3.2nm,0.4s,baz=91,slow=7.5,SNR=12						
EKA	**Eskdalemuir Ar**	**148.33**	**4**	PKPbc	**PKPbc**	**21 39 52.3**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=358,slow=3.6,SNR=3.9						
BUR08	**Bucovina Ar. S**	**148.87**	**326**	PKPbc	**PKPdf**	**21 39 51.3**	**+1.4**
BURAR	**Bucovina Array**	**148.88**	**326**	PKPbc	**PKPbc**	**21 39 52.8**	**-1.7**
CSS	**Mathiatis**	**149.09**	**299**	PKPbc	**PKPbc**	**21 39 54.8**	**-0.5**
MLR	**Muntele Rosu**	**149.83**	**322**	PKPbc	**PKPbc**	**21 39 56.0**	**-0.9**
OSTC	**Ostas**	**150.43**	**339**	*e*PKP	**PKiKP**	**21 39 58.7**	**+0.2**
CHVC	**Chvalec**	**150.45**	**339**	*e*PKP	**PKiKP**	**21 39 58.5**	**0.0**
DPC	**Dobruska-Polom**	**150.57**	**339**	*e*PKP	**PKiKP**	**21 39 58.9**	**+0.1**
CLL	**Collm**	**150.71**	**343**	*i* PKPbc	**PKPbc**	**21 39 58.7**	**+0.2**
	comp=Z,7.0nm,0.7s						
ELL	**Elmali**	**151.30**	**304**	PKPbc	**PKPbc**	**21 40 00.1**	**-0.4**
KHC	**Kasperske Hory**	**152.50**	**341**	*e*PKP	**PKPdf**	**21 39 57.5**	**+2.3**
RDO	**Rodhopi**	**152.54**	**315**	PKPbc	**PKPbc**	**21 40 02.7**	**-0.2**
GERES	**GERESS Array B**	**152.72**	**340**	PKP	**PKPdf**	**21 39 55.1**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=99,slow=3.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**169.38**	**188**	PKPab	**PKPab**	**21 41 30.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=156,slow=2.5,SNR=4.7						

SOME 16 21:27:12.4, 42.83N×76.87E, h10km
NNC 16 21:27:14.6±2.5, 42.96N×76.80E, h13km±10km, mb3.8, mpv2.3, Error ellipse: s-maj=23.2km s-min=7.6km az=179.0
ISC 16 21:27:10.9±3.0, **42.8N**±0.1×**76.89E**±0.06, **h23**km±10km, **n14**, σ0.85/27, **Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.29**	**8**	P	**Pb**	**21 27 17.2**	**-0.7**
	1.5nm,0.1s						
TNSS				S	**Pn**	**21 27 20.8**	**+0.6**
	9.4nm,0.2s						
TNSS	**Tian-Shan**	**0.29**	**8**	P	**Pn**	**21 27 20.7**	**+0.6**
	1.5nm,0.1s						
TNSS				S	**Sb**	**21 27 24.4**	**+1.7**
	36nm,0.1s						
TNSS	**Tian-Shan**	**0.29**	**8**	*e*P	**Pb**	**21 27 17.2**	**-0.7**
	1.2nm,0.1s						
TNSS				*e*S	**Pn**	**21 27 20.8**	**+0.6**
	9.4nm,0.2s						
IZV	**Izvestkoviy**	**0.35**	**324**	P	**Pn**	**21 27 21.1**	**+0.3**
	3.3nm,0.2s						
IZV				S	**Sb**	**21 27 25.5**	**+1.5**
	15nm,0.3s						
MDOK	**Medeo**	**0.42**	**16**	Pg	**Pb**	**21 27 19.7**	**-0.2**
	1.1nm,0.3s						
MDOK				Lg	Lg	21 27 25.0	
	5.4nm,0.3s						
MDOK	**Medeo**	**0.42**	**16**	*e*P	**Pb**	**21 27 19.7**	**-0.2**
	1.1nm,0.1s						
MDOK				*e*S	**Sb**	**21 27 25.0**	**-1.0**
	5.4nm,0.1s						
MTBS	**Maitube**	**0.51**	**318**	P	**Pb**	**21 27 20.9**	**-0.3**
	6.6nm,0.2s						
MTBS				S	**Sb**	**21 27 27.1**	**-1.1**
	3.8nm,0.2s						
MTBS	**Maitube**	**0.51**	**318**	*e*P	**Pb**	**21 27 20.9**	**-0.3**
	6.6nm,0.2s						
MTBS				*e*S	**Sb**	**21 27 27.1**	**-1.1**
	3.8nm,0.1s						
DGS	**Degeres**	**0.96**	**301**	P	**Pb**	**21 27 29.1**	**+0.2**
	1.4nm,0.2s						
DGS				S	**Sn**	**21 27 40.9**	**-1.1**
	1.3nm,0.2s						
DGS	**Degeres**	**0.96**	**301**	*e*P	**Pb**	**21 27 29.1**	**+0.2**
	1.2nm,0.1s						
DGS				*e*S	**Sn**	**21 27 40.9**	**-1.1**
	1.3nm,0.2s						
KTBS	**Karatobe**	**0.97**	**351**	P	**Pb**	**21 27 29.5**	**+0.4**
	0.5nm,0.2s						
KTBS				S	**Sn**	**21 27 41.7**	**-0.7**
	1.3nm,0.4s						
KTBS	**Karatobe**	**0.97**	**351**	*e*P	**Pb**	**21 27 29.5**	**+0.4**
	0.5nm,0.1s						
KTBS				*e*S	**Sn**	**21 27 41.7**	**-0.7**
	1.1nm,0.1s						
KRBS	**Karabastau**	**1.30**	**317**	P	**Pb**	**21 27 35.1**	**+0.4**
	1.7nm,0.3s						
KRBS				S	**Sb**	**21 27 51.6**	**+0.8**
	0.2nm,0.3s						
KRBS	**Karabastau**	**1.30**	**317**	*e*P	**Pb**	**21 27 35.1**	**+0.4**
	1.7nm,0.3s						
KRBS				*e*S	**Sb**	**21 27 51.6**	**+0.8**
	0.2nm,0.2s						

IDC 16 21:47:11.4±25.0, **7.58S×153.49E, h0**km, **mb3.6**/3, **mbtmp3.6**/3, **Error ellipse: s-maj=414.8km s-min=102.2km az=25.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.26**	**235**	P	P	21 52 10.0	-0.2
	1.4nm,0.8s,baz=62,slow=10,SNR=7.9 1.4nm,0.8s						
ASAR	**Alice Springs**	**24.67**	**227**	P	P	21 52 34.1	-0.2
	0.6nm,0.7s,baz=65,slow=8.4,SNR=8.6 0.6nm,0.7s						
STKA	**Stephens Creek**	**26.60**	**203**	P	P	21 52 51.9	+0.4
	1.4nm,0.8s,baz=24,slow=10.0,SNR=1.5 1.4nm,0.8s						

IDC 16 21:54:47.8±1.9, 16.59S×69.34W, h184km±18km, mb3.9/5, mbtmp4.3/9, Error ellipse: s-maj=21.8km s-min=19.3km az=175.0
NEIC 16 21:54:48.0±1.9, 16.73S±0.07×69.6W±0.1, h204km±7km, mb4.2/14, Error ellipse: s-maj=14.0km s-min=10.7km az=89.0
GUC 16 21:54:49.7±0.4, 16.82S×69.71W, h207km±1km, ML4.3
ISC 16 21:54:47.7±0.6, **16.78S**±0.05×**69.65W**±0.07, **h207**km±6km, **n70**, σ1.50/85, **mb4.1**/7, **4C-2D, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.82**	**169**	Pn	**Pn**	**21 55 18.4**	**+0.7**
PB18				Sn	**S**	**21 55 41.7**	**+0.5**
PB18	**Visviri**	**0.82**	**169**	⇑*i*P	**Pn**	**21 55 19.3**	**+1.6**
PB18				*e*S	**S**	**21 55 42.3**	**+1.1**
PB16	**IPOC Station P**	**1.55**	**175**	Pn	**Pn**	**21 55 23.9**	**+0.8**
PB16				Sn	**S**	**21 55 51.4**

ITQB	Itaqui	17.53	139	P	P	21 58 38.8	+0.9
ITAB	Concordia	19.27	126	P	P	21 58 56.5	-0.2
BDFB	Brasilia	20.81	90	P	P	21 59 12.6	-0.8
BDFB				IAmb	IAmb	21 59 15.8	
	comp=Z,9.4nm,1.1s						
BDFB	Brasilia	20.81	90	P	P	21 59 12.8	-0.6
	comp=Z,4.4nm,0.3s,baz=250,slow=8.9,SNR=8.9 comp=Z,4.4nm,0.3s						
PLTB	Pedras Altas	20.85	139	P	P	21 59 13.4	-0.2
PLTB				IAmb	IAmb	21 59 18.1	
	comp=Z,8.2nm,0.7s						
BOAV	Boa Vista	21.08	26	P	P	21 59 16.2	+0.1
TRQA	Tornquist	22.24	164	P	P	21 59 28.7	+1.2
TRQA				IAmb	IAmb	21 59 32.0	
	comp=Z,4.5nm,0.8s						
PLCA	Paso Flores	23.88	182	P	P	21 59 44.1	+1.7
PLCA	Paso Flores	23.88	182	P	P	21 59 46.0	+3.7
	comp=Z,2.5nm,0.8s,baz=18,slow=11,SNR=4.8 comp=Z,2.5nm,0.8s						
PMSA	Palmer Station	48.10	177	P	P	22 03 08.0	+1.8
DBIC	Dimbokro	68.15	76	P	P	22 05 25.4	-0.6
DBIC				IAmb	IAmb	22 05 42.2	
	comp=Z,5.5nm,1.1s						
DBIC	Dimbokro	68.15	76	P	P	22 05 26.2	+0.2
	comp=Z,3.9nm,0.6s,baz=244,slow=5.2,SNR=10 comp=Z,3.9nm,0.6s						
KOWA	Kowa	71.86	68	P	P	22 05 48.6	0.0
KOWA				IAmb	IAmb	22 05 48.9	
	comp=Z,2.5nm,1.1s						
TOA0	Torodi Ar. Sit	76.49	72	P	P	22 06 15.4	+0.1
TOA0				IAmb	IAmb	22 06 16.2	
	comp=Z,5.2nm,0.9s						
TORD	Torodi Ar. Bea	76.49	72	P	P	22 06 15.2	-0.1
TORD				IAmb	IAmb	22 06 16.2	
	comp=Z,3.4nm,0.8s						
TORD	Torodi Ar. Bea	76.49	72	P	P	22 06 15.4	+0.1
	comp=Z,3.7nm,0.5s,baz=276,slow=5.2,SNR=74 comp=Z,3.7nm,0.5s						
BOSA	Boshof	86.29	119	P	P	22 07 08.8	+2.0
	comp=Z,2.2nm,0.8s,baz=277,slow=3.8,SNR=6.5 comp=Z,2.2nm,0.8s						
ASAR	Alice Springs	133.68	210	PKP	PKiKP	22 13 43.3	+1.5
	comp=Z,0.3nm,0.5s,baz=154,slow=2.8,SNR=2.1						
WRA	Warramunga Arr	136.56	214	PKP	PKiKP	22 13 49.5	+1.8
	comp=Z,0.7nm,1.0s,baz=150,slow=2.0,SNR=2.9						
SONM	Songino Array	148.86	5	PKPbc	PKiKP	22 14 14.3	+2.0
	comp=Z,0.9nm,0.6s,baz=342,slow=1.9,SNR=7.1						
PZH	PanZhiHua	167.45	38	PKP	PKPdf	22 14 26.3	-3.4

*JMA **16** 22:15:07.5±0.1, 24°N±2°×122°6E±0°5, h62km±2km, MV2.4/18, NW OFF ISHIGAKIJIMA IS*
*TAP **16** 22:15:07.7, 24°24N×122°60E, h67km, ML3.1, C*
ISC 16 22:15:07.8±1.2, 24°22N±0°04×122°62E±0°02, h65km±7km, n90, σ0°79/131, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS3	EOS3	0.28	284	*i* P	Pn	22 15 18.8	+0.6
	baz=278						
EOS4	EOS4	0.29	251	⇑*i* P	Pn	22 15 18.3	+0.3
	baz=253						
EOS4				S	Sn	22 15 26.6	+1.2
	baz=253						
JYNG	Yonagunijimaku	0.38	52	P	Pn	22 15 18.9	-0.2
JYNG				S	Sn	22 15 26.9	-0.3
EOS2	EOS2	0.41	299	*i* P	Pn	22 15 19.9	+0.7
	baz=284						
EOS2				S	Sn	22 15 29.2	+1.7
	baz=284						
YOJ	Yonaguni jima	0.43	56	P	Pn	22 15 19.4	-0.2
YOJ				S	Sn	22 15 27.4	-0.7
YOJ	Yonaguni jima	0.43	56	*e*P	Pn	22 15 20.1	+0.6
	baz=52						
EWUT	Wuta	0.80	287	*e*P	Pn	22 15 23.2	-0.4
	baz=285						
EWUT				*e*S	Sn	22 15 34.2	-1.0
	baz=285						
TWC	Suao	0.80	299	P	Pn	22 15 23.2	-0.4
	baz=298						
TWC				*e*S	Sn	22 15 34.0	-1.2
	baz=298						
ENA	Nanau	0.83	285	*e*P	Pn	22 15 23.9	0.0
	baz=283						
ENA				S	Sn	22 15 35.4	-0.5
	baz=283						
ETL	Fush Village	0.91	266	*e*P	Pn	22 15 24.6	-0.4
	baz=265						
NDS	Dongshan	0.92	297	*e*P	Pn	22 15 25.3	+0.2
	baz=304						
NACB	Ninganchiao	0.94	268	P	Pn	22 15 24.6	-0.6
	baz=266						
NACB				S	Sn	22 15 37.3	-1.0
	baz=266						
TWD	Chiawan	0.95	262	*e*P	Pn	22 15 24.6	-0.7
	baz=252						
TWD				S	Sn	22 15 37.5	-0.9
	baz=252						
HWA	Hwalien	0.96	256	*e*P	Pn	22 15 25.6	+0.1
	baz=254						
TWB1	Santiao Chiao	0.97	324	P	Pn	22 15 24.9	-0.9
	baz=324						
TWE	Neicheng	1.00	300	P	Pn	22 15 26.0	-0.1
	baz=307						
IRIF	Iriomote-Funau	1.02	83	P	Pn	22 15 26.3	0.0
IRIF				S	Sn	22 15 40.2	+0.2
ETLH	Xiulin Townshi	1.04	270	*e*P	Pn	22 15 26.1	-0.6
	baz=268						
LATG	Datong	1.05	288	P	Pn	22 15 26.8	0.0
	baz=279						
LATG				*e*S	Sn	22 15 40.4	-0.5
	baz=279						
ENTT	Nioudou	1.05	294	P	Pn	22 15 26.9	+0.2
	baz=285						
ENTT				*e*S	Sn	22 15 40.4	-0.4
	baz=285						
ETM	Tongmen	1.06	257	*e*P	Pn	22 15 26.2	-0.7
	baz=251						
ETM				*e*S	Sn	22 15 39.8	-1.2
	baz=251						
NDT	Datong Townshi	1.08	291	P	Pn	22 15 27.3	+0.2
	baz=283						
NDT				*e*S	Sn	22 15 41.3	-0.2
	baz=283						
FUSB	Fushanzhiwuyua	1.08	300	*e*P	Pn	22 15 27.3	+0.1
	baz=308						
HATJ	Hateruma jima	1.09	98	*e*P	Pn	22 15 28.1	+0.9
SXI1	Grass Mountain	1.10	322	*e*P	Pn	22 15 26.7	-0.9
	baz=328						
LXIB	Xiulin Townshi	1.12	260	*e*P	Pn	22 15 27.2	-0.6
	baz=251						
LXIB				*e*S	Sn	22 15 41.4	-1.2
	baz=251						
NWF	Wu-fen Shan	1.14	318	*e*P	Pn	22 15 27.4	-0.6
	baz=309						
WFSB	Wu-fen Shan	1.14	318	*e*P	Pn	22 15 27.4	-0.5
	baz=317						
WFSB				*e*S	Sn	22 15 41.8	-1.1
	baz=317						
NNSB	Datong	1.15	281	*e*P	Pn	22 15 28.3	+0.2
	baz=280						
NNSB				*e*S	Sn	22 15 42.5	-0.7
	baz=280						
ESL	Shilin	1.16	250	*e*P	Pn	22 15 27.4	-0.7
	baz=249						
NNS	Nan Shan	1.16	281	*e*P	Pn	22 15 28.5	+0.3
	baz=280						
YHNB	Yeheng	1.22	292	*i* P	Pn	22 15 29.0	0.0
	baz=282						
YHNB				*i* S	Sn	22 15 44.3	-0.5
	baz=282						
EGFH	Guangfu	1.22	244	P	Pn	22 15 28.4	-0.6
	baz=237						
EGFH				*e*S	Sn	22 15 43.9	-0.8
	baz=237						
WARBT	Fenglin Townsh	1.23	246	P	Pn	22 15 28.5	-0.6
	baz=241						
WARBT				*e*S	Sn	22 15 43.9	-1.2
	baz=241						
JKRS	Kuro-shima	1.27	89	P	Pn	22 15 30.1	+0.5
JKRS				S	Sn	22 15 46.1	+0.2
HGSD	Ruisui	1.31	237	*e*P	Pn	22 15 29.9	-0.3
	baz=236						
TWT	Tachien	1.32	272	P	Pn	22 15 31.0	+0.6
	baz=271						
TWT				*e*S	Sn	22 15 47.0	-0.3
	baz=271						
YM01	YM01	1.33	314	*e*P	Pn	22 15 30.9	+0.5
	baz=314						
CHGB	Renai	1.33	264	*e*P	Pn	22 15 30.6	0.0
	baz=256						
TDCB	Techi	1.33	272	*e*S	Sn	22 15 47.0	-0.6
	baz=271						
OWD	Renai	1.35	259	*e*P	Pn	22 15 30.5	-0.2
	baz=258						
EHY	Hungye	1.38	239	*e*P	Pn	22 15 30.7	-0.4
	baz=248						
WUSB	Renai	1.39	261	P	Pn	22 15 31.3	0.0
	baz=260						
WUSB				*e*S	Sn	22 15 49.0	+0.1
	baz=260						
JIJ	Ishigaki jima	1.40	84	P	Pn	22 15 31.1	-0.2
JIJ				S	Sn	22 15 47.9	-1.0
NFF	Wufeng Townshi	1.43	287	*e*P	Pn	22 15 32.1	+0.3
	baz=286						
NFF				*e*S	Sn	22 15 50.1	+0.4
	baz=286						
VWDT	VWDT	1.43	251	P	Pn	22 15 31.8	+0.1
	baz=251						
VWDT				*e*S	Sn	22 15 49.1	-0.5
	baz=251						
YULB	Yu-li	1.46	236	*e*P	Pn	22 15 31.8	-0.4
	baz=247						
EYUL	Yuli	1.47	234	*e*P	Pn	22 15 32.2	-0.1
	baz=228						
TWF1	Yuli	1.49	235	*e*P	Pn	22 15 32.2	-0.3
	baz=229						
LIOB	Emei	1.52	287	*e*P	Pn	22 15 33.5	+0.6
	baz=285						
LIOB				*e*S	Sn	22 15 52.7	+0.8
	baz=285						
WHP	Taichung City	1.53	273	*e*P	Pn	22 15 34.2	+1.0
	baz=272						
WHP				S	Sn	22 15 52.3	+0.1
	baz=272						
NSTT	Nanjuang	1.53	286	P	Pn	22 15 33.7	+0.6
	baz=285						
NSTT				*e*S	Sn	22 15 52.2	+0.1
	baz=285						
WCS	Beigang Elemen	1.57	264	*e*P	Pn	22 15 34.1	+0.5
	baz=260						
WCS				*e*S	Sn	22 15 53.0	0.0
	baz=260						
SSLB	Suanglung	1.58	255	*e*P	Pn	22 15 33.8	0.0
	baz=247						
FULB	Fuli	1.58	230	P	Pn	22 15 33.2	-0.6
	baz=223						
JISG	Ishigakijimahi	1.58	76	P	Pn	22 15 33.7	-0.1
JISG				S	Sn	22 15 52.1	-1.3
CHKT	Chengkung	1.60	226	*e*P	Pn	22 15 33.3	-0.7
	baz=221						
CHKT				*e*S	Sn	22 15 52.0	-1.8
	baz=221						
SMLT	Sun Moon Lake	1.61	258	P	Pn	22 15 34.7	+0.5
	baz=252						
SMLT				*e*S	Sn	22 15 53.8	-0.3
	baz=252						
TYC	Yuchr	1.64	259	P	Pn	22 15 35.0	+0.5
	baz=253						
TYC				*e*S	Sn	22 15 54.8	+0.1
	baz=253						
EHD	Haiduan	1.68	231	*e*P	Pn	22 15 34.4	-0.6
	baz=231						
WHYT	Xinyi Township	1.70	253	*e*P	Pn	22 15 36.1	+0.7
	baz=247						
WHYT				*e*S	Sn	22 15 56.3	+0.1
	baz=247						
ECS	Chishang	1.70	229	*e*P	Pn	22 15 36.2	+0.9
	baz=239						
EDH	Donghe	1.73	225	*e*P	Pn	22 15 35.2	-0.5
	baz=220						
EDH				*e*S	Sn	22 15 55.1	-1.8
	baz=220						
WJS	Zhushan	1.77	258	*e*S	Sn	22 15 59.8	+1.9
	baz=257						
WNT	Mingjian	1.80	260	*e*P	Pn	22 15 37.9	+1.2
	baz=251						
ALS	Alishan	1.81	247	*e*P	Pn	22 15 37.8	+0.8
	baz=241						
ALS				*e*S	Sn	22 15 59.6	+0.5
	baz=241						
LDUT	Ludao	1.87	215	*e*P	Pn	22 15 37.0	-0.6
	baz=210						
LDUT				*e*S	Sn	22 15 58.3	-1.8
	baz=210						
JTJ	Tarama	1.94	77	P	Pn	22 15 38.9	+0.3
JTJ				S	Sn	22 16 01.2	-0.8
WDLH	Douliu	1.98	255	*e*P	Pn	22 15 40.4	+1.3
	baz=246						
TWGBT	Beinan	1.99	226	*e*P	Pn	22 15 38.7	-0.5
	baz=234						
STYH	Taoyuan	1.99	239	*e*P	Pn	22 15 40.1	+0.9
	baz=239						
STYH				*e*S	Sn	22 16 03.5	+0.5
	baz=239						
TWG	Pinlang	1.99	226	*e*P	Pn	22 15 38.8	-0.4
	baz=234						
WCKO	Fanlu	2.00	248	*e*P	Pn	22 15 40.8	+1.3
	baz=248						
TPUB	Ta-pu	2.04	244	*e*P	Pn	22 15 41.4	+1.5
	baz=244						
CHN4	Tsaushan	2.05	245	*e*P	Pn	22 15 41.5	+1.5
	baz=246						
WRL	Guolierlin Hig	2.07	262	*e*S	Sn	22 16 05.7	+0.5
	baz=261						
WTP	Ta-pu	2.08	243	*e*P	Pn	22 15 42.1	+1.6
	baz=247						
WTP				*e*S	Sn	22 16 07.0	+1.7
	baz=247						
CHN1	Nanshi	2.18	242	*e*P	Pn	22 15 43.3	+1.5
	baz=252						
SLGT	Liugui	2.18	236	*e*P	Pn	22 15 43.4	+1.5
	baz=231						
SGST	Jiashian	2.18	239	*e*P	Pn	22 15 42.8	+0.9
	baz=234						
TSMG	Majia	2.36	231	*e*P	Pn	22 15 45.3	+1.0
	baz=227						
JIRB	Irabujima	2.40	75	*e*S	Sn	22 16 13.1	-0.1
MASBT	Mashibuluo	2.43	229	*e*P	Pn	22 15 46.0	+0.8
	baz=225						
EAST	Anshuo	2.45	222	*e*P	Pn	22 15 46.2	+0.7
	baz=228						
TAWH	Dawu Township	2.46	221	*e*P	Pn	22 15 46.1	+0.6
	baz=227						
JIKM	Ikemajima	2.49	73	*e*S	Sn	22 16 15.7	+0.3
JMJ2	Miyako jima3	2.52	78	*e*S	Sn	22 16 16.9	+0.8
PHUB	P'eng-hu	2.88	257	*e*P	Pn	22 15 51.6	+0.3
	baz=257						
PNG	Penghu	2.88	258	*e*P	Pn	22 15 52.2	+0.9
	baz=258						
VWUC	VWUC	2.99	286	*e*P	Pn	22 15 52.1	-0.7
	baz=285						

*IDC **16** 22:25:00.8±1.8, 0°70N×124°37E, h0km, mb3.6/4, mbtmp3.6/4, MS2.1/1, Error ellipse: s-maj=125.4km s-min=21.9km az=58.0*
*DJA **16** 22:25:13.9±0.3, 0°S±3°×12°3E±°, h73km±7km, M4.3/14, mb4.5/4, mB4.8/1, MLv4.2/14, Mw(mB)4.1/1*
ISC 16 22:25:13.4±0.9, 0°17S±0°07×123°14E±0°06, h100km, n15, σ1°34/16, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.94	203	P	Pn	22 25 33.1	-0.1
LUWI				S	Sn	22 25 46.4	-1.7
MRSI	Marisa	1.36	298	P	Pn	22 25 36.6	-1.4
MRSI				S	Sn	22 25 53.7	-2.9
MPSI	Mapaga	3.29	279	P	Pn	22 26 04.4	+1.4
SANI	Sanana	3.40	123	P	Pn	22 26 02.8	-1.7
LBMI	Labuha	4.38	96	P	Pn	22 26 18.4	+0.6
TTSI	Tana Toraja	4.38	229	P	Pn	22 26 18.3	+0.5
SGSI	Sangihe	4.51	32	P	Pn	22 26 19.6	+0.1
NLAI	Namlea	4.99	128	P	Pn	22 26 26.6	+0.6
BBSI	Bau Bau	5.31	186	P	Pn	22 26 30.0	-0.4
	37nm,0.5s,0.2nm 22nm,0.9s,0.1nm						
BKSI	Bulukumba	5.94	210	P	Pn	22 26 39.0	+0.1
	comp=Z,19nm,21.1s,baz=221,slow=38						
DAV	Davao City (W)	7.59	19	LR	LR	22 29 08.7	
	comp=Z,19nm,21.1s,baz=221,slow=38						
WRA	Warramunga Arr	22.50	151	P	P	22 30 04.5	-0.4
	0.4nm,0.4s,baz=336,slow=10,SNR=17 0.4nm,0.4s						
ASAR	Alice Springs	25.59	157	P	P	22 30 34.6	+1.1
	0.2nm,0.3s,baz=339,slow=9.9,SNR=1.4 0.2nm,0.3s						
CMAR	Chiang Mai Arr	30.14	309	P	P	22 31 15.5	+1.4
	1.4nm,0.3s,baz=129,slow=7.1,SNR=4.4 1.4nm,0.3s						
MKAR	Makanchi Array	58.83	328	P	P	22 35 01.6	+0.1
	0.4nm,0.5s,baz=125,slow=8.4,SNR=7.1 0.4nm,0.5s						

*IPEC **16** 22:38:43.4±0.2, 51°51N×16°23E, h1km, ML2.1/4, Error ellipse: s-maj=2.0km s-min=1.1km az=37.0*
*VIE **16** 22:38:44.1±1.1, 51°45N×16°14E, h0km, mb2.5/3, ml2.6/3, Error ellipse: s-maj=11.9km s-min=5.3km az=41.0 73 km NW of Wroclaw Suspected Mining induced.*
*PRU **16** 22:38:45.3, 51°45N×16°13E, h0km*
ISC 16 22:38:42.3±1.2, 51°57N±0°05×16°16E±0°03, h0km, n29, σ0°79/64, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.74	173	*e*Pg	Pg	22 38 56.6	+0.2
KSP				*e*Sg	Sg	22 39 05.6	-0.4
CHVC	Chvalec	0.99	184	*e*PG	Pg	22 39 01.6	+0.4
CHVC				*e*SG	Sg	22 39 14.1	+0.1
	comp=Z,30nm,0.6s						
OSTC	Ostas	1.02	178	*e*PG	Pg	22 39 02.1	+0.3
OSTC				*e*SG	Sg	22 39 14.7	-0.3
	comp=Z,22nm,0.3s						
UPC	Upice	1.07	185	*e*PG	Pg	22 39 02.8	0.0
UPC				*e*SG	Sg	22 39 16.3	-0.4
	comp=Z,50nm,0.3s						
DPC	Dobruska-Polom	1.23	175	*e*PG	Pg	22 39 05.4	-0.5
DPC				*e*SG	Sg	22 39 20.6	-1.2
	comp=Z,19nm,0.3s						
PVCC	Panska Ves	1.45	224	*e*PG	Pn	22 39 09.8	0.0
PVCC				*e*SG	Sb	22 39 29.0	-0.1
	comp=Z,62nm,0.2s						
BRG	Berggiesshubel	1.56	244	Pg	Pg	22 39 13.2	+1.0
BRG				Sg	Sg	22 39 33.4	+1.0
BRG				Amp		22 39 34.7	
	comp=Z,26nm,0.3s						
RICC	Richard	1.66	232	*e*PG	Pn	22 39 12.9	+0.3
RICC				*e*SG	Sg	22 39 35.9	+0.4
	comp=Z,30nm,0.3s						
PRU	Pruhonice	1.89	213	*e*PG	Pb	22 39 17.4	-0.3
PRU				*e*SG	Sb	22 39 41.5	-0.3
	comp=Z,23nm,0.4s						
HSKC	Hora Svate Kat	1.97	242	*e*PG	Pb	22 39 19.0	-0.1
HSKC				*e*SG	Sb	22 39 44.3	+0.1
	comp=Z,17nm,0.3s						
CLL	Collm	1.99	264	*e*Pn	Pn	22 39 17.0	-0.2
CLL				*e*Pg	Pg	22 39 20.0	-0.5
CLL				*i* x	x	22 39 22.9	
CLL				*e*Sg	Sg	22 39 46.0	-0.3
	comp=Z,16nm,0.7s						
MORC	Moravsky Berou	2.00	153	*e*Pn	Pn	22 39 17.1	-0.4
	baz=335						
MORC				*e*Sg	Sn	22 39 43.7	+0.5
	comp=Z,13nm,0.4s,baz=335						
OKC	Ostrava-Krasne	2.15	143	*e*PN	Pb	22 39 22.2	+0.1
OKC				*e*PG	Pg	22 39 23.8	+0.3
OKC				*e*SG	Sb	22 39 49.3	0.0
	comp=Z,16nm,0.8s						
VRAC	Vranov	2.29	173	*e*Pn	Pn	22 39 21.4	+0.2
	baz=354						
VRAC				*e*Sg	Sb	22 39 52.7	-0.4
	comp=Z,6.8nm,0.4s,baz=354						
VRAC	Vranov	2.29	173	*e*PN	Pn	22 39 21.5	+0.2
VRAC				*e*SG	Sb	22 39 52.8	-0.4
TREC	Trest	2.32	191	*e*PN	Pn	22 39 21.5	-0.3
TREC				*e*PG	Pb	22 39 23.1	-1.9
TREC				*e*SG	Sb	22 39 54.9	+0.7
	comp=Z,15nm,0.3s						
KRUC	Moravsky	2.52	176	*e*Pn	Pn	22 39 24.4	-0.1
	baz=358						
KRUC	Moravsky	2.52	176	*e*Pg	Pb	22 39 28.2	-0.2
	baz=358						
KRUC				*e*Sg	Sb	22 40 00.3	+0.4
	comp=Z,6.6nm,0.4s,baz=358						
OJC	Ojcow	2.67	119	*e*Pg	Pg	22 39 33.3	-0.3
OJC				*e*Sg	Sg	22 40 08.8	+0.6
NKC	Novy Kostel	2.70	242	*e*PN	Pb	22 39 29.8	-1.8
NKC				*e*PG	Pg	22 39 34.2	+0.1
NKC				*e*SG	Sg	22 40 09.2	+0.1
	comp=Z,22nm,0.3s						
JAVC	Velka Javorina	2.89	160	*e*Pn	Pn	22 39 29.7	+0.1
	baz=341						
KHC	Kasperske Hory	2.95	215	*e*PN	Pn	22 39 31.3	+0.8
KHC				*e*PG	Pb	22 39 36.6	+0.8
KHC				*e*SN	Sn	22 40 04.7	-1.9
KHC				*e*SG	Sb	22 40 13.8	+1.4
	comp=Z,6.3nm,0.5s						
CKRC	Cesky Krumlov	3.00	204	*e*PN	Pn	22 39 31.8	+0.7
CKRC				*e*PG	Pb	22 39 37.7	+1.1
CKRC				*e*SG	Sb	22 40 16.3	+2.5
	comp=Z,7.1nm,0.3s						
LANS	Liptovska Anna	3.22	138	*e*PN	Pn	22 39 34.7	+0.5
LANS				*e*PG	Pg	22 39 45.8	+1.8
LANS				*e*SG	Sg	22 40 24.6	-1.2
MODS	Modra-Piesok	3.28	167	*e*SG	Sg	22 40 26.8	-1.0
VYHS	Vyhne	3.53	150	*e*PN	Pn	22 39 38.2	-0.3
VYHS				*e*PG	Pg	22 39 50.5	+0.5
VYHS				*e*SG	Sg	22 40 36.3	+0.5
CONA	Conrad Observa	3.65	183	*i* Pn	Pn	22 39 41.1	+0.9
	comp=Z,0.5nm,0.2s						
CONA				*e*Sg	Sg	22 40 38.9	-0.8
	comp=Z,5.0nm,0.3s						
MOA	Molln	3.92	199	*i* Pn	Pn	22 39 43.2	-0.6
	comp=Z,1.0nm,0.2s						
MOA				*e*Sg	Sg	22 40 47.3	-1.0
	comp=Z,1.9nm,0.2s						
BIOA	Bad Ischl, Aus	4.22	204	*i* Pn	Pn	22 39 48.2	+0.3
	comp=Z,1.7nm,0.2s						
BIOA				*i* Sg	Sg	22 40 58.5	+0.8
	comp=Z,4.9nm,0.4s						

*UUSS **16** 23:01:05.4±0.6, 42°557N±0°006×111°41W±0°01, h8km±2km, Error ellipse: s-maj=1.5km s-min=0.9km az=107.0*
NEIC 16 23:01:05.1±0.9, 42°55N±0°01×111°425W±0°010, h10km±2km, ML2.9/94, ML2.8/12(UUSS), Error ellipse: s-maj=1.9km s-min=0.7km az=206.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ID06	Fossil Canyon	0.04	329	Pg	Pg	23 01 07.5	+0.3
ID06				Sg	Sg	23 01 09.0	+0.2
ID05	Sulphur Canyon	0.09	344	Pg	Pg	23 01 08.0	+0.2
ID05				Sg	Sg	23 01 09.9	+0.1
ID05				IAML		23 01 10.3	
	4μm,0.3s						
ID05				IAML		23 01 10.5	
	6μm,0.5s						
AHID	Auburn Hatcher	0.32	48	Pg	Pg	23 01 11.7	+0.1
AHID				Sg	Sg	23 01 16.5	+0.6
AHID				IAML		23 01 17.1	
	3μm,0.4s						
ID09	Alton	0.35	151	Pg	Pg	23 01 12.2	0.0
ID09				Sg	Sg	23 01 17.6	+0.7
ID09				IAML		23 01 17.9	
	3μm,0.4s						
ID09				IAML		23 01 18.3	
	1μm,0.5s						
GRRI	Grays Lake	0.38	0		Pg	23 01 13.2	+0.4
ID10	Lander Cutoff	0.40	95	Pg	Pg	23 01 13.2	+0.2
ID10				Sg	Sg	23 01 18.8	+0.5
ID10				IAML		23 01 19.3	
	793nm,0.2s						
ID08	Devils Gate	0.46	318	Pg	Pg	23 01 14.5	+0.4
ID08				Sg	Sg	23 01 21.0	+0.7
ID08				IAML		23 01 21.5	
	1μm,0.4s						
ID08				IAML		23 01 21.7	
	2μm,0.4s						
ID07	Smith Canyon R	0.48	268	Pg	Pb	23 01 15.2	-0.6
ID07				Sg	Sg	23 01 21.0	0.0
ECR	Eagle Creek	0.50	5		Pb	23 01 15.9	-0.3
BEI	Bear River Ran	0.51	211		Pb	23 01 16.1	-0.2
BMUT	Black Mountain	0.61	167		Pg	23 01 17.0	0.0
L17A	Coke

NPI	North Pocatell	0.91	244		Pb	23 01 22.9	-0.1
REDW	Red Top Meadow	0.91	27		Pg	23 01 22.9	+0.2
PTU	Portage	0.91	227		Pg	23 01 22.9	+0.1
HWUT	Hardware Ranch	0.95	186		Pg	23 01 23.5	0.0
TPAW	Teton Pass	1.00	20		Pg	23 01 24.4	0.0
WVUT	Wellsville	1.02	203		Pb	23 01 25.2	+0.1
SNOW	Snow King Moun	1.03	28		Pb	23 01 25.3	0.0
MCU	Monte Cristo P	1.09	183		Pn	23 01 26.6	-0.1
FXWY	Fox Creek	1.12	15		Pg	23 01 26.2	-0.5
LOHW	Long Hollow	1.22	29		Pb	23 01 28.0	-0.4
HVU	Hansel Valley	1.27	233		Pn	23 01 28.9	-0.2
MOOW	Moose Ponds	1.29	22		Pn	23 01 28.9	-0.6
IMW	Indian Meadow	1.39	15	Pn	Pn	23 01 30.7	-0.1
IMW				IAML		23 02 09.9	
	425nm,0.5s						
BW06	Boulder Array	1.39	81		Pb	23 01 31.4	0.0
PD31	Pinedale Array	1.39	81	Pg	Pg	23 01 31.7	-0.1
PDAR	Pinedale Array	1.39	81		Pn	23 01 30.9	+0.1
TCUT	Toone Canyon	1.43	179		Pb	23 01 31.8	-0.3
SPUT	South Promonto	1.46	212		Pn	23 01 31.8	+0.1
FLWY	Flagg Ranch	1.62	19	Pn	Pn	23 01 33.8	-0.1
CTU	Camp Tracy	1.88	188		Pn	23 01 37.3	-0.1
H17A	Grant Village	1.94	18		Pn	23 01 37.8	-0.6
YFT	Old Faithful	1.94	13		Pn	23 01 38.4	-0.1
YFT				IAML		23 02 28.5	
	comp=N,60nm,0.8s						
BGU	Big Grassy Mou	2.02	217		Pb	23 01 41.1	-1.0
BSUT	Blindstream Ca	2.08	166		Pb	23 01 42.0	-1.1
HLID	Hailey	2.41	296	IAML		23 02 37.6	
	comp=N,80nm,0.4s						
HLID				IAML		23 02 37.6	
	comp=N,88nm,0.5s						
RDMU	Red Mountain	2.42	144	IAML		23 02 36.9	
	comp=N,119nm,0.6s						
RDMU				IAML		23 02 37.0	
	comp=E,97nm,0.7s						
MPU	Maple Canyon	2.54	184	IAML		23 02 43.1	
	comp=E,35nm,0.7s						
DLMT	Dillon	2.93	344	IAML		23 02 59.0	
	comp=E,33nm,1.4s						
DLMT				IAML		23 02 59.5	
	comp=E,34nm,2.0s						
P18A	Preston Nutter	3.06	163	IAML		23 02 58.6	
	comp=E,62nm,0.4s						
P18A				IAML		23 03 09.5	
	comp=N,56nm,0.6s						
P17A	Butcher Ranch,	3.12	170	IAML		23 03 02.4	
	comp=N,78nm,0.6s						
TMUT	Trail Mountain	3.26	177	IAML		23 03 04.9	
	comp=N,62nm,0.7s						
TMUT				IAML		23 03 17.9	
	comp=E,51nm,0.8s						
MFID	Camas Ranch	3.34	286	IAML		23 03 12.5	
	comp=E,46nm,0.8s						
MFID				IAML		23 03 13.9	
	comp=E,51nm,0.8s						
PLID	Pearl Lake	4.17	309	IAML		23 03 43.5	
	comp=E,11nm,1.1s						
PSUT	Pine Spring	4.42	206	IAML		23 03 53.7	
	comp=N,7.8nm,1.1s						
PSUT				IAML		23 04 42.1	
	comp=E,7.4nm,4.9s						
BMO	Blue Mountains	4.84	300	IAML		23 04 03.0	
	comp=E,8.6nm,1.2s						
BMO				IAML		23 04 08.1	
	comp=E,8.1nm,1.1s						
ISCO	Idaho Springs	5.18	120	IAML		23 03 04.4	
	comp=E,4.8nm,1.1s						
ISCO				IAML		23 04 07.9	
	comp=E,4.8nm,0.8s						

*UUSS **16** 23:01:21.5±0.8, 42°.553N±0°.007×111°.42W±0°.02, h8km±1km, Error ellipse: s-maj=1.8km s-min=0.8km az=69.0*

NEIC 16 23:01:21.1±1.5, 42°.55N±0°.01×111°.42W±0°.02, h9km±3km, ML2.9/54, ML3.0/14(UUSS), Error ellipse: s-maj=2.0km s-min=1.6km az=74.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ID06	Fossil Canyon	0.04	331	Pg	Pg	23 01 23.5	+0.3
ID06					Sg	23 01 25.0	+0.4
ID05	Sulphur Canyon	0.10	344	Pg	Pg	23 01 24.1	+0.3
ID05					Sg	23 01 26.0	+0.2
ID05				IAML		23 01 26.3	
	9μm,0.4s						
ID05				IAML		23 01 26.5	
	10μm,0.7s						
AHID	Auburn Hatcher	0.32	47		Pg	23 01 27.7	+0.1
ID09	Alton	0.34	151		Pg	23 01 28.3	+0.3
ID09					Sg	23 01 33.5	+1.0
ID09				IAML		23 01 34.4	
	2μm,0.5s						
GRRI	Grays Lake	0.39	360		Pg	23 01 29.5	+0.6
ID10	Lander Cutoff	0.39	94		Pg	23 01 29.3	+0.4
ID10					Sg	23 01 35.0	+0.9
ID10				IAML		23 01 35.3	
	1μm,0.6s						
ID10				IAML		23 01 35.4	
	2μm,0.3s						
ID08	Devils Gate	0.47	319	Pg	Pb	23 01 31.0	-0.6
ID08				Sg	Sg	23 01 37.0	+0.6
ID08				IAML		23 01 37.6	
	2μm,0.5s						
ID08				IAML		23 01 37.8	
	2μm,0.4s						
ID07	Smith Canyon R	0.49	269		Pg	23 01 31.1	+0.5
ID07				Sg	Sg	23 01 37.4	+0.4
ID07				IAML		23 01 38.0	
	636nm,0.8s						
ID07				IAML		23 01 38.5	
	587nm,0.6s						
BEI	Bear River Ran	0.51	212		Pg	23 01 31.5	+0.6
ECR	Eagle Creek	0.51	4		Pb	23 01 31.7	-0.7
BMUT	Black Mountain	0.60	167		Pb	23 01 33.4	-0.6
PTU	Portage	0.91	228		Pg	23 01 38.9	+0.3
HWUT	Hardware Ranch	0.94	187		Pg	23 01 37.5	-1.7
HWUT					Pb	23 01 38.6	-1.1
HWUT				Sg	Sg	23 01 51.9	+0.4
TPAW	Teton Pass	1.00	20	Pg	Pg	23 01 39.1	-1.4
TPAW				Sg	Sb	23 01 54.1	-0.1
TPAW				IAML		23 01 57.8	
	375nm,0.6s						
SNOW	Snow King Moun	1.04	28		Pg	23 01 40.0	-1.0
SNOW				IAML		23 01 58.7	
	192nm,0.5s						
SNOW				IAML		23 02 02.2	
	224nm,0.6s						
FXWY	Fox Creek	1.13	15	Pg	Pg	23 01 42.2	-0.6
LOHW	Long Hollow	1.22	29	Pn	Pb	23 01 44.5	-0.1
LOHW				IAML		23 02 03.0	
	246nm,0.5s						
LOHW				IAML		23 02 03.6	
	320nm,0.5s						
HVU	Hansel Valley	1.26	233	Pn	Pn	23 01 45.0	0.0
MOOW	Moose Ponds	1.30	22	Pn	Pn	23 01 45.5	-0.2
MOOW				IAML		23 02 04.8	
	187nm,0.7s						
BW06	Boulder Array	1.39	80	Pn	Pn	23 01 47.1	+0.2
BW06				IAML		23 02 09.4	
	179nm,0.9s						
BW06				IAML		23 02 09.7	
	227nm,0.7s						
PD31	Pinedale Array	1.39	80	Pn	Pb	23 01 47.3	-0.1
PDAR	Pinedale Array	1.39	80	Pn	Pb	23 01 47.6	+0.2
IMW	Indian Meadow	1.40	14	Pn	Pn	23 01 46.5	-0.6
TCUT	Toone Canyon	1.43	180		Pg	23 01 49.0	+0.5
SPUT	South Promonto	1.46	212	Pn	Pn	23 01 47.9	+0.2
SPUT				IAML		23 02 10.6	
	comp=E,130nm,0.4s						
SPUT				IAML		23 02 10.8	
	comp=N,186nm,0.3s						
FLWY	Flagg Ranch	1.62	19	Pn	Pn	23 01 49.8	-0.3
FLWY				IAML		23 02 16.4	
	comp=N,117nm,0.8s						
FLWY				IAML		23 02 21.6	
	comp=N,131nm,0.8s						
CTU	Camp Tracy	1.87	188		Pg	23 01 57.1	+0.2
CTU				IAML		23 02 24.5	
	comp=E,117nm,0.5s						
CTU				IAML		23 02 31.4	
	comp=N,118nm,0.7s						
H17A	Grant Village	1.95	18	Pn	Pn	23 01 54.3	-0.3
YFT	Old Faithful	1.95	12	Pn	Pn	23 01 54.4	-0.2
BGU	Big Grassy Mou	2.02	217	Pn	Pn	23 01 54.4	-1.0
BGU				IAML		23 02 33.8	
	comp=E,61nm,0.6s						
BSUT	Blindstream Ca	2.07	166	Pn	Pn	23 01 56.6	+0.3
YMR	Madison River	2.15	9		Pn	23 01 57.6	+0.3
YMR				IAML		23 02 32.8	
	comp=N,109nm,0.7s						
YMR				IAML		23 02 33.8	
	comp=E,107nm,0.8s						
MSO	Missoula	4.64	338	IAML		23 03 52.0	
	comp=E,17nm,0.7s						
MSO				IAML		23 04 01.6	
	comp=E,9.9nm,0.9s						

*IDC **16** 23:37:17.7±0.7, 23°.81S×175°.85W, h0km, mb4.4/9, mbtmp4.4/11, ML4.6/2, MS3.9/7, Error ellipse: s-maj=28.6km s-min=19.6km az=116.0*

*NEIC **16** 23:37:18.9±2.3, 23°.82S±0°.08×175°.25W±0°.09, h10km±1km, mb4.6/18, Error ellipse: s-maj=16.3km s-min=11.4km az=130.0*

ISC 16 23:37:21.0±0.5, 23°.88S±0°.07×175°.45W±0°.08, h28km, n63, σ1§88/50, mb4.6/21, MS4.1/6, 4C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.79	202	Pn	Pn	23 38 46.4	+1.3
RAO	Raoul Island	5.79	202	Pn	Pn	23 38 45.6	+0.5
	35nm,0.3s,baz=102,slow=20,SNR=1.7						
RAO				Sn	Sn	23 39 47.0	-3.5
	29nm,0.3s,baz=73,slow=19,SNR=2.1						
RAO				LR	LR	23 40 05.3	
	comp=Z,141nm,22.0s,baz=86,slow=29						
	182nm,0.5s						
NIUE	Niue	7.02	48		Pn	23 38 59.0	-2.9
NIUE					Sn	23 40 10.9	-10
MSVF	Nonsavu	8.62	314	Pn	Pn	23 39 26.6	+2.5
MSVF	Nonsavu	8.62	314	Pn	Pn	23 39 27.0	+2.9
	0.8nm,0.3s,baz=130,slow=15,SNR=10.0						
MSVF				LR	LR	23 42 27.2	
	comp=Z,2μm,18.5s,baz=152,slow=37						
AFI	Afiamalu	10.51	20		Pn	23 39 48.0	-1.9
RAR	Rarotonga	14.72	83		Pn	23 40 45.4	-2.0
RAR	Rarotonga	14.72	83	Pn	Pn	23 40 43.8	-3.6
	5.3nm,0.3s,baz=271,slow=6.9,SNR=8.8						
RAR				Sn	Sn	23 43 15.9	-14
	3.0nm,0.3s,baz=58,slow=16,SNR=2.3						
RAR				LR	LR	23 47 10.9	
	comp=Z,300nm,18.0s,baz=287,slow=39						
URZ	Urewera	15.68	202	Pn	Pn	23 40 59.5	-0.4
	1.1nm,0.3s,baz=37,slow=5.1,SNR=2.2						
URZ				Sn	Sn	23 43 39.5	-13
	0.6nm,0.3s,baz=225,slow=20,SNR=1.5						
	3.4nm,0.4s						
DZM	Mont Dzumac	16.77	273	eLR	LR	23 45 09.1	
	comp=Z,781nm,22.1s						
DZM	Mont Dzumac	16.77	273	LR	LR	23 45 05.8	
	comp=Z,234nm,18.4s,baz=98,slow=28						
MRZ	Mangatainoka R	18.35	202	P	P	23 41 31.7	-1.6
PLWZ	Palliser	19.27	202	P	Pn	23 41 44.8	+0.1
RPZ	Rata Peaks	22.68	206	LR	LR	23 50 49.0	
	comp=Z,650nm,19.4s,baz=28,slow=36						
PPT2	Papeete2	24.97	80	eP	P	23 42 45.3	+2.9
	41nm,22.5s						
PPT2				eLR	LR	23 48 45.7	
	comp=Z,622nm,23.2s						
PPT2				eLR	LR	23 48 52.3	
	comp=Z,468nm,23.8s						
PPT	Papeete	24.98	80	LR	LR	23 49 54.4	
	comp=Z,311nm,22.0s,baz=214,slow=30						
HNR	Honiara	27.54	297	LR	LR	23 52 31.5	
	comp=Z,3μm,19.7s,baz=157,slow=34						
CTAO	Charters Tower	35.64	268	P	P	23 44 15.2	-1.6
CTAO				IAmb	IAmb	23 44 15.8	
	comp=Z,13nm,1.1s						
TAOE	Nuku Hiva Isla	36.88	72	eLR	LR	23 54 11.2	
	comp=Z,285nm,25.6s						
STKA	Stephens Creek	38.60	248	P	P	23 44 41.0	-0.8
	comp=Z,2.9nm,0.8s,baz=101,slow=5.2,SNR=2.8						
	comp=Z,2.9nm,0.8s						
ASAR	Alice Springs	46.14	260	P	P	23 45 44.4	+1.1
ASAR	Alice Springs	46.14	260	P	P	23 45 40.2	-3.2
	comp=Z,1.9nm,0.5s,baz=95,slow=7.2,SNR=12						
	comp=Z,1.9nm,0.5s						
WR0	Warramunga Arr	46.37	265	P	P	23 45 42.5	-2.7
WR0				IAmb	IAmb	23 45 46.2	
	comp=Z,7.5nm,1.1s						
WB2	Warramunga Arr	46.55	265	P	P	23 45 43.8	-2.8
WB2				IAmb	IAmb	23 45 47.6	
	comp=Z,7.7nm,0.9s						
WB0	Warramunga Arr	46.56	265	P	P	23 45 44.1	-2.5
WB0				IAmb	IAmb	23 45 58.9	
	comp=Z,7.3nm,0.8s						
WRA	Warramunga Arr	46.56	265	P	P	23 45 43.8	-2.8
WRA	Warramunga Arr	46.56	265	P	P	23 45 42.0	-4.6
	comp=Z,2.8nm,0.6s,baz=92,slow=8.2,SNR=43						
SBA	Scott Base	54.69	185	P	P	23 46 48.0	+1.0
SBA				IAmb	IAmb	23 46 52.4	
	comp=Z,3.7nm,0.8s						
QSPA	South Pole Qui	66.20	180	P	P	23 48 07.3	+1.2
QSPA				IAmb	IAmb	23 48 08.9	
	comp=Z,6.6nm,0.8s						
QSPA	South Pole Qui	66.20	180	P	P	23 48 07.4	+1.3
	comp=Z,6.8nm,0.8s,baz=33,slow=2.4,SNR=20						
	comp=Z,6.8nm,0.8s						
SHEM	Shemya Is, Ala	76.83	353	LR	LR	00 16 34.8	
	comp=Z,121nm,20.6s,baz=308,slow=31						
MAW	Mawson	79.19	199	P	P	23 49 24.9	+1.9
MAW	Mawson	79.19	199	P	P	23 49 24.4	+1.4
	comp=Z,2.6nm,0.6s,baz=134,slow=10,SNR=18						
	comp=Z,2.6nm,0.6s						
NVAR	Mina Array Bea	81.90	42	P	P	23 49 41.3	+3.1
	comp=Z,1.0nm,0.8s,baz=212,slow=7.9,SNR=8.7						
	comp=Z,1.0nm,0.8s						
H03S2	Juan Fernandez	82.15	123	T	T	01 20 56.6	
	baz=244,slow=74						
H03S1	Juan Fernandez	82.16	123	T	T	01 20 51.8	
	baz=244,slow=74						
H03S3	Juan Fernandez	82.17	123	T	T	01 20 51.6	
	baz=244,slow=74						
H03N2	Juan Fernandez	82.30	123	T	T	01 21 02.1	
	baz=251,slow=73						
H03N3	Juan Fernandez	82.30	123	T	T	01 20 57.0	
	baz=251,slow=73						
H03N1	Juan Fernandez	82.32	123	T	T	01 20 53.0	
	baz=251,slow=73						
X16A	Lo Mia Camp, P	83.96	48	P	P	23 49 47.4	-1.5
X16A				IAmb	IAmb	23 49 53.7	
	comp=Z,3.1nm,0.9s						
TROLL	Troll, Antarti	84.36	179	⇑P	P	23 49 52.1	+1.8
	comp=Z,372nm,0.7s						
CCUT	Cedar City	84.47	45	P	P	23 49 48.5	-3.1
U15A	North Rim	84.53	46	P	P	23 49 50.8	-1.1
U15A				IAmb	IAmb	23 49 56.3	
	comp=Z,4.6nm,1.0s						
SNAA	Sanae	84.57	178	P	P	23 49 51.5	+0.2
SNAA	Sanae	84.57	178	⇑P	P	23 49 52.7	+1.3
	comp=Z,91nm,0.9s						
SNAA	Sanae	84.57	178	P	P	23 49 51.9	+0.5
	comp=Z,3.9nm,0.8s,baz=155,slow=6.0,SNR=9.9						
	comp=Z,3.9nm,0.8s						
VNA3	Neumayer Olymp	84.61	175	⇑P	P	23 49 53.1	+1.5
	comp=Z,11nm,0.8s						
VNA1	Neumayer--Stat	85.30	176	⇑P	P	23 49 56.0	+1.2
	comp=Z,8.7nm,0.8s						
MNTX	Cornudas Mount	86.82	53	P	P	23 50 02.0	-1.0
MNTX				IAmb	IAmb	23 50 07.6	
	comp=Z,4.8nm,1.1s						
TX31	Lajitas Ar. Si	86.92	56	P	P	23 50 03.6	-0.1
TX32	Lajitas Array	86.92	56	P	P	23 50 04.2	+0.4
TX32				IAmb	IAmb	23 50 08.4	
	comp=Z,2.9nm,1.1s						
TXAR	Lajitas Array	86.92	56	P	P	23 50 05.9	+2.2
	comp=Z,1.6nm,0.9s,baz=209,slow=7.2,SNR=11						
	comp=Z,1.6nm,0.9s						
TRF	Thorofare Moun	89.27	11	P	P	23 50 14.7	+0.5
ILAR	Eielson Array	91.10	12	P	P	23 50 23.4	+0.9
	comp=Z,0.9nm,0.7s,baz=216,slow=5.7,SNR=7.6						
	comp=Z,0.9nm,0.7s						
J26L	Joseph Creek	91.52	13	P	P	23 50 25.3	+0.8
CMAR	Chiang Mai Arr	93.45	289	P	P	23 50 34.5	+0.1
	comp=Z,2.0nm,0.3s,baz=133,slow=3.3,SNR=9.8						
	comp=Z,2.0nm,0.3s						
H31M	Peel River	94.73	16	P	P	23 50 39.9	+0.6
AKASG	Malin Array Be	147.10	331	PKPbc	PKPbc	23 57 00.8	-0.3
	comp=Z,2.4nm,0.5s,baz=37,slow=4.0,SNR=14						
BRTR	Keskin Array B	150.83	310	PKPbc	PKPbc	23 57 11.2	0.0
	comp=Z,1.1nm,0.6s,baz=91,slow=5.8,SNR=2.6						
MMAI	Mount Meron Ar	151.47	296	PKPbc	PKiKP	23 57 13.2	-0.1
	comp=Z,5.0nm,0.8s,baz=26,slow=3.7,SNR=6.0						
CLL	Collm	151.85	349	ePKPbc	PKiKP	23 57 14.0	+0.7
	comp=Z,4.0nm,0.8s						
CLL				ex	x	23 57 26.0	
TORD	Torodi Ar. Bea	168.99	165	PKP	PKPdf	23 57 26.6	+0.3
	comp=Z,0.4nm,0.9s,baz=174,slow=1.5,SNR=2.1						
TORD				PKPab	PKPab	23 58 38.9	+1.7
	comp=Z,1.0nm,0.8s,baz=193,slow=3.9,SNR=5.3						

*NEIC **16** 23:40:57.8±2.0, 24°.1S±0°.1×175°.1W±0°.1, h10km±1km, mb4.6/12, Error ellipse: s-maj=19.6km s-min=15.0km az=155.0*

*IDC **16** 23:41:00.0±0.9, 23°.90S×175°.93W, h0km, mb4.1/8, mbtmp4.1/8, Error ellipse: s-maj=30.7km s-min=29.5km az=127.0*

ISC 16 23:41:02.2±0.6, 23°.9S±0°.1×175°.43W±0°.09, h28km, n32, σ2§24/26, mb4.4/14, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.99	48	Pn	Pn	23 42 42.0	-0.7
NIUE				Sn	Sn	23 43 56.1	-5.2
MSVF	Nonsavu	8.61	314	Pn	Pn	23 43 10.7	+5.5
AFI	Afiamalu	10.47	20	Pn	Pn	23 43 31.5	+0.9
RAR	Rarotonga	14.71	83		Pn	23 44 28.2	-0.2
RAR	Rarotonga	14.71	83	Pn	Pn	23 44 28.5	+0.1
	3.4nm,0.3s,baz=265,slow=5.6,SNR=8.2						
GVZ	Greta Valley S	21.32	204	P	P	23 45 44.3	-2.5
GVZ				IAmb	IAmb	23 46 01.2	
	comp=Z,31nm,1.1s						
MQZ	McQueen's Vall	22.10	203	P	P	23 45 52.0	-3.1
FOZ	Fox Glacier	23.09	208	P	P	23 46 04.5	-1.1
FOZ				IAmb	IAmb	23 46 08.8	
	comp=Z,22nm,0.9s						
LBZ	Lake Benmore	23.62	206	P	P	23 46 08.2	-2.7
LBZ				IAmb	IAmb	23 46 14.7	
	comp=Z,18nm,1.2s						
CTAO	Charters Tower	35.66	268	P	P	23 47 58.1	-0.1
CTAO				IAmb	IAmb	23 48 12.6	
	comp=Z,9.7nm,1.1s						
BBOO	Buckleboo	43.31	247	P	P	23 49 00.4	-1.4
ASAR	Alice Springs	46.16	259	P	P	23 49 22.4	-2.3
	comp=Z,0.7nm,0.7s,baz=90,slow=7.8,SNR=5.8						
	comp=Z,0.7nm,0.7s						
WB2	Warramunga Arr	46.57	265	P	P	23 49 26.8	-1.1
WB2				IAmb	IAmb	23 49 31.5	
	comp=Z,4.4nm,1.0s						
WB0	Warramunga Arr	46.57	265	P	P	23 49 26.9	-1.0
WB0				IAmb	IAmb	23 49 31.3	
	comp=Z,6.6nm,1.1s						
WRA	Warramunga Arr	46.58	265	P	P	23 49 26.6	-1.4
WRA	Warramunga Arr	46.58	265	P	P	23 49 25.4	-2.6
	comp=Z,1.1nm,0.5s,baz=96,slow=8.2,SNR=21						
	comp=Z,1.1nm,0.5s						
KNRA	Kununurra	52.87	268	P	P	23 50 15.4	-0.5
QSPA	South Pole Qui	66.24	180	P	P	23 51 45.4	-2.1
QSPA	South Pole Qui	66.24	180	P	P	23 51 48.9	+1.4
	comp=Z,4.9nm,0.9s,baz=40,slow=2.4,SNR=9.0						
	comp=Z,4.9nm,0.9s						
TOLI2	Tolitoli	66.63	282	P	P	23 51 48.8	-1.9
MAW	Mawson	79.22	199	P	P	23 53 07.2	+2.8
	comp=Z,1.0nm,0.5s,baz=155,slow=7.1,SNR=7.9						
	comp=Z,1.0nm,0.5s						
H03S2	Juan Fernandez	82.16	123	T	T	01 24 47.9	
	baz=244						
H03S1	Juan Fernandez	82.17	123	T	T	01 24 46.3	
	baz=244,slow=74						
H03S3	Juan Fernandez	82.17	123	T	T	01 25 06.7	
	baz=244,slow=74						
H03N2	Juan Fernandez	82.31	123	T	T	01 25 06.3	
	baz=243						
H03N3	Juan Fernandez	82.31	123	T	T	01 24 39.4	
	baz=243						
H03N1	Juan Fernandez	82.32	123	T	T	01 24 51.1	
	baz=243						
SNAA	Sanae	84.60	178	P	P	23 53 34.3	+1.6
	comp=Z,1.9nm,0.8s,baz=190,slow=7.3,SNR=4.7						
	comp=Z,1.9nm,0.8s						
TXAR	Lajitas Array	86.89	56	P	P	23 53 48.0	+3.2
	comp=Z,0.7nm,0.9s,baz=219,slow=7.7,SNR=5.1						
	comp=Z,0.7nm,0.9s						
ILAR	Eielson Array	91.06	12	P	P	23 54 06.7	+3.2
	comp=Z,0.5nm,0.8s,baz=230,slow=4.2,SNR=3.2						
	comp=Z,0.5nm,0.8s						
CMAR	Chiang Mai Arr	93.45	289	P	P	23 54 17.2	+1.6
	comp=Z,1.1nm,0.7s,baz=113,slow=2.2,SNR=5.7						
	comp=Z,1.1nm,0.7s						
AKASG	Malin Array Be	147.08	331	PKPbc	PKiKP	00 00 44.2	-0.4
	comp=Z,1.8nm,0.6s,baz=40,slow=3.8,SNR=6.1						

*NEIC **16** 23:52:19.0±2.8, 23°.78S±0°.04×175°.68W±0°.08, h10km±1km, mb4.8/66, Error ellipse: s-maj=12.8km s-min=6.1km az=86.0*

*IDC **16** 23:52:24.9±2.9, 23°.78S×176°.06W, h52km±24km, mb4.3/13, mbtmp4.6/15, ML3.9/2, MS4.0/40, Error ellipse: s-maj=19.2km s-min=14.2km az=143.0*

*GCMT **16** 23:52:24.0±0.3, 23°.81S±0°.03×175°.30W±0°.02, h30km, MW5.0/88, Moment Tensor Solution. s38,c46; s88,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.72±.19; $M_{\theta\theta}$0.22±.13; $M_{\phi\phi}$-2.94±.12; $M_{r\theta}$-0.81±.22; $M_{\theta\phi}$-1.25±.09; $M_{\phi r}$1.85±.14; Best double couple: $M_0$3.69900×10^{16} NP1:ϕ_s357.00000°, δ62.00000°, λ65.00000°. NP2: ϕ_s222.00000°, δ37.00000°, λ129.00000°. Principal axes: T 3.6590, Plg63.0000°, Azm224.0000°; N 0.0810, Plg22.0000°, Azm9.0000°; P -3.7380, Plg14.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 23:52:22.2±0.4, 23°.95S±0°.05×175°.90W±0°.07, h31km, n196, σ1§28/159, mb4.8/54, MS4.1/39, 17C-6D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.58	198	Pn	Pn	23 53 44.0	+0.9
RAO	Raoul Island	5.58	198	S	Sn	23 54 45.8	-0.3
	667nm,0.8s,baz=107,slow=19,SNR=2.1						
NIUE	Niue	7.38	50	Pn	Pn	23 54 00.3	-7.4
MSVF	Nonsavu	8.38	316	Pn	Pn	23 54 21.2	-0.5
MSVF	Nonsavu	8.38	316	P	Pn	23 54 26.2	+4.5
	147nm,0.9s,baz=132,slow=14,SNR=45						
MSVF				LR	LR	23 57 23.0	
	comp=Z,2μm,18.3s,baz=135,slow=37						
AFI	Afiamalu	10.72	22		Pn	23 54 47.1	-6.7
RAR	Rarotonga	15.14	83	Pn	Pn	23 55 46.5	-7.5
RAR	Rarotonga	15.14	83	P	Pn	23 55 46.1	-7.8
	173nm,0.9s,baz=252,slow=6.5,SNR=15					

BHW	Baring Head	19.04	202	P	P	23 56 41.7	0.0
BHW				IAmb	IAmb	23 56 55.4	
	comp=Z,40nm,0.9s						
TUWZ	Tuamarina	19.39	204	P	P	23 56 46.4	+0.9
THZ	Tophouse	20.07	205	P	P	23 56 54.2	+1.2
GVZ	Greta Valley S	21.06	203		P	23 57 05.0	+1.4
GVZ				IAmb	IAmb	23 57 14.4	
	comp=Z,25nm,0.8s						
RPZ	Rata Peaks	22.44	205	P	P	23 57 20.1	+1.6
	comp=Z,11nm,0.8s,baz=24,slow=18,SNR=2.2						
	comp=Z,11nm,0.8s						
PPT2	Papeete2	25.39	81	eLR	LR	00 03 45.1	
PPT2				eLR	LR	00 03 55.6	
	comp=Z,780nm,25.2s						
PPT	Papeete	25.39	81	LR	LR	00 07 01.3	
	comp=Z,610nm,26.8s						
	comp=Z,306nm,18.6s,baz=208,slow=34						
PPTF	Pamatai, Papee	25.40	81	P	P	23 57 44.4	-2.7
HNR	Honiara	27.20	298	LR	LR	00 06 55.7	
	comp=Z,4μm,21.3s,baz=150,slow=32						
EIDS	Eidsvold	30.00	260	P	P	23 58 29.0	+0.8
EIDS				IAmb	IAmb	23 58 46.4	
	comp=Z,18nm,1.2s						
XMAS	Kiritimati	31.46	37	P	P	23 58 38.3	-2.8
CTA	Charters Tower	35.23	269	LR	LR	00 11 28.8	
	comp=Z,201nm,20.9s,baz=98,slow=33						
CTAO	Charters Tower	35.23	269	P	P	23 59 14.5	+0.4
CTAO				IAmb	IAmb	23 59 15.1	
	comp=Z,20nm,0.9s						
TOO	Toolangi	35.59	238	P	P	23 59 17.8	+0.8
KRVT	Keravat (AS076	36.56	297	LR	LR	00 14 34.6	
	comp=Z,139nm,19.1s,baz=113,slow=37						
TAOE	Nuku Hiva Isla	37.30	72	eLR	LR	00 09 14.4	
	comp=Z,312nm,28.5s						
PMG	Port Moresby	38.09	286		P	23 59 37.8	-0.6
PMG				IAmb	IAmb	23 59 39.4	
	comp=Z,30nm,0.8s						
PMG	Port Moresby	38.09	286	LR	LR	00 12 34.4	
	comp=Z,299nm,21.6s,baz=116,slow=32						
STKA	Stephens Creek	38.19	248	P	P	23 59 39.0	-0.1
	comp=Z,2.7nm,0.5s,baz=92,slow=11,SNR=6.5						
STKA				LR	LR	00 13 37.6	
	comp=Z,473nm,20.9s,baz=60,slow=33						
	comp=Z,2.7nm,0.5s						
COEN	Coen	39.84	277	P	P	23 59 53.6	+0.5
COEN				IAmb	IAmb	23 59 54.0	
	comp=Z,24nm,1.3s						
BBOO	Buckleboo	42.88	247	P	P	00 00 17.3	-0.6
BBOO				IAmb	IAmb	00 00 28.1	
	comp=Z,20nm,1.1s						
AS31	Alice Springs	45.72	260	P	P	00 00 41.1	+0.3
ASAR	Alice Springs	45.72	260	P	P	00 00 41.0	+0.2
ASAR	Alice Springs	45.72	260	P	P	00 00 39.9	-0.9
	comp=Z,4.5nm,0.9s,baz=90,slow=8.2,SNR=25						
ASAR				S	S	00 07 20.7	-1.6
	comp=Z,0.3nm,0.3s,baz=97,slow=16,SNR=2.4						
ASAR				LR	LR	00 19 09.7	
	comp=Z,349nm,18.3s,baz=106,slow=35						
	comp=Z,4.5nm,0.9s						
WR0	Warramunga Arr	45.96	265	P	P	00 00 41.6	-1.0
WR0				IAmb	IAmb	00 00 42.5	
	comp=Z,6.9nm,0.8s						
WB2	Warramunga Arr	46.13	265	P	P	00 00 42.9	-1.2
WRAB	Tennant Creek	46.14	265	P	P	00 00 42.9	-1.2
WRAB				IAmb	IAmb	00 00 46.5	
	comp=Z,13nm,0.9s						
WB0	Warramunga Arr	46.14	265	P	P	00 00 42.8	-1.2
WRA	Warramunga Arr	46.14	265	P	P	00 00 42.4	-1.7
WRA	Warramunga Arr	46.14	265	P	P	00 00 42.5	-1.6
	comp=Z,11nm,0.8s,baz=96,slow=8.4,SNR=71						
WRA				S	S	00 07 24.7	-3.7
	comp=Z,0.6nm,0.8s,baz=97,slow=13,SNR=3.4						
	comp=Z,11nm,0.8s						
KNRA	Kununurra	52.44	268	P	P	00 01 32.2	-0.1
GUMO	Guam	53.50	310	LR	LR	00 24 18.0	
	comp=Z,44nm,18.1s,baz=116,slow=36						
SBA	Scott Base	54.58	184	P	P	00 01 49.3	+2.2
SBA				IAmb	IAmb	00 02 03.5	
	comp=Z,11nm,0.8s						
SOEI	Soe	58.59	273	P	P	00 02 16.1	-0.6
NWAO	Narrogin (SRO)	58.62	245	LR	LR	00 26 33.3	
	comp=Z,157nm,18.7s,baz=209,slow=35						
BATI	Baumata	58.98	272	LR	LR	00 28 18.2	
	comp=Z,313nm,18.4s,baz=110,slow=37						
KAPI	Kappang	64.56	276	LR	LR	00 29 54.4	
	comp=Z,84nm,20.4s,baz=114,slow=35						
JCJ	Chichijima	64.91	319	LR	LR	00 26 13.2	
	comp=Z,140nm,21.6s,baz=134,slow=31						
QSPA	South Pole Qui	66.14	180	P	P	00 03 07.2	+0.8
QSPA	South Pole Qui	66.14	180	P	P	00 03 08.4	+2.0
	comp=Z,8.3nm,0.8s,baz=35,slow=1.6,SNR=21						
	comp=Z,8.3nm,0.8s						
TOLI2	Tolitoli	66.24	283	P	P	00 03 07.7	0.0
MYLDM	Lahad Datu	70.11	285	P	P	00 03 32.8	+0.8
JOW	Kunigami	73.86	310	LR	LR	00 33 59.9	
	comp=Z,50nm,18.0s,baz=64,slow=34						
MJAR	Matsushiro Arr	74.13	323	LR	LR	00 30 57.8	
	comp=Z,114nm,20.2s,baz=143,slow=31						
LEM	Lembang	74.93	269	LR	LR	00 35 26.4	
	comp=Z,126nm,21.8s,baz=169,slow=34						
BELA	Belgrano 2	75.90	172	P	P	00 04 05.9	+0.6
BELA				IAmb	IAmb	00 04 19.8	
	comp=Z,8.8nm,0.8s						
JNU	Nakatsue	76.11	316	LR	LR	00 32 08.4	
	comp=Z,54nm,20.9s,baz=66,slow=31						
PMSA	Palmer Station	77.36	156	LR	LR	00 33 35.3	
	comp=Z,61nm,19.7s,baz=264,slow=32						
ASAJ	Asahikawa	77.67	331	LR	LR	00 33 46.6	
	comp=Z,65nm,20.9s,baz=165,slow=32						
MAW	Mawson	78.98	200	P	P	00 04 23.8	+1.2
MAW	Mawson	78.98	200	P	P	00 04 23.9	+1.4
	comp=Z,8.9nm,0.7s,baz=129,slow=7.2,SNR=30						
MAW				LR	LR	00 39 01.2	
	comp=Z,74nm,19.1s,baz=116,slow=35						
	comp=Z,8.9nm,0.7s						
PETK	Petropavlovsk-	80.10	344	P	P	00 04 28.0	-0.7
	comp=Z,8.8nm,0.9s,baz=143,slow=8.4,SNR=6.3						
PETK				LR	LR	00 34 17.1	
	comp=Z,115nm,21.4s,baz=161,slow=31						
	comp=Z,8.8nm,0.9s						
ISA	Isabella, Lake	80.40	44	P	P	00 04 30.6	-0.2
PFO	Pinyon Flats O	80.46	47	LR	LR	00 35 33.0	
	comp=Z,200nm,18.3s,baz=236,slow=32						
KSRS	Korea Array	80.75	318	LR	LR	00 34 52.5	
	comp=Z,88nm,21.9s,baz=120,slow=32						
YBH	Yreka Blue Hor	81.80	37	LR	LR	00 34 39.1	
	comp=Z,95nm,18.9s,baz=222,slow=31						
NVAR	Mina Array Bea	82.23	42	P	P	00 04 41.1	+0.4
	comp=Z,1.2nm,0.8s,baz=230,slow=7.0,SNR=5.4						
NVAR				LR	LR	00 36 08.4	
	comp=Z,109nm,18.7s,baz=210,slow=32						
	comp=Z,1.2nm,0.8s						
H03S2	Juan Fernandez	82.45	124	T	T	01 35 59.4	
	baz=244,slow=75						
H03S1	Juan Fernandez	82.47	124	T	T	01 36 00.9	
	baz=244,slow=75						
H03S3	Juan Fernandez	82.47	124	T	T	01 35 50.9	
	baz=244,slow=75						
H03N2	Juan Fernandez	82.61	123	T	T	01 35 54.9	
	baz=245						
H03N3	Juan Fernandez	82.61	123	T	T	01 35 56.5	
	baz=245,slow=74						
H03N1	Juan Fernandez	82.62	123	T	T	01 35 55.4	
	baz=245,slow=74						
USA0B	Ussuriysk Arra	82.90	325	P	P	00 04 43.3	-0.4
USRK	Ussuriysk Ar.	82.90	325	P	P	00 04 43.5	-0.2
USRK	Ussuriysk Ar.	82.90	325	P	P	00 04 43.0	-0.7
	comp=Z,4.3nm,0.8s,baz=205,slow=4.0,SNR=7.1						
	comp=Z,4.3nm,0.8s						
W13A	Hualapai Mount	83.05	47	P	P	00 04 45.7	+0.7
W13A				IAmb	IAmb	00 04 51.4	
	comp=Z,3.5nm,0.6s						
NJ2	Nanjing	83.56	309	eP	P	00 04 48.3	+0.9
NJ2				pP	PcP	00 04 53.0	+1.4
NJ2				pmax	pmax		
	comp=Z,38nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,750nm,4.3s						
PRN	Pahroc Range	83.64	44	P	P	00 04 48.3	+0.3
PRN				IAmb	IAmb	00 05 05.3	
	comp=Z,6.7nm,1.2s						
PINE	Pine Mountain	84.14	37	P	P	00 04 50.4	0.0
PINE				IAmb	IAmb	00 05 03.1	
	comp=Z,7.6nm,1.1s						
I05D	Terrebonne, OR	84.29	36	P	P	00 04 50.3	-0.7
I05D				IAmb	IAmb	00 04 58.0	
	comp=Z,5.9nm,0.9s						
TROLL	Troll, Antarti	84.29	180	⇑P	P	00 04 52.2	+1.4
	comp=Z,554nm,0.7s						
X16A	Lo Ma Camp, P	84.32	49	P	P	00 04 51.4	-0.1
X16A				IAmb	IAmb	00 05 07.0	
	comp=Z,5.0nm,1.1s						
MDJ	Mudanjiang	84.45	324	P	P	00 04 54.0	+2.4
MDJ				pmax	pmax		
	comp=Z,11nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,200nm,4.8s						
SNAA	Sanae	84.51	178	P	P	00 04 52.5	+0.7
SNAA				IAmb	IAmb	00 05 04.9	
	comp=Z,9.3nm,0.9s						
SNAA	Sanae	84.51	178	⇑P	P	00 04 52.8	+1.0
	comp=Z,124nm,0.9s						
SNAA	Sanae	84.51	178	P	P	00 04 51.8	0.0
	comp=Z,7.1nm,1.0s,baz=179,slow=4.6,SNR=12						
	comp=Z,7.1nm,1.0s						
VNA3	Neumayer Olymp	84.58	176	⇑P	P	00 04 52.7	+0.7
	comp=Z,13nm,0.7s						
CCUT	Cedar City	84.81	45	P	P	00 04 54.4	+0.4
KNB	Kanab	84.86	46	P	P	00 04 53.8	-0.4
KNB				IAmb	IAmb	00 04 56.6	
	comp=Z,6.1nm,1.1s						
U15A	North Rim	84.88	46	P	P	00 04 53.8	-0.6
U15A				IAmb	IAmb	00 05 08.4	
	comp=Z,4.2nm,0.8s						
VNA2	Neumayer--Watz	85.04	176	⇑P	P	00 04 55.9	+1.6
	comp=Z,8.6nm,0.6s,baz=194,slow=5.0						
VNA1	Neumayer--Stat	85.25	176	⇑P	P	00 04 56.8	+1.4
	comp=Z,12nm,0.9s						
X18A	Snowflake	85.41	49	P	P	00 04 57.7	+0.7
PLCA	Paso Flores	85.50	133	LR	LR	00 33 22.6	
	comp=Z,54nm,19.8s,baz=205,slow=29						
MTPU	Mount Pierson	85.86	45	P	P	00 05 00.1	+0.7
WHN	Wuhan	86.04	306	P	P	00 05 07.3	+7.4
G08A	Pilot Rock	86.19	36	P	P	00 05 00.2	-0.3
CN2	Changchun	86.20	322	P	P	00 05 00.4	0.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MNTX	Cornudas Mount	87.19	54	P	P	00 05 04.6	-1.0
MNTX				IAmb	IAmb	00 05 20.5	
	comp=Z,5.7nm,1.1s						
TMUT	Trail Mountain	87.20	45	P	P	00 05 04.8	-1.1
TMUT				IAmb	IAmb	00 05 19.6	
	comp=Z,5.6nm,0.9s						
TX31	Lajitas Ar. Si	87.30	56	P	P	00 05 06.0	-0.3
TX32	Lajitas Array	87.30	56	P	P	00 05 05.2	-1.1
TX32				IAmb	IAmb	00 05 20.7	
	comp=Z,9.5nm,1.4s						
TXAR	Lajitas Array	87.30	56	P	P	00 05 06.4	+0.1
	comp=Z,1.9nm,1.0s,baz=217,slow=5.1,SNR=11						
TXAR				LR	LR	00 39 27.1	
	comp=Z,123nm,18.1s,baz=220,slow=32						
	comp=Z,1.9nm,1.0s						
GSI	Gunungsitoli	87.35	273	P	P	00 05 06.2	-0.6
MA2	Magadan	87.62	344	LR	LR	00 39 02.3	
	comp=Z,89nm,19.4s,baz=129,slow=32						
TTA	Tatalina	88.01	9	P	P	00 05 08.7	-0.1
TTA				IAmb	IAmb	00 05 10.5	
	comp=Z,9.6nm,1.2s						
ANMO	Albuquerque	88.07	50	LR	LR	00 40 23.7	
	comp=Z,262nm,18.4s,baz=336,slow=33						
NEW	Newport	89.05	35	LR	LR	00 39 43.3	
	comp=Z,73nm,18.4s,baz=214,slow=32						
CAST	Castle Rocks	89.08	10	P	P	00 05 13.8	-0.1
CAST				IAmb	IAmb	00 05 28.9	
	comp=Z,6.4nm,1.0s						
BARN	Barnard Glacie	89.13	16	P	P	00 05 14.2	-0.1
HEH	HeiHe	89.25	328	eP	P	00 05 15.0	+0.1
HEH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KTH	Kantishna Hill	89.40	11	P	P	00 05 16.1	+0.7
KTH				IAmb	IAmb	00 05 20.2	
	comp=Z,12nm,1.3s						
TRF	Thorofare Moun	89.42	11	P	P	00 05 15.3	-0.3
TRF				IAmb	IAmb	00 05 33.4	
	comp=Z,9.6nm,0.9s						
J20K	Nowinta River	89.47	9	P	P	00 05 15.7	+0.1
J20K				IAmb	IAmb	00 05 16.4	
	comp=Z,5.6nm,1.0s						
RND	Reindeer	89.64	12	P	P	00 05 15.7	-0.8
RND				IAmb	IAmb	00 05 17.7	
	comp=Z,9.5nm,1.0s						
PDAR	Pinedale Array	90.16	42	LR	LR	00 40 43.0	
	comp=Z,66nm,19.4s,baz=256,slow=32						
M27K	Edge Creek, AK	90.20	15	P	P	00 05 19.6	+0.3
WRH	Wood River Hil	90.75	12	P	P	00 05 20.7	-0.9
WRH				IAmb	IAmb	00 05 33.5	
	comp=Z,8.1nm,1.1s						
CCB	Clear Creek Bu	90.97	12	P	P	00 05 22.4	-0.1
CCB				IAmb	IAmb	00 05 28.6	
	comp=Z,4.9nm,1.1s						
M29M	Somme Creek	91.12	16	P	P	00 05 23.7	+0.3
M29M				IAmb	IAmb	00 05 25.2	
	comp=Z,4.2nm,0.8s						
ILAR	Eielson Array	91.25	12	P	P	00 05 22.6	-1.2
	comp=Z,1.1nm,0.8s,baz=218,slow=5.6,SNR=9.0						
	comp=Z,1.1nm,0.8s						
J25K	Salcha River,	91.41	13	P	P	00 05 24.9	+0.2
J25K				IAmb	IAmb	00 05 31.2	
	comp=Z,5.3nm,0.9s						
CFA	Coronel Fontan	91.51	126	LR	LR	00 45 20.0	
	comp=Z,51nm,18.0s,baz=230,slow=35						
J26L	Joseph Creek	91.68	13	P	P	00 05 27.0	+1.0
K29M	Barlow Dome	92.52	16	P	P	00 05 30.5	+0.5
K29M				IAmb	IAmb	00 05 31.9	
	comp=Z,6.7nm,1.0s						
CMAR	Chiang Mai Arr	93.08	289	P	P	00 05 33.5	0.0
	comp=Z,11nm,0.9s,baz=135,slow=3.5,SNR=12						
CMAR				LR	LR	00 46 50.5	
	comp=Z,16nm,19.4s,baz=115,slow=35						
	comp=Z,11nm,0.9s						
HHC	Hu-ho-hao-te	93.14	314	eP	P	00 05 34.8	+1.5
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,290nm,4.4s						
NNA	Nana	93.30	105	LR	LR	00 40 10.9	
	comp=Z,86nm,18.9s,baz=220,slow=31						
ATAH	Atahualpa	93.94	100	LR	LR	00 38 02.7	
	comp=Z,86nm,21.2s,baz=244,slow=29						
PZH	PanZhiHua	94.02	297	P	P	00 05 40.1	+2.3
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
BTO	Baotou	94.05	313	eP	P	00 05 40.6	+3.1
BTO				pP	pP	00 05 45.4	-1.5
BTO				sP	sP	00 05 47.6	-2.7
BTO				pmax	pmax		
	comp=Z,14nm,0.7s						
BTO				pmax	pmax		
	comp=Z,210nm,3.9s						
JTS	Las Juntas de	94.96	81	LR	LR	00 40 12.5	
	comp=Z,29nm,20.5s,baz=292,slow=30						
LVC	Limon Verde	95.32	117	LR	LR	00 42 14.8	
	comp=Z,67nm,18.3s,baz=220,slow=31						
TEIG	Tepich	95.92	71	LR	LR	00 40 50.7	
	comp=Z,243nm,21.0s,baz=328,slow=30						
MKAR	Makanchi Array	114.96	312	PKP	PKPdf	00 10 58.5	-1.4
	comp=Z,0.3nm,0.7s,baz=66,slow=2.9,SNR=4.7						
KURBB	Kurchatov Arra	117.88	316	PKP	PKPdf	00 11 04.3	-1.0
	comp=Z,1.4nm,0.2s,baz=77,slow=2.4,SNR=4.7						
BVAR	Borovoye Array	122.95	319	PKP	PKPdf	00 11 13.1	-2.0
	comp=Z,0.9nm,0.5s,baz=90,slow=4.4,SNR=6.0						
AKASG	Malin Array Be	146.96	330	PKPbc	PKPdf	00 12 00.2	+0.8
	comp=Z,7.9nm,0.8s,baz=38,slow=3.7,SNR=23						
EKA	Eskdalemuir Ar	148.20	8	PKPbc	PKPbc	00 12 03.9	-0.8
	comp=Z,7.0nm,1.1s,baz=15,slow=2.9,SNR=3.7						
SORM	Soroca	149.15	328	⇑P	PKPbc	00 12 07.5	+0.2
BRTR	Keskin Array B	150.56	309	PKPbc	PKPbc	00 12 10.8	-0.4
	comp=Z,2.7nm,0.8s,baz=136,slow=4.5,SNR=7.4						
VLDR	Vladesti	150.81	324	⇑P	PKiKP	00 12 12.1	+0.1
BURAR	Bucovina Array	151.01	330	⇑P	PKiKP	00 12 12.5	0.0
GHRR		151.02	325	⇑P	PKiKP	00 12 13.0	+0.5
TESR	Tescani	151.10	327	⇓P	PKiKP	00 12 12.3	-0.3
MMAI	Mount Meron Ar	151.13	295	PKPbc	PKiKP	00 12 13.1	-0.2
	comp=Z,9.0nm,0.8s,baz=70,slow=4.7,SNR=11						
CFR	Carcaliu	151.21	323	⇑P	PKiKP	00 12 12.6	-0.3
TPGR	Topolog	151.25	322	⇑P	PKiKP	00 12 13.2	+0.2
VRI	Vrincioaia	151.50	326	⇓P	PKiKP	00 12 13.4	-0.1
BMR	Baia Mare	151.73	332	⇓P	PKPbc	00 12 11.2	-2.4
TRPA	Tarpa	151.78	333	⇑P	PKiKP	00 12 13.8	-0.1
OSTC	Ostas	151.82	344	ePKP	PKiKP	00 12 14.2	+0.2
OSTC				ex	x	00 12 26.7	
CHVC	Chvalec	151.83	344	ePKP	PKPbc	00 12 13.0	-0.7
CHVC				ex	x	00 12 20.2	
CLL	Collm	151.84	348	i PKPbc	PKiKP	00 12 14.1	+0.1
CLL				i PKPab	PKPab	00 12 22.5	-0.2
	comp=Z,7.0nm,0.9s						
CLL				i x	x	00 12 28.0	
UPC	Upice	151.92	344	ePKP	PKiKP	00 12 14.2	0.0
DPC	Dobruska-Polom	151.98	343	ePKP	PKiKP	00 12 14.3	-0.1
DPC				ex	x	00 12 23.5	
BRG	Berggiesshubel	152.06	347	i PKP	PKiKP	00 12 15.7	+1.2
BRG				Amp		00 12 16.4	
	comp=Z,8.9nm,0.9s						
ISR	Istrita	152.10	325	⇑P	PKiKP	00 12 16.7	+1.9
DOPR	Dopca	152.11	327	⇑P	PKiKP	00 12 15.4	+0.6
MORC	Moravsky Berou	152.16	341	⇓P	PKiKP	00 12 15.1	+0.3
MORC	Moravsky Berou	152.16	341	ePKP	PKiKP	00 12 15.1	+0.3
MLR	Muntele Rosu	152.16	326	⇑P	PKPbc	00 12 14.5	-0.2
PVCC	Panska Ves	152.25	346	ePKP	PKiKP	00 12 15.5	+0.6
MAUC	Maruska	152.44	340	ePKP	PKPbc	00 12 15.0	-0.1
MAUC				ex	x	00 12 22.1	
PRU	Pruhonice	152.76	345	ePKP	PKiKP	00 12 15.8	-0.2
VRAC	Vranov	152.85	342	ePKP	PKiKP	00 12 16.5	+0.3
ARR	Arges	152.91	327	⇑P	PKiKP	00 12 17.5	+1.0
KRUC	Moravsky	153.13	342	ePKP	PKiKP	00 12 16.9	+0.1
ZVC	Zvikov	153.35	345	ePKP	PKPbc	00 12 17.0	-0.1
ZVC				ex	x	00 12 29.9	
SIRR	Siria	153.62	332	⇑P	PKiKP	00 12 18.1	+0.2
KHC	Kasperske Hory	153.78	346	ePKP	PKPbc	00 12 17.9	-0.2
KHC				ex	x	00 12 23.8	
CKRC	Cesky Krumlov	153.90	345	ePKP	PKPdf	00 12 10.3	-0.1
CKRC				ex	x	00 12 18.4	
GERES	GERESS Array B	154.02	345	PKPbc	PKPbc	00 12 17.8	-0.9
	comp=Z,0.3nm,0.3s,baz=12,slow=5.3,SNR=3.1						
CONA	Conrad Observa	154.31	342	i PKP	PKPab	00 12 32.3	-1.0
	comp=Z,3.3nm,1.2s						
RONA	Rosalia, Austr	154.38	341	i pPKP	PKPab	00 12 35.2	+1.6
	comp=Z,4.1nm,0.9s						
MOA	Molln	154.81	344	i pPKP	PKPab	00 12 37.7	+2.3
	comp=Z,5.1nm,1.1s						
MORH	Mrgy, Hungar	154.88	336	⇓P	PKPbc	00 12 20.1	-0.3
ARSA	Arzberg	155.02	341	i PKP	PKPab	00 12 37.3	+1.0
	comp=Z,3.3nm,1.2s						
BIOA	Bad Ischl, Aus	155.12	345	i PKP	PKPab	00 12 37.8	+1.1
	comp=Z,10nm,1.7s						
VTS	Vitosha	155.56	324	⇓P	PKPdf	00 12 13.5	+0.5
LESA	Schwarzleotal	155.59	346	i PKP	PKPab	00 12 38.6	-0.2
	comp=Z,3.9nm,1.1s						
SOKA	Soboth	155.68	342	i PKP	PKPab	00 12 40.1	+0.9
	comp=Z,5.9nm,1.0s						
KBA	Koelnbreinsper	155.76	344	i pPKP	PKPab	00 12 41.3	+1.6
	comp=Z,3.2nm,0.8s						
OBKA	Obir	155.97	342	i PKP	PKPab	00 12 40.7	+0.2
	comp=Z,2.0nm,0.7s						
MYKA	Terra Mystica	156.11	344	i PKP	PKPab	00 12 41.2	+0.2
	comp=Z,1.2nm,0.4s						
TORD	Torodi Ar. Bea	169.01	168	PKP	PKPdf	00 12 25.9	-1.1
	comp=Z,1.1nm,1.0s,baz=171,slow=1.7,SNR=5.0						
TORD				PKPab	PKPab	00 13 38.2	+0.2
	comp=Z,0.9nm,0.8s,baz=159,slow=2.4,SNR=6.6						

*NORS **16** 23:53:37.1±0.0, 43.°46N×43.°36E, h1km, MPVA4.0*
*MOS **16** 23:53:37.5±0.0, 43.°47N×43.°35E, h6km, MPVA3.7*
*TIF **16** 23:53:38.7, 43.°43N×43.°60E, h5km±1km*
*DRS **16** 23:53:40.9±0.0, 43.°67N×43.°13E, h26km*
ISC 16 23:53:37.3±0.9, **43.°56N**±0.°03×**43.°50E**±0.°02, **h11**km±6km,
n33, σ1°**41**/65, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NCK	Nalchik	0.09	132	i Pg	Pg	23 53 40.6	+0.5
NCK				i Sg	Sg	23 53 43.3	+1.3
KBTC	Kuba-Taba	0.27	346	i Pg	Pb	23 53 44.3	+0.2
KBTC				eSg	Sb	23 53 49.9	+1.1
STDR	Stavd-Durt	0.45	115	ePg	Pn	23 53 48.3	-1.4
STDR				eSg	Sb	23 53 56.5	+2.5
KBZ	Khabaz	0.47	292	i Pg	Pg	23 53 45.8	-0.7
KBZ				eSg	Sg	23 53 51.8	-0.9
PYA1	Pyatigorsk	0.58	330	ePg	Pb	23 53 48.9	-0.7
PYA1				eSg	Sb	23 53 57.4	-0.5
PRTR	Priterechnaya	0.60	71	ePg	Pn	23 53 51.5	-0.2
PRTR				eSg	Sn	23 54 02.4	+1.0
KORR	Kora	0.63	138	ePg	Pb	23 53 49.9	-0.4
KORR				eSg	Sb	23 53 59.7	+0.6
SHA1	Shidzhatmaz	0.64	287	i Pg	Pg	23 53 48.9	-0.8
SHA1				eSg	Sg	23 53 56.6	-1.6
BEYR	Belyy Ugol+	0.67	313	ePg	Pg	23 53 50.0	-0.4
BEYR				eSg	Sg	23 53 59.1	-0.1
KIV0	Kislovodsk Arr	0.70	305	ePg	Pg	23 53 50.4	-0.6
KIV0				eSg	Sg	23 54 00.3	0.0
BTKR	Batakoyurt	0.78	103	ePg	Pn	23 53 54.6	+0.4
BTKR				eSg	Sn	23 54 08.2	+2.2
TRKR	Terskaya	0.91	79	ePg	Pn	23 53 57.5	+1.5
TRKR				eSg	Sn	23 54 13.5	+4.4
LACR	Lac	0.94	141	ePg	Pb	23 53 55.2	-0.4
LACR				eSg	Sb	23 54 07.8	-0.2

URZ Urewera 17.69 192 P **P 23 59 03.4 -0.9**
comp=Z,15nm,0.6s,baz=14,slow=5.1,SNR=5.6
BKZ Black Stump Fm 18.69 193 P **P 23 59 11.7 -1.8**
BKZ IAmb IAmb 23 59 22.4
comp=Z,12nm,0.7s
MRZ Mangatainoka R 20.32 194 P **P 23 59 27.4 -0.9**
MRZ IAmb IAmb 00 00 03.8
comp=Z,33nm,1.2s
THZ Tophouse 22.04 198 P **P 23 59 43.3 -0.5**
THZ IAmb IAmb 00 00 27.2
comp=Z,18nm,0.8s
DSZ Denniston Nort 22.35 200 P **P 23 59 46.0 -0.6**
INZ Inchbonnie 23.35 199 P **P 23 59 54.7 -0.7**
HNR Honiara 23.94 295 P **P 00 00 01.5 +0.5**
MLZ Mavora Lakes 26.80 202 P **P 00 00 27.0 +1.1**
WHZ Wether Hill Ro 27.32 201 P **P 00 00 30.4 +0.1**
WHZ IAmb IAmb 00 00 39.4
comp=Z,36nm,1.3s
EIDS Eidsvold 28.51 255 P **P 00 00 41.0 -0.1**
EIDS IAmb IAmb 00 01 18.2
comp=Z,42nm,1.5s
ARMA Armidale 28.66 245 P **P 00 00 43.7 +1.2**
ARMA IAmb IAmb 00 01 01.8
comp=Z,18nm,1.2s
CTAO Charters Tower 33.22 265 P **P 00 01 21.9 +0.3**
CTAO IAmb IAmb 00 01 22.2
comp=Z,21nm,0.5s
PMG Port Moresby 35.23 284 P **P 00 01 37.5 -1.0**
PMG IAmb IAmb 00 01 39.7
comp=Z,20nm,0.8s
TOO Toolangi 35.44 234 P **P 00 01 38.3 -1.6**
TOO IAmb IAmb 00 01 48.4
comp=Z,18nm,1.4s
STKA Stephens Creek 37.38 245 P **P 00 01 56.3 +0.3**
STKA Stephens Creek 37.38 245 P **P 00 01 56.1 +0.1**
comp=Z,8.5nm,0.8s,baz=82,slow=10,SNR=9.3
comp=Z,8.5nm,0.8s
COEN Coen 37.39 274 P **P 00 01 56.3 +0.1**
COEN IAmb IAmb 00 01 57.6
comp=Z,14nm,0.8s
BBOO Buckleboo 42.14 244 P **P 00 02 33.8 -0.3**
BBOO IAmb IAmb 00 02 34.4
comp=Z,10nm,0.6s
WR0 Warramunga Arr 44.12 263 P **P 00 02 49.5 -0.2**
AS31 Alice Springs 44.19 257 P **P 00 02 50.3 0.0**
ASAR Alice Springs 44.19 257 P **P 00 02 50.0 -0.3**
ASAR Alice Springs 44.19 257 P **P 00 02 50.0 -0.3**
comp=Z,12nm,0.5s,baz=92,slow=8.1,SNR=53
ASAR PcP **PcP 00 04 23.1 +0.1**
comp=Z,1.0nm,0.6s,baz=96,slow=5.7,SNR=2.5
comp=Z,12nm,0.5s
WB0 Warramunga Arr 44.30 263 P **P 00 02 50.6 -0.4**
WB0 IAmb IAmb 00 02 51.1
comp=Z,11nm,0.8s
WB2 Warramunga Arr 44.30 263 P **P 00 02 50.5 -0.7**
WRA Warramunga Arr 44.31 263 P **P 00 02 50.7 -0.5**
WRA Warramunga Arr 44.31 263 P **P 00 02 50.5 -0.7**
comp=Z,3.8nm,0.3s,baz=96,slow=7.3,SNR=62
comp=Z,3.8nm,0.3s
KIP Kipapa 46.54 26 P P 00 03 15.4 +7.4
FORT Forrest 48.90 247 P **P 00 03 25.0 -0.7**
MTN Manton Dam 48.94 271 P **P 00 03 25.2 -1.0**
MTN IAmb IAmb 00 03 26.3
comp=Z,18nm,0.6s
KNRA Kununurra 50.41 267 P **P 00 03 36.6 -0.3**
KNRA IAmb IAmb 00 03 48.8
comp=Z,39nm,1.5s
SOEI Soe 56.29 272 P **P 00 04 19.4 +0.5**
SOEI IAmb IAmb 00 04 21.2
comp=Z,28nm,0.7s
PSA00 Pilbara Seismi 57.34 257 P **P 00 04 25.1 -0.7**
SBA Scott Base 57.39 184 P **P 00 04 27.3 +2.2**
MBWA Marble Bar 57.53 258 P **P 00 04 26.8 -0.3**
MBWA IAmb IAmb 00 04 27.6
comp=Z,17nm,0.7s
QSPA South Pole Qui 69.10 180 P **P 00 05 42.3 +1.8**
QSPA South Pole Qui 69.10 180 P **P 00 05 41.2 +0.7**
comp=Z,2.7nm,0.5s,baz=84,slow=0.5,SNR=6.3
comp=Z,2.7nm,0.5s
UGM Wanagama 69.73 269 P **P 00 05 45.1 0.0**
MJAR Matsushiro Arr 70.46 324 P **P 00 05 49.0 +0.1**
comp=Z,2.4nm,0.5s,baz=163,slow=6.2,SNR=6.2
comp=Z,2.4nm,0.5s
PETK Petropavlovsk- 76.67 345 P **P 00 06 24.4 +0.6**
comp=Z,5.1nm,0.8s,baz=116,slow=10,SNR=4.2
comp=Z,5.1nm,0.8s
KSRS Korea Array 77.09 319 P **P 00 06 27.6 +1.1**
comp=Z,1.6nm,0.6s,baz=123,slow=5.7,SNR=5.0
comp=Z,1.6nm,0.6s
USRK Ussuriysk Ar. 79.23 326 P **P 00 06 38.7 +1.0**
comp=Z,3.9nm,0.6s,baz=78,slow=4.7,SNR=5.8
comp=Z,3.9nm,0.6s
SZCU Shurtz Canyon 84.50 46 pwP 00 09 04.5 -1.9
GSI Gunungsitoli 85.03 273 P **P 00 07 09.7 +1.7**
ILAR Eielson Array 88.82 13 P **P 00 07 24.4 -0.1**
comp=Z,0.7nm,0.4s,baz=215,slow=5.2,SNR=9.3
comp=Z,0.7nm,0.4s
PDAR Pinedale Array 89.46 43 P **P 00 07 28.6 +0.2**
comp=Z,0.2nm,0.5s,baz=160,slow=2.9,SNR=3.0
comp=Z,0.2nm,0.5s
CMAR Chiang Mai Arr 90.06 290 P **P 00 07 30.5 -0.9**
comp=Z,1.8nm,0.3s,baz=91,slow=4.5,SNR=5.2
comp=Z,1.8nm,0.3s
RIMA Rio Macho 97.48 82 pP 00 09 57.9 -8.2
RIMA pwP 00 10 05.1 -4.0
BVAR Borovoye Array 119.29 320 PKP **PKiKP 00 13 16.1 -0.2**
comp=Z,1.8nm,0.3s,baz=113,slow=2.6,SNR=15
ARCES ARCESS Array B 129.34 349 PKP **PKPdf 00 13 34.7 -0.3**
comp=Z,4.2nm,0.9s,baz=67,slow=2.0,SNR=8.9
FINES FINESS Array B 136.16 343 PKP **PKPdf 00 13 48.1 +0.2**
comp=Z,2.5nm,1.0s,baz=85,slow=4.0,SNR=3.8
AKASG Malin Array Be 143.31 331 PKP PKPab 00 13 59.1 -0.3
comp=Z,7.2nm,0.5s,baz=43,slow=4.2,SNR=15
BRTR Keskin Array B 146.99 312 PKPbc **PKPbc 00 14 10.8 -0.3**
comp=Z,1.6nm,0.5s,baz=121,slow=4.8,SNR=3.6
MMAI Mount Meron Ar 147.85 299 PKPbc **PKiKP 00 14 14.3 -0.5**
comp=Z,2.3nm,0.4s,baz=82,slow=6.8,SNR=11
GERES GERESS Array B 150.59 344 PKPbc **PKPbc 00 14 19.1 -0.4**
comp=Z,1.3nm,0.6s,baz=12,slow=2.3,SNR=7.4
TORD Torodi Ar. Bea 172.22 180 PKPab **PKPab 00 16 03.9 +0.2**
comp=Z,0.2nm,0.5s,baz=179,slow=2.7,SNR=1.5

*IDC **17** 00:08:24.1±10.0, 0°.90N×97°.53E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=539.3km s-min=25.7km az=55.0*
*DJA **17** 00:08:28.1±1.2, 1°.N±5°.×9°.7E±°, h18km±10km, M3.5/6, MLv3.5/6*
ISC 17 00:08:24.0±1.3, **0°.5N**±0°.1×**97°.1E**±0°.1, **h10**km, **n21**, σ2s **10**/11, **mb3.6/4, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.89**	**30**	P	**Pg**	**00 08 41.2**	**+0.1**
PBSI	**Pulau Batu**	**1.28**	**117**	P	**Pn**	**00 08 49.3**	**+1.3**
PBSI				S	**Sb**	**00 09 03.9**	**-0.9**
SNSI	**Sinabang, Aceh**	**2.04**	**337**	P	**Pb**	**00 09 02.2**	**+1.1**
SNSI				S	**Sn**	**00 09 19.0**	**-4.9**
SISI	**Saibi**	**2.69**	**133**	P	**Pn**	**00 09 07.7**	**+0.4**
MLSI	**Meulaboh, Aceh**	**3.79**	**349**	P	**Pn**	**00 09 24.9**	**+2.4**
H08S2	**Diego Garcia H**	**25.88**	**251**	T	T	00 40 42.0	
baz=72,slow=76,SNR=186							
H08S3	**Diego Garcia H**	**25.88**	**251**	T	T	00 40 41.7	
baz=72,slow=76,SNR=254							
H08S1	**Diego Carcia H**	**25.90**	**251**	T	T	00 40 43.8	
baz=72,slow=76,SNR=142							
H01W3	**Cape Leeuwin H**	**38.65**	**157**	T	T	00 56 50.3	
baz=333,slow=76,SNR=59							
H01W2	**Cape Leeuwin H**	**38.67**	**157**	T	T	00 56 54.0	
baz=333,slow=76,SNR=65							
H01W1	**Cape Leeuwin H**	**38.67**	**157**	T	T	00 56 49.2	
baz=333,slow=76,SNR=77							
WRA	**Warramunga Arr**	**41.74**	**121**	P	**P**	**00 16 14.3**	**+0.6**
0.2nm,0.5s,baz=301,slow=9.7,SNR=2.2							
0.2nm,0.5s							
ASAR	**Alice Springs**	**43.05**	**126**	P	**P**	**00 16 24.9**	**+0.5**
0.2nm,0.3s,baz=289,slow=8.7,SNR=2.1							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**47.87**	**346**	P	**P**	**00 17 02.1**	**-0.1**
0.9nm,0.7s,baz=156,slow=7.6,SNR=8.2							
0.9nm,0.7s							
ZALV	**Zalesovo Beam**	**54.21**	**351**	P	**P**	**00 17 48.6**	**-1.1**
0.6nm,0.4s,baz=165,slow=7.6,SNR=4.7							
0.6nm,0.4s							
H04N2	**CROZET ISLANDS**	**61.19**	**214**	T	T	01 25 02.0	
baz=53,slow=75,SNR=385							
H04N1	**CROZET ISLANDS**	**61.20**	**214**	T	T	01 25 07.1	
baz=53,slow=75,SNR=320							
H04N3	**CROZET ISLANDS**	**61.20**	**214**	T	T	01 25 01.2	
baz=53,slow=75,SNR=368							
H04S1	**CROZET ISLANDS**	**61.52**	**214**	T	T	01 25 36.2	
baz=52,slow=75,SNR=148							
H04S3	**CROZET ISLANDS**	**61.53**	**214**	T	T	01 25 35.9	
baz=52,slow=75,SNR=274							
H04S2	**CROZET ISLANDS**	**61.54**	**214**	T	T	01 25 37.4	
baz=52,slow=75,SNR=166							

*CNRM **17** 00:13:20.9, 34°.37N×13°.52W, h20km, ml3.6*
*MDD **17** 00:13:25.6±1.1, 34°.54N×13°.19W, h15km±21km, Mb4.3/2, M_mb3.7/2, Error ellipse: s-maj=26.9km s-min=5.8km az=81.0*
*INMG **17** 00:13:25.9±1.1, 34°.38N×13°.51W, h23km, ML2.4, Error ellipse: s-maj=8.1km s-min=2.5km az=137.0*
*IGIL **17** 00:13:26.3, 34°.54N×13°.19W, h15km, ML2.7*
ISC 17 00:13:18.4±1.3, **34°.49N**±0°.05×**13°.44W**±0°.07, **h10**km, **n53**, σ2s **87**/69, **2C, Madeira Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**2.79**	**241**	*eP*	**Pn**	**00 14 03.1**	**-0.1**
PMPS	**Porto Santo**	**2.80**	**240**	*eP*	**Pn**	**00 14 02.5**	**-0.8**
PMAR	**Madeira**	**3.39**	**240**	*eP*	**Pn**	**00 14 11.5**	**-0.1**
PMAR				*eS*	**Sn**	**00 14 46.1**	**-5.9**
PMAR				A	A	00 14 48.9	
16nm,0.2s							
PMAR	**Madeira**	**3.39**	**240**	P	**Pn**	**00 14 11.0**	**-0.6**
PMAR				S	**Sn**	**00 14 50.9**	**-1.1**
PMOZ	**Porto Moniz, M**	**3.55**	**243**	*eP*	**Pn**	**00 14 13.9**	**+0.2**
PFVI	**Vila Bisbo**	**4.58**	**53**	*eP*	**Pn**	**00 14 30.6**	**+2.9**
PFVI				*eS*	**Sn**	**00 15 18.0**	**-3.1**
PFVI				A	A	00 15 20.4	
10nm,0.7s							
PFVI	**Vila Bisbo**	**4.58**	**53**	P	**Pn**	**00 14 30.7**	**+2.9**
PFVI				S	**Sn**	**00 15 25.4**	**+4.3**
PFVI	**Vila Bisbo**	**4.58**	**53**	Pn	**Pn**	**00 14 29.9**	**+2.1**
MORF	**Marmelete**	**4.79**	**53**	*eP*	**Pn**	**00 14 33.8**	**+3.1**
MORF				*eS*	**Sn**	**00 15 22.9**	**-3.4**
MORF				A	A	00 15 29.0	
6.2nm,0.6s							
MORF	**Marmelete**	**4.79**	**53**	*eP*	**Pn**	**00 14 33.5**	**+2.7**
MORF				*eS*	**Sn**	**00 15 22.7**	**-3.7**
MORF				IAML		00 15 25.6	
comp=N,13nm,0.3s							
PTEO	**Sao Teotonio**	**4.89**	**50**	*eP*	**Pn**	**00 14 34.9**	**+2.9**
PTEO				*eS*	**Sn**	**00 15 26.1**	**-2.5**
PTEO				A	A	00 15 28.9	
comp=N,6.7nm,0.7s							
SRHM	**Skhour des Reh**	**5.04**	**112**	P	**Pn**	**00 14 34.8**	**+0.6**
SRHM				S	**Sn**	**00 15 34.7**	**+2.1**
AVE	**Averroes**	**5.15**	**102**	Pn	**Pn**	**00 14 38.6**	**+3.1**
AVE				Sn	**Sn**	**00 15 33.4**	**-1.6**
PBDV	**Barranco-do-Ve**	**5.25**	**57**	*eP*	**Pn**	**00 14 39.8**	**+2.9**
PBDV				*eS*	**Sn**	**00 15 34.8**	**-2.7**
PNCL	**Nicolau / Gran**	**5.37**	**46**	*eP*	**Pn**	**00 14 41.7**	**+3.2**
PNCL				*eS*	**Sn**	**00 15 37.6**	**-2.7**
PNCL				A	A	00 15 40.6	
comp=N,2.2nm,0.1s							
PNCL	**Nicolau / Gran**	**5.37**	**46**	Pn	**Pn**	**00 14 40.9**	**+2.4**
PCVE	**Castro Verde**	**5.38**	**53**	*eP*	**Pn**	**00 14 42.2**	**+3.5**
PCVE				*eS*	**Sn**	**00 15 37.9**	**-2.9**
PCVE				A	A	00 15 42.2	
comp=N,2.2nm,0.3s							
PCVE	**Castro Verde**	**5.38**	**53**	Pn	**Pn**	**00 14 41.8**	**+3.0**
PVAQ	**Vaqueiros**	**5.48**	**56**	*eP*	**Pn**	**00 14 43.0**	**+3.0**
PVAQ				*eS*	**Sn**	**00 15 39.5**	**-3.6**
PVAQ				A	A	00 15 46.7	
comp=N,3.0nm,0.3s							
PVAQ	**Vaqueiros**	**5.48**	**56**	P	**Pn**	**00 14 43.4**	**+3.4**
PVAQ	**Vaqueiros**	**5.48**	**56**	Pn	**Pn**	**00 14 42.9**	**+2.9**
PMAFR	**Mafra**	**5.57**	**36**	*eS*	**Sn**	**00 15 43.1**	**-2.3**
PMAFR				A	A	00 15 44.6	
comp=N,12nm,1.2s							
PMAFR	**Mafra**	**5.57**	**36**	Sn	**Sn**	**00 15 42.4**	**-2.9**
EGRO	**El Granado**	**5.70**	**56**	P	**Pn**	**00 14 46.2**	**+3.1**
EGRO				⇑*i*Vmb_V		00 14 54.2	
comp=N,194nm,SNR=0.8							
EGRO				S	Sn	00 15 44.6	-4.1
EGRO	**El Granado**	**5.70**	**56**	Pn	**Pn**	**00 14 46.0**	**+2.9**
EGRO				Sn	**Sn**	**00 15 44.8**	**-3.8**
OUK	**Oukaimeden**	**5.71**	**123**	P	**Pn**	**00 14 45.7**	**+2.0**
PBEJ	**Beja**	**5.72**	**50**	*eS*	**Sn**	**00 15 45.7**	**-3.4**
PBEJ				A	A	00 15 51.3	
comp=N,1.9nm,0.4s							
ZHG	**ZHG**	**5.74**	**99**	P	**Pn**	**00 14 45.5**	**+1.8**
EVO	**Evora**	**5.95**	**46**	*eP*	**Pn**	**00 14 50.4**	**+3.9**
EVO				*eS*	**Sn**	**00 15 51.0**	**-3.7**
EVO				A	A	00 15 56.7	
comp=N,2.7nm,0.1s							
EVO	**Evora**	**5.95**	**46**	Pn	**Pn**	**00 14 49.7**	**+3.2**
EVO				Sn	Sn	00 15 49.8	-4.8
PMTG	**Montargil**	**6.20**	**41**	*eP*	**Pn**	**00 14 54.4**	**+4.5**
PMTG				*eS*	**Sn**	**00 15 58.1**	**-2.7**
PMTG				A	A	00 16 02.1	
comp=N,1.8nm,0.5s							
PSBE	**So Bento**	**6.24**	**35**	*eS*	**Sn**	**00 16 00.1**	**-1.9**
RSA	**Sarsar**	**6.29**	**84**	P	**Pn**	**00 14 54.0**	**+2.7**
TIO	**Tiouine**	**6.30**	**123**	Pn	**Pn**	**00 14 54.9**	**+3.4**
TIO				Sn	**Sn**	**00 16 01.2**	**-2.4**
PBAR	**Barrancos**	**6.34**	**53**	*eP*	**Pn**	**00 14 54.9**	**+3.0**
PBAR				*eS*	Sn	00 16 00.3	-4.1
PBAR	**Barrancos**	**6.34**	**53**	Pn	**Pn**	**00 14 54.6**	**+2.7**
EMIN	**Mina Concepcio**	**6.38**	**57**	Pn	**Pn**	**00 14 55.3**	**+2.8**
PESTR	**Estremoz**	**6.42**	**45**	*eP*	**Pn**	**00 14 56.3**	**+3.3**
PESTR				*eS*	**Sn**	**00 16 03.5**	**-2.8**
PESTR				A	A	00 16 08.8	
comp=N,1.3nm,1.1s							
PESTR	**Estremoz**	**6.42**	**45**	P	**Pn**	**00 14 55.8**	**+2.8**
OUZM	**OUZ**	**6.66**	**121**	P	**Pn**	**00 14 56.6**	**+0.1**
EBAD	**Badajoz**	**6.69**	**49**	P	**Pn**	**00 14 59.6**	**+2.8**
EBAD				⇑*i*Vmb_V		00 15 00.5	
comp=N,148nm,SNR=1.1							
EBAD				S	**Sn**	**00 16 10.3**	**-2.8**
EBAD	**Badajoz**	**6.69**	**49**	Pn	**Pn**	**00 14 59.0**	**+2.3**
EBAD				Sn	Sn	00 16 07.4	-5.7
PMRV	**Marv??o**	**6.91**	**43**	*eP*	**Pn**	**00 15 02.8**	**+3.1**
PMRV				*eS*	Sn	00 16 13.5	-4.9
IFR	**Ifrane**	**6.97**	**96**	Pn	**Pn**	**00 15 03.2**	**+2.5**
IFR				Sn	Sn	00 16 14.7	-5.5
CZD	**Col de Zad**	**7.14**	**99**	P	**Pn**	**00 15 04.6**	**+1.4**
ECAB	**El Cabril**	**7.40**	**59**	Pn	**Pn**	**00 15 08.8**	**+2.4**
ECAB				Sn	Sn	00 16 26.3	-4.2
MD31	**MD31**	**7.41**	**100**	P	**Pn**	**00 15 08.3**	**+1.6**
MTE	**Manteigas**	**7.54**	**37**	*eS*	**Sn**	**00 16 30.1**	**-3.8**
MDT	**Midelt**	**7.55**	**100**	P	**Pn**	**00 15 10.3**	**+1.7**
PVIS	**Viseu**	**7.61**	**34**	*eS*	Sn	00 16 30.9	-4.9
POLO	**Lamas de Olo**	**8.19**	**31**	*eS*	Sn	00 16 45.1	-5.0
MVO	**Moncorvo**	**8.37**	**35**	*eS*	Sn	00 16 50.2	-4.3
JBK	**JBK**	**8.98**	**88**	P	**Pn**	**00 15 29.2**	**+0.9**

*SJA **17** 00:17:34.2±0.7, 21°.20S×68°.95W, h121km±3km, ML3.5, MW3.5*
*GUC **17** 00:17:35.7±0.6, 21°.19S×68°.88W, h113km±3km, ML3.6*
ISC 17 00:17:35.0±1.3, **21°.20S**±0°.03×**69°.03W**±0°.05, **h125**km±8km, **n37**, σ0s **81**/71, **15C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.45**	**290**	⇑*iP*	**Pn**	**00 17 52.8**	**-0.6**
PB01				*eS*	**Sn**	**00 18 06.0**	**-1.3**
PB01				IAML		00 18 06.8	
comp=E,3μm,0.2s							
PB01	**IPOC Station P**	**0.45**	**290**	*eP*	**Pn**	**00 17 52.8**	**-0.6**
PB01				*eS*	**Sn**	**00 18 06.5**	**-0.7**
PB01				IAML		00 18 06.7	
comp=Z,2μm,0.2s							
PB09	**IPOC Station P**	**0.63**	**198**	⇑*iP*	**Pn**	**00 17 54.2**	**-0.4**
PB09				*eS*	**Sn**	**00 18 08.8**	**-0.7**
PB09	**IPOC Station P**	**0.63**	**198**	*eP*	**Pn**	**00 17 54.2**	**-0.4**
PB09				*eS*	**Sn**	**00 18 08.7**	**-0.8**
PB09				IAML		00 18 09.9	
comp=Z,403nm,0.4s							
PB02	**IPOC Station P**	**0.81**	**261**	⇑*iP*	**Pn**	**00 17 56.2**	**+0.3**
PB02				*eS*	**Sn**	**00 18 12.1**	**+0.3**
PB02				IAML		00 18 13.1	
comp=E,2μm,0.1s							
PB02	**IPOC Station P**	**0.81**	**261**	*eP*	**Pn**	**00 17 56.2**	**+0.3**
PB02				*eS*	**Sn**	**00 18 12.6**	**+0.8**
PB02				IAML		00 18 14.6	
comp=Z,3μm,0.2s							
PB07	**IPOC Station P**	**0.95**	**236**	⇑*iP*	**Pn**	**00 17 57.4**	**+0.1**
PB07				*eS*	**Sn**	**00 18 14.2**	**0.0**
PB07				IAML		00 18 15.3	
comp=N,1μm,0.2s							
PB07	**IPOC Station P**	**0.95**	**236**	*eP*	**Pn**	**00 17 57.4**	**+0.1**
PB07				*eS*	**Sn**	**00 18 14.7**	**+0.6**
PB07				IAML		00 18 15.1	
comp=Z,642nm,0.3s							
PB08	**IPOC Station P**	**1.06**	**354**	⇑*iP*	**Pn**	**00 17 58.3**	**-0.2**
PB08				*eS*	**Sn**	**00 18 15.5**	**-0.7**
PB08				IAML		00 18 17.2	
comp=E,972nm,0.2s							
PB08	**IPOC Station P**	**1.06**	**354**	*eP*	**Pn**	**00 17 58.3**	**-0.2**
PB08				*eS*	**Sn**	**00 18 16.4**	**+0.1**
PB08				IAML		00 18 16.7	
comp=Z,416nm,0.3s							
PATCX	**Punta Patache**	**1.11**	**289**	⇑*iP*	**Pn**	**00 17 59.3**	**+0.6**
PATCX				*eS*	**Sn**	**00 18 17.5**	**+0.8**
PATCX	**Punta Patache**	**1.11**	**289**	*eP*	**Pn**	**00 17 59.2**	**+0.6**
PATCX				*eS*	**Sn**	**00 18 18.3**	**+1.7**
PATCX				IAML		00 18 19.4	
comp=Z,438nm,0.4s							
HMBC	**Humberstone**	**1.21**	**319**	⇑*iP*	**Pn**	**00 17 59.6**	**-0.2**
HMBC				*eS*	**Sn**	**00 18 18.4**	**-0.2**
HMBC				IAML		00 18 19.3	
comp=N,1μm,0.1s							
HMBC	**Humberstone**	**1.21**	**319**	*eP*	**Pn**	**00 17 59.6**	**-0.2**
HMBC				*eS*	**Sn**	**00 18 19.4**	**+0.8**
HMBC				IAML		00 18 20.3	
comp=Z,856nm,0.2s							
TA01	**Diego Aracena**	**1.24**	**300**	⇑*iP*	**Pn**	**00 18 00.1**	**+0.2**
TA01				*i* S	**Sn**	**00 18 19.3**	**+0.4**
TA01				IAML		00 18 20.2	
comp=E,2μm,0.3s							
TA01	**Diego Aracena**	**1.24**	**300**	*eP*	**Pn**	**00 18 00.2**	**+0.2**
TA01				*eS*	**Sn**	**00 18 20.1**	**+1.2**
TA01				IAML		00 18 20.7	
comp=Z,428nm,0.2s							
LVC	**Limon Verde**	**1.41**	**175**	⇑*iP*	**Pn**	**00 18 02.1**	**-0.1**
LVC				*i* S	**Sn**	**00 18 22.1**	**-0.7**
LVC				IAML		00 18 23.8	
comp=Z,819nm,0.2s							
LVC	**Limon Verde**	**1.41**	**175**	*eP*	**Pn**	**00 18 02.1**	**-0.1**
LVC				*eS*	**Sn**	**00 18 22.6**	**-0.2**
GO01	**Chusmiza**	**1.53**	**354**	⇑*eP*	**Pn**	**00 18 03.4**	**-0.1**
GO01				*eS*	**Sn**	**00 18 25.0**	**-0.3**
GO01				IAML		00 18 27.4	
comp=N,994nm,0.1s							
GO01	**Chusmiza**	**1.53**	**354**	*eP*	**Pn**	**00 18 03.5**	**-0.1**
GO01				*eS*	**Sn**	**00 18 26.0**	**+0.7**
GO01				IAML		00 18 27.1	
comp=Z,260nm,0.2s							
PB04	**IPOC Station P**	**1.54**	**222**	⇑*iP*	**Pn**	**00 18 03.7**	**+0.4**
PB04				*eS*	**Sn**	**00 18 25.4**	**+0.4**
PB04				IAML		00 18 26.8	
comp=N,602nm,0.1s							
PB04	**IPOC Station P**	**1.54**	**222**	*eP*	**Pn**	**00 18 03.8**	**+0.4**
PB04				*eS*	**Sn**	**00 18 26.0**	**+1.1**
PB04				IAML		00 18 27.3	
comp=Z,342nm,0.2s							
PB06	**IPOC Station P**	**1.58**	**198**	⇑*iP*	**Pn**	**00 18 04.2**	**+0.2**
PB06				*i* S	**Sn**	**00 18 26.0**	**0.0**
PB06				IAML		00 18 27.9	
comp=E,408nm,0.2s							
PB06	**IPOC Station P**	**1.58**	**198**	*eP*	**Pn**	**00 18 04.1**	**+0.2**
PB06				*eS*	**Sn**	**00 18 26.3**	**+0.3**
PB06				IAML		00 18 32.2	
comp=Z,195nm,0.2s							
AF01	**San Pedro de A**	**1.92**	**156**	⇑*iP*	**Pn**	**00 18 08.4**	**+0.4**
AF01				*eS*	**Sn**	**00 18 35.5**	**+2.2**
PB15	**IPOC Station P**	**2.04**	**191**	*eP*	**Pn**	**00 18 10.1**	**+0.5**
PB15				*eS*	**Sn**	**00 18 36.6**	**+0.8**
PB15	**IPOC Station P**	**2.04**	**191**	*eP*	**Pn**	**00 18 10.0**	**+0.5**
PB15				*eS*	**Sn**	**00 18 36.7**	**+0.8**
PB12	**IPOC Station P**	**2.84**	**334**	⇑*iP*	**Pn**	**00 18 18.6**	**-0.9**
PB12				*eS*	**Sn**	**00 18 51.5**	**-2.3**
PB12				IAML		00 18 54.4	
comp=E,180nm,0.4s							
PB12	**IPOC Station P**	**2.84**	**334**	*eP*	**Pn**	**00 18 18.6**	**-0.9**
PB12				*eS*	**Sn**	**00 18 53.8**	**-0.1**
PB12				IAML		00 18 54.0	
comp=Z,76nm,0.5s							
PB16	**IPOC Station P**	**2.88**	**351**	⇑*eP*	**Pn**	**00 18 21.0**	**+0.5**
PB16				*eS*	**Sn**	**00 18 56.1**	**+0.7**
PB16	**IPOC Station P**	**2.88**	**351**	*eP*	**Pn**	**00 18 21.2**	**+0.7**
PB16				*eS*	**Sn**	**00 18 56.7**	**+1.2**
AP01	**Chacalluta**	**3.07**	**336**	*eP*	**Pn**	**00 18 21.8**	**-0.6**
AP01				IAML		00 19 34.5	
comp=Z,282nm,0.2s							
YJA	**Yavi**	**3.42**	**107**	*eP*	**Pn**	**00 18 27.9**	**+0.6**
PB14	**IPOC Station P**	**3.64**	**200**	*eP*	**Pn**	**00 18 29.2**	**-0.9**
PB14				*eS*	**Sn**	**00 19 10.3**	**-2.5**
PB14	**IPOC Station P**	**3.64**	**200**	*eP*	**Pn**	**00 18 30.4**	**+0.2**
PB14				*eS*	**Sn**	**00 19 11.8**	**-1.1**
PB14				IAML		00 19 12.9	
comp=Z,36nm,0.2s							
GO02	**Mina Guanaco**	**3.98**	**187**	*eP*	**Pn**	**00 18 34.9**	**+0.2**
GO02				*eS*	**Sn**	**00 19 19.6**	**-1.3**
GO02	**Mina Guanaco**	**3.98**	**187**	*eP*	**Pn**	**00 18 34.4**	**-0.3**
GO02				IAML		00 19 29.1	
comp=Z,51nm,0.3s							

*NEIC **17** 00:31:41.8±2.1, 19°.84N±0°.03×155°.641W±0°.008, h10km±1km, Error ellipse: s-maj=5.9km s-min=2.7km az=172.0*
HVO 17 00:31:40.3±2.3, **20°.00N**±0°.04×**155°.78W**±0°.02, **h15**km±5km, **Md2.2**/6, **ML2.6**/35(NEIC), **Error ellipse: s-maj=5.6km s-min=1.9km az=161.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.09**	**71**	Pg	Pg	00 31 46.3	+2.8
HPAH				Sg	Sg	00 31 50.4	+4.8
HUH	**Hualalai**	**0.32**	**189**	Pg	Pg	00 31 46.8	-0.3
HUH				Sg	Sb	00 31 52.5	-0.6
HUH				IAML		00 31 55.3	
comp=N,552nm

SBLHI	**Steaming Bluff**	**0.75 140**	IAML			00 32 02.3	
	comp=N,361nm,0.7s						
SBLHI			IAML			00 32 05.4	
	comp=E,301nm,1.4s						
HATHI	**Halema'uma'u T**	**0.76 139**		Pg		00 31 52.4	-2.8
HATHI	**Halema'uma'u T**	**0.76 139**	IAML			00 32 15.0	
	comp=N,389nm,1.0s						
BYL	**Byron's Ledge**	**0.77 140**	Pg	Pg		00 31 52.5	-2.8
BYL			IAML			00 32 17.4	
	comp=N,357nm,1.3s						
BYL			IAML			00 32 19.2	
	comp=E,306nm,2.0s						
KHU	**Kahuku**	**0.77 168**		Pg		00 31 52.6	-2.7
KHU	**Kahuku**	**0.77 168**	IAML			00 32 19.1	
	comp=N,282nm,3.4s						
HTC	**Hot Caves**	**0.84 154**		Pg		00 31 53.6	-3.1
KNHH	**Kane Nui o Ham**	**0.85 137**		Pg		00 31 53.7	-3.2
JOKA	**Jonika Flow**	**0.93 127**		Pb		00 31 54.7	-3.5

*IDC **17** 00:49:10.0±1.2, 29°.77S×178°.36W, h43km±18km, mb3.3/2, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=42.6km s-min=17.3km az=119.0*

ISC 17 00:49:09.6±0.9, 29°.7S±0°.1×178°.5W±0°.2, h35km, n13, σ1§25/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.73**	**48**	P	**Pn**	**00 49 24.0**	**+0.6**
	2μm,0.2s,baz=166,slow=19,SNR=16						
RAO				S	**Sn**	**00 49 33.6**	**+0.3**
	3μm,0.3s,baz=198,slow=20,SNR=29						
URZ	**Urewera**	**9.23**	**202**	P	**Pn**	**00 51 18.9**	**-1.3**
	0.3nm,0.3s,baz=122,slow=11,SNR=1.7						
URZ				S	**Sn**	**00 53 04.6**	**+1.8**
	3.6nm,0.5s,baz=99,slow=22,SNR=1.5 1.7nm,0.2s						
ASAR	**Alice Springs**	**42.68**	**266**	P	**P**	**00 57 03.8**	**+0.5**
	0.2nm,0.4s,baz=106,slow=6.7,SNR=4.3 0.2nm,0.4s						
WRA	**Warramunga Arr**	**43.61**	**272**	P	**P**	**00 57 11.8**	**+1.0**
	0.9nm,0.6s,baz=111,slow=7.6,SNR=6.2 0.9nm,0.6s						
H03S2	**Juan Fernandez**	**81.22**	**124**	T	T	02 30 40.3	
	baz=239,slow=74,SNR=12						
H03S1	**Juan Fernandez**	**81.23**	**124**	T	T	02 30 41.5	
	baz=239,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**81.23**	**124**	T	T	02 30 40.4	
	baz=239,slow=74,SNR=15						
H03N3	**Juan Fernandez**	**81.41**	**124**	T	T	02 30 56.6	
	baz=240,slow=72,SNR=4.0						
H03N2	**Juan Fernandez**	**81.41**	**124**	T	T	02 30 55.1	
	baz=240,slow=72,SNR=3.4						
H03N1	**Juan Fernandez**	**81.42**	**124**	T	T	02 30 53.9	
	baz=240,slow=72,SNR=5.3						
FINES	**FINESS Array B**	**144.37**	**340**	PKP	**PKPab**	**01 08 37.9**	**-1.6**
	5.1nm,1.0s,baz=54,slow=3.6,SNR=13						
MMAI	**Mount Meron Ar**	**150.91**	**285**	PKPbc	**PKPbc**	**01 08 58.5**	**-0.3**
	0.8nm,0.5s,baz=100,slow=7.2,SNR=1.7						
TORD	**Torodi Ar. Bea**	**163.49**	**181**	PKPab	**PKPab**	**01 10 00.2**	**-0.2**
	0.2nm,0.6s,baz=188,slow=2.6,SNR=4.0						

*IDC **17** 00:58:02.9±1.9, 18°.56N×145°.57E, h192km±18km, mb3.3/11, mbtmp3.9/14, Error ellipse: s-maj=25.6km s-min=11.3km az=88.0*

*NEIC **17** 00:58:04.4±1.4, 18°.52N±0°.08×145°.7E±0°.2, h196km±9km, mb4.2/24, Error ellipse: s-maj=25.8km s-min=11.5km az=95.0*

ISC 17 00:58:03.5±0.6, 18°.53N±0°.06×145°.7E±0°.2, h200km, n49, σ1§08/46, mb4.0/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.96**	**189**	Pn	**Pn**	**00 59 18.0**	**+0.4**
GUMO				Sn	**Sn**	**01 00 16.5**	**+0.6**
GUMO	**Guam**	**4.96**	**189**	P	**Pn**	**00 59 18.6**	**+1.1**
	30nm,0.3s,baz=69,slow=17,SNR=2.1						
GUMO				S	**Sn**	**01 00 14.3**	**-1.6**
	40nm,0.3s,baz=322,slow=20,SNR=1.6						
JCJ	**Chichijima**	**9.11**	**340**	Pn	**Pn**	**01 00 11.6**	**+0.4**
JCJ	**Chichijima**	**9.11**	**340**	P	**Pn**	**01 00 08.7**	**-2.4**
	66nm,0.8s,baz=207,slow=16,SNR=2.6						
JCJ				S	Sn	01 01 43.2	-10
	29nm,0.7s,baz=114,slow=24,SNR=1.3						
MJAR	**Matsushiro Arr**	**19.11**	**341**	P	**P**	**01 02 12.1**	**+0.8**
	1.2nm,0.5s,baz=151,slow=8.7,SNR=2.1						
H11S3	**WAKE ISLAND Hy**	**19.95**	**87**	T	T	01 23 39.1	
	baz=275						
H11S1	**WAKE ISLAND Hy**	**19.96**	**87**	T	T	01 23 29.8	
	baz=275						
H11S2	**WAKE ISLAND Hy**	**19.97**	**87**	T	T	01 23 50.0	
	baz=275						
H11N1	**WAKE ISLAND Hy**	**20.11**	**83**	T	T	01 23 57.6	
	baz=265						
H11N2	**WAKE ISLAND Hy**	**20.11**	**83**	T	T	01 24 04.2	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**20.13**	**83**	T	T	01 24 06.8	
	baz=265						
COEN	**Coen**	**32.37**	**184**	P	**P**	**01 04 15.5**	**+1.1**
COEN				IAmb	IAmb	01 04 17.2	
	comp=Z,8.2nm,1.0s						
MTN	**Manton Dam**	**34.30**	**206**	P	**P**	**01 04 31.1**	**0.0**
SBUM	**Sibu**	**36.43**	**248**	P	**P**	**01 04 49.9**	**+0.5**
SBUM				IAmb	IAmb	01 04 52.1	
	comp=Z,5.3nm,1.1s						
KNRA	**Kununurra**	**37.84**	**207**	P	**P**	**01 05 01.0**	**-0.1**
KNRA				IAmb	IAmb	01 05 02.8	
	comp=Z,6.2nm,0.7s						
WB0	**Warramunga Arr**	**39.62**	**197**	P	**P**	**01 05 17.2**	**+1.3**
WB0				IAmb	IAmb	01 05 18.0	
	comp=Z,4.4nm,0.5s						
WR0	**Warramunga Arr**	**39.77**	**196**	P	**P**	**01 05 18.0**	**+0.9**
WRAB	**Tennant Creek**	**39.79**	**197**	P	**P**	**01 05 18.5**	**+1.2**
WRAB				IAmb	IAmb	01 05 33.0	
	comp=Z,5.5nm,0.9s						
WB2	**Warramunga Arr**	**39.80**	**197**	P	**P**	**01 05 18.3**	**+0.9**
WB2				IAmb	IAmb	01 05 19.2	
	comp=Z,3.6nm,0.6s						
WRA	**Warramunga Arr**	**39.81**	**197**	P	**P**	**01 05 17.7**	**+0.3**
WRA	**Warramunga Arr**	**39.81**	**197**	P	**P**	**01 05 18.0**	**+0.5**
	comp=Z,2.1nm,0.4s,baz=21,slow=9.0,SNR=50						
WRA				PcP	**PcP**	**01 07 18.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=21,slow=4.0,SNR=5.3 comp=Z,2.1nm,0.4s						
SONM	**Songino Array**	**43.25**	**322**	P	**P**	**01 05 45.1**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=123,slow=5.3,SNR=1.9 comp=Z,0.2nm,0.4s						
ASAR	**Alice Springs**	**43.47**	**196**	P	**P**	**01 05 47.2**	**0.0**
ASAR	**Alice Springs**	**43.47**	**196**	P	**P**	**01 05 47.4**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=15,slow=6.6,SNR=11 comp=Z,1.2nm,0.7s						
EIDS	**Eidsvold**	**43.95**	**173**	P	**P**	**01 05 47.6**	**-3.3**
MBWA	**Marble Bar**	**46.90**	**214**	P	**P**	**01 06 14.7**	**+0.6**
MBWA				IAmb	IAmb	01 06 17.4	
	comp=Z,11nm,1.1s						
PSA00	**Pilbara Seismi**	**47.18**	**214**	P	**P**	**01 06 16.6**	**+0.4**
STKA	**Stephens Creek**	**50.26**	**184**	P	**P**	**01 06 39.3**	**-0.2**
STKA	**Stephens Creek**	**50.26**	**184**	P	**P**	**01 06 39.5**	**0.0**
	comp=Z,1.1nm,0.5s,baz=354,slow=6.1,SNR=3.6 comp=Z,1.1nm,0.5s						
FORT	**Forrest**	**51.86**	**199**	P	**P**	**01 06 52.1**	**+0.7**
BBOO	**Buckleboo**	**51.86**	**190**	P	**P**	**01 06 52.4**	**+0.9**
BBOO				IAmb	IAmb	01 07 02.5	
	comp=Z,6.0nm,0.9s						
O14K	**Tigyukauivet M**	**55.69**	**30**	P	**P**	**01 07 18.4**	**-0.4**
O14K				IAmb	IAmb	01 07 37.0	
	comp=Z,6.8nm,1.1s						
TOO	**Toolangi**	**55.80**	**180**	P	**P**	**01 07 18.8**	**-1.1**
TOO				IAmb	IAmb	01 07 21.3	
	comp=Z,3.7nm,0.9s						
CHGN	**Chignik**	**56.05**	**34**	P	**P**	**01 07 22.3**	**+0.8**
N15K	**Kwethluk River**	**56.59**	**29**	P	**P**	**01 07 26.5**	**+1.3**
L16K	**Owhat River**	**57.47**	**28**	P	**P**	**01 07 30.3**	**-1.0**
J16K	**Anvik River**	**57.64**	**26**	P	**P**	**01 07 34.3**	**+1.8**
J16K				IAmb	IAmb	01 07 36.6	
	comp=Z,3.6nm,1.1s						
MK31	**Makanchi Array**	**58.55**	**314**	P	**P**	**01 07 40.0**	**+0.9**
MKAR	**Makanchi Array**	**58.55**	**314**	P	**P**	**01 07 39.2**	**0.0**
MKAR	**Makanchi Array**	**58.55**	**314**	P	**P**	**01 07 38.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=78,slow=8.5,SNR=2.1 comp=Z,0.2nm,0.5s						
H17K	**Granite Mounta**	**58.62**	**24**	P	**P**	**01 07 40.5**	**+1.2**
H17K				IAmb	IAmb	01 07 58.4	
	comp=Z,2.6nm,0.9s						
O18K	**Koktuh Hills**	**58.79**	**30**	P	**P**	**01 07 42.4**	**+1.9**
KURBB	**Kurchatov Arra**	**61.41**	**318**	P	**P**	**01 07 58.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=97,slow=7.5,SNR=4.5 comp=Z,0.3nm,0.3s						
ILAR	**Eielson Array**	**63.82**	**26**	P	**P**	**01 08 13.6**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=259,slow=3.5,SNR=6.5 comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**66.58**	**320**	P	**P**	**01 08 31.8**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=83,slow=6.5,SNR=5.2 comp=Z,0.8nm,0.4s						
KKAR	**Karatay Array**	**66.84**	**310**	P	**P**	**01 08 34.8**	**+0.8**
NVAR	**Mina Array Bea**	**83.28**	**52**	P	**P**	**01 10 09.6**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=272,slow=5.9,SNR=9.1 comp=Z,0.6nm,0.6s						
FINES	**FINESS Array B**	**87.02**	**335**	P	**P**	**01 10 24.4**	**-1.7**
	comp=Z,3.3nm,1.0s,baz=18,slow=5.0,SNR=1.4 comp=Z,3.3nm,1.0s						
PDAR	**Pinedale Array**	**87.98**	**45**	P	**P**	**01 10 31.7**	**+0.4**
	comp=Z,0.1nm,0.4s,baz=219,slow=1.9,SNR=3.9 comp=Z,0.1nm,0.4s						

IDC 17 01:28:59.3±7.8, 30°.66S×178°.83W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=320.7km s-min=62.5km az=157.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.38**	**268**	P	P	01 36 55.2	-0.5
	0.2nm,0.3s,baz=96,slow=8.5,SNR=2.0 0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.40**	**273**	P	P	01 37 03.9	0.0
	0.3nm,0.3s,baz=112,slow=8.1,SNR=11 0.3nm,0.3s						
FINES	**FINESS Array B**	**145.14**	**339**	PKPbc	PKPbc	01 48 36.9	-0.7
	1.6nm,0.9s,baz=29,slow=3.2,SNR=3.8						

IDC 17 01:30:12.3±5.7, 0°.13N×24°.66W, h0km, mb3.7/2, mbtmp3.8/2, MS3.4/4, Error ellipse: s-maj=309.0km s-min=43.8km az=141.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**12.85**	**128**	T	T	01 46 52.3	
	baz=306,slow=74,SNR=156						
H10N2	**ASCENSION HYDR**	**12.86**	**128**	T	T	01 46 55.9	
	baz=306,slow=74,SNR=210						
H10N1	**ASCENSION HYDR**	**12.87**	**128**	T	T	01 46 57.1	
	baz=306,slow=74,SNR=350						
H10S3	**ASCENSION HYDR**	**13.44**	**132**	T	T	01 47 35.5	
	baz=310,slow=74,SNR=60						
H10S2	**ASCENSION HYDR**	**13.45**	**132**	T	T	01 47 38.4	
	baz=270,slow=74,SNR=15						
DBIC	**Dimbokro**	**20.79**	**71**	P	P	01 34 55.3	0.0
	4.5nm,1.0s,baz=237,slow=12,SNR=3.4 4.5nm,1.0s						
MDP	**Montagnes des**	**28.38**	**280**	LR	LR	01 44 18.1	
	comp=Z,38nm,19.7s,baz=167,slow=30						
TORD	**Torodi Ar. Bea**	**29.14**	**63**	P	P	01 36 15.4	0.0
	0.7nm,1.0s,baz=258,slow=7.2,SNR=4.0						
TORD				LR	LR	01 46 29.3	
	comp=Z,86nm,20.5s,baz=243,slow=34 0.7nm,1.0s						
KEST	**Kesra**	**47.48**	**38**	LR	LR	01 59 16.4	
	comp=Z,66nm,19.1s,baz=278,slow=37						
NNA	**Nana**	**53.17**	**255**	LR	LR	02 00 54.8	
	comp=Z,29nm,18.2s,baz=110,slow=35						
ASAR	**Alice Springs**	**148.69**	**140**	PKPbc	PKPbc	01 50 02.5	0.0
	1.8nm,0.8s,baz=216,slow=2.1,SNR=9.3						
WRA	**Warramunga Arr**	**151.52**	**135**	PKPbc	PKPbc	01 50 08.3	-1.1
	0.5nm,0.8s,baz=212,slow=1.4,SNR=2.8						

*IDC **17** 01:30:22.8±0.8, 35°.91S×104°.42W, h0km, mb4.0/7, mbtmp4.0/7, MS3.6/16, Error ellipse: s-maj=51.6km s-min=19.2km az=77.0*

ISC 17 01:30:24.4±0.9, 35°.9S±0°.2×104°.4W±0°.3, h10km, n29, σ0§89/8, mb4.1/7, MS3.6/15, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**9.71**	**333**	LR	LR	01 35 29.2	
	comp=Z,78nm,20.0s,baz=32,slow=32						
H03S2	**Juan Fernandez**	**20.98**	**92**	T	T	01 56 27.3	
	baz=257,slow=75,SNR=3.6						
H03S1	**Juan Fernandez**	**21.00**	**92**	T	T	01 56 32.2	
	baz=257,slow=75,SNR=6.5						
H03S3	**Juan Fernandez**	**21.00**	**92**	T	T	01 56 31.9	
	baz=257,slow=75,SNR=3.5						
H03N2	**Juan Fernandez**	**21.07**	**91**	T	T	01 56 35.6	
	baz=248,slow=72,SNR=3.7						
H03N3	**Juan Fernandez**	**21.07**	**91**	T	T	01 56 35.7	
	baz=248,slow=72,SNR=4.8						
H03N1	**Juan Fernandez**	**21.08**	**91**	T	T	01 56 33.7	
	baz=248,slow=72,SNR=4.5						
PLCA	**Paso Flores**	**26.88**	**111**	P	**P**	**01 36 06.1**	**+0.6**
	2.2nm,0.9s,baz=250,slow=8.3,SNR=4.5						
PLCA				LR	LR	01 43 27.0	
	comp=Z,108nm,21.3s,baz=206,slow=29 2.2nm,0.9s						
CFA	**Coronel Fontan**	**30.25**	**92**	LR	LR	01 46 25.7	
	comp=Z,97nm,19.7s,baz=254,slow=32						
USHA	**Ushuaia**	**31.09**	**139**	LR	LR	01 46 38.9	
	comp=Z,573nm,20.9s,baz=163,slow=31						
LVC	**Limon Verde**	**33.48**	**76**	LR	LR	01 46 46.3	
	comp=Z,140nm,20.0s,baz=229,slow=29						
NNA	**Nana**	**34.43**	**53**	LR	LR	01 47 26.7	
	comp=Z,121nm,19.3s,baz=200,slow=30						
ATAH	**Atahualpa**	**37.23**	**46**	LR	LR	01 50 03.3	
	comp=Z,56nm,18.5s,baz=209,slow=32						
CPUP	**Villa Florida**	**41.07**	**90**	LR	LR	01 52 26.3	
	comp=Z,75nm,19.3s,baz=226,slow=32						
SIV	**San Ignacio**	**43.28**	**74**	LR	LR	01 54 11.0	
	comp=Z,77nm,18.5s,baz=291,slow=33						
PPT	**Papeete**	**43.86**	**282**	LR	LR	01 52 10.1	
	comp=Z,68nm,20.5s,baz=152,slow=30						
JTS	**Las Juntas de**	**49.47**	**26**	LR	LR	01 54 45.7	
	comp=Z,65nm,18.2s,baz=164,slow=30						
BDFB	**Brasilia**	**53.87**	**83**	LR	LR	02 01 51.3	
	comp=Z,46nm,18.6s,baz=236,slow=35						
QSPA	**South Pole Qui**	**54.31**	**180**	P	**P**	**01 39 51.7**	**+1.0**
	0.6nm,0.4s,baz=164,slow=1.4,SNR=4.2 0.6nm,0.4s						
PCRV	**Puerto La Cruz**	**59.20**	**47**	LR	LR	02 03 14.6	
	comp=Z,64nm,19.5s,slow=33						
SNAA	**Sanae**	**59.84**	**159**	P	**P**	**01 40 28.6**	**-1.1**
	1.3nm,0.8s,baz=238,slow=15,SNR=4.1 1.3nm,0.8s						
MDP	**Montagnes des**	**63.31**	**61**	LR	LR	02 05 11.4	
	comp=Z,40nm,18.9s,baz=214,slow=33						
SJG	**San Juan**	**64.78**	**41**	LR	LR	02 08 43.7	
	comp=Z,22nm,18.3s,baz=155,slow=36						
TXAR	**Lajitas Array**	**64.89**	**1**	P	**P**	**01 41 03.9**	**0.0**
	0.9nm,0.7s,baz=185,slow=8.7,SNR=13 0.9nm,0.7s						
NVAR	**Mina Array Bea**	**75.07**	**349**	P	**P**	**01 42 07.3**	**+0.9**
	2.0nm,0.8s,baz=185,slow=8.0,SNR=14 2.0nm,0.8s						
MAW	**Mawson**	**76.36**	**175**	P	**P**	**01 42 13.1**	**-0.2**
	1.8nm,0.8s,baz=190,slow=6.1,SNR=4.9 1.8nm,0.8s						
DZM	**Mont Dzumac**	**76.76**	**252**	LR	LR	02 08 01.9	
	comp=Z,64nm,20.2s,baz=66,slow=29						
PDAR	**Pinedale Array**	**78.44**	**356**	P	**P**	**01 42 25.0**	**-0.4**
	2.0nm,0.7s,baz=149,slow=6.8,SNR=14 2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**165.13**	**353**	PKPab	**PKPab**	**01 51 24.7**	**-0.6**
	0.2nm,0.2s,baz=10,slow=4.3,SNR=4.3						

*IDC **17** 01:59:20.3±1.8, 44°.68N×42°.10E, h0km, mbtmp3.8/2, ML3.2/2, Error ellipse: s-maj=83.0km s-min=8.3km az=52.0*

*TIF **17** 01:59:21.1, 44°.32N×41°.51E, h18km±2km*

*MOS **17** 01:59:21.1±0.0, 44°.32N×41°.51E, h2km, MPVA4.3*

*NORS **17** 01:59:24.5±0.0, 44°.08N×41°.79E, h2km, MPVA4.3*

ISC 17 01:59:22.3±0.9, 44°.28N±0°.02×41°.53E±0°.01, h12km±7km, n90, σ1§80/170, 5C-3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVNR	**Nevinnomyssk**	**0.46**	**42**	*i* Pg	**Pg**	**01 59 30.9**	**-0.5**
NVNR				*i* Sg	**Sg**	**01 59 37.0**	**-0.6**
NVNR	**Nevinnomyssk**	**0.46**	**42**	*i* PG	**Pg**	**01 59 30.9**	**-0.5**
NVNR				*i* S	**Sg**	**01 59 37.0**	**-0.6**
LABN	**Labinsk**	**0.68**	**303**	PG	**Pg**	**01 59 36.4**	**+0.8**
LABN				S	**Sb**	**01 59 47.3**	**+1.7**
ARXR	**Arkhyz**	**0.74**	**195**	*e*Pg	**Pg**	**01 59 36.8**	**+0.2**
ARXR				*e*Sg	**Sg**	**01 59 47.1**	**+0.8**
ARXR	**Arkhyz**	**0.74**	**195**	*e*PG	**Pg**	**01 59 36.8**	**+0.2**
ARXR				*e*S	**Sg**	**01 59 47.1**	**+0.8**
KIV	**Kislovodsk**	**0.89**	**111**	*e*Pg	**Pg**	**01 59 38.8**	**-0.8**
KIV				*e*Sg	**Sg**	**01 59 50.1**	**-1.1**
KIV	**Kislovodsk**	**0.89**	**111**	*e*PG	**Pg**	**01 59 39.0**	**-0.6**
KIV				*e*S	**Sg**	**01 59 50.3**	**-0.9**
KIV0	**Kislovodsk Arr**	**0.90**	**110**	*e*Pg	**Pg**	**01 59 39.0**	**-0.7**
KIV0				*e*Sg	**Sg**	**01 59 50.3**	**-1.1**
BEYR	**Belyy Ugol+**	**0.96**	**105**	*e*Pg	**Pg**	**01 59 40.0**	**-0.9**
BEYR				*e*Sg	**Sg**	**01 59 52.7**	**-0.8**
BEYR	**Belyy Ugol+**	**0.96**	**105**	*e*PG	**Pg**	**01 59 40.0**	**-0.9**
BEYR				*e*S	**Sg**	**01 59 52.7**	**-0.8**
SHA1	**Shidzhatmaz**	**0.97**	**123**	*i* Pg	**Pg**	**01 59 40.6**	**-0.5**
SHA1				*e*Sg	**Sg**	**01 59 53.0**	**-0.9**
SHA1	**Shidzhatmaz**	**0.97**	**123**	*i* PG	**Pg**	**01 59 40.6**	**-0.5**
SHA1				*e*S	**Sg**	**01 59 53.0**	**-0.9**
DOMR	**Dombai**	**0.98**	**176**	*i* Pg	**Pg**	**01 59 40.8**	**-0.5**
DOMR				*i* Sg	**Sg**	**01 59 53.7**	**-0.5**
DOMR	**Dombai**	**0.98**	**176**	⇑*i* PG	**Pg**	**01 59 40.8**	**-0.5**
DOMR				*i* S	**Sg**	**01 59 53.7**	**-0.5**
GUZR	**Guzeripl'**	**1.05**	**255**	*i* Pg	**Pg**	**01 59 41.9**	**-0.7**
GUZR				*i* Sg	**Sg**	**01 59 55.6**	**-0.8**
GUZR	**Guzeripl'**	**1.05**	**255**	*i* PG	**Pg**	**01 59 41.9**	**-0.7**
GUZR				*i* S	**Sg**	**01 59 55.4**	**-1.0**
RPOR	**Krasnaya Polya**	**1.08**	**238**	*i* Pg	**Pg**	**01 59 42.7**	**-0.4**
RPOR				*e*Sg	**Sg**	**01 59 56.8**	**-0.3**
RPOR	**Krasnaya Polya**	**1.08**	**238**	⇓*i* PG	**Pg**	**01 59 42.7**	**-0.4**
RPOR				*i* S	**Sg**	**01 59 56.8**	**-0.3**
ALER	**Alexandrovskoy**	**1.10**	**63**	*e*Pg	**Pb**	**01 59 43.7**	**+0.4**
ALER				*e*Sg	**Sb**	**01 59 58.5**	**+0.8**
ALER	**Alexandrovskoy**	**1.10**	**63**	*e*PG	**Pb**	**01 59 43.7**	**+0.4**
ALER				*e*S	**Sb**	**01 59 58.5**	**+0.8**
KBZ	**Khabaz**	**1.13**	**118**	*e*Pg	**Pb**	**01 59 42.8**	**-0.9**
KBZ				*e*Sg	**Sg**	**01 59 57.9**	**-0.9**
KBZ	**Khabaz**	**1.13**	**118**	*e*PG	**Pb**	**01 59 42.8**	**-0.9**
KBZ				*e*S	**Sg**	**01 59 57.8**	**-0.9**
KBZ	**Khabaz**	**1.13**	**118**	Pg	**Pb**	**01 59 43.6**	**-0.1**
	33nm,0.3s,baz=292,slow=17,SNR=425						
KBZ				Lg	Lg	01 59 57.9	
	154nm,0.3s,baz=66,slow=17,SNR=21						
PYA1	**Pyatigorsk**	**1.15**	**100**	*e*Pg	**Pb**	**01 59 43.5**	**-0.5**
PYA1				*e*Sg	**Sg**	**01 59 58.5**	**-0.8**
PYA1	**Pyatigorsk**	**1.15**	**100**	*e*PG	**Pb**	**01 59 43.5**	**-0.5**
PYA1				*e*S	**Sg**	**01 59 58.5**	**-0.8**
GOF	**Gofitskoye**	**1.33**	**54**	*e*Pg	**Pb**	**01 59 47.7**	**+0.5**
GOF				*e*Sg	**Sn**	**02 00 04.8**	**+0.4**
GOF	**Gofitskoye**	**1.33**	**54**	*ce*PG	**Pb**	**01 59 47.8**	**+0.5**
GOF				*e*S	**Sg**	**02 00 06.7**	**+1.4**
VSLR	**Vesyoloye**	**1.35**	**234**	*e*Pg	**Pb**	**01 59 48.4**	**+0.8**
VSLR				*e*Sg	**Sg**	**02 00 06.8**	**+0.9**
VSLR	**Vesyoloye**	**1.35**	**234**	*e*PG	**Pb**	**01 59 48.4**	**+0.8**
VSLR				*e*S	**Sg**	**02 00 06.8**	**+0.9**
SOC	**Sochi**	**1.48**	**243**	*e*Pg	**Pn**	**01 59 47.5**	**-1.3**
SOC				*e*Sg	**Sn**	**02 00 09.4**	**+1.5**
SOC	**Sochi**	**1.48**	**243**	*i* PG	**Pn**	**01 59 47.3**	**-1.4**
SOC				*i* S	**Sb**	**02 00 09.8**	**+1.3**
SOC				pmax	pmax		
	comp=Z,65nm,0.6s						
SOC				smax	smax		
	comp=Z,131nm,1.2s						
GOYR	**Goytkh**	**1.55**	**270**	*e*Pg	**Pn**	**01 59 49.8**	**+0.1**
GOYR				*e*Sg	**Sn**	**02 00 10.7**	**+1.0**
GOYR	**Goytkh**	**1.55**	**270**	*e*PG	**Pn**	**01 59 49.8**	**+0.1**
GOYR				*e*S	**Sn**	**02 00 10.1**	**+0.5**
LZRR	**Lazarevskoye**	**1.59**	**258**	*e*Pg	**Pn**	**01 59 47.7**	**-2.4**
LZRR				*e*Sg	**Sn**	**02 00 10.2**	**-0.4**
LZRR	**Lazarevskoye**	**1.59**	**258**	*e*PG	**Pn**	**01 59 50.5**	**+0.3**
LZRR				*e*S	**Sn**	**02 00 10.2**	**-0.4**
ERBR	**Yeremizino-Bor**	**1.62**	**333**	PG	**Pn**	**01 59 51.8**	**+1.1**
ERBR				S	**Sb**	**02 00 14.1**	**+1.6**
NCK	**Nalchik**	**1.68**	**117**	*e*Pg	**Pb**	**01 59 53.7**	**+0.5**
NCK				*e*Sg	**Sg**	**02 00 16.2**	**-0.3**
NCK	**Nalchik**	**1.68**	**117**	*e*PN	**Pb**	**01 59 53.7**	**+0.5**
NCK				*e*S	**Sg**	**02 00 16.2**	**-0.3**
KGUR	**Krasnodar**	**1.94**	**294**	*e*Pg	**Pn**	**01 59 57.2**	**+2.3**
KGUR				*e*Sg	**Sb**	**02 00 23.1**	**+1.6**
KGUR	**Krasnodar**	**1.94**	**294**	*e*PN	**Pn**	**01 59 57.2**	**+2.3**
KGUR				*e*S	**Sb**	**02 00 23.1**	**+1.6**
STDR	**Stavd-Durt**	**2.04**	**115**	*e*Pg	**Pb**	**01 59 58.6**	**-0.8**
STDR				*e*Sg	**Sb**	**02 00 25.3**	**+0.6**
STDR	**Stavd-Durt**	**2.04**	**115**	*e*PN	**Pb**	**01 59 58.6**	**-0.8**
STDR				*e*S	**Sb**	**02 00 25.3**	**+0.6**
PRTR	**Priterechnaya**	**2.05**	**104**	*e*Pg	**Pb**	**01 59 59.6**	**+0.1**
PRTR				*e*Sg	**Sg**	**02 00 27.6**	**-0.7**
PRTR	**Priterechnaya**	**2.05**	**104**	*e*PN	**Pb**	**01 59

UNCR	Uncukul	4.14	110	ePn	Pn	02 00 28.7	+3.4
UNCR				eSn	Sn	02 01 18.6	+5.1
UNCR	Uncukul	4.14	110	ePN	Pn	02 00 28.7	+3.4
UNCR				eS	Sn	02 01 18.6	+5.1
GNBR	Gunib	4.39	114	ePn	Pn	02 00 33.0	+4.2
GNBR				eSn	Sn	02 01 20.4	+0.6
GNBR	Gunib	4.39	114	ePN	Pn	02 00 33.0	+4.2
GNBR				eS	Sn	02 01 20.4	+0.6
SUDU	Sudak	4.71	280	ePN	Pn	02 00 33.4	+0.4
SUDU				eS	Sn	02 01 31.4	+3.9
VSR	Storozhevoye	7.12	348	eP	Pn	02 01 05.0	-1.2
VSR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
AKASG	Malin Array Be	10.51	312	Pn	Pn	02 01 50.4	-2.3
	comp=Z,1.4nm,0.3s,baz=116,slow=13,SNR=6.0						
AKASG				Sn	Sn	02 03 42.3	-7.9
	comp=Z,0.7nm,0.3s,baz=122,slow=24,SNR=3.0						
	comp=Z,0.7nm,0.3s						
AKTO	Aktyubinsk	12.75	55	⇓P	Pn	02 02 24.6	+1.3
	comp=Z,1.3nm,0.8s						
AKTO				⇓S	Sn	02 04 38.0	-7.1
	comp=Z,2.3nm,1.4s						
AKTO	Aktyubinsk	12.75	55	P	Pn	02 02 24.6	+1.3
AB31	Akbulak array	13.56	62	⇑P	Pn	02 02 34.6	+0.3
	comp=Z,0.6nm,0.7s,baz=251,slow=14,SNR=11						
AB31				⇑S	Sn	02 04 56.9	-7.8
	comp=Z,0.8nm,0.7s,baz=292,slow=24						
AB31	Akbulak array	13.56	62	P	Pn	02 02 34.6	+0.3
FINES	FINESS Array B	19.47	337	P	P	02 03 45.7	-3.0
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=3.5						
	comp=Z,5.9nm,1.1s						
AAK	Ala-Archa	23.90	82	i P	P	02 04 37.3	+1.4
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						

IDC 17 02:22:48.2±0.8,2°.10N×128°.90E,h0km,mb4.0/13, mbtmp4.0/13,Error ellipse: s-maj=39.2km s-min=15.2km az=73.0

ISC 17 02:22:53.9±0.8,2°.1N±0°.1×129°.0E±0°.2,h40km,n21, σ0°70/15,mb4.2/13,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	11.66	233	Pn	Pn	02 25 38.4	+0.5
	0.7nm,0.3s,baz=48,slow=20,SNR=1.2						
WRA	Warramunga Arr	22.53	167	P	P	02 27 50.5	0.0
	1.8nm,0.8s,baz=345,slow=11,SNR=16						
	1.8nm,0.8s						
ASAR	Alice Springs	26.06	170	P	P	02 28 24.0	+0.3
	0.7nm,0.5s,baz=354,slow=8.4,SNR=7.3						
	0.7nm,0.5s						
CMAR	Chiang Mai Arr	33.67	301	P	P	02 29 30.6	-0.7
	0.7nm,0.3s,baz=82,slow=6.5,SNR=1.8						
	0.7nm,0.3s						
KSRS	Korea Array	35.19	358	P	P	02 29 45.1	+1.0
	0.9nm,0.4s,baz=178,slow=9.6,SNR=3.1						
	0.9nm,0.4s						
MJAR	Matsushiro Arr	35.30	13	P	P	02 29 44.3	-0.8
	1.0nm,0.5s,baz=188,slow=11,SNR=1.6						
	1.0nm,0.5s						
STKA	Stephens Creek	35.84	162	P	P	02 29 49.5	-0.3
	1.8nm,0.6s,baz=325,slow=11,SNR=5.0						
	1.8nm,0.6s						
H11S3	WAKE ISLAND Hy 40.33	64		T	T	03 13 52.9	
	baz=251,slow=75,SNR=8.3						
H11S2	WAKE ISLAND Hy 40.34	64		T	T	03 13 48.7	
	baz=251,slow=75,SNR=5.6						
H11S1	WAKE ISLAND Hy 40.34	64		T	T	03 13 45.0	
	baz=251,slow=75,SNR=4.7						
H11N1	WAKE ISLAND Hy 40.92	62		T	T	03 14 32.7	
	baz=250,slow=75,SNR=5.5						
H11N2	WAKE ISLAND Hy 40.94	62		T	T	03 14 35.9	
	baz=250,slow=75,SNR=3.4						
H11N3	WAKE ISLAND Hy 40.94	62		T	T	03 14 41.7	
	baz=250,slow=75,SNR=7.2						
SONM	Songino Array	49.57	340	P	P	02 31 41.5	+0.3
	1.6nm,0.6s,baz=146,slow=8.1,SNR=8.3						
	1.6nm,0.6s						
PETK	Petropavlovsk-	56.09	20	P	P	02 32 30.1	+1.1
	1.6nm,0.7s,baz=214,slow=4.9,SNR=1.4						
	1.6nm,0.7s						
MKAR	Makanchi Array	60.19	325	P	P	02 32 57.8	0.0
	2.1nm,0.7s,baz=121,slow=8.1,SNR=18						
	2.1nm,0.7s						
ZALV	Zalesovo Beam	63.07	332	P	P	02 33 15.9	-1.2
	0.7nm,0.5s,baz=142,slow=8.8,SNR=2.2						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	64.34	327	P	P	02 33 25.1	-0.4
	1.4nm,0.3s,baz=126,slow=6.0,SNR=12						
	1.4nm,0.3s						
BVAR	Borovoye Array	69.92	327	P	P	02 34 00.7	-0.2
	2.3nm,0.8s,baz=133,slow=8.3,SNR=9.4						
	2.3nm,0.8s						
GEYT	Alibeck	73.69	309	P	P	02 34 24.1	+0.2
	2.3nm,0.7s,baz=104,slow=12,SNR=3.5						
	2.3nm,0.7s						
TORD	Torodi Ar. Bea	125.60	288	PKP	PKPdf	02 41 51.3	-0.7
	0.4nm,0.8s,baz=60,slow=3.5,SNR=2.6						

IDC 17 02:36:09.2±66.0,47°.52S×125°.65E,h0km,mb3.4/2, mbtmp3.6/3,ML3.5/1,MS3.0/3,Error ellipse: s-maj=1093.0km s-min=123.6km az=9.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	15.27	322	T	T	02 56 32.5	
	baz=158,slow=79,SNR=26						
H01W2	Cape Leeuwin H	15.28	321	T	T	02 56 24.1	
	baz=158,slow=79,SNR=22						
H01W3	Cape Leeuwin H	15.29	321	T	T	02 56 33.4	
	baz=158,slow=79,SNR=20						
STKA	Stephens Creek	19.80	44	P	P	02 40 40.9	-0.1
	0.1nm,0.3s,baz=215,slow=12,SNR=3.2						
	3.8nm,1.0s						
ASAR	Alice Springs	24.70	18	P	P	02 41 30.9	-1.0
	0.4nm,0.8s,baz=195,slow=7.7,SNR=4.3						
ASAR				LR	LR	02 50 41.7	
	comp=Z,48nm,21.8s,baz=191,slow=35						
	0.4nm,0.8s						
WRA	Warramunga Arr	28.40	17	P	P	02 42 06.4	+1.2
	0.8nm,1.1s,baz=198,slow=8.8,SNR=3.4						
	0.8nm,1.1s						
CTA	Charters Tower	32.07	39	LR	LR	02 56 24.8	
	comp=Z,42nm,18.1s,baz=256,slow=38						
CMAR	Chiang Mai Arr	69.92	333	LR	LR	03 17 12.0	
	comp=Z,5.4nm,20.1s,baz=190,slow=35						

IDC 17 02:46:27.2±1.0,28°.47N×52°.28E,h0km,mb3.9/18, mbtmp3.8/24,ML3.3/5,MS3.0/1,Error ellipse: s-maj=21.4km s-min=15.5km az=176.0
TEH 17 02:46:30.8,28°.53N×52°.20E,h21km±26km,ML3.7
OMAN 17 02:46:32.2±0.4,28°.48N×52°.38E,h15km,mb4.0/12, ml3.5/11,Error ellipse: s-maj=9.0km s-min=5.1km az=4.0
DSN 17 02:46:33.2±1.7,28°.38N×52°.36E,h15km,ML3.3/9,Error ellipse: s-maj=23.5km s-min=13.6km az=17.0
SGS 17 02:46:39.0,28°.38N×51°.63E,h10km,Ml3.4

ISC 17 02:46:29.2±0.5,28°.53N±0°.04×52°.26E±0°.04,h10km,n123, σ1°73/138,mb3.8/18,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	Qir	0.69	94	Pg	Pb	02 46 44.8	+1.5
DSBU	Dashti - Bushe	0.90	260	Pg	Pg	02 46 46.9	+0.3
AHBU	AHRAM	0.92	292	Pg	Pg	02 46 47.2	+0.4
SHI	Shiraz	1.13	11	Pg	Pb	02 46 52.0	+1.1
JHRM	Jahrom	1.16	91	Pg	Pn	02 46 53.9	+2.4
LMD1	Lamerd	1.43	146	Pg	Pg	02 46 58.2	+1.6
LAR1	LAR	2.05	114	Pn	Pb	02 47 06.5	0.0
KLNJ	Kolanjah	2.54	347	Pn	Pn	02 47 12.6	+1.8
SHMA	Al-Shehemyia	2.90	204	P	Pn	02 47 19.0	+3.5
	SNR=6.6						
SAKB	Bahrain	2.97	212	P	Pn	02 47 19.1	+2.8
SAKB				S	Sn	02 47 54.2	+2.2
SAKB	Bahrain	2.97	212	Pn	Pn	02 47 18.4	+2.0
IRAM	Ramesheh	3.27	2	Pn	Pn	02 47 22.7	+2.0
IBRJ	Brojen	3.48	346	Pn	Pn	02 47 24.8	+1.2
IMEH	Mehriz	3.51	35	Pn	Pn	02 47 26.9	+2.9
ISAD	Sadrabad	3.59	20	Pn	Pn	02 47 27.8	+2.6
JRN	Qarnain Island	3.61	172	P	Pn	02 47 27.7	+2.6
JRN	Qarnain Island	3.61	172	Pn	Pn	02 47 27.0	+1.9
ESRB	Sir Abu	3.73	151	Pn	Pn	02 47 28.8	+1.9
IGAR	Gharneh	3.87	357	Pn	Pn	02 47 31.2	+2.2
JHBN	Jahan bin	3.94	340	Pn	Pn	02 47 32.1	+2.1
SMRA	Abu-Samra	3.98	199	P	Pn	02 47 32.8	+2.5
	SNR=6.6						
AMIS	Naft Sefid	4.05	321	Pn	Pn	02 47 32.3	+1.0
NGRK	Negar Kerman	4.06	73	Pn	Pn	02 47 34.4	+2.6
KHGB	Koh Gabri	4.11	62	Pn	Pn	02 47 35.0	+2.7
ICHK	Chekchek	4.14	26	Pn	Pn	02 47 35.3	+2.5
IBAF	Bafgh	4.18	42	Pn	Pn	02 47 35.9	+2.6
TVBK	TV Kerman	4.19	69	Pn	Pn	02 47 36.7	+3.2
SHME	Shamm	4.24	125	P	Pn	02 47 34.6	+0.7
SHME	Shamm	4.24	125	P	Pn	02 47 36.5	+2.7
IZEF	Zefreh	4.36	1	Pn	Pn	02 47 37.4	+1.7
SMAN	Sihmah	4.41	239	P	Pn	02 47 36.8	+0.7
AJN	Ajban	4.64	148	P	Pn	02 47 42.5	+3.1
AJN	Ajban	4.64	148	Pn	Pn	02 47 42.4	+3.1
NAZ	Nazwa, Dubai	4.65	138	i P	Pn	02 47 41.5	+2.1
	SNR=7.9						
NAZ	Nazwa, Dubai	4.65	138	P	Pn	02 47 41.6	+2.1
	SNR=9.8						
NAZ				S	Sn	02 48 34.3	+0.6
NAZ	Nazwa, Dubai	4.65	138	Pn	Pn	02 47 41.6	+2.1
MASF	Masafi	4.69	131	P	Pn	02 47 41.8	+1.7
	SNR=8.0						
MASF				S	Sn	02 48 35.0	+0.5
MSFE	Esma-Masafi	4.70	131	i P	Pn	02 47 42.1	+2.0
	SNR=7.9						
MSFE				S	Sn	02 48 34.7	0.0
MSFE	Esma-Masafi	4.70	131	Pn	Pn	02 47 42.8	+2.7
ASUD	Al Ashush, Dub	4.76	144	i P	Pn	02 47 44.0	+3.0
	SNR=22						
ASUD	Al Ashush, Dub	4.76	144	P	Pn	02 47 44.0	+3.0
	SNR=22						
ASUD				S	Sn	02 48 37.8	+1.6
ASUD	Al Ashush, Dub	4.76	144	Pn	Pn	02 47 43.6	+2.6
CHMN	Cheshme madani	4.80	73	Pn	Pn	02 47 45.2	+3.4
FAQ	Al Faqa, Dubai	4.80	141	P	Pn	02 47 44.0	+2.4
FAQ	Al Faqa, Dubai	4.80	141	Pn	Pn	02 47 43.8	+2.2
IKLH	Kolahrood	4.81	353	Pn	Pn	02 47 42.9	+0.9
ANAR	Anarak	4.81	15	Pn	Pn	02 47 44.3	+2.4
MDH	Madha	4.83	131	P	Pn	02 47 43.4	+1.4
MDH	Madha	4.83	131	P	Pn	02 47 43.6	+1.7
MDH				S	Sn	02 48 39.2	+1.2
MDH	Madha	4.83	131	Pn	Pn	02 47 44.3	+2.4
KHNJ	Kahnooj	4.83	96	Pn	Pn	02 47 44.9	+2.8
UOSS	Minazif	5.01	134	P	Pn	02 47 45.3	+0.8
UOSS	Minazif	5.01	134	P	Pn	02 47 46.2	+1.7
UOSS				S	Sn	02 48 40.9	-1.6
UOSS	Minazif	5.01	134	Pn	Pn	02 47 46.0	+1.5
HATD	Hatta, Dubai	5.06	136	P	Pn	02 47 46.6	+1.5
HATD	Hatta, Dubai	5.06	136	P	Pn	02 47 46.6	+1.5
HATD				S	Sn	02 48 42.5	-1.1
HATD	Hatta, Dubai	5.06	136	Pn	Pn	02 47 47.5	+2.4
ASHO	Ashiyiah	5.12	138	i P	Pn	02 47 47.2	+1.3
	SNR=20						
ASHO	Ashiyiah	5.12	138	P	Pn	02 47 47.3	+1.3
	SNR=20						
ASHO				S	Sn	02 48 44.9	-0.3
ASHO	Ashiyiah	5.12	138	Pn	Pn	02 47 47.3	+1.3
ALNE	Al Ain	5.44	144	P	Pn	02 47 52.2	+1.8
ALNE	Al Ain	5.44	144	Pn	Pn	02 47 52.5	+2.1
KBAM	BAM	5.46	82	Pn	Pn	02 47 53.3	+2.6
MZR	Muzera	5.61	168	i P	Pn	02 47 55.0	+2.3
	SNR=8.0						
MZR	Muzera	5.61	168	P	Pn	02 47 55.1	+2.4
	SNR=8.0						
MZR	Muzera	5.61	168	Pn	Pn	02 47 54.8	+2.1
JASK	Jask - Hormozg	5.65	117	P	Pn	02 47 54.3	+1.1
	SNR=6.8						
JASK				S	Sn	02 48 57.6	-0.6
JASK	Jask - Hormozg	5.65	117	Pn	Pn	02 47 55.2	+2.0
RMAH	Rumah	5.75	238	P	Pn	02 47 55.8	+1.1
ISFB	Sefidab	5.81	360	Pn	Pn	02 47 56.6	+1.1
SOHO	SOHO	5.81	138	P	Pn	02 47 56.1	+0.6
SOHO	SOHO	5.81	138	P	Pn	02 47 56.4	+0.9
SOHO				S	Sn	02 49 03.2	+0.9
SOHO	SOHO	5.81	138	Pn	Pn	02 47 56.4	+0.9
TPRV	Parvadeh(Tabas	5.88	39	Pn	Pn	02 47 59.0	+2.5
IKFM	Kafar-mosalman	6.26	324	Pn	Pn	02 48 02.9	+1.3
MJMS	Al Majmaah	6.38	249	P	Pn	02 48 03.1	-0.1
MJMS	Al Majmaah	6.38	249	S	Sn	02 49 06.3	-10
ARQ	Araqi	6.43	142	P	Pn	02 48 06.0	+1.9
	SNR=16						
ARQ				S	Sn	02 49 15.9	-1.7
HSAM	Samen	6.47	332	Pn	Pn	02 48 05.4	+0.6
TKDS	Koohdasht(Taba	6.56	38	Pn	Pn	02 48 08.2	+2.4
HOQ	Hoqain	6.70	136	P	Pn	02 48 08.9	+1.2
IKOM	Komasi	6.94	325	Pn	Pn	02 48 12.2	+1.1
ASYS		7.08	264	P	Pn	02 48 12.7	-0.2
BIDO	Bidbid	7.26	132	P	Pn	02 48 16.5	+1.2
BSY	Bisya	7.28	141	P	Pn	02 48 16.7	+1.0
BSY				S	Sn	02 49 37.1	-1.3
SMDO	Samad	7.54	135	P	Pn	02 48 20.0	+0.8
SMDO				S	Sn	02 49 43.5	-1.4
WSAR	Wadi Sarin	7.78	131	P	Pn	02 48 22.9	+0.3
	SNR=6.7						
WSAR	Wadi Sarin	7.78	131	Pn	Pn	02 48 22.9	+0.3
	0.5nm,0.3s,baz=286,slow=15,SNR=2.6						
WSAR				Sn	Sn	02 49 47.5	-3.4
	0.5nm,0.3s,baz=14,slow=17,SNR=1.5						
	2.9nm,0.6s						
IDHR	Dehrash	7.94	322	Pn	Pn	02 48 25.4	+0.6
JMDO	Jabal Madar	8.09	138	P	Pn	02 48 28.2	+1.5
WBK	Wadi Bani Khal	8.45	133	P	Pn	02 48 31.6	0.0
NGCH	Negor - Chabah	8.52	110	P	Pn	02 48 32.3	-0.4
MHTO	MHTO	9.12	144	P	Pn	02 48 42.0	+1.1
	SNR=15						
DOK	Doka	10.01	170	P	Pn	02 48 52.4	-0.8
GEYT	Alibeck	10.58	26	Pn	Pn	02 49 02.4	+1.6
	0.4nm,0.3s,baz=191,slow=7.1,SNR=4.7						
	2.1nm,0.5s						
WHFO	Wadi Hawf	10.65	172	P	Pn	02 49 01.0	-1.0
	SNR=22						
SHAO	Shalim	10.90	163	i P	Pn	02 49 04.9	-0.4
	SNR=15						
SHAO	Shalim	10.90	163	P	Pn	02 49 05.0	-0.4
	SNR=12						
DMTO	DMTO	11.04	167	P	Pn	02 49 06.0	-1.2
	SNR=13						
RBK	Rabkut	11.12	170	P	Pn	02 49 08.1	-0.3
ABTO	Aybut	11.16	175	P	Pn	02 49 07.7	-1.3
	SNR=7.3						
ASF	Jabal al Asfar	13.76	289	Pn	Pn	02 49 45.9	+1.4
	0.1nm,0.3s,baz=123,slow=13,SNR=1.9						
	1.2nm,0.5s						
MMAI	Mount Meron Ar	15.17	291	Pn	Pn	02 50 03.7	+0.1
	0.4nm,0.3s,baz=84,slow=15,SNR=1.8						
EIL	Elat	15.18	278	Pn	Pn	02 50 05.1	+1.4
	0.1nm,0.3s,baz=162,slow=20,SNR=2.7						
	4.6nm,0.9s						
BRTR	Keskin Array B	19.00	311	P	P	02 50 51.1	0.0
	0.1nm,0.3s,baz=115,slow=10,SNR=2.2						
	0.7nm,0.5s						
AKTO	Aktyubinsk	22.31	10	P	P	02 51 26.8	+0.1
	0.6nm,0.5s,baz=188,slow=7.4,SNR=2.2						
	0.6nm,0.5s						
AAK	Ala-Archa	22.82	46	P	P	02 51 31.3	-1.1
	0.7nm,0.3s,baz=240,slow=20,SNR=1.7						
AAK				LR	LR	03 02 47.4	
	comp=Z,35nm,18.2s,baz=244,slow=43						
	0.7nm,0.3s						
BELG	Belogornoye	24.09	353	P	P	02 51 44.2	-0.5
	12nm,0.8s,baz=166,slow=4.2,SNR=2.1						
	12nm,0.8s						
BVAR	Borovoye Array	27.90	24	P	P	02 52 18.8	-0.4
	0.5nm,0.3s,baz=238,slow=4.9,SNR=2.9						
	0.5nm,0.3s						
KURBB	Kurchatov Arra	29.67	35	P	P	02 52 36.4	+1.4
	0.5nm,0.4s,baz=215,slow=9.2,SNR=4.3						
	0.5nm,0.4s						
MKAR	Makanchi Array	29.70	44	P	P	02 52 35.5	+0.2
	0.3nm,0.3s,baz=224,slow=8.2,SNR=4.2						
MKAR				PcP	PcP	02 55 38.5	-0.8
	0.3nm,0.5s,baz=234,slow=2.9,SNR=2.5						
	0.3nm,0.3s						
ZALV	Zalesovo Beam	34.75	34	P	P	02 53 20.1	+0.7
	2.7nm,0.3s,baz=242,slow=9.0,SNR=9.8						
	2.7nm,0.3s						
KEST	Kesra	36.82	292	P	P	02 53 39.1	+1.6
	3.1nm,0.9s,baz=47,slow=2.7,SNR=5.7						
	3.1nm,0.9s						
FINES	FINESS Array B	37.24	339	P	P	02 53 40.3	-0.3
	1.3nm,0.4s,baz=148,slow=10,SNR=17						
	1.3nm,0.4s						
HFS	Hagfors	40.92	332	P	P	02 54 11.1	-0.4
	1.1nm,0.3s,baz=134,slow=8.4,SNR=2.7						
	1.1nm,0.3s						
NOA	NORSAR Array B	42.44	332	P	P	02 54 23.2	-0.8
	0.3nm,0.4s,baz=128,slow=8.5,SNR=4.5						
	0.3nm,0.4s						
ARCES	ARCESS Array B	43.86	347	P	P	02 54 35.5	+0.2
	1.2nm,0.6s,baz=146,slow=4.4,SNR=17						
	1.2nm,0.6s						
ESDC	Sonseca Array	47.19	299	P	P	02 55 01.0	-1.1
	0.2nm,0.4s,baz=83,slow=6.1,SNR=1.6						
	0.2nm,0.4s						
EKA	Eskdalemuir Ar	47.53	320	P	P	02 55 03.8	-0.7
	0.4nm,0.3s,baz=100,slow=9.7,SNR=3.7						
	0.4nm,0.3s						
TORD	Torodi Ar. Bea	49.32	263	P	P	02 55 18.4	-0.5
	1.7nm,0.6s,baz=59,slow=8.7,SNR=16						
	1.7nm,0.6s						
ILAR	Eielson Array	85.81	8	P	P	02 59 06.7	-1.8
	0.2nm,0.7s,baz=325,slow=4.4,SNR=2.0						
	0.2nm,0.7s						
WRA	Warramunga Arr	92.69	111	P	P	02 59 40.8	-1.0
	0.3nm,0.8s,baz=314,slow=4.3,SNR=1.7						
	0.3nm,0.8s						
ASAR	Alice Springs	94.15	115	P	P	02 59 47.5	-1.0
	0.3nm,0.5s,baz=305,slow=4.3,SNR=4.4						
	0.3nm,0.5s						

ISK 17 02:52:09.2,37°.20N×35°.99E,h6km,ML2.5/22
AFAD 17 02:52:10.3±0.0,37°.24N×36°.05E,h11km±2km,ML2.8

ISC 17 02:52:09.6±1.2,37°.23N±0°.03×36°.01E±0°.02,h5km±11km, n37,σ0°67/49,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YURE	YUREGIR	0.50	217	P	Pb	02 52 20.8	-0.1
HCB	Kahramanmara	0.72	80	P	Pg	02 52 24.0	+0.5
HCB				S	Sb	02 52 33.9	-1.0
HCB				i AML	AML	02 52 35.0	
	comp=E,411nm,0.3s						
KHMR	Kahramanmara	0.72	80	P	Pg	02 52 23.7	+0.2
KHMR				P	Pb	02 52 24.1	-0.6
KHMR				S	Sg	02 52 33.4	+0.6
SAIM	ADANA	0.75	4	P	Pg	02 52 22.5	-1.5
KMRS	Kahramanmaras	0.76	68	Pg	Pg	02 52 24.2	0.0
KARA	Karaisali	0.77	273	Pg	Pg	02 52 23.9	-0.4
KARA				Sg	Sg	02 52 34.9	+0.6
CMRD	Camardi-Nigde	0.92	298	Pg	Pg	02 52 27.1	-0.2
ASUZ	Hatay-Arsuz	0.95	191	P	Pb	02 52 28.6	+0.1
GAZ	Gaziantep	0.96	93	Pg	Pb	02 52 28.6	-0.1
GAZ				Sg	Sn	02 52 42.4	-1.4
RHAN	Hatay/Reyhanl	1.07	154	P	Pg	02 52 29.9	-0.4
SARI	SarD1z-Kayseri	1.22	15	Pn	Pn	02 52 33.6	+0.1
SARI				Sn	Sn	02 52 51.4	+0.9
GZT	Gaziantep	1.24	84	P	Pb	02 52 33.2	-0.4
GZT				S	Sb	02 52 49.2	-0.8
GZT				i AML	AML	02 52 53.0	
	comp=N,196nm,0.7s						
NZIP	Nizip/Gaziante	1.34	97	P	Pb	02 52 35.0	-0.2
NZIP				S	Sg	02 52 52.9	+0.2
NZIP				i AML	AML	02 53 00.0	
	comp=E,240nm,0.5s						
ELBS	KAHRAMANMARAS	1.41	39	P	Pb	02 52 36.4	-0.1
ELBS				S	Sg	02 52 55.1	+0.1
ELBS				i AML	AML	02 52 58.0	
	comp=N,157nm,0.7s						
AKCA	Adyaman/G¶	1.45	66	P	Pg	02 52 37.5	+0.1
AKCA				S	Sn	02 52 55.2	-0.7
AKCA				i AML	AML	02 52 59.0	
	comp=N,322nm,0.5s						
BNN	Bunyan	1.63	355	Pn	Pn	02 52 39.4	+0.4
KIZK	Mersin	1.68	244	Pn	Pn	02 52 39.4	-0.1
KEBE	Keben-Mersin	2.00	248	Pn	Pn	02 52 44.2	+0.1
SURC	SANLIURFA_SURC	2.11	99	P	Pb	02 52 48.7	+0.4
SURC				S	Sb	02 53 15.9	+1.1
SURC				i AML	AML	02 53 20.0	
	comp=N,137nm,0.4s						
SURC				i AML	AML	02 53 21.0	
	comp=E,79nm,0.5s						
IKL	Isikli	2.11	243	Pn	Pn	02 52 45.0	-0.6
KOZK	Kozakli-Nevseh	2.18	336	Pn	Pn	02 52 47.4	+0.9
KRMN	Karaman	2.20	269	Pn	Pn	02 52 47.2	+0.4
SULT	Sultanhani-AKS	2.21	297	Pn	Pn	02 52 47.4	+0.5
AKKU	Akkuyu-Mersin	2.25	242	Pn	Pn	02 52 47.1	-0.3
EREN	Erenkoy	2.25	222	Pn	Pn	02 52 47.8	+0.3
NARI	Adyaman-Kaht	2.28	72	P	Pb	02 52 52.1	+0.9
HANM	anlurfa/Hi	2.31	80	P	Pb	02 52 52.6	+0.9
HANM				S	Sg	02 53 22.3	-1.5
SANL	SANLIURFA_Merk	2.38	90	P	Pb	02 52 53.8	+0.9
BERE	Bereket-Mersin	2.41	249	Pn	Pn	02 52 49.8	+0.1
YAYX	Yaylak	2.44	315	Pn	Pn	02 52 50.8	+0.7
TEKE	Tekeli-Mersin	2.57	246	Pn	Pn	02 52 51.8	0.0
SERE	Sereflikochisa	2.58	312	Pn	Pn	02 52 52.3	+0.1
LFK	Lefkose	2.79	227	Pn	Pn	02 52 55.8	+0.9
KAMT	Kaman	2.80	320	Pn	Pn	02 52 55.5	+0.4
HDMB	Hadim	2.83	266	Pn	Pn	02 52 56.2	+0.6
KULU	Kulu	2.99	308	Pn	Pn	02 52 58.7	+1.0
GAZI	Gazipasa	3.13	253	Pn	Pn	02 53 00.3	+0.7

PRU 17 03:35:41.6,43°.46N×18°.14E,h0km
*PDG 17 03:35:42.

PLE				*i* Sg	Sg	03 36 30.6	+3.4		
ZIRJ	**Zirje**	**1.38**	**280**	*e*Pn	Pg	03 36 09.8	+0.2		
ZIRJ				Sg	Sg	03 36 28.6	+1.1		
MORI	**Morici**	**1.38**	**289**	*e*Pn	Pb	03 36 09.3	-0.3		
MORI				Sn	Sg	03 36 31.1	+3.6		
BBLS	**Lazići**	**1.44**	**72**	*e*Pg	Pg	03 36 10.8	0.0		
BBLS				*e*Sg	Sg	03 36 30.2	+0.8		
BBLS	**Lazići**	**1.44**	**72**	*e*Pg	Pb	03 36 10.5	-0.1		
BBLS				*e*Sg	Sg	03 36 29.6	+0.2		
BUM	**Brajici-Budva**	**1.52**	**138⇑**	*i*Pg	Pb	03 36 11.1	-0.8		
BUM				*i* Sg	Sg	03 36 34.0	+2.1		
PDG	**Podgorica**	**1.62**	**127**	*e*Pn	Pb	03 36 13.0	-0.6		
PDG				*e*Sn	Sg	03 36 36.5	+1.2		
PDG	**Podgorica**	**1.62**	**127**	*e*Pn	Pb	03 36 13.0	-0.6		
PDG				*e*Sn	Sg	03 36 34.9	-0.4		
PDG	**Podgorica**	**1.62**	**127⇓**	*i*Pn	Pb	03 36 13.3	-0.3		
PDG				*i* Sn	Sg	03 36 37.5	+2.2		
PRIJ	**Prijedor**	**1.65**	**340**	*e*Pn	Pb	03 36 13.6	-0.5		
PRIJ				*e*Sn	Sg	03 36 35.8	-0.4		
A052A	**Srbac**	**1.67**	**360**	*e*Pn	Pg	03 36 14.8	-0.4		
A052A				*e*Sn	Sg	03 36 36.7	-0.2		
UDBI	**Udbina**	**1.67**	**312**	*i* Pg	Pg	03 36 16.3	+1.1		
UDBI				Sn	Sg	03 36 38.5	+1.5		
DRME	**Dracevica, Mon**	**1.75**	**135**	*e*Pn	Pb	03 36 14.9	-0.9		
DRME				*e*Sn	Sb	03 36 38.2	+0.2		
DRME	**Dracevica, Mon**	**1.75**	**135⇑**	*i*Pn	Pb	03 36 15.4	-0.4		
DRME				*i* Sn	Sg	03 36 40.7	+1.4		
SJES	**Sjenica**	**1.80**	**94**	*e*Pn	Pb	03 36 16.7	-0.1		
SJES				*e*Sn	Sg	03 36 40.5	-0.5		
SJES	**Sjenica**	**1.80**	**94**	*e*Pn	Pb	03 36 15.5	-1.3		
SJES				*e*Sn	Sb	03 36 39.3	-0.4		
IVA	**Berane**	**1.83**	**107⇑**	*i*Pn	Pb	03 36 16.6	-0.6		
IVA				*i* Sn	Sg	03 36 43.1	+1.2		
TEKS	**Tekeris**	**1.83**	**52**	*e*Sn	Sg	03 36 42.2	+0.1		
TEKS	**Tekeris**	**1.83**	**52**	*e*Pn	Pb	03 36 16.8	-0.5		
TEKS				*e*Sn	Sb	03 36 40.4	-0.2		
DUGI	**Dugi Otok**	**1.87**	**288**	*e*Pn	Pb	03 36 16.5	-1.3		
DUGI				Sn	Sb	03 36 41.4	-0.1		
DIVS	**Divibare**	**1.92**	**69**	*e*Pn	Pb	03 36 18.5	-0.2		
DIVS				*e*Sn	Sg	03 36 43.7	-1.0		
DIVS	**Divibare**	**1.92**	**69**	*e*Pn	Pn	03 36 16.8	+0.2		
DIVS				*e*Sn	Sb	03 36 41.8	-1.2		
IVAS	**Ivanjica**	**1.93**	**85**	*e*Pn	Pb	03 36 17.4	-1.5		
IVAS				*e*Sn	Sb	03 36 43.3	+0.1		
ULC	**Ulcinj**	**1.94**	**138⇑**	*i*Pn	Pb	03 36 18.2	-0.9		
ULC				*i* Sn	Sg	03 36 45.7	+0.2		
PVY	**Plav**	**1.98**	**114⇑**	*i*Pn	Pb	03 36 18.6	-1.2		
PVY				*i* Sn	Sg	03 36 46.8	+0.1		
VIRC	**Vir**	**1.98**	**297**	*e*Pn	Pb	03 36 18.3	-1.4		
VIRC				Sn	Sg	03 36 45.9	-0.8		
PLIT	**Plitvice**	**1.99**	**317**	*e*Pn	Pb	03 36 19.6	-0.3		
PLIT				Sn	Sg	03 36 46.5	-0.5		
NVLJ	**Novalja**	**2.22**	**302**	*e*Pn	Pn	03 36 21.6	+0.9		
NVLJ				Sn	Sb	03 36 51.5	-0.1		
TRUS	**Trudelj**	**2.24**	**68**	*e*Pn	Pn	03 36 21.3	+0.3		
MOSL	**Moslavina**	**2.25**	**346**	*e*Pn	Pn	03 36 22.1	+1.0		
RABC	**Rab**	**2.37**	**305**	*i* Pn	Pn	03 36 23.8	+1.0		
RABC				Sn	Sb	03 36 55.3	-0.7		
FRGS	**Fruska Gora**	**2.39**	**43**	*e*Pn	Pn	03 36 23.6	+0.5		
FRGS	**Fruska Gora**	**2.39**	**43**	*e*Pn	Pn	03 36 24.1	+1.0		
FRGS				*e*Sn	Sb	03 36 53.9	-2.6		
SELS	**Selova**	**2.64**	**93**	*e*Pn	Pn	03 36 27.1	+0.6		
KALN	**Kalnik**	**2.81**	**345**	*e*Pn	Pn	03 36 29.1	+0.3		
KALN				Sn	Sb	03 37 05.0	-3.5		
MORH	**Mrgy, Hungar**	**2.90**	**16**	*e*Sn	Sn	03 37 07.2	+1.9		
SMRN	**Sveta Marina**	**2.90**	**305**	*e*Pn	Pn	03 36 31.1	+1.1		
SMRN				Sn	Sb	03 37 07.8	-3.4		
BRJN	**Brijuni**	**3.08**	**300**	*e*Pn	Pn	03 36 33.4	+0.8		
BRJN				Sn	Sn	03 37 11.8	+1.9		
CEY	**Cerknica**	**3.19**	**317**	*e*Pn	Pn	03 36 35.2	+1.0		
CEY				*e*Sn	Sn	03 37 13.5	+0.8		
BARS	**Barje**	**3.21**	**100**	*e*Pn	Pn	03 36 36.1	+1.8		
BARS				*e*Sn	Sn	03 37 15.1	+2.1		
SKDS	**Skadanscina**	**3.28**	**311**	*e*Pn	Pn	03 36 36.7	+1.4		
SKDS				*e*Sn	Sn	03 37 14.6	-0.2		
SOKA	**Soboth**	**3.69**	**332**	*e*Pn	Pn	03 36 41.9	+0.9		
	2.0nm,0.2s,SNR=13								
SOKA				*i* Sn	Sn	03 37 26.1	+1.0		
	3.7nm,0.4s								
OBKA	**Obir**	**3.73**	**327**	*i* Pn	Pn	03 36 43.2	+1.6		
	0.7nm,0.2s								
OBKA				*i* Sn	Sn	03 37 28.0	+2.0		
	3.1nm,0.3s								
OBKA	**Obir**	**3.73**	**327**	*e*Pn	Pn	03 36 42.2	+0.6		
OBKA				*e*Sn	Sn	03 37 26.4	+0.4		
ZAPS	**Zavoj**	**3.74**	**91**	*e*Sn	Sn	03 37 27.5	+1.4		
ARSA	**Arzberg**	**4.07**	**341**	*i* Pn	Pn	03 36 46.9	+0.6		
	3.5nm,0.3s								
ARSA				*i* Sn	Sn	03 37 33.0	-1.3		
	0.9nm,0.2s								
ARSA	**Arzberg**	**4.07**	**341**	*e*Pn	Pn	03 36 46.8	+0.6		
CONA	**Conrad Observa**	**4.65**	**346**	*i* Pn	Pn	03 36 56.2	+2.0		
	0.4nm,0.2s								
KBA	**Koelnbreinsper**	**4.69**	**323**	*i* Pn	Pn	03 36 56.1	+1.3		
	0.4nm,0.2s								
MOA	**Molln**	**4.97**	**334**	*i* Pn	Pn	03 37 00.8	+2.2		
	1.1nm,0.2s,SNR=4.2								
MOA				*i* Sn	Sn	03 37 57.0	+0.4		
	2.6nm,0.3s								
LESA	**Schwarzleotal**	**5.25**	**321**	*i* Pn	Pn	03 37 04.3	+1.9		
	1.2nm,0.3s								
LESA				*i* Sn	Sn	03 38 06.2	+2.8		
	1.6nm,0.3s								
WTTA	**Wattenberg**	**5.64**	**315**	*i* Pn	Pn	03 37 08.5	+0.5		
	2.5nm,0.4s								
MOTA	**Moosalm**	**5.97**	**313**	*i* Pn	Pn	03 37 14.1	+1.6		
	0.6nm,0.2s								
KHC	**Kasperske Hory**	**6.32**	**336**	*e*PN	Pn	03 37 18.1	+1.0		
KHC				*e*SN	Sn	03 38 29.7	0.0		

*IDC **17** 04:17:29.3±2.0, 41°.27S×174°.79E, h0km, mb3.9/2, mbtmp3.7/4, ML3.3/2, MS4.0/1, Error ellipse: s-maj=48.5km s-min=23.1km az=133.0*
*NOU **17** 04:17:29.8, 41°.52S×175°.16E, h1km, MLv4.0/11, North Island, New Zealand*
*WEL **17** 04:17:31.7±0.5, 41°.S±2°.×17°.5E±°., h7km±3km, M3.8/19, ML4.1/19, MLv3.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=162.2, confirmed*
ISC 17 04:17:31.5±0.8, 41°.31S±0°.02×175°.01E±0°.02, h19km±2km, n122, σ1°.08/131, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHW	**Baring Head**	**0.14**	**226**	P	**Pg**	04 17 36.4	+0.6
BHW				S	**Sg**	04 17 39.4	+0.7
WEL	**Wellington**	**0.18**	**277**	P	**Pg**	04 17 36.8	+0.5
WEL				S	**Sg**	04 17 40.3	+0.8
CAW	**Cannon Point**	**0.20**	**12**	P	**Pb**	04 17 35.8	-0.3
CAW				S	**Sb**	04 17 39.0	-0.1
MSWZ	**Moikau Station**	**0.21**	**121**	P	**Pg**	04 17 37.1	+0.3
MSWZ				S	**Sg**	04 17 40.9	+0.7
SNZO	**South Karori**	**0.23**	**269**	P	**Pg**	04 17 37.7	+0.7
PLWZ	**Palliser**	**0.32**	**145**	P	**Pb**	04 17 39.3	+0.5
PLWZ				S	**Sb**	04 17 44.8	+1.2
PAWZ	**Paruwai Farm**	**0.32**	**103**	P	**Pg**	04 17 38.6	0.0
PAWZ				S	**Sg**	04 17 43.6	+0.2
MTW	**Mount Morrison**	**0.40**	**68**	P	**Pg**	04 17 39.4	-0.5
MTW				S	**Sg**	04 17 44.9	-0.6
KIW	**Kapiti Island**	**0.45**	**350**	P	**Pg**	04 17 40.3	-0.5
KIW				S	**Sg**	04 17 46.0	-1.0
OGWZ	**Otaki Gorge**	**0.51**	**14**	P	**Pb**	04 17 40.7	-1.1
TRWZ	**Traveller**	**0.52**	**100**	P	**Pg**	04 17 42.4	+0.4
HOWZ	**Holdsworth Sta**	**0.56**	**43**	P	**Pb**	04 17 41.5	-1.2
TCW	**Tory Channel**	**0.56**	**280**	P	**Pg**	04 17 43.4	+0.6
TMWZ	**Te Maipa**	**0.69**	**74**	P	**Pb**	04 17 44.9	-0.2
CMWZ	**Cape Campbell**	**0.74**	**233**	P	**Pn**	04 17 47.9	+0.8
MRZ	**Mangatainoka R**	**0.78**	**34**	P	**Pb**	04 17 45.2	-1.3
TUWZ	**Tuamarina**	**0.81**	**261**	P	**Pb**	04 17 47.3	+0.3
TIWZ	**Tintock**	**0.85**	**52**	P	**Pb**	04 17 47.4	-0.3
BSWZ	**Blackbirch Sta**	**0.94**	**244**	P	**Pg**	04 17 50.6	+0.7
DUWZ	**D'Urville Isla**	**0.96**	**301**	P	**Pn**	04 17 50.3	+0.1
CPWZ	**Castlepoint**	**0.98**	**67**	P	**Pg**	04 17 52.1	+1.4
PRWZ	**Pori Road**	**1.05**	**44**	P	**Pb**	04 17 50.8	-0.3
POWZ	**Post Office Ro**	**1.08**	**32**	P	**Pb**	04 17 51.4	-0.2
OHWZ	**Ohakea**	**1.12**	**12**	P	**Pn**	04 17 52.6	+0.3
BFZ	**Birch Farm**	**1.13**	**57**	P	**Pn**	04 17 51.3	-1.0
BFZ	**Birch Farm**	**1.13**	**57**	P	**Pn**	04 17 51.1	-1.2
NNZ	**Nelson**	**1.23**	**274**	P	**Pb**	04 17 54.9	+0.6
DVHZ	**Dannevirke**	**1.34**	**41**	P	**Pn**	04 17 54.4	-0.8
ANWZ	**Angora Road**	**1.40**	**53**	P	**Pn**	04 17 55.3	-0.7
TSZ	**Takapari Road**	**1.44**	**30**	P	**Pn**	04 17 56.5	-0.2
WAZ	**Wanganui**	**1.55**	**359**	P	**Pb**	04 18 00.2	+0.5
KHZ	**Kahutara**	**1.56**	**224**	P	**Pn**	04 17 58.5	+0.2
KHZ	**Kahutara**	**1.56**	**224**	P	**Pn**	04 17 58.6	+0.2
TKNZ	**Takaka Hill**	**1.57**	**279**	P	**Pb**	04 17 59.8	-0.2
PRHZ	**Porangahau**	**1.61**	**50**	P	**Pb**	04 18 01.5	+0.7
THZ	**Tophouse**	**1.64**	**253**	P	**Pn**	04 18 00.1	+0.6
WPHZ	**Waipukurau**	**1.65**	**42**	P	**Pn**	04 17 59.7	+0.2
PNHZ	**Pukenui**	**1.66**	**33**	P	**Pn**	04 17 59.4	-0.3
MRNZ	**Matariki Terra**	**1.70**	**266**	P	**Pb**	04 18 01.6	-0.6
PXZ	**Pawanui**	**1.90**	**48**	P	**Pn**	04 18 02.7	-0.3
QRZ	**Quartz Range**	**1.94**	**284**	P	**Pb**	04 18 05.3	-1.0
QRZ	**Quartz Range**	**1.94**	**284**	P	**Pb**	04 18 05.2	-1.0
MTVZ	**Mangateitei**	**1.95**	**11**	P	**Pn**	04 18 06.6	+0.1
KRHZ	**Kereru**	**1.96**	**32**	P	**Pn**	04 18 03.2	-0.6
MOVZ	**Moawhango**	**1.98**	**17**	P	**Pn**	04 18 05.4	+1.2
BHHZ	**Black Hill Sta**	**1.99**	**24**	P	**Pn**	04 18 04.9	+0.7
WNVZ	**Wahianoa**	**2.03**	**13**	P	**Pn**	04 18 05.7	+0.8
PKVZ	**Pokaka**	**2.03**	**7**	P	**Pb**	04 18 06.9	-1.0
TRVZ	**Turoa**	**2.05**	**12**	P	**Pn**	04 18 06.2	+1.0
WHVZ	**Whangaehu Hut**	**2.07**	**13**	P	**Pn**	04 18 06.6	+1.0
KAHZ	**Kahuranaki**	**2.08**	**44**	P	**Pn**	04 18 04.5	-0.9
NMEZ	**Namu Road**	**2.08**	**335**	P	**Pb**	04 18 08.9	+0.2
FWVZ	**Far West T-bar**	**2.09**	**12**	P	**Pn**	04 18 07.5	+1.7
TUVZ	**Tukino**	**2.10**	**14**	P	**Pb**	04 18 08.6	-0.5
COVZ	**Chateau Observ**	**2.14**	**11**	P	**Pb**	04 18 09.4	-0.4
KHEZ	**Kahui Hut**	**2.15**	**339**	P	**Pb**	04 18 09.7	-0.2
KHEZ	**Kahui Hut**	**2.15**	**339**	P	**Pb**	04 18 09.5	-0.5
NEZ	**North Egmont**	**2.15**	**341**	P	**Pb**	04 18 09.6	-0.4
KWHZ	**Kaweka Forest**	**2.17**	**30**	P	**Pb**	04 18 10.2	0.0
SNVZ	**South Ngauruho**	**2.17**	**12**	P	**Pb**	04 18 09.4	-1.0
NGZ	**Ngauruhoe**	**2.18**	**12**	P	**Pb**	04 18 09.1	-1.3
VRZ	**Vera Road**	**2.19**	**355**	P	**Pb**	04 18 09.7	-0.8
OTVZ	**Oturere**	**2.20**	**13**	P	**Pb**	04 18 11.1	+0.3
DREZ	**Durham Road**	**2.20**	**343**	P	**Pg**	04 18 13.3	-0.5
GVZ	**Greta Valley S**	**2.22**	**221**	P	**Pn**	04 18 07.2	-0.1
NBEZ	**Newall Road No**	**2.22**	**336**	P	**Pb**	04 18 11.0	0.0
NNVZ	**North Ngauruho**	**2.22**	**12**	P	**Pn**	04 18 09.0	+1.4
ETVZ	**East Tongariro**	**2.23**	**14**	P	**Pb**	04 18 13.3	+1.9
WTVZ	**West Tongariro**	**2.23**	**12**	P	**Pb**	04 18 11.2	-0.2
PKE	**Pukeiti**	**2.25**	**339**	P	**Pg**	04 18 14.0	-0.8
TMVZ	**Te Maari**	**2.25**	**14**	P	**Pb**	04 18 10.5	-1.2
TWVZ	**Taurewa**	**2.26**	**8**	P	**Pb**	04 18 11.1	-0.7
KRVZ	**Karewarewa**	**2.26**	**13**	P	**Pb**	04 18 11.6	-0.3
MCHZ	**McNeill Hill**	**2.26**	**35**	P	**Pb**	04 18 12.4	+0.6
KATZ	**Kakaramea**	**2.39**	**13**	P	**Pb**	04 18 14.8	+0.7
RITZ	**Rihia Road**	**2.42**	**16**	P	**Pb**	04 18 15.3	+0.9
BKZ	**Black Stump Fm**	**2.42**	**28**	P	**Pb**	04 18 13.3	-1.3
BKZ	**Black Stump Fm**	**2.42**	**28**	P	**Pb**	04 18 13.3	-1.3
DSZ	**Dennistoun Nort**	**2.45**	**259**	P	**Pb**	04 18 11.3	+0.8
RATZ	**Rangitukua**	**2.51**	**14**	P	**Pb**	04 18 17.7	+1.7
LTZ	**Lake Taylor**	**2.52**	**233**	P	**Pn**	04 18 11.4	-0.1
ARHZ	**Aropaoanui**	**2.54**	**37**	P	**Pb**	04 18 17.3	+0.7
AMCZ	**Amberley**	**2.56**	**222**	P	**Pn**	04 18 11.5	-0.5
NMHZ	**Naumai**	**2.60**	**33**	P	**Pb**	04 18 16.2	-1.5
WATZ	**Wairara**	**2.66**	**12**	P	**Pb**	04 18 20.1	+1.6
MRHZ	**Matea Rd**	**2.70**	**24**	P	**Pb**	04 18 20.4	+1.1
HIZ	**Hauiti**	**2.79**	**358**	P	**Pb**	04 18 19.7	-1.1
HIZ	**Hauiti**	**2.79**	**358**	P	**Pb**	04 18 19.7	-1.1
MTHZ	**Maungataniwha**	**2.83**	**30**	P	**Pb**	04 18 21.0	-0.5
ALRZ	**Allen Road**	**2.93**	**21**	P	**Pb**	04 18 22.2	-1.0
MQZ	**McQueen's Vall**	**2.96**	**215**	P	**Pn**	04 18 16.0	-1.6
OXZ	**Oxford**	**2.99**	**227**	P	**Pn**	04 18 16.8	-1.1
AKCZ	**Akaroa Harbour**	**3.00**	**210**	P	**Pn**	04 18 17.0	-1.1
TLZ	**Tolley Road**	**3.00**	**8**	P	**Pb**	04 18 23.7	-0.7
INZ	**Inchbonnie**	**3.01**	**241**	P	**Pn**	04 18 18.2	0.0
RTZ	**Ruatahuna**	**3.09**	**30**	P	**Pn**	04 18 22.4	+3.1
RACZ	**Rakaia**	**3.22**	**220**	P	**Pn**	04 18 19.9	-1.2
MHCZ	**Mount Hutt**	**3.38**	**228**	P	**Pn**	04 18 22.0	-1.4
URZ	**Urewera**	**3.45**	**29**	P	**Pn**	04 18 25.5	+1.3
URZ	**Urewera**	**3.45**	**29**	P	**Pn**	04 18 25.7	+1.5
URZ	**Urewera**	**3.45**	**29**	Pn	**Pn**	04 18 25.5	+1.3
	1.7nm,0.3s,baz=45,slow=19,SNR=8.2						
URZ				Sn	**Sn**	04 19 07.7	+3.2
	1.8nm,0.3s,baz=237,slow=20,SNR=1.4						
	3.5nm,0.3s						
EDRZ	**Edgecumbe**	**3.46**	**23**	P	**Pn**	04 18 25.2	+0.6
WACZ	**Wakanui South**	**3.52**	**221**	P	**Pn**	04 18 24.3	-1.0
TOZ	**Tahuroa Road**	**3.59**	**6**	P	**Pb**	04 18 30.9	-3.6
WVZ	**Waitaha Valley**	**3.63**	**239**	P	**Pn**	04 18 26.8	0.0
RPZ	**Rata Peaks**	**3.79**	**229**	P	**Pn**	04 18 27.7	-1.2
RPZ	**Rata Peaks**	**3.79**	**229**	P	**Pn**	04 18 27.9	-1.0
RPZ	**Rata Peaks**	**3.79**	**229**	Pn	**Pn**	04 18 27.8	-1.1
	4.0nm,0.3s,baz=6.3,slow=9.2,SNR=13						
RPZ				Sn	**Sn**	04 19 10.8	-2.2
	5.1nm,0.3s,baz=343,slow=21,SNR=15						
	7.4nm,0.3s						
ARCZ	**Arundel**	**3.87**	**226**	P	**Pn**	04 18 28.9	-1.1
GCSZ	**Gaunt Creek Bo**	**4.01**	**238**	P	**Pn**	04 18 32.7	+0.7
MKAZ	**Moumakai**	**4.20**	**2**	P	**Pn**	04 18 39.0	+4.4
AWAZ	**Awhitu Peninsu**	**4.25**	**356**	P	Pn	04 18 40.0	+4.8
TMZ	**Timaru**	**4.26**	**222**	P	**Pn**	04 18 34.5	-0.9
FOZ	**Fox Glacier**	**4.44**	**238**	P	**Pn**	04 18 38.5	+0.6
LBZ	**Lake Benmore**	**4.70**	**227**	P	**Pn**	04 18 41.6	+0.2
ODZ	**Otahua Downs**	**4.91**	**219**	P	**Pn**	04 18 43.4	-1.0
ODZ	**Otahua Downs**	**4.91**	**219**	P	**Pn**	04 18 43.1	-1.3
JCZ	**Jackson Bay**	**5.36**	**237**	P	**Pn**	04 18 50.3	-0.3
JCZ	**Jackson Bay**	**5.36**	**237**	P	**Pn**	04 18 50.3	-0.3
ASAR	**Alice Springs**	**38.47**	**284**	P	**P**	04 24 51.8	-0.7
	0.7nm,0.6s,baz=126,slow=6.4,SNR=4.3						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**40.49**	**289**	P	**P**	04 25 08.4	-0.9
	1.2nm,0.5s,baz=127,slow=8.0,SNR=29						
WRA				LR	LR	04 42 50.0	
	comp=Z,191nm,20.8s,baz=180,slow=38						
	1.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**151.34**	**194**	PKPbc	**PKPbc**	04 37 24.5	+0.2
	0.2nm,0.6s,baz=169,slow=1.8,SNR=1.7						

*SJA **17** 04:19:14.3±0.3, 38°.75S×78°.19W, h20km±358km, ML5.2, MW4.9*
*GUC **17** 04:20:17.0±0.6, 36°.17S×73°.46W, h24km±10km, ML3.8*
ISC 17 04:20:15.2±2.1, 36°.18S±0°.05×73°.6W±0°.1, h10km, n27, σ1°.24/33, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**0.64**	**151⇑**	*i*P	**Pg**	04 20 27.8	+0.1
BI05				*i* S	**Sg**	04 20 36.8	+0.7
BI05				IAML		04 20 37.5	
	comp=E,27μm,0.3s						
CCSP	**San Pedro de C**	**0.76**	**151**	*e*P	**Pg**	04 20 29.6	-0.3
CCSP				*i* S	**Sg**	04 20 39.8	0.0
CCSP				IAML		04 20 41.8	
	comp=E,33μm,0.3s						
GO05	**Huala**	**1.78**	**49**	*e*P	**Pn**	04 20 45.5	-0.5
GO05				*i* S	**Sn**	04 21 08.5	-0.2
GO05				IAML		04 21 25.7	
	comp=E,458nm,0.3s						
ML02	**Panimavida**	**1.80**	**77**	*e*P	**Pn**	04 20 46.6	+0.4
ML02				*i* S	**Sn**	04 21 06.4	-2.7
ML02				IAML		04 21 19.7	
	comp=N,2μm,0.6s						
BO03	**Pichilemu**	**2.14**	**39⇑**	*i*P	**Pn**	04 20 50.6	-0.3
BO03				*i* S	**Sn**	04 21 16.9	-0.6
BO03				IAML		04 21 40.0	
	comp=N,356nm,0.7s						
BI04	**Isla Mocha**	**2.24**	**186**	*e*P	**Pn**	04 20 50.4	-1.9
BO02	**Sierra Bellavi**	**2.67**	**60**	*e*P	**Pn**	04 20 59.3	+1.0
BO01	**Tunca**	**2.71**	**49⇑**	*e*P	**Pn**	04 20 59.7	+0.9
MT01	**Popeta**	**3.00**	**40**	*e*P	**Pn**	04 21 02.8	+0.1
MT01				*i* S	**Sn**	04 21 37.2	-1.6
MT09	**Talagante**	**3.21**	**42**	*e*P	**Pn**	04 21 05.8	0.0
BO04	**La Punta**	**3.27**	**49**	*e*P	**Pn**	04 21 07.6	+1.0
MT02	**Curacav**	**3.54**	**35**	*e*P	**Pn**	04 21 10.0	-0.2
MT05	**Renca**	**3.63**	**41**	*e*P	**Pn**	04 21 12.8	+1.2
MT13	**San Alfonso**	**3.63**	**49**	*e*P	**Pn**	04 21 13.3	+1.7
MT03	**Universidad Ad**	**3.68**	**44**	*e*P	**Pn**	04 21 13.1	+0.9
MT14	**Cerro Calı¡n**	**3.74**	**43**	*e*P	**Pn**	04 21 13.8	+0.8
PEL	**Peldehue**	**3.85**	**39**	*e*P	**Pn**	04 21 15.2	+0.6
MT04	**Ro Olivares**	**3.96**	**47**	*e*P	**Pn**	04 21 17.5	+1.3
MT08	**Bocatoma Ro**	**4.00**	**48**	*e*P	**Pn**	04 21 18.5	+1.7
VA03	**San Esteban**	**4.23**	**37**	*e*P	**Pn**	04 21 20.5	+0.7
VA03	**San Esteban**	**4.23**	**37**	*i* P	**Pn**	04 21 20.6	+0.9
VA03				*i* S	Sg	04 22 54.8	+24
VA03				IAML		04 22 55.4	
	comp=Z,85nm,0.7s						
AAGR	**Agrelo**	**4.99**	**53**	*i* P	**Pn**	04 21 32.5	+2.4
ASAL	**Salagasta**	**5.31**	**49**	*i* P	**Pn**	04 21 37.0	+2.4
RTLS	**Leoncito**	**5.63**	**40**	*i* P	**Pn**	04 21 41.1	+1.8
RTLS				*i* S	Sg	04 23 28.9	+13
RTLS				IAML		04 23 30.8	
	comp=Z,88nm,1.2s						
CFA	**Coronel Fontan**	**6.37**	**46**	*i* P	**Pn**	04 21 50.3	+1.2
AROD	**Rodeo**	**6.91**	**31**	*i* P	**Pn**	04 21 56.6	-0.3
AVFE	**Valle Fertil**	**7.51**	**45**	*i* P	**Pn**	04 22 05.6	+0.6

*SCB **17** 04:23:44.2±1.3, 21°.41S×67°.49W, h164km±19km, ML3.0/2, MW4.4, Error ellipse: s-maj=5.2km s-min=4.5km az=0.0*
*GUC **17** 04:23:44.1±0.6, 21°.42S×67°.64W, h207km±11km, ML2.9*
ISC 17 04:23:43.6±2.1, 21°.42S±0°.05×67°.50W±0°.06, h182km±20km, n30, σ0°.84/42, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.66**	**257**	Pg	**Pn**	04 24 18.3	+0.8
PB09	**IPOC Station P**	**1.66**	**257**	*e*P	**Pn**	04 24 18.5	+1.0
PB09				*e*S	**Sn**	04 24 46.0	+2.2
MOCB	**Mochara**	**1.75**	**85**	Pg	**Pn**	04 24 18.0	-0.7
LVC	**Limon Verde**	**1.77**	**228**	Pg	**Pn**	04 24 19.3	+0.5
PB01	**IPOC Station P**	**1.89**	**281**	Pg	**Pn**	04 24 20.0	+0.2
PB01	**IPOC Station P**	**1.89**	**281**	*e*P	**Pn**	04 24 19.9	+0.2
PB01				*e*S	**Sn**	04 24 48.0	+0.3
PB01				IAML		04 24 49.2	
	comp=E,48nm,0.2s						
YJA	**Yavi**	**2.00**	**113**	Pg	**Pn**	04 24 21.1	-0.1
PB08	**IPOC Station P**	**2.00**	**309**	Pg	**Pn**	04 24 21.9	+0.7
PB08	**IPOC Station P**	**2.00**	**309⇑**	*e*P	**Pn**	04 24 22.0	+0.7
PB08				*e*S	**Sn**	04 24 50.6	+0.2
PB02	**IPOC Station P**	**2.23**	**272**	Pg	**Pn**	04 24 23.8	+0.2
PB02				Sg	**Sn**	04 24 53.6	-0.9
PB02				IAML		04 24 54.5	
	comp=E,121nm,0.4s						
PB02	**IPOC Station P**	**2.23**	**272**	*e*P	**P

BI05					IAML		04 41 22.1	
	comp=E,9μm,0.3s							
CCSP	**San Pedro de C**	**0.82**	**136**	⇓*i* P		**Pg**	**04 41 14.4**	**-0.3**
CCSP				*i* S		**Sg**	**04 41 24.5**	**-1.0**
CCSP					IAML		04 41 26.2	
	comp=E,11μm,0.2s							
ML02	**Panimavida**	**2.00**	**77**	*e*P		**Pn**	**04 41 33.0**	**+0.3**
ML02					IAML		04 42 17.4	
	comp=N,882nm,1.4s							
BO03	**Pichilemu**	**2.31**	**41**	*e*P		**Pn**	**04 41 35.8**	**-1.1**
BO02	**Sierra Bellavi**	**2.87**	**60**	*e*P		**Pn**	**04 41 44.8**	**+0.1**
BO02					IAML		04 42 43.8	
	comp=N,357nm,0.4s							
BO01	**Tunca**	**2.90**	**51**	*e*P		**Pn**	**04 41 45.0**	**-0.1**
BO01					IAML		04 42 47.5	
	comp=N,196nm,0.9s							
VA05	**Santo Domingo**	**3.15**	**36**	*e*P		**Pn**	**04 41 47.9**	**-0.6**
VA05					IAML		04 43 08.0	
	comp=E,110nm,0.3s							
MT01	**Popeta**	**3.17**	**42**	*e*P		**Pn**	**04 41 49.0**	**+0.1**
MT09	**Talagante**	**3.39**	**44**	*e*P		**Pn**	**04 41 52.1**	**+0.2**
MT09					IAML		04 43 02.0	
	comp=E,181nm,0.4s							
BO04	**La Punta**	**3.46**	**50**	*e*P		**Pn**	**04 41 52.9**	**+0.1**
BO04				*e*S		**Sb**	**04 42 44.0**	**+1.7**
BO04					IAML		04 43 08.3	
	comp=N,120nm,0.8s							
LR03	**Panguipulli**	**3.57**	**161**	*e*P		**Pn**	**04 41 55.0**	**+0.7**
MT12	**Pirque**	**3.67**	**48**	*e*P		**Pn**	**04 41 55.6**	**-0.1**
MT12					IAML		04 43 17.1	
	comp=N,254nm,0.5s							
MT02	**Curacav**	**3.71**	**37**	*e*P		**Pn**	**04 41 55.2**	**-0.9**
LMEL	**Las Melosas**	**3.81**	**52**	*e*P		**Pn**	**04 41 57.8**	**+0.1**
LMEL					IAML		04 43 24.1	
	comp=N,129nm,0.9s							
MT05	**Renca**	**3.81**	**43**	*e*P		**Pn**	**04 41 57.4**	**-0.2**
MT05					IAML		04 43 21.6	
	comp=E,115nm,0.3s							
GO06	**Curarrehue**	**3.81**	**152**	*e*P		**Pn**	**04 41 58.2**	**+0.5**
MT13	**San Alfonso**	**3.83**	**50**	*e*P		**Pn**	**04 41 57.9**	**0.0**
MT13					IAML		04 43 19.6	
	comp=E,70nm,0.6s							
MT03	**Universidad Ad**	**3.86**	**46**	*e*P		**Pn**	**04 41 58.0**	**-0.4**
MT03					IAML		04 43 21.3	
	comp=E,80nm,0.3s							
MT14	**Cerro Calın**	**3.92**	**44**	*e*P		**Pn**	**04 41 58.9**	**-0.2**
PEL	**Peldehue**	**4.03**	**41**	*e*P		**Pn**	**04 42 00.8**	**+0.2**
PEL					IAML		04 43 31.2	
	comp=N,55nm,0.3s							
FCH	**Farellones**	**4.11**	**46**	⇓*e*P		**Pn**	**04 42 01.7**	**-0.3**
FCH					IAML		04 43 33.1	
	comp=E,40nm,0.7s							
MT04	**Ro Olivares**	**4.15**	**48**	*e*P		**Pn**	**04 42 02.5**	**+0.1**
MT04					IAML		04 43 28.4	
	comp=E,39nm,0.5s							
MT08	**Bocatoma Ro**	**4.19**	**49**	*e*P		**Pn**	**04 42 03.5**	**+0.5**
MT08					IAML		04 43 25.0	
	comp=E,33nm,0.5s							
VA03	**San Esteban**	**4.40**	**39**	⇓*e*P		**Pn**	**04 42 05.4**	**-0.3**
VA03					IAML		04 43 35.1	
	comp=E,50nm,0.5s							
AAGR	**Agrelo**	**5.18**	**54**	*i* P		**Pn**	**04 42 16.5**	**0.0**
AAGR				*i* S		Sg	04 43 59.0	+14
ASAL	**Salagasta**	**5.50**	**50**	*i* P		**Pn**	**04 42 21.3**	**+0.4**
ASAL				*i* S		Sg	04 44 07.8	+12
ASAL					IAML		04 44 20.5	
	comp=Z,5.1nm,0.9s							
RTLS	**Leoncito**	**5.81**	**42**	*i* P		**Pn**	**04 42 26.4**	**+1.1**
AROD	**Rodeo**	**7.07**	**32**	*i* P		**Pn**	**04 42 42.8**	**+0.1**
APLL	**PUNTA DE LOS L**	**8.44**	**48**	*i* P		**Pn**	**04 42 59.0**	**-2.2**

NEIC ***17*** *04:46:55.9±1.2, 47°.68N±0°.02×123°.17W±0°.01, h51km±4km, Error ellipse: s-maj=3.2km s-min=0.6km az=205.0*
PGC ***17*** *04:46:56.3, 47°.65N×123°.15W, h46km, ML2.5, ML2.4/15, 61km west of Seattle, Wa Washington*
PNSN ***17*** *04:46:56.3, 47°.65N×123°.15W, h46km, MD2.5, Fault plane solution: NP1:φ=55.00000°, δ=80.00000°, λ=-40.00000°.*
SEA ***17*** *04:46:56.3±1.0, 47°.65N±0°.02×123°.15W±0°.03, h46km±3km, ML2.5/31, ML2.5/18(NEIC), Error ellipse: s-maj=2.9km s-min=2.4km az=71.0*

ISC 17 04:46:55.9±1.2, 47°.70N±0°.02×123°.18W±0°.02, h50km±5km, n85, σ0°64/130, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDW	**Hoodsport**	**0.10**	**119**		**Pn**	**04 47 03.3**	**-0.5**
HDW					**Sn**	**04 47 09.4**	**0.0**
HDW	**Hoodsport**	**0.10**	**119**	P	**Pn**	**04 47 03.4**	**-0.5**
HDW				S	**Sn**	**04 47 08.7**	**-0.7**
C04A	**Brinnon**	**0.14**	**81**		**Pn**	**04 47 03.3**	**-0.5**
C04A					**Sn**	**04 47 08.8**	**-0.6**
B013	**Quilcene**	**0.21**	**56**		**Pn**	**04 47 03.8**	**-0.5**
B013					**Sn**	**04 47 09.7**	**-0.5**
GNW	**Green Mountain**	**0.27**	**119**		**Pn**	**04 47 04.0**	**-0.7**
GNW					**Sn**	**04 47 10.1**	**-0.9**
GNW	**Green Mountain**	**0.27**	**119**	IAML		04 47 10.3	
	comp=N,723nm,0.2s						
GNW				IAML		04 47 10.3	
	comp=E,1μm,0.4s						
GNW	**Green Mountain**	**0.27**	**119**	P	**Pn**	**04 47 04.0**	**-0.7**
GNW				S	**Sn**	**04 47 10.1**	**-0.9**
GMW	**Gold Mountain**	**0.30**	**119**		**Pn**	**04 47 04.3**	**-0.7**
GMW					**Sn**	**04 47 10.8**	**-0.8**
KIMR	**Kitsap County**	**0.34**	**125**		**Pn**	**04 47 04.8**	**-0.5**
KIMR					**Sn**	**04 47 11.6**	**-0.4**
BLN	**Blyn Mountain**	**0.34**	**24**		**Pn**	**04 47 05.5**	**0.0**
BLN					**Sn**	**04 47 12.8**	**+0.5**
KINR	**Kitsap County**	**0.36**	**81**		**Pn**	**04 47 05.5**	**-0.1**
KINR					**Sn**	**04 47 13.5**	**+0.9**
KITP	**Kitsap County**	**0.37**	**93**		**Pn**	**04 47 05.1**	**-0.6**
KITP					**Sn**	**04 47 14.2**	**+1.6**
OSD	**Olympics--Snow**	**0.38**	**290**		**Pn**	**04 47 06.1**	**+0.1**
OSD	**Olympics--Snow**	**0.38**	**290**	P	**Pn**	**04 47 06.1**	**+0.1**
OSD				S	**Sn**	**04 47 14.1**	**+0.9**
SQM	**Sequim**	**0.39**	**13**		**Pn**	**04 47 06.3**	**+0.4**
B04A	**Port Angeles**	**0.42**	**329**		**Pn**	**04 47 06.4**	**+0.1**
B04A					**Sn**	**04 47 14.4**	**+0.7**
B04A	**Port Angeles**	**0.42**	**329**	IAML		04 47 14.7	
	comp=E,670nm,0.2s						
B04A				IAML		04 47 15.4	
	comp=N,446nm,0.3s						
BABE	**Bainbridge Sch**	**0.44**	**101**		**Pn**	**04 47 07.0**	**+0.6**
BABE					**Sn**	**04 47 16.2**	**+2.3**
MNWA	**Manchester**	**0.45**	**106**		**Pn**	**04 47 06.3**	**-0.5**
OLQ	**Olympics--Lake**	**0.46**	**248**		**Pn**	**04 47 06.9**	**+0.2**
OLQ					**Sn**	**04 47 14.8**	**+0.4**
NLWA	**Neilton Lookou**	**0.56**	**237**		**Pn**	**04 47 07.9**	**0.0**
NLWA	**Neilton Lookou**	**0.56**	**237**	IAML		04 47 17.9	
	comp=N,266nm,0.5s						
NLWA				IAML		04 47 18.1	
	comp=N,312nm,0.4s						
VVHS	**Vashon High Sc**	**0.56**	**119**		**Pn**	**04 47 07.5**	**-0.4**
STW	**Striped Peak**	**0.56**	**324**		**Pn**	**04 47 08.2**	**+0.2**
STW	**Striped Peak**	**0.56**	**324**	P	**Pn**	**04 47 08.1**	**+0.2**
STW				S	**Sn**	**04 47 17.4**	**+0.8**
BRKS	**Brookside Elem**	**0.60**	**84**		**Pn**	**04 47 08.7**	**+0.3**
SWID	**South Whidbey**	**0.60**	**58**		**Pn**	**04 47 08.8**	**+0.4**
SWID					**Sn**	**04 47 18.7**	**+1.4**
SP2	**Seward Park 2**	**0.64**	**102**		**Pn**	**04 47 09.2**	**+0.3**
OBC	**Olympics--Boni**	**0.70**	**300**		**Pn**	**04 47 09.9**	**+0.2**
OBC					**Sn**	**04 47 20.9**	**+1.2**
OBC	**Olympics--Boni**	**0.70**	**300**	P	**Pn**	**04 47 09.9**	**+0.2**
WISH	**Wishkah**	**0.70**	**215**	P	**Pn**	**04 47 09.9**	**+0.2**
WISH				S	**Sn**	**04 47 20.6**	**+1.0**
EVGW	**Everett Gatewa**	**0.71**	**77**		**Sn**	**04 47 21.1**	**+1.3**
LEOT	**Leota Junior H**	**0.72**	**84**		**Pn**	**04 47 10.3**	**+0.4**
CPW	**Capitol Peak**	**0.72**	**178**	P	**Pn**	**04 47 09.8**	**-0.1**
VGZ	**Gonzales**	**0.73**	**352**		**Pn**	**04 47 09.6**	**-0.4**
VGZ					**Sn**	**04 47 19.7**	**-0.5**
VGZ	**Gonzales**	**0.73**	**352**	P	**Pn**	**04 47 09.6**	**-0.4**
VGZ				S	**Sn**	**04 47 19.7**	**-0.5**
B017	**Montesano**	**0.75**	**200**		**Pn**	**04 47 10.6**	**+0.4**
P403	**Sandy Floe Qua**	**0.75**	**300**		**Pn**	**04 47 10.3**	**+0.1**
P403					**Sn**	**04 47 21.3**	**+0.6**
EARN	**East Ridge Ele**	**0.77**	**86**		**Pn**	**04 47 11.0**	**+0.5**
PCFR	**Pierce County**	**0.86**	**144**		**Pn**	**04 47 11.3**	**-0.5**
GHW	**Garrison Hill**	**0.90**	**136**		**Pn**	**04 47 11.7**	**-0.6**
D05A	**Enumclaw**	**0.95**	**122**		**Pn**	**04 47 13.0**	**0.0**
D05A	**Enumclaw**	**0.95**	**122**	P	**Pn**	**04 47 12.9**	**0.0**
HTW	**Haystack Looko**	**0.96**	**83**		**Pn**	**04 47 12.8**	**-0.3**
HTW					**Sn**	**04 47 25.6**	**-0.1**
SYMB	**Survey Mountai**	**0.96**	**334**	P	**Pn**	**04 47 12.7**	**-0.4**
SYMB				S	**Sn**	**04 47 24.9**	**-1.0**
B941	**Kapowsin**	**0.96**	**137**		**Pn**	**04 47 12.3**	**-0.8**
B941					**Sn**	**04 47 24.8**	**-0.9**
RATT	**Rattlesnake La**	**0.97**	**106**		**Pn**	**04 47 12.7**	**-0.5**
B009	**North Saanich**	**0.97**	**349**	P	**Pn**	**04 47 13.0**	**-0.2**
B009				S	**Sn**	**04 47 25.4**	**-0.6**
B011	**North Saanich**	**0.97**	**349**	P	**Pn**	**04 47 13.0**	**-0.2**
B011				S	**Sn**	**04 47 25.4**	**-0.6**
PGC	**Sidney**	**0.97**	**349**	Pn	**Pn**	**04 47 13.0**	**-0.2**
PGC					**Sn**	**04 47 25.5**	**-0.6**
PGC				IAML		04 47 25.6	
	comp=E,131nm,0.4s						
PGC				IAML		04 47 25.9	
	comp=N,123nm,0.3s						
PGC	**Sidney**	**0.97**	**349**	P	**Pn**	**04 47 13.1**	**-0.2**
PGC				S	**Sn**	**04 47 25.4**	**-0.6**
B010	**North Saanich**	**0.97**	**349**	P	**Pn**	**04 47 13.1**	**-0.2**
B010				S	**Sn**	**04 47 25.3**	**-0.7**
JCW	**Jim Creek**	**0.97**	**59**		**Pn**	**04 47 13.2**	**-0.1**
JCW	**Jim Creek**	**0.97**	**59**	P	**Pn**	**04 47 13.2**	**-0.1**
JCW				S	**Sn**	**04 47 25.5**	**-0.6**
PA01	**PA01 North**	**0.97**	**349**	P	**Pn**	**04 47 13.1**	**-0.2**
PA01				S	**Sn**	**04 47 25.5**	**-0.6**
C05A	**Tolt Reservoir**	**1.00**	**89**		**Pn**	**04 47 13.3**	**-0.4**
C05A					**Sn**	**04 47 26.5**	**-0.3**
C05A	**Tolt Reservoir**	**1.00**	**89**	P	**Pn**	**04 47 13.4**	**-0.3**
MCW	**Mount Constitu**	**1.01**	**13**	P	**Pn**	**04 47 14.1**	**+0.3**
MCW				S	**Sn**	**04 47 26.7**	**-0.4**
SNB	**Saturna Island**	**1.08**	**0**	P	**Pn**	**04 47 15.0**	**+0.3**
SNB				S	**Sn**	**04 47 28.8**	**+0.1**
OCP	**Olym-Cheeka Pk**	**1.15**	**302**	P	**Pn**	**04 47 15.5**	**-0.1**
E03A	**Lebam**	**1.18**	**193**	P	**Pn**	**04 47 16.0**	**0.0**
E03A				S	**Sn**	**04 47 30.9**	**-0.1**
PTRF	**Port Renfrew**	**1.19**	**316**	P	**Pn**	**04 47 15.4**	**-0.8**
PTRF				S	**Sn**	**04 47 30.2**	**-0.9**
PFB	**Port Renfrew**	**1.22**	**316**	P	**Pn**	**04 47 16.2**	**-0.4**
PFB				S	**Sn**	**04 47 31.4**	**-0.6**
GOBB	**Galiano Island**	**1.27**	**350**	P	**Pn**	**04 47 17.6**	**+0.2**
GOBB				S	**Sn**	**04 47 33.0**	**-0.3**
FMW	**Mount Fremont**	**1.28**	**126**	P	**Pn**	**04 47 17.3**	**-0.3**
B926	**Mesachie Lake**	**1.29**	**331**	S	**Sn**	**04 47 32.6**	**-1.1**
LON	**Longmire**	**1.33**	**135**		**Pn**	**04 47 17.9**	**-0.3**
LON				IAML		04 47 34.6	
	comp=N,39nm,0.3s						
LON				IAML		04 47 34.7	
	comp=E,41nm,0.2s						
LON	**Longmire**	**1.33**	**135**	P	**Pn**	**04 47 17.9**	**-0.3**
LON				S	**Sn**	**04 47 33.9**	**-0.8**
RPW	**Rockport**	**1.35**	**55**	P	**Pn**	**04 47 18.6**	**+0.2**
RPW				S	**Sn**	**04 47 34.4**	**-0.7**
MBW	**Mount Baker**	**1.38**	**38**	P	**Pn**	**04 47 19.9**	**+0.9**
B06A	**Marblemount**	**1.40**	**53**	Pn	**Pn**	**04 47 19.2**	**+0.1**
B06A				IAML		04 47 38.0	
	comp=E,108nm,0.2s						
B06A				IAML		04 47 38.4	
	comp=N,87nm,0.3s						
B06A	**Marblemount**	**1.40**	**53**	P	**Pn**	**04 47 19.2**	**+0.1**
B06A				S	**Sn**	**04 47 36.5**	**+0.1**
GPW	**Glacier Peak**	**1.44**	**72**	P	**Pn**	**04 47 20.0**	**+0.2**
NLLB	**Nanaimo Lost L**	**1.63**	**341**	P	**Pn**	**04 47 22.1**	**0.0**
NLLB				S	**Sn**	**04 47 40.9**	**-1.0**
BIB	**Bowen Island**	**1.71**	**357**	P	**Pn**	**04 47 23.8**	**+0.4**
BIB				S	**Sn**	**04 47 44.0**	**-0.1**
B928	**Bamfield**	**1.73**	**312**	P	**Pn**	**04 47 23.1**	**-0.5**
B928				S	**Sn**	**04 47 43.2**	**-1.2**
BFSB	**Bamfield**	**1.74**	**312**	P	**Pn**	**04 47 23.2**	**-0.4**
BFSB				S	**Sn**	**04 47 43.4**	**-1.1**
LTY	**Liberty**	**1.75**	**104**		**Pn**	**04 47 24.4**	**+0.4**
LTY	**Liberty**	**1.75**	**104**	P	**Pn**	**04 47 24.4**	**+0.4**
LTY				S	**Sn**	**04 47 45.8**	**+0.6**
F04A	**Amboy**	**1.84**	**163**		**Pn**	**04 47 25.5**	**+0.4**
F04A				IAML		04 47 50.8	
	comp=E,31nm,0.5s						
F04A				IAML		04 47 58.6	
	comp=N,19nm,1.4s						
B927	**Port Alberni**	**1.87**	**325**	P	**Pn**	**04 47 25.5**	**0.0**
B927				S	**Sn**	**04 47 47.1**	**-0.8**
LLLB	**Lillooet**	**3.04**	**16**	P	**Pn**	**04 47 41.7**	**+0.2**
LLLB				S	**Sn**	**04 48 15.5**	**-1.2**
NCRB	**Newcastle Ridg**	**3.31**	**326**	P	**Pn**	**04 47 46.6**	**+1.4**
WOSB	**Woss**	**3.33**	**319**	P	**Pn**	**04 47 47.0**	**+1.5**
UBRB	**Upper Baezaeko**	**5.24**	**354**	Sg	Sn	04 48 49.8	-21

SFS ***17*** *05:30:55.5, 36°.34N×7°.70W, h2km, ML2.7/6, MLv2.8/6*
CNRM ***17*** *05:30:56.3, 36°.26N×7°.80W, h92km*
MDD ***17*** *05:30:57.8±1.2, 36°.36N×7°.77W, h19km±6km, mb_Lg2.2/4, Error ellipse: s-maj=7.2km s-min=4.7km az=6.0*
INMG ***17*** *05:30:57.8±1.2, 36°.33N×7°.69W, h22km±6km, ML1.6, Error ellipse: s-maj=7.0km s-min=2.8km az=69.0*
IGIL ***17*** *05:30:59.1, 36°.32N×7°.69W, h30km, ML1.7*

ISC 17 05:30:55.2±1.4, 36°.32N±0°.04×7°.68W±0°.03, h16km±10km, n29, σ1°11/50, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-de-Ve**	**0.95**	**348**	*e*P	**Pn**	**05 31 14.3**	**+0.4**
PBDV				*e*S	**Sn**	**05 31 26.9**	**-0.2**
PBDV				A	A	05 31 29.7	
	8.1nm,0.5s						
PVAQ	**Vaqueiros**	**1.09**	**358**	*e*P	**Pn**	**05 31 16.0**	**+0.2**
PVAQ				*e*S	**Sn**	**05 31 30.4**	**-0.1**
PVAQ				A	A	05 31 33.3	
	7.0nm,0.1s						
PVAQ	**Vaqueiros**	**1.09**	**358**	P	**Pg**	**05 31 17.0**	**+0.7**
PVAQ				S	**Sn**	**05 31 34.1**	**+3.7**
PVAQ	**Vaqueiros**	**1.09**	**358**	Pg	**Pb**	**05 31 15.3**	**-0.3**
PVAQ				Sg	**Sb**	**05 31 28.9**	**-0.7**
ARNO	**Arenosillo**	**1.09**	**44**	Sg	**Sg**	**05 31 29.7**	**-0.9**
EGRO	**El Granado**	**1.23**	**7**	Sg	**Sg**	**05 31 35.8**	**+0.9**
EGRO				*i* Vmb_Lg		05 31 37.9	
EGRO	**El Granado**	**1.23**	**7**	Pn	**Pn**	**05 31 17.7**	**0.0**
EGRO				Sn	**Sg**	**05 31 34.0**	**-0.9**
PFVI	**Vila Bisbo**	**1.23**	**312**	*e*P	**Pn**	**05 31 18.0**	**+0.2**
PFVI				*e*S	**Sb**	**05 31 33.4**	**-0.3**
PFVI	**Vila Bisbo**	**1.23**	**312**	P	**Pn**	**05 31 17.6**	**-0.1**
PFVI				S	**Sg**	**05 31 36.5**	**+1.5**
PFVI	**Vila Bisbo**	**1.23**	**312**	Sg	**Sb**	**05 31 33.9**	**+0.2**
PFVI				Pn	**Pn**	**05 31 17.9**	**+0.2**
MORF	**Marmelete**	**1.26**	**322**	*e*P	**Pn**	**05 31 19.0**	**+0.8**
MORF				*e*S	**Sb**	**05 31 34.4**	**-0.1**
MORF				A	A	05 31 36.6	
	6.8nm,1.2s						
MORF	**Marmelete**	**1.26**	**322**	*e*P	**Pb**	**05 31 19.2**	**+0.7**
MORF				*e*S	**Sb**	**05 31 33.9**	**-0.6**
MORF				IAML		05 31 35.7	
	comp=E,11nm,0.1s						
PCVE	**Castro Verde**	**1.34**	**348**	*e*P	**Pn**	**05 31 19.1**	**-0.2**
PCVE				*e*S	**Sb**	**05 31 35.7**	**-1.3**
PCVE				A	A	05 31 40.3	
	comp=E,3.8nm,0.3s						
PCVE	**Castro Verde**	**1.34**	**348**	Sn	**Sg**	**05 31 38.1**	**-0.6**
PCVE				Pn	**Pn**	**05 31 18.9**	**-0.4**
PTEO	**Sao Teotonio**	**1.48**	**326**	*e*S	**Sn**	**05 31 39.5**	**-0.8**
ESPR	**Espera**	**1.57**	**69**	Pn	**Pb**	**05 31 23.7**	**-0.1**
ESPR				Sn	**Sb**	**05 31 42.8**	**-0.6**
ESPR				*i* Vmb_Lg		05 31 46.2	
ESPR	**Espera**	**1.57**	**69**	Sn	**Sb**	**05 31 43.1**	**-0.4**
ESPR				Pn	**Pn**	**05 31 23.5**	**+1.1**
PNCL	**Nicolau / Gran**	**1.92**	**340**	*e*Sg	**Sg**	**05 31 55.2**	**-1.7**
PNCL				A	A	05 31 58.8	
	comp=E,2.1nm,0.2s						
PNCL	**Nicolau / Gran**	**1.92**	**340**	Pn	**Pn**	**05 31 26.5**	**-0.7**
PBAR	**Barrancos**	**1.93**	**15**	*e*Sg	**Sg**	**05 31 57.5**	**+0.3**
PBAR				A	A	05 31 59.8	
	comp=E,2.4nm,0.4s						
EBAD	**Badajoz**	**2.49**	**12**	Pn	**Pn**	**05 31 37.2**	**+2.1**
EBAD				Sg	**Sg**	**05 32 12.8**	**-2.6**
EBAD				*i* Vmb_Lg		05 32 19.4	
EBAD	**Badajoz**	**2.49**	**12**	Pn	**Pn**	**05 31 35.6**	**+0.5**
EBAD				Sg	**Sg**	**05 32 14.8**	**-0.6**
ECAB	**El Cabril**	**2.52**	**45**	Pn	**Pn**	**05 31 37.4**	**+1.9**
ECAB				Sg	**Sg**	**05 32 16.3**	**+0.1**
ECAB				*i* Vmb_Lg		05 32 23.7	
ECAB	**El Cabril**	**2.52**	**45**	Pn	**Pn**	**05 31 35.8**	**+0.3**
ECAB				Sn	**Sn**	**05 32 06.5**	**+0.6**
PESTR	**Estremoz**	**2.55**	**2**	*e*Sg	**Sg**	**05 32 15.8**	**-1.3**
PESTR				A	A	05 32 20.4	
	comp=E,3.1nm,0.6s						
PESTR	**Estremoz**	**2.55**	**2**	P	**Pn**	**05 31 36.5**	**+0.6**
PESTR				S	**Sb**	**05 32 09.2**	**-2.5**
PMTG	**Montargil**	**2.78**	**351**	*e*Sg	**Sg**	**05 32 23.0**	**-1.6**
MD31	**MD31**	**4.20**	**144**	P	**Pn**	**05 31 58.6**	**-0.1**
MD31				S	**Sn**	**05 32 47.6**	**+0.2**
MDT	**Midelt**	**4.32**	**143**	P	**Pn**	**05 31 59.9**	**-0.4**
MDT				S	**Sn**	**05 32 49.8**	**-0.5**

IDC ***17*** *05:36:15.9±3.9, 36°.34N×71°.02E, h184km±35km, mb3.3/9, mbtmp3.9/13, MS3.5/1, Error ellipse: s-maj=27.7km s-min=15.5km az=35.0*
NNC ***17*** *05:36:22.3±5.4, 37°.16N×71°.02E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=44.7km s-min=40.5km az=120.0*

ISC 17 05:36:17.9±0.7, 36°.66N±0°.05×71°.00E±0°.09, h188km, n39, σ1°49/43, mb3.6/8, 1C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.92**	**165**	⇓P	**Pn**	**05 37 07.9**	**+1.6**
CEP				S	**Sn**	**05 37 45.0**	**+1.1**
CHCP	**Chirah Chowk**	**3.52**	**148**	P	**Pn**	**05 37 15.0**	**+1.6**
THW	**Thamme Wali**	**3.90**	**171**	P	**Pn**	**05 37 19.4**	**+1.2**
SARP	**Sargodha**	**4.92**	**163**	P	**Pn**	**05 37 31.3**	**+0.2**
AML	**Almayashu**	**5.85**	**20**	P	**Pn**	**05 37 44.9**	**+1.5**
	SNR=118						
AML	**Almayashu**	**5.85**	**20**	⇓Pn	**Pn**	**05 37 44.7**	**+1.3**
	4.0nm,0.5s						
AML				⇓Sn	**Sn**	**05 38 49.5**	**-1.2**
	43nm,0.7s						
EKS2	**Erkin-Say**	**6.37**	**19**	P	**Pn**	**05 37 51.4**	**+1.5**
	SNR=11						
KK31	**Karatay Array**	**6.45**	**357**	⇑Pn	**Pn**	**05 37 51.9**	**+1.1**
	4.1nm,0.3s,baz=180,slow=12,SNR=199						
KK31				⇓Sn	**Sn**	**05 39 01.1**	**-3.2**
	32nm,0.6s,baz=172,slow=15,SNR=14						
AAK	**Ala-Archa**	**6.55**	**23**	P	**Pn**	**05 37 54.0**	**+1.7**
	SNR=15						
AAK	**Ala-Archa**	**6.55**	**23**	P	**Pn**	**05 37 54.0**	**+1.7**
	9.0nm,0.3s,baz=169,slow=6.2,SNR=28						
AAK				S	**Sn**	**05 39 06.7**	**-0.2**
	6.7nm,0.5s,baz=29,slow=17,SNR=4.2						
KBK	**Karagaybulak**	**6.72**	**26**	P	**Pn**	**05 37 55.9**	**+1.4**
	SNR=6.8						
CHMS	**Chumysh**	**6.96**	**23**	P	Pn	05 38 17.4	+20
	SNR=5.5						
USP	**Ospenovka**	**7.13**	**21**	P	**Pn**	**05 38 01.1**	**+1.4**
	SNR=12						
TKM2	**Tokmak 2**	**7.19**	**28**	P	**Pn**	**05 38 02.2**	**+1.5**
	SNR=31						
TKM2	**Tokmak 2**	**7.19**	**28**	⇓Pn	**Pn**	**05 38 01.8**	**+1.2**
	21nm,0.7s						
TKM2				⇓Sn	**Sn**	**05 39 19.8**	**-2.2**
	9.7nm,1.1s						
MKAR	**Makanchi Array**	**13.16**	**36**	P	**Pn**	**05 39 18.8**	**+1.0**
	0.8nm,0.7s,baz=224,slow=14,SNR=6.8						
PYUN	**Piuthan**	**13.24**	**127**	*e*P	**Pn**	**05 39 17.1**	**-2.0**
	12nm,0.3s						
DANN	**Dangsing**	**13.58**	**124**	*e*P	**Pn**	**05 39 21.8**	**-1.6**
	14nm,0.4s						
GKN	**Gorkha**	**14.39**	**123**	*e*P	**Pn**	**05 39 32.7**	**-0.6**
	12nm,0.3s						
DMN	**Daman**	**14.96**	**123**	*e*P	**Pn**	**05 39 40.8**	**+0.3**
	14nm,0.3s						
PKIN	**Phulchoki**	**15.18**	**123**	*e*P	**Pn**	**05 39 43.3**	**+0.2**
	16nm,0.5s						
PKI	**Pulchoki**	**15.19**	**123**	*e*P	**P**	**05 39 43.8**	**-0.3**
	9.2nm,0.4s						
GUN	**Gumba**	**15.30**	**121**	*e*P	**P**	**05 39 45.2**	**-0.1**
	13nm,0.5s						
JIRN	**Jiri**	**15.67**	**121**	*e*P	**P**	**05 39 50.2**	**+0.8**
	21nm,0.3s						
BVAR	**Borovoye Array**	**16.37**	**359**	P	**Pn**	**05 39 58.2**	**+1.1**
	1.8nm,0.4s,baz=164,slow=12,SNR=9.6						
RAMN	**Ramite**	**16.40**	**122**	*e*P	**Pn**	**05 40 00.1**	**+2.2**
	4.8nm,0.2s						
AKTO	**Aktyubinsk**	**16.64**	**330**	P	**Pn**	**05 40 01.2**	**+0.9**
	4.5nm,0.8s,baz=135,slow=8.3,SNR=12						
AKTO				S	**Sn**	**05 43 08.5**	**+1.3**
	1.2nm,0.6s,baz=121,slow=18,SNR=2.5						
TAPN	**Taplejung**	**16.92**	**119**	*e*P	**Pn**	**05 40 06.9**	**+2.7**
	13nm,0.4s						
ZALV	**Zalesovo Beam**	**19.77**	**25**	P	**P**	**05 40

VA03	**San Esteban**	**0.33 304**	⇑*iP*	**Pn**	**05 43 41.0**	**-0.3**
VA03			*i* S	**Sn**	**05 43 53.1**	**-0.3**
VA03			IAML		05 43 54.2	
	comp=E,6μm,0.2s					
VA03	**San Esteban**	**0.33 304**	*eP*	**Pn**	**05 43 40.8**	**-0.5**
VA03			*e*S	**Sn**	**05 43 54.4**	**+1.0**
VA03			IAML		05 43 54.6	
	comp=Z,2μm,0.1s					
FCH	**Farellones**	**0.38 188**	⇓*iP*	**Pn**	**05 43 41.5**	**-0.4**
FCH			*i* S	**Sn**	**05 43 54.2**	**-0.2**
FCH			IAML		05 43 55.2	
	comp=E,3μm,0.3s					
PEL	**Peldehue**	**0.43 243**	⇑*iP*	**Pn**	**05 43 41.6**	**-0.2**
PEL			*i* S	**Sn**	**05 43 54.0**	**-0.3**
PEL			IAML		05 43 55.0	
	comp=N,4μm,0.3s					
PEL	**Peldehue**	**0.43 243**	*eP*	**Pn**	**05 43 41.5**	**-0.2**
PEL			*eP*		05 43 41.7	
PEL			*e*S	**Sn**	**05 43 54.3**	**0.0**
PEL			IAML		05 43 55.7	
	comp=Z,2μm,0.5s					
MT04	**Ro Olivares**	**0.46 171**	⇓*iP*	**Pn**	**05 43 41.9**	**-0.4**
MT04			*i* S	**Sn**	**05 43 55.5**	**+0.4**
MT14	**Cerro Cal¡n**	**0.52 210**	⇓*iP*	**Pn**	**05 43 42.2**	**-0.1**
MT14			*i* S	**Sn**	**05 43 55.5**	**+0.2**
MT14			IAML		05 43 56.6	
	comp=N,5μm,0.5s					
MT08	**Bocatoma Ro**	**0.53 161**	⇓*iP*	**Pn**	**05 43 42.5**	**-0.1**
MT08			*i* S	**Sn**	**05 43 55.3**	**-0.5**
MT03	**Universidad Ad**	**0.60 204**	⇓*iP*	**Pn**	**05 43 42.9**	**-0.1**
MT03			*i* S	**Sn**	**05 43 56.7**	**+0.3**
MT03			IAML		05 43 58.9	
	comp=E,10μm,0.2s					
MT03	**Universidad Ad**	**0.60 204**	*eP*	**Pn**	**05 43 42.7**	**-0.2**
MT03			*e*S	**Sn**	**05 43 57.0**	**+0.6**
MT03			IAML		05 43 57.2	
	comp=Z,3μm,0.2s					
MT05	**Renca**	**0.62 224**	⇓*iP*	**Pn**	**05 43 42.9**	**-0.1**
MT05			*i* S	**Sn**	**05 43 56.8**	**+0.2**
MT05			IAML		05 43 58.4	
	comp=N,7μm,0.3s					
MT05	**Renca**	**0.62 224**	*eP*	**Pn**	**05 43 43.0**	**-0.1**
MT05			*e*S	**Sn**	**05 43 57.6**	**+1.0**
MT05			IAML		05 43 58.0	
	comp=Z,2μm,0.5s					
ROCH	**El Roble**	**0.66 268**	⇑*iP*	**Pn**	**05 43 43.4**	**-0.1**
ROCH			*i* S	**Sn**	**05 43 57.4**	**0.0**
ROCH			IAML		05 43 58.5	
	comp=E,7μm,0.4s					
ROC1	**El Roble**	**0.67 267**	*eP*	**Pn**	**05 43 43.4**	**-0.2**
ROC1			*e*S	**Sn**	**05 43 57.8**	**+0.3**
MT13	**San Alfonso**	**0.80 184**	⇓*iP*	**Pn**	**05 43 44.6**	**0.0**
MT13			*i* S	**Sn**	**05 44 00.1**	**+0.8**
MT13			IAML		05 44 00.9	
	comp=N,2μm,0.2s					
MT02	**Curacav**	**0.83 248**	⇑*iP*	**Pn**	**05 43 44.5**	**-0.2**
MT02			*i* S	**Sn**	**05 43 59.1**	**-0.4**
MT02	**Curacav**	**0.83 248**	*eP*	**Pn**	**05 43 44.3**	**-0.4**
MT02			*e*S	**Sn**	**05 43 59.1**	**-0.4**
MT02			IAML		05 43 59.6	
	comp=Z,458nm,0.5s					
MT12	**Pirque**	**0.83 199**	⇓*iP*	**Pn**	**05 43 44.7**	**-0.1**
MT12			*i* S	**Sn**	**05 44 00.2**	**+0.5**
MT12			IAML		05 44 01.6	
	comp=E,3μm,0.3s					
LMEL	**Las Melosas**	**0.90 179**	⇓*iP*	**Pn**	**05 43 45.4**	**-0.2**
LMEL			*i* S	**Sn**	**05 44 03.5**	**+2.4**
MT09	**Talagante**	**1.05 217**	⇓*iP*	**Pn**	**05 43 46.7**	**-0.3**
MT09			*i* S	**Sn**	**05 44 03.6**	**0.0**
MT09			IAML		05 44 04.5	
	comp=E,3μm,0.3s					
BO04	**La Punta**	**1.09 197**	⇓*iP*	**Pn**	**05 43 47.4**	**-0.1**
BO04			*i* S	**Sn**	**05 44 04.7**	**+0.5**
BO04			IAML		05 44 05.9	
	comp=N,2μm,0.2s					
ARCO	**CERRO ARCO**	**1.09 85**	*eP*	**Pn**	**05 43 47.1**	**-0.4**
ARCO			*e*S	**Sn**	**05 44 04.7**	**+0.2**
ARCO			IAML		05 44 05.2	
	comp=Z,392nm,0.4s					
AAGR	**Agrelo**	**1.18 97**	*eP*	**Pn**	**05 43 48.3**	**-0.2**
AAGR			*e*S	**Sn**	**05 44 05.8**	**-0.3**
AAGR			IAML		05 44 06.6	
	comp=Z,424nm,0.4s					
ASAL	**Salagasta**	**1.22 74**	*eP*	**Pn**	**05 43 48.5**	**-0.4**
ASAL			*e*S	**Sn**	**05 44 07.5**	**+0.6**
MT01	**Popeta**	**1.25 223**	⇓*iP*	**Pn**	**05 43 48.5**	**-0.6**
MT01			*i* S	**Sn**	**05 44 08.6**	**-0.6**
MT01			IAML		05 44 08.8	
	comp=E,2μm,0.3s					
MT01	**Popeta**	**1.25 223**	*eP*	**Pn**	**05 43 48.7**	**-0.4**
MT01			*e*S	**Sn**	**05 44 07.0**	**-0.4**
MT01			IAML		05 44 07.3	
	comp=Z,786nm,0.3s					
VA05	**Santo Domingo**	**1.36 238**	*eP*	**Pn**	**05 43 50.3**	**-0.1**
VA05			*i* S	**Sn**	**05 44 09.6**	**0.0**
VA05			IAML		05 44 14.6	
	comp=N,2μm,0.4s					
RTLS	**Leoncito**	**1.39 35**	*eP*	**Pn**	**05 43 51.1**	**+0.1**
RTLS			*e*S	**Sn**	**05 44 12.6**	**+2.0**
RTLS			IAML		05 44 13.4	
	comp=Z,681nm,0.7s					
AVIZ	**Vizcacheras**	**1.53 111**	*eP*	**Pn**	**05 43 52.3**	**-0.1**
AVIZ			*e*S	**Sn**	**05 44 13.1**	**0.0**
BO01	**Tunca**	**1.61 206**	⇓*iP*	**Pn**	**05 43 52.9**	**-0.4**
BO01			*i* S	**Sn**	**05 44 14.8**	**0.0**
BO01	**Tunca**	**1.61 206**	*eP*	**Pn**	**05 43 52.9**	**-0.4**
BO01			*e*S	**Sn**	**05 44 15.1**	**+0.3**
BO01			IAML		05 44 15.4	
	comp=Z,206nm,0.2s					
CO02	**Combarbal**	**1.86 339**	*eP*	**Pn**	**05 43 56.4**	**-0.1**
CO02			*e*S	**Sn**	**05 44 20.7**	**+0.2**
CO02			IAML		05 44 22.6	
	comp=Z,952nm,0.3s					
BO02	**Sierra Bellavi**	**1.90 194**	*eP*	**Pn**	**05 43 57.2**	**+0.2**
BO02			*e*S	**Sn**	**05 44 23.6**	**+2.3**
BO02			IAML		05 44 28.8	
	comp=Z,324nm,0.2s					
ZON	**Zonda**	**1.92 44**	*eP*	**Pn**	**05 43 56.7**	**-0.5**
ZON			*e*S	**Sn**	**05 44 21.7**	**+0.1**
CO03	**El Pedregal**	**2.14 349**	*eP*	**Pn**	**05 43 59.9**	**-0.2**
CO03			*e*S	**Sn**	**05 44 27.2**	**+0.5**
CO03			IAML		05 44 28.5	
	comp=Z,436nm,0.3s					
CFA	**Coronel Fontan**	**2.15 52**	*eP*	**Pn**	**05 43 59.3**	**-0.8**
CFA			*e*S	**Sn**	**05 44 25.9**	**-1.0**
DOCA	**Reserva Natura**	**2.21 26**	*eP*	**Pn**	**05 43 58.0**	**-3.3**
DOCA			IAML		05 45 10.1	
	comp=Z,201nm,0.8s					
RFA	**San Rafael**	**2.34 142**	*eP*	**Pn**	**05 44 01.8**	**-0.7**
RFA			*e*S	**Sn**	**05 44 31.5**	**+0.3**
GO05	**Huala**	**2.50 214**	*eP*	**Pn**	**05 44 03.5**	**-1.1**
GO05			*e*S	**Sn**	**05 44 35.6**	**+0.7**
GO05			IAML		05 44 36.3	
	comp=Z,89nm,0.4s					
ACCO	**Cerro Coronel**	**2.55 23**	*eP*	**Pn**	**05 44 05.7**	**+0.2**
ACCO			*e*S	**Sn**	**05 44 38.0**	**+1.4**
GO04	**Tololo Observa**	**2.81 350**	*eP*	**Pn**	**05 44 08.7**	**-0.2**
GO04			*e*S	**Sn**	**05 44 41.7**	**-0.8**
GO04			IAML		05 44 44.9	
	comp=Z,329nm,0.3s					
AROD	**Rodeo**	**2.84 13**	*eP*	**Pn**	**05 44 10.2**	**+0.8**
AROD			*e*S	**Sn**	**05 44 44.9**	**+1.4**
ACDV	**Cuesta del Vie**	**2.92 19**	*eP*	**Pn**	**05 44 10.6**	**+0.3**
ACDV			*e*S	**Sn**	**05 44 46.3**	**+1.2**
CO01	**Juntas del Tor**	**2.96 2**	*eP*	**Pn**	**05 44 11.7**	**+0.8**
AVFE	**Valle Fertil**	**3.28 47**	*eP*	**Pn**	**05 44 13.9**	**-1.1**
AC05	**El Transito**	**4.10 359**	*eP*	**Pn**	**05 44 26.0**	**+0.1**
GO03	**Copiap**	**5.33 360**	*eP*	**Pn**	**05 44 41.8**	**-0.8**
GO03			IAML		05 45 59.2	
	comp=Z,15nm,0.3s					

IDC 17 06:40:09.0±2.6, 53°.70N×86°.96E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=23.8km s-min=15.2km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.29 282**		I	I	06 49 10.0	
	baz=99,slow=323,SNR=5.4						
ZALV	**Zalesovo Beam**	**1.29 282**		Pg	Pg	06 40 32.0	-1.7
	1.6nm,0.3s,baz=102,slow=16,SNR=8.7						
ZALV				Lg	Lg	06 40 50.8	
	2.1nm,0.3s,baz=105,slow=29,SNR=16						
KURBB	**Kurchatov Arra**	**6.03 243**		Pn	Pn	06 41 40.3	+0.9
	0.1nm,0.3s,baz=58,slow=13,SNR=5.9						
KURBB				Lg	Lg	06 43 20.6	
	baz=63,slow=32,SNR=2.1						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**7.53 205**		Pn	Pn	06 42 01.5	+1.5
	0.2nm,0.3s,baz=29,slow=12,SNR=4.8						
	0.3nm,0.3s						

UCR 17 06:56:05.4±0.9, 9°.32N×84°.50W, h13km±5km, MW3.7, 6C-37D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.26**	**41**	⇓*iP*	Pg	06 56 11.3	+0.5
RITA				*e*S	Sb	06 56 15.8	-0.5
SVQ2	**Quepos**	**0.35**	**72**	⇓*eP*	Pg	06 56 12.5	+0.1
JACO	**JACO, Garabito**	**0.37**	**335**	*eP*	Pg	06 56 13.1	+0.2
JACO				*e*S	Sb	06 56 19.2	-0.4
ACOS	**Acosta**	**0.58**	**35**	⇓*iP*	Pg	06 56 16.3	-0.4
RAZU	**San Marcos de**	**0.58**	**55**	⇓*iP*	Pg	06 56 16.4	-0.4
ABE2	**San Pablo**	**0.58**	**49**	*eP*	Pg	06 56 16.5	-0.4
EDDO	**Dominical**	**0.63**	**96**	*eP*	Pg	06 56 17.3	-0.5
ARZA	**Esparza**	**0.68**	**346**	⇓*iP*	Pg	06 56 18.2	-0.5
AMPA	**Desamparados**	**0.72**	**37**	⇑*iP*	Pg	06 56 18.3	-1.1
BELE	**Belen**	**0.72**	**25**	⇓*iP*	Pg	06 56 18.4	-1.0
LUJA	**Lujan**	**0.73**	**35**	⇓*eP*	Pb	06 56 19.9	-0.2
MEXI	**Barrio Mexico**	**0.74**	**34**	⇓*iP*	Pg	06 56 19.1	-0.7
TCS1	**Tacares**	**0.74**	**16**	⇓*iP*	Pg	06 56 19.3	-0.5
SJS	**Escuela Geolog**	**0.76**	**36**	⇓*iP*	Pg	06 56 19.3	-0.8
SJS3	**Mercedes San J**	**0.76**	**36**	⇓*iP*	Pg	06 56 19.4	-0.7
SRA1	**San Ramn**	**0.76**	**2**	⇓*iP*	Pg	06 56 19.4	-0.8
RAMO	**San Ramon**	**0.76**	**3**	⇓*eP*	Pg	06 56 19.4	-0.8
LUPE	**Guadalupe**	**0.76**	**35**	⇓*iP*	Pg	06 56 19.4	-0.8
CDM	**Cerro de Muert**	**0.76**	**72**	⇓*iP*	Pg	06 56 19.3	-1.0
TIBA	**Tibas**	**0.76**	**34**	⇓*iP*	Pg	06 56 19.5	-0.7
TRIO	**Tres Rios**	**0.77**	**41**	⇓*eP*	Pg	06 56 19.2	-1.1
EDIA	**Heredia**	**0.77**	**29**	⇓*iP*	Pg	06 56 19.6	-0.7
RIMA	**Rio Macho**	**0.77**	**55**	⇓*iP*	Pg	06 56 19.4	-1.0
DOMI	**Santo Domingo**	**0.77**	**32**	*eP*	Pg	06 56 19.8	-0.6
GREC	**Grecia**	**0.77**	**14**	⇑*iP*	Pg	06 56 20.1	-0.3
HDC	**Heredia**	**0.78**	**30**	⇓*iP*	Pg	06 56 19.8	-0.7
HDC3	**Heredia 3**	**0.78**	**30**	⇓*iP*	Pg	06 56 19.8	-0.7
SARCI	**Sarchi**	**0.78**	**11**	⇑*iP*	Pg	06 56 20.2	-0.3
BUS1	**Rivas**	**0.78**	**73**	*i P*	Pg	06 56 19.3	-1.3
NARAN	**Naranjo de Ala**	**0.78**	**9**	*eP*	Pg	06 56 20.1	-0.4
TAGO	**Cartago**	**0.79**	**47**	⇓*iP*	Pg	06 56 19.8	-0.9
ZELE	**Perez Zeledon**	**0.79**	**86**	⇓*eP*	Pg	06 56 19.7	-1.0
REPA	**Paraso**	**0.80**	**51**	⇓*eP*	Pg	06 56 21.0	0.0
CORON	**Coronado**	**0.81**	**37**	⇓*iP*	Pg	06 56 20.5	-0.7
ZARE	**Zarcero**	**0.86**	**7**	⇓*iP*	Pb	06 56 22.7	+0.3
CVIMO	**Finca Echandi**	**0.89**	**38**	*eP*	Pg	06 56 21.7	-0.9
VPTE	**Poasito**	**0.90**	**20**	*i P*	Pg	06 56 22.0	-0.8
PCAYA	**Pacayas**	**0.90**	**49**	⇓*eP*	Pg	06 56 21.9	-1.0
VICA	**Volcano Irazu**	**0.92**	**45**	*eP*	Pg	06 56 22.2	-1.1
ICR3	**Volcano Irazu**	**0.93**	**45**	⇓*eP*	Pg	06 56 23.0	-0.4
RAFA	**San Farael, Vo**	**0.93**	**47**	⇓*eP*	Pg	06 56 22.4	-1.0
VINA	**Juan Vinas**	**0.94**	**53**	⇓*eP*	Pg	06 56 22.4	-1.2
CPMI	**Catarata Coope**	**0.96**	**7**	⇓*eP*	Pg	06 56 22.9	-1.1
CVTQ	**Turrialba Volc**	**0.99**	**47**	*eP*	Pg	06 56 23.7	-0.9
TURIB	**Turrialba**	**0.99**	**54**	⇓*eP*	Pb	06 56 24.1	-0.5
NYURE	**Nandayure**	**1.00**	**312**	⇑*iP*	Pb	06 56 23.4	-1.2
VERB	**Verbena**	**1.01**	**52**	*eP*	Pb	06 56 23.8	-1.0
CVTR	**Volcan Turrial**	**1.01**	**47**	*eP*	Pg	06 56 23.9	-1.0
MTEVE	**Monteverde**	**1.04**	**342**	*eP*	Pb	06 56 25.2	-0.2
JTS	**Las Juntas de**	**1.06**	**335**	⇓*iP*	Pb	06 56 24.3	-1.3
SOCE	**Pocosol**	**1.06**	**354**	*eP*	Pb	06 56 24.9	-0.7
RVSTA	**Santa Teresita**	**1.06**	**52**	⇑*iP*	Pb	06 56 24.7	-1.1
RVSTA				*eP*	Pg	06 56 24.7	-1.2
EDPN	**Palmar Norte**	**1.09**	**109**	*eP*	Pb	06 56 25.1	-1.1
INDI	**Punta indio, G**	**1.12**	**299**	*eP*	Pb	06 56 24.8	-2.0
CASO	**Castillo**	**1.13**	**348**	*eP*	Pb	06 56 25.9	-0.9
RIFO	**Rio Frio, Sara**	**1.14**	**30**	⇓*iP*	Pb	06 56 25.9	-1.1
ITAL	**Pital**	**1.14**	**11**	*eP*	Pb	06 56 26.1	-1.0
TUNA	**La Fortuna**	**1.15**	**353**	*eP*	Pb	06 56 26.9	-0.2
FORC	**Fortuna**	**1.15**	**352**	*eP*	Pb	06 56 26.6	-0.5
FORC				*eP*	Pn	06 56 26.9	-0.4
ARE1	**Arenal 1**	**1.15**	**349**	⇓*eP*	Pb	06 56 26.6	-0.6
VACR	**Volcan Arenal**	**1.16**	**351**	⇑*eP*	Pb	06 56 26.6	-0.7
CEDE	**Laguna Cedeo**	**1.17**	**351**	*eP*	Pb	06 56 27.3	-0.3
RVLA	**Villa Bonita**	**1.19**	**49**	*eP*	Pn	06 56 26.9	-0.9
TABAC	**Tabacon**	**1.20**	**347**	*eP*	Pn	06 56 27.7	-0.3
LCOCO	**El Coco**	**1.20**	**51**	*eP*	Pn	06 56 27.0	-0.9
EDBA	**Buenos Aires**	**1.22**	**97**	*eP*	Pn	06 56 26.9	-1.3
NICO	**Nicoya**	**1.23**	**311**	*eP*	Pn	06 56 26.7	-1.7
DUNO	**Dulce Nombre,**	**1.23**	**308**	*eP*	Pn	06 56 26.4	-2.0
DRK0	**Durika**	**1.24**	**93**	*eP*	Pn	06 56 28.1	-0.6
COTE	**Lago Cote**	**1.31**	**342**	*eP*	Pn	06 56 29.1	-0.4
PLVR	**Palo Verde**	**1.32**	**321**	*eP*	Pn	06 56 28.2	-1.5
JUD3	**Juan Diaz 3**	**1.32**	**309**	*eP*	Pn	06 56 27.8	-1.8
BATAN	**Batan**	**1.35**	**55**	⇓*iP*	Pn	06 56 29.6	-0.4
COVE	**Coope Vega, Sa**	**1.39**	**4**	*eP*	Pn	06 56 30.2	-0.4
POTG	**Potrero Grande**	**1.39**	**101**	*eP*	Pn	06 56 29.9	-0.7
ORTG	**Ortega, Santa**	**1.40**	**318**	*eP*	Pn	06 56 29.1	-1.6
SAJU	**San Juanillo,**	**1.40**	**302**	*eP*	Pn	06 56 30.4	-0.3
ACAL	**Aguas Claras**	**1.41**	**338**	*eP*	Pn	06 56 30.5	-0.3
ACAL				*eP*	Pb	06 56 30.6	-1.0
BAGA	**Bagaces**	**1.41**	**328**	*eP*	Pb	06 56 31.4	-0.3
SACU	**Santa Cruz**	**1.42**	**311**	*eP*	Pb	06 56 31.9	+0.2
PTEN	**Parque Tenorio**	**1.46**	**341**	*eP*	Pn	06 56 31.7	+0.1
MOTZ	**Rio Naranjo**	**1.47**	**338**	*eP*	Pn	06 56 31.6	0.0
MOTZ				*eP*	Pn	06 56 31.6	0.0
CUI	**Cuipilapa**	**1.48**	**334**	*eP*	Pn	06 56 31.7	-0.1
CUI				⇓*iP*	Pb	06 56 31.7	-1.1
CUI				*eP*	Pg	06 56 31.8	-2.0
EDAD	**Golfito**	**1.48**	**117**	*eP*	Pn	06 56 30.3	-1.5
EDAD				*e*Pn	Pb	06 56 30.4	-2.5
TRT1	**Tortuguero**	**1.49**	**32**	*eP*	Pn	06 56 31.9	0.0
COLC	**Colonia**	**1.50**	**333**	*eP*	Pn	06 56 31.7	-0.4
DELF	**Filadelfia**	**1.52**	**317**	*eP*	Pb	06 56 33.4	-0.2
HORNC	**Hornillas**	**1.53**	**334**	*eP*	Pn	06 56 32.4	-0.2
GUAB	**Guayabo de Bag**	**1.55**	**333**	*eP*	Pn	06 56 32.8	0.0
VERA	**Finca Concepci**	**1.56**	**347**	*eP*	Pn	06 56 32.8	-0.1
MESS	**Mesas**	**1.56**	**334**	*eP*	Pn	06 56 32.9	-0.1
EDSV	**San Vito**	**1.59**	**108**	*eP*	Pn	06 56 32.9	-0.5
CANAL	**Canalete**	**1.60**	**340**	*eP*	Pn	06 56 33.2	-0.2
CANAL				*eP*	Pb	06 56 33.6	-1.2
CLARA	**Aguas Claras**	**1.60**	**336**	*eP*	Pn	06 56 33.6	+0.1
CLARA				*eP*	Pn	06 56 33.6	+0.1
VMAR	**Armenia, Volca**	**1.60**	**338**	*eP*	Pn	06 56 33.7	+0.2
VMAR				*eP*	Pb	06 56 33.8	-1.0
VMAR				*eP*	Pg	06 56 33.9	-2.3
GP77	**Hacienda Santa**	**1.64**	**331**	*eP*	Pn	06 56 34.2	+0.1
GPS2	**Hotel Rincn d**	**1.65**	**330**	*eP*	Pn	06 56 33.5	-0.7
GPS2				*eP*	Pb	06 56 34.3	-1.5
BRIBI	**Bribri**	**1.66**	**79**	*eP*	Pb	06 56 35.6	-0.2
GPS3	**Bodega del ICE**	**1.66**	**329**	*eP*	Pn	06 56 33.0	-1.3
GPS3				*eP*	Pb	06 56 34.9	-1.0
LAPC	**Finca la Perla**	**1.70**	**328**	*eP*	Pn	06 56 34.6	-0.3
BUEV	**Buena Vista**	**1.72**	**329**	*eP*	Pn	06 56 35.4	+0.3
GBS3	**Finca Las Img**	**1.73**	**327**	*eP*	Pn	06 56 35.5	+0.3
GBS3				*eP*	Pb	06 56 36.0	-1.0
GB1A	**Borinquen Arri**	**1.73**	**329**	*eP*	Pn	06 56 35.5	+0.2
GB1A				*eP*	Pb	06 56 35.7	-1.4
HZTE	**Horizontes, Gu**	**1.75**	**322**	*eP*	Pn	06 56 36.1	+0.6

*IDC **17** 06:59:13.8±0.9, 55°.47S×29°.65W, h0km, mb4.3/5, mbtmp4.3/6, ML4.0/1, MS3.7/24, Error ellipse: s-maj=35.0km s-min=21.0km az=70.0*
*NEIC **17** 06:59:15.8±1.5, 55°.49S±0°.09×29°.8W±0°.2, h10km±1km, mb4.8/30, Error ellipse: s-maj=16.5km s-min=15.6km az=83.0*
*GCMT **17** 06:59:17.8±0.4, 55°.63S±0°.05×29°.65W±0°.04, h18km±1km, MW4.8/82, Moment Tensor Solution. s21,c22; s82,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.25±.18; $M_{\theta\theta}$0.38±.12; $M_{\phi\phi}$1.87±.12; $M_{r\theta}$0.19±.39; $M_{\phi\phi}$-0.32±.07; $M_{\phi r}$0.39±.25; Best double couple: $M_0$2.13500×10^{16} NP1:ϕ_s174.00000°, δ50.00000°, λ-83.00000°. NP2: ϕ_s343.00000°, δ41.00000°, λ-99.00000°. Principal axes: T 1.9650, Plg5.0000°, Azm259.0000°; N 0.3370, Plg6.0000°, Azm350.0000°; P -2.3050, Plg83.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 06:59:15.5±0.6, 55°.45S±0°.09×29°.74W±0°.09, h10km, n67, σ0.990/43, mb4.8/18, MS3.7/22, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.07 284**			**Pn**	**07 00 17.1**	**-0.6**
ESPZ	**Base Esperanza**	**15.88 229**		Pn	**Pn**	**07 02 58.9**	**+0.1**
EFI	**East Falkland**	**17.19 271**			**Pn**	**07 03 15.7**	**+0.3**
EFI				IAmb	IAmb	07 03 24.1	
	comp=Z,63nm,1.4s						
VNA1	**Neumayer--Stat**	**17.91 157**		⇑P	**P**	**07 03 26.9**	**+2.1**
	comp=Z,2.5nm,0.3s						
VNA3	**Neumayer Olymp**	**18.06 159**		⇑P	**Pn**	**07 03 25.9**	**-0.2**
	comp=Z,4.4nm,0.4s						
VNA2	**Neumayer--Watz**	**18.31 157**		⇑P	**Pn**	**07 03 29.2**	**+0.1**
	comp=Z,7.2nm,0.8s,baz=311,slow=13						
PMSA	**Palmer Station**	**19.23 227**		LR	LR	07 09 43.9	
	comp=Z,237nm,20.1s,baz=66,slow=33						
SNAA	**Sanae**	**19.89 155**			**P**	**07 03 46.4**	**-0.3**
SNAA	**Sanae**	**19.89 155**		⇑P	**P**	**07 03 46.2**	**-0.4**
	comp=Z,352nm,0.8s						
SNAA	**Sanae**	**19.89 155**		P	**P**	**07 03 46.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=309,slow=9.7,SNR=35						
SNAA				LR	LR	07 09 50.8	
	comp=Z,74nm,21.9s,baz=7.5,slow=32						
	comp=Z,14nm,0.8s						
TROLL	**Troll, Antarti**	**21.43 153**		⇑P	**P**	**07 04 02.5**	**-0.9**
	comp=Z,575nm,0.7s						
MG01	**Puerto William**	**21.47 256**		P	**P**	**07 04 03.3**	**-0.4**
MG01				IAmb	IAmb	07 04 07.7	
	comp=Z,48nm,1.1s						
BELA	**Belgrano 2**	**22.59 183**		P	**P**	**07 04 16.0**	**+0.4**
MG02	**Cerro Sombrero**	**23.08 260**		P	**P**	**07 04 20.2**	**-0.7**
MG05	**Puerto Natales**	**25.38 261**		P	**P**	**07 04 41.0**	**-1.5**
GO09	**Cerro Castillo**	**25.46 262**		P	**P**	**07 04 41.5**	**-1.8**
GO09				IAmb	IAmb	07 05 08.7	
	comp=Z,34nm,1.1s						
TRQA	**Tornquist**	**27.76 295**		P	**P**	**07 05 04.4**	**+0.3**
TRQA				IAmb	IAmb	07 05 19.1	
	comp=Z,18nm,1.4s						
PLCA	**Paso Flores**	**30.47 282**		LR	LR	07 17 51.7	
	comp=Z,189nm,18.7s,baz=135,slow=37						
ITQB	**Itaqui**	**32.11 312**		P	**P**	**07 05 43.4**	**+0.7**
QSPA	**South Pole Qui**	**34.80 180**		P	**P**	**07 06 06.7**	**+0.6**
QSPA				IAmb	IAmb	07 06 08.0	
	comp=Z,17nm,0.8s						
QSPA	**South Pole Qui**	**34.80 180**		P	**P**	**07 06 06.1**	**+0.1**
	comp=Z,16nm,0.9s,baz=207,slow=3.3,SNR=57						
QSPA				LR	LR	07 19 32.7	
	comp=Z,159nm,20.1s,baz=192,slow=35						
	comp=Z,16nm,0.9s						
CPUP	**Villa Florida**	**35.34 314**		P	**P**	**07 06 10.8**	**0.0**
CPUP				IAmb	IAmb	07 06 18.8	
	comp=Z,7.8nm,0.9s						
CPUP	**Villa Florida**	**35.34 314**		P	**P**	**07 06 10.6**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=147,slow=5.8,SNR=5.1						
CPUP				LR	LR	07 19 20.2	
	comp=Z,120nm,20.6s,baz=164,slow=34						
	comp=Z,3.1nm,0.9s						
CFA	**Coronel Fontan**	**36.00 295**		LR	LR	07 21 58.4	
	comp=Z,76nm,19.6s,baz=122,slow=38						
ZON	**Zonda**	**36.27 295**		P	**P**	**07 06 18.5**	**-0.4**
CO01	**Juntas del Tor**	**38.25 295**		P	**P**	**07 06 35.7**	**-0.2**
AQDB	**Aquidauana**	**40.00 320**		P	**P**	**07 06 49.7**	**-0.5**
AC02	**Maricunga**	**40.32 299**		P	**P**	**07 06 52.7**	**-0.7**
AC02				IAmb	IAmb	07 07 04.2	
	comp=Z,18nm,1.3s						
MAW	**Mawson**	**41.48 145**		P	**P**	**07 07 00.6**	**-1.3**
	comp=Z,2.8nm,0.7s,baz=237,slow=

ISC 17 07:00:09.5±0.3,16:39S±0.06×173:20W±0.06,h10km, n377,σ1°18/339,mb4.8/51,MS3.9/35,14C-6D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.82**	**29**		**Pn**	**07 00 50.7**	**-4.0**
AFI	**Afiamalu**	**2.82**	**29**	P	**Pn**	**07 00 50.9**	**-3.8**
NIUE	**Niue**	**4.11**	**131**	Pn	**Pn**	**07 01 10.1**	**-2.2**
NIUE	**Niue**	**4.11**	**131**	P	**Pn**	**07 01 10.3**	**-2.0**
TAVE	**Taveuni**	**6.44**	**266**	P	Pb	07 01 53.0	-8.7
DGTI	**Dogotuki**	**6.78**	**270**	P	Pn	07 01 57.2	+8.1
MSVF	**Nonsavu**	**8.48**	**260**	P	Pn	07 02 21.5	+9.0
MSVF	**Nonsavu**	**8.48**	**260**	Pn	Pn	07 02 20.7	+8.2
	1.6nm,0.3s,baz=129,slow=15,SNR=14						
MSVF				LR	LR	07 05 05.5	
	comp=Z,996nm,18.8s,baz=19,slow=36						
RAO	**Raoul Island**	**13.52**	**198**	LR	LR	07 08 01.4	
	comp=Z,281nm,18.9s,baz=80,slow=35						
RAR	**Rarotonga**	**13.59**	**113**	Pn	**Pn**	**07 03 20.3**	**-2.0**
RAR	**Rarotonga**	**13.59**	**113**	Pn	**Pn**	**07 03 21.3**	**-1.1**
	4.8nm,0.3s,baz=277,slow=23,SNR=29						
RAR				LR	LR	07 07 14.3	
	comp=Z,279nm,20.0s,baz=344,slow=31						
	13nm,0.4s						
MARNC	**Mare, Loyalty**	**18.46**	**251**		**Pn**	**07 04 27.7**	**+2.1**
PINNC	**Pines Island,**	**19.26**	**248**	P	**P**	**07 04 32.9**	**-1.3**
PINNC				IAmb	IAmb	07 04 38.9	
	comp=Z,58nm,1.0s						
DZM	**Mont Dzumac**	**20.03**	**250**	*e*S	**S**	**07 08 24.1**	**-4.0**
	comp=Z,154nm,26.5s						
DZM				*e*LR	LR	07 09 33.8	
	comp=Z,695nm,24.5s						
DZM	**Mont Dzumac**	**20.03**	**250**	P	**Pn**	**07 04 45.6**	**+1.1**
DZM				IAmb	IAmb	07 04 50.9	
	comp=Z,43nm,1.2s						
DZM	**Mont Dzumac**	**20.03**	**250**	P	**Pn**	**07 04 51.0**	**+6.5**
DZM	**Mont Dzumac**	**20.03**	**250**	P	**P**	**07 04 42.0**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=115,slow=19,SNR=1.4						
DZM				LR	LR	07 11 24.1	
	comp=Z,485nm,18.1s,baz=48,slow=34						
	comp=Z,5.6nm,0.8s						
NOUC	**Port Laguerre**	**20.16**	**250**	P	Pn	07 04 52.9	+6.9
KOUNC	**Koumac, New Ca**	**21.75**	**256**	P	**P**	**07 05 02.5**	**+1.2**
KOUNC				IAmb	IAmb	07 05 08.3	
	comp=Z,32nm,1.1s						
PAE	**Paea**	**22.62**	**97**	*e*T	T	07 28 27.1	
	comp=Z,6.3nm,0.3s						
PPT2	**Papeete2**	**22.62**	**96**	*e*P	**P**	**07 05 13.3**	**+2.5**
	comp=Z,81nm,29.0s						
PPT2				*e*LR	LR	07 10 08.0	
	comp=Z,216nm,24.2s						
PPT2				*e*LR	LR	07 10 25.2	
	comp=Z,287nm,23.8s						
PPT2	**Papeete2**	**22.62**	**96**	*e*T	T	07 28 24.3	
	comp=Z,5.1nm,0.3s						
PPT	**Papeete**	**22.62**	**96**	LR	LR	07 11 22.0	
	comp=Z,151nm,21.6s,baz=274,slow=30						
TVO	**Taravao**	**22.93**	**97**	*e*T	T	07 28 46.7	
	comp=Z,0.2nm,0.2s						
URZ	**Urewera**	**23.40**	**199**	P	**P**	**07 05 24.1**	**+5.6**
TOZ	**Tahuroa Road**	**23.48**	**203**	P	**P**	**07 05 20.5**	**+1.1**
TOZ				IAmb	IAmb	07 05 24.0	
	comp=Z,47nm,1.5s						
RTZ	**Ruatahuna**	**23.76**	**199**	P	**P**	**07 05 23.5**	**+1.3**
PMOR	**Pomariorio Ree**	**24.40**	**90**	*e*T	T	07 30 43.3	
	comp=Z,3.8nm,0.2s						
HIZ	**Hauiti**	**24.41**	**203**	P	**P**	**07 05 28.1**	**-0.1**
BKZ	**Black Stump Fm**	**24.42**	**200**	P	**P**	**07 05 28.8**	**+0.5**
BKZ				IAmb	IAmb	07 05 42.4	
	comp=Z,40nm,1.6s						
MRZ	**Mangatainoka R**	**26.07**	**200**	P	**P**	**07 05 41.9**	**-1.3**
MRZ				IAmb	IAmb	07 05 58.5	
	comp=Z,40nm,1.5s						
HNR	**Honiara**	**27.05**	**281**	LR	LR	07 14 56.0	
	comp=Z,8μm,21.5s,baz=118,slow=33						
QRZ	**Quartz Range**	**27.31**	**204**	P	**P**	**07 05 55.7**	**+1.4**
QRZ	**Quartz Range**	**27.31**	**204**	P	**P**	**07 05 57.4**	**+3.1**
TUWZ	**Tuamarina**	**27.31**	**201**	P	**P**	**07 05 55.2**	**+0.8**
NNZ	**Nelson**	**27.32**	**202**		**P**	**07 05 56.6**	**+2.1**
DSZ	**Denniston Nort**	**28.38**	**204**	P	**P**	**07 06 03.6**	**-0.3**
INZ	**Inchbonnie**	**29.35**	**203**	P	**P**	**07 06 12.8**	**+0.3**
FOZ	**Fox Glacier**	**30.67**	**205**	P	**P**	**07 06 24.4**	**+0.2**
MLZ	**Mavora Lakes**	**32.87**	**205**	P	**P**	**07 06 43.1**	**-0.5**
TAOE	**Nuku Hiva Isla**	**33.07**	**81**	*e*LR	LR	07 15 10.7	
	comp=Z,186nm,24.5s						
TAOE	**Nuku Hiva Isla**	**33.07**	**81**	*e*T	T	07 41 27.2	
	comp=Z,39nm,0.2s						
ARMA	**Armidale**	**35.01**	**240**	P	**P**	**07 07 01.1**	**-1.4**
KRVT	**Keravat (AS076**	**36.18**	**286**	LR	LR	07 20 01.7	
	comp=Z,110nm,20.6s,baz=107,slow=33						
CTA	**Charters Tower**	**38.62**	**258**	LR	LR	07 21 32.8	
	comp=Z,146nm,19.0s,baz=88,slow=33						
CTAO	**Charters Tower**	**38.62**	**258**	P	**P**	**07 07 31.9**	**-1.3**
H11S2	**WAKE ISLAND Hy**	**39.91**	**329**	T	T	07 50 33.2	
	baz=149,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**39.92**	**329**	T	T	07 50 23.2	
	baz=149,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**39.92**	**329**	T	T	07 50 02.7	
	baz=149,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**40.86**	**331**	T	T	07 51 24.5	
	baz=150,slow=76,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**40.87**	**331**	T	T	07 51 25.0	
	baz=150,slow=76,SNR=6.1						
H11N2	**WAKE ISLAND Hy**	**40.88**	**331**	T	T	07 51 25.9	
	baz=150,slow=76,SNR=7.4						
TOO	**Toolangi**	**42.00**	**232**	P	**P**	**07 07 58.8**	**-2.3**
TOO				IAmb	IAmb	07 08 49.0	
	comp=Z,23nm,1.6s						
COEN	**Coen**	**42.12**	**267**	P	**P**	**07 08 02.3**	**0.0**
COEN				IAmb	IAmb	07 09 21.9	
	comp=Z,29nm,1.6s						
STKA	**Stephens Creek**	**43.72**	**241**	P	**P**	**07 08 14.2**	**-0.9**
STKA	**Stephens Creek**	**43.72**	**241**	P	**P**	**07 08 13.8**	**-1.3**
	comp=Z,6.4nm,0.8s,baz=88,slow=11,SNR=13						
STKA				LR	LR	07 24 16.5	
	comp=Z,86nm,18.8s,baz=34,slow=33						
	comp=Z,6.4nm,0.8s						
BBOO	**Buckleboo**	**48.49**	**241**	P	**P**	**07 08 51.3**	**-1.4**
WR0	**Warramunga Arr**	**49.62**	**258**	P	**P**	**07 09 00.1**	**-1.4**
WR0				IAmb	IAmb	07 09 17.8	
	comp=Z,27nm,1.8s						
WB0	**Warramunga Arr**	**49.78**	**258**	P	**P**	**07 09 01.0**	**-1.7**
WB0				IAmb	IAmb	07 10 54.4	
	comp=Z,27nm,1.6s						
WB2	**Warramunga Arr**	**49.80**	**258**	P	**P**	**07 09 01.2**	**-1.7**
WB2				IAmb	IAmb	07 09 11.3	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**49.81**	**258**	P	**P**	**07 09 00.9**	**-2.1**
WRA	**Warramunga Arr**	**49.81**	**258**	P	**P**	**07 09 00.9**	**-2.1**
	comp=Z,1.3nm,0.4s,baz=95,slow=6.7,SNR=60						
WRA				PcP	**PcP**	**07 10 23.2**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=91,slow=4.0,SNR=5.2						
	comp=Z,1.3nm,0.4s						
AS31	**Alice Springs**	**49.99**	**253**	P	**P**	**07 09 02.7**	**-1.6**
ASAR	**Alice Springs**	**50.00**	**253**	P	**P**	**07 09 02.2**	**-2.2**
ASAR	**Alice Springs**	**50.00**	**253**	P	**P**	**07 09 02.5**	**-1.9**
	comp=Z,13nm,0.6s,baz=89,slow=8.1,SNR=221						
ASAR				PcP	**PcP**	**07 10 24.2**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=105,slow=4.4,SNR=1.4						
ASAR				LR	LR	07 28 53.2	
	comp=Z,136nm,20.6s,baz=100,slow=35						
	comp=Z,13nm,0.6s						
GUMO	**Guam**	**51.03**	**303**	LR	LR	07 28 55.0	
	comp=Z,25nm,18.8s,baz=278,slow=34						
FORT	**Forrest**	**55.15**	**244**	P	**P**	**07 09 39.8**	**-2.6**
KNRA	**Kununurra**	**55.62**	**262**	P	**P**	**07 09 44.8**	**-1.2**
RPN	**Rapa Nui**	**59.73**	**112**	LR	LR	07 28 48.5	
	comp=Z,61nm,18.9s,baz=50,slow=29						
SOEI	**Soe**	**61.08**	**268**	P	**P**	**07 10 24.6**	**+0.3**
JCJ	**Chichijima**	**61.18**	**314**	LR	LR	07 31 35.4	
	comp=Z,52nm,19.4s,baz=128,slow=31						
PSA00	**Pilbara Seismi**	**63.11**	**254**	P	**P**	**07 10 35.8**	**-2.0**
NWAO	**Narrogin (SRO)**	**64.31**	**241**	LR	LR	07 38 44.9	
	comp=Z,53nm,18.8s,baz=230,slow=36						
DAV	**Davao City (W)**	**64.89**	**286**	LR	LR	07 37 39.0	
	comp=Z,39nm,18.3s,baz=155,slow=35						
SHEM	**Shemya Is, Ala**	**69.70**	**352**	LR	LR	07 34 17.3	
	comp=Z,86nm,21.7s,baz=332,slow=29						
MJAR	**Matsushiro Arr**	**69.81**	**320**	LR	LR	07 35 51.5	
	comp=Z,49nm,22.0s,baz=151,slow=31						
JOW	**Kunigami**	**71.22**	**306**	LR	LR	07 36 35.1	
	comp=Z,65nm,20.5s,baz=146,slow=31						
PKM	**Mcpherson Peak**	**71.88**	**44**	P	**P**	**07 11 33.5**	**+0.3**
	baz=234						
SMMC	**Simmler**	**72.01**	**44**	P	**P**	**07 11 34.5**	**+0.8**
	baz=234						
PMPB	**Monarch Peak**	**72.02**	**42**	P	**P**	**07 11 34.2**	**+0.4**
PMPB				IAmb	IAmb	07 11 59.0	
	comp=Z,17nm,1.4s						
JNU	**Nakatsue**	**72.61**	**313**	LR	LR	07 37 28.2	
	comp=Z,36nm,18.8s,baz=60,slow=31						
KMRM	**Mail Ridge**	**72.72**	**38**	P	**P**	**07 11 38.8**	**+0.8**
VTX	**Valle De La Tr**	**72.74**	**49**	P	**P**	**07 11 38.0**	**-0.2**
VTX				IAmb	IAmb	07 12 31.5	
	comp=Z,16nm,1.5s						
VES	**Vestal, Richgr**	**72.92**	**44**	P	**P**	**07 11 39.4**	**+0.4**
	baz=234,SNR=5.2						
MURC	**Murrieta**	**72.93**	**46**	P	**P**	**07 11 39.4**	**+0.1**
	baz=236						
ESJX	**Sierra Juarez**	**72.95**	**48**	P	**P**	**07 11 39.3**	**-0.3**
BFSC	**Mount Baldy Ra**	**72.97**	**46**	P	**P**	**07 11 39.6**	**0.0**
	baz=236						
MONP2	**Monument Peak**	**73.09**	**47**	P	**P**	**07 11 40.6**	**+0.2**
	baz=237						
EDW2	**Edwards Air Fo**	**73.10**	**45**	P	**P**	**07 11 40.4**	**+0.1**
	baz=235,SNR=6.3						
IKP	**In-Ko-Pah, Jac**	**73.18**	**48**	P	**P**	**07 11 41.1**	**+0.3**
	baz=237						
ISA	**Isabella, Lake**	**73.22**	**44**	P	**P**	**07 11 41.3**	**+0.3**
	baz=235,SNR=5.1						
PFO	**Pinyon Flats O**	**73.45**	**47**	P	**P**	**07 11 42.7**	**+0.3**
	baz=237						
PFO	**Pinyon Flats O**	**73.45**	**47**	P	**P**	**07 11 42.2**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=333,slow=8.6,SNR=2.7						
PFO				LR	LR	07 36 00.7	
	comp=Z,87nm,20.3s,baz=236,slow=29						
	comp=Z,2.1nm,0.9s						
TPFO	**Pinon Flats**	**73.45**	**47**	P	**P**	**07 11 42.2**	**-0.3**
	baz=237						
PETK	**Petropavlovsk-**	**73.63**	**342**	P	**P**	**07 11 42.5**	**-0.4**
	comp=Z,7.9nm,0.9s,baz=120,slow=8.8,SNR=5.0						
	comp=Z,7.9nm,0.9s						
LRMC	**Laurel Mtn Rad**	**73.65**	**45**	P	**P**	**07 11 43.5**	**0.0**
	baz=236,SNR=6.8						
QSPA	**South Pole Qui**	**73.66**	**180**	P	**P**	**07 11 44.0**	**+0.8**
QSPA				IAmb	IAmb	07 11 45.1	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**73.66**	**180**	P	**P**	**07 11 43.7**	**+0.5**
	comp=Z,7.2nm,0.9s,baz=34,slow=1.0,SNR=33						
	comp=Z,7.2nm,0.9s						
CWC	**Cottonwood Cre**	**73.93**	**44**	P	**P**	**07 11 45.3**	**+0.1**
	baz=235						
MDPB	**Devils Postpil**	**73.97**	**42**	P	**P**	**07 11 44.9**	**-0.7**
BELC	**Belle Mtn. Jos**	**73.98**	**47**	P	**P**	**07 11 45.9**	**+0.3**
	baz=237						
OMMB	**Old Mammoth Mi**	**74.01**	**42**	P	**P**	**07 11 44.9**	**-1.0**
MPMC	**Manual Prospec**	**74.11**	**44**	P	**P**	**07 11 46.7**	**+0.3**
	baz=236,SNR=8.9						
MLAC	**Mammoth, Mammo**	**74.12**	**42**	P	**P**	**07 11 46.9**	**+0.5**
	baz=234						
GSC	**Goldstone, Bar**	**74.14**	**45**	P	**P**	**07 11 46.5**	**0.0**
	baz=236						
BC3	**Big Chuckawall**	**74.18**	**47**	P	**P**	**07 11 47.4**	**+0.7**
	baz=238						
HEC	**Hector,Ludlow**	**74.20**	**46**	P	**P**	**07 11 46.9**	**+0.1**
	baz=237						
YBH	**Yreka Blue Hor**	**74.27**	**37**	P	**P**	**07 11 47.9**	**+0.8**
YBH				IAmb	IAmb	07 12 01.6	
	comp=Z,8.8nm,0.9s						
YBH	**Yreka Blue Hor**	**74.27**	**37**	P	**P**	**07 11 47.7**	**+0.6**
	comp=Z,6.1nm,0.7s,baz=165,slow=5.0,SNR=18						
YBH				LR	LR	07 36 30.7	
	comp=Z,95nm,20.3s,baz=220,slow=29						
	comp=Z,6.1nm,0.7s						
QSM	**Queen of Sheba**	**74.47**	**44**	P	**P**	**07 11 48.4**	**+0.1**
QSM				IAmb	IAmb	07 11 49.1	
	comp=Z,8.5nm,0.9s						
PNTR	**Pine Nut**	**74.50**	**41**	P	**P**	**07 11 48.9**	**+0.3**
PNTR				IAmb	IAmb	07 11 49.9	
	comp=Z,8.1nm,0.8s						
DSP	**Deep Springs**	**74.53**	**43**	P	**P**	**07 11 49.2**	**+0.7**
GMRC	**Granite Mounta**	**74.64**	**46**	P	**P**	**07 11 50.0**	**+0.6**
	baz=237						
IRM	**Iron Mountain**	**74.67**	**47**	P	**P**	**07 11 49.7**	**+0.2**
	baz=238						
GRAC	**Grapevine Rang**	**74.72**	**43**	P	**P**	**07 11 50.2**	**+0.5**
	baz=235						
FURC	**Furnace Creek,**	**74.75**	**44**	P	**P**	**07 11 50.2**	**+0.5**
	baz=236						
TUQ	**Turquoise Moun**	**74.82**	**45**	P	**P**	**07 11 50.7**	**+0.3**
	baz=237						
NVAR	**Mina Array Bea**	**74.93**	**42**	P	**P**	**07 11 51.2**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=227,slow=10,SNR=43						
NVAR				LR	LR	07 37 17.7	
	comp=Z,114nm,20.6s,baz=244,slow=30						
	comp=Z,4.2nm,0.8s						
TPNV	**Topopah Spring**	**75.43**	**44**	P	**P**	**07 11 54.2**	**+0.2**
	baz=236,SNR=6.2						
PDMCI	**Parker Dam,Lak**	**75.45**	**47**	P	**P**	**07 11 54.3**	**+0.4**
	baz=238						
Q17K	**Contact Creek**	**75.74**	**9**	P	**P**	**07 11 57.3**	**+2.1**
	baz=197						
KDAK	**Kodiak Island**	**75.85**	**11**	LR	LR	07 37 36.0	
	comp=Z,104nm,21.2s,baz=217,slow=30						
K05A	**Summer Lake**	**75.94**	**37**	P	**P**	**07 11 57.2**	**+0.4**
R11B	**Troy Canyon, C**	**76.64**	**43**	P	**P**	**07 12 01.1**	**+0.3**
	baz=236,SNR=6.5						
TUC	**Tucson**	**76.86**	**50**	P	**P**	**07 12 02.6**	**+0.5**
	baz=241						
P18K	**Big Mountain,**	**76.92**	**9**	P	**P**	**07 12 02.5**	**+0.7**
	baz=198						
M13K	**Dall Lake**	**76.95**	**5**	P	**P**	**07 12 02.9**	**+1.1**
	baz=190						
KSRS	**Korea Array**	**77.00**	**316**	LR	LR	07 39 54.7	
	comp=Z,20nm,21.8s,baz=135,slow=31						
O17K	**Koliganek Bris**	**77.01**	**8**	P	**P**	**07 12 03.0**	**+0.8**
	baz=196						
O18K	**Koktuh Hills**	**77.37**	**9**	P	**P**	**07 12 05.1**	**+0.9**
	baz=198						
M14K	**Bethel**	**77.40**	**6**	P	**P**	**07 12 05.5**	**+1.1**
	baz=191						
X16A	**Lo Mia Camp, P**	**77.42**	**48**	P	**P**	**07 12 05.1**	**-0.2**
M15K	**Kasigluk River**	**77.47**	**6**	P	**P**	**07 12 05.8**	**+1.1**
	baz=192						
CCUT	**Cedar City**	**77.69**	**45**	P	**P**	**07 12 07.2**	**+0.3**
CCUT				IAmb	IAmb	07 12 08.5	
	comp=Z,9.1nm,1.4s						
O19K	**Port Alsworth**	**77.83**	**10**	P	**P**	**07 12 08.2**	**+1.5**
	baz=198						
U15A	**North Rim**	**77.84**	**46**	P	**P**	**07 12 07.9**	**+0.2**
U15A				IAmb	IAmb	07 12 09.3	
	comp=Z,22nm,1.9s						
L14K	**Kuka Creek**	**77.92**	**5**	P	**P**	**07 12 09.2**	**+2.0**
	baz=190						
WUAZ	**Wupatki**	**78.02**	**47**	P	**P**	**07 12 09.0**	**+0.4**
	baz=240						
ELK	**Elko**	**78.19**	**41**	P	**P**	**07 12 09.6**	**0.0**
ELK	**Elko**	**78.19**	**41**	P	**P**	**07 12 09.2**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=58,slow=9.9,SNR=11						
	comp=Z,2.4nm,0.9s						
L15K	**Ungalak Mounta**	**78.36**	**6**	P	**P**	**07 12 11.2**	**+1.5**
	baz=192						
M17K	**Holitna River**	**78.54**	**8**	P	**P**	**07 12 12.3**	**+1.6**
	baz=195						
L16K	**Owhat River**	**78.60**	**7**	P	**P**	**07 12 13.1**	**+2.1**
	baz=193						
G08A	**Pilot Rock**	**78.62**	**36**	P	**P**	**07 12 11.5**	**-0.2**
G08A				IAmb	IAmb	07 12 12.7	
	comp=Z,9.6nm,1.1s						
M18K	**Stony River**	**78.84**	**8**	P	**P**	**07 12 13.1**	**+0.8**
	baz=197						
K15K	**Wolf Creek Mou**	**78.96**	**6**	P	**P**	**07 12 14.6**	**+1.6**
	baz=191						
HAWA	**Hanford**	**78.97**	**35**	P	**P**	**07 12 13.4**	**-0.1**
HAWA				IAmb	IAmb	07 12 27.6	
	comp=Z,20nm,1.6s						
MSU	**Marysvale**	**78.99**	**44**	P	**P**	**07 12 14.3**	**+0.3**
L17K	**Donlin**	**79.15**	**7**	P	**P**	**07 12 15.7**	**+1.8**
	baz=195						
CRAG	**Craig**	**79.18**	**22**	P	**P**	**07 12 15.7**	**+1.4**
	baz=219						
121A	**Cookes Peak, D**	**79.21**	**51**	P	**P**	**07 12 15.6**	**+0.4**
	baz=243						
L18K	**Granite Mounta**	**79.43**	**8**	P	**P**	**07 12 16.7**	**+1.2**
	baz=196						
DUG	**Dugway, Tooele**	**79.45**	**43**	P	**P**	**07 12 16.8**	**+0.5**
	baz=238						
M20K	**Styx River**	**79.62**	**10**	P	**P**	**07 12 17.3**	**+0.6**
	baz=200						
SIT	**Sitka**	**79.68**	**20**	P	**P**	**07 12 18.5**	**+1.5**
	baz=217						
K17K	**Iditarod**	**79.71**	**7**	P	**P**	**07 12 18.5**	**+1.5**
	baz=194						
D08A	**Wollman Farm,**	**79.72**	**34**	P	**P**	**07 12 17.6**	**+0.2**
D08A				IAmb	IAmb	07 12 18.6	
	comp=Z,11nm,1.1s						
GLI	**Glacier Island**	**79.80**	**13**	P	**P**	**07 12 18.3**	**+0.7**
	baz=205						
KNK	**Knik Glacier**	**80.01**	**12**	P	**P**	**07 12 18.3**	**-0.5**
	baz=204						
M22K	**Willow**	**80.01**	**11**	P	**P**	**07 12 18.9**	**+0.3**
	baz=202						
J16K	**Anvik River**	**80.02**	**6**	P	**P**	**07 12 19.4**	**+0.7**
J16K				IAmb	IAmb	07 12 32.7	
	comp=Z,17nm,0.9s						
J16K	**Anvik River**	**80.02**	**6**	P	**P**	**07 12 19.4**	**+0.7**
	baz=192						
TTA	**Tatalina**	**80.20**	**8**	P	**P**	**07 12 20.9**	**+1.1**
	baz=197						
HLID	**Hailey**	**80.27**	**39**	P	**P**	**07 12 21.1**	**+0.4**
	baz=236,SNR=9.6						
BMRM	**Bremner River**	**80.42**	**14**	P	**P**	**07 12 21.0**	**0.0**
	baz=208						
M23K	**Glacier View**	**80.50**	**12**	P	**P**	**07 12 22.3**	**+0.9**
	baz=205						
CUT	**Chulitna**	**80.59**	**11**	P	**P**	**07 12 21.6**	**-0.2**
	baz=202						
SCM	**Sheep Creek Mo**	**80.62**	**12**	P	**P**	**07 12 22.0**	**-0.1**
	baz=205						
J18K	**Innoko River**	**80.63**	**7**	P	**P**	**07 12 22.2**	**+0.2**
	baz=196						
MNTX	**Cornudas Mount**	**80.66**	**53**	P	**P**	**07 12 22.9**	**-0.1**
	baz=244						
K20K	**Telida**	**80.88**	**9**	P	**P**	**07 12 23.5**	**+0.1**
	baz=199						
NJ2	**Nanjing**	**80.91**	**307**	*e*P	**P**	**07 12 26.4**	**+2.2**
NJ2				pP	**PcP**	**07 12 35.3**	**+4.5**
NJ2				sP	pwP	07 12 39.3	+9.5
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,490nm,3.5s						
N25K	**Chitina, Valde**	**80.99**	**13**	P	**P**	**07 12 24.1**	**-0.1**
	baz=208						
TXAR	**Lajitas Array**	**81.00**	**56**	P	**P**	**07 12 25.2**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=224,slow=6.8,SNR=7.3						
TXAR				LR	LR	07 41 26.2	
	comp=Z,78nm,18.7s,baz=218,slow=31						
	comp=Z,0.6nm,0.6s						
P29M	**Windy Craggy**	**81.04**	**17**	P	**P**	**07 12 25.2**	**+0.8**
	baz=214						
M24K	**Tolsona, Glenn**	**81.10**	**12**	P	**P**	**07 12 25.3**	**+0.7**
	baz=206						
MCARA	**McCarthy VSAT**	**81.16**	**14**	P	**P**	**07 12 27.5**	**+2.6**
	baz=209						
WAT6	**Susitna Watana**	**81.22**	**12**	P	**P**	**07 12 24.8**	**-0.6**
	baz=205						
CAST	**Castle Rocks**	**81.23**	**9**	P	**P**	**07 12 24.1**	**-1.2**
	baz=200						
ANMO	**Albuquerque**	**81.29**	**50**	P	**P**	**07 12 26.4**	**-0.1**
ANMO	**Albuquerque**	**81.29**	**50**	P	**P**	**07 12 27.1**	**+0.6**
	baz=243						
ANMO	**Albuquerque**	**81.29**	**50**	P	**P**	**07 12 26.5**	**0.0**
	comp=Z,2.1nm,0.7s,baz=311,slow=5.4,SNR=14						
ANMO				LR	LR	07 41 46.7	
	comp=Z,58nm,19.2s,baz=326,slow=31						
	comp=Z,2.1nm,0.7s						
WAT1	**Susitna Watana**	**81.29**	**11**	P	**P**	**07 12 24.8**	**-0.8**
	baz=204						
PLBC	**Pleasant Camp**	**81.30**	**18**	P	**P**	**07 12 26.3**	**+0.6**
	baz=216						
O28M	**Mount Upton**	**81.33**	**16**	P	**P**	**07 12 25.8**	**-0.4**
	baz=212						
O29M	**Mount Kennedy**	**81.36**	**17**	P	**P**	**07 12 26.1**	**-0.1**
	baz=214						
NEW	**Newport**	**81.41**	**34**	P	**P**	**07 12 26.5**	**-0.1**
	baz=234						
NEW	**Newport**	**81.41**	**34**	LR	LR	07 42 12.8	
	comp=Z,52nm,18.7s,baz=174,slow=31						
G15K	**Niukluk**	**81.43**	**4**	P	**P**	**07 12 26.3**	**0.0**
	baz=189						
KLR	**Kul'dur**	**81.45**	**327**	LR	LR	07 43 22.9	
	comp=Z,33nm,21.5s,baz=308,slow=32						
TRF	**Thorofare Moun**	**81.56**	**10**	P	**P**	**07 12 26.5**	**-0.7**
	baz=202						
CHUM	**Lake Minchumin**	**81.64**	**9**	P	**P**	**07 12 26.6**	**-0.7**
	baz=200						
J20K	**Nowinta River**	**81.65**	**8**	P	**P**	**07 12 27.5**	**+0.1**
	baz=198						
P30M	**Million Dollar**	**81.67**	**17**	P	**P**	**07 12 28.0**	**+0.3**
	baz=215						
DHY	**Denali Highway**	**81.74**	**12**	P	**P**	**07 12 27.3**	**-0.8**
	baz=205						
S34M	**Telegraph Cree**	**81.77**	**21**	P	**P**	**07 12 29.3**	**+1.2**
	baz=220						
G16K	**Koyuk River**	**81.95**	**5**	P	**P**	**07 12 30.6**	**+1.6**
	baz=190						
PAX	**Paxson**	**82.02**	**12**	P	**P**	**07 12 29.0**	**-0.5**
	baz=207						
BPAW	**Bear Paw Mtn.**	**82.05**	**10**	P	**P**	**07 12 29.9**	**+0.4**
	baz=202						
MCK	**McKinley**	**82.05**	**11**	P	**P**	**07 12 28.8**	**-0.8**
	baz=204						
M26K	**Nabesna, AK**	**82.06**	**14**	P

baz=200
R33M Jennings River 82.95 20 P P 07 12 35.1 +0.6
baz=220
MLY Manley 82.96 9 P P 07 12 34.2 -0.2
baz=202
HDA Harding Lake 83.03 11 P P 07 12 34.3 -0.4
baz=205
BOZ Bozeman (W) 83.04 38 P P 07 12 35.1 -0.2
baz=238
H17A Grant Village 83.05 40 P P 07 12 36.5 +1.0
baz=239
F17K Baldwin Pennin 83.07 5 P P 07 12 35.6 +0.8
baz=192
N31M Braeburn, Yuko 83.12 17 P P 07 12 35.5 +0.3
baz=216
G19K Purcell Mounta 83.17 7 P P 07 12 35.7 +0.3
G19K IAmb IAmb 07 12 48.6
comp=Z,5.5nm,0.8s
G19K Purcell Mounta 83.17 7 P P 07 12 35.6 +0.3
baz=196
M29M Somme Creek 83.19 15 P P 07 12 35.0 -0.6
baz=213
SCRK Sand Creek 83.23 13 P P 07 12 35.7 -0.2
baz=208
SDCO Great Sand Dun 83.23 48 P P 07 12 35.8 -0.9
baz=243
H21K Melozitna Rive 83.24 8 P P 07 12 35.3 -0.4
baz=200
I23K Minto, Yukon-K 83.29 10 P P 07 12 35.6 -0.4
baz=203
COLA College 83.29 11 P P 07 12 35.1 -0.9
baz=204
IL31 83.37 11 P P 07 12 34.9 -1.5
IL31 IAmb IAmb 07 12 53.5
comp=Z,21nm,1.8s
ILAR Eielson Array 83.37 11 P P 07 12 35.1 -1.3
ILAR Eielson Array 83.37 11 P P 07 12 35.3 -1.1
comp=Z,1.8nm,0.7s,baz=233,slow=6.1,SNR=36
ILAR LR LR 07 42 05.5
comp=Z,32nm,20.7s,baz=166,slow=30
comp=Z,1.8nm,0.7s
J25K Salcha River, 83.52 12 P P 07 12 36.7 -0.5
baz=207
POKR Poker Plat Res 83.59 11 P P 07 12 37.1 -0.4
baz=205,SNR=6.5
E17K Hotham Inlet 83.65 4 P P 07 12 38.1 +0.3
baz=191
H22K Ishtalitna Cre 83.67 9 P P 07 12 38.0 +0.1
baz=201
M30M Minto, Yukon 83.73 16 P P 07 12 39.0 +0.6
baz=215
F19K Shaleruckik Mo 83.77 6 P P 07 12 38.5 +0.2
baz=195
J26L Joseph Creek 83.78 12 P P 07 12 39.3 +0.7
baz=208
L29M L29M 83.83 15 P P 07 12 39.3 +0.4
baz=214,SNR=5.7
H23K Yukon River 83.88 10 P P 07 12 38.0 -1.1
baz=203
G21K Allakaket 83.96 8 P P 07 12 39.4 0.0
baz=199
Q24A Divide 84.02 47 P P 07 12 40.7 -0.1
baz=244
E18K Tukpahlearik C 84.08 5 P P 07 12 40.5 +0.5
baz=192
H24K Noodor Dome 84.17 10 P P 07 12 40.6 0.0
baz=204
D17K Noatak River 84.18 4 P P 07 12 41.1 +0.6
baz=190
F20K Avaraart Lake 84.20 7 P P 07 12 41.0 +0.5
baz=197
RLMT Red Lodge 84.23 40 P P 07 12 41.3 -0.2
baz=240
PRP Porcupine Dome 84.30 11 P P 07 12 41.7 +0.3
baz=207
DAWY Dawson 84.33 14 P P 07 12 41.0 -0.3
DAWY IAmb IAmb 07 12 42.2
comp=Z,8.4nm,0.9s
DAWY Dawson 84.33 14 P P 07 12 41.6 +0.2
baz=212,SNR=6.1
N23A Red Feather La 84.35 45 P P 07 12 41.5 -0.8
baz=243
FARO Faro, Yukon 84.41 18 P P 07 12 41.2 -0.6
baz=218
E19K Redstone River 84.43 6 P P 07 12 42.0 +0.2
baz=195
H03S2 Juan Fernandez 84.50 124 T T 08 46 00.6
baz=251,slow=75,SNR=20
H03S1 Juan Fernandez 84.51 124 T T 08 46 29.3
baz=251,slow=75,SNR=18
H03S3 Juan Fernandez 84.51 123 T T 08 46 27.9
baz=251,slow=75,SNR=14
I26K Coal Creek Min 84.57 12 P P 07 12 42.9 +0.4
baz=209
K29M Barlow Dome 84.59 15 P P 07 12 43.5 +0.7
baz=214,SNR=5.5
G22K Bettles 84.61 8 P P 07 12 43.1 +0.5
baz=201
C16K Lisburne Hills 84.62 3 P P 07 12 43.7 +1.1
baz=188
F21K Alatna River 84.63 8 P P 07 12 43.5 +0.6
baz=199
G23K Bananza Creek 84.63 9 P P 07 12 42.8 -0.1
baz=202
K22A Casper 84.77 43 P P 07 12 44.0 -0.3
baz=242
MAYO Mayo, Yukon 84.81 16 P P 07 12 44.2 +0.4
baz=216
AMTX Amarillo 84.81 52 P P 07 12 44.0 -0.5
baz=246
E20K Nigu River 85.31 6 P P 07 12 46.8 +0.6
baz=196
MMPY Sheldon Lake, 85.33 18 P P 07 12 46.2 -0.3
baz=220
D19K Kuna River 85.35 6 P P 07 12 47.4 +1.0
baz=194
I28M Miner Creek 85.38 13 P P 07 12 46.9 +0.2
baz=212
TGTN Hyland Airport 85.44 20 P P 07 12 47.6 +0.6
baz=223
ABTX Abilene, Hawle 85.48 54 P P 07 12 47.3 -0.6
baz=247
J30M Hart River 85.49 15 P P 07 12 47.4 0.0
baz=215
I29M Ogilvie Camp, 85.67 14 P P 07 12 47.9 -0.1
baz=213
D20K Etivluk River 85.71 6 P P 07 12 49.8 +1.6
baz=196
E22K Anaktuvuk Pass 85.71 8 P P 07 12 49.4 +1.2
baz=201
H27K Steamboat Moun 85.71 12 P P 07 12 48.8 +0.5
baz=210
E21K Killik River 85.73 7 P P 07 12 48.7 +0.4
baz=198
G26K Porcupine Rive 85.90 11 P P 07 12 49.6 +0.5
baz=208
I30M Mount Dempster 86.01 15 P P 07 12 48.8 -1.1
I30M IAmb IAmb 07 13 02.8
comp=Z,6.8nm,0.8s
I30M Mount Dempster 86.01 15 P P 07 12 50.0 +0.1
baz=215
F25K Christian Rive 86.14 10 P P 07 12 49.7 -0.7
baz=206
D22K Ayikyak River 86.30 7 P P 07 12 50.9 -0.3
D22K Ayikyak River 86.30 7 P P 07 12 51.6 +0.5
baz=200
H29M Whitestone 86.38 13 P P 07 12 51.8 +0.3
baz=213
MAW Mawson 86.92 199 P 07 12 54.0 -0.3
MAW Mawson 86.92 199 P P 07 12 54.7 +0.4
comp=Z,2.6nm,0.6s,baz=144,slow=4.3,SNR=10
MAW LR LR 07 51 34.6
comp=Z,61nm,18.1s,baz=122,slow=36
comp=Z,2.6nm,0.6s
INK Inuvik 89.18 14 LR LR 07 45 47.8
comp=Z,56nm,19.9s,baz=184,slow=31
ELIB Princess Elisa 91.17 185 dP P 07 13 13.8 -0.7
comp=Z,12nm,0.7s
TROLL Troll, Antarti 91.77 179 ⇑P P 07 13 17.8 +0.5
comp=Z,106nm,0.6s
VNA3 Neumayer Olymp 91.86 175 ⇑P P 07 13 18.0 +0.4
comp=Z,6.1nm,0.9s
SNAA Sanae 91.91 177 P P 07 13 18.0 0.0
SNAA IAmb IAmb 07 13 19.1
comp=Z,4.4nm,1.0s
SNAA Sanae 91.91 177 ⇑P P 07 13 17.9 0.0
comp=Z,73nm,0.9s
SNAA Sanae 91.91 177 P P 07 13 17.8 0.0
comp=Z,3.3nm,0.9s,baz=229,slow=5.7,SNR=10
comp=Z,3.3nm,0.9s
VNA2 Neumayer--Watz 92.36 175 ⇑P P 07 13 20.6 +0.8
comp=Z,4.3nm,0.7s,baz=195,slow=4.0
VNA1 Neumayer--Stat 92.56 175 ⇑P P 07 13 21.6 +0.9
comp=Z,11nm,0.9s
ATAH Atahualpa 92.59 98 LR LR 07 46 20.1
comp=Z,81nm,19.1s,baz=235,slow=30
PZH PanZhiHua 92.89 297 P P 07 13 24.8 +1.5
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
CMAR Chiang Mai Arr 93.11 288 P P 07 13 24.6 +0.3
comp=Z,1.9nm,0.9s,baz=91,slow=3.0,SNR=7.1
CMAR LR LR 07 49 33.9
comp=Z,16nm,21.9s,baz=315,slow=32
comp=Z,1.9nm,0.9s
LZH Lanzhou 93.96 306 eP P 07 13 22.8 -5.3
LZH pP pP 07 13 29.9 -0.8
LZH pmax pmax
comp=Z,29nm,1.1s
ULM Lac du Bonnet 94.58 39 LR LR 07 48 46.8
comp=Z,82nm,21.7s,baz=256,slow=31
LVC Limon Verde 96.41 116 LR LR 07 47 18.8
comp=Z,50nm,19.4s,baz=215,slow=29
ARCES ARCESS Array B 125.61 352 PKP PKPdf 07 19 10.2 -0.4
comp=Z,2.6nm,1.0s,baz=38,slow=2.2,SNR=5.8
FINES FINESS Array B 132.94 347 PKP PKPdf 07 19 24.9 +0.3
comp=Z,2.2nm,0.8s,baz=27,slow=4.7,SNR=4.6
OSTC Ostas 145.08 349 ePKP PKPbc 07 19 46.1 -0.5
OSTC ex x 07 19 58.6
DPC Dobruska-Polom 145.26 349 ePKP PKPbc 07 19 47.0 -0.2
DPC ex x 07 19 59.4
KMBO Kilima Mbogo 145.27 243 PKPbc PKPdf 07 19 49.4 +0.5
comp=Z,7.8nm,1.0s,baz=55,slow=3.1,SNR=13
BURAR Bucovina Array 145.35 338 ⇑P PKPab 07 19 47.7 -0.1
OKC Ostrava-Krasne 145.39 347 ePKP PKPbc 07 19 46.1 -1.4
OKC ex x 07 20 00.1
MORC Moravsky Berou 145.58 348 ⇑P PKPab 07 19 48.7 +0.3
MORC Moravsky Berou 145.58 348 ePKP PKPbc 07 19 48.2 0.0
MORC e 07 20 00.6
MOX Moxa 145.61 355 ePKPab PKPdf 07 19 48.0 0.0
baz=7.7,slow=3.5
TESR Tescani 145.72 335 ⇓P PKPab 07 19 48.9 -0.2
WERD Werda 145.74 354 ePKPab PKPdf 07 19 48.5 +0.2
baz=7.7,slow=3.5
TANN Tannenbergstha 145.75 354 ePKPab PKPdf 07 19 48.4 0.0
baz=7.7,slow=3.5
GUNZ Gunzen 145.82 354 ePKPab PKPbc 07 19 48.9 -0.1
baz=7.7,slow=3.5
TLCR 145.85 332 ⇑P PKPbc 07 19 49.2 +0.1
WERN Wernitzgruen 145.89 354 ePKPab PKPbc 07 19 49.1 0.0
baz=7.7,slow=3.5
PRU Pruhonice 145.91 351 ePKP PKPdf 07 19 48.7 +0.1
PRU ex x 07 20 01.9
GOPC GO Pecny, Ondr 145.94 351 ePKP PKPbc 07 19 49.0 -0.3
GOPC ex x 07 20 01.3
BMRD Maredsous 146.13 2 dPKP PKPbc 07 19 49.6 -0.3
CFR Carcaliu 146.16 332 ⇑P PKPbc 07 19 50.3 +0.2
VRAC Vranov 146.21 348 ePKP PKPdf 07 19 49.4 +0.3
VRAC e 07 20 01.6
VRI Vrincioaia 146.22 335 ⇑P PKPbc 07 19 50.1 -0.2
TPGR Topolog 146.28 332 ⇓P PKPbc 07 19 50.4 -0.1
JAVC Velka Javorina 146.42 347 ePKP PKPdf 07 19 50.0 +0.4
ROTZ Rotzenmuhle 146.42 354 ePKPab PKPbc 07 19 50.8 +0.1
baz=7.7,slow=3.5
KRUC Moravsky 146.49 349 ePKP PKPdf 07 19 50.0 +0.4
KRUC e 07 20 02.4
ZVC Zvikov 146.49 351 ePKP PKPbc 07 19 51.1 +0.1
ZVC ex x 07 20 02.9
GRF Grafenberg Arr 146.59 355 ePKPab PKPbc 07 19 51.5 +0.2
baz=7.7,slow=3.5
GRF eL L 08 30 02.2
comp=Z,38nm,18.2s
HARR Harsova 146.63 332 ⇑P PKPab 07 19 52.1 -0.4
DOPR Dopca 146.67 336 ⇑P PKPab 07 19 52.5 -0.2
MLR Muntele Rosu 146.84 335 ⇓P PKPbc 07 19 52.8 +0.5
KHC Kasperske Hory 146.88 352 ePKP PKPbc 07 19 51.9 -0.2
KHC ex x 07 20 04.2
MARR Marisel-Cluj 146.89 339 ⇑P PKPbc 07 19 51.8 -0.6
MODS Modra-Piesok 146.96 347 ePKP PKPab 07 19 53.3 -0.5
BRTR Keskin Array B 147.04 320 PKPbc PKPbc 07 19 52.3 -0.7
comp=Z,6.9nm,0.8s,baz=130,slow=1.9,SNR=15
CKRC Cesky Krumlov 147.08 351 ePKP PKPbc 07 19 52.6 -0.1
CKRC ex x 07 20 05.5
GERES GERESS Array B 147.14 352 PKPbc PKPbc 07 19 52.4 -0.6
comp=Z,3.4nm,0.8s,baz=7.4,slow=3.1,SNR=7.5
VOIR 147.24 336 ⇓P PKPbc 07 19 53.8 +0.5
ARR Arges 147.46 336 ⇑P PKPab 07 19 55.0 -0.9
CONA Conrad Observa 147.68 349 iPKP PKPbc 07 19 55.0 +0.5
comp=Z,3.0nm,0.6s
RONA Rosalia, Austr 147.81 348 iPKP PKPbc 07 19 55.2 +0.4
comp=Z,3.7nm,0.6s
BIOA Bad Ischl, Aus 148.28 351 iPKiKP PKiKP 07 19 57.0 -0.7
comp=Z,3.0nm,0.4s
ARSA Arzberg 148.39 349 iPKiKP PKiKP 07 19 57.5 -0.5
comp=Z,3.2nm,0.6s
LESA Schwarzleotal 148.67 352 iPKP PKPbc 07 19 56.8 -0.3
comp=Z,3.9nm,1.0s
WATA Walderalm 148.89 354 iPKP PKPbc 07 19 57.0 -0.8
comp=Z,2.2nm,0.4s
KBA Koelnbreinsper 148.92 351 iPKP PKPbc 07 19 57.4 -0.5
comp=Z,2.2nm,0.6s
WTTA Wattenberg 148.95 354 iPKP PKPbc 07 19 58.0 0.0
comp=Z,6.6nm,0.5s
SOKA Soboth 149.03 349 iPKP PKPbc 07 19 57.2 -0.8
comp=Z,8.4nm,1.5s
DAVA Damuels 149.09 356 iPKP PKPbc 07 19 58.4 +0.2
comp=Z,6.4nm,0.7s
FETA Feichten 149.28 355 iPKP PKPbc 07 19 58.9 +0.1
comp=Z,8.0nm,1.2s
MYKA Terra Mystica 149.31 351 iPKP PKPbc 07 19 57.8 -0.9
comp=Z,2.3nm,0.5s
MMAI Mount Meron Ar 149.33 308 PKPbc PKPbc 07 19 59.4 +0.2
comp=Z,1.0nm,0.3s,baz=60,slow=6.8,SNR=1.7
ABTA Abfaltersbach 149.36 352 iPKP PKPbc 07 19 58.2 -0.7
comp=Z,5.8nm,0.7s
GBAS Gorenja Brezov 149.86 349 iPKPab PKPab 07 20 11.8 +6.4
VISS Visnje 149.91 349 iPKPab PKPab 07 20 12.1 +6.5
BOJS Bojanci 150.12 348 iPKPbc PKPbc 07 20 00.8 +0.2
BOJS iPKPab sPKPab 07 20 13.0 +3.0
TORD Torodi Ar. Bea 174.10 122 PKP PKPdf 07 20 21.0 +0.6
comp=Z,0.3nm,0.8s,baz=180,slow=1.3,SNR=1.6
TORD PKPab PKPab 07 21 50.8 -0.9
comp=Z,1.3nm,0.8s,baz=252,slow=4.0,SNR=5.9

*NEIC **17** 07:24:17.4±1.5,24°.2S±0°.1×175°.1W±0°.1,h10km±1km, mb4.5/11,Error ellipse: s-maj=23.5km s-min=18.4km az=3.0*
*IDC **17** 07:24:26.9±1.0,24°.76S×176°.85W,h0km,mb4.0/6, mbtmp4.0/7,ML5.4/1,MS3.2/1,Error ellipse: s-maj=33.0km s-min=27.5km az=171.0*
ISC 17 07:24:25.6±1.7,**24°.5S**±0°.2×**176°.4W**±0°.3,**h10**km,**n34**, σ0**87**/21,**mb4.4**/12,**3C-5D**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	8.07	49		Pn	07 26 02.1	-21
MSVF	Nonsavu	8.54	321	Pn	Pn	07 26 28.4	-0.9
MSVF	Nonsavu	8.54	321	Pn	Pn	07 26 31.0	+1.7
	1.5nm,0.3s,baz=120,slow=24,SNR=5.6						
	16nm,0.9s						
AFI	Afiamalu	11.41	23		Pn	07 26 50.4	-18
CTAO	Charters Tower	34.80	270	P	P	07 31 17.4	+0.7
CTAO				IAmb	IAmb	07 31 59.9	
	comp=Z,19nm,1.5s						
COEN	Coen	39.49	278	P	P	07 31 55.7	-0.9
COEN				IAmb	IAmb	07 32 39.1	
	comp=Z,11nm,1.4s						
AS31	Alice Springs	45.20	260	P	P	07 32 44.2	+1.0
ASAR	Alice Springs	45.21	260	P	P	07 32 43.5	+0.4
ASAR	Alice Springs	45.21	260	P	P	07 32 43.0	-0.1
	comp=Z,0.7nm,0.5s,baz=97,slow=7.7,SNR=18						
ASAR				PcP	PcP	07 34 22.4	-1.0
	comp=Z,0.3nm,0.7s,baz=107,slow=4.4,SNR=1.4						
	comp=Z,0.7nm,0.5s						
WR0	Warramunga Arr	45.48	266	P	P	07 32 44.8	-0.6
WR0				IAmb	IAmb	07 33 09.4	
	comp=Z,7.4nm,1.4s						
WB2	Warramunga Arr	45.66	266	P	P	07 32 46.2	-0.6
WB2				IAmb	IAmb	07 33 23.8	
	comp=Z,8.7nm,1.3s						
WRAB	Tennant Creek	45.66	266	P	P	07 32 45.7	-1.1
WRAB				IAmb	IAmb	07 33 23.7	
	comp=Z,5.4nm,1.2s						
WB0	Warramunga Arr	45.67	266	P	P	07 32 46.3	-0.6
WRA	Warramunga Arr	45.67	266	P	P	07 32 46.3	-0.6
WRA	Warramunga Arr	45.67	266	P	P	07 32 46.4	-0.6
	comp=Z,1.1nm,0.5s,baz=96,slow=8.4,SNR=37						
	comp=Z,1.1nm,0.5s						
GUMO	Guam	53.55	311	LR	LR	07 54 27.1	
	comp=Z,24nm,20.3s,baz=276,slow=34						
MORW	Morawa	59.77	250	P	P	07 34 31.0	-0.2
QSPA	South Pole Qui	65.56	180	P	P	07 35 03.1	-6.2
QSPA				IAmb	IAmb	07 35 11.6	
	comp=Z,3.8nm,1.1s						
QSPA	South Pole Qui	65.56	180	P	P	07 35 10.5	+1.2
	comp=Z,2.1nm,0.9s,baz=27,slow=2.3,SNR=6.4						
	comp=Z,2.1nm,0.9s						
H03S2	Juan Fernandez	82.49	124	T	T	09 08 07.5	
	baz=244,slow=74,SNR=4.6						
H03S1	Juan Fernandez	82.50	124	T	T	09 07 55.1	
	baz=244,slow=74,SNR=5.9						
H03S3	Juan Fernandez	82.51	124	T	T	09 08 12.3	
	baz=244,slow=74,SNR=5.8						
NVAR	Mina Array Bea	82.94	42	P	P	07 36 56.9	+5.9
	comp=Z,0.4nm,0.6s,baz=224,slow=6.3,SNR=3.8						
	comp=Z,0.4nm,0.6s						
TROLL	Troll, Antarti	83.72	180	⇓P	P	07 36 54.3	-0.3
	comp=Z,128nm,0.6s						
TROLL	Troll, Antarti	83.72	180	⇑pP	pP	07 37 06.9	+9.2
	comp=Z,128nm,0.6s						
SNAA	Sanae	83.96	178	P	P	07 36 49.6	-6.1
SNAA				IAmb	IAmb	07 37 08.7	
	comp=Z,2.6nm,0.8s						
SNAA	Sanae	83.96	178	⇑pP	pP	07 37 08.0	+9.2
SNAA	Sanae	83.96	178	⇓P	P	07 36 49.8	-5.8
VNA3	Neumayer Olymp	84.04	176	⇓P	P	07 36 55.1	-0.9
VNA3	Neumayer Olymp	84.04	176	⇑pP	pP	07 37 07.7	+8.6
VNA2	Neumayer--Watz	84.49	176	⇓P	P	07 36 57.8	-0.5
	baz=220,slow=3.0						
VNA1	Neumayer--Stat	84.71	176	⇓P	P	07 36 58.6	-0.8
TXAR	Lajitas Array	87.97	57	P	P	07 37 22.2	+6.0
	comp=Z,0.6nm,0.9s,baz=203,slow=9.1,SNR=3.9						
	comp=Z,0.6nm,0.9s						
CMAR	Chiang Mai Arr	92.86	289	P	P	07 37 39.7	+0.6
	comp=Z,0.7nm,0.3s,baz=138,slow=3.7,SNR=5.9						
	comp=Z,0.7nm,0.3s						

*NNC **17** 07:28:28.4±0.6,50°.10N×79°.10E,h0km,mb2.9,mpv2.6, Error ellipse: s-maj=12.3km s-min=3.2km az=59.0, Suspected Mining explosion.*
*IDC **17** 07:28:29.4±1.0,50°.04N×78°.66E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=10.8km s-min=6.8km az=64.0*
ISC 17 07:28:23.6±0.9,**50°.17N**±0°.06×**79°.27E**±0°.09,**h0**km,**n17**, σ0**86**/28,**22C-5D**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR14	Kurchatov Arra	0.62	316	⇑P	Pn	07 28 40.5	+0.8
KUR14				⇓S	Sn	07 28 50.0	-0.4
KUR07	Kurchatov Arra	0.64	311	⇑P	Pn	07 28 40.2	+0.4
KUR07				⇑S	Sn	07 28 49.8	-0.9
KUR15	Kurchatov Arra	0.64	315	⇑P	Pn	07 28 40.7	+0.7
KUR15				⇑S	Sn	07 28 50.6	-0.2
KUR06	Kurchatov Arra	0.64	312	⇑P	Pn	07 28 40.6	+0.6
KUR06				⇑S	Sn	07 28 50.3	-0.6
KURBB	Kurchatov Arra	0.66	314	⇓P	Pn	07 28 40.7	+0.6
	11nm,0.3s						
KURBB				⇓S	Sn	07 28 49.8	-1.4
	13nm,0.3s						
KURBB	Kurchatov Arra	0.66	314	Pg	Pn	07 28 40.9	+0.7
	1.6nm,0.3s,baz=164,slow=19,SNR=40						
KURBB				Lg	Lg	07 28 49.4	
	1.7nm,0.3s,baz=172,slow=34,SNR=13						
KUR05	Kurchatov Arra	0.67	315	⇓P	Pn	07 28 41.1	+0.8
KUR05				⇑S	Sn	07 28 51.1	-0.3
KUR16	Kurchatov Arra	0.67	313	⇑P	Pn	07 28 41.0	+0.6
KUR16				⇑S	Sn	07 28 50.9	-0.7
KUR04	Kurchatov Arra	0.68	317	⇑P	Pn	07 28 41.5	+1.0
KUR04				⇑S	Sn	07 28 51.6	-0.1
KURK	Kurchatov	0.69	323	⇑P	Pn	07 28 42.1	+1.5
	3.7nm,0.3s						
KURK				⇑S	Sn	07 28 51.1	-0.8
	9.9nm,0.4s						
KUR17	Kurchatov Arra	0.69	312	⇑P	Pn	07 28 41.2	+0.5
KUR17				⇓S	Sn	07 28 51.1	-1.0
MAKZ	Makanchi	3.82	151	⇑Pg	Pg	07 29 36.0	-0.7
	2.0nm,0.8s						
MAKZ				⇑Lg	Lg	07 30 29.9	
	3.8nm,0.7s						
MK31	Makanchi Array	3.93	148	⇑Pn	Pb	07 29 32.9	-0.9
	0.1nm,0.2s,baz=321,slow=10,SNR=25						
MK31				⇑Pg	Pg	07 29 39.7	+0.8
	0.2nm,0.2s,baz=325,slow=14,SNR=8.7						
MK31				⇑Lg	Lg	07 30 35.0	
	2.2nm,0.5s,baz=326,slow=27,SNR=10						
MKAR	Makanchi Array	3.93	148	Pn	Pb	07 29 32.9	-0.9
	0.2nm,0.3s,baz=322,slow=11,SNR=37						
MKAR				Pg	Pg	07 29 40.1	+1.2
	0.4nm,0.3s,baz=322,slow=14,SNR=7.6						
MKAR				Lg	Lg	07 30 33.3	
	1.3nm,0.3s,baz=346,slow=30,SNR=14						
	0.2nm,0.3s						
OTUK	Ortayu	4.94	250	⇑Pn	Pn	07 29 40.2	+1.2
	0.4nm,0.3s						
OTUK				⇑Lg	Lg	07 30 59.2	
	4.0nm,1.1s						
ZALV	Zalesovo Beam	5.10	40	Pn	Pb	07 29 53.1	-0.5
	0.4nm,0.3s,baz=231,slow=16,SNR=3.0						
	0.6nm,0.3s						
I46RU	ZALESOVO INFRA	5.10	40	I	I	07 59 20.0	
	baz=224,slow=322,SNR=3.0						

*NEIC **17** 07:32:36.3±2.1,23°.8S±0°.1×175°.3W±0°.1,h10km±1km, mb4.6/19,Error ellipse: s-maj=17.8km s-min=16.6km az=303.0*
*IDC **17** 07:32:52.3±4.2,23°.95S×176°.10W,h96km±36km,mb3.8/11, mbtmp4.1/13,MS3.6/16,Error ellipse: s-maj=25.7km s-min=18.4km az=104.0*
ISC 17 07:32:36.7±0.6,**23°.74S**±0°.08×**175°.40W**±0°.09,**h10**km,**n68**, σ2**62**/40,**mb4.6**/23,**MS3.8**/15,**5C**,**Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	6.89	49	Pn	Pn	07 34 16.3	-1.6
NIUE				Sn	Sn	07 35 31.9	-4.4
MSVF	Nonsavu	8.55	313	Pn	Pn	07 34 38.5	-2.3
MSVF	Nonsavu	8.55	313	P	Pn	07 34 49.8	+9.1
	33nm,0.8s,baz=140,slow=13,SNR=12						
MSVF				LR	LR	07 37 41.0	
	comp=Z,594nm,21.6s,baz=173,slow=35						
AFI	Afiamalu	10.36	20		Pn	07 35 07.5	+2.0
RAR	Rarotonga	14.66	83	LR	LR	07 42 40.4	
	comp=Z,172nm,19.1s,baz=249,slow=38						
URZ	Urewera	15.83	202	P	P	07 36 23.8	+0.4
	5.7nm,0.8s,baz=31,slow=4.6,SNR=5.5						
RTZ	Ruatahuna	16.19	202		Pn	07 36 22.2	-2.2
DZM	Mont Dzumac	16.81	272	eLR	LR	07 40 26.1	
	comp=Z,258nm,21.6s						
DZM	Mont Dzumac	16.81	272	LR	LR	07 40 34.9	
	comp=Z,84nm,19.9s,baz=114,slow=29						
KHZ	Kahutara	20.77	204	P	P	07 37 14.6	-3.1
KHZ				IAmb	IAmb	07 37 24.5	
	comp=Z,33nm,1.2s						
RPZ	Rata Peaks	22.83	206	LR	LR	07 46 27.4	
	comp=Z,186nm,18.7s,baz=28,slow=36						
PAE	Paea	24.88	81	eT	T	08 04 14.7	
	comp=Z,1.9nm,0.3s						
PPT2	Papeete2	24.91	81	eLR	LR	07 44 04.1	
	comp=Z,215nm,23.2s						
PPT2				eLR	LR	07 44 10.7	
	comp=Z,224nm,24.8s						
HNR	Honiara	27.51	297	LR	LR	07 47 31.7	
	comp=Z,2μm,19.4s,baz=114,slow=32						
CTA	Charters Tower	35.69	268	LR	LR	07 52 14.3	
	comp=Z,69nm,19.9s,baz=125,slow=33						
CTAO	Charters Tower	35.69	268	P	P	07 39 34.2	-1.3
CTAO				IAmb	IAmb	07 39 42.3	
	comp=Z,19nm,1.3s						
STKA	Stephens Creek	38.69	248	P	P	07 39 57.3	-3.5
STKA	Stephens Creek	38.69	248	P	P	07 40 02.0	+1.1
	comp=Z,1.2nm,0.7s,baz=48,slow=6.4,SNR=2.9						
STKA				LR	LR	07 54 48.4	
	comp=Z,138nm,18.7s,baz=30,slow=35						

comp=Z,1.2nm,0.7s
BBOO Buckleboo 43.38 247 P P 07 40 38.3 -1.2
BBOO IAmb IAmb 07 41 11.5
comp=Z,21nm,1.4s
AS31 Alice Springs 46.21 259 P P 07 41 02.6 +0.4
AS31 IAmb IAmb 07 41 09.9
comp=Z,0.9nm,0.8s
ASAR Alice Springs 46.21 259 P P 07 41 01.5 -0.7
ASAR Alice Springs 46.21 259 P P 07 41 02.1 -0.1
comp=Z,2.5nm,0.9s,baz=98,slow=8.4,SNR=18
comp=Z,2.5nm,0.9s
WR0 Warramunga Arr 46.43 265 P P 07 41 03.1 -0.8
WR0 IAmb IAmb 07 41 30.6
comp=Z,13nm,1.4s
WB2 Warramunga Arr 46.60 264 P P 07 41 05.2 -0.2
WB2 IAmb IAmb 07 41 22.4
comp=Z,8.1nm,1.0s
WRAB Tennant Creek 46.61 264 P P 07 41 04.9 -0.4
WRAB IAmb IAmb 07 41 06.4
comp=Z,5.8nm,0.9s
WB0 Warramunga Arr 46.61 265 P P 07 41 05.5 +0.2
WB0 IAmb IAmb 07 41 05.7
comp=Z,5.4nm,0.8s
WRA Warramunga Arr 46.62 264 P P 07 41 04.8 -0.6
WRA Warramunga Arr 46.62 264 P P 07 41 05.2 -0.2
comp=Z,3.5nm,0.7s,baz=103,slow=8.2,SNR=28
comp=Z,3.5nm,0.7s
FORT Forrest 50.31 249 P P 07 41 29.9 -3.8
KNRA Kununurra 52.90 268 P P 07 41 51.7 -1.6
SBA Scott Base 54.83 185 P P 07 42 06.0 -0.6
SBA IAmb IAmb 07 42 25.8
comp=Z,2.7nm,0.9s
BATI Baumata 59.42 272 LR LR 08 06 57.7
comp=Z,86nm,20.7s,baz=198,slow=35
MORW Morawa 60.87 249 P P 07 42 49.1 -0.7
KAPI Kappang 64.99 276 LR LR 08 12 45.3
comp=Z,31nm,18.5s,baz=101,slow=37
QSPA South Pole Qui 66.35 180 P P 07 43 22.9 -2.5
QSPA IAmb IAmb 07 43 42.8
comp=Z,4.1nm,0.9s
QSPA South Pole Qui 66.35 180 P P 07 43 29.1 +3.7
comp=Z,1.0nm,0.7s,baz=40,slow=0.9,SNR=8.8
comp=Z,1.0nm,0.7s
LEM Lembang 75.39 269 LR LR 08 17 51.4
comp=Z,45nm,19.7s,baz=149,slow=36
JNU Nakatsue 76.27 316 LR LR 08 12 12.4
comp=Z,46nm,20.8s,baz=88,slow=31
MAW Mawson 79.34 199 P P 07 44 39.0 -3.2
MAW Mawson 79.34 199 P P 07 44 45.6 +3.3
comp=Z,1.1nm,0.5s,baz=169,slow=13,SNR=4.4
comp=Z,1.1nm,0.5s
PEA0B Petropavlovsk- 80.02 344 P P 07 44 46.4 +0.4
PETK Petropavlovsk- 80.02 344 P P 07 44 45.5 -0.5
PETK Petropavlovsk- 80.02 344 P P 07 44 51.5 +5.5
comp=Z,4.1nm,0.7s,baz=134,slow=8.5,SNR=4.9
comp=Z,4.1nm,0.7s
KSRS Korea Array 80.89 318 LR LR 08 16 38.4
comp=Z,24nm,20.6s,baz=130,slow=33
NVAR Mina Array Bea 81.77 42 P P 07 45 03.6 +7.6
comp=Z,0.3nm,0.6s,baz=220,slow=10,SNR=4.9
comp=Z,0.3nm,0.6s
H03S2 Juan Fernandez 82.19 123 T T 09 17 04.8
baz=244,slow=74
H03S1 Juan Fernandez 82.21 123 T T 09 17 06.3
baz=244,slow=74
H03S3 Juan Fernandez 82.21 123 T T 09 17 10.7
baz=244,slow=74
H03N2 Juan Fernandez 82.35 123 T T 09 17 29.5
baz=248
H03N3 Juan Fernandez 82.35 123 T T 09 17 03.7
baz=248
H03N1 Juan Fernandez 82.36 123 T T 09 17 00.3
baz=248
USRK Ussuriysk Ar. 82.98 325 P P 07 45 05.9 +4.0
comp=Z,3.3nm,0.8s,baz=76,slow=8.0,SNR=4.2
comp=Z,3.3nm,0.8s
TROLL Troll, Antarti 84.50 179 ⇑P P 07 45 13.3 +3.7
comp=Z,148nm,0.5s
SNAA Sanae 84.71 178 P P 07 45 09.6 -1.0
SNAA IAmb IAmb 07 45 27.7
comp=Z,7.0nm,0.9s
SNAA Sanae 84.71 178 ⇑P P 07 45 14.4 +3.8
comp=Z,32nm,0.6s
SNAA Sanae 84.71 178 P P 07 45 14.3 +3.7
comp=Z,2.5nm,1.0s,baz=253,slow=2.8,SNR=7.9
comp=Z,2.5nm,1.0s
VNA3 Neumayer Olymp 84.75 175 ⇑P P 07 45 13.8 +3.0
comp=Z,6.8nm,0.8s
ELK Elko 85.06 41 LR LR 08 20 03.9
comp=Z,42nm,18.9s,baz=330,slow=33
VNA2 Neumayer--Watz 85.22 176 ⇑P P 07 45 17.7 +4.6
comp=Z,4.2nm,0.8s,baz=194,slow=4.0
VNA1 Neumayer--Stat 85.44 176 ⇑P P 07 45 18.1 +4.0
comp=Z,5.1nm,0.8s
TXAR Lajitas Array 86.81 56 P P 07 45 29.2 +7.5
comp=Z,0.6nm,1.0s,baz=209,slow=10,SNR=4.0
comp=Z,0.6nm,1.0s
PDAR Pinedale Array 89.69 42 LR LR 08 22 17.5
comp=Z,37nm,19.0s,baz=244,slow=33
ILAR Eielson Array 90.95 12 P P 07 45 45.4 +5.1
comp=Z,0.6nm,0.9s,baz=212,slow=5.9,SNR=4.9
comp=Z,0.6nm,0.9s
CFA Coronel Fontan 91.26 125 LR LR 08 22 18.8
comp=Z,54nm,18.2s,baz=236,slow=32
NNA Nana 92.92 104 LR LR 08 20 06.9
comp=Z,37nm,18.5s,baz=218,slow=30
CMAR Chiang Mai Arr 93.44 289 P P 07 45 57.7 +4.8
comp=Z,4.7nm,0.7s,baz=140,slow=3.2,SNR=21
ATAH Atahualpa 93.53 99 LR LR 08 20 19.2
comp=Z,30nm,19.5s,baz=277,slow=30
AKASG Malin Array Be 147.00 331 PKPbc PKiKP 07 52 23.0 +1.0
comp=Z,2.3nm,0.6s,baz=39,slow=4.2,SNR=12

*NEIC **17** 07:36:12.8±2.4,23°.7S±0°.1×175°.4W±0°.1,h10km±1km, mb4.5/11,Error ellipse: s-maj=27.4km s-min=17.5km az=320.0*
*IDC **17** 07:36:28.4±5.0,23°.84S×176°.17W,h116km±43km,mb3.7/9, mbtmp4.1/10,Error ellipse: s-maj=29.3km s-min=21.7km az=105.0*
ISC 17 07:36:13.4±0.6,**23°.74S**±0°.09×**175°.38W**±0°.10,**h10**km,**n37,** σ2°21/29,**mb4.5**/17,**5C,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.88**	**49**	Pn	**Pn**	**07 37 53.9**	**-0.4**
NIUE				Sn	**Sn**	**07 39 08.6**	**-4.2**
MSVF	**Nonsavu**	**8.57**	**313**	Pn	**Pn**	**07 38 21.1**	**+3.4**
MSVF	**Nonsavu**	**8.57**	**313**	P	Pn	07 38 23.8	+6.1
26nm,1.0s,baz=140,slow=13,SNR=5.7							
AFI	**Afiamalu**	**10.36**	**20**	Pn	**Pn**	**07 38 41.7**	**-0.4**
CTAO	**Charters Tower**	**35.71**	**268**	P	**P**	**07 43 10.6**	**-1.8**
CTAO				IAmb	IAmb	07 43 18.7	
comp=Z,11nm,1.1s							
STKA	**Stephens Creek**	**38.71**	**248**	P	**P**	**07 43 37.0**	**-0.7**
STKA	**Stephens Creek**	**38.71**	**248**	P	**P**	**07 43 35.8**	**-1.9**
comp=Z,1.4nm,0.8s,baz=99,slow=14,SNR=3.2							
comp=Z,1.4nm,0.8s							
ASAR	**Alice Springs**	**46.23**	**259**	P	**P**	**07 44 36.4**	**-2.7**
comp=Z,1.3nm,0.9s,baz=94,slow=6.5,SNR=5.2							
comp=Z,1.3nm,0.9s							
WB2	**Warramunga Arr**	**46.63**	**264**	P	**P**	**07 44 39.5**	**-2.7**
WB2				IAmb	IAmb	07 44 41.7	
comp=Z,4.6nm,1.1s							
WB0	**Warramunga Arr**	**46.63**	**265**	P	**P**	**07 44 39.4**	**-2.8**
WB0				IAmb	IAmb	07 45 11.3	
comp=Z,9.1nm,1.4s							
WRA	**Warramunga Arr**	**46.64**	**264**	P	**P**	**07 44 39.7**	**-2.6**
WRA	**Warramunga Arr**	**46.64**	**264**	P	**P**	**07 44 39.2**	**-3.1**
comp=Z,1.1nm,0.6s,baz=106,slow=7.0,SNR=12							
comp=Z,1.1nm,0.6s							
SBA	**Scott Base**	**54.83**	**185**	P	**P**	**07 45 44.8**	**+1.7**
SBA				IAmb	IAmb	07 45 57.8	
comp=Z,4.8nm,1.2s							
NWAO	**Narrogin (SRO)**	**59.14**	**245**	P	P	07 46 07.7	-6.8
GIRL	**Giralia**	**64.06**	**255**	P	**P**	**07 46 43.9**	**-3.9**
QSPA	**South Pole Qui**	**66.34**	**180**	P	**P**	**07 47 02.1**	**0.0**
QSPA				IAmb	IAmb	07 47 04.6	
comp=Z,5.0nm,1.0s							
QSPA	**South Pole Qui**	**66.34**	**180**	P	**P**	**07 47 04.0**	**+1.9**
comp=Z,2.3nm,0.7s,baz=47,slow=1.7,SNR=13							
comp=Z,2.3nm,0.7s							
MAW	**Mawson**	**79.34**	**199**	P	**P**	**07 48 18.4**	**-0.6**
MAW				IAmb	IAmb	07 48 41.1	
comp=Z,1.5nm,1.4s							
MAW	**Mawson**	**79.34**	**199**	P	**P**	**07 48 19.4**	**+0.4**
comp=Z,1.0nm,0.6s,baz=200,slow=6.2,SNR=4.1							
comp=Z,1.0nm,0.6s							
PETK	**Petropavlovsk-**	**80.03**	**344**	P	**P**	**07 48 24.3**	**+1.5**
comp=Z,6.3nm,0.9s,baz=133,slow=10,SNR=3.7							
comp=Z,6.3nm,0.9s							
H03S2	**Juan Fernandez**	**82.17**	**123**	T	T	09 20 30.7	
baz=245							
H03S1	**Juan Fernandez**	**82.19**	**123**	T	T	09 20 29.0	
baz=245							
H03S3	**Juan Fernandez**	**82.19**	**123**	T	T	09 20 28.3	
baz=245							
H03N2	**Juan Fernandez**	**82.32**	**123**	T	T	09 20 35.5	
baz=246							
H03N3	**Juan Fernandez**	**82.32**	**123**	T	T	09 20 11.4	
baz=246							
H03N1	**Juan Fernandez**	**82.34**	**123**	T	T	09 20 09.2	
baz=246							
TROLL	**Troll, Antarti**	**84.49**	**179**	⇑P	**P**	**07 48 48.1**	**+1.8**
comp=Z,236nm,0.6s							
SNAA	**Sanae**	**84.70**	**178**	P	**P**	**07 48 46.4**	**-0.8**
SNAA				IAmb	IAmb	07 48 49.3	
comp=Z,3.0nm,0.9s							
SNAA	**Sanae**	**84.70**	**178**	⇑P	**P**	**07 48 48.6**	**+1.4**
comp=Z,51nm,0.8s							
SNAA	**Sanae**	**84.70**	**178**	P	**P**	**07 48 48.3**	**+1.1**
comp=Z,2.4nm,0.8s,baz=163,slow=5.1,SNR=7.7							
comp=Z,2.4nm,0.8s							
VNA3	**Neumayer Olymp**	**84.75**	**175**	⇑P	**P**	**07 48 48.7**	**+1.3**
comp=Z,6.7nm,0.8s							
VNA2	**Neumayer--Watz**	**85.21**	**176**	⇑P	**P**	**07 48 51.4**	**+1.6**
comp=Z,2.5nm,0.6s,baz=184,slow=4.0							
VNA1	**Neumayer--Stat**	**85.43**	**176**	⇑P	**P**	**07 48 52.5**	**+1.7**
comp=Z,5.4nm,0.9s							
TXAR	**Lajitas Array**	**86.79**	**56**	P	P	07 49 03.0	+4.7
comp=Z,0.5nm,0.8s,baz=213,slow=6.7,SNR=4.8							
comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**90.95**	**12**	P	**P**	**07 49 20.1**	**+3.1**
comp=Z,0.3nm,0.8s,baz=215,slow=5.3,SNR=4.1							
comp=Z,0.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**93.47**	**289**	P	**P**	**07 49 31.5**	**+1.8**
comp=Z,0.9nm,0.4s,baz=145,slow=3.3,SNR=2.1							
AKASG	**Malin Array Be**	**147.01**	**331**	PKPbc	**PKPbc**	**07 55 56.0**	**-0.1**
comp=Z,0.5nm,0.4s,baz=41,slow=3.8,SNR=5.0							

*SJA **17** 07:39:39.8±0.6,24°.31S×67°.26W,h192km±7km,ML3.9, MW3.6*
ISC 17 07:39:39.5±2.3,**24°.25S**±0°.05×**67°.27W**±0°.04, **h196**km±22km,**n15,**σ1°35/28,**5C-1D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.68**	**107**	*i* P	**Pn**	**07 40 15.2**	**+0.5**
SLA				*i* S	**S**	**07 40 41.2**	**-0.7**
AZAP	**Zapla**	**2.01**	**90**	*i* P	**Pn**	**07 40 18.4**	**+0.3**
AZAP				*i* S	**S**	**07 40 47.9**	**-0.1**
FSA	**Cafayete**	**2.19**	**148**	*i* P	**Pn**	**07 40 19.9**	**0.0**
PB15	**IPOC Station P**	**2.27**	**297**	⇑*i* P	**Pn**	**07 40 22.1**	**+1.2**
PB15				*e* S	**S**	**07 40 52.2**	**-0.6**
PB15	**IPOC Station P**	**2.27**	**297**	*i* P	**Pn**	**07 40 22.0**	**+1.2**
PB15				*i* S	**S**	**07 40 52.8**	**-0.1**
PB15				IAML		07 40 54.5	
comp=Z,389nm,0.1s							
GO02	**Mina Guanaco**	**2.30**	**246**	⇑*i* P	**Pn**	**07 40 22.2**	**+0.9**
GO02				*e* S	**S**	**07 40 53.2**	**-0.5**
GO02				IAML		07 40 56.0	
comp=E,101nm,0.0s							
PB06	**IPOC Station P**	**2.61**	**306**	⇑*i* P	**Pn**	**07 40 25.8**	**+1.2**
PB06				*e* S	**S**	**07 40 58.4**	**-1.4**
PB06				IAML		07 41 00.5	
comp=E,102nm,0.3s							
PB14	**IPOC Station P**	**2.88**	**262**	*e* P	**Pn**	**07 40 28.7**	**+0.8**
PB14				*e* S	**S**	**07 41 03.7**	**-1.8**
ALOL	**LOMAS DE OLMED**	**3.04**	**82**	*i* P	**Pn**	**07 40 30.4**	**+0.9**
ALOL				*i* S	**S**	**07 41 07.2**	**-1.2**
PB09	**IPOC Station P**	**3.04**	**323**	⇓*i* P	**Pn**	**07 40 31.6**	**+1.9**
PB09				*e* S	**S**	**07 41 08.7**	**-0.2**
PB09				IAML		07 41 09.6	
comp=N,30nm,0.4s							
AHML	**Horco Molle**	**3.07**	**146**	*i* P	**Pn**	**07 40 29.9**	**+0.1**
AC02	**Maricunga**	**3.07**	**213**	⇑*i* P	**Pn**	**07 40 31.6**	**+1.2**
AC02				*e* S	**S**	**07 41 12.4**	**+2.4**
PB04	**IPOC Station P**	**3.26**	**305**	*e* P	**Pn**	**07 40 32.9**	**+0.6**
PB04				*e* S	**S**	**07 41 12.0**	**-1.5**
PB04				IAML		07 41 14.2	
comp=N,52nm,0.3s							
PB07	**IPOC Station P**	**3.48**	**316**	⇑*i* P	**Pn**	**07 40 35.9**	**+0.9**
PB07				*i* S	**S**	**07 41 15.6**	**-2.7**
PB07				IAML		07 41 20.1	
comp=E,46nm,0.2s							
AC01	**Pan de Azucar**	**3.56**	**237**	*e* P	**Pn**	**07 40 35.6**	**-0.1**
AC01				*e* S	**S**	**07 41 16.9**	**-2.8**
AC01				IAML		07 41 18.1	
comp=N,26nm,0.1s							

*IDC **17** 07:57:31.7±2.4,2°.94S×130°.27E,h0km,mb3.9/3, mbtmp3.9/4,ML3.8/1,Error ellipse: s-maj=212.0km s-min=27.9km az=69.0*
*DJA **17** 07:57:35.5±0.4,3°.5±4°.×13°.0E±°,h10km,M3.7/6,MLv3.7/6*
ISC 17 07:57:32.9±0.9,**2°.90S**±0°.06×**130°.25E**±0°.09,**h10**km,**n8,** σ2°59/9,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.65**	**192**	P	**Pb**	**07 58 05.4**	**+2.1**
FAKI	**Fak Fak**	**2.00**	**91**	P	**Pb**	**07 58 11.5**	**+2.1**
SWI	**Sorong**	**2.26**	**27**	P	**Pb**	**07 58 14.1**	**+0.2**
NLAI	**Namlea**	**3.16**	**264**	P	**Pn**	**07 58 22.9**	**+0.2**
WRA	**Warramunga Arr**	**17.40**	**167**	P	**Pn**	**08 01 33.9**	**-2.1**
0.4nm,0.3s,baz=349,slow=11,SNR=24							
WRA				S	Sn	08 04 37.4	-12
0.2nm,0.4s,baz=343,slow=20,SNR=3.0							
1.0nm,0.5s							
ASAR	**Alice Springs**	**20.95**	**171**	P	**P**	**08 02 16.2**	**+0.1**
3.3nm,0.5s,baz=347,slow=10,SNR=86							
ASAR				S	**S**	**08 06 04.5**	**-5.1**
0.8nm,0.8s,baz=347,slow=16,SNR=5.4							
3.3nm,0.5s							
STKA	**Stephens Creek**	**30.74**	**161**	P	**P**	**08 03 48.8**	**+0.4**
0.6nm,0.3s,baz=341,slow=9.0,SNR=5.0							
0.6nm,0.3s							
KURBB	**Kurchatov Arra**	**69.18**	**328**	P	**P**	**08 08 40.3**	**+0.7**
0.4nm,0.4s,baz=132,slow=5.4,SNR=2.3							
0.4nm,0.4s							

IDC 17 08:01:01.0±2.7,**53°.59N**×**87°.17E,h0**km,**mbtmp3.0**/2, **ML2.3**/2,**Error ellipse: s-maj=25.1km s-min=14.5km az=74.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**285**	I	I	08 11 00.0	
baz=101,slow=327,SNR=6.5							
ZALV	**Zalesovo Beam**	**1.44**	**285**	Pg	Pn	08 01 26.0	-2.3
0.5nm,0.3s,baz=108,slow=12,SNR=6.6							
ZALV				Lg	Lg	08 01 46.6	
0.6nm,0.3s,baz=108,slow=29,SNR=5.3							
KURBB	**Kurchatov Arra**	**6.09**	**244**	Pn	Pn	08 02 33.4	+1.1
baz=61,slow=14,SNR=5.9							
KURBB				Lg	Lg	08 04 15.3	
baz=56,slow=31,SNR=1.5							
1.2nm,0.6s							
MKAR	**Makanchi Array**	**7.49**	**207**	Pn	Pn	08 02 53.0	+1.6
0.1nm,0.3s,baz=27,slow=14,SNR=4.6							
MKAR				Sn	Sn	08 04 15.7	-1.3
0.1nm,0.3s,baz=17,slow=26,SNR=1.6							
MKAR				Lg	Lg	08 04 58.5	
0.1nm,0.3s,baz=27,slow=29,SNR=3.3							
0.7nm,0.8s							

*SOME **17** 08:43:32.5,40°.83N×78°.68E,h5km*
*NNC **17** 08:43:33.6±0.9,40°.84N×78°.65E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=6.0km s-min=3.9km az=158.0*
*KRNET **17** 08:43:38.0±0.1,40°.86N×78°.49E,mb2.3*
ISC 17 08:43:37.5±2.3,**40°.9N**±0°.1×**78°.65E**±0°.07,**h20**km,**n43,** σ1°77/47,**6C-12D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.64**	**354**	⇓*e* P	**Pb**	**08 44 07.8**	**+0.7**
baz=58							
PRZ				⇓*e* S	**Sb**	**08 44 29.5**	**+2.1**
baz=58							
ANVS	**Anan'yevo**	**2.06**	**340**	⇓*e* P	**Pb**	**08 44 13.1**	**-1.2**
baz=43							
ANVS				⇓*e* S	**Sb**	**08 44 39.2**	**-0.4**
baz=43							
NRN	**Naryn**	**2.08**	**287**	⇑*e* P	**Pb**	**08 44 13.1**	**-1.6**
baz=87							
NRN				⇑*e* S	**Sn**	**08 44 38.1**	**+1.1**
baz=87							
SATY	**Saty**	**2.21**	**355**	Pg	**Pb**	**08 44 15.6**	**-1.3**
4.6nm,0.2s							
SATY				Lg	Lg	08 44 46.5	
99nm,0.8s							
SATY	**Saty**	**2.21**	**355**	*e*Pg	**Pb**	**08 44 14.8**	**-2.0**
4.6nm,0.2s							
SATY				*e*Lg	Lg	08 44 45.0	
99nm,0.8s							
UZB	**Uzynbulak**	**2.31**	**7**	Pg	**Pb**	**08 44 16.0**	**-2.6**
7.9nm,0.3s							
UZB				Lg	Lg	08 44 47.0	
44nm,0.7s							
UZB	**Uzynbulak**	**2.31**	**7**	*e*Pg	**Pb**	**08 44 16.0**	**-2.6**
7.9nm,0.3s							
UZB				*e*Lg	Lg	08 44 47.0	
44nm,0.7s							
ZHN	**Zhinishke**	**2.32**	**356**	Pg	**Pb**	**08 44 17.0**	**-1.7**
6.6nm,0.3s							
ZHN				Lg	Lg	08 44 49.0	
94nm,0.5s							
ZHN	**Zhinishke**	**2.32**	**356**	*e*Pg	**Pb**	**08 44 17.0**	**-1.7**
6.6nm,0.3s							
ZHN				*e*Lg	Lg	08 44 49.0	
94nm,0.5s							
SHLS	**Shalkode**	**2.38**	**15**	Pg	**Pb**	**08 44 19.0**	**-0.7**
56nm,0.4s							
SHLS				Lg	Lg	08 44 52.3	
108nm,0.8s							
SHLS	**Shalkode**	**2.38**	**15**	*e*Pg	**Pb**	**08 44 19.0**	**-0.7**
56nm,0.4s							
SHLS				*e*Lg	Lg	08 44 52.3	
108nm,0.8s							
TNSS	**Tian-Shan**	**2.52**	**330**	Pg	**Pb**	**08 44 20.3**	**-2.0**
15nm,0.5s							
TNSS				Lg	Lg	08 44 54.4	
25nm,0.7s							
TNSS	**Tian-Shan**	**2.52**	**330**	*e*Pg	**Pb**	**08 44 20.3**	**-2.0**
15nm,0.5s							
TNSS				*e*Lg	Lg	08 44 54.4	
25nm,0.7s							
PDGK	**Podgornoye**	**2.55**	**14**	Pg	**Pb**	**08 44 19.8**	**-2.9**
3.4nm,0.4s							
PDGK				Lg	Lg	08 44 53.6	
20nm,0.8s							
PDGK	**Podgornoye**	**2.55**	**14**	⇑Pg	**Pb**	**08 44 19.6**	**-3.1**
5.2nm,0.5s							
PDGK				⇓Lg	Lg	08 44 55.4	
34nm,0.7s							
BOOM	**Boomskoye usch**	**2.60**	**310**	⇓*e* P	**Pb**	**08 44 19.8**	**-3.8**
baz=11							
BOOM				⇓*e* S	**Sn**	**08 44 50.8**	**+1.1**
baz=11							
KPKS	**Kokpek**	**2.61**	**1**	Pg	**Pb**	**08 44 21.6**	**-2.1**
8.7nm,0.4s							
KPKS				Lg	Lg	08 44 56.7	
37nm,0.4s							
KPKS	**Kokpek**	**2.61**	**1**	*e*Pg	**Pb**	**08 44 21.6**	**-2.1**
8.7nm,0.4s							
KPKS				*e*Lg	Lg	08 44 56.7	
37nm,0.4s							
KOTS	**Kotyrbulak**	**2.64**	**335**	Pg	**Pb**	**08 44 22.4**	**-1.7**
26nm,0.6s							
KOTS				Lg	Lg	08 44 58.1	
89nm,0.7s							
KOTS	**Kotyrbulak**	**2.64**	**335**	*e*Pg	**Pb**	**08 44 22.4**	**-1.7**
26nm,0.6s							
KOTS				*e*Lg	Lg	08 44 58.1	
89nm,0.7s							
IZV	**Izvestkoviy**	**2.66**	**326**	*e*Pg	**Pb**	**08 44 23.0**	**-1.4**
1.0nm,0.2s							
IZV				*e*Lg	Lg	08 44 59.0	
26nm,0.7s							
KURS	**Kuram**	**2.66**	**353**	Pg	**Pb**	**08 44 22.4**	**-1.9**
14nm,1.0s							
KURS				Lg	Lg	08 44 58.6	
47nm,0.9s							
KURS	**Kuram**	**2.66**	**353**	*e*Pg	**Pb**	**08 44 22.4**	**-1.9**
14nm,1.0s							
KURS				*e*Lg	Lg	08 44 58.5	
47nm,0.9s							
MTBS	**Maitube**	**2.81**	**325**	Pg	**Pb**	**08 44 25.5**	**-1.5**
3.8nm,0.2s							
MTBS				Lg	Lg	08 45 03.7	
19nm,0.7s							
MTBS	**Maitube**	**2.81**	**325**	*e*Pg	**Pb**	**08 44 25.5**	**-1.5**
3.8nm,0.2s							
MTBS				*e*Lg	Lg	08 45 03.7	
19nm,0.7s							
KTMS	**Ketmen**	**2.88**	**26**	Pg	**Pb**	**08 44 27.4**	**-0.9**
5.6nm,0.6s							
KTMS				Lg	Lg	08 45 07.1	
16nm,0.6s							
KTMS	**Ketmen**	**2.88**	**26**	*e*Pg	**Pb**	**08 44 27.4**	**-0.9**
5.6nm,0.6s							
KTMS				*e*Lg	Lg	08 45 06.9	
16nm,0.6s							
KST	**Kastek**	**2.96**	**318**	Pg	**Pb**	**08 44 28.7**	**-1.0**
4.6nm,0.2s							
KST				Lg	Lg	08 45 09.1	
26nm,0.6s							
KST	**Kastek**	**2.96**	**318**	*e*Pg	**Pb**	**08 44 28.7**	**-1.0**
4.6nm,0.2s							
KST				*e*Lg	Lg	08 45 09.1	
26nm,0.6s							
TKM2	**Tokmak 2**	**3.07**	**313**	⇑Pg	**Pb**	**08 44 28.6**	**-3.0**
4.6nm,0.4s							
TKM2				⇓Lg	Lg	08 45 12.8	
23nm,0.6s							
DGS	**Degeres**	**3.21**	**319**	Pg	**Pb**	**08 44 32.4**	**-1.4**
9.6nm,0.6s							
DGS				Lg	Lg	08 45 15.8	
16nm,0.7s							
DGS	**Degeres**	**3.21**	**319**	*e*Pg	**Pb**	**08 44 32.4**	**-1.4**
9.6nm,0.6s							
DGS				*e*Lg	Lg	08 45 15.3	
16nm,0.7s							
KTBS	**Karatobe**	**3.21**	**334**	Pg	**Pb**	**08 44 32.2**	**-1.5**
8.1nm,0.3s							
KTBS				Lg	Lg	08 45 15.3	
17nm,0.6s							
KTBS	**Karatobe**	**3.21**	**334**	*e*Pg	**Pb**	**08 44 32.2**	**-1.5**
8.1nm,0.3s							
KTBS				*e*Lg	Lg	08 45 15.3	
17nm,0.6s							
BLB	**Baldybastay**	**3.24**	**358**	Pg	**Pb**	**08 44 33.1**	**-1.3**
3.4nm,0.2s							
BLB				Lg	Lg	08 45 16.7	
8.6nm,0.7s							
ARLS	**Aral**	**3.41**	**289**	⇓*e* P	**Pn**	**08 44 31.0**	**+1.4**
baz=89							
ARLS				⇓*e* S	**Sn**	**08 45 09.2**	**-0.3**
baz=89							
ARXS	**Arharly**	**3.41**	**350**	Pg	**Pb**	**08 44 35.5**	**-1.8**
ARXS				Lg	Lg	08 45 20.7	
ARXS	**Arharly**	**3.41**	**350**	*e*Pg	**Pb**	**08 44 36.1**	**-1.2**
2.9nm,0.5s							
ARXS				*e*Lg	Lg	08 45 21.4	
41nm,0.6s							
KNOS	**Konyrlen**	**3.52**	**6**	Pg	**Pb**	**08 44 37.6**	**-1.6**
4.2nm,0.4s							
KNOS				Lg	Lg	08 45 24.3	
12nm,0.7s							
KRBS	**Karabastau**	**3.59**	**323**	Pg	**Pb**	**08 44 39.4**	**-1.0**
2.4nm,0.5s							
KRBS				Lg	Lg	08 45 27.4	
12nm,0.8s							
KRBS	**Karabastau**	**3.59**	**323**	*e*Pg	**Pb**	**08 44 39.4**	**-1.0**
2.4nm,0.5s							
KRBS				*e*Lg	Lg	08 45 27.4	
12nm,0

IDC 17 08:48:10.3±1.6, 24°.80S×174°.92W, h0km, mb3.8/5, mbtmp4.1/7, ML5.7/1, Error ellipse: s-maj=56.0km s-min=26.5km az=162.0
NEIC 17 08:48:13.8±1.3, 24°.7S±0°.1×174°.9W±0°.1, h24km±6km, mb4.6/11, Error ellipse: s-maj=20.1km s-min=14.9km az=186.0
ISC 17 08:48:11.7±0.8, 24°.8S±0°.1×174°.89W±0°.09, h10km, n22, σ1§49/22, mb4.5/11, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.28	40	Pn	Pn	08 49 57.9	-0.4
MSVF	Nonsavu	9.60	315	Pn	Pn	08 50 33.6	+3.5
MSVF	Nonsavu	9.60	315	Pn	Pn	08 50 31.8	+1.7
	2.4nm,0.3s,baz=143,slow=16,SNR=11						
	9.9nm,0.5s						
AFI	Afiamalu	11.18	16	Pn	Pn	08 50 49.3	-2.4
RAR	Rarotonga	14.36	79	Pn	Pn	08 51 35.4	+0.2
	27nm,0.6s,baz=261,slow=14,SNR=6.8						
EIDS	Eidsvold	30.79	262	P	P	08 54 27.9	+0.1
CTA	Charters Tower	36.14	269	P	P	08 55 13.8	-0.6
	2.0nm,0.4s,baz=92,slow=10,SNR=7.5						
	2.0nm,0.4s						
CTAO	Charters Tower	36.14	269	P	P	08 55 14.1	-0.3
CTAO				IAmb	IAmb	08 55 21.2	
	comp=Z,21nm,1.4s						
STKA	Stephens Creek	38.77	249	P	P	08 55 35.6	-0.9
STKA	Stephens Creek	38.77	249	P	P	08 55 37.1	+0.6
	comp=Z,1.7nm,0.9s,baz=99,slow=13,SNR=4.5						
	comp=Z,1.7nm,0.9s						
ASAR	Alice Springs	46.49	260	P	P	08 56 37.9	-1.6
ASAR	Alice Springs	46.49	260	P	P	08 56 38.9	-0.6
	comp=Z,0.5nm,0.5s,baz=85,slow=6.9,SNR=11						
	comp=Z,0.5nm,0.5s						
WR0	Warramunga Arr	46.81	265	P	P	08 56 40.5	-1.4
WR0				IAmb	IAmb	08 56 47.1	
	comp=Z,6.8nm,1.4s						
WB2	Warramunga Arr	46.98	265	P	P	08 56 42.6	-0.8
WB2				IAmb	IAmb	08 56 53.8	
	comp=Z,6.9nm,1.3s						
WRAB	Tennant Creek	46.99	265	P	P	08 56 42.1	-1.3
WRAB				IAmb	IAmb	08 57 21.2	
	comp=Z,7.9nm,1.4s						
WB0	Warramunga Arr	46.99	265	P	P	08 56 41.8	-1.6
WB0				IAmb	IAmb	08 56 59.3	
	comp=Z,6.7nm,1.2s						
WRA	Warramunga Arr	47.00	265	P	P	08 56 41.6	-1.8
WRA	Warramunga Arr	47.00	265	P	P	08 56 42.8	-0.7
	comp=Z,1.0nm,0.4s,baz=103,slow=8.1,SNR=35						
	comp=Z,1.0nm,0.4s						
FORT	Forrest	50.39	250	P	P	08 57 08.5	-0.9
KNRA	Kununurra	53.34	268	P	P	08 57 30.2	-1.4
KNRA				IAmb	IAmb	08 57 37.5	
	comp=Z,11nm,0.8s						
QSPA	South Pole Qui	65.34	180	P	P	08 58 55.5	+1.4
QSPA				IAmb	IAmb	08 59 31.7	
	comp=Z,3.6nm,1.4s						
NVAR	Mina Array Bea	82.21	41	P	P	09 00 34.1	+0.7
	comp=Z,0.2nm,0.6s,baz=225,slow=8.9,SNR=2.1						
	comp=Z,0.2nm,0.6s						

IDC 17 08:56:29.4±1.0, 54°.87N×112°.28E, h0km, mb3.5/7, mbtmp3.6/10, ML3.0/3, MS3.0/8, Error ellipse: s-maj=23.9km s-min=18.9km az=15.0
MOS 17 08:56:30.7±1.2, 54°.78N×111°.93E, h10km, mb3.9/1, Error ellipse: s-maj=12.8km s-min=7.8km az=76.8
BYKL 17 08:56:32.2±0.1, 54°.86N±0°.02×111°.93E±0°.02, h17km±2km
ISC 17 08:56:32.2±1.0, 54°.86N±0°.02×111°.93E±0°.02, h15km±7km, n63, σ2§81/122, mb3.8/5, MS2.8/5, 6C-4D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.45	272	⇑iPg	Pg	08 56 41.1	0.0
YLYR				Pmax		08 56 41.2	
	3μm,0.3s						
YLYR				eSg	Sg	08 56 46.6	-0.6
YLYR				Smax		08 56 47.6	
	30μm,0.2s						
YLYR	Ulyunkhan	0.45	272	⇑iPG	Pg	08 56 41.1	0.0
YLYR				e		08 56 46.4	
YLYR				pmax	pmax		
	comp=Z,1μm,0.2s						
YLYR				smax	smax		
	comp=N,30μm,0.1s						
KMO	Kumora	1.11	338	⇑iPg	Pb	08 56 52.7	-0.4
KMO				ePb	Pg	08 56 54.6	+1.0
KMO				max		08 56 55.0	
	comp=N,2μm,0.3s						
KMO				eSg	Sb	08 57 07.6	+0.3
KMO				eSb	Sn	08 57 11.5	+3.3
KMO				max		08 57 11.9	
	comp=N,6μm,0.5s						
KMO	Kumora	1.11	338	⇑iPG	Pb	08 56 52.6	-0.5
KMO				e		08 57 07.6	
KMO				pmax	pmax		
	comp=Z,1μm,0.4s						
KMO				smax	smax		
	comp=E,5μm,0.4s						
UKT	Uakit	1.16	56	⇑iPg	Pn	08 56 53.8	-0.1
UKT				Pmax		08 56 56.0	
	comp=E,258nm,0.4s						
UKT				eSg	Sb	08 57 09.4	+0.6
UKT				eSb	Sg	08 57 12.7	+3.0
UKT				max		08 57 14.1	
	comp=E,2μm,0.4s						
UKT	Uakit	1.16	56	ePG	Pn	08 56 53.8	-0.1
UKT				e		08 57 09.4	
UKT				pmax	pmax		
	comp=Z,57nm,0.1s						
UKT				smax	smax		
	comp=N,1μm,0.2s						
YOA	Uoyan	1.28	355	ePg	Pn	08 56 56.1	+0.6
YOA				Pmax		08 56 56.3	
	comp=N,2μm,0.4s						
YOA				ePb	Pg	08 56 57.8	+1.0
YOA				eSg	Sg	08 57 14.2	+0.7
YOA				e		08 57 18.0	
YOA				max		08 57 19.3	
	comp=N,14μm,0.5s						
YOA	Uoyan	1.28	355	ePG	Pn	08 56 56.1	+0.6
YOA				e		08 57 14.2	
YOA				pmax	pmax		
	comp=Z,1μm,0.2s						
YOA				smax	smax		
	comp=N,12μm,0.6s						
SVKR	Severomuysk	1.56	36	ePg	Pb	08 57 02.0	+1.2
SVKR				e		08 57 09.6	
SVKR				max		08 57 15.1	
	comp=N,770nm,0.5s						
SVKR				eSg	Sg	08 57 23.9	+1.4
SVKR				Smax		08 57 33.6	
	comp=N,5μm,0.5s						
SVKR	Severomuysk	1.56	36	ePN	Pb	08 57 02.0	+1.2
SVKR				e		08 57 24.3	
SVKR				pmax	pmax		
	comp=Z,347nm,0.2s						
SVKR				smax	smax		
	comp=E,4μm,0.5s						
NIZB	Nizh Angarsk	1.64	305	⇑iPg	Pb	08 57 01.6	-0.5
NIZB				Pmax		08 57 02.4	
	comp=E,704nm,0.8s						
NIZB				e		08 57 05.8	
NIZB				eSg	Sb	08 57 23.0	+0.4
NIZB				Smax		08 57 25.5	
	comp=E,3μm,0.6s						
NIZB				e		08 57 29.1	
SYVR	Suvo	1.66	224	ePN	Pn	08 57 01.1	+0.4
SYVR				e		08 57 23.3	
SYVR				pmax	pmax		
	comp=Z,437nm,0.5s						
SYVR				smax	smax		
	comp=E,1μm,0.4s						
MXMB	Maximikha	2.47	231	ePn	Pn	08 57 11.9	+0.1
MXMB				ePg	Pb	08 57 16.5	+0.3
MXMB				e		08 57 23.8	
MXMB				e		08 57 43.4	
MXMB				eSg	Sb	08 57 49.0	+2.6
NLYR	Nelyaty	2.69	51	⇓iPn	Pn	08 57 16.0	+1.1
NLYR				ePg	Pb	08 57 20.8	+0.8
NLYR				Pmax		08 57 35.5	
	comp=E,142nm,0.5s						
NLYR				eSg	Sb	08 57 56.3	+3.6
NLYR				Smax		08 58 01.4	
	comp=E,1μm,0.8s						
NLYR	Nelyaty	2.69	51	ePn	Pn	08 57 15.9	+1.1
NLYR				e		08 57 20.7	
NLYR				e		08 57 55.6	
NLYR				pmax	pmax		
	comp=Z,142nm,0.7s						
NLYR				smax	smax		
	comp=N,1μm,0.8s						
OGRR	Ongureny	2.82	246	⇓iPn	Pn	08 57 17.1	+0.4
OGRR				ePg	Pb	08 57 22.4	+0.2
OGRR				Pmax		08 57 30.9	
	comp=N,90nm,0.5s						
OGRR				eSn	Sn	08 57 49.7	-0.7
OGRR				eSg	Sb	08 57 58.2	+1.6
OGRR				Smax		08 58 06.3	
	comp=N,453nm,0.8s						
OGRR				e		08 58 09.8	
OGRR	Ongureny	2.82	246	⇓iPN	Pn	08 57 17.1	+0.4
OGRR				e		08 57 22.4	
OGRR				e		08 57 59.2	
OGRR				pmax	pmax		
	comp=Z,90nm,0.5s						
OGRR				smax	smax		
	comp=N,454nm,1.0s						
CIT	Chita	3.01	161	ePg	Pb	08 57 25.2	-0.2
CIT				ePgPg	Pg	08 57 28.9	-0.9
CIT				max		08 57 29.0	
	comp=N,23nm,0.1s						
CIT				eSn	Sn	08 57 54.5	-0.5
CIT				eSg	Sb	08 58 05.0	+3.1
CIT				eSgSg	Sg	08 58 12.4	+3.7
CIT				max		08 58 13.7	
	comp=N,1μm,0.2s						
CIT	Chita	3.01	161	ePN	Pn	08 57 19.8	+0.5
CIT				e		08 57 27.1	
CIT				e		08 58 04.5	
CIT				pmax	pmax		
	comp=Z,178nm,1.3s						
CIT				smax	smax		
	comp=E,834nm,1.4s						
KELR	Kotokel	3.11	229	ePn	Pn	08 57 21.0	+0.4
KELR				ePg	Pb	08 57 27.2	+0.1
KELR				ePgPg	Pg	08 57 29.6	-2.1
KELR				e		08 57 34.6	
KELR				eSn	Sn	08 57 54.9	-2.5
KELR				eSg	Sb	08 58 07.7	+3.0
KELR				e		08 58 23.0	
BOD	Bodaibo	3.18	20	ePn	Pn	08 57 22.3	+0.7
BOD				ePg	Pb	08 57 30.3	+2.0
BOD				Pmax		08 57 39.4	
	comp=E,111nm,0.6s						
BOD				e		08 57 55.8	
BOD				eSg	Sb	08 58 11.2	+4.4
BOD				Smax		08 58 13.1	
	comp=E,981nm,1.0s						
ZRHB	Zarechye	3.66	233	eSg	Sb	08 58 24.5	+3.8
ZRHB				Smax		08 58 50.4	
	comp=E,942nm,0.7s						
TRG	Tyrgan	3.92	240	ePn	Pn	08 57 32.1	+0.2
TRG				ePg	Pb	08 57 41.4	+0.4
TRG				Pmax		08 57 50.5	
	comp=E,37nm,0.9s						
TRG				eSn	Sn	08 58 16.2	-1.4
TRG				eSg	Sb	08 58 32.9	+4.7
TRG				Smax		08 58 38.4	
	comp=E,206nm,0.6s						
TRG	Tyrgan	3.92	240	ePN	Pn	08 57 32.0	+0.2
TRG				e		08 57 41.9	
TRG				eS	Sn	08 58 18.2	+0.6
TRG				e		08 58 32.9	
TRG				pmax	pmax		
	comp=Z,27nm,0.4s						
TRG				smax	smax		
	comp=N,194nm,0.3s						
UUDB	Ulan-Yde	3.94	222	ePn	Pn	08 57 32.4	+0.3
UUDB				e		08 57 40.1	
UUDB				ePg	Pb	08 57 43.0	+1.7
UUDB				e		08 57 49.4	
UUDB				max		08 57 51.3	
	comp=N,133nm,0.7s						
UUDB				eSg	Sb	08 58 33.7	+4.9
UUDB				Smax		08 58 41.2	
	comp=N,316nm,0.8s						
UUDB				e		08 58 48.4	
CRS	Chara	4.11	58	ePn	Pn	08 57 35.8	+1.4
CRS				e		08 57 43.6	
CRS				ePg	Pb	08 57 47.2	+3.0
CRS				Pmax		08 58 16.5	
	comp=N,91nm,0.8s						
CRS				eSn	Sn	08 58 23.6	+1.4
CRS				eSg	Sg	08 58 40.7	-3.4
CRS				Smax		08 58 45.0	
	comp=N,444nm,0.8s						
CRS				e		08 58 56.5	
FFNB	Fofonovo	4.18	230	ePn	Pn	08 57 35.8	+0.4
FFNB				eSn	Sn	08 58 22.6	-1.3
FFNB				eSg	Sb	08 58 41.1	+5.4
KAB	Kabansk	4.23	230	eSg	Sb	08 58 42.2	+5.2
KAB				e		08 58 48.4	
KAB				max		08 59 01.1	
	comp=N,1μm,0.9s						
HRMR	Khuramsha	4.41	225	ePn	Pn	08 57 39.1	+0.6
HRMR				ePg	Pb	08 57 49.9	+0.6
HRMR				Pmax		08 57 58.3	
	comp=N,121nm,0.7s						
HRMR				e		08 58 30.8	
HRMR				eSg	Sb	08 58 46.8	+4.6
HRMR				e		08 58 50.2	
HRMR				max		08 59 07.3	
	comp=N,805nm,0.7s						
VTMR	Vitim	4.60	4	ePn	Pn	08 57 42.0	+0.9
VTMR				ePg	Pb	08 57 55.6	+3.1
VTMR				e		08 58 29.5	
VTMR				eSg	Sg	08 58 54.8	-5.0
VTMR				e		08 59 06.4	
TUP	Tupik	4.68	92	⇓iPn	Pn	08 57 43.0	+0.8
TUP				ePg	Pb	08 57 56.4	+2.5
TUP				Pmax		08 58 02.5	
	comp=N,52nm,0.7s						
TUP				eSn	Sn	08 58 34.1	-2.1
TUP				e		08 58 50.6	
TUP				eSg	Sb	08 58 56.9	+6.9
TUP				Smax		08 59 01.8	
	comp=N,756nm,0.8s						
TUP				e		08 59 07.4	
TUP	Tupik	4.68	92	ePN	Pn	08 57 42.8	+0.6
TUP				e		08 57 57.7	
TUP				eS	Sn	08 58 34.1	-2.1
TUP				e		08 58 56.6	
TUP				pmax	pmax		
	comp=Z,52nm,0.7s						
TUP				smax	smax		
	comp=N,755nm,0.8s						
BGT	Bolshoye Golou	4.81	237	ePn	Pn	08 57 44.1	+0.1
BGT				e		08 57 51.5	
BGT				ePg	Pb	08 57 58.7	+2.6
BGT				e		08 58 05.6	
BGT				max		08 58 07.8	
	comp=N,19nm,0.5s						
BGT				eSn	Sn	08 58 37.7	-1.8
BGT				eSg	Sb	08 59 00.2	+6.4
BGT				Smax		08 59 12.7	
	comp=N,143nm,0.9s						
KHNR	Khani	4.98	62	ePn	Pn	08 57 47.9	+1.6
KHNR				e		08 58 08.0	
KHNR				e		08 58 46.4	
KHNR				eSg	Sg	08 59 07.4	-4.4
KHNR				e		08 59 16.5	
KPC	Khapcheranga	5.17	177	ePn	Pn	08 57 48.7	-0.4
KPC				ePg	Pb	08 58 04.9	+2.5
KPC				e		08 58 15.8	
KPC				max		08 58 22.6	
	comp=N,34nm,0.6s						
KPC				eSn	Sn	08 58 46.4	-2.1
KPC				eSg	Sb	08 59 11.5	+7.2
KPC				e		08 59 17.7	
KPC				max		08 59 20.4	
	comp=N,507nm,1.1s						
KPC	Khapcheranga	5.17	177	ePN	Pn	08 57 49.0	-0.1
KPC				e		08 58 04.2	
KPC				e		08 59 11.2	
KPC				pmax	pmax		
	comp=Z,25nm,0.6s						
KPC				smax	smax		
	comp=E,507nm,1.1s						
LSTR	Listvyanka	5.20	238	ePn	Pn	08 57 49.3	-0.1
LSTR				e		08 57 57.6	
LSTR				max		08 58 31.3	
	comp=E,7.0nm,0.4s						
LSTR				eSn	Sn	08 58 46.7	-2.3
LSTR				eSg	Sb	08 59 10.8	+5.8
LSTR				Smax		08 59 23.4	
	comp=E,109nm,1.3s						
IVK	Ivanovka	5.45	239	e	Pn	08 57 55.5	+2.7
IVK				ePg	Pb	08 58 09.9	+2.9
IVK				Pmax		08 58 18.5	
	comp=E,23nm,1.1s						
IVK				e		08 58 49.5	
IVK				eSg	Sb	08 59 19.1	+7.0
IVK				Smax		08 59 28.1	
	comp=E,134nm,1.5s						
YKLR	Yuktali	5.76	69	ePn	Pn	08 57 58.2	+1.2
YKLR				e		08 58 02.5	
YKLR				ePg	Pb	08 58 15.5	+3.2
YKLR				eSn	Sn	08 59 01.4	-1.4
YKLR				eSg	Sg	08 59 31.9	-5.0
YKLR				e		08 59 51.0	
TLY	Talaya	5.91	241	ePn	Pn	08 57 58.2	-0.8
TLY				e		08 58 19.3	
TLY				max		08 58 53.2	
	comp=E,14nm,0.6s						
TLY				eSn	Sn	08 59 04.2	-2.2
TLY				eSg	Sb	08 59 32.8	+7.6
TLY				Smax		08 59 42.7	
	comp=E,104nm,0.3s						
ARS	Arshan	6.41	247	ePn	Pn	08 58 05.8	-0.2
ARS				e		08 58 30.2	
ARS				max		08 58 40.0	
	comp=E,37nm,0.7s						
ARS				e		08 59 34.5	
ARS				eSg	Sb	08 59 47.9	+8.3
ARS				Smax		08 59 56.8	
	comp=E,392nm,0.7s						
ARS				e		09 00 12.3	
ZAK	Zakamensk	6.92	233	e		08 59 49.7	
ZAK				eSg	Sg	09 00 06.0	-8.0
ZAK				Smax		09 00 25.4	
	comp=E,82nm,0.9s						
ZAK	Zakamensk	6.92	233	ePG	Pg	08 58 42.9	-1.6
ZAK				e		09 00 10.5	
ZAK				pmax	pmax		
	comp=Z,12nm,0.5s						
ZAK				smax	smax		
	comp=N,82nm,0.9s						
MOY	Mondy	7.30	248	ePn	Pn	08 58 18.2	-0.1
MOY				e		08 58 29.2	
MOY				ePg	Pb	08 58 42.8	+4.3
MOY				Pmax		08 59 23.9	
	comp=N,26nm,1.5s						
MOY				eSn	Sn	08 59 37.6	-3.2
MOY				eSg	Sg	09 00 17.2	-9.0
MOY				Smax		09 00 37.5	
	comp=N,144nm,1.6s						
CLNS	Chul'man	7.56	70	ePg	Pb	08 58 48.2	+5.3
CLNS				e		08 59 48.7	
CLNS				eSg	Sb	09 00 27.4	+15
ORL	Orlik	7.56	257	ePn	Pn	08 58 22.3	+0.4
ORL				e		08 58 28.2	
ORL				e		08 58 31.9	
ORL				max		08 58 38.5	
	comp=N,23nm,1.0s						
ORL				eSn	Sn	08 59 43.9	-3.4
ORL				e		08 59 59.4	
ORL				eSg	Sb	09 00 24.6	+12
ORL				Smax		09 00 30.4	
	comp=N,95nm,1.4s						
ORL				e		09 00 39.1	
ORL	Orlik	7.56	257	ePN	Pn	08 58 22.6	+0.7
ORL				e		08 58 47.1	
ORL				eS	Sn	08 59 45.7	-1.6
ORL				e		09 00 24.4	
ORL				pmax	pmax		
	comp=Z,25nm,1.1s						
ORL				smax	smax		
	comp=N,98nm,1.6s						
SONM	Songino Array	7.84	208	Pn	Pn	08 58 26.6	+0.9
	comp=N,1.6nm,0.3s,baz=23,slow=13,SNR=15						
SONM				Lg	Lg	09 00 39.5	
	comp=N,6.6nm,0.3s,baz=18,slow=28,SNR=9.3						
	comp=N,2.6nm,0.3s						
KLR	Kul'dur	13.42	107	Pn	Pn	08 59 38.2	-3.6
	comp=N,0.1nm,0.3s,baz=221,slow=19,SNR=2.1						
KLR				Lg	Lg	09 03 26.5	
	comp=N,0.2nm,0.3s,baz=195,slow=17,SNR=2.7						
KLR				LR	LR	09 05 11.6	
	comp=N,48nm,18.2s,baz=280,slow=40						
	comp=N,0.4nm,0.3s						
ZALV	Zalesovo Beam	15.78	278	Pn	Pn	09 00 14.7	+1.1
	baz=72,slow=11,SNR=6.6						
ZALV				LR	LR	09 06 35.8	
	comp=N,25nm,20.7s,baz=36,slow=38						
	comp=N,0.7nm,0.4s						
USRK	Ussuriysk Ar.	16.77	121	LR	LR	09 07 26.2	
	comp=N,49nm,21.4s,baz=31,slow=40						
MKAR	Makanchi Array	20.27	259	P	P	09 01 08.2	+1.3
	comp=N,0.6nm,0.5s,baz=53,slow=6.9,SNR=5.4						
	comp=N,0.6nm,0.5s						
KURK	Kurchatov	20.45	272	P	Pn	09 01 13.3	+2.4
KURBB	Kurchatov Arra	20.54	272	P	Pn	09 01 13.3	+1.3
	comp=N,0.5nm,0.5s,baz=67,slow=12,SNR=3.4						
KURBB				LR	LR	09 10 06.4	
	comp=N,56nm,18.3s,baz=162,slow=39						
	comp=N,0.5nm,0.5s						
KSRS	Korea Array	20.55	141	LR	LR	09 10 06.0	
	comp=N,30nm,18.8s,baz=0.0,slow=40						
SEY	Seymchan	22.06	52	LR	LR	09 11 14.2	
	comp=N,32nm,20.9s,baz=357,slow=40						
ASAJ	Asahikawa	22.45	106	LR	LR	09 11 09.5	
	comp=N,32nm,19.2s,baz=340,slow=40						
BVAR	Borovoye Array	24.27	283	P	P	09 01 49.7	+1.3
	comp=N,1.7nm,0.6s,baz=84,slow=10,SNR=6.2						
	comp=N,1.7nm,0.6s						
HFS	Hagfors	48.32	318	P	P	09 05 11.7	-0.8
	comp=N,2.1nm,0.8s,baz=70,slow=13,SNR=4.2						
	comp=N,2.1nm,0.8s						
DAVOX	Davos/Dischmat	59.35	309	LR	LR	09 36 37.6	
	comp=N,34nm,18.3s,baz=324,slow=40						
WRA	Warramunga Arr	76.93	158	P	P	09 08 23.1	-0.6
	comp=N,0.5nm,0.6s,baz=351,slow=6.5,SNR=12						
	comp=N,0.5nm,0.6s						
NVAR	Mina Array Bea	77.61	38	P	P	09 08 27.2	-0.5
	comp=N,0.2nm,0.7s,baz=270,slow=2.6,SNR=2.4						
	comp=N,0.2nm,0.7s						
ASAR	Alice Springs	80.45	160	P	P	09 08 43.0	0.0
	comp=N,0.3nm,0.9s,baz=352,slow=5.7,SNR=2.2						
	comp=N,0.3nm,0.9s						

ASRS 17 09:02:52.8±0.3, 52°N±2°×9°6E±°, h9km, MLh4.3/9, Error ellipse: s-maj=5.3km s-min=2.5km az=11.3, confirmed, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJOS	Djoyskaya Sosn	2.88	290	Pn	Pn	09 03 39.9	+1.1
DJOS				Pg	Pg	09 03 49.3	+1.4
DJOS				Sg	Sg	09 04 28.0	+2.9
CERR	Cheremushki	2.88	291	Pn	Pn	09 03 40.1	+1.2
CERR				Pg	Pg	09 03 49.1	+1.0
CERR				Sg	Sg	09 04 28.6	+3.3
DJO	Djoy, Khakassi	2.98	289	Pg	Pg	09 03 49.4	-0.4
DJO				Sg	Sg	09 04 31.2	+2.8
MINR	Mina	3.18	343	Pg	Pg	09 04 00.2	+6.6
MINR				Sg	Sg	09 04 40.9	+6.2
MOY	Mondy	3.20	92	Pg	Pg	09 03 55.6	+1.5
MOY				Sg	Sg	09 04 38.1	+2.5
LUZB	Luzhba, Kemero	4.58	296	Sg	Sg	09 05 20.7	+1.0
GZLN	Zheleznogorsk	4.67	346	Pg	Pg	09 04 22.4	+0.3
GZLN				Sg	Sg	09 05 23.6	+1.2
ZAK	Zakamensk	4.92	105	Pg	Pg	09 04 27.4	+0.4
ZAK				Sg	Sg	09 05 31.9	+1.4
TASR	Tashtagol	4.96	283	Sg	Sg	09 05 34.2	+2.1
YALR	Yailyu, Altay	5.11	272	Sg	Sg	09 05 36.3	-0.5
ULGR	Ulagan, Altay	5.11	259	Sg	Sg	09 05 42.1	+5.2
ARTR	Artybash	5.31	272	Sg	Sg	09 05 46.6	+3.4
AKAR	Aktash	5.42	256	Pn	Pb	09 04 21.7	-5.9
AKAR				Pg	Pg	09 04 37.4	+0.9

AKAR Sg Sg 09 05 46.2 -0.4
ELT Eltsovka 6.02 287 Sg Sg 09 06 05.1 -0.8
VCHU Verkh-Chumysh, 6.05 294 Sg Sg 09 06 07.6 +0.6

*ATH **17** 09:18:36.8, 41.°16N×20.°87E, h7km±2km, ML2.6/5, Manual Solution by K.Orfanogiannaki First location: 2019/04/05 11:33:13, This location: 2020/01/23 11:23:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*SKO **17** 09:18:36.8, 41.°13N×20.°84E, h11km, ML2.7*
*PDG **17** 09:18:37.7±0.2, 41.°16N×20.°89E, h2km, ML2.8/9, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
*THE **17** 09:18:37.2, 41.°18N×20.°90E, h0km±1km, ML2.4/4, Error ellipse: s-maj=1.8km s-min=0.5km az=28.0*
*BEO **17** 09:18:38.0±0.3, 41.°14N×20.°86E, h3km±3km, ML2.4/11*
ISC 17 09:18:37.4±0.9, 41.°14N±0.°02×20.°87E±0.°02, h3km±7km, n53, σ1º14/91, 6C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.06**	**241**	*e*Pg	**Pg**	**09 18 38.9**	**+0.2**
OHR				*e*Sg	**Sg**	**09 18 39.9**	**+0.3**
OHR	**Ohrid**	**0.06**	**241**	⇑*i*Pg	**Pg**	**09 18 39.0**	**+0.2**
OHR				*i* Sg	**Sg**	**09 18 40.1**	**+0.5**
OHR				*e*Lg	Lg	09 18 40.2	
	comp=E,19μm,0.4s						
OHR				*e*Lg	Lg	09 18 40.3	
	comp=N,7μm,0.3s						
KBN	**Korca**	**0.52**	**187**	P	**Pg**	**09 18 47.7**	**+0.3**
KBN				S	**Sb**	**09 18 56.4**	**-0.7**
	comp=N,732nm,0.5s						
FNA	**Florina**	**0.53**	**132**	P	**Pg**	**09 18 47.5**	**+0.1**
FNA				S	**Sg**	**09 18 55.5**	**+1.2**
FNA	**Florina**	**0.53**	**132**	*e*Pg	**Pg**	**09 18 47.6**	**+0.1**
FNA				*e*Sg	**Sg**	**09 18 55.8**	**+1.5**
FNA	**Florina**	**0.53**	**132**	⇑*i*Pg	**Pg**	**09 18 47.6**	**+0.1**
FNA				*i* Sg	**Sb**	**09 18 56.4**	**-1.0**
FNA	**Florina**	**0.53**	**132**	P	**Pg**	**09 18 47.6**	**+0.1**
FNA				S	**Sg**	**09 18 55.2**	**+0.9**
NEST	**Nestorio**	**0.74**	**169**	P	**Pg**	**09 18 51.4**	**-0.2**
NEST				S	**Sb**	**09 19 03.0**	**-0.5**
NEST	**Nestorio**	**0.74**	**169**	P	**Pg**	**09 18 51.6**	**0.0**
NEST				S	**Sg**	**09 19 01.9**	**+0.8**
TIR	**Tirane**	**0.78**	**286**	P	**Pg**	**09 18 52.1**	**-0.4**
TIR				S	**Sb**	**09 19 04.2**	**-0.5**
	comp=N,138nm,0.2s						
TIR	**Tirane**	**0.78**	**286**	*e*Pg	**Pg**	**09 18 51.8**	**-0.7**
TIR				*e*Sg	**Sb**	**09 19 04.2**	**-0.5**
TIR	**Tirane**	**0.78**	**286**	P	**Pg**	**09 18 52.0**	**-0.4**
SKO	**Skopje**	**0.94**	**27**	*e*Pg	**Pg**	**09 18 55.1**	**-0.3**
SKO				*e*Sg	**Sb**	**09 19 07.7**	**-1.5**
SKO	**Skopje**	**0.94**	**27**	⇑*i*Pg	**Pb**	**09 18 55.3**	**-1.1**
SKO				*i* Sg	**Sb**	**09 19 09.1**	**0.0**
PENT	**Pentalofos**	**0.96**	**168**	P	**Pg**	**09 18 55.9**	**0.0**
PENT				S	**Sb**	**09 19 10.9**	**+0.9**
PENT	**Pentalofos**	**0.96**	**168**	P	**Pg**	**09 18 56.3**	**+0.4**
LSK	**Leskovik**	**1.01**	**192**	P	**Pg**	**09 18 57.0**	**+0.2**
LSK				S	**Sn**	**09 19 12.8**	**-0.5**
	comp=N,295nm,0.7s						
STIP	**Stip**	**1.14**	**60**	*i* Pg	**Pn**	**09 19 03.2**	**+3.0**
STIP				*i* Sg	**Sn**	**09 19 20.7**	**+4.4**
GRG	**Griva**	**1.18**	**98**	P	**Pg**	**09 18 59.0**	**-1.0**
GRG	**Griva**	**1.18**	**98**	*i* Pg	**Pg**	**09 18 59.2**	**-0.8**
GRG				*i* Sg	**Sb**	**09 19 16.4**	**+0.3**
KPRO	**Kipourio**	**1.24**	**162**	P	**Pg**	**09 19 00.9**	**-0.4**
KPRO				S	**Sn**	**09 19 19.9**	**+0.9**
	comp=N,185nm,0.5s						
KPRO	**Kipourio**	**1.24**	**162**	P	**Pg**	**09 19 01.2**	**-0.1**
VAY	**Valandovo**	**1.30**	**81**	*e*Pg	**Pg**	**09 19 01.5**	**-0.8**
VAY				*e*Sg	**Sn**	**09 19 19.8**	**-0.5**
VAY	**Valandovo**	**1.30**	**81**	*i* Pg	**Pg**	**09 19 01.7**	**-0.6**
VAY				*i* Sg	**Sn**	**09 19 20.2**	**0.0**
VAY				*e*Lg	Lg	09 19 21.4	
	comp=E,29nm,0.4s						
VAY				*e*Lg	Lg	09 19 23.4	
	comp=N,45nm,0.5s						
ULC	**Ulcinj**	**1.47**	**305**	⇓*i*Pg	**Pn**	**09 19 04.5**	**-0.3**
ULC	**Ulcinj**	**1.47**	**305**	⇑*i*Pg	**Pn**	**09 19 04.5**	**-0.3**
ULC				*i* Sg	**Sn**	**09 19 28.4**	**+3.8**
KNT	**Kendrikon**	**1.53**	**88**	P	**Pn**	**09 19 04.9**	**-0.8**
KNT	**Kendrikon**	**1.53**	**88**	*i* Pg	**Pb**	**09 19 05.9**	**-0.6**
KNT				*i* Sg	**Sg**	**09 19 28.1**	**+1.4**
KNT	**Kendrikon**	**1.53**	**88**	P	**Pn**	**09 19 04.3**	**-1.4**
PVY	**Plav**	**1.60**	**335**	⇓*i*Pn	**Pg**	**09 19 07.5**	**-0.7**
PVY				*i* Sn	**Sg**	**09 19 32.0**	**+3.0**
DRME	**Dracevica, Mon**	**1.64**	**310**	⇓*i*Pn	**Pn**	**09 19 07.0**	**-0.1**
DRME				*i* Sn	**Sg**	**09 19 33.3**	**+3.2**
PRVS	**Prvonek**	**1.64**	**33**	*e*Pn	**Pn**	**09 19 07.1**	**-0.1**
PRVS				*e*Sn	**Sg**	**09 19 30.2**	**+0.1**
KEK	**Kerkira**	**1.64**	**210**	P	**Pn**	**09 19 05.2**	**-2.0**
PEHC	**Pehcevo**	**1.66**	**67**	*i* Pn	**Pn**	**09 19 07.2**	**-0.3**
PEHC				*i* Sn	**Sg**	**09 19 30.3**	**-0.4**
THE	**Thessaloniki**	**1.67**	**107**	*i* Pn	**Pb**	**09 19 08.4**	**-0.4**
PDG	**Podgorica**	**1.77**	**317**	*e*Pn	**Pb**	**09 19 10.0**	**-0.4**
PDG				*e*Sn	**Sb**	**09 19 32.3**	**-0.7**
PDG	**Podgorica**	**1.77**	**317**	⇑*i*Pn	**Pg**	**09 19 10.8**	**-0.5**
PDG				*i* Sn	**Sg**	**09 19 36.3**	**+2.1**
THL	**Klokotos Trika**	**1.80**	**150**	P	**Pn**	**09 19 09.2**	**-0.2**
BARS	**Barje**	**1.82**	**23**	*e*Pn	**Pn**	**09 19 09.6**	**0.0**
BARS				*e*Sn	**Sb**	**09 19 34.2**	**-0.3**
BARS	**Barje**	**1.82**	**23**	*i* Pn	**Pn**	**09 19 09.8**	**+0.2**
BARS				*i* Sn	**Sb**	**09 19 34.2**	**-0.3**
BARS				*i* Sg	**Sg**	**09 19 36.0**	**+0.1**
KKB	**Krupnik**	**1.84**	**67**	*i* Pn	**Pb**	**09 19 10.6**	**-1.2**
KKB				*i* Sn	**Sb**	**09 19 35.2**	**+0.1**
BUM	**Brajici-Budva**	**1.88**	**309**	⇓*i*Pn	**Pb**	**09 19 11.1**	**-1.3**
BUM				*i* Sn	**Sg**	**09 19 39.0**	**+1.2**
CEME	**Cevo**	**2.02**	**315**	⇓*i*Pn	**Pb**	**09 19 14.0**	**-0.9**
CEME				*i* Sn	**Sg**	**09 19 42.6**	**+0.1**
SRS	**Serrai**	**2.06**	**90**	*i* Pn	**Pn**	**09 19 13.7**	**+0.8**
SELS	**Selova**	**2.09**	**5**	*e*Pn	**Pn**	**09 19 12.8**	**-0.5**
HCY	**Herceg Novi**	**2.20**	**307**	⇓*i*Pn	**Pb**	**09 19 16.5**	**-1.4**
HCY				*i* Sn	**Sg**	**09 19 46.8**	**-1.4**
SJES	**Sjenica**	**2.22**	**343**	*e*Pn	**Pb**	**09 19 16.3**	**-2.0**
VTS	**Vitosha**	**2.30**	**49**	*e*Pn	**Pn**	**09 19 16.6**	**+0.2**
VTS				*e*Sn	**Sn**	**09 19 44.6**	**-0.8**
VTS	**Vitosha**	**2.30**	**49**	*i* Pn	**Pn**	**09 19 17.3**	**+0.9**
AGG	**Agios Georgios**	**2.39**	**152**	P	**Pn**	**09 19 17.3**	**-0.2**
BRY	**Bratogost**	**2.47**	**316**	⇓*i*Pn	**Pn**	**09 19 20.1**	**+1.4**
BRY				*i* Sn	**Sb**	**09 19 53.2**	**-0.2**
IVAS	**Ivanjica**	**2.49**	**348**	*e*Pn	**Pn**	**09 19 18.8**	**-0.1**
UPM	**Unac-Piva**	**2.53**	**325**	⇑*i*Pn	**Pn**	**09 19 20.4**	**+0.9**
UPM				*i* Sn	**Sb**	**09 19 54.4**	**-0.7**

*NNC **17** 09:20:18.8±0.7, 51.°72N×75.°50E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=11.7km s-min=4.2km az=24.0, Suspected Mining explosion.*
*IDC **17** 09:20:21.5±0.9, 51.°61N×75.°45E, h0km, mbtmp2.6/4, ML2.0/4, Error ellipse: s-maj=27.9km s-min=7.4km az=30.0*
ISC 17 09:20:20.5±1.1, 51.°52N±0.°09×75.°28E±0.°08, h0km, n11, σ0º91/12, 8C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.24**	**112**	⇓Pg	**Pn**	**09 20 59.1**	**+0.2**
	2.2nm,0.3s						
KURBB				⇑Lg	Lg	09 21 29.0	
	23nm,0.6s						
KURBB	**Kurchatov Arra**	**2.24**	**112**	Pn	**Pn**	**09 20 59.1**	**+0.2**
	0.6nm,0.3s,baz=300,slow=19,SNR=14						
KURBB				Lg	Lg	09 21 29.2	
	0.8nm,0.3s,baz=301,slow=32,SNR=12						
	1.7nm,0.3s						
KURK	**Kurchatov**	**2.26**	**110**	⇓Pg	**Pn**	**09 20 58.8**	**-0.2**
	3.0nm,0.6s						
KURK				⇑Lg	Lg	09 21 27.5	
	11nm,0.6s						
BVA0	**Borovoye Array**	**3.36**	**298**	⇑Pg	**Pb**	**09 21 21.1**	**+0.2**
	2.5nm,0.7s,baz=114,slow=17,SNR=14						
BVA0				⇑Lg	Lg	09 22 04.9	
	4.9nm,0.5s,baz=116,slow=28,SNR=9.2						
BVAR	**Borovoye Array**	**3.36**	**298**	Pn	**Pn**	**09 21 15.2**	**+1.0**
	baz=114,slow=16,SNR=2.3						
BVAR				Pg	**Pb**	**09 21 21.8**	**+0.9**
	0.1nm,0.3s,baz=115,slow=17,SNR=15						
BVAR				Lg	Lg	09 22 07.0	
	0.4nm,0.3s,baz=114,slow=29,SNR=11						
	0.5nm,0.4s						
BRVK	**Borovoye**	**3.43**	**299**	⇓Pg	**Pb**	**09 21 21.6**	**-0.5**
	9.0nm,1.3s						
BRVK				⇑Lg	Lg	09 22 09.4	
	5.7nm,0.7s						
OTUK	**Ortayu**	**3.79**	**211**	⇓Pg	**Pg**	**09 21 32.9**	**-0.3**
	4.1nm,1.4s						
OTUK				⇑Lg	Lg	09 22 27.2	
	3.1nm,0.8s						
I46RU	**ZALESOVO INFRA**	**6.28**	**64**	I	I	09 54 10.0	
	baz=250,slow=336,SNR=12						
ZALV	**Zalesovo Beam**	**6.28**	**64**	Pn	**Pn**	**09 21 53.6**	**-0.7**
	0.3nm,0.3s,baz=249,slow=11,SNR=4.5						
	1.2nm,0.5s						
MK31	**Makanchi Array**	**6.60**	**133**	⇑Sn	**Sn**	**09 23 15.9**	**+1.3**
	0.5nm,0.5s						
MK31				⇑Lg	Lg	09 23 48.0	
	2.4nm,0.6s,baz=328,slow=25,SNR=6.0						
MKAR	**Makanchi Array**	**6.60**	**133**	Pn	**Pn**	**09 21 59.6**	**+0.9**
	0.1nm,0.3s,baz=314,slow=12,SNR=2.8						
MKAR				Sn	**Sn**	**09 23 13.2**	**-1.5**
	0.2nm,0.3s,baz=316,slow=19,SNR=3.7						
MKAR				Lg	Lg	09 23 47.6	
	0.4nm,0.3s,baz=327,slow=31,SNR=7.3						
	0.3nm,0.6s						

*IDC **17** 09:23:53.5±0.8, 15.°64N×94.°87W, h0km, mb4.0/12, mbtmp4.0/13, ML4.0/1, MS3.8/39, Error ellipse: s-maj=26.2km s-min=13.8km az=64.0*
*MEX **17** 09:23:56.8±0.7, 15.°31N×95.°00W, h16km±7km, MD4.6*
*NEIC **17** 09:23:59.9±2.4, 15.°70N±0.°05×94.°82W±0.°03, h31km±6km, mb4.5/125, Md4.6/36(MEX), Error ellipse: s-maj=6.9km s-min=4.5km az=175.0*
*GCG **17** 09:24:00.6±2.1, 15.°23N×94.°58W, h0km±999km, MD4.9*
ISC 17 09:23:53.9±2.1, 15.°54N±0.°04×94.°91W±0.°03, h2km±13km, n280, σ1º95/301, mb4.4/33, MS3.8/38, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**1.05**	**16**	*i* P	**Pb**	**09 24 14.3**	**-0.7**
NILT				*e*S	**Sb**	**09 24 26.4**	**-2.8**
HUIG	**Huatulco**	**1.17**	**281**	*e*P	Pn	09 24 14.9	-2.5
HUIG				*e*S	**Sb**	**09 24 28.1**	**-4.5**
CARR	**Arriaga**	**1.19**	**54**	*e*P	**Pb**	**09 24 16.1**	**-1.2**
CARR				*e*S	**Sb**	**09 24 29.5**	**-3.6**
PANG	**Puerto Angel**	**1.51**	**275**	*e*P	Pn	09 24 19.6	-2.4
PANG				*e*S	Sn	09 24 35.7	-6.5
CMIG	**Matias Romero**	**1.54**	**1**	Pn	**Pn**	**09 24 21.7**	**-0.7**
	203nm,0.3s,baz=177,slow=12,SNR=2022						
CMIG				Sn	**Sn**	**09 24 40.5**	**-2.5**
	749nm,0.3s,baz=284,slow=24,SNR=44						
CMIG	**Matias Romero**	**1.54**	**1**	*e*P	**Pn**	**09 24 21.2**	**-1.2**
CMIG				*e*S	**Sn**	**09 24 40.5**	**-2.5**
PCIG		**1.64**	**84**		**Pn**	**09 24 23.2**	**-0.6**
PCIG					**Sn**	**09 24 42.7**	**-2.8**
PCIG		**1.64**	**84**	*e*P	**Pn**	**09 24 23.2**	**-0.6**
PCIG				*e*S	**Sn**	**09 24 42.7**	**-2.8**
UXUV	**UXUV**	**1.91**	**23**	*e*P	**Pn**	**09 24 27.9**	**+0.4**
UXUV				*e*S	**Sb**	**09 24 51.4**	**-2.5**
TGIG		**2.12**	**54**		**Pn**	**09 24 30.9**	**+0.5**
TGIG					**Sb**	**09 24 58.1**	**-1.7**
TGIG		**2.12**	**54**	*e*P	**Pn**	**09 24 30.9**	**+0.5**
TGIG				*e*S	**Sb**	**09 24 58.1**	**-1.7**
TGBT	**Tuxtla Gutierr**	**2.14**	**55**		**Pn**	**09 24 31.2**	**+0.5**
TGBT					**Sb**	**09 24 59.2**	**-1.3**
TGBT	**Tuxtla Gutierr**	**2.14**	**55**	*i* P	**Pn**	**09 24 31.2**	**+0.5**
TGBT				*e*S	**Sb**	**09 24 59.2**	**-1.3**
PEIG	**Puerto Escondi**	**2.20**	**282**	*e*P	Pn	09 24 29.3	-2.2
PEIG				*e*S	Sn	09 24 52.3	-7.0
OXLC	**Oaxaca**	**2.29**	**312**	*e*P	**Pn**	**09 24 32.5**	**-0.4**
OXLC				*e*S	**Sn**	**09 25 01.8**	**-0.1**
OXBJ	**Oaxaca**	**2.31**	**311**	*e*P	**Pn**	**09 24 32.8**	**-0.4**
OXBJ				*e*S	**Sn**	**09 25 00.0**	**-2.2**
OXIG	**Oaxaca**	**2.31**	**311**		**Pn**	**09 24 33.9**	**+0.6**
OXIG					**Sn**	**09 25 01.1**	**-1.4**
VHO	**Vista Hermosa**	**2.31**	**311**	*e*P	**Pn**	**09 24 33.9**	**+0.6**
VHO				*e*S	**Sn**	**09 25 01.1**	**-1.3**
NEUV	**Arroyo Zacate**	**2.32**	**339**	*e*P	**Pn**	**09 24 33.1**	**0.0**
NEUV				*e*S	**Sb**	**09 25 03.8**	**-1.8**
MIHL	**Minatitlan**	**2.46**	**8**	*e*P	**Pn**	**09 24 35.7**	**+0.7**
MIHL				*e*S	**Sg**	**09 25 11.2**	**-1.7**
TUIG	**Tuzandepetl**	**2.52**	**11**	*e*P	**Pn**	**09 24 36.9**	**+1.0**
TUIG				*e*S	**Sg**	**09 25 13.1**	**-1.8**
PATR	**El Naranjo**	**2.62**	**99**	*e*P	**Pn**	**09 24 36.9**	**-0.6**
PATR				*e*S	**Sn**	**09 25 06.8**	**-3.3**
THIG		**2.63**	**104**		**Pn**	**09 24 38.0**	**+0.5**
THIG					**Sn**	**09 25 08.2**	**-1.9**
THIG		**2.63**	**104**	*e*P	**Pn**	**09 24 38.0**	**+0.5**
THIG				*e*S	**Sn**	**09 25 08.2**	**-1.9**
PAVE	**Pavencul**	**2.66**	**97**	*e*P	**Pn**	**09 24 38.0**	**-0.1**
PAVE				*i* S	**Sn**	**09 25 07.7**	**-3.4**
CHUJ	**Union Juarez**	**2.74**	**99**	*e*P	**Pn**	**09 24 38.9**	**-0.3**
CHUJ				*i* S	**Sn**	**09 25 10.3**	**-2.8**
CCIG	**Comitan**	**2.77**	**74**	*e*P	**Pn**	**09 24 40.6**	**+1.1**
CCIG				*e*S	**Sb**	**09 25 17.7**	**-1.1**
YOIG	**Yosondua**	**2.84**	**298**		**Pn**	**09 24 42.2**	**+1.5**
YOIG					**Sn**	**09 25 12.4**	**-3.3**
YOIG	**Yosondua**	**2.84**	**298**	*e*P	**Pn**	**09 24 42.2**	**+1.5**
YOIG				*e*S	**Sn**	**09 25 12.4**	**-3.3**
PMUV	**Sontecomapan**	**2.99**	**356**	*e*P	**Pn**	**09 24 42.3**	**-0.1**
PMUV				*i* S	**Sn**	**09 25 18.6**	**-0.4**
PNIG	**Pinotepa**	**3.20**	**286**		**Pn**	**09 24 44.4**	**-0.9**
PNIG	**Pinotepa**	**3.20**	**286**	*e*P	**Pn**	**09 24 44.4**	**-0.9**
PNIG				*e*S	Sn	09 25 17.0	-7.2
TXIG	**Tlaxiaco**	**3.22**	**302**	*e*P	**Pn**	**09 24 46.4**	**+0.6**
TXIG				*e*S	**Sn**	**09 25 22.4**	**-2.7**
TOIG	**Toxpalan**	**3.27**	**321**	*e*P	**Pn**	**09 24 48.3**	**+2.0**
TOIG				*e*S	**Sn**	**09 25 25.9**	**0.0**
RTAL	**Retalhuleu**	**3.27**	**108**		**Pn**	**09 24 46.9**	**+0.7**
HUEH	**Huehuetenango**	**3.30**	**93**		**Pn**	**09 24 49.1**	**+2.2**
STG3	**Santiaguito 3,**	**3.33**	**104**	*e*P	**Pn**	**09 24 47.7**	**+0.4**
STG3				*e*S	**Sn**	**09 25 27.6**	**0.0**
SULM	**Suchitepequez,**	**3.46**	**110**	*e*P	**Pn**	**09 24 49.9**	**+1.0**
SULM				*e*S	**Sn**	**09 25 30.4**	**-0.1**
HLIG	**Huajuapan de L**	**3.58**	**310**	*e*P	**Pn**	**09 24 50.5**	**-0.2**
HLIG				*e*S	**Sn**	**09 25 30.4**	**-3.4**
TPIG	**Tehuac#an**	**3.70**	**321**		**Pn**	**09 24 56.3**	**+4.0**
TPIG					**Sn**	**09 25 35.3**	**-1.2**
TPIG	**Tehuac#an**	**3.70**	**321**	*e*P	**Pn**	**09 24 56.3**	**+4.0**
TPIG				*e*S	**Sn**	**09 25 35.3**	**-1.2**
FTIG	**Fresnillo de T**	**3.88**	**308**	*e*P	**Pn**	**09 24 54.4**	**-0.3**
FTIG				*e*S	**Sn**	**09 25 38.5**	**-2.5**
OZST	**Orizaba**	**3.90**	**328**	*e*P	**Pn**	**09 24 57.0**	**+2.0**
OZST				*e*S	**Sn**	**09 25 42.2**	**+0.7**
TLIG	**Tlapa**	**4.04**	**300**	*e*P	**Pn**	**09 24 56.0**	**-0.9**
TLIG				*e*S	**Sn**	**09 25 40.8**	**-4.1**
FUG	**Fuego 3**	**4.08**	**105**	*e*P	**Pn**	**09 25 00.7**	**+3.1**
FUG				*e*S	**Sn**	**09 25 47.6**	**+1.5**
HMTT	**Tlapaneco**	**4.15**	**303**	*e*P	Pn	09 24 55.1	-3.3
HMTT				*i* S	**Sn**	**09 25 43.2**	**-4.5**
JAUV	**Jalcomulco**	**4.21**	**335**	*e*P	**Pn**	**09 24 58.4**	**-0.8**
JAUV				*e*S	**Sn**	**09 25 50.3**	**+1.3**
PCG	**Pacaya**	**4.32**	**105**	*e*S	**Sn**	**09 25 48.8**	**-3.2**
LVIG	**Laguna Verde**	**4.40**	**341**	*e*P	**Pn**	**09 25 03.0**	**+1.3**
LVIG				*e*S	**Sn**	**09 25 51.0**	**-2.6**
NBG	**Las Nubes**	**4.51**	**102**	*e*P	Pn	09 25 08.8	+5.2
PHPU	**Puebla**	**4.67**	**319**	*e*P	**Pn**	**09 25 06.7**	**+1.0**
PHPU				*e*S	**Sn**	**09 26 04.9**	**+4.3**
DAIG	**Los Arroyos**	**4.78**	**289**	*e*P	**Pn**	**09 25 05.2**	**-1.8**
DAIG				*e*S	Sn	09 25 53.6	-9.5
SCIG	**Sabancuy**	**4.93**	**46**	*e*P	**Pn**	**09 25 09.7**	**+0.7**
SCIG				*i* S	**Sn**	**09 26 03.5**	**-3.2**
PPM	**Popocatepetl**	**4.99**	**315**	*e*P	**Pn**	**09 25 11.1**	**+0.8**
PPM				*e*S	**Sn**	**09 26 08.8**	**0.0**
PETF	**Flores**	**5.04**	**74**		**Pn**	**09 25 11.8**	**+1.2**
MEIG	**Mezcala**	**5.09**	**298**	*e*P	**Pn**	**09 25 10.4**	**-1.0**
MEIG				*e*S	**Sn**	**09 26 09.1**	**-1.8**
AMVM	**AMECAMECA**	**5.14**	**315**	*e*P	Pb	09 25 20.4	-4.3
AMVM				*e*S	**Sn**	**09 26 18.8**	**+6.5**
YAIG	**Yautepec**	**5.16**	**310**	*e*P	**Pn**	**09 25 13.1**	**+0.7**
YAIG				*e*S	**Sn**	**09 26 09.4**	**-3.3**
PLIG	**Platanillo**	**5.22**	**303**	*e*P	**Pn**	**09 25 13.0**	**-0.2**
PLIG				*e*S	**Sn**	**09 26 11.4**	**-2.7**
CXUV	**Coxquihui**	**5.26**	**331**	*e*P	**Pn**	**09 25 13.2**	**-0.4**
CXUV				*e*S	**Sn**	**09 26 15.7**	**+0.7**
MPVM	**San Francisco**	**5.34**	**314**	*e*P	**Pn**	**09 25 15.1**	**+0.1**
MPVM				*e*S	**Sn**	**09 26 16.9**	**-0.3**
CAIG	**El Cayaco**	**5.35**	**287**	*e*P	**Pn**	**09 25 14.2**	**-0.7**
CAIG				*e*S	Sn	09 26 07.6	-10
THVM	**De Xico**	**5.39**	**315**	*e*S	**Sn**	**09 26 18.9**	**+0.5**
TXVM	**Universitario**	**5.44**	**316**	*e*P	**Pn**	**09 25 17.8**	**+1.5**
TXVM				*e*S	**Sn**	**09 26 20.7**	**+1.1**
TLVM	**San Miguel Top**	**5.45**	**313**	*e*P	**Pn**	**09 25 19.5**	**+3.0**
TLVM				*e*S	**Sn**	**09 26 17.9**	**-2.1**
ESQI	**Esquipulas**	**5.47**	**100**	Pn	**Pn**	**09 25 18.6**	**+2.0**
MTO3	**Montecristo**	**5.49**	**101**	Pn	**Pn**	**09 25 17.9**	**+1.0**
CNCY	**Coyoacan**	**5.53**	**313**	*e*S	**Sn**	**09 26 28.4**	**+6.5**
COVM	**Coyoacan**	**5.54**	**314**	*e*S	**Sn**	**09 26 23.3**	**+1.1**
COVM				*e*S	Sb	09 26 27.0	-12
UNM	**Universidad Na**	**5.54**	**313**	*e*P	**Pn**	**09 25 18.7**	**+0.9**
UNM				*e*S	**Sn**	**09 26 22.5**	**+0.2**
PBVM	**Pinon**	**5.55**	**315**	*e*P	**Pn**	**09 25 17.5**	**-0.1**
PBVM				*e*S	**Sn**	**09 26 19.5**	**-2.6**
VRVM	**Mexico City**	**5.56**	**314**	*e*S	**Sn**	**09 26 26.0**	**+3.3**
BJVM	**Benito Juarez**	**5.57**	**314**	*e*P	**Pn**	**09 25 15.2**	**-2.9**
VTVM	**Tizayuca**	**5.59**	**319**	*e*P	**Pn**	**09 25 21.3**	**+2.9**
VTVM				*e*S	**Sn**	**09 26 21.8**	**-1.6**
AOVM	**Tlapan**	**5.61**	**312**	*e*P	**Pn**	**09 25 17.9**	**-0.9**
AOVM				*e*S	**Sn**	**09 26 27.7**	**+3.7**
CJVM	**Cuajimalpa**	**5.64**	**313**	*e*P	**Pn**	**09 25 18.3**	**-0.7**
CJVM				*e*S	**Sn**	**09 26 29.7**	**+5.0**
INVM	**La Marquesa**	**5.66**	**312**	*e*P	**Pn**	**09 25 21.0**	**+1.5**
INVM				*e*S	**Sn**	**09 26 24.1**	**-1.3**
PTVM	**Pico Tres Padr**	**5.68**	**316**	*e*P	**Pn**	**09 25 19.5**	**-0.1**
PTVM				*e*S	**Sn**	**09 26 27.9**	**+2.3**
AZVM	**Cuida Lopez Ma**	**5.79**	**315**	*e*P	**Pn**	**09 25 19.2**	**-1.9**
AZVM				*e*S	**Sn**	**09 26 35.4**	**+7.0**
SNET	**Serv Nac Est T**	**5.80**	**108**	Pn	**Pn**	**09 25 25.1**	**+4.0**
ZUVM	**ZUMPANGO**	**5.82**	**318**	*e*P	**Pn**	**09 25 20.2**	**-1.4**
ZUVM				*e*S	**Sn**	**09 26 29.9**	**+0.8**
ARIG	**Puente Sto Nin**	**5.87**	**298**	*e*P	**Pn**	**09 25 21.9**	**-0.1**
ARIG				*e*S	**Sn**	**09 26 24.0**	**-6.0**
TOVM	**TOLUCA**	**5.87**	**310**	*e*P	**Pn**	**09 25 24.2**	**+1.8**
TOVM				*e*S	**Sn**	**09 26 32.6**	**+2.1**
DEIG	**Demacu**	**6.15**	**321**	*e*P	**Pn**	**09 25 28.4**	**+2.4**
DEIG				*e*S	**Sn**	**09 26 38.7**	**+1.6**
ACIG	**Acambay**	**6.47**	**314**	*e*P	**Pn**	**09 25 29.4**	**-1.0**
ACIG				*e*S	Sn	09 26 53.6	+8.6
ZIIG	**Zihuatanejo**	**6.61**	**289**	*e*P	**Pn**	**09 25 30.2**	**-1.9**
ZIIG				*e*S	**Sn**	**09 26 44.0**	**-4.1**
CTUV	**Llano Grande**	**6.74**	**332**	*e*P	**Pn**	**09 25 35.2**	**+1.2**
MYIG	**Mrida**	**7.29**	**42**	*e*P	**Pn**	**09 25 42.3**	**+0.8**
MYIG				*e*S	**Sn**	**09 27 01.7**	**-3.2**
JRQG	**Juriquilla Cam**	**7.35**	**315**	*e*S	**Sn**	**09 27 04.4**	**-2.3**
TGUH	**Tegucigalpa,Un**	**7.54**	**100**	Pn	**Pn**	**09 25 47.4**	**+2.4**
TEIG	**Tepich**	**7.85**	**53**	Pn	**Pn**	**09 25 48.1**	**-1.0**
TEIG	**Tepich**	**7.85**	**53**	Pn	**Pn**	**09 25 47.8**	**-1.3**
	165nm,0.3s,baz=189,slow=2.7,SNR=86						
TEIG				Sn	**Sn**	**09 27 15.7**	**-3.0**
	231nm,0.3s,baz=150,slow=23,SNR=2.2						
TEIG				LR	LR	09 29 16.4	
	comp=Z,8μm,20.7s,baz=12,slow=42						
CRIN	**San Cristobal**	**8.13**	**109**	Pn	**Pn**	**09 25 55.8**	**+2.6**
GTIG	**Gomez Farias**	**8.49**	**332**	*e*P

CCAR IAmb IAmb 09 28 38.4
comp=Z,22nm,1.0s
Z47A Carrollton 18.64 18 P **P 09 28 12.8 -0.1**
Z47A IAmb IAmb 09 28 31.3
comp=Z,34nm,1.4s
MNTX Cornudas Mount 18.70 331 P **Pn 09 28 14.9 +0.9**
LRAL Lakeview Retre 18.84 21 P **Pn 09 28 15.7 +0.1**
DKNS Dickens 18.84 344 P **Pn 09 28 16.1 +0.4**
DKNS IAmb IAmb 09 28 25.5
comp=Z,18nm,1.0s
Y45A Yeager Farm, C 18.88 14 P **Pn 09 28 16.5 +0.5**
Y45A IAmb IAmb 09 28 24.1
comp=Z,38nm,1.1s
MIAR Mount Ida 18.96 3 P **P 09 28 16.1 -0.4**
X37A Clayton 18.97 359 P **P 09 28 15.9 -0.7**
X37A IAmb IAmb 09 28 26.9
comp=Z,38nm,1.2s
X34A Smith Ranch, M 19.16 353 P **P 09 28 18.2 -0.5**
MSTX Muleshoe 19.67 340 P **P 09 28 23.5 -0.9**
MSTX IAmb IAmb 09 28 32.1
comp=Z,24nm,1.1s
WHAR Wooly Hollow 19.80 6 P **P 09 28 24.8 -0.9**
255A Hazlehurst 19.86 33 P **P 09 28 24.9 -1.5**
X48A Hartselle 20.12 19 P **P 09 28 29.8 +0.6**
X48A IAmb IAmb 09 28 39.8
comp=Z,14nm,0.9s
AMTX Amarillo 20.20 344 P **P 09 28 31.4 +1.3**
AMTX IAmb IAmb 09 28 48.5
comp=Z,18nm,0.8s
DEOK Depew 20.27 356 P **P 09 28 31.8 +1.1**
DEOK IAmb IAmb 09 28 48.0
comp=Z,21nm,0.9s
OK029 Liberty Lake 20.30 354 **P 09 28 31.8 +0.7**
OK029 IAmb IAmb 09 28 51.8
comp=Z,16nm,0.8s
TUL3 Leonard 20.30 358 P **P 09 28 31.9 +0.8**
OK031 S. Brethren Rd 20.40 356 **P 09 28 32.6 +0.4**
FCAR Ozark Folk Cen 20.42 7 P **P 09 28 32.0 -0.4**
OK052 Battle Ridge R 20.44 356 **P 09 28 32.9 +0.3**
OK033 Mehan 20.50 355 **P 09 28 33.7 +0.4**
121A Cookes Peak, D 20.56 328 P **P 09 28 34.6 +0.4**
121A IAmb IAmb 09 29 00.8
comp=Z,19nm,1.1s
GOGA Godfrey 20.59 28 IAmb IAmb 09 28 38.4
comp=Z,18nm,0.9s
HHAR Hobbs 20.67 2 P **P 09 28 34.3 -0.9**
U38A Gravette 20.82 1 P **P 09 28 36.0 -0.7**
U38A IAmb IAmb 09 28 42.1
comp=Z,18nm,1.3s
ELIS Ellis County 20.83 350 IAmb IAmb 09 28 58.8
comp=Z,39nm,1.2s
OK048 Pawnee Station 20.87 355 **P 09 28 36.6 -0.7**
OK048 IAmb IAmb 09 28 48.2
comp=Z,21nm,0.8s
OK051 E0350 and S346 20.95 356 IAmb IAmb 09 28 45.5
comp=Z,24nm,0.8s
CROK Carrier 21.05 353 **P 09 28 38.9 -0.4**
U32A Winter Ranch, 21.07 351 **P 09 28 40.1 +0.6**
PLMC San Jos del P 21.14 118 *e*P **P 09 28 42.8 +2.3**
DUN6 Lazy B Ranch 21.27 325 P **P 09 28 44.9 +3.0**
DUN6 IAmb IAmb 09 29 03.3
comp=Z,26nm,0.9s
T35A Sooner Cattle 21.33 356 P **P 09 28 41.0 -1.4**
T35A IAmb IAmb 09 28 45.7
comp=Z,30nm,1.0s
WVT Waverly 21.46 16 **P 09 28 43.0 -0.6**
WVT IAmb IAmb 09 28 50.5
comp=Z,11nm,0.9s
PBMO Poplar Bluff 21.52 10 P **P 09 28 43.1 -1.2**
YOTC Yotoco, Valle 21.58 120 *e*P **P 09 28 47.5 +2.2**
MGMO Mountain Grove 21.65 6 P **P 09 28 45.6 -0.1**
MGMO IAmb IAmb 09 29 06.7
comp=Z,19nm,1.4s
GUY2C Guyana, Caldas 21.77 116 *e*P **P 09 28 49.3 +1.7**
ANMO Albuquerque 21.93 334 P **P 09 28 50.7 +1.8**
BBAC Balboa, Cauca 22.00 126 *e*P **P 09 28 52.0 +2.1**
NORC Norcasia 22.04 115 *e*P **P 09 28 51.9 +1.7**
TUC Tucson 22.07 322 P **P 09 28 51.7 +1.3**
TUC IAmb IAmb 09 28 57.7
comp=Z,31nm,1.2s
S39A Bolivar 22.11 3 P **P 09 28 50.1 -0.5**
POPC Popayan, Colom 22.14 124 *e*P **P 09 28 53.8 +2.4**
CGM3 Cape Girardeau 22.16 11 P **P 09 28 51.8 +0.6**
TKL Tuckaleechee C 22.38 24 LR LR 09 40 28.4
comp=Z,269nm,18.2s,baz=197,slow=45
U49A Red Boiling Sp 22.41 20 P **P 09 28 52.6 -1.3**
U49A IAmb IAmb 09 29 00.7
comp=Z,16nm,0.8s
T47A Sharon Grove 22.46 17 IAmb IAmb 09 28 57.0
comp=Z,13nm,0.8s
ORTC Ortega, Tolima 22.54 119 *e*P **P 09 28 57.5 +1.9**
CCM Cathedral Cave 22.66 8 P **P 09 28 55.2 -1.2**
CCM IAmb IAmb 09 29 09.3
comp=Z,19nm,1.3s
R40A Maddies Statio 22.78 5 P **P 09 28 56.9 -0.9**
ROSC El Rosal 22.86 116 P **P 09 29 02.0 +2.7**
ROSC El Rosal 22.86 116 *e*P **P 09 29 03.2 +3.9**
ROSC El Rosal 22.86 116 P **P 09 29 01.0 +1.7**
comp=Z,12nm,0.5s,baz=2.9,slow=6.6,SNR=8.9
comp=Z,12nm,0.5s
PRAC Prado 22.95 119 *e*P **P 09 29 01.8 +2.0**
BARC Barichara 23.09 110 *e*P **P 09 29 03.3 +1.8**
T25A Trinidad 23.10 340 IAmb IAmb 09 29 26.1
comp=Z,16nm,1.1s
RUSC La Rusia 23.47 112 *e*P **P 09 29 07.3 +1.7**
CHIC Chingaza 23.48 115 *e*P **P 09 29 08.2 +2.5**
COHC Cochancay 23.67 138 P **P 09 29 07.8 +0.8**
Q44A Meyer Farm, Va 23.84 11 P **P 09 29 07.1 -1.4**
Q44A IAmb IAmb 09 29 24.2
comp=Z,22nm,1.0s
WCI Wyandotte Cave 23.84 17 P **P 09 29 07.8 -0.7**
WCI IAmb IAmb 09 29 26.1
comp=Z,10nm,0.8s
X16A Lo Mia Camp, P 23.97 325 IAmb IAmb 09 29 35.4
comp=Z,13nm,1.5s
SDV Santo Domingo 24.62 103 LR LR 09 40 31.3
comp=Z,93nm,19.4s,baz=292,slow=41
MACC Macarena, Meta 24.67 121 *e*P **P 09 29 18.1 +1.7**
BOSC San Juan Bosco 24.68 137 P **P 09 29 19.5 +2.8**
P46A Rosedale 24.92 14 P **P 09 29 17.2 -1.2**
SMCO Snowmass 25.81 338 IAmb IAmb 09 29 41.0
comp=Z,12nm,1.1s
PFO Pinyon Flats O 26.50 317 LR LR 09 40 21.8
comp=Z,277nm,18.0s,baz=134,slow=37
SJG San Juan 27.64 81 LR LR 09 40 25.5
comp=Z,100nm,21.5s,baz=266,slow=36
ATAH Atahualpa 27.85 143 LR LR 09 38 50.8
comp=Z,110nm,19.1s,baz=301,slow=32
PDAR Pinedale Array 29.90 338 P **P 09 30 03.2 -0.1**
comp=Z,0.2nm,0.6s,baz=341,slow=4.8,SNR=2.5
comp=Z,0.2nm,0.6s
PCRV Puerto La Cruz 29.98 97 LR LR 09 43 17.9
comp=Z,158nm,20.3s,slow=39
NV11 Mina Array Sit 30.64 323 P **P 09 30 11.0 +1.1**
NVAR Mina Array Bea 30.72 322 P **P 09 30 12.7 +2.0**
NVAR Mina Array Bea 30.72 322 P **P 09 30 11.4 +0.7**
comp=Z,0.8nm,0.7s,baz=140,slow=8.6,SNR=10
comp=Z,0.8nm,0.7s
SNOW Snow King Moun 30.94 337 IAmb IAmb 09 30 37.2
comp=Z,8.8nm,0.9s
NNA Nana 32.68 146 LR LR 09 41 28.1
comp=Z,114nm,18.4s,baz=336,slow=32
ULM Lac du Bonnet 34.62 359 LR LR 09 48 32.1
comp=Z,86nm,18.3s,baz=206,slow=43
YBH Yreka Blue Hor 35.43 323 LR LR 09 45 58.1
comp=Z,167nm,19.9s,baz=149,slow=37
F10A Beach Ranch, E 35.64 333 P **P 09 30 54.0 +0.7**
F10A IAmb IAmb 09 30 56.3
comp=Z,5.9nm,0.9s
NEW Newport 37.40 335 LR LR 09 48 57.6
comp=Z,120nm,19.0s,baz=160,slow=40
ETMB Extrema 37.99 130 P **P 09 31 12.9 -0.7**
ETMB IAmb IAmb 09 31 18.1
comp=Z,8.2nm,1.3s
SAML Samuel 39.75 126 P **P 09 31 28.4 0.0**
EDM Edmonton 40.30 343 P **P 09 31 31.4 -1.1**
EDM IAmb IAmb 09 31 50.7
comp=Z,7.3nm,1.0s
LPAZ La Paz 41.22 139 P **P 09 31 40.6 -0.6**
comp=Z,1.5nm,0.7s,baz=5.6,slow=2.1,SNR=6.4
comp=Z,1.5nm,0.7s
MDP Montagnes des 42.78 99 LR LR 09 50 32.7
comp=Z,124nm,21.5s,baz=260,slow=37
SCHQ Schefferville 44.83 23 LR LR 09 53 31.3
comp=Z,245nm,18.8s,baz=224,slow=40

BBB Bella Bella 45.05 332 LR LR 09 50 26.9
comp=Z,111nm,20.6s,baz=138,slow=35
LVC Limon Verde 45.68 146 LR LR 09 49 15.7
comp=Z,78nm,20.9s,baz=308,slow=33
SIV San Ignacio 45.81 132 LR LR 09 50 32.2
comp=Z,147nm,20.2s,baz=298,slow=35
GO02 Mina Guanaco 47.40 148 P **P 09 32 30.6 +0.4**
AC06 Mina Casimiro 48.85 151 P **P 09 32 41.8 +0.6**
YKA Yellowknife Ar 48.91 348 P **P 09 32 40.7 -0.5**
comp=Z,1.4nm,0.8s,baz=218,slow=4.3,SNR=3.8
comp=Z,1.4nm,0.8s
AC02 Maricunga 49.01 149 P **P 09 32 43.5 +0.6**
DLBC Dease Lake 50.12 337 LR LR 09 55 02.0
comp=Z,73nm,19.8s,baz=229,slow=37
CO01 Juntas del Tor 51.19 152 P **P 09 32 59.7 +0.5**
CO01 IAmb IAmb 09 33 16.6
comp=Z,9.8nm,1.5s
FRB Frobisher Bay 51.49 15 LR LR 09 58 43.4
comp=Z,83nm,19.6s,baz=217,slow=41
CO03 El Pedregal 51.67 153 P **P 09 33 02.5 -0.1**
VA03 San Esteban 53.39 154 P **P 09 33 15.6 +0.4**
CFA Coronel Fontan 53.41 152 LR LR 09 50 08.2
comp=Z,54nm,19.6s,baz=300,slow=29
MMPY Sheldon Lake, 53.48 340 P **P 09 33 17.3 +1.8**
MMPY IAmb IAmb 09 33 29.8
comp=Z,9.9nm,1.2s
MT09 Talagante 54.09 155 P **P 09 33 20.1 -0.3**
MT09 IAmb IAmb 09 33 23.9
comp=Z,5.7nm,0.8s
MT08 Bocatoma Ro 54.20 154 P **P 09 33 22.1 +0.7**
LMEL Las Melosas 54.47 155 P **P 09 33 23.8 +0.5**
BO02 Sierra Belavi 55.06 156 P **P 09 33 28.9 +1.5**
CPUP Villa Florida 55.39 138 LR LR 09 57 16.8
comp=Z,85nm,19.9s,baz=330,slow=36
BDFB Brasilia 55.73 122 P **P 09 33 33.6 +1.0**
BDFB IAmb IAmb 09 33 41.5
comp=Z,5.6nm,0.8s
BDFB Brasilia 55.73 122 P **P 09 33 34.2 +1.6**
comp=Z,5.7nm,0.7s,baz=290,slow=6.6,SNR=7.6
comp=Z,5.7nm,0.7s
M29M Somme Creek 55.90 337 P **P 09 33 32.9 -0.3**
M29M IAmb IAmb 09 33 46.0
comp=Z,6.8nm,1.1s
BI05 Punta Hualpn 55.91 159 P **P 09 33 36.0 +2.7**
INK Inuvik 58.18 344 LR LR 10 03 26.2
comp=Z,139nm,18.8s,baz=172,slow=41
SFJD Kangerlussuaq 58.93 19 LR LR 10 00 57.0
comp=Z,58nm,18.5s,baz=210,slow=38
RES Resolute Bay 59.14 0 LR LR 10 01 15.0
comp=Z,63nm,19.9s,baz=324,slow=38
KDAK Kodiak Island 59.93 328 LR LR 09 58 38.2
comp=Z,75nm,18.1s,baz=176,slow=35
ILAR Eielson Array 60.32 337 P **P 09 34 02.8 -1.2**
comp=Z,0.8nm,1.1s,baz=193,slow=6.3,SNR=4.1
ILAR LR LR 10 04 16.8
comp=Z,70nm,18.2s,baz=142,slow=40
comp=Z,0.8nm,1.1s
PLCA Paso Flores 60.39 159 P **P 09 34 04.1 -0.7**
comp=Z,1.9nm,0.7s,baz=340,slow=10,SNR=4.7
PLCA LR LR 09 54 30.7
comp=Z,75nm,19.3s,baz=264,slow=30
comp=Z,1.9nm,0.7s
RCBR Riachuelo 62.17 105 LR LR 10 02 13.8
comp=Z,97nm,21.4s,baz=244,slow=37
BORG Borgarnes 69.06 26 LR LR 10 04 53.2
comp=Z,63nm,20.2s,baz=260,slow=36
RAR Rarotonga 73.36 242 LR LR 10 00 13.3
comp=Z,465nm,21.0s,baz=226,slow=30
JMIC Jan Mayen 74.25 20 LR LR 10 09 59.0
comp=Z,83nm,19.4s,baz=252,slow=37
EKA Eskdalemuir Ar 78.36 36 P **P 09 35 55.2 -0.6**
comp=Z,3.8nm,1.0s,baz=284,slow=6.8,SNR=4.4
comp=Z,3.8nm,1.0s
SPITS Spitsbergen Ar 79.14 11 LR LR 10 13 28.1
comp=Z,68nm,20.9s,baz=252,slow=38
ESDC Sonseca Array 80.97 51 P **P 09 36 08.5 -1.9**
comp=Z,1.5nm,0.8s,baz=291,slow=5.6,SNR=7.9
ESDC LR LR 10 07 49.8
comp=Z,95nm,18.9s,baz=324,slow=33
comp=Z,1.5nm,0.8s
MDT Midelt 81.99 58 LR LR 10 06 27.4
comp=Z,34nm,20.0s,baz=306,slow=31
NOA NORSAR Array B 84.13 28 P **P 09 36 24.8 -1.6**
comp=Z,0.9nm,0.8s,baz=288,slow=8.4,SNR=2.1
NOA LR LR 10 13 41.5
comp=Z,65nm,20.0s,baz=290,slow=36
comp=Z,0.9nm,0.8s
HFS Hagfors 85.61 28 LR LR 10 14 03.9
comp=Z,67nm,20.7s,baz=301,slow=35
DAVOX Davos/Dischmat 88.61 42 LR LR 10 14 41.5
comp=Z,56nm,18.9s,baz=266,slow=34
FINES FINESS Array B 90.28 24 LR LR 10 16 34.7
comp=Z,59nm,21.4s,baz=296,slow=35
VRAC Vranov 91.72 38 LR LR 10 19 50.9
comp=Z,53nm,18.3s,baz=306,slow=37
TORD Torodi Ar. Bea 92.74 76 P **P 09 37 07.8 -0.7**
comp=Z,0.2nm,0.5s,baz=256,slow=3.0,SNR=2.4
comp=Z,0.2nm,0.5s
AKASG Malin Array Be 97.96 32 LR LR 10 22 57.3
comp=Z,35nm,20.1s,baz=278,slow=36
WRA Warramunga Arr 133.01 257 PKP **PKPdf 09 43 10.6 -1.4**
comp=Z,0.5nm,0.9s,baz=87,slow=2.2,SNR=2.9
ASAR Alice Springs 133.49 252 PKP **PKPdf 09 43 12.2 -0.6**
comp=Z,0.3nm,0.7s,baz=98,slow=1.3,SNR=4.8
PZH PanZhiHua 135.18 339 PKP **PKPdf 09 43 15.3 -0.8**

SOME ***17*** *09:48:57.8, 43.°70N×69.°67E*
NNC ***17*** *09:48:58.1±1.0, 43.°61N×69.°60E, h0km, mb3.6, mpv3.1,*
Error ellipse: s-maj=8.5km s-min=4.7km az=58.0,
Suspected Mining explosion.
ISC 17 09:49:02.2±2.1, 43.°61N±0.°07×70.°0E±0.°1, h0km, n18, σ1§94/20, 3C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.62**	**144**	⇓P	**Pg**	**09 49 14.1**	**0.0**
	1.7nm,0.2s,baz=320,slow=17,SNR=151						
KK31				⇑S	**Sb**	**09 49 26.1**	**+0.8**
	23nm,0.4s,baz=309,slow=29,SNR=29						
IUG	**Iuzhnay**	**1.46**	**180**	*e*P	**Pn**	**09 49 28.2**	**-1.7**
	52nm,0.3s						
IUG				*e*S	**Sn**	**09 49 50.4**	**+0.5**
	122nm,0.4s						
MRKS	**Merke**	**2.50**	**109**	Pg	**Pb**	**09 49 49.3**	**+1.2**
	3.9nm,0.3s						
MRKS				Lg	Lg	09 50 25.9	
	22nm,0.6s						
MRKS	**Merke**	**2.50**	**109**	*e*Pg	**Pg**	**09 49 50.3**	**+0.2**
	3.4nm,0.2s						
MRKS				*e*Lg	Lg	09 50 27.5	
	22nm,0.6s						
AML	**Almayashu**	**3.08**	**117**	⇓Pg	**Pb**	**09 49 59.5**	**+1.4**
	0.4nm,0.6s						
AML				⇑Lg	Lg	09 50 45.6	
	1.7nm,0.7s						
BTLS	**Baital**	**3.23**	**62**	Pg	**Pg**	**09 50 03.9**	**0.0**
	14nm,0.6s						
BTLS				Lg	Lg	09 50 50.1	
	5.7nm,0.6s						
BTLS	**Baital**	**3.23**	**62**	*e*Pg	**Pb**	**09 50 02.3**	**+2.0**
	14nm,0.6s						
BTLS				*e*Lg	Lg	09 50 49.5	
	5.7nm,0.6s						
KRBS	**Karabastau**	**4.11**	**87**	Pg	**Pb**	**09 50 18.4**	**+3.0**
	4.4nm,0.5s						
KRBS				Lg	Lg	09 51 15.6	
	7.6nm,0.5s						
KRBS	**Karabastau**	**4.11**	**87**	*e*Pg	**Pg**	**09 50 19.2**	**-1.6**
	4.4nm,0.5s						
KRBS				*e*Lg	Lg	09 51 17.1	
	7.6nm,0.5s						
TKM2	**Tokmak 2**	**4.13**	**98**	⇓Pg	**Pb**	**09 50 17.9**	**+2.0**
	3.0nm,0.7s						
TKM2				⇑Lg	Lg	09 51 16.8	
	8.6nm,0.6s						
DGS	**Degeres**	**4.21**	**93**	Pg	**Pg**	**09 50 22.2**	**-0.6**
	4.5nm,0.6s						
DGS				Lg	Lg	09 51 22.0	
	8.9nm,0.9s						
DGS	**Degeres**	**4.21**	**93**	*e*Pg	**Pg**	**09 50 21.2**	**-1.6**
	2.0nm,0.3s						
DGS				*e*Lg	Lg	09 51 20.4	
	8.8nm,0.4s						
KST	**Kastek**	**4.38**	**95**	Pg	**Pg**	**09 50 24.4**	**-1.6**
	1.6nm,0.3s						
KST				Lg	Lg	09 51 26.3	
	9.5nm,0.8s						
KST	**Kastek**	**4.38**	**95**	*e*Pg	**Pg**	**09 50 24.4**	**-1.6**
	1.6nm,0.3s						
KST				*e*Lg	Lg	09 51 26.3	
	9.5nm,0.8s						
KTBS	**Karatobe**	**4.84**	**87**	Pg	**Pg**	**09 50 32.3**	**-2.5**
	1.7nm,0.5s						
KTBS				Lg	Lg	09 51 39.8	
	5.3nm,0.8s						
KTBS	**Karatobe**	**4.84**	**87**	*e*Pg	**Pg**	**09 50 32.3**	**-2.5**
	1.7nm,0.5s						
KTBS				*e*Lg	Lg	09 51 39.8	
	5.3nm,0.8s						
TNSS	**Tian-Shan**	**5.09**	**94**	Pg	**Pg**	**09 50 36.9**	**-2.8**
	0.9nm,0.2s						
TNSS				Lg	Lg	09 51 47.9	
	6.2nm,0.6s						
TNSS	**Tian-Shan**	**5.09**	**94**	*e*Pg	**Pg**	**09 50 36.9**	**-2.8**
	0.9nm,0.2s						
TNSS				*e*Lg	Lg	09 51 47.9	
	6.2nm,0.6s						

NEIC ***17*** *09:53:42.7±2.8, 20.°57S±0.°08×175.°54W±0.°07,*
h132km±5km, mb5.1/376, Error ellipse: s-maj=11.7km
s-min=9.4km az=152.0
BJI ***17*** *09:53:43.8±0.0, 20.°27S×175.°38W, h157km, mb5.4/57,*
mB5.4/25
IDC ***17*** *09:53:44.3±1.3, 20.°54S×175.°99W, h142km±11km,*
mb4.7/19, mbtmp5.2/21, MS3.8/23, Error ellipse:
s-maj=12.3km s-min=9.5km az=137.0
NOU ***17*** *09:53:47.9, 20.°59S×175.°57W, h187km, mb5.3/109,*
Tonga Islands
GCMT ***17*** *09:53:48.7±0.2, 20.°64S±0.°01×175.°45W±0.°01,*
h180km±1km, MW5.3/143, Moment Tensor Solution.
s96,c131; s143,c218; Duration: 1§1 Moment tensor:
Scale 10^17Nm; Mrr=0.06±.02; Mθθ=0.19±.03; Mφφ=-0.13±.03;
Mrθ=0.67±.02; Mθφ=-0.11±.02; Mφr=0.83±.01; Best double
couple: M0=1.07500×10^17 NP1:φs=220.00000°, δ=89.00000°,
λ=98.00000°. NP2:φs=315.00000°, δ=8.00000°, λ=4.00000°.
Principal axes: T 0.9920, Plg=45.0000°, Azm=138.0000°; N
0.1650, Plg=8.0000°, Azm=40.0000°; P -1.1570, Plg=44.0000°,
Azm=303.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
MOS ***17*** *09:53:49.6±1.1, 20.°51S×175.°90W, h202km, mb5.2/33*
Error ellipse: s-maj=9.3km s-min=8.5km az=32.3
ISC 17 09:53:45.5±0.3, 20.°56S±0.°04×175.°60W±0.°03,
h161km±2km, h161km; pP-P, n1142, σ1§39/1077, mb5.2/283,
57C-63D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.54**	**76**	P	**Pn**	**09 55 05.1**	**-1.2**
	baz=5.5,SNR=335						
NIUE	**Niue**	**5.54**	**76**	Pn	**Pn**	**09 55 05.2**	**-1.0**
NIUE				Sn	**Sn**	**09 56 02.8**	**-6.6**
NIUE	**Niue**	**5.54**	**76**	P	**Pn**	**09 55 05.5**	**-0.7**
TAVE	**Taveuni**	**5.60**	**312**	P	**Pn**	**09 55 09.3**	**+2.2**
DGTI	**Dogotuki**	**6.13**	**313**	P	**Pn**	**09 55 16.1**	**+2.0**
MSVF	**Nonsavu**	**6.63**	**294**	Pn	**Pn**	**09 55 24.0**	**+3.2**
MSVF	**Nonsavu**	**6.63**	**294**	P	**Pn**	**09 55 24.1**	**+3.3**
MSVF	**Nonsavu**	**6.63**	**294**	*d*P	**Pn**	**09 55 23.2**	**+2.4**
MSVF				pmax	pmax		
	comp=Z,509nm,1.1s						
MSVF	**Nonsavu**	**6.63**	**294**	P	**Pn**	**09 55 22.4**	**+1.6**
	comp=Z,228nm,0.8s,baz=108,slow=16,SNR=57						
MSVF				S	**Sn**	**09 56 38.5**	**+2.9**
	comp=Z,92nm,0.9s,baz=276,slow=19,SNR=1.6						
MSVF				LR	LR	09 57 43.4	
	comp=Z,1μm,18.6s,baz=34,slow=38						
YSA	**Yasawairara**	**7.52**	**300**	P	**Pn**	**09 55 35.1**	**+2.5**
AFI	**Afiamalu**	**7.55**	**29**		**Pn**	**09 55 28.9**	**-4.1**
AFI	**Afiamalu**	**7.55**	**29**	P	**Pn**	**09 55 28.9**	**-4.1**
RAO	**Raoul Island**	**8.91**	**193**	Pn	**Pn**	**09 55 49.6**	**-1.3**
RAO				Sn	**Sn**	**09 57 26.6**	**-3.5**
RAO	**Raoul Island**	**8.91**	**193**	P	**Pn**	**09 55 53.5**	**+2.6**
RAO	**Raoul Island**	**8.91**	**193**	P	**Pn**	**09 55 48.4**	**-2.5**
	comp=Z,177nm,0.3s,baz=294,slow=23,SNR=2.1						
RAO				S	**Sn**	**09 57 25.5**	**-4.6**
	comp=Z,1μm,0.4s,baz=264,slow=22,SNR=13						
GLKZ	**Green Lake**	**8.92**	**193**	P	**Pn**	**09 55 49.0**	**-2.1**
GLKZ				S	**Sn**	**09 57 25.0**	**-5.3**
FUNA	**Funafuti**	**12.97**	**336**		**Pn**	**09 56 44.3**	**+0.1**
FUNA	**Funafuti**	**12.97**	**336**	P	**Pn**	**09 56 45.1**	**+1.0**
RAR	**Rarotonga**	**14.80**	**95**	Pn	**Pn**	**09 57 05.1**	**-2.0**
RAR	**Rarotonga**	**14.80**	**95**	P	**P**	**09 57 07.9**	**-1.0**
RAR	**Rarotonga**	**14.80**	**95**	P	**Pn**	**09 57 05.1**	**-2.0**
RAR	**Rarotonga**	**14.80**	**95**	P	**P**	**09 57 08.2**	**-0.7**
	comp=Z,478nm,1.0s,baz=276,slow=7,3,SNR=27						
RAR				S	**Sn**	**09 59 44.6**	**-7.3**
	comp=Z,52nm,0.5s,baz=301,slow=22,SNR=2.6						
MARNC	**Mare, Loyalty**	**15.32**	**264**		**P**	**09 57 15.7**	**+1.1**
MARNC	**Mare, Loyalty**	**15.32**	**264**	P	**P**	**09 57 15.0**	**+0.4**
RTV	**Rentapao**	**15.34**	**278**	P	**P**	**09 57 18.1**	**+3.2**
PINNC	**Pines Island,**	**15.90**	**260**		**P**	**09 57 23.6**	**+2.5**
PINNC	**Pines Island,**	**15.90**	**260**	P	**P**	**09 57 23.9**	**+2.8**
LIFNC	**LIFOU**	**16.07**	**266**		**P**	**09 57 24.0**	**+1.1**
LIFNC	**LIFOU**	**16.07**	**266**	P	**P**	**09 57 23.9**	**+1.1**
YATNC	**Mamie plateau,**	**16.39**	**262**	P	**P**	**09 57 28.3**	**+1.8**
OUENC	**Ouen Island, N**	**16.45**	**260**	P	**Pn**	**09 57 29.7**	**+2.4**
DZM	**Mont Dzumac**	**16.80**	**262**	*e*Pn	**Pn**	**09 57 33.6**	**+1.9**
	comp=Z,1μm,0.8s						
DZM	**Mont Dzumac**	**16.80**	**262**	P	**Pn**	**09 57 33.9**	**+2.2**
DZM	**Mont Dzumac**	**16.80**	**262**	P	**Pn**	**09 57 33.5**	**+1.9**
DZM	**Mont Dzumac**	**16.80**	**262**	P	**Pn**	**09 57 33.3**	**+1.7**
	comp=Z,463nm,0.7s,baz=93,slow=14,SNR=91						
DZM				S	**S**	**10 00 34.2**	**-3.8**
	comp=Z,8.3nm,0.9s,baz=243,slow=22,SNR=1.1						
DZM				LR	LR	10 03 19.1	
	comp=Z,534nm,18.4s,baz=94,slow=35						
ONTNC	**Ouen Toro**	**16.80**	**261**	P	**Pn**	**09 57 34.0**	**+2.5**
ONTNC	**Ouen Toro**	**16.80**	**261**	P	**Pn**	**09 57 33.7**	**+2.1**
NOUC	**Port Laguerre**	**16.94**	**262**	P	**Pn**	**09 57 34.9**	**+1.8**
OUZ	**Omahuta**	**17.43**	**211**	P	**Pn**	**09 57 39.4**	**+0.4**
OUZ	**Omahuta**	**17.43**	**211**	P	**P**	**09 57 36.8**	**-1.0**
MXZ	**Matakaoa Point**	**17.76**	**196**	P	**Pn**	**09 57 42.5**	**-0.2**
MXZ	**Matakaoa Point**	**17.76**	**196**	P	**Pn**	**09 57 42.6**	**-0.2**
MXZ				S	S	10 00 40.6	-17
KUZ	**Kuaotunu**	**17.82**	**203**	P	**P**	**09 57 42.3**	**+0.2**
KUZ	**Kuaotunu**	**17.82**	**203**	P	**Pn**	**09 57 44.3**	**+0.7**
WMGZ	**Waiomatatini S**	**17.97**	**196**	P	**P**	**09 57 43.6**	**0.0**
WMGZ				S	S	10 00 44.0	-18
HAZ	**Te Kaha**	**18.08**	**197**	P	P	09 57 37.3	-7.5
HAZ				S	S	10 00 50.0	-14
WIAZ	**Waiheke Island**	**18.09**	**205**	P	**Pn**	**09 57 47.3**	**+0.6**
PKGZ	**Pakihiroa**	**18.12**	**196**	P	**P**	**09 57 44.6**	**-0.8**
PKGZ				S	S	10 00 45.7	-19
PUZ	**Puketiti**	**18.25**	**196**	P	**P**	**09 57 45.1**	**-1.7**
PUZ				S	S	10 00 51.6	-16
RVAZ	**Riverhead Bore**	**18.29**	**206**	P	**Pn**	**09 57 49.6**	**+0.6**
RUGZ	**Raukumara Rang**	**18.30**	**197**	P	**P**	**09 57 47.7**	**+0.3**
RUGZ				S	S	10 00 51.6	-17
URZ	**Urewera**	**18.74**	**198**	P	**P**	**09 57 52.2**	**+0.2**
URZ	**Urewera**	**18.74**	**198**	P	**P**	**09 57 50.7**	**-1.3**
	comp=Z,27nm,0.4s,baz=352,slow=3.2,SNR=64						
URZ				S	**S**	**10 01 11.8**	**-4.9**
	comp=Z,41nm,0.7s,baz=178,slow=23,SNR=9.6						
URZ				LR	LR	10 04 09.5	
	comp=Z,218nm,19.3s,baz=52,slow=34						
KOUNC	**Koumac, New Ca**	**18.84**	**266**	P	**Pn**	**09 57 54.5**	**-1.2**
KOUNC	**Koumac, New Ca**	**18.84**	**266**	P	**Pn**	**09 57 54.5**	**-1.2**
HIZ	**Hauiti**	**19.71**	**203**	P	**Pn**	**09 58 05.2**	**-0.5**
BKZ	**Black Stump Fm**	**19.76**	**198**	P	**P**	**09 58 01.8**	**-1.3**
SNZO	**South Karori**	**22.27**	**200**	P	**P**	**09 58 29.6**	**+0.2**
QRZ	**Quartz Range**	**22.60**	**204**	P	**P**	**09 58 32.4**	**-0.1**
KHZ	**Kahutara**	**23.64**	**200**	P	**P**	**09 58 42.0**	**0.0**
PAE	**Paea**	**24.74**	**88**	*e*P	**P**	**09 58 53.5**	**+1.2**
	comp=Z,52nm,1.0s						
PPT2	**Papeete2**	**24.76**	**88**	*e*P	**P**	**09 58 54.3**	**+1.7**
	comp=Z,264nm,1.2s						
PPT2				*e*S	**S**	**10 03 05.6**	**+2.4**
	comp=Z,574nm,26.2s						
PPT	**Papeete**	**24.76**	**88**	P	**P**	**09 58 55.0**	**+2.4**
	comp=Z,351nm,1.1s,baz=92,slow=6.3,SNR=8.9						
PPT				LR	LR	10 06 33.7	
	comp=Z,175nm,21.7s,baz=271,slow=31						

TVO Taravao 25.03 88 *e*P **P 09 58 56.1 +1.1**
comp=Z,0.5nm,0.8s
RPZ Rata Peaks 25.64 203 P **P 09 59 00.4 +0.2**
HNR Honiara 26.04 292 P **P 09 59 03.6 -0.5**
HNR Honiara 26.04 292 P **P 09 59 03.6 -0.5**
HNR pmax pmax
comp=Z,296nm,1.2s
JCZ Jackson Bay 26.82 205 P **P 09 59 11.1 +0.2**
EIDS Eidsvold 31.00 255 P **P 09 59 47.4 -0.7**
baz=31,SNR=18
EIDS Eidsvold 31.00 255 P **P 09 59 47.4 -0.7**
EIDS IAmb IAmb 09 59 47.8
comp=Z,22nm,0.8s
EIDS Eidsvold 31.00 255 P **P 09 59 47.0 -1.1**
ARMA Armidale 31.08 245 P **P 09 59 48.6 -0.1**
baz=31,SNR=25
ARMA Armidale 31.08 245 P **P 09 59 48.7 -0.1**
ARMA IAmb IAmb 09 59 49.6
comp=Z,87nm,1.4s
ARMA Armidale 31.08 245 P **P 09 59 48.6 -0.1**
RK1H Rockhampton Ha 31.53 259 P **P 09 59 52.0 -0.7**
MGCD Mangrove Creek 32.12 240 P **P 09 59 57.7 0.0**
baz=32,SNR=6.1
MGCD Mangrove Creek 32.12 240 P **P 09 59 57.9 +0.2**
SYDH Sydney Hard Ro 32.56 239 P **P 10 00 01.6 +0.1**
RMQ Roma 33.14 253 P **P 10 00 06.9 +0.2**
baz=33,SNR=9.6
RMQ Roma 33.14 253 P **P 10 00 07.0 +0.2**
CNB Canberra Magne 34.07 237 P **P 10 00 14.5 -0.3**
baz=34,SNR=46
CNB Canberra Magne 34.07 237 P **P 10 00 14.3 -0.5**
CAN Canberra 34.36 237 P **P 10 00 16.7 -0.5**
CAN IAmb IAmb 10 00 17.4
comp=Z,45nm,0.7s
CAN Canberra 34.36 237 P **P 10 00 16.6 -0.6**
CAN Canberra 34.36 237 P **P 10 00 16.7 -0.5**
CAN pmax pmax
comp=Z,45nm,0.7s
CAN Canberra 34.36 237 P **P 10 00 16.4 -0.8**
CAN pP **pP 10 00 50.4 -0.3**
CAN ScP **ScP 10 06 21.9 +2.3**
TV1H Townsville Har 35.34 265 P **P 10 00 25.1 -0.6**
CTA Charters Tower 35.73 264 P **P 10 00 28.6 -0.5**
CTA Charters Tower 35.73 264 PcP **PcP 10 02 53.9 +0.3**
comp=Z,12nm,0.8s,baz=200,slow=3.1,SNR=4.1
CTA ScP **ScP 10 06 27.5 +2.7**
comp=Z,28nm,1.1s,baz=238,slow=1.5,SNR=7.7
CTA LR LR 10 14 05.7
comp=Z,185nm,18.2s,baz=90,slow=34
CTAO Charters Tower 35.73 264 P **P 10 00 28.9 -0.2**
CTAO Charters Tower 35.73 264 P **P 10 00 28.5 -0.5**
CTAO Charters Tower 35.73 264 P **P 10 00 28.9 -0.2**
CTAO pmax pmax
comp=Z,136nm,1.1s
CTAO Charters Tower 35.73 264 P **P 10 00 28.4 -0.7**
CTAO pP **pwP 10 01 04.1 -1.6**
CTAO PcP **PcP 10 02 54.0 +0.3**
CTAO ScP **ScP 10 06 27.3 +2.5**
CMSA Cobar Meteorol 36.29 244 P **P 10 00 32.6 -1.0**
baz=36,SNR=225
CMSA Cobar Meteorol 36.29 244 P **P 10 00 32.4 -1.3**
GLAD Gladstone 36.95 228 P **P 10 00 38.6 -0.6**
QLP Quilpie 37.19 253 P **P 10 00 40.4 -1.0**
baz=37,SNR=6.5
QLP Quilpie 37.19 253 P **P 10 00 40.6 -0.8**
PATS Pohnpei 37.40 314 P **P 10 00 42.6 -0.6**
baz=37,SNR=23
PMG Port Moresby 37.55 282 P **P 10 00 43.9 -0.7**
PMG Port Moresby 37.55 282 P **P 10 00 44.1 -0.5**
PMG Port Moresby 37.55 282 *d iP* **P 10 00 43.5 -1.1**
PMG pmax pmax
comp=Z,286nm,1.0s
PMG Port Moresby 37.55 282 LR LR 10 13 34.7
comp=Z,272nm,19.7s,baz=104,slow=32
PMG Port Moresby 37.55 282 P **P 10 00 43.7 -0.8**
TOO Toolangi 37.69 235 P **P 10 00 44.4 -1.1**
baz=38,SNR=30
TOO Toolangi 37.69 235 P **P 10 00 44.5 -1.1**
TOO IAmb IAmb 10 00 45.4
comp=Z,40nm,0.6s
TOO Toolangi 37.69 235 P **P 10 00 44.2 -1.3**
TOO Toolangi 37.69 235 P **P 10 00 44.5 -1.0**
TOO pmax pmax
comp=Z,40nm,0.6s
MTSU Mount Surprise 37.84 267 P **P 10 00 46.2 -0.7**
baz=38,SNR=154
MTSU Mount Surprise 37.84 267 P **P 10 00 46.1 -0.8**
TAU Tasmania Unive 38.18 226 P **P 10 00 48.6 -0.9**
TAU IAmb IAmb 10 00 52.1
comp=Z,18nm,0.9s
TAU Tasmania Unive 38.18 226 P **P 10 00 48.9 -0.6**
TAU Tasmania Unive 38.18 226 P **P 10 00 48.6 -0.9**
TAU pmax pmax
comp=Z,18nm,0.9s
TAU Tasmania Unive 38.18 226 P **P 10 00 48.9 -0.6**
TAU pP **pwP 10 01 24.0 -2.5**
GEXS Deakin Univers 38.78 234 P **P 10 00 53.9 -0.6**
BRAT Ballarat 38.88 235 P **P 10 00 54.9 -0.5**
STKA Stephens Creek 39.80 245 P **P 10 01 01.8 -1.3**
STKA Stephens Creek 39.80 245 P **P 10 01 02.0 -1.1**
comp=Z,25nm,0.5s,baz=90,slow=9.9,SNR=94
STKA PcP **PcP 10 03 06.3 +0.3**
comp=Z,11nm,0.6s,baz=122,slow=5.0,SNR=5.0
STKA ScP **ScP 10 06 42.5 +2.5**
comp=Z,4.4nm,1.0s,baz=52,slow=6.1,SNR=3.3
STKA LR LR 10 14 22.9
comp=Z,89nm,19.6s,baz=87,slow=31
comp=Z,25nm,0.5s
COEN Coen 39.83 273 P **P 10 01 03.0 -0.5**
COEN Coen 39.83 273 P **P 10 01 03.0 -0.5**
INKA Innaminka 40.31 251 P **P 10 01 07.8 +0.5**
ARPS Mount Arapiles 40.34 237 P **P 10 01 06.2 -1.3**
baz=40,SNR=20
ARPS Mount Arapiles 40.34 237 P **P 10 01 06.3 -1.1**
QIS Mount Isa 41.84 262 P **P 10 01 19.2 -0.9**
baz=42,SNR=6.9
QIS Mount Isa 41.84 262 P **P 10 01 19.1 -0.9**
HTT Hallett 42.20 243 P **P 10 01 21.5 -1.2**
baz=42,SNR=13
HTT Hallett 42.20 243 P **P 10 01 21.5 -1.2**
LCRK Leigh Creek 42.59 247 P **P 10 01 24.5 -1.4**
WAKE Wake Island 43.24 335 P **P 10 01 30.4 -0.6**
KHLU Kahalu`u 44.32 27 P **P 10 01 40.6 +0.8**
BBOO Buckleboo 44.54 244 P **P 10 01 39.5 -1.9**
baz=44,SNR=25
BBOO Buckleboo 44.54 244 P **P 10 01 40.1 -1.4**
BBOO IAmb IAmb 10 01 43.6
comp=Z,35nm,1.1s
BBOO Buckleboo 44.54 244 P **P 10 01 39.6 -1.9**
POHA Pohakuloa 44.62 27 P **P 10 01 43.6 +1.2**
OOD Oodnadatta 44.79 251 P **P 10 01 42.8 -0.7**
MULG Mulgathing 46.18 247 P **P 10 01 52.6 -1.8**
JAY Jayapura 46.20 287 P **P 10 01 54.1 -0.7**
comp=Z,318nm,1.1s,comp=Z,3μm
GENI Genyem 46.65 287 P **P 10 01 58.8 +0.6**
GENI Genyem 46.65 287 P **P 10 01 57.6 -0.6**
comp=Z,401nm,1.2s,comp=Z,5μm
AS31 Alice Springs 46.70 256 P **P 10 01 57.2 -1.4**
ASAR Alice Springs 46.70 256 P **P 10 01 56.8 -1.8**
comp=Z,45nm,0.8s,baz=98,slow=8.3,SNR=295
ASAR PcP **PcP 10 03 29.6 0.0**
comp=Z,31nm,0.7s,baz=105,slow=3.7,SNR=23
ASAR ScP **ScP 10 07 09.9 +1.8**
comp=Z,8.5nm,0.8s,baz=104,slow=4.2,SNR=13
ASAR S **S 10 08 31.4 -4.8**
comp=Z,2.2nm,0.8s,baz=100,slow=15,SNR=6.2
ASAR ScS **ScS 10 11 36.1 -0.8**
comp=Z,1.6nm,0.9s,baz=93,slow=7.0,SNR=8.2
ASAR LR LR 10 20 00.1
comp=Z,153nm,19.7s,baz=108,slow=34
comp=Z,45nm,0.8s
WB0 Warramunga Arr 46.80 262 P **P 10 01 57.1 -2.3**
WB0 IAmb IAmb 10 01 58.6
comp=Z,47nm,0.8s
WB2 Warramunga Arr 46.81 262 P **P 10 01 57.4 -2.1**
WB2 IAmb IAmb 10 01 59.3
comp=Z,59nm,1.0s
WRAB Tennant Creek 46.81 262 P **P 10 01 57.3 -2.2**
WRAB IAmb IAmb 10 01 59.3
comp=Z,51nm,0.9s
WRAB Tennant Creek 46.81 262 P **P 10 01 57.3 -2.2**
WRAB Tennant Creek 46.81 262 *de*P **P 10 01 57.3 -2.2**
WRAB pmax pmax
comp=Z,108nm,1.7s
WRAB Tennant Creek 46.81 262 P **P 10 01 57.4 -2.2**
WRAB ScP **ScP 10 07 10.3 +1.6**
WRA Warramunga Arr 46.82 262 P **P 10 01 57.2 -2.3**
comp=Z,27nm,0.8s,baz=95,slow=7.7,SNR=497
WRA PcP **PcP 10 03 30.0 -0.1**
comp=Z,15nm,0.7s,baz=94,slow=3.5,SNR=11
WRA ScP **ScP 10 07 10.8 +2.0**
comp=Z,8.7nm,1.0s,baz=98,slow=4.0,SNR=11
WRA S **S 10 08 32.3 -5.7**
comp=Z,2.6nm,0.9s,baz=95,slow=15,SNR=4.6
comp=Z,27nm,0.8s
SMPI Sarmi 48.22 286 P **P 10 02 09.4 -1.0**
comp=Z,256nm,1.1s,comp=Z,4μm
FORT Forrest 51.34 247 P **P 10 02 31.7 -2.1**
baz=51,SNR=28
FORT Forrest 51.34 247 P **P 10 02 31.9 -1.8**
FORT Forrest 51.34 247 P **P 10 02 31.6 -2.1**
MTN Manton Dam 51.41 270 P **P 10 02 33.6 -0.9**
baz=51,SNR=8.4
MTN Manton Dam 51.41 270 P **P 10 02 33.1 -1.4**
GUMO Guam 51.59 308 P **P 10 02 34.6 -1.1**
GUMO Guam 51.59 308 P **P 10 02 35.1 -0.6**
GUMO Guam 51.59 308 P **P 10 02 34.6 -1.1**
GUMO pmax pmax
comp=Z,346nm,0.9s
GUMO Guam 51.59 308 P **P 10 02 34.9 -0.8**
WRKA Warakurna 51.62 254 P **P 10 02 34.0 -1.9**
baz=52,SNR=73
WRKA Warakurna 51.62 254 P **P 10 02 33.8 -2.1**
RKPI Ransiki, Papua 52.52 284 P **P 10 02 42.6 -0.1**
comp=Z,50nm,0.4s,comp=Z,18μm
SAUI Saumlaki 52.74 276 P **P 10 02 45.0 +0.7**
SAUI Saumlaki 52.74 276 P **P 10 02 44.6 +0.3**
comp=Z,394nm,1.1s
KNRA Kununurra 52.90 266 P **P 10 02 43.8 -1.6**
baz=53,SNR=85
KNRA Kununurra 52.90 266 P **P 10 02 44.7 -0.7**
KNRA Kununurra 52.90 266 P **P 10 02 43.8 -1.6**
FAKI Fak Fak 53.71 282 P **P 10 02 50.0 -1.4**
FAKI Fak Fak 53.71 282 P **P 10 02 50.7 -0.7**
comp=Z,130nm,1.3s,comp=Z,2μm
DRV Dumont d'Urvil 54.06 200 P **P 10 02 54.1 +1.0**
DRV pP **pwP 10 03 33.1 +1.0**
DRV ScP **ScP 10 07 40.4 +1.6**
BNDI Bandanaira 55.26 279 P **P 10 03 02.8 +0.3**
comp=Z,276nm,1.1s,comp=Z,5μm
SWI Sorong 55.44 284 P **P 10 03 03.5 -0.3**
comp=Z,568nm,0.9s,comp=Z,5μm
SBA Scott Base 57.98 184 P **P 10 03 21.8 +1.1**
SBA IAmb IAmb 10 03 25.4
comp=Z,26nm,0.8s
SBA Scott Base 57.98 184 P **P 10 03 21.8 +1.1**
SBA pmax pmax
comp=Z,26nm,0.9s
SBA Scott Base 57.98 184 P **P 10 03 24.1 +3.4**
SBA pP **pP 10 04 02.5 +4.8**
SBA ScP **ScP 10 07 59.7 +3.8**
NLAI Namlea 58.33 279 P **P 10 03 23.9 -0.3**
comp=Z,54nm,0.5s
SOEI Soe 58.75 271 P **P 10 03 27.2 -0.1**
SOEI Soe 58.75 271 P **P 10 03 27.7 +0.4**
comp=Z,342nm,0.6s,comp=Z,3μm
LBMI Labuha 58.97 282 P **P 10 03 29.1 +0.5**
comp=Z,179nm,0.8s,comp=Z,2μm
BATI Baumata 59.18 270 P **P 10 03 30.5 +0.4**
comp=Z,166nm,0.8s,comp=Z,1μm
TNTI Ternate 59.66 284 P **P 10 03 33.8 +0.5**
comp=Z,189nm,1.0s
SANI Sanana 59.81 280 P **P 10 03 33.2 -1.2**
comp=Z,78nm,1.4s,comp=Z,1μm
PSA00 Pilbara Seismi 59.85 256 P **P 10 03 33.0 -1.6**
PSA00 IAmb IAmb 10 03 34.0
comp=Z,28nm,0.8s
PSA00 Pilbara Seismi 59.85 256 P **P 10 03 32.6 -2.0**
MEEK Meekatharra 60.02 250 P **P 10 03 33.0 -2.7**
baz=60,SNR=3.8
MEEK Meekatharra 60.02 250 P **P 10 03 33.4 -2.4**
MBWA Marble Bar 60.04 257 P **P 10 03 33.5 -2.3**
MBWA IAmb IAmb 10 03 37.2
comp=Z,25nm,0.7s
MBWA Marble Bar 60.04 257 P **P 10 03 33.8 -2.0**
MBWA Marble Bar 60.04 257 P **P 10 03 33.9 -2.0**
KLBR Kellerberrin 60.07 245 P **P 10 03 34.4 -1.5**
baz=60,SNR=11
KLBR Kellerberrin 60.07 245 P **P 10 03 34.6 -1.3**
VA02 Isla de Pascua 60.27 110 P **P 10 03 35.5 -1.8**
NWAO Narrogin (SRO) 60.35 243 P **P 10 03 36.1 -1.8**
baz=60,SNR=3.8
NWAO P **P 10 03 36.1 -1.8**
baz=60,SNR=3.8
NWAO Narrogin (SRO) 60.35 243 P **P 10 03 36.7 -1.2**
NWAO IAmb IAmb 10 04 04.5
comp=Z,58nm,1.4s
NWAO Narrogin (SRO) 60.35 243 P **P 10 03 37.5 -0.3**
NWAO Narrogin (SRO) 60.35 243 P **P 10 03 36.7 -1.2**
NWAO pmax pmax
comp=Z,59nm,1.4s
NWAO Narrogin (SRO) 60.35 243 LR LR 10 28 20.1
comp=Z,107nm,18.1s,baz=24,slow=35
MMRI Maumere 61.01 271 P **P 10 03 40.9 -1.7**
MMRI Maumere 61.01 271 P **P 10 03 42.1 -0.4**
comp=Z,161nm,0.9s
BLDU Ballidu 61.09 246 P **P 10 03 41.1 -1.7**
baz=61,SNR=13
BLDU Ballidu 61.09 246 P **P 10 03 41.1 -1.7**
MUN Mundaring 61.33 244 P **P 10 03 43.6 -0.8**
baz=61,SNR=3.9
MUN Mundaring 61.33 244 P **P 10 03 43.4 -1.0**
SGSI Sangihe 62.54 286 P **P 10 03 52.1 -0.7**
comp=Z,113nm,0.6s
JCJ Chichijima 62.58 318 P **P 10 03 52.2 -0.5**
CCD Concordia, Ant 62.98 195 P **P 10 03 57.0 +1.8**
CCD pP **PcP 10 04 37.8 +6.1**
LUWI Luwuk 63.16 280 P **P 10 03 56.5 -0.3**
LUWI Luwuk 63.16 280 P **P 10 03 56.8 -0.1**
GTOI Gorontalo 63.59 281 P **P 10 04 00.6 +0.9**
comp=Z,29nm,0.6s,comp=Z,405nm
BKSI Bulukumba 64.08 274 P **P 10 04 02.8 -0.1**
comp=Z,31nm,1.0s
MRSI Marisa 64.51 281 P **P 10 04 05.6 -0.1**
comp=Z,64nm,0.8s
KAPI Kappang 64.53 274 *de*P **P 10 04 04.2 -1.6**
KAPI pmax pmax
comp=Z,24nm,1.1s
GIRL Giralia 64.70 254 P **P 10 04 07.6 +0.8**
baz=65,SNR=3.2
GIRL Giralia 64.70 254 P **P 10 04 06.7 -0.1**
CASY Casey 64.88 205 P **P 10 04 08.3 +1.1**
CASY IAmb IAmb 10 04 11.5
comp=Z,29nm,0.8s
CASY Casey 64.88 205 P **P 10 04 08.2 +1.1**
PLAI Plampang 65.12 270 P **P 10 04 08.2 -1.5**
PLAI Plampang 65.12 270 P **P 10 04 08.4 -1.3**
comp=Z,123nm,0.9s
TOLI2 Tolitoli 65.82 281 P **P 10 04 12.4 -1.7**
TOLI2 IAmb IAmb 10 04 19.1
comp=Z,27nm,0.6s
TOLI2 Tolitoli 65.82 281 P **P 10 04 15.8 +1.6**
TWSI Taliwang, Sumb 65.99 269 P **P 10 04 13.4 -1.8**
comp=Z,88nm,1.2s,comp=Z,844nm
MPSI Mapaga 66.34 280 P **P 10 04 16.9 -0.6**
comp=Z,35nm,0.5s,comp=Z,7μm
JAGI Jajag, Banyuwa 68.64 269 P **P 10 04 29.8 -2.1**
JAGI Jajag, Banyuwa 68.64 269 P **P 10 04 28.3 -3.6**
comp=Z,74nm,1.0s
BLJI Banyuglugur 69.39 269 P **P 10 04 34.4 -2.1**
comp=Z,67nm,0.5s,comp=Z,2μm
QSPA South Pole Qui 69.52 180 P **P 10 04 37.6 +1.0**
QSPA IAmb IAmb 10 04 39.6
comp=Z,49nm,1.0s
QSPA South Pole Qui 69.52 180 P **P 10 04 38.3 +1.7**
comp=Z,39nm,0.9s,baz=38,slow=1.4,SNR=96
comp=Z,39nm,0.9s
QSPA South Pole Qui 69.52 180 P **P 10 04 38.3 +1.7**
QSPA pP **pP 10 05 19.0 +4.0**
MYLDM Lahad Datu 69.53 284 P **P 10 04 36.2 -1.2**
JSG Sagara 70.32 321 P **P 10 04 40.6 -1.1**
JMM Marumori 71.12 325 P **P 10 04 45.1 -1.3**
JMM IAmb IAmb 10 04 47.5
comp=Z,27nm,0.9s
JMM Marumori 71.12 325 P **P 10 04 46.1 -0.4**
INU Inuyama 71.48 321 P **P 10 04 48.1 -0.6**
INU IAmb IAmb 10 04 49.3
comp=Z,18nm,0.9s
INU Inuyama 71.48 321 P **P 10 04 48.9 +0.2**
MJAR Matsushiro Arr 71.61 322 P **P 10 04 47.6 -1.9**
comp=Z,15nm,0.5s,baz=163,slow=6.1,SNR=83
MJAR LR LR 10 32 45.1
comp=Z,28nm,19.9s,baz=132,slow=33
comp=Z,15nm,0.5s
MAJO Matsushiro 71.61 322 P **P 10 04 48.7 -0.8**
MAJO IAmb IAmb 10 04 49.2
comp=Z,31nm,0.6s
MAJO Matsushiro 71.61 322 P **P 10 04 48.7 -0.8**
MAJO Matsushiro 71.61 322 *d iP* **P 10 04 48.6 -0.8**
MAJO pmax pmax
comp=Z,27nm,1.0s
MAJO Matsushiro 71.61 322 P **P 10 04 48.8 -0.8**
MJB9 Matsu-Tunnel 71.62 322 P **P 10 04 49.6 +0.1**
MJB9 IAmb IAmb 10 04 50.2
comp=Z,29nm,0.6s
JOW Kunigami 71.94 309 P **P 10 04 52.0 +0.3**
JOW IAmb IAmb 10 04 52.4
comp=Z,31nm,0.7s
JOW Kunigami 71.94 309 P **P 10 04 52.0 +0.3**
KKM Kota Kinabalu 71.95 284 IAmb IAmb 10 04 52.4
comp=Z,65nm,0.9s
KKM Kota Kinabalu 71.95 284 P **P 10 04 51.7 -0.5**
ADK Adak 72.13 359 P **P 10 04 52.5 +0.3**
ADK Adak 72.13 359 P **P 10 04 52.5 +0.3**
ADK pmax pmax
comp=Z,111nm,0.7s
UGM Wanagama 72.21 268 P **P 10 04 52.9 -0.7**
JMN Monobe 72.33 318 P **P 10 04 54.0 +0.2**
JMN IAmb IAmb 10 04 55.8
comp=Z,70nm,1.0s
JMN Monobe 72.33 318 P **P 10 04 54.2 +0.3**
ATKA Atka Island 72.46 1 P **P 10 04 54.3 +0.2**
ATKA Atka Island 72.46 1 P **P 10 04 53.9 -0.2**
SMRI Semarang 72.57 269 P **P 10 04 55.5 -0.2**
SMRI IAmb IAmb 10 04 55.9
comp=Z,41nm,0.7s
JSD Sado 72.63 323 P **P 10 04 55.2 -0.3**
JSD Sado 72.63 323 P **P 10 04 55.2 -0.3**
JTM Tenmabayashi 73.12 327 P **P 10 04 58.2 0.0**
JTM Tenmabayashi 73.12 327 P **P 10 04 58.0 -0.3**
NIKH Nikolski High 73.45 4 P **P 10 05 00.1 +0.2**
NIKH Nikolski High 73.45 4 P **P 10 04 59.3 -0.6**
baz=186
SHEM Shemya Is, Ala 73.52 353 LR LR 10 30 51.5
comp=Z,63nm,21.5s,baz=256,slow=30
JNU Nakatsue 73.88 315 P **P 10 05 02.5 -0.5**
KPJI Karang Pucung 73.89 268 P **P 10 05 03.2 -0.3**
comp=Z,34nm,0.7s
STKI Sintang 74.05 276 P **P 10 05 04.2 -0.2**
comp=Z,75nm,1.1s,comp=Z,3μm
SBUM Sibu 74.24 279 P **P 10 05 04.5 -0.9**
UNV Unalaska Valle 74.51 6 P **P 10 05 05.8 -0.2**
UNV Unalaska Valle 74.51 6 P **P 10 05 06.2 +0.2**
baz=189
JKA Kamikawa-asahi 74.87 330 P **P 10 05 08.6 +0.2**
JKA IAmb IAmb 10 05 10.1
comp=Z,91nm,1.4s
ASAJ Asahikawa 74.87 330 P **P 10 05 08.6 +0.2**
ASAJ pmax pmax
comp=Z,91nm,1.4s
ASAJ Asahikawa 74.87 330 LR LR 10 34 19.1
comp=Z,35nm,19.3s,baz=160,slow=33
BBJI Bungbulang 75.05 268 P **P 10 05 09.7 -0.5**
TWGBT Beinan 75.31 302 P **P 10 05 09.6 -1.8**
YULB Yu-li 75.42 302 P **P 10 05 09.7 -2.4**
YULB IAmb IAmb 10 05 11.6
comp=Z,40nm,0.6s
YULB Yu-li 75.42 302 P **P 10 05 10.5 -1.6**
NACB Ninganchiao 75.58 303 P **P 10 05 11.8 -1.2**
NACB Ninganchiao 75.58 303 P **P 10 05 12.1 -0.8**
KSM Kuching 75.65 277 P **P 10 05 13.1 -0.5**
SSLB Suanglung 75.89 302 P **P 10 05 12.9 -1.8**
SSLB Suanglung 75.89 302 P **P 10 05 13.0 -1.8**
TPUB Ta-pu 75.91 302 P **P 10 05 13.2 -1.6**
TPUB Ta-pu 75.91 302 P **P 10 05 12.8 -2.0**
YHNB Yeheng 76.01 303 P **P 10 05 14.8 -0.6**
SCZ2 Santa Cruz Isl 76.02 45 P **P 10 05 16.8 +1.6**
baz=233
SBC Santa Barbara 76.24 45 P **P 10 05 18.6 +2.2**
baz=233
PKM Mcpherson Peak 76.44 44 P **P 10 05 20.4 +2.6**
baz=233,SNR=6.7
CIS Catalina Islan 76.49 46 P **P 10 05 19.2 +1.3**
baz=234
SAO San Andreas Ge 76.54 42 IAmb IAmb 10 05 22.1
comp=Z,18nm,0.8s
SMMC Simmler 76.58 44 P **P 10 05 20.1 +1.7**
baz=232,SNR=7.9
PET Petropavlovsk 76.60 344 P **P 10 05 17.4 -0.6**
PET IAmb IAmb 10 05 18.3
comp=Z,32nm,0.8s
PET Petropavlovsk 76.60 344 *de*P **P 10 05 17.7 -0.3**
PET pmax pmax
comp=Z,15nm,0.5s
PMPB Monarch Peak 76.61 43 IAmb IAmb 10 05 22.3
comp=Z,16nm,0.9s
SDPT Sand Point 76.69 9 P **P 10 05 18.8 +0.4**
SDPT Sand Point 76.69 9 P **P 10 05 18.5 +0.1**
baz=194
BCW Bitter Crk WRg 76.73 45 P **P 10 05 20.7 +1.4**
BCW IAmb IAmb 10 05 23.2
comp=Z,17nm,0.8s
PEA0B Petropavlovsk- 76.92 344 P **P 10 05 19.8 -0.1**
PEA0B Petropavlovsk- 76.92 344 *d iP* **P 10 05 19.9 +0.1**
PETK Petropavlovsk- 76.92 344 P **P 10 05 19.5 -0.4**
PETK Petropavlovsk- 76.92 344 P **P 10 05 19.5 -0.4**
PETK Petropavlovsk- 76.92 344 P **P 10 05 19.3 -0.5**
comp=Z,74nm,0.8s,baz=131,slow=6.7,SNR=76
PETK LR LR 10 36 10.6
comp=Z,32nm,21.4s,baz=156,slow=33
comp=Z,74nm,0.8s
HOPS Hopland Field 76.96 39 P **P 10 05 22.2 +1.8**
YSS Yuzh-Sakhalins 76.97 332 P **P 10 05 21.2 +1.0**
YSS Yuzh-Sakhalins 76.97 332 *d iP* **P 10 05 21.0 +0.8**
YSS *e**PP **pwP 10 06 05.6 +3.7**
YSS *e*S **S 10 14 55.7 +0.6**
YSS pmax pmax
comp=Z,200nm,3.5s
YSS pmax pmax
comp=Z,70nm,0.7s
YSS smax smax
comp=N,100nm,5.2s
GDXM Geysers 77.01 40 P **P 10 05 23.3 +2.5**
CBX Cerro Bola 77.07 48 P **P 10 05 22.9 +1.6**
CGJI Cibinong 77.16 268 P **P 10 05 20.1 -2.0**
comp=N,109nm,0.6s
ARVC Arvin 77.23 45 P **P 10 05 22.7 +0.7**
baz=233
KMRM Mail Ridge 77.39 38 P **P 10 05 24.9 +2.0**
ESJX Sierra Juarez 77.40 49 P **P 10 05 22.9 -0.3**
MURC Murrieta 77.44 47 P **P 10 05 24.8 +1.5**
baz=235
BFSC Mount Baldy Ra 77.49 46 P **P 10 05 25.3 +1.7**
baz=234
VES Vestal, Richgr 77.49 44 P **P 10 05 25.0 +1.7**
baz=233,SNR=12
MONP2 Monument Peak 77.56 48 P **P 10 05 25.9 +1.8**
baz=235,SNR=9.0
EDW2 Edwards Air Fo 77.64 45 P **P 10 05 26.9 +2.6**
baz=234,SNR=16
RMX La Rumorosa 77.64 48 P **P 10 05 23.8 -0.7**
IKP In-Ko-Pah, Jac 77.64 48 P **P 10 05 26.5 +2.0**
baz=236,SNR=6.0
S14K Fog Glacier 77.73 9 P **P 10 05 25.8 +1.4**
baz=195
YUH Yuha Desert 77.77 48 P **P 10 05 26.0 +0.9**
ISA Isabella, Lake 77.78 44 P **P 10 05 26.4 +1.3**
ISA IAmb IAmb 10 05 28.8
comp=Z,19nm,1.1s
ISA Isabella, Lake 77.78 44 P **P 10 05 26.4 +1.3**
ISA pmax pmax
comp=Z,19nm,1.1s
ISA Isabella, Lake 77.78 44 P **P 10 05 27.2 +2.1**
baz=234,SNR=18
KHMM Horse Mountain 77.80 38 IAmb IAmb 10 05 29.8
comp=Z,22nm,1.0s
PFO Pinyon Flats O 77.94 47 P **P 10 05 27.0 +0.8**
PFO Pinyon Flats O 77.94 47 P **P 10 05 27.0 +0.8**
PFO pmax pmax
comp=Z,6.0nm,0.9s
PFO Pinyon Flats O 77.94 47 P **P 10 05 28.2 +2.0**
baz=235,SNR=5.4
TPFO Pinon Flats 77.94 47 P **P 10 05 28.1 +1.9**
baz=235,SNR=5.0
BBRC Big Bear Solar 78.00 46 P **P 10 05 29.2 +2.6**

baz=235
SWSC Sam W. Stewart 78.03 48 P P 10 05 28.8 +2.4
baz=236
LRMC Laurel Mtn Rad 78.20 45 P P 10 05 30.1 +2.6
baz=234,SNR=14
AFDM Forest Hills D 78.20 41 P P 10 05 27.8 +0.5
ORV Oroville 78.26 40 P P 10 05 27.4 -0.2
ORV Oroville 78.26 40 P P 10 05 27.4 -0.2
ORV pmax pmax
comp=Z,10.0nm,1.1s
QZH Quanzhou 78.33 302⇓*i*P P 10 05 28.0 -0.3
QZH pmax pmax
comp=Z,75nm,0.6s
KSRS Korea Array 78.44 317 P P 10 05 28.9 +0.3
comp=Z,6.0nm,0.6s,baz=127,slow=6.0,SNR=26
KSRS LR LR 10 35 25.6
comp=Z,24nm,21.9s,baz=115,slow=32
comp=Z,6.0nm,0.6s
BELC Belle Mtn. Jos 78.48 47 P P 10 05 31.3 +2.2
baz=235,SNR=12
CWC Cottonwood Cre 78.50 44 P P 10 05 31.7 +2.6
baz=234
MDPB Devils Postpil 78.57 42 IAmb IAmb 10 05 35.3
comp=Z,22nm,1.0s
KASI Kota Agung 78.65 268 P P 10 05 28.3 -2.0
comp=Z,84nm,1.0s
MPMC Manual Prospec 78.66 45 P P 10 05 32.1 +2.0
baz=234,SNR=21
BC3 Big Chuckawall 78.66 48 P P 10 05 32.8 +2.7
baz=236
GSC Goldstone, Bar 78.68 46 P P 10 05 32.2 +2.1
baz=235,SNR=11
HEC Hector,Ludlow 78.72 46 P P 10 05 32.3 +2.0
baz=235,SNR=7.0
GLA Glamis 78.76 48 P P 10 05 33.3 +2.8
baz=236
SII Sitkinak Islan 78.91 12 IAmb IAmb 10 05 32.7
comp=Z,70nm,1.0s
SII Sitkinak Islan 78.91 12 P P 10 05 32.1 +1.4
baz=200
YBH Yreka Blue Hor 78.94 37 P P 10 05 32.6 +1.2
YBH Yreka Blue Hor 78.94 37 P P 10 05 32.6 +1.2
YBH pmax pmax
comp=Z,14nm,0.9s
MPK Martis Peak 78.99 41 IAmb IAmb 10 05 35.2
comp=Z,32nm,0.9s
QSM Queen of Sheba 79.02 45 P P 10 05 33.2 +1.4
DSP Deep Springs 79.12 43 IAmb IAmb 10 05 36.5
comp=Z,18nm,1.0s
PNTR Pine Nut 79.13 41 P P 10 05 34.4 +1.8
PNTR IAmb IAmb 10 05 36.4
comp=Z,46nm,0.8s
GMRC Granite Mounta 79.15 46 P P 10 05 34.7 +1.9
baz=236,SNR=7.6
IRM Iron Mountain 79.16 47 P P 10 05 34.7 +2.0
baz=236,SNR=10
BELA Belgrano 2 79.21 172 P P 10 05 32.7 +0.4
BELA IAmb IAmb 10 05 34.2
comp=Z,31nm,0.8s
LWLI Liwa 79.23 269 P P 10 05 34.1 +0.5
comp=Z,248nm,0.6s
GWY Greenwater Val 79.28 45 P P 10 05 33.0 -0.5
YERR Yerington 79.28 41 IAmb IAmb 10 05 36.6
comp=Z,26nm,0.8s
GRAC Grapevine Rang 79.29 44 P P 10 05 35.6 +2.3
baz=234
LHV Little Huntoon 79.30 42 IAmb IAmb 10 05 37.6
comp=Z,21nm,1.0s
FURC Furnace Creek, 79.31 45 P P 10 05 35.9 +2.6
baz=234,SNR=15
TUQ Turquoise Moun 79.34 46 P P 10 05 35.7 +1.9
baz=235,SNR=6.0
R17K Ugashik Creek 79.53 10 IAmb IAmb 10 05 35.8
comp=Z,69nm,0.9s
R17K Ugashik Creek 79.53 10 P P 10 05 34.8 +0.8
baz=198
NVAR Mina Array Bea 79.53 42 P P 10 05 36.5 +1.7
NVAR Mina Array Bea 79.53 42 P P 10 05 37.1 +2.3
comp=Z,13nm,0.8s,baz=223,slow=8.6,SNR=114
comp=Z,13nm,0.8s
214A Organ Pipe Nat 79.60 50 P P 10 05 37.3 +2.2
baz=238
PAHR Pah Rah Range 79.64 41 IAmb IAmb 10 05 38.9
comp=Z,20nm,1.0s
MSHR Mys Shultsa 79.70 323⇑*e*P P 10 05 36.4 +1.1
MSHR pmax pmax
comp=Z,34nm,0.6s
R18K Karluk 79.81 11 P P 10 05 36.1 +0.6
baz=200
PDMCI Parker Dam,Lak 79.93 48 P P 10 05 38.8 +2.1
baz=237,SNR=7.0
TPNV Topopah Spring 79.99 44 P P 10 05 39.8 +2.5
baz=235,SNR=27
TPH Tonopah 80.01 43 IAmb IAmb 10 05 40.6
comp=Z,48nm,0.9s
TYV Tymovskoe 80.03 335 *e*P P 10 05 37.4 +0.5
TYV pmax pmax
comp=Z,85nm,0.7s
TYV pmax pmax
comp=Z,400nm,2.2s
PLTX Planet X, Gerl 80.20 40 IAmb IAmb 10 05 41.4
comp=Z,29nm,1.0s
Q17K Contact Creek 80.21 10 P P 10 05 38.2 +0.4
baz=199
USA0B Ussuriysk Arra 80.29 325*d i*P P 10 05 38.4 -0.1
USRK Ussuriysk Ar. 80.29 325 P P 10 05 39.5 +1.1
comp=Z,10nm,0.7s,baz=127,slow=3.5,SNR=19
comp=Z,10nm,0.7s
DSRI Dabo 80.30 273 P P 10 05 38.6 -0.7
comp=Z,33nm,1.3s
KDAK Kodiak Island 80.37 12 P P 10 05 39.6 +1.1
KDAK IAmb IAmb 10 05 40.6
comp=Z,88nm,1.2s
KDAK Kodiak Island 80.37 12*c i*P P 10 05 39.7 +1.1
KDAK pmax pmax
comp=Z,72nm,1.0s
KDAK Kodiak Island 80.37 12 P P 10 05 39.5 +0.9
baz=202
O14K Tigyukauivet M 80.39 7 P P 10 05 38.7 +0.1
baz=194
Q16K King Salmon 80.48 10 P P 10 05 39.5 +0.4
baz=198,SNR=12
P16K Nushagak River 80.61 9 P P 10 05 39.7 -0.1
baz=197,SNR=5.3
K05A Summer Lake 80.62 38 IAmb IAmb 10 05 43.9
comp=Z,34nm,0.9s
Q18K Katmai Hardscr 80.73 11 P P 10 05 40.8 +0.2
baz=199,SNR=30
N14K Kuskokwak Cree 80.99 7 P P 10 05 42.9 +1.1
baz=193,SNR=10
P17K Kvichak River 81.01 10 P P 10 05 42.4 +0.5
baz=198
M11K Mekoryuk 81.01 5 P P 10 05 43.1 +1.3
baz=189
O16K Kokwok River B 81.14 9 P P 10 05 42.3 -0.3
baz=196,SNR=14
H04A Detroit Lake 81.15 35 IAmb IAmb 10 05 45.6
comp=Z,15nm,0.8s
Q20K Shuyak Island 81.18 12 P P 10 05 43.2 +0.4
baz=202
R11B Troy Canyon, C 81.22 44 P P 10 05 45.4 +1.6
baz=235,SNR=10
Q19K Cape Douglas, 81.24 11 P P 10 05 43.4 +0.2
baz=201
TUC Tucson 81.25 51 P P 10 05 44.7 +0.7
TUC IAmb IAmb 10 06 08.6
comp=Z,39nm,0.8s
TUC Tucson 81.25 51 P P 10 05 44.7 +0.7
TUC pmax pmax
comp=Z,39nm,0.8s
TUC Tucson 81.25 51 P P 10 05 46.0 +2.0
baz=239
PINE Pine Mountain 81.27 37 IAmb IAmb 10 05 47.4
comp=Z,38nm,0.8s
M13K Dall Lake 81.29 6 P P 10 05 44.2 +0.8
baz=192
I05D Terrebonne, OR 81.39 36 IAmb IAmb 10 05 47.5
comp=Z,20nm,0.8s
P18K Big Mountain, 81.39 10 P P 10 05 43.6 -0.4
P18K Big Mountain, 81.39 10 P P 10 05 44.3 +0.3
baz=199,SNR=21
N15K Kwethluk River 81.42 8 IAmb IAmb 10 05 46.4
comp=Z,68nm,1.4s
N15K Kwethluk River 81.42 8 P P 10 05 44.7 +0.6
baz=195,SNR=6.7
O17K Koliganek Bris 81.46 9 P P 10 05 44.1 -0.2
baz=197,SNR=7.8
NJ2 Nanjing 81.66 309 ⇑P P 10 05 46.0 0.0
NJ2 pP **pP 10 06 20.3 -4.6**
NJ2 pmax pmax
comp=Z,53nm,0.7s
NJ2 pmax pmax
comp=Z,500nm,5.2s
WVOR Wild Horse Val 81.74 39 IAmb IAmb 10 05 49.5
comp=Z,17nm,0.9s
M14K Bethel 81.77 7 P P 10 05 46.9 +1.0
baz=193,SNR=14
MYKOM Kota Tinggi 81.78 275 IAmb IAmb 10 05 47.3
comp=Z,30nm,0.9s
O18K Koktuh Hills 81.83 10 IAmb IAmb 10 05 47.9
comp=Z,72nm,1.0s
O18K Koktuh Hills 81.83 10 P P 10 05 47.0 +0.7
baz=199,SNR=18
HOOD Mount Hood Mea 81.85 35 IAmb IAmb 10 05 49.7
comp=Z,19nm,0.9s
M15K Kasigluk River 81.86 7 P P 10 05 47.2 +0.9
baz=194
MDJ Mudanjiang 81.87 324 P P 10 05 46.8 0.0
MDJ S **S 10 15 49.6 +2.7**
MDJ SS **SS 10 21 10.4 +0.8**
MDJ pmax pmax
comp=Z,63nm,0.8s
MDJ pmax pmax
comp=Z,440nm,4.0s
MDJ Mudanjiang 81.87 324 IAmb IAmb 10 05 48.7
comp=Z,42nm,0.7s
N16K Nishlik Lake 81.89 8 P P 10 05 47.5 +0.9
baz=196,SNR=14
MG05 Puerto Natales 81.90 142 IAmb IAmb 10 05 51.2
comp=Z,106nm,1.4s
G05A Wamic 81.98 35 IAmb IAmb 10 05 50.4
comp=Z,24nm,1.0s
P19K Oil Pt 81.99 11 P P 10 05 47.5 +0.4
baz=201
N17K Nushagak Hills 82.17 9 P P 10 05 48.7 +0.7
baz=197
CNPM China Poot 82.25 12 IAmb IAmb 10 05 50.4
comp=Z,55nm,1.1s
MAW Mawson 82.26 199 P P 10 05 50.0 +1.4
baz=82,SNR=17
MAW Mawson 82.26 199 P P 10 05 49.7 +1.2
comp=Z,9.1nm,0.7s,baz=130,slow=6.0,SNR=50
comp=Z,9.1nm,0.7s
L14K Kuka Creek 82.27 6 IAmb IAmb 10 05 51.0
comp=Z,60nm,0.9s
L14K Kuka Creek 82.27 6 P P 10 05 49.5 +1.0
baz=192,SNR=15
HOM Homer 82.30 12 P P 10 05 50.0 +1.3
baz=202
O19K Port Alsworth 82.31 11 P P 10 05 48.8 +0.2
baz=200,SNR=17
G06A Carlson Farm, 82.35 36 IAmb IAmb 10 05 52.3
comp=Z,18nm,1.0s
M16K Timber Creek 82.39 8 P P 10 05 50.5 +1.4
baz=196
J08A Circle Bar Ran 82.40 38 IAmb IAmb 10 05 52.9
comp=Z,20nm,1.0s
WUAZ Wupatki 82.50 48 P P 10 05 53.0 +2.5
baz=238,SNR=21
O20K Slope Mountain 82.50 11 P P 10 05 51.2 +1.4
baz=202
N18K Kilae Creek 82.51 10 P P 10 05 49.9 +0.1
N18K Kilae Creek 82.51 10 P P 10 05 50.5 +0.7
baz=198
BRLK Bradley Lake 82.54 12 IAmb IAmb 10 05 51.8
comp=Z,73nm,1.1s
BRSE Bradley Lake S 82.55 12 P P 10 05 50.6 +0.6
baz=203,SNR=11
GRNR Gornyy 82.61 332⇓*i*P P 10 05 51.3 +0.8
GRNR pmax pmax
comp=E,10.0nm,0.9s
GRNR pmax pmax
comp=Z,40nm,1.0s
GNW Green Mountain 82.70 33 IAmb IAmb 10 05 54.0
comp=Z,28nm,1.2s
ELK Elko 82.81 42 P P 10 05 53.7 +1.6
ELK Elko 82.81 42 P P 10 05 53.7 +1.6
ELK pmax pmax
comp=Z,9.0nm,1.0s
N19K Bonanza Creek 82.86 10 P P 10 05 51.8 +0.1
N19K IAmb IAmb 10 05 52.9
comp=Z,30nm,0.9s
N19K Bonanza Creek 82.86 10 P P 10 05 51.5 -0.3
baz=200,SNR=12
D05A Enumclaw 82.88 34 IAmb IAmb 10 05 55.5
comp=Z,66nm,1.3s
SVW2 Sparrevohn 82.95 10 P P 10 05 52.2 +0.1
M17K Holitna River 82.97 9 P P 10 05 53.7 +1.6
baz=197,SNR=15
L16K Owhat River 82.99 8 P P 10 05 53.3 +1.1
baz=195,SNR=32
SDSI Sungai Dareh 83.09 272 P P 10 05 51.3 -2.6
comp=Z,13nm,0.8s,comp=Z,3μm
SEW Seward 83.15 13 P P 10 05 53.3 +0.3
baz=204,SNR=6.1
F07A Phinny Hill Vi 83.15 36 IAmb IAmb 10 05 56.4
comp=Z,19nm,0.8s
M18K Stony River 83.29 9 P P 10 05 54.1 +0.3
baz=198,SNR=10
G08A Pilot Rock 83.31 36 IAmb IAmb 10 05 57.5
comp=Z,31nm,0.9s
K15K Wolf Creek Mou 83.32 7 P P 10 05 55.6 +1.7
baz=193,SNR=63
O22K Cooper Landing 83.44 13 P P 10 05 54.2 -0.3
baz=204
W18A Petrified Fore 83.44 49 P P 10 05 56.0 +0.6
baz=239
P23K Montague Islan 83.49 14 P P 10 05 54.3 -0.5
baz=206
L17K Donlin 83.55 8 P P 10 05 56.2 +1.1
baz=196,SNR=27
121A Cookes Peak, D 83.56 52 P P 10 05 57.5 +1.5
baz=241
121A Cookes Peak, D 83.56 52 P P 10 05 59.5 +3.4
baz=241
J14K Nanvaranak Lak 83.57 6 P P 10 05 55.4 +0.3
baz=191,SNR=8.6
E07A Sunnyside 83.61 35 IAmb IAmb 10 05 58.9
comp=Z,37nm,0.8s
LTY Liberty 83.61 34 IAmb IAmb 10 05 58.4
comp=Z,18nm,0.9s
N20K Mount Spurr 83.62 11 P P 10 05 55.5 0.0
baz=202,SNR=9.9
SPCR Spurr Chakacha 83.62 11 P P 10 05 55.8 +0.2
baz=202,SNR=8.2
HAWA Hanford 83.67 35 IAmb IAmb 10 05 59.2
comp=Z,26nm,0.9s
SNY Shenyang 83.71 319 ⇑P P 10 05 56.8 +0.4
SNY S **SKSac 10 16 06.1 +2.1**
SNY pmax pmax
comp=Z,25nm,0.7s
CN2 Changchun 83.73 321 P P 10 05 56.8 +0.4
CN2 pmax pmax
comp=Z,50nm,0.7s
KLR Kul'dur 83.74 328*d i*P P 10 05 56.2 -0.1
KLR pmax pmax
comp=Z,38nm,1.7s
KLR Kul'dur 83.74 328 LR LR 10 37 43.5
comp=Z,74nm,20.8s,baz=179,slow=32
BNX BinXian 83.78 324 ⇓P P 10 05 56.6 0.0
BNX pmax pmax
comp=Z,39nm,0.8s
BNX pmax pmax
comp=Z,250nm,3.5s
L18K Granite Mounta 83.86 9 P P 10 05 57.5 +0.9
baz=198,SNR=25
M19K Big River Lodg 83.91 10 IAmb IAmb 10 05 59.4
comp=Z,15nm,0.7s
M19K Big River Lodg 83.91 10 P P 10 05 57.6 +0.6
baz=200
MFID Camas Ranch 83.99 39 IAmb IAmb 10 06 00.8
comp=Z,15nm,0.9s
RC01 Rabbit Creek A 83.99 12 IAmb IAmb 10 05 59.6
comp=Z,41nm,0.9s
RC01 Rabbit Creek A 83.99 12 P P 10 05 58.3 +1.0
baz=204,SNR=8.1
E08A Dider Farm, El 83.99 35 IAmb IAmb 10 06 00.6
comp=Z,19nm,0.8s
PDSI Padang 84.01 271 P P 10 05 56.2 -2.4
comp=Z,24nm,0.9s
DUG Dugway, Tooele 84.04 43 P P 10 06 00.6 +2.3
baz=237,SNR=7.8
PWL Port Wells 84.07 13 P P 10 05 57.5 -0.3
PWL Port Wells 84.07 13 P P 10 05 58.0 +0.2
baz=206,SNR=9.8
L19K White Mountain 84.10 10 IAmb IAmb 10 06 01.0
comp=Z,13nm,0.8s
L19K White Mountain 84.10 10 P P 10 05 57.8 0.0
baz=199,SNR=9.2
M20K Styx River 84.10 10 P P 10 05 57.5 -0.4
baz=201
GAMB Gambell 84.11 2 P P 10 05 59.0 +1.2
baz=184
K17K Iditarod 84.11 8 IAmb IAmb 10 06 00.6
comp=Z,59nm,1.2s
K17K Iditarod 84.11 8 P P 10 05 58.7 +0.8
baz=196
KAIM Kayak Island 84.13 15 P P 10 05 58.9 +0.8
baz=209
SUA Susitna One 84.14 12 IAmb IAmb 10 06 00.5
comp=Z,48nm,0.8s
SUA Susitna One 84.14 12 P P 10 05 58.2 0.0
baz=203,SNR=17
WHN Wuhan 84.30 305 P P 10 05 59.8 +0.2
WHN sP sP 10 07 01.8 +6.4
WHN pmax pmax
comp=Z,78nm,1.1s
V35K Ketchikan 84.32 24 P P 10 06 00.0 +0.9
baz=221
GLI Glacier Island 84.35 14 P P 10 05 59.1 -0.1
baz=207,SNR=6.9
EYAK Cordova Ski Ar 84.36 14 P P 10 06 00.0 +0.8
EYAK Cordova Ski Ar 84.36 14 P P 10 05 59.6 +0.4
baz=208,SNR=6.5
U33K Whale Pass 84.38 22 P P 10 06 00.3 +0.9
baz=219
J16K Anvik River 84.39 7 P P 10 05 59.6 +0.3
baz=194,SNR=21
D08A Wollman Farm, 84.42 35 IAmb IAmb 10 06 02.9
comp=Z,29nm,0.8s
Q16A Castle Valley 84.42 45 IAmb IAmb 10 06 14.1
comp=Z,12nm,0.8s
MA2 Magadan 84.46 344 P P 10 05 59.0 -0.7
MA2 IAmb IAmb 10 06 00.5
comp=Z,42nm,1.0s
MA2 Magadan 84.46 344*de*P P 10 05 59.2 -0.5
MA2 pmax pmax
comp=Z,19nm,0.7s
MA2 Magadan 84.46 344 LR LR 10 38 00.7
comp=Z,21nm,21.0s,baz=129,slow=32
SKT Skwentna 84.47 11 P P 10 05 59.5 -0.3
SKT IAmb IAmb 10 06 00.3
comp=Z,17nm,0.9s
SKT Skwentna 84.47 11 P P 10 05 58.7 -1.1
baz=202,SNR=6.9
RAGM Ragged Mountai 84.47 15 P P 10 05 59.8 -0.1
RAGM IAmb IAmb 10 06 02.0
comp=Z,35nm,1.0s
E09A Wood Farm, Sta 84.51 36 IAmb IAmb 10 06 03.0
comp=Z,15nm,1.0s
M22K Willow 84.52 12 P P 10 05 59.7 -0.3
baz=204,SNR=17
L20K Farewell, AK 84.53 10 P P 10 06 00.1 +0.1
baz=200
KNK Knik Glacier 84.54 13 IAmb IAmb 10 06 02.4
comp=Z,40nm,0.8s
KNK Knik Glacier 84.54 13 P P 10 06 00.5 +0.3
baz=205,SNR=11
PMR Palmer 84.57 12 IAmb IAmb 10 06 01.9
comp=Z,35nm,0.9s
PMR Palmer 84.57 12 P P 10 06 00.4 +0.2
PMR Palmer 84.57 12 P P 10 06 00.3 +0.2
baz=205,SNR=15
TMUT Trail Mountain 84.60 45 IAmb IAmb 10 06 07.5
comp=Z,26nm,0.9s
TTA Tatalina 84.63 9 IAmb IAmb 10 06 03.5
comp=Z,60nm,1.1s
TTA Tatalina 84.63 9 P P 10 06 01.7 +1.1
TTA Tatalina 84.63 9 P P 10 06 01.4 +0.8
baz=198,SNR=37
J17K VABM Dome 84.67 7 IAmb IAmb 10 06 03.3
comp=Z,46nm,0.9s
J17K VABM Dome 84.67 7 P P 10 06 02.1 +1.4
baz=196
F10A Beach Ranch, E 84.69 37 P P 10 06 02.8 +1.5
F10A IAmb IAmb 10 06 03.8
comp=Z,28nm,0.9s
BERG Berg Lake 84.72 15 IAmb IAmb 10 06 04.0
comp=Z,68nm,1.3s
425A Indio Mountain 84.84 55 IAmb IAmb 10 06 08.1
comp=Z,14nm,0.9s
Y22A Socorro 84.84 51 P P 10 06 05.4 +2.9
baz=241
HLID Hailey 84.91 40 IAmb IAmb 10 06 06.5
comp=Z,14nm,0.9s
HLID Hailey 84.91 40 P P 10 06 03.5 +0.9
baz=235,SNR=39
SML Sawmill 84.93 13 P P 10 06 02.1 0.0
SML IAmb IAmb 10 06 16.1
comp=Z,34nm,1.2s
SML Sawmill 84.93 13 P P 10 06 02.9 +0.8
baz=205,SNR=8.0
S32K Killisnoo 84.93 21 P P 10 06 02.6 +0.5
baz=218
MNTX Cornudas Mount 84.96 54 IAmb IAmb 10 06 09.1
comp=Z,24nm,1.2s
MNTX Cornudas Mount 84.96 54 P P 10 06 04.2 +1.3
baz=242,SNR=26
MNTX Cornudas Mount 84.96 54 P P 10 06 05.7 +2.8
baz=242
I17K Unalakleet 84.97 7 P P 10 06 03.2 +1.1
baz=194
MESA MESA 84.97 16 P P 10 06 03.0 +0.5
baz=211
TIA Tai'an 84.98 312 P P 10 06 03.0 +0.1
TIA pmax pmax
comp=Z,21nm,0.9s
BMRM Bremner River 85.00 15 P P 10 06 02.9 +0.4
baz=209,SNR=14
M23K Glacier View 85.04 13 P P 10 06 04.1 +1.5
baz=206,SNR=6.3
J18K Innoko River 85.04 8 P P 10 06 03.2 +0.6
baz=198
CUT Chulitna 85.09 12 P P 10 06 02.8 0.0
baz=204,SNR=9.5
SCM Sheep Creek Mo 85.16 13 P P 10 06 03.7 +0.4
baz=206,SNR=17
KLU Klutina 85.16 14 IAmb IAmb 10 06 05.2
comp=Z,21nm,0.8s
KLU Klutina 85.16 14 P P 10 06 03.5 +0.2
baz=208,SNR=6.8
LLLB Lilloolet 85.16 31 IAmb IAmb 10 06 06.1
comp=Z,14nm,0.9s
CRQE Cirque 85.18 15 P P 10 06 03.9 +0.4
baz=210,SNR=8.8
TX31 Lajitas Ar. Si 85.20 56 IAmb IAmb 10 06 10.6
comp=Z,36nm,1.1s
TX31 Lajitas Ar. Si 85.20 56 P P 10 06 06.9 +2.6
baz=243
TXAR Lajitas Array 85.20 56 P P 10 06 06.8 +2.5
comp=Z,8.0nm,0.9s,baz=214,slow=7.5,SNR=58
comp=Z,8.0nm,0.9s
PPLA Purkeypile 85.20 11 P P 10 06 02.6 -1.0
baz=202
C09A Chrisman Ranch 85.22 35 IAmb IAmb 10 06 06.5
comp=Z,13nm,0.8s
PNL Peninsula 85.24 18 P P 10 06 04.9 +1.3
PNL Peninsula 85.24 18 P P 10 06 04.3 +0.7
baz=214
ISLE Juniper Island 85.24 16 IAmb IAmb 10 06 05.9
comp=Z,76nm,1.3s
TGL Tana Glacier 85.25 15 IAmb IAmb 10 06 06.0
comp=Z,58nm,1.2s
K20K Telida 85.33 10 IAmb IAmb 10 06 05.9
comp=Z,62nm,1.1s
K20K Telida 85.33 10 P P 10 06 04.4 +0.4
baz=200,SNR=23
MVCO Mesa Verde 85.36 48 P P 10 06 04.1 -1.0
baz=240
PINM Pinnacle 85.36 17 P P 10 06 04.8 +0.5
baz=213
TCUT Toone Canyon 85.43 43 IAmb IAmb 10 06 10.9
comp=Z,29nm,1.3s
GRNC Granite Creek 85.50 16 IAmb IAmb 10 06 07.4
comp=Z,74nm,1.4s
VRDI Verde Repeater 85.50 15 IAmb IAmb 10 06 07.7
comp=Z,32nm,0.8s
H16K Elim 85.55 6 P P 10 06 05.5 +0.5
baz=192,SNR=15
N25K Chitina, Valde 85.56 14 P P 10 06 06.5 +1.2
baz=209,SNR=24
R32K Eaglecrest 85.59 20 P P 10 06 06.8 +1.5
baz=218
GLB Gilahina Butte 85.60 15 IAmb IAmb 10 06 08.0

	comp=Z,33nm,0.7s						
M24K	**Tolsona, Glenn**	85.65	13	P	P	10 06 06.7	+1.0
	baz=207,SNR=7.0						
P29M	**Windy Craggy**	85.68	18	IAmb	IAmb	10 06 08.1	
	comp=Z,21nm,1.1s						
P29M	**Windy Craggy**	85.68	18	P	P	10 06 06.5	+0.6
	baz=215						
ALPN	**Alpine**	85.69	55	IAmb	IAmb	10 06 10.0	
	comp=Z,8.3nm,0.7s						
LL02	**Futaleuf**	85.69	135	IAmb	IAmb	10 06 10.2	
	comp=Z,45nm,0.8s						
ANMO	**Albuquerque**	85.69	50	P	P	10 06 08.6	+1.9
ANMO	**Albuquerque**	85.69	50⇑	*e*P	P	10 06 04.3	-2.4
ANMO				pmax	pmax		
	comp=Z,18nm,3.3s						
ANMO	**Albuquerque**	85.69	50	P	P	10 06 08.1	+1.3
	baz=241						
ANMO	**Albuquerque**	85.69	50	P	P	10 06 09.4	+2.7
	baz=241						
J19K	**Poorman**	85.70	9	P	P	10 06 06.4	+0.6
	baz=199,SNR=15						
CAST	**Castle Rocks**	85.71	10	IAmb	IAmb	10 06 06.3	
	comp=Z,52nm,1.1s						
CAST	**Castle Rocks**	85.71	10	P	P	10 06 04.5	-1.4
	baz=202,SNR=30						
G15K	**Niukluk**	85.74	5	P	P	10 06 06.5	+0.5
	baz=191,SNR=10						
MCARA	**McCarthy VSAT**	85.74	15	P	P	10 06 06.0	0.0
MCARA				IAmb	IAmb	10 06 08.9	
	comp=Z,41nm,1.0s						
MCARA	**McCarthy VSAT**	85.74	15	P	P	10 06 07.3	+1.2
	baz=210,SNR=5.7						
WAT6	**Susitna Watana**	85.75	13	P	P	10 06 06.3	0.0
	baz=206,SNR=29						
LOGN	**Logan Glacier**	85.77	16	IAmb	IAmb	10 06 09.2	
	comp=Z,33nm,0.7s						
BARN	**Barnard Glacie**	85.80	16	IAmb	IAmb	10 06 09.5	
	comp=Z,48nm,0.8s						
CTG	**Chitna Glacier**	85.81	16	P	P	10 06 07.2	+0.6
	baz=212						
WAT1	**Susitna Watana**	85.81	12	P	P	10 06 06.7	+0.3
	baz=205						
O28M	**Mount Upton**	85.94	17	P	P	10 06 08.1	+0.6
	baz=213,SNR=8.5						
PLBC	**Pleasant Camp**	85.95	19	P	P	10 06 07.8	+0.7
	baz=216,SNR=5.5						
O29M	**Mount Kennedy**	86.00	17	IAmb	IAmb	10 06 10.3	
	comp=Z,50nm,1.4s						
O29M	**Mount Kennedy**	86.00	17	P	P	10 06 08.2	+0.7
	baz=214,SNR=5.8						
KULM	**Kulim**	86.01	277	IAmb	IAmb	10 06 09.5	
	comp=Z,27nm,0.7s						
KTH	**Kantishna Hill**	86.03	11	IAmb	IAmb	10 06 10.1	
	comp=Z,44nm,0.9s						
TNA	**Tin City**	86.05	3	P	P	10 06 07.9	+0.5
	baz=187						
TRF	**Thorofare Moun**	86.05	11	P	P	10 06 07.3	-0.4
	baz=204,SNR=44						
F14K	**Arctic Creek**	86.05	4	P	P	10 06 08.4	+0.9
	baz=189,SNR=5.2						
H17K	**Granite Mounta**	86.07	7	P	P	10 06 08.3	+0.6
	baz=195						
J20K	**Nowinta River**	86.09	9	P	P	10 06 08.0	+0.3
	baz=200,SNR=24						
CHUM	**Lake Minchumin**	86.10	10	P	P	10 06 07.4	-0.3
	baz=202,SNR=25						
ID08	**Devils Gate**	86.11	41	IAmb	IAmb	10 06 16.1	
	comp=Z,12nm,0.4s						
NEW	**Newport**	86.12	35	P	P	10 06 09.0	+0.7
	baz=233,SNR=5.1						
HARP	**HAARP**	86.13	14	P	P	10 06 08.7	+0.7
	baz=208,SNR=10.0						
GCSA	**Galena City Sc**	86.25	8	P	P	10 06 09.4	+0.9
	baz=198,SNR=15						
DHY	**Denali Highway**	86.27	12	IAmb	IAmb	10 06 10.5	
	comp=Z,29nm,1.0s						
DHY	**Denali Highway**	86.27	12	P	P	10 06 08.8	0.0
	baz=206,SNR=10						
SKAG	**Skagway**	86.27	19	P	P	10 06 10.4	+1.7
	baz=217						
G16K	**Koyuk River**	86.28	6	P	P	10 06 09.1	+0.5
	baz=192						
P30M	**Million Dollar**	86.31	18	P	P	10 06 09.6	+0.6
	baz=216						
F15K	**North Star Dit**	86.40	5	IAmb	IAmb	10 06 11.0	
	comp=Z,41nm,1.5s						
F15K	**North Star Dit**	86.40	5	P	P	10 06 09.8	+0.6
	baz=190						
H18K	**Honhosa River**	86.46	7	IAmb	IAmb	10 06 11.2	
	comp=Z,30nm,1.1s						
H18K	**Honhosa River**	86.46	7	P	P	10 06 09.3	-0.2
	baz=196						
S34M	**Telegraph Cree**	86.46	22	IAmb	IAmb	10 06 12.2	
	comp=Z,13nm,0.8s						
S34M	**Telegraph Cree**	86.46	22	P	P	10 06 09.6	0.0
	baz=221,SNR=7.5						
BPAW	**Bear Paw Mtn.**	86.53	11	P	P	10 06 07.8	-2.1
BPAW				IAmb	IAmb	10 06 10.5	
	comp=Z,27nm,1.2s						
BPAW	**Bear Paw Mtn.**	86.53	11	P	P	10 06 08.2	-1.7
	baz=203,SNR=12						
G17K	**Kiwalik Mounta**	86.54	6	P	P	10 06 09.8	-0.2
	baz=194,SNR=11						
HEH	**HeiHe**	86.56	327	*e*P	P	10 06 10.3	0.0
HEH				pmax	pmax		
	comp=Z,50nm,1.4s						
MCK	**McKinley**	86.56	12	P	P	10 06 09.9	-0.1
	baz=205,SNR=43						
PAX	**Paxson**	86.57	13	P	P	10 06 09.7	-0.5
	baz=208,SNR=10						
YUK6	**Outpost Mounta**	86.58	17	P	P	10 06 10.9	+0.4
	baz=214						
I20K	**Naaghedeneel**	86.62	9	P	P	10 06 11.6	+1.3
	baz=200,SNR=12						
M26K	**Nabesna, AK**	86.63	15	IAmb	IAmb	10 06 13.4	
	comp=Z,54nm,1.1s						
M26K	**Nabesna, AK**	86.63	15	P	P	10 06 10.5	+0.1
	baz=210,SNR=24						
SAND	**Sanderson**	86.68	56	IAmb	IAmb	10 06 30.8	
	comp=Z,6.5nm,1.0s						
RPSI	**Rantau Prapat**	86.70	274	IAmb	IAmb	10 06 15.0	
	comp=Z,17nm,0.9s						
YUK3	**Moose Creek**	86.72	16	P	P	10 06 11.8	+0.7
	baz=213,SNR=28						
HYT	**Haines Junctio**	86.73	18	IAmb	IAmb	10 06 13.7	
	comp=Z,36nm,1.5s						
HYT	**Haines Junctio**	86.73	18	P	P	10 06 12.1	+1.1
	baz=215						
S22A	**4UR Ranch, Cre**	86.78	48	P	P	10 06 12.5	+0.4
	baz=241,SNR=11						
ELIB	**Princess Elisa**	86.83	186	*d*P	P	10 06 10.5	-1.2
	comp=Z,26nm,0.8s						
ELIB				*d*SKS	SKSac	10 16 24.0	+0.8
ELIB				*d*SKKSac	SKKSac	10 16 34.5	+2.2
YUK4	**Talbot Arm**	86.84	17	P	P	10 06 13.2	+1.5
	baz=214						
M27K	**Edge Creek, AK**	86.86	15	P	P	10 06 12.7	+1.0
	baz=211,SNR=28						
Q32M	**Nakina River**	86.86	21	IAmb	IAmb	10 06 15.4	
	comp=Z,11nm,0.7s						
Q32M	**Nakina River**	86.86	21	P	P	10 06 13.2	+1.4
	baz=220,SNR=5.1						
MENT	**Mentasta**	86.93	14	IAmb	IAmb	10 06 14.7	
	comp=Z,26nm,0.7s						
SEY	**Seymchan**	86.96	346	*de*P	P	10 06 12.1	+0.2
SEY				pmax	pmax		
	comp=Z,92nm,1.3s						
SEY	**Seymchan**	86.96	346	LR	LR	10 42 56.0	
	comp=Z,24nm,19.2s,baz=27,slow=34						
O20A	**White River Ci**	86.99	45	P	P	10 06 13.4	+0.5
	baz=240,SNR=8.0						
MSO	**Missoula**	87.04	37	P	P	10 06 13.9	+1.0
	baz=236						
H19K	**Roundabout Mou**	87.05	8	P	P	10 06 12.9	+0.6
	baz=198,SNR=19						
L26K	**Log Cabin Wild**	87.09	14	IAmb	IAmb	10 06 15.5	
	comp=Z,23nm,0.7s						
L26K	**Log Cabin Wild**	87.09	14	P	P	10 06 13.7	+1.1
	baz=210,SNR=18						
O30N	**Mendenhall**	87.09	18	IAmb	IAmb	10 06 16.1	
	comp=Z,12nm,0.7s						
O30N	**Mendenhall**	87.09	18	P	P	10 06 13.6	+0.9
	baz=217,SNR=7.9						
G18K	**Tagagawik**	87.14	7	P	P	10 06 13.0	+0.2
	baz=196						
BVCY	**Beaver Creek**	87.16	15	P	P	10 06 13.9	+0.9
	baz=212						
H20K	**Anotleneega Mo**	87.23	8	P	P	10 06 14.0	+0.8
	baz=199,SNR=23						
DLBC	**Dease Lake**	87.24	22	P	P	10 06 14.2	+0.7
	baz=222						
K24K	**Donnelly Dome**	87.25	13	P	P	10 06 13.6	+0.2
	baz=208,SNR=18						
HNS	**HongShan**	87.26	312	⇓P	P	10 06 14.3	+0.3
HNS				pmax	pmax		
	comp=Z,40nm,0.8s						
NEA2	**Nenana**	87.32	11	IAmb	IAmb	10 06 15.4	
	comp=Z,12nm,0.9s						
NEA2	**Nenana**	87.32	11	P	P	10 06 13.9	+0.2
	baz=205,SNR=8.7						
WHY	**Whitehorse**	87.36	19	IAmb	IAmb	10 06 17.0	
	comp=Z,8.0nm,0.7s						
WHY	**Whitehorse**	87.36	19	P	P	10 06 16.0	+1.9
	baz=218,SNR=5.6						
N30M	**Aishikik Lake**	87.36	17	P	P	10 06 15.4	+1.4
	baz=216						
RIDG	**Independent Ri**	87.38	13	P	P	10 06 14.3	+0.2
	baz=209,SNR=10						
F17K	**Baldwin Pennin**	87.40	6	P	P	10 06 14.4	+0.5
	baz=193,SNR=5.5						
GO06	**Curarrehue**	87.43	131	P	P	10 06 17.0	+1.8
GO06				IAmb	IAmb	10 06 18.7	
	comp=Z,28nm,1.1s						
FLWY	**Flagg Ranch**	87.45	41	IAmb	IAmb	10 06 35.7	
	comp=Z,11nm,1.0s						
BW06	**Border Array**	87.47	42	P	P	10 06 15.5	+0.2
	baz=239						
PDAR	**Pinedale Array**	87.47	42	P	P	10 06 14.9	-0.3
PDAR	**Pinedale Array**	87.47	42	P	P	10 06 16.7	+1.5
	comp=Z,2.0nm,0.8s,baz=218,slow=3.4,SNR=18						
PDAR				PKKPbc	PKKPbc	10 24 04.7	-0.8
	comp=Z,0.3nm,0.6s,baz=116,slow=3.4,SNR=3.5						
	comp=Z,2.0nm,0.8s						
L27K	**Beaver Creek,**	87.47	15	IAmb	IAmb	10 06 16.9	
	comp=Z,32nm,1.4s						
L27K	**Beaver Creek,**	87.47	15	P	P	10 06 15.0	+0.5
	baz=211,SNR=13						
GSI	**Gunungsitoli**	87.48	272	P	P	10 06 16.4	+0.7
GSI	**Gunungsitoli**	87.48	272	P	P	10 06 16.3	+0.6
	comp=Z,71nm,0.9s						
BJT	**Baijiatuau**	87.52	314	IAmb	IAmb	10 06 17.0	
	comp=Z,18nm,1.0s						
BJI	**Beijing**	87.53	314	P	P	10 06 15.3	+0.1
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,88nm,3.6s						
LYN	**LuoYang**	87.55	308	⇓P	P	10 06 16.3	+0.8
LYN				pmax	pmax		
	comp=Z,140nm,0.8s						
LYN				pmax	pmax		
	comp=Z,220nm,3.7s						
HDA	**Harding Lake**	87.55	12	IAmb	IAmb	10 06 17.5	
	comp=Z,25nm,0.9s						
HDA	**Harding Lake**	87.55	12	P	P	10 06 14.6	-0.1
	baz=207,SNR=24						
CMIG	**Matias Romero**	87.55	71	LR	LR	10 41 53.9	
	comp=Z,42nm,18.7s,baz=210,slow=33						
G19K	**Purcell Mounta**	87.56	7	P	P	10 06 15.7	+0.9
	baz=197,SNR=19						
PLCA	**Paso Flores**	87.59	133	P	P	10 06 17.8	+1.9
PLCA				IAmb	IAmb	10 06 19.5	
	comp=Z,50nm,1.4s						
PLCA	**Paso Flores**	87.59	133	P	P	10 06 17.8	+1.9
PLCA				pmax	pmax		
	comp=Z,50nm,1.4s						
PLCA	**Paso Flores**	87.59	133	P	P	10 06 17.9	+2.1
	comp=Z,14nm,1.1s,baz=246,slow=5.0,SNR=11						
PLCA				LR	LR	10 37 18.7	
	comp=Z,83nm,21.4s,baz=238,slow=30						
	comp=Z,14nm,1.1s						
CCB	**Clear Creek Bu**	87.60	12	P	P	10 06 15.1	+0.1
R33M	**Jennings River**	87.63	21	P	P	10 06 17.2	+1.7
	baz=221						
DRIO	**Del Rio**	87.63	57	IAmb	IAmb	10 06 21.6	
	comp=Z,14nm,1.1s						
P33M	**Teslin, Yukon**	87.65	20	P	P	10 06 16.7	+1.3
	baz=220						
TROLL	**Troll, Antarti**	87.67	179	⇑P	P	10 06 16.2	+0.6
	comp=Z,200nm,0.6s						
TROLL				⇑pP	pP	10 06 59.0	+3.3
	comp=Z,204nm,0.7s						
H21K	**Melozitna Rive**	87.68	9	IAmb	IAmb	10 06 18.4	
	comp=Z,58nm,1.4s						
H21K	**Melozitna Rive**	87.68	9	P	P	10 06 16.4	+1.0
	baz=201,SNR=22						
H17A	**Grant Village**	87.69	41	P	P	10 06 17.6	+1.3
	baz=238						
BOZ	**Bozeman (W)**	87.70	39	P	P	10 06 17.9	+1.8
	baz=237,SNR=6.2						
SDCO	**Great Sand Dun**	87.70	48	P	P	10 06 18.2	+1.6
SDCO	**Great Sand Dun**	87.70	48	P	P	10 06 16.9	+0.4
	baz=242						
SDCO	**Great Sand Dun**	87.70	48	P	P	10 06 19.0	+2.5
	baz=242						
OVMT	**Ovando**	87.70	37	P	P	10 06 15.6	-0.5
N31M	**Braeburn, Yuko**	87.76	18	IAmb	IAmb	10 06 19.2	
	comp=Z,14nm,1.0s						
N31M	**Braeburn, Yuko**	87.76	18	P	P	10 06 17.0	+1.2
	baz=217						
I23K	**Minto, Yukon-K**	87.77	11	IAmb	IAmb	10 06 17.1	
	comp=Z,40nm,1.4s						
I23K	**Minto, Yukon-K**	87.77	11	P	P	10 06 15.1	-0.7
	baz=204,SNR=12						
SCRK	**Sand Creek**	87.78	13	IAmb	IAmb	10 06 18.2	
	comp=Z,34nm,1.3s						
SCRK	**Sand Creek**	87.78	13	P	P	10 06 16.6	+0.5
	baz=209,SNR=14						
COLA	**College**	87.80	11	P	P	10 06 16.0	+0.1
COLA	**College**	87.80	11	P	P	10 06 16.3	+0.4
COLA	**College**	87.80	11	*d*P	P	10 06 16.1	+0.2
COLA				pmax	pmax		
	comp=Z,12nm,0.9s						
COLA	**College**	87.80	11	P	P	10 06 16.1	+0.2
	baz=206						
M29M	**Somme Creek**	87.80	16	P	P	10 06 17.4	+1.2
M29M				IAmb	IAmb	10 06 18.7	
	comp=Z,56nm,1.5s						
M29M	**Somme Creek**	87.80	16	P	P	10 06 16.6	+0.5
	baz=214,SNR=12						
MDM	**Murphy Dome**	87.80	11	P	P	10 06 16.1	+0.1
SNAA	**Sanae**	87.88	178	P	P	10 06 16.8	+0.2
SNAA	**Sanae**	87.88	178	*ce*P	P	10 06 16.8	+0.2
SNAA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SNAA	**Sanae**	87.88	178	⇑P	P	10 06 17.0	+0.5
	comp=Z,83nm,0.7s						
SNAA				⇑pP	pwP	10 07 00.6	+1.9
	comp=Z,117nm,1.0s						
SNAA	**Sanae**	87.88	178	P	P	10 06 17.0	+0.5
	comp=Z,3.7nm,0.8s,baz=181,slow=4.4,SNR=17						
SNAA				LR	LR	10 40 37.6	
	comp=Z,48nm,22.0s,baz=199,slow=32						
	comp=Z,3.7nm,0.8s						
ILAR	**Eielson Array**	87.89	12	P	P	10 06 16.5	+0.1
	comp=Z,8.6nm,0.6s,baz=213,slow=5.7,SNR=91						
	comp=Z,8.6nm,0.6s						
VNA3	**Neumayer Olymp**	87.92	175	⇑P	P	10 06 17.3	+0.6
	comp=Z,11nm,0.8s						
VNA3				⇑pP	pwP	10 07 01.0	+2.2
	comp=Z,6.3nm,0.7s						
MSTX	**Muleshoe**	87.95	53	IAmb	IAmb	10 06 39.7	
	comp=Z,13nm,0.7s						
MSTX	**Muleshoe**	87.95	53	P	P	10 06 17.4	-0.2
	baz=244						
MSTX	**Muleshoe**	87.95	53	P	P	10 06 19.9	+2.4
	baz=244						
E17K	**Hotham Inlet**	87.98	5	P	P	10 06 17.0	+0.3
	baz=193,SNR=11						
J25K	**Salcha River,**	88.05	13	P	P	10 06 17.9	+0.7
J25K				IAmb	IAmb	10 06 19.1	
	comp=Z,20nm,0.9s						
J25K	**Salcha River,**	88.05	13	P	P	10 06 17.1	-0.1
	baz=208,SNR=15						
POKR	**Poker Plat Res**	88.09	12	P	P	10 06 17.6	+0.2
POKR				IAmb	IAmb	10 06 18.8	
	comp=Z,19nm,0.7s						
POKR	**Poker Plat Res**	88.09	12	P	P	10 06 17.4	+0.1
	baz=206,SNR=15						
H22K	**Ishtalitna Cre**	88.12	10	P	P	10 06 17.8	+0.3
	baz=203,SNR=28						
F19K	**Shaleruckik Mo**	88.14	7	P	P	10 06 17.6	+0.1
	baz=197,SNR=17						
K27K	**Chicken**	88.25	14	IAmb	IAmb	10 06 20.9	
	comp=Z,42nm,1.2s						
K27K	**Chicken**	88.25	14	P	P	10 06 19.2	+1.1
	baz=211						
J26L	**Joseph Creek**	88.33	13	P	P	10 06 19.6	+1.0
	baz=210,SNR=45						
M30M	**Minto, Yukon**	88.35	17	IAmb	IAmb	10 06 21.7	
	comp=Z,30nm,1.4s						
M30M	**Minto, Yukon**	88.35	17	P	P	10 06 19.1	+0.4
	baz=216,SNR=9.5						
H23K	**Yukon River**	88.36	10	IAmb	IAmb	10 06 19.8	
	comp=Z,13nm,1.4s						
H23K	**Yukon River**	88.36	10	P	P	10 06 18.6	0.0
	baz=204						
G21K	**Allakaket**	88.39	9	P	P	10 06 19.2	+0.5
	baz=201						
VNA2	**Neumayer--Watz**	88.39	176	⇑P	P	10 06 19.8	+0.9
	comp=Z,10nm,0.6s,baz=182,slow=3.0						
VNA2				⇑pP	pwP	10 07 03.3	+2.2
	comp=Z,9.4nm,0.7s,baz=180,slow=3.0						
E18K	**Tukpahlearik C**	88.42	6	P	P	10 06 19.1	+0.2
	baz=194,SNR=13						
L29M	**L29M**	88.43	16	P	P	10 06 19.8	+0.7
	baz=215,SNR=24						
D17K	**Noatak River**	88.48	5	P	P	10 06 19.3	+0.3
	baz=192						
POST	**Post**	88.50	54	IAmb	IAmb	10 06 24.4	
	comp=Z,14nm,0.8s						
Q24A	**Divide**	88.52	47	P	P	10 06 20.0	-0.4
	baz=242						
ISCO	**Idaho Springs**	88.59	46	P	P	10 06 20.8	+0.1
	baz=242						
F20K	**Avaraart Lake**	88.59	8	P	P	10 06 19.9	+0.2
	baz=198,SNR=18						
VNA1	**Neumayer--Stat**	88.61	176	⇑P	P	10 06 20.8	+0.9
	comp=Z,28nm,0.9s						
VNA1				⇑pP	pwP	10 07 04.3	+2.3
	comp=Z,16nm,0.9s						
GYA	**Guiyang**	88.64	299	⇑P	P	10 06 21.3	+0.3
GYA				pmax	pmax		
	comp=Z,17nm,0.7s						
H24K	**Noodor Dome**	88.66	11	P	P	10 06 20.0	-0.1
	baz=206						
M31M	**Drury Creek, Y**	88.73	18	P	P	10 06 21.0	+0.6
	baz=218						
NVL	**N'lazarevskaya**	88.78	182	*e*P	P	10 06 22.3	+1.6
NVL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ZEA	**Zeya**	88.79	330	*e*P	P	10 06 21.5	+0.7
ZEA				pmax	pmax		
	comp=N,20nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.3s						
E19K	**Redstone River**	88.81	7	P	P	10 06 20.8	+0.2
	baz=197						
PRP	**Porcupine Dome**	88.82	12	IAmb	IAmb	10 06 23.2	
	comp=Z,56nm,1.5s						
PRP	**Porcupine Dome**	88.82	12	P	P	10 06 21.0	+0.1
	baz=208,SNR=17						
RLMT	**Red Lodge**	88.86	40	P	P	10 06 21.9	+0.2
	baz=239						
N23A	**Red Feather La**	88.89	45	P	P	10 06 23.0	+1.0
	baz=241						
WTLY	**Watson Lake, Y**	88.90	21	P	P	10 06 21.8	+0.5
	baz=223						
DAWY	**Dawson**	88.91	15	P	P	10 06 21.9	+0.6
	baz=214,SNR=26						
TIY	**Taiyuan**	89.00	311	*e*P	P	10 06 23.6	+1.2
TIY				pmax	pmax		
	comp=Z,42nm,0.5s						
F21K	**Alatna River**	89.05	8	P	P	10 06 21.7	-0.1
	baz=201,SNR=9.4						
FARO	**Faro, Yukon**	89.05	18	P	P	10 06 22.4	+0.4
	baz=219,SNR=5.4						
G22K	**Bettles**	89.06	9	P	P	10 06 22.4	+0.7
	baz=202						
G23K	**Bananza Creek**	89.09	10	P	P	10 06 22.6	+0.6
	baz=204,SNR=7.9						
I26K	**Coal Creek Min**	89.11	13	IAmb	IAmb	10 06 25.1	
	comp=Z,46nm,1.3s						
I26K	**Coal Creek Min**	89.11	13	P	P	10 06 22.4	+0.3
	baz=210						
K29M	**Barlow Dome**	89.19	16	P	P	10 06 22.7	0.0
	baz=215,SNR=25						
C17K	**DeLong Mountai**	89.24	5	P	P	10 06 23.8	+1.1
	baz=192						
LIRD	**Liard River Hi**	89.35	23	P	P	10 06 24.0	+0.6
	baz=225,SNR=6.4						
MAYO	**Mayo, Yukon**	89.42	17	P	P	10 06 24.7	+1.1
	baz=217,SNR=6.3						
H25L	**Birch Creek**	89.43	12	P	P	10 06 24.3	+0.8
	baz=208						
XLT	**XiLinHaoTe**	89.48	318	*e*P	P	10 06 24.3	-0.2
XLT				SKS	SKSac	10 16 36.1	-3.5
XLT				pmax	pmax		
	comp=Z,25nm,0.8s						
XLT				pmax	pmax		
	comp=Z,99nm,4.8s						
BRLDA	**Berland Lookou**	89.49	30	IAmb	IAmb	10 06 27.4	
	comp=Z,36nm,1.3s						
F22K	**John River**	89.50	9	P	P	10 06 24.2	+0.3
	baz=202,SNR=7.5						
G24K	**Hadweenzic Riv**	89.51	11	P	P	10 06 24.1	+0.1
	baz=206						
J29N	**Klondike Camp**	89.52	15	P	P	10 06 25.1	+1.0
	baz=215,SNR=10						
COLD	**Coldfoot**	89.54	10	P	P	10 06 24.8	+0.8
	baz=204,SNR=17						
C18K	**Utukok River**	89.56	5	P	P	10 06 24.5	+0.2
	baz=193						
APMT	**Aspermont**	89.66	54	IAmb	IAmb	10 06 47.6	
	comp=Z,8.7nm,0.7s						
BRDY	**Brady**	89.68	56	IAmb	IAmb	10 06 30.6	
	comp=Z,3.9nm,1.0s						
E20K	**Nigu River**	89.69	7	P	P	10 06 25.3	+0.4
	baz=198						
I27K	**Kandik River**	89.70	13	P	P	10 06 25.7	+0.8
	baz=212,SNR=5.9						
D19K	**Kuna River**	89.71	6	P	P	10 06 25.2	+0.3
	baz=196						
ABTX	**Abilene, Hawle**	89.73	55	IAmb	IAmb	10 06 31.1	
	comp=Z,20nm,1.1s						
ABTX	**Abilene, Hawle**	89.73	55	P	P	10 06 25.4	-0.5
	baz=245						
FYU	**Fort Yukon**	89.80	12	IAmb	IAmb	10 06 30.1	
	comp=Z,9.0nm,0.8s						
G25K	**Bearman Lake**	89.82	11	P	P	10 06 26.0	+0.6
	baz=207						
BO01	**Tunca**	89.88	127	IAmb	IAmb	10 06 29.7	
	comp=Z,21nm,1.3s						
BO02	**Sierra Bellavi**	89.94	127	IAmb	IAmb	10 06 30.2	
	comp=Z,13nm,0.9s						
I28M	**Miner Creek**	89.94	14	IAmb	IAmb	10 06 28.1	
	comp=Z,42nm,1.4s						
I28M	**Miner Creek**	89.94	14	P	P	10 06 26.2	+0.1
	baz=213,SNR=17						
XAN	**Xi'an**	89.97	306	⇓P	P	10 06 27.3	+0.4
XAN				pmax	pmax		
	comp=Z,130nm,0.8s						
MMPY	**Sheldon Lake,**	89.98	19	IAmb	IAmb	10 06 28.5	
	comp=Z,10nm,0.9s						
MMPY	**Sheldon Lake,**	89.98	19	P	P	10 06 27.4	+1.1
	baz=221,S

MT02	Curacav	90.32	126	IAmb	IAmb	10 06 34.1	
	comp=Z,22nm,1.2s						
E23K	Chandalar	90.39	9	P	P	10 06 28.8	+0.6
	baz=204,SNR=7.8						
BO04	La Punta	90.41	127	IAmb	IAmb	10 06 32.4	
	comp=Z,21nm,1.4s						
G26K	Porcupine Rive	90.42	12	P	P	10 06 29.0	+0.9
	baz=210,SNR=16						
E24K	Your Creek	90.59	10	P	P	10 06 30.0	+0.9
	baz=205						
KOTAN	Kotaneelee Air	90.60	23	P	P	10 06 30.2	+1.0
	baz=227,SNR=6.7						
I30M	Mount Dempster	90.61	15	IAmb	IAmb	10 06 32.1	
	comp=Z,29nm,0.9s						
I30M	Mount Dempster	90.61	15	P	P	10 06 29.9	+0.6
	baz=216,SNR=22						
F25K	Christian Rive	90.64	11	P	P	10 06 30.5	+1.2
	baz=208,SNR=5.2						
PEL	Peldehue	90.71	126	IAmb	IAmb	10 06 34.0	
	comp=Z,27nm,1.0s						
C21K	Knifeblade Rid	90.71	7	P	P	10 06 30.4	+0.9
	baz=199,SNR=7.9						
D22K	Ayikyak River	90.72	8	P	P	10 06 30.4	+0.9
	baz=201,SNR=11						
G27K	Doyon Strip	90.72	13	P	P	10 06 31.1	+1.5
	baz=212,SNR=11						
TOLK	Toolik Lake Re	90.93	9	IAmb	IAmb	10 06 32.6	
	comp=Z,38nm,1.4s						
TOLK	Toolik Lake Re	90.93	9	P	P	10 06 31.3	+0.7
	baz=204						
H29M	Whitestone	90.94	14	P	P	10 06 32.0	+1.3
	baz=214,SNR=13						
EDM	Edmonton	90.95	32	P	P	10 06 31.6	+0.6
EDM				IAmb	IAmb	10 06 33.2	
	comp=Z,10nm,0.9s						
EDM	Edmonton	90.95	32	P	P	10 06 31.6	+0.6
EDM				pmax	pmax		
	comp=Z,10.0nm,0.9s						
F26K	Sheenjek River	91.00	11	P	P	10 06 31.9	+0.9
	baz=209,SNR=5.4						
HHC	Hu-ho-hao-te	91.01	314	eP	P	10 06 32.3	+0.6
HHC				pmax	pmax		
	comp=Z,39nm,0.7s						
HHC				pmax	pmax		
	comp=Z,210nm,5.8s						
D23K	Nanushuk River	91.07	9	P	P	10 06 32.7	+1.5
	baz=203,SNR=6.4						
FW03	Perrin-Whitt E	91.11	55	IAmb	IAmb	10 06 37.5	
	comp=Z,27nm,1.1s						
E25K	Arctic Village	91.12	11	P	P	10 06 33.3	+1.8
	baz=208						
WHTX	Lake Whitney,	91.17	56	P	P	10 06 32.6	+0.1
	baz=246						
B21K	Ikpikpuk River	91.17	7	P	P	10 06 32.5	+0.9
	baz=200						
WMOK	Wichita Mounta	91.26	53	P	P	10 06 32.9	0.0
	baz=246						
B20K	Meade River	91.26	6	P	P	10 06 32.6	+0.7
	baz=197						
KMI	Kunming	91.39	296	⇓P	P	10 06 34.3	+0.3
KMI				pmax	pmax		
	comp=Z,44nm,0.7s						
EPYK	Eagle Plains	91.45	15	P	P	10 06 33.6	+0.6
	baz=216,SNR=12						
LAO	LASA Array	91.49	40	IAmb	IAmb	10 06 37.8	
	comp=Z,26nm,1.0s						
LAO	LASA Array	91.49	40	P	P	10 06 34.2	+0.5
	baz=241,SNR=6.9						
LAO	LASA Array	91.49	40	P	P	10 06 36.3	+2.6
	baz=241						
MTO3	Montecristo	91.53	75	IAmb	IAmb	10 06 46.6	
	comp=Z,9.3nm,0.7s						
H31M	Peel River	91.59	16	IAmb	IAmb	10 06 36.8	
	comp=Z,20nm,1.2s						
H31M	Peel River	91.59	16	P	P	10 06 35.0	+1.3
	baz=218						
G29M	Pine Creek	91.60	14	IAmb	IAmb	10 06 36.8	
	comp=Z,17nm,0.7s						
G29M	Pine Creek	91.60	14	P	P	10 06 34.0	+0.3
	baz=215,SNR=7.4						
CRAI	Chiangrai	91.63	291	IAmb	IAmb	10 06 35.8	
	comp=Z,9.5nm,0.8s						
RSSD	Black Hills	91.64	43	P	P	10 06 36.1	+1.4
RSSD				IAmb	IAmb	10 06 37.6	
	comp=Z,14nm,0.9s						
RSSD	Black Hills	91.64	43	P	P	10 06 36.1	+1.4
RSSD				pmax	pmax		
	comp=Z,14nm,1.0s						
RSSD	Black Hills	91.64	43	P	P	10 06 35.3	+0.6
	baz=243						
RSSD	Black Hills	91.64	43	P	P	10 06 36.2	+1.5
	baz=243						
HKT	Hockley	91.65	59⇓	eP	P	10 06 34.0	-0.7
HKT				pmax	pmax		
	comp=Z,13nm,2.0s						
CO03	El Pedregal	91.68	124	IAmb	IAmb	10 06 38.3	
	comp=Z,24nm,1.0s						
F28M	Old Crow	91.78	13	P	P	10 06 35.6	+1.1
	baz=213,SNR=6.8						
C23K	Itkillik River	91.88	8	P	P	10 06 36.2	+1.3
	baz=203						
E27K	Coleen River	91.91	12	P	P	10 06 36.6	+1.5
	baz=212,SNR=5.8						
BTO	Baotou	91.96	313	eP	P	10 06 34.5	-1.6
BTO				pP	pP	10 07 15.3	-0.5
BTO				sP	sP	10 07 32.1	-0.2
BTO				SKS	SKSac	10 16 55.3	+1.3
BTO				S	S	10 17 18.3	-5.8
BTO				sS	sS	10 18 32.6	-0.8
BTO				SS	SS	10 23 41.5	+4.3
BTO				pmax	pmax		
	comp=Z,31nm,0.5s						
BTO				pmax	pmax		
	comp=Z,200nm,4.2s						
B22K	Teshekpuk Lake	91.99	7	P	P	10 06 36.0	+0.6
	baz=201						
C24K	Franklin Bluff	92.05	9	P	P	10 06 36.7	+1.0
	baz=205						
D25K	Kavik River	92.05	10	P	P	10 06 35.5	-0.3
	baz=207						
G30M	tAoh Zraii Nji	92.07	14	P	P	10 06 36.1	+0.3
	baz=216,SNR=19						
CMAR	Chiang Mai Arr	92.26	289	P	P	10 06 38.3	+0.5
CMAR	Chiang Mai Arr	92.26	289	P	P	10 06 38.3	+0.5
CMAR	Chiang Mai Arr	92.26	289	P	P	10 06 38.5	+0.7
	comp=Z,16nm,0.8s,baz=123,slow=2.7,SNR=60						
CMAR				PP	PP	10 10 18.9	-1.8
	comp=Z,2.0nm,0.8s,baz=120,slow=6.3,SNR=6.5						
CMAR				LR	LR	10 50 48.6	
	comp=Z,13nm,18.1s,baz=105,slow=37						
	comp=Z,16nm,0.8s						
CHTO	Chiang Mai	92.39	289	P	P	10 06 38.1	-0.3
CHTO	Chiang Mai	92.39	289	P	P	10 06 38.1	-0.3
CHTO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LCO	Las Campanas	92.44	122	P	P	10 06 41.0	+2.1
LCO	Las Campanas	92.44	122	P	P	10 06 41.0	+2.1
LCO				pmax	pmax		
	comp=Z,34nm,1.2s						
G31M	Satah River	92.49	15	P	P	10 06 38.2	+0.5
	baz=218,SNR=9.2						
CO01	Juntas del Tor	92.51	123	P	P	10 06 41.0	+1.7
CO01				IAmb	IAmb	10 06 43.0	
	comp=Z,14nm,1.4s						
F30M	Barrier River	92.67	14	P	P	10 06 38.9	+0.3
	baz=217,SNR=5.7						
E28M	Babbage River	92.68	12	P	P	10 06 39.4	+0.8
	baz=213,SNR=8.4						
R32A	Long Quarter,	92.81	50	IAmb	IAmb	10 07 02.0	
	comp=Z,17nm,0.8s						
C26K	Camden Bay	92.82	10	P	P	10 06 40.4	+1.1
	baz=208						
E29M	Blow River	92.84	13	P	P	10 06 40.3	+0.9
	baz=215						
ZON	Zonda	92.93	125	IAmb	IAmb	10 06 44.4	
	comp=Z,14nm,1.0s						
D27M	Malcolm River	92.94	12	P	P	10 06 40.3	+0.4
	baz=212						
YAK	Yakutsk	93.02	337	P	P	10 06 39.7	-0.6
YAK	Yakutsk	93.02	337	eP	P	10 06 39.6	-0.7
YAK				e		10 10 27.1	
YAK				eS	SKSac	10 16 56.4	-2.2
YAK				e		10 17 30.4	
YAK				eSS	SS	10 23 51.5	+0.4
YAK				pmax	pmax		
	comp=Z,53nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,49nm,1.8s						
YAK				pmax	pmax		
	comp=N,30nm,1.7s						
YAK				pmax	pmax		
	comp=E,36nm,1.6s						
YAK				smax	smax		
	comp=N,45nm,1.6s						
YAK				smax	smax		
	comp=E,30nm,2.0s						
F31M	Tsiigehtchic	93.02	15	P	P	10 06 40.7	+0.5
F31M	Tsiigehtchic	93.02	15	P	P	10 06 40.6	+0.5
	baz=219,SNR=13						
DGMT	Dagmar	93.53	39	P	P	10 06 43.4	+0.4
	baz=243						
DGMT	Dagmar	93.53	39	P	P	10 06 45.2	+2.1
	baz=243						
INK	Inuvik	93.75	14	P	P	10 06 43.5	0.0
INK				IAmb	IAmb	10 06 45.8	
	comp=Z,20nm,0.8s						
INK	Inuvik	93.75	14	P	P	10 06 43.5	0.0
INK				pmax	pmax		
	comp=Z,20nm,0.9s						
INK	Inuvik	93.75	14	P	P	10 06 43.5	0.0
	baz=219,SNR=6.7						
K30B	Basset	93.92	46	P	P	10 06 47.4	+2.4
	baz=246						
TUL3	Leonard	93.97	53	P	P	10 06 45.4	0.0
	baz=248						
JTS	Las Juntas de	94.15	81⇑	eP	P	10 06 45.9	-0.8
JTS	Las Juntas de	94.15	81	LR	LR	10 40 28.2	
	comp=Z,66nm,19.1s,baz=279,slow=30						
BGNE	Belgrade	94.40	47	P	P	10 06 48.0	+0.8
	baz=246						
LZH	Lanzhou	94.60	307	eP	P	10 06 48.9	+0.5
LZH				pmax	pmax		
	comp=Z,31nm,0.9s						
YKA	Yellowknife Ar	95.63	24	P	P	10 06 53.2	+1.0
	comp=Z,3.2nm,0.7s,baz=242,slow=4.7,SNR=12						
	comp=Z,3.2nm,0.7s						
ECSD	EROS Data Cent	96.35	46	IAmb	IAmb	10 07 01.1	
	comp=Z,9.4nm,1.1s						
ECSD	EROS Data Cent	96.35	46	P	P	10 06 56.7	+0.7
	baz=248						
ECSD	EROS Data Cent	96.35	46	P	P	10 06 57.7	+1.6
	baz=248						
LVC	Limon Verde	96.62	117	LR	LR	10 40 53.0	
	comp=Z,60nm,20.7s,baz=218,slow=29						
ULN	Ulaanbaatar	96.89	319	P	P	10 06 58.3	-0.2
ULN				IAmb	IAmb	10 07 00.4	
	comp=Z,6.7nm,0.8s						
ULN	Ulaanbaatar	96.89	319	ceP	P	10 06 58.4	-0.1
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BOD	Bodaibo	97.28	329	eP	P	10 06 58.9	-0.9
BOD				pmax	pmax		
	comp=Z,14nm,1.9s						
SONM	Songino Array	97.28	318	P	P	10 06 58.6	-1.7
SONM				IAmb	IAmb	10 07 02.0	
	comp=Z,3.9nm,0.9s						
SONM	Songino Array	97.28	318	P	P	10 06 59.9	-0.4
	comp=Z,2.0nm,0.7s,baz=134,slow=4.6,SNR=11						
	comp=Z,2.0nm,0.7s						
GTA	Gaotai	98.76	309	eP	Pdif	10 07 09.0	+1.9
GTA				PP	PP	10 11 12.0	+1.2
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIXI	Tiksi	99.39	345⇓	eP	Pdif	10 07 08.1	-0.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	La Paz	99.95	112	P	Pdif	10 07 16.5	+2.9
	comp=Z,2.9nm,0.9s,baz=238,slow=2.0,SNR=6.9						
ZALV	Zalesovo Beam	111.95	321	PKiKP	PKiKP	10 12 00.5	-0.8
	comp=Z,3.5nm,0.7s,baz=157,slow=1.2,SNR=11						
ZALV				PP	PP	10 12 47.0	-0.4
	comp=Z,1.0nm,0.5s,baz=76,slow=6.3,SNR=4.0						
MK31	Makanchi Array	112.88	313	d iPKIKP	PKiKP	10 12 02.2	-1.1
MKAR	Makanchi Array	112.88	313	Pdiff	Pdif	10 08 10.6	+1.0
	comp=Z,1.0nm,0.6s,baz=91,slow=6.4,SNR=10						
MKAR				PKiKP	PKiKP	10 12 02.5	-0.9
	comp=Z,3.1nm,0.5s,baz=174,slow=0.7,SNR=33						
MKAR				PP	PP	10 12 52.6	-1.7
	comp=Z,1.5nm,0.9s,baz=99,slow=6.3,SNR=4.0						
KURK	Kurchatov	115.56	317		PKPdf	10 12 07.6	-0.7
KURK	Kurchatov	115.56	317	d iPKIKP	PKPdf	10 12 07.3	-1.0
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KURBB	Kurchatov Arra	115.62	317	PKP	PKPdf	10 12 07.8	-0.6
	comp=Z,5.1nm,0.7s,baz=92,slow=1.8,SNR=57						
KURBB				PP	PP	10 13 12.5	-0.9
	comp=Z,4.5nm,1.0s,baz=95,slow=5.3,SNR=7.0						
BVAR	Borovoye Array	120.57	320	PKP	PKPdf	10 12 17.6	-0.3
	comp=Z,12nm,0.7s,baz=79,slow=1.4,SNR=32						
BRVK	Borovoye	120.63	320	PKPdf	PKPdf	10 12 17.9	-0.1
BRVK	Borovoye	120.63	320	d iPKIKP	PKPdf	10 12 17.2	-0.8
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BTK	Batken	120.77	305	PKPdf	PKPdf	10 12 16.7	-2.1
BTK	Batken	120.77	305	PKIKP	PKPdf	10 12 16.7	-2.1
KKAR	Karatay Array	121.04	309		PKPdf	10 12 18.6	-0.5
KKAR	Karatay Array	121.04	309	PKIKP	PKPdf	10 12 18.7	-0.5
KBL	Kabul	121.89	299	PKPdf	PKiKP	10 12 21.7	+0.2
KBL	Kabul	121.89	299	PKIKP	PKiKP	10 12 21.7	+0.2
SPITS	Spitsbergen Ar	122.05	357	PKP	PKiKP	10 12 20.2	0.0
	comp=Z,16nm,1.0s,baz=57,slow=3.1,SNR=5.3						
SPB2	Spitsbergen Ar	122.05	357	PKPdf	PKiKP	10 12 20.4	+0.2
ARU	Arti	126.52	326	PKPdf	PKPdf	10 12 29.4	+0.2
ARU	Arti	126.52	326	i PKIKP	PKiKP	10 12 29.6	0.0
ARU						10 14 26.8	
ARU						10 19 23.4	
ARCES	ARCESS Array B	129.36	351	PKP	PKPdf	10 12 34.1	-0.1
	comp=Z,2.4nm,0.4s,baz=353,slow=2.0,SNR=27						
PRGR	Permogore	130.04	336	ePKIKP	PKPdf	10 12 35.8	+0.1
KIRV	Kirov	130.12	331	⇑iPKIKP	PKPdf	10 12 35.8	-0.1
GEYT	Alibeck	130.71	303	PKP	PKPdf	10 12 38.1	+0.3
	comp=Z,7.9nm,0.7s,baz=151,slow=3.4,SNR=7.9						
GEYT				SKPbc	SKPab	10 15 48.0	+0.9
	comp=Z,28nm,0.9s,baz=64,slow=3.4,SNR=23						
KLMR	Klimovskoe	132.81	337	ePKPdf	PKPdf	10 12 40.7	-0.3
KLMR				AMP		10 12 57.0	
	comp=Z,46nm,2.2s						
KLMR				ePP	PP	10 15 02.8	-4.9
KLMR				eSKPab	SKPbc	10 15 52.8	-0.7
KLMR	Klimovskoe	132.81	337	ePKIKP	PKPdf	10 12 40.7	-0.3
KLMR				pmax	pmax		
	comp=Z,46nm,2.2s						
BELG	Belogornoye	133.97	324	⇓iPKIKP	PKPdf	10 12 44.0	+0.6
BELG	Belogornoye	133.97	324	PKP	PKPdf	10 12 43.6	+0.3
	comp=Z,24nm,0.7s,baz=180,slow=2.3,SNR=8.1						
BELG				SKPbc	SKPbc	10 15 59.1	+1.5
	comp=Z,52nm,0.8s,baz=273,slow=1.5,SNR=13						
FINES	FINESS Array B	136.43	345	PKhKP	PKPpre	10 12 34.0	
	comp=Z,9.1nm,1.2s,baz=49,slow=3.6,SNR=6.7						
FINES				PKP	PKPdf	10 12 47.6	-0.1
	comp=Z,2.7nm,0.6s,baz=55,slow=3.4,SNR=6.9						
OBN	Obninsk	137.85	333	⇑iPKIKP	PKiKP	10 12 52.1	-0.4
OBN				pmax	pmax		
	comp=Z,12nm,0.6s						
NB2	NORSAR Subarra	139.27	355	PKP	PKPpre	10 12 45.1	
	comp=Z,2.1nm,0.8s,baz=16,slow=3.2						
NOA	NORSAR Array B	139.27	355	PKhKP	PKPpre	10 12 46.0	
	comp=Z,5.5nm,0.8s,baz=16,slow=5.1,SNR=12						
NOA				SKPbc	SKPbc	10 16 14.3	+0.9
	comp=Z,2.5nm,0.9s,baz=16,slow=4.7,SNR=3.3						
HFS	Hagfors	139.91	353	PKhKP	PKPpre	10 12 45.1	
	comp=Z,6.6nm,0.5s,baz=67,slow=5.0,SNR=29						
KIV	Kislovodsk	140.59	315	i PKIKP	PKiKP	10 12 58.1	-0.6
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,60nm,24.0s						
VIKU	Vikbolandet	141.06	350	eP	PKPpre	10 12 50.1	
KMBO	Kilima Mbogo	141.29	240	PKhKP	PKPpre	10 12 54.1	
	comp=Z,3.2nm,0.6s,baz=64,slow=6.0,SNR=12						
IDID	Didziasalis	141.44	340	eP	PKPdf	10 12 56.8	-0.3
IIGN	Ignalina	141.57	340	eP	PKPdf	10 12 56.3	-1.0
MNK	Minsk	141.71	338	i PKP	PKPdf	10 12 53.5	-4.0
	comp=E,4.0nm,1.0s						
MNK				i PKP	PKPdf	10 12 53.5	-4.0
	comp=N,14nm,1.0s						
MNK				i PKP	PKPdf	10 12 53.5	-4.0
	comp=Z,36nm,1.0s,baz=37						
MNK				i pPKP	pPKPdf	10 13 40.6	+1.4
MNK				i sPKP		10 13 54.2	
MNK				i PP	PP	10 15 59.6	-3.4
MNK				i PPP	PPP	10 19 05.6	
MNK				i SKS	SKSdf	10 19 53.6	+1.3
MNK				i SKKS	SKKSdf	10 29 13.0	-2.5
MNK				i SS	SS	10 34 14.7	-6.1
MNK				i SSS	SSS	10 39 30.3	
MNK	Minsk	141.71	338	i PKIKP	PKPdf	10 12 53.5	-4.0
MNK				i		10 15 59.5	
MNK				i SS	SS	10 34 14.6	-6.2
MNK				i SSS	SSS	10 39 30.3	
MNK				pmax	pmax		
	comp=N,14nm,1.0s						
MNK				pmax	pmax		
	comp=E,4.0nm,1.0s						
MNK				pmax	pmax		
	comp=Z,36nm,1.0s						
NACGM	Naroch	141.76	339	ePKP	PKPdf	10 12 54.6	-3.0
	comp=Z,47nm,0.8s,baz=35						
PABE	Paberze	142.13	342	eP	PKPdf	10 12 55.0	-3.2
DEL	Delary	143.45	351	eP	PKPab	10 12 57.1	-0.1
ANN	Anapa	143.56	319	ePKIKP	PKPdf	10 13 01.2	+0.1
ANN				pmax	pmax		
	comp=Z,102nm,1.1s						
LAWE	Loch Awe, Argy	143.60	9	eP	PKPbc	10 12 58.9	+0.1
INVG	Invergeldie, C	143.63	8	eP	PKPbc	10 12 58.9	+0.1
SUW	Suwalki	143.65	341	eP	PKPbc	10 12 59.8	+0.9
AKASG	Malin Array Be	144.12	333	PKhKP	PKPpre	10 12 59.7	
	comp=Z,32nm,0.5s,baz=40,slow=4.6,SNR=208						
AKASG				SKPbc	SKiKP	10 16 27.6	+0.9
	comp=Z,3.4nm,0.7s,baz=35,slow=2.6,SNR=10						
PGBU	Glenifferbraes	144.17	9	eP	PKPbc	10 13 00.3	-0.1
BSD	Bornholm Skovb	144.59	350	eP	PKPab	10 13 00.1	-1.4
EKA	Eskdalemuir Ar	144.81	7	PKP	PKPdf	10 13 02.7	-0.3
	comp=Z,26nm,0.7s,baz=328,slow=3.1,SNR=52						
ESK	Eskdalemuir	144.82	8	eP	PKPab	10 13 02.4	-0.1
NEWG	New Galloway	144.88	9	eP	PKPdf	10 13 03.0	-0.1
GAL1	Galloway	145.05	9	eP	PKPab	10 13 03.3	0.0
EDMD	Edmundbyers	145.44	6	eP	PKPab	10 13 05.0	+0.2
SIM	Simferopol'	145.46	322	d iPKP2	PKPab	10 13 05.6	+0.4
SIM				pmax	pmax		
	comp=Z,436nm,0.9s						
KESW	Keswick, Cumbr	145.55	8	eP	PKPab	10 13 05.0	-0.2
GKP	Gorka Klasztor	145.88	346	eP	PKPdf	10 13 03.6	-1.2
GDLE	Glaisdale, N Y	145.96	5	eP	PKPdf	10 13 01.5	-3.5
SORM	Soroca	146.39	331	⇑P	PKPbc	10 13 07.7	+0.2
SORM	Soroca	146.39	331	⇑PKP2	PKPbc	10 13 07.7	+0.2
DIKM	Dikmen	146.51	316	⇑P	PKPbc	10 13 08.3	+0.3
WLF1	Llynfaes	146.63	10	eP	PKPbc	10 13 08.3	+0.3
MBAR	Mbarara	146.74	234	i PKP2	PKPbc	10 13 10.6	+0.9
PURM	Purcari	146.78	327	⇑P	PKPab	10 13 09.7	-0.5
LBWR	Ladybower, Pea	146.87	7	eP	PKPbc	10 13 09.4	+0.7
LVV	L'vov	146.89	337	ePKP2	PKPbc	10 13 08.8	-0.1
LVV				pmax	pmax		
	comp=Z,260nm,1.2s						
FOEL	Foel Wylfa	147.19	9	eP	PKPbc	10 13 09.9	+0.3
BNN	Bunyan	147.39	311	PKPbc	PKPbc	10 13 11.3	+0.5
HLM1	Long Mynd	147.60	8	eP	PKPbc	10 13 11.0	+0.2
VASR	Vaslui	147.74	329	⇓P	PKPbc	10 13 12.0	+0.7
WACR	West Acre	147.76	4	eP	PKPbc	10 13 10.5	-0.6
ILGA	Ilgaz	147.82	316	PKPbc	PKPbc	10 13 12.3	+0.3
OJC	Ojcow	147.98	341	PKPbc	PKPbc	10 13 11.8	0.0
OJC	Ojcow	147.98	341	PKP2	PKPbc	10 13 11.8	0.0
MCH1	Michaelchurch	148.09	9	eP	PKPbc	10 13 11.7	-0.3
VLDR	Vladesti	148.16	328	⇓P	PKiKP	10 13 13.4	-0.6
BUR08	Bucovina Ar. S	148.16	333	PKPbc	PKPbc	10 13 13.1	+0.6
BURAR	Bucovina Array	148.18	333	⇑P	PKiKP	10 13 13.9	-0.3
BURAR	Bucovina Array	148.18	333	Pn	PKiKP	10 13 13.9	-0.3
STHS	Stebnicka Huta	148.22	339	ePKP2	PKPbc	10 13 12.7	+0.2
STHS	Stebnicka Huta	148.22	339	Sn	PKPab	10 13 16.9	+1.0
STHS	Stebnicka Huta	148.22	339	ePKP	PKPbc	10 13 12.7	+0.2
STHS				e		10 13 17.1	
STHS	Stebnicka Huta	148.22	339	Pg	PKPab	10 13 16.2	+0.3
TLCR		148.24	326	⇑P	PKiKP	10 13 13.5	-0.7
TLCR		148.24	326	⇑PKP2	PKiKP	10 13 13.5	-0.7
KOLS	Kolonicke sedl	148.27	337	ePKP2	PKPab	10 13 16.5	+0.4
KOLS	Kolonicke sedl	148.27	337	Pg	PKiKP	10 13 14.9	+0.7
KOLS	Kolonicke sedl	148.27	337	ePKP	PKPab	10 13 16.5	+0.4
MONM	Monmouth	148.27	9	eP	PKPbc	10 13 12.5	0.0
GHRR		148.34	329	⇑P	PKiKP	10 13 14.4	0.0
KSP	Ksiaz	148.35	346	Pg	PKPdf	10 13 06.6	-2.5
TESR	Tescani	148.37	330	⇑P	PKPbc	10 13 13.7	+0.7
TESR	Tescani	148.37	330	Pn	PKPbc	10 13 13.7	+0.7
BR131	Keskin Array S	148.52	314		PKPbc	10 13 13.4	-0.3
BR131	Keskin Array S	148.52	314	d iPKP2	PKPbc	10 13 13.6	-0.2
BRTR	Keskin Array B	148.52	314		PKPbc	10 13 13.2	-0.6
BRTR	Keskin Array B	148.52	314	PKP2	PKPbc	10 13 13.2	-0.6
BRTR	Keskin Array B	148.52	314	PKPbc	PKPbc	10 13 13.7	-0.1
	comp=Z,56nm,0.8s,baz=134,slow=3.6,SNR=101						
IZVR	Izvoarele	148.53	328	⇑P	PKiKP	10 13 14.9	+0.2
CLL	Collm	148.57	350	i PKP2	PKPbc	10 13 13.9	+0.6
CLL				pmax	pmax		
	comp=Z,43nm,0.7s						
CLL	Collm	148.57	350	i PKPbc	PKPbc	10 13 13.9	+0.6
	comp=Z,43nm,0.7s						
CLL				i PKPmax		10 13 17.6	
	comp=Z,79nm,0.7s						
CLL				esPKPbc	pPKPab	10 14 00.0	+2.5
CFR	Carcaliu	148.59	327	⇑P	PKPbc	10 13 14.0	+0.5
CFR	Carcaliu	148.59	327	⇑PKP2	PKPbc	10 13 14.0	+0.5
TPGR	Topolog	148.67	326	⇑P	PKiKP	10 13 15.9	+0.8
ODBI	Odobesti	148.72	329	⇑P	PKiKP	10 13 15.6	+0.4
ODBI	Odobesti	148.72	329	Pn	PKiKP	10 13 15.6	+0.4
VRI	Vrincioaia	148.81	329	⇑P	PKPbc	10 13 14.6	+0.5
VRI	Vrincioaia	148.81	329	⇑PKP2	PKPbc	10 13 14.6	+0.5
VR

MEM	**Membach**	**149.98 358**	*d*PKiKP	**PKPbc**	**10 13 17.2**	**+0.4**
BTNL	**Ternell**	**150.00 358**	*d*PKiKP	**PKPbc**	**10 13 17.3**	**+0.4**
BSTI	**Sart Tilman**	**150.02 359**	*d*PKiKP	**PKiKP**	**10 13 17.8**	**+0.1**
ARR	**Arges**	**150.16 331**	⇑P	**PKiKP**	**10 13 18.8**	**+0.5**
ARR	**Arges**	**150.16 331**	Pg	**PKiKP**	**10 13 18.8**	**+0.5**
BCLA	**Clavier**	**150.19 359**	*d*PKP	**PKPab**	**10 13 23.8**	**-0.1**
BGES	**Gesves**	**150.23 359**	*d*PKP	**PKPbc**	**10 13 17.0**	**-0.4**
BHOU	**Houvegnez**	**150.24 358**	*d*PKiKP	**PKiKP**	**10 13 18.4**	**+0.2**
BHOU			*d*PKP	**PKPab**	**10 13 25.3**	**+1.2**
BMRD	**Maredsous**	**150.31 360**	*d*PKiKP	**PKiKP**	**10 13 18.4**	**+0.1**
SGRR	**Singureni**	**150.36 328**	⇓P	**PKPab**	**10 13 24.6**	**-0.1**
SGRR	**Singureni**	**150.36 328**	Pn	**PKPab**	**10 13 24.6**	**-0.1**
MODS	**Modra-Piesok**	**150.37 343**	*e*PKiKP	**PKiKP**	**10 13 19.4**	**+0.8**
MODS	**Modra-Piesok**	**150.37 343**	*e*PKP	**PKiKP**	**10 13 19.4**	**+0.8**
RCHB	**Rochefort**	**150.46 359**	*d*PKP	**PKPbc**	**10 13 16.6**	**-1.3**
RCHB			*d*PKiKP	**PKiKP**	**10 13 18.4**	**-0.3**
LOT	**Lotru**	**150.49 332**	⇓P	**PKPbc**	**10 13 18.6**	**+0.2**
LOT	**Lotru**	**150.49 332**	Pg	**PKPbc**	**10 13 18.6**	**+0.2**
DEV	**Deva**	**150.52 333**	Pg	**PKPab**	**10 13 22.5**	**-2.9**
DOU	**Dourbes**	**150.52 360**	*d*PKP	**PKiKP**	**10 13 18.8**	**0.0**
RAZG	**Razgrad**	**150.55 326**	⇑P	**PKPbc**	**10 13 18.6**	**+0.2**
KHC	**Kasperske Hory**	**150.56 348**	*e*PKiKP	**PKiKP**	**10 13 18.8**	**-0.1**
KHC			*e*		10 13 25.0	
KHC	**Kasperske Hory**	**150.56 348**	⇑*e*PKP	**PKiKP**	**10 13 18.8**	**-0.1**
KHC			*e*PKPAB	**PKPab**	**10 13 25.0**	**-0.5**
SRO	**Srobarova**	**150.57 341**	*e*PKP	**PKPab**	**10 13 27.2**	**+1.7**
CKRC	**Cesky Krumlov**	**150.70 347**	*e*PKiKP	**PKiKP**	**10 13 19.3**	**+0.1**
CKRC	**Cesky Krumlov**	**150.70 347**	⇑*e*PKP	**PKiKP**	**10 13 19.3**	**+0.1**
SIRR	**Siria**	**150.72 335**	⇑P	**PKiKP**	**10 13 19.4**	**0.0**
GERES	**GERESS Array B**	**150.81 347**	PKPbc	**PKPbc**	**10 13 19.2**	**+0.3**
	comp=Z,17nm,0.8s,baz=26,slow=3.4,SNR=7.1					
WLF	**Walferdange**	**150.92 358**	*d*PKiKP	**PKiKP**	**10 13 19.9**	**+0.3**
WLF			*d*PKP	**PKPab**	**10 13 27.3**	**+0.4**
SURR	**Surduc**	**150.95 334**	⇑P	**PKiKP**	**10 13 19.8**	**0.0**
CONA	**Conrad Observa**	**151.16 344**	*e*PKiKP	**PKiKP**	**10 13 21.0**	**+0.7**
	comp=Z,29nm,0.7s,SNR=5.2					
RONA	**Rosalia, Austr**	**151.26 343**	*e*PKiKP	**PKiKP**	**10 13 21.1**	**+0.7**
	comp=Z,33nm,0.6s,SNR=9.6					
BZS	**Buzias**	**151.27 334**	⇓P	**PKiKP**	**10 13 20.7**	**+0.3**
BZS	**Buzias**	**151.27 334**	⇓PKIKP	**PKiKP**	**10 13 20.7**	**+0.3**
HERR	**Herculane**	**151.53 333**	⇓P	**PKiKP**	**10 13 21.1**	**+0.1**
MOA	**Molln**	**151.62 346**	*i* PKP	**PKiKP**	**10 13 21.4**	**+0.2**
	comp=Z,9.7nm,0.6s					
DJES	**Djerdap**	**151.65 332**	⇓P	**PKPbc**	**10 13 20.4**	**-0.6**
MORH	**Mrgy, Hungar**	**151.87 339**	⇓P	**PKPbc**	**10 13 21.2**	**-0.1**
MDVR	**Moldovita**	**151.91 333**	⇑P	**PKiKP**	**10 13 22.1**	**+0.3**
BFO	**Black Forest**	**152.11 354**		**PKiKP**	**10 13 22.4**	**+0.2**
FRGS	**Fruska Gora**	**152.36 336**	*e*P	**PKPab**	**10 13 33.5**	**+0.4**
KOGS	**Kog**	**152.41 342**	*i* PKPab	**PKPab**	**10 13 33.5**	**+0.3**
SOKA	**Soboth**	**152.53 344**	*e*PKP	**PKPbc**	**10 13 23.0**	**+0.1**
	comp=Z,22nm,1.5s					
WTTA	**Wattenberg**	**152.72 349**	*i* PKiKP	**PKiKP**	**10 13 24.1**	**+0.4**
	comp=Z,35nm,1.0s					
OBKA	**Obir**	**152.81 345**	*e*P	**PKPab**	**10 13 35.1**	**0.0**
VTS	**Vitosha**	**152.90 328**	⇓P	**PKiKP**	**10 13 24.7**	**+0.5**
VTS	**Vitosha**	**152.90 328**	⇓PKIKP	**PKiKP**	**10 13 24.7**	**+0.5**
VTS	**Vitosha**	**152.90 328**	Pn	**PKiKP**	**10 13 24.7**	**+0.5**
MYKA	**Terra Mystica**	**152.92 346**	*i* PKP	**PKPbc**	**10 13 23.7**	**-0.1**
	comp=Z,14nm,0.7s					
TEKS	**Tekeris**	**152.98 336**	*e*P	**PKPab**	**10 13 35.8**	**0.0**
ABTA	**Abfaltersbach**	**153.05 348**	*i* PKP	**PKPbc**	**10 13 24.2**	**+0.1**
	comp=Z,26nm,0.6s					
DIVS	**Divibare**	**153.18 335**	*e*P	**PKPab**	**10 13 37.0**	**+0.3**
CRES	**Cresnjev**	**153.21 343**	*i* PKPbc	**PKiKP**	**10 13 24.5**	**0.0**
CRES			*i* PKPab	**PKPab**	**10 13 36.7**	**0.0**
DOB	**Doboj**	**153.35 338**	*e*P	**PKPab**	**10 13 39.1**	**+1.9**
DAVOX	**Davos/Dischmat**	**153.46 352**	PKP	**PKPdf**	**10 13 18.8**	**+1.4**
	comp=Z,2.8nm,0.4s,baz=337,slow=16,SNR=3.8					
DAVOX			PKPbc	**PKiKP**	**10 13 25.7**	**+0.5**
	comp=Z,14nm,0.5s,baz=211,slow=7.5,SNR=19					
JAVS	**Javornik**	**153.51 345**	*i* PKPab	**PKPab**	**10 13 37.5**	**-0.6**
CEY	**Cerknica**	**153.56 344**	*e*P	**PKPab**	**10 13 37.6**	**-0.6**
CEY	**Cerknica**	**153.56 344**	*i* PKPbc	**PKPbc**	**10 13 25.1**	**-0.1**
CEY			*i* PKPab	**PKPab**	**10 13 38.1**	**-0.1**
BBLS	**Lazići**	**153.60 335**	*e*P	**PKPab**	**10 13 38.7**	**+0.2**
BBLS	**Lazići**	**153.60 335**	Pg	**PKPdf**	**10 13 20.0**	**+2.5**
BLY	**Banja Luka**	**153.65 339**	*e*P	**PKPab**	**10 13 38.8**	**+0.3**
RUDO	**Rudo**	**153.82 335**	*e*P	**PKPab**	**10 13 38.8**	**-0.5**
TUE	**Stuetta**	**153.83 352**	PKPbc	**PKPbc**	**10 13 25.3**	**-0.6**
SJES	**Sjenica**	**153.87 334**	*e*P	**PKPab**	**10 13 38.7**	**-1.0**
CTI	**Castel Tesino**	**153.89 348**	PKPdf	**PKPdf**	**10 13 14.3**	**-3.6**
CTI			PKPab	**PKPab**	**10 13 38.3**	**-1.3**
CTI	**Castel Tesino**	**153.89 348**	PKP2	**PKPab**	**10 13 38.3**	**-1.3**
CTI					11 13 14.3	
MGRS	**Mrkonjic Grad**	**153.98 339**	*e*P	**PKPab**	**10 13 41.0**	**+1.0**
STIP	**Stip**	**154.10 328**	*i* P	PKPdf	10 13 05.7	-13
SENIN	**Lac Senin/Sane**	**154.15 355**	PKPdf	**PKPdf**	**10 13 14.9**	**-3.5**
SENIN			PKPbc	**PKiKP**	**10 13 27.6**	**+0.9**
SENIN			PKPab	**PKPab**	**10 13 41.4**	**+0.6**
VAY	**Valandovo**	**154.19 327**	*i* P	**PKiKP**	**10 13 28.6**	**+2.0**
SKO	**Skopje**	**154.25 330**	*i* P	**PKiKP**	**10 13 29.6**	**+2.9**
SRKY	**Kupres RS**	**154.26 338**	*e*P	**PKPab**	**10 13 41.2**	**-0.1**
UPM	**Unac-Piva**	**154.36 335**	*e*P	**PKPab**	**10 13 41.3**	**-0.5**
NEVS	**Nevesinje**	**154.59 336**	*e*P	**PKPab**	**10 13 41.5**	**-1.2**
BRY	**Bratogost**	**154.75 335**	*e*P	**PKPab**	**10 13 42.9**	**-0.6**
PDG	**Podgorica**	**154.86 333**	*e*P	**PKPab**	**10 13 43.0**	**-0.7**
TREB	**Trebinje**	**154.99 335**	*e*P	**PKPab**	**10 13 41.0**	**-3.3**
DRME	**Dracevica, Mon**	**155.09 333**	*e*P	**PKPab**	**10 13 44.6**	**-0.2**
STON	**Ston**	**155.10 336**	*e*P	**PKPab**	**10 13 43.2**	**-1.5**
HCY	**Herceg Novi**	**155.16 335**	*e*P	**PKPab**	**10 13 44.3**	**-0.7**
FNA	**Florina**	**155.19 328**	PKPdf	**PKPdf**	**10 13 18.5**	**-1.3**
FNA			PKPbc	PKPbc	10 13 28.1	
FNA			PKPab	**PKPab**	**10 13 45.2**	**-0.1**
FNA	**Florina**	**155.19 328**	PKIKP	**PKPdf**	**10 13 18.5**	**-1.3**
FNA					10 13 45.2	
OHR	**Ohrid**	**155.22 329**	*i* P	PKPdf	10 13 32.0	+12
ZCCA	**Zocca**	**155.65 349**	PKPdf	**PKPdf**	**10 13 17.7**	**-2.6**
ZCCA			PKPab	**PKPab**	**10 13 47.0**	**-0.1**
MSSA	**Maissana**	**155.93 351**	PKPdf	**PKPdf**	**10 13 17.2**	**-3.5**
MSSA				**PKPab**	**10 13 47.5**	**-0.8**
PGAV	**Gavieira, Arco**	**156.12 24**	*e*PKPdf	**PKPdf**	**10 13 22.3**	**+1.3**
MURB	**Monte Urbino**	**156.36 345**	PKPdf	**PKPdf**	**10 13 19.3**	**-2.0**
MURB			PKPab	**PKPab**	**10 13 51.1**	**+0.9**
OSSC	**Osservatorio P**	**156.39 348**	PKPdf	**PKPdf**	**10 13 17.2**	**-4.1**
OSSC			PKPab	**PKPab**	**10 13 49.9**	**-0.4**
POLO	**Lamas de Olo**	**156.81 24**	*e*PKPab	**PKPab**	**10 13 53.6**	**+1.3**
PBRG	**Braganca**	**156.81 22**	*e*PKPab	**PKPab**	**10 13 53.9**	**+1.7**
PVIS	**Viseu**	**157.34 25**	*e*PKPab	**PKPab**	**10 13 55.2**	**+0.7**
PCAS	**Casmilo, Conde**	**157.65 27**	*e*PKPab	**PKPab**	**10 13 57.4**	**+1.6**
MTE	**Manteigas**	**157.74 25**	*e*PKPab	**PKPab**	**10 13 57.2**	**+0.9**
PMPS	**Porto Santo**	**157.74 52**	*e*PKPdf	**PKPdf**	**10 13 25.0**	**+1.8**
PMRV	**Marv??o**	**158.63 26**	*e*PKPab	**PKPab**	**10 14 01.2**	**+1.1**
ESDC	**Sonseca Array**	**159.64 19**	PKP	**PKPdf**	**10 13 26.4**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=332,slow=3.1,SNR=4.3					
ESDC			PKPab	**pPKPdf**	**10 14 05.9**	**-1.6**
	comp=Z,5.5nm,0.6s,baz=329,slow=3.7,SNR=28					
MORF	**Marmelete**	**159.81 31**	*e*PKPdf	**PKPdf**	**10 13 27.4**	**+1.8**
PBAR	**Barrancos**	**159.84 27**	*e*PKPdf	**PKPdf**	**10 13 27.4**	**+1.8**
DBIC	**Dimbokro**	**163.53 146**	PKP	**PKPdf**	**10 13 30.2**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=104,slow=2.4,SNR=4.7					
DBIC			PKPab	**PKPab**	**10 14 23.3**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=149,slow=5.7,SNR=3.5					
KEST	**Kesra**	**164.27 345**	PKP	**PKPdf**	**10 13 32.6**	**+2.4**
	comp=Z,2.8nm,0.8s,baz=223,slow=3.3,SNR=3.8					
KEST			PKPab	**PKPab**	**10 14 25.4**	**+0.5**
	comp=Z,11nm,0.6s,baz=2.0,slow=0.6,SNR=12					
MDT	**Midelt**	**165.38 32**	PKP	**PKPdf**	**10 13 33.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=167,slow=1.3,SNR=4.3					
MDT			PKPab	**PKPab**	**10 14 31.9**	**+2.0**
	comp=Z,3.2nm,0.7s,baz=355,slow=7.3,SNR=8.1					
TORD	**Torodi Ar. Bea**	**172.19 160**	PKP	**PKPdf**	**10 13 35.1**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=18,slow=2.5,SNR=9.1					
TORD			PKPab	**PKPab**	**10 15 00.9**	**+0.7**
	comp=Z,3.3nm,0.9s,baz=188,slow=1.6,SNR=8.6					

HEL 17 10:01:29.3±0.4, 64°.95N×30°.90E, h0km, ML1.7,
Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.84**	**210**	PG	Pg	10 01 44.5	-0.9
	baz=29						
RMF				MSG		10 01 55.5	
	comp=Z,8.3nm,0.2s						
RMF				SB	Sg	10 01 56.0	-0.3
JOF	**Joensuu**	**2.05**	**175**	PG	Pn	10 02 06.0	+1.1
JOF				SG	Sb	10 02 32.9	-0.4
NIF	**Nilsia**	**2.07**	**222**	PG	Pb	10 02 06.6	-1.1
	baz=40						
OBF4	**Vikkela, Lumij**	**2.48**	**269**	PG	Pb	10 02 15.1	+0.5
	baz=83						
OBF4				MSG		10 02 42.4	
	comp=Z,2.5nm,0.2s						
OUF	**Merijarvi**	**2.71**	**260**	PG	Pb	10 02 17.2	-1.5
OUF				MSG		10 02 49.4	
	comp=Z,2.8nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.89**	**264**	PG	Pb	10 02 21.9	+0.2
OBF0				MSG		10 02 54.3	
	comp=Z,2.4nm,0.2s						
KLF	**Kolari**	**3.64**	**312**	PG	Pb	10 02 34.6	+0.2
PAJU	**Pajala**	**3.80**	**307**	PG	Pb	10 02 35.5	-1.7
KEF	**Keuruu**	**3.88**	**227**	PN	Pn	10 02 29.1	-1.0
ERTU	**Ertsjaerv**	**3.94**	**298**	PB	Pb	10 02 36.9	-2.5
VAF	**Ylistaro**	**4.09**	**246**	PB	Pb	10 02 37.7	-4.5
FIA0	**FINESS Array S**	**4.14**	**214**	PG	Pb	10 02 42.2	-0.7
HEF	**Hetta**	**4.51**	**324**	PB	Pb	10 02 45.2	-4.0
UMAU	**Umeaa**	**4.56**	**261**	PN	Pn	10 02 41.0	+1.6
LANU	**Lannavaara**	**4.73**	**315**	PB	Pb	10 02 48.6	-4.3

HEL 17 10:01:43.4±0.4, 61°.09N×29°.92E, h0km, ML1.7,
Suspected explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.58**	**306**	PG	Pg	10 01 54.0	-0.5
RUF				SG	Sg	10 02 01.0	-1.0
RUF				MSG		10 02 02.1	
	comp=Z,12nm,0.2s						
VJF	**Virojoki**	**1.28**	**246**	PN	Pn	10 02 08.6	+0.1
VJF				MSG		10 02 22.3	
	comp=Z,7.3nm,0.2s						
VJF				SN	Sn	10 02 28.3	+1.9
FIA0	**FINESS Array S**	**1.89**	**283**	PG	Pn	10 02 16.8	-0.1
	baz=99						
FIA0				MSG		10 02 39.9	
	comp=Z,6.5nm,0.2s						
JOF	**Joensuu**	**1.95**	**19**	PG	Pn	10 02 18.3	+0.6
JOF				SG	Sn	10 02 43.5	+0.6
KAF	**Kangasniemi**	**2.01**	**302**	PG	Pb	10 02 19.8	-1.0
KAF				MSG		10 02 43.3	
	comp=Z,5.1nm,0.2s						
KAF				SG	Sb	10 02 46.7	+0.3
PVF	**Pernaja**	**2.06**	**257**	PG	Pn	10 02 19.9	+0.6
	baz=71						
PVF				MSG		10 02 44.6	
	comp=Z,11nm,0.2s						
PVF				SG	Sb	10 02 47.6	-0.2
NIF	**Nilsia**	**2.52**	**338**	SG	Sb	10 03 00.5	-0.3
KEF	**Keuruu**	**2.65**	**296**	MSG		10 03 01.4	
	comp=Z,2.0nm,0.2s						
KEF				SB	Sn	10 03 02.2	+2.1
NUR	**Nurmijrvi**	**2.65**	**260**	PG	Pb	10 02 30.9	-0.8
	baz=74						
NUR				MSG		10 03 01.4	
	comp=Z,2.6nm,0.2s						
NUR				SG	Sb	10 03 05.9	+1.2
MEF	**Metsahovi**	**2.86**	**255**	MSG		10 03 07.6	
	comp=Z,2.9nm,0.2s						
MEF				SG	Sb	10 03 12.4	+1.7
VSU	**Vasula**	**3.09**	**213**	PB	Pn	10 02 34.8	+1.5
MTSE	**Matsula**	**3.89**	**235**	SB	Sb	10 03 36.1	-4.2
OUF	**Merijarvi**	**4.07**	**326**	PB	Pb	10 02 53.0	-2.8
OUL	**Oulu**	**4.41**	**337**	SG	Sg	10 04 00.5	-4.4

ISK 17 10:10:38.2, 37°.18N×27°.87E, h0km, ML1.5/9, Suspected
Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.14**	**327**	Pg	Pg	10 10 41.8	+1.0
MLSB				Sg	Sg	10 10 44.4	+1.8
RFTAA	**Mazikoy-Bodrum**	**0.21**	**208**	Pg	Pg	10 10 42.7	+0.5
RFTAA				Sg	Sg	10 10 46.5	+1.7
YER	**Yerkesik**	**0.33**	**98**	Pg	Pg	10 10 45.4	+0.8
YER				Sg	Sg	10 10 50.5	+1.6
RFTC	**Emecik-Datca**	**0.41**	**186**	Pg	Pg	10 10 46.7	+0.8
BODT	**Bodrum**	**0.46**	**255**	Pg	Pg	10 10 47.7	+0.7
BODT				Sg	Sg	10 10 54.7	+1.7
TURN	**Turunc**	**0.51**	**143**	Pg	Pg	10 10 48.6	+0.7
TURN				Sg	Sg	10 10 56.1	+1.7
DAT	**Datca**	**0.51**	**207**	Pg	Pg	10 10 48.5	+0.6
RFTD	**Palamutbuku-Ka**	**0.58**	**211**	Pg	Pg	10 10 49.9	+0.6
RFTD				Sg	Sb	10 10 58.5	-1.5
DALY	**Dalyan (Mula)**	**0.73**	**120**	Pg	Pg	10 10 52.7	+0.6

KRSZO ***17*** *10:11:25.3±0.8, 47°.69N×15°.82E, h6km±5km, ML2.6/8,*
Error ellipse: s-maj=2.4km s-min=2.0km az=131.0
IPEC ***17*** *10:11:25.6±0.1, 47°.65N×15°.88E, h8km, ML3.0/6, Error*
ellipse: s-maj=1.5km s-min=1.2km az=103.0
PRU ***17*** *10:11:27.4, 47°.78N×15°.87E, h12km, Semmering*
VIE 17 10:11:25.4±0.1, 47°.65N×15°.85E, h7km±1km, mb2.5/16,
ml3.0/19, Error ellipse: s-maj=1.0km s-min=0.9km
az=142.0 2 km NNE of Semmering felt 4 ems98 at
Schottwien / Lower Austria, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONA	**Conrad Observa**	**0.28**	**1**	*i* Pg	Pg	10 11 31.0	0.0
	17nm,0.1s,SNR=186						
CONA				*e*Sg	Sg	10 11 35.1	+0.5
	241nm,0.3s						
CONA	**Conrad Observa**	**0.28**	**1**	Pg	Pg	10 11 30.7	-0.2
CONA				Pb	Pb	10 11 30.9	-1.9
CONA				Pg	Pn	10 11 31.0	-5.0
	comp=Z,189nm,SNR=31						
CONA				Lg	Lg	10 11 34.1	
CONA				Lg	Lg	10 11 35.0	
CONA				Sg	Sg	10 11 35.1	+0.5
	comp=Z,241nm,0.3s						
RONA	**Rosalia, Austr**	**0.30**	**81**	*e*Pg	Pg	10 11 31.5	+0.1
	comp=Z,17nm,0.1s						
RONA				*i* Sg	Sg	10 11 35.8	+0.3
	comp=Z,303nm,0.1s,SNR=529						
RONA	**Rosalia, Austr**	**0.30**	**81**	Pg	Pg	10 11 31.5	+0.1
	comp=Z,17nm,0.1s						
RONA				Lg	Lg	10 11 35.8	
	comp=Z,303nm,0.1s,SNR=529						
ARSA	**Arzberg**	**0.46**	**209**	*e*Pg	Pg	10 11 34.7	+0.4
	comp=Z,60nm,0.2s,SNR=158						
ARSA				*e*Sg	Sg	10 11 40.9	+0.6
	comp=Z,120nm,0.1s						
ARSA	**Arzberg**	**0.46**	**209**	Pg	Pg	10 11 34.3	0.0
ARSA				Pg	Pb	10 11 34.6	-1.3
	comp=Z,210nm,SNR=26						
ARSA				Pb	Pn	10 11 34.7	-3.8
	comp=Z,60nm,0.2s,SNR=158						
ARSA				Lg	Lg	10 11 39.9	
ARSA				Lg	Lg	10 11 40.9	
	comp=Z,120nm,0.1s						
SOP	**Sopron**	**0.48**	**86**	Pg	Pg	10 11 34.7	0.0
	comp=Z,64nm,SNR=15						
SOP				Lg	Lg	10 11 40.8	
EGYH	**Egyhazaskeszo**	**1.03**	**103**	Pg	Pn	10 11 46.5	+0.2
	comp=Z,91nm,SNR=8.4						
EGYH				Pg	Pb	10 11 46.6	+1.0
EGYH				Pb	Pg	10 11 48.4	+3.2
EGYH				Lg	Lg	10 12 00.5	
MOA	**Molln**	**1.09**	**281**	*e*Pg	Pb	10 11 46.5	-0.1
	comp=Z,6.4nm,0.1s,SNR=23						
MOA				*e*Sg	Sn	10 12 02.1	-0.4
	comp=Z,141nm,0.4s						
MOA	**Molln**	**1.09**	**281**	Pn	Pb	10 11 46.5	-0.1
	comp=Z,6.4nm,0.1s,SNR=23						
MOA				Sn	Sn	10 12 02.1	-0.4
	comp=Z,141nm,0.4s						
SOKA	**Soboth**	**1.12**	**210**	*e*Pg	Pg	10 11 46.4	-0.6
	comp=Z,17nm,0.2s,SNR=63						
SOKA				*e*Sg	Sg	10 12 00.6	-0.9
	comp=Z,24nm,0.3s						
SOKA	**Soboth**	**1.12**	**210**	Pn	Pg	10 11 46.4	-0.6
	comp=Z,17nm,0.2s,SNR=63						
SOKA				Lg	Lg	10 12 00.6	
	comp=Z,24nm,0.3s						
MODS	**Modra-Piesok**	**1.20**	**52**	Pn	Pg	10 11 47.3	-1.2
MODS				Pg	Pb	10 11 47.9	-0.6
MODS				Sn	Sg	10 12 04.0	+0.1
MODS				Lg	Lg	10 12 04.6	
MODS	**Modra-Piesok**	**1.20**	**52**	*e*PG	Pg	10 11 47.8	-0.6
MODS				*e*SG	Sb	10 12 04.5	+0.3
MODS				*e*LG	Lg	10 12 09.3	
MPLH	**Magyarpolny**	**1.24**	**112**	Pg	Pg	10 11 50.1	+0.8
MPLH				Pg	Pn	10 11 50.3	+1.0
	comp=Z,27nm,SNR=11						
MPLH				Sn	Sb	10 12 05.6	+0.1
MPLH				Sn	Sn	10 12 06.3	0.0
OBKA	**Obir**	**1.45**	**218**	*e*Pg	Pb	10 11 52.6	-0.2
	comp=Z,23nm,0.3s						
OBKA				*e*Sg	Sg	10 12 12.8	+0.8
	comp=Z,54nm,0.4s						
OBKA	**Obir**	**1.45**	**218**	Pg	Pb	10 11 52.6	-0.2
	comp=Z,23nm,0.3s						
OBKA				Pg	Pg	10 11 52.7	-0.5
OBKA				Pg	Pn	10 11 53.0	+0.9
	comp=Z,29nm,SNR=7.0						
OBKA				Sn	Sg	10 12 12.8	+0.8
	comp=Z,54nm,0.4s						
OBKA				Lg	Lg	10 12 13.4	
OBKA				Lg	Lg	10 12 14.3	
KRUC	**Moravsky**	**1.46**	**14**	*e*Pg	Pn	10 11 52.2	0.0
	baz=194						
KRUC				*e*Sg	Sn	10 12 10.9	-0.6
	comp=Z,125nm,0.3s,baz=194						
KRUC	**Moravsky**	**1.46**	**14**	Pg	Pn	10 11 52.1	-0.1
KRUC				Lg	Lg	10 12 10.6	
KRUC				Lg	Lg	10 12 10.8	
BIOA	**Bad Ischl, Aus**	**1.50**	**272**	*e*Pg	Pg	10 11 54.0	-0.1
	comp=Z,32nm,0.3s,SNR=20						
BIOA				*e*Sg	Sg	10 12 14.5	+0.9
	comp=Z,165nm,0.4s						
BIOA	**Bad Ischl, Aus**	**1.50**	**272**	Pg	Pg	10 11 54.0	-0.1
	comp=Z,32nm,0.3s,SNR=20						
BIOA				Lg	Lg	10 12 14.5	
	comp=Z,165nm,0.4s						
CKRC	**Cesky Krumlov**	**1.56**	**319**	Pg	Pb	10 11 54.2	-0.4
CKRC				Pg	Pg	10 11 54.5	-0.8
CKRC				Lg	Lg	10 12 14.9	
CKRC				Lg	Lg	10 12 15.1	
CKRC	**Cesky Krumlov**	**1.56**	**319**	*e*PG	Pb	10 11 54.2	-0.4
CKRC				*e*SG	Sg	10 12 15.1	-0.4
TIH	**Tihany**	**1.58**	**118**	Pg	Pg	10 11 58.9	+3.2
CSKK	**Cskako**	**1.66**	**99**	Pg	Sn	10 12 15.8	-0.7
TREC	**Trest**	**1.66**	**352**	Pg	Pn	10 11 55.3	+0.3
TREC				Pg	Pb	10 11 55.5	-0.8
TREC				Lg	Lg	10 12 16.8	
TREC	**Trest**	**1.66**	**352**	*e*PG	Pn	10 11 55.3	+0.3
TREC				*e*SG	Sn	10 12 16.9	+0.3
	comp=Z,128nm,0.5s						
JAVC	**Velka Javorina**	**1.71**	**45**	*e*PN	Pb	10 11 57.3	0.0
JAVC	**Velka Javorina**	**1.71**	**45**	Pg	Pb	10 11 56.9	-0.4
VRAC	**Vranov**	**1.73**	**16**	*e*Pn	Pn	10 11 55.8	-0.1
	baz=196						
VRAC				*e*Sg	Sb	10 12 19.5	0.0
	comp=Z,88nm,0.4s,baz=196						
VRAC	**Vranov**	**1.73**	**16**	*e*PN	Pn	10 11 55.9	-0.1
VRAC				*e*SG	Sb	10 12 19.6	+0.1
VRAC	**Vranov**	**1.73**	**16**	Pn	Pn	10 11 55.5	-0.5
VRAC				Pg	Pb	10 11 55.9	-1.6
VRAC				Sn	Sn	10 12 17.5	-0.8
VRAC				Sn	Sb	10 12 17.6	-1.8
PTJ	**Puntijarka**	**1.75**	**177**	Sn	Sg	10 12 22.5	+0.9
KBA	**Koelnbreinsper**	**1.80**	**252**	*e*Pn	Pb	10 11 58.5	-0.3
	comp=Z,13nm,0.3s						
KBA				*e*Sn	Sb	10 12 21.3	-0.2
	comp=Z,57nm,0.5s						
KBA	**Koelnbreinsper**	**1.80**	**252**	Pg	Pb	10 11 58.5	-0.3
	comp=Z,13nm,0.3s						
KBA				Sn	Sb	10 12 21.3	-0.2
	comp=Z,57nm,0.5s						
MYKA	**Terra Mystica**	**1.82**	**237**	*e*Pg	Pg	10 12 00.1	-0.2
	comp=Z,1.4nm,0.1s						
MYKA				*e*Sg	Sg	10 12 24.8	+0.8
	com

BSZH	**Besenyszg**	**3.02 95**	Pn	Pn	10 12 11.1	-2.5
RICC	**Richard**	**3.12 339**	*e*SG	Sb	10 13 02.3	+3.0
	comp=Z,32nm,0.3s					
SQTA	**Sankt Quirin**	**3.18 264**	*i* Pg	Pg	10 12 24.7	-1.7
	comp=Z,4.2nm,0.3s					
SQTA			Sg	Sg	10 13 08.0	+0.4
	comp=Z,15nm,0.4s					
SQTA	**Sankt Quirin**	**3.18 264**	Pg	Pg	10 12 24.7	-1.7
	comp=Z,4.2nm,0.3s					
SQTA			Lg	Lg	10 13 08.0	
	comp=Z,15nm,0.4s					
MOTA	**Moosalm**	**3.23 266**	*e*Pg	Pb	10 12 25.2	+2.0
	comp=Z,1.5nm,0.2s					
MOTA			*e*Sg	Sg	10 13 08.2	-1.1
	comp=Z,22nm,0.5s					
MOTA	**Moosalm**	**3.23 266**	Pg	Pb	10 12 25.2	+2.0
	comp=Z,1.5nm,0.2s					
MOTA			Lg	Lg	10 13 08.2	
	comp=Z,22nm,0.5s					
HSKC	**Hora Svate Kat**	**3.36 333**	*e*PG	Pb	10 12 26.2	+0.9
HSKC			*e*SG	Sg	10 13 10.3	-2.9
	comp=Z,50nm,1.0s					
NKC	**Novy Kostel**	**3.42 320**	Lg	Lg	10 13 13.9	
	comp=Z,75nm,1.0s					
NKC	**Novy Kostel**	**3.42 320**	*e*SG	Sg	10 13 13.9	-1.4
	comp=Z,75nm,1.0s					
RETA	**Reutte**	**3.45 269**	*e*Sg	Sg	10 13 15.5	-0.7
	comp=Z,14nm,0.5s					
RETA	**Reutte**	**3.45 269**	Lg	Lg	10 13 15.5	
	comp=Z,14nm,0.5s					
BRG	**Berggiesshubel**	**3.46 340**	Pg	Pg	10 12 29.6	-2.1
BRG			Amp		10 12 31.4	
	comp=Z,2.6nm,0.4s					
BRG			r		10 12 55.5	
BRG			Amp		10 12 59.1	
	comp=Z,4.1nm,0.5s					
BRG			r		10 13 03.6	
BRG			Amp		10 13 06.0	
	comp=Z,5.0nm,0.6s					
BRG	**Berggiesshubel**	**3.46 340**	Sg	Sg	10 13 15.0	-1.4
BRG			Amp		10 13 19.1	
	comp=Z,32nm,0.5s					
BRG	**Berggiesshubel**	**3.46 340**	Pg	Pg	10 12 29.6	-2.1
BRG			x	x	10 12 31.4	
	comp=Z,2.6nm,0.4s					
BRG			x	x	10 12 59.1	
	comp=Z,4.1nm,0.5s					
BRG			x	x	10 13 06.0	
	comp=Z,5.0nm,0.6s					
BRG			Lg	Lg	10 13 15.0	
BRG			x	x	10 13 19.1	
	comp=Z,32nm,0.5s					
FETA	**Feichten**	**3.54 262**	*i* Pn	Pn	10 12 23.4	+2.5
	comp=Z,0.2nm,0.1s					
FETA			*i* Sn	Sn	10 13 05.7	+2.6
	comp=Z,1.7nm,0.3s					
FETA	**Feichten**	**3.54 262**	Pn	Pn	10 12 23.4	+2.5
	comp=Z,0.2nm,0.1s					
FETA			Sn	Sn	10 13 05.7	+2.6
	comp=Z,1.7nm,0.3s					
DAVA	**Damuels**	**4.07 267**	*i* Pn	Pn	10 12 23.6	-4.6
	comp=Z,2.9nm,0.4s					
DAVA			*i* Sn	Sn	10 13 16.8	+0.6
	comp=Z,18nm,0.8s					
DAVA	**Damuels**	**4.07 267**	Pn	Pn	10 12 23.6	-4.6
	comp=Z,2.9nm,0.4s					
DAVA			Sn	Sn	10 13 16.8	+0.6
	comp=Z,18nm,0.8s					
CLL	**Collm**	**4.10 334**	*e*Sg	Sg	10 13 35.0	-2.1
	comp=Z,46nm,0.8s					
SIRR	**Siria**	**4.21 107**	Sn	Sn	10 13 20.3	+0.8
GZR	**Gura Zlata**	**5.29 113**	Pn	Pn	10 12 45.0	+0.1
	comp=Z,3.1nm,0.6s					

*GCG **17** 10:13:46.6±2.1, 15.°20N×93.°17W, h0km±57km, MD4.1*
*MEX **17** 10:13:48.3±0.9, 14.°15N×93.°39W, h10km, MD4.2*
ISC 17 10:13:43.8±1.4, 14.°05N±0.°07×93.°49W±0.°03, h10km, n18, σ2°98/36, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.46**	**54**	*i* P	**Pn**	**10 14 09.4**	**-0.9**
THIG				*e*S	**Sn**	**10 14 26.8**	**-2.6**
PATR	**El Naranjo**	**1.61**	**49**	*e*P	**Pn**	**10 14 11.0**	**-1.5**
PATR				*i* S	**Sn**	**10 14 30.0**	**-3.5**
PCIG		**1.66**	**9**	*e*P	**Pn**	**10 14 11.9**	**-1.1**
PCIG				*i* S	**Sn**	**10 14 31.3**	**-3.2**
CHUJ	**Union Juarez**	**1.69**	**52**	*e*P	**Pn**	**10 14 12.3**	**-1.3**
CHUJ				*i* S	**Sn**	**10 14 30.0**	**-5.5**
PAVE	**Pavencul**	**1.70**	**48**	*e*P	**Pn**	**10 14 12.6**	**-1.2**
PAVE				*e*S	**Sn**	**10 14 30.2**	**-5.6**
SULM	**Suchitepequez,**	**1.88**	**82**	*e*P	**Pn**	**10 14 17.6**	**+1.5**
SULM				*e*S	**Sg**	**10 14 48.4**	**+4.0**
STG3	**Santiaguito 3,**	**1.97**	**70**	*e*P	**Pn**	**10 14 17.1**	**-0.4**
STG3				*e*S	**Sn**	**10 14 37.4**	**-4.9**
CARR	**Arriaga**	**2.22**	**349**	*i* P	**Pn**	**10 14 21.7**	**+0.9**
CARR				*i* S	**Sn**	**10 14 46.6**	**-1.7**
CCIG	**Comitan**	**2.57**	**30**	*e*P	**Pn**	**10 14 27.5**	**+1.8**
CCIG				*i* S	**Sn**	**10 14 55.6**	**-1.6**
FUG	**Fuego 3**	**2.59**	**81**	*e*P	**Pn**	**10 14 26.3**	**+0.2**
FUG				*e*S	**Sn**	**10 14 53.8**	**-4.0**
NILT	**Santiago Nilte**	**2.73**	**337**	*i* P	**Pb**	**10 14 33.5**	**+0.8**
NILT				*i* S	**Sn**	**10 15 01.1**	**+0.4**
TGIG		**2.73**	**7**	*e*P	**Pn**	**10 14 29.1**	**+1.2**
TGIG				*e*S	**Sn**	**10 15 00.8**	**-0.2**
HUIG	**Huatulco**	**3.06**	**304**	*e*P	**Pn**	**10 14 32.9**	**+0.7**
HUIG				*e*S	**Sn**	**10 15 04.6**	**-4.3**
NBG	**Las Nubes**	**3.09**	**80**	*e*P	**Pn**	**10 14 34.5**	**+1.5**
NBG				*e*S	**Sn**	**10 15 13.8**	**+3.6**
CMIG	**Matias Romero**	**3.31**	**336**	*e*P	**Pn**	**10 14 38.1**	**+2.4**
CMIG				*i* S	**Sn**	**10 15 11.0**	**-4.1**
UXUV	**UXUV**	**3.31**	**349**	*e*P	**Pn**	**10 14 38.0**	**+2.3**
UXUV				*e*S	**Sn**	**10 15 17.3**	**+2.2**
PEIG	**Puerto Escondi**	**4.03**	**299**	*e*P	**Pn**	**10 14 47.4**	**+1.7**
PEIG				*e*S	**Sn**	**10 15 27.6**	**-5.4**
PNIG	**Pinotepa**	**5.05**	**298**	*e*P	**Pn**	**10 15 01.1**	**+1.5**
PNIG				*e*S	**Sn**	**10 15 53.2**	**-4.9**

IDC 17 10:14:28.7±8.7, 34.°32N×8.°41E, h0km, Error ellipse: s-maj=50.3km s-min=38.4km az=25.0, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**1.61**	**28**	Pg	Pn	10 14 57.7	-0.7
	1.2nm,0.3s,baz=144,slow=16,SNR=7.1						
KEST				Lg	Lg	10 15 19.9	
	1.0nm,0.3s,baz=114,slow=19,SNR=7.1						
I48TN	**KESRA INFRASON**	**1.66**	**26**	I	I	10 24 00.0	
	0.9nm,0.6s,baz=207,slow=315,SNR=22						
I26DE	**FREYUNG INFRAS15.05**		**14**	I	I	11 42 40.0	
	baz=194,slow=313,SNR=2.1						

WEL 17 10:17:44.8±0.8, 38.°S±5.°×17.°9E±.°, h12km, M3.5/11, ML3.9/11, MLv3.5/11, Error ellipse: s-maj=0.0km s-min=0.0km az=49.9, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.55**	**310**	P	Pb	10 17 56.3	-0.1
WMGZ				S	Sb	10 18 04.8	+0.6
PUZ	**Puketiti**	**0.56**	**281**	P	Pg	10 17 55.4	-0.2
PUZ				S	Sg	10 18 03.1	+0.1
CNGZ	**Carnagh Statio**	**0.66**	**242**	P	Pn	10 18 00.1	+0.2
PKGZ	**Pakihiroa**	**0.75**	**292**	P	Pg	10 17 59.2	0.0
TWGZ	**Tauwhareparae**	**0.76**	**270**	P	Pb	10 18 00.0	0.0
MXZ	**Matakaoa Point**	**0.80**	**320**	P	Pn	10 18 01.4	-0.4
TKGZ	**Te Karaka**	**0.91**	**253**	P	Pn	10 18 03.0	-0.3
TKGZ				S	Sb	10 18 15.2	+0.8
HAZ	**Te Kaha**	**1.01**	**294**	P	Pb	10 18 03.6	-0.7
RUGZ	**Raukumara Rang**	**1.02**	**281**	P	Pb	10 18 03.7	-0.8
RIGZ	**Rimuhau**	**1.07**	**240**	P	Pn	10 18 06.0	+0.3
PRGZ	**Paritu Road**	**1.12**	**228**	P	Pg	10 18 07.1	+0.7
MWZ	**Matawai**	**1.13**	**261**	P	Pb	10 18 05.9	-0.4
MWZ				S	Sb	10 18 20.0	-1.0
RAGZ	**Rawiri**	**1.25**	**255**	P	Pn	10 18 08.0	-0.1
RAGZ				S	Sb	10 18 24.0	-0.4
MHGZ	**Mahia Peninsul**	**1.27**	**220**	P	Pg	10 18 09.5	+0.2
KNZ	**Kokohu**	**1.31**	**229**	P	Pn	10 18 09.1	+0.2
SNGZ	**Shannon Statio**	**1.40**	**244**	P	Pn	10 18 10.5	+0.3
URZ	**Urewera**	**1.45**	**266**	P	Pn	10 18 10.6	-0.2
URZ				S	Sn	10 18 28.5	-1.2
WHRZ	**Whale Island**	**1.59**	**281**	P	Pn	10 18 13.1	+0.3
RTZ	**Ruatahuna**	**1.61**	**254**	P	Pn	10 18 13.2	+0.2
RAHZ	**Arahi**	**1.64**	**243**	P	Pn	10 18 14.1	+0.6
MUGZ	**Murupara**	**1.74**	**259**	P	Pn	10 18 15.3	+0.4
EDRZ	**Edgecumbe**	**1.74**	**272**	P	Pb	10 18 17.3	+0.5
MTHZ	**Maungataniwha**	**1.79**	**247**	P	Pn	10 18 15.6	+0.1
MARZ	**Manawahe**	**1.80**	**275**	P	Pn	10 18 16.3	+0.5
ARHZ	**Aropaoanui**	**1.87**	**234**	P	Pn	10 18 17.6	+0.9
NMHZ	**Naumai**	**1.91**	**241**	P	Pn	10 18 18.0	+0.7
OPRZ	**Ohinepanea**	**1.92**	**279**	P	Pn	10 18 16.4	-0.9
RRRZ	**Republican Roa**	**1.92**	**264**	P	Pg	10 18 21.6	-0.1
TARZ	**Mount Tarawera**	**1.93**	**267**	P	Pn	10 18 17.1	-0.4
PRRZ	**Plateau Road**	**2.04**	**260**	P	Pb	10 18 21.2	-0.5
HLRZ	**Highlands Stat**	**2.05**	**267**	P	Pg	10 18 23.7	-0.4
CKHZ	**Cape Kidnapper**	**2.08**	**224**	P	Pn	10 18 19.6	+0.1
ALRZ	**Allen Road**	**2.08**	**259**	P	Pb	10 18 21.5	-1.1
MRHZ	**Matea Rd**	**2.09**	**251**	P	Pn	10 18 20.1	+0.4
HRRZ	**Handcock Road**	**2.11**	**263**	P	Pg	10 18 26.1	+0.8
KARZ	**Kaharoa**	**2.14**	**273**	P	Pn	10 18 20.1	-0.3
BKZ	**Black Stump Fm**	**2.16**	**242**	P	Pn	10 18 20.9	+0.2
MCHZ	**McNeill Hill**	**2.17**	**234**	P	Pn	10 18 21.1	+0.4
TGRZ	**Tauranga**	**2.17**	**281**	P	Pn	10 18 19.7	-1.1
KAHZ	**Kahuranaki**	**2.29**	**224**	P	Pn	10 18 22.2	-0.2
KWHZ	**Kaweka Forest**	**2.33**	**237**	P	Pn	10 18 23.5	+0.5
PXZ	**Pawanui**	**2.46**	**221**	P	Pn	10 18 24.4	-0.4
KRHZ	**Kereru**	**2.49**	**233**	P	Pn	10 18 25.2	0.0
BHHZ	**Black Hill Sta**	**2.61**	**239**	P	Pn	10 18 26.8	0.0
TMVZ	**Te Maari**	**2.71**	**249**	P	Pn	10 18 28.6	+0.3
ETVZ	**East Tongariro**	**2.71**	**248**	P	Pn	10 18 28.9	+0.6
WPHZ	**Waipukurau**	**2.71**	**225**	P	Pn	10 18 27.5	-0.8
KRVZ	**Karewarewa**	**2.75**	**249**	P	Pn	10 18 29.4	+0.6
OTVZ	**Oturere**	**2.75**	**248**	P	Pn	10 18 29.5	+0.6
PRHZ	**Porangahau**	**2.75**	**220**	P	Pn	10 18 28.1	-0.7
NNVZ	**North Ngauruho**	**2.78**	**249**	P	Pn	10 18 30.0	+0.7
SNVZ	**South Ngauruho**	**2.78**	**248**	P	Pn	10 18 29.9	+0.6
NGZ	**Ngauruhoe**	**2.80**	**248**	P	Pn	10 18 29.9	+0.3
WNVZ	**Wahianoa**	**2.86**	**245**	P	Pn	10 18 30.8	+0.4
KUZ	**Kuaotunu**	**2.94**	**298**	P	Pn	10 18 30.2	-1.1
ANWZ	**Angora Road**	**2.98**	**219**	P	Pn	10 18 31.9	0.0
TSZ	**Takapari Road**	**2.99**	**230**	P	Pn	10 18 31.0	-1.1
DVHZ	**Dannevirke**	**3.03**	**225**	P	Pn	10 18 31.7	-0.9
MKAZ	**Moumakai**	**3.19**	**288**	P	Pn	10 18 34.1	-0.7
BFZ	**Birch Farm**	**3.26**	**219**	P	Pn	10 18 34.8	-0.9
POWZ	**Post Office Ro**	**3.31**	**227**	P	Pn	10 18 36.5	0.0
VRZ	**Vera Road**	**3.42**	**253**	P	Pn	10 18 38.6	+0.8
WAZ	**Wanganui**	**3.47**	**242**	P	Pn	10 18 39.4	+0.8
MBAZ	**Motutapu North**	**3.52**	**292**	P	Pn	10 18 39.2	0.0
TIWZ	**Tintock**	**3.52**	**221**	P	Pn	10 18 38.3	-1.0
MRZ	**Mangatainoka R**	**3.60**	**225**	P	Pn	10 18 38.9	-1.5
TMWZ	**Te Maipa**	**3.76**	**218**	P	Pn	10 18 41.4	-1.3
NEZ	**North Egmont**	**3.95**	**252**	P	Pn	10 18 46.7	+1.4
PKE	**Pukeiti**	**4.01**	**254**	P	Pn	10 18 48.1	+2.0
KHEZ	**Kahui Hut**	**4.02**	**252**	P	Pn	10 18 47.8	+1.6
CTZ	**Chatham Island**	**6.49**	**150**	P	Pn	10 19 24.1	+4.0
CTZ				S	Sn	10 20 33.2	-0.8
MQZ	**McQueen's Vall**	**7.29**	**219**	S	Sn	10 20 42.8	-11

*IDC **17** 10:20:21.3±2.6, 20.°10S×177.°70W, h533km±28km, mb3.3/5, mbtmp4.1/7, Error ellipse: s-maj=34.4km s-min=29.7km az=174.0*
ISC 17 10:20:18.5±1.5, 20.°3S±0.°2×177.°4W±0.°2, h500km, n7, σ1°59/7, mb3.8/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.00**	**300**	P	**P**	**10 21 47.1**	**+1.5**
	1.9nm,0.4s,baz=259,slow=21,SNR=4.1						
DZM	**Mont Dzumac**	**15.16**	**260**	P	**P**	**10 23 31.4**	**+0.8**
	9.5nm,0.9s,baz=102,slow=19,SNR=2.4						
STKA	**Stephens Creek**	**38.37**	**244**	P	**P**	**10 26 55.7**	**-0.6**
	1.5nm,0.5s,baz=81,slow=15,SNR=8.0						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**45.10**	**256**	P	**P**	**10 27 48.4**	**-1.4**
	7.4nm,0.5s,baz=97,slow=7.6,SNR=135						
	7.4nm,0.5s						
WRA	**Warramunga Arr**	**45.18**	**262**	P	**P**	**10 27 48.6**	**-1.7**
	1.6nm,0.3s,baz=97,slow=7.4,SNR=92						
	1.6nm,0.3s						
QSPA	**South Pole Qui**	**69.76**	**180**	P	**P**	**10 30 38.9**	**+1.2**
	1.4nm,0.7s,baz=90,slow=8.1,SNR=8.0						
	1.4nm,0.7s						
ILAR	**Eielson Array**	**88.00**	**13**	P	**P**	**10 32 13.7**	**-0.7**
	0.5nm,1.0s,baz=203,slow=5.4,SNR=2.1						
	0.5nm,1.0s						

*SOME **17** 10:24:17.7, 42.°28N×78.°83E, h15km*
*KRNET **17** 10:24:18.4±0.1, 42.°30N×78.°82E, h20km, mb3.5*
*NNC **17** 10:24:19.6±0.6, 42.°38N×78.°79E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=4.4km s-min=2.0km az=160.0*
ISC 17 10:24:18.6±1.4, 42.°32N±0.°04×78.°80E±0.°02, h2km±10km, n75, σ1°15/122, 26C-20D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.34**	**300**	⇑*i*P	**Pg**	**10 24 25.7**	**+0.6**
	baz=3.0						
PRZ				⇑*i*S	**Sg**	**10 24 31.4**	**+1.8**
	baz=3.0						
SATY	**Saty**	**0.80**	**339**	P	**Pg**	**10 24 33.7**	**-0.1**
	101nm,0.3s						
SATY				S	**Sg**	**10 24 44.3**	**+0.1**
	118nm,0.2s						
SATY	**Saty**	**0.80**	**339**	*e*P	**Pg**	**10 24 33.7**	**-0.1**
	baz=38						
SATY				*e*S	**Sg**	**10 24 44.3**	**+0.1**
	baz=38						
SATY	**Saty**	**0.80**	**339**	*e*P	**Pg**	**10 24 33.7**	**-0.1**
	101nm,0.3s						
SATY				*e*S	**Sg**	**10 24 44.3**	**+0.1**
	118nm,0.2s						
UZB	**Uzynbulak**	**0.85**	**11**	P	**Pg**	**10 24 34.5**	**-0.3**
	44nm,0.3s						
UZB				S	**Sg**	**10 24 46.3**	**+0.4**
	163nm,0.3s						
UZB	**Uzynbulak**	**0.85**	**11**	*e*P	**Pg**	**10 24 34.5**	**-0.3**
	baz=10.0						
UZB				*e*S	**Sg**	**10 24 46.2**	**+0.4**
	baz=10.0						
UZB	**Uzynbulak**	**0.85**	**11**	*e*P	**Pg**	**10 24 34.5**	**-0.3**
	44nm,0.3s						
UZB				*e*S	**Sg**	**10 24 46.3**	**+0.4**
	163nm,0.3s						
ZHN	**Zhinishke**	**0.89**	**343**	P	**Pb**	**10 24 35.4**	**-1.5**
	58nm,0.2s						
ZHN				S	**Sb**	**10 24 47.8**	**-1.4**
	274nm,0.2s						
ZHN	**Zhinishke**	**0.89**	**343**	*e*P	**Pb**	**10 24 35.4**	**-1.5**
	baz=42						
ZHN				*e*S	**Sb**	**10 24 47.9**	**-1.4**
	baz=42						
ZHN	**Zhinishke**	**0.89**	**343**	*e*P	**Pb**	**10 24 35.4**	**-1.5**
	58nm,0.2s						
ZHN				*e*S	**Sb**	**10 24 47.9**	**-1.4**
	274nm,0.2s						
ANVS	**Anan'yevo**	**0.96**	**300**	⇑*i*P	**Pb**	**10 24 37.0**	**-1.0**
	baz=0.0						
ANVS				⇑*i*S	**Sg**	**10 24 50.4**	**+1.0**
	baz=0.0						
SHLS	**Shalkode**	**0.97**	**30**	P	**Pn**	**10 24 40.5**	**+1.1**
	72nm,0.2s						
SHLS				S	**Sn**	**10 24 56.5**	**+2.8**
	288nm,0.4s						
SHLS	**Shalkode**	**0.97**	**30**	*e*P	**Pn**	**10 24 39.8**	**+0.5**
	22nm,0.2s						
SHLS				*e*S	**Sn**	**10 24 55.4**	**+1.7**
	288nm,0.4s						
PDGK	**Podgornoye**	**1.13**	**26**	P	**Pb**	**10 24 39.6**	**-1.3**
	13nm,0.2s						
PDGK				S	**Sb**	**10 24 54.9**	**-1.3**
	114nm,0.4s						
PDGK	**Podgornoye**	**1.13**	**26**	⇓P	**Pb**	**10 24 39.4**	**-1.5**
	6.5nm,0.2s						
PDGK				⇑S	**Sb**	**10 24 54.3**	**-1.8**
	294nm,0.6s						
KPKS	**Kokpek**	**1.15**	**356**	P	**Pn**	**10 24 40.2**	**-1.6**
	144nm,0.2s						
KPKS				S	**Sb**	**10 24 55.6**	**-1.1**
	208nm,0.5s						
KPKS	**Kokpek**	**1.15**	**356**	*e*P	**Pn**	**10 24 39.2**	**-2.6**
	144nm,0.2s						
KPKS				*e*S	**Sb**	**10 24 54.4**	**-2.3**
	208nm,0.5s						
KURS	**Kuram**	**1.26**	**339**	P	**Pb**	**10 24 42.1**	**-1.0**
	26nm,0.3s						
KURS				S	**Sg**	**10 24 59.6**	**+0.6**
	78nm,0.3s						
KURS	**Kuram**	**1.26**	**339**	*e*P	**Pb**	**10 24 42.1**	**-1.0**
	baz=38						
KURS				*e*S	**Sg**	**10 24 59.7**	**+0.6**
	baz=38						
KURS	**Kuram**	**1.26**	**339**	*e*P	**Pb**	**10 24 42.1**	**-1.0**
	26nm,0.3s						
KURS				*e*S	**Sg**	**10 24 59.6**	**+0.6**
	78nm,0.3s						
MDOK	**Medeo**	**1.54**	**304**	Pg	**Pb**	**10 24 46.9**	**-1.0**
	33nm,0.2s						
MDOK				Lg	Lg	10 25 07.6	
	315nm,0.5s						
MDOK	**Medeo**	**1.54**	**304**	*e*P	**Pb**	**10 24 46.9**	**-1.0**
	baz=4.0						
MDOK				*e*S	**Sb**	**10 25 07.5**	**-0.4**
	baz=4.0						
MDOK	**Medeo**	**1.54**	**304**	*e*P	**Pb**	**10 24 46.9**	**-1.0**
	33nm,0.2s						
MDOK				*e*S	**Sb**	**10 25 07.5**	**-0.4**
	315nm,0.5s						
KOTS	**Kotyrbulak**	**1.54**	**307**	P	**Pb**	**10 24 47.0**	**-0.9**
	56nm,0.2s						
KOTS				S	**Sg**	**10 25 07.8**	**-0.4**
	303nm,0.6s						
KOTS	**Kotyrbulak**	**1.54**	**307**	*e*P	**Pb**	**10 24 47.0**	**-0.9**
	baz=7.0						
KOTS				*e*S	**Sg**	**10 25 07.8**	**-0.4**
	baz=7.0						
KOTS	**Kotyrbulak**	**1.54**	**307**	*e*P	**Pb**	**10 24 47.0**	**-0.9**
	56nm,0.2s						
KOTS				*e*S	**Sg**	**10 25 07.8**	**-0.4**
	303nm,0.6s						
TNSS	**Tian-Shan**	**1.54**	**298**	P	**Pb**	**10 24 47.0**	**-1.1**
	28nm,0.4s						
TNSS				S	**Sb**	**10 25 07.8**	**-0.5**
	174nm,0.3s						
TNSS	**Tian-Shan**	**1.54**	**298**	*e*P	**Pb**	**10 24 47.0**	**-1.1**
	28nm,0.4s						
TNSS				*e*S	**Sb**	**10 25 07.8**	**-0.5**
	174nm,0.3s						
KTMS	**Ketmen**	**1.61**	**45**	P	**Pg**	**10 24 50.8**	**+1.4**
	21nm,0.2s						
KTMS				S	**Sg**	**10 25 12.0**	**+1.8**
	79nm,0.4s						
KTMS	**Ketmen**	**1.61**	**45**	*e*P	**Pb**	**10 24 47.9**	**-1.1**
	baz=44						
KTMS				*e*S	**Sg**	**10 25 09.3**	**-0.8**
	baz=44						
KTMS	**Ketmen**	**1.61**	**45**	*e*P	**Pb**	**10 24 47.9**	**-1.1**
	21nm,0.2s						
KTMS				*e*S	**Sg**	**10 25 09.3**	**-0.8**
	79nm,0.4s						
KNDC	**Almaty**	**1.62**	**304**	⇑P	**Pb**	**10 24 48.7**	**-0.5**
	27nm,0.3s						
KNDC				⇑S	**Sg**	**10 25 10.3**	**-0.4**
	309nm,0.6s						
AAA	**Alma-Ata**	**1.65**	**303**	P	**Pb**	**10 24 49.5**	**-0.2**
	37nm,0.1s						
AAA				S	**Sg**	**10 25 12.0**	**+0.4**
	432nm,0.4s						
AAA	**Alma-Ata**	**1.65**	**303**	*e*P	**Pb**	**10 24 49.5**	**-0.2**
	37nm,0.1s						
AAA				*e*S	**Sg**	**10 25 12.0**	**+0.4**
	432nm,0.4s						
IZV	**Izvestkoviy**	**1.77**	**295**	*e*P	**Pb**	**10 24 50.8**	**-1.0**
	baz=95						
IZV				*e*S	**Sb**	**10 25 14.2**	**-0.2**
	baz=95						
IZV	**Izvestkoviy**	**1.77**	**295**	*e*P	**Pb**	**10 24 50.8**	**-1.0**
	0.4nm,0.1s						
IZV				*e*S	**Sb**	**10 25 14.1**	**-0.2**
	484nm,0.8s						
BLB	**Baldybastay**	**1.80**	**353**	P	**Pb**	**10 24 51.7**	**-0.5**
	265nm,0.4s						
BLB				S	**Sg**	**10 25 15.7**	**-0.6**
	138nm,0.5s						
ULHL	**Ulahol**	**1.90**	**269**	⇓*i*P	**Pb**	**10 24 52.7**	**-1.3**
	baz=69						
ULHL				⇓*i*S	**Sb**	**10 25 17.7**	**-0.6**
	baz=69						
MTBS	**Maitube**	**1.93**	**296**	P	**Pb**	**10 24 53.8**	**-0.6**
	25nm,0.3s						
MTBS				S	**Sb**	**10 25 18.8**	**-0.1**
	161nm,0.6s						
MTBS	**Maitube**	**1.93**	**296**	*e*P	**Pb**	**10 24 53.8**	**-0.6**
	baz=96						
MTBS				*e*S	**Sb**	**10 25 18.8**	**-0.1**
	baz=96						
MTBS	**Maitube**	**1.93**	**296**	*e*P	**Pb**	**10 24 53.8**	**-0.6**
	25nm,0.3s						
MTBS				*e*S	**Sb**	**10 25 18.9**	**-0.1**
	161nm,0.6s						
ARXS	**Arharly**	**2.02**	**340**	Pg	**Pb**	**10 24 55.2**	**-0.9**
	41nm,0.4s						
ARXS				Lg	Lg	10 25 21.3	
	98nm,0.5s						
ARXS	**Arharly**	**2.02**	**340**	*e*Pg	**Pb**	**10 24 55.6**	**-0.5**
	41nm,0.4s						
ARXS				*e*Lg	Lg	10 25 22.5	
	98nm,0.5s						
KNOS	**Konyrlen**	**2.06**	**8**	Pg	**Pb**	**10 24 55.7**	**-1.1**
	46nm,0.3s						
KNOS				Lg	Lg	10 25 23.2	
	104nm,0.4s						
KTBS	**Karatobe**	**2.09**	**313**	Pg	**Pb**	**10 24 56.6**	**-0.6**
	117nm,0.4s						
KTBS				Lg	Lg	10 25 24.3	
	528nm,0.6s						
KTBS	**Karatobe**	**2.09**	**313**	*e*Pg	**Pb**	**10 24 56.5**	**-0.6**
	117nm,0.4s						
KTBS				*e*Lg	Lg	10 25 24.3	
	528nm,0.6s						
BOOM	**Boomskoye usch**	**2.12**	**276**	⇓*i*

AAK	**Ala-Archa**	**3.20**	**277**	⇑*iP*	**Pn**	**10 25 10.7**	**+0.7**
	baz=77						
AAK				⇑*iS*	**Sn**	**10 25 49.3**	**+0.5**
	baz=77						
USP	**Ospenovka**	**3.30**	**288**	⇑*eP*	**Pn**	**10 25 12.3**	**+1.0**
	baz=88						
USP				⇑*iS*	**Sn**	**10 25 51.6**	**+0.5**
	baz=88						
ARLS	**Aral**	**3.36**	**264**	⇓*iP*	**Pn**	**10 25 12.9**	**+0.7**
	baz=64						
ARLS				⇓*iS*	**Sn**	**10 25 52.8**	**+0.1**
	baz=64						
EKS2	**Erkin-Say**	**3.73**	**277**	⇑*eP*	**Pn**	**10 25 18.3**	**+1.1**
	baz=77						
EKS2				⇑*iS*	**Sn**	**10 26 01.8**	**0.0**
	baz=77						
AML	**Almayashu**	**3.80**	**269**	⇑Pg	**Pb**	**10 25 27.8**	**+1.3**
	1.0nm,0.7s						
AML				⇑Lg	Lg	10 26 20.0	
	2.0nm,0.5s						
AML	**Almayashu**	**3.80**	**269**	⇓*eP*	**Pn**	**10 25 19.2**	**+0.8**
	baz=69						
AML				⇓*eS*	**Sn**	**10 26 04.0**	**+0.2**
	baz=69						
MRKS	**Merke**	**4.14**	**278**	Pg	**Pb**	**10 25 33.8**	**+1.7**
	9.8nm,0.3s						
MRKS				Lg	Lg	10 26 27.4	
	18nm,0.7s						
MRKS	**Merke**	**4.14**	**278**	*e*Pg	**Pb**	**10 25 33.8**	**+1.7**
	9.8nm,0.3s						
MRKS				*e*Lg	Lg	10 26 27.4	
	18nm,0.7s						
BTLS	**Baital**	**4.39**	**310**	Pg	**Pb**	**10 25 37.8**	**+1.4**
	2.9nm,0.4s						
BTLS				Lg	Lg	10 26 34.8	
	15nm,0.7s						
BTLS	**Baital**	**4.39**	**310**	*e*Pg	**Pb**	**10 25 38.8**	**+2.4**
	2.9nm,0.4s						
BTLS				*e*Lg	Lg	10 26 36.5	
	15nm,0.6s						
MAKZ	**Makanchi**	**5.03**	**26**	⇓Pn	Pn	10 25 38.3	+3.3
	0.8nm,0.5s						
MAKZ				⇑Lg	Lg	10 26 56.9	
	3.0nm,0.4s						
MK31	**Makanchi Array**	**5.12**	**28**	⇑Pn	**Pn**	**10 25 38.5**	**+2.2**
	0.9nm,0.4s,baz=195,slow=27,SNR=21						
MK31				⇓Sn	**Sn**	**10 26 36.1**	**+0.1**
	3.1nm,0.4s,baz=210,slow=17,SNR=10.0						
MK31				⇓Lg	Lg	10 26 59.6	
	12nm,0.7s,baz=209,slow=28,SNR=8.8						
KK31	**Karatay Array**	**6.16**	**280**	Pg	Pg	10 26 11.8	-4.7
	0.7nm,0.4s,baz=90,slow=17,SNR=14						
KK31				⇑Lg	Lg	10 27 34.5	
	3.8nm,0.5s,baz=98,slow=28,SNR=12						
OTUK	**Ortayu**	**7.47**	**325**	⇓Pn	**Pn**	**10 26 09.4**	**+0.8**
	3.7nm,0.8s						
OTUK				⇑Lg	Lg	10 28 11.9	
	9.4nm,0.8s						
KURBB	**Kurchatov Arra**	**8.31**	**359**	⇓Lg	Lg	10 28 39.2	
	17nm,0.8s						
KURK	**Kurchatov**	**8.40**	**359**	⇑Lg	Lg	10 28 42.5	
	7.8nm,0.9s						

NEIC ***17*** *10:30:28.2±1.9,24°.3S±0°.2×175°.2W±0°.1,h24km±8km, mb4.5/9, Error ellipse: s-maj=22.6km s-min=14.6km az=172.0*

IDC ***17*** *10:30:29.0±0.7,23°.82S×176°.35W,h0km,mb4.2/12, mbtmp4.2/13,ML3.6/1, Error ellipse: s-maj=27.4km s-min=20.2km az=104.0*

ISC 17 10:30:29.3±0.5,24°.05S±0°.09×175°.61W±0°.08,h10km,n45, σ2°.21/40,mb4.5/21,5C,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.25**	**48**	Pn	**Pn**	**10 32 12.6**	**-2.7**
MSVF	**Nonsavu**	**8.64**	**316**		**Pn**	**10 32 38.4**	**+3.9**
MSVF	**Nonsavu**	**8.64**	**316**	Pn	**Pn**	**10 32 36.4**	**+1.9**
	1.3nm,0.3s,baz=140,slow=14,SNR=15						
AFI	**Afiamalu**	**10.72**	**20**	Pn	**Pn**	**10 33 01.9**	**-1.1**
RAR	**Rarotonga**	**14.89**	**82**	P	**Pn**	**10 33 57.9**	**-2.1**
RAR	**Rarotonga**	**14.89**	**82**	Pn	**Pn**	**10 33 57.4**	**-2.6**
	2.9nm,0.3s,baz=249,slow=6.7,SNR=6.4						
URZ	**Urewera**	**15.46**	**202**	Pn	**P**	**10 34 08.7**	**-3.2**
	0.2nm,0.3s,baz=133,slow=20,SNR=1.4						
	7.4nm,0.9s						
CTAO	**Charters Tower**	**35.49**	**269**	P	**P**	**10 37 25.8**	**-0.5**
STKA	**Stephens Creek**	**38.40**	**249**	P	**P**	**10 37 49.8**	**-1.2**
STKA	**Stephens Creek**	**38.40**	**249**	P	**P**	**10 37 48.7**	**-2.3**
	0.8nm,0.4s,baz=104,slow=12,SNR=4.7						
	0.8nm,0.4s						
BBOO	**Buckleboo**	**43.08**	**247**	P	**P**	**10 38 27.1**	**-2.6**
BBOO				IAmb	IAmb	10 38 57.3	
	comp=Z,18nm,1.3s						
AS31	**Alice Springs**	**45.96**	**260**	P	**P**	**10 38 51.7**	**-1.2**
AS31				IAmb	IAmb	10 39 05.2	
	comp=Z,0.9nm,0.6s						
ASAR	**Alice Springs**	**45.96**	**260**	P	**P**	**10 38 51.0**	**-1.9**
ASAR	**Alice Springs**	**45.96**	**260**	P	P	10 38 44.3	-8.6
	comp=Z,0.4nm,0.5s,baz=101,slow=6.5,SNR=11						
WR0	**Warramunga Arr**	**46.21**	**265**	P	**P**	**10 38 51.0**	**-3.8**
WR0				IAmb	IAmb	10 39 04.9	
	comp=Z,4.7nm,1.1s						
WB2	**Warramunga Arr**	**46.38**	**265**	P	**P**	**10 38 54.6**	**-1.6**
WB2				IAmb	IAmb	10 38 56.2	
	comp=Z,6.6nm,0.8s						
WRAB	**Tennant Creek**	**46.39**	**265**	P	**P**	**10 38 54.1**	**-2.1**
WRAB				IAmb	IAmb	10 38 56.2	
	comp=Z,5.8nm,0.8s						
WB0	**Warramunga Arr**	**46.39**	**265**	P	**P**	**10 38 53.3**	**-3.0**
WRA	**Warramunga Arr**	**46.40**	**265**	P	**P**	**10 38 53.7**	**-2.6**
WRA	**Warramunga Arr**	**46.40**	**265**	P	P	10 38 50.6	-5.7
	comp=Z,3.5nm,0.7s,baz=91,slow=6.2,SNR=42						
	comp=Z,3.5nm,0.7s						
QSPA	**South Pole Qui**	**66.03**	**180**	P	**P**	**10 41 19.2**	**+3.2**
	comp=Z,2.6nm,0.7s,baz=67,slow=1.4,SNR=16						
	comp=Z,2.6nm,0.7s						
MAW	**Mawson**	**78.97**	**199**	P	**P**	**10 42 35.1**	**+2.2**
	comp=Z,2.2nm,0.7s,baz=139,slow=8.0,SNR=6.1						
	comp=Z,2.2nm,0.7s						
PETK	**Petropavlovsk-**	**80.27**	**344**	P	**P**	**10 42 38.6**	**-1.4**
	comp=Z,4.7nm,0.8s,baz=130,slow=8.7,SNR=4.9						
	comp=Z,4.7nm,0.8s						
KSRS	**Korea Array**	**81.00**	**318**	P	**P**	**10 42 44.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=119,slow=0.2,SNR=2.0						
	comp=Z,0.7nm,0.5s						
NVAR	**Mina Array Bea**	**82.13**	**42**	P	**P**	**10 42 53.8**	**+3.3**
	comp=Z,0.4nm,0.6s,baz=230,slow=6.7,SNR=4.3						
	comp=Z,0.4nm,0.6s						
H03S2	**Juan Fernandez**	**82.18**	**123**	T	T	12 14 26.8	
	baz=244,slow=74,SNR=8.2						
H03S1	**Juan Fernandez**	**82.19**	**123**	T	T	12 14 05.1	
	baz=244,slow=74,SNR=10						
H03S3	**Juan Fernandez**	**82.20**	**123**	T	T	12 14 07.9	
	baz=244,slow=74,SNR=9.8						
USRK	**Ussuriysk Ar.**	**83.13**	**325**	P	**P**	**10 42 53.3**	**-2.0**
	comp=Z,1.4nm,0.5s,baz=178,slow=4.3,SNR=2.8						
	comp=Z,1.4nm,0.5s						
TROLL	**Troll, Antarti**	**84.19**	**179**	⇑P	**P**	**10 43 03.3**	**+2.7**
	comp=Z,246nm,0.6s						
SNAA	**Sanae**	**84.40**	**178**	⇑P	**P**	**10 43 04.0**	**+2.4**
	comp=Z,72nm,1.0s						
SNAA	**Sanae**	**84.40**	**178**	P	**P**	**10 43 03.3**	**+1.7**
	comp=Z,3.4nm,1.0s,baz=178,slow=5.5,SNR=9.0						
	comp=Z,3.4nm,1.0s						
VNA3	**Neumayer Olymp**	**84.45**	**175**	⇑P	**P**	**10 43 04.2**	**+2.4**
	comp=Z,4.4nm,0.6s						
VNA2	**Neumayer--Watz**	**84.92**	**176**	⇑P	**P**	**10 43 06.5**	**+2.3**
	comp=Z,4.6nm,0.8s,baz=206,slow=4.0						
VNA1	**Neumayer--Stat**	**85.13**	**176**	⇑P	**P**	**10 43 07.1**	**+1.9**
	comp=Z,5.2nm,0.8s						
TXAR	**Lajitas Array**	**87.14**	**56**	P	**P**	**10 43 18.6**	**+2.7**
	comp=Z,0.6nm,0.9s,baz=207,slow=8.1,SNR=4.5						
	comp=Z,0.6nm,0.9s						
ILAR	**Eielson Array**	**91.30**	**12**	P	**P**	**10 43 35.6**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=219,slow=4.7,SNR=8.6						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.36**	**289**	P	**P**	**10 43 43.6**	**-1.5**
	comp=Z,3.7nm,0.8s,baz=135,slow=3.4,SNR=19						
	comp=Z,3.7nm,0.8s						
MKAR	**Makanchi Array**	**115.22**	**312**	PKiKP	**PKPdf**	**10 49 10.5**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=82,slow=3.1,SNR=3.1						
KURBB	**Kurchatov Arra**	**118.14**	**316**	PKP	**PKPdf**	**10 49 15.3**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=95,slow=2.1,SNR=4.9						
BVAR	**Borovoye Array**	**123.20**	**319**	PKP	**PKiKP**	**10 49 26.0**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=56,slow=3.7,SNR=3.9						
AKASG	**Malin Array Be**	**147.18**	**330**	PKPbc	**PKPbc**	**10 50 12.7**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=40,slow=3.7,SNR=16						
BRTR	**Keskin Array B**	**150.83**	**309**	PKPbc	**PKPbc**	**10 50 21.8**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=134,slow=3.6,SNR=4.4						
MMAI	**Mount Meron Ar**	**151.41**	**295**	PKPbc	**PKPbc**	**10 50 23.2**	**-0.7**
	comp=Z,4.1nm,0.6s,baz=57,slow=6.1,SNR=5.5						
CLL	**Collm**	**151.99**	**348**	*i* PKPbc	**PKiKP**	**10 50 26.1**	**+1.3**
	comp=Z,6.0nm,0.9s						

UPP 17 10:30:52.8±0.1,59°.12N×17°.45E,h0km,ML1.5, Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESKU	**Eskilstuna**	**0.56**	**282**	P	Pg	10 31 03.3	-0.1
ESKU				S	Sg	10 31 11.1	+0.4
UPP	**Uppsala**	**0.75**	**7**	P	Pg	10 31 07.1	0.0
UPP				S	Sg	10 31 17.1	+0.3
BACU	**Backbrunna**	**0.76**	**347**	P	Pg	10 31 07.0	-0.3
BACU				S	Sg	10 31 16.7	-0.4
FIBU	**Brunna**	**0.79**	**356**	P	Pg	10 31 07.5	-0.3
NRTU	**Norrtaelje**	**0.82**	**47**	P	Pg	10 31 08.0	-0.5
FLYU	**Flymyra**	**1.04**	**12**	P	Pg	10 31 12.2	-0.4
OSTU	**Oestervaala**	**1.13**	**352**	P	Pg	10 31 13.8	-0.6
LNKU	**Linkoeping**	**1.36**	**229**	P	Pg	10 31 18.1	-0.6
LNKU				S	Sg	10 31 35.9	-0.4
VSTU	**Vaestervik**	**1.54**	**199**	P	Pn	10 31 21.5	+0.1
GOTU	**Gotland**	**1.55**	**157**	P	Pn	10 31 21.2	-0.4

BER 17 10:31:30.9±1.0,60°.39N×5°.32E,h0km,ML1.4,2C, Suspected explosion,Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BER	**Bergen**	**0.01**	**131**	⇑*iP*	Pg	10 31 30.6	-0.4
BER				*e*S	Sg	10 31 30.8	-0.3
ASK	**Askoy**	**0.12**	**326**	⇑*iP*	Pg	10 31 32.8	-0.3
ASK				*e*S	Sg	10 31 34.6	+0.1
ASK				IAML		10 31 36.2	
	comp=Z,350nm,0.4s						
SUE	**Sulen**	**0.73**	**338**	*e*P	Pg	10 31 44.1	-0.7
SUE				*e*S	Sg	10 31 54.1	-0.1
SUE				IAML		10 31 58.1	
	comp=Z,9.1nm,0.1s						
ODD1	**Odda**	**0.81**	**126**	*e*P	Pg	10 31 45.3	-1.0
HYA	**Hoyanger**	**0.89**	**28**	*e*P	Pg	10 31 46.9	-1.0
HYA				*e*S	Sg	10 31 59.1	-0.3
KMY	**Karmoy**	**1.18**	**182**	*e*P	Pg	10 31 52.4	-1.0
KMY				*e*S	Sg	10 32 08.0	-0.7
KMY				IAML		10 32 10.6	
	comp=Z,5.7nm,0.2s						
FOO	**Floro**	**1.22**	**354**	*e*P	Pg	10 31 53.1	-1.2
FOO				*e*S	Sg	10 32 08.2	-1.9
FOO				IAML		10 32 11.3	
	comp=Z,16nm,0.2s						
SKAR	**Skarslia**	**1.50**	**77**	*e*P	Pn	10 31 57.5	-1.6
SKAR				*e*S	Sg	10 32 17.1	-2.0
SKAR				IAML		10 32 20.5	
	comp=Z,7.7nm,0.4s						
AKN	**Aaknes**	**1.97**	**23**	*e*P	Pn	10 32 03.9	-1.6
AKN				*e*Sg	Sn	10 32 31.3	+0.4
AKN				IAML		10 32 33.3	
	comp=Z,5.1nm,0.2s						

IDC ***17*** *10:35:08.4±4.6,23°.92S×176°.01W,h62km±40km,mb3.6/10, mbtmp4.0/12,ML4.5/2,MS3.6/8, Error ellipse: s-maj=27.5km s-min=22.2km az=116.0*

ISC 17 10:35:04.9±0.8,24°.0S±0°.1×175°.8W±0°.1,h31km,n22, σ1°.23/13,mb4.0/10,MS3.5/5,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.44**	**316**	P	**Pn**	**10 37 06.6**	**+1.5**
	0.5nm,0.3s,baz=125,slow=13,SNR=7.7						
MSVF				LR	LR	10 39 56.6	
	comp=Z,764nm,20.5s,baz=146,slow=35						
	34nm,1.0s						
RAR	**Rarotonga**	**15.08**	**83**	LR	LR	10 44 49.2	
	comp=Z,162nm,19.1s,baz=298,slow=38						
URZ	**Urewera**	**15.47**	**201**	P	**Pn**	**10 38 42.4**	**+1.6**
	0.4nm,0.3s,baz=269,slow=8.7,SNR=2.1						
	8.8nm,0.9s						
DZM	**Mont Dzumac**	**16.43**	**273**	LR	LR	10 44 02.1	
	comp=Z,247nm,19.2s,baz=127,slow=33						
PPT	**Papeete**	**25.33**	**80**	LR	LR	10 49 42.7	
	comp=Z,125nm,18.0s,baz=252,slow=34						
CTA	**Charters Tower**	**35.29**	**269**	LR	LR	10 53 59.0	
	comp=Z,66nm,21.4s,baz=94,slow=32						
STKA	**Stephens Creek**	**38.25**	**248**	P	**P**	**10 42 22.0**	**-0.3**
	0.6nm,0.5s,baz=103,slow=9.9,SNR=3.2						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**45.78**	**260**	P	**P**	**10 43 22.4**	**-1.6**
	0.6nm,0.5s,baz=93,slow=7.1,SNR=14						
ASAR				LR	LR	11 01 52.3	
	comp=Z,117nm,18.6s,baz=104,slow=35						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**46.21**	**265**	P	**P**	**10 43 25.0**	**-2.4**
	1.7nm,0.7s,baz=91,slow=6.0,SNR=27						
	1.7nm,0.7s						
DAV	**Davao City (W)**	**64.93**	**291**	LR	LR	11 13 11.4	
	comp=Z,19nm,18.3s,baz=132,slow=35						
QSPA	**South Pole Qui**	**66.12**	**180**	P	**P**	**10 45 49.3**	**+0.3**
	1.8nm,0.8s,baz=318,slow=1.8,SNR=8.9						
	1.8nm,0.8s						
MAW	**Mawson**	**78.99**	**199**	P	**P**	**10 47 06.0**	**+0.7**
	1.5nm,0.9s,baz=76,slow=4.2,SNR=2.8						
	1.5nm,0.9s						
PETK	**Petropavlovsk-**	**80.13**	**344**	LR	LR	11 17 31.8	
	comp=Z,44nm,20.3s,baz=148,slow=32						
NVAR	**Mina Array Bea**	**82.20**	**42**	P	**P**	**10 47 23.2**	**0.0**
	0.2nm,0.7s,baz=224,slow=5.7,SNR=2.7						
	0.2nm,0.7s						
H03S2	**Juan Fernandez**	**82.39**	**124**	T	T	12 18 27.8	
	baz=244,slow=74,SNR=10.0						
H03S1	**Juan Fernandez**	**82.41**	**124**	T	T	12 18 29.3	
	baz=244,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**82.41**	**124**	T	T	12 18 32.6	
	baz=244,slow=74,SNR=15						
SNAA	**Sanae**	**84.50**	**178**	P	**P**	**10 47 33.7**	**-0.7**
	2.2nm,1.1s,baz=209,slow=4.5,SNR=3.6						
	2.2nm,1.1s						
TXAR	**Lajitas Array**	**87.26**	**56**	P	**P**	**10 47 48.8**	**0.0**
	1.5nm,1.2s,baz=193,slow=3.7,SNR=5.2						
	1.5nm,1.2s						
ILAR	**Eielson Array**	**91.25**	**12**	P	**P**	**10 48 05.8**	**-0.7**
	0.2nm,0.8s,baz=216,slow=4.5,SNR=1.7						
	0.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.15**	**289**	P	**P**	**10 48 16.9**	**+0.4**
	0.7nm,0.4s,baz=128,slow=2.8,SNR=6.8						
	0.7nm,0.4s						
AKASG	**Malin Array Be**	**147.00**	**330**	PKPbc	**PKPdf**	**10 54 42.8**	**+0.6**
	0.9nm,0.6s,baz=45,slow=3.2,SNR=4.1						

SJA ***17*** *10:40:40.6±0.8,32°.57S×71°.11W,h74km±3km,ML4.0, MW3.8*

GUC ***17*** *10:40:41.8±0.7,32°.59S×71°.04W,h80km±3km,ML4.0*

NEIC ***17*** *10:40:41.6±1.0,32°.56S±0°.04×71°.08W±0°.07,h74km±5km, mb4.1/1,ML4.0(GUC), Error ellipse: s-maj=8.8km s-min=5.7km az=85.0*

ISC 17 10:40:41.6±0.9,32°.58S±0°.02×71°.11W±0°.04,h71km±6km, n85,σ1°.32/136,3C-16D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.40**	**169**	⇓*iP*	**Pn**	**10 40 54.6**	**+0.6**
ROCH				*i* S	**Sn**	**10 41 04.2**	**+1.3**
ROCH				IAML		10 41 04.4	
	comp=N,13μm,0.1s						
ROC1	**El Roble**	**0.40**	**169**		**Pn**	**10 40 54.3**	**+0.3**
ROC1				Sn	**Sn**	**10 41 04.0**	**+1.0**
ROC1	**El Roble**	**0.40**	**169**	*e*P	**Pn**	**10 40 54.0**	**+0.1**
ROC1				*e*S	**Sn**	**10 41 04.3**	**+1.3**
VA03	**San Esteban**	**0.50**	**112**		**Pn**	**10 40 54.5**	**-0.2**
VA03				Sn	**Sn**	**10 41 04.5**	**+0.3**
VA03	**San Esteban**	**0.50**	**112**	⇑*iP*	**Pn**	**10 40 54.6**	**0.0**
VA03				*i* S	**Sn**	**10 41 04.6**	**+0.3**
VA03	**San Esteban**	**0.50**	**112**	*e*P	**Pn**	**10 40 54.5**	**-0.2**
VA03				*e*S	**Sn**	**10 41 04.8**	**+0.6**
VA03				IAML		10 41 05.6	
	comp=Z,10μm,0.1s						
PEL	**Peldehue**	**0.67**	**148**		**Pn**	**10 40 56.0**	**-0.2**
PEL				Sn	**Sn**	**10 41 07.4**	**+0.3**
PEL	**Peldehue**	**0.67**	**148**	*e*P	**Pn**	**10 40 55.7**	**-0.5**
PEL				*i* S	**Sn**	**10 41 07.4**	**+0.3**
PEL				IAML		10 41 08.3	
	comp=N,20μm,0.3s						
PEL	**Peldehue**	**0.67**	**148**	*e*P	**Pn**	**10 40 56.1**	**-0.1**
PEL				*e*S	**Sn**	**10 41 07.7**	**+0.7**
PEL				IAML		10 41 08.1	
	comp=Z,8μm,0.3s						
MT02	**Curacav**	**0.68**	**182**		**Pn**	**10 40 56.8**	**+0.5**
MT02				Sn	**Sn**	**10 41 08.6**	**+1.3**
MT02	**Curacav**	**0.68**	**182**	⇓*iP*	**Pn**	**10 40 57.1**	**+0.7**
MT02				*i* S	**Sn**	**10 41 08.6**	**+1.3**
MT02				IAML		10 41 09.2	
	comp=E,8μm,0.2s						
MT02	**Curacav**	**0.68**	**182**	*e*P	**Pn**	**10 40 56.7**	**+0.3**
MT02				*e*S	**Sn**	**10 41 08.9**	**+1.7**
MT02				IAML		10 41 09.5	
	comp=Z,4μm,0.2s						
MT05	**Renca**	**0.87**	**159**	Pn	**Pn**	**10 40 58.8**	**+0.2**
MT05				Sn	**Sn**	**10 41 11.8**	**+0.6**
MT05	**Renca**	**0.87**	**159**	⇓*iP*	**Pn**	**10 40 58.9**	**+0.2**
MT05				*i* S	**Sn**	**10 41 11.8**	**+0.6**
MT05				IAML		10 41 16.4	
	comp=E,8μm,0.3s						
MT05	**Renca**	**0.87**	**159**	*e*P	Pn	10 40 53.3	-5.3
MT05				*e*P	**Pn**	**10 40 58.9**	**+0.3**
MT05				*e*S	**Sn**	**10 41 12.2**	**+1.0**
MT05				IAML		10 41 14.4	
	comp=Z,3μm,0.1s						
MT14	**Cerro Cal¡n**	**0.94**	**150**	*e*P	**Pn**	**10 40 59.6**	**+0.1**
MT14				*i* S	**Sn**	**10 41 13.1**	**+0.2**
MT14				IAML		10 41 15.2	
	comp=N,6μm,0.2s						
MT03	**Universidad Ad**	**1.04**	**151**		**Pn**	**10 41 00.8**	**0.0**
MT03				Sn	**Sn**	**10 41 15.4**	**+0.4**
MT03	**Universidad Ad**	**1.04**	**151**	⇓*iP*	**Pn**	**10 41 00.8**	**0.0**
MT03				*i* S	**Sn**	**10 41 15.4**	**+0.4**
MT03				IAML		10 41 17.6	
	comp=E,7μm,0.1s						
MT03	**Universidad Ad**	**1.04**	**151**	*e*P	**Pn**	**10 41 00.8**	**0.0**
MT03				*e*S	**Sn**	**10 41 16.4**	**+1.3**
MT03				IAML		10 41 17.2	
	comp=Z,4μm,0.1s						
MT04	**Ro Olivares**	**1.16**	**136**	⇑*iP*	**Pn**	**10 41 02.6**	**+0.2**
MT04				*i* S	**Sn**	**10 41 18.3**	**+0.4**
MT04				IAML		10 41 20.1	
	comp=N,4μm,0.2s						
VA05	**Santo Domingo**	**1.16**	**202**		**Pn**	**10 41 02.8**	**+0.7**
VA05	**Santo Domingo**	**1.16**	**202**	⇓*iP*	**Pn**	**10 41 02.9**	**+0.7**
VA05				*i* S	**Sn**	**10 41 19.2**	**+1.7**
VA05				IAML		10 41 22.0	
	comp=E,2μm,0.2s						
MT09	**Talagante**	**1.20**	**175**		**Pn**	**10 41 03.0**	**+0.3**
MT09	**Talagante**	**1.20**	**175**	⇓*iP*	**Pn**	**10 41 03.1**	**+0.3**
MT09				*i* S	**Sn**	**10 41 19.4**	**+0.8**
MT09				IAML		10 41 21.0	
	comp=N,3μm,0.2s						
MT12	**Pirque**	**1.24**	**158**	⇓*iP*	**Pn**	**10 41 03.2**	**-0.1**
MT12				*i* S	**Sn**	**10 41 19.6**	**+0.1**
MT12				IAML		10 41 21.4	
	comp=E,3μm,0.2s						
MT08	**Bocatoma Ro**	**1.26**	**134**		**Pn**	**10 41 04.2**	**+0.5**
MT08	**Bocatoma Ro**	**1.26**	**134**	⇑*iP*	**Pn**	**10 41 04.2**	**+0.5**
MT08				*i* S	**Sn**	**10 41 20.1**	**-0.1**
MT08				IAML		10 41 22.3	
	comp=E,3μm,0.2s						
MT01	**Popeta**	**1.29**	**185**		**Pn**	**10 41 04.3**	**+0.5**
MT01	**Popeta**	**1.29**	**185**	⇓*iP*	**Pn**	**10 41 04.5**	**+0.7**
MT01				*i* S	**Sn**	**10 41 21.4**	**+0.8**
MT01				IAML		10 41 23.6	
	comp=E,3μm,0.2s						
MT01	**Popeta**	**1.29**	**185**	*e*P	**Pn**	**10 41 04.3**	**+0.5**
MT01				*e*S	**Sn**	**10 41 22.3**	**+1.8**
MT01				IAML		10 41 23.1	
	comp=Z,2μm,0.3s						
MT13	**San Alfonso**	**1.35**	**150**	Pn	**Pn**	**10 41 05.0**	**+0.2**
MT13	**San Alfonso**	**1.35**	**150**	⇓*iP*	**Pn**	**10 41 05.0**	**+0.2**
MT13				*i* S	**Sn**	**10 41 22.7**	**+0.6**
MT13				IAML		10 41 24.9	
	comp=N,3μm,0.2s						
CO02	**Combarbal**	**1.37**	**4**		**Pn**	**10 41 05.5**	**+0.5**
CO02	**Combarbal**	**1.37**	**4**	⇓*iP*	**Pn**	**10 41 05.5**	**+0.5**
CO02				*i* S	**Sn**	**10 41 24.1**	**+1.4**
CO02				IAML		10 41 31.0	
	comp=E,3μm,0.3s						
CO02	**Combarbal**	**1.37**	**4**	*e*P	**Pn**	**10 41 05.6**	**+0.5**
CO02				*e*S	**Sn**	**10 41 24.9**	**+2.3**
CO02				IAML		10 41 27.8	
	comp=Z,1μm,0.1s						
BO04	**La Punta**	**1.47**	**164**		**Pn**	**10 41 06.2**	**0.0**
BO04	**La Punta**	**1.47**	**164**	⇓*iP*	**Pn**	**10 41 06.2**	**0.0**
BO04				*i* S	**Sn**	**10 41 25.0**	**+0.3**
BO04				IAML		10 41 26.2	
	comp=E,2μm,0.2s						
LMEL	**Las Melosas**	**1.47**	**149**		**Pn**	**10 41 06.6**	**+0.2**
LMEL	**Las Melosas**	**1.47**	**149**	⇓*iP*	**Pn**	**10 41 06.7**	**+0.2**
LMEL				*i* S	**Sn**	**10 41 25.7**	**+0.6**
LMEL				IAML		10 41 28.6	
	comp=N,5μm,0.1s						
RTLS	**Leoncito**	**1.72**

LCO	**Las Campanas**	**3.57**	**6**	Pn	**Pn**	**10 41 34.6**	**-0.3**
LCO	**Las Campanas**	**3.57**	**6**	*e*S	**Sn**	**10 42 16.8**	**+0.8**
LCO				IAML		10 42 20.3	
comp=Z,276nm,0.2s							
AC04	**Llanos de Chal**	**4.36**	**0**	Pn	**Pn**	**10 41 44.9**	**-0.5**
AC04	**Llanos de Chal**	**4.36**	**0**	*e*P	**Pn**	**10 41 45.2**	**-0.2**
AC04				*e*S	**Sn**	**10 42 34.2**	**-0.7**
GO03	**Copiap**	**5.03**	**9**		**Pn**	**10 41 53.8**	**-0.7**
AC06	**Mina Casimiro**	**5.24**	**7**	Pn	**Pn**	**10 41 56.5**	**-1.0**
AC02	**Maricunga**	**5.97**	**17**	Pn	**Pn**	**10 42 07.4**	**-0.6**
AC01	**Pan de Azucar**	**6.42**	**4**	Pn	**Pn**	**10 42 10.6**	**-3.0**
GO06	**Curarrehue**	**7.00**	**182**	Pn	**Pn**	**10 42 21.8**	**+0.3**
GO02	**Mina Guanaco**	**7.51**	**11**	Pn	**Pn**	**10 42 26.0**	**-2.7**
LR04	**Corral**	**7.52**	**194**	Pn	**Pn**	**10 42 26.4**	**-2.2**
PB14	**IPOC Station P**	**7.95**	**5**	Pn	**Pn**	**10 42 30.4**	**-4.3**
TRQA	**Tornquist**	**9.24**	**129**	Pn	**Pn**	**10 42 51.0**	**-1.0**
PB09	**IPOC Station P**	**10.87**	**9**	Pn	**Pn**	**10 43 14.1**	**-0.4**
PB16	**IPOC Station P**	**14.26**	**6**	Pn	**Pn**	**10 44 00.3**	**-0.3**
SNAA	**Sanae**	**52.61**	**158**	P	**P**	**10 49 48.0**	**+0.1**
SNAA				IAmb	IAmb	10 49 49.8	
comp=Z,2.5nm,1.2s							
PZH	**PanZhiHua**	**171.32**	**132**	PKP	**PKPdf**	**11 00 40.6**	**-1.8**

UPP ***17*** *10:46:20.0±2.3, 63°.01N×27°.81E, h0km, ML1.7*

HEL 17 10:46:19.9±0.1, 63°.12N×27°.79E, h0km, ML2.0, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.27**	**2**	PG	Pg	10 46 25.1	0.0
baz=178							
NIF				SG	Sg	10 46 29.2	+0.6
KAF	**Kangasniemi**	**1.22**	**215**	PG	Pg	10 46 42.0	-1.3
KAF				MSG		10 46 57.0	
comp=Z,13nm,0.2s							
KAF				SG	Sg	10 46 58.0	-1.1
RMF	**Romuvaara**	**1.46**	**40**	PN	Pn	10 46 47.1	-0.3
baz=217							
RMF				MSG		10 47 03.7	
comp=Z,11nm,0.2s							
RMF				SN	Sn	10 47 08.4	+1.2
JOF	**Joensuu**	**1.62**	**96**	PN	Pn	10 46 49.6	-0.1
JOF				SN	Sb	10 47 11.7	+0.1
KEF	**Keuruu**	**1.65**	**236**	PG	Pn	10 46 49.8	-0.3
KEF				MSG		10 47 09.4	
comp=Z,12nm,0.2s							
KEF				SG	Sn	10 47 11.6	-0.4
RUF	**Ruokolahti**	**1.79**	**162**	PG	Pn	10 46 52.1	+0.1
RUF				MSG		10 47 13.3	
comp=Z,10nm,0.2s							
OUF	**Merijarvi**	**1.85**	**314**	PG	Pn	10 46 53.0	+0.3
OUF				MSG		10 47 14.8	
comp=Z,14nm,0.2s							
OUF				SN	Sb	10 47 18.5	+0.4
FIA0	**FINESS Array S**	**1.86**	**206**	PG	Pn	10 46 53.4	+0.4
FIA0				MSG		10 47 15.4	
comp=Z,13nm,0.2s							
FIA0				SG	Sn	10 47 17.7	+0.5
OBF4	**Vikkela, Lumij**	**2.07**	**326**	PG	Pb	10 46 57.1	-1.2
OBF4				MSG		10 47 21.3	
comp=Z,8.3nm,0.2s							
OBF4				SG	Sg	10 47 26.2	-0.2
OBF0	**Syolatti, Pyha**	**2.09**	**313**	PG	Pb	10 46 57.6	-1.1
baz=127							
OBF0				MSG		10 47 22.1	
comp=Z,8.4nm,0.2s							
OBF0				SG	Sg	10 47 26.7	-0.4
OUL	**Oulu**	**2.14**	**338**	PG	Pn	10 46 58.0	+1.2
baz=154							
OUL				SG	Sb	10 47 27.1	+0.6
VAF	**Ylistaro**	**2.33**	**270**	PG	Pn	10 47 00.8	+1.5
baz=84							
VAF				MSG		10 47 28.8	
comp=Z,11nm,0.2s							
VAF				SG	Sb	10 47 31.4	-0.6
VJF	**Virojoki**	**2.59**	**183**	PB	Pn	10 47 04.8	+1.7
baz=358							
VJF				MSG		10 47 36.3	
comp=Z,6.0nm,0.2s							
VJF				SG	Sb	10 47 39.4	-0.2
PVF	**Pernaja**	**2.74**	**200**	PG	Pb	10 47 08.3	-1.4
PVF				MSG		10 47 40.7	
comp=Z,5.5nm,0.2s							
MSF	**Maaselka**	**2.85**	**10**	PB	Pn	10 47 08.2	+1.6
baz=195							
MSF				SB	Sb	10 47 44.4	-2.7
NUR	**Nurmijrvi**	**3.02**	**211**	PG	Pb	10 47 13.9	-0.5
NUR				MSG		10 47 48.5	
comp=Z,3.3nm,0.2s							
KU6	**Riekki**	**3.05**	**16**	PB	Pn	10 47 11.6	+2.2
baz=202							
KU6				MSG		10 47 49.5	
comp=Z,2.7nm,0.2s							
KU6				SB	Sb	10 47 50.6	-2.2
UMAU	**Umeaa**	**3.28**	**287**	PN	Pn	10 47 12.6	+0.2
baz=103							
UMAU				SB	Sn	10 47 54.9	+2.9
OLKF	**Oulanka, Finla**	**3.29**	**11**	PB	Pn	10 47 14.8	+2.2
OLKF				SB	Sb	10 47 58.0	-1.5
TOF	**Tornio**	**3.32**	**335**	PB	Pn	10 47 15.3	+2.2
MEF	**Metsahovi**	**3.33**	**211**	PG	Pb	10 47 18.0	-1.8
KALU	**Kalix**	**3.35**	**327**	P	Pn	10 47 15.1	+1.7
KALU				S	Sn	10 47 56.5	+2.7
KALU	**Kalix**	**3.35**	**327**	PN	Pn	10 47 15.5	+2.1
ODEU	**Stanfors**	**3.40**	**295**	P	Pn	10 47 14.4	+0.4
RAF	**Rauma**	**3.53**	**236**	PG	Pb	10 47 21.7	-1.5
baz=51							
RNF	**Rovaniemi**	**3.58**	**349**	PB	Pn	10 47 19.8	+3.2
RNF				SG	Sb	10 48 08.8	+0.8
SJUU	**Sjulsmark**	**3.60**	**314**	P	Pn	10 47 17.8	+1.0
SJUU				S	Sn	10 48 02.3	+2.3
HUSU	**Husum**	**3.88**	**277**	P	Pn	10 47 21.1	+0.4
SVAU	**Svanoeiden**	**3.89**	**294**	P	Pn	10 47 21.4	+0.6
LILU	**Lilltraesk**	**4.09**	**306**	P	Pn	10 47 24.3	+0.7
LILU				S	Sn	10 48 14.6	+2.5
ERTU	**Ertsjaerv**	**4.19**	**328**	PN	Pn	10 47 26.8	+1.8
baz=139							
BREU	**Bredtraesk**	**4.20**	**285**	P	Pn	10 47 25.3	+0.2
BREU				S	Sn	10 48 15.2	+0.5
HARU	**Harads**	**4.23**	**319**	P	Pn	10 47 26.5	+1.0
KLF	**Kolari**	**4.43**	**340**	PN	Pn	10 47 29.6	+1.3
KLF				SN	Sn	10 48 22.0	+1.5
HEMU	**Hemsoen**	**4.48**	**269**	P	Pn	10 47 29.0	0.0
HEMU	**Hemsoen**	**4.48**	**269**	PN	Pn	10 47 29.6	+0.6
VRF	**Varrio**	**4.71**	**8**	PB	Pb	10 47 38.3	-4.9

HEL 17 10:47:34.3±0.1, 60°.37N×24°.90E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUR	**Nurmijrvi**	**0.19**	**319**	PG	Pg	10 47 37.6	-0.3
baz=132							
NUR				SG	Sg	10 47 40.2	-0.2
HEL1	**Helsinki**	**0.19**	**183**	PG	Pg	10 47 37.6	-0.3
baz=357							
HEL1				SG	Sg	10 47 40.3	0.0
MEF	**Metsahovi**	**0.29**	**239**	PG	Pg	10 47 39.6	-0.3
MEF				SG	Sg	10 47 43.2	-0.4
PVF	**Pernaja**	**0.51**	**69**	PG	Pg	10 47 43.4	-0.7
PVF				SG	Sg	10 47 50.5	-0.1
PVF				MSG		10 47 50.6	
comp=Z,5.4nm,0.2s							
PVF	**Pernaja**	**0.51**	**69**	SG	Pg	10 47 43.4	-0.7
FIA0	**FINESS Array S**	**1.22**	**28**	MSG		10 48 11.4	
comp=Z,2.1nm,0.2s							
FIA0				SN	Sn	10 48 18.0	+2.1
RAF	**Rauma**	**1.68**	**294**	PG	Pn	10 48 04.5	-0.4
RAF				MSG		10 48 24.3	
comp=Z,2.3nm,0.2s							
RAF	**Rauma**	**1.68**	**294**	SB	Pn	10 48 04.5	-0.4
OUL	**Oulu**	**4.76**	**5**	SG	Sb	10 49 57.7	+1.5

IDC 17 11:17:42.0±5.4, 24°.00S×176°.40W, h142km±49km, mb3.2/3, mbtmp3.7/4, Error ellipse: s-maj=48.5km s-min=35.6km az=43.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.11**	**319**	P	Pn	11 19 37.1	+0.1
8.3nm,0.8s,baz=140,slow=19,SNR=2.4							
ASAR	**Alice Springs**	**45.26**	**260**	P	P	11 25 44.9	-0.7
0.2nm,0.5s,baz=92,slow=7.2,SNR=9.8							
0.2nm,0.5s							
WRA	**Warramunga Arr**	**45.68**	**265**	P	P	11 25 49.0	+0.1
0.4nm,0.4s,baz=91,slow=6.1,SNR=27							
0.4nm,0.4s							
QSPA	**South Pole Qui**	**66.08**	**180**	P	P	11 28 13.3	-0.2
0.8nm,0.7s,baz=63,slow=4.5,SNR=6.4							
0.8nm,0.7s							
H03S2	**Juan Fernandez**	**82.81**	**124**	T	T	13 00 51.4	
baz=243,slow=74							
H03S1	**Juan Fernandez**	**82.82**	**124**	T	T	13 00 53.6	
baz=243							
H03S3	**Juan Fernandez**	**82.83**	**124**	T	T	13 00 58.0	
baz=243,slow=74							
AKASG	**Malin Array Be**	**146.78**	**330**	PKPbc	PKPbc	11 37 07.0	-0.1
0.5nm,0.3s,baz=28,slow=3.1,SNR=4.1							

NEIC ***17*** *11:27:58.8±1.5, 24°.01S±0°.07×175°.45W±0°.09, h10km±1km, mb5.1/71, Mww5.0/18, Error ellipse: s-maj=13.2km s-min=11.7km az=81.0*

BJI ***17*** *11:27:59.2±0.0, 23°.82S×175°.33W, h11km, mb5.2/38, mB5.7/21, Ms5.1/19, Ms7 4.8/21*

MOS ***17*** *11:28:00.9±1.2, 23°.92S×176°.11W, h10km, mb5.2/21, Error ellipse: s-maj=13.1km s-min=11.5km az=98.4*

GCMT ***17*** *11:28:04.8±0.2, 24°.10S±0°.01×175°.39W±0°.01, h21km, MW5.2/127, Moment Tensor Solution. s84, c132; s127, c204; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.70±.02; Mθθ-0.13±.01; Mφφ-0.57±.01; Mrθ0.07±.03; Mθφ-0.22±.01; Mφr0.38±.02; Best double couple: M0 0.78300×10^17 NP1:φs17.00000°, δ60.00000°, λ84.00000°. NP2:φs208.00000°, δ31.00000°, λ100.00000°. Principal axes: T 0.8070, Plg75.0000°, Azm271.0000°; N -0.0470, Plg5.0000°, Azm20.0000°; P -0.7600, Plg14.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***17*** *11:28:07.9±1.9, 24°.11S×176°.02W, h57km±16km, mb4.2/15, mbtmp4.5/17, MS4.6/51 Error ellipse: s-maj=15.9km s-min=11.7km az=128.0*

ISC 17 11:27:59.3±0.4, 24°.18S±0°.05×175°.43W±0°.05, h9km±2km, h9km: pP-P, n483, σ1°.92/464, mb5.1/78, MS4.7/63, 22C-9D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.52**	**203**	Pn	**Pn**	**11 29 23.3**	**+1.6**
RAO	**Raoul Island**	**5.52**	**203**	P	**Pn**	**11 29 25.8**	**+4.2**
104nm,0.2s,baz=36,slow=19,SNR=1.3							
RAO				S	**Sn**	**11 30 26.1**	**+0.9**
524nm,0.6s,baz=100,slow=22,SNR=9.3							
NIUE	**Niue**	**7.21**	**46**	P	**Pn**	**11 29 42.1**	**-2.7**
baz=6.7,SNR=20							
NIUE				S	Sn	11 30 52.7	-14
baz=6.7							
NIUE	**Niue**	**7.21**	**46**		**Pn**	**11 29 43.0**	**-1.8**
MSVF	**Nonsavu**	**8.84**	**315**	Pn	**Pn**	**11 30 09.7**	**+2.3**
MSVF	**Nonsavu**	**8.84**	**315**	P	**Pn**	**11 30 09.7**	**+2.3**
MSVF	**Nonsavu**	**8.84**	**315**	P	**Pn**	**11 30 08.4**	**+1.1**
50nm,0.9s,baz=151,slow=12,SNR=16							
MSVF				LR	LR	11 33 09.2	
comp=Z,10μm,18.4s,baz=108,slow=36							
AFI	**Afiamalu**	**10.78**	**19**		**Pn**	**11 30 30.4**	**-3.5**
AFI	**Afiamalu**	**10.78**	**19**	P	**Pn**	**11 30 30.4**	**-3.5**
RAR	**Rarotonga**	**14.75**	**82**	Pn	**Pn**	**11 31 27.6**	**-0.5**
RAR	**Rarotonga**	**14.75**	**82**	P	**Pn**	**11 31 27.6**	**-0.5**
RAR	**Rarotonga**	**14.75**	**82**	P	**Pn**	**11 31 23.8**	**-4.3**
197nm,1.1s,baz=285,slow=7.6,SNR=13							
RAR				S	Sn	11 33 58.5	-13
18nm,0.7s,baz=70,slow=17,SNR=1.9							
RAR				LR	LR	11 37 55.3	
comp=Z,3μm,18.2s,baz=260,slow=38							
URZ	**Urewera**	**15.41**	**203**	P	**P**	**11 31 41.3**	**-0.2**
3.6nm,0.3s,baz=19,slow=8.9,SNR=10							
URZ				S	Sn	11 34 17.6	-10
16nm,0.6s,baz=354,slow=22,SNR=6.7							
MARNC	**Mare, Loyalty**	**15.48**	**277**	Pn	**Pn**	**11 31 36.4**	**-1.5**
OUENC	**Ouen Island, N**	**16.38**	**273**	Pn	**Pn**	**11 31 48.5**	**-1.0**
ONTNC	**Ouen Toro**	**16.75**	**273**	Pn	**Pn**	**11 31 52.3**	**-1.9**
DZM	**Mont Dzumac**	**16.81**	**274**	*e*Pn	**Pn**	**11 31 54.5**	**-0.5**
204nm,1.6s							
DZM				*e*LR	LR	11 35 44.7	
comp=Z,4μm,22.1s							
DZM	**Mont Dzumac**	**16.81**	**274**	Pn	**Pn**	**11 31 53.1**	**-1.9**
DZM	**Mont Dzumac**	**16.81**	**274**	P	**P**	**11 31 57.4**	**+0.3**
28nm,1.0s,baz=93,slow=17,SNR=6.3							
DZM				LR	LR	11 37 05.0	
comp=Z,2μm,21.5s,baz=112,slow=33							
BFZ	**Birch Farm**	**17.88**	**201**		**Pn**	**11 32 08.8**	**+0.7**
RPZ	**Rata Peaks**	**22.43**	**206**	LR	LR	11 41 45.9	
comp=Z,2μm,19.5s,baz=21,slow=37							
PAE	**Paea**	**24.98**	**80**	*e*T	T	11 59 29.6	
7.2nm,0.3s							
PPT2	**Papeete2**	**25.00**	**80**	*e*P	P	11 33 09.9	-14
146nm,24.8s							
PPT2				*e*S	**S**	**11 37 38.8**	**-9.1**
512nm,30.2s							
PPT2				*e*LR	LR	11 39 25.8	
comp=Z,2μm,22.8s							
PPT2				*e*LR	LR	11 39 35.0	
comp=Z,2μm,26.8s							
PPT2	**Papeete2**	**25.00**	**80**	*e*T	T	11 59 30.5	
2.9nm,0.3s							
PPT	**Papeete**	**25.01**	**80**	LR	LR	11 42 49.4	
comp=Z,2μm,18.3s,baz=254,slow=34							
EIDS	**Eidsvold**	**30.39**	**261**	P	**P**	**11 34 10.2**	**-1.6**
EIDS				IAmb	IAmb	11 34 32.4	
comp=Z,37nm,1.2s							
RMQ	**Roma**	**32.39**	**258**	P	**P**	**11 34 28.8**	**-0.6**
baz=33,SNR=5.2							
CMSA	**Cobar Meteorol**	**35.01**	**249**	P	**P**	**11 34 51.1**	**-1.1**
baz=35,SNR=5.4							
CTA	**Charters Tower**	**35.65**	**269**	LR	LR	11 48 02.2	
comp=Z,757nm,19.1s,baz=102,slow=34							
CTAO	**Charters Tower**	**35.65**	**269**	P	**P**	**11 34 56.7**	**-1.2**
CTAO				IAmb	IAmb	11 34 57.6	
comp=Z,38nm,1.1s							
CTAO	**Charters Tower**	**35.65**	**269**	P	**P**	**11 34 56.7**	**-1.2**
CTAO				pmax	pmax		
comp=Z,39nm,1.2s							
TOO	**Toolangi**	**35.84**	**239**	P	**P**	**11 34 58.7**	**-0.6**
TOO	**Toolangi**	**35.84**	**239**	P	**P**	**11 34 58.7**	**-0.6**
TOO				pmax	pmax		
comp=Z,21nm,1.5s							
TAOE	**Nuku Hiva Isla**	**36.96**	**72**	*e*S	S	11 40 44.7	-10
comp=Z,181nm,23.5s							
TAOE				*e*LR	LR	11 44 54.4	
comp=Z,947nm,25.0s							
KRVT	**Keravat (AS076**	**37.05**	**297**	LR	LR	11 48 32.5	
comp=Z,785nm,19.9s,baz=111,slow=34							
MTSU	**Mount Surprise**	**37.92**	**271**	P	**P**	**11 35 16.0**	**-1.2**
baz=38,SNR=27							
STKA	**Stephens Creek**	**38.51**	**249**	P	**P**	**11 35 21.0**	**-1.1**
STKA	**Stephens Creek**	**38.51**	**249**	*de*P	**P**	**11 35 21.7**	**-0.3**
STKA	**Stephens Creek**	**38.51**	**249**	P	**P**	**11 35 20.9**	**-1.1**
comp=Z,7.3nm,1.1s,baz=99,slow=7.4,SNR=7.1							
STKA				LR	LR	11 50 08.2	
comp=Z,2μm,18.6s,baz=79,slow=35							
comp=Z,7.3nm,1.1s							
PMG	**Port Moresby**	**38.56**	**286**	P	**P**	**11 35 20.3**	**-2.3**
PMG				IAmb	IAmb	11 35 24.3	
comp=Z,54nm,0.9s							
PMG	**Port Moresby**	**38.56**	**286**	*ce*P	**P**	**11 35 19.9**	**-2.7**
PMG				pmax	pmax		
comp=Z,61nm,1.0s							
HTT	**Hallett**	**40.78**	**246**	P	**P**	**11 35 40.9**	**-0.1**
baz=41,SNR=5.1							
QIS	**Mount Isa**	**41.61**	**266**	P	**P**	**11 35 46.9**	**-1.0**
baz=42,SNR=4.7							
BBOO	**Buckleboo**	**43.19**	**247**	P	**P**	**11 35 59.5**	**-1.1**
baz=44,SNR=5.6							
BBOO	**Buckleboo**	**43.19**	**247**	P	**P**	**11 35 59.9**	**-0.7**
BBOO				IAmb	IAmb	11 37 27.5	
comp=Z,82nm,2.0s							
AS31	**Alice Springs**	**46.10**	**260**	P	**P**	**11 36 22.9**	**-1.2**
ASAR	**Alice Springs**	**46.10**	**260**	P	**P**	**11 36 22.8**	**-1.3**
ASAR	**Alice Springs**	**46.10**	**260**	P	**P**	**11 36 22.1**	**-1.9**
comp=Z,9.1nm,0.9s,baz=96,slow=8.0,SNR=40							
ASAR				PcP	**PcP**	**11 38 01.0**	**+0.7**
comp=Z,1.4nm,0.8s,baz=111,slow=4.4,SNR=2.2							
ASAR				S	**S**	**11 43 02.2**	**-8.0**
comp=Z,0.8nm,0.9s,baz=90,slow=18,SNR=4.6							
ASAR				LR	LR	11 55 02.4	
comp=Z,2μm,18.6s,baz=106,slow=35							
comp=Z,9.1nm,0.9s							
WR0	**Warramunga Arr**	**46.36**	**265**	P	**P**	**11 36 23.0**	**-3.1**
WR0				IAmb	IAmb	11 36 25.6	
comp=Z,16nm,1.3s							
WB2	**Warramunga Arr**	**46.54**	**265**	P	**P**	**11 36 24.9**	**-2.6**
WB2				IAmb	IAmb	11 36 27.6	
comp=Z,33nm,1.4s							
WRAB	**Tennant Creek**	**46.54**	**265**	P	**P**	**11 36 25.0**	**-2.5**
WRAB				IAmb	IAmb	11 36 27.0	
comp=Z,13nm,0.9s							
WRAB	**Tennant Creek**	**46.54**	**265**	*ce*P	**P**	**11 36 25.6**	**-1.9**
WRAB				pmax	pmax		
comp=Z,15nm,1.0s							
WB0	**Warramunga Arr**	**46.55**	**265**	P	**P**	**11 36 24.8**	**-2.7**
WB0				IAmb	IAmb	11 36 37.0	
comp=Z,11nm,0.8s							
WRA	**Warramunga Arr**	**46.55**	**265**	P	**P**	**11 36 25.0**	**-2.6**
WRA	**Warramunga Arr**	**46.55**	**265**	P	**P**	**11 36 24.9**	**-2.7**
comp=Z,13nm,1.0s,baz=90,slow=6.0,SNR=164							
WRA				PcP	**PcP**	**11 38 02.4**	**+0.5**
comp=Z,2.0nm,0.8s,baz=99,slow=5.9,SNR=2.8							
WRA				S	S	11 43 07.3	-9.2
comp=Z,13nm,1.0s							
FORT	**Forrest**	**50.13**	**249**	P	**P**	**11 36 52.6**	**-2.5**
FORT				IAmb	IAmb	11 37 18.8	
comp=Z,33nm,1.1s							
KDU	**Kakadu**	**50.48**	**273**	P	**P**	**11 36 54.8**	**-3.0**
baz=51,SNR=9.2							
WRKA	**Warakurna**	**50.85**	**257**	P	**P**	**11 36 59.0**	**-1.6**
baz=51,SNR=6.6							
MTN	**Manton Dam**	**51.64**	**273**	P	**P**	**11 37 03.9**	**-2.7**
baz=52,SNR=8.0							
KNRA	**Kununurra**	**52.86**	**268**	P	**P**	**11 37 13.6**	**-2.1**
baz=53,SNR=12							
KNRA	**Kununurra**	**52.86**	**268**	P	**P**	**11 37 14.4**	**-1.3**
KNRA				IAmb	IAmb	11 37 15.1	
comp=Z,15nm,0.8s							
GUMO	**Guam**	**53.97**	**310**	LR	LR	11 57 46.7	
comp=Z,397nm,21.7s,baz=126,slow=33							
SBA	**Scott Base**	**54.39**	**185**	P	P	11 37 31.7	+5.7
SBA				IAmb	IAmb	11 37 46.2	
comp=Z,58nm,1.9s							
SBA	**Scott Base**	**54.39**	**185**	P	P	11 37 31.7	+5.7
SBA				pmax	pmax		
comp=Z,58nm,1.9s							
NWAO	**Narrogin (SRO)**	**58.91**	**245**	LR	LR	12 02 06.9	
comp=Z,407nm,18.2s,baz=54,slow=35							
RPN	**Rapa Nui**	**59.03**	**108**	LR	LR	11 59 45.0	
comp=Z,150nm,18.3s,baz=328,slow=32							
BATI	**Baumata**	**59.41**	**272**	LR	LR	12 02 37.9	
comp=Z,1μm,21.1s,baz=155,slow=35							
BLDU	**Ballidu**	**59.80**	**248**	P	**P**	**11 38 04.0**	**-1.1**
baz=60,SNR=7.6							
MORW	**Morawa**	**60.69**	**249**	P	**P**	**11 38 10.9**	**-0.3**
baz=61,SNR=4.7							
KAPI	**Kappang**	**65.01**	**276**	LR	LR	12 08 24.3	
comp=Z,350nm,18.2s,baz=114,slow=38							
DAV	**Davao City (W)**	**65.34**	**291**	LR	LR	12 03 46.8	
comp=Z,150nm,21.6s,baz=110,slow=33							
JCJ	**Chichijima**	**65.36**	**319**	LR	LR	12 02 39.1	
comp=Z,608nm,20.4s,baz=126,slow=32							
QSPA	**South Pole Qui**	**65.91**	**180**	P	**P**	**11 38 45.7**	**+0.4**
QSPA				IAmb	IAmb	11 39 07.4	
comp=Z,13nm,1.0s							
QSPA	**South Pole Qui**	**65.91**	**180**	P	**P**	**11 38 48.6**	**+3.3**
comp=Z,5.3nm,0.9s,baz=54,slow=2.2,SNR=16							
QSPA				LR	LR	12 05 01.7	
comp=Z,569nm,19.4s,baz=34,slow=34							
comp=Z,5.3nm,0.9s							
JHJ	**Hachijo jima 2**	**71.19**	**321**	LR	LR	12 11 24.0	
comp=Z,224nm,18.6s,baz=299,slow=37							
JOW	**Kunigami**	**74.34**	**309**	LR	LR	12 09 08.2	
comp=Z,354nm,18.7s,baz=122,slow=33							
MJAR	**Matsushiro Arr**	**74.56**	**323**	P	**P**	**11 39 37.6**	**-1.0**
comp=Z,1.1nm,0.8s,baz=147,slow=2.5,SNR=2.3							
MJAR				LR	LR	12 06 55.5	
comp=Z,381nm,21.2s,baz=134,slow=31							
comp=Z,1.1nm,0.8s							
LEM	**Lembang**	**75.36**	**269**	LR	LR	12 12 20.4	
comp=Z,632nm,20.2s,baz=143,slow=36							
BELA	**Belgrano 2**	**75.61**	**172**	P	**P**	**11 39 44.0**	**0.0**
BELA				IAmb	IAmb	11 40 02.5	
comp=Z,16nm,1.5s							
JNU	**Nakatsue**	**76.57**	**316**	LR	LR	12 09 13.8	
comp=Z,272nm,20.1s,baz=102,slow=32							
PMSA	**Palmer Station**	**76.98**	**156**	LR	LR	12 11 15.3	
comp=Z,351nm,18.1s,baz=244,slow=34							
SHEM	**Shemya Is, Ala**	**77.12**	**353**	LR	LR	12 11 07.8	
comp=Z,423nm,18.2s,baz=156,slow=34							
ASAJ	**Asahikawa**	**78.08**	**331**	LR	LR	12 10 02.4	
comp=Z,275nm,20.8s,baz=165,slow=32							
MAW	**Mawson**	**78.91**	**199**	P	**P**	**11 40 01.1**	**-1.6**
baz=79,SNR=10							
MAW	**Mawson**	**78.91**	**199**	P	**P**	**11 40 06.6**	**+4.0**
MAW	**Mawson**	**78.91**	**199**	P	**P**	**11 40 06.6**	**+4.0**
MAW				pmax	pmax		
comp=Z,5.0nm,1.4s							
MAW	**Mawson**	**78.91**	**199**	P	**P**	**11 40 04.6**	**+2.0**
comp=Z,5.0nm,0.8s,baz=112,slow=6.9,SNR=14							
MAW				LR	LR	12 12 25.9	
comp=Z,355nm,21.8s,baz=117,slow=34							
comp=Z,5.0nm,0.8s							
MURC	**Murrieta**	**79.81**	**46**	P	**P**	**11 40 10.4**	**+2.3**
baz=232							
CHNA	**Chernabura Isl**	**79.85**	**9**	P	**P**	**11 40 08.3**	**+0.6**
baz=195							
MONP2	**Monument Peak**	**79.89**	**47**	P	**P**	**11 40 10.8**	**+2.1**
baz=233							
BFSC	**Mount Baldy Ra**	**79.90**	**45**	P	**P**	**11 40 10.6**	**+2.0**
baz=232							
IKP	**In-Ko-Pah, Jac**	**79.95**	**47**	P	**P**	**11 40 10.1**	**+1.2**
baz=233							
VES	**Vestal, Richgr**	**79.99**	**43**	P	**P**	**11 40 11.9**	**+2

GLA	Glamis	81.06	48	P	P	11 40 17.9 +3.1
	baz=234					
GSC	Goldstone, Bar	81.10	45	P	P	11 40 17.0 +1.9
	baz=232					
HEC	Hector,Ludlow	81.12	46	P	P	11 40 16.8 +1.7
	baz=232					
MPMC	Manual Prospec	81.13	44	P	P	11 40 17.5 +2.1
	baz=232,SNR=8.2					
SPIA	Saint Paul Isl	81.15	3	P	P	11 40 16.0 +1.4
	baz=185					
KSRS	Korea Array	81.20	318	P	P	11 40 16.5 +1.1
	comp=Z,1.2nm,0.8s,baz=132,slow=6.7,SNR=4.4					
KSRS				LR	LR	12 11 39.1
	comp=Z,360nm,20.6s,baz=120,slow=32					
	comp=Z,1.2nm,0.8s					
EMB	Emerald Bay	81.38	40	P	P	11 40 14.9 -1.7
CHIR	Chirikof Islan	81.45	11	P	P	11 40 18.5 +2.2
	baz=198					
IRM	Iron Mountain	81.50	47	P	P	11 40 20.2 +3.1
	baz=233					
GMRC	Granite Mounta	81.54	46	P	P	11 40 19.6 +2.1
	baz=233					
YBH	Yreka Blue Hor	81.72	37	LR	LR	12 11 33.5
	comp=Z,489nm,19.7s,baz=234,slow=32					
TUQ	Turquoise Moun	81.76	45	P	P	11 40 22.1 +3.5
	baz=233					
FURC	Furnace Creek,	81.78	44	P	P	11 40 21.4 +2.9
	baz=232					
GRAC	Grapevine Rang	81.79	43	P	P	11 40 21.8 +3.1
	baz=232					
214A	Organ Pipe Nat	81.81	50	P	P	11 40 22.6 +3.8
	baz=235					
H03S2	Juan Fernandez	81.97	123	T	T	13 11 32.6
	baz=244,slow=74,SNR=45					
H03S1	Juan Fernandez	81.99	123	T	T	13 11 33.4
	baz=244,slow=74,SNR=41					
H03S3	Juan Fernandez	81.99	123	T	T	13 11 58.9
	baz=244,slow=74,SNR=47					
NVAR	Mina Array Bea	82.11	42	P	P	11 40 24.3 +3.8
	comp=Z,1.0nm,0.7s,baz=218,slow=5.6,SNR=14					
NVAR				LR	LR	12 11 22.1
	comp=Z,493nm,19.4s,baz=242,slow=31					
	comp=Z,1.0nm,0.7s					
H03N2	Juan Fernandez	82.13	123	T	T	13 11 41.1
	baz=251,slow=72,SNR=16					
H03N3	Juan Fernandez	82.13	123	T	T	13 11 36.3
	baz=251,slow=72,SNR=25					
H03N1	Juan Fernandez	82.14	123	T	T	13 11 49.6
	baz=251,slow=72,SNR=15					
NV11	Mina Array Sit	82.20	42	P	P	11 40 18.1 -2.8
PDMCI	Parker Dam,Lak	82.26	47	P	P	11 40 22.3 +1.2
	baz=234					
PAHR	Pah Rah Range	82.28	40	P	P	11 40 19.0 -2.2
TPNV	Topopah Spring	82.47	44	P	P	11 40 25.0 +2.7
	baz=232					
LL01	San Ignacio de	83.05	133	P	P	11 40 24.4 -0.8
ELIB	Princess Elisa	83.26	186	*d*P	P	11 40 28.9 +2.9
	comp=Z,17nm,1.4s					
ELIB				*d*S	S	11 50 47.8 +1.5
R18K	Karluk	83.31	11	P	P	11 40 28.4 +2.5
	baz=199					
USA0B	Ussuriysk Arra	83.33	325⇑	*e*P	P	11 40 28.0 +1.6
USRK	Ussuriysk Ar.	83.33	325	P	P	11 40 24.7 -1.7
USRK	Ussuriysk Ar.	83.33	325	P	P	11 40 27.9 +1.5
	comp=Z,3.1nm,0.5s,baz=132,slow=4.1,SNR=10					
USRK				LR	LR	12 17 12.7
	comp=Z,211nm,18.1s,baz=148,slow=36					
	comp=Z,3.1nm,0.5s					
TYV	Tymovskoe	83.36	335	*e*P	P	11 40 27.6 +1.2
TYV				pmax	pmax	
	comp=Z,200nm,2.9s					
TYV				pmax	pmax	
	comp=Z,17nm,1.0s					
TUC	Tucson	83.42	50	P	P	11 40 28.8 +1.5
	baz=236					
Q17K	Contact Creek	83.73	10	P	P	11 40 30.3 +2.0
	baz=198					
R11B	Troy Canyon, C	83.74	43	P	P	11 40 30.2 +1.3
	baz=233					
KDAK	Kodiak Island	83.86	12	LR	LR	12 13 40.7
	comp=Z,356nm,19.3s,baz=235,slow=33					
Q16K	King Salmon	84.00	10	P	P	11 40 30.2 +0.8
	baz=197					
NJ2	Nanjing	84.04	309	*e*P	P	11 40 29.8 -0.5
NJ2				pP	PcP	11 40 33.6 -0.6
NJ2				sP	pwP	11 40 35.1 -4.0
NJ2				pmax	pmax	
	comp=Z,12nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,390nm,3.8s					
TROLL	Troll, Antarti	84.06	179	⇑P	P	11 40 33.2 +3.1
	comp=Z,514nm,0.6s					
PINE	Pine Mountain	84.07	36	P	P	11 40 29.5 -1.0
PINE				IAmb	IAmb	11 40 41.9
	comp=Z,29nm,1.6s					
X16A	Lo Mia Camp, P	84.15	48	P	P	11 40 29.1 -1.9
X16A				IAmb	IAmb	11 40 38.4
	comp=Z,9.1nm,1.2s					
Q18K	Katmai Hardscr	84.24	11	P	P	11 40 31.7 +0.8
	baz=199					
SNAA	Sanae	84.27	178	P	P	11 40 32.3 +1.2
SNAA	Sanae	84.27	178	*de*P	P	11 40 34.4 +3.4
SNAA				pmax	pmax	
	comp=Z,24nm,1.7s					
SNAA	Sanae	84.27	178	⇑P	P	11 40 33.7 +2.7
	comp=Z,91nm,0.8s					
SNAA	Sanae	84.27	178	P	P	11 40 33.5 +2.5
	comp=Z,4.1nm,0.8s,baz=186,slow=3.0,SNR=15					
SNAA				LR	LR	12 18 38.3
	comp=Z,148nm,18.3s,baz=198,slow=36					
	comp=Z,4.1nm,0.8s					
VNA3	Neumayer Olymp	84.32	175	⇑P	P	11 40 33.8 +2.6
	comp=Z,14nm,0.7s					
LCMT	Little Creek M	84.43	45	P	P	11 40 31.5 -1.0
LCMT				IAmb	IAmb	11 40 39.4
	comp=Z,10.0nm,1.3s					
WVOR	Wild Horse Val	84.46	38	P	P	11 40 31.0 -1.4
WVOR				IAmb	IAmb	11 40 55.8
	comp=Z,8.7nm,1.2s					
WVOR	Wild Horse Val	84.46	38	P	P	11 40 31.0 -1.4
WVOR				pmax	pmax	
	comp=Z,9.0nm,1.2s					
QIZ	Qiongzhong	84.51	294	P	P	11 40 33.6 +0.6
QIZ				S	S	11 50 59.0 -1.2
QIZ				LR	LR	
	comp=Z,460nm,11.8s					
QIZ				LR	LR	
	comp=Z,360nm,14.7s					
QIZ				LR	LR	
	comp=Z,320nm,18.5s					
P17K	Kvichak River	84.53	10	P	P	11 40 33.7 +1.6
	baz=197					
N14K	Kuskokwak Cree	84.55	7	P	P	11 40 34.1 +1.9
	baz=193					
Q20K	Shuyak Island	84.67	12	P	P	11 40 34.5 +1.6
	baz=201					
CCUT	Cedar City	84.67	45	P	P	11 40 33.2 -0.5
CCUT				IAmb	IAmb	11 40 55.3
	comp=Z,9.8nm,1.2s					
O16K	Kokwok River B	84.67	9	P	P	11 40 33.9 +1.0
	baz=196					
Q19K	Cape Douglas,	84.74	11	P	P	11 40 35.0 +1.8
	baz=200					
VNA2	Neumayer--Watz	84.78	176	⇑P	P	11 40 36.3 +2.7
	comp=Z,7.7nm,0.8s,baz=198,slow=4.0					
WUAZ	Wupatki	84.81	47	P	P	11 40 37.6 +3.1
	baz=236					
MDJ	Mudanjiang	84.88	324	P	P	11 40 35.3 +1.0
MDJ				pP	PcP	11 40 38.5 +0.9
MDJ				PP	PP	11 43 51.8 +0.6
MDJ				S	S	11 51 07.8 +5.0
MDJ				sS	ScS	11 51 11.8 -1.9
MDJ				pmax	pmax	
	comp=Z,15nm,1.6s					
MDJ				pmax	pmax	
	comp=Z,290nm,7.9s					
MDJ				LR	LR	
	comp=Z,440nm,21.7s					
MDJ				LR	LR	
	comp=Z,410nm,21.1s					
P18K	Big Mountain,	84.91	10	P	P	11 40 34.4 +0.2
	baz=198					
N15K	Kwethluk River	84.97	8	P	P	11 40 35.1 +0.7
	baz=194					
O17K	Koliganek Bris	84.99	9	P	P	11 40 34.4 -0.1
	baz=197					
VNA1	Neumayer--Stat	85.00	176	⇑P	P	11 40 37.6 +3.0
	comp=Z,16nm,0.9s					
PLCA	Paso Flores	85.04	133	LR	LR	12 12 14.9
	comp=Z,162nm,18.5s,baz=242,slow=31					
M14K	Bethel	85.33	7	P	P	11 40 38.9 +2.8
	baz=192					
O18K	Koktuh Hills	85.36	10	P	P	11 40 35.6 -0.7
O18K				IAmb	IAmb	11 40 49.9
	comp=Z,32nm,1.4s					
O18K	Koktuh Hills	85.36	10	P	P	11 40 38.7 +2.4
	baz=198					
M15K	Kasigluk River	85.41	7	P	P	11 40 39.3 +2.7
	baz=194					
N16K	Nishlik Lake	85.44	8	P	P	11 40 38.8 +2.0
	baz=195					
P19K	Oil Pt	85.50	11	P	P	11 40 37.7 +0.6
	baz=200					
121A	Cookes Peak, D	85.67	52	P	P	11 40 41.2 +2.4
	baz=238					
O19K	Port Alsworth	85.82	10	P	P	11 40 40.1 +1.6
	baz=199					
L14K	Kuka Creek	85.84	6	P	P	11 40 41.9 +3.3
	baz=192					
GRNR	Gornyy	85.85	332	*e*P	P	11 40 37.2 -1.8
M16K	Timber Creek	85.94	8	P	P	11 40 41.5 +2.3
	baz=195					
MSU	Marysvale	85.99	45	P	P	11 40 38.3 -2.0
MSU	Marysvale	85.99	45	P	P	11 40 38.3 -2.0
N18K	Kilae Creek	86.04	9	P	P	11 40 40.9 +1.2
	baz=201					
BRSE	Bradley Lake S	86.04	12	P	P	11 40 41.2 +1.5
	baz=202					
L15K	Ungalak Mounta	86.29	7	P	P	11 40 42.7 +1.9
	baz=193					
N19K	Bonanza Creek	86.38	10	P	P	11 40 42.9 +1.4
	baz=199					
M17K	Holitna River	86.51	9	P	P	11 40 42.9 +1.0
	baz=196					
WHN	Wuhan	86.52	306	P	P	11 40 45.1 +2.3
BBB	Bella Bella	86.54	27	LR	LR	12 13 59.2
	comp=Z,252nm,18.7s,baz=220,slow=32					
L16K	Owhat River	86.55	8	P	P	11 40 43.1 +1.0
	baz=195					
CN2	Changchun	86.65	322	P	P	11 40 44.0 +0.9
CN2				pmax	pmax	
	comp=Z,20nm,1.3s					
CN2				LR	LR	
	comp=Z,200nm,12.0s					
CN2				LR	LR	
	comp=Z,400nm,12.0s					
CN2				LR	LR	
	comp=Z,300nm,13.0s					
M18K	Stony River	86.82	9	P	P	11 40 44.2 +0.7
	baz=198					
K15K	Wolf Creek Mou	86.89	6	P	P	11 40 45.6 +1.8
	baz=193					
KLR	Kul'dur	86.89	328⇓	*e*P	P	11 40 45.8 +1.7
KLR				pmax	pmax	
	comp=Z,20nm,2.5s					
KLR	Kul'dur	86.89	328	LR	LR	12 15 12.5
	comp=Z,449nm,20.6s,baz=162,slow=33					
MNTX	Cornudas Mount	86.98	53	P	P	11 40 43.4 -1.7
MNTX	Cornudas Mount	86.98	53	P	P	11 40 47.1 +2.0
	baz=239					
TX31	Lajitas Ar. Si	87.07	56	P	P	11 40 43.9 -1.7
TXAR	Lajitas Array	87.07	56	P	P	11 40 43.8 -1.8
TXAR	Lajitas Array	87.07	56	P	P	11 40 49.1 +3.5
	comp=Z,1.4nm,0.9s,baz=220,slow=7.5,SNR=12					
TXAR				LR	LR	12 14 20.0
	comp=Z,362nm,18.6s,baz=232,slow=32					
	comp=Z,1.4nm,0.9s					
L17K	Donlin	87.10	8	P	P	11 40 47.3 +2.4
	baz=196					
RPSI	Rantau Prapat	87.12	274	P	P	11 40 45.6 -0.5
RPSI				IAmb	IAmb	11 40 47.7
	comp=Z,17nm,1.0s					
N20K	Mount Spurr	87.13	11	P	P	11 40 46.2 +1.1
	baz=201					
SPCR	Spurr Chakacha	87.13	11	P	P	11 40 46.9 +1.7
	baz=201					
CRAG	Craig	87.14	23	P	P	11 40 47.5 +2.3
	baz=218					
PSI	Prapat	87.16	274	P	P	11 40 45.6 -0.9
PSI				pmax	pmax	
	comp=Z,17nm,1.0s					
D08A	Wollman Farm,	87.28	35	P	P	11 40 45.1 -1.1
D08A				IAmb	IAmb	11 42 14.9
	comp=Z,26nm,1.7s					
L18K	Granite Mounta	87.40	9	P	P	11 40 48.7 +2.4
	baz=197					
M19K	Big River Lodg	87.43	10	P	P	11 40 48.2 +1.7
	baz=199					
RC01	Rabbit Creek A	87.48	12	P	P	11 40 49.1 +2.4
	baz=203					
TIA	Tai'an	87.49	312	P	P	11 40 49.3 +1.9
TIA				pmax	pmax	
	comp=Z,14nm,1.1s					
PWL	Port Wells	87.55	13	P	P	11 40 48.9 +1.8
	baz=205					
HLID	Hailey	87.59	40	P	P	11 40 49.3 +1.4
	baz=233					
M20K	Styx River	87.61	10	P	P	11 40 49.8 +2.4
	baz=200					
L19K	White Mountain	87.62	9	P	P	11 40 45.8 -1.7
L19K	White Mountain	87.62	9	P	P	11 40 49.8 +2.3
	baz=199					
K17K	Iditarod	87.66	8	P	P	11 40 48.5 +0.9
	baz=196					
GSI	Gunungsitoli	87.78	272	P	P	11 40 47.8 -1.6
GSI	Gunungsitoli	87.78	272	P	P	11 40 50.7 +1.3
EYAK	Cordova Ski Ar	87.82	14	P	P	11 40 49.5 +1.2
	baz=207					
ANMO	Albuquerque	87.88	50	P	P	11 40 50.7 +1.1
	baz=239					
ANMO	Albuquerque	87.88	50	LR	LR	12 15 47.2
	comp=Z,780nm,19.0s,baz=338,slow=32					
J16K	Anvik River	87.95	7	P	P	11 40 51.3 +2.4
	baz=194					
MA2	Magadan	87.96	344	LR	LR	12 15 39.4
	comp=Z,293nm,20.0s,baz=148,slow=32					
KNK	Knik Glacier	88.03	13	P	P	11 40 49.7 +0.3
	baz=204					
L20K	Farewell, AK	88.06	10	P	P	11 40 49.0 -0.5
	baz=200					
PMR	Palmer	88.06	12	P	P	11 40 48.7 -0.7
	baz=204					
TTA	Tatalina	88.17	9	P	P	11 40 50.9 +0.8
	baz=198,SNR=6.0					
J17K	VABM Dome	88.23	7	P	P	11 40 52.0 +1.7
	baz=195					
BMRM	Bremner River	88.45	14	P	P	11 40 52.5 +1.1
	baz=208					
J18K	Innoko River	88.59	8	P	P	11 40 53.4 +1.4
	baz=197					
CRQE	Cirque	88.61	15	P	P	11 40 54.1 +1.8
	baz=209					
KLU	Klutina	88.62	14	P	P	11 40 53.6 +1.3
	baz=207					
SCM	Sheep Creek Mo	88.64	13	P	P	11 40 53.9 +1.6
	baz=206					
PPLA	Purkeypile	88.72	10	P	P	11 40 54.0 +1.3
	baz=201					
K20K	Telida	88.86	9	P	P	11 40 51.8 -1.5
K20K	Telida	88.86	9	P	P	11 40 54.7 +1.4
	baz=199,SNR=7.3					
R32K	Eaglecrest	88.92	20	P	P	11 40 54.7 +1.1
	baz=217					
NEW	Newport	88.99	35	LR	LR	12 16 45.2
	comp=Z,739nm,19.0s,baz=222,slow=33					
N25K	Chitina, Valde	89.02	14	P	P	11 40 53.1 -1.1
N25K	Chitina, Valde	89.02	14	P	P	11 40 55.7 +1.6
	baz=208					
P29M	Windy Craggy	89.06	18	P	P	11 40 56.2 +1.9
	baz=214					
S22A	4UR Ranch, Cre	89.09	48	P	P	11 40 57.1 +1.8
	baz=238					
AHID	Auburn Hatcher	89.09	42	P	P	11 40 55.3 +0.2
AHID				IAmb	IAmb	11 42 51.6
	comp=Z,18nm,1.9s					
H16K	Elim	89.12	6	P	P	11 40 54.8 +0.4
	baz=192					
M24K	Tolsona, Glenn	89.12	13	P	P	11 40 56.0 +1.4
	baz=206					
MCARA	McCarthy VSAT	89.18	15	P	P	11 40 55.1 +0.3
	baz=209					
CAST	Castle Rocks	89.23	10	P	P	11 40 54.4 -0.6
CAST				IAmb	IAmb	11 40 56.4
	comp=Z,17nm,1.4s					
CAST	Castle Rocks	89.23	10	P	P	11 40 54.8 -0.2
	baz=201					
CTG	Chitna Glacier	89.23	16	P	P	11 40 56.7 +1.5
	baz=211					
WAT6	Susitna Watana	89.23	12	P	P	11 40 56.4 +1.2
	baz=205,SNR=6.3					
J19K	Poorman	89.24	9	P	P	11 40 55.9 +0.9
	baz=198					
WAT1	Susitna Watana	89.30	12	P	P	11 40 56.5 +1.1
	baz=204					
T35M	Bob Quinn	89.33	23	P	P	11 40 55.5 -0.2
	baz=220					
O28M	Mount Upton	89.36	16	P	P	11 40 56.3 +0.3
	baz=212					
O29M	Mount Kennedy	89.39	17	P	P	11 40 57.2 +1.2
	baz=213					
KTH	Kantishna Hill	89.55	11	P	P	11 40 55.4 -1.2
TRF	Thorofare Moun	89.56	11	P	P	11 40 56.6 -0.2
TRF	Thorofare Moun	89.56	11	P	P	11 40 57.8 +1.1
	baz=203,SNR=10					
HARP	HAARP	89.60	14	P	P	11 40 59.8 +3.1
	baz=207					
J20K	Nowinta River	89.62	9	P	P	11 40 55.7 -1.1
J20K	Nowinta River	89.62	9	P	P	11 40 58.8 +2.0
	baz=199					
SKAG	Skagway	89.62	19	P	P	11 41 00.2 +3.4
	baz=216					
CHUM	Lake Minchumin	89.62	10	P	P	11 40 57.4 +0.6
	baz=201					
H17K	Granite Mounta	89.64	7	P	P	11 40 57.5 +0.6
	baz=194					
F14K	Arctic Creek	89.64	4	P	P	11 40 57.2 +0.4
	baz=188					
HEH	HeiHe	89.67	327	*e*P	P	11 40 57.9 +0.6
HEH				pP	sP	11 41 01.3 +2.3
HEH				sS	sS	11 51 59.3 +8.6
HEH				pmax	pmax	
	comp=Z,12nm,1.2s					
HEH				pmax	pmax	
	comp=Z,220nm,7.5s					
HEH				LR	LR	
	comp=Z,220nm,16.8s					
HEH				LR	LR	
	comp=Z,290nm,17.5s					
HEH				LR	LR	
	comp=Z,390nm,21.2s					
P30M	Million Dollar	89.69	18	P	P	11 40 59.1 +1.8
	baz=215					
S34M	Telegraph Cree	89.74	22	P	P	11 40 59.4 +1.9
	baz=220					
DHY	Denali Highway	89.75	12	P	P	11 40 56.9 -0.7
DHY	Denali Highway	89.75	12	P	P	11 40 58.3 +0.7
	baz=206					
HNS	HongShan	89.77	312	⇓P	P	11 40 59.8 +1.7
HNS				pmax	pmax	
	comp=Z,13nm,1.7s					
RND	Reindeer	89.78	12	P	P	11 40 56.7 -0.9
RND	Reindeer	89.78	12	P	P	11 40 56.7 -0.9
RND				pmax	pmax	
	comp=Z,41nm,1.8s					
GCSA	Galena City Sc	89.80	8	P	P	11 40 58.8 +1.2
	baz=197					
G16K	Koyuk River	89.85	5	P	P	11 40 57.3 -0.5
	baz=192					
MOOW	Moose Ponds	89.86	41	P	P	11 40 57.2 -1.5
LOHW	Long Hollow	89.87	41	P	P	11 40 57.0 -1.7
LOHW				IAmb	IAmb	11 41 45.5
	comp=Z,16nm,2.0s					
LYN	LuoYang	89.90	308	⇓P	P	11 41 01.0 +2.2
LYN				pmax	pmax	
	comp=Z,37nm,1.2s					
SDCO	Great Sand Dun	89.99	48	P	P	11 41 02.1 +2.6
	baz=239					
H18K	Honhosa River	90.01	7	P	P	11 40 59.5 +0.9
	baz=196					
BW06	Boulder Array	90.03	42	P	P	11 40 59.7 +0.2
	baz=236					
PDAR	Pinedale Array	90.03	42	P	P	11 41 03.7 +4.1
	comp=Z,0.5nm,1.0s,baz=206,slow=5.9,SNR=2.8					
PDAR				LR	LR	12 17 03.2
	comp=Z,281nm,18.4s,baz=258,slow=32					
	comp=Z,0.5nm,1.0s					
BPAW	Bear Paw Mtn.	90.04	10	P	P	11 40 58.9 +0.1
	baz=202					
PAX	Paxson	90.04	13	P	P	11 40 59.7 +0.7
	baz=207					
MCK	McKinley	90.06	11	P	P	11 40 59.3 +0.4
	baz=204					
M26K	Nabesna, AK	90.08	14	P	P	11 41 01.0 +1.9
	baz=209					
G17K	Kiwalik Mounta	90.11	6	P	P	11 40 59.1 +0.1
	baz=194					
HYT	Haines Junctio	90.12	18	P	P	11 41 00.4 +1.0
	baz=214					
YUK3	Moose Creek	90.14	16	P	P	11 41 00.9 +1.4
	baz=212,SNR=6.2					
BJI	Beijing	90.16	314	P	P	11 41 01.3 +1.4
BJI				pP	pwP	11 41 04.3 -4.4
BJI				sP	sP	11 41 06.1 +4.6
BJI				pmax	pmax	
	comp=Z,6.0nm,1.5s					
BJI				LR	LR	
	comp=Z,96nm,17.5s					
BJI				LR	LR	
	comp=Z,96nm,18.6s					
BJI				LR	LR	
	comp=Z,120nm,17.5s					
I20K	Naaghedeneel	90.16	9	P	P	11 41 00.5 +1.2
	baz=199					
Q32M	Nakina River	90.18	21	P	P	11 41 01.7 +1.9
	baz=219					
YUK4	Talbot Arm	90.24	17	P	P	11 41 01.6 +1.6
	baz=213					
M27K	Edge Creek, AK	90.30	15	P	P	11 41 02.9 +2.7
	baz=210,SNR=7.9					
H17A	Grant Village	90.33	40	P	P	11 41 01.5 +0.6
	baz=236					
MENT	Mentasta	90.39	14	P	P	11 40 59.5 -1.0
MENT				IAmb	IAmb	11 41 09.0
	comp=Z,7.2nm,0.8s					
BOZ	Bozeman (W)	90.40	39	P	P	11 41 02.1 +1.1
	baz=235					
O30N	Mendenhall	90.47	18	P	P	11 41 04.4 +3.5
	baz=215					
SEY	Seymchan	90.49	346⇑	*e*P	P	11 41 01.2 +0.4
SEY				pmax	pmax	
	comp=Z,7.0nm,1.1s					
SEY	Seymchan	90.49	346	LR	LR	12 17 32.9
	comp=Z,200nm,19.3s,baz=163,slow=33					
GYA	Guiyang	90.51	299	⇓P	P	11 41 03.8 +1.8
GYA				pmax	pmax	
	comp=Z,16nm,1.1s					
DLBC	Dease Lake	90.52	22	P	P	11 41 04.1 +2.9
	baz=221					
L26K	Log Cabin Wild	90.55	14	P	P	11 41 02.9 +1.7
	baz=209					
H19K	Roundabout Mou	90.60	8	P	P	11 41 01.9 +0.7
	baz=197					
G18K	Tagagawik	90.70	7	P	P	11 41 02.9 +1.1
	baz=195					
K24K	Donnelly Dome	90.73	13	P	P	11 41 03.9 +1.9
	baz=207					
WHY	Whitehorse	90.73	19	P	P	11 41 03.4 +1.2
	baz=216					
N30M	Aishikik Lake	90.76	17	P	P	11 41 03.2 +1.0
	baz=214					
H20K	Anotleneega Mo	90.77	8	P	P	11 41 03.5 +1.4
	baz=199					
NEA2	Nenana	90.82	11	P	P	11 41 03.8 +1.4
	baz=204					
Q24A	Divide	90.85	47	P	P	11 41 04.5 +0.9
	baz=239					
RIDG	Independent Ri	90.86	13	P	P	11 41 03.7 +1.0
	baz=208					
WRH	Wood River Hil	90.89	11	P	P	11 41 01.6 -1.0
L27K	Beaver Creek,	90.92	15	P	P	11 41 04.0 +1.1
	baz=210					
R33M	Jennings River	90.94	21	P	P	11 41 04.1 +0.9
	baz=220					
F17K	Baldwin Pennin	90.97	6	P	P	11 41 03.4 +0.4
	baz=193					
CFA	Coronel Fontan	91.03	125	LR	LR	12 15 36.6
	comp=Z,192nm,18.5s,baz=250,slow=31					
HDA	Harding Lake	91.04	12	P	P	11 41 04.5 +1.1
	baz=206					
CCB	Clear Creek Bu	91.10	12	P	P	11 41 03.7 0.0
CCB				IAmb	IAmb	11 41 06.1

comp=Z,19nm,1.5s
G19K Purcell Mounta 91.12 7 P P 11 41 04.6 +0.9
baz=197
N31M Braeburn, Yuko 91.14 18 P P 11 41 06.1 +2.1
baz=216
M29M Somme Creek 91.21 16 P P 11 41 02.6 -1.8
M29M IAmb IAmb 11 41 11.5
comp=Z,4.7nm,0.8s
M29M Somme Creek 91.21 16 P P 11 41 07.0 +2.6
baz=213
H21K Melozitna Rive 91.22 9 P P 11 41 06.8 +2.6
baz=201
SCRK Sand Creek 91.25 13 P P 11 41 02.0 -2.5
SCRK IAmb IAmb 11 41 07.9
comp=Z,17nm,1.5s
SCRK Sand Creek 91.25 13 P P 11 41 06.1 +1.6
baz=208
I23K Minto, Yukon-K 91.28 11 P P 11 41 01.9 -2.6
I23K IAmb IAmb 11 41 06.8
comp=Z,21nm,1.6s
I23K Minto, Yukon-K 91.28 11 P P 11 41 06.8 +2.3
baz=204
COLA College 91.30 11 P P 11 41 03.2 -1.4
COLA IAmb IAmb 11 41 24.6
comp=Z,12nm,1.1s
COLA College 91.30 11 P P 11 41 03.2 -1.4
COLA pmax pmax
comp=Z,12nm,1.1s
COLA College 91.30 11 P P 11 41 05.7 +1.2
baz=205
MDM Murphy Dome 91.31 11 P P 11 41 05.6 +0.9
MDM IAmb IAmb 11 41 07.5
comp=Z,12nm,1.2s
IL31 91.38 12 P P 11 41 03.4 -1.5
IL31 IAmb IAmb 11 41 08.1
comp=Z,25nm,1.8s
ILAR Eielson Array 91.38 12 P P 11 41 03.3 -1.7
ILAR Eielson Array 91.38 12 P P 11 41 06.5 +1.6
comp=Z,1.3nm,0.7s,baz=218,slow=5.2,SNR=19
comp=Z,1.3nm,0.7s
IMAR Indian Mountai 91.39 9 P P 11 41 03.2 -1.8
RLMT Red Lodge 91.51 40 P P 11 41 05.9 -0.4
baz=237
J25K Salcha River, 91.53 12 P P 11 41 03.8 -2.0
J25K IAmb IAmb 11 41 08.5
comp=Z,17nm,1.5s
J25K Salcha River, 91.53 12 P P 11 41 06.8 +1.0
baz=207
E17K Hotham Inlet 91.55 5 P P 11 41 06.3 +0.6
baz=192
POKR Poker Plat Res 91.59 11 P P 11 41 06.0 0.0
baz=205
H22K Ishtalitna Cre 91.65 10 P P 11 41 08.2 +2.0
baz=202
N32M Quiet Lake 91.65 19 P P 11 41 07.9 +1.5
baz=218
ABTX Abilene, Hawle 91.68 55 P P 11 41 09.1 +1.9
baz=242
F19K Shaleruckik Mo 91.70 7 P P 11 41 07.8 +1.4
baz=196
K27K Chicken 91.71 14 P P 11 41 08.4 +1.9
baz=210
M30M Minto, Yukon 91.76 17 P P 11 41 07.2 +0.4
M30M Minto, Yukon 91.76 17 P P 11 41 07.8 +1.0
baz=215
J26L Joseph Creek 91.80 13 P P 11 41 04.6 -2.4
J26L IAmb IAmb 11 41 14.2
comp=Z,11nm,0.8s
J26L Joseph Creek 91.80 13 P P 11 41 08.8 +1.8
baz=209,SNR=11
L29M L29M 91.86 16 P P 11 41 09.1 +1.8
baz=214,SNR=6.9
G21K Allakaket 91.92 9 P P 11 41 10.1 +2.6
baz=200,SNR=5.0
E18K Tukpahlearik C 91.99 6 P P 11 41 09.5 +1.8
baz=194
D17K Noatak River 92.06 5 P P 11 41 09.7 +1.7
baz=191
M31M Drury Creek, Y 92.11 18 P P 11 41 08.1 -0.3
baz=217
F20K Avaraart Lake 92.15 8 P P 11 41 09.6 +1.2
baz=198
H24K Noodor Dome 92.17 11 P P 11 41 09.6 +0.9
baz=205
WTLY Watson Lake, Y 92.20 21 P P 11 41 11.9 +2.9
baz=222
XAN Xi'an 92.23 306 ⇓P P 11 41 11.5 +1.8
XAN pP pwP 11 41 16.8 -1.7
XAN pmax pmax
comp=Z,26nm,1.1s
PRP Porcupine Dome 92.31 12 P P 11 41 10.6 +1.2
baz=207
DAWY Dawson 92.35 15 P P 11 41 12.4 +2.8
DAWY IAmb IAmb 11 41 12.9
comp=Z,24nm,1.7s
DAWY Dawson 92.35 15 P P 11 41 12.5 +3.0
baz=213
E19K Redstone River 92.36 7 P P 11 41 12.0 +2.5
baz=197
C16K Lisburne Hills 92.48 4 P P 11 41 12.2 +2.3
baz=189
G22K Bettles 92.59 9 P P 11 41 11.6 +1.1
baz=202
I26K Coal Creek Min 92.59 13 P P 11 41 13.1 +2.5
baz=209
F21K Alatna River 92.59 8 P P 11 41 12.2 +1.6
baz=200
K29M Barlow Dome 92.62 16 P P 11 41 14.3 +3.4
baz=214
MAYO Mayo, Yukon 92.83 17 P P 11 41 13.9 +2.2
baz=216
NNA Nana 92.83 104 LR LR 12 15 38.8
comp=Z,413nm,18.6s,baz=222,slow=30
G24K Hadweenzic Riv 93.02 11 P P 11 41 14.3 +1.7
baz=205
CRAI Chiangrai 93.05 291 P P 11 41 12.3 -1.5
COLD Coldfoot 93.07 10 P P 11 41 15.3 +2.5
baz=203
KMI Kunming 93.11 296 ⇑P P 11 41 14.4 +0.2
KMI pP sP 11 41 16.8 +0.8
KMI pmax pmax
comp=Z,25nm,1.3s
KMI LR LR
comp=Z,250nm,16.7s
KMI LR LR
comp=Z,320nm,20.1s
KMI LR LR
comp=Z,320nm,18.9s
C18K Utukok River 93.14 5 P P 11 41 15.8 +2.7
baz=193
I27K Kandik River 93.17 13 P P 11 41 14.9 +1.5
baz=211
E20K Nigu River 93.25 7 P P 11 41 16.4 +2.7
baz=198
WMOK Wichita Mounta 93.29 53 P P 11 41 11.2 -3.4
WMOK IAmb IAmb 11 41 42.0
comp=Z,13nm,1.6s
WMOK Wichita Mounta 93.29 53 P P 11 41 11.2 -3.4
WMOK pmax pmax
comp=Z,13nm,1.7s
MMPY Sheldon Lake, 93.34 19 P P 11 41 14.8 +0.7
baz=220
I28M Miner Creek 93.40 14 P P 11 41 15.4 +0.9
baz=212
ATAH Atahualpa 93.48 99 LR LR 12 16 00.3
comp=Z,397nm,18.7s,baz=242,slow=31
J30M Hart River 93.52 16 P P 11 41 15.6 +0.6
baz=215
CMAR Chiang Mai Arr 93.56 289 P P 11 41 15.0 -1.1
CMAR Chiang Mai Arr 93.56 289 *ce*P **P 11 41 18.1 +2.0**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr 93.56 289 P P 11 41 17.6 +1.5
comp=Z,8.5nm,0.9s,baz=133,slow=3.1,SNR=38
CMAR LR LR 12 22 26.0
comp=Z,54nm,20.3s,baz=110,slow=35
comp=Z,8.5nm,0.9s
HHC Hu-ho-hao-te 93.60 313 *e*P **P 11 41 16.0 0.0**
HHC S **S 11 52 24.8 -0.2**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,310nm,5.0s
HHC LR LR
comp=Z,280nm,17.0s
HHC LR LR
comp=Z,390nm,18.7s
HHC LR LR
comp=Z,440nm,17.8s
D20K Etivluk River 93.64 7 P P 11 41 15.3 0.0
baz=197
E22K Anaktuvuk Pass 93.68 9 P P 11 41 16.6 +1.0
baz=202
F24K Squaw Lake 93.70 10 P P 11 41 17.5 +1.8
baz=205
CHTO Chiang Mai 93.70 289 P P 11 41 14.4 -2.4
CHTO Chiang Mai 93.70 289 P P 11 41 14.4 -2.4
CHTO pmax pmax
comp=Z,25nm,1.2s
C19K Lookout Ridge 93.72 6 P P 11 41 15.4 -0.3
baz=194
H27K Steamboat Moun 93.73 13 P P 11 41 16.3 +0.4
baz=211
B18K Kokolik River 93.79 5 P P 11 41 17.9 +1.9
baz=192
G26K Porcupine Rive 93.91 12 P P 11 41 18.7 +2.1
baz=209
E23K Chandalar 93.92 9 P P 11 41 16.4 -0.4
baz=204
I30M Mount Dempster 94.04 15 P P 11 41 18.3 +0.9
baz=215
RSSD Black Hills 94.17 43 P P 11 41 18.4 -0.3
baz=240
G27K Doyon Strip 94.20 13 P P 11 41 19.6 +1.5
baz=211
H29M Whitestone 94.40 14 P P 11 41 19.4 +0.5
baz=214
PZH PanZhiHua 94.51 297 P P 11 41 20.8 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.7s
BTO Baotou 94.52 313 *e*P **P 11 41 23.5 +3.3**
BTO pP **pwP 11 41 28.5 -0.5**
BTO sP sP 11 41 30.5 +8.6
BTO SKS **SKSac 11 51 56.6 +0.9**
BTO S **ScS 11 52 36.1 +2.0**
BTO sS sS 11 52 42.0 +7.0
BTO SS **SS 11 58 57.9 +1.7**
BTO pmax pmax
comp=Z,25nm,1.0s
BTO pmax pmax
comp=Z,370nm,8.7s
BTO LR LR
comp=Z,460nm,17.7s
BTO LR LR
comp=Z,450nm,17.7s
BTO LR LR
comp=Z,480nm,19.5s
JTS Las Juntas de 94.58 81 LR LR 12 13 48.9
comp=Z,116nm,21.3s,baz=252,slow=29
LVC Limon Verde 94.83 117 LR LR 12 17 43.5
comp=Z,273nm,18.5s,baz=248,slow=31
TEIG Tepich 95.59 70 LR LR 12 20 19.7
comp=Z,1μm,18.2s,baz=10,slow=33
LZH Lanzhou 96.87 306 *e*P **P 11 41 34.8 +3.7**
LZH pP pwP 11 41 40.9 +1.0
LZH sS sS 11 52 58.5 +2.8
LZH pmax pmax
comp=Z,25nm,1.0s
LZH LR LR
comp=Z,250nm,13.1s
LZH LR LR
comp=Z,260nm,12.4s
MIAR Mount Ida 97.07 55 P P 11 41 30.1 -1.7
baz=246
YKA Yellowknife Ar 98.86 24 LR LR 12 23 08.1
comp=Z,138nm,18.4s,baz=258,slow=33
C36M Paulatuk 100.28 16 P Pdif 11 41 45.9 +0.6
baz=226
GTA Gaotai 101.12 308 *e*P **Pdif 11 41 51.3 +1.3**
GTA pP pwP 11 42 01.8 +2.9
GTA pmax pmax
comp=Z,3.0nm,1.5s
A36M Sachs Harbour 101.84 14 P Pdif 11 41 51.4 -0.8
baz=226
O53A New Philadelph 108.27 53 P PKiKP 11 46 28.2 +0.3
baz=254
WMQ Urumqi 111.11 310 *e*PKP **PKiKP 11 46 32.4 -0.9**
WMQ LR LR
comp=Z,400nm,15.9s
WMQ LR LR
comp=Z,240nm,20.3s
PAL Palisades 113.84 54 P PKiKP 11 46 37.1 -1.3
baz=258
ZALV Zalesovo Beam 114.83 320 PKiKP **PKiKP 11 46 40.4 +0.4**
comp=Z,15nm,0.4s,baz=127,slow=3.8,SNR=1.8
L61B Northampton 115.03 53 P PKPdf 11 46 39.0 -1.7
baz=260
MK31 Makanchi Array 115.43 312 ⇑*i*PKIKP **PKiKP 11 46 42.3 +0.9**
MKAR Makanchi Array 115.43 312 *c i*PKIKP **PKiKP 11 46 42.2 +0.8**
MKAR Makanchi Array 115.43 312 PKiKP **PKiKP 11 46 41.0 -0.4**
comp=Z,0.3nm,0.4s,baz=75,slow=1.4,SNR=4.6
HRV Adam Dziewonsk 115.85 53 P **PKiKP 11 46 41.6 -0.7**
baz=260
KURK Kurchatov 118.29 316 ⇑*i*PKIKP **PKiKP 11 46 47.8 +1.1**
KURBB Kurchatov Arra 118.34 316 PKP **PKiKP 11 46 46.4 -0.4**
comp=Z,0.8nm,0.6s,baz=95,slow=1.8,SNR=6.6
AAK Ala-Archa 120.41 307 ⇑*i*PKIKP **PKiKP 11 46 53.0 +1.6**
AAK pmax pmax
comp=Z,6.0nm,2.5s
KKAR Karatay Array 123.37 307 PKPdf **PKiKP 11 46 57.2 +0.2**
KKAR Karatay Array 123.37 307 PKIKP **PKiKP 11 46 57.2 +0.2**
BVAR Borovoye Array 123.41 319 PKP **PKiKP 11 46 57.5 +0.7**
comp=Z,1.9nm,0.7s,baz=98,slow=3.0,SNR=6.2
BRVK Borovoye 123.47 319 ⇑*i*PKIKP **PKiKP 11 46 57.5 +0.7**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
ARU Arti 129.56 324 PKIKP **PKiKP 11 47 09.3 +0.4**
ARCES ARCESS Array B 132.94 350 PKP **PKiKP 11 47 14.2 -1.1**
comp=Z,4.1nm,1.0s,baz=36,slow=1.7,SNR=1.9
FINES FINESS Array B 139.95 344 PKP **PKPdf 11 47 26.3 -1.0**
comp=Z,4.3nm,1.1s,baz=75,slow=5.9,SNR=3.5
NOA NORSAR Array B 142.87 355 PKP **PKPdf 11 47 32.7 -0.1**
comp=Z,1.2nm,0.8s,baz=17,slow=4.3,SNR=3.6
KIV Kislovodsk 143.19 312 *i* PKIKP **PKiKP 11 47 38.5 +1.3**
KIV pmax pmax
comp=Z,8.0nm,1.0s
HFS Hagfors 143.51 352 PKhKP PKPpre 11 47 31.2
comp=Z,2.7nm,0.6s,baz=55,slow=5.6,SNR=8.4
LODK Lodwar 143.84 240 PKPdf **PKPdf 11 47 35.3 -0.6**
MBAR Mbarara 144.63 230 ⇑*i*PKIKP **PKiKP 11 47 39.5 -1.6**
MNK Minsk 145.09 336 *i* PKP **PKiKP 11 47 37.8 -2.8**
comp=E,7.0nm,0.7s
MNK *i* PKP **PKiKP 11 47 37.8 -2.8**
comp=N,21nm,0.9s
MNK *i* PKP **PKiKP 11 47 37.8 -2.8**
comp=Z,34nm,0.9s,baz=39
MNK *i* PP **PP 11 50 55.1 +0.3**
MNK *i* PPP PPP 11 54 10.8
MNK *i* SKS **SKSdf 11 54 49.8 +3.9**
MNK *i* SKKS SKKSdf 12 03 45.8 -11
MNK *i* SS SS 12 09 59.1 +15
MNK *i* SSS SSS 12 15 21.7
MNK *i* LQ LQ 12 49 35.8
MNK *i* LR LR 12 53 22.3
MNK *i* LRM MLR 12 57 28.5
comp=N,166nm,18.5s
MNK *i* LRM MLR 12 57 47.9
comp=Z,247nm,19.3s
MNK *i* LRM MLR 12 58 16.2
comp=E,41nm,18.0s
MNK Minsk 145.09 336 *i* PKIKP **PKiKP 11 47 37.7 -2.8**
MNK *i* 11 50 55.1
MNK *i* PPP PPP 11 54 10.8
MNK *i* 11 54 49.8
MNK pmax pmax
comp=Z,34nm,0.9s
MNK pmax pmax
comp=N,21nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.7s
NACGM Naroch 145.17 338 *e*PKP **PKiKP 11 47 39.3 -1.4**
comp=Z,35nm,0.7s,baz=39
AKASG Malin Array Be 147.37 331 PKPbc **PKPbc 11 47 42.9 -0.2**
comp=Z,6.1nm,0.6s,baz=39,slow=3.5,SNR=29
AKBB Malin Array Si 147.37 331 PKPab 11 47 44.0 -1.0
AKBB Malin Array Si 147.37 331 PKP2 **PKPab 11 47 44.0 -1.0**
EKA Eskdalemuir Ar 148.36 8 PKPbc **PKiKP 11 47 46.5 -0.7**
comp=Z,4.1nm,0.8s,baz=341,slow=1.8,SNR=3.5
LVV L'vov 150.24 334 *e*PKP2 **PKiKP 11 47 51.6 +0.3**
LVV pmax pmax
comp=Z,90nm,1.6s
BRTR Keskin Array B 151.03 309 PKPdf **PKPdf 11 47 44.4 -2.8**
BRTR Keskin Array B 151.03 309 *c i*PKIKP **PKiKP 11 47 54.0 +0.5**
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 151.03 309 PKPbc **PKiKP 11 47 53.9 +0.3**
comp=Z,5.3nm,1.0s,baz=82,slow=3.1,SNR=12
MMAI Mount Meron Ar 151.61 295 PKPbc **PKiKP 11 47 55.5 +0.7**
comp=Z,9.8nm,0.7s,baz=81,slow=2.8,SNR=11
CLL Collm 152.14 349 *e*PKIKP **PKPdf 11 47 49.0 +0.7**
CLL *i* 11 47 56.7
CLL *i* 11 48 04.0
CLL pmax pmax
comp=Z,38nm,1.6s
CLL pmax pmax
comp=Z,35nm,1.7s
CLL Collm 152.14 349 *e*PKPdf **PKPdf 11 47 49.0 +0.7**
CLL *i* PKPbc **sPKPbc 11 47 56.7 0.0**
comp=Z,38nm,1.6s
CLL *i* PKPab **pPKPab 11 48 04.0 -1.7**
comp=Z,35nm,1.7s
CLL *ep*PKPab **sPKPab 11 48 08.0 +1.8**
CLL *e*PP **PP 11 51 36.0 +0.3**
CLL *e*PSKS 12 02 00.0
CLL *e*SS SS 12 11 12.0 +8.8
OSTC Ostas 152.16 344 *e*PKIKP **PKiKP 11 47 57.5 +2.2**
OSTC Ostas 152.16 344 ⇑*e*PKP **PKiKP 11 47 57.5 +2.2**
DPC Dobruska-Polom 152.32 344 *e*PKIKP **PKiKP 11 47 57.0 +1.3**
DPC Dobruska-Polom 152.32 344 ⇑*e*PKP **PKiKP 11 47 57.0 +1.3**
BRG Berggiesshubel 152.38 347 *e*PKP **PKiKP 11 47 57.6 +1.9**
BRG Amp 11 48 00.6
comp=Z,7.0nm,0.8s
BRG Berggiesshubel 152.38 347 P **PKPab 11 48 08.2 +2.7**
BRG Amp 11 48 10.8
comp=Z,5.1nm,0.7s
BRG Berggiesshubel 152.38 347 *e*PKIKP **PKiKP 11 47 57.6 +1.9**
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG pmax pmax
comp=Z,5.0nm,0.7s
MORC Moravsky Berou 152.51 342 PKPdf **PKPdf 11 47 46.4 -2.6**
MORC **PKiKP 11 47 57.7 +1.6**
MORC PKPab **sPKPab 11 48 06.5 -1.3**
MORC Moravsky Berou 152.51 342 *e* **PKPab 11 48 08.2 +2.1**
MORC Moravsky Berou 152.51 342 PKIKP **PKiKP 11 47 57.7 +1.6**
MORC 11 48 06.5
MORC Moravsky Berou 152.51 342 *e*PKP **PKiKP 11 47 58.2 +2.1**
MLR Muntele Rosu 152.59 326 PKPdf **PKPdf 11 47 45.0 -4.3**
MLR PKPab **pPKPab 11 48 06.9 -1.1**
MLR Muntele Rosu 152.59 326 PKIKP **PKPdf 11 47 45.0 -4.3**
MLR 11 48 06.9
MAUC Maruska 152.79 341 ⇑*e*PKP **PKiKP 11 47 58.9 +2.2**
VRAC Vranov 153.20 342 *e*PKP **PKiKP 11 47 59.3 +1.8**
VRAC *e* 11 48 10.3
VYHS Vyhne 153.24 339 *e*PKIKP **PKPab 11 48 10.5 +1.3**
JAVC Velka Javorina 153.29 341 *e*PKP **PKiKP 11 48 00.1 +2.3**
JAVC *e* 11 48 12.0
KRUC Moravsky 153.48 342 *e*PKP **PKiKP 11 48 00.2 +2.1**
KRUC *e* 11 48 11.9
ZVC Zvikov 153.68 346 *e*PKPAB **PKPab 11 48 11.7 +0.7**
MODS Modra-Piesok 153.84 341 *e*PKP2 **PKPab 11 48 14.4 +2.7**
KHC Kasperske Hory 154.10 346 *e*PKIKP **PKiKP 11 48 02.4 +3.0**
KHC Kasperske Hory 154.10 346 ⇑*e*PKP **PKiKP 11 48 02.4 +3.0**
KHC *e*PKPAB **sPKPab 11 48 14.5 -0.1**
ESDC Sonseca Array 162.95 23 PKP **PKPdf 11 48 03.8 +1.6**
comp=Z,0.7nm,0.9s,baz=354,slow=3.0,SNR=4.2
TORD Torodi Ar. Bea 168.70 166 PKP **PKPdf 11 48 09.4 +1.9**
comp=Z,1.7nm,1.1s,baz=222,slow=1.9,SNR=6.4
TORD PKPab **sPKPab 11 49 19.8 +0.8**
comp=Z,0.8nm,0.8s,baz=169,slow=3.9,SNR=2.8

NNC 17 11:28:30.3±2.6, 37°.25N×71°.23E, h0km, mb3.7, mpv3.3, 3C-3D, Error ellipse: s-maj=21.4km s-min=19.6km az=123.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.23**	**21**	⇓Pn	Pn	11 29 50.5	+0.3
AML	8.8nm,0.6s			⇓Sn	Sn	11 30 52.9	+1.6
	10nm,0.8s						
KK31	**Karatay Array**	**5.87**	**355**	⇑Pn	Pn	11 29 59.1	+0.5
	5.2nm,0.6s,baz=177,slow=12,SNR=30						
KK31				⇑Sn	Sn	11 31 07.3	+0.8
	4.7nm,0.5s,baz=176,slow=17,SNR=18						
TKM2	**Tokmak 2**	**6.58**	**29**	⇑Pn	Pn	11 30 07.5	-1.0
	1.0nm,0.4s						
TKM2				⇓Sn	Sn	11 31 25.4	+1.1
	2.9nm,0.7s						

---

*STR **17** 11:45:05.6±0.7, 45°.N±9°.×°.±1°.4, h10km, MLv0.7/4, Error ellipse: s-maj=0.0km s-min=0.0km az=121.9, preliminary*

LDG 17 11:45:05.7±0.1, 45°.39N×6°.41E, h2km, Md1.2/1, Ml1.4/1, Error ellipse: s-maj=1.4km s-min=0.7km az=112.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.26**	**66**	*e*Pg	Pg	11 45 11.1	+0.3
LPG	3.4nm,0.3s			*e*Sg	Sg	11 45 14.9	+0.7
GDM	**Grand'Maison**	**0.28**	**228**	Pg	Pg	11 45 11.2	+0.1
GDM				Sg	Sg	11 45 14.7	0.0
RSL	**Roselend**	**0.33**	**27**	Pg	Pg	11 45 12.4	+0.3
RSL				Sg	Sg	11 45 16.5	0.0
LSD	**Lago del Serru**	**0.51**	**82**	Sg	Sb	11 45 24.5	-1.1
ORIF	**Oris-en-Rattie**	**0.60**	**219**	*e*Pg	Pg	11 45 17.3	0.0
ORIF	2.1nm,0.2s			*e*Sg	Sg	11 45 25.1	0.0
ORIF	**Oris-en-Rattie**	**0.60**	**219**	Pg	Pg	11 45 17.9	+0.7
MBDF	**Montbardon**	**0.71**	**159**	*e*Pg	Pg	11 45 19.3	0.0
MBDF	1.1nm,0.3s			*e*Sg	Sg	11 45 29.0	+0.5
CABF	**La Chapelle**	**1.24**	**350**	*e*Pg	Pg	11 45 29.0	-0.5
CABF	**La Chapelle**	**1.24**	**350**	*e*P	Pn	11 45 30.3	+0.1
CABF	0.7nm,0.2s			*e*Sg	Sg	11 45 45.4	-0.2

---

*NEIC **17** 11:58:29.5±2.6, 22°.66S±0°.06×67°.60W±0°.03, h165km±6km, mb4.5/51, Mwr4.8(GUC), Error ellipse: s-maj=8.9km s-min=4.6km az=183.0*

*SJA **17** 11:58:29.4±2.6, 22°.64S×67°.62W, h150km, ML4.5, MW4.4*

*IDC **17** 11:58:29.2±0.8, 22°.57S×67°.46W, h156km±8km, mb3.9/10, mbtmp4.4/17, MS2.9/1, Error ellipse: s-maj=14.0km s-min=11.9km az=61.0*

*GUC **17** 11:58:30.9±0.7, 22°.63S×67°.72W, h169km±6km, ML5.4*

*VAO **17** 11:58:30.0±0.4, 22°.54S×67°.54W, h159km, mb4.6*

ISC 17 11:58:30.0±0.5, 22°.62S±0°.03×67°.67W±0°.04, h172km±4km, n196, σ1°.973/243, mb4.4/32, 21C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.57**	**235**		**Pn**	**11 58 54.5**	**-0.1**
AF01				Sn	**Sn**	**11 59 13.5**	**0.0**
AF01	**San Pedro de A**	**0.57**	**235**	⇑*i*P	**Pn**	**11 58 54.5**	**-0.1**
LVC	**Limon Verde**	**1.15**	**270**		**Pn**	**11 58 58.2**	**-0.3**
LVC				Sn	**Sn**	**11 59 19.3**	**-1.1**
LVC	**Limon Verde**	**1.15**	**270**	*e*P	**Pn**	**11 58 57.8**	**-0.7**
LVC	**Limon Verde**	**1.15**	**270**	P	**Pn**	**11 58 58.1**	**-0.4**
	4μm,0.4s,baz=90,slow=5.9,SNR=6617						
LVC				S	**Sn**	**11 59 19.4**	**-1.0**
	2μm,0.4s,baz=254,slow=20,SNR=3.4						
LVC	**Limon Verde**	**1.15**	**270**	⇑*e*P	**Pn**	**11 58 58.1**	**-0.3**
LVC				*e*S	**Sn**	**11 59 19.3**	**-1.1**
LVC	**Limon Verde**	**1.15**	**270**	*e*P	**Pn**	**11 58 58.2**	**-0.3**
LVC				*e*S	**Sn**	**11 59 20.2**	**-0.2**
LVC				IAML		11 59 21.8	
	comp=Z,2μm,0.5s						
PB09	**IPOC Station P**	**1.67**	**299**		**Pn**	**11 59 03.5**	**+0.2**
PB09				Sn	**Sn**	**11 59 28.2**	**-0.6**
PB09	**IPOC Station P**	**1.67**	**299**	⇑*i*P	**Pn**	**11 59 03.6**	**+0.4**
PB09				*e*S	**Sn**	**11 59 28.1**	**-0.8**
PB09				IAML		11 59 30.3	
	comp=N,15μm,0.9s						
PB09	**IPOC Station P**	**1.67**	**299**	*e*P	**Pn**	**11 59 03.4**	**+0.2**
PB09				*e*S	**Sn**	**11 59 28.9**	**+0.1**
PB09				IAML		11 59 32.4	
	comp=Z,6μm,0.2s						
PB06	**IPOC Station P**	**1.76**	**267**	Pn	**Pn**	**11 59 03.5**	**-0.6**

PB06	**IPOC Station P**	**1.76 267**	⇑*i* P		**Pn**	**11 59 03.8**	**-0.3**
PB06			*i* S		**Sn**	**11 59 29.2**	**-1.2**
PB06			*e*S			11 59 29.5	
PB06	**IPOC Station P**	**1.76 267**	*e*P		**Pn**	**11 59 03.8**	**-0.3**
PB06			*e*S		**Sn**	**11 59 30.4**	**0.0**
PB06			IAML			11 59 31.9	
	comp=Z,6μm,0.2s						
PB15	**IPOC Station P**	**1.76 250**			**Pn**	**11 59 03.8**	**-0.4**
PB15	**IPOC Station P**	**1.76 250**	⇑*i* P		**Pn**	**11 59 04.1**	**-0.1**
PB15			*e*S		**Sn**	**11 59 29.3**	**-1.3**
PB15			IAML			11 59 33.0	
	comp=N,34μm,0.4s						
PB15	**IPOC Station P**	**1.76 250**	*e*P		**Pn**	**11 59 04.1**	**-0.1**
PB15			*e*S		**Sn**	**11 59 30.2**	**-0.3**
PB15			IAML			11 59 32.5	
	comp=Z,16μm,0.1s						
YJA	**Yavi**	**2.04 78**	*e*P		**Pn**	**11 59 07.5**	**+0.1**
YJA			IAML			11 59 44.2	
	comp=Z,62nm,0.6s						
PB07	**IPOC Station P**	**2.24 293**			**Pn**	**11 59 09.1**	**-0.3**
PB07	**IPOC Station P**	**2.24 293**	⇑*i* P		**Pn**	**11 59 09.2**	**-0.3**
PB07			*e*S		**Sn**	**11 59 38.0**	**-1.9**
PB07			IAML			11 59 39.6	
	comp=E,20μm,0.3s						
PB07	**IPOC Station P**	**2.24 293**	*e*P		**Pn**	**11 59 09.1**	**-0.3**
PB07			*e*S		**Sn**	**11 59 38.9**	**-1.0**
PB07			IAML			11 59 39.8	
	comp=Z,8μm,0.4s						
PB01	**IPOC Station P**	**2.30 313**			**Pn**	**11 59 09.8**	**-0.3**
PB01	**IPOC Station P**	**2.30 313**	⇑*i* P		**Pn**	**11 59 09.8**	**-0.3**
PB01			*e*S		**Sn**	**11 59 40.2**	**-1.0**
PB01			IAML			11 59 41.6	
	comp=E,15μm,0.2s						
PB01	**IPOC Station P**	**2.30 313**	*e*P		**Pn**	**11 59 09.7**	**-0.3**
PB01			*e*P			11 59 09.8	
PB01			*e*S		**Sn**	**11 59 40.5**	**-0.6**
PB01			IAML			11 59 42.7	
	comp=Z,7μm,0.3s						
PB04	**IPOC Station P**	**2.31 277**			**Pn**	**11 59 09.8**	**-0.4**
PB04	**IPOC Station P**	**2.31 277**	⇑*i* P		**Pn**	**11 59 09.8**	**-0.4**
PB04			*e*S		**Sn**	**11 59 39.5**	**-1.8**
PB04			IAML			11 59 43.3	
	comp=E,11μm,0.2s						
PB04	**IPOC Station P**	**2.31 277**	*e*P		**Pn**	**11 59 09.8**	**-0.4**
PB04			*e*S		**Sn**	**11 59 39.9**	**-1.5**
PB04			IAML			11 59 42.5	
	comp=Z,5μm,0.2s						
PB02	**IPOC Station P**	**2.44 302**			**Pn**	**11 59 11.2**	**-0.5**
PB02	**IPOC Station P**	**2.44 302**	⇑*i* P		**Pn**	**11 59 11.1**	**-0.5**
PB02			*i* S		**Sn**	**11 59 41.6**	**-2.3**
PB02			IAML			11 59 43.1	
	comp=E,12μm,0.2s						
PB02	**IPOC Station P**	**2.44 302**	*e*P		**Pn**	**11 59 11.1**	**-0.5**
PB02			*e*S		**Sn**	**11 59 41.6**	**-2.3**
PB02			IAML			11 59 43.5	
	comp=Z,11μm,0.5s						
PB08	**IPOC Station P**	**2.83 330**			**Pn**	**11 59 17.1**	**+0.5**
PB08	**IPOC Station P**	**2.83 330**	*e*P		**Pn**	**11 59 17.1**	**+0.5**
PB08			*e*S		**Sn**	**11 59 53.2**	**+0.5**
PB08			IAML			11 59 57.4	
	comp=Z,2μm,0.3s						
AZAP	**Zapla**	**2.88 124**	*e*P		**Pn**	**11 59 16.2**	**-0.8**
AZAP			*e*S		**Sn**	**11 59 51.4**	**-2.2**
AZAP			IAML			12 00 01.0	
	comp=Z,296nm,1.4s						
SLA	**San Lorenzo**	**2.89 137**	*e*P		**Pn**	**11 59 17.3**	**+0.2**
SLA			IAML			12 00 16.9	
	comp=Z,69nm,1.2s						
PATCX	**Punta Patache**	**2.92 307**			**Pn**	**11 59 16.5**	**-1.0**
PATCX	**Punta Patache**	**2.92 307**	⇑*i* P		**Pn**	**11 59 16.5**	**-1.0**
PATCX			*e*S		**Sn**	**11 59 51.8**	**-2.5**
PATCX	**Punta Patache**	**2.92 307**	*e*P		**Pn**	**11 59 16.4**	**-1.0**
PATCX			*e*S		**Sn**	**11 59 53.1**	**-1.1**
PATCX			IAML			11 59 55.4	
	comp=Z,4μm,0.3s						
GO02	**Mina Guanaco**	**3.08 214**	Pn		**Pn**	**11 59 19.1**	**-0.5**
GO02	**Mina Guanaco**	**3.08 214**	⇑*i* P		**Pn**	**11 59 19.1**	**-0.5**
GO02			*i* S		**Sn**	**11 59 56.2**	**-2.1**
GO02			IAML			11 59 57.1	
	comp=E,5μm,0.5s						
GO02	**Mina Guanaco**	**3.08 214**	*e*P		**Pn**	**11 59 19.1**	**-0.5**
GO02			*e*S		**Sn**	**11 59 56.4**	**-1.9**
GO02			IAML			12 00 00.1	
	comp=Z,1μm,0.7s						
TA01	**Diego Aracena**	**3.10 311**	Pn		**Pn**	**11 59 18.6**	**-1.0**
TA01	**Diego Aracena**	**3.10 311**	⇑*i* P		**Pn**	**11 59 18.1**	**-1.4**
TA01			*e*S		**Sn**	**11 59 55.3**	**-2.8**
TA01			IAML			11 59 56.8	
	comp=E,6μm,0.2s						
TA01	**Diego Aracena**	**3.10 311**	*e*P		**Pn**	**11 59 18.3**	**-1.2**
TA01			*e*S		**Sn**	**11 59 56.4**	**-1.8**
TA01			*e*S			11 59 56.6	
TA01			IAML			12 00 01.7	
	comp=Z,2μm,0.3s						
HMBC	**Humberstone**	**3.11 318**	⇑*i* P		**Pn**	**11 59 18.5**	**-1.3**
HMBC			*e*S		**Sn**	**11 59 55.5**	**-3.1**
HMBC			IAML			11 59 57.1	
	comp=N,10μm,0.4s						
HMBC	**Humberstone**	**3.11 318**	*e*P		**Pn**	**11 59 18.6**	**-1.3**
HMBC			*e*S		**Sn**	**11 59 57.4**	**-1.2**
HMBC			IAML			12 00 03.6	
	comp=Z,5μm,0.4s						
PB14	**IPOC Station P**	**3.21 231**	Pn		**Pn**	**11 59 20.4**	**-0.8**
PB14	**IPOC Station P**	**3.21 231**	⇑*i* P		**Pn**	**11 59 20.2**	**-0.9**
PB14			*e*S		**Sn**	**11 59 56.9**	**-4.1**
PB14	**IPOC Station P**	**3.21 231**	*e*P		**Pn**	**11 59 20.2**	**-0.9**
PB14			*e*S		**Sn**	**11 59 58.8**	**-2.2**
PB14			IAML			12 00 02.7	
	comp=Z,751nm,0.4s						
ASTB	**Santa Barbara**	**3.24 115**	*e*P		**Pn**	**11 59 20.6**	**-0.8**
ASTB			IAML			12 00 49.4	
	comp=Z,0.6nm,4.6s						
GO01	**Chusmiza**	**3.26 334**			**Pn**	**11 59 22.1**	**0.0**
GO01	**Chusmiza**	**3.26 334**	⇑*i* P		**Pn**	**11 59 22.0**	**0.0**
GO01			*e*S		**Sn**	**12 00 01.8**	**-0.7**
GO01			IAML			12 00 04.8	
	comp=N,7μm,0.2s						
GO01	**Chusmiza**	**3.26 334**	*e*P		**Pn**	**11 59 22.0**	**0.0**
GO01			*e*S		**Sn**	**12 00 02.0**	**-0.4**
GO01			*e*S			12 00 03.8	
GO01			IAML			12 00 04.5	
	comp=Z,2μm,0.3s						
TA02	**Huaiquique**	**3.27 315**			**Pn**	**11 59 20.2**	**-1.4**
TA02	**Huaiquique**	**3.27 315**	*e*P		**Pn**	**11 59 20.2**	**-1.4**
TA02			*e*S		**Sn**	**11 59 59.9**	**-2.1**
TA02			IAML			12 00 03.3	
	comp=Z,2μm,0.2s						
ALOL	**LOMAS DE OLMED**	**3.60 110**	*e*P		**Pn**	**11 59 24.6**	**-1.1**
AC02	**Maricunga**	**4.40 197**	Pn		**Pn**	**11 59 35.0**	**-1.5**
AC02	**Maricunga**	**4.40 197**	⇓*e*P		**Pn**	**11 59 35.7**	**-0.8**
AC02			*e*S		**Sn**	**12 00 26.0**	**-2.5**
AC02	**Maricunga**	**4.40 197**	*e*P		**Pn**	**11 59 35.1**	**-1.5**
AC02			*e*S		**Sn**	**12 00 30.6**	**+2.1**
AC02			IAML			12 00 32.8	
	comp=Z,115nm,0.8s						
AC01	**Pan de Azucar**	**4.41 217**			**Pn**	**11 59 34.4**	**-1.7**
AC01	**Pan de Azucar**	**4.41 217**	*e*P		**Pn**	**11 59 34.2**	**-1.9**
AC01			*e*S		**Sn**	**12 00 23.1**	**-5.0**
AC01	**Pan de Azucar**	**4.41 217**	*e*P		**Pn**	**11 59 34.2**	**-1.9**
AC01			*e*S		Sn	12 00 18.7	-9.3
AC01			IAML			12 00 26.4	
	comp=Z,311nm,0.7s						
PB16	**IPOC Station P**	**4.60 338**	Pn		**Pn**	**11 59 39.3**	**+0.2**
PB16	**IPOC Station P**	**4.60 338**	⇑*e*P		**Pn**	**11 59 39.3**	**+0.2**
PB16			*i* S		**Sn**	**12 00 26.3**	**-6.9**
PB16	**IPOC Station P**	**4.60 338**	*e*P		**Pn**	**11 59 39.0**	**-0.1**
PB16			*e*S		**Sn**	**12 00 32.5**	**-0.7**
PB16			IAML			12 00 38.5	
	comp=Z,522nm,0.4s						
PB12	**IPOC Station P**	**4.70 328**	Pn		**Pn**	**11 59 38.6**	**-1.4**
PB12	**IPOC Station P**	**4.70 328**	*e*P		**Pn**	**11 59 37.5**	**-2.6**
PB12			*e*S		**Sn**	**12 00 29.3**	**-5.5**
AP01	**Chacalluta**	**4.91 329**	Pn		**Pn**	**11 59 41.5**	**-1.2**
AP01	**Chacalluta**	**4.91 329**	*e*S		**Sn**	**12 00 35.1**	**-4.5**
AP01			IAML			12 00 47.0	
	comp=Z,978nm,0.7s						
AC06	**Mina Casimiro**	**5.31 207**	Pn		**Pn**	**11 59 45.6**	**-2.2**
AC06	**Mina Casimiro**	**5.31 207**	*e*P		**Pn**	**11 59 45.1**	**-2.7**
AC06			*e*S		Sn	12 00 37.1	-12
GO03	**Copiap**	**5.47 205**			**Pn**	**11 59 47.4**	**-2.6**
LPAZ	**La Paz**	**6.31 356**	*e*P		**Pn**	**12 00 00.7**	**-1.0**
AC04	**Llanos de Chal**	**6.36 208**	Pn		**Pn**	**11 59 57.5**	**-4.1**
LCO	**Las Campanas**	**6.93 203**			**Pn**	**12 00 06.6**	**-2.7**
CO01	**Juntas del Tor**	**7.64 196**			**Pn**	**12 00 15.8**	**-3.1**
CO05	**La Serena**	**7.94 203**	Pn		**Pn**	**12 00 22.4**	**-0.1**
GO04	**Tololo Observa**	**8.03 200**	Pn		**Pn**	**12 00 20.2**	**-3.7**
BBSD	**Serra de San D**	**8.56 52**	*e*P		**Pn**	**12 00 27.3**	**-3.5**
CO03	**El Pedregal**	**8.62 198**			**Pn**	**12 00 29.3**	**-2.2**
CFA	**Coronel Fontan**	**8.97 183**	P		**Pn**	**12 00 37.5**	**+1.4**
	comp=Z,3.7nm,0.6s,baz=354,slow=15,SNR=6.7						
CFA			S		**Sn**	**12 02 09.2**	**-6.8**
	comp=Z,8.2nm,0.6s,baz=104,slow=20,SNR=2.7						
CO02	**Combarbal**	**9.05 198**	Pn		**Pn**	**12 00 35.0**	**-2.3**
SIV	**San Ignacio**	**9.07 45**	P		**Pn**	**12 00 34.1**	**-3.5**
	comp=Z,60nm,0.6s,baz=216,slow=10,SNR=153						
SIV			S		Sn	12 02 09.0	-10
	comp=Z,34nm,0.4s,baz=283,slow=22,SNR=9.8						
MURT	**Porto Murtinho**	**9.38 86**	*e*P		**Pn**	**12 00 38.7**	**-2.8**
CPUP	**Villa Florida**	**10.12 113**	*e*P		**Pn**	**12 00 49.3**	**-1.9**
CPUP	**Villa Florida**	**10.12 113**	P		**Pn**	**12 00 48.9**	**-2.3**
	comp=Z,3.6nm,0.8s,baz=304,slow=13,SNR=5.7						
CPUP			LR		LR	12 05 19.7	
	comp=Z,82nm,21.8s,baz=42,slow=41						
BDQN	**Bodoquena, MS**	**10.39 80**	*e*P		**Pn**	**12 00 54.4**	**-0.4**
PTLB	**Pontes e Lacer**	**10.77 50**			**Pn**	**12 00 56.6**	**-3.2**
PTLB	**Pontes e Lacer**	**10.77 50**	*e*P		**Pn**	**12 00 57.0**	**-2.7**
ANTJ	**Antonio Joao (**	**10.82 89**	*e*P		**Pn**	**12 00 59.1**	**-1.3**
MECA	**Mercedes**	**10.82 130**	*e*P		**Pn**	**12 00 59.4**	**-1.0**
MT02	**Curacav**	**11.03 195**			**Pn**	**12 01 00.9**	**-2.2**
AQDB	**Aquidauana**	**11.34 81**	Pn		**Pn**	**12 01 06.2**	**-1.0**
VILB	**Vilhena**	**11.96 38**			**Pn**	**12 01 14.4**	**-0.8**
BO01	**Tunca**	**12.11 194**	Pn		**Pn**	**12 01 14.7**	**-2.3**
BO02	**Sierra Bellavi**	**12.43 192**			**Pn**	**12 01 18.7**	**-2.5**
MCR1	**Marechal Candi**	**12.64 101**	*e*P		**Pn**	**12 01 22.9**	**-1.0**
ETMB	**Extrema**	**12.81 6**			**Pn**	**12 01 24.5**	**-1.5**
ETMB	**Extrema**	**12.81 6**	*e*P		**Pn**	**12 01 24.6**	**-1.4**
UNIS	**Unistalda (Bra**	**13.03 122**	*e*P		**Pn**	**12 01 29.7**	**+0.8**
SALV	**Santo Antonio**	**13.13 62**	*e*P		**Pn**	**12 01 29.0**	**-1.2**
RPRD	**Ribas do Rio P**	**13.17 83**	*e*P		**Pn**	**12 01 30.6**	**-0.1**
CRSM	**Crissiumal (Br**	**13.27 114**	*e*P		**Pn**	**12 01 32.4**	**+0.6**
RODS	**Rosario do Sul**	**13.56 127**	*e*P		**Pn**	**12 01 34.9**	**-0.6**
NNA	**Nana**	**13.72 319**	Pn		**Pn**	**12 01 36.0**	**-1.6**
NNA	**Nana**	**13.72 319**	P		**P**	**12 01 40.5**	**-0.1**
	comp=Z,18nm,0.7s,baz=144,slow=11,SNR=7.6						
TRCB	**Terra Rica**	**13.88 94**	Pn		**Pn**	**12 01 38.1**	**-1.5**
SAML	**Samuel**	**14.26 18**			**Pn**	**12 01 42.2**	**-2.1**
SAML	**Samuel**	**14.26 18**	*e*P		**Pn**	**12 01 42.8**	**-1.5**
ALGR	**Alto Alegre (B**	**14.56 118**	*e*P		**Pn**	**12 01 46.8**	**-1.2**
VA04	**Juan Fernndez**	**14.74 219**	Pn		**Pn**	**12 01 48.5**	**-1.6**
ITAB	**Concordia**	**14.83 111**			**Pn**	**12 01 49.2**	**-2.0**
PDRB	**Porto dos Gac**	**15.13 45**	*e*P		**P**	**12 01 55.5**	**-0.7**
PLTB	**Pedras Altas**	**15.47 129**	P		**Pn**	**12 01 58.6**	**-0.5**
PLTB			IAmb		IAmb	12 02 00.3	
	comp=Z,40nm,1.1s						
TRQA	**Tornquist**	**16.15 164**	P		**Pn**	**12 02 05.0**	**-2.4**
TRQA			IAmb		IAmb	12 02 07.8	
	comp=Z,7.9nm,0.5s						
CLDB	**Colider**	**16.29 46**	*e*P		**Pn**	**12 02 09.0**	**-0.2**
ARAG	**Araguaiana, MT**	**16.48 68**	*e*P		**P**	**12 02 10.8**	**-0.3**
PLCA	**Paso Flores**	**18.22 187**	*e*P		**Pn**	**12 02 32.5**	**+0.4**
PLCA	**Paso Flores**	**18.22 187**	P		**P**	**12 02 31.2**	**+1.1**
	comp=Z,3.6nm,1.0s,baz=9.4,slow=11,SNR=5.7						
ATAH	**Atahualpa**	**18.54 324**	P		**Pn**	**12 02 36.6**	**+0.2**
	comp=Z,14nm,1.0s,baz=141,slow=14,SNR=6.1						
RCLB	**Rio Claro- Sao**	**18.61 93**	*e*P		**P**	**12 02 34.1**	**-0.4**
PET01	**Itanhaem-SP**	**18.79 99**	*e*P		**P**	**12 02 35.4**	**-0.9**
SNDB	**Serra Nova Dou**	**18.86 59**	*e*P		**P**	**12 02 36.0**	**-1.3**
BDFB	**Brasilia**	**19.82 73**	P		**P**	**12 02 45.6**	**-2.0**
BDFB			IAmb		IAmb	12 02 48.1	
	comp=Z,17nm,0.9s						
BDFB	**Brasilia**	**19.82 73**	P		**P**	**12 02 46.3**	**-1.3**
	comp=Z,13nm,0.8s,baz=250,slow=10,SNR=14						
MACA	**Manacapuru-AM**	**20.49 20**	P		**P**	**12 02 52.5**	**-2.2**
MCRA	**Macar, Loja**	**21.69 325**	P		**P**	**12 03 07.7**	**+0.2**
BOSC	**San Juan Bosco**	**22.02 330**	P		**P**	**12 03 12.7**	**+1.8**
BOSC			IAmb		IAmb	12 03 21.4	
	comp=Z,9.6nm,0.6s						
ARNL	**Arenillas**	**22.44 326**	P		**P**	**12 03 16.6**	**+1.8**
COHC	**Cochancay**	**22.97 329**	P		**P**	**12 03 21.2**	**+1.6**
SLOR	**San Lorenzo -**	**24.17 333**	P		**P**	**12 03 33.5**	**+2.4**
SLOR					**PcP**	**12 07 05.1**	**-2.3**
OTAV	**Otavalo**	**25.03 334**	P		**P**	**12 03 41.9**	**+3.1**
OTAV			IAmb		IAmb	12 03 42.8	
	comp=Z,7.7nm,0.6s						
BOAV	**Boa Vista**	**25.82 17**	P		**P**	**12 03 46.1**	**+0.6**
BOAV			IAmb		IAmb	12 03 46.8	
	comp=Z,13nm,0.7s						
MTO3	**Montecristo**	**42.48 328**	P		**P**	**12 06 05.3**	**-3.3**
MTO3			IAmb		IAmb	12 06 06.0	
	comp=Z,16nm,0.6s						
VNA3	**Neumayer Olymp**	**58.65 161**	⇑P		**P**	**12 08 10.0**	**+1.2**
	comp=Z,5.4nm,0.8s						
VNA1	**Neumayer--Stat**	**58.85 160**	⇑P		**P**	**12 08 11.8**	**+1.7**
	comp=Z,5.8nm,0.8s						
VNA2	**Neumayer--Watz**	**59.22 161**	⇑P		**P**	**12 08 13.9**	**+1.3**
	comp=Z,4.1nm,0.8s,baz=287,slow=9.0						
SNAA	**Sanae**	**60.85 161**	P		**P**	**12 08 24.5**	**+0.7**
SNAA			IAmb		IAmb	12 08 25.9	
	comp=Z,7.5nm,1.0s						
SNAA	**Sanae**	**60.85 161**	⇑P		**P**	**12 08 24.9**	**+1.1**
	comp=Z,112nm,0.8s						
SNAA	**Sanae**	**60.85 161**	P		**P**	**12 08 24.3**	**+0.5**
	comp=Z,5.5nm,1.0s,baz=280,slow=5.4,SNR=15						
	comp=Z,5.5nm,1.0s						
JCT	**Junction City**	**61.15 328**	P		**P**	**12 08 27.4**	**+1.1**
JCT			IAmb		IAmb	12 08 28.7	
	comp=Z,6.8nm,0.7s						
WVT	**Waverly**	**61.46 341**	P		**P**	**12 08 28.2**	**0.0**
TXAR	**Lajitas Array**	**62.20 325**	P		**P**	**12 08 34.7**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=142,slow=9.7,SNR=8.8						
	comp=Z,0.6nm,0.7s						
TROLL	**Troll, Antarti**	**62.57 161**	⇑P		**P**	**12 08 36.6**	**+1.2**
	comp=Z,100nm,0.4s						
X37A	**Clayton**	**62.69 334**	P		**P**	**12 08 38.1**	**+1.7**
X37A			IAmb		IAmb	12 08 38.4	
	comp=Z,7.6nm,0.9s						
425A	**Indio Mountain**	**64.04 325**	P		**P**	**12 08 47.3**	**+1.7**
425A			IAmb		IAmb	12 08 47.9	
	comp=Z,7.0nm,0.8s						
CCM	**Cathedral Cave**	**64.29 339**	P		**P**	**12 08 47.3**	**+0.4**
CCM			pP		**pP**	**12 09 29.8**	**+0.8**
S39A	**Bolivar**	**64.66 338**	P		**P**	**12 08 50.3**	**+1.0**
S39A			IAmb		IAmb	12 08 50.9	
	comp=Z,7.6nm,0.7s						
MSTX	**Muleshoe**	**65.44 328**	P		**P**	**12 08 55.9**	**+1.3**
MSTX			IAmb		IAmb	12 08 57.0	
	comp=Z,8.8nm,0.8s						
319A	**Douglas**	**66.87 322**	P		**P**	**12 09 03.2**	**-0.5**
319A			IAmb		IAmb	12 09 07.9	
	comp=Z,6.0nm,0.7s						
121A	**Cookes Peak, D**	**66.91 324**	P		**P**	**12 09 03.3**	**-0.7**
121A			IAmb		IAmb	12 09 07.5	
	comp=Z,7.3nm,0.9s						
QSPA	**South Pole Qui**	**67.58 180**	P		**P**	**12 09 08.2**	**+0.5**
QSPA			IAmb		IAmb	12 09 10.4	
	comp=Z,4.0nm,0.6s						
QSPA	**South Pole Qui**	**67.58 180**	P		**P**	**12 09 09.2**	**+1.5**
	comp=Z,2.6nm,0.4s,baz=149,slow=2.7,SNR=44						
	comp=Z,2.6nm,0.4s						
QSPA	**South Pole Qui**	**67.58 180**	P		**P**	**12 09 09.6**	**+1.9**
QSPA			pP		**pP**	**12 09 52.2**	**+2.0**
DBIC	**Dimbokro**	**67.96 72**	P		**P**	**12 09 11.0**	**+0.2**
DBIC	**Dimbokro**	**67.96 72**	P		**P**	**12 09 10.5**	**-0.3**
	comp=Z,18nm,0.8s,baz=221,slow=5.7,SNR=24						
	comp=Z,18nm,0.8s						
DBIC	**Dimbokro**	**67.96 72**	P		**P**	**12 09 10.7**	**-0.1**
ANMO	**Albuquerque**	**68.06 326**	P		**P**	**12 09 13.5**	**+2.3**
ANMO			IAmb		IAmb	12 09 14.3	
	comp=Z,4.7nm,0.8s						
ANMO	**Albuquerque**	**68.06 326**	P		**P**	**12 09 13.3**	**+2.1**
ANMO			pP		**pP**	**12 09 56.2**	**+2.4**
CBKS	**Cedar Bluff**	**68.10 333**	P		**P**	**12 09 12.9**	**+1.8**
214A	**Organ Pipe Nat**	**69.35 320**	P		**P**	**12 09 18.6**	**-0.5**
L34A	**Svendsen Farm,**	**69.53 338**	P		**P**	**12 09 20.5**	**+0.6**
BGNE	**Belgrade**	**69.69 336**	P		**P**	**12 09 22.1**	**+1.1**
SDCO	**Great Sand Dun**	**69.79 329**	P		**P**	**12 09 24.5**	**+2.6**
Q24A	**Divide**	**70.60 330**	P		**P**	**12 09 26.7**	**-0.2**
Q24A			IAmb		IAmb	12 09 30.0	
	comp=Z,5.5nm,0.8s						
MVCO	**Mesa Verde**	**70.86 326**	P		**P**	**12 09 30.2**	**+1.9**
MVCO			IAmb		IAmb	12 09 31.5	
	comp=Z,11nm,1.4s						
WUAZ	**Wupatki**	**71.11 323**	P		**P**	**12 09 32.1**	**+2.2**
WUAZ			IAmb		IAmb	12 09 33.6	
	comp=Z,7.0nm,0.9s						
ECSD	**EROS Data Cent**	**71.17 338**	P		**P**	**12 09 29.9**	**+0.1**
SMCO	**Snowmass**	**71.63 329**	P		**P**	**12 09 35.7**	**+2.6**
BLYC	**Blythe**	**71.64 320**	P		**P**	**12 09 35.7**	**+2.9**
CCX	**Cicese**	**71.64 317**	P		**P**	**12 09 32.7**	**-0.2**
U15A	**North Rim**	**72.28 324**	P		**P**	**12 09 39.4**	**+2.4**
U15A			IAmb		IAmb	12 09 40.8	
	comp=Z,7.3nm,1.0s						
KOWA	**Kowa**	**72.42 66**	P		**P**	**12 09 37.7**	**-0.2**
P18A	**Preston Nutter**	**73.58 327**	P		**P**	**12 09 46.0**	**+1.4**
P18A			IAmb		IAmb	12 09 48.0	
	comp=Z,6.6nm,0.8s						
CCUT	**Cedar City**	**73.69 324**	P		**P**	**12 09 46.9**	**+1.8**
CCUT			IAmb		IAmb	12 09 49.3	
	comp=Z,6.4nm,0.8s						
PDAR	**Pinedale Array**	**75.65 330**	P		**P**	**12 09 56.7**	**+0.4**
PDAR	**Pinedale Array**	**75.65 330**	P		**P**	**12 09 57.8**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=121,slow=9.5,SNR=6.0						
	comp=Z,0.6nm,0.7s						
ID09	**Alton**	**76.03 328**	P		**P**	**12 09 59.5**	**+1.0**
ID09			IAmb		IAmb	12 10 01.4	
	comp=Z,6.3nm,1.0s						
TOA0	**Torodi Ar. Sit**	**76.66 70**	P		**P**	**12 10 02.3**	**0.0**
TORD	**Torodi Ar. Bea**	**76.66 70**	P		**P**	**12 10 02.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.66 70**	P		**P**	**12 10 02.1**	**-0.1**
	comp=Z,13nm,0.7s,baz=261,slow=4.7,SNR=64						
	comp=Z,13nm,0.7s						
ULM	**Lac du Bonnet**	**76.73 342**	P		**P**	**12 10 02.1**	**+0.2**
ULM			IAmb		IAmb	12 10 27.1	
	comp=Z,14nm,1.5s						
ULM	**Lac du Bonnet**	**76.73 342**	P		**P**	**12 10 01.9**	**0.0**
	comp=Z,1.4nm,0.4s,baz=171,slow=9.6,SNR=5.5						
	comp=Z,1.4nm,0.4s						
NVAR	**Mina Array Bea**	**77.08 321**	P		**P**	**12 10 06.5**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=151,slow=6.3,SNR=6.7						
	comp=Z,1.4nm,0.8s						
HLID	**Hailey**	**78.60 327**	P		**P**	**12 10 14.7**	**+2.1**
TSUM	**Tsumeb**	**78.62 106**	P		**P**	**12 10 13.9**	**+0.5**
MCMT	**McKenzie Canyo**	**78.77 329**	P		**P**	**12 10 16.2**	**+2.5**
PLID	**Pearl Lake**	**80.49 328**	P		**P**	**12 10 25.2**	**+2.4**
MAW	**Mawson**	**82.93 163**	P		**P**	**12 10 36.5**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=235,slow=10,SNR=5.4						
	comp=Z,1.6nm,0.7s						
ESDC	**Sonseca Array**	**85.83 44**	P		**P**	**12 10 50.0**	**-0.1**
ESDC	**Sonseca Array**	**85.83 44**	P		**P**	**12 10 50.8**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=252,slow=5.4,SNR=8.9						
	comp=Z,1.8nm,0.9s						
ASAR	**Alice Springs**	**129.44 206**	PKP		**PKPdf**	**12 17 19.6**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=107,slow=1.7,SNR=4.9						
WRA	**Warramunga Arr**	**132.55 209**	PKP		**PKPdf**	**12 17 25.6**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=157,slow=1.7,SNR=8.4						
ZALV	**Zalesovo Beam**	**142.45 27**	PKhKP		PKPpre	12 17 38.6	
	comp=Z,1.1nm,0.6s,baz=294,slow=1.4,SNR=2.7						
ZALV			PKP		**PKPdf**	**12 17 44.2**	**+2.3**
	comp=Z,1.9nm,0.7s,baz=280,slow=2.9,SNR=5.8						
KSH	**Kashi**	**144.88 53**	PKP		**PKPab**	**12 17 47.4**	**+1.0**
MKAR	**Makanchi Array**	**145.84 38**	PKPbc		**PKPdf**	**12 17 49.0**	**+1.0**
	comp=Z,4.2nm,0.8s,baz=320,slow=2.5,SNR=29						
MDJ	**Mudanjiang**	**153.88 331**	PKPbc		**PKPdf**	**12 18 01.6**	**+0.9**
MDJ			PP		**PP**	**12 21 56.1**	**-1.2**
PZH	**PanZhi

FRD	Ford Ranch, An	0.36	6		Pg	12 05 48.0	-0.2
FRD					Sg	12 05 52.8	-0.5
FRD	Ford Ranch, An	0.36	6		Pg	12 05 48.0	-0.2
FRD					Sg	12 05 52.7	-0.5
SNDA	J Saunders Pla	0.41	4		Pg	12 05 49.2	-0.1
SNDA					Sg	12 05 55.2	+0.3
DNR	Dunn Ranch,Anz	0.43	2		Pg	12 05 49.5	0.0
DNR					Sg	12 05 56.0	+0.7
CRY	Cary Ranch	0.43	350		Pg	12 05 49.5	-0.1
CRY					Sg	12 05 55.4	0.0
109C	Camp Elliot, M	0.46	237		Pg	12 05 49.8	-0.1
109C				Sg	Sg	12 05 56.1	0.0
109C	Camp Elliot, M	0.46	237	P	Pg	12 05 49.9	-0.1
109C	baz=57,SNR=86			S	Sg	12 05 56.2	+0.1
BAR	Barrett	0.46	183	Pg	Pg	12 05 49.6	-0.4
BAR				IAML		12 05 56.9	
BAR	comp=E,2μm,0.2s			IAML		12 05 58.3	
BAR	Barrett	0.46	183		Sg	12 05 55.8	-0.4
CPE	Camp Elliot	0.46	237		Pg	12 05 49.9	-0.1
CPE					Sg	12 05 56.1	-0.1
MTRP	Mission Trails	0.47	227		Pg	12 05 49.9	-0.3
MTRP					Sg	12 05 56.3	-0.1
SDRC	San Diego Road	0.47	212		Pg	12 05 50.0	-0.3
SDRC					Sg	12 05 56.4	-0.2
GORC	Green Oak Ranc	0.49	272		Pg	12 05 50.4	-0.2
GORC					Sg	12 05 57.0	-0.1
PFO	Pinyon Flats O	0.50	18	Pg	Pg	12 05 50.5	-0.3
PFO				Sg	Sg	12 05 56.5	-1.0
PFO	Pinyon Flats O	0.50	18		Pg	12 05 50.5	-0.3
PFO					Sg	12 05 57.0	-0.5
PFO	Pinyon Flats O	0.50	18	P	Pg	12 05 50.5	-0.3
PFO	baz=199,SNR=154			S	Sg	12 05 57.4	-0.1
XPFO	Pion Flat	0.50	19		Pg	12 05 50.5	-0.3
XPFO					Sg	12 05 56.8	-0.7
GVDA	Garner Valley	0.53	358		Pg	12 05 51.3	-0.1
GVDA					Sg	12 05 58.5	0.0
DUZA	Dulzura	0.54	191		Pg	12 05 51.2	-0.4
DUZA					Sg	12 05 58.4	-0.4
SDMC	San Diego Miss	0.54	229		Pg	12 05 51.4	-0.1
SDMC					Sg	12 05 58.8	-0.1
PMD	Palm Desert	0.56	24	Pg	Pg	12 05 51.3	-0.6
PMD	Palm Desert	0.56	24		Sg	12 05 58.4	-0.8
TKX	Tecate	0.57	177		Pg	12 05 51.5	-0.6
TKX					Sg	12 05 58.9	-0.8
TKX	Tecate	0.57	177	IAML		12 05 59.4	
TKX	comp=E,3μm,0.2s			IAML		12 05 59.9	
SALN	Salton City	0.57	76		Pg	12 05 52.1	0.0
SALN					Sb	12 06 00.6	-0.1
BACC	Bachelor Mtn.	0.57	325		Pg	12 05 51.9	-0.3
BACC					Sg	12 05 59.9	0.0
OLP	Otay Lakes Par	0.58	204		Pg	12 05 51.9	-0.3
OLP					Sg	12 05 59.6	-0.4
DGR	Domenigoni Val	0.59	329		Pg	12 05 52.3	-0.3
DGR					Sg	12 05 59.9	-0.6
POB	Polly Butte	0.59	337		Pg	12 05 52.2	-0.3
POB					Sg	12 06 00.1	-0.3
CRR	Carrizo Plain	0.62	114		Pg	12 05 53.2	+0.1
CRR					Sg	12 06 01.7	+0.4
HMTC	Hemet	0.64	332		Pg	12 05 53.0	-0.4
HMTC					Sg	12 06 01.9	-0.1
MURC	Murrieta	0.65	315		Pg	12 05 53.3	-0.3
MURC					Sb	12 06 03.0	0.0
MURC	Murrieta	0.65	315	P	Pg	12 05 53.3	-0.3
MURC	baz=136,SNR=70			S	Sg	12 06 02.4	+0.1
IKP	In-Ko-Pah, Jac	0.67	137		Pg	12 05 53.6	-0.3
IKP					Sg	12 06 02.0	-0.7
IKP	In-Ko-Pah, Jac	0.67	137	P	Pg	12 05 53.6	-0.3
IKP	baz=317,SNR=74			S	Sg	12 06 01.9	-0.8
ERRC	Elmore Ranch	0.69	92		Pb	12 05 54.9	+0.2
ERRC					Sb	12 06 04.8	+0.7
TJX	Tijuana	0.71	209		Pg	12 05 54.6	-0.2
TJX					Sb	12 06 05.0	+0.3
RMX	La Rumorosa	0.72	138		Pb	12 05 55.7	+0.4
RMX	La Rumorosa	0.72	138	IAML		12 06 09.9	
RMX	comp=N,357nm,0.2s			IAML		12 06 10.2	
SWSC	Sam W. Stewart	0.74	105		Pg	12 05 55.2	0.0
SWSC					Sb	12 06 06.1	+0.6
SWSC	Sam W. Stewart	0.74	105	P	Pg	12 05 55.2	0.0
SWSC	baz=285,SNR=94			S	Sg	12 06 04.6	-0.4
CTCC	Cactus City	0.75	47		Pg	12 05 55.6	0.0
CTCC					Sg	12 06 05.9	+0.4
YUH	Yuha Desert	0.78	129	Pg	Pg	12 05 55.8	-0.2
YUH				IAML		12 06 08.1	
YUH	comp=N,414nm,0.6s Yuha Desert	0.78	129		Sg	12 06 06.2	-0.2
DEVC	Devers	0.80	4		Pg	12 05 56.4	0.0
DEVC					Sg	12 06 06.8	-0.1
BOMB	Bombay Beach	0.80	73		Pb	12 05 56.6	0.0
BOMB					Sb	12 06 07.5	+0.2
CBX	Cerro Bola	0.82	181		Pg	12 05 56.1	-0.8
CBX	Cerro Bola	0.82	181	IAML		12 06 09.8	
CBX	comp=N,339nm,0.5s			IAML		12 06 17.0	
EW2	E Wide Canyon	0.82	14		Pg	12 05 56.7	-0.2
EW2					Sg	12 06 07.2	-0.5
COK2	Cook Ranch 2	0.82	110		Pb	12 05 57.2	+0.3
COK2					Sb	12 06 09.3	+1.4
ELS	Elsinore Mount	0.83	308		Pg	12 05 55.8	-1.1
ELS	Elsinore Mount	0.83	308		Sg	12 06 07.0	-0.8
ELS	Elsinore Mount	0.83	308		Pg	12 05 55.9	-1.1
BBSC	Beaumont Base	0.83	340		Pb	12 05 57.1	0.0
CTW	Cottonwood Mou	0.84	50		Pg	12 05 57.0	-0.2
WESC	Westside Schoo	0.86	116		Pb	12 05 57.8	+0.3
WESC					Sb	12 06 10.1	+1.2
PEC	Perris	0.86	330		Pg	12 05 57.0	-0.6
WEMD	Westmorland, C	0.90	96		Pb	12 05 58.5	+0.2
WEMD					Sn	12 06 11.8	-0.1
SGL	Mount Signal	0.92	122		Pg	12 05 58.6	0.0
SGL					Sg	12 06 10.6	0.0
IMPE	Imperial	0.94	104		Pg	12 05 59.1	0.0
IMPE					Sn	12 06 13.1	+0.2
BLAC	Blackrock camp	0.95	13		Pg	12 05 59.0	-0.3
HAY	Hayfield	0.99	55		Pg	12 06 00.1	+0.2
BELC	Belle Mtn. Jos	1.02	32		Pb	12 06 00.1	-0.3
BELC	Belle Mtn. Jos	1.02	32	P	Pb	12 06 00.1	-0.3
BELC	baz=212,SNR=133			S	Sg	12 06 13.7	-0.2
SVD	Seven Oaks Dam	1.03	339		Sg	12 06 14.5	+0.1
RVR	Riverside	1.05	325		Pb	12 06 00.2	-0.6
DREC	Desert Rsrch C	1.06	108		Pb	12 06 01.0	-0.1
TPC	Twentynine Pal	1.09	27		Pb	12 06 01.1	-0.4
BC3	Big Chuckawall	1.12	62	P	Pb	12 06 01.6	-0.6
BC3	baz=243,SNR=129			S	Sb	12 06 16.1	-0.6
BBRC	Big Bear Solar	1.14	349		Pb	12 06 02.6	0.0
BBRC	Big Bear Solar	1.14	349	P	Pb	12 06 02.6	0.0
BBRC	baz=169,SNR=97			S	Sn	12 06 18.3	0.0
GTM	Goat Mountain	1.18	12		Pb	12 06 02.8	-0.2
SIL	Silver Peak	1.22	353		Pn	12 06 03.9	+0.2
CCX	Cicese	1.27	181		Pn	12 06 03.5	-0.7
CCX				IAML		12 06 22.2	
CCX	comp=N,264nm,0.5s			IAML		12 06 24.2	
ESJX	Sierra Juarez	1.28	152		Pn	12 06 04.3	-0.1
ESJX				IAML		12 06 22.4	
COA	Coachella	1.31	102		Pn	12 06 04.1	-0.7
PSRC	Puddingstone R	1.36	315		Pb	12 06 06.0	-0.1
BFSC	Mount Baldy Ra	1.38	323		Pn	12 06 06.2	+0.3
BFSC	Mount Baldy Ra	1.38	323	P	Pn	12 06 05.9	0.0
BFSC	baz=143,SNR=64			S	Sn	12 06 23.9	-0.2
RUN	Ruthven	1.41	96		Pn	12 06 05.4	-0.7
PEM	Pine Mountain	1.45	316		Pb	12 06 07.5	-0.1
EMSC	East Mesa	1.45	105		Pn	12 06 06.3	-0.4
CIS	Catalina Islan	1.50	281	P	Pn	12 06 06.7	-0.7
CIS	baz=100,SNR=12			S	Sb	12 06 27.8	+0.2
GLA	Glamis	1.53	93		Pn	12 06 07.3	-0.6
GLA				IAML		12 06 28.4	
GLA	comp=N,119nm,0.3s			IAML		12 06 38.8	
GLA	comp=E,111nm,0.7s Glamis	1.53	93	P	Pn	12 06 07.3	-0.6
GLA	baz=274,SNR=27			S	Sn	12 06 26.3	-1.3
XTL	Crystal Lake,	1.54	319		Pb	12 06 08.8	-0.4
RPV	Rancho Palos V	1.59	293		Pn	12 06 08.6	0.0
SCI2	San Clemente I	1.60	265	P	Pn	12 06 08.7	-0.1
SCI2	baz=84			S	Sn	12 06 29.4	+0.2
IRM	Iron Mountain	1.61	51	P	Pn	12 06 08.8	-0.2
IRM	baz=231,SNR=66			Sb	Sg	12 06 32.1	-0.8
PASC	Pasadena Art C	1.64	309		Pn	12 06 09.3	-0.1
PASC				IAML		12 06 33.7	
CHFC	comp=N,107nm,0.6s Chilao Flat St	1.65	316		Pn	12 06 10.5	+0.8
JNH	Juniper Hills	1.70	321		Pb	12 06 11.6	-0.4
HEC	Hector,Ludlow	1.71	9		Pg	12 06 13.2	-0.5
HEC	Hector,Ludlow	1.71	9	P	Pn	12 06 10.9	+0.6
HEC	baz=189,SNR=48			Sb	Sg	12 06 35.8	-0.1
RRX	Edison Barstow	1.76	351	Sb	Sg	12 06 37.4	-0.1
DJJ	Donna J Jenkin	1.79	303		Pb	12 06 13.0	-0.4
DECC	Green Verdugo	1.79	309	Pb	Pb	12 06 13.4	-0.1
DECC	baz=128			S	Sb	12 06 35.9	+0.1
GMRC	Granite Mounta	1.83	26	P	Pn	12 06 12.3	+0.2
GMRC	baz=207,SNR=40			Sb	Sg	12 06 39.2	-0.8
BLYC	Blythe	1.88	70	Pn	Pn	12 06 12.6	0.0
VTX	Valle De La Tr	1.89	157		Pn	12 06 13.6	+0.8
EDW2	Edwards Air Fo	2.07	328	P	Pn	12 06 16.5	+1.3
EDW2	baz=147,SNR=52			Sb	Sb	12 06 45.5	+1.7
GSC	Goldstone, Bar	2.16	357		Pn	12 06 17.5	+1.0
GSC				IAML		12 06 53.2	
GSC	comp=N,103nm,0.4s			IAML		12 06 54.8	
GSC	comp=E,108nm,0.8s Goldstone, Bar	2.16	357	P	Pn	12 06 17.6	+1.1
GSC	baz=177,SNR=41			Sb	Sg	12 06 49.6	-0.8
CCAC	Calif City Air	2.31	331		Pn	12 06 19.8	+1.2
CCAC				IAML		12 07 00.3	
NEE2	comp=N,105nm,0.6s Needles Airpor	2.34	46	P	Pn	12 06 19.9	+0.9
NEE2	baz=226,SNR=12			Sb	Sg	12 06 54.5	-1.7
TUQ	Turquoise Moun	2.37	14	P	Pn	12 06 20.1	+0.7
TUQ	baz=195,SNR=30			Sb	Sg	12 06 55.9	-1.2
PDMCI	Parker Dam,Lak	2.39	60	Sb	Sg	12 06 55.9	-1.8
113A	baz=242 Mohawk Valley,	2.45	98	Pn	Pn	12 06 20.3	-0.1
LRMC	Laurel Mtn Rad	2.49	340	P	Pn	12 06 21.9	+0.8
LRMC	baz=160			Sb	Sg	12 06 59.1	-1.8
ARVC	Arvin	2.69	318	P	Pn	12 06 25.3	+1.6
ARVC	baz=137			Sb	Sg	12 07 04.9	-2.3
QSM	Queen of Sheba	2.83	356		Pn	12 06 26.9	+1.3
BCW	Bitter Crk WRg	2.92	309		Pn	12 06 28.1	+1.1
ISA	Isabella, Lake	2.94	330	Pn	Pn	12 06 27.8	+0.6
ISA	Isabella, Lake	2.94	330	P	Pn	12 06 28.3	+1.1
ISA	baz=149			Sb	Sg	12 07 12.3	-2.9
MPMC	Manual Prospec	2.99	347	Pb	Pb	12 06 35.7	+1.6
W13A	baz=167 Hualapai Mount	3.01	49	Pn	Pn	12 06 29.1	+0.7
GWY	Greenwater Val	3.04	360	Pn	Pn	12 06 29.7	+1.0
PIX	Pinacate	3.12	119	Pn	Pn	12 06 29.9	+0.2
214A	Organ Pipe Nat	3.45	109	P	Pn	12 06 34.1	-0.1
SMMC	baz=291 Simmler	3.52	309	P	Pn	12 06 36.4	+1.2
TPNV	baz=127 Topopah Spring	3.81	5		Pn	12 06 41.6	+2.3
TPNV				IAML		12 07 45.0	
TPNV	comp=N,12nm,0.5s			IAML		12 09 05.7	
TPNV	comp=N,20nm,0.1s Topopah Spring	3.81	5	P	Pn	12 06 41.8	+2.4
GRAC	baz=185 Grapevine Rang	3.89	352		Pn	12 06 39.3	-1.1
DSP	Deep Springs	4.36	346		Pn	12 06 47.3	+0.7
PRN	Pahroc Range	4.45	17	Pn	Pn	12 06 50.0	+1.9
X16A	Lo Mia Camp, P	4.52	72	Pn	Pn	12 06 50.5	+1.4
S11A	Rachel	4.55	9		Pn	12 06 50.3	+0.8
LCMT	Little Creek M	4.77	35		Pn	12 06 53.2	+0.8
U15A	North Rim	4.86	46	Pn	Pn	12 06 55.2	+1.3
OMMB	Old Mammoth Mi	4.86	337		Pn	12 06 54.0	+0.2
MDPB	Devils Postpil	4.90	337		Pn	12 06 57.6	+3.2
KNB	Kanab	4.98	38	Pn	Pn	12 06 56.6	+1.2
PKCU	Pink Cliffs	5.57	38		Pn	12 07 04.7	+1.1
PSUT	Pine Spring	5.84	22		Pn	12 07 06.7	-0.5

IDC 17 12:25:37.8±15.0, 21°.13S×179°.01E, h336km±61km, mb3.2/3, mbtmp3.8/4, Error ellipse: s-maj=311.8km s-min=56.8km az=132.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.50	345	P	Pn	12 26 40.9	-0.1
	8.7nm,0.8s,baz=125,slow=6.9,SNR=3.0						
ASAR	Alice Springs	41.66	258	P	P	12 32 53.8	-0.9
	1.3nm,0.9s,baz=94,slow=8.6,SNR=8.0						
	1.3nm,0.9s						
WRA	Warramunga Arr	41.75	263	P	P	12 32 56.0	+0.6
	1.1nm,0.8s,baz=96,slow=8.4,SNR=9.0						
	1.1nm,0.8s						
CMAR	Chiang Mai Arr	87.71	291	P	P	12 37 49.4	-0.1
	0.6nm,0.4s,baz=120,slow=3.5,SNR=6.6						
	0.6nm,0.4s						

IDC 17 12:29:38.5±17.0, 0°.63S×129°.63E, h0km, mb3.8/2, mbtmp3.5/3, ML2.2/1, MS3.3/1, Error ellipse: s-maj=260.9km s-min=148.0km az=153.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.74	167	P	P	12 34 09.6	-0.5
	baz=347,slow=12,SNR=1.6						
	0.2nm,0.7s						
ASAR	Alice Springs	23.27	170	P	P	12 34 48.5	+0.5
	2.1nm,0.7s,baz=348,slow=10,SNR=36						
	2.1nm,0.7s						
STKA	Stephens Creek	33.07	161	P	P	12 36 15.8	-0.4
	0.9nm,0.6s,baz=349,slow=10,SNR=2.8						
	0.9nm,0.6s						
RAO	Raoul Island	57.46	125	LR	LR	13 03 18.3	
	comp=Z,26nm,19.4s,baz=145,slow=35						

*ATH **17** 13:10:32.8, 39°.68N×23°.80E, h22km±4km, ML2.5/6, Manual Solution by A.Plessa First location: 2019/04/07 09:40:31, This location: 2019/04/07 09:39:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*

*THE **17** 13:10:33.4, 39°.68N×23°.81E, h20km±1km, ML2.3/7, Error ellipse: s-maj=1.6km s-min=0.6km az=262.0*

ISC 17 13:10:32.9±1.1, 39°.68N±0°.02×23°.81E±0°.03, h20km±7km, n22, σ0§40/36, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNA	Alonissos	0.53	175	P	Pb	13 10 43.1	-0.5
ALNA				S	Sb	13 10 50.7	-0.1
XOR	Xorichti	0.57	237	P	Pb	13 10 44.5	+0.1
XOR				S	Sb	13 10 52.3	+0.2
	315nm,0.5s						
XOR	Xorichti	0.57	237	P	Pb	13 10 44.8	+0.4
XOR				S	Sb	13 10 51.5	-0.6
NEO	Neokhori	0.59	231	P	Pb	13 10 44.8	+0.2
NEO				S	Sb	13 10 53.5	+0.9
	450nm,0.3s						
NEO	Neokhori	0.59	231	P	Pb	13 10 44.4	-0.3
NEO				S	Sb	13 10 53.0	+0.4
OUR	Ouranopolis	0.67	11	P	Pb	13 10 46.2	+0.3
OUR				S	Sb	13 10 55.6	+0.8
	1μm,0.3s						
EFSA	Agios Efstrati	0.92	98	P	Pn	13 10 50.9	+0.2
SKY	Skiros Island	0.98	144	P	Pb	13 10 51.4	+0.1
HORT	Hortiatis	1.07	329	P	Pb	13 10 52.8	0.0
HORT				S	Sn	13 11 06.8	-0.3
	165nm,0.5s						
HORT	Hortiatis	1.07	329	P	Pb	13 10 52.5	-0.3
HORT				S	Sb	13 11 05.4	-0.9
KYMI	Kymi, Euboea I	1.07	168	P	Pn	13 10 52.5	-0.3
KYMI				S	Sn	13 11 07.4	+0.4
KYMI	Kymi, Euboea I	1.07	168	P	Pn	13 10 52.4	-0.4
LIA	Limnos Island	1.08	78	P	Pn	13 10 52.7	-0.1
LIA				S	Sn	13 11 07.4	+0.2
	378nm,0.6s						
LIA	Limnos Island	1.08	78	P	Pn	13 10 52.8	-0.1
LIA				S	Sn	13 11 07.2	0.0
KOKK	Kokkinochori,	1.15	7	P	Pn	13 10 54.0	+0.2
KOKK				S	Sn	13 11 08.9	0.0
	58nm,0.7s						
THAS	Thassos island	1.16	37	P	Pn	13 10 53.5	-0.4
ATAL	Atalanti	1.16	212	P	Pn	13 10 53.8	-0.3
AXAR	Agios Charalam	1.28	225	P	Pn	13 10 55.4	-0.3
AGG	Agios Georgios	1.32	241	P	Pn	13 10 56.6	+0.3
KAVA	Kavala	1.42	22	P	Pn	13 10 57.4	-0.2
SMTH	Samothraki Isl	1.54	59	P	Pn	13 10 58.9	-0.3
SMTH				S	Sn	13 11 18.7	+0.1
KNT	Kendrikon	1.64	335	P	Pn	13 11 00.8	+0.2
KNT				S	Sb	13 11 22.2	-0.4
	55nm,0.6s						

IDC 17 13:19:05.7±1.9, 9°.76N×126°.52E, h0km, mb3.2/3, mbtmp3.4/4, ML3.8/1, Error ellipse: s-maj=64.3km s-min=26.9km az=80.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.83	199	Pn	Pn	13 19 52.2	0.0
	15nm,0.3s,baz=32,slow=19,SNR=1.0						
DAV				Sn	Sn	13 20 27.8	+0.8
	126nm,0.3s,baz=53,slow=20,SNR=2.0						
	183nm,0.4s						
WRA	Warramunga Arr	30.50	165	P	P	13 25 21.1	+0.4
	0.2nm,0.5s,baz=347,slow=9.3,SNR=1.2						
	0.2nm,0.5s						
ASAR	Alice Springs	33.99	168	P	P	13 25 51.0	-0.4
	0.3nm,0.8s,baz=339,slow=7.0,SNR=4.5						
	0.3nm,0.8s						
H11S3	WAKE ISLAND Hy	39.83	73	T	T	14 09 53.1	
	baz=280						
H11S1	WAKE ISLAND Hy	39.85	73	T	T	14 09 53.0	
	baz=280						
H11S2	WAKE ISLAND Hy	39.85	73	T	T	14 09 52.0	
	baz=280						
H11N1	WAKE ISLAND Hy	40.18	71	T	T	14 10 21.3	
	baz=271						
H11N2	WAKE ISLAND Hy	40.19	71	T	T	14 10 21.8	
	baz=271						
H11N3	WAKE ISLAND Hy	40.20	71	T	T	14 10 21.4	
	baz=271						
MKAR	Makanchi Array	52.58	323	P	P	13 28 21.2	-0.1
	0.2nm,0.6s,baz=129,slow=6.2,SNR=2.3						
	0.2nm,0.6s						

*IDC **17** 13:26:03.1±1.6, 43°.54N×136°.77E, h332km±21km, mb2.6/4, mbtmp3.2/6, Error ellipse: s-maj=48.1km s-min=21.1km az=34.0*

ISC 17 13:26:03.7±1.1, 43°.7N±0°.2×136°.8E±0°.1, h350km, n6, σ1§49/6, mb3.0/4, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	Ussuriysk Ar.	3.52	280	P	Pn	13 27 06.1	-1.8
	2.4nm,0.6s,baz=92,slow=12,SNR=5.6						
ASAJ	Asahikawa	4.20	82	P	Pn	13 27 13.7	-1.1
	2.4nm,0.4s,baz=275,slow=12,SNR=1.3						
SONM	Songino Array	21.55	292	P	P	13 30 26.8	+1.0
	0.2nm,0.3s,baz=110,slow=8.4,SNR=1.7						
	0.2nm,0.3s						
MKAR	Makanchi Array	37.88	294	P	P	13 32 49.1	+0.9
	0.2nm,0.5s,baz=79,slow=7.5,SNR=4.3						
	0.2nm,0.5s						
WRA	Warramunga Arr	63.34	183	P	P	13 35 57.0	+0.4
	0.4nm,0.8s,baz=360,slow=6.9,SNR=2.5						
	0.4nm,0.8s						
ASAR	Alice Springs	67.06	183	P	P	13 36 20.3	+0.1
	0.4nm,0.8s,baz=358,slow=5.6,SNR=4.8						
	0.4nm,0.8s						

*DJA **17** 13:30:36.4±0.8, 4°.N±4°.×9°.6E±°, h17km±8km, M4.4/8, mb4.5/1, MLv4.3/8*

*NEIC **17** 13:30:36.6±1.7, 3°.84N±0°.07×95°.80E±0°.10, h50km±2km, mb4.6/30, Error ellipse: s-maj=14.4km s-min=9.5km az=77.0*

*IDC **17** 13:30:40.6±6.2, 3°.99N×96°.00E, h87km±54km, mb3.9/19, mbtmp4.2/20, ML4.1/1, MS3.2/5, Error ellipse: s-maj=28.9km s-min=12.0km az=55.0*

ISC 17 13:30:36.1±0.4, 3°.81N±0°.04×95°.86E±0°.06, h50km, n104, σ1§02/101, mb4.4/38, MS3.1/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	Meulaboh, Aceh	0.70	50	P	Pn	13 30 49.8	-0.1
MLSI				S	Sn	13 30 58.7	-1.2
SNSI	Sinabang, Aceh	1.47	162	P	Pn	13 31 00.9	+0.7
SNSI				S	Sn	13 31 19.2	+0.9
LHMI	Lhok Sumawe	1.77	37		Pn	13 31 05.5	+1.2
LHMI	Lhok Sumawe	1.77	37	P	Pn	13 31 05.6	+1.2
KCSI	Kotacane, Aceh	1.93	99	P	Pn	13 31 07.1	+0.6
KCSI				S	Sn	13 31 29.5	0.0
GSI	Gunungsitoli	3.02	145	Pn	Pn	13 31 21.7	+0.2
GSI	Gunungsitoli	3.02	145	P	Pn	13 31 21.7	+0.2
GSI				S	Sn	13 31 55.7	-0.8
RPSI	Rantau Prapat	3.25	110	Pn	Pn	13 31 26.4	+1.8
PBSI	Pulau Batu	4.54	148	P	Pn	13 31 42.3	0.0
KULM	Kulim	4.99	73	Pn	Pn	13 31 48.7	+0.1
IPM	Ipoh	5.19	82	Pn	Pn	13 31 52.8	+1.5
SRIT	Nakonsritamara	6.03	38		Pn	13 32 03.0	+0.1
SISI	Saibi	6.04	148	P	Pn	13 32 02.8	-0.1
MYKOM	Kota Tinggi	8.23	104	Pn	Pn	13 32 34.5	+1.6
MNAI	Manna	10.78	139	Pn	Pn	13 33 07.8	0.0
CMAR	Chiang Mai Arr	14.87	11	P	P	13 34 05.6	-2.5
	0.3nm,0.3s,baz=201,slow=12,SNR=18						
CMAR				LR	LR	13 40 13.8	
	comp=Z,61nm,18.7s,baz=180,slow=39						
	4.0nm,0.8s						
CRAI	Chiangrai	16.90	15	P	P	13 34 31.3	+0.6
KKM	Kota Kinabalu	20.40	83	P	P	13 35 09.5	+0.3
KKM				IAmb	IAmb	13 35 45.5	
	comp=Z,80nm,1.2s						
TNCH	TengChong	21.25	7	P	P	13 35 17.5	-0.9
TNCH				pmax	pmax		
	comp=Z,1μm,14.1s						
MYLDM	Lahad Datu	22.61	86	P	P	13 35 33.8	+0.9
MYLDM				IAmb	IAmb	13 35 59.8	
	comp=Z,53nm,1.3s						
PZH	PanZhiHua	23.26	13	P	P	13 35 40.8	+1.4
PZH				pmax	pmax		

comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.7s
RAMN Ramite 24.66 340 *e*P **P 13 35 51.3 -1.2**
comp=Z,11nm,0.7s
TAPN Taplejung 24.67 342 *e*P **P 13 35 51.3 -1.4**
comp=Z,4.3nm,0.3s
TOLI2 Tolitoli 25.04 96 P **P 13 35 55.3 -0.6**
TOLI2 IAmb IAmb 13 36 25.4
comp=Z,20nm,0.9s
KAPI Kappang 25.42 110 LR LR 13 46 50.5
comp=Z,45nm,19.1s,baz=292,slow=38
JIRN Jiri 25.45 340 *e*P **P 13 35 59.0 -0.9**
comp=Z,10nm,0.5s
PKI Pulchoki 25.65 338 *e*P **P 13 36 01.5 -0.1**
PKIN Phulchoki 25.66 338 *e*P **P 13 36 01.2 -0.5**
comp=Z,14nm,0.8s
GUN Gumba 25.79 339 *e*P **P 13 36 03.0 +0.1**
comp=Z,11nm,0.5s
H08S2 Diego Garcia H 25.95 244 T T 14 02 43.5
baz=65,slow=76,SNR=42
H08S3 Diego Garcia H 25.95 244 T T 14 02 29.8
baz=65,slow=76,SNR=200
H08S1 Diego Carcia H 25.96 244 T T 14 02 31.0
baz=65,slow=76,SNR=15
GKN Gorkha 26.33 337 *e*P **P 13 36 07.7 +0.1**
comp=Z,8.9nm,0.3s
DANN Dangsing 26.99 336 *e*P **P 13 36 13.8 +0.1**
comp=Z,16nm,0.5s
PYUN Piuthan 27.09 334 *e*P **P 13 36 14.8 +0.3**
comp=Z,7.2nm,0.5s
LZH Lanzhou 32.95 12 *e*P **P 13 37 08.1 +1.9**
LZH pP pP 13 37 19.5 +0.3
LZH SS SS 13 44 56.1 +11
LZH pmax pmax
comp=Z,32nm,1.0s
NJ2 Nanjing 35.42 35 *e*P **P 13 37 29.1 +1.6**
NJ2 pP **pP 13 37 41.1 +0.5**
NJ2 sP **sP 13 37 48.4 +1.9**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,310nm,4.3s
GTA Gaotai 35.62 5 *e*P P 13 37 35.8 +6.6
GTA pP sP 13 37 48.3 +0.1
GTA pmax pmax
comp=Z,3.0nm,1.3s
HHC Hu-ho-hao-te 39.49 19 *e*P **P 13 38 04.8 +2.8**
HHC pmax pmax
comp=Z,29nm,0.7s
HHC pmax pmax
comp=Z,230nm,5.6s
BJI Beijing 40.47 24 P **P 13 38 10.6 +0.7**
BJI pmax pmax
comp=Z,3.0nm,0.6s
BJI pmax pmax
comp=Z,45nm,3.5s
WMQ Urumqi 40.49 351 *e*P **P 13 38 12.6 +2.4**
MK31 Makanchi Array 44.41 347 P **P 13 38 41.0 -0.8**
MKAR Makanchi Array 44.41 347 P **P 13 38 41.0 -0.8**
MKAR Makanchi Array 44.41 347 P **P 13 38 41.1 -0.7**
comp=Z,2.7nm,0.5s,baz=157,slow=8.7,SNR=39
MKAR PcP **PcP 13 40 24.0 -1.0**
comp=Z,0.3nm,0.6s,baz=154,slow=5.1,SNR=1.3
comp=Z,2.7nm,0.5s
MAKZ Makanchi 44.49 346 P **P 13 38 41.5 -1.0**
KSRS Korea Array 44.52 37 P **P 13 38 41.7 -1.2**
comp=Z,1.0nm,0.7s,baz=225,slow=6.3,SNR=2.9
KSRS LR LR 14 00 26.5
comp=Z,21nm,19.4s,baz=230,slow=40
comp=Z,1.0nm,0.7s
WB0 Warramunga Arr 44.53 123 P **P 13 38 43.2 0.0**
WB0 IAmb IAmb 13 38 50.3
comp=Z,3.5nm,0.7s
WRA Warramunga Arr 44.56 123 P **P 13 38 43.3 -0.2**
WRA Warramunga Arr 44.56 123 P **P 13 38 43.6 +0.1**
comp=Z,1.6nm,0.7s,baz=302,slow=9.2,SNR=20
WRA PcP **PP 13 40 26.0 -2.3**
comp=Z,0.2nm,0.5s,baz=317,slow=2.5,SNR=1.4
comp=Z,1.6nm,0.7s
WRAB Tennant Creek 44.57 123 P **P 13 38 43.8 +0.2**
WRAB IAmb IAmb 13 38 57.8
comp=Z,5.9nm,1.1s
WB2 Warramunga Arr 44.57 123 P **P 13 38 43.7 +0.1**
WB2 IAmb IAmb 13 38 51.6
comp=Z,12nm,1.4s
WR0 Warramunga Arr 44.74 123 P **P 13 38 45.5 +0.6**
WR0 IAmb IAmb 13 39 08.1
comp=Z,4.7nm,0.8s
SONM Songino Array 44.79 10 P **P 13 38 44.2 -0.8**
SONM IAmb IAmb 13 38 45.3
comp=Z,4.0nm,0.7s
SONM Songino Array 44.79 10 P **P 13 38 44.0 -1.1**
comp=Z,5.8nm,0.6s,baz=190,slow=9.3,SNR=28
SONM PcP **PcP 13 40 26.0 -0.4**
comp=Z,1.5nm,0.6s,baz=194,slow=3.9,SNR=5.8
comp=Z,5.8nm,0.6s
KKAR Karatay Array 45.14 334 P **P 13 38 48.6 +0.8**
AS31 Alice Springs 46.04 128 P **P 13 38 55.5 +0.3**
ASAR Alice Springs 46.04 128 P **P 13 38 55.6 +0.4**
ASAR Alice Springs 46.04 128 P **P 13 38 55.5 +0.3**
comp=Z,1.0nm,0.4s,baz=299,slow=7.6,SNR=47
ASAR PcP **PcP 13 40 31.6 +0.4**
comp=Z,0.6nm,0.7s,baz=298,slow=4.1,SNR=3.6
comp=Z,1.0nm,0.4s
FORT Forrest 46.12 140 P **P 13 38 57.2 +1.5**
GEYT Alibeck 48.37 320 P **P 13 39 13.7 +0.5**
comp=Z,1.1nm,0.4s,baz=140,slow=7.7,SNR=2.0
comp=Z,1.1nm,0.4s
KURBB Kurchatov Arra 48.88 345 P **P 13 39 16.2 -0.6**
comp=Z,1.7nm,0.2s,baz=163,slow=7.2,SNR=9.1
comp=Z,1.7nm,0.2s
KURK Kurchatov 48.94 346 P **P 13 39 16.7 -0.6**
KURK IAmb IAmb 13 39 18.1
comp=Z,3.7nm,1.2s
MDJ Mudanjiang 50.29 31 P **P 13 39 24.9 -2.7**
MDJ pmax pmax
comp=Z,12nm,2.0s
MDJ pmax pmax
comp=Z,170nm,5.2s
MJAR Matsushiro Arr 50.72 44 LR LR 14 05 57.8
comp=Z,24nm,18.5s,baz=280,slow=42
ZAA0 Zalesovo Array 50.79 352 P **P 13 39 30.5 -0.7**
ZAA0 IAmb IAmb 13 39 31.3
comp=Z,6.8nm,0.6s
ZALV Zalesovo Beam 50.79 352 P **P 13 39 30.5 -0.7**
ZALV Zalesovo Beam 50.79 352 P **P 13 39 30.7 -0.5**
comp=Z,7.2nm,0.5s,baz=174,slow=7.3,SNR=39
comp=Z,7.2nm,0.5s
USRK Ussuriysk Ar. 51.28 33 P **P 13 39 33.9 -1.2**
comp=Z,1.0nm,0.5s,baz=235,slow=6.4,SNR=1.7
comp=Z,1.0nm,0.5s
PMG Port Moresby 52.78 105 P **P 13 39 46.7 0.0**
PMG IAmb IAmb 13 40 25.0
comp=Z,19nm,1.1s
PMG Port Moresby 52.78 105 P **P 13 39 46.1 -0.6**
comp=Z,6.2nm,0.7s,baz=300,slow=4.5,SNR=1.8
comp=Z,6.2nm,0.7s
BVAR Borovoye Array 53.36 341 P **P 13 39 49.6 -0.8**
comp=Z,2.7nm,0.7s,baz=134,slow=8.5,SNR=15
comp=Z,2.7nm,0.7s
BRVK Borovoye 53.42 341 P **P 13 39 50.2 -0.6**
BRVK IAmb IAmb 13 39 51.2
comp=Z,2.8nm,0.8s
ABKAR Akbulak array 54.60 332 P **P 13 39 59.5 0.0**
STKA Stephens Creek 56.09 133 P **P 13 40 11.3 +0.7**
comp=Z,1.6nm,0.7s,baz=309,slow=12,SNR=3.5
comp=Z,1.6nm,0.7s
JKA Kamikawa-asahi 57.43 38 P **P 13 40 20.4 +0.6**
KMBO Kilima Mbogo 58.78 266 LR LR 14 01 37.7
comp=Z,35nm,21.9s,baz=88,slow=32
YSS Yuzh-Sakhalins 58.99 36 P **P 13 40 32.0 +1.4**
H04N2 CROZET ISLANDS 63.20 213 T T 14 48 45.3
baz=51,slow=75,SNR=246
H04N1 CROZET ISLANDS 63.21 213 T T 14 48 45.9
baz=51,slow=75,SNR=202
H04N3 CROZET ISLANDS 63.22 213 T T 14 48 44.4
baz=51,slow=75,SNR=244
YAK Yakutsk 63.32 17 P **P 13 40 58.5 -1.1**
H04S1 CROZET ISLANDS 63.57 212 T T 14 49 14.2
baz=57,slow=71,SNR=30
H04S3 CROZET ISLANDS 63.58 212 T T 14 49 19.8
baz=57,slow=71,SNR=49
H04S2 CROZET ISLANDS 63.59 212 T T 14 49 21.2
baz=57,slow=71,SNR=34
CSS Mathiatis 65.44 307 P **P 13 41 14.8 +0.7**
BRTR Keskin Array B 66.38 312 P **P 13 41 20.3 0.0**
comp=Z,1.6nm,0.8s,baz=130,slow=7.8,SNR=3.9
comp=Z,1.6nm,0.8s
PET Petropavlovsk 70.84 35 P **P 13 41 46.6 -0.9**
PET IAmb IAmb 13 42 06.2
comp=Z,18nm,1.2s
TIXI Tiksi 70.87 11 P **P 13 41 46.4 -1.0**
TIXI IAmb IAmb 13 41 47.1
comp=Z,6.1nm,0.7s
MARNC Mare, Loyalty 74.90 113 P **P 13 42 11.1 -1.2**
MAW Mawson 74.95 192 P **P 13 42 13.4 +1.9**
comp=Z,0.5nm,0.5s,baz=63,slow=6.8,SNR=2.0
comp=Z,0.5nm,0.5s
LVZ Lovozero 75.94 340 P **P 13 42 17.1 -0.3**
FINES FINESS Array B 77.08 332 P **P 13 42 23.2 -0.7**
FINES FINESS Array B 77.08 332 P **P 13 42 23.5 -0.4**
comp=Z,3.4nm,0.9s,baz=106,slow=7.8,SNR=4.0
comp=Z,3.4nm,0.9s
ARCES ARCESS Array B 79.64 340 P **P 13 42 38.4 +0.5**
ARCES ARCESS Array B 79.64 340 P **P 13 42 37.8 -0.1**
comp=Z,2.7nm,0.6s,baz=93,slow=6.3,SNR=12
comp=Z,2.7nm,0.6s
STAL STALIGIAL 82.53 316 P **P 13 42 54.7 +0.9**
STAL IAmb IAmb 13 43 36.2
comp=Z,2.9nm,0.7s
HFS Hagfors 82.81 330 P **P 13 42 54.1 -0.8**
comp=Z,0.9nm,0.5s,baz=102,slow=6.5,SNR=1.1
comp=Z,0.9nm,0.5s
KEST Kesra 84.97 305 P **P 13 43 07.2 +0.6**
comp=Z,3.4nm,0.6s,baz=85,slow=6.2,SNR=5.8
comp=Z,3.4nm,0.6s
KIWB Kanaga Island 85.16 38 P **P 13 43 07.5 +0.5**
RTZ Ruatahuna 85.43 129 P **P 13 43 08.2 -0.5**
TORD Torodi Ar. Bea 93.19 283 P **P 13 43 45.9 0.0**
comp=Z,0.2nm,0.6s,baz=77,slow=3.0,SNR=2.0
comp=Z,0.2nm,0.6s
ULM Lac du Bonnet 125.21 9 PKP **PKPdf 13 49 29.9 -1.4**
comp=Z,2.3nm,0.6s,baz=45,slow=4.3,SNR=2.9
NVAR Mina Array Bea 127.41 34 PKP **PKiKP 13 49 35.6 -1.2**
comp=Z,0.2nm,0.6s,baz=298,slow=1.9,SNR=2.5
TXAR Lajitas Array 142.09 28 PKhKP PKPpre 13 49 57.5
comp=Z,0.1nm,0.5s,baz=325,slow=4.4,SNR=3.3
TXAR PKP **PKPdf 13 50 02.5 -1.1**
comp=Z,0.3nm,0.5s,baz=232,slow=0.8,SNR=2.5

*IDC **17** 13:39:03.7±0.9, 15°.56S×70°.53W, h192km±8km, mb3.4/9, mbtmp4.0/14, Error ellipse: s-maj=17.1km s-min=10.9km az=36.0*
*NEIC **17** 13:39:03.8±1.6, 15°.71S±0°.06×70°.74W±0°.08, h210km±7km, mb4.4/19, Error ellipse: s-maj=12.1km s-min=7.1km az=122.0*
*GUC **17** 13:39:04.9±0.6, 15°.87S×70°.72W, h235km±22km, ML4.4*
*VAO **17** 13:39:04.6±0.3, 15°.65S×70°.28W, h153km, mb4.1*
ISC 17 13:39:02.8±0.4,**15°.67S**±0°.05×**70°.62W**±0°.06,**h193**km,
n116,σ1$**56**/125,**mb4.1**/17,**4C,Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**2.20**	**150**		**Pn**	**13 39 47.3**	**+3.8**
LPAZ	**La Paz**	**2.47**	**105**	P	**Pn**	**13 39 48.6**	**+2.1**
	84nm,0.4s,baz=292,slow=9.4,SNR=356						
LPAZ				S	**Sn**	**13 40 21.2**	**+0.7**
	100nm,0.6s,baz=305,slow=16,SNR=22						
AP01	**Chacalluta**	**2.70**	**174**		**Pn**	**13 39 50.4**	**+1.9**
AP01	**Chacalluta**	**2.70**	**174**	*e*P	**Pn**	**13 39 50.6**	**+2.1**
AP01				*e*S	**Sn**	**13 40 26.3**	**+1.8**
PB16	**IPOC Station P**	**2.86**	**158**	*i* P	**Pn**	**13 39 54.1**	**+3.2**
PB16	**IPOC Station P**	**2.86**	**158**⇑	*i*P	**Pn**	**13 39 54.2**	**+3.2**
PB16				*e*S	**Sn**	**13 40 31.9**	**+3.2**
PB12	**IPOC Station P**	**2.94**	**175**		**Pn**	**13 39 52.9**	**+1.4**
PB12	**IPOC Station P**	**2.94**	**175**⇑	*i*P	**Pn**	**13 39 53.1**	**+1.6**
PB12				*e*S	**Sn**	**13 40 29.7**	**-0.1**
PB12				IAML		13 40 31.4	
	comp=N,588nm,0.3s						
GO01	**Chusmiza**	**4.21**	**161**		**Pn**	**13 40 09.6**	**+2.2**
GO01	**Chusmiza**	**4.21**	**161**⇑	*i*P	**Pn**	**13 40 09.8**	**+2.4**
TA02	**Huaiquique**	**4.60**	**174**		**Pn**	**13 40 12.8**	**+0.8**
TA02	**Huaiquique**	**4.60**	**174**	*e*P	**Pn**	**13 40 12.6**	**+0.6**
HMBC	**Humberstone**	**4.64**	**172**⇑	*i*P	**Pn**	**13 40 13.0**	**+0.4**
HMBC				*e*S	**Sn**	**13 41 05.1**	**-2.4**
PB08	**IPOC Station P**	**4.66**	**163**		**Pn**	**13 40 14.8**	**+1.7**
PB08	**IPOC Station P**	**4.66**	**163**	*i* P	**Pn**	**13 40 15.0**	**+1.8**
PB08				*e*S	**Sn**	**13 41 08.1**	**-0.4**
TA01	**Diego Aracena**	**4.89**	**175**	Pn	**Pn**	**13 40 16.1**	**+0.4**
TA01	**Diego Aracena**	**4.89**	**175**	*e*P	**Pn**	**13 40 16.1**	**+0.4**
PATCX	**Punta Patache**	**5.15**	**175**		**Pn**	**13 40 19.2**	**+0.2**
PB01	**IPOC Station P**	**5.46**	**169**		**Pn**	**13 40 23.3**	**+0.3**
PB02	**IPOC Station P**	**5.67**	**173**		**Pn**	**13 40 26.2**	**+0.4**
PB07	**IPOC Station P**	**6.07**	**174**		**Pn**	**13 40 31.2**	**+0.2**
PB09	**IPOC Station P**	**6.24**	**168**		**Pn**	**13 40 33.9**	**+0.7**
PB04	**IPOC Station P**	**6.65**	**176**		**Pn**	**13 40 38.5**	**-0.1**
NNA	**Nana**	**7.07**	**300**	Pn	**Pn**	**13 40 43.1**	**-0.9**
NNA	**Nana**	**7.07**	**300**	P	**Pn**	**13 40 45.8**	**+1.8**
	comp=N,9.5nm,0.4s,baz=160,slow=15,SNR=3.6						
NNA				S	**Sn**	**13 42 02.8**	**-1.3**
	comp=N,13nm,0.4s,baz=218,slow=18,SNR=2.5						
PB06	**IPOC Station P**	**7.07**	**172**	Pn	**Pn**	**13 40 43.9**	**-0.2**
LVC	**Limon Verde**	**7.09**	**167**		**Pn**	**13 40 44.4**	**-0.2**
LVC	**Limon Verde**	**7.09**	**167**	*e*P	**Pn**	**13 40 45.4**	**+0.8**
LVC	**Limon Verde**	**7.09**	**167**	P	**Pn**	**13 40 46.1**	**+1.6**
	comp=N,64nm,0.4s,baz=13,slow=5.8,SNR=200						
LVC				S	**Sn**	**13 42 02.8**	**-2.4**
	comp=N,34nm,0.5s,baz=60,slow=20,SNR=3.2						
ETMB	**Extrema**	**7.23**	**37**		**Pn**	**13 40 45.6**	**-0.5**
ETMB	**Extrema**	**7.23**	**37**	*e*P	**Pn**	**13 40 45.1**	**-1.0**
PB15	**IPOC Station P**	**7.58**	**172**		**Pn**	**13 40 51.1**	**+0.3**
PB14	**IPOC Station P**	**8.92**	**179**	Pn	**Pn**	**13 41 07.9**	**-0.4**
SIV	**San Ignacio**	**9.19**	**93**	P	**Pn**	**13 41 10.3**	**-1.4**
	comp=N,4.4nm,0.6s,baz=278,slow=11,SNR=18						
SIV				S	**Sn**	**13 42 50.9**	**-3.8**
	comp=N,1.5nm,0.5s,baz=340,slow=24,SNR=1.6						
GO02	**Mina Guanaco**	**9.50**	**174**	Pn	**Pn**	**13 41 15.8**	**-0.1**
BBSD	**Serra de San D**	**9.72**	**100**	*e*P	**Pn**	**13 41 17.6**	**-1.1**
SAML	**Samuel**	**9.86**	**48**	*e*P	**Pn**	**13 41 19.3**	**-1.1**
AC01	**Pan de Azucar**	**10.43**	**180**	Pn	**Pn**	**13 41 28.3**	**+0.5**
BBRB	**Robore, Bolivi**	**10.66**	**106**	*e*P	**Pn**	**13 41 29.8**	**-1.0**
AC02	**Maricunga**	**11.20**	**173**	Pn	**Pn**	**13 41 38.9**	**+0.8**
AC06	**Mina Casimiro**	**11.64**	**179**	Pn	**Pn**	**13 41 42.0**	**-1.2**
TEFE	**Tefe**	**13.44**	**27**	*e*P	**Pn**	**13 42 06.7**	**+0.6**
MCRA	**Macar, Loja**	**14.50**	**320**		**P**	**13 42 20.3**	**-0.5**
BOSC	**San Juan Bosco**	**14.66**	**327**		**Pn**	**13 42 21.2**	**-0.3**
CLDB	**Colider**	**15.19**	**74**	*e*P	**P**	**13 42 28.4**	**0.0**
ANTJ	**Antonio Joao (**	**15.19**	**117**	*e*P	**P**	**13 42 28.3**	**-0.1**
COHC	**Cochancay**	**15.84**	**326**	*e*P	**P**	**13 42 36.5**	**+3.2**
MACA	**Manacapuru-AM**	**15.81**	**39**	*e*P	**Pn**	**13 42 36.6**	**+1.3**
CPUP	**Villa Florida**	**16.31**	**133**	P	**Pn**	**13 42 43.6**	**+2.4**
	comp=N,2.7nm,0.7s,baz=328,slow=7.9,SNR=5.1						
RPRD	**Ribas do Rio P**	**16.78**	**109**	*e*P	**Pn**	**13 42 48.4**	**+1.5**
NPGB	**Novo Progresso**	**17.23**	**62**	*e*P	**Pn**	**13 42 52.0**	**-0.3**
C2SB	**Chapadao do Su**	**17.26**	**103**	*e*P	**Pn**	**13 42 52.0**	**-0.7**
OTAV	**Otavalo**	**17.59**	**333**	P	**P**	**13 42 54.8**	**-0.5**
OTAV				IAmb	IAmb	13 43 12.8	
	comp=Z,7.2nm,0.8s						
OTAV	**Otavalo**	**17.59**	**333**	*e*P	**Pn**	**13 43 00.3**	**+3.2**
MECA	**Mercedes**	**17.76**	**142**	*e*P	**Pn**	**13 42 58.9**	**+0.5**
PAC1	**Pacto, Paraso**	**17.77**	**332**	*e*P	**Pn**	**13 43 02.9**	**+4.0**
MCR1	**Marechal Candi**	**17.85**	**122**	*e*P	**Pn**	**13 42 59.6**	**+0.1**
ARAG	**Araguaiana, MT**	**18.11**	**93**	*e*P	**P**	**13 43 00.8**	**+0.4**
CRUC	**La Cruz**	**18.23**	**339**	*e*P	**Pn**	**13 43 05.9**	**+1.4**
ITTB	**Itaituba**	**18.44**	**54**	*e*P	**Pn**	**13 43 06.7**	**+0.1**
BBAC	**Balboa, Cauca**	**18.76**	**339**	*e*P	**Pn**	**13 43 10.4**	**-0.1**
ITQB	**Itaqui**	**18.97**	**140**	*e*P	**Pn**	**13 43 12.2**	**-0.5**
POPC	**Popayan, Colom**	**19.06**	**341**	*e*P	**Pn**	**13 43 13.0**	**-1.0**
SNDB	**Serra Nova Dou**	**19.12**	**81**	*e*P	**P**	**13 43 12.0**	**+0.6**
PCMB	**Pacaembu**	**19.26**	**111**	*e*P	**P**	**13 43 13.5**	**+0.6**
FRBT	**Francisco Belt**	**19.33**	**125**	*e*P	**P**	**13 43 14.5**	**+0.9**
CRSM	**Crissiumal (Br**	**19.37**	**130**	*e*P	**Pn**	**13 43 15.6**	**-1.8**
UNIS	**Unistalda (Bra**	**19.58**	**136**	*e*P	**Pn**	**13 43 19.0**	**-0.9**
PTGB	**Pitanga**	**19.58**	**120**	*e*P	**P**	**13 43 16.7**	**+0.3**
JAMC	**Jamundi, Valle**	**19.69**	**342**	*e*P	**P**	**13 43 18.9**	**+1.1**
ITRB	**Iturama**	**19.71**	**105**	*e*P	**P**	**13 43 18.4**	**+0.7**
LDASE	**Londrina, Braz**	**19.91**	**116**	*e*P	**P**	**13 43 21.4**	**+1.6**
YOTC	**Yotoco, Valle**	**20.33**	**343**	*e*P	**P**	**13 43 23.7**	**-0.8**
RODS	**Rosario do Sul**	**20.34**	**139**	*e*P	**P**	**13 43 26.1**	**+1.8**
BOAV	**Boa Vista**	**20.54**	**30**	P	**P**	**13 43 27.1**	**+0.6**
BOAV	**Boa Vista**	**20.54**	**30**	*e*P	**P**	**13 43 27.3**	**+0.7**
BOAV	**Boa Vista**	**20.54**	**30**	*e*P	**P**	**13 43 28.1**	**+1.6**
ITAB	**Concordia**	**20.67**	**127**	P	**P**	**13 43 27.7**	**-0.2**
ALGR	**Alto Alegre (B**	**20.84**	**132**	*e*P	**P**	**13 43 29.8**	**0.0**
FRTB	**Fartura**	**21.25**	**114**	*e*P	**P**	**13 43 34.1**	**0.0**
CPSB	**Cacapava Do Su**	**21.52**	**136**	*e*P	**P**	**13 43 39.5**	**+2.7**
BDFB	**Brasilia**	**21.77**	**93**	P	**P**	**13 43 39.0**	**-0.6**
BDFB				IAmb	IAmb	13 44 19.4	
	comp=Z,7.1nm,1.3s						
BDFB	**Brasilia**	**21.77**	**93**	P	**P**	**13 43 39.1**	**-0.4**
	comp=Z,2.1nm,0.4s,baz=220,slow=4.5,SNR=4.2						
	comp=Z,2.1nm,0.4s						
BAUV	**El Baul**	**24.58**	**6**	P	**P**	**13 44 04.8**	**-0.5**
ESAR	**Angra dos Reis**	**25.73**	**111**	*e*P	**P**	**13 44 18.2**	**+2.5**
ROSB	**Rosrio**	**29.01**	**67**	*e*P	**P**	**13 44 47.4**	**+2.5**
RIB01	**Linhares ES**	**29.03**	**102**	*e*P	**P**	**13 44 49.0**	**+3.9**
ORCD	**Orcadas**	**48.73**	**163**	P	**P**	**13 47 25.1**	**-2.5**
PMSA	**Palmer Station**	**49.26**	**176**	P	**P**	**13 47 29.2**	**-2.3**
TKL	**Tuckaleechee C**	**52.54**	**346**	P	**P**	**13 47 55.7**	**-0.7**
TKL				IAmb	IAmb	13 48 34.0	
	comp=Z,25nm,1.5s						
TXAR	**Lajitas Array**	**54.95**	**324**	P	**P**	**13 48 14.9**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=148,slow=8.7,SNR=4.5						
	comp=Z,0.3nm,0.5s						
X37A	**Clayton**	**55.24**	**335**	P	**P**	**13 48 15.5**	**-0.5**
X37A				IAmb	IAmb	13 48 17.9	
	comp=Z,11nm,1.3s						
LOOK	**Love County**	**55.49**	**333**	P	**P**	**13 48 16.3**	**-1.4**
LOOK				IAmb	IAmb	13 48 48.0	
	comp=Z,10nm,0.5s						
S44A	**Carbondale**	**55.90**	**342**	P	**P**	**13 48 20.3**	**-0.3**
S44A				IAmb	IAmb	13 48 21.7	
	comp=Z,6.5nm,0.6s						
S39A	**Bolivar**	**57.21**	**339**	P	**P**	**13 48 29.8**	**0.0**
S39A				IAmb	IAmb	13 48 30.3	
	comp=Z,16nm,1.4s						
R40A	**Maddies Statio**	**57.39**	**340**	P	**P**	**13 48 29.8**	**-1.2**
R40A				IAmb	IAmb	13 48 31.7	
	comp=Z,4.0nm,0.5s						
D62A	**Allapoint, AII**	**62.47**	**1**	P	**P**	**13 49 05.1**	**-0.4**
PDAR	**Pinedale Array**	**68.27**	**330**	P	**P**	**13 49 44.7**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=128,slow=8.4,SNR=2.5						
	comp=Z,0.2nm,0.4s						
R11B	**Troy Canyon, C**	**68.28**	**323**	P	**P**	**13 49 41.0**	**-2.3**
SNAA	**Sanae**	**68.30**	**162**	P	**P**	**13 49 44.7**	**+2.1**
SNAA	**Sanae**	**68.30**	**162**	P	**P**	**13 49 44.7**	**+2.1**
	comp=Z,1.2nm,0.6s,baz=241,slow=13,SNR=7.6						
	comp=Z,1.2nm,0.6s						
DBIC	**Dimbokro**	**68.78**	**76**	P	**P**	**13 49 45.8**	**-0.8**
DBIC				IAmb	IAmb	13 50 06.7	
	comp=Z,12nm,1.4s						
ULM	**Lac du Bonnet**	**69.30**	**343**	P	**P**	**13 49 49.1**	**+0.2**
ULM				IAmb	IAmb	13 50 24.3	
	comp=Z,11nm,1.3s						
ULM	**Lac du Bonnet**	**69.30**	**343**	P	**P**	**13 49 49.5**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=168,slow=10.0,SNR=3.1						
	comp=Z,2.3nm,0.6s						
NVAR	**Mina Array Bea**	**69.93**	**322**	P	**P**	**13 49 53.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=104,slow=3.8,SNR=1.9						
	comp=Z,0.2nm,0.5s						
BOZ	**Bozeman (W)**	**71.38**	**331**	P	**P**	**13 49 59.4**	**-2.5**
BOZ				IAmb	IAmb	13 50 19.5	
	comp=Z,4.2nm,1.0s						
QSPA	**South Pole Qui**	**74.49**	**180**	P	**P**	**13 50 22.4**	**+2.5**
	comp=Z,1.4nm,1.1s,baz=229,slow=6.0,SNR=2.2						
	comp=Z,1.4nm,1.1s						
TOA0	**Torodi Ar. Sit**	**77.03**	**72**	P	**P**	**13 50 33.6**	**-1.4**
TORD	**Torodi Ar. Bea**	**77.03**	**72**	P	**P**	**13 50 34.1**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=261,slow=3.9,SNR=7.4						
	comp=Z,0.8nm,0.5s						
YKA	**Yellowknife Ar**	**85.17**	**341**	P	**P**	**13 51 17.3**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=149,slow=5.2,SNR=2.3						
	comp=Z,0.8nm,0.6s						
ASAR	**Alice Springs**	**134.15**	**212**	PKP	**PKiKP**	**13 57 59.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=125,slow=1.7,SNR=5.1						
WRA	**Warramunga Arr**	**136.94**	**216**	PKP	**PKiKP**	**13 58 05.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=137,slow=1.8,SNR=18						
ZALV	**Zalesovo Beam**	**137.25**	**21**	PKP	**PKiKP**	**13 58 04.4**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=298,slow=3.1,SNR=2.0						
MKAR	**Makanchi Array**	**141.65**	**30**	PKP	**PKiKP**	**13 58 12.6**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=5.7,slow=5.8,SNR=1.4						
SONM	**Songino Array**	**147.83**	**4**	PKPbc	**PKPbc**	**13 58 23.7**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=18,slow=1.8,SNR=3.8						
PZH	**PanZhiHua**	**167.08**	**32**	PKP	**PKPdf**	**13 58 43.1**	**-3.2**

*JMA **17** 13:53:50.9±0.1, 25°.N±1°.×122°.8E±0°.5, h115km±1km, MV2.2/19, NW OFF ISHIGAKIJIMA IS*
*TAP **17** 13:53:50.5, 24°.80N×122°.84E, h111km, ML3.5, D*
ISC 17 13:53:51.1±1.3,**24°.73N**±0°.04×**122°.81E**±0°.02,**h112**km±7km,
n110,σ0$**94**/202,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.30**	**155**	S	**Sn**	**13 54 19.5**	**+0.3**
YOJ	**Yonaguni jima**	**0.32**	**145**	P	**Pn**	**13 54 07.5**	**+0.2**
YOJ				S	**Sn**	**13 54 19.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.32**	**145**	P	**Pn**	**13 54 07.0**	**-0.3**
	baz=151						
YOJ				*e*S	**Sn**	**13 54 19.4**	**+0.1**
	baz=151						
EOS2	**EOS2**	**0.61**	**240**	*i* P	**Pn**	**13 54 09.2**	**+0.3**
	baz=240						
EOS2				S	**Sn**	**13 54 23.1**	**+1.0**
	baz=240						
EOS3	**EOS3**	**0.62**	**226**	*i* P	**Pn**	**13 54 09.5**	**+0.5**
	baz=233						
EOS3				S	**Sn**	**13 54 23.2**	**+0.9**
	baz=233						
EOS4	**EOS4**	**0.75**	**217**	*e*P	**Pn**	**13 54 10.3**	**+0.5**
	baz=215						
EOS4				S	**Sn**	**13 54 24.5**	**+0.7**
	baz=215						
TWC	**Suao**	**0.88**	**263**	*i* P	**Pn**	**13 54 10.9**	**-0.4**
	baz=258						
TWC				*i* S	**Sn**	**13 54 25.5**	**-1.0**
	baz=258						
SXI1	**Grass Mountain**	**0.92**	**294**	P	**Pn**	**13 54 11.7**	**-0.2**
	baz=288						
IRIF	**Iriomote-Funau**	**0.93**	**115**	P	**Pn**	**13 54 11.7**	**-0.1**
IRIF				S	**Sn**	**13 54 27.3**	**0.0**
EWUT	**Wuta**	**0.98**	**254**	*e*S	**Sn**	**13 54 28.1**	**-0.1**
	baz=246						
NDS	**Dongshan**	**1.00**	**265**	*e*P	**Pn**	**13 54 12.7**

NTST	**Danshui**	**1.31 290**	*e*P	**Pn**	**13 54 16.2**	**+0.4**
	baz=286					
NTST			*e*S	**Sn**	**13 54 35.3**	**+0.7**
	baz=286					
ETLH	**Xiulin Townshi**	**1.31 247**	*e*P	**Pn**	**13 54 15.7**	**-0.4**
	baz=244					
ETLH			*e*S	**Sn**	**13 54 34.5**	**-0.3**
	baz=244					
TWS1	**Kuangyinshan**	**1.32 287**	*i* P	**Pn**	**13 54 16.2**	**+0.2**
	baz=278					
TWS1			S	**Sn**	**13 54 34.6**	**-0.1**
	baz=278					
NSK	**Sanguang**	**1.32 268**	*e*P	**Pn**	**13 54 16.4**	**+0.3**
	baz=264					
NSK			*e*S	**Sn**	**13 54 34.4**	**-0.5**
	baz=264					
HWA	**Hwalien**	**1.33 236**	*e*S	**Sn**	**13 54 35.2**	**+0.3**
	baz=228					
NNSB	**Datong**	**1.33 257**	*e*P	**Pn**	**13 54 16.6**	**+0.3**
	baz=248					
NNSB			*e*S	**Sn**	**13 54 35.3**	**0.0**
	baz=248					
NNS	**Nan Shan**	**1.34 258**	P	**Pn**	**13 54 16.6**	**+0.3**
	baz=249					
NNS			*e*S	**Sn**	**13 54 35.4**	**0.0**
	baz=249					
JISG	**Ishigakijimahi**	**1.38 95**	P	**Pn**	**13 54 16.5**	**-0.1**
JISG			S	**Sn**	**13 54 34.8**	**-1.1**
ETM	**Tongmen**	**1.42 238**	*e*P	**Pn**	**13 54 16.7**	**-0.4**
	baz=231					
ETM			*e*S	**Sn**	**13 54 35.7**	**-1.1**
	baz=231					
LXIB	**Xiulin Townshi**	**1.45 241**	*e*P	**Pn**	**13 54 17.4**	**-0.3**
	baz=239					
LXIB			*e*S	**Sn**	**13 54 36.5**	**-1.3**
	baz=239					
TEGC	**Jichi Village**	**1.54 229**	*e*P	**Pn**	**13 54 18.9**	**+0.3**
	baz=234					
TEGC			*e*S	**Sn**	**13 54 39.1**	**-0.2**
	baz=234					
NFF	**Wufeng Townshi**	**1.54 267**	P	**Pn**	**13 54 18.8**	**+0.2**
	baz=264					
NFF			S	**Sn**	**13 54 39.1**	**-0.3**
	baz=264					
ESL	**Shilin**	**1.55 234**	*e*P	**Pn**	**13 54 18.3**	**-0.3**
	baz=232					
ESL			S	**Sn**	**13 54 38.0**	**-1.6**
	baz=232					
TWT	**Tachien**	**1.56 253**	P	**Pn**	**13 54 19.8**	**+0.8**
	baz=244					
TWT			S	**Sn**	**13 54 39.9**	**-0.2**
	baz=244					
TDCB	**Techi**	**1.57 253**	P	**Pn**	**13 54 19.8**	**+0.6**
	baz=244					
TDCB			*e*S	**Sn**	**13 54 39.7**	**-0.7**
	baz=244					
CHGB	**Renai**	**1.63 246**	P	**Pn**	**13 54 20.2**	**+0.4**
	baz=238					
CHGB			*e*S	**Sn**	**13 54 41.5**	**-0.3**
	baz=238					
LIOB	**Emei**	**1.63 268**	P	**Pn**	**13 54 20.1**	**+0.5**
	baz=264					
LIOB			S	**Sn**	**13 54 41.2**	**-0.2**
	baz=264					
WARBT	**Fenglin Townsh**	**1.64 233**	P	**Pn**	**13 54 19.4**	**-0.4**
	baz=231					
WARBT			*e*S	**Sn**	**13 54 40.0**	**-1.6**
	baz=231					
EGFH	**Guangfu**	**1.64 230**	P	**Pn**	**13 54 19.7**	**-0.1**
	baz=229					
EGFH			*e*S	**Sn**	**13 54 40.5**	**-1.1**
	baz=229					
NSTT	**Nanjuang**	**1.65 267**	P	**Pn**	**13 54 19.9**	**+0.1**
	baz=264					
NSTT			*e*S	**Sn**	**13 54 40.8**	**-0.9**
	baz=264					
HSN	**Hsinchu**	**1.67 273**	*e*P	**Pn**	**13 54 19.6**	**-0.6**
	baz=263					
HSN			*e*S	**Sn**	**13 54 41.0**	**-1.2**
	baz=263					
OWD	**Renai**	**1.68 243**	*e*P	**Pn**	**13 54 20.6**	**+0.3**
	baz=236					
OWD			*e*S	**Sn**	**13 54 41.9**	**-0.7**
	baz=236					
WUSB	**Renai**	**1.71 245**	*e*P	**Pn**	**13 54 21.4**	**+0.6**
	baz=239					
WUSB			*e*S	**Sn**	**13 54 42.5**	**-0.7**
	baz=239					
JTJ	**Tarama**	**1.73 92**	P	**Pn**	**13 54 21.0**	**+0.2**
JTJ			S	**Sn**	**13 54 42.5**	**-0.9**
WHP	**Taichung City**	**1.75 256**	P	**Pn**	**13 54 22.3**	**+1.0**
	baz=250					
WHP			*e*S	**Sn**	**13 54 44.4**	**+0.2**
	baz=250					
HGSD	**Ruisui**	**1.76 226**	*e*P	**Pn**	**13 54 21.7**	**+0.4**
	baz=224					
HGSD			*e*S	**Sn**	**13 54 43.0**	**-1.2**
	baz=224					
VWDT	**VWDT**	**1.80 238**	P	**Pn**	**13 54 22.3**	**+0.5**
	baz=231					
VWDT			*e*S	**Sn**	**13 54 44.7**	**-0.4**
	baz=231					
EHY	**Hungye**	**1.82 228**	*e*P	**Pn**	**13 54 21.9**	**-0.1**
	baz=227					
EHY			*e*S	**Sn**	**13 54 43.7**	**-1.9**
	baz=227					
NMLH	**Miaoli**	**1.84 265**	P	**Pn**	**13 54 22.7**	**+0.4**
	baz=262					
NMLH			*e*S	**Sn**	**13 54 45.4**	**-0.6**
	baz=262					
WCS	**Beigang Elemen**	**1.85 249**	*e*P	**Pn**	**13 54 23.4**	**+1.0**
	baz=247					
WCS			*e*S	**Sn**	**13 54 47.2**	**+1.0**
	baz=247					
ECBN	**Changbin**	**1.87 222**	*e*P	**Pn**	**13 54 23.4**	**+0.8**
	baz=215					
ECBN			*e*S	**Sn**	**13 54 45.8**	**-0.9**
	baz=215					
NSY	**Sanyi**	**1.89 261**	P	**Pn**	**13 54 23.6**	**+0.8**
	baz=258					
NSY			S	**Sn**	**13 54 47.3**	**+0.3**
	baz=258					
TWQ1	**Liyutan**	**1.89 259**	*e*P	**Pn**	**13 54 23.2**	**+0.4**
	baz=256					
TWQ1			*e*S	**Sn**	**13 54 47.0**	**-0.1**
	baz=256					
YULB	**Yu-li**	**1.92 226**	P	**Pn**	**13 54 22.9**	**-0.3**
	baz=231					
YULB			S	**Sn**	**13 54 46.3**	**-1.3**
	baz=231					
SMLT	**Sun Moon Lake**	**1.93 245**	*e*P	**Pn**	**13 54 24.9**	**+1.4**
	baz=237					
SMLT			*e*S	**Sn**	**13 54 50.1**	**+2.0**
	baz=237					
EYUL	**Yuli**	**1.93 225**	P	**Pn**	**13 54 23.9**	**+0.5**
	baz=231					
EYUL			*e*S	**Sn**	**13 54 49.1**	**+1.1**
	baz=231					
SSLB	**Suanglung**	**1.93 241**	*e*P	**Pn**	**13 54 24.4**	**+1.0**
	baz=237					
SSLB			*e*S	**Sn**	**13 54 48.3**	**+0.2**
	baz=237					
TWF1	**Yuli**	**1.94 226**	*e*P	**Pn**	**13 54 23.3**	**-0.2**
	baz=231					
TWF1			*e*S	**Sn**	**13 54 47.2**	**-1.1**
	baz=231					
TYC	**Yuchr**	**1.96 246**	*e*P	**Pn**	**13 54 24.8**	**+1.1**
	baz=238					
TYC			*e*S	**Sn**	**13 54 48.3**	**-0.2**
	baz=238					
FULB	**Fuli**	**2.06 223**	*e*P	**Pn**	**13 54 25.1**	**+0.1**
	baz=216					
FULB			*e*S	**Sn**	**13 54 50.0**	**-0.9**
	baz=216					
WHYT	**Xinyi Township**	**2.06 241**	*e*P	**Pn**	**13 54 26.6**	**+1.6**
	baz=237					
WHYT			*e*S	**Sn**	**13 54 52.0**	**+1.1**
	baz=237					
CHKT	**Chengkung**	**2.09 219**	*e*P	**Pn**	**13 54 24.9**	**-0.5**
	baz=214					
CHKT			*e*S	**Sn**	**13 54 49.4**	**-2.1**
	baz=214					
WJS	**Zhushan**	**2.10 245**	*e*S	**Sn**	**13 54 53.5**	**+1.7**
	baz=237					
WNT	**Mingjian**	**2.11 247**	*e*P	**Pn**	**13 54 26.7**	**+1.1**
	baz=254					
WNT			*e*S	**Sn**	**13 54 53.2**	**+1.1**
	baz=254					
EHD	**Haiduan**	**2.15 223**	*e*P	**Pn**	**13 54 25.4**	**-0.7**
	baz=229					
EHD			*e*S	**Sn**	**13 54 52.0**	**-1.0**
	baz=229					
JIRB	**Irabujima**	**2.15 87**	P	**Pn**	**13 54 26.4**	**+0.2**
JIRB			S	**Sn**	**13 54 53.4**	**+0.5**
ECS	**Chishang**	**2.18 222**	*e*P	**Pn**	**13 54 27.6**	**+1.1**
	baz=230					
ECS			*e*S	**Sn**	**13 54 54.1**	**+0.4**
	baz=230					
ALS	**Alishan**	**2.19 237**	P	**Pn**	**13 54 28.6**	**+1.6**
	baz=235					
ALS			S	**Sn**	**13 54 55.5**	**+1.1**
	baz=235					
EDH	**Donghe**	**2.22 219**	*e*P	**Pn**	**13 54 26.7**	**-0.4**
	baz=213					
EDH			*e*S	**Sn**	**13 54 53.2**	**-1.4**
	baz=213					
JIKM	**Ikemajima**	**2.23 84**	P	**Pn**	**13 54 27.6**	**+0.5**
JIKM			S	**Sn**	**13 54 55.1**	**+0.5**
ELDTW	**Lidau**	**2.24 227**	*e*P	**Pn**	**13 54 27.8**	**+0.4**
	baz=226					
ELDTW			S	**Sn**	**13 54 54.1**	**-1.1**
	baz=226					
CHN5	**Tsauling**	**2.25 240**	*e*P	**Pn**	**13 54 28.8**	**+1.4**
	baz=232					
CHN5			*e*S	**Sn**	**13 54 56.8**	**+1.5**
	baz=232					
JMJ2	**Miyako jima3**	**2.29 89**	P	**Pn**	**13 54 28.6**	**+0.6**
JMJ2			S	**Sn**	**13 54 56.9**	**+0.7**
WDLH	**Douliu**	**2.31 244**	*e*P	**Pn**	**13 54 28.2**	**0.0**
	baz=252					
WDLH			*e*S	**Sn**	**13 54 57.4**	**+0.7**
	baz=252					
JOGS	**Gusukube**	**2.36 89**	P	**Pn**	**13 54 30.0**	**+1.1**
WRL	**Guolierlin Hig**	**2.36 250**	P	**Pn**	**13 54 29.2**	**+0.3**
	baz=256					
WRL			S	**Sn**	**13 54 57.2**	**-0.6**
	baz=256					
LONT	**Longtian**	**2.38 221**	P	**Pn**	**13 54 29.0**	**-0.1**
	baz=220					
LONT			*e*S	**Sn**	**13 54 57.4**	**-0.7**
	baz=220					
LDUT	**Ludao**	**2.38 211**	*e*P	**Pn**	**13 54 28.5**	**-0.6**
	baz=208					
LDUT			S	**Sn**	**13 54 57.0**	**-1.3**
	baz=208					
WCKO	**Fanlu**	**2.39 238**	*e*P	**Pn**	**13 54 30.7**	**+1.5**
	baz=236					
WCKO			*e*S	**Sn**	**13 55 00.1**	**+1.7**
	baz=236					
STYH	**Taoyuan**	**2.42 231**	*e*P	**Pn**	**13 54 30.9**	**+1.3**
	baz=228					
STYH			*e*S	**Sn**	**13 54 59.8**	**+0.7**
	baz=228					
WTK	**Tuku**	**2.44 245**	P	**Pn**	**13 54 30.1**	**+0.3**
	baz=244					
WTK			*e*S	**Sn**	**13 55 00.1**	**+0.6**
	baz=244					
CHN4	**Tsaushan**	**2.44 236**	*e*P	**Pn**	**13 54 31.3**	**+1.4**
	baz=235					
CHN4			*e*S	**Sn**	**13 55 01.7**	**+2.0**
	baz=235					
TPUB	**Ta-pu**	**2.44 235**	*e*P	**Pn**	**13 54 31.1**	**+1.1**
	baz=233					
TPUB			*e*S	**Sn**	**13 55 01.9**	**+2.1**
	baz=233					
TWGBT	**Beinan**	**2.47 220**	*e*P	**Pn**	**13 54 30.2**	**-0.1**
	baz=219					
TWGBT			S	**Sn**	**13 54 59.7**	**-0.7**
	baz=219					
TWG	**Pinlang**	**2.48 220**	*e*P	**Pn**	**13 54 30.4**	**+0.1**
	baz=219					
TWG			S	**Sn**	**13 54 59.6**	**-0.8**
	baz=219					
WTP	**Ta-pu**	**2.49 234**	P	**Pn**	**13 54 32.2**	**+1.7**
	baz=233					
WTP			*e*S	**Sn**	**13 55 02.2**	**+1.4**
	baz=233					
CHY	**Chiayi**	**2.50 241**	*e*S	**Sn**	**13 55 02.1**	**+1.2**
	baz=249					
CHN1	**Nanshi**	**2.59 234**	*e*P	**Pn**	**13 54 34.2**	**+2.4**
	baz=233					
CHN1			*e*S	**Sn**	**13 55 04.9**	**+1.8**
	baz=233					
SNST	**Tainan City**	**2.59 235**	*e*P	**Pn**	**13 54 32.5**	**+0.7**
	baz=234					
SNST			*e*S	**Sn**	**13 55 04.3**	**+1.2**
	baz=234					
WSF	**Szhu**	**2.60 246**	*e*P	**Pn**	**13 54 31.0**	**-0.9**
	baz=244					
SLGT	**Liugui**	**2.62 229**	P	**Pn**	**13 54 34.0**	**+1.7**
	baz=234					
SLGT			S	**Sn**	**13 55 06.1**	**+2.2**
	baz=234					
SSD	**Sandimen**	**2.80 226**	*e*P	**Pn**	**13 54 36.3**	**+1.7**
	baz=224					
SSD			*e*S	**Sn**	**13 55 10.2**	**+2.1**
	baz=224					
TSMG	**Majia**	**2.82 225**	*e*P	**Pn**	**13 54 36.0**	**+1.1**
	baz=224					
TSMG			*e*S	**Sn**	**13 55 09.9**	**+1.3**
	baz=224					
MASBT	**Mashibuluo**	**2.90 224**	P	**Pn**	**13 54 37.4**	**+1.5**
	baz=234					
MASBT			*e*S	**Sn**	**13 55 11.9**	**+1.6**
	baz=234					
LAY	**Lan-yu**	**2.91 204**	*e*P	**Pn**	**13 54 35.7**	**-0.4**
	baz=198					
LAY			*e*S	**Sn**	**13 55 07.9**	**-2.9**
	baz=198					
LYUB	**Lan-yu**	**2.94 203**	P	**Pn**	**13 54 35.5**	**-0.9**
	baz=202					
EAST	**Anshuo**	**2.94 218**	*e*P	**Pn**	**13 54 36.1**	**-0.4**
	baz=217					
EAST			*e*S	**Sn**	**13 55 11.2**	**-0.3**
	baz=217					
TSCK	**Chigu Township**	**2.94 238**	*e*P	**Pn**	**13 54 34.8**	**-1.7**
	baz=237					
TSCK			*e*S	**Sn**	**13 55 11.4**	**0.0**
	baz=237					
MATB	**Ma-tsu**	**2.95 299**	*e*P	**Pn**	**13 54 35.8**	**-0.8**
	baz=287					
TAWH	**Dawu Township**	**2.96 217**	*e*P	**Pn**	**13 54 37.8**	**+1.1**
	baz=220					
TAWH			*e*S	**Sn**	**13 55 11.4**	**-0.3**
	baz=220					
SCZT	**Fangliau**	**3.09 221**	*e*P	**Pn**	**13 54 39.2**	**+0.9**
	baz=215					
PHUB	**P'eng-hu**	**3.19 248**	*e*S	**Sn**	**13 55 15.1**	**-2.2**
	baz=247					
LYJJ	**Jianjiangzhen**	**3.30 304**	*e*P	**Pn**	**13 54 40.0**	**-1.1**
	baz=301					
KNMB	**Chin-men Tao**	**4.03 267**	*e*P	**Pn**	**13 54 49.7**	**-1.3**
	baz=257					

*IDC **17** 14:02:49.0±4.9, 21°.42S×179°.18E, h323km±38km, mb3.1/5, mbtmp3.8/6, Error ellipse: s-maj=88.2km s-min=26.7km az=150.0*

ISC 17 14:02:46.1±1.6, **21°.8S**±0°.2×**179°.3E**±0°.2, **h300**km, **n6**, σ0°.83/6, **mb3.3**/5, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.17**	**343**	P	**Pn**	**14 03 54.5**	**+0.2**
	9.8nm,0.8s,baz=166,slow=14,SNR=4.5						
STKA	**Stephens Creek**	**34.99**	**245**	P	**P**	**14 09 10.9**	**+0.2**
	0.6nm,0.4s,baz=90,slow=8.1,SNR=2.2						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**41.80**	**258**	P	**P**	**14 10 07.3**	**0.0**
	1.2nm,0.9s,baz=93,slow=7.4,SNR=13						
	1.2nm,0.9s						
WRA	**Warramunga Arr**	**41.96**	**264**	P	**P**	**14 10 09.2**	**+0.7**
	1.3nm,0.7s,baz=96,slow=8.5,SNR=29						
	1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**88.18**	**291**	P	**P**	**14 15 02.7**	**-1.2**
	1.4nm,0.8s,baz=140,slow=3.5,SNR=6.5						
	1.4nm,0.8s						
TXAR	**Lajitas Array**	**89.84**	**58**	P	**P**	**14 15 11.8**	**+0.3**
	0.1nm,0.4s,baz=235,slow=4.3,SNR=1.9						
	0.1nm,0.4s						

IDC 17 14:28:39.2±1.3, **50°.30S**×**134°.94E**, **h0**km, **mb3.6**/4, **mbtmp3.7**/5, **ML3.4**/1, **MS3.3**/14, **Error ellipse: s-maj=145.0km s-min=21.6km az=95.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.06**	**18**	P	Pn	14 33 04.1	+0.4
	0.1nm,0.3s,baz=165,slow=11,SNR=4.5						
STKA				LR	LR	14 39 19.7	
	comp=Z,131nm,18.8s,baz=206,slow=34						
	3.3nm,0.9s						
H01W1	**Cape Leeuwin H**	**21.60**	**308**	T	T	14 55 35.8	
	baz=142,slow=75,SNR=22						
H01W2	**Cape Leeuwin H**	**21.61**	**308**	T	T	14 55 38.8	
	baz=142,slow=75,SNR=21						
H01W3	**Cape Leeuwin H**	**21.62**	**308**	T	T	14 55 38.9	
	baz=142,slow=75,SNR=17						
NWAO	**Narrogin (SRO)**	**21.74**	**316**	LR	LR	14 40 04.7	
	comp=Z,77nm,18.8s,baz=186,slow=32						
RPZ	**Rata Peaks**	**25.30**	**89**	LR	LR	14 41 11.7	
	comp=Z,53nm,18.5s,baz=200,slow=30						
ASAR	**Alice Springs**	**26.60**	**358**	P	P	14 34 19.3	+0.1
	0.3nm,0.9s,baz=165,slow=7.7,SNR=2.0						
ASAR				LR	LR	14 44 28.1	
	comp=Z,31nm,20.1s,baz=144,slow=36						
	0.3nm,0.9s						
WRA	**Warramunga Arr**	**30.30**	**359**	P	P	14 34 51.4	-0.7
	1.2nm,0.9s,baz=179,slow=8.3,SNR=6.8						
	1.2nm,0.9s						
CTA	**Charters Tower**	**31.46**	**21**	LR	LR	14 47 30.2	
	comp=Z,75nm,18.4s,baz=188,slow=36						
URZ	**Urewera**	**32.08**	**84**	LR	LR	14 45 54.4	
	comp=Z,62nm,18.6s,baz=349,slow=32						
DZM	**Mont Dzumac**	**37.45**	**53**	LR	LR	14 48 27.2	
	comp=Z,82nm,20.2s,baz=178,slow=32						
MAW	**Mawson**	**38.34**	**216**	LR	LR	14 50 07.7	
	comp=Z,43nm,18.3s,baz=100,slow=34						
QSPA	**South Pole Qui**	**39.82**	**180**	P	P	14 36 13.5	-0.4
	1.0nm,1.0s,baz=341,slow=5.7,SNR=3.1						
	1.0nm,1.0s						
HNR	**Honiara**	**45.70**	**36**	LR	LR	14 53 52.1	
	comp=Z,644nm,18.1s,baz=72,slow=33						
KAPI	**Kappang**	**46.91**	**339**	LR	LR	14 57 18.8	
	comp=Z,15nm,19.4s,baz=129,slow=37						
SNAA	**Sanae**	**54.72**	**195**	P	P	14 38 10.0	+0.3
	1.5nm,1.0s,baz=139,slow=13,SNR=3.5						
SNAA				LR	LR	15 00 03.2	
	comp=Z,44nm,20.1s,baz=186,slow=34						
	1.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**75.46**	**325**	LR	LR	15 12 24.3	
	comp=Z,6.9nm,20.0s,baz=160,slow=35						
SUR	**Sutherland**	**79.22**	**232**	LR	LR	15 08 02.1	
	comp=Z,36nm,21.9s,baz=149,slow=30						
BOSA	**Boshof**	**79.89**	**237**	LR	LR	15 09 28.0	
	comp=Z,20nm,21.1s,baz=200,slow=31						
LSZ	**Lusaka**	**88.71**	**248**	LR	LR	15 15 02.1	
	comp=Z,29nm,19.3s,baz=248,slow=31						

*IDC **17** 14:39:28.9±1.3, 81°.03N×121°.11E, h0km, mb3.7/6, mbtmp3.7/6, MS3.2/15, Error ellipse: s-maj=47.8km s-min=22.7km az=159.0*

ISC 17 14:39:30.2±1.1, **81°.0N**±0°.3×**120°.3E**±0°.1, **h10**km, **n21**, σ1°.75/8, **mb3.6**/6, **MS3.1**/16, **East of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**3.62**	**252**	*e*P	**Pn**	**14 40 26.8**	**+0.6**
SVZ				*e*S	**Sn**	**14 41 05.8**	**-3.0**
	54nm,0.4s						
SVZ				*i* tx	tx	14 43 25.4	
ARCES	**ARCESS Array B**	**23.12**	**297**	P	**P**	**14 44 36.9**	**+1.1**
	7.0nm,1.1s,baz=25,slow=11,SNR=1.2						
	7.0nm,1.1s						
INK	**Inuvik**	**25.80**	**55**	LR	LR	14 55 26.2	
	comp=Z,38nm,21.3s,baz=128,slow=37						
ILAR	**Eielson Array**	**27.27**	**69**	P	**P**	**14 45 13.3**	**-0.8**
	0.7nm,0.9s,baz=339,slow=8.5,SNR=7.3						
ILAR				LR	LR	14 56 08.7	
	comp=Z,52nm,19.1s,baz=314,slow=37						
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**29.25**	**225**	LR	LR	14 58 03.5	
	comp=Z,52nm,20.9s,baz=15,slow=38						
KIRV	**Kirov**	**29.75**	**266**	LR	LR	14 59 32.2	
	comp=Z,36nm,20.1s,baz=20,slow=40						
ARU	**Arti**	**30.39**	**255**	LR	LR	14 58 16.9	
	comp=Z,11nm,19.6s,baz=159,slow=37						
BVAR	**Borovoye Array**	**31.96**	**241**	LR	LR	15 01 25.6	
	comp=Z,84nm,18.1s,baz=25,slow=41						
KLR	**Kul'dur**	**32.09**	**166**	LR	LR	14 59 44.6	
	comp=Z,21nm,18.8s,baz=297,slow=38						
YKA	**Yellowknife Ar**	**33.66**	**43**	LR	LR	15 01 21.6	
	comp=Z,35nm,18.0s,baz=298,slow=39						
DLBC	**Dease Lake**	**35.73**	**58**	LR	LR	15 03 45.0	
	comp=Z,21nm,18.4s,baz=85,slow=41						
BELG	**Belogornoye**	**35.99**	**265**	LR	LR	15 02 53.4	
	comp=Z,79nm,19.7s,baz=111,slow=39						
MKAR	**Makanchi Array**	**36.58**	**225**	P	**P**	**14 46 37.0**	**+1.2**
	0.6nm,1.0s,baz=10,slow=8.8,SNR=4.3						
MKAR				LR	LR	15 02 38.3	
	comp=Z,37nm,19.6s,baz=18,slow=38						
	0.6nm,1.0s						
AKASG	**Malin Array Be**	**40.52**	**282**	LR	LR	15 05 19.8	
	comp=Z,25nm,20.9s,baz=352,slow=38						
KBZ	**Khabaz**	**45.16**	**266**	LR	LR	15 08 19.4	
	comp=Z,27nm,20.6s,baz=200,slow=38						
GNI	**Garni**	**48.37**	**263**	LR	LR	15 12 01.8	
	comp=Z,36nm,18.9s,baz=16,slow=40						
GEYT	**Alibeck**	**48.49**	**249**	LR	LR	15 11 18.8	
	comp=Z,28nm,18.1s,baz=202,slow=39						
PDAR	**Pinedale Array**	**53.63**	**44**	P	**P**	**14 48 51.2**	**-0.1**
	0.4nm,0.8s,baz=345,slow=2.8,SNR=3.5						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**67.55**	**41**	P	**P**	**14 50 25.0**	**-1.3**
	1.3nm,1.0s,baz=350,slow=4.6,SNR=6.9						
	1.3nm,1.0s						
TEIG	**Tepich**	**77.93**	**27**	LR	LR	15 27 25.3	
	comp=Z,320nm,18.2s,baz=158,slow=37						
TORD	**Torodi Ar. Bea**	**81.41**	**300**	P	**P**	**14 51 47.8**	**+0.9**
	0.9nm,0.9s,baz=357,slow=7.2,SNR=4.1						
	0.9nm,0.9s						

*MDD **17** 14:52:39.5±1.6, 36°.32N×10°.09W, h60km±48km, Mb3.5/3, Error ellipse: s-maj=24.5km s-min=13.0km az=159.0*
*CNRM **17** 14:52:42.0, 36°.18N×9°.30W, h24km, ml3.4*
*IGIL **17** 14:52:43.4, 36°.38N×9°.78W, h8km, ML1.8*
*INMG **17** 14:52:43.5±0.9, 36°.26N×9°.87W, h38km, ML1.7, Error ellipse: s-maj=7.3km s-min=3.0km az=86.0*

ISC 17 14:52:41.1±1.6, **36°.17N**±0°.04×**9°.72W**±0°.10, **h35**km, **n22**, σ1°.72/33, **3C**, **West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.20**	**36**	*e*P	**Pn**	**14 53 02.9**	**+1.5**
PFVI				*e*S	**Sn**	**14 53 17.4**	**+0.9**
PFVI	**Vila Bisbo**	**1.20**	**36**	P	**Pn**	**14 53 01.1**	**-0.3**
PFVI				S	**Sn**	**14 53 14.4**	**-2.1**
MORF	**Marmelete**	**1.42**	**37**	*e*P	**Pn**	**14 53 06.0**	**+1.5**
MORF				*e*S	**Sn**	**14 53 22.7**	**+0.7**
MORF				A	A	14 53 24.0	
	6.5nm,0.1s						
MORF	**Marmelete**	**1.42**	**37**	*e*P	**Pn**	**14 53 05.9**	**+1.5**
MORF				*e*S	**Sn**	**14 53 22.4**	**+0.4**
MORF				IAML		14 53 24.1	
	comp=N,12nm,0.1s						
PTEO	**Sao Teotonio**	**1.59**	**30**	*e*S	**Sn**	**14 53 26.4**	**+0.3**
PBDV	**Barranco-do-Ve**	**1.79**	**53**	*e*S	**Sn**	**14 53 32.8**	**+1.7**
PBDV				A	A	14 53 34.0	
	comp=N,2.3nm,0.1s						
PCVE	**Castro Verde**	**1.99**	**42**	*e*S	**Sn**	**14 53 37.2**	**+1.3**
PCVE				A	A	14 53 38.5	
	comp=N,1.6nm,0.1s						
PVAQ	**Vaqueiros**	**2.02**	**52**	*e*P	**Pn**	**14 53 15.0**	**+2.3**
PVAQ				*e*S	**Sn**	**14 53 38.1**	**+1.3**
PVAQ				A	A	14 53 39.3	
	comp=N,5.0nm,0.1s						
PVAQ	**Vaqueiros**	**2.02**	**52**	P	**Pn**	**14 53 12.1**	**-0.6**
PVAQ				S	**Sn**	**14 53 32.9**	**-4.0**
PNCL	**Nicolau / Gran**	**2.16**	**26**	*e*S	**Sn**	**14 53 39.5**	**-0.7**
PNCL				A	A	14 53 40.9	
	comp=N,1.5nm,0.1s						
EGRO	**El Granado**	**2.25**	**52**	Pn	**Pn**	**14 53 16.0**	**+0.1**
EGRO				⇑ i/Vmb_V		14 53 19.4	
	comp=N,181nm

comp=N,1.1nm,0.5s
PMTG Montargil 3.13 22 *e*P **Pn 14 53 28.7 +0.8**
PMTG *e*S **Sn 14 54 02.2 -1.9**
PMTG A A 14 54 03.8
comp=N,1.8nm,0.6s
PESTR Estremoz 3.18 31 *e*S **Sn 14 54 04.6 -0.8**
ESPR Espera 3.19 76 Pn **Pn 14 53 29.5 +0.8**
ESPR ⇑/Vmb_V 14 53 30.9
comp=N,210nm,SNR=1.8
ESPR Sn **Sn 14 54 08.7 +3.2**
PMRV Marv??o 3.74 29 *e*S **Sn 14 54 17.1 -2.1**
ECAB El Cabril 3.93 60⇑/Vmb_V 14 53 42.1
comp=N,84nm,SNR=0.9
ECAB Sn **Sn 14 54 22.0 -1.8**
OUK Oukaimeden 5.18 162 P **Pn 14 53 57.7 +1.2**
OUK S **Sn 14 54 56.0 +0.9**
MD31 MD31 5.25 127 P **Pn 14 53 55.2 -2.0**
MD31 S **Sn 14 54 54.3 -2.2**
MDT Midelt 5.38 127 P **Pn 14 53 56.9 -2.1**
OUZM OUZ 5.79 154 P **Pn 14 54 06.2 +1.5**

WEL 17 14:53:03.0±1.2, 35°S±30′×17°9W±3°6, h12km, M3.5/2, ML3.8/11, MLv3.5/2, Error ellipse: s-maj=0.1km s-min=0.0km az=129.5, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.60**	**221**	P	Pn	14 53 57.4	-1.2
MXZ				S	Sn	14 54 43.6	+2.5
WMGZ	**Waiomatatini S**	**3.74**	**218**	P	Pn	14 54 01.3	+0.8
WMGZ				S	Sn	14 54 47.6	+3.1
PKGZ	**Pakihiroa**	**3.97**	**220**	P	Pn	14 54 02.7	-1.0
PKGZ				S	Sn	14 54 48.8	-1.4
PUZ	**Puketiti**	**4.01**	**217**	P	Pn	14 54 04.5	+0.2
PUZ				S	Sn	14 54 49.7	-1.6
HAZ	**Te Kaha**	**4.03**	**224**	P	Pn	14 54 05.3	+0.7
HAZ				S	Sn	14 54 53.7	+2.1
TWGZ	**Tauwhareparae**	**4.23**	**218**	P	Pn	14 54 07.8	+0.4
TWGZ				S	Sn	14 54 58.4	+1.6
RUGZ	**Raukumara Rang**	**4.24**	**222**	P	Pn	14 54 07.4	-0.1
RUGZ				S	Sn	14 54 56.4	-0.6
CNGZ	**Carnagh Statio**	**4.37**	**214**	P	Pn	14 54 09.8	+0.6
TKGZ	**Te Karaka**	**4.50**	**217**	P	Pn	14 54 10.6	-0.4
TKGZ				S	Sn	14 55 04.7	+1.4
MWZ	**Matawai**	**4.59**	**220**	P	Pn	14 54 12.1	-0.1
MWZ				S	Sn	14 55 06.2	+0.8
URZ	**Urewera**	**4.76**	**224**	P	Pn	14 54 13.9	-0.6
SNGZ	**Shannon Statio**	**5.02**	**218**	P	Pn	14 54 17.7	-0.5
SNGZ				S	Sn	14 55 16.4	+0.3
MTHZ	**Maungataniwha**	**5.33**	**221**	P	Pn	14 54 22.8	+0.3

*NEIC **17** 14:57:14±1.2, 46°.15N±0°.01×120°.72W±0°.02, h18km±4km, Error ellipse: s-maj=2.3km s-min=2.1km az=70.0*
SEA 17 14:57:14.0±1.3, 46°.14N±0°.01×120°.70W±0°.02, h10km±2km, ML3.0/14, ML2.9/60(NEIC), Error ellipse: s-maj=1.7km s-min=1.6km az=122.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRW	**Toppenish Rdg**	**0.19**	**36**		Pg	14 57 18.4	+0.4
BLTW	**Bickleton**	**0.43**	**122**		Pg	14 57 22.9	+0.5
MXC	**Moxie City**	**0.52**	**33**		Pg	14 57 24.5	+0.4
MXC					Sb	14 57 32.2	-0.5
F07A	**Phinny Hill Vi**	**0.59**	**114**		Pg	14 57 25.8	+0.3
F07A	**Phinny Hill Vi**	**0.59**	**114**		Sb	14 57 34.6	-0.3
F07A	**Phinny Hill Vi**	**0.59**	**114**	IAML		14 57 34.9
	comp=N,2μm,0.5s						
F07A				IAML		14 57 38.1
	comp=E,1μm,0.5s						
NAC	**Naches**	**0.60**	**352**		Pg	14 57 24.5	-1.1
BRVW	**Black Rock Val**	**0.60**	**55**		Pg	14 57 24.3	-1.3
ASR	**Mount Adams--S**	**0.62**	**271**		Pb	14 57 26.8	-0.1
PAT2	**Paterson 2**	**0.71**	**111**		Pg	14 57 28.0	+0.3
E07A	**Sunnyside**	**0.72**	**54**	Pg	Pg	14 57 27.6	-0.3
E07A	**Sunnyside**	**0.72**	**54**		Sb	14 57 38.1	-0.4
E07A	**Sunnyside**	**0.72**	**54**	IAML		14 57 38.4
	comp=N,715nm,0.5s						
E07A				IAML		14 57 43.2
	comp=E,792nm,0.5s						
EBG	**Ellensburg**	**0.77**	**7**		Pg	14 57 28.7	-0.2
BENWA	**Benson Ranch**	**0.78**	**61**		Pg	14 57 29.1	+0.1
SNIWA	**Snively Ranch**	**0.79**	**66**		Pg	14 57 29.1	-0.2
APM	**Augspurger Mou**	**0.80**	**240**		Pg	14 57 29.5	+0.2
RSW	**Rattlesnake Hi**	**0.81**	**72**		Pg	14 57 29.7	0.0
HAWA	**Hanford**	**0.85**	**72**		Pg	14 57 30.0	-0.3
HAWA	**Hanford**	**0.85**	**72**		Sb	14 57 41.9	-0.3
HAWA	**Hanford**	**0.85**	**72**	IAML		14 57 42.4
	comp=E,315nm,0.3s						
HAWA				IAML		14 57 46.0
	comp=E,157nm,0.5s						
BVW	**Beverly**	**0.88**	**40**		Pg	14 57 30.4	-0.5
GBB	**Gable Butte**	**0.88**	**58**		Pg	14 57 30.8	-0.1
GBB					Sb	14 57 43.1	+0.1
SHRK	**Shell Rock**	**0.89**	**221**		Pg	14 57 30.8	-0.4
SHRK					Sb	14 57 43.2	-0.4
G06A	**Carlson Farm,**	**0.91**	**177**		Pg	14 57 30.7	-0.7
H2OWA	**Water**	**0.92**	**74**		Pg	14 57 31.4	-0.4
CDFW	**Cedar Flats**	**0.94**	**269**		Pg	14 57 31.4	-0.6
VT2	**Vantage 2**	**0.96**	**30**		Pg	14 57 31.9	-0.5
VLL	**Laurance Lake**	**0.96**	**225**		Pg	14 57 32.5	-0.1
VLL					Sg	14 57 45.3	+0.2
VTHM	**Trough**	**0.97**	**174**		Pg	14 57 31.0	-1.6
GBL	**Gable Mountain**	**0.97**	**62**		Pg	14 57 32.4	-0.3
GBL	**Gable Mountain**	**0.97**	**62**		Pg	14 57 32.3	-0.4
LON	**Longmire**	**0.98**	**309**		Pg	14 57 32.4	-0.5
LON	**Longmire**	**0.98**	**309**	Pg	Pg	14 57 31.9	-0.9
LON				IAML		14 57 48.4
	comp=E,87nm,0.9s						
LON				IAML		14 57 50.2
	comp=N,92nm,0.9s						
VFP	**Flag Point**	**0.98**	**213**		Pg	14 57 32.9	0.0
G05A	**Wamic**	**1.00**	**206**	Pg	Pg	14 57 32.7	-0.5
G05A				IAML		14 57 50.1
	comp=N,254nm,0.5s						
G05A				IAML		14 57 51.4
	comp=E,478nm,0.7s						
B202	**Windy Ridge, M**	**1.00**	**276**		Pg	14 57 32.5	-0.8
B202					Sg	14 57 46.2	-0.1
SOSW	**Source of Smit**	**1.00**	**276**		Pg	14 57 32.6	-0.7
ESD	**East Dome**	**1.01**	**274**		Pg	14 57 33.1	-0.2
JLK	**June Lake**	**1.01**	**271**		Pg	14 57 33.2	-0.2
MJ2	**May Junction 2**	**1.02**	**65**		Pg	14 57 33.0	-0.6
MJ2					Sb	14 57 47.5	+0.5
TBM	**Table Mountain**	**1.03**	**4**		Pg	14 57 32.9	-0.9
FMW	**Mount Fremont**	**1.03**	**320**		Pg	14 57 33.5	-0.4
SEPW	**September Lobe**	**1.04**	**274**		Pb	14 57 34.1	0.0
REMR	**Mount Rainier-**	**1.04**	**311**		Pg	14 57 33.6	-0.4
HIYU	**Hiyu Mountain**	**1.05**	**228**		Pg	14 57 33.7	-0.4
LOCW	**Locke Island**	**1.05**	**56**		Pg	14 57 33.6	-0.6
SWF2	**Southwest Flan**	**1.05**	**272**		Pg	14 57 33.8	-0.4
HOOD	**Mount Hood Mea**	**1.06**	**219**		Pg	14 57 33.4	-0.9
MTMW	**Mount Mitchell**	**1.06**	**264**		Pg	14 57 33.5	-0.8
JRO	**Jston Ridge Ob**	**1.06**	**278**		Pn	14 57 35.2	+0.2
TDL	**Tradedollar La**	**1.07**	**282**		Pg	14 57 34.1	-0.5
TIMB	**Timberline**	**1.07**	**222**		Pg	14 57 34.6	0.0
B201	**Coldwater, Mou**	**1.10**	**279**		Pb	14 57 34.5	-0.5
LTY	**Liberty**	**1.11**	**1**		Pb	14 57 33.6	-1.7
LTY				IAML		14 57 53.6
	comp=N,184nm,0.6s						
B203	**Quarry, Mount**	**1.13**	**272**		Pb	14 57 34.8	-0.8
TDH	**Tom, Dick, Har**	**1.14**	**222**		Pb	14 57 35.1	-0.8
FL2	**Flat Top 2**	**1.15**	**273**		Pb	14 57 35.2	-0.7
ERK	**Elk Rock**	**1.15**	**279**		Pb	14 57 35.1	-0.9
FHE	**Frenchman Hill**	**1.16**	**45**		Pb	14 57 35.5	-0.6
RVC	**Mount Rainier-**	**1.19**	**313**		Pb	14 57 36.6	0.0
E08A	**Dider Farm, El**	**1.19**	**72**		Pb	14 57 35.6	-1.0
E08A				IAML		14 57 54.4
	comp=E,254nm,0.5s						
E08A				IAML		14 57 56.0
	comp=N,328nm,0.3s						
F04A	**Amboy**	**1.21**	**261**		Pn	14 57 35.5	-1.4
YPT	**Yellepit**	**1.21**	**94**		Pn	14 57 36.6	-0.3
VBEM	**Beaver Butte**	**1.25**	**210**		Pn	14 57 37.3	-0.2
D05A	**Enumclaw**	**1.37**	**320**		Pn	14 57 38.3	-0.8
ETW	**Entiat**	**1.48**	**10**		Pn	14 57 40.2	-0.6
G08A	**Pilot Rock**	**1.49**	**124**		Pn	14 57 39.9	-1.0
G08A				IAML		14 58 01.8
	comp=N,245nm,0.2s						
G08A				IAML		14 58 01.9
	comp=E,190nm,0.2s						
RATT	**Rattlesnake La**	**1.49**	**330**		Pn	14 57 41.2	+0.4
D08A	**Wollman Farm,**	**1.53**	**53**	Pn	Pn	14 57 40.5	-0.8
D08A				IAML		14 58 02.2
	comp=N,164nm,0.3s						
D08A				IAML		14 58 03.1
	comp=E,134nm,0.4s						
F04D	**Rainier, OR**	**1.61**	**269**		Pn	14 57 41.5	-0.9
WTV	**Waterville**	**1.64**	**18**		Pn	14 57 42.7	-0.2
C05A	**Tolt Reservoir**	**1.69**	**337**		Pb	14 57 44.4	-0.8
LNOR	**Lincton Mounta**	**1.71**	**98**		Pn	14 57 44.1	+0.3
WRW	**Wenatchee Ridg**	**1.72**	**356**		Pn	14 57 44.7	+0.7
CBSW	**Chelan Butte S**	**1.72**	**15**		Pn	14 57 44.0	-0.1
BMW	**Boistfort Moun**	**1.78**	**282**		Pb	14 57 46.1	-0.7
H04A	**Detroit Lake**	**1.79**	**216**	Pn	Pn	14 57 44.1	-0.9
SAW	**Saint Andrews**	**1.80**	**29**		Pn	14 57 44.6	-0.4
E09A	**Wood Farm, Sta**	**1.81**	**77**		Pn	14 57 44.6	-0.6
E09A				IAML		14 58 11.3
	comp=E,151nm,0.2s						
OD2	**Odessa Site #2**	**1.85**	**47**		Pn	14 57 44.9	-0.9
I05D	**Terrebonne, OR**	**1.86**	**194**	Pn	Pn	14 57 45.4	-0.5
E03A	**Lebam**	**2.02**	**283**	Pn	Pn	14 57 47.4	-0.6
E03A				IAML		14 58 50.6
	comp=N,64nm,2.3s						
E03A				IAML		14 59 00.6
	comp=E,98nm,2.1s						
G03D	**McMinnville, O**	**2.02**	**244**	Pn	Pn	14 57 48.1	0.0
G03D				IAML		14 58 21.8
	comp=E,91nm,0.7s						
G03D				IAML		14 58 25.9
	comp=N,103nm,1.2s						
PRLK	**Prince Lake**	**2.13**	**205**		Pb	14 57 52.6	-0.1
H04D	**Lebanon**	**2.16**	**222**	Pn	Pn	14 57 49.7	-0.3
RADR	**Rader Ridge**	**2.17**	**279**	Pn	Pn	14 57 49.3	-0.7
HDW	**Hoodsport**	**2.21**	**314**		Pb	14 57 53.0	-0.9
I07A	**Izee**	**2.23**	**157**	Pn	Pn	14 57 50.9	-0.2
C09A	**Chrisman Ranch**	**2.35**	**44**	Pn	Pn	14 57 51.6	-1.0
PINE	**Pine Mountain**	**2.36**	**184**		Pn	14 57 52.7	-0.2
COR	**Corvallis**	**2.41**	**231**	Pn	Pn	14 57 53.1	-0.2
COR				IAML		14 58 29.5
	comp=N,88nm,1.2s						
COR				IAML		14 58 32.9
	comp=N,93nm,0.7s						
F10A	**Beach Ranch, E**	**2.42**	**93**		Pn	14 57 53.5	-0.2
F10A				IAML		14 58 41.4
	comp=N,74nm,0.5s						
F10A				IAML		14 58 42.4
	comp=E,76nm,0.7s						
BUCK	**Buck Mountain**	**2.53**	**221**	Pn	Pn	14 57 53.1	-2.0
BUCK				IAML		14 58 34.9
	comp=E,40nm,0.7s						
BUCK				IAML		14 58 41.0
	comp=N,52nm,2.3s						
SVIC	**Surveyors Ice**	**2.53**	**189**		Pb	14 57 58.1	-1.4
OSD	**Olympics--Snow**	**2.65**	**310**		Pn	14 57 54.8	-2.1
BMO	**Blue Mountains**	**2.71**	**117**		Pn	14 57 57.2	-0.5
BMO				IAML		14 58 44.9
	comp=N,50nm,0.4s						
BMO				IAML		14 58 46.1
	comp=N,41nm,0.5s						
J05D	**Fort Rock, OR**	**2.88**	**188**	Pn	Pn	14 57 59.0	-1.0
NEW	**Newport**	**3.23**	**48**	Pn	Pn	14 58 04.3	-0.5
NEW				IAML		14 59 00.5
	comp=N,36nm,0.5s						
NEW				IAML		14 59 10.2
	comp=N,32nm,0.7s						
K05A	**Summer Lake**	**3.42**	**182**	Pn	Pn	14 58 07.1	-0.4
PLID	**Pearl Lake**	**3.46**	**106**		Pn	14 58 07.7	-0.5
PLID				IAML		14 59 10.7
	comp=N,18nm,0.8s						
K02D	**Willamette Mer**	**4.05**	**213**	Pn	Pn	14 58 16.0	0.0
L04D	**Klamath Falls**	**4.09**	**197**	Pn	Pn	14 58 15.9	-0.7
MSO	**Missoula**	**4.72**	**79**	Pn	Pn	14 58 24.1	-1.1
MSO				IAML		15 00 01.6
	comp=N,14nm,1.4s						
MSO				IAML		15 00 03.7
	comp=N,13nm,0.8s						
CHMT	**Chamberlain Mo**	**5.20**	**79**	Pn	Pn	14 58 31.6	-0.4

*NEIC **17** 14:58:46.0±0.7, 41°.21N±0°.08×127°.4W±0°.2, h9km±9km, ML2.9/30, ML3.0/10(NCEDC), Error ellipse: s-maj=18.8km s-min=11.9km az=82.0*
*IDC **17** 14:58:48.3±3.7, 41°.18N×127°.51W, h0km, mb3.2/1, mbtmp3.2/3, ML3.5/2, MS3.3/17, Error ellipse: s-maj=78.1km s-min=23.6km az=36.0*
*NCEDC **17** 14:58:52.2±1.8, 41°.17N±0°.07×127°.0W±0°.1, h8km±2km, Error ellipse: s-maj=16.1km s-min=12.1km az=254.0*
ISC 17 14:58:48.0±1.8, 41°.16N±0°.07×127°.2W±0°.1, h10km, n50, σ0°85/29, MS3.1/11, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**2.29**	**106**		**Pn**	**14 59 26.8**	**+0.9**
KCTM					**Sn**	**14 59 53.6**	**-0.6**
KRPM	**Rodgers**	**2.41**	**89**		**Pn**	**14 59 27.2**	**-0.4**
KRPM				IAML		15 00 17.5
	comp=N,74nm,1.4s						
KRPM				IAML		15 01 06.8
	comp=E,80nm,1.7s						
JCC	**Jacoby Creek,**	**2.44**	**97**		**Pn**	**14 59 28.2**	**+0.3**
JCC				IAML		15 00 34.1
	comp=E,38nm,1.5s						
KMPM	**Mount Pierce**	**2.46**	**106**	Pn	**Pn**	**14 59 28.5**	**+0.2**
KBO	**Bosley Butte**	**2.48**	**64**	Pn	**Pn**	**14 59 27.2**	**-1.3**
KBO				IAML		14 59 48.7
	comp=E,52nm,1.7s						
KBO				IAML		15 00 05.1
	comp=N,54nm,1.5s						
KSMM	**Slide Mountain**	**2.51**	**112**		**Pn**	**14 59 29.6**	**+0.6**
KRMB	**Red Mountain**	**2.52**	**81**		**Pn**	**14 59 29.2**	**+0.1**
KSXB	**Camp Six Broad**	**2.60**	**74**	Pn	**Pn**	**14 59 30.4**	**+0.1**
KSXB				IAML		15 00 21.7
	comp=N,32nm,1.9s						
KHMM	**Horse Mountain**	**2.65**	**95**		**Pn**	**14 59 31.9**	**+0.9**
KHMM				IAML		15 00 08.6
	comp=E,39nm,0.9s						
KHMM				IAML		15 00 13.3
	comp=N,45nm,0.7s						
KCRM	**Chalk Rock**	**2.68**	**105**		**Pn**	**14 59 32.0**	**+0.6**
KEBM	**Edson Butte**	**2.75**	**50**	Pn	**Pn**	**14 59 31.6**	**-0.6**
KEBM				IAML		14 59 58.3
	comp=E,44nm,2.0s						
KEBM				IAML		15 00 07.0
	comp=N,52nm,1.6s						
KMRM	**Mail Ridge**	**2.83**	**108**		**Pn**	**14 59 33.9**	**+0.6**
KMRM				IAML		15 00 14.0
	comp=E,80nm,0.5s						
KOMM	**Orleans Mounta**	**2.84**	**86**		**Pn**	**14 59 34.5**	**+0.9**
L02F	**Cave Junction**	**2.90**	**69**	Pn	**Pn**	**14 59 34.9**	**+0.7**
L02F				IAML		14 59 54.6
	comp=N,39nm,0.7s						
K02D	**Willamette Mer**	**3.06**	**59**	Pn	**Pn**	**14 59 35.6**	**-1.0**
KCPM	**Cahto Peak**	**3.14**	**117**		**Pn**	**14 59 38.2**	**+0.6**
YBH	**Yreka Blue Hor**	**3.44**	**79**	Pn	**Pn**	**14 59 44.0**	**+2.3**
YBH	**Yreka Blue Hor**	**3.44**	**79**	LR	LR	15 00 48.4
	comp=N,322nm,19.4s,baz=256,slow=33						
HOPS	**Hopland Field**	**3.84**	**123**	Pn	**Pn**	**14 59 47.5**	**+0.3**
HOPS				IAML		15 00 24.7
	comp=N,18nm,1.9s						
HOPS				IAML		15 00 33.1
	comp=E,16nm,1.9s						
I04A	**Tendick Farm,**	**4.42**	**52**	Pn	**Pn**	**14 59 56.8**	**+1.5**
MCCM	**Marconi Confer**	**4.50**	**131**	Pn	**Pn**	**14 59 56.0**	**-0.2**
J05D	**Fort Rock, OR**	**4.92**	**62**	Pn	**Pn**	**15 00 02.0**	**-0.2**
K05A	**Summer Lake**	**4.97**	**70**	Pn	**Pn**	**15 00 03.7**	**+0.8**
K05A				IAML		15 00 42.8
	comp=E,8.3nm,1.4s						
K05A				IAML		15 00 43.9
	comp=N,9.0nm,1.9s						
CMB	**Columbia Colle**	**6.13**	**118**	Pn	**Pn**	**15 00 17.8**	**-0.8**
SAO	**San Andreas Ge**	**6.28**	**132**	Pn	**Pn**	**15 00 20.7**	**0.0**
WVOR	**Wild Horse Val**	**6.54**	**76**	Pn	**Pn**	**15 00 25.0**	**+0.7**
PMPB	**Monarch Peak**	**7.03**	**132**	Pn	**Pn**	**15 00 31.2**	**+0.1**
NVAR	**Mina Array Bea**	**7.38**	**109**	Pn	Pn	15 00 41.4	+5.4
	comp=N,0.1nm,0.3s,baz=285,slow=14,SNR=9.1						
NVAR				LR	LR	15 03 47.1
	comp=N,459nm,18.6s,baz=278,slow=39						
	comp=N,1.2nm,0.8s						
ELK	**Elko**	**9.07**	**89**	LR	LR	15 04 50.2
	comp=N,252nm,19.5s,baz=320,slow=39						
NEW	**Newport**	**10.10**	**42**	LR	LR	15 05 09.1
	comp=N,164nm,18.7s,baz=228,slow=37						
PFO	**Pinyon Flats O**	**11.39**	**128**	LR	LR	15 05 54.8
	comp=N,199nm,18.7s,baz=306,slow=37						
PDAR	**Pinedale Array**	**13.24**	**77**	Pn	**P**	**15 02 05.6**	**-0.7**
	comp=N,0.1nm,0.3s,baz=263,slow=12,SNR=4.7						
	comp=N,0.5nm,0.8s						
ANMO	**Albuquerque**	**17.47**	**104**	LR	LR	15 10 12.6
	comp=N,198nm,18.2s,baz=28,slow=39						
TXAR	**Lajitas Array**	**22.49**	**114**	LR	LR	15 13 40.5
	comp=N,48nm,20.6s,baz=302,slow=39						
YKA	**Yellowknife Ar**	**22.66**	**15**	LR	LR	15 13 22.1
	comp=N,40nm,18.3s,baz=342,slow=38						
KDAK	**Kodiak Island**	**23.20**	**324**	LR	LR	15 10 18.6
	comp=N,102nm,20.8s,baz=159,slow=30						
ULM	**Lac du Bonnet**	**23.55**	**57**	LR	LR	15 13 24.7
	comp=N,62nm,19.8s,baz=188,slow=37						
ILAR	**Eielson Array**	**26.22**	**341**	P	**P**	**15 04 23.6**	**+0.8**
	comp=N,0.3nm,0.7s,baz=152,slow=8.5,SNR=4.7						
ILAR				LR	LR	15 12 59.7
	comp=N,43nm,18.1s,baz=46,slow=33						
	comp=N,0.3nm,0.7s						
TKL	**Tuckaleechee C**	**34.21**	**85**	LR	LR	15 19 42.3
	comp=N,64nm,20.2s,baz=313,slow=36						
FRB	**Frobisher Bay**	**40.38**	**36**	LR	LR	15 23 36.6
	comp=N,77nm,18.0s,baz=215,slow=37						
SHEM	**Shemya Is, Ala**	**40.61**	**307**	LR	LR	15 20 48.7
	comp=N,42nm,21.2s,baz=262,slow=33						
SFJD	**Kangerlussuaq**	**47.81**	**31**	LR	LR	15 27 41.4
	comp=N,47nm,19.2s,baz=291,slow=36						
PETK	**Petropavlovsk-**	**50.19**	**311**	LR	LR	15 24 48.1
	comp=N,18nm,21.0s,baz=88,slow=31						
MA2	**Magadan**	**51.85**	**320**	LR	LR	15 28 43.1
	comp=N,19nm,19.4s,baz=26,slow=35						
H11N3	**WAKE ISLAND Hy**	**59.29**	**270**	T	T	16 12 43.7
	baz=52,slow=75,SNR=204						
H11N2	**WAKE ISLAND Hy**	**59.30**	**270**	T	T	16 12 46.2
	baz=52,slow=75,SNR=164						
H11N1	**WAKE ISLAND Hy**	**59.31**	**270**	T	T	16 12 45.0
	baz=52,slow=75,SNR=187						
H11S1	**WAKE ISLAND Hy**	**60.17**	**269**	T	T	16 13 52.1
	baz=52,slow=75,SNR=229						
H11S2	**WAKE ISLAND Hy**	**60.18**	**269**	T	T	16 13 52.7
	baz=52,slow=75,SNR=205						
H11S3	**WAKE ISLAND Hy**	**60.19**	**269**	T	T	16 13 56.5
	baz=52,slow=75,SNR=188						

KRSC 17 15:00:19.7±2.0, 49°.86N×156°.92E, h20km±22km, Ml3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.97**	**328**	*e*P	Pb	15 00 36.8	-1.0
SKR				*e*S	Sb	15 00 48.9	-1.3
PAU	**Pauzhetka**	**1.61**	**358**	*e*P	Pb	15 00 49.6	+0.9
PAU				*e*S	Sg	15 01 10.2	-1.4
KDTR	**Khodutka, Kamc**	**2.08**	**20**	*e*P	Pb	15 00 55.7	-1.1
KDTR				*e*S	Sb	15 01 22.6	+0.4
RUS	**Russkaya**	**2.76**	**21**	*e*P	Pn	15 01 05.0	+2.2
RUS				*e*S	Sb	15 01 38.9	-2.8
GRL	**Gorelyy**	**2.79**	**15**	*e*P	Pb	15 01 06.2	-2.7
PET	**Petropavlovsk**	**3.35**	**18**	*e*P	Pn	15 01 13.9	+3.1
DALK	**Dalny**	**3.37**	**19**	*e*P	Pn	15 01 14.4	+3.2
DALK				*e*S	Sn	15 01 53.5	+2.8
AVH	**Avacha**	**3.59**	**18**	*e*P	Pb	15 01 18.7	-3.9
KOK	**Koryaka**	**3.60**	**17**	*e*P	Pb	15 01 19.4	-3.2
SMAR	**Somma**	**3.60**	**18**	*e*P	Pb	15 01 18.8	-4.0
KRER	**Koryakskii**	**3.63**	**18**	*e*P	Pn	15 01 18.2	+3.3
SDLR	**Sedlovina**	**3.63**	**19**	*e*P	Pn	15 01 18.5	+3.6
KRX	**Arik**	**3.66**	**16**	*e*P	Pb	15 01 20.1	-3.8
MKZ	**Mys Kozlova**	**5.55**	**30**	*e*P	Pn	15 01 44.6	+3.5

*NCEDC **17** 15:20:18.9±1.1, 41°.2N±0°.1×127°.3W±0°.1, h18km±2km, Error ellipse: s-maj=18.9km s-min=15.2km az=227.0*
NEIC 17 15:20:19.2±0.7, 41°.28N±0°.09×126°.98W±0°.09, h11km±10km, ML2.8/38, ML2.9/5(NCEDC), Error ellipse: s-maj=14.5km s-min=7.3km az=211.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**2.16**	**111**		Pn	15 20 55.1	-0.1
KCTM					Sb	15 21 24.8	-0.3
KRPM	**Rodgers**	**2.23**	**92**		Pn	15 20 56.2	0.0
KRPM				IAML		15 21 12.7
	comp=E,78nm,1.5s						
KRPM				IAML		15 21 53.1
	comp=N,61nm,1.5s						
KBO	**Bosley Butte**	**2.26**	**65**	Pn	Pn	15 20 56.4	-0.2
KBO				IAML		15 22 14.7
	comp=E,38nm,1.9s						
KBO				IAML		15 22 22.8
	comp=N,38nm,1.5s						
JCC	**Jacoby Creek,**	**2.28**	**101**	Pn	Pn	15 20 56.8	0.0
KRMB	**Red Mountain**	**2.32**	**83**	Pn	Pn	15 20 57.4	-0.1
KMPM	**Mount Pierce**	**2.33**	**111**		Pn	15 20 57.0	-0.6
KSXB	**Camp Six Broad**	**2.39**	**76**	Pn	Pn	15 20 58.2	-0.2
KSMM	**Slide Mountain**	**2.39**	**116**		Pn	15 20 57.8	-0.7
KHMM	**Horse Mountain**	**2.49**	**98**	Pn	Pn	15 20 59.5	-0.3
KHMM				IAML		15 21 36.3
	comp=E,37nm,1.4s						
KHMM				IAML		15 21 51.1
	comp=N,28nm,0.8s						
KEBM	**Edson Butte**	**2.53**	**50**	Pn	Pn	15 20 60.0	-0.3
KEBM				IAML		15 21 55.2
	comp=E,31nm,2.0s						
KEBM				IAML		15 21 55.6
	comp=N,31nm,1.9s						
KCRM	**Chalk Rock**	**2.54**	**109**		Pn	15 21 00.2	-0.3
KOMM	**Orleans Mounta**	**2.66**	**89**		P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	**Rodgers**	**2.38**	**92**	Pn	Pn	15 22 53.1	0.0
KRPM				IAML		15 23 54.5	
	comp=E,53nm,1.7s						
KRPM				IAML		15 24 06.3	
	comp=N,55nm,1.9s						
KBO	**Bosley Butte**	**2.39**	**66**	Pn	Pn	15 22 53.3	-0.1
KBO				IAML		15 23 38.6	
	comp=N,42nm,1.6s						
KBO				IAML		15 23 41.4	
	comp=E,46nm,1.6s						
JCC	**Jacoby Creek,**	**2.42**	**100**	Pn	Pn	15 22 53.4	-0.2
JCC				IAML		15 23 43.7	
	comp=E,27nm,1.5s						
KRMB	**Red Mountain**	**2.46**	**83**	Pn	Pn	15 22 54.2	-0.3
KMPM	**Mount Pierce**	**2.47**	**109**		Pn	15 22 54.0	-0.5
KSXB	**Camp Six Broad**	**2.53**	**76**	Pn	Pn	15 22 55.4	+0.1
KHMM	**Horse Mountain**	**2.63**	**98**	Pn	Pn	15 22 56.3	-0.5
KHMM				IAML		15 23 52.7	
	comp=E,24nm,1.9s						
KEBM	**Edson Butte**	**2.64**	**52**	Pn	Pn	15 22 56.8	-0.1
KEBM				IAML		15 23 24.1	
	comp=E,50nm,2.0s						
KEBM				IAML		15 24 32.2	
	comp=N,34nm,1.7s						
L02F	**Cave Junction**	**2.82**	**71**		Pn	15 22 59.8	+0.5
L02F				IAML		15 23 19.2	
	comp=N,19nm,0.9s						
KMRM	**Mail Ridge**	**2.83**	**111**	Pn	Pn	15 22 59.6	+0.2
KMRM				IAML		15 23 39.8	
	comp=N,62nm,0.7s						
KMRM				IAML		15 23 42.4	
	comp=E,52nm,0.6s						
K02D	**Willamette Mer**	**2.97**	**60**	Pn	Pn	15 23 01.3	-0.1
J01E	**Myrtle Point**	**3.05**	**51**	Pn	Pn	15 23 02.1	-0.3
J01E				IAML		15 23 29.1	
	comp=N,16nm,1.7s						
J01E				IAML		15 23 35.3	
	comp=E,19nm,1.8s						
KCPM	**Cahto Peak**	**3.16**	**119**		Pn	15 23 03.5	-0.6
YBH	**Yreka Blue Hor**	**3.38**	**81**		Pn	15 23 09.0	+2.0
DBO	**Dodson Butte**	**3.45**	**56**	Pn	Pn	15 23 07.7	-0.2
DBO				IAML		15 24 09.6	
	comp=N,11nm,1.8s						
I03D	**Drain, OR**	**3.72**	**48**	Pn	Pn	15 23 13.1	+1.5
I03D				IAML		15 25 15.6	
	comp=E,11nm,1.6s						
I03D				IAML		15 25 16.1	
	comp=N,12nm,1.9s						
L04D	**Klamath Falls**	**3.76**	**74**		Pn	15 23 14.2	+1.9
HOPS	**Hopland Field**	**3.88**	**125**	Pn	Pn	15 23 13.9	+0.1
HOPS				IAML		15 23 47.0	
	comp=N,16nm,1.9s						
HOPS				IAML		15 24 41.1	
	comp=E,18nm,1.8s						
BUCK	**Buck Mountain**	**4.24**	**45**	Pn	Pn	15 23 18.6	-0.2
BUCK				IAML		15 24 28.2	
	comp=N,20nm,1.9s						
I04A	**Tendick Farm,**	**4.32**	**53**	Pn	Pn	15 23 17.7	-2.2
COR	**Corvallis**	**4.36**	**39**	Pn	Pn	15 23 18.2	-2.1
MCCM	**Marconi Confer**	**4.55**	**132**	Pn	Pn	15 23 21.7	-1.3
J05D	**Fort Rock, OR**	**4.84**	**64**		Pn	15 23 25.9	-1.1
K05A	**Summer Lake**	**4.89**	**71**	Pn	Pn	15 23 27.4	-0.6
K05A				IAML		15 24 48.0	
	comp=E,3.4nm,1.8s						
K05A				IAML		15 24 49.1	
	comp=N,4.9nm,2.0s						

*SOME **17** 15:32:11.6, 44°.12N×82°.58E, h25km*
*NNC **17** 15:32:12.7±1.4, 44°.31N×82°.23E, h0km, mb3.4, mpv3.1,*
Error ellipse: s-maj=14.4km s-min=4.2km az=129.0
ISC 17 15:32:13.4±1.3, 44°.25N±0°.06×82°.48E±0°.06, h10km, n32, σ1§84/34, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.73**	**243**	*e*P	**Pn**	**15 32 42.5**	**-1.3**
KTMS	7.2nm,0.2s			*e*S	**Sn**	**15 33 04.6**	**-1.4**
	89nm,0.2s						
DJR	**Jarkent**	**1.93**	**273**	*e*Pg	**Pn**	**15 32 47.0**	**+0.6**
DJR	12nm,0.5s			*e*Lg	Lg	15 33 12.4	
	59nm,0.4s						
PDGK	**Podgornoye**	**2.35**	**248**	⇓Pg	**Pn**	**15 32 52.5**	**+0.3**
PDGK	3.5nm,0.3s			⇑Lg	Lg	15 33 23.8	
	30nm,0.4s						
KNOS	**Konyrlen**	**2.37**	**274**	Pg	**Pn**	**15 32 54.5**	**+2.0**
KNOS	22nm,0.2s			Lg	Lg	15 33 25.2	
	85nm,0.5s						
SHLS	**Shalkode**	**2.44**	**244**	*e*Pg	**Pn**	**15 32 50.2**	**-3.3**
SHLS	41nm,0.5s			*e*Lg	Lg	15 33 18.6	
	196nm,0.4s						
MK31	**Makanchi Array**	**2.55**	**357**	Pn	**Pn**	**15 32 54.2**	**-0.6**
MK31	0.3nm,0.3s,baz=182,slow=15,SNR=280			⇑Pg	Pb	15 32 58.0	-1.3
	1.3nm,0.2s,baz=169,slow=17,SNR=7.2						
MK31				⇑Sn	**Sn**	**15 33 26.2**	**+0.3**
	13nm,0.3s,baz=188,slow=26,SNR=6.9						
MAKZ	**Makanchi**	**2.58**	**352**	⇓Pn	**Pn**	**15 32 54.6**	**-0.7**
MAKZ	0.9nm,0.5s			⇑Pg	**Pb**	**15 32 58.9**	**-0.9**
	1.3nm,0.3s						
MAKZ				⇑Sn	**Sn**	**15 33 26.3**	**-0.4**
	10nm,0.6s						
UZB	**Uzynbulak**	**2.74**	**247**	Pg	**Pn**	**15 32 59.4**	**+1.8**
UZB	4.6nm,0.2s			Lg	Lg	15 33 34.2	
	42nm,0.2s						
UZB	**Uzynbulak**	**2.74**	**247**	*e*Pg	**Pn**	**15 32 59.9**	**+2.4**
UZB	3.7nm,0.1s			*e*Lg	Lg	15 33 34.4	
	42nm,0.2s						
KPKS	**Kokpek**	**2.85**	**255**	Pg	**Pn**	**15 33 01.1**	**+2.0**
KPKS	11nm,0.2s			Lg	Lg	15 33 37.3	
	136nm,0.7s						
KPKS	**Kokpek**	**2.85**	**255**	*e*Pg	**Pn**	**15 33 02.5**	**+3.4**
KPKS	9.4nm,0.2s			*e*Lg	Lg	15 33 39.0	
	136nm,0.7s						
BLB	**Baldybastay**	**2.88**	**268**	Pg	**Pn**	**15 33 02.4**	**+2.9**
BLB	9.4nm,0.3s			Lg	Lg	15 33 39.5	
TDK	**Taldyqorghan**	**3.00**	**286**	Pg	**Pb**	**15 33 06.9**	**-0.1**
TDK				Lg	Lg	15 33 46.6	
TDK	**Taldyqorghan**	**3.00**	**286**	*e*Pg	**Pb**	**15 33 06.9**	**-0.1**
TDK	39nm,0.4s			*e*Lg	Lg	15 33 46.6	
	97nm,0.3s						
ZHN	**Zhinishke**	**3.12**	**251**	Pg	**Pn**	**15 33 06.0**	**+3.1**
ZHN				Lg	Lg	15 33 45.0	
ZHN	**Zhinishke**	**3.12**	**251**	*e*Pg	**Pb**	**15 33 07.4**	**-1.7**
ZHN	2.9nm,0.1s			*e*Lg	Lg	15 33 47.3	
	82nm,0.2s						
SATY	**Saty**	**3.18**	**249**	Pg	**Pn**	**15 33 07.3**	**+3.6**
SATY	1.7nm,0.1s			Lg	Lg	15 33 47.5	
	60nm,0.2s						
SATY	**Saty**	**3.18**	**249**	*e*Pg	**Pb**	**15 33 08.0**	**-2.2**
SATY	2.3nm,0.1s			*e*Lg	Lg	15 33 48.3	
	77nm,0.2s						
KURS	**Kuram**	**3.21**	**258**	Pg	**Pb**	**15 33 08.3**	**-2.2**
KURS	2.8nm,0.5s			Lg	Lg	15 33 49.3	
	18nm,0.4s						
KURS	**Kuram**	**3.21**	**258**	*e*Pg	**Pb**	**15 33 08.2**	**-2.2**
KURS	2.8nm,0.5s			*e*Lg	Lg	15 33 49.3	
	18nm,0.4s						
ARXS	**Arharly**	**3.34**	**271**	*e*Pg	**Pb**	**15 33 11.5**	**-1.3**
ARXS	2.0nm,0.2s			*e*Lg	Lg	15 33 54.3	
	36nm,0.5s						
ZSN	**Zaisan**	**3.61**	**27**	Pg	Pn	15 33 17.4	+8.0
ZSN	12nm,0.5s			Lg	Lg	15 34 04.5	
	61nm,1.2s						
ZSN	**Zaisan**	**3.61**	**27**	*e*Pg	Pn	15 33 17.4	+8.0
ZSN	12nm,0.5s			*e*Lg	Lg	15 34 04.5	
	61nm,1.2s						
WMQ	**Urumqi**	**3.79**	**95**	*e*P	**Pn**	**15 33 13.9**	**+2.0**
WMQ				smax	smax		
	comp=N,24nm,0.7s						
WMQ				smax	smax		
	comp=E,17nm,0.5s						
KOTS	**Kotyrbulak**	**4.02**	**257**	*e*Pg	**Pb**	**15 33 23.3**	**-1.0**
	comp=E,2.2nm,0.3s						
KOTS				*e*Lg	Lg	15 34 14.8	
	comp=E,24nm,0.3s						
TNSS	**Tian-Shan**	**4.19**	**255**	Pg	**Pb**	**15 33 26.6**	**-0.9**
	comp=E,0.7nm,0.2s						
TNSS				Lg	Lg	15 34 21.0	
	comp=E,9.5nm,0.5s						
TNSS	**Tian-Shan**	**4.19**	**255**	*e*Pg	**Pb**	**15 33 26.6**	**-0.9**
	comp=E,0.7nm,0.2s						
TNSS				*e*Lg	Lg	15 34 21.0	
	comp=E,9.5nm,0.5s						
KTBS	**Karatobe**	**4.22**	**265**	Pg	**Pb**	**15 33 28.8**	**+1.1**
	comp=E,1.8nm,0.3s						
KTBS				Lg	Lg	15 34 24.6	
	comp=E,45nm,0.6s						
KTBS	**Karatobe**	**4.22**	**265**	*e*Pg	**Pb**	**15 33 27.6**	**-0.1**
	comp=E,0.9nm,0.2s						
KTBS				*e*Lg	Lg	15 34 22.1	
	comp=E,45nm,0.6s						
IZV	**Izvestkoviy**	**4.42**	**256**	*e*Pg	**Pb**	**15 33 31.3**	**0.0**
	comp=E,2.0nm,0.6s						
IZV				*e*Lg	Lg	15 34 29.1	
	comp=E,26nm,0.6s						
DGS	**Degeres**	**4.96**	**261**	Pg	**Pb**	**15 33 39.8**	**-0.6**
	comp=E,1.2nm,0.4s						
DGS				Lg	Lg	15 34 43.1	
	comp=E,12nm,0.7s						
DGS	**Degeres**	**4.96**	**261**	*e*Pg	**Pb**	**15 33 41.3**	**+0.8**
	comp=E,1.4nm,0.3s						
DGS				*e*Lg	Lg	15 34 45.3	
	comp=E,13nm,0.6s						

IDC 17 15:36:40.4±5.2, 24°.99S×179°.00W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=287.9km s-min=42.5km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.76**	**262**	P	P	15 44 39.9	-0.1
	0.6nm,0.7s,baz=94,slow=8.3,SNR=10						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**43.25**	**267**	P	P	15 44 43.8	-0.1
	0.2nm,0.3s,baz=106,slow=7.7,SNR=10.0						
	0.2nm,0.3s						
HFS	**Hagfors**	**143.79**	**349**	PKP	PKPbc	15 56 15.4	+0.8
	5.4nm,1.0s,baz=58,slow=3.6,SNR=5.6						
AKASG	**Malin Array Be**	**146.38**	**327**	PKPbc	PKPdf	15 56 21.6	-0.2
	0.5nm,0.5s,baz=44,slow=2.9,SNR=1.6						
EKA	**Eskdalemuir Ar**	**149.54**	**5**	PKPbc	PKPbc	15 56 31.7	+0.4
	2.7nm,0.9s,baz=0.9,slow=4.6,SNR=2.5						

WEL 17 15:58:50.6, 41°.S±9°.×17°.3E±1°.3, h81km±19km, M2.1/6, ML2.4/13, MLv2.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=100.6, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRNZ	**Matariki Terra**	**0.08**	**308**	P	Pn	15 59 02.8	+0.6
THZ	**Tophouse**	**0.32**	**172**	P	Pn	15 59 04.1	+0.9
TKNZ	**Takaka Hill**	**0.43**	**12**	P	Pn	15 59 04.2	+0.3
NNZ	**Nelson**	**0.47**	**60**	P	Pn	15 59 05.0	+0.9
QRZ	**Quartz Range**	**0.67**	**339**	P	Pn	15 59 05.8	-0.2
TUWZ	**Tuamarina**	**0.83**	**89**	P	Pn	15 59 09.1	+1.4
DSZ	**Denniston Nort**	**0.83**	**249**	P	Pn	15 59 07.6	-0.3
DUWZ	**D'Urville Isla**	**1.04**	**52**	P	Pn	15 59 10.8	+0.6
KHZ	**Kahutara**	**1.09**	**152**	P	Pn	15 59 11.4	+0.6
TCW	**Tory Channel**	**1.10**	**78**	P	Pn	15 59 11.5	+0.5
LTZ	**Lake Taylor**	**1.40**	**198**	P	Pn	15 59 14.5	-0.2
KIW	**Kapiti Island**	**1.67**	**70**	P	Pn	15 59 17.6	-0.6
CAW	**Cannon Point**	**1.71**	**79**	P	Pn	15 59 17.5	-1.2
OXZ	**Oxford**	**1.97**	**197**	P	Pn	15 59 20.5	-1.6
MTW	**Mount Morrison**	**2.02**	**83**	P	Pn	15 59 20.9	-1.9
RTZ	**Ruatahuna**	**4.25**	**50**	P	Pn	15 59 53.8	+0.7

WEL 17 15:59:54.0±0.7, 45°.S±3°.×16°.7E±°., h12km, M2.8/4, ML3.1/10, MLv2.8/4, Error ellipse: s-maj=0.0km s-min=0.0km az=122.1, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.35**	**192**	P	Pb	16 00 02.8	+0.7
DCZ				S	Sb	16 00 07.5	0.0
MLZ	**Mavora Lakes**	**0.66**	**112**	P	Pb	16 00 07.7	+0.3
MLZ	**Mavora Lakes**	**0.66**	**112**	P	Pb	16 00 07.7	+0.3
MLZ				S	Sb	16 00 16.5	-0.1
MSZ	**Milford Sound**	**0.66**	**47**	P	Pg	16 00 06.6	-0.2
MSZ	**Milford Sound**	**0.66**	**47**	S	Sg	16 00 14.7	-0.7
WHZ	**Wether Hill Ro**	**0.91**	**148**	P	Pb	16 00 12.0	+0.3
WHZ	**Wether Hill Ro**	**0.91**	**148**	P	Pb	16 00 12.1	+0.4
WHZ				S	Sb	16 00 24.4	+0.6
PYZ	**Puysegur Point**	**1.11**	**201**	P	Pg	16 00 15.8	+0.4
PYZ				S	Sb	16 00 26.7	-3.0
WKZ	**Wanaka**	**1.29**	**77**	P	Pb	16 00 18.3	+0.1
WKZ				S	Sb	16 00 34.5	-0.1
EAZ	**Earnscleugh**	**1.46**	**95**	P	Pb	16 00 21.1	+0.1
EAZ				S	Sn	16 00 38.3	-0.8
JCZ	**Jackson Bay**	**1.52**	**47**	P	Pb	16 00 21.9	-0.2
TUZ	**Tuapeka**	**1.86**	**117**	P	Pn	16 00 26.6	+0.9
TUZ				S	Sn	16 00 49.8	+0.7
SYZ	**Scrubby Hill**	**1.93**	**138**	P	Pn	16 00 27.3	+0.7
SYZ				S	Sb	16 00 52.2	-0.9
LBZ	**Lake Benmore**	**2.22**	**72**	P	Pn	16 00 31.0	+0.5
ODZ	**Otahua Downs**	**2.40**	**89**	P	Pn	16 00 31.6	-1.5

*NEIC **17** 16:00:05.5±0.8, 46°.15N±0°.02×120°.72W±0°.02, h16km±4km,*
Error ellipse: s-maj=3.3km s-min=1.2km az=138.0
*SEA **17** 16:00:05.5±1.2, 46°.14N±0°.01×120°.71W±0°.02, h11km±7km,*
ML2.5/15, ML2.5/44(NEIC), Error ellipse: s-maj=1.7km
s-min=1.4km az=48.0
PNSN 17 16:00:05.5, 46°.14N×120°.71W, h11km, MD2.5, Fault plane solution: NP1:φs.190.00000°, δ80.00000°, λ110.00000°., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRW	**Toppenish Ridg**	**0.19**	**37**		Pg	16 00 10.0	+0.3
BLTW	**Bickleton**	**0.43**	**121**		Pg	16 00 14.5	+0.5
MXC	**Moxie City**	**0.52**	**33**		Pg	16 00 16.1	+0.4
F07A	**Phinny Hill Vi**	**0.60**	**114**		Pg	16 00 17.1	0.0
F07A				IAML		16 00 29.7	
	comp=E,430nm,0.5s						
F07A	**Phinny Hill Vi**	**0.60**	**114**		Sb	16 00 26.2	-0.1
NAC	**Naches**	**0.60**	**352**		Pg	16 00 17.0	-0.2
ASR	**Mount Adams--S**	**0.62**	**271**		Pg	16 00 17.9	+0.4
PRW	**Prosser**	**0.71**	**84**		Pb	16 00 19.7	-0.2
E07A	**Sunnyside**	**0.72**	**54**		Pg	16 00 18.7	-0.8
E07A				IAML		16 00 29.9	
	comp=N,276nm,0.5s						
E07A				IAML		16 00 34.7	
	comp=E,319nm,0.5s						
E07A	**Sunnyside**	**0.72**	**54**		Sb	16 00 29.7	-0.3
EBG	**Ellensburg**	**0.77**	**7**		Pg	16 00 20.4	-0.1
BENWA	**Benson Ranch**	**0.78**	**61**		Pg	16 00 20.8	+0.2
SNIWA	**Snively Ranch**	**0.79**	**66**		Pg	16 00 21.0	+0.2
RSW	**Rattlesnake Hi**	**0.81**	**71**		Pg	16 00 21.3	+0.1
HAWA	**Hanford**	**0.85**	**72**		Pg	16 00 21.8	-0.2
HAWA					Sb	16 00 33.6	-0.1
BVW	**Beverly**	**0.88**	**40**		Pg	16 00 22.0	-0.5
GBB	**Gable Butte**	**0.88**	**58**		Pg	16 00 22.4	-0.1
SHRK	**Shell Rock**	**0.89**	**221**		Pg	16 00 22.6	-0.1
SHRK					Sb	16 00 34.9	+0.1
G06A	**Carlson Farm,**	**0.91**	**177**		Pg	16 00 22.6	-0.4
G06A	**Carlson Farm,**	**0.91**	**177**	IAML		16 00 36.5	
	comp=E,136nm,0.2s						
H2OWA	**Water**	**0.93**	**74**		Pg	16 00 23.2	-0.1
CDFW	**Cedar Flats**	**0.93**	**269**		Pg	16 00 23.1	-0.4
CDFW					Sb	16 00 36.5	+0.4
VT2	**Vantage 2**	**0.96**	**30**		Pg	16 00 23.6	-0.4
VLL	**Laurance Lake**	**0.96**	**225**		Pb	16 00 24.2	0.0
VTHM	**Trough**	**0.97**	**174**		Pg	16 00 23.8	-0.3
LON	**Longmire**	**0.98**	**309**		Pg	16 00 23.9	-0.4
LON	**Longmire**	**0.98**	**309**		Pg	16 00 23.9	-0.4
GBL	**Gable Mountain**	**0.98**	**62**		Pb	16 00 24.5	+0.1
VFP	**Flag Point**	**0.98**	**213**		Pb	16 00 24.5	0.0
G05A	**Wamic**	**1.00**	**206**		Pg	16 00 24.3	-0.4
G05A				IAML		16 00 40.1	
	comp=N,140nm,0.4s						
G05A				IAML		16 00 43.4	
	comp=E,184nm,0.5s						
B202	**Windy Ridge, M**	**1.00**	**276**		Pg	16 00 24.0	-0.7
B202					Sg	16 00 37.7	-0.1
SOSW	**Source of Smit**	**1.00**	**276**		Pg	16 00 24.2	-0.5
WAH2	**Wahluke Slope**	**1.00**	**52**		Pg	16 00 24.7	-0.1
ESD	**East Dome**	**1.00**	**274**		Pg	16 00 24.9	+0.1
JLK	**June Lake**	**1.00**	**271**		Pg	16 00 24.6	-0.2
RCS	**Mount Rainier-**	**1.02**	**316**		Pg	16 00 24.8	-0.4
BOLM	**Sugar Bowl**	**1.02**	**275**		Pg	16 00 25.1	-0.1
MJ2	**May Junction 2**	**1.02**	**65**		Pb	16 00 25.4	+0.2
TBM	**Table Mountain**	**1.03**	**4**		Pg	16 00 24.7	-0.6
FMW	**Mount Fremont**	**1.03**	**320**		Pg	16 00 25.1	-0.3
REMR	**Mount Rainier-**	**1.04**	**311**		Pg	16 00 25.3	-0.1
HIYU	**Hiyu Mountain**	**1.04**	**228**		Pg	16 00 25.2	-0.4
SWF2	**Southwest Flan**	**1.05**	**273**		Pg	16 00 25.3	-0.4
HOOD	**Mount Hood Mea**	**1.05**	**219**		Pg	16 00 24.3	-1.5
HOOD				IAML		16 00 39.9	
	comp=E,109nm,0.2s						
HOOD				IAML		16 00 39.9	
	comp=N,128nm,0.3s						
LOCW	**Locke Island**	**1.05**	**56**		Pb	16 00 25.5	-0.3
MTMW	**Mount Mitchell**	**1.05**	**264**		Pb	16 00 25.1	-0.7
SHW	**Mount Saint He**	**1.06**	**273**		Pb	16 00 25.8	-0.2
B201	**Coldwater, Mou**	**1.09**	**279**		Pb	16 00 25.9	-0.6
LTY	**Liberty**	**1.12**	**1**		Pb	16 00 25.3	-1.6
B203	**Quarry, Mount**	**1.13**	**272**		Pb	16 00 26.4	-0.6
CRF	**Corfu**	**1.14**	**53**		Pb	16 00 27.1	-0.1
TDH	**Tom, Dick, Har**	**1.14**	**222**		Pn	16 00 27.8	+0.3
FL2	**Flat Top 2**	**1.14**	**273**		Pb	16 00 26.7	-0.6
ERK	**Elk Rock**	**1.15**	**279**		Pb	16 00 26.8	-0.6
FHE	**Frenchman Hill**	**1.16**	**45**		Pb	16 00 27.1	-0.5
LVP	**Lakeview Peak**	**1.19**	**267**		Pb	16 00 24.6	-3.4
E08A	**Dider Farm, El**	**1.19**	**72**		Pn	16 00 26.5	-1.6
E08A				IAML		16 00 51.2	
	comp=E,108nm,0.3s						
F04A	**Amboy**	**1.21**	**261**		Pn	16 00 27.4	-0.9
F04A				IAML		16 00 46.8	
	comp=N,69nm,0.3s						
VBEM	**Beaver Butte**	**1.25**	**210**		Pn	16 00 28.8	-0.2
ETW	**Entiat**	**1.49**	**10**		Pn	16 00 31.8	-0.4
RATT	**Rattlesnake La**	**1.49**	**330**		Pb	16 00 33.2	0.0
G08A	**Pilot Rock**	**1.49**	**124**	Pn	Pn	16 00 31.4	-0.9
G08A				IAML		16 00 53.3	
	comp=N,97nm,0.2s						
G08A				IAML		16 00 53.4	
	comp=E,81nm,0.2s						
D08A	**Wollman Farm,**	**1.54**	**53**	Pn	Pn	16 00 32.1	-0.7
D08A				IAML		16 00 53.8	
	comp=N,76nm,0.2s						
D08A				IAML		16 00 54.7	
	comp=E,70nm,0.4s						
WTV	**Waterville**	**1.64**	**18**		Pn	16 00 34.4	0.0
LNOR	**Lincton Mounta**	**1.71**	**98**		Pn	16 00 35.5	+0.3
CBSW	**Chelan Butte S**	**1.73**	**15**		Pn	16 00 35.5	-0.1
SAW	**Saint Andrews**	**1.80**	**29**		Pn	16 00 36.2	-0.2
E09A	**Wood Farm, Sta**	**1.81**	**77**		Pn	16 00 35.8	-0.8
OD2	**Odessa Site #2**	**1.86**	**47**		Pn	16 00 36.8	-0.4
I05D	**Terrebonne, OR**	**1.86**	**194**	Pn	Pn	16 00 37.3	0.0
F03A	**Seaside**	**2.00**	**265**	Pn	Pn	16 00 39.4	+0.2
G03D	**McMinnville, O**	**2.02**	**243**	Pn	Pn	16 00 39.0	-0.5
G03D				IAML		16 01 13.0	
	comp=E,51nm,1.9s						
GNW	**Green Mountain**	**2.03**	**315**	Pn	Pn	16 00 38.5	-1.1
GNW				IAML		16 01 12.3	
	comp=E,28nm,2.6s						
H04D	**Lebanon**	**2.16**	**222**	Pn	Pn	16 00 40.7	-0.7
I07A	**Izee**	**2.23**	**157**	Pn	Pn	16 00 42.0	-0.4
I07A				IAML		16 01 19.7	
	comp=E,22nm,0.9s						
C09A	**Chrisman Ranch**	**2.35**	**44**		Pn	16 00 43.4	-0.6
F10A	**Beach Ranch, E**	**2.43**	**93**	Pn	Pn	16 00 44.6	-0.5
F10A				IAML		16 01 32.1	
	comp=N,25nm,0.5s						
F10A				IAML		16 01 40.5	
	comp=E,31nm,0.5s						
I04A	**Tendick Farm,**	**2.64**	**208**	Pn	Pn	16 00 47.4	-0.6
BMO	**Blue Mountains**	**2.72**	**117**	Pn	Pn	16 00 48.4	-0.8
BMO				IAML		16 01 36.3	
	comp=E,16nm,0.7s						
BMO				IAML		16 01 38.7	
	comp=E,14nm,0.6s						
PNT	**Penticton**	**3.26**	**13**		Pn	16 00 53.4	-3.2
PLID	**Pearl Lake**	**3.47**	**106**	Pn	Pn	16 00 58.6	-1.0
PLID				IAML		16 02 02.3	
	comp=E,10.0nm,2.0s						
B926	**Mesachie Lake**	**3.55**	**320**		Pn	16 01 02.6	+2.2
K02D	**Willamette Mer**	**4.04**	**213**	Pn	Pn	16 01 07.1	-0.3

IDC 17 16:00:34.6±1.5, 1°.90N×127°.73E, h0km, mb3.5/4, mbtmp3.5/4, MS2.6/2, Error ellipse: s-maj=142.5km s-min=23.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**5.56**	**337**	LR	LR	16 04 01.0	
	comp=Z,36nm,18.4s,baz=163,slow=37						
WRA	**Warramunga Arr**	**22.66**	**164**	P	P	16 05 37.4	-0.3
	0.8nm,0.8s,baz=342,slow=11,SNR=2.6						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**26.11**	**167**	P	P	16 06 11.0	+0.5
	0.7nm,1.0s,baz=348,slow=7.3,SNR=5.0						
ASAR				PcP	PcP	16 09 37.2	-1.1
	0.3nm,1.0s,baz=359,slow=2.1,SNR=5.4						
	0.7nm,1.0s						
JNU	**Nakatsue**	**31.20**	**5**	LR	LR	16 20 29.8	
	comp=Z,12nm,18.6s,baz=255,slow=38						
MKAR	**Makanchi Array**	**59.62**	**325**	P	P	16 10 41.1	+0.5
	0.4nm,0.5s,baz=120,slow=8.3,SNR=5.4						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**62.66**	**333**	P	P	16 11 00.7	-0.3
	0.3nm,0.4s,baz=131,slow=6.6,SNR=2.0						
	0.3nm,0.4s						

*ISK **17** 16:16:34.8, 40°.22N×31°.95E, h5km, ML2.5/20*
*AFAD **17** 16:16:35.1±0.0, 40°.15N×31°.91E, h7km±3km, ML2.2*
**ISC 17 16:16:35.4±1.1, 40°.19N±0°.02×31°.

comp=N,189nm,0.6s
BTAS *i* AML AML 16 17 13.0
comp=E,163nm,0.7s
SVRH Sivrihisar-ESK 0.80 202 Pg **Pb 16 16 51.9 0.0**
SUSU Bolu-G¶ynk- 0.83 280 P **Pg 16 16 51.0 -0.3**
SUSU S **Sb 16 17 04.4 +0.5**
SUSU *i* AML AML 16 17 10.0
comp=N,76nm,0.5s
SUSU *i* AML AML 16 17 10.0
comp=E,54nm,0.8s
YIGI Dzce 0.85 336 P **Pg 16 16 51.8 +0.2**
YIGI *i* AML AML 16 17 04.0
comp=N,46nm,1.2s
YIGI S **Sn 16 17 06.6 -0.2**
YIGI *i* AML AML 16 17 14.0
comp=E,31nm,0.6s
SRCK Saricakaya, Es 1.00 262 Pg **Pn 16 16 55.4 -0.7**
SAHE Sakarya_HENDEK 1.04 310 P **Pg 16 16 55.2 -0.1**
SAHE S **Sn 16 17 13.1 +1.4**
SAHE *i* AML AML 16 17 14.0
comp=E,46nm,0.5s
SAHE *i* AML AML 16 17 15.0
comp=N,40nm,1.1s
CIFT Cifteler, Eski 1.06 218 Pn **Pn 16 16 56.8 -0.2**
CIFT Sn **Sn 16 17 13.2 +1.0**
GULT Gulveren 1.09 283 Pn **Pn 16 16 57.5 0.0**
AFSR Afar-Bala (An 1.16 129 Pn **Pn 16 16 58.1 -0.4**
KBUK KARABUK-Merkez 1.18 27 P **Pb 16 16 57.8 -0.5**
KBUK S **Sn 16 17 17.0 +1.9**
KBUK *i* AML AML 16 17 19.0
comp=N,73nm,0.5s
KBUK *i* AML AML 16 17 20.0
comp=E,51nm,0.4s
GPA Golpazari 1.23 275 Pn **Pn 16 16 59.9 +0.6**
KIZT Kizilcal 1.31 181 Pn **Pg 16 17 01.2 +0.7**
SAUV Serdivan-Sakar 1.33 295 Pn **Pg 16 17 01.4 +0.6**
KULU Kulu 1.43 143 Pn **Pg 16 17 03.4 +0.7**
BTIN Bartın 1.46 10 P **Pg 16 17 03.2 -0.3**
BTIN *i* AML AML 16 17 36.0
comp=N,36nm,0.6s
BTIN *i* AML AML 16 17 45.0
comp=E,56nm,0.9s
CAVI Cavuskoy 1.58 271 Pn **Pg 16 17 05.5 -0.2**
ADVT Abdulvahap 1.68 279 Pn **Pb 16 17 06.7 -0.1**
HRT Hereke 1.82 291 Pn **Pb 16 17 08.7 -0.6**
SILT Sile 1.97 300 Pn **Pb 16 17 11.3 -0.5**
YLV Yalova 1.97 282 Pn **Pb 16 17 10.9 -1.0**
TVSB Tavsanli 2.03 249 Pn **Pb 16 17 11.7 -1.1**
ARMT Armutlu 2.36 280 Pn **Pb 16 17 16.4 -2.0**
KLYT Kilyos 2.42 297 Pn **Pn 16 17 17.1 +1.4**
SIMA Simav-Kutahya 2.52 245 Pn **Pb 16 17 19.2 -2.0**

*NOU **17** 16:39:33.1,35°.9S×179°.48W, h0km, MLv4.1/6, East of North Island, N.Z.*
*IDC **17** 16:39:35.5±2.8,35°.90S×179°.95E, h0km, mb3.7/2, mbtmp3.9/4, ML3.6/2, Error ellipse: s-maj=66.7km s-min=31.0km az=121.0*
*NEIC **17** 16:39:36.3±1.0,35°.8S±0°.1×179°.8W±0°.1, h10km±2km, mb4.2/5, Error ellipse: s-maj=23.5km s-min=18.6km az=8.0*
*WEL **17** 16:39:44.2±1.6,36°S±10°×18°0E±1°6, h33km, M3.9/12, ML4.0/13, MLv3.9/12, Error ellipse: s-maj=0.0km s-min=0.0km az=104.9, confirmed*
ISC 17 16:39:39.0±1.7,36°.05S±0°.09×179°.7W±0°.1, h35km, n65, σ1§41/70, mb4.1/5, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.18**	**225**	Pn	**Pn**	**16 40 13.9**	**+1.2**
MXZ	**Matakaoa Point**	**2.18**	**225**	P	**Pn**	**16 40 13.9**	**+1.2**
MXZ	**Matakaoa Point**	**2.18**	**225**	P	**Pn**	**16 40 14.1**	**+1.4**
WMGZ	**Waiomatatini S**	**2.31**	**219**	P	**Pn**	**16 40 17.0**	**+2.6**
PKGZ	**Pakihiroa**	**2.54**	**223**	P	**Pn**	**16 40 19.7**	**+2.0**
PKGZ				S	**Sn**	**16 40 46.8**	**-0.6**
PUZ	**Puketiti**	**2.58**	**218**	P	**Pn**	**16 40 20.4**	**+2.2**
HAZ	**Te Kaha**	**2.62**	**229**	P	**Pn**	**16 40 20.9**	**+2.2**
TWGZ	**Tauwhareparae**	**2.80**	**220**	P	**Pn**	**16 40 23.6**	**+2.3**
RUGZ	**Raukumara Rang**	**2.82**	**226**	P	**Pn**	**16 40 23.7**	**+2.0**
CNGZ	**Carnagh Statio**	**2.93**	**213**	P	**Pn**	**16 40 25.6**	**+2.5**
CNGZ				S	**Sn**	**16 40 56.3**	**-0.8**
TKGZ	**Te Karaka**	**3.07**	**218**	P	**Pn**	**16 40 26.6**	**+1.7**
TKGZ				S	**Sn**	**16 41 00.9**	**+0.6**
MWZ	**Matawai**	**3.16**	**223**	P	**Pn**	**16 40 27.8**	**+1.6**
MWZ				S	**Sn**	**16 41 02.5**	**-0.2**
WHRZ	**Whale Island**	**3.19**	**235**	P	**Pn**	**16 40 28.8**	**+2.1**
RIGZ	**Rimuhau**	**3.32**	**216**	P	**Pn**	**16 40 29.9**	**+1.5**
RIGZ				S	**Sn**	**16 41 06.4**	**-0.2**
RAGZ	**Rawiri**	**3.33**	**222**	P	**Pn**	**16 40 30.2**	**+1.5**
URZ	**Urewera**	**3.35**	**228**	P	**Pn**	**16 40 29.9**	**+1.1**
URZ	**Urewera**	**3.35**	**228**	Pn	**Pn**	**16 40 29.6**	**+0.8**
	11nm,0.3s,baz=339,slow=4.2,SNR=78						
URZ				Sn	**Sn**	**16 41 07.9**	**+0.7**
	14nm,0.3s,baz=288,slow=18,SNR=7.1						
	48nm,0.5s						
PRGZ	**Paritu Road**	**3.44**	**213**	P	**Pn**	**16 40 31.8**	**+1.8**
PRGZ				S	**Sn**	**16 41 09.4**	**-0.2**
MYRZ	**Mayor Island**	**3.46**	**248**	P	**Pn**	**16 40 32.7**	**+2.4**
OPRZ	**Ohinepanea**	**3.47**	**238**	P	**Pn**	**16 40 31.3**	**+0.8**
SNGZ	**Shannon Statio**	**3.58**	**220**	P	**Pn**	**16 40 33.4**	**+1.3**
SNGZ				S	**Sn**	**16 41 11.5**	**-1.7**
KNZ	**Kokohu**	**3.61**	**214**	P	**Pn**	**16 40 33.6**	**+1.2**
TGRZ	**Tauranga**	**3.62**	**241**	P	**Pn**	**16 40 33.2**	**+0.7**
MHGZ	**Mahia Peninsul**	**3.62**	**210**	P	**Pn**	**16 40 34.2**	**+1.6**
RTZ	**Ruatahuna**	**3.66**	**225**		**Pn**	**16 40 34.0**	**+0.8**
RTZ	**Ruatahuna**	**3.66**	**225**	P	**Pn**	**16 40 34.1**	**+1.0**
MUGZ	**Murupara**	**3.69**	**228**	P	**Pn**	**16 40 34.1**	**+0.6**
TARZ	**Mount Tarawera**	**3.71**	**233**	P	**Pn**	**16 40 35.3**	**+1.5**
KUZ	**Kuaotunu**	**3.73**	**258**	P	**Pn**	**16 40 34.8**	**+0.8**
KUZ	**Kuaotunu**	**3.73**	**258**	P	**Pn**	**16 40 34.3**	**+0.3**
RRRZ	**Republican Roa**	**3.76**	**231**	P	**Pn**	**16 40 35.7**	**+1.2**
KARZ	**Kaharoa**	**3.77**	**237**	P	**Pn**	**16 40 35.5**	**+0.9**
RAHZ	**Arahi**	**3.82**	**220**	P	**Pn**	**16 40 37.1**	**+1.8**
HLRZ	**Highlands Stat**	**3.82**	**234**	P	**Pn**	**16 40 36.9**	**+1.6**
KMRZ	**Kaimai**	**3.90**	**241**	P	**Pn**	**16 40 38.1**	**+1.7**
MTHZ	**Maungataniwha**	**3.90**	**223**	P	**Pn**	**16 40 37.7**	**+1.2**
ALRZ	**Allen Road**	**4.01**	**230**	P	**Pn**	**16 40 38.7**	**+0.8**
ARHZ	**Aropaoanui**	**4.12**	**218**	P	**Pn**	**16 40 40.3**	**+0.8**
MRHZ	**Matea Rd**	**4.13**	**227**	P	**Pn**	**16 40 40.5**	**+0.8**
TOZ	**Tahuroa Road**	**4.17**	**245**		**Pn**	**16 40 40.9**	**+0.9**
TOZ	**Tahuroa Road**	**4.17**	**245**	P	**Pn**	**16 40 41.0**	**+1.0**
WIAZ	**Waiheke Island**	**4.20**	**258**	P	**Pn**	**16 40 41.5**	**+1.0**
MKAZ	**Moumakai**	**4.24**	**254**	P	**Pn**	**16 40 42.1**	**+1.1**
BKZ	**Black Stump Fm**	**4.32**	**223**		**Pn**	**16 40 42.5**	**+0.4**
BKZ	**Black Stump Fm**	**4.32**	**223**	P	**Pn**	**16 40 43.6**	**+1.4**
BKZ	**Black Stump Fm**	**4.32**	**223**	P	**Pn**	**16 40 42.6**	**+0.4**
MBAZ	**Motutapu North**	**4.38**	**259**	P	**Pn**	**16 40 44.5**	**+1.5**
HIZ	**Hauiti**	**4.96**	**239**	Pn	**Pn**	**16 40 52.1**	**+1.1**
HIZ	**Hauiti**	**4.96**	**239**	P	**Pn**	**16 40 52.7**	**+1.7**
OUZ	**Omahuta**	**5.49**	**277**	P	**Pn**	**16 40 58.7**	**+0.5**
BFZ	**Birch Farm**	**5.60**	**213**	Pn	**Pn**	**16 40 58.3**	**-1.5**
MRZ	**Mangatainoka R**	**5.89**	**217**	Pn	**Pn**	**16 41 01.9**	**-1.9**
CTZ	**Chatham Island**	**8.04**	**164**	Pn	**Pn**	**16 41 36.2**	**+2.9**
RPZ	**Rata Peaks**	**10.42**	**220**	Pn	**Pn**	**16 42 03.4**	**-2.4**
	0.3nm,0.3s,baz=248,slow=17,SNR=1.6						
RPZ				Sn	Sn	16 43 50.2	-11
	0.7nm,0.3s,baz=309,slow=23,SNR=6.1						
	6.0nm,0.8s						
ASAR	**Alice Springs**	**41.70**	**274**	P	**P**	**16 47 23.9**	**-0.7**
	0.6nm,0.7s,baz=119,slow=7.3,SNR=7.3						
	0.6nm,0.7s						
WB2	**Warramunga Arr**	**43.19**	**279**	P	**P**	**16 47 35.9**	**-0.8**
WB2				IAmb	IAmb	16 47 39.8
	comp=Z,7.0nm,1.2s						
WRAB	**Tennant Creek**	**43.19**	**279**	P	**P**	**16 47 35.9**	**-0.8**
WRAB				IAmb	IAmb	16 48 11.8
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**43.20**	**279**	P	**P**	**16 47 35.7**	**-1.0**
WRA	**Warramunga Arr**	**43.20**	**279**	P	**P**	**16 47 36.1**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=120,slow=7.6,SNR=18						
	comp=Z,0.7nm,0.5s						
WB0	**Warramunga Arr**	**43.24**	**279**	P	**P**	**16 47 36.4**	**-0.7**
WB0				IAmb	IAmb	16 47 59.3
	comp=Z,4.4nm,1.2s						
KNRA	**Kununurra**	**49.96**	**280**	P	**P**	**16 48 30.2**	**+0.5**
H03N3	**Juan Fernandez**	**78.80**	**123**	T	T	18 18 42.3
	baz=239						
H03N2	**Juan Fernandez**	**78.80**	**123**	T	T	18 18 47.9
	baz=239						
H03N1	**Juan Fernandez**	**78.81**	**123**	T	T	18 18 31.6
	baz=239						
FINES	**FINESS Array B**	**149.81**	**335**	PKPbc	**PKiKP**	**16 59 25.6**	**+0.3**

comp=Z,1.7nm,0.7s,baz=38,slow=3.4,SNR=9.2

*CNRM **17** 16:41:16.5,35°.45N×3°.86W, h13km, ml2.8*
*SFS **17** 16:41:17.1,35°.40N×3°.87W, h11km, mb3.9/4, ML3.5/24, ML3.5/21, MLv3.4/24*
*IGIL **17** 16:41:17.4,35°.35N×3°.91W, h9km, ML2.5*
*MDD **17** 16:41:17.6±0.4,35°.35N×3°.91W, h12km±3km, mb_Lg3.1/33, Error ellipse: s-maj=3.1km s-min=1.9km az=157.0*
*INMG **17** 16:41:18.0±1.6,35°.39N×3°.91W, h14km±7km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.9km az=98.0*
ISC 17 16:41:16.1±0.9,35°.40N±0°.02×3°.91W±0°.02, h17km±6km, n114, σ1§36/185, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.18**	**189**	P	**Pg**	**16 41 20.5**	**-0.2**
PALE				S	**Sg**	**16 41 23.3**	**-0.4**
PVLZ	**Peæn de**	**0.39**	**236**	Sg	**Sg**	**16 41 29.4**	**-0.2**
PVLZ				Pg	**Pg**	**16 41 24.4**	**+0.2**
GOG	**Mont Gurugu**	**0.76**	**103**	P	**Pb**	**16 41 30.7**	**-0.2**
GOG				S	**Sg**	**16 41 41.8**	**+0.7**
GOG	**Mont Gurugu**	**0.76**	**103**	P	**Pb**	**16 41 30.5**	**-0.4**
GOG				S	**Sg**	**16 41 42.0**	**+0.9**
WMELI	**Melilla**	**0.78**	**95**	Sg	**Sb**	**16 41 41.6**	**0.0**
WMELI				Pg	**Pb**	**16 41 31.0**	**-0.3**
EALB	**Alboran**	**0.89**	**52**	Pg	**Pg**	**16 41 33.6**	**+0.1**
EALB				Sg	**Sg**	**16 41 45.3**	**0.0**
EALB				*i* Vmb_Lg		16 41 46.6
CHEFC	**Chefchaouen**	**1.21**	**257**	P	**Pn**	**16 41 38.0**	**-0.3**
CHEFC				S	**Sb**	**16 41 53.4**	**-0.5**
CHEFC	**Chefchaouen**	**1.21**	**257**	P	**Pg**	**16 41 40.0**	**+0.5**
CHAS	**Isla Isabel II**	**1.22**	**100**	Sn	**Sb**	**16 41 53.8**	**-0.4**
CHAS				Pn	**Pn**	**16 41 37.0**	**-1.4**
SMIR	**Smir Dam**	**1.24**	**284**	P	**Pn**	**16 41 37.3**	**-1.3**
SMIR				S	**Sn**	**16 41 55.5**	**+0.6**
SMIR	**Smir Dam**	**1.24**	**284**	P	**Pg**	**16 41 40.0**	**0.0**
CEU	**Ceuta**	**1.30**	**293**	Pn	**Pn**	**16 41 37.4**	**-2.0**
ECEU	**Ceuta**	**1.30**	**293**	Pg	**Pn**	**16 41 38.3**	**-1.2**
ECEU				Sg	**Sn**	**16 41 54.5**	**-2.0**
TAF	**Taforalt**	**1.35**	**115**	P	**Pn**	**16 41 39.7**	**-0.6**
TAF				S	**Sb**	**16 41 58.3**	**+0.3**
TAF	**Taforalt**	**1.35**	**115**	P	**Pb**	**16 41 41.1**	**0.0**
EMIJ	**Mijas**	**1.36**	**329**	Pn	**Pn**	**16 41 40.8**	**+0.5**
EMIJ				Sn	**Sg**	**16 42 00.2**	**0.0**
EMIJ				*i* Vmb_Lg		16 42 04.2
EMIJ	**Mijas**	**1.36**	**329**	Pn	**Pn**	**16 41 39.9**	**-0.5**
EMAL	**Malaga-Limoner**	**1.43**	**343**	Sn	**Sn**	**16 41 58.9**	**-0.8**
EMAL				Pn	**Pn**	**16 41 41.4**	**+0.1**
ELGU	**Los Guajares,**	**1.49**	**9**	Pn	**Pn**	**16 41 41.8**	**-0.3**
ELGU				Sn	**Sn**	**16 42 01.8**	**+0.6**
ELGU				*i* Vmb_Lg		16 42 05.3
ELGU	**Los Guajares,**	**1.49**	**9**	Pn	**Pn**	**16 41 42.0**	**-0.2**
JBK	**JBK**	**1.53**	**134**	P	**Pg**	**16 41 46.0**	**+0.5**
JBK	**JBK**	**1.53**	**134**	P	**Pn**	**16 41 42.1**	**-0.7**
JBK				S	**Sn**	**16 42 02.0**	**-0.3**
JBK	**JBK**	**1.53**	**134**	P	**Pn**	**16 41 43.0**	**+0.2**
EJIM	**Jimena Fronter**	**1.65**	**310**	Pn	**Pn**	**16 41 44.4**	**+0.1**
EJIM				Sn	**Sn**	**16 42 05.8**	**+0.6**
EBER	**Berja**	**1.71**	**28**	Pn	**Pn**	**16 41 45.4**	**+0.1**
EBER				Sn	**Sn**	**16 42 07.2**	**+0.3**
EBER				*i* Vmb_Lg		16 42 17.1
EBER	**Berja**	**1.71**	**28**	Pn	**Pn**	**16 41 45.3**	**0.0**
EGOR	**Sierra Gorda,**	**1.72**	**355**	Pn	**Pn**	**16 41 46.5**	**+1.1**
EGOR				Sn	**Sb**	**16 42 08.4**	**-0.3**
EGOR				*i* Vmb_Lg		16 42 14.9
EGOR	**Sierra Gorda,**	**1.72**	**355**	Pn	**Pn**	**16 41 46.0**	**+0.6**
EQUE	**Quentar**	**1.84**	**12**	Pn	**Pn**	**16 41 47.7**	**+0.7**
EQUE				Sn	**Sn**	**16 42 11.1**	**+1.1**
EQUE				*i* Vmb_Lg		16 42 21.2
EQTA	**Presa de Quent**	**1.85**	**12**	Pn	**Pn**	**16 41 46.5**	**-0.6**
LCRM	**LCR**	**1.88**	**205**	P	**Pb**	**16 41 50.0**	**-0.1**
LCRM	**LCR**	**1.88**	**205**	P	**Pb**	**16 41 50.0**	**-0.1**
LCRM	**LCR**	**1.88**	**205**	P	**Pb**	**16 41 51.0**	**+0.9**
ENIJ	**Nijar**	**2.09**	**41**	Pn	**Pn**	**16 41 51.7**	**+1.3**
ENIJ				Sn	**Sn**	**16 42 15.1**	**-0.8**
ENIJ				*i* Vmb_Lg		16 42 15.2
ENIJ	**Nijar**	**2.09**	**41**	Pn	**Pn**	**16 41 50.3**	**0.0**
ENIJ				Sn	**Sn**	**16 42 14.4**	**-1.6**
IFR	**Ifrane**	**2.13**	**209**	Pn	**Pn**	**16 41 52.0**	**+0.9**
IFR				Sn	**Sn**	**16 42 17.5**	**+0.3**
ESPR	**Espera**	**2.16**	**314**	Pn	**Pn**	**16 41 52.5**	**+1.3**
ESPR				Sn	**Sn**	**16 42 17.8**	**+0.1**
ESPR				*i* Vmb_Lg		16 42 24.5
ESPR	**Espera**	**2.16**	**314**	Pn	**Pb**	**16 41 53.4**	**-1.3**
EQES	**Quesada**	**2.49**	**15**	Pn	**Pb**	**16 41 58.8**	**-1.7**
EQES				Sn	**Sn**	**16 42 28.5**	**+2.4**
EQES				*i* Vmb_Lg		16 42 41.7
CZD	**Col de Zad**	**2.54**	**202**	P	**Pn**	**16 41 58.4**	**+1.6**
CZD	**Col de Zad**	**2.54**	**202**	P	**Pn**	**16 41 58.6**	**+1.8**
CZD				S	**Sn**	**16 42 26.9**	**-0.6**
CZD	**Col de Zad**	**2.54**	**202**	P	**Pn**	**16 41 58.4**	**+1.6**
MD31	**MD31**	**2.62**	**196**	P	**Pn**	**16 41 59.1**	**+1.4**
MD31				S	**Sn**	**16 42 28.9**	**-0.3**
MDT	**Midelt**	**2.64**	**193**	P	**Pn**	**16 41 59.4**	**+1.4**
MDT	**Midelt**	**2.64**	**193**	P	**Pn**	**16 41 59.4**	**+1.4**
MDT				S	**Sn**	**16 42 29.7**	**0.0**
MDT	**Midelt**	**2.64**	**193**	P	**Pn**	**16 41 59.4**	**+1.4**
EADA	**Adamuz**	**2.82**	**349**	Pn	**Pn**	**16 42 02.0**	**+1.6**
EADA				Sn	**Sn**	**16 42 33.8**	**-0.2**
EADA				*i* Vmb_Lg		16 42 51.7
EADA	**Adamuz**	**2.82**	**349**	Pn	**Pn**	**16 42 01.5**	**+1.1**
ECAB	**El Cabril**	**2.94**	**336**	Pn	**Pn**	**16 42 03.9**	**+1.9**
ECAB				Sn	**Sn**	**16 42 37.7**	**+0.8**
ECAB				*i* Vmb_Lg		16 42 54.8
ECAB	**El Cabril**	**2.94**	**336**	Pn	**Pn**	**16 42 04.0**	**+1.9**
ZHG	**ZHG**	**2.98**	**230**	P	**Pn**	**16 42 04.2**	**+1.5**
EZAR	**Zarzadilla de**	**3.05**	**35**	Pn	**Pn**	**16 42 04.2**	**+0.6**
EZAR				Sn	**Sn**	**16 42 40.4**	**+0.7**
EZAR				*i* Vmb_Lg		16 42 44.4
CART	**Cartagena**	**3.20**	**46**	Pn	**Pn**	**16 42 06.0**	**+0.4**
CART				Sn	**Sn**	**16 42 40.2**	**-3.2**
EMUR	**La Murta**	**3.25**	**40**	Pn	**Pn**	**16 42 07.9**	**+1.6**
EMUR				Sn	**Sn**	**16 42 43.5**	**-1.2**
EMUR				*i* Vmb_Lg		16 42 45.0
EMIN	**Mina Concepcio**	**3.25**	**318**	Pn	**Pn**	**16 42 07.3**	**+1.0**
EMIN				Sn	**Sn**	**16 42 43.3**	**-1.3**
EMIN				*i* Vmb_Lg		16 42 50.6
EMIN	**Mina Concepcio**	**3.25**	**318**	Pn	**Pn**	**16 42 07.3**	**+1.0**
EMIN				Sn	**Sn**	**16 42 43.6**	**-1.0**
AVE	**Averroes**	**3.58**	**235**	Pn	**Pn**	**16 42 12.8**	**+1.9**
EGRO	**El Granado**	**3.59**	**308**	Pn	**Pn**	**16 42 11.9**	**+0.9**
EGRO				Sn	**Sn**	**16 42 52.3**	**-0.6**
EGRO	**El Granado**	**3.59**	**308**	Pn	**Pn**	**16 42 12.0**	**+1.1**
EGRO				Sn	**Sn**	**16 42 51.5**	**-1.4**
PVAQ	**Vaqueiros**	**3.67**	**304**	*e*P	**Pn**	**16 42 13.0**	**+0.9**
PVAQ				*e*S	**Sn**	**16 42 53.7**	**-1.3**
PVAQ				A	A	16 42 56.6
	19nm,0.2s						
PVAQ	**Vaqueiros**	**3.67**	**304**	P	**Pn**	**16 42 12.9**	**+0.8**
PVAQ	**Vaqueiros**	**3.67**	**304**	P	**Pn**	**16 42 12.9**	**+0.8**
PVAQ	**Vaqueiros**	**3.67**	**304**	Pn	**Pn**	**16 42 12.9**	**+0.8**
PBDV	**Barranco-do-Ve**	**3.74**	**301**	*e*P	**Pn**	**16 42 14.1**	**+1.1**
PBDV				*e*S	**Sn**	**16 42 55.7**	**-1.0**
PBDV				A	A	16 42 59.8
	9.4nm,0.2s						
PBAR	**Barrancos**	**3.75**	**319**	*e*P	**Pn**	**16 42 14.6**	**+1.5**
PBAR				*e*S	**Sn**	**16 42 55.7**	**-1.1**
PBAR				A	A	16 43 00.3
	15nm,0.2s						
PBAR	**Barrancos**	**3.75**	**319**	Pn	**Pn**	**16 42 14.6**	**+1.5**
ETOB	**Tobarra**	**3.75**	**29**	Pn	**Pn**	**16 42 15.8**	**+2.6**
ETOB				Sn	**Sn**	**16 42 58.8**	**+1.7**
ETOB				*i* Vmb_Lg		16 43 02.4
FIGM	**Figuig**	**3.93**	**145**	P	**Pn**	**16 42 15.3**	**-0.5**
PCVE	**Castro Verde**	**4.01**	**305**	*e*P	**Pn**	**16 42 17.8**	**+1.1**
PCVE				*e*S	**Sn**	**16 43 02.8**	**-0.5**
PCVE				A	A	16 43 08.6
	9.1nm,0.4s						
PCVE	**Castro Verde**	**4.01**	**305**	Pn	**Pn**	**16 42 17.8**	**+1.1**
PBEJ	**Beja**	**4.13**	**311**	*e*P	**Pn**	**16 42 20.4**	**+2.1**
PBEJ				*e*S	**Sn**	**16 43 06.4**	**+0.2**
PBEJ				A	A	16 43 09.5
	5.6nm,0.3s						
EBAD	**Badajoz**	**4.17**	**324**	Pn	**Pn**	**16 42 20.5**	**+1.5**
EBAD				Sn	**Sn**	**16 43 06.8**	**-0.6**
EBAD				*i* Vmb_Lg		16 43 08.5
EBAD	**Badajoz**	**4.17**	**324**	Pn	**Pn**	**16 42 20.4**	**+1.5**
EBAD				Sn	**Sn**	**16 43 06.2**	**-1.2**
ESDC	**Sonseca Array**	**4.27**	**359**	Pn	**Pn**	**16 42 22.1**	**+1.7**
ESDC				Sn	**Sn**	**16 43 09.6**	**-0.2**
MORF	**Marmelete**	**4.28**	**298**	*e*P	**Pn**	**16 42 21.5**	**+1.0**
MORF				*e*S	**Sn**	**16 43 09.7**	**-0.4**
MORF				A	A	16 43 12.4
	9.6nm,0.2s						
MORF	**Marmelete**	**4.28**	**298**	*e*P	**Pn**	**16 42 21.1**	**+0.6**
MORF				*e*S	**Sn**	**16 43 08.0**	**-2.1**
MORF				IAML		16 43 09.8
	comp=E,10nm,0.3s						
PFVI	**Vila Bisbo**	**4.34**	**295**	*e*P	**Pn**	**16 42 23.8**	**+2.5**
PFVI				*e*S	**Sn**	**16 43 11.0**	**-0.4**
PFVI				A	A	16 43 16.5
	comp=E,7.9nm,0.6s						
PFVI	**Vila Bisbo**	**4.34**	**295**	P	**Pn**	**16 42 21.8**	**+0.6**
PFVI	**Vila Bisbo**	**4.34**	**295**	Pn	**Pn**	**16 42 22.2**	**+0.9**
EBEN2	**Beniarda presa**	**4.42**	**41**	Pn	**Pn**	**16 42 23.3**	**+0.9**
EBEN2				Sn	**Sn**	**16 43 12.2**	**-1.3**
EBEN2				*i* Vmb_Lg		16 43 56.4
PTEO	**Sao Teotonio**	**4.44**	**300**	*e*P	**Pn**	**16 42 24.3**	**+1.7**
PTEO				*e*S	**Sn**	**16 43 12.6**	**-1.3**
PTEO				A	A	16 43 34.0
	comp=E,8.6nm,0.6s						
EVIV	**Cofrentes, Val**	**4.46**	**29**	Pn	**Pn**	**16 42 25.9**	**+2.9**
EVIV				Sn	**Sn**	**16 43 13.8**	**-0.6**
EVIV				*i* Vmb_Lg		16 43 57.2
PESTR	**Estremoz**	**4.55**	**321**	*e*P	**Pn**	**16 42 26.1**	**+2.0**
PESTR				*e*S	**Sn**	**16 43 16.3**	**-0.3**
PESTR				A	A	16 43 22.6
	comp=E,6.6nm,0.3s						
PESTR	**Estremoz**	**4.55**	**321**	P	**Pn**	**16 42 24.3**	**+0.1**
PESTR	**Estremoz**	**4.55**	**321**	Pn	**Pn**	**16 42 25.8**	**+1.7**
PESTR				Sn	**Sn**	**16 43 15.4**	**-1.2**
PNCL	**Nicolau / Gran**	**4.60**	**307**	*e*P	**Pn**	**16 42 25.9**	**+1.1**
PNCL				*e*S	**Sn**	**16 43 17.1**	**-0.7**
PNCL				A	A	16 43 23.2
	comp=E,6.9nm,0.3s						
PNCL	**Nicolau / Gran**	**4.60**	**307**	Pn	**Pn**	**16 42 25.9**	**+1.1**
ECHE	**Chera**	**4.79**	**28**	Pn	**Pn**	**16 42 29.6**	**+2.0**
ECHE				*i* Vmb_Lg		16 44 06.5
PMRV	**Marv??o**	**4.89**	**326**	*e*P	**Pn**	**16 42 31.1**	**+2.2**
PMRV				*e*S	**Sn**	**16 43 24.9**	**-0.1**
PMRV				A	A	16 43 39.0
	comp=E,5.3nm,0.5s						
UCM	**Universidad Co**	**4.93**	**6**	Pn	**Pn**	**16 42 30.5**	**+1.1**
EPLA	**Plasencia**	**4.97**	**340**	Pn	**Pn**	**16 42 32.4**	**+2.5**
EPLA				Sn	**Sn**	**16 43 27.2**	**+0.2**
EPLA				*i* Vmb_Lg		16 44 07.0
PMTG	**Montargil**	**5.03**	**318**	*e*P	**Pn**	**16 42 32.5**	**+1.7**
PMTG				*e*S	**Sn**	**16 43 28.0**	**-0.5**
PMTG				A	A	16 43 29.4
	comp=E,5.3nm,0.4s						
OUZM	**OUZ**	**5.08**	**209**	P	**Pn**	**16 42 34.0**	**+2.4**
OUZM	**OUZ**	**5.08**	**209**	P	**Pn**	**16 42 34.0**	**+2.4**
GUD	**Guadarrama**	**5.24**	**358**	Pn	**Pn**	**16 42 35.4**	**+1.6**
GUD				Sn	**Sn**	**16 43 33.2**	**-0.7**
GUD				*i* Vmb_Lg		16 44 12.7
PCBR	**Castelo Branco**	**5.26**	**328**	*e*P	**Pn**	**16 42 36.5**	**+2.5**
PCBR				*e*S	**Sn**	**16 43 33.5**	**-0.8**
PCBR				A	A	16 43 36.5
	comp=E,3.8nm,0.6s						
TIO	**Tiouine**	**5.27**	**213**	Pn	**Pn**	**16 42 35.0**	**+0.8**
TIO				Sn	**Sn**	**16 43 32.6**	**-2.1**
EIBI	**Ibiza**	**5.54**	**48**	Pn	**Pn**	**16 42 39.0**	**+1.2**
EIBI				Sn	**Sn**	**16 43 38.8**	**-2.2**
EIBI				*i* Vmb_Lg		16 43 43.7
EIBI	**Ibiza**	**5.54**	**48**	Pn	**Pn**	**16 42 38.8**	**+1.0**
EIBI				Sn	**Sn**	**16 43 37.7**	**-3.4**
PMAFR	**Mafra**	**5.57**	**311**	*e*P	**Pn**	**16 42 40.3**	**+2.1**
PMAFR				*e*S	**Sn**	**16 43 41.4**	**-0.5**
ETOR	**Torete**	**5.61**	**15**	Pn	**Pn**	**16 42 41.2**	**+2.4**
ETOR				Sn	**Sn**	**16 43 41.6**	**-1.3**
PSBE	**So Bento**	**5.66**	**318**	*e*P	**Pn**	**16 42 41.6**	**+2.2**
PSBE				*e*S	**Sn**

UGL				A	A	16 56 38.0
	comp=N,4μm,5.3s					
UGL				A	A	16 56 39.0
	comp=N,500nm,1.0s					
UGL				A	A	16 56 39.0
	comp=N,570nm,1.0s					
TYV	**Tymovskoe**	**3.85**	**301**	*e*P	**P**	**16 55 31.4 +2.2**
TYV				*e*S	**S**	**16 56 36.1 +1.4**
TYV				pmax	pmax	
	comp=Z,1μm,0.8s					
TYV				pmax	pmax	
	comp=Z,866nm,0.6s					
TYV				smax	smax	
	comp=N,388nm,1.0s					
TYV				smax	smax	
	comp=E,183nm,1.0s					
TYV				smax	smax	
	comp=N,3μm,3.4s					
TYV				smax	smax	
	comp=E,2μm,3.4s					
TYV	**Tymovskoe**	**3.85**	**301**	*e*P	**P**	**16 55 31.4 +2.2**
TYV				AMB	AMB	16 55 32.4
	comp=E,870nm,0.6s					
TYV				AMB	AMB	16 55 32.4
	comp=E,1μm,0.8s					
TYV				*e*S	**S**	**16 56 36.1 +1.4**
TYV				A	A	16 56 36.6
	comp=E,390nm,1.0s					
TYV				A	A	16 56 36.6
	comp=E,180nm,1.0s					
TYV				A	A	16 56 38.2
	comp=E,3μm,4.0s					
TYV				A	A	16 56 38.2
	comp=E,2μm,4.0s					
YSS	**Yuzh-Sakhalins**	**3.97**	**241**		**P**	**16 55 32.8 +2.5**
YSS	**Yuzh-Sakhalins**	**3.97**	**241**	*d i*P	**P**	**16 55 32.7 +2.5**
YSS				pmax	pmax	
	comp=Z,477nm,1.3s					
YSS	**Yuzh-Sakhalins**	**3.97**	**241**	*i* P	**P**	**16 55 32.4 +2.2**
YSS				AMB	AMB	16 55 34.1
	comp=Z,500nm,3.5s					
YSS				AMB	AMB	16 55 34.3
	comp=Z,350nm,0.7s					
YSS				*e*S	**S**	**16 56 38.3 +1.9**
YSS				A	A	16 56 40.1
	comp=Z,570nm,0.7s					
YSS				A	A	16 56 40.1
	comp=Z,470nm,0.7s					
YSS				A	A	16 56 40.6
	comp=Z,4μm,3.6s					
YSS				A	A	16 56 40.6
	comp=Z,4μm,3.6s					
YUK	**Yuzh-Kuril'sk**	**5.12**	**196**	*ce*P	**P**	**16 55 39.7 0.0**
YUK	**Yuzh-Kuril'sk**	**5.12**	**196**	*i* P	**P**	**16 55 39.7 0.0**
YUK				AMB	AMB	16 55 41.4
	comp=Z,720nm,1.1s					
YUK				AMB	AMB	16 55 42.8
	comp=Z,550nm,0.4s					
YUK				*i* S	**S**	**16 56 51.6 -1.9**
YUK				A	A	16 56 54.0
	comp=Z,3μm,2.0s					
YUK				A	A	16 56 54.0
	comp=Z,2μm,2.0s					
YUK				A	A	16 57 01.0
	comp=Z,700nm,0.6s					
YUK				A	A	16 57 01.0
	comp=Z,1μm,0.6s					
SHO	**Shikotan**	**5.15**	**188**	⇓*i*P	**P**	**16 55 37.8 -2.1**
SHO				*i* S	**S**	**16 56 48.7 -5.2**
SHO				pmax	pmax	
	comp=Z,1μm,0.4s					
SHO				pmax	pmax	
	comp=E,235nm,0.2s					
SHO	**Shikotan**	**5.15**	**188**	*i* P	**P**	**16 55 37.8 -2.1**
SHO				AMB	AMB	16 55 40.5
	comp=E,1μm,0.4s					
SHO				*i* S	**S**	**16 56 49.5 -4.4**
SHO				A	A	16 56 50.7
	comp=E,820nm,0.3s					
SHO				A	A	16 56 50.7
	comp=E,510nm,0.3s					
RUSJ	**Misakicho**	**5.19**	**201**	*e*P	**P**	**16 55 40.5 +0.3**
OKH	**Okha**	**5.52**	**328**	*c i*P	**P**	**16 55 46.3 +3.5**
OKH				*i* S	**S**	**16 57 04.8 +5.1**
OKH				pmax	pmax	
	comp=Z,300nm,14.0s					
OKH				smax	smax	
	comp=N,700nm,12.7s					
OKH				smax	smax	
	comp=E,700nm,14.9s					
OKH	**Okha**	**5.52**	**328**	*i* P	**P**	**16 55 44.4 +1.6**
OKH				AMB	AMB	16 55 46.3
	comp=E,2μm,1.0s					
OKH				AMB	AMB	16 55 53.3
	comp=E,1μm,0.4s					
OKH				*i* S	**S**	**16 57 01.5 +1.8**
OKH				A	A	16 57 05.3
	comp=E,4μm,3.0s					
OKH				A	A	16 57 05.3
	comp=E,4μm,3.0s					
OKH				A	A	16 57 06.7
	comp=E,140nm,0.6s					
OKH				A	A	16 57 06.7
	comp=E,510nm,0.6s					
SKR	**Severo-Kuril's**	**5.62**	**69**	*e*P	**P**	**16 55 43.2 -0.6**
SKR				*e*S	**S**	**16 57 01.4 0.0**
SKR				pmax	pmax	
	comp=Z,164nm,0.8s					
SKR				smax	smax	
	comp=N,259nm,0.7s					
SKR				smax	smax	
	comp=E,398nm,0.5s					
SKR				MLR	MLR	
	comp=Z,800nm,15.0s					
SKR	**Severo-Kuril's**	**5.62**	**69**	*e*P	**P**	**16 55 41.5 -2.3**
SKR				AMB	AMB	16 55 45.8
	comp=Z,440nm,2.0s					
SKR				AMB	AMB	16 55 46.0
	comp=Z,40nm,0.4s					
SKR				*e*S	**S**	**16 56 57.5 -3.9**
SKR				A	A	16 57 02.5
	comp=Z,2μm,3.0s					
SKR				A	A	16 57 02.5
	comp=Z,900nm,3.0s					
SKR				A	A	16 57 02.5
	comp=Z,800nm,3.0s					
SKR				A	A	16 57 05.0
	comp=Z,210nm,0.4s					
SKR				A	A	16 57 05.0
	comp=Z,110nm,0.4s					
NMR	**Nemuro--Hokkai**	**5.79**	**195**	⇓*i*P	**P**	**16 55 43.5 -2.1**
NMR				*e*S	**S**	**16 56 59.6 -4.7**
NMR	**Nemuro--Hokkai**	**5.79**	**195**	*i* P	**P**	**16 55 44.4 -1.2**
JKA	**Kamikawa-asahi**	**6.05**	**219**		**P**	**16 55 49.0 +1.0**
JKA	**Kamikawa-asahi**	**6.05**	**219**	*e*P	**P**	**16 55 48.9 +1.0**
ASAJ	**Asahikawa**	**6.05**	**219**	P	**P**	**16 55 48.9 +1.0**
	comp=Z,157nm,0.6s,baz=59,slow=9.0,SNR=142					
ASAJ				S	**S**	**16 57 08.1 -0.6**
	comp=Z,84nm,1.2s,baz=140,slow=33,SNR=12					
NKL	**Nikolayevsk**	**6.15**	**316**	*e*P	**P**	**16 55 50.2 +1.7**
NKL				*e*S	**S**	**16 57 11.2 +1.1**
NKL				pmax	pmax	
	comp=N,182nm,0.4s					
NKL				pmax	pmax	
	comp=E,129nm,0.4s					
NKL				pmax	pmax	
	comp=Z,588nm,0.5s					
NKL				smax	smax	
	comp=E,19nm,0.7s					
NKL				smax	smax	
	comp=N,42nm,0.8s					
NKL	**Nikolayevsk**	**6.15**	**316**	*e*P	**P**	**16 55 50.3 +1.7**
NKL				AMB	AMB	16 55 51.0
	comp=N,1μm,1.6s					
NKL				AMB	AMB	16 55 51.2
	comp=N,660nm,0.4s					
NKL				*e*S	**S**	**16 57 11.4 +1.3**
NKL				A	A	16 57 12.5
	comp=N,700nm,0.7s					
NKL				A	A	16 57 12.5
	comp=N,590nm,0.7s					
PAU	**Pauzhetka**	**6.28**	**63**	P	**P**	**16 55 52.2 +2.4**
PAU	**Pauzhetka**	**6.28**	**63**	*e*P	**P**	**16 55 52.2 +2.4**
APC	**Apacha**	**7.09**	**53**	P	**P**	**16 55 57.8 +0.3**
KDTR	**Khodutka, Kamc**	**7.13**	**63**	P	**P**	**16 55 57.2 -0.7**
KDTR				S	**S**	**16 57 23.1 -4.1**
ASAK	**Asacha**	**7.25**	**58**	P	**P**	**16 56 01.5 +2.4**
GRL	**Gorelyy**	**7.41**	**57**	P	**P**	**16 56 02.7 +1.9**
MTVR	**Mutnovka**	**7.45**	**58**	P	**P**	**16 56 02.5 +1.4**
PEA0B	**Petropavlovsk-**	**7.47**	**53**		**P**	**16 56 01.0 -0.2**
PEA0B	**Petropavlovsk-**	**7.47**	**53**	*ce*P	**P**	**16 56 01.1 -0.1**
PETK	**Petropavlovsk-**	**7.47**	**53**	P	**P**	**16 56 00.3 -0.8**
	comp=N,21nm,0.7s,baz=216,slow=6.3,SNR=61					
PETK				ScP	**ScP**	**17 04 19.4 +0.1**
	comp=N,0.9nm,0.6s,baz=122,slow=4.6,SNR=4.1					
KRMR	**Karymshinskiy**	**7.56**	**55**	P	**P**	**16 56 02.5 +0.4**
GRNR	**Gornyy**	**7.60**	**288**	⇑*i*P	**P**	**16 56 04.3 +1.8**
GRNR				*e*S	**S**	**16 57 35.8 +0.2**
GRNR				pmax	pmax	
	comp=E,210nm,0.5s					
GRNR				pmax	pmax	
	comp=N,40nm,0.3s					
GRNR				pmax	pmax	
	comp=Z,370nm,0.6s					
GRNR				smax	smax	
	comp=N,4.0nm,0.5s					
GRNR				MLR	MLR	
	comp=E,200nm,12.0s					
GRNR				MLR	MLR	
	comp=N,110nm,13.0s					
GRNR				MLR	MLR	
	comp=Z,130nm,12.0s					
GRNR	**Gornyy**	**7.60**	**288**	*e*P	**P**	**16 56 04.3 +1.8**
RUS	**Russkaya**	**7.61**	**59**	P	**P**	**16 56 02.8 +0.2**
RUS				S	**S**	**16 57 32.6 -3.1**
RUS	**Russkaya**	**7.61**	**59**	*e*P	**P**	**16 56 02.8 +0.2**
ERM	**Erimo**	**7.69**	**207**	P	**P**	**16 56 03.8 +0.1**
ERM	**Erimo**	**7.69**	**207**	*c i*P	**P**	**16 56 03.5 -0.2**
ERM				pmax	pmax	
	comp=Z,486nm,0.6s					
GNL	**Ganaly**	**7.89**	**49**	P	**P**	**16 56 06.1 +0.6**
PET	**Petropavlovsk**	**7.93**	**55**		**P**	**16 56 06.0 +0.2**
PET	**Petropavlovsk**	**7.93**	**55**	*de*P	**P**	**16 56 06.3 +0.5**
PET				pmax	pmax	
	comp=Z,40nm,0.6s					
PET	**Petropavlovsk**	**7.93**	**55**	*e*P	**P**	**16 56 04.1 -1.7**
DALK	**Dalny**	**7.99**	**55**	P	**P**	**16 56 06.4 +0.1**
DALK				S	**S**	**16 57 40.8 -1.8**
KOK	**Koryaka**	**8.05**	**53**	P	**P**	**16 56 08.1 +1.1**
KOK	**Koryaka**	**8.05**	**53**	*e*P	**P**	**16 56 08.1 +1.1**
KRX	**Arik**	**8.09**	**53**	P	**P**	**16 56 08.1 +0.6**
AVH	**Avacha**	**8.09**	**54**	P	**P**	**16 56 08.7 +1.3**
UGLR	**Uglovaya**	**8.11**	**54**	P	**P**	**16 56 08.4 +0.7**
KRER	**Koryakskii**	**8.11**	**54**	P	**P**	**16 56 09.1 +1.3**
SDLR	**Sedlovina**	**8.17**	**54**	P	**P**	**16 56 08.9 +0.6**
NLC	**Nalytchevo**	**8.37**	**56**	P	**P**	**16 56 13.2 +3.0**
TEY	**Ternei**	**8.63**	**247**	⇑*e*P	**P**	**16 56 13.7 +0.8**
TEY				*e*S	**S**	**16 57 51.3 -3.2**
TEY				pmax	pmax	
	comp=E,100nm,1.3s					
TEY				pmax	pmax	
	comp=Z,200nm,1.6s					
TEY				pmax	pmax	
	comp=N,20nm,1.1s					
TEY				pmax	pmax	
	comp=E,20nm,1.1s					
TEY				pmax	pmax	
	comp=Z,70nm,1.1s					
TEY				smax	smax	
	comp=N,400nm,1.5s					
TEY				smax	smax	
	comp=E,600nm,3.4s					
TEY	**Ternei**	**8.63**	**247**	*e*P	**P**	**16 56 13.7 +0.8**
SPN	**Mys Shipunski**	**8.72**	**57**	P	**P**	**16 56 13.4 -0.2**
SPN				S	**S**	**16 57 52.2 -3.7**
SPN	**Mys Shipunski**	**8.72**	**57**	*e*P	**P**	**16 56 13.4 -0.2**
KII	**Karymskiy**	**8.84**	**51**	P	**P**	**16 56 17.1 +2.2**
JTM	**Tenmabayashi**	**9.49**	**213**	P	**P**	**16 56 21.4 -0.4**
ESO	**Esso**	**9.61**	**39**	P	**P**	**16 56 24.7 +2.0**
KZV	**Kizimen**	**9.82**	**47**	P	**P**	**16 56 27.0 +1.9**
KZV				S	**S**	**16 58 15.7 -1.2**
TUMR	**Tumrok**	**9.85**	**45**	P	**P**	**16 56 27.6 +2.3**
KMNR	**Kamenistaya**	**10.17**	**43**	P	**P**	**16 56 30.2 +1.6**
KMNR				S	**S**	**16 58 23.1 -0.2**
KOZ	**Kozyrevsk**	**10.19**	**41**	P	**P**	**16 56 30.1 +1.4**
MKZ	**Mys Kozlova**	**10.26**	**52**	P	**P**	**16 56 27.4 -1.9**
MKZ				S	**S**	**16 58 19.5 -5.2**
KPT	**Kopyto**	**10.29**	**42**	P	**P**	**16 56 31.4 +1.6**
SRDR	**Sredinnyy**	**10.29**	**40**	P	**P**	**16 56 31.1 +1.3**
KIRR	**Kirishev**	**10.34**	**43**	P	**P**	**16 56 32.2 +1.9**
KIRR				S	**S**	**16 58 25.8 -0.7**
BZMR	**Bezymyannaya**	**10.39**	**43**	P	**P**	**16 56 32.6 +1.7**
BZWR	**Bezymyannyi-We**	**10.41**	**43**	P	**P**	**16 56 33.1 +2.0**
BZGR	**Bezymyannyi-Gr**	**10.49**	**43**	P	**P**	**16 56 34.2 +2.3**
KLR	**Kul'dur**	**10.56**	**277**	*e*P	**P**	**16 56 34.0 +1.4**
KLR	**Kul'dur**	**10.56**	**277**	P	**P**	**16 56 34.0 +1.4**
	comp=E,50nm,0.6s,baz=78,slow=8.6,SNR=162					
KLR				S	**S**	**16 58 31.4 +0.8**
	comp=E,7.4nm,0.8s,baz=231,slow=12,SNR=3.7					
KLR				ScP	**ScP**	**17 04 22.7 -0.2**
	comp=E,1.6nm,0.5s,baz=132,slow=2.6,SNR=5.5					
CIRR	**Tsirk**	**10.62**	**43**	P	**P**	**16 56 34.1 +0.9**
KLY	**Klyuchi**	**10.69**	**42**	P	**P**	**16 56 35.4 +1.6**
KLY				S	**S**	**16 58 33.0 +0.1**
KLY	**Klyuchi**	**10.69**	**42**	*e*P	**P**	**16 56 35.4 +1.6**
MA2	**Magadan**	**10.76**	**8**	P	**P**	**16 56 33.0 -1.5**
MA2	**Magadan**	**10.76**	**8**	⇑*e*P	**P**	**16 56 34.2 -0.3**
MA2				pmax	pmax	
	comp=Z,42nm,1.3s					
MA2	**Magadan**	**10.76**	**8**	*e*P	**P**	**16 56 34.2 -0.3**
MA2	**Magadan**	**10.76**	**8**	P	**P**	**16 56 33.7 -0.8**
	comp=Z,14nm,0.7s,baz=193,slow=10,SNR=8.6					
MA2				S	**S**	**16 58 32.9 -1.2**
	comp=Z,17nm,1.1s,baz=226,slow=20,SNR=6.1					
BDR	**Baidarnaya**	**11.09**	**42**	P	**P**	**16 56 40.1 +2.0**
USA0B	**Ussuriysk Arra**	**11.90**	**252**	P	**P**	**16 56 45.8 -0.7**
USA0B	**Ussuriysk Arra**	**11.90**	**252**	*d i*P	**P**	**16 56 46.4 -0.2**
USRK	**Ussuriysk Ar.**	**11.90**	**252**	P	**P**	**16 56 45.6 -0.9**
USRK	**Ussuriysk Ar.**	**11.90**	**252**	P	**P**	**16 56 45.9 -0.7**
	comp=Z,7.4nm,0.4s,baz=56,slow=11,SNR=39					
JMM	**Marumori**	**12.22**	**207**	P	**P**	**16 56 51.2 +1.3**
PALN	**Palana**	**12.37**	**30**	P	**P**	**16 56 51.7 +0.6**
VLA	**Vladivostok**	**12.53**	**248**	*ce*P	**P**	**16 56 53.1 0.0**
VLA				pmax	pmax	
	comp=Z,35nm,1.0s					
VLA	**Vladivostok**	**12.53**	**248**	*e*P	**P**	**16 56 53.1 0.0**
JSD	**Sado**	**12.94**	**216**	P	**P**	**16 56 58.5 +1.0**
MDJ	**Mudanjiang**	**13.23**	**258**	P	**P**	**16 56 59.0 -1.4**
MDJ				sP		16 58 46.1
MDJ				S	**S**	**16 59 19.1 -2.3**
MDJ				PcP	**PcP**	**17 01 42.4 -2.6**
MDJ				ScP	**ScP**	**17 04 27.5 +0.5**
MDJ	**Mudanjiang**	**13.23**	**258**	ScS	ScS	17 08 03.6 -0.2
MDJ				pmax	pmax	
	comp=Z,34nm,1.2s					
MDJ				pmax	pmax	
	comp=Z,190nm,5.4s					
HEH	**HeiHe**	**13.31**	**283**	*e*P	**P**	**16 57 00.0 -1.1**
HEH				sP		16 58 50.4
HEH				S	**S**	**16 59 20.3 -2.3**
HEH				pmax	pmax	
	comp=Z,41nm,0.6s					
HEH				pmax	pmax	
	comp=Z,230nm,5.5s					
ZEA	**Zeya**	**13.71**	**298**	*e*P	**P**	**16 57 04.1 -1.0**
ZEA				*e*S	**S**	**16 59 23.7 -6.3**
ZEA				pmax	pmax	
	comp=Z,10.0nm,0.4s					
ZEA				smax	smax	
	comp=E,600nm,3.3s					
ZEA				smax	smax	
	comp=N,600nm,5.4s					
ZEA	**Zeya**	**13.71**	**298**	*e*P	**P**	**16 57 04.5 -0.6**
SEY	**Seymchan**	**14.22**	**8**	*d i*P	**P**	**16 57 10.5 +0.3**
SEY				pmax	pmax	
	comp=Z,61nm,1.1s					
SEY	**Seymchan**	**14.22**	**8**	P	**P**	**16 57 10.6 +0.3**
	comp=Z,17nm,0.4s,baz=182,slow=9.8,SNR=144					
SEY				S	**S**	**16 59 40.0 +0.6**
	comp=Z,6.4nm,1.0s,baz=58,slow=22,SNR=6.3					
MJB9	**Matsu-Tunnel**	**14.28**	**213**	P	**P**	**16 57 13.4 +2.1**
MAJO	**Matsushiro**	**14.28**	**213**	P	**P**	**16 57 12.5 +1.1**
MAJO	**Matsushiro**	**14.28**	**213**	*d i*P	**P**	**16 57 12.3 +0.9**
MAJO				pmax	pmax	
	comp=Z,38nm,0.8s					
MJAR	**Matsushiro Arr**	**14.28**	**213**	P	**P**	**16 57 12.5 +1.2**
	comp=Z,28nm,0.7s,baz=10,slow=8.4,SNR=83					
INU	**Inuyama**	**15.78**	**214**	P	**P**	**16 57 27.7 +0.9**
JSG	**Sagara**	**15.97**	**210**	P	**P**	**16 57 28.4 -0.3**
CN2	**Changchun**	**16.27**	**260**	P	**P**	**16 57 29.8 -1.6**
CN2				S	**S**	**17 00 13.1 -3.5**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
YAK	**Yakutsk**	**16.56**	**329**	P	**P**	**16 57 32.2 -1.5**
YAK	**Yakutsk**	**16.56**	**329**	*e*P	**P**	**16 57 32.2 -1.5**
YAK				*e*S	**S**	**17 00 18.6 -2.1**
YAK				pmax	pmax	
	comp=Z,187nm,0.9s					
YAK				pmax	pmax	
	comp=N,16nm,0.9s					
YAK				pmax	pmax	
	comp=E,27nm,0.9s					
YAK				smax	smax	
	comp=E,551nm,2.5s					
YAK				smax	smax	
	comp=N,708nm,2.2s					
YAK	**Yakutsk**	**16.56**	**329**	*e*P	**P**	**16 57 32.2 -1.5**
KMSK	**Kamenskaya**	**16.93**	**30**	P	**P**	**16 57 37.1 -0.1**
SNY	**Shenyang**	**18.43**	**256**	⇓P	**P**	**16 57 52.9 +1.7**
SNY				S	**S**	**17 00 46.6 -5.2**
SNY				pmax	pmax	
	comp=Z,18nm,0.8s					
SNY				pmax	pmax	
	comp=Z,160nm,3.7s					
KSRS	**Korea Array**	**18.47**	**239**	P	**P**	**16 57 54.0 +2.4**
	comp=Z,6.2nm,0.9s,baz=40,slow=9.9,SNR=14					
KSRS				ScP	**ScP**	**17 04 37.8 +0.6**
	comp=Z,1.0nm,0.5s,baz=3.7,slow=2.4,SNR=5.6					
KSAR	**Wonju Array Be**	**18.50**	**239**	P	**P**	**16 57 51.9 0.0**
KSAR	**Wonju Array Be**	**18.50**	**239**	P	**P**	**16 57 51.9 0.0**
AMKA	**Amchitka**	**20.21**	**71**	P	**P**	**16 58 07.7 +0.5**
JNU	**Nakatsue**	**20.28**	**225**	P	**P**	**16 58 09.3 +1.1**
JNU				IAmb	IAmb	16 58 26.6
	comp=Z,37nm,1.3s					
JNU	**Nakatsue**	**20.28**	**225**	P	**P**	**16 58 09.9 +1.7**
	comp=Z,6.6nm,0.9s,baz=189,slow=5.8,SNR=4.5					
BOD	**Bodaibo**	**21.82**	**307**	*e*P	**P**	**16 58 21.0 -0.7**
BOD				pmax	pmax	
	comp=Z,10.0nm,2.0s					
JCJ	**Chichijima**	**22.28**	**193**	P	**P**	**16 58 27.5 +1.3**
KIWB	**Kanaga Island**	**22.36**	**69**	P	**P**	**16 58 27.0 +0.3**
XLT	**XiLinHaoTe**	**22.37**	**269**	⇓*i*P	**P**	**16 58 28.4 +1.5**
XLT				S	**S**	**17 02 01.6 +6.9**
XLT				pmax	pmax	
	comp=Z,40nm,0.8s					
XLT				pmax	pmax	
	comp=Z,11μm,5.5s					
ADK	**Adak**	**22.65**	**69**	P	**P**	**16 58 29.5 +0.4**
ADK	**Adak**	**22.65**	**69**	P	**P**	**16 58 29.5 +0.4**
ADK				pmax	pmax	
	comp=Z,131nm,1.2s					
TIXI	**Tiksi**	**24.38**	**346**	P	**P**	**16 58 43.2 -1.0**
TIXI	**Tiksi**	**24.38**	**346**	*d i*P	**P**	**16 58 43.2 -1.0**
TIXI				pmax	pmax	
	comp=Z,10.0nm,0.4s					
GAMB	**Gambell**	**26.28**	**41**	P	**P**	**16 59 01.1 0.0**
	baz=255					
HHC	**Hu-ho-hao-te**	**26.74**	**266**	*e*P	**P**	**16 59 06.9 +1.3**
HHC				pmax	pmax	
	comp=Z,36nm,0.7s					
HHC				pmax	pmax	
	comp=Z,180nm,4.4s					
JOW	**Kunigami**	**26.81**	**222**	P	**P**	**16 59 07.5 +1.2**
ULN	**Ulaanbaatar**	**26.87**	**283**	*de*P	**P**	**16 59 07.6 +0.9**
ULN				pmax	pmax	
	comp=Z,2.0nm,0.9s					
ULN	**Ulaanbaatar**	**26.87**	**283**	*e*P	**P**	**16 59 07.6 +0.9**
NIKH	**Nikolski High**	**27.25**	**65**	P	**P**	**16 59 10.5 +0.7**
	baz=280					
SONM	**Songino Array**	**27.30**	**283**	P	**P**	**16 59 10.6 +0.1**
SONM	**Songino Array**	**27.30**	**283**	P	**P**	**16 59 10.6 +0.1**
SONM				pmax	pmax	
	comp=Z,1.0nm,1.0s					
SONM	**Songino Array**	**27.30**	**283**	P	**P**	**16 59 11.9 +1.4**
	comp=Z,0.7nm,0.3s,baz=66,slow=8.4,SNR=9.6					
SONM				ScP	**ScP**	**17 05 00.1 -0.7**
	comp=Z,2.3nm,0.7s,baz=80,slow=2.0,SNR=10.0					
NJ2	**Nanjing**	**27.54**	**243**	*e*P	**P**	**16 59 13.4 +0.8**
NJ2				pmax	pmax	
	comp=Z,5.0nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,660nm,4.5s					
TNA	**Tin City**	**28.31**	**38**	P	**P**	**16 59 19.1 +0.3**
TNA	**Tin City**	**28.31**	**38**	P	**P**	**16 59 19.4 +0.6**
	baz=256					
M11K	**Mekoryuk**	**28.31**	**49**	P	**P**	**16 59 20.4 +1.4**
	baz=268					
UNV	**Unalaska Valle**	**28.50**	**63**	P	**P**	**16 59 22.0 +1.3**
	baz=280					
F14K	**Arctic Creek**	**28.93**	**38**	P	**P**	**16 59 24.9 +0.6**
	baz=258					
ANM	**Nome**	**29.16**	**40**	P	**P**	**16 59 27.1 +0.9**
ANM	**Nome**	**29.16**	**40**	P	**P**	**16 59 27.1 +0.9**
ANM				pmax	pmax	
	comp=Z,44nm,1.2s					
ANM	**Nome**	**29.16**	**40**	P	**P**	**16 59 26.7 +0.5**
	baz=261					
F15K	**North Star Dit**	**29.66**	**38**	P	**P**	**16 59 31.7 +1.1**
F15K				IAmb	IAmb	16 59 32.9
	comp=Z,12nm,1.0s					
F15K	**North Star Dit**	**29.66**	**38**	P	**P**	**16 59 31.6 +1.0**
	baz=259					
M13K	**Dall Lake**	**29.73**	**49**	P	**P**	**16 59 31.5 +0.3**
	baz=270					
J14K	**Nanvaranak Lak**	**29.73**	**44**	P	**P**	**16 59 32.1 +0.9**
	baz=266					
G15K	**Niukluk**	**29.79**	**40**	P	**P**	**16 59 32.2 +0.4**
	baz=261					
C16K	**Lisburne Hills**	**30.00**	**33**	P	**P**	**16 59 32.9 -0.6**
	baz=254					
L14K	**Kuka Creek**	**30.07**	**47**	P	**P**	**16 59 35.4 +1.3**
L14K				IAmb	IAmb	16 59 37.7
	comp=Z,38nm,1.2s					
L14K	**Kuka Creek**	**30.07**	**47**	P	**P**	**16 59 35.0 +0.9**
	baz=269,SNR=6.2					
FALS	**False Pass**	**30.12**	**60**	P	**P**	**16 59 35.1 +0.5**
	baz=280					
M14K	**Bethel**	**30.41**	**48**	P	**P**	**16 59 37.4 +0.3**
	baz=271,SNR=5.5					
H16K	**Elim**	**30.50**	**40**	P	**P**	**16 59 38.2 +0.3**
	baz=264					
G16K	**Koyuk River**	**30.55**	**39**	P	**P**	**16 59 38.4 +0.2**
	baz=262,SNR=8.6					
N14K	**Kuskokwak Cree**	**30.57**	**50**	P	**P**	**16 59 38.9 +0.5**
	baz=272					
K15K	**Wolf Creek Mou**	**30.64**	**45**	P	**P**	**16 59 40.0 +0.9**
	baz=268					
D17K	**Noatak River**	**30.68**	**34**	P	**P**	**16 59 39.2 -0.1**
	baz=258					
C17K	**DeLong Mountai**	**30.83**	**33**	P	**P**	**16 59 40.8 +0.1**
	baz=256,SNR=5.2					
E17K	**Hotham Inlet**	**31.04**	**36**	P	**P**	**16 59 42.6 +0.2**
	baz=260,SNR=11					
M15K	**Kasigluk River**	**31.04**	**48**	P	**P**	**16 59 43.1 +0.6**
	baz=272					
I17K	**Unalakleet**	**31.11**	**42**	P	**P**	**16 59 43.2 +0.2**
	baz=266					
J16K	**Anvik River**	**31.11**	**43**	P	**P**	**16 59 43.4 +0.3**
	baz=268					
F17K	**Baldwin Pennin**	**31.16**	**37**	P	**P**	**16 59 43.8 +0.4**
	baz=262					
G17K	**Kiwalik Mounta**	**31.27**	**39**	P	**P**	**16 59 45.3 +0.9**
	baz=264,SNR=15					
WHN	**Wuhan**	**31.30**	**246**	P	**P**	**16 59 45.8 +0.7**
N15K	**Kwethluk River**	**31.36**	**49**	P	**P**	**16 59 46.5 +1.3**
	baz=273					
H17K	**Granite Mounta**	**31.53**	**40**	P	**P**	**16 59 47.5 +0.8**
	baz=266					
B18K	**Kokolik River**	**31.53**	**31**	P	**P**	**16 59 47.4 +0.8**
	baz=256					
O15K	**Ungalikthiuk R**	**31.55**	**51**	P	**P**	**16 59 47.7 +0.8**
	baz=275					
E18K	**Tukpahlearik C**	**31.56**	**35**	P	**P**	**16 59 47.0 +0.1**
	baz=261					
C18K	**Utukok River**	**31.58**	**33**	P	**P**	**16 59 46.8 -0.3**
	baz=258					
L16K	**Owhat River**	**31.61**	**46**	P	**P**	**16 59 48.2 +0.8**
L16K				IAmb	IAmb	16 59

baz=269,SNR=9.1
M16K Timber Creek 31.88 48 P P 16 59 50.6 +1.0
baz=273
A19K Wainwright 31.98 30 P P 16 59 50.4 0.0
baz=256
N16K Nishlik Lake 32.00 49 P P 16 59 52.0 +1.3
baz=274,SNR=11
G18K Tagagawik 32.14 38 P P 16 59 52.1 +0.3
baz=265
K17K Iditarod 32.15 44 P P 16 59 53.0 +1.0
baz=271
L17K Donlin 32.16 45 P P 16 59 53.1 +1.0
baz=272
H18K Honhosa River 32.20 40 P P 16 59 52.7 +0.3
H18K Honhosa River 32.20 40 P P 16 59 52.8 +0.4
baz=267,SNR=12
C19K Lookout Ridge 32.24 32 P P 16 59 52.6 -0.1
baz=259
CHNA Chernabura Isl 32.30 59 P P 16 59 53.7 +0.4
baz=282
CNBA Chernabura Isl 32.31 59 P P 16 59 53.9 +0.5
O16K Kokwok River B 32.40 50 P P 16 59 54.9 +0.8
baz=276,SNR=5.6
P16K Nushagak River 32.51 51 P P 16 59 54.9 -0.2
baz=277
F19K Shaleruckik Mo 32.58 37 P P 16 59 55.3 -0.2
baz=264,SNR=24
M17K Holitna River 32.59 47 P P 16 59 57.0 +1.3
baz=273,SNR=22
D19K Kuna River 32.66 34 P P 16 59 55.9 -0.4
D19K Kuna River 32.66 34 P P 16 59 56.2 0.0
baz=262,SNR=9.7
N17K Nushagak Hills 32.77 48 P P 16 59 57.4 +0.1
baz=275
G19K Purcell Mounta 32.80 38 P P 16 59 57.3 -0.1
baz=266,SNR=12
GCSA Galena City Sc 32.81 41 P P 16 59 57.0 -0.5
baz=269
E19K Redstone River 32.86 36 P P 16 59 58.2 +0.3
E19K Redstone River 32.86 36 P P 16 59 58.4 +0.5
baz=264,SNR=30
J18K Innoko River 32.87 43 P P 16 59 58.1 0.0
baz=271
O17K Koliganek Bris 32.89 50 P P 16 59 59.4 +1.2
baz=276,SNR=12
L18K Granite Mounta 32.91 45 P P 16 59 59.3 +0.9
baz=273,SNR=22
R16K Pilot Point 32.92 54 P P 16 59 58.3 -0.2
baz=279
H19K Roundabout Mou 33.02 39 P P 16 59 59.7 +0.4
baz=268,SNR=36
TTA Tatalina 33.20 44 IAmb IAmb 17 00 03.0
comp=Z,18nm,1.1s
TTA Tatalina 33.20 44 P P 17 00 01.3 +0.4
baz=272,SNR=8.8
D20K Etivluk River 33.24 33 P P 17 00 00.7 -0.4
baz=263
Q16K King Salmon 33.24 52 P P 17 00 02.2 +1.0
baz=278
B20K Meade River 33.25 31 P P 17 00 00.9 -0.3
baz=260,SNR=7.3
P17K Kvichak River 33.29 51 P P 17 00 00.9 -0.6
baz=278
E20K Nigu River 33.34 34 P P 17 00 02.0 0.0
baz=264,SNR=17
J19K Poorman 33.35 42 P P 17 00 02.3 +0.2
baz=271,SNR=12
M18K Stony River 33.36 47 P P 17 00 03.3 +1.1
baz=275,SNR=11
N18K Kilae Creek 33.40 48 P P 17 00 03.6 +1.1
baz=276,SNR=15
F20K Avaraart Lake 33.40 36 P P 17 00 02.3 -0.1
baz=266,SNR=7.9
SVW2 Sparrevohn 33.51 47 IAmb IAmb 17 00 06.4
comp=Z,21nm,0.7s
R17K Ugashik Creek 33.54 54 P P 17 00 04.5 +0.8
baz=280
A21K Barrow 33.67 29 P P 17 00 03.8 -0.9
baz=259
H20K Anotleneega Mo 33.67 39 P P 17 00 05.2 +0.4
baz=269,SNR=25
Q17K Contact Creek 33.70 52 P P 17 00 06.1 +0.8
baz=279,SNR=5.7
L19K White Mountain 33.77 45 IAmb IAmb 17 00 24.0
comp=Z,7.7nm,0.6s
L19K White Mountain 33.77 45 P P 17 00 06.0 +0.3
baz=274
O18K Koktuh Hills 33.83 49 IAmb IAmb 17 00 09.1
comp=Z,22nm,0.9s
O18K Koktuh Hills 33.83 49 P P 17 00 06.3 +0.1
baz=278
I20K Naaghedeneel 33.84 41 P P 17 00 06.8 +0.6
baz=271,SNR=7.5
P18K Big Mountain, 33.88 50 IAmb IAmb 17 00 09.2
comp=Z,19nm,0.8s
P18K Big Mountain, 33.88 50 P P 17 00 06.3 -0.3
baz=278
C21K Knifeblade Rid 33.95 33 P P 17 00 06.8 -0.3
baz=264,SNR=11
J20K Nowinta River 33.99 42 P P 17 00 07.8 +0.3
baz=272,SNR=42
M19K Big River Lodg 34.01 46 IAmb IAmb 17 00 10.3
comp=Z,13nm,0.8s
M19K Big River Lodg 34.01 46 P P 17 00 08.1 +0.4
baz=275
K20K Telida 34.06 43 IAmb IAmb 17 00 10.4
comp=Z,15nm,0.8s
K20K Telida 34.06 43 P P 17 00 09.1 +1.0
baz=273,SNR=15
B21K Ikpikpuk River 34.06 32 P P 17 00 08.0 0.0
baz=263,SNR=13
N19K Bonanza Creek 34.07 48 IAmb IAmb 17 00 11.2
comp=Z,18nm,0.7s
N19K Bonanza Creek 34.07 48 P P 17 00 09.3 +1.0
baz=277,SNR=5.8
Q18K Katmai Hardscr 34.10 52 P P 17 00 09.6 +1.0
baz=280,SNR=6.6
E21K Killik River 34.18 34 P P 17 00 08.8 -0.2
baz=266
L20K Farewell, AK 34.20 45 P P 17 00 09.9 +0.6
baz=275
G21K Allakaket 34.26 37 P P 17 00 10.3 +0.6
baz=269,SNR=34
F21K Alatna River 34.29 36 P P 17 00 09.8 -0.1
baz=268,SNR=18
CHIR Chirikof Islan 34.31 57 P P 17 00 11.0 +0.8
baz=283
LZH Lanzhou 34.41 265 eP P 17 00 13.3 +1.8
LZH pmax pmax
comp=Z,16nm,1.0s
H21K Melozitna Rive 34.54 39 IAmb IAmb 17 00 13.9
comp=Z,23nm,0.7s
H21K Melozitna Rive 34.54 39 P P 17 00 12.2 +0.1
baz=271,SNR=18
B22K Teshekpuk Lake 34.56 31 P P 17 00 12.4 +0.3
baz=264
R18K Karluk 34.58 53 P P 17 00 12.7 +0.3
baz=281
M20K Styx River 34.61 46 P P 17 00 14.3 +1.6
baz=276,SNR=18
D22K Ayikyak River 34.68 33 P P 17 00 13.2 +0.1
baz=266,SNR=10
Q19K Cape Douglas, 34.75 51 P P 17 00 14.3 +0.4
baz=280
F22K John River 34.80 36 P P 17 00 14.7 +0.5
baz=269
CHUM Lake Minchumin 34.81 42 P P 17 00 15.2 +0.8
baz=274,SNR=16
P19K Oil Pt 34.84 50 P P 17 00 15.3 +0.6
baz=279
PPLA Purkeypile 34.95 44 P P 17 00 16.9 +1.2
baz=276,SNR=8.8
CAST Castle Rocks 34.95 43 P P 17 00 16.6 +1.0
baz=275,SNR=42
E22K Anaktuvuk Pass 34.96 35 P P 17 00 15.9 +0.3
baz=268
G22K Bettles 35.06 37 P P 17 00 16.3 0.0
baz=270
H22K Ishtalitna Cre 35.12 39 P P 17 00 17.8 +0.8
baz=272,SNR=29
N20K Mount Spurr 35.12 47 P P 17 00 18.1 +1.0
baz=278,SNR=12
SPCR Spurr Chakacha 35.12 47 P P 17 00 18.1 +1.1
baz=278,SNR=11
GTA Gaotai 35.21 273 eP P 17 00 20.4 +2.2
GTA pP pP 17 01 50.1 -0.7
GTA ScP ScP 17 05 27.5 -0.3
GTA pmax pmax
comp=Z,6.0nm,1.0s
OHAK Old Harbor 35.27 54 P P 17 00 20.1 +1.9
baz=283
SKT Skwentna 35.35 45 IAmb IAmb 17 00 22.1
comp=Z,7.4nm,0.6s
SKT Skwentna 35.35 45 P P 17 00 19.8 +0.9
baz=277
BPAW Bear Paw Mtn. 35.38 42 IAmb IAmb 17 00 21.3
comp=Z,18nm,0.9s
BPAW Bear Paw Mtn. 35.38 42 P P 17 00 19.6 +0.5
baz=275,SNR=12
D23K Nanushuk River 35.41 33 P P 17 00 19.5 +0.3
baz=268
Q20K Shuyak Island 35.45 51 P P 17 00 20.1 +0.4
baz=281
C23K Itkillik River 35.47 32 P P 17 00 19.7 0.0
baz=267,SNR=9.6
KDAK Kodiak Island 35.52 53 P P 17 00 20.3 +0.1
KDAK Kodiak Island 35.52 53 ceP P 17 00 20.9 +0.6
KDAK pmax pmax
comp=Z,23nm,0.9s
KDAK Kodiak Island 35.52 53 P P 17 00 20.6 +0.4
baz=282
KDAK Kodiak Island 35.52 53 P P 17 00 20.5 +0.2
comp=Z,16nm,0.5s,baz=148,slow=0.1,SNR=152
KDAK PcP PcP 17 02 35.2 +1.1
comp=Z,2.6nm,0.5s,baz=306,slow=2.9,SNR=4.8
comp=Z,16nm,0.5s
COLD Coldfoot 35.56 36 P P 17 00 20.7 +0.1
baz=271,SNR=27
G23K Bananza Creek 35.65 37 P P 17 00 21.4 +0.1
baz=272,SNR=27
TRF Thorofare Moun 35.75 43 IAmb IAmb 17 00 24.3
comp=Z,12nm,0.7s
TRF Thorofare Moun 35.75 43 P P 17 00 22.6 +0.2
baz=276,SNR=8.8
E23K Chandalar 35.78 35 P P 17 00 22.8 +0.3
baz=270,SNR=27
SUA Susitna One 35.79 46 P P 17 00 22.6 0.0
baz=279
TOLK Toolik Lake Re 35.80 34 IAmb IAmb 17 00 24.0
comp=Z,22nm,0.9s
TOLK Toolik Lake Re 35.80 34 P P 17 00 22.5 -0.1
baz=270,SNR=14
CNPM China Poot 35.87 49 IAmb IAmb 17 00 25.6
comp=Z,26nm,0.8s
H23K Yukon River 35.88 39 P P 17 00 23.6 +0.4
baz=274
CUT Chulitna 35.88 44 P P 17 00 23.5 +0.3
baz=278,SNR=6.3
I23K Minto, Yukon-K 36.00 40 P P 17 00 24.7 +0.6
baz=275,SNR=20
BRSE Bradley Lake S 36.07 49 P P 17 00 25.1 +0.2
baz=281
D24K Happy Valley 36.08 33 P P 17 00 24.7 -0.1
baz=270,SNR=34
C24K Franklin Bluff 36.13 32 P P 17 00 24.6 -0.6
baz=269
NEA2 Nenana 36.17 41 P P 17 00 26.0 +0.4
baz=276,SNR=43
E24K Your Creek 36.21 35 P P 17 00 26.0 +0.1
baz=271,SNR=26
MCK McKinley 36.32 42 P P 17 00 27.2 +0.4
baz=277,SNR=20
RC01 Rabbit Creek A 36.33 47 IAmb IAmb 17 00 29.1
comp=Z,21nm,0.6s
RC01 Rabbit Creek A 36.33 47 P P 17 00 27.3 +0.4
baz=280
RND Reindeer 36.40 43 IAmb IAmb 17 00 28.9
comp=Z,22nm,1.0s
O22K Cooper Landing 36.44 48 P P 17 00 28.0 +0.2
baz=281,SNR=5.8
F24K Squaw Lake 36.45 36 P P 17 00 27.9 0.0
baz=273,SNR=31
MDM Murphy Dome 36.49 40 IAmb IAmb 17 00 30.9
comp=Z,24nm,0.9s
PMR Palmer 36.53 46 IAmb IAmb 17 00 30.1
comp=Z,14nm,0.5s
PMR Palmer 36.53 46 P P 17 00 28.9 +0.3
baz=280
H24K Noodor Dome 36.56 39 P P 17 00 29.4 +0.6
baz=275,SNR=17
WAT1 Susitna Watana 36.61 44 P P 17 00 28.9 -0.4
baz=278
SEW Seward 36.64 48 P P 17 00 29.4 0.0
baz=282,SNR=5.5
G24K Hadweenzic Riv 36.66 37 P P 17 00 30.0 +0.4
baz=274,SNR=24
COLA College 36.66 40 P P 17 00 30.1 +0.5
COLA College 36.66 40 dP P 17 00 30.7 +1.1
COLA pmax pmax
comp=Z,30nm,1.2s
COLA College 36.66 40 P P 17 00 29.9 +0.4
baz=276
POKR Poker Plat Res 36.81 40 P P 17 00 31.3 +0.4
baz=276,SNR=17
SML Sawmill 36.87 45 P P 17 00 31.8 +0.4
baz=280,SNR=20
KNK Knik Glacier 36.88 46 P P 17 00 31.6 +0.1
baz=280,SNR=22
D25K Kavik River 36.95 33 P P 17 00 31.9 -0.1
D25K Kavik River 36.95 33 P P 17 00 32.1 +0.1
baz=272,SNR=28
WAT6 Susitna Watana 37.02 44 P P 17 00 32.7 0.0
baz=280,SNR=9.3
PWL Port Wells 37.04 47 P P 17 00 32.7 -0.1
baz=281,SNR=8.7
ILAR Eielson Array 37.09 40 P P 17 00 32.9 -0.2
comp=Z,30nm,0.6s,baz=259,slow=6.0,SNR=240
ILAR PcP PcP 17 02 37.9 -0.9
comp=Z,1.2nm,0.4s,baz=291,slow=3.5,SNR=6.9
ILAR ScP ScP 17 05 32.9 -1.3
comp=Z,0.6nm,0.8s,baz=289,slow=3.9,SNR=3.8
comp=Z,30nm,0.6s
HDA Harding Lake 37.10 41 P P 17 00 33.2 -0.1
baz=278,SNR=34
DHY Denali Highway 37.10 43 P P 17 00 33.4 0.0
baz=279,SNR=23
M23K Glacier View 37.16 45 P P 17 00 33.9 +0.1
baz=281,SNR=10
G25K Bearman Lake 37.20 37 P P 17 00 34.4 +0.5
baz=275,SNR=9.1
E25K Arctic Village 37.30 35 P P 17 00 35.2 +0.4
baz=274,SNR=10
F25K Christian Rive 37.31 35 P P 17 00 35.6 +0.7
baz=275,SNR=12
SCM Sheep Creek Mo 37.34 45 IAmb IAmb 17 00 38.6
comp=Z,28nm,0.8s
SCM Sheep Creek Mo 37.34 45 P P 17 00 36.1 +0.8
baz=281,SNR=7.8
H25L Birch Creek 37.36 38 P P 17 00 36.2 +0.9
baz=276,SNR=18
PRP Porcupine Dome 37.56 39 P P 17 00 38.0 +0.8
baz=278,SNR=41
GLI Glacier Island 37.63 47 P P 17 00 38.0 +0.3
baz=282
P23K Montague Islan 37.67 48 P P 17 00 38.4 +0.5
baz=283
K24K Donnelly Dome 37.70 42 P P 17 00 38.0 -0.2
baz=280,SNR=19
J25K Salcha River, 37.75 40 P P 17 00 37.7 -0.9
baz=279,SNR=20
M24K Tolsona, Glenn 37.82 44 IAmb IAmb 17 00 47.3
comp=Z,30nm,1.0s
M24K Tolsona, Glenn 37.82 44 P P 17 00 40.3 +1.1
baz=281,SNR=5.4
F26K Sheenjek River 37.87 35 P P 17 00 39.9 +0.4
baz=276,SNR=20
PAX Paxson 37.98 43 P P 17 00 41.0 +0.5
baz=281
KLU Klutina 38.06 45 P P 17 00 41.8 +0.6
baz=282,SNR=16
G26K Porcupine Rive 38.09 36 P P 17 00 42.5 +1.2
baz=277,SNR=33
RIDG Independent Ri 38.12 42 IAmb IAmb 17 00 43.3
comp=Z,23nm,0.9s
RIDG Independent Ri 38.12 42 P P 17 00 41.2 -0.4
baz=280,SNR=21
HARP HAARP 38.23 44 P P 17 00 43.2 +0.7
baz=282,SNR=15
EYAK Cordova Ski Ar 38.35 47 P P 17 00 44.2 +0.7
baz=284
ZAA0 Zalesovo Array 38.43 302 P P 17 00 43.5 -0.7
ZAA0 IAmb IAmb 17 00 44.9
comp=Z,5.8nm,0.5s
ZAA0 PcP PcP 17 02 43.1 -0.1
ZALV Zalesovo Beam 38.43 302 P P 17 00 43.5 -0.7
ZALV PcP PcP 17 02 43.3 +0.1
ZALV Zalesovo Beam 38.43 302 P P 17 00 43.9 -0.3
comp=Z,7.2nm,0.4s,baz=61,slow=6.7,SNR=40
ZALV PcP PcP 17 02 43.3 +0.1
comp=Z,3.0nm,0.3s,baz=76,slow=2.3,SNR=13
ZALV ScP ScP 17 05 38.7 -0.8
comp=Z,1.8nm,0.5s,baz=78,slow=4.3,SNR=7.0
comp=Z,7.2nm,0.4s
DGZ Jazzator, Alta 38.43 295 eP P 17 00 45.2 +0.7
DGZ pmax pmax
comp=Z,3.0nm,1.0s
SCRK Sand Creek 38.45 41 P P 17 00 43.8 -0.6
baz=281,SNR=73
J26L Joseph Creek 38.54 40 IAmb IAmb 17 00 46.9
comp=Z,15nm,0.9s
J26L Joseph Creek 38.54 40 P P 17 00 44.3 -0.7
baz=280,SNR=20
I26K Coal Creek Min 38.58 39 P P 17 00 45.0 -0.2
baz=280
N25K Chitina, Valde 38.66 45 IAmb IAmb 17 00 48.5
comp=Z,20nm,0.9s
N25K Chitina, Valde 38.66 45 P P 17 00 46.8 +0.7
baz=283,SNR=12
MENT Mentasta 38.77 43 IAmb IAmb 17 00 49.0
comp=Z,22nm,1.0s
E27K Coleen River 38.77 34 P P 17 00 47.0 +0.2
baz=277
BMRM Bremner River 38.80 46 P P 17 00 47.2 0.0
baz=284,SNR=6.6
D27M Malcolm River 38.88 33 P P 17 00 47.6 -0.1
baz=277
RAGM Ragged Mountai 38.91 47 IAmb IAmb 17 00 52.4
comp=Z,36nm,1.1s
L26K Log Cabin Wild 38.92 43 IAmb IAmb 17 00 51.0
comp=Z,28nm,1.3s
L26K Log Cabin Wild 38.92 43 P P 17 00 48.5 +0.4
baz=282,SNR=10
G27K Doyon Strip 38.94 36 P P 17 00 48.1 -0.1
baz=279,SNR=18
GLB Gilahina Butte 39.06 45 IAmb IAmb 17 00 54.4
comp=Z,13nm,0.6s
H27K Steamboat Moun 39.09 37 P P 17 00 50.6 +1.3
baz=280,SNR=17
I27K Kandik River 39.16 38 P P 17 00 51.0 +1.0
baz=281,SNR=11
M26K Nabesna, AK 39.21 44 P P 17 00 51.7 +1.2
baz=283,SNR=23
K27K Chicken 39.27 41 P P 17 00 51.6 +0.7
baz=282,SNR=46
VRDI Verde Repeater 39.28 45 IAmb IAmb 17 00 53.6
comp=Z,22nm,0.8s
MCARA McCarthy VSAT 39.44 45 P P 17 00 53.3 +1.1
baz=285,SNR=9.6
E28M Babbage River 39.47 33 P P 17 00 53.0 +0.6
baz=279,SNR=5.6
F28M Old Crow 39.50 35 IAmb IAmb 17 00 55.5
comp=Z,23nm,1.0s
F28M Old Crow 39.50 35 P P 17 00 53.6 +0.9
baz=280,SNR=11
CRQE Cirque 39.57 46 P P 17 00 54.5 +1.1
baz=285,SNR=6.1
L27K Beaver Creek, 39.59 42 P P 17 00 54.8 +1.3
baz=284,SNR=39
M27K Edge Creek, AK 39.73 43 P P 17 00 56.1 +1.4
baz=284,SNR=26
I28M Miner Creek 39.88 38 P P 17 00 56.5 +0.7
baz=282,SNR=42
E29M Blow River 40.10 34 P P 17 00 58.3 +0.8
baz=280,SNR=12
BVCY Beaver Creek 40.17 43 P P 17 00 58.8 +0.6
baz=285
MESA MESA 40.27 47 P P 17 01 00.2 +1.1
baz=287
G29M Pine Creek 40.34 36 P P 17 01 00.2 +0.8
G29M IAmb IAmb 17 01 02.6
comp=Z,39nm,1.2s
G29M Pine Creek 40.34 36 P P 17 01 00.5 +1.1
baz=282,SNR=9.3
H29M Whitestone 40.34 37 P P 17 01 00.3 +0.9
baz=282,SNR=11
DAWY Dawson 40.41 40 IAmb IAmb 17 01 01.5
comp=Z,10nm,1.0s
DAWY Dawson 40.41 40 P P 17 01 00.1 +0.1
baz=284,SNR=8.1
YUK3 Moose Creek 40.52 44 P P 17 01 01.9 +0.8
baz=286
I29M Ogilvie Camp, 40.56 38 IAmb IAmb 17 01 03.8
comp=Z,30nm,0.9s
I29M Ogilvie Camp, 40.56 38 P P 17 01 02.1 +0.9
baz=284,SNR=8.6
WMQ Urumqi 40.85 286 eP P 17 01 04.9 +1.0
O28M Mount Upton 40.93 45 P P 17 01 05.2 +0.6
baz=287,SNR=8.4
EPYK Eagle Plains 40.96 37 P P 17 01 05.0 +0.6
baz=284,SNR=10
G30M tAoh Zraii Nji 41.01 36 IAmb IAmb 17 01 06.7
comp=Z,34nm,1.1s
G30M tAoh Zraii Nji 41.01 36 P P 17 01 05.0 +0.2
baz=283,SNR=12
F30M Barrier River 41.04 35 P P 17 01 05.8 +0.9
baz=283,SNR=33
PINM Pinnacle 41.11 46 P P 17 01 06.6 +0.9
baz=288
L29M L29M 41.20 42 P P 17 01 07.8 +1.5
baz=286,SNR=32
M29M Somme Creek 41.24 43 IAmb IAmb 17 01 09.1
comp=Z,7.3nm,0.7s
M29M Somme Creek 41.24 43 P P 17 01 08.1 +1.4
baz=287,SNR=8.7
K29M Barlow Dome 41.27 40 P P 17 01 07.5 +0.6
K29M IAmb IAmb 17 01 09.7
comp=Z,11nm,0.9s
K29M Barlow Dome 41.27 40 P P 17 01 08.0 +1.1
baz=286,SNR=11
I30M Mount Dempster 41.38 38 P P 17 01 08.5 +0.7
I30M Mount Dempster 41.38 38 P P 17 01 08.5 +0.7
baz=285,SNR=39
YUK4 Talbot Arm 41.48 44 P P 17 01 09.7 +0.9
baz=288
J30M Hart River 41.57 39 IAmb IAmb 17 01 11.6
comp=Z,7.2nm,0.7s
J30M Hart River 41.57 39 P P 17 01 10.2 +0.8
baz=286,SNR=9.2
PNL Peninsula 41.65 47 P P 17 01 11.3 +1.4
baz=289
INK Inuvik 41.71 33 P P 17 01 10.3 +0.2
baz=284,SNR=28
INK Inuvik 41.71 33 P P 17 01 10.4 +0.3
comp=Z,41nm,0.3s,baz=294,slow=7.5,SNR=437
INK PcP PcP 17 02 54.5 +0.9
comp=Z,3.1nm,0.4s,baz=271,slow=5.4,SNR=3.7
comp=Z,41nm,0.3s
YUK6 Outpost Mounta 41.73 45 P P 17 01 11.9 +1.1
baz=288
G31M Satah River 41.77 35 P P 17 01 10.9 +0.2
baz=285,SNR=22
O29M Mount Kennedy 41.84 46 IAmb IAmb 17 01 13.9
comp=Z,7.5nm,0.6s
O29M Mount Kennedy 41.84 46 P P 17 01 12.9 +1.4
baz=289
F31M Tsiigehtchic 41.84 35 IAmb IAmb 17 01 12.9
comp=Z,23nm,0.7s
F31M Tsiigehtchic 41.84 35 P P 17 01 11.4 +0.2
baz=285,SNR=8.6
M30M Minto, Yukon 41.94 42 IAmb IAmb 17 01 15.2
comp=Z,15nm,0.8s
M30M Minto, Yukon 41.94 42 P P 17 01 13.9 +1.7
baz=288,SNR=11
PZH PanZhiHua 41.99 255 P P 17 01 13.6 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
H31M Peel River 42.04 37 P P 17 01 13.4 +0.5
H31M Peel River 42.04 37 P P 17 01 13.6 +0.7
baz=286,SNR=24
N30M Aishikik Lake 42.16 44 P P 17 01 15.2 +1.2
baz=289
HYT Haines Junctio 42.17 45 P P 17 01 15.9 +1.8
baz=289
P29M Windy Craggy 42.46 46 P P 17 01 18.5 +2.2
baz=290,SNR=13
P30M Million Dollar 42.66 46 P P 17 01 19.3 +1.4
baz=290
N31M Braeburn, Yuko 42.74 43 IAmb IAmb 17 01 21.7
comp=Z,24nm,0.7s
N31M Braeburn, Yuko 42.74 43 P P 17 01 20.0 +1.5
baz=290,SNR=9.7
MK31 Makanchi Array 42.78 293 IAmb IAmb 17 01 20.4

comp=Z,9.2nm,0.6s
MK31 Makanchi Array 42.78 293 *d* iP **P 17 01 19.1 +0.1**
MKAR Makanchi Array 42.78 293 P **P 17 01 19.3 +0.3**
comp=Z,7.0nm,0.5s,baz=68,slow=7.4,SNR=82
MKAR PcP **PcP 17 02 58.0 +0.2**
comp=Z,3.5nm,0.6s,baz=65,slow=5.8,SNR=8.8
MKAR ScP **ScP 17 05 55.6 -1.4**
comp=Z,1.6nm,0.5s,baz=60,slow=3.3,SNR=9.8
MKAR S **S 17 07 02.8 -0.9**
comp=Z,3.5nm,1.1s,baz=67,slow=19,SNR=10
comp=Z,7.0nm,0.5s
O30N Mendenhall 42.84 44 IAmb IAmb 17 01 22.2
comp=Z,13nm,0.8s
O30N Mendenhall 42.84 44 P **P 17 01 20.8 +1.6**
baz=290,SNR=8.6
MAKZ Makanchi 42.97 293 P **P 17 01 19.9 -0.5**
MAKZ IAmb IAmb 17 01 21.8
comp=Z,17nm,1.2s
MAKZ Makanchi 42.97 293 P **P 17 01 19.9 -0.5**
MAKZ pmax pmax
comp=Z,17nm,1.2s
M31M Drury Creek, Y 43.12 42 IAmb IAmb 17 01 24.1
comp=Z,7.9nm,0.7s
M31M Drury Creek, Y 43.12 42 P **P 17 01 22.7 +1.2**
baz=290
PLBC Pleasant Camp 43.17 46 P **P 17 01 23.0 +1.2**
baz=291
KURK Kurchatov 43.18 300 P **P 17 01 21.7 -0.2**
KURK IAmb IAmb 17 01 23.1
comp=Z,46nm,1.2s
KURK Kurchatov 43.18 300 *d* iP **P 17 01 22.0 +0.1**
KURK pmax pmax
comp=Z,22nm,0.7s
KURK Kurchatov 43.18 300 P **P 17 01 22.0 +0.1**
KURK Kurchatov 43.18 300 *e*P **P 17 01 22.0 +0.1**
KURBB Kurchatov Arra 43.27 300 P **P 17 01 22.7 0.0**
comp=Z,14nm,0.5s,baz=70,slow=8.3,SNR=108
KURBB PcP **PcP 17 02 59.6 +0.3**
comp=Z,2.4nm,0.6s,baz=64,slow=4.2,SNR=7.9
KURBB ScP **ScP 17 05 57.1 -1.7**
comp=Z,1.8nm,0.5s,baz=70,slow=4.0,SNR=10
KURBB S **S 17 07 02.0 -8.4**
comp=Z,1.7nm,0.9s,baz=71,slow=14,SNR=5.3
comp=Z,14nm,0.5s
WHY Whitehorse 43.44 44 IAmb IAmb 17 01 26.9
comp=Z,13nm,0.7s
WHY Whitehorse 43.44 44 P **P 17 01 25.1 +1.1**
baz=291,SNR=8.2
A36M Sachs Harbour 43.45 27 P **P 17 01 24.2 +0.4**
baz=287
FARO Faro, Yukon 43.58 42 IAmb IAmb 17 01 27.5
comp=Z,11nm,0.7s
FARO Faro, Yukon 43.58 42 P **P 17 01 26.1 +1.2**
baz=291,SNR=10
N32M Quiet Lake 44.08 43 P **P 17 01 30.0 +1.1**
baz=292
MMPY Sheldon Lake, 44.34 41 IAmb IAmb 17 01 33.7
comp=Z,10nm,0.7s
MMPY Sheldon Lake, 44.34 41 P **P 17 01 32.4 +1.5**
baz=292,SNR=8.3
P32M Atlin 44.38 45 P **P 17 01 32.4 +1.2**
baz=293
R32K Eaglecrest 44.51 47 P **P 17 01 33.7 +1.5**
baz=294
P33M Teslin, Yukon 44.56 44 IAmb IAmb 17 01 35.5
comp=Z,20nm,0.9s
P33M Teslin, Yukon 44.56 44 P **P 17 01 33.6 +1.1**
baz=293,SNR=15
C36M Paulatuk 44.68 30 P **P 17 01 33.0 -0.3**
baz=291,SNR=8.3
S32K Killisnoo 44.81 48 P **P 17 01 36.0 +1.6**
baz=294
Q32M Nakina River 45.31 46 IAmb IAmb 17 01 42.5
comp=Z,12nm,1.0s
Q32M Nakina River 45.31 46 P **P 17 01 39.7 +1.2**
baz=294
R33M Jennings River 45.74 45 P **P 17 01 42.8 +1.1**
baz=295
TGTN Hyland Airport 46.07 41 P **P 17 01 45.5 +1.4**
baz=295,SNR=10
S34M Telegraph Cree 46.30 47 IAmb IAmb 17 01 49.3
comp=Z,9.4nm,0.8s
S34M Telegraph Cree 46.30 47 P **P 17 01 47.4 +1.6**
baz=296
DLBC Dease Lake 46.59 46 IAmb IAmb 17 01 52.3
comp=Z,14nm,1.1s
DLBC Dease Lake 46.59 46 P **P 17 01 49.8 +1.7**
baz=296
DLBC Dease Lake 46.59 46 P **P 17 01 50.1 +2.0**
comp=Z,5.2nm,0.6s,baz=308,slow=8.1,SNR=9.9
comp=Z,5.2nm,0.6s
BVAR Borovoye Array 46.69 306 P **P 17 01 49.4 +0.5**
comp=Z,18nm,0.5s,baz=40,slow=7.5,SNR=160
BVAR PcP **PcP 17 03 11.6 +0.2**
comp=Z,7.4nm,0.4s,baz=76,slow=2.4,SNR=14
BVAR ScP **ScP 17 06 11.8 -1.2**
comp=Z,2.8nm,0.5s,baz=46,slow=2.9,SNR=8.6
BVAR S **S 17 07 59.0 +0.6**
comp=Z,2.5nm,0.9s,baz=40,slow=14,SNR=5.9
comp=Z,18nm,0.5s
BRVK Borovoye 46.73 306 P **P 17 01 49.3 +0.2**
BRVK IAmb IAmb 17 01 50.6
comp=Z,45nm,1.2s
BRVK Borovoye 46.73 306 *d* iP **P 17 01 49.4 +0.2**
BRVK pmax pmax
comp=Z,13nm,0.5s
BRVK Borovoye 46.73 306 P **P 17 01 49.5 +0.4**
BRVK Borovoye 46.73 306 *e*P **P 17 01 49.4 +0.2**
T35M Bob Quinn 47.14 48 IAmb IAmb 17 01 56.4
comp=Z,16nm,0.9s
T35M Bob Quinn 47.14 48 P **P 17 01 53.9 +1.7**
baz=297
ANVS Anan'yevo 47.66 290 P **P 17 01 57.0 +0.5**
KOTAN Kotaneelee Air 48.54 42 P **P 17 02 04.0 +1.4**
baz=299
ULHL Ulahol 48.83 291 P **P 17 02 06.7 +1.4**
SNR=5.3
TKM2 Tokmak 2 48.85 292 P **P 17 02 07.2 +1.7**
SNR=5.7
BOOM Boomskoye usch 48.88 291 IAmb IAmb 17 02 07.8
comp=Z,17nm,0.5s
SHL Shillong 49.00 263 P **P 17 02 07.2 +0.4**
SHL IAmb IAmb 17 02 08.5
comp=Z,9.0nm,0.6s
SHL Shillong 49.00 263 P **P 17 02 07.2 +0.4**
SHL pmax pmax
comp=Z,9.0nm,0.6s
USP Ospenovka 49.33 293 P **P 17 02 09.7 +0.9**
SNR=14
CHTO Chiang Mai 49.35 250 P **P 17 02 09.7 +0.5**
CHTO Chiang Mai 49.35 250 P **P 17 02 09.7 +0.5**
CHTO pmax pmax
comp=Z,6.0nm,0.8s
NOR Nord 49.41 357 *i* P **P 17 02 08.2 -0.5**
CMAR Chiang Mai Arr 49.62 250 P **P 17 02 13.3 +2.2**
comp=Z,2.0nm,0.8s,baz=33,slow=7.5,SNR=11
CMAR ScP **ScP 17 06 25.9 -0.2**
comp=Z,0.6nm,0.6s,baz=21,slow=3.6,SNR=4.1
AAK Ala-Archa 49.68 292 P **P 17 02 12.3 +0.8**
SNR=5.1
AAK Ala-Archa 49.68 292 *de*P **P 17 02 12.1 +0.6**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 49.68 292 P **P 17 02 12.1 +0.6**
AAK Ala-Archa 49.68 292 *e*P **P 17 02 12.1 +0.6**
KBS Kingsbay 49.72 350 *e*P **P 17 02 10.5 -0.5**
KBS Kingsbay 49.72 350 *i* P **P 17 02 10.9 -0.1**
SPA0 Spitsbergen Ar 49.76 348 *e*P **P 17 02 10.5 -0.8**
SPITS Spitsbergen Ar 49.76 348 P **P 17 02 10.2 -1.1**
comp=Z,6.0nm,0.4s,baz=57,slow=8.0,SNR=32
SPITS PcP **PcP 17 03 22.1 0.0**
comp=Z,9.8nm,0.8s,baz=126,slow=14,SNR=2.0
comp=Z,6.0nm,0.4s
SVE Sverdlovsk 49.76 314 *e*P **P 17 02 12.0 +0.4**
SVE *e*S **S 17 08 39.6 -0.7**
SVE pmax pmax
comp=Z,34nm,0.9s
SVE Sverdlovsk 49.76 314 *e*P **P 17 02 12.0 +0.4**
RES Resolute Bay 49.84 18 P **P 17 02 11.6 -0.3**
comp=Z,68nm,0.4s,baz=337,slow=5.8,SNR=622
comp=Z,68nm,0.4s
EKS2 Erkin-Say 50.11 292 P **P 17 02 15.5 +0.9**
SNR=12
ARLS Aral 50.23 291 P **P 17 02 16.8 +1.3**
TAPN Taplejung 50.53 268 *e*P **P 17 02 18.9 +0.8**
comp=Z,5.3nm,0.3s
KSH Kashi 50.55 288 P P 17 02 23.0 +5.1
KSH pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 50.95 314 P **P 17 02 19.8 -0.5**
ARU Arti 50.95 314 *d* iP **P 17 02 20.0 -0.3**
ARU 17 03 25.7
ARU S **S 17 08 55.7 -0.7**
ARU pmax pmax
comp=Z,41nm,0.6s
ARU Arti 50.95 314 *e*P **P 17 02 20.0 -0.3**
ARU Arti 50.95 314 P **P 17 02 20.1 -0.1**
comp=Z,50nm,0.4s,baz=76,slow=5.2,SNR=143
ARU PcP **PcP 17 03 26.7 -0.2**
comp=Z,9.2nm,0.5s,baz=347,slow=3.0,SNR=4.7
ARU ScP **ScP 17 06 29.3 -1.9**
comp=Z,1.8nm,0.4s,baz=330,slow=5.6,SNR=3.5
ARU S **S 17 08 55.1 -1.3**
comp=Z,3.6nm,0.6s,baz=207,slow=22,SNR=20
comp=Z,50nm,0.4s
YKA Yellowknife Ar 51.24 36 P **P 17 02 22.3 0.0**
comp=Z,10nm,0.7s,baz=330,slow=18,SNR=43
YKA PcP **PcP 17 03 28.4 +0.4**
comp=Z,1.3nm,0.4s,baz=24,slow=6.1,SNR=9.4
comp=Z,10nm,0.7s
JIRN Jiri 51.33 269 *e*P **P 17 02 25.0 +1.1**
comp=Z,22nm,0.6s
GUN Gumba 51.36 270 *e*P **P 17 02 25.2 +1.0**
comp=Z,20nm,0.5s
RAMN Ramite 51.53 268 *e*P **P 17 02 25.0 -0.3**
comp=Z,33nm,0.6s
ARK Arkit 51.71 292 P **P 17 02 27.5 +1.3**
KKN Kakani 51.84 270 *e*P **P 17 02 28.5 +1.0**
comp=Z,224nm,2.9s
PKI Pulchoki 51.90 270 *e*P **P 17 02 28.7 +0.7**
comp=Z,15nm,0.6s
PKIN Phulchoki 51.91 270 *e*P **P 17 02 28.9 +0.9**
comp=Z,6.8nm,0.3s
DMN Daman 52.08 270 *e*P **P 17 02 30.4 +1.2**
comp=Z,28nm,0.8s
GKN Gorkha 52.12 271 *e*P **P 17 02 30.4 +1.0**
comp=Z,34nm,0.5s
DANN Dangsing 52.47 272 *e*P **P 17 02 33.3 +1.2**
comp=Z,58nm,0.5s
TULEG Thule 52.60 10 *e*P **P 17 02 32.0 +0.2**
KOLN Koldanda 52.96 271 *e*P **P 17 02 36.3 +0.8**
comp=Z,55nm,2.2s
PYUN Piuthan 53.14 272 *e*P **P 17 02 37.9 +1.1**
comp=Z,24nm,0.6s
NEEM North Greenlan 53.30 5 *i* P **P 17 02 36.7 -0.5**
BTK Batken 53.43 291 IAmb IAmb 17 02 40.1
comp=Z,22nm,1.2s
PRGR Permogore 53.54 325 ⦚ *i*P **P 17 02 38.6 -0.1**
PRGR *e*S **S 17 09 25.8 -4.8**
PRGR pmax pmax
comp=Z,35nm,0.5s
KIRV Kirov 53.83 320 P **P 17 02 40.6 -0.2**
comp=Z,16nm,0.5s,baz=48,slow=4.1,SNR=13
KIRV PcP **PcP 17 03 37.5 -0.3**
comp=Z,7.8nm,0.4s,baz=335,slow=5.8,SNR=4.3
comp=Z,16nm,0.5s
HAMF Hammerfest 54.14 340 *e*P **P 17 02 42.2 -0.6**
DAG Danmarks Havn 54.24 356 *i* P **P 17 02 42.9 -0.5**
ABKAR Akbulak array 54.26 306 IAmb IAmb 17 02 45.3
comp=Z,28nm,0.6s
ARA0 ARCESS Array S 54.54 339 *e*P **P 17 02 45.9 +0.2**
ARCES ARCESS Array B 54.54 339 P **P 17 02 45.2 -0.5**
comp=Z,6.8nm,0.4s,baz=37,slow=9.3,SNR=66
comp=Z,6.8nm,0.4s
BRLDA Berland Lookou 54.85 46 IAmb IAmb 17 02 50.5
comp=Z,26nm,0.5s
KTK1 Kautokeino 55.47 339 *e*P **P 17 02 52.2 0.0**
KULLO Kullorsuaq 55.59 8 *i* P **P 17 02 52.3 -0.6**
JETT Jettan, Norway 55.70 340 *e*P **P 17 02 53.9 +0.1**
TRO Tromso 55.97 341 *e*P **P 17 02 55.4 -0.2**
KLMR Klimovskoe 56.32 326 *e*P **P 17 02 55.5 -2.7**
KLMR AMP 17 02 58.9
comp=Z,22nm,0.6s
KLMR Klimovskoe 56.32 326 *e*P **P 17 02 55.4 -2.7**
KLMR pmax pmax
comp=Z,22nm,0.6s
DBG Daneborg 56.75 356 *i* P **P 17 03 00.5 -0.4**
EDM Edmonton 57.29 45 IAmb IAmb 17 03 07.5
comp=Z,19nm,0.7s
UPNV Upernavik 57.40 8 *i* P **P 17 03 04.2 -1.2**
KBL Kabul 57.98 287 P **P 17 03 09.2 -1.0**
KBL IAmb IAmb 17 03 11.2
comp=Z,13nm,0.6s
KBL Kabul 57.98 287 P **P 17 03 09.3 -1.0**
KBL pmax pmax
comp=Z,13nm,0.6s
KBL Kabul 57.98 287 P **P 17 03 09.4 -0.8**
SNR=5.6
HOOD Mount Hood Mea 58.06 56 IAmb IAmb 17 03 14.5
comp=Z,63nm,1.1s
STEI Steigen 58.14 341 *e*P **P 17 03 09.7 -0.7**
H04A Detroit Lake 58.17 57 IAmb IAmb 17 03 14.5
comp=Z,19nm,0.8s
LOF Lofoten 58.33 342 *e*P **P 17 03 11.3 -0.4**
BELG Belogornoye 58.48 315 *d* iP **P 17 03 12.9 -0.1**
BELG pmax pmax
comp=Z,8.0nm,0.8s
BELG Belogornoye 58.48 315 P **P 17 03 13.0 0.0**
comp=Z,75nm,0.5s,baz=329,slow=0.5,SNR=84
comp=Z,75nm,0.5s
FAUS Fauske 58.58 340 *e*P **P 17 03 13.1 -0.4**
NEW Newport 58.60 51 P **P 17 03 15.1 +1.1**
baz=310
SUMG Summit 58.67 2 IAmb IAmb 17 03 15.3
comp=Z,75nm,1.3s
SUMG Summit 58.67 2 *i* P **P 17 03 14.0 -0.5**
PINE Pine Mountain 59.43 57 P **P 17 03 21.7 +1.9**
PINE IAmb IAmb 17 03 23.7
comp=Z,23nm,0.8s
YBH Yreka Blue Hor 59.76 60 P **P 17 03 24.1 +2.1**
YBH Yreka Blue Hor 59.76 60 P **P 17 03 24.1 +2.1**
YBH pmax pmax
comp=Z,8.0nm,0.9s
MOR8 Moi Rana 59.78 340 *e*P **P 17 03 19.9 -1.6**
K05A Summer Lake 60.15 58 P **P 17 03 26.4 +1.8**
K05A IAmb IAmb 17 03 28.9
comp=Z,20nm,1.0s
FINES FINESS Array B 60.46 332 P **P 17 03 25.3 -0.7**
FINES FINESS Array B 60.46 332 P **P 17 03 25.6 -0.4**
comp=Z,32nm,0.5s,baz=30,slow=8.5,SNR=46
FINES PcP **PcP 17 04 03.3 -0.8**
comp=Z,2.9nm,0.4s,baz=101,slow=4.2,SNR=3.9
comp=Z,32nm,0.5s
SCO Scoresbysund 60.63 356 *e*P **P 17 03 27.6 +0.6**
J08A Circle Bar Ran 61.07 56 IAmb IAmb 17 03 34.6
comp=Z,10nm,0.8s
MSO Missoula 61.17 51 IAmb IAmb 17 03 34.2
comp=Z,19nm,1.3s
MSO Missoula 61.17 51 P **P 17 03 32.3 +1.1**
baz=312
FFC Flin Flon 61.26 38 P **P 17 03 31.2 -0.2**
FFC IAmb IAmb 17 03 33.2
comp=Z,18nm,0.9s
FFC Flin Flon 61.26 38 P **P 17 03 31.2 -0.2**
FFC pmax pmax
comp=Z,18nm,1.0s
PLID Pearl Lake 61.26 53 IAmb IAmb 17 03 34.5
comp=Z,12nm,0.8s
ILULI Ilulissat 61.31 8 *e*P **P 17 03 31.1 -0.4**
OBN Obninsk 61.42 322 ⦚ *i*P **P 17 03 31.8 -0.7**
OBN *e* 17 04 08.1
OBN *e**PP **pP 17 05 18.9 -1.1**
OBN *e* 17 05 56.8
OBN *e*S **S 17 11 12.2 +0.9**
OBN *e*SS **SS 17 15 25.3 +1.5**
OBN pmax pmax
comp=Z,85nm,2.5s
OBN Obninsk 61.42 322 *e*P **P 17 03 31.8 -0.7**
OBN Obninsk 61.42 322 P **P 17 03 31.9 -0.5**
comp=Z,15nm,0.4s,baz=32,slow=12,SNR=4.2
comp=Z,15nm,0.4s
WVOR Wild Horse Val 61.59 57 IAmb IAmb 17 03 37.3
comp=Z,14nm,1.0s
NSS Namsos 61.72 340 *e*P **P 17 03 33.7 -0.5**
MEF Metsahovi 61.94 332 *e*P **P 17 03 35.2 -0.5**
VRH Novokhopyorsk 61.99 317 *e*P **P 17 03 35.5 -0.7**
VRH pmax pmax
comp=Z,34nm,0.6s
RAF Rauma 62.09 334 *e*P **P 17 03 36.1 -0.6**
ICESG Greenland Ices 62.13 3 *i* P **P 17 03 37.6 +0.4**
LPSR Galich'ya Gora 62.24 319 *e*P **P 17 03 35.3 -2.5**
LPSR pmax pmax
comp=Z,20nm,0.6s
GEYT Alibeck 62.42 297 IAmb IAmb 17 03 40.5
comp=Z,18nm,1.3s
GEYT Alibeck 62.42 297 P **P 17 03 40.0 +0.6**
GEYT Alibeck 62.42 297 P **P 17 03 40.0 +0.6**
comp=Z,6.3nm,0.5s,baz=64,slow=6.8,SNR=13
comp=Z,6.3nm,0.5s
GYA0B ALIBECK ARRAY 62.42 297 IAmb IAmb 17 03 41.1
comp=Z,7.6nm,0.6s
EGMT Eagleton 62.45 48 P **P 17 03 40.7 +1.2**
baz=314
VSU Vasula 62.55 330 *e*P **P 17 03 39.0 -0.7**
VORR Voronezh 62.78 318 *e*P **P 17 03 41.1 -0.2**
VORR pmax pmax
comp=Z,63nm,0.4s
DLMT Dillon 62.85 51 IAmb IAmb 17 03 45.5
comp=Z,22nm,0.9s
PAHR Pah Rah Range 63.00 60 IAmb IAmb 17 03 46.1
comp=Z,12nm,0.8s
EMB Emerald Bay 63.08 61 P **P 17 03 45.2 +1.4**
VSR Storozhevoye 63.12 318 *e*P **P 17 03 41.0 -2.5**
VSR pmax pmax
comp=Z,20nm,0.5s
HLID Hailey 63.13 54 P **P 17 03 45.2 +1.2**
baz=313
SOEG Soedalen 63.15 360 *i* P **P 17 03 43.4 0.0**
BOZ Bozeman (W) 63.19 51 IAmb IAmb 17 03 47.0
comp=Z,13nm,0.9s
BOZ Bozeman (W) 63.19 51 P **P 17 03 45.7 +1.4**
baz=314,SNR=6.3
PNTR Pine Nut 63.29 60 P **P 17 03 46.3 +1.1**
AAL Aland 63.29 334 *e*P **P 17 03 43.1 -1.3**
MTSE Matsula 63.31 331 *e*P **P 17 03 43.7 -0.9**
SFJD Kangerlussuaq 63.51 8 *i* P **P 17 03 45.1 -0.7**
YERR Yerington 63.57 60 IAmb IAmb 17 03 50.0
comp=Z,19nm,0.6s
KVN Kaiserville 64.17 60 IAmb IAmb 17 03 53.9
comp=Z,16nm,0.6s
UPP Uppsala 64.24 335 *e*P **P 17 03 49.6 -0.8**
DY2G Dye2 64.38 6 *i* P **P 17 03 51.4 -0.2**
YFT Old Faithful 64.39 51 IAmb IAmb 17 03 56.7
comp=Z,12nm,0.7s
MOL Molde 64.41 341 *e*P **P 17 03 52.7 +1.2**
NVAR Mina Array Bea 64.48 60 P **P 17 03 54.3 +1.6**
comp=Z,7.7nm,0.7s,baz=293,slow=6.0,SNR=42
comp=Z,7.7nm,0.7s
LHV Little Huntoon 64.49 61 IAmb IAmb 17 03 56.3
comp=Z,12nm,0.8s
DOMB Dombas 64.54 340 *e*P **P 17 03 52.2 -0.2**
H17A Grant Village 64.56 51 IAmb IAmb 17 03 58.1
comp=Z,12nm,0.9s
H17A Grant Village 64.56 51 P **P 17 03 56.0 +2.8**
baz=315,SNR=6.2
RLMT Red Lodge 64.71 50 IAmb IAmb 17 03 57.8
comp=Z,18nm,1.2s
RLMT Red Lodge 64.71 50 P **P 17 03 55.8 +1.7**
baz=315,SNR=7.6
FLWY Flagg Ranch 64.71 51 IAmb IAmb 17 03 58.4
comp=Z,14nm,1.3s
IMW Indian Meadow 64.72 52 IAmb IAmb 17 03 57.5
comp=Z,12nm,1.2s
DGMT Dagmar 64.77 44 P **P 17 03 55.3 +1.1**
baz=316
NC204 NORSAR Array S 64.82 339 IAmb IAmb 17 04 22.3
comp=Z,37nm,1.4s
FXWY Fox Creek 64.86 52 IAmb IAmb 17 03 58.4
comp=Z,7.2nm,0.8s
AKN Aaknes 64.88 341 *e*P **P 17 03 54.7 +0.2**
NB2 NORSAR Subarra 64.91 338 P **P 17 03 54.3 -0.5**
comp=Z,20nm,0.5s,baz=30,slow=6.5
NB2 NORSAR Subarra 64.91 338 P **P 17 03 54.3 -0.5**
baz=30,slow=6.5
NOA NORSAR Array B 64.91 338 P **P 17 03 54.6 -0.3**
comp=Z,23nm,0.4s,baz=31,slow=6.7,SNR=196
NOA PcP **PcP 17 04 21.9 -0.6**
comp=Z,1.3nm,0.5s,baz=28,slow=3.2,SNR=3.7
comp=Z,23nm,0.4s
TPAW Teton Pass 65.00 52 IAmb IAmb 17 04 00.0
comp=Z,17nm,1.1s
NBO00 NORSAR Array S 65.03 339 IAmb IAmb 17 04 34.6
comp=Z,23nm,1.4s
HFS Hagfors 65.07 337 P **P 17 03 55.1 -0.6**
comp=Z,24nm,0.5s,baz=57,slow=5.5,SNR=162
comp=Z,24nm,0.5s
LOHW Long Hollow 65.09 52 IAmb IAmb 17 04 00.5
comp=Z,11nm,1.1s
NC602 NORSAR Array S 65.10 338 IAmb IAmb 17 03 56.3
comp=Z,17nm,0.6s
NC602 NORSAR Array S 65.10 338 *e*P **P 17 03 55.0 -0.9**
LAO LASA Array 65.10 47 P **P 17 03 57.4 +1.1**
baz=316
IIGN Ignalina 65.16 328 *e*P **P 17 03 57.7 +1.3**
NAO01 NORSAR Array S 65.16 338 IAmb IAmb 17 03 56.9
comp=Z,12nm,0.8s
MNK Minsk 65.22 326 *i* P **P 17 03 56.9 +0.1**
comp=E,6.0nm,1.0s
MNK *i* P **P 17 03 56.9 +0.1**
comp=N,16nm,1.0s
MNK *i* P **P 17 03 56.9 +0.1**
comp=Z,46nm,1.0s,baz=39
MNK *i* pP **pP 17 05 45.9 -0.1**
MNK *i* PP **PP 17 06 29.0 +0.1**
MNK *i* sP **sP 17 06 39.2 -4.0**
MNK *i* PPP PPP 17 08 12.8
MNK *i* S **S 17 11 57.3 -0.1**
MNK *i* sS sS 17 15 01.5 -11
MNK *i* SS **SS 17 16 26.1 +3.7**
MNK *i* SSS SSS 17 19 47.1
MNK Minsk 65.22 326 *i* P **P 17 03 56.9 +0.1**
MNK *i* *PP **pP 17 05 45.8 -0.1**
MNK *i* 17 06 28.9
MNK *i* PPP PPP 17 08 12.7
MNK *i* S **S 17 11 57.2 -0.1**
MNK *i* SS **SS 17 16 26.1 +3.7**
MNK pmax pmax
comp=N,16nm,1.0s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=Z,46nm,1.0s
NACGM Naroch 65.31 327 *e*P **P 17 03 57.2 -0.1**
comp=Z,45nm,0.9s,baz=39
VIKU Vikbolandet 65.63 334 *e*P **P 17 03 58.2 -1.0**
ANGG Ammassalik, Gr 65.67 2 *e*P **P 17 03 56.8 -2.6**
ANGG *i* 17 04 04.2
ID09 Alton 65.75 53 IAmb IAmb 17 04 04.1
comp=Z,15nm,0.9s
PABE Paberze 65.82 329 P **P 17 03 59.9 -0.6**
PABE Paberze 65.82 329 *e*P **P 17 03 59.6 -0.9**
HYA Hoyanger 65.96 341 *e*P **P 17 04 01.4 +0.1**
HWUT Hardware Ranch 66.00 54 IAmb IAmb 17 04 05.2
comp=Z,9.8nm,0.8s
GRAC Grapevine Rang 66.01 61 IAmb IAmb 17 04 05.4
comp=Z,15nm,0.6s
GRAC Grapevine Rang 66.01 61 P **P 17 04 04.0 +1.9**
baz=314,SNR=13
PKM Mcpherson Peak 66.04 64 P **P 17 04 04.6 +2.0**
baz=314
R11B Troy Canyon, C 66.08 59 P **P 17 04 04.0 +1.3**
baz=315,SNR=8.0
NUUK Nuuk 66.15 9 *i* P **P 17 04 01.3 -1.1**
BW06 Boulder Array 66.23 52 IAmb IAmb 17 04 06.0
comp=Z,16nm,0.6s
BW06 Boulder Array 66.23 52 P **P 17 04 04.3 +0.6**
baz=316,SNR=32
PD31 Pinedale Array 66.23 52 IAmb IAmb 17 04 06.0
comp=Z,14nm,0.6s
PDAR Pinedale Array 66.23 52 P **P 17 04 04.5 +0.8**
comp=Z,11nm,0.5s,baz=39,slow=0.9,SNR=123
comp=Z,11nm,0.5s
ISA Isabella, Lake 66.29 63 P **P 17 04 05.0 +1.1**
baz=314
BORG Borgarnes 66.31 355 P **P 17 04 04.4 +1.1**
comp=Z,19nm,0.7s,baz=4.8,slow=3.6,SNR=9.2
comp=Z,19nm,0.7s
DUG Dugway, Tooele 66.32 56 P **P 17 04 05.7 +1.5**
baz=315,SNR=8.9
TCUT Toone Canyon 66.43 54 IAmb IAmb 17 04 07.8
comp=Z,11nm,0.8s
ARVC Arvin 66.45 63 P **P 17 04 06.4 +1.5**
baz=314
MPMC Manual Prospec 66.59 62 P **P 17 04 08.0 +2.1**
baz=315,SNR=6.8
FURC Furnace Creek, 66.67 61 P **P 17 04 07.9 +1.8**
baz=315
KIV Kislovodsk 66.68 311 P **P 17 04 06.2 0.0**
KIV IAmb IAmb 17 04 08.9
comp=Z,18nm,0.8s

KIV Kislovodsk 66.68 311 *eP* **P 17 04 06.8 +0.6**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV Kislovodsk 66.68 311 P **P 17 04 07.2 +1.0**
KIV Kislovodsk 66.68 311 *eP* **P 17 04 06.8 +0.6**
TPNV Topopah Spring 66.68 60 IAmb IAmb 17 04 09.4
comp=Z,15nm,0.5s
TPNV Topopah Spring 66.68 60 P **P 17 04 07.9 +1.4**
baz=315,SNR=18
KBZ Khabaz 66.74 310 *d iP* **P 17 04 07.0 +0.6**
KBZ pmax pmax
comp=Z,22nm,0.8s
KBZ Khabaz 66.74 310 *eP* **P 17 04 07.0 +0.6**
KBZ Khabaz 66.74 310 P **P 17 04 07.2 +0.9**
comp=Z,15nm,0.6s,baz=87,slow=2.8,SNR=33
comp=Z,15nm,0.6s
ASK Askoy 66.79 341 *eP* **P 17 04 06.8 +0.4**
LRMC Laurel Mtn Rad 66.88 62 P **P 17 04 09.5 +1.8**
baz=315
NLU North Lily Min 66.89 55 IAmb IAmb 17 04 10.7
comp=Z,7.9nm,0.8s
GWY Greenwater Val 66.97 61 IAmb IAmb 17 04 11.0
comp=Z,7.3nm,0.7s
ULM Lac du Bonnet 67.08 39 P **P 17 04 08.2 -0.2**
comp=Z,5.6nm,0.3s,baz=329,slow=5.6,SNR=16
comp=Z,5.6nm,0.3s
EDW2 Edwards Air Fo 67.12 63 P **P 17 04 10.7 +1.7**
baz=315,SNR=6.9
MDND Maddock 67.31 42 P **P 17 04 10.0 0.0**
baz=319
GSC Goldstone, Bar 67.51 62 P **P 17 04 13.0 +1.5**
baz=315
AKASG Malin Array Be 67.68 323 P **P 17 04 11.4 -0.7**
comp=Z,25nm,0.4s,baz=37,slow=6.2,SNR=169
AKASG pP **pP 17 06 06.6 +4.2**
comp=Z,0.3nm,0.4s,baz=32,slow=7.9,SNR=5.1
comp=Z,25nm,0.4s
AKBB Malin Array Si 67.68 323 *d iP* **P 17 04 11.2 -0.9**
BFSC Mount Baldy Ra 67.76 63 P **P 17 04 14.0 +1.0**
baz=315
RDMU Red Mountain 67.80 53 IAmb IAmb 17 04 16.6
comp=Z,20nm,0.8s
TMUT Trail Mountain 67.83 55 IAmb IAmb 17 04 16.4
comp=Z,9.0nm,0.8s
MVU Marysvale 67.85 57 IAmb IAmb 17 04 16.9
comp=Z,18nm,0.9s
K22A Casper 67.87 50 IAmb IAmb 17 04 15.5
comp=Z,23nm,1.4s
K22A Casper 67.87 50 P **P 17 04 14.0 +0.4**
baz=317,SNR=5.4
TUQ Turquoise Moun 67.93 61 P **P 17 04 15.3 +1.2**
baz=315,SNR=8.1
RSSD Black Hills 68.02 48 P **P 17 04 14.8 +0.2**
RSSD IAmb IAmb 17 04 16.6
comp=Z,22nm,1.1s
RSSD Black Hills 68.02 48 P **P 17 04 14.8 +0.2**
RSSD pmax pmax
comp=Z,22nm,1.1s
RSSD Black Hills 68.02 48 P **P 17 04 15.0 +0.4**
baz=318
P18A Preston Nutter 68.11 55 IAmb IAmb 17 04 18.3
comp=Z,11nm,1.1s
HEC Hector,Ludlow 68.12 62 P **P 17 04 16.6 +1.4**
baz=315,SNR=6.7
SCI2 San Clemente I 68.12 65 P **P 17 04 16.9 +1.8**
baz=315
DEL Delary 68.17 335 *eP* **P 17 04 13.9 -1.0**
BBRC Big Bear Solar 68.18 63 P **P 17 04 17.2 +1.5**
baz=315
LCMT Little Creek M 68.34 58 IAmb IAmb 17 05 04.0
comp=Z,5.7nm,0.5s
MURC Murrieta 68.49 63 P **P 17 04 19.2 +1.8**
baz=316
GMRC Granite Mounta 68.54 61 P **P 17 04 19.4 +1.6**
baz=316
O20A White River Ci 68.81 53 P **P 17 04 20.9 +1.5**
baz=317,SNR=5.6
BELC Belle Mtn. Jos 68.90 62 P **P 17 04 21.3 +1.3**
baz=316
TPFO Pinon Flats 68.92 63 P **P 17 04 21.9 +1.9**
baz=316
BSD Bornholm Skovb 69.03 333 *eP* **P 17 04 19.8 -0.3**
IRM Iron Mountain 69.29 62 P **P 17 04 23.9 +1.7**
baz=316,SNR=6.1
IVI Ivigtut 69.42 8 *i P* **P 17 04 21.9 -0.4**
B35A Bob, Littlefor 69.44 39 IAmb IAmb 17 04 23.8
comp=Z,18nm,0.6s
MONP2 Monument Peak 69.44 63 P **P 17 04 25.0 +1.7**
baz=316
N23A Red Feather La 69.45 51 P **P 17 04 24.6 +1.3**
baz=318
BC3 Big Chuckawall 69.47 62 P **P 17 04 25.1 +1.8**
baz=316
WB0 Warramunga Arr 69.47 194 P **P 17 04 24.8 +1.6**
WB0 IAmb IAmb 17 04 26.2
comp=Z,11nm,1.0s
WR0 Warramunga Arr 69.64 193 IAmb IAmb 17 04 26.3
comp=Z,16nm,1.4s
WRAB Tennant Creek 69.64 194 P **P 17 04 25.8 +1.5**
WRAB Tennant Creek 69.64 194⇑ *eP* **P 17 04 26.3 +2.1**
WRAB pmax pmax
comp=Z,7.0nm,0.8s
WRA Warramunga Arr 69.65 194 P **P 17 04 25.4 +1.0**
comp=Z,5.0nm,0.6s,baz=8.5,slow=6.1,SNR=36
WRA PKPPKP **P'P'df 17 32 23.9 +2.1**
comp=Z,0.2nm,0.4s,baz=195,slow=2.8,SNR=10
comp=Z,5.0nm,0.6s
NRS Narsarsuaq 69.70 7 *i P* **P 17 04 23.4 -0.6**
PDMCI Parker Dam,Lak 69.76 61 P **P 17 04 26.6 +1.7**
baz=316
IKP In-Ko-Pah, Jac 69.80 63 P **P 17 04 26.7 +1.4**
baz=316
GKP Gorka Klasztor 69.89 331 *eP* **P 17 04 25.1 -0.2**
GKP Gorka Klasztor 69.89 331 *eP* **P 17 04 25.3 0.0**
SORM Soroca 70.05 322 ⇑P **P 17 04 25.0 -1.3**
SORM Soroca 70.05 322 ⇑P **P 17 04 25.0 -1.3**
SUSD Miller 70.19 44 P **P 17 04 27.6 +0.3**
baz=320
GLA Glamis 70.26 62 P **P 17 04 29.5 +1.5**
baz=316
F33A 5 Mile Ranch, 70.31 42 IAmb IAmb 17 04 29.9
comp=Z,36nm,1.5s
LVV L'vov 70.39 325 *eP* **P 17 04 28.0 -0.4**
ISCO Idaho Springs 70.43 52 P **P 17 04 29.9 +0.7**
baz=318
WUAZ Wupatki 70.46 58 P **P 17 04 30.3 +1.0**
baz=317
EYMN Ely 70.68 38 P **P 17 04 29.6 -0.5**
EYMN IAmb IAmb 17 04 31.7
comp=Z,20nm,1.1s
EYMN Ely 70.68 38 P **P 17 04 30.5 +0.3**
baz=323
MVCO Mesa Verde 70.81 55 IAmb IAmb 17 04 34.1
comp=Z,10nm,0.7s
MVCO Mesa Verde 70.81 55 P **P 17 04 32.2 +0.8**
baz=318,SNR=6.5
GURO Guroymak-BITLI 70.97 307 IAmb IAmb 17 04 34.5
comp=Z,12nm,1.0s
KWP Kalwaria Pacla 71.04 326 *eP* **P 17 04 32.6 +0.4**
Q24A Divide 71.29 52 P **P 17 04 35.0 +0.7**
baz=319
S22A 4UR Ranch, Cre 71.31 54 P **P 17 04 35.3 +0.9**
baz=318,SNR=6.1
OGNE Ogallala 71.38 49 P **P 17 04 35.2 +0.7**
baz=320
VASR Vaslui 71.47 321 ⇑P **P 17 04 34.2 -0.5**
OJC Ojcow 71.60 328 *eP* **P 17 04 35.6 +0.1**
OJC Ojcow 71.60 328 IAmb IAmb 17 04 36.7
comp=Z,32nm,1.2s
BUR08 Bucovina Ar. S 71.71 323 IAmb IAmb 17 04 37.5
comp=Z,27nm,1.3s
BURAR Bucovina Array 71.73 323 ⇑P **P 17 04 36.2 -0.2**
BURAR Bucovina Array 71.73 323 IAmb IAmb 17 04 38.2
comp=Z,16nm,0.6s
BURAR Bucovina Array 71.73 323 ⇑P **P 17 04 36.2 -0.2**
E38A The Farm, Brul 71.73 39 IAmb IAmb 17 04 37.3
comp=Z,19nm,0.8s
STHS Stebnicka Huta 71.75 326 *eP* **P 17 04 36.4 0.0**
STHS pmax pmax
comp=Z,13nm,0.7s
STHS Stebnicka Huta 71.75 326 *eP* **P 17 04 36.4 0.0**
KOLS Kolonicke sedl 71.78 326 *eP* **P 17 04 36.8 +0.2**
KOLS pmax pmax
comp=Z,15nm,0.7s
KOLS Kolonicke sedl 71.78 326 *eP* **P 17 04 36.8 +0.2**
ECSD EROS Data Cent 71.81 44 IAmb IAmb 17 04 38.4
comp=Z,14nm,0.5s
ECSD EROS Data Cent 71.81 44 P **P 17 04 37.0 +0.1**
baz=322,SNR=13
BIR Birlad 71.84 321 ⇑P **P 17 04 37.9 +1.0**
BIR Birlad 71.84 321 ⇑P **P 17 04 37.9 +1.0**
SHME Shamm 71.88 289 P **P 17 04 37.5 0.0**
SDCO Great Sand Dun 72.01 53 P **P 17 04 39.1 +0.6**
baz=319,SNR=5.9
DIKM Dikmen 72.04 313 ⇑P **P 17 04 38.7 +0.5**
TESR Tescani 72.04 322 ⇑P **P 17 04 37.9 -0.3**
214A Organ Pipe Nat 72.23 62 P **P 17 04 40.9 +1.4**
baz=317
SPMN Marine on St. 72.31 40 P **P 17 04 40.4 +0.7**
baz=323
WSAR Wadi Sarin 72.33 285 P **P 17 04 41.3 +1.1**
TRPA Tarpa 72.34 325 ⇑P **P 17 04 40.2 +0.4**
MASF Masafi 72.36 288 P **P 17 04 41.0 +0.6**
CFR Carcaliu 72.49 320 ⇑P **P 17 04 40.2 -0.5**
CFR Carcaliu 72.49 320 ⇑P **P 17 04 40.2 -0.5**
OKC Ostrava-Krasne 72.50 329 *eP* **P 17 04 40.9 +0.2**
OKC Ostrava-Krasne 72.50 329 *eP* **P 17 04 40.9 +0.2**
VRI Vrincioaia 72.53 321 ⇑P **P 17 04 41.5 +0.5**
VRI Vrincioaia 72.53 321 ⇑P **P 17 04 41.5 +0.5**
OSTC Ostas 72.54 330 *eP* **P 17 04 40.9 0.0**
OSTC Ostas 72.54 330 *eP* **P 17 04 40.9 0.0**
SCHQ Schefferville 72.54 20 P **P 17 04 40.5 -0.3**
comp=Z,4.6nm,0.4s,baz=322,slow=5.0,SNR=19
comp=Z,4.6nm,0.4s
CHVC Chvalec 72.56 330 *eP* **P 17 04 40.9 -0.2**
CHVC Chvalec 72.56 330 *eP* **P 17 04 40.9 -0.2**
WBK Wadi Bani Khal 72.57 284 P **P 17 04 43.4 +1.8**
LANS Liptovska Anna 72.62 327 *eP* **P 17 04 42.4 +1.0**
LANS pmax pmax
comp=Z,13nm,0.7s
LANS Liptovska Anna 72.62 327 *eP* **P 17 04 42.4 +1.0**
JLN Jalan Bani Buh 72.62 284 P **P 17 04 43.5 +1.6**
TPGR Topolog 72.63 320 ⇑P **P 17 04 41.7 +0.1**
UOSS Minazif 72.64 288 P **P 17 04 42.5 +0.6**
UPC Upice 72.64 330 *eP* **P 17 04 41.4 -0.1**
UPC Upice 72.64 330 *eP* **P 17 04 41.4 -0.1**
DPC Dobruska-Polom 72.68 330 *eP* **P 17 04 41.8 0.0**
DPC Dobruska-Polom 72.68 330 *eP* **P 17 04 41.8 0.0**
RETH Rethem/Aller, 72.71 335 *eP* **P 17 04 41.9 +0.1**
comp=Z,32nm,1.2s,baz=28,slow=5.1
OZUR 72.73 322 ⇑P **P 17 04 42.4 +0.2**
MORC Moravsky Berou 72.76 329 ⇑P **P 17 04 42.9 +0.6**
MORC Moravsky Berou 72.76 329 IAmb IAmb 17 04 43.7
comp=Z,18nm,0.9s
MORC Moravsky Berou 72.76 329 *eP* **P 17 04 42.5 +0.3**
MORC Moravsky Berou 72.76 329 ⇑P **P 17 04 42.9 +0.6**
COVR Voineasa-Covas 72.76 321 ⇑P **P 17 04 42.4 +0.1**
HATD Hatta, Dubai 72.77 288 P **P 17 04 42.6 -0.1**
SMDO Samad 72.83 285 P **P 17 04 44.6 +1.4**
BGNE Belgrade 72.91 46 P **P 17 04 43.8 +0.6**
baz=321
CLL Collm 72.91 332 ⇓ *iP* **P 17 04 42.5 -0.5**
CLL pmax pmax
comp=Z,47nm,0.5s
CLL Collm 72.91 332 *eP* **P 17 04 42.7 -0.3**
comp=Z,42nm,0.5s,baz=28,slow=5.1
CLL Collm 72.91 332 ⇓ *iP* **P 17 04 42.5 -0.5**
comp=Z,47nm,0.5s
CLL *e*PcP **PcP 17 04 57.0 +0.5**
ASHO Ashiyiah 72.92 288 P **P 17 04 44.4 +0.8**
HOQ Hoqain 72.92 286 P **P 17 04 44.3 +0.7**
TIRR Tirgusor 72.95 319 ⇑P **P 17 04 43.3 -0.1**
TIRR Tirgusor 72.95 319 P **P 17 04 43.2 -0.1**
TIRR IAmb IAmb 17 04 44.6
comp=Z,19nm,0.9s
TIRR Tirgusor 72.95 319 ⇑P **P 17 04 43.3 -0.1**
HARR Harsova 72.97 320 ⇑P **P 17 04 43.9 +0.4**
HARR Harsova 72.97 320 ⇑P **P 17 04 43.9 +0.4**
BRG Berggiesshubel 72.99 331 *i P* **P 17 04 44.0 +0.5**
BRG Amp 17 04 44.9
comp=Z,5.7nm,0.5s
BRG Berggiesshubel 72.99 331 P **P 17 04 46.7 +3.2**
BRG Amp 17 04 48.0
comp=Z,5.2nm,0.5s
BRG Berggiesshubel 72.99 331 *i* P **P 17 04 44.0 +0.5**
BRG pmax pmax
comp=Z,6.0nm,0.5s
BRG pmax pmax
comp=Z,5.0nm,0.5s
DOPR Dopca 73.00 322 ⇑P **P 17 04 45.6 +1.9**
MAUC Maruska 73.01 328 *eP* **P 17 04 43.7 0.0**
SOHO SOHO 73.02 287 P **P 17 04 44.6 +0.5**
T25A Trinidad 73.04 53 P **P 17 04 45.3 +0.9**
baz=319
PVCC Panska Ves 73.09 331 *eP* **P 17 04 43.7 -0.4**
PVCC Panska Ves 73.09 331 *eP* **P 17 04 43.7 -0.4**
FBE Freiberg 73.14 332 *eP* **P 17 04 44.6 +0.2**
comp=Z,28nm,1.2s,baz=28,slow=5.1
TUC Tucson 73.14 60 P **P 17 04 46.1 +1.3**
baz=318
MLR Muntele Rosu 73.16 321 ⇑P **P 17 04 45.9 +1.2**
MLR Muntele Rosu 73.16 321 IAmb IAmb 17 04 46.8
comp=Z,12nm,0.6s
MLR Muntele Rosu 73.16 321 ⇑P **P 17 04 45.9 +1.2**
MLR Muntele Rosu 73.16 321 P **P 17 04 45.7 +0.9**
comp=Z,11nm,0.5s,baz=148,slow=2.8,SNR=22
comp=Z,11nm,0.5s
FAQ Al Faqa, Dubai 73.17 288 P **P 17 04 45.6 +0.7**
ISR Istrita 73.21 321 ⇑P **P 17 04 45.9 +1.0**
ISR Istrita 73.21 321 ⇑P **P 17 04 45.9 +1.0**
CLZ Clausthal 73.22 334 *eP* **P 17 04 45.1 +0.2**
baz=28,slow=5.1
RICC Richard 73.23 331 *eP* **P 17 04 44.8 -0.1**
EKA Eskdalemuir Ar 73.26 343 P **P 17 04 44.7 -0.2**
comp=Z,4.8nm,0.4s,baz=16,slow=4.9,SNR=60
comp=Z,4.8nm,0.4s
JMDO Jabal Madar 73.30 285 P **P 17 04 46.6 +0.8**
MARR Marisel-Cluj 73.32 324 ⇑P **P 17 04 45.4 -0.2**
AS31 Alice Springs 73.37 193 P **P 17 04 47.9 +1.9**
ASAR Alice Springs 73.37 193 P **P 17 04 48.0 +2.0**
comp=Z,6.2nm,0.7s,baz=4.7,slow=5.1,SNR=58
comp=Z,6.2nm,0.7s
HSKC Hora Svate Kat 73.39 332 *eP* **P 17 04 45.0 -0.8**
VYHS Vyhne 73.39 327 *eP* **P 17 04 46.2 +0.3**
VYHS pmax pmax
comp=Z,24nm,1.3s
VYHS Vyhne 73.39 327 *eP* **P 17 04 46.2 +0.3**
ASUD Al Ashush, Dub 73.42 288 P **P 17 04 46.7 +0.3**
VRAC Vranov 73.48 329 *eP* **P 17 04 46.8 +0.5**
VRAC Vranov 73.48 329 P **P 17 04 46.9 +0.5**
comp=Z,9.2nm,0.4s,baz=31,slow=6.5,SNR=9.8
comp=Z,9.2nm,0.4s
JAVC Velka Javorina 73.49 328 *eP* **P 17 04 47.8 +1.3**
PSZ Piszkesteto 73.50 326 ⇑P **P 17 04 47.3 +0.8**
PSZ Piszkesteto 73.50 326 IAmb IAmb 17 04 48.1
comp=Z,16nm,1.1s
PSZ Piszkesteto 73.50 326 ⇑P **P 17 04 47.3 +0.8**
GOPC GO Pecny, Ondr 73.56 330 *eP* **P 17 04 46.7 -0.1**
GOPC GO Pecny, Ondr 73.56 330 *eP* **P 17 04 46.7 -0.1**
ALNE Al Ain 73.56 288 P **P 17 04 47.9 +0.6**
VOIR 73.57 322 ⇑P **P 17 04 47.4 +0.4**
VOIR 73.57 322 ⇑P **P 17 04 47.4 +0.4**
PRU Pruhonice 73.57 331 *eP* **P 17 04 46.5 -0.3**
PRU Pruhonice 73.57 331 *eP* **P 17 04 46.5 -0.3**
ANMO Albuquerque 73.59 56 P **P 17 04 48.2 +0.7**
ANMO Albuquerque 73.59 56⇑ *eP* **P 17 04 49.8 +2.3**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 73.59 56 P **P 17 04 48.1 +0.7**
baz=319
ARQ Araqi 73.60 287 P **P 17 04 48.5 +1.1**
BSY Bisya 73.60 286 P **P 17 04 48.2 +0.7**
KRUC Moravsky 73.76 329 *eP* **P 17 04 48.2 +0.3**
ARR Arges 73.79 322 ⇑P **P 17 04 49.5 +1.3**
TREC Trest 73.86 330 *eP* **P 17 04 48.6 +0.1**
TREC Trest 73.86 330 *eP* **P 17 04 48.6 +0.1**
WERD Werda 73.88 332 *eP* **P 17 04 48.5 -0.1**
comp=Z,4.2nm,0.7s,baz=28,slow=5.1
MOX Moxa 73.91 333 *eL* L 17 23 38.4
comp=Z,30nm,20.4s
GUNZ Gunzen 73.94 332 *eP* **P 17 04 49.2 +0.2**
comp=Z,8.7nm,0.6s,baz=28,slow=5.1
WERN Wernitzgruen 73.99 332 *eP* **P 17 04 49.3 0.0**
comp=Z,13nm,0.5s,baz=28,slow=5.1
Y22D IRIS PASSCAL I 74.00 56 P **P 17 04 50.6 +0.9**
baz=319
Y22F Passcal Instru 74.00 56 P **P 17 04 50.5 +0.7**
baz=319
NKC Novy Kostel 74.02 332 *eP* **P 17 04 49.4 0.0**
NKC Novy Kostel 74.02 332 *eP* **P 17 04 49.4 0.0**
MODS Modra-Piesok 74.05 328 *eP* **P 17 04 50.7 +1.1**
MODS pmax pmax
comp=Z,45nm,1.1s
MODS Modra-Piesok 74.05 328 *eP* **P 17 04 50.7 +1.1**
CBKS Cedar Bluff 74.14 49 P **P 17 04 50.3 0.0**
baz=321
SRO Srobarova 74.16 327 *eP* **P 17 04 51.1 +0.9**
SRO pmax pmax
comp=Z,31nm,1.3s
SRO Srobarova 74.16 327 *eP* **P 17 04 51.1 +0.9**
ZVC Zvikov 74.16 331 *eP* **P 17 04 49.9 -0.3**
SIRR Siria 74.22 324 ⇑P **P 17 04 50.3 -0.3**
BR131 Keskin Array S 74.31 313 *c iP* **P 17 04 51.9 +0.6**
BR131 Keskin Array S 74.31 313 P **P 17 04 52.2 +0.9**
BRTR Keskin Array B 74.31 313 P **P 17 04 52.0 +0.6**
BRTR Keskin Array B 74.31 313 P **P 17 04 52.0 +0.6**
comp=Z,4.5nm,0.9s,baz=81,slow=3.9,SNR=9.7
comp=Z,4.5nm,0.9s
I40A Norwalk 74.31 40 IAmb IAmb 17 04 52.6
comp=Z,31nm,1.2s
MHTO MHTO 74.38 284 P **P 17 04 54.0 +2.1**
SNR=5.4
SURR Surduc 74.47 324 ⇑P **P 17 04 52.3 +0.3**
GZR Gura Zlata 74.51 323 ⇑P **P 17 04 52.0 -0.3**
GZR Gura Zlata 74.51 323 ⇑P **P 17 04 52.0 -0.3**
ANTO Ankara 74.60 314 P **P 17 04 53.3 +0.4**
KHC Kasperske Hory 74.63 331 IAmb IAmb 17 04 54.4
comp=Z,14nm,0.6s
KHC Kasperske Hory 74.63 331 *d iP* **P 17 04 53.2 +0.3**
KHC pmax pmax
comp=Z,27nm,0.9s
KHC Kasperske Hory 74.63 331 *eP* **P 17 04 52.9 0.0**
CKRC Cesky Krumlov 74.66 330 *eP* **P 17 04 52.8 -0.2**
CKRC Cesky Krumlov 74.66 330 *eP* **P 17 04 52.8 -0.2**
121A Cookes Peak, D 74.67 58 P **P 17 04 53.4 -0.2**
baz=319
319A Douglas 74.69 60 IAmb IAmb 17 04 56.7
comp=Z,9.4nm,0.6s
BZS Buzias 74.78 324 ⇑P **P 17 04 54.2 +0.5**
BZS Buzias 74.78 324 ⇑P **P 17 04 54.2 +0.5**
GEC2 GERESS Array S 74.84 331 IAmb IAmb 17 04 55.0
comp=Z,9.1nm,0.5s
GEC2 GERESS Array S 74.84 331 *eP* **P 17 04 54.0 -0.2**
comp=Z,7.2nm,0.6s,baz=28,slow=5.1
GERES GERESS Array B 74.84 331 P **P 17 04 54.0 -0.2**
GERES GERESS Array B 74.84 331 P **P 17 04 54.0 -0.2**
comp=Z,6.9nm,0.4s,baz=39,slow=6.3,SNR=52
comp=Z,6.9nm,0.4s
WET Wettzell 74.84 331 *eP* **P 17 04 54.4 +0.4**
comp=Z,13nm,0.6s,baz=28,slow=5.1
GRA1 Grafenberg Arr 74.87 332 IAmb IAmb 17 04 55.6
comp=Z,49nm,1.2s
GRF Grafenberg Arr 74.87 332 *eP* **P 17 04 54.5 +0.3**
comp=Z,23nm,0.6s,baz=28,slow=5.1
GRF eL L 17 26 48.9
GRFO Grafenberg 74.87 332 P **P 17 04 54.2 0.0**
GRFO IAmb IAmb 17 04 55.6
comp=Z,48nm,1.2s
GRFO Grafenberg 74.87 332 P **P 17 04 54.2 0.0**
GRFO pmax pmax
comp=Z,48nm,1.2s
CONA Conrad Observa 74.92 329 *eP* **P 17 04 55.1 +0.5**
comp=Z,8.3nm,0.5s,SNR=8.7
RONA Rosalia, Austr 74.96 328 *eP* **P 17 04 55.4 +0.6**
comp=Z,4.4nm,0.5s,SNR=7.8
HERR Herculane 75.08 323 ⇑P **P 17 04 54.5 -1.0**
SHMA Al-Shehemyia 75.22 292 P **P 17 04 57.0 +0.5**
SNR=5.6
JFWS Jewell Farm 75.26 40 P **P 17 04 55.9 -0.5**
baz=325
SAKB Bahrain 75.39 293 P **P 17 04 58.0 +0.6**
MORH Mrgy, Hungar 75.40 326 ⇑P **P 17 04 56.6 -0.6**
MOA Molln 75.52 330 *i P* **P 17 04 58.1 +0.3**
comp=Z,5.0nm,0.6s
BTNL Ternell 75.53 336 *dP* **P 17 04 57.7 -0.2**
MEM Membach 75.54 336 *dP* **P 17 04 57.2 -0.7**
comp=Z,12nm,0.7s
ARSA Arzberg 75.62 329 *eP* **P 17 04 58.6 +0.2**
comp=Z,3.2nm,0.4s,SNR=7.0
BSTI Sart Tilman 75.68 336 *dP* **P 17 04 58.9 +0.2**
MZR Muzera 75.75 289 P **P 17 04 59.6 0.0**
SNR=22
BHOU Houvegnez 75.78 336 *dP* **P 17 04 59.3 +0.1**
FRGS Fruska Gora 75.86 325 ⇑P **P 17 04 59.3 -0.4**
FRGS Fruska Gora 75.86 325 ⇓ *iP* **P 17 04 59.4 -0.4**
BIOA Bad Ischl, Aus 75.87 330 *eP* **P 17 04 59.9 +0.1**
comp=Z,4.1nm,0.4s,SNR=8.5
GLMI Grayling 75.95 36 P **P 17 05 00.1 -0.2**
baz=328
BGES Gesves 75.99 336 *dP* **P 17 05 00.1 -0.3**
comp=Z,8.5nm,0.6s
SMRA Abu-Samra 76.12 292 P **P 17 05 01.2 -0.3**
BMRD Maredsous 76.15 337 *dP* **P 17 05 01.2 -0.1**
comp=Z,15nm,0.7s
AMTX Amarillo 76.19 52 P **P 17 05 02.3 +0.5**
baz=321
SOKA Soboth 76.28 329 *i P* **P 17 05 02.3 +0.2**
comp=Z,14nm,0.9s,SNR=12
PERS Pernice 76.29 329 *i P* **P 17 05 02.2 0.0**
MSTX Muleshoe 76.32 54 P **P 17 05 02.8 +0.2**
baz=321
DOU Dourbes 76.39 337 *dP* **P 17 05 02.5 -0.1**
BOVS Bovan 76.40 323 ⇑P **P 17 05 01.4 -1.4**
LESA Schwarzleotal 76.41 330 *i P* **P 17 05 03.1 +0.2**
comp=Z,20nm,0.9s
TEKS Tekeris 76.48 325 *eP* **P 17 05 02.8 -0.4**
KBA Koelnbreinsper 76.50 330 *i P* **P 17 05 04.0 +0.5**
comp=Z,20nm,0.5s
OBKA Obir 76.59 329 *eP* **P 17 05 04.0 +0.1**
comp=Z,6.8nm,0.5s
OBKA Obir 76.59 329 *eP* **P 17 05 03.5 -0.4**
VTS Vitosha 76.63 321 ⇑P **P 17 05 04.5 +0.3**
VTS Vitosha 76.63 321 ⇑P **P 17 05 04.5 +0.3**
MNTX Cornudas Mount 76.63 57 P **P 17 05 05.0 +0.7**
baz=320,SNR=6.6
DIVS Divibare 76.68 324 IAmb IAmb 17 05 05.2
comp=Z,17nm,1.2s
DIVS Divibare 76.68 324 ⇓ *iP* **P 17 05 03.7 -0.7**
MYKA Terra Mystica 76.79 330 *i P* **P 17 05 04.7 -0.2**
comp=Z,4.2nm,0.5s
PDKS Podkum 76.83 328 *i P* **P 17 05 04.6 -0.5**
WATA Walderalm 76.85 331 *i P* **P 17 05 05.6 +0.3**
comp=Z,27nm,0.5s,SNR=12
CRES Cresnjev 76.87 328 *i P* **P 17 05 04.9 -0.4**
RDO Rodhopi 76.87 319 IAmb IAmb 17 05 06.9
comp=Z,17nm,1.1s
WTTA Wattenberg 76.89 331 *eP* **P 17 05 06.0 +0.4**
comp=Z,23nm,0.4s,SNR=18
BFO Black Forest 76.95 334 P **P 17 05 04.9 -0.8**
BFO Black Forest 76.95 334 P **P 17 05 04.9 -0.8**
BFO pmax pmax
comp=Z,7.0nm,0.7s
BFO Black Forest 76.95 334 *eP* **P 17 05 05.5 -0.2**
comp=Z,14nm,1.2s,baz=28,slow=5.1
RETA Reutte 76.97 332 *eP* **P 17 05 06.3 +0.4**
comp=Z,15nm,1.3s
PRED Cave del Predi 76.98 329 IAmb IAmb 17 05 06.3
comp=Z,9.9nm,0.5s
MOTA Moosalm 76.99 331 *i P* **P 17 05 06.2 0.0**
comp=Z,17nm,0.6s,SNR=9.8
ABTA Abfaltersbach 77.06 330 *eP* **P 17 05 06.2 -0.2**
comp=Z,4.1nm,0.6s
SQTA Sankt Quirin 77.06 331 *eP* **P 17 05 06.8 +0.3**
comp=Z,29nm,1.3s,SNR=7.2
BBLS Lazići 77.11 324 ⇓ *iP* **P 17 05 06.5 -0.2**
BLY Banja Luka 77.18 326 *eP* **P 17 05 05.7 -1.3**
P40A Paris 77.22 43 IAmb IAmb 17 05 08.8
comp=Z,26nm,1.1s
CEY Cerknica 77.30 329 *eP* **P 17 05 06.5 -1.2**
RUDO Rudo 77.33 324 *eP* **P 17 05 06.9 -0.9**
FETA Feichten 77.39 332 *i P* **P 17 05 08.1 -0.2**
comp=Z,7.8nm,1.0s
ECH Echery 77.39 334 IAmb IAmb 17 05 09.0
comp=Z,8.4nm,0.6s
SJES Sjenica 77.40 324 ⇓ *iP* **P 17 05 08.3 -0.1**
DAVA Damuels 77.42 332 *eP* **P 17 05 08.1 -0.3**
comp=Z,8.8nm,0.6s
MGRS Mrkonjic Grad 77.50 326 *eP* **P 17 05 09.5 +0.7**
DKNS Dickens 77.53 53 IAmb IAmb 17 05 12.5
comp=Z,6.3nm,0.6s
POST Post 77.69 54 IAmb IAmb 17 05 12.1
comp=Z,12nm,0.9s
SRKY Kupres RS 77.78 326 *eP* **P 17 05 10.2 -0.2**
STIP Stip 77.83 322 *i P* **P 17 05 09.7 -0.8**
DAVOX Davos/Dischmat 77.87 332 P **P 17 05 10.9 0.0**
comp=Z,6.2nm,0.6s,baz=337,slow=5.0,SNR=13
comp=Z,6.2nm,0.6s

SKO	**Skopje**	77.90	322	*i* P	**P**	17 05 11.7	+0.7
CTI	**Castel Tesino**	77.96	330	IAmb	IAmb	17 05 11.3	
	comp=Z,8.7nm,0.5s						
VAY	**Valandovo**	77.98	321	*i* P	**P**	17 05 11.9	+0.5
NEVS	**Nevesinje**	78.08	325	*e*P	**P**	17 05 08.8	-3.2
TRQ	**Mont Tremblant**	78.26	29	P	**P**	17 05 12.5	-0.3
TRQ				IAmb	IAmb	17 05 14.4	
	comp=Z,28nm,1.1s						
TUL3	**Leonard**	78.37	48	P	**P**	17 05 14.2	+0.6
	baz=323						
PDG	**Podgorica**	78.38	324	⇑P	**P**	17 05 12.8	-0.7
PDG	**Podgorica**	78.38	324	IAmb	IAmb	17 05 14.8	
	comp=Z,15nm,0.6s						
PDG	**Podgorica**	78.38	324	⇓*i*P	**P**	17 05 12.6	-0.9
AAM	**Ann Arbor**	78.46	36	P	**P**	17 05 14.1	+0.1
	baz=328						
TREB	**Trebinje**	78.49	325	*e*P	**P**	17 05 12.6	-1.5
RLO	**Rose Lookout**	78.54	47	IAmb	IAmb	17 05 16.2	
	comp=Z,9.4nm,0.8s						
DOK	**Doka**	78.57	285	P	**P**	17 05 15.7	+0.8
STON	**Ston**	78.60	325	⇓*i*P	**P**	17 05 13.0	-1.6
MMAI	**Mount Meron Ar**	78.66	308	P	**P**	17 05 16.2	+0.9
	comp=Z,10nm,0.5s,baz=46,slow=7.1,SNR=34						
	comp=Z,10nm,0.5s						
SFIN	**Lafayette**	78.54	40	P	**P**	17 05 14.6	-0.5
	baz=327						
CCM	**Cathedral Cave**	78.78	44	P	**P**	17 05 15.6	-0.2
CCM				IAmb	IAmb	17 05 17.2	
	comp=Z,8.3nm,0.6s						
CCM	**Cathedral Cave**	78.78	44	P	**P**	17 05 15.6	-0.2
CCM				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CCM	**Cathedral Cave**	78.78	44	P	**P**	17 05 15.9	+0.2
	baz=325						
OHR	**Ohrid**	78.89	322	*i* P	**P**	17 05 16.5	+0.2
TIR	**Tirane**	79.06	323	⇑P	**P**	17 05 15.4	-1.7
TIR	**Tirane**	79.06	323	⇑P	**P**	17 05 15.4	-1.7
KBN	**Korca**	79.30	322	IAmb	IAmb	17 05 19.1	
	comp=Z,13nm,0.6s						
WHFO	**Wadi Hawf**	79.31	285	P	**P**	17 05 19.6	+0.7
TX31	**Lajitas Ar. Si**	79.39	57	IAmb	IAmb	17 05 21.9	
	comp=Z,14nm,0.8s						
TXAR	**Lajitas Array**	79.39	57	P	**P**	17 05 20.6	+1.3
	comp=Z,2.7nm,0.4s,baz=290,slow=3.8,SNR=85						
	comp=Z,2.7nm,0.4s						
O48B	**Farmland**	79.59	38	P	**P**	17 05 19.6	-0.3
	baz=328						
T42A	**Van Buren**	79.69	44	IAmb	IAmb	17 05 22.6	
	comp=Z,19nm,1.2s						
SAND	**Sanderson**	79.76	56	IAmb	IAmb	17 05 24.0	
	comp=Z,7.6nm,0.9s						
FRNY	**Flat Rock**	79.80	29	IAmb	IAmb	17 05 23.7	
	comp=Z,23nm,1.0s						
SIUC	**Southern Illin**	79.98	43	IAmb	IAmb	17 05 24.4	
	comp=Z,41nm,1.4s						
S44A	**Carbondale**	79.98	43	IAmb	IAmb	17 05 22.6	
	comp=Z,14nm,0.6s						
ABTO	**Aybut**	80.03	285	P	**P**	17 05 23.8	+1.1
MURB	**Monte Urbino**	80.13	329	IAmb	IAmb	17 05 24.8	
	comp=Z,37nm,1.3s						
FDMO	**Fiordimonte**	80.13	328	IAmb	IAmb	17 05 24.0	
	comp=Z,13nm,0.5s						
FCAR	**Ozark Folk Cen**	80.14	46	IAmb	IAmb	17 05 24.1	
	comp=Z,16nm,0.4s						
PBMO	**Poplar Bluff**	80.20	44	IAmb	IAmb	17 05 24.9	
	comp=Z,23nm,1.2s						
NRCA	**Norcia**	80.30	328	IAmb	IAmb	17 05 25.0	
	comp=Z,33nm,1.2s						
M53A	**Wi Miller and**	80.34	35	P	**P**	17 05 24.0	+0.2
	baz=330						
P49A	**Miami Univ. Ec**	80.38	39	P	**P**	17 05 24.0	-0.1
	baz=328,SNR=5.2						
BRDY	**Brady**	80.40	53	IAmb	IAmb	17 05 26.4	
	comp=Z,6.6nm,0.7s						
CAMP	**Campotosto**	80.46	328	IAmb	IAmb	17 05 26.7	
	comp=Z,10nm,0.8s						
ACSO	**Alum Creek Sta**	80.49	37	P	**P**	17 05 24.8	+0.1
	baz=329						
MIAR	**Mount Ida**	80.54	47	P	**P**	17 05 25.1	+0.1
	baz=324						
JCT	**Junction City**	80.60	54	P	**P**	17 05 25.8	+0.3
	baz=322						
WHTX	**Lake Whitney,**	80.64	51	P	**P**	17 05 26.1	+0.5
	baz=323						
STKA	**Stephens Creek**	80.68	185	P	**P**	17 05 27.3	+1.8
	comp=Z,2.0nm,0.8s,baz=347,slow=5.8,SNR=4.8						
	comp=Z,2.0nm,0.8s						
KARP	**Karpathos**	80.72	315	P	**P**	17 05 25.1	-1.0
INTR	**Introdacqua**	80.75	327	IAmb	IAmb	17 05 26.9	
	comp=Z,8.1nm,0.5s						
WCI	**Wyandotte Cave**	80.82	40	P	**P**	17 05 26.2	-0.2
	baz=328						
MATE	**Matera**	80.89	325	⇑P	**P**	17 05 26.3	-0.4
DRIO	**Del Rio**	80.99	55	IAmb	IAmb	17 05 30.2	
	comp=Z,12nm,0.7s						
O53A	**New Philadelph**	81.17	36	IAmb	IAmb	17 05 29.6	
	comp=Z,21nm,0.7s						
O53A	**New Philadelph**	81.17	36	P	**P**	17 05 27.8	-0.4
	baz=330						
P52A	**Corning**	81.34	37	P	**P**	17 05 28.9	-0.1
	baz=330						
WVT	**Waverly**	81.91	42	P	**P**	17 05 32.2	+0.2
WVT				IAmb	IAmb	17 05 32.7	
	comp=Z,19nm,1.4s						
WVT	**Waverly**	81.91	42	P	**P**	17 05 32.2	+0.2
WVT				pmax	pmax		
	comp=Z,19nm,1.4s						
WVT	**Waverly**	81.91	42	P	**P**	17 05 31.9	-0.1
	baz=327						
IDI	**Anoyia**	81.99	316	⇑P	**P**	17 05 29.5	-3.0
SSPA	**Standing Stone**	82.07	33	P	**P**	17 05 32.4	-0.3
	baz=332						
MCWV	**Mont Chateau**	82.20	35	P	**P**	17 05 33.5	0.0
	baz=331						
NATX	**Nacogdoches**	82.25	50	P	**P**	17 05 34.5	+0.7
	baz=324						
Q54A	**Coxs Mills**	82.41	36	IAmb	IAmb	17 06 08.4	
	comp=Z,46nm,1.4s						
T50A	**Nancy**	82.46	40	IAmb	IAmb	17 05 36.8	
	comp=Z,22nm,1.4s						
833A	**Chaparral WMA,**	82.52	55	P	**P**	17 05 36.0	+0.7
	baz=323						
HRV	**Adam Dziewonsk**	82.54	28	P	**P**	17 05 35.1	0.0
	baz=335						
V48A	**Smith Brothers**	82.68	42	IAmb	IAmb	17 05 37.5	
	comp=Z,8.1nm,0.8s						
PLAL	**Pickwick Lake**	82.76	43	IAmb	IAmb	17 05 36.7	
	comp=Z,7.1nm,0.6s						
PAL	**Palisades**	83.13	31	P	**P**	17 05 37.7	-0.4
	baz=334						
TZTN	**Tazewell**	83.41	39	P	**P**	17 05 39.9	+0.3
	baz=329						
SWET	**Sewanee**	83.51	42	IAmb	IAmb	17 05 40.7	
	comp=Z,14nm,0.5s						
LRAL	**Lakeview Retre**	84.87	44	P	**P**	17 05 47.0	+0.1
	baz=328						
GOGA	**Godfrey**	86.12	41	P	**P**	17 05 52.8	0.0
	baz=329						
PPT	**Papeete**	86.34	122	P	**P**	17 05 54.0	+0.1
	comp=Z,46nm,0.8s,baz=123,slow=4.4,SNR=3.6						
	comp=Z,46nm,0.8s						
CNNC	**Cliffs of the**	86.81	36	P	**P**	17 05 56.3	+0.3
	baz=332						
KEST	**Kesra**	87.95	327	IAmb	IAmb	17 06 02.1	
	comp=Z,11nm,1.2s						
KEST	**Kesra**	87.95	327	P	**P**	17 06 01.5	+0.1
KEST	**Kesra**	87.95	327	P	**P**	17 06 00.5	-0.9
	comp=Z,3.5nm,0.5s,baz=337,slow=2.1,SNR=6.0						
	comp=Z,3.5nm,0.5s						
ESDC	**Sonseca Array**	88.28	339	P	**P**	17 06 01.8	-1.1
	comp=Z,0.7nm,0.5s,baz=1.8,slow=4.3,SNR=9.1						
	comp=Z,0.7nm,0.5s						
DWPF	**Disney Wildern**	91.56	42	P	**P**	17 06 17.6	-0.6
	baz=330						
TORD	**Torodi Ar. Bea**	111.29	324	PKiKP	**PKiKP**	17 11 40.7	-1.1
	comp=Z,0.6nm,0.5s,baz=14,slow=2.9,SNR=5.3						
TORD				PP	**PP**	17 12 27.8	-3.4
	comp=Z,0.7nm,0.5s,baz=26,slow=5.2,SNR=4.2						
DBIC	**Dimbokro**	119.66	328	PKP	**PKPdf**	17 11 57.2	-0.7
	comp=Z,2.5nm,0.5s,baz=47,slow=1.2,SNR=7.6						
BOSA	**Boshof**	132.10	273	PKP	**PKiKP**	17 12 22.5	0.0
	comp=Z,2.7nm,0.8s,baz=101,slow=3.4,SNR=3.7						
MAW	**Mawson**	132.27	211	SKPbc	**SKPab**	17 14 57.3	-0.7
	comp=Z,0.5nm,0.3s,baz=121,slow=5.9,SNR=4.1						
QSPA	**South Pole Qui**	138.71	180	SKPbc	**SKPbc**	17 15 14.4	-1.5
	comp=Z,1.9nm,0.6s,baz=286,slow=1.7,SNR=15						
BDFB	**Brasilia**	144.31	27	PKPbc		17 12 43.5	-0.2
BDFB	**Brasilia**	144.31	27	PKIKP	PKPbc	17 12 43.5	-0.2
BDFB	**Brasilia**	144.31	27	PKP	**PKPab**	17 12 44.2	+0.1
	comp=Z,8.4nm,0.5s,baz=273,slow=4.5,SNR=12						
LCO	**Las Campanas**	144.52	70		**PKPab**	17 12 44.6	-0.2
LCO	**Las Campanas**	144.52	70	PKIKP	**PKPab**	17 12 44.6	-0.2
ELIB	**Princess Elisa**	146.21	208	*d*PKP	**PKPbc**	17 12 48.3	+0.6
CPUP	**Villa Florida**	150.12	50	PKPbc	**PKPbc**	17 12 58.5	-0.1
	comp=Z,1.9nm,0.4s,baz=286,slow=3.2,SNR=3.8						
PLCA	**Paso Flores**	151.81	88	PKPbc	**PKPbc**	17 13 01.6	-0.6
	comp=Z,1.3nm,0.4s,baz=344,slow=2.8,SNR=7.1						

NEIC ***17*** *16:54:44.1±0.7, 41°.17N±0°.02×127°.5W±0°.2, h8km±9km, ML2.8/30, Error ellipse: s-maj=20.4km s-min=1.8km az=93.0*
IDC ***17*** *16:54:56.7±14.0, 40°.23N×127°.00W, h0km, mb2.8/1, mbtmp3.0/3, ML3.1/2, MS3.0/7, Error ellipse: s-maj=164.7km s-min=64.8km az=98.0*

ISC 17 16:54:48.4±4.3, 41°.21N±0°.09×127°.2W±0°.4, h10km, n36, σ1§87/23, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPM	**Rodgers**	2.39	90	Pn	**Pn**	16 55 27.1	-0.5
KRPM				IAML		16 56 02.1	
	comp=E,97nm,1.1s						
KRPM				IAML		16 56 20.5	
	comp=N,63nm,1.8s						
JCC	**Jacoby Creek,**	2.42	98	Pn	**Pn**	16 55 27.1	-0.9
JCC				IAML		16 56 15.8	
	comp=E,33nm,1.7s						
JCC				IAML		16 57 10.6	
	comp=N,26nm,1.8s						
KBO	**Bosley Butte**	2.44	65	Pn	**Pn**	16 55 26.7	-1.6
KBO				IAML		16 56 02.4	
	comp=E,45nm,1.9s						
KBO				IAML		16 56 13.8	
	comp=N,37nm,1.9s						
KMPM	**Mount Pierce**	2.46	108	Pn	**Pn**	16 55 27.8	-0.8
KRMB	**Red Mountain**	2.49	82	Pn	**Pn**	16 55 27.8	-1.3
KRMB				IAML		16 56 17.7	
	comp=E,23nm,1.8s						
KRMB				IAML		16 56 31.7	
	comp=N,23nm,1.9s						
KSXB	**Camp Six Broad**	2.56	75	Pn	**Pn**	16 55 29.2	-0.9
KHMM	**Horse Mountain**	2.64	96		**Pn**	16 55 30.7	-0.4
KHMM				IAML		16 56 10.4	
	comp=E,32nm,1.5s						
KHMM				IAML		16 56 15.6	
	comp=N,33nm,1.1s						
KEBM	**Edson Butte**	2.70	51	Pn	**Pn**	16 55 30.9	-1.0
KEBM				IAML		16 56 17.7	
	comp=N,37nm,1.7s						
KEBM				IAML		16 57 00.8	
	comp=E,36nm,1.8s						
KMRM	**Mail Ridge**	2.82	109		**Pn**	16 55 32.2	-1.4
KMRM				IAML		16 56 12.4	
	comp=E,80nm,0.8s						
L02F	**Cave Junction**	2.86	70	Pn	**Pn**	16 55 33.0	-1.0
K02D	**Willamette Mer**	3.02	59	Pn	**Pn**	16 55 35.1	-1.2
KCPM	**Cahto Peak**	3.14	118		**Pn**	16 55 36.8	-1.3
YBH	**Yreka Blue Hor**	3.41	80	Pn	**Pn**	16 55 41.1	-0.6
YBH	**Yreka Blue Hor**	3.41	80	LR	LR	16 56 47.4	
	comp=E,182nm,19.2s,baz=235,slow=31						
DBO	**Dodson Butte**	3.50	56	Pn	**Pn**	16 55 43.1	+0.2
DBO				IAML		16 56 17.9	
	comp=E,11nm,1.8s						
L04D	**Klamath Falls**	3.79	73	Pn	**Pn**	16 55 47.7	+0.7
MCCM	**Marconi Confer**	4.52	131	Pn	**Pn**	16 55 54.0	-2.8
J05D	**Fort Rock, OR**	4.88	63	Pn	**Pn**	16 55 59.8	-2.2
K05A	**Summer Lake**	4.93	70	Pn	**Pn**	16 56 00.4	-2.4
K05A				IAML		16 56 50.3	
	comp=E,6.5nm,1.9s						
K05A				IAML		16 57 37.6	
	comp=N,8.2nm,1.9s						
BBGB	**Big Mountain B**	6.66	132		**Pn**	16 56 24.9	-1.5
PMPB	**Monarch Peak**	7.05	133	Pn	**Pn**	16 56 29.8	-1.9
B04A	**Port Angeles**	7.34	20	Pn	**Pn**	16 56 32.7	-2.9
NVAR	**Mina Array Bea**	7.38	109	Pn	Pn	16 56 41.4	+5.0
	baz=280,slow=14,SNR=11						
	comp=N,14nm,0.8s						
SNCC	**San Nicolas Is**	10.02	140	Pn	**Pn**	16 57 10.0	-2.3
NEW	**Newport**	10.05	42	LR	LR	17 01 05.8	
	comp=N,102nm,21.2s,baz=236,slow=34						
PFO	**Pinyon Flats O**	11.41	128	LR	LR	17 01 41.8	
	comp=N,74nm,18.8s,baz=326,slow=38						
PDAR	**Pinedale Array**	13.21	77	Pn	P	16 58 11.5	+5.2
	baz=257,slow=8.2,SNR=2.6						
PDAR				LR	LR	17 03 31.8	
	comp=N,77nm,20.6s,baz=274,slow=39						
	comp=N,0.2nm,0.5s						
ANMO	**Albuquerque**	17.46	104	LR	LR	17 06 01.4	
	comp=N,62nm,21.0s,baz=28,slow=39						
TXAR	**Lajitas Array**	22.49	114	P	**P**	16 59 52.2	+4.1
	comp=N,0.3nm,0.8s,baz=299,slow=9.2,SNR=3.0						
TXAR				LR	LR	17 08 22.5	
	comp=N,32nm,20.1s,baz=266,slow=37						
	comp=N,0.3nm,0.8s						
ULM	**Lac du Bonnet**	23.51	57	LR	LR	17 08 47.1	
	comp=N,49nm,21.9s,baz=274,slow=35						
H11N3	**WAKE ISLAND Hy**	59.31	270	T	T	18 08 40.3	
	baz=53,slow=75,SNR=79						
H11N2	**WAKE ISLAND Hy**	59.31	270	T	T	18 08 48.4	
	baz=53,slow=75,SNR=50						
H11N1	**WAKE ISLAND Hy**	59.33	270	T	T	18 08 44.9	
	baz=52,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hy**	60.20	269	T	T	18 09 49.3	
	baz=52,slow=75,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	60.20	269	T	T	18 09 48.5	
	baz=52,slow=75,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	60.21	269	T	T	18 09 52.3	
	baz=52,slow=75,SNR=8.9						

UPP ***17*** *17:00:36.9±0.1, 67°.08N×20°.94E, h0km, ML2.3, Suspected explosion*
BER ***17*** *17:00:36.5±2.8, 66°.73N×21°.36E, h0km, ML1.6, Suspected explosion*
HEL ***17*** *17:00:37.1±0.3, 67°.09N×20°.91E, h0km, ML2.0, Explosion*
IDC ***17*** *17:00:38.0±1.1, 67°.07N×21°.19E, h0km, mbtmp3.3/4, ML1.7/4, Error ellipse: s-maj=20.9km s-min=9.4km az=107.0*

ISC 17 17:00:36.8±0.7, 67°.10N±0°.02×21°.03E±0°.02, h0km, n43, σ1§17/65, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	0.18	276	P	**Pg**	17 00 40.1	-0.2
DUNU				S	**Sg**	17 00 42.3	-0.4
MASU	**Masugnsbyn**	0.52	46	P	**Pg**	17 00 47.7	+1.0
MASU				S	**Sb**	17 00 56.0	-0.8
ERTU	**Ertsjaerv**	0.72	140	P	**Pg**	17 00 50.5	0.0
ERTU	**Ertsjaerv**	0.72	140	PG	**Pg**	17 00 50.3	-0.2
ERTU				SG	**Sg**	17 01 00.4	+0.6
PAJU	**Pajala**	0.82	95	P	**Pg**	17 00 52.9	+0.4
KUA	**Kurravaara**	0.90	343	P	**Pg**	17 00 53.8	-0.1
RATU	**Laukkuluspa**	0.91	323	P	**Pg**	17 00 53.8	-0.5
HARU	**Harads**	0.94	181	P	**Pg**	17 00 54.0	-0.8
LANU	**Lannavaara**	1.02	21	P	**Pg**	17 00 56.3	0.0
LANU	**Lannavaara**	1.02	21	PG	**Pg**	17 00 56.1	-0.2
LANU				SN	**Sn**	17 01 12.7	-0.7
SALU	**Saltoluokta**	1.02	287	P	**Pg**	17 00 55.5	-0.9
KLF	**Kolari**	1.15	82	PG	**Pg**	17 00 59.0	+0.1
KLF				MSG		17 01 13.7	
	comp=Z,14nm,0.2s						
KLF				SG	**Sn**	17 01 15.8	-0.8
KOVU	**Salmi**	1.17	344	P	**Pg**	17 00 58.8	-0.4
KALU	**Kalix**	1.56	142	P	**Pn**	17 01 05.5	-0.1
KALU	**Kalix**	1.56	142	PG	**Pn**	17 01 05.3	-0.3
	baz=322						
KALU				SN	**Sg**	17 01 27.2	+0.4
SJUU	**Sjulsmark**	1.62	172	P	**Pn**	17 01 06.3	-0.2
HEF	**Hetta**	1.65	36	PG	**Pn**	17 01 07.2	+0.2
	baz=221						
HEF				MSG		17 01 27.6	
	comp=Z,12nm,0.2s						
HEF				SN	**Sg**	17 01 30.4	+0.8
TOF	**Tornio**	1.67	126	PG	**Pn**	17 01 07.6	+0.4
TOF				MSG		17 01 27.9	
	comp=Z,12nm,0.2s						
TOF				SN	**Sg**	17 01 30.3	0.0
KIF	**Kilpisjarvi**	1.91	357	PG	**Pb**	17 01 12.3	-0.2
KIF				MSG		17 01 35.7	
	comp=Z,23nm,0.2s						
KTK1	**Kautokeino**	2.09	22	*e*P	**Pb**	17 01 14.9	-0.6
KTK1				*e*S	**Sg**	17 01 42.9	-0.9
KTK1				IAML		17 01 48.5	
	comp=Z,5.1nm,0.2s						
KTK1	**Kautokeino**	2.09	22	PG	**Pb**	17 01 14.9	-0.6
KTK1				SG	**Sg**	17 01 44.4	+0.5
SGF	**Sodankyl**	2.16	78	PG	**Pb**	17 01 15.8	-0.9
SGF				SG	**Sg**	17 01 45.9	-0.2
FAUS	**Fauske**	2.25	280	*e*P	**Pn**	17 01 16.5	+1.3
FAUS				*e*S	**Sb**	17 01 47.2	+0.6
FAUS				IAML		17 01 49.0	
	comp=Z,11nm,0.2s						
STEI	**Steigen**	2.38	293	*e*P	**Pn**	17 01 18.4	+1.4
JETT	**Jettan, Norway**	2.48	355	*e*P	**Pb**	17 01 21.5	-0.6
JETT				*e*S	**Sb**	17 01 54.1	+1.0
MOR8	**Moi Rana**	2.79	253	*e*Pg	**Pn**	17 01 23.1	+0.4
MOR8				*e*Sg	**Sn**	17 01 58.6	+1.6
MOR8				IAML		17 02 01.6	
	comp=Z,4.5nm,0.3s						
OUL	**Oulu**	2.83	133	PB	**Pn**	17 01 24.9	+1.7
OUL				SB	**Sb**	17 02 01.5	-1.8
OBF4	**Vikkela, Lumij**	2.84	142	PB	**Pn**	17 01 25.0	+1.7
OBF4				MSG		17 02 01.1	
	comp=Z,2.9nm,0.2s						
OBF0	**Syolatti, Pyha**	2.93	152	PB	**Pn**	17 01 26.3	+1.8
	baz=334						
OBF0				MSG		17 02 03.6	
	comp=Z,3.0nm,0.2s						
ARA0	**ARCESS Array S**	2.95	32	PB	**Pb**	17 01 29.3	-0.9
	baz=216						
ARA0				SB	**Sb**	17 02 05.2	-1.6
ARCES	**ARCESS Array B**	2.95	32	Pn	**Pn**	17 01 25.8	+0.9
	comp=Z,0.3nm,0.3s,baz=211,slow=14,SNR=63						
ARCES				Sn	**Sb**	17 02 04.2	-2.6
	comp=Z,0.4nm,0.3s,baz=216,slow=22,SNR=5.4						
	comp=Z,1.4nm,0.2s						
OUF	**Merijarvi**	3.14	149	PB	**Pn**	17 01 29.2	+1.7
OUF				SB	**Sn**	17 02 08.0	+2.4
KONS	**Konsvik**	3.19	263	*e*P	**Pn**	17 01 29.4	+1.3
UMAU	**Umeaa**	3.24	183	PN	**Pn**	17 01 29.5	+0.8
	baz=3.0						
UMAU				SN	**Sn**	17 02 08.4	+0.5
VRF	**Varrio**	3.37	75	PN	**Pn**	17 01 31.8	+1.2
VRF				SG	**Sb**	17 02 20.8	+2.0
MSF	**Maaselka**	3.42	107	PN	**Pn**	17 01 33.4	+2.0
	baz=296						
KEV	**Kevo**	3.46	37	PN	**Pn**	17 01 32.6	+0.8
KU6	**Riekki**	3.70	103	PN	**Pn**	17 01 36.5	+1.3
	baz=289						
VAF	**Ylistaro**	4.14	170	PN	**Pn**	17 01 42.5	+1.4
RMF	**Romuvaara**	4.68	124	PN	**Pn**	17 01 50.9	+2.3
RMF				SG	**Sg**	17 03 03.8	-3.2
FINES	**FINESS Array B**	6.09	157	Pn	**Pn**	17 02 08.8	+0.8
	baz=349,slow=12,SNR=5.6						
FINES				Sn	**Sn**	17 03 17.9	-0.2
	comp=Z,0.2nm,0.3s,baz=345,slow=22,SNR=5.8						
	comp=Z,5.1nm,1.1s						
NOA	**NORSAR Array B**	7.45	220	Pn	**Pn**	17 02 27.1	+0.5
	baz=37,slow=10,SNR=1.4						
	comp=Z,1.6nm,1.1s						
HFS	**Hagfors**	7.72	208	Pn	**Pn**	17 02 29.0	-1.3
	comp=Z,0.1nm,0.3s,baz=16,slow=11,SNR=2.2						
	comp=Z,4.8nm,1.0s						

IDC ***17*** *17:42:49.6±3.8, 25°.66S×67°.54W, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=137.9km s-min=36.8km az=10.0*
SJA ***17*** *17:43:18.7±0.7, 24°.07S×66°.81W, h220km±7km, ML3.7, MW3.5*
NEIC ***17*** *17:43:20.4±1.8, 24°.01S±0°.06×67°.1W±0°.1, h227km±7km, mb4.1/5, ML4.3(GUC), Error ellipse: s-maj=16.1km s-min=9.4km az=87.0*
GUC ***17*** *17:43:20.8±0.6, 24°.02S×67°.22W, h245km±9km, ML4.3*

ISC 17 17:43:19.6±0.7, 24°.04S±0°.03×66°.90W±0°.04, h215km±6km, n79, σ1§33/110, mb3.4/5, 2C, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	1.44	118	*e*P	**Pn**	17 43 53.3	-0.9
SLA				*e*S	**S**	17 44 21.8	+0.6
AF01	**San Pedro de A**	1.60	312		**Pn**	17 43 57.1	+1.3
AZAP	**Zapla**	1.68	97	*e*P	**Pn**	17 43 55.8	-0.7
FSA	**Cafayete**	2.22	158	*e*P	**Pn**	17 44 01.4	-0.2
FSA				*e*S	**S**	17 44 31.9	-2.4
YJA	**Yavi**	2.25	35	*e*P	**Pn**	17 44 02.7	+0.4
LVC	**Limon Verde**	2.34	307	Pn	**Pn**	17 44 04.1	+1.0
LVC				Sn	**S**	17 44 33.2	-3.4
LVC	**Limon Verde**	2.34	307	*i* P	**Pn**	17 44 03.9	+0.8
LVC				*e*S	**S**	17 44 36.5	-0.2
LVC				IAML		17 44 38.3	
	606nm,0.3s						
LVC	**Limon Verde**	2.34	307	*e*P	**Pn**	17 44 04.0	+1.0
LVC				*e*S	**S**	17 44 37.5	+0.9
PB15	**IPOC Station P**	2.50	289		**Pn**	17 44 05.7	+1.1
PB15				Sn	**S**	17 44 39.1	-0.4
PB15	**IPOC Station P**	2.50	289	⇑*i*P	**Pn**	17 44 05.7	+1.1
PB15				*e*S	**S**	17 44 39.1	-0.4
PB15	**IPOC Station P**	2.50	289	*e*P	**Pn**	17 44 05.6	+0.9
PB15				*e*S	**S**	17 44 39.5	0.0
ALOL	**LOMAS DE OLMED**	2.68	86	*e*P	**Pn**	17 44 05.9	-0.5
GO02	**Mina Guanaco**	2.69	245	Pn	**Pn**	17 44 07.8	+1.0
GO02				Sn	**S**	17 44 43.5	0.0
GO02	**

comp=Z,125nnm,0.2s
AC01 Pan de Azucar 3.96 237 Pn 17 44 20.2 -1.2
AC01 Pan de Azucar 3.96 237 *i* P **Pn 17 44 21.1 -0.3**
AC01 *e*S **S 17 45 07.8 -1.9**
AC01 Pan de Azucar 3.96 237 *e*P **Pn 17 44 21.1 -0.3**
AC01 *e*S **S 17 45 07.9 -1.9**
AC01 IAML 17 45 09.2
comp=Z,78nm,0.3s
PATCX Punta Patache 4.40 316 Pn 17 44 26.3 -0.7
PATCX Punta Patache 4.40 316 *e*P **Pn 17 44 26.2 -0.7**
PB08 IPOC Station P 4.41 331 Pn 17 44 28.1 +0.7
PB08 IPOC Station P 4.41 331 *i* P **Pn 17 44 29.0 +1.6**
PB08 IPOC Station P 4.41 331 *e*P **Pn 17 44 28.2 +0.8**
PB08 *e*S **S 17 45 19.8 -0.7**
PB08 IAML 17 45 26.3
comp=Z,28nm,0.2s
AC06 Mina Casimiro 4.54 223 Pn **Pn 17 44 28.2 -0.4**
TA01 Diego Aracena 4.61 318 Pn **Pn 17 44 29.2 -0.3**
TA01 Diego Aracena 4.61 318 *e*P **Pn 17 44 28.9 -0.6**
TA01 IAML 17 45 27.6
comp=Z,22nm,0.6s
GO03 Copiap 4.64 220 Pn **Pn 17 44 29.0 -0.9**
GO03 Copiap 4.64 220 *e*P **Pn 17 44 29.6 -0.3**
GO03 *e*S **S 17 45 23.0 -2.2**
HMBC Humberstone 4.66 323 *i* P **Pn 17 44 29.1 -1.1**
HMBC Humberstone 4.66 323 *e*P **Pn 17 44 29.0 -1.3**
HMBC *e*S **S 17 45 23.6 -2.2**
TA02 Huaiquique 4.80 321 Pn 17 44 31.5 -0.4
VCA Vinchina 4.82 194 *e*P **Pn 17 44 34.2 +2.0**
GO01 Chusmiza 4.85 333 Pn 17 44 32.9 0.0
GO01 Chusmiza 4.85 333 *e*P **Pn 17 44 33.0 0.0**
GO01 *e*S **S 17 45 30.3 -0.3**
AC04 Llanos de Chal 5.59 221 Pn **Pn 17 44 41.3 -0.6**
LCO Las Campanas 6.01 214 Pn **Pn 17 44 46.7 -0.7**
PB16 IPOC Station P 6.18 336 Pn 17 44 49.9 -0.1
PB12 IPOC Station P 6.28 329 Pn **Pn 17 44 49.8 -1.0**
CO01 Juntas del Tor 6.56 205 Pn **Pn 17 44 54.3 -0.2**
GO04 Tololo Observa 7.03 209 Pn **Pn 17 44 59.1 -1.4**
CO03 El Pedregal 7.56 206 Pn **Pn 17 45 06.2 -1.1**
CO06 Fray Jorge 7.83 211 Pn **Pn 17 45 07.4 -3.3**
CO02 Combarbal 8.01 206 Pn **Pn 17 45 11.3 -1.7**
TRQA Tornquist 14.59 164 P **P 17 46 37.6 +0.7**
SAML Samuel 15.42 14 P **P 17 46 45.5 -0.8**
BDFB Brasilia 19.61 68 P **P 17 47 31.9 -0.1**
BDFB IAmb IAmb 17 47 36.5
comp=Z,6.5nnm,1.1s
BDFB Brasilia 19.61 68 P **P 17 47 33.1 +1.0**
comp=Z,1.7nm,0.3s,baz=227,slow=11,SNR=3.8
comp=Z,1.7nm,0.3s
BOAV Boa Vista 27.00 14 P **P 17 48 40.9 -1.0**
BOAV IAmb IAmb 17 48 51.1
comp=Z,9.8nm,1.4s
ORTG Ortega, Santa 38.71 330 P **P 17 50 20.5 -2.6**
SNAA Sanae 59.28 161 P **P 17 53 00.4 +2.1**
SNAA IAmb IAmb 17 53 12.4
comp=Z,4.0nm,1.5s
TXAR Lajitas Array 63.77 324 P **P 17 53 28.5 -0.4**
comp=Z,0.3nm,0.9s,baz=147,slow=12,SNR=2.3
comp=Z,0.3nm,0.9s
TORD Torodi Ar. Bea 76.50 69 P **P 17 54 47.6 +1.2**
comp=Z,0.4nm,0.5s,baz=265,slow=4.3,SNR=2.6
comp=Z,0.4nm,0.5s
PDAR Pinedale Array 77.23 329 P **P 17 54 53.5 +3.4**
comp=Z,0.2nm,0.5s,baz=134,slow=6.4,SNR=1.5
comp=Z,0.2nm,0.5s
MKAR Makanchi Array 146.50 40 PKPbc **PKPab 18 02 37.0 +0.2**
comp=Z,0.9nm,0.8s,baz=299,slow=3.7,SNR=7.0
PZH PanZhiHua 169.43 74 PKP **PKPdf 18 02 58.4 -3.4**

---

*NOU **17** 18:03:49.3,41.°00S×176.°79E,h0km,MLv4.0/9,North Island, New Zealand*
*WEL **17** 18:03:55.2,41.°5±2.°×17.°6E±.°,h14km±4km,M3.8/15, ML4.2/15,MLv3.8/15,Error ellipse: s-maj=0.0km s-min=0.0km az=86.4,confirmed*
*IDC **17** 18:04:06.9±2.2,39.°43S×175.°55E,h59km±25km,mb3.1/2, mbtmp3.5/3,ML3.7/1,Error ellipse: s-maj=45.5km s-min=24.3km az=143.0*
ISC 17 18:03:52.8±1.5,40.°83S±0.°03×176.°45E±0.°04,h13km±11km, n124,σ0°82/131,North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPWZ	**Castlepoint**	**0.20**	**248**	P		**Pb**	**18 04 01.1**	**+2.7**
BFZ	**Birch Farm**	**0.21**	**315**	P		**Pb**	**18 03 58.8**	**+0.2**
BFZ	**Birch Farm**	**0.21**	**315**	P		**Pb**	**18 03 58.9**	**+0.3**
BFZ				S		**Sb**	18 04 01.9	-0.5
ANWZ	**Angora Road**	**0.38**	**3**	P		**Pb**	**18 04 02.3**	**+1.0**
TIWZ	**Tintock**	**0.43**	**278**	P		**Pn**	**18 04 03.7**	**-1.0**
PRWZ	**Pori Road**	**0.46**	**308**	P		**Pn**	**18 04 03.8**	**-1.3**
TMWZ	**Te Maipa**	**0.50**	**237**	P		**Pn**	**18 04 06.4**	**+0.7**
DVHZ	**Dannevirke**	**0.58**	**338**	P		**Pb**	**18 04 05.6**	**+0.9**
DVHZ				S		**Sb**	18 04 13.5	+0.7
PRHZ	**Porangahau**	**0.58**	**14**	P		**Pn**	**18 04 06.7**	**-0.2**
PRHZ				S		**Sn**	18 04 15.9	-0.3
POWZ	**Post Office Ro**	**0.68**	**310**	P		**Pn**	**18 04 07.8**	**-0.4**
POWZ				S		**Sn**	18 04 18.1	-0.5
MRZ	**Mangatainoka R**	**0.68**	**284**	P		**Pn**	**18 04 07.9**	**-0.3**
MRZ				S		**Sn**	18 04 17.4	-1.2
HOWZ	**Holdsworth Sta**	**0.71**	**265**	P		**Pn**	**18 04 09.0**	**+0.4**
HOWZ				S		**Sn**	18 04 19.8	+0.4
WPHZ	**Waipukurau**	**0.77**	**360**	P		**Pn**	**18 04 09.5**	**+0.2**
WPHZ				S		**Sn**	18 04 21.6	+0.8
MTW	**Mount Morrison**	**0.79**	**245**	P		**Pn**	**18 04 10.0**	**+0.4**
TRWZ	**Traveller**	**0.80**	**225**	P		**Pn**	**18 04 10.3**	**+0.4**
TSZ	**Takapari Road**	**0.86**	**334**	P		**Pn**	**18 04 10.8**	**+0.1**
PXZ	**Pawanui**	**0.86**	**22**	P		**Pb**	**18 04 10.4**	**+0.8**
PNHZ	**Pukenui**	**0.94**	**348**	P		**Pn**	**18 04 12.0**	**+0.3**
PAWZ	**Paruwai Farm**	**0.94**	**234**	P		**Pn**	**18 04 12.3**	**+0.5**
OGWZ	**Otaki Gorge**	**0.97**	**271**	P		**Pn**	**18 04 12.8**	**+0.7**
OHWZ	**Ohakea**	**1.07**	**306**	P		**Pg**	**18 04 15.0**	**+1.6**
CAW	**Cannon Point**	**1.08**	**255**	P		**Pg**	**18 04 14.3**	**+0.7**
KAHZ	**Kahuranaki**	**1.09**	**18**	P		**Pb**	**18 04 13.7**	**+0.1**
PLWZ	**Palliser**	**1.16**	**230**	P		**Pb**	**18 04 14.9**	**+0.1**
KIW	**Kapiti Island**	**1.17**	**268**	P		**Pg**	**18 04 15.7**	**+0.4**
KRHZ	**Kereru**	**1.19**	**357**	P		**Pn**	**18 04 15.5**	**+0.3**
CKHZ	**Cape Kidnapper**	**1.27**	**23**	P		**Pn**	**18 04 16.8**	**+0.6**
BHW	**Baring Head**	**1.32**	**244**	P		**Pn**	**18 04 17.1**	**+0.2**
WEL	**Wellington**	**1.35**	**250**	P		**Pb**	**18 04 17.9**	**0.0**
BHHZ	**Black Hill Sta**	**1.38**	**348**	P		**Pb**	**18 04 18.5**	**+0.1**
SNZO	**South Karori**	**1.40**	**250**	P		**Pb**	**18 04 18.6**	**-0.2**
MCHZ	**McNeill Hill**	**1.40**	**8**	P		**Pn**	**18 04 18.6**	**+0.5**
KWHZ	**Kaweka Forest**	**1.41**	**359**	P		**Pn**	**18 04 18.6**	**+0.4**
MOVZ	**Moawhango**	**1.52**	**339**	P		**Pb**	**18 04 20.9**	**0.0**
WAZ	**Wanganui**	**1.55**	**314**	P		**Pg**	**18 04 22.3**	**-0.3**
ARHZ	**Aropaoanui**	**1.62**	**15**	P		**Pn**	**18 04 21.2**	**+0.1**
MTVZ	**Mangateitei**	**1.63**	**332**	P		**Pb**	**18 04 23.6**	**+0.8**
WNVZ	**Wahianoa**	**1.64**	**336**	P		**Pb**	**18 04 23.1**	**+0.1**
BKZ	**Black Stump Fm**	**1.67**	**1**	P		**Pn**	**18 04 22.0**	**+0.3**
BKZ	**Black Stump Fm**	**1.67**	**1**	P		**Pn**	**18 04 22.1**	**+0.3**
TUVZ	**Tukino**	**1.68**	**338**	P		**Pb**	**18 04 23.7**	**+0.1**
TRVZ	**Turoa**	**1.68**	**335**	P		**Pb**	**18 04 24.2**	**+0.4**
WHVZ	**Whangaehu Hut**	**1.68**	**337**	P		**Pb**	**18 04 23.9**	**+0.1**
TCW	**Tory Channel**	**1.69**	**256**	P		**Pn**	**18 04 22.6**	**+0.7**
FWVZ	**Far West T-bar**	**1.72**	**336**	P		**Pb**	**18 04 24.6**	**+0.2**
NMHZ	**Naumai**	**1.76**	**9**	P		**Pn**	**18 04 23.6**	**+0.5**
PKVZ	**Pokaka**	**1.76**	**331**	P		**Pb**	**18 04 24.9**	**0.0**
SNVZ	**South Ngauruho**	**1.76**	**339**	P		**Pb**	**18 04 24.8**	**-0.2**
COVZ	**Chateau Observ**	**1.77**	**337**	P		**Pb**	**18 04 25.4**	**+0.1**
OTVZ	**Oturere**	**1.77**	**340**	P		**Pb**	**18 04 24.9**	**-0.4**
NGZ	**Ngauruhoe**	**1.78**	**338**	P		**Pb**	**18 04 25.3**	**-0.1**
ETVZ	**East Tongariro**	**1.79**	**341**	P		**Pb**	**18 04 25.3**	**-0.2**
TMVZ	**Te Maari**	**1.81**	**341**	P		**Pb**	**18 04 25.4**	**-0.4**
NNVZ	**North Ngauruho**	**1.82**	**339**	P		**Pb**	**18 04 25.6**	**-0.4**
WTVZ	**West Tongariro**	**1.84**	**339**	P		**Pb**	**18 04 26.0**	**-0.4**
KRVZ	**Karewarewa**	**1.84**	**340**	P		**Pb**	**18 04 27.2**	**+0.7**
RITZ	**Rihia Road**	**1.91**	**346**	P		**Pb**	**18 04 26.6**	**-0.9**
DUWZ	**D'Urville Isla**	**1.92**	**270**	P		**Pb**	**18 04 26.7**	**-0.9**
TWVZ	**Taurewa**	**1.92**	**336**	P		**Pb**	**18 04 27.0**	**-0.8**
KATZ	**Kakaramea**	**1.94**	**342**	P		**Pb**	**18 04 27.8**	**-0.3**
HATZ	**Hinemaiaia**	**1.96**	**352**	P		**Pn**	**18 04 27.2**	**+1.5**
RAHZ	**Arahi**	**1.98**	**15**	P		**Pn**	**18 04 26.0**	**0.0**
TUWZ	**Tuamarina**	**1.98**	**252**	P		**Pn**	**18 04 26.9**	**+0.9**
MRHZ	**Matea Rd**	**2.00**	**359**	P		**Pn**	**18 04 27.2**	**+0.9**
MTHZ	**Maungataniwha**	**2.00**	**9**	P		**Pn**	**18 04 26.5**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.02**	**34**	P		**Pn**	**18 04 25.7**	**-0.8**
RATZ	**Rangitukua**	**2.03**	**345**	P		**Pn**	**18 04 28.2**	**+1.4**
KNZ	**Kokohu**	**2.04**	**28**	P		**Pn**	**18 04 25.8**	**-1.0**
LREZ	**Lake Rotokare**	**2.08**	**311**	P		**Pg**	**18 04 32.7**	**-0.1**
BSWZ	**Blackbirch Sta**	**2.13**	**245**	P		**Pn**	**18 04 28.1**	**0.0**
VRZ	**Vera Road**	**2.14**	**322**	P		**Pb**	**18 04 30.7**	**-0.8**
SNGZ	**Shannon Statio**	**2.16**	**19**	P		**Pn**	**18 04 28.4**	**-0.1**
PRGZ	**Paritu Road**	**2.21**	**31**	P		**Pn**	**18 04 28.0**	**-1.1**
RTZ	**Ruatahuna**	**2.25**	**11**	P		**Pn**	**18 04 29.8**	**0.0**
ALRZ	**Allen Road**	**2.27**	**358**	P		**Pn**	**18 04 30.4**	**+0.3**
PREZ	**Palmer Road**	**2.30**	**310**	P		**Pb**	**18 04 33.4**	**-0.9**
NNZ	**Nelson**	**2.35**	**260**	P		**Pb**	**18 04 32.9**	**-2.1**
DREZ	**Durham Road**	**2.38**	**313**	P		**Pg**	**18 04 38.1**	**-0.4**
NEZ	**North Egmont**	**2.39**	**310**	P		**Pb**	**18 04 34.4**	**-1.3**
KHEZ	**Kahui Hut**	**2.42**	**309**	P		**Pb**	**18 04 35.2**	**-1.0**
KHEZ	**Kahui Hut**	**2.42**	**309**	P		**Pb**	**18 04 35.2**	**-1.0**
NMEZ	**Namu Road**	**2.43**	**305**	P		**Pg**	**18 04 38.3**	**-1.0**
RAGZ	**Rawiri**	**2.45**	**18**	P		**Pn**	**18 04 32.0**	**-0.6**
PKE	**Pukeiti**	**2.50**	**310**	P		**Pb**	**18 04 38.1**	**+0.5**
NBEZ	**Newall Road No**	**2.52**	**307**	P		**Pg**	**18 04 40.9**	**-0.3**
TARZ	**Mount Tarawera**	**2.60**	**1**	P		**Pn**	**18 04 35.0**	**+0.4**
TLZ	**Tolley Road**	**2.60**	**344**	P		**Pn**	**18 04 35.1**	**+0.6**
URZ	**Urewera**	**2.62**	**12**	P		**Pn**	**18 04 34.1**	**-0.7**
URZ	**Urewera**	**2.62**	**12**	P		**Pn**	**18 04 34.2**	**-0.6**
URZ	**Urewera**	**2.62**	**12**	P		**Pn**	**18 04 34.1**	**-0.7**
16nm,0.4s,baz=328,slow=2.7,SNR=46
URZ S Sn 18 04 51.6 -15
24nm,0.5s,baz=306,slow=7.4,SNR=8.2
HIZ Hauiti 2.62 332 P **Pb 18 04 39.2 -0.4**
MWZ Matawai 2.63 19 P **Pn 18 04 34.1 -1.0**
TKNZ Takaka Hill 2.65 265 P **Pn 18 04 37.5 +2.2**
KHZ Kahutara 2.69 233 P **Pn 18 04 35.1 -0.7**
KHZ Kahutara 2.69 233 P **Pn 18 04 35.2 -0.7**
OMRZ Omania 2.73 359 P **Pb 18 04 41.9 +0.5**
THZ Tophouse 2.83 250 P **Pn 18 04 37.5 -0.2**
MRNZ Matariki Terra 2.84 257 P **Pn 18 04 39.0 +1.1**
TWGZ Tauwhareparae 2.91 25 P **Pn 18 04 38.6 -0.2**
QRZ Quartz Range 2.97 269 P **Pn 18 04 41.1 +1.4**
QRZ Quartz Range 2.97 269 P **Pn 18 04 40.9 +1.2**
RUGZ Raukumara Rang 3.02 19 P **Pn 18 04 39.5 -1.0**
PUZ Puketiti 3.09 28 P **Pn 18 04 39.9 -1.4**
TOZ Tahuroa Road 3.18 346 P **Pn 18 04 43.1 +0.6**
PKGZ Pakihiroa 3.20 24 P **Pn 18 04 42.4 -0.5**
HAZ Te Kaha 3.24 19 P **Pn 18 04 42.8 -0.6**
GVZ Greta Valley S 3.32 229 P **Pn 18 04 43.7 -0.7**
WMGZ Waiomatatini S 3.38 28 P **Pn 18 04 43.9 -1.3**
MXZ Matakaoa Point 3.57 24 P **Pn 18 04 46.7 -1.2**
MXZ Matakaoa Point 3.57 24 P **Pn 18 04 46.7 -1.2**
DSZ Denniston Nort 3.61 254 P **Pn 18 04 49.4 +0.8**
LTZ Lake Taylor 3.68 237 P **Pn 18 04 48.8 -0.6**
INZ Inchbonnie 4.19 242 P **Pn 18 04 56.1 -0.3**
MHCZ Mount Hutt 4.52 232 P **Pn 18 05 00.3 -0.7**
RPZ Rata Peaks 4.93 232 P **Pn 18 05 06.1 -0.5**
RPZ Rata Peaks 4.93 232 P **Pn 18 05 05.9 -0.7**
RPZ Rata Peaks 4.93 232 P **Pg 18 05 24.9 -2.3**
2.3nm,0.3s,baz=290,slow=5.0,SNR=8.4
13nm,0.6s
ARCZ Arundel 4.99 230 P **Pn 18 05 07.3 -0.1**
TMZ Timaru 5.36 227 P **Pn 18 05 12.2 -0.2**
CTZ Chatham Island 5.91 122 P **Pn 18 05 21.1 +1.2**
ASAR Alice Springs 39.41 282 P **P 18 11 23.1 +0.5**
0.2nm,0.3s,baz=118,slow=6.7,SNR=10
0.2nm,0.3s
WRA Warramunga Arr 41.37 287 P **P 18 11 38.6 -0.1**
0.2nm,0.4s,baz=125,slow=8.1,SNR=6.4
0.2nm,0.4s
ARCES ARCESS Array B 147.46 341 PKPbc **PKPab 18 23 36.6 -0.7**
3.4nm,0.9s,baz=72,slow=2.9,SNR=1.3
TORD Torodi Ar. Bea 152.04 191 PKPbc **PKPab 18 23 59.2 +1.8**
0.4nm,0.8s,baz=137,slow=3.4,SNR=2.0

---

*ATH **17** 18:19:03.5,34.°81N×26.°13E,h4km±1km,ML2.9/6,Manual Solution by M.Kolligri First location: 2019/04/07 11:11:20, This location: 2020/02/12 00:54:38 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
*IDC **17** 18:19:03.2±1.6,34.°95N×26.°06E,h0km,mb3.5/4, mbtmp3.4/5,ML3.4/1,Error ellipse: s-maj=68.3km s-min=27.5km az=146.0*
*AFAD **17** 18:19:04.1±0.0,34.°90N×26.°26E,h6km±3km,ML2.6*
*ISK **17** 18:19:05.8,34.°93N×26.°21E,h3km,ML2.8/21*
*THE **17** 18:19:05.5,34.°92N×26.°11E,h0km±1km,ML2.7/6,Error ellipse: s-maj=3.4km s-min=1.0km az=161.0*
ISC 17 18:19:03.5±1.5,34.°87N±0.°05×26.°14E±0.°03,h0km±10km, n51,σ1°33/68,mb3.4/4,Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.26**	**15**	Pg		**Pg**	**18 19 09.9**	**+1.4**
ZKR				Sg		**Sg**	**18 19 13.8**	**+2.0**
ZKR	**Zakros**	**0.26**	**15**	P		**Pg**	**18 19 09.8**	**+1.4**
ZKR				S		**Sg**	**18 19 14.3**	**+2.5**
4μm,0.3s
ZKR Zakros 0.26 15 P **Pg 18 19 09.8 +1.4**
FRMA Ierapetra Chan 0.36 294 P **Pg 18 19 09.8 -0.6**
FRMA S **Sg 18 19 14.9 -0.3**
2μm,0.5s
FRMA Ierapetra Chan 0.36 294 P **Pg 18 19 09.6 -0.8**
FRMA S **Sg 18 19 13.7 -1.5**
AGNA Agios Nikolaos 0.47 313 P **Pg 18 19 13.2 +0.7**
AGNA S **Sb 18 19 20.0 -2.2**
HRKL Herakleio 0.96 298 Pg **Pn 18 19 25.6 +1.4**
HRKL Sg **Sn 18 19 39.6 +1.1**
KARP Karpathos 1.08 51 Pg **Pn 18 19 25.6 -0.3**
KARP Karpathos 1.08 51 P **Pb 18 19 25.3 +0.2**
KARP S **Sn 18 19 42.1 +0.5**
578nm,0.3s
KARP Karpathos 1.08 51 P **Pb 18 19 25.0 -0.1**
IDI Anoyia 1.11 293 Pn **Pn 18 19 28.2 +1.9**
IDI Anoyia 1.11 293 P **Pg 18 19 25.0 +0.3**
IDI S **Sb 18 19 40.9 +0.4**
210nm,0.5s
IDI Anoyia 1.11 293 P **Pg 18 19 24.7 0.0**
IDI S **Sb 18 19 40.2 -0.3**
SANT Santorini 1.60 340 Pn **Pg 18 19 35.3 +1.1**
SANT Santorini 1.60 340 P **Pb 18 19 33.3 -0.6**
SANT Santorini 1.60 340 P **Pb 18 19 33.2 -0.8**
THR6 Thira Island, 1.60 338 P **Pb 18 19 33.7 -0.3**
THR8 Santorini-Mono 1.63 341 P **Pg 18 19 34.4 -0.3**
SNT5 Nea Kammeni, S 1.65 339 P **Pn 18 19 33.6 -0.1**
THR3 Thira Island, 1.65 339 P **Pb 18 19 34.0 -0.8**
GVDS Gavdos 1.68 270 Pn **Pg 18 19 38.4 +2.7**
GVD Gavdhos 1.69 270 Pn **Pg 18 19 37.9 +2.1**
GVD Gavdhos 1.69 270 P **Pb 18 19 35.5 +0.1**
GVD S **Sg 18 19 57.8 +0.2**
182nm,0.4s
GVD Gavdhos 1.69 270 P **Pn 18 19 33.9 -0.3**
IMMV Iera Moni Meta 1.86 289 Pn **Pg 18 19 39.9 +0.7**
IMMV Iera Moni Meta 1.86 289 P **Pn 18 19 36.9 +0.3**
IMMV S **Sb 18 20 01.6 -0.6**
242nm,1.1s
KOSK Kos Island 2.00 20 Pn **Pb 18 19 40.5 -0.3**
RODP Rodopos 2.07 290 Pn **Pg 18 19 43.2 +0.1**
ARG Arkhangelos 2.11 50 Pn **Pb 18 19 41.9 -0.7**
RFTD Palamutbuku-Ka 2.12 31 Pn **Pb 18 19 41.9 -0.9**
DAT Datca 2.20 32 Pn **Pb 18 19 43.5 -0.7**
DAT Datca 2.20 32 P **Pb 18 19 43.0 -1.2**
DAT S **Sg 18 20 13.9 -0.2**
DAT *i* AML AML 18 21 01.0
comp=Z,36nm,2.2s
APE Apeiranthos 2.25 348 Pn **Pb 18 19 44.2 -0.9**
RFTB Kemer-Bodrum 2.29 23 Pn **Pb 18 19 44.6 -1.0**
RFTC Emecik-Datca 2.35 35 Pn **Pb 18 19 45.2 -1.4**
BODT Bodrum 2.39 23 Pn **Pb 18 19 46.1 -1.3**
RFTAA Mazikoy-Bodrum 2.50 31 Pn **Pb 18 19 47.7 -1.5**
TURN Turunc 2.56 41 Pn **Pb 18 19 48.3 -2.0**
TURN Turunc 2.56 41 P **Pn 18 19 47.6 +1.4**
TURN S **Sb 18 20 21.3 -1.1**
TURN *i* AML AML 18 20 35.0
comp=E,24nm,0.4s
TURN *i* AML AML 18 20 37.0
comp=N,23nm,0.7s
MLSB Milas 2.77 28 Pn **Pb 18 19 51.4 -2.4**
DALY Dalyan (Mula) 2.82 46 Pn **Pb 18 19 52.1 -2.7**
YER Yerkesik 2.86 37 Pn **Pn 18 19 52.3 +1.9**
IZZE Mula-Seydike 2.96 57 P **Pn 18 19 53.0 +1.2**
IZZE S **Sn 18 20 30.3 +2.2**
IZZE *i* AML AML 18 20 36.0
comp=N,31nm,0.5s
AKAS Kas 3.14 63 P **Pn 18 19 55.8 +1.5**
AKAS S **Sn 18 20 33.6 +1.0**
AKAS *i* AML AML 18 20 53.0
comp=Z,16nm,0.8s
AKAS *i* AML AML 18 21 16.0
comp=E,27nm,0.9s
AKAS *i* AML AML 18 21 25.0
comp=N,50nm,1.4s
GOLH Golhisar 3.65 49 P **Pn 18 20 02.3 +1.1**
GOLH S **Sg 18 20 56.6 -4.1**
GOLH *i* AML AML 18 21 15.0
comp=E,19nm,0.6s
GOLH *i* AML AML 18 21 16.0
comp=N,21nm,1.5s
GOLH *i* AML AML 18 21 25.0
comp=Z,11nm,1.0s
AKUM Antalya-Kumluc 3.72 66 P **Pn 18 20 01.5 -0.7**
AKUM S **Sn 18 20 47.7 +1.0**
AKUM *i* AML AML 18 21 56.0
comp=N,13nm,1.8s
MMAI Mount Meron Ar 7.92 101 Pn **Pn 18 21 00.6 +0.7**
0.5nm,0.3s,baz=273,slow=13,SNR=1.8
0.4nm,0.3s
TORD Torodi Ar. Bea 30.92 232 P **P 18 25 21.8 -0.3**
0.3nm,0.4s,baz=38,slow=10.0,SNR=2.7
0.3nm,0.4s
KURBB Kurchatov Arra 40.68 51 P **P 18 26 44.6 -0.8**
0.4nm,0.5s,baz=280,slow=9.1,SNR=5.0
0.4nm,0.5s
MKAR Makanchi Array 43.27 56 P **P 18 27 06.6 -0.1**
0.4nm,0.6s,baz=276,slow=7.2,SNR=5.3
0.4nm,0.6s
ZALV Zalesovo Beam 44.63 46 P **P 18 27 17.1 -0.4**
0.2nm,0.3s,baz=270,slow=8.6,SNR=1.3
0.2nm,0.3s

---

*IDC **17** 18:24:28.5±0.9,12.°92N×145.°89E,h0km,mb3.8/10, mbtmp3.8/10,Error ellipse: s-maj=25.8km s-min=18.3km az=65.0*
ISC 17 18:24:35.6±0.9,12.°9N±0.°1×145.°8E±0.°1,h50km,n12, σ0°87/13,mb3.8/10,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.09**	**308**	Pn		**Pn**	**18 24 53.4**	**-1.2**
98nm,0.3s,baz=151,slow=10,SNR=41
GUMO Sn **Sn 18 25 09.0 +0.4**
132nm,0.3s,baz=242,slow=22,SNR=14
WRA Warramunga Arr 34.53 199 P **P 18 31 18.7 -0.6**
1.3nm,0.8s,baz=20,slow=9.3,SNR=9.3
1.3nm,0.8s
ASAR Alice Springs 38.16 198 P **P 18 31 49.9 -0.5**
0.1nm,0.4s,baz=9.8,slow=10,SNR=7.1
0.1nm,0.4s
CMAR Chiang Mai Arr 45.31 283 P **P 18 32 49.9 +1.0**
0.5nm,0.6s,baz=73,slow=6.6,SNR=1.8
0.5nm,0.6s
SONM Songino Array 47.78 325 P **P 18 33 07.9 -0.1**
0.4nm,0.5s,baz=123,slow=5.3,SNR=1.4
0.4nm,0.5s
MKAR Makanchi Array 62.57 316 P **P 18 34 55.4 +0.8**
1.5nm,0.7s,baz=95,slow=8.5,SNR=15
1.5nm,0.7s
KURBB Kurchatov Arra 65.69 320 P **P 18 35 15.1 +0.2**
1.3nm,0.6s,baz=101,slow=6.2,SNR=13
1.3nm,0.6s
ILAR Eielson Array 68.81 25 P **P 18 35 33.0 -1.4**
0.5nm,0.9s,baz=240,slow=6.2,SNR=4.9
0.5nm,0.9s
BVAR Borovoye Array 70.99 322 P **P 18 35 48.3 +0.3**
1.1nm,0.5s,baz=105,slow=7.6,SNR=9.4
1.1nm,0.5s
NVAR Mina Array Bea 86.67 51 P **P 18 37 15.7 +1.1**
0.3nm,0.6s,baz=286,slow=4.6,SNR=2.7
0.3nm,0.6s
FINES FINESS Array B 92.13 335 P **P 18 37 39.1 -0.3**
1.3nm,0.8s,baz=64,slow=4.4,SNR=4.9
1.3nm,0.8s
DBIC Dimbokro 144.91 302 PKPbc **PKPdf 18 44 09.0 +0.8**
1.7nm,0.7s,baz=79,slow=7.3,SNR=1.8

IDC 17 18:37:12.2±21.0,12.°74S×173.°34E,h0km,mb4.0/3, mbtmp4.1/4,ML3.8/1,Error ellipse: s-maj=376.2km s-min=79.3km az=83.0,North of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.38**	**214**	Pn		Pn	18 39 55.7	-0.5
0.6nm,0.3s,baz=54,slow=21,SNR=1.1
7.0nm,0.8s
STKA Stephens Creek 34.81 232 P P 18 44 04.8 0.0
3.1nm,1.1s,baz=74,slow=9.7,SNR=3.7
3.1nm,1.1s
WRA Warramunga Arr 38.04 254 P P 18 44 32.6 0.0
0.6nm,0.3s,baz=84,slow=8.3,SNR=23
0.6nm,0.3s
ASAR Alice Springs 38.89 248 P P 18 44 39.6 -0.2
1.5nm,0.5s,baz=79,slow=8.9,SNR=61
1.5nm,0.5s

---

*JMA **17** 18:48:04.8±0.2,23.°N±1.°×122.°3E±0.°6,h41km,MV3.2/15, TAIWAN REGION*
*TAP **17** 18:48:06.2,22.°54N×122.°16E,h54km±1km,ML3.3,D*
ISC 17 18:48:00.8±1.2,22.°57N±0.°03×122.°35E±0.°03,h16km±9km, n110,σ1°07/200,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.82**	**278**	*e*P		**Pn**	**18 48 19.1**	**+1.5**
baz=276
LDUT *e*S **Sn 18 48 28.4 -1.0**
baz=276
LYUB Lan-yu 0.90 232 P **Pn 18 48 20.6 +1.8**
baz=231
LYUB S **Sn 18 48 31.0 -0.5**
baz=231
LAY Lan-yu 0.90 235 *e*P **Pn 18 48 20.5 +1.7**
baz=235
LAY *e*S **Sg 18 48 29.9 -0.3**
baz=235
EDH Donghe 1.04 293 P **Pg 18 48 22.4 +1.4**
baz=304
EDH *e*S **Sn 18 48 34.3 -0.7**
baz=304
CHKT Chengkung 1.05 301 *e*P **Pg 18 48 22.4 +1.3**
baz=310
CHKT *e*S **Sg 18 48 35.1 +0.2**
baz=310
ECBN Changbin 1.11 312 *e*P **Pg 18 48 23.7 +1.4**
baz=319
ECBN *e*S **Sg 18 48 37.1 +0.2**
baz=319
TTN Taitung 1.12 280 *e*P **Pg 18 48 23.6 +1.1**
baz=285
TTN *e*S **Sg 18 48 36.8 -0.4**
baz=285
FULB Fuli 1.16 303 P **Pg 18 48 23.9 +0.8**
baz=309
FULB *e*S **Sg 18 48 37.7 -0.6**
baz=309
ECS Chishang 1.17 297 P **Pg 18 48 24.8 +1.5**
baz=308
ECS *e*S **Sg 18 48 39.0 +0.4**
baz=308
LONT Longtian 1.17 287 *e*P **Pg 18 48 24.7 +1.2**
baz=295
LONT *e*S **Sg 18 48 38.3 -0.5**
baz=295
TWGBT Beinan 1.20 282 P **Pg 18 48 25.8 +1.9**
TWGBT Beinan 1.20 282 *e*P **Pg 18 48 25.0 +1.1**
baz=289
TWGBT *e*S **Sg 18 48 39.6 +0.1**
baz=289
EHD Haiduan 1.20 299 P **Pg 18 48 24.6 +0.6**
baz=308
EHD S **Sg 18 48 39.5 -0.3**
baz=308
TWG Pinlang 1.20 282 *e*P **Pg 18 48 25.6 +1.5**
baz=289
TWG *e*S **Sg 18 48 39.0 -0.8**
baz=289
EYUL Yuli 1.23 310 *e*P **Pg 18 48 25.3 +0.9**
baz=315
EYUL *e*S **Sg 18 48 39.8 -0.7**
baz

	baz=330						
YULB	**Yu-li**	**1.27 311**	P		**Pg**	**18 48 26.1**	**+0.7**
YULB	**Yu-li**	**1.27 311**	P		**Pg**	**18 48 26.0**	**+0.7**
	baz=316						
YULB			S		**Sg**	**18 48 41.1**	**-0.8**
	baz=316						
ECL	**Taimali**	**1.29 272**	*e*P		**Pg**	**18 48 25.6**	**0.0**
	baz=283						
ECL			*e*S		**Sb**	**18 48 39.7**	**-1.2**
	baz=283						
EHY	**Hungye**	**1.33 315**	*e*P		**Pg**	**18 48 26.9**	**+0.4**
	baz=326						
EHY			*e*S		**Sg**	**18 48 42.9**	**-0.9**
	baz=326						
TAWH	**Dawu Township**	**1.37 261**	*e*P		**Pg**	**18 48 27.7**	**+0.5**
	baz=251						
TAWH			*e*S		**Sb**	**18 48 43.0**	**-0.3**
	baz=251						
ELDTW	**Lidau**	**1.37 297**	P		**Pg**	**18 48 27.3**	**0.0**
	baz=307						
ELDTW			*e*S		**Sn**	**18 48 42.6**	**-0.8**
	baz=307						
EGFH	**Guangfu**	**1.39 323**	*e*P		**Pg**	**18 48 27.6**	**+0.1**
	baz=333						
EGFH			*e*S		**Sb**	**18 48 43.9**	**+0.1**
	baz=333						
EAST	**Anshuo**	**1.40 263**	*e*P		**Pg**	**18 48 28.6**	**+0.8**
	baz=253						
EAST			*e*S		**Sb**	**18 48 43.7**	**-0.5**
	baz=253						
WARBT	**Fenglin Townsh**	**1.45 323**	P		**Pg**	**18 48 28.5**	**-0.2**
	baz=333						
WARBT			S		**Sb**	**18 48 45.1**	**-0.5**
	baz=333						
SMST	**Manzhou Townsh**	**1.50 249**	*e*P		**Pg**	**18 48 29.2**	**-0.5**
	baz=246						
SMST			*e*S		**Sb**	**18 48 46.4**	**-0.7**
	baz=246						
ESL	**Shilin**	**1.50 326**	P		**Pg**	**18 48 29.1**	**-0.6**
	baz=339						
ESL			S		**Sb**	**18 48 46.9**	**-0.2**
	baz=339						
EOS4	**EOS4**	**1.55 359**	*e*P		**Pg**	**18 48 31.5**	**+0.9**
	baz=10.0						
EOS4			*e*S		**Sg**	**18 48 49.7**	**-1.0**
	baz=10.0						
TWKBT	**Hengchun**	**1.55 247**	*e*P		**Pb**	**18 48 29.2**	**0.0**
	baz=250						
TWKBT			*e*S		**Sn**	**18 48 46.1**	**-1.5**
	baz=250						
TWK1	**Hengchun**	**1.56 247**	*e*P		**Pb**	**18 48 29.6**	**+0.4**
	baz=250						
TWK1			*e*S		**Sn**	**18 48 46.9**	**-0.8**
	baz=250						
HWA	**Hwalien**	**1.56 334**	*e*S		**Sg**	**18 48 50.1**	**-1.1**
	baz=340						
STYH	**Taoyuan**	**1.57 293**	*e*P		**Pg**	**18 48 30.7**	**-0.3**
	baz=299						
STYH			*e*S		**Sb**	**18 48 47.9**	**-1.2**
	baz=299						
TSMG	**Majia**	**1.58 275**	*e*P		**Pg**	**18 48 30.8**	**-0.4**
	baz=279						
TSMG			*e*S		**Sb**	**18 48 48.5**	**-0.9**
	baz=279						
MASBT	**Mashibuluo**	**1.58 272**	P		**Pg**	**18 48 31.0**	**-0.3**
	baz=272						
MASBT			*e*S		**Sn**	**18 48 48.0**	**-0.4**
	baz=272						
HEN	**Hengchun**	**1.59 250**	*e*P		**Pb**	**18 48 30.2**	**+0.4**
	baz=247						
HEN			*e*S		**Sn**	**18 48 47.6**	**-0.8**
	baz=247						
SSD	**Sandimen**	**1.59 277**	*e*P		**Pg**	**18 48 30.5**	**-1.0**
	baz=281						
SSD			*e*S		**Sn**	**18 48 48.1**	**-0.6**
	baz=281						
ETM	**Tongmen**	**1.60 331**	*e*P		**Pg**	**18 48 31.1**	**-0.5**
	baz=342						
ETM			*e*S		**Sb**	**18 48 49.6**	**-0.3**
	baz=342						
SCZT	**Fangliau**	**1.61 263**	*e*P		**Pg**	**18 48 31.0**	**-0.8**
	baz=254						
SCZT			*e*S		**Sn**	**18 48 48.0**	**-0.9**
	baz=254						
VWDT	**VWDT**	**1.62 317**	P		**Pg**	**18 48 31.9**	**-0.1**
	baz=328						
VWDT			S		**Sb**	**18 48 50.2**	**-0.3**
	baz=328						
SLGT	**Liugui**	**1.63 286**	*e*P		**Pg**	**18 48 31.9**	**-0.2**
	baz=290						
SLGT			*e*S		**Sb**	**18 48 51.1**	**+0.4**
	baz=290						
TWD	**Chiawan**	**1.66 336**	*e*P		**Pb**	**18 48 31.6**	**+0.6**
	baz=341						
TWD			*e*S		**Sn**	**18 48 50.3**	**+0.1**
	baz=341						
LXIB	**Xiulin Townshi**	**1.68 330**	*e*P		**Pg**	**18 48 32.4**	**-0.9**
	baz=335						
LXIB			*e*S		**Sb**	**18 48 51.6**	**-0.9**
	baz=335						
ALS	**Alishan**	**1.70 304**	*e*P		**Pg**	**18 48 34.0**	**+0.4**
	baz=307						
ALS			*e*S		**Sn**	**18 48 51.7**	**0.0**
	baz=307						
EOS3	**EOS3**	**1.71 359**	*e*P		**Pg**	**18 48 34.0**	**+0.3**
	baz=2.0						
EOS3			*e*S		**Sb**	**18 48 54.4**	**+1.3**
	baz=2.0						
ETL	**Fush Village**	**1.72 337**	*e*S		**Sb**	**18 48 52.7**	**-0.8**
	baz=342						
WTP	**Ta-pu**	**1.73 293**	*e*P		**Pg**	**18 48 34.5**	**+0.3**
	baz=302						
WTP			*e*S		**Sb**	**18 48 54.4**	**+0.5**
	baz=302						
NACB	**Ninganchiao**	**1.74 337**	P		**Pg**	**18 48 37.8**	**+3.5**
NACB	**Ninganchiao**	**1.74 337**	*e*P		**Pg**	**18 48 34.0**	**-0.3**
	baz=349						
NACB			*e*S		**Sb**	**18 48 52.9**	**-1.2**
	baz=349						
TPUB	**Ta-pu**	**1.74 295**	P		**Pg**	**18 48 34.8**	**+0.5**
TPUB	**Ta-pu**	**1.74 295**	*e*P		**Pg**	**18 48 34.5**	**+0.1**
	baz=303						
TPUB			*e*S		**Sb**	**18 48 52.6**	**-1.5**
	baz=303						
OWD	**Renai**	**1.75 322**	*e*P		**Pg**	**18 48 33.6**	**-0.9**
	baz=335						
OWD			*e*S		**Sb**	**18 48 54.3**	**-0.2**
	baz=335						
SSLB	**Suanglung**	**1.77 314**	P		**Pg**	**18 48 34.0**	**-0.8**
SSLB	**Suanglung**	**1.77 314**	P		**Pg**	**18 48 33.7**	**-1.1**
	baz=324						
SSLB			*e*S		**Sb**	**18 48 53.6**	**-1.2**
	baz=324						
WHYT	**Xinyi Township**	**1.78 310**	*e*P		**Pg**	**18 48 34.7**	**-0.3**
	baz=319						
WHYT			*e*S		**Sb**	**18 48 55.2**	**+0.1**
	baz=319						
CHN1	**Nanshi**	**1.79 291**	*e*P		**Pg**	**18 48 35.2**	**+0.1**
	baz=298						
CHN1			*e*S		**Sb**	**18 48 56.3**	**+0.9**
	baz=298						
TWM1	**Shoushan**	**1.79 279**	*e*P		**Pg**	**18 48 35.0**	**-0.3**
	baz=279						
TWM1			*e*S		**Sg**	**18 48 56.9**	**-1.8**
	baz=279						
WUSB	**Renai**	**1.81 322**	P		**Pg**	**18 48 34.7**	**-1.0**
	baz=333						
WUSB			S		**Sb**	**18 48 54.7**	**-1.6**
	baz=333						
ETLH	**Xiulin Townshi**	**1.82 334**	*e*P		**Pb**	**18 48 33.9**	**+0.1**
	baz=346						
ETLH			*e*S		**Sb**	**18 48 55.0**	**-1.3**
	baz=346						
SNST	**Tainan City**	**1.82 291**	*e*P		**Pg**	**18 48 36.0**	**+0.1**
	baz=299						
SNST			*e*S		**Sg**	**18 48 59.1**	**-0.6**
	baz=299						
WCKO	**Fanlu**	**1.82 299**	*e*P		**Pg**	**18 48 36.3**	**+0.4**
	baz=306						
WCKO			*e*S		**Sg**	**18 48 58.2**	**-1.4**
	baz=306						
CHGB	**Renai**	**1.84 324**	*e*P		**Pg**	**18 48 35.0**	**-1.1**
	baz=337						
CHGB			*e*S		**Sb**	**18 48 56.5**	**-0.5**
	baz=337						
CHN5	**Tsauling**	**1.85 304**	*e*P		**Pg**	**18 48 36.0**	**-0.3**
	baz=313						
CHN5			*e*S		**Sb**	**18 48 57.7**	**+0.5**
	baz=313						
EOS2	**EOS2**	**1.85 357**	*e*P		**Pg**	**18 48 35.5**	**-0.8**
	baz=358						
EOS2			*e*S		**Sb**	**18 48 57.9**	**+0.9**
	baz=358						
TWK	**Hsinying**	**1.85 293**	*e*P		**Pg**	**18 48 36.4**	**+0.1**
	baz=303						
TWK			*e*S		**Sg**	**18 48 58.9**	**-1.6**
	baz=303						
SMLT	**Sun Moon Lake**	**1.87 315**	*e*P		**Pg**	**18 48 35.8**	**-0.9**
	baz=323						
SMLT			*e*S		**Sb**	**18 48 56.5**	**-1.3**
	baz=323						
SHHT	**Tainan City**	**1.90 284**	*e*P		**Pg**	**18 48 38.0**	**+0.7**
	baz=286						
SHHT			*e*S		**Sb**	**18 48 59.6**	**+1.0**
	baz=286						
ENA	**Nanau**	**1.94 343**	*e*P		**Pg**	**18 48 37.2**	**-0.8**
	baz=348						
ENA			*e*S		**Sb**	**18 48 58.9**	**-0.8**
	baz=348						
EWUT	**Wuta**	**1.94 345**	*e*P		**Pg**	**18 48 37.3**	**-0.8**
	baz=349						
EWUT			*e*S		**Sb**	**18 48 58.6**	**-1.3**
	baz=349						
WJS	**Zhushan**	**1.94 310**	*e*P		**Pb**	**18 48 36.1**	**+0.3**
	baz=315						
JYNG	**Yonagunijimaku**	**1.96 16**	*e*P		**Pb**	**18 48 36.3**	**+0.2**
WCS	**Beigang Élemen**	**1.99 319**	*e*P		**Pg**	**18 48 37.5**	**-1.4**
	baz=328						
WCS			*e*S		**Sb**	**18 49 00.1**	**-1.0**
	baz=328						
TWT	**Tachien**	**2.00 328**	*e*P		**Pb**	**18 48 37.6**	**+0.8**
	baz=338						
TWT			*e*S		**Sb**	**18 49 00.2**	**-1.4**
	baz=338						
CHY	**Chiayi**	**2.00 298**	*e*P		**Pb**	**18 48 37.3**	**+0.5**
	baz=301						
TDCB	**Techi**	**2.00 327**	*e*P		**Pb**	**18 48 37.6**	**+0.7**
	baz=338						
TDCB			*e*S		**Sb**	**18 49 00.6**	**-1.2**
	baz=338						
WDLH	**Douliu**	**2.00 304**	*e*P		**Pg**	**18 48 38.3**	**-1.0**
	baz=307						
WDLH			*e*S		**Sb**	**18 49 02.4**	**+0.7**
	baz=307						
WNT	**Mingjian**	**2.01 311**	*e*P		**Pg**	**18 48 38.0**	**-1.4**
	baz=314						
WNT			*e*S		**Sb**	**18 49 02.8**	**+0.9**
	baz=314						
NNSB	**Datong**	**2.06 335**	*e*P		**Pb**	**18 48 38.1**	**+0.3**
	baz=339						
NNSB			*e*S		**Sb**	**18 49 02.0**	**-1.1**
	baz=339						
ICHU	**Yijhu**	**2.06 293**	*e*P		**Pb**	**18 48 37.4**	**-0.4**
	baz=296						
NNS	**Nan Shan**	**2.07 335**	*e*P		**Pb**	**18 48 38.4**	**+0.3**
	baz=339						
NNS			*e*S		**Sb**	**18 49 01.9**	**-1.7**
	baz=339						
TWC	**Suao**	**2.08 347**	*e*P		**Pb**	**18 48 38.9**	**+0.7**
TWC			*e*S		**Sb**	**18 49 02.5**	**-1.4**
LATG	**Datong**	**2.10 339**	*e*P		**Pb**	**18 48 38.9**	**+0.3**
	baz=343						
LATG			*e*S		**Sb**	**18 49 03.0**	**-1.5**
	baz=343						
WHP	**Taichung City**	**2.14 323**	*e*P		**Pb**	**18 48 39.2**	**0.0**
	baz=332						
WHP			*e*S		**Sb**	**18 49 04.3**	**-1.1**
	baz=332						
NDS	**Dongshan**	**2.14 344**	*e*P		**Pb**	**18 48 39.9**	**+0.7**
	baz=348						
NDS			*e*S		**Sb**	**18 49 05.2**	**-0.3**
	baz=348						
TSCK	**Chigu Township**	**2.16 286**	*e*P		**Pb**	**18 48 40.1**	**+0.5**
	baz=287						
TSCK			*e*S		**Sb**	**18 49 05.5**	**-0.7**
	baz=287						
NDT	**Datong Townshi**	**2.17 340**	*e*P		**Pb**	**18 48 40.1**	**+0.4**
	baz=343						
NDT			*e*S		**Sb**	**18 49 05.0**	**-1.3**
	baz=343						
IRIF	**Iriomote-Funau**	**2.17 36**	P		**Pb**	**18 48 39.5**	**-0.2**
IRIF			S		**Sb**	**18 49 04.8**	**-1.7**
ENTT	**Nioudou**	**2.19 341**	*e*P		**Pb**	**18 48 40.3**	**+0.3**
	baz=345						
ENTT			*e*S		**Sb**	**18 49 05.3**	**-1.5**
	baz=345						
WSF	**Szhu**	**2.23 299**	*e*P		**Pb**	**18 48 39.7**	**-1.0**
	baz=302						
TWE	**Neicheng**	**2.23 344**	*e*P		**Pb**	**18 48 41.1**	**+0.3**
	baz=348						
TWE			*e*S		**Sb**	**18 49 07.0**	**-1.2**
	baz=348						
WRL	**Guolierlin Hig**	**2.25 307**	*e*P		**Pb**	**18 48 40.3**	**-0.7**
	baz=310						
JKRS	**Kuro-shima**	**2.26 42**	P		**Pb**	**18 48 40.9**	**-0.3**
JKRS			*e*S		**Sn**	**18 49 06.5**	**+1.4**
YHNB	**Yeheng**	**2.28 337**	P		**Pg**	**18 48 43.4**	**-1.1**
YHNB	**Yeheng**	**2.28 337**	*e*P		**Pb**	**18 48 41.2**	**-0.4**
	baz=341						
YHNB			*e*S		**Sb**	**18 49 08.0**	**-1.5**
	baz=341						
TWQ1	**Liyutan**	**2.29 321**	*e*P		**Pb**	**18 48 43.0**	**+1.2**
	baz=333						
TWQ1			*e*S		**Sb**	**18 49 09.8**	**0.0**
	baz=333						
FUSB	**Fushanzhiwuyua**	**2.29 342**	*e*P		**Pb**	**18 48 41.9**	**0.0**
	baz=346						
FUSB			*e*S		**Sb**	**18 49 08.1**	**-1.9**
	baz=346						
NFF	**Wufeng Townshi**	**2.35 332**	*e*P		**Pb**	**18 48 43.0**	**+0.2**
	baz=335						
NFF			*e*S		**Sb**	**18 49 09.9**	**-1.6**
	baz=335						
NSTT	**Nanjuang**	**2.40 329**	*e*P		**Pb**	**18 48 45.0**	**+1.4**
	baz=343						
NSTT			*e*S		**Sb**	**18 49 12.3**	**-0.7**
	baz=343						
LIOB	**Emei**	**2.40 330**	*e*P		**Pg**	**18 48 45.2**	**-1.8**
	baz=343						
LIOB			*e*S		**Sb**	**18 49 12.7**	**-0.5**
	baz=343						
JIJ	**Ishigaki jima**	**2.43 42**	P		**Pb**	**18 48 42.7**	**-1.5**
JIJ			*e*S		**Sn**	**18 49 09.8**	**+0.4**
NHDH	**Xindian Distri**	**2.50 343**	*e*S		**Sb**	**18 49 14.2**	**-1.8**
	baz=346						
SXI1	**Grass Mountain**	**2.55 350**	*e*P		**Pb**	**18 48 46.0**	**-0.3**
	baz=360						
SXI1			*e*S		**Sb**	**18 49 15.4**	**-2.1**
	baz=360						
YM01	**YM01**	**2.67 345**	*e*S		**Sb**	**18 49 18.3**	**-2.4**
	baz=338						
YM08	**YM08**	**2.70 345**	*e*S		**Sn**	**18 49 18.4**	**+2.4**
	baz=337						
JISG	**Ishigakijimahi**	**2.70 41**	*e*P		**Pb**	**18 48 46.2**	**-2.5**
JISG			*e*S		**Sn**	**18 49 16.5**	**+0.5**
PHUB	**P'eng-hu**	**2.72 291**	*e*P		**Pb**	**18 48 46.8**	**-2.4**
	baz=292						
PHUB			*e*S		**Sn**	**18 49 15.9**	**-0.6**
	baz=292						
PNG	**Penghu**	**2.76 292**	*e*P		**Pb**	**18 48 47.3**	**-2.5**
	baz=294						
JTJ	**Tarama**	**2.99 46**	P		**Pb**	**18 48 50.8**	**-2.9**
JTJ			*e*S		**Sn**	**18 49 23.9**	**+0.8**
JIRB	**Irabujima**	**3.43 48**	*e*P		**Pn**	**18 48 56.4**	**+2.8**
JMJ2	**Miyako jima3**	**3.49 51**	*e*P		**Pn**	**18 48 57.5**	**+3.1**

TEH ***17*** *18:52:35.5, 37.°69N×57.°22E, h9km±23km, ML4.7*
IDC ***17*** *18:52:36.1±0.8, 37.°65N×57.°08E, h0km, mb4.1/21, mbtmp4.2/28, ML4.1/8, MS3.4/38, Error ellipse: s-maj=15.8km s-min=6.7km az=172.0*
NNC ***17*** *18:52:36.3±1.6, 38.°16N×57.°12E, h0km, mb4.6, Error ellipse: s-maj=15.4km s-min=5.0km az=40.0*
THR ***17*** *18:52:37.2±1.1, 37.°61N×57.°22E, h15km±5km, ML4.5*
NEIC ***17*** *18:52:37.4±2.1, 37.°75N±0.°08×57.°30E±0.°07, h19km±4km, mb4.7/82, Error ellipse: s-maj=11.6km s-min=7.7km az=177.0*

ISC 17 18:52:36.5±0.7, **37.°82N**±0.°04×**57.°24E**±0.°02, **h9**km±4km, **n339**, σ1$76/336, **mb4.6**/69, **MS3.5**/29, **19C-16D, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BJRD	**Bojnurd**	**0.18**	**132**	*e*Pg		**Pg**	**18 52 41.5**	**+1.1**
BJRD					IAML		18 52 45.4	
	comp=E,220μm,0.3s							
BJRD					IAML		18 52 45.4	
	comp=N,174μm,0.3s							
GEYT	**Alibeck**	**0.70**	**81**	Pg		**Pn**	**18 52 51.7**	**-0.9**
GEYT						**Sb**	**18 53 00.3**	**-0.3**
GEYT	**Alibeck**	**0.70**	**81**	Pg		**Pn**	**18 52 51.8**	**-0.9**
	comp=N,325nm,0.3s,baz=248,slow=14,SNR=73							
GEYT				Lg	Lg		18 53 03.4	
	comp=N,5μm,0.3s,baz=125,slow=49,SNR=54							
GYA0B	**ALIBECK ARRAY**	**0.70**	**81**	⇓P		**Pn**	**18 52 52.1**	**-0.5**
GYA0B				⇑S		**Sn**	**18 53 03.6**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**0.70**	**81**	Pg		**Pn**	**18 52 51.9**	**-0.7**
GYA0B						**Sb**	**18 53 00.8**	**+0.2**
MRVT	**Maraveh tapeh**	**0.93**	**260**	*e*Pg		**Pg**	**18 52 53.6**	**-0.8**
MRVT				*e*Sg		**Sg**	**18 53 06.6**	**+0.1**
MRVT					IAML		18 53 11.1	
	comp=N,11μm,0.3s							
MRVT					IAML		18 53 15.5	
	comp=E,11μm,0.3s							
MRVT	**Maraveh tapeh**	**0.93**	**260**	Pg		**Pg**	**18 52 53.0**	**-1.4**
MRVT				Sg		**Sg**	**18 53 06.6**	**+0.1**
ISFR	**Sfrayin**	**0.97**	**142**	Pg		**Pg**	**18 52 52.9**	**-2.3**
ISFR				Sg		**Sg**	**18 53 05.9**	**-2.1**
IEMG	**Emamgholi**	**1.19**	**109**	Pg		**Pg**	**18 52 58.2**	**-1.2**
SBZV	**Sabzevar**	**1.46**	**168**	Pg		**Pn**	**18 53 01.0**	**-2.2**
IMND	**Minoodasht**	**1.56**	**250**	Pg		**Pn**	**18 53 04.3**	**-0.1**
IAKL	**Akhelmad**	**1.71**	**135**	Pg		**Pn**	**18 53 06.1**	**-0.7**
IPAY	**Payeh**	**1.96**	**134**	Pn		**Pn**	**18 53 10.8**	**+0.7**
SHRO	**Shahrood**	**2.08**	**209**	*e*Pn		**Pn**	**18 53 10.7**	**-0.9**
SHRO				*e*Sg		**Sn**	**18 53 35.9**	**-1.8**
IKRD	**Kardeh**	**2.09**	**119**	Pn		**Pb**	**18 53 13.1**	**-1.7**
IMOG	**Moghan**	**2.40**	**135**	Pn		**Pn**	**18 53 16.4**	**+0.2**
IMYA	**Miami**	**2.72**	**122**	Pn		**Pn**	**18 53 21.5**	**+0.9**
TBHD	**Torbat heydari**	**2.89**	**146**	Pn		**Pn**	**18 53 22.8**	**0.0**
IGLO	**Ghaloghah**	**3.03**	**245**	Pn		**Pn**	**18 53 24.4**	**-0.4**
JRKH	**Jarkhoshk**	**3.14**	**127**	Pn		**Pn**	**18 53 26.4**	**+0.2**
IKIA	**Kiasar**	**3.27**	**242**	Pn		**Pn**	**18 53 27.8**	**-0.4**
TBJM	**Torbat-e-JAM**	**3.56**	**135**	Pn		**Pn**	**18 53 32.0**	**0.0**
IANJ	**Anjilo**	**3.56**	**230**	Pn		**Pn**	**18 53 32.1**	**0.0**
ISHM	**Shahmirzad**	**3.75**	**239**	Pn		**Pn**	**18 53 35.7**	**+0.9**
TNSJ	**Nastanj**	**3.88**	**188**	Pn		**Pn**	**18 53 35.6**	**-0.8**
TABS	**Tabas**	**4.16**	**181**	*e*Pn		**Pn**	**18 53 39.9**	**-0.4**
TABS					IAML		18 54 59.8	
	comp=N,414nm,0.7s							
TKDS	**Koohdasht(Taba**	**4.20**	**181**	Pn		**Pn**	**18 53 40.3**	**-0.5**
IFIR	**Firoozkooh**	**4.21**	**240**	Pn		**Pn**	**18 53 41.4**	**+0.4**
ILAS	**Lasjerd**	**4.22**	**236**	Pn		**Pn**	**18 53 41.1**	**-0.1**
IPRN	**Peran**	**4.23**	**250**	Pn		**Pn**	**18 53 41.2**	**0.0**
AFRZ	**Afriz**	**4.62**	**161**	Pn		**Pn**	**18 53 46.5**	**0.0**
MZPU	**Pul - Mazandar**	**4.74**	**255**	Pn		**Pn**	**18 53 48.5**	**+0.2**
DAMV	**Damavand**	**4.76**	**244**	*e*Pn		**Pn**	**18 53 50.3**	**+1.6**
DAMV					IAML		18 55 14.3	
	comp=E,183nm,0.6s							
TPRV	**Parvadeh(Tabas**	**4.80**	**186**	Pn		**Pn**	**18 53 48.7**	**-0.4**
SHRT	**Shahrakht**	**4.85**	**148**	*e*Pn		**Pn**	**18 53 49.4**	**-0.3**
SHRT	**Shahrakht**	**4.85**	**148**	Pn		**Pn**	**18 53 49.0**	**-0.7**
ITEG	**Tejag**	**5.06**	**165**	Pn		**Pn**	**18 53 52.4**	**-0.3**
KLST	**Kelardasht - M**	**5.11**	**257**	Pn		**Pn**	**18 53 53.4**	**0.0**
TEH	**Tehran**	**5.14**	**248**	Pn		**Pn**	**18 53 53.2**	**-0.6**
CHTH	**Charan**	**5.26**	**251**	*e*Pn		**Pn**	**18 53 57.0**	**+1.5**
IVRN	**Varamin**	**5.26**	**239**	Pn		**Pn**	**18 53 55.7**	**+0.2**
HRA	**Herat**	**5.30**	**129**	Pn		**Pn**	**18 53 55.0**	**-1.0**
HRA				Pg		**Pb**	**18 54 08.7**	**-0.8**
HRA				Sn		**Sn**	**18 54 52.1**	**-5.3**
ISFB	**Sefidab**	**5.33**	**231**	Pn		**Pn**	**18 53 55.6**	**-0.6**
IHSB	**Hasanabad**	**5.36**	**245**	Pn		**Pn**	**18 53 57.5**	**+0.9**
ANAR	**Anarak**	**5.44**	**213**	Pn		**Pn**	**18 53 57.3**	**-0.5**
THKV	**Tehran--Karaj**	**5.44**	**252**	*e*Pn		**Pn**	**18 54 00.2**	**+2.2**
THKV					IAML		18 55 31.9	
	comp=N,144nm,0.7s							
THKV					IAML		18 55 35.7	
	comp=E,128nm,0.7s							
IDAH	**Dahanechah**	**5.50**	**156**	Pn		**Pn**	**18 53 57.8**	**-1.1**
IKOO	**Kooshah**	**5.57**	**164**	Pn		**Pn**	**18 53 59.6**	**-0.2**
KRSH	**Karshahi**	**5.65**	**229**	Pn		**Pn**	**18 54 00.6**	**-0.2**
IGZV	**Ghazvin**	**5.79**	**258**	Pn		**Pn**	**18 54 03.6**	**+0.8**
IQOM	**Qom**	**5.80**	**241**	Pn		**Pn**	**18 54 02.4**	**-0.5**
YZKH	**Yazd**	**5.84**	**203**	*e*Pn		**Pn**	**18 54 02.5**	**-0.8**
GHVR	**GHOM**	**5.85**	**237**	*e*Pn		**Pn**	**18 54 04.3**	**+0.8**
GIDE	**GILAN DEYLAMAN**	**5.91**	**264**	*e*Pn		**Pn**	**18 54 03.8**	**-0.5**
ICHK	**Chekchek**	**6.03**	**204**	Pn		**Pn**	**18 54 05.4**	**-0.6**
BSRN	**Basiran**	**6.04**	**165**	*e*Pn		**Pn**	**18 54 05.8**	**-0.4**
BSRN	**Basiran**	**6.04**	**165**	Pn		**Pn**	**18 54 05.7**	**-0.4**
NASN	**Na'in**	**6.18**	**217**	*e*Pn		**Pn**	**18 54 07.3**	**-1.0**
QAMS	**Qamsar**	**6.26**	**231**	Pn		**Pn**	**18 54 08.7**	**-0.6**
IZEF	**Zefreh**	**6.34**	**221**	Pn		**Pn**	**18 54 09.9**	**-0.5**
IRAZ	**Razeghan**	**6.36**	**250**	Pn		**Pn**	**18 54 10.9**	**+0.4**
IBAF	**Bafgh**	**6.37**	**193**	Pn		**Pn**	**18 54 10.4**	**-0.2**
IKLH	**Kolahrood**	**6.44**	**227**	Pn		**Pn**	**18 54 11.5**	**-0.2**
CSN1	**Caspian**	**6.47**	**270**	Pn		**Pn**	**18 54 12.2**	**+0.4**
ISAD	**Sadrabad**	**6.58**	**207**	Pn		**Pn**	**18 54 12.5**	**-1.1**
QSDN	**Sirdan**	**6.58**	**261**	Pn		**Pn**	**18 54 14.3**	**+0.7**
GAS1	**Astara - Iran**	**6.65**	**277**	Pn		**Pn**	**18 54 13.1**	**-1.2**
IMEH	**Mehriz**	**6.77**	**199**	Pn		**Pn**	**18 54 15.9**	**-0.3**
NHDN	**Nehbandan**	**6.81**	**159**	Pn		**Pn**	**18 54 16.7**	**-0.1**
ZRDN	**Zarand Kerman**	**6.86**	**185**	Pn		**Pn**	**18 54 17.4**	**-0.1**
IGAR	**Gharneh**	**6.88**	**220**	Pn		**Pn**	**18 54 17.8**	**0.0**
ZNJK	**Zanjan**	**6.92**	**263**	*e*Pn		**Pn**	**18 54 18.8**	**+0.5**
KHMZ	**Khomeyn**	**7.18**	**238**	*e*Pn		**Pn**	**18 54 21.9**	**+0.1**
IRAM	**Ramesheh**	**7.21**	**215**	Pn		**Pn**	**18 54 21.9**	**-0.3**
GRMI	**Germi**	**7.42**	**281**	*e*Pn		**Pn**	**18 54 24.4**	**-0.6**
GRMI	**Germi**	**7.42**	**281**	Pn		**Pn**	**18 54 24.1**	**-0.9**
KHGB	**Koh Gabri**	**7.45**	**185**	Pn		**Pn**	**18 54 25.5**	**-0.1**
ISRB	**Sarab**	**7.58**	**273**	Pn		**Pn**	**18 54 27.4**	**0.0**
IBRJ	**Brojen**	**7.68**	**222**	Pn		**Pn**	**18 54 28.5**	**-0.2**
ZNGN	**Zangian**	**7.74**	**225**	Pn		**Pn**	**18 54 30.4**	**+0.8**
JHBN	**Jahan bin**	**7.76**	**226**	Pn		**Pn**	**18

GURO Guroymak-BITLI 11.99 278 Pn Pn 18 55 26.4 -1.3
KBZ Khabaz 12.37 303 Pn Pn 18 55 31.5 -1.1
comp=E,3.8nm,0.3s,baz=131,slow=5.4,SNR=89
KBZ Sn **Sn 18 57 44.4 -6.1**
comp=E,1.2nm,0.3s,baz=140,slow=15,SNR=2.6
KVAR Kislovodsk Arr 12.59 304 Pn Pn 18 55 35.1 -0.7
baz=86,slow=22
KVAR Sn **Sn 18 57 48.2 -8.0**
baz=160,slow=13
comp=E,22nm,0.5s
KIV Kislovodsk 12.60 304 Pn Pn 18 55 34.5 -1.5
AKTO Aktyubinsk 12.62 2 ⇑P Pn 18 55 31.9 -4.2
comp=E,16nm,0.7s
AKTO ⇑S **Sn 18 57 53.2 -3.6**
comp=E,24nm,0.7s
AKTO Aktyubinsk 12.62 2 Pn Pn 18 55 37.8 +1.7
comp=E,3.3nm,0.3s,baz=173,slow=13,SNR=30
AKTO Sn **Sn 18 57 55.9 -0.8**
comp=E,2.0nm,0.3s,baz=33,slow=12,SNR=3.8
AKTO LR LR 19 01 39.0
comp=E,283nm,18.1s,baz=253,slow=42
comp=E,10.0nm,0.3s
AML Almayashu 13.33 66 ⇓P Pn 18 55 44.9 -1.2
comp=E,1.7nm,0.7s
AML ⇓S **Sn 18 58 15.6 +0.9**
comp=E,7.0nm,0.8s
EKS2 Erkin-Say 13.52 64 P Pn 18 55 49.0 +0.5
SNR=22
NIL Nilore 13.65 103 Pn Pn 18 55 48.0 -2.2
AAK Ala-Archa 14.03 65 P Pn 18 55 55.9 +0.5
SNR=15
AAK Ala-Archa 14.03 65 Pn Pn 18 55 54.1 -1.4
AAK Ala-Archa 14.03 65 Pn Pn 18 55 54.6 -0.8
comp=E,1.6nm,0.3s,baz=246,slow=6.0,SNR=34
AAK Sn **Sn 18 58 30.3 -1.0**
comp=E,0.4nm,0.3s,baz=228,slow=20,SNR=2.1
AAK LR LR 19 01 50.1
comp=E,233nm,20.3s,baz=258,slow=39
comp=E,9.9nm,0.6s
FRU1 Bishkek 14.17 64 Pn Pn 18 55 56.8 -0.5
USP Ospenovka 14.20 62 P Pn 18 55 57.0 -0.7
SNR=26
CHMS Chumysh 14.30 63 P Pn 18 55 58.6 -0.5
SNR=6.2
KBK Karagaybulak 14.36 65 P Pn 18 56 00.1 +0.1
SNR=8.7
BTLS Baital 14.51 55 *e*Pn Pn 18 56 01.8 -0.1
baz=55
WSAR Wadi Sarin 14.58 175 LR LR 19 02 57.0
comp=E,155nm,19.2s,baz=254,slow=43
KSH Kashi 14.73 78 S Sn 18 58 39.0 -10
KSH Kashi 14.73 78 pmax pmax
comp=Z,9.0nm,0.7s
KSH Kashi 14.73 78 LR LR
comp=Z,300nm,6.2s
KSH Kashi 14.73 78 LR LR
comp=E,170nm,5.8s
KSH Kashi 14.73 78 LR LR
comp=N,310nm,7.2s
KSH Kashi 14.73 78 P Pn 18 56 00.0 -5.1
KSH Kashi 14.73 78 sP Pn 18 56 05.4 +0.3
TKM2 Tokmak 2 14.88 64 P Pn 18 56 05.8 -1.4
SNR=6.0
TKM2 Tokmak 2 14.88 64 ⇓P Pn 18 56 06.2 -1.0
comp=N,10nm,0.7s
TKM2 ⇓S **Sn 18 58 54.6 +2.3**
comp=N,17nm,0.8s
BOOM Boomskoye usch 15.03 66 Pn Pn 18 56 06.7 -2.6
BOOM IAmb IAmb 18 56 24.1
comp=Z,18nm,0.7s
OTUK Ortayu 15.15 42 ⇓P Pn 18 56 09.9 -0.7
comp=Z,23nm,0.8s
OTUK ⇓S **Sn 18 58 56.9 -1.6**
comp=Z,19nm,0.7s
ULHL Ulahol 15.21 67 P Pn 18 56 11.4 -0.1
SNR=12
TNSS Tian-Shan 15.87 65 *e*Pn Pn 18 56 20.5 0.0
baz=65
GAZ Gaziantep 15.91 274 Pn Pn 18 56 19.7 -1.0
MDOK Medeo 15.97 64 *e*Pn Pn 18 56 22.7 +1.2
baz=64
BELG Belogornoye 16.05 338 Pn Pn 18 56 21.5 -0.7
comp=Z,3.2nm,0.3s,baz=291,slow=2.3,SNR=9.2
BELG Sn **Sn 18 59 16.8 -3.4**
comp=Z,3.4nm,0.3s,baz=49,slow=18,SNR=6.1
BELG LR LR 19 04 41.9
comp=Z,145nm,19.9s,baz=128,slow=45
CHKK Chushkaly 16.10 62 *e*Pn Pn 18 56 23.6 +0.7
baz=62
TARG Taragay, Kyrgy 16.28 70 Pn Pn 18 56 20.9 -4.8
TARG IAmb IAmb 18 56 39.3
comp=Z,26nm,0.8s
BRZS Berezniki 16.44 37 *e*Pn Pn 18 56 27.1 -0.1
baz=38
BNN Bunyan 16.82 280 Pn 18 56 32.5 +0.2
PRZ Przheval'sk 16.82 67 Pn Pn 18 56 30.8 -1.5
SATY Saty 16.93 65 *e*Pn P 18 56 34.9 -0.7
baz=66
ZHN Zhinishke 16.97 65 *e*Pn Pn 18 56 34.2 +0.1
baz=65
KPKS Kokpek 17.20 64 *e*Pn P 18 56 37.8 -0.9
baz=64
UZB Uzynbulak 17.39 65 *e*Pn P 18 56 40.6 -0.1
baz=66
TDK Taldyqorghan 17.39 59 *e*Pn P 18 56 40.4 -0.2
baz=59
ASF Jabal al Asfar 17.59 257 Pn Pn 18 56 36.8 -5.1
comp=Z,0.2nm,0.3s,baz=168,slow=23,SNR=1.5
ASF LR LR 19 04 41.9
comp=Z,164nm,18.1s,baz=70,slow=42
SHLS Shalkode 17.70 65 *e*Pn P 18 56 48.5 +4.3
baz=66
BRVK Borovoye 17.73 27 ⇑P Pn 18 56 42.0 -1.4
comp=Z,32nm,1.3s
BRVK ⇓S **Sn 18 59 56.5 -4.4**
comp=Z,18nm,1.0s
BRVK Borovoye 17.73 27 Pn 18 56 42.9 -0.5
BVA0 Borovoye Array 17.74 27 ⇑P Pn 18 56 42.3 -1.2
comp=Z,13nm,0.8s,baz=219,slow=9.8,SNR=3.7
BVA0 ⇓S **Sn 18 59 56.6 -4.6**
comp=Z,9.9nm,0.8s,baz=224,slow=22,SNR=4.5
BVAR Borovoye Array 17.74 27 Pn P 18 56 44.0 -0.4
comp=Z,0.4nm,0.3s,baz=222,slow=9.5,SNR=43
BVAR Sn **Sn 18 59 56.7 -4.5**
comp=Z,0.2nm,0.3s,baz=225,slow=21,SNR=4.1
BVAR LR LR 19 04 58.2
comp=Z,104nm,18.7s,baz=216,slow=41
comp=Z,9.7nm,0.6s
PDGK Podgornoye 17.75 65 ⇑P P 18 56 45.3 +0.5
comp=Z,20nm,1.1s
MMAI Mount Meron Ar 18.42 261 LR LR 19 04 49.6
comp=Z,63nm,18.4s,baz=44,slow=40
BRTR Keskin Array B 18.50 283 P P 18 56 51.0 -2.0
BRTR Keskin Array B 18.50 283 P Pn 18 56 53.5 +0.4
comp=Z,0.2nm,0.3s,baz=110,slow=6.4,SNR=2.3
BRTR LR LR 19 05 16.2
comp=Z,103nm,19.2s,baz=94,slow=41
comp=Z,1.0nm,0.5s
ARU Arti 18.64 2 P P 18 56 51.8 -2.4
ARU Arti 18.64 2 P Pn 18 56 55.7 +1.1
comp=Z,1.0nm,0.3s,baz=213,slow=7.0,SNR=10
ARU LR LR 19 04 46.9
comp=Z,83nm,18.3s,baz=219,slow=39
comp=Z,7.9nm,0.6s
KURBB Kurchatov Arra 19.83 43 ⇑P P 18 57 06.3 -1.0
comp=Z,7.9nm,0.9s
KURBB Kurchatov Arra 19.83 43 P Pn 18 57 11.1 +2.3
comp=Z,6.8nm,0.9s,baz=244,slow=12,SNR=34
KURBB LR LR 19 06 29.8
comp=Z,34nm,19.5s,baz=181,slow=42
comp=Z,6.8nm,0.9s
KURK Kurchatov 19.92 43 P P 18 57 05.3 -3.0
EIL Elat 20.21 253 P P 18 57 12.3 +0.7
comp=Z,2.7nm,0.5s,baz=354,slow=17,SNR=1.2
EIL LR LR 19 06 26.3
comp=Z,38nm,19.6s,baz=63,slow=41
comp=Z,2.7nm,0.5s
MAKZ Makanchi 20.31 56 P P 18 57 10.4 -2.2
MDUB Mudurnu 20.35 286 P P 18 57 12.0 -1.2
MK31 Makanchi Array 20.51 56 P P 18 57 15.5 +0.7
comp=Z,7.7nm,0.6s,baz=245,slow=9.8,SNR=83
MK31 Makanchi Array 20.51 56 P 18 57 13.2 -1.6
MKAR Makanchi Array 20.51 56 P 18 57 12.8 -2.1
MKAR Makanchi Array 20.51 56 P Pn 18 57 18.2 +1.2
comp=Z,10.0nm,0.8s,baz=241,slow=9.0,SNR=34
MKAR LR LR 19 06 37.1
comp=Z,74nm,18.8s,baz=268,slow=41
comp=Z,10.0nm,0.8s

SEM Semipalatinsk 20.66 45 *e*Pn Pn 18 57 19.6 +0.7
baz=45
KIRV Kirov 21.40 349 P P 18 57 28.4 +4.3
comp=Z,14nm,0.5s,baz=83,slow=4.2,SNR=4.8
KIRV LR LR 19 06 41.1
comp=Z,92nm,18.7s,baz=173,slow=39
comp=Z,14nm,0.5s
ELL Elmali 21.75 276 P P 18 57 28.1 -0.3
OBN Obninsk 22.26 328 P P 18 57 35.2 +1.7
comp=Z,16nm,0.4s,baz=55,slow=14,SNR=3.2
comp=Z,16nm,0.4s
JURR Jurilovca 22.34 297 ⇑P P 18 57 37.6 +3.1
ZSN Zaisan 22.38 56 *e*P P 18 57 36.2 +1.3
baz=56
TIRR Tirgusor 22.63 296 ⇑P P 18 57 41.3 +3.7
TIRR Tirgusor 22.63 296 P P 18 57 37.7 +0.2
TIRR IAmb IAmb 18 57 51.8
comp=Z,19nm,0.7s
TPGR Topolog 22.68 297 ⇑P P 18 57 40.3 +2.2
CFR Carcaliu 22.92 298 ⇑P P 18 57 43.6 +3.0
HARR Harsova 23.00 297 ⇓P P 18 57 46.0 +4.6
SORM Soroca 23.39 305 ⇑P P 18 57 47.7 +2.4
PYUN Piuthan 23.61 107 *e*P P 18 57 50.1 +2.1
comp=Z,16nm,0.7s
AKASG Malin Array Be 23.68 312 P P 18 57 48.6 +0.4
AKASG IAmb IAmb 18 57 56.2
comp=Z,23nm,0.6s
AKASG Malin Array Be 23.68 312 P P 18 57 48.8 +0.6
comp=Z,1.9nm,0.5s,baz=111,slow=7.9,SNR=18
comp=Z,1.9nm,0.5s
AKBB Malin Array Si 23.68 312 P P 18 57 48.1 -0.1
WMQ Urumqi 23.73 66 *e*P P 18 57 49.9 +1.0
WMQ pP sP 18 57 54.8 +1.3
WMQ pmax pmax
comp=Z,17nm,0.7s
VRI Vrincioaia 24.00 299 ⇓P P 18 57 53.7 +2.3
ISR Istrita 24.03 297 ⇓P P 18 57 55.5 +3.8
PLOR Plostina 24.05 299 ⇓P P 18 57 54.5 +2.6
DANN Dangsing 24.07 105 *e*P P 18 57 53.8 +1.3
comp=Z,40nm,1.0s
TESR Tescani 24.16 301 ⇓P P 18 57 55.5 +2.7
ALN Alexandroupoli 24.25 287 P P 18 57 52.5 -1.2
MLR Muntele Rosu 24.50 298 ⇑P P 18 57 59.1 +3.0
MLR Muntele Rosu 24.50 298 P P 18 57 55.2 -0.9
MLR IAmb IAmb 18 58 24.0
comp=Z,22nm,1.1s
MLR Muntele Rosu 24.50 298 P P 18 57 57.8 +1.8
comp=Z,6.4nm,0.6s,baz=11,slow=5.3,SNR=13
comp=Z,6.4nm,0.6s
RDO Rodhopi 24.62 288 P P 18 57 57.1 0.0
RDO IAmb IAmb 18 58 23.7
comp=Z,12nm,1.0s
OZUR 24.69 300 ⇑P P 18 58 00.7 +3.0
ZAA0 Zalesovo Array 24.84 41 P P 18 57 58.3 -0.6
ZALV Zalesovo Beam 24.84 41 P P 18 57 58.0 -1.0
ZALV Zalesovo Beam 24.84 41 P P 18 58 02.4 +3.4
comp=Z,3.0nm,0.5s,baz=245,slow=10,SNR=13
ZALV LR LR 19 09 05.4
comp=Z,61nm,21.3s,baz=360,slow=40
comp=Z,3.0nm,0.5s
GKN Gorkha 24.92 105 *e*P P 18 58 03.4 +3.3
comp=Z,44nm,1.1s
DOPR Dopca 24.94 299 ⇑P P 18 58 02.6 +2.6
VOIR 25.11 298 ⇓P P 18 58 04.3 +2.7
BURAR Bucovina Array 25.33 303 ⇑P P 18 58 06.2 +2.7
BURAR Bucovina Array 25.33 303 P P 18 58 03.8 +0.3
BURAR IAmb IAmb 18 58 16.1
comp=Z,9.8nm,0.6s
BUR08 Bucovina Ar. S 25.34 303 P P 18 58 04.2 +0.5
BUR08 IAmb IAmb 18 58 26.6
comp=Z,12nm,1.1s
KLMR Klimovskoe 25.62 340 *e*P P 18 58 06.8 +0.9
KLMR AMP 18 58 09.3
comp=Z,26nm,1.6s
KLMR *e*PP **PnPn 18 58 43.7 +2.0**
GUN Gumba 25.92 104 *e*P P 18 58 13.9 +4.6
comp=Z,31nm,0.8s
MNK Minsk 26.03 319 *i* P P 18 58 10.8 +1.1
comp=E,5.0nm,0.6s
MNK *i* P **P 18 58 10.8 +1.1**
comp=N,13nm,0.9s
MNK *i* P **P 18 58 10.8 +1.1**
comp=Z,22nm,0.8s,baz=118
MNK *i* PP **PnPn 18 58 43.2 -4.2**
MNK *i* PPP PPP 18 58 55.7
MNK *i* PcP **PcP 19 01 44.9 +7.4**
MNK *i* S **S 19 02 42.2 +1.8**
MNK *i* SS **SnSn 19 03 38.9 +1.3**
MNK *i* LQ LQ 19 05 05.7
MNK *i* LR LR 19 08 30.3
MNK *i* LRM MLR 19 10 39.5
comp=E,95nm,15.1s
MNK *i* LRM MLR 19 10 46.1
comp=N,150nm,19.7s
MNK *i* LRM MLR 19 10 50.0
comp=Z,104nm,15.7s
IDI Anoyia 26.04 274 P P 18 58 10.1 0.0
comp=Z,7.9nm,0.6s,baz=91,slow=4.9,SNR=6.8
comp=Z,7.9nm,0.6s
JIRN Jiri 26.28 104 *e*P P 18 58 18.9 +6.2
comp=Z,34nm,0.8s
MARR Marisel-Cluj 26.59 300 P P 18 58 17.9 +2.9
GZR Gura Zlata 26.70 297 P P 18 58 18.7 +2.7
RAMN Ramite 26.95 105 *e*P P 18 58 27.8 +9.2
comp=Z,22nm,0.6s
SURR Surduc 27.19 298 ⇑P P 18 58 22.3 +2.1
KWP Kalwaria Pacla 27.37 307 P P 18 58 21.9 +0.1
KWP IAmb IAmb 18 58 44.1
comp=Z,13nm,1.0s
BOVS Bovan 27.41 294 ⇑P P 18 58 24.4 +2.2
KOLS Kolonicke sedl 27.50 305 *e*P P 18 58 35.7 +13
TAPN Taplejung 27.60 103 *e*P P 18 58 33.0 +8.5
comp=Z,34nm,1.2s
DIVS Divibare 28.64 295 P P 18 58 32.0 -1.4
FINES FINESS Array B 30.56 331 P P 18 58 48.6 -1.4
FINES FINESS Array B 30.56 331 P P 18 58 52.5 +2.4
comp=Z,3.6nm,1.0s,baz=123,slow=7.0,SNR=4.2
FINES LR LR 19 13 45.2
comp=Z,50nm,21.2s,baz=116,slow=41
comp=Z,3.6nm,1.0s
VRAC Vranov 31.25 305 LR LR 19 13 34.6
comp=Z,65nm,18.8s,baz=86,slow=40
ARSA Arzberg 31.82 301 *e*pP pP 18 59 06.8 +2.1
comp=Z,2.7nm,1.0s
SOKA Soboth 32.15 300 *e*pP pP 18 59 08.3 +0.7
comp=Z,2.6nm,0.8s
OBKA Obir 32.48 299 *e*pP pP 18 59 11.3 +0.7
comp=Z,1.7nm,1.0s
GERES GERESS Array B 33.11 304 P P 18 59 13.2 +0.4
comp=Z,0.3nm,0.3s,baz=57,slow=11,SNR=2.4
comp=Z,0.3nm,0.3s
CLUD Cludinico 33.63 299 P P 18 59 16.1 -1.1
CLUD IAmb IAmb 18 59 27.2
comp=Z,4.7nm,0.9s
FDMO Fiordimonte 33.72 293 P P 18 59 18.1 +0.1
FDMO IAmb IAmb 18 59 40.7
comp=Z,4.1nm,0.8s
NRCA Norcia 33.72 293 P P 18 59 18.2 +0.1
LESA Schwarzleotal 33.76 301 *e*P P 18 59 19.9 +1.5
comp=Z,4.6nm,0.9s
MURB Monte Urbino 34.10 294 P P 18 59 20.5 -0.9
MURB IAmb IAmb 18 59 29.2
comp=Z,9.6nm,0.7s
WTTA Wattenberg 34.47 301 *e*P P 18 59 25.3 +0.7
comp=Z,1.7nm,0.5s
CTI Castel Tesino 34.50 299 P P 18 59 25.3 +0.4
CTI IAmb IAmb 18 59 42.2
comp=Z,9.2nm,1.3s
CLTB Caltabellotta 34.59 283 P P 18 59 24.4 -1.3
FETA Feichten 35.10 300 *e*P P 18 59 29.1 -1.0
comp=Z,4.8nm,1.4s
HFS Hagfors 35.32 323 P P 18 59 33.2 +1.5
comp=Z,1.4nm,0.5s,baz=111,slow=8.1,SNR=6.7
HFS LR LR 19 15 15.2
comp=Z,101nm,19.6s,baz=102,slow=38
comp=Z,1.4nm,0.5s
DAVOX Davos/Dischmat 35.69 300 LR LR 19 16 54.2
comp=Z,46nm,19.6s,baz=86,slow=41
KEV Kevo 35.85 343 P P 18 59 35.7 -0.3
ARCES ARCESS Array B 36.05 342 P P 18 59 40.3 +2.4
comp=Z,5.7nm,1.0s,baz=132,slow=3.4,SNR=7.3
ARCES LR LR 19 17 01.8
comp=Z,146nm,21.8s,baz=134,slow=40
comp=Z,5.7nm,1.0s
TUE Stuetta 36.07 299 P P 18 59 36.9 -1.6
MSSA Maissana 36.15 296 P P 18 59 38.0 -1.0

MSSA IAmb IAmb 19 00 12.7
comp=Z,12nm,1.3s
NC405 NORSAR Array S 36.56 324 P P 18 59 41.5 -0.8
NC405 IAmb IAmb 19 00 19.6
comp=Z,16nm,1.1s
NB2 NORSAR Subarra 36.77 324 P P 18 59 45.7 +1.6
comp=Z,1.7nm,0.7s,baz=111,slow=8.6
NOA NORSAR Array B 36.77 324 P P 18 59 46.0 +1.9
comp=Z,0.9nm,0.6s,baz=114,slow=8.0,SNR=5.2
NOA LR LR 19 15 59.8
comp=Z,69nm,18.6s,baz=115,slow=38
comp=Z,0.9nm,0.6s
SONM Songino Array 36.85 58 P P 18 59 47.7 +2.6
comp=Z,0.3nm,0.5s,baz=285,slow=12,SNR=2.2
comp=Z,0.3nm,0.5s
LZH Lanzhou 36.98 78 *e*P P 18 59 48.9 +2.5
LZH pP sP 18 59 52.1 +1.1
LZH pmax pmax
comp=Z,20nm,1.0s
SENIN Lac Senin/Sane 37.49 299 P P 18 59 50.0 -0.7
KEST Kesra 38.09 282 P P 18 59 55.7 0.0
KEST IAmb IAmb 19 00 17.7
comp=Z,16nm,1.5s
KEST Kesra 38.09 282 P P 18 59 58.5 +2.9
comp=Z,4.7nm,0.9s,baz=333,slow=9.4,SNR=5.6
PZH PanZhiHua 39.00 94 P P 18 59 54.9 -8.5
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.5s
BTO Baotou 40.48 69 *e*P P 19 00 14.0 -1.6
BTO sP **sP 19 00 21.3 +1.1**
BTO S **S 19 06 23.8 -0.7**
BTO pmax pmax
comp=Z,15nm,0.4s
BTO pmax pmax
comp=Z,330nm,4.7s
BTO LR LR
comp=N,400nm,15.3s
BTO LR LR
comp=E,290nm,6.4s
CMAR Chiang Mai Arr 41.11 106 P P 19 00 22.9 +1.9
comp=E,1.2nm,0.6s,baz=298,slow=8.0,SNR=5.9
CMAR LR LR 19 20 24.9
comp=E,40nm,18.1s,baz=300,slow=40
comp=E,1.2nm,0.6s
HHC Hu-ho-hao-te 41.56 68 *e*P P 19 00 24.8 +0.3
HHC pmax pmax
comp=Z,32nm,0.5s
HHC pmax pmax
comp=Z,190nm,5.6s
KMBO Kilima Mbogo 42.93 210 LR LR 19 19 29.2
comp=Z,57nm,19.9s,baz=90,slow=38
EKA Eskdalemuir Ar 43.56 314 P P 19 00 42.1 +1.7
comp=Z,0.6nm,0.4s,baz=97,slow=8.0,SNR=8.9
comp=Z,0.6nm,0.4s
MBAR Mbarara 45.39 219 LR LR 19 19 52.9
comp=Z,48nm,18.5s,baz=354,slow=36
JMIC Jan Mayen 46.88 336 LR LR 19 22 25.6
comp=Z,64nm,20.6s,baz=38,slow=38
ESDC Sonseca Array 46.95 292 P P 19 01 07.5 -0.1
ESDC Sonseca Array 46.95 292 P P 19 01 07.9 +0.3
comp=Z,0.6nm,0.6s,baz=64,slow=7.9,SNR=8.2
comp=Z,0.6nm,0.6s
TIXI Tiksi 48.83 24 P P 19 01 21.5 -0.1
MDT Midelt 49.91 284 LR LR 19 24 37.0
comp=Z,39nm,18.7s,baz=138,slow=39
HEH HeiHe 50.16 52 *e*P P 19 01 40.1 +8.0
HEH pmax pmax
comp=Z,9.0nm,0.8s
HEH pmax pmax
comp=Z,130nm,4.1s
BORG Borgarnes 51.77 328 LR LR 19 24 58.5
comp=Z,46nm,18.7s,baz=345,slow=38
KLR Kul'dur 53.15 52 LR LR 19 27 25.2
comp=Z,66nm,18.7s,baz=282,slow=39
TOA0 Torodi Ar. Sit 54.94 259 P P 19 02 06.2 -1.8
TORD Torodi Ar. Bea 54.94 259 P P 19 02 06.3 -1.7
TORD Torodi Ar. Bea 54.94 259 P P 19 02 06.4 -1.6
comp=Z,0.8nm,0.6s,baz=48,slow=7.4,SNR=11
comp=Z,0.8nm,0.6s
JNU Nakatsue 58.71 70 LR LR 19 31 49.2
comp=Z,35nm,18.2s,baz=25,slow=40
SEY Seymchan 59.30 32 LR LR 19 32 56.1
comp=Z,48nm,19.3s,baz=292,slow=41
LSZ Lusaka 59.45 213 LR LR 19 29 10.1
comp=Z,83nm,18.1s,baz=5.0,slow=37
ASAJ Asahikawa 61.98 54 LR LR 19 31 53.5
comp=Z,65nm,18.8s,baz=206,slow=38
DBIC Dimbokro 63.99 258 LR LR 19 33 21.6
comp=Z,27nm,18.3s,baz=34,slow=38
RES Resolute Bay 66.26 352 LR LR 19 37 00.8
comp=Z,32nm,18.2s,baz=13,slow=40
TSUM Tsumeb 67.88 221 LR LR 19 34 19.6
comp=Z,31nm,20.0s,baz=16,slow=37
C16K Lisburne Hills 69.54 16 P P 19 03 46.1 +1.1
B20K Meade River 69.60 12 P P 19 03 45.9 +0.6
B22K Teshekpuk Lake 69.88 11 P P 19 03 48.0 +0.9
C19K Lookout Ridge 69.97 13 P P 19 03 48.8 +1.0
C19K IAmb IAmb 19 04 32.8
comp=Z,12nm,1.3s
C18K Utukok River 70.06 14 P P 19 03 49.5 +1.1
JCJ Chichijima 70.19 71 P P 19 03 51.3 +1.5
B21K Ikpikpuk River 70.35 11 P P 19 03 50.4 +0.4
C23K Itkillik River 70.74 10 P P 19 03 54.4 +2.0
D19K Kuna River 70.77 13 P P 19 03 51.5 -1.1
E18K Tukpahlearik C 71.23 14 P P 19 03 56.1 +0.6
E19K Redstone River 71.84 13 P P 19 03 58.1 -1.0
E19K IAmb IAmb 19 04 06.5
comp=Z,8.0nm,1.1s
TOLK Toolik Lake Re 71.99 10 P P 19 03 58.8 -1.2
TOLK IAmb IAmb 19 04 22.8
comp=Z,11nm,1.2s
E22K Anaktuvuk Pass 72.13 11 P P 19 04 00.4 -0.5
E22K IAmb IAmb 19 04 21.5
comp=Z,16nm,1.4s
E24K Your Creek 72.66 10 P P 19 04 03.0 -1.1
E24K IAmb IAmb 19 04 13.8
comp=Z,10.0nm,1.5s
F21K Alatna River 72.70 12 P P 19 04 03.5 -0.9
F21K IAmb IAmb 19 04 21.6
comp=Z,6.9nm,1.4s
F24K Squaw Lake 73.27 10 P P 19 04 07.0 -0.6
F24K IAmb IAmb 19 04 23.4
comp=Z,9.3nm,1.5s
E27K Coleen River 73.37 7 P P 19 04 07.5 -0.8
H18K Honhosa River 73.66 15 P P 19 04 09.3 -0.7
H18K IAmb IAmb 19 04 12.8
comp=Z,15nm,1.4s
BMAR Burnt Mountain 73.77 9 P P 19 04 09.4 -1.2
IMAR Indian Mountai 73.78 13 P P 19 04 09.5 -1.2
SACV Santiago Islan 73.83 277 P P 19 04 10.8 -1.0
F28M Old Crow 74.09 7 P P 19 04 11.6 -0.9
F28M IAmb IAmb 19 04 30.0
comp=Z,12nm,1.3s
FYU Fort Yukon 74.52 9 P P 19 04 14.0 -0.9
FYU IAmb IAmb 19 04 58.1
comp=Z,13nm,1.5s
H23K Yukon River 74.62 11 P P 19 04 14.5 -1.1
H23K IAmb IAmb 19 04 30.5
comp=Z,6.5nm,1.2s
H24K Noodor Dome 74.85 10 P P 19 04 17.1 +0.2
H24K IAmb IAmb 19 04 44.5
comp=Z,12nm,1.5s
G30M tAoh Zraii Nji 75.02 5 P P 19 04 16.9 -1.1
G30M IAmb IAmb 19 04 51.8
comp=Z,12nm,1.2s
J20K Nowinta River 75.36 14 P P 19 04 20.1 +0.3
J20K IAmb IAmb 19 04 46.4
comp=Z,10nm,1.4s
H29M Whitestone 75.59 6 P P 19 04 21.1 -0.1
H29M IAmb IAmb 19 04 29.9
comp=Z,12nm,1.1s
I26K Coal Creek Min 75.98 9 P P 19 04 23.4 0.0
I26K IAmb IAmb 19 04 49.2
comp=Z,9.8nm,1.4s
BPAW Bear Paw Mtn. 75.99 12 P P 19 04 22.3 -1.2
ILAR Eielson Array 76.00 10 P P 19 04 27.6 +4.1
comp=Z,0.5nm,0.7s,baz=343,slow=4.8,SNR=5.8
comp=Z,0.5nm,0.7s
SCHQ Schefferville 76.04 330 P P 19 04 23.7 -0.2
SCHQ Schefferville 76.04 330 P P 19 04 27.3 +3.4
comp=Z,3.8nm,0.8s,baz=45,slow=2.9,SNR=2.6
comp=Z,3.8nm,0.8s
I28M Miner Creek 76.19 7 P P 19 04 24.9 +0.1
I28M IAmb IAmb 19 04 34.2

comp=Z,4.4nm,1.1s
H31M Peel River 76.31 5 P P 19 04 25.1 -0.2
H31M IAmb IAmb 19 04 34.5
comp=Z,14nm,1.5s
CAST Castle Rocks 76.43 13 P P 19 04 27.1 +1.1
CAST IAmb IAmb 19 04 36.8
comp=Z,14nm,1.4s
L16K Owhat River 76.44 17 P P 19 04 26.7 +0.7
J26L Joseph Creek 76.70 9 P P 19 04 30.0 +2.3
J26L IAmb IAmb 19 04 46.2
comp=Z,2.7nm,0.7s
I30M Mount Dempster 76.74 6 P P 19 04 29.6 +1.7
I30M IAmb IAmb 19 04 33.7
comp=Z,3.7nm,0.9s
RIDG Independent Ri 77.27 10 P P 19 04 31.4 +0.6
RIDG IAmb IAmb 19 05 12.0
comp=Z,15nm,1.4s
J30M Hart River 77.38 6 P P 19 04 32.6 +1.1
J30M IAmb IAmb 19 04 42.4
comp=Z,4.5nm,1.0s
SUR Sutherland 77.66 211 LR LR 19 40 38.9
comp=Z,92nm,21.0s,baz=24,slow=37
BATI Baumata 78.21 113 LR LR 19 45 30.2
comp=Z,34nm,18.6s,baz=242,slow=41
L27K Beaver Creek, 78.31 9 P P 19 04 37.5 +0.9
L27K IAmb IAmb 19 04 48.1
comp=Z,6.5nm,1.1s
BCAR Beaver Creek A 78.31 9 P P 19 04 37.1 +0.6
M24K Tolsona, Glenn 78.63 11 P P 19 04 39.0 +0.6
SCM Sheep Creek Mo 78.71 12 P P 19 04 39.5 +0.6
SCM IAmb IAmb 19 04 52.6
comp=Z,17nm,1.4s
GUMO Guam 79.95 81 LR LR 19 44 04.1
comp=Z,18nm,18.5s,baz=260,slow=38
HYT Haines Junctio 80.97 7 P P 19 04 51.1 0.0
HYT IAmb IAmb 19 05 02.9
comp=Z,9.5nm,1.1s

---

*IDC **17** 18:54:20.8±1.0,28.°46N×103.°09E, h0km, mb4.0/5, mbtmp3.9/7, ML3.7/2, MS2.9/1, Error ellipse: s-maj=50.6km s-min=18.4km az=67.0*
ISC 17 18:54:25.9±1.1,28.°5N±0.°1×103.°4E±0.°2, h35km, n9, σ1°91/9, mb3.8/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.80**	**203**	Pn	**Pn**	**18 56 56.7**	**-1.4**
	0.2nm,0.3s,baz=15,slow=12,SNR=7.0						
CMAR				LR	LR	19 01 27.6	
	comp=Z,62nm,19.5s,baz=355,slow=40						
	2.2nm,0.9s						
PKI	**Pulchoki**	**15.94**	**271**	*e*P	**P**	**18 58 13.6**	**+2.4**
	22nm,0.7s						
PKIN	**Phulchoki**	**15.95**	**271**	*e*P	**P**	**18 58 13.2**	**+2.0**
	18nm,0.6s						
SONM	**Songino Array**	**19.45**	**6**	P	**Pn**	**18 58 51.6**	**+0.8**
	0.2nm,0.3s,baz=195,slow=9.8,SNR=11						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**24.64**	**324**	P	**P**	**18 59 41.9**	**-1.3**
	2.2nm,0.8s,baz=113,slow=9.3,SNR=3.5						
	2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**28.85**	**337**	P	**P**	**19 00 19.4**	**-1.5**
	1.3nm,0.6s,baz=144,slow=10.0,SNR=2.9						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**29.02**	**326**	P	**P**	**19 00 20.5**	**-1.9**
	1.1nm,0.7s,baz=142,slow=8.0,SNR=2.7						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**56.67**	**145**	P	**P**	**19 04 06.5**	**+0.6**
	1.1nm,0.6s,baz=333,slow=8.0,SNR=8.0						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**59.60**	**147**	P	**P**	**19 04 27.5**	**+1.1**
	0.6nm,0.3s,baz=328,slow=6.8,SNR=15						
	0.6nm,0.3s						

---

*IDC **17** 19:07:03.9±1.3,37.°84N×144.°38E, h0km, mb3.5/5, mbtmp3.6/7, ML3.6/2, MS2.4/1, Error ellipse: s-maj=30.2km s-min=23.3km az=93.0*
*JMA **17** 19:07:08.4±0.2,38.°0N±0.°8×14.°4E±.°, h42km, MV4.0/34, FAR E OFF NORTH HONSHU*
*NIED **17** 19:07:08.4,37.°98N×144.°14E, h42km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.66; $M_{\theta\theta}$=1.48; $M_{\phi\phi}$=1.19; $M_{r\theta}$=1.76; $M_{\theta\phi}$=0.98; $M_{\phi r}$=0.49; Fault plane solution: M_0=3.08000×10^{14} NP1: ϕ_s=243.00000°, δ=63.00000°, λ=-79.00000°. NP2: ϕ_s=40.00000°, δ=29.00000°, λ=-110.00000°.*
ISC 17 19:07:08.4±1.1,37.°99N±0.°06×144.°29E±0.°08, h35km, n25, σ1°86/40, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**2.25**	**279**	P	**Pn**	**19 07 42.6**	**-0.5**
JIKH				S	**Sn**	**19 08 07.5**	**-2.1**
OFUJ	**Ofunato**	**2.32**	**299**	P	**Pn**	**19 07 44.0**	**-0.1**
OFUJ				S	**Sn**	**19 08 10.8**	**-0.7**
JKMT	**Kesennumamotoy**	**2.36**	**291**	P	**Pn**	**19 07 44.5**	**-0.1**
JKMT				S	**Sn**	**19 08 11.1**	**-1.2**
JIO	**Ouri**	**2.36**	**282**	P	**Pn**	**19 07 44.6**	**-0.1**
JIO				S	**Sn**	**19 08 10.8**	**-1.5**
JMK	**Ichinoseki**	**2.59**	**293**	P	**Pn**	**19 07 48.1**	**+0.2**
JMK				S	**Sn**	**19 08 17.6**	**-0.5**
JOM	**Ohasama**	**2.77**	**303**	P	**Pn**	**19 07 50.7**	**+0.4**
JOM				*e*S	**Sn**	**19 08 22.5**	**0.0**
JOTO	**OTAMA OYAMA**	**3.16**	**263**	P	**Pn**	**19 07 56.0**	**+0.3**
JOTO				S	**Sn**	**19 08 31.3**	**-0.8**
JANG	**Nango**	**3.21**	**319**	P	**Pn**	**19 07 56.7**	**+0.3**
JANG				*e*S	**Sn**	**19 08 32.1**	**-1.3**
JYK	**Kaneyama**	**3.22**	**288**	P	**Pn**	**19 07 57.3**	**+0.8**
JYK				S	**Sn**	**19 08 33.4**	**-0.2**
JOT	**Ohata**	**4.21**	**325**	P	**Pn**	**19 08 11.3**	**+1.2**
BSO1	**Boso 1**	**4.27**	**220**	P	**Pn**	**19 08 09.0**	**-1.4**
BSO1				*e*S	**Sn**	**19 08 57.1**	**-1.5**
JCH	**Churui**	**4.67**	**352**	*i* P	**Pn**	**19 08 16.4**	**0.0**
JCH				*e*S	**Sn**	**19 09 07.1**	**-2.4**
JRY	**Ryogami san**	**4.74**	**247**	*i* P	**Pn**	**19 08 16.7**	**-0.7**
JRY				S	**Sn**	**19 09 07.1**	**-4.0**
JOD2	**Odawara 2**	**4.99**	**239**	*e*S	**Sn**	**19 09 12.2**	**-5.0**
MJAR	**Matsushiro Arr**	**5.06**	**255**	Pn	**Pn**	**19 08 21.6**	**-0.2**
	0.4nm,0.3s,baz=83,slow=14,SNR=23						
MJAR				Sn	**Sn**	**19 09 20.2**	**+1.2**
	0.1nm,0.3s,baz=82,slow=26,SNR=4.9						
	2.5nm,0.3s						
NEM2	**Nemuro 2**	**5.49**	**11**	P	**Pn**	**19 08 26.0**	**-1.6**
NEM2				S	**Sn**	**19 09 23.7**	**-5.6**
JOSM	**Okushiri--Mats**	**5.51**	**319**	*e*P	**Pn**	**19 08 28.8**	**+0.8**
JTKR	**Abashiri--Toko**	**5.98**	**357**	P	**Pn**	**19 08 34.2**	**-0.2**
JTKR				*e*S	**Sn**	**19 09 37.8**	**-3.9**
ASAJ	**Asahikawa**	**6.25**	**349**	Pn	**Pn**	**19 08 39.1**	**+0.9**
	2.3nm,0.3s,baz=193,slow=12,SNR=24						
ASAJ				Sn	**Sn**	**19 09 47.4**	**-1.0**
	0.9nm,0.3s,baz=270,slow=23,SNR=1.7						
	4.9nm,0.3s						
KSRS	**Korea Array**	**12.97**	**273**	LR	LR	19 14 41.0	
	comp=Z,15nm,18.4s,baz=70,slow=35						
MKAR	**Makanchi Array**	**45.55**	**302**	P	**P**	**19 15 26.7**	**+2.0**
	0.3nm,0.6s,baz=84,slow=10,SNR=3.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**47.22**	**308**	P	**P**	**19 15 39.5**	**+1.8**
	0.9nm,0.6s,baz=81,slow=8.1,SNR=8.7						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**47.46**	**33**	P	**P**	**19 15 40.4**	**+1.0**
	0.3nm,0.6s,baz=266,slow=6.1,SNR=2.2						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**58.38**	**191**	P	**P**	**19 16 59.8**	**-0.5**
	0.6nm,0.7s,baz=11,slow=7.2,SNR=6.3						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**62.10**	**191**	P	**P**	**19 17 25.6**	**-0.1**
	0.3nm,0.9s,baz=11,slow=8.3,SNR=2.0						
	0.3nm,0.9s						

---

*PRE **17** 19:12:36.6±0.8,26.°42S×27.°48E, h2km, ML2.5*
*EAF **17** 19:12:39.6,26.°34S×27.°67E, h10km, MC3.7*
*BUL **17** 19:12:39.7±1.4,26.°33S×27.°66E, h10km, MD4.0*
ISC 17 19:12:38.4±1.3,26.°34S±0.°03×27.°48E±0.°03, h29km±13km, n30, σ1°90/52, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**0.71**	**312**	*e*P	**Pn**	**19 12 51.9**	**-0.9**
KSR				*e*S	**Sb**	**19 13 01.8**	**-0.2**
KSR				IAML		19 13 12.2	
	comp=Z,593nm,0.1s						

LBTB Lobatse 2.15 307 *i* P **Pb 19 13 17.1 +0.4**
LBTB *i* S **Sb 19 13 44.8 +1.8**
LBTB Lobatse 2.15 307 *e*P **Pn 19 13 15.1 +2.6**
LBTB *e*S **Sb 19 13 42.8 -0.3**
LBTB IAML 19 13 50.6
comp=Z,64nm,0.4s
LBTB Lobatse 2.15 307 *i* P **Pb 19 13 17.1 +0.4**
baz=305
LBTB *i* S **Sb 19 13 44.8 +1.8**
baz=305
CRLN Carolina, Mapu 2.31 82 *e*P **Pn 19 13 16.2 +1.5**
CRLN *e*S **Sb 19 13 46.0 -1.6**
CRLN IAML 19 13 49.9
comp=Z,28nm,0.2s
LEPH Lephalale, Lim 2.48 7 *e*P **Pb 19 13 20.9 -1.5**
LEPH *e*S **Sb 19 13 51.5 -1.1**
LEPH IAML 19 13 59.8
comp=Z,28nm,0.4s
NWCL Newcastle 2.56 124 *e*P **Pn 19 13 20.0 +1.9**
NWCL *e*S **Sn 19 13 50.3 +1.9**
NWCL IAML 19 13 57.6
comp=Z,29nm,0.4s
BOSA Boshof 3.01 221 *i* P **Pn 19 13 26.9 +2.6**
BOSA *i* S **Sb 19 14 05.8 -2.0**
BOSA Boshof 3.01 221 *e*P **Pn 19 13 25.6 +1.3**
BOSA *e*S **Sn 19 14 01.3 +1.8**
BOSA IAML 19 14 15.1
comp=Z,27nm,0.3s
BOSA Boshof 3.01 221 *i* P **Pn 19 13 26.9 +2.6**
baz=223
BOSA *i* S **Sb 19 14 05.8 -2.0**
baz=223
PILG Pilgrimsrest, 3.23 65 *e*P **Pn 19 13 29.6 +2.3**
PILG *e*S **Sn 19 14 08.4 +3.5**
PILG IAML 19 14 22.7
comp=Z,48nm,0.4s
POGA Pongola 3.91 106 *e*P **Pn 19 13 37.6 +1.1**
POGA *e*S **Sn 19 14 23.6 +2.2**
POGA IAML 19 14 38.5
comp=Z,3.8nm,0.5s
MOPA Mopani 4.53 53 *i* P **Pn 19 13 46.1 +1.0**
MOPA *i* S **Sn 19 14 34.8 -1.9**
MOPA Mopani 4.53 53 *i* P **Pn 19 13 46.1 +1.0**
baz=51
MOPA *i* S **Sn 19 14 34.8 -1.9**
baz=51
KSTD Kokstad 4.56 160 *e*P **Pn 19 13 46.8 +1.2**
KSTD *e*S **Sn 19 14 38.0 +0.3**
KSTD IAML 19 15 07.5
comp=Z,6.7nm,0.3s
MUSN Musina, Limpop 4.58 29 *i* P **Pn 19 13 47.3 +1.5**
MUSN *i* S **Sn 19 14 36.9 -1.1**
MUSN Musina, Limpop 4.58 29 *e*P **Pn 19 13 49.6 +3.9**
MUSN *e*S **Sn 19 14 41.6 +3.6**
MUSN IAML 19 15 03.9
comp=Z,9.9nm,0.4s
MUSN Musina, Limpop 4.58 29 *i* P **Pn 19 13 47.3 +1.5**
baz=27
MUSN *i* S **Sn 19 14 36.9 -1.1**
baz=27
MATP Matopo 5.96 9 *i* P **Pn 19 14 06.7 +1.9**
MATP *i* S **Sn 19 15 10.4 -1.7**
MATP Matopo 5.96 9 *i* P **Pn 19 14 06.7 +1.9**
baz=8.0
MATP *i* S **Sn 19 15 10.4 -1.7**
baz=8.0
BFON Badsfontein, M 6.38 210 *e*P **Pn 19 14 11.7 +1.1**
BFON *e*S **Sn 19 15 20.8 -1.7**
BFON IAML 19 16 01.4
comp=Z,11nm,0.5s
GRAF Camdeboo Natio 6.47 203 *e*P **Pn 19 14 12.7 +0.9**
GRAF *e*S **Sn 19 15 23.2 -1.6**
GRAF IAML 19 16 04.6
comp=Z,6.5nm,0.6s
BRAK Brakfontein 6.75 215 *e*P **Pn 19 14 17.8 +2.1**
BRAK *e*S **Sn 19 15 30.4 -1.2**
BRAK IAML 19 15 41.3
comp=Z,3.0nm,0.4s
GRAN Grantham 7.54 217 *e*P **Pn 19 14 27.9 +1.4**
GRAN *e*S **Sn 19 15 48.5 -2.6**
GRAN IAML 19 16 38.7
comp=Z,6.4nm,0.5s
FRAZ Fraserburg 7.70 222 *e*P **Pn 19 14 30.1 +1.4**
FRAZ *e*S **Sn 19 15 52.6 -2.4**
FRAZ IAML 19 16 43.2
comp=Z,5.1nm,0.7s
MERW Merweville 8.18 218 *e*P **Pn 19 14 36.4 +1.2**
MERW *e*S **Sn 19 16 04.6 -2.1**
MERW IAML 19 16 24.7
comp=Z,2.8nm,0.4s
KRI Karoi 9.66 12 *i* S Sn 19 16 25.2 -18
KRI Karoi 9.66 12 *i* S Sn 19 16 25.2 -18
baz=14
KRI Karoi 9.66 12 *i* P Pn 19 14 49.9 -5.8
KRI Karoi 9.66 12 *i* P Pn 19 14 49.9 -5.8
baz=14

---

*IDC **17** 19:19:29.9±1.0,37.°93N×144.°84E, h0km, mb3.6/8, mbtmp3.6/10, ML3.5/2, Error ellipse: s-maj=25.7km s-min=21.7km az=90.0*
*NIED **17** 19:19:35.0,38.°06N×144.°45E, h43km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.56; $M_{\theta\theta}$=0.22; $M_{\phi\phi}$=1.78; $M_{r\theta}$=2.85; $M_{\theta\phi}$=0.15; $M_{\phi r}$=2.71; Fault plane solution: M_0=4.25000×10^{14} NP1: ϕ_s=139.00000°, δ=81.00000°, λ=-104.00000°. NP2: ϕ_s=15.00000°, δ=17.00000°, λ=-35.00000°.*
*JMA **17** 19:19:35.0±0.2,38.°1N±0.°7×144.°5E±1.°0, h43km, MV4.0/32, FAR E OFF NORTH HONSHU*
ISC 17 19:19:34.9±0.9,38.°08N±0.°06×144.°64E±0.°07, h35km, n28, σ1°74/43, mb3.6/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**2.51**	**276**	P	**Pn**	**19 20 12.5**	**-0.7**
JIKH				S	**Sn**	**19 20 40.1**	**-2.5**
OFUJ	**Ofunato**	**2.53**	**294**	P	**Pn**	**19 20 13.2**	**-0.2**
OFUJ				*e*S	**Sn**	**19 20 41.7**	**-1.4**
JKMT	**Kesennumamotoy**	**2.59**	**287**	P	**Pn**	**19 20 13.8**	**-0.4**
JKMT				S	**Sn**	**19 20 43.0**	**-1.5**
JIO	**Ouri**	**2.62**	**279**	P	**Pn**	**19 20 14.2**	**-0.5**
JIO				S	**Sn**	**19 20 43.1**	**-2.1**
MIYJ	**Miyakonagasawa**	**2.66**	**305**	P	**Pn**	**19 20 15.2**	**0.0**
MIYJ				S	**Sn**	**19 20 44.7**	**-1.6**
JMK	**Ichinoseki**	**2.82**	**289**	P	**Pn**	**19 20 17.5**	**+0.1**
JMK				S	**Sn**	**19 20 49.5**	**-0.7**
JOM	**Ohasama**	**2.96**	**299**	P	**Pn**	**19 20 19.7**	**+0.3**
JOM				S	**Sn**	**19 20 53.0**	**-0.7**
JANG	**Nango**	**3.34**	**314**	P	**Pn**	**19 20 24.7**	**+0.2**
JANG				S	**Sn**	**19 21 01.5**	**-1.4**
JOTO	**OTAMA OYAMA**	**3.45**	**263**	P	**Pn**	**19 20 26.0**	**-0.1**
JOTO				S	**Sn**	**19 21 04.3**	**-1.5**
JYK	**Kaneyama**	**3.46**	**285**	P	**Pn**	**19 20 27.1**	**+0.8**
JYK				*e*S	**Sn**	**19 21 05.7**	**-0.3**
JOT	**Ohata**	**4.30**	**321**	*e*P	**Pn**	**19 20 39.5**	**+1.7**
BSO1	**Boso 1**	**4.52**	**222**	*e*P	**Pn**	**19 20 38.5**	**-1.9**
JCH	**Churui**	**4.63**	**348**	P	**Pn**	**19 20 42.2**	**-0.1**
JCH				S	**Sn**	**19 21 32.6**	**-2.1**
JRY	**Ryogami san**	**5.04**	**248**	P	**Pn**	**19 20 46.9**	**-1.0**
JRY				S	**Sn**	**19 21 40.2**	**-4.6**
JOD2	**Odawara 2**	**5.28**	**239**	P	**Pn**	**19 20 50.5**	**-0.7**
NEM2	**Nemuro 2**	**5.34**	**9**	P	**Pn**	**19 20 50.2**	**-1.8**
NEM2				*e*S	**Sn**	**19 21 46.9**	**-5.4**
MJAR	**Matsushiro Arr**	**5.36**	**255**	Pn	**Pn**	**19 20 51.8**	**-0.5**
	0.6nm,0.3s,baz=85,slow=14,SNR=32						
MJAR				Sn	**Sn**	**19 21 52.4**	**-0.3**
	0.3nm,0.3s,baz=236,slow=46,SNR=2.2						
	4.5nm,0.5s						
JOSM	**Okushiri--Mats**	**5.63**	**317**	*e*P	**Pn**	**19 20 56.6**	**+0.6**
JTKR	**Abashiri--Toko**	**5.91**	**355**	P	**Pn**	**19 20 59.8**	**0.0**
JTKR				S	**Sn**	**19 22 02.6**	**-3.6**
ASAJ	**Asahikawa**	**6.22**	**346**	Pn	**Pn**	**19 21 05.0**	**+0.9**
	1.4nm,0.3s,baz=204,slow=13,SNR=22						
	3.4nm,0.3s						
ZALV	**Zalesovo Beam**	**43.12**	**312**	P	**P**	**19 27 33.6**	**+2.1**
	0.5nm,0.5s,baz=46,slow=8.3,SNR=2.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**45.74**	**302**	P	**P**	**19 27 54.5**	**+1.9**
	0.3nm,0.6s,baz=88,slow=8.6,SNR=4.1						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**47.23**	**33**	P	**P**	**19 28 04.0**	**0.0**
	0.4nm,0.8s,baz=17,slow=0.3,SNR=5.7						
	0.4nm,0.8s						

KURBB Kurchatov Arra 47.39 308 P **P 19 28 07.4 +2.0**
1.2nm,0.4s,baz=81,slow=8.0,SNR=19
1.2nm,0.4s
BVAR Borovoye Array 51.77 312 P **P 19 28 40.6 +1.9**
0.7nm,0.5s,baz=61,slow=7.7,SNR=5.1
0.7nm,0.5s
WRA Warramunga Arr 58.52 191 P **P 19 29 26.8 -0.9**
0.3nm,0.5s,baz=10,slow=6.9,SNR=6.8
0.3nm,0.5s
ASAR Alice Springs 62.25 191 P **P 19 29 53.0 -0.1**
0.2nm,0.6s,baz=20,slow=14,SNR=1.8
0.2nm,0.6s
PDAR Pinedale Array 75.09 47 P **P 19 31 14.3 +0.9**
0.4nm,0.6s,baz=295,slow=2.1,SNR=4.8
0.4nm,0.6s

---

*PRE **17** 19:25:46.9±1.0,26.°38S×27.°68E, h2km, ML2.7*
*EAF **17** 19:25:47.7,26.°74S×27.°70E, h4km, MC3.9*
*BUL **17** 19:25:50.9±1.9,26.°73S×27.°66E, h29km±23km, MD4.4*
ISC 17 19:25:46.9±1.0,26.°44S±0.°04×27.°64E±0.°04, h17km±7km, n19, σ3°30/30, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.20**	**275**	*e*P	**Pg**	**19 25 52.3**	**+0.3**
WDLM				*e*S	**Sg**	**19 25 54.8**	**-0.5**
WDLM				IAML		19 25 55.7	
	comp=Z,3μm,0.3s						
PRYS	**Parys**	**0.55**	**208**	*e*P	**Pg**	**19 25 58.6**	**+0.7**
PRYS				*e*S	**Sg**	**19 26 06.9**	**+1.6**
PRYS				IAML		19 26 10.4	
	comp=Z,264nm,0.5s						
CRLN	**Carolina, Mapu**	**2.18**	**79**	*e*P	**Pb**	**19 26 24.9**	**-1.3**
CRLN				*e*S	**Sb**	**19 26 51.7**	**-1.2**
CRLN				IAML		19 26 59.1	
	comp=Z,31nm,0.5s						
LBTB	**Lobatse**	**2.33**	**307**	*i* P	**Pg**	**19 26 30.8**	**-0.8**
LBTB	**Lobatse**	**2.33**	**307**	*e*P	**Pn**	**19 26 26.3**	**+1.8**
LBTB				*e*S	**Sb**	**19 26 56.3**	**-0.7**
LBTB				IAML		19 27 01.1	
	comp=Z,164nm,0.6s						
LBTB	**Lobatse**	**2.33**	**307**	*i* P	**Pg**	**19 26 30.8**	**-0.8**
	baz=312						
LEPH	**Lephalale, Lim**	**2.57**	**3**	*e*P	**Pn**	**19 26 29.9**	**+2.0**
LEPH				*e*S	**Sn**	**19 27 00.0**	**+1.1**
LEPH				IAML		19 27 10.7	
	comp=Z,55nm,0.4s						
BOSA	**Boshof**	**3.03**	**224**	*i* P	**Pn**	**19 26 34.8**	**+0.5**
BOSA				*i* S	**Sn**	**19 27 05.7**	**-4.5**
BOSA	**Boshof**	**3.03**	**224**	*i* P	**Pn**	**19 26 34.8**	**+0.5**
	baz=228						
BOSA				*i* S	**Sn**	**19 27 05.7**	**-4.5**
	baz=228						
PILG	**Pilgrimsrest,**	**3.15**	**62**	*e*P	**Pn**	**19 26 37.9**	**+2.0**
PILG				*e*S	**Sn**	**19 27 15.2**	**+1.9**
PILG				IAML		19 27 34.3	
	comp=Z,57nm,0.7s						
MOPA	**Mopani**	**4.48**	**50**	*i* P	**Pn**	**19 26 58.5**	**+4.4**
MOPA	**Mopani**	**4.48**	**50**	*i* P	**Pn**	**19 26 58.5**	**+4.4**
	baz=47						
MUSN	**Musina, Limpop**	**4.60**	**27**	*i* P	Pn	19 27 01.2	+5.4
MUSN				*i* S	**Sb**	**19 27 55.1**	**-7.4**
MUSN	**Musina, Limpop**	**4.60**	**27**	*i* P	Pn	19 27 01.2	+5.4
	baz=25						
MUSN				*i* S	**Sb**	**19 27 55.1**	**-7.4**
	baz=25						
UPI	**Upington**	**5.99**	**250**	*e*P	**Pn**	**19 27 17.8**	**+2.9**
UPI				*e*S	**Sn**	**19 28 25.0**	**+1.8**
UPI				IAML		19 28 50.5	
	comp=Z,3.1nm,0.5s						
MATP	**Matopo**	**6.04**	**8**	*i* P	**Pn**	**19 27 20.1**	**+4.5**
MATP				*i* S	**Sn**	**19 28 27.2**	**+2.8**
MATP	**Matopo**	**6.04**	**8**	*i* P	**Pn**	**19 27 20.1**	**+4.5**
	baz=7.0						
MATP				*i* S	**Sn**	**19 28 27.2**	**+2.8**
	baz=7.0						
KRI	**Karoi**	**9.74**	**11**	*i* P	**Pn**	**19 28 05.0**	**-1.4**
KRI				*i* S	Sn	19 29 41.4	-14
KRI	**Karoi**	**9.74**	**11**	*i* P	**Pn**	**19 28 05.0**	**-1.4**
	baz=14						
KRI				*i* S	Sn	19 29 41.4	-14
	baz=14						

---

*NEIC **17** 19:49:14.0±2.0,24.°5S±0.°1×179.°9E±0.°2, h511km±10km, mb4.3/17, Error ellipse: s-maj=21.3km s-min=18.3km az=61.0*
*IDC **17** 19:49:15.2±2.6,24.°22S×179.°90E, h539km±26km, mb3.2/9, mbtmp4.1/11, Error ellipse: s-maj=35.4km s-min=16.4km az=145.0*
ISC 17 19:49:12.3±0.6,24.°5S±0.°1×180.°0W±0.°1, h500km, n39, σ1°38/37, mb3.9/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.95**	**344**	P	**P**	**19 50 58.6**	**+0.4**
MSVF	**Nonsavu**	**6.95**	**344**	P	**P**	**19 50 58.8**	**+0.6**
	7.2nm,0.4s,baz=135,slow=8.6,SNR=14						
DZM	**Mont Dzumac**	**12.73**	**278**	P	**P**	**19 52 00.8**	**+2.0**
DZM	**Mont Dzumac**	**12.73**	**278**	P	**P**	**19 52 00.7**	**+1.9**
	15nm,0.7s,baz=78,slow=17,SNR=7.1						
MRZ	**Mangatainoka R**	**16.58**	**192**	P	**P**	**19 52 38.4**	**-0.5**
THZ	**Tophouse**	**18.25**	**197**	P	**P**	**19 52 54.8**	**0.0**
CTA	**Charters Tower**	**31.53**	**271**	P	**P**	**19 54 53.2**	**+0.2**
	5.2nm,0.3s,baz=92,slow=10,SNR=8.9						
	5.2nm,0.3s						
CTAO	**Charters Tower**	**31.53**	**271**	P	**P**	**19 54 52.9**	**-0.1**
CTAO				IAmb	IAmb	19 55 28.5	
	comp=Z,19nm,1.3s						
TOO	**Toolangi**	**32.19**	**238**	P	**P**	**19 54 59.2**	**+0.7**
TOO				IAmb	IAmb	19 55 32.0	
	comp=Z,5.0nm,0.9s						
STKA	**Stephens Creek**	**34.56**	**249**	P	**P**	**19 55 18.7**	**+0.2**
STKA	**Stephens Creek**	**34.56**	**249**	P	**P**	**19 55 18.6**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=94,slow=12,SNR=7.0						
	comp=Z,0.7nm,0.4s						
BBOO	**Buckleboo**	**39.27**	**248**	P	**P**	**19 55 56.5**	**-0.9**
BBOO				IAmb	IAmb	19 56 39.4	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**41.99**	**261**	P	**P**	**19 56 17.8**	**-1.5**
ASAR	**Alice Springs**	**41.99**	**261**	P	**P**	**19 56 17.6**	**-1.7**
ASAR	**Alice Springs**	**41.99**	**261**	P	**P**	**19 56 18.6**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=92,slow=7.1,SNR=15						
	comp=Z,0.6nm,0.5s						
WB2	**Warramunga Arr**	**42.41**	**267**	P	**P**	**19 56 21.3**	**-1.3**
WB2				IAmb	IAmb	19 56 49.4	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**42.42**	**267**	P	**P**	**19 56 21.1**	**-1.6**
WRA	**Warramunga Arr**	**42.42**	**267**	P	**P**	**19 56 21.4**	**-1.2**
	comp=Z,2.3nm,0.5s,baz=97,slow=8.3,SNR=54						
	comp=Z,2.3nm,0.5s						
FORT	**Forrest**	**46.16**	**250**	P	**P**	**19 56 49.4**	**-2.1**
FORT				IAmb	IAmb	19 57 26.2	
	comp=Z,22nm,1.0s						
MTN	**Manton Dam**	**47.55**	**275**	P	**P**	**19 56 59.2**	**-3.0**
KNRA	**Kununurra**	**48.73**	**270**	P	**P**	**19 57 10.3**	**-0.7**
KNRA				IAmb	IAmb	19 57 49.8	
	comp=Z,27nm,1.4s						
FAKI	**Fak Fak**	**50.79**	**287**	P	**P**	**19 57 27.3**	**+1.1**
QSPA	**South Pole Qui**	**65.62**	**180**	P	**P**	**19 59 07.3**	**+1.2**
QSPA				IAmb	IAmb	19 59 37.7	
	comp=Z,4.5nm,1.4s						
BELA	**Belgrano 2**	**75.87**	**173**	P	**P**	**20 00 06.2**	**-0.2**
BELA				IAmb	IAmb	20 00 07.2	
	comp=Z,1.6nm,0.9s						
MAW	**Mawson**	**77.24**	**200**	P	**P**	**20 00 14.7**	**+0.8**
MAW	**Mawson**	**77.24**	**200**	P	**P**	**20 00 14.8**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=158,slow=5.4,SNR=2.4						
	comp=Z,0.7nm,0.5s						
SLBS	**Sierra La Lagu**	**83.04**	**60**	P	**P**	**20 00 46.6**	**

comp=Z,0.5nm,0.8s
KURBB **Kurchatov Arra 115.68 316** PKP **PKPdf 20 06 54.7 -2.4**
comp=Z,0.4nm,0.7s,baz=96,slow=2.0,SNR=4.4
BVAR **Borovoye Array 120.89 318** PKP **PKPdf 20 07 05.3 -1.7**
comp=Z,0.5nm,0.3s,baz=94,slow=1.3,SNR=5.2
FINES **FINESS Array B 138.99 341** PKhKP PKPpre 20 07 31.3
comp=Z,1.8nm,0.8s,baz=132,slow=2.8,SNR=5.1
HFS **Hagfors 143.10 349** PKP PKPab 20 07 44.7 -1.2
comp=Z,3.8nm,0.4s,baz=64,slow=3.4,SNR=33
MMAI **Mount Meron Ar 147.97 294** PKPbc **PKPdf 20 07 59.3 +1.7**
comp=Z,3.3nm,0.6s,baz=59,slow=9.8,SNR=4.8
EKA **Eskdalemuir Ar 149.07 4** PKPbc **PKPdf 20 08 01.4 +2.8**
comp=Z,0.4nm,0.4s,baz=350,slow=2.8,SNR=9.3
CLL **Collm 151.41 343** *i* PKPbc **PKPbc 20 08 08.0 -0.9**
comp=Z,5.0nm,0.8s

---

*NEIC **17** 19:51:24.1±1.5,26°.15S×0°.08×177°.5W±0°.2, h135km±7km, mb4.5/18, Error ellipse: s-maj=26.7km s-min=3.8km az=113.0*
*IDC **17** 19:51:38.0±2.4,26°.16S×177°.75W, h254km±22km, mb3.7/9, mbtmp4.3/11, Error ellipse: s-maj=22.4km s-min=17.9km az=167.0*
ISC 17 19:51:37.1±0.6, 26°.25S±0°.09×177°.8W±0°.1, h250km, n50, σ1§41/47, mb4.0/16, 5C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.99**	**183**	Pn	Pn	19 52 13.5	-16
RAO	**Raoul Island**	**2.99**	**183**	P	**Pn**	**19 52 32.0**	**+2.6**
	139nm,0.3s,baz=227,slow=22,SNR=1.3						
RAO				S	S	19 52 57.3	-14
	658nm,0.6s,baz=115,slow=20,SNR=7.1						
NIUE	**Niue**	**10.16**	**47**	Pn	Pn	19 53 42.7	-15
URZ	**Urewera**	**12.73**	**199**	P	**Pn**	**19 54 30.5**	**+0.9**
	4.1nm,0.4s,baz=5.4,slow=4.1,SNR=6.1						
BFZ	**Birch Farm**	**15.23**	**198**		**P**	**19 54 55.1**	**-4.2**
BFZ				IAmb	IAmb	19 55 35.4	
	comp=Z,53nm,1.2s						
MRZ	**Mangatainoka R**	**15.40**	**199**	Pn	P	19 54 55.0	-6.3
MRZ				IAmb	IAmb	19 55 10.4	
	comp=Z,24nm,1.1s						
KHZ	**Kahutara**	**17.64**	**202**	P	**P**	**19 55 21.1**	**-4.5**
KHZ				IAmb	IAmb	19 55 30.2	
	comp=Z,69nm,1.3s						
DSZ	**Denniston Nort**	**17.69**	**206**	P	**P**	**19 55 22.1**	**-4.2**
CTA	**Charters Tower**	**33.57**	**273**	P	**P**	**19 57 55.5**	**+1.5**
	comp=Z,3.0nm,0.3s,baz=90,slow=6.7,SNR=5.9						
	comp=Z,3.0nm,0.3s						
STKA	**Stephens Creek**	**35.82**	**251**	P	**P**	**19 58 13.8**	**+0.8**
	comp=Z,7.8nm,1.3s,baz=95,slow=11,SNR=4.3						
	comp=Z,7.8nm,1.3s						
ASAR	**Alice Springs**	**43.70**	**262**	P	**P**	**19 59 16.1**	**-1.9**
ASAR	**Alice Springs**	**43.70**	**262**	P	**P**	**19 59 18.1**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=93,slow=7.4,SNR=15						
	comp=Z,1.5nm,0.5s						
WR0	**Warramunga Arr**	**44.13**	**268**	P	**P**	**19 59 19.8**	**-1.5**
WB2	**Warramunga Arr**	**44.30**	**268**	P	**P**	**19 59 21.4**	**-1.3**
WB2				IAmb	IAmb	19 59 44.8	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**44.31**	**268**	P	**P**	**19 59 21.7**	**-1.0**
WRA	**Warramunga Arr**	**44.31**	**268**	P	**P**	**19 59 22.4**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=103,slow=7.6,SNR=20						
WRA				PcP	**PcP**	**20 01 02.7**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=103,slow=2.9,SNR=3.4						
	comp=Z,1.9nm,0.4s						
WB0	**Warramunga Arr**	**44.32**	**268**	P	**P**	**19 59 21.3**	**-1.5**
WB0				IAmb	IAmb	19 59 28.1	
	comp=Z,11nm,1.4s						
FORT	**Forrest**	**47.44**	**251**	P	**P**	**19 59 46.4**	**-0.6**
FORT				IAmb	IAmb	20 00 14.3	
	comp=Z,20nm,0.9s						
KNRA	**Kununurra**	**50.73**	**271**	P	**P**	**20 00 13.3**	**+1.3**
MORW	**Morawa**	**58.00**	**251**	P	**P**	**20 01 03.8**	**-0.3**
QSPA	**South Pole Qui**	**63.84**	**180**	P	**P**	**20 01 43.1**	**+0.3**
QSPA				IAmb	IAmb	20 02 27.5	
	comp=Z,3.3nm,1.1s						
BELA	**Belgrano 2**	**73.85**	**172**	P	**P**	**20 02 43.3**	**-0.7**
MAW	**Mawson**	**76.26**	**200**	P	**P**	**20 02 59.3**	**+1.5**
MAW	**Mawson**	**76.26**	**200**	P	**P**	**20 02 59.2**	**+1.5**
	comp=Z,1.5nm,0.5s,baz=139,slow=8.6,SNR=10						
	comp=Z,1.5nm,0.5s						
PETK	**Petropavlovsk-**	**81.86**	**345**	P	**P**	**20 03 27.9**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=257,slow=14,SNR=4.9						
	comp=Z,2.5nm,0.9s						
TROLL	**Troll, Antarti**	**82.01**	**180**	⇑P	**P**	**20 03 29.6**	**+0.6**
	comp=Z,140nm,0.4s						
SNAA	**Sanae**	**82.28**	**178**	P	**P**	**20 03 30.3**	**0.0**
SNAA				IAmb	IAmb	20 03 31.5	
	comp=Z,6.1nm,1.2s						
SNAA	**Sanae**	**82.28**	**178**	⇑P	**P**	**20 03 30.2**	**0.0**
	comp=Z,35nm,0.6s						
SNAA	**Sanae**	**82.28**	**178**	P	**P**	**20 03 30.5**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=222,slow=3.5,SNR=7.3						
	comp=Z,1.7nm,0.7s						
VNA3	**Neumayer Olymp**	**82.42**	**176**	⇑P	**P**	**20 03 30.8**	**-0.2**
	comp=Z,3.7nm,0.7s						
VNA2	**Neumayer--Watz**	**82.86**	**177**	⇑P	**P**	**20 03 33.4**	**+0.2**
	comp=Z,6.7nm,0.8s,baz=196,slow=4.0						
VNA1	**Neumayer--Stat**	**83.08**	**176**	⇑P	**P**	**20 03 34.4**	**+0.1**
	comp=Z,4.9nm,0.8s						
NVAR	**Mina Array Bea**	**85.06**	**43**	P	**P**	**20 03 44.9**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=226,slow=8.6,SNR=6.8						
	comp=Z,1.0nm,0.7s						
N15K	**Kwethluk River**	**87.32**	**9**	P	**P**	**20 03 55.5**	**+0.3**
O18K	**Koktuh Hills**	**87.77**	**11**	P	**P**	**20 03 56.9**	**-0.4**
K15K	**Wolf Creek Mou**	**89.19**	**8**	P	**P**	**20 04 04.0**	**+0.2**
PDAR	**Pinedale Array**	**92.98**	**43**	P	**P**	**20 04 21.9**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=251,slow=1.6,SNR=4.2						
	comp=Z,0.8nm,0.9s						
MKAR	**Makanchi Array**	**115.23**	**312**	PKP	**PKPdf**	**20 09 48.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=226,slow=0.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**118.34**	**315**	PKP	**PKPdf**	**20 09 53.9**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=115,slow=2.0,SNR=8.4						
BVAR	**Borovoye Array**	**123.54**	**318**	PKP	**PKPdf**	**20 10 04.5**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=65,slow=1.5,SNR=8.0						
ARCES	**ARCESS Array B**	**134.59**	**349**	PKP	**PKPdf**	**20 10 24.5**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=27,slow=1.4,SNR=4.3						
FINES	**FINESS Array B**	**141.31**	**342**	PKhKP	PKPpre	20 10 31.0	
	comp=Z,4.6nm,0.9s,baz=145,slow=4.7,SNR=6.4						
NC303	**NORSAR Array S**	**144.49**	**352**		**PKPab**	**20 10 41.4**	**-0.7**
NB2	**NORSAR Subarra**	**144.69**	**352**	PKP	**PKPab**	**20 10 42.6**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=8,4,slow=3.4						
NOA	**NORSAR Array B**	**144.69**	**352**	PKP	**PKPab**	**20 10 42.8**	**-0.1**
	comp=Z,6.5nm,0.9s,baz=13,slow=2.4,SNR=14						
HFS	**Hagfors**	**145.22**	**350**	PKPbc	**PKPdf**	**20 10 43.9**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=48,slow=2.2,SNR=20						
AKASG	**Malin Array Be**	**148.04**	**327**	PKPbc	**PKPbc**	**20 10 52.5**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=44,slow=3.9,SNR=9.4						
MMAI	**Mount Meron Ar**	**150.48**	**291**	PKPbc	**PKPbc**	**20 11 00.6**	**+1.1**
	comp=Z,2.0nm,0.4s,baz=61,slow=7.2,SNR=6.6						
BRTR	**Keskin Array B**	**150.60**	**305**	PKPbc	**PKPbc**	**20 10 59.7**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=124,slow=4.2,SNR=2.2						
EKA	**Eskdalemuir Ar**	**150.68**	**6**	PKPbc	**PKPbc**	**20 10 58.7**	**-0.4**
	comp=Z,3.6nm,1.1s,baz=318,slow=2.0,SNR=3.9						

---

*IDC **17** 19:52:42.7±1.2,40°.20N×29°.66W, h0km, mb3.8/8, mbtmp3.7/9, ML3.9/1, MS3.7/58, Error ellipse: s-maj=41.0km s-min=21.8km az=4.0*
*SVSA **17** 19:52:43.7±1.4,40°.08N×29°.86W, h10km, ML3.1(INMG), Error ellipse: s-maj=7.1km s-min=4.0km az=17.0*
ISC 17 19:52:41.9±1.9, 39°.7N±0°.1×29°.89W±0°.07, h15km±14km, n79, σ1§09/35, mb3.8/8, MS3.6/57, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H07N1	**FLORES T-PHASE**	**0.95**	**273**	*e*S	**Sg**	**19 53 11.3**	**-1.5**
H07N1				A	A	19 53 14.7	
	78nm,0.2s						
H07S1	**FLORES T-PHASE**	**1.05**	**256**	*e*S	**Sg**	**19 53 16.9**	**+0.9**
H07S1				A	A	19 53 18.7	
	28nm,0.3s						
PCED	**Cedros**	**1.37**	**137**	*e*S	**Sg**	**19 53 27.4**	**+1.3**
PCED				A	A	19 53 31.2	
	66nm,0.2s						
CALA	**Caldeira**	**1.41**	**139**	*e*S	**Sg**	**19 53 28.9**	**+1.6**
CALA				A	A	19 53 29.7	
	144nm,0.3s						
PFCBR	**Castelo Branco**	**1.45**	**141**	*e*S	**Sg**	**19 53 30.3**	**+1.8**
PFCBR				A	A	19 53 32.4	
	9.1nm,0.1s						
HOR	**Horta**	**1.49**	**138**	*e*S	**Sg**	**19 53 30.6**	**+0.9**
HOR				A	A	19 53 31.9	
	216nm,0.2s						
SRBC	**Serra Branca**	**1.56**	**112**	*e*P	**Pn**	**19 53 07.9**	**-1.1**
SRBC				*e*S	**Sn**	**19 53 27.0**	**-2.0**
SRBC				A	A	19 53 28.8	
	474nm,0.2s						
ROSA	**Rosais**	**1.58**	**125**	*e*P	**Pb**	**19 53 10.8**	**0.0**
ROSA				*e*S	**Sb**	**19 53 30.6**	**0.0**
ROSA				A	A	19 53 32.2	
	41nm,0.2s						
PGRA	**Graciosa**	**1.60**	**112**	*e*P	**Pb**	**19 53 12.0**	**+0.8**
PGRA				*e*S	**Sb**	**19 53 32.0**	**+0.8**
PGRA				A	A	19 53 33.5	
	72nm,0.2s						
PCAN	**Candelaria**	**1.61**	**137**	*e*P	**Pg**	**19 53 12.2**	**-0.6**
PCAN				*e*S	**Sg**	**19 53 33.3**	**-0.4**
PCAN				A	A	19 53 34.8	
	102nm,0.2s						
PICO	**Pico**	**1.61**	**135**	*e*P	**Pg**	**19 53 12.0**	**-0.9**
PICO				*e*S	**Sg**	**19 53 33.3**	**-0.5**
PICO				A	A	19 53 34.9	
	82nm,0.2s						
PMAN	**Manadas**	**1.73**	**125**	*e*P	**Pb**	**19 53 12.8**	**-0.5**
PMAN				*e*S	**Sb**	**19 53 33.8**	**-1.0**
PMAN				A	A	19 53 34.3	
	35nm,0.2s						
PSBA	**Serra de Santa**	**2.18**	**113**	*e*P	**Pn**	**19 53 18.0**	**+0.4**
PSBA				*e*S	**Sn**	**19 53 44.0**	**-0.3**
PSBA				A	A	19 53 45.9	
	67nm,0.3s						
PAGU	**Agualva, Azore**	**2.28**	**112**	*e*P	**Pn**	**19 53 18.8**	**-0.1**
PAGU				*e*S	**Sn**	**19 53 45.5**	**-1.2**
PAGU				A	A	19 53 47.8	
	51nm,0.1s						
ADH	**Angra Heroismo**	**2.29**	**115**	*e*P	**Pn**	**19 53 17.8**	**-1.3**
ADH				*e*S	**Sn**	**19 53 44.7**	**-2.3**
ADH				A	A	19 53 47.9	
	23nm,0.1s						
PSCM	**Serra do Cume**	**2.35**	**113**	*e*P	**Pn**	**19 53 20.5**	**+0.5**
CMLA	**Cha da Macela**	**3.90**	**117**	*e*P	**Pn**	**19 53 42.1**	**+0.9**
ESDC	**Sonseca Array**	**19.94**	**82**	P	**P**	**19 57 13.5**	**+0.2**
	0.1nm,0.3s,baz=286,slow=12,SNR=2.8						
ESDC				LR	LR	20 03 50.8	
	comp=Z,356nm,18.0s,baz=262,slow=34						
	1.1nm,1.0s						
MDT	**Midelt**	**21.46**	**101**	LR	LR	20 04 01.5	
	comp=Z,203nm,20.6s,baz=320,slow=32						
BORG	**Borgarnes**	**25.63**	**8**	LR	LR	20 05 15.7	
	comp=Z,140nm,21.2s,baz=211,slow=30						
SCHQ	**Schefferville**	**28.91**	**314**	LR	LR	20 08 59.4	
	comp=Z,120nm,18.2s,baz=136,slow=34						
DAVOX	**Davos/Dischmat**	**29.60**	**63**	LR	LR	20 08 47.2	
	comp=Z,91nm,19.4s,baz=271,slow=33						
SFJD	**Kangerlussuaq**	**29.75**	**344**	LR	LR	20 07 47.2	
	comp=Z,97nm,19.5s,baz=184,slow=31						
KEST	**Kesra**	**31.12**	**85**	LR	LR	20 10 32.4	
	comp=Z,155nm,20.4s,baz=283,slow=35						
GERES	**GERESS Array B**	**32.16**	**59**	LR	LR	20 10 11.9	
	comp=Z,71nm,20.7s,baz=261,slow=33						
NOA	**NORSAR Array B**	**33.04**	**36**	LR	LR	20 10 47.8	
	comp=Z,62nm,19.5s,baz=235,slow=33						
FRB	**Frobisher Bay**	**33.14**	**329**	LR	LR	20 09 08.7	
	comp=Z,95nm,19.8s,baz=94,slow=30						
JMIC	**Jan Mayen**	**33.27**	**13**	LR	LR	20 09 08.1	
	comp=Z,58nm,21.8s,baz=232,slow=30						
KOWA	**Kowa**	**33.80**	**131**	LR	LR	20 12 15.0	
	comp=Z,119nm,18.4s,baz=320,slow=34						
HFS	**Hagfors**	**33.89**	**38**	LR	LR	20 11 15.8	
	comp=Z,110nm,20.1s,baz=253,slow=33						
VRAC	**Vranov**	**34.06**	**58**	LR	LR	20 11 40.3	
	comp=Z,52nm,19.2s,baz=273,slow=34						
VAE	**Valguarnera**	**34.45**	**79**	LR	LR	20 12 35.3	
	comp=Z,249nm,19.2s,baz=330,slow=35						
SADO	**Sadowa**	**36.39**	**295**	LR	LR	20 13 36.9	
	comp=Z,261nm,20.4s,baz=124,slow=34						
SJG	**San Juan**	**37.96**	**246**	LR	LR	20 12 17.6	
	comp=Z,53nm,19.3s,baz=68,slow=31						
TORD	**Torodi Ar. Bea**	**38.34**	**125**	P	P	20 00 06.8	+4.5
	1.2nm,1.0s,baz=319,slow=5.9,SNR=4.8						
TORD				LR	LR	20 15 12.8	
	comp=Z,88nm,18.6s,baz=313,slow=35						
	1.2nm,1.0s						
DBIC	**Dimbokro**	**39.80**	**139**	LR	LR	20 15 45.9	
	comp=Z,68nm,19.9s,baz=338,slow=34						
FINES	**FINESS Array B**	**40.09**	**38**	LR	LR	20 15 16.8	
	comp=Z,92nm,18.7s,baz=230,slow=34						
MLR	**Muntele Rosu**	**40.82**	**63**	LR	LR	20 17 16.7	
	comp=Z,50nm,19.6s,baz=280,slow=36						
ARCES	**ARCESS Array B**	**41.48**	**26**	LR	LR	20 13 44.0	
	comp=Z,135nm,18.7s,baz=257,slow=31						
AKASG	**Malin Array Be**	**42.05**	**55**	P	**P**	**20 00 32.1**	**-0.6**
	0.8nm,0.7s,baz=272,slow=8.5,SNR=2.2						
AKASG				LR	LR	20 17 13.7	
	comp=Z,104nm,18.8s,baz=300,slow=35						
	0.8nm,0.7s						
TKL	**Tuckaleechee C**	**42.32**	**282**	LR	LR	20 16 44.4	
	comp=Z,86nm,18.4s,baz=140,slow=34						
PCRV	**Puerto La Cruz**	**42.60**	**236**	LR	LR	20 15 52.3	
	comp=Z,72nm,19.7s,slow=32						
IDI	**Anoyia**	**43.13**	**78**	LR	LR	20 17 41.2	
	comp=Z,36nm,21.6s,baz=310,slow=35						
RES	**Resolute Bay**	**45.63**	**340**	LR	LR	20 18 19.6	
	comp=Z,24nm,19.4s,baz=15,slow=34						
ULM	**Lac du Bonnet**	**46.45**	**306**	LR	LR	20 19 52.0	
	comp=Z,185nm,18.1s,baz=90,slow=35						
SDV	**Santo Domingo**	**47.50**	**241**	LR	LR	20 17 48.1	
	comp=Z,44nm,21.8s,baz=337,slow=31						
BRTR	**Keskin Array B**	**47.93**	**68**	LR	LR	20 22 19.4	
	comp=Z,46nm,19.2s,baz=292,slow=37						
KIRV	**Kirov**	**51.94**	**41**	LR	LR	20 23 21.6	
	comp=Z,82nm,18.2s,baz=293,slow=36						
MMAI	**Mount Meron Ar**	**51.99**	**76**	LR	LR	20 24 27.6	
	comp=Z,27nm,21.0s,baz=248,slow=37						
BELG	**Belogornoye**	**52.81**	**49**	LR	LR	20 24 59.0	
	comp=Z,51nm,18.1s,baz=162,slow=37						
ROSC	**El Rosal**	**52.94**	**241**	LR	LR	20 22 32.5	
	comp=Z,128nm,20.6s,baz=164,slow=34						
EIL	**Elat**	**53.22**	**80**	LR	LR	20 26 35.0	
	comp=Z,31nm,18.7s,baz=244,slow=38						
TEIG	**Tepich**	**53.24**	**267**	LR	LR	20 20 53.1	
	comp=Z,630nm,21.4s,baz=198,slow=32						
YKA	**Yellowknife Ar**	**53.43**	**325**	LR	LR	20 22 13.4	
	comp=Z,42nm,18.0s,baz=58,slow=33						
JTS	**Las Juntas de**	**56.78**	**255**	LR	LR	20 22 35.2	
	comp=Z,74nm,21.7s,baz=28,slow=31						
BDFB	**Brasilia**	**57.54**	**201**	LR	LR	20 23 51.9	
	comp=Z,54nm,20.0s,baz=297,slow=32						
PDAR	**Pinedale Array**	**57.87**	**301**	P	**P**	**20 02 35.1**	**+1.8**
	1.1nm,0.8s,baz=72,slow=6.4,SNR=3.6						
PDAR				LR	LR	20 27 20.0	
	comp=Z,148nm,18.4s,baz=86,slow=36						
	1.1nm,0.8s						
INK	**Inuvik**	**58.52**	**335**	LR	LR	20 25 31.7	
	comp=Z,87nm,18.1s,baz=189,slow=34						
ANMO	**Albuquerque**	**59.36**	**292**	LR	LR	20 27 18.3	
	comp=Z,65nm,20.0s,baz=158,slow=35						
TXAR	**Lajitas Array**	**60.13**	**285**	P	P	20 02 52.6	+3.7
	2.1nm,0.8s,baz=81,slow=7.7,SNR=15						
TXAR				LR	LR	20 29 37.8	
	comp=Z,74nm,18.2s,baz=76,slow=37						
	2.1nm,0.8s						
NEW	**Newport**	**60.15**	**310**	LR	LR	20 26 54.4	
	comp=Z,166nm,21.4s,baz=62,slow=34						
ATAH	**Atahualpa**	**64.58**	**235**	LR	LR	20 29 43.1	
	comp=Z,59nm,21.9s,baz=29,slow=34						
NVAR	**Mina Array Bea**	**65.79**	**301**	LR	LR	20 31 41.6	
	comp=Z,107nm,20.1s,baz=72,slow=36						
YBH	**Yreka Blue Hor**	**66.86**	**306**	LR	LR	20 30 45.2	
	comp=Z,100nm,21.2s,baz=40,slow=34						
PFO	**Pinyon Flats O**	**67.13**	**295**	LR	LR	20 32 48.2	
	comp=Z,78nm,18.2s,baz=81,slow=36						
NNA	**Nana**	**67.39**	**231**	LR	LR	20 32 57.1	
	comp=Z,25nm,19.1s,baz=9.5,slow=36						
MBAR	**Mbarara**	**68.16**	**110**	LR	LR	20 33 10.8	
	comp=Z,45nm,18.2s,baz=298,slow=36						
KURBB	**Kurchatov Arra**	**70.46**	**40**	P	**P**	**20 03 55.5**	**0.0**
	0.5nm,0.8s,baz=313,slow=6.8,SNR=4.3						
KURBB				LR	LR	20 33 59.6	
	comp=Z,61nm,18.4s,baz=160,slow=35						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**71.22**	**35**	P	**P**	**20 04 01.4**	**+1.4**
	1.2nm,1.0s,baz=297,slow=7.9,SNR=1.8						
ZALV				LR	LR	20 35 05.1	
	comp=Z,25nm,19.1s,baz=270,slow=36						
	1.2nm,1.0s						
KDAK	**Kodiak Island**	**71.75**	**332**	LR	LR	20 31 48.1	
	comp=Z,303nm,18.1s,baz=243,slow=33						
KMBO	**Kilima Mbogo**	**73.29**	**106**	LR	LR	20 37 13.0	
	comp=Z,30nm,18.1s,baz=86,slow=36						
TSUM	**Tsumeb**	**73.41**	**133**	LR	LR	20 35 20.6	
	comp=Z,76nm,18.1s,baz=324,slow=35						
MKAR	**Makanchi Array**	**74.84**	**41**	P	**P**	**20 04 21.4**	**-0.2**
	1.0nm,1.0s,baz=338,slow=5.6,SNR=5.0						
	1.0nm,1.0s						
LSZ	**Lusaka**	**76.84**	**123**	LR	LR	20 38 08.9	
	comp=Z,112nm,19.7s,baz=301,slow=35						
SONM	**Songino Array**	**84.63**	**28**	P	**P**	**20 05 14.2**	**-0.7**
	0.5nm,0.8s,baz=330,slow=5.0,SNR=3.1						
	0.5nm,0.8s						
BOSA	**Boshof**	**85.11**	**134**	LR	LR	20 41 04.4	
	comp=Z,71nm,20.7s,baz=311,slow=34						
SUR	**Sutherland**	**85.69**	**139**	LR	LR	20 42 20.5	
	comp=Z,29nm,18.3s,baz=300,slow=35						
WRA	**Warramunga Arr**	**156.13**	**39**	PKPab	**PKPab**	**20 13 04.0**	**+0.4**
	0.4nm,1.0s,baz=326,slow=4.2,SNR=14						
ASAR	**Alice Springs**	**158.98**	**46**	PKPab	**PKPab**	**20 13 16.5**	**+0.7**
	0.7nm,0.9s,baz=332,slow=4.4,SNR=4.3						

---

*IDC **17** 20:00:25.2±1.1,5°.59S×153°.12E, h0km, mb3.8/9, mbtmp3.8/10, ML1.9/1, MS2.8/1, Error ellipse: s-maj=30.9km s-min=17.8km az=98.0*
ISC 17 20:00:30.6±1.0, 5°.60S±0°.08×153°.1E±0°.1, h37km, n13, σ0§66/16, mb3.7/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.68**	**320**	Pn	**Pn**	**20 00 56.6**	**-0.8**
	65nm,0.3s,baz=231,slow=24,SNR=65						
KRVT				Sn	**Sn**	**20 01 18.1**	**+0.4**
	102nm,0.3s,baz=165,slow=0.5,SNR=4.2						
PMG	**Port Moresby**	**7.01**	**237**	Pn	**Pn**	**20 02 10.2**	**-0.6**
	1.2nm,0.3s,baz=63,slow=11,SNR=2.6						
PMG				Sn	**Sn**	**20 03 30.1**	**+0.9**
	1.5nm,0.3s,baz=100,slow=16,SNR=3.7						
	5.7nm,0.5s						
WRA	**Warramunga Arr**	**23.16**	**230**	P	**P**	**20 05 33.2**	**-0.8**
	3.6nm,0.8s,baz=54,slow=10,SNR=21						
WRA				PcP	**PcP**	**20 09 23.0**	**+1.0**
	0.5nm,0.8s,baz=55,slow=2.0,SNR=3.4						
	3.6nm,0.8s						
ASAR	**Alice Springs**	**25.78**	**224**	P	**P**	**20 05 58.4**	**0.0**
	1.6nm,0.7s,baz=59,slow=9.3,SNR=20						
ASAR				PcP	**PcP**	**20 09 28.6**	**+1.0**
	0.3nm,0.9s,baz=47,slow=1.7,SNR=4.3						
	1.6nm,0.7s						
STKA	**Stephens Creek**	**28.28**	**201**	P	**P**	**20 06 19.9**	**-0.7**
	1.8nm,0.7s,baz=28,slow=15,SNR=4.3						
	1.8nm,0.7s						
DAV	**Davao City (W)**	**30.22**	**294**	LR	LR	20 18 56.3	
	comp=Z,16nm,19.2s,baz=62,slow=37						
SONM	**Songino Array**	**67.16**	**328**	P	**P**	**20 11 21.3**	**+0.4**
	0.3nm,0.7s,baz=145,slow=5.3,SNR=2.2						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**81.13**	**319**	P	**P**	**20 12 42.5**	**+0.2**
	0.2nm,0.4s,baz=94,slow=8.8,SNR=2.1						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**81.98**	**326**	P	**P**	**20 12 46.7**	**+0.1**
	0.4nm,0.4s,baz=116,slow=6.6,SNR=3.6						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**82.78**	**22**	P	**P**	**20 12 50.3**	**-0.2**
	0.4nm,0.9s,baz=235,slow=7.6,SNR=2.5						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**84.61**	**322**	P	**P**	**20 13 00.6**	**+0.4**
	0.6nm,1.0s,baz=97,slow=3.7,SNR=4.0						
	0.6nm,1.0s						
BVAR	**Borovoye Array**	**90.06**	**323**	P	**P**	**20 13 26.6**	**+0.1**
	1.0nm,0.8s,baz=99,slow=9.2,SNR=5.1						
	1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**150.84**	**287**	PKPbc	**PKPbc**	**20 20 20.5**	**+0.2**
	1.4nm,0.8s,baz=59,slow=3.0,SNR=8.0						

---

*KRSC **17** 20:09:14.9±1.0,56°.25N×163°.13E, h7km±8km, Ml4.1*
*IDC **17** 20:09:16.8±1.3,56°.39N×162°.89E, h0km, mb3.4/6, mbtmp3.4/7, ML2.4/1, MS2.6/4, Error ellipse: s-maj=49.9km s-min=20.3km az=168.0*
*MOS **17** 20:09:17.6±1.2,56°.34N×162°.92E, h18km, mb3.7/1, Error ellipse: s-maj=12.3km s-min=5.0km az=57.6*
ISC 17 20:09:16.5±1.6, 56°.36N±0°.05×162°.92E±0°.05, h3km±10km, n79, σ1§32/84, mb3.4/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.16**	**228**	PN	**Pg**	**20 09 19.7**	**+0.2**
KBG	**Krutoberegovo**	**0.16**	**228**	*i* P	**Pg**	**20 09 19.7**	**+0.2**
KBTR	**Krutoberegovo**	**0.17**	**200**	PN	**Pg**	**20 09 19.5**	**-0.1**
KBTR	**Krutoberegovo**	**0.17**	**200**	*e*P	**Pg**	**20 09 19.5**	**-0.1**
BDR	**Baidarnaya**	**0.97**	**283**	PN	**Pb**	**20 09 35.8**	**-0.2**
BDR	**Baidarnaya**	**0.97**	**283**

ASAK	Asacha	4.95	218	eP	Pn	20 10 34.1 +2.3
KDTR	Khodutka, Kamc	5.38	214	PN	Pn	20 10 38.2 +0.7
KDTR	Khodutka, Kamc	5.38	214	eP	Pn	20 10 38.2 +0.7
MA2	Magadan	7.22	302	LR	LR	20 14 02.0
	comp=Z,36nm,19.2s,baz=296,slow=40					
SHEM	Shemya Is, Ala	7.45	115	LR	LR	20 13 39.9
	comp=Z,61nm,19.1s,baz=119,slow=35					
KLR	Kul'dur	20.02	262	LR	LR	20 21 41.8
	comp=Z,16nm,20.9s,baz=70,slow=37					
ILAR	Eielson Array	25.40	50	P	P	20 14 44.9 +0.2
	comp=Z,0.3nm,0.7s,baz=276,slow=11,SNR=4.3					
	comp=Z,0.3nm,0.7s					
SONM	Songino Array	34.84	280	P	P	20 16 08.9 +0.4
	comp=Z,0.3nm,0.7s,baz=46,slow=6.2,SNR=2.6					
	comp=Z,0.3nm,0.7s					
H11N2	WAKE ISLAND Hy	36.70	174	T	T	20 55 07.5
	baz=357,slow=76,SNR=60					
H11N3	WAKE ISLAND Hy	36.71	174	T	T	20 55 09.1
	baz=357,slow=76,SNR=98					
H11N1	WAKE ISLAND Hy	36.71	174	T	T	20 55 09.3
	baz=357,slow=76,SNR=114					
KURK	Kurchatov	47.43	301	P	P	20 17 53.3 +1.5
KURBB	Kurchatov Arra	47.53	301	P	P	20 17 53.3 +0.6
	comp=Z,0.3nm,0.6s,baz=56,slow=7.8,SNR=3.8					
	comp=Z,0.3nm,0.6s					
MKAR	Makanchi Array	48.25	295	P	P	20 17 58.7 +0.4
	comp=Z,0.6nm,0.9s,baz=36,slow=6.3,SNR=3.5					
	comp=Z,0.6nm,0.9s					
PDAR	Pinedale Array	54.56	65	P	P	20 18 46.4 +0.5
	comp=Z,0.2nm,0.7s,baz=281,slow=5.4,SNR=2.3					
	comp=Z,0.2nm,0.7s					
TXAR	Lajitas Array	67.91	70	P	P	20 20 17.6 +1.2
	comp=Z,0.9nm,0.6s,baz=306,slow=5.6,SNR=11					
	comp=Z,0.9nm,0.6s					

NDI ***17*** *20:16:03.2±2.8, 33°.54N×92°.65E, h10km, ML4.1, mb4.4(NEIC)*
IDC ***17*** *20:16:05.5±0.6, 32°.97N×91°.74E, h0km, mb4.1/16, mbtmp4.0/19, ML3.7/3, MS3.4/24, Error ellipse: s-maj=23.8km s-min=13.6km az=49.0*
BJI ***17*** *20:16:06.1±0.0, 33°.04N×91°.81E, h5km, mb4.3/15, mB4.6/3, ML3.7/6, Ms4.0/9, Ms7 3.7/8*
NEIC ***17*** *20:16:06.8±1.4, 32°.97N±0°.07×91°.85E±0°.05, h10km±1km, mb4.4/55, Error ellipse: s-maj=11.6km s-min=6.7km az=341.0*
ISC 17 20:16:07.9±0.4, 33°.02N±0°.04×91°.76E±0°.06, h14km, n134, σ1§47/124, mb4.4/36, MS3.4/21, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	3.35	189	Pg	Pb	20 17 05.4	-1.9
LSA				Sg	Sb	20 17 52.3	+4.2
LSA				smax	smax		
	comp=N,550nm,0.9s						
LSA				smax	smax		
	comp=E,890nm,1.2s						
ITAN	ITANAGAR	6.10	163	eP	Pn	20 17 39.4	+1.9
ITAN				eS	Sn	20 18 48.2	+1.1
ITAN				IAML		20 18 55.4	
	comp=N,292nm,0.4s						
TEZP	TEZPUR	6.44	172	eP	Pn	20 17 43.6	+1.3
TEZP				eS	Sn	20 18 57.6	+1.9
TEZP				IAML		20 18 59.4	
	comp=E,120nm,0.7s						
TAPN	Taplejung	6.65	213	eP	Pn	20 17 46.5	+1.1
	comp=E,25nm,0.5s						
MOKO	MOKOCHONG	7.09	160	eP	Pn	20 17 51.4	0.0
MOKO				eS	Sn	20 19 09.4	-2.4
MOKO				IAML		20 19 20.1	
	comp=N,240nm,0.6s						
MOKO				IAML		20 19 26.6	
	comp=E,230nm,0.7s						
DHUB	DHUBRI	7.14	193	eP	Pn	20 17 59.5	+7.6
GUN	Gumba	7.19	226	eP	Pn	20 17 56.2	+3.3
	comp=E,49nm,0.5s						
JIRN	Jiri	7.19	223	eP	Pn	20 17 56.1	+3.2
	comp=E,47nm,0.5s						
ODAN	Odare	7.21	213	eP	Pn	20 17 53.6	+0.5
	comp=E,102nm,1.1s						
SHL	Shillong	7.43	179		Pn	20 17 53.7	-2.3
SHL				Sn	Sn	20 19 18.6	-1.6
SHL	Shillong	7.43	179	eP	Pn	20 17 56.6	+0.6
RAMN	Ramite	7.52	218	eP	Pn	20 17 59.1	+1.7
	comp=E,65nm,0.4s						
KOHI	KOHIMA	7.56	164	eP	Pn	20 17 58.0	+0.3
KOHI				eS	Sn	20 19 20.4	-2.9
KOHI				IAML		20 19 33.7	
	comp=E,239nm,0.9s						
KOHI				IAML		20 19 34.7	
	comp=N,188nm,0.8s						
KKN	Kakani	7.64	229	eP	Pn	20 18 01.7	+2.7
	comp=N,57nm,0.5s						
PKI	Pulchoki	7.72	227	eP	Pn	20 18 02.8	+2.6
	comp=N,63nm,0.5s						
PKIN	Phulchoki	7.72	227	eP	Pn	20 18 03.0	+2.9
	comp=N,67nm,0.4s						
DMN	Daman	7.88	229	eP	Pn	20 18 05.3	+3.0
	comp=N,84nm,0.6s						
GKN	Gorkha	7.92	233	eP	Pn	20 18 05.8	+3.1
	comp=N,72nm,0.6s						
DANN	Dangsing	8.31	238	eP	Pn	20 18 10.8	+2.6
	comp=N,78nm,0.5s						
IMP	Imphal	8.38	166	eP	Pn	20 18 09.1	+0.1
IMP				IAML		20 19 46.9	
	comp=N,32nm,0.6s						
IMP				IAML		20 19 49.1	
	comp=E,31nm,1.0s						
KOLN	Koldanda	8.77	236	eP	Pn	20 18 16.1	+1.6
	comp=E,38nm,0.4s						
PYUN	Piuthan	9.01	239	eP	Pn	20 18 19.1	+1.4
	comp=E,33nm,0.5s						
GTA	Gaotai	9.11	43	eP	Pn	20 18 20.6	+1.6
GTA				pmax	pmax		
	comp=E,3.0nm,1.8s						
GTA				LR	LR		
	comp=E,240nm,12.3s						
GTA				LR	LR		
	comp=E,270nm,13.5s						
GTA				LR	LR		
	comp=E,450nm,12.7s						
AZL	Aizawl	9.28	175	eP	Pn	20 18 21.4	0.0
AZL				eS	Sn	20 20 04.4	-1.3
AZL				IAML		20 20 08.6	
	comp=N,49nm,0.9s						
AZL				IAML		20 20 09.3	
	comp=E,55nm,0.6s						
TNCH	TengChong	9.92	142	P	Pn	20 18 30.5	+0.3
TNCH				sP		20 18 34.1	
TNCH				S	Sn	20 20 27.8	+6.4
TNCH				sS		20 20 32.9	
TNCH				pmax	pmax		
	comp=E,8.0nm,0.7s						
LZH	Lanzhou	10.43	70	eP	Pn	20 18 39.4	+2.3
LZH				pP		20 18 46.3	
LZH				pmax	pmax		
	comp=E,14nm,1.0s						
LZH				LR	LR		
	comp=E,750nm,12.4s						
LZH				LR	LR		
	comp=E,810nm,11.7s						
LZH				LR	LR		
	comp=E,520nm,11.3s						
SAIH	SAIHA	10.55	174	eP	Pn	20 18 38.9	+0.2
SAIH				eS	Sn	20 20 34.6	-2.1
SAIH				IAML		20 20 41.7	
	comp=E,92nm,0.8s						
WMQ	Urumqi	11.24	345	eP	Pn	20 18 54.8	+6.6
WMQ				LR	LR		
	comp=E,750nm,10.5s						
MND	Mandalay	11.62	160	Pn	Pn	20 18 51.3	-2.0
TARG	Taragay, Kyrgy	14.08	312		Pn	20 19 26.7	-0.6
PRZ	Przheval'sk	14.16	316	Pn	Pn	20 19 28.8	+0.6
CRAI	Chiangrai	14.88	147		Pn	20 19 36.2	-1.6
NIL	Nilore	15.48	277		Pn	20 19 45.9	0.0
NIL				IAmb	IAmb	20 19 57.5	
	comp=Z,14nm,0.9s						
MK31	Makanchi Array	15.54	335	Pn	Pn	20 19 46.0	-0.5
MKAR	Makanchi Array	15.54	335		Pn	20 19 45.9	-0.6
MKAR	Makanchi Array	15.54	335	Pn	Pn	20 19 44.8	-1.7
	comp=Z,0.1nm,0.3s,baz=142,slow=11,SNR=3.0						
MKAR				LR	LR	20 26 25.2	
	comp=Z,85nm,20.6s,baz=177,slow=40						
	comp=Z,0.5nm,0.6s						
CHTO	Chiang Mai	15.54	154		Pn	20 19 44.7	-2.0
BOOM	Boomskoye usch	15.66	312		Pn	20 19 48.5	+0.3
BOOM				IAmb	IAmb	20 19 58.3	
	comp=Z,11nm,0.7s						
MAKZ	Makanchi	15.66	334		Pn	20 19 48.6	+0.5
CM31	Chiang Mai Arr	15.87	154	P	Pn	20 19 52.0	+1.0
CM31				IAmb	IAmb	20 19 58.5	
	comp=Z,21nm,1.4s						
CMAR	Chiang Mai Arr	15.87	154	P	Pn	20 19 51.3	+0.3
CMAR	Chiang Mai Arr	15.87	154	Pn	Pn	20 19 49.3	-1.6
	comp=Z,0.3nm,0.3s,baz=329,slow=13,SNR=12						
CMAR				LR	LR	20 26 28.5	
	comp=Z,56nm,18.3s,baz=300,slow=39						
	comp=Z,2.0nm,0.8s						
AAK	Ala-Archa	16.65	310	P	P	20 20 02.8	-0.5
AAK	Ala-Archa	16.65	310	Pn	P	20 20 05.4	+2.1
	comp=Z,0.3nm,0.3s,baz=69,slow=16,SNR=6.7						
AAK				LR	LR	20 27 08.4	
	comp=Z,101nm,20.6s,baz=148,slow=40						
BTK	Batken	18.21	299	P	P	20 20 21.4	+0.9
BTK				IAmb	IAmb	20 20 30.4	
	comp=Z,9.8nm,1.1s						
SONM	Songino Array	18.48	32	P	Pn	20 20 23.2	-0.3
SONM	Songino Array	18.48	32	P	Pn	20 20 23.6	+0.1
	comp=Z,0.2nm,0.3s,baz=217,slow=12,SNR=10.0						
	comp=Z,1.5nm,0.7s						
ULN	Ulaanbaatar	18.80	33	P	P	20 20 25.1	-1.9
KBL	Kabul	18.94	281	P	P	20 20 29.0	+0.3
KBL				IAmb	IAmb	20 20 36.2	
	comp=Z,12nm,1.0s						
KK31	Karatay Array	19.48	307	P	P	20 20 34.5	+0.2
KKAR	Karatay Array	19.48	307	P	P	20 20 34.3	0.0
KKAR	Karatay Array	19.48	307	P	P	20 20 34.5	+0.2
KKAR				IAmb	IAmb	20 21 14.9	
	comp=Z,2.6nm,0.8s						
HYB	Hyderabad	19.57	221	eP	P	20 20 35.1	-0.3
KURBB	Kurchatov Arra	20.11	335	P	P	20 20 41.6	+0.6
	comp=Z,2.0nm,0.9s,baz=140,slow=11,SNR=14						
	comp=Z,2.0nm,0.9s						
KURK	Kurchatov	20.15	335	P	Pn	20 20 42.9	-0.5
ZAA0	Zalesovo Array	21.50	349	P	P	20 20 55.5	-0.5
ZALV	Zalesovo Beam	21.50	349	P	P	20 20 55.9	-0.1
ZALV	Zalesovo Beam	21.50	349	P	P	20 20 56.5	+0.5
	comp=Z,1.4nm,0.6s,baz=161,slow=9.2,SNR=5.2						
	comp=Z,1.4nm,0.6s						
BVAR	Borovoye Array	25.20	329	P	P	20 21 32.7	-0.1
	comp=Z,1.4nm,0.5s,baz=126,slow=7.4,SNR=7.9						
	comp=Z,1.4nm,0.5s						
BRVK	Borovoye	25.27	329	P	P	20 21 33.9	+0.4
BRVK				IAmb	IAmb	20 21 38.2	
	comp=Z,4.1nm,0.8s						
GEYT	Alibeck	27.74	290	P	P	20 21 57.0	+0.9
	comp=Z,2.6nm,0.8s,baz=91,slow=7.2,SNR=3.9						
GEYT				LR	LR	20 35 01.1	
	comp=Z,94nm,20.9s,baz=40,slow=41						
	comp=Z,2.6nm,0.8s						
ABKAR	Akbulak array	28.66	314	P	P	20 22 04.7	+0.7
ABKAR				IAmb	IAmb	20 22 06.0	
	comp=Z,3.1nm,0.8s						
ABKAR	Akbulak array	28.66	314	P	P	20 22 04.8	+0.8
KSRS	Korea Array	29.75	71	LR	LR	20 34 14.1	
	comp=Z,46nm,20.9s,baz=255,slow=37						
JOW	Kunigami	32.13	91	LR	LR	20 35 59.0	
	comp=Z,74nm,20.9s,baz=78,slow=37						
JNU	Nakatsue	32.66	79	LR	LR	20 36 58.2	
	comp=Z,80nm,19.8s,baz=307,slow=38						
ARU	Arti	32.70	326	LR	LR	20 37 49.8	
	comp=Z,61nm,18.8s,baz=100,slow=40						
USRK	Ussuriysk Ar.	33.06	58	LR	LR	20 37 26.8	
	comp=Z,75nm,18.2s,baz=262,slow=39						
KLR	Kul'dur	33.75	49	P	P	20 22 49.2	+0.4
	comp=Z,2.6nm,0.9s,baz=261,slow=13,SNR=6.0						
	comp=Z,2.6nm,0.9s						
AKH	Akhalkalaki	38.92	297	P	P	20 23 34.1	+0.8
AKH				IAmb	IAmb	20 23 37.3	
	comp=Z,26nm,0.9s						
KBZ	Khabaz	39.26	300	LR	LR	20 40 59.0	
	comp=Z,31nm,21.9s,baz=174,slow=38						
SIRT	Sirnak	40.15	291	P	P	20 23 42.7	-0.9
DAV	Davao City (W)	40.62	122	LR	LR	20 41 45.8	
	comp=Z,42nm,18.2s,baz=351,slow=38						
ASAJ	Asahikawa	40.68	59	LR	LR	20 41 19.9	
	comp=Z,64nm,21.0s,baz=324,slow=37						
KAPI	Kappang	46.21	140	LR	LR	20 47 04.8	
	comp=Z,26nm,18.9s,baz=326,slow=40						
ILGA	Ilgaz	46.28	297	P	P	20 24 33.6	+0.4
BRTR	Keskin Array B	46.57	296	P	P	20 24 35.5	+0.1
BRTR	Keskin Array B	46.57	296	P	P	20 24 34.8	-0.7
	comp=Z,1.6nm,0.6s,baz=70,slow=12,SNR=5.4						
	comp=Z,1.6nm,0.6s						
MA2	Magadan	46.61	37	LR	LR	20 45 21.6	
	comp=Z,39nm,20.9s,baz=53,slow=38						
MMAI	Mount Meron Ar	46.75	286	LR	LR	20 46 55.8	
	comp=Z,25nm,19.2s,baz=90,slow=40						
EIL	Elat	48.13	282	LR	LR	20 46 49.7	
	comp=Z,38nm,20.1s,baz=63,slow=38						
MDUB	Mudurnu	48.27	297	P	P	20 24 48.4	-0.1
AKASG	Malin Array Be	48.32	311	LR	LR	20 47 29.6	
	comp=Z,42nm,18.0s,baz=24,slow=39						
AK05	Malin Array Si	48.34	311	P	P	20 24 48.4	-0.4
AK05				IAmb	IAmb	20 24 49.6	
	comp=Z,3.1nm,0.8s						
BORA	Eskisehir	48.94	296	P	P	20 24 53.4	-0.4
BORA				IAmb	IAmb	20 24 55.1	
	comp=Z,3.2nm,0.8s						
FIA1	FINESS Array S	50.07	325	P	P	20 25 01.1	-0.7
FINES	FINESS Array B	50.07	325	P	P	20 25 01.7	-0.2
FINES	FINESS Array B	50.07	325	P	P	20 25 01.8	0.0
	comp=Z,2.7nm,0.8s,baz=98,slow=7.9,SNR=14						
FINES				LR	LR	20 48 08.3	
	comp=Z,52nm,18.2s,baz=24,slow=38						
	comp=Z,2.7nm,0.8s						
MLR	Muntele Rosu	51.12	304	P	P	20 25 09.7	-0.6
MLR				IAmb	IAmb	20 25 27.2	
	comp=Z,3.2nm,0.9s						
ARCES	ARCESS Array B	51.19	336	LR	LR	20 47 24.8	
	comp=Z,36nm,19.1s,baz=146,slow=37						
PABE	Paberze	51.19	317	P	P	20 25 08.3	-2.1
PABE				IAmb	IAmb	20 25 23.7	
	comp=Z,20nm,1.4s						
BURAR	Bucovina Array	51.27	307	P	P	20 25 10.3	-1.0
BUR08	Bucovina Ar. S	51.28	307	P	P	20 25 09.7	-1.7
BUR08				IAmb	IAmb	20 25 35.4	
	comp=Z,4.5nm,1.4s						
IDI	Anoyia	54.41	292	P	P	20 25 34.4	-0.3
HFS	Hagfors	56.19	324	P	P	20 25 46.7	-0.3
	comp=Z,1.6nm,0.6s,baz=92,slow=7.7,SNR=5.0						
	comp=Z,1.6nm,0.6s						
VRAC	Vranov	56.58	311	LR	LR	20 53 51.8	
	comp=Z,33nm,18.6s,baz=69,slow=40						
NC405	NORSAR Array S	57.00	325	P	P	20 25 52.5	-0.3
NB2	NORSAR Subarra	57.25	325	P	P	20 25 54.3	-0.3
	comp=Z,0.6nm,0.5s,baz=80,slow=6.9						
NOA	NORSAR Array B	57.25	325	P	P	20 25 54.2	-0.3
	comp=Z,1.0nm,0.6s,baz=80,slow=6.8,SNR=4.1						
NOA				LR	LR	20 52 31.6	
	comp=Z,38nm,18.6s,baz=65,slow=38						
	comp=Z,1.0nm,0.6s						
NC204	NORSAR Array S	57.43	326	P	P	20 25 55.2	-0.6
GERES	GERESS Array B	58.53	311	P	P	20 26 03.9	0.0
	comp=Z,0.6nm,0.6s,baz=82,slow=7.3,SNR=3.0						
GERES				LR	LR	20 53 16.4	
	comp=Z,31nm,20.3s,baz=48,slow=38						
	comp=Z,0.6nm,0.6s						
PSA00	Pilbara Seismi	60.55	150	P	P	20 26 16.7	-1.2
PSA00				IAmb	IAmb	20 26 33.2	
	comp=Z,14nm,1.5s						
DAVOX	Davos/Dischmat	61.60	309	LR	LR	20 57 09.7	
	comp=Z,45nm,19.9s,baz=76,slow=40						
SENIN	Lac Senin/Sane	63.42	310	P	P	20 26 37.6	+0.3
C19K	Lookout Ridge	65.81	22	P	P	20 26 52.3	0.0
WB0	Warramunga Arr	66.44	136	P	P	20 26 55.5	-1.4
WB0				IAmb	IAmb	20 26 59.2	
	comp=Z,6.1nm,0.7s						
WRA	Warramunga Arr	66.54	136	P	P	20 26 55.7	-1.9
WRA	Warramunga Arr	66.54	136	P	P	20 26 56.7	-0.8
	comp=Z,4.4nm,0.8s,baz=329,slow=6.8,SNR=33						
	comp=Z,4.4nm,0.8s						
WB2	Warramunga Arr	66.55	136	P	P	20 26 56.2	-1.4
D19K	Kuna River	66.58	22	P	P	20 26 56.6	-0.6
EUNU	Eureka	67.16	360	P	P	20 27 00.7	-0.1
EUNU				IAmb	IAmb	20 27 07.3	
	comp=Z,6.1nm,1.4s						
E19K	Redstone River	67.40	23	P	P	20 27 01.9	-0.6
E19K				IAmb	IAmb	20 27 09.5	
	comp=Z,4.5nm,0.9s						
F20K	Avaraart Lake	68.12	23	P	P	20 27 06.5	-0.4
F20K				IAmb	IAmb	20 27 19.2	
	comp=Z,9.4nm,1.4s						
E22K	Anaktuvuk Pass	68.73	21	P	P	20 27 10.2	-0.6
E22K				IAmb	IAmb	20 27 41.0	
	comp=Z,12nm,1.5s						
ASAR	Alice Springs	69.23	139	P	P	20 27 12.2	-2.3
ASAR	Alice Springs	69.23	139	P	P	20 27 13.8	-0.6
	comp=Z,6.6nm,0.6s,baz=326,slow=6.6,SNR=50						
	comp=Z,6.6nm,0.6s						
IMAR	Indian Mountai	69.37	23	P	P	20 27 14.1	-0.6
BMAR	Burnt Mountain	71.31	20	P	P	20 27 26.6	0.0
PPLA	Purkeypile	71.75	26	P	P	20 27 28.5	-1.0
ILAR	Eielson Array	72.38	23	P	P	20 27 32.5	-0.5
	comp=Z,1.6nm,0.9s,baz=307,slow=5.8,SNR=11						
	comp=Z,1.6nm,0.9s						
I26K	Coal Creek Min	73.19	21	P	P	20 27 36.9	-0.9
I26K				IAmb	IAmb	20 27 41.1	
	comp=Z,3.4nm,0.8s						
J26L	Joseph Creek	73.62	22	P	P	20 27 39.3	-1.2
J26L				IAmb	IAmb	20 27 43.2	
	comp=Z,2.3nm,0.7s						
ESDC	Sonseca Array	73.73	307	P	P	20 27 41.4	-0.1
	comp=Z,0.4nm,0.5s,baz=73,slow=6.0,SNR=2.4						
ESDC				LR	LR	21 05 05.6	
	comp=Z,22nm,18.7s,baz=7.0,slow=40						
	comp=Z,0.4nm,0.5s						
SCRK	Sand Creek	73.85	22	P	P	20 27 40.6	-1.4
SCRK				IAmb	IAmb	20 27 44.5	
	comp=Z,3.5nm,1.0s						
H29M	Whitestone	73.90	19	P	P	20 27 40.8	-1.2
H29M				IAmb	IAmb	20 27 51.7	
	comp=Z,5.8nm,1.2s						
SCM	Sheep Creek Mo	74.18	25	P	P	20 27 43.2	-0.7
I30M	Mount Dempster	75.19	19	P	P	20 27 48.5	-1.2
I30M				IAmb	IAmb	20 27 50.5	
	comp=Z,7.8nm,1.4s						
BCAR	Beaver Creek A	75.20	22	P	P	20 27 49.5	-0.1
STKA	Stephens Creek	79.86	139	P	P	20 28 17.5	+1.5
STKA	Stephens Creek	79.86	139	P	P	20 28 17.8	+1.8
	comp=Z,1.4nm,0.6s,baz=329,slow=4.6,SNR=5.3						
	comp=Z,1.4nm,0.6s						
TOA0	Torodi Ar. Sit	83.01	281	P	P	20 28 32.8	-0.4
TOA0				IAmb	IAmb	20 28 33.5	
	comp=Z,2.5nm,0.7s						
TORD	Torodi Ar. Bea	83.01	281	P	P	20 28 32.2	-1.0
TORD				IAmb	IAmb	20 28 33.2	
	comp=Z,1.9nm,0.6s						
TORD	Torodi Ar. Bea	83.01	281	P	P	20 28 32.8	-0.4
	comp=Z,2.8nm,0.6s,baz=47,slow=5.2,SNR=33						
	comp=Z,2.8nm,0.6s						
KOWA	Kowa	86.96	285	P	P	20 28 52.3	-0.7
KOWA				IAmb	IAmb	20 29 29.5	
	comp=Z,3.5nm,1.3s						

IDC ***17*** *20:25:44.3±1.4, 53°.83N×163°.00W, h0km, mb3.8/8, mbtmp3.8/10, ML3.2/2, MS3.2/9, Error ellipse: s-maj=35.1km s-min=17.5km az=172.0*
NEIC ***17*** *20:25:45.5±2.1, 53°.92N±0°.04×162°.89W±0°.06, h8km±3km, mb3.9/19, ML3.8/8, ML3.6(AEIC), Error ellipse: s-maj=6.1km s-min=4.6km az=166.0*
AEIC ***17*** *20:25:47.4±2.3, 54°.00N±0°.04×162°.91W±0°.05, h13km±5km, Error ellipse: s-maj=5.1km s-min=4.4km az=184.0*
ISC 17 20:25:44.6±1.6, 53°.90N±0°.05×162°.84W±0°.04, h4km±10km, n149, σ1§18/145, mb4.0/7, MS3.1/7, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	Brown Peak	0.91	325		Pb	20 26 02.9	-0.1
BRPK					Sb	20 26 14.2	-1.3
ISLZ	Isanotski Laza	0.97	329		Pb	20 26 03.8	-0.3
ISLZ					Sg	20 26 16.0	+0.1
FALS	False Pass	1.01	341		Pg	20 26 04.3	+0.3
FALS					Sg	20 26 17.4	+0.2
FALS	False Pass	1.01	341	P	Pb	20 26 04.6	-0.1
SSLS	Shishaldin Sou	1.06	320		Pb	20 26 05.6	0.0
ISNN	Isanotski Nort	1.08	330		Pb	20 26 06.1	+0.2
ISNN					Sn	20 26 20.8	-1.2
SSLN	Shishaldin Nor	1.14	324		Pn	20 26 07.1	-0.2
SSBA	Shishaldin	1.15	320		Pb	20 26 06.9	-0.2
SSBA					Sb	20 26 21.4	-1.0
DT1	Dutton Round H	1.25	15		Pn	20 26 07.6	-1.2
WESP	Westdahl Peak	1.26	299		Pb	20 26 08.6	-0.3
WECS	Westdahl Cape	1.30	300		Pg	20 26 09.5	-0.1
WECS					Sn	20 26 27.1	-0.3
WEBT	Westdahl Beart	1.32	302		Pn	20 26 09.5	-0.3
HAG	Hague Volcano	1.52	21		Pn	20 26 12.3	-0.2
PS4A	Pavlof South-4	1.56	21		Pn	20 26 12.8	-0.3
PS4A					Sb	20 26 34.6	+0.7
PN7A	Pavlof North-7	1.61	17		Pn	20 26 14.5	+0.6
PS1A	Pavlof South-1	1.65	22		Pn	20 26 14.5	+0.2
PS1A					Sn	20 26 36.4	+0.4
AKSA	Akutan Strait	1.70	279		Pn	20 26 15.1	0.0
AKSA					Sg	20 26 39.1	-0.2
AKUT	Akutan	1.75	279	Pn	Pn	20 26 15.7	+0.1
AKUT				IAML		20 26 41.4	
	comp=E,714nm,0.7s						
AKUT				IAML		20 26 42.3	
	comp=N,745nm,0.7s						
AKUT	Akutan	1.75	279	P	Pb	20 26 16.9	-0.3
AHB	Akutan Harbor	1.77	278		Pg	20 26 18.0	-0.5
AKBBA	Akutan Broad B	1.84	277		Pn	20 26 17.2	+0.3
AKV	Akutan Volcano	1.86	278		Pb	20 26 18.1	-1.0
ZRO	Akutan Zero	1.86	277		Pb	20 26 19.0	-0.2
AKGG	Akutan Green G	1.88	280		Pn	20 26 18.1	+0.5
SDPT	Sand Point	2.00	42	Pn	Pn	20 26 19.7	+0.6
SDPT				IAML		20 26 50.2	
	comp=E,1μm,1.1s						
SDPT				IAML		20 26 54.2	
	comp=N,967nm,0.7s						
SDPT	Sand Point	2.00	42	P	Pn	20 26 20.1	+1.0
CNBA	Chernabura Isl	2.11	63	Pn	Pn	20 26 20.7	+0.1
UNV	Unalaska Valle	2.17	270		Pn	20 26 21.3	-0.2
UNV	Unalaska Valle	2.17	270	P	Pn	20 26 22.3	+0.8
MNAT	Makushin Natee	2.28	271		Pb	20 26 24.5	-1.8
MGOD	Makushin Gods	2.39	269		Pn	20 26 24.8	+0.1
MAPS	Pakushin South	2.43	269		Pn

ANM	**Nome**	**10.77**	**354**	Pn		**Pn**	**20 28 19.9**	**+0.5**
GHO	**Glory Hole Cre**	**10.80**	**38**	Pn		**Pn**	**20 28 18.1**	**-1.8**
GLI	**Glacier Island**	**10.98**	**44**	Pn		**Pn**	**20 28 21.7**	**-0.5**
HIN	**Hinchinbrook I**	**10.98**	**47**	Pn		**Pn**	**20 28 22.1**	**-0.3**
SML	**Sawmill**	**11.04**	**38**	Pn		**Pn**	**20 28 22.5**	**-0.7**
CAST	**Castle Rocks**	**11.04**	**26**	Pn		**Pn**	**20 28 22.1**	**-1.1**
FID	**Port Fidalgo**	**11.17**	**46**			**Pn**	**20 28 23.9**	**-1.0**
J20K	**Nowinta River**	**11.22**	**20**	Pn		**Pn**	**20 28 25.9**	**+0.4**
SCM	**Sheep Creek Mo**	**11.43**	**40**	Pn		**Pn**	**20 28 27.1**	**-1.4**
KTH	**Kantishna Hill**	**11.46**	**28**	Pn		**Pn**	**20 28 25.8**	**-3.1**
H18K	**Honhosa River**	**11.51**	**10**	Pn		**Pn**	**20 28 31.2**	**+1.7**
G16K	**Koyuk River**	**11.53**	**1**	Pn		**Pn**	**20 28 29.1**	**-0.6**
TRF	**Thorofare Moun**	**11.56**	**29**	Pn		**Pn**	**20 28 26.1**	**-4.3**
KAIM	**Kayak Island**	**11.71**	**52**	Pn		**Pn**	**20 28 31.9**	**-0.4**
KLU	**Klutina**	**11.79**	**43**			**Pn**	**20 28 32.3**	**-1.1**
BPAW	**Bear Paw Mtn.**	**11.88**	**26**	Pn		**Pn**	**20 28 32.3**	**-2.3**
M24K	**Tolsona, Glenn**	**12.04**	**40**	Pn		**Pn**	**20 28 34.7**	**-2.1**
N25K	**Chitina, Valde**	**12.39**	**44**	Pn		**Pn**	**20 28 40.8**	**-0.8**
GLB	**Gilahina Butte**	**12.64**	**46**	Pn		**Pn**	**20 28 44.5**	**-0.6**
H21K	**Melozitna River**	**12.80**	**19**	Pn		**Pn**	**20 28 47.6**	**+0.4**
F19K	**Shaleruckik Mo**	**13.21**	**9**	Pn		**Pn**	**20 28 53.2**	**+0.6**
GRNC	**Granite Creek**	**13.24**	**50**	Pn		**Pn**	**20 28 53.1**	**-0.4**
BARN	**Barnard Glacie**	**13.41**	**49**	Pn		**Pn**	**20 28 55.0**	**-0.7**
M26K	**Nabesna, AK**	**13.44**	**43**	Pn		**Pn**	**20 28 55.0**	**-1.0**
ILAR	**Eielson Array**	**13.55**	**30**	Pn		**Pn**	**20 28 57.4**	**+0.1**
	comp=N,0.1nm,0.3s,baz=217,slow=11,SNR=5.3							
ILAR				LR		LR	20 34 29.6	
	comp=N,90nm,19.5s,baz=8.0,slow=38							
	comp=N,0.3nm,0.6s							
LOGN	**Logan Glacier**	**13.62**	**51**	Pn		**Pn**	**20 28 59.6**	**+1.1**
H23K	**Yukon River**	**13.65**	**24**	Pn		**Pn**	**20 28 59.3**	**+0.5**
SHEM	**Shemya Is, Ala**	**13.83**	**274**	Sn		**Sn**	**20 31 36.1**	**+1.1**
	comp=N,2.1nm,0.3s,baz=137,slow=19,SNR=1.3							
SHEM				LR		LR	20 33 43.0	
	comp=N,62nm,19.7s,baz=356,slow=35							
M27K	**Edge Creek, AK**	**13.88**	**44**	Pn		**Pn**	**20 29 00.7**	**-1.3**
SCRK	**Sand Creek**	**13.96**	**36**	Pn		**Pn**	**20 29 00.8**	**-2.2**
L27K	**Beaver Creek,**	**14.24**	**42**	Pn		**Pn**	**20 29 05.8**	**-1.2**
BCAR	**Beaver Creek A**	**14.26**	**42**	Pn		**Pn**	**20 29 05.8**	**-1.3**
O29M	**Mount Kennedy**	**14.60**	**54**	Pn		**Pn**	**20 29 09.4**	**-2.4**
I26K	**Coal Creek Min**	**15.07**	**33**	Pn		**Pn**	**20 29 16.8**	**-1.2**
I26K				IAmb		IAmb	20 29 38.3	
	comp=Z,9.2nm,1.4s							
HYT	**Haines Junctio**	**15.25**	**53**			**Pn**	**20 29 20.2**	**-0.4**
HYT				IAmb		IAmb	20 29 31.0	
	comp=Z,7.8nm,0.9s							
M29M	**Somme Creek**	**15.35**	**46**			**Pn**	**20 29 21.4**	**-0.5**
M29M				IAmb		IAmb	20 29 30.5	
	comp=Z,7.1nm,0.8s							
E24K	**Your Creek**	**15.76**	**20**			**Pn**	**20 29 26.9**	**-0.2**
E24K				IAmb		IAmb	20 29 32.6	
	comp=Z,6.9nm,0.7s							
O30N	**Mendenhall**	**15.91**	**54**	Pn		**Pn**	**20 29 28.7**	**-0.4**
BMAR	**Burnt Mountain**	**16.14**	**26**	Pn		**Pn**	**20 29 31.1**	**-1.0**
N31M	**Braeburn, Yuko**	**16.23**	**51**			**Pn**	**20 29 32.5**	**-0.8**
K29M	**Barlow Dome**	**16.32**	**42**			**Pn**	**20 29 34.6**	**+0.1**
WHY	**Whitehorse**	**16.46**	**55**			**Pn**	**20 29 37.2**	**+0.9**
WHY				IAmb		IAmb	20 29 43.6	
	comp=Z,7.3nm,0.8s							
C23K	**Itkillik River**	**16.93**	**15**	Pn		**Pn**	**20 29 41.9**	**-0.2**
J30M	**Hart River**	**17.11**	**41**			**Pn**	**20 29 44.6**	**+0.1**
H29M	**Whitestone**	**17.20**	**35**	P		**Pn**	**20 29 44.7**	**-0.8**
I30M	**Mount Dempster**	**17.39**	**39**	P		**Pn**	**20 29 47.9**	**-0.1**
I30M				IAmb		IAmb	20 30 18.5	
	comp=Z,11nm,1.4s							
P33M	**Teslin, Yukon**	**17.39**	**57**	P		**P**	**20 29 49.6**	**+0.3**
P33M				IAmb		IAmb	20 29 54.7	
	comp=Z,7.4nm,0.9s							
G29M	**Pine Creek**	**17.71**	**33**	P		**Pn**	**20 29 51.7**	**-0.1**
G29M				IAmb		IAmb	20 30 26.6	
	comp=Z,12nm,1.2s							
R33M	**Jennings River**	**18.24**	**60**	P		**Pn**	**20 29 59.1**	**+0.6**
R33M				IAmb		IAmb	20 30 20.4	
	comp=Z,11nm,1.4s							
H31M	**Peel River**	**18.41**	**39**			**P**	**20 29 59.2**	**-1.3**
H31M				IAmb		IAmb	20 30 03.5	
	comp=Z,12nm,0.9s							
MMPY	**Sheldon Lake,**	**18.58**	**49**			**P**	**20 30 02.5**	**+0.2**
MMPY				IAmb		IAmb	20 30 06.9	
	comp=Z,5.9nm,0.8s							
INK	**Inuvik**	**19.92**	**32**	P		**Pn**	**20 30 18.4**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=247,slow=13,SNR=3.2							
	comp=Z,2.4nm,0.8s							
PEA0B	**Petropavlovsk-**	**23.28**	**284**	P		**P**	**20 30 52.5**	**-0.5**
PETK	**Petropavlovsk-**	**23.28**	**284**	P		**P**	**20 30 53.1**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=84,slow=13,SNR=8.2							
PETK				LR		LR	20 39 16.9	
	comp=Z,47nm,21.9s,baz=77,slow=35							
	comp=Z,2.3nm,0.5s							
RES	**Resolute Bay**	**33.26**	**27**	LR		LR	20 49 47.5	
	comp=Z,36nm,18.3s,baz=17,slow=43							
ELK	**Elko**	**34.18**	**93**	P		**P**	**20 32 31.5**	**+0.4**
ULM	**Lac du Bonnet**	**39.94**	**67**	P		**P**	**20 33 20.4**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=303,slow=5.8,SNR=3.5							
	comp=Z,2.7nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**41.24**	**226**	T		T	21 17 41.7	
	baz=27,slow=76,SNR=87							
H11N3	**WAKE ISLAND Hy**	**41.24**	**226**	T		T	21 17 42.2	
	baz=27,slow=76,SNR=97							
H11N1	**WAKE ISLAND Hy**	**41.26**	**226**	T		T	21 17 44.8	
	baz=27,slow=76,SNR=74							
H11S1	**WAKE ISLAND Hy**	**42.41**	**226**	T		T	21 19 06.0	
	baz=26,slow=76,SNR=68							
H11S2	**WAKE ISLAND Hy**	**42.42**	**225**	T		T	21 19 07.5	
	baz=26,slow=76,SNR=52							
H11S3	**WAKE ISLAND Hy**	**42.43**	**226**	T		T	21 18 58.8	
	baz=26,slow=76,SNR=35							
MJAR	**Matsushiro Arr**	**43.64**	**271**	LR		LR	20 55 29.6	
	comp=Z,9.9nm,18.1s,baz=12,slow=41							
TXAR	**Lajitas Array**	**48.87**	**96**	P		**P**	**20 34 32.7**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=307,slow=5.9,SNR=16							
	comp=Z,0.9nm,0.5s							
KSRS	**Korea Array**	**49.08**	**280**	P		**P**	**20 34 32.5**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=48,slow=6.8,SNR=2.3							
	comp=Z,1.2nm,0.7s							
SONM	**Songino Array**	**53.82**	**303**	P		**P**	**20 35 08.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=116,slow=42,SNR=2.8							
	comp=Z,0.5nm,0.5s							
JOW	**Kunigami**	**56.47**	**270**	LR		LR	21 02 55.5	
	comp=Z,7.8nm,18.0s,baz=188,slow=40							
ZALV	**Zalesovo Beam**	**58.85**	**320**	LR		LR	21 03 16.9	
	comp=Z,35nm,18.4s,baz=67,slow=38							
BVAR	**Borovoye Array**	**64.63**	**328**	P		**P**	**20 36 22.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=29,slow=6.8,SNR=5.1							
	comp=Z,1.1nm,0.7s							
MKAR	**Makanchi Array**	**65.50**	**317**	P		**P**	**20 36 28.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=31,slow=6.7,SNR=3.0							
MKAR				LR		LR	21 07 33.1	
	comp=Z,24nm,18.9s,baz=26,slow=38							
	comp=Z,0.3nm,0.5s							
WSAR	**Wadi Sarin**	**95.25**	**322**	LR		LR	21 29 10.9	
	comp=Z,26nm,18.1s,baz=159,slow=40							
H03N2	**Juan Fernandez**	**112.93**	**115**	T		T	22 47 18.4	
	baz=323,slow=77,SNR=45							
H03N1	**Juan Fernandez**	**112.94**	**115**	T		T	22 47 21.7	
	baz=323,slow=77,SNR=55							
H03N3	**Juan Fernandez**	**112.95**	**115**	T		T	22 47 17.3	
	baz=323,slow=77,SNR=47							

KRSC 17 20:32:24.5±0.7, 53°.46N×170°.86E, h44km±43km, MI3.9, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**5.50**	**285**	*eP*	Pn	20 33 47.9	+4.2
MKZ				*eS*	Sn	20 34 48.8	+3.3
KZV	**Kizimen**	**6.41**	**289**	*eP*	Pn	20 34 01.3	+5.0
SDLR	**Sedlovina**	**7.17**	**273**	*eP*	Pn	20 34 11.5	+4.7
UGLR	**Uglovaya**	**7.21**	**273**	*eP*	Pn	20 34 12.3	+4.9
SMAR	**Somma**	**7.22**	**273**	*eP*	Pn	20 34 12.3	+4.8
KRER	**Koryakskii**	**7.25**	**274**	*eP*	Pn	20 34 13.3	+5.4
AVH	**Avacha**	**7.26**	**273**	*eP*	Pn	20 34 13.1	+5.2
KRX	**Arik**	**7.30**	**274**	*eP*	Pn	20 34 13.2	+4.6
KOK	**Koryaka**	**7.32**	**274**	*eP*	Pn	20 34 13.5	+4.8
RUS	**Russkaya**	**7.53**	**267**	*eP*	Pn	20 34 16.7	+5.1
ASAK	**Asacha**	**7.91**	**267**	*eP*	Pn	20 34 22.3	+5.4
ASAK				*eS*	Sn	20 35 49.2	+4.2
KDTR	**Khodutka, Kamc**	**7.95**	**263**	*eP*	Pn	20 34 21.3	+4.0

*IDC **17** 21:08:09.4±6.4, 32°.06S×70°.36W, h93km±51km, mb3.6/3, mbtmp3.8/4, Error ellipse: s-maj=75.0km s-min=41.6km az=98.0*

*SJA **17** 21:08:09.8±0.7, 32°.13S×70°.22W, h131km±3km, ML3.9, MW3.9*

*GUC **17** 21:08:11.6±0.8, 32°.14S×70°.37W, h131km±3km, ML3.7*

*NEIC **17** 21:08:11.3±1.9, 32°.12S±0°.04×70°.26W±0°.07, h120km±7km, mb4.2/7, ML3.7(GUC), Error ellipse: s-maj=9.1km s-min=5.1km az=79.0*

ISC 17 21:08:11.4±0.7, 32°.12S±0°.03×70°.25W±0°.03, h121km±6km, n120, σ1⁸⁄₉04/159, mb4.0/7, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.70**	**202**		**Pn**	**21 08 30.9**	**0.0**
VA03				Sn	**Sn**	**21 08 45.4**	**-0.3**
VA03	**San Esteban**	**0.70**	**202**	*i P*	**Pn**	**21 08 30.9**	**0.0**
VA03				*eS*	**Sn**	**21 08 45.6**	**-0.1**
VA03	**San Esteban**	**0.70**	**202**	*eP*	**Pn**	**21 08 30.9**	**0.0**
VA03				*eS*	**Sn**	**21 08 46.2**	**+0.5**
VA03				IAML		21 08 46.9	
	comp=Z,2μm,0.1s						
RTLS	**Leoncito**	**0.87**	**69**	*eP*	**Pn**	**21 08 32.1**	**-0.5**
RTLS				*eS*	**Sn**	**21 08 47.5**	**-1.0**
RTLS				IAML		21 08 48.4	
	comp=Z,8μm,0.2s						
ROCH	**El Roble**	**1.07**	**217**	⇑*i P*	**Pn**	**21 08 34.4**	**0.0**
ROCH				*eS*	**Sn**	**21 08 51.9**	**0.0**
ROCH				IAML		21 08 54.1	
	comp=N,4μm,0.4s						
ROC1	**El Roble**	**1.08**	**217**		**Pn**	**21 08 34.4**	**-0.1**
ROC1				Sn	**Sn**	**21 08 51.7**	**-0.3**
ROC1	**El Roble**	**1.08**	**217**	*eP*	**Pn**	**21 08 34.4**	**-0.1**
ROC1				*eS*	**Sn**	**21 08 52.2**	**+0.2**
PEL	**Peldehue**	**1.09**	**200**		**Pn**	**21 08 34.3**	**-0.2**
PEL				Sn	**Sn**	**21 08 51.3**	**-0.7**
PEL	**Peldehue**	**1.09**	**200**	*i P*	**Pn**	**21 08 34.3**	**-0.2**
PEL				*eS*	**Sn**	**21 08 51.9**	**0.0**
PEL				IAML		21 08 53.2	
	comp=N,1μm,0.2s						
PEL	**Peldehue**	**1.09**	**200**	*eP*	**Pn**	**21 08 34.5**	**+0.1**
PEL				*eS*	**Sn**	**21 08 52.5**	**+0.5**
CO02	**Combarbal**	**1.11**	**324**		**Pn**	**21 08 35.1**	**+0.3**
CO02				Sn	**Sn**	**21 08 52.8**	**+0.4**
CO02	**Combarbal**	**1.11**	**324**	⇓*i P*	**Pn**	**21 08 35.1**	**+0.3**
CO02				*eS*	**Sn**	**21 08 52.9**	**+0.5**
CO02	**Combarbal**	**1.11**	**324**	*eP*	**Pn**	**21 08 35.1**	**+0.3**
CO02				*eS*	**Sn**	**21 08 53.5**	**+1.1**
CO02				IAML		21 08 55.2	
	comp=Z,6μm,0.2s						
CO02				IAML		21 08 55.2	
	comp=Z,7μm,0.1s						
FCH	**Farellones**	**1.21**	**182**	⇓*i P*	**Pn**	**21 08 36.5**	**+0.5**
FCH				*eS*	**Sn**	**21 08 55.7**	**+1.0**
FCH				IAML		21 08 57.5	
	comp=N,997nm,0.2s						
ASAL	**Salagasta**	**1.28**	**112**	*eP*	**Pn**	**21 08 36.8**	**+0.2**
ASAL				*eS*	**Sn**	**21 08 55.9**	**+0.2**
ASAL				IAML		21 08 58.0	
	comp=Z,904nm,0.4s						
MT04	**Ro Olivares**	**1.29**	**176**	*i P*	**Pn**	**21 08 37.0**	**+0.2**
MT04				*eS*	**Sn**	**21 08 56.3**	**+0.3**
MT04				IAML		21 09 04.2	
	comp=N,623nm,0.2s						
MT14	**Cerro Calȷn**	**1.30**	**191**	*i P*	**Pn**	**21 08 36.7**	**0.0**
MT14				*eS*	**Sn**	**21 08 55.7**	**-0.2**
MT14				IAML		21 08 58.1	
	comp=E,1μm,0.2s						
ARCO	**CERRO ARCO**	**1.32**	**123**	*eP*	**Pn**	**21 08 37.4**	**+0.3**
ARCO				IAML		21 08 59.7	
	comp=Z,863nm,0.2s						
CO03	**El Pedregal**	**1.33**	**343**		**Pn**	**21 08 37.5**	**+0.4**
CO03	**El Pedregal**	**1.33**	**343**	*i P*	**Pn**	**21 08 37.5**	**+0.4**
CO03				*eS*	**Sn**	**21 08 57.0**	**+0.5**
CO03	**El Pedregal**	**1.33**	**343**	*eP*	**Pn**	**21 08 37.5**	**+0.4**
CO03				*eS*	**Sn**	**21 08 58.1**	**+1.7**
CO03				IAML		21 09 00.3	
	comp=Z,2μm,0.5s						
MT05	**Renca**	**1.34**	**198**		**Pn**	**21 08 37.4**	**+0.3**
MT05	**Renca**	**1.34**	**198**	*eP*	**Pn**	**21 08 36.8**	**-0.3**
MT05				*eS*	**Sn**	**21 08 58.2**	**+1.6**
MT05				IAML		21 08 58.8	
	comp=Z,854nm,0.2s						
MT08	**Bocatoma Ro**	**1.34**	**172**	Pn	**Pn**	**21 08 38.3**	**+1.0**
MT08	**Bocatoma Ro**	**1.34**	**172**	*i P*	**Pn**	**21 08 38.3**	**+1.0**
MT08				*eS*	**Sn**	**21 08 57.5**	**+0.5**
MT02	**Curacav**	**1.37**	**213**		**Pn**	**21 08 36.8**	**-0.6**
MT02	**Curacav**	**1.37**	**213**	*i P*	**Pn**	**21 08 36.9**	**-0.5**
MT02				*eS*	**Sn**	**21 08 56.7**	**-0.4**
MT02				IAML		21 08 58.5	
	comp=E,982nm,0.2s						
MT02	**Curacav**	**1.37**	**213**	*eP*	**Pn**	**21 08 37.1**	**-0.3**
MT02				*eS*	**Sn**	**21 08 57.5**	**+0.3**
MT02				IAML		21 08 58.6	
	comp=Z,616nm,0.3s						
MT03	**Universidad Ad**	**1.39**	**189**		**Pn**	**21 08 38.2**	**+0.4**
MT03	**Universidad Ad**	**1.39**	**189**	*i P*	**Pn**	**21 08 37.8**	**0.0**
MT03	**Universidad Ad**	**1.39**	**189**	*eP*	**Pn**	**21 08 38.2**	**+0.4**
MT03				*eS*	**Sn**	**21 08 59.4**	**+1.6**
MT03				IAML		21 09 02.1	
	comp=Z,1μm,0.2s						
ZON	**Zonda**	**1.45**	**67**		**Pn**	**21 08 37.7**	**-0.6**
ZON	**Zonda**	**1.45**	**67**	*eP*	**Pn**	**21 08 37.7**	**-0.6**
ZON				*eS*	**Sn**	**21 08 56.6**	**-2.2**
ZON				IAML		21 08 57.5	
	comp=Z,1μm,0.8s						
DOCA	**Reserva Natura**	**1.53**	**41**	*eP*	**Pn**	**21 08 39.0**	**-0.6**
AAGR	**Agrelo**	**1.54**	**129**	*eP*	**Pn**	**21 08 40.0**	**+0.5**
AAGR				*eS*	**Sn**	**21 09 01.4**	**+0.7**
AAGR				IAML		21 09 04.2	
	comp=Z,606nm,0.5s						
MT13	**San Alfonso**	**1.62**	**181**		**Pn**	**21 08 41.0**	**+0.6**
MT13	**San Alfonso**	**1.62**	**181**	*i P*	**Pn**	**21 08 40.4**	**0.0**
MT13				*eS*	**Sn**	**21 09 02.7**	**+0.1**
MT13				IAML		21 09 04.8	
	comp=N,1μm,0.2s						
RTLL	**Cerro Villicun**	**1.70**	**63**	*eP*	**Pn**	**21 08 44.0**	**+2.7**
RTLL				IAML		21 10 12.1	
	comp=Z,2μm,2.0s						
LMEL	**Las Melosas**	**1.73**	**179**		**Pn**	**21 08 42.4**	**+0.6**
LMEL	**Las Melosas**	**1.73**	**179**	*i P*	**Pn**	**21 08 42.3**	**+0.6**
LMEL				IAML		21 09 10.3	
	comp=N,1μm,0.3s						
MT09	**Talagante**	**1.77**	**200**		**Pn**	**21 08 41.9**	**-0.4**
MT09	**Talagante**	**1.77**	**200**	⇑*i P*	**Pn**	**21 08 41.8**	**-0.4**
MT09				*eS*	**Sn**	**21 09 04.8**	**-0.9**
MT09				IAML		21 09 08.4	
	comp=N,1μm,0.3s						
CFA	**Coronel Fontan**	**1.78**	**74**	*eS*	**Sn**	**21 09 03.9**	**-1.9**
CFA				IAML		21 09 05.0	
	comp=Z,715nm,0.2s						
ACCO	**Cerro Coronel**	**1.83**	**34**	*eP*	**Pn**	**21 08 43.1**	**0.0**
ACCO				*eS*	**Sn**	**21 09 07.2**	**0.0**
ACCO				IAML		21 09 10.4	
	comp=Z,686nm,0.6s						
CO06	**Fray Jorge**	**1.86**	**320**		**Pn**	**21 08 43.4**	**+0.1**
CO06	**Fray Jorge**	**1.86**	**320**	*i P*	**Pn**	**21 08 43.3**	**+0.1**
CO06				*eS*	**Sn**	**21 09 06.7**	**-0.8**
BO04	**La Punta**	**1.89**	**189**		**Pn**	**21 08 43.6**	**+0.1**
BO04	**La Punta**	**1.89**	**189**	*i P*	**Pn**	**21 08 43.7**	**+0.1**
BO04				*eS*	**Sn**	**21 09 08.3**	**0.0**
BO04				IAML		21 09 10.9	
	comp=N,803nm,0.3s						
VA05	**Santo Domingo**	**1.92**	**216**		**Pn**	**21 08 43.4**	**-0.5**
VA05	**Santo Domingo**	**1.92**	**216**	*i P*	**Pn**	**21 08 43.3**	**-0.6**
MT01	**Popeta**	**1.94**	**206**		**Pn**	**21 08 43.6**	**-0.5**
MT01	**Popeta**	**1.94**	**206**	⇑*i P*	**Pn**	**21 08 43.6**	**-0.5**
MT01				*eS*	**Sn**	**21 09 08.0**	**-1.2**
MT01				IAML		21 09 09.9	
	comp=E,1μm,0.3s						
MT01	**Popeta**	**1.94**	**206**	*eP*	**Pn**	**21 08 43.7**	**-0.4**
MT01				*eS*	**Sn**	**21 09 08.4**	**-0.8**
MT01				IAML		21 09 09.5	
	comp=Z,604nm,0.2s						
AVIZ	**Vizcacheras**	**1.99**	**133**	*eP*	**Pn**	**21 08 45.0**	**+0.2**
GO04	**Tololo Observa**	**1.99**	**346**		**Pn**	**21 08 45.2**	**+0.2**
GO04	**Tololo Observa**	**1.99**	**346**	*i P*	**Pn**	**21 08 45.2**	**+0.2**
GO04				*eS*	**Sn**	**21 09 10.5**	**-0.3**
GO04	**Tololo Observa**	**1.99**	**346**	*eP*	**Pn**	**21 08 45.3**	**+0.2**
GO04				*eS*	**Sn**	**21 09 11.3**	**+0.5**
AROD	**Rodeo**	**2.05**	**19**	*eP*	**Pn**	**21 08 46.9**	**+1.1**
AROD				*eS*	**Sn**	**21 09 13.3**	**+1.1**
CO01	**Juntas del Tor**	**2.13**	**4**		**Pn**	**21 08 47.9**	**+1.0**
CO01	**Juntas del Tor**	**2.13**	**4**	*i P*	**Pn**	**21 08 47.9**	**+1.0**
CO01				*eS*	**Sn**	**21 09 15.1**	**+1.2**
CO01				IAML		21 09 16.3	
	comp=N,303nm,0.3s						
CO01	**Juntas del Tor**	**2.13**	**4**	*eP*	**Pn**	**21 08 48.0**	**+1.2**
CO01				*eS*	**Sn**	**21 09 15.9**	**+2.0**
CO01				IAML		21 09 20.9	
	comp=Z,172nm,0.2s						
ACDV	**Cuesta del Vie**	**2.17**	**27**	*eP*	**Pn**	**21 08 47.7**	**+0.6**
ACDV				*eS*	**Sn**	**21 09 15.9**	**+1.5**
ACDV				IAML		21 09 16.5	
	comp=Z,250nm,0.5s						
CO05	**La Serena**	**2.35**	**338**		**Pn**	**21 08 48.9**	**-0.4**
CO05	**La Serena**	**2.35**	**338**	*i P*	**Pn**	**21 08 49.2**	**-0.1**
CO05				*eS*	**Sn**	**21 09 17.4**	**-0.9**
BO01	**Tunca**	**2.38**	**197**		**Pn**	**21 08 49.0**	**-0.7**
BO01	**Tunca**	**2.38**	**197**	*i P*	**Pn**	**21 08 48.9**	**-0.7**
BO01				*eS*	**Sn**	**21 09 17.8**	**-1.2**
BO01				IAML		21 09 19.9	
	comp=N,283nm,0.2s						
BO01	**Tunca**	**2.38**	**197**	*eP*	**Pn**	**21 08 49.1**	**-0.5**
BO01				*eS*	**Sn**	**21 09 18.7**	**-0.3**
BO01				IAML		21 09 26.2	
	comp=Z,155nm,0.2s						
BO02	**Sierra Bellavi**	**2.71**	**189**		**Pn**	**21 08 53.9**	**-0.1**
BO02	**Sierra Bellavi**	**2.71**	**189**	*i P*	**Pn**	**21 08 53.9**	**-0.1**
BO02	**Sierra Bellavi**	**2.71**	**189**	*eP*	**Pn**	**21 08 53.3**	**-0.6**
BO02				IAML		21 09 31.9	
	comp=Z,453nm,0.1s						
BO03	**Pichilemu**	**2.78**	**211**	*i P*	**Pn**	**21 08 53.5**	**-1.2**
AVFE	**Valle Fertil**	**2.79**	**59**	*eP*	**Pn**	**21 08 53.9**	**-1.2**
AVFE				*eS*	**Sn**	**21 09 26.1**	**-2.6**
AVFE				IAML		21 09 43.4	
	comp=Z,179nm,0.6s						
AGUA	**GUANDACOL**	**3.02**	**30**	*eS*	**Sn**	**21 09 34.5**	**+0.4**
AGUA				IAML		21 09 46.6	
	comp=Z,250nm,0.4s						
RFA	**San Rafael**	**3.04**	**151**	*eP*	**Pn**	**21 08 57.8**	**-0.5**
RFA				IAML		21 10 01.5	
	comp=Z,50nm,0.4s						
LCO	**Las Campanas**	**3.12**	**353**		**Pn**	**21 08 59.2**	**-0.3**
LCO	**Las Campanas**	**3.12**	**353**	IAML		21 09 37.5	
	comp=Z,2μm,0.3s						
GO05	**Huala**	**3.21**	**206**		**Pn**	**21 08 58.8**	**-1.7**
GO05	**Huala**	**3.21**	**206**	*eP*	**Pn**	**21 08 58.9**	**-1.6**
GO05				*eS*	**Sn**	**21 09 36.6**	**-1.8**
AC05	**El Transito**	**3.27**	**360**	Pn	**Pn**	**21 09 02.0**	**+0.7**
AC05	**El Transito**	**3.27**	**360**	IAML		21 09 42.0	
	comp=Z,673nm,2.7s						
ML02	**Panimavida**	**3.77**	**195**		**Pn**	**21 09 06.4**	**-1.4**
VCA	**Vinchina**	**3.80**	**28**	*eP*	**Pn**	**21 09 08.4**	**0.0**
VCA				IAML		21 10 03.8	
	comp=Z,151nm,0.5s						
AC04	**Llanos de Chal**	**3.96**	**349**		**Pn**	**21 09 10.1**	**-0.4**
AC04	**Llanos de Chal**	**3.96**	**349**	*eP*	**Pn**	**21 09 10.3**	**-0.2**
AC04				IAML		21 10 04.9	
	comp=Z,96nm,0.4s						
GO03	**Copiap**	**4.51**	**0**		**Pn**	**21 09 17.1**	**-0.7**
GO03	**Copiap**	**4.51**	**0**	*eP*	**Pn**	**21 09 17.5**	**-0.3**
AC06	**Mina Casimiro**	**4.74**	**359**		**Pn**	**21 09 19.9**	**-1.0**
AC02	**Maricunga**	**5.35**	**11**		**Pn**	**21 09 28.9**	**-0.7**
AC02	**Maricunga**	**5.35**	**11**	*eP*	**Pn**	**21 09 29.2**	**-0.3**
AC01	**Pan de Azucar**	**5.95**	**357**	Pn	**Pn**	**21 09 34.6**	**-2.6**
GO02	**Mina Guanaco**	**6.95**	**5**	Pn	**Pn**	**21 09 47.8**	**-3.2**
H03N1	**Juan Fernandez**	**7.42**	**257**	P	**Pn**	**21 09 58.9**	**+2.2**
	baz=126,slow=18,SNR=9.1						
H03N1				T	T	21 16 53.0	
	baz=85,slow=73,SNR=294						
H03N3	**Juan Fernandez**	**7.43**	**257**	P	**

```
      0.2nm,0.7s,baz=236,slow=6.4,SNR=3.0
      0.2nm,0.7s
ILAR  Eielson Array     83.43  12  P          P          21 42 59.6  -0.1
      0.4nm,0.5s,baz=224,slow=5.5,SNR=9.8
      0.4nm,0.5s
```

WEL 17 21:36:38.6±0.9, 45°S±4°×16°8E±°, h90km±7km, M2.9/6, ML3.1/11, MLv2.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=118.9, confirmed, South Island

```
Code  Station Name      Δ°    AZ°   Phase ID                Time        Res
                                    Op        ISC           h m s       ISC
DCZ   Deep Cove         0.44 214    P         Pn            21 36 53.3  +0.5
DCZ                                 S         Sn            21 37 04.6  +1.2
MLZ   Mavora Lakes      0.51 122    P         Pn            21 36 54.6  +1.1
MLZ                                 S         Sn            21 37 06.8  +2.3
MSZ   Milford Sound     0.52  35    P         Pn            21 36 55.0  +1.6
MSZ                                 S         Sn            21 37 06.8  +2.3
WHZ   Wether Hill Ro    0.85 159    P         Pn            21 36 57.3  +0.7
WHZ                                 S         Sn            21 37 11.2  +1.0
WKZ   Wanaka            1.11  76    P         Pn            21 37 00.8  +1.3
WKZ                                 S         Sn            21 37 16.8  +1.6
PYZ   Puysegur Point    1.22 208    S         Sn            21 37 17.5  -0.1
EAZ   Earnscleugh       1.28  97    P         Pn            21 37 02.6  +1.0
EAZ                                 S         Sn            21 37 20.0  +1.1
JCZ   Jackson Bay       1.37  42    P         Pn            21 37 03.2  +0.4
JCZ                                 S         Sn            21 37 21.5  +0.4
TUZ   Tuapeka           1.72 121    P         Pn            21 37 07.8  +0.7
TUZ                                 S         Sn            21 37 28.3  -0.5
APZ   The Paps          1.77 169    P         Pn            21 37 07.9  +0.2
APZ                                 S         Sn            21 37 29.6  -0.4
SYZ   Scrubby Hill      1.84 142    P         Pn            21 37 09.1  +0.5
SYZ                                 S         Sn            21 37 31.5  +0.1
LBZ   Lake Benmore      2.04  70    P         Pn            21 37 10.7  -0.6
LBZ                                 S         Sn            21 37 35.0  -1.1
ODZ   Otahua Downs      2.22  90    P         Pn            21 37 13.5  -0.2
ODZ                                 S         Sn            21 37 37.9  -2.7
FOZ   Fox Glacier       2.28  47    P         Pn            21 37 13.6  -0.8
TMZ   Timaru            2.59  75    P         Pn            21 37 17.5  -1.1
TMZ                                 S         Sn            21 37 47.1  -2.4
ARCZ  Arundel           2.87  68    P         Pn            21 37 21.2  -1.1
ARCZ                                S         Sn            21 37 52.9  -3.1
RPZ   Rata Peaks        2.89  63    P         Pn            21 37 21.3  -1.4
RPZ                                 S         Sn            21 37 54.6  -2.0
MHCZ  Mount Hutt        3.31  63    P         Pn            21 37 28.7  +0.4
OXZ   Oxford            3.71  63    P         Pn            21 37 33.4  -0.3
KMRZ  Kaimai            9.62  44    P         Pn            21 38 52.7  -1.4
```

DSN 17 21:38:22.4±2.4, 28°.90N×57°.53E, h15km, ML3.3/12, Error ellipse: s-maj=52.3km s-min=23.0km az=118.0
TEH 17 21:38:31.7, 28°.29N×57°.23E, h24km±28km, ML3.6
OMAN 17 21:38:35.6±0.8, 27°.89N×57°.00E, h10km, mb4.3/6, ml3.3/18, Error ellipse: s-maj=8.6km s-min=3.7km az=26.0

ISC 17 21:38:32.5±1.1, 28°28N±0°.04×57°.19E±0°.04, h31km, n70, σ1§66/86, Southern Iran

```
Code  Station Name      Δ°    AZ°   Phase ID                Time        Res
                                    Op        ISC           h m s       ISC
KHNJ  Kahnooj           0.56 126    Pg        Pb            21 38 42.6  -1.5
IBND  Bandar-abas       1.01 215    Pg        Pn            21 38 51.3  +0.7
GENO  Geno              1.26 226    Pg        Pn            21 38 55.2  +1.0
GENO                                Sg        Sb            21 39 13.4  +1.7
KBAM  BAM               1.40  52    Pg        Pn            21 38 56.0  0.0
NGRK  Negar Kerman      1.42 344    Pg        Pn            21 38 56.9  +0.3
CHMN  Cheshme madani    1.60  11    Pg        Pn            21 38 59.6  +0.5
TVBK  TV Kerman         1.74 348    Pg        Pn            21 39 02.6  +1.7
KHGB  Koh Gabri         2.18 344    Pn        Pn            21 39 08.7  +1.8
SHME  Shamm             2.41 203    P         Pn            21 39 10.6  +0.7
SHME                                S         Sb            21 39 48.5  +3.9
SHME  Shamm             2.41 203    P         Pn            21 39 10.6  +0.7
      SNR=8.7
JASK  Jask - Hormozg    2.48 166    P         Pn            21 39 12.7  +1.9
JASK  Jask - Hormozg    2.48 166    Pn        Pn            21 39 12.5  +1.7
LAR1  LAR               2.56 257    Pn        Pn            21 39 13.2  +1.1
MASF  Masafi            3.04 198    P         Pn            21 39 18.7  +0.1
MSFE  Esma-Masafi       3.05 198    P         Pn            21 39 20.3  +1.5
MDH   Madha             3.08 195    P         Pn            21 39 17.8  -1.3
MDH   Madha             3.08 195    P         Pn            21 39 19.4  +0.4
ZHDN  Zahedan           3.36  70    Pn        Pn            21 39 25.3  +2.2
UOSS  Minazif           3.44 195    P         Pn            21 39 25.0  +0.9
UOSS  Minazif           3.44 195    P         Pn            21 39 25.1  +1.1
NAZ   Nazwa, Dubai      3.56 203    P         Pn            21 39 27.8  +2.2
NAZ   Nazwa, Dubai      3.56 203    P         Pn            21 39 26.0  +0.4
HATD  Hatta, Dubai      3.57 196    P         Pn            21 39 28.5  +2.6
HATD  Hatta, Dubai      3.57 196    P         Pn            21 39 26.2  +0.4
ASHO  Ashiyiah          3.73 196    P         Pn            21 39 29.9  +1.9
ASHO  Ashiyiah          3.73 196    P         Pn            21 39 28.5  +0.5
      SNR=8.3
FAQ   Al Faqa, Dubai    3.80 203    P         Pn            21 39 30.8  +1.8
FAQ   Al Faqa, Dubai    3.80 203    P         Pn            21 39 29.3  +0.3
IMEH  Mehriz            3.82 325    Pn        Pn            21 39 31.6  +2.1
NHDN  Nehbandan         3.97  38    Pn        Pn            21 39 33.1  +1.7
CHBR  Chabahar          3.97 132    Pn        Pn            21 39 32.7  +1.3
ASUD  Al Ashush, Dub    4.01 205    P         Pn            21 39 33.4  +1.5
ASUD  Al Ashush, Dub    4.01 205    P         Pn            21 39 32.4  +0.6
      SNR=36
ASUD                                S         Sn            21 40 15.8  -1.9
BSRN  Basiran           4.04  24    Pn        Pn            21 39 34.2  +1.9
SOHO  SOHO              4.17 188    P         Pn            21 39 33.1  -1.0
SOHO  SOHO              4.17 188    P         Pn            21 39 33.3  -0.8
AJN   Ajban             4.20 209    P         Pn            21 39 35.4  +0.9
AJN   Ajban             4.20 209    P         Pn            21 39 35.8  +1.3
      SNR=14
AJN                                 S         Sn            21 40 20.1  -2.4
ALNE  Al Ain            4.40 197    P         Pn            21 39 38.1  +0.8
ALNE  Al Ain            4.40 197    P         Pn            21 39 37.8  +0.5
NGCH  Negor - Chabah    4.57 129    P         Pn            21 39 41.6  +2.0
      SNR=12
NGCH                                S         Sn            21 40 35.1  +3.5
NGCH  Negor - Chabah    4.57 129    Pn        Pn            21 39 41.2  +1.7
HOQ   Hoqain            4.68 179    P         Pn            21 39 41.1  0.0
HOQ                                 S         Sn            21 40 32.2  -2.2
HOQ   Hoqain            4.68 179    Pn        Pn            21 39 41.5  +0.4
ISAD  Sadrabad          4.72 321    Pn        Pn            21 39 44.2  +2.2
TPRV  Parvadeh(Tabas    4.75 355    Pn        Pn            21 39 44.6  +2.4
ITEG  Tejag             4.79  16    Pn        Pn            21 39 45.5  +2.8
BIDO  Bidbid            4.81 170    P         Pn            21 39 43.0  0.0
ARQ   Araqi             4.96 187    P         Pn            21 39 46.0  +1.0
      SNR=58
JRN   Qarnain Island    5.12 230    P         Pn            21 39 47.8  +0.7
JRN                                 S         Sn            21 40 43.4  -1.6
WSAR  Wadi Sarin        5.19 165    P         Pn            21 39 48.9  +0.8
      SNR=58
WSAR                                S         Sn            21 40 45.5  -1.4
SMDO  Samad             5.26 171    P         Pn            21 39 49.8  +0.7
SMDO                                S         Sn            21 40 48.2  -0.5
TKDS  Koohdasht(Taba    5.32 359    Pn        Pn            21 39 52.1  +2.2
IRAM  Ramesheh          5.45 311    Pn        Pn            21 39 54.0  +2.1
BSY   Bisya             5.51 180    P         Pn            21 39 54.7  +2.1
KLNJ  Kolanjah          5.58 300    Pn        Pn            21 39 55.7  +2.0
ANAR  Anarak            5.73 330    Pn        Pn            21 39 57.5  +1.9
WBK   Wadi Bani Khal    5.87 164    P         Pn            21 39 58.0  +0.5
      SNR=12
WBK                                 S         Sn            21 41 00.3  -3.5
WBK   Wadi Bani Khal    5.87 164    Pn        Pn            21 39 58.2  +0.7
JMDO  Jabal Madar       5.94 172    P         Pn            21 39 59.7  +1.2
JMDO                                S         Sn            21 41 06.0  +0.5
SHMA  Al-Shehemyia      6.05 248    P         Pn            21 40 01.3  +1.3
      SNR=20
SHMA                                S         Sn            21 41 08.0  -0.2
MZR   Muzera            6.23 213    P         Pn            21 40 01.6  -0.9
SAKB  Bahrain           6.36 250    P         Pn            21 40 05.0  +0.9
SAKB                                S         Sn            21 41 13.2  -2.5
JLN   Jalan Bani Buh    6.43 161    P         Pn            21 40 05.4  +0.3
      SNR=12
JLN                                 S         Sn            21 41 14.2  -3.2
SMRA  Abu-Samra         6.70 240    P         Pn            21 40 10.0  +1.1
      SNR=19
SMRA                                S         Sn            21 41 20.9  -3.3
MHTO  MHTO              7.30 174    P         Pn            21 40 18.4  +1.4
      SNR=18
MHTO                                S         Sn            21 41 36.7  -2.2
DOK   Doka             10.02 197    P         Pn            21 40 53.6  -0.8
DMTO  DMTO             10.72 192    P         Pn            21 41 02.3  -1.6
WHFO  Wadi Hawf        10.78 198    P         Pn            21 41 03.5  -1.4
ABTO  Aybut            11.45 199    P         Pn            21 41 12.6  -1.5
```

EAF 17 21:39:08.2, 13°.91S×29°.19E, h10km, MC3.4

BUL 17 21:39:08.2±0.5, 13°.91S×29°.19E, h10km, MD3.4, Zambia

```
Code  Station Name      Δ°    AZ°   Phase ID                Time        Res
                                    Op        ISC           h m s       ISC
LSZ   Lusaka            1.67 215    i P       Pn            21 39 37.5  -0.2
LSZ                                 i S       Sn            21 39 58.6  -0.7
LSZ   Lusaka            1.67 215    i P       Pn            21 39 37.5  -0.2
      baz=215
LSZ                                 i S       Sn            21 39 58.6  -0.7
      baz=215
KRI   Karoi             2.94 172    i P       Pg            21 40 03.4  -1.1
KRI                                 i S       Sg            21 40 43.4  +0.7
KRI   Karoi             2.94 172    i P       Pg            21 40 03.4  -1.1
      baz=167
KRI                                 i S       Sg            21 40 43.4  +0.7
      baz=167
MATP  Matopo            6.52 186    i P       Pn            21 40 42.9  -1.5
MATP  Matopo            6.52 186    i P       Pn            21 40 42.9  -1.5
      baz=186
```

IDC 17 22:26:33.0±0.8, 0°.66S×24°.61W, h0km, mb4.1/8, mbtmp4.2/9, ML5.0/1, MS3.9/55, Error ellipse: s-maj=34.0km s-min=17.7km az=143.0
NEIC 17 22:26:36.5±2.7, 1°.0S±0°.1×24°.2W±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=21.1km s-min=18.6km az=315.0
GCMT 17 22:26:38.5±0.2, 1°.02S±0°.02×24°.24W±0°.01, h13km±1km, MW4.9/100, Moment Tension Solution. s39,c46; s100,c150; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}=0.74±.10; $M_{\theta\theta}$=1.09±.10; $M_{\phi\phi}$=-0.35±.08; $M_{r\theta}$=1.00±.23; $M_{\theta\phi}$=-2.68±.09; $M_{\phi r}$=0.29±.20; Best double couple: M_0=2.93400×10^16 NP1:ϕ_s=83.00000°,δ90.00000°, λ161.00000°. NP2:ϕ_s=173.00000°,δ71.00000°,λ0.00000°. Principal axes: T 3.3720, Plg13.0000°, Azm37.0000°; N -0.8780, Plg71.0000°, Azm263.0000°; P -2.4970, Plg13.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 17 22:26:35.5±0.6, 1°.03S±0°.10×24°.23W±0°.10, h12km, n88, σ1§68/34, mb4.5/14, MS3.8/54, 3C, Central Mid-Atlantic Ridge

```
Code  Station Name      Δ°    AZ°   Phase ID                Time        Res
                                    Op        ISC           h m s       ISC
H10N3 ASCENSION HYDR1.82 125        T         T             22 41 36.2
      baz=303,slow=75,SNR=1013
H10N2 ASCENSION HYDR1.83 125        T         T             22 41 36.5
      baz=303,slow=75,SNR=767
H10N1 ASCENSION HYDR1.84 125        T         T             22 41 33.4
      baz=303,slow=75,SNR=1206
ASCN  Ascension         11.99 125   Pn        Pn            22 29 26.1  -0.3
H10S3 ASCENSION HYDR12.36 130       T         T             22 42 17.5
      baz=273,slow=74,SNR=375
H10S2 ASCENSION HYDR12.37 130       T         T             22 42 16.8
      baz=307,slow=74,SNR=96
RCBR  Riachuelo         12.58 247   Pn        Pn            22 29 29.0  -5.5
      8.3nm,0.3s,baz=69,slow=16,SNR=165
RCBR                                Sn        Sn            22 31 36.2  -19
      3.8nm,0.3s,baz=178,slow=7.2,SNR=7.9
RCBR                                LR        LR            22 33 09.2
      comp=Z,543nm,20.5s,baz=56,slow=32
      19nm,0.3s
SACV  Santiago Islan    15.91  2    Pn        Pn            22 30 20.1  +0.7
SACV                                IAmb      IAmb          22 30 36.1
      comp=Z,60nm,1.4s
LIC   Lamto             20.48 69⇑   iP        P             22 31 13.0  -0.5
      comp=Z,19nm,0.6s
TIC   Toumodi           20.64 68⇑   iP        P             22 31 14.4  -0.8
      comp=Z,5.8nm,0.3s
DBIC  Dimbokro          20.80 68    P         P             22 31 14.6  -2.3
DBIC  Dimbokro          20.80 68    P         P             22 31 17.6  +0.8
      comp=Z,21nm,1.1s,baz=242,slow=11,SNR=8.2
DBIC                                LR        LR            22 37 47.3
      comp=Z,193nm,19.1s,baz=232,slow=32
      comp=Z,21nm,1.1s
KIC   Kosan Boka        20.80 69⇑   iP        P             22 31 12.0  -4.9
      comp=Z,20nm,1.0s
KOWA  Kowa              25.27 52    P         P             22 31 59.7  -2.2
KOWA  Kowa              25.27 52    LR        LR            22 40 28.6
      comp=Z,344nm,21.8s,baz=216,slow=33
BDFB  Brasilia          27.59 237   P         P             22 32 20.9  -2.2
      comp=Z,1.1nm,0.4s,baz=56,slow=18,SNR=2.0
BDFB                                LR        LR            22 42 20.1
      comp=Z,844nm,20.0s,baz=64,slow=34
      comp=Z,1.1nm,0.4s
MDP   Montagnes des     29.02 282   LR        LR            22 41 51.0
      comp=Z,121nm,19.4s,baz=100,slow=32
TOA0  Torodi Ar. Sit    29.32  60   P         P             22 32 37.2  -1.2
TOA0                                IAmb      IAmb          22 32 42.9
      comp=Z,9.2nm,1.1s
TORD  Torodi Ar. Bea    29.32  60   P         P             22 32 37.0  -1.3
TORD                                IAmb      IAmb          22 32 42.9
      comp=Z,7.3nm,1.1s
TORD  Torodi Ar. Bea    29.32  60   P         P             22 32 38.1  -0.2
      comp=Z,7.9nm,1.1s,baz=265,slow=6.5,SNR=12
TORD                                LR        LR            22 42 46.9
      comp=Z,196nm,19.7s,baz=238,slow=33
      comp=Z,7.9nm,1.1s
MDT   Midelt            38.43  27   LR        LR            22 49 15.7
      comp=Z,442nm,18.4s,baz=242,slow=36
SIV   San Ignacio       39.24 246   LR        LR            22 48 55.3
      comp=Z,352nm,21.9s,baz=113,slow=34
SAML  Samuel            39.56 257   P         P             22 34 08.4  +1.5
CPUP  Villa Florida     40.57 229   P         P             22 34 14.1  -1.1
      comp=Z,1.1nm,0.2s,baz=52,slow=12,SNR=3.2
CPUP                                LR        LR            22 50 14.0
      comp=Z,338nm,18.9s,baz=55,slow=35
      comp=Z,1.1nm,0.2s
PCRV  Puerto La Cruz    41.72 286   LR        LR            22 50 18.5
      comp=Z,24nm,21.9s,slow=35
ITQB  Itaqui            41.96 224   P         P             22 34 28.3  +1.7
ITQB                                IAmb      IAmb          22 34 52.7
      comp=Z,14nm,1.0s
ESDC  Sonseca Array     44.56  22   P         P             22 34 45.2  -2.2
      comp=Z,0.5nm,0.8s,baz=218,slow=7.6,SNR=2.1
ESDC                                LR        LR            22 53 13.9
      comp=Z,78nm,18.9s,baz=216,slow=36
      comp=Z,0.5nm,0.8s
TSUM  Tsumeb            44.76 117   LR        LR            22 49 51.3
      comp=Z,238nm,19.8s,baz=319,slow=31
SJG   San Juan          45.41 297   LR        LR            22 51 12.2
      comp=Z,88nm,18.8s,baz=128,slow=33
LPAZ  La Paz            45.82 248   P         P             22 34 57.2  -1.3
SDV   Santo Domingo     47.27 283   LR        LR            22 53 50.7
      comp=Z,68nm,19.1s,baz=108,slow=35
KEST  Kesra             48.14  37   LR        LR            22 56 45.2
      comp=Z,426nm,18.3s,baz=184,slow=38
LVC   Limon Verde       48.41 240   LR        LR            22 56 18.1
      comp=Z,105nm,19.1s,baz=72,slow=37
CFA   Coronel Fontan    51.47 229   LR        LR            22 56 42.9
      comp=Z,178nm,19.2s,baz=88,slow=35
CLTB  Caltabellotta     51.70  38   P         P             22 35 42.8  0.0
VAE   Valguarnera       52.38  39   LR        LR            22 59 04.6
      comp=Z,350nm,19.0s,baz=269,slow=37
SUR   Sutherland        52.61 131   LR        LR            22 54 34.3
      comp=Z,117nm,18.5s,baz=302,slow=32
NNA   Nana              53.29 256   LR        LR            22 57 47.5
      comp=Z,261nm,20.1s,baz=67,slow=35
LSZ   Lusaka            53.62 108   LR        LR            22 55 00.6
      comp=Z,93nm,19.4s,baz=290,slow=32
OSSC  Osservatorio P    54.55  31   P         P             22 36 03.9  +0.3
OSSC                                IAmb      IAmb          22 36 15.9
      comp=Z,3.1nm,0.6s
BOSA  Boshof            54.58 125   LR        LR            22 55 10.4
      comp=Z,164nm,20.1s,baz=317,slow=31
INTR  Introdacqua       54.96  34   P         P             22 36 07.5  +0.8
INTR                                IAmb      IAmb          22 36 17.7
      comp=Z,5.9nm,1.2s
MBAR  Mbarara           54.97  90   LR        LR            22 56 45.9
      comp=Z,159nm,19.8s,baz=252,slow=33
MATP  Matopo            54.97 114   LR        LR            22 56 25.5
      comp=Z,102nm,20.0s,baz=241,slow=32
DAVOX Davos/Dischmat    56.23  28   LR        LR            22 58 04.4
      comp=Z,56nm,20.6s,baz=236,slow=34
PLCA  Paso Flores       57.56 221   LR        LR            23 00 41.5
      comp=Z,100nm,19.0s,baz=62,slow=36
PDG   Podgorica         58.33  37   P         P             22 36 31.6  +1.1
PDG                                 IAmb      IAmb          22 36 44.3
      comp=Z,5.8nm,1.2s
FNA   Florina           58.70  39   P         P             22 36 33.5  +0.2
GERES GERESS Array B    59.50  28   LR        LR            23 00 21.0
      comp=Z,81nm,21.5s,baz=244,slow=34
CLL   Collm             60.94  26   eS        S             22 45 10.0  +3.8
CLL                                 eSSS      SSS           22 51 42.0
VRAC  Vranov            61.20  29   LR        LR            23 01 44.2
      comp=Z,74nm,21.7s,baz=246,slow=35
KMBO  Kilima Mbogo      61.47  91   LR        LR            23 00 47.8
      comp=Z,168nm,19.2s,baz=262,slow=33
MLR   Muntele Rosu      64.04  37   LR        LR            23 05 45.5
      comp=Z,250nm,20.2s,baz=246,slow=37
EIL   Elat              64.09  56   LR        LR            23 06 40.4
      comp=Z,107nm,18.4s,baz=244,slow=38
MDUB  Mudurnu           65.09  44   P         P             22 37 17.5  +1.2
MMAI  Mount Meron Ar    65.48  53   LR        LR            23 08 03.2
      comp=Z,53nm,18.0s,baz=249,slow=38
BORG  Borgarnes         65.66   1   LR        LR            22 59 12.0
      comp=Z,86nm,19.7s,baz=164,slow=30
ASF   Jabal al Asfar    66.42  54   LR        LR            23 08 56.2
      comp=Z,40nm,18.0s,baz=241,slow=38
BRTR  Keskin Array B    66.50  45   LR        LR            23 09 15.0
      comp=Z,57nm,19.3s,baz=222,slow=38
NOA   NORSAR Array B    67.61  18   LR        LR            23 03 57.8
      comp=Z,27nm,21.1s,baz=220,slow=33
HFS   Hagfors           67.71  19   LR        LR            23 05 08.9
      comp=Z,60nm,21.1s,baz=234,slow=34
AKASG Malin Array Be    68.60  33   P         P             22 37 37.6  -0.7
      comp=Z,3.3nm,0.9s,baz=236,slow=7.1,SNR=9.7
AKASG                               LR        LR            23 06 44.9
      comp=Z,231nm,21.4s,baz=296,slow=35
      comp=Z,3.3nm,0.9s
PMSA  Palmer Station    69.80 197   LR        LR            23 03 54.3
      comp=Z,61nm,21.6s,baz=44,slow=32
SFJD  Kangerlussuaq     70.39 349   LR        LR            23 02 05.6
      comp=Z,86nm,20.5s,baz=156,slow=30
SNAA  Sanae             71.85 173   P         P             22 37 59.3  +1.3
SNAA  Sanae             71.85 173   P         P             22 37 59.5  +1.5
      comp=Z,0.5nm,0.7s,baz=319,slow=9.3,SNR=1.6
SNAA                                LR        LR            23 03 17.8
      comp=Z,45nm,20.1s,baz=7.0,slow=30
      comp=Z,0.5nm,0.7s
GURO  Guroymak-BITLI    72.27  49   P         P             22 38 02.9  +1.6
GURO                                IAmb      IAmb          22 38 06.7
      comp=Z,5.0nm,1.0s
FINES FINESS Array B    73.07  23   LR        LR            23 09 27.9
      comp=Z,58nm,20.5s,baz=242,slow=35
KBZ   Khabaz            74.37  44   LR        LR            23 13 49.5
      comp=Z,41nm,19.9s,baz=242,slow=38
OBN   Obninsk           74.60  31   LR        LR            23 10 38.1
      comp=Z,50nm,21.6s,baz=176,slow=36
GNI   Garni             74.72  48   LR        LR            23 13 51.5
      comp=Z,33nm,19.3s,baz=283,slow=38
BRDY  Brady             77.55 302   P         P             22 38 30.4  -1.3
BRDY                                IAmb      IAmb          22 38 32.1
      comp=Z,4.2nm,1.0s
ARCES ARCESS Array B    77.84  16   LR        LR            23 12 12.9
      comp=Z,29nm,18.4s,baz=236,slow=35
TXAR  Lajitas Array     81.29 300   P         P             22 38 49.1  -3.3
      comp=Z,1.7nm,0.9s,baz=126,slow=6.8,SNR=14
      comp=Z,1.7nm,0.9s
TX32  Lajitas Array     81.29 300   P         P             22 38 52.0  -0.3
KIRV  Kirov             82.40  30   LR        LR            23 16 09.2
      comp=Z,71nm,20.8s,baz=244,slow=36
WSAR  Wadi Sarin        83.84  67   LR        LR            23 16 53.4
      comp=Z,39nm,20.1s,baz=231,slow=36
RPN   Rapa Nui          85.17 243   LR        LR            23 14 18.9
      comp=Z,263nm,20.6s,baz=24,slow=34
AKTO  Aktyubinsk        85.84  39   LR        LR            23 21 19.0
      comp=Z,20nm,19.2s,baz=228,slow=38
MAW   Mawson            87.94 157   LR        LR            23 12 25.6
      comp=Z,28nm,18.9s,baz=255,slow=31
NEW   Newport           92.69 318   LR        LR            23 15 44.4
      comp=Z,76nm,21.7s,baz=138,slow=32
BVAR  Borovoye Array    93.61  37   LR        LR            23 24 25.6
      comp=Z,23nm,19.6s,baz=273,slow=37
AAK   Ala-Archa         97.12  47   LR        LR            23 26 32.8
      comp=Z,44nm,21.9s,baz=264,slow=37
KURBB Kurchatov Arra    98.89  39   LR        LR            23 28 44.3
      comp=Z,28nm,18.1s,baz=164,slow=38
ASAR  Alice Springs    147.53 141                PKPdf         22 46 19.1  +1.0
ASAR  Alice Springs    147.53 141   PKPbc     PKPbc         22 46 22.4  +1.8
      comp=Z,1.2nm,0.6s,baz=210,slow=2.2,SNR=9.6
WRA   Warramunga Arr   150.41 136   PKPbc     PKPbc         22 46 27.8  -0.1
WRA   Warramunga Arr   150.41 136   PKPbc     PKPbc         22 46 28.4  +0.4
      comp=Z,0.7nm,0.9s,baz=239,slow=2.7,SNR=6.2
```

IDC 17 22:26:41.7±374.0, 32°.56N×30°.10W, h0km, Error ellipse: s-maj=176.2km s-min=125.7km az=47.0, North Atlantic Ocean

```
Code  Station Name      Δ°    AZ°   Phase ID                Time        Res
                                    Op        ISC           h m s       ISC
I42PT GRACIOSA ISLAN    6.69  14    I         I             23 06 10.0
      0.1nm,0.7s,baz=194,slow=322,SNR=1.9
I11CV MAIO ISLAND IN   18.34 158    I         I             00 14 00.0
      baz=340,slow=314,SNR=2.8
I17CI DIMBOKRO INFRA34.86 132       I         I             02 01 30.0
      baz=321,slow=315,SNR=1.2
```

IDC 17 22:40:42.2±2.5, 36°.06N×139°.69E, h35km±19km, mb3.5/10, mbtmp3.8/12, ML3.7/2, MS2.7/4, Error ellipse: s-maj=23.4km s-min=15.1km az=74.0
NIED 17 22:40:44.1, 36°.08N×139°.89E, h45km, MW3.9, Moment Tension Solution. s3 Moment tensor: Scale 10^14Nm; M_{rr}=5.61; $M_{\theta\theta}$=-6.30; $M_{\phi\phi}$=0.69; $M_{r\theta}$=4.94; $M_{\theta\phi}$=0.06; $M_{\phi r}$=-1.23; Fault plane solution: M_0=7.84000×10^14 NP1: ϕ_s=100.00000°,δ65.00000°,λ99.00000°. NP2: ϕ_s=260.00000°,δ26.00000°,λ72.00000°.
JMA 17 22:40:44.1±0.1, 36°.1N±0°.2×139°.9E±0°.3, h45km, MV3.7/39, SW IBARAKI PREF
JMA Felt II J1 at SW IBARAKI PREF .
NEIC 17 22:40:44±1.5, 36°.03N±0°.01×139°.87E±0°.08, h59km±9km, mb4.5/9, Error ellipse: s-maj=9.3km s-min=1.2km az=97.0

ISC 17 22:40:43.2±0.8, 36°04N±0°.04×139°90E±0°.04, h50km±7km, n63, σ1§12/62, mb4.0/15, 6D, Eastern Honshu

```
Code  Station Name      Δ°    AZ°   Phase ID                Time        Res
                                    Op        ISC           h m s       ISC
JYT   Yasato            0.30  52    i P       Pn            22 40 52.7  +0.4
JYT                                 ⇓S        Sn            22 40 58.9  +0.1
JAG   Ashikaga          0.52 317    i P       Pn            22 40 55.1  +0.4
JAG                                 S         Sn            22 41 02.8  -0.2
JRY   Ryogami san       0.81 269    i P       Pn            22 40 58.9  +0.6
JRY                                 S         Sn            22 41 09.8  +0.4
JKT   Katashina         0.89 324    ⇓i P      Pn            22 40 59.6  +0.1
JKT                                 ⇓S        Sn            22 41 11.2  -0.3
JOD2  Odawara 2         1.02 220    eS        P             22 41 02.5  +1.4
JOD2                                eS        Sn            22 41 16.2  +1.8
JYN   Shimob            1.23 244    P         Pn            22 41 05.8  +1.7
BSO3  Boso 3            1.33 158    P         Pn            22 41 06.3  +1.1
JUON  Uonuma            1.35 330    ⇓i P      Pn            22 41 06.0  +0.4
JFY   Yanaizu           1.37 354    ⇓i P      Pn            22 41 06.5  +0.6
MJAR  Matsushiro Arr    1.45 291    Pg        Pn            22 41 06.7  -0.3
      1.9nm,0.3s,baz=25,slow=14,SNR=41
MJAR                                Lg        Lg            22 41 22.2
      4.8nm,0.3s,baz=141,slow=18,SNR=12
MAJO  Matsushiro        1.45 291    Pn        Pn            22 41 08.2  +1.1
MAJO                                Sn        Sn            22 41 25.5  +0.5
MAJO  Matsushiro        1.45 291    P         Pn            22 41 08.4  +1.3
MJB9  Matsu-Tunnel      1.46 291                Pn            22 41 09.0  +1.9
MJB9                                Sn        Sn            22 41 26.7  +1.6
JSG   Sagara            1.95 226    Pn        Pn            22 41 13.1  -0.8
JMM   Marumori          1.96  21    Pn        Pn            22 41 14.7  +0.8
JMM   Marumori          1.96  21    P         Pn            22 41 14.8  +0.8
JSD   Sado              2.38 327                Pn            22 41 19.9  +0.2
JSD   Sado              2.38 327    P         Pn            22 41 20.5  +0.8
INU   Inuyama           2.44 254    Pn        Pn            22 41 21.7  +1.1
INU   Inuyama           2.44 254    P         Pn            22 41 22.9  +2.3
JHJ   Hachijo jima 2    2.92 182    Pn        Pn            22 41 28.1  +1.1
      62nm,0.3s,baz=285,slow=20,SNR=5.8
JHJ                                 Sn        Sn            22 42 01.2  +0.3
      25nm,0.3s,baz=55,slow=22,SNR=1.7
      148nm,0.3s
JHJ2  Mitsune           2.92 181    Pn        Pn            22 41 27.4  +0.3
JHJ2  Mitsune           2.92 181    P         Pn            22 41 28.8  +1.6
JTM   Tenmabayashi      4.83  11    Pn        Pn            22 41 54.6  +1.3
JTM   Tenmabayashi      4.83  11    P         Pn            22 41 55.6  +2.4
JMN   Monobe            5.46 247    Pn        Pn            22 42 02.0  0.0
ERM   Erimo             6.48  22    Pn        Pn            22 42 16.1  +0.2
ERM   Erimo             6.48  22    P         Pn            22 42 18.2  +2.3
JEM   Erimo             6.48  22    P         Pn            22 42 18.1  +2.2
ASAJ  Asahikawa         8.33  14    Pn        Pn            22 42 42.2  +1.0
      0.7nm,0.3s,baz=232,slow=18,SNR=1.8
ASAJ                                LR        LR            22 46 15.1
      comp=Z,49nm,19.6s,baz=256,slow=40
      9.2nm,0.8s
JKA   Kamikawa-asahi    8.33  14    Pn        Pn            22 42 40.6  -0.6
```

JCJ	Chichijima	9.13	167	Pn		Pn	22 42 50.4	-1.9
JOW	Kunigami	13.51	230	LR		LR	22 48 46.8	
	comp=Z,24nm,18.5s,baz=170,slow=36							
KLR	Kul'dur	14.47	338	LR		LR	22 49 01.2	
	comp=Z,26nm,19.2s,baz=158,slow=35							
H11N2	WAKE ISLAND Hy	28.74	117	T		T	23 16 46.3	
	baz=312							
H11N1	WAKE ISLAND Hy	28.75	117	T		T	23 16 51.8	
	baz=312							
H11N3	WAKE ISLAND Hy	28.75	117	T		T	23 16 51.0	
	baz=312							
H11S1	WAKE ISLAND Hy	29.39	119	T		T	23 17 36.8	
	baz=314,slow=74							
H11S3	WAKE ISLAND Hy	29.39	119	T		T	23 17 37.6	
	baz=314,slow=74							
H11S2	WAKE ISLAND Hy	29.41	119	T		T	23 17 37.8	
	baz=314							
CMAR	Chiang Mai Arr	40.06	255	LR		LR	23 07 38.3	
	comp=Z,9.7nm,18.5s,baz=240,slow=40							
ZALV	Zalesovo Beam	41.69	313	P		P	22 48 26.3	-0.5
	1.9nm,0.6s,baz=85,slow=6.7,SNR=6.0							
	1.9nm,0.6s							
MKAR	Makanchi Array	43.62	303	P		P	22 48 39.6	-3.0
MKAR	Makanchi Array	43.62	303	P		P	22 48 42.3	-0.2
	0.3nm,0.6s,baz=82,slow=7.6,SNR=3.0							
	0.3nm,0.6s							
KURBB	Kurchatov Arra	45.66	309	P		P	22 48 58.2	-0.4
	1.3nm,0.5s,baz=83,slow=7.8,SNR=12							
	1.3nm,0.5s							
C18K	Utukok River	45.70	26	P		P	22 48 59.2	+0.3
C18K				IAmb		IAmb	22 49 14.9	
	comp=Z,15nm,1.2s							
SOEI	Soe	47.88	201	P		P	22 49 16.2	-0.3
MTN	Manton Dam	49.32	191	P		P	22 49 26.7	-0.7
MLY	Manley	49.34	32	P		P	22 49 27.8	+0.7
BVAR	Borovoye Array	50.34	313	P		P	22 49 34.4	-0.4
	comp=Z,0.4nm,0.6s,baz=75,slow=7.6,SNR=2.0							
	comp=Z,0.4nm,0.6s							
MDM	Murphy Dome	50.40	32	P		P	22 49 35.7	+0.5
MDM				IAmb		IAmb	22 49 50.7	
	comp=Z,5.9nm,1.3s							
ILAR	Eielson Array	50.98	32	P		P	22 49 39.5	0.0
ILAR	Eielson Array	50.98	32	P		P	22 49 40.2	+0.7
	comp=Z,1.2nm,0.8s,baz=271,slow=5.8,SNR=12							
	comp=Z,1.2nm,0.8s							
WR0	Warramunga Arr	55.93	186	P		P	22 50 15.7	-0.5
WR0				IAmb		IAmb	22 50 40.2	
	comp=Z,12nm,1.4s							
WRA	Warramunga Arr	55.93	186	P		P	22 50 15.6	-0.6
WRA	Warramunga Arr	55.93	186	P		P	22 50 16.1	-0.1
	comp=Z,0.6nm,0.4s,baz=0.5,slow=7.6,SNR=32							
	comp=Z,0.6nm,0.4s							
ABKAR	Akbulak array	57.64	310	P		P	22 50 27.1	-1.1
ABKAR				IAmb		IAmb	22 50 36.7	
	comp=Z,2.7nm,1.1s							
ABKAR	Akbulak array	57.64	310	P		P	22 50 27.0	-1.1
MMPY	Sheldon Lake,	58.20	33	P		P	22 50 31.4	-0.5
MMPY				IAmb		IAmb	22 50 40.4	
	comp=Z,5.0nm,1.3s							
ASAR	Alice Springs	59.65	186	P		P	22 50 42.7	+0.4
	comp=Z,0.4nm,0.5s,baz=17,slow=12,SNR=4.1							
	comp=Z,0.4nm,0.5s							
NOA	NORSAR Array B	74.62	337	P		P	22 52 16.7	-0.1
	comp=Z,0.5nm,0.6s,baz=56,slow=4.9,SNR=1.1							
	comp=Z,0.5nm,0.6s							
PDAR	Pinedale Array	79.23	45	P		P	22 52 44.4	+1.0
	comp=Z,0.3nm,0.7s,baz=325,slow=4.4,SNR=3.0							
	comp=Z,0.3nm,0.7s							
TXAR	Lajitas Array	91.69	51	P		P	22 53 46.8	+1.2
	comp=Z,0.2nm,0.6s,baz=288,slow=2.5,SNR=4.0							
	comp=Z,0.2nm,0.6s							

NEIC ***17*** *22:55:37.0±0.8, 19°.39N±0°.05×155°.99W±0°.05, h30km±11km, Error ellipse: s-maj=8.0km s-min=6.3km az=48.0*

HVO 17 22:55:39.0±1.6, 19°.40N±0°.02×155°.98W±0°.03, h14km±4km, ML2.4/11, ML2.6/38(NEIC), Error ellipse: s-maj=4.2km s-min=2.2km az=58.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	Captain Cook	0.11	34		Pg	22 55 42.1	-0.2
KHLU	Kahalu`u	0.21	24		Pg	22 55 43.4	-0.4
KHLU					Sg	22 55 46.8	-0.3
KHLU				IAML		22 55 47.1	
	comp=E,1μm,0.1s						
KKH	Kailua Kona	0.26	353		Pg	22 55 44.7	+0.1
KKH					Sb	22 55 49.3	-0.5
HUH	Hualalai	0.32	26	Pg	Pg	22 55 45.1	-0.6
HUH				Sg	Sg	22 55 50.0	-0.3
HUH				IAML		22 55 55.4	
	comp=E,655nm,0.2s						
HUH				IAML		22 55 57.3	
	comp=N,718nm,0.3s						
ALEP	Alea Permanent	0.35	66		Pg	22 55 46.1	-0.2
ALEP					Sg	22 55 51.5	+0.3
MWH	Moku'aweowe	0.37	76		Pg	22 55 46.0	-0.7
MWH				IAML		22 55 58.1	
	comp=E,516nm,0.4s						
KHU	Kahuku	0.38	113		Pg	22 55 45.9	-0.8
KHU					Sg	22 55 51.5	-0.5
KHU				IAML		22 55 52.0	
	comp=N,586nm,0.2s						
MLOA	Mauna Loa Obse	0.41	70		Pg	22 55 46.6	-0.8
MLOA					Sg	22 55 52.2	-0.8
MLOA				IAML		22 55 57.7	
	comp=E,637nm,0.7s						
AIN	Ainahou	0.50	93		Pg	22 55 47.5	-1.3
AIN					Sg	22 55 54.6	-0.9
AIN				IAML		22 55 56.1	
	comp=E,505nm,0.4s						
AIN				IAML		22 55 56.5	
	comp=N,549nm,0.3s						
HMH	Humu'ula Sheep	0.51	66		Pg	22 55 48.3	-1.0
HMH					Sg	22 55 55.5	-0.6
MLH	Mauna Loa	0.57	80		Pg	22 55 49.0	-1.2
MLH				Sg	Sg	22 55 56.4	-1.6
MLH				IAML		22 55 58.9	
	comp=N,354nm,0.2s						
WRMHI	West Rim	0.64	89		Pg	22 55 50.0	-1.6
SDHHI	Sand Hill	0.65	91		Pg	22 55 50.2	-1.5
SDHHI					Sg	22 55 59.8	-0.6
SDHHI				IAML		22 56 01.5	
	comp=E,282nm,0.1s						
SDHHI				IAML		22 56 08.6	
	comp=N,306nm,0.9s						
UWE	Uwekahuna	0.65	88	Pg	Pg	22 55 50.4	-1.3
UWE				IAML		22 56 13.3	
	comp=N,418nm,1.1s						
OBL	Observatory Le	0.66	88		Pg	22 55 50.2	-1.7
UWB	Uwekahuna B	0.67	88		Pg	22 55 50.3	-1.7
RIM	Rim	0.67	90	Pg	Pg	22 55 50.7	-1.4
RIM				IAML		22 56 14.1	
	comp=N,259nm,1.2s						
SBLHI	Steaming Bluff	0.68	87		Pg	22 55 50.3	-1.9
KKO	Keanakako`i	0.68	90	Pg	Pg	22 55 50.4	-1.9
KKO				IAML		22 56 05.5	
	comp=E,222nm,2.8s						
KKO				IAML		22 56 14.2	
	comp=N,291nm,1.9s						
HATHI	Halema'uma'u T	0.68	88	Pg	Pg	22 55 50.2	-2.1
HATHI				IAML		22 56 12.1	
	comp=N,245nm,1.9s						
HATHI				IAML		22 56 13.2	
	comp=E,219nm,1.0s						
PUH	Pauahi	0.72	92	Pg	Pg	22 55 51.2	-1.9
PUH				IAML		22 55 59.1	
	comp=N,303nm,3.2s						
STCH	Steam Cracks	0.81	91	Pg	Pg	22 55 52.7	-2.0
STCH				IAML		22 56 16.8	
	comp=E,248nm,4.0s						
STCH				IAML		22 56 21.1	
	comp=N,221nm,1.3s						

NCEDC ***17*** *22:59:07.7±2.0, 40°.45N±0°.07×127°.1W±0°.1, h10km±2km, Error ellipse: s-maj=13.4km s-min=12.3km az=259.0*

NEIC 17 22:59:08.6±2.0, 40°.43N±0°.07×126°.95W±0°.04, h10km±2km, ML3.1/42, ML3.2/11(NCEDC), Error ellipse: s-maj=12.3km s-min=5.8km az=178.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	1.99	88		Pn	22 59 43.0	+0.6
KCTM					Sb	23 00 09.9	+0.1
KSMM	Slide Mountain	2.13	96		Pn	22 59 43.5	-0.9
KMPM	Mount Pierce	2.16	89		Pn	22 59 44.3	-0.4
KMPM					Sn	23 00 13.0	+1.5
JCC	Jacoby Creek,	2.25	79		Pn	22 59 45.9	0.0
JCC					Sn	23 00 14.0	+0.2
JCC	Jacoby Creek,	2.25	79	Pn	Pn	22 59 45.4	-0.5
JCC	Jacoby Creek,	2.25	79	IAML		23 00 17.6	
	comp=E,84nm,0.6s						
KRPM	Rodgers	2.34	71	Pn	Pn	22 59 47.2	+0.1
KRPM				IAML		23 00 17.5	
	comp=N,70nm,0.8s						
KCRM	Chalk Rock	2.39	89		Pn	22 59 48.0	+0.2
KMRM	Mail Ridge	2.49	94		Pn	22 59 49.2	0.0
KMRM				IAML		23 00 24.2	
	comp=E,133nm,0.8s						
KMRM				IAML		23 00 24.2	
	comp=N,99nm,1.2s						
KHMM	Horse Mountain	2.49	79		Pn	22 59 49.0	-0.3
KHMM				IAML		23 00 25.5	
	comp=E,80nm,0.7s						
KHMM				IAML		23 00 27.6	
	comp=N,76nm,0.7s						
KRMB	Red Mountain	2.55	64		Pn	22 59 49.7	-0.4
KCPM	Cahto Peak	2.69	105		Pn	22 59 51.5	-0.6
KCPM				IAML		23 00 28.5	
	comp=N,150nm,0.9s						
KCPM				IAML		23 00 34.6	
	comp=E,157nm,0.6s						
KSXB	Camp Six Broad	2.71	58		Pn	22 59 51.3	-1.0
KBO	Bosley Butte	2.71	48		Pn	22 59 50.4	-1.9
KBO				IAML		23 00 27.5	
	comp=N,52nm,2.4s						
KBO				IAML		23 01 27.3	
	comp=E,66nm,4.5s						
KIPM	Iron Peak	2.73	102		Pn	22 59 52.7	+0.1
KOMM	Orleans Mounta	2.78	71		Pn	22 59 53.1	-0.2
GTC	Three Chop Rid	2.81	110		Pn	22 59 53.0	-0.5
KEBM	Edson Butte	3.13	38	Pn	Pn	22 59 56.6	-1.4
KEBM				IAML		23 01 24.4	
	comp=E,60nm,4.8s						
KEBM				IAML		23 01 48.5	
	comp=N,46nm,2.2s						
HOPS	Hopland Field	3.32	114		Pn	22 59 59.8	-0.7
HOPS				IAML		23 00 44.6	
	comp=E,29nm,0.6s						
HOPS				IAML		23 00 58.9	
	comp=N,34nm,4.2s						
K02D	Willamette Mer	3.34	46		Pn	23 00 00.8	-0.2
YBH	Yreka Blue Hor	3.46	67	Pn	Pn	23 00 03.7	+1.1
J01E	Myrtle Point	3.54	39	Pn	Pn	23 00 02.8	-0.7
J01E				IAML		23 00 27.8	
	comp=N,37nm,2.4s						
J01E				IAML		23 00 28.2	
	comp=E,39nm,2.3s						
GDXM	Geysers	3.59	115		Pn	23 00 03.3	-1.1
DBO	Dodson Butte	3.86	45		Pn	23 00 08.0	-0.1
DBO				IAML		23 02 32.0	
	comp=E,32nm,4.8s						
DBO				IAML		23 02 34.5	
	comp=N,30nm,4.2s						
MCCM	Marconi Confer	3.90	125		Pn	23 00 07.4	-1.1
MCCM				IAML		23 01 00.7	
	comp=E,54nm,0.5s						
L04D	Klamath Falls	3.93	61		Pn	23 00 10.9	+1.8
I03D	Drain, OR	4.22	38	Pn	Pn	23 00 12.4	-0.6
I03D				IAML		23 01 59.8	
	comp=E,27nm,3.8s						
I03D				IAML		23 02 37.1	
	comp=N,30nm,4.5s						
I04A	Tendick Farm,	4.76	44		Pn	23 00 21.1	+0.7
BUCK	Buck Mountain	4.78	37		Pn	23 00 20.8	+0.2
K05A	Summer Lake	5.09	61	Pn	Pn	23 00 24.4	-0.6
K05A				IAML		23 03 14.8	
	comp=E,18nm,4.9s						
J05D	Fort Rock, OR	5.13	54	Pn	Pn	23 00 26.3	+0.7
EMB	Emerald Bay	5.48	103	Pn	Pn	23 00 31.1	+0.7
H04A	Detroit Lake	5.52	38	Pn	Pn	23 00 31.1	+0.3
PINE	Pine Mountain	5.59	51	Pn	Pn	23 00 32.3	+0.4
CMB	Columbia Colle	5.63	113	Pn	Pn	23 00 33.1	+0.8
SAO	San Andreas Ge	5.65	129		Pn	23 00 31.1	-1.6
BBGB	Big Mountain B	6.02	128		Pn	23 00 36.9	-0.9
PMPB	Monarch Peak	6.41	129		Pn	23 00 41.7	-1.3
NVAR	Mina Array Bea	6.98	104	Pn	Pn	23 00 53.2	+2.1
LON	Longmire	7.33	29	Pn	Pn	23 00 57.0	+1.2
E07A	Sunnyside	8.00	38	Pn	Pn	23 01 03.9	-1.0
ISA	Isabella, Lake	8.21	123	Pn	Pn	23 01 08.0	+0.3
BMO	Blue Mountains	8.37	55	Pn	Pn	23 01 10.8	+0.9
ELS	Elsinore Mount	10.18	129	Pn	Pn	23 01 34.9	+0.1

SNET ***17*** *23:03:39.4±2.5, 12°.96N×87°.85W, h78km, ML5.1, ML5.1*

IDC ***17*** *23:03:39.3±1.2, 12°.77N×87°.78W, h72km±11km, mb4.1/23, mbtmp4.5/26, MS3.7/50, Error ellipse: s-maj=19.2km s-min=7.2km az=53.0*

NEIC ***17*** *23:03:40.1±1.8, 12°.70N±0°.04×87°.85W±0°.05, h78km±6km, mb4.8/224, Error ellipse: s-maj=7.0km s-min=5.3km az=70.0*

UCR ***17*** *23:03:40.2±1.9, 12°.70N×87°.85W, h78km, MW5.0*

GCMT ***17*** *23:03:41.2±0.4, 12°.47N±0°.02×88°.11W±0°.02, h64km±3km, MW4.9/83, Moment Tensor Solution. s29,c33; s83,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.27±.14; $M_{\theta\theta}$-1.46±.13; $M_{\phi\phi}$0.18±.15; $M_{r\theta}$1.26±.07; $M_{\theta\phi}$1.20±.10; $M_{\phi r}$-1.44±.07; Best double couple: $M_0$2.59700×10^{16} NP1:ϕ_s138.00000°, δ72.00000°, λ110.00000°. NP2: ϕ_s268.00000°, δ27.00000°, λ44.00000°. Principal axes: T 2.3110, Plg58.0000°, Azm76.0000°; N 0.5700, Plg19.0000°, Azm311.0000°; P -2.8840, Plg24.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

GCG ***17*** *23:03:42.8±2.8, 12°.68N×88°.26W, h29km±999km, MD4.7*

ISC 17 23:03:39.4±0.5, 12°.70N±0°.04×87°.93W±0°.04, h76km±4km, n597, σ0$98/497, mb4.7/131, 1C-11D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.58	9	‖,iP	Pn	23 03 52.7	-1.0
CNCH				eS	Sn	23 04 03.6	-0.6
LCND	La Caada	0.61	4	‖,iP	Pn	23 03 52.8	-1.0
LCND				eS	Sn	23 04 04.0	-0.5
LCND				IAML		23 04 06.3	
	comp=Z,78μm,0.4s						
LCY	Lacayo	0.80	334	‖,iP	Pn	23 03 54.6	-1.4
CNRM	Centro Naciona	0.81	343	eP	Pn	23 03 54.9	-1.0
RANC	El Ranchito	0.81	334	‖,eP	Pn	23 03 54.7	-1.4
RANC				eS	Sn	23 04 07.2	-1.3
PACA	Pacayal	0.86	333	eP	Pn	23 03 55.4	-1.2
CRIN	San Cristobal	0.86	90		Pn	23 03 56.1	-0.5
CRIN				Sn	Sn	23 04 09.7	+0.3
ALJI	Alcalda de J	0.88	315	eP	Pn	23 03 54.7	-2.1
TECA	Tecapa	0.97	325	‖,iP	Pn	23 03 56.4	-1.6
PQSS	Presa 15 de Se	1.11	326	‖,eP	Pn	23 03 58.9	-0.6
TECO	Alcaldia de Te	1.18	315	eP	Pn	23 03 58.6	-1.8
CNGN	Cerro Negro	1.22	99	Pn	Pn	23 03 58.6	-2.3
CNGN				Sn	Sn	23 04 15.2	-1.9
UESV	Universidad de	1.25	318	eP	Pn	23 04 00.2	-1.2
SCLA	Alcaldia de Sa	1.27	322	‖,eP	Pn	23 04 00.7	-0.9
SNVI	San Vicente	1.27	316	eP	Pn	23 04 00.5	-1.2
COEG	Centro de Oper	1.30	315	eP	Pn	23 04 00.8	-1.3
SJTE	Alcalda de S	1.39	311	‖,eP	Pn	23 04 01.7	-1.5
PAVA	Las Pavas	1.41	316	‖,eP	Pn	23 04 02.4	-1.0
LFRS	El Faro	1.44	310	‖,iP	Pn	23 04 02.3	-1.5
TGUH	Tegucigalpa,Un	1.49	25	Pn	Pn	23 04 05.1	+0.5
TGUH				Sn	Sn	23 04 24.9	+1.3
TGUH	Tegucigalpa,Un	1.49	25	‖,iP	Pn	23 04 05.3	+0.7
LBRS	Las Brisas	1.50	314	eP	Pn	23 04 04.0	-0.6
AEIL	Aeropuerto Ilo	1.52	311	eP	Pn	23 04 04.3	-0.7
LOMA	Loma Larga	1.53	308	eP	Pn	23 04 03.6	-1.4
LFU	La Fuente	1.56	312	eP	Pn	23 04 04.4	-0.9
UDBS	Universidad Do	1.56	310	eP	Pn	23 04 04.5	-0.9
LALI	Alcalda de L	1.57	300	eP	Pn	23 04 03.5	-1.9
IGN	Direccin Gen	1.57	310	eP	Pn	23 04 04.4	-1.2
SNET	Serv Nac Est T	1.60	308	Pn	Pn	23 04 04.6	-1.4
SNET	Serv Nac Est T	1.60	308	eP	Pn	23 04 04.7	-1.3
UEES	Universidad Ev	1.63	309	eP	Pn	23 04 05.2	-1.1
ITCA	Escuela Especi	1.63	307	eP	Pn	23 04 05.2	-1.2
MAGS	Ministerio de	1.65	307	eP	Pn	23 04 05.3	-1.3
BOQS	Boqueron	1.67	308	eP	Pn	23 04 06.0	-1.0
PMON	Piamonte	1.68	307	eP	Pn	23 04 05.9	-1.1
QUEZ	Alcaldia de Qu	1.73	311	eP	Pn	23 04 06.6	-1.0
JAYA	Jayaque - finc	1.76	303	eP	Pn	23 04 06.3	-1.8
LLGN	La Laguna	1.76	326	eP	Pn	23 04 07.3	-0.7
CEDA	San Andres	1.80	308	eP	Pn	23 04 07.8	-0.8
MATN	Matagalpa	1.97	83	Pn	Pn	23 04 09.3	-1.5
SBLS	San Blas	2.00	305	eP	Pn	23 04 10.4	-1.0
SNJE	San Jose	2.00	306	eP	Pn	23 04 10.4	-1.0
SNJE				eP		23 04 10.5	
RTR	El Retiro	2.05	306	eP	Pn	23 04 11.4	-0.7
NUBE	Las Nubes	2.16	304	eP	Pn	23 04 12.4	-1.1
MTO3	Montecristo	2.19	321	Pn	Pn	23 04 13.1	-0.8
MTO3	Montecristo	2.19	321	‖,eP	Pn	23 04 13.4	-0.5
BOAB	BOACO BROADBAN	2.22	96	Pn	Pn	23 04 13.1	-1.1
SLOZ	Alcaldia de Sa	2.24	306	eP	Pn	23 04 13.8	-0.6
ESQI	Esquipulas	2.30	324	Pn	Pn	23 04 15.3	0.0
ESQI	Esquipulas	2.30	324	eP	Pn	23 04 15.5	+0.1
ACON	Acoyapa	2.79	105	Pn	Pn	23 04 19.3	-2.5
NBG	Las Nubes	3.01	309	eP	Pn	23 04 26.1	+1.0
HZTE	Horizontes, Gu	3.02	131	Pn	Pn	23 04 25.2	+0.2
HZTE	Horizontes, Gu	3.02	131	eP	Pn	23 04 25.1	+0.2
ELI1	Hacienda Flor	3.10	131	eP	Pn	23 04 26.7	+0.7
PCG	Pacaya	3.10	303	eP	Pn	23 04 26.7	+0.4
GB1A	Borinquen Arri	3.10	127	eP	Pn	23 04 26.3	+0.1
BUEV	Buena Vista	3.11	127	eP	Pn	23 04 27.5	+1.2
VRLE	La Escondida,	3.15	127	eP	Pn	23 04 26.6	-0.2
GPS1	Guardaparques	3.17	127	eP	Pn	23 04 27.9	+0.9
GP03	Hacienda Santa	3.17	127	eP	Pn	23 04 27.7	+0.7
GPS2	Hotel Rincn d	3.18	127	eP	Pn	23 04 27.7	+0.5
HATIL	Hatillo	3.23	137	eP	Pn	23 04 27.2	-0.7
CLARA	Aguas Claras	3.30	125	eP	Pn	23 04 28.4	-0.4
GUAB	Guayabo de Bag	3.30	127	eP	Pn	23 04 29.0	+0.2
MESS	Mesas	3.31	126	eP	Pn	23 04 27.7	-1.3
FUG	Fuego 3	3.32	302	eP	Pn	23 04 29.4	+0.2
FUG				eS	Sn	23 05 09.0	+1.2
VMAR	Armenia, Volca	3.33	124	eP	Pn	23 04 28.2	-1.1
ORTG	Ortega, Santa	3.35	134	Pn	Pn	23 04 29.3	-0.3
ORTG	Ortega, Santa	3.35	134	eP	Pn	23 04 28.9	-0.7
CUI	Cuipilapa	3.38	127	eP	Pn	23 04 29.4	-0.6
BAGA	Bagaces	3.39	129	eP	Pn	23 04 32.6	+2.6
JUD3	Juan Diaz 3	3.44	137	eP	Pn	23 04 30.0	-0.7
PLVR	Palo Verde	3.44	132	eP	Pn	23 04 31.0	+0.1
VERA	Finca Concepci	3.51	121	eP	Pn	23 04 33.6	+1.9
NICO	Nicoya	3.52	136	eP	Pn	23 04 31.7	-0.1
DUNO	Dulce Nombre,	3.53	137	Pn	Pn	23 04 31.6	-0.3
DUNO	Dulce Nombre,	3.53	137	eP	Pn	23 04 31.6	-0.3
ESPN	Las Esperanzas	3.58	98	Pn	Pn	23 04 32.4	-0.2
ESPN	Las Esperanzas	3.58	98	eP	Pn	23 04 32.5	-0.1
COTE	Lago Cote	3.63	125	eP	Pn	23 04 35.5	+2.3
JTS	Las Juntas de	3.77	129	Pn	Pn	23 04 34.8	-0.4
JTS	Las Juntas de	3.77	129	P	Pn	23 04 35.6	+0.3
	comp=Z,83nm,0.3s,baz=308,slow=17,SNR=39						
JTS				S	Sn	23 05 16.9	-1.6
	comp=Z,302nm,0.5s,baz=182,slow=23,SNR=6.4						
JTS				LR	LR	23 06 04.3	
	comp=Z,420nm,18.1s,baz=228,slow=39						
CEDE	Laguna Cedeo	3.85	124	eP	Pn	23 04 37.2	+0.9
ARE1	Arenal 1	3.85	125	Pn	Pn	23 04 37.3	+1.0
CASO	Castillo	3.86	125	eP	Pn	23 04 38.0	+1.6
SULM	Suchitepequez,	3.88	295	eP	Pn	23 04 36.8	+0.2
SULM				eS	Sn	23 05 18.2	-2.9
COVE	Coope Vega, Sa	3.98	119	Pn	Pn	23 04 37.3	-0.7
SOCE	Pocosol	3.98	125	Pn	Pn	23 04 38.5	+0.5
STG3	Santiaguito 3,	4.07	300	eP	Pn	23 04 40.8	+1.4
STG3				eS	Sn	23 05 24.9	-1.0
RTAL	Retalhuleu	4.09	297	Pn	Pn	23 04 40.0	+0.5
HUEH	Huehuetenango	4.34	307	Pn	Pn	23 04 43.6	+0.5
JACO	JACO, Garabito	4.40	133	Pn	Pn	23 04 45.3	+1.5
PETF	Flores	4.59	336	Pn	Pn	23 04 48.1	+1.7
HDC	Heredia	4.60	125	Pn	Pn	23 04 47.1	+0.4
ABE2	San Pablo	4.83	128	eP	Pn	23 04 51.2	+1.4
RAFA	San Farael, Vo	4.87	124	eP	Pn	23 04 50.7	+0.3
RIMA	Rio Macho	4.94	126	Pn	Pn	23 04 51.7	+0.4
CDM	Cerro de Muert	5.15	127	eP	Pn	23 04 55.9	+1.5
BATAN	Batan	5.16	120	Pn	Pn	23 04 53.9	-0.2
BUS1	Rivas	5.16	127	eP	Pn	23 04 56.0	+1.5
DRK0	Durika	5.73	126	Pn	Pn	23 05 03.5	+1.5
DRK0	Durika	5.73	126	eP	Pn	23 05 04.0	+2.0
EDPN	Palmar Norte	5.75	130	ePn	Pn	23 05 04.1	+1.8
EDBA	Buenos Aires	5.76	127	eP	Pn	23 05 04.0	+1.6
PTJ1	Puerto Jimnez	6.15	132	eP	Pn	23 05 09.1	+1.4
CTCR	Cotoan	6.33	126	eP	Pn	23 05 11.8	+1.5
PRVC	Isla de Provid	6.43	83	eP	Pn	23 05 13.0	+1.5
TEIG	Tepich	7.49	357	Pn	Pn	23 05 28.8	+2.8
TEIG	Tepich	7.49	357	P	Pn	23 05 28.6	+2.6
	comp=Z,680nm,0.8s,baz=312,slow=12,SNR=38						
TEIG				LR	LR	23 09 13.5	
	comp=Z,6μm,19.0s,baz=322,slow=45						
CMIG	Matias Romero	8.02	304	P	Pn	23 05 33.7	+0.6
	comp=Z,10nm,0.3s,baz=161,slow=9.8,SNR=16						
CMIG				S	Sn	23 07 03.3	+1.0
	comp=Z,33nm,0.5s,baz=96,slow=17,SNR=2.4						
BCIP	Isla Barro Col	8.69	113	eP	Pn	23 05 42.1	-0.2
AZU	Azuero	8.97	122	eP	Pn	23 05 46.9	+0.7
FSCY	Frank Sound, G	9.23	44	Pn	Pn	23 05 48.0	-1.8
SOR	Soroa	11.08	24	Pn	Pn	23 06 17.2	+2.3
SJCC	San Jacinto, C

152A	Waverly Hall	20.09	8	P	P	23 08 07.0	+0.1
143A	Socs Landing,	20.16	351	P	P	23 08 08.3	+0.7
LRAL	Lakeview Retre	20.26	2	P	P	23 08 10.3	+1.6
	baz=182,SNR=10						
Z51A	Franklin	20.68	7	P	P	23 08 15.0	+1.8
JCT	Junction City	20.83	330	P	P	23 08 15.8	+0.9
	baz=146						
GOGA	Godfrey	21.02	10	P	P	23 08 18.3	+1.5
	baz=192,SNR=17						
WHTX	Lake Whitney,	21.10	337	P	P	23 08 19.2	+1.5
	baz=153						
Y49A	Blount Mountai	21.11	4	P	P	23 08 19.2	+1.4
Y52A	Lilburn	21.36	9	P	P	23 08 21.3	+0.7
FW13	Cleburne	21.42	338	P	P	23 08 20.6	-0.5
WLAR	White Oak Lake	21.42	348	P	P	23 08 21.6	+0.5
Z38A	Mt. Pleasant	21.46	344	P	P	23 08 20.6	-0.9
SAND	Sanderson	21.63	325	P	P	23 08 23.4	-0.2
SJG	San Juan	21.67	73	P	P	23 08 23.7	-0.2
	comp=Z,18nm,1.0s,baz=271,slow=10,SNR=2.8						
SJG				LR	LR	23 17 10.0	
	comp=Z,374nm,20.1s,baz=266,slow=38						
	comp=Z,18nm,1.0s						
X48A	Hartselle	21.67	2	P	P	23 08 25.1	+1.3
FW07	Weatherford	21.86	337	P	P	23 08 24.4	-1.5
ATAH	Atahualpa	21.86	154	P	P	23 08 27.2	+0.8
	comp=Z,6.2nm,0.7s,baz=24,slow=10.0,SNR=3.9						
ATAH				LR	LR	23 16 23.4	
	comp=Z,190nm,21.7s,baz=333,slow=35						
	comp=Z,6.2nm,0.7s						
TXAR	Lajitas Array	22.09	321	P	P	23 08 29.5	+1.0
	comp=Z,22nm,0.8s,baz=141,slow=8.5,SNR=95						
TXAR				PcP	PcP	23 12 23.7	+0.1
	comp=Z,1.1nm,0.9s,baz=167,slow=6.2,SNR=3.5						
TXAR				ScP	ScP	23 15 55.1	+0.7
	comp=Z,1.9nm,0.8s,baz=151,slow=5.6,SNR=6.8						
TXAR				LR	LR	23 17 34.9	
	comp=Z,60nm,20.7s,baz=122,slow=38						
	comp=Z,22nm,0.8s						
TX31	Lajitas Ar. Si	22.09	321	P	P	23 08 28.7	+0.2
Z35A	Perchaven, San	22.23	339	IAmb	IAmb	23 08 33.0	
	comp=Z,36nm,0.9s						
Y57A	Sumter	22.30	17	P	P	23 08 31.3	+0.7
Y57A				IAmb	IAmb	23 08 34.1	
	comp=Z,47nm,0.9s						
JSC	Jenkinsville	22.33	15	P	P	23 08 31.9	+1.0
JSC				IAmb	IAmb	23 08 34.5	
	comp=Z,51nm,0.9s						
UALR	University of	22.34	350	IAmb	IAmb	23 08 34.1	
	comp=Z,27nm,0.7s						
MIAR	Mount Ida	22.35	348	P	P	23 08 31.2	+0.1
MIAR				IAmb	IAmb	23 08 38.4	
	comp=Z,30nm,0.8s						
MIAR	Mount Ida	22.35	348	P	P	23 08 32.1	+1.1
	baz=165,SNR=23						
SWET	Sewanee	22.49	4	IAmb	IAmb	23 08 34.9	
	comp=Z,106nm,1.8s						
W50A	Signal Mountai	22.53	6	IAmb	IAmb	23 08 44.6	
	comp=Z,21nm,0.8s						
ABTX	Abilene, Hawle	22.55	333	P	P	23 08 33.1	-0.2
ABTX				IAmb	IAmb	23 08 37.1	
	comp=Z,25nm,1.0s						
ABTX	Abilene, Hawle	22.55	333	P	P	23 08 34.4	+1.1
	baz=149,SNR=7.9						
SGCY	Sterling City	22.65	330	P	P	23 08 34.2	-0.2
SGCY				IAmb	IAmb	23 08 37.1	
	comp=Z,22nm,0.9s						
LOOK	Love County	22.81	340	IAmb	IAmb	23 08 39.5	
	comp=Z,46nm,0.9s						
X37A	Clayton	22.82	344	P	P	23 08 38.0	+2.0
X37A				IAmb	IAmb	23 08 57.0	
	comp=Z,71nm,1.6s						
ALPN	Alpine	22.82	323	IAmb	IAmb	23 08 38.1	
	comp=Z,17nm,1.1s						
WHAR	Wooly Hollow	22.84	351	IAmb	IAmb	23 08 55.7	
	comp=Z,26nm,1.0s						
BIRD	Birdtown, Kers	22.88	16	IAmb	IAmb	23 08 57.4	
	comp=Z,34nm,0.8s						
V48A	Smith Brothers	22.96	2	P	P	23 08 38.2	+0.7
V48A				IAmb	IAmb	23 08 59.9	
	comp=Z,28nm,1.1s						
WTFS	Witchita Falls	23.07	337	P	P	23 08 38.6	+0.1
WTFS				IAmb	IAmb	23 08 41.3	
	comp=Z,19nm,0.9s						
KMSC	Kings Mountain	23.13	14	IAmb	IAmb	23 08 59.5	
	comp=Z,36nm,0.9s						
KMSC	Kings Mountain	23.13	14	P	P	23 08 40.2	+1.1
	baz=196,SNR=12						
TKL	Tuckaleechee C	23.16	9	IAmb	IAmb	23 08 42.7	
	comp=Z,48nm,1.0s						
TKL	Tuckaleechee C	23.16	9	P	P	23 08 40.2	+0.8
	comp=Z,37nm,0.9s,baz=190,slow=12,SNR=21						
TKL				LR	LR	23 19 03.3	
	comp=Z,135nm,18.9s,baz=186,slow=40						
	comp=Z,37nm,0.9s						
SN01	Snyder 1	23.31	332	IAmb	IAmb	23 08 46.0	
	comp=Z,26nm,0.6s						
WVT	Waverly	23.33	0	P	P	23 08 42.7	+1.7
WVT	Waverly	23.33	0	P	P	23 08 41.7	+0.7
	baz=180						
V53A	Saluda	23.33	11	IAmb	IAmb	23 08 56.7	
	comp=Z,22nm,0.8s						
CLTN	Cedars of Leba	23.34	3	IAmb	IAmb	23 09 04.8	
	comp=Z,26nm,1.1s						
APMT	Aspermont	23.36	334	IAmb	IAmb	23 09 01.3	
	comp=Z,18nm,0.9s						
V52A	Sevierville	23.37	9	IAmb	IAmb	23 09 03.2	
	comp=Z,34nm,1.1s						
FCAR	Ozark Folk Cen	23.40	351	IAmb	IAmb	23 09 01.4	
	comp=Z,19nm,0.8s						
LCAR	Lake Charles	23.45	353	IAmb	IAmb	23 09 06.5	
	comp=Z,68nm,1.8s						
W57A	Gilead	23.48	16	IAmb	IAmb	23 08 45.7	
	comp=Z,21nm,0.7s						
ODSA	Odessa	23.54	328	P	P	23 08 42.8	-0.2
ODSA				IAmb	IAmb	23 08 45.1	
	comp=Z,42nm,1.0s						
X34A	Smith Ranch, M	23.59	339	P	P	23 08 44.7	+1.4
X34A				IAmb	IAmb	23 08 45.6	
	comp=Z,46nm,0.9s						
PECS	Pecos	23.68	324	IAmb	IAmb	23 08 46.3	
	comp=Z,22nm,1.1s						
POST	Post	23.77	331	IAmb	IAmb	23 08 48.6	
	comp=Z,46nm,0.8s						
U49A	Red Boiling Sp	23.79	4	P	P	23 08 44.5	-0.6
U49A				IAmb	IAmb	23 09 05.6	
	comp=Z,46nm,1.2s						
V55A	Taylorsville	23.84	14	IAmb	IAmb	23 09 09.9	
	comp=Z,32nm,1.1s						
DKNS	Dickens	24.00	333	IAmb	IAmb	23 08 50.5	
	comp=Z,37nm,0.8s						
WMOK	Wichita Mounta	24.05	338	P	P	23 08 47.8	+0.3
	baz=153,SNR=8.5						
TZTN	Tazewell	24.07	9	P	P	23 08 48.2	+0.6
	baz=190						
PBMO	Poplar Bluff	24.08	355	IAmb	IAmb	23 08 48.7	
	comp=Z,26nm,1.0s						
TUL3	Leonard	24.18	344	P	P	23 08 49.0	+0.4
	baz=161,SNR=8.2						
T47A	Sharon Grove	24.20	2	IAmb	IAmb	23 09 08.4	
	comp=Z,41nm,0.8s						
CNNC	Cliffs of the	24.21	20	P	P	23 08 49.3	+0.4
	baz=204						
RLO	Rose Lookout	24.22	346	IAmb	IAmb	23 08 51.8	
	comp=Z,15nm,0.8s						
T45A	Paducah	24.23	359	P	P	23 08 49.2	+0.2
U38A	Gravette	24.34	347	P	P	23 08 49.8	-0.3
U38A				IAmb	IAmb	23 08 52.8	
	comp=Z,23nm,0.8s						
U56A	King	24.51	15	IAmb	IAmb	23 09 14.5	
	comp=Z,53nm,1.2s						
OK031	S. Brethren Rd	24.51	342	IAmb	IAmb	23 09 13.6	
	comp=Z,22nm,0.8s						
OK052	Battle Ridge R	24.54	342	P	P	23 08 49.8	-2.1
OK052				IAmb	IAmb	23 09 13.9	
	comp=Z,26nm,0.7s						
OK033	Mehan	24.62	342	IAmb	IAmb	23 08 56.3	
	comp=Z,18nm,0.7s						
MNTX	Cornudas Mount	24.81	322	P	P	23 08 54.5	0.0
	baz=136,SNR=11						
S44A	Carbondale	24.92	358	IAmb	IAmb	23 09 15.1	
	comp=Z,44nm,1.2s						
SIUC	Southern Illin	24.94	358	IAmb	IAmb	23 09 15.2	
	comp=Z,54nm,1.4s						
OK048	Pawnee Station	24.97	343	P	P	23 08 55.5	-0.3
OK048				IAmb	IAmb	23 08 59.0	
	comp=Z,60nm,1.2s						
MSTX	Muleshoe	25.12	330	P	P	23 08 57.6	+0.3
	baz=144,SNR=33						
T35A	Sooner Cattle	25.32	344	P	P	23 08 59.1	+0.1
BLA	Blacksburg	25.32	14	P	P	23 08 58.9	-0.2
	baz=197						
S39A	Bolivar	25.35	350	IAmb	IAmb	23 09 22.0	
	comp=Z,29nm,0.7s						
AMTX	Amarillo	25.36	333	IAmb	IAmb	23 09 19.7	
	comp=Z,44nm,1.2s						
AMTX	Amarillo	25.36	333	P	P	23 08 59.9	+0.4
	baz=147						
CROK	Carrier	25.37	341	IAmb	IAmb	23 09 01.9	
	comp=Z,23nm,0.9s						
CCM	Cathedral Cave	25.43	354	P	P	23 08 59.1	-0.8
CCM				IAmb	IAmb	23 09 00.8	
	comp=Z,20nm,0.8s						
CCM	Cathedral Cave	25.43	354	P	P	23 08 59.7	-0.2
	baz=172						
ELIS	Ellis County	25.47	338	IAmb	IAmb	23 09 03.0	
	comp=Z,18nm,0.8s						
WCI	Wyandotte Cave	25.47	3	P	P	23 08 59.9	-0.4
WCI				IAmb	IAmb	23 09 20.0	
	comp=Z,27nm,0.8s						
WCI	Wyandotte Cave	25.47	3	P	P	23 09 00.8	+0.5
	baz=184						
R49A	Shelbyville	25.61	5	IAmb	IAmb	23 09 41.6	
	comp=Z,46nm,1.8s						
OK032	Salt Plains WL	25.72	341	IAmb	IAmb	23 09 06.3	
	comp=Z,20nm,1.0s						
KAN17	Caldwell West	25.80	342	IAmb	IAmb	23 09 05.1	
	comp=Z,18nm,0.6s						
OLIL	Olney	25.93	360	P	P	23 09 04.0	-0.4
OLIL				IAmb	IAmb	23 09 05.7	
	comp=Z,20nm,0.8s						
Q44A	Meyer Farm, Va	26.12	358	IAmb	IAmb	23 09 07.0	
	comp=Z,24nm,0.8s						
R55A	Marlinton	26.41	14	IAmb	IAmb	23 09 12.7	
	comp=Z,18nm,0.7s						
121A	Cookes Peak, D	26.85	321	P	P	23 09 14.0	+0.9
	baz=133,SNR=9.7						
NNA	Nana	26.88	155	LR	LR	23 18 07.4	
	comp=Z,96nm,21.8s,baz=312,slow=32						
P49A	Miami Univ. Ec	26.88	6	P	P	23 09 13.5	+0.5
	baz=187						
Q54A	Coxs Mills	26.93	12	IAmb	IAmb	23 09 15.5	
	comp=Z,25nm,0.9s						
319A	Douglas	27.06	317	P	P	23 09 16.0	+1.1
P38A	Dawn	27.27	351	IAmb	IAmb	23 09 17.4	
	comp=Z,22nm,0.7s						
P52A	Corning	27.31	10	P	P	23 09 17.0	+0.1
	baz=192						
O49A	Covington	27.56	6	IAmb	IAmb	23 09 20.5	
	comp=Z,16nm,0.9s						
SFIN	Lafayette	27.58	1	P	P	23 09 19.2	-0.1
	baz=182						
ACSO	Alum Creek Sta	27.77	8	IAmb	IAmb	23 09 22.6	
	comp=Z,26nm,1.0s						
ACSO	Alum Creek Sta	27.77	8	P	P	23 09 21.6	+0.6
	baz=190						
MCWV	Mont Chateau	27.79	13	P	P	23 09 21.6	+0.5
	baz=197						
ANMO	Albuquerque	27.79	326	P	P	23 09 21.8	+0.3
ANMO	Albuquerque	27.79	326	P	P	23 09 22.9	+1.3
	baz=138						
ANMO	Albuquerque	27.79	326	P	P	23 09 23.0	+1.5
	comp=Z,2.4nm,0.9s,baz=238,slow=9.6,SNR=7.4						
ANMO				LR	LR	23 21 36.3	
	comp=Z,78nm,21.8s,baz=213,slow=39						
	comp=Z,2.4nm,0.9s						
O52A	Adamsville	27.83	10	IAmb	IAmb	23 09 41.5	
	comp=Z,26nm,1.1s						
N41A	Harden Midland	28.02	355	IAmb	IAmb	23 09 23.4	
	comp=Z,19nm,0.7s						
O53A	New Philadelph	28.07	11	IAmb	IAmb	23 09 43.6	
	comp=Z,27nm,0.9s						
O53A	New Philadelph	28.07	11	P	P	23 09 24.6	+0.8
	baz=194						
P57A	Homestead Farm	28.08	16	P	P	23 09 25.1	+1.3
P57A				IAmb	IAmb	23 09 26.6	
	comp=Z,33nm,1.1s						
O54A	Avella	28.17	12	IAmb	IAmb	23 09 44.4	
	comp=Z,25nm,0.8s						
N49A	Columbus Grove	28.31	6	IAmb	IAmb	23 09 27.5	
	comp=Z,13nm,0.7s						
T25A	Trinidad	28.47	332	IAmb	IAmb	23 09 51.5	
	comp=Z,63nm,2.0s						
T25A	Trinidad	28.47	332	P	P	23 09 29.2	+1.6
	baz=144						
TUC	Tucson	28.64	317	P	P	23 09 28.6	-0.4
TUC	Tucson	28.64	317	P	P	23 09 30.8	+1.8
	baz=128						
PAGS	Pennsylvania G	29.14	18	IAmb	IAmb	23 09 35.4	
	comp=Z,27nm,0.8s						
SSPA	Standing Stone	29.20	16	P	P	23 09 35.0	+1.3
	baz=200						
M53A	WI Miller and	29.33	11	P	P	23 09 36.5	+1.7
	baz=194						
L44A	Lake County Fo	29.37	0	P	P	23 09 36.2	+1.0
	baz=180						
L40A	Anamosa	29.39	355	IAmb	IAmb	23 09 55.2	
	comp=Z,18nm,0.9s						
SDCO	Great Sand Dun	29.47	331	P	P	23 09 37.5	+1.0
	baz=143,SNR=12						
AAM	Ann Arbor	29.73	6	P	P	23 09 39.5	+1.2
	baz=188						
W18A	Petrified Fore	29.79	322	P	P	23 09 39.4	+0.1
	baz=133						
214A	Organ Pipe Nat	29.82	314	P	P	23 09 40.3	+0.9
	baz=124						
M57A	Sunshine Farm,	30.05	16	IAmb	IAmb	23 10 03.2	
	comp=Z,12nm,0.8s						
ERPA	Erie	30.11	12	P	P	23 09 42.9	+1.1
	baz=195						
S22A	4UR Ranch, Cre	30.11	329	P	P	23 09 43.5	+1.3
	baz=141,SNR=9.3						
JFWS	Jewell Farm	30.17	357	P	P	23 09 43.1	+0.8
	baz=175						
MVCO	Mesa Verde	30.58	327	P	P	23 09 47.3	+1.1
	baz=138						
WUAZ	Wupatki	31.05	321	P	P	23 09 50.9	+0.5
WUAZ	Wupatki	31.05	321	P	P	23 09 51.7	+1.3
	baz=131						
ETMB	Extrema	31.07	135	P	P	23 09 50.3	-0.3
I40A	Norwalk	31.17	356	IAmb	IAmb	23 09 52.3	
	comp=Z,11nm,0.8s						
BINY	Binghamton	31.18	17	P	P	23 09 51.3	+0.1
	baz=203						
ISCO	Idaho Springs	31.18	333	P	P	23 09 52.8	+1.1
ISCO	Idaho Springs	31.18	333	P	P	23 09 51.4	-0.2
	baz=145						
SMCO	Snowmass	31.31	331	P	P	23 09 53.6	+0.8
ECSD	EROS Data Cent	31.82	348	P	P	23 09 55.8	-1.0
ECSD				IAmb	IAmb	23 09 57.3	
	comp=Z,20nm,1.1s						
ECSD	EROS Data Cent	31.82	348	P	P	23 09 56.4	-0.5
	baz=164,SNR=9.4						
UCCT	U. Connecticut	32.06	22	P	P	23 09 59.2	+0.2
PDMCI	Parker Dam,Lak	32.08	316	P	P	23 10 00.5	+1.3
	baz=126						
N23A	Red Feather La	32.23	334	IAmb	IAmb	23 10 56.9	
	comp=Z,12nm,1.1s						
N23A	Red Feather La	32.23	334	P	P	23 10 02.2	+1.4
	baz=146						
HMU	Henry Mountain	32.33	325	IAmb	IAmb	23 10 26.5	
	comp=Z,9.1nm,1.0s						
PHWY	Pilot Hill	32.36	335	IAmb	IAmb	23 10 03.1	
	comp=Z,7.1nm,0.6s						
L61B	Northampton	32.47	21	P	P	23 10 03.4	+0.9
	baz=208						
BC3	Big Chuckawall	32.62	314	P	P	23 10 05.4	+1.3
	baz=123						
O20A	White River Ci	32.66	330	P	P	23 10 05.7	+1.2
	baz=141,SNR=12						
SAML	Samuel	32.66	130	P	P	23 10 02.6	-1.9
SAML	Samuel	32.66	130	P	P	23 10 03.7	-0.8
IRM	Iron Mountain	32.68	315	P	P	23 10 05.7	+1.2
	baz=124						
SPMN	Marine on St.	32.68	354	P	P	23 10 03.8	-0.6
	baz=171,SNR=9.1						
SADO	Sadowa	32.83	12	LR	LR	23 24 34.2	
	comp=Z,137nm,20.2s,baz=142,slow=38						
SUSD	Miller	33.02	345	P	P	23 10 07.1	-0.2
	baz=160						
BELC	Belle Mtn. Jos	33.18	314	P	P	23 10 10.4	+1.4
	baz=123						
P18A	Preston Nutter	33.28	328	IAmb	IAmb	23 10 12.4	
	comp=Z,9.3nm,0.9s						
TPFO	Pinon Flats	33.29	313	P	P	23 10 11.3	+1.3
	baz=122						
PFO	Pinyon Flats O	33.30	313	P	P	23 10 11.3	+1.2
	baz=122						
PFO	Pinyon Flats O	33.30	313	LR	LR	23 23 04.8	
	comp=Z,127nm,21.7s,baz=120,slow=35						
COWI	Conover	33.31	358	IAmb	IAmb	23 10 11.2	
	comp=Z,10.0nm,0.6s						
GMRC	Granite Mounta	33.38	316	P	P	23 10 11.5	+0.7
	baz=124						
V12A	Nelson	33.39	318	P	P	23 10 12.6	+1.8
F36A	Milaca	33.39	353	IAmb	IAmb	23 10 45.1	
	comp=Z,14nm,1.2s						
P17A	Butcher Ranch,	33.43	327	IAmb	IAmb	23 10 13.9	
	comp=Z,14nm,0.7s						
RDMU	Red Mountain	33.65	330	IAmb	IAmb	23 10 16.8	
	comp=Z,28nm,1.8s						
LONY	Lake Ozonia	33.80	17	P	P	23 10 13.9	-0.2
LONY	Lake Ozonia	33.80	17	P	P	23 10 14.4	+0.3
	baz=204						
HEC	Hector,Ludlow	33.87	315	P	P	23 10 16.2	+1.3
	baz=124						
K22A	Casper	33.92	335	P	P	23 10 16.8	+1.4
	baz=146,SNR=7.0						
TUQ	Turquoise Moun	33.93	317	P	P	23 10 15.5	0.0
	baz=125						
E38A	The Farm, Brul	33.94	356	IAmb	IAmb	23 10 33.4	
	comp=Z,18nm,1.1s						
BSUT	Blindstream Ca	34.22	328	IAmb	IAmb	23 10 20.6	
	comp=Z,8.0nm,0.9s						
MPU	Maple Canyon	34.30	327	IAmb	IAmb	23 10 21.1	
	comp=Z,9.9nm,0.9s						
NLU	North Lily Min	34.49	326	IAmb	IAmb	23 10 23.9	
	comp=Z,16nm,1.8s						
LPAZ	La Paz	34.83	145	P	P	23 10 25.5	+1.6
CTU	Camp Tracy	34.85	327	IAmb	IAmb	23 10 25.7	
	comp=Z,8.2nm,0.9s						
TPNV	Topopah Spring	35.02	319	P	P	23 10 26.3	+1.4
	baz=126						
EDW2	Edwards Air Fo	35.05	314	P	P	23 10 25.9	+0.8
	baz=122						
DUG	Dugway, Tooele	35.06	326	P	P	23 10 26.3	+1.1
	baz=134,SNR=6.9						
SPR3	Spring Creek 3	35.12	323	P	P	23 10 26.7	+0.8
EYMN	Ely	35.26	356	P	P	23 10 25.7	-1.0
	baz=174						
MPMC	Manual Prospec	35.33	316	P	P	23 10 28.6	+0.9
	baz=124						
PDAR	Pinedale Array	35.33	332	P	P	23 10 28.4	+0.7
	comp=Z,3.4nm,0.7s,baz=122,slow=8.6,SNR=61						
PDAR				ScP	ScP	23 16 37.1	+1.3
	comp=Z,0.6nm,0.8s,baz=123,slow=4.4,SNR=4.2						
PDAR				LR	LR	23 28 35.6	
	comp=Z,61nm,18.0s,baz=136,slow=42						
	comp=Z,3.4nm,0.7s						
BW06	Boulder Array	35.34	332	P	P	23 10 26.5	-1.1
	baz=142,SNR=12						
R11B	Troy Canyon, C	35.45	321	P	P	23 10 29.5	+0.8
	baz=129						
MDP	Montagnes des	35.64	99	LR	LR	23 26 14.0	
	comp=Z,116nm,19.4s,baz=309,slow=38						
SPUT	South Promonto	35.66	328	P	P	23 10 30.2	-0.2
SPUT				IAmb	IAmb	23 10 35.4	
	comp=Z,8.2nm,0.8s						
BGU	Big Grassy Mou	35.69	327	IAmb	IAmb	23 10 33.8	
	comp=Z,9.4nm,1.1s						
ID10	Lander Cutoff	35.77	330	P	P	23 10 32.1	+0.7
GRAC	Grapevine Rang	35.78	318	P	P	23 10 31.1	-0.2
	baz=125,SNR=6.6						
PB16	IPOC Station P	35.79	149	P	P	23 10 32.6	+0.5
PB16				IAmb	IAmb	23 10 35.1	
	comp=Z,9.7nm,0.7s						
AHID	Auburn Hatcher	36.06	331	P	P	23 10 33.5	-0.3
HVU	Hansel Valley	36.17	328	IAmb	IAmb	23 10 39.2	
	comp=Z,8.3nm,0.8s						
ID07	Smith Canyon R	36.36	329	IAmb	IAmb	23 10 38.4	
	comp=Z,11nm,0.9s						
MDND	Maddock	36.38	347	P	P	23 10 36.5	+0.3
	baz=160						
TPAW	Teton Pass	36.54	331	P	P	23 10 38.6	+0.6
ELK	Elko	36.79	324	P	P	23 10 41.4	+1.3
	comp=Z,2.6nm,0.9s,baz=110,slow=7.5,SNR=11						
	comp=Z,2.6nm,0.9s						
GO01	Chusmiza	37.08	150	IAmb	IAmb	23 10 46.0	
	comp=Z,8.6nm,0.8s						
NVAR	Mina Array Bea	37.21	319	P	P	23 10 45.0	+1.3
	comp=Z,2.1nm,0.6s,baz=132,slow=7.7,SNR=18						
NVAR				PcP	PcP	23 13 02.6	+0.4
	comp=Z,1.3nm,0.7s,baz=140,slow=3.4,SNR=4.0						
NVAR				ScP	ScP	23 16 43.8	+1.0
	comp=Z,1.5nm,0.7s,baz=145,slow=3.3,SNR=11						
NVAR				LR	LR	23 27 59.4	
	comp=Z,102nm,18.4s,baz=127,slow=39						
	comp=Z,2.1nm,0.6s						
YMR	Madison River	37.46	333	P	P	23 10 45.8	+0.1
ULM	Lac du Bonnet	38.01	352	P	P	23 10 49.0	-0.9
	comp=Z,16nm,0.8s,baz=167,slow=9.2,SNR=16						
	comp=Z,16nm,0.8s						
DGMT	Dagmar	38.14	342	P	P	23 10 51.9	+0.7
	baz=154						
HLID	Hailey	38.29	328	P	P	23 10 53.6	+1.0
	baz=135,SNR=9.7						
BOZ	Bozeman (W)	38.47	333	P	P	23 10 55.1	+1.0
	baz=141						
SIV	San Ignacio	38.97	136	P	P	23 10 58.5	+0.1
	comp=Z,17nm,0.8s,baz=306,slow=8.3,SNR=71						
SIV				PcP	PcP	23 13 08.2	+0.5
	comp=Z,9.2nm,0.9s,baz=273,slow=3.2,SNR=6.1						
SIV				ScP	ScP	23 16 50.3	+0.8
	comp=Z,1.2nm,0.8s,baz=324,slow=6.7,SNR=4.0						
SIV				LR	LR	23 26 17.1	
	comp=Z,116nm,20.5s,baz=302,slow=35						
	comp=Z,17nm,0.8s						
ELMT	Ellston	39.57	333	P	P	23 11 03.9	+0.5
LVC	Limon Verde	39.73	152	P	P	23 11 05.0	-0.1
	comp=Z,6.3nm,0.8s,baz=336,slow=5.7,SNR=6.6						
LVC				LR	LR	23 26 45.4	
	comp=Z,86nm,20.2s,baz=317,slow=35						
	comp=Z,6.3nm,0.8s						
LVC	Limon Verde	39.73	152	P	P	23 11 06.7	+1.6
LVC				pP	pP	23 11 24.7	+1.3
PTLB	Pontes e Lacer	39.92	134	P	P	23 11 05.0	-1.3
PTLB				IAmb	IAmb	23 11 06.8	
	comp=Z,17nm,1.6s						
PLID	Pearl Lake	40.17	329	P	P	23 11 08.3	-0.1
PLID				IAmb	IAmb	23 11 09.7	
	comp=Z,15nm,1.1s						
MSO	Missoula	40.45	332	IAmb	IAmb	23 11 12.3	
	comp=Z,22nm,1.1s						
MSO	Missoula	40.45	332	P	P	23 11 11.2	+0.7
	baz=139,SNR=8.1						
BMO	Blue Mountains	40.68	328	P	P	23 11 12.1	-0.4
YBH	Yreka Blue Hor	41.86	320	P	P	23 11 22.7	+0.5
	comp=Z,1.3nm,0.6s,baz=102,slow=8.2,SNR=3.9		

BDFB	**Brasilia**	**48.50 124**	P	**P**	**23 12 15.1**	**0.0**
	comp=Z,1.9nm,0.4s,baz=154,slow=8.0,SNR=3.6					
BDFB			LR	LR	23 33 14.0	
	comp=Z,73nm,18.6s,baz=345,slow=37					
	comp=Z,1.9nm,0.4s					
CPUP	**Villa Florida**	**48.90 143**	P	**P**	**23 12 16.6**	**-1.2**
CPUP			IAmb	IAmb	23 12 18.1	
	comp=Z,12nm,1.2s					
CPUP	**Villa Florida**	**48.90 143**	P	**P**	**23 12 16.9**	**-0.8**
	comp=Z,5.8nm,0.8s,baz=319,slow=7.7,SNR=9.0					
CPUP			LR	LR	23 33 36.9	
	comp=Z,96nm,21.5s,baz=306,slow=37					
	comp=Z,5.8nm,0.8s					
CPUP	**Villa Florida**	**48.90 143**	P	**P**	**23 12 16.6**	**-1.2**
CPUP			pP	**pP**	**23 12 36.0**	**-0.7**
BO01	**Tunca**	**49.49 162**	P	**P**	**23 12 21.9**	**-0.3**
GO05	**Huala**	**49.81 163**	P	**P**	**23 12 25.0**	**+0.3**
GO05			IAmb	IAmb	23 12 26.1	
	comp=Z,12nm,0.9s					
BBB	**Bella Bella**	**50.87 329**	LR	LR	23 37 16.5	
	comp=Z,55nm,20.9s,baz=131,slow=40					
ITQB	**Itaqui**	**51.83 145**	P	**P**	**23 12 38.2**	**-1.6**
FRB	**Frobisher Bay**	**52.77 11**	LR	LR	23 36 33.1	
	comp=Z,187nm,18.4s,baz=199,slow=38					
YKA	**Yellowknife Ar**	**53.25 345**	P	**P**	**23 12 48.4**	**-1.5**
	comp=Z,2.8nm,0.7s,baz=141,slow=6.9,SNR=9.0					
YKA			LR	LR	23 37 52.0	
	comp=Z,77nm,20.4s,baz=120,slow=39					
	comp=Z,2.8nm,0.7s					
KOTAN	**Kotaneelee Air**	**54.29 339**	P	**P**	**23 12 57.4**	**-0.2**
	baz=135					
V35K	**Ketchikan**	**54.37 331**	P	**P**	**23 12 58.2**	**0.0**
	baz=124					
T35M	**Bob Quinn**	**54.70 333**	P	**P**	**23 13 00.4**	**-0.3**
	baz=126					
RCBR	**Riachuelo**	**54.88 106**	LR	LR	23 37 22.8	
	comp=Z,44nm,18.8s,baz=258,slow=37					
CRAG	**Craig**	**55.17 331**	P	**P**	**23 13 03.8**	**-0.1**
	baz=122					
DLBC	**Dease Lake**	**55.48 335**	P	**P**	**23 13 07.0**	**+0.7**
	baz=127,SNR=6.3					
DLBC	**Dease Lake**	**55.48 335**	P	**P**	**23 13 07.2**	**+0.9**
	comp=Z,9.9nm,0.9s,baz=132,slow=5.4,SNR=15					
DLBC			LR	LR	23 39 47.3	
	comp=Z,186nm,21.7s,baz=100,slow=39					
	comp=Z,9.9nm,0.9s					
U33K	**Whale Pass**	**55.52 331**	P	**P**	**23 13 06.1**	**-0.3**
	baz=123					
PLCA	**Paso Flores**	**55.55 164**	P	**P**	**23 13 07.3**	**+0.4**
	comp=Z,7.3nm,0.7s,baz=333,slow=7.7,SNR=17					
PLCA			LR	LR	23 34 22.5	
	comp=Z,37nm,18.1s,baz=338,slow=33					
	comp=Z,7.3nm,0.7s					
PLCA	**Paso Flores**	**55.55 164**	P	**P**	**23 13 07.5**	**+0.6**
PLCA			pP	**pP**	**23 13 27.4**	**+1.2**
PLCA			sP	**sP**	**23 13 37.3**	**+2.6**
S34M	**Telegraph Cree**	**55.64 334**	P	**P**	**23 13 06.6**	**-0.7**
	baz=126					
TAOE	**Nuku Hiva Isla**	**56.12 250**	*e*LR	LR	23 29 17.0	
	comp=Z,364nm,29.0s					
R33M	**Jennings River**	**56.45 335**	P	**P**	**23 13 13.5**	**+0.2**
	baz=127					
Q32M	**Nakina River**	**56.74 334**	P	**P**	**23 13 16.4**	**+1.0**
	baz=125					
TGTN	**Hyland Airport**	**56.76 338**	P	**P**	**23 13 15.1**	**-0.3**
	baz=131					
S32K	**Killisnoo**	**56.92 332**	P	**P**	**23 13 16.4**	**0.0**
	baz=122					
P33M	**Teslin, Yukon**	**57.69 335**	P	**P**	**23 13 22.0**	**+0.1**
	baz=125					
P32M	**Atlin**	**57.71 334**	P	**P**	**23 13 21.2**	**-0.8**
	baz=124					
MMPY	**Sheldon Lake,**	**58.54 338**	IAmb	IAmb	23 14 13.1	
	comp=Z,15nm,1.4s					
MMPY	**Sheldon Lake,**	**58.54 338**	P	**P**	**23 13 28.3**	**+0.5**
	baz=128					
FARO	**Faro, Yukon**	**59.08 337**	P	**P**	**23 13 31.0**	**-0.5**
	baz=126					
O30N	**Mendenhall**	**59.35 335**	IAmb	IAmb	23 13 34.6	
	comp=Z,10nm,1.0s					
O30N	**Mendenhall**	**59.35 335**	P	**P**	**23 13 33.5**	**+0.1**
	baz=122					
P30M	**Million Dollar**	**59.38 334**	P	**P**	**23 13 33.8**	**+0.2**
	baz=121					
P29M	**Windy Craggy**	**59.46 333**	P	**P**	**23 13 34.3**	**+0.1**
	baz=120					
M31M	**Drury Creek, Y**	**59.47 337**	P	**P**	**23 13 34.3**	**+0.1**
	baz=125					
N31M	**Braeburn, Yuko**	**59.61 336**	P	**P**	**23 13 35.3**	**+0.1**
	baz=123					
HYT	**Haines Junctio**	**59.97 334**	P	**P**	**23 13 38.4**	**+0.7**
	baz=121					
N30M	**Aishikik Lake**	**60.13 335**	P	**P**	**23 13 38.5**	**-0.3**
	baz=122					
O29M	**Mount Kennedy**	**60.16 334**	P	**P**	**23 13 39.6**	**+0.5**
	baz=120					
PNL	**Peninsula**	**60.22 333**	P	**P**	**23 13 39.7**	**+0.3**
	baz=118					
M30M	**Minto, Yukon**	**60.60 336**	P	**P**	**23 13 42.1**	**+0.1**
	baz=122					
YUK8	**Steele Glacier**	**61.15 334**	P	**P**	**23 13 45.8**	**-0.2**
	baz=119					
M29M	**Somme Creek**	**61.19 336**	P	**P**	**23 13 45.5**	**-0.6**
M29M			IAmb	IAmb	23 13 47.7	
	comp=Z,9.8nm,0.9s					
M29M	**Somme Creek**	**61.19 336**	P	**P**	**23 13 46.1**	**0.0**
	baz=121,SNR=6.3					
L29M	**L29M**	**61.41 337**	P	**P**	**23 13 47.6**	**+0.2**
	baz=121					
J30M	**Hart River**	**61.53 338**	P	**P**	**23 13 48.4**	**+0.1**
	baz=124					
H31M	**Peel River**	**61.56 340**	P	**P**	**23 13 48.7**	**+0.4**
	baz=126					
K29M	**Barlow Dome**	**61.56 337**	P	**P**	**23 13 48.8**	**+0.2**
	baz=122					
YUK3	**Moose Creek**	**61.68 335**	P	**P**	**23 13 49.4**	**-0.1**
	baz=118					
I30M	**Mount Dempster**	**61.91 339**	IAmb	IAmb	23 13 52.0	
	comp=Z,7.5nm,1.1s					
I30M	**Mount Dempster**	**61.91 339**	P	**P**	**23 13 50.4**	**-0.5**
	baz=124					
RES	**Resolute Bay**	**62.10 358**	IAmb	IAmb	23 13 51.6	
	comp=Z,4.7nm,0.8s					
RES	**Resolute Bay**	**62.10 358**	LR	LR	23 42 08.3	
	comp=Z,80nm,19.7s,baz=134,slow=37					
G31M	**Satah River**	**62.20 341**	P	**P**	**23 13 52.6**	**0.0**
	baz=127					
CRQE	**Cirque**	**62.35 333**	P	**P**	**23 13 54.2**	**+0.2**
	baz=115					
DAWY	**Dawson**	**62.38 337**	P	**P**	**23 13 53.8**	**-0.2**
	baz=120					
M27K	**Edge Creek, AK**	**62.54 335**	P	**P**	**23 13 55.5**	**+0.4**
	baz=117					
MCARA	**McCarthy VSAT**	**62.59 334**	P	**P**	**23 13 55.5**	**+0.2**
	baz=116					
I29M	**Ogilvie Camp,**	**62.66 339**	P	**P**	**23 13 54.7**	**-1.0**
	baz=122					
EPYK	**Eagle Plains**	**62.67 340**	P	**P**	**23 13 55.6**	**-0.2**
	baz=124					
INK	**Inuvik**	**62.83 343**	P	**P**	**23 13 55.9**	**-0.8**
	baz=128					
INK	**Inuvik**	**62.83 343**	LR	LR	23 43 50.7	
	comp=Z,81nm,21.5s,baz=159,slow=38					
L27K	**Beaver Creek,**	**62.85 336**	IAmb	IAmb	23 13 58.5	
	comp=Z,7.8nm,1.1s					
L27K	**Beaver Creek,**	**62.85 336**	P	**P**	**23 13 56.8**	**-0.3**
	baz=118,SNR=5.1					
F30M	**Barrier River**	**63.09 341**	P	**P**	**23 13 58.7**	**+0.2**
	baz=126					
BMRM	**Bremner River**	**63.12 333**	P	**P**	**23 13 59.2**	**+0.3**
	baz=114					
H29M	**Whitestone**	**63.15 339**	P	**P**	**23 13 58.8**	**-0.1**
	baz=122					
I28M	**Miner Creek**	**63.29 338**	P	**P**	**23 14 00.4**	**+0.3**
	baz=120					
N25K	**Chitina, Valde**	**63.37 333**	P	**P**	**23 14 00.2**	**-0.4**
	baz=114					
K27K	**Chicken**	**63.40 336**	P	**P**	**23 14 00.3**	**-0.4**
	baz=118					
G29M	**Pine Creek**	**63.41 340**	P	**P**	**23 14 00.2**	**-0.5**
G29M	**Pine Creek**	**63.41 340**	P	**P**	**23 14 01.0**	**+0.3**
	baz=123					
L26K	**Log Cabin Wild**	**63.45 335**	P	**P**	**23 14 01.0**	**-0.1**
	baz=116					
KLU	**Klutina**	**63.91 333**	P	**P**	**23 14 03.9**	**-0.3**
	baz=113					
I27K	**Kandik River**	**63.98 338**	P	**P**	**23 14 04.4**	**-0.1**
	baz=119					
SCRK	**Sand Creek**	**64.13 336**	P	**P**	**23 14 05.5**	**-0.1**
	baz=116					
E29M	**Blow River**	**64.19 342**	P	**P**	**23 14 05.7**	**-0.1**
	baz=124					
J26L	**Joseph Creek**	**64.19 337**	P	**P**	**23 14 06.0**	**+0.1**
	baz=116,SNR=5.3					
GLI	**Glacier Island**	**64.20 332**	P	**P**	**23 14 06.6**	**+0.6**
	baz=111					
H27K	**Steamboat Moun**	**64.25 339**	P	**P**	**23 14 06.7**	**+0.4**
	baz=119,SNR=5.5					
RIDG	**Independent Ri**	**64.37 336**	IAmb	IAmb	23 14 08.0	
	comp=Z,14nm,1.1s					
RIDG	**Independent Ri**	**64.37 336**	P	**P**	**23 14 07.2**	**+0.1**
	baz=115					
F28M	**Old Crow**	**64.39 340**	IAmb	IAmb	23 14 08.8	
	comp=Z,11nm,0.9s					
F28M	**Old Crow**	**64.39 340**	P	**P**	**23 14 07.2**	**0.0**
	baz=122,SNR=9.6					
I26K	**Coal Creek Min**	**64.40 338**	P	**P**	**23 14 07.1**	**-0.1**
	baz=117					
G27K	**Doyon Strip**	**64.58 339**	P	**P**	**23 14 08.2**	**-0.2**
	baz=119					
K24K	**Donnelly Dome**	**64.77 335**	P	**P**	**23 14 09.6**	**-0.1**
	baz=114					
E28M	**Babbage River**	**64.81 341**	P	**P**	**23 14 09.8**	**0.0**
	baz=122					
M23K	**Glacier View**	**64.82 333**	P	**P**	**23 14 10.0**	**0.0**
	baz=111					
J25K	**Salcha River,**	**64.94 336**	IAmb	IAmb	23 14 11.7	
	comp=Z,11nm,1.1s					
J25K	**Salcha River,**	**64.94 336**	P	**P**	**23 14 10.9**	**+0.1**
	baz=115					
KNK	**Knik Glacier**	**65.01 332**	P	**P**	**23 14 11.1**	**-0.1**
	baz=110					
WAT6	**Susitna Watana**	**65.12 334**	P	**P**	**23 14 11.5**	**-0.6**
	baz=112					
E27K	**Coleen River**	**65.25 341**	P	**P**	**23 14 12.5**	**-0.2**
	baz=120					
PRP	**Porcupine Dome**	**65.39 337**	P	**P**	**23 14 12.0**	**-1.8**
PRP			IAmb	IAmb	23 15 24.9	
	comp=Z,18nm,1.6s					
PRP	**Porcupine Dome**	**65.39 337**	P	**P**	**23 14 13.4**	**-0.3**
	baz=115					
G26K	**Porcupine Rive**	**65.39 339**	P	**P**	**23 14 13.4**	**-0.1**
	baz=117					
HDA	**Harding Lake**	**65.49 336**	P	**P**	**23 14 13.4**	**-0.9**
	baz=113					
D27M	**Malcolm River**	**65.59 342**	P	**P**	**23 14 15.2**	**+0.2**
	baz=121					
IL31		**65.61 336**	IAmb	IAmb	23 14 15.4	
	comp=Z,9.8nm,1.2s					
ILAR	**Eielson Array**	**65.61 336**	P	**P**	**23 14 14.1**	**-0.9**
ILAR	**Eielson Array**	**65.61 336**	P	**P**	**23 14 14.5**	**-0.5**
	comp=Z,5.3nm,1.1s,baz=112,slow=4.6,SNR=20					
ILAR			LR	LR	23 45 57.4	
	comp=Z,87nm,21.8s,baz=120,slow=39					
	comp=Z,5.3nm,1.1s					
H25L	**Birch Creek**	**65.81 338**	P	**P**	**23 14 15.9**	**-0.4**
	baz=115					
F26K	**Sheenjek River**	**65.86 340**	P	**P**	**23 14 16.4**	**-0.2**
	baz=117					
RND	**Reindeer**	**65.89 334**	IAmb	IAmb	23 14 38.2	
	comp=Z,23nm,1.4s					
POKR	**Poker Plat Res**	**65.96 336**	P	**P**	**23 14 17.0**	**-0.3**
	baz=113					
MCK	**McKinley**	**66.04 335**	P	**P**	**23 14 17.5**	**-0.4**
	baz=111					
G25K	**Bearman Lake**	**66.13 338**	P	**P**	**23 14 18.5**	**+0.2**
	baz=115					
F25K	**Christian Rive**	**66.32 339**	P	**P**	**23 14 19.6**	**0.0**
	baz=116					
NEA2	**Nenana**	**66.41 336**	P	**P**	**23 14 19.9**	**-0.2**
	baz=111					
H24K	**Noodor Dome**	**66.41 337**	P	**P**	**23 14 20.2**	**0.0**
	baz=113					
TRF	**Thorofare Moun**	**66.51 334**	P	**P**	**23 14 20.7**	**-0.3**
	baz=110					
E25K	**Arctic Village**	**66.53 340**	P	**P**	**23 14 21.2**	**+0.2**
	baz=116					
SKT	**Skwentna**	**66.58 333**	P	**P**	**23 14 21.2**	**-0.2**
	baz=108					
G24K	**Hadweenzic Riv**	**66.60 338**	P	**P**	**23 14 21.3**	**-0.1**
	baz=114					
N20K	**Mount Spurr**	**66.66 332**	P	**P**	**23 14 21.1**	**-0.8**
	baz=107					
SPCR	**Spurr Chakacha**	**66.66 332**	P	**P**	**23 14 20.9**	**-1.0**
	baz=107					
I23K	**Minto, Yukon-K**	**66.72 336**	IAmb	IAmb	23 14 22.8	
	comp=Z,9.9nm,1.1s					
I23K	**Minto, Yukon-K**	**66.72 336**	P	**P**	**23 14 21.6**	**-0.5**
	baz=111					
R18K	**Karluk**	**66.83 327**	P	**P**	**23 14 22.7**	**-0.2**
	baz=103					
BPAW	**Bear Paw Mtn.**	**67.02 335**	IAmb	IAmb	23 14 24.2	
	comp=Z,15nm,1.2s					
BPAW	**Bear Paw Mtn.**	**67.02 335**	P	**P**	**23 14 23.5**	**-0.6**
	baz=109					
H23K	**Yukon River**	**67.04 337**	P	**P**	**23 14 23.5**	**-0.7**
	baz=111					
MLY	**Manley**	**67.23 336**	P	**P**	**23 14 24.9**	**-0.5**
	baz=110					
CAST	**Castle Rocks**	**67.27 334**	P	**P**	**23 14 24.4**	**-1.3**
	baz=108					
D25K	**Kavik River**	**67.32 341**	P	**P**	**23 14 26.0**	**+0.1**
	baz=116					
G23K	**Bananza Creek**	**67.54 338**	P	**P**	**23 14 27.3**	**0.0**
	baz=111					
Q17K	**Contact Creek**	**67.73 328**	P	**P**	**23 14 28.6**	**-0.1**
	baz=102					
O18K	**Koktia Hills**	**67.74 330**	P	**P**	**23 14 27.3**	**-1.4**
	baz=103					
H22K	**Ishtalitna Cre**	**67.77 337**	P	**P**	**23 14 27.7**	**-1.1**
	baz=109					
I21K	**Tanana**	**67.78 336**	P	**P**	**23 14 28.1**	**-0.7**
	baz=108					
L20K	**Farewell, AK**	**67.78 333**	P	**P**	**23 14 28.4**	**-0.6**
	baz=106					
COLD	**Coldfoot**	**67.79 338**	P	**P**	**23 14 29.4**	**+0.5**
	baz=111					
PPT	**Papeete**	**67.88 245**	LR	LR	23 38 04.6	
	comp=Z,83nm,18.9s,baz=9.5,slow=30					
PPT2	**Papeete2**	**67.89 245**	*e*LR	LR	23 34 48.3	
	comp=Z,379nm,28.8s					
PPT2			*e*LR	LR	23 34 55.0	
	comp=Z,215nm,30.0s					
E23K	**Chandalar**	**67.89 339**	P	**P**	**23 14 30.0**	**+0.4**
	baz=112					
D24K	**Happy Valley**	**68.05 340**	P	**P**	**23 14 30.7**	**+0.3**
	baz=113					
K20K	**Telida**	**68.10 334**	P	**P**	**23 14 30.2**	**-0.8**
	baz=106					
G22K	**Bettles**	**68.17 338**	P	**P**	**23 14 31.2**	**0.0**
	baz=110					
C24K	**Franklin Bluff**	**68.23 341**	P	**P**	**23 14 31.9**	**+0.3**
	baz=114					
J20K	**Nowinta River**	**68.36 334**	P	**P**	**23 14 32.8**	**+0.3**
	baz=106					
F22K	**John River**	**68.61 338**	P	**P**	**23 14 33.9**	**-0.1**
	baz=109					
I20K	**Naaghedeneel**	**68.67 335**	P	**P**	**23 14 34.4**	**0.0**
	baz=106					
G21K	**Allakaket**	**68.79 337**	P	**P**	**23 14 35.1**	**0.0**
	baz=108					
N17K	**Nushagak Hills**	**68.85 330**	P	**P**	**23 14 36.4**	**+0.8**
	baz=102					
C23K	**Itkillik River**	**68.89 341**	P	**P**	**23 14 36.2**	**+0.5**
	baz=112					
J19K	**Poorman**	**68.94 334**	P	**P**	**23 14 34.9**	**-1.2**
	baz=105					
F21K	**Alatna River**	**69.00 338**	P	**P**	**23 14 36.2**	**-0.2**
F21K			IAmb	IAmb	23 14 57.8	
	comp=Z,9.0nm,1.1s					
F21K	**Alatna River**	**69.00 338**	P	**P**	**23 14 36.6**	**+0.2**
	baz=108,SNR=5.5					
S14K	**Fog Glacier**	**69.34 326**	P	**P**	**23 14 38.7**	**-0.1**
	baz=98					
E21K	**Killik River**	**69.55 339**	P	**P**	**23 14 40.0**	**+0.2**
	baz=108					
H19K	**Roundabout Mou**	**69.67 336**	P	**P**	**23 14 40.1**	**-0.5**
	baz=104					
K17K	**Iditarod**	**69.82 332**	P	**P**	**23 14 40.9**	**-0.7**
	baz=102					
B21K	**Ikpikpuk River**	**70.13 340**	P	**P**	**23 14 43.3**	**0.0**
	baz=108					
E20K	**Nigu River**	**70.28 338**	P	**P**	**23 14 44.2**	**-0.1**
	baz=106					
F19K	**Shaleruckik Mo**	**70.51 337**	P	**P**	**23 14 45.5**	**-0.1**
	baz=104					
D20K	**Etivluk River**	**70.56 339**	P	**P**	**23 14 46.0**	**0.0**
	baz=105					
M15K	**Kasigluk River**	**70.58 330**	P	**P**	**23 14 46.2**	**0.0**
	baz=99					
G18K	**Tagagawik**	**70.64 336**	P	**P**	**23 14 46.6**	**0.0**
	baz=102					
L15K	**Ungalak Mounta**	**71.11 331**	P	**P**	**23 14 49.9**	**+0.4**
	baz=98					
E17K	**Hotham Inlet**	**72.12 337**	P	**P**	**23 14 55.4**	**0.0**
	baz=100					
JMIC	**Jan Mayen**	**74.63 20**	LR	LR	23 49 13.6	
	comp=Z,30nm,18.7s,baz=248,slow=37					
EKA	**Eskdalemuir Ar**	**76.70 36**	P	**P**	**23 15 20.7**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=268,slow=5.7,SNR=3.7					
	comp=Z,0.9nm,0.7s					
ESDC	**Sonseca Array**	**77.41 52**	P	**P**	**23 15 26.2**	**-0.3**
ESDC	**Sonseca Array**	**77.41 52**	P	**P**	**23 15 25.5**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=283,slow=6.6,SNR=5.0					
ESDC			LR	LR	23 43 38.7	
	comp=Z,50nm,20.6s,baz=264,slow=31					
	comp=Z,1.0nm,0.8s					
MDT	**Midelt**	**77.68 59**	LR	LR	23 44 05.3	
	comp=Z,119nm,21.0s,baz=338,slow=31					
RAR	**Rarotonga**	**78.16 245**	LR	LR	23 40 53.7	
	comp=Z,49nm,18.6s,baz=13,slow=28					
SPITS	**Spitsbergen Ar**	**80.56 12**	LR	LR	23 52 02.9	
	comp=Z,96nm,21.4s,baz=256,slow=36					
KOWA	**Kowa**	**81.11 77**	P	**P**	**23 15 46.0**	**-1.1**
KOWA	**Kowa**	**81.11 77**	LR	LR	23 48 01.6	
	comp=Z,89nm,20.2s,baz=283,slow=33					
DBIC	**Dimbokro**	**81.83 85**	LR	LR	23 48 25.9	
	comp=Z,70nm,20.6s,baz=308,slow=33					
NOA	**NORSAR Array B**	**83.38 29**	LR	LR	23 47 51.2	
	comp=Z,31nm,21.8s,baz=285,slow=32					
HFS	**Hagfors**	**84.80 29**	LR	LR	23 49 18.5	
	comp=Z,54nm,22.0s,baz=316,slow=32					
ARCES	**ARCESS Array B**	**86.10 19**	LR	LR	23 53 11.1	
	comp=Z,48nm,21.8s,baz=310,slow=35					
DAVOX	**Davos/Dischmat**	**86.13 43**	LR	LR	23 47 40.6	
	comp=Z,83nm,21.1s,baz=272,slow=31					
TORD	**Torodi Ar. Bea**	**86.81 77**	LR	LR	23 51 25.2	
	comp=Z,80nm,20.2s,baz=302,slow=33					
CLL	**Collm**	**86.91 38**	*e*pP	pP	23 16 35.0	-1.5
GERES	**GERESS Array B**	**88.05 40**	LR	LR	23 49 52.1	
	comp=Z,83nm,20.2s,baz=284,slow=32					
VRAC	**Vranov**	**89.72 39**	LR	LR	23 55 48.7	
	comp=Z,54nm,18.3s,baz=281,slow=35					
FINES	**FINESS Array B**	**89.95 26**	LR	LR	23 58 02.3	
	comp=Z,19nm,18.5s,baz=338,slow=36					
SEY	**Seymchan**	**91.54 337**	LR	LR	00 03 25.0	
	comp=Z,36nm,19.8s,baz=19,slow=39					
VAE	**Valguarnera**	**91.92 51**	LR	LR	23 52 10.6	
	comp=Z,76nm,19.2s,baz=328,slow=32					
MA2	**Magadan**	**94.02 334**	LR	LR	00 03 35.5	
	comp=Z,38nm,20.5s,baz=37,slow=38					
AKASG	**Malin Array Be**	**96.58 35**	LR	LR	23 58 54.8	
	comp=Z,40nm,21.3s,baz=342,slow=34					
DZM	**Mont Dzumac**	**108.99 251**	*e*LR	LR	23 53 53.6	
	comp=Z,86nm,24.1s					
MDJ	**Mudanjiang**	**113.57 332**	Pdif	**Pdif**	**23 18 16.4**	**-0.3**
MDJ			sP	sPdif	23 18 43.8	-1.8
MDJ			PP	**PP**	**23 22 58.3**	**-2.7**
MDJ	**Mudanjiang**	**113.57 332**	SS	SS	23 38 36.5	-5.4
MDJ			AMB	AMB		
	comp=Z,130nm,5.7s					
MDJ			LR	LR		
	comp=N,120nm,16.3s					
MDJ			LR	LR		
	comp=E,230nm,19.0s					
MDJ			LR	LR		
	comp=Z,420nm,20.6s					
MAW	**Mawson**	**121.88 167**	PKP	**PKPdf**	**23 22 24.4**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=338,slow=5.1,SNR=3.6					
WMQ	**Urumqi**	**123.61 4**	*e*P	**PKPdf**	**23 22 28.8**	**+0.2**
HHC	**Hu-ho-hao-te**	**123.75 342**	*e*P	**PKPdf**	**23 22 28.5**	**-0.5**
LZH	**Lanzhou**	**130.22 348**	*e*PKP	PKPdf	23 22 33.4	-8.1
STKA	**Stephens Creek**	**130.82 239**	PKP	**PKPdf**	**23 22 43.5**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=310,slow=16,SNR=3.8					
WRA	**Warramunga Arr**	**138.89 254**	PKhKP	PKPpre	23 22 49.8	
	comp=Z,0.4nm,0.6s,baz=93,slow=3.2,SNR=6.1					
WRA			PKP	**PKPdf**	**23 22 59.4**	**+1.5**
	comp=Z,1.9nm,0.5s,baz=89,slow=2.3,SNR=18					
ASAR	**Alice Springs**	**138.93 249**	PKhKP	PKPpre	23 22 50.5	
	comp=Z,0.7nm,0.6s,baz=116,slow=3.1,SNR=6.9					
PZH	**PanZhiHua**	**139.91 346**	PKP	**PKPdf**	**23 22 59.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**148.31 348**	PKPbc	**PKPdf**	**23 23 15.1**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=337,slow=1.9,SNR=9.6					

*IDC **17** 23:23:46.6±1.3, 15°.01N×94°.09W, h0km, mb3.9/6, mbtmp3.8/9, ML3.8/3, MS3.2/10, Error ellipse: s-maj=34.7km s-min=20.8km az=60.0*
*MEX **17** 23:23:51.3±0.7, 14°.98N×94°.37W, h16km±82km, MD4.4*
*NEIC **17** 23:23:54.8±2.8, 15°.19N±0°.07×94°.20W±0°.05, h43km±10km, mb4.2/53, Md4.4/36(MEX), Error ellipse: s-maj=11.2km s-min=6.7km az=198.0*

ISC 17 23:23:48.9±2.4, 15°.09N±0°.05×94°.27W±0°.03, h11km±15km, n126, σ1§84/145, mb4.2/16, MS3.2/9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.18**	**59**		**Pb**	**23 24 11.0**	**-0.3**
PCIG					**Sn**	**23 24 27.1**	**-0.3**
PCIG		**1.18**	**59**	*e*P	**Pb**	**23 24 11.0**	**-0.3**
PCIG				*e*S	**Sn**	**23 24 26.8**	**-0.6**
CARR	**Arriaga**	**1.20**	**16**	*i* P	**Pb**	**23 24 11.6**	**0.0**
CARR				*i* S	**Sb**	**23 24 26.1**	**-1.1**
NILT	**Santiago Nilte**	**1.50**	**347**	*i* P	**Pn**	**23 24 15.4**	**-0.4**
NILT				*i* S	**Sn**	**23 24 30.5**	**-4.9**
HUIG	**Huatulco**	**1.90**	**291**		**Pn**	**23 24 19.6**	**-1.7**
HUIG	**Huatulco**	**1.90**	**291**	*i* P	**Pn**	**23 24 19.6**	**-1.7**
HUIG				*i* S	**Sn**	**23 24 39.4**	**-5.8**
THIG		**1.94**	**95**		**Pn**	**23 24 21.5**	**-0.3**
THIG					**Sn**	**23 24 44.7**	**-1.5**
THIG		**1.94**	**95**	*e*P	**Pn**	**23 24 21.5**	**-0.3**
THIG				*e*S	**Sn**	**23 24 44.7**	**-1.5**
PATR	**El Naranjo**	**1.96**	**89**	*e*P	**Pn**	**23 24 21.6**	**-0.7**
PATR				*i* S	**Sn**	**23 24 44.5**	**-2.6**
TGIG		**2.01**	**33**		**Pb**	**23 24 24.6**	**-0.9**
TGIG					**Sg**	**23 24 51.3**	**-2.2**
TGIG		**2.01**	**33**	*e*P	**Pb**	**23 24 24.2**	**-1.3**
TGIG				*e*S	**Sb**	**23 24 48.3**	**-2.2**
PAVE	**Pavencul**	**2.02**	**87**	*e*P	**Pn**	**23 24 22.8**	**-0.4**
PAVE				*i* S	**Sn**	**23 24 44.1**	**-4.3**
TGBT	**Tuxtla Gutierr**	**2.02**	**34**	*e*P	**Pb**	**23 24 24.5**	**-1.2**
TGBT				*e*S	**Sb**	**23 24 50.5**	**-0.4**
CMIG	**Matias Romero**	**2.08**	**343**		**Pn**	**23 24 24.1**	**+0.5**
CMIG	

TOIG *e*S **Sn** **23 25 36.8 -0.8**
HLIG Huajuapan de L 4.35 309 *e*P **Pn** **23 24 57.0 +1.8**
HLIG *e*S **Sn** **23 25 46.8 +0.7**
PETF Flores 4.60 66 Pn **Pn** **23 24 59.5 +1.0**
FTIG Fresnillo de T 4.65 308 **Pn** **23 25 01.4 +2.2**
FTIG **Sn** **23 25 50.5 -2.7**
FTIG Fresnillo de T 4.65 308 *e*P **Pn** **23 25 01.4 +2.2**
FTIG *e*S **Sn** **23 25 50.5 -2.7**
ESQI Esquipulas 4.79 96 Pn **Pn** **23 25 02.2 +1.1**
MTO3 Montecristo 4.79 98 Pn **Pn** **23 25 02.0 +0.7**
TLIG Tlapa 4.80 301 Pn Pn 23 25 06.4 +5.0
JAUV Jalcomulco 4.89 331 *e*P **Pn** **23 25 01.7 -0.8**
JAUV *e*S **Sn** **23 25 53.2 -6.0**
SNET Serv Nac Est T 5.07 105 Pn **Pn** **23 25 07.3 +2.3**
PPM Popocatepetl 5.75 314 *e*P **Pn** **23 25 17.4 +2.8**
CXUV Coxquihui 5.97 328 *e*P **Pn** **23 25 17.9 +0.6**
TGUH Tegucigalpa,Un 6.85 98 Pn **Pn** **23 25 31.8 +2.3**
CRIN San Cristobal 7.40 108 Pn **Pn** **23 25 39.6 +2.6**
TEIG Tepich 7.66 47 Pn **Pn** **23 25 39.7 -0.7**
TEIG Tepich 7.66 47 Pn **Pn** **23 25 40.7 +0.3**
130nm,0.3s,baz=47,slow=0.6,SNR=41
TEIG Sn **Sn** **23 27 05.0 -2.3**
22nm,0.3s,baz=67,slow=12,SNR=3.5
CNGN Cerro Negro 7.79 108 Pn **Pn** **23 25 45.7 +3.4**
MATN Matagalpa 8.38 104 Pn **Pn** **23 25 50.7 +0.3**
JTS Las Juntas de 10.26 117 Pn **Pn** **23 26 14.0 -2.2**
0.4nm,0.3s,baz=288,slow=19,SNR=1.3
1.5nm,0.4s
SOR Soroa 13.11 53 Pn **Pn** **23 26 53.3 -1.9**
833A Chaparral WMA, 14.00 341 Pn **Pn** **23 27 09.9 +2.6**
HNDO Hondo 15.10 343 Pn **Pn** **23 27 24.0 +1.8**
HNDO IAmb IAmb 23 27 49.7
comp=Z,8.2nm,0.6s
JCT Junction City 16.14 343 Pn **Pn** **23 27 38.0 +2.1**
SAND Sanderson 16.47 335 **P** **23 27 43.6 +0.8**
SAND IAmb IAmb 23 27 45.4
comp=Z,3.6nm,0.9s
TX32 Lajitas Array 16.62 330 **P** **23 27 45.9 +1.4**
TXAR Lajitas Array 16.62 330 **P** **23 27 45.4 +0.9**
TXAR Lajitas Array 16.62 330 Pn **P** **23 27 45.5 +1.0**
comp=Z,0.1nm,0.3s,baz=154,slow=15,SNR=8.9
comp=Z,1.2nm,0.8s
TX31 Lajitas Ar. Si 16.62 330 **P** **23 27 45.4 +0.9**
TX31 IAmb IAmb 23 28 02.3
comp=Z,13nm,1.0s
BRDY Brady 16.69 346 **P** **23 27 45.7 +0.5**
BRDY IAmb IAmb 23 28 01.7
comp=Z,11nm,1.1s
237A Washetta, Mont 16.89 355 **P** **23 27 47.4 0.0**
237A IAmb IAmb 23 27 50.9
comp=Z,13nm,0.6s
OZNA Ozona 16.97 339 **P** **23 27 48.9 +0.6**
OZNA IAmb IAmb 23 28 11.5
comp=Z,9.9nm,0.8s
WHTX Lake Whitney, 17.07 351 **Pn** **23 27 49.0 +1.4**
WHTX IAmb IAmb 23 27 57.0
comp=Z,12nm,0.8s
ALPN Alpine 17.48 332 **P** **23 27 55.9 +1.8**
ALPN IAmb IAmb 23 27 57.3
comp=Z,6.6nm,1.1s
SGCY Sterling City 17.88 341 **P** **23 27 59.4 +1.0**
SGCY IAmb IAmb 23 28 04.4
comp=Z,15nm,1.1s
ABTX Abilene, Hawle 18.13 345 **Pn** **23 28 00.9 +0.1**
ODSA Odessa 18.56 337 P **Pn** **23 28 08.3 +2.2**
ODSA IAmb IAmb 23 28 10.7
comp=Z,12nm,0.8s
SN01 Snyder 1 18.69 342 P **Pn** **23 28 09.2 +1.5**
SN01 IAmb IAmb 23 28 11.0
comp=Z,10nm,1.0s
APMT Aspermont 18.91 345 P **Pn** **23 28 12.1 +1.7**
APMT IAmb IAmb 23 28 24.2
comp=Z,9.7nm,1.1s
LOOK Love County 19.00 353 P **Pn** **23 28 11.8 +0.4**
LOOK IAmb IAmb 23 28 21.0
comp=Z,14nm,0.6s
POST Post 19.06 341 P **Pn** **23 28 14.2 +2.1**
POST IAmb IAmb 23 28 15.2
comp=Z,8.6nm,0.9s
MIAR Mount Ida 19.38 2 P **P** **23 28 14.0 -0.8**
MIAR IAmb IAmb 23 28 27.0
comp=Z,9.1nm,1.0s
DKNS Dickens 19.45 343 P **Pn** **23 28 17.3 +0.4**
DKNS IAmb IAmb 23 28 20.0
comp=Z,15nm,1.0s
X34A Smith Ranch, M 19.69 351 P **P** **23 28 18.3 +0.1**
X34A IAmb IAmb 23 28 46.2
comp=Z,21nm,1.0s
WMOK Wichita Mounta 19.98 349 P **Pn** **23 28 23.4 +0.3**
MSTX Muleshoe 20.31 339 P **P** **23 28 25.6 +0.5**
MSTX IAmb IAmb 23 28 43.3
comp=Z,9.7nm,0.9s
OKCSW OKLAHOMA CITY 20.43 353 P **P** **23 28 26.5 +0.2**
FCAR Ozark Folk Cen 20.80 5 P **P** **23 28 31.1 +0.8**
FCAR IAmb IAmb 23 28 35.0
comp=Z,7.3nm,0.6s
AMTX Amarillo 20.81 343 P **P** **23 28 31.4 +1.0**
AMTX IAmb IAmb 23 28 41.8
comp=Z,16nm,0.9s
OK029 Liberty Lake 20.82 353 P **P** **23 28 30.9 +0.5**
RLO Rose Lookout 21.00 358 P **P** **23 28 33.3 +0.9**
RLO IAmb IAmb 23 28 38.5
comp=Z,7.8nm,0.9s
OK033 Mehan 21.00 354 P **P** **23 28 31.5 -0.9**
GUY2C Guyana, Caldas 21.01 116 *e*P **P** **23 28 35.5 +2.3**
QUOK Quay 21.11 355 P **P** **23 28 35.8 +2.2**
QUOK IAmb IAmb 23 28 42.7
comp=Z,11nm,0.8s
U38A Gravette 21.26 360 P **P** **23 28 36.4 +1.2**
U38A IAmb IAmb 23 28 39.5
comp=Z,7.2nm,0.7s
121A Cookes Peak, D 21.28 327 P **P** **23 28 38.7 +3.1**
121A IAmb IAmb 23 28 52.3
comp=Z,8.4nm,0.9s
POPC Popayan, Colom 21.36 124 *e*P **P** **23 28 39.0 +2.3**
OK048 Pawnee Station 21.37 354 P **P** **23 28 38.2 +1.8**
OK048 IAmb IAmb 23 28 40.4
comp=Z,12nm,0.8s
OK051 E0350 and S346 21.45 354 P **P** **23 28 39.4 +2.2**
OK051 IAmb IAmb 23 28 42.7
comp=Z,18nm,0.9s
BLOK Blackwell 21.74 354 P **P** **23 28 41.9 +1.5**
ORTC Ortega, Tolima 21.78 119 *e*P **P** **23 28 44.1 +3.2**
OK035 E0210 Rd and N 21.89 350 P **P** **23 28 44.1 +2.1**
OK032 Salt Plains WL 21.91 351 P **P** **23 28 43.9 +1.7**
KAN13 South Haven SW 22.02 353 P **P** **23 28 44.5 +1.1**
KAN06 Argonia West S 22.30 352 P **P** **23 28 46.7 +0.4**
S39A Bolivar 22.53 2 P **P** **23 28 48.5 -0.3**
S39A IAmb IAmb 23 28 50.6
comp=Z,10nm,1.1s
TKL Tuckaleechee C 22.54 23 LR LR 23 39 17.0
comp=Z,45nm,19.2s,baz=220,slow=41
CHIC Chingaza 22.72 115 *e*P **P** **23 28 54.2 +2.7**
RUSC La Rusia 22.72 111 *e*P **P** **23 28 54.9 +3.2**
T25A Trinidad 23.74 340 P **P** **23 29 05.0 +3.5**
T25A IAmb IAmb 23 29 15.0
comp=Z,11nm,1.1s
SDV Santo Domingo 23.91 102 LR LR 23 40 23.2
comp=Z,74nm,18.2s,baz=286,slow=42
CBKS Cedar Bluff 24.12 349 P **P** **23 29 06.8 +2.0**
X16A Lo Mia Camp, P 24.70 324 P **P** **23 29 13.6 +3.2**
WUAZ Wupatki 25.48 326 P **P** **23 29 19.0 +1.6**
WUAZ IAmb IAmb 23 29 28.5
comp=Z,6.7nm,1.1s
SJG San Juan 27.10 80 LR LR 23 39 38.7
comp=Z,35nm,21.5s,baz=198,slow=35
ATAH Atahualpa 27.11 143 LR LR 23 38 53.1
comp=Z,44nm,18.2s,baz=348,slow=34
PFO Pinyon Flats O 27.26 317 LR LR 23 39 34.1
comp=Z,19nm,20.4s,baz=127,slow=34
ECSD EROS Data Cent 28.62 356 P **P** **23 29 44.7 -0.6**
ECSD IAmb IAmb 23 29 46.8
comp=Z,3.4nm,0.8s
SPMN Marine on St. 30.06 2 P **P** **23 29 56.8 -1.3**
PDAR Pinedale Array 30.55 338 P **P** **23 30 04.1 +1.4**
comp=Z,0.3nm,0.7s,baz=151,slow=10,SNR=3.7
comp=Z,0.3nm,0.7s
ELK Elko 31.40 329 P **P** **23 30 13.3 +3.0**
NVAR Mina Array Bea 31.46 322 LR LR 23 44 49.4
comp=Z,115nm,20.5s,baz=115,slow=40
NNA Nana 31.96 146 LR LR 23 40 23.0
comp=Z,43nm,18.9s,baz=348,slow=31
J08A Circle Bar Ran 34.96 329 P **P** **23 30 41.9 +0.8**
J08A IAmb IAmb 23 30 59.5
comp=Z,5.7nm,1.1s
ULM Lac du Bonnet 35.09 358 P **P** **23 30 41.7 -0.3**
comp=Z,3.6nm,0.8s,baz=180,slow=11,SNR=3.3
comp=Z,3.6nm,0.8s
YBH Yreka Blue Hor 36.17 323 LR LR 23 46 14.8
comp=Z,66nm,19.0s,baz=178,slow=37
F10A Beach Ranch, E 36.32 333 P **P** **23 30 53.7 +0.9**
SCHQ Schefferville 45.00 22 LR LR 23 53 00.2
comp=Z,57nm,18.9s,baz=230,slow=39
PLCA Paso Flores 59.74 159 P **P** **23 33 52.7 -1.1**
comp=Z,2.8nm,0.8s,baz=305,slow=8.4,SNR=3.9
comp=Z,2.8nm,0.8s
ILAR Eielson Array 60.98 337 P **P** **23 34 02.6 +0.6**
ILAR Eielson Array 60.98 337 P **P** **23 34 02.4 +0.4**
comp=Z,0.5nm,0.8s,baz=151,slow=4.7,SNR=7.3
comp=Z,0.5nm,0.8s
BMAR Burnt Mountain 61.52 340 P **P** **23 34 06.5 +0.9**
F21K Alatna River 64.48 338 P **P** **23 34 26.3 +1.0**
EKA Eskdalemuir Ar 78.36 36 P **P** **23 35 48.1 -1.2**
comp=Z,0.9nm,0.7s,baz=289,slow=5.9,SNR=3.8
comp=Z,0.9nm,0.7s
TORD Torodi Ar. Bea 92.25 76 P **P** **23 36 57.6 -2.1**
comp=Z,0.2nm,0.5s,baz=318,slow=5.8,SNR=1.4
comp=Z,0.2nm,0.5s
PZH PanZhiHua 135.82 339 PKP **PKPdf** **23 43 10.3 -0.4**

---

*IDC **17** 23:28:30.7±1.4, 5°.86S×131°.10E, h0km, mb4.1/3, mbtmp4.2/6, ML4.1/3, MS3.6/2, Error ellipse: s-maj=55.6km s-min=22.6km az=72.0*

ISC 17 23:28:43.2±0.9, **6°.3S**±0°.1×**130°.28E**±0°.09, **h100**km, **n28**, σ1$**37/27**, **mb3.8/3**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**6.56**	**173**	P	**Pn**	**23 30 19.2**	**+2.1**
KDU	**Kakadu**	**6.70**	**161**	P	**Pn**	**23 30 20.8**	**+1.7**
SOEI	**Soe**	**6.87**	**240**	P	**Pn**	**23 30 22.2**	**+0.7**
BATI	**Baumata**	**7.61**	**239**	Pn	**Pn**	**23 30 35.3**	**+3.8**
	9.1nm,0.3s,baz=41,slow=3.1,SNR=4.9						
BATI				Sn	**Sn**	**23 31 56.1**	**-0.1**
	20nm,0.3s,baz=358,slow=23,SNR=8.3						
	18nm,0.3s						
KNRA	**Kununurra**	**9.44**	**189**	P	**Pn**	**23 30 56.5**	**+0.2**
PLAI	**Plampang**	**12.65**	**258**	P	**Pn**	**23 31 40.5**	**+0.9**
WRA	**Warramunga Arr**	**14.12**	**164**	Pn	**Pn**	**23 31 55.3**	**-3.5**
	0.6nm,0.3s,baz=350,slow=12,SNR=33						
WRA				Sn	Sn	23 34 23.4	-11
	2.0nm,0.3s,baz=340,slow=22,SNR=10						
	2.5nm,0.5s						
COEN	**Coen**	**14.79**	**122**	P	**P**	**23 32 12.0**	**+1.2**
JAGI	**Jajag, Banyuwa**	**16.14**	**261**	P	**P**	**23 32 24.5**	**-1.2**
QIS	**Mount Isa**	**16.81**	**148**	P	**P**	**23 32 34.2**	**+1.0**
ASAR	**Alice Springs**	**17.61**	**169**	P	**Pn**	**23 32 42.0**	**-0.4**
	0.5nm,0.3s,baz=347,slow=11,SNR=20						
ASAR				S	Sn	23 35 46.1	-13
	1.7nm,0.5s,baz=346,slow=25,SNR=6.1						
	1.8nm,0.6s						
PSA00	**Pilbara Seismi**	**18.23**	**213**	P	**P**	**23 32 48.5**	**-0.3**
OOD	**Oodnadatta**	**21.98**	**167**	P	**P**	**23 33 28.7**	**-0.5**
BBJI	**Bungbulang**	**22.50**	**266**	P	**P**	**23 33 33.8**	**-1.0**
STKA	**Stephens Creek**	**27.56**	**159**	P	**P**	**23 34 20.1**	**-0.7**
	1.1nm,0.4s,baz=323,slow=6.4,SNR=3.4						
	1.1nm,0.4s						
RPZ	**Rata Peaks**	**51.62**	**143**	LR	LR	23 59 10.7	
	comp=Z,67nm,18.5s,baz=80,slow=36						
TAPN	**Taplejung**	**53.03**	**311**	*e*P	**P**	**23 37 50.6**	**0.0**
	12nm,0.7s						
RAMN	**Ramite**	**53.66**	**310**	*e*P	**P**	**23 37 54.3**	**-0.9**
	26nm,0.6s						
JIRN	**Jiri**	**54.34**	**311**	*e*P	**P**	**23 37 59.9**	**-0.4**
	5.2nm,0.4s						
GUN	**Gumba**	**54.71**	**311**	*e*P	**P**	**23 38 02.7**	**-0.2**
	14nm,0.5s						
PKI	**Pulchoki**	**54.89**	**310**	*e*P	**P**	**23 38 03.3**	**-0.9**
	13nm,1.0s						
PKIN	**Phulchoki**	**54.90**	**310**	*e*P	**P**	**23 38 03.4**	**-0.8**
	3.4nm,0.3s						
GKN	**Gorkha**	**55.70**	**310**	*e*P	**P**	**23 38 09.4**	**-0.4**
	12nm,0.4s						
DANN	**Dangsing**	**56.54**	**310**	*e*P	**P**	**23 38 15.1**	**-0.8**
	69nm,1.7s						
PYUN	**Piuthan**	**57.00**	**309**	*e*P	**P**	**23 38 18.9**	**-0.2**
	19nm,0.8s						
MKAR	**Makanchi Array**	**67.80**	**327**	P	**P**	**23 39 31.3**	**+0.8**
	1.9nm,0.5s,baz=115,slow=8.3,SNR=31						
	1.9nm,0.5s						
KURBB	**Kurchatov Arra**	**72.06**	**328**	P	**P**	**23 39 56.9**	**+0.4**
	0.5nm,0.5s,baz=126,slow=5.0,SNR=4.3						
	0.5nm,0.5s						
MAW	**Mawson**	**75.70**	**201**	LR	LR	00 12 23.7	
	comp=Z,29nm,19.2s,baz=224,slow=34						

---

*BGR **17** 23:48:47.3, 42°.14N×145°.11E, h33km, mb4.6, Ms3.8*
*BJI **17** 23:48:49.7±0.0, 41°.94N×142°.65E, h60km, mb4.9/54, mB4.9/25, Ms3.8/2, Ms7 3.8/4*
*NIED **17** 23:48:52.7, 41°.96N×142°.54E, h64km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.12; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$-2.10; $M_{r\theta}$0.44; $M_{\theta\phi}$-1.94; $M_{\phi r}$4.32; Fault plane solution: $M_0$5.49000×10^{15} NP1:ϕ_s13.00000°, δ72.00000°, λ73.00000°. NP2:ϕ_s238.00000°, δ24.00000°, λ132.00000°.*
*JMA **17** 23:48:52.7±0.2, 42°.0N±0°.7×142°.5E±0°.7, h64km±1km, MD4.4/40, MW4.5/40, S OFF URAKAWA*
JMA Felt 1 J1 at S OFF URAKAWA .
*MOS **17** 23:48:52.2±1.0, 42°.01N×142°.49E, h68km, mb5.0/49, Error ellipse: s-maj=6.0km s-min=4.2km az=117.7*
*NEIC **17** 23:48:53.3±1.6, 41°.99N±0°.05×142°.53E±0°.08, h62km±6km, mb4.9/128, Error ellipse: s-maj=10.3km s-min=6.1km az=125.0*
*IDC **17** 23:48:54.8±1.4, 42°.05N×142°.49E, h74km±10km, mb4.2/28, mbtmp4.5/35, MS3.4/26, Error ellipse: s-maj=13.4km s-min=8.9km az=120.0*

ISC 17 23:48:53.5±0.4, **41°.97N**±0°.03×**142°.54E**±0°.03, **h67**km±3km, **h67**km:**pP-P**, **n486**, σ1$**06/483**, **mb4.8**/177, **26C-36D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.35**	**27**	P	**Pn**	**23 49 03.4**	**-1.2**
JNBK				*e*S	**Sn**	**23 49 11.4**	**-1.5**
JNBK	**Urakawa-nobuka**	**0.35**	**27**	A	A	23 49 03.4	
	comp=E,92nm,0.6s,comp=N,109nm,1.2s						
JSHD	**Hidakashinhida**	**0.45**	**353**	⇓P	**Pn**	**23 49 04.6**	**-0.9**
JSHD				⇓*e*S	**Sn**	**23 49 13.8**	**-0.4**
JSHD	**Hidakashinhida**	**0.45**	**353**	A	A	23 49 04.6	
	comp=E,209nm,1.5s,comp=N,98nm,0.6s						
ERM	**Erimo**	**0.47**	**84**	Pn	**Pn**	**23 49 04.9**	**-0.7**
ERM				Sn	**Sn**	**23 49 13.6**	**-0.9**
ERM	**Erimo**	**0.47**	**84**	PN	**Pn**	**23 49 04.9**	**-0.7**
ERM						23 49 13.6	
JEM	**Erimo**	**0.47**	**84**	P	**Pn**	**23 49 04.9**	**-0.7**
JEM	**Erimo**	**0.47**	**84**	A	A	23 49 04.9	
	comp=E,14nm,2.0s,comp=N,11nm,2.1s						
JTHR	**Tokachihiroo**	**0.65**	**60**	P	**Pn**	**23 49 06.8**	**-0.8**
JTHR	**Tokachihiroo**	**0.65**	**60**	A	A	23 49 06.8	
	comp=E,21nm,2.1s,comp=N,18nm,0.8s						
JIAM	**Iburiatsuma**	**0.80**	**325**	⇓P	**Pn**	**23 49 09.1**	**-0.1**
JIAM				⇓*e*S	**Sn**	**23 49 21.4**	**+0.5**
JIAM	**Iburiatsuma**	**0.80**	**325**	A	A	23 49 09.1	
	comp=E,89nm,0.3s,comp=N,91nm,0.4s						
JBT2	**Biratori 2**	**0.82**	**351**	⇓P	**Pn**	**23 49 08.5**	**-1.1**
JBT2				⇓*e*S	**Sn**	**23 49 20.2**	**-1.2**
JBT2	**Biratori 2**	**0.82**	**351**	A	A	23 49 08.5	
	comp=E,11nm,3.0s,comp=N,11nm,0.9s						
JCH	**Churui**	**0.89**	**43**	P	**Pn**	**23 49 09.7**	**-0.8**
JCH				*e*S	**Sn**	**23 49 22.9**	**-0.1**
JCH	**Churui**	**0.89**	**43**	A	A	23 49 09.7	
	comp=E,10.0nm,3.3s,comp=N,14nm,1.1s						
JKB	**Kayabe**	**1.12**	**266**	⇓P	**Pn**	**23 49 12.5**	**-0.8**
JKB				⇓*e*S	**Sn**	**23 49 27.0**	**-1.2**
JKB	**Kayabe**	**1.12**	**266**	A	A	23 49 12.5	
	comp=E,47nm,0.5s,comp=N,29nm,0.2s						
JAHD	**Aomorihigashid**	**1.14**	**232**	A	A	23 49 12.9	
	comp=E,48nm,0.6s,comp=N,42nm,1.0s						
JEW	**Eniwo**	**1.19**	**318**	⇓P	**Pn**	**23 49 13.5**	**-0.6**
JEW				⇓*e*S	**Sn**	**23 49 28.6**	**-1.0**
JEW	**Eniwo**	**1.19**	**318**	A	A	23 49 13.5	
	comp=E,15nm,1.2s,comp=N,28nm,2.1s						
JFR	**Furan**	**1.20**	**2**	P	**Pn**	**23 49 13.5**	**-0.8**
JFR	**Furan**	**1.20**	**2**	A	A	23 49 13.5	
	comp=E,10.0nm,1.4s,comp=N,9.0nm,0.9s						
JNB	**Noboribetsu**	**1.22**	**295**	⇓P	**Pn**	**23 49 13.2**	**-1.4**
JNB				⇓*e*S	**Sn**	**23 49 28.6**	**-1.8**
JNB	**Noboribetsu**	**1.22**	**295**	A	A	23 49 13.2	
	comp=E,15nm,0.4s,comp=N,8.0nm,0.6s						
JOT	**Ohata**	**1.26**	**243**	⇓P	**Pn**	**23 49 14.5**	**-0.6**
JOT				⇓*e*S	**Sn**	**23 49 30.5**	**-0.8**
JOT	**Ohata**	**1.26**	**243**	A	A	23 49 14.5	
	comp=E,8.0nm,0.7s,comp=N,16nm,1.0s						
JARK	**Aomorirokkasho**	**1.30**	**223**	A	A	23 49 15.1	
	comp=E,8.0nm,1.0s,comp=N,7.0nm,2.3s						
JOB	**Onbets**	**1.34**	**45**	P	**Pn**	**23 49 16.6**	**+0.4**
JOB				*e*S	**Sn**	**23 49 34.3**	**+1.0**
JOB	**Onbets**	**1.34**	**45**	A	A	23 49 16.6	
	comp=E,16nm,1.3s,comp=N,14nm,1.5s						
JISS	**Ishikarishitsu**	**1.55**	**328**	⇓P	**Pn**	**23 49 18.5**	**-0.4**
JISS				⇓*e*S	**Sn**	**23 49 37.9**	**-0.2**
JISS	**Ishikarishitsu**	**1.55**	**328**	A	A	23 49 18.5	
	comp=E,37nm,0.3s,comp=N,30nm,1.6s						
JAB	**Ashibetsu**	**1.55**	**352**	P	**Pn**	**23 49 19.0**	**0.0**
JAB				*e*S	**Sn**	**23 49 39.0**	**+0.7**
JAB	**Ashibetsu**	**1.55**	**352**	A	A	23 49 19.0	
	comp=E,22nm,0.9s,comp=N,20nm,1.0s						
JAR	**Ashorobuto**	**1.61**	**34**	*e*P	**Pn**	**23 49 19.3**	**-0.5**
JAR				*e*S	**Sn**	**23 49 40.0**	**+0.3**
JAR	**Ashorobuto**	**1.61**	**34**	A	A	23 49 19.3	
	comp=E,6.0nm,1.0s,comp=N,8.0nm,1.0s						
JTM	**Tenmabayashi**	**1.61**	**224**	Pn	**Pn**	**23 49 19.9**	**0.0**
JTM				Sn	**Sn**	**23 49 39.0**	**-0.7**
JTM	**Tenmabayashi**	**1.61**	**224**	*e*P	**Pn**	**23 49 20.0**	**+0.2**
JTM				*e*S	**Sn**	**23 49 40.6**	**+0.8**
JTM	**Tenmabayashi**	**1.61**	**224**	A	A	23 49 20.0	
	comp=E,7.0nm,2.4s,comp=N,5.0nm,2.6s						
JYM2	**Yakumo 2**	**1.62**	**276**	P	**Pn**	**23 49 19.1**	**-0.8**
JYM2				*e*S	**Sn**	**23 49 39.1**	**-0.8**
JYM2	**Yakumo 2**	**1.62**	**276**	A	A	23 49 19.1	
	comp=E,5.0nm,0.3s,comp=N,5.0nm,1.0s						
JSR	**Shiriuchi**	**1.64**	**255**	*e*P	**Pn**	**23 49 19.5**	**-0.7**
JSR	**Shiriuchi**	**1.64**	**255**	A	A	23 49 19.5	
	comp=E,12nm,0.8s,comp=N,17nm,0.7s						
JANG	**Nango**	**1.77**	**206**	A	A	23 49 21.6	
	comp=E,5.0nm,1.6s,comp=N,3.0nm,1.7s						
JSI2	**Shiura 2**	**1.84**	**241**	A	A	23 49 22.6	
	comp=E,13nm,0.8s,comp=N,12nm,1.4s						
JKEN	**Kujiedanarisaw**	**1.87**	**200**	A	A	23 49 23.0	
	comp=E,10.0nm,0.8s,comp=N,8.0nm,0.7s						
JHR	**Hokuryu**	**1.87**	**342**	A	A	23 49 23.2	
	comp=E,26nm,1.4s,comp=N,16nm,1.4s						
JAK	**Akkeshi**	**1.90**	**57**	A	A	23 49 23.5	
	comp=E,4.0nm,2.0s,comp=N,6.0nm,1.7s						
JKK2	**Kamakawa 2**	**1.91**	**5**	A	A	23 49 23.7	
	comp=E,4.0nm,4.2s,comp=N,7.0nm,2.5s						
JSH	**Shimam**	**1.97**	**291**	A	A	23 49 24.5	
	comp=E,6.0nm,0.3s,comp=N,3.0nm,0.2s						
JHHS	**Hirosakihykuz**	**2.10**	**232**	A	A	23 49 26.3	
	comp=E,14nm,1.0s,comp=N,13nm,2.1s						
JMP	**Maruseppu**	**2.13**	**16**	A	A	23 49 26.7	
	comp=E,4.0nm,3.3s,comp=N,3.0nm,2.8s						
JKA	**Kamikawa-asahi**	**2.15**	**1**	Pn	**Pn**	**23 49 27.1**	**+0.1**
JKA				Sn	**Sn**	**23 49 52.2**	**-0.4**
ASAJ	**Asahikawa**	**2.15**	**1**	P	**Pn**	**23 49 27.5**	**+0.5**
	comp=N,475nm,0.3s,baz=201,slow=14,SNR=383						
ASAJ				S	**Sn**	**23 49 52.8**	**+0.2**
	comp=N,1μm,0.6s,baz=87,slow=28,SNR=21						
NMR	**Nemuro--Hokkai**	**2.74**	**58**	*e*PN	**Pn**	**23 49 33.8**	**-1.2**
NMR				*e*S	**Sn**	**23 50 05.0**	**-2.0**
RUSJ	**Misakicho**	**2.92**	**42**	*e*PN	**Pn**	**23 49 38.8**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**3.20**	**49**	*d i*PN	**Pn**	**23 49 42.3**	**+1.1**
YUK				*i* S	**Sn**	**23 50 20.8**	**+2.7**
YUK				pmax	pmax		
	comp=Z,412nm,0.2s						
YUK				pmax	pmax		
	comp=E,49nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.4s						
YUK				smax	smax		
	comp=E,285nm,0.4s						
SHO	**Shikotan**	**3.68**	**57**⇑	*i*PN	**Pn**	**23 49 47.3**	**-0.6**
SHO				*e*S	**Sn**	**23 50 28.1**	**-1.9**
SHO				pmax	pmax		
	comp=E,38nm,0.2s						
SHO				pmax	pmax		
	comp=Z,93nm,0.2s						
SHO				pmax	pmax		
	comp=N,7.0nm,0.1s						
SHO				smax	smax		
	comp=E,359nm,0.3s						
SHO				smax	smax		
	comp=N,135nm,0.1s						
JMM	**Marumori**	**4.31**	**199**	Pn	**Pn**	**23 49 55.8**	**-0.7**
YSS	**Yuzh-Sakhalins**	**4.99**	**2**	Pn	**Pn**	**23 50 05.7**	**0.0**
YSS	**Yuzh-Sakhalins**	**4.99**	**2**	*e*PN	**Pn**	**23 50 07.4**	**+1.7**
YSS				*e*S	**Sn**	**23 51 04.0**	**+2.0**
YSS				pmax	pmax		
	comp=Z,110nm,0.8s						
YSS				pmax	pmax		
	comp=Z,200nm,2.0s						
YSS				smax	smax		
	comp=E,50nm,1.1s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
KUR	**Kuril'sk**	**5.06**	**48**	*e*PN	**Pn**	**23 50 08.6**	**+1.9**
KUR				*e*S	**Sn**	**23 51 04.9**	**+1.1**
KUR				pmax	pmax		
	comp=Z,123nm,0.8s						
KUR				pmax	pmax		
	comp=E,30nm,0.4s						
KUR				smax	smax		
	comp=E,146nm,0.6s						
KUR				smax	smax		
	comp=N,67nm,0.5s						
JSD	**Sado**	**5.12**	**221**	Pn	**Pn**	**23 50 08.2**	**+0.7**
TEY	**Ternei**	**5.29**	**307**⇓	*e*PN	**Pn**	**23 50 09.2**	**-0.7**
TEY				pmax	pmax		
	comp=N,50nm,0.5s						
TEY				pmax	pmax		
	comp=E,80nm,0.5s						
TEY				pmax	pmax		
	comp=Z,80nm,0.5s						
MJB9	**Matsu-Tunnel**	**6.37**	**213**	Pn	**Pn**	**23 50 24.8**	**+0.1**
MAJO	**Matsushiro**	**6.37**	**213**	Pn	**Pn**	**23 50 25.8**	**+1.1**
MAJO	**Matsushiro**	**6.37**	**213**	*de*PN	**Pn**	**23 50 27.8**	**+3.1**
MJAR	**Matsushiro Arr**	**6.37**	**213**	P	**Pn**	**23 50 26.7**	**+2.0**
	comp=Z,5.8nm,0.5s,baz=333,slow=15,SNR=17						
MJAR				LR	LR	23 53 27.9	
	comp=Z,170nm,19.4s,baz=29,slow=42						
INU	**Inuyama**	**7.89**	**215**	Pn	**Pn**	**23 50 47.1**	**+1.7**
VLA	**Vladivostok**	**7.95**	**282**	*ce*PN	**Pn**	**23 50 47.6**	**+1.4**
USA0B	**Ussuriysk Arra**	**8.04**	**290**	Pn	**Pn**	**23 50 46.1**	**-1.3**
USA0B	**Ussuriysk Arra**	**8.04**	**290**	*d i*PN	**Pn**	**23 50 47.9**	**+0.5**
USRK	**Ussuriysk Ar.**	**8.04**	**290**	Pn	**Pn**	**23 50 46.8**	**-0.6**
USRK	**Ussuriysk Ar.**	**8.04**	**290**	P	**Pn**	**23 50 47.5**	**+0.1**
	comp=Z,43nm,0.8s,baz=92,slow=14,SNR=37						
USRK				LR	LR	23 53 56.2	
	comp=Z,193nm,19.9s

BNX pmax pmax
comp=Z,190nm,4.1s
KSRS Korea Array 12.12 253 P **Pn 23 51 45.5 +2.3**
comp=Z,15nm,0.6s,baz=63,slow=14,SNR=26
KSRS S **Sn 23 54 01.1 +4.6**
comp=Z,4.7nm,0.6s,baz=66,slow=23,SNR=8.3
KSRS LR LR 23 55 56.3
comp=Z,185nm,20.9s,baz=65,slow=35
KS19 Wonju Array Si 12.14 253 Pn **Pn 23 51 43.5 0.0**
KSAR Wonju Array Be 12.15 253 Pn **Pn 23 51 41.6 -2.0**
KSAR Wonju Array Be 12.15 253 PN **Pn 23 51 41.6 -2.0**
CN2 Changchun 12.67 284 P **Pn 23 51 52.8 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
JNU Nakatsue 12.78 230 Pn **Pn 23 51 52.1 -0.1**
JNU Nakatsue 12.78 230 P **Pn 23 51 53.0 +0.8**
comp=Z,9.1nm,0.9s,baz=20,slow=15,SNR=2.0
JNU LR LR 23 56 56.4
comp=Z,72nm,19.3s,baz=41,slow=38
SNY Shenyang 14.12 276 ⇓P **Pn 23 52 12.1 +2.0**
SNY S **Sn 23 54 43.8 -1.4**
SNY pmax pmax
comp=Z,14nm,0.7s
SNY pmax pmax
comp=Z,78nm,6.9s
SNY LR LR
comp=Z,160nm,11.4s
JCJ Chichijima 14.84 181 LR LR 23 57 23.9
comp=Z,43nm,21.8s,baz=128,slow=34
PETK Petropavlovsk- 15.10 37 P **Pn 23 52 22.4 -0.2**
comp=Z,1.6nm,0.6s,baz=202,slow=7.3,SNR=1.8
ZEA Zeya 15.58 324 *e*P **Pn 23 52 28.4 -0.4**
ZEA pmax pmax
comp=Z,20nm,0.7s
ZEA MLR MLR
comp=Z,100nm,14.0s
DL2 Dalian 16.20 266 P **Pn 23 52 36.8 0.0**
DL2 pmax pmax
comp=Z,34nm,1.1s
JOW Kunigami 19.10 222 LR LR 00 00 56.1
comp=Z,101nm,21.7s,baz=110,slow=38
XLT XiLinHaoTe 19.44 285 *e*P **P 23 53 12.1 -2.4**
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT pmax pmax
comp=Z,140nm,5.0s
BJI Beijing 19.96 273 P **P 23 53 18.5 -1.6**
BJI P **Pn 23 53 21.8 -0.5**
BJI pmax pmax
comp=Z,11nm,1.0s
BJI pmax pmax
comp=Z,53nm,4.0s
TIA Tai'an 20.51 262 P **P 23 53 23.6 -2.4**
TIA pmax pmax
comp=Z,29nm,0.8s
NJ2 Nanjing 21.28 250 *e*P **P 23 53 36.4 +2.1**
NJ2 pmax pmax
comp=Z,16nm,0.6s
NJ2 pmax pmax
comp=Z,440nm,3.7s
YAK Yakutsk 21.52 343 *e*P **P 23 53 38.3 +1.8**
YAK *e*S **S 23 57 29.0 -2.2**
YAK *e* 23 57 40.4
YAK *e**SS **sS 23 57 56.7 +2.7**
YAK *e* 00 04 45.4
YAK pmax pmax
comp=Z,30nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax smax
comp=E,113nm,3.1s
YAK smax smax
comp=N,132nm,3.2s
SEY Seymchan 21.79 12⇑ *e*P **P 23 53 37.7 -1.8**
SEY pmax pmax
comp=Z,8.0nm,0.9s
SEY Seymchan 21.79 12 P **P 23 53 37.4 -2.1**
comp=Z,8.0nm,0.9s,baz=216,slow=8.5,SNR=7.8
comp=Z,8.0nm,0.9s
HNS HongShan 21.85 267 ⇑P **P 23 53 37.1 -3.3**
HNS pmax pmax
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 23.20 278 *e*P **P 23 53 55.5 +0.9**
HHC S **S 23 58 03.8 +2.6**
HHC pmax pmax
comp=Z,31nm,0.6s
HHC pmax pmax
comp=Z,220nm,4.0s
HHC LR LR
comp=Z,210nm,17.9s
HHC LR LR
comp=Z,350nm,17.9s
HHC LR LR
comp=Z,260nm,17.9s
BOD Bodaibo 24.02 321 *e*P **P 23 53 58.5 -3.2**
BOD pmax pmax
comp=Z,7.0nm,1.0s
BTO Baotou 24.39 278 *e*P **P 23 54 03.0 -2.5**
BTO PP **PnPn 23 54 38.4 -0.8**
BTO S **S 23 58 17.0 -3.5**
BTO SS **SnSn 23 59 09.3 -0.7**
BTO pmax pmax
comp=Z,20nm,0.4s
BTO pmax pmax
comp=Z,220nm,8.6s
LYN LuoYang 24.66 262 ⇑P **P 23 54 03.3 -4.5**
LYN pmax pmax
comp=Z,11nm,0.5s
LYN pmax pmax
comp=Z,220nm,4.5s
WHN Wuhan 25.31 252 ⇓P **P 23 54 15.6 +1.8**
WHN pmax pmax
comp=Z,66nm,0.7s
ULN Ulaanbaatar 25.65 295 P **P 23 54 16.6 -0.3**
ULN Ulaanbaatar 25.65 295 *ce*P **P 23 54 16.5 -0.4**
ULN pmax pmax
comp=Z,14nm,1.3s
SONM Songino Array 26.09 295 P **P 23 54 20.8 -0.1**
SONM Songino Array 26.09 295 P **P 23 54 20.8 -0.1**
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM Songino Array 26.09 295 P **P 23 54 21.0 +0.1**
comp=Z,4.8nm,0.5s,baz=76,slow=8.9,SNR=34
comp=Z,4.8nm,0.5s
XAN Xi'an 27.51 264 ⇓P **P 23 54 34.1 +0.5**
XAN pmax pmax
comp=Z,18nm,1.1s
ZAK Zakamensk 28.18 301 *e*P **P 23 54 38.5 -1.0**
ZAK pmax pmax
comp=Z,5.0nm,0.9s
GUMO Guam 28.35 175 LR LR 00 09 50.6
comp=Z,8.6nm,18.0s,baz=112,slow=44
MOY Mondy 29.67 303 *e*P **P 23 54 50.3 -2.4**
MOY pmax pmax
comp=Z,24nm,2.0s
H11N2 WAKE ISLAND Hy 30.28 130 T T 00 28 40.2
baz=322,slow=75,SNR=4.6
H11N1 WAKE ISLAND Hy 30.29 130 T T 00 28 45.7
baz=322,slow=75,SNR=95
H11N3 WAKE ISLAND Hy 30.30 130 T T 00 28 46.3
baz=322,slow=75,SNR=92
LZH Lanzhou 30.44 272 *e*P **P 23 55 02.6 +2.9**
LZH pP pP 23 55 14.3 -1.3
LZH pmax pmax
comp=Z,22nm,1.0s
TIXI Tiksi 30.52 352⇑ *e*P **P 23 55 03.3 +3.5**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
H11S1 WAKE ISLAND Hy 31.14 131 T T 00 29 48.6
baz=323,slow=76,SNR=360
H11S3 WAKE ISLAND Hy 31.15 131 T T 00 29 50.8
baz=323,slow=76,SNR=4.9
H11S2 WAKE ISLAND Hy 31.16 131 T T 00 29 53.2
baz=323,slow=76,SNR=254
GTA Gaotai 32.25 280 *e*P **P 23 55 15.4 -0.2**
GTA pmax pmax
comp=Z,4.0nm,1.3s
PZH PanZhiHua 36.71 258 P **P 23 55 55.6 +1.4**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
DAV Davao City (W) 37.87 208 LR LR 00 11 31.9
comp=Z,34nm,21.4s,baz=26,slow=36

C16K Lisburne Hills 37.93 29 P **P 23 56 04.1 +0.2**
DGZ Jazzator, Alta 38.40 301 *c i*P **P 23 56 08.8 +0.5**
DGZ pmax pmax
comp=Z,18nm,1.2s
G16K Koyuk River 38.41 34 P **P 23 56 06.5 -1.4**
L16K Owhat River 39.28 40 P **P 23 56 16.1 +0.9**
ZAA0 Zalesovo Array 39.39 308 P **P 23 56 16.6 +0.3**
ZAA0 IAmb IAmb 23 56 17.1
comp=Z,18nm,0.8s
ZALV Zalesovo Beam 39.39 308 P **P 23 56 16.6 +0.3**
ZALV Zalesovo Beam 39.39 308 P **P 23 56 16.4 +0.1**
comp=Z,17nm,0.7s,baz=88,slow=7.8,SNR=70
ZALV PcP **PcP 23 58 23.5 +0.3**
comp=Z,2.6nm,0.7s,baz=64,slow=3.4,SNR=4.3
comp=Z,17nm,0.7s
E18K Tukpahlearik C 39.47 31 P **P 23 56 15.6 -1.1**
E18K IAmb IAmb 23 57 09.5
comp=Z,28nm,1.7s
C18K Utukok River 39.50 29 P **P 23 56 16.2 -1.0**
J17K VABM Dome 39.57 37 P **P 23 56 17.7 +0.1**
J17K IAmb IAmb 23 57 23.5
comp=Z,25nm,1.4s
WMQ Urumqi 39.60 292 *e*P **P 23 56 19.3 +1.0**
WMQ pP pP 23 56 34.3 -0.2
WMQ pmax pmax
comp=Z,27nm,0.9s
H18K Honhosa River 40.04 34 P **P 23 56 21.7 +0.2**
H18K IAmb IAmb 23 57 13.1
comp=Z,39nm,1.8s
ZSN Zaisan 40.54 298 *e*P **P 23 56 26.1 +0.1**
baz=298
ZSN Zaisan 40.54 298 *e*P **P 23 56 26.0 +0.1**
D19K Kuna River 40.58 29 P **P 23 56 25.9 -0.1**
D19K IAmb IAmb 23 56 46.1
comp=Z,42nm,1.6s
CRAI Chiangrai 41.57 252 P **P 23 56 33.6 -1.1**
CRAI IAmb IAmb 23 56 37.8
comp=Z,15nm,0.8s
J20K Nowinta River 41.79 36 P **P 23 56 36.3 +0.4**
J20K IAmb IAmb 23 57 47.4
comp=Z,52nm,2.0s
IMAR Indian Mountai 42.01 33 P **P 23 56 37.5 -0.2**
F21K Alatna River 42.18 31 P **P 23 56 38.5 -0.6**
H21K Melozitna Rive 42.39 34 P **P 23 56 40.9 +0.1**
ILSW Iliamna Southw 42.41 42 P **P 23 56 40.9 -0.2**
ILSW IAmb IAmb 23 56 46.0
comp=Z,39nm,1.5s
MK31 Makanchi Array 42.41 298 P **P 23 56 41.1 -0.2**
MK31 IAmb IAmb 23 56 42.0
comp=Z,12nm,0.7s
MK31 Makanchi Array 42.41 298 *c i*P **P 23 56 40.8 -0.4**
MK31 pmax pmax
comp=Z,14nm,0.6s
MKAR Makanchi Array 42.41 298 P **P 23 56 40.8 -0.5**
MKAR Makanchi Array 42.41 298 P **P 23 56 41.0 -0.2**
comp=Z,15nm,0.8s,baz=83,slow=9.4,SNR=97
comp=Z,15nm,0.8s
MAKZ Makanchi 42.61 298 P **P 23 56 42.4 -0.5**
MAKZ IAmb IAmb 23 56 43.8
comp=Z,19nm,0.9s
MAKZ Makanchi 42.61 298 P **P 23 56 42.4 -0.5**
MAKZ pmax pmax
comp=Z,19nm,0.9s
MAKZ Makanchi 42.61 298 P **P 23 56 42.8 -0.1**
PPLA Purkeypile 42.69 38 P **P 23 56 43.2 -0.2**
PPLA IAmb IAmb 23 56 55.4
comp=Z,64nm,2.0s
CAST Castle Rocks 42.71 37 P **P 23 56 44.4 +0.9**
SEM Semipalatinsk 42.78 303 *e*P **P 23 56 43.7 -0.8**
baz=304
SEM Semipalatinsk 42.78 303 *e*P **P 23 56 43.7 -0.8**
KDAK Kodiak Island 42.93 45 P **P 23 56 44.2 -1.0**
KDAK Kodiak Island 42.93 45 P **P 23 56 44.3 -1.0**
KDAK pmax pmax
comp=Z,247nm,2.0s
BPAW Bear Paw Mtn. 43.18 36 P **P 23 56 48.0 +0.7**
KTH Kantishna Hill 43.23 37 P **P 23 56 48.2 +0.5**
KTH IAmb IAmb 23 57 06.5
comp=Z,48nm,1.8s
C23K Itkillik River 43.40 28 P **P 23 56 48.0 -0.9**
CHTO Chiang Mai 43.52 252 P **P 23 56 50.1 -0.4**
CHTO Chiang Mai 43.52 252 P **P 23 56 50.1 -0.4**
CHTO pmax pmax
comp=Z,1.0nm,0.6s
TRF Thorofare Moun 43.52 37 P **P 23 56 50.6 +0.4**
TRF IAmb IAmb 23 57 35.1
comp=Z,33nm,1.8s
KURK Kurchatov 43.72 304 *c i*P **P 23 56 51.2 -0.5**
KURK pmax pmax
comp=Z,24nm,0.9s
KURK Kurchatov 43.72 304 P **P 23 56 51.4 -0.3**
KURK pP **pP 23 57 08.6 +0.3**
TOLK Toolik Lake Re 43.72 29 P **P 23 56 52.2 +0.6**
CMAR Chiang Mai Arr 43.75 251 P **P 23 56 53.3 +0.9**
comp=Z,2.4nm,0.7s,baz=44,slow=7.1,SNR=9.7
CMAR PcP **PcP 23 58 39.5 +1.3**
comp=Z,1.3nm,0.7s,baz=13,slow=1.8,SNR=4.5
comp=Z,2.4nm,0.7s
KURBB Kurchatov Arra 43.80 304 P **P 23 56 52.1 -0.2**
comp=Z,14nm,0.5s,baz=77,slow=8.7,SNR=104
comp=Z,14nm,0.5s
NEA2 Nenana 43.99 35 P **P 23 56 53.9 +0.2**
NEA2 IAmb IAmb 23 58 24.8
comp=Z,11nm,0.5s
RND Reindeer 44.16 37 P **P 23 56 55.3 +0.1**
RND Reindeer 44.16 37 P **P 23 56 55.3 +0.1**
RND pmax pmax
comp=Z,25nm,1.8s
GHO Glory Hole Cre 44.29 39 P **P 23 56 55.4 -0.9**
GHO IAmb IAmb 23 57 15.0
comp=Z,22nm,1.2s
MDM Murphy Dome 44.32 35 P **P 23 56 57.7 +1.3**
MDM IAmb IAmb 23 58 23.8
comp=Z,9.7nm,0.5s
F24K Squaw Lake 44.35 31 P **P 23 56 56.0 -0.6**
WRH Wood River Hil 44.42 35 P **P 23 56 58.3 +1.2**
KNK Knik Glacier 44.55 40 P **P 23 56 58.6 +0.3**
SML Sawmill 44.57 39 P **P 23 56 58.7 +0.3**
SML IAmb IAmb 23 57 28.7
comp=Z,30nm,1.5s
DHY Denali Highway 44.86 37 P **P 23 57 01.3 +0.5**
DHY IAmb IAmb 23 57 31.9
comp=Z,35nm,1.9s
ILAR Eielson Array 44.91 35 P **P 23 56 59.6 -1.4**
ILAR Eielson Array 44.91 35 P **P 23 57 01.6 +0.5**
comp=Z,1.7nm,0.8s,baz=268,slow=5.9,SNR=15
comp=Z,1.7nm,0.8s
SCM Sheep Creek Mo 45.03 39 P **P 23 57 02.4 +0.2**
SCM Sheep Creek Mo 45.03 39 P **P 23 57 02.4 +0.2**
SCM pmax pmax
comp=Z,66nm,1.8s
PDGK Podgornoye 45.40 294 *i*P **P 23 57 03.9 -1.5**
PDGK pmax pmax
comp=Z,7.0nm,0.6s
PRP Porcupine Dome 45.42 34 P **P 23 57 05.6 +0.4**
SHLS Shalkode 45.48 294 *e*P **P 23 57 03.4 -2.6**
baz=294
SHLS Shalkode 45.48 294 *e*P **P 23 57 03.4 -2.6**
TDK Taldyqorghan 45.54 297 *e*P **P 23 57 05.9 -0.4**
baz=297
TDK Taldyqorghan 45.54 297 *e*P **P 23 57 05.9 -0.4**
BMAR Burnt Mountain 45.63 31 P **P 23 57 07.7 +0.9**
KLU Klutina 45.75 39 P **P 23 57 08.5 +0.7**
KLU IAmb IAmb 23 58 29.9
comp=Z,26nm,1.5s
UZB Uzynbulak 45.78 294 *e*P **P 23 57 08.2 -0.3**
baz=294
UZB Uzynbulak 45.78 294 *e*P **P 23 57 08.1 -0.3**
KPKS Kokpek 45.90 294 *e*P **P 23 57 09.3 +0.1**
comp=Z,5.5nm,0.7s,baz=294
KPKS Kokpek 45.90 294 *e*P **P 23 57 09.3 +0.1**
KPKS pmax pmax
comp=Z,5.0nm,0.7s
ZHN Zhinishke 46.17 294 *e*P **P 23 57 11.2 -0.2**
baz=294
ZHN Zhinishke 46.17 294 *e*P **P 23 57 11.2 -0.2**
SATY Saty 46.23 294 *e*P **P 23 57 12.1 +0.1**
comp=Z,5.2nm,0.7s,baz=294
SATY Saty 46.23 294 *e*P **P 23 57 12.0 +0.1**
SATY pmax pmax
comp=Z,5.0nm,0.7s
SCRK Sand Creek 46.26 36 P **P 23 57 11.2 -0.6**
SCRK IAmb IAmb 23 57 13.1
comp=Z,21nm,1.8s
J26L Joseph Creek 46.36 35 P **P 23 57 12.5 -0.1**

J26L IAmb IAmb 23 57 17.1
comp=Z,25nm,2.0s
WUS Wushi 46.38 291 P **P 23 57 13.7 +0.5**
TAPN Taplejung 46.64 270 *e*P **P 23 57 15.7 +0.2**
comp=Z,33nm,0.8s
CHKK Chushkaly 46.90 296 *e*P **P 23 57 16.6 -0.5**
baz=296
CHKK Chushkaly 46.90 296 *e*P **P 23 57 16.5 -0.5**
M26K Nabesna, AK 46.96 38 P **P 23 57 18.9 +1.7**
M26K IAmb IAmb 23 58 38.4
comp=Z,29nm,1.8s
MDOK Medeo 47.12 295 *e*P **P 23 57 19.0 +0.1**
baz=295
MDOK Medeo 47.12 295 *e*P **P 23 57 18.9 +0.1**
MCARA McCarthy VSAT 47.14 39 P **P 23 57 19.2 +0.6**
AAA Alma-Ata 47.19 295 *e*P **P 23 57 19.7 +0.3**
comp=Z,10nm,0.7s,baz=295
AAA Alma-Ata 47.19 295 *e*P **P 23 57 19.6 +0.3**
AAA pmax pmax
comp=Z,10.0nm,0.7s
TNSS Tian-Shan 47.23 295 *e*P **P 23 57 20.3 +0.1**
baz=295
TNSS Tian-Shan 47.23 295 *e*P **P 23 57 20.2 +0.1**
L27K Beaver Creek, 47.36 37 P **P 23 57 21.5 +1.2**
BCAR Beaver Creek A 47.38 37 P **P 23 57 21.0 +0.5**
BRZS Berezniki 47.58 305 *e*P **P 23 57 21.1 -1.1**
baz=305
BRZS Berezniki 47.58 305 *e*P **P 23 57 21.9 -0.3**
JIRN Jiri 47.60 271 *e*P **P 23 57 23.6 +0.5**
comp=Z,16nm,0.3s
RAMN Ramite 47.69 270 *e*P **P 23 57 24.3 +0.7**
comp=Z,56nm,0.7s
GUN Gumba 47.70 272 *e*P **P 23 57 24.4 +0.6**
comp=Z,60nm,0.4s
I28M Miner Creek 47.73 33 P **P 23 57 24.0 +0.7**
I28M IAmb IAmb 23 58 52.9
comp=Z,32nm,2.0s
BARN Barnard Glacie 47.85 39 P **P 23 57 25.6 +1.2**
BARN IAmb IAmb 23 58 45.1
comp=Z,34nm,1.6s
BVAR Borovoye Array 48.01 309 P **P 23 57 25.6 +0.2**
comp=Z,15nm,0.5s,baz=75,slow=9.0,SNR=106
BVAR PcP **PcP 23 58 52.9 +0.4**
comp=Z,4.2nm,0.7s,baz=76,slow=1.8,SNR=4.9
comp=Z,15nm,0.5s
BRVK Borovoye 48.06 309 P **P 23 57 25.6 -0.2**
BRVK IAmb IAmb 23 57 26.9
comp=Z,9.1nm,0.6s
BRVK Borovoye 48.06 309 *d i*P **P 23 57 25.0 -0.8**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 48.06 309 P **P 23 57 26.2 +0.3**
BOOM Boomskoye usch 48.13 294 P **P 23 57 27.1 +0.3**
BOOM Boomskoye usch 48.13 294 P **P 23 57 27.1 +0.3**
BOOM pmax pmax
comp=Z,29nm,0.6s
TKM2 Tokmak 2 48.19 295 P **P 23 57 27.9 +0.6**
SNR=35
TKM2 Tokmak 2 48.19 295 *i*P **P 23 57 26.8 -0.5**
TKM2 pmax pmax
comp=Z,38nm,0.7s
KKN Kakani 48.21 272 *e*P **P 23 57 27.7 +0.1**
H29M Whitestone 48.23 32 P **P 23 57 28.3 +1.4**
PKI Pulchoki 48.24 272 *e*P **P 23 57 28.0 +0.1**
comp=Z,26nm,0.5s
PKIN Phulchoki 48.24 272 *e*P **P 23 57 28.0 +0.1**
comp=Z,20nm,0.4s
BTLS Baital 48.42 298 *e*P **P 23 57 28.1 -0.6**
baz=298
BTLS Baital 48.42 298 *e*P **P 23 57 28.1 -0.6**
DMN Daman 48.44 272 *e*P **P 23 57 29.9 +0.5**
comp=Z,22nm,0.5s
GKN Gorkha 48.58 273 *e*P **P 23 57 30.4 0.0**
comp=Z,21nm,0.5s
SGDS Sogindy 48.63 296 *e*P **P 23 57 29.8 -0.7**
baz=296
SGDS Sogindy 48.63 296 *e*P **P 23 57 29.8 -0.7**
KBK Karagaybulak 48.73 295 P **P 23 57 31.9 +0.5**
SNR=22
USP Ospenovka 48.80 296 P **P 23 57 31.8 +0.1**
SNR=8.7
G30M tAoh Zraii Nji 48.91 31 P **P 23 57 32.9 +0.7**
G30M IAmb IAmb 23 58 54.0
comp=Z,27nm,1.6s
DANN Dangsing 49.05 274 *e*P **P 23 57 34.5 +0.4**
comp=Z,112nm,0.7s
AAK Ala-Archa 49.05 295 P **P 23 57 33.3 -0.5**
AAK IAmb IAmb 23 57 34.6
comp=Z,9.0nm,0.8s
AAK Ala-Archa 49.05 295 *c i*P **P 23 57 33.7 -0.1**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 49.05 295 P **P 23 57 33.9 0.0**
K29M Barlow Dome 49.09 35 P **P 23 57 34.4 +0.7**
I30M Mount Dempster 49.24 33 IAmb IAmb 23 57 37.4
comp=Z,6.6nm,0.8s
KSH Kashi 49.33 291 P P 23 57 40.3 +4.3
KSH pmax pmax
comp=Z,12nm,0.8s
KOLN Koldanda 49.48 273 *e*P **P 23 57 36.8 -0.5**
EKS2 Erkin-Say 49.52 295 P **P 23 57 37.5 +0.1**
SNR=21
INK Inuvik 49.63 29 P **P 23 57 36.7 -0.9**
INK IAmb IAmb 23 58 17.6
comp=Z,17nm,1.5s
INK Inuvik 49.63 29 P **P 23 57 36.7 -0.9**
INK pmax pmax
comp=Z,17nm,1.5s
INK Inuvik 49.63 29 LR LR 00 22 14.5
comp=Z,23nm,18.2s,baz=354,slow=40
PYUN Piuthan 49.75 274 *e*P **P 23 57 39.5 +0.1**
comp=Z,22nm,0.3s
AML Almayashu 49.80 295 P **P 23 57 40.3 +0.6**
SNR=14
AML Almayashu 49.80 295 *i*P **P 23 57 39.3 -0.5**
AML pmax pmax
comp=Z,2.0nm,0.9s
HYT Haines Junctio 49.88 39 P **P 23 57 39.0 -0.7**
HYT IAmb IAmb 23 58 04.0
comp=Z,9.5nm,0.9s
H31M Peel River 49.92 32 P **P 23 57 40.8 +0.8**
H31M IAmb IAmb 23 58 01.5
comp=Z,26nm,1.4s
DZA Taraz 51.07 297 *e*P **P 23 57 48.9 0.0**
baz=297
DZA Taraz 51.07 297 *e*P **P 23 57 48.9 0.0**
KK31 Karatay Array 51.52 297 P **P 23 57 52.0 -0.3**
KK31 Karatay Array 51.52 297 P **P 23 57 52.0 -0.3**
KK31 pmax pmax
comp=Z,14nm,0.7s
KKAR Karatay Array 51.52 297 P **P 23 57 52.1 -0.1**
KKAR Karatay Array 51.52 297 P **P 23 57 52.2 -0.1**
SVE Sverdlovsk 52.10 316 *e*P **P 23 57 56.8 +0.5**
SVE pmax pmax
comp=Z,20nm,0.9s
KULM Kulim 52.13 237 P **P 23 57 58.1 +1.1**
KULM IAmb IAmb 23 57 59.5
comp=Z,8.7nm,0.7s
IUG Iuzhnay 52.26 296 *e*P **P 23 57 58.0 +0.1**
comp=Z,4.6nm,0.6s,baz=296
IUG Iuzhnay 52.26 296 *e*P **P 23 57 58.0 +0.1**
IUG pmax pmax
comp=Z,5.0nm,0.6s
CHM Chimkent 52.47 297 *e*P **P 23 57 59.4 0.0**
comp=Z,8.5nm,0.8s,baz=297
CHM Chimkent 52.47 297 *e*P **P 23 57 59.3 0.0**
CHM pmax pmax
comp=Z,8.0nm,0.8s
BTK Batken 52.65 294 IAmb IAmb 23 58 04.3
comp=Z,7.7nm,0.6s
ARU Arti 53.31 316 P **P 23 58 04.8 -0.5**
ARU IAmb IAmb 23 58 06.1
comp=Z,12nm,0.9s
ARU Arti 53.31 316 *c i*P **P 23 58 05.2 -0.1**
ARU *PP **pP 23 58 20.2 -2.1**
ARU 23 59 08.9
ARU S **S 00 05 33.6 +2.0**
ARU SS **SS 00 09 12.3 +0.7**
ARU pmax pmax
comp=Z,14nm,0.9s
ARU Arti 53.31 316 P **P 23 58 05.3 0.0**
GAR Garm 53.48 293 P **P 23 58 05.7 -1.3**
HNR Honiara 53.59 158 LR LR 00 17 27.3
comp=Z,176nm,21.2s,baz=26,slow=32
NIL Nilore 54.02 285 P **P 23 58 11.6 +0.7**

SIMJ Simiganj 54.55 293 P P 23 58 14.4 -0.4
SIMJ pP **pP 23 58 32.7 +0.9**
EUNU Eureka 55.19 9 P P 23 58 17.5 -1.1
EUNU IAmb IAmb 23 58 20.4
comp=Z,6.7nm,0.8s
AB31 Akbulak array 55.51 308 *e*P **P 23 58 21.3 0.0**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 55.51 308 P P 23 58 21.3 0.0
ABKAR IAmb IAmb 23 58 21.9
comp=Z,7.0nm,0.6s
SPITS Spitsbergen Ar 55.86 348 P P 23 58 23.3 -0.2
comp=Z,15nm,0.9s,baz=49,slow=16,SNR=2.7
SPITS LR LR 00 27 10.1
comp=Z,23nm,18.1s,baz=3.0,slow=41
comp=Z,15nm,0.9s
AKTO Aktyubinsk 56.10 310 *i* P **P 23 58 24.2 -1.4**
AKTO pmax pmax
comp=Z,4.0nm,0.6s
KBL Kabul 56.57 288 P P 23 58 28.6 -0.8
KBL IAmb IAmb 23 58 29.7
comp=Z,13nm,0.9s
KBL Kabul 56.57 288 P P 23 58 28.6 -0.8
KBL pmax pmax
comp=Z,13nm,0.9s
KIRV Kirov 56.89 321 *de*P **P 23 58 31.0 0.0**
PRGR Permogore 57.15 326 *e*P **P 23 58 31.8 -0.9**
PRGR *e**PP **pP 23 58 49.4 -0.6**
PRGR pmax pmax
comp=Z,14nm,0.7s
RES Resolute Bay 57.62 15 P P 23 58 34.8 -1.1
RES IAmb IAmb 23 58 35.7
comp=Z,7.4nm,0.8s
RES Resolute Bay 57.62 15 P P 23 58 34.8 -1.1
RES pmax pmax
comp=Z,7.0nm,0.8s
BBB Bella Bella 57.98 47 LR LR 00 24 19.4
comp=Z,19nm,18.5s,baz=165,slow=37
APA Apatity 58.57 335 ⇓*i*P **P 23 58 42.2 -0.5**
APA *i* 23 59 29.3
APA pmax pmax
comp=Z,7.0nm,1.0s
KNRA Kununurra 58.75 196 P P 23 58 45.1 +0.7
ARCES ARCESS Array B 59.70 339 P P 23 58 49.6 -0.8
comp=Z,4.1nm,0.9s,baz=53,slow=6.1,SNR=10
ARCES LR LR 00 26 33.9
comp=Z,34nm,21.0s,baz=68,slow=38
comp=Z,4.1nm,0.9s
KLMR Klimovskoe 60.09 327 *e*P **P 23 58 49.8 -3.4**
KLMR AMP 23 59 01.9
comp=Z,38nm,2.1s
KLMR Klimovskoe 60.09 327 *e*P **P 23 58 49.7 -3.4**
KLMR pmax pmax
comp=Z,38nm,2.1s
HRA Herat 61.41 292 P P 23 59 01.6 -1.3
HRA IAmb IAmb 23 59 04.0
comp=Z,9.1nm,0.7s
WB0 Warramunga Arr 61.88 189 P P 23 59 05.7 0.0
WB0 IAmb IAmb 23 59 26.2
comp=Z,10.0nm,1.1s
WRAB Tennant Creek 62.05 189 P P 23 59 06.8 -0.1
WRAB pP **pP 23 59 25.4 +1.1**
WR0 Warramunga Arr 62.06 189 P P 23 59 06.7 -0.2
WR0 IAmb IAmb 23 59 29.8
comp=Z,11nm,1.4s
WB2 Warramunga Arr 62.06 189 P P 23 59 06.9 -0.1
WB2 IAmb IAmb 23 59 27.4
comp=Z,14nm,1.1s
WRA Warramunga Arr 62.06 189 P P 23 59 06.2 -0.8
WRA Warramunga Arr 62.06 189 *i* P **P 23 59 07.3 +0.3**
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 62.06 189 P P 23 59 07.1 +0.1
comp=Z,3.2nm,0.8s,baz=6.2,slow=6.9,SNR=28
comp=Z,3.2nm,0.8s
GEYT Alibeck 62.28 297 P P 23 59 07.8 -0.6
GEYT IAmb IAmb 23 59 09.9
comp=Z,9.2nm,0.9s
GEYT Alibeck 62.28 297 P P 23 59 07.9 -0.6
comp=Z,7.3nm,0.8s,baz=64,slow=7.1,SNR=9.5
GEYT LR LR 00 28 10.9
comp=Z,72nm,19.0s,baz=338,slow=38
comp=Z,7.3nm,0.8s
GYA0B ALIBECK ARRAY 62.28 297 P P 23 59 07.7 -0.8
GYA0B IAmb IAmb 23 59 10.5
comp=Z,20nm,1.4s
VRH Novokhopyorsk 64.54 317 *e*P **P 23 59 21.0 -2.1**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 64.69 322⇓*e*P **P 23 59 23.9 -0.1**
OBN *e**PP **pP 23 59 42.6 +1.0**
OBN *e* 23 59 56.4
OBN *e* 00 01 47.0
OBN pmax pmax
comp=Z,33nm,2.5s
OBN MLR MLR
comp=Z,59nm,16.0s
FIA1 FINESS Array S 64.87 332 P P 23 59 24.4 -0.6
FINES FINESS Array B 64.87 332 P P 23 59 24.4 -0.6
FINES FINESS Array B 64.87 332 P P 23 59 24.7 -0.4
comp=Z,12nm,0.6s,baz=50,slow=7.6,SNR=72
FINES LR LR 00 30 31.5
comp=Z,76nm,18.0s,baz=44,slow=38
comp=Z,12nm,0.6s
LPSR Galich'ya Gora 65.11 319 *e*P **P 23 59 22.1 -4.6**
LPSR pmax pmax
comp=Z,6.0nm,0.6s
SUMG Summit 65.76 0 P P 23 59 30.9 -0.3
SUMG IAmb IAmb 23 59 52.4
comp=Z,19nm,1.3s
SUMG Summit 65.76 0 P P 23 59 30.9 -0.3
SUMG pmax pmax
comp=Z,19nm,1.3s
ASAR Alice Springs 65.79 189 P P 23 59 32.0 +0.6
comp=Z,0.8nm,0.6s,baz=8.2,slow=6.3,SNR=12
comp=Z,0.8nm,0.6s
VSR Storozhevoye 65.83 318 *e*P **P 23 59 28.7 -2.7**
VSR pmax pmax
comp=Z,8.0nm,0.5s
GROC Groznyy 67.02 308 *e*P P 23 59 45.6 +6.4
GROC pmax pmax
comp=Z,30nm,1.4s
KIV Kislovodsk 68.36 310 P P 23 59 48.0 +0.2
KIV Kislovodsk 68.36 310 *e*P **P 23 59 48.6 +0.8**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,22nm,17.0s
KIV Kislovodsk 68.36 310 P P 23 59 48.7 +0.9
KIV pP **pP 00 00 07.6 +2.2**
KBZ Khabaz 68.38 310 *ce*P **P 23 59 48.0 +0.3**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 68.38 310 P P 23 59 48.2 +0.5
comp=Z,6.8nm,0.7s,baz=94,slow=3.3,SNR=13
KBZ LR LR 00 32 48.3
comp=Z,34nm,21.7s,baz=134,slow=39
comp=Z,6.8nm,0.7s
MNK Minsk 68.92 325 *i* P **P 23 59 49.3 -1.6**
comp=E,2.0nm,0.7s
MNK *i* P **P 23 59 49.3 -1.6**
comp=N,10.0nm,0.7s
MNK *i* P **P 23 59 49.3 -1.6**
comp=Z,10.0nm,0.7s,baz=46
MNK *i* PP **PP 00 02 20.0 -3.2**
MNK *i* PPP PPP 00 04 00.8
MNK *i* S **S 00 08 51.5 +1.7**
MNK *i* SS **SS 00 13 15.7 +0.4**
MNK *i* SSS SSS 00 16 36.6
MNK *i* LQ LQ 00 25 09.9
MNK *i* LR LR 00 30 23.2
MNK *i* LRM MLR 00 35 16.1
comp=E,111nm,16.1s
MNK *i* LRM MLR 00 35 16.8
comp=N,293nm,16.1s
MNK *i* LRM MLR 00 35 16.8
comp=Z,80nm,16.1s
MNK Minsk 68.92 325 *i* P **P 23 59 49.3 -1.6**
MNK *i* 00 02 20.0
MNK *i* PPP PPP 00 04 00.7
MNK *i* S **S 00 08 51.4 +1.7**
MNK *i* SS **SS 00 13 15.6 +0.4**
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,10.0nm,0.7s
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK MLR MLR
comp=E,111nm,16.0s
MNK MLR MLR
comp=N,293nm,16.0s
MNK MLR MLR
comp=Z,80nm,16.0s
NACGM Naroch 69.10 326 *e*P **P 23 59 52.7 +0.7**
comp=Z,23nm,0.8s,baz=46
FFC Flin Flon 69.11 34 P P 23 59 52.2 +0.1
FFC Flin Flon 69.11 34 P P 23 59 52.2 +0.1
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 69.11 34 P P 23 59 52.5 +0.4
FFC pP **pP 00 00 10.8 +0.8**
NC204 NORSAR Array S 69.92 337 P P 23 59 56.2 -0.9
HFS Hagfors 69.96 335 P P 23 59 56.7 -0.5
comp=Z,8.6nm,0.5s,baz=44,slow=7.0,SNR=56
HFS LR LR 00 33 08.5
comp=Z,31nm,20.5s,baz=10.0,slow=38
comp=Z,8.6nm,0.5s
NOA NORSAR Array B 69.98 337 P P 23 59 56.9 -0.5
comp=Z,6.7nm,0.7s,baz=36,slow=6.1,SNR=26
NOA LR LR 00 34 02.9
comp=Z,28nm,21.2s,baz=30,slow=39
comp=Z,6.7nm,0.7s
NBO00 NORSAR Array S 70.11 337 P P 23 59 57.5 -0.7
AKASG Malin Array Be 70.94 322 P P 00 00 03.0 -0.4
comp=Z,5.7nm,0.5s,baz=44,slow=6.0,SNR=37
AKASG LR LR 00 33 18.0
comp=Z,44nm,19.4s,baz=343,slow=38
comp=Z,5.7nm,0.5s
UOSS Minazif 71.17 287 P P 00 00 04.2 -1.0
NVAR Mina Array Bea 71.39 55 P P 00 00 08.0 +1.3
comp=Z,1.1nm,0.8s,baz=286,slow=6.5,SNR=8.5
comp=Z,1.1nm,0.8s
GURO Guroymak-BITLI 72.13 306 P P 00 00 12.0 +1.0
GRAC Grapevine Rang 72.87 56 P P 00 00 16.6 +1.3
SORM Soroca 73.14 320 ⇑P **P 00 00 16.0 -0.5**
PDAR Pinedale Array 73.63 47 P P 00 00 20.2 +0.3
PDAR Pinedale Array 73.63 47 P P 00 00 20.6 +0.7
comp=Z,1.2nm,0.7s,baz=269,slow=2.5,SNR=12
comp=Z,1.2nm,0.7s
ULM Lac du Bonnet 74.93 34 P P 00 00 27.0 0.0
comp=Z,3.2nm,0.8s,baz=317,slow=9.6,SNR=3.7
comp=Z,3.2nm,0.8s
BUR08 Bucovina Ar. S 74.97 322 P P 00 00 27.3 -0.2
BUR08 IAmb IAmb 00 00 28.7
comp=Z,9.7nm,0.8s
BURAR Bucovina Array 74.99 322 P P 00 00 27.5 0.0
BURAR IAmb IAmb 00 00 29.0
comp=Z,11nm,0.7s
BURAR Bucovina Array 74.99 322 ⇑P **P 00 00 27.7 +0.2**
RDMU Red Mountain 75.10 49 P P 00 00 29.3 +0.9
CFR Carcaliu 75.34 318 ⇑P **P 00 00 29.3 -0.1**
KOLS Kolonicke sedl 75.34 324 *e*P **P 00 00 30.1 +0.7**
STHS Stebnicka Huta 75.43 325 *e*P **P 00 00 30.4 +0.5**
STHS pmax pmax
comp=Z,6.0nm,0.8s
OJC Ojcow 75.43 326 P P 00 00 29.2 -0.7
OJC IAmb IAmb 00 00 31.4
comp=Z,12nm,0.9s
OJC Ojcow 75.43 326 P P 00 00 29.2 -0.7
OJC pmax pmax
comp=Z,12nm,0.9s
VRI Vrincioaia 75.54 319 ⇓P **P 00 00 31.6 +1.0**
PLOR Plostina 75.59 320 ⇑P **P 00 00 32.6 +1.7**
CRVS Cervenica-Dubn 75.72 324 *e*P **P 00 00 32.4 +0.8**
MLR Muntele Rosu 76.19 320 ⇑P **P 00 00 36.4 +2.0**
HMU Henry Mountain 76.22 51 P P 00 00 35.8 +0.9
BRTR Keskin Array B 76.24 311 P P 00 00 34.8 -0.1
BRTR Keskin Array B 76.24 311 *ce*P **P 00 00 35.5 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BRTR Keskin Array B 76.24 311 P P 00 00 35.0 +0.1
comp=Z,3.1nm,0.7s,baz=85,slow=4.3,SNR=8.0
BRTR LR LR 00 38 50.2
comp=Z,30nm,19.5s,baz=360,slow=39
comp=Z,3.1nm,0.7s
LANS Liptovska Anna 76.39 326 *e*P **P 00 00 36.5 +1.1**
LANS pmax pmax
comp=Z,3.0nm,0.9s
OSTC Ostas 76.62 328 *e*P **P 00 00 36.4 -0.3**
OSTC Ostas 76.62 328 *e*P **P 00 00 36.4 -0.3**
VOIR 76.66 320 ⇑P **P 00 00 38.3 +1.3**
CHVC Chvalec 76.66 328 *e*P **P 00 00 36.9 0.0**
CHVC Chvalec 76.66 328 *e*P **P 00 00 36.9 0.0**
MORC Moravsky Berou 76.70 327 P P 00 00 36.0 -1.1
MORC Moravsky Berou 76.70 327 *e*P **P 00 00 37.7 +0.6**
MORC Moravsky Berou 76.70 327 P P 00 00 36.0 -1.1
MORC pmax pmax
comp=Z,5.0nm,0.8s
UPC Upice 76.74 328 *e*P **P 00 00 37.7 +0.4**
UPC Upice 76.74 328 *e*P **P 00 00 37.7 +0.4**
DPC Dobruska-Polom 76.74 328 *e*P **P 00 00 37.8 +0.4**
DPC Dobruska-Polom 76.74 328 *e*P **P 00 00 37.8 +0.4**
FLTG Flechtingen 77.06 332 *e*P **P 00 00 38.9 -0.1**
comp=Z,9.7nm,0.7s,baz=34,slow=4.7
VYHS Vyhne 77.16 325 *e*P **P 00 00 40.8 +1.1**
CLL Collm 77.25 330 ⇑*i*P **P 00 00 39.9 -0.2**
CLL *e**PP **pP 00 00 58.0 -0.3**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 77.25 330 *e*P **P 00 00 40.2 +0.1**
comp=Z,6.3nm,0.8s,baz=34,slow=4.7
CLL Collm 77.25 330 ⇑*i*P **P 00 00 39.9 -0.2**
comp=Z,8.0nm,0.8s
CLL *e*PcP **PcP 00 00 50.0 -0.5**
CLL *e*pP **pP 00 00 58.0 -0.3**
CLL *e*sP **sP 00 01 04.0 -1.6**
B35A Bob, Littlefor 77.28 35 P P 00 00 40.5 +0.2
B35A IAmb IAmb 00 00 41.2
comp=Z,10nm,0.8s
NRDL Niedersach Rie 77.32 332 *e*P **P 00 00 41.1 +0.7**
comp=Z,3.2nm,0.7s,baz=34,slow=4.7
JAVC Velka Javorina 77.37 326 *e*P **P 00 00 42.3 +1.4**
RETH Rethem/Aller, 77.37 333 *e*P **P 00 00 41.3 +0.6**
baz=34,slow=4.7
FBE Freiberg 77.43 330 *e*P **P 00 00 41.9 +0.7**
comp=Z,5.0nm,0.7s,baz=34,slow=4.7
VRAC Vranov 77.45 327 *e*P **P 00 00 42.0 +0.7**
VRAC Vranov 77.45 327 LR LR 00 37 08.6
comp=Z,30nm,20.6s,baz=56,slow=37
HSKC Hora Svate Kat 77.66 330 *e*P **P 00 00 41.7 -0.8**
PRA Prague 77.71 329 *e*P **P 00 00 43.1 +0.4**
PRA Prague 77.71 329 *e*P **P 00 00 43.1 +0.4**
KRUC Moravsky 77.73 327 *e*P **P 00 00 43.4 +0.6**
PRU Pruhonice 77.73 329 *e*P **P 00 00 43.2 +0.4**
PRU Pruhonice 77.73 329 *e*P **P 00 00 43.2 +0.4**
CLZ Clausthal 77.76 332 *e*P **P 00 00 43.7 +0.7**
comp=Z,8.3nm,0.7s,baz=34,slow=4.7
NEUB Neuenburg 77.78 331 *e*P **P 00 00 43.4 +0.3**
comp=Z,10.0nm,0.8s,baz=34,slow=4.7
BORA Eskisehir 77.89 313 P P 00 00 44.2 +0.2
MODS Modra-Piesok 77.91 326 *e*P **P 00 00 45.5 +1.6**
GTTG Gottingen 78.15 332 *e*P **P 00 00 45.2 0.0**
comp=Z,5.3nm,0.7s,baz=34,slow=4.7
WERD Werda 78.21 330 *e*P **P 00 00 45.4 -0.1**
comp=Z,2.4nm,0.8s,baz=34,slow=4.7
IBBN Ibbenburen 78.27 344 *e*P **P 00 00 45.9 +0.2**
comp=Z,8.1nm,0.7s,baz=34,slow=4.7
MOX Moxa 78.30 331 *e*L L 00 37 11.4
comp=Z,41nm,20.7s
ZVC Zvikov 78.31 328 *e*P **P 00 00 46.3 +0.3**
WERN Wernitzgruen 78.31 330 *e*P **P 00 00 46.6 +0.5**
comp=Z,3.7nm,0.8s,baz=34,slow=4.7
NKC Novy Kostel 78.33 330 *e*P **P 00 00 46.1 -0.1**
NKC Novy Kostel 78.33 330 *e*P **P 00 00 46.1 -0.1**
EYMN Ely 78.54 34 P P 00 00 47.2 -0.1
MANZ Manzenberg 78.66 330 *e*P **P 00 00 48.5 +0.5**
comp=Z,0.6nm,0.8s,baz=34,slow=4.7
CKRC Cesky Krumlov 78.76 328 *e*P **P 00 00 48.4 -0.2**
CKRC Cesky Krumlov 78.76 328 *e*P **P 00 00 48.4 -0.2**
EKA Eskdalemuir Ar 78.77 341 P P 00 00 48.5 0.0
comp=Z,4.2nm,0.8s,baz=25,slow=4.9,SNR=11
comp=Z,4.2nm,0.8s
KHC Kasperske Hory 78.79 329 P P 00 00 48.2 -0.6
KHC Kasperske Hory 78.79 329 *de*P **P 00 00 49.3 +0.5**
KHC pmax pmax
comp=Z,12nm,0.9s
KHC Kasperske Hory 78.79 329 *e*P **P 00 00 49.3 +0.5**
ROTZ Rotzenmuhle 78.80 330 *e*P **P 00 00 49.6 +0.8**
comp=Z,0.7nm,0.8s,baz=34,slow=4.7
CONA Conrad Observa 78.84 327 *e*P **P 00 00 50.2 +1.1**
comp=Z,2.0nm,0.6s
RONA Rosalia, Austr 78.84 326 *e*P **P 00 00 49.9 +0.8**
comp=Z,3.1nm,0.6s,SNR=4.8
GEC2 GERESS Array S 78.97 328 *e*P **P 00 00 50.1 +0.2**
comp=Z,1.7nm,0.7s,baz=34,slow=4.7
GERES GERESS Array B 78.97 328 P P 00 00 49.5 -0.4
GERES GERESS Array B 78.97 328 P P 00 00 50.0 +0.2
GERES GERESS Array B 78.97 328 P P 00 00 50.0 +0.2
comp=Z,1.8nm,0.7s,baz=30,slow=5.9,SNR=12
GERES LR LR 00 38 11.3
comp=Z,38nm,18.4s,baz=30,slow=38
comp=Z,1.8nm,0.7s
KASTN Kahler Asten 78.97 333 *e*P **P 00 00 50.2 +0.5**
comp=Z,3.6nm,0.8s,baz=34,slow=4.7
WET Wettzell 79.05 329 *e*P **P 00 00 50.8 +0.6**
comp=Z,3.3nm,0.8s,baz=34,slow=4.7
BUG Bochum–Univer 79.16 333 *e*P **P 00 00 50.8 +0.1**
comp=Z,7.0nm,0.7s,baz=34,slow=4.7
GRA1 Grafenberg Arr 79.23 330 P P 00 00 51.8 +0.7
GRA1 IAmb IAmb 00 00 52.7
comp=Z,14nm,0.7s
GRF Grafenberg Arr 79.23 330 P P 00 00 51.8 +0.7
GRF pmax pmax
comp=Z,14nm,0.7s
GRF Grafenberg Arr 79.23 330 *e*P **P 00 00 52.0 +0.9**
comp=Z,11nm,0.7s,baz=34,slow=4.7
GRF *e*L L 00 37 50.2
comp=Z,50nm,19.4s
GRFO Grafenberg 79.23 330 P P 00 00 51.7 +0.6
GRFO IAmb IAmb 00 00 52.6
comp=Z,13nm,0.8s
GRFO Grafenberg 79.23 330 P P 00 00 51.7 +0.6
GRFO pmax pmax
comp=Z,13nm,0.8s
ECSD EROS Data Cent 79.53 39 P P 00 00 53.0 +0.1
RDO Rodhopi 79.57 317 IAmb IAmb 00 00 54.8
comp=Z,14nm,0.9s
VTS Vitosha 79.63 319 ⇑P **P 00 00 54.4 +0.8**
MMAI Mount Meron Ar 79.82 305 P P 00 00 55.4 +0.7
comp=Z,6.9nm,0.7s,baz=352,slow=5.1,SNR=14
comp=Z,6.9nm,0.7s
PERS Pernice 80.18 326 *i* P **P 00 00 56.6 +0.2**
SOKA Soboth 80.18 326 *e*P **P 00 00 57.0 +0.6**
comp=Z,7.5nm,0.8s
RJOB Jochberg 80.23 328 *e*P **P 00 00 57.7 +1.0**
comp=Z,5.9nm,0.8s,baz=34,slow=4.7
MEM Membach 80.29 334 *d*P **P 00 00 56.2 -0.6**
comp=Z,7.0nm,0.8s
SCHQ Schefferville 80.36 17 P P 00 00 57.4 +0.2
comp=Z,5.2nm,1.0s,baz=9.5,slow=6.1,SNR=2.7
comp=Z,5.2nm,1.0s
PEHC Pehcevo 80.42 319 *i* P **P 00 00 59.0 +1.2**
BSTI Sart Tilman 80.46 334 *d*P **P 00 00 57.9 +0.2**
FUR Furstenfeldbru 80.47 329 *e*P **P 00 00 58.8 +1.0**
comp=Z,8.9nm,0.8s,baz=34,slow=4.7
OBKA Obir 80.52 327 *e*P **P 00 00 58.5 +0.3**
comp=Z,4.9nm,0.6s
KBA Koelnbreinsper 80.55 328 *e*P **P 00 00 59.3 +0.8**
comp=Z,3.4nm,0.6s
BCLA Clavier 80.69 334 *d*P **P 00 00 58.5 -0.5**
comp=Z,3.5nm,0.7s
BGES Gesves 80.79 334 *d*P **P 00 00 59.4 -0.1**
comp=Z,5.5nm,0.9s
STIP Stip 80.83 319 *i* P **P 00 00 59.3 -0.6**
VAY Valandovo 80.93 319 *i* P **P 00 01 00.9 +0.5**
BMRD Maredsous 80.96 334 *d*P **P 00 00 59.6 -0.7**
comp=Z,8.1nm,0.8s
PRED Cave del Predi 80.97 327 P P 00 00 59.8 -0.8
BOJS Bojanci 81.03 325 *i* P **P 00 01 00.7 -0.1**
WATA Walderalm 81.03 329 *e*P **P 00 01 01.4 +0.3**
comp=Z,4.7nm,0.5s,SNR=5.1
WTTA Wattenberg 81.07 329 *i* P **P 00 01 01.7 +0.4**
comp=Z,6.3nm,0.7s,SNR=7.5
ABTA Abfaltersbach 81.15 328 *e*P **P 00 01 01.0 -0.5**
comp=Z,1.1nm,0.7s
CEY Cerknica 81.19 326 *i* P **P 00 01 01.4 -0.3**
DOU Dourbes 81.20 334 *d*P **P 00 01 01.3 -0.3**
comp=Z,4.7nm,1.2s
MOTA Moosalm 81.21 329 *e*P **P 00 01 02.2 +0.2**
comp=Z,4.9nm,0.6s,SNR=11
RETA Reutte 81.22 329 *i* P **P 00 01 02.1 +0.2**
comp=Z,4.6nm,0.8s,SNR=5.5
STAL STALIGIAL 81.47 327 IAmb IAmb 00 01 02.9
comp=Z,6.7nm,0.6s
FETA Feichten 81.62 329 *e*P **P 00 01 04.4 +0.2**
comp=Z,2.7nm,0.7s,SNR=8.8
DAVA Damuels 81.72 330 *i* P **P 00 01 04.8 +0.1**
comp=Z,7.8nm,0.8s,SNR=8.2
OHR Ohrid 81.95 320 *i* P **P 00 01 06.2 +0.3**
FUORN Ofenpass-Fuorn 82.13 329 P P 00 01 06.1 -0.9
FUORN IAmb IAmb 00 01 08.4
comp=Z,9.3nm,0.8s
DAVOX Davos/Dischmat 82.14 329 LR LR 00 40 57.2
comp=Z,45nm,18.2s,baz=45,slow=38
KBN Korca 82.33 319 IAmb IAmb 00 01 08.8
comp=Z,12nm,0.8s
KARP Karpathos 82.82 312 P P 00 01 09.8 -0.6
VLDQ Val d'Or 83.59 26 P P 00 01 12.7 -1.5
VLDQ IAmb IAmb 00 01 14.2
comp=Z,11nm,0.8s
SGRT San Giovanni R 83.81 323 P P 00 01 15.1 -0.5
SGRT IAmb IAmb 00 01 16.2
comp=Z,14nm,0.9s
FDMO Fiordimonte 83.94 325 IAmb IAmb 00 01 17.3
comp=Z,9.4nm,0.7s
MURB Monte Urbino 83.99 326 IAmb IAmb 00 01 18.4
comp=Z,11nm,0.9s
NRCA Norcia 84.09 325 P P 00 01 17.2 +0.2
CAMP Campotosto 84.21 325 IAmb IAmb 00 01 18.8
comp=Z,9.4nm,1.0s
IDI Anoyia 84.26 313 P P 00 01 16.7 -1.2
AQU L'Aquila 84.36 325 IAmb IAmb 00 01 19.7
comp=Z,7.6nm,0.8s
INTR Introdacqua 84.42 324 P P 00 01 18.1 -0.5
BNI Bardonecchia 84.80 330 P P 00 01 19.4 -1.2
BNI Bardonecchia 84.80 330 P P 00 01 19.4 -1.2
BNI pmax pmax
comp=Z,36nm,2.0s
SGCY Sterling City 86.04 50 P P 00 01 26.7 -0.1
SGCY IAmb IAmb 00 01 29.9
comp=Z,8.9nm,0.8s
PPT Papeete 86.11 118 LR LR 00 30 41.7
comp=Z,37nm,20.8s,baz=302,slow=29
TXAR Lajitas Array 86.45 53 P P 00 01 29.7 +0.7
comp=Z,0.9nm,0.8s,baz=289,slow=3.8,SNR=9.2
comp=Z,0.9nm,0.8s
SIUC Southern Illin 87.72 39 P P 00 01 35.2 +0.3
ESDC Sonseca Array 93.23 335 P P 00 02 00.5 0.0
comp=Z,1.0nm,0.8s,baz=26,slow=3.4,SNR=5.7
ESDC LR LR 00 48 42.5
comp=Z,18nm,18.0s,baz=360,slow=38
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 114.38 318 PKP PKPdf 00 07 25.8 -0.2
comp=Z,0.5nm,0.9s,baz=5.7,slow=1.4,SNR=2.0
SNAA Sanae 145.71 199 PKPbc PKPab 00 08 23.9 -0.1
comp=Z,1.3nm,0.5s,baz=170,slow=5.8,SNR=13
H03N2 Juan Fernandez 146.37 89 T T 02 51 50.8
baz=300,slow=77,SNR=4.8
H03N3 Juan Fernandez 146.39 89 T T 02 51 52.1
baz=300,slow=77,SNR=5.1
H03N1 Juan Fernandez 146.39 89 T T 02 51 50.7
baz=300,slow=77,SNR=4.6

STR ***17*** *23:50:00.8±0.5,42°N±3°×°±°,h12km±4km,MLv3.1/50,*
Error ellipse: s-maj=0.0km s-min=0.0km az=113.5,
preliminary
ROM ***17*** *23:50:00.6±0.1,42°.266N±0°.008×8°.989E±0°.010,*
h20km±1km,ML2.5/60,Error ellipse: s-maj=0.8km
s-min=0.8km az=183.0
LDG ***17*** *23:50:01.7±0.1,42°.26N×9°.09E,h4km,Md2.7/1,Ml2.9/29,*
Error ellipse: s-maj=2.2km s-min=1.8km az=32.0
ISC 17 23:50:00.7±0.9,**42°.26N**±0°.02×**9°.03E**±0°.02,**h16**km±6km,
n157,σ1°.31/229,**4C-1D,Corsica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPL	**Sampolo**	**0.25**	**130**	⇓P	**Pg**	**23 50 05.7**	**-0.5**
SMPL				S	**Sg**	**23 50 08.7**	**-1.2**
SMPL				AML	AML		
	comp=E,1021μm,0.3s						
SMPL				AML	AML		
	comp=N,932μm,0.2s						
SMPL				AML	AML		
	comp=E,853μm,0.5s						
SMPL				AML	AML		

comp=N,872μm,0.2s
SMPL Sampolo 0.25 130 Pg Pg 23 50 05.7 -0.5
PGF Pioggiola 0.29 356 *e*P **Pg 23 50 06.8 -0.2**
PGF Pioggiola 0.29 356 *e*Pg **Pg 23 50 07.0 +0.1**
PGF *e*Sg **Sg 23 50 11.1 -0.1**
comp=N,2μm,0.3s
PGF Pioggiola 0.29 356 P **Pg 23 50 06.7 -0.2**
PGF AML AML
comp=E,3820μm,0.4s
PGF AML AML
comp=N,3480μm,0.2s
PGF Pioggiola 0.29 356 Pg **Pg 23 50 06.7 -0.2**
PGF Sg **Sg 23 50 10.9 -0.3**
AJAC Base Areonaval 0.38 211 ⇑P **Pg 23 50 08.8 +0.3**
AJAC S **Sg 23 50 14.0 +0.3**
AJAC AML AML
comp=E,1875μm,0.8s
AJAC AML AML
comp=N,2090μm,0.1s
AJAC Base Areonaval 0.38 211 Pg **Pg 23 50 08.8 +0.3**
AJAC Sg **Sg 23 50 14.1 +0.3**
MORSI Morsiglia 0.74 19 Pg **Pg 23 50 14.6 -0.4**
MORSI Sg **Sg 23 50 24.9 +0.1**
A317A Capraia (LI) 0.99 37 P **Pn 23 50 20.2 +0.2**
CELB S.Piero in Cam 1.00 60 ⇑P **Pb 23 50 19.6 -0.1**
CELB S **Sn 23 50 33.6 -0.4**
CELB AML AML
comp=N,135μm,1.0s
CELB AML AML
comp=E,143μm,0.5s
AGLI Aglientu 1.14 174 P **Pb 23 50 22.1 +0.2**
AGLI S **Sg 23 50 37.4 +0.1**
AGLI AML AML
comp=N,560μm,0.6s
AGLI AML AML
comp=E,936μm,0.2s
A318A Donoratico (LI 1.43 52 ⇑P **Pn 23 50 26.4 +0.5**
A318A S **Sb 23 50 45.2 +0.3**
CASP Castiglione de 1.46 68 P **Pn 23 50 26.5 +0.1**
CASP S **Sn 23 50 45.1 -0.1**
CASP AML AML
comp=E,77μm,0.6s
CASP AML AML
comp=N,95μm,0.3s
MAON Monte Argentar 1.57 83 P **Pn 23 50 28.3 +0.4**
MAON AML AML
comp=E,38μm,0.7s
MAON AML AML
comp=N,52μm,1.5s
MAON AML AML
comp=N,52μm,0.5s
MAGO Bibbona 1.57 49 P **Pn 23 50 28.1 +0.1**
MAGO S **Sn 23 50 47.8 -0.2**
MAGO AML AML
comp=E,74μm,0.4s
MAGO AML AML
comp=E,74μm,0.5s
MAGO AML AML
comp=N,55μm,1.2s
MAGO AML AML
comp=N,55μm,0.8s
TRIF Trifonti 1.63 58 P **Pn 23 50 29.2 +0.5**
TRIF S **Sb 23 50 50.2 -0.4**
TRIF AML AML
comp=E,87μm,0.6s
TRIF AML AML
comp=N,77μm,1.0s
TRIF AML AML
comp=E,87μm,0.7s
TRIF AML AML
comp=N,77μm,0.9s
TRIF AML AML
comp=N,77μm,1.1s
RIBO Ribolla Roccas 1.64 64 P **Pn 23 50 29.3 +0.4**
A319A Santa Luce (PI 1.67 43 P **Pn 23 50 29.6 +0.4**
PII Pisa 1.83 36 ⇑P **Pn 23 50 32.0 +0.6**
PII S **Sn 23 50 54.5 +0.2**
PII AML AML
comp=E,53μm,0.4s
PII AML AML
comp=N,58μm,0.7s
FROS Frosini 1.83 58 P **Pn 23 50 32.4 +0.9**
FROS AML AML
comp=E,80μm,0.3s
FROS AML AML
comp=N,73μm,0.9s
IMI Imperia 1.85 334 P **Pn 23 50 31.5 -0.4**
IMI S **Sn 23 50 53.7 -1.2**
IMI AML AML
comp=E,156μm,0.4s
IMI AML AML
comp=N,238μm,0.3s
IMI AML AML
comp=E,156μm,1.6s
BURY Giardini Botan 1.87 325 P **Pn 23 50 31.8 -0.1**
BURY S **Sn 23 50 54.1 -1.1**
BURY AML AML
comp=E,53μm,0.4s
BURY AML AML
comp=N,81μm,1.0s
BURY AML AML
comp=E,53μm,1.6s
BURY AML AML
comp=N,81μm,1.0s
BURY Giardini Botan 1.87 325 Pn Pn 23 50 27.2 -4.8
BURY Pg **Pn 23 50 31.9 -0.1**
BURY Giardini Botan 1.87 325 Sn **Sn 23 50 54.2 -1.1**
MON Monaco 1.88 322 Pn **Pn 23 50 32.3 0.0**
MON Sn **Sn 23 50 54.9 -0.8**
PLMA Palmaria, Port 1.89 18 P **Pn 23 50 32.8 +0.5**
PLMA S **Sn 23 50 55.5 -0.3**
PLMA AML AML
comp=E,34μm,1.0s
PLMA AML AML
comp=N,44μm,0.4s
PLMA AML AML
comp=E,34μm,1.0s
ARCI Arcidosso 1.90 71 P **Pn 23 50 32.9 +0.3**
MAIM Mastiano 1.97 32 P **Pn 23 50 33.5 +0.1**
MAIM S **Sn 23 50 58.1 +0.3**
RORO Rocca Rossa 1.98 340 P **Pn 23 50 33.3 -0.3**
RORO S **Sn 23 50 57.0 -1.1**
RORO AML AML
comp=E,96μm,0.1s
RORO AML AML
comp=N,60μm,0.9s
RORO Rocca Rossa 1.98 340 Pn **Pn 23 50 33.2 -0.3**
RORO Rocca Rossa 1.98 340 Sn **Sn 23 50 57.0 -1.1**
SBF Sospel 1.98 325 *e*Pn **Pn 23 50 33.5 -0.2**
SBF *e*Sn **Sn 23 50 57.6 -0.7**
comp=N,70nm,0.2s
DGI Dorgali Grotta 1.99 167 P **Pn 23 50 35.2 +1.6**
ESCA l'Escarene 1.99 323 Pn **Pn 23 50 33.7 +0.1**
ESCA Sn **Sn 23 50 57.3 -0.9**
MGRO Montegrosso 2.00 334 P **Pn 23 50 33.8 -0.1**
MGRO S **Sn 23 50 57.6 -1.1**
MGRO AML AML
comp=N,140μm,1.0s
MGRO AML AML
comp=E,174μm,0.7s
MGRO AML AML
comp=N,140μm,1.0s
MGRO Montegrosso 2.00 334 Pn **Pn 23 50 33.8 -0.1**
MGRO Montegrosso 2.00 334 Sn **Sn 23 50 57.5 -1.1**
CANO Canova, Maglio 2.03 344 P **Pn 23 50 34.3 0.0**
CANO S **Sn 23 50 57.9 -1.6**
CANO AML AML
comp=E,238μm,0.2s
CANO AML AML
comp=N,236μm,1.1s
CANO AML AML
comp=N,236μm,0.9s
CANO Canova, Maglio 2.03 344 Pn **Pn 23 50 34.3 0.0**
CANO Canova, Maglio 2.03 344 Sn **Sn 23 50 57.8 -1.6**
SAOF Saorge 2.04 329 P **Pn 23 50 34.2 -0.2**
SAOF S **Sn 23 50 58.5 -1.1**
SAOF AML AML
comp=E,158μm,0.5s
SAOF AML AML
comp=N,150μm,0.9s
SAOF Saorge 2.04 329 Pn **Pn 23 50 34.1 -0.2**
SAOF Sn **Sn 23 50 58.4 -1.1**
CARD Cardoso 2.06 31 P **Pn 23 50 35.4 +0.6**
EQUI Equi 2.08 23 P **Pn 23 50 35.4 +0.5**
EQUI S **Sn 23 51 00.3 -0.2**

MSSA Maissana 2.09 10 P **Pn 23 50 35.8 +0.6**
MSSA AML AML
comp=N,24μm,1.5s
MSSA AML AML
comp=N,24μm,0.5s
MSSA AML AML
comp=E,22μm,1.2s
TURF col de Turini 2.09 326 Pn **Pn 23 50 35.4 +0.2**
TURF Sn **Sn 23 51 01.1 0.0**
QLNO Quiliano 2.12 347 P **Pn 23 50 35.6 0.0**
QLNO S **Sn 23 51 00.1 -1.6**
QLNO AML AML
comp=E,59μm,0.6s
QLNO AML AML
comp=N,51μm,1.2s
QLNO AML AML
comp=N,51μm,0.8s
BDI Bagni Di Lucca 2.14 32 P **Pn 23 50 36.5 +0.7**
BDI S **Sn 23 51 01.8 -0.3**
BDI AML AML
comp=E,15μm,1.3s
BDI AML AML
comp=N,15μm,0.4s
MVIF Mont Vial 2.14 321 Pn **Pn 23 50 36.1 +0.2**
MVIF Sn **Sn 23 51 02.0 -0.2**
LMR La Mourre 2.14 301 *e*Pn **Pn 23 50 35.9 +0.1**
LMR *e*Sn **Sn 23 51 01.4 -0.7**
comp=N,37nm,0.2s
CALF Calern 2.15 315 Pn **Pn 23 50 36.1 +0.1**
CALF Sn **Sn 23 51 01.6 -0.8**
GBOS Grotte di Boss 2.17 337 P **Pn 23 50 36.4 +0.3**
GBOS S **Sn 23 51 01.8 -0.9**
GBOS AML AML
comp=E,102μm,0.4s
GBOS AML AML
comp=N,81μm,0.4s
GBOS Grotte di Boss 2.17 337 Sn **Sn 23 51 01.6 -1.1**
GBOS Grotte di Boss 2.17 337 Pn **Pn 23 50 36.5 +0.4**
SARO Sassorosso 2.17 27 P **Pn 23 50 37.0 +0.8**
SARO S **Sn 23 51 02.9 -0.1**
ASEAF Site Antares, 2.18 285 Pn **Pn 23 50 36.2 +0.2**
ASEAF Sn **Sn 23 51 02.6 0.0**
RNCA Ronca, Sant'Ol 2.21 359 P **Pn 23 50 37.2 +0.4**
RNCA Ronca, Sant'Ol 2.21 359 Pn **Pn 23 50 37.2 +0.4**
RNCA Ronca, Sant'Ol 2.21 359 Sn **Sn 23 51 04.1 +0.3**
TOLF Tolfa 2.22 94 P **Pn 23 50 37.0 +0.2**
TOLF AML AML
comp=N,50μm,0.0s
TOLF AML AML
comp=E,27μm,1.2s
SPIF crte de Spivo 2.23 325 Pn **Pn 23 50 37.4 +0.4**
MPPT Montemurlo 2.27 41 P **Pn 23 50 38.5 +0.9**
MPPT AML AML
comp=E,20μm,1.6s
MPPT AML AML
comp=E,20μm,0.4s
MPPT AML AML
comp=N,17μm,1.6s
ENR Entracque 2.29 330 P **Pn 23 50 38.5 +0.6**
ENR S **Sn 23 51 05.5 -0.4**
ENR AML AML
comp=E,80μm,1.0s
ENR AML AML
comp=N,106μm,0.5s
ENR Entracque 2.29 330 Pn **Pn 23 50 38.6 +0.6**
ENR Entracque 2.29 330 Sn **Sn 23 51 05.5 -0.4**
PCP Piancastagn 2.31 351 P **Pn 23 50 38.3 +0.2**
PCP S **Sn 23 51 05.4 -0.9**
PCP AML AML
comp=N,43μm,1.6s
PCP AML AML
comp=E,50μm,0.7s
PCP AML AML
comp=N,43μm,0.4s
PCP Piancastagn 2.31 351 Pn **Pn 23 50 38.5 +0.4**
PCP Piancastagn 2.31 351 Sn **Sn 23 51 05.6 -0.7**
FLAF Flassans-sur-I 2.33 300 Pn **Pn 23 50 38.9 +0.5**
FLAF Sn **Sn 23 51 06.2 -0.5**
STV Sant Anna di V 2.34 329 P **Pn 23 50 39.3 +0.7**
STV S **Sn 23 51 05.9 -1.3**
STV AML AML
comp=E,99μm,1.2s
STV AML AML
comp=N,68μm,1.0s
STV AML AML
comp=N,68μm,1.0s
STV AML AML
comp=E,99μm,0.8s
STV Sant Anna di V 2.34 329 Pn **Pn 23 50 39.3 +0.7**
STV Sant Anna di V 2.34 329 Sn **Sn 23 51 06.8 -0.4**
GORR Gorreto 2.36 5 P **Pn 23 50 39.6 +0.8**
GORR AML AML
comp=E,32μm,0.4s
GORR AML AML
comp=N,28μm,1.3s
GORR AML AML
comp=N,28μm,0.7s
GORR Gorreto 2.36 5 Pn **Pn 23 50 39.7 +0.9**
GRAM Graiana 2.36 18 P **Pn 23 50 40.4 +1.5**
GRAM AML AML
comp=E,60μm,0.4s
GRAM AML AML
comp=N,46μm,0.6s
GSCL Gusciola 2.38 28 P **Pn 23 50 40.8 +1.7**
ISO Isola 2.41 324 Pn **Pn 23 50 40.2 +0.7**
ISO Sn **Sn 23 51 09.0 +0.3**
TRIGF Trigance 2.43 309 Pn **Pn 23 50 40.9 +1.0**
TRIGF Sn **Sn 23 51 09.8 +0.4**
ENAUX Enaux 2.48 319 Pn **Pn 23 50 41.8 +1.2**
ENAUX Sn **Sn 23 51 11.3 +0.8**
PZZ Stroppo 2.65 329 AML AML
comp=E,108μm,0.8s
PZZ AML AML
comp=N,126μm,0.9s
PZZ Stroppo 2.65 329 Pn **Pn 23 50 43.7 +0.9**
PZZ Stroppo 2.65 329 Sn **Sn 23 51 15.6 +0.9**
ARTF Artigues 2.71 300 Pn **Pn 23 50 44.7 +1.1**
ARTF Sn **Sn 23 51 16.2 0.0**
OGDI Digne 2.72 314 Pn **Pn 23 50 45.9 +2.1**
OGDI Sn **Sn 23 51 19.2 +2.7**
LEPF PUYLOUBIER 2.75 298 Pn **Pn 23 50 45.3 +1.1**
LEPF Sn **Sn 23 51 17.7 +0.6**
BLAF les Blancs 2.76 309 Pn **Pn 23 50 45.8 +1.4**
BLAF Sn **Sn 23 51 18.3 +0.9**
OGAG Argentiere 2.85 321 Pn **Pb 23 50 52.1 +0.9**
BHB Bricherasio 2.88 334 Pn **Pn 23 50 46.4 +0.4**
BHB Bricherasio 2.88 334 Sn **Sn 23 51 19.2 -1.2**
CREF Crivoux 2.88 323 Pn **Pn 23 50 48.2 +2.0**
CREF Sn **Sn 23 51 22.6 +1.9**
MLYF Mely 2.95 307 Pn **Pn 23 50 48.5 +1.6**
BSTF la Bastide-des 2.96 304 Pn **Pn 23 50 47.8 +0.7**
BSTF Sn **Sn 23 51 21.6 -0.7**
MBDF Montbardon 2.96 327 *e*Pn **Pn 23 50 48.8 +1.6**
MBDF Montbardon 2.96 327 *e*P **Pn 23 50 49.9 +2.7**
MBDF *e*Sn **Sn 23 51 22.7 +0.1**
comp=N,28nm,0.4s
SMRF Simiane la Rot 3.06 305 *e*Pn **Pn 23 50 49.9 +1.5**
SMRF *e*Sn **Sn 23 51 22.7 -2.0**
comp=N,16nm,0.4s
RUSF Rustrel 3.09 304 Pn **Pn 23 50 50.4 +1.5**
RRL Rocca Remolon 3.12 329 Pn **Pn 23 50 51.7 +2.2**
SU26 Carbonia-Igles 3.16 188 AML AML
comp=E,100μm,0.4s
SU26 AML AML
comp=N,76μm,0.6s
RSP Reno Superiore 3.16 337 Pn **Pn 23 50 51.5 +1.6**
RSP Reno Superiore 3.16 337 Sn **Sn 23 51 26.1 -1.2**
SAUF chteau de Sau 3.33 302 Pn **Pn 23 50 54.4 +2.3**
FAGN Fagnano 3.38 88 AML AML
comp=N,23μm,1.6s
FAGN AML AML
comp=E,30μm,1.6s
FAGN AML AML
comp=E,30μm,0.4s
FAGN AML AML
comp=N,23μm,0.4s
LSD Lago del Serru 3.48 337 Pn **Pn 23 50 54.9 +0.5**
CIRO Champorcher 3.51 343 Pn **Pn 23 50 55.5 +0.7**
CIRO Champorcher 3.51 343 Sn **Sn 23 51 34.9 -1.2**
ORIF Oris-en-Rattie 3.51 320 *e*Pn **Pn 23 50 56.8 +2.2**
ORIF *e*Sn **Sn 23 51 35.5 -0.4**
comp=N,8.5nm,0.4s
ORIF Oris-en-Rattie 3.51 320 Pn **Pn 23 50 56.8 +2.2**
ORIF Oris-en-Rattie 3.51 320 Sn **Sn 23 51 37.4 +1.5**

LPG La Plagne 3.63 334 *e*Pn **Pn 23 50 58.3 +1.8**
LPG *e*Sn **Sn 23 51 38.9 -0.3**
comp=N,11nm,0.6s
LPL La Plagne 3.66 334 *e*Pn **Pn 23 50 57.7 +0.9**
LPL La Plagne 3.66 334 *e*P **Pn 23 51 01.0 +4.2**
LPL *e*Sn **Sn 23 51 39.2 -0.5**
comp=N,6.5nm,0.5s
GRN Grenoble 3.81 323 Pn **Pn 23 51 01.4 +2.5**
RSL Roselend 3.84 334 Pn **Pn 23 51 03.1 +3.8**
DIX Grande Dixence 4.00 344 Pn Pn 23 51 06.4 +4.9
VIVF Saint-Julien-I 4.09 311 *e*Pn **Pn 23 51 03.5 +0.9**
VIVF *e*Sn **Sn 23 51 49.5 -0.8**
comp=N,2.8nm,0.2s
OGSM Saint Maurice 4.12 325 Pn **Pn 23 51 04.7 +1.7**
OGSM Sn **Sn 23 51 51.3 +0.3**
OGSI Sixt 4.14 338 Pn **Pn 23 51 07.2 +3.8**
OGSI Sn **Sn 23 51 55.5 +3.9**
LASF Ste Croix 4.20 297 *e*Pn **Pn 23 51 04.1 +0.1**
LASF *e*Sn **Sn 23 51 52.0 -0.8**
comp=N,4.5nm,0.3s
SSB Saint Sauveur 4.44 314 Pn **Pn 23 51 08.6 +1.3**
SSB Sn **Sn 23 51 57.2 -1.4**
OG35 Corcelles 4.53 328 Pn **Pn 23 51 10.4 +1.8**
SJAF Saint Jean de 4.56 275 Pn **Pn 23 51 08.6 -0.4**
SJAF Sn **Sn 23 51 58.2 -3.5**
GIMEL St. Georges / 4.71 336 Pn **Pn 23 51 13.9 +2.7**
FILF Fillols 4.80 276 Pn **Pn 23 51 13.8 +1.4**
FILF Sn **Sn 23 52 07.3 -0.4**
CABF La Chapelle 4.83 335 *e*Sn **Sn 23 52 07.3 -1.3**
comp=N,1.3nm,0.3s
MTLF Montolieu 5.13 284 *e*Pn **Pn 23 51 17.7 +0.9**
MTLF *e*Sn **Sn 23 52 14.2 -1.5**
comp=N,4.2nm,0.3s
MTLF Montolieu 5.13 284 Pn **Pn 23 51 18.1 +1.3**
LBL Lubilhac 5.14 307 Pn **Pn 23 51 18.2 +1.2**
CARF Carcanieres 5.14 277 Pn **Pn 23 51 17.6 +0.5**
FNEB Nbias 5.15 280 Pn **Pn 23 51 19.6 +2.4**
CHMF Charmoille 5.27 342 Pn **Pn 23 51 20.7 +1.8**
SLE Schleitheim 5.52 356 Pn **Pn 23 51 24.3 +2.1**
SLE Schleitheim 5.52 356 Sn **Sn 23 52 26.2 +0.8**
PAND Andorre 5.55 275 Pn **Pn 23 51 24.3 +1.6**
PAND Sn **Sn 23 52 25.0 -1.3**
SMF Signal de Mont 5.75 322 *e*Pn **Pn 23 51 26.1 +0.8**
SMF *e*Sn **Sn 23 52 29.0 -1.9**
comp=N,1.0nm,0.2s
HINF Hinteralfeld 5.77 345 *e*Pn **Pn 23 51 25.9 +0.3**
HINF *e*Sn **Sn 23 52 29.4 -2.1**
comp=N,2.1nm,0.3s
SALF Salau 5.82 278 Pn **Pn 23 51 28.0 +1.7**
MLS Moulis 5.90 279 Pn **Pn 23 51 28.4 +1.1**
HAU Haudompre 6.05 343 *e*Pn **Pn 23 51 30.2 +0.7**
HAU *e*Sn **Sn 23 52 36.1 -2.4**
comp=N,6.1nm,0.5s
AVF Avril sur Loir 6.08 320 *e*Pn **Pn 23 51 30.6 +0.7**
AVF *e*Sn **Sn 23 52 36.9 -2.2**
comp=N,0.7nm,0.3s
MONQ Montcuq 6.09 293 Pn **Pn 23 51 31.0 +1.0**
ECH Echery 6.10 348 Pn **Pn 23 51 32.4 +2.2**
BGF Bois d'Agland 6.17 316 *e*Pn **Pn 23 51 32.3 +1.2**
BGF *e*Sn **Sn 23 52 39.2 -2.1**
comp=N,1.1nm,0.2s
SSF Saint Saulge 6.21 323 *e*Pn **Pn 23 51 32.7 +1.0**
SSF *e*Sn **Sn 23 52 40.9 -1.4**
comp=N,2.5nm,0.4s
LOR Lormes 6.21 325 *e*Pn **Pn 23 51 32.2 +0.4**
baz=143
LOR *e*Sn **Sn 23 52 39.9 -2.6**
comp=N,3.1nm,0.5s
LOR Lormes 6.21 325 Pn **Pn 23 51 33.3 +1.6**
LOR Lormes 6.21 325 Sn **Sn 23 52 41.2 -1.3**
RJF Les Rejaudoux 6.23 302 *e*Pn **Pn 23 51 33.2 +1.2**
RJF *e*Sn **Sn 23 52 40.9 -2.0**
comp=N,0.4nm,0.2s
CDF Champ du Feu 6.28 349 *e*Pn **Pn 23 51 33.2 +0.5**
CDF *e*Sn **Sn 23 52 41.5 -2.6**
comp=N,0.6nm,0.3s
TCF Toulx Ste Croi 6.34 312 *e*Pn **Pn 23 51 34.0 +0.5**
TCF *e*Sn **Sn 23 52 43.0 -2.5**
comp=N,1.0nm,0.3s
EPF Esparros 6.45 280 *e*Pn **Pn 23 51 35.6 +0.5**
EPF *e*Sn **Sn 23 52 45.8 -2.6**
comp=N,1.6nm,0.3s
ECHI Chisagues Biel 6.55 277 Pn **Pn 23 51 39.3 +2.9**
LFF La Frestale 6.59 297 *e*Pn **Pn 23 51 37.8 +1.0**
LFF *e*Sn **Sn 23 52 49.0 -2.6**
comp=N,1.6nm,0.4s
VIEF Viey 6.68 278 Pn **Pn 23 51 40.7 +2.5**
ETSF Etsaut 7.11 278 *e*Pn **Pn 23 51 44.4 +0.3**
ETSF *e*Sn **Sn 23 53 01.7 -2.8**
comp=N,2.3nm,0.4s
SJPF Ste Jean 7.60 280 *e*Pn **Pn 23 51 50.9 +0.1**
SJPF *e*Sn **Sn 23 53 13.4 -3.3**
comp=N,2.0nm,0.3s
MFF Saint Martin d 7.87 307 *e*Pn **Pn 23 51 54.8 +0.4**

---

*DJA **18** 00:22:14.4±0.4, 10°S±4°×11°4E±°, h47km±23km, M4.8/18, mb4.8/7, mB5.1/2, MLv4.9/18, Mw(mB)4.5/2, MwMwp4.7/1, Mwp5.0/1*
*NEIC **18** 00:22:15.4±1.6, 9°76S±0°08×114°20E±0°09, h48km±6km, mb4.4/19, Error ellipse: s-maj=13.2km s-min=10.5km az=65.0*
*IDC **18** 00:22:18.5±2.0, 9°65S×114°43E, h73km±18km, mb3.9/13, mbtmp4.2/15, MS3.4/22, Error ellipse: s-maj=17.6km s-min=10.6km az=39.0*
ISC 18 00:22:13.5±1.3, **9°83S**±0°05×**114°26E**±0°04, **h31**km±9km, **n103**, σ1§**61**/89, **mb4.4**/23, **MS3.4**/21, **South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.33**	**41**	P	**Pb**	**00 22 37.4**	**-0.5**
JAGI	**Jajag, Banyuwa**	**1.35**	**355**		**Pn**	**00 22 36.6**	**+0.3**
JAGI				Sn	**Sn**	**00 22 53.1**	**-0.1**
JAGI	**Jajag, Banyuwa**	**1.35**	**355**	P	**Pn**	**00 22 36.6**	**+0.3**
JAGI				S	**Sb**	**00 22 53.5**	**-1.7**
DNP	**Denpasar**	**1.48**	**39**	P	**Pb**	**00 22 41.1**	**+0.7**
DNP				S	**Sb**	**00 23 00.2**	**+1.4**
GMJI	**Gumukmas**	**1.74**	**332**	P	**Pn**	**00 22 41.6**	**-0.1**
GMJI				S	**Sn**	**00 23 02.0**	**-0.9**
SRBI	**Singaraja**	**1.97**	**29**	P	**Pb**	**00 22 47.3**	**-1.4**
SRBI				S	**Sb**	**00 23 12.1**	**-0.8**
ABJI	**Asem Bagus**	**2.02**	**359**	P	**Pb**	**00 22 49.6**	**0.0**
BLJI	**Banyuglugur**	**2.17**	**342**	P	**Pn**	**00 22 49.2**	**+1.6**
BLJI				S	**Sb**	**00 23 16.2**	**-2.5**
TWSI	**Taliwang, Sumb**	**2.80**	**68**	P	**Pn**	**00 22 59.0**	**+2.7**
GRJI	**Gresik**	**3.39**	**328**	P	**Pn**	**00 23 05.2**	**+0.8**
GRJI				S	**Sn**	**00 23 44.3**	**+0.8**
PLAI	**Plampang**	**3.61**	**74**	P	**Pn**	**00 23 09.7**	**+2.3**
NGJI	**Ngawi**	**3.69**	**311**	P	**Pn**	**00 23 08.9**	**+0.3**
WOJI	**Wonogiri, Jawa**	**3.85**	**301**	P	**Pn**	**00 23 11.4**	**+0.7**
UGM	**Wanagama**	**4.16**	**297**	Pn	**Pn**	**00 23 15.6**	**+0.6**
UGM	**Wanagama**	**4.16**	**297**	P	**Pn**	**00 23 15.7**	**+0.7**
BWJI	**Bawean**	**4.26**	**338**	P	**Pn**	**00 23 17.5**	**+1.2**
SMRI	**Semarang**	**4.68**	**306**	Pn	**Pn**	**00 23 21.5**	**-0.6**
SMRI	**Semarang**	**4.68**	**306**	P	**Pb**	**00 23 35.4**	**+0.4**
KPJI	**Karang Pucung**	**5.83**	**295**	P	**Pn**	**00 23 37.6**	**-0.3**
	71nm,0.7s,2μm0.5nm						
CMJI	**Cimerak**	**6.09**	**289**	P	**Pn**	**00 23 41.1**	**-0.5**
	134nm,1.3s,0.6nm						
BBKI	**Banjar Baru**	**6.35**	**5**	P	Pn	00 23 51.4	+6.3
LEM	**Lembang**	**7.22**	**294**	P	Pn	00 24 02.0	+4.8
	10nm,0.4s,baz=288,slow=22,SNR=1.5						
LEM				S	**Sn**	**00 25 24.6**	**+6.3**
	41nm,0.8s,baz=85,slow=24,SNR=1.7						
KAPI	**Kappang**	**7.24**	**49**	Pn	**Pn**	**00 23 58.2**	**+0.8**
KAPI	**Kappang**	**7.24**	**49**	P	**Pn**	**00 23 59.8**	**+2.4**
	5.8nm,0.3s,baz=193,slow=17,SNR=2.3						
KAPI				S	**Sn**	**00 25 18.5**	**-0.1**
	17nm,0.5s,baz=235,slow=21,SNR=2.6						
KAPI				LR	LR	00 27 15.6	
	comp=Z,460nm,19.7s,baz=250,slow=42						
BKSI	**Bulukumba**	**7.33**	**53**	P	**Pn**	**00 24 01.1**	**+2.5**
	37nm,0.7s,0.1nm						
BATI	**Baumata**	**9.27**	**93**	P	**Pn**	**00 24 26.2**	**+1.0**
	35nm,0.6s						
MBWA	**Marble Bar**	**12.44**	**156**	Pn	**Pn**	**00 25 04.8**	**-3.7**
MNAI	**Manna**	**12.46**	**295**	Pn	**Pn**	**00 25 07.8**	**-1.1**
GIRL	**Giralia**	**12.74**	**180**	Pn	**Pn**	**00 25 10.3**	**-2.4**
PSA00	**Pilbara Seismi**	**12.85**	**156**	Pn	**Pn**	**00 25 10.6**	**-3.7**
KNRA	**Kununurra**	**15.29**	**114**	Pn	**Pn**	**00 25 48.0**	**+0.7**
KNRA				IAmb	IAmb	00 25 57.0	
	comp=Z,27nm,1.1s						

MTN	**Manton Dam**	**16.81 102**	Pn	**Pn**	**00 26 07.5 +0.7**
MTN			IAmb	IAmb	00 26 37.1
	comp=Z,45nm,1.5s				
SWI	**Sorong**	**19.11 63**	P	Pn	00 26 48.9 +14
FAKI	**Fak Fak**	**19.14 70**	P	**P**	**00 26 33.2 -1.2**
MORW	**Morawa**	**19.21 175**	P	**P**	**00 26 34.6 -0.5**
MORW			IAmb	IAmb	00 27 07.1
	comp=Z,27nm,1.3s				
DAV	**Davao City (W)**	**20.22 34**	LR	LR	00 35 49.4
	comp=Z,88nm,19.6s,baz=208,slow=41				
RKPI	**Ransiki, Papua**	**21.45 69**	P	**P**	**00 27 02.0 +2.4**
WB0	**Warramunga Arr**	**21.80 119**	P	**P**	**00 27 04.0 +0.7**
WRA	**Warramunga Arr**	**21.83 120**	P	**P**	**00 27 04.3 +0.7**
WRA	**Warramunga Arr**	**21.83 120**	P	**P**	**00 27 04.5 +0.9**
	comp=Z,2.0nm,0.6s,baz=294,slow=12,SNR=31				
WRA			S	**S**	**00 31 01.2 -2.3**
	comp=Z,0.5nm,0.7s,baz=292,slow=27,SNR=2.2				
WRA			ScP	**ScP**	**00 34 34.5 -3.7**
	comp=Z,1.1nm,0.8s,baz=295,slow=2.4,SNR=2.3				
	comp=Z,2.0nm,0.6s				
WRAB	**Tennant Creek**	**21.83 120**	P	**P**	**00 27 02.4 -1.2**
WRAB			IAmb	IAmb	00 27 27.9
	comp=Z,9.4nm,0.9s				
WB2	**Warramunga Arr**	**21.84 120**	P	**P**	**00 27 05.0 +1.3**
WB2			IAmb	IAmb	00 27 05.2
	comp=Z,20nm,1.5s				
WR0	**Warramunga Arr**	**22.01 120**	P	**P**	**00 27 06.4 +0.9**
WR0			IAmb	IAmb	00 27 08.3
	comp=Z,27nm,1.4s				
NWAO	**Narrogin (SRO)**	**23.15 174**	LR	LR	00 36 55.3
	comp=Z,119nm,19.7s,baz=342,slow=38				
ASAR	**Alice Springs**	**23.26 129**	P	**P**	**00 27 19.8 +1.1**
ASAR	**Alice Springs**	**23.26 129**	P	**P**	**00 27 19.7 +1.0**
	comp=Z,2.8nm,0.5s,baz=303,slow=8.4,SNR=60				
ASAR			LR	LR	00 36 22.6
	comp=Z,62nm,21.2s,baz=303,slow=36				
	comp=Z,2.8nm,0.5s				
AS31	**Alice Springs**	**23.26 129**	P	**P**	**00 27 19.3 +0.6**
FORT	**Forrest**	**24.49 150**	P	**P**	**00 27 30.6 +0.5**
BBOO	**Buckleboo**	**30.45 142**	P	**P**	**00 28 23.5 -0.1**
BBOO			IAmb	IAmb	00 28 47.7
	comp=Z,14nm,1.2s				
CMAR	**Chiang Mai Arr**	**31.91 332**	P	**P**	**00 28 37.7 +1.1**
	comp=Z,1.3nm,0.5s,baz=164,slow=8.3,SNR=5.7				
CMAR			LR	LR	00 43 08.9
	comp=Z,54nm,18.5s,baz=165,slow=39				
	comp=Z,1.3nm,0.5s				
CTA	**Charters Tower**	**32.49 112**	LR	LR	00 42 01.5
	comp=Z,71nm,21.0s,baz=269,slow=36				
CTAO	**Charters Tower**	**32.49 112**	P	**P**	**00 28 43.4 +1.8**
STKA	**Stephens Creek**	**33.49 135**	P	**P**	**00 28 51.9 +1.6**
STKA	**Stephens Creek**	**33.49 135**	P	**P**	**00 28 52.0 +1.6**
	comp=Z,4.5nm,0.4s,baz=315,slow=9.2,SNR=25				
STKA			LR	LR	00 43 42.9
	comp=Z,133nm,20.4s,baz=299,slow=38				
	comp=Z,4.5nm,0.4s				
PZH	**PanZhiHua**	**38.11 342**	P	**P**	**00 29 32.3 +2.3**
PZH			pmax	pmax	
	comp=Z,7.0nm,0.8s				
PZH			pmax	pmax	
	comp=Z,100nm,5.1s				
JOW	**Kunigami**	**38.90 20**	LR	LR	00 46 15.2
	comp=Z,37nm,21.7s,baz=126,slow=37				
H08S2	**Diego Garcia H**	**41.32 270**	T	T	01 13 13.5
	baz=95,slow=74				
H08S3	**Diego Garcia H**	**41.34 270**	T	T	01 13 13.0
	baz=95,slow=74				
H08S1	**Diego Carcia H**	**41.34 270**	T	T	01 13 12.3
	baz=95				
TAPN	**Taplejung**	**45.04 326**	*e*P	**P**	**00 30 27.5 +0.5**
	comp=Z,23nm,0.9s				
JNU	**Nakatsue**	**45.55 20**	LR	LR	00 51 42.4
	comp=Z,29nm,19.8s,baz=227,slow=39				
JIRN	**Jiri**	**46.13 325**	*e*P	**P**	**00 30 35.2 -0.6**
	comp=Z,25nm,0.7s				
GUN	**Gumba**	**46.50 325**	*e*P	**P**	**00 30 38.1 -0.5**
	comp=Z,28nm,0.7s				
PKI	**Pulchoki**	**46.51 324**	*e*P	**P**	**00 30 37.7 -1.0**
	comp=Z,4.6nm,0.4s				
PKIN	**Phulchoki**	**46.53 324**	*e*P	**P**	**00 30 37.7 -1.0**
	comp=Z,8.2nm,0.5s				
DMN	**Daman**	**46.72 324**	*e*P	**P**	**00 30 39.4 -0.8**
	comp=Z,11nm,0.4s				
GKN	**Gorkha**	**47.29 323**	*e*P	**P**	**00 30 43.6 -1.0**
	comp=Z,8.0nm,0.3s				
DANN	**Dangsing**	**48.06 323**	*e*P	**P**	**00 30 49.7 -1.0**
	comp=Z,29nm,0.8s				
PYUN	**Piuthan**	**48.34 322**	*e*P	**P**	**00 30 51.7 -1.1**
	comp=Z,9.1nm,0.6s				
KSRS	**Korea Array**	**48.74 14**	LR	LR	00 53 53.2
	comp=Z,12nm,19.2s,baz=205,slow=39				
HHC	**Hu-ho-hao-te**	**50.48 357**	*e*P	**P**	**00 31 11.1 +2.3**
HHC			pmax	pmax	
	comp=Z,16nm,0.8s				
HHC			pmax	pmax	
	comp=Z,160nm,5.7s				
USRK	**Ussuriysk Ar.**	**56.12 15**	P	**P**	**00 31 50.4 +0.4**
USRK	**Ussuriysk Ar.**	**56.12 15**	P	**P**	**00 31 48.3 -1.8**
	comp=Z,3.1nm,0.8s,baz=182,slow=7.2,SNR=5.8				
	comp=Z,3.1nm,0.8s				
SONM	**Songino Array**	**57.83 354**	P	**P**	**00 32 01.8 -0.4**
SONM			IAmb	IAmb	00 32 15.6
	comp=Z,2.8nm,1.1s				
SONM	**Songino Array**	**57.83 354**	P	**P**	**00 32 01.3 -1.0**
	comp=Z,1.3nm,0.7s,baz=169,slow=8.7,SNR=6.9				
	comp=Z,1.3nm,0.7s				
WMQ	**Urumqi**	**58.60 338**	*e*P	**P**	**00 32 08.8 +1.2**
WMQ			pmax	pmax	
	comp=Z,15nm,0.6s				
RPZ	**Rata Peaks**	**59.46 135**	LR	LR	00 57 00.2
	comp=Z,113nm,21.4s,baz=278,slow=35				
ASAJ	**Asahikawa**	**59.52 23**	LR	LR	00 58 36.4
	comp=Z,20nm,21.9s,baz=52,slow=37				
KLR	**Kul'dur**	**60.78 13**	LR	LR	01 01 18.1
	comp=Z,14nm,18.8s,baz=154,slow=39				
URZ	**Urewera**	**62.70 128**	LR	LR	00 59 08.1
	comp=Z,57nm,21.9s,baz=31,slow=35				
MK31	**Makanchi Array**	**63.18 336**	P	**P**	**00 32 37.4 -1.2**
MK31			IAmb	IAmb	00 32 51.4
	comp=Z,4.7nm,1.2s				
MKAR	**Makanchi Array**	**63.18 336**	P	**P**	**00 32 37.0 -1.7**
MKAR	**Makanchi Array**	**63.18 336**	P	**P**	**00 32 37.8 -0.9**
	comp=Z,1.1nm,0.5s,baz=145,slow=6.8,SNR=13				
	comp=Z,1.1nm,0.5s				
MAKZ	**Makanchi**	**63.32 336**	P	**P**	**00 32 36.2 -3.4**
MAKZ			IAmb	IAmb	00 33 16.1
	comp=Z,5.7nm,1.4s				
H04N2	**CROZET ISLANDS**	**63.99 223**	T	T	01 43 44.7
	baz=73				
H04N1	**CROZET ISLANDS**	**64.00 223**	T	T	01 43 46.7
	baz=73				
H04N3	**CROZET ISLANDS**	**64.00 223**	T	T	01 43 47.9
	baz=73				
MAW	**Mawson**	**66.91 199**	P	**P**	**00 33 03.4 +0.9**
	comp=Z,0.8nm,0.5s,baz=90,slow=3.0,SNR=2.5				
MAW			LR	LR	00 57 08.4
	comp=Z,40nm,19.9s,baz=38,slow=31				
	comp=Z,0.8nm,0.5s				
KURBB	**Kurchatov Arra**	**67.74 336**	P	**P**	**00 33 06.8 -1.2**
	comp=Z,0.4nm,0.6s,baz=154,slow=5.8,SNR=4.5				
	comp=Z,0.4nm,0.6s				
ZALV	**Zalesovo Beam**	**68.25 342**	P	**P**	**00 33 09.4 -1.8**
	comp=Z,0.9nm,0.5s,baz=157,slow=4.5,SNR=5.2				
	comp=Z,0.9nm,0.5s				
GEYT	**Alibeck**	**70.71 316**	P	**P**	**00 33 28.6 +1.8**
	comp=Z,2.1nm,0.7s,baz=106,slow=11,SNR=2.8				
	comp=Z,2.1nm,0.7s				
ABKAR	**Akbulak array**	**75.61 327**	P	**P**	**00 33 54.9 -0.6**
AKTO	**Aktyubinsk**	**77.30 327**	LR	LR	01 12 52.9
	comp=Z,35nm,18.7s,baz=248,slow=39				
QSPA	**South Pole Qui**	**80.18 180**	P	**P**	**00 34 20.7 -0.1**
QSPA			IAmb	IAmb	00 34 50.2
	comp=Z,6.4nm,1.5s				
ARU	**Arti**	**80.36 332**	LR	LR	01 12 47.0
	comp=Z,22nm,19.5s,baz=310,slow=38				
TIXI	**Tiksi**	**81.88 5**	P	**P**	**00 34 28.5 -0.9**
KBZ	**Khabaz**	**83.60 316**	LR	LR	01 17 30.9
	comp=Z,27nm,19.7s,baz=332,slow=40				
BOSA	**Boshof**	**84.50 242**	LR	LR	01 04 26.5
	comp=Z,35nm,22.0s,baz=156,slow=30				
SUR	**Sutherland**	**87.70 238**	LR	LR	01 08 12.9
	comp=Z,29nm,19.8s,baz=124,slow=31				
SNAA	**Sanae**	**88.92 196**	P	**P**	**00 35 05.8 +1.0**
	comp=Z,1.1nm,0.8s,baz=183,slow=3.1,SNR=5.3				
SNAA			LR	LR	01 10 08.7
	comp=Z,74nm,20.0s,baz=188,slow=32				
	comp=Z,1.1nm,0.8s				
BRTR	**Keskin Array B**	**89.09 310**	LR	LR	01 17 51.6
	comp=Z,15nm,20.8s,baz=8.5,slow=37				
FINES	**FINESS Array B**	**97.68 331**	P	**P**	**00 35 44.7 -0.4**
	comp=Z,1.9nm,0.8s,baz=82,slow=2.9,SNR=1.6				
	comp=Z,1.9nm,0.8s				
BDFB	**Brasilia**	**149.20 215**	PKPbc	**PKiKP**	**00 42 01.0 -0.4**
	comp=Z,1.2nm,0.4s,baz=45,slow=4.3,SNR=1.9				

*MOS **18** 00:31:49.4±1.7, 44°.80N×149°.50E, h59km, mb4.0/1, Error ellipse: s-maj=25.0km s-min=14.9km az=144.5*
*SKHL **18** 00:31:50.2±0.2, 45°.00N×149°.50E, h57km±3km, mb4.4/2*
*IDC **18** 00:31:55.2±5.5, 44°.95N×149°.55E, h100km±53km, mb3.2/4, mbtmp3.6/5, MS2.7/5, Error ellipse: s-maj=41.6km s-min=32.1km az=113.0*

ISC 18 00:31:51.5±1.6, 44°.93N±0°.09×149°.4E±0°.1, h57km±17km, n30, σ1.962/26, mb3.5/4, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.13**	**286**	∥*i*PN	**Pn**	**00 32 09.4**	**-1.6**
KUR				*i* S	**Sn**	**00 32 24.7**	**-0.9**
KUR				pmax	pmax		
	comp=Z,398nm,0.3s						
KUR				pmax	pmax		
	comp=N,83nm,0.2s						
KUR				pmax	pmax		
	comp=E,97nm,0.2s						
KUR				smax	smax		
	comp=N,628nm,0.2s						
KUR				smax	smax		
	comp=E,192nm,0.2s						
KUR	**Kuril'sk**	**1.13**	**286**	*e*P	**Pn**	**00 32 09.4**	**-1.6**
KUR				AMB	AMB	00 32 10.3	
	comp=E,100nm,0.3s						
KUR				*e*S	**Sn**	**00 32 23.7**	**-1.9**
KUR				A	A	00 32 27.4	
	comp=E,510nm,0.2s						
KUR				A	A	00 32 27.4	
	comp=E,410nm,0.2s						
SHO	**Shikotan**	**2.12**	**241**	*e*PN	**Pn**	**00 32 23.7**	**-0.8**
SHO				*e*S	**Sn**	**00 32 48.8**	**-0.9**
SHO				pmax	pmax		
	comp=Z,47nm,0.2s						
SHO				smax	smax		
	comp=N,131nm,0.2s						
SHO				smax	smax		
	comp=E,170nm,0.2s						
SHO	**Shikotan**	**2.12**	**241**	*e*P	**Pn**	**00 32 24.0**	**-0.5**
SHO				AMB	AMB	00 32 27.1	
	comp=E,50nm,0.2s						
SHO				*e*S	**Sn**	**00 32 49.1**	**-0.6**
SHO				A	A	00 32 52.7	
	comp=E,130nm,0.2s						
SHO				A	A	00 32 52.7	
	comp=E,170nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.69**	**252**	PN	**Pn**	**00 32 32.2**	**0.0**
YUK				S	**Sn**	**00 33 06.1**	**+2.6**
YUK				smax	smax		
	comp=E,265nm,0.5s						
YUK				smax	smax		
	comp=N,138nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.69**	**252**	*e*P	**Pn**	**00 32 32.0**	**-0.2**
YUK				*e*S	**Sn**	**00 33 03.5**	**0.0**
YUK				A	A	00 33 07.9	
	comp=N,140nm,0.5s						
YUK				A	A	00 33 07.9	
	comp=N,270nm,0.5s						
NMR	**Nemuro--Hokkai**	**3.07**	**241**	*e*PN	**Pn**	**00 32 35.1**	**-2.3**
NMR				*e*S	**Sn**	**00 33 12.5**	**-0.3**
NMR	**Nemuro--Hokkai**	**3.07**	**241**	*e*P	**Pn**	**00 32 37.2**	**-0.2**
NMR				*e*S	**Sn**	**00 33 12.6**	**-0.3**
RUSJ	**Misakicho**	**3.08**	**256**	*e*PN	**Pn**	**00 32 40.7**	**+3.1**
RUSJ				*e*S	**Sn**	**00 33 16.5**	**+3.3**
AKK	**Akkeshi**	**3.80**	**241**	*e*P	**Pn**	**00 32 48.1**	**+0.6**
ASAJ	**Asahikawa**	**4.93**	**263**	LR	LR	00 35 11.8	
	comp=N,91nm,18.9s,baz=134,slow=39						
PETK	**Petropavlovsk-**	**9.83**	**31**	P	**Pn**	**00 34 12.5**	**+2.5**
	comp=N,2.9nm,0.8s,baz=214,slow=10,SNR=2.9						
PETK				LR	LR	00 37 28.1	
	comp=N,41nm,19.9s,baz=233,slow=34						
KLR	**Kul'dur**	**12.77**	**296**	LR	LR	00 40 07.8	
	comp=N,25nm,18.3s,baz=68,slow=38						
MA2	**Magadan**	**14.69**	**3**	LR	LR	00 40 04.4	
	comp=N,29nm,20.1s,baz=118,slow=33						
SEY	**Seymchan**	**18.12**	**4**	LR	LR	00 43 25.8	
	comp=N,26nm,19.2s,baz=340,slow=38						
H11N2	**WAKE ISLAND Hy**	**29.02**	**144**	T	T	01 08 24.1	
	baz=335,slow=76,SNR=176						
H11N1	**WAKE ISLAND Hy**	**29.04**	**144**	T	T	01 08 25.8	
	baz=335,slow=76,SNR=175						
H11N3	**WAKE ISLAND Hy**	**29.04**	**144**	T	T	01 08 25.4	
	baz=335,slow=76,SNR=198						
H11S1	**WAKE ISLAND Hy**	**30.04**	**146**	T	T	01 09 45.0	
	baz=336,slow=76,SNR=286						
H11S3	**WAKE ISLAND Hy**	**30.05**	**146**	T	T	01 09 45.5	
	baz=336,slow=76,SNR=203						
H11S2	**WAKE ISLAND Hy**	**30.06**	**146**	T	T	01 09 45.0	
	baz=336,slow=76,SNR=244						
KURK	**Kurchatov**	**46.21**	**304**	P	**P**	**00 40 11.1**	**+0.6**
KURK	**Kurchatov**	**46.21**	**304**	*e*P	**P**	**00 40 11.1**	**+0.6**
KURBB	**Kurchatov Arra**	**46.30**	**304**	P	**P**	**00 40 11.1**	**-0.1**
	comp=N,0.2nm,0.5s,baz=72,slow=8.5,SNR=1.2						
	comp=N,0.2nm,0.5s						
WRA	**Warramunga Arr**	**66.00**	**196**	P	**P**	**00 42 30.5**	**-1.4**
	comp=N,0.9nm,0.9s,baz=12,slow=6.9,SNR=5.1						
	comp=N,0.9nm,0.9s						
ASAR	**Alice Springs**	**69.71**	**195**	P	**P**	**00 42 55.3**	**+0.1**
	comp=N,0.7nm,0.8s,baz=9.8,slow=7.1,SNR=5.9						
	comp=N,0.7nm,0.8s						
TXAR	**Lajitas Array**	**80.66**	**58**	P	**P**	**00 43 56.6**	**-1.7**
	comp=N,0.4nm,0.7s,baz=301,slow=3.8,SNR=4.1						
	comp=N,0.4nm,0.7s						
H03N2	**Juan Fernandez**	**141.35**	**90**	T	T	03 28 59.7	
	baz=306,slow=77,SNR=11						
H03N3	**Juan Fernandez**	**141.36**	**90**	T	T	03 28 58.8	
	baz=306,slow=77,SNR=12						
H03N1	**Juan Fernandez**	**141.36**	**90**	T	T	03 28 59.6	
	baz=306,slow=77,SNR=7.8						

*IDC **18** 00:46:29.9±0.9, 6°.10N×123°.95E, h574km±10km, mb3.3/14, mbtmp4.3/15, Error ellipse: s-maj=23.0km s-min=7.6km az=69.0*
*DJA **18** 00:46:29.2±0.4, 6°.1N±5°.5×12°.4E±°, h551km±5km, M4.4/17, mB4.9/12, mb4.5/17, MLv4.8/9, Mw(mB)4.2/12*
*NEIC **18** 00:46:29.3±1.6, 6°.1N±0°.1×123°.9E±0°.1, h555km±8km, mb4.7/39, Error ellipse: s-maj=19.0km s-min=13.4km az=59.0*

ISC 18 00:46:29.3±0.4, 6°.11N±0°.05×123°.89E±0°.08, h563km±5km, h564km:pP-P, n120, σ1.977/138, mb4.5/39, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.93**	**60**	P	**P**	**00 47 39.5**	**-0.5**
DAV	**Davao City (W)**	**1.93**	**60**	P	**P**	**00 47 40.5**	**+0.5**
	210nm,0.4s,baz=248,slow=13,SNR=5.1						
SGSI	**Sangihe**	**2.91**	**146**	P	**P**	**00 47 44.5**	**-0.5**
GTOI	**Gorontalo**	**5.50**	**189**	P	**P**	**00 48 03.4**	**-0.9**
	45nm,0.7s,456nm0.2nm						
TOLI2	**Tolitoli**	**5.85**	**212**	P	**P**	**00 48 07.4**	**0.0**
MRSI	**Marisa**	**5.92**	**199**	P	**P**	**00 48 09.2**	**+1.2**
	59nm,0.9s,0.3nm						
TNTI	**Ternate**	**6.33**	**147**	P	**P**	**00 48 11.5**	**-0.2**
MPSI	**Mapaga**	**6.98**	**215**	P	**P**	**00 48 18.1**	**+0.4**
	17nm,0.4s,0.1nm						
LUWI	**Luwuk**	**7.19**	**189**	P	**P**	**00 48 18.1**	**-1.6**
LUWI	**Luwuk**	**7.19**	**189**	P	**P**	**00 48 20.0**	**+0.3**
	131nm,0.5s,9μm0.9nm						
LBMI	**Labuha**	**7.61**	**152**	P	**P**	**00 48 23.6**	**-0.1**
	328nm,0.9s,3μm2.2nm						
SANI	**Sanana**	**8.37**	**165**	P	**P**	**00 48 28.9**	**-2.3**
	215nm,0.8s,2μm						
TGY	**Tagaytay City**	**8.46**	**340**	P	**P**	**00 48 32.2**	**+0.1**
	154nm,0.3s,baz=188,slow=7.5,SNR=5.5						
NLAI	**Namlea**	**9.82**	**161**	P	**P**	**00 48 46.5**	**+0.8**
	116nm,0.7s,3μm						
TTSI	**Tana Toraja**	**9.96**	**204**	P	**P**	**00 48 48.6**	**+1.5**
	104nm,0.9s,982nm						
KAPI	**Kappang**	**11.79**	**201**	P	**P**	**00 49 05.1**	**-0.7**
KAPI	**Kappang**	**11.79**	**201**	P	**P**	**00 49 06.4**	**+0.6**
	5.9nm,0.5s,baz=8.0,slow=22,SNR=3.3						
KAPI				S	**S**	**00 51 16.2**	**+1.6**
	2.4nm,0.3s,baz=169,slow=22,SNR=1.9						
BNDI	**Bandanaira**	**12.15**	**150**	P	P	00 49 23.1	+14
FAKI	**Fak Fak**	**12.25**	**137**	P	**P**	**00 49 10.3**	**-0.3**
FAKI	**Fak Fak**	**12.25**	**137**	P	**P**	**00 49 11.4**	**+0.8**
	167nm,0.8s,1μm						
KSM	**Kuching**	**14.31**	**252**	P	**P**	**00 49 31.2**	**-0.5**
SOEI	**Soe**	**15.76**	**179**	P	**P**	**00 49 45.5**	**-0.8**
SOEI	**Soe**	**15.76**	**179**	P	**P**	**00 49 45.8**	**-0.5**
	57nm,0.9s,1μm						
SAUI	**Saumlaki**	**15.83**	**152**	P	**P**	**00 49 46.4**	**-0.5**
SAUI	**Saumlaki**	**15.83**	**152**	P	**P**	**00 49 47.8**	**+1.0**
	159nm,0.6s,8μm						
PLAI	**Plampang**	**16.04**	**202**	P	**P**	**00 49 49.6**	**+0.8**
	25nm,1.0s						
BATI	**Baumata**	**16.21**	**181**	P	**P**	**00 49 50.3**	**-0.1**
	119nm,0.8s						
BATI	**Baumata**	**16.21**	**181**	P	**P**	**00 49 49.8**	**-0.6**
	112nm,0.8s,baz=295,slow=3.7,SNR=10.0						
BATI				S	**S**	**00 52 32.2**	**-2.1**
	14nm,0.3s,baz=109,slow=3.3,SNR=1.3						
TWG	**Pinlang**	**16.84**	**351**	P	**P**	**00 49 54.5**	**-1.5**
SMPI	**Sarmi**	**16.84**	**118**	P	**P**	**00 49 57.7**	**+1.5**
YULB	**Yu-li**	**17.37**	**352**	P	**P**	**00 49 59.0**	**-1.8**
YULB				IAmb	IAmb	00 50 04.0	
	comp=Z,25nm,0.9s						
TPUB	**Ta-pu**	**17.38**	**350**	P	**P**	**00 50 00.8**	**-0.2**
JAGI	**Jajag, Banyuwa**	**17.43**	**214**	P	**P**	**00 50 02.6**	**+1.0**
SSLB	**Suanglung**	**17.81**	**351**	P	**P**	**00 50 03.5**	**-1.3**
GENI	**Genyem**	**18.41**	**118**	P	**P**	**00 50 12.1**	**+1.6**
YHNB	**Yeheng**	**18.61**	**353**	P	**P**	**00 50 12.3**	**0.0**
JAY	**Jayapura**	**18.85**	**117**	P	**P**	**00 50 17.7**	**+3.2**
MTN	**Manton Dam**	**20.16**	**159**	P	**P**	**00 50 26.6**	**+0.3**
	baz=20,SNR=10						
MTN	**Manton Dam**	**20.16**	**159**	P	**P**	**00 50 25.4**	**-0.9**
MTN				IAmb	IAmb	00 50 49.1	
	comp=Z,48nm,1.4s						
KDU	**Kakadu**	**20.53**	**155**	P	**P**	**00 50 29.3**	**-0.3**
	baz=21,SNR=13						
KNRA	**Kununurra**	**22.17**	**167**	P	**P**	**00 50 44.7**	**+0.3**
	baz=22,SNR=4.2						
KNRA	**Kununurra**	**22.17**	**167**	P	**P**	**00 50 44.3**	**-0.1**
KNRA				IAmb	IAmb	00 50 58.9	
	comp=Z,27nm,1.2s						
RPSI	**Rantau Prapat**	**25.12**	**263**	P	**P**	**00 51 10.1**	**-0.6**
RPSI				IAmb	IAmb	00 51 11.4	
	comp=Z,9.4nm,0.8s						
SISI	**Saibi**	**25.84**	**254**	P	**P**	**00 51 16.1**	**-0.9**
KCSI	**Kotacane, Aceh**	**26.15**	**266**	P	**P**	**00 51 19.4**	**-0.4**
NJ2	**Nanjing**	**26.24**	**350**	*e*P	**P**	**00 51 21.6**	**+1.4**
NJ2				pP	**pP**	**00 52 49.4**	**-0.8**
NJ2				sP	**sP**	**00 53 56.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,26nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,510nm,5.5s						
GSI	**Gunungsitoli**	**26.68**	**261**	P	**P**	**00 51 22.6**	**-1.8**
GSI	**Gunungsitoli**	**26.68**	**261**	P	**P**	**00 51 23.2**	**-1.2**
CMAR	**Chiang Mai Arr**	**27.24**	**299**	P	**P**	**00 51 29.8**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=119,slow=6.9,SNR=4.7						
CMAR				ScP	**ScP**	**00 57 16.8**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=159,slow=2.8,SNR=4.4						
	comp=Z,0.8nm,0.4s						
CHTO	**Chiang Mai**	**27.39**	**300**	P	**P**	**00 51 30.9**	**+0.4**
COEN	**Coen**	**27.64**	**136**	P	**P**	**00 51 31.9**	**-0.8**
	baz=28						
COEN	**Coen**	**27.64**	**136**	P	**P**	**00 51 31.7**	**-1.1**
COEN				IAmb	IAmb	00 51 32.8	
	comp=Z,8.1nm,0.7s						
WB0	**Warramunga Arr**	**27.71**	**158**	P	**P**	**00 51 32.7**	**-0.7**
WB0				IAmb	IAmb	00 51 33.4	
	comp=Z,17nm,0.6s						
WRAB	**Tennant Creek**	**27.85**	**159**	P	**P**	**00 51 34.0**	**-0.5**
WRAB				IAmb	IAmb	00 51 35.0	
	comp=Z,24nm,0.7s						
WRA	**Warramunga Arr**	**27.85**	**159**	P	**P**	**00 51 33.0**	**-1.6**
WRA	**Warramunga Arr**	**27.85**	**159**	P	**P**	**00 51 34.3**	**-0.3**
	comp=Z,16nm,0.5s,baz=341,slow=9.2,SNR=236						
WRA				PcP	**PcP**	**00 54 31.6**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=318,slow=3.0,SNR=5.7						
WRA				S	**S**	**00 55 34.8**	**-4.2**
	comp=Z,2.5nm,0.8s,baz=335,slow=16,SNR=5.5						
WRA				ScP	**ScP**	**00 57 17.9**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=342,slow=3.1,SNR=8.0						
	comp=Z,16nm,0.5s						
WB2	**Warramunga Arr**	**27.86**	**159**	P	**P**	**00 51 34.0**	**-0.6**
WB2				PcP	**PcP**	**00 54 31.6**	**-0.4**
WC3	**Warramunga Arr**	**27.88**	**159**	P	**P**	**00 51 34.5**	**-0.3**
	baz=28						
WR0	**Warramunga Arr**	**27.94**	**158**	P	**P**	**00 51 34.5**	**-0.8**
WR0				IAmb	IAmb	00 51 35.9	
	comp=Z,25nm,1.3s						
PZH	**PanZhiHua**	**29.28**	**316**	P	**P**	**00 51 48.6**	**+1.6**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						
QIS	**Mount Isa**	**30.67**	**150**	P	**P**	**00 51 59.3**	**+0.3**
	baz=31,SNR=11						
AS31	**Alice Springs**	**31.16**	**162**	P	**P**	**00 52 03.7**	**+0.5**
AS31				IAmb	IAmb	00 52 04.6	
	comp=Z,5.3nm,0.6s						
ASAR	**Alice Springs**	**31.16**	**162**	P	**P**	**00 52 03.6**	**+0.5**
	comp=Z,9.6nm,0.6s,baz=341,slow=7.3,SNR=150						
ASAR				PcP	**sP**	**00 54 40.3**	**0.0**
	comp=Z,1.7nm,0.6s,baz=347,slow=3.3,SNR=6.4						
ASAR				S	**S**	**00 56 27.9**	**-2.2**
	comp=Z,7.5nm,0.9s,baz=354,slow=25,SNR=23						
	comp=Z,9.6nm,0.6s						
WRKA	**Warakurna**	**31.25**	**172**	P	**P**	**00 52 04.4**	**+0.6**
	baz=31,SNR=25						
MEEK	**Meekatharra**	**32.95**	**189**	P	**P**

comp=Z,7.5nm,0.5s
PKI Pulchoki 42.30 305 *e*P **P 00 53 34.3 -0.5**
CMSA Cobar Meteorol 42.83 152 P **P 00 53 39.8 +1.4**
baz=43,SNR=6.1
DANN Dangsing 43.94 305 *e*P **P 00 53 47.9 +0.4**
comp=Z,35nm,0.7s
SONM Songino Array 44.19 343 P **P 00 53 49.6 +0.7**
comp=Z,0.6nm,0.7s,baz=158,slow=8.6,SNR=3.9
SONM PcP **PcP 00 55 20.9 -0.3**
comp=Z,1.3nm,1.0s,baz=139,slow=5.7,SNR=3.9
comp=Z,0.6nm,0.7s
PYUN Piuthan 44.48 304 *e*P **P 00 53 52.3 +0.7**
comp=Z,16nm,0.6s
ARMA Armidale 45.01 145 P **P 00 53 57.3 +1.9**
ARMA IAmb IAmb 00 54 19.5
comp=Z,32nm,1.4s
ARPS Mount Arapiles 45.84 160 P **P 00 54 01.8 +0.2**
baz=46
TOO Toolangi 47.90 157 P **P 00 54 18.4 +1.4**
TOO IAmb IAmb 00 54 49.5
comp=Z,15nm,1.4s
WMQ Urumqi 49.17 326 *e*P **P 00 54 27.8 +1.3**
MK31 Makanchi Array 54.01 326 P **P 00 55 01.8 +0.6**
MK31 PcP **PcP 00 55 56.8 -0.5**
MKAR Makanchi Array 54.01 326 P **P 00 55 01.3 +0.1**
MKAR PcP **PcP 00 55 56.6 -0.8**
MKAR Makanchi Array 54.01 326 P **P 00 55 01.7 +0.5**
comp=Z,1.2nm,0.3s,baz=121,slow=6.5,SNR=26
MKAR PcP **PcP 00 55 56.7 -0.6**
comp=Z,1.2nm,0.5s,baz=115,slow=4.6,SNR=8.5
comp=Z,1.2nm,0.3s
MAKZ Makanchi 54.19 326 P **P 00 55 03.5 +1.1**
KBL Kabul 57.84 307 P **P 00 55 27.3 -0.8**
KURBB Kurchatov Arra 58.23 328 P **P 00 55 30.3 +0.2**
comp=Z,2.4nm,0.6s,baz=130,slow=6.2,SNR=36
comp=Z,2.4nm,0.6s
KURK Kurchatov 58.23 328 P **P 00 55 30.1 -0.1**
GAR Garm 58.24 312 P **P 00 55 30.1 -0.5**
GAR IAmb IAmb 00 55 31.7
comp=Z,12nm,1.0s
KKAR Karatay Array 59.58 317 P **P 00 55 40.0 +0.6**
BVAR Borovoye Array 63.80 327 P **P 00 56 06.3 -0.4**
comp=Z,1.3nm,0.7s,baz=126,slow=7.7,SNR=5.8
comp=Z,1.3nm,0.7s
BRVK Borovoye 63.87 327 P **P 00 56 06.3 -0.8**
LBZ Lake Benmore 65.23 145 P **P 00 56 16.5 +0.7**
LBZ IAmb IAmb 00 56 29.3
comp=Z,57nm,1.4s
BKZ Black Stump Fm 66.23 138 P **P 00 56 23.0 +0.8**
BKZ IAmb IAmb 00 56 49.0
comp=Z,67nm,1.5s
ABKAR Akbulak array 68.53 321 P **P 00 56 35.5 -0.6**
SIRT Sirnak 79.53 307 P **P 00 57 38.8 +0.2**
SIRT IAmb IAmb 00 57 39.5
comp=Z,22nm,0.8s
BPAW Bear Paw Mtn. 82.41 26 P **P 00 57 53.7 +1.0**
BPAW IAmb IAmb 00 57 59.7
comp=Z,8.7nm,1.4s
C23K Itkillik River 82.75 20 P **P 00 57 55.2 +0.9**
C23K IAmb IAmb 00 58 19.6
comp=Z,32nm,1.4s
ILAR Eielson Array 84.19 26 P **P 00 58 00.3 -1.2**
comp=Z,0.3nm,0.6s,baz=265,slow=4.5,SNR=2.1
comp=Z,0.3nm,0.6s
BMAR Burnt Mountain 85.00 23 P **P 00 58 06.4 +0.9**
MAW Mawson 85.01 200 P **P 00 58 04.7 -0.7**
comp=Z,0.7nm,0.5s,baz=55,slow=7.8,SNR=3.6
comp=Z,0.7nm,0.5s
BRTR Keskin Array B 86.34 309 P **P 00 58 11.0 -1.6**
comp=Z,1.1nm,0.6s,baz=115,slow=6.5,SNR=2.7
comp=Z,1.1nm,0.6s
KMBO Kilima Mbogo 86.78 269 P **P 00 58 15.1 -0.3**
comp=Z,1.3nm,0.7s,baz=95,slow=7.9,SNR=4.5
comp=Z,1.3nm,0.7s
FINES FINESS Array B 88.41 332 P **P 00 58 20.2 -1.4**
comp=Z,2.9nm,0.9s,baz=220,slow=13,SNR=1.8
comp=Z,2.9nm,0.9s
VNA3 Neumayer Olymp 108.76 194 ⇑Pdiff **Pdif 01 00 05.6 +13**
VNA1 Neumayer–Stat 108.79 195 ⇑Pdiff **Pdif 01 00 03.1 +10**
TORD Torodi Ar. Bea 119.49 289 PKP **PKPdf 01 04 14.8 -1.6**
comp=Z,0.8nm,0.6s,baz=74,slow=2.3,SNR=6.5
PLCA Paso Flores 143.18 162 PKhKP PKPpre 01 04 56.5
comp=Z,1.8nm,0.6s,baz=218,slow=0.9,SNR=1.9
CFA Coronel Fontan 152.21 157 PKPbc **PKPbc 01 05 22.0 -0.3**
comp=Z,2.4nm,0.5s,baz=214,slow=0.7,SNR=5.6

NNC 18 01:12:11.2±5.1,37.°11N×70.°42E,h0km,mb3.8,mpv3.4, 4C-2D,Error ellipse: s-maj=57.5km s-min=28.1km az=144.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.62**	**26**	⇓P	Pn	01 13 35.9	-0.6
	0.8nm,0.3s						
AML				⇑S	Sn	01 14 43.0	+1.1
	3.6nm,0.5s						
KK31	**Karatay Array**	**5.99**	**1**	⇑P	Pn	01 13 42.8	+1.6
	5.7nm,0.7s,baz=186,slow=13,SNR=19						
KK31				⇑S	Sn	01 14 51.5	+1.0
	6.8nm,0.8s,baz=136,slow=35,SNR=4.4						
AB31	**Akbulak array**	**14.33**	**331**	⇑P	Pn	01 15 34.0	-1.3
	0.7nm,0.3s,baz=157,slow=12,SNR=42						
AKTO	**Aktyubinsk**	**16.02**	**330**	⇓P	Pn	01 15 57.1	-0.7
	0.6nm,0.5s						

IDC ***18*** *01:30:09.0±1.6, 41.°44N×127.°15W, h0km, mb3.7/6, mbtmp3.6/11, ML3.3/5, MS3.6/56, Error ellipse: s-maj=34.1km s-min=13.8km az=27.0*
NCEDC ***18*** *01:30:10.9±2.8, 41.°09N±0.°07×127.°2W±0.°1, h8km±2km, Error ellipse: s-maj=14.5km s-min=10.4km az=239.0*
GCMT ***18*** *01:30:10.5±0.4, 41.°28N±0.°05×127.°53W±0.°04, h17km±1km, MW4.7/79, Moment Tensor Solution. s11,c12; s79,c97; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.46±.14; Mθθ0.29±.09; Mφφ1.17±.09; Mrθ0.01±.29; Mrφ0.01±.04; Mθφ-0.55±.23; Best double couple: M0 1.42600×10^16 NP1:φs360.00000°, δ56.00000°, λ-91.00000°. NP2: φs181.00000°, δ34.00000°, λ-89.00000°. Principal axes: T 1.2810, Plg11.0000°, Azm90.0000°; N 0.2900, Plg1.0000°, Azm0.0000°; P -1.5710, Plg79.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***18*** *01:30:10.5±2.3, 41.°20N±0.°07×127.°2W±0.°1, h10km±2km, mb4.2/52, ML3.3/58, ML3.4/13(NCEDC) Error ellipse: s-maj=14.3km s-min=10.4km az=235.0*
ANF ***18*** *01:30:11.7±1.9, 41.°17N×127.°27W, h16km±14km, Error ellipse: s-maj=8.2km s-min=3.3km az=88.0*

ISC 18 01:30:10.2±0.7, 41.°20N±0.°07×127.°18W±0.°07, h10km, n252, σ1$34/199, mb4.3/22, MS3.6/49, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**2.27**	**108**		**Pn**	**01 30 46.8**	**-1.1**
KCTM					**Sn**	**01 31 17.2**	**+1.3**
KRPM	**Rodgers**	**2.38**	**90**		**Pn**	**01 30 47.7**	**-1.6**
KRPM				IAML		01 31 27.6	
	comp=E,170nm,1.2s						
KRPM				IAML		01 31 32.7	
	comp=N,159nm,2.3s						
JCC	**Jacoby Creek,**	**2.41**	**98**	Pn	**Pn**	**01 30 48.5**	**-1.2**
JCC	**Jacoby Creek,**	**2.41**	**98**		**Sn**	**01 31 18.9**	**-0.3**
JCC	**Jacoby Creek,**	**2.41**	**98**	IAML		01 31 21.5	
	comp=N,60nm,1.2s						
JCC				IAML		01 31 22.7	
	comp=E,85nm,1.1s						
KBO	**Bosley Butte**	**2.43**	**64**	Pn	**Pn**	**01 30 47.9**	**-2.2**
KBO				IAML		01 31 27.7	
	comp=E,95nm,1.8s						
KBO				IAML		01 31 31.8	
	comp=N,124nm,1.8s						
KMPM	**Mount Pierce**	**2.45**	**108**	Pn	**Pn**	**01 30 48.7**	**-1.6**
KRMB	**Red Mountain**	**2.48**	**81**	Pn	**Pn**	**01 30 49.4**	**-1.3**
KSMM	**Slide Mountain**	**2.50**	**113**		**Pn**	**01 30 49.2**	**-1.8**
KSXB	**Camp Six Broad**	**2.56**	**75**	Pn	**Pn**	**01 30 49.9**	**-1.9**
KHMM	**Horse Mountain**	**2.63**	**96**	Pn	**Pn**	**01 30 51.6**	**-1.2**
KHMM				IAML		01 31 28.7	
	comp=E,88nm,1.2s						
KHMM				IAML		01 31 30.1	
	comp=N,85nm,0.9s						
KCRM	**Chalk Rock**	**2.66**	**106**		**Pn**	**01 30 52.0**	**-1.3**
KEBM	**Edson Butte**	**2.69**	**51**	Pn	**Pn**	**01 30 51.2**	**-2.5**
KEBM				IAML		01 31 30.1	
	comp=E,93nm,2.5s						
KEBM				IAML		01 31 30.8	
	comp=N,93nm,2.1s						
KMRM	**Mail Ridge**	**2.81**	**109**	Pn	**Pn**	**01 30 55.0**	**-0.3**
L02F	**Cave Junction**	**2.85**	**70**	Pn	**Pn**	**01 30 53.9**	**-1.9**
K02D	**Willamette Mer**	**3.01**	**59**	Pn	**Pn**	**01 30 56.6**	**-1.5**
J01E	**Myrtle Point**	**3.11**	**50**	Pn	**Pn**	**01 30 56.9**	**-2.4**
J01E				IAML		01 32 52.5	
	comp=N,50nm,4.8s						
KCPM	**Cahto Peak**	**3.13**	**118**	Pn	**Pn**	**01 30 58.5**	**-1.2**
YBH	**Yreka Blue Hor**	**3.40**	**80**	Pn	**Pn**	**01 31 03.6**	**+0.2**
YBH	**Yreka Blue Hor**	**3.40**	**80**	Pn	**Pn**	**01 31 04.1**	**+0.7**
	comp=N,9.5nm,0.3s,baz=266,slow=12,SNR=154						
YBH				Sn	**Sn**	**01 31 44.4**	**+0.6**
	comp=N,2.4nm,0.3s,baz=269,slow=7.3,SNR=1.0						
YBH				LR	LR	01 32 08.9	
	comp=N,988nm,19.6s,baz=253,slow=36						
	comp=N,91nm,0.8s						
DBO	**Dodson Butte**	**3.50**	**55**	Pn	**Pn**	**01 31 02.4**	**-2.3**
DBO				IAML		01 31 56.2	
	comp=N,37nm,4.5s						
I03D	**Drain, OR**	**3.77**	**47**	Pn	**Pn**	**01 31 07.2**	**-1.3**
I03D				IAML		01 33 33.1	
	comp=E,29nm,3.8s						
L04D	**Klamath Falls**	**3.79**	**73**	Pn	**Pn**	**01 31 08.6**	**-0.2**
HOPS	**Hopland Field**	**3.84**	**124**	Pn	**Pn**	**01 31 08.8**	**-0.6**
HOPS				IAML		01 31 55.2	
	comp=E,37nm,1.4s						
HOPS				IAML		01 31 58.8	
	comp=N,44nm,1.6s						
GDXM	**Geysers**	**4.13**	**124**	Pn	**Pn**	**01 31 13.2**	**-0.1**
GDXM				IAML		01 32 01.9	
	comp=E,80nm,0.1s						
GDXM				IAML		01 32 01.9	
	comp=N,55nm,0.2s						
K04D	**Chiloquin, OR**	**4.29**	**69**	Pn	**Pn**	**01 31 15.2**	**-0.4**
BUCK	**Buck Mountain**	**4.30**	**44**	Pn	**Pn**	**01 31 14.9**	**-0.8**
BUCK				IAML		01 32 17.1	
	comp=N,63nm,3.8s						
BUCK				IAML		01 32 23.7	
	comp=E,70nm,2.8s						
I04A	**Tendick Farm,**	**4.37**	**52**	Pn	**Pn**	**01 31 16.0**	**-0.8**
MCCM	**Marconi Confer**	**4.51**	**131**	Pn	**Pn**	**01 31 17.2**	**-1.3**
MCCM				IAML		01 32 15.8	
	comp=E,50nm,1.9s						
MCCM				IAML		01 32 52.9	
	comp=N,49nm,2.7s						
ORV	**Oroville**	**4.64**	**109**	Pn	**Pn**	**01 31 20.4**	**0.0**
ORV				IAML		01 32 19.8	
	comp=N,25nm,0.7s						
ORV				IAML		01 32 20.3	
	comp=E,23nm,0.7s						
H04D	**Lebanon**	**4.65**	**43**	Pn	**Pn**	**01 31 20.1**	**-0.4**
HEBO	**Mount Hebo**	**4.72**	**31**	Pn	**Pn**	**01 31 21.1**	**-0.5**
J05D	**Fort Rock, OR**	**4.88**	**63**	Pn	**Pn**	**01 31 23.3**	**-0.5**
G03D	**McMinnville, O**	**4.92**	**34**	Pn	**Pn**	**01 31 24.2**	**0.0**
K05A	**Summer Lake**	**4.92**	**70**	Pn	**Pn**	**01 31 24.6**	**+0.2**
K05A				IAML		01 33 41.2	
	comp=N,33nm,5.0s						
K05A				IAML		01 34 17.6	
	comp=E,41nm,4.6s						
H04A	**Detroit Lake**	**5.05**	**45**	Pn	**Pn**	**01 31 25.1**	**-0.9**
H04A				IAML		01 33 04.9	
	comp=N,18nm,3.8s						
H04A				IAML		01 33 51.7	
	comp=E,22nm,4.3s						
AFDM	**Forest Hills D**	**5.26**	**113**	Pn	**Pn**	**01 31 28.9**	**0.0**
AFDM				IAML		01 32 34.4	
	comp=E,9.9nm,1.2s						
PINE	**Pine Mountain**	**5.29**	**59**	Pn	**Pn**	**01 31 27.9**	**-1.5**
PINE				IAML		01 33 30.8	
	comp=N,24nm,4.7s						
PINE				IAML		01 34 29.6	
	comp=E,28nm,4.8s						
F03A	**Seaside**	**5.41**	**28**	Pn	**Pn**	**01 31 30.4**	**-0.4**
MPK	**Martis Peak**	**5.79**	**107**	Pn	**Pn**	**01 31 37.2**	**+0.8**
F04A	**Amboy**	**5.86**	**35**	Pn	**Pn**	**01 31 37.0**	**0.0**
EMB	**Emerald Bay**	**5.86**	**110**	Pn	**Pn**	**01 31 37.2**	**-0.1**
E03A	**Lebam**	**5.95**	**25**	Pn	**Pn**	**01 31 37.3**	**-0.9**
CMB	**Columbia Colle**	**6.12**	**119**	Pn	**Pn**	**01 31 41.9**	**+1.1**
PAHR	**Pah Rah Range**	**6.13**	**102**	Pn	**Pn**	**01 31 40.3**	**-0.7**
PNTR	**Pine Nut**	**6.18**	**108**	Pn	**Pn**	**01 31 42.7**	**+1.0**
G06A	**Carlson Farm,**	**6.25**	**48**	Pn	**Pn**	**01 31 42.6**	**+0.1**
SAO	**San Andreas Ge**	**6.29**	**133**	Pn	**Pn**	**01 31 40.8**	**-2.2**
YERR	**Yerington**	**6.47**	**107**	Pn	**Pn**	**01 31 46.4**	**+0.6**
WVOR	**Wild Horse Val**	**6.50**	**76**	Pn	**Pn**	**01 31 44.7**	**-1.3**
BBGB	**Big Mountain B**	**6.65**	**132**	Pn	**Pn**	**01 31 45.9**	**-2.2**
LON	**Longmire**	**6.76**	**33**	Pn	**Pn**	**01 31 49.6**	**+0.1**
PMPB	**Monarch Peak**	**7.04**	**133**	Pn	**Pn**	**01 31 52.7**	**-0.8**
D05A	**Enumclaw**	**7.05**	**30**	Pn	**Pn**	**01 31 53.7**	**+0.3**
GNW	**Green Mountain**	**7.08**	**25**	Pn	**Pn**	**01 31 53.2**	**-0.7**
MDPB	**Devils Postpil**	**7.21**	**117**	Pn	**Pn**	**01 31 55.2**	**-0.6**
G08A	**Pilot Rock**	**7.26**	**53**	Pn	**Pn**	**01 31 57.0**	**+0.7**
OMMB	**Old Mammoth Mi**	**7.27**	**117**	Pn	**Pn**	**01 31 57.1**	**+0.3**
KVN	**Kaiserville**	**7.28**	**104**	Pn	**Pn**	**01 31 57.1**	**+0.4**
NVAR	**Mina Array Bea**	**7.37**	**109**	Pn	**Pn**	**01 31 58.4**	**+0.4**
NVAR	**Mina Array Bea**	**7.37**	**109**	Pn	**Pn**	**01 31 59.7**	**+1.7**
	comp=E,0.2nm,0.3s,baz=290,slow=14,SNR=17						
NVAR				LR	LR	01 35 07.5	
	comp=E,1μm,18.6s,baz=280,slow=40						
	comp=E,2.2nm,0.7s						
NV11	**Mina Array Sit**	**7.47**	**109**	Pn	**Pn**	**01 31 59.8**	**+0.4**
LTY	**Liberty**	**7.64**	**35**	Pn	**Pn**	**01 32 01.5**	**-0.2**
CLRS	**Cowichan Lake**	**7.92**	**15**	Pn	**Pn**	**01 32 06.6**	**+1.3**
VES	**Vestal, Richgr**	**8.30**	**128**	P	**Pn**	**01 32 09.4**	**-1.2**
	baz=313						
VES				S	**Sn**	**01 33 45.6**	**+1.3**
	baz=313						
CWC	**Cottonwood Cre**	**8.54**	**121**	P	**Pn**	**01 32 16.9**	**+2.8**
	baz=307						
PKM	**Mcpherson Peak**	**8.57**	**135**	P	**Pn**	**01 32 13.6**	**-0.9**
	baz=320						
PKM				S	**Sn**	**01 33 51.5**	**+0.2**
	baz=320						
GRAC	**Grapevine Rang**	**8.70**	**116**	P	**Pn**	**01 32 16.9**	**+0.7**
	baz=302						
ISA	**Isabella, Lake**	**8.78**	**126**	Pn	**Pn**	**01 32 16.6**	**-0.8**
ISA	**Isabella, Lake**	**8.78**	**126**	P	**Pn**	**01 32 18.4**	**+1.1**
	baz=312,SNR=9.5						
SBC	**Santa Barbara**	**8.96**	**136**	P	**Pn**	**01 32 20.7**	**+1.0**
	baz=321						
ELK	**Elko**	**9.04**	**89**	Pn	**Pn**	**01 32 21.3**	**+0.3**
ELK	**Elko**	**9.04**	**89**	Pn	**Pn**	**01 32 22.1**	**+1.1**
	baz=319,slow=15,SNR=3.0						
ELK				LR	LR	01 36 10.5	
	comp=E,612nm,18.1s,baz=286,slow=40						
	comp=E,1.3nm,0.8s						
PLID	**Pearl Lake**	**9.04**	**61**	Pn	**Pn**	**01 32 22.2**	**+1.2**
MPMC	**Manual Prospec**	**9.15**	**121**	P	**Pn**	**01 32 23.3**	**+0.8**
	baz=307						
R11B	**Troy Canyon, C**	**9.37**	**104**	P	**Pn**	**01 32 26.1**	**+0.7**
	baz=291						
LRMC	**Laurel Mtn Rad**	**9.39**	**124**	P	**Pn**	**01 32 26.6**	**+0.9**
	baz=310						
TPNV	**Topopah Spring**	**9.50**	**113**	P	**Pn**	**01 32 27.7**	**+0.5**
	baz=300						
QSM	**Queen of Sheba**	**9.61**	**120**	Pn	**Pn**	**01 32 29.7**	**+1.1**
GWY	**Greenwater Val**	**9.62**	**118**	Pn	**Pn**	**01 32 31.3**	**+2.4**
HLID	**Hailey**	**9.73**	**72**	Pn	**Pn**	**01 32 31.3**	**+0.9**
HLID	**Hailey**	**9.73**	**72**	P	**Pn**	**01 32 31.3**	**+0.9**
	baz=260						
NEW	**Newport**	**10.04**	**42**	P	**Pn**	**01 32 36.8**	**+2.2**
	baz=229						
NEW	**Newport**	**10.04**	**42**	LR	LR	01 36 38.1	
	comp=E,482nm,18.1s,baz=218,slow=40						
GSC	**Goldstone, Bar**	**10.06**	**123**	P	**Pn**	**01 32 36.5**	**+1.7**
	baz=309						
TUQ	**Turquoise Moun**	**10.54**	**119**	P	**Pn**	**01 32 43.6**	**+2.1**
	baz=307						
HEC	**Hector,Ludlow**	**10.65**	**123**	P	**Pn**	**01 32 44.7**	**+1.7**
	baz=310						
BGU	**Big Grassy Mou**	**10.69**	**87**	Pn	**Pn**	**01 32 42.8**	**-0.7**
WTNK	**Soaring Height**	**10.74**	**114**	Pn	**Pn**	**01 32 46.4**	**+2.3**
HVU	**Hansel Valley**	**10.82**	**82**	Pn	**Pn**	**01 32 46.7**	**+1.4**
DUG	**Dugway, Tooele**	**10.95**	**91**	Pn	**Pn**	**01 32 49.4**	**+2.3**
DUG	**Dugway, Tooele**	**10.95**	**91**	P	**Pn**	**01 32 49.0**	**+1.9**
	baz=280,SNR=11						
BBB	**Bella Bella**	**11.01**	**357**	LR	LR	01 36 03.7	
	comp=E,154nm,19.7s,baz=196,slow=33						
SPUT	**South Promonto**	**11.09**	**85**	Pn	**Pn**	**01 32 50.4**	**+1.4**
GMRC	**Granite Mounta**	**11.11**	**122**	P	**Pn**	**01 32 51.1**	**+1.8**
	baz=309						
BPMT	**Black Pine Rid**	**11.21**	**58**	Pn	**Pn**	**01 32 53.6**	**+2.9**
CCUT	**Cedar City**	**11.29**	**104**	Pn	**Pn**	**01 32 53.4**	**+1.6**
PFO	**Pinyon Flats O**	**11.39**	**128**	LR	LR	01 37 23.6	
	comp=E,570nm,18.3s,baz=302,slow=38						
DLMT	**Dillon**	**11.41**	**64**	Pn	**Pn**	**01 32 54.6**	**+1.3**
HWUT	**Hardware Ranch**	**11.73**	**83**	Pn	**Pn**	**01 32 58.8**	**+1.0**
IRM	**Iron Mountain**	**11.84**	**123**	P	**Pn**	**01 33 01.3**	**+2.1**
	baz=310						
MONP2	**Monument Peak**	**11.93**	**131**	P	**Pn**	**01 33 02.1**	**+1.6**
	baz=317						
BC3	**Big Chuckawall**	**11.97**	**125**	P	**Pn**	**01 33 02.7**	**+1.6**
	baz=312						
W13A	**Hualapai Mount**	**12.10**	**116**	Pn	**Pn**	**01 33 06.5**	**+3.7**
PKCU	**Pink Cliffs**	**12.11**	**103**	Pn	**Pn**	**01 33 06.2**	**+3.1**
IKP	**In-Ko-Pah, Jac**	**12.29**	**130**	P	**Pn**	**01 33 07.7**	**+2.3**
	baz=317						
TMUT	**Trail Mountain**	**12.35**	**94**	Pn	**Pn**	**01 33 08.6**	**+2.3**
Q16A	**Castle Valley**	**12.47**	**95**	Pn	**Pn**	**01 33 10.0**	**+2.1**
LOHW	**Long Hollow**	**12.48**	**73**	Pn	**Pn**	**01 33 11.3**	**+3.2**
U15A	**North Rim**	**12.55**	**108**	Pn	**Pn**	**01 33 12.6**	**+3.5**
P18A	**Preston Nutter**	**13.00**	**91**	Pn	**Pn**	**01 33 17.8**	**+2.5**
HMU	**Henry Mountain**	**13.09**	**99**	Pn	**Pn**	**01 33 17.5**	**+1.0**
BW06	**Boulder Array**	**13.20**	**77**	Pn	**Pn**	**01 33 20.5**	**+2.6**
BW06	**Boulder Array**	**13.20**	**77**	P	**Pn**	**01 33 19.7**	**+1.8**
	baz=269						
PD31	**Pinedale Array**	**13.20**	**77**	Pn	**Pn**	**01 33 19.3**	**+1.4**
PDAR	**Pinedale Array**	**13.20**	**77**	Pn	**Pn**	**01 33 18.6**	**+0.7**
PDAR	**Pinedale Array**	**13.20**	**77**	Pn	**Pn**	**01 33 20.1**	**+2.1**
	baz=294,slow=7.3,SNR=8.4						
	comp=E,0.8nm,1.0s						
RDMU	**Red Mountain**	**13.34**	**87**	Pn	**Pn**	**01 33 21.4**	**+1.6**
WUAZ	**Wupatki**	**13.63**	**110**	Pn	**Pn**	**01 33 26.0**	**+2.3**
WUAZ	**Wupatki**	**13.63**	**110**	P	**Pn**	**01 33 25.3**	**+1.5**
	baz=299,SNR=5.9						
X16A	**Lo Mia Camp, P**	**14.15**	**114**	Pn	**Pn**	**01 33 32.0**	**+1.1**
O20A	**White River Ci**	**14.41**	**88**	P	**Pn**	**01 33 35.9**	**+1.5**
	baz=280						
V35K	**Ketchikan**	**14.44**	**350**	P	**Pn**	**01 33 35.5**	**+1.1**
	baz=166						
214A	**Organ Pipe Nat**	**14.76**	**124**	Pn	**Pn**	**01 33 37.3**	**-1.8**
MVCO	**Mesa Verde**	**15.02**	**99**	Pn	**Pn**	**01 33 41.1**	**-1.5**
MVCO				IAmb	IAmb	01 33 52.8	
	comp=Z,8.6nm,1.1s						
MVCO	**Mesa Verde**	**15.02**	**99**	P	**Pn**	**01 33 44.3**	**+1.6**
	baz=291,SNR=9.1						
X18A	**Snowflake**	**15.14**	**111**	P	**Pn**	**01 33 47.2**	**+3.0**
K22A	**Casper**	**15.44**	**78**	P	**Pn**	**01 33 48.4**	**+0.2**
	baz=272						
TUC	**Tucson**	**15.83**	**119**	P	**P**	**01 33 56.4**	**-0.7**
TUC	**Tucson**	**15.83**	**119**	P	**Pn**	**01 33 55.6**	**+2.3**
	baz=309						
N23A	**Red Feather La**	**16.02**	**84**	Pn	**Pn**	**01 33 55.6**	**-0.2**
N23A				IAmb	IAmb	01 34 11.3	
	comp=Z,30nm,1.4s						
N23A	**Red Feather La**	**16.02**	**84**	P	**Pn**	**01 33 57.2**	**+1.3**
	baz=276						
LAO	**LASA Array**	**16.04**	**63**	Pn	**Pn**	**01 33 55.7**	**-0.1**
LAO	**LASA Array**	**16.04**	**63**	P	**P**	**01 33 58.6**	**-0.7**
	baz=258						
S22A	**4UR Ranch, Cre**	**16.08**	**96**	P	**P**	**01 34 00.3**	**+0.2**
S22A	**4UR Ranch, Cre**	**16.08**	**96**	P	**P**	**01 33 59.0**	**-1.1**
	baz=289,SNR=16						
PHWY	**Pilot Hill**	**16.33**	**82**	Pn	**Pn**	**01 33 59.5**	**-0.4**
PHWY				IAmb	IAmb	01 34 01.5	
	comp=Z,25nm,1.5s						
ISCO	**Idaho Springs**	**16.46**	**88**	Pn	**Pn**	**01 34 00.7**	**-0.8**
ISCO	**Idaho Springs**	**16.46**	**88**	P	**Pn**	**01 34 02.2**	**+0.7**
	baz=282						
DUN6	**Lazy B Ranch**	**16.83**	**115**	P	**P**	**01 34 08.4**	**+0.3**
DUN6				IAmb	IAmb	01 34 16.3	
	comp=Z,21nm,1.1s						
S34M	**Telegraph Cree**	**16.92**	**353**	P	**P**	**01 34 08.6**	**-0.2**
	baz=170						
SDCO	**Great Sand Dun**	**17.08**	**95**	P	**P**	**01 34 11.9**	**+0.8**
SDCO	**Great Sand Dun**	**17.08**	**95**	P	**P**	**01 34 11.3**	**+0.2**
	baz=288,SNR=27						
RSSD	**Black Hills**	**17.26**	**73**	Pn	**Pn**	**01 34 10.2**	**-1.2**
BRIGG	**Briggsdale**	**17.29**	**85**	Pn	**Pn**	**01 34 11.6**	**-0.2**
BRIGG				IAmb	IAmb	01 34 15.3	
	comp=Z,18nm,1.1s						
DLBC	**Dease Lake**	**17.35**	**355**	P	**Pn**	**01 34 12.3**	**-0.1**
	baz=173						
319A	**Douglas**	**17.41**	**119**	Pn	**Pn**	**01 34 12.6**	**-0.8**
ANMO	**Albuquerque**	**17.45**	**104**		**Pn**	**01 34 14.6**	**+0.7**
ANMO	**Albuquerque**	**17.45**	**104**	P	**Pn**	**01 34 14.1**	**+0.2**
	baz=297						
ANMO	**Albuquerque**	**17.45**	**104**	P	**P**	**01 34 15.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=23,slow=13,SNR=2.5						
ANMO				LR	LR	01 41 24.1	
	comp=Z,429nm,19.7s,baz=28,slow=39						
	comp=Z,0.4nm,0.3s						
121A	**Cookes Peak, D**	**17.74**	**113**	P	**P**	**01 34 18.5**	**+0.2**
	baz=305						
DGMT	**Dagmar**	**17.80**	**58**		**Pn**	**01 34 18.3**	**+0.3**
DGMT				IAmb	IAmb	01 34 21.5	
	comp=Z,36nm,1.5s						
T25A	**Trinidad**	**18.10**	**96**		**P**	**01 34 23.3**	**+1.0**
T25A				IAmb	IAmb	01 34 28.5	
	comp=Z,39nm,1.2s						
T25A	**Trinidad**	**18.10**	**96**	P	**Pn**	**01 34 22.5**	**+0.6**
	baz=290,SNR=12						
KSCO	**Kaye Shedlock'**	**18.89**	**89**	P	**P**	**01 34 30.6**	**-0.3**
KSCO				IAmb	IAmb	01 34 35.7	
	comp=Z,32nm,1.2s						
KSCO	**Kaye Shedlock'**	**18.89**	**89**	P	**Pn**	**01 34 32.5**	**+1.0**
	baz=284						
E28A	**Huff**	**19.78**	**65**	P	**Pn**	**01 34 42.1**	**+0.1**
E28A				IAmb	IAmb	01 34 46.6	
	comp

QUOK	Quay	24.24	92	P	P	01 35 27.8	+0.6
QUOK				IAmb	IAmb	01 35 30.2	
comp=Z,8.9nm,0.9s							
FW03	Perrin-Whitt E	24.52	100	P	P	01 35 30.1	+0.3
FW03				IAmb	IAmb	01 35 32.8	
comp=Z,7.6nm,1.0s							
DRIO	Del Rio	24.55	110	P	P	01 35 30.9	+0.7
DRIO				IAmb	IAmb	01 35 39.9	
comp=Z,13nm,1.4s							
BRDY	Brady	24.69	105	P	P	01 35 31.2	-0.2
BRDY				IAmb	IAmb	01 35 35.1	
comp=Z,7.3nm,1.3s							
U38A	Gravette	25.89	90	P	P	01 35 43.3	+1.0
U38A				IAmb	IAmb	01 35 49.2	
comp=Z,7.0nm,1.1s							
435B	Jarrell	25.99	104	P	P	01 35 42.0	-1.1
ILAR	Eielson Array	26.19	341	P	P	01 35 44.2	-0.4
comp=Z,0.3nm,0.6s,baz=158,slow=8.6,SNR=6.9							
ILAR				LR	LR	01 44 19.4	
comp=Z,97nm,20.3s,baz=163,slow=33							
comp=Z,0.3nm,0.6s							
S39A	Bolivar	26.28	86	P	P	01 35 45.8	+0.1
S39A				IAmb	IAmb	01 35 53.8	
comp=Z,5.5nm,1.1s							
FYU	Fort Yukon	27.33	344	P	P	01 35 55.1	+0.3
INK	Inuvik	27.38	355	LR	LR	01 45 25.8	
comp=Z,78nm,18.5s,baz=238,slow=34							
TKL	Tuckaleechee C	34.18	85	LR	LR	01 51 40.1	
comp=Z,218nm,18.6s,baz=302,slow=38							
SADO	Sadowa	34.92	68	LR	LR	01 51 46.7	
comp=Z,73nm,19.1s,baz=3.0,slow=37							
RES	Resolute Bay	36.66	14	LR	LR	01 50 37.0	
comp=Z,46nm,20.6s,baz=9.0,slow=34							
CMIG	Matias Romero	36.70	121	LR	LR	01 53 07.1	
comp=Z,122nm,20.6s,baz=320,slow=37							
TEIG	Tepich	39.01	110	LR	LR	01 56 40.9	
comp=Z,510nm,18.4s,baz=32,slow=41							
FRB	Frobisher Bay	40.32	36	LR	LR	01 54 39.2	
comp=Z,142nm,18.4s,baz=297,slow=37							
SHEM	Shemya Is, Ala	40.61	307	LR	LR	01 51 02.2	
comp=Z,55nm,20.5s,baz=252,slow=31							
SCHQ	Schefferville	41.30	50	LR	LR	01 55 06.1	
comp=Z,106nm,18.1s,baz=64,slow=36							
SFJD	Kangerlussuaq	47.75	31	LR	LR	01 59 11.4	
comp=Z,90nm,20.0s,baz=270,slow=37							
JTS	Las Juntas de	48.21	118	LR	LR	02 01 24.1	
comp=Z,48nm,19.0s,baz=320,slow=39							
PETK	Petropavlovsk-	50.18	311	LR	LR	01 56 42.3	
comp=Z,36nm,22.0s,baz=104,slow=32							
MA2	Magadan	51.83	320	LR	LR	01 57 58.6	
comp=Z,37nm,21.4s,baz=104,slow=32							
SJG	San Juan	56.60	95	LR	LR	02 06 03.6	
comp=Z,48nm,20.3s,baz=118,slow=38							
H11N3	WAKE ISLAND Hy	59.32	270	T	T	02 44 03.3	
baz=52,slow=75,SNR=310							
H11N2	WAKE ISLAND Hy	59.33	270	T	T	02 44 07.2	
baz=52,slow=75,SNR=160							
H11N1	WAKE ISLAND Hy	59.34	270	T	T	02 44 04.1	
baz=52,slow=75,SNR=154							
ROSC	El Rosal	59.40	113	LR	LR	02 09 50.0	
comp=Z,58nm,18.2s,baz=224,slow=40							
BORG	Borgarnes	59.71	29	LR	LR	02 05 42.4	
comp=Z,84nm,18.5s,baz=319,slow=36							
H11S1	WAKE ISLAND Hy	60.21	269	T	T	02 45 15.9	
baz=52,slow=75,SNR=523							
H11S2	WAKE ISLAND Hy	60.21	269	T	T	02 45 15.1	
baz=52,slow=75,SNR=472							
H11S3	WAKE ISLAND Hy	60.23	269	T	T	02 45 17.3	
baz=52,slow=75,SNR=320							
PPT	Papeete	62.05	204	LR	LR	02 02 09.5	
comp=Z,34nm,18.1s,baz=12,slow=31							
PCRV	Puerto La Cruz	62.76	101	LR	LR	02 10 37.3	
comp=Z,63nm,18.7s,slow=39							
ASAJ	Asahikawa	63.06	306	LR	LR	02 04 14.9	
comp=Z,24nm,20.9s,baz=158,slow=32							
KLR	Kul'dur	66.39	315	LR	LR	02 07 49.1	
comp=Z,33nm,19.9s,baz=30,slow=34							
ARCES	ARCESS Array B	67.76	10	LR	LR	02 10 36.4	
comp=Z,27nm,20.8s,baz=85,slow=36							
RAR	Rarotonga	69.08	213	LR	LR	02 02 36.2	
comp=Z,54nm,20.8s,baz=338,slow=28							
MJAR	Matsushiro Arr	70.12	301	LR	LR	02 06 10.3	
comp=Z,47nm,19.0s,baz=62,slow=31							
NOA	NORSAR Array B	72.62	20	LR	LR	02 12 08.3	
comp=Z,22nm,21.7s,baz=260,slow=35							
HFS	Hagfors	74.03	19	LR	LR	02 15 37.1	
comp=Z,23nm,18.9s,baz=324,slow=37							
MDP	Montagnes des	75.03	96	LR	LR	02 18 28.2	
comp=Z,22nm,18.8s,baz=322,slow=39							
FINES	FINESS Array B	75.42	13	LR	LR	02 15 38.7	
comp=Z,39nm,18.3s,baz=319,slow=36							
KSRS	Korea Array	75.94	308	LR	LR	02 10 39.2	
comp=Z,24nm,21.7s,baz=155,slow=32							
JNU	Nakatsue	76.95	303	LR	LR	02 09 11.7	
comp=Z,44nm,21.1s,baz=54,slow=30							
MSVF	Nonsavu	77.52	233	LR	LR	02 08 08.8	
comp=Z,89nm,20.0s,baz=120,slow=29							
KIRV	Kirov	80.53	2	LR	LR	02 19 16.0	
comp=Z,20nm,21.8s,baz=353,slow=37							
ZALV	Zalesovo Beam	81.31	342	LR	LR	02 20 29.8	
comp=Z,34nm,20.3s,baz=336,slow=37							
HHC	Hu-ho-hao-te	82.50	319	eP	P	01 42 33.9	+0.8
HHC				pmax	pmax		
comp=Z,16nm,0.5s							
HHC				pmax	pmax		
comp=Z,110nm,6.6s							
ARU	Arti	82.62	357	LR	LR	02 20 00.3	
comp=Z,9.6nm,20.1s,baz=292,slow=36							
GERES	GERESS Array B	83.92	25	LR	LR	02 21 13.9	
comp=Z,42nm,19.3s,baz=330,slow=37							
ESDC	Sonseca Array	84.36	40	LR	LR	02 18 01.5	
comp=Z,31nm,18.6s,baz=318,slow=34							
VRAC	Vranov	84.39	23	LR	LR	02 21 04.7	
comp=Z,25nm,19.2s,baz=336,slow=36							
DAVOX	Davos/Dischmat	84.43	28	LR	LR	02 19 26.4	
comp=Z,18nm,19.4s,baz=274,slow=35							
KURBB	Kurchatov Arra	85.83	344	P	P	01 42 48.3	-1.4
comp=Z,1.0nm,0.2s,baz=14,slow=4.7,SNR=1.4							
comp=Z,1.0nm,0.2s							
KRVT	Keravat (AS076	85.91	261	LR	LR	02 15 17.9	
comp=Z,84nm,20.0s,baz=182,slow=32							
AKASG	Malin Array Be	86.17	15	P	P	01 42 50.1	-1.3
comp=Z,0.2nm,0.3s,baz=338,slow=4.0,SNR=1.4							
AKASG				LR	LR	02 20 31.6	
comp=Z,31nm,18.9s,baz=358,slow=35							
comp=Z,0.2nm,0.3s							
H03N2	Juan Fernandez	86.55	141	T	T	03 19 07.4	
baz=325							
H03N1	Juan Fernandez	86.56	141	T	T	03 19 08.3	
baz=325							
H03N3	Juan Fernandez	86.56	141	T	T	03 19 08.0	
baz=325							
DZM	Mont Dzumac	87.98	238	LR	LR	02 17 21.9	
comp=Z,60nm,18.4s,baz=332,slow=32							
MKAR	Makanchi Array	88.54	340	LR	LR	02 26 21.8	
comp=Z,26nm,18.6s,baz=38,slow=38							
AKTO	Aktyubinsk	88.63	357	P	P	01 43 01.6	-1.6
comp=Z,0.6nm,0.5s,baz=323,slow=5.1,SNR=1.9							
AKTO				LR	LR	02 25 14.7	
comp=Z,9.0nm,19.9s,baz=28,slow=37							
comp=Z,0.6nm,0.5s							
WMQ	Urumqi	89.73	336	eP	P	01 43 10.5	+1.8
WMQ				sP	pwP	01 43 18.5	+3.9
WMQ				pmax	pmax		
comp=Z,20nm,0.7s							
LZH	Lanzhou	89.98	321	eP	P	01 43 12.8	+2.7
LZH				pP	pwP	01 43 23.0	+6.9
LZH				pmax	pmax		
comp=Z,32nm,1.0s							
AAK	Ala-Archa	94.28	344	LR	LR	02 27 45.6	
comp=Z,21nm,21.9s,baz=6.0,slow=37							
DAV	Davao City (W)	98.15	287	LR	LR	02 21 36.8	
comp=Z,37nm,19.8s,baz=46,slow=32							
PZH	PanZhiHua	98.81	317	P	P	01 43 50.3	-0.3
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,100nm,5.1s							

*IDC **18** 01:49:45.6±1.1, 55°.52S×29°.66W, h0km, mb4.1/5, mbtmp4.1/6, ML3.7/1, MS3.4/10, Error ellipse: s-maj=41.7km s-min=21.3km az=54.0*
*NEIC **18** 01:49:47.7±1.9, 55°.5S±0°.1×29°.9W±0°.2, h10km±1km, mb4.6/19, Error ellipse: s-maj=26.9km s-min=17.3km az=213.0*

ISC 18 01:49:47.0±0.5, 55°.5S±0°.1×29°.8W±0°.1, h10km, n61, σ0°99/47, mb4.5/14, MS3.4/8, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.08	285	Pn	Pn	01 50 48.7	-0.6
VNA1	Neumayer--Stat	17.85	157	⇑P	P	01 53 59.5	+3.8
comp=Z,2.4nm,0.4s							
VNA3	Neumayer Olymp	18.00	159	⇑P	P	01 53 58.8	+1.4
comp=Z,6.3nm,0.6s							
VNA2	Neumayer--Watz	18.25	156	⇑P	P	01 54 01.3	+1.2
comp=Z,3.4nm,0.7s,baz=318,slow=13							
PMSA	Palmer Station	19.17	227	LR	LR	02 00 03.2	
comp=Z,73nm,18.6s,baz=62,slow=32							
SNAA	Sanae	19.83	155	P	P	01 54 18.0	+0.4
SNAA	Sanae	19.83	155	⇑P	P	01 54 17.8	+0.4
comp=Z,152nm,0.7s							
SNAA	Sanae	19.83	155	P	P	01 54 17.9	+0.4
comp=Z,0.2nm,0.3s,baz=307,slow=9.9,SNR=29							
SNAA				LR	LR	02 00 51.1	
comp=Z,35nm,18.4s,baz=10,slow=34							
comp=Z,5.9nm,0.7s							
TROLL	Troll, Antarti	21.38	153	⇑P	P	01 54 34.3	0.0
comp=Z,373nm,0.7s							
MG05	Puerto Natales	25.35	261	P	P	01 55 13.0	-0.7
GO09	Cerro Castillo	25.44	262	P	P	01 55 13.7	-0.9
GO09				IAmb	IAmb	01 55 15.6	
comp=Z,23nm,1.2s							
TRQA	Tornquist	27.78	295	P	P	01 55 36.4	+0.6
TRQA				IAmb	IAmb	01 55 51.7	
comp=Z,7.1nm,1.3s							
PLCA	Paso Flores	30.47	282	LR	LR	02 07 08.3	
comp=Z,76nm,19.7s,baz=124,slow=34							
QSPA	South Pole Qui	34.73	180	P	P	01 56 38.3	+1.3
CPUP	Villa Florida	35.38	314	P	P	01 56 42.3	-0.3
CPUP				IAmb	IAmb	01 56 50.9	
comp=Z,6.7nm,1.1s							
CPUP	Villa Florida	35.38	314	P	P	01 56 42.7	+0.1
comp=Z,1.6nm,0.6s,baz=161,slow=5.7,SNR=5.4							
CPUP				LR	LR	02 09 30.9	
comp=Z,36nm,19.4s,baz=210,slow=34							
comp=Z,1.6nm,0.6s							
CFA	Coronel Fontan	36.02	295	LR	LR	02 09 33.6	
comp=Z,50nm,21.5s,baz=150,slow=33							
CO01	Juntas del Tor	38.27	295	P	P	01 57 08.8	+1.2
CO01				IAmb	IAmb	01 57 09.9	
comp=Z,15nm,1.4s							
MAW	Mawson	41.43	145	P	P	01 57 32.5	-0.6
comp=Z,1.3nm,0.5s,baz=238,slow=7.9,SNR=5.7							
MAW				LR	LR	02 13 26.1	
comp=Z,35nm,18.3s,baz=272,slow=34							
comp=Z,1.3nm,0.5s							
GO02	Mina Guanaco	41.96	300	P	P	01 57 38.8	+0.6
BDFB	Brasilia	42.20	333	P	P	01 57 41.4	+1.4
BDFB				IAmb	IAmb	01 57 55.6	
comp=Z,11nm,1.3s							
BDFB	Brasilia	42.20	333	P	P	01 57 40.8	+0.7
comp=Z,3.1nm,0.7s,baz=151,slow=10,SNR=5.0							
comp=Z,3.1nm,0.7s							
LVC	Limon Verde	43.78	303	P	P	01 57 54.4	+1.3
LVC				IAmb	IAmb	01 57 56.2	
comp=Z,11nm,0.9s							
PB01	IPOC Station P	45.39	303	P	P	01 58 05.8	+0.2
PB01				IAmb	IAmb	01 58 07.6	
comp=Z,7.9nm,0.8s							
PTLB	Pontes e Lacer	45.92	319	P	P	01 58 10.0	+0.3
PTLB				IAmb	IAmb	01 58 11.0	
comp=Z,8.4nm,0.9s							
GO01	Chusmiza	46.44	304	P	P	01 58 15.2	+0.8
GO01				IAmb	IAmb	01 58 24.6	
comp=Z,6.7nm,1.0s							
BOSA	Boshof	47.27	79	P	P	01 58 20.0	-0.4
comp=Z,3.1nm,0.8s,baz=173,slow=10,SNR=3.2							
BOSA				LR	LR	02 15 00.1	
comp=Z,44nm,18.9s,baz=200,slow=32							
comp=Z,3.1nm,0.8s							
H10S2	ASCENSION HYDR	47.96	20	T	T	02 50 03.0	
baz=191							
H10S3	ASCENSION HYDR	47.96	20	T	T	02 50 06.2	
baz=29							
H10N1	ASCENSION HYDR	49.07	20	T	T	02 51 27.3	
baz=191,slow=75,SNR=7.8							
H10N3	ASCENSION HYDR	49.07	20	T	T	02 51 26.0	
baz=191,slow=75,SNR=16							
H10N2	ASCENSION HYDR	49.09	20	T	T	02 51 27.2	
baz=191,slow=75,SNR=12							
SAML	Samuel	53.41	317	P	P	01 59 07.2	+0.5
SAML				IAmb	IAmb	01 59 07.8	
comp=Z,5.0nm,0.9s							
CASY	Casey	54.89	162	P	P	01 59 14.4	-2.5
BOAV	Boa Vista	62.99	325	P	P	02 00 12.7	-1.1
BOAV				IAmb	IAmb	02 00 22.4	
comp=Z,3.6nm,0.9s							
MCRA	Macar, Loja	64.83	302	P	P	02 00 24.9	-1.1
SDV	Santo Domingo	72.62	317	LR	LR	02 35 20.5	
comp=Z,30nm,18.4s,baz=153,slow=38							
KOWA	Kowa	73.05	26	LR	LR	02 27 12.5	
comp=Z,46nm,21.9s,baz=342,slow=31							
TOA0	Torodi Ar. Sit	73.34	32	P	P	02 01 18.7	0.0
TORD	Torodi Ar. Bea	73.34	32	P	P	02 01 18.7	0.0
TORD	Torodi Ar. Bea	73.34	32	P	P	02 01 18.8	+0.1
comp=Z,0.6nm,0.5s,baz=206,slow=6.2,SNR=9.0							
comp=Z,0.6nm,0.5s							
NWAO	Narrogin (SRO)	87.49	153	LR	LR	02 38 05.2	
comp=Z,28nm,19.7s,baz=176,slow=33							
HYT	Haines Junctio	143.31	309	PKPpre	PKPpre	02 09 17.0	
H31M	Peel River	143.94	317	PKPpre	PKPpre	02 09 18.4	
J30M	Hart River	144.29	315	PKPdf	PKPbc	02 09 20.6	+0.5
EPYK	Eagle Plains	145.04	318		PKPbc	02 09 22.0	-0.4
DAWY	Dawson	145.36	313		PKPbc	02 09 22.7	-0.8
BCAR	Beaver Creek A	146.04	311	PKPdf	PKPdf	02 09 25.3	+0.6
BMRM	Bremner River	146.57	307	PKPdf	PKPdf	02 09 26.6	+0.9
SCRK	Sand Creek	147.26	312	PKPdf	PKPbc	02 09 28.6	-0.6
BMAR	Burnt Mountain	148.31	318	PKPbc	PKPbc	02 09 32.3	+0.5
SML	Sawmill	148.54	307	PKPbc	PKPbc	02 09 32.5	-0.1
ILAR	Eielson Array	148.68	313	PKPbc	PKPbc	02 09 32.4	-0.4
ILAR	Eielson Array	148.68	313	PKPbc	PKPbc	02 09 32.6	-0.2
comp=Z,5.1nm,0.7s,baz=130,slow=1.7,SNR=42							
GHO	Glory Hole Cre	148.80	307	PKPbc	PKPbc	02 09 33.3	0.0
CCB	Clear Creek Bu	149.04	312	PKPbc	PKPbc	02 09 32.7	-0.9
SKT	Skwentna	150.05	306	PKPbc	PKPbc	02 09 36.5	+0.2
BPAW	Bear Paw Mtn.	150.28	311	PKPbc	PKPbc	02 09 36.2	-0.6
TOLK	Toolik Lake Re	150.33	320	PKPbc	PKPbc	02 09 37.0	+0.2
IMAR	Indian Mountai	151.71	314	PKPbc	PKPbc	02 09 40.1	0.0
TTA	Tatalina	152.28	308	PKPbc	PKiKP	02 09 42.0	+0.2

*BUC **18** 02:25:49.6±0.3, 45°.59N×26°.54E, h127km±2km, ml3.5/46, Error ellipse: s-maj=2.0km s-min=1.5km az=167.0*

ISC 18 02:25:48.5±1.4, 45°.62N±0°.03×26°.54E±0°.03, h137km±7km, n55, σ0°73/90, 57C-32D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.24	18	⇑P	Pn	02 26 07.4	0.0
PLOR				⇑S	Sn	02 26 21.3	-0.4
NEHR	Nehoiu	0.26	222	⇑P	Pn	02 26 08.0	+0.5
NEHR				⇑S	Sn	02 26 21.8	0.0
VRI	Vrincioaia	0.28	28	⇓P	Pn	02 26 07.6	+0.2
VRI				⇑S	Sn	02 26 21.5	-0.4
COVR	Voineasa-Covas	0.33	313	⇓P	Pn	02 26 07.5	-0.2
COVR				⇑S	Sn	02 26 20.7	-1.5
ODBI	Odobesti	0.39	69	⇓P	Pn	02 26 09.0	+1.2
ODBI				⇑S	Sn	02 26 23.2	+0.7
GRER		0.39	128	⇑P	Pn	02 26 09.1	+1.2
MLR	Muntele Rosu	0.44	253	⇑P	Pn	02 26 08.8	+0.6
MLR				⇓S	Sn	02 26 22.7	-0.5
PANC	Panciu	0.49	59	⇑P	Pn	02 26 08.9	+0.6
PANC				⇑S	Sn	02 26 23.3	-0.1
ISR	Istrita	0.50	180	⇓P	Pn	02 26 09.1	+0.6
ISR				⇑S	Sn	02 26 21.6	-2.0
GHRR		0.75	54	⇓P	Pn	02 26 10.6	+0.7
GHRR				⇓S	Sn	02 26 26.5	+0.2
PGOR	Pogoanele	0.78	156	⇓S	Sn	02 26 25.9	-0.7
TUDR		0.79	92	⇓P	Pn	02 26 10.7	+0.4
TUDR				⇑S	Sn	02 26 26.4	-0.4
PLAR	PLOIESTI	0.80	207	⇑S	Sn	02 26 27.7	+0.8
SLCR	Slobozia Conac	0.86	92	⇑P	Pn	02 26 11.5	+0.6
SLCR				⇑S	Sn	02 26 27.5	-0.3
IZVR	Izvoarele	0.86	95	⇑P	Pn	02 26 11.3	+0.4
IZVR				⇑S	Sn	02 26 26.5	-1.4
DOPR	Dopca	0.88	294	⇑P	Pn	02 26 11.0	-0.1
DOPR				⇑S	Sn	02 26 27.2	-1.0
TESR	Tescani	0.89	5	⇓P	Pn	02 26 10.8	-0.3
SCHL	Schela	0.91	97	⇓P	Pn	02 26 11.9	+0.6
SCHL				⇑S	Sn	02 26 27.9	-0.6
VARL	Varlezi	0.96	73	⇑P	Pn	02 26 12.5	+0.9
VARL				⇓S	Sn	02 26 29.3	0.0
SULR		0.97	192	⇑P	Pn	02 26 12.3	+0.5
SULR				⇑S	Sn	02 26 29.2	-0.2
BIR	Birlad	0.99	49	⇑P	Pn	02 26 12.4	+0.4
BIR				⇓S	Sn	02 26 29.4	-0.5
TATR	Tatarca	1.06	91	⇑P	Pn	02 26 13.3	+0.8
TATR				⇑S	Sn	02 26 30.2	-0.7
VOIR		1.06	260	⇑P	Pn	02 26 12.9	+0.2
VOIR				⇑S	Sn	02 26 30.3	-0.9
GISR	Galati	1.08	99	⇑S	Sn	02 26 31.2	0.0
VLDR	Vladesti	1.10	78	⇓P	Pn	02 26 13.6	+0.6
VLDR				⇑S	Sn	02 26 31.3	-0.3
MTUR	Matau	1.11	250	⇑P	Pn	02 26 13.8	+0.6
AMRR	Amara	1.16	151	⇓P	Pn	02 26 14.4	+0.8
AMRR				⇑S	Sn	02 26 31.5	-1.1
LEHL	Lehliu	1.17	170	⇓S	Sn	02 26 32.8	+0.1
GIUM	Giurgiulesti	1.18	96	⇑P	Pn	02 26 14.6	+0.9
GIUM				⇑S	Sn	02 26 33.3	+0.4
CFR	Carcaliu	1.21	111	⇑P	Pn	02 26 14.3	+0.3
CFR				⇓S	Sn	02 26 33.5	0.0
BUC1	Bucharest	1.33	196	⇑S	Sn	02 26 35.6	0.0
VASR	Vaslui	1.34	40	⇓P	Pn	02 26 16.2	+0.8
VASR				⇑S	Sn	02 26 34.8	-1.1
BIZ	Bicaz	1.35	347	⇑S	Sn	02 26 35.6	-0.5
STFAR	Stefanesti-Arg	1.35	236	⇓P	Pn	02 26 15.7	+0.1
STFAR				⇓S	Sn	02 26 36.5	+0.4
HARR	Harsova	1.35	133	⇑P	Pn	02 26 16.1	+0.6
ARR	Arges	1.37	260	⇑P	Pn	02 26 16.2	+0.5
ARR				⇑S	Sn	02 26 36.7	+0.3
SGRR	Singureni	1.46	196	⇑S	Sn	02 26 37.6	-0.4
TPGR	Topolog	1.53	119	⇑P	Pn	02 26 17.6	+0.1
TPGR				⇓S	Sn	02 26 38.9	-0.7
HUMR	Humele	1.56	226	⇑P	Pn	02 26 17.9	+0.2
HUMR				⇑S	Sn	02 26 39.3	-0.7
TLCR		1.66	104	⇓P	Pn	02 26 19.8	+0.9
TLCR				⇑S	Sn	02 26 41.8	-0.2
CVDA	Cernavoda	1.67	140	⇑P	Pn	02 26 19.8	+0.8
CVDA				⇓S	Sn	02 26 41.6	-0.6
COPA	Copaceanca	1.76	213	⇓P	Pn	02 26 20.3	+0.3
COPA				⇓S	Sn	02 26 43.4	-0.7
TIRR	Tirgusor	1.77	131	⇓S	Sn	02 26 43.2	-1.0
LOT	Lotru	1.96	266	⇑P	Pn	02 26 22.9	+0.4
LOT				⇓S	Sn	02 26 48.7	+0.3
MFTR	Murfatlar	1.97	137	⇓S	Sn	02 26 47.8	-0.6
RAZG	Razgrad	2.06	181	⇑S	Sn	02 26 49.3	-1.1
KIS	Kishinev	2.09	48	⇓iP	Pn	02 26 24.0	0.0
22nm,0.2s							
KIS				eS	Sn	02 26 49.0	-2.2
46nm,0.1s							
BURAR	Bucovina Array	2.19	336	⇑P	Pn	02 26 26.7	+1.4
VLAD	Vladila	2.23	224	⇓P	Pn	02 26 25.5	-0.1
VLAD				⇓S	Sn	02 26 52.4	-1.6
LOZB	Loznitsa	2.25	179	⇑P	Pn	02 26 26.2	+0.2
MANR	Mangalia	2.32	140	⇑S	Sn	02 26 55.9	-0.2
PURM	Purcari	2.49	67	⇓S	Sn	02 26 59.1	-0.7
GZR	Gura Zlata	2.66	266	⇑P	Pn	02 26 32.1	+1.0
GZR				⇑S	Sn	02 27 04.4	+0.6
HERR	Herculane	3.01	257	⇑P	Pn	02 26 35.1	-0.3
VTS	Vitosha	3.83	220	⇑P	Pn	02 26 47.0	+0.6

IDC 18 02:28:59.7±3.0, 22°.43S×177°.65W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=283.9km s-min=34.3km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.43	259	P	P	02 37 13.3	+0.6
0.8nm,0.9s,baz=86,slow=8.8,SNR=4.9							
0.8nm,0.9s							
WRA	Warramunga Arr	44.69	264	P	P	02 37 14.2	-0.7
1.0nm,0.7s,baz=103,slow=8.2,SNR=10.0							
1.0nm,0.7s							
TXAR	Lajitas Array	87.82	57	P	P	02 41 51.3	0.0
0.7nm,1.0s,baz=218,slow=6.8,SNR=5.2							
0.7nm,1.0s							

*ISK **18** 02:52:58.8, 38°.96N×26°.26E, h9km, ML3.4/38*
*ATH **18** 02:52:59.3, 38°.98N×26°.27E, h13km±1km, ML3.1/16, Manual Solution by A.Plessa First location: 2019/04/11 08:23:03, This location: 2019/04/11 08:20:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*THE **18** 02:52:59.8, 38°.98N×26°.29E, h5km±1km, ML3.3/6, Error ellipse: s-maj=1.7km s-min=0.8km az=64.0*
*AFAD **18** 02:52:59.0±0.0, 38°.95N×26°.23E, h7km±1km, ML3.5*

ISC 18 02:52:59.5±0.8, 38°.97N±0°.02×26°.26E±0°.02, h11km±6km, n113, σ0°70/144, 20C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG1	Polichnitos, L	0.12	348	P	Pg	02 53 02.2	-0.3
EAG1				S	Sg	02 53 05.1	+0.4
EAG3	Mitilini, Lesv	0.27	64	P	Pg	02 53 04.9	-0.1
EAG3				S	Sg	02 53 08.6	-0.1
LESV	Lesvos island,	0.28	60	P	Pg	02 53 04.9	-0

BAYC	**CANAKKALE_Bayr**	**0.80**	**16**	P	**Pb**	**02 53 15.9**	**+0.4**
BAYC				S	**Sb**	**02 53 26.6**	**+0.2**
BAYC				*i* AML	AML	02 53 29.0	
	comp=N,2μm,0.2s						
BAYC				*i* AML	AML	02 53 29.0	
	comp=E,2μm,0.5s						
BUHA	**Balikesir, Bur**	**0.83**	**50**	P	**Pb**	**02 53 15.4**	**-0.5**
BUHA				S	**Sb**	**02 53 27.8**	**+0.7**
BUHA				*i* AML	AML	02 53 30.0	
	comp=E,3μm,0.4s						
BUHA				*i* AML	AML	02 53 32.0	
	comp=N,1μm,0.5s						
EZN	**Ezine**	**0.86**	**4**	Pg	**Pg**	**02 53 15.5**	**-0.5**
EZN				Sg	**Sb**	**02 53 28.2**	**+0.3**
EZN	**Ezine**	**0.86**	**4**	P	**Pg**	**02 53 15.5**	**-0.5**
EZN				S	**Sn**	**02 53 29.1**	**-0.9**
	3μm,0.4s						
BOZC	**Bozcaada**	**0.89**	**350**	Pg	**Pg**	**02 53 16.1**	**-0.5**
DGB	**zmir**	**1.04**	**152**	P	**Pg**	**02 53 18.6**	**-0.9**
DGB				S	**Sg**	**02 53 32.1**	**-0.8**
EFSA	**Agios Efstrati**	**1.14**	**301**	P	**Pb**	**02 53 21.2**	**0.0**
COMU	**Canakkale**	**1.14**	**8**	Pn	**Pn**	**02 53 21.7**	**+0.3**
COMU				Sn	**Sn**	**02 53 37.9**	**+0.8**
CANM	**Can-anakkale**	**1.21**	**30**	Pn	**Pg**	**02 53 22.7**	**-0.1**
AKHS	**Akhisar**	**1.22**	**94**	P	**Pb**	**02 53 22.1**	**-0.4**
AKS	**Akhisar**	**1.22**	**94**	Pn	**Pg**	**02 53 22.6**	**-0.3**
AKS				Sn	**Sn**	**02 53 39.6**	**+0.6**
LIA	**Limnos Island**	**1.25**	**319**	P	**Pn**	**02 53 22.8**	**0.0**
LIA	**Limnos Island**	**1.25**	**319**	P	**Pn**	**02 53 22.8**	**0.0**
GADA	**Gvkgeada**	**1.25**	**347**	Pn	**Pn**	**02 53 22.7**	**-0.2**
SKY	**Skiros Island**	**1.33**	**267**	P	**Pg**	**02 53 25.2**	**+0.1**
SMG	**Samos**	**1.34**	**160**	P	**Pn**	**02 53 23.2**	**-0.9**
SMG				S	**Sg**	**02 53 43.1**	**+0.5**
	2μm,0.3s						
SMG	**Samos**	**1.34**	**160**	P	**Pn**	**02 53 23.1**	**-1.0**
IKRA	**Agios-Kirikos-**	**1.35**	**179**	P	**Pn**	**02 53 23.4**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.44**	**7**	Pn	**Pn**	**02 53 25.6**	**+0.1**
GELI				Sn	**Sg**	**02 53 45.2**	**-0.6**
LPK	**Lapseki**	**1.46**	**15**	Pn	**Pb**	**02 53 26.3**	**-0.3**
GCAM	**G?zelcaml?**	**1.48**	**148**	Pn	**Pn**	**02 53 26.1**	**0.0**
GONE	**Gonen-Balikesi**	**1.54**	**45**	Pn	**Pb**	**02 53 27.4**	**-0.7**
SMTH	**Samothraki Isl**	**1.60**	**340**	P	**Pn**	**02 53 27.7**	**-0.1**
SMTH	**Samothraki Isl**	**1.60**	**340**	P	**Pn**	**02 53 27.5**	**-0.3**
KRBG	**Karabiga-Canak**	**1.63**	**29**	Pn	**Pn**	**02 53 28.1**	**-0.1**
ERIK	**Erikli-Kesan**	**1.71**	**7**	Pn	**Pn**	**02 53 29.5**	**+0.3**
ENEZ	**Enez**	**1.77**	**357**	Pn	**Pn**	**02 53 30.5**	**+0.5**
ENEZ	**Enez**	**1.77**	**357**	P	**Pn**	**02 53 30.7**	**+0.7**
EDC	**Edincik**	**1.85**	**42**	Pn	**Pn**	**02 53 31.2**	**0.0**
KULA	**Kula-Manisa**	**1.93**	**103**	Pn	**Pn**	**02 53 32.5**	**+0.1**
KULA	**Kula-Manisa**	**1.93**	**103**	P	**Pn**	**02 53 32.3**	**-0.1**
DST	**Dursunbey**	**1.94**	**70**	Pn	**Pn**	**02 53 32.6**	**+0.1**
APE	**Apeiranthos**	**1.98**	**197**	⇑P	**Pn**	**02 53 31.2**	**-1.8**
APE	**Apeiranthos**	**1.98**	**197**	Pn	**Pn**	**02 53 32.9**	**-0.1**
APE	**Apeiranthos**	**1.98**	**197**	P	**Pn**	**02 53 31.7**	**-1.3**
THAS	**Thassos island**	**2.02**	**325**	P	**Pn**	**02 53 33.3**	**-0.2**
THAS	**Thassos island**	**2.02**	**325**	P	**Pn**	**02 53 33.2**	**-0.3**
DION	**Dionisos Attik**	**2.03**	**245**	P	**Pn**	**02 53 33.8**	**+0.2**
MLSB	**Milas**	**2.06**	**144**	Pn	**Pn**	**02 53 34.3**	**+0.3**
KCTX	**Karacabey (Bur**	**2.08**	**51**	Pn	**Pn**	**02 53 34.3**	**0.0**
BODT	**Bodrum**	**2.08**	**156**	Pn	**Pn**	**02 53 33.6**	**-0.7**
BODT	**Bodrum**	**2.08**	**156**	P	**Pn**	**02 53 33.6**	**-0.7**
KLNA	**Kalymnos**	**2.09**	**164**	P	**Pn**	**02 53 33.3**	**-1.1**
SIMA	**Simav-Kutahya**	**2.13**	**86**	Pn	**Pn**	**02 53 35.9**	**+0.9**
RFTB	**Kemer-Bodrum**	**2.16**	**158**	Pn	**Pn**	**02 53 35.1**	**-0.2**
UKOP	**Uzunkopru-Edir**	**2.18**	**8**	Pn	**Pn**	**02 53 36.5**	**+0.9**
RDO	**Rodhopi**	**2.24**	**346**	Pn	**Pn**	**02 53 37.2**	**+0.6**
RDO	**Rodhopi**	**2.24**	**346**	P	**Pn**	**02 53 37.0**	**+0.4**
RDO	**Rodhopi**	**2.24**	**346**	P	**Pn**	**02 53 37.0**	**+0.4**
TKR	**Tekirdag**	**2.25**	**26**	Pn	**Pn**	**02 53 37.4**	**+0.8**
RFTAA	**Mazikoy-Bodrum**	**2.29**	**149**	Pn	**Pn**	**02 53 36.7**	**-0.5**
ORLT	**Orhaneli**	**2.31**	**61**	Pn	**Pn**	**02 53 38.4**	**+0.9**
NEO	**Neokhori**	**2.38**	**279**	P	**Pn**	**02 53 38.2**	**-0.3**
XOR	**Xorichti**	**2.42**	**280**	P	**Pn**	**02 53 38.8**	**-0.2**
KAVA	**Kavala**	**2.43**	**327**	P	**Pn**	**02 53 39.0**	**-0.1**
CRLT	**Corlu**	**2.44**	**27**	Pn	**Pn**	**02 53 39.9**	**+0.7**
VIL2	**Platees**	**2.46**	**253**	P	**Pn**	**02 53 40.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.46**	**55**	Pn	**Pn**	**02 53 40.5**	**+0.9**
ARMT	**Armutlu**	**2.56**	**51**	Pn	**Pn**	**02 53 42.3**	**+1.3**
SANT	**Santorini**	**2.67**	**194**	⇑P	**Pn**	**02 53 41.3**	**-1.1**
KDZ	**Kurdzhali**	**2.75**	**346**	Pn	**Pn**	**02 53 44.4**	**+0.9**
HORT	**Hortiatis**	**2.93**	**305**	Pn	**Pn**	**02 53 46.5**	**+0.5**
SRS	**Serrai**	**2.96**	**317**	P	**Pn**	**02 53 46.6**	**+0.1**
NVR	**Nevrokopi**	**3.00**	**323**	P	**Pn**	**02 53 48.4**	**+1.3**
PEHC	**Pehcevo**	**3.80**	**319**	*i* Pn	**Pn**	**02 53 59.6**	**+1.5**
STIP	**Stip**	**4.13**	**312**	*i* Pn	**Pn**	**02 54 02.4**	**-0.2**
VTS	**Vitosha**	**4.31**	**329**	⇑P	**Pn**	**02 54 05.6**	**+0.6**
LOZB	**Loznitsa**	**4.41**	**3**	⇑P	**Pn**	**02 54 07.6**	**+1.3**
RAZG	**Razgrad**	**4.60**	**2**	⇑P	**Pn**	**02 54 09.7**	**+0.8**
TIRR	**Tirgusor**	**5.72**	**16**	⇑P	**Pn**	**02 54 25.2**	**+0.9**
BOVS	**Bovan**	**5.79**	**325**	⇑P	**Pn**	**02 54 25.6**	**+0.4**
HARR	**Harsova**	**5.85**	**12**	⇑P	**Pn**	**02 54 26.8**	**+0.7**
TPGR	**Topolog**	**6.10**	**15**	⇓P	**Pn**	**02 54 30.0**	**+0.4**
NEIR	**Nehoiu**	**6.45**	**0**	⇑P	**Pn**	**02 54 35.3**	**+0.8**
ARR	**Arges**	**6.51**	**350**	⇑P	**Pn**	**02 54 35.4**	**+0.2**
MLR	**Muntele Rosu**	**6.52**	**358**	⇑P	**Pn**	**02 54 36.3**	**+0.9**
VOIR		**6.53**	**353**	⇑P	**Pn**	**02 54 36.3**	**+0.9**
HERR	**Herculane**	**6.56**	**335**	⇑P	**Pn**	**02 54 35.8**	**-0.2**
LOT	**Lotru**	**6.73**	**345**	⇑P	**Pn**	**02 54 38.6**	**+0.2**
COVR	**Voineasa-Covas**	**6.87**	**360**	⇑P	**Pn**	**02 54 41.5**	**+1.3**
PLOR	**Plostina**	**6.88**	**2**	⇑P	**Pn**	**02 54 42.5**	**+2.2**
VRI	**Vrincioaia**	**6.90**	**3**	⇓P	**Pn**	**02 54 42.6**	**+2.0**
GZR	**Gura Zlata**	**6.92**	**339**	⇑P	**Pn**	**02 54 40.7**	**-0.1**
DOPR	**Dopca**	**7.02**	**355**	⇑P	**Pn**	**02 54 43.5**	**+1.2**
SURR	**Surduc**	**7.44**	**337**	⇑P	**Pn**	**02 54 48.9**	**+0.9**
TESR	**Tescani**	**7.54**	**2**	⇑P	**Pn**	**02 54 50.5**	**+1.1**
MARR	**Marisel-Cluj**	**8.04**	**344**	⇓P	**Pn**	**02 54 57.2**	**+0.9**

NIED ***18*** *02:57:41.0, 35°.20N×142°.05E, h62km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.54; $M_{\theta\theta}$1.43; $M_{\phi\phi}$1.11; $M_{r\theta}$0.29; $M_{\theta\phi}$-1.94; $M_{\phi r}$3.74; Fault plane solution: $M_0$4.71000×10^{14} NP1: ϕ_s168.00000°, δ73.00000°, λ-64.00000°. NP2: ϕ_s288.00000°, δ31.00000°, λ-146.00000°.*

JMA ***18*** *02:57:41.0±0.3, 35°.2N±0°.7×14°.2E±°, h62km, MV3.8/33, FAR E OFF KANTO*

IDC ***18*** *02:57:41.9±4.1, 35°.07N×142°.02E, h41km±35km, mb3.3/6, mbtmp3.6/8, ML3.4/2, MS2.6/3, Error ellipse: s-maj=32.2km s-min=12.4km az=81.0*

ISC 18 02:57:40.5±2.1, 35°.15N±0°.05×142°.06E±0°.09, h31km±14km, n22, σ0ˢ72/25, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.02**	**241**	P	**Pb**	**02 57 59.5**	**+0.3**
BSO3	**Boso 3**	**1.32**	**255**	*i* P	**Pb**	**02 58 04.2**	**-0.3**
BSO4	**Boso 4**	**1.42**	**264**	*i* P	**Pb**	**02 58 05.7**	**-0.5**
JIHU	**Itakohorinouch**	**1.49**	**303**	P	**Pn**	**02 58 05.9**	**+0.7**
JIHU				*e*S	**Sn**	**02 58 23.7**	**+0.1**
JIM2	**Oshima 3**	**2.20**	**259**	P	**Pn**	**02 58 15.2**	**+0.3**
JMKN	**Mikurajimanish**	**2.40**	**239**	*i* P	**Pn**	**02 58 17.8**	**+0.2**
JMKN				S	**Sn**	**02 58 46.1**	**+0.3**
JFK	**Kawauchi**	**2.41**	**337**	P	**Pn**	**02 58 17.3**	**-0.5**
JOD2	**Odawara 2**	**2.44**	**274**	*i* P	**Pn**	**02 58 18.6**	**+0.4**
JOD2				*e*S	**Sn**	**02 58 46.0**	**-1.0**
JAG	**Ashikaga**	**2.47**	**302**	*i* P	**Pn**	**02 58 19.1**	**+0.5**
JRY	**Ryogami san**	**2.72**	**289**	P	**Pn**	**02 58 23.1**	**+1.1**
JHJ	**Hachijo jima 2**	**2.77**	**224**	P	**Pn**	**02 58 23.4**	**+0.7**
	50nm,0.3s,baz=62,slow=17,SNR=10						
JHJ				S	**Sn**	**02 58 53.8**	**-1.3**
	346nm,0.3s,baz=83,slow=23,SNR=11						
	129nm,0.4s						
JOTO	**OTAMA OYAMA**	**2.78**	**330**	*i* P	**Pn**	**02 58 23.7**	**+0.8**
JOTO				S	**Sn**	**02 58 54.3**	**-1.1**
MJAR	**Matsushiro Arr**	**3.42**	**295**	P	**Pn**	**02 58 31.4**	**-0.3**
	1.0nm,0.3s,baz=96,slow=12,SNR=27						
MJAR				S	**Sn**	**02 59 12.7**	**+1.4**
	4.8nm,0.3s,baz=95,slow=21,SNR=1.7						
MJAR				LR	LR	03 00 13.6	
	comp=Z,88nm,19.9s,baz=74,slow=44						
	4.0nm,0.3s						
JCJ	**Chichijima**	**8.03**	**179**	P	Pn	02 59 29.4	-5.7
	58nm,0.9s,baz=272,slow=17,SNR=1.8						
JCJ				S	Sn	03 00 52.0	-13
	54nm,1.0s,baz=282,slow=22,SNR=1.4						
JNU	**Nakatsue**	**9.49**	**261**	LR	LR	03 03 11.0	
	comp=Z,38nm,18.4s,baz=38,slow=35						
KSRS	**Korea Array**	**11.64**	**286**	LR	LR	03 05 07.3	
	comp=Z,37nm,21.6s,baz=90,slow=38						
MKAR	**Makanchi Array**	**45.58**	**304**	P	**P**	**03 05 57.4**	**-0.1**
	0.6nm,0.7s,baz=99,slow=8.7,SNR=3.4						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**47.59**	**309**	P	**P**	**03 06 13.3**	**+0.2**
	0.7nm,0.5s,baz=82,slow=7.7,SNR=9.0						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**50.81**	**32**	P	**P**	**03 06 38.3**	**+0.6**
	0.3nm,0.8s,baz=263,slow=6.0,SNR=2.6						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**52.24**	**314**	P	**P**	**03 06 48.1**	**-0.4**
	0.3nm,0.3s,baz=72,slow=9.3,SNR=1.8						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**55.28**	**189**	P	**P**	**03 07 10.7**	**-0.3**
	0.4nm,0.5s,baz=6.2,slow=7.4,SNR=16						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**59.00**	**189**	P	**P**	**03 07 37.3**	**0.0**
	0.1nm,0.4s,baz=7.8,slow=7.5,SNR=2.0						
	0.1nm,0.4s						

IDC ***18*** *03:10:43.7±4.0, 1°.34N×97°.22E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=158.7km s-min=31.3km az=56.0*

DJA ***18*** *03:10:52.1±0.4, 2°.N±3°.×9°.8E±°, h10km, M3.4/7, MLv3.4/7*

ISC 18 03:10:49.9±0.9, 1°.63N±0°.05×97°.73E±0°.09, h30km, n22, σ1ˢ36/11, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.35**	**205**	P	**Pn**	**03 10 58.0**	**-1.0**
GSI				S	**Sn**	**03 11 06.1**	**+1.1**
SNSI	**Sinabang, Aceh**	**1.60**	**299**	P	**Pb**	**03 11 18.4**	**-0.4**
PBSI	**Pulau Batu**	**1.76**	**162**	P	**Pb**	**03 11 23.1**	**+1.6**
KCSI	**Kotacane, Aceh**	**1.88**	**1**	P	**Pb**	**03 11 23.3**	**-0.3**
SISI	**Saibi**	**3.23**	**155**	P	**Pb**	**03 11 44.3**	**-2.3**
H08S2	**Diego Garcia H**	**26.80**	**250**	T	T	03 43 14.5	
	baz=71,slow=76,SNR=195						
H08S3	**Diego Garcia H**	**26.80**	**250**	T	T	03 43 17.2	
	baz=71,slow=76,SNR=568						
H08S1	**Diego Carcia H**	**26.82**	**250**	T	T	03 43 15.3	
	baz=71,slow=76,SNR=132						
H01W3	**Cape Leeuwin H**	**39.44**	**159**	T	T	03 59 53.0	
	baz=334,slow=76,SNR=7.7						
H01W2	**Cape Leeuwin H**	**39.46**	**159**	T	T	03 59 52.9	
	baz=334,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**39.46**	**159**	T	T	03 59 53.0	
	baz=334,slow=76,SNR=8.2						
WRA	**Warramunga Arr**	**41.82**	**123**	P	**P**	**03 18 37.6**	**+0.3**
	0.2nm,0.5s,baz=302,slow=9.3,SNR=2.2						
	0.2nm,0.5s						
SONM	**Songino Array**	**46.64**	**8**	P	**P**	**03 19 17.3**	**+1.7**
	0.7nm,0.6s,baz=184,slow=7.8,SNR=4.0						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**46.96**	**346**	P	**P**	**03 19 17.1**	**-0.9**
	0.3nm,0.4s,baz=164,slow=10,SNR=3.1						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**51.46**	**344**	P	**P**	**03 19 52.1**	**-0.2**
	0.2nm,0.4s,baz=167,slow=7.5,SNR=2.5						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**53.22**	**351**	P	**P**	**03 20 04.6**	**-0.7**
	0.8nm,0.3s,baz=168,slow=7.4,SNR=3.9						
	0.8nm,0.3s						
H04N2	**CROZET ISLANDS**	**62.42**	**214**	T	T	04 27 58.2	
	baz=53,slow=75,SNR=294						
H04N1	**CROZET ISLANDS**	**62.43**	**214**	T	T	04 28 00.4	
	baz=53,slow=75,SNR=334						
H04N3	**CROZET ISLANDS**	**62.44**	**214**	T	T	04 27 59.2	
	baz=53,slow=75,SNR=355						
H04S1	**CROZET ISLANDS**	**62.76**	**214**	T	T	04 28 23.2	
	baz=52,slow=75,SNR=62						
H04S3	**CROZET ISLANDS**	**62.77**	**214**	T	T	04 28 23.3	
	baz=52,slow=75,SNR=131						
H04S2	**CROZET ISLANDS**	**62.77**	**214**	T	T	04 28 24.2	
	baz=52,slow=75,SNR=80						

IDC ***18*** *03:43:51.8±11.0, 8°.63S×113°.39E, h0km, mb3.6/3, mbtmp3.6/3, MS2.5/1, Error ellipse: s-maj=186.2km s-min=127.5km az=155.0*

DJA ***18*** *03:44:09.8±0.5, 10°.S±4°.×11°.4E±°, h10km, M4.0/12, MLv4.0/12*

ISC 18 03:44:06.8±2.6, 9°.81S±0°.07×114°.17E±0°.05, h9km±17km, n26, σ1ˢ31/28, mb3.4/3, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.33**	**359**	P	**Pn**	**03 44 32.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**1.33**	**359**	P	**Pn**	**03 44 31.9**	**+0.3**
JAGI				S	**Sg**	**03 44 48.8**	**-0.8**
IGBI	**Denpasar**	**1.38**	**45**	P	**Pn**	**03 44 32.8**	**+0.6**
IGBI				S	**Sb**	**03 44 50.6**	**+0.1**
DNP	**Denpasar**	**1.52**	**43**	P	**Pn**	**03 44 35.6**	**+1.4**
DNP				S	**Sg**	**03 44 55.8**	**0.0**
GMJI	**Gumukmas**	**1.68**	**335**	P	**Pn**	**03 44 37.0**	**+0.5**
GMJI				S	**Sn**	**03 44 57.9**	**-0.3**
SRBI	**Singaraja**	**2.00**	**31**	P	**Pn**	**03 44 42.8**	**+2.0**
ABJI	**Asem Bagus**	**2.00**	**2**	P	**Pn**	**03 44 42.8**	**+2.0**
BLJI	**Banyuglugur**	**2.12**	**344**	P	**Pb**	**03 44 45.3**	**-0.3**
TWSI	**Taliwang, Sumb**	**2.88**	**69**	P	**Pn**	**03 44 54.9**	**+1.9**
TWSI				S	**Sn**	**03 45 27.8**	**0.0**
GRJI	**Gresik**	**3.32**	**330**	P	**Pn**	**03 45 00.4**	**+1.3**
NGJI	**Ngawi**	**3.61**	**312**	P	**Pn**	**03 45 05.2**	**+2.2**
PLAI	**Plampang**	**3.69**	**75**	P	**Pn**	**03 45 05.9**	**+1.8**
PLAI	**Plampang**	**3.69**	**75**	P	**Pn**	**03 45 05.7**	**+1.6**
UGM	**Wanagama**	**4.07**	**297**	P	**Pn**	**03 45 11.8**	**+2.5**
BWJI	**Bawean**	**4.21**	**339**	P	**Pn**	**03 45 12.6**	**+1.4**
KAPI	**Kappang**	**7.30**	**50**	LR	LR	03 48 48.5	
	comp=Z,32nm,18.8s,baz=244,slow=41						
MMRI	**Maumere**	**8.05**	**82**	P	**Pn**	**03 46 04.1**	**0.0**
BKB	**Balikpapan**	**8.91**	**18**	P	Pn	03 46 21.5	+5.6
GIRL	**Giralia**	**12.77**	**180**	P	Pn	03 47 07.1	-1.5
MEEK	**Meekatharra**	**17.26**	**166**	P	**Pn**	**03 48 07.6**	**-0.7**
WRKA	**Warakurna**	**20.25**	**140**	P	**P**	**03 48 42.8**	**+0.2**
WRA	**Warramunga Arr**	**21.92**	**120**	P	**P**	**03 48 59.3**	**-1.4**
	0.5nm,0.6s,baz=295,slow=12,SNR=15						
	0.5nm,0.6s						
WRAB	**Tennant Creek**	**21.93**	**120**	P	**P**	**03 49 01.0**	**+0.2**
ASAR	**Alice Springs**	**23.35**	**129**	P	**P**	**03 49 14.5**	**-1.3**
	0.5nm,0.4s,baz=302,slow=8.3,SNR=11						
	0.5nm,0.4s						
OOD	**Oodnadatta**	**27.03**	**134**	P	**P**	**03 49 49.1**	**-0.4**
STKA	**Stephens Creek**	**33.57**	**135**	P	**P**	**03 50 46.8**	**-0.6**
	1.1nm,0.4s,baz=326,slow=11,SNR=5.2						
	1.1nm,0.4s						

IDC ***18*** *03:57:53.1±2.1, 4°.66S×150°.96E, h120km±30km, mb3.2/3, mbtmp3.7/4, Error ellipse: s-maj=109.0km s-min=17.4km az=133.0*

ISC 18 03:57:52.3±1.2, 4°.3S±0°.2×150°.7E±0°.1, h100km, n6, σ2ˢ43/7, mb3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.31**	**89**	P	**Pn**	**03 58 17.6**	**+1.2**
	217nm,0.4s,baz=148,slow=23,SNR=4.0						
KRVT				S	**Sn**	**03 58 33.7**	**-0.8**
	131nm,0.4s,baz=238,slow=0.9,SNR=5.7						
PMG	**Port Moresby**	**6.15**	**215**	P	**Pn**	**03 59 22.0**	**+1.4**
	38nm,0.7s,baz=22,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**22.25**	**224**	P	**P**	**04 02 39.5**	**-1.7**
	1.1nm,0.7s,baz=51,slow=10,SNR=13						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**25.15**	**219**	P	**P**	**04 03 05.9**	**-2.5**
	0.6nm,0.5s,baz=54,slow=8.8,SNR=7.2						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**82.52**	**23**	P	**P**	**04 10 02.6**	**-1.1**
	0.4nm,0.9s,baz=258,slow=4.5,SNR=4.1						
	0.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**148.18**	**288**	PKPbc	**PKPdf**	**04 17 27.4**	**+3.1**
	0.4nm,0.4s,baz=84,slow=2.7,SNR=7.6						

IDC 18 04:15:11.8±2.5, 55°.47S×123°.92W, h0km, mb3.7/4, mbtmp3.7/4, MS3.7/4, Error ellipse: s-maj=84.9km s-min=30.3km az=61.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**30.09**	**132**	LR	LR	04 30 16.3	
	comp=Z,82nm,19.2s,baz=252,slow=30						
QSPA	**South Pole Qui**	**34.72**	**180**	P	P	04 22 03.4	+0.2
	0.8nm,0.9s,baz=120,slow=4.1,SNR=2.4						
	0.8nm,0.9s						
PLCA	**Paso Flores**	**37.58**	**90**	LR	LR	04 33 42.8	
	comp=Z,510nm,19.6s,baz=181,slow=30						
H03S2	**Juan Fernandez**	**37.74**	**74**	T	T	05 02 36.6	
	baz=219,slow=74,SNR=22						
H03S1	**Juan Fernandez**	**37.74**	**74**	T	T	05 02 39.8	
	baz=219,slow=74,SNR=26						
H03S3	**Juan Fernandez**	**37.76**	**74**	T	T	05 02 40.2	
	baz=219,slow=74,SNR=26						
H03N3	**Juan Fernandez**	**38.03**	**74**	T	T	05 03 02.2	
	baz=222,slow=72,SNR=33						
H03N2	**Juan Fernandez**	**38.03**	**74**	T	T	05 03 00.5	
	baz=222,slow=72,SNR=54						
H03N1	**Juan Fernandez**	**38.04**	**74**	T	T	05 03 01.2	
	baz=222,slow=72,SNR=30						
PPT2	**Papeete2**	**42.56**	**322**	*e*LR	LR	04 34 44.9	
	comp=Z,352nm,27.0s						
PPT2				*e*LR	LR	04 34 50.4	
	comp=Z,271nm,29.5s						
PPT	**Papeete**	**42.59**	**322**	P	P	04 23 09.3	-0.1
	55nm,0.9s,baz=147,slow=12,SNR=2.6						
PPT				LR	LR	04 34 53.6	
	comp=Z,26nm,20.2s,baz=147,slow=28						
VAH	**Vaihoa**	**44.11**	**326**	*e*T	T	05 10 12.9	
	22nm,0.3s						
SNAA	**Sanae**	**46.62**	**158**	P	P	04 23 40.9	-0.3
	0.5nm,0.5s,baz=239,slow=12,SNR=2.3						
SNAA				LR	LR	04 44 22.0	
	comp=Z,71nm,18.1s,baz=187,slow=38						
	0.5nm,0.5s						
DZM	**Mont Dzumac**	**60.60**	**273**	*e*LR	LR	04 43 34.1	
	comp=Z,89nm,26.4s						
H01W1	**Cape Leeuwin H**	**77.26**	**226**	T	T	05 52 41.4	
	baz=150,slow=75,SNR=45						
H01W2	**Cape Leeuwin H**	**77.26**	**226**	T	T	05 52 40.3	
	baz=150,slow=75,SNR=45						
H01W3	**Cape Leeuwin H**	**77.28**	**226**	T	T	05 52 40.3	
	baz=150,slow=75,SNR=45						
ASAR	**Alice Springs**	**77.41**	**247**	P	P	04 27 08.6	-0.1
	0.4nm,0.6s,baz=140,slow=5.9,SNR=3.0						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**80.23**	**249**	P	P	04 27 24.3	0.0
	0.9nm,0.9s,baz=149,slow=4.8,SNR=5.9						
	0.9nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**93.94**	**297**	T	T	06 12 50.3	
	baz=148,slow=74						
H11S3	**WAKE ISLAND Hy**	**93.96**	**297**	T	T	06 12 43.5	
	baz=148,slow=74						
H11S1	**WAKE ISLAND Hy**	**93.96**	**297**	T	T	06 12 48.0	
	baz=148						

NEIC ***18*** *04:25:53.8±0.5, 19°.25N±0°.03×155°.31W±0°.03, h53km±2km, Error ellipse: s-maj=5.7km s-min=2.0km az=147.0*

HVO 18 04:25:55.4±0.7, 19°.26N±0°.03×155°.29W±0°.04, h47km±3km, ML2.7/32, ML3.2/54(NEIC), Error ellipse: s-maj=6.5km s-min=2.8km az=129.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.04**	**329**		Pn	04 26 02.3	-0.6
HLP				IAML		04 26 12.5	
	comp=N,2μm,0.3s						
HLP	**Hilina Pali**	**0.04**	**329**		Sn	04 26 07.6	-0.6
HTC	**Hot Caves**	**0.11**	**258**		Pn	04 26 02.5	-0.6
SDHHI	**Sand Hill**	**0.13**	**356**		Sn	04 26 07.9	-0.9
SDHHI	**Sand Hill**	**0.13**	**356**		Pn	04 26 02.4	-0.9
SDHHI				IAML		04 26 08.2	
	comp=E,3μm,0.3s						
SDHHI	**Sand Hill**	**0.13**	**356**	IAML		04 26 07.8	
	comp=N,3μm,0.3s						
PUH	**Pauahi**	**0.13**	**30**		Pn	04 26 02.4	-0.8
PUH					Sn	04 26 07.5	-1.2

comp=E,1μm,0.3s
MWH IAML 04 26 15.8
comp=N,1μm,0.3s
MLOA Mauna Loa Obse 0.39 315 Pn 04 26 04.6 -1.1
MLOA Sn 04 26 11.3 -1.7
MLOA Mauna Loa Obse 0.39 315 IAML 04 26 11.4
comp=E,2μm,0.3s
MLOA IAML 04 26 11.9
comp=N,944nm,0.3s
HMH Humu`ula Sheep 0.39 331 Pn 04 26 04.8 -0.8
HMH Sn 04 26 11.8 -0.9
HMH Humu`ula Sheep 0.39 331 IAML 04 26 12.2
comp=E,2μm,0.4s
HMH IAML 04 26 12.4
comp=N,9μm,0.2s
ALEP Alea Permanent 0.44 310 Pn 04 26 04.7 -1.5
ALEP Sn 04 26 11.8 -2.1
POHA Pohakuloa 0.55 335 Pn 04 26 06.1 -1.3
POHA Sn 04 26 14.0 -1.9
POHA Pohakuloa 0.55 335 IAML 04 26 14.5
comp=N,3μm,0.3s
POHA IAML 04 26 15.2
comp=N,2μm,0.3s
CPH Captain Cook 0.64 291 Pn 04 26 06.6 -1.8
KHLU Kahalu`u 0.66 300 Pn 04 26 07.1 -1.6
KHLU IAML 04 26 16.4
comp=E,1μm,0.3s
KHLU Kahalu`u 0.66 300 Sn 04 26 15.9 -2.4
HUH Hualalai 0.67 309 Pn 04 26 07.7 -1.3
HUH Sn 04 26 17.1 -1.5
HUH Hualalai 0.67 309 IAML 04 26 17.8
comp=E,1μm,0.3s
KKH Kailua Kona 0.80 300 Pn 04 26 08.6 -1.8
KKH Sn 04 26 18.7 -2.5
HPAH Hawaii Prepara 0.86 333 Pn 04 26 09.5 -1.8
HPAH Sn 04 26 19.9 -2.9
MHA Mahukona 1.09 328 Pn 04 26 12.7 -1.6
MHA Sn 04 26 25.5 -2.8
HLK Haleakala 1.74 329 Sn 04 26 40.8 -3.9

*IDC **18** 04:38:44.8±0.6, 54°.80S×130°.76W, h0km, mb4.2/9, mbtmp4.2/9, MS4.3/37, Error ellipse: s-maj=25.8km s-min=18.7km az=173.0*
*NEIC **18** 04:38:46.5±1.5, 54°.9S±0°.2×130°.6W±0°.2, h10km±1km, mb4.9/28, Error ellipse: s-maj=26.9km s-min=19.1km az=350.0*
*GCMT **18** 04:38:51.5±0.2, 54°.99S±0°.01×130°.62W±0°.02, h23km±1km, MW5.2/127, Moment Tensor Solution. s79,c105; s127,c187; Duration: 1±0 Moment tensor: Scale 10^16 Nm; Mrr=0.88±.18; Mθθ=5.52±.20; Mφφ=-4.64±.15; Mrθ=0.76±.26; Mrφ=5.59±.13; Mθφ=0.01±.23; Best double couple: M0=7.58800×10^16 NP1:φ=291.00000°, δ=89.00000°, λ=5.00000°. NP2:φ=201.00000°, δ=85.00000°, λ=179.00000°. Principal axes: T 8.0460, Plg4.0000°, Azm156.0000°; N -0.9170, Plg85.0000°, Azm302.0000°; P -7.1300, Plg3.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 04:38:46.2±0.5, 54°.8S±0°.1×130°.63W±0°.09, h10km, n101, σ0°78/53, mb4.8/25, MS4.4/39, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**33.33**	**134**	LR	LR	04 54 59.6	
	comp=Z,819nm,21.4s,baz=262,slow=29						
QSPA	**South Pole Qui**	**35.34**	**180**	P	**P**	**04 45 40.8**	**-0.7**
QSPA	**South Pole Qui**	**35.34**	**180**	P	**P**	**04 45 43.5**	**+2.0**
	baz=92,slow=5.5						
GVZ	**Greta Valley S**	**37.88**	**264**	P	**P**	**04 46 03.4**	**+0.3**
BELA	**Belgrano 2**	**38.34**	**160**	P	**P**	**04 46 07.0**	**+0.4**
RPZ	**Rata Peaks**	**38.55**	**262**	LR	LR	04 58 53.5	
	comp=Z,516nm,18.1s,baz=113,slow=31						
URZ	**Urewera**	**38.58**	**273**	LR	LR	04 58 12.9	
	comp=Z,695nm,20.9s,baz=211,slow=30						
THZ	**Tophouse**	**38.71**	**266**	P	**P**	**04 46 09.5**	**-0.6**
THZ				IAmb	IAmb	04 46 51.1	
	comp=Z,50nm,1.2s						
WKZ	**Wanaka**	**39.04**	**259**	P	**P**	**04 46 11.7**	**-1.1**
PYZ	**Puysegur Point**	**39.56**	**256**	P	**P**	**04 46 16.1**	**-1.0**
PPT2	**Papeete2**	**39.92**	**331**	*e*S	S	04 52 04.4	-21
	comp=Z,190nm,26.0s						
PPT2				*e*LR	LR	04 56 57.1	
	comp=Z,2μm,26.2s						
PPT2				*e*LR	LR	04 57 03.5	
	comp=Z,1μm,28.5s						
PPT	**Papeete**	**39.94**	**331**	LR	LR	04 59 02.2	
	comp=Z,574nm,18.7s,baz=158,slow=30						
RAR	**Rarotonga**	**40.10**	**315**	LR	LR	05 00 13.1	
	comp=Z,252nm,18.5s,baz=168,slow=32						
H03S2	**Juan Fernandez**	**41.37**	**81**	T	T	05 30 41.0	
	baz=222,slow=74,SNR=354						
H03S1	**Juan Fernandez**	**41.37**	**81**	T	T	05 30 42.3	
	baz=222,slow=74,SNR=317						
H03S3	**Juan Fernandez**	**41.38**	**81**	T	T	05 30 41.4	
	baz=222,slow=74,SNR=351						
PLCA	**Paso Flores**	**41.45**	**96**	P	**P**	**04 46 33.1**	**+0.2**
PLCA				IAmb	IAmb	04 46 47.0	
	comp=Z,18nm,1.2s						
PLCA	**Paso Flores**	**41.45**	**96**	P	**P**	**04 46 32.7**	**-0.3**
	comp=Z,5.0nm,1.1s,baz=209,slow=8.8,SNR=4.7						
PLCA				LR	LR	04 59 47.8	
	comp=Z,310nm,20.9s,baz=228,slow=30						
	comp=Z,5.0nm,1.1s						
H03N3	**Juan Fernandez**	**41.64**	**81**	T	T	05 30 58.6	
	baz=225,slow=72,SNR=434						
H03N2	**Juan Fernandez**	**41.65**	**81**	T	T	05 30 57.6	
	baz=225,slow=72,SNR=930						
VAH	**Vaihoa**	**41.66**	**335**	*e*T	T	05 30 36.3	
	comp=Z,27nm,0.2s						
H03N1	**Juan Fernandez**	**41.66**	**81**	T	T	05 30 58.2	
	baz=225,slow=72,SNR=656						
BO02	**Sierra Bellavi**	**45.37**	**89**	P	**P**	**04 47 04.3**	**-0.3**
BO02				IAmb	IAmb	04 47 17.8	
	comp=Z,15nm,1.2s						
TAOE	**Nuku Hiva Isla**	**46.48**	**347**	*e*S	S	04 53 41.9	-20
	comp=Z,208nm,24.2s						
TAOE				*e*LR	LR	05 00 09.0	
	comp=Z,1μm,25.8s						
PEL	**Peldehue**	**46.61**	**88**	P	**P**	**04 47 14.7**	**+0.3**
VNA3	**Neumayer Olymp**	**47.51**	**158**	⇑P	**P**	**04 47 21.2**	**+0.3**
	comp=Z,6.4nm,0.8s						
VNA2	**Neumayer--Watz**	**48.24**	**158**	⇑P	**P**	**04 47 27.0**	**+0.5**
	comp=Z,7.3nm,0.7s,baz=220,slow=9.0						
VNA1	**Neumayer--Stat**	**48.26**	**158**	⇑P	**P**	**04 47 27.5**	**+0.8**
	comp=Z,7.7nm,0.7s						
CO03	**El Pedregal**	**48.29**	**86**	P	**P**	**04 47 27.3**	**-0.3**
CO03				IAmb	IAmb	04 47 51.0	
	comp=Z,8.9nm,1.1s						
SNAA	**Sanae**	**48.58**	**161**	P	**P**	**04 47 28.6**	**-0.6**
SNAA	**Sanae**	**48.58**	**161**	⇑P	**P**	**04 47 29.6**	**+0.4**
	comp=Z,26nm,0.6s						
SNAA	**Sanae**	**48.58**	**161**	P	**P**	**04 47 29.1**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=231,slow=6.2,SNR=7.6						
SNAA				LR	LR	05 06 20.7	
	comp=Z,652nm,21.0s,baz=194,slow=34						
	comp=Z,1.9nm,0.7s						
CFA	**Coronel Fontan**	**49.15**	**88**	LR	LR	05 03 55.6	
	comp=Z,324nm,18.6s,baz=242,slow=31						
TROLL	**Troll, Antarti**	**49.29**	**163**	⇑P	**P**	**04 47 36.3**	**+1.6**
	comp=Z,68nm,0.9s						
HOPE	**Hope Point**	**50.49**	**131**	P	**P**	**04 47 42.6**	**-1.3**
MSVF	**Nonsavu**	**53.73**	**293**	LR	LR	05 06 05.0	
	comp=Z,101nm,21.5s,baz=145,slow=31						
LVC	**Limon Verde**	**55.59**	**81**	LR	LR	05 07 35.8	
	comp=Z,53nm,20.2s,baz=216,slow=31						
DZM	**Mont Dzumac**	**56.70**	**279**	*e*S	S	04 55 45.4	-37
	comp=Z,73nm,23.3s						
DZM				*e*SS	SKiKP	04 59 43.6	+17
	comp=Z,95nm,27.1s						
DZM				*e*LR	LR	05 04 45.6	
	comp=Z,520nm,29.1s						
DZM	**Mont Dzumac**	**56.70**	**279**	LR	LR	05 08 00.4	
	comp=Z,228nm,19.8s,baz=181,slow=31						
ITQB	**Itaqui**	**57.28**	**96**	P	**P**	**04 48 33.7**	**-0.2**
ITQB				IAmb	IAmb	04 48 46.3	
	comp=Z,17nm,0.9s						
MAW	**Mawson**	**57.47**	**186**	P	**P**	**04 48 34.6**	**+0.1**
MAW	**Mawson**	**57.47**	**186**	P	**P**	**04 48 35.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=189,slow=23,SNR=4.0						
MAW				LR	LR	05 11 29.2	
	comp=Z,278nm,19.2s,baz=163,slow=34						
	comp=Z,1.1nm,0.7s						
CPUP	**Villa Florida**	**59.40**	**93**	P	**P**	**04 48 48.7**	**0.0**
	comp=Z,2.5nm,1.0s,baz=240,slow=7.1,SNR=2.8						
CPUP				LR	LR	05 11 03.0	
	comp=Z,530nm,18.1s,baz=222,slow=33						
	comp=Z,2.5nm,1.0s						
NNA	**Nana**	**59.82**	**66**	LR	LR	05 08 33.8	
	comp=Z,265nm,19.7s,baz=218,slow=30						
LPAZ	**La Paz**	**61.06**	**77**	P	**P**	**04 49 01.1**	**+0.2**
LPAZ				IAmb	IAmb	04 49 04.0	
	comp=Z,13nm,1.2s						
ATAH	**Atahualpa**	**63.11**	**62**	LR	LR	05 10 16.0	
	comp=Z,176nm,18.0s,baz=219,slow=30						
STKA	**Stephens Creek**	**63.40**	**252**	P	**P**	**04 49 16.8**	**+1.1**
STKA	**Stephens Creek**	**63.40**	**252**	P	**P**	**04 49 15.4**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=119,slow=7.3,SNR=7.1						
STKA				LR	LR	05 12 19.1	
	comp=Z,302nm,19.0s,baz=181,slow=32						
	comp=Z,3.4nm,0.7s						
CZSB	**Cruzeiro do Su**	**65.58**	**67**	P	**P**	**04 49 30.2**	**+0.1**
BOSC	**San Juan Bosco**	**66.47**	**59**	P	**P**	**04 49 34.9**	**-1.2**
ETMB	**Extrema**	**67.39**	**74**	P	**P**	**04 49 41.5**	**-0.2**
VILB	**Vilhena**	**68.25**	**81**	P	**P**	**04 49 47.1**	**0.0**
VILB				IAmb	IAmb	04 49 48.0	
	comp=Z,12nm,1.1s						
OTAV	**Otavalo**	**69.42**	**58**	P	**P**	**04 49 54.0**	**-1.0**
OTAV				IAmb	IAmb	04 50 27.0	
	comp=Z,6.6nm,1.2s						
SAML	**Samuel**	**69.80**	**76**	P	**P**	**04 49 55.9**	**-0.8**
SAML				IAmb	IAmb	04 49 57.4	
	comp=Z,7.9nm,1.3s						
CTA	**Charters Tower**	**69.90**	**264**	LR	LR	05 15 30.2	
	comp=Z,146nm,21.7s,baz=88,slow=32						
BDFB	**Brasilia**	**73.13**	**93**	P	**P**	**04 50 17.4**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=205,slow=22,SNR=1.6						
BDFB				LR	LR	05 19 20.8	
	comp=Z,362nm,18.9s,baz=188,slow=33						
	comp=Z,1.7nm,0.8s						
AS31	**Alice Springs**	**74.04**	**252**	P	**P**	**04 50 22.3**	**+0.1**
ASAR	**Alice Springs**	**74.04**	**252**	P	**P**	**04 50 22.4**	**+0.2**
ASAR	**Alice Springs**	**74.04**	**252**	P	**P**	**04 50 21.7**	**-0.5**
	comp=Z,4.8nm,0.8s,baz=142,slow=6.6,SNR=27						
ASAR				LR	LR	05 18 14.5	
	comp=Z,180nm,20.7s,baz=148,slow=32						
	comp=Z,4.8nm,0.8s						
H01W1	**Cape Leeuwin H**	**74.82**	**230**	T	T	06 13 23.8	
	baz=145,slow=75,SNR=59						
H01W2	**Cape Leeuwin H**	**74.83**	**230**	T	T	06 13 28.4	
	baz=145,slow=75,SNR=53						
H01W3	**Cape Leeuwin H**	**74.84**	**230**	T	T	06 13 25.0	
	baz=145,slow=75,SNR=55						
NWAO	**Narrogin (SRO)**	**75.06**	**234**	LR	LR	05 16 29.7	
	comp=Z,93nm,21.8s,baz=148,slow=30						
JTS	**Las Juntas de**	**75.34**	**47**	LR	LR	05 15 51.5	
	comp=Z,286nm,21.1s,baz=191,slow=30						
ROSC	**El Rosal**	**75.44**	**59**	P	**P**	**04 50 31.5**	**+0.8**
ROSC				IAmb	IAmb	04 50 33.8	
	comp=Z,15nm,1.1s						
ROSC	**El Rosal**	**75.44**	**59**	LR	LR	05 17 30.3	
	comp=Z,157nm,20.3s,baz=206,slow=31						
WR0	**Warramunga Arr**	**76.65**	**254**	P	**P**	**04 50 36.0**	**-1.2**
WR0				IAmb	IAmb	04 50 52.0	
	comp=Z,7.9nm,1.1s						
WB2	**Warramunga Arr**	**76.77**	**254**	P	**P**	**04 50 37.4**	**-0.5**
WB2				IAmb	IAmb	04 50 50.1	
	comp=Z,9.8nm,0.8s						
WRA	**Warramunga Arr**	**76.77**	**254**	P	**P**	**04 50 37.3**	**-0.6**
	comp=Z,4.0nm,0.8s,baz=142,slow=5.5,SNR=21						
	comp=Z,4.0nm,0.8s						
WRAB	**Tennant Creek**	**76.78**	**254**	P	**P**	**04 50 37.4**	**-0.5**
WRAB				IAmb	IAmb	04 50 50.1	
	comp=Z,9.4nm,0.8s						
WB0	**Warramunga Arr**	**76.88**	**254**	P	**P**	**04 50 39.9**	**+1.3**
WB0				IAmb	IAmb	04 50 50.2	
	comp=Z,7.7nm,0.9s						
SDV	**Santo Domingo**	**80.75**	**60**	LR	LR	05 22 49.2	
	comp=Z,141nm,18.7s,baz=180,slow=33						
TEIG	**Tepich**	**83.04**	**40**	LR	LR	05 20 52.7	
	comp=Z,401nm,18.5s,baz=295,slow=30						
PCRV	**Puerto La Cruz**	**84.92**	**65**	LR	LR	05 24 47.0	
	comp=Z,398nm,18.9s,slow=32						
TXAR	**Lajitas Array**	**86.98**	**23**	P	**P**	**04 51 33.0**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=199,slow=8.6,SNR=9.8						
TXAR				LR	LR	05 21 31.6	
	comp=Z,40nm,20.2s,baz=186,slow=30						
	comp=Z,0.8nm,0.8s						
MDP	**Montagnes des**	**87.25**	**77**	LR	LR	05 25 02.0	
	comp=Z,80nm,20.6s,baz=192,slow=32						
RCBR	**Riachuelo**	**88.00**	**97**	LR	LR	05 27 21.6	
	comp=Z,112nm,20.8s,baz=222,slow=33						
PFO	**Pinyon Flats O**	**88.92**	**12**	LR	LR	05 21 59.5	
	comp=Z,142nm,21.4s,baz=198,slow=29						
SUR	**Sutherland**	**89.73**	**156**	LR	LR	05 24 37.2	
	comp=Z,185nm,21.0s,baz=174,slow=31						
H11S2	**WAKE ISLAND Hy**	**90.28**	**303**	T	T	06 31 42.0	
	baz=148,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy**	**90.30**	**303**	T	T	06 31 50.3	
	baz=148,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**90.30**	**303**	T	T	06 31 48.5	
	baz=148,slow=75,SNR=17						
BATI	**Baumata**	**90.61**	**251**	LR	LR	05 29 21.1	
	comp=Z,305nm,20.1s,baz=181,slow=34						
SJG	**San Juan**	**90.86**	**59**	LR	LR	05 30 25.2	
	comp=Z,41nm,18.2s,baz=176,slow=34						
H11N3	**WAKE ISLAND Hy**	**91.23**	**303**	T	T	06 32 50.4	
	baz=149,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**91.24**	**303**	T	T	06 32 52.0	
	baz=149,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**91.25**	**303**	T	T	06 32 56.5	
	baz=149,slow=76,SNR=13						
NVAR	**Mina Array Bea**	**93.49**	**10**	LR	LR	05 24 31.5	
	comp=Z,159nm,21.4s,baz=188,slow=29						
BOSA	**Boshof**	**94.34**	**159**	LR	LR	05 28 13.3	
	comp=Z,211nm,21.5s,baz=188,slow=31						
YBH	**Yreka Blue Hor**	**96.43**	**6**	LR	LR	05 27 43.9	
	comp=Z,154nm,18.2s,baz=201,slow=30						
KAPI	**Kappang**	**97.05**	**251**	LR	LR	05 34 05.8	
	comp=Z,191nm,18.8s,baz=163,slow=34						
LBTB	**Lobatse**	**97.90**	**158**	P	**P**	**04 52 20.7**	**-1.6**
PDAR	**Pinedale Array**	**98.87**	**16**	LR	LR	05 28 16.3	
	comp=Z,146nm,21.5s,baz=206,slow=30						
ILAR	**Eielson Array**	**119.92**	**352**	PKP	**PKPdf**	**04 57 35.4**	**+0.1**
	comp=Z,1.4nm,1.1s,baz=186,slow=2.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**124.32**	**119**	PKP	**PKiKP**	**04 57 45.6**	**0.0**
	comp=Z,0.3nm,0.6s,baz=210,slow=1.0,SNR=1.7						
ESDC	**Sonseca Array**	**141.75**	**91**	PKP	**PKPdf**	**04 58 17.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=204,slow=2.8,SNR=1.3						
SONM	**Songino Array**	**144.58**	**283**	PKP	**PKPab**	**04 58 20.7**	**+0.1**
	comp=Z,3.8nm,1.0s,baz=133,slow=2.2,SNR=12						
KEST	**Kesra**	**146.58**	**108**	PKPbc	**PKPbc**	**04 58 27.7**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=346,slow=4.2,SNR=2.8						
EKA	**Eskdalemuir Ar**	**150.51**	**67**	PKPbc	**PKPbc**	**04 58 37.0**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=270,slow=1.4,SNR=3.0						
MKAR	**Makanchi Array**	**157.87**	**262**	PKPab	**PKPab**	**04 59 15.0**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=115,slow=5.5,SNR=8.7						
ZALV	**Zalesovo Beam**	**159.47**	**282**	PKPab	**PKPab**	**04 59 21.4**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=111,slow=3.3,SNR=3.9						

GCMT 18 04:44:39.0±0.4, 54°.93S±0°.03×130°.55W±0°.04, h24km±2km, MW4.9/71, Moment Tensor Solution. s12,c12; s71,c90; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.02±.25; Mθθ=1.89±.22; Mφφ=-1.91±.20; Mrθ=0.35±.27; Mrφ=2.06±.11; Mθφ=0.07±.24; **Best double couple:** M0=2.82500×10^16 **NP1:**φ=111.00000°, δ=89.00000°, λ=7.00000°. **NP2:**φ=21.00000°, δ=83.00000°, λ=179.00000°. **Principal axes:** T 2.8220, Plg6.0000°, Azm337.0000°; N 0.0060, Plg83.0000°, Azm121.0000°; P -2.8280, Plg4.0000°, Azm246.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT2	**Papeete2**	**40.03**	**331**	*e*LR	LR	05 02 43.9	
	comp=Z,486nm,26.0s						
PPT2				*e*LR	LR	05 02 48.9	
	comp=Z,358nm,29.0s						
VAH	**Vaihoa**	**41.77**	**335**	*e*T	T	05 36 39.9	
	19nm,0.2s						
TAOE	**Nuku Hiva Isla**	**46.59**	**347**	*e*LR	LR	05 05 56.4	
	comp=Z,376nm,29.7s						

*MOS **18** 04:45:50.9±1.0, 49°.34N×155°.40E, h102km, mb4.3/10*

Error ellipse: s-maj=12.8km s-min=3.8km az=68.8
*KRSC **18** 04:45:50.9±1.9, 49°.25N×156°.03E, h101km±23km, Ml4.7*
*IDC **18** 04:45:54.2±0.8, 49°.96N×154°.59E, h122km±6km, mb3.6/19, mbtmp4.0/22, MS2.6/3, Error ellipse: s-maj=16.9km s-min=10.9km az=156.0*
*NEIC **18** 04:45:54.7±1.2, 49°.9N±0°.1×154°.7E±0°.2, h123km±7km, mb4.4/103, Error ellipse: s-maj=20.2km s-min=10.5km az=131.0*
ISC 18 04:45:54.1±0.6, 49°.76N±0°.07×154°.98E±0°.07, h120km±5km, h120km:pP-P, n244, σ1°42/249, mb4.3/77, 4C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**38**	⇓*i*PN	**Pn**	**04 46 17.1**	**-0.7**
SKR				*e*S	**Sn**	**04 46 35.4**	**-0.5**
SKR				pmax	pmax		
	comp=Z,738nm,0.5s						
SKR				smax	smax		
	comp=N,6μm,0.7s						
SKR				smax	smax		
	comp=E,4μm,0.5s						
SKR	**Severo-Kuril's**	**1.18**	**38**	*e*P	**Pn**	**04 46 17.3**	**-0.5**
PAU	**Pauzhetka**	**2.07**	**34**	PN	**Pn**	**04 46 29.6**	**+1.3**
PAU				S	**Sn**	**04 46 57.7**	**+3.2**
PAU	**Pauzhetka**	**2.07**	**34**	*e*P	**Pn**	**04 46 29.6**	**+1.3**
PAU				*e*S	**Sn**	**04 46 57.7**	**+3.2**
KDTR	**Khodutka, Kamc**	**2.84**	**43**	PN	**Pn**	**04 46 37.0**	**-1.2**
KDTR				S	**Sn**	**04 47 10.0**	**-2.2**
KDTR	**Khodutka, Kamc**	**2.84**	**43**	*e*P	**Pn**	**04 46 37.0**	**-1.2**
KDTR				*e*S	**Sn**	**04 47 10.0**	**-2.2**
ASAK	**Asacha**	**3.21**	**34**	PN	**Pn**	**04 46 44.0**	**+0.9**
ASAK	**Asacha**	**3.21**	**34**	*e*P	**Pn**	**04 46 44.0**	**+0.9**
MTVR	**Mutnovka**	**3.39**	**35**	PN	**Pn**	**04 46 46.3**	**+0.7**
MTVR				S	**Sn**	**04 47 26.4**	**+1.0**
MTVR	**Mutnovka**	**3.39**	**35**	*e*P	**Pn**	**04 46 46.3**	**+0.7**
MTVR				*e*S	**Sn**	**04 47 26.4**	**+1.0**
GRL	**Gorelyy**	**3.41**	**34**	PN	**Pn**	**04 46 47.0**	**+1.2**
GRL				S	**Sn**	**04 47 28.2**	**+2.5**
GRL	**Gorelyy**	**3.41**	**34**	*e*P	**Pn**	**04 46 47.0**	**+1.2**
GRL				*e*S	**Sn**	**04 47 28.2**	**+2.5**
APC	**Apacha**	**3.45**	**23**	PN	**Pn**	**04 46 47.2**	**+1.0**
APC	**Apacha**	**3.45**	**23**	*e*P	**Pn**	**04 46 47.2**	**+1.0**
RUS	**Russkaya**	**3.48**	**38**	PN	**Pn**	**04 46 45.9**	**-0.7**
RUS				S	**Sn**	**04 47 25.8**	**-1.4**
RUS	**Russkaya**	**3.48**	**38**	*e*P	**Pn**	**04 46 45.9**	**-0.7**
RUS				*e*S	**Sn**	**04 47 25.8**	**-1.4**
KRMR	**Karymshinskiy**	**3.66**	**32**	PN	**Pn**	**04 46 49.9**	**+1.0**
KRMR	**Karymshinskiy**	**3.66**	**32**	*e*P	**Pn**	**04 46 49.9**	**+1.0**
PEA0B	**Petropavlovsk-**	**3.76**	**26**			**04 46 51.6**	**+1.3**
PEA0B				Sn	**Sn**	**04 47 33.2**	**-0.6**
PEA0B	**Petropavlovsk-**	**3.76**	**26**	*c i*PN	**Pn**	**04 46 51.2**	**+0.9**
PETK	**Petropavlovsk-**	**3.76**	**26**		**Pn**	**04 46 51.2**	**+0.9**
PETK	**Petropavlovsk-**	**3.76**	**26**	P	**Pn**	**04 46 50.9**	**+0.5**
	comp=E,45nm,0.8s,baz=192,slow=12,SNR=62						
PETK				S	**Sn**	**04 47 29.7**	**-4.2**
	comp=E,9.5nm,0.6s,baz=168,slow=12,SNR=4.5						
PET	**Petropavlovsk**	**4.00**	**34**	Pn	**Pn**	**04 46 53.8**	**+0.4**
PET	**Petropavlovsk**	**4.00**	**34**	*e*Pn	**Pn**	**04 46 54.2**	**+0.8**
PET				*e*S	**Sn**	**04 47 41.2**	**+1.7**
PET				smax	smax		
	comp=N,206nm,0.4s						
PET				smax	smax		
	comp=E,177nm,0.6s						
PET	**Petropavlovsk**	**4.00**	**34**	*e*P	**Pn**	**04 46 54.3**	**+0.8**
DALK	**Dalny**	**4.04**	**34**	PN	**Pn**	**04 46 54.6**	**+0.6**
DALK				S	**Sn**	**04 47 41.5**	**+1.0**
DALK	**Dalny**	**4.04**	**34**	*e*P	**Pn**	**04 46 54.6**	**+0.6**
DALK				*e*S	**Sn**	**04 47 41.5**	**+1.0**
UGLR	**Uglovaya**	**4.21**	**33**	PN	**Pn**	**04 46 57.6**	**+1.2**
UGLR	**Uglovaya**	**4.21**	**33**	*e*P	**Pn**	**04 46 57.6**	**+1.2**
KOK	**Koryaka**	**4.21**	**31**	PN	**Pn**	**04 46 58.1**	**+1.7**
KOK	**Koryaka**	**4.21**	**31**	*e*P	**Pn**	**04 46 58.1**	**+1.7**
AVH	**Avacha**	**4.22**	**32**	PN	**Pn**	**04 46 58.8**	**+2.3**
AVH	**Avacha**	**4.22**	**32**	*e*P	**Pn**	**04 46 58.8**	**+2.3**
SMAR	**Somma**	**4.24**	**33**	PN	**Pn**	**04 46 58.0**	**+1.1**
SMAR	**Somma**	**4.24**	**33**	*e*P	**Pn**	**04 46 58.0**	**+1.1**
KRER	**Koryakskii**	**4.26**	**32**	PN	**Pn**	**04 46 59.0**	**+1.8**
KRER	**Koryakskii**	**4.26**	**32**	*e*P	**Pn**	**04 46 59.0**	**+1.8**
KRX	**Arik**	**4.27**	**31**	PN	**Pn**	**04 46 58.6**	**+1.4**
KRX	**Arik**	**4.27**	**31**	*e*P	**Pn**	**04 46 58.6**	**+1.4**
SDLR	**Sedlovina**	**4.28**	**33**	PN	**Pn**	**04 46 58.1**	**+0.7**
SDLR	**Sedlovina**	**4.28**	**33**	*e*P	**Pn**	**04 46 58.1**	**+0.7**
GNL	**Ganaly**	**4.35**	**24**	PN	**Pn**	**04 46 59.7**	**+1.4**
GNL	**Ganaly**	**4.35**	**24**	*e*P	**Pn**	**04 46 59.7**	**+1.4**
KZV	**Kizimen**	**6.27**	**29**	PN	**Pn**	**04 47 26.8**	**+2.7**
KZV	**Kizimen**	**6.27**	**29**	*e*P	**Pn**	**04 47 26.8**	**+2.7**
MKZ	**Mys Kozlova**	**6.35**	**38**	PN	**Pn**	**04 47 23.0**	**-2.0**
MKZ	**Mys Kozlova**	**6.35**	**38**	*e*P	**Pn**	**04 47 23.0**	**-2.0**
TUMR	**Tumrok**	**6.37**	**28**	PN	**Pn**	**04 47 27.3**	**+1.9**
TUMR	**Tumrok**	**6.37**	**28**	*e*P	**Pn**	**04 47 27.3**	**+1.9**
KPT	**Kopyto**	**6.98**	**25**	PN	**Pn**	**04 47 36.9**	**+3.3**
KPT	**Kopyto**	**6.98**	**25**	*e*P	**Pn**	**04 47 36.9**	**+3.3**
BZP	**Bezymyannyi-Pe**	**7.02**	**27**	*e*P	**Pn**	**04 47 35.0**	**+0.7**
BZMR	**Bezymyannaya**	**7.03**	**26**	PN	**Pn**	**04 47 35.4**	**+1.1**
BZMR	**Bezymyannaya**	**7.03**	**26**	*e*P	**Pn**	**04 47 35.4**	**+1.1**
BZWR	**Bezymyannyi-We**	**7.

KSRS Korea Array 22.99 248 P P 04 50 47.4 -0.8
comp=Z,2.9nm,0.8s,baz=38,slow=11,SNR=5.5
comp=Z,2.9nm,0.8s
JNU Nakatsue 24.39 236 P P 04 51 00.5 -0.5
TIXI Tiksi 24.98 341 P P 04 51 05.3 -0.7
TIXI Tiksi 24.98 341⇑ *e*P P 04 51 11.0 +5.0
TIXI pmax pmax
comp=Z,10.0nm,2.5s
N15K Kwethluk River 27.28 50 P P 04 51 27.7 +0.9
N15K IAmb IAmb 04 52 10.8
comp=Z,16nm,1.1s
G18K Tagagawik 28.62 38 P P 04 51 38.8 +0.1
G18K IAmb IAmb 04 52 21.9
comp=Z,8.5nm,1.5s
M17K Holitna River 28.63 48 P P 04 51 39.8 +1.0
J18K Innoko River 29.09 44 P P 04 51 43.5 +0.6
TTA Tatalina 29.37 45 P P 04 51 46.0 +0.6
TTA IAmb IAmb 04 52 12.8
comp=Z,10nm,1.4s
TTA Tatalina 29.37 45 P P 04 51 46.0 +0.6
TTA pmax pmax
comp=Z,10.0nm,1.4s
H19K Roundabout Mou 29.45 39 P P 04 51 46.4 +0.4
H19K IAmb IAmb 04 52 03.4
comp=Z,9.7nm,1.5s
J19K Poorman 29.62 43 P P 04 51 47.7 +0.1
J20K Nowinta River 30.28 42 P P 04 51 53.8 +0.4
H21K Melozitna Rive 30.97 40 P P 04 51 59.5 +0.1
H21K IAmb IAmb 04 52 32.3
comp=Z,9.5nm,1.5s
HHC Hu-ho-hao-te 31.42 270 *e*P P 04 52 06.1 +2.3
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,280nm,4.8s
SKT Skwentna 31.44 47 P P 04 52 04.8 +1.2
H11N2 WAKE ISLAND Hy 31.44 158 T T 05 26 16.3
baz=348,slow=76
D22K Ayikyak River 31.45 33 P P 04 52 04.0 +0.3
H11N1 WAKE ISLAND Hy 31.46 158 T T 05 26 21.8
baz=348,slow=76
H11N3 WAKE ISLAND Hy 31.46 158 T T 05 26 08.8
baz=348,slow=76
E22K Anaktuvuk Pass 31.65 35 P P 04 52 05.5 +0.1
E22K IAmb IAmb 04 52 20.2
comp=Z,11nm,1.4s
TRF Thorofare Moun 31.98 44 P P 04 52 09.1 +0.7
H23K Yukon River 32.33 39 P P 04 52 11.5 +0.2
C23K Itkillik River 32.34 32 P P 04 52 11.7 +0.3
NEA2 Nenana 32.50 42 P P 04 52 13.1 +0.3
TOLK Toolik Lake Re 32.54 34 P P 04 52 13.1 -0.1
H11S1 WAKE ISLAND Hy 32.57 159 T T 05 26 39.0
baz=346,slow=76,SNR=68
H11S3 WAKE ISLAND Hy 32.58 159 T T 05 26 39.8
baz=346,slow=76,SNR=116
H11S2 WAKE ISLAND Hy 32.59 159 T T 05 26 38.8
baz=346,slow=76,SNR=49
RND Reindeer 32.62 44 P P 04 52 13.4 -0.6
RND IAmb IAmb 04 52 14.6
comp=Z,3.9nm,0.7s
RND Reindeer 32.62 44 P P 04 52 13.4 -0.6
RND pmax pmax
comp=Z,4.0nm,0.7s
GHO Glory Hole Cre 32.69 47 P P 04 52 14.3 -0.2
E24K Your Creek 32.88 35 P P 04 52 16.5 +0.3
E24K IAmb IAmb 04 52 30.9
comp=Z,6.6nm,1.2s
SML Sawmill 32.96 47 P P 04 52 17.2 +0.3
F24K Squaw Lake 33.07 36 P P 04 52 17.7 -0.2
HDA Harding Lake 33.42 42 P P 04 52 21.1 +0.2
HDA IAmb IAmb 04 52 21.7
comp=Z,3.5nm,0.5s
IL31 33.44 41 P P 04 52 21.4 +0.5
ILAR Eielson Array 33.44 41 *e*P P 04 52 21.1 +0.1
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR Eielson Array 33.44 41 P P 04 52 20.6 -0.4
comp=Z,1.2nm,0.8s,baz=263,slow=5.8,SNR=13
ILAR pP **pP 04 52 48.2 +0.8**
comp=Z,0.4nm,0.6s,baz=260,slow=6.3,SNR=2.4
comp=Z,1.2nm,0.8s
IL03 Eielson Array 33.45 41 P P 04 52 20.8 -0.3
D25K Kavik River 33.76 33 P P 04 52 23.8 +0.1
E25K Arctic Village 33.98 35 P P 04 52 25.8 +0.1
PRP Porcupine Dome 33.99 40 P P 04 52 26.0 +0.1
SCRK Sand Creek 34.75 43 P P 04 52 31.8 -0.7
N25K Chitina, Valde 34.75 47 P P 04 52 32.9 +0.4
M26K Nabesna, AK 35.38 45 P P 04 52 39.1 +1.3
M26K IAmb IAmb 04 52 40.4
comp=Z,4.3nm,0.8s
K27K Chicken 35.58 42 P P 04 52 40.0 +0.6
K27K IAmb IAmb 04 52 41.4
comp=Z,12nm,1.4s
CRQM Cirque 35.59 48 P P 04 52 40.3 +0.6
L27K Beaver Creek, 35.82 44 P P 04 52 43.0 +1.4
BCAR Beaver Creek A 35.84 44 P P 04 52 43.0 +1.3
M27K Edge Creek, AK 35.91 45 P P 04 52 43.9 +1.5
M27K IAmb IAmb 04 52 47.1
comp=Z,7.1nm,1.0s
F28M Old Crow 36.14 36 P P 04 52 44.4 +0.2
F28M IAmb IAmb 04 52 46.1
comp=Z,7.5nm,1.4s
E28M Babbage River 36.21 34 P P 04 52 45.5 +0.7
I28M Miner Creek 36.32 40 P P 04 52 46.4 +0.6
I28M IAmb IAmb 04 52 50.9
comp=Z,4.1nm,1.1s
CTGM Chitina Glacie 36.42 47 P P 04 52 47.4 +0.6
CTGM IAmb IAmb 04 52 49.0
comp=Z,6.6nm,0.9s
E29M Blow River 36.83 35 P P 04 52 50.4 +0.5
E29M IAmb IAmb 04 53 10.4
comp=Z,11nm,1.4s
H29M Whitestone 36.87 38 P P 04 52 50.9 +0.5
H29M IAmb IAmb 04 53 28.8
comp=Z,8.4nm,1.4s
M29M Somme Creek 37.45 45 P P 04 52 56.8 +1.3
M29M IAmb IAmb 04 52 57.8
comp=Z,3.8nm,0.7s
L29M L29M 37.47 43 P P 04 52 57.2 +1.6
L29M IAmb IAmb 04 52 58.2
comp=Z,6.1nm,0.7s
I30M Mount Dempster 37.83 40 P P 04 52 59.0 +0.4
I30M IAmb IAmb 04 53 00.4
comp=Z,3.0nm,0.8s
G31M Satah River 38.39 37 P P 04 53 03.5 +0.4
G31M IAmb IAmb 04 53 41.1
comp=Z,11nm,1.3s
H31M Peel River 38.56 39 P P 04 53 05.5 +0.9
H31M IAmb IAmb 04 53 21.6
comp=Z,11nm,1.4s
N31M Braeburn, Yuko 38.91 46 P P 04 53 09.6 +2.0
N31M IAmb IAmb 04 53 10.8
comp=Z,5.7nm,0.9s
O30N Mendenhall 38.96 47 P P 04 53 09.4 +1.4
O30N IAmb IAmb 04 53 10.5
comp=Z,7.4nm,1.1s
WHY Whitehorse 39.56 47 P P 04 53 15.0 +1.9
WHY IAmb IAmb 04 53 24.1
comp=Z,8.2nm,1.3s
FARO Faro, Yukon 39.82 44 P P 04 53 15.6 +0.5
MMPY Sheldon Lake, 40.64 43 P P 04 53 23.9 +2.0
MMPY IAmb IAmb 04 53 24.4
comp=Z,6.7nm,1.2s
R33M Jennings River 41.83 48 P P 04 53 33.4 +1.6
R33M IAmb IAmb 04 53 35.7
comp=Z,18nm,1.5s
DLBC Dease Lake 42.63 49 P P 04 53 39.8 +1.6
MK31 Makanchi Array 46.71 296 P P 04 54 08.3 -2.3
MK31 Makanchi Array 46.71 296 P P 04 54 08.3 -2.3
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 46.71 296 P P 04 54 08.2 -2.4
MKAR Makanchi Array 46.71 296 P P 04 54 08.3 -2.3
comp=Z,0.9nm,0.7s,baz=64,slow=5.5,SNR=6.2
MKAR pP **pP 04 54 36.6 -1.2**
comp=Z,1.7nm,0.8s,baz=59,slow=8.6,SNR=6.9
comp=Z,0.9nm,0.7s
KURK Kurchatov 46.78 302 P P 04 54 09.4 -1.6
KURK *PP **pP 04 54 37.2 -1.0**
KURBB Kurchatov Arra 46.87 302 P P 04 54 09.4 -2.4
comp=Z,1.3nm,0.7s,baz=66,slow=8.5,SNR=4.7
KURBB pP **pP 04 54 37.2 -1.8**
comp=Z,2.7nm,0.8s,baz=68,slow=8.1,SNR=7.2
comp=Z,1.3nm,0.7s
YKA Yellowknife Ar 47.78 39 P P 04 54 19.0 +0.4

YKA Yellowknife Ar 47.78 39 P P 04 54 19.0 +0.4
comp=Z,1.1nm,0.6s,baz=298,slow=6.8,SNR=3.2
comp=Z,1.1nm,0.6s
BVAR Borovoye Array 49.94 308 P P 04 54 33.5 -1.8
comp=Z,0.7nm,0.3s,baz=60,slow=10,SNR=3.6
BVAR pP **pP 04 55 01.6 -1.2**
comp=Z,0.7nm,0.5s,baz=72,slow=9.8,SNR=2.6
comp=Z,0.7nm,0.3s
LTY Liberty 53.07 58 P P 04 54 59.3 +0.5
LTY IAmb IAmb 04 55 06.9
comp=Z,7.3nm,1.4s
J01E Myrtle Point 53.68 64 P P 04 55 04.2 +1.1
I03D Drain, OR 53.69 63 P P 04 55 04.0 +0.8
CMAR Chiang Mai Arr 54.30 256 *e*P P 04 55 07.7 -0.3
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 54.30 256 P P 04 55 06.5 -1.4
comp=Z,0.9nm,0.5s,baz=24,slow=7.6,SNR=4.5
comp=Z,0.9nm,0.5s
J05D Fort Rock, OR 55.16 62 P P 04 55 15.5 +1.4
L04D Klamath Falls 55.20 64 P P 04 55 15.9 +1.5
ARCES ARCESS Array B 55.42 341 P P 04 55 12.1 -3.2
comp=Z,4.9nm,0.9s,baz=34,slow=8.2,SNR=2.5
comp=Z,4.9nm,0.9s
K05A Summer Lake 55.70 63 P P 04 55 19.7 +1.7
BMO Blue Mountains 56.40 59 P P 04 55 23.9 +1.1
BMO Blue Mountains 56.40 59 P P 04 55 23.9 +1.1
BMO pmax pmax
comp=Z,1.0nm,0.8s
J08A Circle Bar Ran 56.69 61 P P 04 55 26.2 +1.3
J08A IAmb IAmb 04 55 27.2
comp=Z,2.3nm,0.7s
PLID Pearl Lake 56.97 58 P P 04 55 28.1 +1.1
PLID IAmb IAmb 04 55 28.8
comp=Z,4.1nm,0.8s
CHMT Chamberlain Mo 57.29 55 P P 04 55 30.1 +0.9
ABKAR Abkulak array 57.47 309 P P 04 55 28.3 -1.8
PNTR Pine Nut 58.78 65 P P 04 55 41.3 +1.6
PNTR IAmb IAmb 04 55 43.2
comp=Z,3.6nm,0.7s
BOZ Bozeman (W) 59.00 55 P P 04 55 42.4 +1.4
BOZ Bozeman (W) 59.00 55 P P 04 55 42.4 +1.4
BOZ pmax pmax
comp=Z,5.0nm,0.7s
WAKR Walker 59.26 66 P P 04 55 44.3 +1.2
WAKR IAmb IAmb 04 55 45.3
comp=Z,2.3nm,0.7s
KVN Kaiserville 59.69 64 P P 04 55 47.4 +1.5
KVN IAmb IAmb 04 55 48.1
comp=Z,3.8nm,1.0s
KVN Kaiserville 59.69 64 P P 04 55 47.4 +1.5
KVN pmax pmax
comp=Z,4.0nm,1.0s
YHL Hebgen Lake 59.73 55 P P 04 55 47.1 +0.9
YHL IAmb IAmb 04 55 48.0
comp=Z,2.8nm,0.6s
NVAR Mina Array Bea 59.98 65 P P 04 55 48.9 +0.9
NVAR Mina Array Bea 59.98 65 P P 04 55 49.2 +1.2
comp=Z,1.8nm,0.7s,baz=295,slow=7.5,SNR=17
comp=Z,1.8nm,0.7s
REDW Red Top Meadow 60.90 56 P P 04 55 55.4 +1.2
R11B Troy Canyon, C 61.62 63 P P 04 56 00.0 +1.0
FINES FINESS Array B 61.84 335 *e*P P 04 56 04.3 +4.5
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 61.84 335 P P 04 55 57.1 -2.7
comp=Z,1.1nm,0.5s,baz=135,slow=0.3,SNR=4.7
comp=Z,1.1nm,0.5s
SPR3 Spring Creek 3 61.90 62 P P 04 56 02.3 +1.2
SPR3 IAmb IAmb 04 56 03.7
comp=Z,2.0nm,0.7s
BW06 Boulder Array 62.00 56 P P 04 56 02.4 +0.8
BW06 IAmb IAmb 04 56 03.4
comp=Z,3.5nm,0.8s
PD31 Pinedale Array 62.00 56 P P 04 56 03.0 +1.5
PD31 IAmb IAmb 04 56 03.3
comp=Z,3.2nm,0.9s
PDAR Pinedale Array 62.00 56 P P 04 56 01.9 +0.4
PDAR Pinedale Array 62.00 56 P P 04 56 02.7 +1.2
comp=Z,1.9nm,0.7s,baz=308,slow=1.6,SNR=20
comp=Z,1.9nm,0.7s
TPNV Topopah Spring 62.18 65 P P 04 56 03.7 +1.0
TPNV Topopah Spring 62.18 65 P P 04 56 03.7 +1.0
TPNV pmax pmax
comp=Z,2.0nm,0.8s
PRN Pahroc Range 62.57 64 P P 04 56 06.2 +0.9
BSUT Blindstream Ca 62.87 59 P P 04 56 08.6 +1.1
MSU Marysvale 63.46 61 P P 04 56 12.9 +1.6
MSU Marysvale 63.46 61 P P 04 56 12.9 +1.6
TMUT Trail Mountain 63.47 60 P P 04 56 12.8 +1.4
RDMU Red Mountain 63.50 58 P P 04 56 13.0 +1.5
RSSD Black Hills 63.95 52 P P 04 56 15.3 +0.8
RSSD IAmb IAmb 04 56 15.8
comp=Z,4.0nm,0.8s
RSSD Black Hills 63.95 52 P P 04 56 15.3 +0.8
RSSD pmax pmax
comp=Z,4.0nm,0.9s
HMU Henry Mountain 64.67 61 P P 04 56 20.4 +1.2
HMU IAmb IAmb 04 56 20.8
comp=Z,2.8nm,0.7s
PV13 Radium Mtn., P 65.60 59 P P 04 56 25.2 -0.1
PV13 IAmb IAmb 04 56 26.9
comp=Z,3.9nm,0.7s
PV01 Paradox Valley 65.76 59 P P 04 56 26.6 +0.4
PV01 IAmb IAmb 04 56 29.6
comp=Z,5.9nm,1.5s
SMCO Snowmass 65.90 57 P P 04 56 27.8 +0.5
HFS Hagfors 66.06 340 P P 04 56 25.0 -2.5
HFS Hagfors 66.06 340 P P 04 56 25.0 -2.5
comp=Z,0.8nm,0.4s,baz=48,slow=4.4,SNR=5.2
comp=Z,0.8nm,0.4s
ECSD EROS Data Cent 67.92 48 P P 04 56 39.7 +0.1
ECSD IAmb IAmb 04 56 40.3
comp=Z,3.2nm,0.7s
AKASG Malin Array Be 69.72 327 P P 04 56 47.6 -2.9
comp=Z,0.3nm,0.3s,baz=28,slow=6.0,SNR=2.7
comp=Z,0.3nm,0.3s
SCHQ Schefferville 70.05 24 P P 04 56 52.5 0.0
SCHQ Schefferville 70.05 24 P P 04 56 52.1 -0.4
comp=Z,1.1nm,0.3s,baz=355,slow=7.1,SNR=6.9
comp=Z,1.1nm,0.3s
WB0 Warramunga Arr 71.59 200 P P 04 57 02.0 -0.1
WB0 IAmb IAmb 04 57 32.3
comp=Z,6.3nm,1.4s
WR0 Warramunga Arr 71.74 200 P P 04 57 03.1 +0.1
WR0 IAmb IAmb 04 57 10.4
comp=Z,15nm,1.5s
WB2 Warramunga Arr 71.77 200 P P 04 57 03.1 -0.1
WB2 IAmb IAmb 04 57 34.1
comp=Z,10nm,1.4s
WRA Warramunga Arr 71.77 200 P P 04 57 02.8 -0.5
WRA Warramunga Arr 71.77 200 *e*P P 04 57 01.7 -1.5
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 71.77 200 P P 04 57 02.9 -0.3
comp=Z,0.6nm,0.8s,baz=18,slow=6.2,SNR=7.1
comp=Z,0.6nm,0.8s
ELIS Ellis County 72.25 55 P P 04 57 07.0 +0.8
P40A Paris 73.33 48 P P 04 57 12.6 +0.2
P40A IAmb IAmb 04 57 12.8
comp=Z,13nm,1.4s
EKA Eskdalemuir Ar 73.69 347 P P 04 57 12.4 -1.8
comp=Z,0.4nm,0.3s,baz=19,slow=5.1,SNR=12
comp=Z,0.4nm,0.3s
R40A Maddies Statio 74.20 49 P P 04 57 17.3 -0.1
R40A IAmb IAmb 04 57 20.3
comp=Z,5.1nm,1.1s
MORC Moravsky Berou 74.34 333 P P 04 57 18.3 +0.2
MORC Moravsky Berou 74.34 333 P P 04 57 18.3 +0.2
MORC pmax pmax
comp=Z,3.0nm,1.1s
TX31 Lajitas Ar. Si 74.96 62 P P 04 57 23.3 +1.1
TX31 IAmb IAmb 04 57 23.8
comp=Z,6.4nm,0.7s
TX32 Lajitas Array 74.96 62 P P 04 57 23.2 +1.1
TXAR Lajitas Array 74.96 62 P P 04 57 23.0 +0.8
comp=Z,1.8nm,0.6s,baz=299,slow=4.6,SNR=35
TXAR pP **pP 04 57 51.4 -0.7**
comp=Z,0.3nm,0.5s,baz=300,slow=4.8,SNR=2.3
comp=Z,1.8nm,0.6s
MLR Muntele Rosu 75.30 326 P P 04 57 22.9 -1.0
MLR IAmb IAmb 04 58 01.0
comp=Z,7.0nm,1.5s
MLR Muntele Rosu 75.30 326 P P 04 57 22.9 -1.0
MLR pmax pmax
comp=Z,7.0nm,1.5s

ASAR Alice Springs 75.46 200 P P 04 57 25.4 +0.6
comp=Z,0.4nm,0.6s,baz=18,slow=5.7,SNR=4.8
comp=Z,0.4nm,0.6s
MIAR Mount Ida 76.47 52 P P 04 57 30.9 +0.4
MIAR Mount Ida 76.47 52 P P 04 57 31.0 +0.4
MIAR pmax pmax
comp=Z,4.0nm,1.3s
PSA00 Pilbara Seismi 77.56 213 P P 04 57 36.9 +0.4
PSA00 IAmb IAmb 04 57 52.3
comp=Z,10nm,1.4s
TEOL Teolo 80.03 335 P P 04 57 48.7 -1.2
BNI Bardonecchia 81.61 338 P P 04 57 58.5 -0.1
BNI IAmb IAmb 04 58 00.4
comp=Z,8.9nm,1.4s
BNI Bardonecchia 81.61 338 P P 04 57 58.5 -0.1
BNI pmax pmax
comp=Z,9.0nm,1.5s
ESDC Sonseca Array 89.03 344 P P 04 58 33.6 -1.7
comp=Z,1.0nm,0.7s,baz=352,slow=3.8,SNR=6.7
comp=Z,1.0nm,0.7s
H03N2 Juan Fernandez 137.47 88 T T 07 37 40.7
baz=313,slow=77,SNR=6.2
H03N1 Juan Fernandez 137.49 88 T T 07 37 42.5
baz=313,slow=77,SNR=7.0
H03N3 Juan Fernandez 137.49 88 T T 07 37 39.2
baz=313,slow=77,SNR=8.1
QSPA South Pole Qui 139.50 180 PKP PKPdf 05 05 07.3 +1.4
comp=Z,0.8nm,0.8s,baz=116,slow=1.0,SNR=1.6
PLCA Paso Flores 147.15 92 PKPbc PKPbc 05 05 22.2 -0.4
comp=Z,2.1nm,0.9s,baz=272,slow=7.2,SNR=3.4

AZER ***18*** *04:48:12.8±3.4,43°.88N×43°.97E,h31km±289km, Error ellipse: s-maj=555.7km s-min=40.4km azm=326.0*
MOS ***18*** *04:48:13.1±0.0,43°.55N×44°.20E,h5km, MPVA4.3*
TIF ***18*** *04:48:13.1,43°.63N×44°.31E,h14km±1km*
NORS ***18*** *04:48:14.0±0.0,43°.54N×44°.24E,h6km, MPVA4.3*
DRS ***18*** *04:48:16.0±0.0,43°.43N×43°.75E,h24km*
ISC 18 04:48:15.0±0.8,43°.50N±0°.02×44°.25E±0°.01,h15km±5km,
n112,σ1§59/208,6C-3D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDR	**Stavd-Durt**	**0.19**	**226**	*e*Pg	**Pg**	**04 48 19.6**	**+0.1**
STDR				*e*Sg	**Sg**	**04 48 22.9**	**+0.4**
STDR	**Stavd-Durt**	**0.19**	**226**	*e*PG	**Pg**	**04 48 19.6**	**+0.1**
BTKR	**Batakoyurt**	**0.25**	**121**	*i* Pg	**Pg**	**04 48 19.8**	**-0.7**
BTKR				*e*Sg	**Sg**	**04 48 25.2**	**+1.0**
BTKR	**Batakoyurt**	**0.25**	**121**	*i* PG	**Pg**	**04 48 19.8**	**-0.7**
BTKR				*e*S	**Sg**	**04 48 25.2**	**+1.0**
PRTR	**Priterechnaya**	**0.25**	**5**	*e*Pg	**Pg**	**04 48 19.8**	**-0.7**
PRTR				*e*Sg	**Sg**	**04 48 23.0**	**-1.3**
PRTR	**Priterechnaya**	**0.25**	**5**	*e*PG	**Pg**	**04 48 19.8**	**-0.7**
ARNR	**Ardon**	**0.32**	**175**	*e*Pg	**Pb**	**04 48 22.3**	**-0.1**
ARNR				*e*Sg	**Sb**	**04 48 29.1**	**+1.7**
ARNR	**Ardon**	**0.32**	**175**	*e*PG	**Pb**	**04 48 22.3**	**-0.1**
ARNR				*e*S	**Sb**	**04 48 29.1**	**+1.7**
TRKR	**Terskaya**	**0.42**	**57**	*e*Pg	**Pg**	**04 48 23.1**	**-0.3**
TRKR				*e*Sg	**Sb**	**04 48 30.4**	**+0.3**
TRKR	**Terskaya**	**0.42**	**57**	*e*PG	**Pg**	**04 48 23.1**	**-0.3**
TRKR				*e*S	**Sb**	**04 48 30.4**	**+0.3**
KORR	**Kora**	**0.43**	**198**	*e*Pg	**Pb**	**04 48 24.4**	**+0.1**
KORR				*e*Sg	**Sb**	**04 48 32.0**	**+1.3**
KORR	**Kora**	**0.43**	**198**	*e*PG	**Pb**	**04 48 24.4**	**+0.1**
KORR				*e*S	**Sb**	**04 48 32.0**	**+1.3**
NCK	**Nalchik**	**0.47**	**270**	*e*Pg	**Pb**	**04 48 25.3**	**+0.2**
NCK				*e*Sg	**Sb**	**04 48 32.2**	**+0.4**
NCK	**Nalchik**	**0.47**	**270**	*c i*PG	**Pb**	**04 48 25.2**	**+0.2**
NCK				*e*S	**Sb**	**04 48 34.9**	**+3.0**
NCK				smax	smax		
comp=N,1μm,0.4s							
VLKR	**Vladikavkaz**	**0.55**	**145**	*e*Pg	**Pn**	**04 48 27.8**	**-0.5**
VLKR				*e*Sg	**Sn**	**04 48 37.5**	**+0.3**
VLKR	**Vladikavkaz**	**0.55**	**145**	*e*PG	**Pn**	**04 48 27.8**	**-0.5**
VLKR				*e*S	**Sn**	**04 48 37.5**	**+0.3**
KMGR	**Komgaron**	**0.63**	**134**	*e*Pg	**Pn**	**04 48 28.9**	**-0.5**
KMGR				*e*Sg	**Sn**	**04 48 40.0**	**+0.8**
KMGR	**Komgaron**	**0.63**	**134**	*e*PG	**Pn**	**04 48 28.9**	**-0.5**
KMGR				*e*S	**Sn**	**04 48 40.0**	**+0.8**
LACR	**Lac**	**0.67**	**177**	*e*Pg	**Pb**	**04 48 29.1**	**+0.6**
LACR				*e*Sg	**Sn**	**04 48 41.6**	**+1.3**
LACR	**Lac**	**0.67**	**177**	*e*PG	**Pb**	**04 48 29.1**	**+0.6**
LACR				*e*S	**Sn**	**04 48 41.7**	**+1.3**
KBTC	**Kuba-Taba**	**0.69**	**298**	*e*Pg	**Pb**	**04 48 28.8**	**+0.1**
KBTC				*e*Sg	**Sb**	**04 48 39.1**	**+1.1**
KBTC	**Kuba-Taba**	**0.69**	**298**	*e*PG	**Pb**	**04 48 28.8**	**+0.1**
KBTC				*e*S	**Sb**	**04 48 39.1**	**+1.1**
MTEO	**Meteo**	**0.84**	**166**	PG	**Pb**	**04 48 32.0**	**+0.4**
MTEO				S	**Sn**	**04 48 46.9**	**+1.9**
MTEO	**Meteo**	**0.84**	**166**	P	**Pb**	**04 48 31.9**	**+0.4**
MTEO				S	**Sn**	**04 48 46.9**	**+1.9**
PYA1	**Pyatigorsk**	**1.01**	**304**	*e*Pg	**Pg**	**04 48 33.6**	**-0.9**
PYA1				*e*Sg	**Sb**	**04 48 47.6**	**+0.4**
PYA1	**Pyatigorsk**	**1.01**	**304**	*e*PG	**Pg**	**04 48 33.6**	**-0.9**
PYA1				*e*S	**Sb**	**04 48 47.6**	**+0.4**
KBZ	**Khabaz**	**1.01**	**284**	*e*Pg	**Pg**	**04 48 33.8**	**-0.7**
KBZ				*e*Sg	**Sb**	**04 48 48.2**	**+1.1**
KBZ	**Khabaz**	**1.01**	**284**	*e*PG	**Pg**	**04 48 33.8**	**-0.7**
KBZ				*e*S	**Sb**	**04 48 48.2**	**+1.1**
GUDG	**Gudauri**	**1.05**	**171**	PG	**Pn**	**04 48 35.4**	**+0.1**
GUDG				S	**Sn**	**04 48 52.3**	**+2.6**
GUDG	**Gudauri**	**1.05**	**171**	P	**Pn**	**04 48 35.4**	**+0.1**
GUDG				S	**Sn**	**04 48 52.3**	**+2.6**
SHTL	**Shatili**	**1.07**	**142**	PG	**Pn**	**04 48 35.6**	**0.0**
SHTL				S	**Sn**	**04 48 51.6**	**+1.4**
SHTL	**Shatili**	**1.07**	**142**	P	**Pn**	**04 48 35.6**	**0.0**
SHTL				S	**Sn**	**04 48 51.5**	**+1.4**
BEYR	**Belyy Ugol+**	**1.16**	**297**	*e*Pg	**Pg**	**04 48 36.0**	**-1.3**
BEYR				*e*Sg	**Sb**	**04 48 52.0**	**+0.5**
BEYR	**Belyy Ugol+**	**1.16**	**297**	*e*PG	**Pg**	**04 48 36.0**	**-1.3**
BEYR				*e*S	**Sb**	**04 48 52.0**	**+0.5**
GROC	**Groznyy**	**1.17**	**104**	*e*Pg	**Pn**	**04 48 38.4**	**+1.7**
GROC				*e*Sg	**Sn**	**04 48 56.4**	**+4.0**
GROC	**Groznyy**	**1.17**	**104⇓**	*i*PG	**Pn**	**04 48 38.5**	**+1.8**
GROC				*e*		04 48 56.5	
GROC				pmax	pmax		
comp=Z,62nm,0.4s							
GROC				smax	smax		
comp=N,425nm,0.3s							
GROC				smax	smax		
comp=E,226nm,0.4s							
GROC				smax	smax		
comp=N,432nm,1.0s							
SHA1	**Shidzhatmaz**	**1.18**	**282**	*e*Pg	**Pg**	**04 48 36.9**	**-1.0**
SHA1				*e*Sg	**Sn**	**04 48 53.4**	**+0.4**
SHA1	**Shidzhatmaz**	**1.18**	**282**	*e*PG	**Pg**	**04 48 36.8**	**-1.0**
SHA1				*e*S	**Sn**	**04 48 53.4**	**+0.4**
KIV0	**Kislovodsk Arr**	**1.22**	**293**	*i* Pg	**Pb**	**04 48 37.5**	**-0.2**
KIV0				*e*Sg	**Sn**	**04 48 54.2**	**+0.5**
KIV	**Kislovodsk**	**1.22**	**292**	*e*Pg	**Pb**	**04 48 37.6**	**-0.2**
KIV				*e*Sg	**Sn**	**04 48 54.7**	**+0.9**
KIV	**Kislovodsk**	**1.22**	**292**	*e*PG	**Pb**	**04 48 37.6**	**-0.2**
KIV				*e*S	**Sn**	**04 48 54.7**	**+0.9**
ALIG	**Mtskhetisjvari**	**1.46**	**198**	PG	**Pg**	**04 48 42.9**	**-0.2**
ALIG	**Mtskhetisjvari**	**1.46**	**198**	P	**Pg**	**04 48 42.9**	**-0.2**
TKB	**Tkibuli**	**1.47**	**219**	PG	**Pg**	**04 48 43.2**	**-0.1**
TKB	**Tkibuli**	**1.47**	**219**	P	**Pg**	**04 48 43.2**	**-0.1**
DVE	**Vedeno**	**1.48**	**111**	*e*Pg	**Pb**	**04 48 42.0**	**-0.2**
DVE				*e*Sg	**Sg**	**04 49 03.5**	**+0.9**
DVE	**Vedeno**	**1.48**	**111**	*e*PG	**Pb**	**04 48 42.1**	**0.0**
DVE				*e*S	**Sg**	**04 49 03.8**	**+1.2**
DVE				pmax	pmax		
comp=Z,45nm,0.2s							
DVE				smax	smax		
comp=E,359nm,0.3s							
BTLR	**Botlikh**	**1.67**	**119**	*e*Pg	**Pb**	**04 48 45.2**	**-0.3**
comp=E,59nm,0.6s							
BTLR				*e*Sg	**Sg**	**04 49 09.1**	**+0.3**
comp=E,1μm,0.3s							
BTLR	**Botlikh**	**1.67**	**119**	*e*PN	**Pb**	**04 48 45.1**	**-0.3**
BTLR				*i* S	**Sg**	**04 49 09.7**	**+0.9**
BTLR				pmax	pmax		
comp=Z,58nm,0.6s							
BTLR				smax	smax		
comp=N,573nm,0.7s							
GOF	**Gofitskoye**	**1.78**	**331**	*e*Pg	**Pn**	**04 48 45.5**	**+0.3**
GOF				*e*Sg	**Sb**	**04 49 10.0**	**+0.5**
GOF	**Gofitskoye**	**1.78**	**331**	*e*PN	**Pn**	**04 48 45.5**	**+0.3**
GOF				*e*S	**Sb**	**04 49 10.0**	**+0.5**
DLMR	**Dylym**	**1.79**	**103**	*e*Pg	**Pb**	**04 48 48.0**	**+0.6**
DLMR				*e*Sg	**Sg**	**04 49 13.7**	**+1.1**
DLMR	**Dylym**	**1.79**	**103**	*e*PN	**Pb**	**04 48 48.0**	**+0.6**

DLMR			eS	Sg	04 49 13.7	+1.1
TRLG	**Trialeti**	**1.96 183**	PN	**Pb**	**04 48 49.8**	**-0.7**
TRLG			S	**Sg**	**04 49 20.1**	**+2.0**
TRLG	**Trialeti**	**1.96 183**	P	**Pb**	**04 48 49.8**	**-0.7**
TRLG			S	**Sg**	**04 49 20.1**	**+2.0**
NVNR	**Nevinnomyssk**	**1.99 305**	ePg	**Pg**	**04 48 51.9**	**-1.3**
NVNR			eSg	**Sb**	**04 49 16.0**	**+0.6**
NVNR	**Nevinnomyssk**	**1.99 305**	ePN	**Pg**	**04 48 51.9**	**-1.3**
UNCR	**Uncukul**	**2.02 112**	ePg	**Pb**	**04 48 50.9**	**-0.5**
UNCR			eSg	**Sg**	**04 49 18.9**	**-1.1**
UNCR	**Uncukul**	**2.02 112**	ePN	**Pb**	**04 48 50.9**	**-0.5**
UNCR			eS	**Sg**	**04 49 18.9**	**-1.1**
ABS	**Abastumani**	**2.04 212**	PN	**Pb**	**04 48 50.8**	**-1.0**
ABS	**Abastumani**	**2.04 212**	P	**Pb**	**04 48 50.8**	**-1.0**
HNZR	**Khunzah**	**2.04 117**	ePN	**Pb**	**04 48 51.3**	**-0.5**
XNZR	**Khunzakh**	**2.04 117**	ePg	**Pb**	**04 48 51.3**	**-0.5**
XNZR			eSg	**Sb**	**04 49 17.6**	**+0.6**
KRNR	**Karanay**	**2.06 108**	ePg	**Pb**	**04 48 51.6**	**-0.5**
KRNR			eSg	**Sg**	**04 49 20.6**	**-0.6**
KRNR	**Karanay**	**2.06 108**	ePN	**Pb**	**04 48 51.5**	**-0.5**
KRNR			eS	**Sg**	**04 49 20.5**	**-0.6**
KRNR			*i* S	**Sb**	**04 49 21.1**	**+3.6**
KRNR			pmax	pmax		
	comp=Z,20nm,0.2s					
KRNR			smax	smax		
	comp=E,131nm,0.4s					
KRNR			smax	smax		
	comp=N,260nm,0.6s					
KRNR			smax	smax		
	comp=N,259nm,0.3s					
KZRT	**Kazreti**	**2.11 177**	PN	**Pb**	**04 48 53.7**	**+0.7**
KZRT			S	**Sg**	**04 49 20.9**	**-2.0**
KZRT	**Kazreti**	**2.11 177**	P	**Pb**	**04 48 53.7**	**+0.7**
KZRT			S	**Sg**	**04 49 20.9**	**-2.0**
AKH	**Akhalkalaki**	**2.16 195**	PN	**Pb**	**04 48 53.2**	**-0.7**
AKH			S	**Sb**	**04 49 21.0**	**+0.4**
AKH	**Akhalkalaki**	**2.16 195**	P	**Pb**	**04 48 53.2**	**-0.7**
AKH			S	**Sb**	**04 49 21.0**	**+0.4**
ARXR	**Arkhyz**	**2.16 273**	*i* Pg	**Pb**	**04 48 53.4**	**-0.5**
ARXR			eSg	**Sn**	**04 49 19.4**	**+2.2**
ARXR	**Arkhyz**	**2.16 273**	*i* PN	**Pb**	**04 48 53.4**	**-0.5**
ARXR			eS	**Sn**	**04 49 19.4**	**+2.2**
DMNI	**Dmanisi**	**2.17 181**	PN	**Pb**	**04 48 52.3**	**-1.7**
DMNI			S	**Sg**	**04 49 22.4**	**-2.3**
DMNI	**Dmanisi**	**2.17 181**	P	**Pb**	**04 48 52.3**	**-1.7**
DMNI			S	**Sg**	**04 49 22.4**	**-2.3**
BUJR	**Buynaksk**	**2.20 107**	ePg	**Pb**	**04 48 54.4**	**-0.1**
BUJR			eSg	**Sg**	**04 49 25.3**	**-0.4**
BUJR	**Buynaksk**	**2.20 107**	ePN	**Pb**	**04 48 54.3**	**-0.1**
BUJR			eS	**Sg**	**04 49 25.3**	**-0.4**
ARKR	**Arakani**	**2.20 113**	ePn	**Pb**	**04 48 53.9**	**-0.7**
ARKR			eSn	**Sg**	**04 49 24.6**	**-1.3**
ARKR	**Arakani**	**2.20 113**	ePN	**Pb**	**04 48 53.8**	**-0.7**
ARKR			eS	**Sg**	**04 49 24.5**	**-1.3**
ARKR			*i* S	**Sb**	**04 49 25.2**	**+3.6**
ARKR			pmax	pmax		
	comp=Z,23nm,0.3s					
ARKR			smax	smax		
	comp=N,161nm,0.6s					
ARKR			smax	smax		
	comp=E,118nm,0.4s					
ARKR			smax	smax		
	comp=N,129nm,0.4s					
LGD	**Lagodekhi**	**2.22 138**	PN	**Pb**	**04 48 53.9**	**-0.9**
LGD			S	**Sg**	**04 49 25.2**	**-1.1**
LGD	**Lagodekhi**	**2.22 138**	P	**Pb**	**04 48 53.9**	**-0.9**
LGD			S	**Sg**	**04 49 25.2**	**-1.1**
GNBR	**Gunib**	**2.28 118**	ePn	**Pn**	**04 48 51.6**	**-0.6**
GNBR			eSn	**Sb**	**04 49 24.4**	**+0.5**
GNBR	**Gunib**	**2.28 118**	ePN	**Pn**	**04 48 53.8**	**+1.7**
GNBR			eS	**Sb**	**04 49 24.4**	**+0.5**
GNBR			*i* S	**Sg**	**04 49 24.9**	**-3.4**
GNBR			pmax	pmax		
	comp=Z,20nm,0.3s					
GNBR			smax	smax		
	comp=E,217nm,0.6s					
GNBR			smax	smax		
	comp=N,193nm,0.6s					
GNBR			smax	smax		
	comp=E,161nm,0.3s					
AZMN	**Azmana**	**2.29 198**	P	**Pb**	**04 48 55.0**	**-1.1**
KANR	**Karaman**	**2.38 96**	ePn	**Pb**	**04 48 56.5**	**-1.0**
KANR			eSn	**Sb**	**04 49 29.0**	**+2.3**
KANR	**Karaman**	**2.38 96**	ePN	**Pb**	**04 48 56.5**	**-1.0**
KANR			eS	**Sb**	**04 49 29.0**	**+2.3**
MAK	**Makhachkala**	**2.44 102**	⇑*i* PN	**Pb**	**04 48 57.2**	**-1.3**
MAK			*e*		04 49 01.0	
MAK			eS	**Sb**	**04 49 30.3**	**+2.0**
MAK			*e*		04 49 34.5	
MAK			*e*		04 49 38.4	
MAK			pmax	pmax		
	comp=Z,137nm,0.3s					
MAK			smax	smax		
	comp=E,419nm,0.5s					
MAK			smax	smax		
	comp=E,336nm,0.5s					
MAK			MLR	MLR		
	comp=Z,261nm,2.0s					
KMKR	**Kumukh**	**2.50 122**	ePn	**Pb**	**04 48 57.9**	**-1.9**
KMKR			eSn	**Sb**	**04 49 31.7**	**+1.2**
KMKR	**Kumukh**	**2.50 122**	ePN	**Pb**	**04 48 57.8**	**-1.9**
KMKR			eS	**Sb**	**04 49 31.6**	**+1.2**
KMKR			*i* S	**Sg**	**04 49 32.2**	**-3.3**
KMKR			pmax	pmax		
	comp=Z,41nm,0.6s					
KMKR			smax	smax		
	comp=N,177nm,0.4s					
KMKR			smax	smax		
	comp=E,286nm,0.3s					
KMKR			smax	smax		
	comp=E,198nm,0.3s					
ZKTA	**Zakatala**	**2.56 136**	P	**Pb**	**04 48 59.8**	**-0.7**
ZKTA			S	**Sg**	**04 49 37.0**	**-0.1**
ZKTA	**Zakatala**	**2.56 136**	PN	**Pb**	**04 48 59.8**	**-0.7**
QZX	**Qazax, Azerbai**	**2.58 161**	P	**Pb**	**04 49 00.9**	**0.0**
QZX			S	**Sg**	**04 49 37.7**	**-0.1**
URKR	**Urkarakh**	**2.82 117**	ePn	**Pn**	**04 49 01.7**	**+2.1**
URKR			eSn	**Sb**	**04 49 39.2**	**-0.3**
URKR	**Urkarakh**	**2.82 117**	ePN	**Pn**	**04 49 00.5**	**+0.9**
URKR			eS	**Sb**	**04 49 39.2**	**-0.3**
URKR			*i* S	**Sg**	**04 49 40.0**	**-5.7**
URKR			pmax	pmax		
	comp=Z,50nm,0.1s					
URKR			smax	smax		
	comp=E,46nm,0.4s					
URKR			smax	smax		
	comp=N,58nm,0.5s					
URKR			smax	smax		
	comp=N,45nm,0.6s					
RPOR	**Krasnaya Polya**	**2.90 275**	ePn	**Pn**	**04 49 03.2**	**+2.6**
RPOR			eSn	**Sb**	**04 49 44.5**	**+2.9**
RPOR	**Krasnaya Polya**	**2.90 275**	ePN	**Pn**	**04 49 03.2**	**+2.6**
RPOR			eS	**Sb**	**04 49 44.5**	**+2.9**
GDB	**GEDABAY**	**2.99 158**	P	**Pb**	**04 49 07.2**	**-0.9**
GDB			S	**Sb**	**04 49 47.1**	**+2.7**
GUZR	**Guzeripl'**	**3.03 281**	ePn	**Pb**	**04 49 09.4**	**+0.7**
GUZR			eSn	**Sb**	**04 49 48.3**	**+2.8**
GUZR	**Guzeripl'**	**3.03 281**	⇑ePN	**Pb**	**04 49 06.2**	**-2.5**
GANJ	**Ganja**	**3.24 151**	S	**Sg**	**04 49 55.7**	**-3.4**
AKT	**Akhty**	**3.27 127**	ePn	**Pn**	**04 49 08.7**	**+2.9**
AKT			eSn	**Sn**	**04 49 48.8**	**+4.3**
AKT	**Akhty**	**3.27 127**	⇑ePN	**Pn**	**04 49 07.9**	**+2.1**
SOC	**Sochi**	**3.30 273**	ePN	**Pn**	**04 49 06.1**	**+0.1**
SOC			ePPP	PPP	04 49 17.8	
SOC			*e*		04 49 46.4	
SOC			eSS	**Sg**	**04 49 58.8**	**-2.0**
SOC			MLR	MLR		
	comp=Z,33nm,4.0s					
GNI	**Garni**	**3.37 174**	ePn	**Pb**	**04 49 13.5**	**-0.9**
GNI			eSn	**Sb**	**04 49 54.0**	**-1.2**
GNI	**Garni**	**3.37 174**	⇓ePN	**Pb**	**04 49 10.8**	**-3.6**
GNI			*i* S	**Sb**	**04 49 52.1**	**-3.1**
GNI			pmax	pmax		
	comp=Z,48nm,1.3s					
GNI			smax	smax		
	comp=Z,35nm,0.9s					
GOYR	**Goytkh**	**3.60 284**	ePn	**Pg**	**04 49 22.1**	**-1.8**
GOYR			eSn	**Sb**	**04 50 05.6**	**+3.8**
GOYR	**Goytkh**	**3.60 284**	ePN	**Pg**	**04 49 22.1**	**-1.8**
GOYR			eS	**Sb**	**04 50 05.6**	**+3.8**
XNQ	**Khinaliq**	**3.71 128**	P	**Pb**	**04 49 16.8**	**-3.5**
XNQ			S	**Sb**	**04 50 04.5**	**-0.5**
SBZ	**Shahbuz**	**4.21 166**	P	**Pb**	**04 49 24.3**	**-4.6**
SBZ			S	**Sb**	**04 50 17.4**	**-2.2**
VORD	**Divnogorie**	**8.19 337**	*e*P	**Pn**	**04 50 09.4**	**-3.8**
VORD			pmax	pmax		
	comp=Z,7.0nm,0.7s					
VSR	**Storozhevoye**	**8.45 338**	*e*P	**Pn**	**04 50 12.8**	**-4.0**
VSR			pmax	pmax		
	comp=Z,10.0nm,1.8s					
BRVK	**Borovoye**	**19.69 52**	⇑*e*P	**P**	**04 52 43.2**	**-0.2**
BRVK			pmax	pmax		
	comp=Z,2.0nm,0.7s					
AAK	**Ala-Archa**	**22.06 82**	⇓*e*P	**P**	**04 53 09.0**	**-0.3**
AAK			pmax	pmax		
	comp=Z,10.0nm,4.9s					
KURK	**Kurchatov**	**24.32 61**	⇑*e*P	**P**	**04 53 32.4**	**+0.7**
KURK			pmax	pmax		
	comp=Z,4.0nm,1.2s					

IDC 18 05:07:08.0±1.6, 5°.65S×149°.46E, h0km, mb3.1/2, mbtmp3.5/4, ML2.0/1, Error ellipse: s-maj=71.3km s-min=25.6km az=137.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.88**	**63**	Pn	Pn	05 07 55.8	+0.6
	73nm,0.5s,baz=340,slow=22,SNR=6.7						
PMG	**Port Moresby**	**4.38**	**211**	Pn	Pn	05 08 16.0	+0.3
	6.3nm,0.3s,baz=27,slow=9.0,SNR=5.8						
PMG				Sn	Sn	05 09 03.4	-4.1
	9.1nm,0.3s,baz=66,slow=7.9,SNR=11						
	12nm,0.3s						
WRA	**Warramunga Arr**	**20.45**	**225**	P	P	05 11 47.5	+0.3
	0.7nm,0.6s,baz=52,slow=11,SNR=15						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**23.35**	**218**	P	P	05 12 18.5	+0.2
	0.3nm,0.5s,baz=52,slow=11,SNR=2.1						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**147.37**	**286**	PKPbc	PKPdf	05 26 53.5	+1.1
	0.5nm,0.3s,baz=53,slow=3.0,SNR=11						

*TIF **18** 05:13:37.4, 43°.65N×44°.28E, h14km±3km*
*NORS **18** 05:13:38.6±0.0, 43°.54N×44°.24E, h7km, MPVA3.7*
*MOS **18** 05:13:38.8±0.0, 43°.54N×44°.21E, h8km, MPVA3.5*
*DRS **18** 05:13:40.6±0.0, 43°.06N×43°.55E, h24km*

ISC 18 05:13:40.8±1.0, 43°.53N±0°.03×44°.23E±0°.02, h8km±8km, n28, σ1°11/56, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDR	**Stavd-Durt**	**0.20**	**218**	*i* Pg	**Pg**	**05 13 44.4**	**-0.5**
STDR				eSg	**Sg**	**05 13 49.1**	**+1.5**
PRTR	**Priterechnaya**	**0.23**	**10**	ePg	**Pg**	**05 13 45.1**	**-0.3**
PRTR				eSg	**Sg**	**05 13 49.9**	**+1.3**
BTKR	**Batakoyurt**	**0.27**	**124**	*i* Pg	**Pg**	**05 13 44.8**	**-1.5**
BTKR				eSg	**Sg**	**05 13 50.1**	**+0.1**
ARNR	**Ardon**	**0.35**	**173**	ePg	**Pg**	**05 13 47.4**	**-0.2**
ARNR				eSg	**Sb**	**05 13 54.1**	**-0.9**
NCK	**Nalchik**	**0.46**	**267**	ePg	**Pg**	**05 13 49.5**	**-0.3**
NCK				eSg	**Sb**	**05 13 59.0**	**+0.8**
VLKR	**Vladikavkaz**	**0.58**	**145**	ePg	**Pg**	**05 13 52.0**	**0.0**
VLKR				eSg	**Sb**	**05 14 03.3**	**+1.6**
KBTC	**Kuba-Taba**	**0.66**	**296**	ePg	**Pg**	**05 13 53.4**	**-0.3**
KBTC				eSg	**Sb**	**05 14 04.6**	**+0.5**
LACR	**Lac**	**0.70**	**176**	ePg	**Pg**	**05 13 53.9**	**-0.4**
LACR				eSg	**Sb**	**05 14 06.7**	**+1.5**
MTEO	**Meteo**	**0.87**	**165**	P	**Pg**	**05 13 56.5**	**-1.2**
MTEO				S	**Sb**	**05 14 11.3**	**+0.8**
KBZ	**Khabaz**	**0.99**	**282**	*i* Pg	**Pg**	**05 13 58.5**	**-1.3**
KBZ				eSg	**Sb**	**05 14 14.1**	**+0.8**
SHTL	**Shatili**	**1.10**	**142**	P	**Pg**	**05 13 60.0**	**-2.0**
SHTL				S	**Sb**	**05 14 17.0**	**+0.3**
SHA1	**Shidzhatmaz**	**1.16**	**281**	*i* Pg	**Pg**	**05 14 01.5**	**-1.7**
SHA1				eSg	**Sb**	**05 14 18.8**	**+0.2**
GROC	**Groznyy**	**1.19**	**105**	ePg	**Pn**	**05 14 05.0**	**+1.3**
GROC				eSg	**Sn**	**05 14 24.2**	**+4.2**
KIV0	**Kislovodsk Arr**	**1.19**	**292**	ePg	**Pg**	**05 14 01.9**	**-1.8**
KIV0				eSg	**Sn**	**05 14 20.1**	**-0.3**
KIV	**Kislovodsk**	**1.20**	**292**	ePg	**Pg**	**05 14 02.0**	**-1.8**
KIV				eSg	**Sn**	**05 14 20.4**	**-0.1**
DVE	**Vedeno**	**1.50**	**112**	ePg	**Pn**	**05 14 08.1**	**0.0**
DVE				eSg	**Sg**	**05 14 28.5**	**-0.5**
BTLR	**Botlikh**	**1.69**	**120**	ePg	**Pn**	**05 14 09.8**	**-1.0**
	8.0nm,0.3s						
BTLR				eSg	**Sb**	**05 14 33.2**	**-0.5**
	120nm,0.2s						
BTLR	**Botlikh**	**1.69**	**120**	ePg	**Pn**	**05 14 10.4**	**-0.4**
BTLR				eSg	**Sb**	**05 14 34.2**	**+0.4**
DLMR	**Dylym**	**1.81**	**104**	ePg	**Pb**	**05 14 13.5**	**-0.7**
	61nm,0.5s						
DLMR				eSg	**Sg**	**05 14 40.1**	**+1.1**
	34nm,0.5s						
UNCR	**Uncukul**	**2.05**	**112**	ePn	**Pn**	**05 14 16.4**	**+0.8**
	8.0nm,0.3s						
UNCR				eSn	**Sb**	**05 14 44.7**	**+0.9**
	13nm,0.4s						
UNCR	**Uncukul**	**2.05**	**112**	ePg	**Pn**	**05 14 16.4**	**+0.8**
UNCR				eSg	**Sb**	**05 14 44.7**	**+0.9**
XNZR	**Khunzakh**	**2.06**	**118**	*i* Pn	**Pn**	**05 14 15.8**	**-0.2**
	6.0nm,0.3s						
XNZR				eSn	**Sb**	**05 14 43.6**	**-0.9**
	59nm,0.7s						
XNZR	**Khunzakh**	**2.06**	**118**	*i* Pg	**Pn**	**05 14 15.8**	**-0.2**
XNZR				eSg	**Sb**	**05 14 43.6**	**-0.9**
KRNR	**Karanay**	**2.08**	**109**	ePn	**Pn**	**05 14 16.8**	**+0.7**
	3.0nm,0.8s						
KRNR				eSn	**Sb**	**05 14 45.4**	**+0.5**
	10.0nm,0.4s						
KRNR	**Karanay**	**2.08**	**109**	ePg	**Pn**	**05 14 16.8**	**+0.7**
KRNR				eSg	**Sb**	**05 14 45.4**	**+0.5**
ARKR	**Arakani**	**2.23**	**114**	ePn	**Pn**	**05 14 18.0**	**-0.1**
	3.0nm,0.5s						
ARKR				eSn	**Sb**	**05 14 47.9**	**-1.2**
	24nm,0.2s						
ARKR	**Arakani**	**2.23**	**114**	ePg	**Pn**	**05 14 18.0**	**-0.1**
ARKR				eSg	**Sb**	**05 14 47.9**	**-1.2**
KMKR	**Kumukh**	**2.53**	**122**	ePn	**Pn**	**05 14 21.1**	**-1.3**
	7.0nm,0.9s						
KMKR				eSn	**Sn**	**05 14 53.4**	**-0.2**
	239nm,0.1s						

IDC 18 06:04:25.8±2.7, 54°.15N×86°.45E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.5km s-min=12.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**259**	I	I	06 09 30.0	
	baz=80,slow=328,SNR=14						
ZALV	**Zalesovo Beam**	**0.98**	**259**	Pg	Pg	06 04 43.5	-1.1
	0.9nm,0.3s,baz=77,slow=16,SNR=9.2						
ZALV				Lg	Lg	06 04 58.6	
	3.2nm,0.3s,baz=76,slow=31,SNR=18						
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn	Pn	06 05 56.4	+0.7
	0.1nm,0.3s,baz=55,slow=14,SNR=5.7						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	06 06 21.8	+1.0
	0.2nm,0.3s,baz=24,slow=11,SNR=7.1						
MKAR				Sn	Sn	06 07 50.0	0.0
	0.1nm,0.3s,baz=24,slow=30,SNR=3.8						
MKAR				Lg	Lg	06 08 35.0	
	baz=27,slow=27						
	0.2nm,0.3s						

IDC 18 06:10:48.0±8.4, 55°.07S×129°.99W, h0km, mb3.8/2, mbtmp3.8/2, MS3.6/5, Error ellipse: s-maj=813.1km s-min=120.5km az=150.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**38.89**	**262**	LR	LR	06 30 09.3	
	comp=Z,59nm,20.1s,baz=89,slow=30						
URZ	**Urewera**	**38.96**	**273**	LR	LR	06 30 16.1	
	comp=Z,82nm,18.8s,baz=210,slow=30						
PPT	**Papeete**	**40.33**	**330**	LR	LR	06 30 59.7	
	comp=Z,85nm,18.3s,baz=116,slow=30						
H03S2	**Juan Fernandez**	**41.04**	**80**	T	T	07 02 29.6	
	baz=222,slow=74,SNR=51						
H03S1	**Juan Fernandez**	**41.04**	**80**	T	T	07 02 43.0	
	baz=222,slow=74,SNR=52						
H03S3	**Juan Fernandez**	**41.05**	**80**	T	T	07 02 30.0	
	baz=222,slow=74,SNR=52						
H03N3	**Juan Fernandez**	**41.32**	**80**	T	T	07 02 58.9	
	baz=225,slow=72,SNR=104						
H03N2	**Juan Fernandez**	**41.32**	**80**	T	T	07 03 00.6	
	baz=225,slow=72,SNR=141						
H03N1	**Juan Fernandez**	**41.34**	**80**	T	T	07 03 00.5	
	baz=225,slow=72,SNR=113						
SNAA	**Sanae**	**48.23**	**160**	LR	LR	06 38 34.6	
	comp=Z,46nm,19.1s,baz=189,slow=35						
ASAR	**Alice Springs**	**74.31**	**251**	P	P	06 22 27.6	+0.3
	0.9nm,0.8s,baz=147,slow=6.0,SNR=6.4						
	0.9nm,0.8s						
H01W1	**Cape Leeuwin H**	**74.95**	**230**	T	T	07 45 29.2	
	baz=145,slow=75,SNR=13						
H01W2	**Cape Leeuwin H**	**74.95**	**230**	T	T	07 45 28.5	
	baz=145,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**74.97**	**230**	T	T	07 45 32.4	
	baz=145,slow=75,SNR=11						
WRA	**Warramunga Arr**	**77.06**	**254**	P	P	06 22 42.9	-0.2
	0.8nm,0.8s,baz=142,slow=5.4,SNR=11						
	0.8nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**90.73**	**302**	T	T	08 03 50.4	
	baz=148,slow=75,SNR=10.0						
H11S3	**WAKE ISLAND Hy**	**90.74**	**302**	T	T	08 03 47.2	
	baz=148,slow=75,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**90.75**	**302**	T	T	08 03 48.5	
	baz=148,slow=75,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**91.67**	**303**	T	T	08 04 53.5	
	baz=147						
H11N1	**WAKE ISLAND Hy**	**91.68**	**303**	T	T	08 04 59.2	
	baz=147						
H11N2	**WAKE ISLAND Hy**	**91.69**	**303**	T	T	08 04 53.0	
	baz=147						
NVAR	**Mina Array Bea**	**93.67**	**9**	LR	LR	06 57 44.2	
	comp=Z,57nm,18.2s,baz=316,slow=30						
SONM	**Songino Array**	**144.99**	**282**	PKP	PKPbc	06 30 25.6	0.0
	0.2nm,0.4s,baz=114,slow=3.5,SNR=2.3						
MKAR	**Makanchi Array**	**158.20**	**261**	PKPab	PKPab	06 31 19.7	-0.4
	0.5nm,0.7s,baz=131,slow=3.4,SNR=4.0						

IDC 18 06:42:27.5±2.1, 2°.19S×126°.14E, h0km, mb3.1/2, mbtmp3.0/3, ML2.8/1, Error ellipse: s-maj=175.3km s-min=28.7km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.38**	**156**	P	P	06 46 53.9	-1.1
	baz=334,slow=12,SNR=4.7						
	0.1nm,0.5s						
ASAR	**Alice Springs**	**22.63**	**161**	P	P	06 47 31.2	+1.0
	0.2nm,0.4s,baz=345,slow=12,SNR=5.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**62.12**	**327**	P	P	06 52 50.2	-0.2
	0.2nm,0.5s,baz=109,slow=7.1,SNR=1.7						
	0.2nm,0.5s						

*NNC **18** 07:14:53.2±7.1, 54°.16N×86°.59E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=57.4km s-min=32.6km az=20.0, Suspected Mining explosion.*
*IDC **18** 07:14:54.8±2.4, 54°.08N×86°.47E, h0km, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=20.4km s-min=12.8km az=57.0.*

ISC 18 07:14:52.7±4.4, 54°.2N±0°.2×86°.7E±0°.2, h0km, n7, σ2°93/9, 3C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**260**	I	I	07 20 10.0	
	baz=83,slow=327,SNR=4.8						
ZAA0	**Zalesovo Array**	**1.12**	**260**	⇓P	**Pg**	**07 15 13.0**	**-1.2**
	0.3nm,0.3s						
ZAA0				⇑S	**Sb**	**07 15 27.9**	**-2.3**
	2.4nm,0.7s						
ZALV	**Zalesovo Beam**	**1.12**	**260**	Pg	**Pg**	**07 15 12.3**	**-1.9**
	1.7nm,0.3s,baz=84,slow=18,SNR=14						
ZALV				Lg	Lg	07 15 27.6	
	3.0nm,0.3s,baz=77,slow=29,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.12**	**238**	⇓Pn	**Pn**	**07 16 25.7**	**+1.3**
	2.6nm,0.5s						
KURBB				⇑Sn	**Sn**	**07 17 40.6**	**+5.6**
	3.8nm,0.6s						
KURBB				⇑Lg	Lg	07 18 06.6	
	3.3nm,0.6s						
KURBB	**Kurchatov Arra**	**6.12**	**238**	Pn	**Pn**	**07 16 25.5**	**+1.1**
	0.2nm,0.3s,baz=56,slow=14,SNR=26						
KURBB				Lg	Lg	07 18 05.0	
	baz=56,slow=28,SNR=4.5						
	1.9nm,0.4s						
MK31	**Makanchi Array**	**7.89**	**203**	⇓Pn	**Pn**	**07 16 49.6**	**+0.9**
	0.1nm,0.3s,baz=24,slow=12,SNR=14						
MK31				⇓Sn	**Sn**	**07 18 16.4**	**-2.3**
	0.3nm,0.5s						
MK31				⇓Lg	Lg	07 18 58.2	
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**7.89**	**203**	Pn	**Pn**	**07 16 49.9**	**+1.2**
	0.4nm,0.3s,baz=24,slow=14,SNR=12						
MKAR				Lg	Lg	07 19 01.0	
	0.1nm,0.3s,baz=21,slow=36,SNR=2.4						
	0.6nm,0.3s						

*IDC **18** 07:35:06.2±3.1, 54°.19N×87°.33E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=26.4km s-min=17.0km az=63.0*
*NNC **18** 07:35:06.6±3.7, 54°.13N×87°.10E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=30.0km s-min=20.1km az=17.0, Suspected Mining explosion.*

ISC 18 07:35:06.6±3.8, 54°.3N±0°.2×87°.0E±0°.1, h0km, n8, σ1°90/12, 9C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**255**	I	I	07 44 50.0	
	baz=79,slow=327,SNR=4.2						
ZAA0	**Zalesovo Array**	**1.34**	**255**	⇑P	**Pn**	**07 35 30.4**	**-2.1**
	0.4nm,0.3s						
ZAA0				⇑S	**Sg**	**07 35 51.2**	**+1.7**
	1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**1.34**	**255**	Pg	**Pn**	**07 35 32.3**	**-0.2**
	1.4nm,0.3s,baz=83,slow=12,SNR=10						
ZALV				Lg	Lg	07 35 54.6	
	2.2nm,0.3s,baz=77,slow=28,SNR=4.0						
KURK	**Kurchatov**	**6.25**	**238**	⇑Pn	**Pn**	**07 36 41.8**	**+1.8**
	1.5nm,0.7s						
KURK				⇓Sn	**Sn**	**07 37 52.0**	**-0.2**
	2.7nm,0.9s						
KURK				⇑Lg	Lg	07 38 23.9	
	4.9nm,0.8s						
KURBB	**Kurchatov Arra**	**6.36**	**238**	⇑Pn	**Pn**	**07 36 42.6**	**+1.1**
	0.7nm,0.5s						
KURBB				⇑Sn	**Sn**	**07 37

MKAR	**Makanchi Array**	**67.68**	**323**	P	P	08 00 29.0	0.0
	0.2nm,0.5s,baz=123,slow=7.7,SNR=1.7						
	0.2nm,0.5s						

DJA 18 08:20:14.7±0.9, 8°S±26°×11°7E±°, h280km±5km, M3.9/8, mb4.1/2, MLv3.8/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.71**	**220**	P	Pn	08 20 53.0	+1.3
TWSI				S	S	08 21 23.0	+2.0
PLAI	**Plampang**	**0.76**	**146**	P	Pn	08 20 52.1	+0.2
PLAI				S	S	08 21 21.8	+0.4
SRBI	**Singaraja**	**2.12**	**273**	P	Pn	08 21 00.7	0.0
DNP	**Denpasar**	**2.17**	**257**	P	Pn	08 20 59.9	-1.3
DNP				S	S	08 21 35.9	-2.2
IGBI	**Denpasar**	**2.27**	**254**	P	Pn	08 21 01.9	-0.1
IGBI				S	S	08 21 38.5	-1.1
JAGI	**Jajag, Banyuwa**	**3.18**	**265**	P	Pn	08 21 10.5	-0.5
BASI	**Baing, Sumba**	**3.77**	**123**	P	Pn	08 21 17.3	-0.1
GMJI	**Gumukmas**	**3.87**	**268**	P	Pn	08 21 18.8	+0.4
UGM	**Wanagama**	**6.77**	**272**	P	Pn	08 21 53.8	+0.8
	276nm,2.0s,1.3nm						

IDC 18 08:26:27.1±3.1, 20°91S×178°16W, h509km±63km, mb2.8/4, mbtmp3.7/5, Error ellipse: s-maj=141.5km s-min=39.9km az=26.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.77**	**311**	P	P	08 27 52.7	0.0
	7.5nm,0.6s,baz=112,slow=16,SNR=8.8						
STKA	**Stephens Creek**	**37.48**	**245**	P	P	08 32 56.4	-0.5
	0.7nm,0.3s,baz=90,slow=12,SNR=3.2						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**44.28**	**257**	P	P	08 33 51.1	-0.3
	0.7nm,0.7s,baz=94,slow=8.7,SNR=9.5						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**44.40**	**262**	P	P	08 33 52.5	+0.2
	0.9nm,0.8s,baz=94,slow=8.2,SNR=7.7						
	0.9nm,0.8s						
QSPA	**South Pole Qui**	**69.17**	**180**	P	P	08 36 42.0	+0.1
	0.7nm,1.1s,baz=50,slow=1.6,SNR=1.5						
	0.7nm,1.1s						

KRSC 18 08:30:36.9±0.5, 55°38N×166°14E, h32km±3km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.20**	**209**	*e*P	Pn	08 30 43.6	0.0
BKI				*e*S	Sn	08 30 48.7	+0.8
KBTR	**Krutoberegovo**	**2.05**	**295**	*e*P	Pn	08 31 10.8	+1.7
KBTR				*e*S	Sn	08 31 35.9	+2.3
KBG	**Krutoberegovo**	**2.13**	**296**	*e*P	Pn	08 31 11.9	+1.7
MKZ	**Mys Kozlova**	**2.67**	**254**	*e*P	Pn	08 31 20.5	+2.9
MKZ				*e*S	Sn	08 31 52.3	+3.4
BDR	**Baidarnaya**	**3.02**	**295**	*e*P	Pn	08 31 25.9	+3.5
BDR				*e*S	Sn	08 32 01.6	+4.1
BZGR	**Bezymyannyi-Gr**	**3.14**	**283**	*e*P	Pn	08 31 27.9	+3.8
CIRR	**Tsirk**	**3.14**	**286**	*e*P	Pn	08 31 28.0	+3.8
BZP	**Bezymyannyi-Pe**	**3.22**	**282**	*e*P	Pn	08 31 28.9	+3.6
KLY	**Klyuchi**	**3.23**	**289**	*e*P	Pn	08 31 27.6	+2.2
KLY				*e*S	Sn	08 32 04.1	+1.4
BZMR	**Bezymyannaya**	**3.25**	**282**	*e*P	Pn	08 31 29.1	+3.4
BZWR	**Bezymyannyi-We**	**3.25**	**283**	*e*P	Pn	08 31 28.9	+3.2
BZWR				*e*S	Sn	08 32 08.0	+4.6
TUMD	**Tumrok D**	**3.29**	**269**	*e*P	Pn	08 31 30.0	+3.8
KIRR	**Kirishev**	**3.33**	**282**	*e*P	Pn	08 31 30.8	+3.9
KZV	**Kizimen**	**3.36**	**268**	*e*P	Pn	08 31 31.1	+3.9
KMNR	**Kamenistaya**	**3.37**	**279**	*e*P	Pn	08 31 31.3	+3.9
KPT	**Kopyto**	**3.40**	**282**	*e*P	Pn	08 31 31.7	+4.0
TUMR	**Tumrok**	**3.43**	**271**	*e*P	Pn	08 31 32.0	+3.9
KOZ	**Kozyrevsk**	**3.61**	**283**	*e*P	Pn	08 31 34.8	+4.3
SRDR	**Sredinnyy**	**3.74**	**287**	*e*P	Pn	08 31 36.6	+4.2
SPN	**Mys Shipunski**	**4.26**	**240**	*e*S	Sn	08 32 32.7	+4.7
NLC	**Nalytchevo**	**4.56**	**244**	*e*P	Pn	08 31 48.4	+4.9
NLC				*e*S	Sn	08 32 40.6	+5.2
SDLR	**Sedlovina**	**4.74**	**247**	*e*P	Pn	08 31 50.5	+4.3
SDLR				*e*S	Sn	08 32 45.0	+4.9
SMAR	**Somma**	**4.79**	**247**	*e*P	Pn	08 31 51.4	+4.4
KRER	**Koryakskii**	**4.80**	**247**	*e*P	Pn	08 31 51.7	+4.6
KRER				*e*S	Sn	08 32 46.5	+4.9
UGLR	**Uglovaya**	**4.81**	**246**	*e*P	Pn	08 31 51.8	+4.7
UGLR				*e*S	Sn	08 32 46.5	+4.8
AVH	**Avacha**	**4.83**	**247**	*e*P	Pn	08 31 51.8	+4.5
AVH				*e*S	Sn	08 32 47.8	+5.7
KRX	**Arik**	**4.83**	**248**	*e*P	Pn	08 31 52.0	+4.6
KOK	**Koryaka**	**4.87**	**248**	*e*P	Pn	08 31 52.5	+4.6
DALK	**Dalny**	**4.94**	**245**	*e*P	Pn	08 31 53.1	+4.4
DALK				*e*S	Sn	08 32 50.2	+5.5
GNL	**Ganaly**	**5.07**	**254**	*e*P	Pn	08 31 55.4	+4.7
KRMR	**Karymshinskiy**	**5.36**	**245**	*e*P	Pn	08 31 59.4	+4.8
KRMR				*e*S	Sn	08 33 00.9	+5.8
GRL	**Gorelyy**	**5.54**	**243**	*e*P	Pn	08 32 01.7	+4.5
GRL				*e*S	Sn	08 33 04.8	+5.0
ASAK	**Asacha**	**5.72**	**242**	*e*P	Pn	08 32 04.7	+5.0
ASAK				*e*S	Sn	08 33 09.1	+4.9

AFAD 18 08:32:49.3±0.0, 39°65N×29°45E, h7km±3km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDZ	**Kutahya, Merke**	**0.37**	**112**	P	Pg	08 32 56.4	-0.1
ANDZ				S	Sg	08 33 02.7	+1.2
ANDZ				*i* AML	AML	08 33 04.0	
	comp=N,55nm,0.4s						
ULDT	**Uludag**	**0.55**	**334**	P	Pg	08 32 59.7	-0.2
ULDT				S	Sb	08 33 08.3	-1.2
ULDT				*i* AML	AML	08 33 09.0	
	comp=N,27nm,0.5s						
ULDT				*i* AML	AML	08 33 12.0	
	comp=E,20nm,0.5s						
BILE	**Bilecik/Merkez**	**0.60**	**32**	P	Pg	08 33 00.5	-0.4
BILE				*i* AML	AML	08 33 32.0	
	comp=N,19nm,1.1s						
IGD	**Bursa**	**0.64**	**342**	P	Pb	08 33 02.3	-0.5
IGD				S	Sg	08 33 09.8	-0.2
HISA	**Bilecik-Osmane**	**0.89**	**24**	P	Pg	08 33 06.2	-0.2
HISA				S	Sb	08 33 19.1	-0.1
HISA				*i* AML	AML	08 33 24.0	
	comp=E,30nm,0.4s						
HISA				*i* AML	AML	08 33 27.0	
	comp=N,24nm,0.5s						
USAK	**Uak-Merkez**	**1.00**	**200**	P	Pg	08 33 06.3	-2.2
USAK				*i* AML	AML	08 33 42.0	
	comp=E,42nm,1.1s						
USAK				*i* AML	AML	08 33 45.0	
	comp=N,23nm,1.2s						
BAND	**Balkesir-Ban**	**1.25**	**304**	P	Pg	08 33 13.6	+0.3
BAND				S	Sn	08 33 31.3	+0.9

*ISK **18** 08:33:23.8, 40°52N×31°70E, h0km, ML2.1/5, Suspected Mining explosion.*

AFAD 18 08:33:25.5±0.0, 40°51N×31°59E, h7km±4km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUVA	**Yuva-Kibriscik**	**0.14**	**147**	Pg	Pg	08 33 27.7	-0.8
KIBS	**BOLU**	**0.22**	**113**	P	Pg	08 33 29.6	-0.3
KIBS	**BOLU**	**0.22**	**113**	P	Pg	08 33 29.6	-0.3
KIBS				S	Sg	08 33 33.9	+1.0
KIBS				*i* AML	AML	08 33 36.0	
	comp=N,221nm,0.3s						
KIBS				*i* AML	AML	08 33 37.0	
	comp=E,252nm,0.3s						
BOLU	**Bolu-Merkez-Mu**	**0.28**	**14**	P	Pg	08 33 31.5	+0.5
BOLU				S	Sb	08 33 37.8	-0.1
BOLU				*i* AML	AML	08 33 41.0	
	comp=N,113nm,0.3s						
BOLU				*i* AML	AML	08 33 41.0	
	comp=E,134nm,0.3s						
MDUB	**Mudurnu**	**0.30**	**263**	Pg	Pg	08 33 31.7	+0.3
MDUB				Sg	Sb	08 33 38.3	-0.2
BTAS	**Taskesti**	**0.45**	**278**	P	Pg	08 33 34.5	+0.2
BTAS				S	Sb	08 33 42.3	-0.5
BTAS				*i* AML	AML	08 33 43.0	
	comp=E,93nm,0.3s						
YIGI	**Dzce**	**0.47**	**347**	P	Pg	08 33 33.1	-1.4
YIGI	**Dzce**	**0.47**	**347**	P	Pg	08 33 32.9	-1.6
YIGI				S	Sg	08 33 40.9	+0.2
BCAM	**Yenicaga**	**0.48**	**50**	P	Pg	08 33 35.4	+0.7
SAHE	**Sakarya_HENDEK**	**0.66**	**302**	P	Pg	08 33 38.2	0.0
SAHE				*i* AML	AML	08 33 56.0	
	comp=E,14nm,0.5s						
GULT	**Gulveren**	**0.82**	**265**	Pg	Pb	08 33 41.9	-0.3
GULT				Sg	Sn	08 33 54.9	-1.1
SRCK	**Saricakaya, Es**	**0.87**	**238**	Pg	Pb	08 33 42.6	-0.3
SRCK				Sg	Sn	08 33 56.1	-1.0
SVRH	**Sivrihisar-ESK**	**1.06**	**183**	Pg	Pg	08 33 45.2	-0.6
SVRH				Sg	Sb	08 34 00.1	-0.2

*IDC **18** 08:40:24.9±1.2, 55°48S×29°31W, h0km, mb4.0/3, mbtmp4.0/4, ML3.5/1, MS3.2/2, Error ellipse: s-maj=61.3km s-min=26.3km az=84.0*

ISC 18 08:40:29.4±1.4, 55°5S±0°2×29°3W±0°4, h28km, n18, σ1§95/10, mb3.8/3, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.80**	**157**	⇑P	**P**	**08 44 38.4**	**+3.2**
VNA3	**Neumayer Olymp**	**17.96**	**159**	⇑P	**P**	**08 44 40.1**	**+3.2**
SNAA	**Sanae**	**19.77**	**155**	⇑P	**Pn**	**08 44 57.3**	**-1.2**
SNAA	**Sanae**	**19.77**	**155**	P	**P**	**08 44 56.7**	**-0.2**
	0.2nm,0.3s,baz=303,slow=10,SNR=15						
	3.9nm,0.7s						
TROLL	**Troll, Antarti**	**21.31**	**153**	⇑P	**P**	**08 45 13.8**	**+0.2**
	comp=Z,658nm,0.8s						
H09N1	**TRISTAN DA CUN**	**21.71**	**39**	T	T	09 06 24.5	
	SNR=12						
PLCA	**Paso Flores**	**30.73**	**281**	LR	LR	08 58 54.4	
	comp=Z,36nm,18.2s,baz=42,slow=36						
QSPA	**South Pole Qui**	**34.80**	**180**	P	**P**	**08 47 17.2**	**0.0**
	comp=Z,9.1nm,1.0s,baz=181,slow=1.7,SNR=30						
	comp=Z,9.1nm,1.0s						
CFA	**Coronel Fontan**	**36.23**	**295**	LR	LR	09 04 18.6	
	comp=Z,46nm,19.2s,baz=270,slow=40						
MAW	**Mawson**	**41.33**	**145**	P	**P**	**08 48 10.8**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=245,slow=6.8,SNR=2.3						
	comp=Z,0.8nm,0.6s						
H10S2	**ASCENSION HYDR**	**47.80**	**20**	T	T	09 40 43.0	
	baz=189						
H10S3	**ASCENSION HYDR**	**47.81**	**20**	T	T	09 40 46.3	
	baz=31						
H10N1	**ASCENSION HYDR**	**48.92**	**20**	T	T	09 42 25.7	
	baz=196,slow=76,SNR=6.7						
H10N3	**ASCENSION HYDR**	**48.92**	**20**	T	T	09 42 07.9	
	baz=196,slow=76,SNR=12						
H10N2	**ASCENSION HYDR**	**48.94**	**20**	T	T	09 42 11.4	
	baz=196,slow=76,SNR=9.5						
TORD	**Torodi Ar. Bea**	**73.14**	**32**	P	**P**	**08 51 58.3**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=200,slow=5.2,SNR=4.0						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**148.84**	**313**	PKPbc	**PKPbc**	**09 00 12.1**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=123,slow=1.5,SNR=26						
SONM	**Songino Array**	**151.88**	**87**	PKPbc	**PKPbc**	**09 00 19.4**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=219,slow=3.7,SNR=1.8						

*MOS **18** 09:07:13.6±1.0, 46°26N×145°31E, h17km, mb4.9/27, MS3.5/6, Error ellipse: s-maj=8.2km s-min=4.9km az=99.5*
*BJI **18** 09:07:14.5±0.0, 46°30N×145°30E, h10km, mb4.5/47, mB4.8/24, Ms4.3/22, Ms7 4.1/22*
*JMA **18** 09:07:15.9±0.2, 46°1N±0°8×145°3E±0°7, h22km, MV4.7/28, MW4.7/28, SOUTHERN SEA OF OKHOTSK*
*NIED **18** 09:07:15.9, 46°12N×145°28E, h22km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.31; $M_{\theta\theta}$-4.00; $M_{\phi\phi}$0.69; $M_{r\theta}$3.55; $M_{\theta\phi}$-0.57; $M_{\phi r}$1.39; Fault plane solution: $M_0$5.32000×10^{15} NP1:ϕ_s72.00000°, δ68.00000°, λ80.00000°. NP2:ϕ_s278.00000°, δ24.00000°, λ114.00000°.*
*NEIC **18** 09:07:15.1±1.5, 46°35N±0°07×145°20E±0°08, h9km±3km, mb4.7/172 Error ellipse: s-maj=9.9km s-min=7.4km az=154.0*
*SKHL **18** 09:07:16.7±0.1, 46°20N×145°30E, h39km±5km, mb5.2/8, ms4.4/3, msh4.9/4*
*IDC **18** 09:07:17.7±0.5, 46°33N×145°20E, h28km±2km, mb4.3/26, mbtmp4.3/32, ML3.3/6, MS3.5/45, Error ellipse: s-maj=11.7km s-min=10.1km az=169.0*

ISC 18 09:07:16.4±0.3, 46°27N±0°03×145°33E±0°03, h23km±1km, h23km:pP-P, n568, σ1§20/543, mb4.7/143, MS3.6/50, 17C-10D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.90**	**292**		**Pn**	**09 07 46.2**	**-1.2**
YSS				Sn	**Sn**	**09 08 08.1**	**-2.4**
YSS	**Yuzh-Sakhalins**	**1.90**	**292**	*i* PN	**Pn**	**09 07 46.3**	**-1.1**
YSS				*e*S	**Sb**	**09 08 10.8**	**-2.9**
YSS				pmax	pmax		
	comp=Z,1μm,3.0s						
YSS				pmax	pmax		
	comp=E,500nm,2.6s						
YSS				pmax	pmax		
	comp=Z,700nm,1.1s						
YSS				smax	smax		
	comp=E,2μm,3.2s						
YSS				smax	smax		
	comp=E,1μm,0.8s						
YSS	**Yuzh-Sakhalins**	**1.90**	**292**	*e*P	**Pn**	**09 07 46.2**	**-1.2**
YSS				AMB	AMB	09 07 47.0	
	comp=E,320nm,0.2s						
YSS				*e*S	**Sn**	**09 08 08.2**	**-2.4**
YSS				A	A	09 08 10.6	
	comp=E,2μm,0.5s						
YSS				A	A	09 08 10.6	
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	**2.06**	**119**	*e*PN	**Pn**	**09 07 47.9**	**-1.7**
KUR				pmax	pmax		
	comp=Z,141nm,0.2s						
KUR				pmax	pmax		
	comp=N,59nm,0.1s						
KUR				pmax	pmax		
	comp=E,127nm,0.2s						
KUR	**Kuril'sk**	**2.06**	**119**	*e*P	**Pn**	**09 07 47.8**	**-1.8**
KUR				AMB	AMB	09 07 48.4	
	comp=E,100nm,0.3s						
KUR				*e*S	**Sn**	**09 08 11.2**	**-3.3**
KUR				A	A	09 08 12.5	
	comp=E,3μm,2.0s						
KUR				A	A	09 08 12.5	
	comp=E,2μm,2.0s						
KUR				A	A	09 08 14.0	
	comp=E,1μm,0.2s						
KUR				A	A	09 08 14.0	
	comp=E,890nm,0.2s						
RUSJ	**Misakicho**	**2.16**	**181**	⇓*i* PN	**Pn**	**09 07 49.4**	**-1.6**
RUSJ				*i* S	**Sn**	**09 08 14.2**	**-2.9**
YUK	**Yuzh-Kuril'sk**	**2.27**	**170**	*d i* PN	**Pn**	**09 07 50.6**	**-1.8**
YUK	**Yuzh-Kuril'sk**	**2.27**	**170**	*i* P	**Pn**	**09 07 50.6**	**-1.8**
YUK				AMB	AMB	09 07 52.4	
	comp=E,1μm,0.4s						
YUK				*i* S	**Sn**	**09 08 16.1**	**-3.5**
YUK				A	A	09 08 18.7	
	comp=E,4μm,2.0s						
YUK				A	A	09 08 18.7	
	comp=E,5μm,2.0s						
YUK				A	A	09 08 20.5	
	comp=E,890nm,0.3s						
YUK				A	A	09 08 20.5	
	comp=E,2μm,0.3s						
YUK				AMS	AMS	09 09 08.0	
	comp=E,5μm,10.0s						
YUK				AMS	AMS	09 09 08.0	
	comp=E,5μm,10.0s						
YUK				AMS	AMS	09 09 08.0	
	comp=E,4μm,10.0s						
JSE	**Soyaes**	**2.33**	**237**	*e*P	**Pn**	**09 07 52.4**	**-0.8**
JSE				*e*S	**Sn**	**09 08 19.3**	**-1.8**
JRA	**Rausu**	**2.33**	**184**	*e*P	**Pn**	**09 07 52.1**	**-1.2**
JTKR	**Abashiri--Toko**	**2.51**	**204**	*e*P	**Pn**	**09 07 54.4**	**-1.4**
JWK2	**Keihoku**	**2.58**	**250**	*e*S	**Sn**	**09 08 27.0**	**-0.4**
SHO	**Shikotan**	**2.62**	**155**	⇓*i* PN	**Pn**	**09 07 56.4**	**-1.0**
SHO				*i* S	**Sn**	**09 08 26.7**	**-1.8**
SHO				pmax	pmax		
	comp=N,3μm,0.3s						
SHO				pmax	pmax		
	comp=Z,4μm,0.3s						
SHO				pmax	pmax		
	comp=E,1μm,0.2s						
SHO				smax	smax		
	comp=E,1μm,0.3s						
SHO				smax	smax		
	comp=N,3μm,0.5s						
SHO	**Shikotan**	**2.62**	**155**	*i* P	**Pn**	**09 07 56.6**	**-0.8**
SHO				AMB	AMB	09 07 57.5	
	comp=N,4μm,0.3s						
SHO				*i* S	**Sn**	**09 08 26.5**	**-2.0**
SHO				A	A	09 08 28.2	
	comp=N,3μm,0.4s						
SHO				A	A	09 08 28.2	
	comp=N,3μm,0.4s						
JMP	**Maruseppu**	**2.65**	**212**	A	A	09 07 56.8	
	comp=E,2.0nm,4.2s,comp=N,2.0nm,3.5s						
JKA	**Kamikawa-asahi**	**2.89**	**223**	**Pn**	**Pn**	**09 08 01.0**	**0.0**
JKA	**Kamikawa-asahi**	**2.89**	**223**	*e*P	**Pn**	**09 08 01.0**	**0.0**
ASAJ	**Asahikawa**	**2.89**	**223**	PN	**Pn**	**09 08 01.0**	**0.0**
ASAJ	**Asahikawa**	**2.89**	**223**	Pn	**Pn**	**09 08 00.8**	**-0.2**
	comp=N,5.9nm,0.3s,baz=22,slow=9.5,SNR=52						
ASAJ				Sn	**Sn**	**09 08 31.1**	**-3.9**
	comp=N,60nm,0.3s,baz=46,slow=19,SNR=8.0						
	comp=N,37nm,0.6s						
NMR	**Nemuro--Hokkai**	**2.91**	**174**	⇓*i* PN	**Pn**	**09 08 00.1**	**-1.2**
NMR				*e*S	**Sn**	**09 08 33.9**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.91**	**174**	*i* P	**Pn**	**09 08 00.3**	**-1.0**
NMR				*e*S	**Sn**	**09 08 33.4**	**-2.2**
NEM2	**Nemuro 2**	**2.92**	**174**	*e*P	**Pn**	**09 08 00.4**	**-1.0**
NEM2				*e*S	**Sn**	**09 08 33.8**	**-1.9**
JKK2	**Kamakawa 2**	**3.01**	**218**	*e*P	**Pn**	**09 08 02.1**	**-0.7**
JKK2				*e*S	**Sn**	**09 08 36.2**	**-1.9**
JRBN	**Rebuntou**	**3.10**	**256**	*e*P	**Pn**	**09 08 03.9**	**+0.1**
JRBN				*e*S	**Sn**	**09 08 38.1**	**-1.9**
JAR	**Ashorobuto**	**3.17**	**201**	*e*P	**Pn**	**09 08 04.5**	**-0.4**
AKK	**Akkeshi**	**3.27**	**186**	*e*P	**Pn**	**09 08 05.4**	**-0.8**
JAK	**Akkeshi**	**3.30**	**188**	*e*P	**Pn**	**09 08 05.9**	**-0.7**
JAB	**Ashibetsu**	**3.54**	**220**	A	A	09 08 09.4	
	comp=E,2.0nm,2.2s,comp=N,3.0nm,4.2s						
UGL	**Uglegorsk**	**3.57**	**323**	*e*PN	**Pn**	**09 08 08.8**	**-1.6**
UGL				pmax	pmax		
	comp=Z,90nm,0.6s						
UGL				MLR	MLR		
	comp=E,4μm,9.0s						
UGL				MLR	MLR		
	comp=N,2μm,7.0s						
UGL				MLR	MLR		
	comp=Z,3μm,9.0s						
UGL	**Uglegorsk**	**3.57**	**323**	*e*P	**Pn**	**09 08 10.8**	**+0.4**
UGL				*e*S	**Sn**	**09 08 50.5**	**-1.3**
UGL				A	A	09 08 55.0	
	comp=Z,2μm,2.3s						
UGL				A	A	09 08 55.0	
	comp=Z,1μm,2.3s						
UGL				AMS	AMS	09 11 52.0	
	comp=Z,3μm,9.0s						
UGL				AMS	AMS	09 11 52.0	
	comp=Z,4μm,9.0s						
UGL				AMS	AMS	09 11 52.0	
	comp=Z,3μm,9.0s						
JCH	**Churui**	**3.91**	**202**	*e*P	**Pn**	**09 08 14.5**	**-0.6**
JNBK	**Urakawa-nobuka**	**4.39**	**206**	*e*P	**Pn**	**09 08 20.6**	**-1.0**
ERM	**Erimo**	**4.53**	**201**	Pn	**Pn**	**09 08 24.0**	**+0.4**
ERM	**Erimo**	**4.53**	**201**	*ce*PN	**Pn**	**09 08 24.3**	**+0.8**
ERM				pmax	pmax		
	comp=Z,101nm,1.0s						
TYV	**Tymovskoe**	**4.93**	**340**	*e*PN	Pn	09 08 16.9	-12
TYV				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TYV				pmax	pmax		
	comp=Z,100nm,2.5s						
TYV	**Tymovskoe**	**4.93**	**340**	*e*P	**Pn**	**09 08 28.5**	**-0.5**
TYV				*e*S	**Sn**	**09 09 24.7**	**-0.6**
TYV				A	A	09 09 35.3	
	comp=Z,300nm,3.3s						
TYV				A	A	09 09 35.3	
	comp=Z,300nm,3.3s						
TYV				AMS	AMS	09 11 13.0	
	comp=Z,2μm,14.0s						
TYV				AMS	AMS	09 11 13.0	
	comp=Z,2μm,14.0s						
TYV				AMS	AMS	09 11 13.0	
	comp=Z,2μm,14.0s						
JTM	**Tenmabayashi**	**6.29**	**211**	Pn	**Pn**	**09 08 48.0**	**+0.2**
JANG	**Nango**	**6.51**	**207**	*e*P	**Pn**	**09 08 51.4**	**+0.6**
GRNR	**Gornyy**	**7.43**	**311**	*e*PN	**Pn**	**09 09 00.2**	**-3.2**
GRNR				MLR	MLR		
	comp=E,250nm,10.0s						
GRNR				MLR	MLR		
	comp=N,400nm,20.0s						
GRNR				MLR	MLR		
	comp=Z,330nm,12.0s						
JMM	**Marumori**	**9.04**	**203**	Pn	**Pn**	**09 09 24.6**	**-0.9**
KLR	**Kul'dur**	**9.61**	**293**	*e*P	**Pn**	**09 09 34.6**	**+1.3**
KLR	**Kul'dur**	**9.61**	**293**	Pn	**Pn**	**09 09 32.2**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=100,slow=13,SNR=8.9						
KLR				LR	LR	09 13 14.2	
	comp=Z,222nm,21.0s,baz=106,slow=37						
	comp=Z,2.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**9.63**	**262**	*i* PN	**Pn**	**09 09 36.0**	**+2.4**
USRK	**Ussuriysk Ar.**	**9.63**	**262**	Pn	Pn	09 09 39.9	+6.3
	comp=Z,0.1nm,0.3s,baz=72,slow=11,SNR=1.5						
JSD	**Sado**	**9.75**	**215**	Pn	**Pn**	**09 09 36.1**	**+0.9**
PEA0B	**Petropavlovsk-**	**10.53**	**45**	Pn	**Pn**	**09 09 45.8**	**-0.1**
PEA0B	**Petropavlovsk-**	**10.53**	**45**	*i* PN	**Pn**	**09 09 47.5**	**+1.6**
PETK	**Petropavlovsk-**	**10.53**	**45**	Pn	**Pn**	**09 09 45.3**	**-0.6**
PETK	**Petropavlovsk-**	**10.53**	**45**	Pn	**Pn**	**09 09 45.3**	**-0.6**
PETK	**Petropavlovsk-**	**10.53**	**45**	Pn	**Pn**	**09 09 45.9**	**0.0**
	comp=Z,0.6nm,0.3s,baz=206,slow=7.6,SNR=7.1						
	comp=Z,2.1nm,0.6s						
MJB9	**Matsu-Tunnel**	**11.08**	**211**	Pn	**Pn**	**09 09 52.4**	**-1.1**
MAJO	**Matsushiro**	**11.08**	**211**	Pn	**Pn**	**09 09 52.2**	**-1.3**
MAJO	**Matsushiro**	**11.08**	**211**	PN	**Pn**	**09 09 52.2**	**-1.3**
MJAR	**Matsushiro Arr**	**11.08**	**211**	Pn	**Pn**	**09 09 52.5**	**-1.1**
	baz=31,slow=12,SNR=5.3						
MJAR				LR	LR	09 14 45.2	
	comp=Z,237nm,18.6s,baz=12,slow=40						
	comp=Z,2.3nm,0.6s						
MDJ	**Mudanjiang**	**11.18**	**267**	P	Pn	09 10 00.3	+5.5
MDJ				pP		09 10 02.5	
MDJ				sP		09 10 08.1	
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,120nm,6.3s						
MDJ				LR	LR		
	comp=Z,410nm,11.9s						
MDJ				LR	LR		
	comp=

comp=Z,2.9nm,0.7s
YAK Yakutsk 18.17 336 P **Pn** **09 11 25.7 -1.3**
YAK IAmb IAmb 09 11 40.1
comp=Z,36nm,0.5s
YAK Yakutsk 18.17 336 *e*P **P** **09 11 28.7 +1.6**
YAK *e*S **S** **09 14 50.6 -3.2**
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,20nm,1.4s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=Z,101nm,2.2s
YAK pmax pmax
comp=N,97nm,3.7s
YAK pmax pmax
comp=E,76nm,2.6s
YAK smax smax
comp=E,127nm,4.5s
YAK smax smax
comp=N,105nm,2.9s
YAK MLR MLR
comp=Z,82nm,13.0s
YAK MLR MLR
comp=N,116nm,23.0s
YAK MLR MLR
comp=E,141nm,23.0s
SHEM Shemya Is, Ala 19.69 60 LR LR 09 18 30.9
comp=E,45nm,21.9s,baz=266,slow=34
XLT XiLinHaoTe 20.73 274 *e*P **P** **09 11 55.6 +0.3**
XLT sP pwP 09 12 04.3 -0.7
XLT pmax pmax
comp=E,21nm,0.9s
XLT pmax pmax
comp=E,92nm,4.4s
XLT LR LR
comp=E,330nm,13.5s
XLT LR LR
comp=E,370nm,12.6s
BJI Beijing 22.08 264 P **P** **09 12 09.5 -0.2**
BJI pP **pP** **09 12 12.4 -2.8**
BJI pmax pmax
comp=E,5.0nm,0.8s
BJI pmax pmax
comp=E,56nm,3.8s
BJI LR LR
comp=E,140nm,13.3s
BJI LR LR
comp=E,100nm,13.7s
BJI LR LR
comp=E,160nm,12.5s
BOD Bodaibo 22.24 313 *e*P **P** **09 12 11.7 +0.4**
BOD pmax pmax
comp=Z,21nm,1.4s
TIA Tai'an 23.36 255 ⇓P **P** **09 12 25.0 +1.9**
TIA pmax pmax
comp=Z,17nm,1.2s
JOW Kunigami 23.65 221 LR LR 09 21 57.8
comp=Z,73nm,21.1s,baz=54,slow=37
HNS HongShan 24.35 260 ⇓P **P** **09 12 34.6 +2.1**
HNS S **S** **09 16 55.1 +4.7**
HNS pmax pmax
comp=Z,21nm,1.2s
HNS LR LR
comp=Z,250nm,15.1s
HNS LR LR
comp=Z,230nm,15.1s
NJ2 Nanjing 24.81 244 *e*P **P** **09 12 35.8 -0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,450nm,4.0s
HHC Hu-ho-hao-te 24.93 270 *e*P **P** **09 12 38.0 +0.1**
HHC sP pwP 09 12 48.3 +0.4
HHC *e*S **S** **09 17 05.8 +5.7**
HHC pmax pmax
comp=Z,48nm,0.7s
HHC pmax pmax
comp=Z,250nm,4.3s
HHC LR LR
comp=Z,870nm,11.9s
HHC LR LR
comp=Z,980nm,13.2s
ULN Ulaanbaatar 25.95 288 P **P** **09 12 46.3 -0.8**
ULN Ulaanbaatar 25.95 288 *c*e**P** **P** **09 12 47.4 +0.3**
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 25.95 288 *e*P **P** **09 12 47.4 +0.3**
BTO Baotou 26.11 270 *e*P **P** **09 12 48.6 +0.1**
BTO pP **pP** **09 12 52.8 -1.6**
BTO sP **sP** **09 12 55.8 -1.0**
BTO PP **PnPn** **09 13 29.3 +2.3**
BTO S **S** **09 17 19.4 +0.8**
BTO sS **pS** **09 17 24.8 -0.4**
BTO SS **SnSn** **09 18 25.3 +8.1**
BTO pmax pmax
comp=Z,17nm,0.8s
BTO pmax pmax
comp=Z,220nm,5.1s
BTO LR LR
comp=Z,460nm,11.3s
BTO LR LR
comp=Z,600nm,11.8s
BTO LR LR
comp=Z,840nm,12.0s
SONM Songino Array 26.39 288 P **P** **09 12 49.4 -1.6**
SONM Songino Array 26.39 288 P **P** **09 12 51.2 +0.2**
comp=Z,4.4nm,0.9s,baz=79,slow=8.8,SNR=16
SONM pP **sP** **09 12 59.3 0.0**
comp=Z,6.4nm,0.7s,baz=81,slow=8.8,SNR=15
SONM PcP **PcP** **09 16 17.3 +1.2**
comp=Z,0.5nm,0.5s,baz=98,slow=2.5,SNR=3.5
comp=Z,4.4nm,0.9s
TIXI Tiksi 26.63 348 P **P** **09 12 52.5 -0.4**
TIXI Tiksi 26.63 348 *c*e**P** **P** **09 12 53.1 +0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 26.63 348 *e*P **P** **09 12 53.1 +0.3**
LYN LuoYang 27.43 256 ⇓P **P** **09 13 02.1 +1.8**
LYN sP pP 09 13 07.0 +0.8
LYN PP **PnPn** **09 13 49.8 +4.8**
LYN pmax pmax
comp=Z,25nm,0.8s
LYN pmax pmax
comp=Z,350nm,4.7s
LYN LR LR
comp=Z,340nm,15.8s
LYN LR LR
comp=Z,320nm,11.7s
LYN LR LR
comp=Z,550nm,12.7s
ZAK Zakamensk 27.98 294 *e*P **P** **09 13 05.1 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
ZAK Zakamensk 27.98 294 *e*P **P** **09 13 05.1 -0.2**
WHN Wuhan 28.68 248 ⇑P **P** **09 13 14.0 +2.5**
WHN sP **pwP** **09 13 22.8 +1.2**
UNV Unalaska Valle 31.31 58 P **P** **09 13 34.2 -0.4**
baz=276
LZH Lanzhou 32.51 267 *e*P **P** **09 13 46.9 +1.4**
LZH sP pwP 09 13 56.0 +0.3
LZH pmax pmax
comp=Z,19nm,0.9s
LZH LR LR
comp=Z,230nm,8.6s
LZH LR LR
comp=Z,200nm,11.0s
GUMO Guam 32.58 181 LR LR 09 24 56.6
comp=Z,30nm,21.2s,baz=273,slow=32
M13K Dall Lake 32.81 46 P **P** **09 13 49.1 +1.4**
baz=268
L14K Kuka Creek 33.18 44 P **P** **09 13 50.3 -0.5**
L14K Kuka Creek 33.18 44 P **P** **09 13 52.5 +1.7**
baz=267
M14K Bethel 33.51 45 P **P** **09 13 54.8 +1.0**
baz=269
N14K Kuskokwak Cree 33.64 47 P **P** **09 13 56.0 +1.1**
baz=270
H16K Elim 33.68 38 P **P** **09 13 54.6 -0.6**
baz=263
GTA Gaotai 33.69 275 *e*P **P** **09 13 56.8 +1.0**
GTA pP pwP 09 14 05.8 -0.2
GTA pmax pmax
comp=Z,11nm,0.9s
GTA LR LR
comp=Z,220nm,12.3s
GTA LR LR
comp=Z,160nm,14.3s
GTA LR LR
comp=Z,280nm,11.9s
K15K Wolf Creek Mou 33.78 42 P **P** **09 13 56.3 +0.3**
baz=267
D17K Noatak River 33.88 32 P **P** **09 13 56.1 -0.8**
baz=257
M15K Kasigluk River 34.13 45 P **P** **09 14 00.1 +1.0**
baz=270
E17K Hotham Inlet 34.23 34 P **P** **09 14 00.0 +0.1**
baz=260
I17K Unalakleet 34.27 39 P **P** **09 14 00.9 +0.6**
baz=265
N15K Kwethluk River 34.44 46 P **P** **09 14 02.5 +0.7**
N15K Kwethluk River 34.44 46 P **P** **09 14 03.1 +1.2**
baz=271,SNR=6.3
G17K Kiwalik Mounta 34.45 37 P **P** **09 14 02.7 +0.8**
baz=263,SNR=5.3
H17K Granite Mounta 34.70 38 P **P** **09 14 05.2 +1.1**
baz=265
L16K Owhat River 34.73 43 P **P** **09 14 05.7 +1.4**
L16K IAmb IAmb 09 14 07.8
comp=Z,25nm,1.4s
L16K Owhat River 34.73 43 P **P** **09 14 04.8 +0.5**
baz=270
C18K Utukok River 34.77 31 P **P** **09 14 04.7 0.0**
baz=258
J17K VABM Dome 34.96 40 P **P** **09 14 07.2 +0.9**
J17K IAmb IAmb 09 14 17.8
comp=Z,10nm,0.9s
J17K VABM Dome 34.96 40 P **P** **09 14 06.8 +0.5**
baz=268
M16K Timber Creek 34.98 45 P **P** **09 14 07.7 +1.2**
baz=271
N16K Nishlik Lake 35.09 46 P **P** **09 14 08.9 +1.4**
baz=272,SNR=5.9
L17K Donlin 35.29 43 P **P** **09 14 10.7 +1.5**
baz=270
K17K Iditarod 35.29 42 P **P** **09 14 10.8 +1.6**
K17K Iditarod 35.29 42 P **P** **09 14 10.7 +1.5**
baz=269
G18K Tagagawik 35.32 36 P **P** **09 14 09.8 +0.4**
baz=264,SNR=8.5
H18K Honhosa River 35.38 37 P **P** **09 14 10.3 +0.4**
baz=266
O16K Kokwok River B 35.47 47 P **P** **09 14 12.1 +1.4**
baz=274
M17K Holitna River 35.70 44 P **P** **09 14 14.3 +1.5**
baz=272,SNR=7.3
F19K Shaleruckik Mo 35.77 35 P **P** **09 14 13.7 +0.5**
F19K IAmb IAmb 09 14 14.2
comp=Z,11nm,0.8s
F19K Shaleruckik Mo 35.77 35 P **P** **09 14 13.7 +0.5**
baz=264
D19K Kuna River 35.86 32 P **P** **09 14 12.4 -1.7**
baz=261
N17K Nushagak Hills 35.87 45 P **P** **09 14 14.7 +0.5**
baz=273
O17K Koliganek Bris 35.96 47 P **P** **09 14 16.2 +1.2**
baz=274
G19K Purcell Mounta 35.98 36 P **P** **09 14 14.8 -0.3**
baz=266
GCSA Galena City Sc 35.98 38 P **P** **09 14 15.7 +0.7**
baz=268
J18K Innoko River 36.02 40 P **P** **09 14 16.0 +0.5**
baz=270
L18K Granite Mounta 36.04 42 P **P** **09 14 16.8 +1.2**
baz=271
E19K Redstone River 36.05 34 P **P** **09 14 16.2 +0.5**
baz=264
H19K Roundabout Mou 36.20 37 P **P** **09 14 17.5 +0.6**
baz=267,SNR=11
TTA Tatalina 36.34 41 P **P** **09 14 19.4 +1.1**
TTA IAmb IAmb 09 14 20.0
comp=Z,10nm,0.9s
TTA Tatalina 36.34 41 P **P** **09 14 19.4 +1.1**
TTA pmax pmax
comp=Z,10.0nm,0.9s
TTA Tatalina 36.34 41 P **P** **09 14 19.3 +1.0**
baz=271
P17K Kvichak River 36.34 48 P **P** **09 14 19.8 +1.6**
baz=276
D20K Etivluk River 36.44 31 P **P** **09 14 19.2 +0.3**
baz=263
B20K Meade River 36.44 29 P **P** **09 14 19.2 +0.3**
M18K Stony River 36.48 44 P **P** **09 14 20.5 +1.2**
baz=273
N18K Kilae Creek 36.49 45 P **P** **09 14 21.4 +1.9**
N18K IAmb IAmb 09 14 31.5
comp=Z,19nm,0.9s
N18K Kilae Creek 36.49 45 P **P** **09 14 21.1 +1.6**
baz=274
J19K Poorman 36.51 39 P **P** **09 14 19.7 +0.1**
baz=270
E20K Nigu River 36.53 32 P **P** **09 14 20.1 +0.3**
baz=264
SVW2 Sparrevohn 36.62 44 P **P** **09 14 22.2 +1.6**
SVW2 IAmb IAmb 09 14 32.5
comp=Z,14nm,0.9s
H20K Anotleneega Mo 36.85 37 P **P** **09 14 22.8 +0.3**
baz=269,SNR=5.1
O18K Koktuh Hills 36.90 46 P **P** **09 14 23.2 +0.2**
baz=276
P18K Big Mountain, 36.94 47 P **P** **09 14 24.2 +0.9**
baz=276
M19K Big River Lodg 37.13 43 P **P** **09 14 25.7 +0.7**
baz=274
Q18K Katmai Hardscr 37.14 48 P **P** **09 14 25.6 +0.4**
baz=278
J20K Nowinta River 37.16 39 P **P** **09 14 26.6 +1.5**
J20K IAmb IAmb 09 14 36.2
comp=Z,13nm,0.8s
J20K Nowinta River 37.16 39 P **P** **09 14 26.3 +1.2**
baz=271,SNR=7.6
N19K Bonanza Creek 37.17 45 P **P** **09 14 26.9 +1.6**
N19K IAmb IAmb 09 14 28.0
comp=Z,17nm,0.9s
N19K Bonanza Creek 37.17 45 P **P** **09 14 26.4 +1.0**
baz=275
K20K Telida 37.21 41 P **P** **09 14 26.3 +0.7**
baz=272
B21K Ikpikpuk River 37.26 30 P **P** **09 14 26.2 +0.3**
baz=263
IMAR Indian Mountai 37.33 36 P **P** **09 14 26.6 0.0**
L20K Farewell, AK 37.34 42 P **P** **09 14 26.0 -0.7**
baz=274
G21K Allakaket 37.44 35 P **P** **09 14 28.0 +0.5**
baz=268
F21K Alatna River 37.48 34 P **P** **09 14 28.0 +0.1**
baz=268
H21K Melozitna Rive 37.72 37 P **P** **09 14 30.2 +0.4**
H21K IAmb IAmb 09 14 40.4
comp=Z,8.2nm,0.8s
H21K Melozitna Rive 37.72 37 P **P** **09 14 30.5 +0.7**
baz=270
M20K Styx River 37.73 43 P **P** **09 14 31.4 +1.3**
baz=275
D22K Ayikyak River 37.88 31 P **P** **09 14 31.3 +0.1**
baz=266
CHUM Lake Minchumin 37.97 40 P **P** **09 14 33.0 +1.1**
baz=273
F22K John River 37.99 34 P **P** **09 14 32.5 +0.3**
baz=268
I21K Tanana 38.07 37 P **P** **09 14 33.5 +0.7**
baz=272
DGZ Jazzator, Alta 38.08 297 *i* P **P** **09 14 34.1 +0.8**
DGZ pmax pmax
comp=Z,13nm,2.5s
PPLA Purkeypile 38.09 41 P **P** **09 14 33.7 +0.6**
baz=274
CAST Castle Rocks 38.10 40 P **P** **09 14 34.8 +1.7**
CAST IAmb IAmb 09 14 44.5
comp=Z,13nm,0.8s
CAST Castle Rocks 38.10 40 P **P** **09 14 34.2 +1.0**
baz=274,SNR=7.1
E22K Anaktuvuk Pass 38.16 33 P **P** **09 14 33.5 0.0**
baz=268
N20K Mount Spurr 38.24 44 P **P** **09 14 36.0 +1.7**
baz=276
SPCR Spurr Chakacha 38.24 44 P **P** **09 14 35.7 +1.3**
baz=276
G22K Bettles 38.24 35 P **P** **09 14 34.5 +0.3**
baz=270,SNR=6.0
H22K Ishtalitna Cre 38.30 36 P **P** **09 14 35.6 +0.8**
baz=271
SKT Skwentna 38.48 43 P **P** **09 14 37.4 +1.1**
baz=276
ZALV Zalesovo Beam 38.48 304 *i* P **P** **09 14 36.5 +0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 38.48 304 P **P** **09 14 35.0 -1.4**
comp=Z,2.9nm,0.6s,baz=77,slow=8.8,SNR=4.4
ZALV PcP **PcP** **09 16 49.5 +0.5**
comp=Z,8.7nm,0.8s,baz=71,slow=2.6,SNR=20
ZALV LR LR 09 30 34.4
comp=Z,66nm,19.2s,baz=76,slow=36
comp=Z,2.9nm,0.6s
BPAW Bear Paw Mtn. 38.55 39 P **P** **09 14 37.3 +0.4**
BPAW Bear Paw Mtn. 38.55 39 P **P** **09 14 37.1 +0.3**
baz=274
D23K Nanushuk River 38.60 31 P **P** **09 14 37.9 +0.7**
baz=268
KTH Kantishna Hill 38.61 40 P **P** **09 14 37.8 +0.4**
KTH IAmb IAmb 09 14 48.9
comp=Z,14nm,0.9s
COLD Coldfoot 38.76 34 P **P** **09 14 39.1 +0.5**
COLD Coldfoot 38.76 34 P **P** **09 14 38.9 +0.3**
baz=271
G23K Bananza Creek 38.83 35 P **P** **09 14 39.7 +0.5**
baz=272,SNR=5.1
TRF Thorofare Moun 38.90 40 P **P** **09 14 40.2 +0.2**
baz=275
SUA Susitna One 38.91 43 P **P** **09 14 40.0 0.0**
baz=277
E23K Chandalar 38.98 33 P **P** **09 14 40.6 +0.1**
baz=270
H23K Yukon River 39.06 36 P **P** **09 14 41.6 +0.5**
baz=273
BRSE Bradley Lake S 39.16 46 P **P** **09 14 42.5 +0.5**
baz=280
I23K Minto, Yukon-K 39.18 37 P **P** **09 14 42.7 +0.7**
baz=274
D24K Happy Valley 39.27 31 P **P** **09 14 43.1 +0.2**
baz=270
C24K Franklin Bluff 39.33 30 P **P** **09 14 43.0 -0.3**
baz=269
NEA2 Nenana 39.34 38 IAmb IAmb 09 14 54.1
comp=Z,14nm,0.8s
NEA2 Nenana 39.34 38 P **P** **09 14 44.0 +0.5**
baz=275,SNR=7.8
E24K Your Creek 39.40 33 P **P** **09 14 43.9 -0.2**
baz=271
MCK McKinley 39.48 40 P **P** **09 14 44.7 0.0**
baz=276
O22K Cooper Landing 39.54 45 P **P** **09 14 45.3 +0.1**
baz=279
F24K Squaw Lake 39.65 34 P **P** **09 14 45.6 -0.5**
baz=272
PZH PanZhiHua 39.65 256 P **P** **09 14 47.8 +1.2**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.8s
SEW Seward 39.73 45 P **P** **09 14 47.2 +0.5**
baz=280
H24K Noodor Dome 39.74 36 P **P** **09 14 47.8 +0.9**
baz=274
WAT1 Susitna Watana 39.76 41 P **P** **09 14 47.0 0.0**
baz=278
WRH Wood River Hil 39.77 38 P **P** **09 14 48.2 +1.1**
COLA College 39.84 38 P **P** **09 14 48.5 +1.0**
COLA IAmb IAmb 09 14 58.3
comp=Z,16nm,0.8s
COLA College 39.84 38 P **P** **09 14 48.5 +1.0**
COLA pmax pmax
comp=Z,16nm,0.8s
COLA College 39.84 38 P **P** **09 14 47.9 +0.4**
baz=276
G24K Hadweenzic Riv 39.85 35 P **P** **09 14 48.3 +0.6**
baz=274
KMI Kunming 39.91 253 ⇑P **P** **09 14 50.3 +1.4**
KMI pmax pmax
comp=Z,19nm,0.9s
SML Sawmill 40.00 43 P **P** **09 14 49.3 +0.2**
SML IAmb IAmb 09 14 50.6
comp=Z,17nm,0.8s
SML Sawmill 40.00 43 P **P** **09 14 49.6 +0.6**
baz=279
KNK Knik Glacier 40.00 43 P **P** **09 14 49.4 +0.3**
baz=279
WMQ Urumqi 40.02 288 *e*P **P** **09 14 50.8 +1.3**
D25K Kavik River 40.15 31 P **P** **09 14 49.9 -0.2**
baz=272
PWL Port Wells 40.15 44 P **P** **09 14 50.8 +0.5**
baz=280
WAT6 Susitna Watana 40.16 41 P **P** **09 14 50.4 -0.1**
baz=278
DHY Denali Highway 40.26 41 P **P** **09 14 51.4 +0.1**
DHY IAmb IAmb 09 15 01.6
comp=Z,10nm,0.8s
DHY Denali Highway 40.26 41 P **P** **09 14 51.7 +0.4**
baz=278
IL31 40.26 38 P **P** **09 14 51.2 +0.2**
IL31 IAmb IAmb 09 15 01.8
comp=Z,9.6nm,0.8s
ILAR Eielson Array 40.26 38 P **P** **09 14 51.5 +0.4**
comp=Z,4.6nm,0.8s,baz=275,slow=8.2,SNR=49
ILAR pP **sP** **09 14 59.9 +0.3**
comp=Z,6.7nm,0.7s,baz=272,slow=7.8,SNR=18
comp=Z,4.6nm,0.8s
HDA Harding Lake 40.27 38 P **P** **09 14 51.1 -0.1**
baz=277
M23K Glacier View 40.29 43 P **P** **09 14 51.4 0.0**
baz=279
G25K Bearman Lake 40.39 35 P **P** **09 14 52.1 -0.1**
baz=275
SCM Sheep Creek Mo 40.47 42 P **P** **09 14 53.9 +0.9**
baz=280
E25K Arctic Village 40.49 33 P **P** **09 14 53.3 +0.2**
baz=274
F25K Christian Rive 40.50 33 P **P** **09 14 53.0 -0.2**
baz=274
H25L Birch Creek 40.55 36 P **P** **09 14 54.4 +0.9**
baz=276
PRP Porcupine Dome 40.74 37 P **P** **09 14 56.2 +0.9**
PRP IAmb IAmb 09 15 06.2
comp=Z,12nm,0.8s
PRP Porcupine Dome 40.74 37 P **P** **09 14 55.8 +0.5**
baz=277,SNR=9.5
K24K Donnelly Dome 40.86 39 P **P** **09 14 56.4 +0.2**
baz=279
BMAR Burnt Mountain 40.92 34 P **P** **09 14 57.4 +0.7**
J25K Salcha River, 40.92 38 P **P** **09 14 56.8 +0.1**
baz=278
F26K Sheenjek River 41.06 33 P **P** **09 14 58.6 +0.8**
baz=276
KLU Klutina 41.19 43 P **P** **09 14 59.3 +0.4**
baz=281
G26K Porcupine Rive 41.28 34 P **P** **09 15 00.0 +0.6**
baz=277
RIDG Independent Ri 41.28 39 P **P** **09 15 00.1 +0.5**
baz=279
HARP HAARP 41.37 41 P **P** **09 15 00.3 -0.1**
baz=281
EYAK Cordova Ski Ar 41.46 44 P **P** **09 15 01.6 +0.6**
baz=282
SCRK Sand Creek 41.62 39 P **P** **09 15 02.3 -0.1**
SCRK IAmb IAmb 09 15 12.2
comp=Z,9.5nm,0.8s
SCRK Sand Creek 41.62 39 P **P** **09 15 02.4 -0.1**
baz=280,SNR=5.3
J26L Joseph Creek 41.71 38 P **P** **09 15 03.2 0.0**
baz=280
L26K Log Cabin Wild 42.07 40 P **P** **09 15 06.6 +0.6**
baz=281
G27K Doyon Strip 42.13 34 P **P** **09 15 07.3 +0.8**
baz=279
H27K Steamboat Moun 42.27 35 P **P** **09 15 08.5 +0.8**
baz=279
MK31 Makanchi Array 42.31 295 P **P** **09 15 08.0 -0.2**
MK31 Makanchi Array 42.31 295 P **P** **09 15 08.0 -0.2**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 42.31 295 P **P** **09 15 08.2 0.0**
MKAR Makanchi Array 42.31 295 P **P** **09 15 08.2 0.0**
MKAR Makanchi Array 42.31 295 *e*P **P** **09 15 08.2 0.0**
MKAR Makanchi Array 42.31 295 PcP **PcP** **09 17 00.8 -0.7**
comp=Z,2.9nm,0.7s,baz=68,slow=4.4,SNR=7.6
MKAR LR LR 09 33 20.0
comp=Z,84nm,18.1s,baz=83,slow=37
I27K Kandik River 42.34 36 P **P** **09 15 08.9 +0.7**
baz=280
M26K Nabesna, AK 42.36 41 P **P** **09 15 10.4 +1.9**

M26K IAmb IAmb 09 15 11.2
comp=Z,24nm,1.3s
M26K Nabesna, AK 42.36 41 P **P 09 15 10.0 +1.5**
baz=282,SNR=7.4
K27K Chicken 42.44 39 P **P 09 15 09.6 +0.7**
baz=281
MCARA McCarthy VSAT 42.57 42 P **P 09 15 11.8 +1.7**
baz=284
DAV Davao City (W) 42.60 210 LR LR 09 32 00.3
comp=Z,37nm,18.9s,baz=10.0,slow=35
F28M Old Crow 42.70 33 P **P 09 15 12.0 +0.9**
F28M Old Crow 42.70 33 P **P 09 15 11.2 +0.1**
baz=279
L27K Beaver Creek, 42.74 40 P **P 09 15 11.7 +0.1**
L27K IAmb IAmb 09 15 14.5
comp=Z,16nm,1.2s
L27K Beaver Creek, 42.74 40 P **P 09 15 12.5 +0.9**
baz=283,SNR=7.2
BCAR Beaver Creek A 42.76 40 P **P 09 15 13.4 +1.7**
TNCH TengChong 42.79 257 *e*P **P 09 15 15.3 +2.7**
TNCH pmax pmax
comp=Z,48nm,0.9s
M27K Edge Creek, AK 42.88 41 P **P 09 15 13.3 +0.6**
M27K IAmb IAmb 09 15 25.2
comp=Z,14nm,1.0s
M27K Edge Creek, AK 42.88 41 P **P 09 15 13.5 +0.7**
baz=283
I28M Miner Creek 43.06 36 P **P 09 15 14.8 +0.7**
baz=282,SNR=5.0
KURK Kurchatov 43.08 301 P **P 09 15 13.2 -1.2**
KURK IAmb IAmb 09 15 15.1
comp=Z,8.5nm,0.8s
KURK Kurchatov 43.08 301 *ce*P **P 09 15 13.7 -0.7**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 43.08 301 *e*P **P 09 15 13.7 -0.7**
KURBB Kurchatov Arra 43.17 301 P **P 09 15 15.1 0.0**
comp=Z,5.6nm,0.6s,baz=71,slow=8.7,SNR=22
KURBB pP **sP 09 15 24.1 +0.5**
comp=Z,7.5nm,0.6s,baz=71,slow=8.7,SNR=7.9
KURBB PcP **PcP 09 17 04.5 +0.3**
comp=Z,9.9nm,0.8s,baz=72,slow=3.4,SNR=25
comp=Z,5.6nm,0.6s
E29M Blow River 43.30 32 P **P 09 15 16.0 +0.1**
baz=280
CTG Chitna Glacier 43.47 43 P **P 09 15 17.5 0.0**
baz=285
G29M Pine Creek 43.53 34 P **P 09 15 18.3 +0.4**
baz=282
H29M Whitestone 43.53 35 P **P 09 15 18.4 +0.6**
baz=282
DAWY Dawson 43.58 38 P **P 09 15 18.9 +0.5**
baz=284
YUK3 Moose Creek 43.67 41 P **P 09 15 18.6 -0.6**
baz=285
I29M Ogilvie Camp, 43.74 36 P **P 09 15 20.0 +0.5**
baz=283
EPYK Eagle Plains 44.15 34 P **P 09 15 23.3 +0.4**
baz=283
G30M tAoh Zraii Nji 44.21 34 P **P 09 15 24.7 +1.4**
baz=283
F30M Barrier River 44.23 33 P **P 09 15 24.9 +1.4**
baz=283,SNR=5.3
L29M L29M 44.37 39 P **P 09 15 25.7 +1.1**
baz=285
I30M Mount Dempster 44.56 36 IAmb IAmb 09 15 37.4
comp=Z,10nm,0.8s
I30M Mount Dempster 44.56 36 P **P 09 15 27.3 +1.0**
baz=285,SNR=5.3
CRAI Chiangrai 44.88 250 P **P 09 15 28.4 -0.8**
INK Inuvik 44.90 31 P **P 09 15 28.5 -0.2**
baz=284
INK Inuvik 44.90 31 LR LR 09 37 46.7
comp=Z,60nm,20.7s,baz=340,slow=41
G31M Satah River 44.97 33 P **P 09 15 29.7 +0.5**
baz=285
F31M Tsiigehtchic 45.04 33 P **P 09 15 29.3 -0.4**
baz=285
M30M Minto, Yukon 45.10 40 P **P 09 15 31.3 +0.8**
baz=287
H31M Peel River 45.23 35 P **P 09 15 32.3 +0.8**
baz=286
HYT Haines Junctio 45.30 42 P **P 09 15 33.4 +1.2**
baz=288
P29M Windy Craggy 45.57 44 P **P 09 15 35.6 +1.4**
baz=289
P30M Million Dollar 45.78 43 P **P 09 15 37.6 +1.7**
baz=289
N31M Braeburn, Yuko 45.89 41 P **P 09 15 38.8 +2.1**
baz=289
PLBC Pleasant Camp 46.29 44 P **P 09 15 41.7 +1.9**
baz=290
WHY Whitehorse 46.58 42 P **P 09 15 43.5 +1.3**
baz=290
BVAR Borovoye Array 46.93 307 P **P 09 15 45.2 +0.3**
comp=Z,7.4nm,0.9s,baz=61,slow=12,SNR=22
BVAR pP **sP 09 15 53.6 +0.1**
comp=Z,8.2nm,0.8s,baz=56,slow=18,SNR=9.5
BVAR PcP **PcP 09 17 17.0 -0.2**
comp=Z,5.3nm,0.8s,baz=64,slow=3.4,SNR=7.0
BVAR LR LR 09 36 08.1
comp=Z,70nm,19.0s,baz=72,slow=37
comp=Z,7.4nm,0.9s
SHL Shillong 46.97 263 P **P 09 15 45.2 -0.6**
SHL Shillong 46.97 263 P **P 09 15 45.2 -0.6**
SHL pmax pmax
comp=Z,17nm,0.9s
BRVK Borovoye 46.97 307 P **P 09 15 44.7 -0.5**
BRVK Borovoye 46.97 307 *ce*P **P 09 15 44.9 -0.4**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 46.97 307 *e*P **P 09 15 44.9 -0.4**
CMAR Chiang Mai Arr 47.09 250 P **P 09 15 46.5 -0.1**
CMAR Chiang Mai Arr 47.09 250 *i* P **P 09 15 48.5 +1.9**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 47.09 250 P **P 09 15 46.7 +0.1**
comp=Z,1.0nm,0.5s,baz=33,slow=7.5,SNR=6.3
CMAR LR LR 09 37 00.7
comp=Z,32nm,18.1s,baz=40,slow=38
comp=Z,1.0nm,0.5s
P33M Teslin, Yukon 47.69 42 P **P 09 15 52.2 +1.3**
baz=292
Q32M Nakina River 48.43 43 P **P 09 15 56.4 -0.4**
baz=293
TAPN Taplejung 48.73 268 *e*P **P 09 16 00.5 +0.9**
comp=Z,12nm,0.8s
AAK Ala-Archa 49.14 293 PcP **PcP 09 17 25.9 +0.3**
comp=Z,1.0nm,0.5s,baz=105,slow=4.2,SNR=3.8
AAK LR LR 09 36 37.6
comp=Z,33nm,20.4s,baz=36,slow=36
S34M Telegraph Cree 49.41 44 P **P 09 16 05.6 +1.6**
baz=295
JIRN Jiri 49.59 269 *e*P **P 09 16 07.1 +0.9**
comp=Z,37nm,0.8s
GUN Gumba 49.65 270 *e*P **P 09 16 07.4 +0.7**
comp=Z,19nm,0.7s
DLBC Dease Lake 49.71 43 P **P 09 16 07.5 +1.1**
baz=295
RAMN Ramite 49.75 268 *e*P **P 09 16 08.2 +0.9**
comp=Z,28nm,0.7s
KSH Kashi 49.78 289 P P 09 16 11.8 +4.5
KSH pmax pmax
comp=Z,4.0nm,0.7s
PKI Pulchoki 50.19 270 *e*P **P 09 16 11.1 +0.4**
comp=Z,16nm,0.8s
T35M Bob Quinn 50.24 45 P **P 09 16 11.5 +1.1**
baz=296
GKN Gorkha 50.45 271 *e*P **P 09 16 13.1 +0.6**
comp=Z,17nm,0.5s
WRGLY Wrigley 50.54 36 P **P 09 16 13.6 +1.1**
baz=296
DANN Dangsing 50.85 272 *e*P **P 09 16 16.7 +1.0**
comp=Z,34nm,0.8s
LIRD Liard River Hi 51.12 41 P **P 09 16 18.2 +1.3**
baz=297
KK31 Karatay Array 51.43 295 P **P 09 16 19.0 -0.5**
KK31 Karatay Array 51.43 295 P **P 09 16 19.0 -0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 51.43 295 P **P 09 16 19.0 -0.5**
KKAR Karatay Array 51.43 295 P **P 09 16 19.0 -0.5**
PYUN Piuthan 51.54 272 *e*P **P 09 16 21.4 +0.7**
comp=Z,58nm,1.1s
ARU Arti 51.64 315 P **P 09 16 20.8 -0.1**
ARU Arti 51.64 315 *ce*P **P 09 16 20.3 -0.5**
ARU pmax pmax
comp=Z,22nm,0.8s
ARU Arti 51.64 315 *e*P **P 09 16 20.3 -0.5**
ARU Arti 51.64 315 P **P 09 16 20.8 -0.1**
comp=Z,18nm,0.6s,baz=67,slow=3.6,SNR=25
ARU pP **sP 09 16 29.2 -0.2**
comp=Z,27nm,0.8s,baz=61,slow=4.5,SNR=6.8
ARU LR LR 09 40 19.6
comp=Z,68nm,18.3s,baz=46,slow=38
comp=Z,18nm,0.6s
KOTAN Kotaneelee Air 51.70 40 P **P 09 16 22.4 +1.1**
baz=298
SPITS Spitsbergen Ar 52.06 348 LR LR 09 40 10.7
comp=Z,35nm,19.3s,baz=332,slow=38
RES Resolute Bay 52.93 17 LR LR 09 39 57.4
comp=Z,30nm,20.7s,baz=6.5,slow=37
GAR Garm 53.75 291 P **P 09 16 36.3 -0.6**
GAR IAmb IAmb 09 16 55.0
comp=Z,5.7nm,0.6s
YKA Yellowknife Ar 54.44 34 P **P 09 16 41.2 -0.1**
comp=Z,3.5nm,0.8s,baz=302,slow=7.0,SNR=5.1
YKA pP **sP 09 16 50.6 +0.6**
comp=Z,2.0nm,0.6s,baz=303,slow=7.5,SNR=4.0
YKA LR LR 09 44 50.9
comp=Z,38nm,20.7s,baz=72,slow=41
comp=Z,3.5nm,0.8s
ABKAR Akbulak array 54.50 307 P **P 09 16 41.6 -0.4**
CHGR Chuyangaron 54.70 291 P **P 09 16 43.0 -0.7**
CHGR Chuyangaron 54.70 291 P **P 09 16 43.0 -0.7**
CHGR pmax pmax
comp=Z,10.0nm,0.6s
PRGR Permogore 54.76 325 *e*P **P 09 16 43.7 0.0**
PRGR *e* 09 16 52.4
PRGR pmax pmax
comp=Z,20nm,1.0s
KIRV Kirov 54.82 320 LR LR 09 41 19.3
comp=Z,82nm,19.1s,baz=42,slow=37
AKTO Aktyubinsk 54.93 309 P **P 09 16 44.0 -1.1**
comp=Z,1.6nm,0.6s,baz=84,slow=6.9,SNR=2.6
AKTO LR LR 09 41 15.5
comp=Z,25nm,21.6s,baz=215,slow=37
comp=Z,1.6nm,0.6s
KAPI Kappang 55.88 211 LR LR 09 42 44.5
comp=Z,13nm,19.2s,baz=348,slow=38
KEV Kevo 55.90 338 P **P 09 16 51.9 +0.1**
KEV Kevo 55.90 338 P **P 09 16 51.9 +0.1**
KEV pmax pmax
comp=Z,46nm,1.5s
NEEM North Greenlan 56.14 4 *i* P **P 09 16 51.4 -2.4**
NEEM IAmb IAmb 09 16 58.8
comp=Z,3.5nm,0.8s
ARCES ARCESS Array B 56.43 339 P **P 09 16 56.3 +0.6**
ARCES ARCESS Array B 56.43 339 P **P 09 16 56.3 +0.6**
ARCES pmax pmax
comp=Z,20nm,1.4s
ARCES ARCESS Array B 56.43 339 P **P 09 16 55.2 -0.5**
comp=Z,4.5nm,0.7s,baz=44,slow=7.2,SNR=12
ARCES pP **sP 09 17 04.8 +0.6**
comp=Z,7.0nm,0.9s,baz=38,slow=8.1,SNR=3.1
ARCES LR LR 09 42 43.8
comp=Z,40nm,21.6s,baz=315,slow=38
comp=Z,4.5nm,0.7s
DAG Danmarks Havn 56.81 356 *i* P **P 09 16 57.0 -1.2**
DAG IAmb IAmb 09 16 59.6
comp=Z,2.9nm,0.7s
HNR Honiara 56.97 163 LR LR 09 37 13.1
comp=Z,367nm,21.5s,baz=327,slow=32
KLMR Klimovskoe 57.62 326 *e*P **P 09 17 03.1 -1.1**
KLMR AMP 09 17 04.8
comp=Z,27nm,1.5s
KLMR Klimovskoe 57.62 326 *e*P **P 09 17 03.0 -1.1**
KLMR pmax pmax
comp=Z,27nm,1.5s
BELG Belogornoye 59.19 315 LR LR 09 44 42.6
comp=Z,55nm,18.3s,baz=186,slow=38
LTY Liberty 60.38 51 P **P 09 17 24.6 +1.1**
LTY IAmb IAmb 09 17 39.4
comp=Z,9.0nm,1.3s
G05A Wamic 61.25 54 P **P 09 17 29.8 +0.3**
C09A Chrisman Ranch 61.33 50 P **P 09 17 30.8 +0.8**
SUMG Summit 61.43 1 P **P 09 17 30.6 -0.1**
SUMG Summit 61.43 1 P **P 09 17 30.6 -0.1**
SUMG pmax pmax
comp=Z,19nm,1.1s
SUMG Summit 61.43 1 *i* P **P 09 17 30.0 -0.7**
SUMG IAmb IAmb 09 17 32.4
comp=Z,7.5nm,1.0s
D08A Wollman Farm, 61.44 51 P **P 09 17 31.4 +0.7**
D08A IAmb IAmb 09 17 32.7
comp=Z,9.0nm,1.2s
NEW Newport 61.64 49 P **P 09 17 33.3 +1.1**
baz=309,SNR=8.7
NEW Newport 61.64 49 LR LR 09 45 13.9
comp=Z,31nm,18.0s,baz=321,slow=37
FINES FINESS Array B 62.04 332 *i* P **P 09 17 34.2 -0.3**
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 62.04 332 P **P 09 17 34.0 -0.5**
comp=Z,6.7nm,0.7s,baz=50,slow=8.1,SNR=21
FINES pP **sP 09 17 42.9 -0.3**
comp=Z,9.4nm,0.9s,baz=48,slow=8.7,SNR=4.5
FINES LR LR 09 45 51.9
comp=Z,46nm,19.1s,baz=48,slow=37
comp=Z,6.7nm,0.7s
GEYT Alibeck 62.12 297 P **P 09 17 34.6 -0.9**
GEYT IAmb IAmb 09 17 36.1
comp=Z,4.7nm,0.7s
GEYT Alibeck 62.12 297 P **P 09 17 34.6 -0.9**
GEYT pmax pmax
comp=Z,5.0nm,0.7s
GEYT Alibeck 62.12 297 P **P 09 17 35.1 -0.4**
comp=Z,4.5nm,0.6s,baz=64,slow=10,SNR=6.4
GEYT pP **sP 09 17 43.5 -0.7**
comp=Z,3.6nm,0.6s,baz=46,slow=6.4,SNR=3.2
GEYT LR LR 09 44 55.9
comp=Z,38nm,19.0s,baz=41,slow=36
comp=Z,4.5nm,0.6s
F10A Beach Ranch, E 63.03 51 IAmb IAmb 09 17 52.7
comp=Z,10nm,1.1s
BMO Blue Mountains 63.71 52 IAmb IAmb 09 17 48.6
comp=Z,8.9nm,1.2s
J08A Circle Bar Ran 64.02 54 IAmb IAmb 09 18 00.8
comp=Z,11nm,1.5s
MSO Missoula 64.22 49 P **P 09 17 50.6 +1.3**
MSO Missoula 64.22 49 P **P 09 17 50.6 +1.3**
baz=311,SNR=9.1
PLID Pearl Lake 64.26 51 P **P 09 17 50.5 +0.6**
WVOR Wild Horse Val 64.52 55 IAmb IAmb 09 18 02.7
comp=Z,4.0nm,0.8s
ICESG Greenland Ices 64.90 2 *i* P **P 09 17 52.4 -1.4**
ICESG IAmb IAmb 09 17 56.2
comp=Z,19nm,0.9s
EGMT Eagleton 65.55 45 P **P 09 17 59.2 +1.3**
baz=313,SNR=6.6
MPK Martis Peak 65.75 58 IAmb IAmb 09 18 01.8
comp=Z,11nm,1.3s
CTA Charters Tower 66.05 179 LR LR 09 47 09.5
comp=Z,9.7nm,18.9s,baz=76,slow=36
HLID Hailey 66.12 51 IAmb IAmb 09 18 13.6
comp=Z,4.1nm,1.1s
HLID Hailey 66.12 51 P **P 09 18 03.2 +1.4**
baz=312
BOZ Bozeman (W) 66.24 48 P **P 09 18 03.8 +1.2**
baz=313,SNR=16
SFJD Kangerlussuaq 66.41 7 LR LR 09 47 18.9
comp=Z,22nm,19.8s,baz=316,slow=36
YERR Yerington 66.42 58 IAmb IAmb 09 18 06.0
comp=Z,9.9nm,1.3s
WB0 Warramunga Arr 66.46 191 P **P 09 18 04.0 +0.1**
MNK Minsk 66.51 326 *i* P **P 09 18 00.2 -3.7**
comp=E,6.0nm,1.0s
MNK *i* P **P 09 18 00.2 -3.7**
comp=N,22nm,1.2s
MNK *i* P **P 09 18 00.2 -3.7**
comp=Z,8.0nm,0.9s,baz=42
MNK *i* PcP **PcP 09 18 26.9 -6.3**
MNK *i* PP PP 09 20 21.9 -8.0
MNK *i* PPP PPP 09 22 03.4
MNK *i* S **S 09 26 52.9 -0.1**
MNK *i* SS **SS 09 31 07.2 -1.9**
MNK *i* SSS SSS 09 34 14.5
MNK *i* LQ LQ 09 42 17.5
MNK *i* LR LR 09 46 28.6
MNK *i* LRM MLR 09 50 03.0
MNK *i* LRM MLR 09 50 14.2
comp=N,207nm,21.6s
MNK Minsk 66.51 326 *i* P **P 09 18 00.1 -3.7**
MNK *i* 09 18 26.9
MNK *i* PPP PPP 09 22 03.4
MNK *i* S **S 09 26 52.8 -0.1**
MNK *i* SS **SS 09 31 07.1 -1.9**
MNK *i* SSS SSS 09 34 14.5
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=N,22nm,1.2s
MNK MLR MLR
comp=Z,96nm,20.0s
MNK MLR MLR
comp=N,207nm,22.0s
WRAB Tennant Creek 66.63 191 *ce*P **P 09 18 06.3 +1.3**
WRAB pmax pmax
comp=Z,7.0nm,1.3s
WRA Warramunga Arr 66.64 191 P **P 09 18 05.2 +0.2**
WRA Warramunga Arr 66.64 191 P **P 09 18 05.3 +0.2**
comp=Z,4.8nm,1.0s,baz=10.0,slow=6.7,SNR=19
WRA PcP **PcP 09 18 35.5 +1.4**
comp=Z,1.0nm,0.6s,baz=0.4,slow=5.2,SNR=8.2
comp=Z,4.8nm,1.0s
NB2 NORSAR Subarra 66.78 338 P **P 09 18 05.3 -0.3**
comp=Z,4.4nm,0.7s,baz=32,slow=6.5
NOA NORSAR Array B 66.78 338 P **P 09 18 05.2 -0.4**
comp=Z,8.1nm,0.8s,baz=33,slow=6.3,SNR=23
NOA pP **sP 09 18 14.7 +0.4**
comp=Z,7.0nm,0.8s,baz=33,slow=6.3,SNR=9.1
NOA LR LR 09 52 43.6
comp=Z,45nm,19.0s,baz=15,slow=41
comp=Z,8.1nm,0.8s
HFS Hagfors 66.86 336 P **P 09 18 05.5 -0.6**
comp=Z,10nm,0.6s,baz=46,slow=6.4,SNR=24
HFS pP **sP 09 18 14.6 -0.2**
comp=Z,7.2nm,0.6s,baz=20,slow=4.7,SNR=5.7
HFS LR LR 09 51 09.1
comp=Z,34nm,19.0s,baz=52,slow=39
comp=Z,10nm,0.6s
KVN Kaiserville 67.04 57 IAmb IAmb 09 18 19.3
comp=Z,7.0nm,1.1s
FRB Frobisher Bay 67.11 16 LR LR 09 48 49.3
comp=Z,37nm,19.3s,baz=338,slow=37
KIV Kislovodsk 67.14 310 *e*P **P 09 18 09.4 +1.2**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,46nm,17.0s
KIV Kislovodsk 67.14 310 *e*P **P 09 18 09.4 +1.2**
KBZ Khabaz 67.18 310 *ce*P **P 09 18 08.6 +0.3**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 67.18 310 *e*P **P 09 18 08.6 +0.3**
KBZ Khabaz 67.18 310 P **P 09 18 08.7 +0.4**
comp=Z,5.1nm,0.8s,baz=26,slow=3.2,SNR=9.8
KBZ LR LR 09 51 45.9
comp=Z,78nm,18.1s,baz=42,slow=40
comp=Z,5.1nm,0.8s
DY2G Dye2 67.24 5 *i* P **P 09 18 06.2 -2.5**
DY2G IAmb IAmb 09 18 10.7
comp=Z,13nm,0.8s
ZEI Tsey 67.27 309 *e*P **P 09 18 08.1 -1.1**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
NVAR Mina Array Bea 67.33 58 P **P 09 18 11.0 +1.3**
comp=Z,2.4nm,0.8s,baz=290,slow=6.4,SNR=20
NVAR pP **sP 09 18 19.9 +1.5**
comp=Z,2.7nm,0.8s,baz=293,slow=5.5,SNR=11
comp=Z,2.4nm,0.8s
LHV Little Huntoon 67.33 58 IAmb IAmb 09 18 21.6
comp=Z,8.5nm,1.0s
H17A Grant Village 67.60 49 P **P 09 18 13.6 +2.2**
baz=314
IMW Indian Meadow 67.75 49 IAmb IAmb 09 18 17.7
comp=Z,7.0nm,1.1s
RLMT Red Lodge 67.78 48 P **P 09 18 13.2 +0.8**
baz=314
FXWY Fox Creek 67.89 50 IAmb IAmb 09 18 16.0
comp=Z,5.9nm,1.1s
DGMT Dagmar 67.91 42 P **P 09 18 13.7 +0.7**
baz=316
MOOW Moose Ponds 67.96 49 IAmb IAmb 09 18 16.4
comp=Z,8.2nm,1.1s
ID08 Devils Gate 67.96 51 IAmb IAmb 09 18 17.2
comp=Z,3.9nm,1.0s
LOHW Long Hollow 68.13 49 IAmb IAmb 09 18 17.5
comp=Z,8.0nm,1.2s
SNOW Snow King Moun 68.15 50 IAmb IAmb 09 18 27.1
comp=Z,8.0nm,1.1s
DSP Deep Springs 68.24 58 IAmb IAmb 09 18 17.7
comp=Z,6.3nm,1.1s
ID05 Sulphur Canyon 68.34 51 IAmb IAmb 09 18 27.8
comp=Z,4.9nm,1.0s
SPUT South Promonto 68.72 52 IAmb IAmb 09 18 30.1
comp=Z,4.6nm,1.1s
ID09 Alton 68.75 51 IAmb IAmb 09 18 30.4
comp=Z,9.7nm,1.0s
AKASG Malin Array Be 68.79 322 P **P 09 18 17.7 -0.6**
comp=Z,2.8nm,0.7s,baz=38,slow=6.1,SNR=12
AKASG LR LR 09 50 09.4
comp=Z,15nm,19.4s,baz=49,slow=37
comp=Z,2.8nm,0.7s
AKBB Malin Array Si 68.79 322 *ce*P **P 09 18 17.1 -1.2**
AKBB pmax pmax
comp=Z,8.0nm,1.0s
CWC Cottonwood Cre 68.80 59 P **P 09 18 19.2 +0.4**
baz=313
GRAC Grapevine Rang 68.84 58 P **P 09 18 19.8 +0.8**
baz=313
R11B Troy Canyon, C 68.97 56 P **P 09 18 20.1 +0.2**
baz=313
HWUT Hardware Ranch 68.99 51 IAmb IAmb 09 18 31.9
comp=Z,5.9nm,0.9s
ISA Isabella, Lake 69.08 60 P **P 09 18 20.6 +0.1**
baz=313
SPR3 Spring Creek 3 69.25 55 IAmb IAmb 09 18 34.8
comp=Z,8.7nm,1.2s
BW06 Boulder Array 69.26 49 IAmb IAmb 09 18 32.8
comp=Z,7.4nm,0.9s
BW06 Boulder Array 69.26 49 P **P 09 18 22.5 +0.7**
baz=314,SNR=5.6
PD31 Pinedale Array 69.26 49 IAmb IAmb 09 18 32.8
comp=Z,6.5nm,0.9s
PDAR Pinedale Array 69.26 49 P **P 09 18 22.4 +0.7**
comp=Z,4.3nm,0.8s,baz=312,slow=1.8,SNR=33
PDAR pP **sP 09 18 31.5 +1.1**
comp=Z,4.9nm,0.8s,baz=318,slow=2.0,SNR=16
comp=Z,4.3nm,0.8s
DUG Dugway, Tooele 69.28 53 IAmb IAmb 09 18 33.5
comp=Z,12nm,1.5s
DUG Dugway, Tooele 69.28 53 P **P 09 18 22.5 +0.7**
baz=314,SNR=5.2
MPMC Manual Prospec 69.40 59 P **P 09 18 23.6 +0.9**
baz=313
TCUT Toone Canyon 69.42 52 IAmb IAmb 09 18 34.5
comp=Z,4.9nm,0.8s
FURC Furnace Creek, 69.50 58 P **P 09 18 24.0 +1.1**
baz=313,SNR=5.9
TPNV Topopah Spring 69.53 58 IAmb IAmb 09 18 34.9
comp=Z,4.6nm,1.0s
TPNV Topopah Spring 69.53 58 P **P 09 18 24.4 +0.9**
baz=313
GWY Greenwater Val 69.81 59 IAmb IAmb 09 18 36.4
comp=Z,5.0nm,1.0s
QSM Queen of Sheba 69.84 59 IAmb IAmb 09 18 27.1
comp=Z,6.8nm,1.0s
NLU North Lily Min 69.86 53 IAmb IAmb 09 18 37.0
comp=Z,6.2nm,1.1s
EDW2 Edwards Air Fo 69.90 60 P **P 09 18 26.4 +0.8**
baz=313
MPU Maple Canyon 70.06 53 IAmb IAmb 09 18 38.3
comp=Z,6.4nm,1.2s
BSUT Blindstream Ca 70.17 52 IAmb IAmb 09 18 30.0
comp=Z,7.4nm,1.3s
GSC Goldstone, Bar 70.33 59 P **P 09 18 28.6 +0.4**
baz=313
AS31 Alice Springs 70.37 191 P **P 09 18 29.7 +1.4**
ASAR Alice Springs 70.37 191 P **P 09 18 29.8 +1.4**
comp=Z,3.4nm,0.7s,baz=359,slow=4.4,SNR=40
ASAR LR LR 09 46 43.1
comp=Z,17nm,21.5s,baz=331,slow=34
comp=Z,3.4nm,0.7s
BFSC Mount Baldy Ra 70.54 61 P **P 09 18 30.0 +0.4**
baz=313
CIS Catalina Islan 70.65 62 P **P 09 18 30.4 +0.2**
baz=313
DZM Mont Dzumac 70.66 159 LR LR 09 50 31.5

comp=Z,33nm,18.0s,baz=359,slow=37
TUQ Turquoise Moun 70.76 59 P **P 09 18 31.7 +0.8**
baz=314
MVU Marysvale 70.79 54 IAmb IAmb 09 18 53.7
comp=Z,12nm,1.2s
RDMU Red Mountain 70.80 51 IAmb IAmb 09 18 42.8
comp=Z,10nm,0.9s
K22A Casper 70.93 48 P **P 09 18 32.3 +0.4**
baz=316
HEC Hector,Ludlow 70.93 59 P **P 09 18 32.6 +0.7**
baz=314
BBRC Big Bear Solar 70.97 60 P **P 09 18 33.1 +0.8**
baz=314
RSSD Black Hills 71.12 45 P **P 09 18 33.3 +0.2**
RSSD Black Hills 71.12 45 P **P 09 18 33.3 +0.2**
RSSD pmax pmax
comp=Z,16nm,1.4s
RSSD Black Hills 71.12 45 P **P 09 18 33.3 +0.2**
baz=317
MURC Murrieta 71.25 61 P **P 09 18 34.4 +0.6**
baz=314
GMRC Granite Mounta 71.36 59 P **P 09 18 34.8 +0.2**
baz=314
PFO Pinyon Flats O 71.69 60 P **P 09 18 36.5 -0.1**
baz=314
TPFO Pinon Flats 71.70 60 P **P 09 18 36.1 -0.5**
baz=314
BELC Belle Mtn. Jos 71.70 60 P **P 09 18 36.4 -0.2**
baz=314
SIRT Sirnak 71.72 305 P **P 09 18 33.7 -3.0**
O20A White River Ci 71.82 51 P **P 09 18 37.4 0.0**
baz=316
UOSS Minazif 71.83 287 P **P 09 18 36.4 -1.0**
UOSS IAmb IAmb 09 18 47.0
comp=Z,7.4nm,1.1s
HMU Henry Mountain 72.01 54 IAmb IAmb 09 18 40.1
comp=Z,5.2nm,0.8s
IRM Iron Mountain 72.10 59 P **P 09 18 39.7 +0.8**
baz=314
MONP2 Monument Peak 72.21 61 P **P 09 18 40.5 +0.7**
baz=314
BC3 Big Chuckawall 72.27 60 P **P 09 18 40.4 +0.4**
baz=314
N23A Red Feather La 72.49 49 P **P 09 18 40.7 -0.7**
baz=317
IKP In-Ko-Pah, Jac 72.57 61 P **P 09 18 42.5 +0.7**
baz=314
PDMCI Parker Dam,Lak 72.60 59 P **P 09 18 42.5 +0.7**
baz=315
BLYC Blythe 72.76 59 IAmb IAmb 09 18 44.9
comp=Z,12nm,1.3s
BUR08 Bucovina Ar. S 72.83 322 P **P 09 18 42.5 -0.7**
BUR08 IAmb IAmb 09 18 43.5
comp=Z,4.6nm,0.8s
ESJX Sierra Juarez 73.11 61 IAmb IAmb 09 18 47.1
comp=Z,9.4nm,1.3s
ISCO Idaho Springs 73.46 49 P **P 09 18 47.4 +0.2**
baz=317
MVCO Mesa Verde 73.78 53 P **P 09 18 49.5 +0.5**
baz=316
DPC Dobruska-Polom 74.14 329 *e*P **P 09 18 51.1 +0.4**
DPC Dobruska-Polom 74.14 329 *e*P **P 09 18 51.1 +0.4**
S22A 4UR Ranch, Cre 74.30 52 P **P 09 18 52.8 +0.6**
baz=317
OGNE Ogallala 74.46 47 P **P 09 18 52.6 -0.2**
baz=319
CLL Collm 74.48 331 P **P 09 18 51.8 -0.8**
CLL IAmb IAmb 09 18 52.9
comp=Z,8.2nm,0.8s
CLL Collm 74.48 331 *i* P **P 09 18 52.0 -0.6**
CLL *i* 09 19 01.3
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 74.48 331 *i* P **P 09 18 52.0 -0.6**
comp=Z,8.0nm,0.8s
CLL *i* x x 09 19 01.3
comp=Z,8.0nm,0.7s
CLL *e*PS **PnS 09 29 00.0 -1.1**
CLL *e*(SS) 09 33 48.0
CLL *e*SSS SSS 09 36 36.0
BRTR Keskin Array B 74.88 312 P **P 09 18 55.7 +0.3**
comp=Z,1.0nm,0.6s,baz=66,slow=3.5,SNR=2.8
BRTR LR LR 09 57 22.2
comp=Z,41nm,18.3s,baz=85,slow=40
comp=Z,1.0nm,0.6s
VRAC Vranov 74.90 328 LR LR 09 55 34.0
comp=Z,72nm,18.7s,baz=48,slow=39
HSKC Hora Svate Kat 74.93 331 *e*P **P 09 18 55.3 0.0**
ECSD EROS Data Cent 74.95 41 IAmb IAmb 09 19 05.8
comp=Z,6.7nm,0.8s
ECSD EROS Data Cent 74.95 41 P **P 09 18 55.5 0.0**
baz=321,SNR=5.1
SDCO Great Sand Dun 75.02 51 P **P 09 18 56.4 0.0**
baz=318
214A Organ Pipe Nat 75.04 59 P **P 09 18 57.1 +0.9**
baz=316
GOPC GO Pecny, Ondr 75.05 329 *e*P **P 09 18 56.5 +0.6**
GOPC GO Pecny, Ondr 75.05 329 *e*P **P 09 18 56.5 +0.6**
PRU Pruhonice 75.07 330 *e*P **P 09 18 56.6 +0.6**
PRU Pruhonice 75.07 330 *e*P **P 09 18 56.6 +0.6**
EKA Eskdalemuir Ar 75.33 342 P **P 09 18 57.5 0.0**
comp=Z,3.9nm,0.7s,baz=24,slow=5.1,SNR=12
EKA pP **sP 09 19 05.7 -0.5**
comp=Z,2.6nm,0.6s,baz=22,slow=5.5,SNR=6.3
comp=Z,3.9nm,0.7s
TUC Tucson 75.99 58 P **P 09 19 02.4 +0.6**
baz=316
BGNE Belgrade 76.02 44 P **P 09 19 01.5 -0.2**
baz=320
T25A Trinidad 76.06 51 P **P 09 19 02.7 +0.5**
baz=318
KHC Kasperske Hory 76.13 330 P **P 09 19 02.1 -0.1**
KHC IAmb IAmb 09 19 03.3
comp=Z,4.6nm,0.7s
KHC Kasperske Hory 76.13 330 P **P 09 19 02.1 -0.1**
KHC pmax pmax
comp=Z,5.0nm,0.7s
KHC Kasperske Hory 76.13 330 *e*P **P 09 19 02.4 +0.2**
CKRC Cesky Krumlov 76.14 329 *e*P **P 09 19 02.5 +0.3**
CKRC Cesky Krumlov 76.14 329 *e*P **P 09 19 02.5 +0.3**
GERES GERESS Array B 76.33 329 P **P 09 19 02.7 -0.7**
comp=Z,1.1nm,0.6s,baz=39,slow=8.6,SNR=4.9
GERES pP **sP 09 19 12.4 +0.2**
comp=Z,0.5nm,0.3s,baz=57,slow=4.9,SNR=1.8
GERES LR LR 09 55 53.3
comp=Z,36nm,18.4s,baz=20,slow=38
comp=Z,1.1nm,0.6s
ANMO Albuquerque 76.55 53 P **P 09 19 05.5 +0.5**
baz=318
Y22D IRIS PASSCAL I 76.93 54 P **P 09 19 07.9 +0.8**
baz=318
Y22F Passcal Instru 76.93 54 P **P 09 19 08.5 +1.4**
baz=318
319A Douglas 77.55 58 IAmb IAmb 09 19 22.2
comp=Z,9.1nm,1.0s
121A Cookes Peak, D 77.57 56 P **P 09 19 10.0 -0.8**
baz=317
DIVS Divibare 77.85 323 IAmb IAmb 09 19 12.6
comp=Z,5.0nm,0.8s
STKA Stephens Creek 77.85 183 P **P 09 19 11.3 -0.5**
comp=Z,1.6nm,0.7s,baz=331,slow=8.6,SNR=3.4
comp=Z,1.6nm,0.7s
BFO Black Forest 78.59 332 *i* P **P 09 19 15.8 -0.1**
MMAI Mount Meron Ar 78.93 306 LR LR 09 56 41.1
comp=Z,41nm,18.9s,baz=0.5,slow=38
DAVOX Davos/Dischmat 79.43 331 LR LR 09 56 33.1
comp=Z,31nm,18.5s,baz=81,slow=37
MNTX Cornudas Mount 79.56 55 P **P 09 19 22.0 +0.4**
baz=318
P38A Dawn 79.61 42 IAmb IAmb 09 19 32.0
comp=Z,11nm,0.8s
T35A Sooner Cattle 80.31 46 IAmb IAmb 09 19 26.7
comp=Z,12nm,0.9s
P40A Paris 80.37 41 IAmb IAmb 09 19 36.2
comp=Z,11nm,0.8s
HDIL Hopedale 80.77 39 P **P 09 19 27.7 -0.2**
baz=325
S39A Bolivar 81.25 43 IAmb IAmb 09 19 30.3
comp=Z,7.7nm,1.1s
TUL3 Leonard 81.46 46 P **P 09 19 31.7 +0.1**
baz=322
FDMO Fiordimonte 81.50 327 IAmb IAmb 09 19 33.9
comp=Z,6.7nm,0.8s
ALPN Alpine 81.54 55 IAmb IAmb 09 19 43.6
comp=Z,7.7nm,1.4s
NRCA Norcia 81.66 327 IAmb IAmb 09 19 33.8
comp=Z,9.4nm,0.9s

U38A Gravette 81.73 45 IAmb IAmb 09 19 43.3
comp=Z,4.3nm,0.8s
CAMP Campotosto 81.80 326 IAmb IAmb 09 19 34.9
comp=Z,10nm,0.9s
CCM Cathedral Cave 81.93 42 P **P 09 19 34.2 +0.2**
baz=324
TX32 Lajitas Array 82.31 55 IAmb IAmb 09 19 47.7
comp=Z,6.6nm,1.2s
TXAR Lajitas Array 82.31 55 P **P 09 19 37.2 +0.9**
comp=Z,2.6nm,0.8s,baz=290,slow=4.1,SNR=28
TXAR pP **sP 09 19 46.3 +1.2**
comp=Z,2.6nm,0.8s,baz=284,slow=2.9,SNR=10
comp=Z,2.6nm,0.8s
ERPA Erie 83.21 32 P **P 09 19 40.3 -0.4**
baz=330
PBMO Poplar Bluff 83.34 42 IAmb IAmb 09 19 42.7
comp=Z,5.8nm,0.9s
BRDY Brady 83.40 51 IAmb IAmb 09 19 52.2
comp=Z,4.1nm,1.1s
M53A WI Miller and 83.54 33 P **P 09 19 41.8 -0.6**
baz=330
JCT Junction City 83.59 52 P **P 09 19 43.5 +0.6**
baz=321
MIAR Mount Ida 83.64 45 P **P 09 19 43.0 -0.1**
baz=324
WHTX Lake Whitney, 83.68 49 P **P 09 19 43.0 -0.2**
baz=322
PKME Peaks-Kenny Pk 83.87 24 P **P 09 19 44.2 +0.2**
baz=337
DRIO Del Rio 83.95 53 IAmb IAmb 09 19 55.8
comp=Z,14nm,0.9s
WCI Wyandotte Cave 83.99 38 P **P 09 19 44.6 -0.2**
baz=327
O53A New Philadelph 84.36 34 P **P 09 19 46.3 -0.3**
baz=330
WVT Waverly 85.06 41 P **P 09 19 50.5 +0.2**
baz=326
SSPA Standing Stone 85.27 32 P **P 09 19 51.0 -0.2**
baz=332
BLA Blacksburg 87.29 35 P **P 09 20 00.5 -0.7**
baz=330
KEST Kesra 89.26 326 LR LR 10 04 00.3
comp=Z,66nm,18.3s,baz=296,slow=38
ESDC Sonseca Array 90.13 337 P **P 09 20 14.3 -0.3**
comp=Z,1.5nm,0.8s,baz=5.3,slow=4.3,SNR=8.2
ESDC pP **sP 09 20 23.2 -0.2**
comp=Z,1.7nm,0.8s,baz=21,slow=3.7,SNR=5.5
ESDC LR LR 10 06 56.7
comp=Z,36nm,18.1s,baz=357,slow=40
comp=Z,1.5nm,0.8s
RPZ Rata Peaks 92.46 162 LR LR 09 57 36.9
comp=Z,14nm,19.2s,baz=18,slow=33
MDT Midelt 96.72 335 LR LR 10 09 57.0
comp=Z,29nm,18.4s,baz=26,slow=39
DBIC Dimbokro 120.98 325 PKP **PKPdf 09 26 06.2 -1.2**
comp=Z,2.5nm,0.7s,baz=6.3,slow=18,SNR=2.1
MAW Mawson 129.08 209 PKIKP **PKiKP 09 26 22.0 +0.3**
MAW Mawson 129.08 209 PKP **PKiKP 09 26 22.0 +0.3**
comp=Z,0.6nm,0.6s,baz=238,slow=4.0,SNR=4.5
BOSA Boshof 130.45 269 PKhKP PKPpre 09 26 17.2
comp=Z,2.5nm,0.4s,baz=38,slow=17,SNR=1.7
QSPA South Pole Qui 136.00 180 PKhKP PKPpre 09 26 20.8
comp=Z,1.3nm,1.1s,baz=317,slow=6.7,SNR=3.4
QSPA PKP **PKPdf 09 26 35.0 +0.7**
comp=Z,3.0nm,0.9s,baz=313,slow=1.8,SNR=10
ELIB Princess Elisa 143.03 206 *d*PKPdf PKPbc 09 26 44.4 +0.5
NVL N'lazarevskaya 146.91 206 *e*PKP2 **PKPab 09 26 57.3 +0.4**
NVL pmax pmax
comp=Z,25nm,0.9s
BDFB Brasilia 147.49 24 PKPbc **PKPbc 09 26 57.8 -1.0**
comp=Z,10nm,0.8s,baz=12,slow=4.1,SNR=10
BELA Belgrano 2 148.28 180 PKPdf **PKPbc 09 26 57.9 -1.2**
TROLL Troll, Antarti 148.90 201 ⇑PKPbc **PKiKP 09 27 02.4 +0.1**
comp=Z,994nm,0.6s
MT13 San Alfonso 150.25 78 **PKPbc 09 27 06.0 +0.6**
SNAA Sanae 150.43 200 **PKiKP 09 27 05.8 +0.4**
SNAA Sanae 150.43 200 ⇑PKPbc **PKPbc 09 27 05.2 +0.6**
comp=Z,179nm,0.9s
SNAA Sanae 150.43 200 PKPbc **PKPbc 09 27 04.7 +0.1**
comp=Z,11nm,1.0s,baz=172,slow=2.5,SNR=25
BO02 Sierra Bellavi 150.50 80 PKPdf **PKPdf 09 27 00.9 +0.2**
BO02 **PKiKP 09 27 06.9 +0.2**
VNA2 Neumayer--Watz 152.00 199 ⇑PKPbc **PKiKP 09 27 09.2 +0.6**
comp=Z,16nm,0.7s,baz=127,slow=1.0
VNA3 Neumayer Olymp 152.24 197 ⇑PKPbc **PKiKP 09 27 09.6 +0.6**
comp=Z,10.0nm,0.9s
VNA1 Neumayer--Stat 152.39 199 ⇑PKPbc **PKiKP 09 27 10.2 +0.8**
comp=Z,13nm,1.0s
PLCA Paso Flores 153.55 91 PKPbc **PKPbc 09 27 12.4 -0.3**
comp=Z,2.8nm,0.7s,baz=247,slow=5.3,SNR=7.6

IDC 18 09:13:09.2±2.6, 54°.02N×86°.43E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=22.1km s-min=13.2km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**266**	I	I	09 18 20.0	
	baz=85,slow=326,SNR=9.4						
ZALV	**Zalesovo Beam**	**0.95**	**266**	Pg	Pg	09 13 26.8	-0.7
	1.6nm,0.3s,baz=85,slow=16,SNR=14						
ZALV				Lg	Lg	09 13 41.0	
	1.6nm,0.3s,baz=85,slow=25,SNR=6.0						
ZALV				Rg	Rg	09 13 46.9	
	3.2nm,0.4s,baz=80,slow=25,SNR=17						
KURBB	**Kurchatov Arra**	**5.92**	**238**	Pn	Pn	09 14 39.1	+1.1
	0.2nm,0.3s,baz=55,slow=13,SNR=4.2						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.70**	**202**	Pn	Pn	09 15 03.5	+0.9
	0.2nm,0.3s,baz=26,slow=13,SNR=9.9						
	1.1nm,0.7s						

ROM 18 09:18:57.1±0.1, 42°.946N±0°.004×12°.861E±0°.005, h11km, ML0.4/7, 1C, Error ellipse: s-maj=0.5km s-min=0.4km az=339.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.07**	**29**	⇑P	Pg	09 18 59.9	+0.4
CESI				S	Sg	09 19 01.6	+0.3
CESI				AML	AML		
	comp=N,62μm,0.3s						
CESI				AML	AML		
	comp=E,40μm,0.3s						
T1221	**Campello sul C**	**0.09**	**187**	P	Pg	09 18 60.0	+0.3
ASSB	**Assisi San Ben**	**0.18**	**303**	P	Pg	09 19 01.5	+0.5
ASSB				S	Sg	09 19 04.7	+1.0
ASSB				AML	AML		
	comp=N,16μm,0.2s						
ASSB				AML	AML		
	comp=E,19μm,0.2s						
FDMO	**Fiordimonte**	**0.19**	**61**	P	Pg	09 19 01.9	+0.7
FDMO				S	Sg	09 19 04.8	+0.8
FDMO				AML	AML		
	comp=N,15μm,0.1s						
FDMO				AML	AML		
	comp=E,10μm,0.1s						
GAVE	**Gavelli**	**0.26**	**174**	AML	AML		
	comp=N,44μm,0.2s						
GAVE				AML	AML		
	comp=N,44μm,0.2s						
GAVE				AML	AML		
	comp=E,37μm,0.7s						

LDG 18 09:19:41.4±0.1, 42°.24N×9°.05E, h1km, Md0.9/1, Error ellipse: s-maj=2.6km s-min=1.2km az=49.0
STR 18 09:19:41.6±1.4, 42°N±5°×°±1°0, h5km, MLv0.7/4, Error ellipse: s-maj=0.0km s-min=0.0km az=67.9, preliminary, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORF	**Corte**	**0.08**	**54**	Pg	Pg	09 19 43.5	+0.2
CORF				Sg	Sg	09 19 44.7	+0.2
SMPL	**Sampolo**	**0.23**	**135**	Pg	Pg	09 19 46.1	+0.2
SMPL				Sg	Sg	09 19 49.2	+0.3
PGF	**Pioggiola**	**0.30**	**350**	*e*Pg	Pg	09 19 47.5	0.0
PGF				*e*Sg	Sg	09 19 51.6	+0.2
	5.2nm,0.2s						
PGF	**Pioggiola**	**0.30**	**350**	Pg	Pg	09 19 47.5	+0.1
PGF				Sg	Sg	09 19 51.6	+0.1
MORSI	**Morsiglia**	**0.73**	**17**	Pg	Pg	09 19 55.3	-0.3
MORSI				Sg	Sg	09 20 05.6	+0.4

WEL 18 09:31:41.0±0.4, 42°S±3°×17°4E±°, h5km, M2.5/6, ML2.5/7, MLv2.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=88.2, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.23**	**182**	P	Pg	09 31 45.9	+0.4
KHZ				S	Sg	09 31 49.8	+1.3
BSWZ	**Blackbirch Sta**	**0.53**	**28**	P	Pg	09 31 51.6	+0.5
BSWZ				S	Sb	09 31 59.5	-1.2
THZ	**Tophouse**	**0.64**	**311**	P	Pg	09 31 53.7	+0.5
TUWZ	**Tuamarina**	**0.81**	**22**	P	Pg	09 31 56.7	+0.2
GVZ	**Greta Valley S**	**0.87**	**206**	P	Pg	09 31 57.8	+0.1
NNZ	**Nelson**	**0.98**	**353**	P	Pg	09 31 59.5	-0.2
MRNZ	**Matariki Terra**	**0.98**	**323**	P	Pg	09 32 00.1	+0.3
LTZ	**Lake Taylor**	**1.12**	**237**	P	Pg	09 32 01.3	-1.1
TCW	**Tory Channel**	**1.12**	**30**	P	Pg	09 32 01.7	-0.7
DSZ	**Denniston Nort**	**1.37**	**288**	P	Pn	09 32 06.9	+0.1
DUWZ	**D'Urville Isla**	**1.41**	**12**	P	Pn	09 32 07.2	-0.1
QRZ	**Quartz Range**	**1.56**	**330**	P	Pn	09 32 09.8	+0.4
CAW	**Cannon Point**	**1.57**	**47**	P	Pn	09 32 07.5	-1.9
OKCZ	**Okains Bay**	**1.58**	**193**	P	Pn	09 32 06.9	-2.8
OXZ	**Oxford**	**1.59**	**224**	P	Pn	09 32 07.0	-2.8
INZ	**Inchbonnie**	**1.65**	**250**	P	Pn	09 32 09.7	-0.9
MQZ	**McQueen's Vall**	**1.66**	**203**	P	Pn	09 32 07.0	-3.6

STR 18 09:38:04.4±0.9, 45°N±6°×°±°, h4km, MLv2.6/4, Error ellipse: s-maj=0.0km s-min=0.0km az=117.5, preliminary
LDG 18 09:38:04.3±0.1, 45°.44N×6°.29E, h2km, Md1.1/2, Error ellipse: s-maj=2.1km s-min=0.7km az=127.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	**Grand'Maison**	**0.27**	**208**	Pg	Pg	09 38 09.8	+0.3
GDM				Sg	Sg	09 38 13.6	+0.6
LPL	**La Plagne**	**0.32**	**76**	*e*Pg	Pg	09 38 10.8	+0.4
LPL				*e*Sg	Sg	09 38 14.7	+0.1
	124nm,0.2s						
LPG	**La Plagne**	**0.33**	**80**	*e*Pg	Pg	09 38 11.1	+0.5
LPG				*e*Sg	Sg	09 38 15.1	+0.2
	195nm,0.3s						
RSL	**Roselend**	**0.34**	**43**	Pg	Pg	09 38 11.2	+0.4
RSL				Sg	Sg	09 38 15.3	0.0
ORIF	**Oris-en-Rattie**	**0.60**	**209**	*e*Sg	Sg	09 38 23.3	-0.3
	112nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.60**	**209**	Sg	Sg	09 38 23.9	+0.4
MBDF	**Montbardon**	**0.79**	**155**	*e*Pg	Pg	09 38 19.3	-0.1
MBDF				*e*Sg	Sg	09 38 29.5	-0.2
	35nm,0.2s						

IDC 18 09:46:02.7±1.2, 55°.24S×28°.66W, h0km, mb3.8/3, mbtmp3.8/3, MS3.4/3, Error ellipse: s-maj=65.9km s-min=31.1km az=52.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**31.04**	**280**	LR	LR	10 03 32.1	
	comp=Z,53nm,19.2s,baz=201,slow=34						
CPUP	**Villa Florida**	**35.65**	**312**	P	P	09 53 00.8	-1.4
	1.1nm,0.3s,baz=186,slow=19,SNR=3.3						
CPUP				LR	LR	10 07 45.0	
	comp=Z,24nm,18.1s,baz=214,slow=36						
	1.1nm,0.3s						
MAW	**Mawson**	**41.29**	**145**	P	P	09 53 48.5	-0.7
	1.2nm,0.7s,baz=235,slow=12,SNR=5.1						
	1.2nm,0.7s						
H10N1	**ASCENSION HYDR**	**48.60**	**19**	T	T	10 47 47.0	
	baz=191,slow=75,SNR=10						
H10N3	**ASCENSION HYDR**	**48.60**	**19**	T	T	10 47 45.7	
	baz=191,slow=75,SNR=15						
H10N2	**ASCENSION HYDR**	**48.62**	**19**	T	T	10 47 44.0	
	baz=191,slow=75,SNR=14						
RPN	**Rapa Nui**	**62.97**	**261**	LR	LR	10 21 33.7	
	comp=Z,81nm,18.7s,baz=10.0,slow=34						
TORD	**Torodi Ar. Bea**	**72.78**	**31**	P	P	09 57 32.6	-0.1
	0.4nm,0.8s,baz=186,slow=6.4,SNR=1.7						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**148.96**	**313**	PKP	PKPdf	10 05 45.8	-1.1
	0.8nm,0.7s,baz=124,slow=2.0,SNR=6.1						
ILAR				PKPbc	PKiKP	10 05 51.9	-0.4
	3.0nm,0.7s,baz=120,slow=1.7,SNR=22						

IDC 18 09:52:43.7±1.6, 1°.32N×126°.83E, h0km, mb3.8/4, mbtmp3.9/4, Error ellipse: s-maj=169.2km s-min=20.2km az=66.0
DJA 18 09:52:49.0±0.7, 1°N±3°×12°7E±°, h12km±8km, M3.6/8, MLv3.6/8
ISC 18 09:52:45.1±1.3, 1°.7N±0°.1×127°.2E±0°.2, h10km, n9, σ1°70/11, mb3.9/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.93**	**172**	P	**Pb**	**09 53 04.9**	**+1.5**
TNTI				S	**Sb**	**09 53 16.1**	**+0.3**
LBMI	**Labuha**	**2.34**	**174**	P	**Pn**	**09 53 24.8**	**+1.2**
SANI	**Sanana**	**3.93**	**199**	P	**Pn**	**09 53 44.1**	**-1.4**
GTOI	**Gorontalo**	**4.36**	**256**	P	**Pn**	**09 53 52.0**	**+0.6**
NLAI	**Namlea**	**4.91**	**182**	P	**Pn**	**09 53 59.8**	**+0.8**
WRA	**Warramunga Arr**	**22.61**	**162**	P	**P**	**09 57 43.8**	**-2.4**
	2.0nm,1.1s,baz=339,slow=10,SNR=19						
WRA				PcP	**PcP**	**10 01 37.3**	**-2.2**
	0.6nm,1.1s,baz=343,slow=1.9,SNR=1.5						
	2.0nm,1.1s						
ASAR	**Alice Springs**	**26.03**	**166**	P	**P**	**09 58 16.9**	**-1.8**
	0.9nm,0.7s,baz=343,slow=9.0,SNR=9.7						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**59.51**	**326**	P	**P**	**10 02 49.8**	**+1.2**
	1.3nm,0.7s,baz=125,slow=8.8,SNR=11						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**63.71**	**328**	P	**P**	**10 03 17.9**	**+0.9**
	0.8nm,0.3s,baz=129,slow=6.2,SNR=10						
	0.8nm,0.3s						

IDC 18 09:52:39.6±1.7, 20°.20N×93°.56E, h0km, mb3.9/6, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=88.2km s-min=18.1km az=56.0
ISC 18 09:52:47.1±1.3, 20°.5N±0°.3×94°.2E±0°.2, h35km, n13, σ1°65/14, mb3.9/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.96**	**114**	Pn	**Pn**	**09 54 00.9**	**+1.8**
	0.9nm,0.3s,baz=290,slow=14,SNR=12						
CMAR				Sn	**Sn**	**09 54 55.6**	**+0.3**
	0.7nm,0.3s,baz=301,slow=23,SNR=1.1						
CMAR				Lg	Lg	09 55 08.8	
	0.7nm,0.3s,baz=293,slow=28,SNR=1.0						
	2.7nm,0.4s						
TAPN	**Taplejung**	**8.99**	**320**	*e*P	**Pn**	**09 54 56.5**	**+1.8**
	6.1nm,0.3s						
RAMN	**Ramite**	**9.42**	**314**	*e*P	**Pn**	**09 55 02.5**	**+1.9**
	7.9nm,0.5s						
JIRN	**Jiri**	**10.16**	**316**	*e*P	**Pn**	**09 55 12.4**	**+1.5**
	5.1nm,0.3s						
GUN	**Gumba**	**10.53**	**316**	*e*P	**Pn**	**09 55 17.6**	**+1.7**
	5.5nm,0.5s						
PKI	**Pulchoki**	**10.63**	**313**	*e*P	**Pn**	**09 55 19.0**	**+1.8**
	5.2nm,0.5s						
PKIN	**Phulchoki**	**10.64**	**313**	*e*P	**Pn**	**09 55 19.0**	**+1.7**
	5.0nm,0.4s						
MKAR	**Makanchi Array**	**27.92**	**342**	P	**P**	**09 58 33.4**	**-0.6**
	1.0nm,0.7s,baz=155,slow=9.7,SNR=7.7						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**32.46**	**341**	P	**P**	**09 59 13.0**	**-1.0**
	0.8nm,0.3s,baz=151,slow=8.1,SNR=11						
	0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**34.11**	**350**	P	**P**	**09 59 27.4**	**-0.9**
	1.0nm,0.3s,baz=163,slow=10,SNR=2.5						
	1.0nm,0.3s						
WRA	**Warramunga Arr**	**56.26**	**133**	P	**P**	**10 02 23.6**	**-0.7**
	0.4nm,0.8s,baz=319,slow=7.7,SNR=11						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**58.56**	**137**	P	**P**	**10 02 39.1**	**-1.4**
	0.4nm,0.7s,baz=313,slow=7.0,SNR=6.8						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**63.48**	**339**	P	**P**	**10 03 11.3**	**-2.0**
	3.2nm,0.9s,baz=112,slow=6.9,SNR=3.5						
	3.2nm,0.9s						

STR 18 09:59:30.7±0.7, 45°N±10°×°±1°5, h5km, MLv0.6/4, Error

ellipse: s-maj=0.0km s-min=0.0km az=122.5, preliminary,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	Grand'Maison	0.27	216	Pg	Pg	09 59 36.0	0.0
GDM				Sg	Sg	09 59 39.7	+0.2
RSL	Roselend	0.33	37	Pg	Pg	09 59 37.5	+0.3
RSL				Sg	Sg	09 59 41.4	-0.2
LSD	Lago del Serru	0.56	86	Sg	Sg	09 59 49.3	+0.5
ORIF	Oris-en-Rattie	0.60	213	Sg	Sg	09 59 50.0	0.0
ORIF	Oris-en-Rattie	0.60	213	Pg	Pg	09 59 42.3	+0.1

ROM 18 09:59:40.8±0.0, 42°.805N±0°.002×13°.116E±0°.004, h11km, ML1.1/10, 1D, Error ellipse: s-maj=0.2km s-min=0.2km az=77.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.03	357	⇓P	Pg	09 59 43.1	+0.2
NRCA				S	Sg	09 59 44.4	0.0
NRCA				AML	AML		
	comp=E,306μm,0.7s						
NRCA				AML	AML		
	comp=N,339μm,0.9s						
NRCA				AML	AML		
	comp=N,339μm,1.1s						
T1214	Arquata del Tr	0.08	124	P	Pg	09 59 43.7	+0.3
T1214				S	Sg	09 59 45.5	+0.1
T1214				AML	AML		
	comp=E,240μm,0.2s						
T1214				AML	AML		
	comp=E,240μm,0.1s						
T1214				AML	AML		
	comp=N,348μm,0.2s						
MC2	Monte Cornacci	0.12	27	P	Pg	09 59 44.4	+0.4
MC2				S	Sg	09 59 47.0	+0.7
MMO1	Montemonaco	0.18	59	P	Pg	09 59 45.2	+0.4
MMO1				S	Sg	09 59 48.5	+0.9
GAVE	Gavelli	0.20	236	P	Pg	09 59 45.6	+0.6
GAVE				S	Sg	09 59 49.2	+1.1
T1221	Campello sul C	0.21	286	P	Pg	09 59 45.8	+0.6
T1221				S	Sg	09 59 49.3	+1.1
LNSS	Leonessa	0.21	196	P	Pg	09 59 45.8	+0.6
LNSS				S	Sg	09 59 49.3	+1.0
LNSS				AML	AML		
	comp=N,98μm,0.2s						
LNSS				AML	AML		
	comp=E,82μm,0.4s						
MTRA	Matera	0.21	103	P	Pg	09 59 45.7	+0.4
MTRA				S	Sg	09 59 49.8	+1.4
FDMO	Fiordimonte	0.23	355	P	Pg	09 59 46.2	+0.6
FDMO				S	Sg	09 59 50.0	+1.1
CESI	CESI - Serrava	0.25	322	P	Pg	09 59 46.6	+0.6
CESI				S	Sb	09 59 50.8	-1.1
CESI				AML	AML		
	comp=E,43μm,0.3s						
CESI				AML	AML		
	comp=N,66μm,0.5s						
CSP1	Cessapalombo	0.29	13	P	Pg	09 59 47.3	+0.5
CSP1				S	Sb	09 59 52.0	-1.1
RM33	Pellescritta (	0.30	166	P	Pg	09 59 47.4	+0.5
RM33				S	Sb	09 59 52.4	-1.0
TERO	Teramo	0.40	117	P	Pg	09 59 48.9	+0.2
TERO				AML	AML		
	comp=E,20μm,1.4s						
TERO				AML	AML		
	comp=N,23μm,0.2s						
TERO				AML	AML		
	comp=E,20μm,0.6s						

*ANF **18** 10:05:59.8±0.2, 33°.15N×116°.64W, h9km±2km, ML3.6/35, Error ellipse: s-maj=1.9km s-min=1.6km az=29.0*
*PAS **18** 10:06:00.2±0.9, 33°.136N±0°.008×116°.66W±0°.01, h3km±5km, Mwr3.4/4, ML3.4/62(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=99.0*
*NEIC **18** 10:06:00±0.9, 33°.137N±0°.007×116°.657W±0°.010, h14km±1km, Error ellipse: s-maj=1.3km s-min=0.9km az=68.0*

ISC 18 10:06:00.2±0.8, 33°.14N±0°.01×116°.66W±0°.01, h12km±6km, n145, σ0°77/217, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATG	Mataguay Scout	0.06	6		Pg	10 06 02.5	-0.4
JUEM	Julian Eagle M	0.07	138		Pg	10 06 02.9	0.0
MONP2	Monument Peak	0.31	141		Pg	10 06 06.4	-0.3
MONP2					Sg	10 06 10.5	-0.4
MONP2	Monument Peak	0.31	141	P	Pg	10 06 06.4	-0.3
	baz=321,SNR=1000						
MONP2				S	Sg	10 06 10.1	-0.8
	baz=321						
SLH	Sleepy Hollow	0.34	80		Pg	10 06 07.0	-0.1
SLH					Sg	10 06 11.8	+0.1
BZNA	Buzz No.'s Pla	0.36	358		Pg	10 06 07.1	-0.3
BZNA					Sg	10 06 12.2	0.0
FRD	Ford Ranch, An	0.36	7		Pg	10 06 07.2	-0.3
FRD					Sg	10 06 12.2	-0.3
SNDA	J Saunders Pla	0.42	5		Pg	10 06 08.4	-0.2
SNDA					Sg	10 06 14.1	-0.1
DNR	Dunn Ranch,Anz	0.43	3		Pg	10 06 08.7	-0.2
DNR					Sb	10 06 15.6	-0.8
CRY	Cary Ranch	0.43	351		Pg	10 06 08.7	-0.2
CRY					Sg	10 06 14.5	-0.2
109C	Camp Elliot, M	0.45	237		Pg	10 06 09.1	0.0
109C				Sg	Sg	10 06 15.3	+0.2
109C	Camp Elliot, M	0.45	237	P	Pg	10 06 09.1	0.0
	baz=56,SNR=1000						
109C				S	Sg	10 06 15.5	+0.3
	baz=56						
CPE	Camp Elliot	0.45	237		Pg	10 06 09.1	0.0
CPE					Sg	10 06 15.2	+0.1
BAR	Barrett	0.45	182		Pg	10 06 08.8	-0.3
BAR	Barrett	0.45	182	Sg	Sg	10 06 14.9	-0.3
BAR				IAML		10 06 15.3	
	comp=E,5μm,0.3s						
BAR				IAML		10 06 15.7	
	comp=N,4μm,0.2s						
BAR	Barrett	0.45	182	Pg	Pg	10 06 08.7	-0.5
MTRP	Mission Trails	0.46	227		Pg	10 06 09.2	-0.1
MTRP					Sg	10 06 15.6	+0.1
SDRC	San Diego Road	0.47	211		Pg	10 06 09.2	-0.2
SDRC					Sg	10 06 15.6	0.0
GORC	Green Oak Ranc	0.48	272		Pg	10 06 09.5	-0.2
GORC					Sg	10 06 16.1	0.0
PFO	Pinyon Flats O	0.50	19	Pg	Pg	10 06 09.7	-0.4
PFO				Sg	Sg	10 06 16.4	-0.5
PFO				IAML		10 06 18.4	
	comp=N,2μm,0.2s						
PFO	Pinyon Flats O	0.50	19		Pg	10 06 09.7	-0.4
PFO					Sg	10 06 16.5	-0.5
PFO	Pinyon Flats O	0.50	19	P	Pg	10 06 09.7	-0.4
	baz=199,SNR=444						
PFO				S	Sg	10 06 16.4	-0.5
	baz=199						
XPFO	Pion Flat	0.50	19		Pg	10 06 09.7	-0.5
XPFO					Sg	10 06 16.4	-0.5
GVDA	Garner Valley	0.53	358		Pg	10 06 10.4	-0.3
GVDA					Sg	10 06 17.6	-0.2
DUZA	Dulzura	0.54	191		Pg	10 06 10.4	-0.4
DUZA					Sg	10 06 17.5	-0.4
SDMC	San Diego Miss	0.54	229		Pg	10 06 10.7	-0.1
SDMC					Sg	10 06 18.2	+0.3
PMD	Palm Desert	0.56	24	Pg	Pg	10 06 10.8	-0.5
PMD				IAML		10 06 18.8	
	comp=E,2μm,0.2s						
PMD	Palm Desert	0.56	24		Sg	10 06 17.7	-1.0
TKX	Tecate	0.57	176		Pg	10 06 10.8	-0.5
TKX				IAML		10 06 19.7	
	comp=N,3μm,0.1s						
OLP	Otay Lakes Par	0.57	204		Pg	10 06 11.1	-0.3
OLP					Sg	10 06 18.9	-0.2
BACC	Bachelor Mtn.	0.57	326		Pg	10 06 11.1	-0.4
BACC					Sg	10 06 18.9	-0.2
SALN	Salton City	0.58	75		Pg	10 06 11.6	0.0
SALN					Sg	10 06 19.8	+0.5
DGR	Domenigoni Val	0.59	330		Pg	10 06 11.4	-0.4
DGR					Sg	10 06 19.6	-0.1
POB	Polly Butte	0.59	338		Pg	10 06 11.4	-0.4
POB					Sg	10 06 19.3	-0.4
CRR	Carrizo Plain	0.63	113		Pg	10 06 12.4	0.0
CRR					Sg	10 06 20.9	+0.2
HMTC	Hemet	0.64	333		Pg	10 06 12.2	-0.5
HMTC					Sg	10 06 20.8	-0.5
MURC	Murrieta	0.65	316		Pg	10 06 12.5	-0.4
MURC					Sg	10 06 21.5	+0.1
MURC	Murrieta	0.65	316	P	Pg	10 06 12.5	-0.4
	baz=136,SNR=179						
MURC				S	Sg	10 06 21.6	+0.1
	baz=136						
IKP	In-Ko-Pah, Jac	0.67	136		Pg	10 06 12.9	-0.3
IKP					Sg	10 06 21.9	-0.1
IKP	In-Ko-Pah, Jac	0.67	136	P	Pg	10 06 12.9	-0.3
	baz=316,SNR=286						
IKP				S	Sg	10 06 21.9	-0.1
	baz=316						
ERRC	Elmore Ranch	0.70	91		Pb	10 06 14.2	-0.1
ERRC					Sb	10 06 24.0	+0.1
TJX	Tijuana	0.71	208		Pg	10 06 13.9	-0.1
TJX					Sb	10 06 23.7	-0.5
RMX	La Rumorosa	0.72	137		Pb	10 06 15.1	+0.3
RMX					Sb	10 06 25.3	+0.6
RMX				IAML		10 06 27.4	
	comp=N,1μm,0.5s						
RMX				IAML		10 06 29.4	
	comp=E,3μm,0.3s						
SWSC	Sam W. Stewart	0.74	105		Pg	10 06 14.4	-0.2
SWSC					Sg	10 06 24.7	+0.3
SWSC	Sam W. Stewart	0.74	105	P	Pg	10 06 14.4	-0.2
	baz=285,SNR=512						
SWSC				S	Sg	10 06 24.6	+0.2
	baz=285						
CTCC	Cactus City	0.76	47		Pg	10 06 14.8	-0.2
CTCC					Sg	10 06 25.0	0.0
YUH	Yuha Desert	0.79	128	Pg	Pg	10 06 15.1	-0.3
YUH				IAML		10 06 26.0	
	comp=E,884nm,0.5s						
YUH				IAML		10 06 27.4	
	comp=N,1μm,0.6s						
YUH	Yuha Desert	0.79	128		Sg	10 06 25.1	-0.6
DEVC	Devers	0.80	5		Pg	10 06 15.5	-0.2
DEVC					Sg	10 06 26.2	-0.1
BOMB	Bombay Beach	0.81	73		Pg	10 06 15.8	0.0
BOMB					Sb	10 06 27.1	0.0
CBX	Cerro Bola	0.82	180	Pg	Pg	10 06 15.4	-0.7
CBX				IAML		10 06 28.4	
	comp=E,2μm,0.4s						
CBX				IAML		10 06 28.8	
	comp=N,1μm,0.4s						
ELS	Elsinore Mount	0.82	309		Pg	10 06 15.0	-1.2
ELS	Elsinore Mount	0.82	309		Sg	10 06 26.0	-0.9
COK2	Cook Ranch 2	0.83	110		Pb	10 06 16.5	-0.1
COK2					Sb	10 06 28.6	+0.9
BBSC	Beaumont Base	0.83	341		Pg	10 06 16.2	-0.1
BBSC					Sb	10 06 27.4	-0.4
EW2	E Wide Canyon	0.83	14		Pg	10 06 15.9	-0.4
EW2					Sb	10 06 27.7	-0.1
CTW	Cottonwood Mou	0.85	50		Pg	10 06 16.2	-0.4
CTW					Sg	10 06 27.6	-0.2
WESC	Westside Schoo	0.86	116		Pb	10 06 17.1	0.0
WESC					Sb	10 06 29.6	+1.0
PEC	Perris	0.86	331		Pg	10 06 16.2	-0.8
PEC					Sg	10 06 27.5	-0.8
CLI2	Calipatria 2	0.90	91		Pg	10 06 17.5	-0.1
CLI2					Sb	10 06 31.0	+1.2
WEMD	Westmorland, C	0.91	96		Pg	10 06 17.5	-0.2
WEMD					Sn	10 06 31.5	-0.3
SGL	Mount Signal	0.92	122		Pg	10 06 17.8	-0.2
SGL					Sg	10 06 30.0	0.0
IMPE	Imperial	0.95	104		Pg	10 06 18.4	-0.1
IMPE					Sn	10 06 33.1	+0.3
BLAC	Blackrock camp	0.96	13		Pg	10 06 18.2	-0.5
BLAC					Sb	10 06 31.3	-0.2
CFT	Crafton Hills	0.97	337		Pg	10 06 18.7	-0.4
CFT					Sb	10 06 31.8	-0.2
HAY	Hayfield	0.99	55		Pg	10 06 19.0	-0.3
HAY					Sb	10 06 33.0	+0.6
RSBC	Riverside Bore	1.01	326		Pg	10 06 18.6	-1.0
RSBC					Sg	10 06 32.5	-0.3
RSBC	Riverside Bore	1.01	326		Pg	10 06 19.1	-0.5
RSBC					Sg	10 06 32.1	-0.7
BELC	Belle Mtn. Jos	1.02	32		Pg	10 06 19.2	-0.7
BELC					Sg	10 06 33.0	-0.3
BELC	Belle Mtn. Jos	1.02	32	P	Pg	10 06 19.2	-0.7
	baz=213,SNR=514						
BELC				S	Sg	10 06 32.9	-0.4
	baz=213						
SVD	Seven Oaks Dam	1.04	339		Pg	10 06 19.7	-0.5
SVD					Sg	10 06 33.6	-0.2
RVR	Riverside	1.05	325		Pg	10 06 19.3	-1.1
DREC	Desert Rsrch C	1.07	108		Pg	10 06 20.2	-0.6
BC3	Big Chuckawall	1.13	62		Pg	10 06 20.9	-1.2
BC3	Big Chuckawall	1.13	62	P	Pg	10 06 20.8	-1.2
	baz=243,SNR=325						
BC3				S	Sg	10 06 35.2	-1.6
	baz=243						
UABX	UABC, Campus M	1.14	116		Pb	10 06 21.0	-0.8
BBRC	Big Bear Solar	1.15	349	P	Pg	10 06 21.8	-0.6
	baz=169,SNR=618						
BBRC				S	Sg	10 06 36.9	-0.4
	baz=169						
CCX	Cicese	1.26	180		Pn	10 06 22.9	-0.8
CCX				IAML		10 06 42.6	
	comp=N,1μm,0.5s						
CCX				IAML		10 06 43.0	
	comp=E,1μm,0.4s						
ESJX	Sierra Juarez	1.27	152		Pn	10 06 23.8	-0.3
ESJX				IAML		10 06 41.5	
	comp=N,874nm,0.1s						
COA	Coachella	1.32	101		Pn	10 06 23.3	-1.1
CPBX	Cerro Prieto	1.34	122		Pn	10 06 24.0	-0.8
BFSC	Mount Baldy Ra	1.38	323	P	Pn	10 06 25.1	-0.4
	baz=143,SNR=145						
BFSC				S	Sb	10 06 43.0	-0.8
	baz=143						
CIS	Catalina Islan	1.50	281	P	Pn	10 06 25.9	-1.0
	baz=100,SNR=33						
CIS				S	Sn	10 06 45.9	-0.6
	baz=100						
GLA	Glamis	1.54	93		Pn	10 06 26.4	-1.1
GLA				IAML		10 06 47.6	
	comp=N,466nm,0.3s						
GLA				IAML		10 06 57.7	
	comp=E,459nm,0.7s						
GLA	Glamis	1.54	93	P	Pn	10 06 26.5	-1.1
	baz=274,SNR=75						
GLA				S	Sn	10 06 45.8	-1.7
	baz=274						
GUVIX	Guadalupe Vict	1.57	122		Pb	10 06 28.8	-0.4
GUVIX				IAML		10 06 52.5	
	comp=E,714nm,0.4s						
GUVIX				IAML		10 07 08.7	
	comp=N,605nm,0.7s						
SCI2	San Clemente I	1.60	265	P	Pn	10 06 27.7	-0.6
	baz=84						
IRM	Iron Mountain	1.62	51	P	Pn	10 06 28.0	-0.6
	baz=231,SNR=164						
IRM				Sb	Sb	10 06 51.0	+0.5
	baz=231						
PASC	Pasadena Art C	1.64	309		Pn	10 06 29.0	0.0
PASC				IAML		10 06 52.9	
	comp=N,442nm,0.5s						
HEC	Hector,Ludlow	1.71	9	P	Pn	10 06 29.3	-0.7
	baz=189						
HEC				Sg	Sg	10 06 56.5	+1.2
	baz=189						
RRX	Edison Barstow	1.76	351	Pb	Pb	10 06 32.3	-0.2
	baz=171						
RRX				Sb	Sg	10 06 56.0	-0.8
	baz=171						
DECC	Green Verdugo	1.79	309	Pb	Pb	10 06 32.2	-0.7
	baz=128						
DECC				S	Sn	10 06 54.2	+0.6
	baz=128						
GMRC	Granite Mounta	1.84	26	P	Pn	10 06 31.5	-0.3
	baz=207,SNR=170						
GMRC				Sb	Sg	10 06 58.2	-1.3
	baz=207						
BLYC	Blythe	1.89	70	Pn	Pn	10 06 31.5	-0.8
BLYC				IAML		10 07 08.1	
	comp=N,229nm,0.7s						
VTX	Valle De La Tr	1.89	157		Pn	10 06 33.6	+1.2
VTX				IAML		10 06 59.3	
	comp=N,317nm,0.4s						
VTX				IAML		10 07 02.3	
	comp=E,418nm,0.6s						
EDW2	Edwards Air Fo	2.07	328	P	Pn	10 06 35.8	+0.9
	baz=147,SNR=95						
EDW2				Sb	Sb	10 07 04.3	+0.9
	baz=147						
GSC	Goldstone, Bar	2.17	357		Pn	10 06 37.0	+0.8
GSC				IAML		10 07 12.4	
	comp=N,310nm,0.4s						
GSC				IAML		10 07 14.0	
	comp=E,348nm,0.5s						
GSC	Goldstone, Bar	2.17	357	P	Pn	10 06 36.8	+0.6
	baz=177,SNR=173						
GSC				Sb	Sg	10 07 08.2	-1.6
	baz=177						
CCAC	Calif City Air	2.31	331		Pn	10 06 39.1	+1.0
CCAC				IAML		10 07 16.8	
	comp=E,442nm,0.9s						
CCAC				IAML		10 07 19.9	
	comp=N,366nm,0.7s						
NEE2	Needles Airpor	2.35	46	P	Pn	10 06 38.7	0.0
	baz=227,SNR=16						
NEE2				Sb	Sb	10 07 13.2	+1.8
	baz=227						
TUQ	Turquoise Moun	2.37	15	P	Pn	10 06 39.3	+0.1
	baz=195,SNR=128						
PDMCI	Parker Dam,Lak	2.40	60	P	Pn	10 06 39.2	-0.1
	baz=242						
SNCC	San Nicolas Is	2.41	273	Pn	Pn	10 06 39.1	-0.4
SNCC	San Nicolas Is	2.41	273	P	Pn	10 06 39.4	-0.1
	baz=92						
113A	Mohawk Valley,	2.46	98	Pn	Pn	10 06 39.4	-0.7
LRMC	Laurel Mtn Rad	2.49	340	Sb	Sb	10 07 17.6	+1.9
	baz=160						
ARVC	Arvin	2.68	318	P	Pn	10 06 44.4	+1.1
	baz=137						
ARVC				Sb	Sb	10 07 23.5	+2.4
	baz=137						
QSM	Queen of Sheba	2.83	356	Pn	Pn	10 06 46.0	+0.7
BCW	Bitter Crk WRg	2.91	309		Pn	10 06 47.9	+1.4
ISA	Isabella, Lake	2.94	330	Pn	Pn	10 06 47.7	+1.0
ISA				IAML		10 07 39.3	
	comp=E,89nm,0.8s						
ISA	Isabella, Lake	2.94	330	P	Pn	10 06 47.8	+1.0
	baz=149						
V12A	Nelson	2.98	29	Pn	Pn	10 06 48.2	+0.7
MPMC	Manual Prospec	3.00	347	P	Pn	10 06 48.1	+0.3
	baz=167						
W13A	Hualapai Mount	3.02	49	Pn	Pn	10 06 48.1	+0.1
GWY	Greenwater Val	3.04	360	Pn	Pn	10 06 48.9	+0.6
PIX	Pinacate	3.13	119		Pn	10 06 49.3	0.0
PKM	Mcpherson Peak	3.15	305	P	Pn	10 06 50.5	+0.6
	baz=123						
WTNK	Soaring Height	3.34	24		Pn	10 06 52.9	+0.6
214A	Organ Pipe Nat	3.45	109	Pn	Pn	10 06 53.3	-0.6
214A	Organ Pipe Nat	3.45	109	P	Pn	10 06 53.3	-0.6
	baz=291						
SMMC	Simmler	3.52	309	P	Pn	10 06 55.5	+0.7
	baz=127						
SHPR	Sheep Range	3.58	20	Pn	Pn	10 06 57.0	+1.3
WCT	Wildcat Mounta	3.65	0		Pn	10 06 57.5	+0.9
TPNV	Topopah Spring	3.82	5		Pn	10 07 00.2	+1.2
TPNV				IAML		10 08 04.0	
	comp=E,42nm,0.4s						
TPNV				IAML		10 08 05.2	
	comp=E,56nm,0.4s						
TPNV	Topopah Spring	3.82	5	P	Pn	10 06 59.9	+0.9
	baz=185						
GRAC	Grapevine Rang	3.90	352		Pn	10 07 02.3	+2.3
GRAC	Grapevine Rang	3.90	352	P	Pn	10 07 01.8	+1.8
	baz=171						
GMN	Gold Mountain	4.18	353		Pn	10 07 05.5	+1.4
DSP	Deep Springs	4.36	346	Pn	Pn	10 07 08.3	+2.1
PRN	Pahroc Range	4.46	17	Pn	Pn	10 07 09.8	+2.0
X16A	Lo Mia Camp, P	4.53	72	Pn	Pn	10 07 09.6	+0.9
MZP	Montezuma Peak	4.59	353		Pn	10 07 11.4	+1.7
LCMT	Little Creek M	4.77	35		Pn	10 07 13.3	+1.2
OMMB	Old Mammoth Mi	4.86	337	Pn	Pn	10 07 16.0	+2.5
U15A	North Rim	4.87	46	Pn	Pn	10 07 14.9	+1.3
TPH	Tonopah	4.95	355		Pn	10 07 16.5	+1.9
WUAZ	Wupatki	4.97	60	Pn	Pn	10 07 16.3	+1.4
WUAZ	Wupatki	4.97	60	P	Pn	10 07 16.0	+1.1
	baz=243						
BBGB	Big Mountain B	4.98	315	Pn	Pn	10 07 15.3	+0.4
KNB	Kanab	4.99	38	Pn	Pn	10 07 16.6	+1.5
TUC	Tucson	5.02	98		Pn	10 07 14.8	-0.5
TUC	Tucson	5.02	98	P	Pn	10 07 15.0	-0.4
	baz=281						
SPR3	Spring Creek 3	6.15	17		Pn	10 07 32.0	+0.8
121A	Cookes Peak, D	7.49	92	P	Pn	10 07 50.4	+1.0
	baz=277						
MNTX	Cornudas Mount	9.64	96	P	Pn	10 08 19.3	+0.5
	baz=282						

*NNC **18** 10:07:11.5±7.0, 49°.52N×83°.92E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=63.3km s-min=25.7km az=56.0, Suspected Mining explosion.*
*SOME **18** 10:07:13.5, 49°.50N×83°.38E, h0km*

ISC 18 10:07:14.6±2.8, 49°.5N±0°.2×83°.8E±0°.3, h0km, n5, σ0°07/5, 3C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	2.12	160	*e*Pg	Pg	10 07 55.3	0.0
	17nm,0.2s						
ZSN				*e*Lg	Lg	10 08 26.0	
	30nm,0.3s						
SEM	Semipalatinsk	2.48	294	*e*Pg	Pn	10 07 56.4	-0.1
	9.9nm,0.2s						
SEM				*e*Lg	Lg	10 08 27.7	
	38nm,0.1s						
MK31	Makanchi Array	2.84	201	⇑Pg	Pb	10 08 06.1	0.0
	0.8nm,0.3s,baz=28,slow=14,SNR=28						
MK31				⇑Lg	Lg	10 08 43.0	
	8.5nm,0.5s,baz=23,slow=31,SNR=14						
KURK	Kurchatov	3.56	293	⇓Pg	Pb	10 08 18.4	0.0
	2.1nm,0.4s						
KURK				⇓Lg	Lg	10 09 02.0	
	8.8nm,0.5s						
KURBB	Kurchatov Arra	3.58	291	⇓Pg	Pb	10 08 18.9	+0.1
	2.5nm,0.3s						
KURBB				⇑Lg	Lg	10 09 03.2	
	23nm,0.6s						

*NOU **18** 10:32:06.2, 42°.49S×173°.74E, h8km, MLv3.7/9, South Island, New Zealand*
*WEL **18** 10:32:08.1±0.5, 42°.5S±3°×17°.3E±°, h6km±5km, M3.4/8, ML3.5/9, MLv3.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=119.7, confirmed*

ISC 18 10:32:07.2±1.0, 42°.42S±0°.04×173°.67E±0°.04, h16km±6km, n78, σ1°13/83, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	Kahutara	0.09	274	P	Pg	10 32 10.4	-0.2
KHZ	Kahutara	0.09	274	P	Pg	10 32 10.6	0.0
KHZ				S	Sg	10 32 12.6	-0.2
GVZ	Greta Valley S	0.72	220	P	Pn	10 32 23.1	+0.5
GVZ				S	Sn	10 32 34.8	+1.5
BSWZ	Blackbirch Sta	0.72	13	P	Pg	10 32 21.0	-0.4
BSWZ				S	Sg	10 32 30.6	-0.4
CMWZ	Cape Campbell	0.79	31	P	Pb	10 32 23.9	+1.4
THZ	Tophouse	0.87	319	P	Pg	10 32 22.3	-1.8
THZ				S	Sg	10 32 32.2	-3.4
TUWZ	Tuamarina	1.01	12	P	Pg	10 32 26.1	-0.8
AMCZ	Amberley	1.06	224	P	Pn	10 32 28.4	+1.0
LTZ	Lake Taylor	1.09	250	P	Pg	10 32 27.1	-1.2
NNZ	Nelson	1.22	350	P	Pg	10 32 28.9	-2.0
MRNZ	Matariki Terra	1.23	326	P	Pg	10 32 29.0	-1.9
TCW	Tory Channel	1.29	21	P	Pn	10 32 30.6	0.0
TCW				S	Sb	10 32 48.0	+0.5
BHW	Baring Head	1.36	42	P	Pn	10 32 31.8	+0.3
SNZO	South Karori	1.36	35	P	Pn	10 32 31.9	+0.5
OKCZ	Okains Bay	1.37	199	P	Pn	10 32 32.6	+0.9
WEL	Wellington	1.41	36	P	Pn	10 32 32.5	+0.4
PLWZ	Palli

PAWZ	Paruwai Farm	1.68	52	P	Pn	10 32 35.7	-0.2
CAW	Cannon Point	1.68	39	P	Pn	10 32 36.0	+0.1
RACZ	Rakaia	1.72	220	P	Pn	10 32 36.2	-0.2
QRZ	Quartz Range	1.81	332	P	Pn	10 32 38.5	+0.8
QRZ	Quartz Range	1.81	332	P	Pn	10 32 38.5	+0.8
KIW	Kapiti Island	1.82	31	P	Pn	10 32 38.2	+0.4
MTW	Mount Morrison	1.87	48	P	Pn	10 32 38.1	-0.3
MHCZ	Mount Hutt	1.90	234	P	Pn	10 32 38.4	-0.5
OGWZ	Otaki Gorge	1.96	36	P	Pn	10 32 39.8	+0.1
WACZ	Wakanui South	2.02	221	P	Pn	10 32 40.5	-0.1
HOWZ	Holdsworth Sta	2.06	43	P	Pn	10 32 40.8	-0.4
TMWZ	Te Maipa	2.12	52	P	Pn	10 32 41.5	-0.5
WVZ	Waitaha Valley	2.25	252	P	Pn	10 32 44.1	+0.3
MRZ	Mangatainoka R	2.27	40	P	Pn	10 32 43.5	-0.5
RPZ	Rata Peaks	2.31	235	P	Pn	10 32 44.3	-0.3
RPZ	Rata Peaks	2.31	235	P	Pn	10 32 44.2	-0.4
ARCZ	Arundel	2.37	229	P	Pn	10 32 45.1	-0.4
POWZ	Post Office Ro	2.57	39	P	Pn	10 32 47.4	-0.8
BFZ	Birch Farm	2.60	49	P	Pn	10 32 47.8	-0.8
GCSZ	Gaunt Creek Bo	2.61	249	P	Pn	10 32 49.2	+0.5
TMZ	Timaru	2.76	224	P	Pn	10 32 50.5	-0.2
WAZ	Wanganui	2.85	21	P	Pn	10 32 54.0	+2.1
TSZ	Takapari Road	2.93	37	P	Pn	10 32 52.4	-0.7
FOZ	Fox Glacier	3.04	247	P	Pn	10 32 55.3	+0.8
PNHZ	Pukenui	3.15	38	P	Pn	10 32 55.2	-1.0
NBEZ	Newall Road No	3.16	3	P	Pn	10 32 59.0	+2.8
LBZ	Lake Benmore	3.21	231	P	Pn	10 32 56.8	-0.1
PKE	Pukeiti	3.23	4	P	Pn	10 32 59.7	+2.4
VRZ	Vera Road	3.40	14	P	Pn	10 33 01.3	+1.8
MOVZ	Moawhango	3.40	28	P	Pn	10 33 02.0	+2.4
ODZ	Otahua Downs	3.41	219	P	Pn	10 32 59.2	-0.5
ODZ	Otahua Downs	3.41	219	P	Pn	10 32 59.4	-0.3
WMVZ	Wahianoa	3.42	26	P	Pn	10 33 01.3	+1.2
TRVZ	Turoa	3.43	25	P	Pn	10 33 03.9	+3.7
BHHZ	Black Hill Sta	3.45	33	P	Pn	10 33 00.2	0.0
KRHZ	Kereru	3.45	37	P	Pn	10 32 58.8	-1.4
WHVZ	Whangaehu Hut	3.46	26	P	Pn	10 33 01.9	+1.3
SNVZ	South Ngauruho	3.56	26	P	Pn	10 33 03.1	+1.1
TWVZ	Taurewa	3.61	22	P	Pn	10 33 03.3	+0.7
BKZ	Black Stump Fm	3.90	34	P	Pn	10 33 06.6	+0.2
BKZ	Black Stump Fm	3.90	34	P	Pn	10 33 05.6	-0.9
JCZ	Jackson Bay	3.93	244	P	Pn	10 33 07.9	+1.0
JCZ	Jackson Bay	3.93	244	P	Pn	10 33 07.0	+0.1
HIZ	Hauiti	4.01	13	P	Pn	10 33 08.9	+1.0
HIZ	Hauiti	4.01	13	P	Pn	10 33 09.7	+1.7
TOZ	Tahuroa Road	4.89	17	P	Pn	10 33 20.5	+0.4
URZ	Urewera	4.92	33	P	Pn	10 33 19.9	-0.6
URZ	Urewera	4.92	33	P	Pn	10 33 19.4	-1.1
AWAZ	Awhitu Peninsu	5.41	8	P	Pn	10 33 28.4	+1.3
MKAZ	Moumakai	5.44	13	P	Pn	10 33 27.9	+0.4
ETAZ	East Tamaki Re	5.55	11	P	Pn	10 33 30.2	+1.2
RVAZ	Riverhead Bore	5.69	7	P	Pn	10 33 32.0	+1.0
MBAZ	Motutapu North	5.73	10	P	Pn	10 33 32.1	+0.6
WIAZ	Waiheke Island	5.74	12	P	Pn	10 33 32.9	+1.3

HEL 18 10:32:20.7±0.2, 67.°46N×22.°04E, h0km, ML1.1, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.59**	**358**	PG	Pg	10 32 31.1	-1.0
LANU				SG	Sg	10 32 40.9	+1.1
PAJU	**Pajala**	**0.60**	**136**	PG	Pg	10 32 31.4	-0.7
PAJU				SG	Sg	10 32 39.0	-0.9
KLF	**Kolari**	**0.78**	**106**	PG	Pg	10 32 34.8	-0.8
KLF				MSG		10 32 44.8	
	comp=Z,1.2nm,0.2s						
KLF				SB	Sg	10 32 45.4	-0.2
ERTU	**Ertsjaerv**	**0.91**	**176**	PG	Pg	10 32 36.8	-1.2
ERTU				SB	Sg	10 32 49.9	+0.1
HEF	**Hetta**	**1.14**	**32**	*eP*	Pg	10 32 41.2	-1.2
HEF	**Hetta**	**1.14**	**32**	PG	Pg	10 32 41.2	-1.3
HEF				MSG		10 32 55.2	
	comp=Z,1.9nm,0.2s						
HEF				SB	Sg	10 32 57.1	0.0
KIF	**Kilpisjarvi**	**1.62**	**344**	*eP*	Pn	10 32 50.3	-0.2
KIF	**Kilpisjarvi**	**1.62**	**344**	PG	Pn	10 32 50.4	-0.1
KIF				MSG		10 33 10.5	
	comp=Z,1.5nm,0.2s						
KIF				SG	Sg	10 33 13.0	+0.2
KTK1	**Kautokeino**	**1.63**	**15**	PG	Pn	10 32 50.2	-0.4
KTK1				SN	Sn	10 33 11.8	-0.4
TOF	**Tornio**	**1.65**	**146**	PN	Pn	10 32 51.3	+0.5
	baz=329						
TOF				MSG		10 33 10.2	
	comp=Z,0.9nm,0.2s						
TOF				SN	Sn	10 33 12.5	-0.3
KALU	**Kalix**	**1.69**	**161**	PG	Pn	10 32 51.2	-0.2
KALU				SN	Sg	10 33 14.8	0.0
SGF	**Sodankyl**	**1.73**	**88**	PG	Pn	10 32 51.4	-0.5
SGF				SG	Sb	10 33 15.4	-0.1
RNF	**Rovaniemi**	**1.77**	**117**	PG	Pn	10 32 52.5	-0.1
RNF				SN	Sb	10 33 17.1	+0.3
ARA0	**ARCESS Array S**	**2.45**	**30**	PN	Pn	10 33 01.8	-0.1
	baz=210						
ARA0				SG	Sb	10 33 34.7	-1.5
VRF	**Varrio**	**2.91**	**81**	MSG		10 33 46.5	
	comp=Z,0.6nm,0.2s						
VRF				SG	Sb	10 33 50.2	+0.7
OLKF	**Oulanka, Finla**	**3.12**	**108**	SB	Sn	10 33 50.4	+1.5
OLKF				MSG		10 33 52.4	
	comp=Z,0.4nm,0.2s						
KU6	**Riekki**	**3.43**	**111**	PN	Pn	10 33 16.7	+1.4

HEL 18 10:33:23.8±0.3, 61.°03N×28.°18E, h0km, ML0.9, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.54**	**43**	PG	Pg	10 33 33.6	-0.6
RUF				SG	Sg	10 33 40.4	-0.8
RUF				MSG		10 33 41.2	
	comp=Z,1.3nm,0.2s						
VJF	**Virojoki**	**0.58**	**212**	PG	Pg	10 33 34.5	-0.4
VJF				SG	Sg	10 33 42.3	-0.1
VJF				MSG		10 33 42.5	
	comp=Z,2.2nm,0.2s						
FIA0	**FINESS Array S**	**1.10**	**293**	PG	Pg	10 33 43.3	-1.5
FIA0				MSG		10 33 57.2	
	comp=Z,2.0nm,0.2s						
FIA0				SN	Sn	10 34 01.5	-0.7
PVF	**Pernaja**	**1.24**	**248**	PG	Pg	10 33 45.4	-2.0
PVF				MSG		10 34 01.4	
	comp=Z,1.3nm,0.2s						
PVF				SB	Sg	10 34 02.4	-1.0
KAF	**Kangasniemi**	**1.41**	**321**	PG	Pn	10 33 49.4	-1.3
KAF				MSG		10 34 06.0	
	comp=Z,2.7nm,0.2s						
KAF				SN	Sn	10 34 12.2	+2.3
KEF	**Keuruu**	**1.95**	**307**	PG	Pb	10 33 59.3	-0.8
KEF				MSG		10 34 21.9	
	comp=Z,0.8nm,0.2s						
KEF				SG	Sg	10 34 25.7	-0.6
NIF	**Nilsia**	**2.37**	**356**	SB	Sb	10 34 38.0	+0.8
NIF	**Nilsia**	**2.37**	**356**	SG	Sb	10 34 38.0	+0.8
JOF	**Joensuu**	**2.40**	**37**	SG	Sb	10 34 36.6	-1.4

*BUT **18** 10:43:17.0±0.5, 46.°90N±0.°03×112.°51W±0.°04, h6km±5km, Error ellipse: s-maj=5.4km s-min=1.8km az=49.0*

NEIC 18 10:43:16.4±0.8, 46.°89N±0.°02×112.°50W±0.°02, h5km±2km, ML1.9/6, ML2.5/17(BUT), Error ellipse: s-maj=3.8km s-min=3.2km az=8.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.17**	**61**		Pg	10 43 20.4	+0.6
BEMT	**Mount Belmont**	**0.18**	**140**		Pg	10 43 20.4	+0.3
ELMT	**Elliston**	**0.37**	**179**	Pg	Pg	10 43 24.5	+0.9
OVMT	**Ovando**	**0.38**	**298**	Pg	Pg	10 43 24.1	+0.3
CHMT	**Chamberlain Mo**	**0.52**	**273**	Pg	Pg	10 43 26.9	+0.6
BPMT	**Black Pine Rid**	**0.79**	**236**		Pg	10 43 31.5	-0.1
MSO	**Missoula**	**0.99**	**267**		Pg	10 43 35.6	+0.2
MSO				IAML		10 43 52.4	
	60nm,0.2s						
MSO				IAML		10 43 52.8	
	60nm,0.3s						
BOZ	**Bozeman (W)**	**1.43**	**155**		Pn	10 43 43.4	+0.2
BOZ				IAML		10 44 07.1	
	24nm,0.2s						

*NEIC **18** 10:55:47.1±2.0, 15.°09S±0.°08×173.°33W±0.°07, h29km±6km, mb4.4/14, Error ellipse: s-maj=12.9km s-min=8.9km az=144.0*

*IDC **18** 10:55:56.0±4.9, 15.°15S×173.°60W, h100km±42km, mb3.8/9, mbtmp4.1/10, MS3.5/20, Error ellipse: s-maj=32.4km s-min=17.6km az=134.0*

ISC 18 10:55:47.3±0.5, 15.°08S±0.°09×173.°40W±0.°09, h30km, n50, σ1§38/30, mb4.3/16, MS3.5/19, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.96**	**54**		**Pn**	**10 56 18.3**	**-0.2**
AFI				Sn	**Sn**	**10 56 38.0**	**-4.1**
NIUE	**Niue**	**5.18**	**141**		**Pn**	**10 57 01.6**	**-1.2**
MSVF	**Nonsavu**	**8.62**	**251**	Pn	**Pn**	**10 57 50.4**	**+0.3**
MSVF	**Nonsavu**	**8.62**	**251**	P	Pn	10 57 57.2	+7.1
	9.1nm,1.0s,baz=103,slow=17,SNR=2.0						
MSVF				LR	LR	11 00 51.8	
	comp=Z,419nm,21.1s,baz=49,slow=35						
MARNC	**Mare, Loyalty**	**18.74**	**247**	P	**P**	**11 00 01.6**	**-2.1**
DZM	**Mont Dzumac**	**20.32**	**247**	LR	LR	11 06 27.3	
	comp=Z,111nm,20.1s,baz=35,slow=31						
PPT	**Papeete**	**22.99**	**99**	LR	LR	11 09 34.8	
	comp=Z,36nm,18.2s,baz=322,slow=35						
URZ	**Urewera**	**24.56**	**198**	LR	LR	11 09 13.4	
	comp=Z,170nm,21.7s,baz=33,slow=33						
TOZ	**Tahuroa Road**	**24.61**	**201**	P	**P**	**11 01 04.9**	**-0.1**
TOZ				IAmb	IAmb	11 01 35.9	
	comp=Z,12nm,1.0s						
HNR	**Honiara**	**26.63**	**279**	LR	LR	11 09 42.2	
	comp=Z,868nm,19.8s,baz=96,slow=31						
MRZ	**Mangatainoka R**	**27.23**	**199**	P	**P**	**11 01 27.0**	**-1.7**
RPZ	**Rata Peaks**	**31.47**	**202**	LR	LR	11 14 24.6	
	comp=Z,123nm,18.1s,baz=27,slow=35						
ARMA	**Armidale**	**35.51**	**238**	P	**P**	**11 02 39.4**	**-2.3**
ARMA				IAmb	IAmb	11 02 59.5	
	comp=Z,5.7nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**38.69**	**329**	T	T	11 43 52.3	
	baz=146,slow=75,SNR=54						
H11S3	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	11 43 52.8	
	baz=146,slow=75,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**38.71**	**329**	T	T	11 43 53.3	
	baz=146,slow=75,SNR=17						
CTA	**Charters Tower**	**38.71**	**257**	LR	LR	11 17 52.4	
	comp=Z,16nm,19.1s,baz=87,slow=34						
H11N3	**WAKE ISLAND Hy**	**39.64**	**330**	T	T	11 45 02.7	
	baz=147,slow=76,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**39.64**	**330**	T	T	11 45 00.1	
	baz=147,slow=76,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**39.65**	**330**	T	T	11 45 02.1	
	baz=147,slow=76,SNR=6.2						
COEN	**Coen**	**42.00**	**266**	P	**P**	**11 03 36.0**	**-0.2**
COEN				IAmb	IAmb	11 03 43.3	
	comp=Z,6.8nm,0.9s						
TOO	**Toolangi**	**42.67**	**230**	P	**P**	**11 03 40.9**	**-0.6**
TOO				IAmb	IAmb	11 03 59.0	
	comp=Z,6.3nm,1.0s						
STKA	**Stephens Creek**	**44.20**	**240**	P	**P**	**11 03 53.4**	**-0.4**
STKA	**Stephens Creek**	**44.20**	**240**	P	**P**	**11 03 52.8**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=95,slow=12,SNR=5.1						
	comp=Z,1.3nm,0.5s						
BBOO	**Buckleboo**	**48.97**	**240**	P	**P**	**11 04 29.8**	**-1.4**
BBOO				IAmb	IAmb	11 04 31.4	
	comp=Z,4.9nm,1.0s						
WB0	**Warramunga Arr**	**49.88**	**257**	P	**P**	**11 04 38.2**	**-0.2**
WRA	**Warramunga Arr**	**49.92**	**256**	P	**P**	**11 04 37.9**	**-0.7**
WRA	**Warramunga Arr**	**49.92**	**256**	P	**P**	**11 04 37.6**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=91,slow=7.0,SNR=9.0						
WRA				PcP	**PcP**	**11 05 58.5**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=94,slow=3.0,SNR=1.6						
	comp=Z,1.2nm,0.7s						
AS31	**Alice Springs**	**50.21**	**252**	P	**P**	**11 04 40.9**	**+0.1**
AS31				IAmb	IAmb	11 04 57.3	
	comp=Z,2.1nm,0.7s						
ASAR	**Alice Springs**	**50.21**	**252**	P	**P**	**11 04 39.8**	**-1.1**
	comp=Z,6.6nm,0.6s,baz=86,slow=8.1,SNR=118						
ASAR				LR	LR	11 24 19.7	
	comp=Z,58nm,21.4s,baz=96,slow=34						
	comp=Z,6.6nm,0.6s						
SBA	**Scott Base**	**63.57**	**185**	P	**P**	**11 06 16.9**	**+2.3**
SBA				IAmb	IAmb	11 06 17.8	
	comp=Z,3.5nm,0.9s						
SHEM	**Shemya Is, Ala**	**68.39**	**352**	LR	LR	11 30 19.5	
	comp=Z,36nm,21.8s,baz=136,slow=30						
MJAR	**Matsushiro Arr**	**68.70**	**320**	LR	LR	11 30 17.3	
	comp=Z,32nm,20.3s,baz=129,slow=30						
JNU	**Nakatsue**	**71.58**	**313**	LR	LR	11 30 58.5	
	comp=Z,21nm,19.8s,baz=50,slow=29						
PETK	**Petropavlovsk-**	**72.33**	**342**	LR	LR	11 37 32.7	
	comp=Z,12nm,19.4s,baz=121,slow=34						
PFO	**Pinyon Flats O**	**72.70**	**47**	LR	LR	11 30 53.2	
	comp=Z,60nm,20.4s,baz=258,slow=29						
YBH	**Yreka Blue Hor**	**73.35**	**37**	LR	LR	11 30 52.7	
	comp=Z,44nm,19.9s,baz=228,slow=28						
NVAR	**Mina Array Bea**	**74.09**	**42**	P	**P**	**11 07 22.0**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=226,slow=9.7,SNR=6.1						
NVAR				LR	LR	11 32 09.5	
	comp=Z,56nm,20.6s,baz=262,slow=29						
	comp=Z,0.5nm,0.6s						
KDAK	**Kodiak Island**	**74.61**	**11**	LR	LR	11 32 12.2	
	comp=Z,69nm,20.3s,baz=247,slow=29						
QSPA	**South Pole Qui**	**74.96**	**180**	P	**P**	**11 07 26.6**	**+1.1**
QSPA				IAmb	IAmb	11 07 28.0	
	comp=Z,3.4nm,0.8s						
QSPA	**South Pole Qui**	**74.96**	**180**	P	**P**	**11 07 26.0**	**+0.5**
	comp=Z,6.1nm,0.9s,baz=58,slow=2.4,SNR=16						
QSPA				LR	LR	11 34 59.7	
	comp=Z,18nm,20.4s,baz=48,slow=31						
	comp=Z,6.1nm,0.9s						
MA2	**Magadan**	**79.86**	**342**	LR	LR	11 39 21.8	
	comp=Z,11nm,20.1s,baz=60,slow=33						
TXAR	**Lajitas Array**	**80.44**	**56**	P	**P**	**11 07 58.2**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=205,slow=5.5,SNR=8.4						
TXAR				LR	LR	11 37 33.5	
	comp=Z,30nm,18.5s,baz=268,slow=31						
	comp=Z,0.8nm,0.8s						
ANMO	**Albuquerque**	**80.60**	**50**	LR	LR	11 36 28.0	
	comp=Z,31nm,19.5s,baz=352,slow=30						
PDAR	**Pinedale Array**	**82.03**	**42**	P	**P**	**11 08 06.2**	**+1.2**
	comp=Z,1.6nm,0.9s,baz=219,slow=2.7,SNR=11						
	comp=Z,1.6nm,0.9s						
ILAR	**Eielson Array**	**82.13**	**11**	P	**P**	**11 08 05.2**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=230,slow=6.2,SNR=16						
	comp=Z,0.4nm,0.5s						
BELA	**Belgrano 2**	**84.31**	**172**	P	**P**	**11 08 16.6**	**+0.7**
MAW	**Mawson**	**88.09**	**199**	P	**P**	**11 08 34.8**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=149,slow=5.8,SNR=5.2						
	comp=Z,1.3nm,0.5s						
GERES	**GERESS Array B**	**145.83**	**352**	PKPbc	**PKPab**	**11 15 24.9**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=86,slow=4.0,SNR=6.7						
BRTR	**Keskin Array B**	**145.91**	**321**	PKPbc	**PKPab**	**11 15 25.0**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=100,slow=4.2,SNR=7.4						

*KRNET **18** 11:03:28.2±0.1, 41.°67N×74.°70E, h22km, mb2.6*
*SOME **18** 11:03:29.0, 41.°70N×74.°68E, h15km*
*NNC **18** 11:03:30.6±0.8, 41.°79N×74.°69E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=7.0km s-min=2.8km az=174.0*

ISC 18 11:03:28.3±1.1, 41.°68N±0.°03×74.°71E±0.°02, h10km±9km, n49, σ1§17/73, 22C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.34**	**302**	⇑*iP*	**Pg**	**11 03 35.1**	**0.0**
	baz=4.0						
ARLS				⇑*eS*	**Sg**	**11 03 40.1**	**+0.5**
	baz=4.0						
AML	**Almayashu**	**0.88**	**301**	⇑P	**Pg**	**11 03 45.1**	**-0.2**
	0.5nm,0.4s						
AML				⇑S	**Sn**	**11 03 59.9**	**-0.3**
	2.5nm,0.6s						
AML	**Almayashu**	**0.88**	**301**	⇑*iP*	**Pg**	**11 03 44.9**	**-0.4**
	baz=2.0						
AML				⇑*iS*	**Sg**	**11 03 56.9**	**+0.1**
	baz=2.0						
AAK	**Ala-Archa**	**0.97**	**351**	⇑*iP*	**Pb**	**11 03 46.6**	**-0.7**
	baz=51						
AAK				⇑*iS*	**Sg**	**11 04 00.1**	**+0.6**
	baz=51						
KBK	**Karagaybulak**	**0.99**	**10**	⇑*iP*	**Pb**	**11 03 46.9**	**-0.8**
	baz=11						
KBK				⇑*iS*	**Sg**	**11 04 00.8**	**+0.6**
	baz=11						
NRN	**Naryn**	**1.00**	**104**	⇑*iP*	**Pb**	**11 03 46.6**	**-1.4**
	baz=4.0						
NRN				⇑*iS*	**Sb**	**11 04 00.0**	**-1.4**
	baz=4.0						
EKS2	**Erkin-Say**	**1.20**	**325**	⇓*eP*	**Pn**	**11 03 50.3**	**-1.0**
	baz=26						
EKS2				⇓*iS*	**Sn**	**11 04 06.6**	**-1.1**
	baz=26						
BOOM	**Boomskoye usch**	**1.22**	**48**	⇑*iP*	**Pn**	**11 03 51.0**	**-0.6**
	baz=48						
BOOM				⇑*iS*	**Sb**	**11 04 07.7**	**+0.2**
	baz=48						
TKM2	**Tokmak 2**	**1.40**	**28**	⇓P	**Pn**	**11 03 53.8**	**-0.4**
	1.2nm,0.4s						
TKM2				⇑S	**Sn**	**11 04 11.9**	**-1.0**
	4.6nm,0.4s						
MRKS	**Merke**	**1.53**	**314**	P	**Pb**	**11 03 57.0**	**+0.2**
	7.0nm,0.2s						
MRKS				S	**Sb**	**11 04 16.4**	**+0.1**
	13nm,0.2s						
MRKS	**Merke**	**1.53**	**314**	*eP*	**Pb**	**11 03 57.0**	**+0.2**
	7.0nm,0.2s						
MRKS				*eS*	**Sb**	**11 04 16.4**	**+0.1**
	13nm,0.2s						
USP	**Ospenovka**	**1.59**	**355**	⇓*iP*	**Pb**	**11 03 57.2**	**-0.6**
	baz=55						
USP				⇓*iS*	**Sb**	**11 04 18.3**	**+0.3**
	baz=55						
KST	**Kastek**	**1.65**	**34**	P	**Pb**	**11 03 59.3**	**+0.5**
	6.1nm,0.2s						
KST				S	**Sb**	**11 04 20.5**	**+0.8**
	20nm,0.3s						
KST	**Kastek**	**1.65**	**34**	*eP*	**Pb**	**11 03 59.3**	**+0.5**
	2.9nm,0.3s						
KST				*eS*	**Sb**	**11 04 20.5**	**+0.8**
	11nm,0.2s						
DGS	**Degeres**	**1.75**	**26**	P	**Pb**	**11 04 01.2**	**+0.7**
	11nm,0.3s						
DGS				S	**Sg**	**11 04 23.8**	**-0.6**
	28nm,0.3s						
DGS	**Degeres**	**1.75**	**26**	*eP*	**Pb**	**11 04 01.2**	**+0.7**
	3.4nm,1.4s						
DGS				*eS*	**Sg**	**11 04 23.8**	**-0.6**
	28nm,0.3s						
SGDS	**Sogindy**	**1.77**	**358**	P	**Pb**	**11 04 01.4**	**+0.5**
	4.0nm,0.3s						
SGDS				S	**Sb**	**11 04 23.9**	**+0.8**
	16nm,0.2s						
SFK	**Sufi-Kurgan**	**1.90**	**209**	⇑*eP*	**Pn**	**11 04 02.0**	**+0.9**
	baz=9.0						
SFK				⇑*eS*	**Sb**	**11 04 26.5**	**-0.7**
	baz=9.0						
MTBS	**Maitube**	**1.93**	**41**	P	**Pb**	**11 04 04.7**	**+1.1**
	8.3nm,0.3s						
MTBS				S	**Sg**	**11 04 29.7**	**-0.5**
	21nm,0.2s						
MTBS	**Maitube**	**1.93**	**41**	*eP*	**Pb**	**11 04 04.7**	**+1.1**
	8.1nm,0.2s						
MTBS				*eS*	**Sg**	**11 04 29.7**	**-0.5**
	21nm,0.2s						
IZV	**Izvestkoviy**	**1.95**	**46**	P	**Pg**	**11 04 05.5**	**-0.3**
	5.8nm,0.3s						
IZV				S	**Sg**	**11 04 31.0**	**-0.2**
	16nm,0.7s						
IZV	**Izvestkoviy**	**1.95**	**46**	*eP*	**Pg**	**11 04 05.5**	**-0.3**
	3.7nm,0.2s						
IZV				*eS*	**Sg**	**11 04 31.0**	**-0.2**
	15nm,0.2s						
ARK	**Arkit**	**2.06**	**274**	⇑*eP*	**Pn**	**11 04 03.9**	**+0.8**
	baz=74						
ARK				⇑*eS*	**Sb**	**11 04 30.3**	**-1.2**
	baz=74						
KRBS	**Karabastau**	**2.13**	**19**	Pg	**Pb**	**11 04 08.1**	**+1.0**
	8.8nm,0.4s						
KRBS				Lg	Lg	11 04 35.8	
	12nm,0.4s						
KRBS	**Karabastau**	**2.13**	**19**	*e*Pg	**Pb**	**11 04 08.1**	**+1.0**
	8.4nm,0.2s						
KRBS				*e*Lg	Lg	11 04 35.8	
	10nm,0.2s						
TNSS	**Tian-Shan**	**2.14**	**50**	Pg	**Pb**	**11 04 08.8**	**+1.4**
	10nm,0.4s						
TNSS				Lg	Lg	11 04 37.1	
	10nm,0.2s						
TNSS	**Tian-Shan**	**2.14**	**50**	*e*Pg	**Pb**	**11 04 08.8**	**+1.4**
	6.4nm,0.2s						
TNSS				*e*Lg	Lg	11 04 37.1	
	10nm,0.2s						
MDOK	**Medeo**	**2.28**	**49**	Pg	**Pg**	**11 04 11.3**	**-0.6**
	14nm,0.3s						
MDOK				Lg	Lg	11 04 41.2	
	15nm,1.0s						
MDOK	**Medeo**	**2.28**	**49**	*e*Pg	**Pg**	**11 04 11.3**	**-0.6**
	14nm,0.3s						
MDOK				*e*Lg	Lg	11 04 41.2	
	15nm,1.0s						
KOTS	**Kotyrbulak**	**2.36**	**48**	Pg	**Pg**	**11 04 12.9**	**-0.7**
	18nm,0.2s						
KOTS				Lg	Lg	11 04 44.1	
	45nm,0.5s						
KOTS	**Kotyrbulak**	**2.36**	**48**	*e*Pg	**Pg**	**11 04 12.8**	**-0.7**
	18nm,0.2s						
KOTS				*e*Lg	Lg	11 04 44.1	
	45nm,0.5s						
ANVS	**Anan'yevo**	**2.46**	**62**	⇑*eP*	**Pn**	**11 04 10.2**	**+1.5**
	baz=62						
ANVS				⇑*eS*	**Sn**	**11 04 40.7**	**+1.9**
	baz=62						
KTBS	**Karatobe**	**2.50**	**35**	Pg	**Pg**	**11 04 15.2**	**-0.9**
	7.9nm,0.4s						
KTBS				Lg	Lg	11 04 47.8	
	18nm,0.7s						
KTBS	**Karatobe**	**2.50**	**35**	*e*Pg	**Pg**	**11 04 15.2**	**-0.9**
	7.9nm,0.4s						
KTBS				*e*Lg	Lg	11 04 47.8	
	18nm,0.7s						

DJR	**Jarkent**	**4.57**	**53**	*e*Pg	**Pg**	**11 04 53.1**	**-2.7**
	0.7nm,0.2s						
DJR				*e*Lg	Lg	11 05 53.0	
	5.6nm,0.3s						

*IDC **18** 11:06:36.8±4.0,35°.03N×72°.61E,h70km±35km,mb3.6/8, mbtmp3.9/12,ML3.6/4,MS2.9/3,Error ellipse: s-maj=25.3km s-min=21.0km az=15.0*

ISC 18 11:06:32.4±0.8,34°.80N±0°.08×72°.76E±0°.09,h35km,n24, σ1§67/23,mb4.0/7,MS3.0/3,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.94**	**9**	P	**Pn**	**11 08 28.9**	**+3.4**
	0.8nm,0.3s,baz=177,slow=4.9,SNR=4.4						
AAK				S	**Sn**	**11 09 55.7**	**+1.5**
	3.5nm,0.6s,baz=217,slow=20,SNR=5.8 1.9nm,0.4s						
PYUN	**Piuthan**	**10.99**	**125**	*e*P	**Pn**	**11 09 08.3**	**+1.0**
	20nm,0.4s						
PYUN				*e*S	**Sn**	**11 11 08.4**	**-0.7**
DANN	**Dangsing**	**11.36**	**121**	*e*P	**Pn**	**11 09 13.4**	**+0.9**
	6.1nm,0.3s						
GKN	**Gorkha**	**12.19**	**121**	*e*P	**Pn**	**11 09 23.6**	**-0.1**
	8.9nm,0.3s						
GEYT	**Alibeck**	**12.21**	**289**	P	**Pn**	**11 09 24.7**	**+0.9**
	0.4nm,0.3s,baz=100,slow=15,SNR=1.9 1.2nm,0.3s						
PKI	**Pulchoki**	**13.00**	**120**	*e*P	**Pn**	**11 09 34.9**	**0.0**
	7.2nm,0.4s						
GUN	**Gumba**	**13.14**	**118**	*e*P	**Pn**	**11 09 36.3**	**-0.5**
	6.6nm,0.3s						
JIRN	**Jiri**	**13.51**	**118**	*e*P	**Pn**	**11 09 41.3**	**-0.6**
	12nm,0.3s						
MKAR	**Makanchi Array**	**13.97**	**28**	P	**Pn**	**11 09 47.9**	**+0.1**
	0.1nm,0.3s,baz=214,slow=15,SNR=1.5 0.6nm,0.9s						
RAMN	**Ramite**	**14.22**	**120**	*e*P	**Pn**	**11 09 50.4**	**-1.0**
	5.0nm,0.3s						
TAPN	**Taplejung**	**14.79**	**116**	*e*P	**Pn**	**11 09 57.8**	**-1.5**
	7.8nm,0.3s						
KURBB	**Kurchatov Arra**	**16.36**	**13**	P	**Pn**	**11 10 16.4**	**-2.8**
	1.1nm,0.9s,baz=203,slow=11,SNR=3.4						
AKTO	**Aktyubinsk**	**18.97**	**330**	P	**P**	**11 10 47.8**	**-2.8**
	1.0nm,0.3s,baz=132,slow=9.5,SNR=8.5 5.4nm,0.5s						
ZALV	**Zalesovo Beam**	**20.94**	**20**	P	**P**	**11 11 10.8**	**-1.2**
	6.6nm,0.7s,baz=215,slow=10,SNR=14 6.6nm,0.7s						
KBZ	**Khabaz**	**24.68**	**300**	LR	LR	11 25 09.3	
	comp=Z,7.3nm,21.1s,baz=106,slow=46						
FINES	**FINESS Array B**	**39.69**	**327**	P	**P**	**11 13 57.7**	**-3.2**
	4.7nm,1.0s,baz=128,slow=9.1,SNR=2.2 4.7nm,1.0s						
ARCES	**ARCESS Array B**	**43.26**	**338**	P	**P**	**11 14 28.5**	**-1.5**
	1.6nm,0.5s,baz=116,slow=8.2,SNR=8.7 1.6nm,0.5s						
KLR	**Kul'dur**	**45.01**	**53**	LR	LR	11 36 12.6	
	comp=Z,19nm,19.6s,baz=46,slow=40						
HFS	**Hagfors**	**45.29**	**323**	P	**P**	**11 14 46.2**	**-0.2**
	2.2nm,0.7s,baz=87,slow=12,SNR=4.2 2.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**67.14**	**270**	P	**P**	**11 17 23.3**	**+0.4**
	1.3nm,0.6s,baz=45,slow=6.0,SNR=10 1.3nm,0.6s						
RES	**Resolute Bay**	**70.49**	**357**	LR	LR	11 50 02.4	
	comp=Z,30nm,20.6s,baz=358,slow=37						
ILAR	**Eielson Array**	**76.01**	**16**	P	**P**	**11 18 15.8**	**+0.2**
	0.5nm,0.9s,baz=316,slow=6.3,SNR=3.4 0.5nm,0.9s						
WRA	**Warramunga Arr**	**79.87**	**123**	P	**P**	**11 18 39.2**	**+1.6**
	0.3nm,0.7s,baz=322,slow=4.6,SNR=6.3 0.3nm,0.7s						
ASAR	**Alice Springs**	**82.10**	**126**	P	**P**	**11 18 51.0**	**+1.6**
	0.5nm,0.7s,baz=313,slow=5.4,SNR=8.5 0.5nm,0.7s						

*JMA **18** 11:51:34.3±0.1,40°.3N±0°.3×142°.5E±0°.6,h33km±1km, MV3.8/39,NE OFF IWATE PREF*

*NIED **18** 11:51:34.3,40°.25N×142°.51E,h33km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.00; $M_{\theta\theta}$0.33; $M_{\phi\phi}$-3.33; $M_{r\theta}$1.74; $M_{\theta\phi}$-1.09; $M_{\phi r}$3.02; Fault plane solution: $M_0$4.82000×10^{14} NP1:ϕ_s27.00000°, δ69.00000°,λ100.00000°. NP2:ϕ_s181.00000°,δ23.00000°, λ66.00000°.*

*IDC **18** 11:51:36.0±2.3,40°.21N×142°.56E,h59km±19km,mb3.6/13, mbtmp3.8/17,ML3.3/4,MS2.8/2 Error ellipse: s-maj=21.5km s-min=13.7km az=104.0*

ISC 18 11:51:33.7±1.0,40°.20N±0°.05×142°.51E±0°.06,h32km±4km, n36,σ1§05/37,mb3.7/13,17D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.56**	**243**	⇓*i*P	**Pn**	**11 51 46.0**	**+0.6**
JTH				⇓S	**Sn**	**11 51 54.6**	**+0.9**
JKEN	**Kujiedanarisaw**	**0.62**	**271**	⇓*i*P	**Pn**	**11 51 46.2**	**+0.1**
JKEN				⇓S	**Sb**	**11 51 54.8**	**+0.2**
JANG	**Nango**	**0.78**	**283**	⇓*i*P	**Pn**	**11 51 48.6**	**+0.2**
JANG				⇓*e*S	**Sn**	**11 51 58.8**	**-0.3**
MIYJ	**Miyakonagasawa**	**0.82**	**221**	⇓*i*P	**Pb**	**11 51 49.8**	**+0.3**
MIYJ				⇓S	**Sb**	**11 52 01.2**	**+1.0**
JKZ	**Kuzumaki**	**0.93**	**257**	⇓*i*P	**Pb**	**11 51 51.5**	**+0.1**
JKZ				⇓*e*S	**Sb**	**11 52 03.9**	**+0.4**
JOM	**Ohasama**	**1.19**	**233**	⇓*i*P	**Pb**	**11 51 55.8**	**+0.2**
JOM				⇓*e*S	**Sb**	**11 52 11.3**	**+0.7**
JARK	**Aomorirokkasho**	**1.19**	**313**	⇓*i*P	**Pn**	**11 51 54.0**	**0.0**
JTM	**Tenmabayashi**	**1.25**	**298**	⇓*i*P	**Pn**	**11 51 55.5**	**+0.6**
JTM				⇓*e*S	**Sn**	**11 52 10.7**	**+0.1**
JAH	**Hinai**	**1.44**	**270**	⇓*i*P	**Pb**	**11 51 59.2**	**-0.7**
JOT	**Ohata**	**1.62**	**317**	⇓*i*P	**Pn**	**11 52 00.3**	**+0.3**
JRG	**Rokugo**	**1.66**	**242**	*i* P	**Pb**	**11 52 03.4**	**-0.1**
ASAJ	**Asahikawa**	**3.91**	**1**	P	**Pn**	**11 52 32.3**	**+0.8**
	3.0nm,0.3s,baz=206,slow=14,SNR=32						
ASAJ				S	**Sn**	**11 53 18.9**	**+2.6**
	12nm,0.4s,baz=193,slow=23,SNR=1.8 12nm,0.4s						
MJAR	**Matsushiro Arr**	**4.98**	**224**	P	**Pn**	**11 52 49.0**	**+2.9**
	0.4nm,0.3s,baz=30,slow=14,SNR=17 2.8nm,0.5s						
USRK	**Ussuriysk Ar.**	**8.77**	**301**	P	**Pn**	**11 53 41.2**	**+3.0**
	0.4nm,0.3s,baz=100,slow=16,SNR=3.2 2.3nm,0.6s						
KSRS	**Korea Array**	**11.71**	**261**	LR	LR	11 58 26.9	
	comp=Z,44nm,19.7s,baz=70,slow=35						
KLR	**Kul'dur**	**11.83**	**323**	P	**Pn**	**11 54 21.0**	**+1.1**
	0.1nm,0.3s,baz=135,slow=11,SNR=1.4						
KLR				LR	LR	11 58 57.2	
	comp=Z,45nm,19.2s,baz=190,slow=37 0.4nm,0.4s						
SONM	**Songino Array**	**26.88**	**299**	P	**P**	**11 57 11.4**	**-0.2**
	0.8nm,0.5s,baz=92,slow=7.6,SNR=5.2 0.8nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	12 28 17.7	
	baz=319,slow=75,SNR=46						
H11N1	**WAKE ISLAND Hy**	**29.21**	**127**	T	T	12 28 13.5	
	baz=319,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**29.22**	**127**	T	T	12 28 19.4	
	baz=319,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**30.02**	**129**	T	T	12 29 23.9	
	baz=321,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**30.02**	**129**	T	T	12 29 25.6	
	baz=321,slow=76,SNR=8.8						
H11S2	**WAKE ISLAND Hy**	**30.04**	**129**	T	T	12 29 26.2	
	baz=321,slow=76,SNR=12						
ZALV	**Zalesovo Beam**	**40.49**	**310**	P	**P**	**11 59 08.9**	**-0.3**
	1.2nm,0.5s,baz=96,slow=10,SNR=2.8 1.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**43.19**	**253**	P	**P**	**11 59 32.0**	**+0.3**
	0.4nm,0.3s,baz=51,slow=4.9,SNR=2.2 0.4nm,0.3s						
MKAR	**Makanchi Array**	**43.24**	**299**	P	**P**	**11 59 31.0**	**-0.8**
	1.1nm,0.5s,baz=85,slow=10,SNR=7.4 1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**44.80**	**306**	P	**P**	**11 59 43.9**	**-0.2**
	2.2nm,0.5s,baz=80,slow=8.9,SNR=14 2.2nm,0.5s						
ILAR	**Eielson Array**	**46.38**	**34**	P	**P**	**11 59 56.3**	**-0.2**
	0.5nm,0.7s,baz=262,slow=5.9,SNR=8.9 0.5nm,0.7s						
BVAR	**Borovoye Array**	**49.13**	**311**	P	**P**	**12 00 17.8**	**-0.2**
	2.9nm,0.4s,baz=78,slow=9.5,SNR=13 2.9nm,0.4s						
WRA	**Warramunga Arr**	**60.31**	**189**	P	**P**	**12 01 38.3**	**-0.9**
	0.2nm,0.4s,baz=6.3,slow=6.9,SNR=10						
WRA				pP	**sP**	**12 01 51.9**	**-0.7**
	0.7nm,1.0s,baz=6.3,slow=6.9,SNR=5.5 0.2nm,0.4s						
ASAR	**Alice Springs**	**64.04**	**189**	P	**P**	**12 02 03.5**	**-0.7**
	0.1nm,0.3s,baz=11,slow=5.2,SNR=2.0 0.1nm,0.3s						
FINES	**FINESS Array B**	**66.42**	**332**	P	**P**	**12 02 18.0**	**-1.2**
	2.8nm,0.7s,baz=44,slow=4.2,SNR=5.9 2.8nm,0.7s						
HFS	**Hagfors**	**71.56**	**336**	P	**P**	**12 02 50.8**	**-0.4**
	1.1nm,0.4s,baz=52,slow=7.7,SNR=8.8 1.1nm,0.4s						
NOA	**NORSAR Array B**	**71.60**	**337**	P	**P**	**12 02 50.1**	**-1.4**
	0.5nm,0.6s,baz=18,slow=6.1,SNR=2.0 0.5nm,0.6s						
PDAR	**Pinedale Array**	**74.85**	**47**	P	**P**	**12 03 10.5**	**-0.7**
	0.2nm,0.5s,baz=333,slow=1.0,SNR=2.4 0.2nm,0.5s						
SNAA	**Sanae**	**144.02**	**198**	PKP	PKPbc	12 11 02.6	-0.1
	0.7nm,0.6s,baz=143,slow=20,SNR=2.2						

*BJI **18** 12:00:56.5±0.0,20°.50S×173°.65W,h10km,mb5.8/66, mB6.7/81,Ms6.4/95,Ms7 6.2/89*

*IDC **18** 12:00:57.3±0.3,20°.58S×173°.98W,h0km,mb5.2/24, mbtmp5.3/26,ML5.5/2,MS6.2/59,Error ellipse: s-maj=15.0km s-min=13.6km az=115.0*

*NEIC **18** 12:00:58.9,20°.56S×173°.73W,h26km*

*NEIC **18** 12:00:58.9,20°.66S×173°.19W,h26km,Moment Tensor Solution. Duration: 5s5 Moment tensor: Scale 10^{18}Nm; M_{rr}1.49; $M_{\theta\theta}$-0.37; $M_{\phi\phi}$-1.12; $M_{r\theta}$0.70; $M_{\theta\phi}$-0.53; $M_{\phi r}$0.87; Fault plane solution: $M_0$1.82000×10^{18} NP1: ϕ_s201.65000°,δ26.62000°,λ78.79000°. NP2:ϕ_s34.14000°, δ63.93000°,λ95.56000°. Principal axes: T 1.8790, Plg71.0000°, Azm316.0000°; N -0.1140, Plg5.0000°, Azm212.0000°; P -1.7650, Plg19.0000°, Azm120.0000°;*

*NEIC **18** 12:00:59.1±1.9,20°.59S±0°.07×173°.80W±0°.09,h10km±1km, mb6.2/529,Ms_20 6.3/769,Mww6.1/29 Error ellipse: s-maj=14.3km s-min=10.8km az=116.0*

*MOS **18** 12:01:01.7±1.2,20°.52S×174°.16W,h33km,mb6.1/52, MS6.3/44,Error ellipse: s-maj=9.8km s-min=7.8km az=116.3*

*GCMT **18** 12:01:04.1±0.1,20°.72S×173°.29W,h17km,MW6.1/173, Moment Tensor Solution. s159,c362; s173,c606; Duration: 2s8 Moment tensor: Scale 10^{18}Nm; M_{rr}1.26±.01; $M_{\theta\theta}$-0.33±.01; $M_{\phi\phi}$-0.93±.01; $M_{r\theta}$0.67±.02; $M_{\theta\phi}$-0.52±.01; $M_{\phi r}$1.29±.03; Best double couple: $M_0$1.91300×10^{18} NP1:ϕ_s28.00000°,δ70.00000°, λ89.00000°. NP2:ϕ_s212.00000°,δ20.00000°,λ93.00000°. Principal axes: T 1.9290, Plg65.0000°, Azm296.0000°; N -0.0340, Plg1.0000°, Azm28.0000°; P -1.8970, Plg25.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NOU **18** 12:01:05.0,20°.67S×173°.76W,h55km,ML6.4/143,Tonga Islands*

ISC 18 12:01:00.4±0.3,20°.63S±0°.03×173°.95W±0°.03,h16km±1km, h16km:pP-P,n2172,σ1§63/2069,mb6.2/368,MS6.3/489, 100C-59D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.09**	**68**	P	Pn	12 01 51.5	-11
	baz=3.8						
NIUE				S	Sn	12 02 31.1	-19
	baz=3.8						
NIUE	**Niue**	**4.09**	**68**	Pn	Pn	12 01 52.8	-10
NIUE	**Niue**	**4.09**	**68**	P	Pn	12 01 52.1	-10
NIUE				S	Sn	12 02 30.7	-19
NIUE	**Niue**	**4.09**	**68**	⇑P	Pn	12 01 51.5	-11
TAVE	**Taveuni**	**6.86**	**304**	P	Pn	12 02 46.0	+5.5
AFI	**Afiamalu**	**7.00**	**18**		Pn	12 02 34.0	-8.4
AFI	**Afiamalu**	**7.00**	**18**	P	Pn	12 02 34.1	-8.3
AFI	**Afiamalu**	**7.00**	**18**	P	Pn	12 02 34.0	-8.4
AFI	**Afiamalu**	**7.00**	**18**	⇑P	Pn	12 02 32.9	-9.5
DGTI	**Dogotuki**	**7.38**	**305**	P	Pn	12 02 52.4	+4.8
FUTU	**Fugatoga**	**7.44**	**327**	P	**Pn**	**12 02 52.8**	**+4.4**
MSVF	**Nonsavu**	**8.09**	**290**	P	Pn	12 03 04.0	+6.6
MSVF	**Nonsavu**	**8.09**	**290**	⇑P	Pn	12 03 03.6	+6.2
MSVF	**Nonsavu**	**8.09**	**290**	Pn	Pn	12 03 03.8	+6.4
	17nm,0.3s,baz=119,slow=11,SNR=84						
MSVF				LR	LR	12 05 54.9	
	comp=Z,286μm,19.3s,baz=122,slow=37						
YSA	**Yasawairara**	**8.93**	**295**	P	Pn	12 03 15.1	+6.2
RIZ	**Raoul Island**	**9.31**	**202**	P	**Pn**	**12 03 11.5**	**-2.5**
RIZ				S	**Sn**	**12 04 57.7**	**-0.6**
RAO	**Raoul Island**	**9.31**	**202**		**Pn**	**12 03 13.9**	**-0.1**
RAO	**Raoul Island**	**9.31**	**202**	P	**Pn**	**12 03 15.0**	**+1.0**
RAO	**Raoul Island**	**9.31**	**202**	P	**Pn**	**12 03 13.9**	**-0.1**
RAO	**Raoul Island**	**9.31**	**202**	⇓P	**Pn**	**12 03 14.1**	**+0.1**
RAO				⇓S	**Sn**	**12 04 58.2**	**-0.2**
RAO	**Raoul Island**	**9.31**	**202**	Pn	**Pn**	**12 03 11.3**	**-2.7**
	76nm,0.3s,baz=68,slow=24,SNR=5.1						
RAO				Sn	**Sn**	**12 04 53.4**	**-4.9**
	184nm,0.3s,baz=288,slow=22,SNR=9.8						
RAO				LR	LR	12 06 20.1	
	comp=Z,40μm,19.8s,baz=44,slow=35 332nm,0.3s						
GLKZ	**Green Lake**	**9.32**	**202**	P	**Pn**	**12 03 13.4**	**-0.7**
GLKZ				S	**Sn**	**12 04 55.2**	**-3.4**
RAR	**Rarotonga**	**13.26**	**95**		Pn	12 03 57.6	-11
RAR	**Rarotonga**	**13.26**	**95**	P	Pn	12 03 56.2	-12
RAR	**Rarotonga**	**13.26**	**95**	⇓P	Pn	12 03 57.3	-11
RAR	**Rarotonga**	**13.26**	**95**	Pn	Pn	12 03 57.3	-11
	19nm,0.3s,baz=255,slow=7.6,SNR=24						
RAR				LR	LR	12 09 37.2	
	comp=Z,105μm,18.2s,baz=360,slow=39						
FUNA	**Funafuti**	**13.73**	**330**		**Pn**	**12 04 14.2**	**-0.4**
FUNA	**Funafuti**	**13.73**	**330**	P	**Pn**	**12 04 17.4**	**+2.8**
FUNA	**Funafuti**	**13.73**	**330**	⇑P	**Pn**	**12 04 17.1**	**+2.4**
MARNC	**Mare, Loyalty**	**16.84**	**264**	P	**Pn**	**12 04 55.5**	**-0.1**
MARNC	**Mare, Loyalty**	**16.84**	**264**	P	**P**	**12 05 00.0**	**+2.3**
MARNC	**Mare, Loyalty**	**16.84**	**264**	⇑P	**P**	**12 04 57.6**	**-0.1**
PINNC	**Pines Island,**	**17.41**	**260**	P	**P**	**12 05 03.4**	**-0.7**
PINNC	**Pines Island,**	**17.41**	**260**	P	**P**	**12 05 07.5**	**+3.5**
LIFNC	**LIFOU**	**17.60**	**266**	P	**Pn**	**12 05 05.1**	**-0.1**
LIFNC	**LIFOU**	**17.60**	**266**	P	**P**	**12 05 08.8**	**+2.7**
YATNC	**Mamie plateau,**	**17.91**	**262**	P	**P**	**12 05 12.3**	**+2.8**
MXZ	**Matakaoa Point**	**18.16**	**200**	P	**P**	**12 05 17.9**	**+5.7**
MXZ				S	Sn	12 08 21.4	-13
OUZ	**Omahuta**	**18.20**	**214**	⇑P	**Pn**	**12 05 12.2**	**-0.3**
ONTNC	**Ouen Toro**	**18.32**	**261**	P	**P**	**12 05 15.0**	**+1.0**
ONTNC	**Ouen Toro**	**18.32**	**261**	P	**P**	**12 05 18.1**	**+4.1**
ONTNC	**Ouen Toro**	**18.32**	**261**	⇑P	**P**	**12 05 16.1**	**+2.0**
DZM	**Mont Dzumac**	**18.32**	**262**	*e*Pn	**P**	**12 05 14.9**	**+0.7**
	2μm,1.6s						
DZM				*e*LR	LR	12 09 24.2	
	comp=Z,70μm,25.3s						
DZM	**Mont Dzumac**	**18.32**	**262**	P	**P**	**12 05 15.7**	**+1.5**
DZM	**Mont Dzumac**	**18.32**	**262**	P	**P**	**12 05 16.3**	**+2.1**
DZM	**Mont Dzumac**	**18.32**	**262**	⇑P	**P**	**12 05 15.6**	**+1.5**
DZM	**Mont Dzumac**	**18.32**	**262**	P	**P**	**12 05 16.0**	**+1.9**
	136nm,0.7s,baz=72,slow=19,SNR=28						
WMGZ	**Waiomatatini S**	**18.37**	**200**	P	**Pn**	**12 05 17.3**	**+2.9**
WMGZ				S	Sn	12 08 25.6	-14
KUZ	**Kuaotunu**	**18.42**	**207**	P	**Pn**	**12 05 17.7**	**+2.6**
NFK	**Norfolk Island**	**18.43**	**239**	P	**Pn**	**12 05 17.1**	**+1.7**
	baz=19,SNR=3.4						
NFK	**Norfolk Island**	**18.43**	**239**	P	**Pn**	**12 05 17.6**	**+2.2**
NFK	**Norfolk Island**	**18.43**	**239**	⇑P	**Pn**	**12 05 17.4**	**+2.0**
NOUC	**Port Laguerre**	**18.45**	**262**	P	**Pn**	**12 05 18.7**	**+3.1**
HAZ	**Te Kaha**	**18.51**	**201**	P	**P**	**12 05 14.0**	**-2.1**
HAZ				S	Sn	12 08 29.7	-13
PUZ	**Puketiti**	**18.65**	**200**	P	**Pn**	**12 05 19.1**	**+1.2**
PUZ				S	Sn	12 08 31.3	-15
TWGZ	**Tauwhareparae**	**18.83**	**200**	P	**Pn**	**12 05 25.4**	**+5.2**
TWGZ				S	Sn	12 08 39.0	-12
OPRZ	**Ohinepanea**	**19.03**	**204**	P	**Pn**	**12 05 24.9**	**+2.4**
CNGZ	**Carnagh Statio**	**19.04**	**199**	P	**Pn**	**12 05 25.3**	**+2.7**
TKGZ	**Te Karaka**	**19.11**	**200**	P	**Pn**	**12 05 25.5**	**+2.1**
MWZ	**Matawai**	**19.12**	**201**	P	**Pn**	**12 05 24.9**	**+1.2**
MWZ				S	Sn	12 08 40.7	-17
URZ	**Urewera**	**19.20**	**202**	P	**Pn**	**12 05 25.6**	**+1.1**
URZ	**Urewera**	**19.20**	**202**	P	**Pn**	**12 05 24.6**	**+0.1**
URZ	**Urewera**	**19.20**	**202**	⇑P	**Pn**	**12 05 24.7**	**+0.2**
URZ	**Urewera**	**19.20**	**202**	P	**P**	**12 05 23.7**	**+0.1**
	7.6nm,0.3s,baz=122,slow=1.9,SNR=30						
URZ				S	Sn	12 08 47.6	-12
	33nm,0.6s,baz=48,slow=18,SNR=3.3 130nm,0.8s						
TOZ	**Tahuroa Road**	**19.34**	**206**	P	**Pn**	**12 05 26.8**	**+0.5**
RIGZ	**Rimuhau**	**19.38**	**200**	P	**Pn**	**12 05 30.0**	**+3.2**
RIGZ				S	Sn	12 08 44.7	-19
RTZ	**Ruatahuna**	**19.56**	**202**	P	**Pn**	**12 05 29.5**	**+0.6**
BKZ	**Black Stump Fm**	**20.22**	**202**	P	Pn	12 05 36.5	-0.3
BKZ	**Black Stump Fm**	**20.22**	**202**	P	Pn	12 05 37.5	+0.7
HIZ	**Hauiti**	**20.28**	**206**	P	**P**	**12 05 36.0**	**+0.6**
HIZ				IAmb	IAmb	12 05 41.7	
	comp=Z,2μm,1.7s						
KOUNC	**Koumac, New Ca**	**20.38**	**266**	P	Pn	12 05 38.0	-0.7
KOUNC				IAMs_20	IAMs_20	12 13 25.2	
	comp=Z,99μm,19.0s						
KOUNC	**Koumac, New Ca**	**20.38**	**266**	P	Pn	12 05 40.8	+2.1
KOUNC	**Koumac, New Ca**	**20.38**	**266**	⇑P	Pn	12 05 37.8	-0.9
BFZ	**Birch Farm**	**21.66**	**201**	P	**P**	**12 05 49.4**	**-0.9**
BFZ	**Birch Farm**	**21.66**	**201**	P	**P**	**12 05 51.7**	**+1.4**
MRZ	**Mangatainoka R**	**21.87**	**202**	P	**P**	**12 05 52.2**	**-0.4**
SNZO	**South Karori**	**22.75**	**203**	P	**P**	**12 06 06.2**	**+4.3**
SNZO	**South Karori**	**22.75**	**203**	P	**P**	**12 06 02.4**	**+0.5**
SNZO	**South Karori**	**22.75**	**203**	⇓P	**P**	**12 06 03.9**	**+2.0**
BHW	**Baring Head**	**22.78**	**202**	P	**P**	**12 06 01.1**	**-1.1**
PLWZ	**Palliser**	**22.79**	**201**	P	**P**	**12 06 05.7**	**+3.3**
TCW	**Tory Channel**	**22.82**	**203**	P	**P**	**12 06 02.2**	**-0.5**
TUWZ	**Tuamarina**	**23.14**	**204**	P	**P**	**12 06 03.6**	**-2.3**
NNZ	**Nelson**	**23.17**	**205**	P	**P**	**12 06 05.5**	**-0.8**
QRZ	**Quartz Range**	**23.19**	**207**	P	**P**	**12 06 08.2**	**+1.7**
PAE	**Paea**	**23.20**	**87**	*e*P	**P**	**12 06 03.6**	**-3.2**
	comp=Z,153nm,1.3s						
PAE	**Paea**	**23.20**	**87**	*e*T	T	12 30 28.0	
	comp=Z,14nm,0.4s						
PPT2	**Papeete2**	**23.22**	**87**	*e*P	**P**	**12 06 04.6**	**-2.5**
	comp=Z,520nm,1.5s						
PPT2				*e*S	**S**	**12 10 19.8**	**+1.1**
	comp=Z,15μm,24.5s						
PPT2				*e*LR	LR	12 11 23.8	
	comp=Z,54μm,21.2s						
PPT2				*e*LR	LR	12 11 31.7	
	comp=Z,47μm,21.8s						
PPT2	**Papeete2**	**23.22**	**87**	*e*T	T	12 30 32.1	
	comp=Z,5.3nm,0.3s						
PPT	**Papeete**	**23.23**	**87**	P	**P**	**12 06 05.3**	**-1.8**
	comp=Z,91nm,0.7s,baz=62,slow=8.9,SNR=8.8						
PPT				LR	LR	12 13 38.2	
	comp=Z,63μm,18.1s,baz=258,slow=33 comp=Z,91nm,0.7s						
PPTF	**Pamatai, Papee**	**23.23**	**87**	P	**P**	**12 06 04.9**	**-2.3**
PPTF				IAmb	IAmb	12 06 09.4	
	comp=Z,2μm,1.8s						
PPTF				IAMs_20	IAMs_20	12 15 01.9	
	comp=Z,91μm,18.0s						
PPTF	**Pamatai, Papee**	**23.23**	**87**	P	**P**	**12 06 04.0**	**-3.2**
PPTF	**Pamatai, Papee**	**23.23**	**87**	⇓P	**P**	**12 06 03.2**	**-3.9**
TIAR	**Tiarei**	**23.44**	**87**	*e*P	**P**	**12 06 04.6**	**-4.7**
	comp=Z,23nm,0.9s						
TVO	**Taravao**	**23.49**	**87**	*e*P	**P**	**12 06 05.1**	**-4.6**
	comp=Z,133nm,1.1s						
MRNZ	**Matariki Terra**	**23.58**	**206**	P	**P**	**12 06 09.3**	**-1.0**
KHZ	**Kahutara**	**24.14**	**203**	P	**P**	**12 06 16.3**	**+0.7**
KHZ				IAmb	IAmb	12 06 21.9	
	comp=Z,801nm,1.9s						
KHZ	**Kahutara**	**24.14**	**203**	⇑P	**P**	**12 06 13.7**	**-2.0**
DSZ	**Denniston Nort**	**24.26**	**207**	IAMs_20	IAMs_20	12 15 00.5	
	comp=Z,82μm,18.0s						
PMOR	**Pomariorio Rec**	**25.41**	**82**	*e*P	**P**	**12 06 23.8**	**-3.6**
	comp=Z,542nm,1.4s						
RPZ	**Rata Peaks**	**26.20**	**205**	IAMs_20	IAMs_20	12 17 19.9	
	comp=Z,67μm,18.0s						
RPZ	**Rata Peaks**	**26.20**	**205**	LR	LR	12 16 46.8	
	comp=Z,55μm,19.6s,baz=29,slow=36						
LHI	**Lord Howe Isla**	**26.49**	**240**	P	**P**	**12 06 40.8**	**+3.7**
FOZ	**Fox Glacier**	**26.56**	**207**	IAMs_20	IAMs_20	12 16 29.5	
	comp=Z,89μm,18.0s						
LBZ	**Lake Benmore**	**27.11**	**205**	IAMs_20	IAMs_20	12 17 56.9	
	comp=Z,111μm,18.0s						
JCZ	**Jackson Bay**	**27.44**	**208**	P	**P**	**12 06 47.5**	**+1.8**
ODZ	**Otahua Downs**	**27.48**	**204**	IAMs_20	IAMs_20	12 17 36.6	
	comp=Z,62μm,18.0s						
ODZ	**Otahua Downs**	**27.48**	**204**	⇑P	**P**	**12 06 49.8**	**+3.9**
HNR	**Honiara**	**27.51**	**290**	P	**P**	**12 06 48.3**	**+1.8**
HNR	**Honiara**	**27.51**	**290**	LR	LR	12 16 13.6	
	comp=Z,336μm,18.0s,baz=124,slow=33						
XMAS	**Kiritimati**	**27.74**	**38**	IAMs_20	IAMs_20	12 17 47.9	
	comp=Z,67μm

PMG	**Port Moresby**	**39.08 281**	P	**P**	**12 08 27.4**	**+0.2**
PMG	**Port Moresby**	**39.08 281**	P	**P**	**12 08 25.8**	**-1.4**
PMG	**Port Moresby**	**39.08 281**	*ce*P	**P**	**12 08 25.6**	**-1.6**
PMG			pmax	pmax		
	comp=Z,332nm,1.7s					
PMG			MLR	MLR		
	comp=Z,33μm,15.0s					
PMG	**Port Moresby**	**39.08 281**	⇑P	**P**	**12 08 25.1**	**-2.1**
MOO	**Moorlands**	**39.16 227**	P	**P**	**12 08 27.9**	**+0.4**
	baz=40,SNR=15					
MOO	**Moorlands**	**39.16 227**	P	**P**	**12 08 28.5**	**+1.0**
AUMAG	**Moama Anglican**	**39.16 238**	P	**P**	**12 08 28.3**	**+0.7**
AUTAR	**Taroona High S**	**39.23 227**	P	**P**	**12 08 28.9**	**+0.9**
TAU	**Tasmania Unive**	**39.25 227**	P	**P**	**12 08 28.2**	**0.0**
TAU	**Tasmania Unive**	**39.25 227**	IAMs_20	IAMs_20	12 23 00.8	
	comp=Z,46μm,18.0s					
TAU	**Tasmania Unive**	**39.25 227**	P	**P**	**12 08 29.3**	**+1.1**
TAU	**Tasmania Unive**	**39.25 227**	P	**P**	**12 08 28.2**	**0.0**
TAU			pmax	pmax		
	comp=Z,393nm,1.4s					
TAU	**Tasmania Unive**	**39.25 227**	⇓P	**P**	**12 08 28.9**	**+0.7**
MTSU	**Mount Surprise**	**39.37 266**	P	**P**	**12 08 27.3**	**-2.3**
	baz=40,SNR=69					
MTSU	**Mount Surprise**	**39.37 266**	P	**P**	**12 08 30.5**	**+0.9**
BRAT	**Ballarat**	**40.12 236**	P	**P**	**12 08 35.7**	**+0.2**
STKA	**Stephens Creek**	**41.16 245**	P	**P**	**12 08 43.0**	**-1.2**
STKA	**Stephens Creek**	**41.16 245**	⇑*i*P	**P**	**12 08 43.0**	**-1.2**
STKA	**Stephens Creek**	**41.16 245**	P	**P**	**12 08 42.9**	**-1.3**
	comp=Z,55nm,0.9s,baz=92,slow=10,SNR=51					
STKA			LR	LR	12 23 51.8	
	comp=Z,11μm,18.3s,baz=77,slow=33					
	comp=Z,55nm,0.9s					
COEN	**Coen**	**41.38 272**	P	**P**	**12 08 45.0**	**-1.2**
COEN			IAMs_20	IAMs_20	12 25 26.8	
	comp=Z,34μm,19.0s					
COEN	**Coen**	**41.38 272**	P	**P**	**12 08 46.4**	**+0.2**
COEN	**Coen**	**41.38 272**	⇑P	**P**	**12 08 44.3**	**-1.9**
AUHPC	**Hawkesdale P12**	**41.48 235**	P	**P**	**12 08 48.7**	**+2.0**
ARPS	**Mount Arapiles**	**41.60 238**	P	**P**	**12 08 46.8**	**-0.9**
	baz=42,SNR=34					
ARPS	**Mount Arapiles**	**41.60 238**	P	**P**	**12 08 47.8**	**+0.1**
INKA	**Innaminka**	**41.75 251**	P	**P**	**12 08 50.7**	**+1.6**
MANU	**Manus Island**	**42.01 291**	P	**P**	**12 08 50.6**	**-0.8**
MANU			IAmb	IAmb	12 09 03.8	
	comp=Z,1μm,2.0s					
MANU			IAMs_20	IAMs_20	12 25 22.4	
	comp=Z,48μm,18.0s					
MANU	**Manus Island**	**42.01 291**	P	**P**	**12 08 50.4**	**-0.9**
QIS	**Mount Isa**	**43.36 262**	P	**P**	**12 09 00.2**	**-2.2**
	baz=44,SNR=11					
QIS	**Mount Isa**	**43.36 262**	P	**P**	**12 09 01.5**	**-0.8**
HTT	**Hallett**	**43.53 243**	P	**P**	**12 09 02.0**	**-1.6**
	baz=44,SNR=28					
HTT	**Hallett**	**43.53 243**	P	**P**	**12 09 03.9**	**+0.3**
HTT	**Hallett**	**43.53 243**	⇑P	**P**	**12 09 01.9**	**-1.6**
LCRK	**Leigh Creek**	**43.98 247**	P	**P**	**12 09 06.4**	**-0.8**
BBOO	**Buckleboo**	**45.89 244**	P	**P**	**12 09 20.7**	**-1.7**
	baz=46,SNR=27					
BBOO	**Buckleboo**	**45.89 244**	P	**P**	**12 09 20.3**	**-2.1**
BBOO			IAMs_20	IAMs_20	12 28 00.5	
	comp=Z,32μm,18.0s					
BBOO	**Buckleboo**	**45.89 244**	P	**P**	**12 09 21.6**	**-0.8**
TABU	**Tabubil**	**46.09 283**	P	**P**	**12 09 25.2**	**+0.9**
OOD	**Oodnadatta**	**46.23 251**	P	**P**	**12 09 25.5**	**+0.4**
MULG	**Mulgathing**	**47.57 247**	P	**P**	**12 09 34.5**	**-1.1**
JAY	**Jayapura**	**47.71 286**	P	**P**	**12 09 35.4**	**-1.4**
	comp=Z,429nm,1.7s,comp=Z,10μmcomp=Z,16μm					
WR0	**Warramunga Arr**	**48.15 261**	P	**P**	**12 09 37.4**	**-2.8**
WR0			IAmb	IAmb	12 09 40.7	
	comp=Z,480nm,1.9s					
WR0			IAMs_20	IAMs_20	12 30 05.4	
	comp=Z,36μm,18.0s					
GENI	**Genyem**	**48.16 286**	P	**P**	**12 09 41.7**	**+1.4**
GENI	**Genyem**	**48.16 286**	P	**P**	**12 09 39.3**	**-1.0**
	comp=Z,778nm,2.0s,comp=Z,22μmcomp=Z,21μm					
WR9	**Warramunga Arr**	**48.17 261**	IAMs_20	IAMs_20	12 30 07.0	
	comp=Z,35μm,18.0s					
AS31	**Alice Springs**	**48.18 256**	P	**P**	**12 09 38.3**	**-2.1**
ASAR	**Alice Springs**	**48.18 256**	P	**P**	**12 09 38.0**	**-2.4**
ASAR	**Alice Springs**	**48.18 256**	P	**P**	**12 09 38.2**	**-2.2**
	comp=Z,63nm1,0.9s,baz=88,slow=8.0,SNR=156					
ASAR			PcP	**PcP**	**12 11 08.0**	**+0.2**
	comp=Z,29nm,0.9s,baz=99,slow=4.6,SNR=5.5					
ASAR			S	**S**	**12 16 33.5**	**-5.8**
	comp=Z,4.7nm,1.0s,baz=96,slow=16,SNR=6.8					
ASAR			LR	LR	12 30 27.8	
	comp=Z,21μm,18.9s,baz=101,slow=37					
	comp=Z,63nm,0.9s					
WR8	**Warramunga Arr**	**48.19 261**	IAMs_20	IAMs_20	12 30 06.4	
	comp=Z,36μm,18.0s					
WR7	**Warramunga Arr**	**48.21 261**	IAMs_20	IAMs_20	12 30 08.0	
	comp=Z,35μm,18.0s					
WR6	**Warramunga Arr**	**48.23 261**	IAMs_20	IAMs_20	12 30 27.5	
	comp=Z,34μm,18.0s					
WR5	**Warramunga Arr**	**48.25 261**	IAMs_20	IAMs_20	12 30 09.1	
	comp=Z,33μm,18.0s					
WR4	**Warramunga Arr**	**48.27 261**	IAMs_20	IAMs_20	12 30 09.7	
	comp=Z,32μm,19.0s					
WC3	**Warramunga Arr**	**48.30 261**	IAMs_20	IAMs_20	12 30 20.5	
	comp=Z,30μm,19.0s					
WR2	**Warramunga Arr**	**48.31 261**	IAMs_20	IAMs_20	12 30 11.8	
	comp=Z,32μm,18.0s					
WC2	**Warramunga Arr**	**48.32 261**	IAMs_20	IAMs_20	12 30 29.8	
	comp=Z,33μm,18.0s					
WB7	**Warramunga Arr**	**48.32 261**	IAMs_20	IAMs_20	12 29 11.9	
	comp=Z,28μm,18.0s					
WB0	**Warramunga Arr**	**48.32 262**	P	**P**	**12 09 39.1**	**-2.4**
WB0			IAMs_20	IAMs_20	12 30 10.9	
	comp=Z,40μm,18.0s					
WB8	**Warramunga Arr**	**48.32 261**	IAMs_20	IAMs_20	12 29 12.0	
	comp=Z,35μm,18.0s					
WB9	**Warramunga Arr**	**48.32 261**	IAMs_20	IAMs_20	12 29 12.0	
	comp=Z,36μm,18.0s					
WB5	**Warramunga Arr**	**48.32 261**	IAMs_20	IAMs_20	12 30 11.0	
	comp=Z,36μm,18.0s					
WB2	**Warramunga Arr**	**48.33 261**	P	**P**	**12 09 39.0**	**-2.6**
WB2			IAmb	IAmb	12 09 42.0	
	comp=Z,225nm,1.2s					
WB2			IAMs_20	IAMs_20	12 30 12.1	
	comp=Z,33μm,19.0s					
WB3	**Warramunga Arr**	**48.33 261**	IAMs_20	IAMs_20	12 30 31.1	
	comp=Z,33μm,18.0s					
WB4	**Warramunga Arr**	**48.33 261**	IAMs_20	IAMs_20	12 30 12.1	
	comp=Z,33μm,18.0s					
WB6	**Warramunga Arr**	**48.33 261**	IAMs_20	IAMs_20	12 30 11.1	
	comp=Z,36μm,18.0s					
WB1	**Warramunga Arr**	**48.33 261**	IAMs_20	IAMs_20	12 30 12.1	
	comp=Z,32μm,19.0s					
WRAB	**Tennant Creek**	**48.33 261**	P	**P**	**12 09 39.0**	**-2.7**
WRAB			IAmb	IAmb	12 09 42.0	
	comp=Z,276nm,1.4s					
WRAB	**Tennant Creek**	**48.33 261**	IAMs_20	IAMs_20	12 30 30.9	
	comp=Z,33μm,18.0s					
WRAB	**Tennant Creek**	**48.33 261**	*ce*P	**P**	**12 09 38.9**	**-2.7**
WRAB			pmax	pmax		
	comp=Z,258nm,1.6s					
WRAB			MLR	MLR		
	comp=Z,34μm,16.0s					
WRAB	**Tennant Creek**	**48.33 261**	⇑P	**P**	**12 09 38.7**	**-2.9**
WC4	**Warramunga Arr**	**48.33 261**	IAMs_20	IAMs_20	12 30 11.3	
	comp=Z,32μm,19.0s					
WR1	**Warramunga Arr**	**48.34 261**	IAMs_20	IAMs_20	12 30 11.4	
	comp=Z,31μm,18.0s					
WRA	**Warramunga Arr**	**48.34 261**	P	**P**	**12 09 39.1**	**-2.6**
WRA	**Warramunga Arr**	**48.34 261**	P	**P**	**12 09 38.8**	**-2.9**
	comp=Z,45nm,0.9s,baz=96,slow=8.1,SNR=101					
WRA			PcP	**PcP**	**12 11 08.1**	**-0.3**
	comp=Z,16nm,0.9s,baz=96,slow=3.3,SNR=2.9					
WRA			S	**S**	**12 16 36.8**	**-4.7**
	comp=Z,1.3nm,0.9s,baz=94,slow=14,SNR=2.8					
WRA			LR	LR	12 29 32.0	
	comp=Z,27μm,18.1s,baz=96,slow=36					
	comp=Z,45nm,0.9s					
WC1	**Warramunga Arr**	**48.34 261**	IAMs_20	IAMs_20	12 30 11.5	
	comp=Z,31μm,18.0s					
KDU	**Kakadu**	**51.75 270**	P	**P**	**12 10 05.8**	**-1.7**
	baz=52,SNR=23					
KDU	**Kakadu**	**51.75 270**	P	**P**	**12 10 06.3**	**-1.3**
KDU	**Kakadu**	**51.75 270**	⇑P	**P**	**12 10 05.3**	**-2.2**
FORT	**Forrest**	**52.73 247**	P	**P**	**12 10 13.1**	**-1.5**
	baz=53,SNR=14					
FORT	**Forrest**	**52.73 247**	P	**P**	**12 10 12.8**	**-1.8**
FORT			IAMs_20	IAMs_20	12 36 23.5	
	comp=Z,26μm,18.0s					
FORT	**Forrest**	**52.73 247**	P	**P**	**12 10 15.8**	**+1.1**
FORT	**Forrest**	**52.73 247**	⇑P	**P**	**12 10 12.7**	**-2.0**
GUMO	**Guam**	**52.87 307**	P	**P**	**12 10 16.6**	**+0.8**
GUMO	**Guam**	**52.87 307**	LR	LR	12 31 20.5	
	comp=Z,6μm,18.3s,baz=127,slow=34					
MTN	**Manton Dam**	**52.96 269**	P	**P**	**12 10 14.3**	**-2.3**
	baz=53,SNR=18					
MTN	**Manton Dam**	**52.96 269**	P	**P**	**12 10 14.1**	**-2.5**
MTN	**Manton Dam**	**52.96 269**	P	**P**	**12 10 16.3**	**-0.3**
MTN	**Manton Dam**	**52.96 269**	⇑P	**P**	**12 10 13.8**	**-2.8**
WRKA	**Warakurna**	**53.08 254**	P	**P**	**12 10 15.2**	**-2.2**
	baz=53,SNR=49					
WRKA	**Warakurna**	**53.08 254**	P	**P**	**12 10 16.3**	**-1.1**
WRKA	**Warakurna**	**53.08 254**	⇑P	**P**	**12 10 15.3**	**-2.1**
KMPI	**Kaimana, Papua**	**53.61 281**	P	**P**	**12 10 21.8**	**+0.4**
	comp=Z,247nm,2.2s,comp=Z,8μmcomp=Z,15μm					
RKPI	**Ransiki, Papua**	**54.04 284**	P	**P**	**12 10 26.9**	**+2.4**
SAUI	**Saumlaki**	**54.29 275**	P	**P**	**12 10 25.2**	**-1.2**
SAUI	**Saumlaki**	**54.29 275**	P	**P**	**12 10 26.8**	**+0.5**
SAUI	**Saumlaki**	**54.29 275**	P	**P**	**12 10 25.7**	**-0.6**
	comp=Z,560nm,1.7s,comp=Z,12μmcomp=Z,23μm					
KNRA	**Kununurra**	**54.43 265**	P	**P**	**12 10 25.8**	**-1.6**
	baz=55,SNR=16					
KNRA	**Kununurra**	**54.43 265**	P	**P**	**12 10 25.4**	**-1.9**
KNRA	**Kununurra**	**54.43 265**	P	**P**	**12 10 26.7**	**-0.7**
FAKI	**Fak Fak**	**55.24 281**	P	**P**	**12 10 31.5**	**-1.8**
FAKI			IAmb	IAmb	12 10 46.5	
	comp=Z,464nm,1.6s					
FAKI			IAMs_20	IAMs_20	12 34 22.1	
	comp=Z,23μm,19.0s					
FAKI	**Fak Fak**	**55.24 281**	P	**P**	**12 10 34.3**	**+1.1**
FAKI	**Fak Fak**	**55.24 281**	P	**P**	**12 10 31.5**	**-1.8**
	comp=Z,170nm,2.4s,comp=Z,7μmcomp=Z,15μm					
FAKI	**Fak Fak**	**55.24 281**	⇑P	**P**	**12 10 31.1**	**-2.1**
BNDI	**Bandanaira**	**56.80 278**	P	**P**	**12 10 45.2**	**+0.8**
BNDI	**Bandanaira**	**56.80 278**	P	**P**	**12 10 41.7**	**-2.7**
	comp=Z,701nm,2.4s,comp=Z,15μmcomp=Z,18μm					
BNDI	**Bandanaira**	**56.80 278**	⇑P	**P**	**12 10 42.4**	**-2.0**
SWI	**Sorong**	**56.96 283**	P	**P**	**12 10 43.5**	**-2.1**
	comp=Z,266nm,1.9s,comp=Z,8μmcomp=Z,15μm					
KMBL	**Kambalda**	**57.96 245**	P	**P**	**12 10 51.2**	**-1.2**
	baz=58,SNR=5.6					
KMBL	**Kambalda**	**57.96 245**	P	**P**	**12 10 53.5**	**+1.1**
SBA	**Scott Base**	**58.02 185**	P	**P**	**12 10 51.3**	**-0.7**
SBA	**Scott Base**	**58.02 185**	IAMs_20	IAMs_20	12 31 21.6	
	comp=Z,21μm,19.0s					
SBA	**Scott Base**	**58.02 185**	P	**P**	**12 10 51.3**	**-0.7**
SBA			pmax	pmax		
	comp=Z,1μm,2.0s					
RPN	**Rapa Nui**	**58.89 110**	LR	LR	12 31 39.8	
	comp=Z,39μm,18.0s,baz=258,slow=31					
NLAI	**Namlea**	**59.87 278**	P	**P**	**12 11 03.9**	**-2.0**
	comp=Z,89nm,1.6s,comp=Z,5μm					
SOEI	**Soe**	**60.30 270**	P	**P**	**12 11 07.3**	**-1.6**
SOEI	**Soe**	**60.30 270**	P	**P**	**12 11 11.8**	**+2.8**
SOEI	**Soe**	**60.30 270**	P	**P**	**12 11 08.2**	**-0.8**
	comp=Z,473nm,1.0s,comp=Z,9μmcomp=Z,16μm					
SOEI	**Soe**	**60.30 270**	S	**S**	**12 19 29.7**	**+6.5**
SOEI			P	**P**	**12 11 06.2**	**-2.8**
SOEI	**Soe**	**60.30 270**	⇑P	**P**	**12 11 08.6**	**-0.4**
LBMI	**Labuha**	**60.49 281**	P	P	12 11 19.8	+10
BATI	**Baumata**	**60.73 270**	P	**P**	**12 11 13.7**	**+1.9**
	comp=Z,141nm,1.5s,comp=Z,9μmcomp=Z,15μm					
TNTI	**Ternate**	**61.18 283**	P	**P**	**12 11 13.5**	**-1.3**
TNTI	**Ternate**	**61.18 283**	P	**P**	**12 11 16.8**	**+2.0**
TNTI	**Ternate**	**61.18 283**	P	**P**	**12 11 13.8**	**-1.0**
	comp=Z,298nm,1.2s,comp=Z,6μmcomp=Z,11μm					
PSA00	**Pilbara Seismi**	**61.33 256**	P	**P**	**12 11 14.1**	**-1.7**
PSA00	**Pilbara Seismi**	**61.33 256**	IAmb	IAmb	12 11 16.8	
	comp=Z,172nm,1.1s					
PSA00	**Pilbara Seismi**	**61.33 256**	P	**P**	**12 11 14.4**	**-1.4**
SANI	**Sanana**	**61.34 279**	P	**P**	**12 11 15.1**	**-0.8**
SANI	**Sanana**	**61.34 279**	P	**P**	**12 11 13.3**	**-2.6**
	comp=Z,124nm,1.3s,comp=Z,8μmcomp=Z,15μm					
SANI	**Sanana**	**61.34 279**	S	**S**	**12 19 40.4**	**+4.1**
SANI			P	**P**	**12 11 13.9**	**-2.1**
KLBR	**Kellerberrin**	**61.43 245**	P	**P**	**12 11 15.7**	**-0.7**
	baz=62,SNR=22					
KLBR	**Kellerberrin**	**61.43 245**	P	**P**	**12 11 16.6**	**+0.2**
MEEK	**Meekatharra**	**61.45 250**	P	**P**	**12 11 15.1**	**-1.5**
	baz=62,SNR=12					
MEEK	**Meekatharra**	**61.45 250**	P	**P**	**12 11 15.4**	**-1.2**
MBWA	**Marble Bar**	**61.52 257**	P	**P**	**12 11 15.0**	**-2.0**
MBWA	**Marble Bar**	**61.52 257**	P	**P**	**12 11 17.5**	**+0.4**
MBWA	**Marble Bar**	**61.52 257**	⇑P	**P**	**12 11 15.1**	**-2.0**
NWAO	**Narrogin (SRO)**	**61.70 243**	P	**P**	**12 11 16.8**	**-1.3**
	baz=62,SNR=8.3					
NWAO			P	**P**	**12 11 16.8**	**-1.3**
	baz=62,SNR=8.3					
NWAO	**Narrogin (SRO)**	**61.70 243**	P	**P**	**12 11 17.3**	**-0.8**
NWAO	**Narrogin (SRO)**	**61.70 243**	IAmb	IAmb	12 11 20.9	
	comp=Z,2μm,1.8s					
NWAO	**Narrogin (SRO)**	**61.70 243**	IAMs_20	IAMs_20	12 37 48.8	
	comp=Z,23μm,18.0s					
NWAO	**Narrogin (SRO)**	**61.70 243**	P	**P**	**12 11 18.9**	**+0.8**
NWAO	**Narrogin (SRO)**	**61.70 243**	P	**P**	**12 11 18.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**61.70 243**	P	**P**	**12 11 17.3**	**-0.8**
NWAO			pmax	pmax		
	comp=Z,672nm,1.8s					
NWAO			MLR	MLR		
	comp=Z,23μm,18.0s					
NWAO	**Narrogin (SRO)**	**61.70 243**	P	**P**	**12 11 17.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**61.70 243**	LR	LR	12 36 30.3	
	comp=Z,10μm,18.5s,baz=82,slow=35					
RKGY	**Rocky Gully**	**61.71 241**	P	**P**	**12 11 17.2**	**-1.0**
	baz=62,SNR=4.0					
RKGY	**Rocky Gully**	**61.71 241**	P	**P**	**12 11 18.9**	**+0.8**
BLDU	**Ballidu**	**62.46 245**	P	**P**	**12 11 22.5**	**-0.8**
	baz=63,SNR=21					
BLDU	**Ballidu**	**62.46 245**	P	**P**	**12 11 24.2**	**+0.9**
MMRI	**Maumere**	**62.55 271**	P	**P**	**12 11 22.4**	**-1.7**
MMRI			IAmb	IAmb	12 11 48.5	
	comp=Z,180nm,1.1s					
MMRI	**Maumere**	**62.55 271**	P	**P**	**12 11 23.4**	**-0.7**
MMRI	**Maumere**	**62.55 271**	P	**P**	**12 11 22.6**	**-1.5**
	comp=Z,173nm,1.4s,comp=Z,8μmcomp=Z,14μm					
MUN	**Mundaring**	**62.68 244**	P	**P**	**12 11 24.7**	**0.0**
	baz=63,SNR=11					
MUN	**Mundaring**	**62.68 244**	P	**P**	**12 11 25.7**	**+1.0**
EDFI	**Ende, Flores**	**63.03 271**	P	**P**	**12 11 25.1**	**-2.3**
	comp=Z,188nm,1.5s,comp=Z,5μmcomp=Z,13μm					
MTKN	**Mount Kenneth**	**63.06 244**	P	**P**	**12 11 30.2**	**+3.0**
MORW	**Morawa**	**63.28 247**	P	**P**	**12 11 28.1**	**-0.7**
	baz=64,SNR=15					
MORW	**Morawa**	**63.28 247**	P	**P**	**12 11 27.7**	**-1.0**
MORW			IAmb	IAmb	12 11 36.2	
	comp=Z,167nm,1.2s					
MORW	**Morawa**	**63.28 247**	P	**P**	**12 11 29.7**	**+0.9**
MORW	**Morawa**	**63.28 247**	⇑P	**P**	**12 11 27.8**	**-1.0**
BASI	**Baing, Sumba**	**63.61 269**	P	**P**	**12 11 33.3**	**+2.2**
JCJ	**Chichijima**	**63.68 316**	IAMs_20	IAMs_20	12 36 18.2	
	comp=Z,17μm,20.0s					
JCJ	**Chichijima**	**63.68 316**	P	**P**	**12 11 31.3**	**0.0**
JCJ	**Chichijima**	**63.68 316**	P	P	12 11 24.1	-7.2
	comp=Z,93nm,0.7s,baz=147,slow=3.8,SNR=6.7					
JCJ			LR	LR	12 36 05.6	
	comp=Z,13μm,19.5s,baz=132,slow=33					
H01W1	**Cape Leeuwin H**	**63.98 240**	P	**P**	**12 11 36.0**	**+3.0**
	baz=117,slow=6.6,SNR=5.5					
H01W2	**Cape Leeuwin H**	**63.99 240**	P	**P**	**12 11 35.8**	**+2.7**
	baz=117,slow=6.6,SNR=5.9					
H01W3	**Cape Leeuwin H**	**63.99 240**	P	**P**	**12 11 36.2**	**+3.1**
	baz=117,slow=6.6,SNR=3.4					
KMSI	**Cibinong**	**64.20 281**	P	**P**	**12 11 35.5**	**+0.5**
	comp=Z,256nm,1.1s,comp=Z,4μmcomp=Z,7μm					
LUWI	**Luwuk**	**64.70 279**	P	**P**	**12 11 37.2**	**-1.0**
LUWI	**Luwuk**	**64.70 279**	P	**P**	**12 11 38.1**	**-0.1**
LUWI	**Luwuk**	**64.70 279**	P	**P**	**12 11 37.7**	**-0.5**
	comp=Z,296nm,1.3s,comp=Z,9μmcomp=Z,14μm					
LUWI	**Luwuk**	**64.70 279**	P	**P**	**12 11 36.9**	**-1.4**
LUWI			S	**S**	**12 20 23.4**	**+5.0**
GTOI	**Gorontalo**	**65.12 281**	P	**P**	**12 11 42.0**	**+1.0**
	comp=Z,75nm,1.6s,comp=Z,3μmcomp=Z,5μm					
DAV	**Davao City (W)**	**65.46 288**	IAMs_20	IAMs_20	12 39 59.1	
	comp=Z,15μm,18.0s					
DAV	**Davao City (W)**	**65.46 288**	LR	LR	12 40 00.5	
	comp=Z,9μm,18.3s,baz=99,slow=36					
CASY	**Casey**	**65.47 206**	P	**P**	**12 11 43.0**	**+0.6**
BKSI	**Bulukumba**	**65.63 274**	P	**P**	**12 11 43.8**	**-0.5**
	comp=Z,62nm,1.6s,comp=Z,5μmcomp=Z,10μm					
MRSI	**Marisa**	**66.04 280**	P	**P**	**12 11 46.9**	**-0.1**
	comp=Z,120nm,1.2s,comp=Z,6μmcomp=Z,12μm					
KAPI	**Kappang**	**66.08 274**	P	**P**	**12 11 45.9**	**-1.3**
KAPI			IAmb	IAmb	12 11 59.8	
	comp=Z,490nm,1.9s					
KAPI	**Kappang**	**66.08 274**	P	**P**	**12 11 48.4**	**+1.2**
KAPI	**Kappang**	**66.08 274**	P	**P**	**12 11 45.9**	**-1.3**
KAPI			pmax	pmax		
	comp=Z,491nm,1.9s					
KAPI	**Kappang**	**66.08 274**	P	**P**	**12 11 45.7**	**-1.5**
KAPI	**Kappang**	**66.08 274**	LR	LR	12 40 50.9	
	comp=Z,7μm,18.3s,baz=129,slow=36					
GIRL	**Giralia**	**66.17 254**	P	**P**	**12 11 45.8**	**-1.8**
	baz=66,SNR=6.9					
GIRL	**Giralia**	**66.17 254**	P	**P**	**12 11 47.0**	**-0.7**
PLAI	**Plampang**	**66.67 269**	P	**P**	**12 11 53.8**	**+2.8**
PLAI	**Plampang**	**66.67 269**	P	**P**	**12 11 51.3**	**+0.3**
	comp=Z,265nm,1.6s,comp=Z,7umcomp=Z,13um					
TTSI	**Tana Toraja**	**66.71 276**	P	**P**	**12 11 51.5**	**+0.3**
	comp=Z,69nm,1.7s,comp=Z,4umcomp=Z,9um					
TOLI2	**Tolitoli**	**67.36 280**	P	**P**	**12 11 53.6**	**-1.7**
TOLI2			IAmb	IAmb	12 12 01.8	
	comp=Z,282nm,1.4s					
TOLI2	**Tolitoli**	**67.36 280**	P	**P**	**12 11 56.5**	**+1.1**
TWSI	**Taliwang, Sumb**	**67.53 269**	P	**P**	**12 11 56.8**	**+0.3**
	comp=Z,185nm,1.6s,comp=Z,6μmcomp=Z,12μm					
MPSI	**Mapaga**	**67.88 279**	P	**P**	**12 11 57.5**	**-1.1**
	comp=Z,71nm,0.7s,comp=Z,5μmcomp=Z,11μm					
SRBI	**Singaraja**	**69.31 269**	P	P	12 12 19.3	+12
JHJ2	**Mitsune**	**69.31 320**	IAMs_20	IAMs_20	12 48 02.0	
	comp=Z,15μm,18.0s					
JHJ	**Hachijo jima 2**	**69.33 320**	LR	LR	12 43 01.8	
	comp=Z,11μm,18.1s,baz=136,slow=36					
QSPA	**South Pole Qui**	**69.44 180**	P	**P**	**12 12 07.8**	**0.0**
QSPA	**South Pole Qui**	**69.44 180**	IAMs_20	IAMs_20	12 45 02.8	
	comp=Z,23μm,18.0s					
QSPA	**South Pole Qui**	**69.44 180**	⇑P	**P**	**12 12 08.9**	**+1.1**
QSPA	**South Pole Qui**	**69.44 180**	P	**P**	**12 12 08.7**	**+0.9**
	comp=Z,27nm,0.7s,baz=44,slow=2.0,SNR=105					
QSPA			S	**S**	**12 21 17.8**	**+3.5**
	comp=Z,1.3nm,1.0s,baz=110,slow=14,SNR=3.7					
QSPA			LR	LR	12 39 56.6	
	comp=Z,16μm,18.8s,baz=38,slow=34					
QSPA			PKP2bc		12 40 10.9	
	comp=Z,3.8nm,1.1s,baz=163,slow=2.0,SNR=6.9					
	comp=Z,27nm,0.7s					
JAGI	**Jajag, Banyuwa**	**70.18 268**	P	**P**	**12 12 10.8**	**-2.1**
JAGI	**Jajag, Banyuwa**	**70.18 268**	P	P	12 12 25.8	+13
ABJI	**Asem Bagus**	**70.32 269**	P	P	12 12 27.2	+13
BLJI	**Banyuglugur**	**70.93 269**	P	**P**	**12 12 20.1**	**+2.5**
MYLDM	**Lahad Datu**	**71.05 283**	IAmb	IAmb	12 12 33.3	
	comp=Z,457nm,1.6s					
BBKI	**Banjar Baru**	**71.21 273**	P	**P**	**12 12 20.5**	**+1.2**
	comp=Z,142nm,2.0s,comp=Z,13μm					
JRY	**Ryogami san**	**71.86 321**	P	**P**	**12 12 21.9**	**-0.8**
AMKA	**Amchitka**	**71.94 356**	P	**P**	**12 12 21.9**	**-0.9**
MTKI	**Muara Teweh, K**	**72.05 276**	P	**P**	**12 12 24.3**	**0.0**
	comp=Z,137nm,1.0s,comp=Z,7μmcomp=Z,14μm					
JMM	**Marumori**	**72.08 324**	P	**P**	**12 12 22.4**	**-1.5**
JMM			IAmb	IAmb	12 12 30.4	
	comp=Z,405nm,1.9s					
JMM			IAMs_20	IAMs_20	12 39 49.8	
	comp=Z,25μm,20.0s					
JMM	**Marumori**	**72.08 324**	P	**P**	**12 12 23.4**	**-0.5**
ADK	**Adak**	**72.24 358**	P	**P**	**12 12 22.6**	**-2.0**
ADK	**Adak**	**72.24 358**	P	**P**	**12 12 22.6**	**-2.0**
ADK			pmax	pmax		
	comp=Z,144nm,1.1s					
GRJI	**Gresik**	**72.25 269**	P	**P**	**12 12 28.5**	**+3.0**
JGF	**Kuroka**	**72.49 320**	P	**P**	**12 12 27.1**	**+0.6**
ATKA	**Atka Island**	**72.52 360**	P	**P**	**12 12 25.9**	**-0.3**
ATKA	**Atka Island**	**72.52 360**	P	**P**	**12 12 24.4**	**-1.8**
INU	**Inuyama**	**72.53 320**	P	**P**	**12 12 25.6**	**-1.1**
INU			IAmb	IAmb	12 12 40.7	
	comp=Z,304nm,2.0s		

SCI2	**San Clemente I**	75.09	46	P	P	12 12 42.5	+0.7
	baz=233						
SCI2				S	S	12 22 23.0	+3.4
	baz=233						
SBC	**Santa Barbara**	75.21	44	P	P	12 12 43.9	+1.5
	baz=232						
SBC				S	S	12 22 23.3	+2.5
	baz=232						
PKM	**Mcpherson Peak**	75.42	44	P	P	12 12 44.8	+0.9
	baz=231,SNR=7.1						
PKM				S	S	12 22 25.4	+1.8
	baz=231						
KPJI	**Karang Pucung**	75.43	268	P	P	12 12 45.7	+1.5
	comp=Z,169nm,2.0s,comp=Z,6μm						
CIS	**Catalina Islan**	75.43	45	P	P	12 12 44.3	+0.5
	baz=233						
CIS				S	S	12 22 27.1	+3.7
	baz=233						
SMMC	**Simmler**	75.57	43	P	P	12 12 45.7	+1.1
	baz=231,SNR=11						
SMMC				S	S	12 22 27.5	+2.6
	baz=231						
SAO	**San Andreas Ge**	75.57	41	P	P	12 12 43.6	-0.9
SAO				IAmb	IAmb	12 12 51.0	
	comp=Z,325nm,1.7s						
SAO	**San Andreas Ge**	75.57	41	P	P	12 12 43.6	-0.9
SAO				pmax	pmax		
	comp=Z,325nm,1.7s						
STKI	**Sintang**	75.60	276	P	P	12 12 47.2	+2.1
	comp=Z,81nm,0.7s,comp=Z,24μmcomp=Z,14μm						
MCCM	**Marconi Confer**	75.60	39	P	P	12 12 43.2	-1.4
MCCM				IAmb	IAmb	12 12 51.1	
	comp=Z,426nm,1.9s						
PMPB	**Monarch Peak**	75.63	42	P	P	12 12 43.9	-1.0
PMPB				IAmb	IAmb	12 12 51.8	
	comp=Z,642nm,1.8s						
JKA	**Kamikawa-asahi**	75.71	329	IAms_20	IAms_20	12 45 05.5	
	comp=Z,14μm,19.0s						
BCW	**Bitter Crk WRg**	75.71	44	IAmb	IAmb	12 12 52.3	
	comp=Z,462nm,1.6s						
BCW				IAms_20	IAms_20	12 40 05.8	
	comp=Z,20μm,19.0s						
ASAJ	**Asahikawa**	75.72	329	P	P	12 12 47.1	+2.0
ASAJ	**Asahikawa**	75.72	329	P	P	12 12 45.1	0.0
	comp=Z,33nm,0.7s,baz=220,slow=5.5,SNR=18						
ASAJ				LR	LR	12 44 39.8	
	comp=Z,11μm,18.3s,baz=148,slow=35						
	comp=Z,33nm,0.7s						
CCX	**Cicese**	75.72	48	IAmb	IAmb	12 12 49.5	
	comp=Z,465nm,1.8s						
FALS	**False Pass**	75.72	6	P	P	12 12 48.1	+3.3
	baz=190						
FALS				S	S	12 22 26.5	+1.0
	baz=190						
SKR	**Severo-Kuril's**	75.75	341	*e*P	P	12 12 43.3	-1.8
SKR				*e*		12 13 01.3	
SKR				*e*S	S	12 22 31.4	+5.3
SKR				pmax	pmax		
	comp=Z,8μm,5.0s						
SKR				smax	smax		
	comp=N,12μm,13.4s						
SKR				smax	smax		
	comp=E,10μm,12.9s						
SKR				MLR	MLR		
	comp=Z,10μm,18.0s						
SBUM	**Sibu**	75.78	278	P	P	12 12 45.9	-0.2
SBUM	**Sibu**	75.78	278	P	P	12 12 48.0	+1.9
OSI	**Osito Audit: C**	75.96	44	P	P	12 12 47.9	+1.1
	baz=232						
OSI				S	S	12 22 31.0	+1.7
	baz=232						
CBX	**Cerro Bola**	75.98	47	IAmb	IAmb	12 12 51.2	
	comp=Z,268nm,1.9s						
DECC	**Green Verdugo**	76.00	45	P	P	12 12 47.9	+0.8
	baz=233						
DECC				S	S	12 22 31.7	+2.0
	baz=233						
109C	**Camp Elliot, M**	76.01	47	IAmb	IAmb	12 12 51.0	
	comp=Z,531nm,2.0s						
109C				IAms_20	IAms_20	12 44 02.6	
	comp=Z,13μm,18.0s						
109C	**Camp Elliot, M**	76.01	47	P	P	12 12 47.5	+0.5
	baz=234,SNR=7.1						
109C				S	S	12 22 33.4	+3.6
	baz=234						
PASC	**Pasadena Art C**	76.05	45	IAms_20	IAms_20	12 40 12.6	
	comp=Z,15μm,19.0s						
HOPS	**Hopland Field**	76.05	39	IAms_20	IAms_20	12 40 10.7	
	comp=Z,20μm,19.0s						
GDXM	**Geysers**	76.09	39	IAms_20	IAms_20	12 39 52.8	
	comp=Z,20μm,20.0s						
CNBA	**Chernabura Isl**	76.14	9	IAms_20	IAms_20	12 42 27.5	
	comp=Z,17μm,20.0s						
CHNA	**Chernabura Isl**	76.15	8	P	P	12 12 49.4	+2.1
	baz=194						
CHNA				S	S	12 22 34.9	+4.6
	baz=194						
TKX	**Tecate**	76.16	47	IAmb	IAmb	12 12 54.1	
	comp=Z,264nm,1.5s						
TKX				IAms_20	IAms_20	12 45 37.7	
	comp=Z,13μm,18.0s						
BAR	**Barrett**	76.19	47	IAmb	IAmb	12 12 54.2	
	comp=Z,360nm,1.8s						
BAR				IAms_20	IAms_20	12 44 58.2	
	comp=Z,12μm,18.0s						
ARVC	**Arvin**	76.21	44	P	P	12 12 49.0	+0.9
	baz=232,SNR=8.6						
ARVC				S	S	12 22 35.0	+3.1
	baz=232						
ELS	**Elsinore Mount**	76.24	46	IAmb	IAmb	12 12 52.6	
	comp=Z,581nm,1.9s						
ESJX	**Sierra Juarez**	76.29	48	IAmb	IAmb	12 12 53.4	
	comp=Z,302nm,1.6s						
SLBS	**Sierra La Lagu**	76.32	58	P	P	12 12 47.8	-1.3
MURC	**Murrieta**	76.37	46	P	P	12 12 49.9	+0.8
	baz=234,SNR=32						
MURC				S	S	12 22 34.6	+0.8
	baz=234						
BFSC	**Mount Baldy Ra**	76.44	45	P	P	12 12 50.0	+0.4
	baz=233,SNR=17						
BFSC				S	S	12 22 36.3	+1.5
	baz=233						
VES	**Vestal, Richgr**	76.48	43	P	P	12 12 49.7	+0.1
	baz=232,SNR=39						
VES				S	S	12 22 36.6	+1.8
	baz=232						
SFX	**San Felipe**	76.52	49	IAmb	IAmb	12 12 54.9	
	comp=Z,288nm,1.8s						
SFX				IAms_20	IAms_20	12 41 19.9	
	comp=Z,15μm,18.0s						
SDPT	**Sand Point**	76.54	8	P	P	12 12 52.2	+2.7
	baz=193						
RMX	**La Rumorosa**	76.55	47	IAmb	IAmb	12 12 56.7	
	comp=Z,228nm,1.4s						
RMX				IAms_20	IAms_20	12 39 20.0	
	comp=Z,12μm,19.0s						
IKP	**In-Ko-Pah, Jac**	76.55	47	P	P	12 12 50.6	+0.3
	baz=234,SNR=23						
IKP				S	S	12 22 39.0	+3.0
	baz=234						
VOG	**Valley Oaks Go**	76.58	43	P	P	12 12 50.7	+0.4
	baz=232						
VOG				S	S	12 22 36.3	+0.4
	baz=232						
BBJI	**Bungbulang**	76.59	267	P	P	12 12 51.4	+0.5
EDW2	**Edwards Air Fo**	76.60	44	P	P	12 12 50.4	-0.1
	baz=233,SNR=48						
EDW2				S	S	12 22 36.8	+0.4
	baz=233						
TWGBT	**Beinan**	76.67	301	P	P	12 12 52.8	+1.8
TWG	**Pinlang**	76.68	301	IAmb	IAmb	12 13 03.8	
	comp=Z,490nm,1.8s						
TWG				IAms_20	IAms_20	12 43 21.5	
	comp=Z,12μm,19.0s						
YUH	**Yuha Desert**	76.68	47	IAmb	IAmb	12 12 57.1	
	comp=Z,251nm,1.5s						
YUH				IAms_20	IAms_20	12 39 23.3	
	comp=Z,12μm,19.0s						
CCAC	**Calif City Air**	76.75	44	IAmb	IAmb	12 12 57.9	
	comp=Z,425nm,1.8s						
CCAC				IAms_20	IAms_20	12 40 28.2	
	comp=Z,17μm,19.0s						
ISA	**Isabella, Lake**	76.76	44	IAmb	IAmb	12 12 57.9	
	comp=Z,530nm,1.7s						
ISA				IAms_20	IAms_20	12 40 20.5	
	comp=Z,18μm,19.0s						
ISA	**Isabella, Lake**	76.76	44	P	P	12 12 51.2	-0.1
	baz=232,SNR=70						
ISA				S	S	12 22 40.7	+2.6
	baz=232						
YULB	**Yu-li**	76.78	301	IAmb	IAmb	12 12 57.4	
	comp=Z,361nm,1.9s						
YULB	**Yu-li**	76.78	301	P	P	12 12 52.5	+0.9
LEM	**Lembang**	76.83	268	LR	LR	12 47 19.7	
	comp=Z,10μm,19.0s,baz=112,slow=36						
PFO	**Pinyon Flats O**	76.87	46	P	P	12 12 51.2	-0.9
PFO				IAmb	IAmb	12 12 56.3	
	comp=Z,469nm,1.9s						
PFO	**Pinyon Flats O**	76.87	46	*i* P	P	12 12 51.6	-0.5
PFO				pmax	pmax		
	comp=Z,439nm,2.1s						
PFO				MLR	MLR		
	comp=Z,33μm,17.0s						
PFO	**Pinyon Flats O**	76.87	46	P	P	12 12 51.6	-0.5
	baz=234,SNR=34						
PFO				S	S	12 22 41.7	+2.2
	baz=234						
PFO	**Pinyon Flats O**	76.87	46	LR	LR	12 40 38.6	
	comp=Z,8μm,18.8s,baz=242,slow=31						
TPFO	**Pinon Flats**	76.87	46	P	P	12 12 51.8	-0.3
	baz=234,SNR=41						
TPFO				S	S	12 22 40.8	+1.3
	baz=234						
NACB	**Ninganchiao**	76.92	302	P	P	12 12 53.0	+0.6
SWSC	**Sam W. Stewart**	76.94	47	P	P	12 12 52.4	+0.1
	baz=235,SNR=50						
SWSC				S	S	12 22 41.6	+1.7
	baz=235						
BBRC	**Big Bear Solar**	76.94	46	P	P	12 12 52.3	-0.3
	baz=234,SNR=17						
BBRC				S	S	12 22 41.7	+1.2
	baz=234						
PMD	**Palm Desert**	76.95	46	IAmb	IAmb	12 12 56.5	
	comp=Z,389nm,1.8s						
PMD				IAms_20	IAms_20	12 44 57.5	
	comp=Z,14μm,18.0s						
CPBX	**Cerro Prieto**	76.98	48	IAmb	IAmb	12 12 57.0	
	comp=Z,244nm,1.4s						
CMB	**Columbia Colle**	77.03	41	IAmb	IAmb	12 12 56.9	
	comp=Z,318nm,1.9s						
PET	**Petropavlovsk**	77.10	343	P	P	12 12 52.4	-0.3
PET				IAmb	IAmb	12 12 59.4	
	comp=Z,452nm,1.9s						
PET				IAms_20	IAms_20	12 52 06.7	
	comp=Z,12μm,19.0s						
PET	**Petropavlovsk**	77.10	343	P	P	12 12 52.8	+0.1
PET	**Petropavlovsk**	77.10	343	*c i* P	P	12 12 51.4	-1.3
PET				*e*S	S	12 22 40.8	0.0
PET				*e*		12 23 08.0	
PET				pmax	pmax		
	comp=Z,6μm,5.7s						
PET				pmax	pmax		
	comp=Z,4μm,10.0s						
PET				pmax	pmax		
	comp=Z,152nm,2.3s						
PET				smax	smax		
	comp=E,5μm,14.7s						
PET				smax	smax		
	comp=E,6μm,15.0s						
PET				smax	smax		
	comp=N,6μm,15.6s						
PET				smax	smax		
	comp=N,6μm,17.5s						
PET				MLR	MLR		
	comp=Z,14μm,17.0s						
PET				MLR	MLR		
	comp=Z,14μm,17.1s						
SMAI	**San Martin Ant**	77.11	158	IAms_20	IAms_20	12 44 44.7	
	comp=Z,15μm,18.0s						
CNJI	**Cibinong**	77.13	267	P	P	12 13 00.1	+6.3
LRMC	**Laurel Mtn Rad**	77.17	44	P	P	12 12 53.6	-0.1
	baz=233,SNR=65						
LRMC				S	S	12 22 44.7	+2.0
	baz=233						
KSM	**Kuching**	77.19	276	P	P	12 12 53.5	-0.7
KSM				IAmb	IAmb	12 13 02.3	
	comp=Z,308nm,1.4s						
KSM	**Kuching**	77.19	276	P	P	12 12 54.0	-0.2
SSLB	**Suanglung**	77.24	302	P	P	12 12 52.7	-1.6
SSLB				IAms_20	IAms_20	12 48 16.6	
	comp=Z,12μm,18.0s						
SSLB	**Suanglung**	77.24	302	P	P	12 12 53.4	-0.9
RRX	**Edison Barstow**	77.26	45	P	P	12 12 54.1	+0.1
	baz=233						
RRX				S	S	12 22 45.1	+1.7
	baz=233						
AFDM	**Forest Hills D**	77.26	40	P	P	12 12 52.5	-1.5
AFDM				IAmb	IAmb	12 12 58.1	
	comp=Z,257nm,1.9s						
AFDM				IAms_20	IAms_20	12 44 58.8	
	comp=Z,12μm,18.0s						
TPUB	**Ta-pu**	77.27	301	IAms_20	IAms_20	12 48 09.2	
	comp=Z,14μm,18.0s						
TPUB	**Ta-pu**	77.27	301	P	P	12 12 54.0	-0.4
KRMB	**Red Mountain**	77.27	36	P	P	12 12 53.7	-0.4
KRMB				IAmb	IAmb	12 13 01.2	
	comp=Z,265nm,1.8s						
YHNB	**Yeheng**	77.34	303	IAms_20	IAms_20	12 43 43.2	
	comp=Z,12μm,20.0s						
YHNB	**Yeheng**	77.34	303	P	P	12 12 57.8	+2.9
TATO	**Taipei**	77.41	303	IAms_20	IAms_20	12 44 44.6	
	comp=Z,12μm,20.0s						
TATO	**Taipei**	77.41	303	P	P	12 12 54.8	-0.3
BELC	**Belle Mtn. Jos**	77.41	46	P	P	12 12 55.1	-0.1
	baz=234,SNR=62						
BELC				S	S	12 22 47.3	+1.9
	baz=234						
PEA0B	**Petropavlovsk-**	77.44	343	P	P	12 12 53.9	-0.7
PEA0B				IAmb	IAmb	12 13 00.6	
	comp=Z,544nm,1.6s						
PEA0B	**Petropavlovsk-**	77.44	343	P	P	12 12 53.9	-0.7
PEA0B				pmax	pmax		
	comp=Z,544nm,1.6s						
PETK	**Petropavlovsk-**	77.44	343	P	P	12 12 53.1	-1.5
PETK	**Petropavlovsk-**	77.44	343	P	P	12 12 53.4	-1.3
	comp=Z,25nm,0.8s,baz=106,slow=6.8,SNR=25						
PETK				LR	LR	12 42 53.3	
	comp=Z,5μm,19.8s,baz=165,slow=32						
	comp=Z,25nm,0.8s						
XMIS	**Christmas Isla**	77.47	263	IAms_20	IAms_20	12 46 55.4	
	comp=Z,16μm,19.0s						
CWC	**Cottonwood Cre**	77.49	43	P	P	12 12 55.1	-0.4
	baz=232						
CWC				S	S	12 22 48.6	+2.5
	baz=232						
KSXB	**Camp Six Broad**	77.49	36	IAmb	IAmb	12 13 02.3	
	comp=Z,288nm,1.9s						
SPIA	**Saint Paul Isl**	77.57	2	P	P	12 12 56.4	+1.2
	baz=183						
S14K	**Fog Glacier**	77.57	8	P	P	12 12 56.3	+0.8
	baz=194						
BC3	**Big Chuckawall**	77.58	47	P	P	12 12 56.1	0.0
	baz=235,SNR=79						
BC3				S	S	12 22 50.3	+3.2
	baz=235						
OMMB	**Old Mammoth Mi**	77.62	42	IAmb	IAmb	12 13 00.8	
	comp=Z,281nm,1.8s						
GSC	**Goldstone, Bar**	77.63	45	IAmb	IAmb	12 13 02.7	
	comp=Z,312nm,1.7s						
GSC				IAms_20	IAms_20	12 46 22.6	
	comp=Z,17μm,18.0s						
GSC	**Goldstone, Bar**	77.63	45	P	P	12 12 56.2	-0.1
	baz=234,SNR=46						
GSC				S	S	12 22 49.4	+1.8
	baz=234						
MPMC	**Manual Prospec**	77.64	44	P	P	12 12 56.3	-0.1
	baz=233,SNR=101						
MPMC				S	S	12 22 50.7	+2.8
	baz=233						
GLA	**Glamis**	77.67	48	IAmb	IAmb	12 13 03.1	
	comp=Z,433nm,1.5s						
GLA				IAms_20	IAms_20	12 46 02.5	
	comp=Z,11μm,18.0s						
GLA	**Glamis**	77.67	48	P	P	12 12 56.5	0.0
	baz=235,SNR=46						
GLA				S	S	12 22 49.5	+1.5
	baz=235						
HEC	**Hector,Ludlow**	77.67	45	P	P	12 12 56.3	-0.2
	baz=234,SNR=18						
HEC				S	S	12 22 48.7	+0.7
	baz=234						
CHIR	**Chirikof Islan**	77.72	10	IAms_20	IAms_20	12 43 03.9	
	comp=Z,21μm,20.0s						
CHIR	**Chirikof Islan**	77.72	10	P	P	12 12 57.5	+1.4
	baz=197						
MLAC	**Mammoth, Mammo**	77.74	42	P	P	12 12 57.5	+0.5
	baz=232,SNR=6.9						
MLAC				S	S	12 22 51.3	+2.3
	baz=232						
CHGN	**Chignik**	77.75	9	P	P	12 12 56.9	+0.6
	baz=195						
TIN	**Tinemaha, Big**	77.77	43	P	P	12 12 57.4	+0.4
	baz=232						
TIN				S	S	12 22 51.0	+2.0
	baz=232						
YSS	**Yuzh-Sakhalins**	77.77	331	P	P	12 12 55.7	-0.9
YSS				IAmb	IAmb	12 13 03.4	
	comp=Z,251nm,1.2s						
YSS				IAms_20	IAms_20	12 43 47.6	
	comp=Z,13μm,20.0s						
YSS	**Yuzh-Sakhalins**	77.77	331	P	P	12 12 58.3	+1.7
YSS	**Yuzh-Sakhalins**	77.77	331	*ce*P	P	12 12 56.4	-0.2
YSS				pmax	pmax		
	comp=Z,245nm,1.2s						
YSS				MLR	MLR		
	comp=Z,12μm,18.0s						
PIX	**Pinacate**	77.79	49	IAms_20	IAms_20	12 42 00.9	
	comp=Z,11μm,18.0s						
EMB	**Emerald Bay**	77.80	40	IAms_20	IAms_20	12 42 45.0	
	comp=Z,18μm,18.0s						
QSM	**Queen of Sheba**	77.99	44	IAmb	IAmb	12 13 02.3	
	comp=Z,365nm,1.7s						
QSM				IAms_20	IAms_20	12 40 59.9	
	comp=Z,16μm,20.0s						
MPK	**Martis Peak**	78.05	40	IAms_20	IAms_20	12 40 22.4	
	comp=Z,12μm,20.0s						
YBH	**Yreka Blue Hor**	78.07	37	IAmb	IAmb	12 13 05.4	
	comp=Z,252nm,1.8s						
YBH	**Yreka Blue Hor**	78.07	37	LR	LR	12 40 35.9	
	comp=Z,23μm,20.2s,baz=226,slow=30						
IRM	**Iron Mountain**	78.08	46	P	P	12 12 58.5	-0.2
	baz=235,SNR=119						
IRM				S	S	12 22 54.8	+2.4
	baz=235						
GMRC	**Granite Mounta**	78.09	46	P	P	12 12 58.7	-0.2
	baz=234,SNR=50						
GMRC				S	S	12 22 53.6	+0.9
	baz=234						
DSP	**Deep Springs**	78.12	42	IAmb	IAmb	12 13 05.7	
	comp=Z,423nm,1.6s						
DSP				IAms_20	IAms_20	12 42 45.5	
	comp=Z,20μm,19.0s						
113A	**Mohawk Valley,**	78.25	48	IAmb	IAmb	12 13 06.0	
	comp=Z,348nm,1.5s						
113A				IAms_20	IAms_20	12 40 33.8	
	comp=Z,12μm,20.0s						
GWY	**Greenwater Val**	78.25	44	IAmb	IAmb	12 13 06.1	
	comp=Z,457nm,1.9s						
GWY				IAms_20	IAms_20	12 41 44.8	
	comp=Z,17μm,19.0s						
BLYC	**Blythe**	78.27	47	IAmb	IAmb	12 13 04.2	
	comp=Z,588nm,1.9s						
BLYC				IAms_20	IAms_20	12 46 30.5	
	comp=Z,13μm,18.0s						
GRAC	**Grapevine Rang**	78.28	43	IAms_20	IAms_20	12 42 33.7	
	comp=Z,20μm,19.0s						
GRAC	**Grapevine Rang**	78.28	43	P	P	12 12 59.7	-0.1
	baz=233,SNR=20						
GRAC				S	S	12 22 56.4	+2.0
	baz=233						
FURC	**Furnace Creek,**	78.29	44	P	P	12 12 59.7	0.0
	baz=233,SNR=49						
FURC				S	S	12 22 59.0	+4.7
	baz=233						
TUQ	**Turquoise Moun**	78.30	45	P	P	12 12 59.9	-0.2
	baz=234,SNR=62						
TUQ				S	S	12 22 54.8	-0.1
	baz=234						
YERR	**Yerington**	78.33	41	IAmb	IAmb	12 13 06.6	
	comp=Z,441nm,1.6s						
214A	**Organ Pipe Nat**	78.47	49	IAmb	IAmb	12 13 07.5	
	comp=Z,297nm,1.4s						
214A	**Organ Pipe Nat**	78.47	49	P	P	12 13 01.0	+0.1
	baz=237,SNR=72						
214A				S	S	12 22 57.8	+1.1
	baz=237						
GMN	**Gold Mountain**	78.53	43	IAmb	IAmb	12 13 07.8	
	comp=Z,374nm,1.6s						
NVAR	**Mina Array Bea**	78.56	41	P	P	12 13 00.7	-0.9
	comp=Z,36nm,0.9s,baz=224,slow=7.7,SNR=67						
NVAR				PKPPKP	P'P'df	12 40 08.6	+11
	comp=Z,0.6nm,0.9s,baz=296,slow=1.9,SNR=8.1						
NVAR				LR	LR	12 43 15.3	
	comp=Z,22μm,18.2s,baz=246,slow=32						
	comp=Z,36nm,0.9s						
WCT	**Wildcat Mounta**	78.64	44	IAmb	IAmb	12 13 08.4	
	comp=Z,250nm,1.7s						
NV11	**Mina Array Sit**	78.65	41	IAmb	IAmb	12 13 08.4	
	comp=Z,544nm,1.6s						
SII	**Sitkinak Islan**	78.68	11	IAms_20	IAms_20	12 44 02.1	
	comp=Z,17μm,20.0s						
SII	**Sitkinak Islan**	78.68	11	P	P	12 13 02.2	+0.7
	baz=199						
PAHR	**Pah Rah Range**	78.69	40	IAmb	IAmb	12 13 08.7	
	comp=Z,453nm,1.7s						
PAHR				IAms_20	IAms_20	12 41 51.7	
	comp=Z,15μm,19.0s						
CGJI	**Cibinong**	78.70	267	P	P	12 13 03.2	+0.6
	comp=Z,490nm,1.6s,comp=Z,7μm						
NEE2	**Needles Airpor**	78.78	46	P	P	12 13 02.6	0.0
	baz=235						
NEE2				S	S	12 23 01.3	+1.4
	baz=235						
PDMCI	**Parker Dam,Lak**	78.85	47	P	P	12 13 02.9	0.0
	baz=235,SNR=45						
PDMCI				S	S	12 23 02.0	+1.5
	baz=235						
BELA	**Belgrano 2**	78.92	172	P	P	12 13 02.7	0.0
BELA				IAmb	IAmb	12 13 08.5	
	comp=Z,379nm,1.5s						
BELA				IAms_20	IAms_20	12 48 32.8	
	comp=Z,18μm,18.0s						
TPNV	**Topopah Spring**	78.97	44	IAmb	IAmb	12 13 09.5	
	comp=Z,398nm,1.5s						
TPNV				IAms_20	IAms_20	12 41 52.2	
	comp=Z,20μm,19.0s						
TPNV	**Topopah Spring**	78.97	44	P	P	12 13 03.9	+0.1
	baz=234,SNR=96						
KVN	**Kaiserville**	79.07	41	IAmb	IAmb	12 13 10.6	
	comp=Z,326nm,1.6s						
KVN				IAms_20	IAms_20	12 43 17.5	
	comp=Z,20μm,19.0s						
R16K	**Pilot Point**	79.09	9	P	P	12 13 04.8	+1.2
	baz=195						
V12A	**Nelson**	79.18	45	IAmb	IAmb	12 13 11.5	
	comp=Z,276nm,1.6s						
V12A				IAms_20	IAms_20	12 42 10.4	
	comp=Z,12μm,19.0s						
PLTX	**Planet X, Gerl**	79.27	39	IAmb	IAmb	12 13 11.7	
	comp=Z,283nm,1.4s						
TJN	**Taejon**	79.28	315	*i* P	P	12 13 05.9	+0.7
R17K	**Ugashik Creek**	79.34	10	IAms_20	IAms_20	12 43 57.2	
	comp=Z,18μm,20.0s						
R17K	**Ugashik Creek**	79.34	10	P	P	12 13 06.0	+1.0
	baz=197						
R17K				S	S	12 23 06.7	+1.9
	baz=197						
TEY	**Ternei**	79.35	327	*i e*P	P	12 13 04.8	-0.6
TEY				*e*		12 23 06.9	
TEY				pmax	pmax		
	comp=E,10.0nm,1.9s						
TEY				pmax	pmax		
	comp=N,10.0nm,1.6s						
TEY				pmax	pmax		
	comp=Z,20nm,2.0s						
TEY				pmax	pmax		
	comp=Z,300nm,12.3s						
TEY				pmax	pmax		
	comp=E,100nm,12.8s						
TEY				pmax	pmax		
	comp=N,100nm,11.0s						
TEY				MLR	MLR		
	comp=E,300nm,16.0s						
TEY				MLR	MLR		
	comp=N,100nm,17.0s						
TEY				MLR	MLR		
	comp=Z,200nm,17.0s						
Q09A	**Carvers**	79.50	42	IAmb	IAmb	12 13 13.2	
	comp=Z,488nm,1.6s						
Q09A				IAms_20	IAms_20	12 43 32.1	
	comp=Z,18μm,19.0s						
KSRS	**Korea Array**	79.54	317	P	P	12 13 06.8	+0.2
	comp=Z,14nm,1.0s,baz=136,slow=4.8,SNR=29						

KSRS LR LR 12 45 17.8
comp=Z,4μm,19.8s,baz=110,slow=34
comp=Z,14nm,1.0s
KSAR Wonju Array Be 79.56 317 P P 12 13 05.9 -0.8
KSAR Wonju Array Be 79.56 317 P P 12 13 05.9 -0.8
BUCK Buck Mountain 79.57 35 P P 12 13 05.0 -1.7
KS19 Wonju Array Si 79.61 317 P P 12 13 05.1 -1.9
KS19 IAmb IAmb 12 13 24.0
comp=Z,612nm,1.9s
KNMB Chin-men Tao 79.62 301 P P 12 13 06.8 -0.6
KNMB IAmb IAmb 12 13 10.0
comp=Z,307nm,1.4s
PMSA Palmer Station 79.64 156 IAMs_20 IAMs_20 12 43 56.4
comp=Z,18μm,18.0s
PMSA Palmer Station 79.64 156 LR LR 12 43 50.0
comp=Z,15μm,18.1s,baz=228,slow=32
UGL Uglegorsk 79.67 332 *c i* P **P 12 13 06.8 -0.2**
UGL *i* S **S 12 23 09.9 +1.3**
UGL pmax pmax
comp=Z,130nm,1.1s
UGL pmax pmax
comp=N,2μm,4.5s
UGL pmax pmax
comp=E,3μm,4.5s
UGL pmax pmax
comp=Z,6μm,5.0s
UGL smax smax
comp=E,7μm,14.0s
UGL smax smax
comp=N,6μm,9.5s
UGL MLR MLR
comp=E,9μm,17.0s
UGL MLR MLR
comp=N,11μm,18.0s
UGL MLR MLR
comp=Z,10μm,18.0s
QZH Quanzhou 79.69 302 ⇑ *i* P **P 12 13 07.6 -0.1**
QZH S **S 12 23 13.4 +3.6**
QZH pmax pmax
comp=Z,230nm,1.4s
QZH pmax pmax
comp=Z,9μm,7.7s
QZH LR LR
comp=Z,6μm,15.9s
QZH LR LR
comp=Z,9μm,18.3s
QZH LR LR
comp=Z,10μm,19.9s
S11A Rachel 79.70 43 IAmb IAmb 12 13 14.2
comp=Z,613nm,1.6s
K05A Summer Lake 79.74 37 IAmb IAmb 12 13 14.6
comp=Z,459nm,1.6s
PPBI Pangkal Pinang 79.80 272 P **P 12 13 09.2 +0.6**
comp=Z,208nm,2.2s,comp=Z,52μmcomp=Z,13μm
PRN Pahroc Range 80.01 44 IAmb IAmb 12 13 16.4
comp=Z,382nm,1.4s
PRN IAMs_20 IAMs_20 12 42 44.6
comp=Z,19μm,19.0s
Q17K Contact Creek 80.02 10 P **P 12 13 09.3 +0.5**
baz=197,SNR=6.5
Q17K S **S 12 23 12.9 +0.7**
baz=197
TUC Tucson 80.11 50 P **P 12 13 08.9 -1.1**
TUC IAmb IAmb 12 13 16.9
comp=Z,339nm,1.5s
TUC Tucson 80.11 50 IAMs_20 IAMs_20 12 42 55.2
comp=Z,20μm,19.0s
TUC Tucson 80.11 50 P **P 12 13 08.9 -1.1**
TUC pmax pmax
comp=Z,339nm,1.5s
TUC Tucson 80.11 50 P **P 12 13 10.4 +0.4**
baz=238
TUC S **S 12 23 16.9 +2.7**
baz=238
KDAK Kodiak Island 80.12 11 P **P 12 13 08.7 -0.5**
KDAK IAmb IAmb 12 13 15.8
comp=Z,742nm,2.0s
KDAK Kodiak Island 80.12 11 IAMs_20 IAMs_20 12 44 36.3
comp=Z,13μm,20.0s
KDAK Kodiak Island 80.12 11 *i* P **P 12 13 09.3 0.0**
KDAK pmax pmax
comp=Z,507nm,2.2s
KDAK Kodiak Island 80.12 11 P **P 12 13 09.2 0.0**
baz=200
KDAK S **S 12 23 12.6 -0.4**
baz=200
KDAK Kodiak Island 80.12 11 LR LR 12 42 19.4
comp=Z,12μm,21.9s,baz=226,slow=31
KASI Kota Agung 80.19 268 P **P 12 13 10.0 -0.7**
comp=Z,318nm,1.1s,comp=Z,6μmcomp=Z,10μm
R11B Troy Canyon, C 80.22 43 P **P 12 13 09.3 -1.2**
R11B IAMs_20 IAMs_20 12 42 52.3
comp=Z,15μm,19.0s
R11B Troy Canyon, C 80.22 43 P **P 12 13 09.7 -0.9**
baz=234,SNR=95
R11B S **S 12 23 17.7 +2.4**
baz=234
O14K Tigyukauivet M 80.27 7 IAMs_20 IAMs_20 12 44 19.9
comp=Z,14μm,20.0s
O14K Tigyukauivet M 80.27 7 P **P 12 13 11.0 +0.9**
baz=192
O14K S **S 12 23 12.1 -2.4**
baz=192
Q16K King Salmon 80.30 9 P **P 12 13 11.0 +0.8**
baz=196
Q16K S **S 12 23 14.0 -0.8**
baz=196
H04A Detroit Lake 80.32 35 P **P 12 13 09.6 -1.2**
H04A IAmb IAmb 12 13 16.8
comp=Z,392nm,1.9s
O15K Ungalikthiuk R 80.36 7 P **P 12 13 10.6 +0.1**
baz=193
O15K S **S 12 23 13.4 -2.0**
baz=193
INCN Inchon 80.40 316 P **P 12 13 10.7 -0.6**
INCN IAmb IAmb 12 13 27.4
comp=Z,488nm,1.8s
INCN Inchon 80.40 316 P **P 12 13 12.5 +1.2**
INCN Inchon 80.40 316 P **P 12 13 10.7 -0.6**
INCN pmax pmax
comp=Z,488nm,1.8s
INCN Inchon 80.40 316 P **P 12 13 10.9 -0.4**
PINE Pine Mountain 80.41 36 IAmb IAmb 12 13 18.2
comp=Z,346nm,1.7s
P16K Nushagak River 80.45 8 P **P 12 13 10.3 -0.7**
baz=195
P16K S **S 12 23 13.9 -2.4**
baz=195
Q18K Katmai Hardscr 80.52 10 P **P 12 13 10.5 -1.1**
baz=198,SNR=12
Q18K S **S 12 23 14.3 -3.2**
baz=198
I05D Terrebonne, OR 80.55 35 P **P 12 13 11.4 -0.6**
VLA Vladivostok 80.62 323 *i* P **P 12 13 13.4 +1.1**
VLA pmax pmax
comp=Z,85nm,1.3s
319A Douglas 80.72 52 IAmb IAmb 12 13 19.2
comp=Z,472nm,1.5s
LWLI Liwa 80.77 268 P **P 12 13 14.6 +0.6**
comp=Z,339nm,1.1s,comp=Z,14μmcomp=Z,11μm
X16A Lo Mia Camp, P 80.77 48 IAmb IAmb 12 13 19.7
comp=Z,748nm,2.0s
TYV Tymovskoe 80.77 334 *e* P **P 12 13 13.2 +0.3**
TYV *e* S **S 12 23 23.7 +3.6**
TYV pmax pmax
comp=Z,5μm,5.7s
TYV pmax pmax
comp=Z,116nm,1.9s
TYV smax smax
comp=N,2μm,7.3s
TYV smax smax
comp=E,1μm,7.3s
P17K Kvichak River 80.83 9 P **P 12 13 12.4 -0.6**
baz=196,SNR=13
P17K S **S 12 23 18.5 -1.8**
baz=196
N14K Kuskokwak Cree 80.89 6 P **P 12 13 13.7 +0.4**
baz=192
N14K S **S 12 23 20.5 -0.3**
baz=192
Q20K Shuyak Island 80.94 11 P **P 12 13 13.1 -0.5**
baz=200
Q20K S **S 12 23 19.9 -1.6**
baz=200
SYI Shuyak Island 80.94 11 IAMs_20 IAMs_20 12 45 04.3
comp=Z,12μm,20.0s
M11K Mekoryuk 80.97 4 P **P 12 13 14.6 +0.9**
baz=187
M11K S **S 12 23 23.1 +1.4**
baz=187
LCMT Little Creek M 80.97 45 IAmb IAmb 12 13 20.5
comp=Z,536nm,1.9s
LCMT IAMs_20 IAMs_20 12 48 02.0
comp=Z,13μm,18.0s
O16K Kokwok River B 80.98 8 IAMs_20 IAMs_20 12 44 59.6
comp=Z,12μm,20.0s
O16K Kokwok River B 80.98 8 P **P 12 13 12.0 -1.8**
baz=195,SNR=7.4
O16K S **S 12 23 19.7 -2.2**
baz=195
Q19K Cape Douglas, 81.02 10 IAMs_20 IAMs_20 12 45 31.2
comp=Z,17μm,20.0s
Q19K Cape Douglas, 81.02 10 P **P 12 13 13.1 -1.0**
baz=199
Q19K S **S 12 23 21.6 -0.8**
baz=199
CCUT Cedar City 81.20 44 IAmb IAmb 12 13 22.2
comp=Z,679nm,2.0s
CCUT IAMs_20 IAMs_20 12 43 26.9
comp=Z,11μm,19.0s
P18K Big Mountain, 81.20 10 IAMs_20 IAMs_20 12 45 05.1
comp=Z,14μm,20.0s
P18K Big Mountain, 81.20 10 P **P 12 13 13.8 -1.3**
baz=198,SNR=8.9
P18K S **S 12 23 21.3 -3.0**
baz=198
M13K Dall Lake 81.21 5 P **P 12 13 15.8 +0.8**
baz=190
M13K S **S 12 23 25.7 +1.4**
baz=190
HHU Hamhung 81.25 318 P **P 12 13 15.8 +0.1**
HHU S **S 12 23 27.8 +2.3**
HHU AmB
comp=Z,5μm,3.8s
HHU AMS AMS
comp=Z,10μm,15.5s
USA0B Ussuriysk Arra 81.25 324 P **P 12 13 15.6 -0.1**
USA0B IAmb IAmb 12 13 22.9
comp=Z,578nm,1.9s
USA0B IAMs_20 IAMs_20 12 44 55.7
comp=Z,19μm,20.0s
USA0B Ussuriysk Arra 81.25 324 P **P 12 13 15.6 -0.1**
USA0B pmax pmax
comp=Z,577nm,2.0s
USRK Ussuriysk Ar. 81.25 324 P **P 12 13 15.2 -0.4**
USRK Ussuriysk Ar. 81.25 324 P **P 12 13 15.3 -0.4**
USRK Ussuriysk Ar. 81.25 324 P **P 12 13 14.4 -1.3**
comp=Z,12nm,0.9s,baz=99,slow=6.0,SNR=37
USRK LR LR 12 45 16.7
comp=Z,18μm,19.8s,baz=129,slow=33
comp=Z,12nm,0.9s
U15A North Rim 81.28 46 IAmb IAmb 12 13 21.5
comp=Z,637nm,1.8s
O17K Koliganek Bris 81.29 9 P **P 12 13 14.6 -0.9**
baz=196,SNR=14
O17K S **S 12 23 24.4 -0.8**
baz=196
N15K Kwethluk River 81.30 7 P **P 12 13 14.7 -0.8**
N15K IAmb IAmb 12 13 21.4
comp=Z,416nm,1.9s
N15K IAMs_20 IAMs_20 12 45 01.0
comp=Z,16μm,20.0s
N15K Kwethluk River 81.30 7 P **P 12 13 15.7 +0.2**
baz=193
N15K S **S 12 23 25.2 0.0**
baz=193
HJU Haeju 81.31 316 P **P 12 13 15.9 -0.2**
HJU S **S 12 23 28.6 +2.4**
HJU AmB
comp=Z,5μm,3.6s
HJU AMS AMS
comp=Z,8μm,17.8s
I07A Izee 81.39 36 IAMs_20 IAMs_20 12 46 02.1
comp=Z,18μm,18.0s
SZCU Shurtz Canyon 81.40 45 IAmb IAmb 12 13 24.0
comp=Z,346nm,1.6s
SZCU IAMs_20 IAMs_20 12 50 07.4
comp=Z,13μm,18.0s
WUAZ Wupatki 81.41 47 IAmb IAmb 12 13 21.8
comp=Z,458nm,1.8s
WUAZ Wupatki 81.41 47 P **P 12 13 16.9 0.0**
baz=237,SNR=56
WUAZ S **SKSac 12 23 32.9 -3.2**
baz=237
G06A Carlson Farm, 81.52 35 IAmb IAmb 12 13 23.5
comp=Z,421nm,1.9s
O18K Koktuh Hills 81.64 9 IAmb IAmb 12 13 23.6
comp=Z,510nm,1.8s
O18K IAMs_20 IAMs_20 12 45 28.9
comp=Z,12μm,20.0s
O18K Koktuh Hills 81.64 9 P **P 12 13 17.0 -0.5**
baz=198
O18K S **S 12 23 28.3 -0.6**
baz=198
M14K Bethel 81.67 6 P **P 12 13 17.4 0.0**
baz=191,SNR=29
M14K S **S 12 23 29.8 +0.8**
baz=191
M15K Kasigluk River 81.75 7 P **P 12 13 17.6 -0.2**
baz=192,SNR=18
M15K S **S 12 23 29.3 -0.5**
baz=192
N16K Nishlik Lake 81.75 8 P **P 12 13 18.1 +0.1**
baz=194
N16K S **S 12 23 30.2 +0.2**
baz=194
P19K Oil Pt 81.77 10 IAMs_20 IAMs_20 12 46 15.2
comp=Z,15μm,20.0s
P19K Oil Pt 81.77 10 P **P 12 13 17.6 -0.5**
baz=199
P19K S **S 12 23 30.3 0.0**
baz=199
PKCU Pink Cliffs 81.83 45 IAMs_20 IAMs_20 12 48 46.7
comp=Z,15μm,18.0s
ELK Elko 81.84 41 IAmb IAmb 12 13 24.7
comp=Z,354nm,1.9s
ELK Elko 81.84 41 LR LR 12 45 27.8
comp=Z,24μm,18.3s,baz=229,slow=33
DSRI Dabo 81.85 273 P **P 12 13 20.0 +0.4**
comp=Z,194nm,2.1s,comp=Z,6μmcomp=Z,12μm
PYAG Pyongyang 81.86 317 P **P 12 13 19.3 +0.3**
PYAG S **S 12 23 33.8 +1.9**
PYAG AmB
comp=Z,5μm,3.7s
PYAG AMS AMS
comp=Z,10μm,17.7s
USHA Ushuaia 81.91 146 LR LR 12 43 51.1
comp=Z,8μm,18.7s,baz=248,slow=31
N17K Nushagak Hills 82.01 8 IAMs_20 IAMs_20 12 45 42.7
comp=Z,11μm,20.0s
N17K Nushagak Hills 82.01 8 P **P 12 13 19.0 -0.3**
baz=196
N17K S **S 12 23 32.8 +0.3**
baz=196
CNPM China Poot 82.01 11 IAmb IAmb 12 13 35.4
comp=Z,461nm,2.0s
CNPM IAMs_20 IAMs_20 12 46 17.4
comp=Z,17μm,20.0s
HOM Homer 82.06 11 IAMs_20 IAMs_20 12 46 39.6
comp=Z,14μm,20.0s
HOM Homer 82.06 11 P **P 12 13 19.4 -0.1**
baz=201
ILSW Iliamna Southw 82.10 10 IAMs_20 IAMs_20 12 45 54.9
comp=Z,18μm,20.0s
HKPS Hong Kong Po S 82.10 297 IAMs_20 IAMs_20 12 46 21.6
comp=Z,14μm,19.0s
HKPS Hong Kong Po S 82.10 297 P **P 12 13 21.4 +0.7**
O19K Port Alsworth 82.11 10 IAMs_20 IAMs_20 12 45 34.1
comp=Z,14μm,20.0s
O19K Port Alsworth 82.11 10 P **P 12 13 18.5 -1.3**
baz=198,SNR=14
O19K S **S 12 23 33.7 +0.2**
baz=198
L14K Kuka Creek 82.19 5 P **P 12 13 19.8 -0.4**
baz=190,SNR=23
L14K S **S 12 23 36.7 +2.5**
baz=190
M16K Timber Creek 82.26 7 IAMs_20 IAMs_20 12 45 41.5
comp=Z,14μm,20.0s
M16K Timber Creek 82.26 7 P **P 12 13 20.8 +0.2**
baz=194,SNR=24
M16K S **S 12 23 36.3 +1.1**
baz=194
O20K Slope Mountain 82.28 11 P **P 12 13 20.1 -0.7**
baz=200
O20K S **S 12 23 34.6 -0.9**
baz=200
BRLK Bradley Lake 82.30 12 P **P 12 13 19.7 -1.1**
BRLK IAmb IAmb 12 13 26.0
comp=Z,420nm,1.8s
BRLK IAMs_20 IAMs_20 12 46 15.6
comp=Z,15μm,20.0s
BRSE Bradley Lake S 82.30 12 P **P 12 13 20.6 -0.3**
baz=202,SNR=5.9
BRSE S **S 12 23 34.7 -0.9**
baz=202
JMBI JAMBI 82.32 271 P P 12 13 31.2 +9.2
W18A Petrified Fore 82.33 48 P **P 12 13 22.1 +0.2**
baz=238,SNR=39
W18A S **S 12 23 39.0 +1.6**
baz=238
N18K Kilae Creek 82.33 9 P **P 12 13 20.0 -1.0**
N18K IAmb IAmb 12 13 26.1
comp=Z,370nm,2.0s
N18K Kilae Creek 82.33 9 P **P 12 13 20.0 -1.0**
baz=197
N18K S **S 12 23 35.8 -0.2**
baz=197
PGC Sidney 82.36 31 IAmb IAmb 12 13 26.8
comp=Z,276nm,1.7s
TPRI Tanjung Pinang 82.39 274 P **P 12 13 23.8 +1.4**
comp=Z,163nm,1.9s,comp=Z,8μmcomp=Z,12μm
121A Cookes Peak, D 82.40 51 P **P 12 13 23.1 +0.8**
baz=240,SNR=67
121A S **SKSac 12 23 42.7 -0.2**
baz=240
121A Cookes Peak, D 82.40 51 P **P 12 13 23.4 +1.1**
baz=240,SNR=67
G08A Pilot Rock 82.46 36 P **P 12 13 20.9 -1.3**
G08A IAmb IAmb 12 13 28.7
comp=Z,386nm,1.7s
K13K Kusilvak Mount 82.61 4 IAMs_20 IAMs_20 12 43 37.9
comp=Z,10μm,20.0s
K13K Kusilvak Mount 82.61 4 P **P 12 13 22.3 -0.1**
baz=189
N19K Bonanza Creek 82.67 9 IAmb IAmb 12 13 27.6
comp=Z,422nm,1.9s
N19K IAMs_20 IAMs_20 12 45 51.0
comp=Z,14μm,20.0s
N19K Bonanza Creek 82.67 9 P **P 12 13 21.9 -0.9**
baz=198,SNR=7.3
N19K S **S 12 23 37.9 -1.6**
baz=198
MAW Mawson 82.70 199 P **P 12 13 23.6 +0.6**
baz=83,SNR=26
MAW Mawson 82.70 199 P **P 12 13 23.4 +0.4**
MAW Mawson 82.70 199 P **P 12 13 23.4 +0.4**
MAW Mawson 82.70 199 P **P 12 13 22.8 -0.2**
comp=Z,12nm,0.7s,baz=129,slow=6.2,SNR=35
MAW LR LR 12 49 56.3
comp=Z,35μm,18.4s,baz=114,slow=36
comp=Z,12nm,0.7s
H03S2 Juan Fernandez 82.77 123 T T 13 46 06.0
baz=248,slow=74,SNR=66
BBB Bella Bella 82.77 26 LR LR 12 47 29.5
comp=Z,5μm,18.0s,baz=228,slow=34
H03S1 Juan Fernandez 82.78 123 T T 13 46 07.1
baz=248,slow=74,SNR=51
H03S3 Juan Fernandez 82.78 123 T T 13 46 05.8
baz=248,slow=74,SNR=59
DLV T Lat 82.80 286 P **P 12 13 25.0 +0.3**
LTY Liberty 82.82 33 P **P 12 13 22.8 -1.2**
LTY IAmb IAmb 12 13 30.1
comp=Z,349nm,1.9s
M17K Holitna River 82.82 8 IAMs_20 IAMs_20 12 46 08.1
comp=Z,11μm,20.0s
M17K Holitna River 82.82 8 P **P 12 13 23.1 -0.4**
baz=195,SNR=16
M17K S **SKSac 12 23 44.3 +0.3**
baz=195
HAWA Hanford 82.85 35 IAmb IAmb 12 13 30.6
comp=Z,423nm,1.7s
MDJ Mudanjiang 82.85 323 P **P 12 13 23.6 -0.5**
MDJ pP pP 12 13 26.9 -1.3
MDJ sP PcP 12 13 28.8 0.0
MDJ S **SKSac 12 23 47.3 +2.3**
MDJ sS ScS 12 23 55.3 -1.2
MDJ pmax pmax
comp=Z,130nm,1.7s
MDJ pmax pmax
comp=Z,9μm,9.4s
MDJ LR LR
comp=Z,8μm,22.8s
MDJ LR LR
comp=Z,8μm,20.6s
MDJ LR LR
comp=Z,16μm,20.1s
MDJ Mudanjiang 82.85 323 IAMs_20 IAMs_20 12 46 25.2
comp=Z,13μm,20.0s
L16K Owhat River 82.87 7 IAmb IAmb 12 13 31.2
comp=Z,330nm,1.7s
L16K IAMs_20 IAMs_20 12 45 59.6
comp=Z,12μm,20.0s
L16K Owhat River 82.87 7 P **P 12 13 23.8 +0.1**
baz=194,SNR=19
L16K S **SKSac 12 23 43.3 -1.0**
baz=194
SEW Seward 82.89 12 P **P 12 13 23.7 -0.1**
baz=203
SEW S **S 12 23 41.2 -0.3**
baz=203
H03N2 Juan Fernandez 82.90 123 T T 13 46 04.4
baz=258,slow=72,SNR=20
H03N3 Juan Fernandez 82.90 123 T T 13 46 03.9
baz=258,slow=72,SNR=7.7
H03N1 Juan Fernandez 82.91 123 T T 13 46 08.0
baz=258,slow=72,SNR=8.4
NJ2 Nanjing 82.92 308 ⇑ *i* P **P 12 13 26.3 +1.6**
NJ2 pP **PcP 12 13 29.4 0.0**
NJ2 PP **PP 12 16 35.8 +0.2**
NJ2 S **S 12 23 49.5 +6.4**
NJ2 sS **ScS 12 23 56.8 -0.8**
NJ2 SS **SS 12 29 09.9 +3.0**
NJ2 pmax pmax
comp=Z,43nm,1.0s
NJ2 pmax pmax
comp=Z,6μm,5.7s
NJ2 LR LR
comp=Z,7μm,15.2s
NJ2 LR LR
comp=Z,6μm,17.1s
NJ2 LR LR
comp=Z,8μm,18.0s
Q23K Middleton Isla 82.92 14 IAMs_20 IAMs_20 12 51 38.4
comp=Z,17μm,18.0s
Q23K Middleton Isla 82.92 14 P **P 12 13 23.7 -0.4**
baz=206
EPT El Paso 82.96 52 IAMs_20 IAMs_20 12 43 59.9
comp=Z,17μm,19.0s
DUG Dugway, Tooele 83.04 43 IAmb IAmb 12 13 31.9
comp=Z,188nm,1.6s
DUG IAMs_20 IAMs_20 12 45 37.9
comp=Z,13μm,19.0s
DUG Dugway, Tooele 83.04 43 P **P 12 13 24.4 -1.0**
baz=236,SNR=51
DUG S **SKSac 12 23 44.9 -1.9**
baz=236
MFID Camas Ranch 83.07 39 IAMs_20 IAMs_20 12 44 56.8
comp=Z,12μm,19.0s
BMO Blue Mountains 83.10 37 P **P 12 13 24.6 -0.9**
BMO IAmb IAmb 12 13 31.7
comp=Z,381nm,1.7s
BMO Blue Mountains 83.10 37 P **P 12 13 24.6 -0.9**
BMO pmax pmax
comp=Z,381nm,1.7s
GZH Guangzhou 83.12 298 P **P 12 13 25.3 -0.6**
GZH PP **PP 12 16 34.8 -2.6**
GZH S **S 12 23 45.3 -0.1**
GZH pmax pmax
comp=Z,95nm,1.3s
GZH LR LR
comp=Z,1μm,19.2s
GZH LR LR
comp=Z,2μm,17.9s
M18K Stony River 83.12 9 P **P 12 13 24.2 -0.9**
baz=197
E08A Dider Farm, El 83.17 35 IAmb IAmb 12 13 32.2
comp=Z,331nm,1.7s
O22K Cooper Landing 83.18 12 IAmb IAmb 12 14 01.0
comp=Z,131nm,1.1s
O22K IAMs_20 IAMs_20 12 57 14.4
comp=Z,11μm,18.0s

O22K	Cooper Landing	83.18	12	P	P	12 13 24.3	-1.0
	baz=203						
O22K				S	S	12 23 43.1	-1.4
	baz=203						
CAPN	Captain Cook N	83.18	11	IAMs_20	IAMs_20	12 47 27.5	
	comp=Z,16μm,19.0s						
CAPN	Captain Cook N	83.18	11	P	P	12 13 23.9	-1.5
	baz=201						
P23K	Montague Islan	83.21	13	P	P	12 13 23.9	-1.7
	baz=205						
K15K	Wolf Creek Mou	83.23	6	P	P	12 13 25.8	+0.2
	baz=192,SNR=50						
K15K				S	SKSac	12 23 48.1	+1.4
	baz=192						
B06A	Marblemount	83.24	32	P	P	12 13 25.2	-0.7
SUJ	Sinuiju	83.26	317	P	P	12 13 25.9	-0.4
SUJ				S	SKSac	12 23 48.0	+0.2
SUJ				AmB			
	comp=Z,7μm,4.2s						
SUJ				AMS	AMS		
	comp=Z,7μm,16.1s						
UNM	Universidad Na	83.28	67	IAMs_20	IAMs_20	12 45 05.2	
	comp=Z,17μm,18.0s						
MYKOM	Kota Tinggi	83.33	274	IAmb	IAmb	12 13 34.6	
	comp=Z,416nm,1.6s						
MYKOM	Kota Tinggi	83.33	274	P	P	12 13 27.0	-0.3
CRAG	Craig	83.36	22	P	P	12 13 24.5	-1.8
	baz=218						
N20K	Mount Spurr	83.41	10	P	P	12 13 24.8	-1.8
	baz=200						
N20K				S	S	12 23 44.3	-2.7
	baz=200						
SPCR	Spurr Chakacha	83.41	10	P	P	12 13 24.3	-2.3
	baz=200						
SPCR				S	S	12 23 44.7	-2.3
	baz=200						
GRNR	Gornyy	83.42	331	⇑*i*P	P	12 13 26.4	-0.4
GRNR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
L17K	Donlin	83.42	7	P	P	12 13 26.8	+0.2
	baz=195,SNR=20						
L17K				S	SKSac	12 23 49.9	+2.0
	baz=195						
COYC	Coyhaique	83.45	136	IAMs_20	IAMs_20	12 45 53.6	
	comp=Z,18μm,18.0s						
J14K	Nanvaranak Lak	83.50	5	P	P	12 13 27.2	+0.2
	baz=190,SNR=5.3						
J14K				S	S	12 23 51.2	+3.6
	baz=190						
D08A	Wollman Farm,	83.60	34	P	P	12 13 27.3	-0.6
425A	Indio Mountain	83.63	54	IAmb	IAmb	12 13 35.1	
	comp=Z,187nm,1.4s						
E09A	Wood Farm, Sta	83.67	35	IAmb	IAmb	12 13 34.4	
	comp=Z,348nm,1.7s						
MPU	Maple Canyon	83.69	43	IAmb	IAmb	12 13 34.7	
	comp=Z,420nm,1.8s						
Y22A	Socorro	83.69	50	P	P	12 13 29.5	+0.5
	baz=240,SNR=24						
L18K	Granite Mounta	83.70	8	IAMs_20	IAMs_20	12 46 45.6	
	comp=Z,13μm,20.0s						
L18K	Granite Mounta	83.70	8	P	P	12 13 28.0	0.0
	baz=196,SNR=17						
L18K				S	SKSac	12 23 50.9	+1.2
	baz=196						
M19K	Big River Lodg	83.72	9	P	P	12 13 27.1	-1.1
	baz=198						
M19K				S	SKSac	12 23 50.6	+0.6
	baz=198						
RC01	Rabbit Creek A	83.74	12	IAMs_20	IAMs_20	12 57 43.2	
	comp=Z,11μm,18.0s						
RC01	Rabbit Creek A	83.74	12	P	P	12 13 27.3	-1.0
	baz=203						
RC01				S	S	12 23 49.0	-1.3
	baz=203						
HIN	Hinchinbrook I	83.76	13	IAMs_20	IAMs_20	12 52 09.6	
	comp=Z,17μm,18.0s						
MNTX	Cornudas Mount	83.77	53	P	P	12 13 27.6	-1.5
MNTX				IAmb	IAmb	12 13 34.8	
	comp=Z,377nm,1.6s						
MNTX				IAMs_20	IAMs_20	12 44 16.1	
	comp=Z,13μm,20.0s						
MNTX	Cornudas Mount	83.77	53	P	P	12 13 28.7	-0.5
	baz=241						
MNTX				S	S	12 23 53.9	+2.2
	baz=241						
MNTX	Cornudas Mount	83.77	53	P	P	12 13 28.4	-0.7
	baz=241,SNR=136						
V35K	Ketchikan	83.79	23	P	P	12 13 27.2	-1.4
	baz=219						
V35K				S	SKSac	12 23 50.3	-0.2
	baz=219						
Y22D	IRIS PASSCAL I	83.79	50	IAMs_20	IAMs_20	12 46 18.9	
	comp=Z,17μm,18.0s						
Y22D	IRIS PASSCAL I	83.79	50	P	P	12 13 29.7	+0.3
	baz=240						
Y22F	Passcal Instru	83.79	50	P	P	12 13 29.4	+0.1
	baz=240						
Y22F				S	SKSac	12 23 53.3	+1.3
	baz=240						
Y22F				S	SKKSac	12 23 55.4	-1.4
	baz=240						
PWL	Port Wells	83.80	12	IAmb	IAmb	12 13 40.1	
	comp=Z,152nm,1.4s						
PWL				IAMs_20	IAMs_20	12 47 43.7	
	comp=Z,14μm,20.0s						
PWL	Port Wells	83.80	12	P	P	12 13 27.9	-0.7
	baz=204,SNR=5.9						
PWL				S	SKSac	12 23 48.8	-1.7
	baz=204						
KAIM	Kayak Island	83.81	14	P	P	12 13 29.1	+0.5
	baz=208						
PAYG	Puerto Ayora	83.83	88	*e*P	P	12 13 33.5	+3.7
U33K	Whale Pass	83.87	22	P	P	12 13 29.4	+0.4
	baz=218						
SIT	Sitka	83.89	20	P	P	12 13 28.9	-0.2
	baz=216						
M20K	Styx River	83.90	10	IAMs_20	IAMs_20	12 47 51.7	
	comp=Z,15μm,20.0s						
M20K	Styx River	83.90	10	P	P	12 13 27.6	-1.6
	baz=199						
SUA	Susitna One	83.91	11	IAMs_20	IAMs_20	12 47 33.6	
	comp=Z,15μm,19.0s						
SUA	Susitna One	83.91	11	P	P	12 13 28.2	-1.0
	baz=202						
SUA				S	SKSac	12 23 50.6	-0.7
	baz=202						
L19K	White Mountain	83.92	9	P	P	12 13 28.7	-0.5
	baz=198,SNR=8.1						
L19K				S	SKSac	12 23 50.7	-0.5
	baz=198						
TX31	Lajitas Ar. Si	83.96	56	P	P	12 13 29.6	-0.7
	baz=242						
TXAR	Lajitas Array	83.96	56	P	P	12 13 29.3	-1.0
	comp=Z,14nm,0.8s,baz=217,slow=7.2,SNR=130						
TXAR				PKKPbc	PKKPbc	12 31 46.4	+0.3
	comp=Z,0.4nm,0.8s,baz=60,slow=3.6,SNR=2.5						
TXAR				PKPPKP	P'P'df	12 39 54.6	+5.0
	comp=Z,0.5nm,1.1s,baz=139,slow=5.9,SNR=3.4						
TXAR				LR	LR	12 44 34.6	
	comp=Z,14μm,19.1s,baz=229,slow=31						
	comp=Z,14nm,0.8s						
PLID	Pearl Lake	83.98	37	IAmb	IAmb	12 13 36.3	
	comp=Z,405nm,1.7s						
K17K	Iditarod	83.98	7	IAmb	IAmb	12 13 46.5	
	comp=Z,233nm,1.6s						
K17K				IAMs_20	IAMs_20	12 46 55.0	
	comp=Z,13μm,20.0s						
K17K	Iditarod	83.98	7	P	P	12 13 29.7	+0.2
	baz=195,SNR=16						
K17K				S	S	12 23 56.6	+4.1
	baz=195						
CTU	Camp Tracy	83.99	43	IAmb	IAmb	12 13 36.6	
	comp=Z,230nm,1.4s						
HLID	Hailey	83.99	39	P	P	12 13 29.8	-0.4
	baz=234,SNR=152						
HLID				S	S	12 23 53.2	-0.6
	baz=234						
EYAK	Cordova Ski Ar	84.06	14	P	P	12 13 29.6	-0.3
	baz=206						
EYAK				S	SKSac	12 23 52.3	+0.2
	baz=206						
GLI	Glacier Island	84.07	13	IAmb	IAmb	12 13 35.8	
	comp=Z,447nm,1.9s						
GLI				IAMs_20	IAMs_20	12 47 20.8	
	comp=Z,11μm,20.0s						
GLI	Glacier Island	84.07	13	P	P	12 13 29.3	-0.7
	baz=205,SNR=6.0						
GLI				S	SKSac	12 23 51.5	-0.8
	baz=205						
FID	Port Fidalgo	84.09	13	IAMs_20	IAMs_20	12 52 29.0	
	comp=Z,16μm,18.0s						
GAMB	Gambell	84.14	1	P	P	12 13 30.5	+0.3
	baz=182						
GAMB				S	S	12 23 57.0	+3.0
	baz=182						
BGLC	Bering Glacier	84.25	15	P	P	12 13 29.6	-1.2
	baz=209						
SKT	Skwentna	84.25	10	IAMs_20	IAMs_20	12 47 34.8	
	comp=Z,17μm,20.0s						
SKT	Skwentna	84.25	10	P	P	12 13 29.2	-1.7
	baz=201,SNR=13						
SKT				S	SKSac	12 23 52.8	-0.6
	baz=201						
MVCO	Mesa Verde	84.27	47	IAmb	IAmb	12 13 48.4	
	comp=Z,325nm,1.7s						
MVCO				IAMs_20	IAMs_20	12 50 28.5	
	comp=Z,11μm,18.0s						
MVCO	Mesa Verde	84.27	47	P	P	12 13 32.3	+0.4
	baz=239,SNR=34						
MVCO				S	S	12 23 59.2	+2.1
	baz=239						
KNK	Knik Glacier	84.29	12	IAmb	IAmb	12 13 37.4	
	comp=Z,160nm,1.4s						
KNK				IAMs_20	IAMs_20	12 57 04.5	
	comp=Z,12μm,18.0s						
KNK	Knik Glacier	84.29	12	P	P	12 13 30.0	-1.1
	baz=204,SNR=12						
KNK				S	SKSac	12 23 53.4	-0.2
	baz=204						
M22K	Willow	84.29	11	IAmb	IAmb	12 13 53.5	
	comp=Z,135nm,1.1s						
M22K				IAMs_20	IAMs_20	12 47 43.6	
	comp=Z,13μm,20.0s						
M22K	Willow	84.29	11	P	P	12 13 30.2	-0.8
	baz=202,SNR=6.2						
M22K				S	SKSac	12 23 52.6	-0.9
	baz=202						
J16K	Anvik River	84.29	6	IAMs_20	IAMs_20	12 44 57.2	
	comp=Z,11μm,20.0s						
J16K	Anvik River	84.29	6	P	P	12 13 30.9	-0.1
	baz=192,SNR=19						
J16K				S	S	12 23 59.0	+3.4
	baz=192						
PMR	Palmer	84.32	12	IAmb	IAmb	12 13 37.3	
	comp=Z,224nm,1.5s						
PMR				IAMs_20	IAMs_20	12 57 26.5	
	comp=Z,11μm,18.0s						
PMR	Palmer	84.32	12	P	P	12 13 31.5	+0.3
PMR	Palmer	84.32	12	P	P	12 13 29.8	-1.4
	baz=203,SNR=11						
PMR				S	SKSac	12 23 52.7	-1.0
	baz=203						
S31K	Pelican	84.34	19	P	P	12 13 29.9	-1.4
	baz=215						
S31K				S	S	12 23 56.6	+0.3
	baz=215						
L20K	Farewell, AK	84.35	9	P	P	12 13 30.9	-0.4
	baz=199,SNR=10						
L20K				S	SKSac	12 23 54.6	+0.6
	baz=199						
QIZ	Qiongzhong	84.39	293	P	P	12 13 33.0	+0.4
QIZ				S	SKSac	12 23 58.1	+1.9
QIZ				pmax	pmax		
	comp=Z,58nm,2.5s						
QIZ				pmax	pmax		
	comp=Z,4μm,7.5s						
QIZ				LR	LR		
	comp=Z,3μm,17.6s						
QIZ				LR	LR		
	comp=Z,4μm,14.7s						
QIZ				LR	LR		
	comp=Z,5μm,17.7s						
C09A	Chrisman Ranch	84.41	34	IAmb	IAmb	12 13 38.3	
	comp=Z,450nm,1.8s						
ALPN	Alpine	84.46	55	IAmb	IAmb	12 13 38.2	
	comp=Z,494nm,1.7s						
S32K	Killisnoo	84.46	20	P	P	12 13 30.6	-1.4
	baz=216						
DL2	Dalian	84.47	315	⇑*i*P	P	12 13 33.0	+0.5
DL2				PP	PP	12 16 45.5	-2.6
DL2				S	S	12 23 58.4	0.0
DL2				pmax	pmax		
	comp=Z,100nm,1.8s						
DL2				pmax	pmax		
	comp=Z,5μm,6.0s						
DL2				LR	LR		
	comp=Z,6μm,17.5s						
DL2				LR	LR		
	comp=Z,3μm,20.8s						
DL2				LR	LR		
	comp=Z,9μm,19.5s						
TTA	Tatalina	84.48	8	IAMs_20	IAMs_20	12 46 59.9	
	comp=Z,12μm,20.0s						
TTA	Tatalina	84.48	8	P	P	12 13 33.2	+1.1
TTA	Tatalina	84.48	8	P	P	12 13 31.7	-0.4
	baz=197,SNR=16						
TTA				S	S	12 24 00.8	+3.1
	baz=197						
T33K	Petersburg	84.48	21	P	P	12 13 32.0	0.0
	baz=218						
GHO	Glory Hole Cre	84.53	12	IAmb	IAmb	12 13 34.5	
	comp=Z,84nm,0.8s						
GHO				IAMs_20	IAMs_20	12 57 57.9	
	comp=Z,14μm,18.0s						
BSUT	Blindstream Ca	84.53	43	IAmb	IAmb	12 13 40.0	
	comp=Z,361nm,1.5s						
ANMO	Albuquerque	84.56	50	P	P	12 13 32.3	-1.0
ANMO	Albuquerque	84.56	50	IAMs_20	IAMs_20	12 44 24.1	
	comp=Z,12μm,19.0s						
ANMO	Albuquerque	84.56	50	*ce*P	P	12 13 33.3	0.0
ANMO				pmax	pmax		
	comp=Z,314nm,1.7s						
ANMO				MLR	MLR		
	comp=Z,11μm,17.0s						
ANMO	Albuquerque	84.56	50	P	P	12 13 33.7	+0.3
	baz=240						
ANMO				S	SKSac	12 23 57.2	+0.2
	baz=240						
ANMO	Albuquerque	84.56	50	P	P	12 13 32.5	-0.8
	baz=240,SNR=200						
ANMO	Albuquerque	84.56	50	LR	LR	12 45 04.8	
	comp=Z,13μm,19.0s,baz=337,slow=31						
KLR	Kul'dur	84.62	328	*ce*P	P	12 13 31.1	-1.9
KLR				pmax	pmax		
	comp=Z,75nm,1.7s						
KLR	Kul'dur	84.62	328	P	P	12 13 32.1	-0.9
	comp=Z,12nm,1.2s,baz=117,slow=4.8,SNR=19						
	comp=Z,12nm,1.2s						
MESA	MESA	84.63	15	IAmb	IAmb	12 13 37.9	
	comp=Z,350nm,1.6s						
MESA	MESA	84.63	15	P	P	12 13 33.0	-0.1
	baz=210						
MESA				S	S	12 23 58.9	-0.6
	baz=210						
SDSI	Sungai Dareh	84.64	271	P	P	12 13 33.1	-0.9
	comp=Z,64nm,2.3s,comp=Z,5μmcomp=Z,10μm						
YKU2	Yakutat	84.64	17	IAMs_20	IAMs_20	12 56 53.7	
	comp=Z,16μm,18.0s						
SML	Sawmill	84.67	12	IAmb	IAmb	12 14 23.5	
	comp=Z,229nm,1.8s						
SML				IAMs_20	IAMs_20	12 57 43.7	
	comp=Z,11μm,18.0s						
SML	Sawmill	84.67	12	P	P	12 13 32.7	-0.4
	baz=204						
SML				S	S	12 23 58.8	-0.9
	baz=204						
BMRM	Bremner River	84.69	14	P	P	12 13 32.3	-0.9
	baz=207						
BMRM				S	S	12 23 58.8	-1.0
	baz=207						
PECS	Pecos	84.75	54	IAmb	IAmb	12 13 39.6	
	comp=Z,438nm,2.0s						
CN2	Changchun	84.76	321	*e*P	P	12 13 33.5	-0.3
CN2				PP	PP	12 16 49.6	-0.8
CN2				*e*S	SKSac	12 23 57.8	+0.4
CN2				pmax	pmax		
	comp=Z,7μm,5.0s						
CN2				LR	LR		
	comp=Z,5μm,17.0s						
CN2				LR	LR		
	comp=Z,3μm,17.0s						
CN2				LR	LR		
	comp=Z,4μm,19.0s						
BNX	BinXian	84.76	323	⇑P	P	12 13 33.3	-0.5
BNX				pP	PcP	12 13 36.8	-0.4
BNX				sP	pP	12 13 38.0	0.0
BNX				PP	PP	12 16 52.1	+1.7
BNX				S	S	12 24 00.3	-0.8
BNX				pmax	pmax		
	comp=Z,72nm,1.1s						
BNX				pmax	pmax		
	comp=Z,7μm,8.1s						
BNX				LR	LR		
	comp=Z,8μm,17.4s						
BNX				LR	LR		
	comp=Z,6μm,19.5s						
BNX				LR	LR		
	comp=Z,11μm,18.4s						
M23K	Glacier View	84.78	12	P	P	12 13 33.1	-0.5
	baz=204						
M23K				S	SKSac	12 23 56.7	-0.1
	baz=204						
SNY	Shenyang	84.79	318	⇓P	P	12 13 35.8	+1.8
SNY				sP	pwP	12 13 48.0	+5.2
SNY				PP	PP	12 16 47.8	-2.9
SNY				S	SKSac	12 23 59.6	+1.9
SNY				SS	SS	12 29 33.3	-0.9
SNY				pmax	pmax		
	comp=Z,77nm,2.2s						
SNY				pmax	pmax		
	comp=Z,6μm,9.2s						
SNY				LR	LR		
	comp=Z,5μm,16.9s						
SNY				LR	LR		
	comp=Z,2μm,16.9s						
SNY				LR	LR		
	comp=Z,10μm,16.9s						
ID07	Smith Canyon R	84.81	41	IAmb	IAmb	12 13 39.7	
	comp=Z,221nm,1.7s						
ID07				IAMs_20	IAMs_20	12 46 59.7	
	comp=Z,18μm,19.0s						
CRQE	Cirque	84.85	15	P	P	12 13 33.6	-0.4
	baz=209,SNR=5.0						
CRQE				S	S	12 24 00.1	-1.5
	baz=209						
PNL	Peninsula	84.85	17	P	P	12 13 33.7	-0.2
	baz=212						
PNL				S	S	12 23 59.6	-1.8
	baz=212						
R31K	City Hall, Gus	84.86	19	P	P	12 13 33.0	-1.0
	baz=215						
CUT	Chulitna	84.87	11	IAMs_20	IAMs_20	12 47 54.0	
	comp=Z,17μm,20.0s						
CUT	Chulitna	84.87	11	P	P	12 13 32.7	-1.2
	baz=202,SNR=16						
CUT				S	S	12 23 59.3	-2.0
	baz=202						
I17K	Unalakleet	84.87	6	IAMs_20	IAMs_20	12 48 06.6	
	comp=Z,10μm,20.0s						
I17K	Unalakleet	84.87	6	P	P	12 13 34.6	+0.7
	baz=192						
I17K				S	S	12 24 03.7	+2.3
	baz=192						
KLU	Klutina	84.87	13	IAMs_20	IAMs_20	12 52 56.0	
	comp=Z,12μm,18.0s						
KLU	Klutina	84.87	13	P	P	12 13 33.4	-0.7
	baz=206						
KLU				S	S	12 24 00.2	-1.5
	baz=206						
SCM	Sheep Creek Mo	84.89	12	IAMs_20	IAMs_20	12 47 59.5	
	comp=Z,10μm,20.0s						
SCM	Sheep Creek Mo	84.89	12	P	P	12 13 33.6	-0.6
	baz=205,SNR=9.2						
SCM				S	S	12 24 00.3	-1.6
	baz=205						
J18K	Innoko River	84.90	8	IAMs_20	IAMs_20	12 47 23.3	
	comp=Z,13μm,20.0s						
J18K	Innoko River	84.90	8	P	P	12 13 33.5	-0.6
	baz=196,SNR=30						
J18K				S	S	12 24 03.4	+1.6
	baz=196						
TGL	Tana Glacier	84.92	15	IAmb	IAmb	12 13 49.7	
	comp=Z,150nm,1.3s						
MA2	Magadan	84.97	343	P	P	12 13 33.2	-1.4
MA2				IAmb	IAmb	12 13 40.0	
	comp=Z,402nm,1.9s						
MA2				IAMs_20	IAMs_20	12 47 47.7	
	comp=Z,9μm,19.0s						
MA2	Magadan	84.97	343	P	P	12 13 33.3	-1.2
MA2	Magadan	84.97	343	*ce*P	P	12 13 33.7	-0.8
MA2				pmax	pmax		
	comp=Z,264nm,2.2s						
MA2				MLR	MLR		
	comp=Z,8μm,18.0s						
MA2	Magadan	84.97	343	LR	LR	12 51 45.1	
	comp=Z,7μm,18.2s,baz=152,slow=36						
PINM	Pinnacle	84.99	16	P	P	12 13 34.1	-0.6
PINM	baz=211						
PINM				S	S	12 24 02.9	0.0
	baz=211						
PPLA	Purkeypile	85.00	10	P	P	12 13 32.6	-2.2
PPLA	baz=200						
PPLA				S	S	12 24 01.7	-1.3
	baz=200						
BCPM	Bancas Point	85.03	17	IAMs_20	IAMs_20	12 57 08.9	
	comp=Z,14μm,18.0s						
R32K	Eaglecrest	85.13	20	P	P	12 13 35.2	-0.2
	baz=216						
K20K	Telida	85.15	9	P	P	12 13 34.2	-1.2
	baz=198						
K20K				S	S	12 24 03.8	-0.5
	baz=198						
GRNC	Granite Creek	85.16	15	IAmb	IAmb	12 13 48.3	
	comp=Z,224nm,1.5s						
GRNC				IAMs_20	IAMs_20	12 50 10.6	
	comp=Z,15μm,19.0s						
ID08	Devils Gate	85.16	41	IAmb	IAmb	12 13 42.6	
	comp=Z,228nm,1.6s						
ANM	Nome	85.18	4	P	P	12 13 35.1	-0.3
	baz=188						
ANM				S	S	12 24 07.3	+2.9
	baz=188						
VRDI	Verde Repeater	85.19	14	IAmb	IAmb	12 13 40.1	
	comp=Z,362nm,1.8s						
VRDI				IAMs_20	IAMs_20	12 51 18.1	
	comp=Z,15μm,18.0s						
ID09	Alton	85.19	41	IAmb	IAmb	12 13 41.5	
	comp=Z,363nm,1.9s						
ID09				IAMs_20	IAMs_20	12 47 40.9	
	comp=Z,18μm,19.0s						
ID06	Fossil Canyon	85.22	41	IAMs_20	IAMs_20	12 47 05.7	
	comp=Z,16μm,19.0s						
ID05	Sulphur Canyon	85.25	41	IAmb	IAmb	12 13 43.0	
	comp=Z,394nm,1.7s						
ID05				IAMs_20	IAMs_20	12 46 39.4	
	comp=Z,17μm,19.0s						
N25K	Chitina, Valde	85.26	14	IAmb	IAmb	12 13 52.2	
	comp=Z,240nm,1.6s						
N25K				IAMs_20	IAMs_20	12 50 47.2	
	comp=Z,14μm,18.0s						
N25K	Chitina, Valde	85.26	14	P	P	12 13 34.9	-1.2
	baz=207,SNR=12						
N25K				S	S	12 24 04.2	-1.3
	baz=207						
P29M	Windy Craggy	85.28	18	IAmb	IAmb	12 13 54.9	
	comp=Z,331nm,1.9s						
P29M	Windy Craggy	85.28	18	P	P	12 13 35.7	-0.4
	baz=214						
P29M				S	S	12 24 06.0	+0.3
	baz=214						
GLB	Gilahina Butte	85.29	14	IAmb	IAmb	12 13 41.6	
	comp=Z,311nm,1.9s						
GLB				IAMs_20	IAMs_20	12 50 46.0	
	comp=Z,12μm,19.0s						
NEW	Newport	85.30	34	P	P	12 13 35.9	-0.7
	baz=232,SNR=15						
NEW				S	S	12 24 06.3	-0.1
	baz=232						
NEW	Newport	85.30	34	LR	LR	12 47 12.4	
	comp=Z,49μm,18.6s,baz=222,slow=32						
RDMU	Red Mountain	85.32	44	IAmb	IAmb	12 13 43.3	
	comp=Z,339nm,1.6s						
JRMM	Jerantut	85.35	276	P	P	12 13 38.0	+0.4
M24K	Tolsona, Glenn	85.38	13	IAMs_20	IAMs_20	12 51 13.3	
	comp=Z,10μm,18.0s						
M24K	Tolsona, Glenn	85.38	13	P	P	12 13 36.0	-0.6
	baz=206,SNR=9.1						
M24K				S	S	12 24 06.5	-0.1
	baz=206						
MCARA	McCarthy VSAT	85.42	14	IAMs_20	IAMs_20	12 50 49.4	
	comp=Z,15μm,18.0s						
MCARA	McCarthy VSAT	85.42	14	P	P	12 13 36.4	-0.4
	baz=209						
MCARA				S	S	12 24 05.5	-1.5

	baz=209							
LOGN	Logan Glacier	85.42	16	IAMs_20	IAMs_20	12 50 27.6		
	comp=Z,14μm,18.0s							
SAND	Sanderson	85.44	56	IAmb	IAmb	12 13 42.6		
	comp=Z,343nm,1.6s							
BKNI	Bangkinang	85.44	272	IAMs_20	IAMs_20	12 58 28.9		
	comp=Z,9μm,18.0s							
BKNI	Bangkinang	85.44	272	P	P	12 13 37.0	-1.1	
CTG	Chitna Glacier	85.46	15	P	P	12 13 35.1	-2.1	
	baz=210							
CTGM	Chitina Glacie	85.46	15	IAMs_20	IAMs_20	12 50 38.7		
	comp=Z,14μm,18.0s							
BARN	Barnard Glacie	85.46	15	IAmb	IAmb	12 13 53.6		
	comp=Z,372nm,1.7s							
BARN				IAMs_20	IAMs_20	12 50 47.7		
	comp=Z,14μm,18.0s							
H16K	Elim	85.47	5	P	P	12 13 36.6	-0.3	
	baz=191,SNR=16							
H16K				S	S	12 24 09.2	+1.9	
	baz=191							
WAT6	Susitna Watana	85.49	12	P	P	12 13 35.9	-1.4	
	baz=204,SNR=24							
WAT6				S	S	12 24 05.0	-3.0	
	baz=204							
CAST	Castle Rocks	85.51	10	IAmb	IAmb	12 13 42.2		
	comp=Z,318nm,2.0s							
CAST				IAMs_20	IAMs_20	12 47 32.1		
	comp=Z,13μm,20.0s							
CAST	Castle Rocks	85.51	10	P	P	12 13 34.9	-2.3	
	baz=200,SNR=23							
CAST				S	S	12 24 04.7	-3.2	
	baz=200							
PLBC	Pleasant Camp	85.53	18	P	P	12 13 36.6	-0.7	
	baz=215							
PLBC				S	S	12 24 07.6	-0.4	
	baz=215							
ID10	Lander Cutoff	85.53	41	IAmb	IAmb	12 13 44.3		
	comp=Z,304nm,1.6s							
ID10				IAMs_20	IAMs_20	12 48 01.9		
	comp=Z,15μm,19.0s							
AHID	Auburn Hatcher	85.54	41	IAmb	IAmb	12 13 44.5		
	comp=Z,386nm,1.6s							
AHID				IAMs_20	IAMs_20	12 47 06.0		
	comp=Z,16μm,19.0s							
T35M	Bob Quinn	85.55	22	P	P	12 13 37.7	+0.2	
	baz=220							
T35M				S	S	12 24 09.8	+1.4	
	baz=220							
J19K	Poorman	85.55	8	IAMs_20	IAMs_20	12 47 43.4		
	comp=Z,14μm,20.0s							
J19K	Poorman	85.55	8	P	P	12 13 37.1	-0.2	
	baz=197,SNR=40							
J19K				S	S	12 24 10.8	+2.7	
	baz=197							
PDSI	Padang	85.55	271	P	P	12 13 37.5	-1.1	
	comp=Z,56nm,1.4s,comp=Z,4μmcomp=Z,8μm							
WAT1	Susitna Watana	85.57	11	P	P	12 13 36.4	-1.1	
	baz=204							
WAT1				S	S	12 24 07.1	-1.4	
	baz=204							
O28M	Mount Upton	85.58	16	P	P	12 13 37.7	-0.2	
	baz=211,SNR=5.3							
O28M				S	S	12 24 09.2	+0.1	
	baz=211							
WHN	Wuhan	85.61	305	⇑P	P	12 13 40.0	+1.6	
WHN				pP	sP	12 13 43.3	-0.8	
WHN				PP	PP	12 16 58.3	+0.7	
WHN				SKS	SKSac	12 24 02.0	-1.4	
WHN				S	SKKSac	12 24 11.6	+1.3	
WHN				pmax	pmax			
	comp=Z,16μm,4.5s							
WHN				LR	LR			
	comp=Z,17μm,14.5s							
WHN				LR	LR			
	comp=Z,12μm,17.3s							
WHN				LR	LR			
	comp=Z,23μm,16.7s							
O29M	Mount Kennedy	85.61	17	IAmb	IAmb	12 13 44.9		
	comp=Z,443nm,1.9s							
O29M				IAMs_20	IAMs_20	12 57 26.6		
	comp=Z,14μm,18.0s							
O29M	Mount Kennedy	85.61	17	P	P	12 13 37.9	+0.1	
	baz=213							
O29M				S	S	12 24 08.9	-0.2	
	baz=213							
CNSH	ChangSha	85.67	302	⇓P	P	12 13 39.3	+0.5	
CNSH				S	S	12 24 08.9	-1.9	
CNSH				SS	SS	12 29 53.3	+5.6	
CNSH				pmax	pmax			
	comp=Z,86nm,1.9s							
CNSH				LR	LR			
	comp=Z,6μm,17.5s							
CNSH				LR	LR			
	comp=Z,4μm,18.6s							
CNSH				LR	LR			
	comp=Z,6μm,18.2s							
S22A	4UR Ranch, Cre	85.69	47	IAmb	IAmb	12 13 46.0		
	comp=Z,401nm,1.6s							
S22A	4UR Ranch, Cre	85.69	47	P	P	12 13 38.9	-0.2	
	baz=240,SNR=138							
S22A				S	S	12 24 15.2	+4.0	
	baz=240							
G15K	Niukluk	85.69	4	P	P	12 13 37.4	-0.6	
	baz=189,SNR=22							
G15K				S	S	12 24 11.6	+2.1	
	baz=189							
KTH	Kantishna Hill	85.83	10	IAmb	IAmb	12 13 44.3		
	comp=Z,454nm,2.0s							
KTH				IAMs_20	IAMs_20	12 49 15.4		
	comp=Z,18μm,20.0s							
TRF	Thorofare Moun	85.83	10	IAmb	IAmb	12 13 44.8		
	comp=Z,377nm,1.4s							
TRF	Thorofare Moun	85.83	10	P	P	12 13 37.2	-1.7	
	baz=202,SNR=46							
TRF				S	S	12 24 08.4	-2.9	
	baz=202							
SKAG	Skagway	85.84	19	IAmb	IAmb	12 13 46.1		
	comp=Z,473nm,1.7s							
SKAG	Skagway	85.84	19	P	P	12 13 36.3	-2.5	
SKAG	Skagway	85.84	19	P	P	12 13 38.5	-0.3	
	baz=216,SNR=9.2							
SKAG				S	S	12 24 12.6	+1.5	
	baz=216							
HARP	HAARP	85.85	13	P	P	12 13 37.7	-1.2	
	baz=207							
P30M	Million Dollar	85.91	18	P	P	12 13 38.5	-0.7	
	baz=214							
CHUM	Lake Minchumin	85.91	9	P	P	12 13 37.5	-1.6	
	baz=200,SNR=14							
CHUM				S	S	12 24 10.1	-1.6	
	baz=200							
J20K	Nowinta River	85.92	9	P	P	12 13 38.2	-0.9	
	baz=198,SNR=31							
J20K				S	S	12 24 12.2	+0.5	
	baz=198							
O20A	White River Ci	85.95	44	IAmb	IAmb	12 13 45.7		
	comp=Z,551nm,1.9s							
O20A	White River Ci	85.95	44	P	P	12 13 39.2	-1.0	
	baz=239,SNR=22							
O20A				S	S	12 24 14.9	+1.3	
	baz=239							
S34M	Telegraph Cree	85.95	21	IAmb	IAmb	12 13 45.6		
	comp=Z,362nm,2.0s							
S34M	Telegraph Cree	85.95	21	P	P	12 13 39.4	-0.1	
	baz=220							
S34M				S	S	12 24 12.3	0.0	
	baz=220							
H17K	Granite Mounta	85.98	6	IAMs_20	IAMs_20	12 48 50.7		
	comp=Z,11μm,20.0s							
H17K	Granite Mounta	85.98	6	P	P	12 13 38.5	-0.9	
	baz=193,SNR=22							
H17K				S	S	12 24 13.4	+1.1	
	baz=193							
DHY	Denali Highway	86.02	12	IAmb	IAmb	12 13 58.3		
	comp=Z,194nm,1.6s							
DHY				IAMs_20	IAMs_20	12 58 25.3		
	comp=Z,13μm,18.0s							
DHY	Denali Highway	86.02	12	P	P	12 13 39.1	-0.8	
	baz=205,SNR=13							
DHY				S	S	12 24 12.2	-0.8	
	baz=205							
TPAW	Teton Pass	86.03	41	IAmb	IAmb	12 13 47.2		
	comp=Z,277nm,1.8s							
TPAW				IAMs_20	IAMs_20	12 48 16.9		
	comp=Z,15μm,19.0s							
F14K	Arctic Creek	86.03	3	P	P	12 13 39.8	+0.1	
	baz=187,SNR=5.9							
F14K				S	S	12 24 16.6	+3.9	
	baz=187							
TNA	Tin City	86.04	3	P	P	12 13 40.2	+0.5	
	baz=186							
TNA				S	S	12 24 15.4	+2.6	
	baz=186							
RND	Reindeer	86.05	11	IAMs_20	IAMs_20	12 48 19.0		
	comp=Z,11μm,20.0s							
FXWY	Fox Creek	86.06	40	IAMs_20	IAMs_20	12 49 49.9		
	comp=Z,15μm,18.0s							
DLMT	Dillon	86.09	38	IAmb	IAmb	12 13 47.1		
	comp=Z,296nm,1.6s							
DLMT				IAMs_20	IAMs_20	12 45 47.7		
	comp=Z,19μm,20.0s							
ODSA	Odessa	86.09	54	IAmb	IAmb	12 13 46.7		
	comp=Z,334nm,1.3s							
GCSA	Galena City Sc	86.12	7	P	P	12 13 39.6	-0.5	
	baz=196,SNR=23							
GCSA				S	S	12 24 15.8	+2.2	
	baz=196							
CMIG	Matias Romero	86.12	70	LR	LR	12 45 47.4		
	comp=Z,17μm,18.5s,baz=243,slow=31							
YUK8	Steele Glacier	86.13	16	P	P	12 13 39.8	-0.8	
	baz=212							
SNOW	Snow King Moun	86.13	41	IAMs_20	IAMs_20	12 47 44.7		
	comp=Z,16μm,19.0s							
MSO	Missoula	86.17	37	P	P	12 13 40.1	-0.9	
	baz=234,SNR=27							
MSO				S	S	12 24 14.8	-0.3	
	baz=234							
TIA	Tai'an	86.20	311	P	P	12 13 41.6	+0.4	
TIA				S	SKSac	12 24 07.6	+0.7	
TIA				pmax	pmax			
	comp=Z,59nm,1.0s							
TIA				pmax	pmax			
	comp=Z,5μm,4.2s							
TIA				LR	LR			
	comp=Z,2μm,16.5s							
TIA				LR	LR			
	comp=Z,4μm,16.5s							
TIA				LR	LR			
	comp=Z,5μm,13.7s							
YUK6	Outpost Mounta	86.21	17	P	P	12 13 40.8	-0.2	
	baz=213							
YUK6				S	S	12 24 14.0	-1.2	
	baz=213							
G16K	Koyuk River	86.21	5	P	P	12 13 39.7	-0.9	
G16K				IAMs_20	IAMs_20	12 49 11.0		
	comp=Z,10μm,20.0s							
G16K	Koyuk River	86.21	5	P	P	12 13 40.9	+0.3	
	baz=191,SNR=15							
G16K				S	S	12 24 15.0	+0.5	
	baz=191							
IMW	Indian Meadow	86.26	40	IAmb	IAmb	12 13 47.3		
	comp=Z,392nm,1.9s							
IMW				IAMs_20	IAMs_20	12 48 52.9		
	comp=Z,12μm,19.0s							
MOOW	Moose Ponds	86.29	40	IAMs_20	IAMs_20	12 48 54.0		
	comp=Z,16μm,18.0s							
PAX	Paxson	86.30	13	P	P	12 13 40.1	-1.1	
	baz=206,SNR=14							
PAX				S	S	12 24 14.0	-1.6	
	baz=206							
LOHW	Long Hollow	86.30	41	IAmb	IAmb	12 13 48.4		
	comp=Z,279nm,1.9s							
LOHW				IAMs_20	IAMs_20	12 47 59.3		
	comp=Z,15μm,19.0s							
SMCO	Snowmass	86.31	46	IAmb	IAmb	12 13 47.8		
	comp=Z,339nm,1.9s							
SMCO				IAMs_20	IAMs_20	12 52 28.4		
	comp=Z,9μm,18.0s							
M26K	Nabesna, AK	86.32	14	IAmb	IAmb	12 13 48.1		
	comp=Z,400nm,1.9s							
M26K				IAMs_20	IAMs_20	12 51 49.2		
	comp=Z,15μm,18.0s							
M26K	Nabesna, AK	86.32	14	P	P	12 13 40.7	-0.6	
	baz=209,SNR=18							
M26K				S	S	12 24 15.0	-0.9	
	baz=209							
BPAW	Bear Paw Mtn.	86.33	10	IAMs_20	IAMs_20	12 48 07.6		
	comp=Z,12μm,20.0s							
BPAW	Bear Paw Mtn.	86.33	10	P	P	12 13 39.5	-1.7	
	baz=201,SNR=13							
MCK	McKinley	86.33	11	P	P	12 13 40.1	-1.2	
	baz=203,SNR=43							
MCK				S	S	12 24 12.9	-2.9	
	baz=203							
HYT	Haines Junctio	86.34	17	IAmb	IAmb	12 13 48.6		
	comp=Z,258nm,1.8s							
HYT	Haines Junctio	86.34	17	P	P	12 13 41.2	-0.3	
	baz=214							
HYT				S	S	12 24 16.3	+0.1	
	baz=214							
H18K	Honhosa River	86.34	7	IAmb	IAmb	12 13 47.8		
	comp=Z,521nm,1.9s							
H18K				IAMs_20	IAMs_20	12 47 58.5		
	comp=Z,13μm,21.0s							
H18K	Honhosa River	86.34	7	P	P	12 13 40.0	-1.3	
	baz=194,SNR=22							
H18K				S	S	12 24 17.7	+1.9	
	baz=194							
F15K	North Star Dit	86.36	4	P	P	12 13 41.3	0.0	
	baz=189							
F15K				S	S	12 24 17.4	+1.4	
	baz=189							
DRIO	Del Rio	86.38	57	IAmb	IAmb	12 13 47.2		
	comp=Z,568nm,1.6s							
YUK3	Moose Creek	86.38	15	P	P	12 13 41.1	-0.6	
	baz=211,SNR=22							
YUK3				S	S	12 24 15.7	-1.1	
	baz=211							
Q32M	Nakina River	86.39	20	P	P	12 13 41.5	-0.4	
	baz=218							
Q32M				S	S	12 24 16.1	-0.8	
	baz=218							
PLCA	Paso Flores	86.40	132	P	P	12 13 42.3	-0.2	
	comp=Z,6.7nm,0.9s,baz=245,slow=3.5,SNR=12							
PLCA				LR	LR	12 46 33.4		
	comp=Z,21μm,18.1s,baz=240,slow=32							
	comp=Z,6.7nm,0.9s							
P32M	Atlin	86.43	19	IAMs_20	IAMs_20	12 54 57.4		
	comp=Z,10μm,18.0s							
P32M	Atlin	86.43	19	P	P	12 13 42.0	+0.1	
	baz=217							
P32M				S	S	12 24 18.1	+1.0	
	baz=217							
G17K	Kiwalik Mounta	86.46	6	P	P	12 13 41.6	-0.2	
	baz=192,SNR=22							
G17K				S	S	12 24 18.3	+1.4	
	baz=192							
I20K	Naaghedeneel	86.47	8	IAMs_20	IAMs_20	12 48 30.7		
	comp=Z,12μm,20.0s							
I20K	Naaghedeneel	86.47	8	P	P	12 13 41.7	-0.2	
	baz=198,SNR=7.4							
I20K				S	S	12 24 19.2	+2.2	
	baz=198							
YUK4	Talbot Arm	86.47	16	P	P	12 13 43.1	+0.9	
	baz=213							
BW06	Boulder Array	86.49	42	IAmb	IAmb	12 13 47.8		
	comp=Z,357nm,1.9s							
BW06				IAMs_20	IAMs_20	12 47 48.3		
	comp=Z,13μm,19.0s							
BW06	Boulder Array	86.49	42	P	P	12 13 41.2	-1.6	
	baz=238,SNR=48							
BW06				S	S	12 24 18.0	-0.8	
	baz=238							
PD31	Pinedale Array	86.49	42	IAmb	IAmb	12 13 47.8		
	comp=Z,346nm,2.0s							
PDAR	Pinedale Array	86.49	42	P	P	12 13 40.8	-2.0	
PDAR	Pinedale Array	86.49	42	P	P	12 13 41.7	-1.1	
	comp=Z,8.2nm,0.8s,baz=204,slow=2.8,SNR=47							
PDAR				PKKPbc	PKKPbc	12 31 40.6	-0.3	
	comp=Z,1.1nm,1.0s,baz=91,slow=7.4,SNR=5.1							
PDAR				LR	LR	12 48 36.1		
	comp=Z,11μm,18.0s,baz=249,slow=33							
	comp=Z,8.2nm,0.8s							
FLWY	Flagg Ranch	86.50	40	IAMs_20	IAMs_20	12 49 00.6		
	comp=Z,12μm,19.0s							
GULI	GuiLin	86.51	299	⇑P	P	12 13 44.8	+1.8	
GULI				pP	pP	12 13 47.3	+0.1	
GULI				sP	pwP	12 13 52.6	+0.8	
GULI				S	S	12 24 23.3	+4.1	
GULI				SS	SS	12 30 05.1	+4.9	
GULI				pmax	pmax			
	comp=Z,110nm,1.8s							
GULI				pmax	pmax			
	comp=Z,5μm,8.1s							
GULI				LR	LR			
	comp=Z,3μm,19.5s							
GULI				LR	LR			
	comp=Z,4μm,18.7s							
GULI				LR	LR			
	comp=Z,5μm,19.1s							
M27K	Edge Creek, AK	86.54	14	IAMs_20	IAMs_20	12 51 54.0		
	comp=Z,15μm,18.0s							
M27K	Edge Creek, AK	86.54	14	P	P	12 13 42.7	+0.2	
	baz=210,SNR=18							
M27K				S	S	12 24 18.2	0.0	
	baz=210							
SDCO	Great Sand Dun	86.60	48	IAmb	IAmb	12 13 49.1		
	comp=Z,287nm,1.9s							
SDCO	Great Sand Dun	86.60	48	P	P	12 13 43.0	-0.5	
	baz=241,SNR=39							
SDCO				S	S	12 24 22.3	+2.1	
	baz=241							
SDCO	Great Sand Dun	86.60	48	P	P	12 13 43.3	-0.3	
	baz=241,SNR=39							
MENT	Mentasta	86.64	13	IAmb	IAmb	12 13 49.6		
	comp=Z,250nm,1.6s							
MENT				IAMs_20	IAMs_20	12 54 19.6		
	comp=Z,11μm,18.0s							
MENT	Mentasta	86.64	13	P	P	12 13 40.1	-2.7	
OZNA	Ozona	86.64	55	IAmb	IAmb	12 13 48.5		
	comp=Z,539nm,1.9s							
O30N	Mendenhall	86.69	18	IAmb	IAmb	12 13 50.2		
	comp=Z,232nm,1.7s							
O30N				IAMs_20	IAMs_20	12 57 36.0		
	comp=Z,13μm,18.0s							
O30N	Mendenhall	86.69	18	P	P	12 13 43.0	-0.1	
	baz=215							
O30N				S	S	12 24 20.6	+1.1	
	baz=215							
SISI	Saibi	86.69	270	P	P	12 13 52.1	+7.9	
DLBC	Dease Lake	86.73	21	P	P	12 13 43.4	0.0	
	baz=220							
DLBC				S	S	12 24 19.9	-0.1	
	baz=220							
DLBC	Dease Lake	86.73	21	LR	LR	12 48 12.1		
	comp=Z,7μm,18.4s,baz=226,slow=33							
H17A	Grant Village	86.75	40	P	P	12 13 44.7	+0.6	
	baz=237							
H17A				S	S	12 24 24.4	+3.2	
	baz=237							
MSTX	Muleshoe	86.77	52	P	P	12 13 43.9	-0.4	
	baz=242							
MSTX				S	S	12 24 23.4	+1.9	
	baz=242							
MSTX	Muleshoe	86.77	52	P	P	12 13 43.5	-0.8	
	baz=242							
MSTX				S	S	12 24 22.6	+1.0	
	baz=242							
BOZ	Bozeman (W)	86.78	39	IAmb	IAmb	12 13 50.6		
	comp=Z,263nm,1.7s							
BOZ				IAMs_20	IAMs_20	12 47 17.0		
	comp=Z,17μm,19.0s							
BOZ	Bozeman (W)	86.78	39	P	P	12 13 43.7	-0.3	
	baz=236,SNR=55							
BOZ				S	S	12 24 21.2	-0.1	
	baz=236							
L26K	Log Cabin Wild	86.79	13	IAMs_20	IAMs_20	12 54 25.7		
	comp=Z,13μm,18.0s							
L26K	Log Cabin Wild	86.79	13	P	P	12 13 43.0	-0.5	
	baz=208,SNR=14							
L26K				S	S	12 24 19.9	-0.5	
	baz=208							
BVCY	Beaver Creek	86.83	15	S	S	12 24 20.9	+0.1	
	baz=211							
833A	Chaparral WMA,	86.87	58	IAmb	IAmb	12 13 49.5		
	comp=Z,319nm,1.4s							
833A	Chaparral WMA,	86.87	58	P	P	12 13 44.1	-0.6	
	baz=245							
833A				S	S	12 24 23.4	+0.9	
	baz=245							
833A	Chaparral WMA,	86.87	58	P	P	12 13 44.0	-0.6	
	baz=245							
833A				S	S	12 24 22.4	-0.1	
	baz=245							
ELIB	Princess Elisa	86.91	185	dP	P	12 13 43.9	-0.4	
	comp=Z,67nm,2.0s							
ELIB				dSKS	SKSac	12 24 06.3	-4.3	
ELIB				dS	S	12 24 22.4	+0.5	
HBVL	Hebbronville	86.92	60	IAmb	IAmb	12 13 53.0		
	comp=Z,493nm,1.4s							
H19K	Roundabout Mou	86.92	7	IAMs_20	IAMs_20	12 48 56.7		
	comp=Z,12μm,20.0s							
H19K	Roundabout Mou	86.92	7	P	P	12 13 43.4	-0.6	
	baz=196,SNR=51							
H19K				S	S	12 24 23.5	+2.2	
	baz=196							
WHY	Whitehorse	86.94	18	P	P	12 13 43.5	-0.9	
	baz=216,SNR=9.9							
WHY				S	S	12 24 22.3	+0.2	
	baz=216							
LKWY	Lake	86.95	40	IAMs_20	IAMs_20	12 49 47.3		
	comp=Z,17μm,18.0s							
N30M	Aishikik Lake	86.98	17	IAmb	IAmb	12 13 51.4		
	comp=Z,192nm,1.8s							
N30M	Aishikik Lake	86.98	17	P	P	12 13 44.3	-0.2	
	baz=214							
N30M				S	S	12 24 21.6	-0.7	
	baz=214							
K24K	Donnelly Dome	86.98	12	P	P	12 13 44.1	-0.3	
	baz=206,SNR=19							
K24K				S	S	12 24 23.8	+1.6	
	baz=206							
G18K	Tagagawik	87.04	6	IAMs_20	IAMs_20	12 48 20.7		
	comp=Z,10μm,20.0s							
G18K	Tagagawik	87.04	6	P	P	12 13 44.5	-0.1	
	baz=194,SNR=38							
G18K				S	S	12 24 24.1	+1.5	
	baz=194							
T25A	Trinidad	87.07	49	P	P	12 13 44.7	-1.0	
	baz=241,SNR=24							
T25A				S	S	12 24 28.0	+3.4	
	baz=241							
SGCY	Sterling City	87.08	54	IAmb	IAmb	12 13 51.4		
	comp=Z,232nm,1.4s							
H20K	Anotleneega Mo	87.08	8	P	P	12 13 44.3	-0.6	
	baz=198,SNR=30							
H20K				S	S	12 24 25.6	+2.5	
	baz=198							
NEA2	Nenana	87.10	10	P	P	12 13 43.4	-1.6	
	baz=203,SNR=31							
NEA2				S	S	12 24 19.7	-3.6	
	baz=203							
RIDG	Independent Ri	87.11	13	IAmb	IAmb	12 13 51.7		
	comp=Z,387nm,1.8s							
RIDG				IAMs_20	IAMs_20	12 58 23.2		
	comp=Z,14μm,18.0s							
RIDG	Independent Ri	87.11	13	P	P	12 13 44.7	-0.4	
	baz=207,SNR=24							
RIDG				S	S	12 24 23.1	-0.4	
	baz=207							
R33M	Jennings River	87.15	20	P	P	12 13 45.0	-0.5	
	baz=220							
R33M				S	S	12 24 24.5	+0.3	
	baz=220							
WRH	Wood River Hil	87.16	11	IAMs_20	IAMs_20	12 48 55.6		
	comp=Z,11μm,20.0s							
L27K	Beaver Creek,	87.16	14	IAMs_20	IAMs_20	12 52 33.5		
	comp=Z,16μm,18.0s							
L27K	Beaver Creek,	87.16	14	P	P	12 13 44.1	-1.2	
	baz=210,SNR=16							
L27K				S	S	12 24 23.8	-0.2	
	baz=210							
I21K	Tanana	87.18	9	IAmb	IAmb	12 14 12.1		
	comp=Z,181nm,1.4s							
I21K				IAMs_20	IAMs_20	12 59 19.4		
	comp=Z,9μm,18.0s							
I21K	Tanana	87.18	9	P	P	12 13 44.8	-0.6	
	baz=200,SNR=23							
I21K				S	S	12 24 23.5	-0.5	
	baz=200							
P33M	Teslin, Yukon	87.20	19	IAMs_20	IAMs_20	12 54 40.2		
	comp=Z,9μm,18.0s							
P33M	Teslin, Yukon	87.20	19	P	P	12 13 45.1	-0.6	
	baz=218							
P33M				S	S	12 24 25.6	+1.1	
	baz=218							
POST	Post	87.31	53	IAmb	IAmb	12 13 51.6		
	comp=Z,648nm,1.7s							
HDA	Harding Lake	87.31	11	IAMs_20	IAMs_20	12 59 34.5		
	comp=Z,15μm,18.0s							
HDA	Harding Lake	87.31	11	P	P	12 13 45.1	-0.9	
	baz=205,SNR=46							
HDA				S	S	12 24 23.6	-1.6	
	baz=205							

HDA					S	S	12 24 23.6	-1.6	
	baz=205								
F17K	Baldwin Pennin	87.33	5		P	P	12 13 46.2	+0.2	
	baz=192,SNR=16								
F17K					S	S	12 24 25.1	-0.2	
	baz=192								
N31M	Braeburn, Yuko	87.36	17		P	P	12 13 45.4	-0.9	
	baz=215								
N31M					S	S	12 24 24.3	-1.7	
	baz=215								
CCB	Clear Creek Bu	87.37	11		IAMs_20	IAMs_20	12 49 02.1		
	comp=Z,11μm,20.0s								
SEY	Seymchan	87.41	345	*ce*	P	P	12 13 45.5	-1.0	
SEY					pmax	pmax			
	comp=Z,126nm,1.4s								
SEY					MLR	MLR			
	comp=Z,9μm,18.0s								
SEY	Seymchan	87.41	345		LR	LR	12 52 21.7		
	comp=Z,8μm,18.2s,baz=141,slow=35								
M29M	Somme Creek	87.44	16		IAMs_20	IAMs_20	12 51 35.1		
	comp=Z,13μm,19.0s								
M29M	Somme Creek	87.44	16		P	P	12 13 46.6	-0.2	
	baz=213,SNR=12								
M29M					S	S	12 24 27.7	+0.8	
	baz=213								
G19K	Purcell Mounta	87.44	7		IAMs_20	IAMs_20	12 48 33.5		
	comp=Z,11μm,20.0s								
G19K	Purcell Mounta	87.44	7		P	P	12 13 46.0	-0.6	
	baz=196,SNR=35								
G19K					S	S	12 24 27.3	+0.8	
	baz=196								
HEH	HeiHe	87.46	327	*e*	P	P	12 13 46.3	-0.7	
HEH					pP	pP	12 13 50.6	-0.6	
HEH					SKS	SKSac	12 24 14.6	+0.6	
HEH					S	S	12 24 29.5	+2.3	
HEH					pmax	pmax			
	comp=Z,110nm,1.8s								
HEH					pmax	pmax			
	comp=Z,4μm,7.9s								
HEH					LR	LR			
	comp=Z,9μm,18.5s								
HEH					LR	LR			
	comp=Z,9μm,19.3s								
HEH					LR	LR			
	comp=Z,19μm,19.3s								
JCT	Junction City	87.47	56		IAmb	IAmb	12 13 53.1		
	comp=Z,145nm,1.4s								
JCT					IAMs_20	IAMs_20	12 46 26.3		
	comp=Z,17μm,19.0s								
JCT	Junction City	87.47	56		P	P	12 13 46.7	-0.9	
	baz=244								
JCT					S	S	12 24 27.6	-0.7	
	baz=244								
JCT	Junction City	87.47	56		P	P	12 13 46.9	-0.7	
	baz=244,SNR=17								
JCT					S	S	12 24 26.9	-1.4	
	baz=244								
HNDO	Hondo	87.47	57		IAmb	IAmb	12 13 52.9		
	comp=Z,408nm,1.6s								
SCRK	Sand Creek	87.50	13		IAmb	IAmb	12 14 06.2		
	comp=Z,202nm,1.9s								
SCRK					IAMs_20	IAMs_20	12 49 40.4		
	comp=Z,10μm,20.0s								
SCRK	Sand Creek	87.50	13		P	P	12 13 45.7	-1.3	
	baz=208,SNR=26								
SCRK					S	S	12 24 25.8	-1.5	
	baz=208								
H21K	Melozitna Rive	87.52	9		IAMs_20	IAMs_20	12 49 14.2		
	comp=Z,9μm,20.0s								
H21K	Melozitna Rive	87.52	9		P	P	12 13 46.5	-0.5	
	baz=200,SNR=32								
H21K					S	S	12 24 27.6	+0.4	
	baz=200								
ISCO	Idaho Springs	87.53	46		IAMs_20	IAMs_20	12 52 37.8		
	comp=Z,9μm,18.0s								
ISCO	Idaho Springs	87.53	46		P	P	12 13 47.4	-0.6	
	baz=240,SNR=9.5								
ISCO					S	S	12 24 30.2	+1.1	
	baz=240								
ISCO	Idaho Springs	87.53	46		P	P	12 13 47.9	-0.1	
	baz=240								
ISCO					S	S	12 24 30.7	+1.6	
	baz=240								
KULM	Kulim	87.55	277		P	P	12 13 49.0	+0.7	
I23K	Minto, Yukon-K	87.56	10		P	P	12 13 45.9	-1.3	
	baz=203,SNR=44								
I23K					S	S	12 24 25.7	-1.9	
	baz=203								
COLA	College	87.57	11		P	P	12 13 45.3	-1.9	
COLA	College	87.57	11		IAMs_20	IAMs_20	12 49 27.4		
	comp=Z,16μm,20.0s								
COLA	College	87.57	11		P	P	12 13 46.6	-0.6	
COLA	College	87.57	11		P	P	12 13 45.3	-1.9	
COLA					pmax	pmax			
	comp=Z,1μm,2.0s								
COLA	College	87.57	11		P	P	12 13 46.1	-1.0	
	baz=204								
COLA					S	S	12 24 25.7	-1.9	
	baz=204								
TROLL	Troll, Antarti	87.57	179	⇑	P	P	12 13 48.1	+0.5	
	comp=Z,1μm,0.8s								
MDM	Murphy Dome	87.58	11		IAMs_20	IAMs_20	12 49 27.8		
	comp=Z,18μm,20.0s								
F18K	Selawik	87.63	6		P	P	12 13 46.7	-0.7	
	baz=193								
IL31		87.65	11		IAmb	IAmb	12 13 53.8		
	comp=Z,351nm,1.6s								
ILAR	Eielson Array	87.65	11		P	P	12 13 45.9	-1.8	
	comp=Z,14nm,0.7s,baz=209,slow=6.4,SNR=58								
ILAR					PKKPbc	PKKPdf	12 31 32.5	-1.0	
	comp=Z,0.4nm,0.7s,baz=330,slow=2.3,SNR=5.1								
ILAR					PKPPKP	P'P'df	12 39 57.8	+19	
	comp=Z,0.8nm,1.1s,baz=330,slow=3.2,SNR=4.4								
ILAR					LR	LR	12 51 51.7		
	comp=Z,4μm,18.1s,baz=196,slow=35								
	comp=Z,14nm,0.7s								
SN01	Snyder 1	87.68	54		IAmb	IAmb	12 13 53.3		
	comp=Z,814nm,1.9s								
GO05	Huala	87.71	127		IAmb	IAmb	12 13 53.5		
	comp=Z,175nm,1.6s								
VNA3	Neumayer Olymp	87.72	175	⇑	P	P	12 13 49.0	+0.9	
	comp=Z,16nm,0.7s								
SNAA	Sanae	87.74	177		P	P	12 13 48.0	-0.3	
SNAA					IAmb	IAmb	12 13 54.4		
	comp=Z,214nm,1.6s								
SNAA	Sanae	87.74	177	*ce*	P	P	12 13 48.8	+0.5	
SNAA					pmax	pmax			
	comp=Z,155nm,1.7s								
SNAA					MLR	MLR			
	comp=Z,19μm,17.0s								
SNAA	Sanae	87.74	177	⇑	P	P	12 13 48.5	+0.2	
	comp=Z,545nm,1.2s								
SNAA	Sanae	87.74	177		P	P	12 13 48.2	-0.1	
	comp=Z,14nm,0.9s,baz=204,slow=3.5,SNR=26								
SNAA					LR	LR	12 50 11.7		
	comp=Z,15μm,19.8s,baz=192,slow=34								
	comp=Z,14nm,0.9s								
KVTX	Kingsville	87.75	60		IAMs_20	IAMs_20	12 50 28.7		
	comp=Z,10μm,18.0s								
KVTX	Kingsville	87.75	60		S	S	12 24 33.3	+2.3	
	baz=245								
J25K	Salcha River,	87.79	12		IAMs_20	IAMs_20	12 59 22.2		
	comp=Z,12μm,18.0s								
J25K	Salcha River,	87.79	12		P	P	12 13 47.5	-0.8	
	baz=206,SNR=29								
J25K					S	S	12 24 28.5	-1.5	
	baz=206								
N23A	Red Feather La	87.85	45		IAmb	IAmb	12 13 58.1		
	comp=Z,185nm,1.9s								
N23A	Red Feather La	87.85	45		P	P	12 13 48.3	-1.2	
	baz=240,SNR=6.8								
N23A					S	S	12 24 34.7	+2.7	
	baz=240								
POKR	Poker Plat Res	87.87	11		IAMs_20	IAMs_20	12 49 27.2		
	comp=Z,14μm,19.0s								
POKR	Poker Plat Res	87.87	11		P	P	12 13 47.5	-1.2	
	baz=205,SNR=21								
POKR					S	S	12 24 28.0	-2.6	
	baz=205								
N32M	Quiet Lake	87.87	19		P	P	12 13 48.0	-0.8	
	baz=218								
E17K	Hotham Inlet	87.92	5		P	P	12 13 48.0	-0.8	
	baz=191,SNR=14								
E17K					S	S	12 24 31.7	+0.8	
	baz=191								
RLMT	Red Lodge	87.92	40		IAMs_20	IAMs_20	12 49 50.2		
	comp=Z,13μm,18.0s								
RLMT	Red Lodge	87.92	40		P	P	12 13 48.9	-0.7	
	baz=238,SNR=8.7								
RLMT					S	S	12 24 35.2	+2.7	
	baz=238								
H22K	Ishtalitna Cre	87.94	9		P	P	12 13 47.9	-1.1	
	baz=201,SNR=22								
H22K					S	S	12 24 30.5	-0.8	
	baz=201								
K27K	Chicken	87.95	13		IAMs_20	IAMs_20	12 55 01.8		
	comp=Z,14μm,18.0s								
K27K	Chicken	87.95	13		P	P	12 13 49.4	+0.4	
	baz=210								
M30M	Minto, Yukon	87.98	16		IAmb	IAmb	12 13 56.0		
	comp=Z,157nm,1.6s								
M30M					IAMs_20	IAMs_20	12 56 35.0		
	comp=Z,12μm,18.0s								
M30M	Minto, Yukon	87.98	16		P	P	12 13 48.6	-0.7	
	baz=214,SNR=17								
M30M					S	S	12 24 31.5	-0.4	
	baz=214								
AMTX	Amarillo	87.99	52		P	P	12 13 49.7	-0.3	
	baz=243								
AMTX					S	S	12 24 34.8	+1.6	
	baz=243								
AMTX	Amarillo	87.99	52		P	P	12 13 49.4	-0.7	
	baz=243								
AMTX					S	S	12 24 34.6	+1.4	
	baz=243								
DKNS	Dickens	88.01	53		IAmb	IAmb	12 13 56.1		
	comp=Z,903nm,2.0s								
F19K	Shaleruckik Mo	88.04	6		IAMs_20	IAMs_20	12 48 52.2		
	comp=Z,10μm,20.0s								
F19K	Shaleruckik Mo	88.04	6		P	P	12 13 48.2	-1.2	
	baz=195,SNR=36								
F19K					S	S	12 24 31.4	-0.7	
	baz=195								
J26L	Joseph Creek	88.05	13		P	P	12 13 49.1	-0.6	
	baz=208,SNR=58								
J26L					S	S	12 24 33.5	+1.0	
	baz=208								
L29M	L29M	88.09	15		IAMs_20	IAMs_20	12 52 05.1		
	comp=Z,15μm,19.0s								
L29M	L29M	88.09	15		P	P	12 13 49.1	-0.7	
	baz=213,SNR=21								
L29M					S	S	12 24 32.4	-0.4	
	baz=213								
H23K	Yukon River	88.16	10		IAMs_20	IAMs_20	12 50 47.7		
	comp=Z,17μm,20.0s								
H23K	Yukon River	88.16	10		P	P	12 13 47.9	-2.2	
	baz=203								
VNA2	Neumayer--Watz	88.21	176	⇑	P	P	12 13 51.7	+1.3	
	comp=Z,15nm,0.8s,baz=200,slow=4.0								
G21K	Allakaket	88.23	8		IAMs_20	IAMs_20	12 49 17.3		
	comp=Z,11μm,20.0s								
G21K	Allakaket	88.23	8		P	P	12 13 49.9	-0.5	
	baz=199,SNR=26								
G21K					S	S	12 24 34.0	0.0	
	baz=199								
RPSI	Rantau Prapat	88.25	274		IAmb	IAmb	12 13 58.3		
	comp=Z,237nm,1.5s								
RPSI					IAMs_20	IAMs_20	12 56 17.3		
	comp=Z,9μm,19.0s								
PSI	Prapat	88.29	274		P	P	12 13 51.6	-0.4	
M31M	Drury Creek, Y	88.33	17		P	P	12 13 50.3	-0.6	
	baz=216								
M31M					S	S	12 24 35.2	+0.1	
	baz=216								
E18K	Tukpahlearik C	88.35	5		P	P	12 13 50.6	-0.3	
	baz=192,SNR=16								
E18K					S	S	12 24 35.0	0.0	
	baz=192								
K22A	Casper	88.35	43		IAmb	IAmb	12 13 58.7		
	comp=Z,204nm,1.7s								
K22A	Casper	88.35	43		P	P	12 13 50.7	-1.0	
	baz=240,SNR=16								
K22A					S	S	12 24 35.0	-1.5	
	baz=240								
K22A	Casper	88.35	43		P	P	12 13 51.1	-0.6	
	baz=240								
K22A					S	S	12 24 38.0	+1.5	
	baz=240								
735A	Kenedy	88.36	58		IAmb	IAmb	12 13 58.3		
	comp=Z,233nm,1.2s								
735A	Kenedy	88.36	58		P	P	12 13 51.3	-0.5	
	baz=245								
735A					S	S	12 24 37.5	+0.7	
	baz=245								
VNA1	Neumayer--Stat	88.41	175	⇑	P	P	12 13 52.6	+1.2	
	comp=Z,62nm,1.6s								
D17K	Noatak River	88.43	4		IAMs_20	IAMs_20	12 47 21.8		
	comp=Z,11μm,21.0s								
D17K	Noatak River	88.43	4		P	P	12 13 51.6	+0.4	
	baz=190								
D17K					S	S	12 24 38.8	+3.0	
	baz=190								
BRDY	Brady	88.44	56		IAmb	IAmb	12 13 56.9		
	comp=Z,448nm,1.8s								
H24K	Noodor Dome	88.45	10		P	P	12 13 49.9	-1.5	
	baz=204								
H24K					S	S	12 24 32.4	-3.7	
	baz=204								
APMT	Aspermont	88.46	54		IAmb	IAmb	12 13 57.1		
	comp=Z,1μm,1.9s								
HNS	HongShan	88.47	311	⇑	P	P	12 13 52.3	+0.2	
HNS					SKS	SKSac	12 24 22.3	+1.7	
HNS					S	S	12 24 38.4	+1.0	
HNS					SS	SS	12 30 30.3	+2.0	
HNS					pmax	pmax			
	comp=Z,77nm,2.3s								
HNS					pmax	pmax			
	comp=Z,6μm,10.8s								
HNS					LR	LR			
	comp=Z,2μm,16.7s								
HNS					LR	LR			
	comp=Z,6μm,17.2s								
HNS					LR	LR			
	comp=Z,6μm,19.6s								
F20K	Avaraart Lake	88.47	7		IAmb	IAmb	12 13 57.4		
	comp=Z,341nm,1.8s								
F20K					IAMs_20	IAMs_20	12 49 56.6		
	comp=Z,12μm,20.0s								
F20K	Avaraart Lake	88.47	7		P	P	12 13 51.0	-0.4	
	baz=197,SNR=18								
F20K					S	S	12 24 36.8	+0.7	
	baz=197								
ABTX	Abilene, Hawle	88.52	54		P	P	12 13 51.8	-0.7	
	baz=244								
ABTX					S	S	12 24 36.9	-1.3	
	baz=244								
ABTX	Abilene, Hawle	88.52	54		P	P	12 13 52.8	+0.3	
	baz=244								
ABTX					S	S	12 24 38.3	+0.1	
	baz=244								
PRP	Porcupine Dome	88.58	11		IAMs_20	IAMs_20	12 55 47.9		
	comp=Z,10μm,18.0s								
PRP	Porcupine Dome	88.58	11		P	P	12 13 51.5	-0.7	
	baz=206,SNR=42								
PRP					S	S	12 24 36.9	-0.7	
	baz=206								
DAWY	Dawson	88.59	14		IAmb	IAmb	12 13 59.1		
	comp=Z,309nm,1.8s								
DAWY	Dawson	88.59	14		P	P	12 13 51.4	-0.8	
	baz=212,SNR=29								
DAWY					S	S	12 24 38.6	+1.1	
	baz=212								
BO01	Tunca	88.60	126		P	P	12 13 51.7	-1.3	
BO01					IAmb	IAmb	12 13 57.9		
	comp=Z,201nm,1.8s								
FARO	Faro, Yukon	88.65	18		IAmb	IAmb	12 13 59.2		
	comp=Z,210nm,2.0s								
FARO					IAMs_20	IAMs_20	12 57 41.4		
	comp=Z,11μm,18.0s								
FARO	Faro, Yukon	88.65	18		P	P	12 13 51.6	-0.9	
	baz=217								
FARO					S	S	12 24 38.4	+0.3	
	baz=217								
BO02	Sierra Bellavi	88.66	127		IAmb	IAmb	12 13 57.4		
	comp=Z,269nm,2.0s								
MT01	Popeta	88.68	126		P	P	12 13 52.0	-1.5	
MT01					IAmb	IAmb	12 13 58.3		
	comp=Z,191nm,1.4s								
BJI	Beijing	88.69	314		P	P	12 13 54.3	+1.2	
BJI					sP	sP	12 13 58.6	-0.2	
BJI					PP	PP	12 17 23.6	+1.4	
BJI					pmax	pmax			
	comp=Z,46nm,2.1s								
BJI					pmax	pmax			
	comp=Z,730nm,7.6s								
BJI					LR	LR			
	comp=Z,2μm,17.1s								
BJI					LR	LR			
	comp=Z,3μm,18.1s								
BJI					LR	LR			
	comp=Z,4μm,18.2s								
E19K	Redstone River	88.70	6		IAmb	IAmb	12 13 58.4		
	comp=Z,283nm,1.6s								
E19K	Redstone River	88.70	6		P	P	12 13 52.2	-0.3	
	baz=196,SNR=30								
E19K					S	S	12 24 39.6	+1.2	
	baz=196								
NVL	N'lazarevskaya	88.76	182	*e*	P	P	12 13 54.7	+1.7	
NVL				*e*	S	SKSac	12 24 21.2	-0.3	
NVL					pmax	pmax			
	comp=Z,117nm,2.3s								
NVL					smax	smax			
	comp=N,3μm,11.0s								
LYN	LuoYang	88.81	308	⇑	P	P	12 13 55.0	+1.2	
LYN					PP	PP	12 17 27.8	+4.5	
LYN					SKS	SKSac	12 24 22.3	-0.6	
LYN					S	S	12 24 41.5	+0.7	
LYN					SS	SS	12 30 35.8	+2.3	
LYN					pmax	pmax			
	comp=N,150nm,1.9s								
LYN					pmax	pmax			
	comp=N,8μm,7.8s								
LYN					LR	LR			
	comp=N,15μm,16.8s								
LYN					LR	LR			
	comp=N,9μm,17.9s								
LYN					LR	LR			
	comp=N,21μm,17.5s								
LIRD	Liard River Hi	88.83	22		P	P	12 13 53.1	-0.2	
	baz=224,SNR=13								
LIRD					S	S	12 24 39.2	-0.7	
	baz=224								
I26K	Coal Creek Min	88.85	12		IAMs_20	IAMs_20	12 59 27.0		
	comp=Z,12μm,18.0s								
I26K	Coal Creek Min	88.85	12		P	P	12 13 52.8	-0.5	
	baz=208								
I26K					S	S	12 24 39.4	-0.4	
	baz=208								
K29M	Barlow Dome	88.85	15		IAMs_20	IAMs_20	12 52 57.3		
	comp=Z,12μm,18.0s								
K29M	Barlow Dome	88.85	15		P	P	12 13 53.5	0.0	
	baz=214,SNR=56								
K29M					S	S	12 24 40.7	+0.5	
	baz=214								
C16K	Lisburne Hills	88.87	3		P	P	12 13 53.4	+0.2	
	baz=188								
C16K					S	S	12 24 40.4	+0.6	
	baz=188								
EFI	East Falkland	88.89	146		IAMs_20	IAMs_20	12 52 29.5		
	comp=Z,12μm,19.0s								
EFI	East Falkland	88.89	146	*i*	P	P	12 13 54.1	+0.1	
EFI					pmax	pmax			
	comp=Z,341nm,2.5s								
EFI					MLR	MLR			
	comp=Z,11μm,17.0s								
G22K	Bettles	88.89	9		P	P	12 13 52.6	-0.8	
	baz=201								
F21K	Alatna River	88.91	8		P	P	12 13 52.2	-1.3	
F21K					IAmb	IAmb	12 13 59.3		
	comp=Z,272nm,1.9s								
F21K					IAMs_20	IAMs_20	12 50 09.1		
	comp=Z,12μm,20.0s								
F21K	Alatna River	88.91	8		P	P	12 13 53.9	+0.3	
	baz=199,SNR=15								
F21K					S	S	12 24 39.3	-1.1	
	baz=199								
G23K	Bananza Creek	88.91	9		P	P	12 13 53.1	-0.5	
	baz=202,SNR=21								
G23K					S	S	12 24 40.6	+0.1	
	baz=202								
MT09	Talagante	88.92	126		IAmb	IAmb	12 13 59.5		
	comp=Z,152nm,1.4s								
GSI	Gunungsitoli	89.03	272		P	P	12 13 57.9	+2.5	
GSI	Gunungsitoli	89.03	272		P	P	12 13 56.5	+1.1	
	comp=Z,197nm,1.7s,comp=Z,12μmcomp=Z,16μm								
MAYO	Mayo, Yukon	89.06	16		IAmb	IAmb	12 14 01.5		
	comp=Z,266nm,1.5s								
MAYO					IAMs_20	IAMs_20	12 59 15.4		
	comp=Z,10μm,18.0s								
MAYO	Mayo, Yukon	89.06	16		P	P	12 13 54.6	+0.2	
	baz=215								
MAYO					S	S	12 24 39.9	-2.0	
	baz=215								
ORCD	Orcadas	89.19	158		P	P	12 13 54.1	-1.1	
EGMT	Eagleton	89.19	37		IAmb	IAmb	12 14 01.9		
	comp=Z,307nm,1.9s								
EGMT	Eagleton	89.19	37		P	P	12 13 55.0	-0.4	
	baz=237,SNR=16								
EGMT					S	S	12 24 43.3	-0.7	
	baz=237								
KSCO	Kaye Shedlock'	89.19	48		IAmb	IAmb	12 14 01.0		
	comp=Z,340nm,2.0s								
KSCO	Kaye Shedlock'	89.19	48		P	P	12 13 54.2	-1.5	
	baz=242								
KSCO					S	S	12 24 46.1	+1.6	
	baz=242								
KSCO	Kaye Shedlock'	89.19	48		P	P	12 13 56.5	+0.8	
	baz=242								
KSCO					S	S	12 24 47.2	+2.7	
	baz=242								
J29N	Klondike Camp	89.19	15		IAMs_20	IAMs_20	12 53 35.5		
	comp=Z,11μm,18.0s								
J29N	Klondike Camp	89.19	15		P	P	12 13 55.0	0.0	
	baz=213								
J29N					S	S	12 24 44.0	+0.7	
	baz=213								
C17K	DeLong Mountai	89.20	4		P	P	12 13 54.6	-0.3	
	baz=190								
C17K					S	S	12 24 41.9	-1.1	
	baz=190								
H25L	Birch Creek	89.20	11		P	P	12 13 54.3	-0.5	
	baz=206								
H25L					S	S	12 24 43.6	+0.6	
	baz=206								
G24K	Hadweenzic Riv	89.30	10		P	P	12 13 54.7	-0.7	
	baz=204								
G24K					S	S	12 24 42.0	-2.1	
	baz=204								
435B	Jarrell	89.33	57		IAmb	IAmb	12 14 02.3		
	comp=Z,248nm,1.6s								
435B	Jarrell	89.33	57		P	P	12 13 55.9	-0.4	
	baz=245								
435B					S	S	12 24 47.5	+1.6	
	baz=245								
435B	Jarrell	89.33	57		P	P	12 13 57.1	+0.7	
	baz=245								
435B					S	S	12 24 47.2	+1.3	
	baz=245								
F22K	John River	89.35	8		P	P	12 13 55.1	-0.6	
	baz=200,SNR=7.6								
F22K					S	S	12 24 44.8	+0.3	
	baz=200								
COLD	Coldfoot	89.36	9		P	P	12 13 55.6	-0.1	
	baz=202								
COLD					S	S	12 24 44.4	-0.2	
	baz=202								
PEL	Peldehue	89.41	125		IAmb	IAmb	12 14 02.1		
	comp=Z,179nm,1.5s								
I27K	Kandik River	89.42	13		P	P	12 13 55.8	-0.2	
	baz=210,SNR=17								
I27K					S	S	12 24 44.2	-1.1	
	baz=210								
LMEL	Las Melosas	89.49	126		IAmb	IAmb	12 14 01.8		
	comp=Z,184nm,1.9s								
C18K	Utukok River	89.51	5		IAmb	IAmb	12 14 08.5		
	comp=Z,174nm,1.8s								
C18K					IAMs_20	IAMs_20	12 48 07.1		
	comp=Z,11μm,20.0s								
C18K	Utukok River	89.51	5		P	P	12 13 55.9	-0.5	
	baz=192								
C18K					S	S	12 24 45.5	-0.5	
	baz=192								
E20K	Nigu River	89.58	7		P	P	12 13 56.4	-0.4	
	baz=196,SNR=22								
E20K					S	S	12 24 45.4	-1.3	
	baz=196								
G25K	Bearman Lake	89.60	11		P	P	12 13 56.5	-0.2	
	baz=206								
D19K	Kuna River	89.62	6		IAMs_20	IAMs_20	12 49 55.0		
	comp=Z,12μm,20.0s								
D19K	Kuna River	89.62	6		P	P	12 13 56.2	-0.7	
	baz=195								
D19K					S	S	12 24 46.5	-0.6	
	baz=195								

KCSI	Kotacane, Aceh	89.62	274	P	P	12 13 59.5	+1.4		
	comp=Z,83nm,2.4s,comp=Z,5μm								
TGTN	Hyland Airport	89.64	20	P	P	12 13 56.1	-1.1		
	baz=222,SNR=19								
TGTN				S	S	12 24 47.3	-0.2		
	baz=222								
I28M	Miner Creek	89.65	14	IAmb	IAmb	12 14 03.9			
	comp=Z,410nm,1.9s								
I28M				IAMs_20	IAMs_20	12 55 55.5			
	comp=Z,14μm,18.0s								
I28M	Miner Creek	89.65	14	P	P	12 13 56.4	-0.7		
	baz=211,SNR=34								
I28M				S	S	12 24 47.4	-0.1		
	baz=211								
SRIT	Nakonsritamara	89.69	279	P	P	12 14 00.1	+1.7		
J30M	Hart River	89.75	15	IAmb	IAmb	12 14 04.7			
	comp=Z,300nm,1.8s								
J30M				IAMs_20	IAMs_20	12 53 35.1			
	comp=Z,15μm,19.0s								
J30M	Hart River	89.75	15	P	P	12 13 57.4	-0.4		
	baz=215,SNR=26								
J30M				S	S	12 24 47.9	-0.7		
	baz=215								
SURA	Surathani	89.87	280	P	P	12 14 00.7	+1.5		
NONG	Nongkai	89.88	289	P	P	12 13 59.3	+0.1		
FW03	Perrin-Whitt E	89.90	55	IAmb	IAmb	12 14 05.1			
	comp=Z,567nm,1.7s								
WTFS	Witchita Falls	89.90	54	IAmb	IAmb	12 14 04.9			
	comp=Z,400nm,1.6s								
WHTX	Lake Whitney,	89.93	56	IAmb	IAmb	12 14 05.0			
	comp=Z,312nm,1.7s								
WHTX	Lake Whitney,	89.93	56	P	P	12 13 58.5	-0.6		
	baz=246								
WHTX				S	S	12 24 51.6	+0.2		
	baz=246								
WHTX	Lake Whitney,	89.93	56	P	P	12 13 58.9	-0.3		
	baz=246,SNR=13								
WHTX				S	S	12 24 49.7	-1.6		
	baz=246								
I29M	Ogilvie Camp,	89.94	14	IAmb	IAmb	12 14 04.9			
	comp=Z,324nm,1.9s								
I29M				IAMs_20	IAMs_20	12 53 43.8			
	comp=Z,12μm,18.0s								
I29M	Ogilvie Camp,	89.94	14	P	P	12 13 57.6	-0.8		
	baz=213,SNR=22								
I29M				S	S	12 24 50.0	-0.1		
	baz=213								
D20K	Etivluk River	89.98	6	P	P	12 13 58.6	0.0		
	baz=196,SNR=11								
D20K				S	S	12 24 50.3	-0.1		
	baz=196								
H27K	Steamboat Moun	89.98	13	P	P	12 13 58.5	-0.1		
	baz=210,SNR=34								
H27K				S	S	12 24 52.4	+1.9		
	baz=210								
F24K	Squaw Lake	89.98	10	IAmb	IAmb	12 14 06.0			
	comp=Z,330nm,2.0s								
F24K				IAMs_20	IAMs_20	12 51 44.6			
	comp=Z,16μm,20.0s								
F24K	Squaw Lake	89.98	10	P	P	12 13 58.6	0.0		
	baz=204,SNR=14								
F24K				S	S	12 24 51.5	+1.1		
	baz=204								
E22K	Anaktuvuk Pass	89.99	8	IAMs_20	IAMs_20	12 50 43.6			
	comp=Z,10μm,20.0s								
E22K	Anaktuvuk Pass	89.99	8	P	P	12 13 58.4	-0.3		
	baz=200,SNR=17								
E22K				S	S	12 24 49.9	-0.6		
	baz=200								
E21K	Killik River	90.01	7	IAMs_20	IAMs_20	12 50 36.2			
	comp=Z,13μm,20.0s								
E21K	Killik River	90.01	7	P	P	12 13 58.5	-0.2		
	baz=198,SNR=6.6								
E21K				S	S	12 24 49.5	-1.1		
	baz=198								
GYA	Guiyang	90.03	298	⇓iP	P	12 14 02.0	+2.1		
GYA				SKS	SKSac	12 24 32.9	+2.2		
GYA				S	S	12 24 50.5	-2.3		
GYA				SS	SS	12 30 55.4	+3.6		
GYA				pmax	pmax				
	comp=Z,94nm,2.1s								
GYA				pmax	pmax				
	comp=Z,5μm,7.6s								
GYA				LR	LR				
	comp=Z,2μm,17.4s								
GYA				LR	LR				
	comp=Z,4μm,16.6s								
GYA				LR	LR				
	comp=Z,5μm,17.2s								
KOTAN	Kotaneelee Air	90.07	23	P	P	12 13 58.6	-0.5		
	baz=226,SNR=18								
KOTAN				S	S	12 24 51.4	0.0		
	baz=226								
WMOK	Wichita Mounta	90.07	53	IAmb	IAmb	12 14 04.4			
	comp=Z,195nm,1.9s								
WMOK	Wichita Mounta	90.07	53	IAMs_20	IAMs_20	12 47 51.1			
	comp=Z,11μm,20.0s								
WMOK	Wichita Mounta	90.07	53	P	P	12 13 58.3	-1.5		
	baz=245								
WMOK				S	S	12 24 54.4	+1.8		
	baz=245								
WMOK	Wichita Mounta	90.07	53	P	P	12 13 59.4	-0.4		
	baz=245								
WMOK				S	S	12 24 53.8	+1.1		
	baz=245								
C19K	Lookout Ridge	90.08	5	IAMs_20	IAMs_20	12 51 06.3			
	comp=Z,11μm,20.0s								
C19K	Lookout Ridge	90.08	5	P	P	12 13 58.1	-0.9		
	baz=193								
C19K				S	S	12 24 51.2	-0.1		
	baz=193								
PAF	Port-aux-Franc	90.11	216	IAMs_20	IAMs_20	12 49 40.7			
	comp=Z,11μm,19.0s								
NAYO	Nakonayok	90.15	285	P	P	12 14 01.6	+1.1		
B18K	Kokolik River	90.17	4	P	P	12 13 57.9	-1.5		
	baz=191								
B18K				S	S	12 24 51.1	-0.8		
	baz=191								
G26K	Porcupine Rive	90.18	11	P	P	12 13 58.9	-0.6		
	baz=208,SNR=23								
G26K				S	S	12 24 52.9	+0.7		
	baz=208								
E23K	Chandalar	90.22	9	P	P	12 13 58.5	-1.2		
	baz=203								
E23K				S	S	12 24 53.1	+0.3		
	baz=203								
TIY	Taiyuan	90.22	310	⇑P	P	12 14 01.3	+0.8		
TIY				SS	SS	12 30 59.9	+5.9		
TIY				pmax	pmax				
	comp=Z,78nm,2.3s								
TIY				pmax	pmax				
	comp=Z,4μm,4.1s								
TIY				LR	LR				
	comp=Z,3μm,20.3s								
TIY				LR	LR				
	comp=Z,2μm,22.0s								
TIY				LR	LR				
	comp=Z,5μm,18.6s								
I30M	Mount Dempster	90.27	15	IAMs_20	IAMs_20	12 53 43.9			
	comp=Z,14μm,18.0s								
I30M	Mount Dempster	90.27	15	P	P	12 13 60.0	-0.1		
	baz=215,SNR=35								
I30M				S	S	12 24 52.4	-1.0		
	baz=215								
FLDN	Fort Liard	90.35	23	IAmb	IAmb	12 14 07.8			
	comp=Z,306nm,1.7s								
FLDN	Fort Liard	90.35	23	P	P	12 14 00.8	+0.4		
	baz=226								
FLDN				S	S	12 24 51.9	-2.1		
	baz=226								
HKT	Hockley	90.38	58	P	P	12 14 03.1	+1.9		
HKT	Hockley	90.38	58	IAMs_20	IAMs_20	12 48 25.3			
	comp=Z,13μm,19.0s								
HKT	Hockley	90.38	58	P	P	12 14 03.1	+1.9		
HKT				pmax	pmax				
	comp=Z,518nm,1.9s								
HKT	Hockley	90.38	58	P	P	12 14 02.4	+1.2		
	baz=246								
HKT				S	S	12 24 56.4	+1.0		
	baz=246								
E24K	Your Creek	90.40	9	IAMs_20	IAMs_20	12 52 10.6			
	comp=Z,15μm,20.0s								
E24K	Your Creek	90.40	9	P	P	12 14 00.8	+0.3		
	baz=204								
E24K				S	S	12 24 54.3	0.0		
	baz=204								
F25K	Christian Rive	90.42	10	P	P	12 14 00.6	-0.1		
	baz=206,SNR=16								
F25K				S	S	12 24 55.3	+0.7		
	baz=206								
SLVN	Son La	90.42	293	IAmb	IAmb	12 14 10.0			
	comp=Z,328nm,2.0s								
G27K	Doyon Strip	90.46	12	IAMs_20	IAMs_20	12 51 26.1			
	comp=Z,11μm,20.0s								
G27K	Doyon Strip	90.46	12	P	P	12 14 00.7	-0.2		
	baz=210,SNR=17								
G27K				S	S	12 24 56.7	+1.8		
	baz=210								
OGNE	Ogallala	90.48	46	IAMs_20	IAMs_20	12 48 38.9			
	comp=Z,9μm,20.0s								
OGNE	Ogallala	90.48	46	P	P	12 14 00.1	-1.5		
	baz=243								
OGNE				S	S	12 24 57.3	+1.0		
	baz=243								
OGNE	Ogallala	90.48	46	P	P	12 14 01.9	+0.2		
	baz=243								
OGNE				S	S	12 24 57.8	+1.5		
	baz=243								
GO04	Tololo Observa	90.54	123	IAmb	IAmb	12 14 07.3			
	comp=Z,172nm,1.4s								
LAO	LASA Array	90.55	40	IAMs_20	IAMs_20	12 55 24.7			
	comp=Z,10μm,18.0s								
LAO	LASA Array	90.55	40	P	P	12 14 01.3	-0.5		
	baz=240,SNR=45								
LAO				S	S	12 24 58.1	+1.5		
	baz=240								
LAO	LASA Array	90.55	40	P	P	12 14 02.0	+0.2		
	baz=240								
LAO				S	S	12 25 00.1	+3.4		
	baz=240								
D22K	Ayikyak River	90.58	8	IAMs_20	IAMs_20	12 50 34.3			
	comp=Z,12μm,20.0s								
D22K	Ayikyak River	90.58	8	P	P	12 14 01.1	-0.2		
	baz=200,SNR=5.8								
D22K				S	S	12 24 56.0	+0.2		
	baz=200								
SNSI	Sinabang, Aceh	90.58	272	P	P	12 14 06.5	+3.9		
XLT	XiLinHaoTe	90.58	317	⇑iP	P	12 14 01.9	-0.1		
XLT				PP	PP	12 17 33.8	-3.5		
XLT				SKS	SKSac	12 24 35.8	+2.8		
XLT				pmax	pmax				
	comp=Z,63nm,2.4s								
XLT				pmax	pmax				
	comp=Z,4μm,7.9s								
XLT				LR	LR				
	comp=Z,6μm,20.2s								
XLT				LR	LR				
	comp=Z,6μm,21.2s								
C21K	Knifeblade Rid	90.60	7	P	P	12 14 01.6	+0.3		
	baz=198								
C21K				S	S	12 24 55.3	-0.7		
	baz=198								
U32A	Winter Ranch,	90.60	51	P	P	12 14 03.3	+1.1		
	baz=245								
U32A				S	S	12 25 00.9	+3.4		
	baz=245								
Z35A	Perchaven, San	90.64	55	P	P	12 14 02.8	+0.4		
	baz=246								
Z35A				S	S	12 24 58.7	+0.8		
	baz=246								
H29M	Whitestone	90.64	14	IAmb	IAmb	12 14 18.2			
	comp=Z,294nm,1.6s								
H29M				IAMs_20	IAMs_20	12 54 24.9			
	comp=Z,10μm,18.0s								
H29M	Whitestone	90.64	14	P	P	12 14 01.3	-0.4		
	baz=213,SNR=16								
H29M				S	S	12 24 54.1	-2.4		
	baz=213								
RSSD	Black Hills	90.65	43	P	P	12 14 00.7	-1.8		
RSSD				IAmb	IAmb	12 14 07.2			
	comp=Z,219nm,1.8s								
RSSD	Black Hills	90.65	43	IAMs_20	IAMs_20	12 49 13.3			
	comp=Z,13μm,20.0s								
RSSD	Black Hills	90.65	43	P	P	12 14 00.7	-1.8		
RSSD				pmax	pmax				
	comp=Z,219nm,1.8s								
RSSD	Black Hills	90.65	43	P	P	12 14 01.0	-1.5		
	baz=241								
RSSD				S	S	12 24 57.7	-0.3		
	baz=241								
RSSD	Black Hills	90.65	43	P	P	12 14 01.4	-1.1		
	baz=241,SNR=17								
RSSD				S	S	12 24 56.6	-1.4		
	baz=241								
NOKA	Waynoka	90.76	51	IAmb	IAmb	12 14 08.0			
	comp=Z,333nm,1.8s								
TOLK	Toolik Lake Re	90.77	9	IAmb	IAmb	12 14 18.7			
	comp=Z,250nm,2.0s								
TOLK	Toolik Lake Re	90.77	9	P	P	12 14 02.0	-0.3		
	baz=203								
TOLK				S	S	12 24 56.4	-1.2		
	baz=203								
F26K	Sheenjek River	90.77	11	P	P	12 14 02.4	+0.2		
	baz=208,SNR=12								
F26K				S	S	12 24 59.9	+2.2		
	baz=208								
E25K	Arctic Village	90.91	10	IAmb	IAmb	12 14 20.9			
	comp=Z,160nm,1.7s								
E25K				IAMs_20	IAMs_20	12 51 52.0			
	comp=Z,16μm,20.0s								
E25K	Arctic Village	90.91	10	P	P	12 14 03.3	+0.4		
	baz=206								
E25K				S	S	12 25 00.1	+1.2		
	baz=206								
D23K	Nanushuk River	90.92	8	P	P	12 14 03.7	+0.8		
	baz=202								
D23K				S	S	12 25 00.1	+1.2		
	baz=202								
HNVL	Huntsville, TX	90.99	58	IAmb	IAmb	12 14 10.8			
	comp=Z,493nm,1.4s								
HIA	Hailar	91.04	323	IAMs_20	IAMs_20	12 51 32.9			
	comp=Z,13μm,20.0s								
A19K	Wainwright	91.05	4	P	P	12 14 04.2	+0.8		
	baz=192								
A19K				S	S	12 25 00.7	+0.8		
	baz=192								
B21K	Ikpikpuk River	91.06	7	IAmb	IAmb	12 14 09.4			
	comp=Z,149nm,1.6s								
B21K				IAMs_20	IAMs_20	12 53 05.0			
	comp=Z,12μm,20.0s								
B21K	Ikpikpuk River	91.06	7	P	P	12 14 04.1	+0.6		
	baz=198								
B21K				S	S	12 25 00.8	+0.7		
	baz=198								
LCO	Las Campanas	91.09	121	P	P	12 14 07.3	+2.2		
LCO				IAmb	IAmb	12 14 10.7			
	comp=Z,253nm,1.5s								
LCO	Las Campanas	91.09	121	P	P	12 14 07.3	+2.2		
LCO				pmax	pmax				
	comp=Z,253nm,1.5s								
CBKS	Cedar Bluff	91.12	49	IAmb	IAmb	12 14 10.3			
	comp=Z,156nm,1.6s								
CBKS				IAMs_20	IAMs_20	12 48 15.8			
	comp=Z,10μm,20.0s								
CBKS	Cedar Bluff	91.12	49	P	P	12 14 04.0	-0.6		
	baz=244								
CBKS				S	S	12 25 03.2	+1.0		
	baz=244								
CBKS	Cedar Bluff	91.12	49	P	P	12 14 04.0	-0.6		
	baz=244,SNR=10.0								
CBKS				S	S	12 25 03.1	+0.9		
	baz=244								
EPYK	Eagle Plains	91.14	14	IAMs_20	IAMs_20	12 54 12.6			
	comp=Z,9μm,18.0s								
EPYK	Eagle Plains	91.14	14	P	P	12 14 03.9	-0.2		
	baz=214,SNR=19								
EPYK				S	S	12 24 58.1	-3.0		
	baz=214								
MLSI	Meulaboh, Aceh	91.15	274	P	P	12 14 07.7	+2.4		
B20K	Meade River	91.17	6	IAMs_20	IAMs_20	12 51 08.1			
	comp=Z,10μm,20.0s								
B20K	Meade River	91.17	6	P	P	12 14 04.1	+0.1		
	baz=196								
B20K				S	S	12 25 01.3	+0.2		
	baz=196								
237A	Washetta, Mont	91.21	56	P	P	12 14 05.5	+0.3		
	baz=246,SNR=5.9								
237A				S	S	12 25 05.2	+2.0		
	baz=246								
AIS	Amsterdam Isla	91.23	229	IAMs_20	IAMs_20	12 57 00.5			
	comp=Z,10μm,18.0s								
H31M	Peel River	91.25	15	IAmb	IAmb	12 14 10.9			
	comp=Z,240nm,1.9s								
H31M				IAMs_20	IAMs_20	12 54 04.6			
	comp=Z,12μm,18.0s								
H31M	Peel River	91.25	15	P	P	12 14 04.0	-0.5		
	baz=216								
H31M				S	S	12 25 00.7	-1.3		
	baz=216								
XAN	Xi'an	91.26	306	⇓P	P	12 14 07.0	+1.7		
XAN				pP	pwP	12 14 14.0	-0.2		
XAN				PP	PP	12 17 40.6	-2.3		
XAN				SKS	SKSac	12 24 36.0	-1.2		
XAN				S	S	12 25 04.1	+0.5		
XAN				pmax	pmax				
	comp=Z,120nm,2.2s								
XAN				pmax	pmax				
	comp=Z,7μm,5.7s								
XAN				LR	LR				
	comp=Z,5μm,19.1s								
XAN				LR	LR				
	comp=Z,10μm,16.5s								
XAN				LR	LR				
	comp=Z,9μm,17.2s								
G29M	Pine Creek	91.30	13	IAMs_20	IAMs_20	12 54 39.3			
	comp=Z,12μm,18.0s								
G29M	Pine Creek	91.30	13	P	P	12 14 03.9	-0.8		
	baz=213								
G29M				S	S	12 25 03.6	+1.0		
	baz=213								
D24K	Happy Valley	91.35	9	IAmb	IAmb	12 14 11.2			
	comp=Z,322nm,2.0s								
D24K				IAMs_20	IAMs_20	13 02 27.6			
	comp=Z,10μm,18.0s								
D24K	Happy Valley	91.35	9	P	P	12 14 04.4	-0.4		
	baz=203								
D24K				S	S	12 25 00.8	-2.0		
	baz=203								
CROK	Carrier	91.40	51	IAmb	IAmb	12 14 11.5			
	comp=Z,234nm,1.6s								
OK029	Liberty Lake	91.50	52	IAmb	IAmb	12 14 11.2			
	comp=Z,190nm,1.5s								
F28M	Old Crow	91.51	12	IAmb	IAmb	12 14 11.7			
	comp=Z,286nm,1.9s								
F28M				IAMs_20	IAMs_20	12 51 48.9			
	comp=Z,12μm,20.0s								
F28M	Old Crow	91.51	12	P	P	12 14 04.9	-0.8		
	baz=212,SNR=17								
F28M				S	S	12 25 05.8	+1.4		
	baz=212								
CRIN	San Cristobal	91.55	77	eP	P	12 14 10.6	+3.5		
KAN14	Manchester OK	91.60	51	IAmb	IAmb	12 14 11.6			
	comp=Z,256nm,1.9s								
ZON	Zonda	91.62	125	IAmb	IAmb	12 14 12.9			
	comp=Z,237nm,1.9s								
E27K	Coleen River	91.67	12	IAmb	IAmb	12 14 13.8			
	comp=Z,252nm,1.8s								
E27K				IAMs_20	IAMs_20	13 01 36.1			
	comp=Z,10μm,18.0s								
E27K	Coleen River	91.67	12	P	P	12 14 06.0	-0.4		
	baz=210,SNR=17								
E27K				S	S	12 25 07.0	+1.1		
	baz=210								
R32A	Long Quarter,	91.68	49	IAmb	IAmb	12 14 13.7			
	comp=Z,187nm,1.2s								
R32A	Long Quarter,	91.68	49	P	P	12 14 07.0	-0.2		
	baz=245,SNR=17								
R32A				S	S	12 25 09.2	+2.0		
	baz=245								
C23K	Itkillik River	91.74	8	IAmb	IAmb	12 14 23.5			
	comp=Z,266nm,1.8s								
C23K				IAMs_20	IAMs_20	12 51 52.9			
	comp=Z,14μm,20.0s								
C23K	Itkillik River	91.74	8	P	P	12 14 06.9	+0.3		
	baz=202								
C23K				S	S	12 25 04.8	-1.5		
	baz=202								
G30M	tAoh Zraii Nji	91.76	14	IAMs_20	IAMs_20	12 55 09.4			
	comp=Z,9μm,18.0s								
G30M	tAoh Zraii Nji	91.76	14	P	P	12 14 06.2	-0.7		
	baz=215,SNR=30								
G30M				S	S	12 25 06.5	-0.2		
	baz=215								
CNGN	Cerro Negro	91.80	77	eP	P	12 14 10.2	+1.9		
TGUH	Tegucigalpa,Un	91.82	76	IAMs_20	IAMs_20	12 48 05.8			
	comp=Z,11μm,18.0s								
TGUH	Tegucigalpa,Un	91.82	76	eP	P	12 14 08.3	-0.2		
D25K	Kavik River	91.86	9	IAMs_20	IAMs_20	12 52 57.2			
	comp=Z,14μm,20.0s								
D25K	Kavik River	91.86	9	P	P	12 14 06.8	-0.6		
	baz=206								
D25K				S	S	12 25 07.0	-0.6		
	baz=206								
B22K	Teshekpuk Lake	91.88	7	IAMs_20	IAMs_20	12 51 47.6			
	comp=Z,11μm,20.0s								
B22K	Teshekpuk Lake	91.88	7	P	P	12 14 07.3	+0.1		
	baz=199								
B22K				S	S	12 25 08.4	+0.9		
	baz=199								
C24K	Franklin Bluff	91.89	9	P	P	12 14 07.5	+0.1		
	baz=203								
C24K				S	S	12 25 08.9	+1.3		
	baz=203								
CFA	Coronel Fontan	91.93	125	LR	LR	12 49 16.3			
	comp=Z,17μm,18.1s,baz=225,slow=32								
OK033	Mehan	91.98	52	IAmb	IAmb	12 14 14.1			
	comp=Z,243nm,1.5s								
NATX	Nacogdoches	92.02	57	P	P	12 14 07.2	-1.6		
	baz=247								
NATX				S	S	12 25 11.9	+1.4		
	baz=247								
NATX	Nacogdoches	92.02	57	P	P	12 14 09.6	+0.7		
	baz=247								
NATX				S	S	12 25 12.2	+1.7		
	baz=247								
OK031	S. Brethren Rd	92.02	52	IAmb	IAmb	12 14 14.3			
	comp=Z,231nm,1.5s								
OK031				IAMs_20	IAMs_20	12 49 39.6			
	comp=Z,16μm,19.0s								
OK052	Battle Ridge R	92.06	52	IAmb	IAmb	12 14 15.2			
	comp=Z,225nm,1.3s								
OK048	Pawnee Station	92.13	52	IAmb	IAmb	12 14 15.0			
	comp=Z,242nm,1.6s								
SRDT	SRDT	92.16	284	P	P	12 14 11.9	+2.1		
G31M	Satah River	92.16	15	IAMs_20	IAMs_20	12 54 53.0			
	comp=Z,14μm,18.0s								
G31M	Satah River	92.16	15	P	P	12 14 08.0	-0.6		
	baz=217,SNR=23								
G31M				S	S	12 25 07.9	-2.2		
	baz=217								
HHC	Hu-ho-hao-te	92.19	313	⇑P	P	12 14 09.8	+0.2		
HHC				SKS	SKSac	12 24 43.0	+0.7		
HHC				S	S	12 25 09.3	-2.6		
HHC				sS	sS	12 25 19.3	+0.5		
HHC				SS	SS	12 31 19.3	-3.0		
HHC				pmax	pmax				
	comp=Z,150nm,1.8s								
HHC				pmax	pmax				
	comp=Z,6μm,9.7s								
HHC				LR	LR				
	comp=Z,7μm,16.2s								
HHC				LR	LR				
	comp=Z,8μm,18.1s								
HHC				LR	LR				
	comp=Z,12μm,16.7s								
QUOK	Quay	92.20	52	IAmb	IAmb	12 14 15.2			
	comp=Z,213nm,1.5s								
MCRA	Macar, Loja	92.21	95	P	P	12 14 07.6	-2.7		
MCRA	Macar, Loja	92.21	95	eP	P	12 14 08.0	-2.3		
DEOK	Depew	92.23	53	IAmb	IAmb	12 14 15.3			
	comp=Z,232nm,1.5s								
Z38A	Mt. Pleasant	92.35	55	IAmb	IAmb	12 14 15.8			
	comp=Z,245nm,1.6s								
Z38A	Mt. Pleasant	92.35	55	P	P	12 14 11.2	+0.8		
	baz=247								
Z38A				S	S	12 25 16.3	+3.0		
	baz=247								
NNA	Nana	92.36	104	eP	P	12 14 10.4	-0.5		
NNA	Nana	92.36	104	LR	LR	12 48 09.9			
	comp=Z,15μm,18.0s,baz=234,slow=31								
F30M	Barrier River	92.37	14	P	P	12 14 09.5	-0.1		
	baz=215,SNR=6.5								
F30M				S	S	12 25 09.4	-2.8		
	baz=215								
E28M	Babbage River	92.42	12	IAMs_20	IAMs_20	12 52 56.0			
	comp=Z,12μm,20.0s								
E28M	Babbage River	92.42	12	P	P	12 14 09.8	-0.1		
	baz=212,SNR=14								
E28M				S	S	12 25 13.4	+0.9		
	baz=212								
WRGLY	Wrigley	92.43	20	IAmb	IAmb	12 14 15.6			
	comp=Z,218nm,1.8s								
WRGLY				IAMs_20	IAMs_20	13 03 41.3			
	comp=Z,8μm,18.0s								

WRGLY	**Wrigley**	**92.43**	**20**	P	**P**	**12 14 09.9**	**-0.1**
	baz=226						
WRGLY				S	**S**	**12 25 10.4**	**-2.3**
	baz=226						
E29M	**Blow River**	**92.57**	**13**	IAMs_20	IAMs_20	12 52 21.8	
	comp=Z,13μm,20.0s						
E29M	**Blow River**	**92.57**	**13**	P	**P**	**12 14 10.1**	**-0.4**
	baz=213,SNR=14						
E29M				S	**S**	**12 25 10.7**	**-3.1**
	baz=213						
X37A	**Clayton**	**92.57**	**54**	IAmb	IAmb	12 14 16.1	
	comp=Z,257nm,1.8s						
X37A	**Clayton**	**92.57**	**54**	P	**P**	**12 14 10.1**	**-1.3**
	baz=247,SNR=14						
X37A				S	**S**	**12 25 16.8**	**+1.5**
	baz=247						
DGMT	**Dagmar**	**92.62**	**39**	P	**P**	**12 14 10.6**	**-0.6**
	baz=241,SNR=34						
DGMT				S	**S**	**12 25 17.1**	**+1.9**
	baz=241						
DGMT	**Dagmar**	**92.62**	**39**	P	**P**	**12 14 11.2**	**-0.1**
	baz=241						
DGMT				S	**S**	**12 25 16.0**	**+0.8**
	baz=241						
C26K	**Camden Bay**	**92.63**	**10**	P	**P**	**12 14 11.3**	**+0.6**
	baz=207						
C26K				S	**S**	**12 25 15.2**	**+1.0**
	baz=207						
JTS	**Las Juntas de**	**92.64**	**80**	P	**P**	**12 14 12.8**	**+0.7**
JTS	**Las Juntas de**	**92.64**	**80**	IAMs_20	IAMs_20	12 47 34.3	
	comp=Z,9μm,19.0s						
JTS	**Las Juntas de**	**92.64**	**80**	P	**P**	**12 14 12.8**	**+0.7**
JTS				pmax	pmax		
	comp=Z,507nm,1.7s						
JTS	**Las Juntas de**	**92.64**	**80**	*e*P	**P**	**12 14 13.0**	**+0.8**
JTS	**Las Juntas de**	**92.64**	**80**	LR	LR	12 47 57.5	
	comp=Z,10μm,19.2s,baz=249,slow=30						
T35A	**Sooner Cattle**	**92.65**	**52**	IAmb	IAmb	12 14 18.0	
	comp=Z,180nm,1.2s						
T35B	**Sooner Cattle**	**92.65**	**52**	P	**P**	**12 14 11.0**	**-0.7**
	baz=246,SNR=30						
T35B				S	**S**	**12 25 18.5**	**+2.6**
	baz=246						
MATN	**Matagalpa**	**92.66**	**77**	IAmb	IAmb	12 14 16.2	
	comp=Z,175nm,1.6s						
ATAH	**Atahualpa**	**92.68**	**99**	LR	LR	12 46 45.4	
	comp=Z,9μm,20.6s,baz=253,slow=30						
F31M	**Tsiigehtchic**	**92.70**	**14**	IAMs_20	IAMs_20	12 55 28.3	
	comp=Z,14μm,19.0s						
F31M	**Tsiigehtchic**	**92.70**	**14**	P	**P**	**12 14 10.5**	**-0.6**
	baz=217,SNR=18						
F31M				S	**S**	**12 25 11.3**	**-3.7**
	baz=217						
D27M	**Malcolm River**	**92.70**	**11**	P	**P**	**12 14 11.1**	**-0.2**
	baz=211,SNR=12						
D27M				S	**S**	**12 25 14.3**	**-0.9**
	baz=211						
BOAB	**BOACO BROADBAN**	**92.73**	**78**	P	**P**	**12 14 11.7**	**-0.8**
TUL3	**Leonard**	**92.78**	**53**	P	**P**	**12 14 11.3**	**-1.0**
	baz=246						
TUL3				S	**S**	**12 25 15.9**	**-1.2**
	baz=246						
TUL3				S	**ScS**	**12 25 19.3**	**+0.2**
	baz=246						
TUL3	**Leonard**	**92.78**	**53**	P	**P**	**12 14 12.9**	**+0.6**
	baz=246						
TUL3				S	**S**	**12 25 19.9**	**+2.8**
	baz=246						
441A	**DeRidder**	**92.79**	**58**	S	**S**	**12 25 22.4**	**+5.0**
	baz=248						
KMI	**Kunming**	**92.81**	**296**	⇑P	**P**	**12 14 13.8**	**+0.8**
KMI				SKS	**SKSac**	**12 24 44.9**	**-1.8**
KMI				S	**S**	**12 25 16.1**	**-2.2**
KMI				sS	sS	12 25 26.3	+0.7
KMI				pmax	pmax		
	comp=Z,97nm,1.9s						
KMI				pmax	pmax		
	comp=Z,3μm,7.5s						
KMI				LR	LR		
	comp=Z,3μm,18.2s						
KMI				LR	LR		
	comp=Z,10μm,18.8s						
KMI				LR	LR		
	comp=Z,12μm,19.4s						
K30B	**Basset**	**92.87**	**45**	P	**P**	**12 14 13.7**	**+1.1**
	baz=244						
K30B				S	**S**	**12 25 20.4**	**+2.7**
	baz=244						
ARE1	**Arenal 1**	**92.91**	**80**	IAmb	IAmb	12 14 19.1	
	comp=Z,202nm,1.5s						
ACON	**Acoyapa**	**93.01**	**78**	*e*P	**P**	**12 14 16.6**	**+2.8**
TEIG	**Tepich**	**93.10**	**70**	P	**P**	**12 14 16.2**	**+2.1**
TEIG				IAmb	IAmb	12 14 20.5	
	comp=Z,96nm,1.3s						
TEIG	**Tepich**	**93.10**	**70**	IAMs_20	IAMs_20	12 51 54.4	
	comp=Z,11μm,18.0s						
TEIG	**Tepich**	**93.10**	**70**	*e*P	**P**	**12 14 14.7**	**+0.7**
TEIG	**Tepich**	**93.10**	**70**	LR	LR	12 50 00.3	
	comp=Z,56μm,18.9s,baz=20,slow=32						
PB14	**IPOC Station P**	**93.12**	**118**	P	**P**	**12 14 17.0**	**+2.3**
BTO	**Baotou**	**93.15**	**312**	*e*P	**P**	**12 14 16.0**	**+2.0**
BTO				pP	**sP**	**12 14 20.4**	**+0.7**
BTO				sP	**pwP**	**12 14 22.9**	**+0.1**
BTO				PP	**PP**	**12 18 02.3**	**+4.6**
BTO				SKS	**SKSac**	**12 24 50.3**	**+2.6**
BTO				S	**ScS**	**12 25 21.9**	**-0.3**
BTO				sS	**sS**	**12 25 28.1**	**+0.7**
BTO				SS	**SS**	**12 31 38.9**	**+2.8**
BTO				pmax	pmax		
	comp=Z,9μm,8.4s						
BTO				LR	LR		
	comp=Z,14μm,16.5s						
BTO				LR	LR		
	comp=Z,15μm,17.7s						
BTO				LR	LR		
	comp=Z,23μm,18.0s						
D28M	**Stokes Point**	**93.19**	**12**	P	**P**	**12 14 13.5**	**+0.2**
	baz=213						
D28M				S	**S**	**12 25 19.1**	**-0.2**
	baz=213						
BGNE	**Belgrade**	**93.32**	**47**	P	**P**	**12 14 14.1**	**-0.6**
	baz=245						
BGNE				S	**S**	**12 25 24.0**	**+2.3**
	baz=245						
BGNE	**Belgrade**	**93.32**	**47**	P	**P**	**12 14 15.7**	**+1.0**
	baz=245						
BGNE				S	**S**	**12 25 22.7**	**+0.9**
	baz=245						
INK	**Inuvik**	**93.44**	**14**	IAMs_20	IAMs_20	12 56 02.4	
	comp=Z,12μm,19.0s						
INK	**Inuvik**	**93.44**	**14**	P	**P**	**12 14 13.7**	**-0.8**
	baz=217,SNR=17						
INK				S	**S**	**12 25 19.4**	**-2.1**
	baz=217						
INK	**Inuvik**	**93.44**	**14**	LR	LR	12 55 38.0	
	comp=Z,8μm,18.0s,baz=204,slow=35						
RLO	**Rose Lookout**	**93.45**	**53**	IAmb	IAmb	12 14 21.0	
	comp=Z,132nm,1.5s						
KSU1	**Kansas State U**	**93.45**	**50**	IAmb	IAmb	12 14 21.3	
	comp=Z,241nm,1.7s						
N33B	**J Bar K, Exete**	**93.53**	**48**	P	**P**	**12 14 16.3**	**+0.7**
	baz=246						
N33B				S	**S**	**12 25 25.4**	**+1.9**
	baz=246						
COHC	**Cochancay**	**93.53**	**94**	*e*P	**P**	**12 14 19.8**	**+3.5**
YAK	**Yakutsk**	**93.69**	**337**	P	**P**	**12 14 13.6**	**-2.2**
YAK	**Yakutsk**	**93.69**	**337**	*e*P	**P**	**12 14 14.4**	**-1.4**
YAK				*e**PP	**pwP**	**12 14 29.3**	**+4.7**
YAK				*e*		12 17 57.1	
YAK				*e*S	**SKSac**	**12 24 44.1**	**-5.3**
YAK				*e**SS	**SKKSac**	**12 25 11.3**	**+2.0**
YAK				*e*SS	**SS**	**12 31 43.7**	**+1.1**
YAK				pmax	pmax		
	comp=Z,22nm,1.2s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.7s						
YAK				pmax	pmax		
	comp=Z,2μm,7.3s						
YAK				pmax	pmax		
	comp=E,233nm,3.0s						
YAK				pmax	pmax		
	comp=N,442nm,5.9s						
YAK				smax	smax		
	comp=E,2μm,11.6s						
YAK				smax	smax		
	comp=N,1μm,11.6s						
YAK				MLR	MLR		
	comp=Z,3μm,20.0s						
YAK				MLR	MLR		
	comp=N,2μm,21.0s						
YAK				MLR	MLR		
	comp=E,4μm,23.0s						
CM31	**Chiang Mai Arr**	**93.75**	**288**	IAmb	IAmb	12 14 34.7	
	comp=Z,92nm,1.1s						
CM31	**Chiang Mai Arr**	**93.75**	**288**	P	**P**	**12 14 17.8**	**+0.6**
	SNR=22						
CMAR	**Chiang Mai Arr**	**93.75**	**288**	P	**P**	**12 14 18.1**	**+0.9**
	comp=Z,6.9nm,0.9s,baz=119,slow=2.0,SNR=31						
CMAR				PP	PP	12 17 54.8	-7.9
	comp=Z,1.7nm,1.1s,baz=141,slow=5.8,SNR=2.2						
CMAR				LR	LR	12 56 09.3	
	comp=Z,5μm,19.2s,baz=110,slow=35						
	comp=Z,6.9nm,0.9s						
E28A	**Huff**	**93.87**	**41**	P	**P**	**12 14 17.5**	**+0.4**
	baz=244						
CHTO	**Chiang Mai**	**93.87**	**289**	P	**P**	**12 14 16.7**	**-1.0**
CHTO				IAmb	IAmb	12 14 34.8	
	comp=Z,102nm,1.2s						
CHTO	**Chiang Mai**	**93.87**	**289**	P	**P**	**12 14 16.7**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,102nm,1.3s						
CHTO				MLR	MLR		
	comp=Z,6μm,19.0s						
MIAR	**Mount Ida**	**93.92**	**55**	IAmb	IAmb	12 14 22.3	
	comp=Z,203nm,1.9s						
MIAR				IAMs_20	IAMs_20	12 50 41.1	
	comp=Z,16μm,20.0s						
MIAR	**Mount Ida**	**93.92**	**55**	P	**P**	**12 14 15.5**	**-2.1**
	baz=248						
MIAR				S	**S**	**12 25 30.9**	**+3.7**
	baz=248						
MIAR	**Mount Ida**	**93.92**	**55**	P	**P**	**12 14 17.8**	**+0.2**
	baz=248,SNR=10						
MIAR				S	**S**	**12 25 29.9**	**+2.7**
	baz=248						
WLAR	**White Oak Lake**	**93.96**	**56**	IAmb	IAmb	12 14 23.6	
	comp=Z,115nm,1.3s						
BOSC	**San Juan Bosco**	**94.00**	**95**	P	**P**	**12 14 19.9**	**+1.2**
U38A	**Gravette**	**94.03**	**53**	IAmb	IAmb	12 14 22.7	
	comp=Z,173nm,1.6s						
U38A	**Gravette**	**94.03**	**53**	P	**P**	**12 14 18.3**	**+0.3**
	baz=247						
U38A				S	**S**	**12 25 29.7**	**+1.5**
	baz=247						
Z41A	**Richland Creek**	**94.04**	**56**	P	**P**	**12 14 18.4**	**+0.3**
	baz=248						
Z41A				P	**P**	**12 14 18.4**	**+0.3**
	baz=248						
Z41A				S	**S**	**12 25 29.2**	**+0.9**
	baz=248						
Z41A				S	**S**	**12 25 29.2**	**+0.9**
	baz=248						
SUSD	**Miller**	**94.05**	**44**	P	**P**	**12 14 16.3**	**-1.6**
	baz=245						
SUSD				S	**S**	**12 25 29.5**	**+1.5**
	baz=245						
SUSD	**Miller**	**94.05**	**44**	P	**P**	**12 14 18.2**	**+0.3**
	baz=245						
SUSD				S	**S**	**12 25 28.9**	**+0.9**
	baz=245						
CD2	**Chengdu**	**94.08**	**301**	P	**P**	**12 14 19.9**	**+1.4**
CD2				SKS	**SKSac**	**12 24 53.9**	**+0.8**
CD2				S	**ScS**	**12 25 31.5**	**+1.3**
CD2				pmax	pmax		
	comp=Z,30nm,1.4s						
CD2				pmax	pmax		
	comp=Z,3μm,9.1s						
CD2				LR	LR		
	comp=Z,3μm,16.7s						
CD2				LR	LR		
	comp=Z,2μm,16.1s						
CD2				LR	LR		
	comp=Z,6μm,16.7s						
PZH	**PanZhiHua**	**94.14**	**297**	⇓P	**P**	**12 14 18.9**	**0.0**
PZH				PP	**PP**	**12 18 04.0**	**-1.8**
PZH				SKS	**SKSac**	**12 24 53.3**	**-0.5**
PZH				S	**S**	**12 25 26.5**	**-3.3**
PZH				sS	**sS**	**12 25 38.4**	**+1.3**
PZH				pmax	pmax		
	comp=Z,50nm,1.7s						
PZH				pmax	pmax		
	comp=Z,1μm,7.3s						
PZH				LR	LR		
	comp=Z,3μm,19.2s						
PZH				LR	LR		
	comp=Z,5μm,20.8s						
PZH				LR	LR		
	comp=Z,7μm,19.4s						
X40A	**Basin Creek Fa**	**94.47**	**55**	P	**P**	**12 14 20.9**	**+0.8**
	baz=248						
X40A				P	**P**	**12 14 20.9**	**+0.8**
	baz=248						
X40A				S	**S**	**12 25 34.7**	**+2.7**
	baz=248						
X40A				S	**S**	**12 25 34.7**	**+2.7**
	baz=248						
PB07	**IPOC Station P**	**94.74**	**115**	P	**P**	**12 14 19.1**	**-2.9**
L34A	**Svendsen Farm,**	**94.76**	**47**	IAmb	IAmb	12 14 26.6	
	comp=Z,200nm,1.6s						
L34A	**Svendsen Farm,**	**94.76**	**47**	P	**P**	**12 14 21.6**	**+0.3**
	baz=246						
L34A				S	**S**	**12 25 36.2**	**+1.9**
	baz=246						
N35A	**Tabor**	**94.83**	**48**	P	**P**	**12 14 22.2**	**+0.6**
	baz=247						
N35A				S	**S**	**12 25 38.8**	**+3.8**
	baz=247						
PAC1	**Pacto, Paraso**	**94.92**	**92**	*e*P	**P**	**12 14 26.5**	**+3.6**
143A	**Socs Landing,**	**94.93**	**57**	P	**P**	**12 14 22.9**	**+0.7**
	baz=249						
143A				S	**S**	**12 25 38.8**	**+2.8**
	baz=249						
PIAT	**Ana Tenorio**	**94.98**	**93**	*e*P	**P**	**12 14 27.8**	**+4.4**
344A	**Westbrook Farm**	**95.01**	**58**	P	**P**	**12 14 23.7**	**+1.1**
	baz=249						
YKA	**Yellowknife Ar**	**95.08**	**24**	P	**P**	**12 14 21.3**	**-0.9**
YKA	**Yellowknife Ar**	**95.08**	**24**	P	**P**	**12 14 21.4**	**-0.7**
	comp=Z,4.3nm,0.8s,baz=236,slow=4.4,SNR=10						
YKA				LR	LR	12 50 55.2	
	comp=Z,4μm,21.0s,baz=238,slow=32						
	comp=Z,4.3nm,0.8s						
CCAR	**Cane Creek**	**95.08**	**56**	S	**S**	**12 25 42.1**	**+4.8**
	baz=249						
MDND	**Maddock**	**95.09**	**41**	P	**P**	**12 14 21.4**	**-1.2**
	baz=245						
MDND				S	**S**	**12 25 36.0**	**-0.9**
	baz=245						
YKAW1	**Yellowknife Wh**	**95.11**	**24**	IAMs_20	IAMs_20	13 00 02.1	
	comp=Z,6μm,18.0s						
YKAW3	**Yellowknife Wh**	**95.11**	**24**	IAMs_20	IAMs_20	12 59 54.1	
	comp=Z,7μm,18.0s						
U40A	**Yellville**	**95.15**	**53**	P	**P**	**12 14 23.6**	**+0.5**
	baz=248,SNR=11						
U40A				P	**P**	**12 14 23.6**	**+0.5**
	baz=248,SNR=11						
U40A				S	**S**	**12 25 39.1**	**+1.2**
	baz=248						
U40A				S	**S**	**12 25 39.1**	**+1.2**
	baz=248						
WHAR	**Wooly Hollow**	**95.18**	**54**	IAmb	IAmb	12 14 28.1	
	comp=Z,270nm,2.0s						
LVC	**Limon Verde**	**95.20**	**116**	LR	LR	12 50 07.7	
	comp=Z,18μm,18.3s,baz=248,slow=31						
OTAV	**Otavalo**	**95.23**	**92**	*e*P	**P**	**12 14 24.9**	**+0.2**
S39A	**Bolivar**	**95.29**	**52**	IAmb	IAmb	12 14 29.1	
	comp=Z,167nm,1.6s						
S39A	**Bolivar**	**95.29**	**52**	P	**P**	**12 14 22.6**	**-1.2**
	baz=248,SNR=27						
S39A				S	**S**	**12 25 41.1**	**+2.0**
	baz=248						
ECSD	**EROS Data Cent**	**95.30**	**45**	P	**P**	**12 14 21.9**	**-1.8**
ECSD	**EROS Data Cent**	**95.30**	**45**	IAMs_20	IAMs_20	12 56 04.5	
	comp=Z,10μm,18.0s						
ECSD	**EROS Data Cent**	**95.30**	**45**	P	**P**	**12 14 22.8**	**-0.9**
	baz=246						
ECSD				S	**S**	**12 25 38.6**	**-0.3**
	baz=246						
ECSD	**EROS Data Cent**	**95.30**	**45**	P	**P**	**12 14 22.6**	**-1.1**
	baz=246,SNR=75						
ECSD				S	**S**	**12 25 37.9**	**-1.0**
	baz=246						
VBMS	**Vicksburg**	**95.45**	**58**	IAMs_20	IAMs_20	12 52 12.7	
	comp=Z,11μm,19.0s						
VBMS	**Vicksburg**	**95.45**	**58**	P	**P**	**12 14 22.2**	**-2.5**
	baz=249						
VBMS				S	**S**	**12 25 42.9**	**+2.3**
	baz=249						
CIT	**Chita**	**95.82**	**324**	*e*P	**P**	**12 14 26.4**	**+0.5**
CIT				*e*		12 14 38.0	
CIT				*e*		12 18 16.0	
P38A	**Dawn**	**95.86**	**50**	IAmb	IAmb	12 14 31.3	
	comp=Z,112nm,1.5s						
P38A	**Dawn**	**95.86**	**50**	P	**P**	**12 14 25.0**	**-1.4**
	baz=248,SNR=5.5						
P38A				S	**S**	**12 25 44.2**	**+0.3**
	baz=248						
MGMO	**Mountain Grove**	**95.88**	**53**	IAmb	IAmb	12 14 31.9	
	comp=Z,151nm,1.5s						
LZH	**Lanzhou**	**95.89**	**306**	⇑P	**P**	**12 14 27.3**	**+0.5**
LZH				pP	sP	12 14 33.4	+0.9
LZH				SKS	**SKSac**	**12 25 02.9**	**+0.1**
LZH				sS	sS	12 25 52.4	+0.8
LZH				SS	**SS**	**12 32 20.8**	**+5.3**
LZH				pmax	pmax		
	comp=Z,32nm,1.5s						
LZH				pmax	pmax		
	comp=Z,2μm,6.5s						
LZH				LR	LR		
	comp=Z,4μm,16.8s						
LZH				LR	LR		
	comp=Z,10μm,17.9s						
LZH				LR	LR		
	comp=Z,12μm,17.2s						
346A	**Big Creek Wild**	**96.00**	**59**	S	**S**	**12 25 50.8**	**+5.4**
	baz=250						
PB08	**IPOC Station P**	**96.02**	**114**	P	**P**	**12 14 28.1**	**0.0**
TULM	**Tulcn-Chalpat**	**96.02**	**91**	*e*P	**P**	**12 14 30.5**	**+2.2**
AZU	**Azuero**	**96.12**	**84**	*e*P	**P**	**12 14 29.5**	**+1.3**
BONI	**La Bonita**	**96.17**	**92**	*e*P	**P**	**12 14 31.1**	**+2.3**
GO01	**Chusmiza**	**96.18**	**114**	IAmb	IAmb	12 14 35.1	
	comp=Z,128nm,1.9s						
R40A	**Maddies Statio**	**96.29**	**52**	IAmb	IAmb	12 14 33.5	
	comp=Z,175nm,1.6s						
R40A	**Maddies Statio**	**96.29**	**52**	P	**P**	**12 14 27.9**	**-0.4**
	baz=249,SNR=19						
R40A				S	**S**	**12 25 49.1**	**+1.5**
	baz=249						
LCAR	**Lake Charles**	**96.32**	**54**	P	**P**	**12 14 28.7**	**+0.1**
	baz=249						
LCAR				S	**S**	**12 25 50.8**	**+2.8**
	baz=249						
F33A	**5 Mile Ranch,**	**96.34**	**43**	P	**P**	**12 14 28.1**	**-0.2**
	baz=247						
TNCH	**TengChong**	**96.36**	**294**	⇑P	**P**	**12 14 29.9**	**+0.7**
TNCH				sP	pwP	12 14 37.6	-0.4
TNCH				S	**S**	**12 25 47.8**	**-1.4**
TNCH				pmax	pmax		
	comp=Z,62nm,1.4s						
TNCH				pmax	pmax		
	comp=Z,2μm,5.4s						
TNCH				LR	LR		
	comp=Z,3μm,19.5s						
TNCH				LR	LR		
	comp=Z,6μm,19.7s						
TNCH				LR	LR		
	comp=Z,8μm,21.5s						
D32B	**Dogwood Acres,**	**96.39**	**42**	P	**P**	**12 14 28.3**	**-0.2**
	baz=246						
N38A	**Joes South For**	**96.50**	**49**	P	**P**	**12 14 29.6**	**+0.4**
	baz=248						
N38A				S	**S**	**12 25 51.7**	**+2.3**
	baz=248						
C36M	**Paulatuk**	**96.51**	**16**	IAMs_20	IAMs_20	13 04 12.3	
	comp=Z,14μm,18.0s						
C36M	**Paulatuk**	**96.51**	**16**	P	**P**	**12 14 27.8**	**-0.7**
	baz=226						
C36M				S	**S**	**12 25 49.4**	**+1.3**
	baz=226						
GCUF	**Volcan Galeras**	**96.61**	**91**	*e*P	**P**	**12 14 34.6**	**+3.6**
T42A	**Van Buren**	**96.71**	**53**	P	**P**	**12 14 30.3**	**+0.1**
	baz=249						
T42A				S	**S**	**12 25 53.1**	**+1.8**
	baz=249						
FFC	**Flin Flon**	**96.73**	**34**	P	**P**	**12 14 32.9**	**+3.0**
FFC				IAmb	IAmb	12 14 34.6	
	comp=Z,230nm,2.0s						
FFC	**Flin Flon**	**96.73**	**34**	P	**P**	**12 14 32.9**	**+3.0**
FFC				pmax	pmax		
	comp=Z,230nm,2.0s						
P40A	**Paris**	**96.89**	**50**	IAmb	IAmb	12 14 36.0	
	comp=Z,88nm,1.6s						
P40A	**Paris**	**96.89**	**50**	P	**P**	**12 14 31.0**	**0.0**
	baz=249						
P40A				S	**S**	**12 25 53.9**	**+1.1**
	baz=249						
SCIA	**State Center**	**96.92**	**48**	IAMs_20	IAMs_20	12 52 11.3	
	comp=Z,9μm,20.0s						
SCIA	**State Center**	**96.92**	**48**	P	**P**	**12 14 29.3**	**-1.8**
	baz=248						
SCIA				S	**S**	**12 25 54.0**	**+1.0**
	baz=248						
SCIA	**State Center**	**96.92**	**48**	S	**S**	**12 25 54.6**	**+1.6**
	baz=248						
CCM	**Cathedral Cave**	**96.96**	**52**	P	**P**	**12 14 33.5**	**+2.1**
CCM	**Cathedral Cave**	**96.96**	**52**	P	**P**	**12 14 33.5**	**+2.1**
CCM				pmax	pmax		
	comp=Z,49nm,1.6s						
CCM	**Cathedral Cave**	**96.96**	**52**	P	**P**	**12 14 29.1**	**-2.2**
	baz=249						
CCM				S	**S**	**12 25 53.6**	**+0.2**
	baz=249						
CCM	**Cathedral Cave**	**96.96**	**52**	P	**P**	**12 14 30.4**	**-0.9**
	baz=249						
CCM				S	**S**	**12 25 54.7**	**+1.3**
	baz=249						
BBAC	**Balboa, Cauca**	**96.98**	**90**	*e*P	**P**	**12 14 34.7**	**+2.4**
BCIP	**Isla Barro Col**	**96.99**	**83**	*e*P	**P**	**12 14 35.1**	**+3.1**
UPA	**Univ. de Panam**	**97.21**	**83**	*e*P	Pdif	12 14 34.3	+1.2
K38A	**Parkersburg**	**97.50**	**47**	P	Pdif	12 14 34.4	+0.7
	baz=249						
K38A				S	**S**	**12 25 59.7**	**+1.9**
	baz=249						
FVM	**French Village**	**97.54**	**52**	P	Pdif	12 14 34.0	-0.1
	baz=250						
FVM				S	**S**	**12 26 00.9**	**+2.4**
	baz=250						
POPC	**Popayan, Colom**	**97.69**	**90**	*e*P	Pdif	12 14 37.9	+2.2
CZSB	**Cruzeiro do Su**	**97.71**	**101**	*e*P	Pdif	12 14 36.9	+1.5
Z47A	**Carrollton**	**97.73**	**58**	S	**S**	**12 26 02.4**	**+2.2**
	baz=250						
BRAL	**Brewton**	**97.87**	**60**	IAMs_20	IAMs_20	12 55 21.8	
	comp=Z,10μm,19.0s						
BRAL	**Brewton**	**97.87**	**60**	P	**P**	**12 14 33.6**	**-2.1**
	baz=251						
BRAL				S	**S**	**12 26 05.3**	**+3.8**
	baz=251						
SLM	**Saint Louis**	**97.90**	**52**	S	**S**	**12 26 03.3**	**+1.8**
	baz=250						
JAMC	**Jamundi, Valle**	**97.93**	**90**	*e*P	**P**	**12 14 32.2**	**-4.4**
LPA	**La Plata**	**97.94**	**132**	*e*P	P	12 14 29.5	-6.5
LPA				pP	Pdif	12 14 36.9	+0.9
LPA				sP	pwP	12 14 42.7	-2.0
LPA				PP	PP	12 18 24.6	-10
LPA				pPP		12 18 35.1	
LPA				PKIKP	PKiKP	12 18 51.5	-18
LPA				PPP	PPP	12 20 45.5	
LPA				SKIKP		12 22 30.1	
LPA				PKIKS		12 22 36.0	
LPA				SKS	**SKSac**	**12 25 12.7**	**-0.7**
LPA				SCS	**SKKSac**	**12 25 43.3**	**+1.3**
LPA				S	**S**	**12 25 59.7**	**-2.5**
LPA				sS	sS	12 26 12.0	+3.2
LPA				SKIKS		12 26 35.7	
LPA				PS	**PS**	**12 27 32.7**	**+5.7**
LPA				PPS	PPS	12 28 06.0	
LPA				SS	**SS**	**12 32 52.3**	**+9.4**
LPA				SSS	SSS	12 36 21.4	
ULN	**Ulaanbaatar**	**97.97**	**318**	P	**P**	**12 14 35.2**	**-0.7**
ULN	**Ulaanbaatar**	**97.97**	**318**	*ce*P	**P**	**12 14 35.4**	**-0.5**
ULN				pmax	pmax		
	comp=Z,34nm,1.7s						
ULN	**Ulaanbaatar**	**97.97**	**318**	P	Pdif	12 14 36.1	+0.1
A36M	**Sachs Harbour**	**98.08**	**14**	IAMs_20	IAMs_20	12 58 53.1	
	comp=Z,11μm,19.0s						
A36M	**Sachs Harbour**	**98.08**	**14**	P	**P**	**12 14 35.2**	**-0.4**
	baz=225						
A36M				S	**S**	**12 26 07.5**	**+6.0**
	baz=225						
BOD	**Bodaibo**	**98.13**	**329**	*e*P	Pdif	12 14 36.1	-0.1

BOD				pmax	pmax			
	comp=Z,25nm,2.1s							
F36A	**Milaca**	**98.14**	**44**	P	**P**	**12 14 36.2**	**-0.3**	
	baz=249							
F36A				S	**S**	**12 26 04.4**	**+1.2**	
	baz=249							
N41A	**Harden Midland**	**98.16**	**50**	P	Pdif	12 14 37.0	+0.3	
	baz=250							
N41A				S	**S**	**12 26 05.7**	**+2.2**	
	baz=250							
ULM	**Lac du Bonnet**	**98.30**	**39**	P	**P**	**12 14 36.3**	**-0.8**	
	comp=Z,8.1nm,0.8s,baz=218,slow=3.8,SNR=9.0							
ULM				LR	LR	12 55 18.7		
	comp=Z,21μm,18.7s,baz=252,slow=33							
	comp=Z,8.1nm,0.8s							
S44A	**Carbondale**	**98.31**	**53**	S	**S**	**12 26 06.6**	**+1.6**	
	baz=250							
FLOC	**Florencia**	**98.32**	**91**	*e*P	Pdif	12 14 41.1	+2.9	
L40A	**Anamosa**	**98.36**	**48**	P	Pdif	12 14 37.6	0.0	
	baz=250							
L40A				S	**S**	**12 26 07.4**	**+2.2**	
	baz=250							
SONM	**Songino Array**	**98.37**	**318**	P	**P**	**12 14 36.6**	**-1.1**	
SONM	**Songino Array**	**98.37**	**318**	P	**P**	**12 14 36.6**	**-1.1**	
	comp=Z,2.8nm,1.0s,baz=62,slow=3.5,SNR=15							
SONM				PP	**PP**	**12 18 33.5**	**-4.5**	
	comp=Z,2.7nm,0.9s,baz=115,slow=8.0,SNR=6.3							
	comp=Z,2.8nm,1.0s							
SPMN	**Marine on St.**	**98.39**	**45**	IAmb	IAmb	12 14 43.5		
	comp=Z,102nm,1.4s							
SPMN	**Marine on St.**	**98.39**	**45**	Pdiff	**P**	**12 14 36.8**	**-0.8**	
	baz=249							
SPMN				S	**S**	**12 26 06.5**	**+1.2**	
	baz=249							
SPMN	**Marine on St.**	**98.39**	**45**	P	Pdif	12 14 37.9	+0.2	
	baz=249							
SPMN				S	**S**	**12 26 07.1**	**+1.7**	
	baz=249							
YOTC	**Yotoco, Valle**	**98.50**	**89**	*e*P	Pdif	12 14 40.0	+0.9	
LRAL	**Lakeview Retre**	**98.52**	**58**	IAMs_20	IAMs_20	12 54 21.0		
	comp=Z,13μm,19.0s							
LRAL	**Lakeview Retre**	**98.52**	**58**	Pdiff	**P**	**12 14 37.8**	**-0.7**	
	baz=251							
LRAL				S	**S**	**12 26 08.2**	**+1.2**	
	baz=251							
T45B	**Paducah**	**98.54**	**54**	S	**S**	**12 26 08.9**	**+1.9**	
	baz=251							
PTLC	**Puerto Leguiza**	**98.63**	**93**	*e*P	**P**	**12 14 39.4**	**-0.1**	
451A	**Vernon**	**98.75**	**61**	S	**S**	**12 26 13.1**	**+4.1**	
	baz=251							
P43A	**Skaggs, Pawnee**	**98.76**	**51**	S	**S**	**12 26 11.5**	**+2.7**	
	baz=250							
250A	**Grady**	**98.77**	**59**	S	**S**	**12 26 12.7**	**+3.6**	
	baz=251							
PLMC	**San Jos del P**	**98.87**	**88**	*e*P	**P**	**12 14 39.3**	**-1.3**	
WVT	**Waverly**	**98.88**	**55**	Pdiff	**P**	**12 14 39.3**	**-0.7**	
	baz=251							
WVT				S	**S**	**12 26 12.0**	**+2.1**	
	baz=251							
WVT	**Waverly**	**98.88**	**55**	S	**S**	**12 26 10.1**	**+0.3**	
	baz=251							
Q44A	**Meyer Farm, Va**	**98.89**	**52**	S	**S**	**12 26 11.5**	**+1.7**	
	baz=251							
B35A	**Bob, Littlefor**	**98.91**	**42**	IAmb	IAmb	12 14 45.2		
	comp=Z,134nm,1.8s							
B35A	**Bob, Littlefor**	**98.91**	**42**	P	**P**	**12 14 39.4**	**-0.5**	
	baz=249							
B35A				S	**S**	**12 26 08.9**	**-0.7**	
	baz=249							
X48A	**Hartselle**	**98.94**	**57**	S	**S**	**12 26 10.9**	**+0.4**	
	baz=251							
HDIL	**Hopedale**	**99.23**	**50**	Pdiff	**Pdif**	**12 14 39.7**	**-1.8**	
	baz=251							
JFWS	**Jewell Farm**	**99.33**	**48**	IAMs_20	IAMs_20	13 00 40.1		
	comp=Z,12μm,18.0s							
JFWS	**Jewell Farm**	**99.33**	**48**	Pdiff	**Pdif**	**12 14 40.7**	**-1.2**	
	baz=250							
ORTC	**Ortega, Tolima**	**99.50**	**89**	*e*P	**Pdif**	**12 14 42.7**	**-0.8**	
E38A	**The Farm, Brul**	**99.69**	**44**	P	**Pdif**	**12 14 43.5**	**+0.1**	
	baz=250							
PRAC	**Prado**	**99.77**	**90**	*e*P	**Pdif**	**12 14 45.6**	**+1.0**	
GUY2C	**Guyana, Caldas**	**99.84**	**88**	*e*P	**Pdif**	**12 14 42.8**	**-2.6**	
TIXI	**Tiksi**	**99.87**	**344**	*ce*P	**Pdif**	**12 14 42.3**	**-1.3**	
TIXI				pmax	pmax			
	comp=Z,18nm,1.7s							
TIXI				MLR	MLR			
	comp=Z,6μm,19.0s							
GTA	**Gaotai**	**100.01**	**308**	*e*P	**Pdif**	**12 14 45.5**	**+0.3**	
GTA				sP	pwP	12 14 59.0	+4.9	
GTA				pmax	pmax			
	comp=Z,1μm,9.6s							
GTA				LR	LR			
	comp=Z,3μm,17.1s							
GTA				LR	LR			
	comp=Z,6μm,17.5s							
GTA				LR	LR			
	comp=Z,7μm,18.3s							
G40A	**Rib Lake**	**100.14**	**45**	P	**Pdif**	**12 14 45.9**	**+0.4**	
	baz=251							
EYMN	**Ely**	**100.17**	**43**	Pdiff	**Pdif**	**12 14 45.2**	**-0.4**	
	baz=250							
EYMN	**Ely**	**100.17**	**43**	P	**Pdif**	**12 14 45.5**	**-0.1**	
	baz=250							
MOKO	**MOKOCHONG**	**100.19**	**294**	*e*P	**Pdif**	**12 14 44.8**	**-1.6**	
MACC	**Macarena, Meta**	**100.21**	**92**	*e*P	**Pdif**	**12 14 46.9**	**+0.3**	
DIBR	**DIBRUGARH**	**100.21**	**295**	*e*P	**Pdif**	**12 14 44.9**	**-1.3**	
IMP	**Imphal**	**100.23**	**293**	*e*P	**Pdif**	**12 14 45.7**	**-0.8**	
IMP				IAmb	IAmb	12 15 03.0		
	comp=Z,11nm,1.0s							
SAIH	**SAIHA**	**100.34**	**290**	*e*P	**Pdif**	**12 14 45.3**	**-1.7**	
KOHI	**KOHIMA**	**100.36**	**294**	*e*P	**Pdif**	**12 14 44.2**	**-2.9**	
NORC	**Norcasia**	**100.42**	**88**	*e*P	**Pdif**	**12 14 45.4**	**-2.1**	
UREC	**San Jos de Ur**	**100.53**	**86**	*e*P	**Pdif**	**12 14 49.7**	**+1.7**	
JORH	**JORHAT**	**100.55**	**295**	*e*P	**Pdif**	**12 14 45.1**	**-2.6**	
I42A	**Draeger Farm,**	**100.57**	**47**	P	**Pdif**	**12 14 47.3**	**-0.1**	
	baz=252							
K43A	**Burlington**	**100.60**	**48**	P	**Pdif**	**12 14 47.5**	**-0.1**	
	baz=252							
ROSC	**El Rosal**	**100.69**	**89**	*e*P	**Pdif**	**12 14 50.5**	**+1.4**	
WCI	**Wyandotte Cave**	**100.70**	**53**	Pdiff	**Pdif**	**12 14 47.2**	**-0.9**	
	baz=252							
L44A	**Lake County Fo**	**100.73**	**49**	IAMs_20	IAMs_20	12 56 17.2		
	comp=Z,10μm,19.0s							
L44A	**Lake County Fo**	**100.73**	**49**	Pdiff	**Pdif**	**12 14 46.9**	**-1.2**	
	baz=252							
SFIN	**Lafayette**	**100.76**	**51**	Pdiff	**Pdif**	**12 14 48.0**	**-0.4**	
	baz=252							
AZL	**Aizawl**	**100.98**	**291**	*e*P	**Pdif**	**12 14 47.9**	**-1.9**	
ZARC	**Zaragoza, Cauc**	**101.08**	**86**	*e*P	**Pdif**	**12 14 50.5**	**+0.1**	
COWI	**Conover**	**101.11**	**45**	IAMs_20	IAMs_20	12 57 59.0		
	comp=Z,11μm,18.0s							
ITAN	**ITANAGAR**	**101.12**	**295**	*e*P	**Pdif**	**12 14 48.5**	**-1.8**	
ZIRO	**ZIRO**	**101.13**	**295**	*e*P	**Pdif**	**12 14 48.3**	**-2.2**	
PTBC	**PUERTO BERRIO**	**101.13**	**87**	*e*P	**Pdif**	**12 14 51.3**	**+0.6**	
ZAK	**Zakamensk**	**101.16**	**320**	*e*P	**Pdif**	**12 14 49.7**	**-0.3**	
ZAK				pmax	pmax			
	comp=Z,7.0nm,2.0s							
CHIC	**Chingaza**	**101.17**	**89**	*e*P	**Pdif**	**12 14 51.9**	**+0.6**	
IRK	**Irkutsk**	**101.18**	**322**	*e*P	**Pdif**	**12 14 50.1**	**+0.2**	
IRK				pmax	pmax			
	comp=Z,50nm,1.9s							
GOGA	**Godfrey**	**101.45**	**59**	Pdiff	**Pdif**	**12 14 50.0**	**-1.6**	
	baz=253							
DWPF	**Disney Wildern**	**101.57**	**64**	Pdiff	**Pdif**	**12 14 51.4**	**-0.8**	
	baz=253							
SJCC	**San Jacinto, C**	**101.57**	**84**	*e*P	**Pdif**	**12 14 52.7**	**+0.1**	
TEZP	**TEZPUR**	**101.75**	**294**	*e*P	**Pdif**	**12 14 50.0**	**-3.0**	
BRRC	**Barranca, Sant**	**102.02**	**87**	*e*P	**Pdif**	**12 14 56.3**	**+1.7**	
MTDJ	**Mount Denham**	**102.03**	**75**	IAMs_20	IAMs_20	12 56 44.1		
	comp=Z,8μm,18.0s							
O48B	**Farmland**	**102.14**	**52**	Pdiff	**Pdif**	**12 14 53.2**	**-1.3**	
	baz=253							
RUSC	**La Rusia**	**102.20**	**88**	*e*P	**Pdif**	**12 14 57.1**	**+1.1**	
SHL	**Shillong**	**102.23**	**293**	P	**Pdif**	**12 14 54.5**	**-0.9**	
	SNR=6.7							
P49A	**Miami Univ. Ec**	**102.26**	**52**	Pdiff	**Pdif**	**12 14 53.9**	**-1.1**	
	baz=253							
TZTN	**Tazewell**	**102.29**	**56**	Pdiff	**Pdif**	**12 14 54.0**	**-1.2**	
	baz=253							
GLMI	**Grayling**	**103.79**	**47**	IAMs_20	IAMs_20	12 56 42.0		
	comp=Z,10μm,20.0s							
DHUB	**DHUBRI**	**103.99**	**293**	*e*P	**Pdif**	**12 15 01.9**	**-1.1**	
NHSC	**New Hope**	**104.01**	**60**	IAMs_20	IAMs_20	12 57 55.3		
	comp=Z,11μm,19.0s							
NHSC	**New Hope**	**104.01**	**60**	Pdiff	**Pdif**	**12 15 00.4**	**-2.5**	
	baz=254							
CRJC	**Cerrejon, Guaj**	**104.07**	**83**	*e*P	**Pdif**	**12 15 06.2**	**+2.5**	
P52A	**Corning**	**104.21**	**53**	Pdiff	**Pdif**	**12 15 02.4**	**-1.3**	
	baz=255							
BLA	**Blacksburg**	**104.89**	**56**	Pdiff	**Pdif**	**12 15 05.2**	**-1.7**	
	baz=255							
O53A	**New Philadelph**	**105.05**	**52**	PKiKP	**PKiKP**	**12 19 21.1**	**-1.0**	
	baz=256							
URIC	**Uribia, Colomb**	**105.11**	**83**	*e*P	**Pdif**	**12 15 10.5**	**+2.3**	
SDV	**Santo Domingo**	**105.48**	**86**	*e*P	**Pdif**	**12 15 06.5**	**-3.6**	
M53A	**Wi Miller and**	**105.73**	**51**	PKiKP	**PKiKP**	**12 19 22.2**	**-1.1**	
	baz=256							
SAML	**Samuel**	**105.90**	**106**	IAMs_20	IAMs_20	12 54 54.4		
	comp=Z,12μm,20.0s							
SAML	**Samuel**	**105.90**	**106**	*e*P	**Pdif**	**12 15 10.8**	**-1.1**	
MCWV	**Mont Chateau**	**105.92**	**53**	PKiKP	**PKiKP**	**12 19 22.3**	**-1.4**	
	baz=256							
CNNC	**Cliffs of the**	**106.39**	**58**	IAMs_20	IAMs_20	13 03 06.2		
	comp=Z,11μm,18.0s							
ERPA	**Erie**	**106.39**	**51**	PKiKP	**PKiKP**	**12 19 24.0**	**-0.5**	
	baz=257							
PALK	**Pallekele**	**106.86**	**272**	IAMs_20	IAMs_20	13 06 09.5		
	comp=Z,9μm,19.0s							
CBN	**Corbin Frederi**	**107.47**	**55**	PKiKP	**PKiKP**	**12 19 25.2**	**-1.4**	
	baz=257							
SSPA	**Standing Stone**	**107.61**	**53**	IAMs_20	IAMs_20	12 58 29.3		
	comp=Z,13μm,20.0s							
SSPA	**Standing Stone**	**107.61**	**53**	PKiKP	**PKiKP**	**12 19 25.9**	**-0.9**	
	baz=258							
SDDR	**Presa de Saban**	**107.91**	**76**	IAMs_20	IAMs_20	12 55 10.0		
	comp=Z,9μm,20.0s							
DGAR	**Diego Garcia**	**109.09**	**254**	IAMs_20	IAMs_20	13 02 30.6		
	comp=Z,7μm,20.0s							
BINY	**Binghamton**	**109.32**	**51**	PKiKP	**PKiKP**	**12 19 29.2**	**-0.8**	
	baz=259							
PAL	**Palisades**	**110.64**	**53**	PKiKP	**PKiKP**	**12 19 31.9**	**-0.5**	
	baz=260							
LONY	**Lake Ozonia**	**110.73**	**49**	IAMs_20	IAMs_20	13 02 03.9		
	comp=Z,11μm,19.0s							
LONY	**Lake Ozonia**	**110.73**	**49**	PKiKP	**PKiKP**	**12 19 31.5**	**-1.1**	
	baz=261							
ROCAM	**Rodrigues Isla**	**111.02**	**238**	IAMs_20	IAMs_20	13 08 04.5		
	comp=Z,9μm,18.0s							
L61B	**Northampton**	**111.78**	**51**	PKiKP	**PKiKP**	**12 19 34.3**	**-0.3**	
	baz=262							
SJG	**San Juan**	**112.37**	**78**	IAMs_20	IAMs_20	13 01 45.1		
	comp=Z,6μm,18.0s							
ZSN	**Zaisan**	**112.37**	**314**	*e*PKiKP	**PKiKP**	**12 19 32.6**	**-3.0**	
	baz=314							
ZSN	**Zaisan**	**112.37**	**314**	*i* PKIKP	**PKiKP**	**12 19 32.6**	**-3.0**	
LBNH	**Lisbon**	**112.57**	**50**	PKiKP	**PKiKP**	**12 19 34.6**	**-1.5**	
	baz=263							
HRV	**Adam Dziewonsk**	**112.61**	**51**	PKiKP	**PKiKP**	**12 19 35.0**	**-1.2**	
	baz=262							
ZAA0	**Zalesovo Array**	**112.98**	**321**	IAMs_20	IAMs_20	13 07 51.8		
	comp=Z,7μm,19.0s							
ZALV	**Zalesovo Beam**	**112.98**	**321**	PKiKP	**PKiKP**	**12 19 34.5**	**-2.1**	
	comp=Z,1.4nm,0.5s,baz=150,slow=2.6,SNR=6.7							
ZALV				PP	**PP**	**12 20 20.2**	**-5.4**	
	comp=Z,6.8nm,1.1s,baz=25,slow=4.9,SNR=4.9							
ALE	**Alert**	**113.11**	**8**	IAMs_20	IAMs_20	13 15 03.6		
	comp=Z,6μm,18.0s							
TULEG	**Thule**	**113.44**	**14**	IAMs_20	IAMs_20	13 08 19.6		
	comp=Z,7μm,20.0s							
MKAR	**Makanchi Array**	**114.05**	**313**	PKP	PKPdf	12 19 36.9	-2.0	
	comp=Z,3.0nm,0.8s,baz=61,slow=2.3,SNR=9.4							
MKAR				PP	**PP**	**12 20 28.7**	**-4.9**	
	comp=Z,3.1nm,1.0s,baz=69,slow=4.0,SNR=4.0							
MKAR				PKKPbc	**PKKPbc**	**12 30 23.0**	**+1.9**	
	comp=Z,1.3nm,0.7s,baz=299,slow=2.5,SNR=4.2							
MAKZ	**Makanchi**	**114.27**	**313**	IAMs_20	IAMs_20	13 11 02.2		
	comp=Z,6μm,19.0s							
SEM	**Semipalatinsk**	**115.62**	**317**	*e*PKP	**PKPdf**	**12 19 39.5**	**-2.6**	
	baz=317							
SEM				LR	LR	13 10 02.6		
	comp=Z,3μm,17.7s,baz=317							
SEM	**Semipalatinsk**	**115.62**	**317**	*e*PKiKP	**PKPdf**	**12 19 39.4**	**-2.6**	
SHLS	**Shalkode**	**115.75**	**309**	*e*PKP	**PKPdf**	**12 19 39.4**	**-3.1**	
	baz=309							
SHLS	**Shalkode**	**115.75**	**309**	*e*PKiKP	**PKPdf**	**12 19 39.3**	**-3.1**	
EMMW	**East Machias**	**115.80**	**49**	IAMs_20	IAMs_20	13 04 57.9		
	comp=Z,9μm,19.0s							
BDFB	**Brasilia**	**115.83**	**120**	PKKPbc	PKKPbc	12 30 15.7	+1.2	
	comp=Z,1.0nm,0.3s,baz=3.9,slow=26,SNR=3.6							
UZB	**Uzynbulak**	**116.07**	**309**	*e*PKP	**PKPdf**	**12 19 40.8**	**-2.3**	
	baz=309							
UZB	**Uzynbulak**	**116.07**	**309**	*e*PKiKP	**PKPdf**	**12 19 40.7**	**-2.3**	
FDF	**Fort de France**	**116.08**	**83**	IAMs_20	IAMs_20	13 04 08.8		
	comp=Z,6μm,19.0s							
SVN	**Savane Anatole**	**116.10**	**83**	IAMs_20	IAMs_20	13 04 19.1		
	comp=Z,7μm,19.0s							
ABD	**La Joyeuse, An**	**116.23**	**81**	IAMs_20	IAMs_20	13 05 41.7		
	comp=Z,6μm,19.0s							
MAGL	**Barre de l'ile**	**116.29**	**82**	IAMs_20	IAMs_20	13 09 14.1		
	comp=Z,5μm,18.0s							
ZHN	**Zhinishke**	**116.50**	**309**	*e*PKP	**PKPdf**	**12 19 41.0**	**-2.9**	
	baz=309							
ZHN	**Zhinishke**	**116.50**	**309**	*e*PKiKP	**PKPdf**	**12 19 40.9**	**-2.9**	
SATY	**Saty**	**116.51**	**309**	*e*PKP	**PKPdf**	**12 19 41.2**	**-2.7**	
	baz=309							
SATY	**Saty**	**116.51**	**309**	*e*PKiKP	**PKPdf**	**12 19 41.1**	**-2.8**	
KURK	**Kurchatov**	**116.66**	**317**	PKPdf	**PKPdf**	**12 19 42.0**	**-1.6**	
KURK	**Kurchatov**	**116.66**	**317**	IAMs_20	IAMs_20	13 15 50.9		
	comp=Z,6μm,18.0s							
KURK	**Kurchatov**	**116.66**	**317**	*c i* PKiKP	**PKPdf**	**12 19 41.3**	**-2.4**	
KURK				pmax	pmax			
	comp=Z,17nm,1.7s							
KURK	**Kurchatov**	**116.66**	**317**	P	**PKPdf**	**12 19 43.4**	**-0.3**	
KURBB	**Kurchatov Arra**	**116.72**	**317**	PKP	**PKPdf**	**12 19 41.7**	**-2.1**	
	comp=Z,2.4nm,0.7s,baz=102,slow=2.0,SNR=18							
KURBB				PP	**PP**	**12 20 47.6**	**-4.5**	
	comp=Z,6.9nm,1.1s,baz=96,slow=5.7,SNR=15							
KURBB				PKKPbc	**PKKPbc**	**12 30 11.7**	**-0.2**	
	comp=Z,1.8nm,0.8s,baz=274,slow=4.4,SNR=12							
MDOK	**Medeo**	**117.51**	**309**	*e*PKP	**PKPdf**	**12 19 42.9**	**-3.0**	
	baz=309							
MDOK				*e*PP	**PP**	**12 20 54.0**	**-4.1**	
	baz=309							
MDOK				LR	LR	13 11 57.7		
	comp=Z,1μm,16.9s,baz=309							
MDOK	**Medeo**	**117.51**	**309**	*e*PKiKP	**PKPdf**	**12 19 42.8**	**-3.0**	
MDOK				*e*		12 20 53.9		
TNSS	**Tian-Shan**	**117.58**	**309**	*e*PKP	**PKPdf**	**12 19 42.9**	**-3.4**	
	baz=309							
TNSS	**Tian-Shan**	**117.58**	**309**	*e*PKiKP	**PKPdf**	**12 19 42.8**	**-3.4**	
CHKK	**Chushkaly**	**117.59**	**310**	*e*PKP	**PKPdf**	**12 19 44.1**	**-1.6**	
	baz=310							
CHKK	**Chushkaly**	**117.59**	**310**	*e*PKiKP	**PKPdf**	**12 19 44.1**	**-1.6**	
KUU	**Kurty**	**118.06**	**310**	*e*PKP	**PKPdf**	**12 19 44.4**	**-2.3**	
	baz=310							
KUU				LR	LR	13 13 22.9		
	comp=Z,2μm,16.2s,baz=310							
KUU	**Kurty**	**118.06**	**310**	*e*PKiKP	**PKPdf**	**12 19 44.3**	**-2.3**	
KSH	**Kashi**	**118.08**	**305**	PKP	**PKiKP**	**12 19 48.4**	**+1.4**	
KSH				PP	**PP**	**12 21 04.0**	**+1.8**	
KSH				LR	LR			
	comp=Z,3μm,16.5s							
KSH				LR	LR			
	comp=Z,5μm,18.5s							
KSH				LR	LR			
	comp=Z,5μm,19.9s							
BOOM	**Boomskoye usch**	**118.29**	**308**	IAMs_20	IAMs_20	13 11 59.4		
	comp=Z,6μm,19.0s							
SGDS	**Sogindy**	**119.29**	**309**	*e*PKP	**PKPdf**	**12 19 45.8**	**-3.4**	
	baz=309							
SGDS				*e*PP	**PP**	**12 21 07.2**	**-3.1**	
	baz=309							
SGDS	**Sogindy**	**119.29**	**309**	*e*PKiKP	**PKPdf**	**12 19 45.7**	**-3.4**	
SGDS				*e*		12 21 07.1		
AAK	**Ala-Archa**	**119.36**	**308**	*i* PKiKP	**PKPdf**	**12 19 49.2**	**-0.2**	
AAK				MLR	MLR			
	comp=Z,3μm,18.0s							
AAK	**Ala-Archa**	**119.36**	**308**	PKPdf	**PKPdf**	**12 19 45.3**	**-4.1**	
AAK	**Ala-Archa**	**119.36**	**308**	P	**PKiKP**	**12 19 50.3**	**+0.8**	
BTLS	**Baital**	**119.72**	**311**	*e*PKP	**PKPdf**	**12 19 47.5**	**-2.4**	
	baz=311							
BTLS				*e*PP	**PP**	**12 21 08.5**	**-4.6**	
	baz=311							
BTLS	**Baital**	**119.72**	**311**	*e*PKiKP	**PKPdf**	**12 19 47.4**	**-2.4**	
BTLS				*e*		12 21 08.5		
TRIS	**Tristan da Cun**	**120.05**	**163**	IAMs_20	IAMs_20	13 10 33.1		
	comp=Z,9μm,18.0s							
BRZS	**Berezniki**	**120.49**	**317**	*i* PKP	**PKPdf**	**12 19 48.7**	**-2.5**	
	baz=316							
BRZS	**Berezniki**	**120.49**	**317**	*i* PKIKP	**PKPdf**	**12 19 48.6**	**-2.5**	
ILULI	**Ilulissat**	**120.57**	**20**	IAMs_20	IAMs_20	13 11 03.2		
	comp=Z,9μm,19.0s							
BVAR	**Borovoye Array**	**121.61**	**320**	PKP	**PKPdf**	**12 19 51.9**	**-1.3**	
	comp=Z,5.6nm,0.6s,baz=113,slow=1.1,SNR=20							
BRVK	**Borovoye**	**121.67**	**320**	PKPdf	**PKPdf**	**12 19 52.5**	**-0.8**	
BRVK	**Borovoye**	**121.67**	**320**	IAMs_20	IAMs_20	13 10 13.8		
	comp=Z,7μm,20.0s							
BRVK	**Borovoye**	**121.67**	**320**	*c i* PKIKP	**PKPdf**	**12 19 51.5**	**-1.8**	
BRVK				pmax	pmax			
	comp=Z,36nm,1.7s							
BRVK				MLR	MLR			
	comp=Z,4μm,19.0s							
BRVK	**Borovoye**	**121.67**	**320**	P	**PKPdf**	**12 19 52.3**	**-1.0**	
DZA	**Taraz**	**121.69**	**308**	*e*PKP	**PKPdf**	**12 19 51.6**	**-2.2**	
	baz=308							
DZA	**Taraz**	**121.69**	**308**	*e*PKIKP	**PKPdf**	**12 19 51.5**	**-2.2**	
VOI	**Vohitsoka**	**121.94**	**226**	PKP	**PKiKP**	**12 20 02.9**	**+7.7**	
SPITS	**Spitsbergen Ar**	**122.19**	**357**	PKP	**PKPdf**	**12 19 53.6**	**0.0**	
	comp=Z,23nm,0.8s,baz=72,slow=9.5,SNR=6.1							
KK31	**Karatay Array**	**122.29**	**309**		**PKPdf**	**12 19 53.8**	**-1.1**	
KK31	**Karatay Array**	**122.29**	**309**	PKIKP	**PKPdf**	**12 19 53.8**	**-1.1**	
KKAR	**Karatay Array**	**122.29**	**309**	PKPdf	**PKPdf**	**12 19 53.6**	**-1.2**	
KKAR	**Karatay Array**	**122.29**	**309**	PKIKP	**PKPdf**	**12 19 53.6**	**-1.2**	
SUMG	**Summit**	**122.36**	**14**	PP	PP	12 21 25.7	-4.9	
SUMG	**Summit**	**122.36**	**14**	*e*P	**PKiKP**	**12 19 56.3**	**+1.5**	
GAR	**Garm**	**122.44**	**304**	IAMs_20	IAMs_20	13 23 44.0		
	comp=Z,7μm,19.0s							
DAG	**Danmarks Havn**	**122.47**	**7**	PP	PP	12 21 24.6	-6.1	
IUG	**Iuzhnay**	**122.67**	**307**	*e*PKP	**PKPdf**	**12 19 52.8**	**-3.0**	
	baz=308							
IUG	**Iuzhnay**	**122.67**	**307**	*e*PKIKP	**PKPdf**	**12 19 52.7**	**-3.0**	
CHM	**Chimkent**	**122.98**	**308**	*e*PKP	**PKPdf**	**12 19 54.1**	**-2.1**	
	baz=308							
CHM				LR	LR	13 13 53.8		
	comp=Z,1μm,18.3s,baz=308							
CHM	**Chimkent**	**122.98**	**308**	*e*PKIKP	**PKPdf**	**12 19 54.0**	**-2.1**	
KBL	**Kabul**	**123.29**	**298**	PKPdf	**PKPdf**	**12 19 56.7**	**-0.6**	
KBL	**Kabul**	**123.29**	**298**	PKIKP	**PKPdf**	**12 19 56.7**	**-0.6**	
KBL				MLR	MLR			
	comp=Z,3μm,19.0s							
KBL	**Kabul**	**123.29**	**298**	P	**PKiKP**	**12 19 57.8**	**+0.3**	
	SNR=38							
CHGR	**Chuyangaron**	**123.34**	**303**	PKPdf	**PKPdf**	**12 19 56.1**	**-1.0**	
CHGR				IAMs_20	IAMs_20	13 13 54.9		
	comp=Z,8μm,20.0s							
CHGR	**Chuyangaron**	**123.34**	**303**	PKIKP	**PKPdf**	**12 19 56.1**	**-1.0**	
CHGR				MLR	MLR			
	comp=Z,8μm,20.0s							
ICESG	**Greenland Ices**	**124.18**	**18**	*e*P	**PKPdf**	**12 19 56.6**	**-1.5**	
SVE	**Sverdlovsk**	**126.23**	**326**	*i* PKIKP	**PKiKP**	**12 20 02.7**	**+0.4**	
SVE				pmax	pmax			
	comp=Z,82nm,2.3s							
SVE				MLR	MLR			
	comp=Z,9μm,19.0s							
SVE				MLR	MLR			
	comp=N,3μm,19.0s							
SVE				MLR	MLR			
	comp=E,6μm,19.0s							
SCO	**Scoresbysund**	**127.43**	**11**	IAMs_20	IAMs_20	13 11 36.3		
	comp=Z,5μm,20.0s							
ARU	**Arti**	**127.44**	**326**	PKPdf	**PKPdf**	**12 20 03.0**	**-1.3**	
ARU	**Arti**	**127.44**	**326**	*c i* PKIKP	**PKiKP**	**12 20 04.5**	**-0.3**	
ARU				pmax	pmax			
	comp=Z,76nm,1.7s							
ARU				MLR	MLR			
	comp=Z,11μm,20.0s							
ARU	**Arti**	**127.44**	**326**	PKP	**PKPdf**	**12 20 02.6**	**-1.6**	
	comp=Z,4.1nm,0.4s,baz=112,slow=2.4,SNR=12							
BOSA	**Boshof**	**127.65**	**201**	PKP	**PKPdf**	**12 20 05.2**	**-0.6**	
	comp=Z,18nm,1.2s,baz=164,slow=2.8,SNR=5.4							

FAQ	**Al Faqa, Dubai**	**134.30 285**	*i* PKPdf	**PKPdf**	**12 20 17.5**	**-0.7**	
	SNR=15						
FAQ	**Al Faqa, Dubai**	**134.30 285**	P	**PKPdf**	**12 20 17.3**	**-0.9**	
	SNR=8.7						
UMQ	**Umm Al-Quwin**	**134.31 286**	*i* PKiKP	**PKPdf**	**12 20 18.6**	**+0.4**	
	SNR=7.2						
RBK	**Rabkut**	**134.51 275**	P	**PKPdf**	**12 20 18.4**	**-0.5**	
	SNR=20						
ASUD	**Al Ashush, Dub**	**134.53 285**	*i* PKPdf	**PKPdf**	**12 20 18.1**	**-0.5**	
	SNR=7.2						
DOK	**Doka**	**134.80 276**	P	**PKPdf**	**12 20 18.9**	**-0.4**	
	SNR=16						
AJN	**Ajban**	**134.83 285**	*i* PKPdf	**PKPdf**	**12 20 18.7**	**-0.5**	
	SNR=7.7						
WHFO	**Wadi Hawf**	**135.00 275**	P	**PKPdf**	**12 20 18.4**	**-1.3**	
	SNR=14						
MZR	**Muzera**	**136.05 282**	*i* PKPdf	**PKPdf**	**12 20 21.2**	**-0.3**	
	SNR=23						
MZR	**Muzera**	**136.05 282**	P	**PKPdf**	**12 20 21.5**	**0.0**	
	SNR=9.0						
FINES	**FINESS Array B**	**136.89 346**	PKP	**PKPdf**	**12 20 21.4**	**-0.5**	
	comp=Z,1.3nm,0.5s,baz=48,slow=2.8,SNR=4.8						
MOS	**Moscow**	**137.75 334**	*i* PKIKP	**PKPdf**	**12 20 23.1**	**-0.5**	
MOS			*e*		12 23 11.3		
MOS			pmax	pmax			
	comp=Z,39nm,0.9s						
LSZ	**Lusaka**	**138.21 213**	P	**PKPdf**	**12 20 26.0**	**+0.1**	
SHMA	**Al-Shehemyia**	**138.56 286**	P	**PKPdf**	**12 20 26.1**	**+0.1**	
OBN	**Obninsk**	**138.61 334**	IAMs_20	IAMs_20	13 29 00.4		
	comp=Z,6μm,18.0s						
OBN	**Obninsk**	**138.61 334**	*d* PKIKP	**PKPdf**	**12 20 26.1**	**+0.9**	
OBN			*e*		12 20 32.7		
OBN			*e*		12 20 39.3		
OBN			*i*		12 23 12.2		
OBN			PPP	PPP	12 26 15.0		
OBN					12 27 25.0		
OBN			*e*		12 33 41.1		
OBN			*i* SS	SS	12 41 27.6	-1.3	
OBN			pmax	pmax			
	comp=Z,45nm,1.4s						
OBN	**Obninsk**	**138.61 334**	PKP	**PKPdf**	**12 20 24.2**	**-1.1**	
	comp=Z,14nm,0.4s,baz=90,slow=20,SNR=5.2						
SMRA	**Abu-Samra**	**138.62 284**	P	**PKPdf**	**12 20 25.9**	**-0.3**	
	SNR=6.7						
VRH	**Novokhopyorsk**	**138.68 326**	*e*PKIKP	**PKPdf**	**12 20 22.4**	**-3.1**	
VRH			*e*		12 23 13.1		
VRH			pmax	pmax			
	comp=Z,10.0nm,1.0s						
VRH			MLR	MLR			
	comp=Z,6μm,19.0s						
SAKB	**Bahrain**	**138.94 286**	P	**PKPdf**	**12 20 27.0**	**+0.2**	
LPSR	**Galich'ya Gora**	**139.23 330**	*e*PKIKP	**PKPdf**	**12 20 23.8**	**-2.7**	
LPSR			*e*		12 23 15.7		
LPSR			pmax	pmax			
	comp=Z,10.0nm,0.9s						
LPSR			MLR	MLR			
	comp=Z,9μm,21.0s						
NB2	**NORSAR Subarra**	**139.46 356**	PKP	PKPpre	12 20 17.6		
	comp=Z,605nm,3.3s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**139.46 356**	PKP	PKPpre	12 20 17.6		
	baz=17,slow=2.6						
NOA	**NORSAR Array B**	**139.46 356**	PKhKP	PKPpre	12 20 20.0		
	comp=Z,1.1nm,0.7s,baz=15,slow=4.6,SNR=3.9						
VORR	**Voronezh**	**139.67 328**	*e*PKIKP	**PKPdf**	**12 20 25.9**	**-1.4**	
VORR			*e*		12 23 20.7		
VORR			pmax	pmax			
	comp=Z,90nm,0.4s						
GROC	**Groznyy**	**139.96 313**	*e*PKIKP	**PKPdf**	**12 20 27.7**	**-0.4**	
GROC			*e*		12 23 23.6		
GROC			pmax	pmax			
	comp=Z,22nm,0.4s						
VSR	**Storozhevoye**	**139.97 328**	*e*PKIKP	**PKPdf**	**12 20 25.0**	**-2.9**	
VSR			pmax	pmax			
	comp=Z,80nm,1.4s						
VSR			MLR	MLR			
	comp=Z,11μm,19.0s						
VORD	**Divnogorie**	**140.06 327**	*e*PKIKP	**PKPdf**	**12 20 27.9**	**-0.1**	
VORD			*e*		12 23 20.2		
VORD			pmax	pmax			
	comp=Z,40nm,1.7s						
VORD			MLR	MLR			
	comp=Z,4μm,14.0s						
HFS	**Hagfors**	**140.16 354**	PKhKP	PKPpre	12 20 19.8		
	comp=Z,5.6nm,0.8s,baz=40,slow=2.5,SNR=5.0						
KONO	**Kongsberg**	**140.94 357**	IAMs_20	IAMs_20	13 32 51.4		
	comp=Z,5μm,19.0s						
GOF	**Gofitskoye**	**141.02 317**	*ce*PKIKP	**PKiKP**	**12 20 31.6**	**-1.1**	
KIBK	**Kibwezi**	**141.22 238**		**PKPdf**	**12 20 28.6**	**-2.8**	
KIBK	**Kibwezi**	**141.22 238**	PKP	PKPpre	12 20 25.4		
ZEI	**Tsey**	**141.40 314**	*i* PKIKP	PKPpre	12 20 25.5		
ZEI			pmax	pmax			
	comp=Z,24nm,2.0s						
KBZ	**Khabaz**	**141.69 315**	PKhKP	PKPpre	12 20 26.6		
	comp=Z,3.0nm,0.9s,baz=135,slow=4.5,SNR=4.3						
KBZ			PP	**PP**	**12 23 31.5**	**-3.7**	
	comp=Z,2.1nm,0.8s,baz=92,slow=13,SNR=5.5						
KVAR	**Kislovodsk Arr**	**141.72 316**	PKP	**PKPdf**	**12 20 30.0**	**-1.4**	
	comp=Z,3.5nm,0.3s,baz=350,slow=3.8,SNR=2.2						
KIV	**Kislovodsk**	**141.73 316**	IAMs_20	IAMs_20	13 34 14.3		
	comp=Z,5μm,18.0s						
KIV	**Kislovodsk**	**141.73 316**	*e*PKIKP	**PKPdf**	**12 20 27.4**	**-4.0**	
KIV			*i*		12 20 35.4		
KIV			*e*		12 23 34.8		
KIV			*e*SS	SS	12 42 08.8	+2.0	
KIV			*e*SSS	SSS	12 47 26.0		
KIV			pmax	pmax			
	comp=Z,13nm,1.0s						
KIV	**Kislovodsk**	**141.73 316**	*i* PKPdf	PKPpre	12 20 23.6		
	SNR=10						
GNI	**Garni**	**141.75 309**	PKPdf	PKPpre	12 20 24.2		
GNI	**Garni**	**141.75 309**	PKP	**PKPdf**	**12 20 28.7**	**-3.0**	
	comp=Z,3.4nm,0.4s,baz=4.7,slow=3.2,SNR=3.9						
MNK	**Minsk**	**142.34 339**	*i* PKP	**PKPdf**	**12 20 28.9**	**-3.1**	
	comp=E,13nm,0.9s						
MNK			*i* PKP	**PKPdf**	**12 20 28.9**	**-3.1**	
	comp=N,11nm,0.7s						
MNK			*i* PKP	**PKPdf**	**12 20 28.9**	**-3.1**	
	comp=Z,23nm,0.8s,baz=35						
MNK			*i* PP	**PP**	**12 23 36.6**	**-1.8**	
MNK			*i* PPP	PPP	12 26 26.4		
MNK			*i* SKKS		12 36 57.5		
MNK			*i* SS	**SS**	**12 42 12.1**	**-0.1**	
MNK			*i* SSS	SSS	12 46 51.6		
MNK			*i* LQ	LQ	13 14 32.9		
MNK			*i* LR	LR	13 18 49.4		
MNK			*i* LRM	MLR	13 25 40.6		
	comp=Z,6μm,19.3s						
MNK			*i* LRM	MLR	13 26 41.2		
	comp=E,2μm,17.6s						
MNK			*i* LRM	MLR	13 27 58.6		
	comp=N,3μm,18.0s						
MNK	**Minsk**	**142.34 339**	*i* PKIKP	**PKPdf**	**12 20 28.9**	**-3.1**	
MNK			*i*		12 23 36.5		
MNK			*i* SS	SS	12 42 12.0	-0.2	
MNK			pmax	pmax			
	comp=Z,23nm,0.8s						
MNK			pmax	pmax			
	comp=N,11nm,0.7s						
MNK			pmax	pmax			
	comp=E,13nm,0.9s						
MNK			MLR	MLR			
	comp=Z,6μm,19.0s						
NACGM	**Naroch**	**142.36 340**	*e*PKP	**PKiKP**	**12 20 33.5**	**-1.5**	
	comp=Z,29nm,0.8s,baz=33						
TJOU	**Tjoern**	**142.42 355**	*e*P	PKPpre	12 20 25.3		
KMBO	**Kilima Mbogo**	**142.58 238**	PKP	**PKPdf**	**12 20 31.6**	**-2.4**	
	comp=Z,6.3nm,0.8s,baz=95,slow=3.7,SNR=12						
PABE	**Paberze**	**142.66 343**	IAMs_20	IAMs_20	13 29 19.9		
	comp=Z,5μm,19.0s						
BORU	**Boraas**	**142.72 354**	*e*P	PKPpre	12 20 25.3		
ONAU	**Onsala**	**143.03 355**	*e*P	PKPab	12 20 28.3	-0.1	
DRUM	**Mains of Drumt**	**143.22 8**	*e*P	PKPab	12 20 29.4	+0.2	
FABU	**Falkenberg**	**143.34 354**	*e*P	PKPab	12 20 28.3	-1.4	
INVG	**Invergeldie, C**	**143.47 9**	*e*P	PKPab	12 20 29.7	-0.5	
ATD	**Arta Tunnel**	**143.58 261**	PKPdf	**PKPdf**	**12 20 35.7**	**+0.2**	
ATD			IAMs_20	IAMs_20	13 33 17.1		
	comp=Z,6μm,18.0s						
ATD	**Arta Tunnel**	**143.58 261**	*e*P	PKPbc	12 20 33.3	+0.5	
ATD	**Arta Tunnel**	**143.58 261**	P	PKPbc	12 20 34.1	+1.2	
	SNR=13						
ATD	**Arta Tunnel**	**143.58 261**	*e*P	PKPbc	12 20 33.3	+0.5	
	baz=3.0						
BLEU	**Blekinge**	**143.64 351**	*e*P	PKPab	12 20 28.3	-2.5	
SOC	**Sochi**	**143.81 317**	*c i* PKIKP	PKPab	12 20 30.7	-1.3	
SOC			*i*		12 20 37.3		
SOC			*e*		12 23 43.6		
SOC			*e*PPP	PPP	12 26 59.8		
SOC			*e*SS	SS	12 42 18.7	-12	
SOC			pmax	pmax			
	comp=Z,21nm,0.8s						
SOC			pmax	pmax			
	comp=Z,35nm,1.0s						
MUD	**Monsted U'grnd**	**144.15 357**	*i* P	**PKPab**	**12 20 30.4**	**-2.3**	
SUW	**Suwalki**	**144.20 343**	*e*PKP	**PKPab**	**12 20 31.4**	**-1.6**	
SUW			*e*PP	**PP**	**12 23 45.8**	**-3.7**	
SUW	**Suwalki**	**144.20 343**	IAMs_20	IAMs_20	13 20 59.8		
	comp=Z,5μm,20.0s						
CLGH	**Cloghs, Cushen**	**144.39 12**	*e*P	**PKPab**	**12 20 32.7**	**-1.0**	
ANN	**Anapa**	**144.61 320**	*c i* PKIKP	**PKPab**	**12 20 34.0**	**-0.9**	
ANN			pmax	pmax			
	comp=Z,170nm,1.1s						
EKA	**Eskdalemuir Ar**	**144.66 9**	PKP	**PKPab**	**12 20 33.1**	**-1.6**	
	comp=Z,25nm,0.8s,baz=327,slow=3.1,SNR=42						
ESK	**Eskdalemuir**	**144.67 9**	PKPdf	**PKPab**	**12 20 33.8**	**-0.9**	
ESK	**Eskdalemuir**	**144.67 9**	IAMs_20	IAMs_20	13 30 59.1		
	comp=Z,7μm,18.0s						
ESK	**Eskdalemuir**	**144.67 9**	PKIKP	**PKPab**	**12 20 33.8**	**-0.9**	
COP	**Copenhagen**	**144.67 354**	*i* P	**PKPab**	**12 20 33.3**	**-1.4**	
GAL1	**Galloway**	**144.86 11**	*e*P	**PKPab**	**12 20 34.5**	**-0.9**	
AKASG	**Malin Array Be**	**144.87 334**		**PKPab**	**12 20 34.2**	**-1.5**	
AKASG	**Malin Array Be**	**144.87 334**	PKP	**PKPab**	**12 20 34.0**	**-1.6**	
	comp=Z,50nm,0.7s,baz=39,slow=4.3,SNR=76						
AKBB	**Malin Array Si**	**144.87 334**	IAMs_20	IAMs_20	13 25 38.9		
	comp=Z,6μm,21.0s						
BSD	**Bornholm Skovb**	**144.92 351**	*i* P	**PKPab**	**12 20 35.0**	**-0.7**	
SSRD	**Sdr. Stenderup**	**145.10 356**	*i* P	**PKPbc**	**12 20 34.1**	**-2.1**	
PCED	**Cedros**	**145.14 51**	*e*PKP	**PKPdf**	**12 20 38.3**	**+0.9**	
CALA	**Caldeira**	**145.15 51**	*e*PKP	**PKPdf**	**12 20 38.6**	**+1.0**	
ASCN	**Ascension**	**145.24 143**	IAMs_20	IAMs_20	13 32 37.0		
	comp=Z,7μm,18.0s						
EDMD	**Edmundbyers**	**145.32 8**	*e*P	**PKPbc**	**12 20 35.0**	**-2.0**	
PCAN	**Candelaria**	**145.35 52**	*e*PKP	**PKPab**	**12 20 38.6**	**+0.7**	
TEND	**Ethiopian Broa**	**145.37 261**	*e*P	**PKPab**	**12 20 40.2**	**+1.6**	
	baz=352						
PICO	**Pico**	**145.38 51**	*e*PKP	**PKPab**	**12 20 38.3**	**+0.3**	
KESW	**Keswick, Cumbr**	**145.39 9**	*e*P	**PKPbc**	**12 20 36.8**	**-0.4**	
ROSA	**Rosais**	**145.44 51**	*e*PKP	**PKPab**	**12 20 39.4**	**+1.2**	
SRBC	**Serra Branca**	**145.47 50**	*e*PKP	**PKPab**	**12 20 38.6**	**+0.3**	
PGRA	**Graciosa**	**145.51 50**	*e*PKP	**PKPab**	**12 20 38.6**	**+0.2**	
PPNO	**Prainha do Nor**	**145.51 51**	*e*PKP	**PKPab**	**12 20 39.8**	**+1.3**	
WIM	**Isle of Man**	**145.55 11**	*e*P	**PKPdf**	**12 20 34.9**	**-2.7**	
PMAN	**Manadas**	**145.58 51**	*e*PKP	**PKiKP**	**12 20 40.9**	**-1.3**	
PID	**Ribeirinha**	**145.63 51**	*e*PKP	**PKPab**	**12 20 40.1**	**+1.2**	
RGN	**Rugen**	**145.69 352**	IAMs_20	IAMs_20	13 37 25.6		
	comp=Z,7μm,18.0s						
DILA	**Dilla**	**145.72 250**	*e*P	**PKPab**	**12 20 40.4**	**+0.2**	
DILA	**Dilla**	**145.72 250**	*e*P	**PKPab**	**12 20 40.4**	**+0.2**	
	baz=319						
DSB	**Dublin**	**146.06 13**	PKP	**PKPdf**	**12 20 37.9**	**-0.7**	
PSBA	**Serra de Santa**	**146.09 50**	*e*PKP	**PKPab**	**12 20 41.3**	**+0.7**	
PAGU	**Agualva, Azore**	**146.19 50**	*e*PKP	**PKPab**	**12 20 41.6**	**+0.6**	
HPK	**Haverah Park**	**146.21 8**	*e*P	**PKPdf**	**12 20 38.8**	**0.0**	
PSCM	**Serra do Cume**	**146.26 50**	*e*PKP	**PKPab**	**12 20 41.3**	**0.0**	
VAL	**Valentia**	**146.27 18**	PKP	**PKPbc**	**12 20 40.1**	**+0.1**	
WPS	**Cemaes, Angles**	**146.30 11**	*e*P	**PKPdf**	**12 20 39.1**	**+0.2**	
GKP	**Gorka Klasztor**	**146.30 348**	*e*PKP	**PKPdf**	**12 20 38.5**	**-0.4**	
WLF1	**Llynfaes**	**146.42 11**	*e*P	**PKPdf**	**12 20 37.9**	**-1.2**	
FURI	**Furi**	**146.44 255**	IAMs_20	IAMs_20	13 24 32.6		
	comp=Z,6μm,20.0s						
FURI	**Furi**	**146.44 255**	*e*P	**PKiKP**	**12 20 44.8**	**-0.3**	
FURI			AMP		13 41 22.6		
	comp=Z,11μm,18.8s						
FURI	**Furi**	**146.44 255**	*e*P	**PKiKP**	**12 20 44.8**	**-0.3**	
	baz=333						
FURI			AMP		13 41 22.6		
	comp=Z,11μm,18.8s,baz=333						
SIM	**Simferopol'**	**146.46 323**	*e*PKP2	**PKPab**	**12 20 42.2**	**+0.4**	
SIM			*e*		12 24 08.0		
SIM			pmax	pmax			
	comp=Z,71nm,0.8s						
SIM			pmax	pmax			
	comp=Z,2μm,10.1s						
SIM			pmax	pmax			
	comp=Z,1μm,8.2s						
BSEG	**Bad Segeberg**	**146.59 355**	*e*L	L	13 27 40.0		
	comp=Z,4μm,21.3s						
LODK	**Lodwar**	**146.73 243**	IAMs_20	IAMs_20	13 35 09.3		
	comp=Z,7μm,18.0s						
LODK	**Lodwar**	**146.73 243**	*e*P	**PKPab**	**12 20 44.4**	**+0.5**	
LODK	**Lodwar**	**146.73 243**	P	**PKPdf**	**12 20 41.1**	**+0.1**	
	SNR=73						
LODK	**Lodwar**	**146.73 243**	*e*P	**PKPab**	**12 20 44.4**	**+0.5**	
	baz=234						
LBWR	**Ladybower, Pea**	**146.74 8**	*e*P	**PKPbc**	**12 20 40.9**	**-0.6**	
BEL	**Belsk**	**146.80 343**	*e*PKP	**PKPdf**	**12 20 40.3**	**+0.5**	
BEL			*e*PP	**PP**	**12 24 02.2**	**-2.7**	
LMK	**Market Rasen**	**146.87 7**	*e*P	**PKPdf**	**12 20 40.6**	**+0.7**	
STNC	**Stoke**	**146.98 9**	*e*P	**PKPbc**	**12 20 42.0**	**-0.1**	
FOEL	**Foel Wylfa**	**147.01 10**	*e*P	**PKPbc**	**12 20 41.6**	**-0.6**	
SORM	**Soroca**	**147.20 332**	⇓P	**PKPbc**	**12 20 42.0**	**-0.8**	
SORM	**Soroca**	**147.20 332**	⇓PKP2	**PKPbc**	**12 20 42.0**	**-0.8**	
HLM1	**Long Mynd**	**147.43 10**	*e*P	**PKPbc**	**12 20 42.8**	**-0.6**	
GORT1	**Trebel**	**147.44 354**	*e*PKPab	**PKPbc**	**12 20 42.0**	**-1.3**	
	baz=10,slow=5.0						
CWF	**Charnwood Fore**	**147.45 8**	*e*P	**PKPbc**	**12 20 42.6**	**-0.8**	
LVV	**L'vov**	**147.56 338**	*i* PKP2	**PKPbc**	**12 20 43.2**	**-0.6**	
LVV			*e*PPP	PPP	12 27 24.8		
PSET	**Sete Cidades**	**147.62 51**	*e*PKP	**PKPab**	**12 20 46.8**	**+0.2**	
RSBS	**Rosebush, Pemb**	**147.62 13**	*e*P	**PKPbc**	**12 20 43.9**	**0.0**	
DIKM	**Dikmen**	**147.63 317**	⇓P	**PKPdf**	**12 20 42.2**	**+0.6**	
RUE	**Ruedersdorf**	**147.65 351**	*e*PKPab	**PKPbc**	**12 20 42.5**	**-1.4**	
	baz=10,slow=5.0						
WACR	**West Acre**	**147.69 6**	*e*P	**PKPbc**	**12 20 43.4**	**-0.6**	
CMLA	**Cha da Macela**	**147.78 51**	*e*PKP	**PKPbc**	**12 20 45.7**	**+0.9**	
PCALD	**Caldeiras da R**	**147.79 51**	*e*PKP	**PKPbc**	**12 20 45.3**	**+0.4**	
KIS	**Kishinev**	**147.84 330**	⇓*e*PKP	**PKPdf**	**12 20 34.0**	**-7.7**	
	comp=Z,3μm,7.2s						
KIS	**Kishinev**	**147.84 330**	*e*PKHKP	PKPpre	12 20 34.0		
KIS			pmax	pmax			
	comp=Z,3μm,7.2s						
KIS			MLR	MLR			
	comp=Z,2μm,20.0s						
KIS			MLR	MLR			
	comp=N,2μm,19.0s						
KIS			MLR	MLR			
	comp=E,2μm,20.0s						
RETH	**Rethem/Aller,**	**147.85 356**	*e*PKPab	**PKPdf**	**12 20 42.8**	**+1.3**	
	baz=10,slow=5.0						
MCH1	**Michaelchurch**	**147.91 11**	*e*P	**PKPbc**	**12 20 43.5**	**-1.2**	
MBAR	**Mbarara**	**147.92 232**	*e*P	**PKPdf**	**12 20 43.6**	**+0.5**	
MBAR	**Mbarara**	**147.92 232**	P	**PKPdf**	**12 20 42.8**	**-0.4**	
MBAR	**Mbarara**	**147.92 232**	*e*P	**PKPdf**	**12 20 43.6**	**+0.5**	
	baz=259						
BART	**Pico Bartolome**	**148.03 51**	*e*PKP	**PKPdf**	**12 20 41.6**	**-0.9**	
NRDL	**Niedersach Rie**	**148.04 355**	*e*PKPab	**PKPdf**	**12 20 43.2**	**+1.5**	
	baz=10,slow=5.0						
MONM	**Mamouth**	**148.09 10**	*e*P	**PKPbc**	**12 20 44.4**	**-0.7**	
FLTG	**Flechtingen**	**148.10 354**	*e*PKPab	**PKPdf**	**12 20 42.7**	**+0.8**	
	baz=10,slow=5.0						
KWP	**Kalwaria Pacla**	**148.17 339**	*e*PKP	**PKPbc**	**12 20 45.9**	**+0.5**	
KWP			*e*PP	**PP**	**12 24 12.6**	**-0.5**	
STRD	**Stroud**	**148.26 10**	*e*P	**PKPbc**	**12 20 44.8**	**-0.8**	
GAZ	**Gaziantep**	**148.32 308**	IAMs_20	IAMs_20	13 37 38.2		
	comp=Z,5μm,18.0s						
ASSE	**Asse, Remlinge**	**148.35 355**	*e*PKPab	**PKPdf**	**12 20 43.4**	**+1.1**	
	baz=10,slow=5.0						
IBBN	**Ibbenburen**	**148.35 358**	*e*PKPab	**PKPdf**	**12 20 43.8**	**+1.5**	
	baz=10,slow=5.0						
PSMA	**Santa Maria**	**148.37 52**	*e*PKP	**PKPbc**	**12 20 46.1**	**-0.3**	
PSMN	**Pico do Norte,**	**148.41 52**	*e*PKP	**PKPbc**	**12 20 46.1**	**-0.4**	
OJC	**Ojcow**	**148.53 343**	*e*PKP	**PKPbc**	**12 20 46.3**	**-0.1**	
SWN1	**Swindon**	**148.57 9**	*e*P	**PKPbc**	**12 20 45.8**	**-0.7**	
VASR	**Vaslui**	**148.57 331**	⇑P	**PKPbc**	**12 20 46.7**	**+0.1**	
CLZ	**Clausthal**	**148.67 355**	*e*PKPab	**PKPdf**	**12 20 44.0**	**+1.0**	
	baz=10,slow=5.0						
KSP	**Ksiaz**	**148.79 347**	*e*PKP	**PKPdf**	**12 20 41.6**	**-1.5**	
STHS	**Stebnicka Huta**	**148.82 341**	*e*PKP2	**PKPbc**	**12 20 47.4**	**+0.2**	
STHS	**Stebnicka Huta**	**148.82 341**	*e*PKP	**PKPbc**	**12 20 47.4**	**+0.2**	
CLL	**Collm**	**148.90 352**	IAMs_20	IAMs_20	13 31 36.6		
	comp=Z,7μm,20.0s						
CLL	**Collm**	**148.90 352**	*e*PKIKP	**PKPdf**	**12 20 44.0**	**+0.7**	
CLL			*i*		12 20 47.1		
CLL			*i*		12 20 50.9		
CLL			*i*		12 20 55.0		
CLL			pmax	pmax			
	comp=Z,608nm,2.1s						
CLL			MLR	MLR			
	comp=Z,7μm,19.1s						
CLL	**Collm**	**148.90 352**	*e*PKPab	**PKPdf**	**12 20 44.3**	**+0.9**	
	baz=10,slow=5.0						
CLL			*e*L	L	13 31 46.6		
	comp=Z,7μm,19.1s						
CLL	**Collm**	**148.90 352**	AMS	AMS	13 37 00.0		
CLL	**Collm**	**148.90 352**	*e*PKPdf	**PKPdf**	**12 20 44.0**	**+0.7**	
CLL	**Collm**	**148.90 352**	*i* PKPbc	**PKPbc**	**12 20 47.1**	**-0.2**	
	comp=Z,608nm,2.1s						
CLL	**Collm**	**148.90 352**	*i* PKPab	**PKPab**	**12 20 50.9**	**-0.3**	
CLL	**Collm**	**148.90 352**	*i* pPKPbc	**PKPab**	**12 20 52.4**	**+1.2**	
	comp=Z,904nm,2.1s						
CLL	**Collm**	**148.90 352**	*i* pPKPab	pPKPab	12 20 55.0	-0.5	
CLL	**Collm**	**148.90 352**	*e*PP	PP	12 24 16.0	-1.1	
CLL	**Collm**	**148.90 352**	*e*x	x	12 27 05.0		
CLL	**Collm**	**148.90 352**	*e*SKSdf	**SKSdf**	**12 27 49.0**	**-1.9**	
CLL	**Collm**	**148.90 352**	*e*x	x	12 29 18.0		
CLL	**Collm**	**148.90 352**	*e*SKKSac	SKKSac	12 31 09.0	+0.6	
CLL	**Collm**	**148.90 352**	*e*PSKS		12 34 32.0		
CLL	**Collm**	**148.90 352**	*e*PPS	PPS	12 37 24.0		
CLL	**Collm**	**148.90 352**	*e*SS	SS	12 43 19.0	-7.5	
CLL	**Collm**	**148.90 352**	*e*SKSSKSac		12 44 48.0		
CLL	**Collm**	**148.90 352**	*e*SSS	SSS	12 49 00.0		
CLL	**Collm**	**148.90 352**	*e*SSSS		12 53 06.0		
CLL	**Collm**	**148.90 352**	AMS	AMS	13 31 00.0		
	comp=Z,7μm,19.1s						
CLL	**Collm**	**148.90 352**	AMS	AMS	13 33 00.0		
	comp=E,3μm,19.0s						
CLL	**Collm**	**148.90 352**	AMS	AMS	13 33 00.0		
	comp=N,4μm,19.0s						
KOLS	**Kolonicke sedl**	**148.91 339**	*e*PKP2	**PKiKP**	**12 20 49.3**	**+0.5**	
KOLS	**Kolonicke sedl**	**148.91 339**	*e*PKP	**PKiKP**	**12 20 49.3**	**+0.5**	
BURAR	**Bucovina Array**	**148.93 335**	⇓P	**PKPbc**	**12 20 47.8**	**+0.2**	
BURAR	**Bucovina Array**	**148.93 335**	⇓PKP2	**PKPbc**	**12 20 47.8**	**+0.2**	
GTTG	**Gottingen**	**148.99 355**	*e*PKPab	**PKPdf**	**12 20 44.5**	**+1.0**	
	baz=10,slow=5.0						
OSTC	**Ostas**	**149.07 347**	*e*PKP2	**PKPbc**	**12 20 47.5**	**-0.3**	
OSTC			MLR	MLR			
	comp=Z,6μm,18.4s						
OSTC	**Ostas**	**149.07 347**	*e*PKP	**PKPbc**	**12 20 47.5**	**-0.3**	
OSTC			AMS	AMS	13 36 10.0		
	comp=Z,6μm,18.4s						
CHVC	**Chvalec**	**149.08 348**	*e*PKP2	**PKPbc**	**12 20 47.4**	**-0.4**	
CHVC			MLR	MLR			
	comp=Z,7μm,18.6s						
CHVC	**Chvalec**	**149.08 348**	*e*PKP	**PKPbc**	**12 20 47.4**	**-0.4**	
CHVC			AMS	AMS	13 38 20.0		
	comp=Z,7μm,18.6s						
NIE	**Niedzica**	**149.11 342**	*e*PKP	**PKPdf**	**12 20 44.9**	**+1.1**	
TLCR		**149.14 328**	⇓P	**PKPbc**	**12 20 46.4**	**-1.7**	
TLCR		**149.14 328**	⇓PKP2	**PKPbc**	**12 20 46.4**	**-1.7**	
NEUB	**Neuenburg**	**149.15 353**	*e*PKPab	**PKPdf**	**12 20 45.0**	**+1.2**	
	baz=10,slow=5.0						
UPC	**Upice**	**149.16 348**	*e*PKP2	**PKPbc**	**12 20 46.2**	**-1.8**	
UPC			MLR	MLR			
	comp=Z,9μm,17.8s						
UPC	**Upice**	**149.16 348**	*e*PKP	**PKPbc**	**12 20 46.2**	**-1.8**	
UPC			AMS	AMS	13 38 30.0		
	comp=Z,9μm,17.8s						
CCA1	**Carnmenellis**	**149.18 14**	*e*P	**PKPbc**	**12 20 47.2**	**-0.8**	
BRG	**Berggiesshubel**	**149.18 350**	*e*PKP	**PKPdf**	**12 20 39.3**	**-4.5**	
BRG			Amp		12 20 40.6		
	comp=Z,11nm,1.1s						
BRG	**Berggiesshubel**	**149.18 350**	Amp		12 20 52.8		
	comp=Z,395nm,1.6s						
BRG	**Berggiesshubel**	**149.18 350**	Amp		12 24 22.4		
	comp=Z,251nm,2.4s						
BRG	**Berggiesshubel**	**149.18 350**	PKP2	**PKiKP**	**12 20 49.5**	**+0.3**	
BRG					12 24 17.2		
BRG			SS	SS	12 43 27.0	-2.7	
BRG			pmax	pmax			
	comp=Z,395nm

comp=Z,8μm,18.1s
KECS Kecovo 149.88 341 *e*PKP2 **PKiKP 12 20 52.0 +1.2**
KECS Kecovo 149.88 341 *e*PKP **PKiKP 12 20 52.0 +1.2**
OZUR 149.89 332 ⇓P **PKPbc 12 20 49.8 -0.2**
BEBN Eben Emael 149.89 0 *d*PKP **PKiKP 12 20 50.3 -0.4**
GUNZ Gunzen 149.91 352 *e*PKPab **PKPdf 12 20 46.5 +1.4**
baz=10,slow=5.0
HARR Harsova 149.94 328 ⇓P **PKPbc 12 20 48.8 -1.3**
HARR Harsova 149.94 328 ⇓PKP2 **PKPbc 12 20 48.8 -1.3**
PRU Pruhonice 149.94 349 *e*PKP2 **PKPbc 12 20 49.3 -0.6**
PRU Pruhonice 149.94 349 *e*PKP **PKPbc 12 20 49.3 -0.6**
PRU AMS AMS 13 37 00.0
GOPC GO Pecny, Ondr 149.97 349 *e*PKP2 **PKPbc 12 20 48.8 -1.2**
GOPC MLR MLR
comp=Z,9μm,19.6s
GOPC GO Pecny, Ondr 149.97 349 *e*PKP **PKPbc 12 20 48.8 -1.2**
GOPC AMS AMS 13 35 00.0
comp=Z,9μm,19.6s
WERN Wernitzgruen 149.98 352 *e*PKPab **PKPdf 12 20 46.4 +1.2**
baz=10,slow=5.0
NKC Novy Kostel 150.03 352 AMS AMS 13 36 10.0
comp=Z,8μm,18.2s
MFTR Murfatlar 150.05 327 ⇓P **PKPbc 12 20 49.7 -0.6**
MEM Membach 150.08 0 *d*PKP **PKPbc 12 20 48.9 -1.3**
BSTI Sart Tilman 150.11 1 *d*PKP **PKPdf 12 20 46.2 +0.9**
BTNL Ternell 150.11 360 *d*PKP **PKPdf 12 20 46.5 +1.2**
ANTO Ankara 150.16 316 IAMs_20 IAMs_20 13 40 41.4
comp=Z,5μm,19.0s
ANTO Ankara 150.16 316 P **PKPdf 12 20 45.4 -0.4**
DOPR Dopca 150.16 332 ⇑P **PKPbc 12 20 50.3 -0.3**
VRAC Vranov 150.17 346 *e*PKP **PKPdf 12 20 45.0 -0.5**
VRAC *e*SS SS 12 43 38.5 -2.4
VRAC Vranov 150.17 346 PKP **PKPdf 12 20 44.8 -0.7**
comp=Z,4.8nm,0.6s,baz=106,slow=0.4,SNR=14
VRAC PKPbc **PKPbc 12 20 50.1 -0.4**
comp=Z,23nm,1.2s,baz=53,slow=1.9,SNR=5.5
ASF Jabal al Asfar 150.18 299 PKP **PKPdf 12 20 45.4 -0.8**
comp=Z,17nm,0.9s,baz=228,slow=0.7,SNR=9.8
ASF PKPbc **PKPbc 12 20 50.6 -0.5**
comp=Z,26nm,0.8s,baz=127,slow=0.8,SNR=16
MESR Meseseni 150.19 336 ⇑P **PKPbc 12 20 50.7 +0.1**
BCLA Clavier 150.27 1 *d*PKiKP **PKPbc 12 20 50.6 -0.1**
MLR Muntele Rosu 150.28 331 ⇑P **PKPbc 12 20 50.3 -0.8**
MLR Muntele Rosu 150.28 331 ⇑PKiKP **PKPbc 12 20 50.3 -0.8**
MLR Muntele Rosu 150.28 331 PKP **PKPdf 12 20 45.4 -0.5**
comp=Z,18nm,1.0s,baz=10,slow=3.2,SNR=9.4
MLR PKPbc **pPKPdf 12 20 50.1 -0.2**
comp=Z,54nm,1.1s,baz=11,slow=2.6,SNR=14
ISR Istrita 150.29 330 ⇓P **PKPbc 12 20 48.4 -2.6**
ISR Istrita 150.29 330 ⇓PKiKP **PKPbc 12 20 48.4 -2.6**
BGES Gesves 150.30 1 *d*PKP **PKPbc 12 20 48.9 -1.9**
MANZ Manzenberg 150.31 352 *e*PKPab **PKPdf 12 20 46.7 +1.0**
baz=10,slow=5.0
HWQ Hawqa 150.32 304 *e*P **PKPdf 12 20 45.5 -0.8**
JAVC Velka Javorina 150.33 344 *e*PKP **PKPdf 12 20 46.7 +0.9**
BHOU Houvegnez 150.34 0 *d*PKPdf **PKPdf 12 20 44.5 -1.1**
BHOU *d*PKiKP **PKPbc 12 20 50.4 -0.5**
VYHS Vyhne 150.36 343 *e*PKiKP **PKPdf 12 20 46.5 +0.7**
VYHS *e* 12 20 51.0
VYHS Vyhne 150.36 343 *e*PKP **PKPdf 12 20 46.5 +0.7**
VYHS *e* 12 20 51.0
BMRD Maredsous 150.37 2 *d*PKP **PKPdf 12 20 47.0 +1.3**
TNS Taunus Mts 150.41 357 *e*PKPab **PKPdf 12 20 47.4 +1.5**
baz=10,slow=5.0
TNS *e*L L 13 31 45.2
comp=Z,8μm,18.9s
TREC Trest 150.42 347 *e*PKiKP **PKPbc 12 20 50.6 -0.5**
TREC MLR MLR
comp=Z,10μm,18.1s
TREC Trest 150.42 347 *e*PKP **PKPbc 12 20 50.6 -0.5**
TREC AMS AMS 13 37 40.0
comp=Z,10μm,18.1s
KRUC Moravsky 150.45 346 *e*PKP **PKPdf 12 20 45.7 -0.2**
KRUC *e*SS SS 12 43 43.2 -0.7
ROTZ Rotzenmuhle 150.52 352 *e*PKPab **PKPdf 12 20 47.4 +1.4**
baz=10,slow=5.0
MARR Marisel-Cluj 150.52 336 ⇑P **PKPbc 12 20 50.9 -0.6**
ZVC Zvikov 150.53 349 *e*PKP **PKPbc 12 20 50.9 -0.5**
ZVC AMS AMS 13 36 30.0
comp=Z,9μm,18.0s
RCHB Rochefort 150.53 1 *d*PKP **PKPdf 12 20 46.5 +0.6**
PSZ Piszkesteto 150.57 341 ⇓P **PKPbc 12 20 51.3 -0.3**
PSZ Piszkesteto 150.57 341 IAMs_20 IAMs_20 13 31 35.3
comp=Z,7μm,19.0s
PSZ Piszkesteto 150.57 341 ⇓PKiKP **PKPbc 12 20 51.3 -0.3**
DOU Dourbes 150.57 2 *d*PKPdf **PKPdf 12 20 46.2 +0.1**
PSN Preselentsi 150.58 326 P **PKPdf 12 20 46.0 -0.2**
GRD1 Great Renaissa 150.59 256 *e*P **PKPdf 12 20 47.2 0.0**
baz=322
BHL Bhannes 150.67 303 *e*P **PKPdf 12 20 45.9 -1.0**
GRA1 Grafenberg Arr 150.71 353 IAMs_20 IAMs_20 13 33 41.3
comp=Z,7μm,20.0s
GRF Grafenberg Arr 150.71 353 *e*PKPab **PKPdf 12 20 48.1 +1.8**
baz=10,slow=5.0
GRF *e*PP **PP 12 24 27.6 0.0**
GRF *e*L L 13 33 41.5
comp=Z,7μm,20.1s
GRFO Grafenberg 150.71 353 IAMs_20 IAMs_20 13 33 41.3
comp=Z,7μm,20.0s
SMOL Smolenice 150.71 344 *e*PKiKP **PKiKP 12 20 52.7 +0.2**
SMOL *e* 12 20 57.9
VOIR 150.72 332 ⇓P **PKPbc 12 20 50.8 -1.2**
VOIR 150.72 332 ⇓PKiKP **PKPbc 12 20 50.8 -1.2**
MODS Modra-Piesok 150.88 345 *e*PKiKP **PKPdf 12 20 48.6 +2.0**
MODS Modra-Piesok 150.88 345 *e*PKP **PKPdf 12 20 48.6 +2.0**
MODS *e* 12 20 52.8
KHC Kasperske Hory 150.93 350 IAMs_20 IAMs_20 13 35 12.6
comp=Z,6μm,20.0s
KHC Kasperske Hory 150.93 350 *e*PKiKP **PKPdf 12 20 49.2 +2.5**
KHC *e* 12 20 53.7
KHC *e* 12 43 43.5
KHC MLR MLR
comp=Z,7μm,16.8s
KHC Kasperske Hory 150.93 350 *e*PKP **PKPdf 12 20 49.2 +2.5**
KHC *e*pPKP **PKiKP 12 20 53.7 +0.7**
KHC *e*SS SS 12 43 43.5 -5.8
KHC AMS AMS 13 41 50.0
comp=Z,7μm,16.8s
ARR Arges 150.96 332 ⇓P **PKiKP 12 20 52.9 -0.4**
WLF Walferdange 151.03 360 *d*PKP **PKPbc 12 20 49.9 -2.6**
WLF Walferdange 151.03 360 PKP **PKPdf 12 20 47.8 +1.0**
WLF Walferdange 151.03 360 *e*PKPab **PKPdf 12 20 48.6 +1.8**
baz=10,slow=5.0
WET Wettzell 151.03 351 *e*PKPab **PKPdf 12 20 49.2 +2.4**
baz=10,slow=5.0
WET *e*L L 13 31 07.0
comp=Z,8μm,20.7s
CKRC Cesky Krumlov 151.10 349 *e*PKiKP **PKPdf 12 20 48.2 +1.3**
CKRC *e* 12 20 52.9
CKRC MLR MLR
comp=Z,6μm,17.1s
CKRC Cesky Krumlov 151.10 349 *e*PKP **PKPdf 12 20 48.2 +1.3**
CKRC *e*x x 12 20 52.9
CKRC AMS AMS 13 41 10.0
comp=Z,6μm,17.1s
MMAI Mount Meron Ar 151.15 301 PKPbc **PKPbc 12 20 53.1 -0.3**
comp=Z,39nm,0.9s,baz=51,slow=4.5,SNR=17
GEC2 GERESS Array S 151.19 349 *e*PKPab **PKPdf 12 20 48.3 +1.1**
baz=10,slow=5.0
GEC2 *e*L L 13 31 25.8
comp=Z,6μm,20.9s
GERES GERESS Array B 151.19 349 PKPbc **PKPbc 12 20 52.7 -0.4**
comp=Z,42nm,0.4s,baz=8.9,slow=7.0,SNR=8.2
SACV Santiago Islan 151.23 96 PKPdf **PKPdf 12 20 45.3 -2.8**
LOT Lotru 151.26 334 ⇑P **PKPbc 12 20 51.5 -1.9**
PRD Provadia 151.29 326 P **PKPdf 12 20 47.0 -0.3**
SIRR Siria 151.41 337 ⇓P **PKPbc 12 20 53.2 -0.4**
GHAJ Ghor Haditha 151.50 298 IAMs_20 IAMs_20 13 35 59.3
comp=Z,6μm,18.0s
CONA Conrad Observa 151.63 346 *i* PKP **PKPdf 12 20 48.3 +0.4**
comp=Z,32nm,2.2s,SNR=15
SURR Surduc 151.67 336 ⇑P **PKPbc 12 20 53.4 -0.8**
GZR Gura Zlata 151.72 335 ⇓P **PKPbc 12 20 53.5 -0.9**
GZR Gura Zlata 151.72 335 ⇓PKiKP **PKPbc 12 20 53.5 -0.9**
RONA Rosalia, Austr 151.75 345 *i* PKP **PKPdf 12 20 49.1 +1.1**
comp=Z,28nm,1.4s,SNR=12
STU Stuttgart 151.81 356 IAMs_20 IAMs_20 13 32 21.0
comp=Z,6μm,20.0s
STU Stuttgart 151.81 356 *e*PKPab **PKPdf 12 20 51.0 +3.0**
baz=10,slow=5.0
BZS Buzias 151.98 336 ⇑P **PKPbc 12 20 54.0 -0.9**
BZS Buzias 151.98 336 ⇑PKiKP **PKPbc 12 20 54.0 -0.9**
MOA Molln 152.04 348 *i* PKP **PKPdf 12 20 49.4 +1.0**
comp=Z,46nm,1.8s,SNR=5.5

CSS Mathiatis 152.07 307 IAMs_20 IAMs_20 13 39 31.0
comp=Z,6μm,18.0s
FUR Furstenfeldbru 152.21 352 *e*PKPab **PKPdf 12 20 51.0 +2.4**
baz=10,slow=5.0
JMB Yambol 152.22 326 P **PKPdf 12 20 48.0 -0.8**
HERR Herculane 152.28 334 ⇑P **PKPbc 12 20 54.1 -1.5**
BFO Black Forest 152.30 357 IAMs_20 IAMs_20 13 34 56.0
comp=Z,5μm,19.0s
BFO Black Forest 152.30 357 *e*PKPab **PKPdf 12 20 52.0 +3.2**
baz=10,slow=5.0
BFO *e*L L 13 35 32.9
comp=Z,5μm,18.8s
ARSA Arzberg 152.35 346 *i* pPKP **PKPdf 12 20 50.1 +1.2**
comp=Z,18nm,1.8s,SNR=31
EIL Elat 152.40 295 PKP **PKPdf 12 20 47.2 -2.2**
comp=Z,3.0nm,0.7s,baz=38,slow=4.3,SNR=6.3
EIL PKPbc **PKPbc 12 20 56.1 -0.1**
comp=Z,16nm,1.0s,baz=10,slow=1.1,SNR=6.3
EIL PKPab **PKPab 12 21 05.2 -1.3**
comp=Z,29nm,0.9s,baz=4.6,slow=4.3,SNR=10.0
RJOB Jochberg 152.41 350 *e*PKPab **PKPdf 12 20 51.5 +2.5**
baz=10,slow=5.0
DJES Djerdap 152.42 334 ⇓P **PKiKP 12 20 56.8 +0.6**
MORH Mrgy, Hungar 152.47 341 ⇓P **PKPbc 12 20 54.9 -1.0**
MDVR Moldovita 152.64 335 ⇑P **PKPbc 12 20 56.1 -0.3**
UBR Ueberruh 152.81 354 *e*PKPab **PKPdf 12 20 51.4 +1.8**
baz=10,slow=5.0
RETA Reutte 152.94 353 *ep*PKP **PKPdf 12 20 51.5 +1.7**
comp=Z,59nm,1.7s
KBA Koelnbreinsper 152.96 349 *e*PKP **PKPdf 12 20 49.8 -0.2**
comp=Z,36nm,1.3s
WATA Walderalm 152.98 352 *ep*PKP pPKPdf 12 20 52.0 -2.3
comp=Z,37nm,1.1s
SOKA Soboth 153.00 346 *e*PKP **PKPdf 12 20 50.2 +0.3**
comp=Z,26nm,1.4s
PERS Pernice 153.02 346 *i* PKPdf **PKPdf 12 20 48.5 -1.4**
PERS *i* PP **PP 12 24 38.3 -2.6**
PERS *e*SS SS 12 44 10.9 -1.6
FRGS Fruska Gora 153.03 338 ⇓P **PKPbc 12 20 56.2 -1.1**
MOTA Moosalm 153.04 352 *ep*PKP pPKPdf 12 20 52.2 -2.2
comp=Z,28nm,0.9s
WTTA Wattenberg 153.05 352 *e*PKP **PKPdf 12 20 50.9 +0.8**
comp=Z,69nm,1.6s
SQTA Sankt Quirin 153.15 352 *ep*PKP pPKPdf 12 20 52.8 -1.8
comp=Z,63nm,1.8s
DAVA Damuels 153.23 354 *ep*PKP pPKPdf 12 20 52.5 -2.2
comp=Z,67nm,2.3s
OBKA Obir 153.27 347 *e*PKP **PKPdf 12 20 51.2 +0.8**
comp=Z,6.0nm,1.0s
MYKA Terra Mystica 153.33 348 *e*PKP **PKPdf 12 20 50.2 -0.2**
comp=Z,37nm,1.2s
PLD Plovdiv 153.38 328 P **PKPdf 12 20 49.0 -1.5**
PGB Panagyurishte 153.38 329 P **PKPdf 12 20 49.0 -1.5**
FETA Feichten 153.40 353 *ep*PKP **PKPdf 12 20 51.9 +1.3**
comp=Z,21nm,1.0s
ABTA Abfaltersbach 153.42 350 *e*PKP **PKPdf 12 20 50.3 -0.2**
comp=Z,26nm,1.5s
KDZ Kurdzhali 153.45 326 P **PKPdf 12 20 47.5 -3.1**
CLUD Cludinico 153.64 349 IAMs_20 IAMs_20 13 32 59.3
comp=Z,7μm,20.0s
CRES Cresnjev 153.71 345 *i* PKPdf **PKPdf 12 20 49.7 -1.2**
CRES *e*SS SS 12 44 19.3 -0.6
LJU Ljubljana 153.71 347 *e*PKPdf **PKPdf 12 20 49.9 -1.0**
LJU *e*PP **PP 12 24 40.8 -3.9**
LJU *e*SS SS 12 44 17.1 -2.8
DAVOX Davos/Dischmat 153.73 354 PKP **PKPdf 12 20 50.6 -0.5**
comp=Z,0.9nm,0.2s,baz=346,slow=4.4,SNR=1.5
DAVOX PKPbc **PKiKP 12 20 59.6 +0.6**
comp=Z,8.0nm,0.7s,baz=17,slow=13,SNR=7.1
VTS Vitosha 153.74 330 P **PKPdf 12 20 50.0 -1.2**
PLNA Plana 153.77 330 P **PKPdf 12 20 50.0 -1.2**
FUORN Ofenpass-Fuorn 153.85 353 IAMs_20 IAMs_20 13 33 28.2
comp=Z,5μm,19.0s
DIVS Divibare 153.88 337 IAMs_20 IAMs_20 13 42 35.6
comp=Z,3μm,18.0s
SABO M.te Sabotino 153.97 348 IAMs_20 IAMs_20 13 37 28.8
comp=Z,7μm,19.0s
TRI Trieste 154.19 348 PKPdf **PKPdf 12 20 49.9 -1.6**
TRI Trieste 154.19 348 PKiKP **PKPdf 12 20 49.9 -1.6**
JAWL J.Aulia 154.29 262 *i* P **PKPdf 12 20 52.9 +0.3**
JAWL *i* 12 20 57.5
baz=284,slow=3.5
MMB Musomishta 154.32 328 P **PKPdf 12 20 51.0 -0.9**
HMAD Nubian desert 154.57 273 *i* P **PKPdf 12 20 48.4 -4.5**
HMAD *i* 12 20 50.5
baz=4.0,slow=7.4
TEOL Teolo 154.90 351 IAMs_20 IAMs_20 13 35 36.5
comp=Z,6μm,19.0s
STIP Stip 154.95 331 *i* P **PKPdf 12 20 52.4 -0.3**
VAY Valandovo 155.06 329 *i* P **PKPdf 12 20 52.5 -0.4**
SKO Skopje 155.07 332 *i* P **PKPdf 12 20 53.3 +0.4**
SSB Saint Sauveur 155.38 3 IAMs_20 IAMs_20 13 28 28.0
comp=Z,6μm,20.0s
MRWI Hamdab 155.42 270 *i* P **PKPdf 12 20 50.6 -3.4**
MRWI *i* 12 20 57.5
baz=294,slow=6.2
PGAV Gavieira, Arco 155.53 26 *e*PKPdf **PKPdf 12 20 55.1 +1.5**
PGAV Gavieira, Arco 155.53 26 *e*PKPab **PKPab 12 21 19.4 0.0**
PGAV Gavieira, Arco 155.53 26 *e*SS SS 12 44 48.9 +8.5
PGAV Gavieira, Arco 155.53 26 *e*LR LR 13 23 45.1
comp=Z,8μm,20.0s
PDG Podgorica 155.59 336 IAMs_20 IAMs_20 13 38 19.9
comp=Z,6μm,20.0s
PMOZ Porto Moniz, M 156.00 55 *e*PKPdf **PKPdf 12 20 57.2 +2.6**
PMOZ Porto Moniz, M 156.00 55 *e*SS SS 12 44 52.5 +5.0
PMOZ Porto Moniz, M 156.00 55 *e*LR LR 13 24 01.3
comp=Z,7μm,20.0s
OHR Ohrid 156.04 332 *i* P **PKPdf 12 20 55.1 +0.8**
POLO Lamas de Olo 156.22 27 *e*PKPdf **PKPdf 12 20 54.8 +0.2**
POLO Lamas de Olo 156.22 27 *e*PKPab **PKPab 12 21 22.0 -0.3**
POLO Lamas de Olo 156.22 27 *e*SS SS 12 44 51.6 +3.7
KARP Karpathos 156.25 313 IAMs_20 IAMs_20 13 38 17.1
comp=Z,7μm,21.0s
PBRG Braganca 156.28 24 *e*PKPdf **PKPdf 12 20 54.5 -0.1**
PBRG Braganca 156.28 24 *e*PKPab **PKPab 12 21 20.9 -1.6**
PBRG Braganca 156.28 24 *e*SS SS 12 44 59.0 +11
FUL Funchal 156.31 55 *e*PKPdf **PKPdf 12 20 58.0 +3.2**
FUL Funchal 156.31 55 *e*PKPab **PKPab 12 21 25.5 +2.5**
PVRL Vila Real 156.33 27 *e*PKPdf **PKPdf 12 20 58.1 +3.4**
PVRL Vila Real 156.33 27 *e*PKPab **PKPab 12 21 25.8 +3.0**
MVO Moncorvo 156.71 26 *e*PKPdf **PKPdf 12 20 56.1 +0.9**
MVO Moncorvo 156.71 26 *e*PKPab **PKPab 12 21 21.9 -2.5**
MVO Moncorvo 156.71 26 *e*SS SS 12 45 01.4 +8.4
MVO Moncorvo 156.71 26 *e*LR LR 13 23 38.1
comp=Z,10μm,20.0s
PVIS Viseu 156.72 28 *e*PKPdf **PKPdf 12 20 54.7 -0.5**
PVIS Viseu 156.72 28 *e*PKPab **PKPab 12 21 24.6 +0.2**
GUMA Gualdo di Mace 156.81 346 IAMs_20 IAMs_20 13 34 59.7
comp=Z,7μm,19.0s
SANT Santorini 156.90 317 PKPdf **PKPdf 12 20 53.1 -2.5**
SANT PKPab **PKPab 12 21 24.3 -1.1**
COI Coimbra 156.90 29 *e*PKPdf **PKPdf 12 20 55.8 +0.5**
COI Coimbra 156.90 29 *e*PKPab **PKPab 12 21 27.7 +2.5**
COI Coimbra 156.90 29 *e*SS SS 12 45 04.7 +10
PCAS Casmilo, Conde 156.98 30 *e*PKPdf **PKPdf 12 20 55.4 -0.1**
PCAS Casmilo, Conde 156.98 30 *e*PKPab **PKPab 12 21 26.5 +0.9**
PCAS Casmilo, Conde 156.98 30 *e*SS SS 12 45 03.8 +7.7
MTE Manteigas 157.13 28 *e*PKPdf **PKPdf 12 20 55.7 0.0**
MTE Manteigas 157.13 28 *e*SS SS 12 45 02.4 +4.8
MTE Manteigas 157.13 28 *e*LR LR 13 24 39.5
comp=Z,7μm,20.0s
VLO Vlora 157.14 333 IAMs_20 IAMs_20 13 33 41.5
comp=Z,7μm,20.0s
PSBE So Bento 157.27 31 *e*PKPdf **PKPdf 12 20 55.9 0.0**
PSBE So Bento 157.27 31 *e*PKPab **PKPab 12 21 24.3 -2.5**
PSBE So Bento 157.27 31 *e*SS SS 12 45 07.3 +8.0
SGRT San Giovanni R 157.40 341 PKPdf **PKPdf 12 20 54.7 -1.4**
CESX Cesi 157.41 347 IAMs_20 IAMs_20 13 33 00.1
comp=Z,6μm,20.0s
PMAFR Mafra 157.46 33 *e*PKPdf **PKPdf 12 20 57.3 +1.2**
PMAFR Mafra 157.46 33 *e*PKPab **PKPab 12 21 28.8 +1.1**
PMAFR Mafra 157.46 33 *e*SS SS 12 45 10.9 +10
CASP Castiglione de 157.54 351 IAMs_20 IAMs_20 13 41 42.1
comp=Z,5μm,18.0s
PCBR Castelo Branco 157.62 28 *e*PKPdf **PKPdf 12 20 56.5 +0.2**
PCBR Castelo Branco 157.62 28 *e*PKPab **PKPab 12 21 28.2 -0.1**
KEK Kerkira 157.62 331 IAMs_20 IAMs_20 13 38 18.7
comp=Z,6μm,19.0s
LIS Lisbon 157.71 33 *e*PKiKP **PKPdf 12 20 56.6 +0.2**
LIS *e*SS SS 12 45 07.1 +3.1
LIS Lisbon 157.71 33 *e*PKPdf **PKPdf 12 20 56.6 +0.2**
LIS *e*SS SS 12 45 07.1 +3.2
LIS IAMs_20 IAMs_20 13 29 02.1
comp=Z,11μm,15.2s

PMTG Montargil 157.89 31 *e*PKPdf **PKPdf 12 20 56.5 -0.1**
PMTG Montargil 157.89 31 *e*PKPab **PKPab 12 21 30.3 +0.8**
PMTG Montargil 157.89 31 *e*SS SS 12 45 10.9 +5.1
IDI Anoyia 157.92 315 PKP **PKPdf 12 20 57.3 +0.5**
comp=Z,4.5nm,0.7s,baz=109,slow=1.1,SNR=7.5
PMRV Marv??o 157.99 29 *e*PKPdf **PKPdf 12 20 56.8 0.0**
PMRV Marv??o 157.99 29 *e*PKPab **PKPab 12 21 31.6 +1.7**
PMRV Marv??o 157.99 29 *e*SS SS 12 45 11.9 +5.1
PMRV Marv??o 157.99 29 *e*LR LR 13 22 30.0
comp=Z,7μm,18.0s
EJON La Jonquera 158.08 6 PKP **PKPdf 12 20 56.0 -0.8**
PESTR Estremoz 158.35 30 *e*PKPdf **PKPdf 12 20 56.6 -0.6**
PESTR Estremoz 158.35 30 *e*PKPab **PKPab 12 21 33.7 +2.2**
PESTR Estremoz 158.35 30 *e*SS SS 12 45 16.8 +6.1
PESTR Estremoz 158.35 30 PKP **PKPdf 12 20 57.2 -0.1**
PNCL Nicolau / Gran 158.49 33 *e*PKPdf **PKPdf 12 20 57.9 +0.5**
PNCL Nicolau / Gran 158.49 33 *e*PKPab **PKPab 12 21 34.6 +2.5**
PNCL Nicolau / Gran 158.49 33 *e*SS SS 12 45 18.8 +6.5
EBAD Badajoz 158.71 29 PKP **PKPdf 12 20 58.9 +1.2**
PTEO Sao Teotonio 158.81 34 *e*PKPdf **PKPdf 12 20 59.1 +1.3**
UCM Universidad Co 158.84 20 PKP **PKPdf 12 20 58.9 +1.1**
PBEJ Beja 158.88 32 *e*PKPdf **PKPdf 12 20 58.4 +0.5**
CUC Castrocucco 158.97 339 IAMs_20 IAMs_20 13 49 46.8
comp=Z,4μm,20.0s
EOSO Osorio 158.99 65 PKP **PKPdf 12 20 59.7 +1.3**
MORF Marmelete 159.03 34 *e*PKPdf **PKPdf 12 20 58.8 +0.7**
MORF Marmelete 159.03 34 *e*SS SS 12 45 26.8 +8.5
MORF Marmelete 159.03 34 *e*PKIKP **PKPdf 12 20 58.1 0.0**
MORF *e*SS SS 12 45 21.2 +2.9
MORF Marmelete 159.03 34 *e*PKPdf **PKPdf 12 20 58.2 0.0**
MORF *e*SS SS 12 45 21.2 +3.0
MORF IAMs_20 IAMs_20 13 30 60.0
comp=Z,10μm,19.5s
PFVI Vila Bisbo 159.07 35 *e*PKPdf **PKPdf 12 20 58.1 0.0**
PFVI Vila Bisbo 159.07 35 *e*PKPab **PKPab 12 21 37.3 +2.7**
PFVI Vila Bisbo 159.07 35 *e*SS SS 12 45 28.8 +10
PCVE Castro Verde 159.10 33 *e*PKPdf **PKPdf 12 20 58.1 0.0**
PCVE Castro Verde 159.10 33 *e*PKPab **PKPab 12 21 36.0 +1.2**
PCVE Castro Verde 159.10 33 *e*SS SS 12 45 24.8 +6.0
ESDC Sonseca Array 159.16 22 PKP **PKPdf 12 20 58.0 -0.3**
comp=Z,5.4nm,1.2s,baz=344,slow=1.1,SNR=12
ESDC PKPab **PKPab 12 21 35.3 +0.3**
comp=Z,12nm,1.2s,baz=329,slow=3.5,SNR=8.3
ESDC PP **PP 12 25 18.7 +3.5**
comp=Z,0.8nm,1.0s,baz=351,slow=1.9,SNR=2.9
PBAR Barrancos 159.17 30 *e*PKPdf **PKPdf 12 20 58.4 +0.2**
PBAR Barrancos 159.17 30 *e*PKPab **PKPab 12 21 35.6 +0.6**
PBAR Barrancos 159.17 30 *e*SS SS 12 45 24.8 +5.5
PVAQ Vaqueiros 159.44 33 *e*PKPdf **PKPdf 12 20 59.1 +0.6**
PVAQ Vaqueiros 159.44 33 *e*PKPab **PKPab 12 21 38.1 +1.8**
PVAQ Vaqueiros 159.44 33 *e*SS SS 12 45 28.8 +6.4
PVAQ Vaqueiros 159.44 33 *e*LR LR 13 27 31.2
comp=Z,8μm,18.0s
PBDV Barranco-do-Ve 159.46 33 *e*PKPdf **PKPdf 12 20 59.7 +1.1**
PBDV Barranco-do-Ve 159.46 33 *e*PKPab **PKPab 12 21 36.8 +0.4**
PBDV Barranco-do-Ve 159.46 33 *e*SS SS 12 45 34.7 +12
EADA Adamuz 160.25 25 PKP **PKPdf 12 21 00.6 +1.1**
ETOS Mallorca 160.72 8 PKP **PKPdf 12 20 59.7 -0.2**
MAHO Mahon 160.74 4 PKP **PKPdf 12 21 00.6 +0.7**
LIC Lamto 162.10 142⇑ *e*PKP2 **PKPdf 12 21 00.1 -2.0**
comp=Z,37nm,0.9s
KIC Kosan Boka 162.37 142⇑ *e*PKP2 **PKPdf 12 21 01.4 -1.0**
comp=Z,19nm,0.8s
TIC Toumodi 162.44 141⇑ *e*PKP2 **PKPdf 12 21 01.6 -0.9**
comp=Z,9.2nm,0.7s
DBIC Dimbokro 162.55 141 PKP **PKPdf 12 21 01.6 -0.9**
comp=Z,9.8nm,1.1s,baz=175,slow=0.8,SNR=14
EKNA AfricaArray - 163.39 192 *e*P **PKPdf 12 21 06.3 +2.9**
KEST Kesra 164.68 350 P **PKPdf 12 21 03.5 -0.6**
SNR=12
KEST Kesra 164.68 350 PKP **PKPdf 12 21 03.0 -1.0**
comp=Z,1.8nm,0.7s,baz=303,slow=2.5,SNR=7.3
KOWA Kowa 168.63 121 **PKPdf 12 21 07.4 -0.1**
TOA0 Torodi Ar. Sit 171.47 150 P **PKPdf 12 21 09.6 +0.5**
SNR=17
TORD Torodi Ar. Bea 171.47 150 PKP **PKPdf 12 21 07.7 -1.5**
comp=Z,3.9nm,1.0s,baz=360,slow=2.6,SNR=22
TORD PKPab **PKPab 12 22 28.3 -1.4**
comp=Z,3.4nm,0.8s,baz=199,slow=2.5,SNR=3.3

BER 18 12:18:34.1±0.4, 61°43N×5°84E, h0km, ML0.6, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYA	**Hoyanger**	**0.31**	**148**	*e*P	Pg	12 18 39.4	-0.7
HYA				*e*S	Sg	12 18 44.0	-0.1
HYA				IAML		12 18 44.5	
comp=Z,7.8nm,0.1s							
SUE	**Sulen**	**0.64**	**235**	*e*P	Pg	12 18 45.6	-0.8
SUE				*e*S	Sg	12 18 54.2	-0.5
SUE				IAML		12 18 58.9	
comp=Z,3.0nm,0.3s							
AKN	**Aaknes**	**0.93**	**36**	*e*P	Pg	12 18 50.5	-1.4
AKN				*e*S	Sg	12 19 03.2	-0.7
AKN				IAML		12 19 04.5	
comp=Z,2.8nm,0.1s							
SKAR	**Skarslia**	**1.42**	**121**	*e*P	Pn	12 18 59.2	-1.9

DNK 18 12:19:12.6±0.8, 57°29N×12°36E, h0km, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAU	**Onsala**	**0.26**	**295**	*e*P	Pg	12 19 17.6	-0.1
ONAU				P	Pb	12 19 17.6	-2.6
ONAU				*e*S	Sg	12 19 20.2	-0.8
ONAU				S	Sb	12 19 21.2	-4.1
FABU	**Falkenberg**	**0.35**	**145**	P	Pg	12 19 19.0	-0.2
FABU				*e*P	Pb	12 19 19.4	-2.2
FABU				*e*S	Sg	12 19 23.7	0.0
FABU				S	Sb	12 19 23.9	-3.7
BORU	**Boraas**	**0.41**	**32**	*e*P	Pg	12 19 20.0	-0.5
BORU				P	Pg	12 19 20.0	-0.5
BORU				*e*S	Sg	12 19 25.8	0.0
GNOU	**Gnosjoe**	**0.76**	**89**	P	Pg	12 19 26.4	-0.7
TJOU	**Tjoern**	**0.85**	**332**	P	Pg	12 19 28.1	-0.7
TJOU				*e*S	Sg	12 19 40.2	+0.5
FKPU	**Falk**	**1.14**	**39**	P	Pg	12 19 33.2	-1.2
DEL	**Delary**	**1.17**	**134**	P	Pg	12 19 33.7	-1.2
VANU	**Vaenersborg**	**1.22**	**353**	P	Pg	12 19 34.5	-1.5
BJUU	**Bjuv**	**1.27**	**163**	*e*P	Pg	12 19 35.2	-1.7
BJUU				P	Pb	12 19 35.7	-1.6
BJUU				*e*S	Sg	12 19 52.7	-0.6
VXJU	**Vaexsjoe**	**1.45**	**103**	P	Pn	12 19 38.9	-1.2

BGR 18 12:19:15.2±0.4, 50°74N×9°96E, h1km, ML2.1/20, Error ellipse: s-maj=3.3km s-min=2.2km az=53.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UBBA	**Unterbreizbach**	**0.08**	**18**	*e*Pg	Pg	12 19 16.4	-0.4
SNR=23							
UBBA				*e*Sg	Sg	12 19 17.4	-0.5
SNR=1.6							
VITZ	**Vitzeroda**	**0.17**	**30**	*e*Pg	Pg	12 19 18.0	-0.5
SNR=70							
VITZ				*e*Sg	Sg	12 19 20.8	+0.1
SNR=4.9							
BBWF	**Bergwerk Finst**	**0.35**	**91**	*e*Pg	Pg	12 19 21.3	-0.5
SNR=6.0							
BBWF				*e*Sg	Sg	12 19 26.1	-0.2
SNR=6.5							
CRUX	**Bergwerk Schwa**	**0.55**	**104**	*e*Sg	Sg	12 19 32.9	+0.1
SNR=2.5							
POSS	**Possen**	**0.82**	**44**	*e*Sg	Sg	12 19 41.1	-0.6
SNR=3.1			

	SNR=4.0						
CLZ	**Clausthal**	**1.13**	**13**	*e*Pg	Pg	12 19 36.5	-0.4
	SNR=12						
TAUT	**Tautenburg**	**1.14**	**77**	*e*Pg	Pg	12 19 36.2	-0.7
	SNR=2.6						
TAUT				*e*Sg	Sg	12 19 51.9	+0.3
	SNR=3.6						
NEUB	**Neuenburg**	**1.24**	**67**	*e*Sg	Sg	12 19 55.0	0.0
	SNR=5.2						
GRF	**Grafenberg Arr**	**1.33**	**142**	*e*Pg	Pg	12 19 40.7	+0.1
	SNR=2.2						
MLFH	**Mildenfurth**	**1.35**	**87**	*e*Pg	Pg	12 19 40.1	-0.9
	SNR=3.1						
MLFH				*e*Sg	Sg	12 19 58.3	-0.2
	SNR=4.6						
GRZ1	**Mausoleum Wald**	**1.44**	**91**	*e*Pg	Pn	12 19 41.3	-1.1
	SNR=3.8						
GRZ1				*e*Sg	Sg	12 20 01.0	-0.4
	SNR=6.9						
TRIB	**Obertriebel**	**1.44**	**105**	*e*Pg	Pn	12 19 41.5	-0.9
	SNR=2.5						
TRIB				*e*Sg	Sg	12 20 00.9	-0.6
	SNR=7.6						
WERD	**Werda**	**1.52**	**100**	*e*Pn	Pn	12 19 42.6	-1.0
	SNR=4.3						
WERD				*e*Sg	Sn	12 20 03.5	-0.6
	SNR=5.6						
GUNZ	**Gunzen**	**1.56**	**103**	*e*Pn	Pn	12 19 43.4	-0.7
	SNR=2.6						
GUNZ				*e*Sg	Sb	12 20 05.0	-0.1
	SNR=9.5						
MANZ	**Manzenberg**	**1.57**	**118**	*e*Pg	Pn	12 19 44.5	+0.2
	SNR=3.5						
MANZ				*e*Sg	Sb	12 20 05.4	0.0
	SNR=7.6						
ROHR	**Rohrbach**	**1.59**	**108**	*e*Pn	Pn	12 19 43.9	-0.6
	SNR=2.1						
ROHR				*e*Sg	Sn	12 20 05.3	-0.3
	SNR=4.9						
MULD	**Muldenberg**	**1.59**	**101**	*e*Sg	Sn	12 20 05.7	-0.1
	SNR=3.4						
WERN	**Wernitzgruen**	**1.61**	**105**	*e*Sg	Sn	12 20 06.2	0.0
	SNR=6.2						
TANN	**Tannenbergstha**	**1.63**	**101**	*e*Sg	Sn	12 20 06.0	-0.7
	SNR=9.9						
NKC	**Novy Kostel**	**1.67**	**107**	*e*Sg	Sb	12 20 08.0	-0.3
	SNR=4.5						

IDC 18 12:25:35.7±2.2, 2°24'N×127°79'E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=148.6km s-min=27.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.97**	**164**	P	P	12 30 41.7	-0.3
	0.4nm,0.3s,baz=344,slow=11,SNR=27						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**26.43**	**167**	P	P	12 31 14.4	-0.1
	0.3nm,0.5s,baz=353,slow=7.6,SNR=14						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.37**	**325**	P	P	12 35 40.1	+0.3
	0.4nm,0.4s,baz=122,slow=8.0,SNR=2.3						
	0.4nm,0.4s						

*SJA **18** 12:34:22.2±0.7, 24°07S×67°31W, h190km±4km, ML3.6, MW3.5*
*GUC **18** 12:34:23.9±0.7, 24°07S×67°76W, h223km±10km, ML4.0*
ISC 18 12:34:21.4±1.6, 24°12S±0°03×67°34W±0°05, h201km±14km, n33, σ1§45/57, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.78**	**110**	*e*P	Pn	12 34 58.7	+0.8
SLA				*e*S	S	12 35 25.2	-0.6
AZAP	**Zapla**	**2.08**	**93**	*e*P	Pn	12 34 54.3	-6.8
LVC	**Limon Verde**	**2.08**	**316**	*i* P	Pn	12 35 01.9	+0.6
LVC	**Limon Verde**	**2.08**	**316**	*e*P	Pn	12 35 01.8	+0.6
LVC				*e*S	S	12 35 31.3	-0.3
PB15	**IPOC Station P**	**2.15**	**295**	*i* P	Pn	12 35 02.6	+0.8
PB15				*e*S	S	12 35 31.7	-0.8
PB15				IAML		12 35 34.8	
	comp=E,1μm,0.2s						
PB15	**IPOC Station P**	**2.15**	**295**	*e*P	Pn	12 35 02.6	+0.8
PB15				*e*S	S	12 35 32.5	0.0
PB15				IAML		12 35 34.7	
	comp=Z,700nm,0.1s						
GO02	**Mina Guanaco**	**2.29**	**243**	⇑*i*P	Pn	12 35 04.6	+1.3
GO02				*e*S	S	12 35 35.7	+0.3
GO02				IAML		12 35 39.6	
	comp=E,550nm,0.1s						
GO02	**Mina Guanaco**	**2.29**	**243**	*e*P	Pn	12 35 04.7	+1.3
GO02				*e*S	S	12 35 36.0	+0.7
FSA	**Cafayete**	**2.33**	**148**	*e*P	Pn	12 35 05.0	+1.3
PB06	**IPOC Station P**	**2.48**	**304**	⇑*i*P	Pn	12 35 06.3	+1.0
PB06				*e*S	S	12 35 37.7	-1.2
PB06				IAML		12 35 39.8	
	comp=E,400nm,0.2s						
PB06	**IPOC Station P**	**2.48**	**304**	*e*P	Pn	12 35 06.1	+0.8
PB06				*e*S	S	12 35 38.4	-0.5
PB06				IAML		12 35 40.0	
	comp=Z,179nm,0.1s						
YJA	**Yavi**	**2.57**	**41**	*e*P	Pn	12 35 07.1	+0.5
PB14	**IPOC Station P**	**2.83**	**259**	*e*P	Pn	12 35 10.6	+1.2
PB14				IAML		12 35 49.9	
	comp=Z,64nm,0.4s						
PB09	**IPOC Station P**	**2.90**	**323**	⇓*i*P	Pn	12 35 11.7	+1.6
PB09				*e*S	S	12 35 47.2	-0.3
PB09				IAML		12 35 50.6	
	comp=E,128nm,0.2s						
PB09	**IPOC Station P**	**2.90**	**323**	*e*P	Pn	12 35 11.6	+1.4
PB09				*e*S	S	12 35 46.5	-0.9
PB09				IAML		12 35 49.3	
	comp=Z,108nm,0.2s						
ALOL	**LOMAS DE OLMED**	**3.09**	**85**	*e*P	Pn	12 35 12.7	+0.6
PB04	**IPOC Station P**	**3.13**	**304**	*e*P	Pn	12 35 13.9	+1.0
PB04				*e*S	S	12 35 51.6	-0.8
PB04				IAML		12 35 54.5	
	comp=Z,186nm,0.3s						
AC02	**Maricunga**	**3.15**	**210**	*e*P	Pn	12 35 15.6	+2.3
AC02				*e*S	S	12 35 46.4	-6.9
PB07	**IPOC Station P**	**3.34**	**315**	⇑*i*P	Pn	12 35 16.1	+0.7
PB07				*e*S	S	12 35 54.5	-2.4
PB07				IAML		12 35 58.3	
	comp=N,240nm,0.4s						
PB07	**IPOC Station P**	**3.34**	**315**	*e*P	Pn	12 35 15.9	+0.5
PB07				*e*S	S	12 35 54.8	-2.1
PB07				IAML		12 35 57.0	
	comp=Z,192nm,0.3s						
AC01	**Pan de Azucar**	**3.57**	**235**	⇑*i*P	Pn	12 35 18.5	+0.6
AC01				*e*S	S	12 36 00.3	-1.4
AC01				IAML		12 36 02.1	
	comp=E,149nm,0.5s						
AC01	**Pan de Azucar**	**3.57**	**235**	*e*P	Pn	12 35 18.6	+0.6
AC01				*e*S	S	12 36 00.4	-1.2
AC01				IAML		12 36 03.0	
	comp=Z,60nm,0.1s						
PB01	**IPOC Station P**	**3.65**	**327**	*i* P	Pn	12 35 19.5	+0.5
PB01	**IPOC Station P**	**3.65**	**327**	*e*P	Pn	12 35 19.3	+0.3
PB01				*e*S	S	12 36 02.6	-0.9
PB01				IAML		12 36 03.3	
	comp=Z,102nm,0.1s						
PB02	**IPOC Station P**	**3.65**	**319**	*i* P	Pn	12 35 19.5	+0.5
PB02				*e*S	S	12 36 01.3	-2.3
PB02	**IPOC Station P**	**3.65**	**319**	*e*P	Pn	12 35 19.4	+0.3
PB02				*e*S	S	12 36 01.5	-2.0
PB02				IAML		12 36 08.0	
	comp=Z,229nm,0.3s						
PATCX	**Punta Patache**	**4.19**	**321**	*e*P	Pn	12 35 26.1	+0.4
PATCX				*e*S	S	12 36 14.5	-1.1
PB08	**IPOC Station P**	**4.30**	**337**	*i* P	Pn	12 35 28.9	+1.5
PB08	**IPOC Station P**	**4.30**	**337**	*e*P	Pn	12 35 28.9	+1.5
PB08				*e*S	S	12 36 17.7	-0.9
PB08				IAML		12 36 22.4	
	comp=Z,29nm,0.2s						
GO03	**Copiap**	**4.33**	**216**	*e*P	Pn	12 35 28.4	+1.0
GO03				*e*S	S	12 36 19.1	+0.4
TA01	**Diego Aracena**	**4.41**	**323**	*e*P	Pn	12 35 29.1	+0.8
TA01				*e*S	S	12 36 21.1	+0.7
TA01				IAML		12 36 26.9	
	comp=Z,23nm,0.6s						
GO01	**Chusmiza**	**4.75**	**338**	*e*P	Pn	12 35 34.3	+1.1
GO01				*e*S	S	12 36 28.5	-0.6
AC04	**Llanos de Chal**	**5.27**	**219**	*e*P	Pn	12 35 39.6	+0.4
AC04				*e*S	S	12 36 40.2	0.0
AC04				IAML		12 36 51.0	
	comp=Z,22nm,0.7s						

*IDC **18** 12:37:17.4±1.5, 53°89N×109°28E, h0km, mb3.3/3, mbtmp3.3/6, ML2.7/3, Error ellipse: s-maj=29.6km s-min=23.7km az=110.0*
*MOS **18** 12:37:18.9±1.2, 53°90N×109°23E, h14km, mb3.4/1, Error ellipse: s-maj=13.3km s-min=10.2km az=61.3*
*BYKL **18** 12:37:20.6±0.1, 53°98N×109°21E*
ISC 18 12:37:17.7±1.1, 53°90N±0°02×109°27E±0°02, h1km±9km, n49, σ2§40/109, mb3.4/3, 6C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVR	**Suvo**	**0.49**	**119**	⇑*i*Pg	Pn	12 37 31.3	-0.7
SYVR				*e*Sg	Sb	12 37 38.7	+1.8
SYVR				Pmax			
	1μm,0.3s						
SYVR				Smax			
	2μm,0.4s						
SYVR	**Suvo**	**0.49**	**119**	⇑*i*PG	Pn	12 37 31.2	-0.7
SYVR				*e*		12 37 38.6	
SYVR				pmax	pmax		
	comp=Z,1μm,0.2s						
SYVR				smax	smax		
	comp=N,2μm,0.3s						
MXMB	**Maximikha**	**0.71**	**207**	*e*Pg	Pn	12 37 35.1	+0.2
MXMB				*e*Pb	Pb	12 37 38.0	+5.1
MXMB				*e*Sg	Sn	12 37 45.6	-0.9
MXMB				*e*Sb	Sb	12 37 50.1	+7.0
OGRR	**Ongureny**	**1.03**	**256**	⇑*i*Pg	Pn	12 37 38.8	-0.5
OGRR				*e*Pb	Pg	12 37 41.2	+3.8
OGRR				*e*Sg	Sn	12 37 52.8	-1.5
OGRR				max			
	comp=N,94nm,0.1s						
OGRR				Smax			
	comp=N,450nm,0.2s						
OGRR	**Ongureny**	**1.03**	**256**	⇑*i*PG	Pn	12 37 38.9	-0.4
OGRR				*e*		12 37 53.0	
OGRR				pmax	pmax		
	comp=Z,105nm,0.2s						
OGRR				smax	smax		
	comp=E,450nm,0.2s						
KELR	**Kotokel**	**1.35**	**213**	*e*Pg	Pg	12 37 45.8	+2.3
KELR				*e*		12 37 49.8	
KELR				*e*Sg	Sg	12 38 04.6	+3.6
KELR				*e*		12 38 08.1	
YLYR	**Ulyunkhan**	**1.48**	**48**	⇑*i*Pg	Pb	12 37 46.6	+0.6
YLYR				*e*Sg	Sg	12 38 06.3	+1.2
YLYR				Pmax			
	comp=E,72nm,0.5s						
YLYR				Smax			
	comp=E,879nm,0.3s						
YLYR	**Ulyunkhan**	**1.48**	**48**	⇑*i*PN	Pb	12 37 46.5	+0.6
YLYR				*e*		12 38 06.3	
YLYR				pmax	pmax		
	comp=Z,72nm,0.3s						
YLYR				smax	smax		
	comp=N,847nm,0.3s						
ZRHB	**Zarechye**	**1.86**	**224**	*e*Pg	Pg	12 37 54.7	+1.4
ZRHB				*e*Sg	Sg	12 38 19.3	+2.0
ZRHB				Pmax			
	comp=N,104nm,0.4s						
ZRHB				Smax			
	comp=N,581nm,1.0s						
NIZB	**Nizh Angarsk**	**1.88**	**5**	*e*Pn	Pb	12 37 52.6	-0.3
NIZB				*e*Pg	Pg	12 37 53.4	-0.4
NIZB				*e*Sg	Sb	12 38 16.8	-0.1
NIZB				Pmax			
	comp=N,81nm,0.5s						
NIZB				Smax			
	comp=N,556nm,0.3s						
TRG	**Tyrgan**	**2.09**	**238**	*e*Pn	Pb	12 37 55.7	-0.8
TRG				*e*Pg	Pg	12 37 59.0	+1.2
TRG				*e*Sn	Sb	12 38 23.7	+0.8
TRG				*e*Sg	Sg	12 38 26.1	+1.2
TRG				Pmax			
	comp=N,46nm,0.1s						
TRG				Smax			
	comp=N,335nm,0.2s						
TRG	**Tyrgan**	**2.09**	**238**	*e*PN	Pb	12 37 55.9	-0.6
TRG				*e*		12 37 58.2	
TRG				*e*S	Sb	12 38 23.4	+0.5
TRG				*e*		12 38 25.2	
TRG				pmax	pmax		
	comp=Z,47nm,0.1s						
TRG				smax	smax		
	comp=E,336nm,0.2s						
UUDB	**Ulan-Yde**	**2.26**	**206**	*e*Pn	Pb	12 37 58.6	-0.7
UUDB				*e*Pg	Pg	12 38 01.3	+0.3
UUDB				*e*		12 38 06.2	
UUDB				*e*Sn	Sb	12 38 25.9	-1.8
UUDB				*e*Sg	Sg	12 38 32.1	+1.9
UUDB				*e*		12 38 35.0	
UUDB				max			
	comp=E,33nm,0.2s						
UUDB				Smax			
	comp=E,144nm,0.2s						
KMO	**Kumora**	**2.28**	**28**	*e*Pn	Pn	12 37 58.1	+1.6
KMO				*e*Pg	Pb	12 38 01.0	+1.3
KMO				*e*Sn	Sn	12 38 24.3	-0.9
KMO				*e*Sg	Sg	12 38 30.4	-0.6
KMO				Pmax			
	comp=E,146nm,0.4s						
KMO				Smax			
	comp=E,391nm,0.8s						
KMO	**Kumora**	**2.28**	**28**	*e*PN	Pn	12 37 58.1	+1.6
KMO				*e*		12 38 00.5	
KMO				*e*		12 38 27.5	
KMO				pmax	pmax		
	comp=Z,79nm,0.4s						
KMO				smax	smax		
	comp=N,361nm,1.0s						
FFNB	**Fofonovo**	**2.40**	**220**	*e*Pg	Pg	12 38 04.3	+0.7
FFNB				*e*Sn	Sb	12 38 29.6	-2.1
FFNB				*e*Sg	Sg	12 38 35.6	+0.9
KAB	**Kabansk**	**2.44**	**222**	*e*Pn	Pb	12 38 01.8	-0.5
KAB				*e*Pg	Pg	12 38 05.5	+1.1
KAB				*e*Sg	Sg	12 38 37.3	+1.3
KAB				Pmax			
	comp=N,137nm,0.3s						
KAB				Smax			
	comp=N,741nm,0.8s						
STDB	**Stepnoy Dvoret**	**2.47**	**227**	*e*Pg	Pg	12 38 06.1	+1.1
STDB				*e*Sg	Sg	12 38 39.0	+2.1
YOA	**Uoyan**	**2.65**	**31**	*e*Pg	Pg	12 38 08.4	0.0
YOA				*e*		12 38 15.2	
YOA				*e*		12 38 32.9	
YOA				*e*Sg	Sg	12 38 42.5	-0.2
YOA				Pmax			
	comp=N,186nm,0.8s						
YOA				Smax			
	comp=N,822nm,0.4s						
HRMR	**Khuramsha**	**2.68**	**213**	*e*Pn	Pb	12 38 04.7	-1.7
HRMR				*e*Pg	Pg	12 38 09.1	+0.1
HRMR				*e*Sn	Sb	12 38 36.3	-3.4
HRMR				*e*Sg	Sg	12 38 44.7	+1.1
HRMR				Pmax			
	comp=N,46nm,0.4s						
HRMR				Smax			
	comp=N,546nm,0.2s						
BGT	**Bolshoye Golou**	**2.99**	**233**	*e*Pn	Pb	12 38 08.9	-2.8
BGT				*e*Pg	Pg	12 38 14.2	-0.7
BGT				*e*Sn	Sn	12 38 43.6	+1.1
BGT				*e*Sg	Sg	12 38 52.8	-0.8
BGT				Pmax			
	comp=N,21nm,0.2s						
BGT				Smax			
	comp=N,116nm,0.8s						
UKT	**Uakit**	**2.99**	**56**	*e*Pn	Pn	12 38 08.1	+1.9
UKT				*e*Pg	Pb	12 38 13.3	+1.6
UKT				*e*PgPg	Pg	12 38 18.0	+3.1
UKT				*e*Sn	Sn	12 38 43.7	+1.0
UKT				*e*Sg	Sg	12 38 52.5	-1.1
UKT				*e*SgSg	SbSb	12 39 00.9	+7.1
UKT				max			
	comp=N,30nm,0.6s						
UKT				max			
	comp=N,132nm,0.8s						
UKT	**Uakit**	**2.99**	**56**	*e*PN	Pn	12 38 08.2	+2.0
UKT				*e*		12 38 13.2	
UKT				*e*		12 38 51.8	
UKT				pmax	pmax		
	comp=Z,17nm,0.4s						
UKT				smax	smax		
	comp=N,115nm,0.4s						
CIT	**Chita**	**3.20**	**124**	*e*Sg	Sg	12 39 01.9	+1.5
CIT				Smax			
	comp=N,234nm,0.4s						
CIT	**Chita**	**3.20**	**124**	*e*PN	Pn	12 38 11.1	+2.0
CIT				*e*		12 38 19.3	
CIT				*e*S	Sb	12 38 51.4	-3.3
CIT				*e*		12 39 03.2	
CIT				pmax	pmax		
	comp=Z,102nm,0.3s						
CIT				smax	smax		
	comp=E,236nm,0.4s						
SVKR	**Severomuysk**	**3.32**	**46**	*e*Pn	Pn	12 38 12.9	+2.1
SVKR				*e*Pg	Pg	12 38 20.3	-1.0
SVKR				*e*Sg	Sg	12 39 03.3	-1.0
SVKR				Pmax			
	comp=E,42nm,0.3s						
SVKR				Smax			
	comp=E,501nm,1.1s						
IRK	**Irkutsk**	**3.44**	**243**	*e*Sg	Sg	12 39 06.9	-1.4
IRK				Smax			
	comp=E,313nm,0.6s						
NLYR	**Nelyaty**	**4.51**	**52**	*e*Pn	Pn	12 38 28.8	+1.7
NLYR				*e*Pg	Pb	12 38 41.3	+3.7
NLYR				*e*		12 39 17.0	
NLYR				*e*Sg	Sg	12 39 40.2	-2.2
NLYR				*e*		12 39 53.5	
NLYR				Pmax			
	comp=E,24nm,1.2s						
NLYR				max			
	comp=E,178nm,1.0s						
KPC	**Khapcheranga**	**4.62**	**154**	*e*Pn	Pn	12 38 30.4	+1.7
KPC				*e*Pg	Pg	12 38 44.9	-1.3
KPC				*e*		12 39 22.1	
KPC				*e*Sg	Sg	12 39 45.8	-0.3
KPC				*e*		12 39 53.8	
KPC				Pmax			
	comp=E,15nm,1.2s						
KPC				Smax			
	comp=E,118nm,1.2s						
KPC	**Khapcheranga**	**4.62**	**154**	*e*PN	Pn	12 38 30.4	+1.7
KPC				*e*		12 38 43.5	
KPC				*e*S	Sn	12 39 22.1	-0.9
KPC				*e*		12 39 44.7	
KPC				pmax	pmax		
	comp=Z,12nm,0.5s						
KPC				smax	smax		
	comp=E,118nm,1.4s						
BOD	**Bodaibo**	**4.75**	**32**	*e*Pn	Pn	12 38 31.4	+1.1
BOD				*e*		12 38 38.2	
BOD				*e*Pg	Pb	12 38 45.0	+3.4
BOD				*e*Sn	Sn	12 39 24.0	-1.9
BOD				*e*Sg	Sg	12 39 45.9	-4.2
BOD				Pmax			
	comp=E,23nm,0.4s						
BOD				Smax			
	comp=E,55nm,0.9s						
ZAK	**Zakamensk**	**5.10**	**229**	*e*Pg	Pg	12 38 52.5	-2.9
ZAK				*e*Sn	Sn	12 39 34.0	-0.8
ZAK				*e*Sg	Sg	12 39 58.8	-2.7
ZAK				Pmax			
	comp=E,8.0nm,0.5s						
ZAK				Smax			
	comp=E,49nm,1.4s						
MOY	**Mondy**	**5.50**	**249**	*e*Pn	Pn	12 38 43.5	+2.7
MOY				*e*Pg	Pb	12 38 58.3	+3.7
MOY				*e*Sn	Sn	12 39 44.2	-0.5
MOY				*e*Sg	Sg	12 40 09.1	-5.2
MOY				Pmax			
	comp=E,21nm,1.3s						
MOY				Smax			
	comp=E,86nm,1.0s						
MOY	**Mondy**	**5.50**	**249**	*e*PN	Pn	12 38 43.5	+2.7
MOY				*e*		12 38 58.0	
MOY				*e*S	Sn	12 39 45.0	+0.3
MOY				*e*		12 40 08.4	
MOY				pmax	pmax		
	comp=Z,5.0nm,0.2s						
MOY				smax	smax		
	comp=N,85nm,0.7s						
VTMR	**Vitim**	**5.84**	**17**	*e*Pn	Pn	12 38 45.4	+0.1
VTMR				*e*Sg	Sg	12 40 18.8	-6.3
ORL	**Orlik**	**5.85**	**260**	*e*Pn	Pn	12 38 47.8	+2.2
ORL				*e*		12 38 54.6	
ORL				*e*Sn	Sn	12 39 51.0	-2.2
ORL				*e*Sg	Sg	12 40 20.0	-5.4
ORL				max			
	comp=N,20nm,1.0s						
ORL				Smax			
	comp=N,59nm,1.0s						
ORL	**Orlik**	**5.85**	**260**	*e*PN	Pn	12 38 47.8	+2.2
ORL				*e*		12 39 04.9	
ORL				*e*S	Sn	12 39 51.9	-1.3
ORL				*e*		12 40 19.9	
ORL				pmax	pmax		
	comp=Z,27nm,1.0s						
ORL				smax	smax		
	comp=N,58nm,1.4s						
CRS	**Chara**	**5.94**	**56**	*e*Pn	Pn	12 38 48.3	+1.6
CRS				*e*		12 39 10.8	
CRS				*e*Sg	Sg	12 40 23.3	-5.1
CRS				max			
	comp=N,14nm,1.0s						
CRS				Smax			
	comp=N,70nm,0.6s						
TUP	**Tupik**	**6.30**	**81**	*e*Pn	Pn	12 38 53.0	+1.3
TUP				*e*Pg	Pb	12 39 13.2	+5.2
TUP				*e*		12 39 25.0	
TUP				*e*		12 40 00.2	
TUP				*e*Sg	Sg	12 40 36.1	-3.7
TUP				Pmax			
	comp=N,16nm,1.5s						
TUP				Smax			
	comp=N,128nm,1.0s						
TUP	**Tupik**	**6.30**	**81**	*e*PN	Pn	12 38 52.9	+1.3
TUP				*e*		12 39 12.8	
TUP				*e*		12 40 36.1	
TUP				pmax	pmax		
	comp=Z,12nm,0.6s						
TUP				smax	smax		
	comp=N,127nm,1.0s						
SONM	**Songino Array**	**6.34**	**198**	Pn	Pn	12 38 53.5	+1.2
	comp=N,0.2nm,0.3s,baz=10,slow=10,SNR=5.7						
SONM				Lg	Lg	12 40 40.2	
	comp=N,2.0nm,0.3s,baz=17,slow=26,SNR=14						
	comp=N,0.3nm,0.3s						
KHNR	**Khani**	**6.80**	**59**	*e*Sg	Sg	12 40 49.9	-6.2
YKLR	**Yuktali**	**7.57**	**64**	*e*Sg	Sg	12 41 14.5	-6.2
ZALV	**Zalesovo Beam**	**14.39**	**280**	Pn	Pn	12 40 42.2	-0.2
	comp=N,0.2nm,0.3s,baz=81,slow=10,SNR=1.5						
ZALV				Lg	Lg	12 44 43.6	
	comp=N,0.1nm,0.3s,baz=70,slow=28,SNR=2.0						
	comp=N,0.3nm,0.3s						
KURK	**Kurchatov**	**18.94**	**273**	P	Pn	12 41 40.8	+0.5
KURBB	**Kurchatov Arra**	**19.02**	**273**	P	Pn	12 41 40.8	-0.6
	baz=72,slow=11,SNR=1.1						
	comp=N,0.2nm,0.2s						
BVAR	**Borovoye Array**	**22.98**	**284**	P	P	12 42 22.6	-0.8
	comp=N,0.3nm,0.4s,baz=58,slow=14,SNR=1.5						
	comp=N,0.3nm,0.4s						
ILAR	**Eielson Array**	**48.12**	**34**	P	P	12 45 59.4	+0.9
	comp=N,0.6nm,0.9s,baz=309,slow=5.7,SNR=3.4						
	comp=N,0.6nm,0.9s						
WRA	**Warramunga Arr**	**76.64**	**156**	P	P	12 49 08.4	-1.5
	comp=N,0.2nm,0.6s,baz=344,slow=5.3,SNR=1.8						
	comp=N,0.2nm,0.6s						

*NAO **18** 13:10:27.1, 38°72N×15°40E, h33km, mb3.8*
*ROM **18** 13:10:56.0±0.1, 39°800N±0°006×15°63E±0°01, h280km±1km, ML3.7/174, Error ellipse: s-maj=1.2km s-min=0.5km az=83.0*
*LDG **18** 13:10:55.0±0.0, 39°72N×15°61E, h280km, Ml3.5/19, Error ellipse: s-maj=5.2km s-min=3.0km az=54.0*
*IDC **18** 13:10:58.9±0.7, 39°93N×15°42E, h279km±8km, mb3.6/19, mbtmp4.2/32, Error ellipse: s-maj=9.3km s-min=8.3km az=62.0*
*PRU **18** 13:11:04.1, 40°24N×15°48E, h260km*

ISC 18 13:10:57.8±0.5, 39°.84N±0°.05×15°.56E±0°.04, h267km±5km, n235, σ1°.11/278, mb3.7/18, 34C-29D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.25**	**52**	P		**Pn**		**13 11 32.6**	**+0.4**
CUC				S		**S**		**13 11 58.9**	**-0.5**
CUC				AML		AML			
	comp=E,596μm,0.6s								
CUC				AML		AML			
	comp=N,519μm,0.7s								
CUC				AML		AML			
	comp=E,596μm,0.6s								
CUC				AML		AML			
	comp=N,412μm,0.8s								
CUC				AML		AML			
	comp=E,744μm,0.6s								
CUC				AML		AML			
	comp=N,412μm,1.2s								
MGR	**Morigerati**	**0.30**	**359**	⇑P		**Pn**		**13 11 32.9**	**+0.7**
MGR				S		**S**		**13 11 59.6**	**+0.1**
MGR				AML		AML			
	comp=E,672μm,0.7s								
MGR				AML		AML			
	comp=E,672μm,0.7s								
MGR				AML		AML			
	comp=N,566μm,1.1s								
MGR				AML		AML			
	comp=N,566μm,0.9s								
MMN	**Mormanno**	**0.33**	**81**	P		**Pn**		**13 11 32.7**	**+0.4**
MMN				AML		AML			
	comp=E,219μm,0.6s								
MMN				AML		AML			
	comp=E,219μm,1.4s								
MMN				AML		AML			
	comp=N,306μm,0.7s								
SIRI	**Monte Sirino -**	**0.41**	**34**	P		**Pn**		**13 11 33.0**	**+0.4**
SIRI				S		**S**		**13 12 01.4**	**+1.3**
SIRI				AML		AML			
	comp=E,640μm,0.5s								
SIRI				AML		AML			
	comp=N,825μm,0.7s								
SIRI				AML		AML			
	comp=E,647μm,0.5s								
SIRI				AML		AML			
	comp=E,642μm,0.5s								
SIRI				AML		AML			
	comp=N,830μm,0.7s								
CET2	**Cetraro**	**0.43**	**136**	⇓P		**Pn**		**13 11 32.8**	**+0.1**
CET2				S		**S**		**13 11 59.0**	**-1.2**
CET2				AML		AML			
	comp=E,5325μm,0.8s								
CET2				AML		AML			
	comp=N,3300μm,0.4s								
MTSN	**Montesano sull**	**0.45**	**19**	P		**Pn**		**13 11 33.0**	**+0.3**
MTSN				S		**S**		**13 12 00.3**	**+0.1**
MTSN				AML		AML			
	comp=E,422μm,1.1s								
MTSN				AML		AML			
	comp=N,367μm,1.5s								
MTSN				AML		AML			
	comp=N,367μm,0.5s								
CMPR	**Campora**	**0.52**	**337**	⇑P		**Pn**		**13 11 33.5**	**+0.7**
CMPR				S		**S**		**13 12 00.7**	**+0.2**
CMPR				AML		AML			
	comp=E,306μm,1.1s								
CMPR				AML		AML			
	comp=N,707μm,0.8s								
CMPR				AML		AML			
	comp=N,707μm,1.2s								
MCEL	**Monticello**	**0.52**	**21**	P		**Pn**		**13 11 33.7**	**+0.8**
MCEL				S		**S**		**13 12 01.1**	**+0.6**
SLCN	**Sala Consilina**	**0.55**	**6**	P		**Pn**		**13 11 33.5**	**+0.6**
SLCN				S		**S**		**13 12 01.2**	**+0.5**
SLCN				AML		AML			
	comp=N,493μm,1.5s								
SLCN				AML		AML			
	comp=E,674μm,0.6s								
SLCN				AML		AML			
	comp=N,548μm,0.7s								
SLCN				AML		AML			
	comp=E,642μm,0.6s								
SLCN				AML		AML			
	comp=E,676μm,0.6s								
SLCN				AML		AML			
	comp=N,493μm,0.5s								
SLCN				AML		AML			
	comp=E,642μm,1.4s								
SLCN				AML		AML			
	comp=E,676μm,1.4s								
SALB	**San Lorenzo Be**	**0.60**	**86**	⇓P		**Pn**		**13 11 33.5**	**+0.4**
SALB				S		**S**		**13 12 00.7**	**-0.4**
SALB				AML		AML			
	comp=N,840μm,0.4s								
SALB				AML		AML			
	comp=E,929μm,0.4s								
SALB				AML		AML			
	comp=E,929μm,1.6s								
TDS	**Terranova Siba**	**0.62**	**107**	⇓P		**Pn**		**13 11 34.1**	**+0.9**
TDS				S		**S**		**13 12 01.8**	**+0.8**
TDS				AML		AML			
	comp=E,509μm,0.8s								
TDS				AML		AML			
	comp=E,508μm,0.8s								
TDS				AML		AML			
	comp=E,508μm,1.2s								
TDS				AML		AML			
	comp=N,755μm,0.7s								
CDRU	**Civita di Ruta**	**0.68**	**343**	⇑P		**Pn**		**13 11 34.1**	**+0.7**
CDRU				S		**S**		**13 12 01.7**	**+0.2**
CDRU				AML		AML			
	comp=E,256μm,1.4s								
CDRU				AML		AML			
	comp=N,236μm,0.8s								
CDRU				AML		AML			
	comp=E,256μm,0.6s								
ORI	**Oriolo Calabro**	**0.72**	**72**	P		**Pn**		**13 11 34.2**	**+0.8**
ORI				S		**S**		**13 12 02.0**	**+0.4**
ORI				AML		AML			
	comp=E,2010μm,0.5s								
ORI				AML		AML			
	comp=N,1940μm,0.4s								
ORI				AML		AML			
	comp=N,1940μm,1.6s								
CAR1	**CAROLEI**	**0.77**	**139**	⇓P		**Pn**		**13 11 33.5**	**-0.3**
CAR1				S		**S**		**13 12 00.6**	**-1.5**
PTRP	**Pietrapertosa**	**0.78**	**29**	P		**Pn**		**13 11 34.1**	**+0.4**
SPS2	**Spezzano della**	**0.81**	**132**	⇓P		**Pn**		**13 11 34.0**	**0.0**
SPS2				S		**S**		**13 12 01.6**	**-0.8**
SPS2				AML		AML			
	comp=E,529μm,0.6s								
SPS2				AML		AML			
	comp=N,679μm,0.7s								
PZUN	**Potenza**	**0.83**	**13**	AML		AML			
	comp=N,282μm,1.6s								
PZUN				AML		AML			
	comp=E,345μm,0.9s								
PZUN				AML		AML			
	comp=E,368μm,0.9s								
PZUN				AML		AML			
	comp=E,368μm,1.1s								
PZUN				AML		AML			
	comp=N,234μm,0.4s								
PZUN				AML		AML			
	comp=E,345μm,1.1s								
CELI	**Celico**	**0.85**	**121**	⇓P		**Pn**		**13 11 35.2**	**+1.0**
CELI				S		**S**		**13 12 03.6**	**+0.8**
CELI				AML		AML			
	comp=E,1790μm,0.5s								
CELI				AML		AML			
	comp=E,4420μm,0.5s								
CELI				AML		AML			
	comp=E,4420μm,1.5s								
CELI				AML		AML			
	comp=N,1900μm,0.5s								
CELI				AML		AML			
	comp=E,1790μm,1.5s								
CELI				AML		AML			
	comp=N,4800μm,0.5s								
COL3	**Colliano**	**0.86**	**348**	⇑P		**Pn**		**13 11 35.0**	**+0.9**
MRLC	**Muro Lucano**	**0.92**	**357**	⇑P		**Pn**		**13 11 35.1**	**+0.8**
MRLC				S		**S**		**13 12 03.8**	**+0.6**
MRLC				AML		AML			
	comp=N,348μm,0.3s								
MRLC				AML		AML			
	comp=E,240μm,0.5s								
MCRV	**Calabrutti - M**	**0.99**	**342**	⇑P		**Pn**		**13 11 35.6**	**+0.9**
MCRV				S		**S**		**13 12 04.8**	**+0.8**
MCRV				AML		AML			
	comp=N,348μm,0.6s								
MCRV				AML		AML			
	comp=N,348μm,1.4s								
MCRV				AML		AML			
	comp=E,318μm,0.5s								
ACER	**Acerenza**	**0.99**	**17**	P		**Pn**		**13 11 34.6**	**0.0**
ACER				AML		AML			
	comp=E,356μm,0.8s								
ACER				AML		AML			
	comp=N,308μm,0.8s								
ACER				AML		AML			
	comp=E,364μm,0.8s								
ACER				AML		AML			
	comp=N,308μm,0.8s								
ACER				AML		AML			
	comp=E,356μm,0.8s								
ACER				AML		AML			
	comp=N,308μm,1.2s								
ACER				AML		AML			
	comp=N,334μm,1.2s								
MIGL	**Miglionico**	**1.02**	**41**	P		**Pn**		**13 11 34.9**	**+0.1**
MIGL				S		**S**		**13 12 03.8**	**-0.2**
MIGL				AML		AML			
	comp=E,1600μm,0.9s								
MIGL				AML		AML			
	comp=N,1935μm,1.6s								
MIGL				AML		AML			
	comp=E,1600μm,1.1s								
MIGL				AML		AML			
	comp=N,1935μm,0.4s								
PIPA	**Pietrapaola**	**1.03**	**110**	⇓P		**Pn**		**13 11 35.5**	**+0.6**
PIPA				S		**S**		**13 12 03.5**	**-0.7**
PIPA				AML		AML			
	comp=E,1505μm,0.4s								
PIPA				AML		AML			
	comp=E,1445μm,0.4s								
PIPA				AML		AML			
	comp=E,1510μm,0.4s								
PIPA				AML		AML			
	comp=N,1600μm,1.1s								
PIPA				AML		AML			
	comp=N,1540μm,1.1s								
PIPA				AML		AML			
	comp=N,1540μm,0.9s								
PIPA				AML		AML			
	comp=N,1600μm,0.9s								
PIPA				AML		AML			
	comp=E,1440μm,0.4s								
RDM3	**Ruvo Del Monte**	**1.03**	**359**	⇑P		**Pn**		**13 11 36.1**	**+1.2**
IST3	**Stromboli F**	**1.07**	**194**	P		**Pn**		**13 11 35.1**	**0.0**
LIO3	**Lioni**	**1.09**	**345**	P		**Pn**		**13 11 35.5**	**+0.3**
VULT	**Monte Vulture**	**1.11**	**2**	P		**Pn**		**13 11 35.6**	**+0.2**
SNAL	**S. Angelo Dei**	**1.12**	**346**	P		**Pn**		**13 11 36.3**	**+0.9**
SNAL				S		**S**		**13 12 05.9**	**+0.8**
SNAL				AML		AML			
	comp=E,268μm,1.3s								
SNAL				AML		AML			
	comp=N,364μm,1.0s								
SNAL				AML		AML			
	comp=E,280μm,1.3s								
SNAL				AML		AML			
	comp=E,268μm,0.7s								
SNAL				AML		AML			
	comp=N,350μm,1.0s								
SNAL				AML		AML			
	comp=E,280μm,0.7s								
SNAL				AML		AML			
	comp=N,364μm,1.0s								
TIP	**Timpagrande**	**1.14**	**125**	⇓P		**Pn**		**13 11 36.0**	**+0.4**
TIP				S		**S**		**13 12 04.8**	**-0.6**
TIP				AML		AML			
	comp=E,658μm,1.6s								
TIP				AML		AML			
	comp=N,550μm,0.7s								
TIP				AML		AML			
	comp=N,551μm,0.7s								
TIP				AML		AML			
	comp=E,818μm,1.6s								
TIP				AML		AML			
	comp=N,644μm,0.7s								
TIP				AML		AML			
	comp=E,818μm,0.4s								
TIP				AML		AML			
	comp=E,658μm,0.4s								
PALZ	**Palazzo San Ge**	**1.14**	**15**	P		**Pn**		**13 11 35.4**	**0.0**
PALZ				AML		AML			
	comp=N,312μm,1.6s								
PALZ				AML		AML			
	comp=E,316μm,1.1s								
PALZ				AML		AML			
	comp=N,312μm,0.4s								
RSF3	**Rocca San Feli**	**1.16**	**345**	P		**Pn**		**13 11 36.1**	**+0.4**
SERS	**Sersale**	**1.19**	**132**	⇓P		**Pn**		**13 11 36.3**	**+0.4**
SERS				S		**S**		**13 12 05.1**	**-0.9**
SERS				AML		AML			
	comp=E,1780μm,0.4s								
SERS				AML		AML			
	comp=N,2110μm,0.3s								
SERS				AML		AML			
	comp=E,1940μm,0.3s								
SERS				AML		AML			
	comp=N,1755μm,0.4s								
MATE	**Matera**	**1.19**	**47**	P		**Pn**		**13 11 35.7**	**+0.1**
MATE				S		**S**		**13 12 04.9**	**-0.7**
MATE				AML		AML			
	comp=E,1061μm,0.4s								
MATE				AML		AML			
	comp=N,1087μm,1.1s								
CAFE	**Carife**	**1.21**	**348**	⇑P		**Pn**		**13 11 37.2**	**+1.3**
CAFE				AML		AML			
	comp=E,521μm,0.6s								
CAFE				AML		AML			
	comp=N,325μm,1.0s								
CAFE				AML		AML			
	comp=N,325μm,1.0s								
GRI	**Girifalco**	**1.22**	**147**	P		**Pn**		**13 11 36.2**	**+0.1**
GRI				S		**S**		**13 12 05.7**	**-0.5**
GRI				AML		AML			
	comp=E,2205μm,0.5s								
GRI				AML		AML			
	comp=N,1710μm,0.6s								
LTRZ	**Laterza**	**1.23**	**51**	⇓P		**Pn**		**13 11 36.0**	**0.0**
LTRZ				S		**S**		**13 12 05.0**	**-1.1**
LTRZ				AML		AML			
	comp=N,2045μm,1.0s								
LTRZ				AML		AML			
	comp=N,189μm,1.6s								
LTRZ				AML		AML			
	comp=E,918μm,0.8s								
LTRZ				AML		AML			
	comp=N,189μm,1.6s								
LTRZ				AML		AML			
	comp=N,189μm,0.4s								
LTRZ				AML		AML			
	comp=E,918μm,1.2s								
LTRZ				AML		AML			
	comp=E,706μm,0.8s								
LADO	**San Nicola del**	**1.23**	**116**	⇓P		**Pn**		**13 11 36.4**	**+0.4**
LADO				S		**S**		**13 12 05.8**	**-0.5**
LADO				AML		AML			
	comp=N,93μm,0.3s								
LADO				AML		AML			
	comp=E,142μm,0.4s								
LADO				AML		AML			
	comp=N,93μm,0.3s								
JOPP	**Joppolo**	**1.26**	**168**	⇓P		**Pn**		**13 11 35.7**	**-0.6**
JOPP				S		**S**		**13 12 04.7**	**-2.0**
SSB3	**San Sossio Bar**	**1.26**	**348**	P		**Pn**		**13 11 37.5**	**+1.3**
VTIR	**Vesuvio Tirone**	**1.30**	**318**	P		**Pn**		**13 11 37.6**	**+1.2**
SGTA	**Sant Agata di**	**1.30**	**353**	⇑P		**Pn**		**13 11 37.5**	**+1.0**
SGTA				AML		AML			
	comp=N,414μm,0.5s								
SGTA				AML		AML			
	comp=E,534μm,0.7s								
SGTA				AML		AML			
	comp=N,374μm,0.5s								
SGTA				AML		AML			
	comp=N,414μm,1.5s								
SGTA				AML		AML			
	comp=E,556μm,0.7s								
VCRE	**Vesuvio Crater**	**1.30**	**319**	P		**Pn**		**13 11 37.8**	**+1.2**
CRTO	**Cratere Ovest,**	**1.31**	**319**	P		**Pn**		**13 11 37.8**	**+1.2**
MRVN	**Minervino Murg**	**1.31**	**21**	⇑P		**Pn**		**13 11 36.6**	**+0.1**
MRVN				S		**S**		**13 12 06.3**	**-0.8**
MRVN				AML		AML			
	comp=N,200μm,1.6s								
MRVN				AML		AML			
	comp=N,200μm,0.4s								
MRVN				AML		AML			
	comp=E,298μm,1.6s								
VVDG	**Vesuvio Valle**	**1.32**	**319**	P		**Pn**		**13 11 37.6**	**+1.0**
AMUR	**Altamura**	**1.33**	**36**	⇑P		**Pn**		**13 11 36.9**	**+0.3**
AMUR				S		**S**		**13 12 06.4**	**-0.9**
AMUR				AML		AML			
	comp=N,559μm,0.6s								
AMUR				AML		AML			
	comp=E,454μm,0.9s								
MRB1	**Monte Rocchett**	**1.36**	**341**	AML		AML			
	comp=N,438μm,1.1s								
MRB1				AML		AML			
	comp=E,403μm,0.6s								
MRB1				AML		AML			
	comp=N,438μm,0.9s								
MRB1				AML		AML			
	comp=E,420μm,0.6s								
MRB1				AML		AML			
	comp=E,403μm,1.4s								
MRB1				AML		AML			
	comp=N,377μm,0.5s								
MRB1				AML		AML			
	comp=E,420μm,1.4s								
PAOL	**Paolisi**	**1.41**	**328**	P		**Pn**		**13 11 38.0**	**+0.8**
LLI	**Lipari**	**1.47**	**199**	P		**Pn**		**13 11 38.8**	**+1.1**
TAR1	**Taranto**	**1.49**	**62**	P		**Pn**		**13 11 37.6**	**0.0**
TAR1				S		**S**		**13 12 08.0**	**-1.1**
TAR1				AML		AML			
	comp=E,1260μm,1.1s								
TAR1				AML		AML			
	comp=N,1765μm,0.4s								
TAR1				AML		AML			
	comp=E,1260μm,0.9s								
NOCI	**Noci**	**1.49**	**50**	P		**Pn**		**13 11 38.0**	**+0.4**
NOCI				S		**S**		**13 12 08.3**	**-1.0**
NOCI				AML		AML			
	comp=N,1125μm,0.5s								
NOCI				AML		AML			
	comp=E,728μm,1.0s								
PSB1	**Pescosannita**	**1.50**	**338**	⇑P		**Pn**		**13 11 38.7**	**+0.9**
IVGP	**Vulcano Grotta**	**1.52**	**198**	P		**Pn**		**13 11 38.4**	**+0.5**
VITU	**Vitulano (BN)**	**1.52**	**332**	⇑P		**Pn**		**13 11 38.8**	**+0.9**
VPL	**Vulcano Piano**	**1.53**	**197**	P		**Pn**		**13 11 38.6**	**+0.5**
VPL				AML		AML			
	comp=N,2040μm,1.0s								
VPL				AML		AML			
	comp=E,1705μm,0.4s								
PLAC	**Placanica**	**1.55**	**154**	⇓P		**Pn**		**13 11 38.0**	**-0.3**
PLAC				S		**S**		**13 12 08.9**	**-1.3**
PLAC				AML		AML			
	comp=N,2245μm,0.3s								
PLAC				AML		AML			
	comp=E,1685μm,0.6s								
PLAC				AML		AML			
	comp=N,1735μm,0.5s								
PLAC				AML		AML			
	comp=E,2360μm,0.3s								
MOCO	**Biccari - m.te**	**1.56**	**349**	P		**Pn**		**13 11 39.2**	**+1.0**
MOCO				AML		AML			
	comp=E,158μm,1.6s								
MOCO				AML		AML			
	comp=N,94μm,1.4s								
MOCO				AML		AML			
	comp=N,94μm,0.6s								
MOCO				AML		AML			
	comp=N,79μm,0.5s								
MOCO				AML		AML			
	comp=E,158μm,0.6s								
MOCO				AML		AML			
	comp=E,158μm,0.4s								
IOCA	**Ischia Osserva**	**1.56**	**306**	P		**Pn**		**13 11 39.1**	**+0.9**
IMTC	**Ischia Forio M**	**1.56**	**305**	⇑P		**Pn**		**13 11 39.2**	**+1.0**
IFOR	**Ischia Forio P**	**1.57**	**304**	P		**Pn**		**13 11 39.3**	**+1.0**
MSRU	**Castanea**	**1.58**	**182**	⇓P		**Pn**		**13 11 37.7**	**-0.8**
MSRU				S		**S**		**13 12 08.4**	**-2.2**
MSRU				AML		AML			
	comp=E,2075μm,1.3s								
MSRU				AML		AML			
	comp=N,1065μm,0.8s								
MSRU				AML		AML			
	comp=N,1065μm,1.2s								
MSRU				AML		AML			
	comp=E,2075μm,0.7s								
MILZ	**Milazzo**	**1.59**	**189**	⇓P		**Pn**		**13 11 38.4**	**-0.1**
MILZ				S		**S**		**13 12 09.9**	**-0.8**
MILZ				AML		AML			
	comp=N,1930μm,1.0s								
MILZ				AML		AML			
	comp=N,1930μm,1.0s								
MILZ				AML		AML			
	comp=E,1430μm,0.4s								
CEL	**Celeste**	**1.60**	**171**	P		**Pn**		**13 11 37.6**	**-1.1**
CEL				AML		AML			
	comp=E,886μm,1.2s								
CEL				AML		AML			
	comp=N,693μm,0.8s								
CEL				AML		AML			
	comp=E,1045μm,1.2s								
CEL				AML		AML			
	comp=N,832μm,1.4s								
CEL				AML		AML			
	comp=N,693μm,1.2s								
CEL				AML		AML			
	comp=N,832μm,0.6s								
IACL	**Alicudi**	**1.61**	**216**	P		**Pn**		**13 11 39.0**	**+0.4**
GMB	**Gambarie**	**1.68**	**173**	AML		AML			
	comp=E,4410μm,0.3s								
GMB				AML		AML			
	comp=N,3425μm,0.4s								
SACR	**S. Croce Del S**	**1.69**	**338**	P		**Pn**		**13 11 39.9**	**+0.7**
PIGN	**Pignataro Magg**	**1.72**	**323**	⇑P		**Pn**		**13 11 40.6**	**+1.3**
PIGN				AML		AML			
	comp=E,280μm,0.8s								
PIGN				AML		AML			
	comp=N,356μm,0.4s								
PIGN				AML		AML			
	comp=E,230μm,1.4s								
PIGN				AML		AML			
	comp=N,410μm,0.5s								
PIGN				AML		AML			
	comp=E,280μm,1.2s								
GATE	**Gambatesa**	**1.74**	**344**	P		**Pn**		**13 11 40.6**	**+1.0**
GATE				AML		AML			
	comp=E,222μm,0.6s								
GATE				AML		AML			
	comp=N,242μm,0.9s								
GATE				AML		AML			
	comp=N,184μm,0.7s								
GATE				AML		AML			
	comp=E,217μm,0.6s								
GATE				AML		AML			
	comp=E,222μm,1.4s								
GATE				AML		AML			
	comp=N,242μm,1.1s								
SGG	**Gregorio Mates**	**1.79**	**330**	⇑P		**Pn**		**13 11 41.3**	**+1.2**
SGG				AML		AML			
	comp=E,1.0nm,0.5s								
SGG				AML		AML			
	comp=N,1.5nm,0.4s								
SGG				AML		AML			
	comp=E,382μm,0.4s								
SGG				AML		AML			
	comp=N,487μm,0.4s								
SOI	**Samo**	**1.81**	**168**	P		**Pn**		**13 11 39.5**	**-0.7**
SOI				AML		AML			
	comp=N,624μm,0.5s								
SOI				AML		AML			
	comp=E,494μm,0.5s								
SOI				AML		AML			
	comp=E,494μm,1.5s								
MODR	**Mondragone**	**1.83**	**316**	⇑P		**Pn**		**13 11 41.2**	**+0.9**
MODR				AML		AML			
	comp=E,144μm,1.0s								
MODR				AML		AML			
	comp=N,187μm,0.4s								
BSSO	**Busso**	**1.86**	**337**	P		**Pn**		**13 11 41.7**	**+1.1**
VAGA	**Valle Agricola**	**1.87**	**328**	⇑P		**Pn**		**13 11 42.0**	**+1.3**
VAGA				AML		AML			
	comp=E,254μm,1.2s								
VAGA				AML		AML			
	comp=N,392μm,0.8s								
MUCR	**Ucria**	**1.87**	**197**	⇓P		**Pn**		**13 11 41.0**	**+0.1**

MUCR AML AML
comp=N,514μm,0.7s
MUCR AML AML
comp=E,564μm,0.7s
CIGN Sant'Elia a Pi 1.88 345 ⇑P Pn 13 11 41.5 +0.9
AIO Antillo 1.88 188 ⇓P Pn 13 11 41.1 +0.1
AIO S **S 13 12 14.6 -0.4**
AIO AML AML
comp=E,560μm,0.8s
AIO AML AML
comp=N,527μm,0.4s
AIO AML AML
comp=N,527μm,1.6s
AIO AML AML
comp=E,560μm,1.2s
MELA Melanico ??? S 1.89 350 ⇑P Pn 13 11 41.3 +0.6
VENT Ventotene 1.89 301 ⇑P Pn 13 11 41.8 +1.0
VENT AML AML
comp=N,448μm,1.2s
VENT AML AML
comp=E,856μm,0.3s
VENT AML AML
comp=N,448μm,0.8s
APRC Apricena 1.92 360 P Pn 13 11 41.2 +0.2
APRC AML AML
comp=E,182μm,1.0s
APRC AML AML
comp=N,263μm,0.7s
APRC AML AML
comp=N,263μm,1.3s
SGRT San Giovanni R 1.92 4 ⇑P Pn 13 11 41.2 +0.2
SGRT AML AML
comp=E,132μm,0.9s
SGRT AML AML
comp=N,90μm,1.6s
SGRT AML AML
comp=N,90μm,0.4s
MSFR San Fratello 1.96 203 ⇓P Pn 13 11 42.0 +0.5
MSFR AML AML
comp=E,108μm,1.6s
MSFR AML AML
comp=N,180μm,0.4s
MSFR AML AML
comp=E,108μm,0.4s
MNO Monte Soro 2.02 200 ⇓P Pn 13 11 43.2 +0.9
MNO AML AML
comp=N,614μm,0.8s
MNO AML AML
comp=E,602μm,0.6s
MIDA Miranda 2.06 332 P Pn 13 11 43.3 +1.0
EMSG Monte Spagnolo 2.07 194 AML AML
comp=E,1075μm,0.9s
EMSG AML AML
comp=N,1174μm,0.6s
EMSG AML AML
comp=E,1075μm,1.1s
EPZF Pizzo Felice 2.09 196 AML AML
comp=N,970μm,0.6s
EPZF AML AML
comp=E,696μm,0.5s
EPZF AML AML
comp=E,696μm,1.5s
CERA Filignano 2.11 327 ⇑P Pn 13 11 43.8 +1.1
CERA AML AML
comp=E,295μm,1.2s
CERA AML AML
comp=N,364μm,0.7s
CERA AML AML
comp=E,295μm,0.8s
CERA AML AML
comp=N,364μm,1.3s
MCI Monte Cassino 2.11 322 ⇑P Pn 13 11 44.2 +1.5
RNI2 Rionero Sannit 2.15 331 P Pn 13 11 44.8 +1.8
PLLN Pollina 2.15 211 P Pn 13 11 43.7 +0.4
USI Ustica 2.17 239 P Pn 13 11 43.7 +0.4
GIB Gibilmanna 2.20 213 ⇓P Pn 13 11 44.2 +0.5
CSLB Castelbuono 2.23 212 ⇓P Pn 13 11 44.3 +0.3
CSLB AML AML
comp=N,154μm,0.8s
CSLB AML AML
comp=E,72μm,0.9s
SCTE Santa Cesarea 2.25 83 ⇓P Pn 13 11 44.5 +0.7
SCTE AML AML
comp=E,754μm,0.9s
SCTE AML AML
comp=N,806μm,0.9s
PETRA Petralia Sopra 2.30 210 ⇓P Pn 13 11 45.4 +0.7
PETRA AML AML
comp=N,322μm,1.2s
PETRA AML AML
comp=E,204μm,0.5s
PETRA AML AML
comp=N,322μm,0.8s
POFI Posta Fibreno 2.34 324 ⇑P Pn 13 11 45.9 +1.1
POFI AML AML
comp=E,134μm,0.6s
POFI AML AML
comp=N,224μm,0.6s
POFI AML AML
comp=N,224μm,1.4s
LRP Arpino 2.35 321 ⇑P Pn 13 11 46.1 +1.3
LRP AML AML
comp=E,143μm,0.4s
LRP AML AML
comp=N,136μm,1.3s
LRP AML AML
comp=N,136μm,0.7s
SOLUN Solunto 2.36 223 P Pn 13 11 45.1 +0.1
MPG Monte Pellegri 2.40 226 P Pn 13 11 45.8 +0.4
INTR Introdacqua 2.51 330 ⇑P Pn 13 11 47.6 +1.2
INTR AML AML
comp=E,149nm,1.0s
INTR AML AML
comp=N,246μm,0.7s
INTR AML AML
comp=N,186nm,0.8s
INTR AML AML
comp=E,149nm,1.0s
INTR AML AML
comp=E,117μm,0.8s
ALJA Alia 2.52 215 P Pn 13 11 48.2 +1.5
ALJA AML AML
comp=E,274μm,1.6s
ALJA AML AML
comp=N,224μm,1.3s
ALJA AML AML
comp=N,224μm,0.7s
ALJA AML AML
comp=E,274μm,0.4s
VAE Valguarnera 2.52 201 P Pn 13 11 48.6 +1.9
comp=E,36nm,0.8s,baz=138,slow=6.3,SNR=6.6
VAE S **S 13 12 30.5 +5.0**
comp=E,20nm,0.6s,baz=157,slow=9.2,SNR=1.3
HLNI Lentini 2.55 192 P Pn 13 11 46.5 -0.4
HLNI S **S 13 12 24.5 -1.2**
HLNI AML AML
comp=E,252μm,1.2s
HLNI AML AML
comp=N,142μm,0.5s
HAGA Augusta 2.57 187 P Pn 13 11 45.9 -1.2
HAGA AML AML
comp=E,224μm,0.8s
HAGA AML AML
comp=N,250μm,0.7s
SSY Sortino 2.71 188 P Pn 13 11 47.6 -1.0
SSY AML AML
comp=E,198μm,1.6s
SSY AML AML
comp=N,407μm,1.2s
SSY AML AML
comp=N,407μm,0.8s
SSY AML AML
comp=E,198μm,0.4s
RAFF Raffo Rosso 2.78 200 ⇓P Pn 13 11 49.7 +0.5
RAFF AML AML
comp=E,184μm,0.9s
RAFF AML AML
comp=N,274μm,1.2s
RAFF AML AML
comp=N,274μm,0.8s
RAFF AML AML
comp=E,184μm,1.1s
MEU Monte Lauro 2.78 190 P Pn 13 11 49.1 -0.2
MEU AML AML
comp=N,585μm,0.8s
MEU AML AML
comp=E,335μm,0.3s
MEU AML AML
comp=N,585μm,1.2s
RCAV Rocca di Cave 2.82 316 AML AML
comp=E,76μm,0.8s
RCAV AML AML
comp=N,71μm,1.1s
RMP Rome, Mte Porz 2.93 313 AML AML
comp=E,302μm,1.2s
RMP AML AML
comp=E,302μm,0.8s
RMP AML AML
comp=N,338μm,0.8s
ERC Erice 2.94 233 P Pn 13 11 51.6 +0.8
KEK Kerkira 3.27 91 P Pn 13 11 54.6 +0.4
KEK Kerkira 3.27 91 AML AML
comp=E,56μm,0.5s
KEK AML AML
comp=N,36μm,0.4s
KEK AML AML
comp=N,36μm,1.6s
SRN Sarande 3.42 88 AML AML
comp=N,94μm,0.4s
SRN AML AML
comp=E,145μm,1.6s
SRN AML AML
comp=E,145μm,0.4s
TIR Tirane 3.60 64 ⇓P Pn 13 11 59.7 +1.8
PDG Podgorica 3.80 46 ⇓P Pn 13 12 01.8 +1.7
KEF3 Kipouria, Keph 4.07 112 P Pn 13 12 03.0 -0.2
DMLN Damorilanata-K 4.07 112 P Pn 13 12 03.3 0.0
TSLK Tsoukalades, L 4.08 103 P Pn 13 12 03.9 +0.6
LKD2 Lefkada island 4.09 103 P Pn 13 12 03.7 +0.2
OHR Ohrid 4.19 71 *i* P **Pn 13 12 06.9 +2.3**
VLS Valsamata 4.25 111 AML AML
comp=E,29μm,0.5s
VLS AML AML
comp=N,23μm,0.4s
VLS AML AML
comp=N,23μm,1.6s
VLS AML AML
comp=E,29μm,1.5s
VSL Villasalto 4.79 268 P Pn 13 12 12.1 +0.5
CGL Cagliari Serpe 4.86 266 P Pn 13 12 12.9 +0.2
SKO Skopje 4.94 63 *i* P **Pn 13 12 14.8 +1.5**
AGLI Aglientu 5.04 287 P Pn 13 12 16.3 +1.8
STIP Štip 5.36 68 *i* P **Pn 13 12 21.7 +3.3**
PGF Pioggiola 5.64 301 *eP* **Pn 13 12 21.6 -0.4**
PGF *e*Sn **S 13 13 29.4 0.0**
comp=E,1.7nm,0.5s
KNDS Knezji Dol 5.75 352 *i* P **Pn 13 12 23.9 +0.6**
SKDS Skadanscina 5.81 349 ⇓*i*P **Pn 13 12 24.3 +0.3**
SKDS *i* S **S 13 13 31.3 -1.7**
PEHC Pehcevo 5.89 68 *i* P **Pn 13 12 25.4 +0.3**
BOVS Bovan 5.96 48 ⇑P **Pn 13 12 27.7 +2.0**
GBAS Gorenja Brezov 6.15 353 *i* P **Pn 13 12 29.0 +1.0**
LJU Ljubljana 6.25 353 ⇓*i*P **Pn 13 12 30.3 +1.1**
LJU *e*S **S 13 13 41.9 -0.8**
KEST Kesra 6.41 232 P Pn 13 12 31.6 +0.1
comp=E,1.7nm,0.4s,baz=171,slow=9.0,SNR=3.8
OBKA Obir 6.71 354 *i* Pn **Pn 13 12 36.2 +1.2**
comp=E,17nm,0.6s
SOKA Soboth 6.84 357 *i* Pn **Pn 13 12 37.2 +0.5**
comp=E,3.0nm,0.5s,SNR=5.1
MYKA Terra Mystica 6.93 349 *i* Pn **Pn 13 12 38.8 +1.1**
comp=E,6.0nm,0.4s
ABTA Abfaltersbach 7.25 343 *i* Pn **Pn 13 12 42.6 +0.8**
comp=E,43nm,0.5s,SNR=21
ABTA *e*Sn S 13 13 37.4 -28
comp=E,2.5nm,0.1s
SBF Sospel 7.28 306 *eP* **Pn 13 12 41.9 -0.2**
SBF *e*Sn **S 13 14 06.1 0.0**
comp=E,3.5nm,0.2s
ARSA Arzberg 7.41 360 *i* Pn **Pn 13 12 44.5 +0.9**
comp=E,1.7nm,0.5s
KBA Koelnbreinsper 7.41 348 *e*Pn **Pn 13 12 44.7 +0.8**
comp=E,5.6nm,0.5s
KBA *e*Sn **S 13 14 09.6 +0.3**
comp=E,1.5nm,0.4s
LMR La Mourre 7.63 300 *eP* **Pn 13 12 46.0 -0.4**
LMR *e*Sn **S 13 14 14.0 -0.1**
comp=E,3.3nm,0.5s
RONA Rosalia, Austr 7.87 4 *e*Pn **Pn 13 12 50.4 +0.9**
comp=E,2.4nm,0.5s
WTTA Wattenberg 7.95 340 *e*Pn **Pn 13 12 53.0 +2.4**
comp=E,8.2nm,0.5s
FETA Feichten 7.99 336 *i* Pn **Pn 13 12 51.7 +0.6**
comp=E,23nm,0.7s,SNR=10
SQTA Sankt Quirin 8.03 338 *i* Pn **Pn 13 12 53.3 +1.9**
comp=E,18nm,0.4s,SNR=8.8
WATA Walderalm 8.03 340 *i* Pn **Pn 13 12 52.8 +1.2**
comp=E,17nm,0.6s,SNR=6.8
MOA Molln 8.06 354 *e*Pn **Pn 13 12 52.8 +0.9**
comp=E,9.8nm,0.8s
DAVOX Davos/Discmat 8.08 331 P Pn 13 12 53.5 +1.3
comp=E,7.7nm,0.5s,baz=149,slow=14,SNR=14
CONA Conrad Observa 8.09 1 *e*Pn **Pn 13 12 53.1 +0.9**
comp=E,1.8nm,0.7s
MBDF Montbardon 8.14 310 *eP* **Pn 13 12 54.6 +1.6**
MBDF *e*Sn **S 13 14 26.0 0.0**
comp=E,1.8nm,0.4s
RJOB Jochberg 8.14 347 *eP* **Pn 13 12 54.3 +1.4**
comp=E,9.0nm,0.7s,baz=161,slow=0.0
MOTA Moosalm 8.17 338 *i* Pn **Pn 13 12 54.4 +1.1**
comp=E,17nm,0.9s,SNR=6.8
RETA Reutte 8.40 337 *i* Pn **Pn 13 12 56.8 +0.7**
comp=E,12nm,0.5s,SNR=10.0
RETA *e*Sn **S 13 14 34.8 +3.1**
comp=E,2.0nm,0.2s
DAVA Damuels 8.51 333 *i* Pn **Pn 13 12 58.4 +0.9**
comp=E,18nm,0.7s,SNR=6.4
SMRF Simiane la Rot 8.52 302 *eP* **Pn 13 12 57.9 +0.3**
SMRF *e*Sn **S 13 14 34.3 -0.2**
comp=E,3.8nm,0.5s
LPG La Plagne 8.60 314 *eP* **Pn 13 13 01.5 +2.6**
LPL La Plagne 8.63 314 *eP* **Pn 13 13 01.0 +1.9**
IDI Anoyia 8.69 119 P Pn 13 13 01.4 +1.6
comp=E,8.0nm,0.4s,baz=300,slow=16,SNR=12
UBR Ueberruh 8.77 335 *eP* **Pn 13 13 01.3 +0.5**
comp=E,34nm,0.7s,baz=161,slow=0.0
ORIF Oris-en-Rattie 8.78 308 *eP* **Pn 13 13 01.3 +0.4**
FUR Furstenfeldbru 8.88 341 *eP* **Pn 13 13 02.9 +0.9**
comp=E,49nm,0.6s,baz=161,slow=0.0
VOIR 8.95 48 ⇑P **P 13 13 06.0 -3.3**
CKRC Cesky Krumlov 9.02 355 *eP* **Pn 13 13 04.1 +0.3**
GEC2 GERESS Array S 9.10 352 *eP* **Pn 13 13 05.3 +0.4**
comp=E,6.5nm,0.7s,baz=161,slow=0.0
GERES GERESS Array B 9.10 352 P Pn 13 13 05.3 +0.4
comp=E,14nm,0.4s,baz=165,slow=11,SNR=3.5
KHC Kasperske Hory 9.40 352 *eP* **Pn 13 13 08.7 +0.2**
VIVF Saint-Julien-l 9.49 305 *eP* **Pn 13 13 09.2 -0.6**
VIVF *e*Sn **S 13 14 57.0 +0.1**
comp=E,1.7nm,0.4s
VRAC Vranov 9.49 4 ⇓P **Pn 13 13 08.7 -1.0**
VRAC Vranov 9.49 4 P Pn 13 13 08.2 -1.5
comp=E,5.8nm,0.5s,baz=190,slow=11,SNR=5.9
WET Wettzell 9.50 349 *eP* **Pn 13 13 10.0 +0.2**
comp=E,8.9nm,0.7s,baz=161,slow=0.0
MLR Muntele Rosu 9.50 50 ⇑P **P 13 13 13.9 -1.8**
MLR Muntele Rosu 9.50 50 P P 13 13 13.0 -2.7
comp=E,3.3nm,0.4s,baz=294,slow=16,SNR=5.4
CABF La Chapelle 9.67 317 *eP* **Pn 13 13 10.8 -1.2**
CABF *e*Sn **S 13 15 01.3 +0.2**
comp=E,3.6nm,0.5s
LASF Ste Croix 9.69 300 *e*Sn **S 13 15 01.3 -0.2**
comp=E,0.8nm,0.2s
BFO Black Forest 9.95 331 *eP* **Pn 13 13 15.6 +0.1**
comp=E,14nm,0.6s,baz=161,slow=0.0
PLOR Plostina 10.11 50 ⇑P **P 13 13 20.4 -2.0**
HINF Hinteralfeld 10.15 325 *eP* **Pn 13 13 16.6 -1.4**
GRF Grafenberg Arr 10.32 344 *eP* **Pn 13 13 18.4 -1.7**
baz=161,slow=0.0
CDF Champ du Feu 10.43 328 *eP* **Pn 13 13 21.0 -0.5**
CDF *e*Sn **S 13 15 19.1 +0.6**
comp=E,2.6nm,0.5s
BURAR Bucovina Array 10.44 39 ⇑P **P 13 13 28.0 +1.9**
HAU Haudompre 10.52 324 *eP* **Pn 13 13 21.8 -0.7**
DPC Dobruska-Polom 10.52 3 *eP* **P 13 13 27.8 +0.9**
TIRR Tirgusor 10.60 60 ⇑P **P 13 13 28.9 +1.2**
CFR Carcaliu 10.70 56 ⇑P **P 13 13 30.5 +1.6**
SMF Signal de Mont 10.92 312 *eP* **Pn 13 13 25.6 -1.9**
LOR Lormes 11.27 315 *eP* **Pn 13 13 29.7 -2.2**
LOR *e*Sn **S 13 15 38.5 +0.7**
comp=E,1.5nm,0.3s
SFTF Sexfontaines 11.27 321 *e*Sn **S 13 15 38.6 +0.8**
comp=E,5.5nm,0.2s
AVF Avril sur Loir 11.28 312 *eP* **Pn 13 13 30.9 -1.0**
SSF Saint Saulge 11.34 313 *eP* **Pn 13 13 31.1 -1.7**
MEZF Maizieres J'vi 11.48 322 *e*Sn **S 13 15 43.2 +0.8**
comp=E,5.8nm,0.4s
SAVF Savonnieres en 11.52 323 *e*Sn **S 13 15 44.3 +0.8**
comp=E,7.9nm,0.3s
CLL Collm 11.61 352 *i* P **Pn 13 13 37.1 +1.2**
comp=Z,5.0nm,0.6s
LFF La Frestale 12.08 300 *e*Sn **S 13 15 57.1 +0.7**
comp=Z,5.8nm,0.5s
ETSF Etsaut 12.49 289 *eP* **Pn 13 13 45.9 -1.1**
BRTR Keskin Array B 13.91 85 P P 13 14 06.8 +2.1
comp=Z,3.8nm,0.8s,baz=272,slow=9.6,SNR=14
AKASG Malin Array Be 14.48 37 P Pn 13 14 11.8 +0.8
comp=Z,1.5nm,0.4s,baz=230,slow=10,SNR=9.2
FLN La Foliniere 14.52 313 *eP* **P 13 14 10.8 -0.4**
GRR Gorron 14.54 311 *eP* **P 13 14 10.1 -1.3**
ESDC Sonseca Array 15.02 276 P P 13 14 16.5 -0.4
comp=Z,3.5nm,0.5s,baz=75,slow=11,SNR=24
ROSF Rostrenen 15.95 308 *eP* **P 13 14 25.4 -1.4**
NACGM Naroch 16.84 23 *eP* **P 13 14 34.2 -2.3**
comp=Z,15nm,0.9s,baz=211
MNK Minsk 16.85 25 *i* P **P 13 14 35.4 -1.2**
comp=E,16nm,1.3s
MNK *i* P **P 13 14 35.4 -1.2**
comp=N,40nm,1.3s
MNK *i* P **P 13 14 35.4 -1.2**
comp=Z,13nm,0.6s,baz=214
MNK *i* S **S 13 17 39.9 +1.5**
MMAI Mount Meron Ar 17.34 107 P P 13 14 44.2 +1.9
comp=Z,9.0nm,0.7s,baz=325,slow=7.2,SNR=11
EIL Elat 18.85 117 P P 13 14 59.8 +1.3
comp=Z,5.2nm,0.6s,baz=0.5,slow=6.1,SNR=6.0
ASF Jabal al Asfar 18.85 107 P P 13 15 00.7 +2.1
comp=Z,4.8nm,0.6s,baz=283,slow=4.2,SNR=6.1
EKA Eskdalemuir Ar 19.89 327 P P 13 15 07.4 -1.9
comp=Z,1.9nm,0.3s,baz=118,slow=8.9,SNR=24
HFS Hagfors 20.35 357 P P 13 15 12.6 -1.5
comp=Z,10.0nm,0.5s,baz=169,slow=9.1,SNR=38
comp=Z,10.0nm,0.5s
KBZ Khabaz 20.71 70 P P 13 15 19.0 +0.9
comp=Z,6.3nm,0.8s,baz=269,slow=5.3,SNR=10
comp=Z,6.3nm,0.8s
NB2 NORSAR Subarra 21.39 354 P P 13 15 22.9 -1.7
comp=Z,2.2nm,0.5s,baz=171,slow=10
NOA NORSAR Array B 21.39 354 P P 13 15 22.6 -2.0
comp=Z,1.1nm,0.5s,baz=170,slow=7.7,SNR=14
comp=Z,1.1nm,0.5s
FINES FINESS Array B 22.58 13 P P 13 15 35.0 -0.3
comp=Z,13nm,0.6s,baz=188,slow=8.9,SNR=41
comp=Z,13nm,0.6s
TORD Torodi Ar. Bea 29.26 209 P P 13 16 35.5 -0.1
comp=Z,1.0nm,0.5s,baz=18,slow=9.7,SNR=14
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 30.22 7 P P 13 16 42.1 -1.4
comp=Z,1.5nm,0.4s,baz=186,slow=8.0,SNR=20
comp=Z,1.5nm,0.4s
GEYT Alibeck 32.95 79 P P 13 17 09.2 +1.5
comp=Z,3.4nm,0.6s,baz=269,slow=8.9,SNR=4.2
comp=Z,3.4nm,0.6s
BVAR Borovoye Array 39.06 52 P P 13 17 59.9 +0.9
comp=Z,0.9nm,0.4s,baz=268,slow=7.4,SNR=6.8
comp=Z,0.9nm,0.4s
KURBB Kurchatov Arra 44.37 54 P P 13 18 42.2 +0.4
comp=Z,0.6nm,0.3s,baz=285,slow=8.9,SNR=6.7
comp=Z,0.6nm,0.3s
ZALV Zalesovo Beam 47.48 49 P P 13 19 06.2 +0.3
comp=Z,1.8nm,0.4s,baz=286,slow=8.1,SNR=6.0
comp=Z,1.8nm,0.4s
MKAR Makanchi Array 47.73 59 P P 13 19 08.5 +0.5
comp=Z,2.4nm,0.4s,baz=283,slow=7.2,SNR=32
comp=Z,2.4nm,0.4s
SCHQ Schefferville 54.59 315 P P 13 19 57.4 -1.2
comp=Z,5.2nm,0.3s,baz=72,slow=5.0,SNR=22
comp=Z,5.2nm,0.3s
PYUN Piuthan 55.94 80 *eP* **P 13 20 08.7 -0.1**
comp=Z,15nm,0.5s
DANN Dangsing 56.39 79 *eP* **P 13 20 12.3 +0.2**
comp=Z,21nm,0.6s
PKIN Phulchoki 58.03 79 *eP* **P 13 20 23.1 -0.4**
comp=Z,11nm,0.6s
GUN Gumba 58.22 79 *eP* **P 13 20 24.6 -0.3**
comp=Z,13nm,0.6s
JIRN Jiri 58.59 79 *eP* **P 13 20 27.1 -0.4**
comp=Z,3.8nm,0.3s
RAMN Ramite 59.27 79 *eP* **P 13 20 31.7 -0.3**
comp=Z,18nm,0.7s
BOSA Boshof 68.70 171 P P 13 21 33.0 +0.2
comp=Z,2.2nm,0.4s,baz=352,slow=6.9,SNR=10.0
comp=Z,2.2nm,0.4s
HHC Hu-ho-hao-te 69.22 54 *eP* **P 13 21 36.5 +0.5**
HHC pmax pmax
comp=Z,22nm,0.6s
ULM Lac du Bonnet 72.03 321 P P 13 21 52.2 -0.3
comp=Z,6.6nm,0.6s,baz=44,slow=7.0,SNR=6.1
comp=Z,6.6nm,0.6s
CMAR Chiang Mai Arr 73.44 80 P P 13 22 01.6 +0.2
comp=Z,0.8nm,0.5s,baz=298,slow=7.0,SNR=6.8
comp=Z,0.8nm,0.5s
ILAR Eielson Array 74.82 352 P P 13 22 08.9 +0.4
comp=Z,0.3nm,0.8s,baz=346,slow=3.3,SNR=2.8
comp=Z,0.3nm,0.8s
KSRS Korea Array 81.18 48 P P 13 22 42.8 -1.0
comp=Z,0.7nm,0.6s,baz=316,slow=6.8,SNR=2.2
comp=Z,0.7nm,0.6s
PDAR Pinedale Array 83.94 323 P P 13 22 58.9 +0.7
comp=Z,0.5nm,0.4s,baz=56,slow=5.7,SNR=7.6
comp=Z,0.5nm,0.4s
TXAR Lajitas Array 90.99 310 P P 13 23 33.0 +0.9
comp=Z,0.4nm,0.5s,baz=64,slow=4.8,SNR=6.9
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 124.41 88 PKP PKPdf 13 29 22.6 -2.7
comp=Z,0.5nm,1.1s,baz=319,slow=1.9,SNR=1.5

---

*IDC **18** 13:16:46.7±1.0, 23°.20S×175°.64W, h0km, mb3.9/8, mbtmp3.9/9, ML4.5/1, MS4.8/1, Error ellipse: s-maj=33.5km s-min=25.7km az=154.0*

ISC 18 13:16:52.1±0.9, 23°.25±0°.2×175°.7W±0°.2, h34km, n12, σ0s79/10, mb3.8/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.99**	**311**	Pn	Pn	**Pn**	**13 18 46.0**	**+0.1**
	0.2nm,0.3s,baz=195,slow=14,SNR=1.2							
	3.8nm,0.8s							
RAR	**Rarotonga**	**14.86**	**86**	Pn	Pn	Pn	13 20 05.3	-14
	2.4nm,0.3s,baz=243,slow=9.1,SNR=8.3							
RAR				Sn	Sn	Sn	13 22 31.1	-32
	0.9nm,0.3s,baz=5.2,slow=6.0,SNR=2.1							
ASAR	**Alice Springs**	**46.07**	**259**	P	P	**P**	**13 25 12.7**	**-0.5**
	1.2nm,0.9s,baz=95,slow=7.5,SNR=11							
	1.2nm,0.9s							
WRA	**Warramunga Arr**	**46.43**	**264**	P	P	**P**	**13 25 14.6**	**-1.3**
	1.7nm,0.7s,baz=101,slow=8.2,SNR=52							
	1.7nm,0.7s							
RPN	**Rapa Nui**	**59.56**	**109**	LR	LR	LR	13 49 33.5	
	comp=Z,752nm,18.3s,baz=354,slow=33							
QSPA	**South Pole Qui**	**66.91**	**180**	P	P	**P**	**13 27 41.0**	**+0.2**
	0.6nm,0.7s,baz=16,slow=4.3,SNR=4.0							
	0.6nm,0.7s							
PETK	**Petropavlovsk-**	**79.41**	**344**	P	P	**P**	**13 28 54.4**	**0.0**
	3.7nm,0.9s,baz=120,slow=8.5,SNR=3.5							
	3.7nm,0.9s							
NVAR	**Mina Array Bea**	**81.51**	**42**	P	P	**P**	**13 29 05.7**	**-0.7**
	0.4nm,0.9s,baz=218,slow=8.7,SNR=2.3							
	0.4nm,0.9s							
TXAR	**Lajitas Array**	**86.70**	**56**	P	P	**P**	**13 29 32.9**	**0.0**
	0.2nm,0.8s,baz=196,slow=6.2,SNR=1.9							
	0.2nm,0.8s							
ILAR	**Eielson Array**	**90.44**	**12**	P	P	**P**	**13 29 49.6**	**0.0**
	0.6nm,1.0s,baz=232,slow=4.4,SNR=1.7							
	0.6nm,1.0s							
CMAR	**Chiang Mai Arr**	**93.03**	**289**	P	P	**P**	**13 30 03.9**	**+1.2**
	2.1nm,0.8s,baz=138,slow=3.0,SNR=12							
	2.1nm,0.8s							
AKASG	**Malin Array Be**	**146.38**	**331**	PKPbc	**PKPdf**	**13 36 28.7**	**+0.7**	
	1.7nm,0.8s,baz=40,slow=4.4,SNR=4.7							

---

*MOS **18** 13:40:53.3±0.9, 0°.13S×122°.92E, h93km, mb5.3/37, Error ellipse: s-maj=8.8km s-min=4.8km az=109.2*

*NEIC **18** 13:40:55.6±1.9, 0°.24S±0°.06×122°.95E±0°.06, h93km±5km, mb5.6/50, Error ellipse: s-maj=9.0km s-min=8.1km az=62.0*

*IDC **18** 13:40:56.0±0.6, 0°.15S×122°.91E, h102km±4km, mb4.5/24, mbtmp4.9/27, MS4.3/13, Error ellipse: s-maj=16.6km s-min=8.3km az=78.0*

GCMT ***18*** *13:40:56.6±0.1, 0°.22S±0°.01×123°.10E±0°.01, h91km±1km, MW5.3/135, Moment Tensor Solution. s84,c105; s135,c249; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.66±.03; Mθθ-1.10±.02; Mφφ0.44±.03; Mrθ0.51±.02; Mφφ0.13±.02; Mφr-0.67±.02; Best double couple: M0 1.28100×10^17 NP1:φs127.00000°, δ70.00000°, λ125.00000°. NP2:φs242.00000°, δ40.00000°, λ32.00000°. Principal axes: T 1.2690, Plg51.0000°, Azm78.0000°; N 0.0290, Plg33.0000°, Azm293.0000°; P -1.2930, Plg18.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***18*** *13:40:56.4±0.1, 0°S±2°×12°3E±°, h101km±2km, M5.4/79, mb5.6/79, mB5.8/41, MLv6.0/23, Mw5.3/81, Mw(mB)5.4/41, MwMwp5.1/4, Mwp5.3/4*

KLM ***18*** *13:40:58, 0°.42S×122°.98E, h109km, mb5.4*

ISC 18 13:40:55.8±0.2, 0°.25S±0°.03×122°.94E±0°.04, h100km±1km, h100km:pP-P, n727, σ1932/810, mb5.2/128, 28C-14D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
LUWI	Luwuk	0.80	192			Pn	13 41 13.8	-0.4
LUWI	Luwuk	0.80	192	P		Pn	13 41 14.2	0.0
LUWI	Luwuk	0.80	192	P		Pn	13 41 13.9	-0.3
GTOI	Gorontalo	0.88	5	P		Pn	13 41 16.7	+1.7
MRSI	Marisa	1.23	306	P		Pn	13 41 19.1	+0.3
KMSI	Cibinong	1.33	52	P		Pn	13 41 21.2	+1.3
TOLI2	Tolitoli	2.54	302	Pn		Pn	13 41 36.0	+0.5
TOLI2	Tolitoli	2.54	302	P		Pn	13 41 36.6	+1.1
MPSI	Mapaga	3.10	281	P		Pn	13 41 43.3	+0.5
SANI	Sanana	3.54	120	P		Pn	13 41 47.0	-1.7
TTSI	Tana Toraja	4.17	228	P		Pn	13 41 58.4	+1.0
TNTI	Ternate	4.54	77	Pn		Pn	13 42 01.8	-0.6
TNTI	Ternate	4.54	77	P		Pn	13 42 04.1	+1.7
TNTI	Ternate	4.54	77	P		Pn	13 42 02.0	-0.4
LBMI	Labuha	4.58	95	P		Pn	13 42 01.5	-1.4
SGSI	Sangihe	4.69	33	P		Pn	13 42 04.9	+0.6
NLAI	Namlea	5.11	126	P		Pn	13 42 10.5	+0.4
	1μm,0.7s,57μm18nm							
BBSI	Bau Bau	5.22	184	P		Pn	13 42 11.7	+0.2
	895nm,0.5s,14μm9μm17nm							
KAPI	Kappang	5.70	214	Pn		Pn	13 42 17.9	-0.2
KAPI	Kappang	5.70	214	P		Pn	13 42 19.4	+1.3
KAPI	Kappang	5.70	214	*i* P		Pn	13 42 18.6	+0.5
KAPI	Kappang	5.70	214	P		Pn	13 42 19.3	+1.2
	659nm,0.5s,baz=19,slow=6.4,SNR=145							
KAPI				S		Sn	13 43 20.7	-1.5
	1μm,0.5s,baz=216,slow=23,SNR=4.3							
BKSI	Bulukumba	5.77	209	P		Pn	13 42 19.1	+0.1
	561nm,0.8s,9μm9μm11nm							
BKB	Balikpapan	6.12	261	Pn		Pn	13 42 24.2	+0.4
BKB	Balikpapan	6.12	261	P		Pn	13 42 25.7	+1.9
BKB	Balikpapan	6.12	261	P		Pn	13 42 34.3	+10
MYLDM	Lahad Datu	6.98	321	Pn		Pn	13 42 37.9	+2.5
DAV	Davao City (W)	7.73	20			Pn	13 42 48.4	+2.7
DAV	Davao City (W)	7.73	20	P		Pn	13 42 47.7	+2.0
	1μm,0.4s,baz=163,slow=1.6,SNR=39							
DAV				S		Sn	13 44 10.7	-1.0
	661nm,0.6s,baz=330,slow=22,SNR=1.6							
DAV				LR		LR	13 45 59.1	
	comp=Z,2μm,19.0s,baz=223,slow=40							
MTKI	Muara Teweh, K	8.07	265	P		Pn	13 42 52.9	+2.6
BNDI	Bandanaira	8.15	121	P		Pn	13 42 52.2	+0.8
BNDI	Bandanaira	8.15	121	P		Pn	13 42 52.0	+0.6
	2μm,0.8s,18μm							
SWI	Sorong	8.34	94	P		Pn	13 42 53.9	-0.1
	709nm,0.7s,8μm							
MMRI	Maumere	8.36	185	Pn		Pn	13 42 54.0	-0.3
MMRI	Maumere	8.36	185	P		Pn	13 42 54.8	+0.5
MMRI	Maumere	8.36	185	P		Pn	13 42 53.8	-0.5
	452nm,0.5s,6μm							
EDFI	Ende, Flores	8.54	188	P		Pn	13 42 56.4	-0.3
	596nm,0.6s,6μm							
BBKI	Banjar Baru	8.70	248	P		Pn	13 43 00.2	+1.3
	364nm,0.8s							
KKM	Kota Kinabalu	9.17	313			Pn	13 43 06.6	+1.2
KKM	Kota Kinabalu	9.17	313	P		Pn	13 43 07.8	+2.4
SOEI	Soe	9.54	172	Pn		Pn	13 43 12.4	+2.0
SOEI	Soe	9.54	172	P		Pn	13 43 11.5	+1.1
	519nm,0.9s,7μm							
FAKI	Fak Fak	9.68	106	Pn		Pn	13 43 10.0	-2.2
FAKI	Fak Fak	9.68	106	P		Pn	13 43 10.4	-1.8
	667nm,0.8s,5μm							
BATI	Baumata	9.92	176	P		Pn	13 43 17.0	+1.5
	185nm,0.7s,5μm							
BATI	Baumata	9.92	176	P		Pn	13 43 18.0	+2.5
	129nm,0.6s,baz=307,slow=3.0,SNR=14							
BATI				S		Sn	13 45 07.5	+2.5
	78nm,0.6s,baz=277,slow=21,SNR=1.3							
PLAI	Plampang	9.95	211	P		Pn	13 43 18.3	+2.4
PLAI	Plampang	9.95	211	P		Pn	13 43 18.6	+2.7
	280nm,0.8s,4μm							
BASI	Baing, Sumba	10.18	193	P		Pn	13 43 19.9	+0.9
	521nm,0.8s,9μm							
TWSI	Taliwang, Sumb	10.37	215	P		Pn	13 43 23.7	+2.1
	198nm,1.1s,2μm							
SRBI	Singaraja	10.95	224	P		Pn	13 43 30.9	+1.4
	217nm,1.2s,3μm							
SBUM	Sibu	11.04	284			Pn	13 43 30.4	-0.3
SBUM	Sibu	11.04	284	P		Pn	13 43 33.0	+2.2
KMPI	Kaimana, Papua	11.28	108	P		Pn	13 43 31.9	-2.1
	516nm,0.6s,5μm							
RKPI	Ransiki, Papua	11.31	96	P		Pn	13 43 44.9	+11
SAUI	Saumlaki	11.34	133	Pn		Pn	13 43 35.9	+1.2
SAUI	Saumlaki	11.34	133	P		Pn	13 43 36.9	+2.2
SAUI	Saumlaki	11.34	133	P		Pn	13 43 36.1	+1.4
	461nm,0.9s							
STKI	Sintang	11.46	272	P		Pn	13 43 38.7	+2.3
IGBI	Denpasar	11.52	222	P		Pn	13 43 51.5	+14
BLJI	Banyuglugur	11.92	231	P		Pn	13 43 55.1	+13
JAGI	Jajag, Banyuwa	11.97	227			Pn	13 43 43.7	+0.5
JAGI	Jajag, Banyuwa	11.97	227	P		Pn	13 43 46.8	+3.6
JAGI	Jajag, Banyuwa	11.97	227	P		Pn	13 43 45.0	+1.8
	247nm,0.8s							
GMJI	Gumukmas	12.37	230	P		Pn	13 43 50.9	+2.4
	249nm,1.0s							
KSM	Kuching	12.74	278	Pn		Pn	13 43 53.7	+0.2
KSM	Kuching	12.74	278	P		Pn	13 43 55.2	+1.8
KSM	Kuching	12.74	278	P		Pn	13 43 55.0	+1.6
NGJI	Ngawi	13.45	238	P		P	13 44 05.9	-2.5
	180nm,0.9s							
WOJI	Wonogiri, Jawa	14.15	238	P		Pn	13 44 14.1	+2.3
	314nm,1.3s							
SMRI	Semarang	14.18	241	P		P	13 44 14.7	-1.8
SMRI	Semarang	14.18	241	P		P	13 44 16.4	-0.1
	348nm,0.8s							
TGY	Tagaytay City	14.40	352	P		P	13 44 17.1	-1.9
	208nm,0.7s,baz=170,slow=11,SNR=5.3							
MTN	Manton Dam	14.92	147	P		Pn	13 44 22.0	+0.4
	baz=15,SNR=75							
MTN	Manton Dam	14.92	147	P		Pn	13 44 21.6	0.0
KDU	Kakadu	15.56	143	P		Pn	13 44 29.8	+0.1
	baz=16,SNR=54							
KDU	Kakadu	15.56	143	P		Pn	13 44 30.0	+0.3
KPJI	Karang Pucung	15.64	243	P		P	13 44 33.3	+0.6
	452nm,0.9s							
JCJI	Jatiwangi	15.89	247	P		P	13 44 35.0	-0.6
	709nm,0.9s							
KNRA	Kununurra	16.37	160	P		Pn	13 44 39.9	+0.2
	baz=16,SNR=38							
KNRA	Kununurra	16.37	160			Pn	13 44 39.5	-0.2
KNRA	Kununurra	16.37	160	P		Pn	13 44 39.7	-0.1
LEM	Lembang	16.62	247	P		P	13 44 44.9	+1.1
	338nm,0.8s,baz=66,slow=12,SNR=43							
BBJI	Bungbulang	16.84	244	P		P	13 44 47.4	+1.2
PPBI	Pangkal Pinang	16.90	263	P		P	13 44 47.3	+0.5
	42nm,1.1s,6μm							
CBJI	Citeko	17.18	249	P		P	13 44 51.5	+1.7
	560nm,0.9s,8μm							
CNJI	Cibinong	17.25	246	P		Pn	13 44 52.5	+1.9
	106nm,1.2s,2μm							
GENI	Genyem	17.38	98	P		Pn	13 44 53.4	+1.2
GENI	Genyem	17.38	98	P		Pn	13 44 52.2	0.0
	550nm,1.2s,11μm							
JAY	Jayapura	17.90	97	P		P	13 44 57.7	-0.1
	119nm,1.3s							
CGJI	Cibinong	18.33	249	P		Pn	13 45 05.1	+1.5
	677nm,1.3s,6μm							
DSRI	Dabo	18.36	269	P		Pn	13 45 04.3	+0.3
	72nm,0.7s,1μm							
TPRI	Tanjung Pinang	18.45	274	P		Pn	13 45 06.5	+1.5
	50nm,1.1s							
TABU	Tabubil	18.93	106	P		Pn	13 45 10.8	0.0
KASI	Kota Agung	19.14	254	P		Pn	13 45 13.2	-0.1
	110nm,0.8s							
MYKOM	Kota Tinggi	19.19	276	P		Pn	13 45 14.0	+0.1
MMPI	Merauke	19.20	116	P		Pn	13 45 18.0	+4.0
JMBI	JAMBI	19.34	266	P		Pn	13 45 17.8	+2.2
	232nm,0.8s							
LWLI	Liwa	19.44	256	P		Pn	13 45 28.7	+12
WEWK	Wewak	20.96	99	P		Pn	13 45 33.8	-0.7
MBWA	Marble Bar	21.02	188	P		P	13 45 31.4	-0.1
MBWA	Marble Bar	21.02	188	P		P	13 45 32.2	+0.7
PSA00	Pilbara Seismi	21.41	188	P		P	13 45 35.7	0.0
PSA00	Pilbara Seismi	21.41	188	P		P	13 45 36.3	+0.6
SDSI	Sungai Dareh	21.52	268	P		P	13 45 38.5	+1.5
	96nm,0.9s							
BKNI	Bangkinang	21.91	271	P		P	13 45 40.6	-0.5
BKNI	Bangkinang	21.91	271	P		P	13 45 43.1	+2.0
BKNI	Bangkinang	21.91	271	P		P	13 45 44.6	+3.5
	154nm,1.0s							
WB0	Warramunga Arr	22.41	151	P		P	13 45 45.9	-0.5
PDSI	Padang	22.48	268	P		P	13 45 47.6	+0.4
	94nm,0.6s,7μm							
WRAB	Tennant Creek	22.53	151	P		P	13 45 46.9	-0.7
WRAB	Tennant Creek	22.53	151	P		P	13 45 47.9	+0.3
WRAB	Tennant Creek	22.53	151	*ce* P		P	13 45 47.3	-0.3
WRAB				pmax		pmax		
	comp=Z,111nm,1.2s							
WRA	Warramunga Arr	22.53	151	P		P	13 45 47.8	+0.2
WRA	Warramunga Arr	22.53	151	P		P	13 45 47.4	-0.2
	comp=Z,29nm,0.6s,baz=328,slow=10,SNR=259							
WRA				PcP		PcP	13 49 38.3	+0.3
	comp=Z,2.7nm,0.5s,baz=331,slow=2.2,SNR=2.1							
WRA				S		S	13 49 45.3	-2.5
	comp=Z,22nm,1.1s,baz=328,slow=17,SNR=7.3							
WRA				ScP		ScP	13 53 05.7	-1.1
	comp=Z,15nm,0.9s,baz=330,slow=2.8,SNR=13							
WRA				ScS		ScS	13 56 49.0	-3.4
	comp=Z,3.6nm,0.9s,baz=275,slow=3.3,SNR=8.4							
	comp=Z,29nm,0.6s							
KULM	Kulim	22.93	284	P		P	13 45 51.0	-0.7
TWGBT	Beinan	23.00	356	P		P	13 45 53.1	+0.9
QIZ	Qiongzhong	23.07	327	P		P	13 45 54.1	+1.2
QIZ				S		S	13 50 00.3	+4.0
QIZ				LR		LR		
	comp=Z,780nm,19.6s							
QIZ				LR		LR		
	comp=Z,920nm,16.7s							
QIZ				LR		LR		
	comp=Z,1μm,15.1s							
TPUB	Ta-pu	23.52	355	P		P	13 45 56.7	-0.3
TPUB	Ta-pu	23.52	355	P		P	13 45 57.7	+0.7
YULB	Yu-li	23.55	356	P		P	13 45 56.7	-0.7
GIRL	Giralia	23.82	200	P		P	13 46 01.2	+1.6
	baz=24,SNR=10							
GIRL	Giralia	23.82	200	P		P	13 45 59.9	+0.2
GIRL	Giralia	23.82	200	P		P	13 46 01.4	+1.7
SISI	Saibi	23.87	267	P		P	13 45 59.5	-0.8
	comp=Z,154nm,0.7s							
SSLB	Suanglung	23.97	356	P		P	13 46 00.7	-0.4
SSLB	Suanglung	23.97	356	P		P	13 46 01.5	+0.4
HKPS	Hong Kong Po S	23.98	340	P		P	13 46 03.1	+2.0
RPSI	Rantau Prapat	24.18	277	P		P	13 46 02.7	-0.4
PSI	Prapat	24.20	277	P		P	13 46 03.5	+0.1
PSI	Prapat	24.20	277	P		P	13 46 02.7	-0.7
COEN	Coen	24.22	125	P		P	13 46 03.0	-0.5
COEN	Coen	24.22	125	P		P	13 46 03.5	0.0
MANU	Manus Island	24.49	94	P		P	13 46 06.7	+0.8
MANU	Manus Island	24.49	94	P		P	13 46 07.5	+1.6
PBSI	Pulau Batu	24.66	270	P		P	13 46 07.3	-0.2
	comp=Z,184nm,0.7s							
YHNB	Yeheng	24.82	357	P		P	13 46 08.9	0.0
YHNB	Yeheng	24.82	357	P		P	13 46 09.8	+0.9
SRIT	Nakonsritamara	24.86	291	P		P	13 46 10.9	+1.7
SURA	Surathani	25.02	293	P		P	13 46 12.9	+2.1
WRKA	Warakurna	25.18	169	P		P	13 46 12.7	+0.6
	baz=25,SNR=78							
WRKA	Warakurna	25.18	169	P		P	13 46 12.4	+0.3
GSI	Gunungsitoli	25.41	274	P		P	13 46 13.5	-0.7
GSI	Gunungsitoli	25.41	274	P		P	13 46 14.1	-0.2
GSI	Gunungsitoli	25.41	274	P		P	13 46 13.0	-1.3
	comp=Z,87nm,0.8s							
KCSI	Kotacane, Aceh	25.43	279	P		P	13 46 14.0	-0.5
	comp=Z,65nm,0.6s							
AS31	Alice Springs	25.60	156	P		P	13 46 16.3	+0.4
ASAR	Alice Springs	25.60	156	P		P	13 46 16.0	+0.1
ASAR	Alice Springs	25.60	156	P		P	13 46 16.9	+1.0
	comp=Z,34nm,0.7s,baz=343,slow=14,SNR=430							
ASAR				PcP		PcP	13 49 44.9	+0.2
	comp=Z,8.8nm,0.5s,baz=346,slow=2.2,SNR=13							
ASAR				ScP		ScP	13 53 14.3	-0.8
	comp=Z,10nm,0.7s,baz=343,slow=2.8,SNR=16							
ASAR				ScS		ScS	13 57 01.4	-3.2
	comp=Z,3.5nm,0.9s,baz=352,slow=5.6,SNR=8.4							
	comp=Z,34nm,0.7s							
GUMO	Guam	25.71	57	LR		LR	13 55 16.1	
	comp=Z,492nm,21.3s,baz=271,slow=34							
PMG	Port Moresby	25.77	111	P		P	13 46 17.7	+0.1
PMG	Port Moresby	25.77	111	P		P	13 46 18.3	+0.8
PMG	Port Moresby	25.77	111	P		P	13 46 18.0	+0.5
PMG	Port Moresby	25.77	111	*i* P		P	13 46 18.1	+0.5
PMG				pmax		pmax		
	comp=Z,159nm,1.0s							
NAYO	Nakonayok	25.83	305	P		P	13 46 20.1	+2.1
QIS	Mount Isa	25.95	142	P		P	13 46 19.9	+0.8
	baz=26,SNR=97							
QIS	Mount Isa	25.95	142	P		P	13 46 20.0	+0.9
MEEK	Meekatharra	26.56	189	P		P	13 46 24.5	0.0
	baz=27,SNR=42							
MEEK	Meekatharra	26.56	189	P		P	13 46 24.3	-0.3
MLSI	Meulaboh, Aceh	26.89	280	P		P	13 46 31.5	+3.9
JOW	Kunigami	27.41	10	LR		LR	13 56 22.7	
	comp=Z,380nm,21.7s,baz=168,slow=34							
MTSU	Mount Surprise	27.52	131	P		P	13 46 34.5	+1.2
	baz=28,SNR=9.7							
MTSU	Mount Surprise	27.52	131	P		P	13 46 34.3	+1.0
KAVG	Kavieng	27.95	95	P		P	13 46 38.4	+1.2
GULI	GuiLin	28.15	335	⇓P		P	13 46 43.1	+4.4
MORW	Morawa	29.41	192	P		P	13 46 50.0	+0.2
	baz=30,SNR=21							
MORW	Morawa	29.41	192	P		P	13 46 49.8	0.0
RABL	Rabaul	29.46	98	P		P	13 46 52.3	+1.7
CNSH	ChangSha	29.85	342	⇑P		P	13 46 55.0	+1.2
CNSH				pmax		pmax		
	comp=Z,27nm,1.2s							
OOD	Oodnadatta	30.00	157	P		P	13 46 55.9	+0.8
CM31	Chiang Mai Arr	30.03	310	P		P	13 46 56.7	+1.2
CMAR	Chiang Mai Arr	30.03	310	P		P	13 46 56.5	+1.0
	comp=Z,6.5nm,0.7s,baz=132,slow=7.1,SNR=57							
CMAR				ScP		ScP	13 53 27.2	-1.5
	comp=Z,2.4nm,0.5s,baz=168,slow=2.6,SNR=13							
CMAR				LR		LR	14 00 47.5	
	comp=Z,424nm,19.5s,baz=115,slow=40							
	comp=Z,6.5nm,0.7s							
CRAI	Chiangrai	30.04	314	P		P	13 46 56.4	+0.8
CTAO	Charters Tower	30.16	132	P		P	13 46 57.6	+1.0
CTAO				sP		sP	13 47 29.2	-1.4
CTAO				ScP		ScP	13 53 29.5	+0.3
CHTO	Chiang Mai	30.23	310	P		P	13 46 58.0	+0.7
CHTO				IAmb		IAmb	13 47 00.2	
	comp=Z,135nm,1.6s							
CHTO	Chiang Mai	30.23	310	P		P	13 46 58.0	+0.7
CHTO				pmax		pmax		
	comp=Z,135nm,1.7s							
FORT	Forrest	30.75	171	P		P	13 47 02.1	+0.4
	baz=31,SNR=31							
FORT	Forrest	30.75	171	P		P	13 47 01.4	-0.3
FORT	Forrest	30.75	171	P		P	13 47 02.6	+0.9
BLDU	Ballidu	30.77	191	P		P	13 47 02.1	+0.2
	baz=31,SNR=12							
BLDU	Ballidu	30.77	191	P		P	13 47 01.7	-0.2
GYA	Guiyang	30.84	331	⇓P		P	13 47 04.6	+1.9
GYA				pmax		pmax		
	comp=Z,35nm,1.5s							
KMBL	Kambalda	30.96	182	P		P	13 47 03.7	+0.2
	baz=31,SNR=17							
KMBL	Kambalda	30.96	182	P		P	13 47 03.8	+0.2
KLBR	Kellerberrin	31.56	188	P		P	13 47 08.8	0.0
	baz=32,SNR=16							
KLBR	Kellerberrin	31.56	188	P		P	13 47 08.8	0.0
MULG	Mulgathing	31.69	161	P		P	13 47 10.8	+0.9
WHN	Wuhan	31.69	346	⇑P		P	13 47 13.6	+3.6
WHN				pP		pP	13 47 35.1	+3.1
WHN				sP		sP	13 47 51.5	+8.1
WHN				pmax		pmax		
	comp=Z,510nm,1.7s							
KMI	Kunming	31.91	324	⇑P		P	13 47 14.6	+2.4
KMI				pmax		pmax		
	comp=Z,20nm,1.3s							
MUN	Mundaring	32.19	191	P		P	13 47 14.4	+0.1
	baz=32,SNR=8.4							
MUN	Mundaring	32.19	191	P		P	13 47 14.3	-0.1
INKA	Innaminka	32.23	149	P		P	13 47 16.2	+1.4
NJ2	Nanjing	32.36	354	⇓P		P	13 47 17.6	+1.8
NJ2				pP		pP	13 47 36.4	-1.9
NJ2				pmax		pmax		
	comp=Z,27nm,0.7s							
NJ2				pmax		pmax		
	comp=Z,260nm,6.9s							
JCJ	Chichijima	32.89	33	P		P	13 47 19.0	-1.6
JCJ	Chichijima	32.89	33	P		P	13 47 19.7	-0.8
JCJ	Chichijima	32.89	33	LR		LR	14 01 21.2	
	comp=Z,122nm,19.5s,baz=234,slow=37							
NWAO	Narrogin (SRO)	32.95	189	P		P	13 47 21.4	+0.5
NWAO	baz=33,SNR=22							
NWAO				P		P	13 47 21.4	+0.5
	baz=33,SNR=22							
NWAO	Narrogin (SRO)	32.95	189	P		P	13 47 21.2	+0.3
NWAO	Narrogin (SRO)	32.95	189	P		P	13 47 21.2	+0.3
NWAO				pmax		pmax		
	comp=Z,46nm,0.8s							
NWAO	Narrogin (SRO)	32.95	189	LR		LR	14 02 49.4	
	comp=Z,938nm,18.2s,baz=30,slow=40							
NWAO	Narrogin (SRO)	32.95	189	P		P	13 47 21.2	+0.3
QLP	Quilpie	33.25	144	P		P	13 47 24.8	+1.1
	baz=33,SNR=12							
QLP	Quilpie	33.25	144	P		P	13 47 24.8	+1.1
LCRK	Leigh Creek	33.36	156	P		P	13 47 25.5	+0.9
PZH	PanZhiHua	33.53	324	⇑P		P	13 47 27.1	+0.8
PZH				pmax		pmax		
	comp=Z,30nm,0.9s							
PZH				pmax		pmax		
	comp=Z,120nm,4.7s							
JNU	Nakatsue	34.03	12	P		P	13 47 29.2	-1.1
MND	Mandalay	34.26	312	P		P	13 47 33.3	+0.8
TNCH	TengChong	34.49	319	⇑P		P	13 47 35.9	+1.2
TNCH				sP		sP	13 48 11.3	+3.2
TNCH				pmax		pmax		
	comp=Z,50nm,1.2s							
RKGY	Rocky Gully	34.63	189	P		P	13 47 37.2	+1.7
	baz=35,SNR=5.3							
RKGY	Rocky Gully	34.63	189	P		P	13 47 37.3	+1.8
BBOO	Buckleboo	34.67	160	P		P	13 47 36.4	+0.5
	baz=35,SNR=50							
BBOO	Buckleboo	34.67	160	P		P	13 47 36.3	+0.5
AUALB	St Joseph's Co	34.89	187	P		P	13 47 39.4	+1.7
RK1H	Rockhampton Ha	35.29	133	P		P	13 47 42.0	+0.7
JMN	Monobe	35.33	16	P		P	13 47 41.2	-0.3
JMN				IAmb		IAmb	13 47 42.8	
	comp=Z,134nm,1.0s							
JMN	Monobe	35.33	16	P		P	13 47 41.9	+0.3
LYN	LuoYang	35.98	345	⇑P		P	13 47 48.3	+1.2
LYN				pP		pP	13 48 13.0	+3.5
LYN				sP		sP	13 48 23.8	+2.9
LYN				pmax		pmax		
	comp=Z,110nm,1.2s							
LYN				pmax		pmax		
	comp=Z,510nm,8.0s							
PATS	Pohnpei	35.99	78	P		P	13 47 48.3	+0.8
	baz=36,SNR=6.1							
PATS	Pohnpei	35.99	78	P		P	13 47 47.8	+0.4
PATS				IAmb		IAmb	13 47 48.7	
	comp=Z,78nm,0.7s							
PATS	Pohnpei	35.99	78	P		P	13 47 48.6	+1.2
STKA	Stephens Creek	36.07	152	*i* P		P	13 47 49.0	+1.1
STKA	Stephens Creek	36.07	152	P		P	13 47 48.7	+0.8
	comp=Z,24nm,0.7s,baz=325,slow=9.6,SNR=65							
STKA				ScP		ScP	13 53 48.7	-0.8
	comp=Z,5.9nm,0.7s,baz=337,slow=7.2,SNR=5.9							
	comp=Z,24nm,0.7s							
HTT	Hallett	36.27	157	P		P	13 47 50.6	+1.0
	baz=36,SNR=60							
HTT	Hallett	36.27	157	P		P	13 47 50.8	+1.2
XAN	Xi'an	36.56	340	⇓P		P	13 47 52.8	+0.7
XAN				pP		pP	13 48 12.8	-1.8
XAN				S		S	13 53 28.8	+1.4
XAN				pmax		pmax		
	comp=Z,100nm,1.3s							
XAN				pmax		pmax		
	comp=Z,1μm,12.0s							
XAN	Xi'an	36.56	340	P		P	13 47 52.4	+0.4
XAN				pP		pP	13 48 12.9	-1.7
TIA	Tai'an	36.68	352	⇓P		P	13 47 53.1	+0.1
TIA				pmax		pmax		
	comp=Z,13nm,1.1s							
AULRC	Lightning Ridg	37.58	143	P		P	13 48 02.0	+1.2
INU	Inuyama	37.78	19	P		P	13 48 01.5	-0.7
INU	Inuyama	37.78	19	P		P	13 48 01.9	-0.4
INU	Inuyama	37.78	19	P		P	13 48 01.8	-0.4
INU				sP		sP	13 48 33.4	-3.1
KSRS	Korea Array	37.80	6	P		P	13 48 02.3	-0.1
	comp=Z,11nm,0.9s,baz=

JSD	Sado	40.63	19	P	P	13 48 24.7	-1.3
JSD				IAmb	IAmb	13 48 26.0	
	comp=Z,99nm,0.9s						
JSD	Sado	40.63	19	P	P	13 48 25.1	-0.9
AUMAG	Moama Anglican	41.03	153	P	P	13 48 31.5	+2.2
JMM	Marumori	41.35	22	P	P	13 48 31.9	0.0
YNG	Young	41.42	147	P	P	13 48 34.5	+1.9
BRAT	Ballarat	41.87	155	P	P	13 48 38.3	+2.1
SNY	Shenyang	41.89	1	⇓P	P	13 48 35.0	-1.2
SNY				pmax	pmax		
	comp=Z,21nm,1.6s						
MGCD	Mangrove Creek	42.15	144	P	P	13 48 41.6	+3.1
	baz=42,SNR=7.9						
HHC	Hu-ho-hao-te	42.19	347	eP	P	13 48 40.0	+1.1
HHC				pmax	pmax		
	comp=Z,38nm,0.9s						
BTO	Baotou	42.33	345	eP	P	13 48 41.5	+1.5
BTO				pP	pP	13 49 06.9	+3.9
BTO				sP	sP	13 49 20.0	+5.7
BTO				PP	PP	13 50 25.3	+5.3
BTO				S	S	13 54 56.3	+2.6
BTO				sS	sS	13 55 38.5	+5.2
BTO				SS	SS	13 58 01.6	-4.7
BTO				pmax	pmax		
	comp=Z,41nm,1.8s						
BTO				pmax	pmax		
	comp=Z,2μm,11.6s						
SYDH	Sydney Hard Ro	42.33	145	P	P	13 48 41.2	+1.2
LSA	Lhasa	42.49	317	P	P	13 48 42.7	+0.8
LSA				sP	sP	13 49 13.4	-2.5
CAN	Canberra	42.52	148	P	P	13 48 43.2	+1.6
CAN	Canberra	42.52	148	P	P	13 48 43.6	+2.1
CAN	Canberra	42.52	148	P	P	13 48 43.2	+1.6
CAN				pmax	pmax		
	comp=Z,162nm,0.9s						
CAN	Canberra	42.52	148	P	P	13 48 43.7	+2.1
CAN				sP	sP	13 49 16.4	-0.1
CAN				ScP	ScP	13 54 13.9	-0.5
TOO	Toolangi	42.57	153	P	P	13 48 44.3	+2.4
	baz=43,SNR=13						
TOO	Toolangi	42.57	153	P	P	13 48 43.2	+1.2
TOO				IAmb	IAmb	13 48 45.6	
	comp=Z,90nm,1.1s						
TOO	Toolangi	42.57	153	P	P	13 48 44.3	+2.4
TOO	Toolangi	42.57	153	P	P	13 48 43.2	+1.2
TOO				pmax	pmax		
	comp=Z,90nm,1.1s						
CNB	Canberra Magne	42.71	148	P	P	13 48 45.2	+2.2
	baz=43,SNR=18						
CNB	Canberra Magne	42.71	148	P	P	13 48 45.3	+2.2
MSHR	Mys Shultsa	43.27	9	ceP	P	13 48 47.1	-0.3
MSHR				pmax	pmax		
	comp=Z,52nm,1.3s						
AUUHS	Ulladulla High	43.34	147	P	P	13 48 50.2	+2.1
TAPN	Taplejung	43.56	312	eP	P	13 48 51.0	+0.6
	comp=Z,37nm,0.5s						
CN2	Changchun	43.91	3	eP	P	13 48 49.1	-3.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.1s						
MILA	Mila	43.92	149	P	P	13 48 55.0	+2.1
	baz=44,SNR=4.3						
JTM	Tenmabayashi	44.05	20	P	P	13 48 53.6	-0.1
RAMN	Ramite	44.19	311	eP	P	13 48 56.4	+1.1
	comp=Z,53nm,0.6s						
XLT	XiLinHaoTe	44.38	353	⇓iP	P	13 48 56.3	-0.1
XLT				pmax	pmax		
	comp=Z,37nm,1.6s						
GTA	Gaotai	44.79	334	eP	P	13 49 01.3	+1.5
GTA				pP	pP	13 49 27.3	+4.5
GTA				sP	sP	13 49 37.0	+3.0
GTA				ScP	ScP	13 54 21.9	-1.8
GTA				S	S	13 55 32.4	+2.7
GTA				pmax	pmax		
	comp=Z,33nm,1.4s						
GTA				LR	LR		
	comp=Z,1μm,16.7s						
GTA				LR	LR		
	comp=Z,610nm,16.3s						
GTA				LR	LR		
	comp=Z,1μm,20.3s						
JIRN	Jiri	44.87	311	eP	P	13 49 01.3	+0.4
	comp=Z,54nm,0.5s						
USA0B	Ussuriysk Arra	44.99	9	P	P	13 49 00.3	-0.8
USA0B	Ussuriysk Arra	44.99	9	P	P	13 49 00.3	-0.8
USA0B				pmax	pmax		
	comp=Z,41nm,0.9s						
USRK	Ussuriysk Ar.	44.99	9	P	P	13 49 00.2	-0.9
USRK	Ussuriysk Ar.	44.99	9	P	P	13 49 00.6	-0.5
	comp=Z,31nm,0.6s,baz=200,slow=6.0,SNR=62						
USRK				LR	LR	14 05 46.6	
	comp=Z,337nm,22.0s,baz=110,slow=33						
	comp=Z,31nm,0.6s						
MDJ	Mudanjiang	45.06	7	P	P	13 49 00.8	-0.9
MDJ				PcP	PcP	13 50 37.3	-3.6
MDJ				pmax	pmax		
	comp=Z,88nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,820nm,9.5s						
MDJ	Mudanjiang	45.06	7	P	P	13 49 01.3	-0.4
MDJ				sP	sP	13 49 32.2	-3.5
GUN	Gumba	45.23	311	eP	P	13 49 04.0	+0.2
	comp=Z,69nm,0.5s						
PKI	Pulchoki	45.41	311	eP	P	13 49 05.1	-0.1
	comp=Z,19nm,0.5s						
PKIN	Phulchoki	45.42	311	eP	P	13 49 05.1	-0.1
	comp=Z,20nm,0.5s						
DMN	Daman	45.66	310	eP	P	13 49 07.2	+0.1
	comp=Z,22nm,0.6s						
ERM	Erimo	45.86	21	P	P	13 49 08.4	+0.3
ERM				IAmb	IAmb	13 49 20.0	
	comp=Z,149nm,1.4s						
ERM	Erimo	45.86	21	P	P	13 49 08.8	+0.8
ERM	Erimo	45.86	21	ceP	P	13 49 08.0	0.0
ERM				pmax	pmax		
	comp=Z,131nm,2.0s						
ERM	Erimo	45.86	21	P	P	13 49 08.3	+0.3
JEM	Erimo	45.86	21	P	P	13 49 08.7	+0.7
BNX	BinXian	45.97	4	⇑P	P	13 49 07.3	-1.5
BNX				pmax	pmax		
	comp=Z,24nm,0.8s						
BNX				pmax	pmax		
	comp=Z,210nm,4.3s						
GKN	Gorkha	46.22	311	eP	P	13 49 11.5	+0.2
	comp=Z,24nm,0.3s						
AULHS	Lilydale High	46.36	155	P	P	13 49 14.0	+2.0
TEY	Ternei	46.69	13	⇑eP	P	13 49 14.0	-0.5
TEY				pmax	pmax		
	comp=N,30nm,1.3s						
TEY				pmax	pmax		
	comp=Z,50nm,1.5s						
DANN	Dangsing	47.06	310	eP	P	13 49 18.3	+0.2
	comp=Z,80nm,0.6s						
HYB	Hyderabad	47.08	294	eP	P	13 49 18.4	+0.3
HYB				epP	pP	13 49 40.5	-0.9
HYB				esP	sP	13 49 51.1	-1.4
HYB				ePP	PP	13 51 09.6	-0.1
HYB				ePcS	PcS	13 54 44.5	+0.4
HYB				eS	S	13 56 04.5	+1.6
HYB				eScS	ScS	13 59 03.5	+0.5
HYB				IVMs_BB	IVMs_BB	13 59 26.1	
	comp=Z,811nm,15.1s						
NOUC	Port Laguerre	47.48	120	P	P	13 49 22.3	+1.3
NOUC	Port Laguerre	47.48	120	P	P	13 49 22.3	+1.3
NOUC				PcP	PcP	13 50 49.2	-0.7
ASAJ	Asahikawa	47.52	19	LR	LR	14 07 42.2	
	comp=Z,305nm,21.3s,baz=277,slow=34						
PYUN	Piuthan	47.53	310	eP	P	13 49 22.0	+0.4
	comp=Z,58nm,0.5s						
DZM	Mont Dzumac	47.59	120	LR	LR	14 09 28.8	
	comp=Z,382nm,19.8s,baz=226,slow=36						
DZM	Mont Dzumac	47.59	120	P	P	13 49 22.6	+0.6
YATNC	Mamie plateau,	47.98	120	P	P	13 49 24.8	-0.1
KLR	Kul'dur	49.87	8	ceP	P	13 49 37.3	-1.6
KLR				pmax	pmax		
	comp=Z,44nm,2.0s						
ULN	Ulaanbaatar	49.88	346	P	P	13 49 38.6	-0.5
ULN				IAmb	IAmb	13 49 41.5	
	comp=Z,58nm,1.2s						
ULN	Ulaanbaatar	49.88	346	ceP	P	13 49 39.5	+0.4
ULN				pmax	pmax		
	comp=Z,52nm,1.2s						
ULN	Ulaanbaatar	49.88	346	P	P	13 49 39.3	+0.1
ULN				pP	pP	13 50 02.3	-0.3
ULN				PcP	PcP	13 50 57.4	-0.9
ULN				ScP	ScP	13 54 43.0	-2.0
SONM	Songino Array	50.01	346	P	P	13 49 40.4	+0.3
	comp=Z,19nm,0.9s,baz=164,slow=8.2,SNR=67						
SONM				pP	pP	13 50 04.6	+1.0
	comp=Z,14nm,0.9s,baz=159,slow=8.8,SNR=7.0						
SONM				ScP	ScP	13 54 41.5	-3.9
	comp=Z,3.7nm,0.9s,baz=151,slow=3.9,SNR=6.3						
	comp=Z,19nm,0.9s						
YSS	Yuzh-Sakhalins	50.11	18	P	P	13 49 39.7	-1.1
YSS	Yuzh-Sakhalins	50.11	18	P	P	13 49 39.9	-0.8
YSS	Yuzh-Sakhalins	50.11	18	ceP	P	13 49 39.6	-1.1
YSS				pmax	pmax		
	comp=Z,197nm,1.4s						
YSS	Yuzh-Sakhalins	50.11	18	P	P	13 49 40.1	-0.6
YSS				pP	pP	13 50 03.0	-1.3
KUR	Kuril'sk	50.38	23	ciP	P	13 49 42.6	-0.1
KUR				pmax	pmax		
	comp=Z,200nm,1.3s						
HEH	HeiHe	50.46	4	eP	P	13 49 42.0	-1.3
HEH				pmax	pmax		
	comp=Z,59nm,1.1s						
UGL	Uglegorsk	51.83	16	⇑iP	P	13 49 53.8	+0.3
UGL				pmax	pmax		
	comp=Z,800nm,1.6s						
UGL				pmax	pmax		
	comp=Z,300nm,1.1s						
GRNR	Gornyy	52.11	11	⇓iP	P	13 49 54.7	-0.9
GRNR				pmax	pmax		
	comp=Z,40nm,1.0s						
CIT	Chita	52.68	353	eP	P	13 50 00.2	+0.3
CIT				e		13 50 22.8	
CIT				e		13 50 37.6	
CIT				e		13 51 02.0	
CIT				e		13 52 03.6	
CIT				pmax	pmax		
	comp=Z,115nm,2.1s						
ZAK	Zakamensk	53.16	344	eP	P	13 50 02.7	-0.8
ZAK				pmax	pmax		
	comp=Z,18nm,1.6s						
TYV	Tymovskoe	53.62	15	eP	P	13 50 06.9	+0.2
TYV				eS	S	13 57 35.4	+2.9
TYV				pmax	pmax		
	comp=Z,43nm,0.9s						
TYV				pmax	pmax		
	comp=Z,200nm,2.5s						
TYV				smax	smax		
	comp=N,600nm,6.0s						
TYV				smax	smax		
	comp=E,400nm,6.0s						
ZEA	Zeya	53.92	3	eP	P	13 50 07.4	-1.4
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
WMQ	Urumqi	53.97	329	eP	P	13 50 10.8	+1.3
WMQ				PcP	PcP	13 51 14.0	+0.4
WMQ				pmax	pmax		
	comp=Z,24nm,0.9s						
IRK	Irkutsk	54.61	346	eP	P	13 50 13.6	-0.3
IRK				pmax	pmax		
	comp=Z,65nm,2.1s						
MOY	Mondy	54.95	343	eP	P	13 50 16.8	+0.3
MOY				e		13 50 43.8	
MOY				pmax	pmax		
	comp=Z,82nm,2.0s						
FUNA	Funafuti	56.63	100	P	P	13 50 29.1	+0.1
FUNA	Funafuti	56.63	100	P	P	13 50 29.9	+0.9
MSVF	Nonsavu	56.88	111	P	P	13 50 32.2	+1.4
MSVF				IAmb	IAmb	13 50 33.8	
	comp=Z,41nm,0.9s						
MSVF	Nonsavu	56.88	111	P	P	13 50 32.3	+1.4
MSVF	Nonsavu	56.88	111	P	P	13 50 32.2	+1.4
MSVF				pmax	pmax		
	comp=Z,41nm,0.9s						
MSVF	Nonsavu	56.88	111	P	P	13 50 32.5	+1.7
ZSN	Zaisan	57.92	330	eP	P	13 50 37.3	-0.3
	comp=Z,19nm,1.6s,baz=330						
ZSN	Zaisan	57.92	330	eP	P	13 50 37.2	-0.3
ZSN				pmax	pmax		
	comp=Z,19nm,1.6s						
SHLS	Shalkode	58.12	324	eP	P	13 50 37.5	-1.8
	comp=Z,40nm,1.9s,baz=324						
SHLS	Shalkode	58.12	324	eP	P	13 50 37.4	-1.8
SHLS				pmax	pmax		
	comp=Z,40nm,1.9s						
DGTI	Dogotuki	58.19	109	P	P	13 50 41.2	+1.2
DGZ	Jazzator, Alta	58.31	334	iP	P	13 50 39.9	-0.5
DGZ				pmax	pmax		
	comp=Z,34nm,1.5s						
KSH	Kashi	58.32	318	P	P	13 50 42.6	+2.0
KSH				pP	pwP	13 51 07.8	+0.7
KSH				PcP	PcP	13 51 32.8	+2.1
KSH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BOD	Bodaibo	58.33	354	eP	P	13 50 39.6	-0.6
BOD				pmax	pmax		
	comp=Z,63nm,1.9s						
UZB	Uzynbulak	58.38	323	eP	P	13 50 40.7	-0.4
	comp=Z,30nm,2.0s,baz=323						
UZB	Uzynbulak	58.38	323	eP	P	13 50 40.6	-0.4
UZB				pmax	pmax		
	comp=Z,30nm,2.0s						
SATY	Saty	58.70	323	eP	P	13 50 43.0	-0.3
	comp=Z,38nm,2.2s,baz=323						
SATY	Saty	58.70	323	eP	P	13 50 42.9	-0.3
SATY				pmax	pmax		
	comp=Z,38nm,2.2s						
ZHN	Zhinishke	58.74	323	eP	P	13 50 42.7	-0.8
	baz=323						
ZHN	Zhinishke	58.74	323	eP	P	13 50 42.7	-0.8
MK31	Makanchi Array	58.79	328	P	P	13 50 43.5	-0.2
MK31	Makanchi Array	58.79	328	P	P	13 50 43.5	-0.2
MK31				pmax	pmax		
	comp=Z,18nm,1.0s						
MKAR	Makanchi Array	58.79	328	P	P	13 50 42.9	-0.8
MKAR	Makanchi Array	58.79	328	P	P	13 50 42.9	-0.8
MKAR	Makanchi Array	58.79	328	P	P	13 50 43.8	+0.1
	comp=Z,5.7nm,0.4s,baz=127,slow=8.2,SNR=54						
MKAR				pP	pP	13 51 08.7	+1.0
	comp=Z,5.8nm,0.4s,baz=130,slow=8.2,SNR=6.3						
	comp=Z,5.7nm,0.4s						
TNSS	Tian-Shan	59.57	322	eP	P	13 50 49.0	-0.6
	baz=322						
TNSS	Tian-Shan	59.57	322	eP	P	13 50 48.9	-0.6
JCZ	Jackson Bay	59.66	143	P	P	13 50 51.5	+1.7
CHKK	Chushkaly	60.00	323	eP	P	13 50 51.8	-0.3
	baz=323						
CHKK	Chushkaly	60.00	323	eP	P	13 50 51.7	-0.3
KUU	Kurty	60.41	323	eP	P	13 50 54.6	-0.3
	comp=Z,18nm,0.9s,baz=323						
KUU	Kurty	60.41	323	eP	P	13 50 54.5	-0.3
KUU				pmax	pmax		
	comp=Z,18nm,0.9s						
PEA0B	Petropavlovsk-	60.54	23	P	P	13 50 55.5	0.0
PEA0B	Petropavlovsk-	60.54	23	P	P	13 50 55.5	0.0
PEA0B				pmax	pmax		
	comp=Z,176nm,1.5s						
PETK	Petropavlovsk-	60.54	23	P	P	13 50 55.3	-0.1
PETK	Petropavlovsk-	60.54	23	P	P	13 50 55.1	-0.3
	comp=Z,37nm,0.8s,baz=230,slow=2.3,SNR=76						
	comp=Z,37nm,0.8s						
LBZ	Lake Benmore	60.68	143	P	P	13 50 57.0	+0.4
LBZ				IAmb	IAmb	13 50 58.6	
	comp=Z,72nm,1.2s						
PET	Petropavlovsk	60.86	24	P	P	13 50 57.1	-0.5
PET	Petropavlovsk	60.86	24	P	P	13 50 57.9	+0.3
PET	Petropavlovsk	60.86	24	ceP	P	13 50 57.3	-0.3
PET				pmax	pmax		
	comp=Z,63nm,0.8s						
PET	Petropavlovsk	60.86	24	P	P	13 50 57.8	+0.2
AAK	Ala-Archa	60.88	321	ceP	P	13 50 58.5	+0.3
AAK				pmax	pmax		
	comp=Z,24nm,1.7s						
AAK	Ala-Archa	60.88	321	P	P	13 50 59.3	+1.1
AAK				pP	pP	13 51 22.1	-0.3
TOZ	Tahuroa Road	61.01	134	P	P	13 51 00.0	+1.0
TOZ				IAmb	IAmb	13 51 04.3	
	comp=Z,55nm,1.1s						
KBL	Kabul	61.05	310	P	P	13 50 58.8	-0.8
KBL				IAmb	IAmb	13 51 27.9	
	comp=Z,35nm,0.7s						
KBL	Kabul	61.05	310	P	P	13 50 58.8	-0.8
KBL				pmax	pmax		
	comp=Z,35nm,0.7s						
SGDS	Sogindy	61.22	322	eP	P	13 50 59.6	-0.8
	baz=322						
SGDS	Sogindy	61.22	322	eP	P	13 50 59.6	-0.8
TUWZ	Tuamarina	61.57	138	P	P	13 51 02.9	+0.3
GAR	Garm	61.94	315	P	P	13 51 04.1	-1.3
GAR				IAmb	IAmb	13 51 47.4	
	comp=Z,34nm,0.8s						
SEM	Semipalatinsk	62.16	331	eP	P	13 51 04.8	-1.9
	baz=331						
SEM	Semipalatinsk	62.16	331	eP	P	13 51 04.8	-1.9
BKZ	Black Stump Fm	62.32	135	P	P	13 51 08.4	+0.6
BKZ				IAmb	IAmb	13 51 09.7	
	comp=Z,51nm,0.6s						
BKZ	Black Stump Fm	62.32	135	P	P	13 51 08.8	+1.0
YAK	Yakutsk	62.33	4	P	P	13 51 06.0	-1.4
YAK	Yakutsk	62.33	4	eP	P	13 51 06.5	-0.8
YAK				e*PP	pP	13 51 30.8	-0.7
YAK				e		13 53 24.8	
YAK				eS	S	13 59 25.1	-0.6
YAK				e*SS	sS	14 00 08.7	+2.5
YAK				e		14 00 40.4	
YAK				eSS	SS	14 03 29.6	-1.4
YAK				pmax	pmax		
	comp=Z,57nm,1.3s						
YAK				pmax	pmax		
	comp=N,37nm,1.5s						
YAK				pmax	pmax		
	comp=E,15nm,1.8s						
YAK				pmax	pmax		
	comp=Z,927nm,21.5s						
YAK				pmax	pmax		
	comp=N,933nm,19.0s						
YAK				pmax	pmax		
	comp=E,747nm,16.5s						
YAK				smax	smax		
	comp=N,120nm,3.9s						
YAK				smax	smax		
	comp=E,236nm,5.6s						
YAK	Yakutsk	62.33	4	P	P	13 51 06.1	-1.2
YAK				sP	pwP	13 51 37.9	+3.9
YAK				PcP	PcP	13 51 45.6	-0.4
URZ	Urewera	62.39	134	P	P	13 51 08.8	+0.6
URZ	Urewera	62.39	134	LR	LR	14 18 26.6	
	comp=E,444nm,18.2s,baz=34,slow=36						
BTLS	Baital	62.41	323	eP	P	13 51 07.3	-1.0
	baz=323						
BTLS	Baital	62.41	323	eP	P	13 51 07.2	-1.0
RTZ	Ruatahuna	62.44	134	P	P	13 51 09.1	+0.5
RTZ				IAmb	IAmb	13 51 10.2	
	comp=Z,132nm,1.3s						
ZALV	Zalesovo Beam	62.51	336	P	P	13 51 07.3	-1.4
	comp=Z,4.4nm,0.7s,baz=120,slow=5.8,SNR=22						
ZALV				pP	pP	13 51 32.5	-0.6
	comp=Z,12nm,0.8s,baz=124,slow=7.4,SNR=9.3						
	comp=Z,4.4nm,0.7s						
SIMJ	Simiganj	62.72	315	P	P	13 51 10.8	+0.2
SIMJ				sP	sP	13 51 43.5	-2.3
KURBB	Kurchatov Arra	63.15	330	P	P	13 51 12.4	-0.5
	comp=Z,6.2nm,0.8s,baz=130,slow=6.0,SNR=32						
	comp=Z,6.2nm,0.8s						
KURK	Kurchatov	63.16	330	P	P	13 51 11.9	-1.1
KURK	Kurchatov	63.16	330	ceP	P	13 51 12.6	-0.5
KURK				pmax	pmax		
	comp=Z,25nm,1.0s						
KURK	Kurchatov	63.16	330	P	P	13 51 12.3	-0.7
KURK				pP	pP	13 51 35.0	-2.3
MA2	Magadan	63.49	15	P	P	13 51 15.1	0.0
MA2	Magadan	63.49	15	P	P	13 51 15.6	+0.5
MA2	Magadan	63.49	15	ceP	P	13 51 15.8	+0.7
MA2				pmax	pmax		
	comp=Z,211nm,1.3s						
MA2	Magadan	63.49	15	P	P	13 51 15.5	+0.5
MA2				pP	pP	13 51 39.1	-0.4
IUG	Iuzhnay	63.54	319	eP	P	13 51 15.5	-0.5
	baz=318						
IUG	Iuzhnay	63.54	319	eP	P	13 51 15.4	-0.5
CHM	Chimkent	63.90	319	eP	P	13 51 18.3	+0.2
	baz=318						
CHM	Chimkent	63.90	319	eP	P	13 51 18.3	+0.2
BRZS	Berezniki	65.83	327	eP	P	13 51 29.3	-1.3
	baz=327						
BRZS	Berezniki	65.83	327	eP	P	13 51 29.2	-1.3
AFI	Afiamalu	65.98	105	P	P	13 51 33.0	+0.8
AFI				IAmb	IAmb	13 51 35.8	
	comp=Z,97nm,1.3s						
AFI	Afiamalu	65.98	105	P	P	13 51 33.2	+1.0
AFI	Afiamalu	65.98	105	P	P	13 51 33.0	+0.8
AFI				pmax	pmax		
	comp=Z,97nm,1.3s						
AFI	Afiamalu	65.98	105	P	P	13 51 34.0	+1.8
CASY	Casey	66.48	185	P	P	13 51 35.2	+0.9
CASY				pP	pP	13 51 58.3	-1.1
CASY				sP	sP	13 52 09.0	-1.4
SEY	Seymchan	66.76	14	ceP	P	13 51 36.7	+0.5
SEY				pmax	pmax		
	comp=Z,124nm,1.7s						
DRV	Dumont d'Urvil	67.37	173	P	P	13 51 40.5	+0.6
DRV				PcP	PcP	13 52 07.1	+0.3
SHEM	Shemya Is, Ala	67.79	31	LR	LR	14 26 13.7	
	comp=Z,209nm,18.0s,baz=338,slow=40						
BVAR	Borovoye Array	68.66	329	P	P	13 51 47.3	-1.0
	comp=Z,2.0nm,0.6s,baz=134,slow=6.4,SNR=19						
BVAR				pP	PcP	13 52 12.7	+0.1
	comp=Z,8.7nm,0.7s,baz=131,slow=8.1,SNR=10						
	comp=Z,2.0nm,0.6s						
BRVK	Borovoye	68.73	329	P	P	13 51 46.7	-2.0
BRVK	Borovoye	68.73	329	ceP	P	13 51 48.0	-0.8
BRVK				pmax	pmax		
	comp=Z,39nm,2.5s						
BRVK	Borovoye	68.73	329	P	P	13 51 47.7	-1.1
GEYT	Alibeck	70.50	311	P	P	13 51 59.5	-0.5
	comp=Z,2.9nm,0.7s,baz=243,slow=6.3,SNR=3.4						
	comp=Z,2.9nm,0.7s						
TIXI	Tiksi	71.88	2	P	P	13 52 05.4	-2.2
TIXI				IAmb	IAmb	13 52 07.1	
	comp=Z,77nm,1.3s						
TIXI	Tiksi	71.88	2	ceP	P	13 52 05.6	-2.0
TIXI				pmax	pmax		
	comp=Z,89nm,1.7s						
TIXI	Tiksi	71.88	2	P	P	13 52 05.9	-1.6
TIXI				pP	PcP	13 52 29.0	+3.3
ABKAR	Akbulak array	72.89	322	P	P	13 52 12.4	-1.6
SVE	Sverdlovsk	75.41	330	eP	P	13 52 27.4	-1.1
SVE				pmax	pmax		
	comp=Z,48nm,1.5s						
ARU	Arti	76.31	329	P	P	13 52 30.7	-3.0
ARU	Arti	76.31	329	ceP	P	13 52 32.1	-1.5
ARU				pmax	pmax		
	comp=Z,25nm,1.7s						
VOI	Vohitsoka	77.06	248	P	P	13 52 37.2	-1.5
VOI	Vohitsoka	77.06	248	P	P	13 52 38.4	-0.3
NIKH	Nikolski High	77.23	35	P	P	13 52 39.1	+0.2
	baz=252						
SPIA	Saint Paul Isl	77.83	31	P	P	13 52 42.4	+0.3
	baz=250						
MAW	Mawson	78.74	200	P	P	13 52 48.3	+1.4
	baz=79,SNR=11						
MAW	Mawson	78.74	200	P	P	13 52 47.6	+0.7
	comp=Z,11nm,0.9s,baz=43,slow=8.1,SNR=18						
	comp=Z,11nm,0.9s						
UNV	Unalaska Valle	78.83	35	P	P	13 52 48.3	+0.6
	baz=254						
MAK	Makhachkala	79.53	314	eP	P	13 52 50.4	-1.4
MAK				e*PP	pP	13 53 15.9	-1.3
MAK				e*SP	sP	13 53 25.9	-1.9
MAK				e		13 55 52.8	
MAK				ePPP	PPP	13 57 41.9	
MAK				eS	S	14 02 43.0	-2.4
MAK				e*SS	sS	14 03 29.6	-0.2
MAK				eSS	SS	14 07 52.6	-2.8
MAK				pmax	pmax		
	comp=Z,215nm,1.8s						
GAMB	Gambell	79.55	24	P	P	13 52 51.7	+0.3
	baz=248						
GROC	Groznyy	80.81	314	eP	P	13 52 58.9	+0.3
GROC				e*PP	pP	13 53 24.6	+0.5
GROC				e*SP	sP	13 53 36.2	+1.5
GROC				eS	S	14 02 58.8	0.0
GROC				pmax	pmax		
	comp=Z,13nm,0.4s						
FALS	False Pass	80.83	34	P	P	13 52 58.7	+0.2

KIRV	Kirov	81.67	329	*c*eP	P	13 53 03.5	+0.7
TNA	Tin City	81.71	23	P	P	13 53 03.3	+0.4
	baz=251						
K13K	Kusilvak Mount	82.00	27	P	P	13 53 05.1	+0.6
	baz=254						
ZEI	Tsey	82.12	313	*e*P	P	13 53 05.5	-0.4
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
F14K	Arctic Creek	82.31	23	P	P	13 53 06.8	+0.7
	baz=252						
ANM	Nome	82.43	24	P	P	13 53 07.5	+0.8
	baz=253						
SDPT	Sand Point	82.59	34	P	P	13 53 08.5	+0.8
	baz=259						
J14K	Nanvaranak Lak	82.71	26	P	P	13 53 09.0	+0.8
	baz=255,SNR=5.7						
L14K	Kuka Creek	82.76	28	P	P	13 53 09.3	+0.8
	baz=256						
N14K	Kuskokwak Cree	82.91	29	P	P	13 53 09.8	+0.6
	baz=257						
M14K	Bethel	82.96	29	P	P	13 53 10.2	+0.7
	baz=257,SNR=14						
KBZ	Khabaz	82.97	314	P	P	13 53 11.4	+1.5
	comp=Z,1.6nm,0.7s,baz=108,slow=9.6,SNR=2.3						
	comp=Z,1.6nm,0.7s						
O14K	Tigyukauivet M	82.97	30	P	P	13 53 10.1	+0.5
	baz=258						
CHNA	Chernabura Isl	83.00	35	P	P	13 53 10.1	+0.3
	baz=260						
F15K	North Star Dit	83.05	23	P	P	13 53 10.8	+0.9
	baz=254,SNR=10.0						
G15K	Niukluk	83.10	24	P	P	13 53 10.5	+0.3
	baz=254,SNR=5.7						
KIV	Kislovodsk	83.15	314	*e*P	P	13 53 10.4	-0.6
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
S14K	Fog Glacier	83.28	33	P	P	13 53 11.5	+0.1
	baz=259						
K15K	Wolf Creek Mou	83.52	27	P	P	13 53 13.3	+0.9
	baz=257						
C16K	Lisburne Hills	83.53	21	P	P	13 53 12.8	+0.6
	baz=253						
M15K	Kasigluk River	83.56	29	P	P	13 53 13.0	+0.4
	baz=258,SNR=9.0						
O15K	Ungalikthiuk R	83.68	30	P	P	13 53 13.7	+0.4
	baz=259						
N15K	Kwethluk River	83.74	29	P	P	13 53 14.3	+0.7
	baz=258,SNR=9.3						
H16K	Elim	83.75	25	P	P	13 53 13.9	+0.4
	baz=256,SNR=8.8						
G16K	Koyuk River	83.89	24	P	P	13 53 14.6	+0.4
G16K				IAmb	IAmb	13 53 16.1	
	comp=Z,161nm,1.4s						
G16K	Koyuk River	83.89	24	P	P	13 53 14.9	+0.7
	baz=256,SNR=14						
J16K	Anvik River	84.15	26	P	P	13 53 16.6	+1.0
	baz=258						
D17K	Noatak River	84.18	22	P	P	13 53 16.5	+0.8
	baz=255,SNR=20						
PRGR	Permogore	84.20	332	*e*P	P	13 53 14.7	-1.1
PRGR				pmax	pmax		
	comp=Z,36nm,1.3s						
I17K	Unalakleet	84.24	26	P	P	13 53 16.9	+0.9
	baz=258						
L16K	Owhat River	84.34	28	P	P	13 53 17.3	+0.7
L16K				IAmb	IAmb	13 53 18.5	
	comp=Z,94nm,1.4s						
L16K	Owhat River	84.34	28	P	P	13 53 17.1	+0.6
	baz=259						
C17K	DeLong Mountai	84.35	21	P	P	13 53 17.2	+0.6
	baz=255						
N16K	Nishlik Lake	84.45	29	P	P	13 53 18.1	+0.9
	baz=260,SNR=11						
M16K	Timber Creek	84.46	29	P	P	13 53 17.6	+0.5
	baz=259						
E17K	Hotham Inlet	84.50	22	P	P	13 53 17.9	+0.6
	baz=256,SNR=8.8						
R16K	Pilot Point	84.57	32	P	P	13 53 18.6	+0.8
	baz=261						
F17K	Baldwin Pennin	84.57	23	P	P	13 53 18.2	+0.6
	baz=257						
P16K	Nushagak River	84.59	31	P	P	13 53 18.4	+0.5
	baz=260						
G17K	Kiwalik Mounta	84.60	24	P	P	13 53 18.4	+0.5
	baz=258,SNR=6.7						
O16K	Kokwok River B	84.63	30	P	P	13 53 18.4	+0.4
	baz=260,SNR=8.8						
H17K	Granite Mounta	84.79	25	P	P	13 53 19.3	+0.5
	baz=258,SNR=9.0						
L17K	Donlin	84.97	28	P	P	13 53 20.3	+0.5
	baz=260						
E18K	Tukpahlearik C	85.04	22	P	P	13 53 20.4	+0.4
	baz=257						
B18K	Kokolik River	85.06	20	P	P	13 53 21.2	+1.1
	baz=256						
K17K	Iditarod	85.07	27	P	P	13 53 20.7	+0.5
	baz=260						
C18K	Utukok River	85.10	21	P	P	13 53 20.7	+0.4
	baz=257						
O17K	Koliganek Bris	85.16	30	P	P	13 53 21.1	+0.4
	baz=261,SNR=5.2						
R17K	Ugashik Creek	85.21	32	P	P	13 53 20.3	-0.7
	baz=262						
N17K	Nushagak Hills	85.23	29	P	P	13 53 21.7	+0.6
	baz=261						
P17K	Kvichak River	85.40	31	P	P	13 53 22.1	+0.2
	baz=262						
H18K	Honhosa River	85.48	25	P	P	13 53 22.3	+0.1
	baz=260						
G18K	Tagagawik	85.49	24	P	P	13 53 22.5	+0.2
	baz=259						
Q17K	Contact Creek	85.56	32	P	P	13 53 22.6	-0.3
	baz=262						
KMBO	Kilima Mbogo	85.68	269	P	P	13 53 24.0	-0.6
KMBO	Kilima Mbogo	85.68	269	P	P	13 53 24.0	-0.6
	comp=Z,1.4nm,0.4s,baz=76,slow=8.3,SNR=3.6						
	comp=Z,1.4nm,0.4s						
L18K	Granite Mounta	85.73	28	P	P	13 53 23.7	+0.2
	baz=261						
C19K	Lookout Ridge	85.77	21	P	P	13 53 24.4	+0.8
	baz=258						
J18K	Innoko River	85.90	26	P	P	13 53 24.1	-0.2
	baz=261						
F19K	Shaleruckik Mo	86.01	23	P	P	13 53 25.2	+0.4
	baz=260						
M18K	Stony River	86.03	28	P	P	13 53 25.3	+0.3
	baz=262						
GCSA	Galena City Sc	86.03	25	P	P	13 53 24.8	-0.1
	baz=261						
Q18K	Katmai Hardscr	86.07	31	P	P	13 53 25.7	+0.3
	baz=263						
TTA	Tatalina	86.14	27	P	P	13 53 25.3	-0.3
	baz=262						
G19K	Purcell Mounta	86.17	24	P	P	13 53 25.8	+0.2
	baz=261,SNR=8.4						
D19K	Kuna River	86.18	21	P	P	13 53 25.8	+0.1
	baz=260						
SII	Sitkinak Islan	86.27	33	P	P	13 53 26.3	0.0
	baz=264						
E19K	Redstone River	86.33	22	P	P	13 53 26.5	+0.1
	baz=260						
H19K	Roundabout Mou	86.33	24	P	P	13 53 26.8	+0.4
	baz=261,SNR=11						
J19K	Poorman	86.46	26	P	P	13 53 27.1	0.0
	baz=262						
L19K	White Mountain	86.57	28	P	P	13 53 27.7	0.0
	baz=263						
N19K	Bonanza Creek	86.59	29	P	P	13 53 27.7	-0.2
	baz=263						
M19K	Big River Lodg	86.76	28	P	P	13 53 28.6	0.0
	baz=263						
D20K	Etivluk River	86.76	21	P	P	13 53 28.6	+0.2
	baz=261						
F20K	Avaraart Lake	86.84	23	P	P	13 53 28.9	0.0
	baz=262						
E20K	Nigu River	86.84	22	P	P	13 53 28.8	-0.1
	baz=261						
H20K	Anotleneega Mo	86.97	24	P	P	13 53 29.5	-0.1
	baz=263,SNR=6.8						
KLMR	Klimovskoe	87.00	331	*e*P	P	13 53 27.9	-1.8
KLMR				AMP		13 53 31.6	
	comp=Z,40nm,1.7s						
KLMR				*e*pP	pP	13 53 55.3	-0.1
KLMR	Klimovskoe	87.00	331	*e*P	P	13 53 27.8	-1.9
KLMR				*e**PP	pP	13 53 55.2	-0.1
KLMR				pmax	pmax		
	comp=Z,40nm,1.7s						
I20K	Naaghedeneel	87.06	25	P	P	13 53 30.0	+0.1
	baz=263						
L20K	Farewell, AK	87.06	28	P	P	13 53 29.7	-0.3
	baz=264						
K20K	Telida	87.07	27	P	P	13 53 30.1	0.0
	baz=264						
J20K	Nowinta River	87.13	26	P	P	13 53 30.2	-0.1
	baz=264						
A21K	Barrow	87.17	19	P	P	13 53 30.7	+0.3
	baz=261						
KDAK	Kodiak Island	87.25	32	P	P	13 53 30.6	-0.4
	baz=265						
KDAK	Kodiak Island	87.25	32	LR	LR	14 34 21.6	
	comp=Z,674nm,18.4s,baz=61,slow=37						
M20K	Styx River	87.35	28	P	P	13 53 31.2	-0.4
	baz=264						
IMAR	Indian Mountai	87.50	24	P	P	13 53 31.6	-0.4
MOS	Moscow	87.56	326	*e*P	P	13 53 29.6	-2.9
MOS				*e*		13 53 58.0	
B21K	Ikpikpuk River	87.59	20	P	P	13 53 32.2	-0.2
	baz=263						
G21K	Allakaket	87.65	23	P	P	13 53 32.3	-0.5
	baz=264						
A22K	Sinclair Lake	87.65	19	P	P	13 53 32.5	-0.1
	baz=262						
E21K	Killik River	87.68	22	P	P	13 53 32.4	-0.5
	baz=264						
N20K	Mount Spurr	87.73	29	P	P	13 53 32.0	-1.4
	baz=265						
SPCR	Spurr Chakacha	87.73	29	P	P	13 53 32.1	-1.2
	baz=265						
H21K	Melozitna Rive	87.85	24	P	P	13 53 33.2	-0.6
	baz=265,SNR=6.7						
HOM	Homer	87.89	30	P	P	13 53 33.4	-0.6
	baz=266						
CHUM	Lake Minchumin	87.90	26	P	P	13 53 33.7	-0.3
	baz=265						
CAST	Castle Rocks	87.97	27	P	P	13 53 33.6	-0.8
	baz=265						
OBN	Obninsk	88.12	325	*c*eP	P	13 53 34.8	-0.4
OBN				*e**PP	pP	13 54 00.1	-0.7
OBN				*e**SP	sP	13 54 11.5	+0.3
OBN				*e*SSS	SSS	14 13 29.7	
OBN				pmax	pmax		
	comp=Z,42nm,1.7s						
OBN				MLR	MLR		
	comp=Z,1μm,16.0s						
I21K	Tanana	88.15	25	P	P	13 53 35.2	0.0
	baz=265,SNR=5.6						
F22K	John River	88.26	23	P	P	13 53 35.6	-0.1
	baz=265						
BRSE	Bradley Lake S	88.35	30	P	P	13 53 35.4	-0.8
	baz=267						
SUA	Susitna One	88.45	29	P	P	13 53 35.9	-0.9
	baz=267						
E22K	Anaktuvuk Pass	88.45	22	P	P	13 53 36.3	-0.3
	baz=266						
H22K	Ishtalitna Cre	88.45	24	P	P	13 53 36.3	-0.3
	baz=266,SNR=6.5						
G22K	Bettles	88.48	23	P	P	13 53 36.5	-0.1
	baz=266						
BPAW	Bear Paw Mtn.	88.50	26	P	P	13 53 36.2	-0.7
	baz=266						
MLY	Manley	88.67	25	P	P	13 53 37.4	-0.3
	baz=267						
M22K	Willow	88.76	28	P	P	13 53 36.4	-1.7
	baz=267						
TRF	Thorofare Moun	88.77	27	P	P	13 53 36.6	-1.7
	baz=267						
D23K	Nanushuk River	88.93	21	P	P	13 53 37.6	-1.1
	baz=266						
C23K	Itkillik River	89.00	20	P	P	13 53 38.6	-0.5
	baz=267						
COLD	Coldfoot	89.01	23	P	P	13 53 38.9	-0.3
	baz=267,SNR=6.3						
G23K	Bananza Creek	89.05	23	P	P	13 53 39.3	-0.2
	baz=267,SNR=8.4						
H23K	Yukon River	89.20	24	P	P	13 53 40.0	-0.2
	baz=268						
I23K	Minto, Yukon-K	89.25	25	P	P	13 53 40.2	-0.1
I23K				IAmb	IAmb	13 53 41.3	
	comp=Z,79nm,1.5s						
I23K	Minto, Yukon-K	89.25	25	P	P	13 53 40.0	-0.4
	baz=268,SNR=16						
E23K	Chandalar	89.27	22	P	P	13 53 40.4	-0.1
	baz=268						
TOLK	Toolik Lake Re	89.31	21	P	P	13 53 40.5	-0.2
	baz=268						
NEA2	Nenana	89.36	26	P	P	13 53 40.6	-0.2
	baz=268						
MCK	McKinley	89.39	26	P	P	13 53 39.5	-1.6
	baz=268						
WAT1	Susitna Watana	89.54	27	P	P	13 53 40.1	-1.7
	baz=269						
KNK	Knik Glacier	89.55	29	P	P	13 53 40.7	-1.1
	baz=269						
PWL	Port Wells	89.59	29	P	P	13 53 40.9	-1.2
	baz=269						
SML	Sawmill	89.61	28	P	P	13 53 41.1	-1.1
	baz=269						
BRTR	Keskin Array B	89.62	310	*i* P	P	13 53 42.5	-0.3
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	Keskin Array B	89.62	310	P	P	13 53 40.8	-2.0
	comp=Z,1.1nm,0.7s,baz=152,slow=6.4,SNR=5.2						
	comp=Z,1.1nm,0.7s						
QSPA	South Pole Qui	89.69	180	P	P	13 53 42.9	+0.4
	comp=Z,14nm,1.0s,baz=320,slow=1.9,SNR=24						
	comp=Z,14nm,1.0s						
H24K	Noodor Dome	89.89	24	P	P	13 53 42.7	-0.7
	baz=269,SNR=6.4						
M23K	Glacier View	89.90	28	P	P	13 53 42.4	-1.1
	baz=269						
WAT6	Susitna Watana	89.91	28	P	P	13 53 42.8	-0.9
	baz=269						
F24K	Squaw Lake	89.91	23	P	P	13 53 43.5	0.0
	baz=269						
APA	Apatity	90.05	337	‖ *i* P	P	13 53 49.2	+5.2
APA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
APA				MLR	MLR		
	comp=Z,2μm,16.0s						
G24K	Hadweenzic Riv	90.06	23	P	P	13 53 44.2	+0.1
	baz=270						
POKR	Poker Plat Res	90.07	25	P	P	13 53 43.7	-0.4
	baz=270						
DHY	Denali Highway	90.08	27	P	P	13 53 43.4	-1.0
	baz=270						
SCM	Sheep Creek Mo	90.09	28	P	P	13 53 44.0	-0.4
	baz=270						
GLI	Glacier Island	90.20	29	P	P	13 53 43.0	-1.9
	baz=270						
HDA	Harding Lake	90.27	26	P	P	13 53 43.6	-1.6
	baz=270						
ILAR	Eielson Array	90.30	25	P	P	13 53 43.0	-2.2
	comp=Z,1.6nm,0.6s,baz=248,slow=4.6,SNR=28						
ILAR				PP	PP	13 57 17.5	-2.9
	comp=Z,1.2nm,1.0s,baz=265,slow=8.0,SNR=4.6						
	comp=Z,1.6nm,0.6s						
D25K	Kavik River	90.48	21	P	P	13 53 44.7	-1.4
	baz=271						
Q23K	Middleton Isla	90.58	31	P	P	13 53 45.0	-1.6
	baz=270						
G25K	Bearman Lake	90.61	23	P	P	13 53 45.4	-1.2
	baz=271						
M24K	Tolsona, Glenn	90.64	28	P	P	13 53 45.9	-1.1
	baz=271						
H25L	Birch Creek	90.73	24	P	P	13 53 46.5	-0.7
	baz=271						
KLU	Klutina	90.76	29	P	P	13 53 46.8	-0.8
	baz=271						
F25K	Christian Rive	90.77	23	P	P	13 53 47.0	-0.4
	baz=271						
E25K	Arctic Village	90.79	22	P	P	13 53 46.7	-0.8
	baz=271						
K24K	Donnelly Dome	90.79	26	P	P	13 53 46.7	-0.9
	baz=271						
EYAK	Cordova Ski Ar	90.86	30	P	P	13 53 46.8	-1.1
	baz=271						
PRP	Porcupine Dome	90.87	25	P	P	13 53 46.7	-1.4
	baz=271						
PAX	Paxson	90.95	27	P	P	13 53 47.5	-0.9
	baz=271						
J25K	Salcha River,	90.95	26	P	P	13 53 48.0	-0.4
	baz=271						
HARP	HAARP	91.11	28	P	P	13 53 48.0	-1.0
	baz=272						
RIDG	Independent Ri	91.21	26	P	P	13 53 48.3	-1.3
	baz=272						
F26K	Sheenjek River	91.34	22	P	P	13 53 50.0	-0.1
	baz=273						
N25K	Chitina, Valde	91.39	29	P	P	13 53 49.9	-0.6
	baz=272						
BMRM	Bremner River	91.42	29	P	P	13 53 48.9	-1.7
	baz=272						
G26K	Porcupine Rive	91.52	23	P	P	13 53 50.0	-0.8
	baz=273						
KAIM	Kayak Island	91.55	30	P	P	13 53 50.1	-1.1
	baz=272						
SCRK	Sand Creek	91.58	26	P	P	13 53 50.2	-1.2
	baz=273						
J26L	Joseph Creek	91.74	26	P	P	13 53 51.0	-1.0
	baz=273						
I26K	Coal Creek Min	91.87	25	P	P	13 53 52.1	-0.4
	baz=273						
L26K	Log Cabin Wild	91.91	27	P	P	13 53 52.6	-0.2
	baz=273						
M26K	Nabesna, AK	92.11	28	P	P	13 53 53.2	-0.6
	baz=274						
CRQE	Cirque	92.16	29	P	P	13 53 53.7	-0.5
	baz=273						
E27K	Coleen River	92.27	22	P	P	13 53 54.2	-0.2
	baz=275						
G27K	Doyon Strip	92.37	23	P	P	13 53 54.5	-0.4
	baz=275,SNR=7.8						
K27K	Chicken	92.42	26	P	P	13 53 55.0	0.0
K27K				IAmb	IAmb	13 53 57.0	
	comp=Z,65nm,1.5s						
K27K	Chicken	92.42	26	P	P	13 53 55.1	0.0
	baz=274						
H27K	Steamboat Moun	92.47	24	P	P	13 53 55.3	-0.1
	baz=275,SNR=8.9						
I27K	Kandik River	92.48	24	P	P	13 53 55.0	-0.4
	baz=275,SNR=16						
AKASG	Malin Array Be	92.55	321	*i* P	P	13 53 55.9	-0.1
AKASG	Malin Array Be	92.55	321	P	P	13 53 53.4	-2.5
	comp=Z,0.3nm,0.3s,baz=80,slow=4.0,SNR=4.4						
AKASG				pP	pP	13 54 20.9	-1.0
	comp=Z,3.7nm,0.7s,baz=72,slow=4.6,SNR=5.4						
L27K	Beaver Creek,	92.60	27	P	P	13 53 56.1	+0.1
	baz=275						
BCAR	Beaver Creek A	92.62	27	P	P	13 53 55.8	-0.3
M27K	Edge Creek, AK	92.64	28	P	P	13 53 55.8	-0.5
	baz=274						
ELIB	Princess Elisa	92.74	198	*d*P	P	13 53 58.1	+1.5
	comp=Z,9.2nm,1.1s						
ELIB				*d*pP	pP	13 54 22.2	-0.8
ARCES	ARCESS Array B	92.84	340	P	P	13 53 55.2	-1.8
	comp=Z,3.3nm,0.9s,baz=96,slow=6.1,SNR=3.7						
ARCES				PKKP	PKKPdf	14 11 07.1	-0.7
	comp=Z,3.8nm,0.9s,baz=50,slow=2.1,SNR=3.8						
	comp=Z,3.3nm,0.9s						
F28M	Old Crow	92.98	22	P	P	13 53 57.6	0.0
	baz=277,SNR=5.3						
E28M	Babbage River	92.99	21	P	P	13 53 56.8	-0.9
	baz=277						
CTG	Chitna Glacier	93.00	29	P	P	13 53 57.8	-0.3
	baz=275						
MNK	Minsk	93.15	324	*i* P	P	13 53 56.4	-2.2
MNK				*i* P	P	13 53 56.4	-2.2
	comp=E,7.0nm,0.7s						
MNK				*i* P	P	13 53 56.4	-2.2
	comp=N,14nm,0.8s						
MNK				*i* P	P	13 53 56.4	-2.2
	comp=Z,15nm,0.6s,baz=86						
MNK				*i* pP	pP	13 54 20.5	-4.1
MNK				*i* PP	PP	13 57 28.2	-15
MNK				*i* SKS	SKiKP	14 02 26.0	+15
MNK				*i* S	SKSac	14 04 21.6	-2.0
MNK				*i* sS	ScS	14 05 05.2	+6.5
MNK				*i* SS	SS	14 10 33.9	-40
MNK				*i* SSS	SSS	14 14 22.0	
MNK	Minsk	93.15	324	*i* P	P	13 53 56.4	-2.2
MNK				*i* *PP	pP	13 54 20.4	-4.1
MNK				*i* S	SKSac	14 04 21.6	-2.0
MNK				pmax	pmax		
	comp=E,7.0nm,0.6s						
MNK				pmax	pmax		
	comp=Z,15nm,0.6s						
MNK				pmax	pmax		
	comp=N,14nm,0.8s						
I28M	Miner Creek	93.20	25	P	P	13 53 58.4	-0.5
I28M	Miner Creek	93.20	25	P	P	13 53 58.3	-0.5
	baz=276,SNR=9.8						
YUK3	Moose Creek	93.35	28	P	P	13 53 59.0	-0.7
	baz=276						
FINES	FINESS Array B	93.51	331	*i* P	P	13 54 04.0	+3.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	93.51	331	P	P	13 53 57.6	-2.5
	comp=Z,4.1nm,1.0s,baz=246,slow=33,SNR=5.7						
	comp=Z,4.1nm,1.0s						
O28M	Mount Upton	93.58	29	P	P	13 54 00.6	-0.3
	baz=276						
DAWY	Dawson	93.59	26	P	P	13 54 00.3	-0.3
	baz=277,SNR=5.8						
SPITS	Spitsbergen Ar	93.61	349	P	P	13 53 58.0	-2.3
	comp=Z,11nm,0.8s,baz=96,slow=7.6,SNR=6.2						
	comp=Z,11nm,0.8s						
H29M	Whitestone	93.74	24	P	P	13 54 00.9	-0.3
	baz=278,SNR=6.0						
G29M	Pine Creek	93.78	23	P	P	13 54 00.9	-0.4
	baz=278,SNR=6.2						
I29M	Ogilvie Camp,	93.88	25	P	P	13 54 01.4	-0.5
I29M				IAmb	IAmb	13 54 03.3	
	comp=Z,30nm,1.2s						
I29M	Ogilvie Camp,	93.88	25	P	P	13 54 01.8	-0.1
	baz=278,SNR=6.0						
J29N	Klondike Camp	94.05	25	P	P	13 54 03.1	+0.4
	baz=278						
M29M	Somme Creek	94.21	27	P	P	13 54 03.1	-0.4
	baz=278						
YUK4	Talbot Arm	94.26	29	P	P	13 54 04.0	+0.1
	baz=277						
L29M	L29M	94.27	27	P	P	13 54 03.7	0.0
	baz=278,SNR=7.9						
EPYK	Eagle Plains	94.38	23	P	P	13 54 04.4	+0.3
	baz=279						
K29M	Barlow Dome	94.44	26	P	P	13 54 04.3	-0.3
	baz=278,SNR=6.3						
YUK6	Outpost Mounta	94.45	29	P	P	13 54 04.0	-0.8
	baz=278						
G30M	tAoh Zraii Nji	94.47	23	P	P	13 54 03.1	-1.5
	baz=280						
LSZ	Lusaka	94.52	255	P	P	13 54 04.2	-1.7
LSZ				IAmb	IAmb	13 55 35.8	
	comp=Z,29nm,1.7s						
LSZ	Lusaka	94.52	255	P	P	13 54 04.2	-1.7
LSZ				pmax	pmax		
	comp=Z,29nm,1.7s						
F30M	Barrier River	94.53	22	P	P	13 54 03.5	-1.2
	baz=280						
I30M	Mount Dempster	94.71	25	P	P	13 54 04.4	-1.4
	baz=280,SNR=6.8						
J30M	Hart River	94.83	25	P	P	13 54 06.1	-0.2
J30M	Hart River	94.83	25	P	P	13 54 05.3	-1.1
	baz=280,SNR=8.5						
HYT	Haines Junctio	94.88	29	P	P	13 54 05.6	-1.0
	baz=278						
P29M	Windy Craggy	94.94	30	P	P	13 54 05.4	-1.4
	baz=278,SNR=11						
M30M	Minto, Yukon	94.95	27	P	P	13 54 06.2	-0.7
	baz=279,SNR=7.3						
N30M	Aishikik Lake	94.99	28	P	P	13 54 07.0	0.0
	baz=279						
MAYO	Mayo, Yukon	95.19	26	P	P	13 54 07.9	+0.1
	baz=280						
INK	Inuvik	95.22	21	P	P	13 54 06.5	-1.4
	baz=282						
G31M	Satah River	95.24	23	P	P	13 54 06.7	-1.2
	baz=282						
F31M	Tsiigehtchic	95.33	22	P	P	13 54 07.8	-0.6
	baz=282						
H31M	Peel River	95.43	24	P	P	13 54 08.0	-1.0
	baz=282						
O30N	Mendenhall	95.58	29	P	P	13 54 08.4	-1.3
	baz=280,SNR=11						
N31M	Braeburn, Yuko	95.61	28	P	P	13 54 09.1	-0.8
	baz=280						
PLBC	Pleasant Camp	95.65	30	P	P	13 54 08.4	-1.6
	baz=279,SNR=31						
M31M	Drury Creek, Y	96.12	27	P	P	13 54 11.4	-0.7
	baz=281						
SKAG	Skagway	96.17	30	P	P	13 54 12.0	-0.3
	baz=280						
WHY	Whitehorse	96.18	29	P	P	13 54 11.0	-1.5
	baz=280						

FARO	Faro, Yukon	96.60	27	P	P	13 54 13.4	-0.9
	baz=282						
BOSA	Boshof	96.63	241	P	P	13 54 13.6	-1.7
	comp=Z,2.1nm,0.7s,baz=61,slow=2.3,SNR=2.2						
	comp=Z,2.1nm,0.7s						
N32M	Quiet Lake	96.95	28	P	P	13 54 15.0	-0.9
	baz=282						
TGTN	Hyland Airport	99.10	27	P	Pdif	13 54 25.1	-0.5
	baz=286						
T35M	Bob Quinn	99.32	32	P	Pdif	13 54 26.0	-0.6
	baz=284						
SNAA	Sanae	100.42	195	P	Pdif	13 54 31.1	-0.2
	comp=Z,0.8nm,0.7s,baz=108,slow=3.2,SNR=2.5						
NVAR	Mina Array Bea	112.37	48	PKiKP	PKiKP	13 59 22.1	+1.3
	comp=Z,0.6nm,0.6s,baz=269,slow=2.4,SNR=6.6						
NVAR				PKKPbc	PKKPbc	14 10 10.9	-1.3
	comp=Z,0.5nm,0.7s,baz=117,slow=5.2,SNR=3.6						
CWC	Cottonwood Cre	113.16	50	P	PKiKP	13 59 21.3	-1.1
	baz=288						
MPMC	Manual Prospec	113.73	50	P	PKiKP	13 59 22.0	-1.5
	baz=288						
LRMC	Laurel Mtn Rad	113.76	51	P	PKiKP	13 59 22.8	-0.7
	baz=288						
TUQ	Turquoise Moun	115.14	51	P	PKiKP	13 59 25.6	-0.5
	baz=289						
BELC	Belle Mtn. Jos	115.54	52	P	PKiKP	13 59 26.4	-0.6
	baz=288						
GMRC	Granite Mounta	115.55	51	P	PKiKP	13 59 26.9	-0.1
	baz=289						
DUG	Dugway, Tooele	115.71	45	P	PKiKP	13 59 27.1	0.0
	baz=294						
BC3	Big Chuckawall	116.08	52	P	PKiKP	13 59 28.5	+0.6
	baz=289						
IRM	Iron Mountain	116.16	52	P	PKiKP	13 59 29.6	+1.6
	baz=289						
BW06	Boulder Array	116.82	41	P	PKiKP	13 59 30.0	+0.7
	baz=297						
PDAR	Pinedale Array	116.83	41	PKP	PKPdf	13 59 29.0	-0.3
	comp=Z,0.3nm,0.4s,baz=69,slow=1.9,SNR=4.8						
PDAR				PP	PP	14 00 38.9	+0.2
	comp=Z,2.1nm,1.1s,baz=304,slow=3.4,SNR=4.9						
PDAR				PKKPbc	PKKPbc	14 09 55.5	-1.6
	comp=Z,1.0nm,0.6s,baz=94,slow=4.7,SNR=4.1						
PDAR				PKKP	PKKPdf	14 10 22.4	-0.9
	comp=Z,1.4nm,0.9s,baz=114,slow=6.3,SNR=4.7						
LAO	LASA Array	116.96	36	P	PKPdf	13 59 29.2	0.0
	baz=302						
ESDC	Sonseca Array	117.78	316	PKKPbc	PKKPbc	14 09 52.4	-1.0
	comp=Z,0.6nm,0.9s,baz=245,slow=5.4,SNR=1.9						
WUAZ	Wupatki	118.58	49	P	PKPdf	13 59 32.3	-0.5
	baz=292						
214A	Organ Pipe Nat	118.73	53	P	PKPdf	13 59 32.7	-0.3
	baz=290						
K22A	Casper	118.84	40	P	PKPdf	13 59 32.8	-0.2
	baz=300						
O20A	White River Ci	118.91	43	P	PKPdf	13 59 32.5	-0.8
	baz=297						
RSSD	Black Hills	119.63	37	P	PKPdf	13 59 33.8	-0.9
	baz=303						
W18A	Petrified Fore	119.97	49	P	PKPdf	13 59 34.5	-1.0
	baz=294						
MVCO	Mesa Verde	120.02	46	P	PKPdf	13 59 34.6	-1.0
	baz=296						
TUC	Tucson	120.22	52	P	PKPdf	13 59 35.2	-0.7
	baz=291						
TORD	Torodi Ar. Bea	120.41	285	PKP	PKPdf	13 59 35.3	-1.3
	comp=Z,4.6nm,0.6s,baz=52,slow=2.3,SNR=31						
TORD				PKKPbc	PKKPbc	14 09 43.6	+0.5
	comp=Z,2.4nm,0.7s,baz=297,slow=3.7,SNR=13						
TORD				PKKP	PKKPdf	14 10 16.9	+1.0
	comp=Z,2.0nm,0.9s,baz=298,slow=4.6,SNR=5.5						
ISCO	Idaho Springs	120.84	42	P	PKPdf	13 59 36.2	-1.0
	baz=299						
S22A	4UR Ranch, Cre	120.97	45	P	PKPdf	13 59 36.4	-1.1
	baz=297						
SDCO	Great Sand Dun	121.91	44	P	PKPdf	13 59 38.9	-0.3
	baz=298						
121A	Cookes Peak, D	122.48	51	P	PKiKP	13 59 40.9	+0.3
	baz=294						
ANMO	Albuquerque	122.49	48	P	PKPdf	13 59 40.1	-0.3
	baz=296						
T25A	Trinidad	122.96	44	P	PKiKP	13 59 41.4	-0.1
	baz=299						
EYMN	Ely	123.90	27	P	PKPdf	13 59 41.6	-0.8
	baz=317						
ECSD	EROS Data Cent	124.19	34	P	PKPdf	13 59 43.2	+0.1
	baz=310						
MNTX	Cornudas Mount	124.69	51	P	PKPdf	13 59 44.4	0.0
	baz=295						
SCHQ	Schefferville	125.01	7	PKP	PKPdf	13 59 42.7	-1.6
	comp=Z,3.2nm,0.8s,baz=221,slow=2.7,SNR=5.6						
MSTX	Muleshoe	125.64	47	P	PKPdf	13 59 45.8	-0.6
	baz=298						
TXAR	Lajitas Array	127.01	53	PKP	PKPdf	13 59 49.2	+0.2
	comp=Z,0.5nm,0.5s,baz=221,slow=1.0,SNR=9.0						
DBIC	Dimbokro	127.53	278	PKP	PKPdf	13 59 49.6	-0.7
	comp=Z,4.5nm,0.8s,baz=94,slow=5.0,SNR=6.9						
WMOK	Wichita Mounta	128.11	44	P	PKPdf	13 59 50.7	-0.2
	baz=302						
JCT	Junction City	129.51	49	P	PKPdf	13 59 53.4	-0.3
	baz=298						
CCM	Cathedral Cave	130.97	36	P	PKPdf	13 59 56.5	+0.3
	baz=312						
WVT	Waverly	134.28	35	P	PKPdf	14 00 03.1	+0.7
	baz=314						
PLCA	Paso Flores	137.40	165	PKP	PKPdf	14 00 07.8	-0.5
	comp=Z,12nm,1.2s,baz=335,slow=1.4,SNR=7.5						
PLCA				SKPbc	SKPbc	14 03 32.6	-0.3
	comp=Z,4.7nm,0.9s,baz=137,slow=3.9,SNR=7.4						
MT13	San Alfonso	143.97	161	PKPdf	PKPbc	14 00 19.0	+0.6
MT02	Curacav	144.13	160		PKPbc	14 00 19.1	+0.4
MT08	Bocatoma Ro	144.34	161		PKPbc	14 00 20.4	+0.7
CO02	Combarbal	146.04	158		PKPbc	14 00 24.8	-0.1
CPUP	Villa Florida	153.57	179	PKP	PKPdf	14 00 35.4	-0.5
	comp=Z,5.3nm,1.1s,baz=195,slow=6.0,SNR=5.0						
CPUP				PKPbc	PKiKP	14 00 44.1	+0.4
	comp=Z,6.6nm,0.6s,baz=161,slow=1.7,SNR=16						
LVC	Limon Verde	154.52	154	PKPbc	PKiKP	14 00 47.5	+1.3
	comp=Z,5.2nm,0.6s,baz=173,slow=2.2,SNR=3.3						
LVC				PKPab	PKPab	14 01 01.4	+0.6
	comp=Z,14nm,1.1s,baz=261,slow=2.1,SNR=6.2						
ROSC	El Rosal	162.17	75	PKPab	PKPab	14 01 35.8	+1.3
	comp=Z,20nm,0.6s,baz=67,slow=4.6,SNR=6.1						
SIV	San Ignacio	163.38	166	PKP	PKPdf	14 00 48.3	+0.5
	comp=Z,5.0nm,1.0s,baz=119,slow=1.9,SNR=10						
SIV				PKPab	PKPab	14 01 39.9	+1.0
	comp=Z,5.7nm,1.0s,baz=195,slow=4.6,SNR=6.5						

*AFAD **18** 14:08:22.8±0.0, 36.°87N×27.°33E, h7km±2km, ML2.3*
*ISK **18** 14:08:22.7, 36.°86N×27.°34E, h5km, ML2.5/18*
*ATH **18** 14:08:23.1, 36.°86N×27.°31E, h17km±2km, ML2.7/6, Error ellipse: s-maj=3.1km s-min=1.0km az=248.0*

ISC 18 14:08:22.9±0.8, 36.°86N±0.°02×27.°31E±0.°02, h15km±5km, n41, σ0.°70/64, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTB	Kemer-Bodrum	0.11	342	Pg	Pg	14 08 26.3	0.0
RFTB				Sg	Sg	14 08 28.5	0.0
BODT	Bodrum	0.20	359	Pg	Pg	14 08 27.2	-0.4
BODT				Sg	Sg	14 08 30.5	-0.3
BDRM	Kayabasi	0.23	27	P	Pg	14 08 27.4	-0.6
BDRM				S	Sg	14 08 30.8	-0.8
BDRM				*i* AML	AML	14 08 31.0	
	comp=E,1μm,0.3s						
RFTD	Palamutbuku-Ka	0.23	140	Pg	Pg	14 08 27.7	-0.4
RFTD				Sg	Sg	14 08 31.7	+0.2
DAT	Datca	0.25	122	Pg	Pg	14 08 27.9	-0.5
DAT				Sg	Sg	14 08 32.2	0.0
DAT	Datca	0.25	122	P	Pg	14 08 28.0	-0.5
DAT				S	Sg	14 08 32.3	+0.1
DAT				*i* AML	AML	14 08 34.0	
	comp=N,652nm,0.3s						
KLNA	Kalymnos	0.29	290	P	Pg	14 08 29.1	+0.1
KLNA				S	Sg	14 08 33.7	+0.5
KLNA				AML	AML	14 08 34.2	
	comp=E,10874μm,0.2s						
KLNA				AML	AML	14 08 34.4	
	comp=N,8507μm,0.3s						
KOSK	Kos Island	0.29	248	Pg	Pg	14 08 29.1	+0.1
KOSK				Sg	Sb	14 08 34.4	0.0
KOSK	Kos Island	0.29	248	P	Pg	14 08 28.8	-0.2
KOSK				S	Sg	14 08 34.1	+0.9
KOSK				AML	AML	14 08 37.4	
	comp=E,5716μm,0.6s						
KOSK				AML	AML	14 08 40.0	
	comp=N,4340μm,0.3s						
NISR	Nisiros	0.29	211	P	Pg	14 08 29.2	+0.2
NISR				S	Sb	14 08 34.4	0.0
NISR				AML	AML	14 08 35.5	
	comp=E,3418μm,0.2s						
NISR				AML	AML	14 08 40.4	
	comp=N,1620μm,0.3s						
RFTAA	Mazikoy-Bodrum	0.37	68	Pg	Pg	14 08 30.4	-0.1
RFTC	Emecik-Datca	0.41	101	Pg	Pg	14 08 30.7	-0.5
MLSB	Milas	0.57	40	Pg	Pb	14 08 34.4	-0.2
DDIM	Aydin, Didim	0.60	355	P	Pg	14 08 34.0	-0.7
DDIM				S	Sb	14 08 43.5	+0.1
DDIM				*i* AML	AML	14 08 47.0	
	comp=N,374nm,0.7s						
TURN	Turunc	0.75	96	Pg	Pg	14 08 36.8	-0.8
TURN	Turunc	0.75	96	P	Pg	14 08 36.4	-1.2
TURN				S	Sb	14 08 48.0	+0.3
TURN				*i* AML	AML	14 08 50.0	
	comp=N,222nm,0.4s						
YER	Yerkesik	0.82	70	Pg	Pb	14 08 39.4	+0.4
GCAM	G?zelcaml?	0.84	356	Pg	Pg	14 08 38.9	-0.4
GCAM	G?zelcaml?	0.84	356	P	Pg	14 08 38.8	-0.4
GCAM				S	Sb	14 08 51.5	+1.1
GCAM				*i* AML	AML	14 08 56.0	
	comp=N,145nm,0.3s						
MULA	Mugla, Merkez-	0.90	64	P	Pg	14 08 39.5	-0.8
MULA				S	Sb	14 08 52.2	+0.1
MULA				*i* AML	AML	14 08 59.0	
	comp=N,34nm,0.6s						
ARG	Arkhangelos	0.92	134	Pg	Pg	14 08 40.5	-0.2
ARG	Arkhangelos	0.92	134	P	Pg	14 08 40.0	-0.7
ARG				S	Sg	14 08 52.6	-0.2
ARG				AML	AML	14 08 56.8	
	comp=N,597μm,0.3s						
ARG				AML	AML	14 08 56.9	
	comp=E,568μm,0.5s						
AYDN	Tasoluk	0.92	29	P	Pg	14 08 39.7	-1.0
AYDN				S	Sg	14 08 52.5	-0.3
AYDN				*i* AML	AML	14 08 58.0	
	comp=E,156nm,0.6s						
SMG	Samos	0.93	336	P	Pg	14 08 40.3	-0.6
SMG				S	Sg	14 08 53.0	-0.1
SMG				AML	AML	14 08 56.7	
	comp=N,1160μm,0.4s						
SMG				AML	AML	14 08 58.1	
	comp=E,1646μm,0.4s						
DALY	Dalyan (Mula)	1.08	92	Pg	Pb	14 08 43.5	+0.3
IKRA	Agios-Kirikos-	1.11	313	P	Pg	14 08 43.5	-0.8
DGB	zmir	1.24	344	P	Pn	14 08 44.9	-0.7
KARP	Karpathos	1.32	185	Pn	Pn	14 08 46.3	-0.5
KARP	Karpathos	1.32	185	P	Pn	14 08 46.2	-0.6
KARP				S	Sb	14 09 02.3	-1.7
KARP				AML	AML	14 09 07.4	
	comp=E,208μm,0.7s						
KARP				AML	AML	14 09 09.7	
	comp=N,174μm,0.5s						
IZMR	zmir-demi	1.37	22	P	Pn	14 08 48.5	+0.9
IZMR				S	Sn	14 09 06.6	+1.2
TAVA	DENIZLI_Tavas	1.41	64	P	Pn	14 08 48.4	+0.2
TAVA				S	Sn	14 09 07.6	+1.0
TAVA				*i* AML	AML	14 09 28.0	
	comp=N,11nm,1.2s						
FETY	Fethiye	1.44	98	Pn	Pg	14 08 50.2	-0.4
ZEYE	Izmir, Urla-Ze	1.52	335	P	Pn	14 08 48.5	-1.0
ZEYE				S	Sg	14 09 12.5	+0.6
ZEYE				*i* AML	AML	14 09 17.0	
	comp=N,42nm,0.4s						
IZZE	Mula-Seydike	1.59	105	P	Pb	14 08 52.0	-0.1
IZZE				S	Sg	14 09 14.2	-0.1
IZZE				*i* AML	AML	14 09 17.0	
	comp=N,148nm,0.5s						
CAME	Cameli-Denizli	1.60	86	Pn	Pb	14 08 52.4	+0.2
URLA	Izmir	1.60	339	Pn	Pb	14 08 52.7	+0.5
URLA	Izmir	1.60	339	P	Pn	14 08 49.7	-1.0
URLA				S	Sg	14 09 15.4	+0.9
URLA				*i* AML	AML	14 09 20.0	
	comp=N,43nm,0.5s						
CHOS	Chios island	1.82	327	P	Pn	14 08 52.2	-1.6
AKAS	Kas	1.95	108	Pn	Pn	14 08 57.2	+1.6
SIGR	SIGRI	2.61	334	P	Pn	14 09 04.0	-0.6
IMMV	Iera Moni Meta	3.04	244	P	Pn	14 09 09.5	-0.9

*IDC **18** 14:13:33.5±0.8, 3.°12S×142.°25E, h0km, mb4.1/10, mbtmp4.2/13, ML3.8/2, Error ellipse: s-maj=31.2km s-min=11.9km az=94.0*
*NEIC **18** 14:13:35.8±2.1, 3.°05S±0.°08×142.°08E±0.°10, h10km±1km, mb4.7/27, Error ellipse: s-maj=16.5km s-min=13.0km az=76.0*

ISC 18 14:13:38.4±0.5, 3.°11S±0.°06×142.°19E±0.°07, h30km, n72, σ1.32/69, mb4.5/23, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEWK	Wewak	1.52	108	P	Pn	14 14 03.8	+0.1
TABU	Tabubil	2.36	204	P	Pn	14 14 16.8	+1.6
PMG	Port Moresby	7.97	142	Pn	Pn	14 15 33.0	+0.7
PMG	Port Moresby	7.97	142	Pn	Pn	14 15 31.8	-0.5
	4.5nm,0.5s,baz=224,slow=23,SNR=2.7						
PMG				Sn	Sn	14 17 01.8	+0.3
	baz=112,slow=21						
FAKI	Fak Fak	9.93	271	Pn	Pn	14 15 56.2	-3.1
FAKI	Fak Fak	9.93	271	P	Pn	14 16 01.7	+2.4
COEN	Coen	10.82	175	Pn	Pn	14 16 12.1	+0.6
SAUI	Saumlaki	11.87	245	P	Pn	14 16 27.4	+1.5
KDU	Kakadu	13.53	225	P	Pn	14 16 48.0	-0.5
MTN	Manton Dam	14.61	228		Pn	14 17 01.9	-1.3
MTN	Manton Dam	14.61	228	P	Pn	14 17 02.8	-0.4
CTA	Charters Tower	17.34	167	P	Pn	14 17 38.1	-0.2
	0.1nm,0.3s,baz=3.8,slow=15,SNR=2.2						
	14nm,1.2s						
QIS	Mount Isa	17.53	188	P	Pn	14 17 41.1	+0.4
KNRA	Kununurra	18.19	226	P	Pn	14 17 48.6	-0.3
KNRA				IAmb	IAmb	14 18 12.9	
	comp=Z,34nm,1.1s						
KNRA	Kununurra	18.19	226	P	P	14 17 50.0	+1.0
WB0	Warramunga Arr	18.23	204	P	Pn	14 17 48.8	-0.6
WRAB	Tennant Creek	18.39	204	P	Pn	14 17 51.9	+0.6
WRAB	Tennant Creek	18.39	204	P	Pn	14 17 51.6	+0.2
WRA	Warramunga Arr	18.41	204	P	P	14 17 50.5	-0.9
WRA	Warramunga Arr	18.41	204	P	P	14 17 51.3	-0.1
	comp=Z,0.7nm,0.3s,baz=24,slow=11,SNR=25						
WRA				S	Sn	14 21 10.1	-6.4
	comp=Z,0.8nm,0.8s,baz=23,slow=22,SNR=2.8						
	comp=Z,3.1nm,0.6s						
AS31	Alice Springs	21.95	201		P	14 18 29.6	-0.2
ASAR	Alice Springs	21.95	201	P	P	14 18 28.3	-1.6
ASAR	Alice Springs	21.95	201	P	P	14 18 29.1	-0.8
	comp=Z,1.3nm,0.6s,baz=28,slow=11,SNR=28						
ASAR				S	S	14 22 33.4	+2.4
	comp=Z,1.6nm,1.0s,baz=17,slow=26,SNR=5.0						
	comp=Z,1.3nm,0.6s						
QLP	Quilpie	23.42	175	P	P	14 18 46.1	+0.9
INKA	Innaminka	24.54	183	P	P	14 18 56.9	+1.4
OOD	Oodnadatta	25.32	194	P	P	14 19 04.0	+1.3
WRKA	Warakurna	25.59	210	P	P	14 19 05.8	+0.6
LCRK	Leigh Creek	27.45	187	P	P	14 19 22.5	+0.6
MULG	Mulgathing	28.10	195	P	P	14 19 29.5	+1.8
STKA	Stephens Creek	28.62	181	P	P	14 19 32.0	-0.4
STKA	Stephens Creek	28.62	181	P	P	14 19 31.9	-0.4
	comp=Z,1.5nm,0.6s,baz=22,slow=11,SNR=4.6						
	comp=Z,1.5nm,0.6s						
BBOO	Buckleboo	30.10	190	P	P	14 19 44.5	-1.0
BBOO				IAmb	IAmb	14 20 06.7	
	comp=Z,18nm,1.2s						
BBOO	Buckleboo	30.10	190	P	P	14 19 46.0	+0.5
HTT	Hallett	30.32	185	P	P	14 19 48.6	+1.1
FORT	Forrest	30.59	204	P	P	14 19 50.1	+0.3
FORT	Forrest	30.59	204	P	P	14 19 51.3	+1.5
H11S3	WAKE ISLAND Hy	32.29	47	T	T	14 54 05.5	
	baz=231,slow=74,SNR=15						
H11S2	WAKE ISLAND Hy	32.30	47	T	T	14 54 07.1	
	baz=231,slow=74,SNR=12						
H11S1	WAKE ISLAND Hy	32.31	47	T	T	14 54 08.8	
	baz=231,slow=74,SNR=17						
JOW	Kunigami	32.66	337	P	P	14 20 05.6	-2.4
CAN	Canberra	32.67	170	P	P	14 20 09.4	+1.3
CAN				IAmb	IAmb	14 20 27.2	
	comp=Z,25nm,1.3s						
H11N1	WAKE ISLAND Hy	33.21	46	T	T	14 55 10.0	
	baz=230,slow=75,SNR=64						
H11N2	WAKE ISLAND Hy	33.23	46	T	T	14 55 12.1	
	baz=230,slow=75,SNR=96						
H11N3	WAKE ISLAND Hy	33.23	46	T	T	14 55 14.7	
	baz=230,slow=75,SNR=50						
MORW	Morawa	35.84	221	P	P	14 20 35.6	0.0
MORW				IAmb	IAmb	14 21 16.4	
	comp=Z,30nm,1.4s						
BKZ	Black Stump Fm	47.53	144	P	P	14 22 13.0	+1.7
TUWZ	Tuamarina	47.62	148	P	P	14 22 11.1	-0.7
USRK	Ussuriysk Ar.	47.98	350	P	P	14 22 14.3	-0.1
	comp=Z,3.4nm,0.7s,baz=167,slow=9.5,SNR=5.8						
	comp=Z,3.4nm,0.7s						
PETK	Petropavlovsk-	57.51	11	P	P	14 23 24.7	-0.1
	comp=Z,2.1nm,0.8s,baz=174,slow=4.7,SNR=4.7						
	comp=Z,2.1nm,0.8s						
SONM	Songino Array	59.61	333	P	P	14 23 41.2	+1.4
SONM	Songino Array	59.61	333	P	P	14 23 40.4	+0.7
	comp=Z,0.5nm,0.5s,baz=134,slow=7.0,SNR=2.3						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	72.25	321	P	P	14 25 00.1	-0.9
MKAR	Makanchi Array	72.25	321	P	P	14 25 01.4	+0.5
	comp=Z,1.1nm,0.7s,baz=110,slow=7.1,SNR=4.6						
	comp=Z,1.1nm,0.7s						
ZALV	Zalesovo Beam	74.05	329	P	P	14 25 10.9	-0.5
	comp=Z,0.9nm,0.5s,baz=98,slow=6.1,SNR=5.5						
	comp=Z,0.9nm,0.5s						
BOOM	Boomskoye usch	74.86	315	P	P	14 25 16.9	+0.3
M14K	Bethel	76.80	25	P	P	14 25 26.5	-0.5
L14K	Kuka Creek	76.82	24	P	P	14 25 27.4	+0.3
L18K	Granite Mounta	79.72	25	P	P	14 25 43.4	+0.2
L18K				IAmb	IAmb	14 26 22.1	
	comp=Z,7.4nm,1.4s						
G18K	Tagagawik	80.72	21	P	P	14 25 47.2	-1.3
G18K				IAmb	IAmb	14 26 13.7	
	comp=Z,4.4nm,1.2s						
E18K	Tukpahlearik C	80.84	19	P	P	14 25 49.5	+0.4
E18K				IAmb	IAmb	14 26 29.7	
	comp=Z,7.5nm,1.1s						
BVAR	Borovoye Array	81.64	325	P	P	14 25 54.0	+0.3
	comp=Z,3.1nm,0.6s,baz=111,slow=6.5,SNR=15						
	comp=Z,3.1nm,0.6s						
E19K	Redstone River	81.98	20	P	P	14 25 56.0	+0.8
E19K				IAmb	IAmb	14 25 57.4	
	comp=Z,6.3nm,0.8s						
I23K	Minto, Yukon-K	83.90	23	P	P	14 26 05.3	+0.1
I23K				IAmb	IAmb	14 26 06.7	
	comp=Z,1.2nm,0.7s						
IL31		84.76	24	P	P	14 26 07.8	-1.6
IL31				IAmb	IAmb	14 26 44.5	
	comp=Z,9.0nm,1.5s						
ILAR	Eielson Array	84.76	24	P	P	14 26 08.2	-1.3
	comp=Z,2.0nm,0.7s,baz=259,slow=4.8,SNR=32						
	comp=Z,2.0nm,0.7s						
QSPA	South Pole Qui	86.84	180	P	P	14 26 19.9	-0.2
QSPA				IAmb	IAmb	14 26 21.8	
	comp=Z,3.8nm,1.0s						
QSPA	South Pole Qui	86.84	180	P	P	14 26 19.2	-0.9
	comp=Z,2.4nm,0.7s,baz=324,slow=2.3,SNR=7.7						
	comp=Z,2.4nm,0.7s						
DAWY	Dawson	87.72	26	P	P	14 26 24.6	+0.4
DAWY				IAmb	IAmb	14 26 40.9	
	comp=Z,5.8nm,1.4s						
I28M	Miner Creek	87.78	24	P	P	14 26 23.7	-0.8
I28M				IAmb	IAmb	14 26 46.9	
	comp=Z,6.6nm,1.4s						
L29M	L29M	88.08	27	P	P	14 26 26.4	+0.4
L29M				IAmb	IAmb	14 26 36.3	
	comp=Z,13nm,1.4s						
K29M	Barlow Dome	88.49	26	P	P	14 26 27.2	-0.7
K29M				IAmb	IAmb	14 26 30.2	
	comp=Z,4.4nm,1.1s						
TORD	Torodi Ar. Bea	139.71	287	PKP	PKPdf	14 33 05.5	+1.0
	comp=Z,0.5nm,0.8s,baz=52,slow=3.4,SNR=2.8						

*EAF **18** 14:21:35.3, 26.°43S×29.°68E, h10km, MC3.6*

BUL 18 14:21:36.8±0.8, 26.°40S×29.°56E, h10km, MD3.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	3.32	31	*i* P	Pn	14 22 25.8	-3.0
MOPA				*i* S	Sn	14 23 03.1	-5.2
MOPA	Mopani	3.32	31	*i* P	Pn	14 22 25.8	-3.0
	baz=29						
MOPA				*i* S	Sn	14 23 03.1	-5.2
	baz=29						
LBTB	Lobatse	3.83	290	*i* P	Pn	14 22 35.0	-0.9
LBTB				*i* S	Sn	14 23 18.4	-2.7
LBTB	Lobatse	3.83	290	*i* P	Pn	14 22 35.0	-0.9
	baz=290						
LBTB				*i* S	Sn	14 23 18.4	-2.7
	baz=290						
MUSN	Musina, Limpop	4.10	4	*i* P	Pn	14 22 38.8	-0.8
MUSN				*i* S	Sn	14 23 25.0	-2.7
MUSN	Musina, Limpop	4.10	4	*i* P	Pn	14 22 38.8	-0.8
	baz=2.0						
MUSN				*i* S	Sn	14 23 25.0	-2.7
	baz=2.0						
BOSA	Boshof	4.41	239	*i* P	Pn	14 22 43.3	-0.6
BOSA				*i* S	Sn	14 23 32.7	-2.8
BOSA	Boshof	4.41	239	*i* P	Pn	14 22 43.3	-0.6
	baz=240						
BOSA				*i* S	Sn	14 23 32.7	-2.8
	baz=240						

JMA 18 14:31:29.7±0.3, 25.°N±2.°×123.°3E±0.°6, h112km±3km, MV2.2/11, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.51	206	*e*P	Pn	14 31 46.9	+0.1
IRIF	Iriomote-Funau	0.73	143	*e*P	Pn	14 31 48.2	-0.2
IRIF				*e*S	Sn	14 32 03.1	+0.5
JKRS	Kuro-shima	0.97	135	*e*P	Pn	14 31 51.0	+0.3
JKRS				*e*S	Sn	14 32 07.0	+0.5
JIJ	Ishigaki jima	0.98	124	*e*P	Pn	14 31 50.9	+0.1
JIJ				*e*

baz=237
VWDT eS Sn 14 32 30.7 +0.5
baz=237
HGSD Ruisui 0.61 202 eP Pn 14 32 23.0 +0.6
baz=201
HGSD eS Sn 14 32 31.6 +0.5
baz=201
EHY Hungye 0.64 210 eP Pn 14 32 23.4 +0.7
baz=209
WCS Beigang Elemen 0.69 270 eP Pn 14 32 23.1 -0.4
baz=269

IDC ***18*** *14:37:16.1±0.5,31°.01N×54°.83E,h0km,mb4.8/30, mbtmp4.8/41,ML4.3/9,MS4.3/31,Error ellipse: s-maj=11.1km s-min=10.2km az=157.0*
BJI ***18*** *14:37:17.0±0.0,31°.20N×54°.80E,h10km,mb5.0/63, mB5.6/16,Ms4.8/18,Ms7 4.6/18*
TEH ***18*** *14:37:17.0,31°.20N×54°.89E,h6km±57km,ML5.2*
MOS ***18*** *14:37:17.3±1.0,31°.05N×54°.82E,h18km,mb5.1/50,Error ellipse: s-maj=5.1km s-min=3.9km az=96.7*
NEIC ***18*** *14:37:18.8±1.8,31°.14N±0°.06×54°.85E±0°.09,h10km±1km, mb5.0/87,Error ellipse: s-maj=12.3km s-min=10.8km az=267.0*
THR ***18*** *14:37:19.2±1.1,31°.19N×54°.91E,h15km±8km,ML5.0*
GCMT ***18*** *14:37:19.8±0.3,31°.09N±0°.02×54°.78E±0°.04,h18km±1km, MW5.0/68,Moment Tensor Solution. s22,c24; s68,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.81±.28; Mθθ-3.60±.17; Mφφ-0.20±.16; Mrθ0.30±.31; Mrφ1.04±.11; Mθφ0.94±.50; Best double couple: M0 3.97300×10^16 NP1:φs92.00000°,δ47.00000°,λ71.00000°. NP2: φs299.00000°,δ46.00000°,λ109.00000°. Principal axes: T 4.0530, Plg76.0000°, Azm287.0000°; N -0.1560, Plg14.0000°, Azm106.0000°; P -3.8940, Plg0.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
GII ***18*** *14:37:19.4±0.0,31°.13N×54°.85E,h10km*
DSN ***18*** *14:37:21.4±1.4,30°.97N×54°.56E,h11km,mb4.8/2, ML5.1/12,Error ellipse: s-maj=45.3km s-min=7.2km az=64.0*
OMAN ***18*** *14:37:23.5±0.2,30°.88N×54°.90E,h10km,mb5.8/26, ml5.0/2,ms3.8/3,Error ellipse: s-maj=5.5km s-min=4.9km az=232.0*
SGS ***18*** *14:38:15.9,28°.25N×51°.55E,h15km,Ml4.2*
ISC 18 14:37:18.8±0.5,31°.14N±0°.03×54°.83E±0°.03,h13km±3km, h13km:pP-P,n826,σ1$40/859,mb4.9/161,MS4.3/32, 29C-33D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMEH	**Mehriz**	**0.32**	**323**	Pg	**Pg**	**14 37 23.8**	**-1.6**
IBAF	**Bafgh**	**0.77**	**54**	Pg	**Pg**	**14 37 32.0**	**-1.8**
IBAF				Sg	**Sg**	**14 37 42.4**	**-1.7**
ICHK	**Chekchek**	**1.16**	**342**	Pg	**Pb**	**14 37 39.2**	**-1.7**
ISAD	**Sadrabad**	**1.25**	**309**	Pg	**Pn**	**14 37 41.2**	**-1.1**
YZKH	**Yazd**	**1.27**	**351**	ePg	**Pn**	**14 37 41.1**	**-1.2**
ZRDN	**Zarand Kerman**	**1.47**	**96**	Pg	**Pn**	**14 37 45.1**	**-0.2**
KHGB	**Koh Gabri**	**1.61**	**118**	Pg	**Pn**	**14 37 47.0**	**-0.1**
TVBK	**TV Kerman**	**2.02**	**124**	Pn	**Pn**	**14 37 54.1**	**+1.1**
KRBR	**Kerman**	**2.02**	**124**	ePn	**Pn**	**14 37 54.0**	**+1.0**
KRBR				IAML		14 38 25.3	
	comp=E,18μm,0.5s						
KRBR				IAML		14 38 28.4	
	comp=N,20μm,0.5s						
IRAM	**Ramesheh**	**2.20**	**288**	Pn	**Pb**	**14 37 57.8**	**-0.8**
NGRK	**Negar Kerman**	**2.21**	**132**	Pn	**Pn**	**14 37 57.1**	**+1.5**
ANAR	**Anarak**	**2.25**	**336**	Pn	**Pn**	**14 37 57.1**	**+1.1**
NASN	**Na'in**	**2.39**	**314**	ePn	**Pn**	**14 37 59.8**	**+1.8**
TPRV	**Parvadeh(Tabas**	**2.46**	**39**	Pn	**Pn**	**14 38 00.0**	**+1.3**
SHI	**Shiraz**	**2.50**	**234**	Pn	**Pb**	**14 38 02.2**	**-1.5**
CHMN	**Cheshme madani**	**2.66**	**118**	Pn	**Pn**	**14 38 03.0**	**+1.3**
IGAR	**Gharneh**	**2.69**	**299**	Pn	**Pn**	**14 38 04.6**	**+2.5**
IZEF	**Zefreh**	**2.76**	**310**	Pn	**Pn**	**14 38 05.0**	**+2.0**
KLNJ	**Kolanjah**	**2.78**	**268**	Pn	**Pb**	**14 38 06.8**	**-1.8**
JHRM	**Jahrom**	**2.84**	**203**	Pn	**Pb**	**14 38 06.8**	**-2.6**
QIR1	**Qir**	**3.07**	**211**	Pn	**Pn**	**14 38 10.2**	**+3.1**
TKDS	**Koohdasht(Taba**	**3.14**	**38**	Pn	**Pn**	**14 38 09.5**	**+1.3**
IBRJ	**Brojen**	**3.15**	**285**	Pn	**Pn**	**14 38 11.3**	**+2.9**
TABS	**Tabas**	**3.17**	**37**	ePn	**Pn**	**14 38 09.9**	**+1.4**
TABS				IAML		14 39 14.8	
	comp=N,2μm,0.5s						
TNSJ	**Nastanj**	**3.19**	**28**	Pn	**Pn**	**14 38 09.9**	**+1.0**
GHIR	**Ghir-Karzin**	**3.26**	**210**	ePn	**Pn**	**14 38 12.9**	**+3.1**
GHIR				IAML		14 39 08.9	
	comp=E,2μm,0.6s						
LAR1	**LAR**	**3.48**	**187**	Pn	**Pn**	**14 38 15.4**	**+2.7**
IKLH	**Kolahrood**	**3.51**	**309**	Pn	**Pn**	**14 38 15.7**	**+2.3**
ZNGN	**Zangian**	**3.53**	**287**	Pn	**Pn**	**14 38 16.4**	**+2.7**
KRSH	**Karshahi**	**3.63**	**322**	Pn	**Pn**	**14 38 16.7**	**+1.8**
IPIR	**Pirpir**	**3.69**	**296**	Pn	**Pn**	**14 38 19.0**	**+3.1**
JHBN	**Jahan bin**	**3.72**	**288**	Pn	**Pn**	**14 38 19.0**	**+2.8**
KBAM	**BAM**	**3.72**	**122**	Pn	**Pn**	**14 38 17.2**	**+1.2**
BSRN	**Basiran**	**3.76**	**76**	ePn	**Pn**	**14 38 17.5**	**+0.8**
BSRN				IAML		14 39 24.3	
	comp=N,3μm,0.6s						
BSRN				IAML		14 39 24.6	
	comp=E,2μm,0.8s						
BSRN	**Basiran**	**3.76**	**76**	Pn	**Pn**	**14 38 17.4**	**+0.8**
ITEG	**Tejag**	**3.76**	**61**	Pn	**Pn**	**14 38 17.9**	**+1.1**
IKOO	**Kooshah**	**3.78**	**69**	Pn	**Pn**	**14 38 18.2**	**+1.1**
AHBU	**AHRAM**	**3.81**	**234**	Pn	**Pn**	**14 38 20.2**	**+2.9**
ISFB	**Sefidab**	**3.88**	**326**	Pn	**Pn**	**14 38 19.6**	**+1.4**
QAMS	**Qamsar**	**3.89**	**313**	Pn	**Pn**	**14 38 21.2**	**+2.5**
GENO	**Geno**	**3.90**	**162**	Pn	**Pn**	**14 38 21.3**	**+2.6**
BNDS	**Bandar-Abbas**	**3.90**	**162**	ePn	**Pn**	**14 38 21.0**	**+2.3**
BNDS				IAML		14 39 15.7	
	comp=E,993nm,0.7s						
IBND	**Bandar-abas**	**3.97**	**157**	Pn	**Pn**	**14 38 21.8**	**+2.4**
ABEH	**Behbahan**	**3.97**	**263**	Pn	**Pn**	**14 38 22.1**	**+2.6**
KHNJ	**Kahnooj**	**4.04**	**141**	Pn	**Pn**	**14 38 22.5**	**+1.9**
LMD1	**Lamerd**	**4.05**	**201**	Pn	**Pn**	**14 38 24.2**	**+3.6**
BAGH	**Bagheran - Bir**	**4.06**	**65**	Pn	**Pn**	**14 38 21.7**	**+0.7**
DSBU	**Dashti - Bushe**	**4.16**	**229**	Pn	**Pn**	**14 38 25.3**	**+3.2**
AFRZ	**Afriz**	**4.21**	**56**	Pn	**Pn**	**14 38 23.6**	**+0.7**
IANJ	**Anjilo**	**4.39**	**350**	Pn	**Pn**	**14 38 26.6**	**+1.2**
GHVR	**GHOM**	**4.47**	**319**	ePn	**Pn**	**14 38 29.9**	**+3.5**
GHVR				IAML		14 39 57.3	
	comp=N,1μm,0.7s						
GHVR				IAML		14 40 00.8	
	comp=E,1μm,0.7s						
NHDN	**Nehbandan**	**4.47**	**85**	Pn	**Pn**	**14 38 27.4**	**+0.8**
ILAS	**Lasjerd**	**4.51**	**340**	Pn	**Pn**	**14 38 28.7**	**+1.6**
IDAH	**Dahanechah**	**4.57**	**68**	Pn	**Pn**	**14 38 28.7**	**+0.8**
IMON	**Monand**	**4.58**	**62**	Pn	**Pn**	**14 38 30.4**	**+2.3**
IVRN	**Varamin**	**4.65**	**327**	Pn	**Pn**	**14 38 30.6**	**+1.8**
AMIS	**Naft Sefid**	**4.77**	**278**	Pn	**Pn**	**14 38 33.0**	**+2.5**
IFIR	**Firoozkooh**	**4.82**	**339**	Pn	**Pn**	**14 38 32.8**	**+1.5**
ISHM	**Shahmirzad**	**4.83**	**345**	Pn	**Pn**	**14 38 32.8**	**+1.3**
IQOM	**Qom**	**4.86**	**320**	Pn	**Pn**	**14 38 33.1**	**+1.2**
KHMZ	**Khomeyn**	**4.87**	**303**	ePn	**Pn**	**14 38 35.1**	**+3.1**
SHRO	**Shahrood**	**4.94**	**11**	ePn	**Pn**	**14 38 34.0**	**+1.2**
SHRO				IAML		14 40 03.8	
	comp=E,564nm,0.3s						
SHRO				IAML		14 40 11.6	
	comp=N,748nm,0.4s						
DAMV	**Damavand**	**5.08**	**333**	ePn	**Pn**	**14 38 37.4**	**+2.4**
DAMV				IAML		14 40 22.8	
	comp=E,399nm,0.7s						
SHME	**Shamm**	**5.20**	**167**	*i* P	**Pn**	**14 38 37.7**	**+1.3**
	SNR=15						
SHME				S	**Sn**	**14 39 37.8**	**+1.6**
SHME	**Shamm**	**5.20**	**167**	P	**Pn**	**14 38 38.4**	**+2.1**
	SNR=53						
SHME				S	**Sn**	**14 39 36.8**	**+0.6**
IHSB	**Hasanabad**	**5.22**	**326**	Pn	**Pn**	**14 38 38.8**	**+2.1**
SHRT	**Shahrakht**	**5.25**	**60**	ePn	**Pn**	**14 38 38.5**	**+1.4**
SHRT				IAML		14 40 14.0	
	comp=N,382nm,0.6s						
SHRT				IAML		14 40 15.6	
	comp=E,444nm,0.7s						
SHRT	**Shahrakht**	**5.25**	**60**	Pn	**Pn**	**14 38 39.1**	**+2.0**
ZHSF	**Zahedan**	**5.36**	**105**	ePn	**Pn**	**14 38 41.1**	**+2.5**
IGLO	**Ghaloghah**	**5.42**	**351**	Pn	**Pn**	**14 38 42.7**	**+3.1**
ZHDN	**Zahedan**	**5.45**	**107**	Pn	**Pn**	**14 38 40.8**	**+0.8**
IPRN	**Peran**	**5.50**	**338**	Pn	**Pn**	**14 38 42.7**	**+2.1**
TBHD	**Torbat heydari**	**5.64**	**40**	Pn	**Pn**	**14 38 44.1**	**+1.6**
UMQ	**Umm Al-Quwin**	**5.64**	**172**	*i* P	**Pn**	**14 38 45.0**	**+2.6**
	SNR=17						
UMQ	**Umm Al-Quwin**	**5.64**	**172**	P	**Pn**	**14 38 45.9**	**+3.5**
	SNR=32						
UMQ				S	**Sn**	**14 39 49.4**	**+2.4**
CHTH	**Charan**	**5.68**	**328**	ePn	**Pn**	**14 38 45.1**	**+2.0**
IMHD	**Mahdasht**	**5.72**	**324**	Pn	**Pn**	**14 38 45.9**	**+2.3**
SBZV	**Sabzevar**	**5.73**	**23**	Pn	**Pn**	**14 38 45.7**	**+1.9**
THKV	**Tehran--Karaj**	**5.80**	**326**	ePn	**Pn**	**14 38 47.1**	**+2.3**
MASF	**Masafi**	**5.86**	**168**	P	**Pn**	**14 38 48.0**	**+2.5**
	SNR=405						
MASF				S	**Sn**	**14 39 54.5**	**+1.9**
MSFE	**Esma-Masafi**	**5.87**	**168**	*i* P	**Pn**	**14 38 47.9**	**+2.2**
	SNR=405						
JASK	**Jask - Hormozg**	**5.89**	**152**	P	**Pn**	**14 38 48.0**	**+2.2**
	SNR=16						
JASK				S	**Sn**	**14 39 52.1**	**-1.2**
JASK	**Jask - Hormozg**	**5.89**	**152**	Pn	**Pn**	**14 38 47.3**	**+1.5**
IRAZ	**Razeghan**	**5.91**	**317**	Pn	**Pn**	**14 38 49.1**	**+2.7**
MZPU	**Pul - Mazandar**	**5.95**	**334**	Pn	**Pn**	**14 38 49.4**	**+2.6**
MDH	**Madha**	**5.96**	**167**	*i* P	**Pn**	**14 38 48.0**	**+1.2**
	SNR=191						
MDH	**Madha**	**5.96**	**167**	P	**Pn**	**14 38 48.5**	**+1.8**
	SNR=81						
MDH				S	**Sn**	**14 39 55.7**	**+0.8**
HAGD	**Aghdareh**	**6.03**	**309**	Pn	Pn	14 38 53.7	+5.7
HSAM	**Samen**	**6.08**	**302**	Pn	**Pn**	**14 38 50.4**	**+1.7**
IMND	**Minoodasht**	**6.12**	**4**	Pn	**Pn**	**14 38 50.0**	**+0.9**
NAZ	**Nazwa, Dubai**	**6.17**	**173**	*i* P	**Pn**	**14 38 52.1**	**+2.4**
	SNR=208						
NAZ	**Nazwa, Dubai**	**6.17**	**173**	P	**Pn**	**14 38 52.6**	**+2.9**
	SNR=207						
NAZ				S	**Sn**	**14 40 00.7**	**+0.6**
	SNR=12						
TBJM	**Torbat-e-JAM**	**6.18**	**47**	Pn	**Pn**	**14 38 52.3**	**+2.3**
KLST	**Kelardasht - M**	**6.22**	**331**	Pn	**Pn**	**14 38 54.0**	**+3.4**
IMOG	**Moghan**	**6.22**	**36**	Pn	**Pn**	**14 38 51.7**	**+1.1**
SHMA	**Al-Shehemyia**	**6.26**	**214**	P	**Pn**	**14 38 53.5**	**+2.5**
	SNR=22						
SHMA				S	**Sn**	**14 40 04.4**	**+1.9**
	SNR=17						
UOSS	**Minazif**	**6.29**	**169**	Pn	**Pn**	**14 38 52.5**	**+1.2**
UOSS	**Minazif**	**6.29**	**169**	*i* P	**Pn**	**14 38 52.8**	**+1.5**
	SNR=43						
UOSS	**Minazif**	**6.29**	**169**	P	**Pn**	**14 38 52.7**	**+1.4**
UOSS				S	**Sn**	**14 40 02.0**	**-1.0**
	SNR=8.8						
IAKL	**Akhelmad**	**6.35**	**30**	Pn	**Pn**	**14 38 54.1**	**+1.6**
IKFM	**Kafar-mosalman**	**6.37**	**294**	Pn	**Pn**	**14 38 54.2**	**+1.7**
SAKB	**Bahrain**	**6.38**	**217**	P	**Pn**	**14 38 55.8**	**+3.2**
SAKB				S	**Sn**	**14 40 06.8**	**+1.5**
HATD	**Hatta, Dubai**	**6.39**	**169**	*i* P	**Pn**	**14 38 54.4**	**+1.7**
	SNR=143						
HATD	**Hatta, Dubai**	**6.39**	**169**	P	**Pn**	**14 38 55.0**	**+2.2**
	SNR=258						
HATD				S	**Sn**	**14 40 06.9**	**+1.3**
	SNR=9.9						
FAQ	**Al Faqa, Dubai**	**6.40**	**174**	*i* P	**Pn**	**14 38 55.0**	**+2.1**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**6.40**	**174**	P	**Pn**	**14 38 55.5**	**+2.6**
	SNR=82						
FAQ				S	**Sn**	**14 40 05.2**	**-0.7**
	SNR=13						
JRN	**Qarnain Island**	**6.42**	**196**	P	**Pn**	**14 38 55.0**	**+2.0**
	SNR=11						
JRN				S	**Sn**	**14 40 07.0**	**+0.8**
ISFR	**Sfrayin**	**6.46**	**23**	Pn	**Pn**	**14 38 54.9**	**+1.0**
IGZV	**Ghazvin**	**6.49**	**325**	Pn	**Pn**	**14 38 57.1**	**+2.7**
ASUD	**Al Ashush, Dub**	**6.50**	**176**	*i* P	**Pn**	**14 38 56.9**	**+2.7**
	SNR=52						
ASUD	**Al Ashush, Dub**	**6.50**	**176**	P	**Pn**	**14 38 57.3**	**+3.1**
	SNR=42						
ASUD				S	**Sn**	**14 40 11.1**	**+2.8**
	SNR=5.7						
AJN	**Ajban**	**6.55**	**179**	*i* P	**Pn**	**14 38 57.2**	**+2.3**
	SNR=28						
AJN	**Ajban**	**6.55**	**179**	P	**Pn**	**14 38 57.6**	**+2.7**
	SNR=27						
AJN				S	**Sn**	**14 40 10.7**	**+1.2**
MRVT	**Maraveh tapeh**	**6.59**	**9**	ePn	**Pn**	**14 38 57.3**	**+1.8**
MRVT	**Maraveh tapeh**	**6.59**	**9**	Pn	**Pn**	**14 38 57.0**	**+1.5**
JRKH	**Jarkhoshk**	**6.62**	**43**	Pn	**Pn**	**14 38 57.1**	**+1.2**
IMYA	**Miami**	**6.80**	**39**	Pn	**Pn**	**14 38 59.8**	**+1.3**
IKRD	**Kardeh**	**6.84**	**33**	Pn	**Pn**	**14 39 01.2**	**+2.2**
IKOM	**Komasi**	**6.88**	**298**	Pn	**Pn**	**14 39 00.5**	**+1.0**
BJRD	**Bojnurd**	**6.88**	**17**	ePn	**Pn**	**14 39 01.1**	**+1.5**
IEMG	**Emamgholi**	**7.01**	**26**	Pn	**Pn**	**14 39 02.7**	**+1.2**
HRA	**Herat**	**7.03**	**61**	Pn	**Pn**	**14 39 02.5**	**+0.8**
GIDE	**GILAN DEYLAMAN**	**7.07**	**326**	ePn	**Pn**	**14 39 05.2**	**+3.0**
ALNE	**Al Ain**	**7.10**	**173**	*i* P	**Pn**	**14 39 03.8**	**+1.3**
	SNR=39						
ALNE	**Al Ain**	**7.10**	**173**	P	**Pn**	**14 39 04.3**	**+1.8**
	SNR=38						
ALNE				S	**Sn**	**14 40 23.0**	**-0.1**
	SNR=9.1						
QSDN	**Sirdan**	**7.13**	**320**	Pn	**Pn**	**14 39 05.6**	**+2.6**
SOHO	**SOHO**	**7.14**	**167**	*i* P	**Pn**	**14 39 03.0**	**+0.1**
	SNR=34						
SOHO	**SOHO**	**7.14**	**167**	P	**Pn**	**14 39 04.0**	**+1.0**
SOHO				S	**Sn**	**14 40 23.4**	**-0.6**
SMRA	**Abu-Samra**	**7.29**	**210**	P	**Pn**	**14 39 06.4**	**+1.4**
	SNR=27						
SMRA				S	**Sn**	**14 40 28.8**	**+1.1**
	SNR=12						
GEYT	**Alibeck**	**7.30**	**21**		**Pn**	**14 39 06.7**	**+1.5**
GEYT	**Alibeck**	**7.30**	**21**	Pn	**Pn**	**14 39 07.0**	**+1.8**
	comp=E,8.1nm,0.3s,baz=196,slow=15,SNR=129						
GEYT				Lg	Lg	14 41 09.8	
	baz=214,slow=36						
GEYT				LR	LR	14 42 11.3	
	comp=E,3μm,20.5s,baz=230,slow=40						
	comp=E,136nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**7.30**	**21**		**Pn**	**14 39 06.8**	**+1.7**
SNGE	**Sanandaj**	**7.42**	**304**	ePn	**Pn**	**14 39 09.6**	**+2.7**
CHBR	**Chabahar**	**7.43**	**137**	ePn	**Pn**	**14 39 09.6**	**+2.6**
CHBR	**Chabahar**	**7.43**	**137**	Pn	**Pn**	**14 39 08.2**	**+1.2**
ZNJK	**Zanjan**	**7.52**	**319**	ePn	**Pn**	**14 39 10.8**	**+2.3**
IGHG	**Ghaleghazi**	**7.66**	**297**	Pn	**Pn**	**14 39 10.8**	**+0.6**
SMAN	**Sihmah**	**7.73**	**232**	P	**Pn**	**14 39 11.8**	**+0.7**
SMAN	**Sihmah**	**7.73**	**232**	S	**Sn**	**14 40 37.4**	**-1.1**
HOQ	**Hoqain**	**7.84**	**163**	P	**Pn**	**14 39 13.9**	**+1.3**
	SNR=18						
HOQ				P	**Pn**	**14 39 13.9**	**+1.3**
	SNR=18						
HOQ				S	**Sn**	**14 40 41.0**	**-0.3**
HOQ				S	**Sn**	**14 40 41.0**	**-0.3**
HOQ	**Hoqain**	**7.84**	**163**	Pn	**Pn**	**14 39 14.5**	**+1.9**
ARQ	**Araqi**	**7.91**	**169**	P	**Pn**	**14 39 16.0**	**+2.3**
	SNR=31						
ARQ				S	**Sn**	**14 40 42.9**	**-0.3**
IDHR	**Dehrash**	**7.94**	**299**	Pn	**Pn**	**14 39 14.6**	**+0.5**
NGCH	**Negor - Chabah**	**8.00**	**134**	P	**Pn**	**14 39 15.3**	**+0.5**
NGCH	**Negor - Chabah**	**8.00**	**134**	Pn	Pn	14 39 20.8	+5.9
BIDO	**Bidbid**	**8.13**	**158**	P	**Pn**	**14 39 16.5**	**-0.1**
	SNR=16						
BIDO				P	**Pn**	**14 39 16.5**	**-0.1**
	SNR=16						
BIDO				S	**Sn**	**14 40 46.5**	**-1.9**
BIDO				S	**Sn**	**14 40 46.5**	**-1.9**
MZR	**Muzera**	**8.19**	**189**	*i* P	**Pn**	**14 39 18.2**	**+0.7**
	SNR=19						
MZR	**Muzera**	**8.19**	**189**	P	**Pn**	**14 39 19.1**	**+1.6**
	SNR=27						
SMDO	**Samad**	**8.54**	**160**	P	**Pn**	**14 39 24.0**	**+1.6**
	SNR=39						
WSAR	**Wadi Sarin**	**8.56**	**156**	P	**Pn**	**14 39 23.0**	**+0.4**
	SNR=17						
WSAR	**Wadi Sarin**	**8.56**	**156**	Pn	**Pn**	**14 39 21.9**	**-0.7**
	comp=E,5.6nm,0.3s,baz=7.4,slow=7.6,SNR=63						
WSAR				Sn	**Sn**	**14 40 55.6**	**-3.4**
	comp=E,12nm,0.3s,baz=245,slow=23,SNR=9.0						
WSAR				LR	LR	14 43 24.4	
	comp=E,868nm,19.2s,baz=347,slow=44						
	comp=E,29nm,0.6s						
BSY	**Bisya**	**8.62**	**165**	P	**Pn**	**14 39 25.3**	**+1.9**
	SNR=24						
BSY				P	**Pn**	**14 39 25.3**	**+1.9**
	SNR=24						
BSY				S	**Sn**	**14 41 02.0**	**+1.4**
BSY				S	**Sn**	**14 41 02.0**	**+1.4**
ISRB	**Sarab**	**8.91**	**320**	Pn	**Pn**	**14 39 30.7**	**+3.2**
RMAH	**Rumah**	**9.08**	**232**	P	**Pn**	**14 39 29.6**	**-0.1**
RMAH	**Rumah**	**9.08**	**232**	S	**Sn**	**14 41 05.5**	**-6.3**
SRFHA	**Rafha**	**9.11**	**259**	P	**Pn**	**14 39 30.1**	**+0.1**
SRFHA				S	**Sn**	**14 41 05.2**	**-7.2**
JMDO	**Jabal Madar**	**9.21**	**161**	P	**Pn**	**14 39 33.4**	**+2.0**
	SNR=21						
JMDO				S	**Sn**	**14 41 14.6**	**-0.3**
WBK	**Wadi Bani Khal**	**9.26**	**156**	P	**Pn**	**14 39 32.6**	**+0.4**
	SNR=17						
WBK				S	**Sn**	**14 41 16.5**	**+0.2**
WBK	**Wadi Bani Khal**	**9.26**	**156**	Pn	**Pn**	**14 39 32.2**	**+0.1**
MAHB	**Mahabad**	**9.43**	**309**	Pn	**Pn**	**14 39 37.5**	**+2.9**
GRMI	**Germi**	**9.54**	**325**	ePn	**Pn**	**14 39 38.4**	**+2.4**
GRMI	**Germi**	**9.54**	**325**	Pn	**Pn**	**14 39 39.3**	**+3.4**
IAZR	**Azarshahr**	**9.80**	**314**	Pn	**Pn**	**14 39 44.3**	**+4.7**
JLN	**Jalan Bani Buh**	**9.84**	**154**	P	**Pn**	**14 39 40.1**	**+0.1**
	SNR=17						
ISHB	**Shabestar**	**10.40**	**316**	Pn	**Pn**	**14 39 49.6**	**+1.7**
MHTO	**MHTO**	**10.49**	**164**	P	**Pn**	**14 39 49.9**	**+0.9**
	SNR=26						
MHTO				S	**Sn**	**14 41 44.0**	**-2.5**
MAKU	**Maku**	**11.66**	**317**	ePn	**Pn**	**14 40 09.2**	**+4.1**
MAKU	**Maku**	**11.66**	**317**	Pn	**Pn**	**14 40 08.0**	**+3.0**
VANB	**Van**	**11.98**	**311**	P	**Pn**	**14 40 13.8**	**+4.4**
SIRT	**Sirnak**	**12.05**	**305**		**Pn**	**14 40 11.1**	**+0.8**
GNI	**Garni**	**12.17**	**320**	Pn	**Pn**	**14 40 13.2**	**+1.2**
GNI	**Garni**	**12.17**	**320**	*i* P	**Pn**	**14 40 12.7**	**+0.7**
GNI	**Garni**	**12.17**	**320**	P	Pn	14 40 19.8	+7.8
GNI	**Garni**	**12.17**	**320**	Pn	**Pn**	**14 40 14.5**	**+2.5**
	comp=E,6.7nm,0.5s,baz=154,slow=0.8,SNR=4.5						
KBL	**Kabul**	**12.42**	**70**	P	Pn	14 40 20.6	+5.0
	SNR=30						
DOK	**Doka**	**12.48**	**183**	P	**Pn**	**14 40 16.7**	**+0.4**
	SNR=16						
SHAO	**Shalim**	**13.08**	**177**	*i* P	**Pn**	**14 40 22.4**	**-2.0**
	SNR=42						
MAK	**Makhachkala**	**13.16**	**336**	eP	**Pn**	**14 40 22.2**	**-3.2**
MAK				eS	**Sn**	**14 42 49.2**	**-2.5**
MAK				pmax	pmax		
	comp=Z,204nm,1.7s						
MAK				MLR	MLR		
	comp=Z,949nm,15.0s						
TRLG	**Trialeti**	**13.50**	**323**	P	Pn	14 40 36.0	+5.8
KOPR	**Koprukoy-ERZUR**	**13.76**	**313**	P	**P**	**14 40 39.5**	**-2.9**
CHGR	**Chuyangaron**	**13.94**	**54**	Pn	**Pn**	**14 40 35.7**	**-0.4**
CHGR	**Chuyangaron**	**13.94**	**54**	P	**Pn**	**14 40 35.7**	**-0.4**
GROC	**Groznyy**	**14.02**	**332**	eP	**Pn**	**14 40 36.8**	**-0.3**
GROC				pmax	pmax		
	comp=Z,14nm,0.5s						
THW	**Thamme Wali**	**14.45**	**79**	P	**Pn**	**14 40 44.9**	**+1.7**
ZEI	**Tsey**	**14.53**	**326**	eP	**Pn**	**14 40 47.7**	**+3.4**
ZEI				pmax	pmax		
	comp=Z,37nm,1.4s						
URFA	**Urfa**	**14.65**	**300**	P	**P**	**14 40 54.8**	**+2.7**
CEP	**Cherat**	**14.66**	**75**	P	**Pn**	**14 40 48.3**	**+2.2**
GAR	**Garm**	**14.90**	**54**		**Pn**	**14 40 48.2**	**-1.1**
NCK	**Nalchik**	**15.21**	**327**	*i* P	**Pn**	**14 40 56.9**	**+3.5**
ASF	**Jabal al Asfar**	**15.31**	**279**	P	**Pn**	**14 40 53.0**	**-1.8**
ASF	**Jabal al Asfar**	**15.31**	**279**	Pn	**Pn**	**14 40 53.0**	**-1.8**
	comp=Z,5.1nm,0.3s,baz=102,slow=9.7,SNR=29						
ASF				Sn	**Sn**	**14 43 36.1**	**-8.2**
	comp=Z,0.5nm,0.3s,baz=312,slow=23,SNR=5.7						
	comp=Z,12nm,0.3s						
ARPR	**Arapgir-MALATY**	**15.64**	**305**	P	**Pn**	**14 41 02.1**	**+2.9**
KBZ	**Khabaz**	**15.72**	**326**	Pn	**Pn**	**14 41 01.8**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=162,slow=14,SNR=1.7						
BTK	**Batken**	**15.74**	**51**		**Pn**	**14 40 58.5**	**-1.8**
BTK	**Batken**	**15.74**	**51**	P	**Pn**	**14 40 58.5**	**-1.8**
BTK				pmax	pmax		
	comp=Z,31nm,0.9s						
GAZ	**Gaziantep**	**15.77**	**297**	P	**P**	**14 41 04.8**	**+0.2**
HSUJ	**Al Zarqa**	**15.91**	**278**	P	**Pn**	**14 41 04.5**	**+2.0**
KVAR	**Kislovodsk Arr**	**15.99**	**327**	Pn	**Pn**	**14 41 04.0**	**+0.5**
	baz=131,slow=19						
	comp=Z,2.4nm,0.3s						
KIV	**Kislovodsk**	**15.99**	**327**	||P	**P**	**14 41 07.7**	**+0.7**
KIV	**Kislovodsk**	**15.99**	**327**	Pn	**Pn**	**14 41 04.6**	**+1.0**
KIV	**Kislovodsk**	**15.99**	**327**	eP	**P**	**14 41 07.5**	**+0.4**
KIV				eS	**Sn**	**14 44 07.2**	**+6.5**
KIV				pmax	pmax		

YOZ Yozgat 18.00 303 P P 14 41 31.6 +2.2
KVT Kavak 18.10 308 P P 14 41 31.4 +1.0
KEBE Keben-Mersin 18.32 292 P Pn 14 41 33.2 +0.4
CSS Mathiatis 18.42 288 P P 14 41 34.5 +0.6
CSS Mathiatis 18.42 288 P P 14 41 34.7 +0.8
CSS IAmb IAmb 14 41 38.1
comp=Z,65nm,1.0s
CSS Mathiatis 18.42 288 P Pn 14 41 35.3 +1.4
ABKAR Akbulak array 18.51 11 P P 14 41 34.6 -0.1
ABKAR Akbulak array 18.51 11 P P 14 41 34.2 -0.5
ABKAR IAmb IAmb 14 41 43.4
comp=Z,29nm,1.1s
BERE Bereket-Mersin 18.70 292 P Pn 14 41 38.8 +1.4
SULT Sultanhani-AKS 18.87 298 P Pn 14 41 40.7 +1.2
DIKM Dikmen 18.89 309 ⇑P Pn 14 41 41.8 +2.2
SERE Sereflikochisa 19.05 300 P Pn 14 41 42.6 +0.9
KSH Kashi 19.14 58 P P 14 41 38.8 -3.1
KSH pP Pn 14 41 43.4 +0.7
KSH S Sn 14 45 04.8 -12
KSH pmax pmax
comp=Z,37nm,1.0s
KSH LR LR
comp=Z,960nm,13.1s
KSH LR LR
comp=Z,960nm,11.7s
KSH LR LR
comp=Z,1μm,11.3s
BR131 Keskin Array S 19.25 302 P P 14 41 43.4 +0.3
BR131 pmax pmax
comp=Z,28nm,1.0s
BRTR Keskin Array B 19.25 302 P P 14 41 42.8 -0.2
BRTR Keskin Array B 19.25 302 P P 14 41 44.4 +1.3
comp=Z,0.2nm,0.3s,baz=113,slow=12,SNR=25
comp=Z,8.1nm,0.8s
ANN Anapa 19.29 320 *eP* **P 14 41 44.4 +1.1**
ANN *eS* **Sn 14 45 20.9 +0.5**
ANN pmax pmax
comp=Z,53nm,1.1s
HDMB Hadim 19.39 293 P Pn 14 41 47.1 +1.2
GAZI Gazipasa 19.40 291 P Pn 14 41 46.7 +0.9
AAK Ala-Archa 19.42 48 P P 14 41 45.4 +0.4
AAK Ala-Archa 19.42 48 *ceP* **Pn 14 41 47.4 +1.3**
AAK pmax pmax
comp=Z,39nm,1.3s
AAK Ala-Archa 19.42 48 P Pn 14 41 46.8 +0.6
comp=Z,0.3nm,0.3s,baz=231,slow=12,SNR=11
AAK LR LR 14 50 21.3
comp=Z,1μm,18.6s,baz=253,slow=40
comp=Z,21nm,0.9s
AKTO Aktyubinsk 19.43 6 P P 14 41 46.1 +1.3
comp=Z,1.7nm,0.3s,baz=197,slow=14,SNR=43
AKTO LR LR 14 50 10.1
comp=Z,680nm,21.0s,baz=186,slow=40
comp=Z,21nm,0.6s
KULU Kulu 19.50 300 P Pn 14 41 49.6 +2.6
KONT Konya--Tatoy 19.69 296 P Pn 14 41 51.3 +2.0
LADK Ladik-KONYA 19.75 297 P Pn 14 41 51.9 +1.8
ANTO Ankara 19.91 302 ⇓P Pn 14 41 52.2 +0.3
ANTO Ankara 19.91 302 P P 14 41 51.0 +0.8
ANTO IAmb IAmb 14 41 55.2
comp=Z,51nm,1.1s
ANTO Ankara 19.91 302 P Pn 14 41 52.1 +0.3
SGDS Sogindy 19.92 46 *eP* **P 14 41 51.2 +0.9**
baz=46
SGDS Sogindy 19.92 46 *eP* **P 14 41 51.2 +0.9**
KIZT Kizilcal 20.29 299 P P 14 41 55.3 +0.8
BTLS Baital 20.46 42 *eP* **P 14 41 56.7 +0.6**
baz=42
BTLS Baital 20.46 42 *eP* **P 14 41 56.7 +0.6**
SUTC Sutluce-Ispart 20.65 294 P P 14 41 59.6 +1.2
KURC Kurucasile-Bar 20.67 307 P P 14 41 58.2 -0.2
SVRH Sivrihisar-ESK 20.71 300 P P 14 42 00.8 +1.8
YUVA Yuva-Kibriscik 20.88 303 P P 14 42 01.5 +0.7
KORT Korkueli 21.08 293 P P 14 42 05.9 +2.9
TNSS Tian-Shan 21.20 50 *eP* **P 14 42 05.5 +1.0**
baz=50
TNSS Tian-Shan 21.20 50 *eP* **P 14 42 05.5 +1.0**
KUU Kurty 21.21 47 *eP* **P 14 42 04.7 +0.4**
comp=Z,31nm,0.9s,baz=47
KUU Kurty 21.21 47 *eP* **P 14 42 04.6 +0.4**
KUU pmax pmax
comp=Z,31nm,0.9s
MDUB Mudurnu 21.26 302 P P 14 42 05.9 +1.0
MDUB Mudurnu 21.26 302 P P 14 42 05.0 +0.1
SIM Simferopol' 21.28 316 *eP* **P 14 42 09.1 +4.1**
SIM pmax pmax
comp=Z,46nm,0.9s
MDOK Medeo 21.32 50 *eP* **P 14 42 07.1 +1.5**
baz=49
MDOK Medeo 21.32 50 *eP* **P 14 42 07.1 +1.5**
ELL Elmali 21.39 292 P P 14 42 06.7 +0.3
ELL Elmali 21.39 292 P P 14 42 07.1 +0.7
ELL Elmali 21.39 292 P P 14 42 07.1 +0.7
ELL pmax pmax
comp=Z,439nm,1.0s
SRCK Saricakaya, Es 21.55 301 P P 14 42 08.3 +0.4
CHKK Chushkaly 21.60 48 *eP* **P 14 42 09.6 +1.1**
baz=48
CHKK Chushkaly 21.60 48 *eP* **P 14 42 09.5 +1.1**
BELG Belogornoye 21.89 348 *i P* **P 14 42 11.4 0.0**
BELG pmax pmax
comp=Z,21nm,0.9s
BELG Belogornoye 21.89 348 P P 14 42 11.8 +0.4
comp=Z,100nm,0.8s,baz=220,slow=1.2,SNR=17
comp=Z,100nm,0.8s
CAME Cameli-Denizli 21.90 292 P P 14 42 13.7 +1.8
CAVI Cavuskoy 22.17 301 P P 14 42 16.0 +1.4
ZHN Zhinishke 22.24 51 *eP* **P 14 42 15.4 0.0**
baz=50
ZHN Zhinishke 22.24 51 *eP* **P 14 42 15.4 0.0**
TVSB Tavsanli 22.25 299 P P 14 42 15.8 +0.2
VRH Novokhopyorsk 22.28 338 *eP* **P 14 42 14.6 -1.0**
VRH pmax pmax
comp=Z,90nm,0.9s
ATD Arta Tunnel 22.44 212 P P 14 42 17.9 +0.2
ATD IAmb IAmb 14 42 28.8
comp=Z,87nm,1.2s
ATD Arta Tunnel 22.44 212 P P 14 42 17.2 -0.5
comp=Z,0.9nm,0.7s,baz=2.3,slow=7.3,SNR=6.7
ATD LR LR 14 52 51.6
comp=Z,33nm,19.6s,baz=30,slow=42
HMAD Nubian desert 22.58 245 *i P* **P 14 42 19.2 +0.1**
HMAD *i* 14 42 26.8
baz=348,slow=11
YLV Yalova 22.61 302 P P 14 42 21.2 +1.8
UZB Uzynbulak 22.62 51 *eP* **P 14 42 20.2 +0.6**
baz=51
UZB Uzynbulak 22.62 51 *eP* **P 14 42 20.1 +0.6**
KULA Kula-Manisa 22.66 296 P P 14 42 22.0 +2.1
TURN Turunc 22.72 292 P P 14 42 21.9 +1.4
ARG Arkhangelos 22.76 290 P P 14 42 20.8 -0.1
ARG IAmb IAmb 14 42 23.6
comp=Z,42nm,1.0s
ARG Arkhangelos 22.76 290 P P 14 42 20.8 -0.1
ARG pmax pmax
comp=Z,42nm,1.0s
SHLS Shalkode 22.92 52 *eP* **P 14 42 26.1 +3.5**
comp=Z,40nm,1.4s,baz=52
SHLS Shalkode 22.92 52 *eP* **P 14 42 26.1 +3.5**
SHLS pmax pmax
comp=Z,40nm,1.4s
VORD Divnogorie 22.93 334 *eP* **P 14 42 19.7 -2.8**
VORD pmax pmax
comp=Z,50nm,1.4s
TDK Taldygorghan 23.05 46 *eP* **P 14 42 23.7 -0.2**
comp=Z,18nm,0.6s,baz=46
TDK Taldyqorghan 23.05 46 *eP* **P 14 42 23.6 -0.2**
TDK pmax pmax
comp=Z,18nm,0.6s
BRZS Berezniki 23.09 30 *eP* **P 14 42 24.6 +0.3**
baz=30
BRZS Berezniki 23.09 30 *eP* **P 14 42 24.5 +0.3**
VSR Storozhevoye 23.18 334 *eP* **P 14 42 22.4 -2.6**
VSR pmax pmax
comp=Z,30nm,1.5s
KARP Karpathos 23.50 288 P P 14 42 30.0 +1.5
KARP Karpathos 23.50 288 P P 14 42 28.9 +0.5
KARP Karpathos 23.50 288 P P 14 42 29.4 +0.9
VORR Voronezh 23.53 335 *eP* **P 14 42 26.3 -2.3**
VORR pmax pmax
comp=Z,60nm,0.4s
GCAM G?zelcaml? 23.64 294 P P 14 42 30.6 +0.8
LPSR Galich'ya Gora 24.39 336 *eP* **P 14 42 35.2 -1.5**
LPSR pmax pmax
comp=Z,40nm,0.8s
JURR Jurilovca 24.45 311 ⇓P P 14 42 37.5 +0.2
MFTR Murfatlar 24.51 310 ⇑P P 14 42 39.7 +1.8
BRVK Borovoye 24.62 23 P P 14 42 38.8 0.0
BRVK IAmb IAmb 14 42 44.5
comp=Z,16nm,0.8s
BRVK Borovoye 24.62 23 *ceP* **P 14 42 40.1 +1.3**
BRVK pmax pmax
comp=Z,20nm,0.8s
TIRR Tirgusor 24.62 310 ⇓P P 14 42 39.7 +0.8
TIRR Tirgusor 24.62 310 P P 14 42 38.0 -0.9
TIRR IAmb IAmb 14 42 50.4
comp=Z,82nm,1.4s
TIRR Tirgusor 24.62 310 P P 14 42 38.0 -0.9
TIRR pmax pmax
comp=Z,82nm,1.4s
BVAR Borovoye Array 24.63 23 P P 14 42 39.7 +0.9
comp=Z,24nm,0.7s,baz=214,slow=7.2,SNR=106
BVAR PcP **PcP 14 46 15.7 -0.5**
comp=Z,1.4nm,0.4s,baz=209,slow=2.7,SNR=4.9
BVAR LR LR 14 53 32.7
comp=Z,812nm,20.3s,baz=223,slow=40
comp=Z,24nm,0.7s
PYUN Piuthan 24.64 90 *eP* **P 14 42 39.4 -0.1**
comp=Z,149nm,0.6s
TLCR 24.67 312 ⇓P P 14 42 41.1 +1.8
TLCR 24.67 312 P P 14 42 41.1 +1.8
TPGR Topolog 24.78 311 ⇑P P 14 42 41.0 +0.7
APE Apeiranthos 24.92 292 ⇓P P 14 42 42.8 +1.0
APE Apeiranthos 24.92 292 P P 14 42 42.7 +1.0
SANT Santorini 24.92 290 ⇑P P 14 42 42.4 +0.6
SANT Santorini 24.92 290 P P 14 42 42.1 +0.3
HARR Harsova 25.03 310 ⇓P P 14 42 43.6 +1.0
HARR Harsova 25.03 310 P P 14 42 43.5 +1.0
CFR Carcaliu 25.10 311 ⇑P P 14 42 43.6 +0.4
CFR Carcaliu 25.10 311 P P 14 42 43.5 +0.4
DANN Dangsing 25.24 89 *eP* **P 14 42 45.3 +0.3**
comp=Z,224nm,0.8s
IDI Anoyia 25.34 287 ⇓P P 14 42 46.2 +0.6
ARU Arti 25.42 5 P P 14 42 46.5 +0.5
ARU Arti 25.42 5 *ceP* **P 14 42 47.8 +1.8**
ARU pmax pmax
comp=Z,30nm,1.7s
ARU Arti 25.42 5 LR LR 14 54 01.3
comp=Z,719nm,19.0s,baz=170,slow=39
HYB Hyderabad 25.50 117 *eP* **P 14 42 47.7 +0.6**
HYB *es*P **sP 14 42 53.8 +0.5**
HYB *eS* **S 14 47 15.7 +1.4**
RAZG Razgrad 25.57 307 P P 14 42 48.7 +1.2
JAWL J.Aulia 25.84 237 *i P* **P 14 42 53.2 +3.0**
JAWL *i* 14 42 58.5
baz=287,slow=6.2
SVE Sverdlovsk 26.00 7 *eP* **P 14 42 52.9 +1.7**
SVE pmax pmax
comp=Z,26nm,1.3s
GKN Gorkha 26.07 89 *eP* **P 14 42 52.6 +0.2**
comp=Z,109nm,1.0s
MAKZ Makanchi 26.10 45 P P 14 42 52.0 -0.3
MAKZ IAmb IAmb 14 42 54.8
comp=Z,35nm,0.9s
MAKZ Makanchi 26.10 45 P P 14 42 52.0 -0.3
MAKZ pmax pmax
comp=Z,35nm,0.9s
KURBB Kurchatov Arra 26.26 35 P P 14 42 54.6 +1.0
comp=Z,13nm,0.8s,baz=236,slow=9.7,SNR=37
KURBB LR LR 14 54 47.1
comp=Z,1μm,18.2s,baz=201,slow=40
comp=Z,13nm,0.8s
MK31 Makanchi Array 26.28 46 P P 14 42 54.3 +0.3
MK31 IAmb IAmb 14 42 56.4
comp=Z,23nm,1.0s
MK31 Makanchi Array 26.28 46 ⇑*i P* **P 14 42 54.5 +0.5**
MKAR Makanchi Array 26.28 46 P P 14 42 54.4 +0.5
MKAR Makanchi Array 26.28 46 P P 14 42 55.0 +1.0
comp=Z,14nm,0.8s,baz=224,slow=8.9,SNR=34
MKAR PcP **PcP 14 46 18.8 -1.2**
comp=Z,1.9nm,0.9s,baz=228,slow=3.3,SNR=2.6
comp=Z,14nm,0.8s
VRI Vrincioaia 26.29 312 ⇓P P 14 42 55.8 +1.7
VRI Vrincioaia 26.29 312 P P 14 42 55.7 +1.7
PLOR Plostina 26.33 312 ⇓P P 14 42 55.5 +1.0
PLOR Plostina 26.33 312 P P 14 42 55.4 +1.0
SORM Soroca 26.34 318 ⇓P P 14 42 54.0 -0.5
SORM Soroca 26.34 318 P P 14 42 53.9 -0.5
KURK Kurchatov 26.36 35 P P 14 42 55.2 +0.6
KURK IAmb IAmb 14 42 56.8
comp=Z,28nm,1.1s
KURK Kurchatov 26.36 35 *ceP* **P 14 42 56.0 +1.4**
KURK pmax pmax
comp=Z,37nm,1.3s
NEHR Nehoiu 26.39 311 ⇓P P 14 42 56.7 +1.7
DMN Daman 26.57 90 *eP* **P 14 42 57.3 +0.2**
comp=Z,45nm,0.7s
TESR Tescani 26.61 313 ⇑P P 14 42 58.0 +1.1
MLR Muntele Rosu 26.64 311 ⇑P P 14 42 58.8 +1.5
MLR Muntele Rosu 26.64 311 P P 14 42 58.5 +1.2
MLR Muntele Rosu 26.64 311 P P 14 42 58.5 +1.2
MLR pmax pmax
comp=Z,17nm,0.9s
PKIN Phulchoki 26.83 90 *eP* **P 14 42 59.6 +0.2**
comp=Z,121nm,1.1s
PKI Pulchoki 26.84 90 *eP* **P 14 42 59.7 +0.1**
comp=Z,132nm,1.1s
SEM Semipalatinsk 27.00 37 *eP* **P 14 43 00.3 -0.4**
baz=37
SEM Semipalatinsk 27.00 37 *eP* **P 14 43 00.2 -0.4**
GUN Gumba 27.16 89 *eP* **P 14 43 03.1 +0.7**
comp=Z,86nm,0.9s
DOPR Dopca 27.18 311 ⇓P P 14 43 02.9 +0.8
VOIR 27.21 310 ⇑P P 14 43 03.4 +1.0
VOIR 27.21 310 P P 14 43 03.4 +1.0
OBN Obninsk 27.26 337 *ceP* **P 14 43 03.4 +0.9**
OBN *i* *SP **pP 14 43 08.0 +1.0**
OBN *e* 14 43 13.1
OBN 14 43 48.0
OBN *i* 14 46 21.2
OBN SS SS 14 48 50.0 -46
OBN pmax pmax
comp=Z,73nm,1.7s
AKASG Malin Array Be 27.28 323 P P 14 43 02.5 -0.3
comp=Z,6.2nm,0.7s,baz=130,slow=8.7,SNR=27
AKASG PcP **PcP 14 46 20.7 -1.5**
comp=Z,0.9nm,0.5s,baz=89,slow=2.5,SNR=4.3
comp=Z,6.2nm,0.7s
AKBB Malin Array Si 27.28 323 P P 14 43 01.9 -0.9
AKBB IAmb IAmb 14 43 06.4
comp=Z,22nm,0.9s
AKBB Malin Array Si 27.28 323 *ceP* **P 14 43 02.9 +0.1**
MOS Moscow 27.43 339 *eP* **P 14 43 04.7 +0.6**
MOS *e* 14 43 51.9
MOS *e*SS SS 14 49 02.3 -37
MOS pmax pmax
comp=Z,47nm,1.0s
ARR Arges 27.45 310 ⇓P P 14 43 04.6 +0.1
JIRN Jiri 27.49 89 *eP* **P 14 43 05.9 +0.5**
comp=Z,38nm,0.9s
KIRV Kirov 27.70 354 *ceP* **P 14 43 07.9 +1.5**
KIRV Kirov 27.70 354 LR LR 14 58 06.3
comp=Z,259nm,18.3s,baz=162,slow=45
BURAR Bucovina Array 27.96 315 ⇑P P 14 43 09.6 +0.5
BURAR Bucovina Array 27.96 315 P P 14 43 09.6 +0.5
RAMN Ramite 28.03 90 *eP* **P 14 43 10.3 +0.2**
comp=Z,31nm,0.8s
ZSN Zaisan 28.15 46 *eP* **P 14 43 11.3 +0.6**
baz=46
ZSN Zaisan 28.15 46 *eP* **P 14 43 11.3 +0.6**
FNA Florina 28.59 299 P P 14 43 14.9 +0.1
FNA Florina 28.59 299 P P 14 43 14.9 +0.1
FNA pmax pmax
comp=Z,3.0nm,0.8s
GZR Gura Zlata 28.70 309 ⇓P P 14 43 15.9 +0.2
WMQ Urumqi 28.79 55 *eP* **P 14 43 17.8 +1.2**
WMQ sP sP 14 43 27.1 +4.3
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ LR LR
comp=Z,1μm,15.9s
WMQ LR LR
comp=Z,1μm,12.5s
WMQ LR LR
comp=Z,730nm,21.3s
MARR Marisel-Cluj 28.91 312 ⇓P P 14 43 18.2 +0.7
BOVS Bovan 28.93 305 ⇑P P 14 43 17.8 +0.2
KBN Korca 29.01 299 P P 14 43 18.6 +0.1
KBN IAmb IAmb 14 43 24.7
comp=Z,56nm,1.3s
KBN Korca 29.01 299 P P 14 43 18.6 +0.1
KBN pmax pmax
comp=Z,57nm,1.3s
KOLS Kolonicke sedl 30.30 315 *eP* **P 14 43 31.3 +1.5**
KOLS pmax pmax
comp=Z,33nm,0.8s
KOLS Kolonicke sedl 30.30 315 *eP* **P 14 43 31.3 +1.5**
KWP Kalwaria Pacla 30.33 317 P P 14 43 30.4 +0.3
KWP IAmb IAmb 14 43 31.5
comp=Z,37nm,1.3s
KWP Kalwaria Pacla 30.33 317 P P 14 43 30.4 +0.3
KWP pmax pmax
comp=Z,37nm,1.3s
DGZ Jazzator, Alta 30.64 43 *i P* **P 14 43 33.2 +0.2**
DGZ pmax pmax
comp=Z,20nm,1.6s
NACGM Naroch 31.01 328 *eP* **P 14 43 37.7 +1.8**
comp=E,2μm,0.9s
PRGR Permogore 31.10 351 *eP* **P 14 43 35.6 -1.0**
PRGR pmax pmax
comp=Z,16nm,0.9s
ZAA0 Zalesovo Array 31.35 35 P P 14 43 38.5 -0.4
ZAA0 IAmb IAmb 14 43 40.1
comp=Z,18nm,0.8s
ZALV Zalesovo Beam 31.35 35 P P 14 43 38.9 0.0
ZALV Zalesovo Beam 31.35 35 P P 14 43 39.2 +0.3
comp=Z,16nm,0.8s,baz=240,slow=9.2,SNR=58
ZALV LR LR 14 57 56.4
comp=Z,741nm,19.0s,baz=237,slow=39
comp=Z,16nm,0.8s
KLMR Klimovskoe 31.40 346 *eP* **P 14 43 38.3 -1.0**
KLMR AMP 14 43 42.1
comp=Z,43nm,1.5s
KLMR *e*PP **PnPn 14 44 43.0 +1.1**
KLMR *e*PcP **PcP 14 46 31.1 -1.4**
KLMR Klimovskoe 31.40 346 *eP* **P 14 43 38.3 -1.0**
KLMR *e* 14 44 42.9
KLMR *e* 14 46 31.1
KLMR pmax pmax
comp=Z,43nm,1.5s
VYHS Vyhne 32.26 313 *eP* **P 14 43 47.7 +0.7**
VYHS Vyhne 32.26 313 *eP* **P 14 43 47.7 +0.7**
LODK Lodwar 33.12 218 P P 14 43 55.7 +0.8
VSU Vasula 33.35 333 *i P* **P 14 43 56.4 0.0**
RONA Rosalia, Austr 33.65 311 *eP* **P 14 43 58.9 -0.3**
comp=Z,6.0nm,0.8s
RAFF Raffo Rosso 33.84 291 P P 14 44 01.8 +0.9
BOJS Bojanci 33.84 306 *i P* **P 14 44 00.8 -0.1**
CONA Conrad Observa 33.99 311 *eP* **P 14 44 01.9 -0.4**
comp=Z,7.0nm,1.7s
ARSA Arzberg 34.04 310 *eP* **P 14 44 02.6 0.0**
comp=Z,3.7nm,0.8s
PDKS Podkum 34.13 307 *i P* **P 14 44 03.4 -0.1**
SOKA Soboth 34.23 308 *eP* **P 14 44 04.1 -0.3**
comp=Z,3.9nm,1.1s
INTR Introdacqua 34.32 300 P P 14 44 05.6 +0.5
INTR IAmb IAmb 14 44 07.3
comp=Z,14nm,1.2s
DPC Dobruska-Polom 34.42 315 *eP* **P 14 44 05.7 -0.2**
DPC Dobruska-Polom 34.42 315 *eP* **P 14 44 05.7 -0.2**
CEY Cerknica 34.46 307 *i P* **P 14 44 05.9 -0.4**
OBKA Obir 34.52 308 *eP* **P 14 44 06.4 -0.5**
comp=Z,3.4nm,0.9s
OSTC Ostas 34.55 315 *eP* **P 14 44 06.8 -0.2**
OSTC Ostas 34.55 315 *eP* **P 14 44 06.8 -0.2**
CHVC Chvalec 34.66 315 *eP* **P 14 44 07.8 -0.1**
CHVC Chvalec 34.66 315 *eP* **P 14 44 07.8 -0.1**
TRI Trieste 34.91 306 P P 14 44 08.0 -2.1
TRI IAmb IAmb 14 44 10.6
comp=Z,11nm,0.8s
TRI Trieste 34.91 306 P P 14 44 08.0 -2.1
TRI pmax pmax
comp=Z,11nm,0.9s
NRCA Norcia 34.98 301 P P 14 44 10.6 -0.2
NRCA IAmb IAmb 14 44 15.7
comp=Z,18nm,1.1s
MOA Molln 35.01 310 *eP* **P 14 44 10.7 -0.3**
comp=Z,4.7nm,0.7s
FDMO Fiordimonte 35.02 302 P P 14 44 10.6 -0.6
FDMO IAmb IAmb 14 44 12.1
comp=Z,14nm,1.0s
CKRC Cesky Krumlov 35.22 312 *eP* **P 14 44 14.0 +1.2**
CKRC Cesky Krumlov 35.22 312 *eP* **P 14 44 14.0 +1.2**
CESX Cesi 35.35 301 P P 14 44 13.8 -0.2
CESX IAmb IAmb 14 44 15.1
comp=Z,36nm,1.3s
KBA Koelnbreinsper 35.45 309 *eP* **P 14 44 14.8 -0.2**
comp=Z,10nm,1.0s
ZVC Zvikov 35.46 313 *eP* **P 14 44 14.7 -0.1**
GERES GERESS Array B 35.62 312 P P 14 44 15.6 -0.6
comp=Z,2.6nm,0.3s,baz=107,slow=9.5,SNR=6.9
comp=Z,2.6nm,0.3s
CLUD Cludinico 35.65 308 P P 14 44 15.6 -0.9
FINES FINESS Array B 35.66 337 *i P* **P 14 44 17.2 +0.8**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 35.66 337 P P 14 44 16.5 +0.2
comp=Z,18nm,1.1s,baz=148,slow=9.4,SNR=21
comp=Z,18nm,1.1s
STAL STALIGIAL 35.73 307 P P 14 44 16.1 -1.1
KHC Kasperske Hory 35.77 312 P P 14 44 16.6 -0.9
KHC Kasperske Hory 35.77 312 *i P* **P 14 44 16.9 -0.6**
KHC pmax pmax
comp=Z,20nm,0.9s
KHC Kasperske Hory 35.77 312 *eP* **P 14 44 17.2 -0.3**
ABTA Abfaltersbach 35.95 308 *i P* **P 14 44 18.7 -0.5**
comp=Z,9.8nm,1.0s
KMBO Kilima Mbogo 36.17 211 P P 14 44 18.2 -3.4
comp=Z,3.3nm,0.3s,baz=14,slow=4.2,SNR=8.5
KMBO LR LR 15 00 02.0
comp=Z,553nm,19.2s,baz=75,slow=38
comp=Z,3.3nm,0.3s
HSKC Hora Svate Kat 36.26 315 *eP* **P 14 44 21.2 -0.5**
WTTA Wattenberg 36.63 309 *i P* **P 14 44 24.1 -1.0**
comp=Z,24nm,1.4s,SNR=6.4
WATA Walderalm 36.68 309 *i P* **P 14 44 24.5 -1.0**
comp=Z,14nm,0.8s
CLL Collm 36.72 316 *i P* **P 14 44 25.2 -0.3**
CLL *i* 14 44 29.5
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 36.72 316 *i P* **P 14 44 25.2 -0.3**
comp=Z,7.0nm,0.9s
CLL *i* pP **pP 14 44 29.5 -0.6**
comp=Z,7.0nm,0.7s
CLL *e*PP **PP 14 45 50.0 +0.9**
CLL *e*PPP PPP 14 46 05.0
SQTA Sankt Quirin 36.91 308 *i P* **P 14 44 26.4 -1.0**
comp=Z,11nm,0.6s,SNR=6.7
MOTA Moosalm 37.00 309 *i P* **P 14 44 27.5 -0.7**
comp=Z,13nm,0.9s
FETA Feichten 37.20 308 *i P* **P 14 44 28.9 -1.0**
comp=Z,9.5nm,0.7s,SNR=7.0
RETA Reutte 37.26 309 *eP* **P 14 44 28.9 -1.3**
comp=Z,6.3nm,0.9s
GTA Gaotai 37.32 65 *eP* **P 14 44 31.8 +0.8**
GTA pP sP 14 44 38.1 +0.8
GTA pmax pmax
comp=Z,49nm,1.1s
FUORN Ofenpass-Fuorn 37.45 307 P P 14 44 31.7 -0.5
DAVA Damuels 37.81 308 *i P* **P 14 44 34.1 -1.0**
comp=Z,14nm,0.7s,SNR=5.1
MND Mandalay 37.84 94 P P 14 44 35.2 -0.2
KEST Kesra 37.98 289 P P 14 44 37.7 +1.2
KEST IAmb IAmb 14 44 39.8
comp=Z,30nm,1.1s
KEST Kesra 37.98 289 P P 14 44 36.7 +0.2
comp=Z,21nm,1.1s,baz=39,slow=3.8,SNR=13
comp=Z,21nm,1.1s
TUE Stuetta 38.06 307 P P 14 44 36.6 -0.6
APA Apatity 38.60 347 ⇓*i P* P 14 44 32.7 -8.6
APA pmax pmax
comp=Z,19nm,0.9s
APA MLR MLR
comp=Z,1μm,17.0s
MBAR Mbarara 38.98 220 P P 14 44 45.0 -0.2
MBAR Mbarara 38.98 220 P P 14 44 45.0 -0.2
MBAR pmax pmax
comp=Z,15nm,1.2s
MBAR Mbarara 38.98 220 LR LR 15 01 38.3
comp=Z,476nm,18.8s,baz=16,slow=38
MOY Mondy 39.42 45 *eP* **P 14 44 50.0 +1.5**
MOY pmax pmax

comp=Z,18nm,1.0s
ECH Echery 39.77 309 P P 14 44 50.0 -1.3
ECH Echery 39.77 309 P P 14 44 50.0 -1.3
ECH pmax pmax
comp=Z,6.0nm,0.8s
HFS Hagfors 39.77 329 P P 14 44 51.3 +0.2
comp=Z,7.1nm,0.6s,baz=133,slow=10,SNR=20
HFS LR LR 15 05 14.9
comp=Z,235nm,18.2s,baz=99,slow=42
comp=Z,7.1nm,0.6s
BNI Bardonecchia 39.79 304 P P 14 44 50.3 -1.4
BNI IAmb IAmb 14 44 51.9
comp=Z,36nm,0.8s
BNI Bardonecchia 39.79 304 P P 14 44 50.3 -1.4
BNI pmax pmax
comp=Z,36nm,0.8s
ZAK Zakamensk 40.59 47 *e*P P 14 44 58.7 +0.5
ZAK pmax pmax
comp=Z,6.0nm,1.0s
WLF Walferdange 40.62 311 *d*P P 14 44 57.7 -0.7
LZH Lanzhou 40.77 69 *e*P P 14 45 01.5 +1.5
LZH sP sP 14 45 08.0 +1.7
LZH pmax pmax
comp=Z,39nm,1.0s
LZH LR LR
comp=Z,690nm,14.4s
LZH LR LR
comp=Z,660nm,14.8s
LZH LR LR
comp=Z,930nm,15.8s
BTNL Ternell 40.78 313 *d*P P 14 45 00.2 +0.5
MEM Membach 40.87 313 *d*P P 14 45 01.2 +0.9
NC405 NORSAR Array S 41.09 330 P P 14 45 01.8 -0.3
NC405 IAmb IAmb 14 45 31.4
comp=Z,38nm,1.4s
PZH PanZhiHua 41.12 84 P P 14 45 03.4 +0.5
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.3s
NB2 NORSAR Subarra 41.27 329 P P 14 45 02.9 -0.7
comp=Z,6.4nm,0.8s,baz=117,slow=7.9
NB2 NORSAR Subarra 41.27 329 P P 14 45 02.9 -0.7
baz=117,slow=7.9
NOA NORSAR Array B 41.27 329 P P 14 45 03.1 -0.5
comp=Z,4.2nm,0.8s,baz=116,slow=8.0,SNR=12
comp=Z,4.2nm,0.8s
BCLA Clavier 41.28 312 *d*P P 14 45 04.0 +0.2
BCLA *d*PP **PP 14 46 38.9 0.0**
comp=Z,9.4nm,1.0s
RCHB Rochefort 41.29 312 *d*P P 14 45 05.1 +1.3
BGES Gesves 41.41 312 *d*P P 14 45 04.5 -0.4
comp=Z,7.7nm,0.8s
CHTO Chiang Mai 41.57 96 P P 14 45 06.2 -0.4
CHTO pmax pmax
comp=Z,70nm,0.9s
BMRD Maredsous 41.60 312 *d*P P 14 45 07.2 +0.8
comp=Z,7.8nm,1.4s
DOU Dourbes 41.68 312 *d*P P 14 45 07.7 +0.7
comp=Z,7.1nm,1.0s
CM31 Chiang Mai Arr 41.73 97 P P 14 45 07.5 -0.3
CM31 IAmb IAmb 14 45 08.9
comp=Z,34nm,0.9s
CMAR Chiang Mai Arr 41.73 97 P P 14 45 07.1 -0.7
CMAR Chiang Mai Arr 41.73 97 P P 14 45 07.1 -0.7
CMAR Chiang Mai Arr 41.73 97 P P 14 45 07.8 -0.1
comp=Z,20nm,0.8s,baz=291,slow=8.4,SNR=96
CMAR LR LR 15 04 33.9
comp=Z,154nm,20.6s,baz=285,slow=39
comp=Z,20nm,0.8s
ARA0 ARCESS Array S 41.88 345 *e*P P 14 45 09.5 +1.1
ARCES ARCESS Array B 41.88 345 P P 14 45 09.4 +1.0
comp=Z,7.9nm,0.8s,baz=157,slow=6.5,SNR=12
ARCES LR LR 15 03 57.2
comp=Z,234nm,19.5s,baz=145,slow=38
comp=Z,7.9nm,0.8s
KTK1 Kautokeino 42.00 344 *e*P P 14 45 09.8 +0.3
CRAI Chiangrai 42.20 94 P P 14 45 11.3 -0.3
CRAI IAmb IAmb 14 45 12.8
comp=Z,28nm,0.7s
SONM Songino Array 42.32 52 P P 14 45 12.9 +0.4
SONM Songino Array 42.32 52 P P 14 45 12.9 +0.4
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 42.32 52 P P 14 45 13.3 +0.8
comp=Z,3.6nm,0.8s,baz=266,slow=10,SNR=20
comp=Z,3.6nm,0.8s
KMI Kunming 42.41 86 ⇓P P 14 45 14.3 +0.7
KMI pP pP 14 45 16.9 -1.2
KMI pmax pmax
comp=Z,51nm,1.4s
ULN Ulaanbaatar 42.77 52 P P 14 45 16.6 +0.5
ULN Ulaanbaatar 42.77 52*ce*P P 14 45 16.9 +0.8
ULN pmax pmax
comp=Z,10.0nm,0.8s
JETT Jettan, Norway 43.09 343 *e*P P 14 45 18.6 +0.3
FAUS Fauske 43.09 339 *e*P P 14 45 18.9 +0.7
HAMF Hammerfest 43.13 345 *e*P P 14 45 19.8 +1.2
TRO Tromso 43.52 343 *e*P P 14 45 22.6 +0.9
SRDT SRDT 43.81 102 P P 14 45 25.5 +0.8
TAM Tamanrasset 44.43 272 P P 14 45 30.4 +0.6
TAM Tamanrasset 44.43 272 P P 14 45 30.5 +0.6
TAM pmax pmax
comp=Z,8.0nm,1.1s
SLVN Son La 44.78 90 P P 14 45 32.4 -0.2
SLVN IAmb IAmb 14 45 34.3
comp=Z,35nm,1.3s
BTO Baotou 45.07 62 *e*P P 14 45 35.1 +0.4
BTO pP **pP 14 45 39.9 +0.7**
BTO sP **sP 14 45 42.1 +1.1**
BTO PP **PP 14 47 20.6 +0.7**
BTO pmax pmax
comp=Z,160nm,0.9s
BTO pmax pmax
comp=Z,2μm,13.8s
XAN Xi'an 45.23 71 ⇓P P 14 45 36.3 +0.4
XAN pP sP 14 45 42.8 +0.6
XAN pmax pmax
comp=Z,45nm,1.2s
GYA Guiyang 45.33 82 ⇑P P 14 45 37.3 +0.4
GYA pmax pmax
comp=Z,10.0nm,1.3s
NONG Nongkai 45.49 95 P P 14 45 38.5 +0.4
NAYO Nakonayok 45.68 101 P P 14 45 40.5 +0.9
HHC Hu-ho-hao-te 46.20 61 *e*P P 14 45 45.0 +1.3
HHC pmax pmax
comp=Z,48nm,0.8s
EKA Eskdalemuir Ar 47.00 319 P P 14 45 49.1 -0.5
comp=Z,3.2nm,0.7s,baz=106,slow=8.0,SNR=8.5
comp=Z,3.2nm,0.7s
TIY Taiyuan 47.33 66 ⇓P P 14 45 53.5 +1.0
ESBB Sonseca Array 47.93 297 P P 14 45 56.3 -0.7
ESDC Sonseca Array 47.93 297 P P 14 45 56.2 -0.8
ESDC IAmb IAmb 14 45 58.0
comp=Z,23nm,1.4s
ESDC Sonseca Array 47.93 297 P P 14 45 56.9 -0.2
comp=Z,7.1nm,1.0s,baz=67,slow=7.0,SNR=36
comp=Z,7.1nm,1.0s
BOD Bodaibo 47.95 38 *e*P P 14 45 56.8 -0.1
BOD pmax pmax
comp=Z,26nm,1.0s
LYN LuoYang 47.98 70 ⇓*i*P P 14 45 58.9 +1.4
LYN pmax pmax
comp=Z,99nm,1.0s
LYN LR LR
comp=Z,1μm,18.2s
LYN LR LR
comp=Z,890nm,20.3s
LYN LR LR
comp=Z,1μm,16.1s
PAB San Pablo 48.24 297 P P 14 45 59.2 -0.4
PAB San Pablo 48.24 297 P P 14 45 59.2 -0.4
PAB pmax pmax
comp=Z,46nm,1.4s
HNS HongShan 49.16 66 ⇓P P 14 46 07.6 +1.1
HNS pmax pmax
comp=Z,27nm,1.0s
XLT XiLinHaoTe 49.18 57 *e*P P 14 46 07.9 +1.2
XLT pP sP 14 46 13.4 +0.4
XLT sP pP 14 46 15.5 +4.2
XLT pmax pmax
comp=Z,26nm,1.0s
PBRG Braganca 49.69 300 *e*P P 14 46 10.9 +0.3
BJI Beijing 49.80 62 P P 14 46 12.1 +0.7
BJI pmax pmax
comp=Z,13nm,0.7s
BJI LR LR
comp=Z,220nm,13.6s
BJI LR LR
comp=Z,200nm,15.0s
BJI LR LR
comp=Z,320nm,17.6s
MVO Moncorvo 50.01 300 *e*P P 14 46 13.7 +0.7
comp=Z,33nm,1.7s
SPITS Spitsbergen Ar 50.06 350 P P 14 46 13.7 +0.8
comp=Z,8.8nm,0.8s,baz=129,slow=13,SNR=5.3
SPITS LR LR 15 12 00.5
comp=Z,242nm,19.2s,baz=114,slow=42
comp=Z,8.8nm,0.8s
PVRL Vila Real 50.50 300 *e*P P 14 46 17.2 +0.5
comp=Z,51nm,1.6s
MTE Manteigas 50.52 299 *e*P P 14 46 17.5 +0.6
comp=Z,66nm,1.7s
POLO Lamas de Olo 50.54 300 *e*P P 14 46 17.5 +0.4
comp=Z,26nm,1.6s
WHN Wuhan 50.55 74 P P 14 46 18.0 +0.9
PBAR Barrancos 50.56 296 *e*P P 14 46 17.2 +0.1
comp=Z,84nm,1.6s
PCBR Castelo Branco 50.57 298 *e*P P 14 46 17.5 +0.3
comp=Z,102nm,1.6s
PMRV Marv??o 50.58 297 *e*P P 14 46 17.7 +0.4
comp=Z,43nm,1.6s
PVIS Viseu 50.73 299 *e*P P 14 46 19.2 +0.7
PGAV Gavieira, Arco 50.80 301 *e*P P 14 46 19.7 +0.7
comp=Z,68nm,1.8s
PESTR Estremoz 50.84 297 *e*P P 14 46 19.7 +0.4
comp=Z,31nm,1.2s
PESTR Estremoz 50.84 297 P P 14 46 18.4 -0.9
PESTR IAmb IAmb 14 46 20.1
comp=Z,30nm,1.2s
COI Coimbra 51.21 299 *e*P P 14 46 22.7 +0.7
comp=Z,55nm,1.6s
KBS Kingsbay 51.22 350*ce*P P 14 46 21.9 +0.3
KBS pmax pmax
comp=Z,26nm,1.3s
KBS Kingsbay 51.22 350 *e*P P 14 46 21.8 +0.3
PBEJ Beja 51.23 296 *e*P P 14 46 22.8 +0.6
comp=Z,71nm,1.5s
PVAQ Vaqueiros 51.24 295 *e*P P 14 46 22.8 +0.5
comp=Z,59nm,1.6s
PMTG Montargil 51.29 297 *e*P P 14 46 23.1 +0.5
comp=Z,46nm,1.8s
TIA Tai'an 51.31 67 ⇑P P 14 46 23.5 +0.6
TIA pmax pmax
comp=Z,60nm,0.6s
PCVE Castro Verde 51.45 295 *e*P P 14 46 24.4 +0.6
comp=Z,48nm,1.4s
PSBE So Bento 51.63 298 *e*P P 14 46 26.2 +1.0
comp=Z,79nm,1.7s
PNCL Nicolau / Gran 51.72 296 *e*P P 14 46 26.3 +0.5
comp=Z,56nm,1.5s
TOA0 Torodi Ar. Sit 51.88 262 P P 14 46 26.8 -0.5
TOA0 IAmb IAmb 14 46 28.0
comp=Z,26nm,0.9s
TORD Torodi Ar. Bea 51.88 262 P P 14 46 26.2 -1.1
TORD IAmb IAmb 14 46 28.1
comp=Z,22nm,1.0s
TORD Torodi Ar. Bea 51.88 262 P P 14 46 27.1 -0.2
comp=Z,18nm,0.9s,baz=54,slow=8.6,SNR=99
comp=Z,18nm,0.9s
PFVI Vila Bisbo 52.17 295 *e*P P 14 46 30.0 +0.8
JMIC Jan Mayen 52.25 338 LR LR 15 09 31.0
comp=Z,139nm,18.7s,baz=90,slow=37
LSZ Lusaka 52.77 213 LR LR 15 09 35.0
comp=Z,436nm,19.6s,baz=47,slow=37
VOI Vohitsoka 53.30 189 P P 14 46 38.1 +0.4
VOI Vohitsoka 53.30 189 P P 14 46 41.1 +3.4
NJ2 Nanjing 53.79 71 ⇓P P 14 46 42.0 +0.7
NJ2 pP **pP 14 46 44.3 -1.6**
NJ2 pmax pmax
comp=Z,26nm,0.6s
NJ2 pmax pmax
comp=Z,590nm,4.5s
SDSI Sungai Dareh 54.49 117 P P 14 46 44.5 -2.0
ZEA Zeya 55.41 43 *e*P P 14 46 53.3 +0.7
ZEA pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 55.75 22 P P 14 46 54.0 -0.9
TIXI IAmb IAmb 14 46 57.4
comp=Z,12nm,1.1s
TIXI Tiksi 55.75 22*ce*P P 14 46 54.8 -0.1
TIXI pmax pmax
comp=Z,20nm,1.7s
CN2 Changchun 55.88 56 *e*P P 14 46 56.3 +0.1
CN2 pmax pmax
comp=Z,20nm,1.0s
YAK Yakutsk 55.98 33*ce*P P 14 46 56.3 -0.3
YAK pmax pmax
comp=Z,13nm,0.8s
HEH HeiHe 55.99 48 *e*P P 14 46 56.6 -0.3
HEH pmax pmax
comp=Z,23nm,1.2s
KOWA Kowa 56.11 267 P P 14 46 58.4 +0.1
DAG Danmarks Havn 56.16 345 *i*P P 14 46 57.0 -0.7
DAG IAmb IAmb 14 47 01.6
comp=Z,5.0nm,0.8s
DBG Daneborg 56.27 342 *i*P P 14 46 59.4 +0.9
DBG IAmb IAmb 14 47 01.1
comp=Z,4.8nm,0.9s
BORG Borgarnes 56.44 330 LR LR 15 13 06.8
comp=Z,229nm,18.5s,baz=134,slow=38
NOR Nord 56.71 350 *i*P P 14 47 00.9 -0.6
NOR IAmb IAmb 14 47 03.7
comp=Z,5.3nm,0.8s
BNX BinXian 56.83 53 ⇓P P 14 47 03.1 +0.1
BNX pmax pmax
comp=Z,24nm,1.1s
MDJ Mudanjiang 58.59 54 P P 14 47 17.0 +1.6
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,820nm,10.7s
KLR Kul'dur 58.95 48 *i*P P 14 47 17.2 -0.6
KLR pmax pmax
comp=Z,17nm,1.3s
KLR Kul'dur 58.95 48 LR LR 15 15 00.1
comp=Z,636nm,18.4s,baz=298,slow=38
KSAR Wonju Array Be 59.31 62 P P 14 47 19.6 -0.9
KSAR Wonju Array Be 59.31 62 P P 14 47 19.6 -0.9
KSRS Korea Array 59.33 62 P P 14 47 19.7 -0.9
comp=Z,20nm,0.8s,baz=280,slow=6.7,SNR=59
KSRS LR LR 15 15 02.7
comp=Z,236nm,19.1s,baz=350,slow=38
comp=Z,20nm,0.8s
PMAR Madeira 59.79 292 *e*P P 14 47 25.3 +1.2
USRK Ussuriysk Ar. 60.36 54 P P 14 47 25.4 -2.1
USRK Ussuriysk Ar. 60.36 54 P P 14 47 26.7 -0.9
comp=Z,5.7nm,0.7s,baz=264,slow=6.1,SNR=7.7
comp=Z,5.7nm,0.7s
DBIC Dimbokro 60.71 259 P P 14 47 29.7 -0.7
DBIC Dimbokro 60.71 259 P P 14 47 29.7 -0.7
DBIC pmax pmax
comp=Z,36nm,0.9s
DBIC Dimbokro 60.71 259 P P 14 47 30.2 -0.1
comp=Z,31nm,0.8s,baz=48,slow=6.2,SNR=29
DBIC LR LR 15 15 15.5
comp=Z,227nm,18.9s,baz=33,slow=38
comp=Z,31nm,0.8s
KIC Kosan Boka 60.77 259⇑*e*P P 14 47 30.7 -0.2
comp=Z,81nm,0.8s
TIC Toumodi 60.86 260⇑*e*P P 14 47 31.1 -0.3
comp=Z,31nm,0.8s
LIC Lamto 61.09 259⇑*e*P P 14 47 32.8 -0.2
comp=Z,125nm,0.8s
SUMG Summit 61.59 340 P P 14 47 36.8 +0.8
SUMG Summit 61.59 340 P P 14 47 36.8 +0.8
SUMG pmax pmax
comp=Z,36nm,0.9s
SUMG Summit 61.59 340 *i*P P 14 47 36.1 +0.1
SUMG IAmb IAmb 14 47 40.7
comp=Z,22nm,0.8s
BOSA Boshof 65.76 208 P P 14 48 03.2 -0.5
comp=Z,4.1nm,0.8s,baz=9.8,slow=5.8,SNR=2.5
BOSA LR LR 15 16 07.7
comp=Z,411nm,19.2s,baz=61,slow=36
comp=Z,4.1nm,0.8s
SEY Seymchan 66.05 30 *i*P P 14 48 05.6 +0.6
SEY pmax pmax
comp=Z,18nm,0.9s
SEY Seymchan 66.05 30 LR LR 15 20 24.8
comp=Z,578nm,18.3s,baz=284,slow=39
YSS Yuzh-Sakhalins 66.66 48 P P 14 48 08.4 -0.8
YSS Yuzh-Sakhalins 66.66 48 P P 14 48 08.8 -0.4
YSS Yuzh-Sakhalins 66.66 48*ce*P P 14 48 09.5 +0.3
YSS pmax pmax
comp=Z,59nm,1.7s
INU Inuyama 66.94 62 P P 14 48 10.8 -0.4
EUNU Eureka 67.02 353 P P 14 48 11.5 +0.4
ASAJ Asahikawa 67.60 51 LR LR 15 19 33.4
comp=Z,433nm,18.9s,baz=310,slow=38
SUR Sutherland 70.91 210 LR LR 15 20 21.1
comp=Z,254nm,19.8s,baz=3.5,slow=36
PETK Petropavlovsk- 72.82 38 LR LR 15 23 31.2
comp=Z,285nm,18.2s,baz=309,slow=38
A22K Sinclair Lake 75.97 10 P P 14 49 05.1 +0.1
baz=334
B18K Kokolik River 76.28 13 P P 14 49 07.4 +0.6
baz=328
B20K Meade River 76.52 11 P P 14 49 08.0 -0.2
baz=332
C17K DeLong Mountai 76.77 14 P P 14 49 09.4 -0.3
baz=327
C18K Utukok River 77.01 13 P P 14 49 09.8 -1.2
baz=329
B21K Ikpikpuk River 77.27 10 P P 14 49 12.5 +0.1
baz=334
D17K Noatak River 77.44 14 P P 14 49 13.1 -0.3
baz=327
BATI Baumata 77.63 110 LR LR 15 28 38.5
comp=Z,135nm,18.8s,baz=236,slow=40
C23K Itkillik River 77.64 9 P P 14 49 15.0 +0.5
baz=338
C21K Knifeblade Rid 77.66 10 P P 14 49 15.0 +0.3
baz=334
D19K Kuna River 77.70 12 P P 14 49 14.6 -0.4
baz=332
D20K Etivluk River 77.77 11 P P 14 49 14.9 -0.4
baz=333
E18K Tukpahlearik C 78.18 13 P P 14 49 16.9 -0.7
baz=330
E17K Hotham Inlet 78.23 14 P P 14 49 17.1 -0.7
baz=328
D22K Ayikyak River 78.23 10 P P 14 49 17.2 -0.7
baz=336
E20K Nigu River 78.25 11 P P 14 49 17.9 -0.1
baz=333
D23K Nanushuk River 78.44 9 P P 14 49 18.8 -0.2
baz=338
E21K Killik River 78.44 10 P P 14 49 18.3 -0.7
baz=335
D24K Happy Valley 78.50 8 P P 14 49 18.7 -0.7
baz=339
E19K Redstone River 78.78 12 P P 14 49 20.2 -0.7
baz=332
TOLK Toolik Lake Re 78.89 9 P P 14 49 21.3 -0.2
baz=339
E22K Anaktuvuk Pass 79.05 10 P P 14 49 22.2 -0.2
E22K Anaktuvuk Pass 79.05 10 P P 14 49 21.1 -1.3
baz=337
F19K Shaleruckik Mo 79.24 13 P P 14 49 22.3 -1.0
baz=332
D27M Malcolm River 79.25 6 P P 14 49 23.4 -0.1
baz=346
F20K Avaraart Lake 79.41 12 P P 14 49 23.5 -0.8
baz=334
E23K Chandalar 79.43 9 P P 14 49 24.7 +0.2
baz=339
G16K Koyuk River 79.56 15 P P 14 49 25.6 +0.5
baz=329
E24K Your Creek 79.56 9 P P 14 49 25.0 -0.3
baz=340
F22K John River 79.57 10 P P 14 49 25.2 -0.1
baz=337
F21K Alatna River 79.63 11 P P 14 49 25.5 -0.1
F21K Alatna River 79.63 11 P P 14 49 25.2 -0.4
baz=336
C36M Paulatuk 79.81 360 P P 14 49 25.5 -1.0
baz=0.9
G17K Kiwalik Mounta 79.83 14 P P 14 49 25.9 -0.7
baz=330
E25K Arctic Village 79.88 8 P P 14 49 26.4 -0.5
E25K IAmb IAmb 14 49 28.2
comp=Z,18nm,1.1s
E25K Arctic Village 79.88 8 P P 14 49 26.6 -0.2
baz=342
G18K Tagagawik 79.90 13 P P 14 49 26.1 -0.9
baz=331
G19K Purcell Mounta 79.98 13 P P 14 49 26.7 -0.7
baz=333
E28M Babbage River 79.99 5 P P 14 49 27.4 0.0
baz=348
COLD Coldfoot 80.12 10 P P 14 49 28.2 0.0
baz=338
F24K Squaw Lake 80.17 9 P P 14 49 28.2 -0.3
baz=340
G22K Bettles 80.22 10 P P 14 49 28.8 +0.1
baz=337
E27K Coleen River 80.22 6 P P 14 49 28.7 -0.1
baz=346
G21K Allakaket 80.27 11 P P 14 49 28.1 -0.9
baz=336
E29M Blow River 80.32 5 P P 14 49 28.7 -0.5
baz=349
F25K Christian Rive 80.37 8 P P 14 49 30.1 +0.5
baz=342
F26K Sheenjek River 80.44 7 P P 14 49 30.0 +0.1
baz=344
H17K Granite Mounta 80.48 14 P P 14 49 29.9 -0.2
baz=330
H18K Honhosa River 80.61 14 P P 14 49 30.1 -0.8
baz=332
G23K Bananza Creek 80.63 10 P P 14 49 31.4 +0.4
baz=339
H19K Roundabout Mou 80.65 13 P P 14 49 31.1 +0.1
baz=333
BMAR Burnt Mountain 80.65 7 P P 14 49 31.6 +0.5
INK Inuvik 80.66 3 P P 14 49 30.7 -0.3
baz=353
INK Inuvik 80.66 3 LR LR 15 29 42.8
comp=Z,91nm,18.4s,baz=352,slow=39
SCHQ Schefferville 80.84 330 P P 14 49 31.7 -0.6
comp=Z,7.8nm,0.6s,baz=16,slow=5.5,SNR=9.8
comp=Z,7.8nm,0.6s
F28M Old Crow 80.93 6 P P 14 49 32.5 -0.1
baz=347
H20K Anotleneega Mo 80.97 12 P P 14 49 32.5 -0.3
baz=334
G24K Hadweenzic Riv 81.00 9 P P 14 49 33.3 +0.4
baz=341
G25K Bearman Lake 81.11 8 P P 14 49 33.4 0.0
baz=342
SHEM Shemya Is, Ala 81.17 32 LR LR 15 28 18.7
comp=Z,187nm,18.3s,baz=258,slow=38
H21K Melozitna Rive 81.18 11 P P 14 49 33.8 -0.1
baz=336
H22K Ishtalitna Cre 81.19 11 P P 14 49 33.9 -0.1
baz=338
G26K Porcupine Rive 81.20 7 P P 14 49 33.9 0.0
baz=344
F30M Barrier River 81.23 4 P P 14 49 33.7 -0.4
baz=351
GCSA Galena City Sc 81.27 13 P P 14 49 33.6 -0.7
baz=333
F31M Tsiigehtchic 81.52 3 P P 14 49 35.1 -0.5
baz=353
J14K Nanvaranak Lak 81.52 17 P P 14 49 35.0 -0.7
baz=327
H23K Yukon River 81.53 10 P P 14 49 35.7 -0.1
baz=339
G27K Doyon Strip 81.56 7 P P 14 49 36.0 0.0
baz=346
I21K Tanana 81.75 11 P P 14 49 36.8 -0.1
baz=337
H24K Noodor Dome 81.76 9 P P 14 49 36.5 -0.5
baz=340
J16K Anvik River 81.77 15 P P 14 49 36.8 -0.3
baz=330
G30M tAoh Zraii Nji 81.83 4 P P 14 49 36.2 -1.1
baz=350
G31M Satah River 82.00 4 P P 14 49 37.8 -0.4
baz=352
MLY Manley 82.09 11 P P 14 49 37.8 -1.0
baz=338
H27K Steamboat Moun 82.13 7 P P 14 49 38.8 -0.2
baz=346
J19K Poorman 82.19 13 P P 14 49 38.4 -0.8
baz=334
I23K Minto, Yukon-K 82.20 10 P P 14 49 39.0 -0.2
baz=339
J20K Nowinta River 82.30 12 P P 14 49 39.5 -0.3
baz=335

PRP	Porcupine Dome	82.37	8	P	P	14 49 40.1	-0.3
	baz=342						
EPYK	Eagle Plains	82.40	5	P	P	14 49 39.6	-0.8
	baz=350						
K15K	Wolf Creek Mou	82.41	16	P	P	14 49 40.0	-0.4
	baz=329						
H29M	Whitestone	82.43	5	P	P	14 49 39.9	-0.6
	baz=349						
J18K	Innoko River	82.44	14	P	P	14 49 39.8	-0.8
	baz=333						
POKR	Poker Plat Res	82.50	9	P	P	14 49 39.8	-1.1
	baz=341						
I27K	Kandik River	82.73	7	P	P	14 49 41.1	-1.0
	baz=346						
NEA2	Nenana	82.76	10	P	P	14 49 41.7	-0.5
NEA2				IAmb	IAmb	14 49 44.4	
	comp=Z,7.2nm,1.1s						
NEA2	Nenana	82.76	10	P	P	14 49 41.6	-0.6
	baz=340						
K17K	Iditarod	82.78	15	P	P	14 49 41.7	-0.6
	baz=332						
I26K	Coal Creek Min	82.86	8	P	P	14 49 41.6	-1.1
	baz=344						
CHUM	Lake Minchumin	82.89	12	P	P	14 49 42.5	-0.4
	baz=337						
ILAR	Eielson Array	82.91	9	P	P	14 49 42.2	-0.7
	comp=Z,2.1nm,0.7s,baz=326,slow=4.6,SNR=31						
	comp=Z,2.1nm,0.7s						
BPAW	Bear Paw Mtn.	82.92	11	P	P	14 49 43.1	0.0
BPAW				IAmb	IAmb	14 49 44.4	
	comp=Z,19nm,1.1s						
BPAW	Bear Paw Mtn.	82.92	11	P	P	14 49 42.8	-0.3
	baz=338						
L14K	Kuka Creek	82.94	17	P	P	14 49 42.2	-0.9
	baz=328						
I28M	Miner Creek	83.05	6	P	P	14 49 43.1	-0.7
	baz=347						
K20K	Telida	83.06	13	P	P	14 49 43.5	-0.3
	baz=335						
TTA	Tatalina	83.07	14	P	P	14 49 43.4	-0.6
	baz=334						
H31M	Peel River	83.11	4	P	P	14 49 42.9	-1.1
	baz=352						
HDA	Harding Lake	83.24	9	P	P	14 49 43.4	-1.3
	baz=341						
J25K	Salcha River,	83.26	9	P	P	14 49 44.0	-0.9
	baz=343						
I29M	Ogilvie Camp,	83.28	6	P	P	14 49 44.5	-0.4
I29M				IAmb	IAmb	14 49 44.9	
	comp=Z,7.6nm,1.0s						
I29M	Ogilvie Camp,	83.28	6	P	P	14 49 43.6	-1.3
	baz=349						
L17K	Donlin	83.29	15	P	P	14 49 44.2	-0.8
	baz=332						
CAST	Castle Rocks	83.36	12	P	P	14 49 45.4	0.0
CAST	Castle Rocks	83.36	12	P	P	14 49 44.6	-0.8
	baz=337						
L16K	Owhat River	83.40	16	P	P	14 49 45.8	+0.3
L16K				IAmb	IAmb	14 49 47.0	
	comp=Z,10nm,0.8s						
L16K	Owhat River	83.40	16	P	P	14 49 45.6	+0.1
	baz=331						
I30M	Mount Dempster	83.56	5	P	P	14 49 45.1	-1.4
	baz=350						
J26L	Joseph Creek	83.59	8	P	P	14 49 46.2	-0.4
	baz=344						
MCK	McKinley	83.59	10	P	P	14 49 46.2	-0.3
	baz=340						
TRF	Thorofare Moun	83.64	11	P	P	14 49 46.6	-0.3
	baz=338						
PPLA	Purkeypile	83.83	12	P	P	14 49 47.4	-0.5
	baz=337						
L20K	Farewell, AK	83.90	13	P	P	14 49 47.8	-0.4
	baz=336						
L19K	White Mountain	83.98	14	P	P	14 49 47.9	-0.7
	baz=335						
K24K	Donnelly Dome	83.98	9	P	P	14 49 47.7	-0.9
	baz=342						
M15K	Kasigluk River	84.00	17	P	P	14 49 48.5	-0.1
	baz=330						
SCRK	Sand Creek	84.05	8	P	P	14 49 48.7	-0.3
SCRK				IAmb	IAmb	14 49 50.2	
	comp=Z,14nm,1.0s						
SCRK	Sand Creek	84.05	8	P	P	14 49 48.4	-0.6
	baz=344						
M16K	Timber Creek	84.12	16	P	P	14 49 49.6	+0.3
	baz=331						
M17K	Holitna River	84.13	15	P	P	14 49 49.8	+0.5
	baz=333						
RIDG	Independent Ri	84.17	9	P	P	14 49 49.3	-0.2
	baz=343						
J30M	Hart River	84.20	5	P	P	14 49 49.8	0.0
	baz=350						
K27K	Chicken	84.22	7	P	P	14 49 49.5	-0.2
K27K				IAmb	IAmb	14 49 51.1	
	comp=Z,11nm,1.1s						
K27K	Chicken	84.22	7	P	P	14 49 50.1	+0.4
	baz=346						
M19K	Big River Lodg	84.32	13	P	P	14 49 50.1	-0.2
	baz=335						
M18K	Stony River	84.40	14	P	P	14 49 49.9	-0.8
	baz=334						
DHY	Denali Highway	84.45	10	P	P	14 49 49.6	-1.5
	baz=341						
DAWY	Dawson	84.45	6	P	P	14 49 51.0	0.0
DAWY	Dawson	84.45	6	P	P	14 49 50.9	0.0
	baz=348						
M20K	Styx River	84.59	13	P	P	14 49 51.5	-0.3
	baz=336						
SKT	Skwentna	84.79	12	P	P	14 49 51.8	-0.9
	baz=338						
K29M	Barlow Dome	84.84	5	P	P	14 49 52.2	-0.8
	baz=349						
WAT6	Susitna Watana	84.86	10	P	P	14 49 52.8	-0.4
	baz=341						
O14K	Tigyukauivet M	85.10	18	P	P	14 49 54.7	+0.5
	baz=330						
N18K	Kilae Creek	85.12	15	P	P	14 49 54.3	0.0
	baz=334						
L27K	Beaver Creek,	85.19	8	P	P	14 49 55.0	+0.3
	baz=346						
BCAR	Beaver Creek A	85.19	8	P	P	14 49 54.6	0.0
M22K	Willow	85.25	12	P	P	14 49 55.1	+0.2
	baz=339						
N19K	Bonanza Creek	85.30	14	P	P	14 49 55.7	+0.4
N19K	Bonanza Creek	85.30	14	P	P	14 49 56.0	+0.7
	baz=335						
HARP	HAARP	85.41	9	P	P	14 49 55.9	+0.1
	baz=343						
SUA	Susitna One	85.42	12	P	P	14 49 55.5	-0.5
	baz=338						
SML	Sawmill	85.50	11	P	P	14 49 55.0	-1.2
	baz=340						
L29M	L29M	85.51	6	P	P	14 49 55.9	-0.4
	baz=349						
M24K	Tolsona, Glenn	85.55	10	P	P	14 49 56.9	+0.3
M24K	Tolsona, Glenn	85.55	10	P	P	14 49 57.4	+0.9
	baz=342						
PMR	Palmer	85.57	11	P	P	14 49 56.2	-0.3
	baz=340						
O16K	Kokwok River B	85.59	16	P	P	14 49 56.5	-0.2
	baz=332						
M23K	Glacier View	85.61	11	P	P	14 49 56.4	-0.4
	baz=341						
O17K	Koliganek Bris	85.66	16	P	P	14 49 56.5	-0.5
	baz=333						
M26K	Nabesna, AK	85.69	8	P	P	14 49 57.0	-0.2
	baz=345						
KNK	Knik Glacier	85.85	11	P	P	14 49 57.3	-0.7
	baz=340						
M27K	Edge Creek, AK	85.86	8	P	P	14 49 58.2	0.0
	baz=346						
O19K	Port Alsworth	85.89	14	P	P	14 49 57.7	-0.5
	baz=335						
RC01	Rabbit Creek A	85.94	12	P	P	14 49 57.2	-1.2
	baz=339						
WRGLY	Wrigley	85.95	359	P	P	14 49 58.6	+0.2
	baz=1.4						
M29M	Somme Creek	86.14	6	P	P	14 49 59.4	-0.1
M29M				IAmb	IAmb	14 50 01.4	
	comp=Z,8.4nm,0.9s						
M29M	Somme Creek	86.14	6	P	P	14 49 59.3	-0.1
	baz=349						
M30M	Minto, Yukon	86.15	5	P	P	14 49 58.7	-0.7
	baz=350						
KLU	Klutina	86.17	10	P	P	14 49 59.0	-0.6
	baz=342						
YKA	Yellowknife Ar	86.31	355	*i* P	P	14 50 02.5	+2.3
YKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	Yellowknife Ar	86.31	355	P	P	14 50 00.1	-0.1
	comp=Z,3.7nm,0.8s,baz=2.3,slow=5.4,SNR=8.3						
	comp=Z,3.7nm,0.8s						
P17K	Kvichak River	86.33	16	P	P	14 50 00.0	-0.3
	baz=334						
PWL	Port Wells	86.40	11	P	P	14 49 59.8	-0.9
	baz=340						
P18K	Big Mountain,	86.43	15	P	P	14 50 00.1	-0.8
	baz=334						
O22K	Cooper Landing	86.52	12	P	P	14 50 00.7	-0.5
	baz=339						
GLI	Glacier Island	86.58	11	P	P	14 50 00.9	-0.7
	baz=341						
YUK3	Moose Creek	86.59	7	P	P	14 50 01.7	-0.1
	baz=347						
M31M	Drury Creek, Y	86.69	4	P	P	14 50 02.1	-0.1
	baz=352						
FARO	Faro, Yukon	86.73	4	P	P	14 50 01.6	-0.7
	baz=353						
Q16K	King Salmon	86.75	16	P	P	14 50 01.5	-0.8
	baz=333						
YUK4	Talbot Arm	87.20	6	P	P	14 50 03.0	-1.8
	baz=348						
N30M	Aishikik Lake	87.23	6	P	P	14 50 04.7	-0.1
	baz=350						
CTG	Chitna Glacier	87.28	8	P	P	14 50 05.3	+0.1
	baz=346						
TGTN	Hyland Airport	87.63	1	P	P	14 50 07.0	+0.2
	baz=357						
HYT	Haines Junctio	87.82	6	P	P	14 50 07.7	0.0
	baz=349						
N32M	Quiet Lake	87.82	4	P	P	14 50 06.5	-1.1
	baz=353						
KDAK	Kodiak Island	88.47	14	P	P	14 50 09.5	-1.2
	baz=337						
KDAK	Kodiak Island	88.47	14	P	P	14 50 09.8	-0.8
	comp=Z,20nm,0.8s,baz=2.2,slow=7.9,SNR=6.8						
KDAK				LR	LR	15 37 38.3	
	comp=Z,131nm,21.2s,baz=286,slow=41						
	comp=Z,20nm,0.8s						
P30M	Million Dollar	88.56	6	P	P	14 50 10.2	-1.0
	baz=350						
WB0	Warramunga Arr	91.53	112	P	P	14 50 23.6	-2.0
WB0				IAmb	IAmb	14 50 24.9	
	comp=Z,13nm,1.2s						
WRA	Warramunga Arr	91.58	112	*i* P	P	14 50 24.5	-1.3
WRA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRA	Warramunga Arr	91.58	112	P	P	14 50 24.2	-1.6
	comp=Z,5.8nm,1.0s,baz=317,slow=4.0,SNR=31						
	comp=Z,5.8nm,1.0s						
WB2	Warramunga Arr	91.59	112	P	P	14 50 24.0	-1.8
WB2				IAmb	IAmb	14 50 25.4	
	comp=Z,12nm,1.1s						
ASAR	Alice Springs	93.23	116	P	P	14 50 31.5	-1.9
	comp=Z,8.6nm,0.8s,baz=305,slow=4.8,SNR=94						
	comp=Z,8.6nm,0.8s						
ULM	Lac du Bonnet	94.91	342	P	P	14 50 40.1	-0.6
	comp=Z,7.9nm,0.8s,baz=107,slow=1.0,SNR=4.9						
	comp=Z,7.9nm,0.8s						
QSPA	South Pole Qui	120.97	180	PKP	PKPdf	14 56 08.6	-1.6
	comp=Z,2.8nm,0.7s,baz=182,slow=1.3,SNR=12						

WEL 18 14:44:46.6±1.5, 31°S±21°×17°9E±5°2, h173km±56km, M5.0/3, mB4.7/2, MLv5.0/3, Mw(mB)3.9/2, Error ellipse: s-maj=0.1km s-min=0.0km az=111.3, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.72	57	S	Sn	14 46 06.3	0.0
MXZ	Matakaoa Point	6.84	188	P	Pn	14 46 27.7	+3.2
WMGZ	Waiomatatini S	7.09	187	P	Pn	14 46 29.2	+1.5
WMGZ				S	Sn	14 47 50.0	+2.4
HAZ	Te Kaha	7.11	191	P	Pn	14 46 29.4	+1.4
HAZ				S	Sn	14 47 51.6	+3.6
PKGZ	Pakihiroa	7.19	189	P	Pn	14 46 30.9	+1.7
PKGZ				S	Sn	14 47 51.4	+1.2
RUGZ	Raukumara Rang	7.33	191	P	Pn	14 46 32.6	+1.5
PUZ	Puketiti	7.35	187	P	Pn	14 46 31.6	+0.4
PUZ				S	Sn	14 47 53.1	-0.9
TWGZ	Tauwhareparae	7.49	189	P	Pn	14 46 34.1	+1.0
TWGZ				S	Sn	14 47 56.4	-0.8
MWZ	Matawai	7.71	191	P	Pn	14 46 34.3	-1.8
MWZ				S	Sn	14 48 00.3	-2.2
URZ	Urewera	7.72	194	P	Pn	14 46 36.3	+0.3
URZ				S	Sn	14 48 02.0	-0.6
CNGZ	Carnagh Statio	7.76	187	P	Pn	14 46 37.3	+0.7
TKGZ	Te Karaka	7.77	189	P	Pn	14 46 34.4	-2.3
TKGZ				S	Sn	14 48 01.5	-2.3
MUGZ	Murupara	8.00	195	P	Pn	14 46 37.7	-2.2
RIGZ	Rimuhau	8.04	190	P	Pn	14 46 40.0	-0.4
RIGZ				S	Sn	14 48 09.3	-1.1
RTZ	Ruatahuna	8.09	194	P	Pn	14 46 40.4	-0.7
SNGZ	Shannon Statio	8.18	192	P	Pn	14 46 42.4	+0.2
RAHZ	Arahi	8.36	193	P	Pn	14 46 43.7	-0.9
RAHZ				S	Sn	14 48 19.9	+1.9
NMHZ	Naumai	8.59	194	P	Pn	14 46 46.6	-1.1
BKZ	Black Stump Fm	8.72	195	P	Pn	14 46 47.8	-1.6
SNVZ	South Ngauruho	8.96	199	P	Pn	14 46 52.2	-0.5
KWHZ	Kaweka Forest	8.99	195	P	Pn	14 46 51.8	-1.1
KWHZ				S	Sn	14 48 34.4	+1.4
BHHZ	Black Hill Sta	9.13	197	P	Pn	14 46 51.8	-3.0
KAHZ	Kahuranaki	9.25	192	P	Pn	14 46 53.7	-2.6
PXZ	Pawanui	9.48	192	P	Pn	14 46 55.7	-3.6
PNHZ	Pukenui	9.50	195	P	Pn	14 46 55.6	-4.1
LREZ	Lake Rotokare	9.61	204	P	Pn	14 47 03.3	+2.4
TSZ	Takapari Road	9.70	196	P	Pn	14 46 57.3	-4.9
PRHZ	Porangahau	9.75	193	P	Pn	14 46 59.4	-3.5
MRZ	Mangatainoka R	10.36	197	P	Pn	14 47 04.8	-6.1
TIWZ	Tintock	10.40	195	P	Pn	14 47 06.5	-4.8

SJA 18 14:55:38.9±1.3, 22°93S×66°58W, h224km±9km, ML3.7, MW3.7
GUC 18 14:55:41.0±0.6, 22°95S×66°99W, h256km±8km, ML3.7

ISC 18 14:55:38.4±2.1, 22°97S±0°06×66°62W±0°05, h229km±17km, n34, σ1§48/53, 5C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	1.29	52	*i* P	Pn	14 56 14.9	+1.2
YJA				*i* S	Sn	14 56 40.2	-1.0
AZAP	Zapla	1.89	131	*e*P	Pn	14 56 19.1	+0.7
AZAP				*e*S	Sn	14 56 48.7	-1.1
SLA	San Lorenzo	2.02	150	*i* P	Pn	14 56 21.2	+1.7
SLA				*i* S	Sn	14 56 51.3	-0.5
LVC	Limon Verde	2.14	279	⇑*i*P	Pn	14 56 22.3	+1.4
LVC				*e*S	Sn	14 56 53.7	-0.5
LVC				IAML		14 56 55.7	
	203nm,0.4s						
LVC	Limon Verde	2.14	279	*i* P	Pn	14 56 21.7	+0.8
ASTB	Santa Barbara	2.21	116	*i* P	Pn	14 56 22.2	+0.8
ASTB				*i* S	Sn	14 56 53.6	-1.5
ALOL	LOMAS DE OLMED	2.56	110	*i* P	Pn	14 56 25.7	+0.8
ALOL				*i* S	Sn	14 56 58.7	-2.7
PB15	IPOC Station P	2.63	264	⇑*i*P	Pn	14 56 27.0	+1.2
PB15				*e*S	Sn	14 57 02.6	-0.5
PB15	IPOC Station P	2.63	264	*i* P	Pn	14 56 27.1	+1.3
PB15				*i* S	Sn	14 57 03.1	+0.1
PB09	IPOC Station P	2.69	295	*i* P	Pn	14 56 28.3	+1.9
PB09				*e*S	Sn	14 57 03.8	-0.3
PB09				IAML		14 57 08.5	
	comp=E,108nm,0.2s						
PB09	IPOC Station P	2.69	295	*i* P	Pn	14 56 28.4	+1.9
PB09				*i* S	Sn	14 57 02.5	-1.7
PB09				IAML		14 57 06.1	
	comp=Z,103nm,0.4s						
PB06	IPOC Station P	2.73	275	*i* P	Pn	14 56 28.0	+1.1
PB06				*e*S	Sn	14 57 03.6	-1.3
PB06				IAML		14 57 07.2	
	comp=N,178nm,0.2s						
PB06	IPOC Station P	2.73	275	*i* P	Pn	14 56 28.2	+1.3
PB06				IAML		14 57 08.8	
	comp=Z,99nm,0.2s						
FSA	Cafayete	3.18	170	*i* P	Pn	14 56 33.3	+1.5
PB07	IPOC Station P	3.27	292	*i* P	Pn	14 56 34.1	+1.2
PB07				*e*S	Sn	14 57 13.5	-2.2
PB07	IPOC Station P	3.27	292	*i* P	Pn	14 56 34.0	+1.2
PB07				IAML		14 57 17.8	
	comp=Z,151nm,0.6s						
PB01	IPOC Station P	3.28	305	⇑*i*P	Pn	14 56 34.2	+1.2
PB01				*e*S	Sn	14 57 14.8	-1.1
PB01	IPOC Station P	3.28	305	*i* P	Pn	14 56 34.2	+1.2
PB01				IAML		14 57 17.6	
	comp=Z,114nm,0.2s						
PB04	IPOC Station P	3.32	280	⇑*i*P	Pn	14 56 34.5	+1.1
PB04				*e*S	Sn	14 57 14.6	-2.2
PB04	IPOC Station P	3.32	280	*i* P	Pn	14 56 34.5	+1.1
PB04				IAML		14 57 19.0	
	comp=Z,170nm,0.2s						
PB02	IPOC Station P	3.45	298	⇑*i*P	Pn	14 56 35.9	+0.9
PB02				*e*S	Sn	14 57 17.1	-2.4
PB02	IPOC Station P	3.45	298	*e*P	Pn	14 56 35.9	+0.9
GO02	Mina Guanaco	3.48	231	*i* P	Pn	14 56 36.7	+1.2
PB08	IPOC Station P	3.67	320	*i* P	Pn	14 56 40.2	+2.3
PB08				*e*S	Sn	14 57 25.0	+0.4
PB08	IPOC Station P	3.67	320	*i* P	Pn	14 56 40.2	+2.3
PB08				IAML		14 57 29.7	
	comp=Z,50nm,0.2s						
PB14	IPOC Station P	3.84	244	*i* P	Pn	14 56 40.4	+0.8
PB14				IAML		14 57 29.4	
	comp=Z,72nm,0.3s						
PATCX	Punta Patache	3.92	302	*i* P	Pn	14 56 41.1	+0.7
PATCX				*e*S	Sn	14 57 26.4	-3.0
PATCX	Punta Patache	3.92	302	*i* P	Pn	14 56 41.2	+0.7
PATCX				IAML		14 57 32.6	
	comp=Z,89nm,0.5s						
HMBC	Humberstone	4.05	311	*i* P	Pn	14 56 42.5	+0.4
HMBC	Humberstone	4.05	311	*i* P	Pn	14 56 42.5	+0.4
GO01	Chusmiza	4.07	323	*i* P	Pn	14 56 44.5	+1.8
GO01				*e*S	Sn	14 57 33.4	0.0
GO01	Chusmiza	4.07	323	*i* P	Pn	14 56 44.5	+1.8
TA01	Diego Aracena	4.08	305	*i* P	Pn	14 56 42.8	+0.5
TA01				*e*S	Sn	14 57 29.8	-3.1
TA01	Diego Aracena	4.08	305	*i* P	Pn	14 56 42.5	+0.2
TA01				IAML		14 57 33.8	
	comp=Z,56nm,0.6s						

IDC 18 14:58:06.1±0.7, 27°25N×140°29E, h446km±11km, mb3.3/9, mbtmp4.1/11, Error ellipse: s-maj=31.4km s-min=19.6km az=71.0
JMA 18 14:58:10.2±0.2, 28°N±2°×14°1E±°, h467km, MV3.6/15, W OFF OGASAWARA

ISC 18 14:58:07.4±0.8, 27°28N±0°09×140°0E±0°1, h450km, n18, σ1§59/22, mb3.7/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.92	95	P	P	14 59 09.4	+1.9
CBIJ				*e*S	S	14 59 55.9	-0.3
JCJ	Chichijima	1.92	95	P	P	14 59 05.4	-2.0
	34nm,0.3s,baz=275,slow=23,SNR=71						
JCJ				S	S	14 59 52.1	-4.0
	63nm,0.3s,baz=291,slow=23,SNR=14						
JHH2	Haha-jima-NKT2	2.01	108	*e*P	P	14 59 10.6	+2.6
JHH2				S	S	14 59 58.7	+1.6
BSO3	Boso 3	7.51	3	*e*S	S	15 01 25.9	-1.2
JAG	Ashikaga	9.13	357	*e*P	P	15 00 16.3	+1.4
JHO	Hitachi	9.31	3	*e*P	P	15 00 18.7	+1.8
JHO				*e*S	S	15 02 02.1	-1.4
JOW	Kunigami	10.50	270	P	P	15 00 29.8	-0.1
	21nm,0.6s,baz=61,slow=13,SNR=1.8						
USRK	Ussuriysk Ar.	18.09	341	P	P	15 01 50.8	0.0
	2.9nm,0.8s,baz=152,slow=6.5,SNR=4.0						
WRA	Warramunga Arr	47.27	187	P	P	15 05 57.9	-0.8
	0.3nm,0.8s,baz=6.8,slow=8.8,SNR=5.1						
	0.3nm,0.8s						
ZALV	Zalesovo Beam	48.10	319	P	P	15 06 04.8	+0.3
	1.0nm,0.3s,baz=107,slow=7.0,SNR=5.7						
	1.0nm,0.3s						
MKAR	Makanchi Array	48.88	310	P	P	15 06 11.0	+0.4
	0.7nm,0.7s,baz=88,slow=10.0,SNR=6.0						
	0.7nm,0.7s						
KURBB	Kurchatov Arra	51.55	314	P	P	15 06 30.6	+0.5
	2.3nm,0.5s,baz=91,slow=8.0,SNR=27						
	2.3nm,0.5s						
BVAR	Borovoye Array	56.61	317	P	P	15 07 06.6	+0.5
	2.8nm,0.4s,baz=84,slow=6.9,SNR=18						
	2.8nm,0.4s						
ARCES	ARCESS Array B	72.73	340	P	P	15 08 48.7	+0.5
	3.7nm,1.1s,baz=60,slow=6.3,SNR=6.4						
	3.7nm,1.1s						
FINES	FINESS Array B	76.93	333	P	P	15 09 11.6	-0.4
	1.5nm,0.4s,baz=70,slow=4.5,SNR=22						
	1.5nm,0.4s						
HFS	Hagfors	82.49	336	P	P	15 09 40.2	-1.2
	0.6nm,0.4s,baz=66,slow=7.1,SNR=6.4						
	0.6nm,0.4s						
NOA	NORSAR Array B	82.72	338	P	P	15 09 41.4	-1.2
	0.3nm,0.4s,baz=54,slow=7.7,SNR=2.1						
	0.3nm,0.4s						
TORD	Torodi Ar. Bea	123.01	309	PKP	PKPdf	15 16 11.4	-1.0
	0.4nm,0.8s,baz=38,slow=2.6,SNR=2.1						

NOU 18 14:59:25.0, 42°75S×173°27E, h9km, MLv3.7/10, South Island, New Zealand
WEL 18 14:59:26.0±0.4, 43°S±3°×17°3E±°, h5km, M3.3/6, ML3.5/6, MLv3.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=132.0, confirmed

ISC 18 14:59:25.3±1.1, 42°66S±0°03×173°19E±0°03, h10km±10km, n81, σ1§43/88, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	Greta Valley S	0.33	201	P	Pb	14 59 34.3	+1.1
GVZ				S	Sb	14 59 40.6	+2.1
KHZ	Kahutara	0.36	46	P	Pg	14 59 33.3	+0.9
KHZ	Kahutara	0.36	46	P	Pg	14 59 33.3	+0.9
KHZ				S	Sg	14 59 38.5	+1.4
AMCZ	Amberley	0.65	217	P	Pn	14 59 40.2	-0.4
AMCZ				S	Sn	14 59 50.8	0.0
LTZ	Lake Taylor	0.69	260	P	Pg	14 59 39.2	+0.5
LTZ				S	Sb	14 59 48.7	-0.3
THZ	Tophouse	0.92	347	P	Pg	14 59 42.4	-0.7
THZ				S	Sg	14 59 53.3	-1.8
OKCZ	Okains Bay	1.06	185	P	Pg	14 59 46.1	+0.3
BSWZ	Blackbirch Sta	1.07	29	P	Pb	14 59 46.3	+0.3
BSWZ				S	Sn	15 00 02.2	+0.8
OXZ	Oxford	1.07	231	P	Pg	14 59 46.0	0.0
OXZ				S	Sn	15 00 01.5	+0.1
MQZ	McQueen's Vall	1.11	200	P	Pg	14 59 46.0	-0.8
CMWZ	Cape Campbell	1.19	40	P	Pn	14 59 49.2	+1.3
AKCZ	Akaroa Harbour	1.23	190	P	Pb	14 59 48.3	-0.3
INZ	Inchbonnie	1.29	267	P	Pn	14 59 49.4	+0.1
MRNZ	Matariki Terra	1.30	346	P	Pn	14 59 49.2	-0.4
RACZ	Rakaia	1.31	215	P	Pn	14 59 49.4	-0.3
TUWZ	Tuamarina	1.35	25	P	Pn	14 59 50.8	+0.6
DSZ	Denniston Nort	1.38	311	P	Pn	14 59 50.6	0.0
NNZ	Nelson	1.45	6	P	Pn	14 59 52.0	+0.4
MHCZ	Mount Hutt	1.47	233	P	Pn	14 59 51.7	-0.3
WACZ	Wakanui South	1.62	217	P	Pn	14 59 53.5	-0.3
TKNZ	Takaka Hill	1.64	354	P	Pn	14 59 54.6	+0.4
TCW	Tory Channel	1.66	30	P	Pn	14 59 54.6	+0.1
SNZO	South Karori	1.76	40	P	Pn	14 59 55.9	+0.1
WEL	Wellington	1.81	41

NMEZ	Namu Road	3.29	9	P	Pb	15 00 21.4	-2.3
TSZ	Takapari Road	3.33	40	P	Pn	15 00 16.6	-0.9
NBEZ	Newall Road No	3.43	9	P	Pn	15 00 21.8	+3.1
NEZ	North Egmont	3.46	12	P	Pn	15 00 23.1	+3.9
JCZ	Jackson Bay	3.51	245	P	Pn	15 00 20.0	0.0
JCZ	Jackson Bay	3.51	245	P	Pn	15 00 20.0	0.0
PKE	Pukeiti	3.52	10	P	Pn	15 00 22.2	+2.2
PNHZ	Pukenui	3.56	41	P	Pn	15 00 22.0	+1.4
VRZ	Vera Road	3.73	19	P	Pn	15 00 24.8	+2.0
WNVZ	Wahianoa	3.80	29	P	Pn	15 00 26.0	+2.0
EAZ	Earnscleugh	3.80	226	P	Pn	15 00 23.2	-0.7
BHHZ	Black Hill Sta	3.84	35	P	Pn	15 00 26.1	+1.6
COVZ	Chateau Observ	3.89	28	P	Pb	15 00 30.5	-3.5
SNVZ	South Ngauruho	3.94	29	P	Pb	15 00 29.5	+3.6
OTVZ	Oturere	3.97	29	P	Pb	15 00 32.5	-2.8
NNVZ	North Ngauruho	3.98	28	P	Pn	15 00 29.6	+3.1
WTVZ	West Tongariro	3.98	28	P	Pn	15 00 29.2	+2.7
TUZ	Tuapeka	4.17	217	P	Pn	15 00 28.4	-0.5
BKZ	Black Stump Fm	4.30	37	P	Pn	15 00 32.1	+1.3
BKZ	Black Stump Fm	4.30	37	P	Pn	15 00 31.2	+0.5
HIZ	Hauiti	4.33	18	P	Pn	15 00 32.5	+1.3
HIZ	Hauiti	4.33	18	P	Pn	15 00 32.5	+1.3
MLZ	Mavora Lakes	4.55	232	P	Pn	15 00 33.2	-1.0
TLZ	Tolley Road	4.68	23	P	Pn	15 00 38.2	+2.1
SYZ	Scrubby Hill	4.83	215	P	Pn	15 00 37.8	-0.3
SYZ	Scrubby Hill	4.83	215	P	Pn	15 00 37.9	-0.2
TOZ	Tahuroa Road	5.23	21	P	Pn	15 00 46.3	+2.7
AWAZ	Awhitu Peninsu	5.70	12	P	Pn	15 00 51.3	+1.3
MKAZ	Moumakai	5.75	16	P	Pn	15 00 51.5	+0.8
ETAZ	East Tamaki Re	5.86	14	P	Pn	15 00 55.0	+2.9
MBAZ	Motutapu North	6.03	13	P	Pn	15 00 56.8	+2.3
WIAZ	Waiheke Island	6.05	15	P	Pn	15 00 57.3	+2.5

*IDC **18** 15:08:27.8±1.2, 36°.43N×141°.03E, h0km, mb3.7/6, mbtmp3.9/10, ML3.3/4, MS4.0/2, Error ellipse: s-maj=25.7km s-min=18.2km az=87.0*
*NEIC **18** 15:08:34.7±0.8, 36°.54N±0°.07×141°.1E±0°.1, h52km±11km, mb4.3/8, Error ellipse: s-maj=17.9km s-min=3.3km az=124.0*
*JMA **18** 15:08:34.7±0.1, 36°.5N±0°.3×140°.9E±0°.6, h50km, MV3.8/38, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
ISC 18 15:08:34.2±1.0, 36°.49N±0°.04×140°.99E±0°.07, h45km±8km, n58, σ1§10/56, mb4.2/12, 12D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.36	245	⇓iP	Pn	15 08 43.7	+0.2
JHYU				⇓S	Sn	15 08 49.8	-0.2
JHO	Hitachi	0.36	290	⇓iP	Pn	15 08 43.5	0.0
JHO				⇓S	Sn	15 08 49.4	-0.7
ONAJ	Iwakimizuishiy	0.63	346	⇓iP	Pn	15 08 46.8	-0.1
ONAJ				⇓S	Sn	15 08 55.3	-0.7
JYT	Yasato	0.69	248	⇓iP	Pn	15 08 47.2	-0.5
JYT				⇓S	Sn	15 08 55.8	-1.6
JFK	Kawauchi	0.88	354	⇓iP	Pn	15 08 50.0	-0.3
JFK				⇓S	Sn	15 09 01.0	-0.9
JOTO	OTAMA OYAMA	1.19	334	iP	Pn	15 08 54.9	+0.4
JOTO				S	Sn	15 09 09.7	+0.2
JAG	Ashikaga	1.24	267	⇓iP	Pn	15 08 54.5	-0.6
JFY	Yanaizu	1.38	312	⇓iP	Pn	15 08 57.0	0.0
JMM	Marumori	1.38	354	Pn	Pn	15 08 56.8	-0.3
JMM	Marumori	1.38	354	P	Pn	15 08 57.9	+0.9
JKT	Katashina	1.43	282	iP	Pn	15 08 57.5	-0.2
JKT				S	Sn	15 09 14.5	-0.9
MJAR	Matsushiro Arr	2.24	272	Pn	Pn	15 09 07.8	-1.0
	2.7nm,0.3s,baz=100,slow=11,SNR=112						
MJAR				Sn	Sn	15 09 37.5	+2.2
	1.8nm,0.3s,baz=209,slow=11,SNR=2.4 12nm,0.3s						
MAJO	Matsushiro	2.24	272	Pn	Pn	15 09 09.0	+0.1
MAJO	Matsushiro	2.24	272	P	Pn	15 09 09.6	+0.7
MJB9	Matsu-Tunnel	2.24	272	Pn	Pn	15 09 10.1	+1.2
JSD	Sado	2.67	306	Pn	Pn	15 09 13.9	-0.8
JSD	Sado	2.67	306	P	Pn	15 09 14.8	+0.1
JSG	Sagara	2.92	232	Pn	Pn	15 09 19.1	+1.0
INU	Inuyama	3.42	252	Pn	Pn	15 09 26.7	+1.7
INU	Inuyama	3.42	252	P	Pn	15 09 27.3	+2.3
JHJ	Hachijo jima 2	3.51	197	Pn	Pn	15 09 24.4	-1.8
	5.7nm,0.3s,baz=11,slow=10,SNR=1.0						
JHJ				Sn	Sn	15 10 06.0	-0.4
	19nm,0.3s,baz=103,slow=23,SNR=1.6 92nm,0.5s						
JTM	Tenmabayashi	4.29	1	Pn	Pn	15 09 36.4	-0.6
JTM	Tenmabayashi	4.29	1	P	Pn	15 09 39.5	+2.6
ERM	Erimo	5.77	16	Pn	Pn	15 09 55.7	-1.5
ERM	Erimo	5.77	16	P	Pn	15 09 58.9	+1.7
JEM	Erimo	5.77	16	P	Pn	15 10 00.2	+3.0
ASAJ	Asahikawa	7.71	9	Pn	Pn	15 10 23.4	-0.5
	0.4nm,0.3s,baz=215,slow=21,SNR=5.7						
ASAJ				Sn	Sn	15 11 47.9	-2.0
	0.2nm,0.3s,baz=150,slow=20,SNR=1.0 3.3nm,0.8s						
JKA	Kamikawa-asahi	7.71	9	Pn	Pn	15 10 23.1	-0.8
JCJ	Chichijima	9.42	173	Pn	Pn	15 10 41.8	-5.6
	2.5nm,0.3s,baz=322,slow=18,SNR=1.5						
JCJ				Sn	Sn	15 12 20.8	-11
	2.5nm,0.3s,baz=230,slow=23,SNR=1.3 57nm,0.7s						
JMZ	Minamidaito 2	13.52	221	Pn	Pn	15 11 45.0	+1.6
HHC	Hu-ho-hao-te	23.33	290	eP	P	15 13 38.9	+0.4
HHC				pmax	pmax		
	comp=Z,28nm,0.5s						
SONM	Songino Array	27.81	305	P	P	15 14 18.8	-0.4
	comp=Z,0.3nm,0.5s,baz=120,slow=10,SNR=1.8 comp=Z,0.3nm,0.5s						
H11N2	WAKE ISLAND Hy	28.17	119	T	T	15 44 25.2	
	baz=313,slow=75,SNR=14						
H11N1	WAKE ISLAND Hy	28.18	119	T	T	15 44 24.5	
	baz=313,slow=75,SNR=18						
H11N3	WAKE ISLAND Hy	28.19	119	T	T	15 44 23.7	
	baz=313,slow=75,SNR=17						
H11S1	WAKE ISLAND Hy	28.86	121	T	T	15 45 12.7	
	baz=314,slow=75,SNR=45						
H11S3	WAKE ISLAND Hy	28.86	122	T	T	15 45 08.3	
	baz=314,slow=75,SNR=34						
H11S2	WAKE ISLAND Hy	28.88	121	T	T	15 45 14.5	
	baz=314,slow=75,SNR=37						
WMQ	Urumqi	40.78	297	eP	P	15 16 10.8	-0.3
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
ZAA0	Zalesovo Array	42.03	313	P	P	15 16 21.3	+0.2
ZALV	Zalesovo Beam	42.03	313	P	P	15 16 20.6	-0.5
ZALV	Zalesovo Beam	42.03	313	P	P	15 16 21.0	-0.1
	comp=Z,1.5nm,0.6s,baz=83,slow=7.1,SNR=5.8 comp=Z,1.5nm,0.6s						
KURK	Kurchatov	46.00	308	P	P	15 16 52.1	-0.8
KURK				IAmb	IAmb	15 17 03.5	
	comp=Z,5.4nm,1.4s						
KURBB	Kurchatov Arra	46.07	308	P	P	15 16 52.5	-0.9
	comp=Z,0.7nm,0.5s,baz=82,slow=7.8,SNR=8.0 comp=Z,0.7nm,0.5s						
ILAR	Eielson Array	50.13	32	P	P	15 17 25.9	+1.2
	comp=Z,0.3nm,0.8s,baz=272,slow=7.1,SNR=2.7 comp=Z,0.3nm,0.8s						
AAK	Ala-Archa	50.45	299	LR	LR	15 40 09.6	
	comp=Z,98nm,19.6s,baz=26,slow=38						
WB0	Warramunga Arr	56.30	187	P	P	15 18 10.0	-0.4
WB0				IAmb	IAmb	15 18 16.4	
	comp=Z,4.2nm,1.1s						
WR0	Warramunga Arr	56.47	187	P	P	15 18 11.3	-0.4
WB2	Warramunga Arr	56.48	187	P	P	15 18 10.6	-1.1
WRA	Warramunga Arr	56.48	188	P	P	15 18 11.2	-0.5
WRA	Warramunga Arr	56.48	188	P	P	15 18 11.2	-0.5
	comp=Z,0.2nm,0.5s,baz=4.7,slow=7.3,SNR=7.0 comp=Z,0.2nm,0.5s						
ARU	Arti	56.54	319	P	P	15 18 11.4	-0.4
ARU				IAmb	IAmb	15 18 33.4	
	comp=Z,6.5nm,1.3s						
ABKAR	Akbulak array	58.03	310	P	P	15 18 21.9	-0.4
ABKAR				IAmb	IAmb	15 18 30.6	
	comp=Z,2.7nm,1.4s						
FINES	FINESS Array B	69.13	332	P	P	15 19 35.4	0.0
	comp=Z,4.5nm,1.1s,baz=29,slow=6.3,SNR=1.5 comp=Z,4.5nm,1.1s						
NWAO	Narrogin (SRO)	72.54	201	LR	LR	15 50 24.8	
	comp=Z,147nm,21.3s,baz=183,slow=35						
H03N2	Juan Fernandez	147.30	97	T	T	18 13 12.2	
	baz=291,slow=76,SNR=9.4						
H03N3	Juan Fernandez	147.31	97	T	T	18 13 17.2	
	baz=291,slow=76,SNR=7.8						
H03N1	Juan Fernandez	147.32	97	T	T	18 13 14.4	
	baz=291,slow=76,SNR=6.0						

*JMA **18** 15:29:20.2±0.1, 24°.0N±0°.5×122°.4E±0°.2, h27km±1km, MV2.4/14, NW OFF ISHIGAKIJIMA IS*
*TAP **18** 15:29:21.2, 24°.09N×122°.40E, h27km, ML3.0, C*
ISC 18 15:29:20.6±0.9, 23°.99N±0°.02×122°.42E±0°.02, h29km±7km, n98, σ0§86/155, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.16	325	⇓iP	Pb	15 29 26.0	+0.2
	baz=295						
EOS4				iS	Sb	15 29 29.4	0.0
	baz=295						
EOS3	EOS3	0.31	343	⇓iP	Pb	15 29 28.0	0.0
	baz=327						
EOS3				S	Sn	15 29 33.3	-1.3
	baz=327						
EOS2	EOS2	0.46	338	iP	Pn	15 29 30.4	-0.7
	baz=321						
EOS2				iS	Sn	15 29 37.7	-0.6
	baz=321						
JYNG	Yonaguni jima	0.67	46	P	Pb	15 29 33.2	-0.5
JYNG				S	Sb	15 29 42.7	+0.1
YOJ	Yonaguni jima	0.72	49	P	Pb	15 29 34.4	-0.1
YOJ	Yonaguni jima	0.72	49	P	Pb	15 29 34.2	-0.4
YOJ				eS	Sn	15 29 44.4	-0.5
YOJ	Yonaguni jima	0.72	49	P	Pb	15 29 34.0	-0.5
	baz=63						
YOJ				S	Sn	15 29 44.5	-0.3
	baz=63						
EWUT	Wuta	0.74	308	P	Pb	15 29 34.4	-0.6
	baz=302						
EWUT				eS	Sb	15 29 44.8	+0.1
	baz=302						
HWA	Hwalien	0.74	269	P	Pn	15 29 36.2	+1.1
	baz=249						
HWA				S	Sn	15 29 46.1	+0.6
	baz=249						
ETL	Fush Village	0.75	283	P	Pn	15 29 35.8	+0.6
	baz=260						
ETL				eS	Sn	15 29 45.9	+0.3
	baz=260						
ENA	Nanau	0.76	305	iP	Pb	15 29 34.6	-0.7
	baz=300						
ENA				S	Sb	15 29 45.1	-0.1
	baz=300						
TWD	Chiawan	0.76	277	iP	Pn	15 29 35.6	+0.3
	baz=270						
TWD				iS	Sb	15 29 44.6	-0.6
	baz=270						
NACB	Ninganchiao	0.78	284	P	Pb	15 29 35.2	-0.3
NACB	Ninganchiao	0.78	284	P	Pb	15 29 34.9	-0.6
	baz=261						
NACB				S	Sb	15 29 46.0	+0.3
	baz=261						
TWC	Suao	0.81	320	⇑iP	Pb	15 29 34.9	-1.2
	baz=309						
TWC				iS	Sb	15 29 45.0	-1.7
	baz=309						
ETM	Tongmen	0.85	269	P	Pb	15 29 35.6	-1.1
	baz=252						
ETM				eS	Sb	15 29 47.5	-0.3
	baz=252						
ETLH	Xiulin Townshi	0.88	284	P	Pb	15 29 36.5	-0.9
	baz=278						
ETLH				S	Sn	15 29 49.2	+0.2
	baz=278						
NDS	Dongshan	0.91	315	iP	Pb	15 29 37.2	-0.6
	baz=310						
NDS				S	Sn	15 29 49.5	-0.1
	baz=310						
ESL	Shilin	0.92	259	eP	Pn	15 29 39.4	+1.8
	baz=245						
ESL				eS	Sb	15 29 49.0	-0.8
	baz=245						
LXIB	Xiulin Townshi	0.92	272	P	Pb	15 29 36.9	-1.2
	baz=257						
LXIB				S	Sb	15 29 49.3	-0.7
	baz=257						
EGS		0.96	333	P	Pb	15 29 38.1	-0.5
	baz=321						
EGS				S	Sn	15 29 51.8	+0.9
	baz=321						
EGFH	Guangfu	0.96	251	eP	Pb	15 29 36.7	-2.0
	baz=246						
EGFH				eS	Sb	15 29 50.7	-0.3
	baz=246						
LATG	Datong	0.98	304	P	Pb	15 29 38.1	-1.0
	baz=298						
LATG				S	Sb	15 29 51.0	-0.7
	baz=298						
WARBT	Fenglin Townsh	0.98	254	eP	Pb	15 29 37.6	-1.4
	baz=240						
TWE	Neicheng	1.00	317	iP	Pb	15 29 38.5	-0.8
	baz=313						
TWE				iS	Sn	15 29 51.9	+0.1
	baz=313						
ENTT	Nioudou	1.01	310	iP	Pb	15 29 38.8	-0.7
	baz=305						
ENTT				S	Sn	15 29 53.1	+0.9
	baz=305						
HGSD	Ruisui	1.04	242	P	Pb	15 29 37.9	-2.0
	baz=237						
NNSB	Datong	1.04	295	iP	Pb	15 29 39.3	-0.8
	baz=290						
NNSB				S	Sb	15 29 53.0	-0.5
	baz=290						
NNS	Nan Shan	1.05	295	iP	Pb	15 29 39.2	-1.1
	baz=290						
NNS				iS	Sb	15 29 53.0	-0.9
	baz=290						
FUSB	Fushanzhiwuyua	1.08	316	iP	Pn	15 29 40.0	+0.2
	baz=311						
FUSB				S	Sn	15 29 55.3	+1.5
	baz=311						
TWB1	Santiao Chiao	1.09	339	P	Pb	15 29 40.2	-0.6
	baz=336						
ECBN	Changbin	1.11	233	eS	Sb	15 29 53.7	-1.6
	baz=230						
EHY	Hungye	1.11	245	P	Pn	15 29 40.1	-0.1
	baz=240						
EHY				S	Sb	15 29 54.0	-1.4
	baz=240						
OWD	Renai	1.14	269	eP	Pn	15 29 40.5	-0.2
	baz=263						
CHGB	Renai	1.14	274	P	Pn	15 29 40.7	-0.1
	baz=269						
CHGB				S	Sb	15 29 55.5	-0.8
	baz=269						
NWLT	Wulai	1.15	313	eP	Pn	15 29 41.1	+0.3
	baz=309						
NWLT				S	Sn	15 29 56.3	+0.8
	baz=309						
YHNB	Yeheng	1.17	306	P	Pn	15 29 41.2	+0.1
YHNB	Yeheng	1.17	306	P	Pn	15 29 41.4	+0.3
	baz=288						
YHNB				S	Sn	15 29 57.2	+1.1
	baz=288						
NSK	Sanguang	1.19	305	P	Pn	15 29 41.6	+0.3
	baz=287						
NSK				S	Sb	15 29 56.8	-0.7
	baz=287						
YULB	Yu-li	1.19	240	P	Pn	15 29 41.1	-0.2
YULB	Yu-li	1.19	240	P	Pn	15 29 41.0	-0.3
	baz=236						
WUSB	Renai	1.19	270	eP	Pn	15 29 41.3	-0.1
	baz=256						
EYUL	Yuli	1.19	238	eP	Pn	15 29 41.9	+0.6
	baz=234						
VWDT	VWDT	1.19	259	P	Pn	15 29 41.0	-0.3
	baz=255						
VWDT				S	Sb	15 29 57.0	-0.6
	baz=255						
SXI1	Grass Mountain	1.21	336	P	Pn	15 29 41.3	-0.3
	baz=335						
SXI1				eS	Sb	15 29 56.9	-1.2
	baz=335						
TWF1	Yuli	1.21	239	eP	Pn	15 29 40.9	-0.7
	baz=223						
TWF1				eS	Sb	15 29 57.0	-1.1
	baz=223						
NWF	Wu-fen Shan	1.22	332	P	Pn	15 29 40.9	-1.0
	baz=328						
NWF				S	Sn	15 29 59.5	+2.0
	baz=328						
WFSB	Wu-fen Shan	1.22	332	eP	Pn	15 29 39.7	-2.1
	baz=328						
WFSB				S	Sn	15 29 59.5	+2.1
	baz=328						
IRIF	Iriomote-Funau	1.25	74	eP	Pb	15 29 42.8	-0.7
IRIF				S	Sn	15 29 58.4	+0.5
NHDH	Xindian Distri	1.27	320	eP	Pn	15 29 42.5	+0.1
	baz=316						
NHDH				eS	Sb	15 30 00.1	+0.3
	baz=316						
HATJ	Hateruma jima	1.27	87	eP	Pn	15 29 42.7	+0.3
HATJ				eS	Sn	15 29 58.8	+0.4
FULB	Fuli	1.30	233	eP	Pn	15 29 42.3	-0.5
	baz=230						
TATO	Taipei	1.30	319	P	Pb	15 29 43.9	-0.4
NFF	Wufeng Townshi	1.35	299	eP	Pn	15 29 44.4	+0.9
	baz=294						
NFF				eS	Sb	15 30 03.0	+0.9
	baz=294						
SSLB	Suanglung	1.36	262	P	Pb	15 29 46.3	+1.0
SSLB	Suanglung	1.36	262	eP	Pb	15 29 45.2	-0.2
	baz=258						
SSLB				S	Sn	15 30 00.8	+0.2
	baz=258						
WHP	Taichung City	1.38	282	eP	Pb	15 29 46.0	+0.2
	baz=268						
WCS	Beigang Elemen	1.38	273	eP	Pn	15 29 44.2	+0.3
	baz=268						
YM01	YM01	1.39	326	eP	Pb	15 29 45.2	-0.7
	baz=337						
YM01				eS	Sb	15 30 03.6	+0.4
	baz=337						
EHD	Haiduan	1.39	233	eP	Pn	15 29 43.5	-0.6
	baz=219						
SMLT	Sun Moon Lake	1.39	266	eP	Pb	15 29 45.4	-0.6
	baz=262						
SMLT				S	Sn	15 30 02.9	+1.2
	baz=262						
YM08	YM08	1.41	328	P	Pb	15 29 44.9	+0.5
	baz=324						
ECS	Chishang	1.42	231	eP	Pn	15 29 44.8	+0.4
	baz=217						
ECS				eS	Sn	15 30 03.8	+1.7
	baz=217						
TYC	Yuchr	1.43	267	P	Pn	15 29 45.7	+1.1
	baz=263						
TWS1	Kuangyinshan	1.44	321	eP	Pn	15 29 45.2	+0.5
	baz=317						
TWS1				eS	Sb	15 30 04.2	-0.3
	baz=317						
LIOB	Emei	1.44	297	eP	Pb	15 29 46.1	-0.6
	baz=293						
LIOB				S	Sb	15 30 04.7	0.0
	baz=293						
EDH	Donghe	1.44	226	eP	Pn	15 29 44.6	-0.1
	baz=223						
ANP	Anpu	1.45	326	eP	Pn	15 29 45.2	+0.3
	baz=322						
WHYT	Xinyi Township	1.46	259	P	Pb	15 29 46.5	-0.6
	baz=247						
WHYT				eS	Sb	15 30 05.0	-0.4
	baz=247						
JKRS	Kuro-shima	1.47	80	eP	Pn	15 29 45.9	+0.7
JKRS				eS	Sn	15 30 04.4	+0.9
TWY	Chenhua	1.48	330	eP	Pn	15 29 44.8	-0.5
	baz=326						
ELDTW	Lidau	1.51	239	eP	Pn	15 29 46.0	+0.2
	baz=235						
ALS	Alishan	1.55	252	P	Pb	15 29 48.2	-0.6
	baz=249						
LDUT	Ludao	1.57	214	eP	Pn	15 29 46.5	0.0
	baz=212						
WNT	Mingjian	1.59	266	P	Pb	15 29 50.1	+0.8
	baz=263						
WNT				S	Sb	15 30 09.1	0.0
	baz=263						
LONT	Longtian	1.60	228	eP	Pn	15 29 47.1	+0.1
	baz=238						
JIJ	Ishigaki jima	1.62	76	P	Pn	15 29 47.2	0.0
JIJ				S	Sn	15 30 07.9	+0.8
CHN5	Tsauling	1.64	257	eP	Pb	15 29 49.4	-0.9
	baz=243						
CHN5				S	Sb	15 30 10.6	0.0
	baz=243						
TWGBT	Beinan	1.69	227	eP	Pn	15 29 48.4	+0.1
	baz=236						
TWG	Pinlang	1.70	227	eP	Pn	15 29 48.3	0.0
	baz=236						
STYH	Taoyuan	1.71	242	eP	Pb	15 29 51.3	-0.1
	baz=229						
WDLH	Douliu	1.75	261	eP	Pn	15 29 50.7	+1.8
	baz=258						
WDLH				eS	Sb	15 30 13.1	-0.5
	baz=258						
WCKO	Fanlu	1.75	252	eP	Pb	15 29 50.9	-1.1
	baz=240						
WCKO				eS	Sb	15 30 13.9	+0.3
	baz=240						
TPUB	Ta-pu	1.78	248	P	Pb	15 29 51.9	-0.6
TPUB	Ta-pu	1.78	248	eP	Pb	15 29 51.4	-1.1
	baz=245						
TPUB				eS	Sb	15 30 13.8	-0.7
	baz=245						
CHN4	Tsaushan	1.79	250	eP	Pb	15 29 52.0	-0.7
	baz=247						
CHN4				eS	Sb	15 30 15.0	+0.3
	baz=247						
WTP	Ta-pu	1.81	246	eP	Pb	15 29 52.4	-0.7
	baz=244						
WTP				eS	Sb	15 30 14.5	-1.0
	baz=244						
JISG	Ishigakijimahi	1.83	71	P	Pn	15 29 50.4	+0.3
JISG				S	Sn	15 30 13.1	+0.9
WTK	Tuku	1.88	261	eP	Pb	15 29 53.2	-1.1
	baz=247						
SLGT	Liugui	1.91	239	eP	Pb	15 29 53.9	-0.8
	baz=228						
CHN1	Nanshi	1.91	246	eP	Pb	15 29 53.8	-1.0
	baz=243						
SNST	Tainan City	1.92	247	eP	Pb	15 29 54.2	-0.7
	baz=245						
SSD	Sandimen	2.06	233	eP	Pn	15 29 55.3	+2.1
	baz=223						
TSMG	Majia	2.07	232	eP	Pn	15 29 55.3	+1.9
	baz=222						
MASBT	Mashibuluo	2.14	231	eP	Pn	15 29 55.1	+0.8
	baz=221						
EAST	Anshuo	2.15	222	eP	Pn	15 29 54.9	+0.3
	baz=222						
SCZT	Fangliau	2.31	226	eP	Pn	15 29 59.2	+2.5
	baz=225						
PHUB	P'eng-hu	2.65	260	eP	Pn	15 30 02.4	+1.0
	baz=258						

IDC 18 15:39:52.2±1.9, 5°.81S×130°.72E, h0km, mb3.8/2, mbtmp3.8/5, ML4.0/3, Error ellipse: s-maj=52.0km s-min=27.5km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	8.24	238	Pn	Pn	15 41 54.6	+1.4
	5.3nm,0.3s,baz=68,slow=1.4,SNR=6.6						
BATI				Sn	Sn	15 43 12.6	-15
	6.1nm,0.3s,baz=56,slow=23,SNR=7.5 15nm,0.3s						
WRA	Warramunga Arr	14.48	166	Pn	Pn	15 43 18.7	0.0
	0.5nm,0.3s,baz=345,slow=11,SNR=22						
WRA				Sn	Sn	15 45 45.5	-15
	1.2nm,0.3s,baz=342,slow=22,SNR=12 0.8nm,0.8s						
ASAR	Alice Springs	18.02	171	P	Pn	15 44 03.3	-1.0
	0.4nm,0.3s,baz=345,slow=10,SNR=39						
ASAR				S	Sn	15 47 12.7	-13
	0.7nm,0.5s,baz=353,slow=29,SNR=7.7 0.9nm,0.4s						
CMAR	Chiang Mai Arr	39.54	308	P	P	15 47 24.8	-0.5
	0.4nm,0.6s,baz=133,slow=7.5,SNR=2.7 0.4nm,0.6s						
MKAR	Makanchi Array	67.63	326	P	P	15 50 51.2	+0.2
	1.0nm,0.5s,baz=113,slow=8.1,SNR=11 1.0nm,0.5s						

*NEIC **18** 16:00:36.2±2.3, 23°.79S±0°.09×175°.35W±0°.05, h10km±1km, mb4.6/15, Error ellipse: s-maj=15.6km s-min=4.6km az=22.0*

*IDC **18** 16:00:49.8±4.9, 24°.03S×176°.12W, h84km±40km, mb3.7/7, mbtmp4.0/8, MS3.8/5, Error ellipse: s-maj=32.4km s-min=25.8km az=73.0*

ISC 18 16:00:44.1±0.9, 23°.9S±0°.1×176°.0W±0°.2, h31km, n40, σ1°52/31, mb4.5/15, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.56**	**197**	Pn	**Pn**	**16 02 06.6**	**+1.9**
NIUE	**Niue**	**7.46**	**51**	Pn	Pn	16 02 18.6	-12
MSVF	**Nonsavu**	**8.27**	**317**	Pn	**Pn**	**16 02 42.9**	**+0.8**
MSVF	**Nonsavu**	**8.27**	**317**	P	Pn	16 02 48.1	+6.1
	19nm,0.8s,baz=108,slow=16,SNR=7.4						
MSVF				LR	LR	16 05 47.4	
	comp=Z,503nm,18.3s,baz=138,slow=36						
RAR	**Rarotonga**	**15.27**	**83**	Pn	Pn	16 04 02.8	-15
RAR	**Rarotonga**	**15.27**	**83**	LR	LR	16 09 28.8	
	comp=Z,132nm,19.1s,baz=70,slow=34						
DZM	**Mont Dzumac**	**16.23**	**279**	LR	LR	16 09 54.3	
	comp=Z,184nm,19.0s,baz=212,slow=34						
HNR	**Honiara**	**27.08**	**298**	LR	LR	16 15 08.2	
	comp=Z,1μm,22.0s,baz=176,slow=32						
CTAO	**Charters Tower**	**35.10**	**269**	P	**P**	**16 07 35.3**	**+0.5**
CTAO				IAmb	IAmb	16 07 58.3	
	comp=Z,8.4nm,0.9s						
TOO	**Toolangi**	**35.50**	**238**	P	**P**	**16 07 38.0**	**0.0**
TOO				IAmb	IAmb	16 07 44.6	
	comp=Z,16nm,1.5s						
PMG	**Port Moresby**	**37.95**	**286**	P	**P**	**16 07 58.5**	**-0.7**
STKA	**Stephens Creek**	**38.08**	**248**	P	**P**	**16 07 58.8**	**-1.3**
STKA	**Stephens Creek**	**38.08**	**248**	P	**P**	**16 07 59.8**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=102,slow=9.3,SNR=1.5						
	comp=Z,0.9nm,0.7s						
AS31	**Alice Springs**	**45.60**	**260**	P	**P**	**16 09 01.1**	**-0.6**
ASAR	**Alice Springs**	**45.60**	**260**	P	**P**	**16 09 01.3**	**-0.4**
ASAR	**Alice Springs**	**45.60**	**260**	P	**P**	**16 09 01.1**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=95,slow=7.3,SNR=22						
ASAR				PcP	**PcP**	**16 10 39.5**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=105,slow=4.2,SNR=1.5						
ASAR				LR	LR	16 26 42.1	
	comp=Z,97nm,18.0s,baz=112,slow=34						
	comp=Z,0.9nm,0.7s						
WR0	**Warramunga Arr**	**45.83**	**265**	P	**P**	**16 09 02.0**	**-1.5**
WR0				IAmb	IAmb	16 09 27.9	
	comp=Z,7.7nm,1.4s						
WB2	**Warramunga Arr**	**46.00**	**265**	P	**P**	**16 09 03.3**	**-1.6**
WB2				IAmb	IAmb	16 09 19.9	
	comp=Z,7.3nm,1.1s						
WB0	**Warramunga Arr**	**46.01**	**265**	P	**P**	**16 09 03.9**	**-1.1**
WB0				IAmb	IAmb	16 09 19.9	
	comp=Z,6.9nm,1.2s						
WRA	**Warramunga Arr**	**46.02**	**265**	P	**P**	**16 09 03.5**	**-1.5**
WRA	**Warramunga Arr**	**46.02**	**265**	P	**P**	**16 09 03.3**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=93,slow=8.4,SNR=43						
	comp=Z,1.5nm,0.6s						
MTN	**Manton Dam**	**51.07**	**273**	P	**P**	**16 09 43.0**	**-1.0**
MTN				IAmb	IAmb	16 09 47.1	
	comp=Z,8.0nm,1.0s						
KNRA	**Kununurra**	**52.31**	**268**	P	**P**	**16 09 51.9**	**-1.2**
CASY	**Casey**	**61.68**	**206**	P	P	16 10 55.3	-3.4
CASY				IAmb	IAmb	16 11 13.3	
	comp=Z,4.6nm,0.8s						
QSPA	**South Pole Qui**	**66.16**	**180**	P	P	16 11 25.5	-2.9
QSPA				IAmb	IAmb	16 11 47.5	
	comp=Z,5.8nm,1.1s						
QSPA	**South Pole Qui**	**66.16**	**180**	P	**P**	**16 11 28.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=63,slow=3.0,SNR=9.9						
	comp=Z,1.4nm,0.7s						
BELA	**Belgrano 2**	**75.94**	**172**	P	P	16 12 22.9	-4.5
BELA				IAmb	IAmb	16 12 43.4	
	comp=Z,2.2nm,0.9s						
TROLL	**Troll, Antarti**	**84.32**	**180**	⇑P	**P**	**16 13 11.8**	**-0.9**
	comp=Z,658nm,0.8s						
SNAA	**Sanae**	**84.54**	**178**	P	P	16 13 08.9	-4.9
SNAA	**Sanae**	**84.54**	**178**	⇑P	**P**	**16 13 12.5**	**-1.4**
SNAA	**Sanae**	**84.54**	**178**	P	**P**	**16 13 12.2**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=206,slow=6.2,SNR=6.8						
	comp=Z,1.4nm,0.8s						
VNA3	**Neumayer Olymp**	**84.61**	**176**	⇑P	**P**	**16 13 13.1**	**-1.0**
ILAR	**Eielson Array**	**91.25**	**12**	P	**P**	**16 13 44.4**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=216,slow=5.6,SNR=2.8						
	comp=Z,0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**92.95**	**289**	P	**P**	**16 13 55.0**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=131,slow=3.7,SNR=6.7						
	comp=Z,1.2nm,0.6s						
AKASG	**Malin Array Be**	**146.87**	**330**	PKPbc	**PKPdf**	**16 20 21.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=40,slow=3.3,SNR=7.4						
BRTR	**Keskin Array B**	**150.44**	**309**	PKPbc	**PKPbc**	**16 20 32.5**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=120,slow=2.0,SNR=4.5						
BURAR	**Bucovina Array**	**150.92**	**330**	PKPab	**PKPbc**	**16 20 34.9**	**+1.2**
MMAI	**Mount Meron Ar**	**151.00**	**295**	PKPbc	**PKPdf**	**16 20 33.4**	**+4.8**
	comp=Z,1.0nm,0.5s,baz=42,slow=8.0,SNR=2.2						
CLL	**Collm**	**151.78**	**348**	*e*PKPab	**PKPbc**	**16 20 38.0**	**+2.6**
TORD	**Torodi Ar. Bea**	**169.07**	**168**	PKPab	**PKPab**	**16 21 58.6**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=146,slow=1.0,SNR=2.2						

*IDC **18** 16:11:42.9±1.8, 35°.51N×70°.07E, h0km, mb3.6/4, mbtmp3.5/7, ML2.8/3, Error ellipse: s-maj=52.1km s-min=24.7km az=79.0*

ISC 18 16:11:56.3±1.7, 36°.0N±0°.2×70°.5E±0°.3, h100km, n7, σ0°72/7, mb3.3/3, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.98**	**36**	Pn	**Pn**	**16 15 10.1**	**+0.3**
	0.1nm,0.3s,baz=221,slow=18,SNR=1.4						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**15.77**	**19**	Pn	**Pn**	**16 15 31.3**	**-1.1**
	baz=195,slow=9.8,SNR=1.8						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**17.05**	**360**	P	**P**	**16 15 48.3**	**-0.3**
	baz=161,slow=11,SNR=5.2						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**20.58**	**25**	P	**P**	**16 16 27.2**	**+0.3**
	0.7nm,0.4s,baz=218,slow=10,SNR=3.1						
	0.7nm,0.4s						
ARCES	**ARCESS Array B**	**41.47**	**338**	P	**P**	**16 19 33.4**	**+0.5**
	2.8nm,0.8s,baz=117,slow=7.5,SNR=5.7						
	2.8nm,0.8s						
WRA	**Warramunga Arr**	**82.09**	**121**	P	**P**	**16 24 05.4**	**-0.5**
	0.2nm,0.4s,baz=323,slow=5.0,SNR=7.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**84.32**	**124**	P	**P**	**16 24 17.4**	**+0.1**
	0.2nm,0.7s,baz=319,slow=5.0,SNR=6.0						
	0.2nm,0.7s						

*ISK **18** 16:26:35.3, 36°.23N×35°.80E, h14km, ML3.1/32*
*AFAD **18** 16:26:35.9±0.0, 36°.21N×35°.90E, h8km±2km, ML3.3*
*GRAL **18** 16:26:35.3±0.6, 36°.35N×35°.87E, h33km±597km, MD3.4*
*GII **18** 16:26:36.0±0.0, 36°.08N×35°.83E, h10km, Mm3.0/6*
*NIC **18** 16:26:40.0, 35°.84N×35°.80E, h12km±31km, Ml3.1/9*

ISC 18 16:26:34.8±0.9, 36°.17N±0°.02×35°.84E±0°.02, h15km±6km, n86, σ1°12/122, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASUZ	**Hatay-Arsuz**	**0.13**	**340**	P	**Pg**	**16 26 38.6**	**+0.2**
ASUZ				S	**Sg**	**16 26 41.2**	**+0.4**
ASUZ				*i* AML	AML	16 26 43.0	
	comp=N,1μm,0.5s						
ASUZ				*i* AML	AML	16 26 43.0	
	comp=E,8μm,0.1s						
RHAN	**Hatay/Reyhanl**	**0.62**	**82**	P	**Pb**	**16 26 47.6**	**+0.3**
RHAN				S	**Sg**	**16 26 55.1**	**-0.2**
RHAN				*i* AML	AML	16 26 56.0	
	comp=N,2μm,0.3s						
RHAN				*i* AML	AML	16 26 58.0	
	comp=E,2μm,0.3s						
YURE	**YUREGIR**	**0.68**	**346**	P	**Pb**	**16 26 48.6**	**+0.3**
YURE				S	**Sg**	**16 26 53.9**	**-3.0**
KARA	**Karaisali**	**1.26**	**330**	Pn	**Pb**	**16 26 58.2**	**+0.3**
KARA				Sn	**Sb**	**16 27 14.8**	**+0.5**
KIZK	**Mersin**	**1.40**	**283**	Pn	**Pn**	**16 26 59.2**	**-0.6**
KIZK	**Mersin**	**1.40**	**283**	P	**Pn**	**16 26 58.9**	**-1.0**
KIZK				S	**Sn**	**16 27 18.1**	**0.0**
KIZK				*i* AML	AML	16 27 23.0	
	comp=N,375nm,0.4s						
HCB	**Kahramanmara**	**1.45**	**36**	P	**Pb**	**16 27 01.2**	**-0.3**
HCB				S	**Sn**	**16 27 17.2**	**-2.2**
KHMR	**Kahramanmara**	**1.45**	**36**	P	**Pb**	**16 27 01.5**	**0.0**
KHMR				S	**Sn**	**16 27 18.4**	**-1.0**
ANDN	**Andirin**	**1.47**	**16**	P	**Pb**	**16 27 02.5**	**+0.7**
ANDN				S	**Sn**	**16 27 19.7**	**-0.1**
GAZ	**Gaziantep**	**1.49**	**47**	Pn	**Pb**	**16 27 01.7**	**-0.5**
GAZ				Sn	**Sb**	**16 27 21.5**	**+0.5**
GAZ	**Gaziantep**	**1.49**	**47**	AML	AML	16 27 27.8	
	1.2nm,0.3s						
GAZ				AML	AML	16 27 28.6	
	1.3nm,0.5s						
EREN	**Erenkoy**	**1.50**	**245**	Pn	**Pb**	**16 27 02.8**	**+0.5**
EREN				Sn	**Sb**	**16 27 22.4**	**+1.3**
KMRS	**Kahramanmaras**	**1.58**	**32**	Pn	**Pb**	**16 27 04.1**	**+0.4**
CMRD	**Camardi-Nigde**	**1.64**	**336**	Pn	**Pb**	**16 27 03.5**	**+0.3**
BEIL	**Beino**	**1.65**	**170**	*e*P	**Pn**	**16 27 03.6**	**+0.3**
BEIL				*e*S	**Sn**	**16 27 24.4**	**+0.2**
KARG	**Kargicak-Mersi**	**1.72**	**272**	Pn	**Pn**	**16 27 05.3**	**+1.0**
KEBE	**Keben-Mersin**	**1.74**	**280**	Pn	**Pn**	**16 27 05.4**	**+0.9**
IKL	**Isikli**	**1.74**	**273**	Pn	**Pn**	**16 27 05.4**	**+0.9**
TISA	**Tisan-Mersin**	**1.75**	**270**	Pn	**Pn**	**16 27 05.4**	**+0.8**
YESI	**Yesilovacik-Me**	**1.78**	**271**	Pn	**Pn**	**16 27 05.9**	**+0.9**
SAIM	**ADANA**	**1.81**	**6**	P	**Pb**	**16 27 07.3**	**-0.5**
GZT	**Gaziantep**	**1.82**	**49**	P	**Pn**	**16 27 06.1**	**+0.4**
GZT				S	**Sn**	**16 27 27.4**	**-1.2**
GZT				*i* AML	AML	16 27 37.0	
	comp=N,283nm,0.4s						
GZT				*i* AML	AML	16 27 38.0	
	comp=E,276nm,0.5s						
AKKU	**Akkuyu-Mersin**	**1.85**	**270**	Pn	**Pn**	**16 27 06.9**	**+0.9**
KERG	**Konya-Eregli**	**1.85**	**313**	P	**Pb**	**16 27 07.9**	**-0.5**
KERG				S	**Sn**	**16 27 29.3**	**-0.1**
AKK2	**Akkuyu-Mersin**	**1.85**	**270**	Pn	**Pn**	**16 27 06.9**	**+0.9**
TEPK	**Tepekoy-MERSIN**	**1.86**	**272**	Pn	**Pn**	**16 27 07.2**	**+1.1**
GULN	**MERSIN_Gulnar**	**1.86**	**271**	P	**Pn**	**16 27 06.0**	**-0.1**
GULN				S	**Sn**	**16 27 27.3**	**-2.0**
AKK1	**Akkuyu-Mersin**	**1.86**	**270**	Pn	**Pn**	**16 27 06.9**	**+0.8**
PARAL	**Paralímni**	**1.88**	**232**	P	**Pn**	**16 27 07.1**	**+0.8**
PARAL				S	**Sn**	**16 27 30.2**	**+0.4**
PARAL				AML	AML	16 27 32.4	
	0.4nm,0.4s						
PARAL				AML	AML	16 27 40.2	
	0.3nm,0.9s						
HWQ	**Hawqa**	**1.89**	**177**	*e*P	**Pn**	**16 27 06.7**	**+0.1**
HWQ				*e*S	**Sn**	**16 27 30.4**	**+0.2**
OREN	**Orenkoy-Mersin**	**1.93**	**272**	Pn	**Pn**	**16 27 08.2**	**+1.2**
TEVE	**Tevekalti-Mers**	**1.95**	**279**	Pn	**Pn**	**16 27 07.9**	**+0.4**
YAHY	**KAYSERI_Yahyal**	**1.96**	**349**	P	**Pb**	**16 27 09.5**	**-0.7**
YORU	**Yoruktepe-Mers**	**1.97**	**270**	Pn	**Pn**	**16 27 08.6**	**+1.0**
NIDE	**Nigde/Merkez-G**	**2.02**	**335**	P	**Pb**	**16 27 11.0**	**-0.2**
NIDE				*i* AML	AML	16 27 39.0	
	comp=E,240nm,0.9s						
LFK	**Lefkose**	**2.08**	**245**	Pn	**Pn**	**16 27 10.7**	**+1.5**
BERE	**Bereket-Mersin**	**2.12**	**276**	Pn	**Pn**	**16 27 10.9**	**+1.0**
MVOU	**Mavrovouni**	**2.14**	**238**	P	**Pb**	**16 27 12.2**	**-0.9**
MVOU				S	**Sb**	**16 27 39.0**	**-0.5**
MVOU				AML	AML	16 27 47.5	
	0.2nm,0.9s						
MVOU				AML	AML	16 27 54.8	
	0.4nm,0.8s						
AKCA	**Adyaman/G¶l**	**2.19**	**42**	P	**Pn**	**16 27 11.6**	**+0.8**
AKCA				S	**Sg**	**16 27 43.8**	**-1.6**
AKCA				*i* AML	AML	16 27 51.0	
	comp=E,307nm,0.7s						
AKCA				*i* AML	AML	16 27 52.0	
	comp=N,256nm,0.5s						
TEKE	**Tekeli-Mersin**	**2.21**	**270**	Pn	**Pn**	**16 27 12.4**	**+1.5**
BHL	**Bhannes**	**2.27**	**184**	*e*P	**Pn**	**16 27 11.9**	**+0.2**
SARI	**SarD1z-Kayseri**	**2.28**	**11**	Pn	**Pn**	**16 27 13.7**	**+1.6**
KRMN	**Karaman**	**2.30**	**297**	Pn	**Pn**	**16 27 12.8**	**+0.5**
ZAHL	**Zahle**	**2.31**	**179**	*e*P	**Pn**	**16 27 12.8**	**+0.4**
SURC	**SANLIURFA_SURC**	**2.34**	**72**	P	**Pn**	**16 27 13.1**	**+0.2**
SURC				S	**Sn**	**16 27 41.8**	**+0.4**
SURC				*i* AML	AML	16 27 53.0	
	comp=N,211nm,0.3s						
SURC				*i* AML	AML	16 27 53.0	
	comp=E,258nm,1.1s						
CSS	**Mathiatis**	**2.37**	**240**	Pn	**Pn**	**16 27 15.5**	**+2.3**
CSS	**Mathiatis**	**2.37**	**240**	Pn	**Pn**	**16 27 14.0**	**+0.8**
CSS	**Mathiatis**	**2.37**	**240**	P	**Pb**	**16 27 17.0**	**-0.3**
CSS				S	**Sb**	**16 27 45.3**	**-1.0**
CSS				AML	AML	16 27 54.3	
	0.2nm,0.5s						
CSS				AML	AML	16 27 59.9	
	0.1nm,0.6s						
DQRL	**Deir Qamar**	**2.47**	**185**	*e*P	**Pn**	**16 27 14.8**	**+0.3**
DQRL				*e*S	**Sn**	**16 27 44.4**	**-0.1**
AKDN	**Akdeniz- Kıbrı**	**2.49**	**250**	Pn	**Pn**	**16 27 15.9**	**+1.1**
GULA	**Gulagac**	**2.52**	**330**	Pn	**Pn**	**16 27 16.3**	**+1.0**
ASGA	**Asgata**	**2.53**	**238**	P	**Pn**	**16 27 16.5**	**+1.2**
ASGA				S	**Sn**	**16 27 47.1**	**+1.3**
ASGA				AML	AML	16 28 04.3	
	0.2nm,0.7s						
ASGA				AML	AML	16 28 06.1	
	0.2nm,0.6s						
KKBE	**Karaman, Kazim**	**2.56**	**295**	P	**Pn**	**16 27 18.1**	**+2.3**
RCY	**Rachaya**	**2.67**	**180**	*e*P	**Pn**	**16 27 18.1**	**+0.8**
BNN	**Bunyan**	**2.68**	**0**	Pn	**Pn**	**16 27 19.2**	**+1.7**
TROD	**Troodos**	**2.71**	**244**	P	**Pn**	**16 27 20.6**	**+2.6**
TROD				S	**Sb**	**16 27 55.7**	**-0.7**
TROD				AML	AML	16 28 12.1	
	0.2nm,0.7s						
TROD				AML	AML	16 28 12.7	
	0.2nm,0.9s						
DARE	**Darende-Malaty**	**2.73**	**28**	Pn	**Pn**	**16 27 20.7**	**+2.5**
HDMB	**Hadim**	**2.81**	**287**	Pn	**Pn**	**16 27 20.4**	**+1.0**
SHBL	**Chebaa**	**2.82**	**182**	*e*P	**Pn**	**16 27 20.2**	**+0.8**
ALFC	**Alefka**	**2.83**	**250**	P	**Pn**	**16 27 18.9**	**-0.5**
ALFC				S	**Sn**	**16 27 49.6**	**-3.6**
ALFC				AML	AML	16 28 01.8	
	0.2nm,0.5s						
ALFC				AML	AML	16 28 04.2	
	0.2nm,0.4s						
GAZI	**Gazipasa**	**2.85**	**272**	Pn	**Pn**	**16 27 21.4**	**+1.6**
NATI	**Neve Ativ**	**2.90**	**182**	Pn	**Pn**	**16 27 21.0**	**+0.6**
NATI				Sn	**Sn**	**16 27 54.7**	**-0.3**
GEM	**Giv'at Ha'Em**	**2.96**	**183**	Pn	**Pn**	**16 27 21.4**	**+0.2**
GEM				Sn	**Sn**	**16 27 56.1**	**-0.3**
NATA	**Nata**	**3.01**	**243**	P	**Pb**	**16 27 27.1**	**-1.0**
NATA				S	**Sn**	**16 28 00.6**	**+2.9**
NATA				AML	AML	16 28 16.7	
	0.5nm,0.7s						
NATA				AML	AML	16 28 20.6	
	0.4nm,0.8s						
AKMS	**Akamas**	**3.08**	**249**	P	**Pb**	**16 27 27.8**	**-1.4**
AKMS				S	**Sn**	**16 28 01.7**	**+2.3**
AKMS				AML	AML	16 28 13.1	
	0.3nm,0.9s						
AKMS				AML	AML	16 28 15.4	
	0.3nm,0.9s						
HNTI	**Hanita**	**3.13**	**190**	Sn	**Sn**	**16 28 00.7**	**0.0**
MMA0B	**Mount Meron ar**	**3.17**	**187**	Pn	**Pn**	**16 27 24.5**	**+0.3**
MMA0B				Sn	**Sn**	**16 28 01.2**	**-0.5**
KSHT	**Keshet**	**3.18**	**180**	Pn	**Pn**	**16 27 25.2**	**+0.9**
KSHT				Sn	**Sn**	**16 28 01.9**	**-0.1**
YAYX	**Yaylak**	**3.20**	**330**	Pn	**Pn**	**16 27 25.9**	**+1.3**
KONT	**Konya--Tatoy**	**3.30**	**304**	Pn	**Pn**	**16 27 25.5**	**+1.6**
CHBY	**Cihanbeyli**	**3.36**	**317**	Pn	**Pn**	**16 27 27.8**	**+0.9**
LADK	**Ladik-KONYA**	**3.44**	**307**	Pn	**Pn**	**16 27 29.6**	**+1.7**
SEYD	**Seydisehir-KON**	**3.44**	**292**	Pn	**Pn**	**16 27 29.6**	**+1.6**
OFRI	**`Ofer**	**3.61**	**192**	Sn	**Sn**	**16 28 11.5**	**-1.1**
KULU	**Kulu**	**3.65**	**323**	Pn	**Pn**	**16 27 32.1**	**+1.3**
MMLI	**Mount Malkishu**	**3.74**	**185**	Pn	**Pn**	**16 27 33.3**	**+1.3**
MMLI				Sn	**Sn**	**16 28 15.6**	**-0.2**
MMLI	**Mount Malkishu**	**3.74**	**185**	P	**Pn**	**16 27 33.6**	**+1.6**
MMLI				S	**Sn**	**16 28 15.0**	**-0.8**
HMDT	**Nahal Hemdat**	**3.92**	**184**	Pn	**Pn**	**16 27 35.3**	**+0.9**
HMDT				Sn	**Sn**	**16 28 19.9**	**-0.2**
SLTI	**Sal'it**	**3.98**	**190**	Pn	**Pn**	**16 27 36.2**	**+1.0**
SLTI				Sn	**Sn**	**16 28 21.4**	**-0.2**
SALP	**Salfit**	**4.13**	**188**	Pn	**Pn**	**16 27 38.1**	**+0.8**
SALP				Sn	**Sn**	**16 28 25.3**	**0.0**
DSI	**Dead Sea**	**4.60**	**185**	Pn	**Pn**	**16 27 44.0**	**+0.2**
AMAZ	**Amatzia**	**4.69**	**190**	Pn	**Pn**	**16 27 45.2**	**+0.2**
AMAZ				Sn	**Sn**	**16 28 39.4**	**+0.2**
YTIR	**Yattir**	**4.83**	**187**	Pn	**Pn**	**16 27 48.0**	**+0.9**
YTIR				Sn	**Sn**	**16 28 43.4**	**+0.6**
MDBI	**Mazsada**	**4.86**	**185**	Sn	**Sn**	**16 28 42.9**	**-0.4**
KZIT	**Kziot**	**5.39**	**193**	Pn	**Pn**	**16 27 55.9**	**+1.3**
PRNI	**Paran**	**5.84**	**187**	Pn	**Pn**	**16 28 01.8**	**+0.9**

*IDC **18** 16:26:57.2±0.5, 23°.90S×175°.87W, h0km, mb4.5/13, mbtmp4.5/14, ML5.1/2, MS4.5/8, Error ellipse: s-maj=22.6km s-min=15.7km az=114.0*
*NEIC **18** 16:26:57.6±2.4, 23°.82S±0°.09×175°.5W±0°.1, h10km±1km, mb4.9/45, Error ellipse: s-maj=18.4km s-min=12.4km az=124.0*
*NOU **18** 16:27:02.3, 23°.91S×175°.12W, h77km, mb4.9/41, Tonga Islands Region*

ISC 18 16:26:57.7±0.6, 23°.94S±0°.06×175°.42W±0°.06, h11km±3km, h11km:pP-P, n199, σ1°69/193, mb5.0/55, MS4.9/12, 13C-16D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.74**	**202**	P	**Pn**	**16 28 25.5**	**+2.7**
RAO	**Raoul Island**	**5.74**	**202**	Pn	**Pn**	**16 28 23.6**	**+0.7**
	246nm,0.3s,baz=2.3,slow=23,SNR=8.5						
RAO				Sn	**Sn**	**16 29 27.6**	**-1.1**
	83nm,0.3s,baz=73,slow=19,SNR=2.1						
NIUE	**Niue**	**7.04**	**48**	Pn	**Pn**	**16 28 38.9**	**-1.8**
NIUE	**Niue**	**7.04**	**48**	P	**Pn**	**16 28 39.1**	**-1.7**
MSVF	**Nonsavu**	**8.68**	**314**		**Pn**	**16 29 04.5**	**+1.2**
MSVF	**Nonsavu**	**8.68**	**314**	P	Pn	16 29 07.6	+4.2
MSVF	**Nonsavu**	**8.68**	**314**	Pn	**Pn**	**16 29 06.4**	**+3.0**
	3.1nm,0.3s,baz=137,slow=13,SNR=27						
MSVF				LR	LR	16 31 57.4	
	comp=Z,2μm,20.4s,baz=106,slow=36						
AFI	**Afiamalu**	**10.56**	**20**	Pn	**Pn**	**16 29 26.2**	**-2.8**
AFI	**Afiamalu**	**10.56**	**20**	P	**Pn**	**16 29 30.2**	**+1.1**
RAR	**Rarotonga**	**14.71**	**82**	Pn	**Pn**	**16 30 23.1**	**-2.7**
RAR	**Rarotonga**	**14.71**	**82**	P	**Pn**	**16 30 22.6**	**-3.2**
RAR	**Rarotonga**	**14.71**	**82**	Pn	**Pn**	**16 30 22.9**	**-2.8**
	20nm,0.3s,baz=242,slow=8.9,SNR=18						
RAR				Sn	Sn	16 32 55.8	-13
	3.7nm,0.3s,baz=300,slow=20,SNR=3.7						
RAR				LR	LR	16 35 47.3	
	comp=Z,631nm,19.0s,baz=272,slow=35						
URZ	**Urewera**	**15.63**	**202**	P	**Pn**	**16 30 39.5**	**+1.6**
URZ	**Urewera**	**15.63**	**202**	Pn	**Pn**	**16 30 37.8**	**-0.1**
	2.0nm,0.3s,baz=46,slow=4.7,SNR=3.4						
URZ				Sn	Sn	16 33 13.7	-17
	0.5nm,0.3s,baz=240,slow=20,SNR=1.7						
	7.0nm,0.4s						
PINNC	**Pines Island,**	**15.80**	**271**	Pn	**Pn**	**16 30 38.7**	**-1.5**
PINNC				IAmb	IAmb	16 30 55.0	
	comp=Z,151nm,1.4s						
PINNC	**Pines Island,**	**15.80**	**271**	P	**P**	**16 30 44.5**	**+0.4**
RTZ	**Ruatahuna**	**15.99**	**202**	Pn	**Pn**	**16 30 43.0**	**+0.3**
HIZ	**Hauiti**	**16.72**	**207**		**P**	**16 30 53.1**	**-1.1**
HIZ	**Hauiti**	**16.72**	**207**	P	**P**	**16 30 54.2**	**0.0**
	comp=Z,40nm,0.5s						
DZM	**Mont Dzumac**	**16.80**	**273**	*e*P	Pn	16 30 44.4	-8.7
	comp=Z,172nm,27.6s						
DZM				*e*LR	LR	16 34 41.1	
	comp=Z,915nm,23.6s						
DZM	**Mont Dzumac**	**16.80**	**273**	P	**P**	**16 30 57.3**	**+2.0**
DZM	**Mont Dzumac**	**16.80**	**273**	Pn	**P**	**16 30 57.8**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=114,slow=18,SNR=3.5						
DZM				LR	LR	16 36 13.0	
	comp=Z,735nm,19.0s,baz=73,slow=34						
BFZ	**Birch Farm**	**18.10**	**201**	P	**P**	**16 31 09.6**	**+0.2**
QRZ	**Quartz Range**	**19.64**	**208**	P	**P**	**16 31 26.7**	**+0.4**
KHZ	**Kahutara**	**20.58**	**204**	P	**P**	**16 31 34.8**	**-1.7**
LTZ	**Lake Taylor**	**21.37**	**206**	P	**P**	**16 31 45.1**	**-0.1**
RPZ	**Rata Peaks**	**22.64**	**206**	P	**P**	**16 32 00.0**	**+1.3**
JCZ	**Jackson Bay**	**23.89**	**209**	P	**P**	**16 32 11.1**	**-0.3**
PAE	**Paea**	**24.93**	**80**	*e*T	T	16 58 30.7	
	comp=Z,4.8nm,0.3s						
PPT2	**Papeete2**	**24.96**	**80**	*e*LR	LR	16 37 54.4	
	comp=Z,534nm,27.0s						
PPT2				*e*LR	LR	16 38 21.2	
	comp=Z,608nm,22.2s						
PPT	**Papeete**	**24.96**	**80**	LR	LR	16 41 36.6	
	comp=Z,481nm,18.4s,baz=185,slow=35						
WHZ	**Wether Hill Ro**	**25.70**	**207**	P	**P**	**16 32 26.6**	**-1.2**
WHZ				IAmb	IAmb	16 32 40.0	
	comp=Z,51nm,1.4s						
DCZ	**Deep Cove**	**25.70**	**209**	P	**P**	**16 32 27.4**	**-0.4**
SYZ	**Scrubby Hill**	**25.74**	**205**	P	**P**	**16 32 28.1**	**0.0**
	comp=Z,65nm,2.1s						
HNR	**Honiara**	**27.

PLAI	Plampang	65.31	271	P	P	16 37 39.2	-1.1
QSPA	South Pole Qui	66.14	180	P	P	16 37 46.9	+1.9
	comp=Z,9.8nm,1.0s,baz=26,slow=2.0,SNR=18						
	comp=Z,9.8nm,1.0s						
TOLI2	Tolitoli	66.66	282	P	P	16 37 47.3	-1.6
BELA	Belgrano 2	75.84	172	P	P	16 38 44.5	+1.0
BELA				IAmb	IAmb	16 38 58.4	
	comp=Z,7.2nm,0.8s						
TPUB	Ta-pu	77.83	302	P	P	16 38 53.5	-2.1
JKA	Kamikawa-asahi	77.88	330	P	P	16 38 55.8	+0.5
JKA				IAmb	IAmb	16 39 17.8	
	comp=Z,20nm,1.2s						
MAW	Mawson	79.14	199	P	P	16 39 03.6	+1.6
MAW	Mawson	79.14	199	P	P	16 39 03.9	+1.9
	comp=Z,4.1nm,0.7s,baz=176,slow=3.3,SNR=14						
	comp=Z,4.1nm,0.7s						
PEA0B	Petropavlovsk-	80.21	344	P	P	16 39 08.1	+0.3
PETK	Petropavlovsk-	80.21	344	P	P	16 39 08.6	+0.7
PETK	Petropavlovsk-	80.21	344	P	P	16 39 08.9	+1.0
	comp=Z,8.4nm,0.8s,baz=228,slow=6.8,SNR=9.3						
	comp=Z,8.4nm,0.8s						
NVAR	Mina Array Bea	81.93	42	P	P	16 39 16.1	-1.6
NVAR	Mina Array Bea	81.93	42	P	P	16 39 20.7	+3.0
	comp=Z,1.6nm,0.8s,baz=224,slow=9.7,SNR=12						
	comp=Z,1.6nm,0.8s						
H03S2	Juan Fernandez	82.10	123	T	T	18 10 40.5	
	baz=244,slow=74						
H03S1	Juan Fernandez	82.11	123	T	T	18 10 38.4	
	baz=244						
H03S3	Juan Fernandez	82.11	123	T	T	18 10 48.8	
	baz=244,slow=74						
H03N2	Juan Fernandez	82.25	123	T	T	18 10 47.8	
	baz=251,slow=73						
H03N3	Juan Fernandez	82.25	123	T	T	18 10 36.3	
	baz=251,slow=73						
H03N1	Juan Fernandez	82.26	123	T	T	18 10 57.3	
	baz=251,slow=73						
USRK	Ussuriysk Ar.	83.14	325	P	P	16 39 24.4	+0.8
	comp=Z,7.1nm,0.8s,baz=128,slow=3.1,SNR=16						
	comp=Z,7.1nm,0.8s						
TUC	Tucson	83.27	50	P	P	16 39 24.9	+0.3
TUC				IAmb	IAmb	16 39 41.5	
	comp=Z,7.1nm,1.2s						
ELIB	Princess Elisa	83.49	186	dP	P	16 39 25.4	+0.1
	comp=Z,16nm,1.2s						
ELIB				dx	x	16 39 37.7	
NJ2	Nanjing	83.90	309	eP	P	16 39 28.0	+0.3
NJ2				pP	PcP	16 39 31.3	-0.4
NJ2				sP	pwP	16 39 34.3	-3.0
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,180nm,3.6s						
TROLL	Troll, Antarti	84.30	179	⇓P	P	16 39 31.3	+1.9
	comp=Z,732nm,0.9s						
SNAA	Sanae	84.50	178	P	P	16 39 31.0	+0.7
SNAA				IAmb	IAmb	16 39 45.2	
	comp=Z,16nm,1.0s						
SNAA	Sanae	84.50	178	⇓P	P	16 39 31.8	+1.5
	comp=Z,109nm,0.8s						
SNAA	Sanae	84.50	178	P	P	16 39 31.6	+1.2
	comp=Z,5.1nm,0.9s,baz=156,slow=1.4,SNR=16						
	comp=Z,5.1nm,0.9s						
KNB	Kanab	84.54	46	P	P	16 39 29.9	-1.3
KNB				IAmb	IAmb	16 39 48.6	
	comp=Z,7.2nm,0.9s						
VNA3	Neumayer Olymp	84.55	175	⇓P	P	16 39 32.0	+1.4
	comp=Z,13nm,0.9s						
WUAZ	Wupatki	84.65	47	P	P	16 39 31.7	0.0
WUAZ				IAmb	IAmb	16 39 40.2	
	comp=Z,4.7nm,0.9s						
MDJ	Mudanjiang	84.69	324	P	P	16 39 32.9	+1.4
MDJ				pmax	pmax		
	comp=Z,17nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,200nm,5.9s						
SZCU	Shurtz Canyon	84.70	45	P	P	16 39 32.3	+0.3
SZCU				IAmb	IAmb	16 39 49.4	
	comp=Z,6.5nm,0.9s						
VNA2	Neumayer--Watz	85.02	176	⇓P	P	16 39 34.6	+1.7
	comp=Z,8.3nm,0.8s,baz=186,slow=4.0						
VNA1	Neumayer--Stat	85.23	176	⇓P	P	16 39 35.7	+1.8
	comp=Z,13nm,1.0s						
CN2	Changchun	86.47	321	eP	P	16 39 40.8	+0.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BNX	BinXian	86.60	324	⇓P	P	16 39 42.1	+1.2
BNX				pmax	pmax		
	comp=Z,17nm,0.9s						
BNX				pmax	pmax		
	comp=Z,180nm,4.3s						
TXAR	Lajitas Array	86.94	56	P	P	16 39 43.0	-0.1
TXAR	Lajitas Array	86.94	56	P	P	16 39 46.1	+3.0
	comp=Z,1.1nm,0.9s,baz=210,slow=7.2,SNR=7.7						
	comp=Z,1.1nm,0.9s						
RPSI	Rantau Prapat	87.11	274	P	P	16 39 42.5	-1.7
RPSI				IAmb	IAmb	16 39 45.3	
	comp=Z,19nm,1.2s						
TIA	Tai'an	87.34	312	eP	P	16 39 46.0	+1.2
TIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ANMO	Albuquerque	87.72	50		P	16 39 45.3	-1.6
ANMO				IAmb	IAmb	16 39 56.5	
	comp=Z,7.5nm,1.3s						
GSI	Gunungsitoli	87.78	272	P	P	16 39 47.7	+0.3
J20K	Nowinta River	89.39	9	P	P	16 39 54.8	+0.9
J20K				IAmb	IAmb	16 39 56.3	
	comp=Z,8.7nm,1.0s						
HEH	HeiHe	89.48	327	eP	P	16 39 55.9	+1.3
HEH				pmax	pmax		
	comp=Z,12nm,1.1s						
HEH				pmax	pmax		
	comp=Z,250nm,5.1s						
LYN	LuoYang	89.76	308	⇓P	P	16 39 58.3	+2.0
LYN				pmax	pmax		
	comp=Z,25nm,1.1s						
LYN				pmax	pmax		
	comp=Z,250nm,5.0s						
LYN				LR	LR		
	comp=N,520nm,15.8s						
LYN				LR	LR		
	comp=E,350nm,26.8s						
LYN				LR	LR		
	comp=Z,800nm,21.6s						
PDAR	Pinedale Array	89.86	42	P	P	16 39 58.9	+2.0
	comp=Z,0.8nm,0.9s,baz=158,slow=2.8,SNR=2.2						
	comp=Z,0.8nm,0.9s						
BJI	Beijing	90.00	314	P	P	16 39 57.9	+0.6
BJI				PcP	pP	16 39 58.6	-0.4
BJI				sP	sP	16 40 02.1	+2.4
BJI				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BJI				LR	LR		
	comp=N,140nm,15.0s						
BJI				LR	LR		
	comp=E,71nm,15.8s						
BJI				LR	LR		
	comp=Z,110nm,17.5s						
M27K	Edge Creek, AK	90.07	15	P	P	16 39 56.9	-0.4
GYA	Guiyang	90.41	299	⇓P	P	16 40 00.6	+0.9
GYA				pmax	pmax		
	comp=Z,14nm,1.6s						
WRH	Wood River Hil	90.66	11	P	P	16 40 01.1	+1.3
ILAR	Eielson Array	91.15	12	P	P	16 40 03.6	+1.6
	comp=Z,1.3nm,0.7s,baz=219,slow=4.9,SNR=11						
	comp=Z,1.3nm,0.7s						
TIY	Taiyuan	91.34	311	⇑P	P	16 40 05.9	+2.2
XLT	XiLinHaoTe	92.09	318	eP	P	16 40 07.9	+0.9
XLT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,4.8s						
XLT				LR	LR		
	comp=N,37nm,12.9s						
XLT				LR	LR		
	comp=E,390nm,13.9s						
XLT				LR	LR		
	comp=Z,540nm,15.4s						
KMI	Kunming	93.02	296	⇑P	P	16 40 13.6	+1.7
KMI				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC	Hu-ho-hao-te	93.45	313	eP	P	16 40 12.3	-1.1
HHC				pmax	pmax		
	comp=Z,45nm,0.5s						
HHC				pmax	pmax		
	comp=Z,190nm,5.1s						
CM31	Chiang Mai Arr	93.49	289	P	P	16 40 13.2	-0.8
CMAR	Chiang Mai Arr	93.49	289	P	P	16 40 13.8	-0.1
CMAR	Chiang Mai Arr	93.49	289	P	P	16 40 15.2	+1.2
	comp=Z,8.9nm,0.9s,baz=131,slow=3.1,SNR=41						
	comp=Z,8.9nm,0.9s						
ATAH	Atahualpa	93.51	99	LR	LR	17 14 56.9	
	comp=Z,138nm,18.8s,baz=246,slow=31						
CHTO	Chiang Mai	93.63	289	P	P	16 40 14.8	+0.1
BTO	Baotou	94.37	313	eP	P	16 40 19.4	+1.8
BTO				pP	pwP	16 40 24.0	-3.2
BTO				sP	sP	16 40 26.5	+6.5
BTO	Baotou	94.37	313	S	S	16 51 34.5	+4.9
BTO	Baotou	94.37	313	sS	sS	16 51 37.4	+4.9
BTO	Baotou	94.37	313	SS	SS	16 57 55.3	+3.3
BTO				pmax	pmax		
	comp=Z,26nm,0.9s						
BTO				pmax	pmax		
	comp=Z,120nm,4.4s						
BTO				LR	LR		
	comp=N,500nm,15.2s						
BTO				LR	LR		
	comp=E,380nm,16.0s						
BTO				LR	LR		
	comp=Z,540nm,17.5s						
GTA	Gaotai	100.98	308	eP	Pdif	16 40 50.3	+2.8
GTA				pP	pwP	16 41 02.1	+4.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.7s						
WMQ	Urumqi	110.97	310	eP	PKiKP	16 45 30.3	-0.8
WMQ				LR	LR		
	comp=Z,160nm,26.3s						
MKAR	Makanchi Array	115.28	312	PKP	PKPdf	16 45 38.6	-0.6
	comp=Z,0.4nm,0.6s,baz=85,slow=3.0,SNR=2.5						
I62A	Tamworth	116.09	51	PKPdf	PKPdf	16 45 39.1	-1.7
KURBB	Kurchatov Arra	118.18	316	PKP	PKPdf	16 45 43.7	-0.9
	comp=Z,0.3nm,0.6s,baz=88,slow=2.0,SNR=5.4						
BVAR	Borovoye Array	123.23	319	PKP	PKiKP	16 45 54.7	+0.1
	comp=Z,0.7nm,0.4s,baz=114,slow=2.3,SNR=5.8						
GEYT	Alibeck	132.61	300	PKP	PKiKP	16 46 13.3	-0.5
	comp=Z,2.3nm,0.8s,baz=266,slow=4.3,SNR=2.6						
ARCES	ARCESS Array B	132.71	350	PKP	PKPdf	16 46 12.3	+0.4
	comp=Z,3.4nm,0.9s,baz=14,slow=1.5,SNR=7.4						
FINES	FINESS Array B	139.73	344	PKhKP	PKPpre	16 46 16.3	
	comp=Z,4.3nm,1.0s,baz=90,slow=1.9,SNR=4.9						
FINES				PKP	pPKPdf	16 46 26.4	-0.5
	comp=Z,1.0nm,0.5s,baz=115,slow=2.0,SNR=5.7						
HFS	Hagfors	143.28	352	PKhKP	PKPpre	16 46 27.5	
	comp=Z,2.1nm,0.5s,baz=72,slow=4.8,SNR=12						
BCA	Borcka	144.60	309	⇓P	PKPdf	16 46 34.1	-0.4
NACGM	Naroch	144.95	338	ePKP	PKPdf	16 46 35.6	+1.0
	comp=Z,44nm,0.8s,baz=37						
AKASG	Malin Array Be	147.17	331	PKPbc	PKPbc	16 46 40.5	-0.2
	comp=Z,3.4nm,0.5s,baz=39,slow=3.6,SNR=20						
EKA	Eskdalemuir Ar	148.13	8	PKPbc	PKPbc	16 46 43.7	+0.5
	comp=Z,0.9nm,0.5s,baz=336,slow=3.3,SNR=6.1						
SORM	Soroca	149.38	328	⇓P	PKiKP	16 46 47.5	-0.2
BRTR	Keskin Array B	150.89	310	PKPbc	PKPbc	16 46 50.5	-0.3
	comp=Z,3.1nm,0.8s,baz=112,slow=2.9,SNR=14						
BURAR	Bucovina Array	151.22	330	⇑P	PKiKP	16 46 52.4	+0.7
TESR	Tescani	151.34	327	⇓P	PKiKP	16 46 52.4	+0.5
KOLS	Kolonicke sedl	151.42	335	ePKP	PKiKP	16 46 53.7	+1.7
CFR	Carcaliu	151.46	324	⇑P	PKiKP	16 46 52.4	+0.3
TPGR	Topolog	151.51	323	⇓P	PKiKP	16 46 53.1	+0.8
MMAI	Mount Meron Ar	151.52	295	PKPbc	PKiKP	16 46 52.6	-0.2
	comp=Z,9.1nm,0.8s,baz=75,slow=4.4,SNR=13						
VRI	Vrincioaia	151.74	326	⇑P	PKiKP	16 46 53.7	+0.9
HARR	Harsova	151.88	323	⇑P	PKiKP	16 46 54.3	+1.3
CLL	Collm	151.92	349	ePKPdf	PKPdf	16 46 48.0	+2.0
CLL				i PKPbc	pPKPbc	16 46 53.8	-0.6
	comp=Z,7.0nm,0.7s						
CLL				i PKPab	PKPab	16 47 00.1	-1.5
	comp=Z,6.0nm,1.0s						
OSTC	Ostas	151.93	344	⇑ePKP	PKiKP	16 46 54.4	+1.4
DPC	Dobruska-Polom	152.10	344	⇑ePKP	PKiKP	16 46 54.6	+1.2
DPC				ex	x	16 47 05.0	
BRG	Berggiesshubel	152.15	347	ePKP	PKiKP	16 46 55.2	+1.8
BRG				Amp		16 46 56.8	
	comp=Z,4.8nm,0.6s						
BRG	Berggiesshubel	152.15	347	P	PKPab	16 47 04.8	+2.2
BRG				Amp		16 47 05.7	
	comp=Z,5.8nm,0.8s						
KRLC	Kraliky	152.23	343	⇑ePKP	PKiKP	16 46 54.9	+1.2
MORC	Moravsky Berou	152.29	342	⇑P	PKiKP	16 46 55.0	+1.2
MORC	Moravsky Berou	152.29	342	ePKP	PKiKP	16 46 53.9	+0.1
DOPR	Dopca	152.34	328	⇓P	PKiKP	16 46 55.4	+1.4
MLR	Muntele Rosu	152.40	326	⇓P	PKiKP	16 46 55.1	+0.8
PRU	Pruhonice	152.86	346	⇑ePKP	PKiKP	16 46 55.1	+0.2
VOIR		152.88	327	⇑P	PKiKP	16 46 57.0	+1.8
KRUC	Moravsky	153.26	343	ePKP	PKPbc	16 46 55.3	-0.3
KHC	Kasperske Hory	153.88	347	ePKPDF	PKPdf	16 46 47.0	-2.1
KHC				⇑ePKP	pPKPbc	16 46 58.5	-0.4
KHC				ePKPAB	PKPab	16 47 09.7	-0.3
CONA	Conrad Observa	154.44	342	epPKP	PKPab	16 47 14.8	+2.3
	comp=Z,9.1nm,1.5s						
RONA	Rosalia, Austr	154.52	341	epPKP	PKPab	16 47 15.3	+2.5
	comp=Z,4.8nm,0.7s						
ARSA	Arzberg	155.15	342	ePKP	PKPab	16 47 15.4	-0.1
	comp=Z,2.0nm,0.9s						
SOKA	Soboth	155.81	342	epPKP	PKPab	16 47 19.9	+1.5
	comp=Z,7.1nm,1.2s						
KBA	Koelnbreinsper	155.87	345	epPKP	PKPab	16 47 20.6	+1.8
	comp=Z,4.1nm,0.8s						
WATA	Walderalm	155.99	348	epPKP	PKPab	16 47 22.4	+3.2
	comp=Z,2.1nm,0.7s						
WTTA	Wattenberg	156.05	348	epPKP	PKPab	16 47 21.3	+1.8
	comp=Z,12nm,1.7s						
OBKA	Obir	156.09	343	pPKP	PKPab	16 47 20.3	+0.6
	comp=Z,1.9nm,0.6s						
ABTA	Abfaltersbach	156.37	346	epPKP	PKPab	16 47 22.0	+1.2
	comp=Z,3.6nm,1.1s						
PRED	Cave del Predi	156.41	344		PKPab	16 47 19.2	-1.7
TORD	Torodi Ar. Bea	168.92	165	PKP	PKPdf	16 47 05.0	-0.7
	comp=Z,1.4nm,1.0s,baz=0.0,slow=1.5,SNR=5.9						
TORD				PKPab	PKPab	16 48 16.8	+0.5
	comp=Z,1.0nm,0.8s,baz=253,slow=1.3,SNR=4.3						

RSNC 18 16:38:56.9±1.6, 5°.27N×73°.73W, h152km±6km, ML3.1, Mw3.6, 5C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIC	Chingaza	0.64	180	⇑eP	Pn	16 39 19.4	-0.4
CHIC				eS	Sn	16 39 36.3	-0.9
CHIC				i		16 39 39.0	
	comp=Z,204nm,0.6s						
ROSC	El Rosal	0.73	234	⇑iP	Pn	16 39 21.0	+0.7
ROSC				eS	Sn	16 39 39.0	+1.0
ROSC				i		16 39 42.3	
	comp=Z,245nm,0.3s						
RUSC	La Rusia	0.89	46	eP	Pn	16 39 21.6	0.0
RUSC				eS	Sn	16 39 40.4	0.0
RUSC				i		16 39 42.5	
	comp=Z,161nm,0.4s						
VILC	Villavicencio,	1.15	178	eP	Pn	16 39 22.7	-0.7
VILC				eS	Sn	16 39 42.7	-1.0
NORC	Norcasia	1.17	284	⇑eP	Pn	16 39 22.6	-0.9
NORC				eS	Sn	16 39 42.8	-1.0
NORC				i		16 39 43.8	
	comp=Z,196nm,0.1s						
BARC	Barichara	1.42	22	eP	Pn	16 39 25.7	-0.4
BARC				eS	Sn	16 39 46.8	-1.7
BARC				i		16 39 52.1	
	comp=Z,109nm,0.2s						
PTBC	PUERTO BERRIO,	1.45	330	eP	Pn	16 39 25.0	-1.2
PTBC				eS	Sn	16 39 46.8	-1.9
PTBC				i		16 39 49.4	
	comp=Z,61nm,0.2s						
GUY2C	Guyana, Caldas	1.63	268	eP	Pn	16 39 27.8	-0.8
GUY2C				eS	Sn	16 39 52.9	+0.3
GUY2C				i		16 39 58.5	
	comp=Z,53nm,0.4s						
BRRC	Barranca, Sant	1.82	0	eP	Pn	16 39 30.2	0.0
BRRC				eS	Sn	16 39 55.6	-0.2
BRRC				i		16 39 59.2	
	comp=Z,82nm,0.2s						
PTGC	Puerto Gaitan,	1.91	124	⇓iP	Pn	16 39 30.5	-0.7
PTGC				eS	Sn	16 39 55.2	-2.3
PTGC				i		16 39 59.2	
	comp=Z,92nm,0.2s						
PRAC	Prado	1.93	217	⇑iP	Pn	16 39 31.0	-0.4
PRAC				eS	Sn	16 39 57.1	-0.9
PRAC				i		16 40 00.1	
	comp=Z,214nm,0.3s						
ORTC	Ortega, Tolima	2.03	228	⇑iP	Pn	16 39 31.9	-0.7
ORTC				eS	Sn	16 39 58.9	-1.1
ORTC				i		16 40 02.6	
	comp=Z,84nm,0.4s						
TAMC	Tame, Arauca	2.25	59	eP	Pn	16 39 35.2	+0.1
TAMC				eS	Sn	16 40 03.7	-0.8
TAMC				i		16 40 05.1	
	comp=Z,48nm,0.2s						
PAMC	Pamplona, Colo	2.29	26	eP	Pn	16 39 36.6	+0.5
PAMC				eS	Sn	16 40 05.8	-0.6
PAMC				i		16 40 08.4	
	comp=Z,38nm,0.3s						
ZARC	Zaragoza, Cauc	2.48	333	eP	Pn	16 39 35.8	-2.0
ZARC				eS	Sn	16 40 07.4	-2.1
ZARC				i		16 40 15.4	
	comp=Z,88nm,0.5s						
PLMC	San Jos del P	2.57	262	eP	Pn	16 39 39.8	+0.7
PLMC				eS	Sn	16 40 13.7	+2.1
YOTC	Yotoco, Valle	2.91	244	eP	Pn	16 39 42.7	-0.6
YOTC				eS	Sn	16 40 19.7	+0.5
DBBC	Dabeiba	3.02	305	eP	Pn	16 39 44.4	-0.3
DBBC				eS	Sn	16 40 21.0	-0.6
DBBC				i		16 40 24.2	
	comp=Z,45nm,0.4s						
UREC	San Jos de Ur	3.05	324	eP	Pn	16 39 42.5	-2.5
UREC				eS	Sn	16 40 18.8	-3.4
UREC				i		16 40 20.3	
	comp=Z,90nm,0.4s						
MACC	Macarena, Meta	3.11	182	eS	Sn	16 40 20.6	-3.0
GARC	Garzon, Huila	3.54	210	eP	Pn	16 39 50.3	-1.1
GARC				eS	Sn	16 40 31.5	-2.3
JAMC	Jamundi, Valle	3.58	235	eP	Pn	16 39 52.6	+0.6
POPC	Popayan, Colom	4.00	227	eP	Pn	16 39 58.1	+0.6
LL6C	La Loma 6 Bece	4.46	6	eP	Pn	16 40 02.6	-0.7
LL6C				eS	Sn	16 40 53.6	-1.3
SJCC	San Jacinto, C	4.81	343	eP	Pn	16 40 04.8	-3.2
SJCC				eS	Sn	16 40 58.0	-5.4
SJCC				i		16 41 00.9	
	comp=Z,18nm,0.4s						
CRJC	Cerrejon, Guaj	5.77	8	eP	Pn	16 40 18.4	-2.3
CRJC				eS	Sn	16 41 20.4	-5.9
CRJC				i		16 41 24.3	
	comp=Z,20nm,0.5s						

MOS ***18*** *16:44:33.7±1.0, 5°.50S×147°.13E, h195km, mb5.3/35, Error ellipse: s-maj=8.8km s-min=4.8km az=106.7*

NEIC ***18*** *16:44:35.2±1.6, 5°.56S±0°.06×147°.18E±0°.07, h193km±1km, mb5.3/287, Mwb5.6/29, Mww5.6/29, Error ellipse: s-maj=12.6km s-min=10.6km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.90; $M_{\theta\theta}$-2.48; $M_{\phi\phi}$-0.42; $M_{r\theta}$1.12; $M_{\theta\phi}$-0.52; $M_{\phi r}$-1.39; Fault plane solution: $M_0$3.29000×10^{17} NP1:ϕ_s239.54000°, δ39.89000°, λ56.38000°. NP2:ϕ_s100.45000°, δ57.72000°, λ114.83000°. Principal axes: T 3.6485, Plg67.0000°, Azm60.0000°; N -0.9199, Plg21.0000°, Azm267.0000°; P -2.7286, Plg9.0000°, Azm173.0000°;*

NEIC ***18*** *16:44:35.2, 5°.57S×147°.28E, h200km, Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10^{17}Nm; M_{rr}2.44; $M_{\theta\theta}$-3.21; $M_{\phi\phi}$0.77; $M_{r\theta}$1.57; $M_{\theta\phi}$0.19; $M_{\phi r}$-1.63; Fault plane solution: $M_0$3.69000×10^{17} NP1: ϕ_s246.68000°, δ36.11000°, λ44.28000°. NP2: ϕ_s118.45000°, δ65.71000°, λ117.57000°. Principal axes: T 3.6711, Plg60.0000°, Azm69.0000°; N 0.0338, Plg25.0000°, Azm286.0000°; P -3.7049, Plg16.0000°, Azm189.0000°;*

IDC ***18*** *16:44:35.7±0.5, 5°.61S×147°.20E, h205km±4km, mb4.9/26, mbtmp5.5/31 Error ellipse: s-maj=12.7km s-min=7.0km az=90.0*

NEIC ***18*** *16:44:35.2, 5°.57S×147°.18E, h200km*

NEIC ***18*** *16:44:36, 5°.57S×147°.20E, h196km*

DJA ***18*** *16:44:36.0±0.3, 6°S±2°×14°7E±°, h209km±4km, M5.2/57, mB5.6/38, mb5.3/57, MLv6.0/6, Mw(mB)5.0/38, MwMwp5.2/13, Mwp5.4/13*

GCMT ***18*** *16:44:38.2±0.1, 5°.66S±0°.01×147°.28E±0°.01, h205km, MW5.7/158, Moment Tensor Solution. s144,c235; s158,c334; Duration: 1s7 Moment tensor: Scale 10^{17} Nm; M_{rr}3.24±.04; $M_{\theta\theta}$-3.42±.04; $M_{\phi\phi}$0.17±.04; $M_{r\theta}$1.67±.04; $M_{\theta\phi}$0.03±.04; $M_{\phi r}$-1.81±.04; Best double couple: $M_0$4.12200×10^{17} NP1:ϕ_s114.00000°, δ63.00000°, λ113.00000°. NP2:ϕ_s251.00000°, δ35.00000°, λ53.00000°. Principal axes: T 4.3730, Plg64.0000°, Azm64.0000°; N -0.5040, Plg20.0000°, Azm283.0000°; P -3.8710, Plg15.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 16:44:35.9±0.2, 5°.65S±0°.03×147°.24E±0°.03, h210km±2km, h210km:pP-P, n1265, σ1s21/1326, mb5.3/247, 39C-40D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.58	2	Pn	Pn	16 45 33.0	+0.1
MANU	Manus Island	3.58	2	P	Pn	16 45 33.4	+0.4
PMG	Port Moresby	3.74	181	Pn	Pn	16 45 34.0	-0.8
PMG	Port Moresby	3.74	181	P	Pn	16 45 34.4	-0.4
PMG	Port Moresby	3.74	181	P	Pn	16 45 34.3	-0.5
PMG	Port Moresby	3.74	181	ceP	Pn	16 45 34.3	-0.5
PMG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PMG	Port Moresby	3.74	181	P	Pn	16 45 34.2	-0.6
	comp=Z,2μm,0.3s,baz=354,slow=5.7,SNR=2467						
PMG				S	S	16 46 16.9	-3.9
	comp=Z,10μm,0.8s,baz=214,slow=21,SNR=20						
WEWK	Wewak	4.13	300	P	Pn	16 45 38.9	-0.7
KAVG	Kavieng	4.68	50	P	Pn	16 45 46.6	+0.1
KRVT	Keravat (AS076	4.95	75	P	Pn	16 45 49.4	-0.5
	comp=Z,555nm,0.5s,baz=136,slow=24,SNR=232						
RABL	Rabaul	5.11	74	Pn	Pn	16 45 51.8	-0.3
RABL	Rabaul	5.11	74	P	Pn	16 45 52.4	+0.4
TABU	Tabubil	6.00	273	P	Pn	16 46 02.9	-0.5
JAY	Jayapura	7.22	295	P	Pn	16 46 17.2	-2.0
	comp=Z,328nm,0.9s,comp=Z,3μmcomp=Z,6μmcomp=Z,1.2nm						
MMPI	Merauke	7.36	247	P	Pn	16 46 20.8	-0.1
	comp=Z,703nm,0.7s,comp=Z,8μmcomp=Z,25μmcomp=Z,6.5nm						
GENI	Genyem	7.68	293	P	Pn	16 46 23.5	-1.5
GENI	Genyem	7.68	293	P	Pn	16 46 21.7	-3.3
	comp=Z,341nm,1.0s,comp=Z,5μmcomp=Z,7μmcomp=Z,5.5nm						
CO

comp=Z,118nm,0.7s,comp=Z,2μm
BNDI Bandanaira 17.30 273 P **Pn 16 48 25.0 -0.4**
BNDI Bandanaira 17.30 273 P **Pn 16 48 24.7 -0.7**
comp=Z,992nm,0.6s,comp=Z,10μm
MTN Manton Dam 17.42 245 P **P 16 48 25.8 +0.8**
baz=17,SNR=180
MTN Manton Dam 17.42 245 P **P 16 48 25.3 +0.4**
MTN Manton Dam 17.42 245 P **Pn 16 48 26.4 -0.4**
RK1H Rockhampton Ha 17.91 170 P **Pn 16 48 32.4 0.0**
comp=Z,298nm,0.9s
WB0 Warramunga Arr 18.80 221 P **P 16 48 40.2 +0.4**
WR0 Warramunga Arr 18.84 220 P **P 16 48 41.1 +0.9**
WRAB Tennant Creek 18.94 220 P **P 16 48 42.0 +0.6**
WRAB Tennant Creek 18.94 220 P **P 16 48 42.6 +1.2**
WRAB Tennant Creek 18.94 220*d i*P **P 16 48 42.6 +1.2**
WRAB pmax pmax
comp=Z,728nm,0.8s
WB2 Warramunga Arr 18.95 220 P **P 16 48 42.0 +0.6**
WRA Warramunga Arr 18.96 220 P **P 16 48 42.3 +0.8**
WRA Warramunga Arr 18.96 220 *i* P **P 16 48 40.5 -1.0**
WRA pmax pmax
comp=Z,251nm,0.4s
WRA Warramunga Arr 18.96 220 P **P 16 48 42.8 +1.2**
comp=Z,566nm,0.8s,baz=48,slow=12,SNR=1154
WRA S **S 16 52 04.2 -1.5**
comp=Z,106nm,1.0s,baz=45,slow=18,SNR=13
GUMO Guam 19.25 353 P **P 16 48 43.7 -1.0**
GUMO Guam 19.25 353 P **P 16 48 46.2 +1.5**
GUMO Guam 19.25 353 P **P 16 48 43.7 -1.0**
GUMO Guam 19.25 353 P **P 16 48 44.8 +0.1**
comp=Z,307nm,0.8s,baz=175,slow=11,SNR=14
EIDS Eidsvold 19.95 170 P **P 16 48 54.3 +2.2**
baz=20,SNR=15
EIDS Eidsvold 19.95 170 P **P 16 48 53.0 +0.8**
EIDS Eidsvold 19.95 170 P **Pn 16 48 54.5 -2.2**
NLAI Namlea 20.22 276 P **P 16 48 56.1 +1.0**
comp=Z,33nm,0.8s
LBMI Labuha 20.32 283 P **P 16 48 57.2 +1.0**
comp=Z,198nm,1.1s,comp=Z,3μm
KNRA Kununurra 20.69 240 P **P 16 48 59.9 -0.2**
baz=21,SNR=424
KNRA Kununurra 20.69 240 P **P 16 48 60.0 -0.2**
KNRA Kununurra 20.69 240 P **P 16 49 00.4 +0.3**
RMQ Roma 20.77 176 P **P 16 49 03.3 +2.4**
baz=21,SNR=128
RMQ Roma 20.77 176 P **P 16 49 03.5 +2.6**
QLP Quilpie 21.02 188 P **P 16 49 05.0 +1.6**
baz=21,SNR=170
QLP Quilpie 21.02 188 P **P 16 49 05.4 +2.0**
SANI Sanana 21.50 279 P **P 16 49 08.1 -0.5**
SANI Sanana 21.50 279 P **P 16 49 09.2 +0.6**
comp=Z,253nm,0.8s,comp=Z,2μm
AS31 Alice Springs 22.04 214 P **P 16 49 15.2 +1.4**
ASAR Alice Springs 22.04 214 P **P 16 49 14.8 +1.0**
ASAR Alice Springs 22.04 214 P **P 16 49 15.3 +1.5**
comp=Z,269nm,0.8s,baz=49,slow=8.4,SNR=1829
ASAR S **S 16 53 04.8 +3.0**
comp=Z,64nm,0.7s,baz=32,slow=21,SNR=6.7
ASAR ScP **ScP 16 56 21.9 +0.6**
comp=Z,3.8nm,0.7s,baz=21,slow=2.8,SNR=2.5
comp=Z,269nm,0.8s
KOUNC Koumac, New Ca 22.21 133 P **P 16 49 17.2 +1.8**
INKA Innaminka 22.82 195 P **P 16 49 22.6 +1.8**
SOEI Soe 23.12 258 P **P 16 49 24.1 +0.2**
SOEI Soe 23.12 258 P **P 16 49 24.9 +1.0**
SOEI Soe 23.12 258 P **P 16 49 24.6 +0.7**
comp=Z,276nm,0.7s,comp=Z,3μmcomp=Z,3μm
BATI Baumata 23.78 258 P **P 16 49 31.5 +1.8**
KMSI Cibinong 24.03 284 P **P 16 49 32.7 +0.7**
comp=Z,108nm,0.9s,comp=Z,2μmcomp=Z,1μm
LIFNC LIFOU 24.55 130 P **P 16 49 39.7 +3.1**
BBSI Bau Bau 24.55 269 P **P 16 49 38.8 +2.1**
comp=Z,88nm,1.0s,comp=Z,1μm
OOD Oodnadatta 24.61 205 P **P 16 49 39.2 +2.1**
NOUC Port Laguerre 24.64 133 P **P 16 49 39.0 +1.6**
DZM Mont Dzumac 24.73 133 *e*P **P 16 49 37.7 -0.6**
comp=Z,180nm,1.4s
DZM *e*S **S 16 53 36.9 -8.0**
comp=Z,2μm,27.7s
DZM Mont Dzumac 24.73 133 P **P 16 49 38.6 +0.3**
DZM IAmb IAmb 16 49 42.3
comp=Z,88nm,1.2s
DZM Mont Dzumac 24.73 133 P **P 16 49 39.8 +1.5**
LUWI Luwuk 24.84 280 P **P 16 49 39.9 +0.5**
comp=Z,128nm,0.9s
MMRI Maumere 24.98 262 P **P 16 49 38.8 -1.8**
MMRI Maumere 24.98 262 P **P 16 49 40.6 0.0**
MMRI Maumere 24.98 262 P **P 16 49 39.9 -0.7**
comp=Z,337nm,1.0s,comp=Z,3μm
ARMA Armidale 24.99 171 P **P 16 49 42.7 +2.1**
baz=25,SNR=250
ARMA Armidale 24.99 171 P **P 16 49 42.2 +1.7**
ARMA Armidale 24.99 171 P **P 16 49 42.7 +2.1**
GTOI Gorontalo 24.99 284 P **P 16 49 41.8 +1.2**
comp=Z,25nm,0.7s,comp=Z,734nm
YATNC Mamie plateau, 25.05 133 P **P 16 49 43.4 +2.3**
EDFI Ende, Flores 25.53 262 P **P 16 49 43.9 -1.8**
comp=Z,364nm,0.9s,comp=Z,3μmcomp=Z,2μm
CMSA Cobar Meteorol 25.80 183 P **P 16 49 49.0 +1.3**
baz=26,SNR=54
CMSA Cobar Meteorol 25.80 183 P **P 16 49 49.0 +1.3**
LCRK Leigh Creek 26.09 198 P **P 16 49 51.5 +1.1**
WRKA Warakurna 26.49 221 P **P 16 49 55.0 +0.9**
baz=27,SNR=98
WRKA Warakurna 26.49 221 P **P 16 49 54.9 +0.9**
STKA Stephens Creek 26.62 191 P **P 16 49 55.9 +0.7**
STKA Stephens Creek 26.62 191 P **P 16 49 56.3 +1.1**
comp=Z,14nm,0.4s,baz=9.2,slow=8.2,SNR=66
comp=Z,14nm,0.4s
BASI Baing, Sumba 26.79 259 P **P 16 49 57.1 +0.3**
comp=Z,570nm,0.9s,comp=Z,6μm
BKSI Bulukumba 27.00 269 P **P 16 49 58.2 -0.5**
comp=Z,26nm,1.5s,comp=Z,834nm
TOLI2 Tolitoli 27.26 283 P **P 16 50 00.7 -0.3**
TOLI2 IAmb IAmb 16 50 47.7
comp=Z,75nm,0.9s
KAPI Kappang 27.38 270 P **P 16 50 01.9 -0.1**
KAPI IAmb IAmb 16 50 52.5
comp=Z,52nm,0.9s
KAPI Kappang 27.38 270 P **P 16 50 01.9 -0.1**
KAPI pmax pmax
comp=Z,52nm,0.9s
TTSI Tana Toraja 27.46 274 P **P 16 50 01.1 -1.7**
comp=Z,28nm,1.1s,comp=Z,956nm
MULG Mulgathing 27.47 205 P **P 16 50 03.8 +1.1**
MGCD Mangrove Creek 27.66 173 P **P 16 50 05.9 +1.6**
baz=28,SNR=13
MGCD Mangrove Creek 27.66 173 P **P 16 50 06.4 +2.1**
YNG Young 28.53 178 P **P 16 50 13.9 +1.8**
HTT Hallett 28.71 195 P **P 16 50 14.6 +1.0**
baz=29,SNR=58
HTT Hallett 28.71 195 P **P 16 50 15.1 +1.4**
PTPS Port Pirie 28.71 196 P **P 16 50 14.9 +1.3**
BBOO Buckleboo 28.97 200 P **P 16 50 16.7 +0.8**
baz=29,SNR=65
BBOO Buckleboo 28.97 200 P **P 16 50 16.4 +0.5**
BBOO IAmb IAmb 16 51 12.1
comp=Z,56nm,0.8s
BBOO Buckleboo 28.97 200 P **P 16 50 16.7 +0.8**
PLAI Plampang 29.39 262 P **P 16 50 19.1 -0.8**
PLAI Plampang 29.39 262 P P 16 50 14.9 -5.0
comp=Z,136nm,0.9s
CAN Canberra 29.57 177 P **P 16 50 23.0 +1.7**
CAN IAmb IAmb 16 50 24.2
comp=Z,32nm,0.6s
CAN Canberra 29.57 177 P **P 16 50 23.2 +1.9**
CAN Canberra 29.57 177 P **P 16 50 23.0 +1.7**
CAN pmax pmax
comp=Z,33nm,0.6s
CNB Canberra Magne 29.59 176 P **P 16 50 23.3 +1.9**
baz=30,SNR=34
CNB Canberra Magne 29.59 176 P **P 16 50 23.2 +1.7**
MBWA Marble Bar 30.80 237 P **P 16 50 31.8 -0.4**
MBWA IAmb IAmb 16 50 35.1
comp=Z,51nm,0.8s
MBWA Marble Bar 30.80 237 P **P 16 50 33.0 +0.8**
MBWA Marble Bar 30.80 237 P **P 16 50 32.9 +0.6**
FORT Forrest 30.82 213 P **P 16 50 33.4 +1.1**
baz=31,SNR=39
FORT Forrest 30.82 213 P **P 16 50 33.1 +0.8**
FORT Forrest 30.82 213 P **P 16 50 33.6 +1.3**
PSA00 Pilbara Seismi 30.89 237 P **P 16 50 32.9 -0.1**
PSA00 IAmb IAmb 16 50 36.0
comp=Z,31nm,0.8s
PSA00 Pilbara Seismi 30.89 237 P **P 16 50 33.8 +0.8**

MILA Mila 31.31 177 P **P 16 50 38.2 +1.7**
baz=32,SNR=12
MILA Mila 31.31 177 P **P 16 50 38.2 +1.7**
ARPS Mount Arapiles 31.37 188 P **P 16 50 38.6 +1.6**
baz=32,SNR=44
ARPS Mount Arapiles 31.37 188 P **P 16 50 38.7 +1.7**
YSA Yasawairara 31.67 113 P **P 16 50 42.9 +3.0**
TOO Toolangi 31.82 183 P **P 16 50 43.2 +2.2**
baz=32,SNR=4.2
TOO Toolangi 31.82 183 P **P 16 50 42.6 +1.6**
TOO Toolangi 31.82 183 P **P 16 50 42.7 +1.8**
TOO Toolangi 31.82 183 P **P 16 50 42.6 +1.6**
TOO pmax pmax
comp=Z,34nm,0.8s
BRAT Ballarat 31.90 185 P **P 16 50 43.9 +2.3**
BBKI Banjar Baru 32.37 272 P **P 16 50 45.8 -0.2**
comp=Z,25nm,0.7s
MSVF Nonsavu 32.41 114 P **P 16 50 47.7 +1.3**
MSVF IAmb IAmb 16 50 50.1
comp=Z,63nm,1.0s
MSVF Nonsavu 32.41 114 P **P 16 50 48.4 +2.0**
MSVF Nonsavu 32.41 114 P **P 16 50 47.7 +1.3**
MSVF pmax pmax
comp=Z,63nm,1.0s
MSVF Nonsavu 32.41 114 P **P 16 50 48.7 +2.3**
JCJ Chichijima 32.91 352 P **P 16 50 49.4 -1.2**
JCJ Chichijima 32.91 352 P **P 16 50 50.5 0.0**
JCJ Chichijima 32.91 352 P **P 16 50 45.9 -4.7**
comp=Z,306nm,0.4s,baz=252,slow=3.1,SNR=25
JAGI Jajag, Banyuwa 32.95 263 P **P 16 50 48.6 -2.5**
JAGI IAmb IAmb 16 50 51.3
comp=Z,91nm,0.8s
JAGI Jajag, Banyuwa 32.95 263 P **P 16 50 50.8 -0.3**
JAGI Jajag, Banyuwa 32.95 263 P **P 16 50 46.5 -4.6**
comp=Z,137nm,0.9s
DGTI Dogotuki 33.56 111 P **P 16 50 58.2 +1.9**
TAVE Taveuni 33.99 112 P **P 16 51 03.5 +3.5**
MEEK Meekatharra 34.36 229 P **P 16 51 04.1 +0.9**
baz=34,SNR=142
MEEK Meekatharra 34.36 229 P **P 16 51 04.5 +1.3**
KMBL Kambalda 34.92 220 P **P 16 51 08.8 +0.9**
baz=35,SNR=88
KMBL Kambalda 34.92 220 P **P 16 51 09.2 +1.3**
GIRL Giralia 36.06 239 P **P 16 51 19.9 +2.3**
baz=36,SNR=13
GIRL Giralia 36.06 239 P **P 16 51 19.7 +2.1**
UGM Wanagama 36.52 264 P **P 16 51 23.1 +1.4**
MOO Moorlands 36.64 180 P **P 16 51 24.9 +2.6**
baz=37,SNR=5.2
MOO Moorlands 36.64 180 P **P 16 51 24.8 +2.6**
JMJ Miyako jima 2 37.06 326 P **P 16 51 27.6 +1.6**
TAU Tasmania Unive 37.11 180 P **P 16 51 29.4 +3.2**
JOW Kunigami 37.15 331 P **P 16 51 26.2 -0.5**
JOW Kunigami 37.15 331 P **P 16 51 27.3 +0.5**
JOW Kunigami 37.15 331 P **P 16 51 27.2 +0.5**
comp=Z,68nm,0.4s,baz=162,slow=7.4,SNR=29
comp=Z,68nm,0.4s
MORW Morawa 37.58 228 P **P 16 51 31.5 +1.1**
baz=38,SNR=20
MORW Morawa 37.58 228 IAmb IAmb 16 51 33.3
comp=Z,125nm,1.1s
MORW Morawa 37.58 228 P **P 16 51 31.6 +1.1**
KLBR Kellerberrin 37.79 223 P **P 16 51 32.8 +0.7**
baz=38,SNR=32
KLBR Kellerberrin 37.79 223 P **P 16 51 32.9 +0.8**
BLDU Ballidu 37.95 225 P **P 16 51 34.3 +0.8**
baz=38,SNR=76
BLDU Ballidu 37.95 225 P **P 16 51 34.4 +0.9**
KPJI Karang Pucung 38.09 265 P **P 16 51 36.1 +1.2**
comp=Z,93nm,0.8s
TWGBT Beinan 38.14 319 P **P 16 51 34.7 -0.4**
comp=Z,24nm,0.6s
OUZ Omahuta 38.16 144 P **P 16 51 37.4 +2.3**
comp=Z,48nm,0.9s
YULB Yu-li 38.41 320 P **P 16 51 35.6 -1.7**
YULB IAmb IAmb 16 51 42.3
comp=Z,54nm,1.0s
YULB Yu-li 38.41 320 P **P 16 51 37.6 +0.3**
TPUB Ta-pu 38.77 319 P **P 16 51 39.7 -0.7**
TPUB Ta-pu 38.77 319 P **P 16 51 40.2 -0.2**
NACB Ninganchiao 38.77 321 IAmb IAmb 16 51 42.4
comp=Z,83nm,0.9s
NACB Ninganchiao 38.77 321 P **P 16 51 40.6 +0.2**
SSLB Suanglung 38.91 320 P **P 16 51 41.1 -0.4**
SSLB IAmb IAmb 16 51 49.3
comp=Z,46nm,0.8s
SSLB Suanglung 38.91 320 P **P 16 51 41.6 +0.1**
NWAO Narrogin (SRO) 38.95 222 P **P 16 51 42.8 +1.1**
baz=39,SNR=14
NWAO P **P 16 51 42.8 +1.1**
baz=39,SNR=14
NWAO Narrogin (SRO) 38.95 222 P **P 16 51 42.3 +0.6**
NWAO IAmb IAmb 16 51 48.3
comp=Z,56nm,0.9s
NWAO Narrogin (SRO) 38.95 222 IAmb IAmb 16 51 48.3
comp=Z,180nm,0.9s
NWAO Narrogin (SRO) 38.95 222 P **P 16 51 42.7 +0.9**
NWAO Narrogin (SRO) 38.95 222 P **P 16 51 42.3 +0.6**
NWAO pmax pmax
comp=Z,56nm,0.9s
NWAO Narrogin (SRO) 38.95 222 P **P 16 51 41.9 +0.1**
comp=Z,44nm,0.8s,baz=63,slow=7.2,SNR=15
NWAO PP **PP 16 53 14.4 -1.4**
comp=Z,62nm,0.9s,baz=63,slow=9.3,SNR=6.5
comp=Z,44nm,0.8s
NWAO Narrogin (SRO) 38.95 222 P **P 16 51 42.3 +0.6**
MUN Mundaring 39.08 224 P **P 16 51 44.0 +1.1**
baz=39,SNR=14
MUN Mundaring 39.08 224 P **P 16 51 44.1 +1.2**
JHJ Bachijo jima 2 39.20 350 P P 16 51 35.6 -8.1
comp=Z,255nm,0.6s,baz=78,slow=18,SNR=2.3
YHNB Yeheng 39.27 321 P **P 16 51 44.4 -0.1**
YHNB Yeheng 39.27 321 P **P 16 51 45.7 +1.1**
MTKN Mount Kenneth 39.36 224 P **P 16 51 45.4 +0.3**
BBJI Bungbulang 39.36 265 P **P 16 51 44.7 -0.8**
TATO Taipei 39.42 322 P **P 16 51 45.5 -0.2**
TATO Taipei 39.42 322 P **P 16 51 47.0 +1.3**
TATO Taipei 39.42 322 P **P 16 51 46.3 +0.6**
TATO pP **pP 16 52 29.5 0.0**
CNJI Cibinong 39.88 265 P **P 16 51 48.8 -0.9**
comp=Z,173nm,1.1s,comp=Z,2μm
RKGY Rocky Gully 40.16 220 P **P 16 51 53.6 +1.9**
baz=40,SNR=11
RKGY Rocky Gully 40.16 220 P **P 16 51 54.1 +2.4**
CBJI Citeko 40.17 267 P **P 16 51 52.5 +0.5**
comp=Z,99nm,0.8s,comp=Z,5μm
JSU Suzuyama 40.27 338 P **P 16 51 51.8 -0.8**
KUZ Kuaotunu 40.46 144 P **P 16 51 56.4 +2.3**
TOZ Tahuroa Road 41.01 145 P **P 16 52 00.4 +1.8**
KNMB Chin-men Tao 41.05 318 P **P 16 51 58.6 -0.5**
KNMB IAmb IAmb 16 52 02.0
comp=Z,79nm,0.8s
JMN Monobe 41.16 343 P **P 16 51 58.8 -1.0**
JMN Monobe 41.16 343 P **P 16 52 00.6 +0.8**
AFI Afiamalu 41.16 105 P **P 16 52 00.6 +0.4**
AFI IAmb IAmb 16 52 02.5
comp=Z,101nm,0.7s
AFI Afiamalu 41.16 105 P **P 16 52 00.6 +0.4**
AFI pmax pmax
comp=Z,101nm,0.7s
AFI Afiamalu 41.16 105 P **P 16 52 01.3 +1.1**
HIZ Hauiti 41.20 146 P **P 16 52 03.4 +3.3**
QZH Quanzhou 41.25 319⇓*i*P **P 16 52 01.6 +0.9**
QZH S **S 16 57 58.9 +0.2**
QZH pmax pmax
comp=Z,130nm,0.9s
XMIS Christmas Isla 41.43 261 P **P 16 52 02.0 -0.4**
XMIS Christmas Isla 41.43 261 P **P 16 52 03.7 +1.3**
JNU Nakatsue 41.57 339 P **P 16 52 03.5 +0.3**
JNU Nakatsue 41.57 339 P **P 16 52 03.0 -0.1**
comp=Z,128nm,0.8s,baz=154,slow=3.0,SNR=49
comp=Z,128nm,0.8s
QRZ Quartz Range 41.71 151 P **P 16 52 06.8 +2.6**
INU Inuyama 41.90 347 P **P 16 52 05.3 -0.4**
URZ Urewera 42.30 144 P **P 16 52 10.9 +1.9**
RTZ Ruatahuna 42.46 145 P **P 16 52 11.7 +1.3**
MXZ Matakaoa Point 42.54 143 P **P 16 52 13.9 +2.9**
BKZ Black Stump Fm 42.57 146 P **P 16 52 13.3 +2.1**
THZ Tophouse 42.61 151 IAmb IAmb 16 52 25.7
comp=Z,154nm,1.7s
JCZ Jackson Bay 42.70 157 P **P 16 52 15.5 +3.2**
MJAR Matsushiro Arr 42.81 349 P **P 16 52 12.6 -0.5**
comp=Z,42nm,0.9s,baz=184,slow=10,SNR=22
comp=Z,42nm,0.9s

MAJO Matsushiro 42.81 349 P **P 16 52 12.3 -0.9**
MAJO IAmb IAmb 16 52 14.0
comp=Z,73nm,0.7s
MAJO Matsushiro 42.81 349 *i* P **P 16 52 12.6 -0.6**
MAJO Matsushiro 42.81 349 P **P 16 52 13.1 -0.1**
LTZ Lake Taylor 43.11 153 P **P 16 52 17.4 +1.8**
MRZ Mangatainoka R 43.13 148 P **P 16 52 16.7 +1.0**
SNZO South Karori 43.15 149 P **P 16 52 18.5 +2.7**
DCZ Deep Cove 43.29 160 P **P 16 52 18.5 +1.7**
RPZ Rata Peaks 43.32 155 P **P 16 52 20.2 +3.0**
JTU Tsushima 43.36 338 P **P 16 52 18.6 +1.1**
BFZ Birch Farm 43.50 148 P **P 16 52 20.1 +1.5**
LBZ Lake Benmore 43.51 156 P **P 16 52 19.3 +0.6**
PYZ Puysegur Point 43.74 160 P **P 16 52 22.5 +2.1**
NIUE Niue 43.78 112 P **P 16 52 23.0 +1.8**
baz=44,SNR=4.1
NIUE Niue 43.78 112 P **P 16 52 21.8 +0.6**
SSE Sheshan 44.21 327 P **P 16 52 25.1 +0.7**
QIZ Qiongzhong 44.25 305 P **P 16 52 27.3 +2.4**
QIZ S **S 16 58 44.3 +1.5**
QIZ sS **sS 17 00 05.8 +4.5**
QIZ pmax pmax
comp=Z,920nm,3.7s
SYZ Scrubby Hill 44.91 159 P **P 16 52 31.8 +2.1**
TJN Taejon 45.77 337 IAmb IAmb 16 52 38.6
comp=Z,109nm,0.7s
TJN Taejon 45.77 337 P **P 16 52 37.9 +1.4**
TJN Taejon 45.77 337*ce*P **P 16 52 36.7 +0.2**
SDSI Sungai Dareh 45.96 274 P **P 16 52 36.5 -2.0**
comp=Z,12nm,1.1s
NJ2 Nanjing 46.22 326 ⇑P **P 16 52 40.8 +0.6**
NJ2 pP **pP 16 53 25.1 +0.1**
NJ2 sP **sP 16 53 48.8 +0.5**
NJ2 PP **PP 16 54 35.0 +3.1**
NJ2 ScP **ScP 16 57 48.0 +2.4**
NJ2 S **S 16 59 14.4 +3.8**
NJ2 sS **sS 17 00 31.6 +1.9**
NJ2 pmax pmax
comp=Z,96nm,0.7s
NJ2 pmax pmax
comp=Z,390nm,4.5s
KSRS Korea Array 46.51 339 P **P 16 52 42.6 +0.4**
comp=Z,58nm,0.7s,baz=153,slow=8.5,SNR=156
comp=Z,58nm,0.7s
KS19 Wonju Array Si 46.57 339 P **P 16 52 42.4 -0.5**
KS19 IAmb IAmb 16 52 44.5
comp=Z,72nm,0.9s
INCN Inchon 47.02 337 P **P 16 52 46.2 0.0**
INCN IAmb IAmb 16 52 48.5
comp=Z,133nm,0.8s
INCN Inchon 47.02 337 P **P 16 52 46.2 0.0**
INCN pmax pmax
comp=Z,133nm,0.9s
INCN Inchon 47.02 337 P **P 16 52 46.8 +0.5**
CNSH ChangSha 47.17 317 ⇓P **P 16 52 48.9 +1.3**
CNSH S **S 16 59 26.8 +2.5**
CNSH pmax pmax
comp=Z,53nm,1.0s
CNSH LR LR
comp=Z,980nm,13.0s
CNSH LR LR
comp=Z,780nm,14.7s
CNSH LR LR
comp=Z,650nm,15.1s
GULI GuiLin 47.22 312 ⇓P **P 16 52 51.9 +3.9**
GULI pP **pP 16 53 38.6 +5.4**
GULI S **S 16 59 24.9 -0.1**
GULI pmax pmax
comp=Z,20nm,1.4s
GULI pmax pmax
comp=Z,600nm,3.9s
WHN Wuhan 47.81 321 ⇓P **P 16 52 54.0 +1.5**
WHN pP **pP 16 53 42.6 +4.9**
WHN S **S 16 59 36.1 +2.9**
WHN sS **sS 17 00 58.8 +6.1**
WHN pmax pmax
comp=Z,190nm,1.0s
NMR Nemuro--Hokkai 48.81 359 P **P 16 52 59.9 +0.1**
ASAJ Asahikawa 49.71 356 P **P 16 53 07.0 +0.3**
ASAJ pmax pmax
comp=Z,45nm,0.8s
ASAJ Asahikawa 49.71 356 P **P 16 53 07.5 +0.8**
comp=Z,37nm,0.6s,baz=234,slow=11,SNR=5.7
comp=Z,37nm,0.6s
JKA Kamikawa-asahi 49.71 356 P **P 16 53 07.0 +0.3**
GSI Gunungsitoli 50.08 276 P **P 16 53 07.9 -2.1**
GSI Gunungsitoli 50.08 276 P **P 16 53 09.9 -0.1**
MSHR Mys Shultsa 50.18 345*ce*P **P 16 53 10.9 +0.7**
MSHR pmax pmax
comp=Z,21nm,1.0s
DL2 Dalian 50.28 334 P **P 16 53 11.3 +0.3**
DL2 pP **pwP 16 53 59.6 +0.6**
DL2 S **S 17 00 08.1 +0.9**
DL2 sS **sS 17 01 31.3 +3.9**
DL2 pmax pmax
comp=Z,73nm,0.8s
DL2 pmax pmax
comp=Z,230nm,5.8s
TIA Tai'an 50.30 328 ⇑P **P 16 53 10.8 -0.5**
TIA S **S 17 00 05.3 -2.4**
TIA pmax pmax
comp=Z,68nm,0.8s
TIA LR LR
comp=Z,440nm,15.8s
TIA LR LR
comp=Z,410nm,12.2s
TIA LR LR
comp=Z,540nm,12.2s
GYA Guiyang 50.63 311⇓*i*P **P 16 53 15.4 +1.3**
GYA pP pP 16 54 02.4 +2.3
GYA S **S 17 00 15.3 +2.5**
GYA sS sS 17 01 36.0 +2.9
GYA pmax pmax
comp=Z,18nm,1.4s
GYA pmax pmax
comp=Z,400nm,7.5s
GYA LR LR
comp=Z,230nm,14.6s
GYA LR LR
comp=Z,190nm,11.7s
GYA LR LR
comp=Z,270nm,19.9s
USA0B Ussuriysk Arra 51.49 346 P **P 16 53 19.9 0.0**
USA0B Ussuriysk Arra 51.49 346 P **P 16 53 20.0 0.0**
USA0B pmax pmax
comp=Z,32nm,0.7s
USRK Ussuriysk Ar. 51.49 346 P **P 16 53 20.6 +0.7**
comp=Z,36nm,0.7s,baz=178,slow=7.0,SNR=83
comp=Z,36nm,0.7s
SRDT SRDT 51.70 293 P **P 16 53 22.7 +0.7**
comp=Z,19nm,1.0s
LYN LuoYang 51.72 323 ⇓P **P 16 53 22.1 +0.3**
LYN S **S 17 00 26.3 -0.8**
LYN sS sS 17 01 45.0 -2.7
LYN pmax pmax
comp=Z,120nm,1.0s
LYN pmax pmax
comp=Z,270nm,5.4s
SNY Shenyang 51.95 338 ⇑P **P 16 53 22.9 -0.5**
SNY sP **sP 16 54 30.3 -2.0**
SNY S **S 17 00 27.8 -2.3**
SNY SS **SS 17 04 08.6 -1.6**
SNY pmax pmax
comp=Z,420nm,3.5s
SNY pmax pmax
comp=Z,56nm,1.0s
SNY LR LR
comp=Z,310nm,13.2s
SNY LR LR
comp=Z,430nm,14.7s
SNY LR LR
comp=Z,610nm,14.5s
HNS HongShan 52.48 327 ⇑P **P 16 53 27.4 +0.1**
HNS pP **pwP 16 54 15.9 +0.2**
HNS sP **sP 16 54 38.1 +1.8**
HNS S **S 17 00 36.5 -0.8**
HNS sS **sS 17 01 56.3 -1.9**
HNS pmax pmax
comp=Z,180nm,0.9s
HNS pmax pmax
comp=Z,620nm,5.5s
MDJ Mudanjiang 52.49 344 P **P 16 53 27.4 +0.1**
MDJ pP pP 16 54 12.0 -1.3
MDJ S **S 17 00 37.6 +0.3**

MDJ			sS	sS	17 01 58.5	+0.3
MDJ			ScS	**ScS**	**17 02 52.9**	**-2.4**
MDJ			pmax	pmax		
	comp=Z,36nm,0.9s					
MDJ			pmax	pmax		
	comp=Z,340nm,10.9s					
MDJ	**Mudanjiang**	**52.49 344**	P	**P**	**16 53 27.8**	**+0.5**
YSS	**Yuzh-Sakhalins**	**52.52 356**	P	**P**	**16 53 27.2**	**-0.2**
YSS			IAmb	IAmb	16 53 30.0	
	comp=Z,53nm,0.6s					
YSS	**Yuzh-Sakhalins**	**52.52 356**	P	**P**	**16 53 28.8**	**+1.3**
YSS	**Yuzh-Sakhalins**	**52.52 356**	*e*P	**P**	**16 53 27.8**	**+0.3**
YSS			*e**SP	**PcP**	**16 54 34.5**	**-0.4**
YSS			*e*S	**S**	**17 00 32.3**	**-5.3**
YSS			pmax	pmax		
	comp=Z,200nm,7.6s					
YSS	**Yuzh-Sakhalins**	**52.52 356**	P	**P**	**16 53 28.3**	**+0.8**
YSS			PcP	**PcP**	**16 54 35.4**	**+0.4**
KMI	**Kunming**	**52.97 307**	⇓P	**P**	**16 53 32.9**	**+1.4**
KMI			S	**S**	**17 00 44.5**	**-0.5**
KMI			SS	**SS**	**17 04 25.6**	**-1.8**
KMI			pmax	pmax		
	comp=Z,15nm,1.0s					
KMI			LR	LR		
	comp=Z,330nm,13.9s					
CN2	**Changchun**	**53.01 340**	*e*P	**P**	**16 53 30.3**	**-0.8**
CN2			*e*S	**S**	**17 00 41.4**	**-3.0**
CN2			SS	**SS**	**17 04 25.5**	**-1.4**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.9s					
CN2			pmax	pmax		
	comp=Z,100nm,3.0s					
CN2			LR	LR		
	comp=Z,600nm,17.0s					
CN2			LR	LR		
	comp=Z,600nm,17.0s					
CN2			LR	LR		
	comp=Z,200nm,11.0s					
CM31	**Chiang Mai Arr**	**53.30 298**	P	**P**	**16 53 33.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**53.30 298**	*i* P	**P**	**16 53 34.5**	**+0.8**
CMAR			pmax	pmax		
	comp=Z,7.0nm,0.8s					
CMAR	**Chiang Mai Arr**	**53.30 298**	P	**P**	**16 53 34.0**	**+0.3**
	comp=Z,6.5nm,0.8s,baz=127,slow=5.7,SNR=46					
CMAR			pP	**pP**	**16 54 19.4**	**-0.5**
	comp=Z,7.5nm,0.8s,baz=121,slow=5.5,SNR=5.0					
CMAR			PKPPKP	P'P'df	17 23 47.0	-8.2
	comp=Z,0.9nm,0.9s,baz=252,slow=4.4,SNR=4.7					
	comp=Z,6.5nm,0.8s					
CHTO	**Chiang Mai**	**53.43 298**	P	**P**	**16 53 34.9**	**+0.2**
CHTO	**Chiang Mai**	**53.43 298**	P	**P**	**16 53 34.9**	**+0.2**
CHTO			pmax	pmax		
	comp=Z,1.0nm,0.7s					
XAN	**Xi'an**	**53.56 320**	⇑P	**P**	**16 53 35.0**	**-0.5**
XAN			pP	pwP	16 54 23.9	-0.1
XAN			S	**S**	**17 00 47.4**	**-4.9**
XAN			pmax	pmax		
	comp=Z,99nm,1.1s					
XAN			pmax	pmax		
	comp=Z,220nm,4.8s					
XAN	**Xi'an**	**53.56 320**	P	**P**	**16 53 35.1**	**-0.3**
BJT	**Baijiatuau**	**53.70 331**	P	**P**	**16 53 36.3**	**0.0**
BJT			PcP	**PcP**	**16 54 40.6**	**+1.0**
BJI	**Beijing**	**53.71 331**	P	**P**	**16 53 36.0**	**-0.3**
BJI			PP	**PP**	**16 55 38.8**	**-0.9**
BJI			S	**S**	**17 00 52.4**	**-1.6**
BJI			sS	**sS**	**17 02 14.1**	**-1.0**
BJI			pmax	pmax		
	comp=Z,15nm,0.9s					
BJI			pmax	pmax		
	comp=Z,92nm,3.9s					
BJI			LR	LR		
	comp=Z,190nm,17.9s					
BJI			LR	LR		
	comp=Z,140nm,18.8s					
BJI			LR	LR		
	comp=Z,200nm,19.8s					
TIY	**Taiyuan**	**53.95 326**	*e*P	**P**	**16 53 39.3**	**+1.1**
TIY			PcP	**PcP**	**16 54 42.8**	**+2.1**
TIY			S	**S**	**17 00 57.9**	**+0.5**
TIY			sS	**sS**	**17 02 21.8**	**+3.2**
TIY			SS	**SS**	**17 04 41.8**	**-0.3**
TIY			pmax	pmax		
	comp=Z,11nm,0.6s					
BNX	**BinXian**	**54.14 343**	⇑P	**P**	**16 53 39.1**	**-0.2**
BNX			pP	**pP**	**16 54 23.8**	**-1.7**
BNX			sP	**sP**	**16 54 47.6**	**-0.8**
BNX			PP	**PP**	**16 55 43.3**	**-0.1**
BNX			S	**S**	**17 00 58.6**	**-0.9**
BNX			pmax	pmax		
	comp=Z,75nm,0.9s					
BNX			pmax	pmax		
	comp=Z,140nm,3.5s					
PZH	**PanZhiHua**	**54.43 308**	P	**P**	**16 53 44.3**	**+2.4**
PZH			S	**S**	**17 01 02.3**	**-2.0**
PZH			sS	**sS**	**17 02 26.8**	**+1.1**
PZH			pmax	pmax		
	comp=Z,10.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,160nm,5.6s					
PZH			LR	LR		
	comp=Z,290nm,20.2s					
PZH			LR	LR		
	comp=Z,260nm,19.0s					
PZH			LR	LR		
	comp=Z,240nm,17.8s					
UGL	**Uglegorsk**	**54.68 356**	*e*P	**P**	**16 53 44.1**	**+1.0**
UGL			pmax	pmax		
	comp=Z,110nm,0.9s					
CD2	**Chengdu**	**55.20 314**	P	**P**	**16 53 48.0**	**+0.7**
CD2			pP	pP	16 54 35.4	+1.5
CD2			S	**S**	**17 01 13.9**	**-0.4**
CD2			sS	sS	17 02 39.3	+3.4
CD2			pmax	pmax		
	comp=Z,30nm,0.6s					
CD2			pmax	pmax		
	comp=Z,390nm,4.4s					
KLR	**Kul'dur**	**56.30 348**	*ce*P	**P**	**16 53 55.0**	**+0.4**
KLR			pmax	pmax		
	comp=Z,43nm,0.8s					
KLR	**Kul'dur**	**56.30 348**	P	**P**	**16 53 55.3**	**+0.7**
	comp=Z,39nm,0.7s,baz=166,slow=6.4,SNR=82					
	comp=Z,39nm,0.7s					
TNCH	**TengChong**	**56.32 305**	P	**P**	**16 53 55.9**	**+0.4**
TNCH			pmax	pmax		
	comp=Z,14nm,1.0s					
TYV	**Tymovskoe**	**56.42 357**	*e*P	**P**	**16 53 55.9**	**+0.4**
TYV			pmax	pmax		
	comp=Z,58nm,0.7s					
TYV			pmax	pmax		
	comp=Z,500nm,2.6s					
HHC	**Hu-ho-hao-te**	**56.66 328**	⇑P	**P**	**16 53 57.9**	**+0.4**
HHC			S	**S**	**17 01 35.5**	**+2.1**
HHC			SS	**SS**	**17 05 27.9**	**+3.2**
HHC			pmax	pmax		
	comp=Z,100nm,0.7s					
HHC			pmax	pmax		
	comp=Z,330nm,4.5s					
XLT	**XiLinHaoTe**	**56.76 333**	⇑*i*P	**P**	**16 53 57.9**	**-0.3**
XLT			sP	sP	16 55 06.9	-0.7
XLT			S	**S**	**17 01 42.5**	**+7.9**
XLT			pmax	pmax		
	comp=Z,34nm,1.4s					
XLT			pmax	pmax		
	comp=Z,370nm,7.9s					
XLT			LR	LR		
	comp=Z,390nm,14.1s					
XLT			LR	LR		
	comp=Z,540nm,15.7s					
GRNR	**Gornyy**	**56.96 352**	⇑*i*P	**P**	**16 54 00.4**	**+1.1**
GRNR			*e*		16 54 45.3	
GRNR			pmax	pmax		
	comp=Z,20nm,1.2s					
GRNR			MLR	MLR		
	comp=E,100nm,12.0s					
BTO	**Baotou**	**57.31 327**	*e*P	**P**	**16 54 03.6**	**+1.5**
BTO			pP	**pwP**	**16 54 50.3**	**-0.9**
BTO			sP	**sP**	**16 55 13.0**	**+1.3**
BTO			PP	**PP**	**16 56 15.4**	**+3.5**
BTO			S	**S**	**17 01 42.3**	**+0.4**
BTO			sS	**sS**	**17 03 05.8**	**+1.4**
BTO			SS	**SS**	**17 05 40.3**	**+5.3**
BTO			pmax	pmax		
	comp=E,54nm,0.9s					
BTO			pmax	pmax		
	comp=E,1μm,9.1s					
BTO			LR	LR		
	comp=E,730nm,20.4s					
BTO			LR	LR		
	comp=E,660nm,14.5s					
BTO			LR	LR		
	comp=E,910nm,20.3s					
LZH	**Lanzhou**	**58.10 319**	*e*P	**P**	**16 54 08.3**	**+0.5**
LZH			pP	pwP	16 54 56.8	-0.2
LZH			sP	sP	16 55 15.9	-1.5
LZH			S	**S**	**17 01 52.3**	**-0.1**
LZH			sS	sS	17 03 12.9	-2.2
LZH			SS	**SS**	**17 05 45.8**	**-1.9**
LZH			pmax	pmax		
	comp=E,46nm,1.2s					
LZH			pmax	pmax		
	comp=E,440nm,4.2s					
LZH			LR	LR		
	comp=E,340nm,15.1s					
LZH			LR	LR		
	comp=E,300nm,16.1s					
LZH			LR	LR		
	comp=E,560nm,19.6s					
HEH	**HeiHe**	**58.26 345**	*e*P	**P**	**16 54 08.1**	**-0.2**
HEH			pP	**PcP**	**16 54 56.3**	**-0.8**
HEH			ScP	**ScP**	**16 58 35.0**	**-2.3**
HEH			S	**S**	**17 01 53.8**	**+0.2**
HEH			sS	**sS**	**17 03 16.6**	**-1.1**
HEH			pmax	pmax		
	comp=E,42nm,0.7s					
HEH			pmax	pmax		
	comp=E,590nm,5.8s					
PEA0B	**Petropavlovsk-**	**59.20 7**	P	**P**	**16 54 14.6**	**-0.2**
PEA0B	**Petropavlovsk-**	**59.20 7**	*ce*P	**P**	**16 54 15.3**	**+0.5**
PETK	**Petropavlovsk-**	**59.20 7**	P	**P**	**16 54 14.7**	**-0.1**
PETK	**Petropavlovsk-**	**59.20 7**	P	**P**	**16 54 14.7**	**-0.1**
PETK	**Petropavlovsk-**	**59.20 7**	P	**P**	**16 54 15.2**	**+0.4**
	comp=E,78nm,0.8s,baz=185,slow=7.4,SNR=58					
	comp=E,78nm,0.8s					
PET	**Petropavlovsk**	**59.24 8**	P	**P**	**16 54 14.7**	**-0.3**
PET			IAmb	IAmb	16 54 16.8	
	comp=Z,68nm,0.9s					
PET	**Petropavlovsk**	**59.24 8**	*e*P	**P**	**16 54 15.9**	**+0.9**
PET			*e**SP	**sP**	**16 55 21.7**	**-3.1**
PET			*e*S	**S**	**17 02 08.3**	**+2.2**
PET			pmax	pmax		
	comp=Z,110nm,0.9s					
PET			pmax	pmax		
	comp=Z,300nm,13.3s					
PET			MLR	MLR		
	comp=Z,300nm,18.0s					
PET	**Petropavlovsk**	**59.24 8**	P	**P**	**16 54 15.6**	**+0.6**
PET			PcP	**PcP**	**16 55 01.1**	**+0.1**
HIA	**Hailar**	**59.71 339**	P	**P**	**16 54 18.8**	**+0.4**
DRV	**Dumont d'Urvil**	**61.12 183**	P	**P**	**16 54 28.9**	**+1.3**
DRV			PcP	**PcP**	**16 55 09.0**	**+0.7**
KHLU	**Kahalu`u**	**61.30 64**	P	**P**	**16 54 30.9**	**+1.1**
POHA	**Pohakuloa**	**61.67 64**	P	**P**	**16 54 34.5**	**+2.1**
SHL	**Shillong**	**62.03 303**	P	**P**	**16 54 33.9**	**-0.8**
SHL			IAmb	IAmb	16 55 27.6	
	comp=Z,37nm,1.0s					
SHL	**Shillong**	**62.03 303**	P	**P**	**16 54 33.9**	**-0.8**
SHL			pmax	pmax		
	comp=Z,37nm,1.0s					
GTA	**Gaotai**	**62.63 320**	*e*P	**P**	**16 54 38.6**	**+0.3**
GTA			pP	pwP	16 55 28.6	+0.3
GTA			S	**S**	**17 02 49.3**	**-0.4**
GTA			sS	sS	17 04 11.6	-1.5
GTA			pmax	pmax		
	comp=Z,45nm,1.0s					
GTA			pmax	pmax		
	comp=Z,350nm,8.0s					
GTA			LR	LR		
	comp=Z,120nm,20.7s					
GTA			LR	LR		
	comp=Z,240nm,16.7s					
GTA			LR	LR		
	comp=Z,270nm,17.9s					
PPT2	**Papeete2**	**62.77 107**	*e*P	P	16 54 33.3	-6.3
	comp=Z,327nm,31.2s					
PPT2			*e*S	**S**	**17 02 45.5**	**-6.6**
	comp=Z,307nm,26.5s					
PPT2	**Papeete2**	**62.77 107**	*e*LR	LR	17 13 34.4	
	comp=Z,250nm,24.8s					
PPT2			*e*LR	LR	17 13 46.4	
	comp=Z,322nm,24.0s					
ULN	**Ulaanbaatar**	**63.92 331**	P	**P**	**16 54 46.7**	**+0.1**
ULN	**Ulaanbaatar**	**63.92 331**	*ce*P	**P**	**16 54 47.2**	**+0.6**
ULN			pmax	pmax		
	comp=Z,69nm,0.8s					
ULN	**Ulaanbaatar**	**63.92 331**	P	**P**	**16 54 47.5**	**+0.9**
SONM	**Songino Array**	**64.21 331**	IAmb	IAmb	16 54 51.7	
	comp=Z,56nm,1.0s					
SONM	**Songino Array**	**64.21 331**	P	**P**	**16 54 48.9**	**+0.4**
	comp=Z,52nm,1.1s,baz=145,slow=9.2,SNR=96					
SONM			PKP2bc		17 23 42.3	
	comp=Z,9.6nm,0.9s,baz=316,slow=2.4,SNR=29					
	comp=Z,52nm,1.1s					
LSA	**Lhasa**	**64.22 307**	P	**P**	**16 54 48.1**	**-1.3**
LSA			pmax	pmax		
	comp=Z,4.0nm,0.9s					
CIT	**Chita**	**64.22 338**	*e*P	**P**	**16 54 49.2**	**+0.8**
CIT			*e*		16 55 38.4	
CIT			pmax	pmax		
	comp=Z,272nm,1.9s					
ADK	**Adak**	**65.05 24**	P	**P**	**16 54 54.4**	**+0.8**
ADK	**Adak**	**65.05 24**	P	**P**	**16 54 54.4**	**+0.8**
ADK			pmax	pmax		
	comp=Z,99nm,0.8s					
MA2	**Magadan**	**65.08 2**	P	**P**	**16 54 54.1**	**+0.4**
MA2	**Magadan**	**65.08 2**	P	**P**	**16 54 54.9**	**+1.2**
MA2	**Magadan**	**65.08 2**	*ce*P	**P**	**16 54 54.0**	**+0.4**
MA2			pmax	pmax		
	comp=Z,128nm,0.7s					
MA2	**Magadan**	**65.08 2**	P	**P**	**16 54 54.5**	**+0.9**
	comp=Z,126nm,0.8s,baz=164,slow=6.1,SNR=38					
	comp=Z,126nm,0.8s					
MA2	**Magadan**	**65.08 2**	P	**P**	**16 54 54.6**	**+0.9**
MA2			PcP	**PcP**	**16 55 26.9**	**+2.3**
CASY	**Casey**	**65.66 195**	P	**P**	**16 54 58.0**	**+0.6**
CASY			pP	**pP**	**16 55 44.6**	**-1.5**
TAPN	**Taplejung**	**66.16 303**	*e*P	**P**	**16 55 01.1**	**-0.5**
	comp=Z,47nm,0.9s					
ATKA	**Atka Island**	**66.30 25**	P	**P**	**16 55 01.8**	**+0.2**
ATKA			IAmb	IAmb	16 55 03.0	
	comp=Z,73nm,0.8s					
ATKA	**Atka Island**	**66.30 25**	P	**P**	**16 55 02.5**	**+0.9**
RAMN	**Ramite**	**66.95 302**	*e*P	**P**	**16 55 07.1**	**+0.5**
	comp=Z,22nm,0.7s					
ZAK	**Zakamensk**	**67.45 331**	*e*P	**P**	**16 55 08.9**	**-0.1**
ZAK			*e*		16 55 54.7	
ZAK			pmax	pmax		
	comp=Z,84nm,1.0s					
ZAK			pmax	pmax		
	comp=Z,14nm,1.6s					
JIRN	**Jiri**	**67.53 303**	*e*P	**P**	**16 55 10.5**	**+0.1**
	comp=Z,33nm,0.8s					
GUN	**Gumba**	**67.88 303**	*e*P	**P**	**16 55 12.2**	**-0.3**
	comp=Z,36nm,0.5s					
PKI	**Pulchoki**	**68.16 303**	*e*P	**P**	**16 55 13.7**	**-0.6**
	comp=Z,16nm,0.7s					
PKIN	**Phulchoki**	**68.17 303**	*e*P	**P**	**16 55 13.7**	**-0.6**
	comp=Z,16nm,0.7s					
DMN	**Daman**	**68.42 302**	*e*P	**P**	**16 55 15.4**	**-0.4**
	comp=Z,68nm,0.8s					
SEY	**Seymchan**	**68.50 3**	*ce*P	**P**	**16 55 15.8**	**+0.6**
SEY			pmax	pmax		
	comp=Z,55nm,0.8s					
BOD	**Bodaibo**	**68.72 342**	*e*P	**P**	**16 55 16.3**	**-0.4**
BOD			pmax	pmax		
	comp=Z,79nm,1.3s					
YAK	**Yakutsk**	**68.83 351**	P	**P**	**16 55 17.2**	**0.0**
YAK	**Yakutsk**	**68.83 351**	*e*P	**P**	**16 55 17.9**	**+0.7**
YAK			*e**PP	**pP**	**16 56 03.7**	**-2.0**
YAK			*e*		16 57 52.0	
YAK			*e*PPP	PPP	16 59 34.7	
YAK			*e*S	**S**	**17 04 06.5**	**+2.9**
YAK			*e*		17 04 59.0	
YAK			*e*SS	**SS**	**17 08 35.8**	**+2.4**
YAK			pmax	pmax		
	comp=Z,123nm,1.0s					
YAK			pmax	pmax		
	comp=N,27nm,1.3s					
YAK			pmax	pmax		
	comp=E,6.0nm,0.7s					
YAK			pmax	pmax		
	comp=Z,281nm,4.9s					
YAK			pmax	pmax		
	comp=N,183nm,6.0s					
YAK			pmax	pmax		
	comp=E,93nm,4.9s					
YAK			smax	smax		
	comp=E,503nm,9.1s					
YAK			smax	smax		
	comp=N,318nm,7.3s					
YAK	**Yakutsk**	**68.83 351**	P	**P**	**16 55 17.6**	**+0.4**
GKN	**Gorkha**	**68.94 303**	*e*P	**P**	**16 55 18.5**	**-0.4**
	comp=N,54nm,0.9s					
MOY	**Mondy**	**69.38 331**	*e*P	**P**	**16 55 21.4**	**+0.4**
MOY			pmax	pmax		
	comp=Z,116nm,2.2s					
DANN	**Dangsing**	**69.79 303**	*e*P	**P**	**16 55 23.5**	**-0.7**
	comp=Z,59nm,1.0s					
PYUN	**Piuthan**	**70.36 302**	*e*P	**P**	**16 55 26.7**	**-0.9**
	comp=Z,56nm,0.8s					
CCD	**Concordia, Ant**	**70.75 186**	P	**P**	**16 55 30.4**	**+1.1**
CCD			pP	**pP**	**16 56 18.5**	**-0.2**
UNV	**Unalaska Valle**	**70.79 27**	P	**P**	**16 55 30.4**	**+1.1**
UNV	**Unalaska Valle**	**70.79 27**	P	**P**	**16 55 30.4**	**+1.1**
	baz=230					
SPIA	**Saint Paul Isl**	**71.48 23**	P	**P**	**16 55 34.4**	**+1.0**
	baz=225					
HYB	**Hyderabad**	**71.56 290**	*e*P	**P**	**16 55 35.0**	**+0.1**
HYB			*e*PcP	**PcP**	**16 55 52.8**	**-0.1**
HYB			*es*P	**sP**	**16 56 42.1**	**-3.9**
HYB			*e*PP	**PP**	**16 58 15.6**	**-1.1**
HYB			*e*S	**S**	**17 04 38.0**	**+0.9**
HYB			*e*ScS	**ScS**	**17 05 19.9**	**-0.6**
WMQ	**Urumqi**	**72.68 319**	*e*P	**P**	**16 55 41.0**	**0.0**
WMQ			pP	pwP	16 56 32.0	-0.2
WMQ			S	**S**	**17 04 49.1**	**+0.1**
WMQ			sS	sS	17 06 16.9	+2.4
WMQ			pmax	pmax		
	comp=Z,42nm,1.1s					
WMQ			pmax	pmax		
	comp=Z,320nm,4.7s					
WMQ			LR	LR		
	comp=Z,240nm,26.5s					
SBA	**Scott Base**	**72.89 176**	P	**P**	**16 55 43.7**	**+2.2**
SBA	**Scott Base**	**72.89 176**	P	**P**	**16 55 43.7**	**+2.2**
SBA			pmax	pmax		
	comp=Z,28nm,1.3s					
M11K	**Mekoryuk**	**75.22 22**	P	**P**	**16 55 56.5**	**+1.3**
	baz=228					
S14K	**Fog Glacier**	**75.45 27**	P	**P**	**16 55 57.8**	**+1.1**
	baz=236					
DGZ	**Jazzator, Alta**	**75.48 325**	⇑*i*P	**P**	**16 55 56.9**	**-0.3**
DGZ			pmax	pmax		
	comp=Z,40nm,1.0s					
GAMB	**Gambell**	**75.77 18**	P	**P**	**16 55 59.0**	**+0.9**
	baz=222					
CHGN	**Chignik**	**75.98 28**	IAmb	IAmb	16 56 02.0	
	comp=Z,83nm,0.9s					
CHGN	**Chignik**	**75.98 28**	P	**P**	**16 56 00.5**	**+1.0**
	baz=236					
ZSN	**Zaisan**	**76.03 322**	*e*P	**P**	**16 56 00.2**	**0.0**
	baz=322					
ZSN	**Zaisan**	**76.03 322**	*e*P	**P**	**16 56 00.1**	**0.0**
M13K	**Dall Lake**	**76.32 23**	P	**P**	**16 56 02.2**	**+0.8**
M13K	**Dall Lake**	**76.32 23**	P	**P**	**16 56 03.0**	**+1.6**
	baz=231,SNR=24					
O14K	**Tigyukauivet M**	**76.44 24**	P	**P**	**16 56 03.1**	**+1.0**
	baz=233,SNR=13					
N14K	**Kuskokwak Cree**	**76.67 24**	P	**P**	**16 56 04.5**	**+1.1**
	baz=233,SNR=6.3					
K13K	**Kusilvak Mount**	**76.81 21**	P	**P**	**16 56 05.4**	**+1.2**
	baz=230,SNR=8.4					
O15K	**Ungaliktnuk R**	**76.99 25**	P	**P**	**16 56 06.3**	**+1.1**
	baz=235,SNR=12					
R16K	**Pilot Point**	**77.06 27**	P	**P**	**16 56 06.8**	**+1.2**
	baz=237					
M14K	**Bethel**	**77.07 23**	P	**P**	**16 56 06.9**	**+1.3**
	baz=232,SNR=54					
L14K	**Kuka Creek**	**77.16 22**	P	**P**	**16 56 07.4**	**+1.4**
	baz=232,SNR=53					
MK31	**Makanchi Array**	**77.38 320**	*i* P	**P**	**16 56 07.2**	**-0.5**
MK31			pmax	pmax		
	comp=Z,25nm,0.9s					
MKAR	**Makanchi Array**	**77.38 320**	P	**P**	**16 56 07.4**	**-0.3**
	comp=Z,20nm,0.9s,baz=97,slow=8.1,SNR=57					
MKAR			pP	**pP**	**16 56 56.2**	**-1.4**
	comp=Z,4.5nm,0.6s,baz=105,slow=7.6,SNR=2.2					
MKAR			PKKPbc	**PKKPbc**	**17 15 11.8**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=316,slow=3.3,SNR=5.6					
	comp=Z,20nm,0.9s					
N15K	**Kwethluk River**	**77.46 24**	P	**P**	**16 56 08.9**	**+1.1**
	baz=234,SNR=15					
M15K	**Kasigluk River**	**77.53 23**	P	**P**	**16 56 09.3**	**+1.1**
	baz=234,SNR=12					
MAKZ	**Makanchi**	**77.58 320**	P	**P**	**16 56 08.1**	**-0.7**
MAKZ			IAmb	IAmb	16 56 11.2	
	comp=Z,52nm,1.2s					
MAKZ	**Makanchi**	**77.58 320**	P	**P**	**16 56 08.1**	**-0.7**
MAKZ			pmax	pmax		
	comp=Z,52nm,1.2s					
R17K	**Ugashik Creek**	**77.64 27**	IAmb	IAmb	16 56 10.9	
	comp=Z,60nm,0.7s					
R17K	**Ugashik Creek**	**77.64 27**	P	**P**	**16 56 09.8**	**+1.0**
	baz=238,SNR=5.9					
P16K	**Nushagak River**	**77.69 26**	P	**P**	**16 56 10.0**	**+0.9**
	baz=236					
J14K	**Nanvaranak Lak**	**77.73 21**	P	**P**	**16 56 10.5**	**+1.3**
	baz=230,SNR=21					
L15K	**Ungalak Mounta**	**77.82 22**	P	**P**	**16 56 10.3**	**+0.5**
	baz=233					
SHLS	**Shalkode**	**77.95 316**	*i* P	**P**	**16 56 09.0**	**-2.1**
	comp=Z,78nm,2.3s,baz=316					
SHLS	**Shalkode**	**77.95 316**	*i* P	**P**	**16 56 09.0**	**-2.1**
SHLS			pmax	pmax		
	comp=Z,78nm,2.3s					
O16K	**Kokwok River B**	**77.96 25**	P	**P**	**16 56 11.6**	**+1.0**
	baz=236,SNR=17					
Q16K	**King Salmon**	**78.08 26**	P	**P**	**16 56 11.6**	**+0.4**
	baz=238					
TIXI	**Tiksi**	**78.09 354**	P	**P**	**16 56 10.0**	**-1.0**
TIXI			IAmb	IAmb	16 56 12.5	
	comp=Z,40nm,0.9s					
TIXI	**Tiksi**	**78.09 354**	*ce*P	**P**	**16 56 09.9**	**-1.1**
TIXI			pmax	pmax		
	comp=Z,47nm,1.0s					
SII	**Sitkinak Islan**	**78.12 29**	P	**P**	**16 56 12.4**	**+0.9**
	baz=240					
N16K	**Nishlik Lake**	**78.18 24**	P	**P**	**16 56 12.8**	**+1.1**
	baz=235,SNR=14					
K15K	**Wolf Creek Mou**	**78.18 22**	P	**P**	**16 56 12.7**	**+1.0**
	baz=232,SNR=47					
TNA	**Tin City**	**78.19 17**	P	**P**	**16 56 12.6**	**+0.9**
	baz=226					
Q17K	**Contact Creek**	**78.20 27**	P	**P**	**16 56 12.4**	**+0.3**
	baz=238,SNR=15					
UZB	**Uzynbulak**	**78.25 316**	*e*P	**P**	**16 56 12.2**	**-0.5**
	baz=316					
UZB	**Uzynbulak**	**78.25 316**	*e*P	**P**	**16 56 12.2**	**-0.5**
ANM	**Nome**	**78.30 19**	P	**P**	**16 56 13.3**	**+1.0**
	baz=228,SNR=5.8					
M16K	**Timber Creek**	**78.41 24**	P	**P**	**16 56 14.3**	**+1.3**
	baz=235,SNR=36					
P17K	**Kvichak River**	**78.45 26**	P	**P**	**16 56 13.7**	**+0.5**
	baz=238					
O17K	**Koliganek Bris**	**78.48 25**	P	**P**	**16 56 14.2**	**+0.9**
	baz=237,SNR=42					
F14K	**Arctic Creek**	**78.61 18**	P	**P**	**16 56 14.8**	**+0.8**
	baz=227					
L16K	**Owhat River**	**78.61 23**	IAmb	IAmb	16 56 16.7	
	comp=Z,56nm,0.8s					
L16K	**Owhat River**	**78.61 23**	P	**P**	**16 56 15.1**	**+1.1**
	baz=234,SNR=25					
ZHN	**Zhinishke**	**78.66 316**	*e*P	**P**	**16 56 14.6**	**-0.3**
	baz=316					
ZHN	**Zhinishke**	**78.66 316**	*e*P	**P**	**16 56 14.6**	**-0.3**
Q18K	**Katmai Hardscr**	**78.79 27**	P	**P**	**16 56 15.1**	**-0.2**
	baz=239,SNR=17					
ZAA0	**Zalesovo Array**	**78.84 328**	IAmb	IAmb	16 56 16.1	
	comp=Z,38nm,0.8s					
ZALV	**Zalesovo Beam**	**78.84 328**	P	**P**	**16 56 13.7**	**-1.8**
ZALV	**Zalesovo Beam**	**78.84 328**	*i* P	**P**	**16 56 14.1**	**-1.4**
ZALV			pmax	pmax		
	comp=Z,45nm,0.8s					
ZALV	**Zalesovo Beam**	**78.84 328**	P	**P**	**16 56 14.2**	**-1.3**
	comp=Z,45nm,0.8s,baz=110,slow=5.2,SNR=125					
ZALV			pP	**pP**	**16 57 05.1**	**-0.4**
	comp=Z,7.3nm,0.6s,baz=113,slow=4.7,SNR=3.2					

ZALV PKKPbc **PKKPbc** 17 15 08.2 -2.4
comp=Z,2.4nm,0.7s,baz=299,slow=3.3,SNR=12
ZALV PKPPKP **P'P'df** 17 23 11.6 +0.4
comp=Z,2.0nm,0.8s,baz=308,slow=7.0,SNR=2.1
comp=Z,45nm,0.8s
N17K Nushagak Hills 78.86 25 P **P** 16 56 16.0 +0.6
baz=237,SNR=9.7
G15K Niuluk 79.01 19 P **P** 16 56 16.9 +0.7
baz=230
P18K Big Mountain, 79.08 26 P **P** 16 56 16.9 +0.2
baz=239
J16K Anvik River 79.12 21 P **P** 16 56 18.3 +1.5
baz=233,SNR=21
M17K Holitna River 79.24 24 P **P** 16 56 19.2 +1.7
baz=236,SNR=13
TDK Taldyqorghan 79.28 318 *e*P **P** 16 56 17.7 -0.4
baz=318
TDK Taldyqorghan 79.28 318 *e*P **P** 16 56 17.7 -0.4
F15K North Star Dit 79.29 18 P **P** 16 56 18.9 +1.2
baz=229,SNR=6.8
L17K Donlin 79.31 23 P **P** 16 56 19.3 +1.4
baz=236,SNR=11
KSH Kashi 79.32 312 P **P** 16 56 20.6 +2.0
KSH pP pwP 16 57 13.5 +2.8
KSH S **S** 17 06 01.6 -0.2
KSH sS sS 17 07 34.0 +5.2
KSH pmax pmax
comp=Z,12nm,1.0s
KSH pmax pmax
comp=Z,230nm,5.0s
O18K Koktuh Hills 79.33 26 P **P** 16 56 18.7 +0.6
baz=239
H16K Elim 79.38 20 P **P** 16 56 18.9 +0.8
baz=231,SNR=21
I17K Unalakleet 79.45 21 P **P** 16 56 19.9 +1.4
baz=233,SNR=14
N18K Kilae Creek 79.48 25 IAmb IAmb 16 56 21.9
comp=Z,167nm,1.9s
N18K Kilae Creek 79.48 25 P **P** 16 56 19.9 +1.1
baz=238,SNR=6.1
KDAK Kodiak Island 79.48 28 P **P** 16 56 20.2 +1.3
baz=242
Q19K Cape Douglas, 79.55 27 P **P** 16 56 19.9 +0.6
baz=240
MDOK Medeo 79.62 316 *e*P **P** 16 56 19.7 -0.5
baz=316
MDOK Medeo 79.62 316 *e*P **P** 16 56 19.7 -0.5
K17K Iditarod 79.64 22 IAmb IAmb 16 56 22.8
comp=Z,65nm,0.8s
K17K Iditarod 79.64 22 P **P** 16 56 20.8 +1.2
baz=236,SNR=21
G16K Koyuk River 79.81 19 IAmb IAmb 16 56 22.8
comp=Z,38nm,0.8s
G16K Koyuk River 79.81 19 P **P** 16 56 21.6 +1.1
baz=231,SNR=9.6
SVW2 Sparrevohn 79.83 25 IAmb IAmb 16 56 24.8
comp=Z,49nm,0.6s
SVW2 Sparrevohn 79.83 25 P **P** 16 56 22.5 +1.8
CHKK Chushkaly 79.88 316 *e*P **P** 16 56 21.4 0.0
baz=316
CHKK Chushkaly 79.88 316 *e*P **P** 16 56 21.3 0.0
O19K Port Alsworth 79.89 26 IAmb IAmb 16 56 24.6
comp=Z,52nm,1.3s
O19K Port Alsworth 79.89 26 P **P** 16 56 21.6 +0.6
baz=240
M18K Stony River 79.94 24 P **P** 16 56 22.4 +1.1
baz=238,SNR=13
Q20K Shuyak Island 79.96 28 P **P** 16 56 22.5 +1.1
baz=242
L18K Granite Mounta 79.98 23 P **P** 16 56 22.9 +1.4
baz=237,SNR=16
SEM Semipalatinsk 79.99 323 *e*P **P** 16 56 20.6 -1.5
baz=323
SEM Semipalatinsk 79.99 323 *e*P **P** 16 56 20.6 -1.5
P19K Oil Pt 80.09 26 P **P** 16 56 22.9 +0.7
baz=241,SNR=6.5
N19K Bonanza Creek 80.14 25 P **P** 16 56 23.0 +0.5
N19K IAmb IAmb 16 56 25.1
comp=Z,77nm,1.3s
N19K Bonanza Creek 80.14 25 P **P** 16 56 23.2 +0.7
baz=239,SNR=9.1
ILSW Iliamna Southw 80.29 26 IAmb IAmb 16 56 25.2
comp=Z,120nm,1.6s
KUU Kurty 80.33 316 *e*P **P** 16 56 23.0 -0.9
baz=316
KUU Kurty 80.33 316 *e*P **P** 16 56 22.9 -0.9
H17K Granite Mounta 80.35 20 P **P** 16 56 24.6 +1.1
baz=234,SNR=40
G17K Kiwalik Mounta 80.44 19 P **P** 16 56 25.1 +1.2
baz=233,SNR=22
TKM2 Tokmak 2 80.57 315 *i* P **P** 16 56 25.2 -0.1
TKM2 pmax pmax
comp=Z,11nm,0.6s
O20K Slope Mountain 80.57 26 P **P** 16 56 25.2 +0.4
baz=241
TTA Tatalina 80.63 23 P **P** 16 56 25.8 +0.7
baz=238,SNR=5.4
J18K Innoko River 80.66 22 P **P** 16 56 25.8 +0.7
baz=237,SNR=13
L19K White Mountain 80.69 24 IAmb IAmb 16 56 27.8
comp=Z,40nm,0.8s
L19K White Mountain 80.69 24 P **P** 16 56 26.2 +0.8
baz=239,SNR=17
M19K Big River Lodg 80.73 24 IAmb IAmb 16 56 30.1
comp=Z,39nm,0.7s
M19K Big River Lodg 80.73 24 P **P** 16 56 26.6 +1.1
baz=239,SNR=13
C16K Lisburne Hills 80.79 16 IAmb IAmb 16 56 28.6
comp=Z,43nm,0.8s
C16K Lisburne Hills 80.79 16 P **P** 16 56 26.8 +1.1
baz=228,SNR=5.3
HOM Homer 80.80 27 P **P** 16 56 26.7 +0.8
baz=242
F17K Baldwin Pennin 80.82 19 P **P** 16 56 26.9 +1.1
baz=232,SNR=14
H18K Honhosa River 81.01 20 P **P** 16 56 27.4 +0.5
baz=235,SNR=7.9
E17K Hotham Inlet 81.04 18 P **P** 16 56 28.1 +1.1
baz=232,SNR=31
D17K Noatak River 81.06 17 IAmb IAmb 16 56 30.7
comp=Z,34nm,0.8s
D17K Noatak River 81.06 17 P **P** 16 56 28.2 +1.1
baz=230
KURK Kurchatov 81.07 323 P **P** 16 56 26.6 -0.9
KURK Kurchatov 81.07 323 *i* P **P** 16 56 26.4 -1.1
KURK pmax pmax
comp=Z,24nm,0.8s
KURBB Kurchatov Arra 81.09 323 P **P** 16 56 26.9 -0.7
comp=Z,13nm,0.7s,baz=111,slow=4.1,SNR=68
KURBB pP **pP** 16 57 16.3 -1.6
comp=Z,1.7nm,0.7s,baz=99,slow=4.1,SNR=1.3
KURBB PKKPbc **PKKPbc** 17 15 03.6 -1.7
comp=Z,1.4nm,0.7s,baz=299,slow=2.8,SNR=12
KURBB PKPPKP **P'P'df** 17 23 07.0 -0.3
comp=Z,1.0nm,0.9s,baz=286,slow=2.7,SNR=3.9
comp=Z,13nm,0.7s
BRLK Bradley Lake 81.19 27 IAmb IAmb 16 56 29.6
comp=Z,75nm,0.9s
L20K Farewell, AK 81.23 24 P **P** 16 56 29.1 +0.9
baz=240,SNR=20
M20K Styx River 81.24 24 P **P** 16 56 28.8 +0.5
baz=240,SNR=28
BRSE Bradley Lake S 81.25 27 P **P** 16 56 29.2 +0.9
baz=243
AAK Ala-Archa 81.27 315 P **P** 16 56 29.2 +0.3
AAK Ala-Archa 81.27 315 *i* P **P** 16 56 29.3 +0.3
AAK pmax pmax
comp=Z,18nm,0.9s
N20K Mount Spurr 81.29 25 P **P** 16 56 29.3 +0.7
baz=241
SPCR Spurr Chakacha 81.29 25 P **P** 16 56 29.2 +0.7
baz=241
GCSA Galena City Sc 81.31 21 P **P** 16 56 29.0 +0.6
baz=236,SNR=5.1
G18K Tagagawik 81.34 20 P **P** 16 56 28.7 0.0
G18K IAmb IAmb 16 56 30.6
comp=Z,57nm,0.7s
G18K Tagagawik 81.34 20 P **P** 16 56 29.2 +0.5
baz=235,SNR=38
J19K Poorman 81.35 22 P **P** 16 56 29.6 +0.9
baz=238,SNR=14
SGDS Sogindy 81.39 315 *e*P **P** 16 56 29.0 -0.6
baz=315
SGDS Sogindy 81.39 315 *e*P **P** 16 56 28.9 -0.6
C17K DeLong Mountai 81.53 17 P **P** 16 56 30.7 +1.1
baz=230,SNR=12
K20K Telida 81.61 23 IAmb IAmb 16 56 32.9
comp=Z,37nm,0.8s
K20K Telida 81.61 23 P **P** 16 56 31.0 +0.9
baz=239,SNR=20
E18K Tukpahlearik C 81.63 18 IAmb IAmb 16 56 32.5
comp=Z,38nm,0.8s
E18K Tukpahlearik C 81.63 18 P **P** 16 56 30.9 +0.9
baz=233,SNR=16
AML Almayashu 81.70 314 *i* P **P** 16 56 31.8 +0.2
AML pmax pmax
comp=Z,4.0nm,0.9s
H19K Roundabout Mou 81.89 20 P **P** 16 56 32.5 +1.1
baz=237,SNR=44
SKT Skwentna 81.95 25 P **P** 16 56 31.0 -0.9
baz=242,SNR=12
SEW Seward 81.99 27 P **P** 16 56 32.0 -0.1
baz=244,SNR=8.0
J20K Nowinta River 82.00 22 IAmb IAmb 16 56 34.3
comp=Z,32nm,0.8s
J20K Nowinta River 82.00 22 P **P** 16 56 32.6 +0.5
baz=239,SNR=24
G19K Purcell Mounta 82.01 20 P **P** 16 56 32.9 +0.7
baz=236,SNR=26
O22K Cooper Landing 82.03 26 P **P** 16 56 32.5 +0.1
baz=244,SNR=8.7
SUA Susitna One 82.04 25 IAmb IAmb 16 56 34.7
comp=Z,63nm,0.7s
SUA Susitna One 82.04 25 P **P** 16 56 32.7 +0.2
baz=243,SNR=7.4
PPLA Purkeypile 82.12 24 P **P** 16 56 32.9 -0.1
baz=241,SNR=5.7
F19K Shaleruckik Mo 82.17 19 P **P** 16 56 33.4 +0.5
baz=235,SNR=18
I20K Naaghedeneel 82.20 22 P **P** 16 56 33.6 +0.5
I20K IAmb IAmb 16 56 35.2
comp=Z,59nm,0.7s
I20K Naaghedeneel 82.20 22 P **P** 16 56 33.8 +0.7
baz=239,SNR=12
C18K Utukok River 82.21 17 P **P** 16 56 33.6 +0.4
baz=232
BTLS Baital 82.24 317⇑ *i*P **P** 16 56 33.2 -0.6
baz=317
BTLS Baital 82.24 317 *c i*P **P** 16 56 33.2 -0.6
RC01 Rabbit Creek A 82.30 26 IAmb IAmb 16 56 34.6
comp=Z,64nm,0.7s
RC01 Rabbit Creek A 82.30 26 P **P** 16 56 33.5 -0.3
baz=244,SNR=11
CAST Castle Rocks 82.42 23 IAmb IAmb 16 56 38.0
comp=Z,44nm,0.6s
CAST Castle Rocks 82.42 23 P **P** 16 56 34.1 -0.2
baz=241,SNR=39
H20K Anotleneega Mo 82.42 21 P **P** 16 56 35.0 +0.8
baz=238,SNR=24
M22K Willow 82.44 25 P **P** 16 56 33.8 -0.6
baz=243,SNR=11
B18K Kokolik River 82.48 16 P **P** 16 56 35.0 +0.5
baz=231
CHUM Lake Minchumin 82.55 23 P **P** 16 56 35.3 +0.4
baz=241,SNR=36
MAW Mawson 82.66 203 P **P** 16 56 36.1 +0.6
baz=83,SNR=25
MAW Mawson 82.66 203 P **P** 16 56 36.0 +0.6
MAW Mawson 82.66 203 P **P** 16 56 35.6 +0.1
comp=Z,18nm,0.7s,baz=74,slow=6.5,SNR=44
MAW pP **pP** 16 57 25.4 -1.6
comp=Z,9.7nm,0.8s,baz=37,slow=6.7,SNR=3.3
MAW PKKPbc **PKKPbc** 17 14 59.6 -2.4
comp=Z,1.7nm,0.7s,baz=281,slow=7.5,SNR=7.5
comp=Z,18nm,0.7s
CUT Chulitna 82.67 25 P **P** 16 56 35.0 -0.6
baz=243,SNR=14
E19K Redstone River 82.70 19 P **P** 16 56 36.7 +1.0
baz=236,SNR=61
PMR Palmer 82.79 26 IAmb IAmb 16 56 36.9
comp=Z,39nm,0.7s
PMR Palmer 82.79 26 P **P** 16 56 37.2 +1.0
comp=Z,64nm,0.7s
PMR Palmer 82.79 26 P **P** 16 56 36.0 -0.2
baz=244,SNR=13
PWL Port Wells 82.82 26 P **P** 16 56 36.5 0.0
baz=245,SNR=26
KTH Kantishna Hill 82.94 23 IAmb IAmb 16 56 37.8
comp=Z,39nm,0.8s
C19K Lookout Ridge 82.95 17 P **P** 16 56 38.0 +1.0
baz=233,SNR=21
GHO Glory Hole Cre 82.95 25 IAmb IAmb 16 56 38.4
comp=Z,46nm,0.7s
F20K Avaraart Lake 82.97 19 IAmb IAmb 16 56 39.5
comp=Z,39nm,0.7s
F20K Avaraart Lake 82.97 19 P **P** 16 56 38.1 +1.0
baz=237,SNR=24
KNK Knik Glacier 83.00 26 IAmb IAmb 16 56 39.4
comp=Z,58nm,0.8s
KNK Knik Glacier 83.00 26 P **P** 16 56 37.6 +0.2
baz=245,SNR=10
D19K Kuna River 83.02 18 IAmb IAmb 16 56 39.0
comp=Z,56nm,0.8s
D19K Kuna River 83.02 18 P **P** 16 56 37.8 +0.5
baz=235,SNR=19
TRF Thorofare Moun 83.14 24 P **P** 16 56 37.5 -0.7
TRF IAmb IAmb 16 56 40.6
comp=Z,26nm,0.7s
TRF Thorofare Moun 83.14 24 P **P** 16 56 37.4 -0.9
baz=243,SNR=17
BPAW Bear Paw Mtn. 83.17 23 P **P** 16 56 37.7 -0.4
baz=242,SNR=12
SML Sawmill 83.22 26 P **P** 16 56 38.5 0.0
baz=245,SNR=26
H21K Melozitna Rive 83.25 21 P **P** 16 56 39.1 +0.5
baz=240,SNR=13
I21K Tanana 83.31 22 IAmb IAmb 16 56 41.5
comp=Z,33nm,0.8s
I21K Tanana 83.31 22 P **P** 16 56 39.4 +0.5
baz=241,SNR=24
GLI Glacier Island 83.38 27 P **P** 16 56 39.4 +0.1
baz=246,SNR=7.4
G21K Allakaket 83.43 20 P **P** 16 56 40.0 +0.5
baz=240,SNR=15
GAR Garm 83.44 310 P **P** 16 56 39.6 -0.7
M23K Glacier View 83.48 26 P **P** 16 56 39.7 -0.1
baz=245,SNR=11
E20K Nigu River 83.48 18 P **P** 16 56 40.5 +0.8
baz=237,SNR=36
KBL Kabul 83.52 306 P **P** 16 56 39.9 -1.0
KBL Kabul 83.52 306 P **P** 16 56 39.9 -1.0
KBL pmax pmax
comp=Z,12nm,1.0s
WAT1 Susitna Watana 83.57 25 P **P** 16 56 39.9 -0.4
baz=244
DZA Taraz 83.58 314 *e*P **P** 16 56 40.0 -0.8
baz=314
DZA Taraz 83.58 314 *e*P **P** 16 56 39.9 -0.8
FID Port Fidalgo 83.60 27 IAmb IAmb 16 56 42.2
comp=Z,81nm,0.9s
D20K Etivluk River 83.60 18 P **P** 16 56 40.7 +0.4
baz=236,SNR=14
SCM Sheep Creek Mo 83.67 26 IAmb IAmb 16 56 42.1
comp=Z,62nm,0.8s
SCM Sheep Creek Mo 83.67 26 P **P** 16 56 41.1 +0.3
baz=246,SNR=11
BWN Browne 83.80 23 IAmb IAmb 16 56 43.9
comp=Z,60nm,0.7s
F21K Alatna River 83.80 20 P **P** 16 56 41.5 +0.2
F21K Alatna River 83.80 20 P **P** 16 56 41.5 +0.2
baz=239,SNR=9.9
WAT6 Susitna Watana 83.80 25 P **P** 16 56 41.1 -0.5
baz=245,SNR=13
MCK McKinley 83.81 24 P **P** 16 56 41.0 -0.5
baz=244,SNR=28
EYAK Cordova Ski Ar 83.85 27 P **P** 16 56 43.1 +1.5
EYAK Cordova Ski Ar 83.85 27 P **P** 16 56 42.1 +0.4
baz=247
H22K Uthlelitna Cre 83.88 21 P **P** 16 56 42.3 +0.6
baz=242,SNR=16
NEA2 Nenana 84.14 23 IAmb IAmb 16 56 43.8
comp=Z,38nm,0.7s
NEA2 Nenana 84.14 23 P **P** 16 56 42.4 -0.7
baz=244,SNR=26
KLU Klutina 84.14 26 IAmb IAmb 16 56 46.1
comp=Z,65nm,0.8s
KLU Klutina 84.14 26 P **P** 16 56 43.6 +0.3
baz=247,SNR=16
DHY Denali Highway 84.16 25 P **P** 16 56 43.4 0.0
baz=246,SNR=48
B20K Meade River 84.17 17 IAmb IAmb 16 56 45.5
comp=Z,62nm,0.8s
B20K Meade River 84.17 17 P **P** 16 56 43.5 +0.5
baz=236
KKAR Karatay Array 84.22 314 P **P** 16 56 42.6 -1.4
KKAR Karatay Array 84.22 314 P **P** 16 56 42.6 -1.4
KKAR pmax pmax
comp=Z,38nm,1.4s
KAIM Kayak Island 84.23 28 P **P** 16 56 43.8 +0.2
baz=248
CHGR Chuyangaron 84.25 310 P **P** 16 56 43.0 -1.3
CHGR IAmb IAmb 16 56 46.7
comp=Z,59nm,0.8s
CHGR Chuyangaron 84.25 310 P **P** 16 56 43.1 -1.3
CHGR pmax pmax
comp=Z,59nm,0.8s
E21K Killik River 84.27 19 P **P** 16 56 44.5 +0.8
baz=239
I23K Minto, Yukon-K 84.28 22 IAmb IAmb 16 56 46.9
comp=Z,27nm,0.7s
I23K Minto, Yukon-K 84.28 22 P **P** 16 56 43.8 +0.1
baz=244,SNR=26
M24K Tolsona, Glenn 84.28 26 P **P** 16 56 44.4 +0.5
baz=247,SNR=16
QSPA South Pole Qui 84.32 180 P **P** 16 56 44.3 +0.1
comp=Z,44nm,0.8s,baz=343,slow=1.7,SNR=124
QSPA pP **pP** 16 57 35.0 -1.2
comp=Z,19nm,0.7s,baz=0.4,slow=1.1,SNR=3.8
QSPA PKKPbc **PKKPbc** 17 14 55.1 -3.9
comp=Z,2.6nm,0.9s,baz=225,slow=2.2,SNR=7.3
comp=Z,44nm,0.8s
G22K Bettles 84.33 20 P **P** 16 56 44.5 +0.6
baz=241
IUG luzhnay 84.35 313 *e*P **P** 16 56 44.8 0.0
baz=313
IUG luzhnay 84.35 313 *e*P **P** 16 56 44.7 0.0
F22K John River 84.38 20 P **P** 16 56 44.5 +0.2
baz=241
C21K Knifeblade Rid 84.40 18 P **P** 16 56 45.0 +0.8
baz=238,SNR=8.2
HMT Hamilton 84.45 28 IAmb IAmb 16 56 46.6
comp=Z,71nm,0.8s
WRH Wood River Hil 84.47 23 P **P** 16 56 43.5 -1.2
WRH IAmb IAmb 16 56 45.8
comp=Z,71nm,1.0s
BRZS Berezniki 84.47 321 *e*P **P** 16 56 44.3 -0.7
baz=321
BRZS Berezniki 84.47 321 *e*P **P** 16 56 44.3 -0.7
H23K Yukon River 84.51 22 IAmb IAmb 16 56 47.1
comp=Z,57nm,0.7s
H23K Yukon River 84.51 22 P **P** 16 56 45.5 +0.5
baz=243
BMRM Bremner River 84.53 27 P **P** 16 56 45.3 +0.1
baz=248,SNR=10
CCB Clear Creek Bu 84.65 23 IAmb IAmb 16 56 46.0
comp=Z,65nm,0.7s
CHM Chimkent 84.69 313 *e*P **P** 16 56 45.8 -0.6
baz=313
CHM Chimkent 84.69 313 *e*P **P** 16 56 45.7 -0.6
B21K Ikpikpuk River 84.70 17 P **P** 16 56 46.5 +0.8
baz=238
COLA College 84.73 23 P **P** 16 56 44.9 -1.1
COLA College 84.73 23 P **P** 16 56 46.1 +0.1
COLA College 84.73 23 P **P** 16 56 44.9 -1.1
COLA pmax pmax
comp=Z,105nm,0.6s
COLA College 84.73 23 P **P** 16 56 45.1 -0.9
baz=245
BERG Berg Lake 84.73 28 IAmb IAmb 16 56 49.0
comp=Z,61nm,0.7s
G23K Bananza Creek 84.75 21 P **P** 16 56 46.4 +0.3
baz=243,SNR=47
N25K Chitina, Valde 84.77 26 IAmb IAmb 16 56 48.5
comp=Z,27nm,0.7s
N25K Chitina, Valde 84.77 26 P **P** 16 56 46.8 +0.4
baz=248,SNR=8.3
E22K Anaktuvuk Pass 84.81 19 IAmb IAmb 16 56 48.6
comp=Z,46nm,0.7s
E22K Anaktuvuk Pass 84.81 19 P **P** 16 56 47.1 +0.7
baz=241,SNR=20
HARP HAARP 84.83 26 P **P** 16 56 46.6 0.0
baz=248,SNR=9.6
HDA Harding Lake 84.89 23 IAmb IAmb 16 56 48.7
comp=Z,45nm,0.7s
HDA Harding Lake 84.89 23 P **P** 16 56 45.9 -0.9
baz=246,SNR=38
D22K Ayikyak River 84.90 18 P **P** 16 56 48.0 +1.1
baz=240
PAX Paxson 84.92 25 P **P** 16 56 46.9 -0.2
baz=247,SNR=20
COLD Coldfoot 84.92 20 P **P** 16 56 47.7 +0.8
baz=242,SNR=28
POKR Poker Plat Res 85.00 23 IAmb IAmb 16 56 48.1
comp=Z,24nm,0.7s
POKR Poker Plat Res 85.00 23 P **P** 16 56 47.0 -0.4
baz=245,SNR=8.4
GLB Gilahina Butte 85.06 27 IAmb IAmb 16 56 49.5
comp=Z,46nm,0.7s
ILAR Eielson Array 85.06 23 P **P** 16 56 46.2 -1.5
ILAR Eielson Array 85.06 23 P **P** 16 56 46.2 -1.5
ILAR Eielson Array 85.06 23 P **P** 16 56 46.5 -1.1
comp=Z,87nm,0.7s,baz=252,slow=4.6,SNR=597
ILAR PKKPbc **PKKPbc** 17 14 53.1 -3.6
comp=Z,0.9nm,0.9s,baz=331,slow=1.2,SNR=7.0
comp=Z,87nm,0.7s
K24K Donnelly Dome 85.12 24 P **P** 16 56 47.9 -0.1
baz=247,SNR=17
CRQM Cirque 85.12 28 IAmb IAmb 16 56 55.2
comp=Z,62nm,0.7s
H24K Noodor Dome 85.13 22 IAmb IAmb 16 56 50.2
comp=Z,43nm,0.8s
H24K Noodor Dome 85.13 22 P **P** 16 56 48.1 0.0
baz=245,SNR=34
CRQE Cirque 85.14 28 P **P** 16 56 48.5 +0.2
baz=250,SNR=8.7
VRDI Verde Repeater 85.15 27 IAmb IAmb 16 56 50.0
comp=Z,24nm,0.6s
TGL Tana Glacier 85.26 28 IAmb IAmb 16 56 51.2
comp=Z,33nm,0.9s
MCARA McCarthy VSAT 85.40 27 IAmb IAmb 16 56 51.7
comp=Z,33nm,0.8s
MCARA McCarthy VSAT 85.40 27 P **P** 16 56 49.6 +0.2
baz=250,SNR=8.7
B22K Teshekpuk Lake 85.42 17 P **P** 16 56 49.8 +0.5
baz=239
RIDG Independent Ri 85.47 24 IAmb IAmb 16 56 52.1
comp=Z,37nm,0.7s
RIDG Independent Ri 85.47 24 P **P** 16 56 49.8 0.0
baz=248,SNR=21
E23K Chandalar 85.50 20 P **P** 16 56 50.8 +0.9
baz=243,SNR=24
D23K Nanushuk River 85.58 19 P **P** 16 56 51.3 +1.2
baz=242,SNR=25
J25K Salcha River, 85.60 24 P **P** 16 56 50.0 -0.4
J25K Salcha River, 85.60 24 P **P** 16 56 50.0 -0.4
baz=247,SNR=129
MENT Mentasta 85.65 25 IAmb IAmb 16 56 52.8
comp=Z,52nm,0.8s
G24K Hadweenzic Riv 85.65 21 P **P** 16 56 50.9 +0.3
baz=245,SNR=27
GRNC Granite Creek 85.75 28 IAmb IAmb 16 56 53.8
comp=Z,41nm,1.2s
M26K Nabesna, AK 85.77 26 P **P** 16 56 51.5 +0.2
baz=250,SNR=5.1
TOLK Toolik Lake Re 85.78 19 IAmb IAmb 16 56 53.8
comp=Z,42nm,0.8s
TOLK Toolik Lake Re 85.78 19 P **P** 16 56 51.8 +0.6
baz=243,SNR=13
L26K Log Cabin Wild 85.84 25 IAmb IAmb 16 56 53.3
comp=Z,49nm,0.7s
L26K Log Cabin Wild 85.84 25 P **P** 16 56 51.9 +0.4
baz=249,SNR=32
F24K Squaw Lake 85.85 20 P **P** 16 56 52.4 +0.8
baz=245,SNR=53
E24K Your Creek 85.89 20 P **P** 16 56 52.2 +0.4
baz=244,SNR=8.6
PRP Porcupine Dome 85.89 23 P **P** 16 56 50.5 -1.5
baz=247
SCRK Sand Creek 85.92 24 P **P** 16 56 51.8 -0.2
baz=248,SNR=19
C23K Itkillik River 86.01 18 P **P** 16 56 53.2 +0.9
baz=242,SNR=13
CTG Chitna Glacier 86.02 28 P **P** 16 56 53.4 +0.7
baz=251
H25L Birch Creek 86.08 22 P **P** 16 56 53.3 +0.7
baz=247,SNR=11
G25K Bearman Lake 86.17 21 P **P** 16 56 53.3 +0.3
baz=246,SNR=6.8
M27K Edge Creek, AK 86.24 26 P **P** 16 56 54.5 +0.8
M27K Edge Creek, AK 86.24 26 P **P** 16 56 54.5 +0.8
baz=250,SNR=45
PINM Pinnacle 86.25 29 P **P** 16 56 54.1 +0.4
baz=252,SNR=6.5
D24K Happy Valley 86.26 19 IAmb IAmb 16 56 56.3

comp=Z,48nm,0.7s
D24K Happy Valley 86.26 19 P **P 16 56 54.4 +1.0**
baz=244,SNR=12
J26L Joseph Creek 86.28 24 IAmb IAmb 16 56 55.4
comp=Z,28nm,0.7s
J26L Joseph Creek 86.28 24 P **P 16 56 54.0 +0.2**
baz=249,SNR=28
O28M Mount Upton 86.49 28 P **P 16 56 55.4 +0.3**
baz=252,SNR=16
L27K Beaver Creek, 86.50 26 IAmb IAmb 16 56 56.5
comp=Z,25nm,0.8s
L27K Beaver Creek, 86.50 26 P **P 16 56 55.5 +0.6**
baz=250,SNR=17
PNL Peninsula 86.54 29 P **P 16 56 55.9 +0.8**
comp=Z,129nm,0.9s
PNL Peninsula 86.54 29 P **P 16 56 55.5 +0.5**
baz=253
C24K Franklin Bluff 86.55 18 P **P 16 56 56.1 +1.3**
baz=244
BVAR Borovoye Array 86.63 324 P **P 16 56 54.2 -1.4**
comp=Z,25nm,0.8s,baz=106,slow=5.4,SNR=95
BVAR pP **pP 16 57 45.1 -1.3**
comp=Z,8.6nm,0.7s,baz=101,slow=7.7,SNR=4.2
BVAR PKKPbc **PKKPbc 17 14 51.7 -0.8**
comp=Z,1.2nm,0.7s,baz=266,slow=3.9,SNR=4.9
comp=Z,25nm,0.8s
F25K Christian Rive 86.67 21 P **P 16 56 56.4 +0.8**
baz=247,SNR=11
YUK3 Moose Creek 86.68 27 P **P 16 56 56.5 +0.5**
baz=252,SNR=18
BRVK Borovoye 86.70 324 P **P 16 56 54.2 -1.7**
BRVK Borovoye 86.70 324 *i* P **P 16 56 54.2 -1.7**
BRVK pmax pmax
comp=Z,12nm,0.8s
K27K Chicken 86.72 25 IAmb IAmb 16 56 58.0
comp=Z,46nm,0.7s
K27K Chicken 86.72 25 P **P 16 56 56.6 +0.7**
baz=250,SNR=29
I26K Coal Creek Min 86.73 23 IAmb IAmb 16 56 58.7
comp=Z,34nm,0.8s
I26K Coal Creek Min 86.73 23 P **P 16 56 55.6 -0.2**
baz=249
E25K Arctic Village 86.91 20 P **P 16 56 57.4 +0.8**
baz=247,SNR=6.0
BMAR Burnt Mountain 86.98 21 P **P 16 56 58.2 +1.2**
G26K Porcupine Rive 87.09 22 P **P 16 56 58.6 +1.1**
baz=248,SNR=59
O29M Mount Kennedy 87.12 29 IAmb IAmb 16 57 00.8
comp=Z,64nm,0.9s
O29M Mount Kennedy 87.12 29 P **P 16 56 58.6 +0.6**
baz=254,SNR=13
D25K Kavik River 87.12 19 IAmb IAmb 16 57 00.2
comp=Z,46nm,0.8s
D25K Kavik River 87.12 19 P **P 16 56 58.1 +0.4**
baz=246,SNR=12
F26K Sheeenjek River 87.24 21 P **P 16 56 59.3 +1.0**
baz=248,SNR=11
P29M Windy Craggy 87.33 29 P **P 16 56 59.7 +0.8**
baz=254,SNR=13
YUK4 Talbot Arm 87.38 28 P **P 16 57 00.3 +1.0**
baz=254
YUK6 Outpost Mounta 87.40 28 P **P 16 56 59.8 +0.4**
baz=254
I27K Kandik River 87.44 23 P **P 16 56 60.0 +0.7**
baz=251,SNR=51
S31K Pelican 87.66 31 P **P 16 57 01.2 +0.9**
baz=256
H27K Steamboat Moun 87.68 23 P **P 16 57 01.4 +1.0**
baz=251,SNR=55
HYT Haines Junctio 87.77 28 IAmb IAmb 16 57 04.5
comp=Z,59nm,1.1s
HYT Haines Junctio 87.77 28 P **P 16 57 01.8 +0.7**
baz=254,SNR=19
M29M Somme Creek 87.78 27 IAmb IAmb 16 57 03.2
comp=Z,36nm,0.7s
M29M Somme Creek 87.78 27 P **P 16 57 01.8 +0.8**
baz=254,SNR=18
C26K Camden Bay 87.83 19 P **P 16 57 01.9 +1.0**
baz=247
G27K Doyon Strip 87.83 22 P **P 16 57 01.9 +0.8**
baz=250,SNR=22
P30M Million Dollar 87.84 29 P **P 16 57 02.3 +0.9**
baz=255
DAWY Dawson 87.85 25 P **P 16 57 01.3 0.0**
DAWY IAmb IAmb 16 57 03.1
comp=Z,40nm,0.9s
DAWY Dawson 87.85 25 P **P 16 57 01.9 +0.6**
baz=253,SNR=36
SIT Sitka 87.91 32 P **P 16 57 01.9 +0.3**
baz=256
PLBC Pleasant Camp 87.96 30 P **P 16 57 02.3 +0.5**
baz=256,SNR=9.0
I28M Miner Creek 88.05 24 IAmb IAmb 16 57 04.4
comp=Z,33nm,0.8s
I28M Miner Creek 88.05 24 P **P 16 57 02.7 +0.4**
baz=252,SNR=26
L29M L29M 88.11 26 P **P 16 57 03.3 +0.8**
baz=254,SNR=24
N30M Aishikik Lake 88.13 28 P **P 16 57 03.4 +0.7**
baz=255,SNR=5.3
E27K Coleen River 88.31 21 IAmb IAmb 16 57 05.4
comp=Z,46nm,0.7s
E27K Coleen River 88.31 21 P **P 16 57 04.1 +0.8**
baz=250,SNR=26
S32K Killisnoo 88.40 32 P **P 16 57 04.8 +0.9**
baz=257
O30N Mendenhall 88.43 29 IAmb IAmb 16 57 07.4
comp=Z,97nm,1.6s
O30N Mendenhall 88.43 29 P **P 16 57 04.7 +0.6**
baz=256
J29N Klondike Camp 88.46 25 P **P 16 57 04.8 +0.7**
baz=254
SKAG Skagway 88.48 30 P **P 16 57 05.0 +0.8**
baz=256
M30M Minto, Yukon 88.56 27 P **P 16 57 05.2 +0.6**
baz=255,SNR=5.5
K29M Barlow Dome 88.58 25 P **P 16 57 05.4 +0.6**
baz=254,SNR=37
R32K Eaglecrest 88.61 31 P **P 16 57 05.6 +0.7**
baz=257
I29M Ogilvie Camp, 88.68 24 P **P 16 57 04.4 -0.7**
I29M IAmb IAmb 16 57 07.1
comp=Z,29nm,0.8s
I29M Ogilvie Camp, 88.68 24 P **P 16 57 05.5 +0.4**
baz=254,SNR=30
F28M Old Crow 88.75 21 IAmb IAmb 16 57 07.8
comp=Z,41nm,0.8s
F28M Old Crow 88.75 21 P **P 16 57 06.1 +0.7**
baz=252,SNR=32
N31M Braeburn, Yuko 88.75 28 IAmb IAmb 16 57 08.0
comp=Z,38nm,1.1s
N31M Braeburn, Yuko 88.75 28 P **P 16 57 06.3 +0.7**
baz=256
D27M Malcolm River 88.88 20 P **P 16 57 06.7 +0.7**
baz=251,SNR=7.6
U33K Whale Pass 88.89 33 P **P 16 57 07.1 +0.9**
baz=258
H29M Whitestone 88.90 23 P **P 16 57 07.0 +0.9**
baz=254,SNR=7.2
WHY Whitehorse 88.98 29 P **P 16 57 07.6 +0.8**
baz=257
E28M Babbage River 89.17 21 P **P 16 57 08.1 +0.8**
baz=252,SNR=8.7
MAYO Mayo, Yukon 89.22 26 P **P 16 57 08.5 +0.9**
baz=256
G29M Pine Creek 89.23 22 P **P 16 57 08.2 +0.5**
baz=254,SNR=25
J30M Hart River 89.28 25 P **P 16 57 07.7 -0.3**
J30M Hart River 89.28 25 P **P 16 57 08.5 +0.5**
baz=255,SNR=35
P32M Atlin 89.31 30 P **P 16 57 08.8 +0.6**
baz=258
RER Riviere de l'E 89.38 249 P **P 16 57 08.8 -0.7**
I30M Mount Dempster 89.42 24 IAmb IAmb 16 57 10.2
comp=Z,21nm,0.7s
I30M Mount Dempster 89.42 24 P **P 16 57 08.9 +0.2**
baz=255,SNR=18
M31M Drury Creek, Y 89.56 27 IAmb IAmb 16 58 02.0
comp=Z,50nm,1.9s
M31M Drury Creek, Y 89.56 27 P **P 16 57 10.0 +0.7**
baz=257
EPYK Eagle Plains 89.58 23 P **P 16 57 09.6 +0.3**
baz=255,SNR=46
D28M Stokes Point 89.66 20 P **P 16 57 10.1 +0.5**
baz=253
E29M Blow River 89.69 21 P **P 16 57 09.6 -0.1**
baz=254,SNR=7.9
P33M Teslin, Yukon 89.88 29 P **P 16 57 11.6 +0.7**
baz=259
Q32M Nakina River 89.91 31 P **P 16 57 12.0 +0.8**
baz=259
G30M tAoh Zraii Nji 89.93 22 IAmb IAmb 16 57 12.6
comp=Z,34nm,0.8s
G30M tAoh Zraii Nji 89.93 22 P **P 16 57 10.7 -0.2**
baz=256,SNR=17
N32M Quiet Lake 89.94 28 P **P 16 57 11.2 +0.1**
baz=258
FARO Faro, Yukon 90.04 27 P **P 16 57 11.4 -0.1**
baz=258,SNR=5.3
F30M Barrier River 90.25 22 P **P 16 57 12.5 +0.1**
baz=256,SNR=18
S34M Telegraph Cree 90.30 32 IAmb IAmb 16 57 15.6
comp=Z,24nm,1.0s
S34M Telegraph Cree 90.30 32 P **P 16 57 13.2 +0.4**
baz=260
H31M Peel River 90.38 24 P **P 16 57 13.1 +0.1**
H31M Peel River 90.38 24 P **P 16 57 13.0 -0.1**
baz=257,SNR=22
T35M Bob Quinn 90.62 33 P **P 16 57 14.8 +0.5**
baz=261
R33M Jennings River 90.65 30 P **P 16 57 14.8 +0.3**
baz=260
G31M Satah River 90.66 23 P **P 16 57 14.3 0.0**
baz=257,SNR=53
DLBC Dease Lake 90.97 31 P **P 16 57 16.4 +0.5**
baz=261
F31M Tsiigehtchic 90.97 22 IAmb IAmb 16 57 17.0
comp=Z,27nm,0.7s
F31M Tsiigehtchic 90.97 22 P **P 16 57 15.1 -0.5**
baz=258,SNR=11
MMPY Sheldon Lake, 91.07 27 P **P 16 57 16.9 +0.6**
baz=260
INK Inuvik 91.24 21 IAmb IAmb 16 57 18.9
comp=Z,27nm,0.9s
INK Inuvik 91.24 21 P **P 16 57 16.3 -0.5**
baz=258,SNR=17
TGTN Hyland Airport 92.29 29 P **P 16 57 22.4 +0.4**
baz=263
ABKAR Akbulak array 92.47 319 P **P 16 57 20.3 -2.7**
KMPM Mount Pierce 92.58 50 P **P 16 57 24.1 +0.2**
KMPM IAmb IAmb 16 57 27.9
comp=Z,31nm,0.9s
GEYT Alibeck 92.74 308 P **P 16 57 23.1 -1.5**
comp=Z,11nm,0.8s,baz=101,slow=4.7,SNR=13
comp=Z,11nm,0.8s
KSXB Camp Six Broad 92.89 48 P **P 16 57 23.9 -1.4**
KHMM Horse Mountain 92.92 49 P **P 16 57 24.8 -0.7**
KHMM IAmb IAmb 16 57 28.3
comp=Z,33nm,0.9s
LIRD Liard River Hi 93.11 31 P **P 16 57 26.5 +0.7**
baz=264,SNR=5.8
YBH Yreka Blue Hor 93.75 49 IAmb IAmb 16 57 31.7
comp=Z,14nm,0.9s
AKTO Aktyubinsk 93.81 320 P **P 16 57 28.2 -1.0**
comp=Z,4.0nm,0.8s,baz=113,slow=3.0,SNR=13
comp=Z,4.0nm,0.8s
ARU Arti 93.93 326 P **P 16 57 27.8 -1.7**
ARU Arti 93.93 326 P **P 16 57 27.6 -2.0**
comp=Z,8.3nm,0.7s,baz=107,slow=1.0,SNR=14
comp=Z,8.3nm,0.7s
GNW Green Mountain 94.08 43 IAmb IAmb 16 57 34.6
comp=Z,32nm,1.4s
KOTAN Kotaneelee Air 94.21 30 P **P 16 57 31.2 +0.4**
baz=266,SNR=6.5
ORV Oroville 94.53 51 IAmb IAmb 16 57 35.6
comp=Z,17nm,0.8s
ELIB Princess Elisa 94.60 195 *d*P **P 16 57 32.9 +0.3**
comp=Z,23nm,0.9s
ELIB *d*pP **pP 16 58 23.9 -1.3**
ELIB *d*SKS **SKSac 17 07 46.6 -0.9**
ELIB *d*S **S 17 08 24.3 -2.5**
C36M Paulatuk 94.78 21 P **P 16 57 33.2 0.0**
baz=267
LLLB Lilloet 94.88 40 P **P 16 57 34.5 +0.4**
LLLB IAmb IAmb 16 57 36.6
comp=Z,16nm,0.7s
AFDM Forest Hills D 94.90 51 IAmb IAmb 16 57 37.7
comp=Z,14nm,0.9s
G05A Wamic 94.98 45 P **P 16 57 35.4 +0.7**
G05A IAmb IAmb 16 57 43.2
comp=Z,23nm,0.9s
B06A Marblemount 95.03 42 IAmb IAmb 16 57 42.5
comp=Z,18nm,1.0s
K05A Summer Lake 95.16 48 IAmb IAmb 16 57 37.6
comp=Z,15nm,1.1s
LTY Liberty 95.53 43 IAmb IAmb 16 57 39.9
comp=Z,17nm,1.1s
EMB Emerald Bay 95.58 51 P **P 16 57 38.3 +0.5**
EMB IAmb IAmb 16 57 39.4
comp=Z,12nm,1.1s
PKM Mcpherson Peak 95.61 56 P **P 16 57 38.6 +0.5**
baz=267
MPK Martis Peak 95.65 51 P **P 16 57 38.4 +0.1**
MPK IAmb IAmb 16 57 40.0
comp=Z,31nm,1.2s
SCZ2 Santa Cruz Isl 95.71 56 P **P 16 57 39.7 +1.4**
baz=267
PNTR Pine Nut 95.97 51 P **P 16 57 38.8 -0.9**
PNTR IAmb IAmb 16 57 42.9
comp=Z,12nm,0.7s
PAHR Pah Rah Range 96.17 51 IAmb IAmb 16 57 43.4
comp=Z,8.0nm,0.8s
HAWA Hanford 96.28 44 P **P 16 57 41.3 +0.8**
HAWA IAmb IAmb 16 57 44.3
comp=Z,17nm,0.8s
PNT Penticton 96.29 41 P **P 16 57 38.8 -1.8**
PNT pmax pmax
comp=Z,13nm,0.7s
MDPB Devils Postpil 96.32 53 IAmb IAmb 16 57 44.4
comp=Z,7.8nm,0.8s
BELA Belgrano 2 96.59 180 P **P 16 57 40.8 -0.6**
E08A Dider Farm, El 96.61 44 IAmb IAmb 16 57 44.2
comp=Z,16nm,0.7s
G08A Pilot Rock 96.65 45 IAmb IAmb 16 57 43.9
comp=Z,13nm,1.2s
D08A Wollman Farm, 96.71 43 IAmb IAmb 16 57 45.7
comp=Z,17nm,0.8s
ISA Isabella, Lake 96.74 55 P **P 16 57 44.3 +1.3**
baz=268,SNR=5.4
LHV Little Huntoon 96.80 52 IAmb IAmb 16 57 47.3
comp=Z,8.8nm,0.8s
WVOR Wild Horse Val 96.81 48 IAmb IAmb 16 57 46.4
comp=Z,10nm,0.9s
J08A Circle Bar Ran 96.96 47 IAmb IAmb 16 57 46.9
comp=Z,13nm,0.8s
NVAR Mina Array Bea 96.96 52 P **P 16 57 45.0 +0.9**
comp=Z,8.4nm,0.7s,baz=254,slow=5.6,SNR=46
NVAR PP **PP 17 01 40.6 -2.0**
comp=Z,0.7nm,0.8s,baz=260,slow=5.9,SNR=5.0
comp=Z,8.4nm,0.7s
NV11 Mina Array Sit 97.08 52 IAmb IAmb 16 57 48.2
comp=Z,7.1nm,0.8s
CWC Cottonwood Cre 97.08 54 P Pdif 16 57 45.3 +0.6
baz=268
EDW2 Edwards Air Fo 97.10 56 P Pdif 16 57 45.7 +1.0
baz=268
DSP Deep Springs 97.20 53 P Pdif 16 57 45.7 +0.8
BFSC Mount Baldy Ra 97.36 56 P Pdif 16 57 46.2 +0.2
baz=268
LRMC Laurel Mtn Rad 97.38 55 P Pdif 16 57 46.5 +0.6
baz=268
VOI Vohitsoka 97.55 247 P **P 16 57 46.0 -1.0**
VOI IAmb IAmb 16 57 47.9
comp=Z,16nm,0.8s
VOI Vohitsoka 97.55 247 P Pdif 16 57 47.7 +0.7
MPMC Manual Prospec 97.55 54 P Pdif 16 57 47.6 +0.8
baz=269,SNR=5.2
ABPO Ambohimpanom 97.59 250 P **P 16 57 46.8 -0.5**
ABPO IAmb IAmb 16 57 49.6
comp=Z,12nm,0.9s
ABPO Ambohimpanom 97.59 250 P **P 16 57 46.8 -0.5**
ABPO pmax pmax
comp=Z,12nm,1.0s
BMO Blue Mountains 97.81 46 IAmb IAmb 16 57 50.0
comp=Z,11nm,0.7s
NEW Newport 97.93 42 P Pdif 16 57 49.0 +1.0
baz=270,SNR=19
QSM Queen of Sheba 98.05 55 IAmb IAmb 16 57 52.5
comp=Z,5.2nm,0.7s
PFO Pinyon Flats O 98.34 57 P Pdif 16 57 50.7 +0.5
baz=269
TPFO Pinon Flats 98.34 57 P Pdif 16 57 50.6 +0.3
baz=269
MONP2 Monument Peak 98.35 58 P Pdif 16 57 51.6 +1.1
baz=269,SNR=5.9
HEC Hector,Ludlow 98.46 56 P Pdif 16 57 51.6 +0.8
baz=269
TPNV Topopah Spring 98.56 54 IAmb IAmb 16 57 55.1
comp=Z,6.1nm,0.8s
TPNV Topopah Spring 98.56 54 P Pdif 16 57 52.8 +1.5
baz=270,SNR=7.8
BELC Belle Mtn. Jos 98.73 57 P Pdif 16 57 53.2 +1.2
baz=269
PLID Pearl Lake 98.74 45 IAmb IAmb 16 57 53.5
comp=Z,12nm,0.7s
YKA Yellowknife Ar 98.75 28 P **P 16 57 50.7 -0.6**
YKA Yellowknife Ar 98.75 28 P Pdif 16 57 51.3 0.0
comp=Z,7.0nm,0.8s,baz=273,slow=4.7,SNR=19
comp=Z,7.0nm,0.8s
TUQ Turquoise Moun 98.81 55 P Pdif 16 57 53.0 +0.6
baz=269
SWSC Sam W. Stewart 98.88 58 P Pdif 16 57 53.5 +1.0
baz=269
MFID Camas Ranch 98.89 47 IAmb IAmb 16 57 54.0
comp=Z,12nm,1.2s
GMRC Granite Mounta 99.02 56 P **Pdif 16 57 54.5 +1.2**
baz=270
R11B Troy Canyon, C 99.10 52 P **Pdif 16 57 54.1 +0.5**
baz=270
BC3 Big Chuckawall 99.18 57 P **Pdif 16 57 55.1 +1.1**
baz=269
TROLL Troll, Antarti 99.18 190 ⇑P **Pdif 16 57 53.7 +0.5**
comp=Z,577nm,0.8s
IRM Iron Mountain 99.44 56 P **Pdif 16 57 56.0 +0.9**
baz=270
V12A Nelson 99.69 55 Pdif **Pdif 16 57 56.8 +0.6**
V12A IAmb IAmb 16 57 58.1
comp=Z,25nm,1.8s
HLID Hailey 99.91 47 P **Pdif 16 57 58.0 +0.9**
baz=272,SNR=6.0
MSO Missoula 100.13 44 P **Pdif 16 57 58.7 +0.8**
baz=273
SNAA Sanae 100.38 189 ⇑P **Pdif 16 57 59.1 +0.6**
comp=Z,88nm,0.8s
SNAA Sanae 100.38 189 P **Pdif 16 57 58.1 -0.4**
comp=Z,4.9nm,0.9s,baz=152,slow=3.0,SNR=14
SNAA PP **PP 17 02 07.7 +0.8**
comp=Z,4.0nm,1.0s,baz=159,slow=8.6,SNR=3.9
SNAA PKKPbc **PKKPbc 17 14 13.5 -3.5**
comp=Z,1.7nm,0.7s,baz=344,slow=1.4,SNR=8.1
PRGR Permogore 100.46 332 *e*P **Pdif 16 57 56.6 -2.2**
PRGR pmax pmax
comp=Z,18nm,0.8s
MAK Makhachkala 100.95 313 *e*P **Pdif 16 57 59.3 -2.2**
MAK *e* 17 08 19.1
MAK *e*SS SS 17 16 34.3 +9.5
MAK *e*SSS SSS 17 20 23.9
MAK pmax pmax
comp=Z,24nm,0.4s
DUG Dugway, Tooele 101.22 50 P **Pdif 16 58 03.8 +0.9**
baz=272
214A Organ Pipe Nat 101.40 59 P **Pdif 16 58 04.9 +1.1**
baz=270
VNA3 Neumayer Olymp 101.75 187 ⇑P **Pdif 16 58 05.0 +0.4**
comp=Z,4.2nm,0.6s
NLU North Lily Min 101.79 50 Pdif **Pdif 16 58 05.6 0.0**
BOZ Bozeman (W) 101.80 45 P **Pdif 16 58 06.3 +0.8**
baz=274,SNR=7.3
WUAZ Wupatki 102.52 55 P **Pdif 16 58 10.0 +1.1**
baz=272
EGMT Eagleton 102.87 42 P **Pdif 16 58 10.7 +0.7**
baz=276
TUC Tucson 103.11 58 P **Pdif 16 58 12.3 +0.8**
baz=272
RLMT Red Lodge 103.50 45 P **Pdif 16 58 13.9 +0.9**
baz=276
BW06 Boulder Array 103.50 48 P **Pdif 16 58 13.9 +0.7**
baz=275,SNR=8.4
PDAR Pinedale Array 103.50 48 Pdiff **Pdif 16 58 13.7 +0.5**
comp=Z,4.8nm,0.8s,baz=232,slow=2.1,SNR=37
PDAR PKiKP **PKiKP 17 02 30.2 -0.7**
comp=Z,0.7nm,0.7s,baz=214,slow=1.0,SNR=4.2
PDAR PKKPbc **PKKPbc 17 14 05.5 -1.7**
comp=Z,0.5nm,0.7s,baz=96,slow=6.2,SNR=5.0
KLMR Klimovskoe 103.50 331 *e*Pdif **Pdif 16 58 10.3 -2.1**
KLMR AMP 16 58 12.3
comp=Z,13nm,0.9s
KLMR *e*PP **PP 17 02 31.2 +0.3**
KLMR Klimovskoe 103.50 331 *e*P **Pdif 16 58 10.3 -2.1**
KLMR *e* 17 02 31.2
KLMR pmax pmax
comp=Z,13nm,0.9s
APA Apatity 104.16 339 ⇓*i*P **Pdif 16 58 17.3 +2.1**
APA pmax pmax
comp=Z,10.0nm,1.1s
APA MLR MLR
comp=Z,1μm,22.0s
KBZ Khabaz 104.24 314 PKKPbc PKKPbc 17 14 04.2 -0.4
comp=Z,0.9nm,0.6s,baz=19,slow=14,SNR=4.7
O20A White River Ci 104.72 50 P **Pdif 16 58 19.3 +0.7**
baz=275
MVCO Mesa Verde 104.75 53 P **Pdif 16 58 19.4 +0.6**
baz=274
LAO LASA Array 105.42 43 P **PKiKP 17 02 35.4 +1.4**
baz=278
121A Cookes Peak, D 105.64 58 P **PKiKP 17 02 36.3 +1.3**
baz=273
ARCES ARCESS Array B 106.00 342 **Pdif 16 58 22.6 -0.8**
ARCES ARCESS Array B 106.00 342 *i* P **Pdif 16 58 22.6 -0.8**
ARCES ARCESS Array B 106.00 342 Pdiff **Pdif 16 58 21.7 -1.7**
comp=Z,12nm,0.8s,baz=49,slow=5.6,SNR=12
ARCES PKiKP **PKiKP 17 02 33.6 -0.7**
comp=Z,1.0nm,0.5s,baz=122,slow=1.9,SNR=11
ARCES PKKPbc **PKKPbc 17 13 56.6 -3.7**
comp=Z,2.6nm,0.7s,baz=268,slow=4.5,SNR=7.6
S22A 4UR Ranch, Cre 106.03 52 P **PKiKP 17 02 37.0 +1.2**
baz=275
N23A Red Feather La 106.38 49 P **PKiKP 17 02 37.4 +1.1**
baz=277
ANMO Albuquerque 106.57 55 P **PKiKP 17 02 37.5 +0.8**
baz=275
ISCO Idaho Springs 106.76 50 P **PKiKP 17 02 37.4 +0.4**
baz=277
SDCO Great Sand Dun 107.08 52 P **PKiKP 17 02 38.2 +0.5**
baz=276
RSSD Black Hills 107.33 46 P **PKiKP 17 02 37.6 -0.3**
baz=279
MNTX Cornudas Mount 107.73 59 P **PKiKP 17 02 38.6 -0.1**
baz=274
MNTX Cornudas Mount 107.73 59 P **PKiKP 17 02 38.7 -0.1**
baz=274
TXAR Lajitas Array 109.38 61 PKiKP **PKiKP 17 02 42.5 +0.5**
comp=Z,1.2nm,0.8s,baz=318,slow=1.2,SNR=9.1
TXAR PKKPbc **PKKPbc 17 13 47.6 -0.8**
comp=Z,0.5nm,0.7s,baz=111,slow=5.9,SNR=5.0
TXAR PKKPab **PKKPab 17 14 00.6 +0.1**
comp=Z,3.5nm,0.8s,baz=117,slow=6.8,SNR=25
FINES FINESS Array B 109.46 334 Pdiff **Pdif 16 58 37.0 -1.9**
comp=Z,5.2nm,0.8s,baz=79,slow=4.1,SNR=9.6
FINES PKiKP **PKiKP 17 02 41.0 +0.1**
comp=Z,2.8nm,0.7s,baz=105,slow=3.0,SNR=8.9
FINES PP **PP 17 03 13.4 -0.9**
comp=Z,5.1nm,0.8s,baz=332,slow=6.5,SNR=5.5
FINES PKKPbc **PKKPbc 17 13 48.1 -1.1**
comp=Z,2.4nm,0.8s,baz=267,slow=3.2,SNR=5.3
MSTX Muleshoe 109.70 56 P **PKiKP 17 02 42.4 -0.1**
baz=277
AMTX Amarillo 110.48 55 P **PKiKP 17 02 42.2 -1.6**
baz=278
ULM Lac du Bonnet 111.34 38 PKiKP **PKiKP 17 02 44.4 -0.5**
comp=Z,5.1nm,0.7s,baz=282,slow=4.9,SNR=5.2
CBKS Cedar Bluff 111.41 51 P **PKiKP 17 02 45.8 +0.3**
baz=280
BRTR Keskin Array B 111.69 310 PKiKP **PKiKP 17 02 46.4 +0.3**
comp=Z,1.0nm,0.5s,baz=100,slow=1.4,SNR=5.6
BRTR PKKPbc **PKKPbc 17 13 41.4 0.0**
comp=Z,0.9nm,0.6s,baz=223,slow=2.3,SNR=5.0
AKASG Malin Array Be 111.88 323 PKiKP **PKiKP 17 02 45.5 -0.4**
comp=Z,1.7nm,0.4s,baz=51,slow=2.4,SNR=10
AKASG PP **PP 17 03 31.1 -0.9**
comp=Z,3.7nm,0.9s,baz=58,slow=6.4,SNR=8.5
AKASG PKKPbc **PKKPbc 17 13 38.9 -2.1**
comp=Z,2.2nm,0.6s,baz=265,slow=3.7,SNR=9.6
ABTX Abilene, Hawle 112.47 57 P **PKiKP 17 02 47.3 -0.4**
baz=278
JCT Junction City 112.61 59 P **PKiKP 17 02 47.2 -0.8**
baz=277
ECSD EROS Data Cent 112.66 45 P **PKiKP 17 02 47.2 -0.5**
baz=285
ECSD EROS Data Cent 112.66 45 P **PKiKP 17 02 47.1 -0.5**
baz=285
WMOK Wichita Mounta 112.86 55 P **PKiKP 17 02 47.8 -0.6**
baz=279

WMOK	Wichita Mounta	112.86	55	P	PKiKP	17 02 48.4	+0.1
	baz=279,SNR=6.7						
833A	Chaparral WMA,	113.21	62	P	PKiKP	17 02 48.8	-0.3
	baz=276						
TLCR		113.84	317	⇓P	PKiKP	17 02 49.8	0.0
TLCR		113.84	317	PKIKP	PKiKP	17 02 49.8	0.0
F36A	Milaca	114.18	42	P	PKiKP	17 02 50.6	+0.1
	baz=288						
TIRR	Tirgusor	114.32	316	⇑P	PKiKP	17 02 50.9	+0.1
TIRR	Tirgusor	114.32	316	PKIKP	PKiKP	17 02 50.8	+0.1
HARR	Harsova	114.58	317	⇓P	PKiKP	17 02 51.6	+0.4
HARR	Harsova	114.58	317	PKIKP	PKiKP	17 02 51.6	+0.4
BOSA	Boshof	114.64	235	PKP	PKPdf	17 02 51.0	-1.0
	comp=Z,3.3nm,0.7s,baz=163,slow=3.0,SNR=4.4						
EYMN	Ely	114.81	39	P	PKiKP	17 02 51.1	-0.5
	baz=291						
VRI	Vrincioaia	115.02	318	⇑P	PKPdf	17 02 52.4	+0.3
VRI	Vrincioaia	115.02	318	PKIKP	PKPdf	17 02 52.4	+0.3
PLOR	Plostina	115.08	318	⇓P	PKiKP	17 02 52.1	-0.2
PLOR	Plostina	115.08	318	PKIKP	PKiKP	17 02 52.0	-0.2
HFS	Hagfors	115.33	336	PKP	PKiKP	17 02 51.3	-0.9
	comp=Z,2.9nm,0.7s,baz=75,slow=7.6,SNR=7.9						
HFS				PP	PP	17 03 55.1	-0.8
	comp=Z,4.1nm,1.0s,baz=76,slow=8.0,SNR=3.5						
BURAR	Bucovina Array	115.41	321	⇓P	PKPdf	17 02 53.2	+0.3
BURAR	Bucovina Array	115.41	321		PKPdf	17 02 53.0	+0.1
BURAR	Bucovina Array	115.41	321	PKIKP	PKPdf	17 02 53.2	+0.3
NEHR	Nehoiu	115.45	318	⇑P	PKiKP	17 02 53.2	+0.2
X37A	Clayton	115.65	54	PKPdf	PKPdf	17 02 53.5	-0.1
X37A	Clayton	115.65	54	P	PKiKP	17 02 53.9	+0.3
	baz=282						
MLR	Muntele Rosu	115.67	318	⇑P	PKPdf	17 02 53.3	-0.2
MLR	Muntele Rosu	115.67	318	PKP	PKPdf	17 02 52.8	-0.7
	comp=Z,5.3nm,0.7s,baz=92,slow=1.7,SNR=9.7						
MLR				PKKPbc	PKKPbc	17 13 26.8	-1.4
	comp=Z,2.0nm,0.6s,baz=187,slow=3.3,SNR=3.7						
NB2	NORSAR Subarra	115.72	338	PKPdf	PKPdf	17 02 52.8	-0.2
	comp=Z,0.7nm,0.6s,baz=44,slow=1.9						
NB2				PP	PP	17 03 43.4	-15
	comp=Z,3.5nm,1.0s,baz=48,slow=8.6						
NB2				PKKP	PKKPbc	17 13 26.4	-2.1
	comp=Z,0.9nm,0.7s,baz=216,slow=3.1						
NOA	NORSAR Array B	115.72	338	PKP	PKPdf	17 02 52.1	-0.9
	comp=Z,0.5nm,0.6s,baz=248,slow=3.0,SNR=5.6						
NOA				PP	PP	17 03 59.3	+0.6
	comp=Z,0.9nm,0.8s,baz=35,slow=7.1,SNR=2.5						
NOA				PKKPbc	PKKPbc	17 13 26.3	-2.1
	comp=Z,1.2nm,0.7s,baz=60,slow=3.5,SNR=6.6						
DOPR	Dopca	115.87	319	⇓P	PKiKP	17 02 54.8	+1.0
P38A	Dawn	115.94	49	P	PKPdf	17 02 53.9	-0.2
	baz=285						
U38A	Gravette	116.05	52	P	PKiKP	17 02 54.4	+0.1
	baz=283,SNR=9.0						
Z38A	Mt. Pleasant	116.23	56	PKPdf	PKiKP	17 02 55.0	+0.3
VOIR		116.28	318	⇓P	PKiKP	17 02 55.2	+0.6
VOIR		116.28	318	PKIKP	PKiKP	17 02 55.2	+0.6
S39A	Bolivar	116.58	51	P	PKPdf	17 02 54.7	-0.6
	baz=284						
HUMR	Humele	116.63	317	⇑P	PKiKP	17 02 55.3	+0.1
KOLS	Kolonicke sedl	116.72	323	*e*PKIKP	PKiKP	17 02 56.8	+1.5
KOLS	Kolonicke sedl	116.72	323	*e*PKP	PKiKP	17 02 56.8	+1.5
TRPA	Tarpa	116.88	322	⇓P	PKiKP	17 02 56.2	+0.6
P40A	Paris	117.07	48	P	PKPdf	17 02 56.1	-0.1
	baz=286						
MARR	Marisel-Cluj	117.08	320	⇓P	PKPdf	17 02 56.1	0.0
MIAR	Mount Ida	117.11	54	P	PKPdf	17 02 56.0	-0.4
	baz=283						
MIAR	Mount Ida	117.11	54	P	PKiKP	17 02 56.7	+0.2
	baz=283						
STHS	Stebnicka Huta	117.13	324	*e*PKIKP	PKiKP	17 02 56.2	+0.1
STHS	Stebnicka Huta	117.13	324	*e*PKP	PKiKP	17 02 56.2	+0.1
R40A	Maddies Statio	117.24	50	P	PKPdf	17 02 56.0	-0.5
	baz=286						
U40A	Yellville	117.27	52	P	PKPdf	17 02 56.5	-0.2
	baz=284,SNR=20						
U40A				P	PKPdf	17 02 56.5	-0.2
	baz=284,SNR=20						
JFWS	Jewell Farm	117.34	44	P	PKPdf	17 02 56.2	-0.5
	baz=289						
JFWS	Jewell Farm	117.34	44	P	PKPdf	17 02 56.1	-0.6
	baz=289						
DEV	Deva	117.52	319	⇓P	PKiKP	17 02 57.8	+0.8
DEV	Deva	117.52	319	PKIKP	PKiKP	17 02 57.7	+0.8
MGMO	Mountain Grove	117.53	51		PKPdf	17 02 56.0	-1.2
N41A	Harden Midland	117.60	47	P	PKPdf	17 02 56.6	-0.6
	baz=288						
L42A	Oliver, Polo	118.05	45	P	PKPdf	17 02 57.2	-0.8
	baz=289						
SURR	Surduc	118.07	320	⇓P	PKiKP	17 02 58.0	+0.1
CCM	Cathedral Cave	118.08	50	PKPdf	PKPdf	17 02 57.4	-0.8
CCM	Cathedral Cave	118.08	50	PKIKP	PKPdf	17 02 57.4	-0.8
CCM	Cathedral Cave	118.08	50	P	PKPdf	17 02 57.8	-0.4
	baz=286						
CCM	Cathedral Cave	118.08	50	P	PKPdf	17 02 57.3	-0.8
	baz=286						
SIRR	Siria	118.17	320	⇑P	PKiKP	17 02 58.3	+0.1
HERR	Herculane	118.22	319	⇑P	PKPdf	17 02 58.1	-0.1
LANS	Liptovska Anna	118.29	324	*e*PKIKP	PKiKP	17 03 00.0	+1.6
LANS	Liptovska Anna	118.29	324	*e*PKP	PKiKP	17 03 00.0	+1.6
BZS	Buzias	118.45	320	⇑P	PKiKP	17 02 59.0	+0.2
BZS	Buzias	118.45	320	PKIKP	PKiKP	17 02 58.9	+0.2
T42A	Van Buren	118.47	51	P	PKPdf	17 02 58.7	-0.3
	baz=286,SNR=5.2						
HDIL	Hopedale	118.78	46	P	PKPdf	17 02 58.9	-0.5
	baz=289						
P43A	Skaggs, Pawnee	118.90	48	P	PKPdf	17 02 59.3	-0.4
	baz=288						
VYHS	Vyhne	118.96	323	*e*PKIKP	PKiKP	17 03 00.0	+0.3
VYHS	Vyhne	118.96	323	*e*PKP	PKiKP	17 03 00.0	+0.3
MORC	Moravsky Berou	119.11	325	⇓P	PKiKP	17 03 00.1	+0.1
MORC	Moravsky Berou	119.11	325	*e*PKP	PKiKP	17 03 00.1	+0.1
MORC	Moravsky Berou	119.11	325	PKIKP	PKiKP	17 03 00.0	+0.1
MAUC	Maruska	119.15	325	*e*PKPDF	PKiKP	17 03 00.9	+0.9
BOVS	Bovan	119.16	317	⇓P	PKPdf	17 02 59.5	-0.6
L44A	Lake County Fo	119.21	44	P	PKPdf	17 03 00.2	-0.1
	baz=291						
KSP	Ksiaz	119.28	327	*e*PKP	PKiKP	17 03 00.7	+0.5
KRLC	Kraliky	119.40	326	*e*PKIKP	PKiKP	17 03 01.0	+0.5
KRLC	Kraliky	119.40	326	*e*PKPDF	PKiKP	17 03 01.0	+0.5
IDI	Anoyia	119.46	307	⇑P	PKiKP	17 03 01.4	+0.3
JAVC	Velka Javorina	119.48	324	*e*PKP	PKiKP	17 03 01.6	+0.9
DPC	Dobruska-Polom	119.52	326	*e*PKIKP	PKiKP	17 03 01.3	+0.6
DPC	Dobruska-Polom	119.52	326	*e*PKPDF	PKiKP	17 03 01.3	+0.6
SRO	Srobarova	119.58	323	*e*PKIKP	PKiKP	17 03 01.7	+0.9
SRO	Srobarova	119.58	323	*e*PKP	PKiKP	17 03 01.7	+0.9
S44A	Carbondale	119.69	50	PKPdf	PKPdf	17 03 00.6	-0.7
FRGS	Fruska Gora	119.81	320	⇑P	PKPdf	17 03 00.7	-0.7
FRGS	Fruska Gora	119.81	320	*e*P	PKPdf	17 03 00.7	-0.7
LL02	Futaleuf	119.89	148	PKPdf	PKiKP	17 03 01.9	+0.2
MODS	Modra-Piesok	119.94	324	*e*PKIKP	PKiKP	17 03 02.5	+0.9
MODS	Modra-Piesok	119.94	324	*e*PKP	PKiKP	17 03 02.5	+0.9
E46A	Sault Ste Mari	119.94	39	P	PKPdf	17 03 00.9	-0.7
	baz=296						
MORH	Mrgy, Hungar	120.09	321	⇑P	PKiKP	17 03 02.1	+0.2
KRUC	Moravsky	120.12	325	*e*PKP	PKPdf	17 03 01.7	-0.1
DIVS	Divibare	120.12	318	*e*P	PKPdf	17 03 02.0	-0.1
OLIL	Olney	120.24	48	P	PKPdf	17 03 02.2	-0.1
	baz=289						
TEKS	Tekeris	120.24	319	*e*P	PKPdf	17 02 55.0	-7.2
PVCC	Panska Ves	120.38	327	*e*PKIKP	PKiKP	17 03 03.0	+0.6
PVCC	Panska Ves	120.38	327	*e*PKPDF	PKiKP	17 03 03.0	+0.6
SFIN	Lafayette	120.42	46	P	PKPdf	17 03 02.3	-0.3
	baz=290						
SJES	Sjenica	120.46	318	*e*P	PKPdf	17 03 01.9	-0.9
TREC	Trest	120.52	325	*e*PKIKP	PKiKP	17 03 03.0	+0.3
TREC	Trest	120.52	325	*e*PKPDF	PKiKP	17 03 03.0	+0.3
Y45A	Yeager Farm, C	120.52	54	PKPdf	PKPdf	17 03 01.9	-1.1
BRG	Berggiesshubel	120.53	328	*i* PKP	PKiKP	17 03 03.9	+1.3
BRG				Amp		17 03 05.2	
	comp=Z,12nm,0.8s						
BRG	Berggiesshubel	120.53	328	*i* PKIKP	PKiKP	17 03 03.9	+1.3
BRG						17 04 37.0	
BRG				S	SS	17 20 48.0	+3.6
BRG				pmax	pmax		
	comp=Z,12nm,0.8s						
BRG	Berggiesshubel	120.53	328	*e*PKPdf	PKiKP	17 03 03.7	+1.1
	baz=55,slow=1.9						
BSEG	Bad Segeberg	120.57	332	*e*PKPdf	PKiKP	17 03 04.0	+1.4
	baz=55,slow=1.9						
GOPC	GO Pecny, Ondr	120.59	326	*e*PKIKP	PKiKP	17 03 03.1	+0.3
GOPC	GO Pecny, Ondr	120.59	326	*e*PKPDF	PKiKP	17 03 03.1	+0.3
BBLS	Lazići	120.60	318	⇓*i*P	PKPdf	17 03 02.8	-0.2
P46A	Rosedale	120.60	47	P	PKPdf	17 03 03.0	0.0
	baz=290						
PRU	Pruhonice	120.68	327	*e*PKIKP	PKiKP	17 03 03.0	0.0
PRU	Pruhonice	120.68	327	*e*PKPDF	PKiKP	17 03 03.0	0.0
RUDO	Rudo	120.72	318	*e*P	PKPdf	17 03 03.0	-0.1
CLL	Collm	120.79	328	PKPdf	PKPdf	17 03 02.7	-0.3
CLL	Collm	120.79	328	*i* PKIKP	PKiKP	17 03 03.2	+0.1
CLL				*e*		17 03 56.0	
CLL				pmax	pmax		
	comp=Z,17nm,0.7s						
CLL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CLL	Collm	120.79	328	*e*PKPdf	PKiKP	17 03 03.3	+0.1
	baz=55,slow=1.9						
CLL	Collm	120.79	328	*i* PKPdf	PKiKP	17 03 03.2	+0.1
	comp=Z,17nm,0.7s						
CLL				*e*pPKPdf	pPKPdf	17 03 56.0	-0.8
CLL				*e*PP	PP	17 04 32.0	-1.9
CLL				*e*SKKSac	SKKSac	17 11 07.0	-5.4
CLL				*e*PKKPbc	PKKPab	17 13 09.0	-0.5
	comp=Z,4.0nm,1.0s						
CLL				*e*PS	PS	17 14 24.0	-4.4
CLL				*e*(PPS)		17 15 41.0	
CLL				*e*SS	SS	17 20 48.0	+0.4
CLL				*e*SS		17 22 24.0	
CLL				*e*SSS	SSS	17 25 12.0	
FBE	Freiberg	120.82	328	*e*PKPdf	PKiKP	17 03 04.2	+1.0
	baz=55,slow=1.9						
RONA	Rosalia, Austr	120.84	324	*e*PKiKP	PKiKP	17 03 03.5	+0.1
	comp=Z,8.7nm,1.0s						
RONA				*e*PKKP	PKKPab	17 13 09.1	-0.4
	comp=Z,1.3nm,0.5s						
HSKC	Hora Svate Kat	120.95	328	*e*PKPDF	PKPdf	17 03 03.3	-0.1
CONA	Conrad Observa	120.98	324	*i* PKiKP	PKiKP	17 03 03.8	+0.1
	comp=Z,9.0nm,0.7s,SNR=7.2						
CONA				*e*PKKP	PKKPab	17 13 08.5	-0.4
	comp=Z,2.9nm,1.0s						
FLTG	Flechtingen	121.10	330	*e*PKPdf	PKiKP	17 03 03.9	+0.2
	baz=55,slow=1.9						
ZVC	Zvikov	121.17	326	*e*PKPDF	PKiKP	17 03 04.2	+0.3
146A	Union	121.22	55	P	PKPdf	17 03 04.3	-0.1
	baz=285						
N47A	Urbana	121.23	45	P	PKPdf	17 03 03.5	-0.6
	baz=292						
N47A				P	PKPdf	17 03 03.5	-0.6
	baz=292						
PDG	Podgorica	121.28	317	⇑P	PKPdf	17 03 04.0	-0.2
PDG	Podgorica	121.28	317	⇓*i*P	PKPdf	17 03 03.6	-0.6
DRME	Dracevica, Mon	121.42	317	*e*P	PKiKP	17 03 04.6	-0.1
CKRC	Cesky Krumlov	121.42	325	*e*PKIKP	PKiKP	17 03 04.8	+0.3
CKRC	Cesky Krumlov	121.42	325	*e*PKPDF	PKiKP	17 03 04.8	+0.3
CKRC				*ex*	x	17 04 00.6	
NEUB	Neuenburg	121.48	329	*e*PKPdf	PKiKP	17 03 04.9	+0.4
	baz=55,slow=1.9						
ARSA	Arzberg	121.52	323	*e*PKiKP	PKiKP	17 03 04.8	+0.1
	comp=Z,5.3nm,0.7s						
ARSA				*e*PKKP	PKKPbc	17 13 07.0	0.0
	comp=Z,2.2nm,0.8s						
T47A	Sharon Grove	121.54	50	PKPdf	PKPdf	17 03 04.1	-0.8
T47A	Sharon Grove	121.54	50	P	PKPdf	17 03 04.6	-0.3
	baz=289,SNR=14						
NRDL	Niedersach Rie	121.56	331	*e*PKPdf	PKiKP	17 03 05.6	+1.1
	baz=55,slow=1.9						
BRY	Bratogost	121.57	318	*e*P	PKPdf	17 03 04.8	-0.2
TANN	Tannenbergstha	121.57	328	*e*PKPdf	PKiKP	17 03 05.3	+0.5
	baz=55,slow=1.9						
WERD	Werda	121.64	328	*e*PKPdf	PKiKP	17 03 05.3	+0.4
	baz=55,slow=1.9						
BLY	Banja Luka	121.67	320	*e*P	PKPdf	17 03 04.2	-0.7
KHC	Kasperske Hory	121.67	326	*e*PKIKP	PKiKP	17 03 05.3	+0.3
KHC	Kasperske Hory	121.67	326	*e*PKPDF	PKiKP	17 03 05.3	+0.3
KHC				*ex*	x	17 04 01.5	
GUNZ	Gunzen	121.67	328	*e*PKPdf	PKiKP	17 03 05.6	+0.7
	baz=55,slow=1.9						
NKC	Novy Kostel	121.68	328	*e*PKIKP	PKiKP	17 03 05.2	+0.2
NKC	Novy Kostel	121.68	328	*e*PKPDF	PKiKP	17 03 05.2	+0.2
WERN	Wernitzgruen	121.69	328	*e*PKPdf	PKiKP	17 03 05.5	+0.5
	baz=55,slow=1.9						
NEVS	Nevesinje	121.69	318	*e*P	PKPdf	17 03 04.8	-0.3
PLN	Plauen	121.69	328	*e*PKPdf	PKiKP	17 03 05.6	+0.7
	baz=55,slow=1.9						
L48A	N Adams	121.70	43	P	PKPdf	17 03 04.5	-0.6
	baz=294						
L48A				P	PKPdf	17 03 04.5	-0.6
	baz=294						
A051A	Mrakovica	121.72	321	*e*P	PKPdf	17 03 04.8	-0.3
WCI	Wyandotte Cave	121.74	48	PKPdf	PKPdf	17 03 04.4	-0.8
WCI	Wyandotte Cave	121.74	48	PKIKP	PKPdf	17 03 04.4	-0.8
WCI	Wyandotte Cave	121.74	48	P	PKPdf	17 03 04.7	-0.5
	baz=290						
WCI	Wyandotte Cave	121.74	48	P	PKPdf	17 03 04.8	-0.5
	baz=290,SNR=7.2						
GEC2	GERESS Array S	121.75	326	*e*PKPdf	PKiKP	17 03 05.5	+0.2
	baz=55,slow=1.9						
GERES	GERESS Array B	121.75	326	PKP	PKiKP	17 03 05.2	0.0
	comp=Z,11nm,0.6s,baz=68,slow=1.6,SNR=46						
GERES				PKKPbc	PKKPab	17 13 04.8	-0.8
	comp=Z,0.8nm,0.5s,baz=242,slow=2.9,SNR=5.3						
HCY	Herceg Novi	121.79	317	*e*P	PKPdf	17 03 05.0	-0.2
CLZ	Clausthal	121.82	330	*e*PKPdf	PKiKP	17 03 05.9	+0.7
	baz=55,slow=1.9						
O48B	Farmland	121.85	46	PKPdf	PKPdf	17 03 04.8	-0.5
O48B	Farmland	121.85	46	P	PKPdf	17 03 05.1	-0.3
	baz=292						
O48B	Farmland	121.85	46	P	PKPdf	17 03 05.1	-0.3
	baz=292						
MOX	Moxa	121.89	328	*e*PKPdf	PKiKP	17 03 05.8	+0.5
	baz=55,slow=1.9						
MOX				*e*L	L	17 58 41.1	
	comp=Z,174nm,20.9s						
P48A	Milroy	121.94	47	P	PKPdf	17 03 05.2	-0.4
	baz=291						
P48A				P	PKPdf	17 03 05.2	-0.4
	baz=291						
SRKY	Kupres RS	121.98	319	*e*P	PKiKP	17 03 05.9	+0.1
MANZ	Manzenberg	122.00	328	*e*PKPdf	PKiKP	17 03 06.2	+0.6
	baz=55,slow=1.9						
WET	Wettzell	122.05	326	*e*PKPdf	PKiKP	17 03 06.3	+0.5
	baz=55,slow=1.9						
ROTZ	Rotzenmuhle	122.07	327	*e*PKPdf	PKiKP	17 03 06.1	+0.4
	baz=55,slow=1.9						
AAM	Ann Arbor	122.09	43	P	PKPdf	17 03 05.8	+0.1
	baz=294						
SOKA	Soboth	122.09	323	*i* PKiKP	PKiKP	17 03 06.0	+0.1
	comp=Z,9.9nm,0.8s,SNR=8.5						
SOKA				*e*PKKP	PKKPbc	17 13 04.6	-0.3
	comp=Z,3.7nm,1.0s						
V48A	Smith Brothers	122.14	51	P	PKPdf	17 03 05.1	-1.0
	baz=288						
STON	Ston	122.14	318	*e*P	PKPdf	17 03 04.0	-1.8
GTTG	Gottingen	122.20	330	*e*PKPdf	PKiKP	17 03 06.8	+0.9
	baz=55,slow=1.9						
CRES	Cresnjev	122.25	322	⇓*i*P	PKPdf	17 03 05.8	-0.2
CRES	Cresnjev	122.25	322	*i* PKPdf	PKiKP	17 03 06.5	+0.3
N49A	Columbus Grove	122.28	44	P	PKPdf	17 03 05.7	-0.4
	baz=293						
N49A				P	PKPdf	17 03 05.7	-0.4
	baz=293						
PLCA	Paso Flores	122.28	147	PKPdf	PKiKP	17 03 06.9	+0.4
PLCA	Paso Flores	122.28	147	PKP	PKiKP	17 03 07.1	+0.5
	comp=Z,12nm,0.6s,baz=237,slow=2.6,SNR=35						
PLCA				PKKPbc	PKKPbc	17 13 02.5	-1.6
	comp=Z,2.4nm,0.8s,baz=78,slow=6.3,SNR=4.5						
P49A	Miami Univ. Ec	122.43	46	P	PKPdf	17 03 06.2	-0.3
	baz=292						
P49A	Miami Univ. Ec	122.43	46	P	PKPdf	17 03 06.4	-0.2
	baz=292,SNR=7.3						
OBKA	Obir	122.46	323	*e*PKiKP	PKPdf	17 03 06.4	-0.1
	comp=Z,4.3nm,0.6s						
OBKA				*e*PKKP	PKKPbc	17 13 03.1	-0.4
	comp=Z,3.4nm,0.6s						
OBKA	Obir	122.46	323	*e*P	PKPdf	17 03 04.8	-1.7
BOJS	Bojanci	122.53	322	*e*P	PKiKP	17 03 07.0	+0.3
R49A	Shelbyville	122.55	48	P	PKiKP	17 03 07.0	0.0
	baz=291						
R49A				P	PKiKP	17 03 07.0	0.0
	baz=291						
GRF	Grafenberg Arr	122.64	328	*e*PKPdf	PKiKP	17 03 07.1	+0.3
	baz=55,slow=1.9						
GRF				*e*L	L	17 52 25.9	
	comp=Z,152nm,20.1s						
U49A	Red Boiling Sp	122.70	50	P	PKPdf	17 03 06.7	-0.4
	baz=289						
LJU	Ljubljana	122.71	323	*i* PKPdf	PKiKP	17 03 07.5	+0.4
SCTE	Santa Cesarea	122.75	315	PKPdf	PKPdf	17 03 06.7	-0.4
LRAL	Lakeview Retre	122.79	54	P	PKPdf	17 03 06.9	-0.5
	baz=286						
LRAL	Lakeview Retre	122.79	54	P	PKPdf	17 03 07.2	-0.2
	baz=286,SNR=5.9						
GBAS	Gorenja Brezov	122.81	322	*i* PKPdf	PKiKP	17 03 07.6	+0.3
RJOB	Jochberg	122.85	325	*e*PKPdf	PKPdf	17 03 07.0	-0.2
	baz=55,slow=1.9						
KBA	Koelnbreinsper	122.89	324	*e*PKP	PKPdf	17 03 06.8	-0.7
	comp=Z,4.8nm,0.5s						
KBA				*e*PKKP	PKKPab	17 12 59.9	-0.9
	comp=Z,1.2nm,0.5s						
CEY	Cerknica	122.92	322	⇓*i*P	PKiKP	17 03 07.5	-0.1
MYKA	Terra Mystica	122.94	324	*i* PKiKP	PKPdf	17 03 07.3	-0.1
	comp=Z,9.2nm,0.7s,SNR=5.9						
MYKA				*e*PKKP	PKKPbc	17 13 01.4	-0.2
	comp=Z,5.3nm,0.6s						
Y49A	Blount Mountai	123.03	53	P	PKPdf	17 03 07.5	-0.4
	baz=287,SNR=5.2						
VLDQ	Val d'Or	123.14	34	PKPdf	PKPdf	17 03 06.1	-1.5
R50A	Paris	123.17	47	P	PKPdf	17 03 07.8	-0.2
	baz=292,SNR=6.6						
R50A				P	PKPdf	17 03 07.8	-0.2
	baz=292,SNR=6.6						
KASTN	Kahler Asten	123.18	330	*e*PKPdf	PKiKP	17 03 08.6	+0.7
	baz=55,slow=1.9						
SKDS	Skadanscina	123.27	322	⇓*i*P	PKPdf	17 03 07.3	-0.7
SABO	M.te Sabotino	123.30	323	PKPdf	PKPdf	17 03 07.2	-0.8
TRI	Trieste	123.34	323	PKPdf	PKPdf	17 03 08.0	-0.1
TRI	Trieste	123.34	323	PKIKP	PKPdf	17 03 08.0	-0.1
FUR	Furstenfeldbru	123.48	326	*e*PKPdf	PKiKP	17 03 09.2	+0.7
	baz=55,slow=1.9						
W50A	Signal Mountai	123.48	51	P	PKPdf	17 03 08.4	-0.3
	baz=289,SNR=12						
N51A	Ashland	123.53	44	P	PKPdf	17 03 08.2	-0.5
	baz=295						
N51A				P	PKPdf	17 03 08.2	-0.5
	baz=295						
ABTA	Abfaltersbach	123.54	324	*i* PKiKP	PKPdf	17 03 08.2	-0.4
	comp=Z,12nm,0.6s,SNR=11						
ABTA				*e*PKKP	PKKPbc	17 13 00.5	+1.2
	comp=Z,2.6nm,0.6s						
BUG	Bochum--Univer	123.59	331	*e*PKPdf	PKiKP	17 03 08.9	+0.3
	baz=55,slow=1.9						
Q51A	Peebles	123.61	46	PKPdf	PKPdf	17 03 08.1	-0.7
Q51A	Peebles	123.61	46	P	PKiKP	17 03 09.0	-0.1
	baz=293,SNR=5.2						
Q51A				P	PKiKP	17 03 09.0	-0.1
	baz=293,SNR=5.2						
WIN	Windhoek	123.76	238	PKPdf	PKPdf	17 03 08.8	-1.1
WIN	Windhoek	123.76	238	PKIKP	PKPdf	17 03 08.8	-1.1
WATA	Walderalm	123.77	325	*i* PKiKP	PKiKP	17 03 09.4	0.0
	comp=Z,7.6nm,0.5s,SNR=5.1						
TNS	Taunus Mts	123.77	329	*e*PKPdf	PKiKP	17 03 09.6	+0.5
	baz=55,slow=1.9						
WTTA	Wattenberg	123.77	325	*i* PKiKP	PKiKP	17 03 09.4	0.0
	comp=Z,16nm,0.6s,SNR=12						
SCHQ	Schefferville	123.83	23	PKP	PKiKP	17 03 08.9	-0.1
	comp=Z,11nm,0.7s,baz=333,slow=2.4,SNR=7.7						
SCHQ				PKKPbc	PKKPab	17 12 56.0	-0.4
	comp=Z,5.7nm,0.7s,baz=50,slow=2.6,SNR=5.7						
SADO	Sadowa	123.89	38	PKPdf	PKPdf	17 03 08.3	-0.8
S51A	Beattyville	123.95	48	P	PKPdf	17 03 09.3	-0.2
	baz=292,SNR=12						
S51A				P	PKPdf	17 03 09.3	-0.2
	baz=292,SNR=12						
MOTA	Moosalm	124.03	325	*i* PKiKP	PKPdf	17 03 09.6	+0.1
	comp=Z,19nm,0.6s,SNR=11						
MOTA				*e*PKKP	PKKPbc	17 12 57.1	-0.4
	comp=Z,4.1nm,0.9s						
SQTA	Sankt Quirin	124.04	325	*i* PKiKP	PKiK

MCWV	Mont Chateau	125.82	44	P	PKPdf	17 03 13.2	+0.1
	baz=296						
PSDB	Penn State Uni	125.90	42	P	PKPdf	17 03 13.3	+0.1
	baz=298						
TIGA	Tifton	126.02	55	P	PKPdf	17 03 13.8	+0.1
	baz=288						
L56A	Greenwood	126.20	40	PKPdf	PKPdf	17 03 12.1	-1.7
L56A	Greenwood	126.20	40	P	PKPdf	17 03 13.2	-0.5
	baz=300,SNR=9.0						
L56A				P	PKPdf	17 03 13.2	-0.5
	baz=300,SNR=9.0						
R55A	Marlinton	126.22	46	P	PKPdf	17 03 13.7	-0.3
	baz=295,SNR=9.5						
R55A				P	PKPdf	17 03 13.7	-0.3
	baz=295,SNR=9.5						
V55A	Taylorsville	126.38	49	P	PKiKP	17 03 14.5	-0.2
	baz=292						
V55A				P	PKiKP	17 03 14.5	-0.2
	baz=292						
WCNY	West Carthage	126.44	38	P	PKPdf	17 03 13.7	-0.4
	baz=303,SNR=6.2						
BLA	Blacksburg	126.44	47	PKPdf	PKPdf	17 03 13.0	-1.4
BLA	Blacksburg	126.44	47	PKIKP	PKPdf	17 03 13.0	-1.4
BLA	Blacksburg	126.44	47	P	PKPdf	17 03 14.5	+0.1
	baz=294						
BLA	Blacksburg	126.44	47	P	PKPdf	17 03 14.5	+0.1
	baz=294,SNR=5.2						
Q56A	Snyder Ridge,	126.55	45	P	PKPdf	17 03 14.4	-0.1
	baz=296						
Q56A				P	PKPdf	17 03 14.4	-0.1
	baz=296						
KMSC	Kings Mountain	126.56	50	PKPdf	PKPdf	17 03 14.2	-0.4
KMSC	Kings Mountain	126.56	50	P	PKPdf	17 03 14.6	0.0
	baz=292						
KMSC	Kings Mountain	126.56	50	P	PKiKP	17 03 14.9	-0.2
	baz=292						
K57A	Scipio Center	126.56	39	P	PKPdf	17 03 14.6	+0.2
	baz=301						
BMNY	Brushton-Moira	126.65	36	P	PKPdf	17 03 14.2	-0.2
	baz=304,SNR=7.0						
SSPA	Standing Stone	126.71	42	PKPdf	PKPdf	17 03 13.9	-0.9
SSPA	Standing Stone	126.71	42	P	PKPdf	17 03 14.7	0.0
	baz=299						
SSPA	Standing Stone	126.71	42	P	PKPdf	17 03 13.8	-0.9
	baz=299,SNR=6.7						
LONY	Lake Ozonia	126.73	36	PKPdf	PKPdf	17 03 13.6	-1.0
LONY	Lake Ozonia	126.73	36	P	PKPdf	17 03 14.8	+0.2
	baz=304						
MNTQ	Montreal, Queb	126.78	35	PKPdf	PKPdf	17 03 13.4	-1.2
M57A	Sunshine Farm,	126.87	41	P	PKPdf	17 03 15.0	0.0
	baz=300,SNR=7.7						
M57A				P	PKPdf	17 03 15.0	0.0
	baz=300,SNR=7.7						
JSC	Jenkinsville	126.93	51	P	PKPdf	17 03 14.8	-0.5
	baz=291						
J58A	Remsen	127.00	38	P	PKPdf	17 03 14.4	-0.8
	baz=303,SNR=8.9						
J58A				P	PKPdf	17 03 14.4	-0.8
	baz=303,SNR=8.9						
MT13	San Alfonso	127.13	140	PKPdf	PKPdf	17 03 16.2	+0.3
P57A	Homestead Farm	127.16	44	PKPdf	PKPdf	17 03 15.0	-0.6
P57A	Homestead Farm	127.16	44	P	PKPdf	17 03 15.6	0.0
	baz=298						
P57A				P	PKPdf	17 03 15.6	0.0
	baz=298						
BINY	Binghamton	127.17	40	P	PKPdf	17 03 15.8	+0.2
	baz=301						
BINY	Binghamton	127.17	40	P	PKPdf	17 03 15.8	+0.2
	baz=301						
FRNY	Flat Rock	127.19	36	P	PKPdf	17 03 14.7	-0.8
	baz=305,SNR=8.1						
NCB	Newcomb	127.31	37	P	PKPdf	17 03 14.7	-1.1
	baz=304,SNR=9.0						
N58A	Sunbury	127.39	42	P	PKPdf	17 03 15.5	-0.5
	baz=300,SNR=5.6						
N58A				P	PKPdf	17 03 15.5	-0.5
	baz=300,SNR=5.6						
J59A	Piesco	127.42	38	PKPdf	PKPdf	17 03 15.6	-0.4
J59A	Piesco	127.42	38	P	PKPdf	17 03 15.8	-0.2
	baz=304,SNR=9.0						
J59A				P	PKPdf	17 03 15.8	-0.2
	baz=304,SNR=9.0						
MCVT	Middlebury Col	128.05	36	P	PKPdf	17 03 15.8	-1.4
	baz=306						
CBN	Corbin Frederi	128.19	45	P	PKPdf	17 03 17.8	+0.2
	baz=297						
D62A	Allapoint, All	128.28	31	P	PKPdf	17 03 16.2	-1.3
	baz=312						
D62A				P	PKPdf	17 03 16.2	-1.3
	baz=312						
TRY	Troy	128.34	38	PKPdf	PKPdf	17 03 17.9	+0.2
LBNH	Lisbon	128.50	35	P	PKiKP	17 03 18.5	-0.2
	baz=307						
GEDE	Greenville	128.62	42	P	PKPdf	17 03 17.9	-0.5
	baz=300						
T59A	Double "B" Far	128.62	46	P	PKPdf	17 03 18.7	+0.3
	baz=296						
T59A				P	PKPdf	17 03 18.7	+0.3
	baz=296						
J61A	Chester	128.66	37	P	PKiKP	17 03 18.9	-0.1
	baz=306						
J61A				P	PKiKP	17 03 18.9	-0.1
	baz=306						
TRQA	Tornquist	128.73	150	PKPdf	PKPdf	17 03 18.9	+0.2
TRQA	Tornquist	128.73	150	PKIKP	PKPdf	17 03 18.9	+0.2
L61B	Northampton	129.10	38	P	PKiKP	17 03 19.6	-0.3
	baz=305						
PAL	Palisades	129.13	40	P	PKPdf	17 03 19.5	+0.3
	baz=303						
PKME	Peaks-Kenny Pk	129.34	33	P	PKPdf	17 03 19.9	+0.3
	baz=310						
HRV	Adam Dziewonsk	129.74	37	P	PKiKP	17 03 20.9	-0.3
	baz=306						
LCO	Las Campanas	129.81	135	PKPdf	PKPdf	17 03 21.4	+0.1
LCO	Las Campanas	129.81	135	PKIKP	PKPdf	17 03 21.4	+0.1
KEST	Kesra	131.12	314	PKP	PKPdf	17 03 23.6	+0.3
	comp=Z,11nm,0.9s,baz=180,slow=2.6,SNR=9.7						
MCRA	Macar, Loja	131.83	101	*eP*	PKPdf	17 03 25.8	+0.5
COHC	Cochancay	132.87	99	*eP*	PKiKP	17 03 29.2	+0.8
BCIP	Isla Barro Col	133.21	83	*eP*	PKPdf	17 03 28.4	+0.6
BOSC	San Juan Bosco	133.49	100	PKPdf	PKPdf	17 03 27.3	-1.2
BBAC	Balboa, Cauca	135.48	93	*eP*	PKPdf	17 03 32.4	+0.1
PB08	IPOC Station P	135.99	127	PKPdf	PKPdf	17 03 32.5	-0.8
POPC	Popayan, Colom	136.10	92	*eP*	PKPdf	17 03 33.9	+0.4
YOTC	Yotoco, Valle	136.54	90	*eP*	PKPdf	17 03 34.8	+0.6
DBBC	Dabeiba	136.80	86	*eP*	PKPpre	17 03 26.1	
ESDC	Sonseca Array	137.33	327	PKhKP	PKPpre	17 03 26.1	
	comp=Z,0.5nm,0.6s,baz=31,slow=2.3,SNR=5.9						
ESDC				PKP	PKPdf	17 03 35.0	+0.1
	comp=Z,1.5nm,0.7s,baz=29,slow=1.4,SNR=10						
ESDC				PP	PP	17 06 23.0	+1.4
	comp=Z,2.5nm,0.9s,baz=32,slow=6.8,SNR=8.8						
UREC	San Jos de Ur	137.48	85	*eP*	PKPdf	17 03 35.3	-0.5
ORTC	Ortega, Tolima	137.63	90	*eP*	PKPpre	17 03 28.7	
PTLC	Puerto Leguiza	137.68	96	*eP*	PKPdf	17 03 35.7	-0.4
ZARC	Zaragoza, Cauc	138.15	85	*eP*	PKPdf	17 03 36.7	-0.3
ROSC	El Rosal	138.61	89	PKhKP	PKPpre	17 03 32.6	
	comp=Z,19nm,0.6s,baz=167,slow=16,SNR=5.0						
ROSC				PKP	PKPdf	17 03 38.5	+0.1
	comp=Z,28nm,0.6s,baz=80,slow=16,SNR=7.1						
LPAZ	La Paz	138.77	122	*eP*	PKPpre	17 03 32.2	
CHIC	Chingaza	139.19	89	*eP*	PKPpre	17 03 32.0	
BARC	Barichara	139.80	86	*eP*	PKPpre	17 03 32.9	
RUSC	La Rusia	139.89	88	*eP*	PKPpre	17 03 31.7	
CRJC	Cerrejon, Guaj	139.97	80	*eP*	PKPpre	17 03 34.5	
CPUP	Villa Florida	140.28	144	PKIKP	PKPdf	17 03 41.0	+0.4
CPUP	Villa Florida	140.28	144	PKhKP	PKPpre	17 03 33.5	
	comp=Z,8.0nm,0.8s,baz=238,slow=2.8,SNR=8.8						
CPUP				PKP	PKPdf	17 03 41.0	+0.4
	comp=Z,9.7nm,0.7s,baz=255,slow=2.2,SNR=8.9						
SDV	Santo Domingo	142.31	83	*eP*	PKPpre	17 03 39.5	
ITAB	Concordia	142.32	151		PKPpre	17 03 40.6	
BAUV	El Baul	144.86	83		PKPbc	17 03 48.0	-0.6
SJG	San Juan	145.13	66	*eP*	PKPbc	17 03 48.9	-0.4
TORD	Torodi Ar. Bea	145.23	285	PKPdf	PKPdf	17 03 47.7	-1.8
TORD	Torodi Ar. Bea	145.23	285	PKPbc	PKPdf	17 03 48.7	-0.9
	comp=Z,84nm,0.8s,baz=56,slow=4.2,SNR=106						
TORD				pPKPbc	pPKPab	17 04 41.5	-0.7
	comp=Z,8.9nm,0.7s,baz=57,slow=3.7,SNR=2.1						
AQDB	Aquidauana	145.62	140	PKPdf	PKPdf	17 03 49.6	-0.5
SHEL	Horse Pasture	145.71	231		PKPab	17 03 52.8	+1.0
SHEL	Horse Pasture	145.71	231	PKP2	PKPab	17 03 52.8	+1.0
SAML	Samuel	146.38	115	PKPdf	PKPdf	17 03 51.6	0.0
SAML	Samuel	146.38	115	PKIKP	PKPdf	17 03 51.6	0.0
SAML	Samuel	146.38	115	*eP*	PKPbc	17 03 52.7	-0.5
GDSD	La Dsirade Is	150.30	67	PKPbc	PKPbc	17 04 01.2	-2.0
FDF	Fort de France	150.67	70	PKPbc	PKPbc	17 04 03.8	-0.4
FDF	Fort de France	150.67	70	PKIKP	PKPbc	17 04 03.8	-0.4
KIC	Kosan Boka	152.13	273	↑*i*PKP2	PKPbc	17 04 07.7	+0.1
	comp=Z,28nm,0.8s						
DBIC	Dimbokro	152.24	274	PKPbc	PKPbc	17 04 06.7	-1.0
DBIC	Dimbokro	152.24	274	PKP	PKPdf	17 04 00.9	0.0
	comp=Z,4.9nm,0.9s,baz=71,slow=5.4,SNR=4.5						
DBIC				PKPbc	PKPbc	17 04 07.7	-0.1
	comp=Z,12nm,0.7s,baz=71,slow=1.5,SNR=13						
DBIC				PKPab	PKPab	17 04 18.9	+0.5
	comp=Z,14nm,0.8s,baz=67,slow=3.6,SNR=7.8						
TIC	Toumodi	152.40	274	↑*e*PKP2	PKPbc	17 04 08.2	0.0
	comp=Z,19nm,0.7s						
LIC	Lamto	152.41	273	↑*i*PKP2	PKiKP	17 04 08.9	+0.5
	comp=Z,44nm,0.8s						
BDFB	Brasilia	154.01	145	PKP	PKPdf	17 04 04.2	+0.7
	comp=Z,8.4nm,0.8s,baz=169,slow=5.2,SNR=10						
BDFB				PKPbc	PKiKP	17 04 12.5	+0.7
	comp=Z,37nm,0.8s,baz=193,slow=4.3,SNR=26						
BDFB				PKPab	PKPab	17 04 26.8	+1.0
	comp=Z,14nm,0.7s,baz=20,slow=4.2,SNR=4.2						
MDP	Montagnes des	160.20	91	PKPab	PKPab	17 04 53.4	+0.7
	comp=Z,20nm,0.7s,baz=224,slow=4.5,SNR=8.1						

*IDC **18** 16:49:58.2±1.3, 40.°00N×142.°21E, h0km, mb4.1/8, mbtmp4.0/11, ML3.4/3, MS3.7/3, Error ellipse: s-maj=42.5km s-min=17.8km az=86.0*
*JMA **18** 16:50:00.7±0.1, 40.°0N±0.°1×142.°0E±0.°3, h9km, MD4.2/40, MV4.1/40, NE OFF IWATE PREF*
JMA Felt III J1 at NE OFF IWATE PREF .
*NIED **18** 16:50:00.7, 40.°02N×141.°95E, h9km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=7.08; $M_{\theta\theta}$6.17; $M_{\phi\phi}$0.91; $M_{r\theta}$1.02; $M_{\theta\phi}$0.53; $M_{\phi r}$0.56; Fault plane solution: $M_0$6.75000×10^{14} NP1: ϕ_s261.00000°, δ50.00000°, λ-94.00000°. NP2:ϕ_s87.00000°, δ40.00000°, λ-85.00000°.*
*NEIC **18** 16:50:04.1±2.5, 40.°12N±0.°02×141.°88E±0.°08, h33km±7km, mb4.6/8 Error ellipse: s-maj=9.7km s-min=2.2km az=74.0*
ISC 18 16:50:00.1±1.3, 40.°03N±0.°03×142.°01E±0.°06, h9km±7km, n69, σ1§01/51, mb4.5/12, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.15	231	*i* P	Pg	16 50 03.4	0.0
JTH				*e*S	Sg	16 50 05.1	-0.4
JTH	Tanohata	0.15	231	A	A	16 50 03.4	
	comp=E,102nm,3.1s,comp=N,45nm,0.8s						
JKEN	Kujiedanarisaw	0.29	307	*i* P	Pg	16 50 06.2	+0.3
JKEN				*e*S	Sg	16 50 10.3	+0.5
JKEN	Kujiedanarisaw	0.29	307	A	A	16 50 06.2	
	comp=E,68nm,0.6s,comp=N,65nm,1.1s						
MIYJ	Miyakonagasawa	0.48	198	*i* P	Pg	16 50 09.7	+0.3
MIYJ				*e*S	Sg	16 50 15.8	+0.1
MIYJ	Miyakonagasawa	0.48	198	A	A	16 50 09.7	
	comp=E,10.0nm,0.9s,comp=N,16nm,3.0s						
JANG	Nango	0.51	312	*i* P	Pg	16 50 10.1	+0.1
JANG				S	Sg	16 50 16.6	-0.2
JANG	Nango	0.51	312	A	A	16 50 10.1	
	comp=E,10.0nm,3.8s						
JKZ	Kuzumaki	0.53	265	⇓*i*P	Pg	16 50 10.1	-0.2
JKZ				⇓*e*S	Sg	16 50 16.7	-0.6
JOM	Ohasama	0.79	225	*i* P	Pg	16 50 14.7	-0.6
JOM				*e*S	Sg	16 50 24.9	-0.7
JOM	Ohasama	0.79	225	A	A	16 50 14.7	
	comp=E,9.0nm,0.8s,comp=N,11nm,3.1s						
JSZI	Iwateshizukuis	0.86	251	A	A	16 50 16.3	
	comp=E,16nm,1.4s,comp=N,23nm,3.3s						
OFUJ	Ofunato	0.99	196	*i* P	Pg	16 50 18.4	-0.7
OFUJ				S	Sg	16 50 31.3	-0.6
OFUJ	Ofunato	0.99	196	A	A	16 50 18.4	
	comp=E,9.0nm,0.8s,comp=N,6.0nm,3.0s						
JTM	Tenmabayashi	1.04	317	Pn	Pg	16 50 19.3	-0.9
JTM				Sn	Sg	16 50 32.5	-1.2
JTM	Tenmabayashi	1.04	317	*i* P	Pg	16 50 19.4	-0.8
JTM				S	Sg	16 50 32.7	-1.0
JAH	Hinai	1.07	279	⇓*i*P	Pg	16 50 20.1	-0.6
JAH				⇓S	Sg	16 50 33.5	-1.0
JAH	Hinai	1.07	279	A	A	16 50 20.1	
	comp=E,9.0nm,0.4s,comp=N,7.0nm,1.8s						
JARK	Aomorirokkasho	1.09	333	A	A	16 50 21.0	
	comp=E,7.0nm,0.6s,comp=N,7.0nm,0.6s						
JRG	Rokugo	1.24	240	A	A	16 50 22.9	
	comp=E,11nm,0.5s,comp=N,9.0nm,1.7s						
JMK	Ichinoseki	1.24	210	A	A	16 50 23.2	
	comp=E,7.0nm,0.4s,comp=N,6.0nm,2.8s						
JAHD	Aomorihigashid	1.33	338	A	A	16 50 25.1	
	comp=E,10.0nm,0.5s,comp=N,10.0nm,0.7s						
JNTW	Noshirotokiwa	1.44	280	A	A	16 50 26.2	
	comp=E,13nm,1.3s,comp=N,17nm,3.9s						
JYW	Yuwa	1.47	251	A	A	16 50 26.8	
	comp=E,10.0nm,0.6s,comp=N,13nm,1.3s						
JSI2	Shiura 2	1.59	311	A	A	16 50 28.9	
	comp=E,4.0nm,1.9s,comp=N,4.0nm,1.3s						
JIW	Iwasaki	1.63	291	A	A	16 50 29.3	
	comp=E,4.0nm,0.5s,comp=N,4.0nm,0.9s						
JOFO	Osakifurukawao	1.66	211	A	A	16 50 29.9	
	comp=E,26nm,1.3s,comp=N,27nm,4.0s						
JOU	Okura	1.97	213	A	A	16 50 34.4	
	comp=E,6.0nm,0.6s,comp=N,5.0nm,1.0s						
ERM	Erimo	2.16	23	Pn	Pn	16 50 36.7	+0.3
JOG3	Oga3	2.25	268	A	A	16 50 30.2	
	comp=E,4.0nm,2.3s,comp=N,5.0nm,1.2s						
JYA	Atsumi	2.29	232	A	A	16 50 38.9	
	comp=E,6.0nm,0.7s,comp=N,5.0nm,0.8s						
JMM	Marumori	2.36	204	Pn	Pn	16 50 39.3	+0.2
JMM				Sn	Sn	16 51 08.5	+0.3
JMST	Minamisoumatoc	2.47	201	A	A	16 50 41.7	
	comp=E,3.0nm,3.7s,comp=N,5.0nm,0.8s						
JYAR	Yonezawaarcadi	2.57	215	A	A	16 50 43.1	
	comp=E,6.0nm,1.0s,comp=N,7.0nm,1.1s						
JSD	Sado	3.54	237	Pn	Pn	16 50 55.7	+0.4
ASAJ	Asahikawa	4.11	6	Pn	Pn	16 51 04.2	+1.2
	comp=N,3.5nm,0.3s,baz=223,slow=0.0,SNR=32						
ASAJ				Sn	Sn	16 51 52.8	+1.5
	comp=N,1.9nm,0.3s,baz=16,slow=32,SNR=5.8						
	comp=N,7.9nm,0.4s						
JKA	Kamikawa-asahi	4.11	6	Pn	Pn	16 51 04.4	+1.3
MJB9	Matsu-Tunnel	4.59	222	Pn	Pn	16 51 12.6	+2.8
MAJO	Matsushiro	4.59	222	Pn	Pn	16 51 11.5	+1.7
MJAR	Matsushiro Arr	4.59	222	Pn	Pn	16 51 11.7	+1.9
	comp=N,0.4nm,0.3s,baz=46,slow=13,SNR=22						
MJAR				LR	LR	16 52 59.8	
	comp=N,184nm,19.7s,baz=79,slow=39						
	comp=N,5.7nm,0.5s						
INU	Inuyama	6.13	222		Pn	16 51 32.9	+2.0
USRK	Ussuriysk Ar.	8.53	302	Pn	Pn	16 52 05.8	+1.9
	comp=N,0.3nm,0.3s,baz=108,slow=14,SNR=4.8						
	comp=N,0.7nm,0.3s						
SMY	Shemya	25.28	49	P	P	16 55 25.7	-1.0
ULN	Ulaanbaatar	26.18	299	P	P	16 55 34.2	-0.9
ULN				IAmb	IAmb	16 55 45.7	
	comp=Z,12nm,1.0s						
SONM	Songino Array	26.62	299	P	P	16 55 39.8	+0.8
SONM				IAmb	IAmb	16 55 43.1	
	comp=Z,17nm,1.2s						
H11N2	WAKE ISLAND Hy	29.41	126	T	T	17 26 41.9	
	baz=319,slow=75,SNR=243						
H11N1	WAKE ISLAND Hy	29.42	126	T	T	17 26 41.2	
	baz=319,slow=75,SNR=447						
H11N3	WAKE ISLAND Hy	29.43	126	T	T	17 26 43.3	
	baz=319,slow=75,SNR=416						
H11S1	WAKE ISLAND Hy	30.21	128	T	T	17 27 43.6	
	baz=321,slow=76,SNR=142						
H11S3	WAKE ISLAND Hy	30.22	128	T	T	17 27 44.0	
	baz=321,slow=76,SNR=53						
H11S2	WAKE ISLAND Hy	30.23	128	T	T	17 27 44.8	
	baz=321,slow=76,SNR=77						
KURK	Kurchatov	44.51	306	P	P	16 58 11.3	-0.5
KURK				IAmb	IAmb	16 58 19.2	
	comp=Z,8.0nm,0.9s						
KURBB	Kurchatov Arra	44.58	306	P	P	16 58 11.6	-0.8
	comp=Z,2.7nm,0.4s,baz=79,slow=8.6,SNR=9.2						
	comp=Z,2.7nm,0.4s						
BVAR	Borovoye Array	48.94	311	P	P	16 58 47.5	+1.0
BVAR	Borovoye Array	48.94	311	P	P	16 58 47.5	+1.0
	comp=Z,4.1nm,0.6s,baz=72,slow=8.2,SNR=5.2						
	comp=Z,4.1nm,0.6s						
KKAR	Karatay Array	52.07	298	P	P	16 59 09.8	-0.5
ABKAR	Akbulak array	56.40	309	P	P	16 59 41.5	-0.3
WB0	Warramunga Arr	59.91	188	P	P	17 00 05.8	-0.8
WR0	Warramunga Arr	60.09	188	P	P	17 00 07.1	-0.6
WR0				IAmb	IAmb	17 00 11.1	
	comp=Z,9.1nm,0.9s						
WRA	Warramunga Arr	60.09	188	P	P	17 00 06.3	-1.4
WRA	Warramunga Arr	60.09	188	P	P	17 00 06.8	-0.9
	comp=Z,2.6nm,0.8s,baz=7.2,slow=6.9,SNR=6.9						
	comp=Z,2.6nm,0.8s						
PALK	Pallekele	63.50	257	LR	LR	17 29 25.0	
	comp=Z,185nm,20.2s,baz=208,slow=37						
AS31	Alice Springs	63.82	188	P	P	17 00 32.4	-0.4
ASAR	Alice Springs	63.82	188	P	P	17 00 32.5	-0.4
	comp=Z,0.8nm,0.7s,baz=10,slow=8.8,SNR=5.9						
	comp=Z,0.8nm,0.7s						
FINES	FINESS Array B	66.39	332	P	P	17 00 50.4	+1.3
	comp=Z,3.4nm,0.9s,baz=30,slow=13,SNR=4.5						
	comp=Z,3.4nm,0.9s						
HFS	Hagfors	71.56	336	P	P	17 01 20.9	-0.4
	comp=Z,1.2nm,0.7s,baz=47,slow=8.9,SNR=1.3						
	comp=Z,1.2nm,0.7s						
NOA	NORSAR Array B	71.61	337	P	P	17 01 21.1	-0.6
	comp=Z,0.6nm,0.8s,baz=38,slow=6.0,SNR=2.1						
	comp=Z,0.6nm,0.8s						
AKASG	Malin Array Be	72.22	322	P	P	17 01 24.9	-0.5
	comp=Z,0.4nm,0.4s,baz=44,slow=6.3,SNR=4.2						
	comp=Z,0.4nm,0.4s						
TXAR	Lajitas Array	87.93	53	LR	LR	17 44 43.7	
	comp=Z,53nm,18.6s,baz=264,slow=37						

*MOS **18** 16:50:28.5±0.8, 50.°07N×153.°50E, h284km, mb4.1/1, Error ellipse: s-maj=38.4km s-min=8.3km az=57.5*
KRSC 18 16:50:28.2±3.1, 49.80N×154.66E, h326km±21km, MI4.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.29	46	*e*PN	Pn	16 51 12.2	-0.4
SKR				pmax	pmax		
	comp=Z,237nm,0.4s						
SKR	Severo-Kuril's	1.29	46	*e*P	Pn	16 51 13.0	+0.4
PAU	Pauzhetka	2.16	39	PN	Pn	16 51 20.0	+1.6
PAU	Pauzhetka	2.16	39	*e*P	Pn	16 51 20.0	+1.6
KDTR	Khodutka, Kamc	2.96	46	PN	Pn	16 51 27.0	+1.8
KDTR	Khodutka, Kamc	2.96	46	*e*P	Pn	16 51 27.0	+1.8
ASAK	Asacha	3.30	37	PN	Pn	16 51 29.7	+1.1
ASAK	Asacha	3.30	37	*e*P	Pn	16 51 29.7	+1.1
APC	Apacha	3.50	26	PN	Pn	16 51 29.8	-0.7
APC	Apacha	3.50	26	*e*P	Pn	16 51 29.8	-0.7
RUS	Russkaya	3.59	41	PN	Pn	16 51 33.4	+2.1
RUS	Russkaya	3.59	41	*e*P	Pn	16 51 33.4	+2.1
PET	Petropavlovsk	4.09	36	PN	Pn	16 51 38.9	+2.4
PET	Petropavlovsk	4.09	36	*e*P	Pn	16 51 38.9	+2.4
DALK	Dalny	4.13	37	PN	Pn	16 51 38.9	+1.9
DALK	Dalny	4.13	37	*e*P	Pn	16 51 38.9	+1.9
KOK	Koryaka	4.29	34	PN	Pn	16 51 41.6	+2.8
KOK	Koryaka	4.29	34	*e*P	Pn	16 51 41.6	+2.8
SMAR	Somma	4.33	35	PN	Pn	16 51 41.5	+2.1
SMAR	Somma	4.33	35	*e*P	Pn	16 51 41.5	+2.1
SDLR	Sedlovina	4.37	36	PN	Pn	16 51 41.8	+2.1
SDLR	Sedlovina	4.37	36	*e*P	Pn	16 51 41.8	+2.1
GNL	Ganaly	4.40	26	PN	Pn	16 51 40.3	+0.2
GNL	Ganaly	4.40	26	*e*P	Pn	16 51 40.3	+0.2
KII	Karymskiy	5.18	33	PN	Pn	16 51 51.9	+3.2
KII	Karymskiy	5.18	33	*e*P	Pn	16 51 51.9	+3.2
KZV	Kizimen	6.34	31	PN	Pn	16 52 04.7	+2.5
KZV	Kizimen	6.34	31	*e*P	Pn	16 52 04.7	+2.5
TUMR	Tumrok	6.43	29	PN	Pn	16 52 05.8	+2.6
TUMR	Tumrok	6.43	29	*e*P	Pn	16 52 06.4	+3.2
TUMD	Tumrok D	6.45	31	*e*P	Pn	16 52 05.8	+2.5
MKZ	Mys Kozlova	6.45	40	PN	Pn	16 52 05.1	+1.8
MKZ	Mys Kozlova	6.45	40	*e*P	Pn	16 52 05.1	+1.8
MKZ				*e*S	S	16 53 18.0	-2.4

*NOU **18** 17:02:34.9, 38.°60S×177.°51E, h24km, MLv3.7/9, North Island, New Zealand*
*WEL **18** 17:02:35.3±0.7, 39.°S±4.°×17.°7E±.°, h37km±6km, M3.8/13, ML4.2/13, MLv3.8/13, Error ellipse: s-maj=0.0km s-min=0.0km az=108.7, confirmed*
ISC 18 17:02:36.0±1.8, 38.°59S±0.°03×177.°47E±0.°03, h36km±1km, n130, σ1§08/132, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAGZ	Rawiri	0.10	337	P	Pn	17 02 42.3	-3.8
RAGZ				S	Sn	17 02 47.3	-7.8
SNGZ	Shannon Statio	0.21	207	P	Pn	17 02 43.8	-0.3
SNGZ				S	Sn	17 02 50

NGZ	Ngauruhoe	1.57	248	P	Pn	17 03 01.9 +0.5
WHVZ	Whangaehu Hut	1.62	244	P	Pn	17 03 02.6 +0.4
COVZ	Chateau Observ	1.62	247	P	Pn	17 03 02.5 +0.3
MYRZ	Mayor Island	1.63	323	P	Pn	17 03 01.1 -1.0
WNVZ	Wahianoa	1.63	243	P	Pn	17 03 02.8 +0.4
FWVZ	Far West T-bar	1.63	245	P	Pn	17 03 02.8 +0.4
PNHZ	Pukenui	1.65	216	P	Pn	17 03 01.8 -0.6
TRVZ	Turoa	1.66	244	P	Pn	17 03 05.0 +2.2
TWVZ	Taurewa	1.66	253	P	Pn	17 03 02.8 +0.2
WPHZ	Waipukurau	1.67	208	P	Pn	17 03 02.1 -0.7
MTVZ	Mangateitei	1.75	242	P	Pn	17 03 04.4 +0.5
TOZ	Tahuroa Road	1.77	298	P	Pn	17 03 03.2 -0.9
PKVZ	Pokaka	1.79	246	P	Pn	17 03 06.1 +1.6
PRHZ	Porangahau	1.79	201	P	Pn	17 03 03.1 -1.3
TSZ	Takapari Road	1.88	218	P	Pn	17 03 04.6 -1.0
DVHZ	Dannevirke	1.98	210	P	Pn	17 03 05.4 -1.6
ANWZ	Angora Road	2.02	202	P	Pn	17 03 05.9 -1.6
HIZ	Hauiti	2.05	271	P	Pn	17 03 08.8 +0.9
HIZ	Hauiti	2.05	271	P	Pn	17 03 08.5 +0.5
VRZ	Vera Road	2.18	255	P	Pn	17 03 10.7 +1.0
POWZ	Post Office Ro	2.23	216	P	Pn	17 03 09.4 -1.0
WAZ	Wanganui	2.25	238	P	Pn	17 03 12.4 +1.6
PRWZ	Pori Road	2.28	210	P	Pn	17 03 09.6 -1.5
BFZ	Birch Farm	2.29	204	P	Pn	17 03 09.7 -1.6
BFZ	Birch Farm	2.29	204	P	Pn	17 03 09.5 -1.8
KUZ	Kuaotunu	2.30	323	P	Pn	17 03 10.4 -1.0
KUZ	Kuaotunu	2.30	323	P	Pn	17 03 10.0 -1.4
MKAZ	Moumakai	2.35	308	P	Pn	17 03 11.3 -0.8
TIWZ	Tintock	2.50	209	P	Pn	17 03 12.5 -1.7
MRZ	Mangatainoka R	2.53	215	P	Pn	17 03 12.5 -2.1
WIAZ	Waiheke Island	2.58	313	P	Pn	17 03 14.7 -0.5
ETAZ	East Tamaki Re	2.59	308	P	Pn	17 03 15.1 -0.2
AWAZ	Awhitu Peninsu	2.71	303	P	Pn	17 03 16.9 0.0
NEZ	North Egmont	2.71	254	P	Pn	17 03 19.4 +2.2
MBAZ	Motutapu North	2.73	311	P	Pn	17 03 16.9 -0.4
HOWZ	Holdsworth Sta	2.75	213	P	Pn	17 03 15.0 -2.6
PKE	Pukeiti	2.78	256	P	Pn	17 03 20.4 +2.3
KHEZ	Kahui Hut	2.78	254	P	Pn	17 03 21.6 +3.5
TMWZ	Te Maipa	2.79	205	P	Pn	17 03 15.5 -2.7
WTAZ	Waiatarua	2.83	305	P	Pn	17 03 19.7 +1.1
GRZ	Great Barrier	2.83	325	P	Pn	17 03 17.7 -1.0
KIW	Kapiti Island	3.00	220	P	Pn	17 03 18.9 -2.2
CAW	Cannon Point	3.12	216	P	Pn	17 03 19.9 -2.8
DUWZ	D'Urville Isla	3.52	230	P	Pn	17 03 27.0 -1.1
TCW	Tory Channel	3.59	222	P	Pn	17 03 26.3 -2.8
WCZ	Waipu Caves	3.63	316	P	Pn	17 03 29.5 -0.3
TKNZ	Takaka Hill	4.24	233	P	Pn	17 03 38.2 +0.1
QRZ	Quartz Range	4.41	238	P	Pn	17 03 41.7 +1.3
QRZ	Quartz Range	4.41	238	P	Pn	17 03 39.5 -1.0
OUZ	Omahuta	4.58	316	P	Pn	17 03 43.2 +0.5
OUZ	Omahuta	4.58	316	P	Pn	17 03 42.9 +0.3
THZ	Tophouse	4.72	226	P	Pn	17 03 42.2 -2.5
DSZ	Denniston Nort	5.36	232	P	Pn	17 03 51.2 -2.3
CTZ	Chatham Island	6.81	141	P	Pn	17 04 12.6 -0.7
CTZ	Chatham Island	6.81	141	P	Pn	17 04 12.7 -0.5

IDC 18 17:07:08.7±2.4, 10°.63S×112°.69E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=110.3km s-min=22.6km az=46.0, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.82	117	P	P	17 12 13.1	-0.3
	0.9nm,0.7s,baz=290,slow=11,SNR=9.4 0.9nm,0.7s						
ASAR	Alice Springs	24.02	125	P	P	17 12 25.6	+0.1
	0.7nm,0.7s,baz=303,slow=9.1,SNR=12 0.7nm,0.7s						
CMAR	Chiang Mai Arr	31.93	335	P	P	17 13 36.2	-0.1
	0.8nm,0.9s,baz=161,slow=8.4,SNR=2.8 0.8nm,0.9s						
MKAR	Makanchi Array	63.29	337	P	P	17 17 39.5	+0.2
	0.4nm,0.5s,baz=134,slow=7.1,SNR=2.2 0.4nm,0.5s						

*NOU **18** 17:16:24.4, 40°.06S×176°.91E, h24km, MLv3.6/7, North Island, New Zealand*
*WEL **18** 17:16:25.5±0.5, 40°.S±2°.×17°.7E±°, h11km±3km, M3.5/18, ML3.8/18, MLv3.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=114.8, confirmed*
ISC 18 17:16:25.5±0.9, 40°.01S±0°.02×176°.61E±0°.03, h18km±4km, n107, σ0s87/114, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPHZ	Waipukurau	0.14	246	P	Pb	17 16 29.3	+0.4
WPHZ				S	Sg	17 16 32.9	+0.4
PXZ	Pawanui	0.19	98	P	Pg	17 16 30.5	+0.2
PXZ				S	Sg	17 16 35.8	+2.2
PRHZ	Porangahau	0.26	176	P	Pg	17 16 31.8	+0.4
PRHZ				S	Sg	17 16 37.8	+2.3
KAHZ	Kahuranaki	0.29	44	P	Pg	17 16 32.3	+0.4
PNHZ	Pukenui	0.33	286	P	Pg	17 16 32.0	-0.5
PNHZ				S	Sg	17 16 36.6	-0.7
KRHZ	Kereru	0.41	333	P	Pg	17 16 33.3	-0.5
KRHZ				S	Sg	17 16 39.3	-0.2
DVHZ	Dannevirke	0.45	229	P	Pg	17 16 34.5	-0.1
DVHZ				S	Sb	17 16 41.7	+0.3
ANWZ	Angora Road	0.47	193	P	Pb	17 16 35.7	+0.5
CKHZ	Cape Kidnapper	0.50	46	P	Pg	17 16 36.5	+1.0
TSZ	Takapari Road	0.50	264	P	Pb	17 16 35.0	-0.8
MCHZ	McNeill Hill	0.56	7	P	Pb	17 16 37.1	+0.4
KWHZ	Kaweka Forest	0.60	346	P	Pb	17 16 36.9	-0.4
BHHZ	Black Hill Sta	0.67	320	P	Pb	17 16 37.8	-0.8
BFZ	Birch Farm	0.73	202	P	Pg	17 16 40.2	+0.4
BFZ	Birch Farm	0.73	202	P	Pg	17 16 40.1	+0.3
PRWZ	Pori Road	0.74	222	P	Pg	17 16 40.3	+0.3
POWZ	Post Office Ro	0.75	239	P	Pb	17 16 39.9	-0.1
ARHZ	Aropaoanui	0.80	22	P	Pn	17 16 41.7	-0.1
BKZ	Black Stump Fm	0.84	354	P	Pb	17 16 41.4	-0.2
BKZ	Black Stump Fm	0.84	354	P	Pb	17 16 41.4	-0.2
MOVZ	Moawhango	0.89	312	P	Pb	17 16 41.9	-0.5
NMHZ	Naumai	0.92	9	P	Pn	17 16 43.6	+0.1
TIWZ	Tintock	0.95	216	P	Pb	17 16 43.5	+0.1
CPXZ	Castlepoint	0.96	199	P	Pb	17 16 43.9	-0.1
OHWZ	Ohakea	1.01	258	P	Pb	17 16 44.9	+0.4
MRZ	Mangatainoka R	1.03	230	P	Pb	17 16 44.4	-0.3
WNVZ	Wahianoa	1.03	311	P	Pb	17 16 44.8	-0.2
TUVZ	Tukino	1.04	315	P	Pb	17 16 45.0	0.0
WHHZ	Waihua	1.04	28	P	Pn	17 16 45.3	+0.1
WHVZ	Whangaehu Hut	1.07	312	P	Pb	17 16 45.4	-0.2
MTVZ	Mangateitei	1.08	305	P	Pn	17 16 45.6	-0.1
TRVZ	Turoa	1.08	310	P	Pn	17 16 45.7	-0.2
FWVZ	Far West T-bar	1.11	312	P	Pn	17 16 45.9	-0.4
SNVZ	South Ngauruho	1.11	317	P	Pn	17 16 46.1	-0.2
ETVZ	East Tongariro	1.11	321	P	Pn	17 16 46.2	-0.1
OTVZ	Oturere	1.11	319	P	Pn	17 16 46.2	-0.1
TMVZ	Te Maari	1.13	321	P	Pn	17 16 46.4	-0.1
NGZ	Ngauruhoe	1.14	316	P	Pn	17 16 46.6	-0.1
RAHZ	Arahi	1.15	19	P	Pn	17 16 46.3	-0.3
COVZ	Chateau Observ	1.15	314	P	Pn	17 16 46.7	-0.1
NNVZ	North Ngauruho	1.16	318	P	Pn	17 16 47.1	+0.1
MTHZ	Maungataniwha	1.17	9	P	Pn	17 16 46.6	-0.3
KRVZ	Karewarewa	1.18	320	P	Pn	17 16 47.2	0.0
MRHZ	Matea Rd	1.18	353	P	Pn	17 16 47.2	+0.1
RITZ	Rihia Road	1.18	330	P	Pn	17 16 47.5	+0.4
HATZ	Hinemaiaia	1.18	340	P	Pn	17 16 47.3	+0.1
WTVZ	West Tongariro	1.19	318	P	Pn	17 16 47.4	+0.1
PKVZ	Pokaka	1.21	306	P	Pn	17 16 47.8	+0.2
HOWZ	Holdsworth Sta	1.22	223	P	Pn	17 16 46.8	-0.8
TMWZ	Te Maipa	1.23	206	P	Pn	17 16 46.6	-1.2
KATZ	Kakaramea	1.25	325	P	Pn	17 16 48.5	+0.4
WAZ	Wanganui	1.28	281	P	Pb	17 16 49.8	+0.9
KNZ	Kokohu	1.28	40	P	Pn	17 16 47.1	-1.3
TWVZ	Taurewa	1.30	315	P	Pn	17 16 49.1	+0.3
RATZ	Rangitukua	1.31	330	P	Pb	17 16 49.9	+0.3
MHGZ	Mahia Peninsul	1.31	50	P	Pn	17 16 47.8	-1.1
OGWZ	Otaki Gorge	1.37	233	P	Pn	17 16 49.0	-0.6
RTZ	Ruatahuna	1.42	12	P	Pn	17 16 50.0	-0.4
MTW	Mount Morrison	1.43	216	P	Pn	17 16 48.9	-1.6
ALRZ	Allen Road	1.46	352	P	Pn	17 16 51.2	+0.3
PRGZ	Paritu Road	1.46	43	P	Pn	17 16 49.6	-1.4
WATZ	Wairara	1.46	332	P	Pn	17 16 51.8	+0.8
WPRZ	Whakapapatarin	1.52	347	P	Pb	17 16 53.4	+0.3
MUGZ	Murupara	1.53	5	P	Pn	17 16 51.4	-0.5
KIW	Kapiti Island	1.56	236	P	Pn	17 16 51.8	-0.5
TRWZ	Traveller	1.56	206	P	Pn	17 16 50.6	-1.7
RIGZ	Rimuhau	1.57	35	P	Pn	17 16 51.5	-1.0
CAW	Cannon Point	1.61	226	P	Pn	17 16 52.0	-1.0
RAGZ	Rawiri	1.63	23	P	Pn	17 16 52.8	-0.5
HRRZ	Handcock Road	1.63	351	P	Pn	17 16 53.6	+0.2
KUTZ	Kaahu Road	1.63	338	P	Pn	17 16 53.6	+0.3
PAWZ	Paruwai Farm	1.64	213	P	Pn	17 16 51.7	-1.8
VRZ	Vera Road	1.68	301	P	Pn	17 16 54.4	+0.4
GRRZ	Galatos Road	1.70	347	P	Pb	17 16 56.3	+0.1
HSRZ	Hossack Road	1.71	350	P	Pn	17 16 54.4	-0.1
HLRZ	Highlands Stat	1.76	353	P	Pg	17 16 59.8	+0.5
TARZ	Mount Tarawera	1.77	357	P	Pn	17 16 55.0	-0.2
URZ	Urewera	1.79	13	P	Pn	17 16 54.4	-1.0
URZ	Urewera	1.79	13	P	Pn	17 16 54.4	-1.0
MWZ	Matawai	1.81	23	P	Pn	17 16 54.7	-1.1
TKGZ	Te Karaka	1.83	32	P	Pn	17 16 54.6	-1.4
TLZ	Tolley Road	1.87	333	P	Pn	17 16 56.5	-0.1
TLZ				P	Pb	17 16 56.8	-2.3
PLWZ	Palliser	1.87	213	P	Pn	17 16 54.3	-2.3
SNZO	South Karori	1.95	227	P	Pn	17 16 57.3	-0.3
HIZ	Hauiti	2.02	317	P	Pn	17 16 58.9	+0.3
HIZ	Hauiti	2.02	317	P	Pn	17 16 58.6	0.0
NEZ	North Egmont	2.08	290	P	Pb	17 17 01.8	-0.8
KHEZ	Kahui Hut	2.13	289	P	Pb	17 17 03.0	-0.5
KHEZ	Kahui Hut	2.13	289	P	Pb	17 17 03.0	-0.5
OPRZ	Ohinepanea	2.16	359	P	Pn	17 17 00.7	+0.2
PKE	Pukeiti	2.18	291	P	Pn	17 17 03.1	+2.2
NMEZ	Namu Road	2.19	285	P	Pb	17 17 03.3	-1.2
RUGZ	Raukumara Rang	2.20	23	P	Pn	17 17 00.3	-0.9
DUWZ	D'Urville Isla	2.20	248	P	Pb	17 17 04.9	+0.1
KMRZ	Kaimai	2.22	346	P	Pb	17 17 06.1	+1.0
NBEZ	Newall Road No	2.24	288	P	Pb	17 17 05.0	-0.5
PKGZ	Pakihiroa	2.40	29	P	Pn	17 17 02.2	-1.8
HAZ	Te Kaha	2.42	23	P	Pn	17 17 03.4	-0.8
TOZ	Tahuroa Road	2.43	339	P	Pn	17 17 04.3	0.0
TUWZ	Tuamarina	2.48	234	P	Pn	17 17 03.2	-1.7
WMGZ	Waiomatatini S	2.60	33	P	Pn	17 17 04.6	-1.9
QRZ	Quartz Range	3.22	254	P	Pn	17 17 16.0	+0.8
QRZ	Quartz Range	3.22	254	P	Pn	17 17 14.2	-0.9
MRNZ	Matariki Terra	3.24	243	P	Pn	17 17 17.4	+1.9
THZ	Tophouse	3.31	237	P	Pn	17 17 14.7	-1.7
GVZ	Greta Valley S	4.00	221	P	Pn	17 17 25.2	-0.6
CTZ	Chatham Island	6.28	129	P	Pn	17 17 55.9	-1.2

*IDC **18** 17:18:51.3±1.4, 36°.86N×70°.12E, h0km, mb3.6/4, mbtmp3.7/11, ML3.3/7, Error ellipse: s-maj=22.7km s-min=21.6km az=138.0*
*NNC **18** 17:18:58.0±3.3, 37°.35N×69°.80E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=30.3km s-min=20.8km az=152.0*
ISC 18 17:18:54.9±0.7, 37°.09N±0°.06×69°.90E±0°.07, h10km, n30, σ2s12/32, mb3.4/4, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	4.39	140	P	Pn	17 20 05.0	+3.4
THW	Thamme Wali	4.54	160	P	Pn	17 20 07.1	+3.4
AML	Almayashu	5.83	29	P	Pn	17 20 23.7	+2.0
	SNR=13						
AML	Almayashu	5.83	29	⇑P	Pn	17 20 23.6	+1.9
	1.0nm,0.6s						
AML				⇓S	Sn	17 21 30.3	+1.5
	1.9nm,0.6s						
KK31	Karatay Array	6.03	4	P	Pn	17 20 26.4	+2.3
	3.8nm,0.5s,baz=189,slow=14,SNR=27						
KK31				⇓S	Sn	17 21 33.3	+0.2
	4.1nm,0.5s						
EKS2	Erkin-Say	6.32	27	P	Pn	17 20 31.5	+3.3
	SNR=9.6						
AAK	Ala-Archa	6.58	31	P	Pn	17 20 34.4	+2.6
	SNR=7.9						
AAK	Ala-Archa	6.58	31	Pn	Pn	17 20 33.2	+1.4
	4.2nm,0.3s,baz=196,slow=5.5,SNR=33						
AAK				Sn	Sn	17 21 47.9	+1.0
	0.5nm,0.3s,baz=114,slow=20,SNR=1.3 7.7nm,0.3s						
CHMS	Chumysh	6.98	31	P	Pn	17 20 39.6	+2.4
	SNR=11						
USP	Ospenovka	7.11	28	P	Pn	17 20 40.5	+1.6
	SNR=9.2						
TKM2	Tokmak 2	7.29	35	P	Pn	17 20 43.5	+2.0
	SNR=6.2						
TKM2	Tokmak 2	7.29	35	⇓P	Pn	17 20 43.7	+2.2
	18nm,0.6s						
TKM2				⇑S	Sn	17 22 05.3	+0.9
	12nm,1.1s						
GEYT	Alibeck	9.40	279	Pn	Pn	17 21 10.1	-0.3
	1.0nm,0.3s,baz=96,slow=12,SNR=12						
GEYT				Sn	Sn	17 22 56.6	+0.4
	0.8nm,0.3s,baz=40,slow=51,SNR=3.6 2.0nm,0.4s						
MKAR	Makanchi Array	13.37	40	Pn	Pn	17 22 04.7	0.0
	0.1nm,0.3s,baz=216,slow=15,SNR=5.4 0.9nm,0.8s						
AB31	Akbulak array	14.15	332	⇑P	Pn	17 22 13.4	-1.8
	0.7nm,0.3s,baz=167,slow=10,SNR=41						
PYUN	Piuthan	14.20	125	eP	Pn	17 22 15.5	-0.8
	6.2nm,0.4s						
KURBB	Kurchatov Arra	14.88	22	Pn	Pn	17 22 21.6	-3.5
	baz=215,slow=12,SNR=5.9 0.5nm,0.6s						
GKN	Gorkha	15.36	122	eP	Pn	17 22 30.9	-1.0
	10nm,0.6s						
AKTO	Aktyubinsk	15.84	331	⇑P	Pn	17 22 37.8	0.0
	3.4nm,0.8s						
AKTO	Aktyubinsk	15.84	331	Pn	Pn	17 22 35.9	-1.9
	0.4nm,0.3s,baz=128,slow=12,SNR=5.5 2.2nm,0.5s						
BVAR	Borovoye Array	15.94	1	Pn	Pn	17 22 36.7	-2.4
	baz=151,slow=12,SNR=2.6 0.6nm,0.5s						
PKI	Pulchoki	16.16	121	eP	Pn	17 22 40.5	-2.0
	7.9nm,0.6s						
JIRN	Jiri	16.65	120	eP	Pn	17 22 47.2	-1.5
	10nm,0.5s						
RAMN	Ramite	17.38	121	eP	Pn	17 22 54.9	-2.8
TAPN	Taplejung	17.90	118	eP	Pn	17 23 00.7	-3.6
	4.8nm,0.4s						
ZALV	Zalesovo Beam	19.77	27	P	P	17 23 22.6	-2.2
	0.2nm,0.3s,baz=217,slow=9.3,SNR=6.0 3.7nm,0.6s						
HFS	Hagfors	42.06	322	P	P	17 26 47.1	+0.7
	1.6nm,0.5s,baz=96,slow=12,SNR=7.3 1.6nm,0.5s						
NOA	NORSAR Array B	43.38	323	P	P	17 26 57.2	+0.1
	0.6nm,0.7s,baz=98,slow=8.0,SNR=3.3 0.6nm,0.7s						
WRA	Warramunga Arr	83.05	121	P	P	17 31 17.4	-3.4
	0.2nm,0.7s,baz=324,slow=5.1,SNR=1.4 0.2nm,0.7s						
ASAR	Alice Springs	85.31	124	P	P	17 31 29.2	-3.0
	0.2nm,0.8s,baz=304,slow=4.0,SNR=2.2 0.2nm,0.8s						

*ISN **18** 17:35:31.3±1.6, 38°.13N×47°.02E, h12km±999km, ML4.1*
*AZER **18** 17:35:34.4±0.1, 37°.92N×47°.16E, h2km, Error ellipse: s-maj=2.5km s-min=0.8km az=5.0*
*IDC **18** 17:35:35.3±1.0, 37°.74N×47°.05E, h0km, mb4.0/15, mbtmp4.0/23, ML3.7/7, MS3.6/7, Error ellipse: s-maj=18.7km s-min=11.4km az=11.0*
*MOS **18** 17:35:35.2±1.7, 37°.73N×47°.16E, h15km, mb4.6/21, Error ellipse: s-maj=6.7km s-min=4.0km az=127.6*
*TEH **18** 17:35:36.0, 37°.87N×47°.09E, h5km, ML4.1*
*NEIC **18** 17:35:36.6±2.2, 37°.73N±0°.08×47°.16E±0°.05, h14km±5km, mb4.3/57, Error ellipse: s-maj=12.3km s-min=5.5km az=188.0*
ISC 18 17:35:36.2±1.0, 37°.90N±0°.02×47°.11E±0°.02, h6km±7km, n323, σ1s80/355, mb4.2/58, MS3.4/3, 13C-8D, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	Heris	0.42	353	Pg	Pg	17 35 44.7	+0.2
IHRS				Sg	Sb	17 35 51.3	-1.7
ISRB	Sarab	0.45	99	Pg	Pg	17 35 44.8	-0.1
IHSH	Hashtrud	0.60	168	Pg	Pg	17 35 46.9	-0.9
IHSH				Sg	Sg	17 35 55.3	-0.5
ITBZ	Tabriz	0.83	294	Pg	Pg	17 35 51.5	-0.7
ITBZ				Sg	Sg	17 36 04.2	+1.2
IAZR	Azarshahr	0.92	257	Pg	Pg	17 35 53.6	-0.3
GRMI	Germi	1.10	34	Pg	Pg	17 35 56.5	-0.8
GRMI				Sg	Sn	17 36 12.5	-1.4
LRK	Lerik	1.22	52	P	Pb	17 35 59.1	-0.7
	SNR=889						
LRK				S	Sn	17 36 17.3	+0.4
ISHB	Shabestar	1.24	289	Pg	Pg	17 35 58.6	-1.4
YRD	Yardimli	1.35	41	P	Pb	17 36 01.5	-0.6
	SNR=252						
YRD				S	Sn	17 36 21.3	+1.1
ORD	Ordubad	1.35	320	P	Pg	17 36 02.0	-0.2
	SNR=354						
ORD				S	Sn	17 36 24.2	+4.1
IMRD	Marand	1.37	307	Pg	Pn	17 36 01.9	-0.2
GAS1	Astara - Iran	1.45	70	Pg	Pb	17 36 03.2	-0.4
GAS1				Sg	Sn	17 36 24.2	+1.9
ASTR	Astara	1.48	63	P	Pg	17 36 04.0	-0.6
	SNR=286						
ASTR				S	Sn	17 36 25.9	+2.8
LKRN	Lenkeran, Azer	1.54	58	P	Pg	17 36 05.3	-0.5
	SNR=92						
LKRN				S	Sg	17 36 29.0	+3.2
QRD	Qoradiz	1.57	6	P	Pg	17 36 06.0	-0.3
	SNR=81						
MAHB	Mahabad	1.59	225	Pg	Pn	17 36 04.9	-0.1
CSN1	Caspian	1.61	101	Pg	Pb	17 36 05.9	-0.4
NGD1	Naghade .Az. G	1.65	235	Pg	Pn	17 36 06.1	+0.2
NGD1				Sg	Sn	17 36 28.1	+0.6
GLBA	Clilabad	1.68	36	P	Pg	17 36 07.5	-0.8
	SNR=16						
GLBA				S	Sg	17 36 33.4	+3.3
NAX	Nakhchivan	1.80	316	P	Pb	17 36 09.9	+0.3
	SNR=414						
NAX				S	Sg	17 36 37.5	+3.5
BLQ	Beylaqan	1.85	11	P	Pb	17 36 10.6	+0.1
	SNR=268						
BLQ				S	Sg	17 36 36.4	+0.6
SBZ	Shahbuz	1.93	321	P	Pb	17 36 12.0	+0.1
	SNR=250						
SBZ				S	Sg	17 36 41.0	+2.7
QSDN	Sirdan	2.16	130	Pn	Pn	17 36 14.6	+1.6
SDS1	Sardasht. Az.	2.18	217	Pn	Pn	17 36 14.3	+1.1
AGDM	Agdam	2.21	360	P	Pb	17 36 15.9	-0.7
	SNR=570						
AGDM				S	Sg	17 36 46.0	-1.1
SAAT	Saatly	2.21	27	P	Pb	17 36 16.1	-0.5
	SNR=17						
SAAT				S	Sg	17 36 47.0	-0.3
BRDA	Brd	2.36	1	P	Pb	17 36 18.4	-0.8
	SNR=248						
BRDA				S	Sg	17 36 50.8	-1.3
MAKU	Maku	2.39	308	Pn	Pn	17 36 17.8	+1.6
ZRD	Zardab	2.42	10	P	Pn	17 36 17.5	+1.2
	SNR=26						
ZRD				S	Sg	17 36 51.6	-2.3
JIR1	Jirandeh	2.45	118	Pn	Pb	17 36 19.1	-1.8
ALIB	Äli-Bayra	2.53	35	P	Pb	17 36 20.3	-1.8
	SNR=31						
ALIB				S	Sg	17 36 55.3	-2.3
HYR	Heyderabad	2.53	317	P	Pb	17 36 21.0	-1.1
	SNR=268						
HYR				S	Sg	17 36 57.2	-0.4
KDMR	Kurdemir	2.61	18	P	Pb	17 36 22.4	-1.1
	SNR=27						
KDMR				S	Sg	17 36 57.4	-2.7
GANJ	Ganja	2.81	348	P	Pn	17 36 24.5	+2.7
	SNR=107						
GANJ				S	Sg	17 37 03.8	-2.7
MNGR	Mingechevir, A	2.87	360	P	Pn	17 36 24.4	+1.8
	SNR=33						
MNGR				S	Sb	17 37 04.3	+1.0
IGZV	Ghazvin	2.91	120	Pn	Pn	17 36 24.9	+1.6
GNI	Garni	2.91	321		Pn	17 36 23.9	+0.7
GNI	Garni	2.91	321	P	Pn	17 36 23.9	+0.7
GNI	Garni	2.91	321	Pn	Pb	17 36 26.6	-2.0
	19nm,0.3s,baz=182,slow=2.4,SNR=53						
GNI				Lg	Lg	17 37 07.8	
	37nm,0.3s,baz=197,slow=11,SNR=5.3 535nm,0.8s						
ILIN	Lien	2.98	182	Pn	Pn	17 36 26.4	+2.2
GBS	Qobustan	2.99	28	P	Pb	17 36 28.2	-1.8
	SNR=14						
GBS				S	Sb	17 37 07.1	+0.2
IML	Ismayilli	3.01	16	P	Pn	17 36 27.2	+2.7
	SNR=18						
IML				S	Sb	17 37 08.1	+0.8
GDB	GEDABAY	3.01	340	P	Pn	17 36 27.5	+2.9
	SNR=70						
GDB				S	Sb	17 37 08.5	+1.1
QBL	Gabala	3.10	10	P	Pn	17 36 28.4	+2.7
	SNR=41						
QBL				S	Sb	17 37 10.0	+0.2
PQL	Pirkuli	3.11	21	P	Pb	17 36 29.4	-2.6
	SNR=53						
PQL				S	Sb	17 37 09.8	-0.4
GEVA	Gevas	3.22	279	Pn	Pn	17 36 29.6	+2.0
IDHR	Dehrash	3.25	191	Pn	Pn	17 36 30.3	+2.4
ATGJ	Altiaghaj	3.28	25	P	Pn	17 36 31.2	+2.9
	SNR=16						
ATGJ				S	Sb	17 37 14.6	-0.5
SEKA	Sheki	3.31	1	P	Pn	17 36 31.2	+2.5
	SNR=23						
SEKA				S	Sb	17 37 15.5	-0.4
XNQ	Khinaliq	3.37	13	P	Pn	17 36 31.7	+2.1
	SNR=21						
XNQ				S	Sb	17 37 17.5	-0.2
IRAZ

comp=N,200nm,2.1s
GROC MLR MLR
QAMS Qamsar 5.42 139 Pn **Pn 17 37 00.0 +2.2**
ISFB Sefidab 5.46 129 Pn **Pn 17 36 59.6 +1.5**
ZEI Tsey 5.46 334 *e*P **Pn 17 36 59.7 +1.3**
ZEI pmax pmax
comp=Z,26nm,0.6s
KOPT Kop Dagi 5.57 294 Pn **Pn 17 37 01.3 +1.3**
KRSH Karshahi 5.66 132 Pn **Pn 17 37 02.6 +1.6**
IKLH Kolahrood 5.84 140 Pn **Pn 17 37 05.8 +2.2**
NCK Nalchik 6.20 336 *i* P **Pn 17 37 12.5 +4.2**
RAFI Al-Rafai 6.21 188 *e*Pn **Pn 17 37 10.0 +1.5**
RAFI *e*Sn **Sn 17 38 22.0 +2.1**
RAFI AML AML 17 38 30.3
comp=N,203nm,0.3s
RAFI AML AML 17 38 36.5
comp=E,101nm,0.3s
JHBN Jahan bin 6.36 152 Pn **Pn 17 37 13.3 +2.5**
ZNGN Zangian 6.53 151 Pn **Pn 17 37 14.9 +1.7**
IZEF Zefreh 6.56 138 Pn **Pn 17 37 16.4 +2.9**
KBZ Khabaz 6.64 333 *i* P **Pn 17 37 17.0 +2.7**
KBZ Khabaz 6.64 333 Pn Pn 17 37 19.9 +5.6
comp=E,3.2nm,0.8s,baz=155,slow=7.5,SNR=6.8
KBZ Lg Lg 17 39 06.4
comp=E,0.3nm,0.3s,baz=346,slow=12,SNR=1.5
KBZ LR LR 17 40 05.3
comp=E,400nm,21.6s,baz=127,slow=40
KVAR Kislovodsk Arr 6.91 332 Lg Lg 17 39 19.6
baz=260,slow=19
KIV Kislovodsk 6.92 332 Pn **Pn 17 37 17.6 -0.6**
KIV Kislovodsk 6.92 332 *e*P **Pn 17 37 20.0 +1.8**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,76nm,8.0s
MRVT Maraveh tapeh 7.12 89 Pn **Pn 17 37 21.4 +0.4**
ANAR Anarak 7.15 129 Pn **Pn 17 37 23.9 +2.3**
SOC Sochi 7.98 318 *e*P **Pn 17 37 33.0 +0.3**
SOC *e* 17 39 05.0
SOC MLR MLR
comp=Z,375nm,13.0s
SBZV Sabzevar 8.52 97 Pn **Pn 17 37 41.9 +1.6**
ISFR Sfrayin 8.70 92 Pn **Pn 17 37 44.6 +1.8**
GEYT Alibeck 8.70 86 Pn **Pn 17 37 41.1 -1.6**
GEYT Alibeck 8.70 86 P **Pn 17 37 41.1 -1.6**
GEYT Alibeck 8.70 86 Pn **Pn 17 37 42.1 -0.5**
comp=Z,2.1nm,0.3s,baz=297,slow=11,SNR=17
GEYT Sn **Sn 17 39 19.3 -1.8**
comp=Z,0.4nm,0.3s,baz=270,slow=7.2,SNR=2.3
GEYT LR LR 17 42 29.2
comp=Z,106nm,21.3s,baz=336,slow=47
comp=Z,4.5nm,0.3s
GYA0B ALIBECK ARRAY 8.70 86 Pn **Pn 17 37 41.7 -1.0**
BNN Bunyan 8.90 280 Pn **Pn 17 37 45.4 -0.1**
TPRV Parvadeh(Tabas 9.20 119 Pn **Pn 17 37 51.9 +2.3**
IAKL Akhelmad 9.38 94 Pn **Pn 17 37 53.5 +1.4**
IPAY Payeh 9.60 95 Pn **Pn 17 37 57.0 +1.9**
IKRD Kardeh 9.94 93 Pn **Pn 17 38 01.5 +1.6**
IMOG Moghan 9.94 97 Pn **Pn 17 38 01.4 +1.4**
ASF Jabal al Asfar 10.13 239 Lg Lg 17 40 57.2
comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=2.0
IMYA Miami 10.49 95 Pn **Pn 17 38 09.3 +1.9**
BR131 Keskin Array S 10.67 284 Pn **Pn 17 38 10.6 +0.9**
BR131 Keskin Array S 10.67 284 P **Pn 17 38 10.6 +0.9**
BRTR Keskin Array B 10.67 284 Pn **Pn 17 38 09.0 -0.7**
BRTR Keskin Array B 10.67 284 P **Pn 17 38 09.0 -0.7**
BRTR Keskin Array B 10.67 284 Pn **Pn 17 38 13.2 +3.4**
comp=Z,0.1nm,0.3s,baz=114,slow=12,SNR=7.6
comp=Z,1.5nm,0.8s
MMAI Mount Meron Ar 10.72 246 Pn **Pn 17 38 14.4 +4.1**
comp=Z,0.4nm,0.3s,baz=57,slow=14,SNR=2.6
MMAI LR LR 17 42 48.3
comp=Z,325nm,18.1s,baz=37,slow=41
JRKH Jarkhoshk 10.79 97 Pn **Pn 17 38 12.9 +1.5**
ILGA Ilgaz 10.82 291 Pn **Pn 17 38 11.9 0.0**
IKOO Kooshah 11.16 116 Pn **Pn 17 38 19.3 +2.7**
ANTO Ankara 11.33 284 Pn **Pn 17 38 16.5 -2.2**
ANTO Ankara 11.33 284 P **Pn 17 38 16.5 -2.2**
EIL Elat 13.01 234 LR LR 17 44 20.5
comp=Z,248nm,19.9s,baz=64,slow=41
BORA Eskisehir 13.13 284 Pn **Pn 17 38 40.5 -2.8**
ELL Elmali 13.74 270 Pn **Pn 17 38 49.0 -2.7**
ELL Elmali 13.74 270 P **Pn 17 38 49.0 -2.7**
VORD Divnogorie 14.20 339 *e*P **P 17 39 07.4 +2.1**
VORD pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 14.46 340 *e*P **Pn 17 39 05.0 +3.7**
VSR pmax pmax
comp=Z,7.0nm,0.8s
BELG Belogornoye 14.50 1 Pn **Pn 17 38 59.6 -2.2**
comp=Z,0.6nm,0.3s,baz=288,slow=20,SNR=3.0
BELG Sn **Sn 17 41 36.4 -6.5**
comp=Z,0.1nm,0.3s,baz=127,slow=20,SNR=1.1
MANT Manisa 14.61 278 Pn **Pn 17 39 03.1 -0.5**
ABKAR Akbulak array 14.65 35 Pn **Pn 17 39 02.5 -1.5**
ABKAR Akbulak array 14.65 35 Pn **Pn 17 39 03.0 -0.9**
AKTO Aktyubinsk 14.75 28 Pn **Pn 17 39 03.9 -1.4**
comp=Z,0.5nm,0.3s,baz=199,slow=14,SNR=5.5
AKTO Sn Sn 17 41 39.9 -9.2
comp=Z,0.2nm,0.3s,baz=222,slow=15,SNR=2.1
comp=Z,2.9nm,0.5s
UOSS Minazif 15.05 146 **Pn 17 39 05.3 -4.2**
TIRR Tirgusor 15.51 301 ⇑P **P 17 39 19.1 -0.9**
TIRR Tirgusor 15.51 301 **Pn 17 39 14.5 -1.0**
TIRR IAmb IAmb 17 39 22.1
comp=Z,27nm,1.1s
TIRR Tirgusor 15.51 301 P **P 17 39 19.1 -0.9**
TPGR Topolog 15.64 302 ⇑P **P 17 39 20.7 -0.7**
HARR Harsova 15.91 301 ⇑P **P 17 39 24.4 0.0**
HARR Harsova 15.91 301 P **P 17 39 24.4 0.0**
CFR Carcaliu 15.94 303 ⇑P **P 17 39 25.0 +0.3**
CFR Carcaliu 15.94 303 P **P 17 39 25.0 +0.3**
KARP Karpathos 16.17 268 P **Pn 17 39 24.8 +0.7**
ALN Alexandroupoli 16.55 287 Pn **Pn 17 39 29.8 +0.9**
ALN Alexandroupoli 16.55 287 P **Pn 17 39 29.8 +0.9**
RDO Rodhopi 16.95 288 P **P 17 39 36.1 +0.2**
VRI Vrincioaia 17.11 304 ⇓P **P 17 39 38.8 +1.1**
VRI Vrincioaia 17.11 304 P **P 17 39 38.7 +1.1**
PLOR Plostina 17.15 304 ⇑P **P 17 39 39.2 +1.0**
PLOR Plostina 17.15 304 P **P 17 39 39.2 +1.0**
CHGR Chuyangaron 17.33 81 P **Pn 17 39 38.5 -0.3**
CHGR IAmb IAmb 17 39 48.1
comp=Z,29nm,1.2s
CHGR Chuyangaron 17.33 81 P **Pn 17 39 38.5 -0.3**
CHGR pmax pmax
comp=Z,29nm,1.2s
TESR Tescani 17.39 306 ⇓P **P 17 39 43.2 +2.3**
MLR Muntele Rosu 17.50 302 ⇑P **P 17 39 43.8 +1.6**
MLR Muntele Rosu 17.50 302 **Pn 17 39 39.6 -1.4**
MLR Muntele Rosu 17.50 302 P **Pn 17 39 39.6 -1.4**
MLR pmax pmax
comp=Z,13nm,1.2s
MLR Muntele Rosu 17.50 302 P **Pn 17 39 42.2 +1.3**
comp=Z,0.1nm,0.3s,baz=113,slow=13,SNR=1.7
comp=Z,1.2nm,0.7s
WSAR Wadi Sarin 17.64 143 P **Pn 17 39 41.9 -0.7**
comp=Z,0.1nm,0.3s,baz=340,slow=15,SNR=2.0
comp=Z,3.4nm,1.0s
KBL Kabul 18.01 94 **Pn 17 39 46.0 -1.4**
KBL Kabul 18.01 94 P **Pn 17 39 46.0 -1.4**
KBL pmax pmax
comp=Z,10.0nm,1.3s
DOPR Dopca 18.02 303 ⇑P **P 17 39 49.6 +1.8**
IDI Anoyia 18.03 268 P **Pn 17 39 48.2 +0.7**
IDI IAmb IAmb 17 39 52.0
comp=Z,21nm,0.7s
AKASG Malin Array Be 18.04 321 *i* P **Pn 17 39 47.0 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 18.04 321 P **Pn 17 39 47.1 -0.3**
comp=Z,0.5nm,0.3s,baz=123,slow=12,SNR=10
comp=Z,1.5nm,0.6s
AKBB Malin Array Si 18.04 321 Pn **Pn 17 39 45.8 -1.7**
AKBB Malin Array Si 18.04 321 P **Pn 17 39 45.8 -1.7**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
VOIR 18.09 302 ⇑P **P 17 39 50.6 +2.0**
VOIR 18.09 302 P **P 17 39 50.5 +2.0**
GAR Garm 18.21 79 **Pn 17 39 46.1 -3.6**
GAR IAmb IAmb 17 40 27.9
comp=Z,15nm,0.9s
KK31 Karatay Array 18.52 66 P **P 17 39 50.3 -3.0**
KK31 Karatay Array 18.52 66 P **P 17 39 50.3 -3.0**
KK31 pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 18.52 66 P **P 17 39 49.9 -3.4**
KKAR Karatay Array 18.52 66 P **P 17 39 49.9 -3.4**
KKAR pmax pmax
comp=Z,11nm,1.0s
BTK Batken 18.55 76 **P 17 39 52.5 -1.2**
BTK IAmb IAmb 17 40 05.0
comp=Z,19nm,1.4s
BTK Batken 18.55 76 P **P 17 39 52.5 -1.2**
BTK pmax pmax
comp=Z,19nm,1.4s
BURAR Bucovina Array 18.73 308 ⇓P **Pn 17 39 57.5 +1.5**
BURAR Bucovina Array 18.73 308 **P 17 39 55.8 +0.2**
BURAR Bucovina Array 18.73 308 P **Pn 17 39 57.4 +1.5**
BUR08 Bucovina Ar. S 18.75 308 **P 17 39 56.3 +0.4**
PEHC Pehcevo 18.97 289 *i* P **Pn 17 40 00.2 +1.2**
AGG Agios Georgios 19.43 281 P **P 17 40 00.6 -2.7**
AGG Agios Georgios 19.43 281 P **P 17 40 00.6 -2.7**
STIP Stip 19.50 289 *i* P **P 17 40 04.0 0.0**
GZR Gura Zlata 19.62 300 ⇓P **Pn 17 40 07.4 +0.7**
DJES Djerdap 19.64 298 P **P 17 40 06.1 +0.6**
MARR Marisel-Cluj 19.74 304 ⇑P **Pn 17 40 08.4 +0.2**
BOVS Bovan 20.04 295 ⇓P Pn 17 40 11.8 +0.1
ARU Arti 20.06 19 **P 17 40 09.9 0.0**
ARU IAmb IAmb 17 40 28.5
comp=Z,16nm,0.8s
ARU Arti 20.06 19 *i* P **P 17 40 10.4 +0.4**
ARU pmax pmax
comp=Z,20nm,1.2s
ARU Arti 20.06 19 P **P 17 40 10.6 +0.6**
comp=Z,14nm,0.7s,baz=204,slow=7.2,SNR=21
ARU S S 17 43 43.8 -12
comp=Z,1.3nm,0.5s,baz=287,slow=19,SNR=1.6
comp=Z,14nm,0.7s
FNA Florina 20.09 286 **P 17 40 11.4 +0.9**
FNA Florina 20.09 286 P **P 17 40 11.4 +0.9**
FNA pmax pmax
comp=Z,4.0nm,0.9s
SURR Surduc 20.15 301 ⇑P **P 17 40 12.7 +1.6**
BZS Buzias 20.46 300 ⇓P **P 17 40 15.5 +0.9**
BZS Buzias 20.46 300 P **P 17 40 15.4 +0.9**
OHR Ohrid 20.53 287 *i* P Pn 17 40 17.9 +0.5
KBN Korca 20.54 286 P **P 17 40 15.4 0.0**
KBN Korca 20.54 286 P **P 17 40 15.5 0.0**
KBN pmax pmax
comp=Z,36nm,1.3s
TRPA Tarpa 20.59 308 ⇑P **P 17 40 17.3 +1.5**
SIRR Siria 20.59 302 ⇑P **P 17 40 17.1 +1.2**
KIRV Kirov 20.76 3 *i* P **P 17 40 18.0 +0.5**
KIRV Kirov 20.76 3 P Pn 17 40 19.0 -0.9
comp=Z,11nm,0.5s,baz=184,slow=7.5,SNR=6.1
comp=Z,11nm,0.5s
SVE Sverdlovsk 20.96 21 *e*P Pn 17 40 23.0 +0.6
SVE *e*S **S 17 44 09.2 -4.4**
SVE pmax pmax
comp=Z,40nm,1.0s
KOLS Kolonicke sedl 21.05 310 *e*P **P 17 40 23.6 +2.8**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 21.05 310 *e*P **P 17 40 23.6 +2.8**
KWP Kalwaria Pacla 21.07 312 P **P 17 40 22.0 +1.0**
KWP IAmb IAmb 17 40 27.8
comp=Z,22nm,1.0s
KWP Kalwaria Pacla 21.07 312 P **P 17 40 22.0 +1.0**
KWP pmax pmax
comp=Z,22nm,1.0s
ARLS Aral 21.22 71 P **P 17 40 24.9 +2.0**
DIVS Divibare 21.33 295 P **P 17 40 24.2 +0.2**
DIVS IAmb IAmb 17 40 36.7
comp=Z,14nm,1.1s
KEK Kerkira 21.33 283 P **P 17 40 22.2 -1.8**
KEK IAmb IAmb 17 40 27.7
comp=Z,13nm,0.7s
AAK Ala-Archa 21.38 69 *i* P **P 17 40 26.4 +1.8**
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 21.38 69 LR LR 17 50 49.1
comp=Z,144nm,19.1s,baz=268,slow=42
VLO Vlora 21.53 285 P **P 17 40 24.5 -1.5**
VLO Vlora 21.53 285 P **P 17 40 24.5 -1.5**
VLO pmax pmax
comp=Z,34nm,0.9s
CRVS Cervenica-Dubn 21.54 309 *e*P **P 17 40 28.3 +2.2**
CRVS pmax pmax
comp=Z,40nm,1.5s
CRVS Cervenica-Dubn 21.54 309 *e*P **P 17 40 28.3 +2.2**
NIL Nilore 21.60 93 P **P 17 40 28.3 +1.4**
NIL Nilore 21.60 93 P **P 17 40 28.3 +1.4**
NIL pmax pmax
comp=Z,28nm,1.2s
PDG Podgorica 21.72 291 P **P 17 40 28.3 +0.3**
PDG IAmb IAmb 17 41 08.5
comp=Z,8.7nm,1.3s
BRVK Borovoye 22.08 39 P **P 17 40 33.5 +1.7**
BRVK IAmb IAmb 17 40 58.4
comp=Z,11nm,0.9s
BRVK Borovoye 22.08 39 *ce*P **P 17 40 33.6 +1.7**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BVAR Borovoye Array 22.11 39 P **P 17 40 33.8 +1.6**
comp=Z,5.1nm,0.7s,baz=238,slow=8.5,SNR=17
comp=Z,5.1nm,0.7s
PSZ Piszkesteto 22.20 306 P **P 17 40 33.3 0.0**
PSZ IAmb IAmb 17 41 04.8
comp=Z,6.2nm,1.0s
PSZ Piszkesteto 22.20 306 P **P 17 40 33.3 0.0**
PSZ pmax pmax
comp=Z,6.0nm,1.0s
SCTE Santa Cesarea 22.33 285 P **P 17 40 34.7 0.0**
SCTE IAmb IAmb 17 40 36.6
comp=Z,11nm,0.8s
MORH Mrgy, Hungar 22.62 301 ⇓P **P 17 40 39.7 +2.0**
SUW Suwalki 22.99 322 P **P 17 40 40.8 -0.7**
SUW Suwalki 22.99 322 P **P 17 40 40.8 -0.7**
SUW pmax pmax
comp=Z,65nm,1.2s
OJC Ojcow 23.03 311 P **P 17 40 41.0 -0.9**
OJC Ojcow 23.03 311 P **P 17 40 41.0 -0.9**
OJC pmax pmax
comp=Z,23nm,1.2s
VYHS Vyhne 23.05 306 *e*P **P 17 40 44.3 +2.1**
VYHS Vyhne 23.05 306 *e*P **P 17 40 44.3 +2.1**
KLMR Klimovskoe 23.47 351 *e*P **P 17 40 47.2 +0.9**
KLMR AMP 17 40 59.8
comp=Z,27nm,1.7s
KLMR Klimovskoe 23.47 351 *e*P **P 17 40 47.1 +0.8**
KLMR pmax pmax
comp=Z,27nm,1.7s
MATE Matera 23.64 286 ⇓P **P 17 40 48.2 0.0**
PRGR Permogore 23.78 358 *e*P **P 17 40 51.4 +2.1**
PRGR pmax pmax
comp=Z,22nm,0.6s
JAVC Velka Javorina 23.89 307 *e*P **P 17 40 53.0 +2.4**
MORC Moravsky Berou 24.24 309 P **P 17 40 53.9 0.0**
MORC Moravsky Berou 24.24 309 *e*P **P 17 40 54.5 +0.6**
MORC Moravsky Berou 24.24 309 P **P 17 40 53.9 0.0**
MORC pmax pmax
comp=Z,5.0nm,1.1s
CUC Castrocucco 24.37 285 P **P 17 40 55.6 +0.5**
CUC IAmb IAmb 17 41 16.6
comp=Z,5.8nm,0.9s
RONA Rosalia, Austr 24.50 303 *i* P **P 17 40 57.4 +1.2**
comp=Z,12nm,1.4s
KRUC Moravsky 24.76 307 *e*P **P 17 40 59.8 +1.3**
KRLC Kraliky 24.80 309 *e*P **P 17 40 59.6 +0.6**
KRLC Kraliky 24.80 309 *e*P **P 17 40 59.6 +0.6**
CONA Conrad Observa 24.83 304 *e*P **P 17 41 00.2 +0.9**
comp=Z,6.7nm,1.2s
ARSA Arzberg 24.92 302 *e*P **P 17 41 01.6 +1.5**
comp=Z,12nm,1.1s
SOKA Soboth 25.16 301 *e*P **P 17 41 03.8 +1.6**
comp=Z,12nm,1.2s
DPC Dobruska-Polom 25.17 310 *e*P **P 17 41 03.6 +1.3**
DPC Dobruska-Polom 25.17 310 *e*P **P 17 41 03.6 +1.3**
OSTC Ostas 25.30 310 *e*P **P 17 41 05.5 +2.1**
OSTC Ostas 25.30 310 *e*P **P 17 41 05.5 +2.1**
CHVC Chvalec 25.40 310 *e*P **P 17 41 05.5 +1.1**
CHVC Chvalec 25.40 310 *e*P **P 17 41 05.5 +1.1**
KURBB Kurchatov Arra 25.64 50 P **P 17 41 08.5 +2.1**
comp=Z,1.3nm,0.7s,baz=258,slow=9.2,SNR=8.4
comp=Z,1.3nm,0.7s
INTR Introdacqua 25.69 290 P **P 17 41 07.1 0.0**
INTR IAmb IAmb 17 41 44.3
comp=Z,6.2nm,1.2s
KURK Kurchatov 25.72 50 P **P 17 41 07.1 0.0**
KURK IAmb IAmb 17 41 37.6
comp=Z,7.2nm,1.0s
KURK Kurchatov 25.72 50 *i* P **P 17 41 09.1 +1.9**
KURK pmax pmax
comp=Z,8.0nm,1.0s
MOA Molln 25.87 303 *e*P **P 17 41 09.6 +1.0**
comp=Z,5.0nm,1.1s
RAFF Raffo Rosso 25.90 279 P **P 17 41 05.9 -3.1**
TRI Trieste 25.91 298 P **P 17 41 08.2 -0.8**
TRI IAmb IAmb 17 41 29.4
comp=Z,12nm,1.4s
TRI Trieste 25.91 298 P **P 17 41 08.2 -0.8**
TRI pmax pmax
comp=Z,12nm,1.4s
CKRC Cesky Krumlov 26.03 305 *e*P **P 17 41 11.0 +0.9**
CKRC Cesky Krumlov 26.03 305 *e*P **P 17 41 11.0 +0.9**
CAMP Campotosto 26.04 291 P **P 17 41 10.6 +0.2**
CAMP IAmb IAmb 17 41 27.1
comp=Z,6.3nm,1.0s
AQU L'Aquila 26.05 291 P **P 17 41 09.2 -1.2**
AQU L'Aquila 26.05 291 P **P 17 41 09.2 -1.2**
AQU pmax pmax
comp=Z,13nm,0.9s
SABO M.te Sabotino 26.05 299 P **P 17 41 10.2 -0.1**
SABO IAmb IAmb 17 41 53.2
comp=Z,8.0nm,1.1s
PRED Cave del Predi 26.13 300 P **P 17 41 10.4 -0.7**
PRU Pruhonice 26.16 308 *e*P **P 17 41 15.2 +4.0**
PRU Pruhonice 26.16 308 *e*P **P 17 41 15.2 +4.0**
ZVC Zvikov 26.25 307 *e*P **P 17 41 12.8 +0.8**
NRCA Norcia 26.25 292 P **P 17 41 11.5 -0.7**
NRCA IAmb IAmb 17 41 16.6
comp=Z,3.9nm,0.8s
FDMO Fiordimonte 26.27 292 P **P 17 41 12.2 -0.2**
FDMO IAmb IAmb 17 41 15.2
comp=Z,4.0nm,0.7s
GEC2 GERESS Array S 26.43 305 P **P 17 41 12.6 -1.2**
GEC2 IAmb IAmb 17 41 15.0
comp=Z,5.4nm,0.8s
GERES GERESS Array B 26.43 305 P **P 17 41 13.8 0.0**
GERES GERESS Array B 26.43 305 P **P 17 41 13.8 0.0**
GERES GERESS Array B 26.43 305 P **P 17 41 14.3 +0.5**
comp=Z,3.0nm,0.7s,baz=98,slow=9.6,SNR=16
comp=Z,3.0nm,0.7s
KHC Kasperske Hory 26.57 306 P **P 17 41 15.7 +0.8**
KHC Kasperske Hory 26.57 306 *i* P **P 17 41 16.4 +1.4**
KHC pmax pmax
comp=Z,9.0nm,1.1s
KHC Kasperske Hory 26.57 306 *e*P **P 17 41 15.8 +0.8**
MURB Monte Urbino 26.68 293 P **P 17 41 17.3 +1.2**
FINES FINESS Array B 26.97 338 P **P 17 41 20.4 +2.1**
comp=Z,2.9nm,0.9s,baz=159,slow=13,SNR=2.2
comp=Z,2.9nm,0.9s
MKAR Makanchi Array 27.29 60 P **P 17 41 24.2 +2.8**
MKAR Makanchi Array 27.29 60 P **P 17 41 23.8 +2.3**
comp=Z,5.4nm,1.1s,baz=266,slow=8.0,SNR=6.1
comp=Z,5.4nm,1.1s
CLL Collm 27.46 310 P **P 17 41 23.2 +0.3**
CLL IAmb IAmb 17 41 25.0
comp=Z,13nm,1.5s
CLL Collm 27.46 310 P **P 17 41 23.2 +0.3**
CLL pmax pmax
comp=Z,13nm,1.5s
CLL Collm 27.46 310 *i* P **P 17 41 24.0 +1.1**
comp=Z,9.0nm,1.4s
CLL *e*PPP PPP 17 42 19.0
WTTA Wattenberg 27.54 301 *e*P **P 17 41 24.5 +0.6**
comp=Z,0.6nm,0.4s
WATA Walderalm 27.59 301 *e*P **P 17 41 24.6 +0.3**
comp=Z,5.7nm,1.1s
SQTA Sankt Quirin 27.83 301 *e*P **P 17 41 26.2 -0.2**
comp=Z,2.8nm,0.6s
MOTA Moosalm 27.91 301 *e*P **P 17 41 27.0 -0.2**
comp=Z,5.3nm,0.8s
FETA Feichten 28.13 301 *e*P **P 17 41 29.6 +0.5**
comp=Z,8.8nm,1.5s
RETA Reutte 28.16 302 *i* P **P 17 41 29.3 +0.1**
comp=Z,4.2nm,0.7s
DAVA Damuels 28.73 301 *e*P **P 17 41 34.6 +0.1**
comp=Z,8.6nm,0.9s
TUE Stuetta 29.04 299 P **P 17 41 34.8 -2.5**
TUE IAmb IAmb 17 41 39.3
comp=Z,2.6nm,0.8s
KEST Kesra 30.18 278 LR LR 17 55 38.9
comp=Z,102nm,21.9s,baz=346,slow=40
ZAA0 Zalesovo Array 30.31 46 P **P 17 41 46.3 -1.9**
ZALV Zalesovo Beam 30.31 46 P **P 17 41 46.3 -1.9**
ZALV Zalesovo Beam 30.31 46 P **P 17 41 46.3 -1.9**
ZALV Zalesovo Beam 30.31 46 P **P 17 41 50.3 +2.1**
comp=Z,0.8nm,0.7s,baz=269,slow=9.5,SNR=2.7
comp=Z,0.8nm,0.7s
HFS Hagfors 30.68 327 P **P 17 41 51.9 +0.6**
comp=Z,2.5nm,0.7s,baz=96,slow=9.5,SNR=3.5
comp=Z,2.5nm,0.7s
DGZ Jazzator, Alta 31.04 55 *i* P **P 17 41 57.1 +2.2**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 32.19 328 P **P 17 42 05.1 +0.3**
comp=Z,0.8nm,0.8s,baz=96,slow=9.2,SNR=3.3
comp=Z,0.8nm,0.8s
LODK Lodwar 35.96 200 P **P 17 42 35.1 -2.7**
LODK IAmb IAmb 17 43 02.9
comp=Z,2.3nm,1.0s
EKA Eskdalemuir Ar 37.73 314 P **P 17 42 52.1 -0.4**
comp=Z,1.7nm,0.7s,baz=98,slow=9.8,SNR=5.0
comp=Z,1.7nm,0.7s
ESDC Sonseca Array 39.41 289 P **P 17 43 06.0 -0.9**
comp=Z,0.8nm,0.7s,baz=64,slow=8.8,SNR=5.2
comp=Z,0.8nm,0.7s
LZH Lanzhou 44.75 74 *e*P **P 17 43 55.4 +4.7**
LZH pP sP 17 44 04.3 +10
LZH pmax pmax
comp=Z,11nm,1.0s
TORD Torodi Ar. Bea 47.22 251 P **P 17 44 09.3 -0.8**
comp=Z,0.5nm,0.8s,baz=65,slow=7.4,SNR=2.2
comp=Z,0.5nm,0.8s
HHC Hu-ho-hao-te 48.90 65 *e*P P 17 44 28.8 +5.7
CM31 Chiang Mai Arr 48.97 98 P **P 17 44 23.7 0.0**
CMAR Chiang Mai Arr 48.97 98 P **P 17 44 24.6 +0.9**
CMAR Chiang Mai Arr 48.97 98 *i* P **P 17 44 25.2 +1.5**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 48.97 98 P **P 17 44 23.3 -0.3**
comp=Z,3.1nm,0.7s,baz=301,slow=8.1,SNR=16
comp=Z,3.1nm,0.7s
TIXI Tiksi 51.97 23 P **P 17 44 45.8 +0.1**
TIXI IAmb IAmb 17 44 51.6
comp=Z,3.8nm,1.1s
TIXI Tiksi 51.97 23 *i* P **P 17 44 47.4 +1.8**
TIXI pmax pmax
comp=Z,6.0nm,1.8s
DBIC Dimbokro 56.31 250 LR LR 18 12 10.2
comp=Z,273nm,20.1s,baz=150,slow=39
ILAR Eielson Array 77.08 6 P **P 17 47 30.1 +0.2**
comp=Z,1.1nm,1.2s,baz=338,slow=6.8,SNR=2.5
comp=Z,1.1nm,1.2s

TUL ***18*** *17:37:12.8±0.7,36°.91N±0°.03×97°.65W±0°.02, h8km±3km, ML3.1, mb_Lg2.8/35(NEIC), ML3.1/40(NEIC), Error ellipse: s-maj=3.7km s-min=2.0km az=183.0*
ANF ***18*** *17:37:12.6±0.7,36°.83N×97°.68W, h5km, ML3.6/10, Error ellipse: s-maj=5.3km s-min=2.0km az=165.0*
NEIC ***18*** *17:37:13.5±0.6,36°.90N±0°.02×97°.66W±0°.02, h6km±6km, Error ellipse: s-maj=2.8km s-min=1.9km az=194.0*
ISC 18 17:37:13.3±1.1,36°.89N±0°.02×97°.66W±0°.02, h9km±9km, n74, σ1§28/73, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.16**	**258**	Pg	**Pg**	**17 37 16.6**	**-0.3**
KAN14	**Manchester OK**	**0.25**	**286**	Pg	**Pg**	**17 37 18.1**	**-0.3**
KAN14				IAML		17 37 21.8	
comp=N,4μm,0.2s							
KAN05	**Bluff City Nor**	**0.28**	**323**		**Pg**	**17 37 18.3**	**-0.7**
KAN05				IAML		17 37 24.1	
comp=N,4μm,0.1s							
KS20	**Mayfield South**	**0.35**	**14**	Pg	**Pg**	**17 37 19.6**	**-0.8**
KS20				IAML		17 37 24.5	
comp=N,2μm,0.3s							
BLOK	**Blackwell**	**0.38**	**109**	Pg	**Pg**	**17 37 20.4**	**-0.4**
BLOK				IAML		17 37 29.5	
comp=N,2μm,0.2s							

BLOK			IAML			17 37 30.1
	comp=E,1μm,0.2s					
KAN06	**Argonia West S**	**0.39 337**		**Pg**	**17 37 20.5**	**-0.6**
KAN08	**Anthony NE Sta**	**0.42 324**	Pg	**Pg**	**17 37 21.0**	**-0.5**
KAN08			IAML		17 37 28.6	
	comp=N,1μm,0.4s					
KAN08			IAML		17 37 28.8	
	comp=E,2μm,0.3s					
OK032	**Salt Plains WL**	**0.45 260**	Pg	**Pg**	**17 37 21.8**	**-0.3**
OK032			IAML		17 37 30.7	
	comp=E,1μm,0.1s					
OK032			IAML		17 37 33.9	
	comp=E,1μm,0.2s					
CROK	**Carrier**	**0.46 214**	Pg	**Pg**	**17 37 22.2**	**-0.1**
OK048	**Pawnee Station**	**0.74 129**	Pg	**Pg**	**17 37 27.2**	**-0.5**
OK048			IAML		17 37 39.4	
	comp=E,494nm,0.2s					
OK048			IAML		17 37 39.4	
	comp=E,741nm,0.4s					
OK051	**E0350 and S346**	**0.77 120**	Pg	**Pg**	**17 37 27.5**	**-0.6**
OK035	**E0210 Rd and N**	**0.86 258**	Pg	**Pg**	**17 37 29.2**	**-0.6**
OK035			IAML		17 37 47.9	
	comp=E,597nm,0.3s					
T35A	**Sooner Cattle**	**0.92 88**	Pg	**Pg**	**17 37 30.1**	**-1.0**
OK033	**Mehan**	**1.02 145**	Pg	**Pg**	**17 37 32.4**	**-0.6**
OK033			IAML		17 37 51.3	
	comp=E,457nm,0.1s					
NOKA	**Waynoka**	**1.05 257**	Pg	**Pg**	**17 37 32.7**	**-0.8**
NOKA			IAML		17 37 52.7	
	comp=N,458nm,0.2s					
QUOK	**Quay**	**1.05 133**	Pg	**Pg**	**17 37 32.7**	**-0.8**
QUOK			IAML		17 37 51.9	
	comp=E,559nm,0.3s					
OK029	**Liberty Lake**	**1.10 171**	Pg	**Pg**	**17 37 33.9**	**-0.6**
OK052	**Battle Ridge R**	**1.13 142**	Pg	**Pg**	**17 37 34.3**	**-0.7**
OK052			IAML		17 37 51.4	
	comp=E,450nm,0.3s					
OK031	**S. Brethren Rd**	**1.14 144**	Pg	**Pg**	**17 37 34.6**	**-0.7**
OK031			IAML		17 37 54.2	
	comp=E,417nm,0.2s					
U32A	**Winter Ranch,**	**1.19 245**	Pg	**Pg**	**17 37 35.2**	**-1.0**
U32A			IAML		17 37 57.9	
	comp=E,394nm,0.1s					
U32A			IAML		17 37 58.5	
	comp=N,328nm,0.2s					
DEOK	**Depew**	**1.40 138**	Pg	**Pn**	**17 37 38.6**	**-0.5**
OKCSW	**OKLAHOMA CITY**	**1.49 173**		**Pn**	**17 37 38.9**	**-1.4**
OKCSW			Sg	**Sg**	**17 38 01.1**	**-0.1**
CSTR	**Hydro, Custer**	**1.49 214**		**Pn**	**17 37 40.1**	**-0.2**
ELIS	**Ellis County**	**1.64 240**	Pn	**Pn**	**17 37 42.1**	**-0.3**
R32A	**Long Quarter,**	**1.74 332**		**Pb**	**17 37 44.7**	**-0.8**
TUL3	**Leonard**	**1.80 122**		**Pb**	**17 37 45.6**	**-0.8**
TUL3				**Sb**	**17 38 09.2**	**+0.2**
TUL3	**Leonard**	**1.80 122**	Pn	**Pn**	**17 37 43.9**	**-0.6**
TUL3	**Leonard**	**1.80 122**	P	**Pn**	**17 37 44.1**	**-0.4**
	baz=304					
TUL3			S	**Sn**	**17 38 07.9**	**+0.4**
	baz=304					
RLO	**Rose Lookout**	**2.25 108**		**Pn**	**17 37 48.9**	**-1.8**
X34A	**Smith Ranch, M**	**2.29 184**		**Pn**	**17 37 51.0**	**-0.3**
WMOK	**Wichita Mounta**	**2.33 203**	Pn	**Pn**	**17 37 51.6**	**-0.3**
WMOK				**Sn**	**17 38 21.0**	**+0.3**
WMOK	**Wichita Mounta**	**2.33 203**	P	**Pn**	**17 37 52.0**	**+0.1**
	baz=22					
WMOK			S	**Sn**	**17 38 22.0**	**+1.4**
	baz=22					
KSU1	**Kansas State U**	**2.36 20**		**Pn**	**17 37 50.4**	**-1.9**
CBKS	**Cedar Bluff**	**2.53 320**	Pn	**Pn**	**17 37 53.0**	**-1.6**
CBKS	**Cedar Bluff**	**2.53 320**	P	**Pn**	**17 37 54.6**	**0.0**
	baz=138					
CBKS			S	**Sn**	**17 38 26.0**	**+0.3**
	baz=138					
U38A	**Gravette**	**2.67 99**		**Pn**	**17 37 55.3**	**-1.3**
LOOK	**Love County**	**2.92 172**		**Pn**	**17 37 59.3**	**-0.6**
X37A	**Clayton**	**2.96 140**		**Pn**	**17 38 00.0**	**-0.4**
X37A			IAmb_Lg		17 38 52.5	
	comp=Z,28nm,0.8s					
WTFS	**Witchita Falls**	**3.18 192**		**Pn**	**17 38 02.2**	**-1.4**
WTFS			IAmb_Lg		17 38 59.7	
	comp=Z,6.1nm,0.7s					
S39A	**Bolivar**	**3.55 76**	Pg	**Pb**	**17 38 17.6**	**+1.3**
AMTX	**Amarillo**	**3.83 240**		**Pb**	**17 38 22.0**	**+0.9**
AMTX			IAmb_Lg		17 39 18.8	
	comp=Z,27nm,0.7s					
AMTX	**Amarillo**	**3.83 240**	P	**Pn**	**17 38 12.1**	**-0.4**
	baz=57					
AMTX			S	**Sn**	**17 38 58.4**	**+0.7**
	baz=57					
FW03	**Perrin-Whitt E**	**3.85 185**	Pg	**Pb**	**17 38 20.6**	**-0.8**
FW03			IAmb_Lg		17 39 16.0	
	comp=Z,17nm,0.8s					
MIAR	**Mount Ida**	**4.06 124**		**Pb**	**17 38 24.0**	**-1.1**
MIAR			IAmb_Lg		17 39 22.2	
	comp=Z,15nm,0.9s					
MIAR	**Mount Ida**	**4.06 124**	P	**Pn**	**17 38 15.5**	**-0.2**
	baz=307					
MIAR			S	**Sn**	**17 39 03.8**	**+0.4**
	baz=307					
APMT	**Aspermont**	**4.08 210**	IAmb_Lg		17 39 35.0	
	comp=Z,7.9nm,1.1s					
DKNS	**Dickens**	**4.17 221**	Pn	**Pn**	**17 38 18.5**	**+1.2**
DKNS			IAmb_Lg		17 39 35.2	
	comp=Z,8.1nm,0.8s					
P38A	**Dawn**	**4.25 49**		**Pn**	**17 38 17.4**	**-0.8**
P38A			IAmb_Lg		17 39 33.6	
	comp=Z,24nm,0.8s					
MGMO	**Mountain Grove**	**4.33 85**	Pn	**Pn**	**17 38 17.5**	**-1.8**
MGMO			IAmb_Lg		17 39 27.8	
	comp=Z,15nm,0.8s					
KSCO	**Kaye Shedlock'**	**4.46 300**	IAmb_Lg		17 39 39.2	
	comp=Z,14nm,0.7s					
KSCO	**Kaye Shedlock'**	**4.46 300**	P	**Pn**	**17 38 20.9**	**-0.4**
	baz=117					
KSCO			S	**Sn**	**17 39 13.6**	**+0.2**
	baz=117					
R40A	**Maddies Statio**	**4.51 70**		**Pb**	**17 38 34.0**	**+1.3**
ABTX	**Abilene, Hawle**	**4.55 202**	P	**Pn**	**17 38 22.6**	**+0.1**
	baz=20					
ABTX			S	**Sn**	**17 39 15.3**	**-0.2**
	baz=20					
FCAR	**Ozark Folk Cen**	**4.58 101**	IAmb_Lg		17 39 37.5	
	comp=Z,28nm,0.7s					
WHAR	**Wooly Hollow**	**4.63 109**		**Pb**	**17 38 38.0**	**+3.2**
WHAR			IAmb_Lg		17 39 43.0	
	comp=Z,14nm,0.8s					
UALR	**University of**	**4.81 114**	IAmb_Lg		17 39 56.4	
	comp=Z,21nm,1.1s					
WHTX	**Lake Whitney,**	**4.89 178**	P	**Pn**	**17 38 27.3**	**+0.3**
	baz=358					
WLAR	**White Oak Lake**	**4.90 129**	IAmb_Lg		17 39 58.7	
	comp=Z,25nm,1.1s					
POST	**Post**	**4.95 221**		**Pn**	**17 38 26.4**	**-1.5**
MSTX	**Muleshoe**	**5.09 237**		**Pg**	**17 38 47.2**	**-3.6**
P40A	**Paris**	**5.15 57**	Pg	**Pb**	**17 38 47.0**	**+3.5**
P40A			IAmb_Lg		17 39 58.4	
	comp=Z,16nm,0.8s					
CCM	**Cathedral Cave**	**5.24 75**		**Pb**	**17 38 48.5**	**+3.4**
CCM	**Cathedral Cave**	**5.24 75**	P	**Pn**	**17 38 31.3**	**-0.5**
	baz=259					
CCM			S	**Sn**	**17 39 32.3**	**0.0**
	baz=259					
T42A	**Van Buren**	**5.26 86**		**Pb**	**17 38 48.5**	**+3.0**
T25A	**Trinidad**	**5.41 275**	Pg	**Pb**	**17 38 51.6**	**+3.5**
T25A	**Trinidad**	**5.41 275**	P	**Pn**	**17 38 33.2**	**-1.2**
	baz=90					
BRDY	**Brady**	**5.70 192**	Pn	**Pn**	**17 38 37.6**	**-0.6**
BRDY			IAmb_Lg		17 40 28.0	
	comp=Z,5.6nm,0.9s					
SGCY	**Sterling City**	**5.73 211**	IAmb_Lg		17 40 27.9	
	comp=Z,12nm,0.9s					
SCIA	**State Center**	**6.08 33**	IAmb_Lg		17 40 38.1	
	comp=Z,19nm,0.7s					
CGM3	**Cape Girardeau**	**6.41 84**	IAmb_Lg		17 40 35.5	
	comp=Z,16nm,0.7s					
N41A	**Harden Midland**	**6.54 52**	IAmb_Lg		17 40 43.7	
	comp=Z,15nm,0.7s					
SIUC	**Southern Illin**	**6.78 80**	IAmb_Lg		17 40 48.2	
	comp=Z,16nm,0.8s					
L42A	**Oliver, Polo**	**8.02 48**	IAmb_Lg		17 41 30.7	
	comp=Z,14nm,0.8s					
JFWS	**Jewell Farm**	**8.29 41**	IAmb_Lg		17 41 48.5	
	comp=Z,14nm,0.7s					

*SJA **18** 17:40:03.7±0.6,23.˚98S×66.˚93W,h224km±7km,ML3.5,*
MW3.4
*GUC **18** 17:40:06.6±0.7,23.˚91S×67.˚29W,h238km±9km,ML3.9*

ISC 18 17:40:04.6±1.9,23.˚99S±0.˚04×66.˚97W±0.˚05,
h212km±16km,n27,σ1$02/45,3C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.52 119**		*e*P	**Pn**	**17 40 40.7**	**+0.9**
AZAP	**Zapla**	**1.75 98**		*e*P	**Pn**	**17 40 41.9**	**-0.1**
YJA	**Yavi**	**2.25 37**		*e*P	**Pn**	**17 40 47.6**	**+0.5**
LVC	**Limon Verde**	**2.25 307**		*e*P	**Pn**	**17 40 48.0**	**+1.0**
LVC				*e*S	**S**	**17 41 19.0**	**-0.7**
LVC				IAML		17 41 22.9	
	318nm,0.6s						
LVC	**Limon Verde**	**2.25 307**		*e*P	**Pn**	**17 40 47.7**	**+0.6**
LVC				*e*S	**S**	**17 41 20.2**	**+0.4**
FSA	**Cafayete**	**2.29 157**		*e*P	**Pn**	**17 40 48.0**	**+0.7**
ASTB	**Santa Barbara**	**2.30 89**		*e*P	**Pn**	**17 40 47.4**	**+0.1**
PB15	**IPOC Station P**	**2.42 288**		*e*P	**Pn**	**17 40 49.4**	**+0.7**
PB15				*e*S	**S**	**17 41 21.6**	**-1.1**
PB15	**IPOC Station P**	**2.42 288**		*e*P	**Pn**	**17 40 49.5**	**+0.8**
GO02	**Mina Guanaco**	**2.66 243**	⇑	*e*P	**Pn**	**17 40 52.7**	**+1.4**
GO02				*e*S	**S**	**17 41 28.6**	**+1.2**
GO02				IAML		17 41 31.0	
	comp=E,349nm,0.1s						
GO02	**Mina Guanaco**	**2.66 243**		*e*P	**Pn**	**17 40 52.1**	**+0.8**
PB06	**IPOC Station P**	**2.71 298**	⇑	*e*P	**Pn**	**17 40 52.4**	**+0.5**
PB06				*e*S	**S**	**17 41 27.0**	**-1.3**
PB06				IAML		17 41 29.7	
	comp=E,405nm,0.1s						
PB09	**IPOC Station P**	**3.03 316**		*e*P	**Pn**	**17 40 56.8**	**+1.4**
PB09				*e*S	**S**	**17 41 34.4**	**-0.4**
PB09				IAML		17 41 37.9	
	comp=E,81nm,0.4s						
PB09	**IPOC Station P**	**3.03 316**		*e*S	**S**	**17 41 35.2**	**+0.4**
PB09				IAML		17 41 36.7	
	comp=Z,54nm,0.3s						
PB14	**IPOC Station P**	**3.20 258**		*e*P	**Pn**	**17 40 58.5**	**+1.0**
PB14				*e*S	**S**	**17 41 37.2**	**-1.4**
PB14	**IPOC Station P**	**3.20 258**		*e*P	**Pn**	**17 40 58.0**	**+0.5**
PB14				*e*S	**S**	**17 41 38.5**	**-0.1**
PB14				IAML		17 41 41.6	
	comp=Z,70nm,0.5s						
PB04	**IPOC Station P**	**3.36 299**		*e*P	**Pn**	**17 40 59.5**	**+0.2**
PB04				*e*S	**S**	**17 41 40.0**	**-1.7**
PB04	**IPOC Station P**	**3.36 299**		*e*P	**Pn**	**17 41 00.3**	**+1.0**
PB04				*e*S	**S**	**17 41 40.9**	**-0.9**
PB04				IAML		17 41 42.8	
	comp=Z,169nm,0.2s						
PB07	**IPOC Station P**	**3.51 309**	⇑	*e*P	**Pn**	**17 41 01.4**	**+0.2**
PB07				*e*S	**S**	**17 41 42.9**	**-2.1**
PB07	**IPOC Station P**	**3.51 309**		*e*P	**Pn**	**17 41 01.1**	**0.0**
PB07				*e*S	**S**	**17 41 43.1**	**-1.9**
PB07				IAML		17 41 48.6	
	comp=Z,107nm,0.5s						
AC01	**Pan de Azucar**	**3.93 236**		*e*P	**Pn**	**17 41 06.3**	**+0.3**
AC01				*e*S	**S**	**17 41 53.2**	**-0.7**
AC01				IAML		17 41 53.7	
	comp=Z,46nm,0.7s						
PATCX	**Punta Patache**	**4.32 316**		*e*P	**Pn**	**17 41 11.2**	**+0.3**
PATCX	**Punta Patache**	**4.32 316**		*e*P	**Pn**	**17 41 11.3**	**+0.5**
PATCX				*e*S	**S**	**17 42 02.0**	**-0.8**
PB08	**IPOC Station P**	**4.33 332**		*e*P	**Pn**	**17 41 13.0**	**+1.6**
PB08				*e*S	**S**	**17 42 03.0**	**-0.6**
PB08				IAML		17 42 06.9	
	comp=Z,16nm,0.2s						
TA01	**Diego Aracena**	**4.52 318**		*e*P	**Pn**	**17 41 14.2**	**+0.8**
TA01				*e*S	**S**	**17 42 05.7**	**-1.6**
TA01				IAML		17 42 49.2	
	comp=Z,16nm,1.8s						
GO03	**Copiap**	**4.64 219**		*e*P	**Pn**	**17 41 15.0**	**+0.1**
GO03				*e*S	**S**	**17 42 09.1**	**-0.9**
GO01	**Chusmiza**	**4.77 334**		*e*P	**Pn**	**17 41 18.9**	**+1.9**
GO01				*e*S	**S**	**17 42 13.1**	**-0.6**

*MOS **18** 17:46:01.6±1.4,50.˚32N×105.˚07E,h10km,mb4.7/9,Error ellipse: s-maj=7.2km s-min=5.6km az=89.7*
MOS Felt (IV) at Kyakhta, Petropavlovka, Smolenshchina; (III-IV) at Irkutsk; (III) at Markovo, Shelekhov.
*NEIC **18** 17:46:02.2±1.7,50.˚54N±0.˚06×105.˚23E±0.˚08,h10km±1km, mb4.4/25,Error ellipse: s-maj=12.8km s-min=4.7km az=139.0*
*IDC **18** 17:46:02.4±0.7,50.˚37N×105.˚15E,h0km,mb3.8/12, mbtmp3.9/18,ML3.4/5,MS3.5/17,Error ellipse: s-maj=16.7km s-min=10.5km az=37.0*
*BYKL **18** 17:46:03.6±0.5,50.˚36N×105.˚00E,FELT I=IV-V MSK at Zheltura, Tehngehrehk, Oyor, Nizhnij Torej, Nizhnij Burgaltaj, Petropavlovka, Ulekchin; VI at Mihajlovka, Horonhoj, Kyahta, Bayangol; III-IV at Dzhida, Sosnovka, Bilyutaj, SHana, Selenduma, Temnik.*

ISC 18 17:46:03.0±0.9,50.˚38N±0.˚02×105.˚04E±0.˚02,h4km±6km,
n154,σ2$50/224,mb4.2/26,MS3.7/16,14C-11D,
Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAK	**Zakamensk**	**1.12 271**		⇓*i*Pg	**Pb**	**17 46 24.1**	**-1.0**
ZAK				Pmax		17 46 24.3	
	3μm,0.2s						
ZAK				*e*Sg	**Sb**	**17 46 38.9**	**-1.2**
ZAK				Smax		17 46 43.7	
	22μm,0.5s						
ZAK	**Zakamensk**	**1.12 271**		⇓*i*PG	**Pb**	**17 46 24.0**	**-1.0**
ZAK				*e*		17 46 38.6	
ZAK				pmax	pmax		
	comp=Z,3μm,0.2s						
ZAK				smax	smax		
	comp=N,24μm,0.5s						
IVK	**Ivanovka**	**1.47 345**	⇑	*i*Pg	**Pn**	**17 46 31.2**	**+0.9**
	comp=N,1μm,1.2s						
IVK			⇓	*i*Pg	**Pn**	**17 46 31.2**	**+0.9**
	comp=N,431nm,1.2s						
IVK			⇑	*i*Pg	**Pn**	**17 46 31.2**	**+0.9**
	comp=N,2μm,1.2s						
IVK				Pmax		17 46 33.2	
	comp=N,4μm,1.7s						
IVK				*e*		17 46 37.5	
IVK				*e*Sg	**Sb**	**17 46 50.5**	**+0.5**
IVK				Smax		17 46 54.3	
	comp=N,5μm,1.0s						
LSTR	**Listvyanka**	**1.49 355**	⇑	*i*Pg	**Pn**	**17 46 31.4**	**+0.8**
	comp=N,815nm,1.6s						
LSTR			⇓	*i*Pg	**Pn**	**17 46 31.4**	**+0.8**
	comp=N,215nm,1.6s						
LSTR			⇑	*i*Pg	**Pn**	**17 46 31.4**	**+0.8**
	comp=N,1μm,1.6s						
LSTR				Pmax		17 46 33.4	
	comp=N,3μm,1.1s						
LSTR				*e*Sg	**Sg**	**17 46 51.8**	**+0.9**
LSTR				Smax		17 46 54.0	
	comp=N,12μm,0.7s						
LSTR	**Listvyanka**	**1.49 355**	⇑	*i*PG	**Pn**	**17 46 31.3**	**+0.7**
LSTR				*e*		17 46 51.3	
LSTR				pmax	pmax		
	comp=Z,2μm,0.3s						
LSTR				smax	smax		
	comp=N,10μm,0.5s						
TLY	**Talaya**	**1.57 326**	⇑	*i*Pg	**Pn**	**17 46 32.3**	**+0.6**
	comp=N,3μm,0.6s						
TLY			⇓	*i*Pg	**Pn**	**17 46 32.3**	**+0.6**
	comp=N,3μm,0.6s						
TLY			⇑	*i*Pg	**Pn**	**17 46 32.3**	**+0.6**
	comp=N,4μm,0.6s						
TLY				Pmax		17 46 32.5	
	comp=N,4μm,0.4s						
TLY				*e*Sg	**Sn**	**17 46 52.9**	**+0.5**
TLY				Smax		17 46 58.2	
	comp=N,7μm,0.1s						
TLY	**Talaya**	**1.57 326**	⇑	*i*PN	**Pn**	**17 46 32.2**	**+0.6**
TLY				*e*		17 46 52.9	
TLY				pmax	pmax		
	comp=Z,4μm,0.4s						
TLY				smax	smax		
	comp=E,10μm,0.5s						
BGT	**Bolshoye Golou**	**1.68 8**		*e*Pn	**Pn**	**17 46 33.5**	**+0.3**
BGT				*e*Pg	**Pb**	**17 46 35.0**	**+0.5**
BGT				Pmax		17 46 35.4	
	comp=E,2μm,0.5s						
BGT				*e*Sg	**Sg**	**17 46 57.7**	**+0.8**
BGT				Smax		17 46 59.4	
	comp=E,31μm,0.6s						
HRMR	**Khuramsha**	**1.74 43**	⇓	*i*Pn	**Pn**	**17 46 34.7**	**+0.7**
HRMR				*e*Pg	**Pb**	**17 46 35.7**	**+0.2**
HRMR				Pmax		17 46 36.0	
	comp=E,8μm,0.8s						
HRMR				*e*Sg	**Sg**	**17 46 59.8**	**+1.0**
HRMR				Smax		17 47 03.2	
	comp=E,71μm,0.8s						
IRK	**Irkutsk**	**1.92 346**		*e*PN	**Pn**	**17 46 37.0**	**+0.5**
IRK				*e*		17 46 39.2	
IRK				*e*		17 47 04.3	
IRK				pmax	pmax		
	comp=Z,13μm,0.5s						
IRK				smax	smax		
	comp=E,50μm,0.6s						
KAB	**Kabansk**	**1.95 31**	⇓	*i*Pg	**Pb**	**17 46 39.4**	**+0.3**
KAB				Pmax		17 46 40.0	
	comp=E,6μm,1.1s						
KAB				*e*Sg	**Sg**	**17 47 06.2**	**+0.5**
KAB				Smax		17 47 09.7	
	comp=E,55μm,1.2s						
FFNB	**Fofonovo**	**1.99 32**		*e*Pn	**Pn**	**17 46 38.3**	**+0.9**
FFNB				*e*Pg	**Pb**	**17 46 39.7**	**0.0**
FFNB				*e*Sg	**Sg**	**17 47 06.9**	**+0.1**
UUDB	**Ulan-Yde**	**2.22 47**	⇓	*i*Pn	**Pn**	**17 46 41.6**	**+1.0**
UUDB			⇓	*i*Pg	**Pb**	**17 46 43.7**	**0.0**
UUDB				max		17 46 44.1	
	comp=E,3μm,0.5s						
UUDB				*e*		17 46 46.7	
UUDB				*e*Sg	**Sg**	**17 47 14.5**	**+0.1**
UUDB				Smax		17 47 16.1	
	comp=E,15μm,0.4s						
ARS	**Arshan**	**2.25 314**	⇑	*i*Pn	**Pn**	**17 46 42.0**	**+0.9**
ARS				*e*Pg	**Pb**	**17 46 44.3**	**0.0**
ARS				*e*		17 46 50.8	
ARS				max		17 46 52.6	
	comp=E,2μm,0.8s						
ARS				*e*Sg	**Sb**	**17 47 13.4**	**+0.9**
ARS				Smax		17 47 18.0	
	comp=E,25μm,1.0s						
TRG	**Tyrgan**	**2.52 18**		*e*Pn	**Pn**	**17 46 45.4**	**+0.7**
TRG				*e*Pg	**Pb**	**17 46 48.8**	**+0.1**
TRG				Pmax		17 46 53.6	
	comp=E,242nm,0.3s						
TRG				*e*Sn	**Sn**	**17 47 15.1**	**-0.7**
TRG				*e*Sg	**Sg**	**17 47 22.6**	**-1.2**
TRG				Smax		17 47 24.4	
	comp=E,6μm,0.5s						
TRG	**Tyrgan**	**2.52 18**		*e*PN	**Pn**	**17 46 45.4**	**+0.7**
TRG				*e*		17 46 49.7	
TRG				*e*S	**Sn**	**17 47 16.9**	**+1.1**
TRG				*e*		17 47 22.6	
TRG				pmax	pmax		
	comp=Z,201nm,0.2s						
TRG				smax	smax		
	comp=E,6μm,0.6s						
ZRHB	**Zarechye**	**2.54 31**		*e*	**Pn**	**17 46 46.7**	**+1.7**
ZRHB				*e*Pg	**Pb**	**17 46 49.5**	**+0.3**
ZRHB				Pmax		17 46 57.4	
	comp=E,4μm,0.8s						
ZRHB				*e*Sg	**Sg**	**17 47 24.0**	**-0.6**
ZRHB				Smax		17 47 25.1	
	comp=E,88μm,0.7s						
SONM	**Songino Array**	**2.70 160**	Pn		**Pn**	**17 46 47.2**	**-0.1**
	comp=E,16nm,0.3s,baz=334,slow=14,SNR=655						
SONM			Pg		**Pb**	**17 46 51.7**	**-0.3**
	comp=E,543nm,0.3s,baz=334,slow=16,SNR=383						
SONM			Lg		Lg	17 47 27.2	
	comp=E,642nm,0.3s,baz=334,slow=26,SNR=20						
	comp=E,230nm,0.4s						
I34MN	**SONGINO INFRAS**	**2.74 160**	Pg		**Pb**	**17 46 52.5**	**0.0**
	baz=348,slow=24						
ULN	**Ulaanbaatar**	**2.85 152**			**Pn**	**17 46 49.1**	**-0.2**
ULN	**Ulaanbaatar**	**2.85 152**	⇑	*i*PN	**Pn**	**17 46 49.3**	**0.0**
ULN				*e*		17 46 53.4	
ULN				*e*S	**Sn**	**17 47 22.8**	**-1.3**
ULN				*e*		17 47 30.2	
MOY	**Mondy**	**2.86 298**		*e*Pn	**Pn**	**17 46 49.9**	**+0.4**
MOY				*e*Pg	**Pb**	**17 46 54.7**	**+0.1**
MOY				Pmax		17 47 01.2	
	comp=E,951nm,0.8s						
MOY				*e*Sg	**Sb**	**17 47 32.4**	**+2.4**
MOY				*e*		17 47 36.2	
MOY				max		17 47 44.3	
	comp=E,15μm,0.8s						
MOY	**Mondy**	**2.86 298**		*e*PN	**Pb**	**17 46 54.0**	**-0.6**
MOY				*e*		17 47 32.5	
MOY				pmax	pmax		
	comp=Z,948nm,0.5s						
MOY				smax	smax		
	comp=N,5μm,0.8s						
KELR	**Kotokel**	**3.04 37**		*e*Pn	**Pn**	**17 46 52.3**	**+0.4**
KELR				*e*		17 46 53.6	
KELR				*e*Pg	**Pb**	**17 46 57.6**	**-0.1**
KELR				*e*Sg	**Sg**	**17 47 38.4**	**-2.3**
OGRR	**Ongureny**	**3.63 25**		*e*Pn	**Pn**	**17 47 01.4**	**+1.5**
OGRR				*e*		17 47 07.1	
OGRR				max		17 47 18.4	
	comp=N,168nm,0.3s						
OGRR				Smax		17 47 18.4	
	comp=N,5μm,1.0s						
OGRR				*e*Sn	**Sn**	**17 47 42.0**	**-1.1**
OGRR				*e*Sg	**Sg**	**17 47 57.2**	**-2.2**
OGRR	**Ongureny**	**3.63 25**		*e*PN	**Pn**	**17 47 01.4**	**+1.5**
OGRR				*e*		17 47 10.1	
OGRR				*e*		17 47 57.3	
OGRR				pmax	pmax		
	comp=Z,232nm,0.8s						
OGRR				smax	smax		
	comp=E,5μm,1.2s						
MXMB	**Maximikha**	**3.69 37**		*e*Pn	**Pn**	**17 47 02.0**	**+1.3**
MXMB				*e*Pg	**Pb**	**17 47 09.9**	**+1.2**
MXMB				*e*Sn	**Sn**	**17 47 42.9**	**-1.7**
MXMB				*e*Sg	**Sg**	**17 47 58.5**	**-2.9**
MXMB				*e*SgSg	**SbSb**	**17 48 04.3**	**+5.5**
ORL	**Orlik**	**3.92 305**		*e*Pn	**Pn**	**17 47 05.7**	**+1.7**
ORL				*e*Pg	**Pb**	**17 47 12.8**	**+0.2**
ORL				*e*PgPg	**PbPb**	**17 47 15.9**	**+0.1**
ORL				*e*		17 47 20.7	
ORL				max		17 47 23.5	
	comp=E,641nm,0.7s						
ORL				*e*Sn	**Sn**	**17 47 48.9**	**-1.5**
ORL				*e*Sg	**Sb**	**17 48 03.7**	**+3.3**
ORL				Smax		17 48 10.0	
	comp=E,6μm,0.9s						
ORL	**Orlik**	**3.92 305**		*e*PN	**Pb**	**17 47 13.0**	**+0.4**
ORL				*e*		17 48 04.1	
ORL				pmax	pmax		
	comp=Z,833nm,0.4s						
ORL				smax	smax		
	comp=N,6μm,1.0s						
SYVR	**Suvo**	**4.49 41**	⇑	*i*Pn	**Pn**	**17 47 13.0**	**+1.2**
SYVR				*e*Pg	**Pb**	**17 47 24.5**	**+2.2**
SYVR				Pmax		17 47 25.0	
	comp=N,455nm,0.8s						
SYVR				*e*Sn	**Sn**	**17 48 03.3**	**-1.0**
SYVR				*e*Sg	**Sg**	**17 48 24.4**	**-2.6**
SYVR				Smax		17 48 38.6	
	comp=N,5μm,1.4s						
SYVR	**Suvo**	**4.49 41**		*e*PN	**

CIT				*e*Sg	**Sg**	**17 48 59.5**	**-3.1**
CIT				Smax		17 49 24.7	
comp=N,3μm,1.4s							
CIT	**Chita**	**5.60**	**70**	*e*PN	**Pn**	**17 47 26.2**	**-0.8**
CIT				*e*		17 47 44.2	
CIT				*e*S	**Sn**	**17 48 31.1**	**-0.7**
CIT				*e*		17 48 56.9	
CIT				pmax	pmax		
comp=Z,754nm,1.3s							
CIT				smax	smax		
comp=N,3μm,1.0s							
YLYR	**Ulyunkhan**	**5.84**	**37**	‖ *i*Pn	**Pn**	**17 47 31.2**	**+0.9**
YLYR				*e*Pg	**Pb**	**17 47 48.5**	**+3.1**
YLYR				*e*		17 47 55.8	
YLYR				max		17 47 56.2	
comp=N,184nm,1.1s							
YLYR				*e*Sg	**Sg**	**17 49 04.6**	**-5.8**
YLYR				Smax		17 49 10.9	
comp=N,2μm,1.0s							
YLYR	**Ulyunkhan**	**5.84**	**37**	*e*PN	**Pn**	**17 47 31.4**	**+1.1**
YLYR				*e*		17 47 48.5	
YLYR				*e*S	**Sn**	**17 48 35.8**	**-1.9**
YLYR				*e*		17 49 02.0	
YLYR				pmax	pmax		
comp=Z,185nm,0.9s							
YLYR				smax	smax		
comp=N,2μm,1.0s							
NIZB	**Nizh Angarsk**	**6.04**	**25**	*e*Pn	**Pn**	**17 47 33.6**	**+0.6**
NIZB				*e*Pg	**Pb**	**17 47 51.5**	**+2.8**
NIZB				Pmax		17 48 00.4	
comp=N,63nm,0.7s							
NIZB				*e*Sg	**Sg**	**17 49 09.9**	**-6.9**
NIZB				Smax		17 49 16.3	
comp=N,1μm,1.3s							
KMO	**Kumora**	**6.64**	**32**	*e*Pn	**Pn**	**17 47 44.2**	**+2.9**
KMO				Pmax		17 48 00.9	
comp=N,118nm,1.0s							
KMO				*e*Pg	Pb	17 48 04.1	+5.2
KMO				*e*Sg	**Sg**	**17 49 30.0**	**-6.1**
KMO				Smax		17 49 44.7	
comp=N,2μm,1.0s							
KMO	**Kumora**	**6.64**	**32**	*e*PN	**Pn**	**17 47 44.2**	**+2.9**
KMO				*e*		17 48 04.1	
KMO				*e*S	**Sn**	**17 48 56.5**	**-0.9**
KMO				*e*		17 49 30.2	
KMO				pmax	pmax		
comp=Z,83nm,0.8s							
KMO				smax	smax		
comp=E,2μm,1.0s							
YOA	**Uoyan**	**7.01**	**32**	*e*Pg	**Pb**	**17 48 09.7**	**+4.4**
YOA				Pmax		17 48 17.4	
comp=E,356nm,1.5s							
YOA				*e*Sg	**Sg**	**17 49 39.8**	**-8.2**
YOA				Smax		17 50 06.7	
comp=E,6μm,1.9s							
YOA	**Uoyan**	**7.01**	**32**	*e*PG	Pb	17 48 11.0	+5.7
YOA				*e*		17 49 40.0	
YOA				pmax	pmax		
comp=Z,236nm,0.9s							
YOA				smax	smax		
comp=E,6μm,1.9s							
UKT	**Uakit**	**7.28**	**42**	*e*Pn	**Pn**	**17 47 51.2**	**+1.0**
UKT				*e*		17 47 59.3	
UKT				*e*Pg	**Pb**	**17 48 14.6**	**+4.7**
UKT				Pmax		17 48 25.6	
comp=E,81nm,0.8s							
UKT				*e*Sn	**Sn**	**17 49 09.3**	**-4.0**
UKT				*e*Sg	**Sg**	**17 49 48.2**	**-8.4**
UKT				Smax		17 50 00.1	
comp=E,2μm,1.6s							
UKT	**Uakit**	**7.28**	**42**	*e*PG	**Pb**	**17 48 13.3**	**+3.4**
UKT				*e*		17 49 49.3	
UKT				pmax	pmax		
comp=Z,82nm,0.8s							
UKT				smax	smax		
comp=E,2μm,1.6s							
NLYR	**Nelyaty**	**8.82**	**42**	*e*Pn	**Pn**	**17 48 12.0**	**+0.8**
NLYR				*e*Pg	Pg	17 48 44.0	-7.8
NLYR				Pmax		17 48 49.6	
comp=E,74nm,0.7s							
NLYR				*e*Sg	**Sg**	**17 50 38.2**	**-7.7**
NLYR				Smax		17 50 49.1	
comp=E,2μm,1.8s							
NLYR	**Nelyaty**	**8.82**	**42**	*e*PN	**Pn**	**17 48 11.7**	**+0.5**
NLYR				*e*		17 48 40.3	
NLYR				*e*		17 50 38.8	
NLYR				pmax	pmax		
comp=Z,74nm,0.8s							
NLYR				smax	smax		
comp=E,2μm,1.8s							
BOD	**Bodaibo**	**9.12**	**32**	*e*Pn	**Pn**	**17 48 16.6**	**+1.4**
BOD				*e*Pg		17 48 47.3	
BOD				Pmax		17 49 15.5	
comp=E,42nm,1.2s							
BOD				*e*Sg	Sn	17 50 44.7	+47
BOD				Smax		17 51 06.4	
comp=E,685nm,1.3s							
BOD	**Bodaibo**	**9.12**	**32**	*e*P	**Pn**	**17 48 17.3**	**+2.1**
BOD				pmax	pmax		
comp=Z,42nm,1.2s							
TUP	**Tupik**	**9.97**	**60**	*e*Pn	**Pn**	**17 48 26.5**	**-0.4**
TUP				*e*Pg		17 49 04.9	
TUP				Pmax		17 49 05.5	
comp=Z,47nm,1.0s							
TUP				*e*Sg	Sn	17 51 13.7	+55
TUP				Smax		17 51 27.1	
comp=Z,2μm,1.4s							
TUP	**Tupik**	**9.97**	**60**	*e*P	**Pn**	**17 48 26.3**	**-0.6**
TUP				pmax	pmax		
comp=Z,47nm,1.0s							
CRS	**Chara**	**10.20**	**45**	*e*Pn	**Pn**	**17 48 30.3**	**+0.2**
CRS				*e*Pg		17 49 08.6	
CRS				Pmax		17 49 15.1	
comp=Z,96nm,1.2s							
CRS				*e*Sg	Sn	17 51 20.6	+56
CRS				Smax		17 51 28.9	
comp=Z,2μm,2.2s							
BTO	**Baotou**	**10.38**	**158**	*e*P	**Pn**	**17 48 31.8**	**-0.9**
BTO				pP		17 48 34.8	
BTO				sP		17 48 37.8	
BTO				PP	**PnPn**	**17 48 40.3**	**+0.1**
BTO				S	**Sn**	**17 50 28.4**	**-1.1**
BTO				sS		17 50 32.3	
BTO				SS	**SnSn**	**17 50 39.8**	**-1.2**
BTO				pmax	pmax		
comp=Z,20nm,0.4s							
BTO				pmax	pmax		
comp=Z,190nm,4.4s							
BTO				LR	LR		
comp=N,1μm,7.9s							
BTO				LR	LR		
comp=E,750nm,7.3s							
BTO				LR	LR		
comp=Z,1μm,9.4s							
HHC	**Hu-ho-hao-te**	**10.57**	**152**	*e*P	**Pn**	**17 48 36.3**	**+1.0**
HHC				pmax	pmax		
comp=Z,40nm,0.5s							
HHC				pmax	pmax		
comp=Z,210nm,4.3s							
HHC				LR	LR		
comp=N,2μm,9.2s							
HHC				LR	LR		
comp=E,1μm,7.3s							
HHC				LR	LR		
comp=Z,2μm,9.3s							
DGZ	**Jazzator, Alta**	**11.35**	**273**	*i* P	**Pn**	**17 48 48.3**	**+2.4**
GTA	**Gaotai**	**11.58**	**201**	*e*P	**Pn**	**17 48 50.6**	**+1.5**
GTA				pP		17 48 56.5	
GTA				pmax	pmax		
comp=Z,1.0nm,0.9s							
GTA				LR	LR		
comp=N,700nm,6.4s							
GTA				LR	LR		
comp=E,2μm,8.8s							
GTA				LR	LR		
comp=Z,280nm,10.4s							
YKLR	**Yuktali**	**11.67**	**51**	*e*Sg		17 52 06.0	
ZALV	**Zalesovo Beam**	**12.90**	**294**	Pn	**Pn**	**17 49 05.6**	**-1.4**
ZALV	**Zalesovo Beam**	**12.90**	**294**	Pn	**Pn**	**17 49 07.7**	**+0.7**
comp=Z,0.3nm,0.3s,baz=89,slow=12,SNR=1.1							
ZALV				Sn	**Sn**	**17 51 32.8**	**+1.9**
comp=Z,0.3nm,0.3s,baz=128,slow=19,SNR=1.9							
ZALV				Lg	Lg	17 52 46.1	
comp=Z,0.9nm,0.3s,baz=115,slow=23,SNR=10							
ZALV				LR	LR	17 54 16.4	
comp=Z,222nm,18.5s,baz=98,slow=38							
BJT	**Baijiatuau**	**12.98**	**139**		**Pn**	**17 49 06.1**	**-2.1**
BJT	**Baijiatuau**	**12.98**	**139**	P	**Pn**	**17 49 06.1**	**-2.1**
CLNS	**Chul'man**	**13.41**	**54**	*e*Sg	S	17 52 59.4	+52
ZEA	**Zeya**	**14.06**	**68**	*e*P	**Pn**	**17 49 21.3**	**-1.4**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.6s							
ZEA				MLR	MLR		
comp=E,700nm,7.0s							
ZEA				MLR	MLR		
comp=Z,700nm,9.0s							
HEH	**HeiHe**	**14.29**	**82**	*e*P	**Pn**	**17 49 25.9**	**0.0**
HEH				S	**Sn**	**17 52 07.8**	**+3.0**
HEH				smax	smax		
comp=N,380nm,1.1s							
HEH				smax	smax		
comp=E,280nm,1.0s							
LZH	**Lanzhou**	**14.32**	**184**	*e*P	**P**	**17 49 36.8**	**+2.9**
LZH				sP	Pn	17 49 44.1	+18
LZH				pmax	pmax		
comp=Z,12nm,1.2s							
LZH				LR	LR		
comp=N,740nm,11.0s							
LZH				LR	LR		
comp=E,2μm,10.0s							
LZH				LR	LR		
comp=Z,530nm,9.3s							
MK31	**Makanchi Array**	**15.46**	**265**		**Pn**	**17 49 41.4**	**-0.3**
MK31				IAmb	IAmb	17 49 54.8	
comp=Z,16nm,0.8s							
MK31	**Makanchi Array**	**15.46**	**265**	*i* P	**Pn**	**17 49 41.4**	**-0.3**
MKAR	**Makanchi Array**	**15.46**	**265**		**Pn**	**17 49 41.8**	**0.0**
MKAR	**Makanchi Array**	**15.46**	**265**	P	**Pn**	**17 49 43.0**	**+1.3**
MKAR	**Makanchi Array**	**15.46**	**265**	Pn	**Pn**	**17 49 43.0**	**+1.3**
baz=85,slow=11,SNR=5.4							
MKAR				Sn	**Sn**	**17 52 26.7**	**-6.6**
comp=Z,0.1nm,0.3s,baz=60,slow=12,SNR=2.6							
MKAR				Lg	Lg	17 54 12.7	
comp=Z,0.3nm,0.3s,baz=67,slow=29,SNR=7.1							
MKAR				LR	LR	17 55 57.5	
comp=Z,162nm,20.9s,baz=99,slow=38							
comp=Z,1.9nm,0.9s							
MAKZ	**Makanchi**	**15.65**	**266**	Pn	**Pn**	**17 49 43.9**	**-0.4**
MAKZ				IAmb	IAmb	17 49 56.9	
comp=Z,20nm,1.1s							
MAKZ	**Makanchi**	**15.65**	**266**	P	**Pn**	**17 49 43.9**	**-0.4**
MAKZ				pmax	pmax		
comp=Z,20nm,1.1s							
XAN	**Xi'an**	**16.58**	**169**	P	**P**	**17 50 05.6**	**+6.7**
XAN				pP	sP	17 50 11.3	+10
XAN				pmax	pmax		
comp=Z,14nm,1.1s							
TIA	**Tai'an**	**16.64**	**144**	*e*P	**P**	**17 50 04.1**	**+4.6**
TIA				S	**Sn**	**17 53 06.3**	**+4.2**
TIA				pmax	pmax		
comp=Z,91nm,2.1s							
TIA				pmax	pmax		
comp=Z,15nm,0.6s							
TIA				LR	LR		
comp=N,410nm,9.4s							
TIA				LR	LR		
comp=E,220nm,12.9s							
TIA				LR	LR		
comp=Z,630nm,8.6s							
KURK	**Kurchatov**	**16.77**	**281**	Pn	**Pn**	**17 49 58.1**	**-0.4**
KURK	**Kurchatov**	**16.77**	**281**	P	**Pn**	**17 49 58.1**	**-0.4**
KURK				pmax	pmax		
comp=Z,10.0nm,1.0s							
KURBB	**Kurchatov Arra**	**16.84**	**281**	Pn	**Pn**	**17 50 01.2**	**+1.9**
comp=Z,0.1nm,0.3s,baz=82,slow=12,SNR=9.6							
KURBB				Lg	Lg	17 54 51.5	
baz=83,slow=30,SNR=7.4							
KURBB				LR	LR	17 56 27.8	
comp=Z,233nm,18.8s,baz=178,slow=37							
comp=Z,1.2nm,0.7s							
KLR	**Kul'dur**	**17.25**	**83**	P	**Pn**	**17 50 05.2**	**+0.5**
comp=Z,0.1nm,0.3s,baz=286,slow=8.6,SNR=5.6							
KLR				S	**Sn**	**17 53 15.8**	**-1.0**
comp=Z,1.9nm,0.8s,baz=270,slow=7.1,SNR=2.4							
KLR				Lg	Lg	17 55 02.8	
comp=Z,0.3nm,0.3s,baz=24,slow=9.3,SNR=4.4							
KLR				LR	LR	17 57 20.7	
comp=Z,142nm,18.1s,baz=270,slow=40							
comp=Z,1.7nm,0.6s							
YAK	**Yakutsk**	**17.86**	**40**	P	**Pn**	**17 50 08.9**	**-3.1**
YAK	**Yakutsk**	**17.86**	**40**	*e*P	**Pn**	**17 50 11.1**	**-0.9**
YAK				*e*S	**Sn**	**17 53 31.5**	**+0.3**
YAK				pmax	pmax		
comp=Z,6.0nm,0.9s							
YAK				pmax	pmax		
comp=N,6.0nm,1.4s							
YAK				pmax	pmax		
comp=E,3.0nm,1.3s							
YAK				pmax	pmax		
comp=Z,142nm,4.6s							
YAK				pmax	pmax		
comp=E,92nm,5.8s							
YAK				pmax	pmax		
comp=N,180nm,4.0s							
YAK				smax	smax		
comp=N,159nm,5.8s							
YAK				smax	smax		
comp=E,64nm,3.7s							
YAK				MLR	MLR		
comp=Z,42nm,12.0s							
YAK				MLR	MLR		
comp=N,138nm,15.0s							
USA0B	**Ussuriysk Arra**	**19.24**	**98**	*i* P	**Pn**	**17 50 30.3**	**+1.4**
USRK	**Ussuriysk Ar.**	**19.24**	**98**	P	**P**	**17 50 24.4**	**-3.6**
USRK	**Ussuriysk Ar.**	**19.24**	**98**	P	**P**	**17 50 24.4**	**-3.6**
USRK	**Ussuriysk Ar.**	**19.24**	**98**	P	**P**	**17 50 27.6**	**-0.4**
comp=N,0.1nm,0.3s,baz=299,slow=3.9,SNR=4.1							
USRK				Lg	Lg	17 56 06.4	
comp=N,0.1nm,0.3s,baz=294,slow=31,SNR=4.5							
comp=N,2.1nm,0.7s							
KSRS	**Korea Array**	**20.84**	**120**	P	**P**	**17 50 45.8**	**+0.3**
comp=N,1.2nm,0.7s,baz=317,slow=8.8,SNR=3.0							
KSRS				LR	LR	17 58 28.6	
comp=N,102nm,18.1s,baz=310,slow=36							
comp=N,1.2nm,0.7s							
BVAR	**Borovoye Array**	**21.51**	**291**	P	**P**	**17 50 52.7**	**0.0**
comp=N,3.7nm,0.8s,baz=90,slow=9.1,SNR=14							
comp=N,3.7nm,0.8s							
BRVK	**Borovoye**	**21.57**	**291**	P	**P**	**17 50 51.7**	**-1.6**
BRVK				IAmb	IAmb	17 51 04.3	
comp=Z,11nm,0.9s							
BRVK	**Borovoye**	**21.57**	**291**	P	**P**	**17 50 51.7**	**-1.6**
BRVK				pmax	pmax		
comp=Z,11nm,1.0s							
AAK	**Ala-Archa**	**22.28**	**261**	P	**P**	**17 51 01.9**	**+0.7**
AAK	**Ala-Archa**	**22.28**	**261**	*i* P	**P**	**17 51 03.4**	**+2.2**
AAK				pmax	pmax		
comp=Z,20nm,1.6s							
AAK	**Ala-Archa**	**22.28**	**261**	P	**P**	**17 51 02.3**	**+1.1**
comp=Z,1.4nm,0.5s,baz=72,slow=6.4,SNR=2.1							
AAK				Lg	Lg	17 57 52.1	
comp=Z,0.1nm,0.3s,baz=317,slow=19,SNR=2.0							
comp=Z,1.4nm,0.5s							
TIXI	**Tiksi**	**23.91**	**18**	P	**P**	**17 51 15.5**	**-1.9**
TIXI				IAmb	IAmb	17 51 44.7	
comp=Z,8.0nm,0.8s							
TIXI	**Tiksi**	**23.91**	**18**	*ce*P	**P**	**17 51 18.1**	**+0.7**
TIXI				pmax	pmax		
comp=Z,11nm,2.1s							
KK31	**Karatay Array**	**24.59**	**266**	P	**P**	**17 51 20.5**	**-3.5**
KK31	**Karatay Array**	**24.59**	**266**	P	**P**	**17 51 20.5**	**-3.5**
KK31				pmax	pmax		
comp=Z,6.0nm,1.1s							
KKAR	**Karatay Array**	**24.59**	**266**	P	**P**	**17 51 23.6**	**-0.4**
KKAR	**Karatay Array**	**24.59**	**266**	P	**P**	**17 51 22.7**	**-1.2**
KKAR	**Karatay Array**	**24.59**	**266**	P	**P**	**17 51 22.7**	**-1.2**
KKAR						17 51 23.6	
JNU	**Nakatsue**	**25.67**	**122**	LR	LR	18 01 33.9	
comp=Z,88nm,18.4s,baz=304,slow=36							
TNCH	**TengChong**	**25.81**	**194**	P	**P**	**17 51 33.3**	**-2.0**
TNCH				pmax	pmax		
comp=Z,11nm,2.5s							
BTK	**Batken**	**26.01**	**260**	P	**P**	**17 51 37.9**	**+1.0**
BTK				IAmb	IAmb	17 51 46.7	
comp=Z,11nm,0.9s							
BTK	**Batken**	**26.01**	**260**	P	**P**	**17 51 37.9**	**+1.0**
BTK				pmax	pmax		
comp=Z,11nm,1.0s							
SVE	**Sverdlovsk**	**26.73**	**301**	*e*P	**P**	**17 51 44.4**	**+1.2**
SVE				pmax	pmax		
comp=Z,14nm,0.8s							
GUN	**Gumba**	**26.76**	**220**	*e*P	**P**	**17 51 51.2**	**+7.1**
comp=Z,18nm,0.8s							
JIRN	**Jiri**	**26.86**	**219**	*e*P	**P**	**17 51 51.7**	**+6.7**
comp=Z,18nm,0.8s							
GAR	**Garm**	**26.94**	**258**	P	**P**	**17 51 45.8**	**+0.4**
GAR				IAmb	IAmb	17 51 59.0	
comp=Z,15nm,1.0s							
PKI	**Pulchoki**	**27.26**	**221**	*e*P	**P**	**17 51 54.9**	**+6.3**
comp=Z,14nm,0.8s							
PKIN	**Phulchoki**	**27.26**	**221**	*e*P	**P**	**17 51 55.4**	**+6.9**
comp=Z,10nm,0.7s							
RAMN	**Ramite**	**27.32**	**218**	*e*P	**P**	**17 51 55.8**	**+6.7**
comp=Z,11nm,0.8s							
PYUN	**Piuthan**	**27.85**	**225**	*e*P	**P**	**17 51 59.0**	**+5.2**
comp=Z,6.0nm,0.6s							
CHGR	**Chuyangaron**	**27.87**	**259**	P	**P**	**17 51 54.5**	**+0.8**
CHGR	**Chuyangaron**	**27.87**	**259**	P	**P**	**17 51 54.5**	**+0.8**
CHGR				pmax	pmax		
comp=Z,17nm,0.9s							
ARU	**Arti**	**27.91**	**301**	LR	LR	18 04 58.8	
comp=Z,29nm,18.9s,baz=104,slow=41							
ABKAR	**Akbulak array**	**28.78**	**285**	P	**P**	**17 51 59.5**	**-2.2**
ABKAR				IAmb	IAmb	17 52 08.9	
comp=Z,6.1nm,1.4s							
AKTO	**Aktyubinsk**	**29.58**	**289**	P	**P**	**17 52 08.8**	**+0.1**
comp=Z,1.9nm,0.6s,baz=87,slow=7.9,SNR=8.2							
AKTO				LR	LR	18 04 38.7	
comp=Z,156nm,18.1s,baz=60,slow=38							
comp=Z,1.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**32.22**	**191**	LR	LR	18 05 26.3	
comp=Z,50nm,19.9s,baz=120,slow=36							
KIRV	**Kirov**	**32.46**	**306**	LR	LR	18 07 21.7	
comp=Z,143nm,20.6s,baz=86,slow=39							
PBA	**Port Blair**	**39.92**	**199**	P	**P**	**17 53 37.6**	**-0.5**
KEV	**Kevo**	**39.97**	**328**	P	**P**	**17 53 36.7**	**-1.3**
KEV	**Kevo**	**39.97**	**328**	P	**P**	**17 53 36.7**	**-1.3**
KEV				pmax	pmax		
comp=Z,39nm,1.2s							
OBN	**Obninsk**	**40.20**	**304** ⇑	*e*P	**P**	**17 53 39.3**	**-0.8**
OBN				*PP	**pP**	**17 53 42.0**	**+0.4**
OBN						17 55 46.0	
OBN				S	**S**	**17 59 39.0**	**-8.2**
OBN				pmax	pmax		
comp=Z,11nm,1.2s							
OBN				MLR	MLR		
comp=Z,127nm,21.0s							
SMY	**Shemya**	**41.50**	**59**	P	**P**	**17 53 48.0**	**-2.8**
SMY	**Shemya**	**41.50**	**59**	P	**P**	**17 53 48.0**	**-2.8**
KBZ	**Khabaz**	**41.75**	**286**	LR	LR	18 11 53.6	
comp=Z,94nm,19.9s,baz=73,slow=37							
KIV	**Kislovodsk**	**41.76**	**286**	*e*P	**P**	**17 53 52.8**	**-0.4**
KIV				pmax	pmax		
comp=Z,6.0nm,1.1s							
FINES	**FINESS Array B**	**42.89**	**316**	*e*P	**P**	**17 54 02.7**	**+0.6**
FINES				pmax	pmax		
comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**42.89**	**316**	P	**P**	**17 54 02.0**	**0.0**
comp=Z,2.6nm,0.9s,baz=76,slow=10.0,SNR=5.9							
comp=Z,2.6nm,0.9s							
SOC	**Sochi**	**43.78**	**287**	*e*P	**P**	**17 54 08.2**	**-1.3**
SOC				*e*		17 55 47.1	
SOC				*e*PPP	PPP	17 56 24.1	
SOC				*e*S	**S**	**18 00 39.5**	**-0.9**
SOC				*e*SS	**SS**	**18 03 52.6**	**-3.0**
SOC				*e*SSS	SSS	18 04 41.8	
SOC				MLR	MLR		
comp=Z,78nm,17.0s							
MNK	**Minsk**	**45.01**	**306**	*i* P	**P**	**17 54 21.2**	**+2.1**
comp=E,4.0nm,0.7s							
MNK				*i* P	**P**	**17 54 21.2**	**+2.1**
comp=N,8.0nm,1.0s							
MNK				*i* P	**P**	**17 54 21.2**	**+2.1**
comp=Z,13nm,1.2s,baz=62							
MNK				*i* PP	**PP**	**17 56 06.7**	**+2.8**
MNK				*i* PPP	PPP	17 56 44.8	
MNK				*i* S	**S**	**18 01 01.2**	**+3.2**
MNK				*i* SS	**SS**	**18 04 24.8**	**+5.8**
MNK				*i* SSS	SSS	18 05 27.1	
MNK				*i* LQ	LQ	18 09 39.6	
MNK				*i* LR	LR	18 13 23.9	
MNK	**Minsk**	**45.01**	**306**	*i* P	**P**	**17 54 21.2**	**+2.1**
MNK				*i*		17 56 06.7	
MNK				*i* PPP	PPP	17 56 44.8	
MNK				*i* S	**S**	**18 01 01.1**	**+3.2**
MNK				pmax	pmax		
comp=Z,13nm,1.2s							
MNK				pmax	pmax		
comp=N,8.0nm,1.0s							
MNK				pmax	pmax		
comp=E,4.0nm,0.7s							
AKASG	**Malin Array Be**	**46.16**	**301**	LR	LR	18 13 18.7	
comp=E,94nm,18.8s,baz=54,slow=35							
PALK	**Pallekele**	**47.52**	**214**	LR	LR	18 16 30.3	
comp=E,40nm,18.1s,baz=125,slow=38							
NB2	**NORSAR Subarra**	**49.43**	**320**	P	**P**	**17 54 53.5**	**-0.1**
comp=Z,1.7nm,0.8s,baz=58,slow=7.9							
NOA	**NORSAR Array B**	**49.43**	**320**	*e*P	**P**	**17 54 53.7**	**+0.1**
NOA				pmax	pmax		
comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**49.43**	**320**	P	**P**	**17 54 53.1**	**-0.5**
comp=Z,1.2nm,0.7s,baz=58,slow=7.5,SNR=3.7							
comp=Z,1.2nm,0.7s							
BRTR	**Keskin Array B**	**49.72**	**287**	P	**P**	**17 54 53.3**	**-2.9**
BRTR	**Keskin Array B**	**49.72**	**287**	P	**P**	**17 54 53.3**	**-2.9**
BUR08	**Bucovina Ar. S**	**50.03**	**300**	P	**P**	**17 54 56.1**	**-2.3**
BUR08				IAmb	IAmb	17 55 20.8	
comp=Z,4.8nm,1.4s							
BURAR	**Bucovina Array**	**50.04**	**300**	P	**P**	**17 54 56.6**	**-1.9**
JMIC	**Jan Mayen**	**50.06**	**337**	LR	LR	18 17 53.2	
comp=Z,31nm,21.5s,baz=99,slow=38							
ILAR	**Eielson Array**	**52.48**	**31**	*e*P	**P**	**17 55 17.1**	**+0.6**
ILAR	**Eielson Array**	**52.48**	**31**	P	**P**	**17 55 16.8**	**+0.3**
comp=Z,0.5nm,0.8s,baz=312,slow=5.3,SNR=4.8							
ILAR				LR	LR	18 20 07.4	
comp=Z,61nm,18.1s,baz=300,slow=39							
comp=Z,0.5nm,0.8s							
MMAI	**Mount Meron Ar**	**52.86**	**279**	LR	LR	18 18 35.6	
comp=Z,103nm,18.6s,baz=60,slow=37							
MORC	**Moravsky Berou**	**52.91**	**306**	P	**P**	**17 55 17.7**	**-2.2**
MORC				IAmb	IAmb	17 55 35.5	
comp=Z,3.8nm,1.0s							
MORC	**Moravsky Berou**	**52.91**	**306**	P	**P**	**17 55 17.7**	**-2.2**
MORC				pmax	pmax		
comp=Z,4.0nm,1.0s							
SUA	**Susitna One**	**53.25**	**36**	P	**P**	**17 55 19.3**	**-3.0**
CHGN	**Chignik**	**53.34**	**44**	P	P	17 55 17.7	-5.1
CLL	**Collm**	**54.28**	**309**	*i* P	**P**	**17 55 30.1**	**+0.2**
CLL	**Collm**	**54.28**	**309**	*i* P	**P**	**17 55 30.1**	**+0.2**
CLL				*i* x	x	17 55 50.3	
CLL				*e*PP	**PP**	**17 57 31.0**	**-0.3**
CLL				AMS	AMS	18 16 00.0	
comp=N,300nm,21.2s							
CLL				AMS	AMS	18 16 00.0	
comp=E,200nm,21.0s							
YKA	**Yellowknife Ar**	**63.16**	**19**	LR	LR	18 27 01.3	
comp=E,41nm,18.8s,baz=320,slow=39							
ESDC	**Sonseca Array**	**70.87**	**309**	P	**P**	**17 57 21.2**	**+0.2**
comp=E,0.9nm,0.7s,baz=44,slow=5.4,SNR=7.2							
comp=E,0.9nm,0.7s							
WRA	**Warramunga Arr**	**74.65**	**151**	P	**P**	**17 57 42.6**	**-0.8**
comp=E,1.1nm,0.5s,baz=346,slow=6.7,SNR=4.3							
comp=E,1.1nm,0.5s							
ASAR	**Alice Springs**	**78.03**	**153**	P	**P**	**17 58 01.6**	**-0.9**
comp=E,1.3nm,0.6s,baz=345,slow=5.1,SNR=15							
comp=E,1.3nm,0.6s							
NVAR	**Mina Array Bea**	**83.69**	**33**	P	**P**	**17 58 33.6**	**+0.5**
comp=E,0.2nm,0.4s,baz=330,slow=5.2,SNR=2.4							
comp=E,0.2nm,0.4s							
TORD	**Torodi Ar. Bea**

MSVF	Nonsavu	8.41 290	Pn	Pn	18 15 14.3	-4.9
MSVF	Nonsavu	8.41 290	LR	LR	18 17 21.6	
	comp=Z,68nm,21.4s,baz=123,slow=30					
RAR	Rarotonga	12.96 94	Pn	Pn	18 16 21.1	-0.4
RAR	Rarotonga	12.96 94	LR	LR	18 21 54.8	
	comp=Z,148nm,18.3s,baz=149,slow=39					
FUNA	Funafuti	14.01 329	Pn	Pn	18 16 34.5	-1.3
DZM	Mont Dzumac	18.59 262	P	Pn	18 17 36.6	+1.7
	8.4nm,0.8s,baz=102,slow=20,SNR=1.9					
CTAO	Charters Tower	37.52 264	P	P	18 20 29.9	-1.7
CTAO			IAmb	IAmb	18 20 56.9	
	comp=Z,8.9nm,1.0s					
STKA	Stephens Creek	41.36 245	LR	LR	18 36 53.1	
	comp=Z,35nm,18.3s,baz=193,slow=34					
BBOO	Buckleboo	46.09 244	P	P	18 21 40.5	-1.1
BBOO			IAmb	IAmb	18 21 49.2	
	comp=Z,7.3nm,0.9s					
AS31	Alice Springs	48.42 256		P	18 21 59.1	-0.8
ASAR	Alice Springs	48.42 256	P	P	18 21 58.6	-1.4
ASAR	Alice Springs	48.42 256	P	P	18 21 58.8	-1.2
	comp=Z,1.9nm,0.9s,baz=99,slow=7.9,SNR=20					
ASAR			PcP	PcP	18 23 27.1	+0.8
	comp=Z,0.5nm,0.7s,baz=102,slow=3.9,SNR=5.3					
	comp=Z,1.9nm,0.9s					
WB0	Warramunga Arr	48.58 262	P	P	18 22 01.0	-0.2
WB0			IAmb	IAmb	18 22 05.7	
	comp=Z,2.1nm,0.9s					
WB2	Warramunga Arr	48.59 261	P	P	18 22 01.5	+0.3
WB2			IAmb	IAmb	18 22 22.2	
	comp=Z,2.2nm,0.9s					
WRA	Warramunga Arr	48.60 261	P	P	18 22 00.7	-0.6
WRA	Warramunga Arr	48.60 261	P	P	18 21 59.9	-1.4
	comp=Z,1.0nm,0.7s,baz=96,slow=7.5,SNR=14					
WRA			PcP	PcP	18 23 28.4	+1.4
	comp=Z,0.6nm,0.9s,baz=100,slow=3.2,SNR=2.9					
	comp=Z,1.0nm,0.7s					
MTN	Manton Dam	53.24 269	P	P	18 22 36.0	-0.3
MTN			IAmb	IAmb	18 22 51.5	
	comp=Z,5.6nm,0.9s					
KNRA	Kununurra	54.71 265	P	P	18 22 47.3	+0.3
NVAR	Mina Array Bea	78.48 41	P	P	18 25 21.4	+2.6
	comp=Z,1.7nm,1.1s,baz=220,slow=7.9,SNR=5.3					
	comp=Z,1.7nm,1.1s					
GHO	Glory Hole Cre	84.61 12	P	P	18 25 51.9	+1.4
NEW	Newport	85.27 34	LR	LR	18 56 28.3	
	comp=Z,76nm,21.4s,baz=94,slow=30					
HDA	Harding Lake	87.40 11	P	P	18 26 06.2	+2.1
HDA			IAmb	IAmb	18 26 06.6	
	comp=Z,2.3nm,0.7s					
ILAR	Eielson Array	87.74 11	P	P	18 26 06.8	+1.1
	comp=Z,0.6nm,0.8s,baz=230,slow=6.2,SNR=6.6					
	comp=Z,0.6nm,0.8s					
J26L	Joseph Creek	88.13 13	P	P	18 26 09.5	+1.8
J26L			IAmb	IAmb	18 26 26.6	
	comp=Z,0.5nm,0.7s					
AKASG	Malin Array Be	145.13 334	PKPbc	PKPdf	18 32 55.2	+0.4
	comp=Z,1.7nm,0.6s,baz=40,slow=4.2,SNR=7.7					

*IDC **18** 18:21:03.2±2.1, 20°.35S×174°.12W, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=142.5km s-min=25.8km az=153.0*

ISC 18 18:21:07.4±2.0, 20°.4S±0°.8×174°.1W±0°.4, h27km, n6, σ0°58/7, mb3.6/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	48.07	256	P	P	18 29 45.0	0.0
	0.3nm,0.4s,baz=89,slow=8.2,SNR=8.7						
ASAR				PcP	PcP	18 31 13.3	+0.7
	0.2nm,0.5s,baz=99,slow=4.5,SNR=1.4						
	0.3nm,0.4s						
WRA	Warramunga Arr	48.20	261	P	P	18 29 45.5	-0.5
	0.2nm,0.4s,baz=96,slow=7.4,SNR=5.4						
	0.2nm,0.4s						
NVAR	Mina Array Bea	78.48	42	P	P	18 33 06.8	+0.4
	0.7nm,0.8s,baz=227,slow=8.0,SNR=5.1						
	0.7nm,0.8s						
TXAR	Lajitas Array	83.96	56	P	P	18 33 34.9	-0.6
	0.3nm,0.8s,baz=222,slow=4.9,SNR=4.1						
	0.3nm,0.8s						
ILAR	Eielson Array	87.42	11	P	P	18 33 51.8	0.0
	0.2nm,0.5s,baz=218,slow=5.5,SNR=5.1						
	0.2nm,0.5s						
AKASG	Malin Array Be	144.56	334	PKP	PKPdf	18 40 41.2	0.0
	0.4nm,0.4s,baz=39,slow=4.4,SNR=4.5						

*TAP **18** 18:31:45.7, 24°.87N×122°.11E, h112km, ML3.5, C*
*JMA **18** 18:31:45.4±0.2, 24°.8N±0°.8×122°.1E±0°.4, h117km±1km, MV2.7/16, TAIWAN REGION*

ISC 18 18:31:46.1±1.3, 24°.86N±0°.04×122°.10E±0°.02, h112km±6km, n112, σ0°70/215, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.18	327	P	Pn	18 32 01.5	-0.2
	baz=314						
TWB1				S	Sn	18 32 12.7	-0.7
	baz=314						
SXI1	Grass Mountain	0.31	320	eP	Pn	18 32 01.7	-0.5
	baz=304						
SXI1				eS	Sn	18 32 12.9	-1.4
	baz=304						
TWC	Suao	0.34	222	P	Pn	18 32 02.0	-0.2
	baz=229						
TWC				S	Sn	18 32 13.6	-0.7
	baz=229						
NWF	Wu-fen Shan	0.36	307	eP	Pn	18 32 02.2	-0.3
	baz=297						
NWF				eS	Sn	18 32 13.8	-0.9
	baz=297						
WFSB	Wu-fen Shan	0.36	307	P	Pn	18 32 02.2	-0.2
	baz=297						
WFSB				S	Sn	18 32 13.8	-0.7
	baz=297						
NDS	Dongshan	0.41	237	eP	Pn	18 32 02.9	+0.3
	baz=243						
NDS				eS	Sn	18 32 15.2	+0.1
	baz=243						
TWE	Neicheng	0.41	251	P	Pn	18 32 02.6	0.0
	baz=256						
TWE				S	Sn	18 32 14.6	-0.4
	baz=256						
EOS2	EOS2	0.45	164	eP	Pn	18 32 03.6	+0.9
	baz=172						
EOS2				eS	Sn	18 32 16.3	+1.1
	baz=172						
FUSB	Fushanzhiwuyua	0.47	258	P	Pn	18 32 03.0	-0.1
	baz=263						
FUSB				S	Sn	18 32 15.8	0.0
	baz=263						
EWUT	Wuta	0.50	215	P	Pn	18 32 03.5	+0.3
	baz=222						
EWUT				S	Sn	18 32 16.2	+0.2
	baz=222						
NHY	Taipei	0.51	291	eP	Pn	18 32 03.0	-0.2
	baz=287						
NHY				eS	Sn	18 32 16.3	+0.2
	baz=287						
ENTT	Nioudou	0.53	246	P	Pn	18 32 03.7	+0.3
	baz=249						
ENTT				S	Sn	18 32 17.2	+0.9
	baz=249						
NHDH	Xindian Distri	0.53	282	eP	Pn	18 32 03.0	-0.4
	baz=284						
NHDH				eS	Sn	18 32 15.3	-0.9
	baz=284						
ENA	Nanau	0.54	217	P	Pn	18 32 03.8	+0.4
	baz=217						
ENA				S	Sn	18 32 16.7	+0.3
	baz=217						
NWLT	Wulai	0.55	262	eP	Pn	18 32 03.3	-0.2
	baz=266						
NWLT				eS	Sn	18 32 16.6	+0.1
	baz=266						
YM01	YM01	0.56	301	eP	Pn	18 32 03.2	-0.4
	baz=296						
YM01				eS	Sn	18 32 15.6	-1.2
	baz=296						
TAP	Taipei	0.56	289	eP	Pn	18 32 04.0	+0.4
	baz=285						
TAP				eS	Sn	18 32 17.3	+0.6
	baz=285						
YM08	YM08	0.56	306	eP	Pn	18 32 03.2	-0.4
	baz=303						
YM08				eS	Sn	18 32 16.7	-0.2
	baz=303						
NDT	Datong Townshi	0.59	244	P	Pn	18 32 04.4	+0.6
	baz=255						
NDT				eS	Sn	18 32 17.4	+0.3
	baz=255						
EOS3	EOS3	0.60	160	P	Pn	18 32 04.6	+0.9
	baz=176						
EOS3				S	Sn	18 32 18.2	+1.3
	baz=176						
LATG	Datong	0.61	238	P	Pn	18 32 04.7	+0.6
	baz=249						
LATG				S	Sn	18 32 18.3	+0.8
	baz=249						
TWY	Chenhua	0.61	313	eS	Sn	18 32 16.7	-0.7
	baz=310						
ANP	Anpu	0.62	302	eP	Pn	18 32 03.8	-0.3
	baz=300						
ANP				eS	Sn	18 32 17.5	-0.1
	baz=300						
NTST	Danshui	0.66	298	eP	Pn	18 32 04.3	0.0
	baz=298						
NTST				eS	Sn	18 32 18.1	0.0
	baz=298						
TWS1	Kuangyinshan	0.66	292	eP	Pn	18 32 04.5	+0.2
	baz=291						
TWS1				eS	Sn	18 32 18.5	+0.5
	baz=291						
YHNB	Yeheng	0.68	254	P	Pn	18 32 04.6	0.0
	baz=255						
YHNB				eS	Sn	18 32 18.4	-0.1
	baz=255						
NSK	Sanguang	0.69	255	P	Pn	18 32 04.7	0.0
	baz=256						
NSK				eS	Sn	18 32 18.4	-0.3
	baz=256						
EOS4	EOS4	0.76	165	eP	Pn	18 32 05.1	+0.3
	baz=174						
EOS4				eS	Sn	18 32 18.6	-0.2
	baz=174						
NNSB	Datong	0.78	237	P	Pn	18 32 05.8	+0.3
	baz=245						
NNSB				eS	Sn	18 32 20.4	+0.4
	baz=245						
NNS	Nan Shan	0.78	238	P	Pn	18 32 05.8	+0.3
	baz=246						
NNS				eS	Sn	18 32 20.2	+0.1
	baz=246						
ETL	Fush Village	0.82	212	eP	Pn	18 32 05.7	-0.1
	baz=227						
ETL				eS	Sn	18 32 21.1	+0.5
	baz=227						
NACB	Ninganchiao	0.82	214	eP	Pn	18 32 05.3	-0.5
	baz=219						
NACB				eS	Sn	18 32 20.0	-0.5
	baz=219						
NCU	National Centr	0.83	278	eP	Pn	18 32 06.0	+0.2
	baz=268						
NCU				eS	Sn	18 32 20.8	+0.2
	baz=268						
NCUH	Zhongli	0.83	278	eP	Pn	18 32 05.9	+0.1
	baz=268						
NCUH				eS	Sn	18 32 21.0	+0.3
	baz=268						
ETLH	Xiulin Townshi	0.86	221	eP	Pn	18 32 06.1	-0.1
	baz=234						
ETLH				eS	Sn	18 32 20.8	-0.4
	baz=234						
JYNG	Yonagunijimaku	0.87	118	P	Pn	18 32 06.2	0.0
JYNG				eS	Sn	18 32 21.6	+0.3
TWD	Chiawan	0.90	211	eP	Pn	18 32 06.2	-0.2
	baz=225						
TWD				eS	Sn	18 32 21.1	-0.7
	baz=225						
NFF	Wufeng Townshi	0.92	256	eP	Pn	18 32 06.8	+0.2
	baz=257						
NFF				eS	Sn	18 32 21.9	-0.3
	baz=257						
YOJ	Yonaguni jima	0.92	115	P	Pn	18 32 06.7	0.0
YOJ				eS	Sn	18 32 22.1	0.0
HWA	Hwalien	0.98	207	eP	Pn	18 32 07.5	+0.2
	baz=205						
HWA				eS	Sn	18 32 23.6	+0.4
	baz=205						
LIOB	Emei	1.00	258	eP	Pn	18 32 07.6	+0.1
	baz=253						
LIOB				eS	Sn	18 32 23.8	+0.1
	baz=253						
NSTT	Nanjuang	1.02	257	eP	Pn	18 32 07.5	-0.1
	baz=253						
NSTT				eS	Sn	18 32 23.5	-0.5
	baz=253						
TWT	Tachien	1.03	234	P	Pn	18 32 08.9	+1.0
	baz=234						
TWT				eS	Sn	18 32 25.3	+0.8
	baz=234						
LXIB	Xiulin Townshi	1.04	217	eP	Pn	18 32 07.7	-0.4
	baz=214						
LXIB				eS	Sn	18 32 23.6	-1.0
	baz=214						
ETM	Tongmen	1.04	212	eP	Pn	18 32 07.4	-0.6
	baz=217						
ETM				eS	Sn	18 32 23.2	-1.2
	baz=217						
TDCB	Techi	1.04	235	P	Pn	18 32 08.9	+0.8
	baz=234						
TDCB				S	Sn	18 32 25.0	+0.4
	baz=234						
CHGB	Renai	1.16	227	P	Pn	18 32 10.1	+0.8
	baz=232						
CHGB				S	Sn	18 32 27.3	+0.4
	baz=232						
WHP	Taichung City	1.20	241	eP	Pn	18 32 10.2	+0.6
	baz=250						
WHP				eS	Sn	18 32 27.3	-0.1
	baz=250						
ESL	Shilin	1.20	210	eP	Pn	18 32 08.7	-0.9
	baz=221						
ESL				eS	Sn	18 32 26.0	-1.4
	baz=221						
NMLH	Miaoli	1.23	255	eP	Pn	18 32 10.0	+0.1
	baz=257						
NMLH				eS	Sn	18 32 28.3	+0.4
	baz=257						
OWD	Renai	1.23	223	eP	Pn	18 32 10.8	+0.7
	baz=231						
OWD				eS	Sn	18 32 28.7	+0.5
	baz=231						
WUSB	Renai	1.24	226	P	Pn	18 32 11.1	+0.9
	baz=231						
WUSB				S	Sn	18 32 29.3	+0.9
	baz=231						
NSY	Sanyi	1.29	250	eP	Pn	18 32 11.0	+0.4
	baz=252						
NSY				eS	Sn	18 32 29.7	+0.5
	baz=252						
TWQ1	Liyutan	1.31	247	eP	Pn	18 32 10.9	+0.1
	baz=250						
TWQ1				eS	Sn	18 32 30.0	+0.5
	baz=250						
WARBT	Fenglin Townsh	1.31	210	eP	Pn	18 32 09.8	-1.0
	baz=220						
WARBT				eS	Sn	18 32 27.8	-1.7
	baz=220						
EGFH	Guangfu	1.33	207	eP	Pn	18 32 09.9	-1.2
	baz=216						
EGFH				eS	Sn	18 32 29.2	-0.8
	baz=216						
WCS	Beigang Elemen	1.34	234	eP	Pn	18 32 11.8	+0.6
	baz=244						
WCS				eS	Sn	18 32 31.0	+0.8
	baz=244						
VWDT	VWDT	1.40	219	eP	Pn	18 32 12.7	+0.8
	baz=221						
VWDT				eS	Sn	18 32 31.9	+0.5
	baz=221						
WDJ	Dajia District	1.42	249	eP	Pn	18 32 12.2	+0.2
	baz=246						
WDJ				eS	Sn	18 32 31.8	+0.1
	baz=246						
SMLT	Sun Moon Lake	1.46	229	eP	Pn	18 32 13.4	+0.7
	baz=239						
SMLT				eS	Sn	18 32 34.1	+1.2
	baz=239						
TCU	Taichung	1.48	242	eP	Pn	18 32 13.2	+0.4
	baz=250						
TCU				eS	Sn	18 32 33.9	+1.0
	baz=250						
SSLB	Suanglung	1.49	225	P	Pn	18 32 13.7	+0.7
	baz=231						
SSLB				S	Sn	18 32 34.3	+0.9
	baz=231						
HGSD	Ruisui	1.49	204	eP	Pn	18 32 13.4	+0.4
	baz=219						
HGSD				eS	Sn	18 32 33.9	+0.6
	baz=219						
EHY	Hungye	1.52	208	eP	Pn	18 32 13.4	+0.1
	baz=214						
EHY				eS	Sn	18 32 32.4	-1.6
	baz=214						
IRIF	Iriomote-Funau	1.58	109	P	Pn	18 32 14.0	+0.1
IRIF				S	Sn	18 32 35.2	+0.1
WNT	Mingjian	1.62	233	P	Pn	18 32 15.1	+0.7
	baz=245						
WNT				eS	Sn	18 32 37.0	+1.0
	baz=245						
WJS	Zhushan	1.62	231	eP	Pn	18 32 15.1	+0.6
	baz=244						
WJS				eS	Sn	18 32 37.1	+1.1
	baz=244						
WHYT	Xinyi Township	1.62	225	P	Pn	18 32 15.5	+1.0
	baz=231						
WHYT				S	Sn	18 32 37.2	+1.1
	baz=231						
YULB	Yu-li	1.63	207	eP	Pn	18 32 13.7	-0.9
	baz=212						
YULB				eS	Sn	18 32 34.8	-1.5
	baz=212						
ECBN	Changbin	1.64	201	eS	Sn	18 32 36.4	-0.2
	baz=216						
EYUL	Yuli	1.66	205	eP	Pn	18 32 14.3	-0.8
	baz=218						
EYUL				eS	Sn	18 32 35.6	-1.4
	baz=218						
TWF1	Yuli	1.67	206	eP	Pn	18 32 14.3	-0.8
	baz=213						
TWF1				eS	Sn	18 32 35.4	-1.7
	baz=213						
HATJ	Hateruma jima	1.75	117	eS	Sn	18 32 38.8	0.0
ALS	Alishan	1.79	222	eP	Pn	18 32 17.6	+0.8
	baz=235						
ALS				eS	Sn	18 32 41.0	+0.9
	baz=235						
CHN5	Tsauling	1.80	226	eP	Pn	18 32 17.6	+0.8
	baz=232						
CHN5				eS	Sn	18 32 40.9	+0.7
	baz=232						
FULB	Fuli	1.81	204	eP	Pn	18 32 16.4	-0.4
	baz=219						
FULB				eS	Sn	18 32 40.1	-0.1
	baz=219						
WRL	Guolierlin Hig	1.83	239	eP	Pn	18 32 17.0	-0.1
	baz=248						
WRL				eS	Sn	18 32 40.3	-0.4
	baz=248						
WDLH	Douliu	1.84	231	eP	Pn	18 32 17.5	+0.4
	baz=243						
WDLH				eS	Sn	18 32 41.3	+0.5
	baz=243						
JKRS	Kuro-shima	1.85	109	P	Pn	18 32 17.4	+0.2
JKRS				S	Sn	18 32 41.3	+0.3
CHKT	Chengkung	1.87	201	eS	Sn	18 32 40.6	-1.0
	baz=216						
EHD	Haiduan	1.89	206	eP	Pn	18 32 17.3	-0.5
	baz=219						
EHD				eS	Sn	18 32 40.4	-1.6
	baz=219						
JIJ	Ishigaki jima	1.93	104	P	Pn	18 32 18.1	-0.1
JIJ				S	Sn	18 32 42.8	0.0
ECS	Chishang	1.93	205	eS	Sn	18 32 42.6	-0.3
	baz=219						
ELDTW	Lidau	1.93	211	eP	Pn	18 32 19.3	+0.8
	baz=212						
ELDTW				eS	Sn	18 32 43.3	+0.1
	baz=212						
WTK	Tuku	1.95	234	eP	Pn	18 32 18.9	+0.4
	baz=245						
WTK				eS	Sn	18 32 44.1	+0.9
	baz=245						
WCKO	Fanlu	1.96	224	eP	Pn	18 32 19.5	+0.8
	baz=231						
WCKO				eS	Sn	18 32 44.7	+1.1
	baz=231						
EDH	Donghe	2.01	201	eP	Pn	18 32 19.0	-0.4
	baz=215						
EDH				eS	Sn	18 32 44.5	-0.2
	baz=215						
JISG	Ishigakijimahi	2.03	97	P	Pn	18 32 19.8	+0.2
JISG				S	Sn	18 32 45.0	-0.1
CHN4	Tsaushan	2.03	223	eP	Pn	18 32 20.2	+0.6
	baz=229						
CHN4				eS	Sn	18 32 45.8	+0.5
	baz=229						
CHY	Chiayi	2.04	229	eP	Pn	18 32 20.0	+0.3
	baz=234						
CHY				eS	Sn	18 32 45.4	+0.1
	baz=234						
TPUB	Ta-pu	2.05	221	eP	Pn	18 32 20.1	+0.2
	baz=228						
TPUB				eS	Sn	18 32 45.7	+0.1
	baz=228						
STYH	Taoyuan	2.07	216	eP	Pn	18 32 20.6	+0.6
	baz=216						
STYH				eS	Sn	18 32 46.4	+0.4
	baz=216						
WSF	Szhu	2.10	235	eP	Pn	18 32 20.6	+0.2
	baz=239						
WSF				eS	Sn	18 32 47.0	+0.4
	baz=239						
WTP	Ta-pu	2.10	220	eP	Pn	18 32 20.9	+0.4
	baz=227						
WTP				eS	Sn	18 32 46.9	0.0
	baz=227						
LONT	Longtian	2.13	205	eP	Pn	18 32 21.2	+0.3
	baz=207						
LONT				eS	Sn	18 32 45.6	-1.9
	baz=207						
SNST	Tainan City	2.19	222	eP	Pn	18 32 22.2	+0.5
	baz=229						
SNST				eS	Sn	18 32 49.8	+1.0
	baz=229						
CHN1	Nanshi	2.20	221	eP	Pn	18 32 22.0	+0.3
	baz=228						
CHN1				eS	Sn	18 32 49.5	+0.5
	baz=228						
TWGBT	Beinan	2.23	205	eP	Pn	18 32 21.6	-0.6
	baz=208						
TWGBT				eS	Sn	18 32 48.5	-1.3
	baz=208						
TWG	Pinlang	2.23	205	eS	Sn	18 32 49.1	-0.7
	baz=208						
SLGT	Liugui	2.28	216	eP	Pn	18 32 23.8	+0.9
	baz=231						
SLGT				eS	Sn	18 32 51.7	+0.8
	baz=231						
MATB	Ma-tsu	2.33	304	eP	Pn	18 32 23.4	0.0
	baz=303						
JTJ	Tarama	2.38	95	eS	Sn	18 32 53.4	+0.3
VWUC	VWUC	2.41	274	eP	Pn	18 32 24.3	-0.1
	baz=272						
VWUC				eS	Sn	18 32 52.6	-1.2
	baz=272						
SSD	Sandimen	2.49	213	eP	Pn	18 32 26.4	+0.9
	baz=221						
SSD				eS	Sn	18 32 56.2	+0.4
	baz=221						
TSCK	Chigu Township	2.51	228	eP	Pn	18 32 26.0	+0.3
	baz=233						
TSCK				eS	Sn	18 32 56.1	+0.1
	baz=233						
TSMG	Majia	2.52	212	eP	Pn	18 32 26.7	+0.8
	baz=230						
TSMG				eS	Sn	18 32 57.5	+1.0
	baz=230						
MASBT	Mashibuluo	2.61	211	eP	Pn	18 32 27.9	+0.9
	baz=220						
MASBT				eS	Sn	18 32 58.5	0.0
	baz=220						
PHUB	P'eng-hu	2.67	240	eP	Pn	18 32 26.7	-1.0
	baz=243						
PHUB				eS	Sn	18 32 57.3	-2.5
	baz=243						
LYJJ	Jianjiangzhen	2.70	309	eP	Pn	18 32 28.5	+0.4
	baz=309						
EAST	Anshuo	2.72	205	eP	Pn	18 32 29.1	+0.6
	baz=214						
EAST				eS	Sn	18 33 00.3	-0.8

baz=214
JIRB Irabujima 2.79 90 *e*P **Pn 18 32 29.9 +0.4**
JIRB *e*S **Sn 18 33 03.5 +0.7**
LYUB Lan-yu 2.88 190 *e*P **Pn 18 32 29.8 -0.9**
baz=191
LYUB *e*S **Sn 18 33 03.0 -1.9**
baz=191

*AEIC **18** 18:44:18.2±2.0, 54°.00N±0°.05×162°.91W±0°.05, h14km±6km, Error ellipse: s-maj=6.9km s-min=3.9km az=197.0*
NEIC 18 18:44:18.1±2.3, 54°.04N±0°.05×162°.93W±0°.07, h14km±8**km, mb3.8/9, ML3.6/14, ML3.3**(AEIC)**, Error ellipse: s-maj=9.3km s-min=2.2km az=141.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	**Brown Peak**	**0.78**	**322**		Pb	18 44 33.6	+0.3
ISLZ	**Isanotski Laza**	**0.83**	**327**		Pb	18 44 34.5	+0.2
ISLZ					Sn	18 44 47.0	-0.4
FALS	**False Pass**	**0.87**	**341**		Pg	18 44 35.1	+0.1
FALS					Sn	18 44 47.9	-0.4
SSLS	**Shishaldin Sou**	**0.92**	**318**		Pg	18 44 36.3	+0.3
ISNN	**Isanotski Nort**	**0.94**	**328**		Pn	18 44 37.0	+0.1
ISNN					Sn	18 44 50.8	+0.7
SSLN	**Shishaldin Nor**	**1.00**	**322**		Pn	18 44 37.7	0.0
SSBA	**Shishaldin**	**1.02**	**317**		Pb	18 44 37.5	0.0
SSBA					Sn	18 44 53.0	+1.0
WESP	**Westdahl Peak**	**1.15**	**294**		Pb	18 44 39.2	-0.5
WEBT	**Westdahl Beart**	**1.21**	**298**		Pn	18 44 40.5	0.0
WEBT					Sg	18 44 57.3	+0.3
HAG	**Hague Volcano**	**1.42**	**24**		Pn	18 44 43.2	-0.1
PS4A	**Pavlof South-4**	**1.45**	**25**		Pn	18 44 43.6	-0.3
PS4A					Sb	18 45 03.6	+0.4
PN7A	**Pavlof North-7**	**1.50**	**21**		Pb	18 44 45.3	-0.4
PS1A	**Pavlof South-1**	**1.55**	**26**		Pn	18 44 45.1	-0.1
AKSA	**Akutan Strait**	**1.64**	**275**		Pn	18 44 45.8	-0.6
AKSA					Sb	18 45 07.8	-0.6
AKUT	**Akutan**	**1.68**	**275**		Pn	18 44 45.9	-1.0
AKUT				IAML		18 45 11.3	
	comp=E,304nm,1.5s						
AHB	**Akutan Harbor**	**1.71**	**274**		Pn	18 44 47.8	+0.5
AKBBA	**Akutan Broad B**	**1.77**	**273**		Pn	18 44 48.3	+0.1
AKV	**Akutan Volcano**	**1.79**	**274**		Pn	18 44 48.1	-0.5
ZRO	**Akutan Zero**	**1.80**	**273**		Pn	18 44 48.5	-0.1
AKGG	**Akutan Green G**	**1.81**	**276**		Pn	18 44 48.6	-0.1
LVA	**Lava Point**	**1.83**	**275**		Pn	18 44 49.7	+0.6
AKRB	**Akutan Reef Bi**	**1.85**	**274**		Pn	18 44 49.6	+0.3
SDPT	**Sand Point**	**1.94**	**46**		Pn	18 44 50.7	+0.3
SDPT					Sn	18 45 15.7	+1.1
SDPT	**Sand Point**	**1.94**	**46**	IAML		18 45 16.0	
	comp=E,506nm,0.4s						
SDPT				IAML		18 45 20.9	
	comp=N,341nm,1.6s						
CNBA	**Chernabura Isl**	**2.10**	**67**	Pn	Pn	18 44 51.6	-1.1
UNV	**Unalaska Valle**	**2.12**	**266**		Pn	18 44 52.5	-0.5
MSW	**Makushin Switc**	**2.28**	**269**		Pn	18 44 55.7	+0.5
VNFG	**Fog Glacier, M**	**2.97**	**39**		Pn	18 45 06.2	+1.4
VNFG	**Fog Glacier, M**	**2.97**	**39**	IAML		18 46 11.7	
	comp=N,374nm,2.6s						
OKFG	**Magazine Ridge**	**3.03**	**260**		Pn	18 45 06.4	+0.9
CHGN	**Chignik**	**3.44**	**47**	Pn	Pn	18 45 11.6	+0.4
CHGN				IAML		18 46 54.6	
	comp=N,80nm,4.2s						
CHGN				IAML		18 46 57.3	
	comp=E,82nm,2.9s						
CLCO	**Concord Point,**	**4.25**	**256**		Pn	18 45 23.4	+1.1
R17K	**Ugashik Creek**	**5.16**	**43**		Pn	18 45 36.1	+1.3
O14K	**Tigyukauivet M**	**5.31**	**9**		Pn	18 45 38.4	+1.6
O14K	**Tigyukauivet M**	**5.31**	**9**	IAML		18 47 09.2	
	comp=N,47nm,4.1s						
O14K				IAML		18 47 23.0	
	comp=E,42nm,3.5s						
O16K	**Kokwok River B**	**6.17**	**23**	Pn	Pn	18 45 49.9	+1.3
N15K	**Kwethluk River**	**6.34**	**13**	Pn	Pn	18 45 52.0	+1.0
M14K	**Bethel**	**6.75**	**4**	Pn	Pn	18 45 56.9	+0.3
KDAK	**Kodiak Island**	**6.92**	**53**	Pn	Pn	18 45 57.4	-1.5
N17K	**Nushagak Hills**	**7.21**	**23**	Pn	Pn	18 46 02.4	-0.5
M16K	**Timber Creek**	**7.32**	**15**	Pn	Pn	18 46 05.5	+1.0
L14K	**Kuka Creek**	**7.33**	**1**	Pn	Pn	18 46 03.3	-1.1
N18K	**Kilae Creek**	**7.67**	**27**	Pn	Pn	18 46 08.7	-0.4
L16K	**Owhat River**	**7.91**	**12**	Pn	Pn	18 46 12.6	+0.1
M17K	**Holitna River**	**7.95**	**19**	Pn	Pn	18 46 13.4	+0.4
K13K	**Kusilvak Mount**	**7.97**	**354**	Pn	Pn	18 46 14.2	+0.9
SVW2	**Sparrevohn**	**8.10**	**26**	Pn	Pn	18 46 12.8	-2.3
N19K	**Bonanza Creek**	**8.18**	**30**	Pn	Pn	18 46 14.6	-1.6
K15K	**Wolf Creek Mou**	**8.32**	**5**	Pn	Pn	18 46 19.0	+1.0
RSO	**Redoubt South**	**8.47**	**36**	Pn	Pn	18 46 21.6	+1.2
ADK	**Adak**	**8.58**	**261**	Pn	Pn	18 46 23.1	+1.4
J14K	**Nanvaranak Lak**	**8.75**	**358**	Pn	Pn	18 46 24.9	+1.0
L18K	**Granite Mounta**	**8.84**	**19**	Pn	Pn	18 46 26.3	+1.1
KIWB	**Kanaga Island**	**8.87**	**261**	Pn	Pn	18 46 26.8	+1.2
K17K	**Iditarod**	**9.04**	**14**	Pn	Pn	18 46 28.6	+0.7
M19K	**Big River Lodg**	**9.09**	**26**	Pn	Pn	18 46 29.0	+0.4
L19K	**White Mountain**	**9.21**	**24**	Pn	Pn	18 46 28.9	-1.4
J16K	**Anvik River**	**9.36**	**6**	Pn	Pn	18 46 32.5	+0.2
M20K	**Styx River**	**9.42**	**29**	Pn	Pn	18 46 32.8	-0.4
RC01	**Rabbit Creek A**	**9.99**	**40**	Pn	Pn	18 46 39.5	-1.5
PWL	**Port Wells**	**10.40**	**43**	Pn	Pn	18 46 45.9	-0.8
K20K	**Telida**	**10.41**	**23**	Pn	Pn	18 46 46.7	0.0
J19K	**Poorman**	**10.66**	**18**	Pn	Pn	18 46 51.4	+1.2
GHO	**Glory Hole Cre**	**10.73**	**38**	Pn	Pn	18 46 49.7	-1.5
AMKA	**Amchitka**	**11.10**	**263**	Pn	Pn	18 46 55.8	-0.4
J20K	**Nowinta River**	**11.11**	**20**	Pn	Pn	18 46 54.3	-2.0
SCM	**Sheep Creek Mo**	**11.37**	**40**	Pn	Pn	18 46 58.8	-1.0
G16K	**Koyuk River**	**11.40**	**1**	Pn	Pn	18 46 58.6	-1.6
KLU	**Klutina**	**11.73**	**44**	Pn	Pn	18 47 02.5	-2.3
HMT	**Hamilton**	**11.90**	**51**	Pn	Pn	18 47 05.2	-2.0
M24K	**Tolsona, Glenn**	**11.97**	**41**	Pn	Pn	18 47 07.7	-0.4
H21K	**Melozitna Rive**	**12.69**	**19**	Pn	Pn	18 47 17.6	-0.3
ISLE	**Juniper Island**	**12.89**	**51**	Pn	Pn	18 47 20.6	0.0
GRNC	**Granite Creek**	**13.20**	**51**	Pn	Pn	18 47 23.5	-1.5
RIDG	**Independent Ri**	**13.43**	**36**	Pn	Pn	18 47 26.1	-1.9
H23K	**Yukon River**	**13.55**	**24**	Pn	Pn	18 47 30.0	+0.4
M27K	**Edge Creek, AK**	**13.82**	**45**	Pn	Pn	18 47 34.0	+0.6
G23K	**Bananza Creek**	**14.18**	**21**	Pn	Pn	18 47 37.7	-0.5
L27K	**Beaver Creek,**	**14.18**	**42**	Pn	Pn	18 47 36.8	-1.5
BCAR	**Beaver Creek A**	**14.20**	**42**	Pn	Pn	18 47 37.0	-1.5
I26K	**Coal Creek Min**	**14.99**	**33**	Pn	Pn	18 47 47.5	-1.7
M29M	**Somme Creek**	**15.30**	**47**	Pn	Pn	18 47 52.0	-1.4
E24K	**Your Creek**	**15.65**	**20**	Pn	Pn	18 47 58.3	+0.4
E24K				P	P	18 48 02.6	+0.6
E24K				IAmb	IAmb	18 48 03.5	
	comp=Z,3.4nm,0.7s						
I28M	**Miner Creek**	**16.15**	**36**	Pn	Pn	18 48 03.0	-1.5
I30M	**Mount Dempster**	**17.32**	**39**	Pn	Pn	18 48 18.9	-0.3
G30M	**tAoh Zraii Nji**	**18.26**	**34**		Pn	18 48 29.9	-0.7
G30M				IAmb	IAmb	18 49 12.0	
	comp=Z,11nm,1.4s						
H31M	**Peel River**	**18.34**	**39**	P	P	18 48 32.5	+0.8
H31M				IAmb	IAmb	18 48 34.0	
	comp=Z,8.6nm,1.1s						
MMPY	**Sheldon Lake,**	**18.53**	**50**	P	P	18 48 33.6	-0.3
G31M	**Satah River**	**18.89**	**36**	P	P	18 48 37.1	-0.5
G31M				IAmb	IAmb	18 48 48.6	
	comp=Z,9.7nm,1.3s						

IDC 18 18:56:03.2±2.1, 3°.17S×150°.28E, h0km**, mb3.3/2, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=47.1km s-min=31.6km az=1.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.08**	**123**	Pn	Pn	18 56 40.2	+0.8
	27nm,0.3s,baz=316,slow=23,SNR=59						
KRVT				Sn	Sn	18 56 56.0	-10
	11nm,0.3s,baz=139,slow=23,SNR=6.3						
	66nm,0.3s						
WRA	**Warramunga Arr**	**22.81**	**222**	P	P	19 01 09.2	+1.4
	0.8nm,0.3s,baz=50,slow=10,SNR=40						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**25.81**	**216**	P	P	19 01 34.9	-1.5
	0.1nm,0.5s,baz=50,slow=9.1,SNR=4.6						
	0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**147.41**	**290**	PKPbc	PKPbc	19 15 49.1	-1.0
	0.3nm,0.4s,baz=78,slow=2.8,SNR=6.7						

IDC 18 19:01:16.0±1.9, 2°.46S×128°.70E, h0km**, mb3.7/3, mbtmp3.8/4, ML3.9/1, 1C, Error ellipse: s-maj=143.5km s-min=24.2km az=69.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.23**	**163**	P	P	19 05 31.0	+0.1
	0.4nm,0.3s,baz=342,slow=12,SNR=11						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**21.67**	**167**	P	P	19 06 07.9	-0.6
	0.6nm,0.4s,baz=343,slow=11,SNR=16						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**63.75**	**326**	P	P	19 11 49.4	-0.4
	0.6nm,0.7s,baz=116,slow=6.6,SNR=2.6						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**67.99**	**328**	P	P	19 12 17.5	+0.5
	0.5nm,0.2s,baz=134,slow=5.6,SNR=4.0						
	0.5nm,0.2s						
TROLL	**Troll, Antarti**	**98.20**	**195**	⇑pP	Pdif	19 14 55.9	+0.9
	comp=Z,658nm,0.8s						

*NEIC **18** 19:02:07.3±2.2, 24°.03S±0°.08×175°.46W±0°.10, h10km±1km, mb4.8/39, Error ellipse: s-maj=15.7km s-min=13.5km az=121.0*
*IDC **18** 19:02:08.8±0.7, 24°.00S×175°.83W, h0km, mb4.2/12, mbtmp4.2/13, ML4.4/1, MS3.8/23, Error ellipse: s-maj=24.8km s-min=20.6km az=149.0*
ISC 18 19:02:09.9±0.5, 23°.95S±0°.08×175°.51W±0°.08, h35km**, n104, σ2°.03/57, mb4.6/25, MS3.8/21, 6C, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.11**	**48**	Pn	**Pn**	**19 03 50.0**	**-1.5**
NIUE				Sn	Sn	19 04 59.7	-11
MSVF	**Nonsavu**	**8.63**	**315**	Pn	**Pn**	**19 04 13.3**	**+0.8**
	0.1nm,0.3s,baz=196,slow=22,SNR=1.9						
MSVF				LR	LR	19 07 19.3	
	comp=Z,1μm,18.4s,baz=116,slow=37						
	5.2nm,1.0s						
AFI	**Afiamalu**	**10.60**	**20**	Pn	**Pn**	**19 04 39.3**	**-0.1**
RAR	**Rarotonga**	**14.79**	**82**	Pn	**Pn**	**19 05 35.5**	**-1.1**
RAR	**Rarotonga**	**14.79**	**82**	Pn	**Pn**	**19 05 36.3**	**-0.3**
	2.7nm,0.3s,baz=268,slow=3.9,SNR=4.4						
RAR				LR	LR	19 12 19.8	
	comp=Z,274nm,18.2s,baz=291,slow=40						
URZ	**Urewera**	**15.59**	**202**	Pn	**Pn**	**19 05 43.8**	**-3.1**
	0.2nm,0.3s,baz=34,slow=3.6,SNR=1.8						
DZM	**Mont Dzumac**	**16.72**	**273**	*e*LR	LR	19 10 08.7	
	comp=Z,356nm,22.4s						
DZM	**Mont Dzumac**	**16.72**	**273**	LR	LR	19 11 15.0	
	comp=Z,278nm,20.6s,baz=124,slow=33						
MRZ	**Mangatainoka R**	**18.26**	**202**	Pn	**P**	**19 06 18.5**	**-1.9**
TCW	**Tory Channel**	**19.21**	**204**	P	**Pn**	**19 06 30.1**	**-1.9**
TUWZ	**Tuamarina**	**19.53**	**204**	P	**Pn**	**19 06 33.8**	**-1.9**
KHZ	**Kahutara**	**20.53**	**204**	P	**P**	**19 06 42.9**	**-2.3**
KHZ				IAmb	IAmb	19 07 10.1	
	comp=Z,63nm,1.5s						
INZ	**Inchbonnie**	**21.61**	**207**	P	**P**	**19 06 57.0**	**+0.1**
INZ				IAmb	IAmb	19 07 03.0	
	comp=Z,48nm,1.5s						
RPZ	**Rata Peaks**	**22.59**	**206**	LR	LR	19 16 46.5	
	comp=Z,212nm,18.7s,baz=15,slow=39						
PPT2	**Papeete2**	**25.04**	**80**	*e*LR	LR	19 13 36.3	
	comp=Z,390nm,26.8s						
PPT2				*e*LR	LR	19 13 42.7	
	comp=Z,277nm,26.8s						
PPT	**Papeete**	**25.05**	**80**	LR	LR	19 16 47.5	
	comp=Z,199nm,18.4s,baz=204,slow=35						
HNR	**Honiara**	**27.52**	**298**	P	**P**	**19 07 52.4**	**-1.1**
HNR	**Honiara**	**27.52**	**298**	LR	LR	19 17 13.4	
	comp=Z,2μm,21.8s,baz=122,slow=33						
CTA	**Charters Tower**	**35.58**	**269**	P	**P**	**19 09 05.6**	**+1.3**
	comp=Z,5.2nm,0.4s,baz=99,slow=10,SNR=21						
CTA				LR	LR	19 22 03.5	
	comp=Z,83nm,18.5s,baz=88,slow=34						
	comp=Z,5.2nm,0.4s						
CTAO	**Charters Tower**	**35.58**	**269**	P	**P**	**19 09 06.1**	**+1.8**
CTAO				IAmb	IAmb	19 09 21.4	
	comp=Z,20nm,1.2s						
PMG	**Port Moresby**	**38.43**	**286**	P	**P**	**19 09 29.7**	**+1.3**
PMG				IAmb	IAmb	19 09 45.3	
	comp=Z,27nm,0.9s						
STKA	**Stephens Creek**	**38.52**	**248**	P	P	19 09 31.2	+2.1
	comp=Z,1.0nm,0.5s,baz=125,slow=14,SNR=3.1						
STKA				LR	LR	19 24 27.9	
	comp=Z,194nm,18.1s,baz=31,slow=35						
	comp=Z,1.0nm,0.5s						
COEN	**Coen**	**40.19**	**277**	P	**P**	**19 09 41.4**	**-1.8**
JOHN	**Johnston Islan**	**40.86**	**9**	P	**P**	**19 09 49.0**	**+0.5**
BBOO	**Buckleboo**	**43.20**	**247**	P	**P**	**19 10 08.9**	**+1.2**
BBOO				IAmb	IAmb	19 10 26.3	
	comp=Z,28nm,1.4s						
AS31	**Alice Springs**	**46.07**	**260**	P	**P**	**19 10 31.5**	**+0.7**
ASAR	**Alice Springs**	**46.07**	**260**	P	**P**	**19 10 30.7**	**0.0**
ASAR	**Alice Springs**	**46.07**	**260**	P	**P**	**19 10 31.9**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=94,slow=6.7,SNR=16						
ASAR				LR	LR	19 29 21.9	
	comp=Z,212nm,18.1s,baz=122,slow=36						
	comp=Z,1.2nm,0.8s						
WR0	**Warramunga Arr**	**46.31**	**265**	P	**P**	**19 10 32.4**	**-0.3**
WB2	**Warramunga Arr**	**46.48**	**265**	P	**P**	**19 10 34.0**	**0.0**
WB2				IAmb	IAmb	19 10 51.9	
	comp=Z,6.9nm,0.9s						
WB0	**Warramunga Arr**	**46.49**	**265**	P	**P**	**19 10 34.2**	**+0.1**
WRA	**Warramunga Arr**	**46.49**	**265**	P	**P**	**19 10 34.2**	**+0.1**
WRA	**Warramunga Arr**	**46.49**	**265**	P	**P**	**19 10 34.3**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=98,slow=8.3,SNR=29						
	comp=Z,2.2nm,0.6s						
FORT	**Forrest**	**50.13**	**249**	P	**P**	**19 11 03.2**	**+1.2**
KNRA	**Kununurra**	**52.79**	**268**	P	**P**	**19 11 23.1**	**+1.1**
KNRA				IAmb	IAmb	19 11 38.6	
	comp=Z,17nm,0.9s						
SOEI	**Soe**	**58.94**	**273**	P	**P**	**19 12 07.1**	**+0.8**
BATI	**Baumata**	**59.33**	**272**	LR	LR	19 36 57.8	
	comp=Z,182nm,18.9s,baz=188,slow=35						
MORW	**Morawa**	**60.70**	**249**	P	**P**	**19 12 18.9**	**+0.7**
MORW				IAmb	IAmb	19 12 21.0	
	comp=Z,4.3nm,0.8s						
KAPI	**Kappang**	**64.91**	**276**	LR	LR	19 42 16.9	
	comp=Z,48nm,18.4s,baz=124,slow=37						
QSPA	**South Pole Qui**	**66.13**	**180**	P	**P**	**19 12 55.9**	**+2.3**
QSPA				IAmb	IAmb	19 13 16.1	
	comp=Z,8.1nm,1.2s						
LEM	**Lembang**	**75.28**	**269**	LR	LR	19 47 09.9	
	comp=Z,55nm,19.7s,baz=54,slow=36						
JNU	**Nakatsue**	**76.35**	**316**	LR	LR	19 42 12.3	
	comp=Z,33nm,19.5s,baz=49,slow=32						
MAW	**Mawson**	**79.10**	**199**		**P**	**19 14 09.7**	**-0.7**
MAW	**Mawson**	**79.10**	**199**	P	P	19 14 15.3	+5.0
	comp=Z,2.6nm,0.6s,baz=129,slow=6.0,SNR=9.0						
	comp=Z,2.6nm,0.6s						
PETK	**Petropavlovsk-**	**80.20**	**344**	P	P	19 14 19.4	+3.0
	comp=Z,2.9nm,0.6s,baz=141,slow=7.5,SNR=2.5						
	comp=Z,2.9nm,0.6s						
PFO	**Pinyon Flats O**	**80.20**	**47**	LR	LR	19 45 51.0	
	comp=Z,60nm,18.6s,baz=181,slow=33						
KSRS	**Korea Array**	**80.98**	**318**	LR	LR	19 45 48.6	
	comp=Z,30nm,20.4s,baz=90,slow=32						
YBH	**Yreka Blue Hor**	**81.59**	**37**	LR	LR	19 46 46.2	
	comp=Z,47nm,18.7s,baz=256,slow=33						
NVAR	**Mina Array Bea**	**82.00**	**42**	P	P	19 14 32.2	+5.5
	comp=Z,0.7nm,0.7s,baz=199,slow=11,SNR=0.4						
NVAR				LR	LR	19 46 17.2	
	comp=Z,57nm,18.9s,baz=286,slow=32						
	comp=Z,0.7nm,0.7s						
USRK	**Ussuriysk Ar.**	**83.10**	**325**	P	P	19 14 36.1	+4.2
	comp=Z,3.3nm,0.9s,baz=90,slow=4.2,SNR=5.5						
	comp=Z,3.3nm,0.9s						
TROLL	**Troll, Antarti**	**84.28**	**179**	⇑P	P	19 14 43.0	+5.1
	comp=Z,304nm,0.6s						
SNAA	**Sanae**	**84.50**	**178**	P	**P**	**19 14 41.0**	**+2.1**
SNAA				IAmb	IAmb	19 14 57.8	
	comp=Z,6.5nm,0.9s						
SNAA	**Sanae**	**84.50**	**178**	⇑P	P	19 14 43.5	+4.6
	comp=Z,63nm,0.8s						
SNAA	**Sanae**	**84.50**	**178**	⇑pP	pP	19 14 56.0	+7.6
SNAA	**Sanae**	**84.50**	**178**	P	P	19 14 41.6	+2.7
	comp=Z,2.6nm,0.8s,baz=189,slow=1.0,SNR=11						
	comp=Z,2.6nm,0.8s						
VNA3	**Neumayer Olymp**	**84.55**	**175**	⇑P	P	19 14 43.6	+4.5
	comp=Z,8.0nm,0.7s						
VNA3	**Neumayer Olymp**	**84.55**	**175**	⇑pP	pP	19 14 55.3	+6.7
U15A	**North Rim**	**84.62**	**46**	P	**P**	**19 14 42.4**	**+2.2**
U15A				IAmb	IAmb	19 15 00.9	
	comp=Z,5.2nm,1.0s						
VNA1	**Neumayer–Stat**	**85.23**	**176**	⇑P	P	19 14 46.6	+4.1
	comp=Z,6.6nm,1.0s						
KLR	**Kul'dur**	**86.66**	**328**	LR	LR	19 49 31.9	
	comp=Z,39nm,19.5s,baz=105,slow=33						
TXAR	**Lajitas Array**	**87.01**	**56**	P	P	19 14 57.6	+5.6
	comp=Z,0.4nm,0.8s,baz=224,slow=7.6,SNR=3.6						
	comp=Z,0.4nm,0.8s						
L18K	**Granite Mounta**	**87.19**	**9**	P	P	19 14 58.0	+6.1
ANMO	**Albuquerque**	**87.80**	**50**	LR	LR	19 49 25.3	
	comp=Z,70nm,18.4s,baz=354,slow=32						
J18K	**Innoko River**	**88.38**	**8**	P	**P**	**19 14 59.1**	**+1.5**
SCM	**Sheep Creek Mo**	**88.44**	**13**	P	**P**	**19 14 57.8**	**-0.3**
CAST	**Castle Rocks**	**89.02**	**10**	P	P	19 15 04.5	+3.7
CAST				IAmb	IAmb	19 15 19.8	
	comp=Z,5.5nm,1.2s						
J19K	**Poorman**	**89.03**	**9**	P	**P**	**19 15 03.4**	**+2.7**
KTH	**Kantishna Hill**	**89.34**	**11**	P	P	19 15 06.2	+4.0
TRF	**Thorofare Moun**	**89.35**	**11**	P	P	19 15 07.0	+4.5
PDAR	**Pinedale Array**	**89.92**	**42**	LR	LR	19 50 32.8	
	comp=Z,30nm,18.5s,baz=304,slow=32						
M27K	**Edge Creek, AK**	**90.11**	**15**	P	P	19 15 11.5	+5.5
H19K	**Roundabout Mou**	**90.39**	**8**	P	P	19 15 12.8	+5.9
BCAR	**Beaver Creek A**	**90.74**	**15**	P	**P**	**19 15 10.6**	**+1.8**
CCB	**Clear Creek Bu**	**90.90**	**12**	P	P	19 15 13.5	+4.1
CCB				IAmb	IAmb	19 15 39.1	
	comp=Z,8.0nm,1.5s						
M29M	**Somme Creek**	**91.02**	**16**	P	P	19 15 14.8	+4.7
ILAR	**Eielson Array**	**91.18**	**12**	P	P	19 15 15.7	+4.9
	comp=Z,0.7nm,0.7s,baz=217,slow=3.9,SNR=6.5						
	comp=Z,0.7nm,0.7s						
IMAR	**Indian Mountai**	**91.18**	**9**	P	P	19 15 16.2	+5.5
J25K	**Salcha River,**	**91.33**	**13**	P	P	19 15 17.1	+5.6
J26L	**Joseph Creek**	**91.60**	**13**	P	P	19 15 18.9	+6.1
E19K	**Redstone River**	**92.15**	**7**	P	P	19 15 21.1	+6.0
I26K	**Coal Creek Min**	**92.39**	**13**	P	P	19 15 23.5	+7.2
K29M	**Barlow Dome**	**92.43**	**16**	P	**P**	**19 15 18.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**93.42**	**289**	P	**P**	**19 15 21.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.42**	**289**	P	P	19 15 26.6	+4.4
	comp=Z,1.8nm,0.7s,baz=132,slow=3.4,SNR=13						
	comp=Z,1.8nm,0.7s						
CHTO	**Chiang Mai**	**93.56**	**289**	P	**P**	**19 15 22.3**	**-0.5**
CHTO				IAmb	IAmb	19 15 40.4	
	comp=Z,6.5nm,1.0s						
ATAH	**Atahualpa**	**93.59**	**99**	LR	LR	19 50 07.7	
	comp=Z,45nm,18.3s,baz=226,slow=31						
JTS	**Las Juntas de**	**94.61**	**81**	LR	LR	19 47 56.5	
	comp=Z,21nm,20.7s,baz=210,slow=29						
LVC	**Limon Verde**	**95.00**	**117**	LR	LR	19 52 02.1	
	comp=Z,27nm,18.4s,baz=220,slow=31						
BVAR	**Borovoye Array**	**123.19**	**319**	PKP	**PKiKP**	**19 21 06.0**	**+3.1**
	comp=Z,0.6nm,0.7s,baz=96,slow=4.3,SNR=2.8						
NOA	**NORSAR Array B**	**142.64**	**355**	PKP	**PKiKP**	**19 21 43.4**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=22,slow=3.0,SNR=1.9						
HFS	**Hagfors**	**143.28**	**352**	PKP	**PKiKP**	**19 21 42.5**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=89,slow=6.7,SNR=4.9						
GURO	**Guroymak-BITLI**	**145.02**	**304**	PKPbc	PKPbc	19 21 41.0	-2.3
PABE	**Paberze**	**145.36**	**341**		**PKPab**	**19 21 43.7**	**-0.1**
KOPT	**Kop Dagi**	**145.78**	**307**	PKPdf	**PKPbc**	**19 21 43.7**	**-2.1**
MARD	**Mardin**	**146.26**	**302**	PKPdf	**PKPbc**	**19 21 45.2**	**-2.0**
AKASG	**Malin Array Be**	**147.14**	**331**		**PKiKP**	**19 21 49.2**	**-2.2**
AKASG	**Malin Array Be**	**147.14**	**331**	PKPbc	**PKiKP**	**19 21 51.5**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=42,slow=3.8,SNR=10						
AKBB	**Malin Array Si**	**147.14**	**331**		**PKiKP**	**19 21 50.1**	**-1.3**
EKA	**Eskdalemuir Ar**	**148.15**	**8**	PKPbc	**PKPab**	**19 21 57.0**	**+2.4**
	comp=Z,0.8nm,0.7s,baz=286,slow=2.6,SNR=2.8						
BRTR	**Keskin Array B**	**150.83**	**310**	PKPbc	**PKPab**	**19 22 02.9**	**-3.4**
	comp=Z,1.4nm,0.7s,baz=121,slow=4.8,SNR=6.6						
MMAI	**Mount Meron Ar**	**151.45**	**295**	PKPbc	**PKPab**	**19 22 05.3**	**-3.7**
	comp=Z,3.9nm,0.7s,baz=98,slow=3.5,SNR=8.8						
CLL	**Collm**	**151.91**	**349**	*e*PKPbc	**PKPab**	**19 22 04.0**	**-6.1**
PRED	**Cave del Predi**	**156.40**	**344**	PKPdf	**PKPdf**	**19

6.2nm,0.5s,baz=125,slow=23,SNR=8.5
PKGZ Pakihiroa 10.24 190 P **Pn 19 22 41.9 +4.0**
RUGZ Raukumara Rang 10.38 192 P **Pn 19 22 42.2 +2.5**
TWGZ Tauwhareparae 10.54 190 P **Pn 19 22 44.9 +3.6**
MWZ Matawai 10.77 192 P **Pn 19 22 46.0 +2.0**
URZ Urewera 10.78 194 P **Pn 19 22 45.8 +1.7**
URZ Urewera 10.78 194 P **Pn 19 22 44.6 +0.5**
12nm,0.4s,baz=335,slow=3.7,SNR=20
URZ S **S 19 24 44.1 +0.4**
19nm,0.4s,baz=169,slow=22,SNR=18
CNGZ Carnagh Statio 10.81 189 P **Pn 19 22 47.3 +2.9**
RTZ Ruatahuna 11.15 194 P **Pn 19 22 49.0 +0.5**
RTZ S **S 19 24 48.0 -3.5**
RTZ Ruatahuna 11.15 194 P **Pn 19 22 50.0 +1.5**
BKZ Black Stump Fm 11.78 195 P **P 19 22 54.7 +0.4**
NIUE Niue 12.46 48 P **P 19 23 00.3 -1.7**
BFZ Birch Farm 13.29 194 P **P 19 23 08.4 -2.4**
MRZ Mangatainoka R 13.42 196 P **P 19 23 11.8 -0.5**
TCW Tory Channel 14.28 199 P **P 19 23 19.8 -1.9**
PLWZ Palliser 14.36 196 P **P 19 23 22.9 +0.3**
QRZ Quartz Range 14.50 204 P **P 19 23 25.3 +1.3**
TUWZ Tuamarina 14.57 199 P **P 19 23 24.6 -0.3**
DSZ Denniston Nort 15.56 204 P **P 19 23 36.9 +1.3**
KHZ Kahutara 15.60 199 P **P 19 23 36.2 +0.3**
GVZ Greta Valley S 16.25 199 P **P 19 23 41.9 -1.1**
RPZ Rata Peaks 17.56 203 P **P 19 23 57.1 +0.2**
5.2nm,0.4s,baz=7.4,slow=3.2,SNR=2.3
FOZ Fox Glacier 17.85 206 P **P 19 24 00.7 +0.8**
LBZ Lake Benmore 18.45 204 P **P 19 24 04.6 -1.7**
LBZ IAmb IAmb 19 24 25.8
comp=Z,55nm,1.5s
WKZ Wanaka 19.25 205 P **P 19 24 12.8 -1.7**
MLZ Mavora Lakes 20.05 206 P **P 19 24 21.7 -0.2**
MLZ IAmb IAmb 19 24 28.6
comp=Z,27nm,1.2s
DCZ Deep Cove 20.51 207 P **P 19 24 25.8 -0.3**
DCZ IAmb IAmb 19 24 41.4
comp=Z,26nm,1.4s
WHZ Wether Hill Ro 20.56 205 P **P 19 24 26.4 -0.2**
WHZ IAmb IAmb 19 25 01.9
comp=Z,30nm,1.3s
CTAO Charters Tower 31.99 276 P **P 19 26 09.4 +0.9**
CTAO IAmb IAmb 19 26 39.5
comp=Z,45nm,1.4s
STKA Stephens Creek 33.72 253 P **P 19 26 23.9 +0.8**
STKA Stephens Creek 33.72 253 P **P 19 26 24.2 +1.1**
comp=Z,0.9nm,0.4s,baz=101,slow=15,SNR=3.9
comp=Z,0.9nm,0.4s
BBOO Buckleboo 38.34 251 P **P 19 27 01.6 -0.1**
BBOO IAmb IAmb 19 27 23.1
comp=Z,35nm,1.5s
AS31 Alice Springs 41.83 265 P **P 19 27 30.4 +0.2**
ASAR Alice Springs 41.83 265 P **P 19 27 29.8 -0.3**
ASAR Alice Springs 41.83 265 P **P 19 27 30.2 +0.1**
comp=Z,2.3nm,0.5s,baz=96,slow=7.1,SNR=46
comp=Z,2.3nm,0.5s
WR0 Warramunga Arr 42.39 270 P **P 19 27 34.3 -0.3**
WR0 IAmb IAmb 19 27 35.2
comp=Z,6.1nm,0.9s
WB2 Warramunga Arr 42.57 270 P **P 19 27 35.7 -0.3**
WRAB Tennant Creek 42.57 270 P **P 19 27 35.6 -0.4**
WRAB IAmb IAmb 19 27 36.6
comp=Z,5.1nm,0.7s
WRA Warramunga Arr 42.58 270 P **P 19 27 35.0 -1.1**
WRA Warramunga Arr 42.58 270 P **P 19 27 35.9 -0.2**
comp=Z,4.2nm,0.6s,baz=103,slow=8.8,SNR=80
comp=Z,4.2nm,0.6s
WB0 Warramunga Arr 42.59 271 P **P 19 27 35.9 -0.3**
WB0 IAmb IAmb 19 27 36.7
comp=Z,6.4nm,0.8s
FORT Forrest 45.35 253 P **P 19 27 56.9 -0.7**
FORT IAmb IAmb 19 28 01.1
comp=Z,26nm,0.9s
MTN Manton Dam 48.16 278 P **P 19 28 18.5 -0.8**
MTN IAmb IAmb 19 28 31.6
comp=Z,32nm,1.4s
KNRA Kununurra 49.08 273 P **P 19 28 25.8 -0.4**
KNRA IAmb IAmb 19 28 28.4
comp=Z,56nm,1.4s
NWAO Narrogin (SRO) 53.98 248 P **P 19 29 00.2 -1.6**
MBWA Marble Bar 55.08 263 P **P 19 29 08.5 -1.3**
MBWA IAmb IAmb 19 29 22.3
comp=Z,34nm,1.4s
QSPA South Pole Qui 62.30 180 P **P 19 29 60.0 +1.6**
MAW Mawson 74.22 201 P **P 19 31 11.5 +0.4**
PETK Petropavlovsk- 82.94 346 P **P 19 31 57.8 -0.4**
comp=Z,1.4nm,0.7s,baz=117,slow=6.9,SNR=4.4
comp=Z,1.4nm,0.7s
NVAR Mina Array Bea 87.35 44 P **P 19 32 21.1 +0.8**
comp=Z,0.3nm,0.6s,baz=221,slow=6.3,SNR=3.5
comp=Z,0.3nm,0.6s
KK31 Karatay Array 122.40 305 **PKPdf 19 38 24.8 -0.8**
KKAR Karatay Array 122.40 305 PKPdf **PKPdf 19 38 24.8 -0.8**
KKAR Karatay Array 122.40 305 PKPdf **PKPdf 19 38 23.9 -1.7**
BVAR Borovoye Array 123.52 317 PKP **PKPdf 19 38 26.6 -0.7**
comp=Z,0.4nm,0.5s,baz=69,slow=4.9,SNR=2.6
FINES FINESS Array B 142.21 340 PKhKP PKPpre 19 38 57.4
comp=Z,1.5nm,0.8s,baz=88,slow=2.6,SNR=5.8
NB2 NORSAR Subarra145.96 351 PKP **PKPdf 19 39 09.2 +0.6**
comp=Z,0.8nm,0.5s,baz=14,slow=4.4
NOA NORSAR Array B 145.96 351 PKPbc **PKPbc 19 39 09.3 -0.8**
comp=Z,1.5nm,0.8s,baz=14,slow=4.6,SNR=3.9
HFS Hagfors 146.41 348 PKPbc **PKPdf 19 39 10.2 +0.9**
comp=Z,1.4nm,0.4s,baz=32,slow=3.7,SNR=12
AKASG Malin Array Be 148.34 324 PKPbc **PKPbc 19 39 15.8 -0.9**
comp=Z,0.2nm,0.3s,baz=46,slow=3.1,SNR=5.7
MMAI Mount Meron Ar 149.40 288 PKPbc **PKiKP 19 39 21.2 +0.2**
comp=Z,0.5nm,0.3s,baz=84,slow=7.6,SNR=1.7
CLL Collm 154.64 341 *e*PKPab **PKPab 19 39 47.0 -0.8**

---

*DJA **18** 19:28:14.9±0.2,6°S±2°×12°9E±°,h306km±4km,M4.5/19, mB5.0/7,mb4.5/19,MLv4.7/18,Mw(mB)4.4/7*
*NEIC **18** 19:28:15.5±1.1,5°83S±0°07×128°94E±0°09,h303km±5km, mb4.4/23,Error ellipse: s-maj=12.5km s-min=10.8km az=82.0*
*IDC **18** 19:28:18.9±2.0,6°13S×128°78E,h350km±23km,mb3.4/10, mbtmp4.2/13,Error ellipse: s-maj=22.0km s-min=9.8km az=61.0*
ISC 18 19:28:14.6±0.4,**5°93S**±0°04×**128°97E**±0°05,**h300**km,**n103,** σ1**69**/112,**mb4.1**/16,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.68**	**33**	P	**Pn**	**19 29 01.6**	**+2.6**
BNDI	**Bandanaira**	**1.68**	**33**	P	**Pn**	**19 28 59.6**	**+0.6**
BNDI				S	**S**	**19 29 35.7**	**+1.4**
SAUI	**Saumlaki**	**3.08**	**132**		**Pn**	**19 29 13.1**	**+2.0**
SAUI				Sn	**S**	**19 29 50.1**	**-6.2**
SAUI	**Saumlaki**	**3.08**	**132**	P	**Pn**	**19 29 13.3**	**+2.2**
SAUI	**Saumlaki**	**3.08**	**132**	P	**Pn**	**19 29 13.1**	**+2.0**
SAUI				S	**S**	**19 29 53.5**	**-2.8**
NLAI	**Namlea**	**3.27**	**325**	P	**Pn**	**19 29 16.1**	**+3.1**
NLAI				S	**S**	**19 30 00.5**	**+0.8**
FAKI	**Fak Fak**	**4.43**	**48**		**Pn**	**19 29 25.9**	**+0.3**
FAKI				Sn	**S**	**19 30 15.2**	**-7.4**
FAKI	**Fak Fak**	**4.43**	**48**	P	**Pn**	**19 29 26.1**	**+0.4**
FAKI	**Fak Fak**	**4.43**	**48**	P	**Pn**	**19 29 26.0**	**+0.4**
SANI	**Sanana**	**4.87**	**322**	P	**Pn**	**19 29 31.7**	**+1.0**
SANI	**Sanana**	**4.87**	**322**	P	**Pn**	**19 29 31.2**	**+0.5**
KMPI	**Kaimana, Papua**	**5.23**	**65**	P	**Pn**	**19 29 34.1**	**-0.7**
133nm,0.7s,1.4nm							
LBMI	**Labuha**	**5.46**	**344**	P	**Pn**	**19 29 37.9**	**+0.3**
164nm,0.7s,0.7nm							
SWI	**Sorong**	**5.53**	**24**	P	**Pn**	**19 29 37.2**	**-1.2**
SOEI	**Soe**	**6.01**	**231**		**Pn**	**19 29 45.2**	**+1.0**
SOEI				Sn	**S**	**19 30 54.8**	**-1.6**
SOEI	**Soe**	**6.01**	**231**	P	**Pn**	**19 29 45.4**	**+1.2**
SOEI	**Soe**	**6.01**	**231**	P	**Pn**	**19 29 44.7**	**+0.5**
171nm,0.6s,5μm0.9nm							
BATI	**Baumata**	**6.76**	**231**	P	**Pn**	**19 29 53.8**	**+0.7**
428nm,0.5s,7μm1.8nm							
BATI	**Baumata**	**6.76**	**231**	P	**Pn**	**19 29 54.2**	**+1.2**
403nm,0.4s,baz=75,slow=3.2,SNR=191							
BATI				S	**S**	**19 31 08.2**	**-4.4**
80nm,0.6s,baz=12,slow=1.3,SNR=2.7							
RKPI	**Ransiki, Papua**	**6.80**	**50**	P	**Pn**	**19 29 54.0**	**+0.4**
80nm,0.5s,3μm1.6nm							
MTN	**Manton Dam**	**7.19**	**163**		**Pn**	**19 29 59.0**	**+0.7**
MTN	**Manton Dam**	**7.19**	**163**	P	**Pn**	**19 29 59.4**	**+1.1**
MMRI	**Maumere**	**7.20**	**248**	Pn	**Pn**	**19 29 59.2**	**+0.7**
MMRI	**Maumere**	**7.20**	**248**	P	**Pn**	**19 29 59.6**	**+1.2**
58nm,1.0s,0.3nm							
KDU	**Kakadu**	**7.54**	**153**	P	**Pn**	**19 30 03.8**	**+1.2**
EDFI	**Ende, Flores**	**7.75**	**248**	P	**Pn**	**19 30 06.9**	**+1.7**
21nm,1.1s,0.1nm							
LUWI	**Luwuk**	**7.87**	**308**	Pn	**Pn**	**19 30 08.5**	**+1.9**
LUWI	**Luwuk**	**7.87**	**308**	P	**Pn**	**19 30 05.6**	**-1.0**
21nm,0.9s,0.4nm							
KMSI	**Cibinong**	**8.16**	**322**	P	**Pn**	**19 30 07.9**	**-2.3**
MRSI	**Marisa**	**9.48**	**312**	P	**Pn**	**19 30 27.0**	**+0.6**
50nm,0.6s							
KNRA	**Kununurra**	**9.69**	**181**		**Pn**	**19 30 29.8**	**+0.9**
KNRA	**Kununurra**	**9.69**	**181**	P	**Pn**	**19 30 30.4**	**+1.5**
TOLI2	**Tolitoli**	**10.77**	**310**	Pn	**Pn**	**19 30 41.1**	**-1.1**
TOLI2	**Tolitoli**	**10.77**	**310**	P	**P**	**19 30 44.7**	**-0.2**
MPSI	**Mapaga**	**11.00**	**304**	P	**Pn**	**19 30 45.8**	**+0.8**
21nm,0.9s,652nm							
PLAI	**Plampang**	**11.47**	**255**	P	**P**	**19 30 53.0**	**+0.3**
GENI	**Genyem**	**11.64**	**74**	P	**Pn**	**19 30 53.0**	**+0.1**
47nm,1.1s							
WB0	**Warramunga Arr**	**14.73**	**160**	P	**P**	**19 31 30.1**	**+1.4**
WRAB	**Tennant Creek**	**14.87**	**160**	P	**P**	**19 31 31.7**	**+1.5**
WRAB	**Tennant Creek**	**14.87**	**160**	P	**P**	**19 31 31.7**	**+1.5**
WRA	**Warramunga Arr**	**14.87**	**160**	P	**P**	**19 31 30.3**	**0.0**
WRA	**Warramunga Arr**	**14.87**	**160**	P	**P**	**19 31 31.3**	**+1.1**
15nm,0.7s,baz=341,slow=12,SNR=91							
WRA				S	**S**	**19 34 10.0**	**-2.8**
8.0nm,0.5s,baz=345,slow=21,SNR=9.0							
WB2	**Warramunga Arr**	**14.87**	**160**	P	**P**	**19 31 31.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**14.92**	**259**	P	**P**	**19 31 31.4**	**+0.5**
JAGI	**Jajag, Banyuwa**	**14.92**	**259**	P	**Pn**	**19 31 32.6**	**+0.4**
WR0	**Warramunga Arr**	**14.96**	**159**	P	**P**	**19 31 32.6**	**+1.4**
WR0				IAmb	IAmb	19 31 59.7	
comp=Z,7.9nm,0.7s							
COEN	**Coen**	**16.09**	**121**	P	**P**	**19 31 45.6**	**+1.8**
COEN	**Coen**	**16.09**	**121**	P	**P**	**19 31 45.5**	**+1.8**
KKM	**Kota Kinabalu**	**17.43**	**313**	P	**P**	**19 31 58.3**	**0.0**
QIS	**Mount Isa**	**17.83**	**146**	P	**P**	**19 32 04.5**	**+2.0**
PSA00	**Pilbara Seismi**	**17.88**	**209**	P	**P**	**19 32 04.1**	**+1.1**
PSA00				IAmb	IAmb	19 32 28.2	
comp=Z,22nm,1.3s							
AS31	**Alice Springs**	**18.26**	**165**		**P**	**19 32 08.7**	**+1.6**
AS31				IAmb	IAmb	19 32 16.1	
comp=Z,6.3nm,0.4s							
ASAR	**Alice Springs**	**18.26**	**165**		**P**	**19 32 08.8**	**+1.7**
ASAR	**Alice Springs**	**18.26**	**165**	P	**P**	**19 32 08.2**	**+1.1**
comp=Z,3.3nm,0.4s,baz=344,slow=11,SNR=74							
ASAR				S	**S**	**19 35 15.4**	**-4.7**
comp=Z,0.6nm,0.5s,baz=336,slow=11,SNR=5.0							
PMG	**Port Moresby**	**18.35**	**102**	P	**P**	**19 32 08.9**	**+0.8**
PMG				IAmb	IAmb	19 32 13.1	
comp=Z,32nm,1.2s							
PMG	**Port Moresby**	**18.35**	**102**	P	**P**	**19 32 11.8**	**+3.7**
comp=Z,15nm,0.6s,baz=297,slow=4.5,SNR=7.9							
SBUM	**Sibu**	**18.69**	**296**		**P**	**19 32 11.5**	**-0.2**
WRKA	**Warakurna**	**19.01**	**182**	P	**P**	**19 32 16.7**	**+1.6**
MTSU	**Mount Surprise**	**19.27**	**130**	P	**P**	**19 32 20.4**	**+2.5**
BBJI	**Bungbulang**	**21.23**	**265**	P	**P**	**19 32 39.3**	**+1.4**
CTA	**Charters Tower**	**21.91**	**132**	P	**P**	**19 32 44.1**	**+0.3**
comp=Z,3.9nm,0.7s,baz=315,slow=14,SNR=1.7							
comp=Z,3.9nm,0.7s							
CTAO	**Charters Tower**	**21.91**	**132**	P	**P**	**19 32 46.4**	**+2.5**
CTAO				IAmb	IAmb	19 32 57.2	
comp=Z,28nm,1.4s							
OOD	**Oodnadatta**	**22.66**	**164**	P	**P**	**19 32 51.7**	**+1.1**
MULG	**Mulgathing**	**24.69**	**169**	P	**P**	**19 33 10.1**	**+1.2**
LCRK	**Leigh Creek**	**25.89**	**161**	P	**P**	**19 33 21.0**	**+1.3**
BBOO	**Buckleboo**	**27.54**	**167**	P	**P**	**19 33 35.4**	**+1.0**
BBOO				IAmb	IAmb	19 33 39.2	
comp=Z,20nm,1.2s							
BBOO	**Buckleboo**	**27.54**	**167**	P	**P**	**19 33 35.4**	**+1.0**
STKA	**Stephens Creek**	**28.38**	**157**	P	**P**	**19 33 42.9**	**+1.1**
STKA	**Stephens Creek**	**28.38**	**157**	P	**P**	**19 33 42.1**	**+0.3**
comp=Z,2.2nm,0.7s,baz=333,slow=7.2,SNR=5.9							
comp=Z,2.2nm,0.7s							
HTT	**Hallett**	**28.88**	**163**	P	**P**	**19 33 48.1**	**+1.9**
TPUB	**Ta-pu**	**30.18**	**345**	P	**P**	**19 33 56.0**	**-1.7**
KULM	**Kulim**	**30.40**	**291**	P	**P**	**19 33 57.4**	**-2.4**
CAN	**Canberra**	**34.58**	**150**	P	**P**	**19 34 37.9**	**+2.2**
CMAR	**Chiang Mai Arr**	**38.27**	**310**	P	**P**	**19 35 06.8**	**-0.1**
comp=Z,1.6nm,0.7s,baz=141,slow=7.6,SNR=13							
comp=Z,1.6nm,0.7s							
CHTO	**Chiang Mai**	**38.48**	**310**	P	**P**	**19 35 09.1**	**+0.4**
USRK	**Ussuriysk Ar.**	**49.98**	**3**	P	**P**	**19 36 38.6**	**-0.1**
comp=Z,2.2nm,0.7s,baz=207,slow=5.7,SNR=3.4							
comp=Z,2.2nm,0.7s							
TAPN	**Taplejung**	**51.82**	**312**	*e*P	**P**	**19 36 52.5**	**-0.6**
comp=Z,12nm,0.4s							
RAMN	**Ramite**	**52.44**	**311**	*e*P	**P**	**19 36 57.7**	**+0.1**
comp=Z,27nm,0.5s							
JIRN	**Jiri**	**53.12**	**311**	*e*P	**P**	**19 37 02.1**	**-0.6**
comp=Z,10.0nm,0.5s							
GUN	**Gumba**	**53.49**	**311**	*e*P	**P**	**19 37 04.7**	**-0.6**
comp=Z,19nm,0.5s							
PKI	**Pulchoki**	**53.66**	**311**	*e*P	**P**	**19 37 05.6**	**-1.0**
comp=Z,6.7nm,0.5s							
PKIN	**Phulchoki**	**53.67**	**311**	*e*P	**P**	**19 37 05.7**	**-0.9**
comp=Z,6.8nm,0.6s							
GKN	**Gorkha**	**54.47**	**311**	*e*P	**P**	**19 37 11.5**	**-0.6**
comp=Z,14nm,0.5s							
PYUN	**Piuthan**	**55.77**	**310**	*e*P	**P**	**19 37 21.0**	**-0.5**
SONM	**Songino Array**	**57.12**	**342**	P	**P**	**19 37 31.5**	**+1.1**
comp=Z,0.6nm,0.6s,baz=152,slow=6.5,SNR=3.5							
comp=Z,0.6nm,0.6s							
PETK	**Petropavlovsk-**	**63.64**	**19**	P	**P**	**19 38 14.0**	**-0.1**
comp=Z,3.2nm,0.8s,baz=187,slow=2.6,SNR=2.3							
comp=Z,3.2nm,0.8s							
MK31	**Makanchi Array**	**66.78**	**327**	P	**P**	**19 38 34.3**	**0.0**
MK31				IAmb	IAmb	19 38 47.5	
comp=Z,5.4nm,1.4s							
MKAR	**Makanchi Array**	**66.78**	**327**	P	**P**	**19 38 33.8**	**-0.5**
MKAR	**Makanchi Array**	**66.78**	**327**	P	**P**	**19 38 34.3**	**0.0**
comp=Z,7.0nm,1.0s,baz=115,slow=8.7,SNR=24							
comp=Z,7.0nm,1.0s							
MAKZ	**Makanchi**	**66.96**	**327**	P	**P**	**19 38 34.8**	**-0.6**
MAKZ				IAmb	IAmb	19 38 35.5	
comp=Z,12nm,1.4s							
ZALV	**Zalesovo Beam**	**70.18**	**334**	P	**P**	**19 38 54.5**	**-0.5**
comp=Z,0.9nm,0.4s,baz=133,slow=5.5,SNR=5.4							
comp=Z,0.9nm,0.4s							
KURBB	**Kurchatov Arra**	**71.08**	**329**	P	**P**	**19 39 00.3**	**-0.1**
comp=Z,2.1nm,0.6s,baz=129,slow=4.8,SNR=16							
comp=Z,2.1nm,0.6s							
BVAR	**Borovoye Array**	**76.62**	**328**	P	**P**	**19 39 31.8**	**-0.6**
comp=Z,0.5nm,0.4s,baz=120,slow=9.5,SNR=5.7							
comp=Z,0.5nm,0.4s							
ABKAR	**Akbulak array**	**81.05**	**322**	P	**P**	**19 39 55.5**	**-0.8**
QSPA	**South Pole Qui**	**84.04**	**180**	P	**P**	**19 40 11.5**	**-0.1**
M16K	**Timber Creek**	**86.59**	**28**	P	**P**	**19 40 24.8**	**+0.8**
D19K	**Kuna River**	**89.29**	**21**	P	**P**	**19 40 36.2**	**-0.4**
F20K	**Avaraart Lake**	**89.74**	**22**	P	**P**	**19 40 38.9**	**+0.1**
F20K				IAmb	IAmb	19 41 11.0	
comp=Z,6.9nm,1.4s							
BMAR	**Burnt Mountain**	**94.07**	**23**	P	**P**	**19 40 58.7**	**-0.1**
J26L	**Joseph Creek**	**94.22**	**26**	P	**P**	**19 40 58.8**	**-0.7**
J26L				IAmb	IAmb	19 41 27.0	
comp=Z,4.2nm,1.4s							
L27K	**Beaver Creek,**	**94.88**	**27**	P	**P**	**19 41 02.7**	**+0.1**
L27K				IAmb	IAmb	19 41 22.5	
comp=Z,3.8nm,1.4s							
BCAR	**Beaver Creek A**	**94.90**	**27**	P	**P**	**19 41 02.9**	**+0.2**
CPUP	**Villa Florida**	**147.35**	**169**	PKPbc	**PKPdf**	**19 47 22.4**	**+1.4**
comp=Z,1.7nm,0.6s,baz=143,slow=7.0,SNR=3.5							

---

*SOME **18** 19:37:03.5,41°28N×72°95E,h5km*
*NNC **18** 19:37:03.4±1.4,41°28N×72°89E,h0km,mb2.8,mpv2.8, Error ellipse: s-maj=11.2km s-min=5.7km az=168.0*
*KRNET **18** 19:37:04.6±0.1,41°30N×72°92E,h11km,mb2.2*
ISC 18 19:37:04.3±1.0,**41°31N**±0°03×**72°90E**±0°03,**h4**km±9km, **n25,** σ0**73**/38,**16C-9D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.06**	**75**	⇑*i*P	**Pg**	**19 37 05.6**	**-0.3**
ARSB				⇑*i*S	**Sg**	**19 37 06.7**	**-0.2**
OHH	**Osh**	**0.79**	**187**	⇑*e*P	**Pg**	**19 37 19.3**	**-0.1**
OHH				⇑*e*S	**Sb**	**19 37 30.5**	**-1.2**
ARK	**Arkit**	**0.86**	**305**	⇑*i*P	**Pg**	**19 37 21.1**	**+0.3**
AML	**Almayashu**	**1.01**	**35**	⇓P	**Pg**	**19 37 22.6**	**-1.2**
0.5nm,0.6s							
AML				⇓S	**Sg**	**19 37 37.5**	**+0.5**
0.7nm,0.6s							
AML	**Almayashu**	**1.01**	**35**	⇑*i*P	**Pg**	**19 37 24.0**	**+0.2**
baz=35							
AML				⇑*i*S	**Sb**	**19 37 38.1**	**-0.4**
baz=35							
ARLS	**Aral**	**1.20**	**62**	⇓*e*P	**Pb**	**19 37 27.1**	**-0.6**
baz=62							
ARLS				⇓*e*S	**Sg**	**19 37 43.2**	**+0.3**
baz=62							
MNAS	**Manas**	**1.22**	**346**	⇓*i*P	**Pg**	**19 37 28.0**	**+0.4**
baz=46							
MNAS				⇓*i*S	**Sn**	**19 37 44.9**	**-0.3**
baz=46							
TRKS	**Terek-Say**	**1.34**	**280**	⇑*i*P	**Pn**	**19 37 29.7**	**-0.3**
baz=78							
TRKS				⇑*i*S	**Sg**	**19 37 48.1**	**+0.6**
baz=78							
SFK	**Sufi-Kurgan**	**1.37**	**160**	⇑*i*P	**Pg**	**19 37 30.5**	**-0.1**
baz=61							
SFK				⇑*i*S	**Sg**	**19 37 49.5**	**+1.1**
baz=61							
MRKS	**Merke**	**1.46**	**9**	P	**Pb**	**19 37 31.5**	**-0.6**
4.0nm,0.3s							
MRKS				S	**Sg**	**19 37 51.2**	**0.0**
6.8nm,0.3s							
MRKS	**Merke**	**1.46**	**9**	*e*P	**Pb**	**19 37 31.5**	**-0.6**
4.0nm,0.3s							
MRKS				*e*S	**Sg**	**19 37 51.2**	**0.0**
6.8nm,0.3s							
EKS2	**Erkin-Say**	**1.50**	**25**	⇑*i*P	**Pb**	**19 37 32.6**	**-0.2**
baz=25							
EKS2				⇑*i*S	**Sg**	**19 37 53.6**	**+1.0**
baz=25							
AAK	**Ala-Archa**	**1.78**	**41**	⇓*i*P	**Pb**	**19 37 37.7**	**+0.1**
baz=41							
AAK				⇓*i*S	**Sg**	**19 38 02.0**	**+0.4**
baz=41							
DZA	**Taraz**	**1.97**	**324**	Pg	**Pg**	**19 37 41.9**	**-0.1**
18nm,0.1s							
DZA				Lg	Lg	19 38 09.1	
44nm,0.1s							
DZA	**Taraz**	**1.97**	**324**	*e*Pg	**Pg**	**19 37 41.9**	**-0.1**
18nm,0.1s							
DZA				*e*Lg	Lg	19 38 09.1	
44nm,0.1s							
KK31	**Karatay Array**	**2.52**	**316**	⇓Pg	**Pb**	**19 37 50.4**	**+0.2**
0.2nm,0.3s,baz=140,slow=17,SNR=4.2							
TKM2	**Tokmak 2**	**2.57**	**50**	⇑Pg	**Pb**	**19 37 51.3**	**+0.1**
2.1nm,0.5s							
TKM2				⇑Lg	Lg	19 38 26.4	
2.2nm,0.5s							
KST	**Kastek**	**2.86**	**52**	Pg	**Pb**	**19 37 56.8**	**+0.8**
3.4nm,0.2s							
KST				Lg	Lg	19 38 34.8	
9.9nm,0.5s							
KST	**Kastek**	**2.86**	**52**	*e*Pg	**Pb**	**19 37 56.8**	**+0.8**
3.4nm,0.2s							
KST				*e*Lg	Lg	19 38 34.8	
9.9nm,0.5s							
DGS	**Degeres**	**2.88**	**47**	Pg	**Pb**	**19 37 57.4**	**+1.2**
1.5nm,0.3s							
DGS				Lg	Lg	19 38 36.0	
4.7nm,0.8s							
DGS	**Degeres**	**2.88**	**47**	*e*Pg	**Pb**	**19 37 57.4**	**+1.2**
1.5nm,0.3s							
DGS				*e*Lg	Lg	19 38 36.0	
4.7nm,0.8s							
KRBS	**Karabastau**	**3.15**	**40**	Pg	**Pb**	**19 38 01.8**	**+1.0**
0.7nm,0.3s							
KRBS				Lg	Lg	19 38 43.3	
2.2nm,0.6s							
KRBS	**Karabastau**	**3.15**	**40**	*e*Pg	**Pb**	**19 38 01.8**	**+1.0**
0.7nm,0.3s							
KRBS				*e*Lg	Lg	19 38 43.3	
2.2nm,0.6s							
KTBS	**Karatobe**	**3.69**	**48**	Pg	**Pb**	**19 38 11.5**	**+1.5**
0.6nm,0.2s							
KTBS				Lg	Lg	19 38 59.9	
3.6nm,0.5s							
KTBS	**Karatobe**	**3.69**	**48**	*e*Pg	**Pb**	**19 38 11.5**	**+1.5**
0.6nm,0.2s							
KTBS				*e*Lg	Lg	19 38 59.9	
3.6nm,0.5s							

IDC 18 19:48:14.6±45.0,**14°98S**×**172°99W**,**h0**km,**mb4.0**/3, **mbtmp4.0**/3,**Error ellipse: s-maj=871.7km s-min=176.7km az=78.0,Samoa Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.59**	**240**	P	P	19 56 28.1	-0.6
1.9nm,0.7s,baz=76,slow=12,SNR=4.2							
1.9nm,0.7s							
WRA	**Warramunga Arr**	**50.33**	**256**	P	P	19 57 14.0	+0.4
0.3nm,0.4s,baz=91,slow=6.9,SNR=24							
0.3nm,0.4s							
ASAR	**Alice Springs**	**50.62**	**252**	P	P	19 57 15.5	-0.3
3.5nm,0.5s,baz=87,slow=8.4,SNR=80							
3.5nm,0.5s							

---

*IDC **18** 19:54:50.0±4.0,37°73N×71°38E,h88km±27km,mb3.6/4, mbtmp3.6/10,Error ellipse: s-maj=44.6km s-min=17.2km az=157.0*
*NNC **18** 19:54:54.8±2.8,37°91N×71°92E,h176km±41km,mb2.6, mpv3.3,Error ellipse: s-maj=30.6km s-min=19.2km az=16.0*
ISC 18 19:54:45.9±0.9,**37°29N**±0°08×**71°65E**±0°07,**h100**km,**n23,** σ2**18**/27,**mb4.1**/4,**4C,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.09**	**17**	⇑P	**Pn**	**19 56 01.9**	**+1.8**
0.2nm,0.2s							
AML				⇑S	**Sn**	**19 56 54.3**	**-3.5**
AAK	**Ala-Archa**	**5.77**	**21**	P	**Pn**	**19 56 10.0**	**+0.9**
5.8nm,0.4s,baz=183,slow=7.5,SNR=23							
AAK				S	**Sn**	**19 57 11

3.5nm,0.9s
HFS Hagfors 42.78 321 P P 20 02 34.7 +1.5
1.2nm,0.4s,baz=98,slow=11,SNR=7.3
1.2nm,0.4s

TRN 18 20:01:12.1, 13°.07N×58°.83W, h90km, MD3.8, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**0.72**	**276**	*eP*	Pn	20 01 29.6	+0.8
BCHC	**Barbados, Cave**	**0.79**	**275**	*eP*	Pn	20 01 31.4	+2.0
SLB	**Belfond**	**2.28**	**290**	*eP*	Pn	20 01 49.5	+1.4
SLB				*eS*	Sn	20 02 17.4	+1.8
SLBI	**Saint Lucia, B**	**2.29**	**295**	*eP*	Pn	20 01 48.6	+0.4
SLBI				*eS*	Sn	20 02 16.8	+1.0
SSV	**Crater Summit**	**2.32**	**277**	*eP*	Pn	20 01 49.6	+1.0
SSV				*eS*	Sn	20 02 18.0	+1.4
SVOC	**Richmond Hill,**	**2.34**	**272**	*eS*	Sn	20 02 16.8	0.0
SVV	**Soufriere Volc**	**2.34**	**276**	*eP*	Pn	20 01 50.0	+1.2
SVV				*eS*	Sn	20 02 18.2	+1.3
SVB	**Belmont**	**2.37**	**275**	*eP*	Pn	20 01 50.4	+1.1
SVB				*eS*	Sn	20 02 19.1	+1.4
MVM	**Montagne Vaucl**	**2.50**	**307**	*eP*	Pn	20 01 51.6	+0.7
LPMF	**Morne Lapointe**	**2.56**	**306**	*eP*	Pn	20 01 52.5	+0.8
GCMP	**Grenada, Carri**	**2.60**	**257**	*eP*	Pn	20 01 53.5	+1.2
GCMP				*eS*	Sn	20 02 23.1	-0.1
ZAM	**Aeronautique**	**2.61**	**305**	*eP*	Pn	20 01 53.2	+0.8
BIM	**Bigot**	**2.61**	**304**	*eP*	Pn	20 01 53.5	+1.0
BIM				*eS*	Sn	20 02 24.3	+0.8
FDF	**Fort de France**	**2.80**	**306**	*eP*	Pn	20 01 56.0	+1.0
BAMF	**Morne Balai**	**2.85**	**308**	*eP*	Pn	20 01 56.7	+1.1
GBMF	**Grand Be**	**2.85**	**307**	*eP*	Pn	20 01 56.9	+1.3
CXM	**Morne La Croix**	**2.86**	**308**	*eP*	Pn	20 01 57.5	+1.6
GRHS	**Sauteurs**	**2.88**	**253**	*eP*	Pn	20 01 57.8	+1.9
PCM	**Pelee Case Pet**	**2.89**	**307**	*eP*	Pn	20 01 57.6	+1.4
GRW	**Mount Saint Ca**	**2.91**	**252**	*eP*	Pn	20 01 58.0	+1.5
GRW				*eS*	Sn	20 02 31.8	+1.0
GRGR	**Grenville**	**2.92**	**252**	*eP*	Pn	20 01 58.1	+1.6
GRGR				*eS*	Sn	20 02 31.1	+0.4
TRN	**Trinidad (W)**	**3.49**	**227**	*eP*	Pn	20 02 06.0	+1.8
TRN				*eS*	Sn	20 02 44.0	-0.5
MAGL	**Barre de l'ile**	**3.72**	**321**	*eP*	Pn	20 02 08.2	+0.8
ANBD	**Bethesda, Anti**	**4.87**	**325**	*eP*	Pn	20 02 24.9	+1.9
BAUV	**El Baul**	**9.93**	**247**	*eP*	Pn	20 03 33.0	+1.0

*IDC **18** 20:02:52.8±1.5, 53°.79S×140°.65E, h0km, mb4.1/5, mbtmp4.1/5, MS3.4/8, Error ellipse: s-maj=129.4km s-min=18.1km az=89.0*
*NEIC **18** 20:02:54.4±1.0, 53°.76S±0°.06×140°.5E±0°.4, h10km±1km, mb4.5/12, Error ellipse: s-maj=37.8km s-min=10.9km az=92.0*
ISC 18 20:02:53.9±0.7, 53°.88S±0°.1×140°.5E±0°.2, h10km, n30, σ0°.88/24, mb4.2/8, MS3.5/9, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WKZ	**Wanaka**	**20.50**	**76**	P	**P**	**20 07 32.8**	**+1.0**
WKZ				IAmb	IAmb	20 08 02.2	
comp=Z,36nm,1.2s							
LBZ	**Lake Benmore**	**21.43**	**76**	P	**P**	**20 07 40.0**	**-1.9**
LBZ				IAmb	IAmb	20 08 17.9	
comp=Z,28nm,1.3s							
STKA	**Stephens Creek**	**21.88**	**2**	P	**P**	**20 07 48.3**	**+1.6**
STKA	**Stephens Creek**	**21.88**	**2**	P	**P**	**20 07 48.1**	**+1.4**
comp=Z,6.2nm,0.9s,baz=152,slow=9.3,SNR=7.4							
comp=Z,6.2nm,0.9s							
RPZ	**Rata Peaks**	**22.33**	**76**	LR	LR	20 14 47.9	
comp=Z,124nm,19.6s,baz=238,slow=32							
FORT	**Forrest**	**24.68**	**334**	P	**P**	**20 08 14.7**	**-0.1**
URZ	**Urewera**	**29.36**	**73**	LR	LR	20 17 36.2	
comp=Z,56nm,20.9s,baz=218,slow=30							
ASAR	**Alice Springs**	**30.46**	**348**	P	**P**	**20 09 06.5**	**-0.2**
ASAR	**Alice Springs**	**30.46**	**348**	P	**P**	**20 09 07.4**	**+0.7**
comp=Z,1.8nm,0.7s,baz=166,slow=9.8,SNR=25							
comp=Z,1.8nm,0.7s							
AS31	**Alice Springs**	**30.46**	**348**	P	**P**	**20 09 06.5**	**-0.2**
WB2	**Warramunga Arr**	**34.09**	**350**	P	**P**	**20 09 38.4**	**0.0**
WRA	**Warramunga Arr**	**34.09**	**350**	P	**P**	**20 09 38.6**	**+0.1**
WRA	**Warramunga Arr**	**34.09**	**350**	P	**P**	**20 09 39.0**	**+0.6**
comp=Z,3.3nm,1.0s,baz=173,slow=7.7,SNR=18							
WRA				PcP	**PcP**	**20 12 14.3**	**-1.5**
comp=Z,0.6nm,0.9s,baz=176,slow=2.0,SNR=3.2							
comp=Z,3.3nm,1.0s							
WRAB	**Tennant Creek**	**34.10**	**350**	P	**P**	**20 09 37.8**	**-0.7**
WRAB				IAmb	IAmb	20 09 41.3	
comp=Z,8.4nm,1.0s							
WB0	**Warramunga Arr**	**34.26**	**350**	P	**P**	**20 09 38.5**	**-1.4**
WB0				IAmb	IAmb	20 09 56.3	
comp=Z,12nm,1.4s							
QSPA	**South Pole Qui**	**36.35**	**180**	P	**P**	**20 09 58.1**	**+0.3**
QSPA				IAmb	IAmb	20 10 00.9	
comp=Z,5.4nm,1.1s							
QSPA	**South Pole Qui**	**36.35**	**180**	P	**P**	**20 09 58.1**	**+0.3**
comp=Z,3.5nm,0.9s,baz=341,slow=7.0,SNR=9.4							
QSPA				LR	LR	20 24 20.9	
comp=Z,47nm,18.2s,baz=7.0,slow=36							
comp=Z,3.5nm,0.9s							
DZM	**Mont Dzumac**	**37.25**	**42**	LR	LR	20 22 11.2	
comp=Z,70nm,19.4s,baz=308,slow=31							
HNR	**Honiara**	**46.88**	**27**	LR	LR	20 28 48.8	
comp=Z,631nm,18.2s,baz=181,slow=33							
KAPI	**Kappang**	**51.47**	**333**	LR	LR	20 35 37.4	
comp=Z,27nm,18.1s,baz=193,slow=38							
SNAA	**Sanae**	**52.23**	**194**	P	**P**	**20 12 04.1**	**-0.4**
SNAA				IAmb	IAmb	20 12 05.6	
comp=Z,3.4nm,1.2s							
SNAA	**Sanae**	**52.23**	**194**	P	**P**	**20 12 04.5**	**+0.1**
comp=Z,1.5nm,0.6s,baz=175,slow=7.8,SNR=10.0							
SNAA				LR	LR	20 33 54.5	
comp=Z,55nm,20.1s,baz=188,slow=36							
comp=Z,1.5nm,0.6s							
PMSA	**Palmer Station**	**60.29**	**168**	P	**P**	**20 13 02.5**	**+0.6**
SUR	**Sutherland**	**79.64**	**228**	LR	LR	20 43 22.8	
comp=Z,20nm,19.6s,baz=141,slow=30							
BOSA	**Boshof**	**80.77**	**234**	LR	LR	20 46 55.7	
comp=Z,28nm,18.6s,baz=159,slow=33							
Y58A	**Scranton**	**145.48**	**109**	PKPdf	**PKPab**	**20 22 31.6**	**-0.3**
PRED	**Cave del Predi**	**145.91**	**280**	PKPdf	**PKPab**	**20 22 32.9**	**-0.4**
GERES	**GERESS Array B**	**147.06**	**284**	PKPbc	**PKPbc**	**20 22 35.6**	**-0.5**
comp=Z,0.2nm,0.3s,baz=91,slow=3.9,SNR=2.6							
ARCES	**ARCESS Array B**	**147.31**	**324**	PKPbc	**PKiKP**	**20 22 38.3**	**+0.1**
comp=Z,8.8nm,1.1s,baz=32,slow=4.3,SNR=2.3							
ESDC	**Sonseca Array**	**152.22**	**254**	PKPbc	**PKiKP**	**20 22 50.0**	**+0.6**
comp=Z,0.3nm,0.7s,baz=86,slow=2.4,SNR=1.9							

*IDC **18** 20:06:18.8±1.3, 54°.80N×161°.56E, h0km, mb3.6/8, mbtmp3.6/9, ML2.8/1, MS2.6/1, Error ellipse: s-maj=35.8km s-min=20.9km az=167.0*
*KRSC **18** 20:06:22.1±0.9, 54°.40N×161°.86E, h40km±8km, Ml4.2*
*MOS **18** 20:06:23.5±0.4, 54°.42N×161°.85E, h42km, mb3.8/1, Error ellipse: s-maj=9.3km s-min=4.6km az=88.2*
ISC 18 20:06:22.2±1.6, 54°.51N±0°.07×161°.91E±0°.05, h31km±12km, n92, σ1§18/96, mb3.6/8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.12**	**296**	**Pn**	**Pn**	**20 06 29.3**	**+1.3**
MKZ	**Mys Kozlova**	**0.12**	**296**	*eP*	**Pn**	**20 06 29.3**	**+1.3**
KZV	**Kizimen**	**1.12**	**304**	PN	**Pb**	**20 06 42.8**	**-0.2**
KZV				S	**Sb**	**20 06 57.5**	**+0.2**
KZV	**Kizimen**	**1.12**	**304**	*eP*	**Pb**	**20 06 42.8**	**-0.2**
KZV				*eS*	**Sb**	**20 06 57.5**	**+0.2**
TUMR	**Tumrok**	**1.28**	**308**	PN	**Pb**	**20 06 45.4**	**-0.4**
TUMR	**Tumrok**	**1.28**	**308**	*eP*	**Pb**	**20 06 45.4**	**-0.4**
KII	**Karymskiy**	**1.52**	**253**	PN	**Pn**	**20 06 47.6**	**+0.3**
KII	**Karymskiy**	**1.52**	**253**	*eP*	**Pn**	**20 06 47.6**	**+0.3**
KMNR	**Kamenistaya**	**1.58**	**323**	PN	**Pb**	**20 06 50.5**	**-0.3**
KMNR	**Kamenistaya**	**1.58**	**323**	*eP*	**Pb**	**20 06 50.5**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.60**	**335**	PN	**Pb**	**20 06 50.6**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.60**	**335**	*eP*	**Pb**	**20 06 50.6**	**-0.5**
BZP	**Bezymyannyi-Pe**	**1.61**	**331**	*eP*	**Pb**	**20 06 51.4**	**0.0**
ZLN	**Zelenaya**	**1.64**	**338**	PN	**Pb**	**20 06 52.5**	**+0.6**
ZLN	**Zelenaya**	**1.64**	**338**	*eP*	**Pb**	**20 06 52.5**	**+0.6**
BZMR	**Bezymyannaya**	**1.65**	**331**	PN	**Pb**	**20 06 51.4**	**-0.6**
BZMR	**Bezymyannaya**	**1.65**	**331**	*eP*	**Pb**	**20 06 51.4**	**-0.6**
BZWR	**Bezymyannyi-We**	**1.67**	**332**	PN	**Pb**	**20 06 51.8**	**-0.6**
BZWR	**Bezymyannyi-We**	**1.67**	**332**	*eP*	**Pb**	**20 06 51.8**	**-0.6**
KIRR	**Kirishev**	**1.71**	**329**	PN	**Pb**	**20 06 52.3**	**-0.7**
KIRR	**Kirishev**	**1.71**	**329**	*eP*	**Pb**	**20 06 52.3**	**-0.7**
LGNR	**Loginova**	**1.73**	**337**	PN	**Pb**	**20 06 53.8**	**+0.3**
LGNR	**Loginova**	**1.73**	**337**	*eP*	**Pb**	**20 06 53.8**	**+0.3**
CIRR	**Tsirk**	**1.75**	**338**	PN	**Pb**	**20 06 53.3**	**-0.4**
CIRR	**Tsirk**	**1.75**	**338**	*eP*	**Pb**	**20 06 53.3**	**-0.4**
KPT	**Kopyto**	**1.75**	**327**	PN	**Pb**	**20 06 52.5**	**-1.3**
KPT	**Kopyto**	**1.75**	**327**	*eP*	**Pb**	**20 06 52.5**	**-1.3**
KBTR	**Krutoberegovo**	**1.78**	**17**	PN	**Pb**	**20 06 53.3**	**-0.9**
KBTR	**Krutoberegovo**	**1.78**	**17**	*eP*	**Pb**	**20 06 53.3**	**-0.9**
SPN	**Mys Shipunski**	**1.80**	**219**	PN	**Pn**	**20 06 50.1**	**-1.0**
SPN	**Mys Shipunski**	**1.80**	**219**	*eP*	**Pn**	**20 06 50.1**	**-1.0**
KBG	**Krutoberegovo**	**1.81**	**14**	PN	**Pb**	**20 06 54.3**	**-0.4**
KBG				S	**Sb**	**20 07 17.3**	**+0.4**
KBG	**Krutoberegovo**	**1.81**	**14**	*eP*	**Pb**	**20 06 54.3**	**-0.4**
KBG				*eS*	**Sb**	**20 07 17.3**	**+0.4**
KRSR	**Krestovskiy**	**1.88**	**336**	PN	**Pb**	**20 06 54.9**	**-1.0**
KRSR	**Krestovskiy**	**1.88**	**336**	*eP*	**Pb**	**20 06 54.9**	**-1.0**
KOZ	**Kozyrevsk**	**1.94**	**324**	PN	**Pb**	**20 06 55.9**	**-1.1**
KOZ	**Kozyrevsk**	**1.94**	**324**	*eP*	**Pb**	**20 06 55.9**	**-1.1**
KLY	**Klyuchi**	**1.95**	**339**	PN	**Pb**	**20 06 55.3**	**-1.7**
KLY	**Klyuchi**	**1.95**	**339**	*eP*	**Pb**	**20 06 55.3**	**-1.7**
SMKR	**Semkarok**	**2.10**	**353**	PN	**Pb**	**20 06 58.5**	**-1.1**
SMKR	**Semkarok**	**2.10**	**353**	*eP*	**Pb**	**20 06 58.5**	**-1.1**
BDR	**Baidarnaya**	**2.11**	**349**	PN	**Pb**	**20 06 58.8**	**-1.0**
BDR	**Baidarnaya**	**2.11**	**349**	*eP*	**Pb**	**20 06 58.8**	**-1.0**
SDLR	**Sedlovina**	**2.17**	**237**	PN	**Pn**	**20 06 57.1**	**+0.7**
SDLR	**Sedlovina**	**2.17**	**237**	*eP*	**Pn**	**20 06 57.1**	**+0.7**
SRKR	**Sorokina**	**2.19**	**349**	PN	**Pb**	**20 07 01.3**	**+0.1**
SRKR	**Sorokina**	**2.19**	**349**	*eP*	**Pb**	**20 07 01.3**	**+0.1**
SRDR	**Sredinnyy**	**2.21**	**326**	PN	**Pb**	**20 06 58.9**	**-2.5**
SRDR	**Sredinnyy**	**2.21**	**326**	*eP*	**Pb**	**20 06 58.9**	**-2.5**
SMAR	**Somma**	**2.22**	**237**	PN	**Pn**	**20 06 58.0**	**+0.9**
SMAR	**Somma**	**2.22**	**237**	*eP*	**Pn**	**20 06 58.0**	**+0.9**
KRER	**Koryakskii**	**2.22**	**239**	PN	**Pn**	**20 06 58.4**	**+1.2**
KRER	**Koryakskii**	**2.22**	**239**	*eP*	**Pn**	**20 06 58.4**	**+1.2**
KRX	**Arik**	**2.24**	**241**	PN	**Pn**	**20 06 58.4**	**+1.0**
KRX	**Arik**	**2.24**	**241**	*eP*	**Pn**	**20 06 58.4**	**+1.0**
AVH	**Avacha**	**2.25**	**238**	PN	**Pn**	**20 06 58.8**	**+1.4**
AVH	**Avacha**	**2.25**	**238**	*eP*	**Pn**	**20 06 58.8**	**+1.4**
KOK	**Koryaka**	**2.29**	**239**	PN	**Pn**	**20 06 59.2**	**+1.3**
KOK	**Koryaka**	**2.29**	**239**	*eP*	**Pn**	**20 06 59.2**	**+1.3**
DALK	**Dalny**	**2.39**	**233**	PN	**Pn**	**20 06 59.8**	**+0.7**
DALK				S	**Sn**	**20 07 26.6**	**-0.7**
DALK	**Dalny**	**2.39**	**233**	*eP*	**Pn**	**20 06 59.8**	**+0.7**
DALK				*eS*	**Sn**	**20 07 26.6**	**-0.7**
PET	**Petropavlovsk**	**2.44**	**234**	PN	**Pn**	**20 07 00.7**	**+0.8**
PET				S	**Sn**	**20 07 28.5**	**-0.1**
PET	**Petropavlovsk**	**2.44**	**234**	*eP*	**Pn**	**20 07 00.7**	**+0.8**
PET				*eS*	**Sn**	**20 07 28.5**	**-0.1**
GNL	**Ganaly**	**2.47**	**252**	PN	**Pn**	**20 07 02.1**	**+1.6**
GNL	**Ganaly**	**2.47**	**252**	*eP*	**Pn**	**20 07 02.1**	**+1.6**
KRMR	**Karymshinskiy**	**2.81**	**235**	PN	**Pn**	**20 07 06.2**	**+1.3**
KRMR				S	**Sn**	**20 07 39.5**	**+1.8**
KRMR	**Karymshinskiy**	**2.81**	**235**	*eP*	**Pn**	**20 07 06.2**	**+1.3**
KRMR				*eS*	**Sn**	**20 07 39.5**	**+1.8**
PETK	**Petropavlovsk-**	**2.86**	**242**	Pn	**Pn**	**20 07 05.8**	**0.0**
7.7nm,0.3s,baz=68,slow=18,SNR=117							
PETK				Sn	**Sn**	**20 07 42.7**	**+3.6**
7.8nm,0.3s,baz=98,slow=15,SNR=3.1							
12nm,0.4s							
MTVR	**Mutnovka**	**3.01**	**229**	PN	**Pn**	**20 07 08.5**	**+0.6**
MTVR	**Mutnovka**	**3.01**	**229**	*eP*	**Pn**	**20 07 08.5**	**+0.6**
GRL	**Gorelyy**	**3.01**	**231**	PN	**Pn**	**20 07 09.1**	**+1.2**
GRL	**Gorelyy**	**3.01**	**231**	*eP*	**Pn**	**20 07 09.1**	**+1.2**
ASAK	**Asacha**	**3.21**	**230**	PN	**Pn**	**20 07 12.1**	**+1.6**
ASAK	**Asacha**	**3.21**	**230**	*eP*	**Pn**	**20 07 12.1**	**+1.6**
MA2	**Magadan**	**7.92**	**314**	LR	LR	20 11 46.9	
comp=Z,47nm,19.8s,baz=32,slow=43							
H11N2	**WAKE ISLAND Hy**	**34.92**	**172**	T	T	20 50 18.9	
baz=355,slow=76,SNR=200							
H11N3	**WAKE ISLAND Hy**	**34.94**	**172**	T	T	20 50 19.9	
baz=355,slow=76,SNR=145							
H11N1	**WAKE ISLAND Hy**	**34.94**	**172**	T	T	20 50 20.1	
baz=355,slow=76,SNR=127							
H11S1	**WAKE ISLAND Hy**	**36.12**	**172**	T	T	20 51 49.8	
baz=352,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy**	**36.13**	**172**	T	T	20 51 45.4	
baz=352,slow=76,SNR=9.7							
H11S2	**WAKE ISLAND Hy**	**36.14**	**172**	T	T	20 51 49.9	
baz=352,slow=76,SNR=13							
KURK	**Kurchatov**	**47.91**	**302**	P	**P**	**20 14 55.7**	**-1.4**
KURBB	**Kurchatov Arra**	**48.01**	**302**	P	**P**	**20 14 55.7**	**-2.2**
0.2nm,0.4s,baz=57,slow=7.5,SNR=2.3							
0.2nm,0.4s							
MKAR	**Makanchi Array**	**48.52**	**296**	P	**P**	**20 15 00.0**	**-2.0**
MKAR	**Makanchi Array**	**48.52**	**296**	P	**P**	**20 14 60.0**	**-2.0**
0.2nm,0.5s,baz=39,slow=7.1,SNR=1.0							
0.2nm,0.5s							
BVAR	**Borovoye Array**	**50.36**	**308**	P	**P**	**20 15 14.0**	**-1.9**
0.3nm,0.5s,baz=46,slow=8.3,SNR=2.2							
0.3nm,0.5s							
NVAR	**Mina Array Bea**	**54.27**	**72**	P	**P**	**20 15 47.7**	**+2.3**
0.6nm,0.6s,baz=306,slow=7.7,SNR=5.7							
0.6nm,0.6s							
FINES	**FINESS Array B**	**59.24**	**337**	P	**P**	**20 16 19.0**	**-1.0**
FINES	**FINESS Array B**	**59.24**	**337**	P	**P**	**20 16 19.0**	**-1.0**
4.5nm,1.1s,baz=38,slow=7.0,SNR=4.8							
4.5nm,1.1s							
NOA	**NORSAR Array B**	**62.48**	**344**	P	**P**	**20 16 42.9**	**+0.8**
0.6nm,0.9s,baz=57,slow=4.9,SNR=3.3							
0.6nm,0.9s							
TXAR	**Lajitas Array**	**69.11**	**69**	P	**P**	**20 17 26.5**	**+1.2**
0.3nm,0.5s,baz=299,slow=5.1,SNR=5.7							
0.3nm,0.5s							
GERES	**GERESS Array B**	**73.60**	**339**	P	**P**	**20 17 50.9**	**-1.3**
0.2nm,0.3s,baz=44,slow=4.6,SNR=1.6							
0.2nm,0.3s							

*IDC **18** 20:14:41.1±1.4, 27°.95S×66°.37W, h149km±15km, mb3.4/4, mbtmp3.9/7, Error ellipse: s-maj=26.1km s-min=11.1km az=95.0*
*SJA **18** 20:14:42.4±1.2, 28°.01S×66°.51W, h185km±7km, ML3.7, MW3.6*
*NEIC **18** 20:14:42.9±1.7, 28°.03S±0°.07×66°.5W±0°.1, h160km±3km, mb4.1/5, Error ellipse: s-maj=16.7km s-min=10.3km az=102.0*
ISC 18 20:14:43.1±0.7, 27°.95S±0°.05×66°.58W±0°.05, h174km±6km, n82, σ1§15/93, mb3.9/6, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.84**	**125**	*iP*	**Pn**	**20 15 10.2**	**+1.0**
CYA				*iS*	**Sn**	**20 15 29.0**	**-0.3**
ACLC	**CERRO LA CRUZ**	**1.50**	**192**	*iP*	**Pn**	**20 15 15.8**	**+1.0**
ACLC				*iS*	**Sn**	**20 15 39.2**	**-0.2**
GUSE	**Guasayan**	**1.54**	**88**	*iP*	**Pn**	**20 15 15.3**	**+0.4**
GUSE				*iS*	**Sn**	**20 15 38.9**	**-0.8**
AHML	**Horco Molle**	**1.61**	**44**	*iP*	**Pn**	**20 15 16.4**	**+0.6**
AHML				*iS*	**Sn**	**20 15 41.0**	**0.0**
VCA	**Vinchina**	**1.63**	**241**	*iP*	**Pn**	**20 15 17.5**	**+1.5**
VCA				*iS*	**Sn**	**20 15 43.1**	**+1.6**
VCA				IAML		20 15 46.0	
comp=Z,269nm,0.4s							
AGUA	**GUANDACOL**	**2.27**	**227**	*iP*	**Pn**	**20 15 23.9**	**+1.1**
APLL	**PUNTA DE LOS L**	**2.43**	**179**	*iP*	**Pn**	**20 15 25.4**	**+0.7**
APLL				*iS*	**Sn**	**20 15 55.5**	**-1.7**
AC02	**Maricunga**	**2.52**	**296**		**Pn**	**20 15 27.1**	**+0.8**
GO03	**Copiap**	**3.25**	**275**		**Pn**	**20 15 35.4**	**+0.7**
GO03	**Copiap**	**3.25**	**275**	*iP*	**Pn**	**20 15 35.4**	**+0.7**
AC05	**El Transito**	**3.37**	**254**	Pn	**Pn**	**20 15 37.1**	**+1.0**
AC05	**El Transito**	**3.37**	**254**	*iP*	**Pn**	**20 15 37.4**	**+1.3**
AC06	**Mina Casimiro**	**3.40**	**279**		**Pn**	**20 15 36.5**	**+0.1**
ACCO	**Cerro Coronel**	**3.40**	**219**	*iP*	**Pn**	**20 15 37.3**	**+0.5**
ACCO				*iS*	**Sn**	**20 16 18.5**	**-0.2**
ACCO				IAML		20 16 19.7	
comp=Z,147nm,0.4s							
CO01	**Juntas del Tor**	**3.68**	**236**		**Pn**	**20 15 41.7**	**+1.7**
CO01	**Juntas del Tor**	**3.68**	**236**	*iP*	**Pn**	**20 15 41.8**	**+1.7**
DOCA	**Reserva Natura**	**3.70**	**216**	*iP*	**Pn**	**20 15 40.6**	**+0.2**
DOCA				*iS*	**Sn**	**20 16 24.3**	**-1.0**
LCO	**Las Campanas**	**3.77**	**253**		**Pn**	**20 15 41.3**	**-0.1**
LCO	**Las Campanas**	**3.77**	**253**	*iP*	**Pn**	**20 15 41.8**	**+0.4**
GO02	**Mina Guanaco**	**3.87**	**315**		**Pn**	**20 15 44.6**	**+1.9**
GO02	**Mina Guanaco**	**3.87**	**315**	*iP*	**Pn**	**20 15 44.6**	**+1.9**
CFA	**Coronel Fontan**	**3.91**	**201**	P	**Pn**	**20 15 42.9**	**0.0**
comp=Z,82nm,0.3s							
CFA				S	**Sn**	**20 16 27.2**	**-2.6**
CFA	**Coronel Fontan**	**3.91**	**201**	*iP*	**Pn**	**20 15 42.9**	**0.0**
CFA				IAML		20 16 29.9	
comp=Z,112nm,0.2s							
AC04	**Llanos de Chal**	**3.98**	**265**		**Pn**	**20 15 43.7**	**0.0**
AC04	**Llanos de Chal**	**3.98**	**265**	*i* P	**Pn**	**20 15 43.5**	**-0.2**
AC04				IAML		20 16 32.9	
comp=Z,35nm,0.3s							
AC01	**Pan de Azucar**	**4.01**	**296**		**Pn**	**20 15 44.8**	**+0.7**
AC01	**Pan de Azucar**	**4.01**	**296**	*i* P	**Pn**	**20 15 44.5**	**+0.4**
ZON	**Zonda**	**4.02**	**206**		**Pn**	**20 15 44.6**	**+0.4**
GO04	**Tololo Observa**	**4.30**	**238**		**Pn**	**20 15 48.2**	**+0.2**
GO04	**Tololo Observa**	**4.30**	**238**	*i* P	**Pn**	**20 15 48.0**	**0.0**
RTLS	**Leoncito**	**4.50**	**211**	*i* P	**Pn**	**20 15 50.9**	**+0.3**
CO05	**La Serena**	**4.53**	**243**		**Pn**	**20 15 49.4**	**-1.3**
CO03	**El Pedregal**	**4.59**	**230**		**Pn**	**20 15 51.6**	**-0.1**
CO03	**El Pedregal**	**4.59**	**230**	*i* P	**Pn**	**20 15 52.2**	**+0.5**
CO03				IAML		20 16 47.5	
comp=Z,72nm,0.6s							
PB14	**IPOC Station P**	**4.77**	**313**	Pn	**Pn**	**20 15 55.4**	**+1.1**
ASAL	**Salagasta**	**5.01**	**202**	*i* P	**Pn**	**20 15 57.5**	**+0.3**
ASAL				*i* S	**Sn**	**20 16 52.6**	**-2.7**
CO02	**Combarbal**	**5.03**	**229**		**Pn**	**20 15 56.5**	**-0.8**
CO06	**Fray Jorge**	**5.18**	**237**		**Pn**	**20 15 58.5**	**-0.7**
PB15	**IPOC Station P**	**5.40**	**330**		**Pn**	**20 16 03.6**	**+1.2**
LVC	**Limon Verde**	**5.72**	**338**	Pn	**Pn**	**20 16 08.0**	**+1.3**
LVC	**Limon Verde**	**5.72**	**338**	P	**Pn**	**20 16 06.7**	**0.0**
comp=Z,10.0nm,0.3s,baz=130,slow=13,SNR=34							
LVC				S	**Sn**	**20 17 10.8**	**-1.6**
comp=Z,12nm,0.3s,baz=104,slow=19,SNR=14							
PB06	**IPOC Station P**	**5.88**	**332**	Pn	**Pn**	**20 16 09.7**	**+1.0**
VA03	**San Esteban**	**5.89**	**215**		**Pn**	**20 16 09.0**	**+0.4**
MT08	**Bocatoma Ro**	**6.22**	**208**		**Pn**	**20 16 11.7**	**-1.4**
PEL	**Peldehue**	**6.27**	**213**	Pn	**Pn**	**20 16 12.9**	**-0.6**
ROC1	**El Roble**	**6.30**	**216**		**Pn**	**20 16 12.8**	**-1.4**
PB04	**IPOC Station P**	**6.46**	**329**	Pn	**Pn**	**20 16 15.6**	**-0.7**
MT03	**Universidad Ad**	**6.47**	**210**	Pn	**Pn**	**20 16 15.8**	**-0.5**
MT05	**Renca**	**6.49**	**212**	Pn	**Pn**	**20 16 15.7**	**-0.9**
MT02	**Curacav**	**6.58**	**215**	Pn	**Pn**	**20 16 15.2**	**-2.5**
PB09	**IPOC Station P**	**6.59**	**338**		**Pn**	**20 16 18.9**	**+1.0**
MT13	**San Alfonso**	**6.59**	**208**	Pn	**Pn**	**20 16 17.9**	**+0.1**
LMEL	**Las Melosas**	**6.65**	**207**	Pn	**Pn**	**20 16 17.6**	**-1.1**
PB07	**IPOC Station P**	**6.89**	**333**		**Pn**	**20 16 21.7**	**-0.2**
MT09	**Talagante**	**6.93**	**212**		**Pn**	**20 16 21.0**	**-1.3**
BO04	**La Punta**	**6.94**	**209**		**Pn**	**20 16 21.3**	**-1.0**
MT01	**Popeta**	**7.13**	**213**	Pn	**Pn**	**20 16 22.5**	**-2.3**
PB02	**IPOC Station P**	**7.26**	**335**		**Pn**	**20 16 26.4**	**-0.3**
PB01	**IPOC Station P**	**7.37**	**338**		**Pn**	**20 16 27.8**	**-0.4**
BO02	**Sierra Bellavi**	**7.70**	**207**	Pn	**Pn**	**20 16 31.1**	**-1.4**
PATCX	**Punta Patache**	**7.81**	**335**	Pn	**Pn**	**20 16 33.6**	**-0.4**
PB08	**IPOC Station P**	**

LMEL eS Sb 20 44 52.7 -0.1
LMEL IAML 20 44 55.7
comp=E,3μm,0.2s
MT13 San Alfonso 2.05 245 Pn 20 44 26.1 +1.3
MT13 San Alfonso 2.05 245 *eP* **Pn 20 44 26.2 +1.3**
MT13 eS **Sn 20 44 51.5 +0.8**
MT13 IAML 20 44 54.2
comp=N,4μm,0.4s
VA03 San Esteban 2.10 273 Pn 20 44 27.3 +1.7
VA03 San Esteban 2.10 273 *i* P **Pn 20 44 27.5 +1.9**
VA03 eS **Sb 20 44 54.1 -0.6**
VA03 San Esteban 2.10 273 *i* P **Pn 20 44 27.5 +1.9**
VA03 *i* S **Sb 20 44 54.2 -0.6**
DOCA Reserva Natura 2.13 336 *i* P **Pb 20 44 28.5 -0.5**
MT14 Cerro Cal¡n 2.14 256 *i* P **Pb 20 44 28.6 -0.4**
MT14 eS **Sb 20 44 55.2 -0.5**
MT03 Universidad Ad 2.14 253 Pn 20 44 27.8 +1.7
MT03 Universidad Ad 2.14 253 *eP* **Pn 20 44 27.9 +1.7**
MT03 IAML 20 44 59.8
comp=E,2μm,0.3s
MT03 Universidad Ad 2.14 253 *i* P **Pb 20 44 28.6 -0.5**
MT03 IAML 20 44 59.2
comp=Z,1μm,0.5s
PEL Peldehue 2.22 263 Pn 20 44 29.0 +1.9
PEL Peldehue 2.22 263 *eP* **Pn 20 44 29.2 +2.1**
PEL eS **Sb 20 44 57.2 -0.9**
MT12 Pirque 2.25 247 *eP* **Pn 20 44 29.4 +1.9**
MT12 IAML 20 45 00.8
comp=E,4μm,0.5s
MT05 Renca 2.30 257 Pn 20 44 30.4 +2.1
MT05 Renca 2.30 257 *i* P **Pb 20 44 31.5 -0.2**
MT05 IAML 20 45 05.0
comp=E,1μm,0.2s
MT05 Renca 2.30 257 *i* P **Pb 20 44 31.6 -0.2**
MT05 IAML 20 45 04.1
comp=Z,667nm,0.6s
BO04 La Punta 2.40 242 Pn 20 44 31.5 +2.0
BO04 La Punta 2.40 242 *eP* **Pn 20 44 31.6 +2.0**
BO04 eS **Sb 20 45 02.4 -0.8**
BO04 IAML 20 45 05.8
comp=N,1μm,0.4s
ACCO Cerro Coronel 2.45 339 *eP* **Pb 20 44 33.4 -1.1**
ACCO *i* S **Sb 20 45 06.5 +1.5**
ACCO IAML 20 45 07.5
comp=Z,762nm,0.4s
ROC1 El Roble 2.49 267 Pn 20 44 33.0 +2.0
MT09 Talagante 2.61 249 Pn 20 44 34.8 +2.3
MT09 Talagante 2.61 249 *eP* **Pn 20 44 34.4 +1.8**
MT09 IAML 20 45 12.3
comp=N,688nm,0.2s
MT02 Curacav 2.61 261 Pn 20 44 33.7 +1.2
MT02 Curacav 2.61 261 *eP* **Pn 20 44 33.7 +1.2**
MT02 IAML 20 45 10.4
comp=N,424nm,0.4s
MT02 Curacav 2.61 261 *i* P **Pn 20 44 34.0 +1.5**
MT02 IAML 20 45 11.3
comp=Z,736nm,0.9s
APLL PUNTA DE LOS L 2.81 28 *i* P **Pb 20 44 39.4 -1.1**
APLL *i* S **Sb 20 45 14.8 -0.3**
MT01 Popeta 2.84 249 Pn 20 44 37.0 +1.3
MT01 Popeta 2.84 249 *eP* **Pn 20 44 36.4 +0.7**
MT01 IAML 20 45 18.6
comp=N,561nm,0.2s
ACDV Cuesta del Vie 2.86 341 *i* P **Pb 20 44 39.7 -1.7**
ACDV IAML 20 45 19.1
comp=Z,609nm,0.7s
BO01 Tunca 2.93 239 Pn 20 44 38.5 +1.6
BO01 Tunca 2.93 239 *eP* **Pn 20 44 39.6 +2.7**
BO02 Sierra Bellavi 2.95 229 Pn 20 44 39.4 +2.2
BO02 Sierra Bellavi 2.95 229 *eP* **Pb 20 44 42.5 -0.4**
AROD Rodeo 2.98 336 *i* P **Pb 20 44 41.5 -1.9**
AROD *i* S **Sb 20 45 18.7 -1.3**
CO02 Combarbal 3.01 303 Pn 20 44 40.0 +1.9
CO02 Combarbal 3.01 303 *eP* **Pn 20 44 40.1 +2.0**
CO03 El Pedregal 3.04 312 Pn **Pn 20 44 40.9 +2.5**
CO03 El Pedregal 3.04 312 *eP* **Pn 20 44 40.9 +2.5**
CO03 IAML 20 45 35.3
comp=E,1μm,0.6s
CO03 El Pedregal 3.04 312 *i* P **Pn 20 44 41.0 +2.6**
VA05 Santo Domingo 3.08 255 Pn 20 44 39.6 +0.7
CO01 Juntas del Tor 3.39 329 Pn **Pn 20 44 46.5 +3.1**
CO01 Juntas del Tor 3.39 329 *i* P **Pn 20 44 46.8 +3.5**
CO01 IAML 20 45 34.8
comp=Z,256nm,2.5s
AGUA GUANDACOL 3.42 354 *i* P **Pn 20 44 47.4 +3.7**
GO04 Tololo Observa 3.58 318 Pn **Pn 20 44 48.0 +2.0**
GO04 Tololo Observa 3.58 318 *eP* **Pn 20 44 48.0 +2.0**
BO03 Pichilemu 3.63 243 *eP* **Pn 20 44 47.5 +1.1**
CO06 Fray Jorge 3.77 305 Pn **Pn 20 44 48.9 +0.6**
CO06 Fray Jorge 3.77 305 *eP* **Pn 20 44 48.9 +0.6**
GO05 Huala 3.85 236 Pn **Pn 20 44 51.0 +1.5**
GO05 Huala 3.85 236 *eP* **Pn 20 44 51.4 +1.9**
ML02 Panimavida 3.99 223 Pn 20 44 53.7 +2.3
CO05 La Serena 4.02 317 Pn 20 44 52.7 +0.8
VCA Vinchina 4.15 358 *i* P **Pn 20 44 56.6 +2.9**
AC05 El Transito 4.47 334 Pn **Pn 20 45 00.4 +2.3**
LCO Las Campanas 4.49 329 Pn **Pn 20 45 00.2 +1.7**
CYA Choya 4.84 24 *i* P **Pn 20 45 05.3 +2.1**
AC04 Llanos de Chal 5.35 330 Pn **Pn 20 45 11.0 +0.9**
GO03 Copiap 5.61 340 Pn 20 45 14.7 +1.0
AC06 Mina Casimiro 5.87 340 Pn **Pn 20 45 17.7 +0.4**
AC02 Maricunga 6.11 351 Pn 20 45 24.1 +3.1
AC01 Pan de Azucar 7.08 341 Pn **Pn 20 45 34.9 +1.0**
TRQA Tornquist 7.15 138 Pn **Pn 20 45 37.3 +2.4**
GO06 Curarrehue 7.22 201 Pn 20 45 38.6 +2.6
GO02 Mina Guanaco 7.82 350 Pn **Pn 20 45 45.1 +0.8**
PLCA Paso Flores 8.07 194 Pn **Pn 20 45 45.0 -2.6**
comp=Z,0.1nm,0.3s,baz=55,slow=12,SNR=2.1
PLCA Lg Lg 20 48 01.1
comp=Z,1.3nm,0.3s,baz=25,slow=4.9,SNR=5.2
PLCA LR LR 20 49 14.8
comp=Z,102nm,18.2s,baz=2.0,slow=41
comp=Z,1.7nm,1.0s
PB14 IPOC Station P 8.49 345 Pn **Pn 20 45 52.9 -0.7**
PB15 IPOC Station P 9.73 352 Pn 20 46 09.8 -0.6
PB06 IPOC Station P 10.24 352 Pn **Pn 20 46 17.5 +0.2**
LVC Limon Verde 10.27 356 Pn **Pn 20 46 18.2 +0.2**
LVC Limon Verde 10.27 356 Pn **Pn 20 46 17.6 -0.4**
comp=Z,2.5nm,0.3s,baz=175,slow=8.3,SNR=12
LVC Lg Lg 20 49 14.9
comp=Z,0.6nm,0.3s,baz=329,slow=20,SNR=2.2
LVC LR LR 20 50 25.8
comp=Z,88nm,21.5s,baz=204,slow=38
comp=Z,5.5nm,0.3s
ITQB Itaqui 10.29 75 Pn **Pn 20 46 18.6 +0.7**
PB09 IPOC Station P 11.10 354 Pn **Pn 20 46 28.2 -1.0**
PB07 IPOC Station P 11.24 351 Pn **Pn 20 46 28.7 -2.4**
CPUP Villa Florida 11.39 58 Pn **Pn 20 46 35.6 +2.6**
CPUP Villa Florida 11.39 58 Pn **Pn 20 46 35.5 +2.4**
comp=Z,0.2nm,0.3s,baz=165,slow=11,SNR=1.5
CPUP Lg Lg 20 49 58.3
comp=Z,1.1nm,0.3s,baz=319,slow=17,SNR=4.4
CPUP LR LR 20 50 26.4
comp=Z,50nm,20.8s,baz=232,slow=34
comp=Z,0.7nm,0.3s
PB02 IPOC Station P 11.64 351 Pn **Pn 20 46 34.2 -2.3**
PB01 IPOC Station P 11.87 353 Pn **Pn 20 46 37.5 -2.2**
PLTB Pedras Altas 12.28 89 Pn **Pn 20 46 44.0 -1.2**
PB08 IPOC Station P 12.74 355 Pn **Pn 20 46 50.6 -1.2**
GO01 Chusmiza 13.21 355 Pn **Pn 20 46 54.7 -3.7**
LPAZ La Paz 16.53 360 Pn **Pn 20 47 42.2 -0.7**
LPAZ La Paz 16.53 360 Pn **Pn 20 47 42.8 -0.1**
comp=Z,0.2nm,0.3s,baz=182,slow=6.6,SNR=6.0
comp=Z,2.0nm,0.5s
SIV San Ignacio 17.98 22 P **P 20 48 01.3 +0.4**
comp=Z,0.1nm,0.3s,baz=208,slow=10,SNR=19
SIV LR LR 20 56 33.0
comp=Z,50nm,20.0s,baz=112,slow=42
comp=Z,3.5nm,0.7s
PTLB Pontes e Lacer 19.16 27 Pn 20 48 16.1 +1.4
SAML Samuel 24.25 12 P **P 20 49 07.6 +0.1**
BDFB Brasilia 25.00 51 P **P 20 49 14.4 -0.1**
comp=Z,2.6nm,0.6s,baz=171,slow=7.8,SNR=4.2
comp=Z,2.6nm,0.6s
MCRA Macar, Loja 30.48 336 P **P 20 50 03.7 +0.2**
BOAV Boa Vista 35.81 13 P **P 20 50 49.6 -0.4**
BOAV IAmb IAmb 20 50 50.9
comp=Z,2.9nm,0.7s
BAUV El Baul 41.60 0 P **P 20 51 36.7 -1.8**
BELA Belgrano 2 47.41 171 P **P 20 52 25.0 +0.7**
BELA IAmb IAmb 20 52 32.7
comp=Z,5.7nm,1.3s
SNAA Sanae 51.37 158 P **P 20 52 54.6 -0.1**
SNAA IAmb IAmb 20 53 02.9
comp=Z,3.1nm,1.1s
SNAA Sanae 51.37 158 P **P 20 52 55.4 +0.7**
comp=Z,2.7nm,1.1s,baz=295,slow=6.0,SNR=4.0
comp=Z,2.7nm,1.1s
TEIG Tepich 56.25 337 P **P 20 53 31.1 +0.3**
QSPA South Pole Qui 57.34 180 P **P 20 53 39.2 +0.9**
QSPA IAmb IAmb 20 53 46.1
comp=Z,1.8nm,0.8s
TXAR Lajitas Array 70.50 327 P **P 20 55 05.4 +0.2**
TXAR Lajitas Array 70.50 327 P **P 20 55 04.9 -0.4**
comp=Z,0.4nm,0.6s,baz=159,slow=9.4,SNR=7.7
comp=Z,0.4nm,0.6s
DBIC Dimbokro 71.67 69 P **P 20 55 13.4 +0.8**
DBIC Dimbokro 71.67 69 P **P 20 55 13.2 +0.5**
comp=Z,0.9nm,0.3s,baz=215,slow=2.3,SNR=1.2
comp=Z,0.9nm,0.3s
MAW Mawson 73.26 162 P **P 20 55 21.5 +0.3**
MAW Mawson 73.26 162 P **P 20 55 21.6 +0.3**
comp=Z,0.7nm,0.3s,baz=209,slow=12,SNR=3.1
comp=Z,0.7nm,0.3s
MNTX Cornudas Mount 73.28 327 P **P 20 55 20.8 -1.1**
S39A Bolivar 74.07 339 P 20 55 26.0 -0.3
S39A IAmb IAmb 20 55 33.2
comp=Z,7.9nm,1.3s
R40A Maddies Statio 74.32 340 P **P 20 55 27.4 -0.4**
KAN09 Caldwell North 74.94 336 P **P 20 55 31.5 +0.2**
P40A Paris 75.42 341 P **P 20 55 32.9 -1.1**
P40A IAmb IAmb 20 55 59.3
comp=Z,6.5nm,1.0s
KOWA Kowa 77.16 63 P **P 20 55 44.9 +0.4**
KOWA IAmb IAmb 20 56 20.6
comp=Z,8.0nm,1.4s
BOSA Boshof 77.60 116 P **P 20 55 47.5 +0.4**
BOSA Boshof 77.60 116 P **P 20 55 47.2 +0.1**
comp=Z,2.6nm,1.0s,baz=217,slow=3.1,SNR=2.0
BOSA LR LR 21 26 18.2
comp=Z,12nm,18.1s,baz=196,slow=33
comp=Z,2.6nm,1.0s
TOA0 Torodi Ar. Sit 80.71 68 P **P 20 56 04.6 +0.6**
TOA0 IAmb IAmb 20 56 11.7
comp=Z,3.6nm,0.8s
TORD Torodi Ar. Bea 80.71 68 P **P 20 56 04.3 +0.3**
TORD IAmb IAmb 20 56 11.7
comp=Z,2.4nm,0.8s
TORD Torodi Ar. Bea 80.71 68 P **P 20 56 04.2 +0.3**
comp=Z,1.9nm,0.7s,baz=298,slow=7.0,SNR=25
comp=Z,1.9nm,0.7s
TPNV Topopah Spring 82.77 323 P **P 20 56 15.4 +0.8**
TPNV IAmb IAmb 20 56 40.4
comp=Z,2.8nm,0.8s
MZP Montezuma Peak 83.93 323 P **P 20 56 20.9 +0.2**
MZP IAmb IAmb 20 56 30.7
comp=Z,1.7nm,0.8s
PDAR Pinedale Array 84.36 331 P **P 20 56 22.1 -0.6**
PDAR Pinedale Array 84.36 331 P **P 20 56 21.4 -1.3**
comp=Z,0.5nm,0.6s,baz=141,slow=5.4,SNR=4.6
comp=Z,0.5nm,0.6s
RLMT Red Lodge 86.19 332 P **P 20 56 31.7 -0.1**
RLMT IAmb IAmb 20 56 32.4
comp=Z,1.9nm,0.6s
ULM Lac du Bonnet 86.37 343 LR LR 21 38 27.8
comp=Z,16nm,18.1s,baz=292,slow=38
WRA Warramunga Arr 123.27 205 PKP **PKPdf 21 02 46.9 -1.1**
comp=Z,0.5nm,1.0s,baz=181,slow=1.7,SNR=1.8
BVAR Borovoye Array 144.20 43 PKP PKPbc 21 03 24.1 0.0
comp=Z,0.6nm,0.6s,baz=269,slow=3.4,SNR=2.3
KURBB Kurchatov Arra 149.77 44 PKPbc **PKPbc 21 03 40.0 0.0**
comp=Z,1.6nm,0.5s,baz=297,slow=3.0,SNR=11
ZALV Zalesovo Beam 151.47 34 PKPbc **PKPbc 21 03 44.0 0.0**
comp=Z,5.7nm,0.4s,baz=316,slow=2.7,SNR=23
ZALV PKPab **PKPab 21 03 50.9 -1.4**
comp=Z,3.7nm,0.3s,baz=305,slow=2.7,SNR=10
MKAR Makanchi Array 153.52 50 PKPbc **PKPbc 21 03 48.9 0.0**
comp=Z,0.6nm,0.7s,baz=318,slow=1.6,SNR=3.6

NEIC ***18*** *20:51:51.0±1.0,2°.59N±0°.07×99°.01E±0°.07,h155km±4km, mb4.4/41, Error ellipse: s-maj=10.4km s-min=9.3km az=224.0*
DJA ***18*** *20:51:50.2±0.3,3°N±2°×9°9E±°,h158km±4km, M4.6/15, mb4.7/7, mB5.2/2, MLv4.5/15, Mw(mB)4.6/2*
IDC ***18*** *20:51:54.5±3.7,2°.64N×99°.15E,h193km±36km, mb3.8/24, mbtmp4.3/26, Error ellipse: s-maj=17.8km s-min=9.1km az=48.0*
ISC 18 20:51:50.6±0.7,2°.56N±0°.05×98°.96E±0°.05,h156km±6km, n136,σ1§22/139,mb4.2/48,10C-9D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPSI	**Rantau Prapat**	**0.14**	**345**	Pn	**Pn**	**20 52 12.2**	**+0.6**
RPSI				Sn	**Sn**	**20 52 27.3**	**-0.3**
PSI	**Prapat**	**0.24**	**351**	P	**Pn**	**20 52 12.4**	**+0.5**
KCSI	**Kotacane, Aceh**	**1.52**	**309**	P	**Pn**	**20 52 21.4**	**+0.5**
GSI	**Gunungsitoli**	**1.86**	**228**		**Pn**	**20 52 25.4**	**+0.8**
GSI	**Gunungsitoli**	**1.86**	**228**	P	**Pn**	**20 52 25.6**	**+1.0**
GSI	**Gunungsitoli**	**1.86**	**228**	P	**Pn**	**20 52 25.3**	**+0.8**
SNSI	**Sinabang, Aceh**	**2.63**	**267**	P	**Pn**	**20 52 35.0**	**+1.3**
SNSI				S	**Sn**	**20 53 05.9**	**-1.0**
PBSI	**Pulau Batu**	**2.69**	**195**	P	**Pn**	**20 52 34.3**	**0.0**
BKNI	**Bangkinang**	**3.04**	**137**		**Pn**	**20 52 39.3**	**+0.6**
BKNI	**Bangkinang**	**3.04**	**137**	P	**Pn**	**20 52 39.6**	**+0.9**
BKNI	**Bangkinang**	**3.04**	**137**	P	**Pn**	**20 52 39.4**	**+0.6**
MLSI	**Meulaboh, Aceh**	**3.06**	**304**	P	**Pn**	**20 52 39.3**	**+0.3**
KULM	**Kulim**	**3.19**	**32**	Pn	**Pn**	**20 52 40.1**	**-0.6**
LHMI	**Lhok Sumawe**	**3.33**	**323**		**Pn**	**20 52 42.2**	**-0.1**
LHMI	**Lhok Sumawe**	**3.33**	**323**	P	**Pn**	**20 52 43.4**	**+1.1**
LHMI	**Lhok Sumawe**	**3.33**	**323**	P	**Pn**	**20 52 42.8**	**+0.5**
PDSI	**Padang**	**3.76**	**156**	P	**Pn**	**20 52 48.3**	**+0.3**
SISI	**Saibi**	**3.86**	**178**	P	**Pn**	**20 52 46.3**	**-3.0**
SDSI	**Sungai Dareh**	**4.26**	**145**	P	**Pn**	**20 52 58.7**	**+4.3**
MYKOM	**Kota Tinggi**	**4.95**	**99**	Pn	**Pn**	**20 53 04.5**	**+1.1**
PPSI	**Pulau Pagai**	**5.39**	**169**	P	**Pn**	**20 53 09.8**	**+0.5**
	121nm,0.7s,4μm1.0nm						
MNAI	**Manna**	**7.95**	**150**	Pn	**Pn**	**20 53 41.5**	**-1.8**
MNAI	**Manna**	**7.95**	**150**	P	**Pn**	**20 53 42.2**	**-1.2**
MNAI	**Manna**	**7.95**	**150**	P	**Pn**	**20 53 41.7**	**-1.7**
	219nm,1.4s,1.4nm						
LWLI	**Liwa**	**9.09**	**146**	P	**Pn**	**20 53 57.1**	**-1.5**
	68nm,0.8s						
KASI	**Kota Agung**	**9.75**	**145**	P	**Pn**	**20 54 04.0**	**-3.3**
	44nm,1.9s						
CGJI	**Cibinong**	**11.32**	**144**	P	Pn	20 54 22.2	-5.8
SBUM	**Sibu**	**13.25**	**90**		**Pn**	**20 54 52.7**	**-0.1**
DLV	**T Lat**	**13.27**	**45**	P	**P**	**20 54 56.7**	**-0.8**
UGM	**Wanagama**	**15.53**	**132**	P	**Pn**	**20 55 19.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**15.80**	**360**	P	**P**	**20 55 26.8**	**+1.4**
	1.3nm,0.6s,baz=189,slow=12,SNR=10						
PALK	**Pallekele**	**18.78**	**285**	P	**Pn**	**20 56 01.5**	**+1.1**
	23nm,1.0s,baz=156,slow=4.5,SNR=8.5						
PALK				S	**S**	**20 59 15.3**	**-8.4**
	9.0nm,1.0s,baz=203,slow=11,SNR=1.8						
MYLDM	**Lahad Datu**	**19.67**	**82**	P	**Pn**	**20 56 10.2**	**-0.5**
TOLI2	**Tolitoli**	**21.86**	**93**	P	**P**	**20 56 30.5**	**-0.6**
TOLI2				IAmb	IAmb	20 56 33.0	
	comp=Z,22nm,0.9s						
TOLI2	**Tolitoli**	**21.86**	**93**	P	**P**	**20 56 31.3**	**+0.2**
KAPI	**Kappang**	**22.09**	**110**	P	**P**	**20 56 33.7**	**+0.3**
KAPI	**Kappang**	**22.09**	**110**	P	**P**	**20 56 34.9**	**+1.5**
KAPI	**Kappang**	**22.09**	**110**	P	**P**	**20 56 33.9**	**+0.5**
	comp=Z,15nm,0.3s,baz=276,slow=3.9,SNR=16						
	comp=Z,15nm,0.3s						
SHL	**Shillong**	**23.87**	**344**	P	**P**	**20 56 48.5**	**-1.5**
KNRA	**Kununurra**	**34.60**	**123**	P	**P**	**20 58 25.5**	**+0.6**
MEEK	**Meekatharra**	**34.68**	**148**	P	**P**	**20 58 25.3**	**-0.2**
MTN	**Manton Dam**	**35.42**	**116**	P	**P**	**20 58 31.1**	**-0.9**
MORW	**Morawa**	**35.46**	**154**	P	**P**	**20 58 33.0**	**+1.0**
MUN	**Mundaring**	**38.05**	**156**	P	**P**	**20 58 55.3**	**+1.3**
KLBR	**Kellerberrin**	**38.38**	**154**	P	**P**	**20 58 57.5**	**+0.8**
NIL	**Nilore**	**39.17**	**325**	P	**P**	**20 59 04.0**	**+0.7**
NIL				IAmb	IAmb	20 59 04.1	
	comp=Z,6.4nm,0.6s						
WRKA	**Warakurna**	**39.53**	**136**	P	**P**	**20 59 05.6**	**-0.8**
WB0	**Warramunga Arr**	**41.26**	**124**	P	**P**	**20 59 19.9**	**-0.9**
WRA	**Warramunga Arr**	**41.30**	**124**	P	**P**	**20 59 20.0**	**-1.0**
WRA	**Warramunga Arr**	**41.30**	**124**	P	**P**	**20 59 20.1**	**-0.9**
	comp=Z,2.5nm,0.4s,baz=300,slow=9.2,SNR=73						
WRA				PcP	**PcP**	**21 01 16.5**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=315,slow=2.6,SNR=5.2						
	comp=Z,2.5nm,0.4s						
WRAB	**Tennant Creek**	**41.31**	**124**	P	**P**	**20 59 20.6**	**-0.5**
WB2	**Warramunga Arr**	**41.31**	**124**	P	**P**	**20 59 20.6**	**-0.6**
WB2				IAmb	IAmb	20 59 21.0	
	comp=Z,4.3nm,0.5s						
WR0	**Warramunga Arr**	**41.48**	**124**	P	**P**	**20 59 21.9**	**-0.6**
WR0				IAmb	IAmb	20 59 22.5	
	comp=Z,7.0nm,0.6s						
ASAR	**Alice Springs**	**42.85**	**129**	P	**P**	**20 59 32.8**	**-0.8**
ASAR	**Alice Springs**	**42.85**	**129**	P	**P**	**20 59 32.6**	**-1.0**
	comp=Z,1.9nm,0.6s,baz=303,slow=7.9,SNR=26						
ASAR				PcP	**PcP**	**21 01 21.8**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=318,slow=5.4,SNR=1.9						
	comp=Z,1.9nm,0.6s						
AS31	**Alice Springs**	**42.85**	**129**	P	**P**	**20 59 33.0**	**-0.6**
FORT	**Forrest**	**43.22**	**142**	P	**P**	**20 59 36.1**	**-0.3**
FORT	**Forrest**	**43.22**	**142**	P	**P**	**20 59 36.4**	**0.0**
NRN	**Naryn**	**43.87**	**335**	P	**P**	**20 59 42.6**	**+0.7**
NRN				IAmb	IAmb	20 59 43.4	
	comp=Z,8.2nm,1.0s						
GAR	**Garm**	**44.69**	**328**	P	**P**	**20 59 48.2**	**+0.1**
GAR				IAmb	IAmb	20 59 49.5	
	comp=Z,5.9nm,0.7s						
CHGR	**Chuyangaron**	**45.06**	**327**	P	**P**	**20 59 50.7**	**-0.4**
CHGR				IAmb	IAmb	20 59 51.4	
	comp=Z,17nm,1.5s						
BTK	**Batken**	**45.21**	**329**	P	**P**	**20 59 53.3**	**+1.1**
BTK				IAmb	IAmb	20 59 54.3	
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**45.56**	**7**	P	**P**	**20 59 54.4**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=201,slow=8.5,SNR=3.7						
	comp=Z,0.4nm,0.5s						
QIS	**Mount Isa**	**45.99**	**122**	P	**P**	**20 59 58.5**	**0.0**
MK31	**Makanchi Array**	**46.39**	**344**	P	**P**	**21 00 01.4**	**+0.1**
MKAR	**Makanchi Array**	**46.39**	**344**	P	**P**	**21 00 01.4**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=156,slow=8.8,SNR=42						
	comp=Z,1.9nm,0.4s						
OOD	**Oodnadatta**	**46.47**	**133**	P	**P**	**21 00 01.4**	**-0.7**
MAKZ	**Makanchi**	**46.49**	**344**	P	**P**	**21 00 02.1**	**+0.1**
MULG	**Mulgathing**	**46.78**	**137**	P	**P**	**21 00 03.6**	**-0.9**
BBOO	**Buckleboo**	**49.68**	**138**	P	**P**	**21 00 25.8**	**-0.9**
KURBB	**Kurchatov Arra**	**50.91**	**343**	P	**P**	**21 00 35.8**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=162,slow=7.0,SNR=14						
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**50.97**	**343**	P	**P**	**21 00 36.5**	**+0.4**
GEYT	**Alibeck**	**51.33**	**319**	P	**P**	**21 00 39.7**	**+0.6**
GEYT				IAmb	IAmb	21 00 40.7	
	comp=Z,4.7nm,0.9s						
GEYT	**Alibeck**	**51.33**	**319**	P	**P**	**21 00 39.1**	**0.0**
	comp=Z,3.3nm,0.7s,baz=142,slow=5.6,SNR=8.0						
	comp=Z,3.3nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**51.33**	**319**	P	**P**	**21 00 39.9**	**+0.7**
GYA0B				IAmb	IAmb	21 00 40.7	
	comp=Z,6.1nm,0.9s						
ZAA0	**Zalesovo Array**	**52.52**	**350**	P	**P**	**21 00 47.3**	**-0.2**
ZALV	**Zalesovo Beam**	**52.52**	**350**	P	**P**	**21 00 47.5**	**-0.1**
	comp=Z,2.6nm,0.4s,baz=166,slow=6.6,SNR=15						
	comp=Z,2.6nm,0.4s						
STKA	**Stephens Creek**	**52.99**	**134**	P	**P**	**21 00 50.4**	**-1.0**
STKA	**Stephens Creek**	**52.99**	**134**	P	**P**	**21 00 50.0**	**-1.4**
	comp=Z,2.3nm,0.6s,baz=293,slow=5.8,SNR=5.7						
	comp=Z,2.3nm,0.6s						
BVAR	**Borovoye Array**	**55.58**	**339**	P	**P**	**21 01 09.3**	**-0.4**
	comp=Z,3.7nm,0.5s,baz=139,slow=9.6,SNR=19						
	comp=Z,3.7nm,0.5s						
BRVK	**Borovoye**	**55.64**	**339**	P	**P**	**21 01 09.8**	**-0.3**
BRVK				IAmb	IAmb	21 01 10.5	
	comp=Z,2.8nm,0.7s						
VOI	**Vohitsoka**	**56.45**	**242**	P	**P**	**21 01 18.9**	**+2.2**
ABKAR	**Akbulak array**	**57.17**	**331**	P	**P**	**21 01 21.1**	**0.0**
ABKAR				IAmb	IAmb	21 01 21.7	
	comp=Z,3.4nm,0.7s						
KMBO	**Kilima Mbogo**	**61.80**	**267**	P	**P**	**21 01 55.7**	**+1.9**
	comp=Z,1.6nm,0.7s,baz=73,slow=10,SNR=6.9						
	comp=Z,1.6nm,0.7s						
GURO	**Guroymak-BITLI**	**62.94**	**312**	P	**P**	**21 02 01.2**	**+0.4**
GURO				IAmb	IAmb	21 02 02.5	
	comp=Z,5.8nm,1.1s						
KBZ	**Khabaz**	**64.22**	**318**	P	**P**	**21 02 08.9**	**+0.1**
	comp=Z,3.5nm,0.9s,baz=116,slow=7.0,SNR=8.7						
	comp=Z,3.5nm,0.9s						
MMAI	**Mount Meron Ar**	**66.56**	**305**	P	**P**	**21 02 25.8**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=92,slow=9.2,SNR=6.2						
	comp=Z,2.0nm,0.6s						
BNN	**Bunyan**	**67.64**	**311**	P	**P**	**21 02 30.7**	**-0.3**
BNN				IAmb	IAmb	21 02 33.3	
	comp=Z,8.4nm,0.6s						
BRTR	**Keskin Array B**	**69.52**	**312**	P	**P**	**21 02 42.0**	**-0.7**
BRTR	**Keskin Array B**	**69.52**	**312**	P	**P**	**21 02 42.2**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=128,slow=7.1,SNR=9.2						
	comp=Z,2.1nm,0.6s						
MDUB	**Mudurnu**	**71.51**	**312**	P	**P**	**21 02 54.2**	**-0.5**
TIRR	**Tirgusor**	**74.38**	**315**	⇓P	**P**	**21 03 11.6**	**+0.2**
TIRR	**Tirgusor**	**74.38**	**315**	P	**P**	**21 03 11.1**	**-0.2**
CFR	**Carcaliu**	**74.72**	**316**	⇑P	**P**	**21 03 13.7**	**+0.4**
HARR	**Harsova**	**74.77**	**316**	⇑P	**P**	**21 03 14.2**	**+0.6**
SORM	**Soroca**	**75.22**	**319**	⇓P	**P**	**21 03 16.0**	**0.0**
AKASG	**Malin Array Be**	**75.27**	**322**	P	**P**	**21 03 15.5**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=91,slow=4.2,SNR=7.9						
	comp=Z,1.1nm,0.5s						
AKBB	**Malin Array Si**	**75.27**	**322**	P	**P**	**21 03 16.1**	**-0.2**
AKBB				IAmb	IAmb	21 03 16.2	
	comp=Z,4.0nm,0.7s						
VRI	**Vrincioaia**	**75.83**	**317**	⇑P	**P**	**21 03 21.1**	**+1.4**
PLOR	**Plostina**	**75.88**	**317**	⇓P	**P**	**21 03 21.7**	**+1.7**
TESR	**Tescani**	**76.01**	**317**	⇓P	**P**	**21 03 21.4**	**+0.8**
MLR	**Muntele Rosu**	**76.30**	**316**	⇓P	**P**	**21 03 23.1**	**+0.6**
MLR	**Muntele Rosu**	**76.30**	**316**	P	**P**	**21 03 22.9**	**+0.4**
MLR				IAmb	IAmb	21 03 24.1	
	comp=Z,3.7nm,0.7s						
VOIR		**76.91**	**316**	⇓P	P	21 03 14.1	-12
BOSA	**Boshof**	**76.98**	**240**	P	**P**	**21 03 27.9**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=78,slow=3.3,SNR=9.3						
	comp=Z,2.8nm,0.6s						
BURAR	**Bucovina Array**	**77.18**	**318**	⇑P	**P**	**21 03 28.8**	**+1.5**
BURAR	**Bucovina Array**	**77.18**	**318**	P	**P**	**21 03 28.5**	**+1.2**
BURAR				IAmb	IAmb	21 03 29.2	
	comp=Z,6.5nm,0.6s						
ARR	**Arges**	**77.19**	**316**	⇓P	**P**	**21 03 26.2**	**-1.2**
BUR08	**Bucovina Ar. S**	**77.20**	**318**	P	**P**	**21 03 28.1**	**+0.6**
BUR08				IAmb	IAmb	21 03 29.4	
	comp=Z,5.9nm,0.8s						
MARR	**Marisel-Cluj**	**78.44**	**317**	⇓P	**P**	**21 03

TORD Torodi Ar. Bea 96.49 283 P P 21 05 02.3 -0.7
comp=Z,0.4nm,0.9s,baz=83,slow=6.9,SNR=1.9
comp=Z,0.4nm,0.9s
TXAR Lajitas Array 141.59 33 PKP **PKPdf 21 11 03.2 -0.9**
comp=Z,0.1nm,0.5s,baz=346,slow=1.9,SNR=2.3

*DNK **18** 20:57:29.2±1.1, 51°.57N×16°.52E, h10km, ML2.0*
*IPEC **18** 20:57:32.5±0.2, 51°.56N×16°.23E, h1km, ML2.5/4, Error ellipse: s-maj=2.8km s-min=1.4km az=60.0*
*PRU **18** 20:57:35.6, 51°.45N×16°.10E, h0km*
ISC 18 20:57:30.8±0.8, 51°.66N±0°.03×16°.17E±0°.02, h0km, n36, σ1§08/73, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.82**	**174**	*e*Pg	**Pg**	**20 57 46.7**	**+0.2**
KSP				*e*Sg	**Sg**	**20 57 56.0**	**-1.0**
CHVC	**Chvalec**	**1.07**	**184**	*e*PG	**Pg**	**20 57 51.5**	**+0.2**
CHVC				*e*SG	**Sg**	**20 58 04.0**	**-1.2**
comp=Z,54nm,0.6s							
OSTC	**Ostas**	**1.10**	**178**	*e*PG	**Pg**	**20 57 52.2**	**+0.3**
OSTC				*e*SG	**Sg**	**20 58 05.2**	**-1.0**
comp=Z,58nm,0.4s							
UPC	**Upice**	**1.15**	**185**	*e*PG	**Pg**	**20 57 52.8**	**-0.1**
UPC				*e*SG	**Sg**	**20 58 06.1**	**-1.7**
comp=Z,71nm,0.2s							
DPC	**Dobruska-Polom**	**1.31**	**176**	*e*PG	**Pg**	**20 57 55.5**	**-0.4**
DPC				*e*SG	**Sg**	**20 58 11.0**	**-1.9**
comp=Z,30nm,0.2s							
PVCC	**Panska Ves**	**1.51**	**222**	*e*PG	**Pb**	**20 57 59.9**	**+0.2**
PVCC				*e*SG	**Sb**	**20 58 19.1**	**-0.4**
comp=Z,130nm,0.2s							
BRG	**Berggiesshubel**	**1.60**	**242**	Pn	**Pg**	**20 58 01.8**	**+0.3**
BRG				Pg	**Pb**	**20 58 02.8**	**+1.5**
BRG				Sg	**Sg**	**20 58 23.3**	**+1.0**
BRG				Amp		20 58 24.5	
comp=Z,115nm,0.4s							
KRLC	**Kraliky**	**1.63**	**166**	*e*PG	**Pn**	**20 58 00.7**	**-0.1**
KRLC				*e*SG	**Sn**	**20 58 21.6**	**-0.9**
comp=Z,32nm,0.2s							
PRU	**Pruhonice**	**1.96**	**212**	*e*PN	**Pn**	**20 58 05.5**	**+0.2**
PRU				*e*PG	**Pb**	**20 58 07.5**	**+0.1**
PRU				*e*SG	**Sb**	**20 58 31.4**	**-1.0**
comp=Z,45nm,0.3s							
CLL	**Collm**	**2.01**	**261**	*e*Pn	**Pn**	**20 58 07.0**	**+1.1**
CLL				*e*Pg	**Pg**	**20 58 10.0**	**+0.7**
CLL				*i* x	x	20 58 13.6	
CLL				*e*Sg	**Sg**	**20 58 36.0**	**+0.7**
comp=Z,25nm,0.5s							
HSKC	**Hora Svate Kat**	**2.02**	**240**	*e*PG	**Pb**	**20 58 08.4**	**0.0**
HSKC				*e*SG	**Sg**	**20 58 34.5**	**-1.1**
comp=Z,38nm,0.2s							
MORC	**Moravsky Berou**	**2.08**	**155**	*e*Pn	**Pn**	**20 58 06.7**	**-0.2**
baz=335							
MORC				*e*Sg	**Sn**	**20 58 34.2**	**+0.7**
comp=Z,32nm,0.4s,baz=335							
OKC	**Ostrava-Krasne**	**2.21**	**145**	*e*PG	**Pb**	**20 58 12.6**	**+0.9**
VRAC	**Vranov**	**2.37**	**173**	*e*Pn	**Pn**	**20 58 11.2**	**+0.3**
baz=354							
VRAC				*e*Sg	**Sb**	**20 58 43.0**	**-1.0**
comp=Z,27nm,0.4s,baz=354							
KRUC	**Moravsky**	**2.60**	**177**	*e*Pn	**Pn**	**20 58 14.1**	**0.0**
baz=358							
KRUC				*e*Sg	**Sb**	**20 58 50.7**	**-0.1**
comp=Z,13nm,0.4s,baz=358							
OJC	**Ojcow**	**2.71**	**121**	*e*Pn	**Pn**	**20 58 14.9**	**-0.7**
OJC				*e*Pg	**Pg**	**20 58 23.4**	**+0.7**
OJC				*e*Sg	**Sg**	**20 58 58.3**	**+0.5**
NKC	**Novy Kostel**	**2.75**	**240**	*e*PN	**Pn**	**20 58 17.4**	**+1.2**
NKC				*e*PG	**Pg**	**20 58 23.7**	**+0.2**
NKC				*e*SG	**Sg**	**20 58 58.0**	**-1.1**
comp=Z,49nm,0.4s							
JAVC	**Velka Javorina**	**2.96**	**160**	*e*Pn	**Pn**	**20 58 19.1**	**0.0**
baz=342							
JAVC	**Velka Javorina**	**2.96**	**160**	*e*PN	**Pn**	**20 58 19.2**	**+0.1**
KHC	**Kasperske Hory**	**3.02**	**214**	*e*PN	**Pn**	**20 58 20.4**	**+0.5**
KHC				*e*PG	**Pb**	**20 58 26.0**	**+0.5**
KHC				*e*SN	**Sn**	**20 58 54.6**	**-2.2**
KHC				*e*SG	**Sb**	**20 59 04.4**	**+1.5**
comp=Z,12nm,0.4s							
CKRC	**Cesky Krumlov**	**3.08**	**203**	*e*PN	**Pn**	**20 58 21.7**	**+1.0**
CKRC				*e*PG	**Pb**	**20 58 27.3**	**+0.8**
CKRC				*e*SG	**Sb**	**20 59 05.5**	**+0.9**
comp=Z,15nm,0.4s							
LANS	**Liptovska Anna**	**3.28**	**139**	*e*PN	**Pn**	**20 58 25.7**	**+2.2**
LANS				*e*PG	**Pg**	**20 58 33.5**	**-0.1**
LANS				*e*SG	**Sg**	**20 59 16.1**	**0.0**
MODS	**Modra-Piesok**	**3.36**	**167**	*e*PN	**Pn**	**20 58 26.1**	**+1.5**
MODS				*e*PG	**Pg**	**20 58 34.3**	**-0.9**
MODS				*e*SG	**Sg**	**20 59 19.4**	**+0.6**
NIE	**Niedzica**	**3.46**	**129**	*e*P	**Pg**	**20 58 38.3**	**+1.2**
NIE				*e*S	**Sg**	**20 59 22.6**	**+0.7**
BSD	**Bornholm Skovb**	**3.54**	**348**	*i* P	**Pn**	**20 58 27.0**	**0.0**
BSD				*e*S	**Sn**	**20 59 09.2**	**-0.4**
BSD				IAML		20 59 34.2	
comp=Z,1.5nm,0.3s							
VYHS	**Vyhne**	**3.60**	**150**	*e*PG	**Pg**	**20 58 40.5**	**+0.7**
VYHS				*e*SG	**Sg**	**20 59 26.6**	**+0.1**
CONA	**Conrad Observa**	**3.74**	**183**	*e*Pn	**Pn**	**20 58 31.0**	**+1.2**
comp=Z,0.4nm,0.2s							
CONA				*e*Sg	**Sg**	**20 59 27.2**	**-3.6**
comp=Z,12nm,0.5s							
MOA	**Molln**	**4.00**	**199**	*e*Pn	**Pn**	**20 58 34.3**	**+0.9**
comp=Z,0.4nm,0.1s							
MOA				*e*Pg	**Pg**	**20 58 47.7**	**+0.1**
comp=Z,4.5nm,0.3s							
MOA				Sg	**Sg**	**20 59 37.6**	**-1.8**
comp=Z,6.2nm,0.3s							
LUNU	**Lund**	**4.30**	**339**	*i* P	**Pn**	**20 58 37.0**	**-0.4**
ARSA	**Arzberg**	**4.43**	**186**	Pn	**Pg**	**20 58 56.1**	**+0.4**
comp=Z,1.1nm,0.3s							
BLEU	**Blekinge**	**4.66**	**358**	*e*S	**Sn**	**20 59 33.9**	**-3.2**
BJUU	**Bjuv**	**4.80**	**338**	*e*S	**Sn**	**20 59 38.9**	**-1.6**
KBA	**Koelnbreinsper**	**4.94**	**203**	*e*Pn	**Pn**	**20 58 47.5**	**+1.1**
comp=Z,0.3nm,0.2s							
KBA				Sg	**Sg**	**21 00 10.2**	**+0.8**
comp=Z,4.9nm,0.5s							
WTTA	**Wattenberg**	**5.30**	**216**	Sg	**Sg**	**21 00 21.8**	**+1.0**
comp=Z,4.8nm,0.5s							
SQTA	**Sankt Quirin**	**5.49**	**218**	*e*Pn	**Pn**	**20 58 54.0**	**+0.1**
FETA	**Feichten**	**5.84**	**220**	*e*Sg	**Sg**	**21 00 38.6**	**+0.2**
comp=Z,2.5nm,0.8s							

*IDC **18** 21:23:35.8±0.7, 2°.23N×126°.51E, h0km, mb4.0/11, mbtmp4.0/12, ML3.3/1, MS3.0/5, Error ellipse: s-maj=38.6km s-min=14.0km az=71.0*
*DJA **18** 21:23:41.6±0.4, 2°.N±4°×12°.7E±°, h10km, M4.2/11, mb4.7/3, mB4.7/1, MLv4.0/11, Mw(mB)4.0/1*
*NEIC **18** 21:23:43.7±1.4, 2°.29N±0°.08×126°.90E±0°.09, h57km±8km, mb4.5/25, Error ellipse: s-maj=15.5km s-min=9.3km az=51.0*
ISC 18 21:23:42.8±0.5, 2°.36N±0°.06×126°.91E±0°.09, h53km, n64, σ1§10/60, mb4.2/23, MS2.7/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.64**	**164**		**Pn**	**21 24 08.9**	**-0.5**
TNTI				Sn	**Sn**	**21 24 30.7**	**+1.3**
TNTI	**Ternate**	**1.64**	**164**	P	**Pn**	**21 24 09.6**	**+0.3**
SGSI	**Sangihe**	**1.91**	**314**	P	**Pn**	**21 24 13.0**	**+0.1**
LBMI	**Labuha**	**3.04**	**169**	P	**Pn**	**21 24 30.0**	**+1.6**
KMSI	**Cibinong**	**3.43**	**239**	P	Pn	21 24 47.2	+13
GTOI	**Gorontalo**	**4.26**	**246**	P	**Pn**	**21 24 47.5**	**+2.3**
SANI	**Sanana**	**4.48**	**192**	P	**Pn**	**21 24 47.1**	**-1.1**
MRSI	**Marisa**	**5.31**	**249**	P	**Pn**	**21 25 02.2**	**+2.6**
64nm,0.6s,729nm0.3nm							
LUWI	**Luwuk**	**5.35**	**231**	P	Pn	21 25 16.9	+17
TOLI2	**Tolitoli**	**6.25**	**259**	Pn	**Pn**	**21 25 12.7**	**+0.2**
FAKI	**Fak Fak**	**7.48**	**135**	Pn	**Pn**	**21 25 29.9**	**+0.5**
MYLDM	**Lahad Datu**	**8.85**	**289**		**Pn**	**21 25 49.9**	**+1.8**
KAPI	**Kappang**	**10.24**	**224**	Pn	Pn	21 26 00.5	-6.7
0.3nm,0.3s,baz=118,slow=5.6,SNR=2.7							
10nm,1.0s							
SBUM	**Sibu**	**14.68**	**271**		**Pn**	**21 27 08.9**	**+1.4**
KNRA	**Kununurra**	**18.02**	**174**	P	**P**	**21 27 48.6**	**-0.8**
KNRA				IAmb	IAmb	21 28 11.8	
comp=Z,33nm,1.4s							
GUMO	**Guam**	**20.96**	**57**	LR	LR	21 36 13.8	
comp=Z,30nm,20.1s,baz=282,slow=36							
TPUB	**Ta-pu**	**21.69**	**344**	P	**P**	**21 28 30.0**	**+0.7**
WB0	**Warramunga Arr**	**23.19**	**162**	P	**P**	**21 28 43.6**	**-1.5**
WB0				IAmb	IAmb	21 28 53.8	
comp=Z,8.6nm,0.8s							
WRA	**Warramunga Arr**	**23.33**	**162**	P	**P**	**21 28 44.4**	**-2.2**
WRA	**Warramunga Arr**	**23.33**	**162**	P	**P**	**21 28 44.9**	**-1.7**
comp=Z,3.2nm,0.6s,baz=339,slow=10,SNR=42							
WRA				PcP	**PcP**	**21 32 33.7**	**+1.2**
comp=Z,0.1nm,0.4s,baz=350,slow=2.0,SNR=1.0							
comp=Z,3.2nm,0.6s							
PSA00	**Pilbara Seismi**	**24.77**	**196**	P	**P**	**21 28 58.5**	**-1.3**
PSA00				IAmb	IAmb	21 29 05.6	
comp=Z,13nm,1.0s							
AS31	**Alice Springs**	**26.75**	**166**	P	**P**	**21 29 16.8**	**-0.9**
ASAR	**Alice Springs**	**26.75**	**166**	P	**P**	**21 29 16.2**	**-1.5**
ASAR	**Alice Springs**	**26.75**	**166**	P	**P**	**21 29 17.2**	**-0.5**
comp=Z,0.3nm,0.3s,baz=345,slow=7.8,SNR=8.5							
ASAR				PcP	**PcP**	**21 32 40.7**	**+0.7**
comp=Z,0.3nm,0.7s,baz=332,slow=2.3,SNR=1.8							
comp=Z,0.3nm,0.3s							
CTA	**Charters Tower**	**29.29**	**140**	LR	LR	21 41 52.8	
comp=Z,81nm,20.8s,baz=266,slow=37							
GSI	**Gunungsitoli**	**29.34**	**268**	P	**P**	**21 29 40.7**	**-0.2**
GSI				IAmb	IAmb	21 30 09.0	
comp=Z,19nm,1.1s							
CMAR	**Chiang Mai Arr**	**31.73**	**302**	P	**P**	**21 30 00.1**	**-1.9**
comp=Z,1.1nm,0.8s,baz=114,slow=6.9,SNR=7.6							
CMAR				LR	LR	21 43 30.4	
comp=Z,10nm,21.4s,baz=175,slow=38							
comp=Z,1.1nm,0.8s							
CHTO	**Chiang Mai**	**31.90**	**303**	P	**P**	**21 30 02.2**	**-1.2**
CHTO				IAmb	IAmb	21 30 03.4	
comp=Z,3.7nm,0.6s							
FORT	**Forrest**	**32.98**	**178**	P	**P**	**21 30 12.5**	**-0.2**
FORT				IAmb	IAmb	21 30 23.6	
comp=Z,23nm,1.1s							
KSRS	**Korea Array**	**34.93**	**1**	P	**P**	**21 30 31.3**	**+1.8**
comp=Z,1.0nm,0.7s,baz=175,slow=10,SNR=2.2							
comp=Z,1.0nm,0.7s							
MJAR	**Matsushiro Arr**	**35.58**	**16**	LR	LR	21 47 59.9	
comp=Z,8.6nm,18.9s,baz=176,slow=41							
BBOO	**Buckleboo**	**36.04**	**167**	P	**P**	**21 30 38.5**	**-0.6**
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**21 30 45.1**	**-0.5**
STKA	**Stephens Creek**	**36.80**	**159**	P	**P**	**21 30 45.8**	**+0.2**
comp=Z,5.9nm,0.6s,baz=339,slow=9.4,SNR=17							
comp=Z,5.9nm,0.6s							
JSD	**Sado**	**37.00**	**15**	P	**P**	**21 30 47.5**	**+0.2**
ARMA	**Armidale**	**40.23**	**146**	P	**P**	**21 31 14.3**	**-0.3**
ARMA				IAmb	IAmb	21 31 16.7	
comp=Z,7.9nm,0.8s							
USRK	**Ussuriysk Ar.**	**41.90**	**5**	P	**P**	**21 31 29.5**	**+1.5**
USRK	**Ussuriysk Ar.**	**41.90**	**5**	P	**P**	**21 31 29.8**	**+1.8**
comp=Z,3.5nm,0.7s,baz=210,slow=4.8,SNR=2.8							
comp=Z,3.5nm,0.7s							
DZM	**Mont Dzumac**	**45.61**	**124**	LR	LR	21 50 53.0	
comp=Z,63nm,18.7s,baz=84,slow=36							
RAMN	**Ramite**	**45.69**	**306**	*e*P	**P**	**21 31 58.4**	**-0.7**
comp=Z,5.5nm,0.6s							
JIRN	**Jiri**	**46.33**	**307**	*e*P	**P**	**21 32 03.0**	**-1.2**
comp=Z,11nm,0.8s							
GUN	**Gumba**	**46.68**	**307**	*e*P	**P**	**21 32 06.1**	**-0.9**
comp=Z,15nm,0.6s							
GKN	**Gorkha**	**47.72**	**306**	*e*P	**P**	**21 32 13.6**	**-1.2**
DANN	**Dangsing**	**48.56**	**306**	*e*P	**P**	**21 32 20.2**	**-1.3**
comp=Z,12nm,0.6s							
SONM	**Songino Array**	**48.64**	**342**	P	**P**	**21 32 21.3**	**-0.2**
SONM	**Songino Array**	**48.64**	**342**	P	**P**	**21 32 21.9**	**+0.3**
comp=Z,0.7nm,0.6s,baz=163,slow=8.6,SNR=5.6							
comp=Z,0.7nm,0.6s							
PYUN	**Piuthan**	**49.08**	**306**	*e*P	**P**	**21 32 24.9**	**-0.5**
comp=Z,7.0nm,0.7s							
MK31	**Makanchi Array**	**58.78**	**326**	P	**P**	**21 33 35.4**	**-0.2**
MK31				IAmb	IAmb	21 33 36.0	
comp=Z,1.7nm,0.8s							
MKAR	**Makanchi Array**	**58.78**	**326**	P	**P**	**21 33 35.3**	**-0.3**
MKAR	**Makanchi Array**	**58.78**	**326**	P	**P**	**21 33 33.4**	**-2.2**
comp=Z,1.1nm,0.5s,baz=126,slow=8.5,SNR=10							
comp=Z,1.1nm,0.5s							
MAKZ	**Makanchi**	**58.96**	**326**	P	**P**	**21 33 36.5**	**-0.4**
MAKZ				IAmb	IAmb	21 33 47.9	
comp=Z,4.4nm,1.3s							
YAK	**Yakutsk**	**59.56**	**2**	P	**P**	**21 33 41.6**	**+1.0**
LBZ	**Lake Benmore**	**60.46**	**146**	P	**P**	**21 33 47.0**	**-0.2**
ZALV	**Zalesovo Beam**	**61.88**	**333**	P	**P**	**21 33 55.9**	**-0.7**
comp=Z,0.3nm,0.3s,baz=157,slow=5.6,SNR=2.3							
comp=Z,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**62.98**	**328**	P	**P**	**21 34 03.7**	**-0.3**
comp=Z,2.1nm,0.5s,baz=130,slow=6.4,SNR=9.6							
comp=Z,2.1nm,0.5s							
KURK	**Kurchatov**	**62.99**	**328**	P	**P**	**21 34 04.0**	**-0.1**
KURK				IAmb	IAmb	21 34 07.4	
comp=Z,5.2nm,0.7s							
BVAR	**Borovoye Array**	**68.56**	**327**	P	**P**	**21 34 39.6**	**-0.3**
comp=Z,1.1nm,0.6s,baz=126,slow=10,SNR=7.1							
comp=Z,1.1nm,0.6s							
BRVK	**Borovoye**	**68.63**	**327**	P	**P**	**21 34 40.4**	**+0.1**
BRVK				IAmb	IAmb	21 34 41.7	
comp=Z,2.1nm,0.7s							
TIXI	**Tiksi**	**69.20**	**1**	P	**P**	**21 34 43.9**	**+0.4**
ABKAR	**Akbulak array**	**73.32**	**321**	P	**P**	**21 35 08.7**	**-0.1**
ABKAR	**Akbulak array**	**73.32**	**321**	P	**P**	**21 35 08.9**	**+0.1**
ABKAR				IAmb	IAmb	21 35 37.5	
comp=Z,4.6nm,1.4s							
ARU	**Arti**	**76.18**	**328**	P	**P**	**21 35 25.3**	**+0.1**
ARU				IAmb	IAmb	21 35 26.1	
comp=Z,2.9nm,0.8s							
SIRT	**Sirnak**	**84.18**	**307**	P	**P**	**21 36 09.2**	**+0.3**
GURO	**Guroymak-BITLI**	**84.53**	**308**	P	**P**	**21 36 11.2**	**+0.5**
GURO				IAmb	IAmb	21 36 13.3	
comp=Z,3.6nm,0.8s							

IDC 18 21:46:15.9±2.0, 4°.01S×151°.16E, h0km, mb3.3/3, mbtmp3.3/3, MS2.9/1, Error ellipse: s-maj=154.3km s-min=31.1km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.68**	**196**	LR	LR	21 56 20.8	
comp=Z,35nm,18.5s,baz=81,slow=36							
WRA	**Warramunga Arr**	**22.79**	**225**	P	P	21 51 21.4	+1.1
0.6nm,0.9s,baz=48,slow=9.5,SNR=7.8							
WRA				PcP	PcP	21 55 11.0	-1.4
0.2nm,0.8s,baz=49,slow=1.9,SNR=1.4							
0.6nm,0.9s							
ASAR	**Alice Springs**	**25.68**	**219**	P	P	21 51 47.0	-0.8
0.3nm,0.7s,baz=45,slow=9.3,SNR=2.5							
0.3nm,0.7s							
ILAR	**Eielson Array**	**82.06**	**22**	P	P	21 58 38.4	+0.6
0.4nm,0.7s,baz=240,slow=7.0,SNR=2.0							
0.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**148.51**	**289**	PKPbc	PKPbc	22 06 05.2	-0.6
0.5nm,0.6s,baz=88,slow=3.5,SNR=4.1							

IDC 18 22:40:06.6±3.4, 3°.62S×145°.00E, h0km, mb3.6/3, mbtmp3.6/4, ML3.3/1, MS3.2/2, Error ellipse: s-maj=91.6km s-min=31.4km az=92.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.27**	**212**	P	P	22 44 33.4	+0.4
0.1nm,0.3s,baz=34,slow=11,SNR=8.8							
0.8nm,0.6s							
ASAR	**Alice Springs**	**22.63**	**207**	P	P	22 45 09.1	-0.3
0.7nm,0.8s,baz=41,slow=6.2,SNR=5.4							
0.7nm,0.8s							
RPZ	**Rata Peaks**	**46.10**	**154**	LR	LR	23 06 01.3	
comp=Z,28nm,18.9s,baz=100,slow=34							
CMAR	**Chiang Mai Arr**	**50.38**	**297**	P	P	22 49 05.4	-0.6
0.4nm,0.3s,baz=108,slow=6.0,SNR=2.5							
0.4nm,0.3s							
ZALV	**Zalesovo Beam**	**75.95**	**328**	LR	LR	23 25 37.1	
comp=Z,12nm,18.6s,baz=84,slow=36							
BVAR	**Borovoye Array**	**83.69**	**324**	P	P	22 52 37.7	+0.4
0.7nm,0.6s,baz=117,slow=5.2,SNR=3.8							
0.7nm,0.6s							

*IDC **18** 23:02:02.1±1.0, 57°.89S×25°.67W, h0km, mb4.2/6, mbtmp4.2/7, ML4.6/1, MS3.3/8, Error ellipse: s-maj=41.8km s-min=21.6km az=91.0*
*NEIC **18** 23:02:08.4±1.3, 58°.0S±0°.1×25°.7W±0°.3, h44km±9km, mb4.4/12, Error ellipse: s-maj=24.2km s-min=12.1km az=46.0*
ISC 18 23:02:08.6±0.7, 57°.93S±0°.10×25°.7W±0°.2, h49km, n42, σ0§73/28, mb4.3/10, MS3.4/7, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.74**	**157**	⇑P	**Pn**	**23 05 33.4**	**-0.3**
comp=Z,7.6nm,0.3s							
VNA3	**Neumayer Olymp**	**14.94**	**160**	⇑P	**Pn**	**23 05 35.4**	**-0.9**
comp=Z,6.0nm,0.4s							
VNA2	**Neumayer--Watz**	**15.13**	**157**	⇑P	**Pn**	**23 05 38.3**	**-0.5**
comp=Z,4.6nm,0.2s,baz=324,slow=14							
SNAA	**Sanae**	**16.68**	**155**	P	**Pn**	**23 05 59.1**	**+0.5**
SNAA	**Sanae**	**16.68**	**155**	⇑P	**Pn**	**23 05 59.2**	**+0.5**
comp=Z,120nm,0.3s							
SNAA	**Sanae**	**16.68**	**155**	Pn	**Pn**	**23 05 58.9**	**+0.2**
comp=Z,2.2nm,0.3s,baz=316,slow=15,SNR=55							
SNAA				Sn	Sn	23 08 49.2	-13
comp=Z,0.1nm,0.3s,baz=310,slow=8.7,SNR=1.7							
SNAA				LR	LR	23 10 57.1	
comp=Z,59nm,21.7s,baz=7.0,slow=32							
comp=Z,5.7nm,0.4s							
TROLL	**Troll, Antarti**	**18.19**	**152**	⇑P	**Pn**	**23 06 19.1**	**+1.8**
comp=Z,182nm,0.3s							
BELA	**Belgrano 2**	**20.26**	**185**	P	**P**	**23 06 38.9**	**-0.6**
QSPA	**South Pole Qui**	**32.31**	**180**	P	**P**	**23 08 33.1**	**+0.4**
QSPA				IAmb	IAmb	23 08 40.8	
comp=Z,5.2nm,1.2s							
QSPA	**South Pole Qui**	**32.31**	**180**	P	**P**	**23 08 33.8**	**+1.2**
comp=Z,1.1nm,0.5s,baz=274,slow=0.5,SNR=9.9							
comp=Z,1.1nm,0.5s							
PLCA	**Paso Flores**	**33.16**	**281**	LR	LR	23 22 56.9	
comp=Z,25nm,18.3s,baz=228,slow=38							
MAW	**Mawson**	**38.15**	**142**	P	**P**	**23 09 22.6**	**+0.1**
MAW	**Mawson**	**38.15**	**142**	P	**P**	**23 09 22.5**	**+0.1**
comp=Z,3.1nm,0.9s,baz=220,slow=15,SNR=5.6							
comp=Z,3.1nm,0.9s							
CPUP	**Villa Florida**	**38.67**	**311**	LR	LR	23 26 40.3	
comp=Z,20nm,18.4s,baz=200,slow=38							
SUR	**Sutherland**	**40.40**	**71**	LR	LR	23 22 14.7	
comp=Z,50nm,18.3s,baz=164,slow=30							
BOSA	**Boshof**	**45.69**	**73**	P	**P**	**23 10 24.0**	**-0.6**
BOSA	**Boshof**	**45.69**	**73**	P	**P**	**23 10 24.2**	**-0.4**
comp=Z,1.6nm,0.7s,baz=208,slow=7.0,SNR=5.3							
BOSA				LR	LR	23 24 33.5	
comp=Z,26nm,21.6s,baz=184,slow=30							
comp=Z,1.6nm,0.7s							
H04S2	**CROZET ISLANDS**	**46.06**	**111**	T	T	00 00 52.7	
baz=225,slow=75,SNR=11							
H04S3	**CROZET ISLANDS**	**46.07**	**111**	T	T	00 00 53.5	
baz=225,slow=75,SNR=9.7							
H04S1	**CROZET ISLANDS**	**46.08**	**111**	T	T	00 00 55.1	
baz=225,slow=75,SNR=8.7							
LBTB	**Lobatse**	**48.82**	**70**	P	**P**	**23 10 48.8**	**-0.1**
H10S2	**ASCENSION HYDR**	**49.60**	**14**	T	T	00 04 36.6	
baz=188,slow=74,SNR=4.6							
H10S3	**ASCENSION HYDR**	**49.60**	**14**	T	T	00 04 36.6	
baz=32,slow=74,SNR=16							
H10N1	**ASCENSION HYDR**	**50.72**	**14**	T	T	00 05 58.6	
baz=266,slow=76,SNR=9.7							
H10N3	**ASCENSION HYDR**	**50.72**	**14**	T	T	00 05 58.6	
baz=266,slow=76,SNR=4.9							
H10N2	**ASCENSION HYDR**	**50.73**	**14**	T	T	00 05 58.6	
baz=266,slow=76,SNR=16							
LPAZ	**La Paz**	**52.13**	**305**	P	**P**	**23 11 15.4**	**+0.8**
LPAZ				IAmb	IAmb	23 11 33.9	
comp=Z,5.6nm,1.5s							
SAML	**Samuel**	**56.71**	**314**	P	**P**	**23 11 47.1**	**0.0**
SAML				IAmb	IAmb	23 12 13.0	
comp=Z,4.0nm,1.2s							
LSZ	**Lusaka**	**58.33**	**66**	LR	LR	23 33 41.0	
comp=Z,36nm,18.9s,baz=168,slow=33							
BOAV	**Boa Vista**	**66.27**	**321**	P	**P**	**23 12 50.6**	**-1.0**
BOAV				IAmb	IAmb	23 13 18.9	
comp=Z,6.8nm,1.3s							
DBIC	**Dimbokro**	**66.57**	**23**	P	**P**	**23 12 52.7**	**-0.7**
DBIC	**Dimbokro**	**66.57**	**23**	P	**P**	**23 12 54.1**	**+0.7**
comp=Z,1.7nm,0.5s,baz=190,slow=7.3,SNR=4.9							
comp=Z,1.7nm,0.5s							
TOA0	**Torodi Ar. Sit**	**74.32**	**28**	P	**P**	**23 13 41.3**	**+0.7**
TOA0				IAmb	IAmb	23 13 56.9	
comp=Z,3.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**74.32**	**28**	P	**P**	**23 13 41.4**	**+0.8**
TORD				IAmb	IAmb	23 13 56.8	
comp=Z,2.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**74.32**	**28**	P	**P**	**23 13 41.6**	**+0.9**
comp=Z,2.2nm,0.6s,baz=198,slow=6.0,SNR=25							
comp=Z,2.2nm,0.6s							
KOWA	**Kowa**	**74.35**	**22**	P	**P**	**23 13 41.4**	**+0.6**
KMBO	**Kilima Mbogo**	**74.98**	**67**	LR	LR	23 44 18.9	
comp=Z,25nm,18.1s,baz=98,slow=34							
SDV	**Santo Domingo**	**75.92**	**314**	LR	LR	23 48 19.9	
comp=Z,23nm,18.6s,baz=118,slow=37							
**

GRMI Germi 6.94 6 Pn **Pn 23 04 52.7 +1.7**
ASF Jabal al Asfar 8.60 275 Lg Lg 23 07 51.4
comp=N,0.5nm,0.3s,baz=67,slow=18,SNR=7.1
MMAI Mount Meron Ar 9.88 280 Lg Lg 23 08 33.5
comp=N,0.4nm,0.3s,baz=111,slow=27,SNR=2.9
EIL Elat 10.62 261 Lg Lg 23 08 58.6
comp=N,0.3nm,0.3s,baz=232,slow=2.8,SNR=4.0
KVAR Kislovodsk Arr 12.52 345 Pn **Pn 23 06 08.0 +0.6**
baz=20,slow=21
comp=N,0.9nm,0.3s
BRTR Keskin Array B 13.38 309 Pn **Pn 23 06 22.3 +3.2**
baz=111,slow=14,SNR=5.4
comp=N,0.8nm,0.9s
WSAR Wadi Sarin 13.41 127 Pn **Pn 23 06 18.0 -1.5**
comp=N,0.2nm,0.3s,baz=213,slow=8.7,SNR=1.3
comp=N,2.6nm,0.7s
IDI Anoyia 18.74 286 P **Pn 23 07 29.5 +1.0**
comp=N,0.2nm,0.3s,baz=86,slow=7.0,SNR=3.7
comp=N,5.3nm,1.0s
AKTO Aktyubinsk 20.25 21 P **P 23 07 43.4 -1.0**
comp=N,1.0nm,0.5s,baz=226,slow=11,SNR=2.7
comp=N,1.0nm,0.5s
VRI Vrincioaia 21.00 317 ⇓P **P 23 07 54.7 +2.1**
PLOR Plostina 21.04 317 ⇑P **P 23 07 54.6 +1.5**
MLR Muntele Rosu 21.25 316 ⇑P **P 23 07 58.4 +2.9**
MLR Muntele Rosu 21.25 316 P **P 23 07 55.3 -0.1**
comp=N,0.8nm,0.8s,baz=209,slow=15,SNR=2.5
comp=N,0.8nm,0.8s
HUMR Humele 21.35 313 P **P 23 07 57.9 +1.6**
TESR Tescani 21.42 319 ⇓P **P 23 07 58.6 +1.5**
OZUR 21.68 317 ⇓P **P 23 08 01.8 +1.9**
VOIR 21.76 315 ⇓P **P 23 08 03.3 +2.4**
DOPR Dopca 21.84 316 ⇑P **P 23 08 03.8 +2.2**
ARR Arges 21.98 314 ⇑P **P 23 08 06.0 +2.8**
BURAR Bucovina Array 22.86 320 ⇑P **P 23 08 15.9 +3.3**
AKASG Malin Array Be 22.96 330 P **P 23 08 12.9 -0.5**
comp=N,0.2nm,0.3s,baz=138,slow=8.6,SNR=5.0
comp=N,0.2nm,0.3s
GZR Gura Zlata 23.14 313 ⇓P **P 23 08 17.6 +2.1**
MARR Marisel-Cluj 23.55 316 ⇓P **P 23 08 21.1 +1.5**
MORH Mrgy, Hungar 26.11 311 ⇑P **P 23 08 44.5 +1.6**
BVAR Borovoye Array 27.04 32 P **P 23 08 49.8 -1.6**
comp=N,0.6nm,0.5s,baz=214,slow=7.1,SNR=4.4
comp=N,0.6nm,0.5s
KURBB Kurchatov Arra 29.86 42 P **P 23 09 15.7 -0.8**
comp=N,0.5nm,0.2s,baz=246,slow=9.0,SNR=2.7
comp=N,0.5nm,0.2s
MKAR Makanchi Array 30.78 51 P **P 23 09 23.5 -1.2**
comp=N,0.7nm,0.8s,baz=273,slow=4.7,SNR=3.4
comp=N,0.7nm,0.8s
FINES FINESS Array B 32.57 341 P **P 23 09 40.3 +0.2**
comp=N,3.1nm,1.0s,baz=146,slow=12,SNR=7.4
comp=N,3.1nm,1.0s
ZALV Zalesovo Beam 34.78 39 P **P 23 09 58.5 -1.0**
comp=N,0.5nm,0.3s,baz=255,slow=12,SNR=5.1
comp=N,0.5nm,0.3s
HFS Hagfors 35.82 332 P **P 23 10 08.9 +0.5**
comp=N,3.6nm,0.5s,baz=124,slow=7.9,SNR=30
comp=N,3.6nm,0.5s
NOA NORSAR Array B 37.35 332 P **P 23 10 21.1 -0.4**
comp=N,0.8nm,0.8s,baz=126,slow=8.5,SNR=3.7
comp=N,0.8nm,0.8s
ARCES ARCESS Array B 39.61 348 P **P 23 10 40.2 -0.1**
comp=N,3.8nm,1.0s,baz=162,slow=9.5,SNR=1.7
comp=N,3.8nm,1.0s
PALK Pallekele 39.79 121 LR LR 23 27 02.4
comp=N,19nm,19.1s,baz=225,slow=36
EKA Eskdalemuir Ar 42.04 319 P **P 23 11 00.7 +0.2**
comp=N,1.2nm,0.7s,baz=125,slow=12,SNR=2.5
comp=N,1.2nm,0.7s
TORD Torodi Ar. Bea 45.46 256 P **P 23 11 29.3 +0.7**
comp=N,0.2nm,0.4s,baz=63,slow=7.5,SNR=7.2
comp=N,0.2nm,0.4s
SPITS Spitsbergen Ar 48.30 352 P **P 23 11 50.2 +0.2**
comp=N,5.2nm,0.8s,baz=72,slow=8.8,SNR=1.7
comp=N,5.2nm,0.8s
KSRS Korea Array 64.82 60 P **P 23 13 47.0 -1.2**
comp=N,1.5nm,0.6s,baz=284,slow=6.4,SNR=3.0
comp=N,1.5nm,0.6s
JNU Nakatsue 68.76 64 LR LR 23 51 22.5
comp=N,50nm,18.6s,baz=206,slow=42
ILAR Eielson Array 83.05 6 P **P 23 15 34.7 +0.3**
comp=N,0.3nm,0.9s,baz=350,slow=5.4,SNR=1.9
comp=N,0.3nm,0.9s

---

*PRE **18** 23:51:06.9±0.7, 26°.42S×27°.54E, h2km, ML1.7*
*BUL **18** 23:51:11.5±0.8, 26°.55S×27°.44E, h7km±9km, MD3.2*
*EAF **18** 23:51:11.5, 26°.54S×27°.46E, h8km, MC3.2*
ISC 18 23:51:06.5±0.8, 26°.38S±0°.03×27°.55E±0°.03, h10km, n15, σ2s11/30, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.57**	**198**	*eP*	**Pg**	**23 51 17.2**	**-0.5**
PRYS				*eS*	**Sg**	**23 51 24.3**	**-0.9**
PRYS				IAML		23 51 26.4	
	comp=Z,14nm,0.2s						
KSR	**Koster**	**0.79**	**312**	*eP*	**Pb**	**23 51 22.2**	**-0.2**
KSR				*eS*	**Sb**	**23 51 33.8**	**+0.6**
KSR				IAML		23 51 42.0	
	comp=Z,88nm,0.1s						
SLR	**Silverton**	**0.92**	**46**	*eP*	**Pn**	**23 51 25.4**	**-0.2**
SLR				*eS*	**Sn**	**23 51 38.6**	**-0.3**
SLR				IAML		23 51 43.5	
	comp=Z,8.9nm,0.3s						
SNKL	**Senekal, Frees**	**1.90**	**174**	*eP*	**Pb**	**23 51 40.5**	**-0.9**
SNKL				*eS*	**Sb**	**23 52 05.0**	**-0.2**
SNKL				IAML		23 52 06.9	
	comp=Z,23nm,0.8s						
SWZ	**Schweizer**	**2.14**	**248**	*eP*	**Pb**	**23 51 44.3**	**-1.2**
SWZ				*eS*	**Sb**	**23 52 11.5**	**-0.6**
SWZ				IAML		23 52 16.4	
	comp=Z,8.7nm,0.6s						
LBTB	**Lobatse**	**2.23**	**307**	*i* P	**Pg**	**23 51 49.1**	**0.0**
LBTB				*i* S	**Sg**	**23 52 16.2**	**-1.9**
LBTB	**Lobatse**	**2.23**	**307**	*eP*	**Pb**	**23 51 46.0**	**-0.8**
LBTB				*eS*	**Sb**	**23 52 14.5**	**0.0**
LBTB				IAML		23 52 19.6	
	comp=Z,15nm,0.4s						
LBTB	**Lobatse**	**2.23**	**307**	*i* P	**Pg**	**23 51 49.1**	**0.0**
	baz=312						
LBTB				*i* S	**Sg**	**23 52 16.2**	**-1.9**
	baz=312						
LEPH	**Lephalale, Lim**	**2.52**	**5**	*eP*	**Pn**	**23 51 49.6**	**+2.0**
LEPH				*eS*	**Sb**	**23 52 21.7**	**-1.3**
LEPH				IAML		23 52 29.4	
	comp=Z,5.0nm,0.2s						
BOSA	**Boshof**	**3.02**	**222**	*i* P	**Pn**	**23 51 56.4**	**+1.9**
BOSA				*i* S	**Sn**	**23 52 30.3**	**-0.5**
BOSA	**Boshof**	**3.02**	**222**	*eP*	**Pn**	**23 51 56.1**	**+1.6**
BOSA				*eS*	**Sn**	**23 52 31.3**	**+0.5**
BOSA				IAML		23 52 49.7	
	comp=Z,1.3nm,0.2s						
BOSA	**Boshof**	**3.02**	**222**	*i* P	**Pn**	**23 51 56.4**	**+1.9**
	baz=223						
BOSA				*i* S	**Sn**	**23 52 30.3**	**-0.5**
	baz=223						
KSTD	**Kokstad**	**4.50**	**160**	*eP*	**Pn**	**23 52 17.3**	**+2.4**
KSTD				*eS*	**Sn**	**23 53 07.8**	**+0.5**
KSTD				IAML		23 53 29.1	
	comp=Z,2.4nm,0.8s						
MOPA	**Mopani**	**4.50**	**52**	*i* P	**Pb**	**23 52 22.2**	**-3.5**
MOPA				*i* S	**Sn**	**23 53 12.9**	**+5.6**
MOPA	**Mopani**	**4.50**	**52**	*i* P	**Pb**	**23 52 22.2**	**-3.5**
	baz=51						
MOPA				*i* S	**Sn**	**23 53 12.9**	**+5.6**
	baz=51						

---

*IDC **19** 00:03:02.4±1.3, 2°.18N×126°.13E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=213.2km s-min=17.0km az=67.0*
ISC 19 00:03:12.4±1.2, 2°.1N±0°.5×12°6E±°, h83km, n8, σ1s10/8, mb3.8/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.36**	**160**	P	**P**	**00 08 12.5**	**-1.3**
	2.6nm,0.6s,baz=338,slow=11,SNR=24						
	2.6nm,0.6s						
ASAR	**Alice Springs**	**26.73**	**164**	P	**P**	**00 08 44.6**	**+0.3**
	0.5nm,0.6s,baz=350,slow=7.5,SNR=5.8						
	0.5nm,0.6s						
STKA	**Stephens Creek**	**36.86**	**158**	P	**P**	**00 10 13.4**	**+0.5**
	1.8nm,0.7s,baz=313,slow=8.7,SNR=4.1						
	1.8nm,0.7s						

SONM Songino Array 48.63 342 P **P 00 11 47.7 -0.3**
0.2nm,0.5s,baz=151,slow=6.3,SNR=2.2
0.2nm,0.5s
MKAR Makanchi Array 58.55 326 P **P 00 13 00.1 -0.3**
0.4nm,0.4s,baz=121,slow=8.4,SNR=6.2
0.4nm,0.4s
ZALV Zalesovo Beam 61.75 334 P **P 00 13 21.9 -0.2**
0.4nm,0.5s,baz=149,slow=9.8,SNR=1.8
0.4nm,0.5s
KURBB Kurchatov Arra 62.78 328 P **P 00 13 28.4 -0.6**
0.4nm,0.4s,baz=128,slow=5.8,SNR=2.1
0.4nm,0.4s
BVAR Borovoye Array 68.35 327 P **P 00 14 06.7 +1.8**
0.3nm,0.6s,baz=114,slow=3.5,SNR=1.5
0.3nm,0.6s

---

*SJA **19** 00:04:24.2±0.6, 19°.09S×69°.55W, h108km±3km, ML3.4, MW3.5*
*GUC **19** 00:04:25.6±0.6, 19°.06S×69°.44W, h103km±2km, ML3.4*
ISC 19 00:04:25.8±1.5, 19°.15S±0°.03×69°.56W±0°.06, h106km±10km, n36, σ1s50/64, 2C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.63**	**146**	*eP*	**Pn**	**00 04 43.6**	**-0.2**
GO01				*eS*	**Sn**	**00 04 57.6**	**+0.4**
GO01	**Chusmiza**	**0.63**	**146**	*eP*	**Pn**	**00 04 43.5**	**-0.2**
GO01				*eS*	**Sn**	**00 04 57.6**	**+0.4**
PB16	**IPOC Station P**	**0.81**	**4**	⇓*iP*	**Pn**	**00 04 44.5**	**-1.0**
PB16				*i* S	**Sn**	**00 04 58.8**	**-1.3**
PB16				IAML		00 05 00.5	
	comp=E,1μm,0.7s						
PB16	**IPOC Station P**	**0.81**	**4**	*eP*	**Pn**	**00 04 44.5**	**-1.0**
PB16				*eS*	**Sn**	**00 04 58.8**	**-1.3**
PB16				IAML		00 05 01.1	
	comp=Z,838nm,0.6s						
PB12	**IPOC Station P**	**0.90**	**306**	⇑*iP*	**Pn**	**00 04 45.4**	**-0.4**
PB12				*eS*	**Sn**	**00 05 00.3**	**-0.4**
PB12				IAML		00 05 00.9	
	comp=N,1μm,0.2s						
PB12	**IPOC Station P**	**0.90**	**306**	*eP*	**Pn**	**00 04 45.1**	**-0.7**
PB12				⇓*eS*	**Sn**	**00 05 00.1**	**-0.7**
PB12				IAML		00 05 02.3	
	comp=Z,507nm,0.3s						
PB08	**IPOC Station P**	**1.06**	**159**	⇓*iP*	**Pn**	**00 04 48.0**	**+0.2**
PB08				*eS*	**Sn**	**00 05 04.8**	**+0.4**
PB08				IAML		00 05 06.1	
	comp=E,867nm,0.2s						
PB08	**IPOC Station P**	**1.06**	**159**	*eP*	**Pn**	**00 04 47.9**	**+0.1**
PB08				*eS*	**Sn**	**00 05 05.2**	**+0.9**
PB08				IAML		00 05 06.0	
	comp=Z,373nm,0.5s						
AP01	**Chacalluta**	**1.07**	**316**	⇑*iP*	**Pn**	**00 04 47.1**	**-0.3**
AP01				*eS*	**Sn**	**00 05 03.6**	**-0.1**
AP01	**Chacalluta**	**1.07**	**316**	*eP*	**Pn**	**00 04 46.5**	**-0.8**
AP01				IAML		00 05 08.0	
	comp=Z,1μm,0.2s						
HMBC	**Humberstone**	**1.17**	**195**	⇓*iP*	**Pn**	**00 04 48.8**	**+0.1**
HMBC				*eS*	**Sn**	**00 05 07.1**	**+1.2**
HMBC				IAML		00 05 09.8	
	comp=E,680nm,0.5s						
HMBC	**Humberstone**	**1.17**	**195**	*eP*	**Pn**	**00 04 48.7**	**0.0**
HMBC				*eS*	**Sn**	**00 05 07.7**	**+1.8**
TA02	**Huaiquique**	**1.24**	**205**	*eS*	**Sn**	**00 05 08.3**	**+1.2**
TA02				IAML		00 05 14.1	
	comp=E,1μm,0.1s						
TA02	**Huaiquique**	**1.24**	**205**	*eP*	**Pn**	**00 04 50.6**	**+1.3**
TA02				*eS*	**Sn**	**00 05 06.8**	**-0.3**
TA02				IAML		00 05 10.2	
	comp=Z,698nm,0.1s						
TA01	**Diego Aracena**	**1.53**	**202**	*eP*	**Pn**	**00 04 53.3**	**+0.6**
TA01				*eS*	**Sn**	**00 05 13.3**	**+0.2**
TA01				IAML		00 05 17.1	
	comp=N,242nm,0.2s						
TA01	**Diego Aracena**	**1.53**	**202**	*eP*	**Pn**	**00 04 52.6**	**-0.1**
TA01				*eS*	**Sn**	**00 05 14.9**	**+1.7**
PB18	**Visviri**	**1.55**	**3**	*eP*	**Pn**	**00 04 54.3**	**+0.8**
PB18				*eS*	**Sn**	**00 05 19.1**	**+4.5**
PATCX	**Punta Patache**	**1.75**	**198**	*eP*	**Pn**	**00 04 55.8**	**+0.2**
PATCX				*eS*	**Sn**	**00 05 17.6**	**-0.8**
PATCX				IAML		00 05 29.1	
	comp=E,194nm,0.3s						
PATCX	**Punta Patache**	**1.75**	**198**	*eP*	**Pn**	**00 04 55.7**	**+0.2**
PATCX				*eS*	**Sn**	**00 05 17.8**	**-0.5**
PB01	**IPOC Station P**	**1.89**	**178**	*eP*	**Pn**	**00 04 57.6**	**+0.3**
PB01				*eS*	**Sn**	**00 05 21.9**	**+0.6**
PB01				IAML		00 05 23.9	
	comp=N,330nm,0.1s						
PB01	**IPOC Station P**	**1.89**	**178**	*eP*	**Pn**	**00 04 57.4**	**+0.1**
PB01				*eS*	**Sn**	**00 05 21.6**	**+0.3**
PB01				IAML		00 05 24.1	
	comp=Z,233nm,0.1s						
PB02	**IPOC Station P**	**2.18**	**188**	*eP*	**Pn**	**00 05 01.4**	**+0.3**
PB02				*eS*	**Sn**	**00 05 25.2**	**-2.9**
PB02				IAML		00 05 37.0	
	comp=E,285nm,0.5s						
PB02	**IPOC Station P**	**2.18**	**188**	*eP*	**Pn**	**00 05 01.3**	**+0.2**
PB02				*eS*	**Sn**	**00 05 30.0**	**+1.9**
PB02				IAML		00 05 37.0	
	comp=Z,263nm,0.5s						
PB07	**IPOC Station P**	**2.58**	**187**	⇓*iP*	**Pn**	**00 05 07.2**	**+0.8**
PB07				IAML		00 05 45.2	
	comp=E,203nm,0.2s						
PB07	**IPOC Station P**	**2.58**	**187**	*eP*	**Pn**	**00 05 07.1**	**+0.8**
PB07				*eS*	**Sn**	**00 05 42.3**	**+4.8**
PB07				IAML		00 05 44.8	
	comp=Z,112nm,0.4s						
PB09	**IPOC Station P**	**2.65**	**174**	*eP*	**Pn**	**00 05 07.9**	**+0.6**
PB09				*eS*	**Sn**	**00 05 35.0**	**-4.1**
PB09				IAML		00 05 48.1	
	comp=N,93nm,0.5s						
PB09	**IPOC Station P**	**2.65**	**174**	*eP*	**Pn**	**00 05 07.9**	**+0.6**
PB09				*eS*	**Sn**	**00 05 35.7**	**-3.5**
PB09				IAML		00 05 47.7	
	comp=Z,70nm,0.6s						
LPAZ	**La Paz**	**3.15**	**26**	*eP*	**Pn**	**00 05 14.5**	**+0.2**
PB04	**IPOC Station P**	**3.22**	**190**	*eP*	**Pn**	**00 05 15.5**	**+0.7**
PB04				*i* S	**Sn**	**00 05 49.4**	**-3.1**
PB04				IAML		00 06 07.0	
	comp=E,77nm,0.4s						
PB04	**IPOC Station P**	**3.22**	**190**	*eP*	**Pn**	**00 05 15.8**	**+1.1**
PB04				IAML		00 06 08.6	
	comp=Z,72nm,0.2s						
LVC	**Limon Verde**	**3.50**	**170**	*eP*	**Pn**	**00 05 19.7**	**+1.0**
LVC				*i* S	**Sn**	**00 05 59.0**	**-0.5**
LVC	**Limon Verde**	**3.50**	**170**	*eS*	Sn	00 05 48.3	-1.1
PB06	**IPOC Station P**	**3.54**	**180**	*eP*	**Pn**	**00 05 19.2**	**+0.2**
PB06				*eS*	**Sn**	**00 05 57.5**	**-2.8**
PB06	**IPOC Station P**	**3.54**	**180**	*eP*	**Pn**	**00 05 19.3**	**+0.2**
PB06				IAML		00 06 25.4	
	comp=Z,38nm,0.8s						
PB15	**IPOC Station P**	**4.04**	**179**	*eP*	**Pn**	**00 05 25.7**	**-0.2**
PB15				*eS*	**Sn**	**00 06 10.2**	**-2.2**
PB15	**IPOC Station P**	**4.04**	**179**	*eP*	**Pn**	**00 05 26.2**	**+0.4**
PB15				*eS*	**Sn**	**00 06 12.7**	**+0.3**
PB15				IAML		00 06 17.3	
	comp=Z,136nm,0.2s						

---

*IDC **19** 00:35:33.7±1.3, 40°.18N×29°.32W, h0km, mb3.5/9, mbtmp3.5/10, ML3.7/1, MS3.8/60, Error ellipse: s-maj=42.0km s-min=21.4km az=8.0*
*SVSA **19** 00:35:39.6±0.8, 40°.56N×29°.23W, h10km, ML3.4(INMG), Error ellipse: s-maj=5.5km s-min=3.6km az=84.0*
*GCMT **19** 00:35:39.0±0.3, 40°.88N±0°.03×29°.31W±0°.02, h14km±1km, MW4.8/105, Moment Tensor Solution. s22,c23; s105,c140; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.80±.13; $M_{\theta\theta}$0.06±.08; $M_{\phi\phi}$1.74±.09; $M_{r\theta}$0.98±.22; $M_{\theta\phi}$0.03±.05; $M_{\phi r}$-0.14±.16; Best double couple: $M_0$1.98600×10^16^ NP1:ϕ_s339.00000°, δ52.00000°, λ-120.00000°. NP2:ϕ_s202.00000°, δ47.00000°, λ-58.00000°. Principal axes: T 1.7460, Plg2.0000°, Azm89.0000°; N 0.4780, Plg23.0000°, Azm358.0000°; P -2.2260, Plg67.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 19 00:35:36.3±0.8, 40°.40N±0°.07×29°.19W±0°.08, h10km, n76, σ0s95/34, mb3.6/9, MS3.8/59, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**1.63**	**147**	*eP*	**Pn**	**00 36 04.9**	**-0.1**
PGRA	**Graciosa**	**1.66**	**145**	*eP*	**Pn**	**00 36 06.3**	**+0.8**
PCED	**Cedros**	**1.81**	**168**	*eP*	**Pn**	**00 36 08.6**	**+1.0**
PCED				*eS*	**Sn**	**00 36 30.0**	**-0.6**
PCED				A	A	00 36 34.5	
	169nm,0.3s						
ROSA	**Rosais**	**1.83**	**156**	*eP*	**Pn**	**00 36 08.8**	**+0.9**
ROSA				*eS*	**Sn**	**00 36 30.9**	**-0.2**
ROSA				A	A	00 36 32.3	
	65nm,0.3s						
CALA	**Caldeira**	**1.86**	**168**	*eP*	**Pn**	**00 36 09.7**	**+1.4**
CALA				*eS*	**Sn**	**00 36 31.4**	**-0.4**
CALA				A	A	00 36 35.0	
	473nm,0.2s						
PFCBR	**Castelo Branco**	**1.91**	**169**	*eP*	**Pn**	**00 36 10.0**	**+1.1**
PFCBR				*eS*	**Sn**	**00 36 32.6**	**-0.5**
PFCBR				A	A	00 36 36.6	
	91nm,0.3s						
HOR	**Horta**	**1.92**	**167**	*eP*	**Pn**	**00 36 10.0**	**+0.9**
HOR				*eS*	**Sn**	**00 36 32.7**	**-0.6**
HOR				A	A	00 36 33.9	
	467nm,0.2s						
PMAN	**Manadas**	**1.96**	**154**	*eP*	**Pn**	**00 36 09.5**	**-0.1**
PMAN				*eS*	**Sn**	**00 36 32.8**	**-1.5**
PMAN				A	A	00 36 40.0	
	126nm,0.2s						
PCAN	**Candelaria**	**2.01**	**164**	*eP*	**Pn**	**00 36 11.4**	**+1.1**
PCAN				*eS*	**Sn**	**00 36 35.1**	**-0.5**
PCAN				A	A	00 36 40.2	
	172nm,0.2s						
PID	**Ribeirinha**	**2.13**	**157**	*eP*	**Pn**	**00 36 12.7**	**+0.8**
PAGU	**Agualva, Azore**	**2.25**	**136**	*eP*	**Pn**	**00 36 14.1**	**+0.5**
PAGU				*eS*	**Sn**	**00 36 40.0**	**-1.4**
PAGU				A	A	00 36 46.3	
	114nm,0.3s						
ADH	**Angra Heroismo**	**2.31**	**138**	*eP*	**Pn**	**00 36 15.5**	**+1.1**
ADH				*eS*	**Sn**	**00 36 41.7**	**-1.1**
ADH				A	A	00 36 48.4	
	51nm,0.3s						
PSCM	**Serra do Cume**	**2.34**	**136**	*eP*	**Pn**	**00 36 15.4**	**+0.6**
PSCM				*eS*	**Sn**	**00 36 42.3**	**-1.2**
PSCM				A	A	00 36 47.7	
	89nm,0.1s						
PDA	**Ponta Delgada**	**3.82**	**133**	*eP*	**Pn**	**00 36 35.9**	**+0.8**
PDA				*eS*	**Sn**	**00 37 18.5**	**-1.5**
PDA				A	A	00 37 27.3	
	23nm,0.3s						
ESDC	**Sonseca Array**	**19.32**	**84**	P	**P**	**00 40 02.7**	**+1.1**
	baz=277,slow=10,SNR=2.9						
ESDC				LR	LR	00 46 35.9	
	comp=Z,521nm,18.1s,baz=256,slow=34						
	0.7nm,0.9s						
MDT	**Midelt**	**21.09**	**103**	LR	LR	00 46 51.9	
	comp=Z,332nm,21.0s,baz=337,slow=32						
BORG	**Borgarnes**	**24.81**	**8**	LR	LR	00 47 53.5	
	comp=Z,279nm,19.1s,baz=171,slow=30						
DAVOX	**Davos/Dischmat**	**28.78**	**64**	LR	LR	00 51 07.9	
	comp=Z,200nm,21.5s,baz=272,slow=32						
SCHQ	**Schefferville**	**28.78**	**313**	LR	LR	00 51 10.5	
	comp=Z,235nm,19.0s,baz=90,slow=32						
SFJD	**Kangerlussuaq**	**29.18**	**343**	LR	LR	00 50 29.7	
	comp=Z,173nm,19.2s,baz=156,slow=30						
KEST	**Kesra**	**30.53**	**86**	LR	LR	00 53 53.3	
	comp=Z,242nm,18.3s,baz=286,slow=36						
GERES	**GERESS Array B**	**31.32**	**60**	LR	LR	00 53 21.4	
	comp=Z,142nm,19.0s,baz=249,slow=34						
NOA	**NORSAR Array B**	**32.11**	**36**	LR	LR	00 53 15.9	
	comp=Z,95nm,20.1s,baz=245,slow=33						
JMIC	**Jan Mayen**	**32.42**	**12**	LR	LR	00 51 54.9	
	comp=Z,118nm,18.5s,baz=198,slow=30						
FRB	**Frobisher Bay**	**32.77**	**329**	LR	LR	00 51 53.5	
	comp=Z,91nm,18.3s,baz=79,slow=30						
HFS	**Hagfors**	**32.97**	**39**	LR	LR	00 54 22.7	
	comp=Z,190nm,18.9s,baz=250,slow=34						
VRAC	**Vranov**	**33.21**	**59**	LR	LR	00 55 08.3	
	comp=Z,114nm,18.8s,baz=265,slow=35						
VAE	**Valguarnera**	**33.79**	**81**	LR	LR	00 56 14.4	
	comp=Z,279nm,18.2s,baz=309,slow=37						
KOWA	**Kowa**	**33.90**	**132**	LR	LR	00 55 03.9	
	comp=Z,97nm,19.2s,baz=340,slow=35						
SADO	**Sadowa**	**36.57**	**294**	LR	LR	00 56 31.8	
	comp=Z,442nm,20.1s,baz=140,slow=34						
TORD	**Torodi Ar. Bea**	**38.34**	**126**	P	P	00 42 55.3	-2.2
	0.6nm,0.9s,baz=316,slow=52,SNR=3.3						
TORD				LR	LR	00 57 10.7	
	comp=Z,130nm,21.9s,baz=324,slow=34						
	0.6nm,0.9s						
FINES	**FINESS Array B**	**39.17**	**39**	LR	LR	00 57 44.8	
	comp=Z,158nm,19.3s,baz=256,slow=34						
MLR	**Muntele Rosu**	**40.01**	**64**	LR	LR	00 59 59.2	
	comp=Z,119nm,19.2s,baz=282,slow=36						
DBIC	**Dimbokro**	**40.03**	**140**	LR	LR	00 58 12.5	
	comp=Z,105nm,20.0s,baz=339,slow=34						
ARCES	**ARCESS Array B**	**40.57**	**26**	LR	LR	00 56 32.5	
	comp=Z,111nm,19.5s,baz=270,slow=31						
MDP	**Montagnes des**	**40.99**	**217**	LR	LR	00 56 05.0	
	comp=Z,101nm,21.4s,baz=53,slow=30						
AKASG	**Malin Array Be**	**41.18**	**55**	P	**P**	**00 43 20.6**	**-0.2**
	0.3nm,0.4s,baz=273,slow=8.7,SNR=1.9						
AKASG				LR	LR	01 00 04.0	
	comp=Z,234nm,18.3s,baz=282,slow=36						
	0.3nm,0.4s						
TKL	**Tuckaleechee C**	**42.69**	**282**	LR	LR	00 59 42.4	
	comp=Z,179nm,19.6s,baz=80,slow=34						
PCRV	**Puerto La Cruz**	**43.47**	**236**	LR	LR	00 57 57.7	
	comp=Z,114nm,21.5s,slow=31						
RCBR	**Riachuelo**	**46.41**	**189**	LR	LR	01 00 02.0	
	comp=Z,42nm,19.8s,baz=332,slow=32						
ULM	**Lac du Bonnet**	**46.45**	**306**	LR	LR	01 02 13.4	
	comp=Z,325nm,19.0s,baz=88,slow=34						
BRTR	**Keskin Array B**	**47.16**	**69**	P	**P**	**00 44 09.8**	**+0.8**
	0.4nm,0.8s,baz=283,slow=7.1,SNR=1.5						
BRTR				LR	LR	01 04 22.1	
	comp=Z,31nm,18.3s,baz=293,slow=36						
	0.4nm,0.8s						
SDV	**Santo Domingo**	**48.34**	**241**	LR	LR	01 01 14.6	
	comp=Z,43nm,21.2s,baz=315,slow=32						
KIRV	**Kirov**	**51.02**	**41**	LR	LR	01 05 50.5	
	comp=Z,131nm,18.4s,baz=277,slow=36						
MMAI	**Mount Meron Ar**	**51.29**	**77**	LR	LR	01 06 59.9	
	comp=Z,32nm,21.8s,baz=265,slow=37						
KVAR	**Kislovodsk Arr**	**51.83**	**61**	LR	LR	01 07 49.1	
	comp=Z,40nm,18.1s,baz=304,slow=37						
BELG	**Belogornoye**	**51.91**	**49**	LR	LR	01 06 53.7	
	comp=Z,86nm,18.1s,baz=317,slow=36						
KBZ	**Khabaz**	**52.05**	**61**	LR	LR	01 06 44.1	
	comp=Z,60nm,20.1s,baz=318,slow=36						
EIL	**Elat**	**52.57**	**81**	LR	LR	01 09 10.4	
	comp=Z,45nm,19.0s,baz=243,slow=38						
YKA	**Yellowknife Ar**	**53.12**	**325**

n217,σ1°85/230,mb4.5/68,MS3.6/34,7C-4D,
Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**1.17**	**201**	*e*P	**Pn**	**01 10 43.3**	**-1.2**
THN				*e*S	**Sb**	**01 10 59.4**	**-0.2**
THN				IAML		01 11 08.4	
	comp=E,3μm,0.8s						
DHRM	**DHARAMSHALA**	**1.28**	**177**	*e*P	**Pn**	**01 10 46.3**	**0.0**
DHRM				*e*S	**Sb**	**01 11 10.9**	**+8.0**
DHRM				IAML		01 11 11.9	
	comp=E,5μm,0.3s						
BHK	**Bhakra**	**2.12**	**175**	*e*P	**Pb**	**01 11 00.9**	**-0.1**
BHK				*e*S	**Sb**	**01 11 30.2**	**+3.3**
BHK				IAML		01 11 32.2	
	comp=N,2μm,0.7s						
CHCP	**Chirah Chowk**	**2.47**	**274**	P	**Pb**	**01 11 05.6**	**-1.4**
NIL	**Nilore**	**2.48**	**274**		**Pn**	**01 11 03.4**	**+0.9**
NIL				Sn	**Sn**	**01 11 32.5**	**+0.4**
SMLA	**Simla**	**2.53**	**161**	*e*P	**Pb**	**01 11 06.3**	**-1.7**
SMLA				*e*S	**Sb**	**01 11 38.4**	**-0.2**
SMLA				IAML		01 11 43.2	
	comp=N,1μm,0.3s						
SMLA				IAML		01 11 43.4	
	comp=E,2μm,0.5s						
SARP	**Sargodha**	**3.39**	**243**	P	**Pn**	**01 11 15.6**	**+0.6**
DDI	**Dehra Dun**	**3.56**	**153**	*e*P	**Pn**	**01 11 21.4**	**+3.9**
DDI				*e*S	**Sn**	**01 12 03.3**	**+4.4**
CEP	**Cherat**	**3.60**	**276**	P	**Pn**	**01 11 19.8**	**+1.7**
CEP				S	**Sb**	**01 12 06.0**	**-3.7**
THW	**Thamme Wali**	**3.82**	**260**	P	**Pn**	**01 11 22.8**	**+1.8**
NDI	**New Delhi**	**4.91**	**170**	*e*P	**Pn**	**01 11 38.0**	**+2.1**
NDI				*e*S	**Sn**	**01 12 32.0**	**-0.1**
PTH	**Pithoragarh**	**5.24**	**138**	*e*P	**Pn**	**01 11 42.0**	**+1.4**
PTH				*e*S	**Sn**	**01 12 41.7**	**+1.3**
SONA	**Sohna**	**5.32**	**172**	*e*P	**Pn**	**01 11 43.6**	**+2.1**
SONA				*e*S	**Sn**	**01 12 41.1**	**-1.1**
LGTI	**Lohaghat**	**5.33**	**139**	*e*P	**Pn**	**01 11 40.6**	**-1.1**
LGTI				*e*S	**Sn**	**01 12 43.7**	**+1.2**
LGTI				IAML		01 12 45.3	
	comp=E,250nm,0.6s						
LGTI				IAML		01 12 46.8	
	comp=N,424nm,0.8s						
KUDL	**Kundal**	**5.38**	**177**	*e*P	**Pn**	**01 11 44.0**	**+1.7**
KUDL				*e*S	**Sn**	**01 12 43.3**	**-0.3**
KHET	**Khetri**	**5.45**	**184**	*e*P	**Pn**	**01 11 44.3**	**+0.9**
KHET				*e*S	**Sn**	**01 12 45.5**	**0.0**
KSH	**Kashi**	**5.98**	**358**	P	**Pn**	**01 11 53.3**	**+2.6**
KSH				sP	Pb	01 11 58.3	-8.6
KSH				S	**Sn**	**01 12 59.3**	**+0.7**
KSH				pmax	pmax		
	comp=Z,62nm,1.0s						
KSH				smax	smax		
	comp=N,190nm,1.0s						
KSH				smax	smax		
	comp=E,210nm,1.3s						
KSH				LR	LR		
	comp=N,1μm,7.6s						
KSH				LR	LR		
	comp=E,3μm,6.9s						
KSH				LR	LR		
	comp=Z,1μm,7.9s						
KBL	**Kabul**	**6.04**	**282**	Pn	**Pn**	**01 11 52.0**	**+0.4**
KBL				Sn	**Sn**	**01 13 02.7**	**+2.4**
AJM	**Ajmer**	**7.16**	**191**	*e*P	**Pn**	**01 12 09.2**	**+2.3**
AJM				*e*S	**Sn**	**01 13 26.4**	**-1.2**
AJM				IAML		01 13 31.0	
	comp=N,115nm,0.8s						
GAR	**Garm**	**7.24**	**321**		**Pn**	**01 12 08.9**	**+0.8**
CHGR	**Chuyangaron**	**7.67**	**314**		**Pn**	**01 12 14.9**	**+1.1**
NRN	**Naryn**	**7.89**	**359**	Pn	**Pn**	**01 12 17.8**	**+0.7**
PYUN	**Piuthan**	**7.95**	**131**	*e*Pn	**Pn**	**01 12 18.1**	**+0.2**
PYUN				*e*Sn	**Sn**	**01 13 44.4**	**-3.0**
	comp=N,168nm,0.8s						
TARG	**Taragay, Kyrgy**	**8.28**	**8**	Pn	**Pn**	**01 12 23.2**	**+0.6**
DANN	**Dangsing**	**8.28**	**127**	*e*Pn	**Pn**	**01 12 23.3**	**+0.7**
DANN				*e*Sn	**Sn**	**01 13 51.9**	**-3.8**
	comp=N,94nm,0.7s						
AML	**Almayashu**	**8.81**	**348**	⇑Pn	**Pn**	**01 12 32.0**	**+2.1**
	comp=N,1.9nm,0.5s						
AML				⇓Sn	**Sn**	**01 14 06.8**	**-1.9**
	comp=N,5.9nm,0.7s						
BOOM	**Boomskoye usch**	**8.95**	**359**	Pn	**Pn**	**01 12 32.2**	**+0.7**
GKN	**Gorkha**	**9.10**	**125**	*e*Pn	**Pn**	**01 12 33.8**	**+0.2**
GKN				*e*Sn	**Sn**	**01 14 11.2**	**-4.3**
AAK	**Ala-Archa**	**9.19**	**352**		**Pn**	**01 12 36.0**	**+1.1**
AAK	**Ala-Archa**	**9.19**	**352**	P	**Pn**	**01 12 39.2**	**+4.4**
	comp=N,4.3nm,0.4s,baz=136,slow=6.8,SNR=11						
AAK				S	**Sn**	**01 14 20.6**	**+2.9**
	comp=N,8.6nm,0.6s,baz=304,slow=21,SNR=1.9						
FRU1	**Bishkek**	**9.35**	**353**	Pn	**Pn**	**01 12 38.0**	**+1.1**
TKM2	**Tokmak 2**	**9.39**	**357**	⇑Pn	Pn	01 12 43.3	+5.8
	comp=N,16nm,1.0s						
CHMS	**Chumysh**	**9.52**	**353**	⇑Pn	**Pn**	**01 12 42.2**	**+3.0**
	comp=N,12nm,0.8s						
DMN	**Daman**	**9.67**	**125**	*e*Pn	**Pn**	**01 12 41.3**	**-0.2**
DMN				*e*Sn	**Sn**	**01 14 26.2**	**-3.5**
	comp=N,86nm,0.7s						
PKIN	**Phulchoki**	**9.89**	**124**	*e*Pn	**Pn**	**01 12 44.6**	**0.0**
PKIN				*e*Sn	**Sn**	**01 14 30.1**	**-5.0**
	comp=N,91nm,0.7s						
PKI	**Pulchoki**	**9.90**	**124**	*e*Pn	**Pn**	**01 12 44.8**	**0.0**
PKI				*e*Sn	**Sn**	**01 14 31.4**	**-4.1**
	comp=N,95nm,1.0s						
GUN	**Gumba**	**10.03**	**121**	*e*Pn	**Pn**	**01 12 46.3**	**-0.2**
PDGK	**Podgornoye**	**10.11**	**14**	⇑Pn	**Pn**	**01 12 51.7**	**+4.2**
	comp=N,20nm,1.1s						
PDGK				⇓Sn	**Sn**	**01 14 44.0**	**+3.8**
	comp=N,31nm,1.1s						
BHPL	**Bhopal**	**10.31**	**174**	*e*P	**Pn**	**01 12 49.3**	**-0.8**
BHPL				IAML		01 14 44.6	
	comp=N,85nm,0.7s						
JIRN	**Jiri**	**10.39**	**122**	*e*Pn	**Pn**	**01 12 51.1**	**-0.5**
JIRN				*e*Sn	**Sn**	**01 14 42.9**	**-4.7**
	comp=N,60nm,0.6s						
KK31	**Karatay Array**	**10.55**	**337**	⇑Pn	**Pn**	**01 12 55.5**	**+2.2**
	comp=N,6.6nm,0.5s,baz=151,slow=13,SNR=7.6						
KK31				⇑Sn	**Sn**	**01 14 47.6**	**-3.3**
	comp=N,25nm,0.6s,baz=155,slow=22,SNR=11						
KK31	**Karatay Array**	**10.55**	**337**		**Pn**	**01 12 54.1**	**+0.8**
KKAR	**Karatay Array**	**10.55**	**337**		**Pn**	**01 12 54.1**	**+0.8**
KKAR	**Karatay Array**	**10.55**	**337**		**Pn**	**01 12 54.3**	**+1.0**
RAMN	**Ramite**	**11.12**	**123**	*e*Pn	**Pn**	**01 13 01.6**	**+0.3**
RAMN				*e*Sn	**Sn**	**01 14 59.6**	**-5.5**
	comp=N,29nm,0.8s						
HRA	**Herat**	**11.63**	**278**	Pn	**Pn**	**01 13 08.0**	**-0.3**
TAPN	**Taplejung**	**11.67**	**119**	*e*Pn	**Pn**	**01 13 08.1**	**-0.9**
TAPN				*e*Sn	**Sn**	**01 15 14.1**	**-4.7**
	comp=N,39nm,0.7s						
AKL	**Akola**	**12.80**	**177**	*e*P	**Pn**	**01 13 25.1**	**+0.9**
AKL				*e*S	**Sn**	**01 15 39.4**	**-6.6**
BOK	**Bokaro**	**12.88**	**136**	*e*P	**Pn**	**01 13 23.7**	**-1.6**
BOK				*e*S	**Sn**	**01 15 43.1**	**-4.9**
LSA	**Lhasa**	**13.29**	**103**	Pn	**Pn**	**01 13 29.6**	**-1.7**
WMQ	**Urumqi**	**13.62**	**38**	*e*P	**P**	**01 13 43.3**	**-0.8**
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ				LR	LR		
	comp=N,340nm,11.9s						
WMQ				LR	LR		
	comp=E,460nm,14.3s						
WMQ				LR	LR		
	comp=Z,190nm,25.5s						
MAKZ	**Makanchi**	**13.97**	**17**		**Pn**	**01 13 39.6**	**-0.4**
MK31	**Makanchi Array**	**14.03**	**17**	Pn	**Pn**	**01 13 43.2**	**+2.3**
MKAR	**Makanchi Array**	**14.03**	**17**		**Pn**	**01 13 39.2**	**-1.6**
MKAR	**Makanchi Array**	**14.03**	**17**	P	**Pn**	**01 13 44.0**	**+3.2**
	comp=Z,0.6nm,0.3s,baz=201,slow=12,SNR=2.3						
MKAR				S	**Sn**	**01 16 14.9**	**-1.0**
	comp=Z,4.6nm,0.6s,baz=199,slow=24,SNR=7.0						
GEYT	**Alibeck**	**15.34**	**292**	Pn	**Pn**	**01 13 58.9**	**+0.4**
GEYT	**Alibeck**	**15.34**	**292**	P	**Pn**	**01 13 58.0**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=109,slow=12,SNR=4.0						
GEYT				S	**Sn**	**01 16 47.8**	**0.0**
	comp=Z,3.5nm,0.7s,baz=234,slow=18,SNR=3.5						
GEYT				LR	LR	01 21 04.4	
	comp=Z,100nm,19.9s,baz=146,slow=41						
GYA0B	**ALIBECK ARRAY**	**15.34**	**292**	Pn	**Pn**	**01 13 58.2**	**-0.3**
SHL	**Shillong**	**15.77**	**116**	Pn	**Pn**	**01 14 03.1**	**-1.2**
SHL				IAmb	IAmb	01 14 10.0	
	comp=Z,54nm,1.2s						
HYB	**Hyderabad**	**16.18**	**172**	*e*P	**P**	**01 14 13.2**	**+0.5**
HYB				*e*S	**S**	**01 17 20.9**	**-0.6**
KURBB	**Kurchatov Arra**	**17.16**	**5**	P	**Pn**	**01 14 21.1**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=192,slow=11,SNR=15						
KURBB				S	**Sn**	**01 17 35.2**	**+3.3**
	comp=Z,0.3nm,0.5s,baz=84,slow=26,SNR=1.5						
KURK	**Kurchatov**	**17.26**	**5**	⇑P	**Pn**	**01 14 22.0**	**-0.9**
	comp=Z,19nm,0.9s						
KURK	**Kurchatov**	**17.26**	**5**	Pn	**Pn**	**01 14 22.9**	**-0.1**
WSAR	**Wadi Sarin**	**18.54**	**241**	P	**Pn**	**01 14 39.2**	**+0.4**
	comp=Z,7.7nm,0.9s,baz=94,slow=8.7,SNR=5.1						
WSAR				LR	LR	01 23 47.8	
	comp=Z,118nm,20.6s,baz=47,slow=43						
AB31	**Akbulak array**	**19.83**	**327**	P	**Pn**	**01 14 53.7**	**-0.5**
	comp=Z,2.7nm,0.5s,baz=134,slow=12,SNR=52						
ABKAR	**Akbulak array**	**19.83**	**327**	P	**P**	**01 14 51.6**	**-1.0**
ABKAR	**Akbulak array**	**19.83**	**327**	P	**P**	**01 14 52.7**	**+0.2**
GTA	**Gaotai**	**19.84**	**66**	*e*P	**Pn**	**01 14 55.1**	**+0.5**
GTA				sP	sP	01 15 04.4	+0.8
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				LR	LR		
	comp=Z,360nm,18.7s						
GTA				LR	LR		
	comp=Z,120nm,13.1s						
GTA				LR	LR		
	comp=Z,170nm,11.6s						
BVA0	**Borovoye Array**	**19.93**	**350**	P	**Pn**	**01 14 55.0**	**-0.4**
	comp=Z,9.1nm,0.8s,baz=160,slow=9.5,SNR=35						
BVAR	**Borovoye Array**	**19.93**	**350**	P	**Pn**	**01 14 54.9**	**-0.5**
	comp=Z,7.8nm,0.7s,baz=160,slow=11,SNR=25						
BRVK	**Borovoye**	**19.98**	**349**	P	**P**	**01 14 52.5**	**-1.7**
TNCH	**TengChong**	**21.19**	**108**	*e*P	**P**	**01 15 09.3**	**+1.6**
TNCH				pP	pP	01 15 12.0	-2.7
TNCH				pmax	pmax		
	comp=Z,63nm,0.4s						
ZAA0	**Zalesovo Array**	**21.30**	**14**	P	**P**	**01 15 07.7**	**-0.8**
ZALV	**Zalesovo Beam**	**21.30**	**14**	P	**P**	**01 15 07.6**	**-0.9**
ZALV	**Zalesovo Beam**	**21.30**	**14**	P	**P**	**01 15 10.7**	**+2.2**
	comp=Z,3.1nm,0.4s,baz=212,slow=10,SNR=12						
ZALV				S	**S**	**01 19 05.1**	**+1.0**
	comp=Z,0.4nm,0.2s,baz=319,slow=42,SNR=1.8						
	comp=Z,3.1nm,0.4s						
AKTO	**Aktyubinsk**	**21.54**	**327**	⇓P	**P**	**01 15 12.8**	**+1.7**
	comp=Z,22nm,1.0s						
AKTO	**Aktyubinsk**	**21.54**	**327**	P	**P**	**01 15 12.8**	**+1.7**
	comp=Z,16nm,0.7s,baz=132,slow=7.4,SNR=27						
AKTO				S	**S**	**01 19 07.6**	**-1.3**
	comp=Z,2.2nm,0.7s,baz=188,slow=20,SNR=2.5						
AKTO				LR	LR	01 24 17.3	
	comp=Z,300nm,19.4s,baz=91,slow=38						
	comp=Z,16nm,0.7s						
LZH	**Lanzhou**	**22.80**	**76**	*e*P	**P**	**01 15 26.8**	**+1.9**
LZH				pP	pP	01 15 32.8	+0.6
LZH				pmax	pmax		
	comp=Z,19nm,1.6s						
CRAI	**Chiangrai**	**25.22**	**116**	P	**P**	**01 15 47.5**	**-0.3**
CRAI				IAmb	IAmb	01 15 50.8	
	comp=Z,17nm,1.0s						
CM31	**Chiang Mai Arr**	**25.27**	**121**	P	**P**	**01 15 48.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**25.27**	**121**	P	**P**	**01 15 48.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**25.27**	**121**	P	**P**	**01 15 49.6**	**+1.3**
	comp=Z,28nm,0.8s,baz=312,slow=9.9,SNR=112						
CMAR				LR	LR	01 28 21.5	
	comp=Z,40nm,20.1s,baz=300,slow=42						
ARU	**Arti**	**25.93**	**337**	P	**P**	**01 15 52.7**	**-1.2**
ARU	**Arti**	**25.93**	**337**	LR	LR	01 26 47.5	
	comp=Z,214nm,20.6s,baz=134,slow=38						
PALK	**Pallekele**	**26.46**	**170**	LR	LR	01 26 44.0	
	comp=Z,153nm,20.2s,baz=96,slow=37						
SONM	**Songino Array**	**26.77**	**49**	P	**P**	**01 16 02.4**	**+0.5**
SONM	**Songino Array**	**26.77**	**49**	P	**P**	**01 16 04.3**	**+2.5**
	comp=Z,1.6nm,0.7s,baz=248,slow=9.0,SNR=11						
	comp=Z,1.6nm,0.7s						
AKH	**Akhalkalaki**	**27.02**	**296**	P	**P**	**01 16 03.3**	**-0.8**
AKH				IAmb	IAmb	01 16 22.6	
	comp=Z,19nm,0.9s						
KARS	**Kars**	**27.25**	**295**	P	**P**	**01 16 04.8**	**-1.5**
KARS				IAmb	IAmb	01 16 40.1	
	comp=Z,19nm,0.9s						
SIRT	**Sirnak**	**27.69**	**288**	P	**P**	**01 16 09.7**	**-0.4**
BTO	**Baotou**	**27.76**	**65**	*e*P	**P**	**01 16 12.3**	**+1.6**
BTO				pP	**pP**	**01 16 16.6**	**-1.8**
BTO				sP	**sP**	**01 16 19.8**	**-2.0**
BTO				PP	**PnPn**	**01 17 00.8**	**+3.9**
BTO				pmax	pmax		
	comp=Z,16nm,0.4s						
BTO				pmax	pmax		
	comp=Z,310nm,4.6s						
KBZ	**Khabaz**	**27.78**	**301**	P	**P**	**01 16 13.7**	**+3.0**
	comp=Z,0.5nm,0.7s,baz=115,slow=21,SNR=1.8						
KBZ				LR	LR	01 29 51.5	
	comp=Z,87nm,20.6s,baz=92,slow=42						
	comp=Z,0.5nm,0.7s						
BELG	**Belogornoye**	**27.88**	**321**	LR	LR	01 28 34.8	
	comp=Z,94nm,19.5s,baz=98,slow=39						
KIV	**Kislovodsk**	**27.97**	**302**	P	**P**	**01 16 11.4**	**-1.1**
GURO	**Guroymak-BITLI**	**27.99**	**290**	P	**P**	**01 16 12.6**	**-0.2**
HHC	**Hu-ho-hao-te**	**28.95**	**65**	*e*P	**P**	**01 16 23.4**	**+2.1**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,230nm,5.9s						
KIRV	**Kirov**	**30.81**	**333**	LR	LR	01 30 13.3	
	comp=Z,208nm,19.5s,baz=136,slow=38						
XLT	**XiLinHaoTe**	**32.50**	**60**	*e*P	**P**	**01 16 54.8**	**+2.2**
XLT				pP	pP	01 17 00.8	+0.5
XLT				pmax	pmax		
	comp=Z,11nm,0.9s						
XLT				pmax	pmax		
	comp=Z,110nm,4.0s						
TIA	**Tai'an**	**33.50**	**74**	P	**P**	**01 17 05.4**	**+4.1**
MMAI	**Mount Meron Ar**	**33.97**	**281**	LR	LR	01 31 21.2	
	comp=Z,58nm,21.4s,baz=49,slow=37						
BRTR	**Keskin Array B**	**34.48**	**293**	P	**P**	**01 17 11.2**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=90,slow=4.3,SNR=1.9						
	comp=Z,0.8nm,0.6s						
OBN	**Obninsk**	**34.96**	**320**	LR	LR	01 32 49.0	
	comp=Z,122nm,19.5s,baz=216,slow=38						
EIL	**Elat**	**35.19**	**275**	LR	LR	01 33 46.4	
	comp=Z,122nm,18.3s,baz=63,slow=40						
KULM	**Kulim**	**36.13**	**136**	P	**P**	**01 17 23.5**	**-0.7**
KULM				IAmb	IAmb	01 17 25.9	
	comp=Z,13nm,1.3s						
KLMR	**Klimovskoe**	**36.17**	**330**	*e*P	**P**	**01 17 24.0**	**0.0**
KLMR				AMP		01 17 38.2	
	comp=Z,27nm,1.5s						
AKASG	**Malin Array Be**	**38.13**	**311**	P	**P**	**01 17 42.1**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=77,slow=6.6,SNR=4.5						
AKASG				LR	LR	01 36 40.4	
	comp=Z,74nm,18.3s,baz=152,slow=41						
	comp=Z,0.2nm,0.3s						
MLR	**Muntele Rosu**	**39.97**	**303**	P	**P**	**01 17 55.4**	**-1.0**
MLR				IAmb	IAmb	01 18 04.1	
	comp=Z,6.1nm,0.9s						
MLR	**Muntele Rosu**	**39.97**	**303**	LR	LR	01 39 49.0	
	comp=Z,113nm,18.1s,baz=62,slow=44						
TPUB	**Ta-pu**	**40.11**	**93**	P	**P**	**01 17 57.0**	**-0.7**
NACGM	**Naroch**	**40.31**	**317**	*e*P	**P**	**01 17 59.9**	**+1.0**
	comp=E,414nm,0.7s						
BURAR	**Bucovina Array**	**40.49**	**306**	P	**P**	**01 18 00.7**	**0.0**
NACB	**Ninganchiao**	**40.56**	**91**	P	**P**	**01 18 00.0**	**-1.4**
BNX	**BinXian**	**40.62**	**57**	⇓P	**P**	**01 18 04.8**	**+3.2**
BNX				pmax	pmax		
	comp=E,4.0nm,0.4s						
BNX				pmax	pmax		
	comp=E,97nm,4.3s						
KSRS	**Korea Array**	**41.85**	**69**	LR	LR	01 37 03.7	
	comp=E,40nm,18.4s,baz=275,slow=38						
IDI	**Anoyia**	**41.99**	**287**	P	**P**	**01 18 14.0**	**+0.9**
FINES	**FINESS Array B**	**42.32**	**327**	P	**P**	**01 18 15.6**	**+0.3**
FINES	**FINESS Array B**	**42.32**	**327**	P	**P**	**01 18 17.2**	**+1.9**
	comp=E,2.2nm,0.4s,baz=105,slow=7.9,SNR=28						
FINES				LR	LR	01 36 40.3	
	comp=E,156nm,18.1s,baz=84,slow=37						
	comp=E,2.2nm,0.4s						
KLR	**Kul'dur**	**43.53**	**52**	LR	LR	01 38 11.8	
	comp=E,55nm,19.1s,baz=228,slow=38						
ARCES	**ARCESS Array B**	**45.52**	**338**	P	**P**	**01 18 42.5**	**+1.6**
ARCES	**ARCESS Array B**	**45.52**	**338**	P	**P**	**01 18 42.6**	**+1.7**
	comp=E,3.0nm,0.6s,baz=107,slow=7.0,SNR=9.5						
ARCES				LR	LR	01 38 49.2	
	comp=E,93nm,19.7s,baz=98,slow=37						
	comp=E,3.0nm,0.6s						
MORC	**Moravsky Berou**	**45.56**	**309**	P	**P**	**01 18 42.8**	**+1.2**
VRAC	**Vranov**	**46.20**	**309**	LR	LR	01 41 16.8	
	comp=E,44nm,21.7s,baz=86,slow=40						
CONA	**Conrad Observa**	**46.78**	**307**	*e*pP	pP	01 18 56.0	-3.3
	comp=E,6.4nm,1.4s						
SOKA	**Soboth**	**47.47**	**305**	*e*pP	pP	01 19 01.6	-3.1

SJA ***19*** *00:39:42.9±0.8, 24°.05S×66°.89W, h212km±6km, ML3.4, MW3.5*
GUC ***19*** *00:39:44.7±0.6, 24°.05S×67°.26W, h239km±9km, ML4.0*
NEIC ***19*** *00:39:45±1.3, 24°.08S±0°.08×67°.1W±0°.2, h219km±9km, mb4.0/5, ML4.0(GUC), Error ellipse: s-maj=21.0km s-min=11.1km az=96.0*
ISC 19 00:39:43.5±0.8, 24°.05S±0°.04×66°.91W±0°.04, h208km±7km, n58, σ1°00/74, mb4.0/3, 6C-1D, Salta Province

NDI ***19*** *01:10:19.7±3.6, 33°.96N×75°.88E, h35km, ML4.2, mb4.6(NEIC)*
BJI ***19*** *01:10:22.2±0.0, 33°.56N×76°.38E, h4km, mb4.5/23, mB4.8/11, ML4.2/3, Ms4.0/14, Ms7 3.7/13*
NEIC ***19*** *01:10:25±1.9, 33°.51N±0°.07×76°.26E±0°.07, h32km±5km, mb4.6/94, Error ellipse: s-maj=10.5km s-min=8.6km az=176.0*
IDC ***19*** *01:10:29.5±2.6, 33°.52N×76°.19E, h67km±24km, mb3.7/18, mbtmp4.1/22, MS3.6/36, Error ellipse: s-maj=13.2km s-min=10.4km az=64.0*
NNC ***19*** *01:10:33.0±3.5, 33°.86N×75°.84E, h62km±30km, mb4.2, mpv3.7, Error ellipse: s-maj=30.0km s-min=27.3km az=90.0*
ISC 19 01:10:23.4±0.3, 33°.53N±0°.03×76°.22E±0°.03, h21km±3km,

	comp=E,2.2nm,0.6s						
SGRT	San Giovanni R	47.72	298	P	P	01 18 58.9	+0.2
SGRT				IAmb	IAmb	01 19 13.0	
	comp=Z,4.6nm,1.0s						
MOA	Molln	47.86	307	*e*pP	pP	01 19 05.8	-1.9
	comp=Z,5.0nm,1.1s						
CUC	Castrocucco	48.02	296	P	P	01 19 01.6	+0.7
CUC				IAmb	IAmb	01 19 10.5	
	comp=Z,3.8nm,0.8s						
HFS	Hagfors	48.02	323	P	P	01 19 02.0	+1.3
	comp=Z,1.5nm,0.5s,baz=96,slow=9.4,SNR=9.1						
HFS				LR	LR	01 42 29.9	
	comp=Z,67nm,18.8s,baz=74,slow=40						
	comp=Z,1.5nm,0.5s						
GEC2	GERESS Array S	48.13	308	P	P	01 19 02.1	+0.3
GERES	GERESS Array B	48.13	308	P	P	01 19 01.3	-0.5
GERES	GERESS Array B	48.13	308	LR	LR	01 41 56.8	
	comp=Z,38nm,18.7s,baz=72,slow=39						
CLL	Collm	48.37	311	*e*SS	SS	01 29 36.0	+4.1
LODK	Lodwar	48.45	241	P	P	01 19 04.2	-0.4
LODK				IAmb	IAmb	01 19 08.1	
	comp=Z,7.7nm,1.1s						
PRED	Cave del Predi	48.51	305	P	P	01 19 04.3	-0.4
SABO	M.te Sabotino	48.55	304	P	P	01 19 04.8	-0.2
SABO				IAmb	IAmb	01 19 17.2	
	comp=Z,9.8nm,1.2s						
NC405	NORSAR Array S	49.06	325	P	P	01 19 10.0	+1.4
NC405				IAmb	IAmb	01 19 17.5	
	comp=Z,11nm,1.1s						
STAL	STALIGIAL	49.12	305	P	P	01 19 09.0	-0.4
STAL				IAmb	IAmb	01 19 21.0	
	comp=Z,5.9nm,1.0s						
NC303	NORSAR Array S	49.23	325	P	P	01 19 10.6	+0.6
NB201	NORSAR Array S	49.26	324	P	P	01 19 10.6	+0.4
NB201				IAmb	IAmb	01 19 34.4	
	comp=Z,7.0nm,1.1s						
NB2	NORSAR Subarra	49.30	324	P	P	01 19 11.5	+1.0
	comp=Z,4.6nm,0.9s,baz=93,slow=7.9						
NOA	NORSAR Array B	49.30	324	P	P	01 19 10.1	-0.4
	comp=Z,0.9nm,0.9s,baz=94,slow=7.5,SNR=6.4						
NOA				LR	LR	01 41 47.9	
	comp=Z,53nm,18.2s,baz=95,slow=38						
	comp=Z,0.9nm,0.9s						
AQU	L'Aquila	49.31	300	P	P	01 19 08.6	-2.3
AQU				IAmb	IAmb	01 19 45.1	
	comp=Z,5.9nm,1.2s						
FDMO	Fiordimonte	49.41	301	P	P	01 19 12.2	+0.6
FDMO				IAmb	IAmb	01 19 22.2	
	comp=Z,5.0nm,1.0s						
NRCA	Norcia	49.42	300	P	P	01 19 11.7	-0.1
NAO01	NORSAR Array S	49.45	324	P	P	01 19 10.5	-1.1
NAO01				IAmb	IAmb	01 19 35.4	
	comp=Z,7.3nm,0.9s						
INU	Inuyama	49.48	70	P	P	01 19 10.1	-2.1
NBO00	NORSAR Array S	49.51	324	P	P	01 19 11.6	-0.5
NBO00				IAmb	IAmb	01 19 13.1	
	comp=Z,6.2nm,1.1s						
NC204	NORSAR Array S	49.53	325	P	P	01 19 12.2	-0.1
MURB	Monte Urbino	49.77	301	P	P	01 19 14.2	-0.2
MURB				IAmb	IAmb	01 19 30.4	
	comp=Z,10.0nm,1.1s						
RAFF	Raffo Rosso	49.78	293	P	P	01 19 13.7	-0.8
CTI	Castel Tesino	49.88	305	P	P	01 19 15.3	0.0
MJB9	Matsu-Tunnel	50.07	68	P	P	01 19 15.2	-1.5
MJB9				IAmb	IAmb	01 19 21.0	
	comp=Z,7.8nm,0.9s						
KMBO	Kilima Mbogo	50.31	235	P	P	01 19 20.9	+1.9
	comp=Z,2.2nm,0.8s,baz=42,slow=11,SNR=8.5						
KMBO				LR	LR	01 41 38.2	
	comp=Z,50nm,19.0s,baz=84,slow=37						
	comp=Z,2.2nm,0.8s						
ZCCA	Zocca	50.65	303	P	P	01 19 20.4	-0.6
ZCCA				IAmb	IAmb	01 19 48.5	
	comp=Z,9.5nm,1.1s						
KIBK	Kibwezi	50.66	233	P	P	01 19 21.2	-0.3
DAVOX	Davos/Dischmat	50.96	306	LR	LR	01 44 51.1	
	comp=Z,53nm,18.3s,baz=81,slow=40						
SPITS	Spitsbergen Ar	51.35	347	LR	LR	01 44 22.8	
	comp=Z,99nm,19.9s,baz=82,slow=40						
WLF	Walferdange	52.91	310	P	P	01 19 36.3	-1.5
KEST	Kesra	54.08	292	P	P	01 19 45.8	-0.9
KEST				IAmb	IAmb	01 19 53.1	
	comp=Z,5.7nm,1.0s						
KEST	Kesra	54.08	292	P	P	01 19 48.6	+1.9
	comp=Z,2.4nm,0.6s,baz=27,slow=6.8,SNR=5.0						
	comp=Z,2.4nm,0.6s						
MBAR	Mbarara	54.55	241	LR	LR	01 44 19.2	
	comp=Z,37nm,18.5s,baz=26,slow=37						
JMIC	Jan Mayen	57.00	337	LR	LR	01 44 52.3	
	comp=Z,55nm,19.4s,baz=80,slow=36						
PETK	Petropavlovsk-	59.12	44	LR	LR	01 47 20.4	
	comp=Z,64nm,19.7s,baz=116,slow=37						
ESDC	Sonseca Array	62.64	301	P	P	01 20 46.3	0.0
	comp=Z,0.5nm,0.8s,baz=57,slow=9.5,SNR=2.6						
ESDC				LR	LR	01 52 22.1	
	comp=Z,28nm,18.1s,baz=82,slow=40						
	comp=Z,0.5nm,0.8s						
BORG	Borgarnes	63.28	332	LR	LR	01 48 35.4	
	comp=Z,113nm,18.2s,baz=45,slow=36						
C19K	Lookout Ridge	69.83	18	P	P	01 21 32.9	+0.9
TOA0	Torodi Ar. Sif	70.04	273	P	P	01 21 33.5	-0.6
TOA0				IAmb	IAmb	01 21 42.3	
	comp=Z,5.0nm,1.2s						
TORD	Torodi Ar. Bea	70.04	273	P	P	01 21 32.9	-1.1
TORD	Torodi Ar. Bea	70.04	273	P	P	01 21 32.8	-1.3
	comp=Z,1.7nm,0.8s,baz=46,slow=6.4,SNR=13						
TORD				LR	LR	01 55 21.7	
	comp=Z,58nm,18.4s,baz=138,slow=38						
	comp=Z,1.7nm,0.8s						
D19K	Kuna River	70.64	19	P	P	01 21 38.4	+1.4
TOLK	Toolik Lake Re	72.65	16	P	P	01 21 48.7	-0.3
G21K	Allakaket	73.30	19	P	P	01 21 52.0	-0.9
G21K				IAmb	IAmb	01 22 03.2	
	comp=Z,5.2nm,1.2s						
IMAR	Indian Mountai	73.64	19	P	P	01 21 53.6	-1.3
KOWA	Kowa	74.09	277	P	P	01 21 57.5	-0.8
KOWA				IAmb	IAmb	01 22 06.5	
	comp=Z,3.6nm,0.9s						
KOWA	Kowa	74.09	277	LR	LR	01 59 22.4	
	comp=Z,45nm,19.1s,baz=134,slow=40						
K17K	Iditarod	74.66	23	P	P	01 21 59.7	-1.2
G24K	Hadweenzic Riv	74.68	17	P	P	01 21 59.6	-1.3
G24K				IAmb	IAmb	01 22 08.6	
	comp=Z,6.0nm,1.1s						
BMAR	Burnt Mountain	74.75	15	P	P	01 22 02.6	+1.3
H23K	Yukon River	74.87	18	P	P	01 22 01.7	-0.4
H23K				IAmb	IAmb	01 22 15.0	
	comp=Z,7.9nm,1.3s						
J20K	Nowinta River	74.88	20	P	P	01 22 00.6	-1.5
J20K				IAmb	IAmb	01 22 08.9	
	comp=Z,8.6nm,1.4s						
L16K	Owhat River	74.98	24	P	P	01 22 02.8	+0.1
MLY	Manley	75.18	19	P	P	01 22 02.9	-1.0
MANU	Manus Island	75.51	102	P	P	01 22 04.9	-1.6
K20K	Telida	75.51	21	P	P	01 22 05.6	-0.2
K20K				IAmb	IAmb	01 22 19.0	
	comp=Z,4.0nm,1.0s						
L18K	Granite Mounta	75.54	23	P	P	01 22 06.6	+0.7
L18K				IAmb	IAmb	01 22 18.6	
	comp=Z,9.2nm,1.4s						
M16K	Timber Creek	75.64	24	P	P	01 22 05.5	-1.0
BPAW	Bear Paw Mtn.	75.83	19	P	P	01 22 06.2	-1.5
BPAW				IAmb	IAmb	01 22 45.9	
	comp=Z,7.4nm,1.2s						
MDM	Murphy Dome	75.89	18	P	P	01 22 06.5	-1.5
MDM				IAmb	IAmb	01 22 36.4	
	comp=Z,5.9nm,1.3s						
G27K	Doyon Strip	75.89	15	P	P	01 22 07.4	-0.6
G27K				IAmb	IAmb	01 22 10.9	
	comp=Z,5.5nm,1.4s						
ILAR	Eielson Array	76.39	18	P	P	01 22 10.6	-0.1
ILAR	Eielson Array	76.39	18	P	P	01 22 10.4	-0.3
	comp=Z,0.4nm,0.6s,baz=302,slow=5.4,SNR=5.4						
ILAR				LR	LR	02 01 40.3	
	comp=Z,47nm,20.3s,baz=214,slow=40						
	comp=Z,0.4nm,0.6s						
M19K	Big River Lodg	76.51	22	P	P	01 22 11.9	+0.4
M19K				IAmb	IAmb	01 22 48.1	
	comp=Z,13nm,1.3s						
NWAO	Narrogin (SRO)	76.55	145	P	P	01 22 12.1	+0.1
NWAO	Narrogin (SRO)	76.55	145	P	P	01 22 12.1	+0.1
TSUM	Tsumeb	76.64	236	LR	LR	01 57 37.0	
	comp=Z,25nm,18.3s,baz=336,slow=37						
WB0	Warramunga Arr	76.71	125	P	P	01 22 13.3	+0.1
WB0				IAmb	IAmb	01 22 21.4	
	comp=Z,8.2nm,1.0s						
WRA	Warramunga Arr	76.79	125	P	P	01 22 13.8	+0.2
WRA	Warramunga Arr	76.79	125	P	P	01 22 13.8	+0.2
	comp=Z,3.5nm,1.0s,baz=320,slow=5.2,SNR=14						
	comp=Z,3.5nm,1.0s						
WB2	Warramunga Arr	76.80	125	P	P	01 22 13.3	-0.4
WR0	Warramunga Arr	76.94	125	P	P	01 22 14.7	+0.2
WR0				IAmb	IAmb	01 22 30.3	
	comp=Z,6.3nm,1.1s						
H29M	Whitestone	77.07	14	P	P	01 22 15.1	+0.5
H29M				IAmb	IAmb	01 22 24.6	
	comp=Z,6.7nm,1.1s						
N19K	Bonanza Creek	77.30	23	P	P	01 22 16.0	-0.1
N19K				IAmb	IAmb	01 22 20.1	
	comp=Z,10.0nm,1.1s						
J26L	Joseph Creek	77.42	16	P	P	01 22 18.6	+1.9
J26L				IAmb	IAmb	01 22 28.7	
	comp=Z,12nm,1.5s						
I28M	Miner Creek	77.42	15	P	P	01 22 18.7	+2.0
I28M				IAmb	IAmb	01 22 20.1	
	comp=Z,11nm,1.4s						
RIDG	Independent Ri	77.75	17	P	P	01 22 21.3	+2.8
RIDG				IAmb	IAmb	01 22 28.2	
	comp=Z,12nm,1.4s						
SCRK	Sand Creek	77.76	17	P	P	01 22 20.8	+2.2
H31M	Peel River	78.20	12	P	P	01 22 20.8	-0.1
H31M				IAmb	IAmb	01 22 21.2	
	comp=Z,12nm,1.2s						
I30M	Mount Dempster	78.34	13	P	P	01 22 22.8	+0.9
I30M				IAmb	IAmb	01 22 52.2	
	comp=Z,11nm,1.4s						
BOSA	Boshof	78.43	224	P	P	01 22 21.9	-0.9
BOSA				IAmb	IAmb	01 22 38.7	
	comp=Z,14nm,1.5s						
BOSA	Boshof	78.43	224	P	P	01 22 22.9	+0.2
	comp=Z,4.8nm,1.0s,baz=6.3,slow=9.2,SNR=2.6						
	comp=Z,4.8nm,1.0s						
P19K	Oil Pt	78.59	23	P	P	01 22 21.2	-1.9
DBIC	Dimbokro	78.92	271	LR	LR	02 01 17.4	
	comp=Z,38nm,18.9s,baz=354,slow=39						
AS31	Alice Springs	79.05	128	P	P	01 22 26.1	-0.1
ASAR	Alice Springs	79.05	128	P	P	01 22 26.1	-0.1
ASAR	Alice Springs	79.05	128	P	P	01 22 26.8	+0.6
	comp=Z,2.2nm,0.8s,baz=319,slow=5.2,SNR=16						
	comp=Z,2.2nm,0.8s						
BCAR	Beaver Creek A	79.06	17	P	P	01 22 26.9	+1.2
FRB	Frobisher Bay	79.10	345	LR	LR	02 01 56.2	
	comp=Z,17nm,18.6s,baz=1.0,slow=39						

DJA ***19*** *01:20:43.6±0.3,8°S±3°×12°3E±°, h214km±3km, M4.7/13, mB5.9/3, mb4.8/6, MLv4.6/13, Mw(mB)5.5/3*
IDC ***19*** *01:20:45.4±0.8,8°16S×122°62E, h216km±7km, mb3.7/7, mbtmp4.5/12, Error ellipse: s-maj=49.8km s-min=7.4km az=56.0*
ISC 19 01:20:44.9±0.6, 8°13S±0°05×122°66E±0°05, h213km±6km, n88, σ1°15/96, mb4.0/9, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	Maumere	0.65	220	P	Pn	01 21 14.0	-0.1
MMRI	Maumere	0.65	220	P	Pn	01 21 13.9	-0.1
MMRI				S	S	01 21 37.1	+0.3
SOEI	Soe	2.27	135	P	Pn	01 21 28.1	+0.9
SOEI	Soe	2.27	135	P	Pn	01 21 27.3	+0.1
SOEI				S	S	01 21 59.4	-0.5
BATI	Baumata	2.29	154	P	Pn	01 21 27.5	+0.2
BATI				S	S	01 22 01.2	+1.0
BATI	Baumata	2.29	154	P	Pn	01 21 27.8	+0.4
	478nm,0.3s,baz=313,slow=2.1,SNR=33						
BATI				S	S	01 22 01.9	+1.6
	1μm,0.4s,baz=187,slow=11,SNR=18						
BBSI	Bau Bau	2.63	358	P	Pn	01 21 30.8	-0.2
BASI	Baing, Sumba	2.92	225	P	Pn	01 21 33.2	-1.0
BASI				S	S	01 22 11.2	-1.3
BKSI	Bulukumba	3.76	318	P	Pn	01 21 43.0	-1.2
KAPI	Kappang	4.23	317	P	Pn	01 21 50.0	0.0
	44nm,0.7s,baz=144,slow=12,SNR=15						
KAPI				S	S	01 22 42.0	+1.0
	14nm,0.4s,baz=128,slow=24,SNR=1.7						
PLAI	Plampang	4.88	262	P	Pn	01 21 57.8	-0.3
PLAI	Plampang	4.88	262	P	Pn	01 21 56.3	-1.8
TWSI	Taiwang, Sumb	5.74	264	P	Pn	01 22 07.7	-1.4
	123nm,0.4s,7μm1.4nm						
SRBI	Singaraja	7.37	270	P	Pn	01 22 28.7	-1.3
	77nm,0.7s,0.4nm						
IGBI	Denpasar	7.46	264	P	Pn	01 22 29.3	-1.9
	106nm,0.5s,1.2nm						
JAGI	Jajag, Banyuwa	8.42	267	P	Pn	01 22 41.6	-2.1
JAGI	Jajag, Banyuwa	8.42	267	P	Pn	01 22 42.0	-1.7
	42nm,1.1s						
MTN	Manton Dam	9.56	120	P	Pn	01 22 58.1	-0.2
	baz=9.7,SNR=5.0						
KNRA	Kununurra	9.59	142	P	Pn	01 22 57.5	-1.2
	baz=9.7,SNR=25						
KNRA	Kununurra	9.59	142	P	Pn	01 22 57.7	-0.9
KDU	Kakadu	10.66	116	P	Pn	01 23 10.6	-1.9
	baz=11,SNR=52						
KDU	Kakadu	10.66	116	P	Pn	01 23 10.6	-1.9
FAKI	Fak Fak	10.86	62	P	Pn	01 23 13.6	-1.5
FAKI	Fak Fak	10.86	62	P	Pn	01 23 12.9	-2.2
	106nm,0.8s						
UGM	Wanagama	12.02	270	P	Pn	01 23 28.3	-1.5
MBWA	Marble Bar	13.25	192	P	P	01 23 46.5	-1.2
PSA00	Pilbara Seismi	13.63	191	P	P	01 23 53.3	+1.4
BBJI	Bungbulang	14.88	272	P	Pn	01 24 05.6	+0.2
LEM	Lembang	14.97	274	P	Pn	01 24 06.5	0.0
	31nm,0.4s,baz=111,slow=17,SNR=2.4						
WRA	Warramunga Arr	16.30	137	P	P	01 24 21.5	0.0
	7.2nm,0.5s,baz=316,slow=12,SNR=86						
WRA				S	S	01 27 19.1	-2.5
	12nm,0.7s,baz=315,slow=21,SNR=13						
WRAB	Tennant Creek	16.30	137	P	Pn	01 24 21.8	-0.6
GIRL	Giralia	16.54	208	P	Pn	01 24 25.1	-0.1
	baz=17,SNR=4.1						
GIRL	Giralia	16.54	208	P	Pn	01 24 26.6	+1.4
WRKA	Warakurna	17.65	163	P	Pn	01 24 37.7	-0.6
	baz=18,SNR=52						
WRKA	Warakurna	17.65	163	P	Pn	01 24 37.7	-0.6
MEEK	Meekatharra	18.80	191	P	P	01 24 50.0	+1.4
	baz=19,SNR=36						
MEEK	Meekatharra	18.80	191	P	Pn	01 24 50.4	-1.3
ASAR	Alice Springs	18.84	146	P	P	01 24 50.1	+1.1
	57nm,0.8s,baz=332,slow=13,SNR=150						
ASAR				S	S	01 28 11.5	-0.5
	4.3nm,0.9s,baz=329,slow=22,SNR=8.4						
QIS	Mount Isa	20.52	129	P	P	01 25 07.1	0.0
	baz=21,SNR=35						
QIS	Mount Isa	20.52	129	P	P	01 25 07.3	+0.2
COEN	Coen	20.95	108	P	P	01 25 11.0	-0.6
MORW	Morawa	21.74	196	P	P	01 25 19.9	+0.4
	baz=22,SNR=17						
MORW	Morawa	21.74	196	P	P	01 25 19.9	+0.4
BLDU	Ballidu	23.05	193	P	P	01 25 31.8	+0.2
	baz=23,SNR=23						
BLDU	Ballidu	23.05	193	P	P	01 25 32.1	+0.5
FORT	Forrest	23.09	168	P	P	01 25 32.7	+0.8
	baz=23,SNR=10						
FORT	Forrest	23.09	168	P	P	01 25 32.7	+0.8
OOD	Oodnadatta	23.11	149	P	P	01 25 32.9	+0.7
KMBL	Kambalda	23.13	182	P	P	01 25 32.8	+0.5
	baz=23,SNR=8.6						
KMBL	Kambalda	23.13	182	P	P	01 25 33.0	+0.7
MTSU	Mount Surprise	23.29	117	P	P	01 25 33.0	-1.0
	baz=23,SNR=14						
KLBR	Kellerberrin	23.78	190	P	P	01 25 38.7	+0.4
	baz=24,SNR=18						
KLBR	Kellerberrin	23.78	190	P	P	01 25 38.7	+0.4
MUN	Mundaring	24.47	193	P	P	01 25 46.9	+2.4
MULG	Mulgathing	24.49	156	P	P	01 25 45.5	+0.8
NWAO	Narrogin (SRO)	25.18	191	P	P	01 25 51.7	+0.8
NWAO	Narrogin (SRO)	25.18	191	P	P	01 25 51.6	+0.7
INKA	Innaminka	25.94	141	P	P	01 25 59.0	+1.2
LCRK	Leigh Creek	26.55	149	P	P	01 26 03.9	+0.7
BBOO	Buckleboo	27.52	155	P	P	01 26 12.3	+0.4
	baz=28,SNR=87						
BBOO	Buckleboo	27.52	155	P	P	01 26 12.2	+0.4
HTT	Hallett	29.32	151	P	P	01 26 29.0	+1.2
	baz=30,SNR=36						
HTT	Hallett	29.32	151	P	P	01 26 29.1	+1.2
STKA	Stephens Creek	29.47	146	P	P	01 26 30.0	+0.8
	11nm,0.5s,baz=323,slow=9.3,SNR=20						
	11nm,0.5s						
CMSA	Cobar Meteorol	31.66	140	P	P	01 26 49.8	+1.3
	baz=32,SNR=12						
CMSA	Cobar Meteorol	31.66	140	P	P	01 26 49.7	+1.3
ARPS	Mount Arapiles	33.42	151	P	P	01 27 05.4	+1.8
	baz=34,SNR=6.1						
ARPS	Mount Arapiles	33.42	151	P	P	01 27 05.2	+1.6
TOO	Toolangi	35.87	148	P	P	01 27 27.0	+2.4
	baz=36,SNR=4.5						
MGCD	Mangrove Creek	36.26	138	P	P	01 27 30.4	+2.5
	baz=36,SNR=5.9						
MGCD	Mangrove Creek	36.26	138	P	P	01 27 28.6	+0.7
RAMN	Ramite	49.38	316	*e*P	P	01 29 13.3	-0.2
	15nm,0.5s						
HHC	Hu-ho-hao-te	49.80	349	*e*P	P	01 29 16.9	+0.6
HHC				pmax	pmax		
	comp=Z,26nm,0.5s						
HHC				pmax	pmax		
	comp=Z,270nm,5.0s						
JIRN	Jiri	50.11	317	*e*P	P	01 29 18.9	-0.2
	comp=Z,13nm,0.6s						
GUN	Gumba	50.48	317	*e*P	P	01 29 21.6	-0.3
	comp=Z,17nm,0.6s						
PKI	Pulchoki	50.59	316	*e*P	P	01 29 21.9	-0.8
	comp=Z,14nm,0.6s						
PKIN	Phulchoki	50.60	316	*e*P	P	01 29 21.7	-1.0
	comp=Z,16nm,0.5s						
XLT	XiLinHaoTe	52.13	354	*e*P	P	01 29 35.1	+1.6
XLT				pP	pP	01 30 23.5	+3.5
XLT				sP	PcP	01 30 45.3	+3.0
XLT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,98nm,5.6s						
DANN	Dangsing	52.21	316	*e*P	P	01 29 33.8	-0.9
	comp=Z,26nm,0.6s						
PYUN	Piuthan	52.59	315	*e*P	P	01 29 35.1	-2.3
	comp=Z,6.3nm,0.5s						
SONM	Songino Array	57.55	347	P	P	01 30 12.6	+0.2
	comp=Z,0.4nm,0.5s,baz=154,slow=7.8,SNR=2.8						
	comp=Z,0.4nm,0.5s						
MKAR	Makanchi Array	65.41	331	P	P	01 31 04.8	0.0
	comp=Z,1.6nm,0.5s,baz=139,slow=7.4,SNR=14						
	comp=Z,1.6nm,0.5s						
ZALV	Zalesovo Beam	69.58	337	P	P	01 31 31.2	+0.5
	comp=Z,1.2nm,0.4s,baz=144,slow=4.8,SNR=5.0						
	comp=Z,1.2nm,0.4s						
KURBB	Kurchatov Arra	69.86	332	P	P	01 31 32.7	+0.2
	comp=Z,1.1nm,0.2s,baz=143,slow=5.9,SNR=5.7						
	comp=Z,1.1nm,0.2s						
BVAR	Borovoye Array	75.29	330	P	P	01 32 04.4	0.0
	comp=Z,0.4nm,0.5s,baz=116,slow=3.4,SNR=2.5						
	comp=Z,0.4nm,0.5s						
KBZ	Khabaz	88.23	314	P	P	01 33 13.8	+1.7
	comp=Z,2.0nm,0.9s,baz=129,slow=4.2,SNR=4.2						
	comp=Z,2.0nm,0.9s						
TORD	Torodi Ar. Bea	121.87	280	PKP	PKPdf	01 39 13.0	-1.8
	comp=Z,0.4nm,0.7s,baz=79,slow=0.7,SNR=2.6						
CPUP	Villa Florida	145.74	180	PKPbc	PKPdf	01 39 59.2	+0.4
	comp=Z,1.7nm,0.5s,baz=177,slow=5.8,SNR=4.9						

ISK ***19*** *01:46:00.5, 38°92N×26°42E, h9km, ML2.7/24*
AFAD ***19*** *01:46:00.7±0.0, 38°90N×26°45E, h7km±4km, ML2.7*
ATH ***19*** *01:46:01.7, 38°92N×26°43E, h6km±1km, ML2.8/8, Error ellipse: s-maj=1.8km s-min=0.8km az=286.0*
THE ***19*** *01:46:01.4, 38°92N×26°42E, h6km±1km, ML2.7/7, Error ellipse: s-maj=1.1km s-min=0.6km az=309.0*
ISC 19 01:46:00.9±0.8, 38°90N±0°01×26°45E±0°02, h11km±7km, n62, σ0°64/101, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG3	Mitilini, Lesv	0.20	27	P	Pg	01 46 05.6	+0.3
EAG3				S	Sg	01 46 08.5	+0.2
EAG3				AML	AML	01 46 09.2	
	comp=E,15432μm,0.3s						
EAG3				AML	AML	01 46 09.4	
	comp=N,13368μm,0.4s						
LESV	Lesvos island,	0.22	22	P	Pg	01 46 05.8	+0.2
LESV				S	Sg	01 46 09.1	+0.3
	comp=N,6μm,0.4s						
KARB	zmir-Karabur	0.24	188	P	Pg	01 46 06.5	+0.5
KARB				S	Sg	01 46 08.5	-0.9
EAG1	Polichnitos, L	0.26	315	P	Pg	01 46 06.4	+0.1
EAG1				S	Sg	01 46 09.5	-0.3
EAG1				AML	AML	01 46 12.8	
	comp=N,10241μm,0.5s						
EAG1				AML	AML	01 46 13.8	
	comp=E,8186μm,0.6s						
RFT5	Foca	0.34	137	Pg	Pb	01 46 08.6	-0.3
RFT5				Sg	Sb	01 46 13.7	-0.6
RFT7	Candarli	0.37	82	Pg	Pb	01 46 08.9	-0.6
RFT7				Sg	Sb	01 46 14.4	-0.8
PRK	Paraskevi	0.37	338	P	Pg	01 46 08.4	+0.1
PRK				S	Sg	01 46 13.7	+0.4
	comp=E,2μm,0.4s						
PRK	Paraskevi	0.37	338	P	Pg	01 46 08.5	+0.2
PRK				S	Sg	01 46 13.1	-0.2
PRK				AML	AML	01 46 14.2	
	comp=E,4553μm,0.3s						
PRK				AML	AML	01 46 16.2	
	comp=N,2086μm,0.4s						
DKL	Dikili	0.39	65	Pg	Pb	01 46 09.3	-0.5
DKL				Sg	Sb	01 46 15.1	-0.7
AYVA	Ayvalik	0.44	24	P	Pg	01 46 09.9	+0.2
AYVA				S	Sg	01 46 14.9	-0.7
EAG2	Marmaro, Chios	0.45	217	P	Pb	01 46 10.1	-0.8
EAG2				S	Sg	01 46 16.0	+0.2
EAG2				AML	AML	01 46 17.5	
	comp=E,10544μm,0.3s						
EAG2				AML	AML	01 46 17.6	
	comp=N,10040μm,0.4s						
ZEDA	zmir-Bergama	0.49	83	P	Pb	01 46 11.1	-0.5
URLA	Izmir	0.55	168	Pg	Pb	01 46 11.9	-0.7
URLA				Sg	Sb	01 46 20.3

comp=N,302nm,0.4s
BOZC Bozcaada 0.99 342 Pg **Pg 01 46 19.5 -0.5**
BOZC Bozcaada 0.99 342 P **Pg 01 46 19.7 -0.2**
BOZC P **Pb 01 46 19.9 -0.1**
BOZC S **Sg 01 46 31.9 -0.9**
BOZC *i* AML AML 01 46 34.0
comp=N,172nm,0.4s
BOZC *i* AML AML 01 46 35.0
comp=N,154nm,0.5s
BOZC *i* AML AML 01 46 35.0
comp=N,167nm,0.5s
BOZC *i* AML AML 01 46 36.0
comp=N,175nm,0.2s
AKS Akhisar 1.06 91 Pn **Pn 01 46 22.3 +0.6**
ECEA Canakkale, Ece 1.16 349 P **Pn 01 46 23.5 +0.5**
ECEA S **Sg 01 46 38.3 -0.1**
ECEA *i* AML AML 01 46 41.0
comp=N,241nm,0.3s
ECEA *i* AML AML 01 46 41.0
comp=N,388nm,0.5s
CNKL anakkale-Mer 1.16 358 P **Pg 01 46 22.6 -0.7**
CNKL P **Pb 01 46 22.9 -0.1**
CNKL *i* AML AML 01 46 42.0
comp=N,104nm,0.3s
CNKL *i* AML AML 01 46 42.0
comp=N,109nm,0.3s
COMU Canakkale 1.19 1 Pn **Pg 01 46 23.2 -0.7**
CANM Can-anakkale 1.20 23 Pn **Pn 01 46 24.1 +0.5**
BALY Balya 1.23 47 P **Pg 01 46 25.2 +0.6**
BALY S **Sg 01 46 39.9 -0.8**
BALY *i* AML AML 01 46 44.0
comp=N,129nm,0.5s
SMG Samos 1.23 166 P **Pn 01 46 24.3 +0.2**
SMG S **Sn 01 46 42.1 +1.5**
comp=N,238nm,0.5s
SMG Samos 1.23 166 P **Pn 01 46 24.4 +0.4**
SMG S **Sn 01 46 41.5 +0.9**
SMG AML AML 01 46 43.1
comp=N,507μm,0.4s
SMG AML AML 01 46 45.0
comp=E,454μm,0.4s
IKRA Agios-Kirikos- 1.30 186 P **Pg 01 46 25.9 +0.1**
IKRA S **Sn 01 46 43.8 +1.6**
GCAM G?zelcaml? 1.35 153 Pn **Pg 01 46 26.3 -0.6**
GCAM G?zelcaml? 1.35 153 P **Pb 01 46 26.0 -0.2**
GCAM S **Sb 01 46 42.3 -1.1**
GOKA anakkale-Gk 1.35 342 P **Pn 01 46 25.9 +0.2**
GOKA S **Sb 01 46 42.2 -1.3**
GOKA *i* AML AML 01 46 45.0
comp=E,355nm,0.6s
GOKA *i* AML AML 01 46 46.0
comp=E,256nm,0.2s
GADA Gvkgeada 1.35 342 Pn **Pn 01 46 26.0 +0.3**
LIA Limnos Island 1.40 316 P **Pn 01 46 26.4 +0.1**
LIA S **Sb 01 46 44.5 -0.3**
LIA Limnos Island 1.40 316 P **Pn 01 46 26.8 +0.4**
LIA S **Sb 01 46 44.1 -0.7**
LIA AML AML 01 46 46.8
comp=E,721μm,0.4s
LIA AML AML 01 46 47.2
comp=N,466μm,0.5s
IZMR zmir-demi 1.40 123 P **Pb 01 46 26.9 -0.3**
IZMR S **Sb 01 46 43.1 -1.9**
BKES Balkesir-Mer 1.41 54 P **Pb 01 46 27.4 +0.1**
BKES S **Sb 01 46 44.2 -1.1**
LPK Lapseki 1.49 9 Pn **Pn 01 46 28.0 +0.4**
GONE Gonen-Balikesi 1.49 40 Pn **Pn 01 46 28.1 +0.5**
GELI Tayfur-Gelibol 1.49 1 Pn **Pn 01 46 28.1 +0.5**
KRBG Karabiga-Canak 1.62 23 Pn **Pn 01 46 30.3 +0.9**
SMTH Samothraki Isl 1.72 336 P **Pn 01 46 30.8 0.0**
SMTH Samothraki Isl 1.72 336 P **Pn 01 46 31.4 +0.7**
KULA Kula-Manisa 1.77 102 Pn **Pn 01 46 32.4 +0.9**
MLSB Milas 1.92 147 Pn **Pn 01 46 34.6 +1.1**
BODT Bodrum 1.96 160 Pn **Pb 01 46 35.3 -1.3**
SIMA Simav-Kutahya 1.98 84 Pn **Pn 01 46 35.7 +1.3**
ALN Alexandroupoli 2.02 351 P **Pn 01 46 34.9 0.0**
RDO Rodhopi 2.35 343 P **Pn 01 46 40.0 +0.6**

*IDC **19** 01:58:22.6±26.0, 16°.58S×174°.38W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=501.4km s-min=48.9km az=62.0*
*NEIC **19** 01:58:55.9±0.9, 17°.8S±0°.2×175°.4W±0°.2, h208km±14km, mb4.5/19, Error ellipse: s-maj=27.0km s-min=18.1km az=49.0*
ISC 19 01:58:55.4±1.1, **17°.8S**±0°.2×**175°.4W**±0°.3, **h200**km, **n30, σ0§60/15, mb4.5/15, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.21**	**43**	Pn	**Pn**	**02 00 12.7**	**0.0**
MXZ	**Matakaoa Point**	**20.45**	**194**	P	**P**	**02 03 27.9**	**+0.5**
URZ	**Urewera**	**21.41**	**196**	P	**P**	**02 03 27.9**	**+0.4**
	7.2nm,0.4s,baz=19,slow=1.3,SNR=18						
	7.2nm,0.4s						
RTZ	**Ruatahuna**	**21.78**	**196**	P	**P**	**02 03 30.9**	**-0.5**
RTZ				IAmb	IAmb	02 03 59.3	
	comp=Z,15nm,1.1s						
BKZ	**Black Stump Fm**	**22.43**	**197**	P	**P**	**02 03 35.9**	**-1.6**
BKZ				IAmb	IAmb	02 03 42.2	
	comp=Z,24nm,1.4s						
BFZ	**Birch Farm**	**23.91**	**196**	P	**P**	**02 03 51.5**	**+0.6**
MRZ	**Mangatainoka R**	**24.07**	**197**	P	**P**	**02 03 52.2**	**-0.2**
MRZ				IAmb	IAmb	02 04 17.1	
	comp=Z,43nm,1.5s						
TCW	**Tory Channel**	**24.96**	**199**	P	**P**	**02 03 59.8**	**-0.6**
PLWZ	**Palliser**	**25.00**	**197**	P	**P**	**02 04 00.9**	**0.0**
QRZ	**Quartz Range**	**25.19**	**202**	P	**P**	**02 04 02.0**	**-0.5**
DSZ	**Denniston Nort**	**26.26**	**202**	P	**P**	**02 04 11.9**	**-0.2**
LTZ	**Lake Taylor**	**27.02**	**200**	P	**P**	**02 04 19.0**	**+0.1**
LTZ				IAmb	IAmb	02 04 24.5	
	comp=Z,15nm,1.4s						
WHZ	**Wether Hill Ro**	**31.24**	**203**	P	P	02 04 56.2	+0.1
WHZ				IAmb	IAmb	02 05 27.6	
	comp=Z,28nm,1.2s						
ARMA	**Armidale**	**32.48**	**241**	P	**P**	**02 05 07.5**	**+0.2**
ARMA				IAmb	IAmb	02 05 19.6	
	comp=Z,25nm,1.4s						
STKA	**Stephens Creek**	**41.19**	**242**	P	**P**	**02 06 20.6**	**+0.1**
STKA	**Stephens Creek**	**41.19**	**242**	P	P	02 06 20.4	-0.2
	comp=Z,3.1nm,0.9s,baz=93,slow=2.6,SNR=3.8						
	comp=Z,3.1nm,0.9s						
BBOO	**Buckleboo**	**45.96**	**241**	P	P	02 06 57.7	-0.9
BBOO				IAmb	IAmb	02 07 04.7	
	comp=Z,39nm,1.5s						
WR0	**Warramunga Arr**	**47.27**	**259**	P	P	02 07 07.8	-1.1
WB0	**Warramunga Arr**	**47.43**	**259**	P	P	02 07 08.2	-1.9
WB0				IAmb	IAmb	02 07 34.8	
	comp=Z,7.2nm,1.4s						
WB2	**Warramunga Arr**	**47.45**	**259**	P	P	02 07 08.9	-1.4
WB2				IAmb	IAmb	02 07 45.5	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**47.46**	**259**	P	P	02 07 09.1	-1.3
WRA	**Warramunga Arr**	**47.46**	**259**	P	P	02 07 08.7	-1.7
	comp=Z,0.4nm,0.4s,baz=98,slow=6.2,SNR=28						
	comp=Z,0.4nm,0.4s						
AS31	**Alice Springs**	**47.56**	**254**	P	P	02 07 10.5	-0.8
ASAR	**Alice Springs**	**47.57**	**254**	P	P	02 07 10.1	-1.1
ASAR	**Alice Springs**	**47.57**	**254**	P	P	02 07 10.4	-0.8
	comp=Z,7.0nm,0.6s,baz=89,slow=8.7,SNR=63						
	comp=Z,7.0nm,0.6s						
CASY	**Casey**	**67.43**	**205**	P	P	02 09 28.3	-0.7
CASY				IAmb	IAmb	02 09 29.4	
	comp=Z,18nm,1.3s						
QSPA	**South Pole Qui**	**72.26**	**180**	P	**P**	**02 09 58.7**	**0.0**
QSPA				IAmb	IAmb	02 10 24.7	
	comp=Z,5.7nm,1.4s						
H03S2	**Juan Fernandez**	**85.48**	**124**	T	T	03 44 47.4	
	baz=249						
H03S1	**Juan Fernandez**	**85.49**	**124**	T	T	03 44 46.4	
	baz=249						
H03S3	**Juan Fernandez**	**85.49**	**124**	T	T	03 44 43.1	
	baz=249						

*IDC **19** 02:05:24.2±5.4, 16°.96N×147°.20E, h60km±45km, mb3.7/10, mbtmp4.0/11, ML3.3/1, MS3.0/4, Error ellipse: s-maj=40.2km s-min=20.3km az=78.0*
ISC 19 02:05:23.1±1.1, **17°.0N**±0°.1×**147°.3E**±0°.2, **h50**km, **n13, σ0§74/13, mb4.0/10, MS3.0/3, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.11**	**215**	P	**Pn**	**02 06 24.6**	**+1.2**
	1.7nm,0.3s,baz=234,slow=23,SNR=1.4						
GUMO				S	**Sn**	**02 07 09.7**	**-0.6**
	55nm,0.5s,baz=41,slow=24,SNR=1.6						
GUMO				LR	LR	02 08 01.3	
	comp=Z,193nm,18.6s,baz=284,slow=39						
	82nm,0.8s						
JOW	**Kunigami**	**20.14**	**302**	LR	LR	02 16 29.0	
	comp=Z,51nm,19.8s,baz=124,slow=33						
WRA	**Warramunga Arr**	**38.85**	**200**	P	**P**	**02 12 43.4**	**-0.2**
	1.3nm,0.9s,baz=28,slow=9.3,SNR=12						
WRA				PcP	**PcP**	**02 14 54.4**	**+0.3**
	0.2nm,0.8s,baz=30,slow=4.0,SNR=1.6						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**42.48**	**198**	P	**P**	**02 13 12.1**	**-1.5**
	0.2nm,0.3s,baz=21,slow=8.0,SNR=1.9						
	0.2nm,0.3s						
SONM	**Songino Array**	**45.40**	**322**	P	**P**	**02 13 37.1**	**+0.2**
	0.5nm,0.6s,baz=118,slow=8.3,SNR=2.7						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**45.95**	**279**	P	**P**	**02 13 41.9**	**+0.3**
	0.9nm,0.4s,baz=73,slow=6.2,SNR=8.5						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**60.27**	**323**	P	**P**	**02 15 26.4**	**0.0**
	1.3nm,0.7s,baz=90,slow=8.6,SNR=4.4						
ZALV				LR	LR	02 40 17.6	
	comp=Z,11nm,18.4s,baz=29,slow=35						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**60.72**	**314**	P	**P**	**02 15 29.5**	**-0.1**
	0.7nm,0.8s,baz=91,slow=7.9,SNR=5.4						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**63.58**	**318**	P	**P**	**02 15 47.9**	**-0.8**
	1.8nm,0.2s,baz=99,slow=7.1,SNR=9.0						
	1.8nm,0.2s						
BVAR	**Borovoye Array**	**68.73**	**321**	P	**P**	**02 16 21.7**	**0.0**
	2.3nm,0.7s,baz=90,slow=7.4,SNR=7.7						
	2.3nm,0.7s						
NVAR	**Mina Array Bea**	**83.00**	**52**	P	**P**	**02 17 44.2**	**+0.6**
	0.4nm,0.7s,baz=287,slow=4.4,SNR=2.7						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**89.05**	**336**	P	**P**	**02 18 12.1**	**-0.6**
	4.6nm,1.1s,baz=33,slow=3.3,SNR=2.2						
	4.6nm,1.1s						
NOA	**NORSAR Array B**	**94.67**	**340**	LR	LR	03 06 00.5	
	comp=Z,5.2nm,20.1s,baz=280,slow=38						

*GCG **19** 02:17:09.2±3.1, 16°.51N×93°.23W, h106km±346km, MD3.8*
*IDC **19** 02:17:13.4±1.9, 15°.99N×92°.65W, h156km±12km, mb3.2/3, mbtmp3.8/6, Error ellipse: s-maj=41.1km s-min=16.3km az=20.0*
*MEX **19** 02:17:14.8±1.1, 15°.90N×92°.81W, h180km±7km, MD4.4*
*NEIC **19** 02:17:15.1±2.0, 15°.89N±0°.09×92°.8W±0°.1, h168km±8km, mb4.2/28, Md4.4/35(MEX), Error ellipse: s-maj=18.1km s-min=8.9km az=49.0*
ISC 19 02:17:14.8±0.8, **15°.96N**±0°.05×**92°.85W**±0°.04, **h173**km±6km, **n84**, σ1§**83**/122, **mb3.4/3, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.43**	**235**		**Pn**	**02 17 38.2**	**-0.2**
PCIG					**Sn**	**02 17 56.2**	**-0.4**
PCIG		**0.43**	**235**	*e*P	**Pn**	**02 17 38.2**	**-0.2**
PCIG				*e*S	**Sn**	**02 17 56.2**	**-0.4**
CCIG	**Comitan**	**0.76**	**65**	*e*P	**Pn**	**02 17 39.8**	**-0.6**
CCIG				*e*S	**Sn**	**02 17 58.2**	**-1.7**
TGIG		**0.86**	**342**		**Pn**	**02 17 41.3**	**+0.4**
TGIG					**Sn**	**02 18 00.5**	**-0.5**
TGIG		**0.86**	**342**	*i* P	**Pn**	**02 17 41.3**	**+0.4**
TGIG				*i* S	**Sn**	**02 18 00.5**	**-0.5**
PAVE	**Pavencul**	**1.00**	**139**	*e*P	**Pn**	**02 17 40.7**	**-1.3**
PAVE				*e*S	**Sn**	**02 18 00.7**	**-2.3**
PATR	**El Naranjo**	**1.03**	**145**	*i* P	**Pn**	**02 17 40.3**	**-2.0**
PATR				*i* S	**Sn**	**02 18 01.6**	**-1.8**
CARR	**Arriaga**	**1.06**	**286**	*e*P	**Pn**	**02 17 43.2**	**+1.0**
CARR				*e*S	**Sn**	**02 18 04.7**	**+1.3**
CHUJ	**Union Juarez**	**1.12**	**140**	*e*P	**Pn**	**02 17 41.0**	**-2.0**
CHUJ				*e*S	**Sn**	**02 18 03.4**	**-1.4**
THIG		**1.19**	**152**		**Pn**	**02 17 41.8**	**-1.5**
THIG					**Sn**	**02 18 03.3**	**-2.0**
THIG		**1.19**	**152**	*i* P	**Pn**	**02 17 41.8**	**-1.5**
THIG				*i* S	**Sn**	**02 18 03.3**	**-2.0**
STG3	**Santiaguito 3,**	**1.75**	**135**	*e*P	**Pn**	**02 17 47.7**	**-1.2**
STG3				*e*S	**Sn**	**02 18 17.6**	**+2.4**
NILT	**Santiago Nilte**	**1.80**	**290**	*e*P	**Pn**	**02 17 49.6**	**+0.4**
NILT				*i* S	**Sn**	**02 18 16.6**	**+0.8**
UXUV	**UXUV**	**1.84**	**318**	*e*P	**Pn**	**02 17 50.1**	**+0.5**
UXUV				*e*S	**Sn**	**02 18 15.9**	**-0.7**
SULM	**Suchitepequez,**	**2.06**	**143**	*e*P	**Pn**	**02 17 51.3**	**-0.7**
CMIG	**Matias Romero**	**2.25**	**300**	*e*P	**Pn**	**02 17 54.8**	**+0.6**
	52nm,0.3s,baz=131,slow=8.6,SNR=248						
CMIG				S	**Sn**	**02 18 25.0**	**+0.2**
	219nm,0.3s,baz=327,slow=20,SNR=16						
CMIG	**Matias Romero**	**2.25**	**300**	*e*P	**Pn**	**02 17 54.8**	**+0.6**
CMIG				*e*S	**Sn**	**02 18 24.8**	**0.0**
FUG	**Fuego 3**	**2.45**	**127**	*e*P	**Pn**	**02 17 56.6**	**-0.1**
FUG				*e*S	**Sn**	**02 18 33.7**	**+4.5**
NBG	**Las Nubes**	**2.77**	**119**	*e*P	**Pn**	**02 17 59.0**	**-1.7**
HUIG	**Huatulco**	**3.14**	**267**		**Pn**	**02 18 04.2**	**-0.7**
HUIG					**Sn**	**02 18 41.2**	**-2.6**
HUIG	**Huatulco**	**3.14**	**267**	*e*P	**Pn**	**02 18 04.2**	**-0.7**
HUIG				*e*S	**Sn**	**02 18 41.2**	**-2.6**
NEUV	**Arroyo Zacate**	**3.32**	**302**	*e*P	**Pn**	**02 18 07.3**	**+0.3**
NEUV				*e*S	**Sn**	**02 18 44.9**	**-3.0**
PMUV	**Sontecomapan**	**3.37**	**320**	*e*P	**Pn**	**02 18 07.5**	**-0.2**
PMUV				*e*S	**Sn**	**02 18 45.5**	**-3.6**
OXIG	**Oaxaca**	**3.89**	**287**		**Pn**	**02 18 16.5**	**+2.1**
OXIG					**Sn**	**02 19 00.0**	**-0.9**
VHO	**Vista Hermosa**	**3.89**	**287**	*e*P	**Pn**	**02 18 16.5**	**+2.1**
VHO				*e*S	**Sn**	**02 19 00.0**	**-0.9**
PEIG	**Puerto Escondi**	**4.13**	**271**		**Pn**	**02 18 17.0**	**-0.4**
PEIG					**Sn**	**02 19 05.6**	**-0.8**
PEIG	**Puerto Escondi**	**4.13**	**271**	*e*P	**Pn**	**02 18 17.0**	**-0.4**
PEIG				*e*S	**Sn**	**02 19 05.6**	**-0.8**
TOIG	**Toxpalan**	**4.56**	**298**		**Pn**	**02 18 24.1**	**+1.1**
TOIG					**Sn**	**02 19 15.2**	**-1.2**
TOIG	**Toxpalan**	**4.56**	**298**	*e*P	**Pn**	**02 18 24.1**	**+1.1**
TOIG				*e*S	**Sn**	**02 19 15.2**	**-1.2**
YOIG	**Yosondua**	**4.59**	**282**		**Pn**	**02 18 25.1**	**+1.5**
YOIG					**Sn**	**02 19 15.5**	**-1.9**
YOIG	**Yosondua**	**4.59**	**282**	*e*P	**Pn**	**02 18 25.1**	**+1.5**
YOIG				*e*S	**Sn**	**02 19 15.5**	**-1.9**
TXIG	**Tlaxiaco**	**4.89**	**286**	*e*P	**Pn**	**02 18 29.6**	**+2.2**
TXIG				*e*S	**Sn**	**02 19 23.6**	**-0.7**
TPIG	**Tehuac#an**	**4.96**	**300**		**Pn**	**02 18 29.6**	**+1.3**
TPIG					**Sn**	**02 19 22.7**	**-3.1**
TPIG	**Tehuac#an**	**4.96**	**300**	*e*P	**Pn**	**02 18 29.6**	**+1.3**
TPIG				*e*S	**Sn**	**02 19 22.7**	**-3.1**
JAUV	**Jalcomulco**	**5.07**	**313**	*e*P	**Pn**	**02 18 28.9**	**-0.7**
JAUV				*e*S	**Sn**	**02 19 24.4**	**-3.8**
PNIG	**Pinotepa**	**5.09**	**276**	*i* P	**Pn**	**02 18 30.6**	**+0.8**
PNIG				*e*S	**Sn**	**02 19 26.1**	**-2.5**
HLIG	**Huajuapan de L**	**5.09**	**292**		**Pn**	**02 18 31.8**	**+1.7**
HLIG					**Sn**	**02 19 26.1**	**-2.9**
HLIG	**Huajuapan de L**	**5.09**	**292**	*e*P	**Pn**	**02 18 31.8**	**+1.7**
HLIG				*e*S	**Sn**	**02 19 26.1**	**-2.9**
FTIG	**Fresnillo de T**	**5.42**	**292**	*e*P	**Pn**	**02 18 36.7**	**+2.5**
FTIG				*e*S	**Sn**	**02 19 34.8**	**-1.6**
TLIG	**Tlapa**	**5.70**	**287**	*e*P	**Pn**	**02 18 39.4**	**+1.4**
TLIG				*e*S	**Sn**	**02 19 40.3**	**-3.0**
TEIG	**Tepich**	**6.08**	**45**	Pn	**Pn**	**02 18 39.4**	**-3.4**
TEIG	**Tepich**	**6.08**	**45**	P	**Pn**	**02 18 39.2**	**-3.5**
	556nm,0.3s,baz=17,slow=1.3,SNR=199						
CXUV	**Coxquihui**	**6.16**	**314**	*e*P	**Pn**	**02 18 44.4**	**+0.5**
CXUV				*e*S	Sn	02 19 45.2	-8.7
PPM	**Popocatepetl**	**6.32**	**300**	*e*P	**Pn**	**02 18 50.3**	**+3.9**
PPIG	**Popocatepetl**	**6.32**	**300**		**Pn**	**02 18 50.3**	**+3.9**
CRIN	**San Cristobal**	**6.49**	**119**	Pn	**Pn**	**02 18 47.9**	**-0.4**
CNGN	**Cerro Negro**	**6.88**	**119**	Pn	**Pn**	**02 18 55.0**	**+1.5**
AOVM	**Tlapan**	**6.99**	**299**	*e*P	**Pn**	**02 18 58.8**	**+3.5**
AOVM				*e*S	**Sn**	**02 20 11.7**	**-2.8**
ACIG	**Acambay**	**7.79**	**302**	*e*P	**Pn**	**02 19 01.6**	**-4.0**
JTS	**Las Juntas de**	**9.53**	**125**	Pn	**Pn**	**02 19 25.0**	**-3.5**
JTS	**Las Juntas de**	**9.53**	**125**	P	**Pn**	**02 19 25.3**	**-3.1**
	5.0nm,0.3s,baz=304,slow=20,SNR=5.4						
HBVL	**Hebbronville**	**12.30**	**335**	P	**P**	**02 20 12.8**	**+3.2**
833A	**Chaparral WMA,**	**13.71**	**335**	P	P	02 20 30.8	+5.6
HNDO	**Hondo**	**14.75**	**337**	P	**P**	**02 20 38.5**	**+1.9**
DRIO	**Del Rio**	**15.19**	**333**	P	**P**	**02 20 42.5**	**+0.9**
DRIO				IAmb	IAmb	02 20 43.7	
	comp=Z,7.4nm,0.8s						
BRDY	**Brady**	**16.26**	**341**		**Pn**	**02 20 54.5**	**+0.9**
BRDY				IAmb	IAmb	02 21 12.4	
	comp=Z,6.4nm,0.8s						
SAND	**Sanderson**	**16.33**	**330**	P	**Pn**	**02 20 55.5**	**+1.1**
SAND				IAmb	IAmb	02 21 00.6	
	comp=Z,5.2nm,1.0s						
TXAR	**Lajitas Array**	**16.62**	**325**	P	**Pn**	**02 20 59.2**	**+1.1**
TXAR	**Lajitas Array**	**16.62**	**325**	P	**Pn**	**02 21 00.1**	**+2.0**
	comp=Z,2.9nm,0.8s,baz=148,slow=11,SNR=26						
TX31	**Lajitas Ar. Si**	**16.62**	**325**	P	**Pn**	**02 21 00.7**	**+2.6**
TX31				IAmb	IAmb	02 21 02.5	
	comp=Z,12nm,0.8s						
TX32	**Lajitas Array**	**16.62**	**325**	P	**Pn**	**02 21 00.5**	**+2.4**
OZNA	**Ozona**	**16.71**	**335**	P	**Pn**	**02 20 59.9**	**+0.8**
OZNA				IAmb	IAmb	02 21 01.3	
	comp=Z,6.2nm,0.6s						
FW07	**Weatherford**	**17.26**	**346**	P	**P**	**02 21 04.7**	**+0.3**
FW07				IAmb	IAmb	02 21 11.3	
	comp=Z,17nm,0.5s						
ALPN	**Alpine**	**17.43**	**327**	P	**Pn**	**02 21 08.7**	**+1.0**
ALPN				IAmb	IAmb	02 21 12.1	
	comp=Z,7.6nm,0.8s						
SGCY	**Sterling City**	**17.58**	**336**	P	**P**	**02 21 08.6**	**+0.6**
SGCY				IAmb	IAmb	02 21 09.9	
	comp=Z,14nm,0.7s						
ABTX	**Abilene, Hawle**	**17.70**	**341**	P	**P**	**02 21 10.2**	**+1.0**
ABTX				IAmb	IAmb	02 21 13.8	
	comp=Z,11nm,0.8s						
SN01	**Snyder 1**	**18.34**	**338**	P	**P**	**02 21 16.9**	**+0.7**
SN01				IAmb	IAmb	02 21 18.0	
	comp=Z,13nm,0.6s						
PECS	**Pecos**	**18.34**	**329**	P	**Pn**	**02 21 18.4**	**-0.1**
PECS				IAmb	IAmb	02 21 19.6	
	comp=Z,5.6nm,0.7s						
ODSA	**Odessa**	**18.35**	**333**	P	**P**	**02 21 17.6**	**+1.2**
ODSA				IAmb	IAmb	02 21 18.5	
	comp=Z,28nm,0.6s						
425A	**Indio Mountain**	**18.47**	**325**	P	**Pn**	**02 21 19.8**	**-0.2**
APMT	**Aspermont**	**18.50**	**340**	P	**P**	**02 21 18.8**	**+0.9**
APMT				IAmb	IAmb	02 21 19.3	
	comp=Z,11nm,1.0s						
MIAR	**Mount Ida**	**18.52**	**358**	P	**P**	**02 21 18.2**	**+0.1**
MIAR				IAmb	IAmb	02 21 22.6	
	comp=Z,8.5nm,1.1s						
POST	**Post**	**18.75**	**337**	P	**P**	**02 21 21.3**	**+0.6**
POST				IAmb	IAmb	02 21 22.1	
	comp=Z,19nm,0.9s						
DKNS	**Dickens**	**19.08**	**339**	P	**P**	**02 21 24.5**	**+0.3**
DKNS				IAmb	IAmb	02 21 43.5	
	comp=Z,8.7nm,0.8s						
MNTX	**Cornudas Mount**	**19.39**	**326**	P	**P**	**02 21 27.9**	**+0.3**
WMOK	**Wichita Mounta**	**19.45**	**345**	P	**P**	**02 21 28.5**	**+0.3**
OK052	**Battle Ridge R**	**20.26**	**351**	P	**P**	**02 21 35.8**	**-1.1**
AMTX	**Amarillo**	**20.45**	**339**	P	**P**	**02 21 38.1**	**-0.8**
OK048	**Pawnee Station**	**20.70**	**351**	P	**P**	**02 21 40.2**	**-1.3**
121A	**Cookes Peak, D**	**21.35**	**323**	P	**P**	**02 21 49.4**	**+0.6**
ANMO	**Albuquerque**	**22.50**	**330**	P	**P**	**02 22 01.2**	**+0.9**
PDAR	**Pinedale Array**	**30.31**	**335**	P	**P**	**02 23 09.9**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=129,slow=13,SNR=2.3						
	comp=Z,0.2nm,0.7s						
NVAR	**Mina Array Bea**	**31.65**	**320**	P	**P**	**02 23 24.1**	**+2.1**
	comp=Z,1.5nm,0.6s,baz=132,slow=8.8,SNR=18						
	comp=Z,1.5nm,0.6s						
ILAR	**Eielson Array**	**60.73**	**337**	P	**P**	**02 27 07.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=107,slow=6.3,SNR=4.7						
	comp=Z,0.4nm,0.6s						

*IDC **19** 19:43.8±3.0, 6°.74S×102°.72E, h0km, mb3.7/5, mbtmp3.8/6, ML4.0/1, MS2.9/1, Error ellipse: s-maj=93.4km s-min=25.3km az=45.0*
ISC 19 02:19:46.1±1.8, **6°.6S**±0°.3×**102°.8E**±0°.2, **h10**km, **n14, σ1§23/8, mb3.8/5, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**4.75**	**93**	Pn	**Pn**	**02 20 58.3**	**+0.3**
	6.1nm,0.3s,baz=279,slow=19,SNR=4.4						
LEM				Sn	**Sn**	**02 21 52.7**	**-0.6**
	12nm,0.3s,baz=276,slow=19,SNR=2.4						
	26nm,0.6s						
KAPI	**Kappang**	**16.91**	**85**	LR	LR	02 31 30.7	
	comp=Z,41nm,19.2s,baz=166,slow=42						
CMAR	**Chiang Mai Arr**	**25.22**	**351**	P	**P**	**02 25 12.6**	**+0.3**
	1.1nm,0.4s,baz=181,slow=8.9,SNR=6.1						
	1.1nm,0.4s						
H01W3	**Cape Leeuwin H**	**29.98**	**161**	T	T	02 56 36.2	
	baz=338						
H01W2	**Cape Leeuwin H**	**30.00**	**161**	T	T	02 56 34.4	
	baz=338						
H01W1	**Cape Leeuwin H**	**30.00**	**161**	T	T	02 56 34.0	
	baz=338						
H08S2	**Diego Garcia H**	**30.12**	**266**	T	T	02 58 16.7	
	baz=90						
H08S3	**Diego Garcia H**	**30.13**	**266**	T	T	02 58 28.5	
	baz=90						
H08S1	**Diego Carcia H**	**30.14**	**266**	T	T	02 58 17.6	
	baz=90						
WRA	**Warramunga Arr**	**33.31**	**116**	P	**P**	**02 26 25.0**	**+0.6**
	0.7nm,0.8s,baz=285,slow=12,SNR=5.2						
	0.7nm,0.8s						
SONM	**Songino Array**	**54.32**	**3**	P	**P**	**02 29 12.7**	**-0.1**
	0.3nm,0.3s,baz=175,slow=8.7,SNR=3.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**56.24**	**343**	P	**P**	**02 29 25.7**	**-0.8**
	0.3nm,0.6s,baz=156,slow=8.5,SNR=2.0						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**62.23**	**348**	P	**P**	**02 30 09.4**	**+1.6**
	0.5nm,0.3s,baz=166,slow=6.5,SNR=1.9						
	0.5nm,0.3s						
TXAR	**Lajitas Array**	**146.32**	**45**	PKPbc	**PKPdf**	**02 39 24.9**	**-1.9**
	0.4nm,1.0s,baz=291,slow=2.8,SNR=3.0					

	baz=301							
SXI1				S		Sb	02 29 32.6	+0.4
	baz=301							
EWUT	**Wuta**	**0.76 249**		P		Pb	02 29 23.1	0.0
	baz=247							
EWUT				S		Sg	02 29 32.6	-0.4
	baz=247							
NDS	**Dongshan**	**0.77 264**	*i*	P		Pg	02 29 23.0	-0.2
	baz=262							
NDS				S		Sb	02 29 33.8	+0.2
	baz=262							
NWF	**Wu-fen Shan**	**0.79 296**		P		Pb	02 29 24.0	+0.4
	baz=296							
NWF				S		Sb	02 29 34.2	+0.2
	baz=296							
WFSB	**Wu-fen Shan**	**0.79 296**	*i*	P		Pb	02 29 24.1	+0.5
	baz=296							
WFSB			*i*	S		Sb	02 29 34.3	+0.3
	baz=296							
ENA	**Nanau**	**0.80 249**		P		Pb	02 29 23.7	-0.1
	baz=246							
ENA				S		Sb	02 29 34.3	-0.1
	baz=246							
TWE	**Neicheng**	**0.81 270**	*i*	P		Pg	02 29 23.4	-0.5
	baz=268							
TWE				S		Sb	02 29 34.9	+0.2
	baz=268							
TNOU	**National Taiwa**	**0.83 301**	*i*	P		Pb	02 29 24.4	+0.2
	baz=301							
TNOU			*i*	S		Sb	02 29 35.5	+0.2
	baz=301							
FUSB	**Fushanzhiwuyua**	**0.88 273**		P		Pg	02 29 25.0	-0.3
	baz=271							
FUSB			*e*	S		Sg	02 29 36.3	-0.7
	baz=271							
ENTT	**Nioudou**	**0.91 265**		P		Pb	02 29 25.5	-0.1
	baz=263							
ENTT				S		Sb	02 29 37.6	+0.1
	baz=263							
TWA	**Mucha**	**0.92 286**		P		Pn	02 29 26.4	-0.2
	baz=286							
TWA				S		Sb	02 29 37.8	-0.1
	baz=286							
NWRT	**Kuosheng**	**0.94 301**	*e*	S		Sb	02 29 38.6	0.0
	baz=300							
LATG	**Datong**	**0.96 259**		P		Pg	02 29 26.3	-0.4
	baz=257							
LATG				S		Sn	02 29 39.7	-0.8
	baz=257							
NDT	**Datong Townshi**	**0.96 263**		P		Pg	02 29 26.5	-0.3
	baz=261							
NDT				S		Sg	02 29 38.5	-0.8
	baz=261							
NWLT	**Wulai**	**0.96 273**		P		Pg	02 29 26.6	-0.3
	baz=272							
NWLT				S		Sn	02 29 39.6	-0.9
	baz=272							
NHDH	**Xindian Distri**	**0.97 285**		P		Pn	02 29 27.2	0.0
	baz=284							
NHDH				S		Sb	02 29 39.6	+0.3
	baz=284							
YM01	**YM01**	**0.99 295**		P		Pn	02 29 27.4	-0.1
	baz=295							
YM01				S		Sg	02 29 40.0	-0.4
	baz=295							
YM08	**YM08**	**0.99 298**		P		Pn	02 29 27.7	+0.1
	baz=298							
YM08			*e*	S		Sn	02 29 41.2	-0.2
	baz=298							
PCYT	**Pengchaiyu**	**1.00 334**	*e*	P		Pn	02 29 28.2	+0.5
	baz=335							
ETL	**Fush Village**	**1.02 237**		P		Pb	02 29 27.2	-0.3
	baz=235							
ETL			*e*	S		Sb	02 29 40.0	-0.8
	baz=235							
TWY	**Chenhua**	**1.03 303**	*e*	P		Pn	02 29 29.5	+1.5
	baz=302							
TWY				S		Sn	02 29 42.1	-0.1
	baz=302							
NACB	**Ninganchiao**	**1.03 238**		P		Pb	02 29 27.2	-0.6
	baz=236							
NACB			*e*	S		Sb	02 29 40.0	-1.1
	baz=236							
ANP	**Anpu**	**1.05 296**	*e*	P		Pb	02 29 28.1	0.0
	baz=296							
YHNB	**Yeheng**	**1.08 267**		P		Pb	02 29 28.6	0.0
	baz=266							
YHNB				S		Sn	02 29 43.5	0.0
	baz=266							
TWD	**Chiawan**	**1.08 234**	*e*	P		Pb	02 29 28.5	-0.2
	baz=232							
TWD			*e*	S		Sn	02 29 45.5	+2.0
	baz=232							
NSK	**Sanguang**	**1.09 268**		P		Pn	02 29 29.2	+0.2
	baz=266							
NSK				S		Sb	02 29 42.7	-0.2
	baz=266							
NTST	**Danshui**	**1.10 294**	*e*	S		Sn	02 29 44.7	+0.8
	baz=293							
TWS1	**Kuangyinshan**	**1.10 290**	*e*	P		Pn	02 29 31.0	+1.9
	baz=290							
TWS1			*e*	S		Sn	02 29 43.6	-0.4
	baz=290							
ETLH	**Xiulin Townshi**	**1.11 243**		P		Pb	02 29 28.6	-0.5
	baz=240							
ETLH				S		Sb	02 29 42.7	-0.6
	baz=240							
NNSB	**Datong**	**1.11 255**		P		Pb	02 29 29.0	-0.2
	baz=253							
NNSB				S		Sb	02 29 43.2	-0.3
	baz=253							
NNSH	**Datong**	**1.11 255**		P		Pg	02 29 29.4	-0.2
	baz=253							
NNSH				S		Sb	02 29 43.1	-0.3
	baz=253							
NNS	**Nan Shan**	**1.11 256**		P		Pg	02 29 29.4	-0.3
	baz=254							
NNS				S		Sb	02 29 43.2	-0.4
	baz=254							
IRIF	**Iriomote-Funau**	**1.14 110**		P		Pn	02 29 28.6	-1.0
IRIF			*e*	S		Sb	02 29 43.3	-0.7
ETM	**Tongmen**	**1.23 232**		P		Pb	02 29 31.2	+0.1
	baz=214							
ETM				S		Sb	02 29 46.1	-0.7
	baz=214							
LXIB	**Xiulin Townshi**	**1.26 236**		P		Pn	02 29 31.5	+0.2
	baz=216							
LXIB			*e*	S		Sg	02 29 49.0	+0.1
	baz=216							
FUSS	**Fushou**	**1.29 249**	*e*	P		Pb	02 29 32.3	+0.1
	baz=258							
FUSS			*e*	S		Sg	02 29 49.4	-0.5
	baz=258							
NFF	**Wufeng Townshi**	**1.31 266**		P		Pb	02 29 32.7	+0.1
	baz=255							
NFF			*e*	S		Sn	02 29 49.5	+0.2
	baz=255							
HATJ	**Hateruma jima**	**1.32 120**		P		Pn	02 29 31.3	-0.7
HATJ			*e*	S		Sn	02 29 48.2	-1.1
TDCB	**Techi**	**1.36 250**	*e*	P		Pg	02 29 34.6	+0.3
	baz=263							
TDCB			*e*	S		Sb	02 29 49.9	-0.7
	baz=263							
ESL	**Shilin**	**1.37 229**	*e*	P		Pg	02 29 34.5	0.0
	baz=209							
NHW	**Xinwu Township**	**1.40 282**		P		Pb	02 29 34.2	+0.2
	baz=281							
NHW				S		Sg	02 29 52.5	-0.9
	baz=281							
LIOB	**Emei**	**1.41 267**	*e*	P		Pg	02 29 36.0	+0.7
	baz=266							
LIOB			*e*	S		Sg	02 29 52.9	-0.6
	baz=266							
JKRS	**Kuro-shima**	**1.41 110**		P		Pn	02 29 32.9	-0.4
JKRS			*e*	S		Sn	02 29 50.8	-0.7
NSTT	**Nanjuang**	**1.42 267**	*e*	P		Pg	02 29 35.5	0.0
	baz=265							
NSTT			*e*	S		Sn	02 29 51.8	0.0
	baz=265							
CHGB	**Renai**	**1.42 243**		P		Pb	02 29 35.0	+0.4
	baz=222							
CHGB				S		Sn	02 29 52.2	0.0
	baz=222							
SBCB	**Hsinchu**	**1.43 273**	*e*	P		Pg	02 29 35.0	-0.7
	baz=290							
SBCB			*e*	S		Sg	02 29 53.7	-0.7
	baz=290							
WARBT	**Fenglin Townsh**	**1.47 227**		P		Pn	02 29 34.5	+0.4
	baz=226							
WARBT				S		Sn	02 29 53.3	+0.3
	baz=226							
EGFH	**Guangfu**	**1.47 225**	*e*	P		Pn	02 29 33.7	-0.4
	baz=207							
EGFH				S		Sn	02 29 53.6	+0.5
	baz=207							
OWD	**Renai**	**1.47 239**		P		Pb	02 29 35.8	+0.4
	baz=220							
OWD			*e*	S		Sb	02 29 54.2	+0.2
	baz=220							
JIJ	**Ishigaki jima**	**1.49 104**		P		Pn	02 29 33.5	-0.8
JIJ			*e*	S		Sn	02 29 52.0	-1.5
WUSB	**Renai**	**1.50 241**		P		Pb	02 29 36.1	+0.2
	baz=222							
WUSB				S		Sg	02 29 56.1	-0.5
	baz=222							
WHP	**Taichung City**	**1.53 254**		P		Pg	02 29 37.8	0.0
	baz=265							
WHP				S		Sb	02 29 55.9	+0.2
	baz=265							
JISG	**Ishigakijimahi**	**1.60 94**		P		Pn	02 29 35.7	-0.2
JISG				S		Sn	02 29 55.5	-0.8
HGSD	**Ruisui**	**1.60 220**	*e*	P		Pb	02 29 37.3	-0.2
	baz=205							
HGSD			*e*	S		Sn	02 29 56.0	-0.5
	baz=205							
VWDT	**VWDT**	**1.61 234**	*e*	P		Pb	02 29 37.3	-0.3
	baz=215							
VWDT			*e*	S		Sb	02 29 57.4	-0.4
	baz=215							
DPDB	**Guoxing**	**1.64 246**	*e*	P		Pg	02 29 39.4	-0.3
	baz=228							
DPDB			*e*	S		Sg	02 30 00.7	-0.3
	baz=228							
WCS	**Beigang Elemen**	**1.64 247**	*e*	P		Pb	02 29 38.8	+0.7
	baz=228							
WCS			*e*	S		Sg	02 29 59.6	-1.5
	baz=228							
EHY	**Hungye**	**1.66 223**	*e*	P		Pn	02 29 36.5	-0.2
	baz=222							
EHY			*e*	S		Sn	02 29 57.1	-0.6
	baz=222							
TWQ1	**Liyutan**	**1.67 257**	*e*	P		Pg	02 29 40.2	0.0
	baz=277							
TWQ1			*e*	S		Sg	02 30 00.8	-1.1
	baz=277							
ECBN	**Changbin**	**1.73 216**	*e*	S		Sn	02 29 58.4	-1.0
	baz=215							
SMLT	**Sun Moon Lake**	**1.73 241**	*e*	P		Pb	02 29 39.7	0.0
	baz=224							
SMLT			*e*	S		Sb	02 30 01.7	+0.4
	baz=224							
SSLB	**Suanglung**	**1.73 238**	*e*	P		Pb	02 29 39.3	-0.5
	baz=221							
SSLB			*e*	S		Sb	02 30 00.6	-0.7
	baz=221							
TYC	**Yuchr**	**1.75 243**	*e*	P		Pb	02 29 40.1	+0.1
	baz=226							
TYC			*e*	S		Sg	02 30 03.2	-1.5
	baz=226							
YULB	**Yu-li**	**1.75 221**	*e*	P		Pn	02 29 36.1	-2.0
	baz=220							
YULB			*e*	S		Sn	02 29 59.6	-0.6
	baz=220							
EYUL	**Yuli**	**1.78 220**	*e*	P		Pn	02 29 39.1	+0.8
	baz=205							
EYUL			*e*	S		Sn	02 30 01.7	+1.0
	baz=205							
TCU	**Taichung**	**1.81 252**	*e*	P		Pn	02 29 38.6	-0.2
	baz=251							
TCU			*e*	S		Sb	02 30 04.4	+0.9
	baz=251							
WHYT	**Xinyi Township**	**1.86 237**	*e*	P		Pb	02 29 42.2	+0.3
	baz=221							
WHYT			*e*	S		Sg	02 30 06.7	-1.5
	baz=221							
WJS	**Zhushan**	**1.90 242**	*e*	P		Pb	02 29 42.4	0.0
	baz=223							
WJS			*e*	S		Sb	02 30 07.1	+1.2
	baz=223							
WNT1	**Nantou City**	**1.90 245**	*e*	S		Sb	02 30 07.1	+1.1
	baz=225							
WNT	**Mingjian**	**1.91 244**	*e*	S		Sg	02 30 09.6	0.0
	baz=225							
FULB	**Fuli**	**1.91 218**	*e*	P		Pn	02 29 41.7	+1.5
	baz=202							
FULB			*e*	S		Sn	02 30 03.6	-0.3
	baz=202							
JTJ	**Tarama**	**1.95 92**		P		Pn	02 29 41.2	+0.5
JTJ			*e*	S		Sn	02 30 04.7	-0.3
EHD	**Haiduan**	**2.00 219**	*e*	P		Pn	02 29 42.0	+0.6
	baz=232							
EHD			*e*	S		Sn	02 30 06.2	+0.1
	baz=232							
ALS	**Alishan**	**2.00 233**	*e*	P		Pb	02 29 43.7	-0.8
	baz=217							
ALS			*e*	S		Sb	02 30 08.9	-0.5
	baz=217							
ECS	**Chishang**	**2.03 217**	*e*	S		Sn	02 30 08.1	+1.1
	baz=203							
CHN5	**Tsauling**	**2.05 237**	*e*	P		Pb	02 29 44.7	-0.5
	baz=219							
CHN5			*e*	S		Sb	02 30 10.9	+0.4
	baz=219							
ELDTW	**Lidau**	**2.08 223**	*e*	S		Sn	02 30 08.2	-0.1
	baz=221							
EDH	**Donghe**	**2.09 214**	*e*	P		Pn	02 29 42.9	+0.3
	baz=200							
EDH			*e*	S		Sn	02 30 06.6	-1.7
	baz=200							
WDLH	**Douliu**	**2.11 241**	*e*	S		Sb	02 30 13.6	+1.4
	baz=223							
WRL	**Guolierlin Hig**	**2.15 248**	*e*	P		Pn	02 29 45.0	+1.5
	baz=247							
WRL			*e*	S		Sb	02 30 12.4	-0.9
	baz=247							
RLNB	**Erlin**	**2.17 248**	*e*	S		Sb	02 30 15.2	+1.4
	baz=247							
WCKO	**Fanlu**	**2.20 235**	*e*	P		Pb	02 29 47.4	-0.2
	baz=234							
WCKO			*e*	S		Sb	02 30 15.2	+0.6
	baz=234							
LONT	**Longtian**	**2.23 216**	*e*	S		Sn	02 30 13.2	+1.3
	baz=204							
STYH	**Taoyuan**	**2.25 227**	*e*	P		Pb	02 29 47.0	-1.4
	baz=212							
STYH			*e*	S		Sn	02 30 13.1	+0.8
	baz=212							
CHN4	**Tsaushan**	**2.26 233**	*e*	P		Pb	02 29 47.3	-1.3
	baz=216							
CHN4			*e*	S		Sb	02 30 17.0	+0.7
	baz=216							
TPUB	**Ta-pu**	**2.26 232**	*e*	P		Pb	02 29 47.8	-1.0
	baz=217							
TPUB			*e*	S		Sb	02 30 15.9	-0.6
	baz=217							
LDUT	**Ludao**	**2.27 206**	*e*	S		Sn	02 30 11.6	-1.3
	baz=205							
CHY	**Chiayi**	**2.30 238**	*e*	S		Sb	02 30 18.2	+0.6
	baz=221							
WTP	**Ta-pu**	**2.31 231**	*e*	P		Pb	02 29 48.2	-1.3
	baz=229							
WTP			*e*	S		Sb	02 30 18.1	+0.2
	baz=229							
TWGBT	**Beinan**	**2.33 216**	*e*	S		Sn	02 30 12.6	-1.8
	baz=215							
TWK	**Hsinying**	**2.38 233**	*e*	S		Sb	02 30 18.1	-2.0
	baz=232							
CHN1	**Nanshi**	**2.41 231**	*e*	P		Pn	02 29 49.0	+2.0
	baz=230							
CHN1			*e*	S		Sb	02 30 19.9	-0.8
	baz=230							
SNST	**Tainan City**	**2.41 232**	*e*	S		Sn	02 30 17.7	+1.4
	baz=231							
SLGT	**Liugui**	**2.46 226**	*e*	P		Pb	02 29 50.2	-1.8
	baz=213							
SLGT			*e*	S		Sb	02 30 20.5	-1.6
	baz=213							
JMJ	**Miyako jima 2**	**2.49 87**	*e*	P		Pn	02 29 50.6	+2.5
	baz=99							
JMJ			*e*	S		Sb	02 30 22.1	-0.9
	baz=99							
ECL	**Taimali**	**2.58 215**	*e*	S		Sn	02 30 19.5	-0.9
	baz=213							
TSMG	**Majia**	**2.67 222**		P		Pb	02 29 53.8	-1.8
	baz=220							
TSMG			*e*	S		Sn	02 30 23.6	+1.0
	baz=220							
MASBT	**Mashibuluo**	**2.74 220**	*e*	P		Pn	02 29 54.6	+2.9
	baz=208							
MASBT			*e*	S		Sn	02 30 26.8	+2.2
	baz=208							
MATB	**Ma-tsu**	**2.76 302**	*e*	P		Pn	02 29 51.4	-0.4
	baz=300							
EAST	**Anshuo**	**2.81 214**	*e*	S		Sn	02 30 24.6	-1.6
	baz=213							
TAWH	**Dawu Township**	**2.82 213**	*e*	S		Sn	02 30 25.1	-1.4
	baz=212							
LYUB	**Lan-yu**	**2.85 198**	*e*	P		Pn	02 29 53.8	+0.7
	baz=206							
LYUB			*e*	S		Sn	02 30 26.5	-0.7
	baz=206							
SCZT	**Fangliau**	**2.94 218**	*e*	P		Pn	02 29 57.5	+3.1
	baz=203							
SCZT			*e*	S		Sb	02 30 33.4	-2.6
	baz=203							
SLIU	**Shizi**	**2.97 213**	*e*	P		Pn	02 29 56.6	+1.8
	baz=212							
SLIU			*e*	S		Sn	02 30 29.7	-0.5
	baz=212							
PHUB	**P'eng-hu**	**2.98 247**	*e*	S		Sn	02 30 31.1	+0.7
	baz=246							
AXDP	**Jialang**	**4.17 273**	*e*	P		Pn	02 30 11.6	+0.3
	baz=272							
KSRS	**Korea Array**	**13.49 19**		Pn		P	02 32 27.1	-1.1
	0.3nm,0.3s,baz=198,slow=10,SNR=1.9							
KSRS				LR		LR	02 38 19.4	
	comp=Z,46nm,20.0s,baz=195,slow=39							
	0.5nm,0.3s							
GUMO	**Guam**	**23.77 114**		P		P	02 34 27.2	+6.9
	123nm,0.5s,baz=154,slow=16,SNR=5.3							
KLR	**Kul'dur**	**25.50 14**		LR		LR	02 44 14.2	
	comp=Z,28nm,20.5s,baz=187,slow=35							
SONM	**Songino Array**	**26.38 335**		P		P	02 34 44.2	+0.2
	1.5nm,0.7s,baz=151,slow=8.3,SNR=6.7							
	1.5nm,0.7s							
MKAR	**Makanchi Array**	**38.83 315**		P		P	02 36 26.8	-5.8
	0.3nm,0.7s,baz=98,slow=10,SNR=2.1							
	0.3nm,0.7s							
ZALV	**Zalesovo Beam**	**40.48 326**		P		P	02 36 43.1	-3.1
	0.5nm,0.4s,baz=88,slow=7.5,SNR=2.0							
	0.5nm,0.4s							
WRA	**Warramunga Arr**	**45.85 164**		P		P	02 37 29.9	-0.1
	3.3nm,0.7s,baz=346,slow=8.7,SNR=35							
	3.3nm,0.7s							
BVAR	**Borovoye Array**	**48.06 320**		P		P	02 37 45.0	-1.8
	0.4nm,0.6s,baz=100,slow=7.5,SNR=1.7							
	0.4nm,0.6s							
ASAR	**Alice Springs**	**49.34 166**		P		P	02 37 57.8	+0.8
	1.1nm,0.6s,baz=346,slow=8.1,SNR=16							
	1.1nm,0.6s							
YKA	**Yellowknife Ar**	**81.99 23**		LR		LR	03 20 42.1	
	comp=Z,20nm,18.3s,baz=334,slow=37							

IGQ ***19*** *02:39:08±0.4, 1°N±2°×8°0W±°, h7km*
RSNC ***19*** *02:39:10.3±1.0, 0°.95N×79°.56W, h0km±5km, ML4.4, Mw4.7, Fault plane solution: NP1:φ=89.00000°, δ=90.00000°, λ=-180.00000°.*
VAO ***19*** *02:39:10.7±0.3, 1°.02N×79°.51W, h26km, mb4.9*
NEIC ***19*** *02:39:11.8±1.1, 1°.07N±0°.05×79°.48W±0°.06, h28km±5km, mb4.6/75, Error ellipse: s-maj=9.8km s-min=4.7km az=53.0*
IDC ***19*** *02:39:13.9±1.8, 1°.05N×79°.54W, h60km±16km, mb4.2/17, mbtmp4.5/23, MS3.9/30, Error ellipse: s-maj=15.6km s-min=10.7km az=82.0*
ISC 19 02:39:09.8±0.7, 1°.02N±0°.02×79°.63W±0°.03, h24km±4km, n353, σ1=65/363, mb4.6/60, MS3.9/26, 8C-6D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AES2	**Ecuador-Puerto**	**0.03**	**218**	P	**Pb**	**02 39 13.0**	**-0.9**
AES2				S	**Sb**	**02 39 17.0**	**+0.4**
AMA1	**Acelerografo,**	**0.13**	**230**	P	**Pb**	**02 39 13.0**	**-1.5**
AMA1				S	**Sb**	**02 39 17.0**	**-0.7**
AV21	**Acelerografo,**	**0.36**	**167**	P	**Pb**	**02 39 17.0**	**-0.7**
AV21				S	**Sb**	**02 39 24.0**	**+0.9**
PTGL	**Punta Galera**	**0.47**	**240**	P	Pb	02 39 17.0	-2.4
PTGL				S	**Sb**	**02 39 26.0**	**+0.1**
AV18	**Acelerografo,**	**0.71**	**168**	P	**Pb**	**02 39 24.0**	**+0.4**
AV18				S	**Sb**	**02 39 35.0**	**+2.0**
ALOR	**Ecuador-San Lo**	**0.83**	**71**	P	**Pn**	**02 39 29.0**	**+3.0**
ALOR				S	**Sn**	**02 39 44.0**	**+6.6**
SNLR	**San Lorenzo-Es**	**0.83**	**71**	P	**Pb**	**02 39 25.0**	**-0.5**
SNLR				S	**Sn**	**02 39 40.0**	**+2.6**
BV15	**Puerto Quito-O**	**0.94**	**155**	P	**Pn**	**02 39 26.0**	**-1.6**
PAC1	**Pacto, Paraso**	**1.12**	**132**	P	**Pn**	**02 39 29.0**	**-1.1**
PAC1	**Pacto, Paraso**	**1.12**	**132**	‖ *eP*	**Pn**	**02 39 29.3**	**-0.8**
PAC1				*eS*	**Sn**	**02 39 42.6**	**-2.3**
PAC1				*i*		02 39 49.2	
	comp=Z,21μm,0.3s						
APR2	**Miler**	**1.14**	**145**	P	**Pn**	**02 39 29.0**	**-1.4**
APR2				S	**Sb**	**02 39 48.0**	**+2.6**
TUMC	**Tumaco**	**1.21**	**48**	P	**Pn**	**02 39 30.0**	**-1.2**
TUMC	**Tumaco**	**1.21**	**48**	↑ *eP*	**Pn**	**02 39 30.6**	**-0.6**
TUMC				*eS*	**Sb**	**02 39 48.4**	**+1.3**
TUMC				*i*		02 40 06.7	
	comp=Z,4μm,0.7s						
ALIT	**Ecuador-Imbabu**	**1.28**	**100**	P	**Pn**	**02 39 31.0**	**-1.4**
ALIT				S	**Sb**	**02 39 49.0**	**-0.5**
LITE1	**Lita**	**1.28**	**100**	P	**Pn**	**02 39 30.0**	**-2.4**
ASDO	**Santo Domingo**	**1.37**	**158**	P	**Pn**	**02 39 30.0**	**-3.5**
OTAV	**Otavalo**	**1.41**	**123**	Pn	**Pn**	**02 39 34.1**	**-0.4**
OTAV				Sn	**Sn**	**02 39 51.7**	**-0.7**
OTAV	**Otavalo**	**1.41**	**123**	P	**Pn**	**02 39 34.0**	**-0.4**
OTAV	**Otavalo**	**1.41**	**123**	‖ *iP*	**Pn**	**02 39 34.0**	**-0.4**
OTAV				*eS*	**Sn**	**02 39 52.2**	**-0.2**
OTAV	**Otavalo**	**1.41**	**123**	*eP*	**Pn**	**02 39 33.4**	**-1.0**
CUIC	**Cuicocha-Domo**	**1.45**	**119**	P	**Pn**	**02 39 34.0**	**-0.9**
COTA	**Cotacachi**	**1.46**	**118**	P	**Pn**	**02 39 34.0**	**-1.1**
APR1	**Acelerografo,**	**1.46**	**136**	P	**Pn**	**02 39 35.0**	**-0.1**
PULU	**Pululahua**	**1.50**	**131**	Pn	**Pn**	**02 39 36.1**	**+0.6**
PULU	**Pululahua**	**1.50**	**131**	P	**Pn**	**02 39 36.0**	**+0.4**
ACOT	**Cotacachi (Cas**	**1.53**	**118**	P	**Pn**	**02 39 36.0**	**+0.1**
PINO	**Pino**	**1.55**	**139**	P	**Pn**	**02 39 36.0**	**-0.5**
SADP	**Ecuador-Quito-**	**1.55**	**131**	P	**Pn**	**02 39 37.0**	**+0.8**
TERV	**Terraza Guagua**	**1.56**	**139**	P	**Pn**	**02 39 37.0**	**+0.4**
AAT1	**Ecuador-Atunta**	**1.57**	**116**	P	**Pn**	**02 39 37.0**	**+0.5**
CHMA	**Chilma**	**1.57**	**96**	P	**Pn**	**02 39 35.0**	**-1.5**
GGPC	**Guagua Pichinc**	**1.57**	**139**	P	**Pn**	**02 39 37.0**	**+0.3**
GGPT	**Toaza - Volcan**	**1.59**	**141**	P	**Pn**	**02 39 37.0**	**+0.1**
JUA2	**San Juan 2**	**1.59**	**140**	P	**Pn**	**02 39 37.0**	**+0.1**
IMBA	**Imbabura, San**	**1.60**	**117**	Pn	**Pn**	**02 39 37.8**	**+0.7**
IMBA	**Imbabura, San**	**1.60**	**117**	P	**Pb**	**02 39 38.0**	**-1.0**
CABP	**Cabo Pasado**	**1.61**	**210**	P	**Pn**	**02 39 37.0**	**+0.3**
CRPG	**Carapungo - Pi**	**1.62**	**133**	P	**Pn**	**02 39 38.0**	**+0.8**
LNGL	**El Angel-Carch**	**1.65**	**100**	P	**Pn**	**02 39 36.0**	**-1.7**
AV11	**Acelerografo,**	**1.66**	**131**	P	**Pb**	**02 39 39.0**	**-0.8**
GBMB	**Ecuador-Guayll**	**1.66**	**130**	P	**Pb**	**02 39 39.0**	**-0.9**
AIB2	**Ibarra (Univer**	**1.66**	**114**	P	**Pb**	**02 39 39.0**	**-0.9**
ECEN	**Cerro Negro**	**1.67**	**97**	P	**Pn**	**02 39 38.0**	**0.0**
EPNL	**EPN Laboratori**	**1.67**	**137**	P	**Pn**	**02 39 39.0**	**+1.1**
YAHU	**Yahuarcocha**	**1.68**	**112**	P	**Pn**	**02 39 39.0**	**+0.9**
CHL1	**Volc¡n Chiles**	**1.69**	**98**	P	**Pn**	**02 39 38.0**	**-0.4**
CHL2	**Volc¡n Chiles**	**1.72**	**97**	P	**Pn**	**02 39 38.0**	**-0.8**
CMBC	**Cumbal**	**1.80**	**92**	P	**Pn**	**02 39 40.0**	**+0.2**
CMBC	**Cumbal**	**1.80**	**92**	‖ *eP*	**Pn**	**02 39 40.4**	**+0.6**
CMBC				*eS*	**Sb**	**02

SLOR San Lorenzo - 2.07 147 Pn 02 39 45.5 +2.0
SLOR San Lorenzo - 2.07 147 P Pn 02 39 45.0 +1.5
BTAM Cotopaxi Volca 2.08 144 P Pb 02 39 46.0 -1.2
ANTM Antisana-La Mi 2.08 138 P Pn 02 39 45.0 +1.2
ANTS Antisana-Sarah 2.09 136 P Pn 02 39 45.0 +1.1
TAMB Tambo 2.11 143 P Pn 02 39 46.0 +1.8
BRRN Barrancas-Volc 2.13 147 P Pn 02 39 46.0 +1.7
BONI La Bonita 2.17 105 P Pn 02 39 46.0 +1.3
BONI La Bonita 2.17 105 eP Pb 02 39 46.3 -2.2
BONI eS Sb 02 40 16.0 +0.8
VCES Cotopaxi 2.18 146 P Pn 02 39 47.0 +1.9
LAV4 Lava4-Reventad 2.28 119 P Pn 02 39 48.0 +1.8
GCUF Volcan Galeras 2.29 85⇑ eP Pn 02 39 47.6 +1.0
GCUF eS Sb 02 40 16.8 -2.1
GCUF i 02 40 26.3
comp=Z,1µm,0.4s
REVS Reventador Sur 2.29 119 P Pb 02 39 49.0 -1.7
PIS1 Pisayambo 2.41 149 P Pn 02 39 51.0 +2.8
PIAT Ana Tenorio 2.42 146 P Pn 02 39 50.0 +1.7
PIAT Ana Tenorio 2.42 146⇓ eP Pn 02 39 50.6 +2.4
PIAT eS Sb 02 40 22.5 0.0
CASC Dorado de Casc 2.45 111 P Pb 02 39 51.0 -2.2
GR1C Gorgona, Isla 2.45 36 eP Pn 02 39 45.3 -3.0
GR1C eS Sb 02 40 28.9 +5.8
AV03 Acelerografo, 2.50 113 P Pb 02 39 52.0 -2.1
BBAC Balboa, Cauca 2.58 67 P Pn 02 39 49.0 -1.3
BBAC Balboa, Cauca 2.58 67⇑ eP Pn 02 39 49.6 -0.7
BBAC eS Sb 02 40 24.9 -2.0
BBAC i 02 40 28.0
comp=Z,1µm,0.4s
CHSH Refugio Sur-Vo 2.60 163 Pn 02 39 53.0 +2.0
CHSH Refugio Sur-Vo 2.60 163 P Pn 02 39 53.0 +2.0
PORT Chimborazo Vol 2.61 161 P Pn 02 39 53.0 +2.0
IGUA Igualata 2.68 158 P Pb 02 39 56.0 -1.4
TAMH Tambohuasha Ch 2.68 162 P Pn 02 39 55.0 +3.1
ISPT Isla de la Pla 2.69 213 P Pn 02 39 51.0 -0.6
JUI6 Juive 2.69 154 P Pn 02 39 55.0 +3.1
POND Pondoa 2.69 154 P Pn 02 39 55.0 +3.0
BRUN Tungurahua Vol 2.70 154 P Pn 02 39 55.0 +2.9
BIL2 Estacion Bilba 2.70 155 P Pb 02 39 56.0 -1.6
ARDO Archidona, Ten 2.71 138 P Pn 02 39 54.0 +2.1
RETU Refugio 2.72 154 P Pn 02 39 55.0 +2.5
BULB Ulba Tungurahu 2.72 153 P Pb 02 39 58.0 -0.1
CRUC La Cruz 2.73 78 eP Pn 02 39 53.8 +1.3
CRUC eS Sb 02 40 32.8 +1.5
TUYU Q. Yuibug Volc 2.74 155 P Pn 02 39 56.0 +3.4
BMAS Trigal station 2.75 155 P Pn 02 39 55.0 +2.2
ARRY Arrayan 2.77 155 P Pn 02 39 56.0 +3.0
PPLP Puerto Lpez 2.79 204 P Pn 02 39 54.0 +0.9
PPLP Puerto Lpez 2.79 204 eP Pn 02 39 56.9 +3.9
PUYO Puyo, Santa Ro 2.96 147 P Pn 02 39 58.0 +2.5
MILO Milagro-Astudi 3.27 179 P Pn 02 39 59.0 -0.7
POPC Popayan, Colom 3.32 63 eP Pn 02 40 01.1 +0.6
POPC eS Sb 02 40 43.7 -4.4
SALI Salinas 3.46 203 Pn 02 40 04.9 +2.7
SALI Salinas 3.46 203 P Pn 02 40 03.0 +0.8
COHC Cochancay 3.48 174 P Pn 02 40 02.0 -0.5
COHC Cochancay 3.48 174 eP Pn 02 40 03.0 +0.5
COHC eS Sn 02 40 45.9 +3.0
JAMC Jamundi, Valle 3.67 53 eP Pn 02 40 03.3 -2.1
JAMC eS Sn 02 40 51.2 +3.2
JAMC i 02 40 58.0
comp=Z,431nm,0.6s
MORR Playas El Morr 3.70 191 P Pn 02 40 08.0 +2.5
MALC Bahia Malaga 3.76 38 P Pn 02 40 03.0 -3.3
MALC Bahia Malaga 3.76 38 eP Pn 02 40 04.9 -1.4
TAIS Taisha 3.99 148 P Pn 02 40 13.0 +3.5
ISPG Isla Puna-Puer 4.00 188 P Pn 02 40 14.0 +4.4
FLOC Florencia 4.01 82 P Pn 02 40 11.0 +1.1
FLOC Florencia 4.01 82⇑ eP Pn 02 40 11.8 +1.9
FLOC eS Sb 02 41 01.7 -6.3
BOSC San Juan Bosco 4.29 165 P Pn 02 40 18.0 +4.2
GARC Garzon, Huila 4.29 74⇑ eP Pn 02 40 15.4 +1.5
GARC eS Sn 02 41 04.6 +1.2
YOTC Yotoco, Valle 4.41 48 eP Pn 02 40 16.5 +1.1
YOTC eS Sn 02 41 07.6 +1.5
BETC Betania 4.50 68 eP Pn 02 40 20.6 +4.0
ARNL Arenillas 4.55 186 P Pn 02 40 18.0 +0.7
PTLC Puerto Leguiza 4.90 100 P Pn 02 40 24.0 +1.9
PTLC Puerto Leguiza 4.90 100 eP Pn 02 40 26.4 +2.3
PLMC San Jos del P 5.11 41 eP Pn 02 40 26.7 +1.8
ORTC Ortega, Tolima 5.24 57 eP Pn 02 40 28.6 +1.9
ORTC eS Sn 02 41 32.7 +6.3
ORTC i 02 41 56.7
comp=Z,213nm,0.7s
MCRA Macar, Loja 5.36 183 Pn Pn 02 40 30.0 +1.6
MCRA Macar, Loja 5.36 183 P Pn 02 40 29.0 +0.6
MCRA Macar, Loja 5.36 183 eP Pn 02 40 30.5 +2.1
MCRA eS Sn 02 41 32.0 +2.5
PRAC Prado 5.44 60 eP Pn 02 40 30.3 +0.8
ANIL Santa Ana 5.45 51 eP Pn 02 40 30.9 +1.0
ANIL eS Sb 02 41 40.1 -10
ANIL i 02 41 53.4
comp=Z,449nm,0.5s
ZUMB Zumba 5.86 175 P Pn 02 40 38.0 +2.6
MACC Macarena, Meta 5.88 79 eP Pn 02 40 38.7 +3.1
GUY2C Guyana, Caldas 5.96 45 eP Pn 02 40 41.2 +4.1
ROSC El Rosal 6.52 54 Pn Pn 02 40 43.9 -0.8
ROSC El Rosal 6.52 54 eP Pn 02 40 49.3 +4.6
ROSC El Rosal 6.52 54 P Pn 02 40 48.3 +3.6
comp=Z,26nm,0.4s,baz=234,slow=8.7,SNR=10
ROSC S Sn 02 41 59.5 +1.0
comp=Z,91nm,0.7s,baz=309,slow=19,SNR=3.5
ROSC LR LR 02 43 01.4
comp=Z,392nm,20.1s,baz=228,slow=35
NORC Norcasia 6.55 46 eP Pn 02 40 52.7 +7.9
VILC Villavicencio, 6.68 62 eP Pn 02 40 49.6 +3.0
DBBC Dabeiba 6.87 30 eP Pn 02 40 51.2 +2.0
CHIC Chingaza 6.89 59 eP Pn 02 40 52.0 +2.2
GUVC San Jose del G 7.16 78 eP Pn 02 40 56.2 +3.1
SPBC San Pablo de B 7.21 50 eP Pn 02 40 57.9 +4.1
PTBC PUERTO BERRIO, 7.53 43 eP Pn 02 41 04.7 +6.5
UPD2 Meteti 7.65 12 eP Pn 02 41 02.4 +2.5
ZARC Zaragoza, Cauc 8.00 36 eP Pn 02 41 13.3 +8.7
PTGC Puerto Gaitan, 8.12 67 eP Pn 02 41 12.3 +6.0
RUSC La Rusia 8.13 53 eP Pn 02 41 11.6 +4.7
ATAH Atahualpa 8.19 171 P Pn 02 41 11.5 +3.9
comp=Z,71nm,0.6s,baz=342,slow=7.2,SNR=39
ATAH S Sn 02 42 43.0 +3.3
comp=Z,32nm,0.8s,baz=167,slow=23,SNR=1.6
ATAH LR LR 02 44 16.6
comp=Z,624nm,18.3s,baz=340,slow=37
RIMA Rio Macho 9.66 334 Pn 02 41 29.4 +1.8
HDC Heredia 9.98 334 eP Pn 02 41 33.3 +1.3
JTS Las Juntas de 10.63 330 Pn 02 41 42.3 +1.6
JTS Las Juntas de 10.63 330 eP Pn 02 41 41.3 +0.6
JTS Las Juntas de 10.63 330 P Pn 02 41 42.9 +2.2
comp=Z,15nm,0.8s,baz=98,slow=2.5,SNR=11
JTS S Sn 02 43 37.4 -1.7
comp=Z,2.1nm,0.6s,baz=168,slow=19,SNR=1.4
JTS LR LR 02 45 10.2
comp=Z,1µm,19.2s,baz=152,slow=34
ARE1 Arenal 1 10.66 332 Pn Pn 02 41 42.6 +1.4
TBTG Tabatinga, AM 11.00 118 eP Pn 02 41 45.4 -0.4
CZSB Cruzeiro do Su 11.10 142 eP Pn 02 41 48.8 +1.6
CZSB Cruzeiro do Su 11.10 142 eP Pn 02 41 48.8 +1.6
SDV Santo Domingo 11.89 49 eP Pn 02 41 58.1 0.0
SDV Santo Domingo 11.89 49 P Pn 02 41 59.2 +1.1
comp=Z,5.4nm,0.3s,baz=193,slow=19,SNR=1.4
SDV S Sn 02 44 10.2 0.0
comp=Z,3.7nm,0.3s,baz=22,slow=15,SNR=1.2
SDV LR LR 02 47 11.2
comp=Z,256nm,21.8s,baz=227,slow=40
SGCB SEo Gabriel d 12.65 95 eP Pn 02 42 06.7 -1.6
NNA Nana 13.21 168 Pn Pn 02 42 16.4 +0.3
NNA Nana 13.21 168 P Pn 02 42 18.1 +2.0
comp=Z,27nm,0.6s,baz=329,slow=14,SNR=3.7
NNA S Sn 02 44 44.1 +1.7
comp=Z,11nm,0.6s,baz=254,slow=22,SNR=2.5
TEFE Tefe 15.64 107 eP Pn 02 42 49.4 +0.5
MTO3 Montecristo 16.41 325 P P 02 43 01.5 -0.1
ETMB Extrema 17.15 129 eP Pn 02 43 06.5 -1.6
PCRV Puerto La Cruz 17.46 58 P P 02 43 13.4 +0.3
comp=Z,11nm,0.4s,baz=268,slow=2.4,SNR=16
PCRV LR LR 02 51 00.8
comp=Z,1µm,18.6s,slow=41
SAML Samuel 19.14 121 P P 02 43 31.7 +0.1
SAML Samuel 19.14 121 eP P 02 43 31.1 -0.5
BOAV Boa Vista 19.14 86 eP Pn 02 43 32.7 +0.2
TEIG Tepich 20.88 337 P P 02 43 51.0 +0.6
comp=Z,53nm,0.6s,baz=141,slow=4.1,SNR=3.5
TEIG LR LR 02 51 38.9
comp=Z,6µm,18.2s,baz=280,slow=36
comp=Z,53nm,0.6s
PB18 Visviri 21.02 152 P 02 43 52.8 +0.4
PB12 IPOC Station P 21.54 155 P P 02 43 58.3 +0.6
PB12 IAmb IAmb 02 44 08.0
comp=Z,25nm,0.7s
PB16 IPOC Station P 21.65 153 P P 02 44 00.2 +0.8
CMIG Matias Romero 21.92 318 LR LR 02 50 54.7
comp=Z,290nm,21.6s,baz=158,slow=32
GO01 Chusmiza 22.96 154 P P 02 44 13.9 +0.7
PB08 IPOC Station P 23.40 155 P P 02 44 18.3 +0.8
PB08 IAmb IAmb 02 44 32.3
comp=Z,27nm,1.1s
VILB Vilhena 23.75 126 eP P 02 44 20.6 0.0
ITTB Itaituba 24.46 103 eP P 02 44 26.1 -1.2
SIV San Ignacio 24.93 133 LR LR 02 56 03.8
comp=Z,854nm,18.2s,baz=314,slow=41
NPGB Novo Progresso 25.50 109 eP P 02 44 34.8 -1.9
MALB Monte Alegre 25.52 96 eP P 02 44 36.5 -0.3
LVC Limon Verde 25.70 157 P P 02 44 40.2 +1.4
LVC IAmb IAmb 02 44 49.5
comp=Z,17nm,0.8s
LVC Limon Verde 25.70 157 eP P 02 44 40.0 +1.3
LVC Limon Verde 25.70 157 LR LR 02 55 31.3
comp=Z,319nm,21.8s,baz=320,slow=38
PDRB Porto dos Gac 25.98 120 eP P 02 44 40.5 -0.6
PTLB Pontes e Lacer 26.04 130 eP P 02 44 41.4 0.0
BBSD Serra de San D 26.05 135 eP P 02 44 41.6 0.0
CLDB Colider 26.48 117 eP P 02 44 44.2 -1.3
MDP Montagnes des 27.25 81 LR LR 02 56 05.0
comp=Z,802nm,19.6s,baz=272,slow=37
BBRB Robore, Bolivi 27.34 135 eP P 02 44 53.0 -0.3
MCPB Macapa, AP 27.60 93 eP P 02 44 55.2 -0.4
PP1B Ponte de Pedra 30.60 128 eP P 02 45 22.6 +0.3
BDQN Bodoquena, MS 30.94 135 eP P 02 45 24.7 -0.5
SNDB Serra Nova Dou 30.96 115 eP P 02 45 24.7 -0.8
TMAB Tom-Au,PA,Br 31.70 96 eP P 02 45 32.5 +0.5
AQDB Aquidauana 31.71 134 eP P 02 45 31.8 -0.1
ARAG Araguaiana, MT 32.12 122 eP P 02 45 35.2 -0.4
ANTJ Antonio Joao (32.48 136 eP P 02 45 38.5 -0.3
C2SB Chapadao do Su 32.86 128 eP P 02 45 42.4 +0.3
ESFA Espinillo Form 32.95 143 eP P 02 45 44.2 +1.4
TICA Tres Isletas 32.97 147 eP P 02 45 44.5 +1.6
RPRD Ribas do Rio P 33.18 131 eP P 02 45 45.2 +0.3
SMTB Santa Maria do 33.40 108 eP P 02 45 46.1 -0.8
CPCT Cooper Cave 34.56 353 P P 02 45 56.4 -0.3
CPCT IAmb IAmb 02 45 58.8
comp=Z,7.3nm,0.7s
DRIO Del Rio 34.61 327 P P 02 45 58.8 +1.5
DRIO IAmb IAmb 02 46 08.5
comp=Z,4.5nm,0.8s
CPUP Villa Florida 34.67 143 eP P 02 45 57.0 -0.7
CPUP Villa Florida 34.67 143 P P 02 45 56.5 -1.3
comp=Z,3.0nm,0.8s,baz=316,slow=11,SNR=4.9
CPUP LR LR 03 03 37.7
comp=Z,408nm,18.3s,baz=300,slow=42
comp=Z,3.0nm,0.8s
TKL Tuckaleechee C 34.68 354 LR LR 02 59 57.2
comp=Z,87nm,18.7s,baz=168,slow=36
V48A Smith Brothers 35.19 350 P P 02 46 02.6 +0.5
BRDY Brady 35.25 331 PcP PcP 02 48 33.4 0.0
ITRB Iturama 35.33 127 eP P 02 46 03.2 -0.3
BDFB Brasilia 35.35 119 P P 02 46 02.5 -1.4
BDFB IAmb IAmb 02 46 10.8
comp=Z,10nm,0.9s
BDFB Brasilia 35.35 119 P P 02 46 03.6 -0.3
comp=Z,4.0nm,0.7s,baz=310,slow=8.8,SNR=4.5
BDFB LR LR 03 03 18.4
comp=Z,198nm,19.3s,baz=315,slow=41
comp=Z,4.0nm,0.7s
MT08 Bocatoma Ro 35.45 166 P P 02 46 04.8 +0.2
PCMB Pacaembu 35.68 131 eP P 02 46 05.6 -0.9
ROSB Rosrio 35.70 96 eP P 02 46 05.8 -1.1
TXAR Lajitas Array 36.30 323 P P 02 46 11.9 0.0
comp=Z,0.6nm,0.9s,baz=130,slow=8.4,SNR=2.9
TXAR PcP PcP 02 48 36.7 +0.1
comp=Z,1.2nm,0.7s,baz=152,slow=6.2,SNR=11
TXAR LR LR 03 01 11.1
comp=Z,50nm,18.4s,baz=128,slow=36
MECA Mercedes 36.46 147 eP P 02 46 13.5 +0.5
T45A Paducah 36.78 348 P P 02 46 16.6 +0.9
LDASE Londrina, Braz 36.84 133 eP P 02 46 15.1 -1.4
SDBA SAO DESIDERIO 36.96 112 eP P 02 46 16.9 -0.7
PTGB Pitanga 36.98 136 eP P 02 46 17.3 -0.4
ALPN Alpine 37.05 324 P P 02 46 18.4 +0.2
ALPN IAmb IAmb 02 46 29.6
comp=Z,4.8nm,1.0s
FRBT Francisco Belt 37.12 138 eP P 02 46 18.6 -0.3
BB19B Bebedouro 37.50 128 eP P 02 46 21.4 -0.7
CRSM Crissiumal (Br 37.53 141 eP P 02 46 21.1 -1.1
POST Post 37.94 329 P P 02 46 25.4 -0.2
POST IAmb IAmb 02 46 44.0
comp=Z,11nm,1.0s
PMNB Patos De Minas 37.97 122 eP P 02 46 25.7 -0.5
FVM French Village 38.11 346 P P 02 46 25.0 -2.0
FVM IAmb IAmb 02 46 28.4
comp=Z,6.7nm,0.7s
425A Indio Mountain 38.14 323 P P 02 46 29.3 +1.8
CCM Cathedral Cave 38.38 345 P P 02 46 27.9 -1.3
CCM IAmb IAmb 02 46 30.3
comp=Z,7.3nm,0.8s
JANB Januaria 38.40 116 eP P 02 46 28.5 -1.3
ITAB Concordia 38.59 139 eP P 02 46 30.5 -0.6
ALGR Alto Alegre (B 39.08 141 eP P 02 46 33.9 -1.5
MSTX Muleshoe 39.30 329 P P 02 46 38.0 +0.9
MSTX IAmb IAmb 02 46 56.2
comp=Z,11nm,1.1s
CPSB Cacapava Do Su 39.98 144 eP P 02 46 41.7 -1.0
RPN Rapa Nui 40.00 223 LR LR 02 59 00.6
comp=Z,266nm,21.8s,baz=38,slow=30
M57A Sunshine Farm, 40.20 3 P P 02 46 44.5 +0.1
M57A IAmb IAmb 02 46 52.7
comp=Z,20nm,1.1s
121A Cookes Peak, D 41.06 323 P P 02 46 53.9 +2.0
121A IAmb IAmb 02 47 01.7
comp=Z,9.9nm,1.0s
319A Douglas 41.21 320 P P 02 46 54.7 +1.7
DUN6 Lazy B Ranch 41.87 322 P P 02 46 59.4 +0.9
DUN6 IAmb IAmb 02 47 08.0
comp=Z,20nm,1.0s
ANMO Albuquerque 42.01 326 P P 02 47 00.8 +1.1
ANMO Albuquerque 42.01 326 LR LR 03 07 23.4
comp=Z,60nm,19.9s,baz=240,slow=40
PLCA Paso Flores 42.37 170 P P 02 47 02.3 0.0
PLCA Paso Flores 42.37 170 eP P 02 47 03.3 +1.0
PLCA Paso Flores 42.37 170 P P 02 47 03.1 +0.8
comp=Z,12nm,0.9s,baz=343,slow=9.0,SNR=28
comp=Z,12nm,0.9s
T25A Trinidad 42.61 330 P P 02 47 05.3 +0.8
TUC Tucson 42.79 320 P P 02 47 06.8 +1.0
KSCO Kaye Shedlock' 43.27 334 P P 02 47 10.5 +0.7
KSCO IAmb IAmb 02 47 18.8
comp=Z,11nm,0.7s
SDCO Great Sand Dun 43.62 330 P P 02 47 13.3 +0.5
214A Organ Pipe Nat 43.90 318 P P 02 47 15.2 +0.4
214A IAmb IAmb 02 47 24.0
comp=Z,8.3nm,0.9s
RCBR Riachuelo 44.19 99 LR LR 03 06 14.5
comp=Z,279nm,20.9s,baz=258,slow=37
X16A Lo Mia Camp, P 44.58 322 P P 02 47 20.7 +0.3
OGNE Ogallala 44.63 336 P P 02 47 20.9 +0.4
113A Mohawk Valley, 45.03 318 P P 02 47 25.0 +1.2
113A IAmb IAmb 02 47 32.7
comp=Z,6.7nm,1.0s
WUAZ Wupatki 45.27 323 P P 02 47 27.1 +1.3
ISCO Idaho Springs 45.28 332 P P 02 47 27.8 +1.7
W13A Hualapai Mount 46.55 321 P P 02 47 38.0 +2.0
W13A IAmb IAmb 02 47 45.4
comp=Z,6.6nm,0.9s
KNB Kanab 47.14 323 P P 02 47 42.9 +2.4
KNB IAmb IAmb 02 47 47.3
comp=Z,11nm,1.5s
LCMT Little Creek M 47.39 323 P P 02 47 44.3 +1.8
LCMT IAmb IAmb 02 47 51.6
comp=Z,6.1nm,1.2s
V12A Nelson 47.56 321 P P 02 47 44.9 +1.1
V12A IAmb IAmb 02 47 52.7
comp=Z,7.9nm,1.0s
SZCU Shurtz Canyon 47.68 324 P P 02 47 45.5 +0.7
SZCU IAmb IAmb 02 47 53.8
comp=Z,5.6nm,1.1s
CCUT Cedar City 47.81 323 P P 02 47 46.9 +1.0
CCUT IAmb IAmb 02 47 56.0
comp=Z,8.8nm,1.3s
RSSD Black Hills 48.09 336 P P 02 47 49.0 +1.1
RSSD IAmb IAmb 02 47 57.3
comp=Z,8.7nm,0.9s
SHPR Sheep Range 48.24 321 P P 02 47 49.9 +0.8
BSUT Blindstream Ca 48.42 328 P P 02 47 52.2 +1.5
BSUT IAmb IAmb 02 48 01.4
comp=Z,8.2nm,1.1s
TPNV Topopah Spring 49.20 321 P P 02 47 57.7 +1.2
PDAR Pinedale Array 49.46 331 P P 02 47 58.8 +0.3
comp=Z,0.7nm,0.9s,baz=132,slow=8.9,SNR=3.8
PDAR PcP PcP 02 49 19.2 -1.3
comp=Z,0.4nm,0.6s,baz=146,slow=5.5,SNR=2.4
PDAR LR LR 03 10 49.1
comp=Z,67nm,18.1s,baz=154,slow=38
comp=Z,0.7nm,0.9s
SPUT Sportmonto 49.87 328 P P 02 48 03.1 +1.6
SPUT IAmb IAmb 02 48 09.9
comp=Z,8.5nm,1.3s
BGU Big Grassy Mou 49.91 327 P P 02 48 03.0 +1.2
BGU IAmb IAmb 02 48 10.8
comp=Z,8.3nm,1.4s
GMN Gold Mountain 50.06 321 P P 02 48 03.3 +0.2
ID07 Smith Canyon R 50.55 329 P P 02 48 06.6 -0.1
ULM Lac du Bonnet 50.97 347 P P 02 48 07.5 -1.9
comp=Z,3.7nm,0.6s,baz=168,slow=7.8,SNR=5.6
comp=Z,3.7nm,0.6s
NV11 Mina Array Sit 51.30 321 P P 02 48 13.8 +1.4
NV11 IAmb IAmb 02 48 21.4
comp=Z,8.3nm,1.1s
OMMB Old Mammoth Mi 51.36 320 P P 02 48 13.9 +0.9
OMMB IAmb IAmb 02 48 21.9
comp=Z,13nm,1.1s
NVAR Mina Array Bea 51.40 321 P P 02 48 14.2 +1.1
NVAR Mina Array Bea 51.40 321 P P 02 48 14.4 +1.2
comp=Z,5.7nm,1.0s,baz=129,slow=7.9,SNR=9.8
NVAR LR LR 03 09 31.7
comp=Z,123nm,18.6s,baz=126,slow=35
comp=Z,5.7nm,1.0s
MDPB Devils Postpil 51.42 320 P P 02 48 14.2 +0.8
MDPB IAmb IAmb 02 48 22.8
comp=Z,11nm,1.1s
KVN Kaiserville 51.64 322 P P 02 48 16.8 +1.9
KVN IAmb IAmb 02 48 24.0
comp=Z,10nm,1.5s
HLID Hailey 52.48 328 P P 02 48 22.4 +1.3
MPK Martis Peak 52.99 321 P P 02 48 25.4 +0.3
MFID Camas Ranch 53.13 327 P P 02 48 26.4 +0.6
MFID IAmb IAmb 02 48 35.1
comp=Z,13nm,1.1s
WVOR Wild Horse Val 54.06 325 P P 02 48 33.2 +0.6
WVOR IAmb IAmb 02 48 41.5
comp=Z,12nm,1.2s
SCHQ Schefferville 54.66 9 LR LR 03 13 22.7
comp=Z,55nm,18.9s,baz=212,slow=38
YBH Yreka Blue Hor 56.06 322 LR LR 03 12 08.4
comp=Z,100nm,20.4s,baz=136,slow=35
J05D Fort Rock, OR 56.09 324 P P 02 48 48.4 +1.1
KHMM Horse Mountain 56.23 321 P P 02 48 47.6 -0.8
NEW Newport 57.10 331 LR LR 03 14 36.1
comp=Z,90nm,18.4s,baz=133,slow=37
FRB Frobisher Bay 63.12 5 LR LR 03 19 17.7
comp=Z,36nm,18.4s,baz=164,slow=38
YKA Yellowknife Ar 66.67 343 P P 02 49 57.4 -0.9
comp=Z,1.2nm,0.7s,baz=137,slow=6.4,SNR=2.6
comp=Z,1.2nm,0.7s
DLBC Dease Lake 69.50 334 LR LR 03 23 02.6
comp=Z,158nm,19.2s,baz=107,slow=38
WRGLY Wrigley 69.98 341 P P 02 50 20.0 +1.0
PPT Papeete 71.23 251 LR LR 03 15 11.5
comp=Z,124nm,18.2s,baz=132,slow=30
RES Resolute Bay 74.14 356 LR LR 03 24 15.0
comp=Z,81nm,20.0s,baz=40,slow=36
LIC Lamto 74.58 84⇑ iP P 02 50 46.7 -0.9
comp=Z,19nm,0.9s
TIC Toumodi 74.59 83⇑ eP P 02 50 46.8 -0.9
comp=Z,6.5nm,0.8s
DBIC Dimbokro 74.76 83 P P 02 50 47.6 -1.0
comp=Z,4.3nm,0.9s,baz=242,slow=6.4,SNR=3.7
comp=Z,4.3nm,0.9s
KIC Kosan Boka 74.87 84⇑ iP P 02 50 48.5 -0.8
comp=Z,19nm,0.8s
KOWA Kowa 75.81 75 P P 02 50 53.6 -1.0
KOWA IAmb IAmb 02 50 54.9
comp=Z,5.7nm,0.8s
KOWA Kowa 75.81 75 LR LR 03 23 51.2
comp=Z,109nm,19.5s,baz=301,slow=35
MDT Midelt 76.87 57 LR LR 03 21 02.4
comp=Z,36nm,21.9s,baz=350,slow=33
ESDC Sonseca Array 78.33 50 P P 02 51 08.2 -0.2
ESDC IAmb IAmb 02 51 09.7
comp=Z,7.2nm,1.2s
ESDC Sonseca Array 78.33 50 P P 02 51 08.4 0.0
comp=Z,4.0nm,0.9s,baz=261,slow=5.8,SNR=20
comp=Z,4.0nm,0.9s
ILAR Eielson Array 79.54 336 LR LR 03 28 56.1
comp=Z,41nm,19.4s,baz=134,slow=38
RAR Rarotonga 81.18 248 LR LR 03 17 58.0
comp=Z,322nm,18.1s,baz=277,slow=29
TOA0 Torodi Ar. Sit 81.32 77 P P 02 51 24.6 -0.4
TOA0 IAmb IAmb 02 51 30.6
comp=Z,6.9nm,1.2s
TORD Torodi Ar. Bea 81.32 77 P P 02 51 21.7 -3.3
TORD Torodi Ar. Bea 81.32 77 P P 02 51 23.6 -1.4
comp=Z,1.8nm,0.6s,baz=287,slow=4.7,SNR=17
TORD LR LR 03 26 50.9
comp=Z,46nm,20.3s,baz=165,slow=35
comp=Z,1.8nm,0.6s
EKA Eskdalemuir Ar 81.48 34 P P 02 51 24.3 -0.8
comp=Z,6.5nm,0.9s,baz=260,slow=5.0,SNR=5.9
comp=Z,6.5nm,0.9s
BELA Belgrano 2 82.40 171 P P 02 51 29.5 0.0
BELA IAmb IAmb 02 51 30.5
comp=Z,8.1nm,1.2s
TAM Tamanrasset 85.14 67 P P 02 51 46.1 +1.3
WLF Walferdange 86.49 40 P P 02 51 50.7 -0.1
SNAA Sanae 86.81 162 ⇓P P 02 51 51.7 -0.2
comp=Z,25nm,1.0s
SNAA Sanae 86.81 162 P P 02 51 51.3 -0.6
comp=Z,3.4nm,1.2s,baz=282,slow=3.5,SNR=3.9
comp=Z,3.4nm,1.2s
ECH Echery 87.10 42 P P 02 51 53.7 -0.1
TROLL Troll, Antarti 88.53 162 ⇓P P 02 52 00.5 +0.2
comp=Z,115nm,0.8s
TUE Stuetta 88.56 44 P P 02 52 00.9 -0.2
KEST Kesra 88.58 54 P P 02 52 00.5 -0.7
comp=Z,2.8nm,0.7s,baz=297,slow=9.0,SNR=4.9
comp=Z,2.8nm,0.7s
DAVA Damuels 88.92 43 eP P 02 52 03.1 +0.5
comp=Z,8.8nm,1.1s
FETA Feichten 89.51 43 eP P 02 52 05.7 +0.3
comp=Z,7.6nm,1.1s
RETA Reutte 89.52 43 eP P 02 52 05.3 0.0
comp=Z,3.9nm,1.4s
NOA NORSAR Array B 89.53 29 P P 02 52 04.5 -0.5
comp=Z,0.9nm,0.9s,baz=223,slow=25,SNR=2.3
comp=Z,0.9nm,0.9s
MOTA Moosalm 89.76 43 eP P 02 52 06.1 -0.5
comp=Z,2.7nm,0.8s
SQTA Sankt Quirin 89.83 43 eP P 02 52 06.9 0.0
comp=Z,3.5nm,1.1s
WTTA Wattenberg 90.12 43 ePcP PcP 02 52 09.2 -0.4
comp=Z,3.1nm,0.8s
ABTA Abfaltersbach 90.74 43 eP P 02 52 11.0 -0.1
comp=Z,2.2nm,0.8s
QSPA South Pole Qui 91.06 180 P P 02 52 13.0 +0.8
QSPA South Pole Qui 91.06 180 P P 02 52 12.1 -0.1
comp=Z,6.5nm,0.9s,baz=133,slow=4.5,SNR=19
comp=Z,6.5nm,0.9s
KBA Koelnbreinsper 91.29 43 eP P 02 52 13.7 -0.1
comp=Z,2.0nm,0.9s
CONA Conrad Observa 92.94 42 eP P 02 52 21.0 -0.2
RONA Rosalia, Austr 93.25 42 ePcP PcP 02 52 23.1 -0.1
comp=Z,4.8nm,1.2s
FINES FINESS Array B 96.58 28 P P 02 52 35.9 -1.6
comp=Z,2.7nm,0.8s,baz=292,slow=7.4,SNR=3.9
comp=Z,2.7nm,0.8s
ZALV Zalesovo Beam 123.72 11 PKP PKPdf 02 58 03.9 -1.6
comp=Z,0.4nm,0.4s,baz=324,slow=7.1,SNR=3.6
KURBB Kurchatov Arra 125.28 17 PKP PKPdf 02 58 07.6 -1.1
comp=Z,0.7nm,0.6s,baz=323,slow=2.1,SNR=7.7
MKAR Makanchi Array 129.81 16 PKP PKPdf 02 58 16.1 -1.4
comp=Z,0.9nm,1.0s,baz=0.0,slow=2.4,SNR=3.6
SONM Songino Array 131.06 355 PKP PKPdf 02 58 19.6 -0.4
comp=Z,0.4nm,0.6s,baz=352,slow=2.0,SNR=2.5
ASAR Alice Springs 140.46 233 PKhKP PKPpre 02 58 29.4
comp=Z,0.5nm,0.7s,baz=127,slow=2.5,SNR=4.5
ASAR PKP PKPdf 02 58 37.8 -0.3

comp=Z,1.7nm,0.8s,baz=120,slow=2.7,SNR=12
WRA Warramunga Arr 141.82 238 PKhKP PKPpre 02 58 33.2
comp=Z,0.6nm,0.7s,baz=105,slow=2.9,SNR=9.3
WRA PKP **PKPdf 02 58 39.5 -1.0**
comp=Z,1.2nm,0.7s,baz=105,slow=2.6,SNR=11
PYUN Piuthan 146.59 29 *eP* **PKPdf 02 58 49.4 +0.5**
comp=Z,19nm,0.7s
DANN Dangsing 146.74 27 *eP* **PKPdf 02 58 50.2 +0.9**
comp=Z,46nm,0.9s
GKN Gorkha 147.43 26 *eP* **PKPdf 02 58 51.7 +1.4**
DMN Daman 147.98 26 *eP* **PKPdf 02 58 52.3 +1.0**
comp=Z,10nm,0.5s
GUN Gumba 148.05 25 *eP* **PKPbc 02 58 53.6 -1.0**
comp=Z,46nm,1.1s
PKIN Phulchoki 148.13 26 *eP* **PKPdf 02 58 53.3 +1.7**
comp=Z,9.4nm,0.7s
PKI Pulchoki 148.14 26 *eP* **PKPbc 02 58 53.7 -1.2**
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 160.60 4 PKPab **PKPab 02 59 48.9 -1.0**
comp=Z,1.0nm,0.3s,baz=337,slow=5.8,SNR=5.9

---

*AEIC **19** 02:48:00.7±1.2, 67°.20N±0°.03×144°.21W±0°.07, h13km±5km, ML3.6, ML3.8/128(NEIC), Mwr3.6/21(NEIC), Error ellipse: s-maj=4.0km s-min=3.2km az=222.0*
*NEIC **19** 02:48:00.5±1.2, 67°.204N±0°.008×144°.15W±0°.07, h9km±6km, Error ellipse: s-maj=4.0km s-min=1.0km az=80.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}~0.38; $M_{\theta\theta}$~2.31; $M_{\phi\phi}$2.68; $M_{r\theta}$1.96; $M_{\theta\phi}$~0.35; $M_{\theta r}$~0.05; Fault plane solution: $M_0$3.21000×10^{14} NP1: ϕ_s=315.04000°, δ71.50000°, λ-153.21000°. NP2: ϕ_s=215.93000°, δ64.69000°, λ-20.54000°. Principal axes: T 2.7210, Plg4.0000°, Azm84.0000°; N 0.8201, Plg58.0000°, Azm347.0000°; P -3.5410, Plg32.0000°, Azm177.0000°;*
*NEIC **19** 02:48:00.3, 67°.22N×144°.16W, h13km*
ISC 19 02:48:00.7±0.9, 67°.20N±0°.02×144°.18W±0°.02, h12km±8km, n12, σ0°68/177, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMAR	**Burnt Mountain**	**0.28**	**326**		**Pg**	**02 48 06.0**	**-0.4**
G26K	**Porcupine Rive**	**0.30**	**148**		**Pg**	**02 48 06.8**	**+0.1**
G26K					**Sg**	**02 48 11.2**	**+0.4**
G26K	**Porcupine Rive**	**0.30**	**148**	P	**Pg**	**02 48 06.8**	**+0.1**
	baz=326						
G26K				S	**Sg**	**02 48 11.2**	**+0.4**
	baz=326						
F26K	**Sheenjek River**	**0.50**	**2**		**Pg**	**02 48 10.3**	**-0.1**
F26K					**Sg**	**02 48 17.1**	**0.0**
F26K	**Sheenjek River**	**0.50**	**2**	P	**Pg**	**02 48 10.3**	**-0.1**
	baz=183						
F26K				S	**Sg**	**02 48 17.0**	**0.0**
	baz=183						
F25K	**Christian Rive**	**0.69**	**306**		**Pg**	**02 48 13.8**	**-0.2**
F25K					**Sg**	**02 48 23.1**	**0.0**
F25K	**Christian Rive**	**0.69**	**306**	P	**Pg**	**02 48 13.8**	**-0.2**
	baz=125						
F25K				S	**Sg**	**02 48 23.1**	**0.0**
	baz=125						
FYU	**Fort Yukon**	**0.76**	**213**		**Pg**	**02 48 15.2**	**-0.1**
FYU					**Sb**	**02 48 25.7**	**-0.4**
FYU				IAML		02 48 26.9	
	comp=N,4μm,0.5s						
FYU				IAML		02 48 29.9	
	comp=E,3μm,0.3s						
G25K	**Bearman Lake**	**0.87**	**241**		**Pg**	**02 48 17.0**	**-0.5**
G25K	**Bearman Lake**	**0.87**	**241**	P	**Pg**	**02 48 17.0**	**-0.5**
	baz=59						
E25K	**Arctic Village**	**1.06**	**331**	Pn	**Pb**	**02 48 21.0**	**-0.1**
E25K				IAML		02 48 39.3	
	comp=E,2μm,0.3s						
E25K	**Arctic Village**	**1.06**	**331**		**Sb**	**02 48 35.0**	**+0.1**
E25K	**Arctic Village**	**1.06**	**331**	P	**Pb**	**02 48 21.0**	**-0.1**
	baz=150						
E25K				S	**Sb**	**02 48 35.0**	**+0.1**
	baz=150						
G27K	**Doyon Strip**	**1.07**	**110**		**Pb**	**02 48 20.1**	**-1.0**
G27K					**Sn**	**02 48 35.7**	**-0.6**
G27K				IAML		02 48 37.6	
	comp=N,2μm,0.5s						
G27K	**Doyon Strip**	**1.07**	**110**	P	**Pb**	**02 48 19.8**	**-1.3**
	baz=292						
G27K				S	**Sn**	**02 48 36.3**	**0.0**
	baz=292						
H25L	**Birch Creek**	**1.14**	**215**		**Pb**	**02 48 22.3**	**0.0**
H25L					**Sn**	**02 48 38.3**	**+0.3**
H25L	**Birch Creek**	**1.14**	**215**	P	**Pb**	**02 48 22.3**	**0.0**
	baz=34						
H25L				S	**Sn**	**02 48 38.3**	**+0.3**
	baz=34						
G24K	**Hadweenzic Riv**	**1.39**	**250**		**Pn**	**02 48 25.3**	**-0.5**
G24K					**Sb**	**02 48 44.5**	**+0.3**
G24K				IAML		02 48 45.6	
	comp=E,2μm,0.2s						
G24K				IAML		02 48 45.7	
	comp=N,2μm,0.3s						
G24K	**Hadweenzic Riv**	**1.39**	**250**	P	**Pn**	**02 48 25.1**	**-0.8**
	baz=67						
G24K				S	**Sb**	**02 48 44.7**	**+0.5**
	baz=67						
E27K	**Coleen River**	**1.40**	**44**	Pn	**Pn**	**02 48 25.8**	**-0.2**
E27K	**Coleen River**	**1.40**	**44**	P	**Pn**	**02 48 25.8**	**-0.2**
	baz=226						
H27K	**Steamboat Moun**	**1.44**	**131**		**Pn**	**02 48 26.2**	**-0.3**
H27K	**Steamboat Moun**	**1.44**	**131**	P	**Pn**	**02 48 26.2**	**-0.3**
	baz=314						
F24K	**Squaw Lake**	**1.47**	**284**		**Pn**	**02 48 26.7**	**-0.3**
F24K	**Squaw Lake**	**1.47**	**284**	P	**Pn**	**02 48 26.7**	**-0.3**
	baz=101						
F28M	**Old Crow**	**1.72**	**74**	Pn	**Pn**	**02 48 30.0**	**-0.4**
F28M				IAML		02 48 57.9	
	comp=E,773nm,0.6s						
F28M				IAML		02 49 04.0	
	comp=N,735nm,0.7s						
F28M	**Old Crow**	**1.72**	**74**	P	**Pn**	**02 48 30.0**	**-0.4**
	baz=258						
PRP	**Porcupine Dome**	**1.77**	**198**	Pn	**Pn**	**02 48 31.2**	**-0.1**
PRP				IAML		02 48 58.3	
	comp=N,757nm,0.6s						
PRP	**Porcupine Dome**	**1.77**	**198**	P	**Pn**	**02 48 31.3**	**0.0**
	baz=17						
E24K	**Your Creek**	**1.87**	**300**		**Pn**	**02 48 32.4**	**0.0**
I27K	**Kandik River**	**1.91**	**146**		**Pn**	**02 48 33.1**	**+0.1**
I27K	**Kandik River**	**1.91**	**146**	P	**Pn**	**02 48 33.1**	**+0.1**
	baz=328						
I26K	**Coal Creek Min**	**1.95**	**167**		**Pn**	**02 48 33.5**	**0.0**
I26K				IAML		02 49 06.9	
	comp=N,994nm,0.5s						
H24K	**Noodor Dome**	**2.02**	**229**	Pn	**Pn**	**02 48 33.5**	**-1.0**
H24K				IAML		02 49 05.0	
	comp=N,740nm,0.7s						
H24K				IAML		02 49 07.5	
	comp=E,792nm,0.7s						
H24K	**Noodor Dome**	**2.02**	**229**	P	**Pn**	**02 48 33.5**	**-1.0**
	baz=45						
E23K	**Chandalar**	**2.25**	**295**		**Pn**	**02 48 38.4**	**+0.6**
E23K	**Chandalar**	**2.25**	**295**	P	**Pn**	**02 48 38.4**	**+0.6**
	baz=110						
E28M	**Babbage River**	**2.25**	**49**		**Pn**	**02 48 37.3**	**-0.5**
E28M	**Babbage River**	**2.25**	**49**	P	**Pn**	**02 48 37.3**	**-0.5**
	baz=234						
D25K	**Kavik River**	**2.28**	**340**	P	**Pn**	**02 48 39.4**	**+1.2**
	baz=158						
COLD	**Coldfoot**	**2.34**	**273**		**Pn**	**02 48 38.9**	**-0.1**
COLD	**Coldfoot**	**2.34**	**273**	P	**Pn**	**02 48 38.9**	**-0.1**
	baz=88						
G23K	**Bananza Creek**	**2.35**	**261**		**Pn**	**02 48 38.6**	**-0.5**
G23K				IAML		02 49 18.3	
	comp=N,484nm,0.3s						
G23K				IAML		02 49 20.3	
	comp=E,403nm,0.5s						
G23K	**Bananza Creek**	**2.35**	**261**	P	**Pn**	**02 48 38.3**	**-0.8**
	baz=75						
D27M	**Malcolm River**	**2.38**	**29**		**Pn**	**02 48 39.9**	**+0.4**
D27M	**Malcolm River**	**2.38**	**29**	P	**Pn**	**02 48 39.9**	**+0.4**
	baz=212						
G29M	**Pine Creek**	**2.43**	**94**	Pn	**Pn**	**02 48 40.3**	**+0.1**
G29M	**Pine Creek**	**2.43**	**94**	P	**Pn**	**02 48 40.1**	**-0.1**
	baz=280						
I28M	**Miner Creek**	**2.46**	**134**	Pn	**Pn**	**02 48 40.8**	**+0.2**
I28M				IAML		02 49 23.9	
	comp=N,414nm,0.7s						
I28M				IAML		02 49 24.4	
	comp=E,461nm,0.6s						
I28M	**Miner Creek**	**2.46**	**134**	P	**Pn**	**02 48 40.9**	**+0.2**
	baz=318						
POKR	**Poker Plat Res**	**2.47**	**214**		**Pn**	**02 48 40.7**	**0.0**
POKR				IAML		02 49 16.8	
	comp=N,558nm,0.2s						
POKR	**Poker Plat Res**	**2.47**	**214**	P	**Pn**	**02 48 40.8**	**0.0**
	baz=31						
TOLK	**Toolik Lake Re**	**2.50**	**308**		**Pn**	**02 48 42.2**	**+1.1**
TOLK				IAML		02 49 22.7	
	comp=E,433nm,0.6s						
TOLK				IAML		02 49 25.4	
	comp=N,429nm,0.8s						
TOLK	**Toolik Lake Re**	**2.50**	**308**	P	**Pn**	**02 48 41.9**	**+0.8**
	baz=123						
H29M	**Whitestone**	**2.51**	**110**	Pn	**Pn**	**02 48 41.6**	**+0.4**
H29M	**Whitestone**	**2.51**	**110**	P	**Pn**	**02 48 41.7**	**+0.4**
	baz=296						
H23K	**Yukon River**	**2.55**	**240**		**Pn**	**02 48 41.5**	**-0.4**
H23K				IAML		02 49 23.2	
	comp=E,404nm,0.6s						
H23K				IAML		02 49 24.1	
	comp=N,388nm,0.5s						
D24K	**Happy Valley**	**2.62**	**321**	P	**Pn**	**02 48 44.5**	**+1.8**
	baz=137						
J25K	**Salcha River,**	**2.64**	**191**		**Pn**	**02 48 43.2**	**+0.1**
J25K	**Salcha River,**	**2.64**	**191**	P	**Pn**	**02 48 43.4**	**+0.2**
	baz=9.8						
E29M	**Blow River**	**2.67**	**61**		**Pn**	**02 48 43.3**	**-0.1**
E29M	**Blow River**	**2.67**	**61**	P	**Pn**	**02 48 43.3**	**-0.1**
	baz=246						
IL31		**2.68**	**206**		**Pn**	**02 48 43.4**	**-0.1**
ILAR	**Eielson Array**	**2.68**	**206**	Pn	**Pn**	**02 48 43.4**	**-0.2**
J26L	**Joseph Creek**	**2.72**	**174**	Pn	**Pn**	**02 48 44.5**	**+0.3**
J26L				IAML		02 49 26.8	
	comp=E,292nm,0.7s						
J26L	**Joseph Creek**	**2.72**	**174**	P	**Pn**	**02 48 44.6**	**+0.4**
	baz=355						
COLA	**College**	**2.77**	**214**		**Pn**	**02 48 45.2**	**+0.3**
MDM	**Murphy Dome**	**2.79**	**218**	Pn	**Pn**	**02 48 44.7**	**-0.4**
MDM				IAML		02 49 26.7	
	comp=E,389nm,0.3s						
MDM				IAML		02 49 26.7	
	comp=N,430nm,0.3s						
I23K	**Minto, Yukon-K**	**2.94**	**228**	Pn	**Pn**	**02 48 46.5**	**-0.6**
I23K				IAML		02 49 34.6	
	comp=E,315nm,0.7s						
I23K				IAML		02 49 38.6	
	comp=N,266nm,0.9s						
I23K	**Minto, Yukon-K**	**2.94**	**228**	P	**Pn**	**02 48 46.3**	**-0.9**
	baz=43						
D28M	**Stokes Point**	**2.95**	**41**		**Pn**	**02 48 48.5**	**+1.3**
D28M	**Stokes Point**	**2.95**	**41**	P	**Pn**	**02 48 48.5**	**+1.3**
	baz=226						
CCB	**Clear Creek Bu**	**2.96**	**212**	Pn	**Pn**	**02 48 47.4**	**-0.1**
CCB				IAML		02 49 36.4	
	comp=N,271nm,0.4s						
I29M	**Ogilvie Camp,**	**3.01**	**125**	Pn	**Pn**	**02 48 48.2**	**+0.1**
I29M				IAML		02 49 40.3	
	comp=E,348nm,0.8s						
HDA	**Harding Lake**	**3.03**	**203**		**Pn**	**02 48 48.3**	**0.0**
HDA	**Harding Lake**	**3.03**	**203**	IAML		02 49 37.3	
	comp=E,370nm,0.7s						
HDA				IAML		02 49 44.5	
	comp=N,294nm,0.6s						
HDA	**Harding Lake**	**3.03**	**203**	P	**Pn**	**02 48 48.3**	**0.0**
	baz=21						
E22K	**Anaktuvuk Pass**	**3.06**	**291**		**Pn**	**02 48 48.7**	**-0.2**
EPYK	**Eagle Plains**	**3.07**	**102**		**Pn**	**02 48 49.0**	**0.0**
EPYK	**Eagle Plains**	**3.07**	**102**	P	**Pn**	**02 48 49.0**	**0.0**
	baz=289						
G30M	**tAoh Zraii Nji**	**3.12**	**90**	Pn	**Pn**	**02 48 49.9**	**+0.2**
G30M				IAML		02 49 55.0	
	comp=N,194nm,0.6s						
G30M	**tAoh Zraii Nji**	**3.12**	**90**	P	**Pn**	**02 48 49.7**	**0.0**
	baz=278						
H22K	**Ishtalitna Cre**	**3.16**	**249**		**Pn**	**02 48 49.5**	**-0.8**
H22K	**Ishtalitna Cre**	**3.16**	**249**	P	**Pn**	**02 48 49.5**	**-0.8**
	baz=62						
WRH	**Wood River Hil**	**3.18**	**212**	Pn	**Pn**	**02 48 50.0**	**-0.4**
WRH				IAML		02 49 39.1	
	comp=N,243nm,0.5s						
WRH				IAML		02 49 43.2	
	comp=E,249nm,0.7s						
SCRK	**Sand Creek**	**3.24**	**178**	Pn	**Pn**	**02 48 52.2**	**+0.8**
SCRK				IAML		02 49 42.9	
	comp=E,175nm,0.5s						
SCRK	**Sand Creek**	**3.24**	**178**	P	**Pn**	**02 48 52.2**	**+0.8**
	baz=358						
F30M	**Barrier River**	**3.27**	**79**		**Pn**	**02 48 52.5**	**+0.8**
F30M	**Barrier River**	**3.27**	**79**	P	**Pn**	**02 48 52.5**	**+0.8**
	baz=267						
NEA2	**Nenana**	**3.30**	**220**		**Pn**	**02 48 51.4**	**-0.7**
NEA2				IAML		02 49 42.8	
	comp=E,170nm,0.4s						
NEA2				IAML		02 49 51.0	
	comp=N,175nm,0.7s						
NEA2	**Nenana**	**3.30**	**220**	P	**Pn**	**02 48 51.5**	**-0.6**
	baz=35						
K27K	**Chicken**	**3.30**	**164**		**Pn**	**02 48 52.1**	**0.0**
K27K				IAML		02 49 52.9	
	comp=E,204nm,0.9s						
MLY	**Manley**	**3.44**	**234**		**Pn**	**02 48 54.6**	**+0.4**
K24K	**Donnelly Dome**	**3.48**	**192**		**Pn**	**02 48 55.2**	**+0.6**
K24K	**Donnelly Dome**	**3.48**	**192**	P	**Pn**	**02 48 55.2**	**+0.6**
	baz=10						
RIDG	**Independent Ri**	**3.49**	**185**		**Pn**	**02 48 55.4**	**+0.7**
RIDG				IAML		02 49 54.0	
	comp=E,228nm,0.6s						
RIDG				IAML		02 49 57.1	
	comp=N,234nm,0.7s						
C23K	**Itkillik River**	**3.55**	**321**		**Pn**	**02 48 56.8**	**+1.3**
C23K	**Itkillik River**	**3.55**	**321**	IAML		02 50 00.2	
	comp=E,162nm,0.8s						
C23K				IAML		02 50 01.5	
	comp=N,183nm,0.7s						
C23K	**Itkillik River**	**3.55**	**321**	P	**Pn**	**02 48 56.8**	**+1.3**
	baz=135						
F21K	**Alatna River**	**3.62**	**275**		Pn	02 48 50.6	-5.9
F21K				IAML		02 50 00.6	
	comp=N,178nm,0.8s						
J29N	**Klondike Camp**	**3.69**	**136**		**Pn**	**02 48 59.2**	**+1.7**
J29N	**Klondike Camp**	**3.69**	**136**	IAML		02 50 04.8	
	comp=E,882nm,0.6s						
J29N				IAML		02 50 06.1	
	comp=N,717nm,0.6s						
J29N	**Klondike Camp**	**3.69**	**136**	P	**Pn**	**02 48 59.2**	**+1.7**
	baz=321						
DAWY	**Dawson**	**3.72**	**146**	Pn	**Pn**	**02 48 58.3**	**+0.4**
I30M	**Mount Dempster**	**3.73**	**118**	Pn	**Pn**	**02 48 58.0**	**-0.2**
I30M				IAML		02 50 04.9	
	comp=N,168nm,0.5s						
I30M				IAML		02 50 10.9	
	comp=E,170nm,0.8s						
G21K	**Allakaket**	**3.75**	**264**		**Pn**	**02 48 57.9**	**-0.3**
G21K	**Allakaket**	**3.75**	**264**	P	**Pn**	**02 48 57.3**	**-0.9**
	baz=75						
I21K	**Tanana**	**3.76**	**241**		**Pn**	**02 48 57.4**	**-1.0**
H21K	**Melozitna Rive**	**3.79**	**250**	Pn	**Pn**	**02 48 58.4**	**-0.5**
H21K				IAML		02 50 06.0	
	comp=E,162nm,0.4s						
H21K				IAML		02 50 10.4	
	comp=N,134nm,0.6s						
H21K	**Melozitna Rive**	**3.79**	**250**	P	**Pn**	**02 48 58.4**	**-0.5**
	baz=62						
G31M	**Satah River**	**3.89**	**90**		**Pn**	**02 48 59.6**	**-0.6**
G31M	**Satah River**	**3.89**	**90**	IAML		02 50 10.2	
	comp=N,154nm,0.7s						
G31M				IAML		02 50 16.3	
	comp=E,166nm,1.2s						
G31M	**Satah River**	**3.89**	**90**	P	**Pn**	**02 48 59.6**	**-0.6**
	baz=279						
E21K	**Killik River**	**3.92**	**293**	Pn	**Pn**	**02 49 00.7**	**+0.1**
E21K				IAML		02 50 10.3	
	comp=N,174nm,0.8s						
E21K				IAML		02 50 15.9	
	comp=E,127nm,0.7s						
MCK	**McKinley**	**4.01**	**212**		**Pn**	**02 49 02.2**	**+0.3**
MCK	**McKinley**	**4.01**	**212**	P	**Pn**	**02 49 02.2**	**+0.3**
	baz=27						
IMAR	**Indian Mountai**	**4.01**	**257**	Pn	**Pn**	**02 49 01.1**	**-0.7**
F31M	**Tsiigehtchic**	**4.05**	**82**		**Pn**	**02 49 02.5**	**+0.2**
F31M	**Tsiigehtchic**	**4.05**	**82**	IAML		02 50 16.7	
	comp=E,110nm,0.9s						
F31M	**Tsiigehtchic**	**4.05**	**82**	P	**Pn**	**02 49 02.5**	**+0.2**
	baz=271						
J30M	**Hart River**	**4.16**	**126**	Pn	**Pn**	**02 49 04.3**	**+0.2**
J30M				IAML		02 50 13.7	
	comp=E,113nm,0.7s						
J30M				IAML		02 50 18.6	
	comp=N,127nm,0.8s						
J30M	**Hart River**	**4.16**	**126**	P	**Pn**	**02 49 04.6**	**+0.6**
	baz=313						
H31M	**Peel River**	**4.18**	**105**		**Pn**	**02 49 03.5**	**-0.7**
BPAW	**Bear Paw Mtn.**	**4.20**	**225**	Pn	**Pn**	**02 49 03.7**	**-0.8**
BPAW				IAML		02 50 20.6	
	comp=E,87nm,0.9s						
INK	**Inuvik**	**4.20**	**70**		**Pn**	**02 49 04.3**	**-0.1**
INK	**Inuvik**	**4.20**	**70**	P	**Pn**	**02 49 04.3**	**-0.1**
	baz=260						
L26K	**Log Cabin Wild**	**4.21**	**175**		**Pn**	**02 49 04.3**	**-0.3**
BCAR	**Beaver Creek A**	**4.27**	**165**	Pn	**Pn**	**02 49 05.5**	**-0.1**
L27K	**Beaver Creek,**	**4.27**	**165**		**Pn**	**02 49 05.7**	**+0.2**
L27K	**Beaver Creek,**	**4.27**	**165**	IAML		02 50 17.1	
	comp=E,98nm,0.8s						
L27K	**Beaver Creek,**	**4.27**	**165**	P	**Pn**	**02 49 05.7**	**+0.2**
	baz=347						
PAX	**Paxson**	**4.28**	**188**		**Pn**	**02 49 06.2**	**+0.5**
PAX	**Paxson**	**4.28**	**188**	P	**Pn**	**02 49 06.2**	**+0.5**
	baz=6.6						
MENT	**Mentasta**	**4.29**	**177**		**Pn**	**02 49 06.5**	**+0.8**
DHY	**Denali Highway**	**4.36**	**200**		**Pn**	**02 49 07.4**	**+0.7**
DHY	**Denali Highway**	**4.36**	**200**	IAML		02 50 23.8	
	comp=E,79nm,0.9s						
DHY				IAML		02 50 29.4	
	comp=N,77nm,1.0s						
DHY	**Denali Highway**	**4.36**	**200**	P	**Pn**	**02 49 07.4**	**+0.7**
	baz=16						
K29M	**Barlow Dome**	**4.36**	**137**	Pn	**Pn**	**02 49 08.2**	**+1.4**
K29M				IAML		02 50 24.6	
	comp=N,79nm,1.1s						
K29M	**Barlow Dome**	**4.36**	**137**	P	**Pn**	**02 49 08.3**	**+1.4**
	baz=323						
F20K	**Avaraart Lake**	**4.51**	**273**		**Pn**	**02 49 08.2**	**-0.4**
F20K				IAML		02 50 30.5	
	comp=E,66nm,0.7s						
F20K				IAML		02 50 32.0	
	comp=N,90nm,0.9s						
TRF	**Thorofare Moun**	**4.55**	**217**	Pn	**Pn**	**02 49 09.7**	**+0.2**
TRF				IAML		02 50 33.3	
	comp=E,87nm,2.6s						
TRF				IAML		02 50 36.4	
	comp=N,71nm,1.0s						
TRF	**Thorofare Moun**	**4.55**	**217**	P	**Pn**	**02 49 09.6**	**+0.2**
	baz=31						
H20K	**Anotleneega Mo**	**4.64**	**253**		**Pn**	**02 49 09.7**	**-0.8**
H20K	**Anotleneega Mo**	**4.64**	**253**	P	**Pn**	**02 49 09.7**	**-0.8**
	baz=64						
E20K	**Nigu River**	**4.69**	**289**		**Pn**	**02 49 11.8**	**+0.6**
E20K	**Nigu River**	**4.69**	**289**	P	**Pn**	**02 49 11.8**	**+0.6**
	baz=98						
WAT1	**Susitna Watana**	**4.76**	**205**		**Pn**	**02 49 13.0**	**+0.7**
WAT1	**Susitna Watana**	**4.76**	**205**	P	**Pn**	**02 49 13.0**	**+0.7**
	baz=21						
WAT7	**Susitna Watana**	**4.81**	**206**		**Pn**	**02 49 13.7**	**+0.8**
L29M	**L29M**	**4.84**	**145**		**Pn**	**02 49 14.1**	**+0.9**
L29M	**L29M**	**4.84**	**145**	IAML		02 50 40.7	
	comp=N,86nm,0.8s						
L29M	**L29M**	**4.84**	**145**	P	**Pn**	**02 49 14.1**	**+0.9**
	baz=331						
I20K	**Naaghedeneel**	**4.85**	**245**		**Pn**	**02 49 13.8**	**+0.5**
I20K	**Naaghedeneel**	**4.85**	**245**	P	**Pn**	**02 49 13.8**	**+0.5**
	baz=56						
M26K	**Nabesna, AK**	**4.85**	**173**	Pn	**Pn**	**02 49 14.6**	**+1.2**
M26K				IAML		02 50 39.2	
	comp=E,75nm,0.5s						
M26K	**Nabesna, AK**	**4.85**	**173**	P	**Pn**	**02 49 14.6**	**+1.2**
	baz=354						
WAT6	**Susitna Watana**	**4.88**	**200**		**Pn**	**02 49 15.1**	**+1.2**
WAT6	**Susitna Watana**	**4.88**	**200**	P	**Pn**	**02 49 15.1**	**+1.2**
	baz=16						
M27K	**Edge Creek, AK**	**4.96**	**167**	P	**Pn**	**02 49 16.1**	**+1.0**
	baz=349						
H19K	**Roundabout Mou**	**5.21**	**257**	P	**Pn**	**02 49 17.6**	**-0.7**
	baz=66						
M29M	**Somme Creek**	**5.36**	**150**	P	**Pn**	**02 49 21.4**	**+0.9**
	baz=335						
SCM	**Sheep Creek Mo**	**5.56**	**196**	P	**Pn**	**02 49 25.0**	**+1.9**
	baz=13						
M30M	**Minto, Yukon**	**5.61**	**142**	P	**Pn**	**02 49 23.9**	**+0.1**
	baz=329						
YUK2	**White River**	**5.62**	**164**		**Pn**	**02 49 24.9**	**+0.8**
YUK3	**Moose Creek**	**5.68**	**162**		**Pn**	**02 49 25.6**	**+0.6**
YUK3	**Moose Creek**	**5.68**	**162**	P	**Pn**	**02 49 25.6**	**+0.6**
	baz=345						
MCARA	**McCarthy VSAT**	**5.86**	**175**	P	**Pn**	**02 49 29.3**	**+2.1**
	baz=356						
PTPK	**Patty Peak**	**6.08**	**172**		**Pn**	**02 49 32.5**	**+2.0**
N30M	**Aishikik Lake**	**6.53**	**149**	P	**Pn**	**02 49 38.1**	**+1.5**
	baz=335						
H17K	**Granite Mounta**	**6.79**	**258**		**Pn**	**02 49 40.4**	**+0.5**
H17K	**Granite Mounta**	**6.79**	**258**	P	**Pn**	**02 49 40.4**	**+0.5**
	baz=63						
RES	**Resolute Bay**	**17.18**	**43**	Pn	**Pn**	**02 51 59.7**	**-0.4**

---

*BEO **19** 03:09:59.1±1.1, 39°.59N×20°.31E, h4km±5km, ML2.6/7*
*ATH **19** 03:10:01.1, 40°.01N×20°.23E, h2km, ML2.5/13, Manual Solution by M.Kolligri This location: 2019/12/30 09:20:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*TIR **19** 03:10:01.5, 39°.96N×20°.37E, h16km, Md3.3, Ml2.6*
*THE **19** 03:10:02.6, 40°.02N×20°.28E, h0km±2km, ML2.4/12, Error ellipse: s-maj=2.6km s-min=0.7km az=321.0*
*PDG **19** 03:10:04.1±0.7, 39°.98N×20°.16E, h3km±2km, ML2.9/5, Error ellipse: s-maj=1.4km s-min=1.9km az=0.0*
ISC 19 03:10:02.3±0.9, 39°.96N±0°.02×20°.32E±0°.02, h17km±7km, n64, σ2°08/94, 4C-2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.26**	**252**	P	**Pg**	**03 10 07.0**	**-1.0**
SRN				S	**Sg**	**03 10 12.0**	**0.0**
	625nm,0.9s						
SRN	**Sarande**	**0.26**	**252**	P	**Pg**	**03 10 07.1**	**-1.0**
	baz=255						
SRN				S	**Sb**	**03 10 12.6**	**-0.1**
	baz=255						
SRN				AMP			
	comp=E,2.0nm,1.0s,baz=255						
LSK	**Leskovik**	**0.29**	**49**	P	**Pg**	**03 10 06.9**	**-1.7**
LSK				S	**Sb**	**03 10 12.1**	**-1.5**
	comp=E,2μm,0.8s						
LSK	**Leskovik**	**0.29**	**49**	P	**Pg**	**03 10 07.0**	**-1.5**
	baz=42						
LSK				S	**Sb**	**03 10 12.4**	**-1.2**
	baz=42						
KASA	**Kassiopi**	**0.37**	**234**	P	**Pg**	**03 10 08.7**	**-1.2**
IGT	**Igoumenits

KPRO Kipourio 0.80 90 P **Pn** **03 10 17.9 +1.0**
VLO Vlora 0.81 309 P **Pn** **03 10 19.7 +0.8**
baz=308
VLO baz=308 S **Sn** **03 10 31.5 +1.0**
VLO AMP
comp=E,1.6nm,0.7s,baz=308
FNA Florina 1.15 44 P **Pg** **03 10 24.7 +0.1**
FNA Florina 1.15 44 *e*Pg **Pg** **03 10 24.9 +0.3**
FNA *e*Sg **Sg** **03 10 46.3 +6.6**
FNA Florina 1.15 44 P **Pg** **03 10 24.7 +0.1**
TSLK Tsoukalades, L 1.16 167 P **Pg** **03 10 25.8 +1.0**
TSLK S **Sg** **03 10 44.0 +4.0**
comp=E,170nm,0.6s
TSLK Tsoukalades, L 1.16 167 P **Pg** **03 10 24.7 -0.1**
LKD2 Lefkada island 1.20 167 P **Pg** **03 10 26.9 +1.4**
LKD2 S **Sg** **03 10 44.7 +3.5**
comp=E,190nm,0.8s
LKD2 Lefkada island 1.20 167 P **Pg** **03 10 26.5 +1.0**
OHR Ohrid 1.21 17 *e*Pg **Pg** **03 10 26.1 +0.5**
OHR *e*Sg **Sg** **03 10 48.9 +7.5**
OHR Ohrid 1.21 17 *i* Pn **Pg** **03 10 26.1 +0.5**
OHR *i* Sn Sg 03 10 49.7 +8.3
NYDR Nydri-Lefkada 1.28 167 P **Pg** **03 10 27.9 +0.9**
NYDR S **Sg** **03 10 47.1 +3.4**
comp=E,138nm,0.6s
NYDR Nydri-Lefkada 1.28 167 P **Pg** **03 10 27.8 +0.8**
DRAG Dragano-Lefkad 1.29 171 P **Pg** **03 10 27.2 0.0**
EVGI Lefkada island 1.36 169 P **Pg** **03 10 28.7 +0.1**
EVGI Lefkada island 1.36 169 P **Pg** **03 10 28.7 +0.1**
THL Klokotos Trika 1.36 106 P **Pg** **03 10 29.3 +0.7**
THL S **Sg** **03 10 50.0 +3.6**
comp=E,90nm,0.7s
THL Klokotos Trika 1.36 106 P **Pg** **03 10 30.0 +1.4**
SCTE Santa Cesarea 1.43 275 P **Pb** **03 10 27.9 -0.5**
TIR Tirane 1.43 346 P **Pg** **03 10 30.3 +0.5**
baz=345
TIR S **Sg** **03 10 48.6 +0.2**
baz=345
TIR Tirane 1.43 346 *e*Pn **Pg** **03 10 30.7 +0.9**
TIR *e*Sn **Sg** **03 10 54.4 +6.0**
TYRN Tyrnavos 1.49 99 P **Pg** **03 10 31.0 0.0**
FSK Fiskardo 1.51 173 P **Pg** **03 10 30.4 -1.0**
EVR Evrytania 1.56 132 P **Pg** **03 10 32.1 -0.2**
EVR S **Sg** **03 10 54.6 +2.1**
comp=E,85nm,0.9s
PVO Paravola 1.64 145 P **Pg** **03 10 33.5 -0.3**
MAKR Makrakomi, Fth 1.69 123 P **Pg** **03 10 36.9 +2.1**
DMLN Damoulianata-K 1.72 179 P **Pb** **03 10 32.9 -0.6**
VLS Valsamata 1.79 173 P **Pb** **03 10 34.4 -0.4**
AGG Agios Georgios 1.82 120 P **Pg** **03 10 36.4 -0.8**
ANX Ano Chora 1.85 137 P **Pg** **03 10 36.9 -0.9**
ANX Ano Chora 1.85 137 P **Pg** **03 10 37.0 -0.8**
GRG Griva 1.87 57 P **Pg** **03 10 35.9 -2.4**
ULC Ulcinj 2.16 338⇑ *i*Pn **Pb** **03 10 40.4 -0.6**
ULC *e*Sn **Sg** **03 11 11.4 -0.4**
STIP Stip 2.24 39 *i* Pn **Pg** **03 10 45.5 +0.2**
STIP *i* Sn **Sg** **03 11 21.4 +7.1**
DRME Dracevica, Mon 2.38 339⇑ *i*Pn **Pb** **03 10 43.3 -1.5**
DRME *e*Sn **Sb** **03 11 16.0 +2.1**
BCI Bajram Curri 2.41 356 P **Pb** **03 10 44.3 -1.0**
baz=355
BCI S **Sb** **03 11 15.6 +0.9**
baz=355
BCI AMP
comp=N,0.1nm,1.0s,baz=355
PDG Podgorica 2.59 342 *e*Pn **Pb** **03 10 47.7 -0.6**
PDG Podgorica 2.59 342⇑ *i*Pn **Pb** **03 10 46.6 -1.7**
PDG *e*Sn **Sb** **03 11 22.4 +2.5**
PEHC Pehcevo 2.67 46 *i* Pn **Pb** **03 10 48.5 -1.2**
PEHC *i* Sn **Sg** **03 11 26.9 -1.3**
CEME Cevo 2.79 338⇓ *i*Pn **Pb** **03 10 48.5 -3.3**
CEME *e*Sn **Sb** **03 11 27.0 +1.3**
PRVS Prvonek 2.87 27 *e*Pn **Pb** **03 10 50.6 -2.5**
IVA Berane 2.92 354⇑ *i*Pn **Pb** **03 10 52.0 -2.1**
IVA *e*Sn **Sb** **03 11 30.4 +0.8**
BARS Barje 3.07 21 *e*Pn **Pb** **03 10 53.1 -3.3**
BARS *e*Sn **Sb** **03 11 32.6 -1.0**
SJES Sjenica 3.31 356 *e*Pn **Pb** **03 10 56.3 -4.3**
PLE Pljevlja 3.44 349⇓ *i*Pn Pg 03 11 12.8 +4.6

IDC 19 03:24:41.8±12.0, 22°23N×91°67E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=846.1km s-min=30.4km az=62.0, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.65**	**345**	P	P	03 30 13.2	0.0
	0.8nm,0.7s,baz=156,slow=9.4,SNR=5.0						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**59.12**	**132**	P	P	03 34 44.6	+0.2
	0.9nm,1.2s,baz=312,slow=6.8,SNR=1.6						
	0.9nm,1.2s						
ASAR	**Alice Springs**	**61.39**	**135**	P	P	03 34 59.7	-0.3
	0.5nm,0.6s,baz=318,slow=6.8,SNR=2.0						
	0.5nm,0.6s						

---

*IDC **19** 03:25:16.7±0.4, 53°.18S×22°.90E, h0km, mb4.9/21, mbtmp4.9/21, MS4.6/48, Error ellipse: s-maj=17.0km s-min=11.8km az=69.0*
*MOS **19** 03:25:17.3±1.1, 53°.18S×22°.65E, h10km, mb5.4/26, Error ellipse: s-maj=22.3km s-min=8.5km az=86.5*
*NEIC **19** 03:25:18.6±2.0, 53°.25S±0°.10×22°.8E±0°.2, h10km±1km, mb5.2/90, Ms_20 4.9/130, Error ellipse: s-maj=18.5km s-min=16.1km az=105.0*
*GCMT **19** 03:25:19.6±0.1, 53°.21S±0°.01×23°.22E±0°.02, h12km, MW5.3/129, Moment Tensor Solution. s70,c104; s129,c217; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.91±.01; Mθθ0.77±.01; Mφφ0.13±.01; Mrθ0.40±.04; Mθφ-0.30±.01; Mφr-0.15±.04; Best double couple: M0 0.99900×10^17 NP1:φs291.00000°, δ58.00000°, λ-90.00000°. NP2:φs112.00000°, δ32.00000°, λ-90.00000°. Principal axes: T 0.9890, Plg13.0000°, Azm21.0000°; N 0.0200, Plg0.0000°, Azm291.0000°; P -1.0080, Plg77.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 03:25:18.9±0.2, 53°24S±0°.05×22°.86E±0°.07, h10km, n634, σ1§27/533, mb5.2/92, MS4.8/109, 5C-1D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	**18.28**	**192**	*e*P	**Pn**	**03 29 33.1**	**+0.9**
NVL				*e*S	**Sn**	**03 32 50.3**	**-5.7**
NVL				pmax	pmax		
	comp=Z,293nm,1.6s						
NVL				smax	smax		
	comp=E,137nm,6.8s						
NVL				MLR	MLR		
	comp=Z,2μm,20.0s						
BUFB	**Buffelsbos**	**19.13**	**5**	*e*P	**Pn**	**03 29 42.8**	**+0.1**
BUFB				IAmb	IAmb	03 29 44.1	
	comp=Z,83nm,1.0s						
H04S2	**CROZET ISLANDS**	**19.62**	**83**	T	T	03 49 59.2	
	baz=241,slow=74,SNR=315						
H04S3	**CROZET ISLANDS**	**19.62**	**83**	T	T	03 50 01.6	
	baz=241,slow=74,SNR=280						
H04S1	**CROZET ISLANDS**	**19.64**	**83**	T	T	03 49 58.5	
	baz=241,slow=74,SNR=327						
CER	**Ceres**	**20.03**	**351**	*e*P	**Pn**	**03 29 53.5**	**-0.1**
CER				IAmb	IAmb	03 29 55.3	
	comp=Z,76nm,1.3s						
MATJ	**Matjiesfontein**	**20.03**	**354**	*e*P	**P**	**03 29 52.9**	**+1.0**
MATJ				IAmb	IAmb	03 29 56.4	
	comp=Z,718nm,1.7s						
GRHM	**Grahamstown, E**	**20.11**	**9**	P	**P**	**03 29 52.8**	**+0.1**
GRHM				IAmb	IAmb	03 29 57.5	
	comp=Z,148nm,1.5s						
GRHM	**Grahamstown, E**	**20.11**	**9**	*e*P	**P**	**03 29 52.1**	**-0.6**
GRHM				IAmb	IAmb	03 30 09.0	
	comp=Z,603nm,2.3s						
PRTV	**Porterville,We**	**20.34**	**351**	*e*P	**P**	**03 29 55.3**	**0.0**
PRTV				IAmb	IAmb	03 29 59.4	
	comp=Z,1μm,3.0s						
MERW	**Merweville**	**20.58**	**357**	*e*P	**P**	**03 29 56.8**	**-1.1**
MERW				IAmb	IAmb	03 30 02.6	
	comp=Z,122nm,1.1s						
ROOI	**Rooidraai Farm**	**20.74**	**2**	*e*P	**P**	**03 29 59.7**	**+0.1**
ROOI				IAmb	IAmb	03 30 03.5	
	comp=Z,187nm,1.3s						
TROLL	**Troll, Antarti**	**20.81**	**198**⇑	P	**P**	**03 30 01.5**	**+1.3**
	comp=Z,4μm,0.8s						
SUR	**Sutherland**	**20.90**	**355**	P	**P**	**03 30 01.4**	**0.0**
SUR				IAmb	IAmb	03 30 04.1	
	comp=Z,120nm,1.1s						
SUR	**Sutherland**	**20.90**	**355**	P	Pn	03 30 03.1	-0.8
SUR				P	Pn	03 30 03.1	-0.8
SUR	**Sutherland**	**20.90**	**355**⇓	*i* P	**P**	**03 30 02.3**	**+0.8**
SUR	**Sutherland**	**20.90**	**355**	P	**P**	**03 30 00.7**	**-0.7**
	comp=Z,78nm,1.0s,baz=178,slow=6.8,SNR=14						
SUR				S	S	03 33 42.6	-12
	comp=Z,7.6nm,1.0s,baz=265,slow=14,SNR=1.4						
SUR				LR	LR	03 36 06.6	
	comp=Z,3μm,21.6s,baz=179,slow=31						
	comp=Z,78nm,1.0s						
GRAN	**Grantham**	**20.93**	**358**	*e*P	**P**	**03 30 01.4**	**-0.3**
GRAN				IAmb	IAmb	03 30 03.6	
	comp=Z,54nm,1.1s						
GRAF	**Camdeboo Natio**	**20.98**	**4**	*e*P	**P**	**03 30 01.7**	**-0.5**
GRAF				IAmb	IAmb	03 30 03.7	
	comp=Z,90nm,1.0s						
FRAZ	**Fraserburg**	**21.32**	**357**	*e*P	**P**	**03 30 03.7**	**-2.2**
FRAZ				IAmb	IAmb	03 30 07.7	
	comp=Z,88nm,1.1s						
BFON	**Badsfontein, M**	**21.43**	**2**	*e*P	**P**	**03 30 06.7**	**-0.4**
BFON				IAmb	IAmb	03 30 09.5	
	comp=Z,198nm,1.4s						
BRAK	**Brakfontein**	**21.44**	**0**	*e*P	**P**	**03 30 06.6**	**-0.5**
BRAK				IAmb	IAmb	03 30 09.1	
	comp=Z,220nm,1.2s						
SNAA	**Sanae**	**21.64**	**202**	P	**P**	**03 30 09.8**	**+0.8**
SNAA	**Sanae**	**21.64**	**202**⇑	*i*P	**P**	**03 30 10.3**	**+1.3**
SNAA	**Sanae**	**21.64**	**202**⇑	P	**P**	**03 30 10.6**	**+1.6**
	comp=Z,3μm,1.0s						
SNAA	**Sanae**	**21.64**	**202**	P	**P**	**03 30 09.1**	**+0.1**
	comp=Z,126nm,1.0s,baz=43,slow=10.0,SNR=266						
SNAA				S	S	03 33 53.7	-15
	comp=Z,1.3nm,0.8s,baz=37,slow=10,SNR=1.5						
SNAA				LR	LR	03 36 43.4	
	comp=Z,3μm,20.1s,baz=20,slow=32						
	comp=Z,126nm,1.0s						
CVNA	**Calvinia**	**21.86**	**353**	*e*P	**P**	**03 30 12.9**	**+1.3**
CVNA				IAmb	IAmb	03 30 17.5	
	comp=Z,2μm,2.7s						
VNA2	**Neumayer--Watz**	**22.26**	**206**⇑	P	**P**	**03 30 16.6**	**+1.0**
	comp=Z,55nm,0.8s,baz=51,slow=11						
VNA1	**Neumayer--Stat**	**22.33**	**207**	P	**P**	**03 30 17.9**	**+1.6**
	comp=Z,74nm,1.0s						
HVD	**Gariep Dam**	**22.70**	**6**	*e*P	**P**	**03 30 20.9**	**+0.3**
HVD				IAmb	IAmb	03 30 27.6	
	comp=Z,142nm,1.2s						
VNA3	**Neumayer Olymp**	**23.05**	**206**⇑	P	**P**	**03 30 24.9**	**+0.9**
	comp=Z,44nm,1.0s						
KSTD	**Kokstad**	**23.09**	**14**	*e*P	**P**	**03 30 23.3**	**-1.5**
KSTD				IAmb	IAmb	03 30 40.0	
	comp=Z,232nm,1.9s						
MAW	**Mawson**	**23.85**	**142**	P	**P**	**03 30 32.3**	**+0.5**
MAW	**Mawson**	**23.85**	**142**	P	**P**	**03 30 31.9**	**+0.1**
	comp=Z,14nm,1.0s,baz=290,slow=12,SNR=18						
MAW				S	**S**	**03 34 49.1**	**+1.7**
	comp=Z,3.0nm,1.0s,baz=277,slow=17,SNR=2.1						
MAW				LR	LR	03 37 51.2	
	comp=Z,938nm,22.0s,baz=296,slow=32						
	comp=Z,14nm,1.0s						
KEIM	**Keimoes**	**24.55**	**356**	*e*P	**P**	**03 30 37.7**	**-1.0**
KEIM				IAmb	IAmb	03 30 41.8	
	comp=Z,85nm,1.3s						
BOSA	**Boshof**	**24.66**	**5**	P	**P**	**03 30 38.9**	**-0.9**
BOSA				IAmb	IAmb	03 30 41.7	
	comp=Z,86nm,1.3s						
BOSA	**Boshof**	**24.66**	**5**	*e*P	**P**	**03 30 38.9**	**-0.9**
BOSA				IAmb	IAmb	03 30 41.5	
	comp=Z,96nm,1.3s						
BOSA	**Boshof**	**24.66**	**5**	P	**P**	**03 30 38.8**	**-1.1**
	comp=Z,26nm,0.9s,baz=182,slow=9.5,SNR=27						
BOSA				LR	LR	03 38 14.6	
	comp=Z,2μm,21.7s,baz=181,slow=32						
	comp=Z,26nm,0.9s						
UPI	**Upington**	**24.88**	**357**	*e*P	**P**	**03 30 39.4**	**-2.3**
UPI				IAmb	IAmb	03 30 44.3	
	comp=Z,74nm,1.1s						
SNKL	**Senekal, Frees**	**25.20**	**10**	*e*P	**P**	**03 30 43.8**	**-0.9**
SNKL				IAmb	IAmb	03 30 47.5	
	comp=Z,46nm,1.0s						
NWCL	**Newcastle**	**26.00**	**14**	*e*P	**P**	**03 30 53.6**	**+1.7**
NWCL				IAmb	IAmb	03 30 56.1	
	comp=Z,70nm,1.1s						
SWZ	**Schweizer**	**26.09**	**5**	*e*P	**P**	**03 30 50.4**	**-2.4**
SWZ				IAmb	IAmb	03 30 56.7	
	comp=Z,85nm,1.2s						
WDLM	**Western Deep L**	**27.00**	**9**	*e*P	**P**	**03 30 60.0**	**-1.0**
WDLM				IAmb	IAmb	03 31 02.4	
	comp=Z,40nm,0.8s						
KSR	**Koster**	**27.52**	**8**	*e*P	**P**	**03 31 03.5**	**-2.2**
KSR				IAmb	IAmb	03 31 06.8	
	comp=Z,38nm,0.9s						
HRAO	**HartRAO**	**27.55**	**9**	*e*P	**P**	**03 31 03.6**	**-2.4**
HRAO				IAmb	IAmb	03 31 07.7	
	comp=Z,583nm,3.0s						
CRLN	**Carolina, Mapu**	**27.73**	**14**	*e*P	**P**	**03 31 06.6**	**-1.0**
SLR	**Silverton**	**27.77**	**11**	*e*P	**P**	**03 31 04.7**	**-3.1**
SLR				IAmb	IAmb	03 31 15.3	
	comp=Z,1μm,3.5s						
MMAL	**MMAL**	**27.86**	**16**	*e*P	**P**	**03 31 07.4**	**-1.3**
MMAL				IAmb	IAmb	03 31 15.5	
	comp=Z,31nm,1.2s						
LBTB	**Lobatse**	**28.26**	**5**	P	**P**	**03 31 10.9**	**-1.3**
LBTB				IAmb	IAmb	03 31 13.4	
	comp=Z,43nm,1.1s						
LBTB				IAMs_20	IAMs_20	03 40 14.0	
	comp=Z,2μm,21.0s						
LBTB	**Lobatse**	**28.26**	**5**	P	**P**	**03 31 10.9**	**-1.3**
LBTB				pmax	pmax		
	comp=Z,43nm,1.2s						
LBTB	**Lobatse**	**28.26**	**5**	*e*P	**P**	**03 31 10.8**	**-1.4**
LBTB				IAmb	IAmb	03 31 13.2	
	comp=Z,46nm,1.1s						
RUST	**Rust De Winter**	**28.28**	**11**	*e*P	**P**	**03 31 10.3**	**-2.1**
RUST				IAmb	IAmb	03 31 14.5	
	comp=Z,37nm,1.2s						
DULL	**Dullstroom, Mp**	**28.37**	**14**	*e*P	**P**	**03 31 13.7**	**+0.3**
DULL				IAmb	IAmb	03 31 16.5	
	comp=Z,35nm,1.2s						
WTBG	**Waterberg Wild**	**29.34**	**11**	*e*P	**P**	**03 31 20.8**	**-1.1**
WTBG				IAML		03 31 22.7	
	comp=Z,6.3nm,0.7s						
HOED	**Hoedspruit, Li**	**29.42**	**15**	*e*P	**P**	**03 31 20.5**	**-2.0**
HOED				IAmb	IAmb	03 31 29.5	
	comp=Z,33nm,1.2s						
LEPH	**Lephalale, Lim**	**29.57**	**9**	*e*P	**P**	**03 31 21.8**	**-2.1**
LEPH				IAmb	IAmb	03 31 27.6	
	comp=Z,62nm,1.2s						
MOPA	**Mopani**	**30.38**	**16**	*e*P	**P**	**03 31 29.0**	**-1.9**
WIN	**Windhoek**	**30.93**	**350**	P	**P**	**03 31 35.1**	**-1.0**
WIN	**Windhoek**	**30.93**	**350**	P	**P**	**03 31 35.1**	**-1.0**
WIN				pmax	pmax		
	comp=Z,21nm,1.0s						
MUSN	**Musina, Limpop**	**31.36**	**13**	*e*P	**P**	**03 31 38.6**	**-1.0**
MUSN				IAmb	IAmb	03 31 41.9	
	comp=Z,37nm,1.0s						
BELA	**Belgrano 2**	**31.85**	**200**	P	**P**	**03 31 44.5**	**+1.0**
BELA				IAmb	IAmb	03 31 48.5	
	comp=Z,22nm,0.8s						
MATP	**Matopo**	**33.04**	**10**	LR	LR	03 43 29.4	
	comp=Z,2μm,19.9s,baz=226,slow=33						
FOMA	**Nahampoana Res**	**33.54**	**42**	P	**P**	**03 31 58.5**	**-0.1**
FOMA	**Nahampoana Res**	**33.54**	**42**	P	**P**	**03 31 58.6**	**0.0**
TSUM	**Tsumeb**	**34.22**	**351**	P	**P**	**03 32 04.2**	**-0.5**
TSUM	**Tsumeb**	**34.22**	**351**	LR	LR	03 44 34.8	
	comp=Z,905nm,19.0s,baz=180,slow=34						
ORCD	**Orcadas**	**36.04**	**231**	P	**P**	**03 32 18.2**	**-1.6**
VOI	**Vohitsoka**	**36.23**	**40**	P	**P**	**03 32 23.9**	**+1.8**
VOI	**Vohitsoka**	**36.23**	**40**	P	**P**	**03 32 26.1**	**+4.0**
VOI	**Vohitsoka**	**36.23**	**40**	P	**P**	**03 32 22.3**	**+0.2**
KRI	**Karoi**	**36.71**	**11**	*e*P	**P**	**03 32 23.1**	**-3.1**
QSPA	**South Pole Qui**	**36.99**	**180**	P	**P**	**03 32 27.0**	**-1.1**
QSPA	**South Pole Qui**	**36.99**	**180**	P	**P**	**03 32 28.6**	**+0.5**
	comp=Z,49nm,1.1s,baz=243,slow=4.2,SNR=80						
QSPA				PP	**PP**	**03 33 52.4**	**+0.3**
	comp=Z,27nm,1.0s,baz=248,slow=7.4,SNR=4.3						
QSPA				LR	LR	03 46 36.6	
	comp=Z,1μm,21.6s,baz=232,slow=35						
	comp=Z,49nm,1.1s						
LSZ	**Lusaka**	**38.11**	**8**	P	**P**	**03 32 38.2**	**+0.2**
LSZ				IAMs_20	IAMs_20	03 46 05.6	
	comp=Z,3μm,20.0s						
LSZ	**Lusaka**	**38.11**	**8**	P	**P**	**03 32 38.2**	**+0.2**
LSZ				pmax	pmax		
	comp=Z,20nm,1.0s						
LSZ	**Lusaka**	**38.11**	**8**	LR	LR	03 46 27.1	
	comp=Z,3μm,20.3s,baz=175,slow=33						
ABPO	**Ambohimpanom**	**39.02**	**38**	P	**P**	**03 32 46.9**	**+1.1**
ABPO	**Ambohimpanom**	**39.02**	**38**	P	**P**	**03 32 46.9**	**+1.1**
ABPO				pmax	pmax		
	comp=Z,37nm,1.4s						
ABPO	**Ambohimpanom**	**39.02**	**38**	*e*P	**P**	**03 32 45.1**	**-0.6**
RER	**Riviere de l'E**	**40.72**	**51**	P	**P**	**03 32 59.8**	**+0.1**
PMSA	**Palmer Station**	**42.61**	**219**	*e*P	**P**	**03 33 14.3**	**-0.3**
PMSA	**Palmer Station**	**42.61**	**219**	LR	LR	03 47 10.7	
	comp=Z,1μm,21.0s,baz=124,slow=31						
SBA	**Scott Base**	**47.30**	**170**	P	**P**	**03 33 53.6**	**+1.8**
SBA				IAmb	IAmb	03 33 58.0	
	comp=Z,26nm,0.9s						
SBA	**Scott Base**	**47.30**	**170**	P	**P**	**03 33 53.6**	**+1.8**
SBA				pmax	pmax		
	comp=Z,26nm,1.0s						
KIBK	**Kibwezi**	**52.26**	**19**	P	**P**	**03 34 31.6**	**+1.3**
KIBK				IAMs_20	IAMs_20	03 54 33.5	
	comp=Z,966nm,19.0s						
KIBK	**Kibwezi**	**52.26**	**19**	P	**P**	**03 34 32.5**	**+2.1**
MBAR	**Mbarara**	**52.86**	**10**	IAMs_20	IAMs_20	03 58 20.6	
	comp=Z,741nm,18.0s						
MBAR	**Mbarara**	**52.86**	**10**	*i* P	**P**	**03 34 35.7**	**+0.8**
MBAR				pmax	pmax		
	comp=Z,14nm,1.9s						
MBAR	**Mbarara**	**52.86**	**10**	*e*P	**P**	**03 34 37.4**	**+2.5**
MBAR	**Mbarara**	**52.86**	**10**	LR	LR	03 56 16.9	
	comp=Z,597nm,18.3s,baz=156,slow=35						
MBAR	**Mbarara**	**52.86**	**10**	*e*P	**P**	**03 34 37.4**	**+2.5**
	baz=124						
MBAR	**Mbarara**	**52.86**	**10**	*e*P	**P**	**03 34 37.4**	**+2.5**
	baz=93						
KMBO	**Kilima Mbogo**	**53.29**	**18**	P	**P**	**03 34 38.5**	**+0.4**
KMBO	**Kilima Mbogo**	**53.29**	**18**	IAMs_20	IAMs_20	03 55 47.0	
	comp=Z,861nm,19.0s						
KMBO	**Kilima Mbogo**	**53.29**	**18**	P	**P**	**03 34 37.1**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=187,slow=12,SNR=3.2						
KMBO				LR	LR	03 56 08.8	
	comp=Z,766nm,19.1s,baz=180,slow=35						
	comp=Z,1.3nm,0.6s						
H10S2	**ASCENSION HYDR**	**53.51**	**312**	T	T	04 32 24.3	
	baz=151,slow=74,SNR=7.7						
H10S3	**ASCENSION HYDR**	**53.52**	**312**	T	T	04 32 24.3	
	baz=69,slow=74,SNR=15						
MSEY	**Mahe Island**	**55.30**	**41**	IAMs_20	IAMs_20	03 55 34.7	
	comp=Z,822nm,18.0s						
LODK	**Lodwar**	**57.42**	**15**	P	**P**	**03 35 08.8**	**+1.1**
LODK				IAMs_20	IAMs_20	03 57 40.6	
	comp=Z,736nm,20.0s						
LODK	**Lodwar**	**57.42**	**15**	*e*P	P	03 35 02.6	-5.1
LODK	**Lodwar**	**57.42**	**15**	P	**P**	**03 35 09.9**	**+2.2**
LODK	**Lodwar**	**57.42**	**15**	*e*P	P	03 35 02.6	-5.1
	baz=108						
TRQA	**Tornquist**	**57.77**	**248**	P	**P**	**03 35 10.0**	**+0.1**
TRQA				IAmb	IAmb	03 35 13.9	
	comp=Z,39nm,1.4s						
TRQA	**Tornquist**	**57.77**	**248**	P	**P**	**03 35 10.0**	**+0.1**
TRQA				pmax	pmax		
	comp=Z,39nm,1.5s						
DUB01	**Friburgo-RJ**	**57.84**	**276**	*e*P	**P**	**03 35 10.9**	**+0.2**
CPSB	**Cacapava Do Su**	**58.30**	**261**	*e*P	**P**	**03 35 14.4**	**+0.7**
VAS01	**Vassouras-RJ**	**58.33**	**275**	*e*P	**P**	**03 35 14.5**	**+0.4**
RIB01	**Linhares ES**	**58.79**	**280**	*e*P	**P**	**03 35 17.5**	**+0.3**
ALGR	**Alto Alegre (B**	**59.23**	**262**	*e*P	**P**	**03 35 20.5**	**+0.2**
RODS	**Rosario do Sul**	**59.38**	**259**	*e*P	**P**	**03 35 21.5**	**+0.3**
LL02	**Futaleuf**	**59.41**	**238**	P	**P**	**03 35 20.9**	**-0.3**
LL02				IAmb	IAmb	03 35 26.3	
	comp=Z,19nm,1.1s						
SJMB	**Sao Joao De Ma**	**59.73**	**279**	*e*P	**P**	**03 35 25.0**	**+1.3**
ITAB	**Concordia**	**59.84**	**264**	*e*P	**P**	**03 35 25.1**	**+0.7**
BSCB	**Bom Sucesso**	**60.10**	**275**	*e*P	**P**	**03 35 25.7**	**-0.7**
UNIS	**Unistalda (Bra**	**60.24**	**260**	*e*P	**P**	**03 35 27.4**	**+0.2**
PLCA	**Paso Flores**	**60.51**	**241**	P	**P**	**03 35 27.4**	**-1.6**
PLCA				IAmb	IAmb	03 35 32.3	
	comp=Z,14nm,1.0s						
PLCA	**Paso Flores**	**60.51**	**241**	P	**P**	**03 35 27.4**	**-1.6**
PLCA				pmax	pmax		
	comp=Z,15nm,1.0s						
PLCA	**Paso Flores**	**60.51**	**241**	*e*P	**P**	**03 35 29.0**	**0.0**
PLCA	**Paso Flores**	**60.51**	**241**	P	**P**	**03 35 28.4**	**-0.5**
	comp=Z,8.9nm,0.9s,baz=138,slow=7.4,SNR=14						
PLCA				LR	LR	03 59 42.4	
	comp=Z,153nm,19.4s,baz=140,slow=34						
	comp=Z,8.9nm,0.9s						
CRSM	**Crissiumal (Br**	**60.79**	**262**	*e*P	**P**	**03 35 31.0**	**+0.1**
DILA	**Dilla**	**60.87**	**18**	*e*P	P	03 35 26.5	-5.1
DILA	**Dilla**	**60.87**	**18**	*e*P	P	03 35 26.5	-5.1
	baz=99						
FRTB	**Fartura**	**61.20**	**269**	*e*P	**P**	**03 35 34.7**	**+0.9**
FRBT	**Francisco Belt**	**61.33**	**264**	*e*P	**P**	**03 35 35.0**	**+0.3**
DIAM	**Diamantina, MG**	**61.52**	**278**	*e*P	**P**	**03 35 37.2**	**+1.0**
GO06	**Curarrehue**	**61.83**	**241**	P	**P**	**03 35 36.9**	**-1.0**
GO06				IAmb	IAmb	03 35 41.1	
	comp=Z,17nm,0.9s						
FURI	**Furi**	**63.34**	**18**	P	**P**	**03 35 47.5**	**-0.9**
FURI	**Furi**	**63.34**	**18**	IAMs_20	IAMs_20	03 59 49.0	
	comp=Z,602nm,20.0s						
CPUP	**Villa Florida**	**63.61**	**261**	P	**P**	**03 35 48.7**	**-1.1**
CPUP	**Villa Florida**	**63.61**	**261**	P	**P**	**03 35 48.7**	**-1.1**
CPUP				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CPUP	**Villa Florida**	**63.61**	**261**	*e*P	**P**	**03 35 49.3**	**-0.6**
CPUP	**Villa Florida**	**63.61**	**261**	P	**P**	**03 35 49.2**	**-0.6**
	comp=Z,6.6nm,0.6s,baz=142,slow=5.2,SNR=8.6						
CPUP				LR	LR	03 57 59.9	
	comp=Z,248nm,22.0s,baz=154,slow=31						
	comp=Z,6.6nm,0.6s						
H01W2	**Cape Leeuwin H**	**63.63**	**113**	T	T	04 45 48.3	
	baz=222,slow=75,SNR=9.5						
H01W3	**Cape Leeuwin H**	**63.64**	**113**	T	T	04 45 44.3	

SNR=11
TORD Torodi Ar. Bea 68.57 338 P P 03 36 20.6 -1.0
TORD Torodi Ar. Bea 68.57 338 P P 03 36 20.7 -1.0
comp=Z,21nm,0.9s,baz=160,slow=5.4,SNR=104
TORD LR LR 04 00 15.8
comp=Z,338nm,21.8s,baz=145,slow=31
comp=Z,21nm,0.9s
PP1B Ponte de Pedra 68.78 269 *eP* **P 03 36 23.5 +0.4**
AC02 Maricunga 70.11 252 P **P 03 36 31.0 -0.9**
AC02 IAmb IAmb 03 36 33.2
comp=Z,19nm,1.1s
SALV Santo Antonio 70.59 269 *eP* **P 03 36 35.2 +0.9**
SNDB Serra Nova Dou 71.01 275 *eP* **P 03 36 37.6 +0.7**
BBRB Robore, Bolivi 71.21 265 *eP* **P 03 36 38.0 -0.1**
BBSD Serra de San D 72.54 265 *eP* **P 03 36 45.5 -0.6**
PTLB Pontes e Lacer 73.01 267 P **P 03 36 47.3 -1.5**
PTLB Pontes e Lacer 73.01 267 *eP* **P 03 36 48.6 -0.2**
LVC Limon Verde 73.24 255 *eP* **P 03 36 51.1 +0.5**
LVC Limon Verde 73.24 255 LR LR 04 04 16.3
comp=Z,137nm,21.3s,baz=155,slow=32
SIV San Ignacio 73.74 265 LR LR 04 05 06.0
comp=Z,346nm,19.4s,baz=123,slow=32
PDRB Porto dos Gac 74.56 271 *eP* **P 03 36 58.4 +0.4**
CLDB Colider 74.58 272 *eP* **P 03 36 58.6 +0.5**
PRPB Parauapebas 74.73 280 *eP* **P 03 37 00.1 +1.2**
PB02 IPOC Station P 74.81 255 P **P 03 36 57.9 -1.6**
ABTO Aybut 75.05 30 P **P 03 37 03.0 +2.4**
SNR=8.2
VILB Vilhena 75.59 268 P **P 03 37 03.8 -0.1**
VILB IAmb IAmb 03 37 12.9
comp=Z,20nm,1.2s
VILB Vilhena 75.59 268 *eP* **P 03 37 04.0 +0.1**
GO01 Chusmiza 75.69 256 P **P 03 37 05.1 0.0**
GO01 IAmb IAmb 03 37 09.4
comp=Z,18nm,1.0s
WHFO Wadi Hawf 75.72 30 P **P 03 37 06.0 +1.6**
SNR=9.6
DMTO DMTO 75.89 31 P **P 03 37 06.2 +0.8**
SHAO Shalim 76.40 32 P **P 03 37 08.8 +0.5**
DOK Doka 76.49 30 P **P 03 37 10.0 +1.2**
SNR=10
BBOO Buckleboo 76.61 127 P **P 03 37 09.3 -0.3**
WHZ Wether Hill Ro 76.84 156 IAms_20 IAms_20 04 10 30.1
comp=Z,678nm,21.0s
TOO Toolangi 76.84 137 P **P 03 37 11.5 +0.7**
TOO IAmb IAmb 03 37 20.0
comp=Z,42nm,1.4s
TOO Toolangi 76.84 137 P **P 03 37 11.5 +0.7**
TOO pmax pmax
comp=Z,42nm,1.4s
PB16 IPOC Station P 76.92 257 P **P 03 37 10.0 -2.1**
PB16 IAmb IAmb 03 37 17.1
comp=Z,31nm,1.6s
PSA00 Pilbara Seismi 77.05 109 P **P 03 37 11.1 -1.1**
PSA00 IAmb IAmb 03 37 33.5
comp=Z,39nm,1.7s
PSA00 Pilbara Seismi 77.05 109 IAms_20 IAms_20 04 14 29.4
comp=Z,811nm,18.0s
PB12 IPOC Station P 77.18 256 P **P 03 37 10.4 -2.6**
PB12 IAmb IAmb 03 37 11.6
comp=Z,32nm,1.3s
TAM Tamanrasset 77.19 344 P **P 03 37 13.2 +0.4**
TAM IAmb IAmb 03 37 17.2
comp=Z,24nm,1.1s
TAM Tamanrasset 77.19 344 P **P 03 37 13.2 +0.4**
TAM pmax pmax
comp=Z,24nm,1.1s
NPGB Novo Progresso 77.34 275 *eP* **P 03 37 13.7 -0.1**
PALK Pallekele 77.47 59 P **P 03 37 13.2 -1.3**
PALK Pallekele 77.47 59 LR LR 04 02 57.5
comp=Z,629nm,21.4s,baz=324,slow=29
LPAZ La Paz 77.71 259 P **P 03 37 14.6 -2.1**
LPAZ La Paz 77.71 259 P **P 03 37 14.6 -2.1**
LPAZ pmax pmax
comp=Z,19nm,1.4s
LPAZ La Paz 77.71 259 *eP* **P 03 37 16.7 0.0**
WKZ Wanaka 78.10 156 IAms_20 IAms_20 04 06 25.4
comp=Z,540nm,20.0s
RPZ Rata Peaks 79.63 157 LR LR 04 10 46.4
comp=Z,472nm,21.0s,baz=196,slow=34
ITTB Itaituba 79.69 277 *eP* **P 03 37 26.6 -0.2**
MHTO MHTO 79.92 33 P **P 03 37 28.0 +0.3**
SNR=11
STKA Stephens Creek 79.97 131 P **P 03 37 28.3 +0.2**
STKA Stephens Creek 79.97 131 P **P 03 37 28.3 +0.2**
STKA pmax pmax
comp=Z,5.0nm,1.0s
STKA Stephens Creek 79.97 131 P **P 03 37 27.8 -0.3**
comp=Z,18nm,0.9s,baz=202,slow=3.7,SNR=24
comp=Z,18nm,0.9s
MZR Muzera 80.44 28 P **P 03 37 31.4 +0.9**
SNR=5.9
SAML Samuel 80.53 268 P **P 03 37 30.2 -1.1**
SAML IAmb IAmb 03 37 32.0
comp=Z,16nm,0.7s
SAML Samuel 80.53 268 P **P 03 37 30.2 -1.1**
SAML pmax pmax
comp=Z,16nm,0.7s
SAML Samuel 80.53 268 *eP* **P 03 37 31.2 -0.1**
MCPB Macapa, AP 80.71 282 *eP* **P 03 37 31.8 -0.5**
GVZ Greta Valley S 80.80 158 IAms_20 IAms_20 04 09 57.7
comp=Z,985nm,21.0s
MALB Monte Alegre 80.82 279 *eP* **P 03 37 33.4 +0.5**
JMDO Jabal Madar 81.26 33 P **P 03 37 35.1 +0.2**
BSY Bisya 81.32 32 P **P 03 37 36.0 +0.7**
SNR=8.8
LEM Lembang 81.44 90 LR LR 04 06 09.7
comp=Z,200nm,19.5s,baz=229,slow=30
JLN Jalan Bani Buh 81.48 34 P **P 03 37 37.0 +0.9**
SNR=9.6
ARQ Araqi 81.66 31 P **P 03 37 38.0 +1.0**
SNR=7.5
ETMB Extrema 81.67 265 P **P 03 37 36.4 -1.0**
ETMB Extrema 81.67 265 *eP* **P 03 37 36.7 -0.6**
WBK Wadi Bani Khal 81.77 33 P **P 03 37 38.4 +0.8**
SNR=8.2
SMDO Samad 81.88 32 P **P 03 37 38.0 -0.3**
SNR=8.4
ALNE Al Ain 82.10 30 P **P 03 37 40.0 +0.7**
SNR=8.3
HOQ Hoqain 82.14 32 P **P 03 37 40.0 +0.5**
SNR=12
WSAR Wadi Sarin 82.24 33 P **P 03 37 40.1 0.0**
WSAR Wadi Sarin 82.24 33 LR LR 04 08 35.1
comp=Z,215nm,19.9s,baz=227,slow=32
BIDO Bidbid 82.34 32 P **P 03 37 43.0 +2.4**
SNR=5.9
SOHO SOHO 82.41 31 P **P 03 37 40.9 0.0**
SDSI Sungai Dareh 82.41 81 P **P 03 37 40.8 -0.5**
comp=Z,17nm,1.3s,comp=Z,12um
ASUD Al Ashush, Dub 82.51 30 P **P 03 37 42.4 +1.0**
NNZ Nelson 82.54 158 IAms_20 IAms_20 04 12 02.9
comp=Z,742nm,21.0s
HATD Hatta, Dubai 82.94 30 P **P 03 37 44.0 +0.3**
SNR=9.1
NAZ Nazwa, Dubai 82.95 30 P **P 03 37 44.0 +0.3**
SNR=6.0
ASAR Alice Springs 83.05 120 P **P 03 37 44.1 -0.4**
comp=Z,9.6nm,0.8s,baz=208,slow=5.5,SNR=71
ASAR LR LR 04 08 11.6
comp=Z,152nm,20.2s,baz=198,slow=31
comp=Z,9.6nm,0.8s
AS31 Alice Springs 83.05 120 P **P 03 37 44.4 -0.2**
UOSS Minazif 83.07 30 P **P 03 37 43.5 -0.9**
UOSS IAmb IAmb 03 37 44.4
comp=Z,19nm,0.9s
UOSS Minazif 83.07 30 P **P 03 37 43.9 -0.4**
EIL Elat 83.23 11 LR LR 04 14 28.1
comp=Z,525nm,19.0s,baz=236,slow=36
GHAJ Ghor Haditha 84.91 11 IAms_20 IAms_20 04 14 52.4
comp=Z,506nm,20.0s
MDP Montagnes des 85.45 285 LR LR 04 10 43.1
comp=Z,198nm,20.3s,baz=152,slow=32
MYKOM Kota Tinggi 86.03 82 P **P 03 37 58.5 -1.1**
MYKOM IAms_20 IAms_20 04 07 25.9
comp=Z,385nm,20.0s
URZ Urewera 86.18 160 LR LR 04 15 03.3
comp=Z,678nm,19.7s,baz=221,slow=35
NNA Nana 86.23 255 LR LR 04 12 54.0
comp=Z,134nm,21.8s,baz=146,slow=33
WRA Warramunga Arr 86.34 119 P **P 03 38 00.0 -1.2**
WRA Warramunga Arr 86.34 119 *eP* **P 03 38 00.6 -0.6**
WRA pmax pmax
comp=Z,13nm,0.8s
WRA Warramunga Arr 86.34 119 P **P 03 38 00.6 -0.6**
comp=Z,11nm,0.8s,baz=208,slow=3.5,SNR=70
comp=Z,11nm,0.8s
WB2 Warramunga Arr 86.34 119 P **P 03 38 00.9 -0.3**
WB2 IAmb IAmb 03 38 01.8
comp=Z,26nm,1.1s
TOZ Tahuroa Road 86.35 159 IAms_20 IAms_20 04 13 21.7
comp=Z,855nm,21.0s
WRAB Tennant Creek 86.35 119 P **P 03 38 00.9 -0.4**
WRAB IAmb IAmb 03 38 10.3
comp=Z,35nm,1.2s
WRAB Tennant Creek 86.35 119 *eP* **P 03 38 00.8 -0.5**
WRAB pmax pmax
comp=Z,33nm,1.3s
WC1 Warramunga Arr 86.35 119 IAms_20 IAms_20 04 15 30.9
comp=Z,585nm,22.0s
WR0 Warramunga Arr 86.43 119 P **P 03 38 01.0 -0.6**
WR0 IAmb IAmb 03 38 02.1
comp=Z,15nm,0.8s
WB0 Warramunga Arr 86.51 119 P **P 03 38 01.4 -0.7**
WB0 IAmb IAmb 03 38 01.9
comp=Z,19nm,0.8s
MMAI Mount Meron Ar 86.58 11 P **P 03 38 01.8 -0.1**
comp=Z,1.3nm,0.2s,baz=167,slow=7.2,SNR=2.2
MMAI LR LR 04 17 00.3
comp=Z,453nm,19.0s,baz=160,slow=36
comp=Z,1.3nm,0.2s
BOAV Boa Vista 87.93 277 P **P 03 38 07.7 -1.3**
BOAV IAmb IAmb 03 38 09.6
comp=Z,9.2nm,0.8s
BOAV Boa Vista 87.93 277 *eP* **P 03 38 09.0 +0.1**
IDI Anoyia 88.18 2 LR LR 04 19 18.6
comp=Z,389nm,19.6s,baz=188,slow=37
CSS Mathiatis 88.31 9 IAms_20 IAms_20 04 18 12.8
comp=Z,394nm,20.0s
TBTG Tabatinga, AM 88.34 265 P **P 03 38 09.1 -1.8**
TBTG Tabatinga, AM 88.34 265 *eP* **P 03 38 09.7 -1.2**
KARP Karpathos 88.50 4 IAms_20 IAms_20 04 23 01.7
comp=Z,656nm,18.0s
MDT Midelt 88.96 337 LR LR 04 13 52.8
comp=Z,186nm,20.4s,baz=164,slow=33
SRIT Nakonsritamara 88.99 74 P **P 03 38 13.2 -0.6**
WDD Wied Dalam 89.00 353 IAms_20 IAms_20 04 20 04.8
comp=Z,534nm,19.0s
SANT Santorini 89.27 2 IAms_20 IAms_20 04 21 47.1
comp=Z,552nm,18.0s
KEST Kesra 89.38 349 P **P 03 38 15.8 +0.6**
KEST IAms_20 IAms_20 04 19 06.6
comp=Z,578nm,22.0s
KEST Kesra 89.38 349 P **P 03 38 16.0 +0.8**
KEST Kesra 89.38 349 P **P 03 38 15.1 -0.1**
comp=Z,11nm,1.0s,baz=254,slow=3.7,SNR=10
KEST LR LR 04 19 17.4
comp=Z,452nm,20.1s,baz=138,slow=36
comp=Z,11nm,1.0s
SGCB São Gabriel d 89.84 270 *eP* **P 03 38 17.3 -0.6**
KAPI Kappang 90.14 98 LR LR 04 09 31.4
comp=Z,96nm,21.9s,baz=194,slow=30
RAFF Raffo Rosso 90.39 353 P **P 03 38 19.9 +0.1**
RAFF IAmb IAmb 03 38 45.4
comp=Z,22nm,1.1s
RAFF IAms_20 IAms_20 04 23 14.5
comp=Z,613nm,20.0s
VAE Valguarnera 90.64 353 LR LR 04 20 49.2
comp=Z,418nm,18.0s,baz=150,slow=37
GAZ Gaziantep 90.90 11 P **P 03 38 22.8 +0.5**
GAZ IAmb IAmb 03 38 24.1
comp=Z,15nm,1.2s
GAZ IAms_20 IAms_20 04 16 31.6
comp=Z,588nm,21.0s
ATAH Atahualpa 91.02 257 LR LR 04 19 09.7
comp=Z,87nm,18.7s,baz=148,slow=36
AGG Agios Georgios 91.89 360 P **P 03 38 27.1 +0.4**
AGG Agios Georgios 91.89 360 P **P 03 38 27.1 +0.4**
SIRT Sirnak 91.95 15 P **P 03 38 27.5 +0.4**
CTA Charters Tower 92.18 128 LR LR 04 15 44.6
comp=Z,134nm,18.9s,baz=257,slow=33
BNN Bunyan 92.40 10 P **P 03 38 29.3 0.0**
KEK Kerkira 92.61 358 P **P 03 38 30.0 -0.1**
KEK IAmb IAmb 03 38 32.2
comp=Z,8.7nm,0.9s
KEK IAms_20 IAms_20 04 23 00.5
comp=Z,490nm,20.0s
SFS San Fernando 92.83 337 IAms_20 IAms_20 04 24 01.7
comp=Z,834nm,22.0s
GURO Guroymak-BITLI 92.91 15 P **P 03 38 32.5 +0.9**
SCTE Santa Cesarea 93.01 357 IAms_20 IAms_20 04 19 17.0
comp=Z,429nm,20.0s
BR131 Keskin Array S 93.06 8 P **P 03 38 32.3 +0.1**
BR131 pmax pmax
comp=Z,11nm,0.9s
BR131 Keskin Array S 93.06 8 P **P 03 38 32.7 +0.4**
SNR=6.2
BRTR Keskin Array B 93.06 8 P **P 03 38 31.6 -0.6**
BRTR Keskin Array B 93.06 8 P **P 03 38 32.4 +0.1**
comp=Z,4.8nm,0.8s,baz=176,slow=6.1,SNR=22
BRTR LR LR 04 20 17.5
comp=Z,259nm,20.9s,baz=219,slow=36
comp=Z,4.8nm,0.8s
BR231 Keskin MP Arra 93.10 8 P **P 03 38 32.5 +0.1**
BR231 IAmb IAmb 03 38 36.6
comp=Z,21nm,1.2s
ANTO Ankara 93.13 8 P **P 03 38 32.1 -0.3**
ANTO Ankara 93.13 8 P **P 03 38 32.2 -0.3**
ANTO pmax pmax
comp=Z,18nm,1.0s
VLO Vlora 93.38 357 IAms_20 IAms_20 04 19 24.7
comp=Z,748nm,22.0s
KBN Korca 93.50 358 P **P 03 38 33.7 -0.5**
KBN IAms_20 IAms_20 04 19 13.1
comp=Z,459nm,20.0s
KBN Korca 93.50 358 P **P 03 38 33.7 -0.5**
KBN pmax pmax
comp=Z,30nm,1.1s
KBN MLR MLR
comp=Z,500nm,20.0s
MDUB Mudurnu 93.61 6 P **P 03 38 33.3 -1.5**
FNA Florina 93.65 359 P **P 03 38 34.0 -0.9**
FNA Florina 93.65 359 P **P 03 38 34.0 -0.9**
FNA pmax pmax
comp=Z,3.0nm,1.1s
HRA Herat 93.73 32 P **P 03 38 34.9 -0.7**
HRA IAmb IAmb 03 38 38.4
comp=Z,17nm,1.1s
RDO Rodhopi 94.04 2 P **P 03 38 34.7 -1.8**
RDO IAms_20 IAms_20 04 22 47.3
comp=Z,315nm,19.0s
MAHO Mahon 94.14 346 IAms_20 IAms_20 04 23 02.7
comp=Z,340nm,20.0s
PAOL Paolisi 94.17 354 P **P 03 38 37.1 -0.1**
PAOL IAms_20 IAms_20 04 27 27.5
comp=Z,305nm,19.0s
TIR Tirane 94.24 358 P **P 03 38 38.4 +0.9**
TIR IAmb IAmb 03 38 43.6
comp=Z,13nm,0.9s
TIR Tirane 94.24 358 P **P 03 38 38.4 +0.9**
TIR pmax pmax
comp=Z,13nm,0.9s
SGRT San Giovanni R 94.81 355 P **P 03 38 40.1 -0.2**
SGRT IAmb IAmb 03 38 43.4
comp=Z,9.3nm,1.0s
GNI Garni 94.92 17 LR LR 04 23 01.3
comp=Z,174nm,18.1s,baz=197,slow=36
INTR Introdacqua 95.19 353 P **P 03 38 41.0 -0.9**
INTR IAmb IAmb 03 38 46.4
comp=Z,10nm,1.3s
PDG Podgorica 95.34 357 P **P 03 38 43.1 +0.6**
PDG IAmb IAmb 03 38 48.5
comp=Z,12nm,1.2s
PDG IAms_20 IAms_20 04 25 21.7
comp=Z,478nm,20.0s
ESDC Sonseca Array 95.40 340 P **P 03 38 42.3 -0.7**
comp=Z,1.3nm,0.8s,baz=160,slow=5.0,SNR=11
comp=Z,1.3nm,0.8s
AQU L'Aquila 95.56 353 P **P 03 38 43.7 +0.1**
AQU IAmb IAmb 03 38 47.6
comp=Z,11nm,1.0s
AQU IAms_20 IAms_20 04 25 49.4
comp=Z,506nm,19.0s
AQU L'Aquila 95.56 353 P **P 03 38 43.7 +0.1**
AQU pmax pmax
comp=Z,11nm,1.0s
CAMP Campotosto 95.74 353 P **P 03 38 44.3 -0.2**
CAMP IAmb IAmb 03 38 55.5
comp=Z,28nm,1.9s
GEYT Alibeck 95.80 27 P **P 03 38 43.7 -1.1**
GEYT Alibeck 95.80 27 P **P 03 38 43.7 -1.1**
GEYT pmax pmax
comp=Z,6.0nm,1.0s
GEYT Alibeck 95.80 27 P **P 03 38 43.7 -1.1**
comp=Z,1.3nm,0.3s,baz=235,slow=5.1,SNR=5.1
GEYT LR LR 04 23 58.9
comp=Z,103nm,18.0s,baz=214,slow=37
comp=Z,1.3nm,0.3s
GYA0B ALIBECK ARRAY 95.80 27 P **P 03 38 43.4 -1.4**
GYA0B IAms_20 IAms_20 04 23 38.9
comp=Z,333nm,20.0s
CHSH Refugio Sur-Vo 95.82 260 IAms_20 IAms_20 04 21 35.3
comp=Z,371nm,19.0s
RAO Raoul Island 95.89 162 LR LR 04 20 45.7
comp=Z,364nm,19.2s,baz=158,slow=35
COEN Coen 95.91 123 IAms_20 IAms_20 04 30 12.0
comp=Z,400nm,20.0s
NRCA Norcia 96.06 353 P **P 03 38 45.6 -0.3**
NRCA IAmb IAmb 03 42 38.3
comp=Z,11nm,1.6s
KBL Kabul 96.17 37 P **P 03 38 45.4 -1.4**
KBL IAmb IAmb 03 38 50.8
comp=Z,7.4nm,1.1s
KBL Kabul 96.17 37 P **P 03 38 45.4 -1.4**
KBL pmax pmax
comp=Z,7.0nm,1.1s
FDMO Fiordimonte 96.27 353 IAms_20 IAms_20 04 26 32.0
comp=Z,377nm,19.0s
GUMA Gualdo di Mace 96.27 353 IAms_20 IAms_20 04 20 32.2
comp=Z,410nm,22.0s
MURB Monte Urbino 96.53 352 **P 03 38 46.1 -1.9**
MURB IAmb IAmb 03 42 41.3
comp=Z,8.8nm,1.2s
CMAR Chiang Mai Arr 96.56 68 P **P 03 38 47.5 -1.1**
CMAR Chiang Mai Arr 96.56 68 P **P 03 38 48.0 -0.7**
CMAR Chiang Mai Arr 96.56 68 P **P 03 38 48.0 -0.7**
comp=Z,0.7nm,0.3s,baz=230,slow=6.1,SNR=5.0
CMAR LR LR 04 14 25.4
comp=Z,154nm,21.3s,baz=235,slow=30
comp=Z,0.7nm,0.3s
PCRV Puerto La Cruz 96.57 278 LR LR 04 17 55.9
comp=Z,304nm,20.2s,slow=33
CHTO Chiang Mai 96.85 68 P **P 03 38 48.1 -1.9**
CHTO pmax pmax
comp=Z,16nm,1.5s
NIL Nilore 96.96 40 P **P 03 38 48.3 -1.9**
NIL Nilore 96.96 40 P **P 03 38 48.3 -1.9**
NIL pmax pmax
comp=Z,12nm,0.9s
ZCCA Zocca 97.74 351 IAms_20 IAms_20 04 31 08.1
comp=Z,590nm,19.0s
KBZ Khabaz 98.11 15 *i* P **P 03 38 54.4 -0.6**
KBZ pmax pmax
comp=Z,6.0nm,1.3s
KBZ Khabaz 98.11 15 P **P 03 38 53.8 -1.2**
comp=Z,2.2nm,0.9s,baz=148,slow=5.0,SNR=5.1
KBZ LR LR 04 24 31.9
comp=Z,282nm,18.9s,baz=210,slow=36
comp=Z,2.2nm,0.9s
MAK Makhachkala 98.14 18 *eP* P 03 38 48.5 -6.7
MAK *e* 03 42 54.7
MAK pmax pmax
comp=Z,73nm,0.9s
ROSC El Rosal 98.15 267 IAms_20 IAms_20 04 18 49.4
comp=Z,271nm,19.0s
ROSC El Rosal 98.15 267 LR LR 04 20 44.6
comp=Z,295nm,20.1s,baz=189,slow=34
PRMA PARMA 98.21 351 P **P 03 38 55.0 -0.4**
KIV Kislovodsk 98.30 14 *eP* Pdif 03 38 57.9 +1.9
KIV pmax pmax
comp=Z,4.0nm,1.1s
KVAR Kislovodsk Arr 98.30 14 LR LR 04 24 34.9
comp=Z,153nm,18.6s,baz=88,slow=36
MLR Muntele Rosu 98.39 2 IAms_20 IAms_20 04 26 40.4
comp=Z,691nm,20.0s
MLR Muntele Rosu 98.39 2 LR LR 04 26 52.6
comp=Z,403nm,19.0s,baz=204,slow=38
SHL Shillong 98.55 59 IAms_20 IAms_20 04 16 41.3
comp=Z,631nm,22.0s
DZM Mont Dzumac 98.64 146 *e*LR LR 04 10 58.4
comp=Z,302nm,37.9s
TRI Trieste 98.88 354 IAms_20 IAms_20 04 26 47.1
comp=Z,284nm,20.0s
BNI Bardonecchia 98.89 348 IAms_20 IAms_20 04 28 54.3
comp=Z,392nm,20.0s
SDV Santo Domingo 99.14 273 LR LR 04 21 36.3
comp=Z,241nm,19.4s,baz=140,slow=34
CTI Castel Tesino 99.37 352 IAms_20 IAms_20 04 23 06.2
comp=Z,340nm,22.0s
OBKA Obir 99.62 354 *ep*Pdiff **Pdif 03 39 09.8 +8.0**
comp=Z,4.3nm,1.3s
SOKA Soboth 99.76 355 *ep*Pdiff **Pdif 03 39 10.7 +8.3**
comp=Z,6.8nm,1.8s
ABTA Abfaltersbach 100.00 353 *e*PP **PP 03 43 10.4 +1.1**
comp=Z,2.6nm,0.8s
TUE Stuetta 100.00 351 IAms_20 IAms_20 04 27 19.8
comp=Z,342nm,20.0s
KBA Koelnbreinsper 100.27 353 *e*PP **PP 03 43 10.4 -1.1**
comp=Z,3.5nm,1.2s
FETA Feichten 100.42 352 *e*Pdiff **Pdif 03 39 05.7 +0.3**
comp=Z,4.5nm,1.1s
FETA *e*PP **PP 03 43 12.5 -0.2**
comp=Z,7.5nm,1.3s
SQTA Sankt Quirin 100.57 352 *e*Pdiff **Pdif 03 39 07.5 +1.4**
comp=Z,5.1nm,1.0s
WTTA Wattenberg 100.58 352 *e*PP **PP 03 43 13.6 -0.3**
comp=Z,1.7nm,0.6s
WATA Walderalm 100.66 352 *e*PP **PP 03 43 14.5 0.0**
comp=Z,8.1nm,1.4s
MOTA Moosalm 100.70 352 *e*PP **PP 03 43 13.4 -1.4**
comp=Z,7.0nm,1.3s
DAVA Damuels 100.76 351 *e*PP **PP 03 43 13.6 -1.6**
comp=Z,22nm,1.7s
RETA Reutte 100.88 352 *e*PP **PP 03 43 14.6 -1.5**
comp=Z,9.2nm,1.5s
CONA Conrad Observa 100.96 355 *ep*Pdiff **pPdif 03 39 11.8 +1.9**
comp=Z,2.2nm,0.9s
CONA *e*PP **PP 03 43 19.0 +2.3**
comp=Z,4.6nm,1.3s
MOA Molln 100.97 354 *e*PP **PP 03 43 15.6 -1.1**
comp=Z,4.5nm,1.2s
FUR Furstenfeldbru 101.50 352 *e*L L 04 25 09.4
comp=Z,205nm,20.9s
BFO Black Forest 101.94 350 *e*L L 04 27 51.3
comp=Z,213nm,19.3s
GEC2 GERESS Array S 102.00 354 *e*L L 04 29 30.7
comp=Z,306nm,20.0s
GERES GERESS Array B 102.00 354 PP **PP 03 43 23.6 -0.9**
comp=Z,0.3nm,0.3s,baz=162,slow=5.6,SNR=3.6
WET Wettzell 102.36 353 *e*L L 04 30 46.1
comp=Z,180nm,20.2s
GRF Grafenberg Arr 103.03 352 *e*PP **PP 03 43 28.0 -4.1**
GRF *e*L L 04 25 18.0
comp=Z,185nm,21.0s
KSH Kashi 103.14 39 P **Pdif 03 39 16.1 -1.6**
KSH pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 103.70 4 PP **PP 03 43 37.0 -0.1**
comp=Z,0.6nm,0.4s,baz=194,slow=6.7,SNR=4.8
TNS Taunus Mts 103.80 351 *e*L L 04 25 47.1
comp=Z,130nm,20.8s
MOX Moxa 103.94 353 *e*L L 04 26 40.0
comp=Z,241nm,21.7s
CLL Collm 104.50 354 *e*P **Pdif 03 39 24.0 +0.7**
CLL *e* 03 43 43.0
CLL *e* 03 50 04.0
CLL Collm 104.50 354 *e*L L 04 30 17.3
comp=Z,220nm,21.0s
CLL Collm 104.50 354 *e*Pdif **Pdif 03 39 24.0 +0.7**
CLL *e*PP **PP 03 43 43.0 0.0**
CLL *e*SKSac **SKSac 03 50 04.0 +1.5**
CLL *e*PS **PS 03 52 54.0 -1.0**
CLL *e*PPS PPS 03 53 46.0
CLL *e*SS **SS 03 58 32.0 -1.9**
CLL AMS AMS 04 30 00.0
comp=N,200nm,19.2s
CLL AMS AMS 04 30 00.0
comp=E,100nm,21.0s
CLL AMS AMS 04 30 00.0
comp=Z,200nm,19.5s
BCIP Isla Barro Col 104.89 265 IAms_20 IAms_20 04 19 14.2
comp=Z,250nm,18.0s
BSEG Bad Segeberg 107.31 352 *e*L L 04 27 02.8
comp=Z,211nm,18.8s
NACGM Naroch 107.82 2 *e*Pdif **Pdif 03 39 43.4 +5.4**
PPT2 Papeete2 109.17 188 *e*LR LR 04 15 42.7
comp=Z,380nm,38.2s
PPT2 *e*LR LR 04 15 46.9
comp=Z,338nm,22.2s

WMQ	Urumqi	111.50	45	*e*PKP	PKiKP	03 43 53.8	+1.2
WMQ				LR	LR		
	comp=Z,220nm,29.0s						
CNGN	Cerro Negro	111.61	262	IAMs_20	IAMs_20	04 22 26.3	
	comp=Z,656nm,22.0s						
MK31	Makanchi Array	111.76	40	*i* PKIKP	PKiKP	03 43 53.3	+0.4
BRVK	Borovoye	113.06	29	*i* PKIKP	PKiKP	03 43 55.9	+0.8
LZH	Lanzhou	113.10	60	*e*PKP	PKiKP	03 43 57.0	+1.0
TAOE	Nuku Hiva Isla	116.48	199	*e*LR	LR	04 19 11.0	
	comp=Z,596nm,28.5s						
NJ2	Nanjing	118.38	74	*e*PKP	PKiKP	03 44 08.3	+2.2
ZALV	Zalesovo Beam	118.53	36	*e*PKIKP	PKPdf	03 44 04.4	-1.2
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	Zalesovo Beam	118.53	36	PKP	PKPdf	03 44 02.9	-2.7
	comp=Z,1.3nm,0.6s,baz=203,slow=1.1,SNR=4.7						
HNS	HongShan	119.92	67	*e*PKP	PKPdf	03 44 08.3	-0.5
HHC	Hu-ho-hao-te	120.69	62	*e*PKP	PKiKP	03 44 13.8	+3.3
ARCES	ARCESS Array B	122.48	1	PKP	PKPdf	03 44 11.6	-1.2
	comp=Z,7.1nm,1.0s,baz=158,slow=2.9,SNR=4.6						
BORG	Borgarnes	122.48	339	*i* PKIKP	PKiKP	03 44 16.8	+3.8
SONM	Songino Array	123.02	53	*e*PKIKP	PKPdf	03 44 12.7	-2.0
SONM				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	Songino Array	123.02	53	PKP	PKPdf	03 44 13.5	-1.2
	comp=Z,2.4nm,1.0s,baz=191,slow=3.5,SNR=6.5						
XLT	XiLinHaoTe	125.21	62	*e*PKP	PKPdf	03 44 18.0	-0.9
LBNH	Lisbon	126.28	297	P	PKPdf	03 44 22.2	+1.3
	baz=132						
ACCN	Adirondack Com	126.64	295	IAMs_20	IAMs_20	04 30 06.5	
	comp=Z,416nm,19.0s						
BINY	Binghamton	127.12	293	P	PKPdf	03 44 23.5	+0.9
	baz=132						
SSPA	Standing Stone	127.14	290	P	PKPdf	03 44 22.6	0.0
	baz=132						
KSRS	Korea Array	127.47	76	PKP	PKPdf	03 44 23.1	-0.2
	comp=Z,1.2nm,0.8s,baz=224,slow=3.4,SNR=1.8						
O53A	New Philadelph	128.77	288	P	PKPdf	03 44 25.6	-0.2
	baz=132						
MEDO	Medina	129.13	292	IAMs_20	IAMs_20	04 39 37.3	
	comp=Z,414nm,21.0s						
SCHQ	Schefferville	130.54	310	PKP	PKPdf	03 44 28.1	-0.5
	comp=Z,4.8nm,0.9s,baz=214,slow=3.3,SNR=4.4						
CGM3	Cape Girardeau	131.74	279	IAMs_20	IAMs_20	04 39 42.6	
	comp=Z,214nm,20.0s						
MDJ	Mudanjiang	133.08	69	P	Pdif	03 41 33.9	+3.3
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.3s						
MDJ	Mudanjiang	133.08	69	PKP	PKPdf	03 44 35.0	+1.3
MDJ				sPKP		03 44 42.5	
MDJ				PP	PP	03 46 58.6	-2.2
MDJ				SS	SS	04 04 46.6	+2.9
MDJ				AMB	AMB		
	comp=Z,220nm,3.9s						
JCT	Junction City	133.11	265	P	PKPdf	03 44 34.6	+0.2
	baz=136						
USRK	Ussuriysk Ar.	134.18	71	PKIKP	PKPdf	03 44 36.0	+0.2
USRK	Ussuriysk Ar.	134.18	71	PKP	PKPdf	03 44 36.0	+0.2
	comp=Z,1.4nm,0.6s,baz=243,slow=4.7,SNR=2.7						
S39A	Bolivar	134.18	277	PKPdf	PKPdf	03 44 35.1	-1.0
TUL3	Leonard	134.48	273	IAMs_20	IAMs_20	04 40 39.4	
	comp=Z,235nm,18.0s						
TXAR	Lajitas Array	134.58	260	PKP	PKPdf	03 44 37.9	+0.7
	comp=Z,1.1nm,1.0s,baz=160,slow=5.6,SNR=5.4						
OK031	S. Brethren Rd	135.13	272	IAMs_20	IAMs_20	04 24 57.4	
	comp=Z,197nm,20.0s						
HEH	HeiHe	135.21	62	*e*PKP	PKPdf	03 44 35.9	-1.6
OK029	Liberty Lake	135.40	272	IAMs_20	IAMs_20	04 25 29.4	
	comp=Z,220nm,20.0s						
WMOK	Wichita Mounta	135.48	270	P	PKPdf	03 44 39.6	+1.0
	baz=133						
CSTR	Hydro, Custer	136.04	271	IAMs_20	IAMs_20	04 48 22.3	
	comp=Z,199nm,18.0s						
425A	Indio Mountain	136.42	260	PKPdf	PKPdf	03 44 40.3	-0.4
KLR	Kul'dur	136.98	65	PKP	PKPdf	03 44 41.1	+0.3
	comp=Z,4.9nm,1.0s,baz=299,slow=2.5,SNR=6.6						
MNTX	Cornudas Mount	137.31	261	P	PKPdf	03 44 42.9	+0.8
	baz=136						
MSTX	Muleshoe	137.35	266	P	PKPdf	03 44 42.4	+0.2
	baz=134						
EPT	El Paso	138.03	260	IAMs_20	IAMs_20	04 58 15.9	
	comp=Z,235nm,18.0s						
121A	Cookes Peak, D	139.33	260	P	PKPdf	03 44 45.9	-0.1
	baz=136						
ECSD	EROS Data Cent	139.90	282	P	PKPdf	03 44 47.1	+0.7
	baz=126						
ANMO	Albuquerque	140.23	263		PKPdf	03 44 46.8	-0.8
ANMO	Albuquerque	140.23	263	PKIKP	PKPdf	03 44 46.8	-0.8
ANMO	Albuquerque	140.23	263	P	PKPdf	03 44 47.8	+0.3
	baz=134						
ASAJ	Asahikawa	140.28	78	PKP	PKPdf	03 44 46.6	-0.4
	comp=Z,2.6nm,0.6s,baz=240,slow=7.4,SNR=1.9						
TUC	Tucson	140.93	256	PKPdf	PKPdf	03 44 48.5	-0.2
TUC	Tucson	140.93	256	PKIKP	PKPdf	03 44 48.6	-0.2
TUC	Tucson	140.93	256	P	PKPdf	03 44 49.0	+0.2
	baz=136						
SDCO	Great Sand Dun	141.53	268	P	PKPdf	03 44 50.4	+0.4
	baz=131						
S22A	4UR Ranch, Cre	142.32	266		PKPdf	03 44 51.0	-0.4
S22A	4UR Ranch, Cre	142.32	266	P	PKPdf	03 44 51.6	+0.2
	baz=131						
X16A	Lo Mia Camp, P	142.82	258	PKPdf	PKPdf	03 44 51.0	-1.2
ISCO	Idaho Springs	142.90	270	P	PKPdf	03 44 52.6	+0.2
	baz=129						
113A	Mohawk Valley,	143.00	254	PKPdf		03 44 48.9	
WUAZ	Wupatki	143.54	260	PKPdf	PKPab	03 44 50.7	+0.8
N23A	Red Feather La	143.78	271	PKPdf	PKPab	03 44 51.7	+0.9
E28A	Huff	143.88	283	PKPdf	PKPab	03 44 51.3	+0.6
MDND	Maddock	143.90	285	PKPdf	PKPab	03 44 50.9	+0.3
BLYC	Blythe	144.14	254		PKPab	03 44 51.9	-0.1
RSSD	Black Hills	144.52	277	PKPdf	PKPab	03 44 52.7	-0.7
RSSD	Black Hills	144.52	277	PKIKP	PKPab	03 44 52.7	-0.7
RSSD	Black Hills	144.52	277	P	PKPab	03 44 53.0	-0.4
	baz=124						
BC3	Big Chuckawall	144.61	253	P	PKPab	03 44 54.0	+0.1
	baz=136						
MONP2	Monument Peak	144.61	251	P	PKPab	03 44 54.0	0.0
	baz=138						
O20A	White River Ci	144.69	268	P	PKPab	03 44 54.3	+0.2
	baz=128						
IRM	Iron Mountain	144.79	254	P	PKPab	03 44 54.5	0.0
	baz=136,SNR=6.7						
109C	Camp Elliot, M	145.00	251	P	PKPbc	03 44 55.5	+0.4
	baz=138						
TPFO	Pinon Flats	145.15	252	P	PKPbc	03 44 55.5	-0.4
	baz=137,SNR=8.8						
PFO	Pinyon Flats O	145.16	252		PKPbc	03 44 55.6	-0.3
PFO	Pinyon Flats O	145.16	252	PKIKP	PKPbc	03 44 55.6	-0.3
PFO	Pinyon Flats O	145.16	252	P	PKPbc	03 44 56.0	+0.1
	baz=137,SNR=9.6						
K22A	Casper	145.17	273	P	PKPbc	03 44 54.8	-0.9
	baz=126						
BELC	Belle Mtn. Jos	145.18	253	P	PKPbc	03 44 55.8	-0.1
	baz=136,SNR=10.0						
GMRC	Granite Mounta	145.54	254	P	PKPdf	03 44 57.1	+0.2
	baz=135,SNR=21						
MURC	Murrieta	145.57	251	P	PKPdf	03 44 56.8	0.0
	baz=137						
BBRC	Big Bear Solar	145.89	253	P	PKPdf	03 44 58.0	+0.4
	baz=136						
HEC	Hector,Ludlow	145.96	254	P	PKPdf	03 44 58.2	+0.7
	baz=136,SNR=20						
CIS	Catalina Islan	146.12	250	P	PKPdf	03 44 58.8	+1.0
	baz=138						
TUQ	Turquoise Moun	146.15	255	P	PKPdf	03 44 58.9	+1.0
	baz=135,SNR=23						
BFSC	Mount Baldy Ra	146.30	252	P	PKPdf	03 44 59.0	+0.8
	baz=137						
GSC	Goldstone, Bar	146.57	254	P	PKPdf	03 45 00.1	+1.5
	baz=135,SNR=16						
DGMT	Dagmar	146.88	284	PKPdf	PKPdf	03 44 59.2	+0.6
DGMT	Dagmar	146.88	284	P	PKPdf	03 45 00.4	+1.9
	baz=119,SNR=5.8						
EDW2	Edwards Air Fo	146.95	252	P	PKPdf	03 45 00.6	+1.4
	baz=136,SNR=8.6						
PDAR	Pinedale Array	147.06	271	PKPbc	PKPdf	03 44 60.0	+0.6
	comp=Z,5.8nm,0.7s,baz=131,slow=4.7,SNR=55						
BW06	Boulder Array	147.06	271	P	PKPdf	03 45 00.7	+1.3
	baz=125						
GWY	Greenwater Val	147.11	255	IAMs_20	IAMs_20	04 52 14.2	
	comp=Z,346nm,22.0s						
CTU	Camp Tracy	147.14	266	IAMs_20	IAMs_20	04 41 26.2	
	comp=Z,373nm,19.0s						
LAO	LASA Array	147.20	279	P	PKPbc	03 45 02.0	+0.5
	baz=121,SNR=8.8						
LRMC	Laurel Mtn Rad	147.20	253	P	PKPdf	03 45 01.8	+2.1
	baz=135,SNR=11						
SCZ2	Santa Cruz Isl	147.24	249	P	PKPdf	03 45 02.1	+2.4
	baz=138						
TPNV	Topopah Spring	147.39	257	P	PKPbc	03 45 02.9	+0.4
	baz=133,SNR=29						
FURC	Furnace Creek,	147.42	255	P	PKPbc	03 45 02.9	+0.6
	baz=134,SNR=12						
DUG	Dugway, Tooele	147.47	265	P	PKPbc	03 45 03.5	+0.9
	baz=129						
MPMC	Manual Prospec	147.49	254	P	PKPdf	03 45 02.6	+2.4
	baz=135,SNR=15						
ARVC	Arvin	147.60	252	P	PKPbc	03 45 03.0	+0.1
	baz=136						
ID09	Alton	147.74	269	IAMs_20	IAMs_20	05 04 29.3	
	comp=Z,360nm,20.0s						
ISA	Isabella, Lake	147.78	253	P	PKPbc	03 45 03.5	+0.1
	baz=135						
R11B	Troy Canyon, C	147.94	259	P	PKPbc	03 45 04.0	+0.1
	baz=131,SNR=7.9						
PKM	Mcpherson Peak	147.99	250	P	PKPbc	03 45 04.5	+0.3
	baz=137						
GRAC	Grapevine Rang	148.07	256	P	PKPbc	03 45 04.4	+0.2
	baz=133,SNR=6.5						
CWC	Cottonwood Cre	148.10	254	P	PKPbc	03 45 05.2	+0.8
	baz=134						
RLMT	Red Lodge	148.20	275	P	PKPbc	03 45 04.7	+0.3
	baz=122						
FFC	Flin Flon	148.23	295	PKPab	PKiKP	03 45 07.4	+1.8
FFC	Flin Flon	148.23	295	PKP2	PKiKP	03 45 07.4	+1.8
VES	Vestal, Richgr	148.26	252	P	PKPbc	03 45 05.3	+0.7
	baz=135						
SMMC	Simmler	148.40	250	P	PKPbc	03 45 05.8	+0.7
	baz=136						
FLWY	Flagg Ranch	148.49	272	IAMs_20	IAMs_20	04 31 37.9	
	comp=Z,292nm,18.0s						
TIN	Timemaha, Big	148.61	255	P	PKPbc	03 45 06.0	+0.4
	baz=134						
NVAR	Mina Array Bea	149.59	257	PKPbc	PKPbc	03 45 08.0	-0.2
	comp=Z,6.5nm,0.7s,baz=147,slow=2.3,SNR=51						
EGMT	Eagleton	149.94	279	P	PKPbc	03 45 08.7	+0.1
	baz=118						
HLID	Hailey	150.43	268	IAMs_20	IAMs_20	04 47 55.6	
	comp=Z,148nm,18.0s						
HLID	Hailey	150.43	268	P	PKPbc	03 45 10.1	0.0
	baz=124,SNR=5.7						
MA2	Magadan	151.15	56	PKPbc	PKPbc	03 45 10.1	-0.8
	comp=Z,15nm,0.7s,baz=23,slow=13,SNR=5.3						
MSO	Missoula	151.87	275	P	PKPbc	03 45 12.7	-0.5
	baz=119						
SEY	Seymchan	152.33	49	PKPbc	PKPbc	03 45 12.7	-0.8
	comp=Z,7.0nm,0.6s,baz=253,slow=3.0,SNR=11						
PETK	Petropavlovsk-	153.27	72	PKPbc	PKPbc	03 45 13.6	-2.4
	comp=Z,12nm,1.0s,baz=253,slow=1.5,SNR=5.6						
NEW	Newport	154.44	275	P	PKPbc	03 45 16.4	-2.2
	baz=116						
YKA	Yellowknife Ar	155.99	310	PKPab	PKPab	03 45 38.7	-0.5
	comp=Z,8.8nm,0.8s,baz=89,slow=4.9,SNR=14						
WRGLY	Wrigley	159.89	313	P	PKPab	03 45 56.5	+0.4
	baz=76						
KOTAN	Kotaneelee Air	160.72	304	P	PKPab	03 46 00.7	+0.8
	baz=84						
INK	Inuvik	161.20	332	PKPab	PKPab	03 46 00.8	-0.9
INK	Inuvik	161.20	332	PKP2	PKPab	03 46 00.8	-0.9
INK	Inuvik	161.20	332	P	PKPab	03 46 02.3	+0.6
	baz=48						
D28M	Stokes Point	161.74	339	P	PKPab	03 46 04.5	+0.6
	baz=38						
LIRD	Liard River Hi	161.83	302	P	PKPab	03 46 05.3	+0.5
	baz=84						
F31M	Tsiigehtchic	161.83	331	P	PKPab	03 46 05.7	+1.2
	baz=50						
A21K	Barrow	161.84	359	P	PKPab	03 46 06.5	+2.1
	baz=1.2						
D27M	Malcolm River	162.26	341	P	PKPab	03 46 07.5	+1.0
	baz=34						
E29M	Blow River	162.28	336	P	PKPab	03 46 07.7	+1.3
	baz=41						
F30M	Barrier River	162.30	333	P	PKPab	03 46 07.5	+0.9
	baz=46						
E28M	Babbage River	162.49	338	P	PKPab	03 46 08.7	+1.4
	baz=37						
B22K	Teshekpuk Lake	162.75	356	P	PKPab	03 46 08.9	+0.5
	baz=7.8						
G30M	tAoh Zraii Nji	162.86	332	P	PKPab	03 46 09.9	+0.8
	baz=47						
A19K	Wainwright	162.88	5	P	PKPab	03 46 09.7	+0.8
	baz=352						
C24K	Franklin Bluff	163.01	350	P	PKPab	03 46 10.3	+0.7
	baz=18						
H31M	Peel River	163.04	327	P	PKPab	03 46 10.6	+0.7
	baz=53						
D25K	Kavik River	163.10	347	P	PKPab	03 46 11.4	+1.3
	baz=23						
F28M	Old Crow	163.35	337	P	PKPab	03 46 11.7	+0.5
	baz=39						
G29M	Pine Creek	163.41	333	PKPab	PKPab	03 46 11.5	0.0
G29M	Pine Creek	163.41	333	P	PKPab	03 46 12.5	+1.0
	baz=44						
EPYK	Eagle Plains	163.42	330	P	PKPab	03 46 12.6	+1.0
	baz=48						
MMPY	Sheldon Lake,	163.47	315	P	PKPab	03 46 13.1	+1.1
	baz=67						
B21K	Ikpikpuk River	163.51	357	P	PKPab	03 46 13.3	+1.5
	baz=5.6						
D23K	Nanushuk River	163.93	352	P	PKPab	03 46 15.2	+1.6
	baz=14						
DLBC	Dease Lake	163.97	300	P	PKPab	03 46 14.8	+0.5
	baz=83						
H29M	Whitestone	164.01	332	P	PKPab	03 46 15.6	+1.5
	baz=45						
I30M	Mount Dempster	164.07	327	P	PKPab	03 46 15.7	+1.1
	baz=51						
R33M	Jennings River	164.29	304	P	PKPab	03 46 16.6	+0.8
	baz=78						
G27K	Doyon Strip	164.42	337	P	PKPab	03 46 17.0	+1.1
	baz=37						
J30M	Hart River	164.46	325	P	PKPab	03 46 17.2	+0.9
	baz=53						
FARO	Faro, Yukon	164.52	315	P	PKPab	03 46 17.3	+0.8
	baz=66						
E24K	Your Creek	164.55	348	P	PKPab	03 46 17.3	+0.8
	baz=20						
F25K	Christian Rive	164.56	343	P	PKPab	03 46 17.8	+1.2
	baz=27						
I29M	Ogilvie Camp,	164.59	329	P	PKPab	03 46 17.7	+0.9
	baz=47						
D19K	Kuna River	164.68	1	P	PKPab	03 46 18.2	+1.2
	baz=358						
E23K	Chandalar	164.70	349	P	PKPab	03 46 18.1	+0.9
	baz=18						
G26K	Porcupine Rive	164.78	340	P	PKPab	03 46 18.1	+0.6
	baz=32						
N32M	Quiet Lake	164.82	311	P	PKPab	03 46 18.4	+0.5
	baz=70						
E22K	Anaktuvuk Pass	164.84	352	P	PKPab	03 46 19.4	+1.6
	baz=13						
H27K	Steamboat Moun	164.85	335	P	PKPab	03 46 18.7	+0.8
	baz=38						
M31M	Drury Creek, Y	164.97	316	P	PKPab	03 46 19.6	+1.1
	baz=64						
F24K	Squaw Lake	164.99	346	P	PKPab	03 46 19.3	+0.9
	baz=22						
P33M	Teslin, Yukon	165.00	307	P	PKPab	03 46 19.2	+0.5
	baz=73						
I28M	Miner Creek	165.01	331	P	PKPab	03 46 19.8	+1.2
	baz=44						
Q32M	Nakina River	165.04	302	P	PKPab	03 46 19.7	+0.6
	baz=78						
K29M	Barlow Dome	165.32	324	P	PKPab	03 46 21.4	+1.3
	baz=53						
I27K	Kandik River	165.36	334	P	PKPab	03 46 21.3	+1.1
	baz=40						
G25K	Bearman Lake	165.39	342	P	PKPab	03 46 21.5	+1.4
	baz=27						
F22K	John River	165.48	352	P	PKPab	03 46 21.7	+1.2
	baz=12						
G24K	Hadweenzic Riv	165.68	344	P	PKPab	03 46 22.1	+0.7
	baz=24						
M30M	Minto, Yukon	165.77	319	P	PKPab	03 46 22.0	-0.1
	baz=58						
H25L	Birch Creek	165.78	341	P	PKPab	03 46 22.3	+0.5
	baz=29						
DAWY	Dawson	165.81	327	P	PKPab	03 46 23.2	+1.1
	baz=49						
WHY	Whitehorse	165.81	310	P	PKPab	03 46 22.7	+0.3
	baz=68						
F21K	Alatna River	165.85	354	P	PKPab	03 46 23.2	+1.0
	baz=9.3						
E17K	Hotham Inlet	165.92	8	P	PKPab	03 46 23.7	+1.3
	baz=349						
L29M	L29M	165.98	322	P	PKPab	03 46 24.2	+1.2
	baz=54						
G23K	Bananza Creek	166.04	348	P	PKPab	03 46 24.1	+1.1
	baz=18						
F20K	Avaraart Lake	166.12	358	P	PKPab	03 46 24.6	+1.2
	baz=3.9						
R32K	Eaglecrest	166.33	301	P	PKPab	03 46 24.9	+0.3
	baz=78						
F19K	Shaleruckik Mo	166.35	1	P	PKPab	03 46 26.1	+1.8
	baz=359						
SKAG	Skagway	166.43	306	P	PKPab	03 46 25.6	+0.6
	baz=72						
N30M	Aishikik Lake	166.45	315	P	PKPab	03 46 24.8	-0.3
	baz=62						
M29M	Somme Creek	166.49	320	P	PKPab	03 46 25.4	+0.1
	baz=56						
S32K	Killisnoo	166.51	297	P	PKPab	03 46 25.6	+0.3
	baz=82						
TNA	Tin City	166.51	19	P	PKPab	03 46 25.8	+0.7
	baz=332						
H24K	Noodor Dome	166.54	343	P	PKPab	03 46 25.6	+0.2
	baz=25						
G21K	Allakaket	166.56	354	P	PKPab	03 46 26.0	+0.7
	baz=9.8						
F17K	Baldwin Pennin	166.60	7	P	PKPab	03 46 26.5	+1.1
	baz=350						
K27K	Chicken	166.68	330	P	PKPab	03 46 27.4	+1.4
	baz=43						
J26L	Joseph Creek	166.74	334	P	PKPab	03 46 27.9	+1.6
	baz=38						
H23K	Yukon River	166.81	346	P	PKPab	03 46 27.2	+0.8
	baz=21						
HYT	Haines Junctio	166.92	313	P	PKPab	03 46 28.3	+1.0
	baz=63						
R31K	City Hall, Gus	166.93	302	P	PKPab	03 46 28.2	+1.0
	baz=76						
PLBC	Pleasant Camp	166.94	307	P	PKPab	03 46 28.2	+1.0
	baz=71						
SIT	Sitka	166.97	296	P	PKPab	03 46 27.8	+0.4
	baz=82						
P30M	Million Dollar	166.97	310	P	PKPab	03 46 28.4	+0.9
	baz=67						
H22K	Ishtalitna Cre	166.98	349	P	PKPab	03 46 28.3	+1.1
	baz=16						
POKR	Poker Plat Res	167.11	341	P	PKPab	03 46 29.3	+1.5
	baz=27						
YUK6	Outpost Mounta	167.24	315	P	PKPab	03 46 29.6	+0.8
	baz=61						
SCRK	Sand Creek	167.27	333	P	PKPab	03 46 29.9	+1.2
	baz=39						
G18K	Tagagawik	167.28	3	P	PKPab	03 46 30.0	+1.5
	baz=356						
L27K	Beaver Creek,	167.30	327	P	PKPab	03 46 30.0	+1.2
	baz=46						
ILAR	Eielson Array	167.31	340	PKPab	PKPab	03 46 27.6	-1.1
	comp=Z,1.9nm,0.9s,baz=12,slow=3.7,SNR=13						
H21K	Melozitna Rive	167.35	352	PKPab	PKPab	03 46 31.0	+2.2
H21K	Melozitna Rive	167.35	352	P	PKPab	03 46 30.4	+1.5
	baz=12						
I23K	Minto, Yukon-K	167.42	345	P	PKPab	03 46 27.6	-1.5
	baz=22						
P29M	Windy Craggy	167.53	309	P	PKPab	03 46 30.4	+0.5
	baz=68						
G17K	Kiwalik Mounta	167.57	7	P	PKPab	03 46 30.3	+0.5
	baz=350						
HDA	Harding Lake	167.64	339	P	PKPab	03 46 31.0	+0.9
	baz=30						
YUK3	Moose Creek	167.64	320	P	PKPab	03 46 31.5	+0.9
	baz=54						
YUK8	Steele Glacier	167.65	318	P	PKPab	03 46 30.7	0.0
	baz=57						
H20K	Anotleneega Mo	167.65	356	P	PKPab	03 46 31.3	+1.1
	baz=6.7						
H19K	Roundabout Mou	167.66	359	P	PKPab	03 46 31.4	+1.3
	baz=2.3						
RIDG	Independent Ri	167.69	334	P	PKPab	03 46 31.4	+0.9
	baz=37						
MLY	Manley	167.73	347	P	PKPab	03 46 30.6	0.0
	baz=19						
I21K	Tanana	167.74	350	P	PKPab	03 46 31.2	+0.7
	baz=15						
M27K	Edge Creek, AK	167.79	324	P	PKPab	03 46 31.8	+0.7
	baz=49						
L26K	Log Cabin Wild	167.81	329	P	PKPab	03 46 31.7	+0.7
	baz=43						
H18K	Honhosa River	168.03	2	P	PKPab	03 46 33.8	+2.0
	baz=357						
O28M	Mount Upton	168.10	316	P	PKPab	03 46 33.5	+0.8
	baz=58						
H16K	Elim	168.27	11	P	PKPab	03 46 34.7	+1.8
	baz=345						
I20K	Naaghedeneel	168.32	354	P	PKPab	03 46 34.4	+1.3
	baz=8.3						
PINM	Pinnacle	168.47	313	P	PKPab	03 46 35.0	+0.9
	baz=61						
HARP	HAARP	168.83	330	P	PKPab	03 46 35.6	+0.1
	baz=40						
MCARA	McCarthy VSAT	168.85	323	P	PKPab	03 46 36.4	+0.8
	baz=50						
DHY	Denali Highway	168.88	336	P	PKPab	03 46 37.0	+1.1
	baz=32						
J20K	Nowinta River	168.92	353	P	PKPab	03 46 36.8	+1.0
	baz=9.8						
TRF	Thorofare Moun	169.15	343	P	PKPab	03 46 38.1	+1.0
	baz=23						
MESA	MESA	169.15	316	P	PKPab	03 46 37.5	+0.3
	baz=57						
J19K	Poorman	169.18	356	P	PKPab	03 46 37.8	+0.8
	baz=5.3						
N25K	Chitina, Valde	169.24	326	P	PKPab	03 46 37.7	+0.2
	baz=45						
K20K	Telida	169.72	352	P	PKPab	03 46 42.1	+2.7
	baz=11						
J18K	Innoko River	169.74	359	P	PKPab	03 46 40.7	+1.3
	baz=1.9						
CUT	Chulitna	170.11	341	P	PKPab	03 46 42.0	+0.9
	baz=25						
SML	Sawmill	170.20	335	P	PKPab	03 46 43.4	+1.8
	baz=33						
KAIM	Kayak Island	170.31	319	P	PKPab	03 46 43.3	+1.2
	baz=52						
K13K	Kusilvak Mount	170.40	22	P	PKPab	03

GLKZ	**Green Lake**	**4.17**	**14**	P	**Pn**	**03 26 54.9**	**+2.7**
GLKZ				S	**Sn**	**03 27 41.8**	**+2.0**
MXZ	**Matakaoa Point**	**4.72**	**206**	Pn	**Pn**	**03 27 00.6**	**+0.9**
MXZ	**Matakaoa Point**	**4.72**	**206**	P	**Pn**	**03 27 01.1**	**+1.4**
MXZ				S	**Sn**	**03 27 53.7**	**+0.5**
WMGZ	**Waiomatatini S**	**4.92**	**203**	P	**Pn**	**03 27 04.9**	**+2.6**
WMGZ				S	**Sn**	**03 27 58.5**	**+0.5**
HAZ	**Te Kaha**	**5.09**	**209**	P	**Pn**	**03 27 06.8**	**+2.0**
HAZ				S	**Sn**	**03 28 03.4**	**+1.1**
PKGZ	**Pakihiroa**	**5.10**	**206**	P	**Pn**	**03 27 06.7**	**+1.8**
PKGZ				S	**Sn**	**03 28 02.3**	**-0.2**
PUZ	**Puketiti**	**5.20**	**204**	P	**Pn**	**03 27 06.6**	**+0.3**
RUGZ	**Raukumara Rang**	**5.32**	**209**	P	**Pn**	**03 27 09.9**	**+1.9**
GRZ	**Great Barrier**	**5.34**	**235**	P	**Pn**	**03 27 12.5**	**+4.4**
TWGZ	**Tauwhareparae**	**5.39**	**205**	P	**Pn**	**03 27 10.7**	**+1.8**
KUZ	**Kuaotunu**	**5.44**	**230**	P	**Pn**	**03 27 14.2**	**+4.7**
CNGZ	**Carnagh Statio**	**5.59**	**202**	P	**Pn**	**03 27 13.0**	**+1.4**
MWZ	**Matawai**	**5.70**	**208**	P	**Pn**	**03 27 14.5**	**+1.4**
MWZ				S	**Sn**	**03 28 16.5**	**-0.7**
URZ	**Urewera**	**5.80**	**211**	P	**Pn**	**03 27 15.4**	**+0.9**
URZ				S	**Sn**	**03 28 18.9**	**-0.9**
URZ	**Urewera**	**5.80**	**211**	Pn	**Pn**	**03 27 15.6**	**+1.1**
	3.6nm,0.3s,baz=76,slow=2.0,SNR=28						
URZ				Sn	**Sn**	**03 28 19.9**	**+0.2**
	9.5nm,0.3s,baz=238,slow=20,SNR=9.2						
	12nm,0.3s						
RIGZ	**Rimuhau**	**5.94**	**204**	P	**Pn**	**03 27 19.1**	**+2.7**
WCZ	**Waipu Caves**	**5.99**	**242**	P	**Pn**	**03 27 21.8**	**+4.7**
PRGZ	**Paritu Road**	**6.09**	**203**	P	**Pn**	**03 27 20.7**	**+2.2**
MUGZ	**Murupara**	**6.13**	**212**	P	**Pn**	**03 27 20.2**	**+1.1**
RTZ	**Ruatahuna**	**6.16**	**210**		**Pn**	**03 27 20.3**	**+0.8**
RTZ	**Ruatahuna**	**6.16**	**210**	P	**Pn**	**03 27 20.3**	**+0.8**
SNGZ	**Shannon Statio**	**6.16**	**207**	P	**Pn**	**03 27 21.5**	**+2.1**
TOZ	**Tahuroa Road**	**6.21**	**223**	Pn	**Pn**	**03 27 19.1**	**-1.0**
TOZ	**Tahuroa Road**	**6.21**	**223**	P	**Pn**	**03 27 24.9**	**+4.8**
MHGZ	**Mahia Peninsul**	**6.29**	**202**	P	**Pn**	**03 27 21.8**	**+0.5**
OUZ	**Omahuta**	**6.32**	**251**	P	**Pn**	**03 27 25.9**	**+4.2**
RAHZ	**Arahi**	**6.37**	**208**	P	**Pn**	**03 27 24.5**	**+2.1**
MTHZ	**Maungataniwha**	**6.42**	**210**	P	**Pn**	**03 27 25.5**	**+2.5**
NMHZ	**Naumai**	**6.64**	**209**	P	**Pn**	**03 27 24.8**	**-1.2**
ARHZ	**Aropaoanui**	**6.71**	**207**	P	**Pn**	**03 27 29.0**	**+2.1**
BKZ	**Black Stump Fm**	**6.83**	**210**		**Pn**	**03 27 28.8**	**+0.2**
BKZ	**Black Stump Fm**	**6.83**	**210**	P	**Pn**	**03 27 29.7**	**+1.1**
MCHZ	**McNeill Hill**	**6.98**	**208**	P	**Pn**	**03 27 31.8**	**+1.1**
KWHZ	**Kaweka Forest**	**7.07**	**209**	P	**Pn**	**03 27 32.6**	**+0.5**
NTVZ	**North Tongarir**	**7.14**	**215**	P	**Pn**	**03 27 34.5**	**+1.5**
TMVZ	**Te Maari**	**7.14**	**214**	P	**Pn**	**03 27 34.5**	**+1.5**
KAHZ	**Kahuranaki**	**7.22**	**205**	P	**Pn**	**03 27 33.0**	**-1.0**
BFZ	**Birch Farm**	**8.23**	**205**	Pn	**Pn**	**03 27 47.1**	**-0.7**
MRZ	**Mangatainoka R**	**8.46**	**209**	Pn	**Pn**	**03 27 49.0**	**-2.0**
MRNZ	**Matariki Terra**	**10.33**	**216**		**Pn**	**03 28 15.5**	**-1.1**
CTZ	**Chatham Island**	**10.58**	**170**	Pn	**Pn**	**03 28 21.2**	**+1.3**
TAU	**Tasmania Unive**	**27.93**	**240**	P	**P**	**03 31 36.3**	**-1.5**
BBOO	**Buckleboo**	**37.35**	**258**	P	**P**	**03 32 58.6**	**-1.5**
AS31	**Alice Springs**	**42.10**	**271**	P	**P**	**03 33 40.2**	**+0.4**
ASAR	**Alice Springs**	**42.10**	**271**	P	**P**	**03 33 40.3**	**+0.5**
	1.3nm,0.4s,baz=109,slow=7.5,SNR=30						
	1.3nm,0.4s						
WR0	**Warramunga Arr**	**43.18**	**276**	P	**P**	**03 33 46.3**	**-2.3**
WR0				IAmb	IAmb	03 34 25.6	
	comp=Z,7.8nm,1.2s						
WB2	**Warramunga Arr**	**43.34**	**276**	P	**P**	**03 33 49.5**	**-0.4**
WB2				IAmb	IAmb	03 34 28.5	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**43.35**	**276**	P	**P**	**03 33 48.3**	**-1.8**
WRA	**Warramunga Arr**	**43.35**	**276**	P	**P**	**03 33 49.4**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=114,slow=7.7,SNR=31						
WRA				PcP	**PcP**	**03 35 36.4**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=122,slow=3.1,SNR=1.8						
	comp=Z,1.8nm,0.7s						
WB0	**Warramunga Arr**	**43.39**	**276**	P	**P**	**03 33 48.8**	**-1.5**
WB0				IAmb	IAmb	03 34 12.9	
	comp=Z,7.4nm,1.4s						
CASY	**Casey**	**52.12**	**209**	P	**P**	**03 34 57.5**	**+0.2**
CASY				IAmb	IAmb	03 35 15.3	
	comp=Z,15nm,1.4s						
PSA00	**Pilbara Seismi**	**54.74**	**266**	P	**P**	**03 35 16.0**	**-1.3**
PSA00				IAmb	IAmb	03 35 49.7	
	comp=Z,16nm,1.5s						
QSPA	**South Pole Qui**	**56.80**	**180**	P	**P**	**03 35 33.8**	**+2.3**
QSPA				IAmb	IAmb	03 36 00.6	
	comp=Z,8.0nm,1.2s						
QSPA	**South Pole Qui**	**56.80**	**180**	P	**P**	**03 35 34.3**	**+2.9**
	comp=Z,2.5nm,0.9s,baz=333,slow=17,SNR=1.0						
	comp=Z,2.5nm,0.9s						
BELA	**Belgrano 2**	**67.02**	**172**	P	**P**	**03 36 41.3**	**+1.5**
BELA				IAmb	IAmb	03 36 55.6	
	comp=Z,6.3nm,1.5s						
MAW	**Mawson**	**69.25**	**201**	P	**P**	**03 36 53.6**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=88,slow=7.6,SNR=1.9						
	comp=Z,0.7nm,0.3s						
SNAA	**Sanae**	**75.27**	**179**	P	**P**	**03 37 31.1**	**+1.3**
SNAA				IAmb	IAmb	03 37 36.7	
	comp=Z,4.3nm,1.4s						
SNAA	**Sanae**	**75.27**	**179**	P	**P**	**03 37 31.3**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=200,slow=9.8,SNR=12						
	comp=Z,0.5nm,0.3s						
H03S2	**Juan Fernandez**	**79.64**	**124**	T	T	05 06 11.6	
	baz=235,slow=74,SNR=56						
H03S1	**Juan Fernandez**	**79.65**	**124**	T	T	05 06 12.8	
	baz=235,slow=74,SNR=56						
H03S3	**Juan Fernandez**	**79.66**	**124**	T	T	05 06 12.4	
	baz=235,slow=74,SNR=65						
H03N3	**Juan Fernandez**	**79.85**	**123**	T	T	05 06 26.1	
	baz=239,slow=72,SNR=48						
H03N2	**Juan Fernandez**	**79.86**	**123**	T	T	05 06 23.0	
	baz=239,slow=72,SNR=42						
H03N1	**Juan Fernandez**	**79.87**	**123**	T	T	05 06 22.8	
	baz=239,slow=72,SNR=57						
YULB	**Yu-li**	**80.01**	**306**	P	**P**	**03 37 55.4**	**-1.5**
PLCA	**Paso Flores**	**81.21**	**133**	P	**P**	**03 38 02.4**	**-1.0**
ARCES	**ARCESS Array B**	**141.22**	**346**	PKP	**PKPdf**	**03 45 15.5**	**-1.3**
	comp=Z,5.5nm,1.1s,baz=0.0,slow=2.9,SNR=1.0						
FINES	**FINESS Array B**	**147.52**	**338**	PKPbc	**PKPdf**	**03 45 28.8**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=74,slow=2.8,SNR=9.3						
NB2	**NORSAR Subarra**	**151.47**	**349**	PKP	**PKPbc**	**03 45 40.0**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.47**	**349**	PKPbc	**PKPbc**	**03 45 39.1**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=14,slow=4.1,SNR=5.9						
HFS	**Hagfors**	**151.88**	**346**	PKPbc	**PKPbc**	**03 45 40.1**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=321,slow=2.0,SNR=3.0						
DBIC	**Dimbokro**	**152.95**	**167**	PKPbc	**PKPbc**	**03 45 45.9**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=110,slow=3.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**159.90**	**182**	PKP	**PKPdf**	**03 45 45.4**	**-1.5**
	comp=Z,0.1nm,0.5s,baz=140,slow=3.2,SNR=1.1						
TORD				PKPab	**PKPab**	**03 46 26.9**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=152,slow=2.8,SNR=7.3						

*IDC **19** 03:40:18.6±0.7, 50°.04S×162°.10E, h0^{km}, mb4.3/6, mbtmp4.4/8, ML4.1/2, MS3.8/11, Error ellipse: s-maj=26.2km s-min=20.7km az=77.0*
*NEIC **19** 03:40:19.9±1.7, 50°.28S±0°.09×162°.0E±0°.2, h10^{km}±1^{km}, mb4.6/18, Error ellipse: s-maj=21.3km s-min=12.5km az=118.0*

ISC 19 03:40:19.7±0.5, 50°.25S±0°.07×161°.95E±0°.08, h10^{km}, n91, σ1§35/71, mb4.5/11, MS3.8/10, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**4.64**	**202**	Pn	**Pn**	**03 41 26.4**	**-3.2**
MCQ	**Macquarie Isla**	**4.64**	**202**	P	**Pn**	**03 41 26.3**	**-3.4**
PYZ	**Puysegur Point**	**5.16**	**40**	Pn	**Pn**	**03 41 36.6**	**-0.3**
PYZ	**Puysegur Point**	**5.16**	**40**	P	**Pn**	**03 41 37.1**	**+0.2**
WHZ	**Wether Hill Ro**	**5.92**	**45**	Pn	**Pn**	**03 41 47.6**	**+0.2**
DCZ	**Deep Cove**	**5.93**	**38**	Pn	**Pn**	**03 41 46.8**	**-0.6**
SYZ	**Scrubby Hill**	**6.06**	**55**	P	**Pn**	**03 41 50.4**	**+1.2**
MLZ	**Mavora Lakes**	**6.41**	**43**	Pn	**Pn**	**03 41 54.8**	**+0.7**
WKZ	**Wanaka**	**7.23**	**44**	Pn	**Pn**	**03 42 05.7**	**+0.3**
JCZ	**Jackson Bay**	**7.73**	**40**	P	**Pn**	**03 42 13.9**	**+1.6**
ODZ	**Otahua Downs**	**7.84**	**52**	Pn	**Pn**	**03 42 12.6**	**-1.1**
LBZ	**Lake Benmore**	**8.10**	**47**	Pn	**Pn**	**03 42 15.7**	**-1.6**
FOZ	**Fox Glacier**	**8.60**	**42**	Pn	**Pn**	**03 42 23.2**	**-1.0**
RPZ	**Rata Peaks**	**9.02**	**47**	Pn	**Pn**	**03 42 27.2**	**-2.6**
RPZ	**Rata Peaks**	**9.02**	**47**	P	**Pn**	**03 42 31.2**	**+1.4**
RPZ	**Rata Peaks**	**9.02**	**47**	Pn	**Pn**	**03 42 27.6**	**-2.2**
	2.2nm,0.3s,baz=228,slow=8.7,SNR=12						
RPZ				Sn	**Sn**	**03 44 07.2**	**-4.2**
	1.7nm,0.3s,baz=8.7,slow=14,SNR=2.8						
RPZ				LR	LR	03 45 26.7	
	comp=Z,304nm,20.3s,baz=196,slow=35						
	6.0nm,0.3s						
MQZ	**McQueen's Vall**	**9.81**	**52**	Pn	**Pn**	**03 42 40.0**	**-0.6**

INZ	**Inchbonnie**	**9.97**	**45**		**Pn**	**03 42 42.8**	**0.0**
LTZ	**Lake Taylor**	**10.30**	**48**		**Pn**	**03 42 47.9**	**+0.4**
DSZ	**Denniston Nort**	**10.91**	**43**		**Pn**	**03 42 55.9**	**+0.1**
THZ	**Tophouse**	**11.39**	**46**		**Pn**	**03 43 02.7**	**+0.3**
QRZ	**Quartz Range**	**11.98**	**42**	Pn	**Pn**	**03 43 09.7**	**-0.7**
QRZ	**Quartz Range**	**11.98**	**42**	P	**Pn**	**03 43 10.0**	**-0.3**
TKNZ	**Takaka Hill**	**12.00**	**44**	Pn	**Pn**	**03 43 10.2**	**-0.4**
TAU	**Tasmania Unive**	**12.44**	**301**	Pn	**Pn**	**03 43 14.2**	**-2.5**
TAU	**Tasmania Unive**	**12.44**	**301**	P	**Pn**	**03 43 14.5**	**-2.2**
MOO	**Moorlands**	**12.83**	**302**	P	**Pn**	**03 43 19.9**	**-2.1**
MRZ	**Mangatainoka R**	**13.52**	**50**	Pn	**Pn**	**03 43 32.6**	**+1.1**
BFZ	**Birch Farm**	**13.84**	**52**	Pn	**Pn**	**03 43 36.0**	**+0.2**
BKZ	**Black Stump Fm**	**15.12**	**48**	Pn	**Pn**	**03 43 53.1**	**-0.1**
BKZ				IAmb	IAmb	03 44 04.4	
	comp=Z,107nm,1.3s						
RTZ	**Ruatahuna**	**15.79**	**48**	Pn	**Pn**	**03 44 03.4**	**+1.3**
RTZ				IAmb	IAmb	03 44 11.0	
	comp=Z,75nm,1.0s						
MILA	**Mila**	**16.08**	**320**	P	**Pn**	**03 44 06.6**	**+0.8**
URZ	**Urewera**	**16.13**	**48**	Pn	**Pn**	**03 44 04.5**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=252,slow=19,SNR=2.7						
URZ				LR	LR	03 50 07.2	
	comp=Z,452nm,21.7s,baz=332,slow=37						
	comp=Z,3.5nm,0.3s						
TOO	**Toolangi**	**17.30**	**311**	P	**Pn**	**03 44 22.7**	**+1.5**
TOO				IAmb	IAmb	03 44 28.2	
	comp=Z,49nm,1.4s						
CNB	**Canberra Magne**	**17.51**	**324**	P	**P**	**03 44 25.5**	**+0.5**
CAN	**Canberra**	**17.65**	**323**		**Pn**	**03 44 26.6**	**+1.0**
STKA	**Stephens Creek**	**23.79**	**313**	P	**P**	**03 45 34.1**	**+1.7**
STKA	**Stephens Creek**	**23.79**	**313**	P	**P**	**03 45 32.7**	**+0.3**
	comp=Z,12nm,1.0s,baz=168,slow=12,SNR=4.0						
	comp=Z,12nm,1.0s						
DZM	**Mont Dzumac**	**28.34**	**9**	LR	LR	03 55 43.2	
	comp=Z,145nm,19.3s,baz=170,slow=33						
FORT	**Forrest**	**31.89**	**295**	P	**P**	**03 46 43.7**	**-1.3**
FORT				IAmb	IAmb	03 46 46.6	
	comp=Z,20nm,0.9s						
CTA	**Charters Tower**	**32.57**	**332**	LR	LR	03 58 44.8	
	comp=Z,162nm,18.2s,baz=150,slow=34						
AS31	**Alice Springs**	**34.36**	**310**	P	**P**	**03 47 07.1**	**+0.5**
ASAR	**Alice Springs**	**34.36**	**310**	P	**P**	**03 47 05.4**	**-1.3**
ASAR	**Alice Springs**	**34.36**	**310**	P	**P**	**03 47 07.2**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=145,slow=8.3,SNR=26						
ASAR				PcP	**PcP**	**03 49 42.2**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=163,slow=3.9,SNR=2.8						
	comp=Z,5.5nm,0.8s						
MSVF	**Nonsavu**	**34.91**	**27**	LR	LR	04 00 12.2	
	comp=Z,191nm,19.0s,baz=163,slow=34						
WR0	**Warramunga Arr**	**37.22**	**314**	P	**P**	**03 47 30.5**	**-0.7**
WR0				IAmb	IAmb	03 47 34.9	
	comp=Z,9.5nm,1.2s						
WB2	**Warramunga Arr**	**37.33**	**314**		**P**	**03 47 33.1**	**+1.0**
WB2				IAmb	IAmb	03 47 42.5	
	comp=Z,8.9nm,1.0s						
WRA	**Warramunga Arr**	**37.33**	**314**	P	**P**	**03 47 31.3**	**-0.8**
WRA	**Warramunga Arr**	**37.33**	**314**	P	**P**	**03 47 31.4**	**-0.7**
	comp=Z,4.2nm,1.0s,baz=150,slow=9.5,SNR=14						
WRA				PcP	**PcP**	**03 49 51.1**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=148,slow=2.4,SNR=5.8						
	comp=Z,4.2nm,1.0s						
WB0	**Warramunga Arr**	**37.46**	**314**	P	**P**	**03 47 33.4**	**+0.2**
WB0				IAmb	IAmb	03 47 51.5	
	comp=Z,11nm,1.2s						
H01W1	**Cape Leeuwin H**	**37.71**	**275**	T	T	04 27 53.5	
	baz=130,slow=75,SNR=65						
H01W2	**Cape Leeuwin H**	**37.72**	**275**	T	T	04 27 54.1	
	baz=130,slow=75,SNR=46						
H01W3	**Cape Leeuwin H**	**37.73**	**275**	T	T	04 27 54.8	
	baz=130,slow=75,SNR=54						
NIUE	**Niue**	**38.32**	**46**	P	**P**	**03 47 41.1**	**+0.7**
QSPA	**South Pole Qui**	**39.87**	**180**	P	**P**	**03 47 52.5**	**-0.8**
QSPA				IAmb	IAmb	03 48 01.3	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**39.87**	**180**	P	**P**	**03 47 55.1**	**+1.8**
	comp=Z,3.9nm,1.0s,baz=30,slow=8.9,SNR=6.3						
	comp=Z,3.9nm,1.0s						
MORW	**Morawa**	**40.39**	**284**	P	**P**	**03 47 58.4**	**+0.7**
MORW				IAmb	IAmb	03 48 04.0	
	comp=Z,33nm,1.4s						
HNR	**Honiara**	**40.72**	**357**	LR	LR	04 01 20.2	
	comp=Z,2μm,20.5s,baz=153,slow=31						
MBWA	**Marble Bar**	**44.03**	**296**	P	**P**	**03 48 27.1**	**-0.4**
MAW	**Mawson**	**47.98**	**211**	LR	LR	04 06 25.0	
	comp=Z,93nm,20.0s,baz=120,slow=32						
SNAA	**Sanae**	**57.91**	**186**	P	**P**	**03 50 12.6**	**+1.3**
SNAA				IAmb	IAmb	03 50 21.1	
	comp=Z,5.7nm,1.3s						
SNAA	**Sanae**	**57.91**	**186**	P	**P**	**03 50 14.4**	**+3.1**
	comp=Z,1.5nm,0.7s,baz=186,slow=10,SNR=4.3						
SNAA				LR	LR	04 13 51.6	
	comp=Z,82nm,20.9s,baz=186,slow=35						
	comp=Z,1.5nm,0.7s						
LUWI	**Luwuk**	**59.24**	**313**	P	**P**	**03 50 22.3**	**+1.1**
DAV	**Davao City (W)**	**65.21**	**320**	LR	LR	04 20 26.8	
	comp=Z,74nm,19.4s,baz=172,slow=37						
H04S2	**CROZET ISLANDS**	**66.02**	**225**	T	T	05 03 08.2	
	baz=139,slow=76,SNR=3.8						
H04S1	**CROZET ISLANDS**	**66.02**	**225**	T	T	05 03 09.0	
	baz=139,slow=76,SNR=4.1						
H04S3	**CROZET ISLANDS**	**66.03**	**225**	T	T	05 03 07.7	
	baz=139,slow=76,SNR=4.6						
GO09	**Cerro Castillo**	**68.83**	**147**	P	**P**	**03 51 24.1**	**+0.3**
H03S2	**Juan Fernandez**	**80.51**	**133**	T	T	05 22 00.2	
	baz=213,slow=74,SNR=25						
H03S1	**Juan Fernandez**	**80.51**	**133**	T	T	05 21 55.3	
	baz=213,slow=74,SNR=20						
H03S3	**Juan Fernandez**	**80.53**	**133**	T	T	05 21 57.7	
	baz=213,slow=74,SNR=23						
H03N3	**Juan Fernandez**	**80.82**	**132**	T	T	05 22 14.0	
	baz=219,slow=72,SNR=8.4						
H03N2	**Juan Fernandez**	**80.83**	**132**	T	T	05 22 16.4	
	baz=219,slow=72,SNR=12						
H03N1	**Juan Fernandez**	**80.84**	**132**	T	T	05 22 15.6	
	baz=219,slow=72,SNR=3.9						
H08S2	**Diego Garcia H**	**83.84**	**266**	T	T	05 24 39.1	
	baz=140,slow=76,SNR=5.8						
H08S1	**Diego Carcia H**	**83.85**	**266**	T	T	05 24 35.4	
	baz=140,slow=76,SNR=4.3						
H08S3	**Diego Garcia H**	**83.86**	**266**	T	T	05 24 46.8	
	baz=140,slow=76,SNR=11						
JNU	**Nakatsue**	**87.45**	**334**	LR	LR	04 29 24.2	
	comp=Z,80nm,21.6s,baz=223,slow=34						
CMAR	**Chiang Mai Arr**	**87.98**	**302**	P	**P**	**03 53 11.1**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=166,slow=4.0,SNR=5.4						
	comp=Z,1.2nm,0.3s						
KSRS	**Korea Array**	**92.34**	**334**	LR	LR	04 32 39.0	
	comp=Z,37nm,20.7s,baz=245,slow=34						
CPUP	**Villa Florida**	**96.19**	**145**	LR	LR	04 30 23.0	
	comp=Z,40nm,21.6s,baz=220,slow=31						
ILAR	**Eielson Array**	**121.34**	**23**	PKP	**PKPdf**	**03 59 11.6**	**0.0**
	comp=Z,0.3nm,0.9s,baz=258,slow=2.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**122.27**	**317**	PKP	**PKPdf**	**03 59 12.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=132,slow=2.1,SNR=2.1						
KURBB	**Kurchatov Arra**	**122.97**	**311**	PKP	**PKPdf**	**03 59 14.8**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=141,slow=1.5,SNR=1.6						
TORD	**Torodi Ar. Bea**	**139.63**	**211**	PKP	**PKPdf**	**03 59 47.9**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=159,slow=2.2,SNR=3.0						
SPITS	**Spitsbergen Ar**	**149.25**	**347**	PKPbc	**PKPbc**	**04 00 07.5**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=5.2,slow=4.8,SNR=4.8						
AKASG	**Malin Array Be**	**150.31**	**289**	PKPbc	**PKPbc**	**04 00 10.3**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=83,slow=2.1,SNR=1.6						
ARCES	**ARCESS Array B**	**151.81**	**329**	PKP	**PKPdf**	**04 00 06.2**	**-0.4**
	comp=Z,4.3nm,0.9s,baz=46,slow=2.6,SNR=2.7						
ARCES				PKPbc	**PKPbc**	**04 00 13.4**	**+0.3**
	comp=Z,4.7nm,0.9s,baz=42,slow=1.5,SNR=8.3						
FINES	**FINESS Array B**	**153.36**	**312**	PKPbc	**PKPbc**	**04 00 16.9**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=124,slow=0.5,SNR=10.0						
KEST	**Kesra**	**155.44**	**244**	PKPab	**PKPab**	**04 00 39.9**	**+1.2**
	comp=Z,2.5nm,0.9s,baz=73,slow=11,SNR=2.2						
GERES	**GERESS Array B**	**159.43**	**278**	PKPab	**PKPab**	**04 00 54.8**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=75,slow=1.1,SNR=2.5						

*DJA **19** 03:49:15.1±0.2, 7°.5S±3°.×11°.2E±°., h10^{km}, M4.2/14, mb4.6/2, MLv4.0/14*
*IDC **19** 03:49:24.1±2.7, 6°.90S×112°.33E, h83^{km}±28^{km}, mb3.6/5, mbtmp3.9/7, Error ellipse: s-maj=28.6km s-min=16.8km az=29.0*

ISC 19 03:49:15.6±0.7, 7°.07S±0°.05×112°.01E±0°.04, h10^{km}, n22, σ1§80/28, mb4.0/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRJI	**Gresik**	**0.49**	**72**	P	**Pg**	**03 49 25.6**	**+0.5**
GRJI				S	**Sg**	**03 49 34.3**	**+2.8**
NGJI	**Ngawi**	**0.62**	**241**	P	**Pg**	**03 49 27.3**	**-0.4**
NGJI				S	**Sb**	**03 49 38.7**	**+1.2**
WOJI	**Wonogiri, Jawa**	**1.32**	**235**	P	**Pn**	**03 49 38.2**	**-2.0**
WOJI				S	**Sb**	**03 49 57.3**	**-0.3**
BWJI	**Bawean**	**1.37**	**28**	P	**Pn**	**03 49 39.9**	**-0.9**
BWJI				S	**Sb**	**03 49 59.0**	**+0.2**
SMRI	**Semarang**	**1.56**	**271**	P	**Pn**	**03 49 41.3**	**-2.2**
UGM	**Wanagama**	**1.70**	**240**	P	**Pn**	**03 49 43.4**	**-2.0**
BLJI	**Banyuglugur**	**1.71**	**113**	P	**Pn**	**03 49 45.4**	**0.0**
GMJI	**Gumukmas**	**1.86**	**130**	P	**Pn**	**03 49 48.0**	**+0.5**
YOGI	**Yogyakarta**	**1.86**	**246**	P	**Pn**	**03 49 46.1**	**-1.5**
ABJI	**Asem Bagus**	**2.32**	**108**	P	**Pn**	**03 49 53.7**	**-0.1**
JAGI	**Jajag, Banyuwa**	**2.54**	**123**	P	**Pn**	**03 49 57.4**	**+0.5**
KPJI	**Karang Pucung**	**3.07**	**265**	P	**Pn**	**03 50 03.1**	**-1.1**
SRBI	**Singaraja**	**3.33**	**108**	P	**Pn**	**03 50 08.2**	**+0.4**
LEM	**Lembang**	**4.37**	**273**	P	**Pb**	**03 50 32.9**	**+0.2**
	23nm,0.6s,baz=54,slow=14,SNR=2.1						
LEM				S	**Sb**	**03 51 31.7**	**+6.1**
	28nm,0.6s,baz=17,slow=19,SNR=1.5						
TWSI	**Taliwang, Sumb**	**5.10**	**109**	P	**Pn**	**03 50 32.5**	**+0.4**
	25nm,0.7s,0.2nm						
PLAI	**Plampang**	**5.97**	**107**	P	**Pn**	**03 50 45.0**	**+0.9**
KAPI	**Kappang**	**7.96**	**76**	P	**Pn**	**03 51 11.3**	**-0.1**
	3.8nm,0.3s,baz=241,slow=19,SNR=2.0						
KAPI				S	**Sn**	**03 52 38.3**	**-3.3**
	2.6nm,0.2s,baz=56,slow=22,SNR=1.6						
WRA	**Warramunga Arr**	**25.15**	**123**	P	**P**	**03 54 40.2**	**-1.0**
	1.4nm,0.7s,baz=297,slow=11,SNR=20						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**26.72**	**131**	P	**P**	**03 54 55.0**	**-0.6**
	2.3nm,0.6s,baz=305,slow=8.4,SNR=18						
	2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.45**	**333**	P	**P**	**03 55 11.9**	**+1.0**
	0.9nm,0.3s,baz=163,slow=9.4,SNR=1.0						
	0.9nm,0.3s						
STKA	**Stephens Creek**	**37.01**	**136**	P	**P**	**03 56 25.2**	**-0.4**
	1.6nm,0.6s,baz=288,slow=9.6,SNR=1.9						
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**59.78**	**337**	P	**P**	**03 59 19.6**	**-1.3**
	0.2nm,0.6s,baz=157,slow=7.7,SNR=2.3						
	0.2nm,0.6s						

*IDC **19** 04:33:44.8±3.3, 3°.82N×95°.82E, h0^{km}, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=132.2km s-min=30.5km az=56.0*

**ISC 19 04:33:51.1±3.3, 3°.8N±0°.5×95°.7E±0°.7, h50^{km}, n15, σ0§

1.7nm,0.7s
KURBB Kurchatov Arra 45.95 323 P **P** **04 57 15.2 0.0**
1.0nm,0.2s,baz=117,slow=7.5,SNR=6.3
1.0nm,0.2s
BVAR Borovoye Array 51.54 323 P **P** **04 57 58.3 +0.1**
0.5nm,0.4s,baz=104,slow=6.1,SNR=3.1
0.5nm,0.4s
GEYT Alibeck 57.59 303 P **P** **04 58 40.8 -1.6**
1.0nm,0.3s,baz=101,slow=7.5,SNR=1.4
1.0nm,0.3s
NOA NORSAR Array B 82.47 333 LR LR 05 40 00.7
comp=Z,20nm,18.9s,baz=340,slow=37

*JMA **19** 04:56:26.4±0.4, 44°N±1°×14°8E±°, h0km, MV3.6/11, SE OFF ETOROFU*
*SKHL **19** 04:56:26.9±0.7, 44.°40N×148.°20E, h47km±1km, mb4.2/3*
ISC 19 04:56:24.8±3.1, 44.°31N±0.°10×148.°2E±0.°2, h11km±12km, n11, σ1§32/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.95**	**347**	*e*P	**Pg**	**04 56 42.9**	**-0.2**
KUR				AMB	AMB	04 56 43.4	
180nm,0.3s							
KUR				*i* S	**Sg**	**04 56 54.6**	**-0.8**
KUR				A	A	04 56 55.5	
300nm,0.4s							
KUR				A	A	04 56 55.5	
490nm,0.4s							
SHO	**Shikotan**	**1.06**	**246**	*i* P	**Pg**	**04 56 45.4**	**+0.3**
SHO				AMB	AMB	04 56 48.1	
20nm,0.2s							
SHO				*i* S	**Sg**	**04 56 58.2**	**-0.6**
SHO				A	A	04 56 59.2	
90nm,0.3s							
SHO				A	A	04 56 59.2	
270nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.68**	**261**	*i* P	**Pn**	**04 56 54.5**	**+0.4**
YUK				AMB	AMB	04 56 56.1	
60nm,0.3s							
YUK				AMB	AMB	04 56 56.1	
230nm,0.3s							
YUK				*i* S	**Sn**	**04 57 14.9**	**-0.7**
YUK				A	A	04 57 21.5	
430nm,0.2s							
YUK				A	A	04 57 21.5	
120nm,0.2s							
NEM2	**Nemuro 2**	**1.99**	**243**	*e*P	**Pn**	**04 56 58.2**	**-0.1**
NEM2				*e*S	**Sn**	**04 57 21.6**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.00**	**243**	*i* P	**Pn**	**04 56 58.2**	**-0.3**
NMR				*e*S	**Sn**	**04 57 21.6**	**-1.9**
JRA	**Rausu**	**2.22**	**261**	*e*P	**Pn**	**04 57 03.3**	**+1.7**
JNSB	**Nemuroshibetsu**	**2.34**	**258**	*e*P	**Pn**	**04 57 05.2**	**+1.9**
JKHN	**Kushirohamanak**	**2.50**	**242**	*e*P	**Pn**	**04 57 05.7**	**+0.3**
JKHN				*e*S	**Sn**	**04 57 35.2**	**-0.6**
JNK	**Nakash**	**2.59**	**255**	*e*P	**Pn**	**04 57 07.8**	**+1.1**
JNK				*e*S	**Sn**	**04 57 37.9**	**-0.3**
JAR	**Ashorobuto**	**3.34**	**254**	*e*P	**Pn**	**04 57 19.2**	**+2.2**
JNBK	**Urakawa-nobuka**	**4.44**	**245**	*e*P	**Pn**	**04 57 33.6**	**+1.5**

*SCB **19** 05:32:39.8±1.0, 20.°49S×68.°06W, h165km±10km, ML3.1/2, MW3.1, Error ellipse: s-maj=3.0km s-min=2.5km az=1.0*
*GUC **19** 05:32:40.6±0.7, 20.°45S×68.°09W, h174km±6km, ML3.5*
ISC 19 05:32:39.5±1.7, 20.°47S±0.°04×68.°09W±0.°05, h175km±14km, n34, σ0§70/49, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.05**	**288**	Pg	**Pn**	**05 33 07.9**	**+0.4**
PB08	**IPOC Station P**	**1.05**	**288**	⇑*i*P	**Pn**	**05 33 08.0**	**+0.4**
PB08				*i* S	**Sn**	**05 33 28.9**	**-0.3**
PB08				IAML		05 33 31.8	
comp=E,179nm,0.2s							
GO01	**Chusmiza**	**1.31**	**307**	Pg	**Pn**	**05 33 10.0**	**+0.1**
GO01	**Chusmiza**	**1.31**	**307**	⇑*i*P	**Pn**	**05 33 10.0**	**+0.1**
GO01				*i* S	**Sn**	**05 33 33.3**	**+0.1**
GO01				IAML		05 33 38.7	
comp=E,268nm,0.1s							
PB01	**IPOC Station P**	**1.43**	**246**	Pg	**Pn**	**05 33 10.9**	**+0.5**
PB01	**IPOC Station P**	**1.43**	**246**	*e*P	**Pn**	**05 33 10.6**	**+0.1**
PB01				*i* S	**Sn**	**05 33 34.3**	**0.0**
PB01				IAML		05 33 35.1	
comp=N,473nm,0.2s							
PB09	**IPOC Station P**	**1.70**	**219**	*e*P	**Pn**	**05 33 14.5**	**+1.2**
PB09				*i* S	**Sn**	**05 33 40.2**	**+0.8**
PB09				IAML		05 33 41.2	
comp=N,115nm,0.4s							
PB02	**IPOC Station P**	**1.89**	**243**	Pg	**Pn**	**05 33 15.8**	**+0.7**
PB02				Sg	**Sn**	**05 33 42.3**	**-0.4**
PB02				IAML		05 33 44.4	
comp=N,210nm,0.4s							
PB02	**IPOC Station P**	**1.89**	**243**	*e*P	**Pn**	**05 33 15.6**	**+0.5**
PB02				*i* S	**Sn**	**05 33 42.4**	**-0.4**
PB02				IAML		05 33 44.4	
comp=E,345nm,0.2s							
SOEO	**Opoqueri**	**1.91**	**6**	Pg	**Pn**	**05 33 16.2**	**+0.4**
TA02	**Huaiquique**	**1.92**	**276**	Pg	**Pn**	**05 33 15.5**	**+0.1**
TA02	**Huaiquique**	**1.92**	**276**	*e*P	**Pn**	**05 33 15.5**	**+0.1**
TA02				*i* S	**Sn**	**05 33 42.0**	**-1.1**
TA02				IAML		05 33 43.3	
comp=N,962nm,0.1s							
TA01	**Diego Aracena**	**1.96**	**267**	Pg	**Pn**	**05 33 15.7**	**-0.1**
TA01	**Diego Aracena**	**1.96**	**267**	⇑*i*P	**Pn**	**05 33 15.7**	**-0.1**
TA01				*i* S	**Sn**	**05 33 42.4**	**-1.5**
TA01				IAML		05 33 43.9	
comp=E,220nm,0.2s							
PATCX	**Punta Patache**	**1.96**	**259**	*e*P	**Pn**	**05 33 16.4**	**+0.5**
PATCX				*i* S	**Sn**	**05 33 43.4**	**-0.7**
PATCX				IAML		05 33 46.8	
comp=N,315nm,0.2s							
PB07	**IPOC Station P**	**2.09**	**233**	Pg	**Pn**	**05 33 18.0**	**+0.6**
PB07	**IPOC Station P**	**2.09**	**233**	*e*P	**Pn**	**05 33 17.8**	**+0.4**
PB07				*i* S	**Sn**	**05 33 46.1**	**-0.7**
PB07				IAML		05 33 50.0	
comp=E,179nm,0.2s							
LVC	**Limon Verde**	**2.26**	**200**	Pg	**Pn**	**05 33 20.2**	**+0.7**
MOCB	**Mochara**	**2.42**	**109**	Pg	**Pn**	**05 33 22.0**	**+0.5**
MOCB				Sg	**Sn**	**05 33 52.6**	**-1.4**
MOCB				IAML		05 33 53.6	
comp=E,35nm,0.4s							
PB16	**IPOC Station P**	**2.51**	**328**	Pg	**Pn**	**05 33 23.7**	**+1.0**
PB16	**IPOC Station P**	**2.51**	**328**	*e*P	**Pn**	**05 33 23.7**	**+1.0**
PB16				*i* S	**Sn**	**05 33 56.5**	**+0.4**
PB06	**IPOC Station P**	**2.62**	**212**	Pg	**Pn**	**05 33 24.0**	**+0.5**
PB06	**IPOC Station P**	**2.62**	**212**	⇓*i*P	**Pn**	**05 33 24.0**	**+0.5**
PB06				*i* S	**Sn**	**05 33 57.2**	**-0.5**
PB06				IAML		05 33 58.9	
comp=E,218nm,0.5s							
PB04	**IPOC Station P**	**2.67**	**226**	Pg	**Pn**	**05 33 24.7**	**+0.7**
PB04	**IPOC Station P**	**2.67**	**226**	*e*P	**Pn**	**05 33 24.7**	**+0.7**
PB04				*i* S	**Sn**	**05 33 57.4**	**-1.4**
PB04				IAML		05 34 00.1	
comp=E,198nm,0.2s							
PB12	**IPOC Station P**	**2.81**	**311**	*e*P	**Pn**	**05 33 24.9**	**-0.8**
YJA	**Yavi**	**2.94**	**126**	Pg	**Pn**	**05 33 28.0**	**+0.4**
PB15	**IPOC Station P**	**3.01**	**205**	Pg	**Pn**	**05 33 28.8**	**+0.6**
PB15	**IPOC Station P**	**3.01**	**205**	*e*P	**Pn**	**05 33 29.2**	**+1.0**
PB15				*i* S	**Sn**	**05 34 06.1**	**-0.1**
SOET	**ToroToro**	**3.18**	**43**	Pg	**Pn**	**05 33 30.1**	**-0.5**
SOEJ	**Jacaque**	**3.48**	**358**	Pg	**Pn**	**05 33 35.0**	**+0.6**
BBOE	**La Paz, Chanca**	**3.64**	**2**	Pg	**Pn**	**05 33 37.6**	**+1.1**
BBOD	**La Paz, Gloria**	**3.84**	**353**	Pg	**Pn**	**05 33 39.8**	**+0.7**
GO02	**Mina Guanaco**	**4.87**	**196**	Pg	**Pn**	**05 33 51.9**	**0.0**

*ROM **19** 05:34:54.6±0.0, 42.°845N±0.°002×13.°235E±0.°004, h8km, ML3.1/138, Mw3.2, Error ellipse: s-maj=0.4km s-min=0.1km az=67.0, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}2.55; $M_{\theta\theta}$-0.41; $M_{\phi\phi}$-2.14; $M_{r\theta}$-0.78; $M_{\theta\phi}$2.53; $M_{\phi r}$6.64; Fault plane solution: $M_0$7.52300×10^{13} NP1:ϕ_s114.00000°, δ20.00000°, λ34.00000°. NP2:ϕ_s351.00000°, δ79.00000°, λ107.00000°.*
*PDG **19** 05:34:55.3±0.5, 42.°84N×13.°24E, h10km, ML3.5/10 Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*LDG **19** 05:34:55.5±0.2, 42.°76N×13.°16E, h9km, Ml3.0/14, Error ellipse: s-maj=6.5km s-min=3.3km az=41.0*
*BEO **19** 05:34:56.3±0.8, 42.°96N×13.°30E, h0km, ML3.2/10*
*PRU **19** 05:34:59.4, 43.°06N×13.°47E, h0km*

ISC 19 05:34:55.0±0.7, 42.°84N±0.°01×13.°21E±0.°02, h11km±4km, n196, σ1§65/230, 18C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.07**	**264**	⇓P	**Pg**	**05 34 57.5**	**+0.1**
NRCA				S	**Sg**	**05 34 59.2**	**0.0**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
MC2	**Monte Cornacci**	**0.07**	**348**	P	**Pg**	**05 34 57.1**	**-0.5**
MC2				S	**Sg**	**05 34 58.6**	**-0.9**
T1214	**Arquata del Tr**	**0.08**	**181**	⇓P	**Pg**	**05 34 57.6**	**0.0**
T1214				S	**Sg**	**05 34 59.5**	**0.0**
T1214				AML	AML		
T1214				AML	AML		
T1214				AML	AML		
T1214				AML	AML		
T1214				AML	AML		
T1214				AML	AML		
MMO1	**Montemonaco**	**0.10**	**56**	P	**Pg**	**05 34 57.1**	**-0.7**
MMO1				S	**Sg**	**05 34 58.5**	**-1.4**
MTRA	**Matera**	**0.16**	**122**	⇓P	**Pg**	**05 34 58.5**	**-0.1**
MTRA				S	**Sg**	**05 35 01.2**	**0.0**
MTRA				AML	AML		
comp=E,86500μm,1.5s							
MTRA				AML	AML		
comp=E,84600μm,1.5s							
MTRA				AML	AML		
comp=E,86500μm,1.5s							
MTRA				AML	AML		
comp=N,94150μm,0.5s							
MTRA				AML	AML		
comp=E,86500μm,0.5s							
MTRA				AML	AML		
comp=E,84600μm,0.5s							
MTRA				AML	AML		
comp=N,94050μm,0.5s							
FEMA	**Monte Fema**	**0.17**	**316**	⇑P	**Pg**	**05 34 59.0**	**+0.2**
FEMA				S	**Sg**	**05 35 02.1**	**+0.6**
FEMA				AML	AML		
comp=E,30800μm,0.9s							
FEMA				AML	AML		
comp=N,28000μm,1.3s							
FEMA				AML	AML		
comp=E,30800μm,0.9s							
FEMA				AML	AML		
comp=N,27950μm,1.4s							
FEMA				AML	AML		
comp=N,27950μm,1.3s							
FEMA				AML	AML		
comp=E,30750μm,0.9s							
FDMO	**Fiordimonte**	**0.22**	**335**	⇑P	**Pg**	**05 34 59.5**	**0.0**
FDMO				S	**Sg**	**05 35 03.3**	**+0.6**
FDMO				AML	AML		
comp=E,12330μm,0.3s							
FDMO				AML	AML		
comp=N,12375μm,0.3s							
SMA1	**SAN MARTINO**	**0.23**	**156**	P	**Pg**	**05 34 60.0**	**+0.2**
SMA1				S	**Sg**	**05 35 03.8**	**+0.7**
SMA1				AML	AML		
comp=N,16000μm,0.3s							
SMA1				AML	AML		
comp=E,20150μm,0.5s							
SMA1				AML	AML		
comp=N,16000μm,1.7s							
MF5	**Montefalcone A**	**0.24**	**51**	⇓P	**Pg**	**05 34 59.9**	**0.0**
MF5				S	**Sg**	**05 35 04.2**	**+0.9**
MF5				AML	AML		
comp=E,28150μm,0.5s							
MF5				AML	AML		
comp=N,23350μm,0.6s							
GUMA	**Gualdo di Mace**	**0.24**	**22**	⇓P	**Pg**	**05 35 00.1**	**+0.1**
GUMA				S	**Sg**	**05 35 04.3**	**+0.9**
GUMA				AML	AML		
comp=N,51000μm,0.4s							
GUMA				AML	AML		
comp=E,38700μm,0.5s							
GUMA				AML	AML		
comp=N,51000μm,0.5s							
GUMA				AML	AML		
comp=E,36550μm,0.4s							
GUMA				AML	AML		
comp=E,38700μm,1.5s							
GUMA				AML	AML		
comp=N,49950μm,0.4s							
CSP1	**Cessapalombo**	**0.25**	**359**	⇑P	**Pg**	**05 35 00.1**	**-0.2**
CSP1				S	**Sg**	**05 35 04.3**	**+0.5**
CSP1				AML	AML		
comp=E,12800μm,0.5s							
CSP1				AML	AML		
comp=N,13850μm,0.5s							
CSP1				AML	AML		
comp=E,12750μm,0.5s							
T1221	**Campello sul C**	**0.27**	**274**	⇑P	**Pg**	**05 35 01.1**	**+0.6**
T1221				S	**Sg**	**05 35 05.9**	**+1.7**
T1221				AML	AML		
comp=E,17300μm,0.5s							
T1221				AML	AML		
comp=N,11600μm,0.2s							
T1221				AML	AML		
comp=E,17550μm,0.3s							
T1221				AML	AML		
comp=E,17300μm,0.5s							
T1221				AML	AML		
comp=N,10810μm,0.3s							
LNSS	**Leonessa**	**0.27**	**208**	⇑P	**Pg**	**05 35 01.1**	**+0.5**
LNSS				S	**Sg**	**05 35 06.2**	**+1.9**
LNSS				AML	AML		
comp=E,49650μm,0.7s							
LNSS				AML	AML		
comp=N,47150μm,0.2s							
LNSS				AML	AML		
comp=E,49650μm,1.3s							
GAVE	**Gavelli**	**0.28**	**238**	⇓P	**Pg**	**05 35 01.3**	**+0.6**
GAVE				S	**Sg**	**05 35 06.2**	**+1.8**
GAVE				AML	AML		
comp=E,35850μm,0.9s							
GAVE				AML	AML		
comp=N,40350μm,0.9s							
GAVE				AML	AML		
comp=E,33450μm,0.9s							
GAVE				AML	AML		
comp=N,12300μm,0.9s							
GAVE				AML	AML		
comp=N,12300μm,1.1s							
GAVE				AML	AML		
comp=N,40350μm,1.1s							
CESI	**CESI - Serrava**	**0.28**	**306**	⇑P	**Pg**	**05 35 01.0**	**+0.3**
CESI				S	**Sg**	**05 35 06.0**	**+1.4**
CESI				AML	AML		
comp=E,12450μm,0.7s							
CESI				AML	AML		
comp=N,35450μm,0.4s							
RM33	**Pellescritta (**	**0.33**	**180**	⇑P	**Pg**	**05 35 02.0**	**+0.3**
RM33				S	**Sg**	**05 35 07.7**	**+1.6**
RM33				AML	AML		
comp=E,12100μm,1.4s							
RM33				AML	AML		
comp=E,12150μm,1.4s							
RM33				AML	AML		
comp=N,8395μm,0.5s							
RM33				AML	AML		
comp=E,12150μm,0.6s							
RM33				AML	AML		
comp=E,12100μm,0.6s							
RM33				AML	AML		
comp=N,7965μm,0.5s							
CAMP	**Campotosto**	**0.34**	**154**	⇑P	**Pg**	**05 35 01.8**	**0.0**
CAMP				S	**Sg**	**05 35 07.4**	**+1.0**
CAMP				AML	AML		
comp=E,7510μm,0.2s							
CAMP				AML	AML		
comp=N,5940μm,0.3s							
MDAR	**Monte D'Aria**	**0.35**	**352**	P	**Pg**	**05 35 02.1**	**0.0**
MDAR				AML	AML		
comp=N,8020μm,0.5s							
MDAR				AML	AML		
comp=E,8475μm,1.4s							
MDAR				AML	AML		
comp=N,8020μm,0.5s							
OFFI	**Offida**	**0.36**	**75**	P	**Pg**	**05 35 02.6**	**+0.5**
OFFI				AML	AML		
comp=E,15750μm,0.7s							
OFFI				AML	AML		
comp=N,15000μm,0.6s							
TERO	**Teramo**	**0.36**	**127**	P	**Pg**	**05 35 01.9**	**-0.3**
TERO				S	**Sg**	**05 35 07.9**	**+0.8**
TERO				AML	AML		
comp=E,8830μm,0.2s							
TERO				AML	AML		
comp=E,8830μm,0.2s							
TERO				AML	AML		
comp=E,8830μm,1.8s							
TERO				AML	AML		
comp=N,7810μm,1.2s							
TERO				AML	AML		
comp=E,16150μm,0.5s							
TERO				AML	AML		
comp=N,18200μm,0.6s							
T1247	**Pizzolo (AQ)**	**0.40**	**171**	⇑P	**Pg**	**05 35 03.2**	**+0.2**
T1247				S	**Sb**	**05 35 10.1**	**-0.3**
T1247				AML	AML		
comp=N,9920μm,0.3s							
T1247				AML	AML		
comp=E,14000μm,0.4s							
GAG1	**Gagliole**	**0.41**	**345**	P	**Pg**	**05 35 03.2**	**+0.1**
GAG1				AML	AML		
comp=E,12500μm,0.3s							
GAG1				AML	AML		
comp=N,12550μm,0.4s							
GAG1				AML	AML		
comp=N,12500μm,0.4s							
GAG1				AML	AML		
comp=E,12500μm,0.3s							
GAG1				AML	AML		
comp=N,12500μm,1.6s							
ARRO	**Arrone**	**0.42**	**232**	⇑P	**Pg**	**05 35 03.7**	**+0.4**
ARRO				AML	AML		
comp=N,7710μm,0.2s							
ARRO				AML	AML		
comp=N,7715μm,0.2s							
ARRO				AML	AML		
comp=E,7015μm,0.2s							
ASSB	**Assisi San Ben**	**0.45**	**297**	P	**Pg**	**05 35 04.0**	**+0.1**
ASSB				S	**Sg**	**05 35 12.0**	**+2.1**
ASSB				AML	AML		
comp=E,7055μm,1.4s							
ASSB				AML	AML		
comp=N,11000μm,0.2s							
ASSB				AML	AML		
comp=E,7055μm,0.6s							
ASSB				AML	AML		
comp=N,11000μm,1.8s							
SNTG	**Esanatoglia**	**0.46**	**335**	P	**Pg**	**05 35 03.8**	**-0.2**
SNTG				S	**Sg**	**05 35 11.4**	**+1.3**
SNTG				AML	AML		
comp=N,2265μm,1.6s							
SNTG				AML	AML		
comp=E,2770μm,0.7s							
SNTG				AML	AML		
comp=N,2265μm,1.6s							
SNTG				AML	AML		
comp=E,2715μm,0.7s							
SNTG				AML	AML		
comp=N,2325μm,0.4s							
SNTG				AML	AML		
comp=E,2770μm,1.3s							
SNTG				AML	AML		
comp=N,2265μm,0.4s							
SNTG				AML	AML		
comp=E,2715μm,1.3s							
GIGS	**Gran Sasso**	**0.47**	**146**	P	**Pg**	**05 35 03.8**	**-0.5**
GIGS				S	**Sg**	**05 35 11.7**	**+1.2**
GIGS				AML	AML		
comp=E,2810μm,0.3s							
GIGS				AML	AML		
comp=N,2650μm,0.1s							
GIGS				AML	AML		
comp=E,2810μm,1.7s							
MOMA	**Monte Martano**	**0.47**	**266**	P	**Pg**	**05 35 04.5**	**+0.2**
MOMA				AML	AML		
comp=N,6145μm,1.4s							
MOMA				AML	AML		
comp=E,10315μm,0.2s							
MOMA				AML	AML		
comp=N,6965μm,1.4s							
MOMA				AML	AML		
comp=N,6145μm,1.4s							
MOMA				AML	AML		
comp=E,9935μm,0.2s							
MOMA				AML	AML		
comp=N,6145μm,0.6s							
MOMA				AML	AML		
comp=N,6965μm,0.6s							
EL6	**Elcito**	**0.49**	**351**	P	**Pg**	**05 35 04.4**	**-0.3**
EL6				S	**Sb**	**05 35 13.2**	**+0.1**
EL6				AML	AML		
comp=N,4890μm,0.7s							
EL6				AML	AML		
comp=E,5245μm,0.4s							
EL6				AML	AML		
comp=N,4895μm,0.7s							
CESX	**Cesi**	**0.52**	**244**	P	**Pg**	**05 35 05.1**	**0.0**
CESX				S	**Sg**	**05 35 13.7**	**+1.7**
CESX				AML	AML		
comp=E,5025μm,0.4s							
CESX				AML	AML		
comp=N,5150μm,0.6s							
CESX				AML	AML		
comp=E,5025μm,1.6s							
CESX				AML	AML		
comp=N,5150μm,1.4s							
CING	**Cingoli**	**0.54**	**359**	P	**Pg**	**05 35 05.0**	**-0.4**
CING				AML	AML		
comp=E,3230μm,0.5s							
CING				AML	AML		
comp=E,3230μm,1.5s							
CING				AML	AML		
comp=N,1805μm,0.4s							
ATCC	**AVT- Casa Cast**	**0.54**	**310**	P	**Pg**	**05 35 05.7**	**+0.1**
ATCC				S	**Sb**	**05 35 14.8**	**+0.5**
ATCC				AML	AML		
comp=E,5450μm,1.3s							
ATCC				AML	AML		
comp=N,6180μm,1.2s							
ATCC				AML	AML		
comp=E,5450μm,0.7s							
ATCC				AML	AML		
comp=N,6180μm,0.8s							
FOSV	**Fossato di Vic**	**0.56**	**324**	P	**Pg**	**05 35 05.7**	**-0.2**
FOSV				S	**Sg**	**05 35 15.0**	**+1.7**
FOSV				AML	AML		
comp=N,14150μm,0.3s							
FOSV				AML	AML		
comp=E,8805μm,0.3s							
CIMA	**Civitanova Mar**	**0.57**	**36**	⇑P	**Pb**	**05 35 07.5**	**+0.5**
CIMA				AML	AML		
comp=E,5395μm,0.7s							
CIMA				AML	AML		
comp=N,4940μm,1.3s							
CIMA				AML	AML		
comp=N,4940μm,0.7s							
FIAM	**Fiamignano**	**0.58**	**187**	P	**Pg**	**05 35 06.1**	**-0.1**
FIAM				S	**Sg**	**05 35 15.3**	**+1.5**
FIAM				AML	AML		
comp=E,3025μm,1.3s							
FIAM				AML	AML		
comp=N,3870μm,0.4s							
FIAM				AML	AML		
comp=N,3870μm,1.6s							
FIAM				AML	AML		
comp=E,3025μm,0.7s							
PP3	**Marolino**	**0.61**	**28**	P	**Pg**	**05 35 07.3**	**+0.5**
PP3				AML	AML		
comp=E,7165μm,0.6s							
PP3				AML	AML		
comp=N,9635μm,1.6s							
PP3				AML	AML		
comp=N,9720μm,1.5s							
PP3				AML	AML		
comp=E,7515μm,0.6s							
PP3				AML	AML		
comp=N,9635μm,0.4s							
PP3				AML	AML		
comp=N,9720μm,0.5s							
FAGN	**Fagnano**	**0.64**	**154**	P	**Pg**	**05 35 06.9**	**-0.4**
FAGN				S	**Sb**	**05 35 17.3**	**+0.2**
FAGN				AML	AML		
comp=E,7660μm,0.4s							
FAGN				AML	AML		

	comp=N,5585µm,0.4s					
VCEL	**Villa Celiera**	**0.64 134**	P	**Pg**	**05 35 07.1**	**-0.4**
VCEL			AML	AML		
	comp=E,5115µm,1.2s					
VCEL			AML	AML		
	comp=N,6750µm,0.1s					
VCEL			AML	AML		
	comp=E,5115µm,0.8s					
MURB	**Monte Urbino**	**0.66 310**	P	**Pg**	**05 35 07.7**	**0.0**
MURB			AML	AML		
	comp=E,12750µm,0.3s					
MURB			AML	AML		
	comp=N,6880µm,0.3s					
MURB			AML	AML		
	comp=E,10900µm,0.3s					
MURB			AML	AML		
	comp=N,6835µm,0.3s					
SSFR	**Montelago di S**	**0.67 332**	P	**Pg**	**05 35 07.6**	**-0.5**
SSFR			S	**Sb**	**05 35 18.5**	**+0.4**
SSFR			AML	AML		
	comp=E,7300µm,0.2s					
SSFR			AML	AML		
	comp=N,4415µm,1.0s					
SSFR			AML	AML		
	comp=E,6635µm,0.2s					
SSFR			AML	AML		
	comp=N,4535µm,0.2s					
SSFR			AML	AML		
	comp=N,4415µm,1.0s					
ARVD	**Arcevia**	**0.69 343**	P	**Pg**	**05 35 07.6**	**-0.7**
ARVD			S	**Sb**	**05 35 18.9**	**+0.4**
ARVD			AML	AML		
	comp=E,1295µm,0.5s					
ARVD			AML	AML		
	comp=N,1274µm,0.8s					
ATFO	**Monte Foce - G**	**0.70 319**	P	**Pg**	**05 35 08.4**	**-0.2**
ATFO			S	**Sb**	**05 35 19.6**	**+0.6**
ATFO			AML	AML		
	comp=E,2430µm,1.5s					
ATFO			AML	AML		
	comp=N,2255µm,0.8s					
ATFO			AML	AML		
	comp=N,2255µm,1.2s					
ATFO			AML	AML		
	comp=E,2430µm,0.5s					
ATTE	**AVT- Monte Tez**	**0.72 300**	P	**Pg**	**05 35 08.6**	**-0.4**
ATTE			S	**Sg**	**05 35 19.2**	**+0.8**
ATTE			AML	AML		
	comp=N,1455µm,0.5s					
ATTE			AML	AML		
	comp=E,1295µm,0.4s					
T0110	**Collepietro**	**0.74 145**	P	**Pg**	**05 35 08.7**	**-0.6**
T0110			S	**Sg**	**05 35 19.7**	**+0.6**
T0110			AML	AML		
	comp=N,4185µm,0.4s					
T0110			AML	AML		
	comp=E,4255µm,0.8s					
AOI	**Ancona**	**0.76 22**	P	**Pg**	**05 35 09.3**	**-0.4**
AOI			AML	AML		
	comp=E,1750µm,0.5s					
AOI			AML	AML		
	comp=N,1585µm,0.3s					
FRON	**Frontone**	**0.76 332**	P	**Pg**	**05 35 09.3**	**-0.5**
FRON			S	**Sb**	**05 35 21.2**	**+0.4**
FRON			AML	AML		
	comp=N,2445µm,1.6s					
FRON			AML	AML		
	comp=N,2445µm,0.4s					
FRON			AML	AML		
	comp=E,1685µm,0.4s					
SRES	**S.Oreste - Sor**	**0.80 221**	P	**Pg**	**05 35 10.0**	**-0.3**
SRES			AML	AML		
	comp=E,1169µm,0.4s					
SRES			AML	AML		
	comp=N,1250µm,0.3s					
ATVO	**AVT- Monte Val**	**0.80 313**	P	**Pg**	**05 35 10.0**	**-0.4**
ATVO			S	**Sg**	**05 35 21.9**	**+1.0**
ATVO			AML	AML		
	comp=E,1355µm,0.8s					
ATVO			AML	AML		
	comp=N,1285µm,0.4s					
COR1	**Corinaldo**	**0.81 349**	P	**Pg**	**05 35 11.1**	**+0.6**
COR1			AML	AML		
	comp=E,4045µm,0.4s					
COR1			AML	AML		
	comp=N,3620µm,0.5s					
COR1			AML	AML		
	comp=N,3910µm,0.5s					
COR1			AML	AML		
	comp=E,2455µm,0.9s					
COR1			AML	AML		
	comp=E,2455µm,1.1s					
MGAB	**Montegabbione**	**0.81 275**	P	**Pg**	**05 35 10.5**	**-0.1**
MGAB			AML	AML		
	comp=E,2385µm,0.5s					
MGAB			AML	AML		
	comp=N,2645µm,0.4s					
MGAB			AML	AML		
	comp=E,2445µm,0.6s					
MGAB			AML	AML		
	comp=N,2730µm,0.6s					
PTQR	**Pietraquaria**	**0.83 170**	P	**Pg**	**05 35 10.1**	**-0.9**
PTQR			AML	AML		
	comp=E,768µm,0.8s					
PTQR			AML	AML		
	comp=N,745µm,0.4s					
PTQR			AML	AML		
	comp=E,768µm,1.2s					
ATMI	**Monte Miggiano**	**0.85 306**	P	**Pg**	**05 35 11.3**	**0.0**
ATMI			AML	AML		
	comp=N,2575µm,0.9s					
ATMI			AML	AML		
	comp=E,2935µm,0.4s					
ATMI			AML	AML		
	comp=N,2575µm,1.1s					
ATPI	**Pietralunga -**	**0.85 316**	P	**Pg**	**05 35 10.7**	**-0.7**
ATPI			AML	AML		
	comp=E,1745µm,0.6s					
ATPI			AML	AML		
	comp=N,1660µm,0.9s					
ATPI			AML	AML		
	comp=N,1660µm,1.1s					
PIEI	**Pieia**	**0.85 325**	P	**Pg**	**05 35 10.7**	**-0.7**
PIEI			AML	AML		
	comp=E,1045µm,1.6s					
PIEI			AML	AML		
	comp=N,1006µm,0.9s					
MPAG	**Monte Paganucc**	**0.85 337**	P	**Pg**	**05 35 11.3**	**-0.2**
MPAG			S	**Sb**	**05 35 24.4**	**+1.0**
MPAG			AML	AML		
	comp=E,1535µm,1.6s					
MPAG			AML	AML		
	comp=E,1330µm,1.0s					
MPAG			AML	AML		
	comp=N,1325µm,0.6s					
MPAG			AML	AML		
	comp=E,1535µm,0.4s					
MPAG			AML	AML		
	comp=N,1475µm,1.1s					
MPAG			AML	AML		
	comp=E,1335µm,1.0s					
MTCE	**Montecelio**	**0.89 203**	AML	AML		
	comp=E,1160µm,0.4s					
MTCE			AML	AML		
	comp=N,942µm,1.2s					
MTCE			AML	AML		
	comp=N,942µm,0.8s					
CERT	**Cerreto**	**0.91 191**	P	**Pg**	**05 35 11.6**	**-0.9**
CERT			AML	AML		
	comp=E,2995µm,0.5s					
CERT			AML	AML		
	comp=N,1980µm,1.0s					
CERT			AML	AML		
	comp=N,1980µm,1.0s					
CERT			AML	AML		
	comp=E,2995µm,1.5s					
FSSB	**Fossombrone**	**0.91 340**	P	**Pg**	**05 35 12.0**	**-0.5**
FSSB			AML	AML		
	comp=N,5380µm,0.5s					
FSSB			AML	AML		
	comp=E,4690µm,0.4s					
APEC	**Apecchio**	**0.92 321**	P	**Pg**	**05 35 12.4**	**-0.4**
APEC			AML	AML		
	comp=N,1420µm,1.4s					
APEC			AML	AML		
	comp=N,1420µm,0.6s					
APEC			AML	AML		
	comp=E,1520µm,0.6s					
SACS	**San Casciano d**	**0.96 271**	P	**Pg**	**05 35 13.2**	**-0.2**
SACS			AML	AML		
	comp=E,1014µm,0.8s					
SACS			AML	AML		
	comp=N,973µm,1.6s					
SACS			AML	AML		
	comp=N,978µm,1.6s					
SACS			AML	AML		
	comp=N,978µm,0.4s					
SACS			AML	AML		
	comp=N,973µm,0.4s					
SACS			AML	AML		
	comp=E,994µm,0.8s					
BADI	**Badiali**	**0.97 314**	P	**Pg**	**05 35 13.1**	**-0.6**
BADI			AML	AML		
	comp=N,1525µm,0.7s					
BADI			AML	AML		
	comp=E,938µm,0.9s					
BADI			AML	AML		
	comp=N,1525µm,1.3s					
INTR	**Introdacqua**	**0.97 148**	P	**Pg**	**05 35 12.3**	**-1.4**
INTR			AML	AML		
	comp=E,1µm,0.4s					
INTR			AML	AML		
	comp=E,1µm,0.5s					
INTR			AML	AML		
	comp=N,2µm,0.8s					
INTR			AML	AML		
	comp=N,2375µm,0.8s					
INTR			AML	AML		
	comp=E,1280µm,0.5s					
INTR			AML	AML		
	comp=N,2375µm,1.2s					
INTR			AML	AML		
	comp=N,2µm,1.2s					
RCAV	**Rocca di Cave**	**1.01 191**	P	**Pg**	**05 35 13.9**	**-0.6**
CAFI	**Castiglion Fio**	**1.03 299**	P	**Pg**	**05 35 14.7**	**-0.2**
CAFI			AML	AML		
	comp=E,842µm,0.6s					
CAFI			AML	AML		
	comp=N,702µm,0.6s					
CAFI			AML	AML		
	comp=E,830µm,0.6s					
CAFI			AML	AML		
	comp=N,685µm,0.6s					
LPEL	**Lama dei Pelig**	**1.07 137**	P	**Pg**	**05 35 14.6**	**-1.0**
LPEL			S	**Sb**	**05 35 30.5**	**+0.9**
LPEL			AML	AML		
	comp=E,1370µm,0.3s					
LPEL			AML	AML		
	comp=N,1275µm,0.5s					
PARC	**Parchiule**	**1.07 319**	P	**Pg**	**05 35 15.0**	**-0.6**
PARC			AML	AML		
	comp=E,1134µm,0.6s					
PARC			AML	AML		
	comp=N,1280µm,0.6s					
MCIV	**Monte Civitell**	**1.13 267**	P	**Pg**	**05 35 16.8**	**+0.1**
MCIV			AML	AML		
	comp=N,313µm,1.4s					
MCIV			AML	AML		
	comp=E,536µm,0.8s					
PESA	**Pesaro**	**1.13 346**	P	**Pb**	**05 35 17.4**	**+0.8**
PESA			AML	AML		
	comp=E,1965µm,0.3s					
PESA			AML	AML		
	comp=N,1920µm,0.3s					
SF04	**Casetta**	**1.14 270**	AML	AML		
	comp=N,618µm,0.5s					
SF04			AML	AML		
	comp=E,700µm,0.4s					
SF04			AML	AML		
	comp=N,618µm,1.5s					
SF04			AML	AML		
	comp=E,700µm,1.6s					
CPGN	**Carpegna, Ital**	**1.16 326**	P	**Pg**	**05 35 17.4**	**+0.1**
CPGN			AML	AML		
	comp=E,1540µm,1.4s					
CPGN			AML	AML		
	comp=N,1690µm,1.6s					
CPGN			AML	AML		
	comp=E,1640µm,1.6s					
CPGN			AML	AML		
	comp=E,1640µm,0.4s					
CPGN			AML	AML		
	comp=N,1690µm,0.4s					
CPGN			AML	AML		
	comp=N,1410µm,1.1s					
CPGN			AML	AML		
	comp=E,1540µm,0.6s					
POFI	**Posta Fibreno**	**1.18 162**	AML	AML		
	comp=N,400µm,0.5s					
POFI			AML	AML		
	comp=E,756µm,0.6s					
POFI			AML	AML		
	comp=N,420µm,1.4s					
POFI			AML	AML		
	comp=E,792µm,0.6s					
POFI			AML	AML		
	comp=N,420µm,0.6s					
POFI			AML	AML		
	comp=E,756µm,1.4s					
POFI			AML	AML		
	comp=E,792µm,1.4s					
TOLF	**Tolfa**	**1.19 230**	⇑P	**Pb**	**05 35 17.9**	**+0.4**
TOLF			AML	AML		
	comp=E,734µm,0.7s					
TOLF			AML	AML		
	comp=E,734µm,1.3s					
TOLF			AML	AML		
	comp=N,835µm,0.4s					
CRE	**Caprese Michel**	**1.21 311**	AML	AML		
	comp=E,579µm,0.4s					
CRE			AML	AML		
	comp=N,623µm,1.2s					
CRE			AML	AML		
	comp=N,623µm,0.8s					
SF01	**Poggio Pratacc**	**1.21 269**	AML	AML		
	comp=E,873µm,0.5s					
SF01			AML	AML		
	comp=N,688µm,0.4s					
ARCI	**Arcidosso**	**1.28 271**	AML	AML		
	comp=N,140µm,1.0s					
ARCI			AML	AML		
	comp=N,140µm,1.0s					
ARCI			AML	AML		
	comp=E,154µm,0.5s					
GIUL	**Giuliano Di Ro**	**1.28 179**	P	**Pn**	**05 35 17.6**	**-1.3**
GIUL			AML	AML		
	comp=E,433µm,0.6s					
GIUL			AML	AML		
	comp=N,515µm,0.6s					
GIUL			AML	AML		
	comp=N,515µm,1.4s					
RNI2	**Rionero Sannit**	**1.33 148**	AML	AML		
	comp=E,908µm,0.8s					
RNI2			AML	AML		
	comp=E,938µm,0.8s					
RNI2			AML	AML		
	comp=N,929µm,1.0s					
RNI2			AML	AML		
	comp=N,905µm,1.0s					
RNI2			AML	AML		
	comp=E,908µm,1.2s					
RNI2			AML	AML		
	comp=E,938µm,1.2s					
MIDA	**Miranda**	**1.43 147**	AML	AML		
	comp=E,514µm,1.2s					
MIDA			AML	AML		
	comp=E,514µm,0.8s					
MIDA			AML	AML		
	comp=N,526µm,0.6s					
TRIV	**Trivento**	**1.46 137**	P	**Pg**	**05 35 23.3**	**+0.2**
TRIV			AML	AML		
	comp=N,650µm,0.6s					
TRIV			AML	AML		
	comp=N,688µm,0.8s					
TRIV			AML	AML		
	comp=E,819µm,0.7s					
TRIV			AML	AML		
	comp=E,804µm,0.7s					
RUFI	**Rufina**	**1.59 309**	P	**Pn**	**05 35 24.6**	**+1.4**
RUFI			AML	AML		
	comp=N,310µm,0.6s					
RUFI			AML	AML		
	comp=E,286µm,0.7s					
VAGA	**Valle Agricola**	**1.61 152**	P	**Pg**	**05 35 26.0**	**0.0**
VAGA			AML	AML		
	comp=E,248µm,0.6s					
VAGA			AML	AML		
	comp=E,258µm,0.6s					
VAGA			AML	AML		
	comp=N,393µm,0.3s					
VAGA			AML	AML		
	comp=E,258µm,1.4s					
VAGA			AML	AML		
	comp=N,375µm,0.3s					
VAGA			AML	AML		
	comp=E,248µm,1.4s					
LMD	**Lutirano**	**1.65 319**	P	**Pb**	**05 35 25.9**	**+0.4**
CASP	**Castiglione de**	**1.73 269**	P	**Pn**	**05 35 25.1**	**+0.1**
CASP			AML	AML		
	comp=E,68µm,0.7s					
CASP			AML	AML		
	comp=N,58µm,0.7s					
MELA	**Melanico ??? S**	**1.82 128**	P	**Pn**	**05 35 27.5**	**+1.3**
MELA			AML	AML		
	comp=N,856µm,0.6s					
MELA			AML	AML		
	comp=E,970µm,0.5s					
MELA			AML	AML		
	comp=N,856µm,1.4s					
GATE	**Gambatesa**	**1.83 136**	P	**Pb**	**05 35 29.4**	**+0.9**
IMOL	**Imola, Italy**	**1.85 325**	⇓P	**Pn**	**05 35 26.6**	**0.0**
CRMI	**Carmignano**	**1.89 301**	P	**Pn**	**05 35 28.1**	**+0.9**
CRMI			AML	AML		
	comp=N,46µm,0.9s					
CRMI			AML	AML		
	comp=N,46µm,1.1s					
CRMI			AML	AML		
	comp=E,43µm,1.1s					
APRC	**Apricena**	**2.04 121**	AML	AML		
	comp=E,446µm,0.3s					
APRC			AML	AML		
	comp=N,617µm,0.6s					
MOCO	**Biccari - m.te**	**2.06 135**	AML	AML		
	comp=E,156µm,0.6s					
MOCO			AML	AML		
	comp=N,104µm,0.6s					
CAFE	**Carife**	**2.36 139**	AML	AML		
	comp=E,163µm,0.5s					
CAFE			AML	AML		
	comp=N,130µm,1.5s					
SNAL	**S. Angelo Dei**	**2.43 141**	AML	AML		
	comp=N,230µm,1.0s					
SNAL			AML	AML		
	comp=N,230µm,1.0s					
SNAL			AML	AML		
	comp=N,233µm,1.0s					
SNAL			AML	AML		
	comp=E,226µm,0.9s					
SNAL			AML	AML		
	comp=N,233µm,1.0s					
SNAL			AML	AML		
	comp=E,194µm,0.9s					
MCRV	**Calabrutti - M**	**2.52 144**	AML	AML		
	comp=N,79µm,0.4s					
MCRV			AML	AML		
	comp=E,95µm,0.5s					
VULT	**Monte Vulture**	**2.60 136**	AML	AML		
	comp=N,398µm,0.9s					
VULT			AML	AML		
	comp=N,375µm,0.9s					
VULT			AML	AML		
	comp=E,174µm,0.3s					
VULT			AML	AML		
	comp=E,201µm,0.6s					
SKDS	**Skadanscina**	**2.77 12**	*e*Pn	**Pn**	**05 35 39.1**	**-0.2**
PALZ	**Palazzo San Ge**	**2.79 132**	AML	AML		
	comp=E,272µm,1.0s					
PALZ			AML	AML		
	comp=E,272µm,1.0s					
PALZ			AML	AML		
	comp=N,208µm,0.6s					
CDRU	**Civita di Ruta**	**2.83 146**	AML	AML		
	comp=N,29µm,0.9s					
CDRU			AML	AML		
	comp=E,46µm,0.3s					
MRVN	**Minervino Murg**	**2.85 128**	AML	AML		
	comp=N,88µm,0.9s					
MRVN			AML	AML		
	comp=E,62µm,0.5s					
CEY	**Cerknica**	**3.03 16**	*e*Pn	**Pn**	**05 35 41.6**	**-1.2**
BOJS	**Bojanci**	**3.04 28**	*e*Pn	**Pn**	**05 35 44.5**	**+1.5**
BOJS	**Bojanci**	**3.04 28**	AML	AML		
	comp=N,194µm,0.7s					
BOJS			AML	AML		
	comp=E,249µm,0.7s					
BOJS			AML	AML		
	comp=E,249µm,1.3s					
PGF	**Pioggiola**	**3.12 266**	*e*P	**Pn**	**05 35 45.6**	**+1.4**
PGF	**Pioggiola**	**3.12 266**	*e*Pn	**Pn**	**05 35 46.0**	**+1.8**
PGF			*e*Sn	**Sn**	**05 36 17.8**	**-3.7**
	comp=E,6.1nm,0.5s					
SRKY	**Kupres RS**	**3.13 66**	*e*Pn	**Pg**	**05 35 57.3**	**+2.4**
SABO	**M.te Sabotino**	**3.15 5**	AML	AML		
	comp=N,198µm,0.5s					
SABO			AML	AML		
	comp=N,800µm,0.5s					
SABO			AML	AML		
	comp=E,812µm,0.5s					
SABO			AML	AML		
	comp=E,202µm,0.5s					
AMUR	**Altamura**	**3.19 126**	AML	AML		
	comp=N,94µm,1.6s					
AMUR			AML	AML		
	comp=E,106µm,0.7s					
AMUR			AML	AML		
	comp=N,94µm,0.4s					
MGRS	**Mrkonjic Grad**	**3.22 59**	*e*Pn	**Pg**	**05 35 56.7**	**0.0**
STON	**Ston**	**3.30 88**	*e*Pn	**Pn**	**05 35 47.4**	**+0.8**
STON			*e*Sn	**Sn**	**05 36 27.6**	**+1.8**
STON	**Ston**	**3.30 88**	*e*Pn	**Pn**	**05 35 47.1**	**+0.5**
STON	**Ston**	**3.30 88**	AML	AML		
	comp=E,43µm,0.8s					
STON			AML	AML		
	comp=N,50µm,1.4s					
STON			AML	AML		
	comp=N,50µm,0.6s					
STON			AML	AML		
	comp=E,43µm,1.2s					
DOSS	**Dosso del Somm**	**3.37 335**	AML	AML		
	comp=E,138µm,1.2s					
DOSS			AML	AML		
	comp=N,160µm,1.5s					
DOSS			AML	AML		
	comp=E,114µm,0.7s					
DOSS			AML	AML		
	comp=N,107µm,0.6s					
DOSS			AML	AML		
	comp=E,138µm,0.8s					
DOSS			AML	AML		
	comp=N,160µm,0.5s					
DOSS			AML	AML		
	comp=N,107µm,1.4s					
CRES	**Cresnjev**	**3.39 28**	*e*Pn	**Pn**	**05 35 50.8**	**+2.9**
CTI	**Castel Tesino**	**3.40 341**	AML	AML		
	comp=N,154µm,0.7s					
CTI			AML	AML		
	comp=E,143µm,0.3s					
CTI			AML	AML		
	comp=N,154µm,1.3s					
CTI			AML	AML		
	comp=E,143µm,1.7s					
MPRI	**Monte Prat**	**3.40 357**	AML	AML		
	comp=E,157µm,0.5s					
MPRI			AML	AML		
	comp=N,252µm,0.5s					
A051A	**Mrakovica**	**3.44 50**	*e*Pn	**Pn**	**05 35 49.8**	**+1.2**
BLY	**Banja Luka**	**3.45 55**	*e*Pn	**Pn**	**05 35 49.9**	**+1.2**
BLY	**Banja Luka**	**3.45 55**	*e*Pn	**Pg**	**05 35 58.9**	**-2.2**
LTRZ	**Laterza**	**3.51 128**	AML	AML		
	comp=E,75µm,1.2s					
LTRZ			AML	AML		
	comp=E,75µm,0.8s					
LTRZ			AML	AML		
	comp=N,200µm,1.6s					
LTRZ			AML	AML		
	comp=N,200µm,0.4s					
LUSI	**Trento, Gardas**	**3.52 333**	AML	AML		
	comp=E,102µm,1.0s					
LUSI			AML	AML		
	comp=N,108µm,1.4s					
LUSI			AML	AML		
	comp=N,108µm,0.6s					

LUSI				AML	AML		
	comp=E,102μm,1.0s						
NEVS	**Nevesinje**	**3.61**	**81**	*e*Pn	**Pn**	**05 35 52.8**	**+1.8**
ACOM	**Acomizza, Ital**	**3.71**	**3**	AML	AML		
	comp=N,102μm,1.6s						
ACOM				AML	AML		
	comp=N,135μm,1.6s						
ACOM				AML	AML		
	comp=E,118μm,0.6s						
ACOM				AML	AML		
	comp=N,135μm,0.4s						
ACOM				AML	AML		
	comp=E,107μm,0.8s						
ACOM				AML	AML		
	comp=N,102μm,0.4s						
ZOU	**Zoufplan**	**3.72**	**357**	AML	AML		
	comp=N,72μm,0.8s						
ZOU				AML	AML		
	comp=N,72μm,1.2s						
ZOU				AML	AML		
	comp=E,72μm,0.8s						
TREB	**Trebinje**	**3.79**	**90**	*e*Pn	**Pn**	**05 35 54.5**	**+1.3**
TREB				*e*Sn	**Sn**	**05 36 38.0**	**+0.2**
TREB	**Trebinje**	**3.79**	**90**	*e*Pn	**Pn**	**05 35 54.1**	**+0.9**
OBKA	**Obir**	**3.79**	**14**	*e*Pn	**Pn**	**05 35 56.7**	**+3.3**
	comp=E,1.2nm,0.2s						
OBKA	**Obir**	**3.79**	**14**	*e*Pn	**Pn**	**05 35 55.8**	**+2.4**
MYKA	**Terra Mystica**	**3.80**	**4**	*e*Pn	**Pn**	**05 35 56.1**	**+2.6**
	comp=E,3.8nm,0.3s						
BRY	**Bratogost**	**3.92**	**87**	*e*Pn	**Pn**	**05 35 56.3**	**+1.1**
BRY	**Bratogost**	**3.92**	**87⇑**	*i*Pn	**Pn**	**05 35 56.4**	**+1.2**
BRY				*e*Sn	**Sn**	**05 36 42.4**	**+1.2**
HCY	**Herceg Novi**	**3.92**	**94**	*e*Pn	**Pn**	**05 35 56.0**	**+0.9**
HCY	**Herceg Novi**	**3.92**	**94⇑**	*i*Pn	**Pn**	**05 35 56.3**	**+1.2**
HCY				*e*Sn	**Sn**	**05 36 42.3**	**+1.3**
ABTA	**Abfaltersbach**	**3.94**	**353**	Pn	**Pn**	**05 35 57.7**	**+2.3**
	comp=E,10.0nm,0.3s,SNR=20						
UPM	**Unac-Piva**	**4.19**	**83**	*e*Pn	**Pn**	**05 36 00.8**	**+1.8**
UPM	**Unac-Piva**	**4.19**	**83**	*e*Pn	**Pn**	**05 36 00.6**	**+1.6**
UPM				*e*Sn	**Sn**	**05 36 49.2**	**+1.2**
CEME	**Cevo**	**4.22**	**92⇓**	*i*Pn	**Pn**	**05 36 00.4**	**+1.2**
CEME				*e*Sn	**Sn**	**05 36 49.6**	**+1.1**
BUM	**Brajici-Budva**	**4.23**	**95⇑**	*i*Pn	**Pn**	**05 36 01.0**	**+1.6**
KBA	**Koelnbreinsper**	**4.24**	**1**	*e*Pn	**Pn**	**05 36 01.2**	**+1.6**
	comp=E,4.3nm,0.3s						
SBF	**Sospel**	**4.33**	**286**	*e*P	**Pn**	**05 36 02.6**	**+1.7**
SBF				*e*Sn	**Sn**	**05 36 47.7**	**-3.7**
	comp=E,15nm,0.4s						
VSL	**Villasalto**	**4.42**	**222**	AML	AML		
	comp=N,28μm,0.5s						
VSL				AML	AML		
	comp=E,26μm,1.3s						
VSL				AML	AML		
	comp=N,28μm,1.5s						
VSL				AML	AML		
	comp=E,26μm,0.7s						
DRME	**Dracevica, Mon**	**4.46**	**96**	*e*Pn	**Pn**	**05 36 04.2**	**+1.7**
DRME	**Dracevica, Mon**	**4.46**	**96⇓**	*i*Pn	**Pn**	**05 36 04.3**	**+1.7**
DRME				*e*Sn	**Sn**	**05 36 55.5**	**+1.0**
PDG	**Podgorica**	**4.48**	**93**	*e*Pn	**Pn**	**05 36 04.7**	**+2.0**
PDG				*e*Sn	**Sn**	**05 36 55.8**	**+1.0**
PDG	**Podgorica**	**4.48**	**93**	*e*Pn	**Pn**	**05 36 04.3**	**+1.6**
PDG	**Podgorica**	**4.48**	**93**	*e*Pn	**Pn**	**05 36 04.9**	**+2.2**
PDG				*e*Sn	**Sn**	**05 36 56.0**	**+1.2**
FETA	**Feichten**	**4.54**	**338**	P	**Pn**	**05 36 06.5**	**+2.8**
	comp=E,3.0nm,0.4s,SNR=5.9						
PLE	**Pljevlja**	**4.55**	**82⇑**	*i*Pn	**Pn**	**05 36 06.8**	**+2.9**
ULC	**Ulcinj**	**4.55**	**99⇑**	*i*Pn	**Pn**	**05 36 05.0**	**+1.2**
ULC				*e*Sn	**Sn**	**05 36 57.5**	**+0.8**
WTTA	**Wattenberg**	**4.56**	**346**	*e*Pn	**Pn**	**05 36 08.0**	**+3.9**
	comp=E,3.5nm,0.3s						
RUDO	**Rudo**	**4.57**	**78**	*e*Pn	**Pn**	**05 36 03.9**	**-0.1**
SQTA	**Sankt Quirin**	**4.60**	**343**	*e*Pn	**Pn**	**05 36 08.2**	**+3.6**
	comp=E,7.6nm,0.3s						
BBLS	**Lazići**	**4.63**	**75**	*e*Pn	**Pn**	**05 36 06.7**	**+1.8**
BBLS	**Lazići**	**4.63**	**75**	*e*Pn	**Pn**	**05 36 06.6**	**+1.7**
WATA	**Walderalm**	**4.64**	**346**	*e*Pn	**Pn**	**05 36 09.5**	**+4.4**
	comp=E,4.5nm,0.3s						
MOTA	**Moosalm**	**4.74**	**342**	*e*Pn	Pn	05 36 12.7	+6.1
	comp=E,3.2nm,0.3s						
IVA	**Berane**	**4.91**	**87**	*e*Pn	**Pn**	**05 36 10.6**	**+1.8**
IVA				*e*Sn	**Sn**	**05 37 06.8**	**+1.1**
LMR	**La Mourre**	**4.93**	**278**	*e*P	**Pn**	**05 36 09.6**	**+0.6**
LMR				*e*Sn	**Sn**	**05 37 04.2**	**-1.8**
	comp=E,5.7nm,0.5s						
RETA	**Reutte**	**4.96**	**340**	*e*Pn	**Pn**	**05 36 13.8**	**+4.3**
	comp=E,2.1nm,0.3s						
SJES	**Sjenica**	**4.97**	**83**	*e*Pn	**Pn**	**05 36 10.6**	**+0.9**
SJES	**Sjenica**	**4.97**	**83**	*e*Pn	**Pn**	**05 36 11.9**	**+2.2**
PVY	**Plav**	**4.98**	**91⇑**	*i*Pn	**Pn**	**05 36 11.3**	**+1.5**
PVY				*e*Sn	**Sn**	**05 37 08.2**	**+0.8**
MBDF	**Montbardon**	**5.03**	**294**	*e*Pn	**Pn**	**05 36 10.3**	**-0.2**
MBDF	**Montbardon**	**5.03**	**294**	*e*P	**Pn**	**05 36 13.9**	**+3.4**
MBDF				*e*Sn	**Sn**	**05 37 06.2**	**-2.4**
	comp=E,5.2nm,0.6s						
MOA	**Molln**	**5.06**	**8**	*e*Pn	**Pn**	**05 36 11.8**	**+1.0**
	comp=E,1.1nm,0.2s						
DIVS	**Divibare**	**5.09**	**73**	*e*Pn	**Pn**	**05 36 11.9**	**+0.6**
DIVS	**Divibare**	**5.09**	**73**	*e*Pn	**Pn**	**05 36 12.8**	**+1.5**
IVAS	**Ivanjica**	**5.13**	**79**	*e*Pn	**Pn**	**05 36 12.7**	**+1.0**
IVAS				*e*Sn	**Sn**	**05 37 10.5**	**-0.4**
TIR	**Tirane**	**5.17**	**105**	*e*Pn	**Pn**	**05 36 13.5**	**+1.2**
RONA	**Rosalia, Austr**	**5.32**	**23**	*e*Pn	**Pn**	**05 36 15.7**	**+1.3**
	comp=E,0.6nm,0.2s						
LPG	**La Plagne**	**5.35**	**302**	*e*P	**Pn**	**05 36 18.4**	**+3.4**
LPG				*e*Sn	**Sn**	**05 37 13.1**	**-3.7**
	comp=E,12nm,0.9s						
LPL	**La Plagne**	**5.37**	**302**	*e*Pn	**Pn**	**05 36 14.8**	**-0.5**
TRUS	**Trudelj**	**5.41**	**73**	*e*Pn	**Pn**	**05 36 16.2**	**+0.6**
CONA	**Conrad Observa**	**5.42**	**19**	*e*Pn	**Pn**	**05 36 17.1**	**+1.3**
	comp=E,0.5nm,0.2s						
GRUS	**Gruza**	**5.57**	**77**	*e*Pn	**Pn**	**05 36 18.0**	**+0.2**
SMRF	**Simiane la Rot**	**5.68**	**284**	*e*P	**Pn**	**05 36 22.0**	**+2.7**
SMRF				*e*Sn	**Sn**	**05 37 20.6**	**-3.9**
	comp=E,0.8nm,0.4s						
ORIF	**Oris-en-Rattie**	**5.69**	**294**	*e*P	**Pn**	**05 36 21.5**	**+2.0**
ORIF				*e*Sn	**Sn**	**05 37 19.8**	**-5.1**
	comp=E,2.5nm,0.5s						
SELS	**Selova**	**5.81**	**84**	*e*Pn	**Pn**	**05 36 21.8**	**+0.7**
OHR	**Ohrid**	**5.91**	**104**	*e*Pn	**Pn**	**05 36 24.8**	**+2.3**
OHR	**Ohrid**	**5.91**	**104**	*i* P	**Pn**	**05 36 24.9**	**+2.4**
CKRC	**Cesky Krumlov**	**6.03**	**7**	*e*SN	**Sn**	**05 37 31.3**	**-1.8**
BOVS	**Bovan**	**6.26**	**80**	*e*Pn	**Pn**	**05 36 27.6**	**+0.4**
KHC	**Kasperske Hory**	**6.30**	**2**	*e*PN	**Pn**	**05 36 28.9**	**+1.1**
KHC				*e*SN	**Sn**	**05 37 36.9**	**-2.8**
CABF	**La Chapelle**	**6.32**	**309**	*e*Pn	**Pn**	**05 36 27.9**	**-0.2**
CABF	**La Chapelle**	**6.32**	**309**	*e*P	**Pn**	**05 36 31.4**	**+3.3**
CABF				*e*Sn	**Sn**	**05 37 36.0**	**-4.4**
	comp=E,3.2nm,0.5s						
BARS	**Barje**	**6.33**	**87**	*e*Pn	**Pn**	**05 36 28.9**	**+0.7**
BARS				*e*Sn	**Sn**	**05 37 38.2**	**-2.2**
FNA	**Florina**	**6.44**	**106**	*e*Pn	**Pn**	**05 36 31.1**	**+1.4**
VIVF	**Saint-Julien-l**	**6.49**	**291**	*e*P	**Pn**	**05 36 33.4**	**+2.9**
ZAGS	**Zajecar**	**6.65**	**79**	*e*Pn	**Pn**	**05 36 32.4**	**-0.2**
HINF	**Hinteralfeld**	**6.69**	**320**	*e*Pn	**Pn**	**05 36 33.5**	**+0.3**
HINF				*e*Sn	**Sn**	**05 37 46.8**	**-2.7**
	comp=E,14nm,0.5s						
STIP	**Stip**	**6.76**	**97**	*i* P	**Pn**	**05 36 37.4**	**+3.4**
ZAPS	**Zavoj**	**6.92**	**83**	*e*Pn	**Pn**	**05 36 37.2**	**+0.9**
LASF	**Ste Croix**	**6.92**	**283**	*e*Pn	**Pn**	**05 36 36.3**	**0.0**
LASF				*e*Sn	**Sn**	**05 37 49.5**	**-5.5**
	comp=E,1.0nm,0.4s						
CDF	**Champ du Feu**	**6.95**	**325**	*e*Pn	**Pn**	**05 36 37.4**	**+0.6**
CDF				*e*Sn	**Sn**	**05 37 53.0**	**-2.9**
	comp=E,2.1nm,0.3s						
VAY	**Valandovo**	**7.13**	**99**	*i* P	**Pn**	**05 36 40.4**	**+1.2**
PEHC	**Pehcevo**	**7.26**	**95**	*i* P	**Pn**	**05 36 42.4**	**+1.3**
VTS	**Vitosha**	**7.38**	**88**	*e*Pn	**Pn**	**05 36 44.1**	**+1.3**
SFTF	**Sexfontaines**	**7.85**	**316**	*e*Sn	**Sn**	**05 38 13.1**	**-4.8**
	comp=E,4.6nm,0.3s						
LOR	**Lormes**	**7.96**	**307**	*e*P	**Pn**	**05 36 54.3**	**+3.7**
LOR	baz=117						
	comp=E,2.2nm,0.4s						
CLL	**Collm**	**8.47**	**359**	*e*Pn	Pn	05 36 49.0	-8.5
CLL				*e*Sn	Sn	05 38 14.0	-19
CLL				*e*Sg	**Sg**	**05 39 26.0**	**-0.6**

*BJI **19** 05:35:31.9±0.0, 59.°60N×153.°28W, h94km, mb5.4/59, mB5.2/26*
*MOS **19** 05:35:35.6±0.9, 59.°84N×153.°24W, h108km, mb5.0/33, Error ellipse: s-maj=10.0km s-min=5.5km az=95.8*

*GCMT **19** 05:35:36.9±0.3, 59.°80N±0.°03×153.°14W±0.°05, h87km±4km, MW4.8/88, Moment Tensor Solution. s11,c11; s88,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.87±.10; $M_{\theta\theta}$-2.02±.11; $M_{\phi\phi}$1.15±.12; $M_{r\theta}$-0.52±.07; $M_{\theta\phi}$0.09±.11; $M_{\phi r}$1.05±.05; Best double couple: $M_0$2.11200×10^{16} NP1:ϕ_s309.00000°, δ71.00000°, λ139.00000°. NP2: ϕ_s54.00000°, δ52.00000°, λ25.00000°. Principal axes: T 2.0880, Plg42.0000°, Azm265.0000°; N 0.0470, Plg46.0000°, Azm108.0000°; P -2.1360, Plg12.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **19** 05:35:36.8±1.5, 59.°75N±0.°03×153.°18W±0.°06, h107km±3km Error ellipse: s-maj=4.2km s-min=4.0km az=216.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.80; $M_{\theta\theta}$-1.34; $M_{\phi\phi}$0.55; $M_{r\theta}$-0.29; $M_{\theta\phi}$-0.22; $M_{\phi r}$0.67; Fault plane solution: $M_0$1.40000×10^{16} NP1:ϕ_s50.43000°, δ51.96000°, λ36.03000°. NP2: ϕ_s296.28000°, δ62.40000°, λ135.95000°. Principal axes: T 1.4027, Plg50.0000°, Azm258.0000°; N -0.0121, Plg40.0000°, Azm91.0000°; P -1.3906, Plg6.0000°, Azm356.0000°;*

*IDC **19** 05:35:36.2±0.4, 59.°77N×153.°32W, h105km±3km, mb4.3/35, mbtmp4.6/39, MS3.4/15 Error ellipse: s-maj=7.2km s-min=5.6km az=69.0*

*AEIC **19** 05:35:37.9±1.5, 59.°75N±0.°02×153.°13W±0.°06, h102km±3km, ML4.9, mb5.0/84(NEIC), ML5.0/174(NEIC), Mwr4.7/87(NEIC), Error ellipse: s-maj=4.2km s-min=2.5km az=81.0*

*NEIC **19** 05:35:37.3, 59.°79N×153.°10W, h99km*

ISC 19 05:35:36.2±0.3, 59.°77N±0.°03×153.°21W±0.°03, h103km±2km, h103km:pP-P, n992, σ1§14/1074, mb5.0/124, 21C-13D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.11**	**187**		**Pn**	**05 35 51.6**	**+1.0**
P19K				Sn	**Sn**	**05 36 02.8**	**+1.4**
P19K				IAML		05 36 03.3	
	comp=N,77μm,0.7s						
P19K				IAML		05 36 03.4	
	comp=E,102μm,0.6s						
P19K	**Oil Pt**	**0.11**	**187**	P	**Pn**	**05 35 51.6**	**+1.0**
	baz=28,SNR=824						
ILSW	**Iliamna Southw**	**0.22**	**8**		**Pn**	**05 35 51.8**	**+0.8**
ILSW				IAML		05 36 04.0	
	comp=E,52μm,1.1s						
ILSW				IAML		05 36 05.9	
	comp=N,20μm,0.8s						
IVE	**Iliamna Volcan**	**0.27**	**21**		**Pn**	**05 35 52.1**	**+0.9**
IVE					**Sn**	**05 36 03.5**	**+1.2**
ILW	**Iliamna West**	**0.30**	**7**		**Pn**	**05 35 52.2**	**+0.8**
ILW					**Sn**	**05 36 04.4**	**+1.7**
AUL	**Augustine Lava**	**0.40**	**197**		**Pn**	**05 35 52.8**	**+1.1**
AU22	**Augustine Moun**	**0.40**	**191**		**Pn**	**05 35 52.5**	**+0.9**
AU22					**Sn**	**05 36 04.3**	**+1.1**
AUCH	**Augustine Cone**	**0.42**	**197**		**Pn**	**05 35 52.9**	**+1.0**
AUQ	**Augustine Qik'**	**0.42**	**195**		**Pn**	**05 35 52.9**	**+1.0**
AUQ					**Sn**	**05 36 04.8**	**+1.2**
O20K	**Slope Mountain**	**0.43**	**42**		**Pn**	**05 35 53.0**	**+1.0**
O20K	**Slope Mountain**	**0.43**	**42**	P	**Pn**	**05 35 53.0**	**+1.0**
	baz=218,SNR=899						
RED	**Redoubt Volcan**	**0.69**	**18**		**Pn**	**05 35 54.9**	**+0.9**
RED					**Sn**	**05 36 08.2**	**+1.0**
O19K	**Port Alsworth**	**0.71**	**308**		**Pn**	**05 35 55.0**	**+1.1**
O19K				Sn	**Sn**	**05 36 08.4**	**+1.1**
O19K				IAML		05 36 09.1	
	comp=E,53μm,0.6s						
O19K				IAML		05 36 09.6	
	comp=N,41μm,0.5s						
O19K	**Port Alsworth**	**0.71**	**308**	P	**Pn**	**05 35 55.1**	**+1.1**
	baz=127,SNR=671						
RDSO	**Redoubt South**	**0.73**	**18**		**Pn**	**05 35 55.3**	**+1.0**
RSO	**Redoubt South**	**0.73**	**18**		**Pn**	**05 35 55.5**	**+1.1**
RDWB	**Redoubt West**	**0.75**	**14**		**Pn**	**05 35 55.4**	**+0.9**
HOM	**Homer**	**0.80**	**97**		**Pn**	**05 35 55.8**	**+1.0**
HOM					**Sn**	**05 36 10.3**	**+1.5**
HOM	**Homer**	**0.80**	**97**	P	**Pn**	**05 35 55.8**	**+1.0**
	baz=277,SNR=415						
NCT	**North Crescent**	**0.81**	**10**		**Pn**	**05 35 56.0**	**+1.0**
NCT					**Sn**	**05 36 10.3**	**+1.1**
RDJH	**Redoubt Jeurge**	**0.85**	**13**		**Pn**	**05 35 56.5**	**+1.0**
DFR	**Drift River**	**0.87**	**17**		**Pn**	**05 35 56.5**	**+0.9**
DFR					**Sn**	**05 36 11.5**	**+1.3**
Q19K	**Cape Douglas,**	**0.87**	**195**		**Pn**	**05 35 56.1**	**+0.6**
Q19K					**Sn**	**05 36 10.5**	**+0.4**
Q19K				IAML		05 36 14.9	
	comp=E,36μm,0.9s						
Q19K				IAML		05 36 16.6	
	comp=N,34μm,1.0s						
Q19K	**Cape Douglas,**	**0.87**	**195**	P	**Pn**	**05 35 56.2**	**+0.6**
	baz=18,SNR=827						
RDT	**Redoubt**	**0.90**	**26**		**Pn**	**05 35 56.8**	**+0.9**
O18K	**Koktuh Hills**	**1.02**	**276**	Pn	**Pn**	**05 35 58.0**	**+1.0**
O18K				Sn	**Sn**	**05 36 13.7**	**+1.0**
O18K	**Koktuh Hills**	**1.02**	**276**	P	**Pn**	**05 35 57.8**	**+0.8**
	baz=95,SNR=96						
CNPM	**China Poot**	**1.03**	**103**	Pn	**Pn**	**05 35 57.5**	**+0.3**
CNPM				Sn	**Sn**	**05 36 12.9**	**0.0**
CNPM				IAML		05 36 14.6	
	comp=N,46μm,0.8s						
CNPM				IAML		05 36 14.8	
	comp=E,31μm,0.5s						
P18K	**Big Mountain,**	**1.10**	**251**	Pn	**Pn**	**05 35 58.5**	**+0.6**
P18K				Sn	**Sn**	**05 36 14.5**	**+0.2**
P18K	**Big Mountain,**	**1.10**	**251**	P	**Pn**	**05 35 58.5**	**+0.6**
	baz=71,SNR=78						
BRLK	**Bradley Lake**	**1.17**	**89**	Pn	**Pn**	**05 35 59.0**	**+0.2**
BRLK				Sn	**Sn**	**05 36 15.6**	**-0.2**
BRLK				IAML		05 36 16.6	
	comp=N,14μm,0.4s						
BRLK				IAML		05 36 17.9	
	comp=E,13μm,0.8s						
N19K	**Bonanza Creek**	**1.23**	**329**		**Pn**	**05 36 00.6**	**+1.1**
N19K				Sn	**Sn**	**05 36 17.6**	**+0.5**
N19K				IAML		05 36 18.9	
	comp=E,6μm,1.1s						
N19K				IAML		05 36 19.2	
	comp=N,12μm,0.9s						
N19K	**Bonanza Creek**	**1.23**	**329**	P	**Pn**	**05 36 00.6**	**+1.1**
	baz=147,SNR=1000						
Q20K	**Shuyak Island**	**1.23**	**160**	P	**Pn**	**05 36 00.1**	**+0.7**
	baz=342,SNR=559						
SYI	**Shuyak Island**	**1.23**	**160**	Pn	**Pn**	**05 35 59.9**	**+0.5**
SYI				Sn	**Sn**	**05 36 17.2**	**+0.3**
SYI				IAML		05 36 19.4	
	comp=N,30μm,0.7s						
SYI				IAML		05 36 19.6	
	comp=E,29μm,0.5s						
BRSE	**Bradley Lake S**	**1.25**	**90**		**Pn**	**05 35 59.7**	**+0.1**
BRSE	**Bradley Lake S**	**1.25**	**90**	P	**Pn**	**05 35 59.8**	**+0.1**
	baz=271,SNR=458						
KAPH	**Katmai Pasha**	**1.31**	**207**		**Pn**	**05 36 01.4**	**+1.0**
CAPN	**Captain Cook N**	**1.44**	**45**		**Pn**	**05 36 04.2**	**+2.4**
CAPN				Sn	**Sn**	**05 36 25.2**	**+4.1**
CAPN	**Captain Cook N**	**1.44**	**45**	P	**Pn**	**05 36 04.2**	**+2.4**
	baz=225,SNR=14						
KAHG	**Katmai Hook Gl**	**1.45**	**209**		**Pn**	**05 36 03.0**	**+0.9**
KAHC	**Katmai Hardscr**	**1.45**	**220**		**Pn**	**05 36 03.0**	**+0.8**
KAHC	**Katmai Hardscr**	**1.45**	**220**		**Pn**	**05 36 02.9**	**+0.8**
KAHC					**Sn**	**05 36 22.2**	**+0.3**
Q18K	**Katmai Hardscr**	**1.45**	**220**	P	**Pn**	**05 36 02.9**	**+0.8**
	baz=40,SNR=1000						
KARR	**Katmai Rainbow**	**1.49**	**212**		**Pn**	**05 36 03.5**	**+1.1**
N20K	**Mount Spurr**	**1.52**	**18**	P	**Pn**	**05 36 04.1**	**+1.1**
	baz=198,SNR=271						
SPCR	**Spurr Chakacha**	**1.52**	**18**		**Pn**	**05 36 04.0**	**+1.1**
SPCR	**Spurr Chakacha**	**1.52**	**18**		**Pn**	**05 36 04.0**	**+1.1**
SPCR	**Spurr Chakacha**	**1.52**	**18**	P	**Pn**	**05 36 04.1**	**+1.1**
	baz=198,SNR=92						
SPCN	**Chakachatna No**	**1.55**	**19**		**Pn**	**05 36 04.5**	**+1.3**
SPCN					**Sn**	**05 36 25.5**	**+1.7**
SPBG	**Spurr Blockage**	**1.56**	**15**		**Pn**	**05 36 04.8**	**+1.4**
SPCP	**Crater Peak Br**	**1.59**	**19**		**Pn**	**05 36 05.2**	**+1.3**
KAWH	**Katmai**	**1.61**	**211**		**Pn**	**05 36 04.7**	**+0.7**
N18K	**Kilae Creek**	**1.62**	**306**		**Pn**	**05 36 05.1**	**+0.9**
N18K				Sn	**Sn**	**05 36 25.9**	**+0.5**
N18K	**Kilae Creek**	**1.62**	**306**	P	**Pn**	**05 36 05.1**	**+0.9**
	baz=123,SNR=548						
SPNN	**North Nagishla**	**1.63**	**9**		**Pn**	**05 36 05.5**	**+1.2**
SPCG	**Spurr Capps Gl**	**1.64**	**20**		**Pn**	**05 36 05.5**	**+1.1**
SPCG					**Sn**	**05 36 26.9**	**+1.0**
SLKM	**Skilak Lake**	**1.67**	**62**		**Pn**	**05 36 05.1**	**+0.4**
P17K	**Kvichak River**	**1.75**	**252**		**Pn**	**05 36 06.7**	**+1.1**
P17K	**Kvichak River**	**1.75**	**252**	P	**Pn**	**05 36 06.7**	**+1.1**
	baz=70,SNR=204						
KAKN	**Katmai Knife C**	**1.76**	**214**		**Pn**	**05 36 06.7**	**+0.8**
KAKN					**Sn**	**05 36 28.8**	**+0.3**
KVTA	**Katmai Vly 10**	**1.76**	**219**		**Pn**	**05 36 06.8**	**+1.0**
SVW2	**Sparrevohn**	**1.78**	**320**		**Pn**	**05 36 07.0**	**+0.8**
SVW2	**Sparrevohn**	**1.78**	**320**	P	**Pn**	**05 36 06.9**	**+0.8**
KCE	**Katmai Mt Cerb**	**1.84**	**215**		**Pn**	**05 36 08.2**	**+1.3**
KABU	**Katmai Buttres**	**1.84**	**217**		**Pn**	**05 36 08.1**	**+1.1**
KELA	**Mount Kelaz**	**1.86**	**226**		**Pn**	**05 36 08.0**	**+0.8**
STLK	**Strandline Lak**	**1.87**	**21**		**Pn**	**05 36 08.3**	**+1.0**
STLK					**Sn**	**05 36 32.2**	**+1.3**
KABR	**Katmai Barrier**	**1.88**	**210**		**Pn**	**05 36 08.1**	**+0.7**
O22K	**Cooper Landing**	**1.89**	**66**		**Pn**	**05 36 07.8**	**+0.5**
O22K	**Cooper Landing**	**1.89**	**66**	P	**Pn**	**05 36 07.9**	**+0.5**
	baz=248,SNR=446						
ACHA	**Angle Creek He**	**1.91**	**216**		**Pn**	**05 36 08.6**	**+0.8**
SEW	**Seward**	**1.92**	**78**		**Pn**	**05 36 07.9**	**+0.1**
SEW	**Seward**	**1.92**	**78**	P	**Pn**	**05 36 07.5**	**-0.3**
	baz=261,SNR=424						
ANCK	**Angle Creek**	**1.97**	**218**		**Pn**	**05 36 09.5**	**+1.0**
O17K	**Koliganek Bris**	**1.97**	**272**		**Pn**	**05 36 09.4**	**+1.0**
O17K	**Koliganek Bris**	**1.97**	**272**	P	**Pn**	**05 36 09.4**	**+1.0**
	baz=89,SNR=44						
KDAK	**Kodiak Island**	**2.02**	**170**	Pn	**Pn**	**05 36 08.7**	**-0.4**
KDAK				IAML		05 36 35.6	
	comp=E,8μm,0.5s						
KDAK				IAML		05 36 42.2	
	comp=E,7μm,0.5s						
KDAK	**Kodiak Island**	**2.02**	**170**		**Sn**	**05 36 34.3**	**+0.2**
KDAK	**Kodiak Island**	**2.02**	**170**	P	**Pn**	**05 36 08.6**	**-0.4**
	baz=352						
KDAK	**Kodiak Island**	**2.02**	**170**	P	**Pn**	**05 36 08.6**	**-0.4**
	comp=E,5μm,0.3s,baz=37,slow=8.6,SNR=7885						
KDAK				S	**Sn**	**05 36 33.7**	**-0.4**
	comp=E,2μm,0.5s,baz=161,slow=23,SNR=34						
FIS	**Fire Island**	**2.03**	**46**		**Pn**	**05 36 10.9**	**+1.8**
FIS				IAML		05 36 39.8	
	comp=N,16μm,0.8s						
FIS				IAML		05 36 40.3	
	comp=E,17μm,0.9s						
CNTC	**Contact Creek**	**2.05**	**224**		**Pn**	**05 36 10.4**	**+0.8**
Q17K	**Contact Creek**	**2.05**	**224**	P	**Pn**	**05 36 10.5**	**+0.9**
	baz=42,SNR=502						
Q16K	**King Salmon**	**2.08**	**240**		**Pn**	**05 36 11.1**	**+1.2**
Q16K				IAML		05 36 47.7	
	comp=N,6μm,0.9s						
Q16K				IAML		05 36 60.0	
	comp=E,6μm,1.0s						
Q16K	**King Salmon**	**2.08**	**240**	P	**Pn**	**05 36 11.1**	**+1.2**
	baz=58,SNR=64						
SUA	**Susitna One**	**2.09**	**34**		**Pn**	**05 36 11.7**	**+1.6**
SUA				Sn	**Sn**	**05 36 36.7**	**+0.6**
SUA	**Susitna One**	**2.09**	**34**	P	**Pn**	**05 36 11.2**	**+1.1**
	baz=215,SNR=72						
M20K	**Styx River**	**2.12**	**1**		**Pn**	**05 36 11.9**	**+1.4**
M20K				IAML		05 36 40.0	
	comp=E,2μm,0.8s						
M20K	**Styx River**	**2.12**	**1**	P	**Pn**	**05 36 12.0**	**+1.4**
	baz=180,SNR=583						
N17K	**Nushagak Hills**	**2.13**	**293**		**Pn**	**05 36 11.6**	**+1.0**
N17K	**Nushagak Hills**	**2.13**	**293**	P	**Pn**	**05 36 11.6**	**+1.0**
	baz=109,SNR=124						
M18K	**Stony River**	**2.16**	**324**		**Pn**	**05 36 11.8**	**+0.9**
M18K	**Stony River**	**2.16**	**324**	P	**Pn**	**05 36 11.8**	**+0.9**
	baz=142,SNR=1000						
RC01	**Rabbit Creek A**	**2.17**	**51**	Pn	**Pn**	**05 36 11.8**	**+0.7**
RC01	**Rabbit Creek A**	**2.17**	**51**		**Sn**	**05 36 37.3**	**-0.5**
RC01	**Rabbit Creek A**	**2.17**	**51**	IAML		05 36 39.0	
	comp=N,22μm,0.5s						
RC01				IAML		05 36 40.1	
	comp=E,19μm,0.4s						
RC01	**Rabbit Creek A**	**2.17**	**51**	P	**Pn**	**05 36 11.6**	**+0.5**
	baz=233,SNR=508						
M19K	**Big River Lodg**	**2.22**	**345**		**Pn

SML IAML 05 37 01.4
comp=E,7µm,0.9s
SML Sawmill 3.15 47 P **Pn 05 36 23.9 0.0**
baz=231,SNR=138
R16K Pilot Point 3.17 228 **Pn 05 36 25.7 +1.5**
R16K Pilot Point 3.17 228 IAML 05 37 16.7
comp=E,3µm,1.0s
R16K Pilot Point 3.17 228 P **Pn 05 36 25.7 +1.5**
baz=45,SNR=5.4
PPLA Purkeypile 3.18 8 **Pn 05 36 26.2 +1.8**
PPLA Purkeypile 3.18 8 P **Pn 05 36 26.3 +1.8**
baz=189,SNR=552
GLI Glacier Island 3.24 67 **Pn 05 36 23.7 -1.4**
GLI IAML 05 37 01.0
comp=E,7µm,0.7s
GLI IAML 05 37 01.1
comp=N,5µm,0.6s
GLI Glacier Island 3.24 67 P **Pn 05 36 23.7 -1.4**
baz=252,SNR=42
SII Sitkinak Islan 3.26 190 Pn **Pn 05 36 24.6 -0.9**
SII IAML 05 37 03.5
comp=E,5µm,0.6s
SII IAML 05 37 13.7
comp=N,4µm,1.1s
SII Sitkinak Islan 3.26 190 P **Pn 05 36 24.8 -0.6**
SII Sitkinak Islan 3.26 190 P **Pn 05 36 24.5 -0.9**
baz=9.4,SNR=33
M23K Glacier View 3.37 51 **Pn 05 36 26.5 -0.4**
M23K Glacier View 3.37 51 P **Pn 05 36 26.8 -0.1**
baz=235,SNR=317
HIN Hinchinbrook I 3.42 76 **Pn 05 36 26.8 -0.8**
HIN IAML 05 37 08.8
comp=E,6µm,0.8s
O15K Ungalikthiuk R 3.43 263 **Pn 05 36 29.6 +2.0**
O15K Ungalikthiuk R 3.43 263 P **Pn 05 36 29.7 +2.0**
baz=78,SNR=122
L17K Donlin 3.44 316 **Pn 05 36 28.5 +0.7**
L17K Donlin 3.44 316 P **Pn 05 36 28.6 +0.8**
baz=131,SNR=124
TTA Tatalina 3.45 338 Pn **Pn 05 36 28.7 +0.6**
TTA Tatalina 3.45 338 P **Pn 05 36 28.6 +0.6**
TTA Tatalina 3.45 338 P **Pn 05 36 28.7 +0.6**
TTA Tatalina 3.45 338 P **Pn 05 36 28.7 +0.6**
baz=155,SNR=978
N15K Kwethluk River 3.49 280 Pn **Pn 05 36 30.5 +2.0**
N15K IAML 05 37 11.6
comp=N,770nm,1.0s
N15K Kwethluk River 3.49 280 P **Pn 05 36 30.6 +2.0**
baz=94,SNR=49
FID Port Fidalgo 3.50 71 **Pn 05 36 26.9 -1.7**
FID IAML 05 37 08.2
comp=E,6µm,0.4s
Q23K Middleton Isla 3.50 93 Pn **Pn 05 36 28.4 -0.2**
Q23K IAML 05 37 09.1
comp=E,2µm,0.6s
Q23K IAML 05 37 10.0
comp=N,3µm,0.5s
Q23K Middleton Isla 3.50 93 P **Pn 05 36 28.6 0.0**
baz=278,SNR=28
MID Middleton Isla 3.51 93 **Pn 05 36 28.5 -0.2**
MID IAML 05 37 09.9
comp=E,3µm,0.3s
MID IAML 05 37 09.9
comp=N,3µm,0.4s
MID Middleton Isla 3.51 93 P **Pn 05 36 28.7 0.0**
MID Middleton Isla 3.51 93 P **Pn 05 36 28.5 -0.2**
SCM Sheep Creek Mo 3.55 52 **Pn 05 36 29.0 -0.3**
SCM Sheep Creek Mo 3.55 52 P **Pn 05 36 29.0 -0.3**
SCM Sheep Creek Mo 3.55 52 P **Pn 05 36 29.2 -0.2**
baz=236,SNR=77
K20K Telida 3.63 354 Pn **Pn 05 36 31.4 +1.0**
K20K Telida 3.63 354 P **Pn 05 36 31.5 +1.1**
baz=172,SNR=549
L16K Owhat River 3.65 305 Pn **Pn 05 36 31.5 +1.0**
L16K Owhat River 3.65 305 P **Pn 05 36 31.6 +1.0**
baz=120,SNR=71
CAST Castle Rocks 3.71 8 Pn **Pn 05 36 32.7 +1.2**
CAST Castle Rocks 3.71 8 P **Pn 05 36 32.6 +1.2**
baz=188,SNR=1000
WAT7 Susitna Watana 3.73 32 **Pn 05 36 31.9 +0.1**
WAT1 Susitna Watana 3.81 34 **Pn 05 36 32.7 0.0**
WAT1 Susitna Watana 3.81 34 P **Pn 05 36 33.3 +0.5**
baz=218
EYAK Cordova Ski Ar 3.81 75 **Pn 05 36 31.7 -1.0**
EYAK Cordova Ski Ar 3.81 75 P **Pn 05 36 32.2 -0.5**
EYAK Cordova Ski Ar 3.81 75 P **Pn 05 36 31.7 -1.0**
baz=261,SNR=97
M15K Kasigluk River 3.85 287 **Pn 05 36 34.6 +1.4**
M15K Kasigluk River 3.85 287 P **Pn 05 36 34.5 +1.2**
baz=101,SNR=11
K17K Iditarod 3.85 322 Pn **Pn 05 36 34.3 +1.0**
K17K IAML 05 37 56.7
comp=E,831nm,1.1s
K17K IAML 05 38 01.2
comp=N,592nm,1.1s
K17K Iditarod 3.85 322 P **Pn 05 36 34.3 +1.0**
baz=138,SNR=395
WAT6 Susitna Watana 3.87 41 **Pn 05 36 33.7 0.0**
WAT6 Susitna Watana 3.87 41 P **Pn 05 36 33.7 0.0**
baz=225,SNR=207
DIV Divide 3.93 66 **Pn 05 36 34.0 -0.4**
TRF Thorofare Moun 3.95 19 Pn **Pn 05 36 35.5 +0.6**
TRF IAML 05 37 25.3
comp=N,2µm,0.5s
TRF IAML 05 37 46.4
comp=E,2µm,0.7s
TRF Thorofare Moun 3.95 19 P **Pn 05 36 35.1 +0.3**
baz=201,SNR=447
KTH Kantishna Hill 3.95 15 **Pn 05 36 35.7 +0.9**
KLU Klutina 3.98 61 **Pn 05 36 34.7 -0.5**
KLU IAML 05 37 24.2
comp=E,3µm,0.5s
KLU Klutina 3.98 61 P **Pn 05 36 34.7 -0.5**
baz=247,SNR=423
J18K Innoko River 4.07 337 **Pn 05 36 37.2 +0.8**
J18K Innoko River 4.07 337 P **Pn 05 36 37.1 +0.8**
baz=154,SNR=717
O14K Tigyukauivet M 4.14 266 **Pn 05 36 39.2 +2.0**
O14K Tigyukauivet M 4.14 266 P **Pn 05 36 39.2 +2.0**
baz=80,SNR=41
CHUM Lake Minchumin 4.15 5 **Pn 05 36 38.6 +1.2**
CHUM Lake Minchumin 4.15 5 P **Pn 05 36 38.6 +1.2**
baz=186,SNR=820
M24K Tolsona, Glenn 4.16 53 Pn **Pn 05 36 37.5 0.0**
M24K Tolsona, Glenn 4.16 53 P **Pn 05 36 37.8 +0.3**
baz=238,SNR=130
CHIR Chirikof Islan 4.16 199 Pn **Pn 05 36 36.3 -1.2**
CHIR IAML 05 37 22.7
comp=N,2µm,0.4s
CHIR IAML 05 37 23.0
comp=E,2µm,0.6s
CHIR Chirikof Islan 4.16 199 P **Pn 05 36 36.4 -1.2**
baz=18,SNR=9.1
RND Reindeer 4.20 28 **Pn 05 36 38.8 +0.6**
RND IAML 05 37 27.2
comp=E,890nm,0.6s
RND IAML 05 37 44.3
comp=N,782nm,0.7s
RND Reindeer 4.20 28 P **Pn 05 36 38.8 +0.6**
N14K Kuskokwak Cree 4.28 276 **Pn 05 36 41.2 +2.1**
N14K Kuskokwak Cree 4.28 276 P **Pn 05 36 41.3 +2.2**
baz=89,SNR=44
GOAT Goat Mountain 4.31 75 **Pn 05 36 39.5 -0.1**
RAGM Ragged Mountai 4.32 78 **Pn 05 36 39.0 -0.6**
DHY Denali Highway 4.34 38 **Pn 05 36 40.3 +0.2**
DHY IAML 05 37 31.7
comp=E,3µm,0.6s
DHY IAML 05 37 35.4
comp=N,2µm,0.5s
DHY Denali Highway 4.34 38 P **Pn 05 36 40.2 +0.2**
baz=222,SNR=221
J19K Poorman 4.40 346 **Pn 05 36 41.2 +0.6**
J19K Poorman 4.40 346 P **Pn 05 36 41.2 +0.6**
baz=163,SNR=197
KAIM Kayak Island 4.43 84 **Pn 05 36 41.4 +0.2**
KAIM Kayak Island 4.43 84 P **Pn 05 36 41.5 +0.2**
baz=271,SNR=28
BMRM Bremner River 4.44 71 **Pn 05 36 41.5 +0.3**
BMRM Bremner River 4.44 71 P **Pn 05 36 41.6 +0.3**
baz=258,SNR=312
CHGN Chignik 4.44 221 **Pn 05 36 41.8 +0.5**
CHGN IAML 05 37 32.2
comp=N,701nm,0.6s
CHGN IAML 05 37 32.4
comp=E,934nm,0.7s
CHGN Chignik 4.44 221 P **Pn 05 36 42.0 +0.7**
baz=37,SNR=22
J20K Nowinta River 4.45 355 **Pn 05 36 42.4 +1.0**
J20K IAML 05 38 24.3
comp=E,439nm,1.1s
J20K Nowinta River 4.45 355 P **Pn 05 36 42.4 +1.0**
baz=173,SNR=505
MCK McKinley 4.47 25 **Pn 05 36 42.4 +0.7**
MCK McKinley 4.47 25 P **Pn 05 36 42.4 +0.7**
MCK McKinley 4.47 25 P **Pn 05 36 42.4 +0.7**
baz=208,SNR=622
M14K Bethel 4.47 287 **Pn 05 36 43.4 +1.7**
M14K IAML 05 38 36.4
comp=N,380nm,1.4s
M14K Bethel 4.47 287 P **Pn 05 36 43.5 +1.9**
baz=99,SNR=31
BPAW Bear Paw Mtn. 4.47 13 **Pn 05 36 42.0 +0.3**
BPAW IAML 05 37 49.0
comp=N,421nm,0.6s
BPAW IAML 05 38 09.3
comp=E,466nm,1.5s
BPAW Bear Paw Mtn. 4.47 13 P **Pn 05 36 41.8 0.0**
baz=194,SNR=494
L15K Ungalak Mounta 4.50 299 **Pn 05 36 43.2 +1.2**
L15K Ungalak Mounta 4.50 299 P **Pn 05 36 43.3 +1.2**
baz=112
HMT Hamilton 4.52 79 **Pn 05 36 42.5 +0.1**
N25K Chitina, Valde 4.62 63 **Pn 05 36 43.5 -0.3**
N25K IAML 05 37 36.0
comp=N,1µm,0.5s
N25K Chitina, Valde 4.62 63 P **Pn 05 36 43.3 -0.4**
baz=250,SNR=419
NICHA Nichawak Mount 4.66 80 **Pn 05 36 43.8 -0.5**
HARP HAARP 4.72 52 **Pn 05 36 45.0 0.0**
HARP HAARP 4.72 52 P **Pn 05 36 45.1 0.0**
baz=239,SNR=73
SUCK Suckling Hills 4.75 82 **Pn 05 36 45.8 +0.2**
SUCK IAML 05 37 40.9
comp=N,2µm,0.6s
SUCK IAML 05 37 45.1
comp=E,2µm,0.5s
BWN Browne 4.76 20 **Pn 05 36 46.7 +1.1**
BWN IAML 05 38 15.9
comp=E,2µm,1.2s
BWN IAML 05 38 34.9
comp=N,2µm,1.3s
K15K Wolf Creek Mou 4.78 306 **Pn 05 36 47.4 +1.6**
K15K Wolf Creek Mou 4.78 306 P **Pn 05 36 47.4 +1.6**
baz=118,SNR=21
BERG Berg Lake 4.80 78 **Pn 05 36 46.1 0.0**
BERG IAML 05 37 39.0
comp=N,2µm,0.4s
VNSG Veniaminof 6 4.81 223 **Pn 05 36 47.1 +0.8**
S14K Fog Glacier 4.85 227 P **Pn 05 36 48.3 +1.3**
baz=42
VNFG Fog Glacier, M 4.85 227 **Pn 05 36 49.0 +2.0**
VNFG IAML 05 38 02.3
comp=N,893nm,1.2s
VNFG IAML 05 38 10.4
comp=E,1µm,1.0s
VNSS Veniaminof 8 4.86 226 **Pn 05 36 48.1 +1.0**
WACK Wrangell Chich 4.88 59 **Pn 05 36 47.0 -0.4**
PAX Paxson 4.92 46 **Pn 05 36 48.5 +0.7**
PAX Paxson 4.92 46 P **Pn 05 36 48.5 +0.7**
PAX Paxson 4.92 46 P **Pn 05 36 47.9 +0.1**
baz=232,SNR=271
WASW Wrangell South 4.92 60 **Pn 05 36 47.9 -0.1**
GLB Gilahina Butte 4.93 66 **Pn 05 36 47.6 -0.3**
GLB IAML 05 37 44.6
comp=E,1µm,0.7s
L14K Kuka Creek 4.94 293 Pn **Pn 05 36 50.1 +2.1**
L14K IAML 05 38 08.9
comp=E,371nm,1.1s
L14K IAML 05 38 47.7
comp=N,358nm,1.0s
L14K Kuka Creek 4.94 293 P **Pn 05 36 49.7 +1.8**
baz=105,SNR=17
VNWF Veniaminof 8 4.96 226 **Pn 05 36 49.2 +0.8**
WAZA Wrangell Mount 4.99 58 **Pn 05 36 48.9 -0.1**
J16K Anvik River 5.00 318 **Pn 05 36 49.6 +0.9**
J16K Anvik River 5.00 318 P **Pn 05 36 49.4 +0.6**
baz=132,SNR=164
BGLC Bering Glacier 5.00 82 **Pn 05 36 49.5 +0.7**
BGLC Bering Glacier 5.00 82 P **Pn 05 36 49.4 +0.6**
baz=270
KHIT Khitrov Hills 5.03 78 **Pn 05 36 48.0 -1.3**
VRDI Verde Repeater 5.04 69 **Pn 05 36 48.7 -0.8**
VRDI IAML 05 37 46.8
comp=N,1µm,0.6s
VRDI IAML 05 37 47.5
comp=E,687nm,0.7s
I20K Naaghedeneel 5.08 354 **Pn 05 36 51.3 +1.4**
I20K IAML 05 38 08.1
comp=N,1µm,0.9s
I20K IAML 05 38 40.9
comp=E,1µm,1.0s
I20K Naaghedeneel 5.08 354 P **Pn 05 36 51.0 +1.1**
baz=172,SNR=149
CRQM Cirque 5.11 74 **Pn 05 36 50.7 +0.1**
M13K Dall Lake 5.12 282 **Pn 05 36 53.0 +2.5**
M13K IAML 05 38 52.4
comp=E,291nm,1.4s
M13K Dall Lake 5.12 282 P **Pn 05 36 52.1 +1.7**
baz=93,SNR=8.2
CRQE Cirque 5.13 75 P **Pn 05 36 50.6 -0.1**
baz=263,SNR=166
NEA2 Nenana 5.22 20 **Pn 05 36 52.0 +0.3**
NEA2 IAML 05 37 50.4
comp=N,369nm,0.8s
NEA2 IAML 05 37 55.9
comp=E,275nm,0.6s
NEA2 Nenana 5.22 20 P **Pn 05 36 51.2 -0.5**
baz=203,SNR=1000
SNH Sunshine Point 5.22 81 **Pn 05 36 52.3 +0.3**
SNH IAML 05 37 51.0
comp=N,2µm,0.5s
SNH IAML 05 37 52.4
comp=E,2µm,0.7s
WAX Waxell Ridge 5.23 78 **Pn 05 36 52.0 +0.1**
TGL Tana Glacier 5.26 75 **Pn 05 36 52.8 +0.3**
TGL IAML 05 37 51.7
comp=N,1µm,0.6s
MCARA McCarthy VSAT 5.28 68 **Pn 05 36 52.7 +0.1**
MCARA McCarthy VSAT 5.28 68 P **Pn 05 36 51.9 -0.6**
baz=256,SNR=183
GCSA Galena City Sc 5.29 343 **Pn 05 36 53.4 +0.8**
GCSA Galena City Sc 5.29 343 P **Pn 05 36 53.4 +0.8**
baz=159,SNR=88
WRH Wood River Hil 5.30 25 **Pn 05 36 52.9 +0.1**
WRH IAML 05 37 52.0
comp=E,442nm,0.6s
WRH IAML 05 37 53.5
comp=N,462nm,0.8s
K24K Donnelly Dome 5.37 38 **Pn 05 36 55.3 +1.4**
K24K Donnelly Dome 5.37 38 P **Pn 05 36 55.3 +1.4**
baz=224,SNR=299
BARK Barkley Ridge 5.40 79 **Pn 05 36 53.6 -0.8**
CYK Cape Yakataga 5.40 82 **Pn 05 36 54.7 +0.4**
I17K Unalakleet 5.45 323 Pn **Pn 05 36 55.9 +1.0**
I17K Unalakleet 5.45 323 P **Pn 05 36 55.7 +0.9**
baz=136,SNR=18
I21K Tanana 5.46 5 **Pn 05 36 56.1 +1.0**
I21K Tanana 5.46 5 P **Pn 05 36 55.4 +0.3**
baz=186,SNR=370
ISLE Juniper Island 5.49 77 **Pn 05 36 56.1 +0.5**
PTPK Patty Peak 5.50 70 **Pn 05 36 55.5 -0.3**
HDA Harding Lake 5.51 30 **Pn 05 36 55.9 +0.2**
HDA Harding Lake 5.51 30 P **Pn 05 36 55.3 -0.4**
baz=215,SNR=385
CCB Clear Creek Bu 5.51 25 Pn **Pn 05 36 56.0 +0.2**
KIAG Kiagna River 5.51 73 **Pn 05 36 54.9 -1.0**
BAGL Bagley Icefiel 5.61 78 **Pn 05 36 56.6 -0.4**
M26K Nabesna, AK 5.61 58 Pn **Pn 05 36 57.6 +0.4**
M26K Nabesna, AK 5.61 58 P **Pn 05 36 57.4 +0.2**
baz=246,SNR=365
RIDG Independent Ri 5.62 41 **Pn 05 36 57.9 +0.6**
RIDG Independent Ri 5.62 41 P **Pn 05 36 57.7 +0.3**
baz=228,SNR=156
MESA MESA 5.67 81 **Pn 05 36 58.8 +0.8**
MESA MESA 5.67 81 P **Pn 05 36 58.4 +0.3**
baz=270,SNR=163
I23K Minto, Yukon-K 5.69 17 **Pn 05 36 58.6 +0.5**
I23K Minto, Yukon-K 5.69 17 P **Pn 05 36 58.4 +0.3**
baz=200,SNR=584
COLA College 5.70 24 **Pn 05 36 58.7 +0.4**
COLA College 5.70 24 P **Pn 05 36 58.3 0.0**
COLA College 5.70 24 *e*P **Pn 05 36 58.2 0.0**
COLA College 5.70 24 P **Pn 05 36 58.2 0.0**
baz=208
MDM Murphy Dome 5.70 22 Pn **Pn 05 36 58.6 +0.3**
L26K Log Cabin Wild 5.75 51 **Pn 05 36 59.4 +0.4**
L26K Log Cabin Wild 5.75 51 P **Pn 05 36 59.1 0.0**
baz=239,SNR=49
YAH Yahtse 5.77 79 **Pn 05 37 00.5 +1.0**
GRNC Granite Creek 5.79 75 **Pn 05 37 00.5 +0.8**
H20K Anotleneega Mo 5.80 353 **Pn 05 37 00.7 +1.0**
H20K Anotleneega Mo 5.80 353 P **Pn 05 37 00.8 +1.2**
baz=171,SNR=224
J14K Nanvaranak Lak 5.82 305 **Pn 05 37 02.1 +2.2**
J14K Nanvaranak Lak 5.82 305 P **Pn 05 37 01.4 +1.5**
baz=116
IL31 5.82 28 **Pn 05 36 59.9 0.0**
ILAR Eielson Array 5.82 28 Pn **Pn 05 36 59.9 -0.1**
ILAR Eielson Array 5.82 28 P **Pn 05 36 59.9 -0.1**
ILAR Eielson Array 5.82 28 P **Pn 05 36 59.2 -0.7**
comp=N,479nm,0.5s,baz=218,slow=13,SNR=3018
ILAR S **Sn 05 38 00.3 -5.0**
comp=N,100nm,0.6s,baz=190,slow=18,SNR=5.0
ILAR ScP **ScP 05 47 14.5 -1.5**
comp=N,1.1nm,0.6s,baz=294,slow=3.2,SNR=6.2
BARN Barnard Glacie 5.87 72 **Pn 05 37 01.7 +0.9**
SDPT Sand Point 5.91 225 Pn **Pn 05 37 01.2 +0.1**
SDPT Sand Point 5.91 225 P **Pn 05 37 01.1 +0.1**
SDPT Sand Point 5.91 225 P **Pn 05 37 01.3 +0.1**
baz=39
H18K Honhosa River 5.91 338 **Pn 05 37 02.1 +0.9**
H18K Honhosa River 5.91 338 P **Pn 05 37 01.9 +0.8**
baz=154
H21K Melozitna Rive 5.92 2 **Pn 05 37 02.4 +1.1**
H21K Melozitna Rive 5.92 2 P **Pn 05 37 01.7 +0.4**
baz=182,SNR=333
RKAV Rock Avalanche 5.97 80 **Pn 05 37 01.9 -0.2**
H19K Roundabout Mou 5.97 347 **Pn 05 37 02.9 +0.9**
H19K Roundabout Mou 5.97 347 P **Pn 05 37 02.5 +0.6**
baz=164,SNR=98
POKR Poker Plat Res 6.00 24 **Pn 05 37 02.9 +0.5**
POKR Poker Plat Res 6.00 24 P **Pn 05 37 02.2 -0.1**
baz=209,SNR=192
K13K Kusilvak Mount 6.00 296 **Pn 05 37 04.7 +2.3**
K13K Kusilvak Mount 6.00 296 P **Pn 05 37 04.2 +1.8**
baz=106,SNR=12
CTG Chitna Glacier 6.01 73 P **Pn 05 37 03.6 +0.9**
baz=263
CTGM Chitina Glacie 6.01 73 **Pn 05 37 03.9 +1.2**
CHNA Chernabura Isl 6.04 218 P **Pn 05 37 02.1 -0.8**
baz=33
CNBA Chernabura Isl 6.04 218 Pn **Pn 05 37 01.9 -1.1**
H17K Granite Mounta 6.05 332 **Pn 05 37 03.8 +0.7**
H17K Granite Mounta 6.05 332 P **Pn 05 37 03.7 +0.7**
baz=146,SNR=163
SCRK Sand Creek 6.07 42 **Pn 05 37 03.2 -0.2**
SCRK Sand Creek 6.07 42 P **Pn 05 37 02.8 -0.6**
baz=230,SNR=130
TABL Table Mountain 6.07 78 **Pn 05 37 04.0 +0.5**
M27K Edge Creek, AK 6.08 60 **Pn 05 37 04.6 +1.0**
M27K Edge Creek, AK 6.08 60 P **Pn 05 37 04.0 +0.4**
baz=249,SNR=153
J25K Salcha River, 6.09 34 **Pn 05 37 03.6 0.0**
J25K Salcha River, 6.09 34 P **Pn 05 37 03.6 0.0**
baz=220,SNR=481
LOGN Logan Glacier 6.16 75 **Pn 05 37 05.5 +0.8**
H22K Ishtalitna Cre 6.21 7 **Pn 05 37 05.4 +0.2**
H22K Ishtalitna Cre 6.21 7 P **Pn 05 37 05.2 0.0**
baz=188,SNR=248
IMAR Indian Mountai 6.25 358 Pn **Pn 05 37 07.0 +1.3**
SAMH Samovar Hills 6.25 81 **Pn 05 37 06.0 0.0**
H23K Yukon River 6.31 14 **Pn 05 37 06.9 +0.3**
H23K Yukon River 6.31 14 P **Pn 05 37 06.7 +0.1**
baz=197,SNR=998
PS1A Pavlof South-1 6.32 230 **Pn 05 37 07.9 +1.1**
L27K Beaver Creek, 6.38 54 **Pn 05 37 07.4 -0.2**
L27K Beaver Creek, 6.38 54 P **Pn 05 37 07.2 -0.3**
baz=244,SNR=75
YUK2 White River 6.38 66 **Pn 05 37 07.6 -0.1**
BCAR Beaver Creek A 6.40 54 Pn **Pn 05 37 07.8 -0.1**
PN7A Pavlof North-7 6.42 231 **Pn 05 37 08.1 -0.1**
PS4A Pavlof South-4 6.42 230 **Pn 05 37 09.1 +0.9**
H16K Elim 6.46 323 **Pn 05 37 09.3 +0.7**
H16K Elim 6.46 323 P **Pn 05 37 09.2 +0.7**
baz=135,SNR=11
PCA Pinnacle 6.52 81 **Pn 05 37 10.0 +0.5**
PINM Pinnacle 6.52 81 P **Pn 05 37 09.9 +0.5**
baz=272,SNR=133
M11K Mekoryuk 6.54 281 P **Pn 05 37 10.7 +1.1**
baz=90
BVCY Beaver Creek 6.55 61 P **Pn 05 37 11.5 +1.6**
baz=251
J26L Joseph Creek 6.55 39 **Pn 05 37 10.2 +0.3**
J26L Joseph Creek 6.55 39 P **Pn 05 37 09.6 -0.4**
baz=228,SNR=185
O28M Mount Upton 6.55 76 **Pn 05 37 10.0 -0.2**
O28M Mount Upton 6.55 76 P **Pn 05 37 11.1 +1.0**
baz=267,SNR=998
YUK3 Moose Creek 6.56 67 **Pn 05 37 10.1 -0.1**
YUK3 Moose Creek 6.56 67 P **Pn 05 37 11.0 +0.8**
baz=258,SNR=232
H24K Noodor Dome 6.56 20 **Pn 05 37 10.6 +0.5**
H24K Noodor Dome 6.56 20 P **Pn 05 37 09.9 -0.1**
baz=204,SNR=415
G18K Tagagawik 6.64 340 **Pn 05 37 11.9 +0.9**
G18K Tagagawik 6.64 340 P **Pn 05 37 11.3 +0.3**
baz=155,SNR=66
G19K Purcell Mounta 6.64 346 **Pn 05 37 11.7 +0.6**
G19K Purcell Mounta 6.64 346 P **Pn 05 37 11.4 +0.3**
baz=162,SNR=63
G17K Kiwalik Mounta 6.70 332 **Pn 05 37 11.7 -0.2**
G17K Kiwalik Mounta 6.70 332 P **Pn 05 37 12.0 +0.1**
baz=146,SNR=28
PRP Porcupine Dome 6.77 28 **Pn 05 37 13.1 +0.2**
PRP Porcupine Dome 6.77 28 P **Pn 05 37 12.6 -0.3**
baz=215,SNR=1000
K27K Chicken 6.77 46 **Pn 05 37 13.4 +0.6**
K27K Chicken 6.77 46 P **Pn 05 37 13.1 +0.2**
baz=236
G21K Allakaket 6.78 359 **Pn 05 37 14.2 +1.3**
G21K Allakaket 6.78 359 P **Pn 05 37 13.8 +0.9**
baz=178
BCPM Bancas Point 6.84 83 **Pn 05 37 14.4 +0.7**
YKU2 Yakutat 6.87 86 P **Pn 05 37 14.2 +0.1**
PNL Peninsula 6.99 85 **Pn 05 37 15.6 -0.1**
PNL Peninsula 6.99 85 P **Pn 05 37 15.7 -0.1**
PNL Peninsula 6.99 85 P **Pn 05 37 15.7 -0.1**
baz=277,SNR=265
G16K Koyuk River 7.05 327 **Pn 05 37 17.3 +0.8**
G16K Koyuk River 7.05 327 P **Pn 05 37 17.0 +0.5**
baz=139,SNR=11
G23K Bananza Creek 7.12 10 **Pn 05 37 17.5 0.0**
G23K Bananza Creek 7.12 10 P **Pn 05 37 17.5 0.0**
baz=193,SNR=517
G22K Bettles 7.22 5 **Pn 05 37 19.9 +1.0**
G22K Bettles 7.22 5 P **Pn 05 37 19.5 +0.6**
baz=186
I26K Coal Creek Min 7.24 36 **Pn 05 37 19.5 +0.3**
I26K Coal Creek Min 7.24 36 P **Pn 05 37 18.5 -0.7**
baz=224
G15K Niukluk 7.26 321 **Pn 05 37 20.4 +0.9**
G15K Niukluk 7.26 321 P **Pn 05 37 20.4 +0.9**
baz=131
H25L Birch Creek 7.33 24 **Pn 05 37 20.3 -0.1**
H25L Birch Creek 7.33 24 P **Pn 05 37 20.3 -0.1**
baz=210,SNR=162
O29M Mount Kennedy 7.35 79 **Pn 05 37 21.8 +1.0**
O29M Mount Kennedy 7.35 79 P **Pn 05 37 21.1 +0.3**
baz=272,SNR=364
YUK4 Talbot Arm 7.35 71 P **Pn 05 37 21.7 +0.8**
baz=263,SNR=72
F19K Shaleruckik Mo 7.38 346 **Pn 05 37 22.1 +1.0**
F19K Shaleruckik Mo 7.38 346 P **Pn 05 37 21.8 +0.7**
baz=162,SNR=251
FALS False Pass 7.40 233 P **Pn 05 37 22.3 +1.0**
F20K Avaraart Lake 7.40 352 **Pn 05 37 23.0 +1.7**
F20K Avaraart Lake 7.40 352 P **Pn 05 37 22.6 +1.3**
baz=170,SNR=191
G24K Hadweenzic Riv 7.42 18 **Pn 05 37 21.3 -0.3**
G24K Hadweenzic Riv 7.42 18 P **Pn 05 37 21.0 -0.7**
baz=203,SNR=146
ANM Nome 7.45 315 Pn **Pn 05 37 24.2 +2.2**
ANM Nome 7.45 315 P **Pn 05 37 24.2 +2.2**
ANM Nome 7.45 315 P **Pn 05 37 23.3 +1.3**
baz=125,SNR=8.1
YUK6 Outpost Mounta 7.46 74 **Pn 05 37 22.6 +0.3**

YUK6 Outpost Mounta 7.46 74 P Pn 05 37 22.0 -0.4
baz=267,SNR=153
F21K Alatna River 7.49 359 Pn 05 37 23.4 +0.8
F21K Alatna River 7.49 359 P Pn 05 37 23.1 +0.5
baz=179,SNR=335
YUK7 Dusty Glacier 7.56 78 Pn 05 37 23.4 -0.4
COLD Coldfoot 7.61 9 Pn 05 37 24.1 -0.1
COLD Coldfoot 7.61 9 P Pn 05 37 24.2 +0.1
baz=191,SNR=143
ISLZ Isanotski Laza 7.61 233 Pn 05 37 24.6 +0.3
F17K Baldwin Pennin 7.62 335 Pn 05 37 24.8 +0.5
F17K Baldwin Pennin 7.62 335 P Pn 05 37 24.8 +0.5
baz=148,SNR=32
M29M Somme Creek 7.63 63 Pn 05 37 25.1 +0.5
M29M Somme Creek 7.63 63 P Pn 05 37 25.4 +0.8
baz=256,SNR=195
YUK5 Granite Creek 7.71 73 Pn 05 37 26.1 +0.3
FYU Fort Yukon 7.71 24 Pn 05 37 25.9 +0.3
G25K Bearman Lake 7.72 21 Pn 05 37 24.6 -1.0
G25K Bearman Lake 7.72 21 P Pn 05 37 25.4 -0.2
baz=207,SNR=95
SSLS Shishaldin Sou 7.74 234 Pn 05 37 27.3 +1.2
F22K John River 7.79 3 Pn 05 37 27.1 +0.4
F22K John River 7.79 3 P Pn 05 37 27.0 +0.4
baz=184
DAWY Dawson 7.81 51 Pn 05 37 27.5 +0.5
DAWY Dawson 7.81 51 P Pn 05 37 27.2 +0.2
baz=242,SNR=36
P29M Windy Craggy 7.83 84 Pn Pn 05 37 28.4 +1.2
P29M Windy Craggy 7.83 84 P Pn 05 37 27.2 0.0
baz=278,SNR=702
HYT Haines Junctio 7.87 75 Pn 05 37 28.7 +0.8
HYT Haines Junctio 7.87 75 P Pn 05 37 28.0 +0.1
baz=269,SNR=111
I27K Kandik River 7.91 37 Pn 05 37 27.6 -0.7
I27K Kandik River 7.91 37 P Pn 05 37 27.0 -1.3
baz=227,SNR=74
E19K Redstone River 7.93 349 Pn 05 37 30.4 +1.9
E19K Redstone River 7.93 349 P Pn 05 37 30.0 +1.5
baz=165
F15K North Star Dit 7.94 324 Pn Pn 05 37 29.6 +0.9
F15K North Star Dit 7.94 324 P Pn 05 37 29.2 +0.5
baz=133,SNR=16
L29M L29M 7.96 59 Pn 05 37 29.6 +0.6
L29M L29M 7.96 59 P Pn 05 37 29.2 +0.2
baz=252,SNR=54
N30M Aishikik Lake 8.11 71 Pn 05 37 31.1 +0.1
N30M Aishikik Lake 8.11 71 P Pn 05 37 31.0 -0.1
baz=265,SNR=427
F24K Squaw Lake 8.13 15 Pn 05 37 31.7 +0.4
F24K Squaw Lake 8.13 15 P Pn 05 37 31.7 +0.4
baz=199,SNR=116
P30M Million Dollar 8.16 80 Pn 05 37 33.3 +1.5
P30M Million Dollar 8.16 80 P Pn 05 37 32.1 +0.3
baz=274
E17K Hotham Inlet 8.29 336 Pn 05 37 33.6 +0.2
E17K Hotham Inlet 8.29 336 P Pn 05 37 33.5 +0.2
baz=148,SNR=80
F14K Arctic Creek 8.32 319 Pn 05 37 35.1 +1.4
F14K Arctic Creek 8.32 319 P Pn 05 37 35.2 +1.4
baz=127
I28M Miner Creek 8.35 41 Pn Pn 05 37 34.7 +0.3
I28M Miner Creek 8.35 41 P Pn 05 37 33.9 -0.4
baz=233,SNR=99
G26K Porcupine Rive 8.35 26 Pn 05 37 33.2 -1.0
G26K Porcupine Rive 8.35 26 P Pn 05 37 33.3 -0.9
baz=214,SNR=71
E18K Tukpahlearik C 8.36 340 Pn Pn 05 37 36.1 +1.8
E18K Tukpahlearik C 8.36 340 P Pn 05 37 35.2 +0.9
baz=153,SNR=64
H27K Steamboat Moun 8.37 34 Pn 05 37 33.1 -1.5
H27K Steamboat Moun 8.37 34 P Pn 05 37 34.5 -0.1
baz=224,SNR=160
M30M Minto, Yukon 8.41 63 Pn 05 37 35.7 +0.6
M30M Minto, Yukon 8.41 63 P Pn 05 37 35.4 +0.2
baz=258,SNR=90
E22K Anaktuvuk Pass 8.43 4 Pn 05 37 37.2 +1.9
E22K Anaktuvuk Pass 8.43 4 P Pn 05 37 36.6 +1.3
baz=185,SNR=67
J29N Klondike Camp 8.44 50 P Pn 05 37 35.9 +0.4
baz=243,SNR=15
K29M Barlow Dome 8.47 54 Pn 05 37 36.7 +0.7
K29M Barlow Dome 8.47 54 P Pn 05 37 37.1 +1.1
baz=248,SNR=22
E23K Chandalar 8.47 9 Pn 05 37 36.1 +0.2
E23K Chandalar 8.47 9 P Pn 05 37 36.0 0.0
baz=192,SNR=81
F25K Christian Rive 8.54 20 Pn 05 37 35.4 -1.4
F25K Christian Rive 8.54 20 P Pn 05 37 35.7 -1.1
baz=206,SNR=55
PLBC Pleasant Camp 8.54 85 Pn 05 37 36.8 -0.1
PLBC Pleasant Camp 8.54 85 P Pn 05 37 36.8 -0.1
baz=279,SNR=275
O30N Mendenhall 8.57 76 Pn 05 37 37.7 +0.5
O30N Mendenhall 8.57 76 P Pn 05 37 37.2 -0.1
baz=271,SNR=116
BMAR Burnt Mountain 8.59 23 Pn Pn 05 37 36.3 -1.2
E24K Your Creek 8.59 12 Pn 05 37 37.8 +0.2
E24K Your Creek 8.59 12 P Pn 05 37 37.6 0.0
baz=196,SNR=63
E20K Nigu River 8.63 353 Pn 05 37 39.5 +1.5
E20K Nigu River 8.63 353 P Pn 05 37 39.9 +1.9
baz=170
E21K Killik River 8.72 358 Pn 05 37 40.5 +1.3
E21K Killik River 8.72 358 P Pn 05 37 40.0 +0.7
baz=177
N31M Braeburn, Yuko 8.73 71 Pn 05 37 39.9 +0.4
N31M Braeburn, Yuko 8.73 71 P Pn 05 37 39.7 +0.2
baz=266,SNR=167
G27K Doyon Strip 8.76 31 Pn 05 37 39.0 -0.8
G27K Doyon Strip 8.76 31 P Pn 05 37 38.6 -1.3
baz=221,SNR=78
I29M Ogilvie Camp, 8.86 44 P Pn 05 37 41.7 +0.5
baz=237,SNR=18
AKUT Akutan 8.88 236 P Pn 05 37 41.8 +0.3
F26K Sheenjek River 8.90 23 Pn 05 37 39.8 -2.0
F26K Sheenjek River 8.90 23 P Pn 05 37 40.2 -1.5
baz=211,SNR=59
TNA Tin City 8.91 317 Pn 05 37 44.0 +2.3
AKV Akutan Volcano 8.97 237 Pn 05 37 43.9 +1.2
AKBBA Akutan Broad B 8.97 236 Pn 05 37 43.7 +1.0
S31K Pelican 8.98 94 Pn 05 37 42.0 -0.8
S31K Pelican 8.98 94 P Pn 05 37 41.8 -0.9
baz=289,SNR=10
ZRO Akutan Zero 9.00 236 Pn 05 37 42.0 -1.1
D19K Kuna River 9.02 348 Pn 05 37 45.0 +1.6
D19K Kuna River 9.02 348 P Pn 05 37 45.1 +1.8
baz=164
E25K Arctic Village 9.03 19 Pn 05 37 43.2 -0.3
E25K Arctic Village 9.03 19 P Pn 05 37 42.2 -1.3
baz=205,SNR=51
TOLK Toolik Lake Re 9.05 8 Pn 05 37 45.3 +1.6
TOLK Toolik Lake Re 9.05 8 P Pn 05 37 44.3 +0.5
baz=192,SNR=71
SKAG Skagway 9.06 84 Pn 05 37 45.6 +1.6
SKAG Skagway 9.06 84 P Pn 05 37 43.9 -0.1
SKAG Skagway 9.06 84 P Pn 05 37 44.1 +0.1
baz=280,SNR=124
MAYO Mayo, Yukon 9.07 58 Pn 05 37 45.5 +1.5
MAYO Mayo, Yukon 9.07 58 P Pn 05 37 44.8 +0.8
baz=253,SNR=24
R31K City Hall, Gus 9.09 91 P Pn 05 37 44.8 +0.5
baz=286,SNR=8.3
D20K Etivluk River 9.10 352 Pn 05 37 45.5 +1.1
D20K Etivluk River 9.10 352 P Pn 05 37 45.6 +1.1
baz=169
D22K Ayikyak River 9.16 1 Pn 05 37 46.3 +1.1
D22K Ayikyak River 9.16 1 P Pn 05 37 46.2 +1.1
baz=181,SNR=29
WHY Whitehorse 9.16 76 Pn 05 37 46.0 +0.6
WHY Whitehorse 9.16 76 P Pn 05 37 45.7 +0.2
baz=272,SNR=184
J30M Hart River 9.23 51 Pn 05 37 48.0 +1.6
J30M Hart River 9.23 51 P Pn 05 37 46.9 +0.6
baz=246,SNR=32
D23K Nanushuk River 9.30 6 Pn 05 37 47.8 +0.7
D23K Nanushuk River 9.30 6 P Pn 05 37 47.4 +0.3
baz=188,SNR=34
H29M Whitestone 9.33 40 Pn Pn 05 37 47.8 +0.2
H29M Whitestone 9.33 40 P Pn 05 37 46.5 -1.0
baz=233,SNR=34
UNV Unalaska Valle 9.39 237 Pn 05 37 48.6 +0.1
UNV Unalaska Valle 9.39 237 P Pn 05 37 48.4 0.0
UNV Unalaska Valle 9.39 237 P Pn 05 37 48.3 -0.1
baz=46,SNR=6.3

C21K Knifeblade Rid 9.46 357 Pn 05 37 49.9 +0.7
C21K Knifeblade Rid 9.46 357 P Pn 05 37 49.5 +0.3
baz=175,SNR=20
M31M Drury Creek, Y 9.46 67 Pn 05 37 49.9 +0.6
M31M Drury Creek, Y 9.46 67 P Pn 05 37 49.7 +0.4
baz=263,SNR=116
BESE Bessie Mountai 9.49 89 Pn 05 37 50.3 +0.4
I30M Mount Dempster 9.49 48 Pn Pn 05 37 51.7 +1.8
I30M Mount Dempster 9.49 48 P Pn 05 37 50.0 +0.1
baz=242,SNR=29
C18K Utukok River 9.56 342 Pn 05 37 52.8 +2.1
C18K Utukok River 9.56 342 P Pn 05 37 52.4 +1.7
baz=155,SNR=32
MAPS Pakushin South 9.60 238 Pn 05 37 51.5 +0.2
D24K Happy Valley 9.61 9 Pn 05 37 52.4 +1.1
D24K Happy Valley 9.61 9 P Pn 05 37 51.8 +0.5
baz=193
R32K Eaglecrest 9.75 91 Pn 05 37 54.4 +1.1
R32K Eaglecrest 9.75 91 P Pn 05 37 53.5 +0.2
baz=287,SNR=32
C17K DeLong Mountai 9.75 338 P Pn 05 37 53.6 +0.3
baz=149
SIT Sitka 9.76 98 Pn 05 37 52.4 -1.0
SIT Sitka 9.76 98 P Pn 05 37 52.2 -1.2
SIT Sitka 9.76 98 P Pn 05 37 52.4 -1.0
SIT Sitka 9.76 98 P Pn 05 37 52.0 -1.4
baz=294,SNR=7.8
C19K Lookout Ridge 9.77 346 Pn 05 37 55.3 +1.8
C19K Lookout Ridge 9.77 346 P Pn 05 37 54.3 +0.9
baz=160,SNR=12
F28M Old Crow 9.83 31 Pn Pn 05 37 53.9 -0.4
F28M Old Crow 9.83 31 P Pn 05 37 53.3 -0.9
baz=223,SNR=69
E27K Coleen River 9.85 26 Pn Pn 05 37 53.7 -0.9
E27K Coleen River 9.85 26 P Pn 05 37 53.3 -1.3
baz=216,SNR=31
P32M Atlin 9.86 83 Pn 05 37 55.6 +0.9
P32M Atlin 9.86 83 P Pn 05 37 54.3 -0.5
baz=279,SNR=60
G29M Pine Creek 9.87 37 Pn 05 37 55.4 +0.5
G29M Pine Creek 9.87 37 P Pn 05 37 54.2 -0.7
baz=230,SNR=26
B21K Ikpikpuk River 9.92 357 Pn 05 37 55.0 -0.4
B21K Ikpikpuk River 9.92 357 P Pn 05 37 54.9 -0.5
baz=176,SNR=8.1
FARO Faro, Yukon 9.95 67 Pn 05 37 57.0 +1.0
FARO Faro, Yukon 9.95 67 P Pn 05 37 56.4 +0.5
baz=264,SNR=78
EPYK Eagle Plains 9.96 41 Pn 05 37 56.9 +0.7
EPYK Eagle Plains 9.96 41 P Pn 05 37 55.5 -0.7
baz=236,SNR=88
S32K Killisnoo 9.98 95 Pn 05 37 56.6 +0.2
S32K Killisnoo 9.98 95 P Pn 05 37 55.9 -0.4
baz=291,SNR=16
D25K Kavik River 10.03 14 Pn Pn 05 37 57.2 +0.2
D25K Kavik River 10.03 14 P Pn 05 37 56.7 -0.3
baz=200,SNR=69
N32M Quiet Lake 10.03 73 Pn 05 37 58.0 +1.0
N32M Quiet Lake 10.03 73 P Pn 05 37 57.5 +0.4
baz=271
C16K Lisburne Hills 10.04 333 Pn Pn 05 37 58.6 +1.5
C16K Lisburne Hills 10.04 333 P Pn 05 37 58.4 +1.3
baz=142
C23K Itkillik River 10.17 5 Pn Pn 05 37 59.6 +0.6
C23K Itkillik River 10.17 5 P Pn 05 37 58.9 0.0
baz=187,SNR=13
C24K Franklin Bluff 10.18 9 P Pn 05 37 58.9 -0.1
baz=193
P33M Teslin, Yukon 10.22 79 Pn Pn 05 38 00.9 +1.2
P33M Teslin, Yukon 10.22 79 P Pn 05 38 00.3 +0.6
baz=276,SNR=108
B18K Kokolik River 10.31 343 P Pn 05 38 02.3 +1.6
baz=155
B20K Meade River 10.42 352 Pn Pn 05 38 02.4 +0.2
B20K Meade River 10.42 352 P Pn 05 38 02.0 -0.2
baz=169
G30M tAoh Zraii Nji 10.47 39 Pn Pn 05 38 02.4 -0.8
G30M tAoh Zraii Nji 10.47 39 P Pn 05 38 02.6 -0.5
baz=234,SNR=40
H31M Peel River 10.52 47 Pn Pn 05 38 04.2 +0.6
H31M Peel River 10.52 47 P Pn 05 38 03.2 -0.5
baz=244,SNR=12
B22K Teshekpuk Lake 10.62 360 Pn 05 38 04.2 -0.8
B22K Teshekpuk Lake 10.62 360 P Pn 05 38 03.8 -1.2
baz=179,SNR=6.3
E28M Babbage River 10.65 28 P Pn 05 38 04.5 -1.0
baz=220,SNR=27
Q32M Nakina River 10.71 85 Pn 05 38 07.0 +0.5
Q32M Nakina River 10.71 85 P Pn 05 38 06.3 -0.1
baz=283,SNR=41
C26K Camden Bay 10.77 15 P Pn 05 38 07.0 0.0
baz=203
D27M Malcolm River 10.85 24 P Pn 05 38 07.3 -0.8
baz=214,SNR=18
E29M Blow River 10.90 31 P Pn 05 38 07.9 -0.9
baz=225,SNR=64
MMPY Sheldon Lake, 10.95 65 Pn Pn 05 38 10.5 +1.0
MMPY Sheldon Lake, 10.95 65 P Pn 05 38 10.4 +0.8
baz=265,SNR=80
A19K Wainwright 10.98 346 P Pn 05 38 10.9 +1.1
baz=158
F30M Barrier River 10.99 37 P Pn 05 38 09.4 -0.6
baz=232,SNR=36
NIKH Nikolski High 11.01 239 P Pn 05 38 11.2 +0.8
NIKH Nikolski High 11.01 239 P Pn 05 38 09.8 -0.6
baz=46
T33K Petersburg 11.05 97 P Pn 05 38 11.1 +0.3
baz=294
G31M Satah River 11.08 42 P Pn 05 38 09.5 -1.8
baz=238,SNR=24
R33M Jennings River 11.27 82 Pn Pn 05 38 14.7 +0.7
R33M Jennings River 11.27 82 P Pn 05 38 13.8 -0.1
baz=281,SNR=98
U33K Whale Pass 11.27 100 Pn Pn 05 38 12.7 -1.1
U33K Whale Pass 11.27 100 P Pn 05 38 12.4 -1.4
baz=297,SNR=20
A22K Sinclair Lake 11.31 357 P Pn 05 38 12.9 -1.4
baz=175
D28M Stokes Point 11.40 27 P Pn 05 38 13.9 -1.6
baz=220,SNR=6.9
F31M Tsiigehtchic 11.53 40 Pn Pn 05 38 15.9 -1.4
F31M Tsiigehtchic 11.53 40 P Pn 05 38 15.8 -1.4
baz=237,SNR=25
S34M Telegraph Cree 11.57 90 Pn Pn 05 38 19.0 +1.1
S34M Telegraph Cree 11.57 90 P Pn 05 38 18.1 +0.2
baz=288,SNR=76
CRAG Craig 11.58 103 Pn 05 38 17.2 -0.7
CRAG Craig 11.58 103 P Pn 05 38 17.7 -0.2
CRAG Craig 11.58 103 P Pn 05 38 17.8 -0.2
baz=300
DLBC Dease Lake 11.97 86 P Pn 05 38 22.9 -0.4
baz=286,SNR=43
DLBC Dease Lake 11.97 86 P Pn 05 38 24.2 +0.9
comp=N,67nm,0.3s,baz=291,slow=10,SNR=213
DLBC S Sn 05 40 32.5 -2.3
comp=N,41nm,0.5s,baz=209,slow=25,SNR=6.5
DLBC ScP ScP 05 47 23.7 +0.8
comp=N,2.2nm,0.6s,baz=280,slow=4.0,SNR=4.4
INK Inuvik 12.09 37 Pn Pn 05 38 24.2 -0.4
INK Inuvik 12.09 37 P Pn 05 38 24.2 -0.4
INK Inuvik 12.09 37 P Pn 05 38 23.6 -1.1
baz=234,SNR=24
INK Inuvik 12.09 37 P Pn 05 38 23.5 -1.1
comp=N,29nm,0.7s,baz=236,slow=19,SNR=36
INK LR LR 05 43 24.6
comp=N,157nm,19.3s,baz=170,slow=39
TGTN Hyland Airport 12.33 71 P Pn 05 38 28.9 +0.9
baz=273,SNR=19
T35M Bob Quinn 12.35 93 Pn 05 38 31.1 +2.9
T35M Bob Quinn 12.35 93 P Pn 05 38 29.2 +1.0
baz=293,SNR=35
V35K Ketchikan 12.39 102 Pn Pn 05 38 29.5 +0.7
V35K Ketchikan 12.39 102 P Pn 05 38 30.3 +1.5
baz=300
LIRD Liard River Hi 13.70 80 P Pn 05 38 47.6 +1.8
baz=283,SNR=43
ATKA Atka Island 13.93 246 P Pn 05 38 49.0 +0.2
WRGLY Wrigley 14.54 63 Pn 05 38 57.9 +1.3
WRGLY Wrigley 14.54 63 P Pn 05 38 57.2 +0.6
baz=270,SNR=14
KOTAN Kotaneelee Air 14.56 76 P Pn 05 38 59.0 +2.1
baz=281,SNR=38
ADK Adak 15.30 249 Pn Pn 05 39 08.1 +1.7
ADK Adak 15.30 249 P Pn 05 39 08.1 +1.7
ADK pmax pmax
comp=Z,30nm,0.8s

KIWB Kanaga Island 15.55 250 P 05 39 11.4 -0.1
C36M Paulatuk 15.59 40 P Pn 05 39 07.3 -2.5
baz=246,SNR=21
BBB Bella Bella 15.88 107 P P 05 39 16.0 +0.8
comp=Z,14nm,0.8s,baz=293,slow=11,SNR=1.2
BBB S Sn 05 42 07.6 -1.6
comp=Z,161nm,1.4s,baz=350,slow=22,SNR=5.0
A36M Sachs Harbour 16.51 31 Pn Pn 05 39 19.8 -1.3
A36M IAmb IAmb 05 39 27.0
comp=Z,101nm,0.8s
A36M Sachs Harbour 16.51 31 P Pn 05 39 19.9 -1.3
baz=236,SNR=16
YKA Yellowknife Ar 18.64 65 P P 05 39 44.9 -0.6
YKA Yellowknife Ar 18.64 65*ce*P P 05 39 45.7 +0.2
YKA pmax pmax
comp=Z,8.0nm,0.3s
YKA Yellowknife Ar 18.64 65 P P 05 39 45.6 +0.2
comp=Z,19nm,0.6s,baz=315,slow=6.8,SNR=80
YKA ScP ScP 05 47 34.5 -0.6
comp=Z,1.4nm,0.4s,baz=285,slow=2.6,SNR=9.0
SHEM Shemya Is, Ala 19.32 263 P P 05 39 53.1 +0.2
comp=Z,99nm,0.7s,baz=21,slow=3.7,SNR=4.0
EDM Edmonton 22.67 89 P P 05 40 30.1 +1.5
EDM IAmb IAmb 05 40 55.4
comp=Z,99nm,0.9s
EDM Edmonton 22.67 89 P P 05 40 30.2 +1.5
EDM pmax pmax
comp=Z,99nm,0.9s
NEW Newport 23.80 103 P P 05 40 39.7 +0.4
baz=312
NEW Newport 23.80 103 P P 05 40 41.3 +2.1
comp=Z,2.0nm,0.6s,baz=315,slow=9.0,SNR=5.9
NEW LR LR 05 49 07.2
comp=Z,90nm,19.5s,baz=301,slow=34
comp=Z,2.0nm,0.6s
DBO Dodson Butte 24.71 119 P P 05 40 51.2 +3.6
K02D Willamette Mer 24.86 120 P P 05 40 51.4 +2.4
F10A Beach Ranch, E 25.34 107 P P 05 40 55.6 +2.3
J05D Fort Rock, OR 25.48 116 P P 05 40 58.2 +3.6
RES Resolute Bay 25.56 32 P P 05 40 55.0 +0.1
RES Resolute Bay 25.56 32 P P 05 40 55.0 +0.1
RES pmax pmax
comp=Z,14nm,1.1s
RES Resolute Bay 25.56 32 P P 05 40 54.7 -0.2
comp=Z,2.8nm,0.3s,baz=255,slow=5.2,SNR=22
RES ScP ScP 05 47 51.0 -1.4
comp=Z,4.8nm,0.7s,baz=244,slow=0.2,SNR=7.8
comp=Z,2.8nm,0.3s
SEY Seymchan 25.62 301 P P 05 40 54.8 -0.8
comp=Z,9.3nm,0.6s,baz=70,slow=7.7,SNR=12
comp=Z,9.3nm,0.6s
CHMT Chamberlain Mo 26.64 101 P P 05 41 05.2 +0.1
PEA0B Petropavlovsk- 27.39 278 P P 05 41 11.4 -0.1
PEA0B IAmb IAmb 05 41 13.0
comp=Z,32nm,0.7s
PEA0B Petropavlovsk- 27.39 278 P P 05 41 11.5 -0.1
PEA0B pmax pmax
comp=Z,32nm,0.7s
PETK Petropavlovsk- 27.39 278 P P 05 41 11.5 0.0
PETK Petropavlovsk- 27.39 278 P P 05 41 11.5 0.0
PETK Petropavlovsk- 27.39 278 P P 05 41 11.0 -0.5
comp=Z,28nm,0.7s,baz=67,slow=14,SNR=52
PETK LR LR 05 53 10.2
comp=Z,44nm,18.8s,baz=86,slow=39
comp=Z,28nm,0.7s
MA2 Magadan 27.58 294 P P 05 41 15.0 +1.8
MA2 IAmb IAmb 05 41 15.7
comp=Z,19nm,0.9s
MA2 Magadan 27.58 294 *i* P P 05 41 14.8 +1.6
MA2 pmax pmax
comp=Z,61nm,1.9s
MA2 Magadan 27.58 294 P P 05 41 14.2 +1.0
comp=Z,11nm,0.5s,baz=62,slow=12,SNR=8.8
comp=Z,11nm,0.5s
EGMT Eagleton 27.64 96 P P 05 41 14.6 +0.7
baz=311
EUNU Eureka 27.87 20 P P 05 41 17.3 +1.7
HLID Hailey 28.48 107 P P 05 41 23.0 +1.4
baz=318
PNTR Pine Nut 29.58 119 P P 05 41 34.0 +2.6
ELK Elko 30.24 112 P P 05 41 39.0 +1.8
comp=Z,1.0nm,0.7s,baz=355,slow=11,SNR=5.0
ELK ScP ScP 05 48 08.4 +0.6
comp=Z,1.0nm,0.9s,baz=46,slow=6.6,SNR=4.2
comp=Z,1.0nm,0.7s
KVN Kaiserville 30.28 117 P P 05 41 38.7 +1.2
KVN Kaiserville 30.28 117 P P 05 41 38.7 +1.2
KVN pmax pmax
comp=Z,4.0nm,1.2s
NVAR Mina Array Bea 30.70 118 P P 05 41 43.5 +2.3
comp=Z,1.1nm,0.5s,baz=307,slow=7.9,SNR=17
NVAR PcP PcP 05 44 37.3 +0.8
comp=Z,2.9nm,0.7s,baz=307,slow=2.0,SNR=11
NVAR ScP ScP 05 48 09.9 +0.6
comp=Z,1.9nm,0.8s,baz=287,slow=3.4,SNR=12
NVAR LR LR 05 51 58.7
comp=Z,96nm,18.5s,baz=320,slow=32
NVAR PKiKP PKiKP 05 52 06.5 -0.4
comp=Z,0.3nm,0.5s,baz=261,slow=0.8,SNR=4.7
comp=Z,1.1nm,0.5s
PDAR Pinedale Array 31.44 103 P P 05 41 49.8 +2.0
comp=Z,0.4nm,0.5s,baz=342,slow=5.2,SNR=5.7
PDAR PcP PcP 05 44 38.0 -0.5
comp=Z,1.4nm,0.6s,baz=144,slow=1.3,SNR=6.0
PDAR ScP ScP 05 48 10.7 -1.1
comp=Z,0.6nm,0.6s,baz=252,slow=2.3,SNR=6.0
TIXI Tiksi 31.61 324 P P 05 41 49.2 +0.5
TIXI Tiksi 31.61 324*ce*P P 05 41 49.0 +0.4
TIXI pmax pmax
comp=Z,3.0nm,0.5s
DUG Dugway, Tooele 31.82 110 P P 05 41 50.9 -0.1
baz=322
R11B Troy Canyon, C 32.00 115 P P 05 41 54.4 +1.8
R11B Troy Canyon, C 32.00 115 P P 05 41 54.0 +1.4
baz=324
GRAC Grapevine Rang 32.30 119 P P 05 41 57.2 +2.1
baz=326
CWC Cottonwood Cre 32.45 120 P P 05 41 58.5 +1.9
baz=327
VES Vestal, Richgr 32.52 122 P P 05 41 58.3 +1.3
baz=328
SMMC Simmler 32.58 124 P P 05 41 59.2 +1.7
baz=329
TPNV Topopah Spring 32.84 117 P P 05 42 01.5 +1.6
baz=326
ISA Isabella, Lake 32.93 121 P P 05 42 02.3 +1.7
baz=328
FURC Furnace Creek, 32.97 119 P P 05 42 03.1 +2.3
baz=327
PKM Mcpherson Peak 33.02 124 P P 05 42 03.7 +2.2
baz=329
MPMC Manual Prospec 33.03 120 P P 05 42 03.4 +1.8
baz=327
RSSD Black Hills 33.21 96 P P 05 42 04.7 +1.6
baz=316
ULM Lac du Bonnet 33.21 81 P P 05 42 04.3 +1.5
ULM IAmb IAmb 05 42 29.1
comp=Z,25nm,0.9s
ULM Lac du Bonnet 33.21 81 P P 05 42 04.3 +1.5
ULM pmax pmax
comp=Z,25nm,0.9s
ULM Lac du Bonnet 33.21 81 P P 05 42 04.0 +1.2
comp=Z,3.6nm,0.5s,baz=312,slow=13,SNR=2.4
ULM pP pP 05 42 28.0 +2.1
comp=Z,16nm,0.6s,baz=306,slow=8.5,SNR=9.0
ULM LR LR 05 56 13.4
comp=Z,91nm,22.0s,baz=212,slow=37
comp=Z,3.6nm,0.5s
LRMC Laurel Mtn Rad 33.43 121 P P 05 42 05.3 +0.3
baz=328
GSC Goldstone, Bar 33.97 120 P P 05 42 09.8 +0.1
baz=328
GMRC Granite Mounta 34.91 119 P P 05 42 18.7 +0.9
baz=328
NEEM North Greenlan 35.08 22 *eP* P 05 42 20.3 +1.2
NEEM IAmb IAmb 05 42 21.4
comp=Z,19nm,0.5s
PV04 Paradox Valley 35.11 107 P P 05 42 21.2 +1.6
PV04 IAmb IAmb 05 42 50.3
comp=Z,6.4nm,0.6s
SCI2 San Clemente I 35.20 124 P P 05 42 21.5 +1.4
baz=330
MURC Murrieta 35.24 122 P P 05 42 21.4 +0.9
baz=329
YAK Yakutsk 35.53 308 *eP* P 05 42 22.8 +0.2
YAK *e*PP pP 05 42 47.9 +2.0
YAK *e* 05 43 42.7

YAK e 05 44 49.7
YAK eS **S** **05 47 51.7 +1.6**
YAK eSS **SnSn** **05 50 14.5 -6.3**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,200nm,5.9s
YAK pmax pmax
comp=N,124nm,4.2s
YAK pmax pmax
comp=E,82nm,3.7s
YAK smax smax
comp=E,99nm,3.8s
YAK smax smax
comp=N,51nm,2.5s
PFO Pinyon Flats O 35.55 121 P **P** **05 42 26.2 +2.9**
baz=329
PFO Pinyon Flats O 35.55 121 LR LR 05 54 25.3
comp=N,50nm,20.5s,baz=306,slow=32
IRM Iron Mountain 35.66 119 P **P** **05 42 26.2 +2.0**
baz=328
109C Camp Elliot, M 35.89 122 P **P** **05 42 28.2 +2.2**
baz=330
PDMCI Parker Dam,Lak 35.99 117 P **P** **05 42 28.9 +2.0**
baz=327
MONP2 Monument Peak 36.18 121 P **P** **05 42 30.6 +1.8**
baz=329
TYV Tymovskoe 36.19 285 eP **P** **05 42 29.3 +0.9**
TYV eS **S** **05 48 03.8 +3.3**
TYV pmax pmax
comp=Z,31nm,1.1s
TYV pmax pmax
comp=Z,148nm,2.5s
TYV smax smax
comp=N,400nm,5.5s
TYV smax smax
comp=E,400nm,5.5s
MVCO Mesa Verde 36.24 108 P **P** **05 42 29.9 +0.6**
baz=323
WUAZ Wupatki 36.25 113 P **P** **05 42 31.4 +2.0**
WUAZ IAmb IAmb 05 43 00.9
comp=Z,8.5nm,0.8s
WUAZ Wupatki 36.25 113 P **P** **05 42 30.7 +1.3**
baz=325
SWSC Sam W. Stewart 36.40 121 P **P** **05 42 31.7 +1.3**
baz=329
IKP In-Ko-Pah, Jac 36.52 121 P **P** **05 42 33.4 +1.8**
baz=329
EYMN Ely 36.90 80 P **P** **05 42 36.5 +2.0**
EYMN Ely 36.90 80 P **P** **05 42 36.0 +1.5**
baz=312
NOR Nord 36.95 10 eP **P** **05 42 35.5 +0.9**
ECSD EROS Data Cent 37.24 90 P **P** **05 42 38.4 +1.0**
ECSD EROS Data Cent 37.24 90 P **P** **05 42 38.1 +0.6**
baz=316
SDCO Great Sand Dun 37.27 104 P **P** **05 42 38.2 0.0**
baz=322
FRB Frobisher Bay 37.49 47 P **P** **05 42 39.5 +0.3**
comp=Z,20nm,0.6s,baz=304,slow=9.5,SNR=36
comp=Z,20nm,0.6s
SPMN Marine on St. 38.11 85 P **P** **05 42 45.2 +0.5**
baz=315
BGNE Belgrade 38.15 94 P **P** **05 42 45.4 +0.2**
baz=318
I37A Lemond, Waseca 38.66 87 P **P** **05 42 50.0 +0.6**
YSS Yuzh-Sakhalins 38.73 280 ceP **P** **05 42 51.6 +1.7**
YSS pmax pmax
comp=Z,46nm,1.7s
ANMO Albuquerque 39.04 108 i P **P** **05 42 54.5 +1.6**
ANMO pmax pmax
comp=Z,14nm,3.5s
ANMO Albuquerque 39.04 108 P **P** **05 42 53.7 +0.8**
baz=324
TUC Tucson 39.18 115 P **P** **05 42 55.3 +1.3**
baz=327
CBKS Cedar Bluff 39.31 98 P **P** **05 42 55.5 +0.7**
baz=320
121A Cookes Peak, D 40.39 112 P **P** **05 43 04.9 +0.9**
baz=326
SUMG Summit 40.66 25 eP **P** **05 43 03.4 -2.6**
DAG Danmarks Havn 40.75 15 i P **P** **05 43 05.0 -1.3**
DAG IAmb IAmb 05 43 08.0
comp=Z,14nm,0.4s
JKA Kamikawa-asahi 40.80 277 P **P** **05 43 08.1 +1.0**
JKA IAmb IAmb 05 43 08.7
comp=Z,31nm,0.8s
ASAJ Asahikawa 40.80 277 P **P** **05 43 08.1 +1.0**
ASAJ pmax pmax
comp=Z,31nm,0.8s
ASAJ Asahikawa 40.80 277 P **P** **05 43 06.7 -0.4**
comp=Z,27nm,0.6s,baz=27,slow=4.5,SNR=7.6
comp=Z,27nm,0.6s
JFWS Jewell Farm 41.05 85 P **P** **05 43 09.4 +0.3**
baz=317
KBS Kingsbay 41.27 4 eP **P** **05 43 12.1 +1.6**
AMTX Amarillo 41.42 103 P **P** **05 43 13.5 +1.2**
baz=323
SFJD Kangerlussuaq 41.43 35 eP **P** **05 43 10.4 -1.6**
ZEA Zeya 41.55 298 eP **P** **05 43 13.2 +0.1**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ERM Erimo 42.05 274 P **P** **05 43 17.9 +0.7**
ERM Erimo 42.05 274 ceP **P** **05 43 17.0 -0.2**
ERM pmax pmax
comp=Z,68nm,0.9s
SPITS Spitsbergen Ar 42.16 3 P **P** **05 43 16.0 -1.8**
SPITS Spitsbergen Ar 42.16 3 P **P** **05 43 16.0 -1.8**
comp=Z,4.6nm,0.4s,baz=22,slow=5.4,SNR=48
comp=Z,4.6nm,0.4s
MNTX Cornudas Mount 42.22 110 P **P** **05 43 20.6 +1.8**
MNTX Cornudas Mount 42.22 110 P **P** **05 43 21.0 +2.3**
baz=326
KLR Kul'dur 42.53 290 ceP **P** **05 43 20.5 -0.6**
KLR pmax pmax
comp=Z,33nm,1.3s
KLR Kul'dur 42.53 290 P **P** **05 43 20.3 -0.8**
comp=Z,8.3nm,0.5s,baz=43,slow=7.9,SNR=26
KLR pP **pP** **05 43 45.7 +0.6**
comp=Z,4.0nm,0.7s,baz=12,slow=8.2,SNR=2.5
KLR LR LR 06 02 56.4
comp=Z,36nm,18.9s,baz=54,slow=39
comp=Z,8.3nm,0.5s
DBG Daneborg 42.61 17 eP **P** **05 43 22.9 +1.5**
P40A Paris 42.64 90 P **P** **05 43 23.0 +0.9**
P40A IAmb IAmb 05 43 48.2
comp=Z,16nm,0.8s
WMOK Wichita Mounta 42.97 101 P **P** **05 43 26.6 +1.8**
baz=323
425A Indio Mountain 43.16 110 P **P** **05 43 29.3 +2.8**
425A IAmb IAmb 05 43 56.1
comp=Z,15nm,1.0s
HDIL Hopedale 43.27 87 P **P** **05 43 28.2 +1.1**
baz=318
S39A Bolivar 43.40 93 P **P** **05 43 28.6 +0.3**
TUL3 Leonard 43.54 97 P **P** **05 43 30.4 +1.0**
baz=322
VLDQ Val d'Or 43.65 70 P **P** **05 43 29.7 -0.4**
VLDQ IAmb IAmb 05 43 55.0
comp=Z,12nm,0.9s
SCHQ Schefferville 43.78 57 P **P** **05 43 31.6 +0.5**
SCHQ IAmb IAmb 05 43 59.5
comp=Z,21nm,1.0s
SCHQ Schefferville 43.78 57 P **P** **05 43 31.4 +0.4**
comp=Z,11nm,0.5s,baz=311,slow=7.4,SNR=47
SCHQ pP **pP** **05 43 57.0 +2.0**
comp=Z,9.2nm,0.7s,baz=310,slow=8.1,SNR=4.4
SCHQ PcP **PP** **05 45 15.2 +0.6**
comp=Z,5.7nm,0.8s,baz=263,slow=4.3,SNR=2.5
SCHQ LR LR 06 00 54.8
comp=Z,69nm,21.3s,baz=308,slow=35
comp=Z,11nm,0.5s
U38A Gravette 43.83 95 P **P** **05 43 32.5 +0.7**
U38A IAmb IAmb 05 43 58.3
comp=Z,38nm,0.8s
HEH HeiHe 43.85 294 eP **P** **05 43 30.8 -0.9**
HEH pmax pmax
comp=Z,41nm,0.7s
HEH pmax pmax
comp=Z,180nm,5.3s
JTM Tenmabayashi 44.01 275 P **P** **05 43 33.2 +0.2**
JTM IAmb IAmb 05 43 33.6
comp=Z,52nm,1.0s
CCM Cathedral Cave 44.17 91 P **P** **05 43 34.9 +0.5**
baz=320
ABTX Abilene, Hawle 44.24 103 P **P** **05 43 35.8 +0.7**
baz=324
BOD Bodaibo 44.32 310 eP **P** **05 43 34.7 -0.7**
BOD pmax pmax
comp=Z,43nm,0.6s
SFIN Lafayette 44.51 85 P **P** **05 43 38.3 +1.3**
baz=319
N47A Urbana 44.84 84 P **P** **05 43 40.3 +0.6**
N47A IAmb IAmb 05 44 05.9
comp=Z,48nm,0.9s
TXAR Lajitas Array 45.00 110 P **P** **05 43 43.2 +2.0**
TXAR Lajitas Array 45.00 110 P **P** **05 43 43.2 +2.0**
TXAR Lajitas Array 45.00 110 P **P** **05 43 43.0 +1.8**
comp=Z,0.7nm,0.5s,baz=306,slow=6.8,SNR=20
TXAR PcP **PcP** **05 45 20.3 -0.2**
comp=Z,0.4nm,0.5s,baz=316,slow=1.1,SNR=4.6
TXAR ScP **ScP** **05 49 03.4 +0.2**
comp=Z,1.8nm,0.7s,baz=284,slow=2.7,SNR=15
TXAR PKiKP **PKiKP** **05 52 17.5 -1.1**
comp=Z,0.2nm,0.4s,baz=204,slow=1.3,SNR=8.4
comp=Z,0.7nm,0.5s
SADO Sadowa 45.22 75 LR LR 06 04 45.9
comp=Z,32nm,21.9s,baz=320,slow=39
PBMO Poplar Bluff 45.57 91 P **P** **05 43 46.6 +1.1**
PBMO IAmb IAmb 05 44 12.1
comp=Z,26nm,0.8s
O48B Farmland 45.58 84 P **P** **05 43 46.4 +0.9**
baz=319
MIAR Mount Ida 45.73 96 P **P** **05 43 48.0 +1.2**
MIAR IAmb IAmb 05 44 13.6
comp=Z,15nm,0.9s
MIAR Mount Ida 45.73 96 P **P** **05 43 48.0 +1.2**
MIAR pmax pmax
comp=Z,15nm,0.9s
MIAR Mount Ida 45.73 96 P **P** **05 43 48.0 +1.2**
baz=322
WHTX Lake Whitney, 45.83 102 P **P** **05 43 49.0 +1.3**
baz=324
JCT Junction City 45.91 105 P **P** **05 43 50.0 +1.7**
JCT IAmb IAmb 05 44 16.1
comp=Z,29nm,0.8s
JCT Junction City 45.91 105 P **P** **05 43 50.0 +1.7**
JCT pmax pmax
comp=Z,29nm,0.8s
JCT Junction City 45.91 105 P **P** **05 43 50.1 +1.8**
baz=326,SNR=8.2
USA0B Ussuriysk Arra 46.00 285 P **P** **05 43 48.3 -0.5**
USA0B IAmb IAmb 05 43 48.5
comp=Z,17nm,1.0s
USA0B Ussuriysk Arra 46.00 285 P **P** **05 43 48.3 -0.5**
USA0B pmax pmax
comp=Z,17nm,1.0s
USRK Ussuriysk Ar. 46.00 285 P **P** **05 43 47.9 -0.9**
USRK Ussuriysk Ar. 46.00 285 P **P** **05 43 47.9 -0.9**
USRK Ussuriysk Ar. 46.00 285 P **P** **05 43 47.6 -1.2**
comp=Z,7.9nm,0.7s,baz=48,slow=8.5,SNR=13
comp=Z,7.9nm,0.7s
P49A Miami Univ. Ec 46.34 84 P **P** **05 43 52.3 +0.7**
baz=320
JMM Marumori 46.36 273 P **P** **05 43 51.9 +0.2**
JMM IAmb IAmb 05 43 52.3
comp=Z,37nm,0.8s
TRQ Mont Tremblant 46.38 70 P **P** **05 43 52.4 +0.6**
TRQ IAmb IAmb 05 44 19.8
comp=Z,15nm,0.8s
DRIO Del Rio 46.39 107 P **P** **05 43 53.0 +1.0**
DRIO IAmb IAmb 05 44 19.1
comp=Z,7.1nm,0.7s
WCI Wyandotte Cave 46.54 86 P **P** **05 43 54.0 +0.9**
baz=320
J54A Appleton 46.57 76 P **P** **05 43 54.5 +1.3**
MDJ Mudanjiang 46.86 287 P **P** **05 43 55.4 -0.1**
MDJ pP pP 05 44 18.8 -1.1
MDJ sP sP 05 44 29.9 -1.6
MDJ PcP **PcP** **05 45 27.3 +0.6**
MDJ PP **PP** **05 45 46.9 +0.4**
MDJ ScP **ScP** **05 49 11.8 +1.3**
MDJ PcS **PcS** **05 49 19.9 -1.7**
MDJ S **S** **05 50 37.3 -0.8**
MDJ sS sS 05 51 14.8 -5.0
MDJ ScS **ScS** **05 53 39.1 0.0**
MDJ pmax pmax
comp=Z,26nm,0.9s
MDJ pmax pmax
comp=Z,200nm,3.8s
M53A WI Miller and 46.93 79 P **P** **05 43 57.3 +1.2**
M53A WI Miller and 46.93 79 P **P** **05 43 56.9 +0.8**
baz=319
BNX BinXian 47.08 290 ⇓P **P** **05 43 57.4 +0.2**
BNX pmax pmax
comp=Z,52nm,0.9s
BNX pmax pmax
comp=Z,240nm,5.7s
Q51A Peebles 47.42 83 P **P** **05 44 01.1 +1.2**
Q51A IAmb IAmb 05 44 26.6
comp=Z,48nm,0.8s
JSD Sado 47.51 275 P **P** **05 44 01.3 +0.7**
JSD IAmb IAmb 05 44 01.4
comp=Z,38nm,0.7s
LONY Lake Ozonia 47.54 72 P **P** **05 44 01.3 +0.5**
baz=318
MSHR Mys Shultsa 47.61 284 ceP **P** **05 44 01.6 +0.3**
MSHR pmax pmax
comp=Z,63nm,1.1s
HIA Hailar 48.03 298 P **P** **05 44 04.8 +0.2**
HIA IAmb IAmb 05 44 05.1
comp=Z,19nm,0.7s
HIA Hailar 48.03 298 P **P** **05 44 04.8 +0.2**
HIA pmax pmax
comp=Z,19nm,0.7s
PLAL Pickwick Lake 48.16 91 P **P** **05 44 06.8 +1.1**
HKT Hockley 48.30 102 i P **P** **05 44 07.9 +1.2**
HKT pmax pmax
comp=Z,3.0nm,1.1s
D62A Allapoint, All 48.33 66 P **P** **05 44 07.8 +1.0**
D62A IAmb IAmb 05 44 35.3
comp=Z,15nm,0.8s
BINY Binghamton 48.67 75 P **P** **05 44 10.1 +0.5**
baz=319
MCWV Mont Chateau 48.69 80 P **P** **05 44 09.8 +0.1**
baz=320
MJB9 Matsu-Tunnel 48.69 274 P **P** **05 44 11.6 +1.8**
MJB9 IAmb IAmb 05 44 11.6
comp=Z,41nm,0.8s
MAJO Matsushiro 48.69 274 IAmb IAmb 05 44 10.7
comp=Z,42nm,0.8s
MAJO P **P** **05 44 10.8 +1.0**
MAJO Matsushiro 48.69 274 i P **P** **05 44 10.0 +0.2**
MAJO pmax pmax
comp=Z,50nm,0.9s
MJAR Matsushiro Arr 48.69 274 P **P** **05 44 08.9 -0.9**
comp=Z,17nm,1.0s,baz=14,slow=7.0,SNR=22
MJAR LR LR 06 06 01.4
comp=Z,27nm,18.7s,baz=68,slow=38
comp=Z,17nm,1.0s
CN2 Changchun 49.46 290 eP **P** **05 44 15.1 -0.4**
CN2 eS **S** **05 51 11.1 -3.5**
CN2 pmax pmax
comp=Z,200nm,0.7s
CN2 pmax pmax
comp=Z,130nm,3.0s
146A Union 49.52 93 P **P** **05 44 17.6 +1.5**
PKME Peaks-Kenny Pk 49.57 67 P **P** **05 44 17.0 +0.7**
baz=319
Y49A Blount Mountai 49.89 90 P **P** **05 44 19.5 +0.6**
LUPA Lehigh Univers 50.19 76 P **P** **05 44 22.4 +1.4**
LRAL Lakeview Retre 50.25 91 P **P** **05 44 21.9 +0.3**
baz=323
BLA Blacksburg 50.29 82 P **P** **05 44 21.8 -0.1**
baz=321
BORG Borgarnes 50.64 24 i P **P** **05 44 25.4 +1.3**
BORG Borgarnes 50.64 24 LR LR 06 07 01.3
comp=Z,22nm,21.2s,baz=336,slow=37
KEV Kevo 50.77 360 P **P** **05 44 25.6 +0.6**
KEV IAmb IAmb 05 44 42.8
comp=Z,15nm,1.1s
KEV Kevo 50.77 360 P **P** **05 44 25.6 +0.6**
KEV pmax pmax
comp=Z,15nm,1.1s
ARCES ARCESS Array B 50.99 1 P **P** **05 44 27.6 +0.9**
ARCES ARCESS Array B 50.99 1 P **P** **05 44 27.6 +0.9**
ARCES ARCESS Array B 50.99 1 P **P** **05 44 26.4 -0.4**
comp=Z,1.8nm,0.5s,baz=355,slow=6.8,SNR=15
comp=Z,1.8nm,0.5s
LMN Caledonia Moun 51.19 64 P **P** **05 44 29.1 +0.5**
LMN IAmb IAmb 05 44 56.5
comp=Z,14nm,0.8s
KMSC Kings Mountain 51.45 85 P **P** **05 44 31.2 +0.7**
baz=322
KS19 Wonju Array Si 53.12 283 P **P** **05 44 44.2 +1.3**
KSRS Korea Array 53.13 283 P **P** **05 44 43.4 +0.5**
comp=Z,38nm,0.6s,baz=39,slow=6.9,SNR=100
comp=Z,38nm,0.6s
KSAR Wonju Array Be 53.16 283 P **P** **05 44 44.0 +0.9**
KSAR Wonju Array Be 53.16 283 P **P** **05 44 44.1 +0.9**
INCN Inchon 53.74 284 P **P** **05 44 48.0 +0.5**
INCN Inchon 53.74 284 P **P** **05 44 48.0 +0.5**
INCN pmax pmax
comp=Z,56nm,0.9s
XLT XiLinHaoTe 53.74 296 eP **P** **05 44 47.5 0.0**
XLT pP pP 05 45 13.4 +0.9
XLT sP sP 05 45 23.5 -0.6
XLT PcP **PcP** **05 45 55.0 +2.8**
XLT pmax pmax
comp=Z,53nm,0.6s
XLT pmax pmax
comp=Z,140nm,5.1s
ZAK Zakamensk 54.07 310 eP **P** **05 44 49.8 0.0**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
TJN Taejon 54.25 282 P **P** **05 44 51.6 +0.4**
TJN Taejon 54.25 282 ceP **P** **05 44 50.8 -0.3**
ULN Ulaanbaatar 54.55 305 P **P** **05 44 54.0 +0.7**
ULN Ulaanbaatar 54.55 305 ceP **P** **05 44 53.9 +0.5**
ULN pmax pmax
comp=Z,53nm,1.0s
JTU Tsushima 54.71 279 P **P** **05 44 54.9 +0.4**
SONM Songino Array 54.84 306 P **P** **05 44 56.8 +1.3**
SONM Songino Array 54.84 306 P **P** **05 44 56.8 +1.3**
SONM pmax pmax
comp=Z,63nm,0.6s
SONM Songino Array 54.84 306 P **P** **05 44 56.4 +1.0**
comp=Z,47nm,0.5s,baz=45,slow=6.3,SNR=248
SONM pP **pP** **05 45 21.0 +0.5**
comp=Z,6.8nm,0.8s,baz=41,slow=8.4,SNR=2.4
JNU Nakatsue 55.08 277 P **P** **05 44 56.5 -0.7**
comp=Z,14nm,0.9s,baz=40,slow=5.3,SNR=2.9
comp=Z,14nm,0.9s
BJI Beijing 56.74 293 P **P** **05 45 08.8 -0.1**
BJI pmax pmax
comp=Z,30nm,0.6s
BJT Baijiatuau 56.76 293 P **P** **05 45 09.5 +0.5**
BJT Baijiatuau 56.76 293 P **P** **05 45 09.5 +0.5**
BJT pmax pmax
comp=Z,45nm,0.6s
DWPF Disney Wildern 57.04 90 P **P** **05 45 11.5 +0.4**
baz=325
ZAA0 Zalesovo Array 57.50 324 P **P** **05 45 14.2 +0.2**
ZALV Zalesovo Beam 57.50 324 P **P** **05 45 14.4 +0.3**
ZALV Zalesovo Beam 57.50 324 P **P** **05 45 14.1 0.0**
comp=Z,73nm,0.5s,baz=29,slow=7.2,SNR=238
PRGR Permogore 58.06 350 eP **P** **05 45 22.0 +4.2**
PRGR e*PP **pP** **05 45 44.1 +0.9**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
HHC Hu-ho-hao-te 58.20 297 ⇑i P **P** **05 45 19.5 +0.2**
HHC pmax pmax
comp=Z,310nm,5.6s
NB2 NORSAR Subarra 58.92 9 P **P** **05 45 25.5 +1.6**
comp=Z,3.5nm,0.8s,baz=352,slow=7.4
NOA NORSAR Array B 58.92 9 P **P** **05 45 25.4 +1.4**
comp=Z,0.7nm,0.7s,baz=352,slow=7.0,SNR=3.6
NOA pP **pP** **05 45 49.5 +0.2**
comp=Z,2.1nm,0.7s,baz=352,slow=7.0,SNR=5.8
comp=Z,0.7nm,0.7s
BTO Baotou 59.09 298 eP **P** **05 45 24.6 -0.8**
BTO pP **pP** **05 45 48.8 -2.1**
BTO sP **sP** **05 45 59.8 -2.5**
BTO pmax pmax
comp=Z,61nm,0.5s
BTO pmax pmax
comp=Z,350nm,5.8s
FINES FINESS Array B 59.12 0 P **P** **05 45 25.9 +0.8**
FINES FINESS Array B 59.12 0 P **P** **05 45 24.4 -0.8**
comp=Z,1.4nm,0.5s,baz=15,slow=8.1,SNR=12
comp=Z,1.4nm,0.5s
KLMR Klimovskoe 59.31 353 eP **P** **05 45 26.1 -0.4**
KLMR AMP 05 45 31.1
comp=Z,38nm,1.9s
KLMR Klimovskoe 59.31 353 eP **P** **05 45 26.0 -0.4**
KLMR pmax pmax
comp=Z,38nm,1.9s
HNS HongShan 59.54 293 ⇑P **P** **05 45 28.6 +0.2**
HNS pmax pmax
comp=Z,73nm,0.8s
HFS Hagfors 60.00 8 P **P** **05 45 30.9 -0.3**
comp=Z,1.7nm,0.3s,baz=38,slow=7.3,SNR=4.4
comp=Z,1.7nm,0.3s
TEIG Tepich 60.15 101 P **P** **05 45 33.1 +0.3**
TIY Taiyuan 60.34 294 ⇓P **P** **05 45 34.4 +0.4**
TIY pmax pmax
comp=Z,32nm,0.6s
DGZ Jazzator, Alta 60.34 319 i P **P** **05 45 34.6 +0.6**
DGZ pmax pmax
comp=Z,11nm,0.7s
ARU Arti 61.44 341 P **P** **05 45 40.7 -0.3**
ARU IAmb IAmb 05 46 07.7
comp=Z,8.2nm,0.8s
ARU Arti 61.44 341 c i P **P** **05 45 40.4 -0.6**
ARU *PP **pP** **05 46 06.1 -0.6**
ARU S **S** **05 53 55.2 +1.6**
ARU SS **SS** **05 57 51.9 -3.0**
ARU pmax pmax
comp=Z,5.0nm,0.5s
JOW Kunigami 61.50 275 P **P** **05 45 41.8 -0.1**
JOW Kunigami 61.50 275 P **P** **05 45 41.6 -0.3**
comp=Z,45nm,0.8s,baz=341,slow=4.1,SNR=7.6
comp=Z,45nm,0.8s
NJ2 Nanjing 61.90 286 ⇓P **P** **05 45 44.4 -0.1**
NJ2 pP **pP** **05 46 03.8 -6.3**
NJ2 pmax pmax
comp=Z,47nm,0.9s
NJ2 pmax pmax
comp=Z,300nm,4.5s
KURK Kurchatov 62.16 326 P **P** **05 45 45.9 -0.1**
KURK IAmb IAmb 05 45 46.4
comp=Z,18nm,0.7s
KURK Kurchatov 62.16 326 ceP **P** **05 45 45.7 -0.3**
KURK pmax pmax
comp=Z,11nm,0.6s
BRVK Borovoye 62.22 332 P **P** **05 45 46.4 0.0**
BRVK IAmb IAmb 05 45 46.8
comp=Z,18nm,0.6s
BRVK Borovoye 62.22 332 ceP **P** **05 45 46.2 -0.2**
BRVK pmax pmax
comp=Z,13nm,0.6s
BVAR Borovoye Array 62.23 332 P **P** **05 45 46.0 -0.4**
comp=Z,31nm,0.5s,baz=31,slow=6.5,SNR=110
BVAR pP **pP** **05 46 12.9 +0.8**
comp=Z,7.6nm,0.7s,baz=28,slow=6.7,SNR=3.1
comp=Z,31nm,0.5s
KURBB Kurchatov Arra 62.27 326 P **P** **05 45 46.5 -0.3**
comp=Z,18nm,0.6s,baz=30,slow=6.6,SNR=86
comp=Z,18nm,0.6s
EKA Eskdalemuir Ar 62.79 19 P **P** **05 45 49.4 -0.7**
comp=Z,1.0nm,0.4s,baz=328,slow=5.2,SNR=13
comp=Z,1.0nm,0.4s
LYN LuoYang 62.91 292 ⇑i P **P** **05 45 51.0 -0.2**
LYN pmax pmax
comp=Z,180nm,0.6s
ZSN Zaisan 63.14 320 eP **P** **05 45 53.3 +0.6**
comp=Z,14nm,0.5s,baz=320
ZSN Zaisan 63.14 320 eP **P** **05 45 53.2 +0.6**
ZSN pmax pmax
comp=Z,14nm,0.5s
BRZS Berezniki 64.45 329 eP **P** **05 46 00.5 -0.7**
baz=329
BRZS Berezniki 64.45 329 eP **P** **05 46 00.4 -0.7**
GTA Gaotai 64.48 305 ⇓P **P** **05 46 01.8 +0.2**
GTA pP pP 05 46 24.1 -3.3
GTA pmax pmax
comp=Z,47nm,1.0s
MK31 Makanchi Array 64.55 321 P **P** **05 46 01.3 -0.5**
MK31 Makanchi Array 64.55 321 i P **P** **05 46 01.1 -0.8**
MKAR Makanchi Array 64.55 321 i P **P** **05 46 01.2 -0.7**
MKAR pmax pmax
comp=Z,8.0nm,0.5s
MKAR Makanchi Array 64.55 321 P **P** **05 46 01.3 -0.5**
comp=Z,7.7nm,0.5s,baz=38,slow=6.7,SNR=85
MKAR LR LR 06 14 12.0
comp=Z,22nm,18.4s,baz=40,slow=36

comp=Z,7.7nm,0.5s
MAKZ Makanchi 64.64 321 P P 05 46 02.0 -0.4
MAKZ IAmb IAmb 05 46 02.5
comp=Z,14nm,1.0s
MAKZ Makanchi 64.64 321 P P 05 46 02.0 -0.4
MAKZ pmax pmax
comp=Z,14nm,1.0s
XAN Xi'an 64.98 295 ⇓P P 05 46 04.0 -0.8
XAN pmax pmax
comp=Z,70nm,0.8s
WHN Wuhan 65.32 288 ⇓P P 05 46 07.0 0.0
WHN pmax pmax
comp=Z,88nm,0.6s
WMQ Urumqi 65.36 316 *eP* **P 05 46 08.0 +0.8**
WMQ pmax pmax
comp=Z,19nm,1.1s
LZH Lanzhou 65.55 300 ⇓P P 05 46 08.6 0.0
LZH sP PcP 05 46 40.8 +1.3
LZH pmax pmax
comp=Z,190nm,1.0s
MNK Minsk 66.08 359 *i* P **P 05 46 08.9 -2.6**
comp=E,9.0nm,0.9s
MNK *i* P **P 05 46 08.9 -2.6**
comp=N,35nm,1.2s
MNK *i* P **P 05 46 08.9 -2.6**
comp=Z,14nm,0.8s,baz=0.6
MNK *i* pP **pP 05 46 34.1 -3.3**
MNK *i* PP **PP 05 48 35.0 -2.5**
MNK *i* PPP PPP 05 50 10.9
MNK *i* S **S 05 54 49.7 -1.3**
MNK *i* SS **SS 05 59 07.3 +0.2**
MNK *i* SSS SSS 06 02 17.8
MNK *i* LQ LQ 06 10 46.1
MNK *i* LR LR 06 15 29.7
MNK *i* LRM MLR 06 17 18.5
comp=Z,42nm,11.9s
MNK *i* LRM MLR 06 17 20.6
comp=N,36nm,14.0s
MNK *i* LRM MLR 06 17 56.2
comp=E,10.0nm,10.6s
MNK Minsk 66.08 359 *i* P **P 05 46 08.9 -2.6**
MNK *i* *PP **pP 05 46 34.1 -3.3**
MNK *i* 05 48 34.9
MNK *i* PPP PPP 05 50 10.9
MNK *i* S **S 05 54 49.7 -1.3**
MNK *i* SS **SS 05 59 07.3 +0.2**
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.8s
MNK pmax pmax
comp=N,35nm,1.2s
MNK MLR MLR
comp=Z,42nm,12.0s
MNK MLR MLR
comp=N,36nm,14.0s
MNK MLR MLR
comp=E,10.0nm,11.0s
GTBY Guantanamo Bay 67.02 90 P **P 05 46 18.7 +0.8**
GTBY IAmb IAmb 05 46 23.7
comp=Z,22nm,1.0s
MTDJ Mount Denham 67.22 93 P **P 05 46 20.2 +0.8**
SSLB Suanglung 67.69 279 P **P 05 46 22.1 -0.2**
SSLB IAmb IAmb 05 46 22.6
comp=Z,30nm,1.0s
ABKAR Akbulak array 68.04 337 P **P 05 46 22.7 -1.3**
KPKS Kokpek 68.67 322 *eP* **P 05 46 28.4 +0.2**
comp=Z,5.2nm,0.6s,baz=322
KPKS Kokpek 68.67 322 *eP* **P 05 46 28.3 +0.2**
KPKS pmax pmax
comp=Z,5.0nm,0.6s
SHLS Shalkode 68.70 321 *eP* **P 05 46 28.1 -0.3**
comp=Z,7.0nm,0.6s,baz=321
SHLS Shalkode 68.70 321 *eP* **P 05 46 28.1 -0.3**
SHLS pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 68.72 9 *e*pP pP 05 46 58.0 +3.9
BMRD Maredsous 68.84 15 *dP* **P 05 46 29.3 +0.4**
comp=Z,6.5nm,1.0s
UZB Uzynbulak 68.85 322 *eP* **P 05 46 29.0 -0.4**
baz=322
UZB Uzynbulak 68.85 322 *eP* **P 05 46 28.9 -0.4**
KUU Kurty 68.99 324 *eP* **P 05 46 29.7 -0.4**
baz=324
KUU Kurty 68.99 324 *eP* **P 05 46 29.6 -0.4**
SATY Saty 69.12 322 *eP* **P 05 46 30.9 -0.1**
baz=322
SATY Saty 69.12 322 *eP* **P 05 46 30.9 -0.1**
AKASG Malin Array Be 69.87 358 P **P 05 46 33.6 -1.7**
comp=Z,0.8nm,0.3s,baz=5.6,slow=6.4,SNR=6.4
AKASG pP **pP 05 47 00.1 -1.2**
comp=Z,1.0nm,0.4s,baz=2.7,slow=6.1,SNR=3.2
comp=Z,0.8nm,0.3s
AKBB Malin Array Si 69.87 358*ce*P **P 05 46 35.8 +0.5**
SGDS Sogindy 69.90 325 *eP* **P 05 46 35.4 -0.3**
baz=325
SGDS Sogindy 69.90 325 *eP* **P 05 46 35.4 -0.3**
BOOM Boomskoye usch 70.39 324 P **P 05 46 39.7 +0.8**
BOOM Boomskoye usch 70.39 324 P **P 05 46 39.7 +0.8**
AAK Ala-Archa 70.69 325 P **P 05 46 41.6 +1.0**
AAK Ala-Archa 70.69 325*ce*P **P 05 46 40.7 +0.1**
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 70.69 325 LR LR 06 21 49.0
comp=Z,13nm,19.7s,baz=332,slow=39
GERES GERESS Array B 71.22 9 P **P 05 46 42.3 -1.4**
comp=Z,0.4nm,0.3s,baz=74,slow=14,SNR=2.1
GERES pP **pP 05 47 09.4 -0.4**
comp=Z,1.2nm,0.7s,baz=344,slow=4.3,SNR=2.1
comp=Z,0.4nm,0.3s
KK31 Karatay Array 71.38 328 P **P 05 46 45.4 +0.8**
KK31 Karatay Array 71.38 328 P **P 05 46 45.4 +0.8**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 71.38 328 P **P 05 46 45.4 +0.8**
KKAR Karatay Array 71.38 328 P **P 05 46 45.4 +0.8**
KKAR pmax pmax
comp=Z,5.0nm,0.6s
GULI GuiLin 71.63 289 ⇓P P 05 46 47.4 +1.0
IUG Iuzhnay 72.40 328 *eP* **P 05 46 50.8 0.0**
baz=328
IUG Iuzhnay 72.40 328 *eP* **P 05 46 50.8 0.0**
KSH Kashi 73.10 322 P **P 05 46 58.8 +3.7**
KSH PcP **PcP 05 47 14.1 +2.8**
KSH pmax pmax
comp=Z,11nm,0.7s
PZH PanZhiHua 74.63 296 P **P 05 47 03.3 -0.9**
PZH pmax pmax
comp=Z,40nm,0.7s
PZH pmax pmax
comp=Z,130nm,5.3s
ANN Anapa 75.43 352 *eP* **P 05 47 05.9 -2.4**
ANN *e* 05 47 16.6
ANN *e**PP **pP 05 47 31.6 -3.2**
ANN *e*PPP PPP 05 51 43.6
ANN *e*S **S 05 56 36.5 -3.1**
ANN pmax pmax
comp=Z,28nm,0.7s
KIV Kislovodsk 75.82 348 *eP* **P 05 47 11.6 +0.9**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 76.02 348 *i* P **P 05 47 11.2 -0.4**
KBZ pmax pmax
comp=Z,5.0nm,1.2s
KBZ Khabaz 76.02 348 P **P 05 47 11.3 -0.3**
comp=Z,2.5nm,0.8s,baz=335,slow=7.2,SNR=4.0
KBZ pP **pP 05 47 38.2 0.0**
comp=Z,5.9nm,0.9s,baz=351,slow=5.0,SNR=5.9
comp=Z,2.5nm,0.8s
LSA Lhasa 76.43 306 P **P 05 47 16.0 +1.2**
LSA IAmb IAmb 05 47 17.0
comp=Z,16nm,0.6s
LSA Lhasa 76.43 306 P **P 05 47 16.0 +1.2**
LSA pmax pmax
comp=Z,17nm,0.6s
PPT Papeete 77.11 176 LR LR 06 16 05.9
comp=Z,100nm,19.0s,baz=84,slow=32
ESDC Sonseca Array 77.71 24 P **P 05 47 21.6 +0.3**
ESDC Sonseca Array 77.71 24 P **P 05 47 20.9 -0.5**
comp=Z,1.7nm,0.7s,baz=337,slow=5.5,SNR=9.1
comp=Z,1.7nm,0.7s
SLVN Son La 78.07 292 P **P 05 47 23.3 -0.3**
PTBC PUERTO BERRIO, 78.72 96 *eP* **P 05 47 26.3 -0.9**
GEYT Alibeck 79.28 335 P **P 05 47 29.7 -0.3**
comp=Z,1.4nm,0.4s,baz=14,slow=11,SNR=2.4
GEYT pP **pP 05 47 57.8 +1.0**
comp=Z,2.6nm,0.7s,baz=277,slow=13,SNR=2.8
comp=Z,1.4nm,0.4s
BARC Barichara 79.31 95 *e*P **P 05 47 30.3 -0.4**
GNI Garni 79.34 346*ce*P **P 05 47 32.3 +1.9**
GNI pmax pmax
comp=Z,10.0nm,1.3s
GUY2C Guyana, Caldas 79.39 98 *e*P **P 05 47 31.0 -0.4**
SPBC San Pablo de B 79.67 97 *e*P **P 05 47 31.5 -0.9**
SHL Shillong 79.77 304 P **P 05 47 32.0 -0.9**
SHL IAmb IAmb 05 47 34.5
comp=Z,11nm,0.6s
SHL Shillong 79.77 304 P **P 05 47 32.0 -0.9**
BAUV El Baul 79.90 90 P **P 05 47 33.6 +0.1**
BAUV IAmb IAmb 05 48 02.8
comp=Z,32nm,0.8s
TAPN Taplejung 79.90 308 *e*P **P 05 47 33.4 -0.4**
comp=Z,61nm,0.5s
RUSC La Rusia 79.96 96 *e*P **P 05 47 34.2 -0.2**
GUN Gumba 80.12 310 *e*P **P 05 47 35.2 +0.1**
comp=Z,18nm,0.4s
JIRN Jiri 80.23 309 *e*P **P 05 47 35.3 -0.3**
comp=Z,71nm,0.5s
GKN Gorkha 80.52 311 *e*P **P 05 47 37.1 +0.1**
comp=Z,18nm,0.4s
DANN Dangsing 80.55 311 *e*P **P 05 47 37.0 -0.2**
comp=Z,76nm,0.6s
ORTC Ortega, Tolima 80.58 98 *e*P **P 05 47 36.2 -1.0**
PKI Pulchoki 80.61 310 *e*P **P 05 47 37.3 -0.4**
comp=Z,11nm,0.5s
PKIN Phulchoki 80.61 310 *e*P **P 05 47 37.2 -0.4**
comp=Z,12nm,0.5s
CRAI Chiangrai 80.67 294 P **P 05 47 36.6 -1.1**
CRAI IAmb IAmb 05 47 38.0
comp=Z,18nm,0.6s
MSVF Nonsavu 80.69 208 P **P 05 47 39.4 +1.8**
MSVF IAmb IAmb 05 47 40.6
comp=Z,32nm,0.9s
MSVF Nonsavu 80.69 208 P **P 05 47 39.4 +1.8**
MSVF pmax pmax
comp=Z,32nm,1.0s
DMN Daman 80.69 310 *e*P **P 05 47 38.0 0.0**
comp=Z,27nm,0.5s
RAMN Ramite 80.70 309 *e*P **P 05 47 38.5 +0.5**
comp=Z,40nm,0.5s
BRTR Keskin Array B 80.70 355*ce*P **P 05 47 38.5 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 80.70 355 P **P 05 47 35.9 -1.8**
comp=Z,0.7nm,0.5s,baz=27,slow=1.4,SNR=3.8
BRTR pP **pP 05 48 05.2 +0.7**
comp=Z,1.2nm,0.9s,baz=252,slow=2.5,SNR=3.6
comp=Z,0.7nm,0.5s
CHIC Chingaza 80.72 97 *e*P **P 05 47 37.7 -0.7**
PRAC Prado 80.92 98 *e*P **P 05 47 38.0 -1.0**
PYUN Piuthan 81.06 312 *e*P **P 05 47 39.4 -0.5**
comp=Z,42nm,0.6s
OTAV Otavalo 82.15 103 P **P 05 47 46.5 +0.5**
OTAV Otavalo 82.15 103 P **P 05 47 46.5 +0.5**
OTAV pmax pmax
comp=Z,4.0nm,0.6s
OTAV Otavalo 82.15 103 *e*P **P 05 47 45.6 -0.4**
FLOC Florencia 82.37 100 *e*P **P 05 47 46.5 -0.2**
CMAR Chiang Mai Arr 82.87 294 P **P 05 47 48.3 -0.9**
CMAR Chiang Mai Arr 82.87 294 *i* P **P 05 47 46.7 -2.5**
CMAR pmax pmax
comp=Z,7.0nm,0.5s
CMAR Chiang Mai Arr 82.87 294 P **P 05 47 48.0 -1.2**
comp=Z,6.6nm,0.6s,baz=18,slow=6.1,SNR=27
comp=Z,6.6nm,0.6s
PMG Port Moresby 83.55 239*ce*P **P 05 47 54.4 +1.8**
PMG pmax pmax
comp=Z,16nm,1.3s
KEST Kesra 83.76 14 pP pP 05 48 20.4 -0.2
comp=Z,3.9nm,0.8s,baz=338,slow=4.5,SNR=3.6
IDI Anoyia 85.28 2 LR LR 06 28 40.1
comp=Z,153nm,20.2s,baz=358,slow=37
COEN Coen 89.34 240 P **P 05 48 19.7 -1.1**
COEN IAmb IAmb 05 48 20.2
comp=Z,16nm,0.9s
ETMB Extrema 96.89 98 P **P 05 48 54.0 -1.6**
ETMB IAmb IAmb 05 49 22.9
comp=Z,4.1nm,0.7s
WRA Warramunga Arr 98.56 245 P **P 05 49 00.6 -2.4**
comp=Z,0.8nm,0.8s,baz=33,slow=5.3,SNR=8.6
WRA PKiKP **PKiKP 05 53 32.5 -1.7**
comp=Z,0.3nm,0.4s,baz=360,slow=1.6,SNR=20
comp=Z,0.8nm,0.8s
ASAR Alice Springs 101.99 244 P **Pdif 05 49 18.2 0.0**
comp=Z,0.3nm,0.5s,baz=35,slow=4.6,SNR=4.2
ASAR PKiKP **PKiKP 05 53 39.4 -0.9**
comp=Z,0.4nm,0.5s,baz=49,slow=2.5,SNR=5.9
TORD Torodi Ar. Bea 104.57 25 PKKPbc PKKPbc 06 05 12.4 +0.8
comp=Z,1.0nm,0.4s,baz=147,slow=1.7,SNR=15
PLCA Paso Flores 120.76 119 PKP **PKPdf 05 54 13.7 -1.6**
comp=Z,1.5nm,0.7s,baz=254,slow=3.8,SNR=4.2
KMBO Kilima Mbogo 120.96 348 PKP **PKPdf 05 54 15.3 -1.4**
comp=Z,0.7nm,0.3s,baz=67,slow=7.0,SNR=4.4
BOSA Boshof 148.84 3 PKP **PKPdf 05 55 05.4 -1.9**
comp=Z,11nm,0.8s,baz=304,slow=21,SNR=2.4
BOSA PKPbc **PKPbc 05 55 09.9 -1.5**
comp=Z,13nm,0.5s,baz=0.9,slow=2.8,SNR=55
QSPA South Pole Qui 149.56 180 PKP **PKPdf 05 55 05.3 -1.8**
comp=Z,2.9nm,0.9s,baz=290,slow=2.2,SNR=6.2
QSPA PKPbc **PKPbc 05 55 11.7 -0.2**
comp=Z,17nm,0.5s,baz=288,slow=0.3,SNR=98
VNA3 Neumayer Olymp 161.40 143 ⇑PKPab **PKPab 05 56 06.9 -1.0**
comp=Z,7.6nm,0.8s
VNA1 Neumayer--Stat 162.04 142 PKPab **PKPab 05 56 09.8 -0.8**
comp=Z,4.1nm,0.9s
MAW Mawson 162.44 228 PKP **PKPdf 05 55 22.2 -1.7**
comp=Z,1.1nm,0.6s,baz=304,slow=4.3,SNR=3.6
MAW PKPab **PKPab 05 56 10.9 -1.5**
comp=Z,13nm,0.8s,baz=91,slow=6.1,SNR=19
SNAA Sanae 163.21 147 PKPab **PKPab 05 56 13.9 -1.9**
comp=Z,0.8nm,0.4s,baz=242,slow=5.7,SNR=9.1
TROLL Troll, Antarti 164.40 152 ⇑PKPab **PKPab 05 56 20.5 -0.6**
comp=Z,414nm,0.6s
ELIB Princess Elisa 167.69 175 *d*PKPdf **PKPdf 05 55 31.9 +3.4**
ELIB *dp*PKPdf **pPKPdf 05 55 57.9 +1.0**
ELIB *d*PKP **PKPab 05 56 35.0 -0.6**
ELIB *d*SKPdf **SKPdf 05 58 53.8 +3.8**

*JMA **19** 05:38:45.0±0.1, 42.°6N±0.°4×143.°3E±0.°7, h95km±1km, MV3.8/38, TOKACHI REGION*
JMA Felt I J1 at TOKACHI REGION .
*NIED **19** 05:38:45.0, 42.°59N×143.°34E, h95km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr3.73; Mθθ-0.46; Mφφ-3.27; Mrθ2.54; Mθφ2.27; Mφr1.47; Fault plane solution: M0=5.04000×10^14 NP1: φs=359.00000°, δ=53.00000°, λ=131.00000°. NP2: φs=123.00000°, δ=53.00000°, λ=49.00000°.*
*SKHL **19** 05:38:45.0±0.8, 42.°70N×143.°50E, h108km±2km, mb5.2/3, msha5.7/3*
*MOS **19** 05:38:45.7±1.1, 42.°85N×143.°47E, h122km, mb4.5/1, Error ellipse: s-maj=13.9km s-min=10.5km az=66.5*
*IDC **19** 05:38:47.4±2.7, 42.°79N×143.°40E, h122km±15km, mb3.6/13, mbtmp4.0/15, MS3.2/2, Error ellipse: s-maj=32.6km s-min=16.8km az=164.0*
ISC 19 05:38:44.0±0.7, 42.°55N±0.°05×143.°41E±0.°03, h103km±5km, n56, σ0=98/74, mb3.6/13, 18D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCH	**Churui**	**0.08**	**331**	P	**Pn**	**05 38 58.2**	**0.0**
JCH				*e*S	**Sn**	**05 39 08.0**	**-0.9**
JTHR	**Tokachihiroo**	**0.27**	**199**	P	**Pn**	**05 38 58.9**	**+0.2**
JTHR				*e*S	**Sn**	**05 39 09.3**	**-0.4**
JOB	**Onbets**	**0.47**	**41**	P	**Pn**	**05 39 00.6**	**+0.7**
JOB				*e*S	**Sn**	**05 39 12.3**	**+0.6**
JNBK	**Urakawa-nobuka**	**0.56**	**242**	P	**Pn**	**05 39 01.1**	**+0.6**
JNBK				*e*S	**Sn**	**05 39 13.4**	**+0.6**
JEM	**Erimo**	**0.56**	**200**	P	**Pn**	**05 39 01.4**	**+0.9**
JEM				*e*S	**Sn**	**05 39 13.9**	**+1.1**
JAR	**Ashorobuto**	**0.79**	**19**	⇓*e*P	**Pn**	**05 39 02.9**	**+0.4**
JAR				⇓*e*S	**Sn**	**05 39 16.2**	**-0.2**
JBT2	**Biratori 2**	**0.81**	**287**	⇓P	**Pn**	**05 39 02.6**	**0.0**
JFR	**Furan**	**0.86**	**316**	P	**Pn**	**05 39 02.5**	**-0.7**
JFR				*e*S	**Sn**	**05 39 16.4**	**-1.2**
JAK	**Akkeshi**	**1.05**	**64**	*e*P	**Pn**	**05 39 05.5**	**+0.5**
JAK				*e*S	**Sn**	**05 39 21.4**	**+0.4**
AKK	**Akkeshi**	**1.15**	**65**	*e*P	**Pn**	**05 39 06.6**	**+0.4**
AKK				*e*S	**Sn**	**05 39 23.0**	**-0.1**
JAB	**Ashibetsu**	**1.30**	**318**	⇓*e*P	**Pn**	**05 39 07.8**	**-0.1**
JKHN	**Kushirohamanak**	**1.39**	**67**	⇓P	**Pn**	**05 39 09.6**	**+0.6**
JKHN				⇓*e*S	**Sn**	**05 39 28.4**	**+0.4**
JNK	**Nakash**	**1.41**	**42**	⇓*e*P	**Pn**	**05 39 09.5**	**+0.2**
JNK				⇓*e*S	**Sn**	**05 39 28.2**	**-0.3**
JKK2	**Kamakawa 2**	**1.41**	**340**	*e*P	**Pn**	**05 39 09.5**	**+0.2**
JMP	**Maruseppu**	**1.46**	**358**	⇓*e*P	**Pn**	**05 39 10.2**	**+0.3**
JMP				⇓*e*S	**Sn**	**05 39 29.6**	**0.0**
JTKR	**Abashiri--Toko**	**1.47**	**14**	⇓*e*P	**Pn**	**05 39 10.3**	**+0.3**
JTKR				⇓*e*S	**Sn**	**05 39 29.4**	**-0.2**
JEW	**Eniwo**	**1.48**	**282**	*e*P	**Pn**	**05 39 10.4**	**+0.3**
JISS	**Ishikarishitsu**	**1.64**	**297**	*e*P	**Pn**	**05 39 12.3**	**+0.3**
JISS				*e*S	**Sn**	**05 39 33.7**	**+0.3**
JKA	**Kamikawa-asahi**	**1.68**	**340**	*e*P	**Pn**	**05 39 13.2**	**+0.6**
ASAJ	**Asahikawa**	**1.68**	**339**	P	**Pn**	**05 39 13.2**	**+0.6**
	62nm,0.3s,baz=192,slow=12,SNR=40						
ASAJ				S	**Sn**	**05 39 35.2**	**+0.9**
	88nm,0.5s,baz=161,slow=28,SNR=20						
JHR	**Hokuryu**	**1.72**	**315**	⇓*e*P	**Pn**	**05 39 13.3**	**+0.3**
JHR				⇓*e*S	**Sn**	**05 39 35.1**	**-0.1**
NMR	**Nemuro--Hokkai**	**1.89**	**63**	⇓*i*PN	**Pn**	**05 39 15.1**	**-0.1**
NMR				*i* S	**Sn**	**05 39 37.5**	**-1.5**
NMR	**Nemuro--Hokkai**	**1.89**	**63**	*i* P	**Pn**	**05 39 15.1**	**-0.1**
NMR				*i* S	**Sn**	**05 39 37.5**	**-1.5**
RUSJ	**Misakicho**	**2.05**	**40**	⇓*i*PN	**Pn**	**05 39 18.5**	**+1.2**
RUSJ				*i* S	**Sn**	**05 39 46.8**	**+4.0**
YUK	**Yuzh-Kuril'sk**	**2.33**	**49**	*d i*PN	**Pn**	**05 39 21.7**	**+0.9**
YUK				*i* S	**Sn**	**05 39 49.4**	**+0.4**
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,325nm,0.1s						
YUK				pmax	pmax		
	comp=E,342nm,0.1s						
YUK				smax	smax		
	comp=N,315nm,0.1s						
YUK				smax	smax		
	comp=E,948nm,0.2s						
YUK				smax	smax		
	comp=E,954nm,1.1s						
YUK				smax	smax		
	comp=N,840nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.33**	**49**	*i* P	**Pn**	**05 39 21.9**	**+1.1**
YUK				AMB	AMB	05 39 22.7	
	comp=N,900nm,0.2s						
YUK				*i* S	**Sn**	**05 39 48.0**	**-1.0**
YUK				A	A	05 39 53.6	
	comp=N,320nm,0.3s						
YUK				A	A	05 39 53.6	
	comp=N,700nm,0.3s						
SHO	**Shikotan**	**2.83**	**61**	⇓*i*PN	**Pn**	**05 39 27.4**	**0.0**
SHO				*i* S	**Sn**	**05 39 59.0**	**-1.9**
SHO				pmax	pmax		
	comp=Z,114nm,0.1s						
SHO				smax	smax		
	comp=N,459nm,0.3s						
SHO				smax	smax		
	comp=E,292nm,0.2s						
SHO	**Shikotan**	**2.83**	**61**	*i* P	**Pn**	**05 39 27.4**	**0.0**
SHO				AMB	AMB	05 39 27.8	
	comp=E,170nm,0.5s						
SHO				*i* S	**Sn**	**05 39 59.0**	**-1.9**
SHO				A	A	05 40 01.1	
	comp=E,400nm,0.3s						
SHO				A	A	05 40 01.1	
	comp=E,290nm,0.3s						
KUR	**Kuril'sk**	**4.19**	**49**	*e*PN	**Pn**	**05 39 47.2**	**+1.5**
KUR				*e*S	**Sn**	**05 40 35.6**	**+2.0**
KUR				pmax	pmax		
	comp=Z,57nm,0.4s						
KUR				smax	smax		
	comp=E,148nm,0.3s						
KUR				smax	smax		
	comp=N,102nm,0.2s						
KUR	**Kuril'sk**	**4.19**	**49**	*e*P	**Pn**	**05 39 47.0**	**+1.3**
KUR				AMB	AMB	05 39 48.5	
	comp=N,50nm,0.4s						
KUR				*e*S	**Sn**	**05 40 32.4**	**-1.2**
KUR				A	A	05 40 38.4	
	comp=N,100nm,0.3s						
KUR				A	A	05 40 38.4	
	comp=N,120nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.43**	**354**	*e*PN	**Pn**	**05 39 49.0**	**+0.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS	**Yuzh-Sakhalins**	**4.43**	**354**	*e*P	**Pn**	**05 39 49.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**8.49**	**285**	P	**Pn**	**05 40 44.7**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=85,slow=17,SNR=4.8						
KSRS	**Korea Array**	**12.92**	**252**	P	**P**	**05 41 48.6**	**-1.7**
	comp=Z,1.4nm,0.5s,baz=63,slow=14,SNR=4.8						
SEY	**Seymchan**	**21.09**	**11**	P	**P**	**05 43 17.5**	**-2.3**
	comp=Z,5.4nm,0.6s,baz=173,slow=7.8,SNR=5.5						
SEY				LR	LR	05 51 54.4	
	comp=Z,56nm,19.2s,baz=96,slow=38						
	comp=Z,5.4nm,0.6s						
SONM	**Songino Array**	**26.44**	**294**	P	**P**	**05 44 12.2**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=70,slow=8.7,SNR=6.2						
	comp=Z,0.9nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**30.16**	**132**	T	T	06 16 18.7	
	baz=326,slow=75,SNR=61						
H11N1	**WAKE ISLAND Hy**	**30.18**	**132**	T	T	06 16 19.2	
	baz=326,slow=75,SNR=63						
H11N3	**WAKE ISLAND Hy**	**30.18**	**132**	T	T	06 16 21.5	
	baz=326,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**31.05**	**133**	T	T	06 17 29.8	
	baz=327,slow=76,SNR=105						
H11S3	**WAKE ISLAND Hy**	**31.06**	**133**	T	T	06 17 30.6	
	baz=327,slow=76,SNR=92						
H11S2	**WAKE ISLAND Hy**	**31.07**	**133**	T	T	06 17 29.5	
	baz=327,slow=76,SNR=64						
KURK	**Kurchatov**	**43.94**	**304**	P	**P**	**05 46 40.6**	**+0.2**
KURK	**Kurchatov**	**43.94**	**304**	*e*P	**P**	**05 46 40.6**	**+0.2**
KURBB	**Kurchatov Arra**	**44.02**	**304**	P	**P**	**05 46 40.5**	**-0.4**
	comp=Z,5.0nm,0.4s,baz=73,slow=8.9,SNR=9.3						
	comp=Z,5.0nm,0.4s						
ILAR	**Eielson Array**	**44.06**	**35**	P	**P**	**05 46 41.3**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=260,slow=6.1,SNR=6.6						
	comp=Z,0.7nm,0.7s						
BVAR	**Borovoye Array**	**48.15**	**309**	P	**P**	**05 47 14.5**	**+1.2**
	comp=Z,3.2nm,0.4s,baz=74,slow=9.3,SNR=6.5						
	comp=Z,3.2nm,0.4s						
RES	**Resolute Bay**	**56.88**	**16**	P	**P**	**05 48 16.9**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=307,slow=4.7,SNR=7.6						
	comp=Z,2.8nm,0.6s						
ARCES	**ARCESS Array B**	**59.40**	**339**	P	**P**	**05 48 35.8**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=69,slow=7.8,SNR=1.4						
	comp=Z,2.5nm,0.7s						
FINES	**FINESS Array B**	**64.67**	**332**	P	**P**	**05 49 09.9**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=51,slow=6.8,SNR=9.6						
	comp=Z,3.4nm,0.9s						
NOA	**NORSAR Array B**	**69.70**	**337**	P	**P**	**05 49 41.7**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=34,slow=6.3,SNR=2.0						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**70.52**	**56**	P	**P**	**05 49 49.0**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=305,slow=6.5,SNR=1.9						
	comp=Z,0.1nm,0.3s						
AKASG	**Malin Array Be**	**70.89**	**322**	P	**P**	**05 49 49.2**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=47,slow=4.1,SNR=4.5						
	comp=Z,0.5nm,0.5s						
PDAR	**Pinedale Array**	**72.76**	**47**	P	**P**	**05 50 01.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=27,slow=1.7,SNR=4.2						
	comp=Z,0.1nm,0.3s						
EIL	**Elat**	**82.64**	**304**	LR	LR	06 33 14.1	
	comp=Z,16nm,18.0s,baz=234,slow=40						
TXAR	**Lajitas Array**	**85.58**	**54**	P	**P**	**05 51 12.2**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=316,slow=3.6,SNR=5.1						
	comp=Z,0.3nm,0.6s						

IDC 19 05:59:15.5±3.3, 19.°58N×122.°01E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=283.0km s-min=22.3km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.09**	**162**	P	P	06 07 00.8	-0.5
	1.0nm,0.6s,baz=342,slow=9.1,SNR=13						
	1.0nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**42.16**	**84**	T	T	06 51 50.7	
	baz=280,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**42.17**	**84**	T	T	06 51 51.2	
	baz=280,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hy**	**42.17**	**82**	T	T	06 51 50.3	
	baz=278,slow=75,SNR=41						
H11S2	**WAKE ISLAND Hy**	**42.17**	**84**	T	T	06 51 51.6	
	baz=280,slow=75,SNR=54						

H11N2 WAKE ISLAND Hy 42.17 82 T T 06 51 50.5
baz=278,slow=75,SNR=44
H11N3 WAKE ISLAND Hy 42.19 82 T T 06 51 51.6
baz=278,slow=75,SNR=37
MKAR Makanchi Array 42.24 319 P P 06 07 10.2 -0.3
0.5nm,0.6s,baz=106,slow=8.9,SNR=5.3
0.5nm,0.6s
ASAR Alice Springs 44.52 164 P P 06 07 29.4 +0.3
0.7nm,0.8s,baz=354,slow=8.8,SNR=8.5
0.7nm,0.8s
KURBB Kurchatov Arra 46.16 323 P P 06 07 41.9 0.0
0.2nm,0.3s,baz=116,slow=8.4,SNR=1.0
0.2nm,0.3s

*IDC **19** 06:00:14.7±0.8, 15°.24N×94°.33W, h0km, mb4.2/12, mbtmp4.2/13, ML4.3/1, MS3.6/10, Error ellipse: s-maj=27.6km s-min=15.8km az=59.0*
*MEX **19** 06:00:19.8±1.1, 15°.24N×94°.56W, h16km±230km, MD4.5*
*NEIC **19** 06:00:19.9±2.3, 15°.32N±0°.06×94°.52W±0°.04, h29km±7km, mb4.5/138, Md4.4/34(MEX), Error ellipse: s-maj=9.5km s-min=5.4km az=187.0*
*GCG **19** 06:00:22.0±3.6, 15°.47N×94°.38W, h34km±999km, MD4.3*
ISC 19 06:00:16.3±1.8, 15°.39N±0°.04×94°.48W±0°.03, h8km±11km, n215, σ2.02/198, mb4.4/52, MS3.6/8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.02**	**33**	*e*P	**Pn**	**06 00 37.4**	**+0.5**
CARR				*e*S	**Sn**	**06 00 50.5**	**-0.9**
NILT	**Santiago Nilte**	**1.18**	**354**	*e*P	**Pb**	**06 00 39.4**	**+0.5**
NILT				*i* S	**Sn**	**06 00 53.5**	**-1.8**
PCIG		**1.26**	**75**		**Pb**	**06 00 40.8**	**+0.5**
PCIG					**Sg**	**06 00 56.3**	**-0.5**
PCIG		**1.26**	**75**	*e*P	**Pb**	**06 00 40.8**	**+0.5**
PCIG				*e*S	**Sg**	**06 00 56.3**	**-0.5**
HUIG	**Huatulco**	**1.61**	**284**		Pn	06 00 44.0	-1.0
HUIG					Sn	06 01 01.2	-4.9
HUIG	**Huatulco**	**1.61**	**284**	*e*P	Pn	06 00 44.0	-1.0
HUIG				*e*S	Sn	06 01 01.2	-4.9
CMIG	**Matias Romero**	**1.74**	**347**	Pn	**Pn**	**06 00 48.1**	**+1.3**
	976nm,0.3s,baz=173,slow=11,SNR=1941						
CMIG				Sn	**Sb**	**06 01 09.8**	**-0.6**
	855nm,0.3s,baz=170,slow=9.9,SNR=6.1						
CMIG				LR	LR	06 01 39.7	
	comp=Z,880nm,18.9s,baz=167,slow=44						
CMIG	**Matias Romero**	**1.74**	**347**	*e*P	**Pn**	**06 00 48.1**	**+1.3**
CMIG				*e*S	**Sb**	**06 01 09.6**	**-0.9**
TGIG		**1.90**	**43**	*e*P	**Pb**	**06 00 51.6**	**+0.3**
TGIG				*e*S	**Sg**	**06 01 16.1**	**-1.4**
TGBT	**Tuxtla Gutierr**	**1.92**	**44**		**Pb**	**06 00 51.9**	**+0.2**
TGBT					**Sg**	**06 01 16.2**	**-2.0**
TGBT	**Tuxtla Gutierr**	**1.92**	**44**	*e*P	**Pb**	**06 00 51.9**	**+0.2**
TGBT				*e*S	**Sg**	**06 01 16.2**	**-2.0**
UXUV	**UXUV**	**1.95**	**10**	*e*P	**Pb**	**06 00 52.5**	**+0.4**
UXUV				*e*S	**Sg**	**06 01 16.4**	**-2.4**
PATR	**El Naranjo**	**2.19**	**97**	*e*P	**Pn**	**06 00 52.9**	**-0.3**
PATR				*e*S	**Sn**	**06 01 18.8**	**-1.8**
THIG		**2.19**	**102**	*e*P	**Pn**	**06 00 53.0**	**-0.1**
THIG				*e*S	**Sn**	**06 01 20.7**	**+0.2**
PAVE	**Pavencul**	**2.23**	**95**	*e*P	**Pn**	**06 00 54.2**	**+0.3**
PAVE				*e*S	**Sn**	**06 01 20.6**	**-1.2**
CHUJ	**Union Juarez**	**2.31**	**97**	*e*P	**Pn**	**06 00 55.0**	**+0.1**
CHUJ				*e*S	**Sn**	**06 01 22.0**	**-1.7**
CCIG	**Comitan**	**2.43**	**68**	Pn	**Pn**	**06 00 58.3**	**+1.9**
CCIG	**Comitan**	**2.43**	**68**	*e*P	**Pb**	**06 00 59.2**	**-1.2**
TUIG	**Tuzandepetl**	**2.63**	**1**	*e*P	**Pn**	**06 01 01.6**	**+2.5**
TUIG				*e*S	**Sb**	**06 01 34.7**	**-1.6**
NEUV	**Arroyo Zacate**	**2.63**	**332**	*e*P	**Pn**	**06 01 00.1**	**+0.9**
NEUV				*e*S	**Sn**	**06 01 32.9**	**+1.5**
PEIG	**Puerto Escondi**	**2.64**	**284**	*e*P	**Pn**	**06 00 58.4**	**-0.8**
PEIG				*e*S	Sn	06 01 24.4	-7.1
OXBJ	**Oaxaca**	**2.72**	**308**		**Pn**	**06 01 02.9**	**+2.4**
OXBJ					**Sn**	**06 01 33.2**	**-0.7**
OXBJ	**Oaxaca**	**2.72**	**308**	*e*P	**Pn**	**06 01 02.9**	**+2.4**
OXBJ				*e*S	**Sn**	**06 01 33.2**	**-0.7**
OXIG	**Oaxaca**	**2.73**	**308**		**Pn**	**06 01 03.4**	**+2.7**
OXIG					**Sn**	**06 01 33.7**	**-0.4**
VHO	**Vista Hermosa**	**2.73**	**308**	*e*P	**Pn**	**06 01 03.0**	**+2.3**
VHO				*e*S	**Sn**	**06 01 33.7**	**-0.4**
RTAL	**Retalhuleu**	**2.83**	**107**		**Pn**	**06 01 02.5**	**+0.7**
HUEH	**Huehuetenango**	**2.88**	**91**		**Pn**	**06 01 05.4**	**+2.7**
STG3	**Santiaguito 3,**	**2.89**	**103**	*e*P	**Pn**	**06 01 04.0**	**+1.1**
STG3				*e*S	**Sn**	**06 01 38.5**	**+0.5**
VHSA	**Villahermosa**	**2.97**	**30**	*e*P	**Pb**	**06 01 07.0**	**-2.6**
VHSA				*e*S	**Sg**	**06 01 48.7**	**-3.2**
SULM	**Suchitepequez,**	**3.02**	**111**	*e*P	**Pn**	**06 01 06.1**	**+1.6**
PMUV	**Sontecomapan**	**3.20**	**349**	*e*P	**Pn**	**06 01 06.7**	**-0.2**
PMUV				*e*S	**Sn**	**06 01 44.5**	**-0.9**
YOIG	**Yosondua**	**3.29**	**297**	*e*P	**Pn**	**06 01 10.1**	**+1.7**
YOIG				*e*S	**Sn**	**06 01 46.9**	**-0.9**
FUG	**Fuego 3**	**3.64**	**104**	*e*P	**Pn**	**06 01 17.3**	**+4.1**
FUG				*e*S	**Sn**	**06 01 57.3**	**+0.8**
PNIG	**Pinotepa**	**3.65**	**286**	*e*P	**Pn**	**06 01 13.4**	**+0.4**
PNIG				*e*S	Sn	06 01 48.0	-8.4
TOIG	**Toxpalan**	**3.66**	**318**	*e*P	**Pn**	**06 01 15.6**	**+2.3**
TXIG	**Tlaxiaco**	**3.66**	**301**	*e*P	**Pn**	**06 01 14.9**	**+1.4**
HLIG	**Huajuapan de L**	**4.00**	**308**	*e*P	**Pn**	**06 01 21.1**	**+2.9**
HLIG				*e*S	**Sn**	**06 02 06.4**	**+1.0**
NBG	**Las Nubes**	**4.08**	**101**	*e*P	**Pb**	**06 01 26.9**	**-1.6**
TPIG	**Tehuac#an**	**4.08**	**318**	*e*P	**Pn**	**06 01 22.2**	**+3.0**
TPIG				*e*S	**Sb**	**06 02 15.4**	**-2.8**
FTIG	**Fresnillo de T**	**4.30**	**306**	*e*P	**Pn**	**06 01 25.6**	**+3.3**
FTIG				*e*S	**Sn**	**06 02 13.0**	**+0.2**
MGIG	**Malinaltepec**	**4.39**	**295**	*e*P	**Pn**	**06 01 25.5**	**+2.1**
MGIG				*e*S	**Sn**	**06 02 13.1**	**-1.8**
TLIG	**Tlapa**	**4.47**	**299**	Pn	**Pn**	**06 01 27.8**	**+3.2**
TLIG	**Tlapa**	**4.47**	**299**	*e*P	**Pn**	**06 01 27.1**	**+2.5**
TLIG				*e*S	Sn	06 02 08.7	-8.3
JAUV	**Jalcomulco**	**4.53**	**331**	*e*P	**Pn**	**06 01 25.2**	**-0.1**
JAUV				*e*S	**Sn**	**06 02 17.0**	**-1.4**
LVIG	**Laguna Verde**	**4.69**	**337**	*e*P	**Pn**	**06 01 27.7**	**+0.3**
LVIG				*e*S	**Sn**	**06 02 15.6**	**-6.5**
PETF	**Flores**	**4.69**	**70**		**Pn**	**06 01 30.3**	**+2.8**
SCIG	**Sabancuy**	**4.75**	**41**	*e*P	**Pn**	**06 01 27.5**	**-0.8**
SCIG				*e*S	**Sn**	**06 02 26.8**	**+3.2**
ESQI	**Esquipulas**	**5.04**	**99**		**Pn**	**06 01 33.7**	**+1.4**
MTO3	**Montecristo**	**5.05**	**101**	Pn	**Pn**	**06 01 34.7**	**+2.1**
DAIG	**Los Arroyos**	**5.22**	**289**	*e*P	**Pn**	**06 01 34.8**	**0.0**
DAIG				*e*S	**Sn**	**06 02 30.1**	**-5.2**
SNET	**Serv Nac Est T**	**5.36**	**108**		**Pn**	**06 01 38.1**	**+1.4**
PPM	**Popocatepetl**	**5.39**	**313**	*e*P	**Pn**	**06 01 42.0**	**+4.4**
MEIG	**Mezcala**	**5.53**	**298**	*e*P	**Pn**	**06 01 41.6**	**+2.5**
MEIG				*e*S	**Sn**	**06 02 42.3**	**-0.7**
AMVM	**AMECAMECA**	**5.55**	**313**	*e*P	**Pn**	**06 01 43.9**	**+4.4**
AMVM				*e*S	**Sn**	**06 02 49.7**	**+6.1**
YAIG	**Yautepec**	**5.58**	**309**	*e*P	**Pn**	**06 01 43.0**	**+3.1**
YAIG				*e*S	**Sn**	**06 02 39.0**	**-5.3**
CXUV	**Coxquihui**	**5.60**	**329**	*e*P	**Pn**	**06 01 40.9**	**+0.9**
CXUV				*e*S	**Sn**	**06 02 40.0**	**-4.7**
PLIG	**Platanillo**	**5.66**	**303**	*e*P	**Pn**	**06 01 43.4**	**+2.6**
PLIG				*e*S	**Sn**	**06 02 42.3**	**-3.8**
MPVM	**San Francisco**	**5.75**	**312**	*e*P	**Pn**	**06 01 41.0**	**-1.3**
THVM	**De Xico**	**5.80**	**313**	*e*P	**Pn**	**06 01 47.2**	**+4.3**
TLVM	**San Miguel Top**	**5.86**	**311**	*e*P	**Pn**	**06 01 42.5**	**-1.4**
XCVM	**Xochimilco**	**5.86**	**312**	*e*P	Pb	06 01 54.2	-4.8
UNM	**Universidad Na**	**5.95**	**312**	Pn	**Pn**	**06 01 46.2**	**+1.2**
VRVM	**Mexico City**	**5.97**	**313**	*e*P	Pn	06 01 52.6	+7.4
VTVM	**Tizayuca**	**5.98**	**317**	*e*P	**Pn**	**06 01 49.2**	**+3.8**
BJVM	**Benito Juarez**	**5.98**	**312**	*e*P	Pn	06 01 55.4	+10
AOVM	**Tlapan**	**6.02**	**311**	*e*P	**Pn**	**06 01 50.4**	**+4.3**
AOVM				*e*S	**Sn**	**06 02 52.1**	**-3.4**
INVM	**La Marquesa**	**6.08**	**310**	*e*P	**Pn**	**06 01 50.4**	**+3.5**
PTVM	**Pico Tres Padr**	**6.08**	**314**	*e*P	**Pn**	**06 01 49.0**	**+2.2**
PTVM				*e*S	**Sn**	**06 03 02.4**	**+5.5**
AZVM	**Cuida Lopez Ma**	**6.20**	**313**	*e*P	**Pn**	**06 01 51.1**	**+2.7**
ZUVM	**ZUMPANGO**	**6.22**	**316**	*e*P	**Pn**	**06 01 49.7**	**+1.0**
TOVM	**TOLUCA**	**6.29**	**309**	*e*P	**Pn**	**06 01 53.0**	**+3.2**
TOVM				*e*S	**Sn**	**06 03 01.3**	**-0.8**
CTUV	**Llano Grande**	**7.08**	**329**	*e*P	**Pn**	**06 02 01.3**	**+1.1**
TGUH	**Tegucigalpa,Un**	**7.10**	**100**	Pn	**Pn**	**06 02 01.9**	**+1.2**
TEIG	**Tepich**	**7.62**	**50**	Pn	**Pn**	**06 02 08.9**	**+1.2**
TEIG	**Tepich**	**7.62**	**50**	Pn	**Pn**	**06 02 08.7**	**+1.0**
	390nm,0.3s,baz=172,slow=3.3,SNR=126						
TEIG				Sn	**Sn**	**06 03 33.7**	**-0.7**
	94nm,0.3s,baz=356,slow=6.3,SNR=3.4						
TEIG				LR	LR	06 05 33.0	
	comp=Z,2μm,20.6s,baz=14,slow=42						
CRIN	**San Cristobal**	**7.69**	**109**	Pn	**Pn**	**06 02 10.6**	**+1.8**
CNGN	**Cerro Negro**	**8.08**	**110**		**Pn**	**06 02 15.1**	**+1.0**
MATN	**Matagalpa**	**8.65**	**105**	Pn	**Pn**	**06 02 23.3**	**+1.3**
BOAB	**BOACO BROADBAN**	**9.04**	**108**		**Pn**	**06 02 28.9**	**+1.7**
ACON	**Acoyapa**	**9.66**	**109**	Pn	**Pn**	**06 02 36.6**	**+0.8**
ORTG	**Ortega, Santa**	**10.12**	**119**	Pn	**Pn**	**06 02 43.5**	**+1.4**
DUNO	**Dulce Nombre,**	**10.23**	**120**	Pn	**Pn**	**06 02 45.1**	**+1.5**
JTS	**Las Juntas de**	**10.58**	**117**	Pn	**Pn**	**06 02 49.5**	**+1.1**
JTS	**Las Juntas de**	**10.58**	**117**	Pn	**Pn**	**06 02 51.2**	**+2.8**
	0.8nm,0.3s,baz=314,slow=18,SNR=4.7						
ARE1	**Arenal 1**	**10.70**	**116**	Pn	**Pn**	**06 02 51.7**	**+1.7**
JACO	**JACO, Garabito**	**11.15**	**120**	Pn	**Pn**	**06 02 57.5**	**+1.3**
RIMA	**Rio Macho**	**11.77**	**117**		**Pn**	**06 03 06.3**	**+1.4**
SOR	**Soroa**	**13.11**	**54**	Pn	**Pn**	**06 03 22.6**	**-0.3**
833A	**Chaparral WMA,**	**13.65**	**341**		**Pn**	**06 03 32.8**	**+2.5**
HNDO	**Hondo**	**14.75**	**343**		**Pn**	**06 03 48.1**	**+2.7**
DRIO	**Del Rio**	**15.07**	**339**	Pn	**Pn**	**06 03 52.3**	**+2.7**
DRIO				IAmb	IAmb	06 04 00.8	
	comp=Z,6.3nm,1.0s						
HPIG		**15.50**	**320**	Pn	**Pn**	**06 03 58.5**	**+2.9**
435B	**Jarrell**	**15.59**	**350**		**Pn**	**06 03 58.6**	**+2.2**
JCT	**Junction City**	**15.79**	**343**	P	**P**	**06 04 02.4**	**-0.7**
JCT				IAmb	IAmb	06 04 21.9	
	comp=Z,20nm,0.5s						
SAND	**Sanderson**	**16.11**	**335**	P	**P**	**06 04 06.4**	**-0.3**
SAND				IAmb	IAmb	06 04 11.4	
	comp=Z,7.5nm,1.0s						
TXAR	**Lajitas Array**	**16.26**	**330**	P	**P**	**06 04 08.7**	**+0.3**
TXAR	**Lajitas Array**	**16.26**	**330**	Pn	**P**	**06 04 08.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=155,slow=12,SNR=35						
TXAR				LR	LR	06 11 24.3	
	comp=Z,58nm,19.8s,baz=128,slow=41						
	comp=Z,3.9nm,0.8s						
TX31	**Lajitas Ar. Si**	**16.26**	**330**	P	**P**	**06 04 08.8**	**+0.4**
TX31				IAmb	IAmb	06 04 13.0	
	comp=Z,23nm,1.1s						
TX32	**Lajitas Array**	**16.26**	**330**	P	**P**	**06 04 08.4**	**+0.1**
BRDY	**Brady**	**16.36**	**346**	P	**P**	**06 04 09.0**	**-0.3**
BRDY				IAmb	IAmb	06 04 23.4	
	comp=Z,25nm,0.6s						
OZNA	**Ozona**	**16.62**	**340**	P	**P**	**06 04 12.3**	**0.0**
OZNA				IAmb	IAmb	06 04 26.6	
	comp=Z,26nm,0.6s						
WHTX	**Lake Whitney,**	**16.75**	**351**	P	**P**	**06 04 13.9**	**+0.3**
WHTX				IAmb	IAmb	06 04 21.2	
	comp=Z,35nm,0.6s						
FW13	**Cleburne**	**17.10**	**351**	P	**P**	**06 04 17.8**	**+0.2**
FW13				IAmb	IAmb	06 04 22.2	
	comp=Z,28nm,0.6s						
FW14	**Alvarado**	**17.11**	**352**	IAmb	IAmb	06 04 26.0	
	comp=Z,38nm,0.5s						
ALPN	**Alpine**	**17.12**	**332**	P	**P**	**06 04 19.7**	**+1.7**
ALPN				IAmb	IAmb	06 04 20.6	
	comp=Z,13nm,0.8s						
FW07	**Weatherford**	**17.50**	**351**	IAmb	IAmb	06 04 39.9	
	comp=Z,46nm,0.5s						
SGCY	**Sterling City**	**17.53**	**341**	P	**P**	**06 04 23.7**	**+1.3**
SGCY				IAmb	IAmb	06 04 27.7	
	comp=Z,32nm,0.5s						
FW06	**Azle**	**17.73**	**351**	IAmb	IAmb	06 04 43.3	
	comp=Z,40nm,1.2s						
ABTX	**Abilene, Hawle**	**17.79**	**346**	P	**P**	**06 04 27.1**	**+2.0**
ABTX				IAmb	IAmb	06 04 30.1	
	comp=Z,26nm,1.1s						
Z38A	**Mt. Pleasant**	**17.80**	**359**		**P**	**06 04 25.9**	**+0.6**
Z38A				IAmb	IAmb	06 04 29.5	
	comp=Z,14nm,0.6s						
Z41A	**Richland Creek**	**17.86**	**5**	P	**P**	**06 04 26.5**	**+0.6**
FW03	**Perrin-Whitt E**	**17.87**	**350**	P	**P**	**06 04 28.4**	**+2.3**
FW03				IAmb	IAmb	06 04 41.9	
	comp=Z,25nm,0.5s						
Z35A	**Perchaven, San**	**18.04**	**352**	P	**P**	**06 04 28.9**	**+1.0**
Z35A				IAmb	IAmb	06 04 46.0	
	comp=Z,23nm,0.9s						
PECS	**Pecos**	**18.07**	**333**	IAmb	IAmb	06 04 52.1	
	comp=Z,6.9nm,0.7s						
ODSA	**Odessa**	**18.21**	**338**	P	**P**	**06 04 32.0**	**+2.1**
ODSA				IAmb	IAmb	06 04 34.6	
	comp=Z,18nm,0.9s						
SN01	**Snyder 1**	**18.34**	**343**	P	**P**	**06 04 33.5**	**+2.2**
SN01				IAmb	IAmb	06 04 36.8	
	comp=Z,18nm,0.5s						
APMT	**Aspermont**	**18.57**	**345**	IAmb	IAmb	06 04 54.5	
	comp=Z,16nm,0.6s						
WTFS	**Witchita Falls**	**18.65**	**350**	IAmb	IAmb	06 04 43.5	
	comp=Z,36nm,0.4s						
POST	**Post**	**18.72**	**341**	IAmb	IAmb	06 04 42.5	
	comp=Z,11nm,0.9s						
MIAR	**Mount Ida**	**19.09**	**2**	P	**P**	**06 04 40.3**	**+0.8**
DKNS	**Dickens**	**19.11**	**343**	IAmb	IAmb	06 04 44.9	
	comp=Z,30nm,1.0s						
X37A	**Clayton**	**19.14**	**358**	IAmb	IAmb	06 04 50.2	
	comp=Z,20nm,0.6s						
UALR	**University of**	**19.40**	**5**	P	**Pn**	**06 04 43.8**	**-0.1**
WMOK	**Wichita Mounta**	**19.65**	**349**		**Pn**	**06 04 47.3**	**+0.2**
MSTX	**Muleshoe**	**19.96**	**339**	IAmb	IAmb	06 04 55.9	
	comp=Z,14nm,0.7s						
DEOK	**Depew**	**20.45**	**355**	IAmb	IAmb	06 04 59.5	
	comp=Z,24nm,0.9s						
OK029	**Liberty Lake**	**20.50**	**353**	IAmb	IAmb	06 05 01.0	
	comp=Z,26nm,0.8s						
FCAR	**Ozark Folk Cen**	**20.53**	**5**	IAmb	IAmb	06 05 01.2	
	comp=Z,9.0nm,0.7s						
OK031	**S. Brethren Rd**	**20.59**	**355**	IAmb	IAmb	06 05 01.0	
	comp=Z,19nm,0.7s						
OK033	**Mehan**	**20.69**	**354**	IAmb	IAmb	06 05 02.0	
	comp=Z,17nm,0.9s						
QUOK	**Quay**	**20.79**	**355**	IAmb	IAmb	06 05 03.5	
	comp=Z,26nm,0.9s						
121A	**Cookes Peak, D**	**20.92**	**327**	IAmb	IAmb	06 05 04.8	
	comp=Z,23nm,0.9s						
U38A	**Gravette**	**20.97**	**0**	P	**P**	**06 05 00.4**	**+0.5**
OK048	**Pawnee Station**	**21.06**	**354**	IAmb	IAmb	06 05 05.8	
	comp=Z,34nm,1.2s						
ELIS	**Ellis County**	**21.06**	**349**	IAmb	IAmb	06 05 07.3	
	comp=Z,22nm,0.8s						
JAMC	**Jamundi, Valle**	**21.31**	**123**	*e*P	**P**	**06 05 05.2**	**+1.3**
GUY2C	**Guyana, Caldas**	**21.33**	**116**	*e*P	**P**	**06 05 06.4**	**+1.9**
T35A	**Sooner Cattle**	**21.52**	**356**	IAmb	IAmb	06 05 10.6	
	comp=Z,17nm,0.8s						
PTBC	**PUERTO BERRIO,**	**21.52**	**112**	*e*P	**P**	**06 05 06.1**	**0.0**
BBAC	**Balboa, Cauca**	**21.57**	**126**	*e*P	**P**	**06 05 08.4**	**+1.6**
DUN6	**Lazy B Ranch**	**21.64**	**325**	IAmb	IAmb	06 05 35.1	
	comp=Z,22nm,0.9s						
KAN14	**Manchester OK**	**21.70**	**352**	IAmb	IAmb	06 05 11.8	
	comp=Z,18nm,0.9s						
SBM	**South Baldy**	**21.77**	**330**	P	**P**	**06 05 09.6**	**+0.6**
ORTC	**Ortega, Tolima**	**22.10**	**119**	*e*P	**P**	**06 05 14.6**	**+2.3**
S39A	**Bolivar**	**22.24**	**2**	P	**P**	**06 05 14.0**	**+0.4**
ANMO	**Albuquerque**	**22.25**	**333**	P	**P**	**06 05 15.7**	**+1.8**
SPBC	**San Pablo de B**	**22.26**	**114**	*e*P	**P**	**06 05 14.8**	**+0.8**
ROSC	**El Rosal**	**22.42**	**116**	P	**P**	**06 05 17.5**	**+1.4**
	6.7nm,0.7s,baz=78,slow=12,SNR=4.0						
TUC	**Tucson**	**22.45**	**321**	P	**P**	**06 05 15.7**	**-0.2**
T47A	**Sharon Grove**	**22.49**	**16**	P	**P**	**06 05 16.5**	**+0.2**
T47A				IAmb	IAmb	06 05 45.4	
	comp=Z,10nm,0.9s						
SLOR	**San Lorenzo -**	**22.50**	**134**	P	**P**	**06 05 14.6**	**-2.4**
PRAC	**Prado**	**22.51**	**119**	*e*P	**P**	**06 05 19.3**	**+2.5**
BARC	**Barichara**	**22.64**	**110**	*e*P	**P**	**06 05 20.7**	**+2.3**
CCM	**Cathedral Cave**	**22.76**	**7**	P	**P**	**06 05 18.8**	**-0.3**
R40A	**Maddies Statio**	**22.90**	**4**	P	**P**	**06 05 21.1**	**+0.6**
R40A				IAmb	IAmb	06 05 23.2	
	comp=Z,23nm,1.4s						
CHIC	**Chingaza**	**23.04**	**116**	*e*P	**P**	**06 05 24.8**	**+2.2**
T25A	**Trinidad**	**23.39**	**340**	IAmb	IAmb	06 05 30.7	
	comp=Z,12nm,0.9s						
KSU1	**Kansas State U**	**23.70**	**356**	IAmb	IAmb	06 05 31.3	
	comp=Z,13nm,0.8s						
WCI	**Wyandotte Cave**	**23.87**	**16**	P	**P**	**06 05 30.2**	**-0.1**
WCI				IAmb	IAmb	06 05 31.4	
	comp=Z,9.7nm,0.7s						
OLIL	**Olney**	**23.93**	**12**	IAmb	IAmb	06 05 32.6	
	comp=Z,28nm,1.2s						
P40A	**Paris**	**24.15**	**5**	P	**P**	**06 05 32.1**	**-0.7**
P40A				IAmb	IAmb	06 05 33.6	
	comp=Z,19nm,1.1s						
P38A	**Dawn**	**24.16**	**2**	IAmb	IAmb	06 05 34.3	
	comp=Z,9.0nm,0.8s						
R49A	**Shelbyville**	**24.25**	**18**	P	**P**	**06 05 33.1**	**-0.8**
R49A				IAmb	IAmb	06 05 35.1	
	comp=Z,11nm,1.2s						
BOSC	**San Juan Bosco**	**24.29**	**138**	P	**P**	**06 05 35.5**	**+0.9**
X16A	**Lo Mia Camp, P**	**24.34**	**324**	IAmb	IAmb	06 05 40.3	
	comp=Z,9.8nm,0.9s						
113A	**Mohawk Valley,**	**24.61**	**318**	P	**P**	**06 05 39.5**	**+2.3**
BLO	**Bloomington**	**24.70**	**15**	IAmb	IAmb	06 05 38.9	
	comp=Z,14nm,0.8s						
MVCO	**Mesa Verde**	**25.05**	**333**	IAmb	IAmb	06 05 45.1	
	comp=Z,7.9nm,1.1s						
WUAZ	**Wupatki**	**25.11**	**326**	IAmb	IAmb	06 05 48.0	
	comp=Z,12nm,0.9s						
P48A	**Milroy**	**25.26**	**17**	IAmb	IAmb	06 05 42.9	
	comp=Z,7.4nm,0.7s						
GLA	**Glamis**	**25.48**	**317**	P	**P**	**06 05 47.5**	**+2.4**
GLA				IAmb	IAmb	06 06 06.9	
	comp=Z,8.6nm,1.2s						
HMU	**Henry Mountain**	**26.67**	**330**	IAmb	IAmb	06 06 00.2	
	comp=Z,9.9nm,1.2s						
L42A	**Oliver, Polo**	**26.85**	**8**	IAmb	IAmb	06 05 57.9	
	comp=Z,19nm,1.0s						
PFO	**Pinyon Flats O**	**26.90**	**316**	LR	LR	06 16 55.5	
	comp=Z,132nm,19.8s,baz=114,slow=37						
P17A	**Butcher Ranch,**	**27.90**	**332**	IAmb	IAmb	06 06 10.7	
	comp=Z,5.1nm,0.8s						
ECSD	**EROS Data Cent**	**28.31**	**357**	IAmb	IAmb	06 06 11.8	
	comp=Z,5.3nm,0.8s						
SPR3	**Spring Creek 3**	**29.28**	**327**	IAmb	IAmb	06 06 21.6	
	comp=Z,7.5nm,1.5s						
TCUT	**Toone Canyon**	**29.54**	**334**	IAmb	IAmb	06 06 25.4	
	comp=Z,12nm,0.9s						
PCRV	**Puerto La Cruz**	**29.55**	**97**	LR	LR	06 18 30.0	
	comp=Z,57nm,20.7s,slow=37						
PDAR	**Pinedale Array**	**30.20**	**338**	P	**P**	**06 06 29.1**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=146,slow=8.6,SNR=11						
PDAR				PcP	**PcP**	**06 09 27.1**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=96,slow=3.7,SNR=3.4						
	comp=Z,1.3nm,0.8s						
ID09	**Alton**	**30.39**	**335**	IAmb	IAmb	06 06 31.8	
	comp=Z,4.4nm,0.8s						
HVU	**Hansel Valley**	**30.68**	**333**	IAmb	IAmb	06 06 35.1	
	comp=Z,6.2nm,0.8s						
ID07	**Smith Canyon R**	**30.99**	**334**	IAmb	IAmb	06 06 37.6	
	comp=Z,5.1nm,0.9s						
NV11	**Mina Array Sit**	**31.01**	**322**	IAmb	IAmb	06 06 39.3	
	comp=Z,5.8nm,1.1s						
NVAR	**Mina Array Bea**	**31.10**	**322**	P	**P**	**06 06 38.6**	**+3.1**
	comp=Z,3.7nm,0.9s,baz=142,slow=9.0,SNR=21						
NVAR				PcP	**PcP**	**06 09 31.4**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=144,slow=4.3,SNR=4.7						
NVAR				LR	LR	06 20 58.4	
	comp=Z,156nm,19.0s,baz=131,slow=40						
	comp=Z,3.7nm,0.9s						
ID08	**Devils Gate**	**31.19**	**335**	IAmb	IAmb	06 06 39.1	
	comp=Z,6.2nm,0.8s						
LOHW	**Long Hollow**	**31.32**	**337**	IAmb	IAmb	06 06 40.3	
	comp=Z,6.2nm,0.8s						
TPAW	**Teton Pass**	**31.34**	**337**	IAmb	IAmb	06 06 41.4	
	comp=Z,6.9nm,0.9s						
FXWY	**Fox Creek**	**31.50**	**337**	IAmb	IAmb	06 06 41.9	
	comp=Z,3.9nm,1.0s						
IMW	**Indian Meadow**	**31.68**	**337**	IAmb	IAmb	06 06 44.7	
	comp=Z,3.2nm,0.8s						
NNA	**Nana**	**32.32**	**146**	LR	LR	06 17 30.4	
	comp=Z,84nm,19.2s,baz=300,slow=32						
YMR	**Madison River**	**32.35**	**338**	IAmb	IAmb	06 06 50.0	
	comp=Z,3.7nm,0.7s						
HLID	**Hailey**	**32.83**	**333**	IAmb	IAmb	06 06 54.2	
	comp

PTBC	**PUERTO BERRIO,**	**1.33 258⇑**	*eP*	Pn	06 06 25.9	-1.6
PTBC			*eS*	Sn	06 06 47.2	-1.4
PTBC			*i*		06 06 54.3	
comp=Z,81nm,0.4s						
TAMC	**Tame, Arauca**	**1.40 106⇓**	*eP*	Pn	06 06 28.0	-0.3
TAMC			*eS*	Sn	06 06 49.9	+0.1
SPBC	**San Pablo de B**	**1.48 219**	*eP*	Pn	06 06 28.3	-0.9
SPBC			*eS*	Sn	06 06 50.7	-0.8
SPBC			*i*		06 06 53.1	
comp=Z,225nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.83 292**	*eP*	Pn	06 06 32.1	-0.8
ZARC			*eS*	Sn	06 06 57.5	-0.6
ZARC			*i*		06 07 06.4	
comp=Z,81nm,0.2s						
NORC	**Norcasia**	**2.12 234**	*eP*	Pn	06 06 35.6	-0.7
NORC			*eS*	Sn	06 07 03.9	-0.5
NORC			*i*		06 07 11.4	
comp=Z,85nm,0.2s						
CHIC	**Chingaza**	**2.25 195**	*eP*	Pn	06 06 37.6	-0.7
CHIC			*eS*	Sn	06 07 07.1	-0.7
CHIC			*i*		06 07 12.7	
comp=Z,48nm,0.3s						
ROSC	**El Rosal**	**2.29 211⇑**	*eP*	Pn	06 06 39.1	+0.3
ROSC			*eS*	Sn	06 07 10.7	+2.2
ROSC			*i*		06 07 17.8	
comp=Z,98nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.72 234**	*eP*	Pn	06 06 43.8	-0.3
GUY2C			*eS*	Sn	06 07 20.1	+2.0
GUY2C			*i*		06 07 24.8	
comp=Z,52nm,0.3s						
VILC	**Villavicencio,**	**2.75 192**	*eP*	Pn	06 06 42.9	-1.2
VILC			*eS*	Sn	06 07 17.6	-0.6
VILC			*i*		06 07 26.5	
comp=Z,64nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.79 159**	*eP*	Pn	06 06 42.7	-1.9
PTGC			*eS*	Sn	06 07 16.1	-3.0
PTGC			*i*		06 07 21.0	
comp=Z,84nm,0.3s						
DBBC	**Dabeiba**	**3.05 274**	*eP*	Pn	06 06 47.1	-0.8
DBBC			*eS*	Sn	06 07 22.8	-2.2
DBBC			*i*		06 07 24.5	
comp=Z,21nm,0.2s						
ARGC	**Ariguani, Magd**	**3.21 340**	*eP*	Pn	06 06 50.5	+0.6
ARGC			*eS*	Sn	06 07 28.5	-0.1
ARGC			*i*		06 07 39.9	
comp=Z,21nm,0.3s						
ANIL	**Santa Ana**	**3.23 224**	*eP*	Pn	06 06 50.7	+0.4
ANIL			*eS*	Sn	06 07 30.5	+1.1
PRAC	**Prado**	**3.54 209**	*eP*	Pn	06 06 52.8	-1.4
PRAC			*eS*	Sn	06 07 35.1	-1.1
PRAC			*i*		06 07 41.8	
comp=Z,48nm,0.6s						
ORTC	**Ortega, Tolima**	**3.57 216**	*eP*	Pn	06 06 54.6	+0.1
ORTC			*eS*	Sn	06 07 37.3	+0.4
ORTC			*i*		06 07 43.5	
comp=Z,36nm,0.3s						
PLMC	**San Jos del P**	**3.66 239**	*eP*	Pn	06 06 55.3	-0.4
PLMC			*i*		06 07 41.1	
comp=Z,21nm,0.2s						
SJCC	**San Jacinto, C**	**3.66 327**	*eP*	Pn	06 06 53.8	-2.0
SJCC			*eS*	Sn	06 07 34.6	-4.4
SJCC			*i*		06 07 42.4	
comp=Z,15nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.18 4**	*eP*	Pn	06 07 00.0	-2.6
CRJC			*eS*	Sn	06 07 47.7	-3.6
CRJC			*i*		06 07 50.8	
comp=Z,22nm,0.2s						
YOTC	**Yotoco, Valle**	**4.25 229**	*eP*	Pn	06 07 06.1	+2.6
GUVC	**San Jose del G**	**4.28 173**	*eP*	Pn	06 07 02.1	-1.7
GUVC			*eS*	Sn	06 07 51.0	-2.5
MACC	**Macarena, Meta**	**4.70 189**	*eP*	Pn	06 07 06.6	-2.7
MACC			*eS*	Sn	06 07 58.5	-4.9
MACC			*i*		06 08 05.0	
comp=Z,18nm,0.8s						
GARC	**Garzon, Huila**	**5.16 207**	*eP*	Pn	06 07 13.7	-2.0
GARC			*eS*	Sn	06 08 10.6	-4.2
GARC			*i*		06 08 15.9	
comp=Z,16nm,0.3s						
POPC	**Popayan, Colom**	**5.52 220**	*eP*	Pn	06 07 19.8	-0.6

*SJA **19** 06:09:17.3±0.7, 19°.00S×69°.34W, h120km±3km, ML3.6, MW3.7*
*GUC **19** 06:09:19.1±0.8, 18°.98S×69°.28W, h109km±4km, ML3.7*
ISC 19 06:09:19.4±1.8, 19°.05S±0°.04×69°.37W±0°.07, h112km±12km, n30, σ1§42/53, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.64**	**165**	*eP*	**Pn**	**06 09 37.7**	**-0.3**
GO01				*i* S	**Sn**	**06 09 52.1**	**+0.1**
GO01				IAML		06 09 52.9	
comp=E,5μm,0.2s							
GO01	**Chusmiza**	**0.64**	**165**	*eP*	**Pn**	**06 09 37.8**	**-0.3**
GO01				*eS*	**Sn**	**06 09 52.3**	**+0.3**
GO01				IAML		06 09 53.0	
comp=Z,1μm,0.2s							
PB16	**IPOC Station P**	**0.72**	**350⇓**	*iP*	**Pn**	**06 09 38.1**	**-0.7**
PB16				*i* S	**Sn**	**06 09 52.6**	**-0.8**
PB16				IAML		06 09 53.7	
comp=E,2μm,0.5s							
PB16	**IPOC Station P**	**0.72**	**350**	*eP*	Pn	06 09 28.0	-11
PB16				*eP*		06 09 38.1	
PB16				*eS*	**Sn**	**06 09 53.1**	**-0.2**
PB16				IAML		06 09 53.7	
comp=Z,2μm,0.5s							
PB12	**IPOC Station P**	**1.00**	**295**	*eP*	**Pn**	**06 09 40.3**	**-0.6**
PB12				*i* S	**Sn**	**06 09 56.5**	**-0.6**
PB12				IAML		06 09 59.4	
comp=E,2μm,0.3s							
PB12	**IPOC Station P**	**1.00**	**295**	*eP*	**Pn**	**06 09 40.2**	**-0.7**
PB12				*eS*	**Sn**	**06 09 57.2**	**0.0**
PB12				IAML		06 09 59.4	
comp=Z,652nm,0.1s							
PB08	**IPOC Station P**	**1.10**	**169⇑**	*iP*	**Pn**	**06 09 42.4**	**+0.2**
PB08				*i* S	**Sn**	**06 10 00.4**	**+0.9**
PB08				IAML		06 10 01.7	
comp=E,938nm,0.3s							
PB08	**IPOC Station P**	**1.10**	**169**	*eP*	**Pn**	**06 09 42.2**	**-0.1**
PB08				*eS*	**Sn**	**06 10 00.8**	**+1.3**
PB08				IAML		06 10 02.9	
comp=Z,586nm,0.4s							
AP01	**Chacalluta**	**1.14**	**306⇑**	*iP*	**Pn**	**06 09 41.9**	**-0.3**
AP01				*i* S	**Sn**	**06 09 59.6**	**+0.1**
AP01				IAML		06 10 03.4	
comp=E,2μm,0.1s							
AP01	**Chacalluta**	**1.14**	**306**	*eP*	**Pn**	**06 09 41.5**	**-0.8**
AP01				*eS*	**Sn**	**06 10 02.6**	**+3.1**
AP01				IAML		06 10 06.0	
comp=Z,867nm,0.2s							
HMBC	**Humberstone**	**1.32**	**202⇑**	*iP*	**Pn**	**06 09 44.0**	**-0.3**
HMBC				*i* S	**Sn**	**06 10 03.7**	**+0.4**
HMBC				IAML		06 10 08.1	
comp=N,983nm,0.2s							
HMBC	**Humberstone**	**1.32**	**202**	*eP*	**Pn**	**06 09 44.0**	**-0.3**
HMBC				*eS*	**Sn**	**06 10 04.5**	**+1.3**
HMBC				IAML		06 10 09.2	
comp=Z,776nm,0.4s							
TA02	**Huaiquique**	**1.41**	**210⇑**	*iP*	**Pn**	**06 09 45.0**	**-0.3**
TA02				*i* S	**Sn**	**06 10 05.4**	**+0.5**
TA02				IAML		06 10 08.3	
comp=N,2μm,0.1s							
TA02	**Huaiquique**	**1.41**	**210**	*eP*	**Pn**	**06 09 45.2**	**-0.1**
TA02				*eS*	**Sn**	**06 10 05.9**	**+1.0**
TA02				IAML		06 10 09.0	
comp=Z,717nm,0.2s							
PB18	**Visviri**	**1.46**	**356**	*eP*	**Pn**	**06 09 47.0**	**+0.6**
TA01	**Diego Aracena**	**1.69**	**207**	*eP*	**Pn**	**06 09 48.1**	**-0.6**
TA01				*i* S	**Sn**	**06 10 11.3**	**+0.4**
TA01				IAML		06 10 14.6	
comp=E,621nm,0.3s							
TA01	**Diego Aracena**	**1.69**	**207**	*eP*	**Pn**	**06 09 48.5**	**-0.1**
TA01				*eS*	**Sn**	**06 10 11.7**	**+0.8**
TA01				IAML		06 10 15.7	
comp=Z,202nm,0.6s							
PATCX	**Punta Patache**	**1.91**	**203**	*eP*	**Pn**	**06 09 50.7**	**-0.7**
PATCX				*i* S	**Sn**	**06 10 14.4**	**-1.4**
PATCX				IAML		06 10 23.4	
comp=E,448nm,0.5s							
PATCX	**Punta Patache**	**1.91**	**203**	*eP*	**Pn**	**06 09 51.0**	**-0.4**
PATCX				*eS*	**Sn**	**06 10 14.9**	**-1.0**
PATCX				IAML		06 10 23.6	
comp=Z,245nm,0.3s							
PB01	**IPOC Station P**	**1.99**	**183⇑**	*iP*	**Pn**	**06 09 52.4**	**0.0**
PB01				*i* S	**Sn**	**06 10 18.0**	**+0.4**
PB01				IAML		06 10 23.8	
comp=N,653nm,0.2s							
PB01	**IPOC Station P**	**1.99**	**183**	*eP*	**Pn**	**06 09 52.0**	**-0.4**
PB01				*eS*	**Sn**	**06 10 18.7**	**+1.1**
PB01				IAML		06 10 22.7	
comp=Z,198nm,0.2s							
PB02	**IPOC Station P**	**2.31**	**192**	*eP*	**Pn**	**06 09 56.8**	**+0.2**
PB02				*i* S	**Sn**	**06 10 25.7**	**+0.7**
PB02				IAML		06 10 36.8	
comp=E,544nm,0.4s							
PB02	**IPOC Station P**	**2.31**	**192**	*eP*	**Pn**	**06 09 56.3**	**-0.3**
PB02				IAML		06 10 36.4	
comp=Z,446nm,0.3s							
PB07	**IPOC Station P**	**2.71**	**190**	*eP*	**Pn**	**06 10 01.8**	**0.0**
PB07				IAML		06 10 42.2	
comp=Z,184nm,0.4s							
PB09	**IPOC Station P**	**2.73**	**178**	*eP*	**Pn**	**06 10 02.0**	**-0.1**
PB09				*eS*	**Sn**	**06 10 28.0**	**-7.0**
PB09				IAML		06 10 42.2	
comp=Z,142nm,1.0s							
PB04	**IPOC Station P**	**3.35**	**192**	*eP*	**Pn**	**06 10 10.2**	**0.0**
PB04	**IPOC Station P**	**3.35**	**192**	*eP*	**Pn**	**06 10 10.5**	**+0.2**
PB04				IAML		06 11 04.3	
comp=Z,98nm,0.3s							
LVC	**Limon Verde**	**3.57**	**173**	*eP*	**Pn**	**06 10 14.0**	**+0.6**
LVC				*eP*		06 10 14.2	
LVC				*eS*	Sn	06 10 45.6	-9.5
LVC				IAML		06 11 05.7	
comp=Z,52nm,0.8s							
PB06	**IPOC Station P**	**3.64**	**183**	*eP*	**Pn**	**06 10 14.2**	**0.0**
PB06				*eS*	**Sn**	**06 11 01.0**	**+4.5**
PB06				IAML		06 11 10.7	
comp=Z,78nm,0.3s							
PB15	**IPOC Station P**	**4.14**	**181**	*eP*	**Pn**	**06 10 21.0**	**+0.1**
PB15				*eS*	**Sn**	**06 11 07.0**	**-1.5**
PB15				IAML		06 11 24.5	
comp=Z,182nm,0.2s							

*SJA **19** 06:35:52.3±0.7, 31°.34S×69°.29W, h124km±2km, ML3.5, MW3.7*
*IDC **19** 06:35:55.3±1.5, 31°.31S×69°.03W, h120km±11km, mb3.2/3, mbtmp3.6/5, Error ellipse: s-maj=40.9km s-min=23.7km az=106.0*
ISC 19 06:35:53.9±0.7, 31°.34S±0°.03×69°.31W±0°.03, h119km±5km, n46, σ0§92/77, mb3.4/3, 6C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOCA	**Reserva Natura**	**0.43**	**26**	*iP*	**Pn**	**06 36 11.6**	**-0.3**
DOCA				*i* S	**Sn**	**06 36 25.6**	**+0.4**
RTLS	**Leoncito**	**0.46**	**179**	*iP*	**Pn**	**06 36 11.5**	**-0.3**
RTLS				*i* S	**Sn**	**06 36 25.9**	**+0.5**
ZON	**Zonda**	**0.57**	**111**	*iP*	**Pn**	**06 36 12.0**	**-0.3**
ZON				*i* S	**Sn**	**06 36 25.7**	**-0.4**
ZON				IAML		06 36 28.5	
comp=Z,958nm,0.5s							
SJA	**San Juan**	**0.66**	**107**	*iP*	**Pn**	**06 36 12.8**	**-0.1**
SJA				*i* S	**Sn**	**06 36 27.1**	**-0.2**
SJA				IAML		06 36 30.2	
comp=Z,1μm,0.3s							
ACCO	**Cerro Coronel**	**0.78**	**15**	*iP*	**Pn**	**06 36 14.4**	**+0.2**
ACCO				*i* S	**Sn**	**06 36 30.4**	**+0.9**
ACCO				IAML		06 36 31.6	
comp=Z,803nm,0.4s							
CFA	**Coronel Fontan**	**0.95**	**106**	P	**Pn**	**06 36 15.1**	**-0.3**
comp=Z,341nm,0.3s,baz=307,slow=11,SNR=2218							
CFA				S	**Sn**	**06 36 30.9**	**-0.7**
comp=Z,531nm,0.3s,baz=165,slow=22,SNR=150							
CFA	**Coronel Fontan**	**0.95**	**106**	*iP*	**Pn**	**06 36 15.3**	**-0.1**
CFA				*i* S	**Sn**	**06 36 31.4**	**-0.2**
CFA				IAML		06 36 33.5	
comp=Z,1μm,0.2s							
AROD	**Rodeo**	**1.18**	**353**	*iP*	**Pn**	**06 36 18.8**	**+0.7**
AROD				*i* S	**Sn**	**06 36 37.1**	**+0.9**
CO03	**El Pedregal**	**1.29**	**292⇑**	*iP*	**Pn**	**06 36 19.4**	**+0.4**
CO03				*i* S	**Sn**	**06 36 38.2**	**+0.2**
CO03	**El Pedregal**	**1.29**	**292**	*iP*	**Pn**	**06 36 18.6**	**-0.3**
CO03				*i* S	**Sn**	**06 36 38.5**	**+0.5**
ASAL	**Salagasta**	**1.31**	**162**	*iP*	**Pn**	**06 36 19.5**	**+0.3**
ASAL				*i* S	**Sn**	**06 36 38.4**	**0.0**
ASAL				IAML		06 36 40.0	
comp=Z,301nm,1.3s							
CO02	**Combarbal**	**1.46**	**275**	*iP*	**Pn**	**06 36 20.4**	**-0.5**
CO02				*i* S	**Sn**	**06 36 41.8**	**+0.4**
CO01	**Juntas del Tor**	**1.52**	**333⇓**	*eP*	**Pn**	**06 36 23.4**	**+1.6**
CO01				*i* S	**Sn**	**06 36 45.1**	**+2.2**
CO01				IAML		06 36 46.6	
comp=E,758nm,0.5s							
CO01	**Juntas del Tor**	**1.52**	**333**	*iP*	**Pn**	**06 36 21.5**	**-0.3**
CO01				*i* S	**Sn**	**06 36 42.7**	**-0.2**
CO01				IAML		06 36 48.0	
comp=Z,250nm,0.3s							
GO04	**Tololo Observa**	**1.74**	**312⇑**	*iP*	**Pn**	**06 36 24.3**	**0.0**
GO04				*eS*	**Sn**	**06 36 46.8**	**-0.7**
GO04				IAML		06 36 51.5	
comp=N,3μm,0.3s							
GO04	**Tololo Observa**	**1.74**	**312**	*iP*	**Pn**	**06 36 24.1**	**-0.2**
GO04				*i* S	**Sn**	**06 36 47.6**	**+0.1**
VA03	**San Esteban**	**1.77**	**216⇑**	*iP*	**Pn**	**06 36 24.8**	**+0.2**
VA03				*eS*	**Sn**	**06 36 47.9**	**0.0**
VA03				IAML		06 36 49.4	
comp=E,927nm,0.3s							
VA03	**San Esteban**	**1.77**	**216**	*iP*	**Pn**	**06 36 23.8**	**-0.8**
VA03				*i* S	**Sn**	**06 36 47.9**	**0.0**
VA03				IAML		06 36 50.7	
comp=Z,304nm,0.2s							
AAGR	**Agrelo**	**1.79**	**167**	*iP*	**Pn**	**06 36 24.9**	**+0.1**
AAGR				*i* S	**Sn**	**06 36 48.5**	**+0.2**
AAGR				IAML		06 36 51.8	
comp=Z,291nm,0.4s							
CO06	**Fray Jorge**	**2.11**	**288⇑**	*iP*	**Pn**	**06 36 27.4**	**-1.2**
CO06				*eS*	**Sn**	**06 36 51.9**	**-3.3**
CO06				IAML		06 36 58.6	
comp=N,473nm,0.4s							
FCH	**Farellones**	**2.15**	**203**	*eP*	**Pn**	**06 36 30.5**	**+1.0**
FCH				*eS*	**Sn**	**06 36 58.5**	**+1.8**
FCH				IAML		06 37 02.8	
comp=E,268nm,0.3s							
ROCH	**El Roble**	**2.18**	**221**	*eP*	**Pn**	**06 36 29.1**	**-0.6**
ROCH				*eS*	**Sn**	**06 36 56.2**	**-0.9**
ROCH				IAML		06 36 58.0	
comp=N,425nm,0.3s							
CO05	**La Serena**	**2.19**	**310⇑**	*iP*	**Pn**	**06 36 29.2**	**-0.5**
CO05				*i* S	**Sn**	**06 36 55.2**	**-1.9**
CO05				IAML		06 36 57.0	
comp=E,1μm,0.4s							
AVIZ	**Vizcacheras**	**2.23**	**163**	*iP*	**Pn**	**06 36 30.0**	**-0.3**
MT14	**Cerro Calıjn**	**2.30**	**207**	*eP*	**Pn**	**06 36 31.6**	**+0.4**
MT14				*i* S	**Sn**	**06 36 59.9**	**+0.2**
MT14				IAML		06 37 02.5	
comp=E,484nm,0.3s							
MT03	**Universidad Ad**	**2.38**	**205**	*iP*	**Pn**	**06 36 31.8**	**-0.4**
MT03				*i* S	**Sn**	**06 37 01.3**	**-0.2**
MT03				IAML		06 37 04.7	
comp=Z,371nm,0.2s							
MT05	**Renca**	**2.38**	**210⇑**	*eP*	**Pn**	**06 36 32.1**	**0.0**
MT05				*eS*	**Sn**	**06 37 01.4**	**-0.1**
MT05				IAML		06 37 03.8	
comp=E,907nm,0.3s							
MT05	**Renca**	**2.38**	**210**	*iP*	**Pn**	**06 36 31.6**	**-0.5**
MT05				*i* S	**Sn**	**06 37 01.1**	**-0.3**
MT05				IAML		06 37 05.6	
comp=Z,180nm,0.2s							
MT02	**Curacav**	**2.46**	**219**	*eP*	**Pn**	**06 36 32.3**	**-0.9**
MT02				*eS*	**Sn**	**06 37 01.7**	**-1.6**
MT02	**Curacav**	**2.46**	**219**	*iP*	**Pn**	**06 36 32.8**	**-0.4**
MT02				*i* S	**Sn**	**06 37 02.8**	**-0.5**
MT02				IAML		06 37 10.4	
comp=Z,110nm,0.3s							
MT13	**San Alfonso**	**2.54**	**199**	*eP*	**Pn**	**06 36 35.2**	**+1.0**
MT13				IAML		06 37 09.8	
comp=E,229nm,0.3s							
APLL	**PUNTA DE LOS L**	**2.57**	**69**	*iP*	**Pn**	**06 36 34.0**	**-0.6**
APLL				*i* S	**Sn**	**06 37 04.7**	**-1.1**
LCO	**Las Campanas**	**2.62**	**332**	*iP*	**Pn**	**06 36 35.2**	**-0.3**
LCO				*i* S	**Sn**	**06 37 06.9**	**-0.4**
AC05	**El Transito**	**2.63**	**341**	*iP*	**Pn**	**06 36 35.1**	**-0.5**
BO01	**Tunca**	**3.39**	**206**	*iP*	**Pn**	**06 36 44.9**	**-0.4**
AC04	**Llanos de Chal**	**3.48**	**333**	*iP*	**Pn**	**06 36 46.0**	**-0.6**
AC04				IAML		06 37 45.0	
comp=Z,72nm,0.8s							
RFA	**San Rafael**	**3.49**	**169**	*iP*	**Pn**	**06 36 46.0**	**-0.8**
BO02	**Sierra Bellavi**	**3.66**	**199**	*iP*	**Pn**	**06 36 48.4**	**-0.5**
BO02				IAML		06 37 42.0	
comp=Z,63nm,0.9s							
GO03	**Copiap**	**3.82**	**348**	*iP*	**Pn**	**06 36 50.7**	**-0.4**
CPUP	**Villa Florida**	**11.62**	**68**	P	**Pn**	**06 38 32.9**	**-3.3**
comp=Z,2.0nm,0.8s,baz=218,slow=11,SNR=3.2							
SIV	**San Ignacio**	**17.03**	**28**	P	**Pn**	**06 39 45.0**	**+0.1**
comp=Z,0.8nm,0.8s,baz=212,slow=12,SNR=3.7							
QSPA	**South Pole Qui**	**58.89**	**180**	P	**P**	**06 45 41.4**	**+1.3**
comp=Z,0.9nm,0.6s,baz=216,slow=1.5,SNR=6.9							
comp=Z,0.9nm,0.6s							
TXAR	**Lajitas Array**	**68.62**	**328**	P	**P**	**06 46 46.3**	**+1.9**
comp=Z,0.2nm,0.7s,baz=164,slow=10,SNR=2.0							
comp=Z,0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**81.12**	**69**	P	**P**	**06 47 57.0**	**+0.5**
comp=Z,0.5nm,0.7s,baz=261,slow=5.6,SNR=2.6							
comp=Z,0.5nm,0.7s							
WRA	**Warramunga Arr**	**124.19**	**207**	PKP	**PKiKP**	**06 54 39.4**	**-0.1**
comp=Z,0.3nm,0.5s,baz=160,slow=1.7,SNR=7.9							
ZALV	**Zalesovo Beam**	**150.75**	**32**	PKPbc	**PKiKP**	**06 55 32.9**	**+0.6**
comp=Z,1.0nm,0.4s,baz=320,slow=3.9,SNR=3.8							

*MOS **19** 06:44:59.5±0.9, 33°.78N×38°.84W, h10km, mb5.1/54, MS4.6/10, Error ellipse: s-maj=10.2km s-min=5.6km az=45.5*
*IDC **19** 06:45:00.1±0.5, 33°.80N×38°.86W, h0km, mb4.4/29, mbtmp4.4/29, MS4.4/71, Error ellipse: s-maj=14.7km s-min=11.7km az=167.0*
*NEIC **19** 06:45:01.9±1.0, 33°.79N±0°.10×38°.8W±0°.1, h10km±1km, mb5.1/423, Error ellipse: s-maj=17.4km s-min=13.7km az=150.0*
*IGIL **19** 06:45:02.2, 33°.84N×38°.84W, h10km, Ms4.4*
*GCMT **19** 06:45:04.9±0.1, 33°.87N±0°.01×38°.87W±0°.01, h12km±1km, MW5.2/147, Moment Tensor Solution. s75,c99; s147,c233; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.06±.12; Mθφ=3.20±.13; Mθθ=-2.13±.10; Mrθ=3.13±.46; Mφφ=6.11±.13; Mθr=0.19±.27; Best double couple: M0=7.32300×10^16 NP1:φs=101.00000°, δ=90.00000°, λ=-25.00000°. NP2:φs=191.00000°, δ=65.00000°, λ=-180.00000°. Principal axes: T 8.0320, Plg=17.0000°, Azm=149.0000°; N -1.4080, Plg=65.0000°, Azm=281.0000°; P -6.6140, Plg=17.0000°, Azm=53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*INMG **19** 06:45:04.0, 33°.91N×38°.74W, h10km*
*BGR **19** 06:45:10.8, 34°.32N×37°.96W, h10km, mb4.5, Ms4.5*
ISC 19 06:45:01.5±0.3, 33°.82N±0°.05×38°.91W±0°.04, h10km, n958, σ1§23/770, mb5.0/317, MS4.4/95, 21C-30D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	**9.90**	**57**	Pn	**Pn**	**06 47 23.7**	**-0.2**
PMOZ	**Porto Moniz, M**	**18.17**	**87**	*eP*	**Pn**	**06 49 12.7**	**-1.3**
155nm,1.4s							
PMOZ				*eS*	**S**	**06 52 42.9**	**+0.4**
PMAR	**Madeira**	**18.42**	**87**	*eP*	**P**	**06 49 19.7**	**+2.5**
232nm,1.5s							
DRLN	**Deer Lake**	**20.70**	**324**	P	**P**	**06 49 42.0**	**+0.3**
HAL	**Halifax**	**21.88**	**307**	P	**P**	**06 49 54.8**	**+0.3**
HAL				IAmb	IAmb	06 49 57.6	
comp=Z,83nm,0.9s							
HAL	**Halifax**	**21.88**	**307**	P	**P**	**06 49 54.8**	**+0.3**
HAL				pmax	pmax		
comp=Z,83nm,0.9s							
LMN	**Caledonia Moun**	**23.13**	**309**	P	**P**	**06 50 07.1**	**-0.7**
LMN				IAmb	IAmb	06 50 10.0	
comp=Z,68nm,1.3s							
GGN	**Saint George**	**24.22**	**306**	P	**P**	**06 50 18.3**	**-0.1**
PMAFR	**Mafra**	**24.34**	**69**	*eS*	**S**	**06 54 42.3**	**+3.7**
EMMW	**East Machias**	**24.52**	**305**	P	**P**	**06 50 21.8**	**+0.7**
EMMW				IAmb	IAmb	06 50 30.2	
comp=Z,43nm,1.1s							
EMMW	**East Machias**	**24.52**	**305**	P	**P**	**06 50 21.6**	**+0.6**
baz=106							
PFVI	**Vila Bisbo**	**24.67**	**74**	*eS*	**S**	**06 54 53.4**	**+9.4**
G65A	**Princeton**	**24.73**	**306**	P	**P**	**06 50 23.0**	**0.0**
G65A				IAmb	IAmb	06 50 31.6	
comp=Z,32nm,1.1s							
G65A	**Princeton**	**24.73**	**306**	P	**P**	**06 50 24.2**	**+1.2**
baz=107							
G65A				P	**P**	**06 50 24.2**	**+1.2**
baz=107							
PSBE	**So Bento**	**24.75**	**68**	*eP*	**P**	**06 50 22.9**	**-0.3**
comp=Z,84nm,1.9s							
PSBE				*eS*	**S**	**06 54 47.7**	**+2.4**
MORF	**Marmelete**	**24.80**	**73**	*eP*	**P**	**06 50 24.3**	**+0.5**
comp=Z,100nm,1.6s							
MORF				*eS*	S	06 54 57.5	+11
MORF	**Marmelete**	**24.80**	**73**	*eP*	**P**	**06 50 23.8**	**0.0**
MORF				*eS*	**S**	**06 54 47.3**	**+1.0**
MORF	**Marmelete**	**24.80**	**73**	*eP*	**P**	**06 50 23.8**	**0.0**
MORF				*eS*	**S**	**06 54 47.3**	**+1.0**
MORF				IAMs_20	IAMs_20	06 57 05.8	
comp=Z,1μm,19.0s							
PNCL	**Nicolau / Gran**	**24.90**	**71**	*eP*	**P**	**06 50 26.2**	**+1.6**
comp=Z,54nm,1.4s							
PNCL				*eS*	S	06 55 00.0	+12
PCAS	**Casmilo, Conde**	**25.01**	**67**	*eS*	S	06 55 00.1	+11
COI	**Coimbra**	**25.09**	**66**	*eP*	**P**	**06 50 27.2**	**+0.9**
comp=Z,138nm,1.6s							
COI				*eS*	**S**	**06 54 58.8**	**+8.0**
COI	**Coimbra**	**25.09**	**66**	P	**P**	**06 50 27.5**	**+1.2**
COI	**Coimbra**	**25.09**	**66**	P	**P**	**06 50 27.5**	**+1.2**
COI				pmax	pmax		
comp=Z,111nm,1.4s							
PMTG	**Montargil**	**25.16**	**69**	*eP*	**P**	**06 50 26.5**	**-0.4**
PMTG				*eS*	**S**	**06 55 00.1**	**+8.2**
PCVE	**Castro Verde**	**25.29**	**72**	*eP*	**P**	**06 50 29.2**	**+1.1**
comp=Z,58nm,1.5s							
PCVE				*eS*	**S**	**06 54 58.1**	**+4.1**
PBDV	**Barranco-do-Ve**	**25.38**	**73**	*eS*	**S**	**06 55 03.0**	**+7.5**
PGAV	**Gavieira, Arco**	**25.41**	**62**	*eP*	**P**	**06 50

D62A Allapoint, All 26.31 309 P **P 06 50 36.5 -0.7**
D62A IAmb IAmb 06 50 48.2
comp=Z,31nm,1.1s
D62A Allapoint, All 26.31 309 P **P 06 50 36.4 -0.9**
baz=109
D62A P **P 06 50 36.4 -0.9**
baz=109
L64A Middleborough 26.36 297 P **P 06 50 38.6 +0.9**
L64A IAmb IAmb 06 50 49.6
comp=Z,57nm,1.2s
PBRG Braganca 26.52 63 *e*P **P 06 50 40.1 +0.8**
comp=Z,42nm,1.7s
I63A Otisfield 26.53 302 P **P 06 50 39.8 +0.5**
I63A IAmb IAmb 06 50 50.6
comp=Z,55nm,1.5s
F62A Pittston Farm, 26.55 306 P **P 06 50 39.6 +0.2**
baz=106
F62A P **P 06 50 39.6 +0.2**
baz=106
G62A West of Eustis 26.76 305 P **P 06 50 42.0 +0.6**
G62A IAmb IAmb 06 50 48.9
comp=Z,54nm,1.6s
HRV Adam Dziewonsk 26.97 298 P **P 06 50 43.8 +0.5**
HRV IAmb IAmb 06 50 54.6
comp=Z,49nm,1.4s
HRV Adam Dziewonsk 26.97 298 P **P 06 50 43.8 +0.5**
HRV pmax pmax
comp=Z,49nm,1.4s
HRV Adam Dziewonsk 26.97 298 P **P 06 50 42.2 -1.1**
baz=98
FFD Franklin Falls 27.18 300 IAmb IAmb 06 50 58.1
comp=Z,43nm,1.2s
M63A Gales Ferry 27.20 296 P **P 06 50 45.5 +0.1**
LBNH Lisbon 27.52 302 P **P 06 50 47.1 -1.1**
baz=101
L61B Northampton 27.79 298 P **P 06 50 51.1 +0.5**
baz=97
L61B Northampton 27.79 298 P **P 06 50 50.7 +0.1**
baz=97
PAB San Pablo 28.18 68 P **P 06 50 54.0 -0.3**
PAB San Pablo 28.18 68 P **P 06 50 54.0 -0.3**
PAB pmax pmax
comp=Z,12nm,1.1s
ESDC Sonseca Array 28.48 68 P **P 06 50 56.6 -0.3**
comp=Z,5.7nm,1.0s,baz=270,slow=8.7,SNR=20
ESDC LR LR 06 59 44.8
comp=Z,530nm,20.5s,baz=266,slow=31
comp=Z,5.7nm,1.0s
PAL Palisades 28.57 295 P **P 06 50 57.6 -0.1**
baz=93
MDT Midelt 28.61 82 LR LR 07 00 34.6
comp=Z,587nm,18.2s,baz=294,slow=33
SCHQ Schefferville 28.67 326 P **P 06 50 57.4 -0.9**
SCHQ IAmb IAmb 06 50 59.1
comp=Z,23nm,0.9s
SCHQ Schefferville 28.67 326 P **P 06 50 58.3 -0.1**
comp=Z,14nm,0.8s,baz=110,slow=8.9,SNR=11
SCHQ LR LR 07 01 24.3
comp=Z,799nm,18.9s,baz=126,slow=34
comp=Z,14nm,0.8s
BINY Binghamton 30.20 297 P **P 06 51 11.3 -0.9**
baz=94
CBN Corbin Frederi 31.27 289 P **P 06 51 21.0 -0.5**
baz=86
MDP Montagnes des 31.29 207 LR LR 07 01 09.2
comp=Z,336nm,20.5s,baz=10.0,slow=31
NUUK Nuuk 31.41 349 *e*P **P 06 51 23.2 +0.8**
SSPA Standing Stone 31.58 294 P **P 06 51 24.7 +0.4**
baz=90
VLDQ Val d'Or 32.06 308 P **P 06 51 29.7 +1.3**
VLDQ IAmb IAmb 06 51 31.5
comp=Z,54nm,1.5s
SADO Sadowa 32.70 302 LR LR 07 02 43.9
comp=Z,487nm,21.0s,baz=140,slow=32
BORG Borgarnes 32.77 14 LR LR 07 00 45.9
comp=Z,463nm,18.8s,baz=216,slow=29
EKA Eskdalemuir Ar 32.79 38 P **P 06 51 34.2 -0.4**
comp=Z,3.0nm,0.9s,baz=249,slow=7.0,SNR=4.0
comp=Z,3.0nm,0.9s
DY2G Dye2 32.99 355 *e*P **P 06 51 36.3 -0.2**
MCWV Mont Chateau 33.11 292 P **P 06 51 37.7 0.0**
baz=87
PCRV Puerto La Cruz 33.32 231 LR LR 07 04 41.4
comp=Z,128nm,19.2s,slow=36
BLA Blacksburg 33.77 288 P **P 06 51 44.3 +0.8**
baz=83
SFJD Kangerlussuaq 33.93 352 P **P 06 51 44.8 +0.3**
SFJD Kangerlussuaq 33.93 352 P **P 06 51 44.8 +0.3**
SFJD pmax pmax
comp=Z,42nm,1.1s
SFJD Kangerlussuaq 33.93 352 *e*P **P 06 51 44.7 +0.3**
SFJD Kangerlussuaq 33.93 352 LR LR 07 02 16.1
comp=Z,618nm,19.8s,baz=171,slow=30
O53A New Philadelph 34.13 293 P **P 06 51 47.4 +0.8**
baz=87
O52A Adamsville 34.62 293 IAmb IAmb 06 51 53.2
comp=Z,28nm,1.0s
KMSC Kings Mountain 34.81 284 P **P 06 51 52.7 +0.2**
baz=80
P52A Corning 34.88 292 P **P 06 51 53.1 +0.1**
baz=86
N51A Ashland 34.98 295 IAmb IAmb 06 51 56.1
comp=Z,39nm,1.1s
N51A Ashland 34.98 295 P **P 06 51 54.1 +0.1**
baz=88
N51A P **P 06 51 54.1 +0.1**
baz=88
ICESG Greenland Ices 35.33 360 *i* P **P 06 51 55.4 -1.6**
ICESG IAmb IAmb 06 51 58.9
comp=Z,18nm,0.7s
P51A Williamsport 35.60 292 IAmb IAmb 06 52 01.1
comp=Z,52nm,1.4s
P51A Williamsport 35.60 292 P **P 06 51 60.0 +0.7**
baz=85,SNR=5.2
P51A P **P 06 51 60.0 +0.7**
baz=85,SNR=5.2
DOU Dourbes 35.64 50 *d*P **P 06 52 00.3 +0.9**
DOU *d*PP PP 06 53 39.0 +19
SSFO Shawnee State 35.78 291 P **P 06 52 01.3 +0.4**
Q51A Peebles 35.87 291 IAmb IAmb 06 52 03.6
comp=Z,27nm,1.2s
AAM Ann Arbor 35.90 297 P **P 06 52 02.5 +0.8**
baz=89
BGES Gesves 36.00 49 *d*P **P 06 52 01.8 -0.8**
MCPB Macapa, AP 36.17 203 *e*P **P 06 52 04.3 0.0**
TZTN Tazewell 36.35 287 P **P 06 52 06.3 +0.5**
baz=81
BAUV El Baul 36.48 234 P **P 06 52 07.2 +0.2**
L48A N Adams 36.49 296 IAmb IAmb 06 52 08.7
comp=Z,26nm,0.9s
BNI Bardonecchia 36.51 58 P **P 06 52 06.7 -0.5**
BNI IAmb IAmb 06 52 27.0
comp=Z,77nm,1.9s
BNI Bardonecchia 36.51 58 P **P 06 52 06.7 -0.5**
BNI pmax pmax
comp=Z,77nm,2.0s
WLF Walferdange 36.56 51 P **P 06 52 06.8 -0.6**
WLF IAmb IAmb 06 52 28.5
comp=Z,22nm,1.1s
WLF Walferdange 36.56 51 P **P 06 52 06.8 -0.6**
WLF pmax pmax
comp=Z,23nm,1.1s
GLMI Grayling 36.59 301 P **P 06 52 08.4 +0.7**
baz=91
MEM Membach 36.62 49 *d*P **P 06 52 08.3 +0.5**
comp=Z,5.5nm,0.6s
TKL Tuckaleechee C 36.68 286 IAmb IAmb 06 52 11.1
comp=Z,44nm,1.6s
TKL Tuckaleechee C 36.68 286 LR LR 07 05 05.5
comp=Z,534nm,18.0s,baz=87,slow=33
R50A Paris 36.71 290 IAmb IAmb 06 52 10.8
comp=Z,24nm,1.1s
R50A Paris 36.71 290 P **P 06 52 09.7 +0.9**
baz=83,SNR=5.7
R50A P **P 06 52 09.7 +0.9**
baz=83,SNR=5.7
P49A Miami Univ. Ec 36.87 292 P **P 06 52 10.4 +0.3**
baz=84
GOGA Godfrey 36.89 282 P **P 06 52 10.8 +0.5**
baz=77
KOWA Kowa 36.94 113 P **P 06 52 09.0 -1.9**
KOWA Kowa 36.94 113 LR LR 07 04 57.9
comp=Z,320nm,20.9s,baz=296,slow=32
V51A Loudon 37.11 286 IAmb IAmb 06 52 27.8
comp=Z,27nm,1.0s
V51A Loudon 37.11 286 P **P 06 52 11.5 -0.7**
baz=80

O48B Farmland 37.14 294 IAmb IAmb 06 52 13.8
comp=Z,34nm,1.2s
O48B Farmland 37.14 294 P **P 06 52 12.9 +0.5**
baz=85
BOAV Boa Vista 37.22 217 *e*P **P 06 52 14.0 +0.7**
T50A Nancy 37.29 288 IAmb IAmb 06 52 23.2
comp=Z,57nm,1.8s
T50A Nancy 37.29 288 P **P 06 52 14.9 +1.1**
baz=81
T50A P **P 06 52 14.9 +1.1**
baz=81
R49A Shelbyville 37.37 290 IAmb IAmb 06 52 16.3
comp=Z,30nm,1.2s
R49A Shelbyville 37.37 290 P **P 06 52 15.0 +0.6**
baz=82
R49A P **P 06 52 15.0 +0.6**
baz=82
TIGA Tifton 37.49 279 P **P 06 52 15.8 +0.4**
baz=74
N47A Urbana 37.50 295 IAmb IAmb 06 52 16.9
comp=Z,30nm,1.1s
N47A Urbana 37.50 295 P **P 06 52 15.5 0.0**
baz=85
N47A P **P 06 52 15.5 0.0**
baz=85
BFO Black Forest 37.83 53 P **P 06 52 17.9 -0.3**
BFO Black Forest 37.83 53 P **P 06 52 17.9 -0.3**
BFO pmax pmax
comp=Z,12nm,0.6s
BFO Black Forest 37.83 53 *e*P **P 06 52 18.0 -0.3**
comp=Z,17nm,1.1s,baz=266,slow=8.5
BFO *e*L L 07 04 46.4
comp=Z,759nm,18.6s
L46A Eue Claire 37.87 297 P **P 06 52 19.7 +1.1**
baz=86
L46A P **P 06 52 19.7 +1.1**
baz=86
TNS Taunus Mts 38.11 50 *e*L L 07 05 03.6
comp=Z,1μm,20.4s
U49A Red Boiling Sp 38.12 288 IAmb IAmb 06 52 29.8
comp=Z,54nm,1.9s
U49A Red Boiling Sp 38.12 288 P **P 06 52 22.0 +1.2**
baz=80
WCI Wyandotte Cave 38.25 291 P **P 06 52 21.6 -0.2**
WCI Wyandotte Cave 38.25 291 P **P 06 52 21.7 -0.2**
WCI pmax pmax
comp=Z,16nm,1.1s
WCI Wyandotte Cave 38.25 291 P **P 06 52 21.7 -0.2**
baz=82
SDV Santo Domingo 38.30 237 P **P 06 52 22.7 0.0**
SDV IAmb IAmb 06 52 31.8
comp=Z,38nm,1.0s
SDV Santo Domingo 38.30 237 *e*P **P 06 52 23.0 +0.3**
SDV Santo Domingo 38.30 237 LR LR 07 05 39.4
comp=Z,306nm,21.4s,baz=54,slow=32
BLO Bloomington 38.30 292 IAmb IAmb 06 52 30.4
comp=Z,43nm,1.4s
TUE Stuetta 38.42 56 P **P 06 52 23.4 0.0**
SWET Sewanee 38.49 286 P **P 06 52 24.6 +0.7**
SFIN Lafayette 38.61 294 P **P 06 52 25.8 +1.0**
SFIN IAmb IAmb 06 52 26.5
comp=Z,70nm,1.4s
SFIN Lafayette 38.61 294 P **P 06 52 25.2 +0.5**
baz=84,SNR=6.2
SFIN Lafayette 38.61 294 P **P 06 52 25.2 +0.5**
baz=84,SNR=6.2
P46A Rosedale 38.78 293 P **P 06 52 27.1 +0.9**
baz=83
DAVOX Davos/Dischmat 38.80 56 LR LR 07 05 32.2
comp=Z,685nm,21.3s,baz=265,slow=32
DAVA Damuels 38.81 55 *e*P **P 06 52 26.0 -0.6**
comp=Z,19nm,1.1s
SUMG Summit 38.83 0 P **P 06 52 26.5 -0.2**
SUMG IAmb IAmb 06 52 29.6
comp=Z,25nm,0.8s
SUMG Summit 38.83 0 P **P 06 52 26.5 -0.2**
SUMG pmax pmax
comp=Z,25nm,0.8s
SUMG Summit 38.83 0 *i* P **P 06 52 25.6 -1.1**
SUMG IAmb IAmb 06 52 29.8
comp=Z,17nm,0.8s
T47A Sharon Grove 39.09 289 P **P 06 52 30.6 +1.7**
baz=80
V48A Smith Brothers 39.10 287 P **P 06 52 30.2 +1.2**
baz=78
KEST Kesra 39.37 73 P **P 06 52 32.1 +0.8**
comp=Z,2.6nm,0.7s,baz=247,slow=17,SNR=2.2
KEST LR LR 07 05 52.3
comp=Z,204nm,21.2s,baz=205,slow=32
comp=Z,2.6nm,0.7s
FETA Feichten 39.38 55 *e*P **P 06 52 29.8 -1.6**
comp=Z,8.9nm,1.1s
RETA Reutte 39.42 55 *e*P **P 06 52 32.0 +0.4**
comp=Z,14nm,1.2s
NRDL Niedersach Rie 39.45 47 *e*P **P 06 52 32.5 +1.0**
comp=Z,29nm,1.4s,baz=266,slow=8.5
CLZ Clausthal 39.52 48 *e*P **P 06 52 32.9 +0.6**
comp=Z,17nm,1.2s,baz=266,slow=8.5
RCBR Riachuelo 39.53 175 LR LR 07 05 43.6
comp=Z,431nm,18.2s,baz=360,slow=32
ZCCA Zocca 39.58 59 IAmb IAmb 06 52 39.8
comp=Z,33nm,0.9s
OLIL Olney 39.58 292 IAmb IAmb 06 52 34.9
comp=Z,31nm,1.0s
OLIL Olney 39.58 292 P **P 06 52 33.9 +0.9**
baz=82
MOTA Moosalm 39.65 55 *e*P **P 06 52 33.8 +0.2**
comp=Z,12nm,1.0s
O44A Mansfield 39.67 294 P **P 06 52 34.2 +0.5**
O44A IAmb IAmb 06 52 35.5
comp=Z,30nm,0.8s
O44A Mansfield 39.67 294 P **P 06 52 34.3 +0.5**
baz=83,SNR=5.8
SQTA Sankt Quirin 39.72 55 *e*P **P 06 52 34.6 +0.5**
comp=Z,14nm,1.0s
ASSE Asse, Remlinge 39.74 47 *e*P **P 06 52 34.2 +0.2**
comp=Z,6.2nm,0.9s,baz=266,slow=8.5
COWI Conover 39.79 303 P **P 06 52 35.5 +0.8**
baz=90
FUR Furstenfeldbru 39.79 53 *e*L L 07 05 56.8
comp=Z,446nm,18.9s
BSEG Bad Segeberg 39.80 44 *e*P **P 06 52 34.6 +0.1**
comp=Z,34nm,1.0s,baz=266,slow=8.5
BSEG *e*L L 07 07 43.1
comp=Z,648nm,18.1s
OSSC Osservatorio P 39.81 61 P **P 06 52 34.5 -0.3**
OSSC IAmb IAmb 06 52 45.7
comp=Z,55nm,1.3s
GRF Grafenberg Arr 39.84 51 *e*P **P 06 52 35.9 +0.9**
comp=Z,17nm,0.8s,baz=266,slow=8.5
GRF *e*L L 07 06 21.7
comp=Z,1μm,18.7s
LRAL Lakeview Retre 39.85 283 P **P 06 52 35.8 +0.5**
baz=75
LRAL Lakeview Retre 39.85 283 P **P 06 52 36.3 +1.0**
baz=75
WATA Walderalm 39.97 55 *e*P **P 06 52 36.2 -0.1**
comp=Z,4.6nm,0.4s
WTTA Wattenberg 40.01 55 *e*P **P 06 52 36.9 +0.3**
comp=Z,12nm,0.9s
CTI Castel Tesino 40.01 57 P **P 06 52 35.5 -1.1**
CTI Castel Tesino 40.01 57 P **P 06 52 35.5 -1.1**
CTI pmax pmax
comp=Z,16nm,1.1s
FLTG Flechtingen 40.11 47 *e*P **P 06 52 37.2 0.0**
comp=Z,17nm,1.4s,baz=266,slow=8.5
MOX Moxa 40.17 50 *e*P **P 06 52 37.9 +0.2**
comp=Z,6.6nm,1.2s,baz=266,slow=8.5
MOX *e*L L 07 06 26.3
comp=Z,1μm,19.9s
HDIL Hopedale 40.25 295 P **P 06 52 38.9 +0.4**
baz=83
PLAL Pickwick Lake 40.26 286 P **P 06 52 38.5 -0.1**
L42A Oliver, Polo 40.38 297 P **P 06 52 40.0 +0.5**
L42A IAmb IAmb 06 52 41.1
comp=Z,25nm,0.8s
L42A Oliver, Polo 40.38 297 P **P 06 52 40.1 +0.6**
baz=84
P43A Skaggs, Pawnee 40.55 293 P **P 06 52 41.3 +0.4**
P43A IAmb IAmb 06 52 42.5
comp=Z,31nm,0.8s
P43A Skaggs, Pawnee 40.55 293 P **P 06 52 41.4 +0.4**
baz=82,SNR=5.3
CIMO Cimolais 40.56 56 IAmb IAmb 06 52 59.5
comp=Z,9.2nm,1.3s
GUNZ Gunzen 40.60 50 *e*P **P 06 52 42.2 +0.8**
comp=Z,9.9nm,1.2s,baz=266,slow=8.5

ABTA Abfaltersbach 40.60 56 *e*P **P 06 52 41.1 -0.4**
comp=Z,14nm,1.0s
SIUC Southern Illin 40.62 290 P **P 06 52 42.3 +0.8**
SIUC IAmb IAmb 06 52 43.7
comp=Z,39nm,0.8s
S44A Carbondale 40.65 290 IAmb IAmb 06 52 43.8
comp=Z,33nm,0.8s
S44A Carbondale 40.65 290 P **P 06 52 42.6 +0.7**
baz=80,SNR=10
JMIC Jan Mayen 40.65 15 LR LR 07 04 40.8
comp=Z,214nm,19.6s,baz=209,slow=29
NKC Novy Kostel 40.67 50 AMS AMS 07 06 30.0
comp=Z,1μm,16.5s
JFWS Jewell Farm 40.72 298 P **P 06 52 42.4 0.0**
JFWS IAmb IAmb 06 52 43.9
comp=Z,23nm,0.8s
JFWS Jewell Farm 40.72 298 P **P 06 52 42.4 0.0**
JFWS pmax pmax
comp=Z,23nm,0.8s
JFWS Jewell Farm 40.72 298 P **P 06 52 42.8 +0.4**
baz=85
PAMC Pamplona, Colo 40.84 238 *e*P **P 06 52 44.1 0.0**
CESX Cesi 40.85 62 IAmb IAmb 06 52 48.1
comp=Z,28nm,1.1s
CLUD Cludinico 40.86 56 P **P 06 52 43.1 -0.4**
WET Wettzell 40.89 52 *e*P **P 06 52 43.6 -0.1**
comp=Z,4.8nm,1.0s,baz=266,slow=8.5
WET *e*L L 07 06 20.0
comp=Z,624nm,21.2s
SJCC San Jacinto, C 40.89 243 *e*P **P 06 52 45.6 +1.4**
CGM3 Cape Girardeau 41.04 290 P **P 06 52 45.5 +0.5**
PRPB Parauapebas 41.09 197 *e*P **P 06 52 47.1 +1.5**
CLL Collm 41.09 49 P **P 06 52 45.2 -0.1**
CLL Collm 41.09 49 *i* P **P 06 52 45.1 -0.2**
CLL *i* 06 52 51.0
CLL *e*S **S 06 58 59.0 +1.0**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 41.09 49 *e*L L 07 06 45.3
comp=Z,826nm,21.4s
CLL Collm 41.09 49 *i* P **P 06 52 45.1 -0.2**
comp=Z,8.0nm,0.9s
CLL *i* x x 06 52 51.0
CLL *e*PP **PP 06 54 22.0 +2.0**
CLL *e*S **S 06 58 59.0 +1.0**
CLL *e*SS **SnSn 07 02 05.0 -3.0**
CLL *e*SSS SSS 07 02 30.0
KBA Koelnbreinsper 41.17 55 *e*P **P 06 52 45.8 -0.4**
comp=Z,8.0nm,1.1s
ITTB Itaituba 41.17 206 *e*P **P 06 52 45.6 -0.7**
FDMO Fiordimonte 41.19 61 IAmb IAmb 06 52 54.6
comp=Z,24nm,0.8s
HSKC Hora Svate Kat 41.32 50 *e*P **P 06 52 46.2 -1.0**
HSKC AMS AMS 07 07 10.0
comp=Z,2μm,20.2s
KHC Kasperske Hory 41.35 52⇑ *i*P **P 06 52 47.4 -0.1**
KHC pmax pmax
comp=Z,22nm,1.1s
KHC Kasperske Hory 41.35 52 *e*P **P 06 52 47.1 -0.4**
KHC *e*pP **pwP 06 52 52.0 -1.4**
KHC AMS AMS 07 06 30.0
comp=Z,700nm,23.8s
GUMA Gualdo di Mace 41.37 61 P **P 06 52 47.1 -0.6**
GUMA IAmb IAmb 06 52 54.7
comp=Z,40nm,0.9s
MYKA Terra Mystica 41.38 56 *e*pP pP 06 52 51.0 +0.8
comp=Z,7.5nm,1.1s
TIC Toumodi 41.39 123⇑ *i*P **P 06 52 46.1 -2.1**
comp=Z,21nm,1.0s
EYMN Ely 41.40 306 P **P 06 52 47.9 0.0**
baz=90
EYMN Ely 41.40 306 P **P 06 52 48.2 +0.2**
baz=90
GEC2 GERESS Array S 41.42 52 P **P 06 52 47.6 -0.6**
GEC2 GERESS Array S 41.42 52 *e*P **P 06 52 47.6 -0.6**
comp=Z,24nm,1.6s,baz=266,slow=8.5
GEC2 *e*L L 07 06 35.8
comp=Z,420nm,21.0s
GERES GERESS Array B 41.42 52 P **P 06 52 47.8 -0.4**
comp=Z,1.3nm,0.4s,baz=268,slow=8.0,SNR=8.0
GERES LR LR 07 07 16.5
comp=Z,416nm,19.0s,baz=257,slow=32
comp=Z,1.3nm,0.4s
E38A The Farm, Brul 41.45 304 IAmb IAmb 06 52 49.8
comp=Z,35nm,0.9s
E38A The Farm, Brul 41.45 304 P **P 06 52 49.0 +0.6**
baz=89,SNR=5.4
DBIC Dimbokro 41.48 123 P **P 06 52 47.2 -1.6**
DBIC Dimbokro 41.48 123 P **P 06 52 47.4 -1.6**
comp=Z,16nm,0.9s,baz=303,slow=9.4,SNR=16
DBIC LR LR 07 07 00.7
comp=Z,602nm,21.9s,baz=308,slow=32
comp=Z,16nm,0.9s
FVM French Village 41.51 291 P **P 06 52 49.4 +0.4**
baz=80,SNR=8.7
L40A Anamosa 41.52 297 IAmb IAmb 06 52 50.7
comp=Z,30nm,0.9s
L40A Anamosa 41.52 297 P **P 06 52 49.1 +0.1**
baz=84,SNR=5.8
BRG Berggiesshubel 41.66 49 *e*P **P 06 52 50.8 +0.8**
BRG Amp 06 52 54.4
comp=Z,2.9nm,0.8s
BRG Berggiesshubel 41.66 49 P P 06 52 55.9 +6.0
BRG Amp 06 52 58.5
comp=Z,6.2nm,1.0s
BRG Berggiesshubel 41.66 49 P P 06 53 04.3 +14
BRG Amp 06 53 05.3
comp=Z,7.1nm,1.2s
BRG Berggiesshubel 41.66 49 *e*P **P 06 52 50.8 +0.8**
BRG 06 52 55.9
BRG 06 55 00.6
BRG S **S 06 59 11.0 +4.6**
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,1μm,17.5s
LIC Lamto 41.68 124⇑ *i*P **P 06 52 48.9 -1.6**
comp=Z,55nm,0.9s
Y45A Yeager Farm, C 41.70 285 P **P 06 52 50.4 -0.1**
baz=75,SNR=12
RICC Richard 41.74 50 AMS AMS 07 07 00.0
comp=Z,1μm,17.9s
PBMO Poplar Bluff 41.74 289 P **P 06 52 50.4 -0.4**
baz=78,SNR=7.8
ZVC Zvikov 41.76 52 AMS AMS 07 06 40.0
comp=Z,700nm,20.1s
KIC Kosan Boka 41.78 123⇑ *i*P **P 06 52 49.8 -1.6**
comp=Z,44nm,0.8s
CKRC Cesky Krumlov 41.82 53 *e*P **P 06 52 50.5 -0.9**
CKRC Cesky Krumlov 41.82 53 *e*P **P 06 52 50.5 -0.9**
PRA Prague 41.93 51 AMS AMS 07 07 30.0
comp=Z,1μm,19.7s
NB2 NORSAR Subarra 41.95 34 P **P 06 52 52.6 +0.3**
comp=Z,14nm,1.1s,baz=254,slow=8.6
NOA NORSAR Array B 41.95 34 P **P 06 52 52.9 +0.6**
comp=Z,3.9nm,0.9s,baz=254,slow=8.5,SNR=8.8
NOA LR LR 07 08 00.4
comp=Z,199nm,18.7s,baz=245,slow=33
comp=Z,3.9nm,0.9s
PRU Pruhonice 42.00 51 *e*P **P 06 52 53.1 +0.3**
PRU MLR MLR
comp=Z,900nm,15.8s
PRU Pruhonice 42.00 51 *e*P **P 06 52 53.1 +0.3**
PRU AMS AMS 07 07 20.0
comp=Z,900nm,15.8s
OBKA Obir 42.01 56 *i* P **P 06 52 52.4 -0.7**
comp=Z,8.0nm,0.9s
NC602 NORSAR Array S 42.02 34 P **P 06 52 56.3 +3.5**
NC602 IAmb IAmb 06 53 01.0
comp=Z,54nm,1.6s
PVCC Panska Ves 42.04 50 AMS AMS 07 07 40.0
comp=Z,1μm,16.5s
NC303 NORSAR Array S 42.08 34 P **P 06 52 56.8 +3.5**
RUSC La Rusia 42.13 236 *e*P **P 06 52 54.4 -0.4**
CCM Cathedral Cave 42.13 291 P **P 06 52 54.1 +0.1**
CCM Cathedral Cave 42.13 291 P **P 06 52 54.1 +0.1**
CCM pmax pmax
comp=Z,11nm,0.7s
CCM Cathedral Cave 42.13 291 P **P 06 52 54.2 +0.2**
baz=79

CCM	**Cathedral Cave**	42.13	291	P	P		06 52 54.3	+0.2
	baz=79,SNR=5.9							
GOPC	**GO Pecny, Ondr**	42.16	51	AMS	AMS		07 08 30.0	
	comp=Z,700nm,14.2s							
TOA0	**Torodi Ar. Sit**	42.19	109	P	P		06 52 53.2	-1.5
TOA0	**Torodi Ar. Sit**	42.19	109	P	P		06 52 54.2	-0.5
TOA0				P	P		06 52 54.2	-0.5
TORD	**Torodi Ar. Bea**	42.19	109	P	P		06 52 53.1	-1.6
TORD	**Torodi Ar. Bea**	42.19	109	P	P		06 52 53.1	-1.6
	comp=Z,6.0nm,0.9s,baz=316,slow=8.2,SNR=23							
TORD				LR	LR		07 08 32.3	
	comp=Z,557nm,20.1s,baz=306,slow=34							
	comp=Z,6.0nm,0.9s							
ZARC	**Zaragoza, Cauc**	42.27	240	*e*P	P		06 52 55.2	-0.2
SOKA	**Soboth**	42.34	56	*i* P	P		06 52 54.4	-1.3
	comp=Z,1.1nm,0.5s							
LCAR	**Lake Charles**	42.47	288	P	P		06 52 56.4	-0.3
	baz=77,SNR=13							
P40A	**Paris**	42.49	294	IAmb	IAmb		06 52 58.4	
	comp=Z,39nm,0.9s							
P40A	**Paris**	42.49	294	P	P		06 52 57.2	+0.3
	baz=80,SNR=15							
K38A	**Parkersburg**	42.60	298	IAmb	IAmb		06 52 58.8	
	comp=Z,23nm,0.8s							
TREC	**Trest**	42.60	52	AMS	AMS		07 07 20.0	
	comp=Z,500nm,20.1s							
PTBC	**PUERTO BERRIO,**	42.63	239	*e*P	P		06 52 57.4	-1.0
ARSA	**Arzberg**	42.66	55	*e*P	P		06 52 58.0	-0.2
	comp=Z,4.7nm,0.8s							
PTGC	**Puerto Gaitan,**	42.70	234	*e*P	P		06 52 58.9	0.0
SGCB	**S£o Gabriel d**	42.86	224	*e*P	P		06 53 00.7	+0.6
CONA	**Conrad Observa**	42.86	54	*e*P	P		06 52 59.3	-0.6
	comp=Z,7.1nm,1.1s							
R40A	**Maddies Statio**	42.88	292	P	P		06 53 00.4	+0.3
	baz=79,SNR=7.9							
HFS	**Hagfors**	42.89	36	P	P		06 52 59.5	-0.4
	comp=Z,4.7nm,0.8s,baz=245,slow=13,SNR=6.2							
HFS				LR	LR		07 09 04.8	
	comp=Z,376nm,19.0s,baz=244,slow=34							
	comp=Z,4.7nm,0.8s							
B35A	**Bob, Littlefor**	42.89	307	IAmb	IAmb		06 53 01.3	
	comp=Z,35nm,0.9s							
B35A	**Bob, Littlefor**	42.89	307	P	P		06 53 00.2	+0.1
	baz=89,SNR=9.2							
VBMS	**Vicksburg**	42.93	283	IAmb	IAmb		06 53 03.4	
	comp=Z,31nm,0.9s							
UPC	**Upice**	42.96	50	*e*P	P		06 53 00.7	+0.1
UPC				MLR	MLR			
	comp=Z,1µm,15.7s							
UPC	**Upice**	42.96	50	*e*P	P		06 53 00.7	+0.1
UPC				AMS	AMS		07 08 00.0	
	comp=Z,1µm,15.7s							
SPBC	**San Pablo de B**	42.98	237	*e*P	P		06 53 00.0	-1.2
CHVC	**Chvalec**	42.99	50	*e*P	P		06 53 00.7	-0.1
CHVC				MLR	MLR			
	comp=Z,1µm,20.4s							
CHVC	**Chvalec**	42.99	50	*e*P	P		06 53 00.7	-0.1
CHVC				AMS	AMS		07 07 50.0	
	comp=Z,1µm,20.4s							
VAE	**Valguarnera**	43.01	69	LR	LR		07 09 06.9	
	comp=Z,718nm,18.6s,baz=14,slow=34							
SCIA	**State Center**	43.02	297	IAmb	IAmb		06 53 02.9	
	comp=Z,27nm,0.9s							
SCIA	**State Center**	43.02	297	P	P		06 53 01.5	+0.3
	baz=82							
OSTC	**Ostas**	43.09	50	*e*P	P		06 53 01.6	-0.1
OSTC				MLR	MLR			
	comp=Z,1µm,18.7s							
OSTC	**Ostas**	43.09	50	*e*P	P		06 53 01.6	-0.1
OSTC				AMS	AMS		07 08 20.0	
	comp=Z,1µm,18.7s							
DPC	**Dobruska-Polom**	43.15	50	*e*P	P		06 53 01.6	-0.6
DPC				AMS	AMS		07 08 10.0	
	comp=Z,1µm,21.2s							
RONA	**Rosalia, Austr**	43.16	54	*e*P	P		06 53 01.9	-0.5
	comp=Z,2.8nm,0.7s							
KRUC	**Moravsky**	43.20	52	*e*P	P		06 53 01.8	-0.7
SMTB	**Santa Maria do**	43.24	193	*e*P	P		06 53 04.2	+1.1
VRAC	**Vranov**	43.33	52	*e*P	P		06 53 04.1	+0.5
VRAC	**Vranov**	43.33	52	LR	LR		07 08 25.4	
	comp=Z,371nm,19.1s,baz=258,slow=32							
344A	**Westbrook Farm**	43.33	282	IAmb	IAmb		06 53 07.2	
	comp=Z,58nm,1.4s							
KRLC	**Kraliky**	43.45	51	*e*P	P		06 53 04.7	+0.1
KRLC				MLR	MLR			
	comp=Z,600nm,15.4s							
KRLC	**Kraliky**	43.45	51	*e*P	P		06 53 04.7	+0.1
KRLC				AMS	AMS		07 08 10.0	
	comp=Z,600nm,15.4s							
CHIC	**Chingaza**	43.48	236	*e*P	P		06 53 04.5	-1.1
CCAR	**Cane Creek**	43.48	286	IAmb	IAmb		06 53 20.7	
	comp=Z,47nm,1.0s							
NPGB	**Novo Progresso**	43.53	204	*e*P	P		06 53 04.7	-0.8
WHAR	**Wooly Hollow**	43.55	288	IAmb	IAmb		06 53 06.3	
	comp=Z,24nm,1.1s							
P38A	**Dawn**	43.60	294	P	P		06 53 06.4	+0.5
P38A				IAmb	IAmb		06 53 07.5	
	comp=Z,34nm,1.2s							
P38A	**Dawn**	43.60	294	P	P		06 53 06.2	+0.3
	baz=80,SNR=8.2							
CUC	**Castrocucco**	43.61	65	P	P		06 53 05.6	-0.4
CUC				IAmb	IAmb		06 53 14.5	
	comp=Z,21nm,1.0s							
UALR	**University of**	43.72	287	IAmb	IAmb		06 53 22.1	
	comp=Z,24nm,1.0s							
ROSC	**El Rosal**	43.73	237	P	P		06 53 08.1	+0.4
	comp=Z,3.4nm,0.5s,baz=223,slow=22,SNR=2.3							
ROSC				LR	LR		07 10 18.5	
	comp=Z,565nm,19.5s,baz=54,slow=35							
	comp=Z,3.4nm,0.5s							
U40A	**Yellville**	43.74	289	P	P		06 53 07.2	+0.1
	baz=77,SNR=7.2							
U40A				P	P		06 53 07.2	+0.1
	baz=77,SNR=7.2							
S39A	**Bolivar**	43.82	291	IAmb	IAmb		06 53 09.3	
	comp=Z,34nm,1.1s							
S39A	**Bolivar**	43.82	291	P	P		06 53 07.9	+0.2
	baz=78,SNR=15							
VILC	**Villavicencio,**	43.82	235	*e*P	P		06 53 07.5	-0.6
MORC	**Moravsky Berou**	43.94	51	⇓P	P		06 53 07.5	-1.1
MORC	**Moravsky Berou**	43.94	51	P	P		06 53 08.1	-0.5
MORC	**Moravsky Berou**	43.94	51	*e*P	P		06 53 08.9	+0.3
MORC	**Moravsky Berou**	43.94	51	⇓P	P		06 53 07.5	-1.1
DAG	**Danmarks Havn**	44.03	7	*i* P	P		06 53 08.5	-0.4
DAG				IAmb	IAmb		06 53 11.8	
	comp=Z,4.6nm,0.7s							
JAVC	**Velka Javorina**	44.04	52	*e*P	P		06 53 09.3	-0.1
NEEM	**North Greenlan**	44.06	356	*i* P	P		06 53 08.2	-1.2
MAUC	**Maruska**	44.13	52	*e*P	P		06 53 10.8	+0.7
GUY2C	**Guyana, Caldas**	44.20	238	*e*P	P		06 53 11.2	-0.2
ULM	**Lac du Bonnet**	44.27	310	IAmb	IAmb		06 53 11.6	
	comp=Z,34nm,0.8s							
ULM	**Lac du Bonnet**	44.27	310	P	P		06 53 11.0	-0.2
	comp=Z,32nm,0.8s,baz=85,slow=8.1,SNR=22							
ULM				LR	LR		07 10 18.8	
	comp=Z,1µm,21.1s,baz=78,slow=34							
	comp=Z,32nm,0.8s							
OKC	**Ostrava-Krasne**	44.33	51	*e*P	P		06 53 01.6	-10
OKC				MLR	MLR			
	comp=Z,1µm,21.2s							
OKC	**Ostrava-Krasne**	44.33	51	AMS	AMS		07 09 10.0	
	comp=Z,500nm,21.5s							
TEFE	**Tefe**	44.36	218	*e*P	P		06 53 12.8	+0.6
Z41A	**Richland Creek**	44.49	285	P	P		06 53 12.7	-0.4
MIAR	**Mount Ida**	44.76	287	P	P		06 53 15.4	+0.1
MIAR	**Mount Ida**	44.76	287	P	P		06 53 15.4	+0.1
MIAR				pmax	pmax			
	comp=Z,13nm,0.9s							
MIAR	**Mount Ida**	44.76	287	P	P		06 53 16.0	+0.7
	baz=75,SNR=6.2							
MIAR	**Mount Ida**	44.76	287	P	P		06 53 16.0	+0.7
	baz=75,SNR=6.2							
F33A	**5 Mile Ranch,**	44.78	303	IAmb	IAmb		06 53 16.5	
	comp=Z,26nm,1.4s							
F33A	**5 Mile Ranch,**	44.78	303	P	P		06 53 15.6	+0.3
	baz=85							
VYHS	**Vyhne**	44.83	53	*e*P	P		06 53 14.9	-0.8
VYHS				pmax	pmax			
	comp=Z,8.0nm,1.1s							
VYHS	**Vyhne**	44.83	53	*e*P	P		06 53 14.9	-0.8
MORH	**Mrgy, Hungar**	44.86	56	⇑P	P		06 53 14.9	-1.0
U38A	**Gravette**	44.92	290	IAmb	IAmb		06 53 17.6	
	comp=Z,22nm,1.1s							
U38A	**Gravette**	44.92	290	P	P		06 53 16.3	-0.3
	baz=76,SNR=10.0							
PRAC	**Prado**	44.93	236	*e*P	P		06 53 15.8	-1.1
N35A	**Tabor**	44.98	296	IAmb	IAmb		06 53 24.8	
	comp=Z,23nm,0.9s							
N35A	**Tabor**	44.98	296	P	P		06 53 17.0	+0.1
	baz=80,SNR=5.9							
PLMC	**San Jos del P**	45.07	239	*e*P	P		06 53 19.4	+1.4
LANS	**Liptovska Anna**	45.21	52	*e*P	P		06 53 16.9	-1.8
LANS	**Liptovska Anna**	45.21	52	*e*P	P		06 53 16.9	-1.8
ECSD	**EROS Data Cent**	45.25	300	IAmb	IAmb		06 53 20.1	
	comp=Z,28nm,1.1s							
ECSD	**EROS Data Cent**	45.25	300	P	P		06 53 19.2	+0.1
	baz=82,SNR=15							
ECSD	**EROS Data Cent**	45.25	300	P	P		06 53 18.8	-0.3
	baz=82,SNR=15							
L34A	**Svendsen Farm,**	45.34	298	P	P		06 53 19.9	+0.1
	baz=81,SNR=7.9							
MACC	**Macarena, Meta**	45.36	234	*e*P	P		06 53 19.5	-0.8
RLO	**Rose Lookout**	45.49	290	IAmb	IAmb		06 53 29.5	
	comp=Z,44nm,0.8s							
SCTE	**Santa Cesarea**	45.60	65	P	P		06 53 22.2	+0.3
SCTE				IAmb	IAmb		06 53 24.3	
	comp=Z,17nm,1.1s							
TEIG	**Tepich**	45.61	266	LR	LR		07 09 16.6	
	comp=Z,3µm,21.2s,baz=194,slow=32							
YOTC	**Yotoco, Valle**	45.76	238	*e*P	P		06 53 22.7	-0.8
PDG	**Podgorica**	45.77	61	IAmb	IAmb		06 53 31.4	
	comp=Z,19nm,1.3s							
KSU1	**Kansas State U**	46.05	294	IAmb	IAmb		06 53 26.1	
	comp=Z,24nm,0.8s							
DIVS	**Divibare**	46.05	59	IAmb	IAmb		06 53 33.5	
	comp=Z,13nm,0.9s							
TUL3	**Leonard**	46.16	289	P	P		06 53 26.5	+0.2
	baz=75,SNR=11							
TUL3	**Leonard**	46.16	289	P	P		06 53 26.2	-0.2
	baz=75,SNR=11							
X37A	**Clayton**	46.17	288	P	P		06 53 27.1	+0.6
	baz=74,SNR=13							
SDBA	**SAO DESIDERIO**	46.32	188	*e*P	P		06 53 27.3	-0.4
STHS	**Stebnicka Huta**	46.36	52	*e*P	P		06 53 28.7	+0.9
STHS				pmax	pmax			
	comp=Z,13nm,1.1s							
STHS	**Stebnicka Huta**	46.36	52	*e*P	P		06 53 28.7	+0.9
NATX	**Nacogdoches**	46.43	284	P	P		06 53 29.3	+0.8
	baz=72							
T35B	**Sooner Cattle**	46.47	291	P	P		06 53 28.6	-0.2
	baz=76,SNR=7.3							
JAMC	**Jamundi, Valle**	46.53	237	*e*P	P		06 53 29.5	-0.2
CRVS	**Cervenica-Dubn**	46.54	52	*e*P	P		06 53 29.7	+0.5
CRVS				pmax	pmax			
	comp=Z,46nm,1.4s							
CRVS	**Cervenica-Dubn**	46.54	52	*e*P	P		06 53 29.7	+0.5
DEOK	**Depew**	46.73	290	IAmb	IAmb		06 53 38.2	
	comp=Z,18nm,0.9s							
BGNE	**Belgrade**	46.74	297	P	P		06 53 31.1	+0.2
	baz=79,SNR=5.9							
BGNE	**Belgrade**	46.74	297	P	P		06 53 31.1	+0.2
	baz=79,SNR=5.9							
MDND	**Maddock**	46.85	306	P	P		06 53 32.0	+0.3
	baz=84							
MDND	**Maddock**	46.85	306	P	P		06 53 31.8	+0.2
	baz=84							
BZS	**Buzias**	46.99	57	⇑P	P		06 53 33.1	+0.4
BZS	**Buzias**	46.99	57	⇑P	P		06 53 33.1	+0.4
POPC	**Popayan, Colom**	47.01	237	*e*P	P		06 53 33.0	-0.5
SNDB	**Serra Nova Dou**	47.04	197	*e*P	P		06 53 32.0	-1.3
KOLS	**Kolonicke sedl**	47.07	52	*e*P	P		06 53 34.8	+1.5
KOLS				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KOLS	**Kolonicke sedl**	47.07	52	*e*P	P		06 53 34.8	+1.5
OHR	**Ohrid**	47.14	63	*i* P	P		06 53 35.1	+1.1
CLDB	**Colider**	47.26	203	*e*P	P		06 53 34.0	-1.1
SURR	**Surduc**	47.32	56	⇓P	P		06 53 35.1	-0.2
BOVS	**Bovan**	47.35	59	⇓P	P		06 53 35.0	-0.6
ACON	**Acoyapa**	47.37	254	P	P		06 53 36.5	+0.5
ACON	**Acoyapa**	47.37	254	*e*P	P		06 53 37.3	+1.3
H10N2	**ASCENSION HYDR**	47.45	146	T	T		07 43 56.3	
	baz=332,slow=75,SNR=1226							
H10N3	**ASCENSION HYDR**	47.46	146	T	T		07 43 56.7	
	baz=332,slow=75,SNR=1390							
H10N1	**ASCENSION HYDR**	47.47	146	T	T		07 43 57.8	
	baz=332,slow=75,SNR=1459							
K30B	**Basset**	47.58	299	P	P		06 53 37.6	+0.1
	baz=80							
HERR	**Herculane**	47.65	58	⇑P	P		06 53 37.5	-0.5
E28A	**Huff**	47.74	305	P	P		06 53 38.9	+0.3
	baz=82,SNR=8.7							
BBAC	**Balboa, Cauca**	47.78	237	*e*P	P		06 53 38.7	-0.8
R32A	**Long Quarter,**	47.80	294	P	P		06 53 38.9	-0.3
	baz=76,SNR=12							
TBTG	**Tabatinga, AM**	47.81	224	*e*P	P		06 53 39.0	-0.4
GZR	**Gura Zlata**	47.83	57	⇓P	P		06 53 39.0	-0.3
GZR	**Gura Zlata**	47.83	57	⇓P	P		06 53 39.0	-0.3
ARE1	**Arenal 1**	47.88	252	P	P		06 53 39.4	-0.6
MARR	**Marisel-Cluj**	47.88	55	⇑P	P		06 53 39.8	0.0
TGUH	**Tegucigalpa,Un**	47.90	258	P	P		06 53 38.2	-2.1
FFC	**Flin Flon**	47.94	316	P	P		06 53 40.2	+0.2
FFC				IAmb	IAmb		06 53 41.7	
	comp=Z,24nm,0.9s							
FFC	**Flin Flon**	47.94	316	P	P		06 53 40.2	+0.2
FFC				pmax	pmax			
	comp=Z,24nm,1.0s							
HKT	**Hockley**	47.97	282	P	P		06 53 40.4	-0.1
HKT	**Hockley**	47.97	282	⇓*e*P	P		06 53 41.2	+0.7
HKT				pmax	pmax			
	comp=Z,13nm,1.2s							
HKT	**Hockley**	47.97	282	P	P		06 53 41.8	+1.3
	baz=70							
STIP	**Stip**	48.05	62	*i* P	P		06 53 42.0	+1.0
JTS	**Las Juntas de**	48.16	252	LR	LR		07 12 25.8	
	comp=Z,342nm,19.2s,baz=49,slow=34							
PDRB	**Porto dos Gac**	48.26	204	*e*P	P		06 53 42.8	0.0
H10S3	**ASCENSION HYDR**	48.37	147	T	T		07 45 04.6	
	baz=331,slow=74,SNR=496							
SAML	**Samuel**	48.38	213	P	P		06 53 42.8	-1.0
SAML				IAmb	IAmb		06 53 51.2	
	comp=Z,15nm,0.9s							
SAML	**Samuel**	48.38	213	P	P		06 53 42.8	-1.0
SAML				pmax	pmax			
	comp=Z,15nm,0.9s							
SAML	**Samuel**	48.38	213	*e*P	P		06 53 42.9	-0.9
SAML	**Samuel**	48.38	213	*e*P	P		06 53 43.5	-0.2
H10S2	**ASCENSION HYDR**	48.38	147	T	T		07 45 05.6	
	baz=249,slow=74,SNR=266							
FW06	**Azle**	48.38	286	IAmb	IAmb		06 53 52.3	
	comp=Z,16nm,0.8s							
VAY	**Valandovo**	48.41	62	*i* P	P		06 53 43.8	0.0
FW13	**Cleburne**	48.48	285	IAmb	IAmb		06 53 53.1	
	comp=Z,21nm,0.9s							
CBKS	**Cedar Bluff**	48.49	294	P	P		06 53 44.9	+0.4
	baz=76							
CBKS	**Cedar Bluff**	48.49	294	P	P		06 53 44.4	-0.1
	baz=76							
PETF	**Flores**	48.53	263	P	P		06 53 45.0	0.0
PEHC	**Pehcevo**	48.56	62	*i* P	P		06 53 44.3	-0.8
NOR	**Nord**	48.60	4	*i* P	P		06 53 43.3	-1.4
NOR				IAmb	IAmb		06 53 54.4	
	comp=Z,2.4nm,0.8s							
WHTX	**Lake Whitney,**	48.61	285	P	P		06 53 45.4	-0.1
	baz=71,SNR=7.3							
VTS	**Vitosha**	48.63	60	*e*P	P		06 53 45.3	-0.4
FW07	**Weatherford**	48.65	286	IAmb	IAmb		06 53 54.3	
	comp=Z,26nm,1.0s							
KKB	**Krupnik**	48.71	61	*e*P	P		06 53 46.0	-0.1
WMOK	**Wichita Mounta**	48.83	289	IAmb	IAmb		06 53 55.4	
	comp=Z,23nm,0.9s							
WMOK	**Wichita Mounta**	48.83	289	P	P		06 53 47.3	+0.2
	baz=73,SNR=16							
WMOK	**Wichita Mounta**	48.83	289	P	P		06 53 46.2	-1.0
	baz=73,SNR=16							
MPEP	**Malo Peshtene**	48.85	59	*e*P	P		06 53 53.7	+6.5
RES	**Resolute Bay**	48.87	343	P	P		06 53 47.0	+0.1
RES				IAmb	IAmb		06 53 48.4	
	comp=Z,22nm,1.1s							
RES	**Resolute Bay**	48.87	343	P	P		06 53 47.0	+0.1
RES				pmax	pmax			
	comp=Z,22nm,1.1s							
RES	**Resolute Bay**	48.87	343	LR	LR		07 13 32.7	
	comp=Z,221nm,19.3s,baz=92,slow=35							
JANB	**Januaria**	48.87	187	*e*P	P		06 53 47.3	-0.3
FINES	**FINESS Array B**	49.08	35	P	P		06 53 48.1	-0.6
	comp=Z,2.6nm,0.8s,baz=241,slow=3.9,SNR=6.5							
FINES				LR	LR		07 12 45.9	
	comp=Z,328nm,19.2s,baz=260,slow=34							
	comp=Z,2.6nm,0.8s							
TULM	**Tulcn-Chalpat**	49.09	236	*e*P	P		06 53 50.1	+0.2
435B	**Jarrell**	49.11	283	P	P		06 53 49.8	+0.5
	baz=70							
MMB	**Musomishta**	49.23	62	*e*P	P		06 53 50.5	+0.4
VOIR		49.40	56	⇓P	P		06 53 51.1	-0.4
VOIR		49.40	56	⇓P	P		06 53 51.1	-0.4
NACGM	**Naroch**	49.45	44	*e*P	P		06 53 50.5	-1.0
	comp=Z,4.0nm,0.4s,baz=273							
OGNE	**Ogallala**	49.71	298	P	P		06 53 53.5	-0.4
	baz=77							
KBS	**Kingsbay**	49.83	11	*i* P	P		06 53 58.7	+4.6
DGMT	**Dagmar**	49.83	308	P	P		06 53 54.6	0.0
	baz=82,SNR=5.3							
DGMT	**Dagmar**	49.83	308	P	P		06 53 55.1	+0.5
	baz=82,SNR=5.3							
ARCES	**ARCESS Array B**	49.83	25	P	P		06 53 55.3	+1.0
	comp=Z,3.5nm,0.8s,baz=261,slow=6.0,SNR=8.8							
ARCES				LR	LR		07 09 40.9	
	comp=Z,155nm,21.5s,baz=274,slow=30							
	comp=Z,3.5nm,0.8s							
OTAV	**Otavalo**	49.89	236	P	P		06 53 56.3	+0.3
OTAV				IAmb	IAmb		06 54 05.2	
	comp=Z,34nm,1.2s							
OTAV	**Otavalo**	49.89	236	P	P		06 53 56.3	+0.3
OTAV				pmax	pmax			
	comp=Z,34nm,1.2s							
OTAV	**Otavalo**	49.89	236	*e*P	P		06 53 56.3	+0.3
OTAV	**Otavalo**	49.89	236	*e*P	P		06 53 56.6	+0.7
BDFB	**Brasilia**	49.94	191	P	P		06 53 55.8	0.0
BDFB				IAmb	IAmb		06 54 04.2	
	comp=Z,14nm,0.9s							
BDFB	**Brasilia**	49.94	191	P	P		06 53 55.8	0.0
BDFB				pmax	pmax			
	comp=Z,14nm,0.9s							
BDFB	**Brasilia**	49.94	191	P	P		06 53 56.8	+1.0
	comp=Z,6.5nm,0.9s,baz=34,slow=4.9,SNR=6.2							
BDFB				LR	LR		07 12 27.6	
	comp=Z,467nm,18.9s,baz=357,slow=33							
	comp=Z,6.5nm,0.9s							
EUNU	**Eureka**	49.96	350	P	P		06 53 55.5	+0.2
EUNU				IAmb	IAmb		06 53 56.9	
	comp=Z,25nm,1.1s							
MLR	**Muntele Rosu**	50.01	56	⇓P	P		06 53 55.8	-0.4
MLR	**Muntele Rosu**	50.01	56	IAmb	IAmb		06 54 05.8	
	comp=Z,25nm,1.0s							
MLR	**Muntele Rosu**	50.01	56	⇓P	P		06 53 55.8	-0.4
MLR	**Muntele Rosu**	50.01	56	LR	LR		07 13 38.6	
	comp=Z,328nm,19.4s,baz=278,slow=34							
BRDY	**Brady**	50.09	285	P	P		06 53 57.0	+0.2
BRDY				IAmb	IAmb		06 54 04.6	
	comp=Z,15nm,0.8s							
MNK	**Minsk**	50.11	44	*i* P	P		06 53 55.0	-1.6
	comp=E,6.0nm,0.8s							
MNK				*i* P	P		06 53 55.0	-1.6
	comp=N,5.0nm,0.8s							
MNK				*i* P	P		06 53 55.0	-1.6
	comp=Z,17nm,0.9s,baz=274							
MNK				*i* PP	PP		06 55 50.6	-0.9
MNK				*i* PPP	PPP		06 56 44.5	
MNK				*i* S	S		07 01 06.1	-1.7
MNK				*i* SS	SS		07 04 41.1	+0.4
MNK				*i* SSS	SSS		07 06 06.0	
MNK				*i* LQ	LQ		07 11 33.7	
MNK				*i* LR	LR		07 15 25.9	
MNK				*i* LRM	MLR		07 18 00.6	
	comp=E,86nm,12.9s							
MNK				*i* LRM	MLR		07 18 04.1	
	comp=Z,244nm,13.8s							
MNK	**Minsk**	50.11	44	*i* P	P		06 53 55.0	-1.6
MNK				*i*			06 55 50.6	
MNK				*i* PPP	PPP		06 56 44.5	
MNK				*i* S	S		07 01 06.1	-1.7
MNK				*i* SS	SS		07 04 41.0	+0.4
MNK				*i* SSS	SSS		07 06 06.0	
MNK				pmax	pmax			
	comp=N,5.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,17nm,0.9s							
MNK				pmax	pmax			
	comp=E,6.0nm,0.8s							
MNK				MLR	MLR			
	comp=E,86nm,13.0s							
MNK				MLR	MLR			
	comp=Z,244nm,14.0s							
GUA01	**Guaratinga, BA**	50.12	181	*e*P	P		06 53 57.1	+0.1
ABTX	**Abilene, Hawle**	50.16	287	IAmb	IAmb		06 54 05.4	
	comp=Z,24nm,1.1s							
ABTX	**Abilene, Hawle**	50.16	287	P	P		06 53 57.4	0.0
	baz=71							
SPITS	**Spitsbergen Ar**	50.22	13	LR	LR		07 10 28.8	
	comp=Z,131nm,21.1s,baz=208,slow=30							
APMT	**Aspermont**	50.32	288	IAmb	IAmb		06 54 06.4	
	comp=Z,29nm,0.9s							
PLOR	**Plostina**	50.43	56	⇓P	P		06 53 58.5	-0.8
PLOR	**Plostina**	50.43	56	⇓P	P		06 53 58.5	-0.8
RSSD	**Black Hills**	50.47	302	P	P		06 53 59.6	-0.2
	baz=78							
VRI	**Vrincioaia**	50.48	56	⇓P	P		06 53 58.1	-1.5
VRI	**Vrinc

DIAM	Diamantina, MG	52.02 186	eP	P	06 54 13.4 +2.0
DRIO	Del Rio	52.05 283	IAmb	IAmb	06 54 19.3
	comp=Z,13nm,0.9s				
MSTX	Muleshoe	52.20 289	IAmb	IAmb	06 54 20.6
	comp=Z,24nm,1.0s				
MSTX	Muleshoe	52.20 289	P	P	06 54 12.9 +0.1
	baz=71,SNR=7.2				
MSTX	Muleshoe	52.20 289	P	P	06 54 12.6 -0.2
	baz=71,SNR=7.2				
SJMB	Sao Joao De Ma	52.27 183	eP	P	06 54 13.7 +0.6
CZSB	Cruzeiro do Su	52.29 224	IAmb	IAmb	06 54 20.2
	comp=Z,20nm,0.8s				
CZSB	Cruzeiro do Su	52.29 224	eP	P	06 54 11.9 -1.5
T25A	Trinidad	52.49 294	IAmb	IAmb	06 54 24.1
	comp=Z,19nm,0.8s				
T25A	Trinidad	52.49 294	P	P	06 54 15.6 +0.6
	baz=73,SNR=19				
APA	Apatity	52.51 27⇓	iP	P	06 54 27.4 +13
APA			pmax	pmax	
	comp=Z,18nm,1.1s				
APA			MLR	MLR	
	comp=Z,900nm,17.0s				
PMNB	Patos De Minas	52.55 189	eP	P	06 54 16.4 +1.1
K22A	Casper	52.57 301	IAmb	IAmb	06 54 15.8
	comp=Z,22nm,1.4s				
K22A	Casper	52.57 301	P	P	06 54 14.6 -0.9
	baz=76,SNR=5.3				
K22A	Casper	52.57 301	P	P	06 54 14.5 -0.9
	baz=76,SNR=5.3				
N23A	Red Feather La	52.59 299	IAmb	IAmb	06 54 17.4
	comp=Z,16nm,0.9s				
N23A	Red Feather La	52.59 299	P	P	06 54 16.6 +0.8
	baz=75,SNR=9.4				
CMIG	Matias Romero	52.60 266	LR	LR	07 13 26.5
	comp=Z,282nm,21.7s,baz=48,slow=32				
ISCO	Idaho Springs	52.64 297	P	P	06 54 16.9 +0.7
	baz=74,SNR=13				
ISCO	Idaho Springs	52.64 297	P	P	06 54 15.6 -0.7
	baz=74,SNR=13				
ODSA	Odessa	52.65 287	IAmb	IAmb	06 54 23.9
	comp=Z,17nm,1.0s				
PTLB	Pontes e Lacer	52.65 205	P	P	06 54 15.1 -0.9
PTLB	Pontes e Lacer	52.65 205	eP	P	06 54 16.6 +0.6
SAND	Sanderson	53.08 284	IAmb	IAmb	06 54 26.7
	comp=Z,7.4nm,0.8s				
SDCO	Great Sand Dun	53.14 295	P	P	06 54 21.0 +1.1
	baz=73,SNR=22				
SDCO	Great Sand Dun	53.14 295	P	P	06 54 19.5 -0.4
	baz=73,SNR=22				
RWWY	Rawlins	53.31 300	IAmb	IAmb	06 54 27.9
	comp=Z,16nm,1.0s				
KARP	Karpathos	53.41 68	IAmb	IAmb	06 54 34.9
	comp=Z,22nm,0.9s				
EGMT	Eagleton	53.56 308	P	P	06 54 22.8 +0.2
	baz=78,SNR=5.8				
SIV	San Ignacio	53.85 207	LR	LR	07 16 03.4
	comp=Z,134nm,20.4s,baz=62,slow=35				
YKA	Yellowknife Ar	54.12 326	P	P	06 54 26.6 +0.3
	comp=Z,6.3nm,0.9s,baz=81,slow=7.4,SNR=7.0				
YKA			LR	LR	07 16 53.9
	comp=Z,952nm,19.3s,baz=64,slow=35				
	comp=Z,6.3nm,0.9s				
ALPN	Alpine	54.14 285	IAmb	IAmb	06 54 34.8
	comp=Z,7.7nm,0.8s				
S22A	4UR Ranch, Cre	54.15 295	P	P	06 54 28.0 +0.7
	baz=72,SNR=8.0				
O20A	White River Ci	54.49 298	IAmb	IAmb	06 54 31.3
	comp=Z,23nm,1.1s				
O20A	White River Ci	54.49 298	P	P	06 54 29.7 +0.1
	baz=73,SNR=9.5				
TXAR	Lajitas Array	54.55 284	P	P	06 54 30.4 +0.3
	comp=Z,5.1nm,0.9s,baz=92,slow=6.6,SNR=28				
TXAR			LR	LR	07 16 05.0
	comp=Z,299nm,20.9s,baz=58,slow=34				
	comp=Z,5.1nm,0.9s				
TX31	Lajitas Ar. Si	54.55 284	IAmb	IAmb	06 54 38.1
	comp=Z,23nm,0.9s				
TX31	Lajitas Ar. Si	54.55 284	P	P	06 54 30.1 0.0
	baz=68,SNR=14				
PD31	Pinedale Array	54.70 302	IAmb	IAmb	06 54 32.0
	comp=Z,23nm,1.0s				
PDAR	Pinedale Array	54.70 302	P	P	06 54 30.9 -0.3
	comp=Z,25nm,1.0s,baz=77,slow=8.4,SNR=74				
PDAR			LR	LR	07 16 00.6
	comp=Z,258nm,21.4s,baz=84,slow=34				
	comp=Z,25nm,1.0s				
BW06	Boulder Array	54.70 302	IAmb	IAmb	06 54 32.0
	comp=Z,26nm,1.0s				
BW06	Boulder Array	54.70 302	P	P	06 54 31.1 -0.1
	baz=74,SNR=31				
ANMO	Albuquerque	54.76 292	P	P	06 54 32.0 +0.4
ANMO	Albuquerque	54.76 292⇑	eP	P	06 54 32.5 +0.9
ANMO			pmax	pmax	
	comp=Z,12nm,1.2s				
ANMO	Albuquerque	54.76 292	P	P	06 54 32.7 +1.0
	baz=70				
ANMO	Albuquerque	54.76 292	P	P	06 54 32.6 +0.9
	baz=70,SNR=18				
ANMO	Albuquerque	54.76 292	LR	LR	07 16 00.2
	comp=Z,424nm,20.6s,baz=164,slow=34				
BBSD	Serra de San D	54.78 206	eP	P	06 54 31.3 -0.3
LKWY	Lake	54.81 304	IAmb	IAmb	06 54 36.4
	comp=Z,13nm,0.8s				
YNR	Norris Junctio	54.97 304	IAmb	IAmb	06 54 39.8
	comp=Z,16nm,1.2s				
H17A	Grant Village	54.98 304	P	P	06 54 33.6 +0.4
	baz=75				
OBN	Obninsk	55.02 43	iP	P	06 54 33.7 +0.8
OBN			pmax	pmax	
	comp=Z,59nm,1.7s				
OBN	Obninsk	55.02 43	LR	LR	07 16 59.9
	comp=Z,525nm,19.3s,baz=272,slow=35				
MNTX	Cornudas Mount	55.05 288	P	P	06 54 34.7 +1.1
	baz=69				
MNTX	Cornudas Mount	55.05 288	P	P	06 54 33.6 0.0
	baz=69				
425A	Indio Mountain	55.07 286	IAmb	IAmb	06 54 45.0
	comp=Z,16nm,1.0s				
YFT	Old Faithful	55.14 304	IAmb	IAmb	06 54 40.0
	comp=Z,18nm,0.9s				
FLWY	Flagg Ranch	55.15 303	IAmb	IAmb	06 54 37.9
	comp=Z,19nm,0.9s				
LOHW	Long Hollow	55.21 303	IAmb	IAmb	06 54 36.1
	comp=Z,19nm,1.4s				
ATAH	Atahualpa	55.30 230	LR	LR	07 19 40.0
	comp=Z,93nm,18.6s,baz=25,slow=38				
RDMU	Red Mountain	55.33 299	IAmb	IAmb	06 54 43.8
	comp=Z,26nm,1.0s				
BB19B	Bebedouro	55.34 191	eP	P	06 54 35.9 +0.2
SNOW	Snow King Moun	55.35 303	IAmb	IAmb	06 54 44.1
	comp=Z,30nm,1.0s				
IMW	Indian Meadow	55.36 303	IAmb	IAmb	06 54 37.5
	comp=Z,23nm,0.9s				
BOZ	Bozeman (W)	55.39 305	IAmb	IAmb	06 54 47.4
	comp=Z,20nm,1.5s				
BOZ	Bozeman (W)	55.39 305	P	P	06 54 36.5 +0.6
	baz=75,SNR=8.6				
Y22D	IRIS PASSCAL I	55.41 291	P	P	06 54 36.1 -0.2
	baz=70				
Y22F	Passcal Instru	55.41 291	P	P	06 54 36.1 -0.2
	baz=70				
TPAW	Teton Pass	55.48 303	IAmb	IAmb	06 54 39.0
	comp=Z,20nm,1.2s				
Y22A	Socorro	55.50 291	P	P	06 54 37.7 +0.7
	baz=70,SNR=16				
BBRB	Robore, Bolivi	55.51 204	eP	P	06 54 36.7 -0.1
MVCO	Mesa Verde	55.58 295	IAmb	IAmb	06 54 46.7
	comp=Z,26nm,0.9s				
MVCO	Mesa Verde	55.58 295	P	P	06 54 39.0 +1.4
	baz=71,SNR=22				
KLMR	Klimovskoe	55.61 36	eP	P	06 54 23.1 -14
KLMR			AMP		06 54 27.5
	comp=Z,20nm,1.6s				
KLMR			LQ	LQ	07 11 39.7
KLMR			LQ	LQ	07 11 39.7
KLMR			LR	LR	07 13 27.8
KLMR			AMP		07 17 57.5
	comp=Z,549nm,15.7s				
ID10	Lander Cutoff	55.71 302	IAmb	IAmb	06 54 41.9
	comp=Z,14nm,1.0s				
AHID	Auburn Hatcher	55.79 302	IAmb	IAmb	06 54 40.8
	comp=Z,27nm,1.1s				
RPRD	Ribas do Rio P	55.80 197	eP	P	06 54 39.8 +0.8
ID09	Alton	56.01 301	IAmb	IAmb	06 54 43.9
	comp=Z,16nm,1.0s				
ID05	Sulphur Canyon	56.08 302	IAmb	IAmb	06 54 49.1
	comp=Z,21nm,0.9s				
ID06	Fossil Canyon	56.09 302	IAmb	IAmb	06 54 49.3
	comp=Z,26nm,1.0s				
DLMT	Dillon	56.10 305	IAmb	IAmb	06 54 49.4
	comp=Z,27nm,1.0s				
ID08	Devils Gate	56.27 302	IAmb	IAmb	06 54 43.8
	comp=Z,16nm,1.1s				
HWUT	Hardware Ranch	56.46 301	IAmb	IAmb	06 54 47.5
	comp=Z,18nm,1.0s				
TCUT	Toone Canyon	56.49 300	IAmb	IAmb	06 54 51.3
	comp=Z,25nm,1.1s				
ID07	Smith Canyon R	56.55 302	IAmb	IAmb	06 55 00.9
	comp=Z,22nm,1.6s				
BDQN	Bodoquena, MS	56.58 200	eP	P	06 54 44.8 +0.3
MSO	Missoula	56.61 307	IAmb	IAmb	06 54 45.7
	comp=Z,21nm,1.4s				
MSO	Missoula	56.61 307	P	P	06 54 45.0 +0.3
	baz=74,SNR=7.8				
121A	Cookes Peak, D	56.64 289	IAmb	IAmb	06 54 57.8
	comp=Z,21nm,1.1s				
121A	Cookes Peak, D	56.64 289	P	P	06 54 46.2 +1.0
	baz=68,SNR=9.7				
121A	Cookes Peak, D	56.64 289	P	P	06 54 46.5 +1.3
	baz=68,SNR=9.7				
TMUT	Trail Mountain	56.92 298	IAmb	IAmb	06 55 41.2
	comp=Z,12nm,0.6s				
BR131	Keskin Array S	56.96 61	IAmb	IAmb	06 54 55.2
	comp=Z,16nm,1.1s				
BR131	Keskin Array S	56.96 61	ceP	P	06 54 47.0 -0.3
BR131	Keskin Array S	56.96 61	P	P	06 54 47.3 0.0
	SNR=8.8				
BR131			P	P	06 54 47.3 0.0
	SNR=8.8				
BRTR	Keskin Array B	56.96 61	iP	P	06 54 47.0 -0.3
BRTR			pmax	pmax	
	comp=Z,7.0nm,0.9s				
BRTR	Keskin Array B	56.96 61	P	P	06 54 47.0 -0.3
	comp=Z,7.3nm,0.9s,baz=270,slow=4.9,SNR=24				
BRTR			LR	LR	07 18 32.9
	comp=Z,176nm,19.0s,baz=303,slow=35				
	comp=Z,7.3nm,0.9s				
Q16A	Castle Valley	57.02 298	IAmb	IAmb	06 55 00.2
	comp=Z,20nm,1.3s				
HMU	Henry Mountain	57.02 296	IAmb	IAmb	06 55 15.4
	comp=Z,16nm,1.2s				
LPAZ	La Paz	57.09 214	eP	P	06 54 48.5 -0.3
LPAZ	La Paz	57.09 214	eP	P	06 54 48.5 -0.3
W18A	Petrified Fore	57.23 293	P	P	06 54 49.8 +0.5
	baz=69				
HVU	Hansel Valley	57.27 301	IAmb	IAmb	06 54 56.7
	comp=Z,20nm,1.2s				
NLU	North Lily Min	57.34 299	IAmb	IAmb	06 54 58.5
	comp=Z,20nm,1.1s				
VSR	Storozhevoye	57.39 47	eP	P	06 54 47.6 -2.4
VSR			pmax	pmax	
	comp=Z,10,0nm,0.7s				
VORD	Divnogorie	57.53 47	eP	P	06 54 49.3 -1.7
VORD			pmax	pmax	
	comp=Z,10.0nm,0.6s				
DUG	Dugway, Tooele	57.80 300	IAmb	IAmb	06 55 01.6
	comp=Z,26nm,1.1s				
DUG	Dugway, Tooele	57.80 300	P	P	06 54 54.1 +0.9
	baz=71,SNR=22				
ANTJ	Antonio Joao (	57.85 199	eP	P	06 54 54.2 +0.8
HLID	Hailey	57.87 304	P	P	06 54 54.5 +0.7
	baz=72,SNR=7.5				
WRGLY	Wrigley	58.02 328	P	P	06 54 54.4 +0.2
	baz=78				
TCRU	Three Creeks R	58.06 298	IAmb	IAmb	06 55 04.0
	comp=Z,12nm,1.0s				
ANN	Anapa	58.06 55	eP	P	06 54 50.9 -3.9
ANN			e*PP	pP	06 54 54.9 -2.2
ANN			e		06 55 42.2
ANN			e		06 56 59.6
ANN			eS	S	07 02 50.1 -5.5
ANN			eSS	SS	07 06 43.2 -3.2
ANN			pmax	pmax	
	comp=Z,41nm,1.0s				
NNA	Nana	58.12 225	iP	P	06 54 56.5 +1.0
NEW	Newport	58.28 310	P	P	06 54 56.4 0.0
	baz=73,SNR=26				
NEW	Newport	58.28 310	LR	LR	07 18 59.1
	comp=Z,976nm,21.8s,baz=66,slow=35				
WUAZ	Wupatki	58.33 294	IAmb	IAmb	06 55 09.7
	comp=Z,21nm,1.1s				
WUAZ	Wupatki	58.33 294	P	P	06 54 58.5 +1.4
	baz=69,SNR=8.6				
PKCU	Pink Cliffs	58.36 296	IAmb	IAmb	06 55 05.7
	comp=Z,21nm,1.1s				
U15A	North Rim	58.70 295	IAmb	IAmb	06 55 08.7
	comp=Z,20nm,0.9s				
SZCU	Shurtz Canyon	58.88 297	IAmb	IAmb	06 55 09.3
	comp=Z,13nm,1.0s				
MFID	Camas Ranch	58.89 304	IAmb	IAmb	06 55 03.2
	comp=Z,20nm,1.1s				
VRH	Novokhopyorsk	58.94 46	eP	P	06 54 59.8 -1.0
VRH			pmax	pmax	
	comp=Z,10.0nm,0.4s				
KOTAN	Kotaneelee Air	59.02 324	P	P	06 55 01.2 0.0
	baz=75				
F10A	Beach Ranch, E	59.03 307	IAmb	IAmb	06 55 17.9
	comp=Z,15nm,1.2s				
TUC	Tucson	59.07 290	P	P	06 55 02.3 +0.1
TUC	Tucson	59.07 290	P	P	06 55 02.3 +0.1
TUC			pmax	pmax	
	comp=Z,5.0nm,1.1s				
TUC	Tucson	59.07 290	P	P	06 55 02.7 +0.5
	baz=67				
CCUT	Cedar City	59.10 297	IAmb	IAmb	06 55 11.2
	comp=Z,18nm,1.1s				
C09A	Chrisman Ranch	59.16 309	IAmb	IAmb	06 55 03.0
	comp=Z,18nm,0.9s				
SPR3	Spring Creek 3	59.31 299	IAmb	IAmb	06 55 13.1
	comp=Z,14nm,1.1s				
ELK	Elko	59.36 301	LR	LR	07 21 43.9
	comp=Z,390nm,18.0s,baz=86,slow=37				
E09A	Wood Farm, Sta	59.47 308	IAmb	IAmb	06 55 06.2
	comp=Z,21nm,1.0s				
D08A	Wollman Farm,	59.81 309	IAmb	IAmb	06 57 16.5
	comp=Z,16nm,1.2s				
SOC	Sochi	60.01 55	eP	P	06 55 06.7 -1.6
SOC			e		06 57 18.5
SOC			eS	S	07 03 19.9 -0.9
SOC			eSS	SS	07 07 16.6 -0.4
SOC			MLR	MLR	
	comp=Z,92nm,16.0s				
E08A	Dider Farm, El	60.08 308	IAmb	IAmb	06 55 10.7
	comp=Z,24nm,1.2s				
LIRD	Liard River Hi	60.21 324	P	P	06 55 09.9 +0.4
	baz=73				
W13A	Hualapai Mount	60.40 294	IAmb	IAmb	06 55 24.4
	comp=Z,16nm,1.1s				
PRN	Pahroc Range	60.41 297	IAmb	IAmb	06 55 20.9
	comp=Z,18nm,1.0s				
HAWA	Hanford	60.42 308	P	P	06 55 10.8 -0.3
R11B	Troy Canyon, C	60.46 298	P	P	06 55 12.0 +0.3
	baz=68,SNR=6.8				
TGTN	Hyland Airport	60.62 327	P	P	06 55 13.4 +1.1
	baz=73,SNR=5.1				
MMAI	Mount Meron Ar	60.69 68	LR	LR	07 21 06.0
	comp=Z,110nm,21.1s,baz=276,slow=36				
INK	Inuvik	60.71 335	P	P	06 55 13.2 +0.5
	baz=72,SNR=10				
INK	Inuvik	60.71 335	LR	LR	07 20 02.3
	comp=Z,489nm,19.6s,baz=5.0,slow=35				
214A	Organ Pipe Nat	60.79 291	P	P	06 55 14.2 +0.2
	baz=66				
S11A	Rachel	60.83 298	IAmb	IAmb	06 55 24.7
	comp=Z,25nm,1.2s				
V12A	Nelson	60.89 295	P	P	06 55 15.1 +0.4
V12A			IAmb	IAmb	06 55 23.5
	comp=Z,17nm,1.0s				
PDMCI	Parker Dam,Lak	60.90 294	P	P	06 55 15.1 +0.6
	baz=67				
PB08	IPOC Station P	60.91 213	P	P	06 55 13.5 -1.6
PB08			IAmb	IAmb	06 55 14.7
	comp=Z,12nm,0.8s				
KIRV	Kirov	61.01 37	LR	LR	07 20 31.6
	comp=Z,302nm,19.4s,baz=286,slow=35				
F31M	Tsiigehtchic	61.06 334	P	P	06 55 15.6 +0.5
	baz=71,SNR=5.8				
NEE2	Needles Airpor	61.08 294	P	P	06 55 16.1 +0.3
	baz=67				
113A	Mohawk Valley,	61.21 292	IAmb	IAmb	06 55 25.4
	comp=Z,13nm,1.0s				
BLYC	Blythe	61.41 293	IAmb	IAmb	06 55 30.6
	comp=Z,19nm,1.2s				
G31M	Satah River	61.42 333	P	P	06 55 17.1 -0.4
	baz=71				
TPNV	Topopah Spring	61.47 297	IAmb	IAmb	06 55 27.5
	comp=Z,13nm,1.1s				
TPNV	Topopah Spring	61.47 297	P	P	06 55 18.9 +0.3
	baz=68				
MMPY	Sheldon Lake,	61.62 328	P	P	06 55 20.0 +1.0
	baz=71				
IRM	Iron Mountain	61.72 294	P	P	06 55 18.9 -1.3
	baz=67,SNR=7.3				
F30M	Barrier River	61.74 334	P	P	06 55 19.5 -0.2
	baz=70				
TUQ	Turquoise Moun	61.81 295	P	P	06 55 21.5 +0.6
	baz=67				
H31M	Peel River	61.82 332	P	P	06 55 19.5 -0.8
	baz=70				
GMRC	Granite Mounta	61.86 295	P	P	06 55 21.2 0.0
	baz=67				
KIV	Kislovodsk	61.90 54	eP	P	06 55 19.9 -1.4
KIV			pmax	pmax	
	comp=Z,7.0nm,1.0s				
KVAR	Kislovodsk Arr	61.90 54	LR	LR	07 20 54.9
	comp=Z,113nm,20.3s,baz=264,slow=35				
GLA	Glamis	61.92 293	IAmb	IAmb	06 55 30.4
	comp=Z,13nm,0.9s				
GLA	Glamis	61.92 293	P	P	06 55 21.8 +0.3
	baz=66				
KVN	Kaiserville	62.02 300	IAmb	IAmb	06 55 30.0
	comp=Z,16nm,1.0s				
BELG	Belogornoye	62.05 44⇑	eP	P	06 55 21.7 -0.3
BELG			pmax	pmax	
	comp=Z,9.0nm,1.2s				
BELG	Belogornoye	62.05 44	LR	LR	07 20 46.6
	comp=Z,623nm,19.7s,baz=311,slow=35				
GWY	Greenwater Val	62.07 297	IAmb	IAmb	06 55 31.8
	comp=Z,18nm,1.1s				
FURC	Furnace Creek,	62.11 297	P	P	06 55 22.8 +0.2
	baz=67				
KBZ	Khabaz	62.12 54⇑	iP	P	06 55 23.5 +0.9
KBZ			pmax	pmax	
	comp=Z,15nm,1.1s				
KBZ	Khabaz	62.12 54	P	P	06 55 24.6 +2.0
	comp=Z,6.8nm,1.0s,baz=289,slow=5.4,SNR=11				
	comp=Z,6.8nm,1.0s				
G30M	tAoh Zraii Nji	62.12 334	P	P	06 55 22.8 +0.5
	baz=69				
D28M	Stokes Point	62.14 337	P	P	06 55 22.6 +0.3
	baz=68				
BC3	Big Chuckawall	62.15 293	P	P	06 55 23.4 +0.2
	baz=66				
E29M	Blow River	62.20 336	P	P	06 55 22.5 -0.3
	baz=68				
GRAC	Grapevine Rang	62.27 298	P	P	06 55 24.6 +0.7
	baz=67				
NV11	Mina Array Sit	62.30 299	IAmb	IAmb	06 55 32.1
	comp=Z,8.2nm,0.9s				
QSM	Queen of Sheba	62.31 296	IAmb	IAmb	06 55 32.8
	comp=Z,20nm,1.1s				
CPUP	Villa Florida	62.32 199	P	P	06 55 25.2 +1.2
	comp=Z,1.6nm,0.8s,baz=32,slow=12,SNR=3.8				
CPUP			LR	LR	07 20 10.1
	comp=Z,86nm,20.2s,baz=20,slow=34				
	comp=Z,1.6nm,0.8s				
HEC	Hector,Ludlow	62.35 295	P	P	06 55 25.0 +0.5
	baz=66				
NVAR	Mina Array Bea	62.41 299	P	P	06 55 24.7 -0.2
	comp=Z,2.4nm,0.8s,baz=75,slow=6.5,SNR=12				
NVAR			LR	LR	07 23 46.0
	comp=Z,538nm,18.0s,baz=68,slow=37				
	comp=Z,2.4nm,0.8s				
BELC	Belle Mtn. Jos	62.43 294	P	P	06 55 26.0 +0.9
	baz=66				
DLBC	Dease Lake	62.45 324	P	P	06 55 24.9 +0.2
	baz=70				
DLBC	Dease Lake	62.45 324	LR	LR	07 22 36.2
	comp=Z,941nm,18.2s,baz=66,slow=36				
GSC	Goldstone, Bar	62.52 296	IAmb	IAmb	06 55 35.1
	comp=Z,11nm,1.0s				
GSC	Goldstone, Bar	62.52 296	P	P	06 55 26.5 +0.9
	baz=66				
EPYK	Eagle Plains	62.53 333	P	P	06 55 25.2 +0.1
	baz=68				
R33M	Jennings River	62.57 325	P	P	06 55 26.1 +0.5
	baz=70,SNR=6.0				
LHV	Little Huntoon	62.62 299	IAmb	IAmb	06 55 39.4
	comp=Z,15nm,0.9s				
FARO	Faro, Yukon	62.66 328	IAmb	IAmb	06 55 36.0
	comp=Z,16nm,1.3s				
FARO	Faro, Yukon	62.66 328	P	P	06 55 26.5 +0.5
	baz=69,SNR=5.1				
E28M	Babbage River	62.68 336	P	P	06 55 26.6 +0.6
	baz=67				
PAHR	Pah Rah Range	62.70 301	IAmb	IAmb	06 55 34.6
	comp=Z,11nm,1.0s				
SWSC	Sam W. Stewart	62.71 293	P	P	06 55 26.9 +0.2
	baz=66				
MPMC	Manual Prospec	62.73 297	P	P	06 55 27.8 +0.6
	baz=67,SNR=10.0				
G29M	Pine Creek	62.81 334	P	P	06 55 26.6 -0.3
	baz=68				
I30M	Mount Dempster	62.82 332	P	P	06 55 27.2 0.0
	baz=68				
RRX	Edison Barstow	62.84 295	P	P	06 55 27.7 +0.1
	baz=66				
PMD	Palm Desert	62.86 294	IAmb	IAmb	06 55 36.8
	comp=Z,15nm,1.0s				
D27M	Malcolm River	62.90 337	P	P	06 55 27.4 -0.1
	baz=66				
YUH	Yuha Desert	62.92 293	IAmb	IAmb	06 55 40.9
	comp=Z,23nm,1.4s				
N32M	Quiet Lake	62.93 327	P	P	06 55 27.6 -0.3
	baz=69				
TPFO	Pinon Flats	62.94 294	P	P	06 55 27.8 -0.7
	baz=66				
PFO	Pinyon Flats O	62.94 294⇓	eP	P	06 55 28.8 +0.3
PFO			pmax	pmax	
	comp=Z,23nm,1.1s				
PFO	Pinyon Flats O	62.94 294	P	P	06 55 28.5 0.0
	baz=66				
PFO	Pinyon Flats O	62.94 294	LR	LR	07 22 12.4
	comp=Z,383nm,19.4s,baz=69,slow=35				
LVC	Limon Verde	62.97 211	LR	LR	07 21 36.6
	comp=Z,188nm,19.2s,baz=14,slow=35				
CWC	Cottonwood Cre	63.02 297	P	P	06 55 29.3 +0.3
	baz=66				
J30M	Hart River	63.05 331	P	P	06 55 28.8 +0.1
	baz=68				
IKP	In-Ko-Pah, Jac	63.06 293	P	P	06 55 29.1 -0.2
	baz=66				
LRMC	Laurel Mtn Rad	63.11 296	P	P	06 55 30.4 +0.8
	baz=66				
M31M	Drury Creek, Y	63.13 328	IAmb	IAmb	06 55 50.0
	comp=Z,32nm,1.6s				
M31M	Drury Creek, Y	63.13 328	P	P	06 55 30.1 +1.0
	baz=68,SNR=5.0				
ZEI	Tsey	63.15 55	eP	P	06 55 30.3 +0.5
ZEI			pmax	pmax	
	comp=Z,12nm,1.0s				
P33M	Teslin, Yukon	63.16 326	P	P	06 55 29.1 -0.4
	baz=68				
S34M	Telegraph Cree	63.18 323	P	P	06 55 29.7 +0.2
	baz=69				
F28M	Old Crow	63.19 335	IAmb	IAmb	06 55 30.9
	comp=Z,26nm,1.4s				
F28M	Old Crow	63.19 335	P	P	06 55 29.6 +0.2
	baz=66,SNR=5.6				
H29M	Whitestone	63.20 333	IAmb	IAmb	06 55 39.1
	comp=Z,14nm,0.9s				
H29M	Whitestone	63.20 333	P	P	06 55 30.1 +0.6
	baz=67				
MONP2	Monument Peak	63.20 293	P	P	06 55 31.0 +0.7
	baz=66				
MAYO	Mayo, Yukon	63.24 330	P	P	06 55 30.4 +0.5
	baz=68				
MDPB	Devils Postpil	63.28 299	IAmb	IAmb	06 55 39.4
	comp=Z,13nm,1.1s				
MURC	Murrieta	63.50 294	P	P	06 55 32.0 -0.1
	baz=66				
I29M	Ogilvie Camp,	63.52 332	IAmb	IAmb	06 55 37.5
	comp=Z,25nm,1.4s				
I29M	Ogilvie Camp,	63.52 332	P	P	06 55 31.9 +0.3
	baz=66,SNR=6.5				
E27K	Coleen River	63.55 336	P	P	06 55 32.8 +0.9
E27K	Coleen River	63.55 336	P	P	06 55 32.4 +0.6
	baz=65,SNR=6.0				
EDW2	Edwards Air Fo	63.58 296	P	P	06 55 33.6 +0.9
	baz=66				
BFSC	Mount Baldy Ra	63.59 295	P	P	06 55 33.4 +0.6
	baz=66				
ISA	Isabella, Lake	63.62 297	IAmb	IAmb	06 55 41.7

comp=Z,17nm,1.3s
ISA Isabella, Lake 63.62 297 P P 06 55 33.0 +0.1
baz=66
BBB Bella Bella 63.67 317 LR LR 07 23 25.0
comp=Z,844nm,18.4s,baz=76,slow=36
P32M Atlin 63.81 326 P P 06 55 33.2 -0.5
baz=68
K29M Barlow Dome 63.81 331 IAmb IAmb 06 56 18.7
comp=Z,35nm,1.9s
K29M Barlow Dome 63.81 331 P P 06 55 34.0 +0.2
baz=66
WHY Whitehorse 63.93 327 P P 06 55 34.7 +0.2
baz=67
VES Vestal, Richgr 64.00 297 P P 06 55 35.4 +0.1
baz=66
N31M Braeburn, Yuko 64.01 328 IAmb IAmb 06 55 37.4
comp=Z,17nm,0.9s
N31M Braeburn, Yuko 64.01 328 P P 06 55 35.3 +0.3
baz=67
M30M Minto, Yukon 64.02 329 P P 06 55 34.9 -0.1
baz=66
I28M Miner Creek 64.11 333 P P 06 55 36.9 +1.3
baz=65
ARVC Arvin 64.11 296 P P 06 55 35.0 -1.0
baz=66
G27K Doyon Strip 64.16 335 IAmb IAmb 06 55 41.4
comp=Z,15nm,1.4s
G27K Doyon Strip 64.16 335 P P 06 55 36.4 +0.5
baz=64,SNR=5.6
YBH Yreka Blue Hor 64.24 304 LR LR 07 24 23.6
comp=Z,432nm,18.2s,baz=59,slow=37
L29M L29M 64.36 330 P P 06 55 35.2 -2.1
baz=66
H27K Steamboat Moun 64.36 334 P P 06 55 37.1 -0.1
baz=64
V35K Ketchikan 64.40 321 P P 06 55 37.8 +0.2
baz=67
O30N Mendenhall 64.44 327 P P 06 55 37.5 -0.3
baz=66
DAWY Dawson 64.48 331 P P 06 55 38.3 +0.3
baz=65
CIS Catalina Islan 64.51 294 P P 06 55 37.5 -1.2
baz=65
D25K Kavik River 64.59 338 P P 06 55 39.2 +0.5
baz=62
N30M Aishikik Lake 64.60 328 P P 06 55 38.5 -0.4
baz=66
SKAG Skagway 64.61 326 P P 06 55 39.5 +0.6
baz=66
F26K Sheenjek River 64.63 336 P P 06 55 39.6 +0.7
baz=63,SNR=5.3
I27K Kandik River 64.67 333 P P 06 55 39.6 +0.3
baz=64
R32K Eaglecrest 64.71 324 P P 06 55 40.3 +0.7
baz=66
GNI Garni 64.76 57⇑ *e*P **P 06 55 42.1 +1.7**
GNI pmax pmax
comp=Z,21nm,1.1s
GNI Garni 64.76 57 LR LR 07 24 25.5
comp=Z,128nm,19.5s,baz=314,slow=36
M29M Somme Creek 64.78 330 IAmb IAmb 06 55 41.6
comp=Z,14nm,1.2s
M29M Somme Creek 64.78 330 P P 06 55 40.1 0.0
baz=65
G26K Porcupine Rive 64.85 335 P P 06 55 40.7 +0.4
baz=63
E25K Arctic Village 64.91 337 P P 06 55 41.3 +0.6
baz=62
HYT Haines Junctio 65.05 328 P P 06 55 42.6 +0.7
baz=65
S32K Killisnoo 65.06 324 P P 06 55 42.2 +0.4
baz=66
P30M Million Dollar 65.10 327 P P 06 55 43.1 +0.9
baz=65
C24K Franklin Bluff 65.11 339 P P 06 55 42.5 +0.5
baz=60
F25K Christian Rive 65.19 336 P P 06 55 44.5 +1.9
baz=61,SNR=5.2
YUK4 Talbot Arm 65.33 328 P P 06 55 42.7 -1.1
baz=65
YUK6 Outpost Mounta 65.38 328 P P 06 55 44.0 -0.1
baz=64
I26K Coal Creek Min 65.38 333 P P 06 55 44.6 +0.8
baz=62
D24K Happy Valley 65.44 338 P P 06 55 44.2 +0.1
baz=59
MAK Makhachkala 65.52 54 *e*P **P 06 55 40.4 -4.6**
MAK *e*S **S 07 04 21.7 -8.3**
MAK *e*SS **SS 07 08 40.8 -2.3**
MAK pmax pmax
comp=Z,29nm,0.3s
MAK MLR MLR
comp=Z,138nm,14.0s
KMRM Mail Ridge 65.54 303 IAmb IAmb 06 55 54.3
comp=Z,19nm,0.9s
K27K Chicken 65.55 332 P P 06 55 44.7 -0.3
baz=63
SIT Sitka 65.60 323 P P 06 55 45.5 +0.2
baz=65
C23K Itkillik River 65.62 339 P P 06 55 44.8 -0.5
baz=58
P29M Windy Craggy 65.66 327 P P 06 55 45.9 +0.1
baz=64
G25K Bearman Lake 65.74 335 P P 06 55 47.1 +1.0
baz=61
KMPM Mount Pierce 65.75 303 IAmb IAmb 06 55 55.5
comp=Z,22nm,1.1s
YUK8 Steele Glacier 65.84 329 P P 06 55 47.3 +0.2
baz=64
E24K Your Creek 65.88 337 P P 06 55 48.4 +1.3
E24K Your Creek 65.88 337 P P 06 55 47.3 +0.2
baz=59,SNR=6.0
H25L Birch Creek 65.89 335 P P 06 55 47.5 +0.4
baz=61
L27K Beaver Creek, 65.90 331 IAmb IAmb 06 55 53.1
comp=Z,28nm,1.7s
L27K Beaver Creek, 65.90 331 P P 06 55 47.5 +0.3
baz=63
J26L Joseph Creek 65.91 333 IAmb IAmb 06 55 58.5
comp=Z,12nm,1.1s
J26L Joseph Creek 65.91 333 P P 06 55 47.4 0.0
baz=62
YUK3 Moose Creek 65.92 329 P P 06 55 46.8 -0.8
baz=63
TOLK Toolik Lake Re 65.93 338 P P 06 55 46.9 -0.5
baz=58
F24K Squaw Lake 65.97 337 P P 06 55 47.7 +0.1
baz=60
PRP Porcupine Dome 66.15 334 P P 06 55 49.6 +0.6
baz=61
M27K Edge Creek, AK 66.25 330 IAmb IAmb 06 56 11.0
comp=Z,15nm,1.1s
M27K Edge Creek, AK 66.25 330 P P 06 55 48.7 -0.9
baz=62
G24K Hadweenzic Riv 66.25 336 P P 06 55 50.0 +0.5
baz=60
E23K Chandalar 66.25 337 P P 06 55 49.0 -0.5
baz=58
O28M Mount Upton 66.25 328 P P 06 55 48.8 -1.1
baz=63
SCRK Sand Creek 66.32 332 P P 06 55 48.7 -1.4
baz=61
ARU Arti 66.39 37 *d i*P **P 06 55 49.5 -0.9**
ARU 06 56 17.4
ARU 06 58 12.1
ARU S **S 07 04 39.4 -0.8**
ARU SS **SS 07 08 54.7 -1.3**
ARU pmax pmax
comp=Z,15nm,1.5s
ARU MLR MLR
comp=Z,525nm,18.0s
ARU Arti 66.39 37 LR LR 07 24 34.0
comp=Z,507nm,18.3s,baz=286,slow=36
L26K Log Cabin Wild 66.53 331 IAmb IAmb 06 55 57.2
comp=Z,14nm,1.3s
L26K Log Cabin Wild 66.53 331 P P 06 55 50.2 -1.0
baz=62
J25K Salcha River, 66.54 333 IAmb IAmb 06 56 01.8
comp=Z,13nm,1.4s
J25K Salcha River, 66.54 333 P P 06 55 50.6 -0.7
baz=60
CTG Chitna Glacier 66.67 329 P P 06 55 52.1 -0.3
baz=62
M26K Nabesna, AK 66.68 331 P P 06 55 51.9 -0.4
baz=62
D22K Ayikyak River 66.76 339 P P 06 55 50.1 -2.5
baz=56
RIDG Independent Ri 66.77 332 IAmb IAmb 06 55 55.1
comp=Z,22nm,1.2s
RIDG Independent Ri 66.77 332 P P 06 55 53.3 +0.5
baz=60
H24K Noodor Dome 66.83 335 IAmb IAmb 06 55 58.6
comp=Z,12nm,1.2s
H24K Noodor Dome 66.83 335 P P 06 55 53.5 +0.3
baz=59
COLD Coldfoot 66.89 337 P P 06 55 53.6 +0.1
baz=57
E22K Anaktuvuk Pass 66.91 338 P P 06 55 55.3 +1.7
E22K IAmb IAmb 06 56 17.5
comp=Z,26nm,1.3s
E22K Anaktuvuk Pass 66.91 338 P P 06 55 54.0 +0.4
baz=56
ILAR Eielson Array 67.03 334 P P 06 55 55.2 +0.8
comp=Z,1.2nm,0.9s,baz=57,slow=5.2,SNR=9.1
ILAR LR LR 07 24 00.7
comp=Z,332nm,20.8s,baz=58,slow=35
comp=Z,1.2nm,0.9s
POKR Poker Plat Res 67.05 334 P P 06 55 53.4 -1.1
baz=59
K24K Donnelly Dome 67.10 333 P P 06 55 55.2 +0.3
baz=60
G23K Bananza Creek 67.11 336 IAmb IAmb 06 56 00.6
comp=Z,24nm,1.3s
G23K Bananza Creek 67.11 336 P P 06 55 55.2 +0.3
baz=57,SNR=6.0
HDA Harding Lake 67.23 333 P P 06 55 55.0 -0.8
baz=59
F22K John River 67.37 337 P P 06 55 56.4 -0.1
baz=56
PAX Paxson 67.40 332 P P 06 55 57.1 +0.2
baz=60
H23K Yukon River 67.42 335 IAmb IAmb 06 56 03.1
comp=Z,20nm,1.1s
H23K Yukon River 67.42 335 P P 06 55 57.4 +0.5
baz=58
CCB Clear Creek Bu 67.43 334 IAmb IAmb 06 56 01.7
comp=Z,20nm,1.4s
G22K Bettles 67.48 337 P P 06 55 57.0 -0.2
baz=56
CRQE Cirque 67.52 329 P P 06 55 57.5 -0.3
baz=61
I23K Minto, Yukon-K 67.72 335 IAmb IAmb 06 56 04.1
comp=Z,18nm,1.3s
I23K Minto, Yukon-K 67.72 335 P P 06 55 58.9 +0.2
baz=57
N25K Chitina, Valde 67.73 330 P P 06 55 57.1 -1.9
baz=60
NEA2 Nenana 67.92 334 IAmb IAmb 06 56 05.3
comp=Z,27nm,1.5s
NEA2 Nenana 67.92 334 P P 06 55 59.8 -0.2
baz=57
F21K Alatna River 67.95 338 P P 06 56 01.9 +1.7
F21K IAmb IAmb 06 56 02.4
comp=Z,18nm,1.3s
F21K Alatna River 67.95 338 P P 06 56 00.3 +0.1
baz=55
H22K Ishtalitna Cre 68.02 336 P P 06 56 01.1 +0.4
baz=56
D20K Etivluk River 68.02 340 P P 06 56 00.5 -0.1
baz=53
BMRM Bremner River 68.06 330 P P 06 56 01.3 +0.3
baz=60
DHY Denali Highway 68.09 332 IAmb IAmb 06 56 03.7
comp=Z,24nm,1.2s
DHY Denali Highway 68.09 332 P P 06 56 01.7 +0.4
baz=58,SNR=5.1
E20K Nigu River 68.17 339 P P 06 56 01.1 -0.5
baz=53
MCK McKinley 68.33 333 P P 06 56 02.8 +0.1
baz=57
KLU Klutina 68.34 330 IAmb IAmb 06 56 12.6
comp=Z,20nm,1.0s
KLU Klutina 68.34 330 P P 06 56 03.5 +0.6
baz=59
G21K Allakaket 68.37 337 P P 06 56 03.4 +0.5
baz=54
WAT6 Susitna Watana 68.50 332 P P 06 56 04.0 +0.1
baz=58
C19K Lookout Ridge 68.61 341 P P 06 56 03.5 -0.9
baz=50
I21K Tanana 68.63 335 IAmb IAmb 06 56 28.3
comp=Z,21nm,1.1s
I21K Tanana 68.63 335 P P 06 56 04.7 +0.2
baz=55
H21K Melozitna Rive 68.64 336 IAmb IAmb 06 56 10.3
comp=Z,24nm,1.4s
H21K Melozitna Rive 68.64 336 P P 06 56 04.9 +0.4
baz=55
WAT1 Susitna Watana 68.68 332 P P 06 56 05.1 +0.3
baz=57
F20K Avaraart Lake 68.76 338 P P 06 56 05.5 +0.3
baz=53
AKTO Aktyubinsk 68.80 43 LR LR 07 25 32.6
comp=Z,608nm,18.6s,baz=302,slow=35
BPAW Bear Paw Mtn. 68.89 334 P P 06 56 06.3 +0.2
baz=56
E19K Redstone River 68.97 339 P P 06 56 06.9 +0.3
baz=52
SML Sawmill 69.15 331 P P 06 56 07.7 -0.1
baz=57
KNK Knik Glacier 69.41 331 P P 06 56 09.5 +0.1
baz=57
H20K Anotleneega Mo 69.43 336 P P 06 56 09.1 -0.4
baz=53
CHUM Lake Minchumin 69.49 334 P P 06 56 08.2 -1.6
baz=55
F19K Shaleruckik Mo 69.53 338 P P 06 56 08.2 -1.8
baz=51
PMR Palmer 69.58 331 P P 06 56 10.2 -0.2
baz=56
PWL Port Wells 69.67 331 P P 06 56 10.3 -0.7
baz=57
G19K Purcell Mounta 69.75 338 IAmb IAmb 06 56 16.7
comp=Z,31nm,1.5s
G19K Purcell Mounta 69.75 338 P P 06 56 11.0 -0.4
baz=51
H19K Roundabout Mou 69.93 337 P P 06 56 11.7 -0.7
baz=52
CO01 Juntas del Tor 69.97 209 P P 06 56 14.0 +0.6
CO01 IAmb IAmb 06 56 15.0
comp=Z,13nm,0.9s
J20K Nowinta River 69.97 335 IAmb IAmb 06 56 18.4
comp=Z,16nm,1.3s
J20K Nowinta River 69.97 335 P P 06 56 11.1 -1.7
baz=53
C17K DeLong Mountai 70.01 341 P P 06 56 12.4 -0.6
baz=47
G18K Tagagawik 70.40 338 P P 06 56 13.7 -1.8
baz=50
ABKAR Akbulak array 70.45 43 P P 06 56 15.9 -0.1
J19K Poorman 70.60 335 P P 06 56 14.9 -1.7
baz=52
CFA Coronel Fontan 70.71 206 LR LR 07 27 53.9
comp=Z,80nm,18.2s,baz=322,slow=36
C16K Lisburne Hills 70.73 342 P P 06 56 15.2 -2.2
baz=45
F17K Baldwin Pennin 70.84 339 P P 06 56 16.4 -1.6
baz=48
L20K Farewell, AK 70.90 334 P P 06 56 17.7 -0.8
baz=53
M20K Styx River 70.97 333 P P 06 56 16.9 -2.2
baz=53
N20K Mount Spurr 71.02 332 P P 06 56 17.1 -2.3
baz=54
G17K Kiwalik Mounta 71.29 338 P P 06 56 19.8 -1.0
baz=48
J18K Innoko River 71.31 335 P P 06 56 21.7 +0.7
baz=51
TTA Tatalina 71.40 335 P P 06 56 21.1 -0.5
baz=51
H17K Granite Mounta 71.43 337 P P 06 56 21.9 +0.3
baz=49
M19K Big River Lodg 71.44 333 P P 06 56 21.4 -0.4
baz=52
K17K Iditarod 72.34 335 P P 06 56 26.9 -0.3
baz=50
F15K North Star Dit 72.36 339 P P 06 56 26.4 -0.8
baz=45
KDAK Kodiak Island 73.22 329 LR LR 07 29 19.2
comp=Z,1μm,19.1s,baz=69,slow=36
BRVK Borovoye 73.95 36 P P 06 56 36.7 -0.1
BRVK Borovoye 73.95 36⇓ *e*P **P 06 56 36.1 -0.7**
BRVK pmax pmax
comp=Z,9.0nm,1.1s
BVAR Borovoye Array 74.02 36 P P 06 56 37.2 -0.1
comp=Z,2.4nm,0.8s,baz=305,slow=5.2,SNR=9.1
BVAR LR LR 07 28 57.4
comp=Z,254nm,18.2s,baz=299,slow=36
comp=Z,2.4nm,0.8s
Q17K Contact Creek 74.30 331 P P 06 56 38.6 -0.3
baz=50
O16K Kokwok River B 74.31 333 P P 06 56 39.0 +0.2
baz=49
TIXI Tiksi 74.47 4 P P 06 56 39.5 -0.1
TIXI Tiksi 74.47 4⇑ *i*P **P 06 56 39.8 +0.3**
TIXI pmax pmax
comp=Z,14nm,1.1s
N15K Kwethluk River 74.68 334 P P 06 56 41.6 +0.6
baz=48
H09N1 TRISTAN DA CUN 74.75 158 T T 08 18 06.9
SNR=4.8
L14K Kuka Creek 74.80 335 P P 06 56 41.4 -0.2
baz=46
R17K Ugashik Creek 74.91 330 P P 06 56 42.3 -0.1
baz=50
M14K Bethel 74.96 335 P P 06 56 43.2 +0.7
baz=46
GEYT Alibeck 75.01 54 P P 06 56 43.9 +0.5
comp=Z,1.4nm,0.5s,baz=98,slow=2.9,SNR=2.3
comp=Z,1.4nm,0.5s
LODK Lodwar 75.04 96 P P 06 56 44.6 +0.7
TSUM Tsumeb 75.33 125 LR LR 07 25 02.1
comp=Z,310nm,20.2s,baz=332,slow=32
ATD Arta Tunnel 76.88 85 LR LR 07 30 09.2
comp=Z,12nm,19.1s,baz=358,slow=35
KURK Kurchatov 79.46 35 P P 06 57 08.2 +0.2
KURK Kurchatov 79.46 35⇓ *i*P **P 06 57 07.6 -0.4**
KURK pmax pmax
comp=Z,11nm,1.0s
KURBB Kurchatov Arra 79.47 35 P P 06 57 07.5 -0.6
comp=Z,4.0nm,0.8s,baz=312,slow=5.9,SNR=13
comp=Z,4.0nm,0.8s
PLCA Paso Flores 79.72 204 P P 06 57 09.6 +0.2
PLCA Paso Flores 79.72 204 P P 06 57 09.6 +0.2
PLCA pmax pmax
comp=Z,18nm,1.4s
PLCA Paso Flores 79.72 204 P P 06 57 09.9 +0.5
comp=Z,2.5nm,0.9s,baz=3.7,slow=9.9,SNR=4.8
PLCA LR LR 07 32 56.7
comp=Z,140nm,20.1s,baz=28,slow=36
comp=Z,2.5nm,0.9s
ZALV Zalesovo Beam 80.00 30 P P 06 57 10.6 -0.3
ZALV Zalesovo Beam 80.00 30 P P 06 57 11.5 +0.6
comp=Z,0.8nm,0.4s,baz=289,slow=9.2,SNR=3.6
comp=Z,0.8nm,0.4s
KIBK Kibwezi 80.48 99 P P 06 57 13.1 -1.1
UOSS Minazif 80.50 66 P P 06 57 12.9 -1.2
UOSS IAmb IAmb 06 57 23.7
comp=Z,19nm,0.9s
UOSS Minazif 80.50 66 P P 06 57 14.4 +0.3
UOSS P **P 06 57 14.4 +0.3**
SOHO SOHO 81.19 67 P P 06 57 18.5 +0.7
CHGR Chuyangaron 81.81 49 P P 06 57 22.9 +1.9
CHGR IAmb IAmb 06 57 23.5
comp=Z,17nm,1.0s
CHGR Chuyangaron 81.81 49 P P 06 57 22.9 +1.9
CHGR pmax pmax
comp=Z,17nm,1.0s
HOQ Hoqain 82.09 67 P P 06 57 22.2 -0.4
SNR=5.4
HOQ P **P 06 57 22.2 -0.4**
SNR=5.4
DOK Doka 82.30 73 P P 06 57 24.9 +1.1
SNR=7.0
ABTO Aybut 82.32 74 P P 06 57 25.0 +1.1
SNR=7.3
GAR Garm 82.32 48 IAmb IAmb 06 57 26.6
comp=Z,17nm,1.0s
WHFO Wadi Hawf 82.39 74 P P 06 57 25.4 +1.1
SNR=6.9
WHFO P **P 06 57 25.4 +1.1**
SNR=6.9
AAK Ala-Archa 82.54 43 LR LR 07 34 17.6
comp=Z,417nm,19.4s,baz=12,slow=36
SEY Seymchan 83.16 355⇑ *e*P **P 06 57 27.1 -0.3**
SEY pmax pmax
comp=Z,15nm,1.4s
SEY Seymchan 83.16 355 LR LR 07 32 29.9
comp=Z,154nm,20.3s,baz=16,slow=34
DMTO DMTO 83.44 73 P P 06 57 30.3 +0.6
DMTO P **P 06 57 30.3 +0.6**
MAKZ Makanchi 83.74 36 P P 06 57 30.6 -0.2
MAKZ Makanchi 83.74 36 P P 06 57 30.6 -0.2
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 83.90 36 P P 06 57 31.4 -0.2
MK31 Makanchi Array 83.90 36⇑ *e*P **P 06 57 31.8 +0.2**
MKAR Makanchi Array 83.90 36 P P 06 57 31.4 -0.2
MKAR Makanchi Array 83.90 36 *i* P **P 06 57 33.0 +1.4**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 83.90 36 P P 06 57 31.7 +0.1
comp=Z,2.4nm,0.8s,baz=298,slow=5.1,SNR=10
comp=Z,2.4nm,0.8s
MHTO MHTO 84.02 69 P P 06 57 33.4 +0.8
SNR=8.0
MHTO P **P 06 57 33.4 +0.8**
SNR=8.0
DGZ Jazzator, Alta 84.20 32⇓ *e*P **P 06 57 31.9 -1.4**
DGZ pmax pmax
comp=Z,12nm,1.1s
KSH Kashi 85.40 45 P P 06 57 42.8 +3.3
KSH sP pwP 06 57 45.5 -0.9
KSH pmax pmax
comp=Z,10.0nm,1.1s
KSH LR LR
comp=N,420nm,22.0s
KSH LR LR
comp=E,840nm,20.6s
KSH LR LR
comp=Z,620nm,21.6s
BOD Bodaibo 85.91 14 *e*P **P 06 57 41.0 -0.4**
BOD pmax pmax
comp=Z,32nm,1.3s
MA2 Magadan 86.61 355 LR LR 07 35 47.7
comp=Z,111nm,18.3s,baz=28,slow=35
WMQ Urumqi 88.69 36 *e*P **P 06 57 56.4 +1.1**
WMQ LR LR
comp=N,380nm,20.1s
WMQ LR LR
comp=E,500nm,13.3s
WMQ LR LR
comp=Z,260nm,20.1s
SHEM Shemya Is, Ala 89.13 341 LR LR 07 41 16.0
comp=Z,236nm,18.6s,baz=274,slow=38
RPN Rapa Nui 90.15 237 LR LR 07 33 13.4
comp=Z,53nm,20.4s,baz=328,slow=32
PETK Petropavlovsk- 92.24 350 LR LR 07 38 06.7
comp=Z,245nm,20.9s,baz=17,slow=34
KLR Kul'dur 96.91 6⇑ *e*P **P 06 58 33.9 +1.0**
KLR pmax pmax
comp=Z,9.0nm,2.0s
MDJ Mudanjiang 101.24 8 Pdif **Pdif 06 58 51.0 -1.4**
MDJ pP pPdif 06 58 54.3 -0.6
MDJ sP pwP 06 58 58.3 -0.3
MDJ Mudanjiang 101.24 8 SS SS 07 17 29.6 0.0
MDJ AMB AMB
comp=Z,150nm,5.3s
MDJ pmax pmax
comp=Z,9.0nm,0.6s
MDJ pmax pmax
comp=Z,230nm,5.1s
PZH PanZhiHua 109.33 37 PKP **PKiKP 07 03 31.6 -1.0**
ELIB Princess Elisa 113.92 162 *d*PP **PP 07 04 34.7 +0.6**
QSPA South Pole Qui 123.71 180 PKP **PKPdf 07 03 58.2 -0.4**
comp=Z,1.0nm,0.7s,baz=117,slow=1.3,SNR=6.1
WRA Warramunga Arr 164.93 25 PKPab **PKPab 07 06 03.5 +1.0**
comp=Z,1.3nm,1.1s,baz=354,slow=4.6,SNR=4.5
ASAR Alice Springs 168.09 34 PKPab **PKPab 07 06 16.1 -0.2**
comp=Z,3.6nm,0.9s,baz=322,slow=4.1,SNR=5.5

IDC ***19*** *06:52:25.3±1.3, 6°.13N×126°.95E, h122km±10km, mb4.2/25, mbtmp4.6/27, MS3.1/3, Error ellipse: s-maj=22.1km s-min=9.3km az=71.0*
NEIC ***19*** *06:52:25.8±1.4, 6°.11N±0°.07×126°.87E±0°.09, h123km±8km, mb4.8/41, Error ellipse: s-maj=15.9km s-min=4.4km az=54.0*
DJA ***19*** *06:52:26.1±0.5, 6°.N±4°×12°.7E±°, h119km±7km, M4.7/13, mB5.1/8, mb4.7/12, MLv5.0/13, Mw(mB)4.5/8*
ISC 19 06:52:24.7±0.6, **6.05N**±0.04×**126.90E**±0.08, **h119**km±5km,

n119,σ1$17/132,mb4.7/51,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.65**	**308**	Pn	**Pn**	**06 52 54.4**	**+0.5**
DAV	**Davao City (W)**	**1.65**	**308**	P	**Pn**	**06 52 54.1**	**+0.2**
	456nm,0.5s,baz=107,slow=9.6,SNR=1.6						
DAV				S	**Sn**	**06 53 17.3**	**+1.1**
	965nm,0.5s,baz=268,slow=23,SNR=12						
SGSI	**Sangihe**	**2.72**	**210**	P	**Pn**	**06 53 07.3**	**0.0**
SGSI				S	**Sn**	**06 53 38.4**	**-1.7**
TNTI	**Ternate**	**5.27**	**175**	Pn	**Pn**	**06 53 42.6**	**+1.3**
TNTI	**Ternate**	**5.27**	**175**	P	**Pn**	**06 53 40.0**	**-1.3**
TNTI				S	**Sn**	**06 54 39.1**	**-1.8**
KMSI	**Cibinong**	**6.17**	**208**	P	**Pn**	**06 53 53.2**	**-0.3**
	261nm,0.7s,3μm1.0nm						
GTOI	**Gorontalo**	**6.63**	**216**	P	**Pn**	**06 53 59.3**	**-0.4**
	77nm,1.2s,898nm0.2nm						
MRSI	**Marisa**	**7.42**	**222**	P	**Pn**	**06 54 10.8**	**+0.4**
	463nm,0.8s,3μm1.5nm						
TOLI2	**Tolitoli**	**7.83**	**231**	Pn	**Pn**	**06 54 14.7**	**-1.2**
SANI	**Sanana**	**8.10**	**186**	P	**Pn**	**06 54 16.5**	**-3.1**
	45nm,0.7s,1μm0.6nm						
LUWI	**Luwuk**	**8.16**	**210**	Pn	**Pn**	**06 54 22.2**	**+1.8**
LUWI	**Luwuk**	**8.16**	**210**	P	**Pn**	**06 54 19.4**	**-1.0**
	196nm,0.5s,16μm1.9nm						
MYLDM	**Lahad Datu**	**8.40**	**265**	Pn	**Pn**	**06 54 24.3**	**+0.7**
MPSI	**Mapaga**	**9.00**	**231**	P	**Pn**	**06 54 31.6**	**-0.1**
	16nm,0.5s,1μm						
NLAI	**Namlea**	**9.23**	**179**	P	**Pn**	**06 54 33.4**	**-1.5**
	19nm,0.6s						
TTSI	**Tana Toraja**	**11.47**	**218**	P	**Pn**	**06 55 05.1**	**+0.1**
	95nm,1.1s,1μm						
KAPI	**Kappang**	**13.10**	**213**		**Pn**	**06 55 26.5**	**+0.1**
KAPI	**Kappang**	**13.10**	**213**	P	**Pn**	**06 55 26.2**	**-0.2**
	21nm,0.7s,baz=18,slow=8.5,SNR=12						
SBUM	**Sibu**	**15.06**	**257**	Pn	**Pn**	**06 55 50.9**	**-0.6**
SBUM				IAmb	IAmb	06 55 56.9	
	comp=Z,30nm,0.7s						
BATI	**Baumata**	**16.47**	**191**	P	**Pn**	**06 56 09.1**	**+0.2**
	comp=Z,20nm,0.3s,baz=204,slow=0.4,SNR=2.2						
GUMO	**Guam**	**19.22**	**66**	LR	LR	07 04 57.8	
	comp=Z,16nm,18.6s,baz=306,slow=39						
MTN	**Manton Dam**	**19.24**	**167**	P	**P**	**06 56 40.4**	**+0.6**
JOW	**Kunigami**	**20.71**	**3**	P	**P**	**06 56 55.2**	**-0.4**
JOW				IAmb	IAmb	06 57 20.1	
	comp=Z,64nm,1.4s						
KNRA	**Kununurra**	**21.67**	**175**	P	**P**	**06 57 07.2**	**+1.3**
KNRA				IAmb	IAmb	06 57 11.2	
	comp=Z,21nm,0.7s						
LEM	**Lembang**	**23.10**	**237**	LR	LR	07 06 26.8	
	comp=Z,48nm,19.8s,baz=158,slow=36						
PMG	**Port Moresby**	**25.37**	**127**	P	**P**	**06 57 40.1**	**-0.9**
PMG				IAmb	IAmb	06 58 07.0	
	comp=Z,18nm,1.1s						
JCJ	**Chichijima**	**25.49**	**33**	P	**P**	**06 57 40.3**	**-1.7**
COEN	**Coen**	**25.62**	**141**	P	**P**	**06 57 43.7**	**+0.5**
WB0	**Warramunga Arr**	**26.70**	**164**	P	**P**	**06 57 53.4**	**+0.5**
WRA	**Warramunga Arr**	**26.85**	**164**	P	**P**	**06 57 53.8**	**-0.5**
WRA	**Warramunga Arr**	**26.85**	**164**	P	**P**	**06 57 54.1**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=344,slow=10,SNR=34						
WRA				PcP	**PcP**	**07 01 14.9**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=331,slow=2.4,SNR=5.0						
	comp=Z,1.7nm,0.4s						
WB2	**Warramunga Arr**	**26.85**	**164**	P	**P**	**06 57 54.9**	**+0.6**
WR0	**Warramunga Arr**	**26.92**	**164**	P	**P**	**06 57 55.6**	**+0.7**
NJ2	**Nanjing**	**26.94**	**345**	*e*P	**P**	**06 57 55.3**	**+0.4**
NJ2				pP	**pwP**	**06 58 21.5**	**-3.0**
NJ2				sP	**sP**	**06 58 36.5**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,270nm,4.6s						
WHN	**Wuhan**	**27.07**	**336**	P	**P**	**06 57 59.8**	**+3.7**
PSA00	**Pilbara Seismi**	**28.31**	**194**	P	**P**	**06 58 08.3**	**+1.1**
PSA00				IAmb	IAmb	06 58 32.2	
	comp=Z,24nm,1.4s						
CRAI	**Chiangrai**	**29.35**	**301**	P	**P**	**06 58 16.8**	**+0.2**
CRAI				IAmb	IAmb	06 58 17.7	
	comp=Z,6.5nm,0.6s						
GSI	**Gunungsitoli**	**29.63**	**262**	P	**P**	**06 58 18.3**	**-0.8**
GSI				IAmb	IAmb	06 58 19.6	
	comp=Z,15nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.91**	**297**	P	**P**	**06 58 22.4**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=119,slow=7.3,SNR=1.6						
CMAR				PcP	**PcP**	**07 01 23.1**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=98,slow=1.1,SNR=6.5						
	comp=Z,0.7nm,0.4s						
CHTO	**Chiang Mai**	**30.04**	**298**	P	**P**	**06 58 21.7**	**-1.0**
AS31	**Alice Springs**	**30.32**	**167**	P	**P**	**06 58 25.6**	**+0.6**
ASAR	**Alice Springs**	**30.32**	**167**	P	**P**	**06 58 25.5**	**+0.4**
ASAR	**Alice Springs**	**30.32**	**167**	P	**P**	**06 58 25.6**	**+0.6**
	comp=Z,1.5nm,0.4s,baz=350,slow=7.4,SNR=42						
ASAR				PcP	**PcP**	**07 01 23.6**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=350,slow=2.6,SNR=12						
	comp=Z,1.5nm,0.4s						
PZH	**PanZhiHua**	**31.44**	**313**	P	**P**	**06 58 37.9**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,130nm,4.8s						
XAN	**Xi'an**	**32.45**	**331**	⇓P	**P**	**06 58 43.4**	**-0.3**
XAN				pmax	pmax		
	comp=Z,17nm,1.3s						
CD2	**Chengdu**	**32.91**	**322**	P	**P**	**06 58 47.9**	**+0.1**
HNS	**HongShan**	**33.12**	**342**	⇑P	**P**	**06 58 48.9**	**-0.5**
HNS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BJT	**Baijiatuau**	**35.17**	**346**	P	**P**	**06 59 07.0**	**0.0**
BJT				IAmb	IAmb	06 59 10.7	
	comp=Z,13nm,0.7s						
BJT	**Baijiatuau**	**35.17**	**346**	P	**P**	**06 59 08.1**	**+1.0**
BJI	**Beijing**	**35.19**	**346**	P	**P**	**06 59 10.3**	**+3.1**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MORW	**Morawa**	**36.45**	**196**	P	**P**	**06 59 18.9**	**+0.8**
MORW				IAmb	IAmb	06 59 44.5	
	comp=Z,23nm,1.4s						
FORT	**Forrest**	**36.64**	**178**	P	**P**	**06 59 20.8**	**+1.1**
FORT				IAmb	IAmb	06 59 45.9	
	comp=Z,18nm,0.8s						
USRK	**Ussuriysk Ar.**	**38.26**	**6**	P	**P**	**06 59 32.9**	**-0.3**
USRK	**Ussuriysk Ar.**	**38.26**	**6**	P	**P**	**06 59 32.6**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=182,slow=5.4,SNR=5.5						
	comp=Z,3.0nm,0.6s						
SHL	**Shillong**	**38.68**	**304**	P	**P**	**06 59 36.6**	**-0.7**
SHL				IAmb	IAmb	06 59 37.6	
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**40.24**	**160**	P	**P**	**06 59 50.9**	**+1.1**
STKA	**Stephens Creek**	**40.24**	**160**	P	**P**	**06 59 50.8**	**+1.0**
	comp=Z,5.3nm,0.4s,baz=338,slow=8.6,SNR=14						
	comp=Z,5.3nm,0.4s						
GTA	**Gaotai**	**41.22**	**328**	⇑P	**P**	**06 59 58.8**	**+0.8**
GTA				sP	sP	07 00 34.4	-3.3
GTA				pmax	pmax		
	comp=Z,29nm,0.5s						
GTA				LR	LR		
	comp=N,300nm,16.3s						
GTA				LR	LR		
	comp=E,250nm,21.5s						
GTA				LR	LR		
	comp=Z,160nm,15.5s						
TAPN	**Taplejung**	**42.82**	**304**	*e*P	**P**	**07 00 11.3**	**-0.1**
	comp=Z,9.2nm,0.6s						
KLR	**Kul'dur**	**43.22**	**5**	P	**P**	**07 00 12.8**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=257,slow=4.1,SNR=7.9						
	comp=Z,1.9nm,0.5s						
RAMN	**Ramite**	**43.59**	**303**	*e*P	**P**	**07 00 18.0**	**+0.5**
JIRN	**Jiri**	**44.19**	**304**	*e*P	**P**	**07 00 22.4**	**0.0**
	comp=Z,18nm,0.6s						
GUN	**Gumba**	**44.53**	**304**	*e*P	**P**	**07 00 25.0**	**-0.2**
	comp=Z,35nm,0.8s						
PKI	**Pulchoki**	**44.80**	**303**	*e*P	**P**	**07 00 26.8**	**-0.5**
PKIN	**Phulchoki**	**44.81**	**303**	*e*P	**P**	**07 00 26.5**	**-0.8**
	comp=Z,6.8nm,0.5s						
SONM	**Songino Array**	**45.17**	**341**	P	**P**	**07 00 29.5**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=140,slow=11,SNR=3.5						
	comp=Z,1.7nm,0.4s						
DANN	**Dangsing**	**46.44**	**304**	*e*P	**P**	**07 00 39.7**	**-0.4**
	comp=Z,35nm,0.6s						
PYUN	**Piuthan**	**46.99**	**303**	*e*P	**P**	**07 00 44.3**	**-0.1**
	comp=Z,26nm,0.7s						
WMQ	**Urumqi**	**50.94**	**324**	*e*P	**P**	**07 01 13.6**	**-0.5**
WMQ				pP	pwP	07 01 42.4	-2.4
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
PETK	**Petropavlovsk-**	**53.23**	**23**	P	**P**	**07 01 31.5**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=247,slow=14,SNR=2.7						
	comp=Z,2.2nm,0.6s						
MK31	**Makanchi Array**	**55.77**	**324**	P	**P**	**07 01 49.6**	**+0.4**
MK31				IAmb	IAmb	07 01 50.5	
	comp=Z,17nm,1.1s						
MKAR	**Makanchi Array**	**55.77**	**324**	P	**P**	**07 01 49.7**	**+0.5**
MKAR	**Makanchi Array**	**55.77**	**324**	P	**P**	**07 01 49.5**	**+0.3**
	comp=Z,11nm,0.6s,baz=124,slow=8.0,SNR=55						
MKAR				PcP	**PcP**	**07 02 47.0**	**0.0**
	comp=Z,2.2nm,0.5s,baz=115,slow=4.2,SNR=6.2						
	comp=Z,11nm,0.6s						
MAKZ	**Makanchi**	**55.96**	**324**	P	**P**	**07 01 50.7**	**+0.1**
MAKZ	**Makanchi**	**55.96**	**324**	P	**P**	**07 01 50.9**	**+0.3**
MAKZ				PcP	**PcP**	**07 02 47.5**	**-0.2**
KSH	**Kashi**	**56.54**	**314**	P	**P**	**07 01 57.3**	**+2.3**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NIL	**Nilore**	**56.66**	**306**	P	**P**	**07 01 55.7**	**-0.1**
NIL	**Nilore**	**56.66**	**306**	P	**P**	**07 01 55.9**	**+0.1**
ZAA0	**Zalesovo Array**	**58.61**	**332**	P	**P**	**07 02 08.6**	**-0.4**
ZAA0				IAmb	IAmb	07 02 09.4	
	comp=Z,11nm,1.1s						
ZALV	**Zalesovo Beam**	**58.61**	**332**	P	**P**	**07 02 08.3**	**-0.7**
ZALV	**Zalesovo Beam**	**58.61**	**332**	P	**P**	**07 02 08.6**	**-0.5**
	comp=Z,5.7nm,0.4s,baz=124,slow=5.9,SNR=20						
	comp=Z,5.7nm,0.4s						
KURK	**Kurchatov**	**59.89**	**327**	P	**P**	**07 02 17.9**	**0.0**
KURK	**Kurchatov**	**59.89**	**327**	P	**P**	**07 02 18.2**	**+0.3**
KURBB	**Kurchatov Arra**	**59.89**	**327**	P	**P**	**07 02 18.2**	**+0.3**
	comp=Z,31nm,0.6s,baz=125,slow=6.4,SNR=166						
	comp=Z,31nm,0.6s						
KBL	**Kabul**	**60.27**	**306**	P	**P**	**07 02 20.6**	**-0.5**
KBL				IAmb	IAmb	07 02 21.5	
	comp=Z,9.7nm,0.9s						
CHGR	**Chuyangaron**	**61.26**	**311**	IAmb	IAmb	07 02 28.1	
	comp=Z,12nm,0.8s						
KK31	**Karatay Array**	**61.67**	**316**	P	**P**	**07 02 29.4**	**-0.7**
KK31				IAmb	IAmb	07 02 31.0	
	comp=Z,10nm,0.8s						
KKAR	**Karatay Array**	**61.67**	**316**	P	**P**	**07 02 29.8**	**-0.3**
BVAR	**Borovoye Array**	**65.48**	**326**	P	**P**	**07 02 55.1**	**+0.1**
	comp=Z,26nm,0.7s,baz=120,slow=8.8,SNR=80						
	comp=Z,26nm,0.7s						
TIXI	**Tiksi**	**65.53**	**1**	P	**P**	**07 02 54.4**	**-0.6**
BRVK	**Borovoye**	**65.56**	**326**	P	**P**	**07 02 55.7**	**+0.2**
BRVK	**Borovoye**	**65.56**	**326**	P	**P**	**07 02 55.6**	**+0.2**
WSAR	**Wadi Sarin**	**67.68**	**293**	LR	LR	07 37 48.7	
	comp=Z,47nm,18.3s,baz=320,slow=40						
GEYT	**Alibeck**	**69.59**	**308**	P	**P**	**07 03 21.7**	**+0.5**
GEYT	**Alibeck**	**69.59**	**308**	P	**P**	**07 03 22.2**	**+1.0**
	comp=Z,7.8nm,0.7s,baz=126,slow=4.6,SNR=11						
	comp=Z,7.8nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**69.59**	**308**	P	**P**	**07 03 21.8**	**+0.6**
GYA0B				IAmb	IAmb	07 03 22.8	
	comp=Z,10nm,0.8s						
ABKAR	**Akbulak array**	**70.47**	**320**	P	**P**	**07 03 25.7**	**-0.6**
ABKAR				IAmb	IAmb	07 03 27.2	
	comp=Z,12nm,0.8s						
ARU	**Arti**	**73.08**	**327**	P	**P**	**07 03 40.9**	**-0.9**
L16K	**Owhat River**	**76.96**	**28**	P	**P**	**07 04 05.5**	**+1.5**
L16K				IAmb	IAmb	07 04 10.7	
	comp=Z,18nm,1.4s						
KBZ	**Khabaz**	**81.52**	**313**	P	**P**	**07 04 29.4**	**+0.3**
	comp=Z,6.6nm,1.1s,baz=113,slow=2.2,SNR=7.2						
	comp=Z,6.6nm,1.1s						
ILAR	**Eielson Array**	**82.95**	**26**	P	**P**	**07 04 35.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=246,slow=4.9,SNR=17						
	comp=Z,0.6nm,0.5s						
KLMR	**Klimovskoe**	**83.48**	**331**	*e*P	**P**	**07 04 37.6**	**-1.3**
KLMR				AMP		07 04 39.1	
	comp=Z,9.0nm,0.7s						
MAW	**Mawson**	**85.98**	**200**	P	**P**	**07 04 52.1**	**+0.9**
	comp=Z,3.3nm,1.0s,baz=18,slow=6.4,SNR=3.5						
	comp=Z,3.3nm,1.0s						
MMAI	**Mount Meron Ar**	**87.99**	**303**	P	**P**	**07 05 02.5**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=80,slow=7.9,SNR=2.4						
	comp=Z,1.2nm,0.3s						
SPITS	**Spitsbergen Ar**	**88.25**	**349**	P	**P**	**07 05 00.6**	**-1.5**
	comp=Z,5.4nm,0.7s,baz=357,slow=7.2,SNR=1.9						
	comp=Z,5.4nm,0.7s						
ARCES	**ARCESS Array B**	**88.34**	**340**	P	**P**	**07 05 01.8**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=82,slow=6.3,SNR=21						
	comp=Z,1.5nm,0.4s						
BR131	**Keskin Array S**	**88.68**	**310**	P	**P**	**07 05 03.5**	**-1.5**
BR131				IAmb	IAmb	07 05 06.7	
	comp=Z,5.0nm,0.9s						
BRTR	**Keskin Array B**	**88.68**	**310**	P	**P**	**07 05 03.7**	**-1.4**
BRTR	**Keskin Array B**	**88.68**	**310**	P	**P**	**07 05 04.2**	**-0.8**
	comp=Z,3.0nm,1.0s,baz=104,slow=5.2,SNR=9.8						
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**89.88**	**332**	P	**P**	**07 05 08.9**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=46,slow=6.0,SNR=10						
	comp=Z,2.4nm,0.6s						
AKASG	**Malin Array Be**	**90.21**	**321**	P	**P**	**07 05 10.7**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=69,slow=3.9,SNR=6.0						
	comp=Z,1.3nm,0.5s						
MNK	**Minsk**	**90.33**	**325**	*i* P	**P**	**07 05 10.3**	**-2.0**
	comp=E,3.0nm,0.8s						
MNK				*i* P	**P**	**07 05 10.3**	**-2.0**
	comp=N,43nm,0.9s						
MNK				*i* P	**P**	**07 05 10.3**	**-2.0**
	comp=Z,10.0nm,0.8s,baz=79						
MNK				*i* pP	**pP**	**07 05 39.6**	**-2.4**
MNK				*i* PP	**PP**	**07 08 45.1**	**-2.6**
MNK				*i* PPP	PPP	07 10 42.9	
MNK				*i* S	**SKSac**	**07 15 30.6**	**-1.8**
MNK				*i* SS	**SS**	**07 21 58.0**	**-0.8**
MNK				*i* SSS	SSS	07 25 35.0	
MNK				*i* LRM	MLR	07 46 54.7	
	comp=E,115nm,20.4s						
MNK				*i* LRM	MLR	07 46 54.7	
	comp=N,340nm,16.6s						
MNK				*i* LRM	MLR	07 47 06.7	
	comp=Z,75nm,15.3s						
QSPA	**South Pole Qui**	**95.94**	**180**	P	**P**	**07 05 38.9**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=266,slow=3.6,SNR=4.8						
	comp=Z,1.6nm,0.7s						
HFS	**Hagfors**	**96.05**	**332**	P	**P**	**07 05 37.1**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=116,slow=6.7,SNR=3.3						
	comp=Z,1.3nm,0.5s						
NOA	**NORSAR Array B**	**96.79**	**334**	P	**P**	**07 05 43.6**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=66,slow=4.5,SNR=3.6						
	comp=Z,0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**122.33**	**290**	PKP	**PKPdf**	**07 11 06.7**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=36,slow=3.0,SNR=22						
DBIC	**Dimbokro**	**130.22**	**284**	PKP	**PKPdf**	**07 11 21.4**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=127,slow=4.1,SNR=4.3						
PLCA	**Paso Flores**	**142.10**	**158**	PKP	**PKPdf**	**07 11 43.0**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=135,slow=1.4,SNR=2.6						
LPAZ	**La Paz**	**162.10**	**126**	PKP	**PKPdf**	**07 12 15.0**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=201,slow=1.5,SNR=2.8						
LPAZ				PKPab	**PKPab**	**07 13 02.9**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=246,slow=3.7,SNR=3.4						

NEIC ***19*** *07:06:28.4±1.7, 17°.49N±0°.08×120°.21E±0°.09, h10km±1km, mb4.8/45, Error ellipse: s-maj=14.7km s-min=13.3km az=77.0*

BJI ***19*** *07:06:28.9±0.0, 17°.67N×120°.01E, h5km, mb4.6/52, mB4.9/29, ML4.6/3, Ms4.3/44, Ms7 4.1/42*

GCMT ***19*** *07:06:31.4±0.5, 17°.63N±0°.03×120°.23E±0°.03, h34km±3km, MW4.9/64, Moment Tensor Solution. s15,c15; s64,c87; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.88±.26; $M_{\theta\theta}$1.17±.14; $M_{\phi\phi}$-3.06±.17; $M_{r\theta}$-1.23±.20; $M_{\theta\phi}$0.48±.09; $M_{\phi r}$~1.29±.28; Best double couple: $M_0$3.23800×10^16^ NP1:ϕ_s204.00000°, δ66.00000°, λ128.00000°. NP2: ϕ_s321.00000°, δ43.00000°, λ36.00000°. Principal axes: T 3.0920, Plg53.0000°, Azm159.0000°; N 0.2820, Plg34.0000°, Azm7.0000°; P -3.3840, Plg13.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***19*** *07:06:32.3±0.5, 18°N±3°×12°0E±°, h44km±9km, M5.2/25, mB5.9/7, mb5.0/25, MLv5.2/3, Mw(mB)5.5/7*

IDC ***19*** *07:06:35.7±2.4, 17°.47N×120°.32E, h79km±22km, mb4.1/31, mbtmp4.5/32, MS3.9/29, Error ellipse: s-maj=15.9km s-min=9.5km az=69.0*

ISC 19 07:06:31.0±0.3, 17.49N±0°.04×120°.21E±0°.06, h33km, n193, σ1$80/194, mb4.7/69, MS4.0/39, 6C-5D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.44**	**168**	P	**Pb**	**07 07 28.1**	**-3.3**
	1μm,0.6s,baz=344,slow=4.4,SNR=35						
TGY				S	**Sb**	**07 08 13.3**	**+0.5**
	3μm,0.6s,baz=268,slow=24,SNR=2.3						
TWG	**Pinlang**	**5.36**	**9**		**Pn**	**07 07 48.3**	**-0.4**
TPUB	**Ta-pu**	**5.79**	**4**		**Pn**	**07 07 53.0**	**-1.6**
YULB	**Yu-li**	**5.96**	**10**		**Pn**	**07 07 56.5**	**-0.4**
SSLB	**Suanglung**	**6.30**	**6**		**Pn**	**07 08 02.0**	**+0.3**
NACB	**Ninganchiao**	**6.77**	**11**		**Pn**	**07 08 08.2**	**+0.1**
KNMB	**Chin-men Tao**	**7.14**	**347**		**Pn**	**07 08 10.8**	**-2.4**
YHNB	**Yeheng**	**7.22**	**8**		**Pn**	**07 08 14.5**	**+0.2**
HKPS	**Hong Kong Po S**	**7.43**	**311**		**Pn**	**07 08 14.8**	**-2.4**
TATO	**Taipei**	**7.54**	**9**	Pn	**Pn**	**07 08 20.4**	**+1.8**
QZH	**Quanzhou**	**7.56**	**349**	Pn	**Pn**	**07 08 16.9**	**-2.1**
QZH				Sn	**Sn**	**07 09 35.0**	**-8.6**
QZH				LR	LR		
	comp=N,1μm,16.1s						
QZH				LR	LR		
	comp=Z,2μm,19.4s						
QIZ	**Qiongzhong**	**9.97**	**280**	P	**Pn**	**07 08 50.8**	**-1.2**
QIZ				S	**Sn**	**07 10 45.3**	**+2.5**
QIZ				LR	LR		
	comp=N,580nm,8.8s						
QIZ				LR	LR		
	comp=E,860nm,14.7s						
QIZ				LR	LR		
	comp=Z,1μm,16.8s						
DAV	**Davao City (W)**	**11.61**	**153**	LR	LR	07 14 42.9	
	comp=Z,822nm,20.9s,baz=102,slow=42						
JOW	**Kunigami**	**11.92**	**37**	Pn	**Pn**	**07 09 18.5**	**-0.1**
JOW	**Kunigami**	**11.92**	**37**	P	**Pn**	**07 09 19.3**	**+0.6**
	21nm,0.7s,baz=247,slow=18,SNR=2.9						
WHN	**Wuhan**	**14.05**	**339**	P	**P**	**07 09 52.0**	**-3.1**
NJ2	**Nanjing**	**14.55**	**355**	*e*P	**Pn**	**07 09 54.4**	**-0.1**
NJ2				pP	**P**	**07 09 58.1**	**-2.5**
NJ2				sP		07 10 01.0	
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,380nm,4.5s						
GYA	**Guiyang**	**15.40**	**308**	*e*P	**Pn**	**07 10 06.6**	**+0.5**
GYA				pmax	pmax		
	comp=Z,17nm,0.9s						
GYA				LR	LR		
	comp=N,720nm,15.5s						
GYA				LR	LR		
	comp=E,800nm,16.3s						
GYA				LR	LR		
	comp=Z,760nm,15.4s						
SLVN	**Son La**	**15.85**	**287**	Pn	**Pn**	**07 10 10.3**	**-1.5**
TOLI2	**Tolitoli**	**16.29**	**178**	P	**Pn**	**07 10 18.8**	**+1.3**
TOLI2				IAmb	IAmb	07 10 23.4	
	comp=Z,49nm,1.0s						
SBUM	**Sibu**	**16.89**	**209**	P	**P**	**07 10 26.3**	**-0.4**
MRSI	**Marisa**	**17.00**	**174**	P	**P**	**07 10 29.1**	**+1.2**
	comp=Z,41nm,0.5s						
KMSI	**Cibinong**	**17.22**	**167**	P	**P**	**07 10 32.9**	**+2.5**
	comp=Z,170nm,0.8s						
JNU	**Nakatsue**	**18.29**	**30**		**Pn**	**07 10 42.4**	**+0.2**
JNU	**Nakatsue**	**18.29**	**30**	P	**P**	**07 10 42.2**	**0.0**
	comp=Z,21nm,0.9s,baz=134,slow=16,SNR=3.0						
JNU				LR	LR	07 18 31.5	
	comp=Z,310nm,19.8s,baz=212,slow=39						
LYN	**LuoYang**	**18.34**	**339**	*e*P	**Pn**	**07 10 45.1**	**+2.2**
LYN				PP	**sP**	**07 11 02.6**	**+7.1**
LYN				pmax	pmax		
	comp=Z,23nm,0.8s						
LYN				pmax	pmax		
	comp=Z,310nm,5.4s						
LYN				LR	LR		
	comp=Z,270nm,15.9s						
LYN				LR	LR		
	comp=Z,520nm,20.1s						
LYN				LR	LR		
	comp=Z,490nm,21.6s						
KSM	**Kuching**	**18.66**	**213**	P	**Pn**	**07 10 47.5**	**+0.6**
TIA	**Tai'an**	**18.84**	**352**	*e*P	**Pn**	**07 10 50.9**	**+2.0**
TIA				pmax	pmax		
	comp=Z,14nm,2.0s						
TIA				LR	LR		
	comp=Z,490nm,21.6s						
TIA				LR	LR		
	comp=Z,370nm,16.2s						
TIA				LR	LR		
	comp=Z,440nm,24.5s						
CRAI	**Chiangrai**	**18.97**	**281**		**Pn**	**07 10 50.7**	**+0.1**
PZH	**PanZhiHua**	**19.31**	**301**	P	**Pn**	**07 10 55.8**	**+1.0**
PZH				S	**S**	**07 14 27.8**	**-2.7**
PZH				pmax	pmax		
	comp=Z,30nm,1.1s						
PZH				pmax	pmax		
	comp=Z,230nm,5.1s						
PZH				LR	LR		
	comp=Z,570nm,15.2s						
PZH				LR	LR		
	comp=Z,430nm,16.7s						
PZH				LR	LR		
	comp=Z,570nm,16.7s						
XAN	**Xi'an**	**19.34**	**331**	⇓P	**Pn**	**07 10 54.6**	**-0.3**
XAN				pP	P	07 10 57.4

comp=Z,36nm,0.8s,baz=7.8,slow=6.3,SNR=9.7
KAPI LR LR 07 21 57.3
comp=Z,184nm,19.1s,baz=351,slow=41
comp=Z,36nm,0.8s
JCJ Chichijima 22.43 61 LR LR 07 19 09.5
comp=Z,103nm,20.0s,baz=252,slow=34
KULM Kulim 22.66 240 P **P 07 11 30.4 +0.8**
KULM IAmb IAmb 07 11 41.9
comp=Z,28nm,1.4s
BKSI Bulukumba 22.67 180 P **P 07 11 32.1 +2.4**
comp=Z,49nm,0.8s
BJI Beijing 22.74 352 P **P 07 11 32.4 +2.2**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI LR LR
comp=Z,210nm,16.2s
BJI LR LR
comp=Z,170nm,15.6s
BJI LR LR
comp=Z,210nm,15.4s
LZH Lanzhou 23.52 325 *eP* **P 07 11 40.3 +1.9**
LZH sP pP 07 11 47.6 +0.4
LZH S **S 07 15 53.1 +2.8**
LZH pmax pmax
comp=Z,43nm,1.0s
LZH LR LR
comp=Z,840nm,13.7s
LZH LR LR
comp=Z,690nm,15.1s
LZH LR LR
comp=Z,1μm,19.9s
DSRI Dabo 23.58 222 P **P 07 11 39.9 +1.0**
comp=Z,22nm,1.1s,comp=Z,8μm
PPBI Pangkal Pinang 23.96 217 P **P 07 11 43.0 +0.5**
GUMO Guam 24.06 96 LR LR 07 19 18.2
comp=Z,408nm,21.2s,baz=277,slow=32
HHC Hu-ho-hao-te 24.44 344 *eP* **P 07 11 46.8 -0.1**
HHC pP pP 07 11 57.4 +1.3
HHC *eS* **S 07 15 58.9 -5.9**
HHC pmax pmax
comp=Z,35nm,0.5s
HHC pmax pmax
comp=Z,270nm,5.7s
HHC LR LR
comp=Z,800nm,16.1s
HHC LR LR
comp=Z,450nm,14.9s
BTO Baotou 24.66 341 *eP* **P 07 11 51.5 +2.7**
BTO pP **pP 07 11 55.8 -2.1**
BTO sP **sP 07 11 58.6 -3.3**
BTO PP **PnPn 07 12 28.6 +7.4**
BTO pmax pmax
comp=Z,18nm,0.6s
BTO pmax pmax
comp=Z,200nm,6.7s
BTO LR LR
comp=Z,630nm,18.2s
BTO LR LR
comp=Z,380nm,18.8s
BTO LR LR
comp=Z,590nm,19.2s
MJAR Matsushiro Arr 24.76 36 P **P 07 11 48.4 -1.3**
comp=Z,0.9nm,0.3s,baz=228,slow=17,SNR=1.5
comp=Z,0.9nm,0.3s
RPSI Rantau Prapat 25.55 237 P **P 07 11 57.5 +0.4**
RPSI IAmb IAmb 07 12 00.2
comp=Z,18nm,1.2s
SDSI Sungai Dareh 26.03 227 P **P 07 12 03.2 +1.8**
comp=Z,9.0nm,1.2s
EDFI Ende, Flores 26.12 177 P **P 07 12 02.2 0.0**
PLAI Plampang 26.26 185 P **P 07 12 04.6 +1.2**
comp=Z,126nm,1.0s
TWSI Taliwang, Sumb 26.27 187 P **P 07 12 06.3 +2.8**
comp=Z,75nm,1.1s
XLT XiLinHaoTe 26.55 353 *eP* **P 07 12 10.9 +5.0**
XLT pP pP 07 12 15.1 0.0
XLT sP sP 07 12 17.8 -1.2
XLT PcP **PcP 07 15 33.3 +3.4**
XLT pmax pmax
comp=Z,21nm,1.0s
XLT pmax pmax
comp=Z,210nm,5.1s
XLT LR LR
comp=Z,27nm,16.6s
XLT LR LR
comp=Z,230nm,11.5s
XLT LR LR
comp=Z,310nm,18.3s
SHL Shillong 27.51 292 P **P 07 12 14.8 0.0**
SHL IAmb IAmb 07 12 18.7
comp=Z,21nm,0.7s
BATI Baumata 27.73 173 LR LR 07 24 58.8
comp=Z,120nm,18.7s,baz=318,slow=40
GTA Gaotai 28.13 325 *eP* **P 07 12 20.4 +0.2**
GTA sP sP 07 12 32.9 -0.4
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=Z,190nm,15.9s
GTA LR LR
comp=Z,330nm,19.5s
GTA LR LR
comp=Z,310nm,15.1s
MDJ Mudanjiang 28.17 14 P **P 07 12 21.4 +1.1**
MDJ pP pP 07 12 23.8 -6.0
MDJ sP sP 07 12 26.1 -7.3
MDJ PP **PnPn 07 13 10.3 +1.3**
MDJ S **S 07 17 10.3 +6.8**
MDJ sS pS 07 17 16.1 +2.2
MDJ ScP **ScP 07 19 13.3 +1.0**
MDJ PcS **PcS 07 19 15.3 -0.4**
MDJ ScS **ScS 07 23 05.3 +0.4**
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,110nm,4.4s
MDJ LR LR
comp=Z,360nm,14.1s
MDJ LR LR
comp=Z,250nm,14.5s
MDJ LR LR
comp=Z,420nm,17.2s
USRK Ussurisk Ar. 28.41 18 P **P 07 12 23.9 +1.4**
comp=Z,4.7nm,0.9s,baz=187,slow=9.0,SNR=4.2
USRK LR LR 07 24 00.6
comp=Z,70nm,18.0s,baz=188,slow=37
comp=Z,4.7nm,0.9s
BNX BinXian 28.80 10 ⇓P **P 07 12 28.9 +3.1**
BNX pmax pmax
comp=Z,6.0nm,0.5s
BNX pmax pmax
comp=Z,180nm,5.2s
TAPN Taplejung 31.52 294 *eP* **P 07 12 50.6 0.0**
comp=Z,20nm,0.8s
SONM Songino Array 32.31 342 P **P 07 12 58.7 +1.6**
comp=Z,2.1nm,0.7s,baz=161,slow=9.4,SNR=10
comp=Z,2.1nm,0.7s
JIRN Jiri 32.91 294 *eP* **P 07 13 03.3 +0.5**
comp=Z,43nm,0.8s
KLR Kul'dur 33.01 14 LR LR 07 27 40.3
comp=Z,234nm,18.6s,baz=208,slow=38
GUN Gumba 33.23 294 *eP* **P 07 13 06.0 +0.4**
comp=Z,56nm,0.8s
PKI Pulchoki 33.57 294 *eP* **P 07 13 08.3 -0.3**
comp=Z,32nm,1.0s
PKIN Phulchoki 33.59 294 *eP* **P 07 13 08.0 -0.6**
comp=Z,15nm,0.7s
DMN Daman 33.84 294 *eP* **P 07 13 10.8 -0.1**
GKN Gorkha 34.32 294 *eP* **P 07 13 14.4 -0.5**
comp=Z,48nm,0.8s
DANN Dangsing 35.15 295 *eP* **P 07 13 21.7 -0.5**
comp=Z,62nm,1.0s
PYUN Piuthan 35.77 294 *eP* **P 07 13 27.4 -0.1**
comp=Z,44nm,0.8s
WMQ Urumqi 37.94 321 *eP* **P 07 13 45.8 +0.2**
WMQ pmax pmax
comp=Z,13nm,1.1s
WMQ LR LR
comp=Z,370nm,11.3s
WMQ LR LR
comp=Z,470nm,15.9s
WMQ LR LR
comp=Z,260nm,18.7s
KRVT Keravat (AS076 38.15 122 LR LR 07 27 10.5
comp=Z,107nm,19.5s,baz=185,slow=32
PSA00 Pilbara Seismi 38.83 181 P **P 07 13 51.5 -1.5**
PSA00 IAmb IAmb 07 13 52.6
comp=Z,25nm,0.8s
WB0 Warramunga Arr 39.56 159 P **P 07 13 57.8 -1.4**
WRA Warramunga Arr 39.70 159 P **P 07 13 59.4 -1.0**
WRA Warramunga Arr 39.70 159 P **P 07 13 58.0 -2.4**
comp=Z,6.8nm,0.8s,baz=337,slow=9.3,SNR=9.8
comp=Z,6.8nm,0.8s
PALK Pallekele 39.83 260 LR LR 07 29 13.0
comp=Z,141nm,20.8s,baz=118,slow=34
MK31 Makanchi Array 42.75 322 P **P 07 14 25.5 +0.3**
MK31 IAmb IAmb 07 14 40.5
comp=Z,19nm,0.9s
MKAR Makanchi Array 42.75 322 P **P 07 14 25.7 +0.4**
MKAR Makanchi Array 42.75 322 P **P 07 14 26.4 +1.1**
comp=Z,5.7nm,0.9s,baz=116,slow=8.7,SNR=24
MKAR PcP **PcP 07 16 15.9 -0.5**
comp=Z,4.8nm,0.7s,baz=96,slow=4.4,SNR=6.5
comp=Z,5.7nm,0.9s
MAKZ Makanchi 42.94 321 P **P 07 14 27.5 +0.7**
MAKZ IAmb IAmb 07 14 42.1
comp=Z,18nm,1.1s
ASAR Alice Springs 43.04 161 P **P 07 14 26.8 -1.0**
comp=Z,8.1nm,0.6s,baz=342,slow=7.2,SNR=9.4
comp=Z,8.1nm,0.6s
KSH Kashi 44.09 309 P **P 07 14 39.9 +3.6**
KSH pmax pmax
comp=Z,5.0nm,0.8s
NIL Nilore 44.92 300 P **P 07 14 42.6 -0.3**
NIL IAmb IAmb 07 14 57.0
comp=Z,13nm,0.8s
CTA Charters Tower 45.26 144 P **P 07 14 44.9 -0.7**
comp=Z,9.6nm,0.7s,baz=330,slow=10,SNR=7.7
CTA LR LR 07 37 46.3
comp=Z,49nm,18.0s,baz=284,slow=41
comp=Z,9.6nm,0.7s
ZALV Zalesovo Beam 45.51 331 P **P 07 14 47.2 0.0**
ZALV Zalesovo Beam 45.51 331 P **P 07 14 46.5 -0.6**
comp=Z,0.9nm,0.3s,baz=275,slow=8.5,SNR=6.0
ZALV LR LR 07 34 01.9
comp=Z,180nm,19.4s,baz=260,slow=36
comp=Z,0.9nm,0.3s
PETK Petropavlovsk- 45.98 31 P **P 07 14 49.9 -1.1**
comp=Z,7.4nm,0.7s,baz=217,slow=4.0,SNR=5.3
comp=Z,7.4nm,0.7s
AAK Ala-Archa 46.11 313 P **P 07 14 53.7 +1.4**
comp=Z,0.8nm,0.4s,baz=251,slow=16,SNR=3.6
comp=Z,0.8nm,0.4s
KURBB Kurchatov Arra 46.82 324 P **P 07 14 59.0 +1.4**
comp=Z,9.6nm,0.6s,baz=122,slow=8.6,SNR=18
comp=Z,9.6nm,0.6s
HNR Honiara 47.51 121 LR LR 07 32 42.7
comp=Z,2μm,21.6s,baz=286,slow=33
KK31 Karatay Array 49.04 312 P **P 07 15 14.5 -0.4**
KK31 IAmb IAmb 07 15 37.9
comp=Z,7.7nm,0.9s
KKAR Karatay Array 49.04 312 P **P 07 15 14.0 -1.0**
KKAR IAmb IAmb 07 15 37.9
comp=Z,7.7nm,0.9s
KKAR Karatay Array 49.04 312 P **P 07 15 14.8 -0.1**
BVAR Borovoye Array 52.41 324 P **P 07 15 39.6 -0.5**
comp=Z,1.1nm,0.4s,baz=125,slow=8.9,SNR=4.8
BVAR PcP **PcP 07 16 49.9 -0.8**
comp=Z,3.3nm,0.7s,baz=108,slow=3.3,SNR=4.5
comp=Z,1.1nm,0.4s
BRVK Borovoye 52.48 324 P **P 07 15 41.1 +0.5**
BRVK IAmb IAmb 07 16 03.2
comp=Z,15nm,1.2s
STKA Stephens Creek 53.20 157 P **P 07 15 45.4 -0.8**
STKA Stephens Creek 53.20 157 P **P 07 15 45.3 -0.8**
comp=Z,9.1nm,0.6s,baz=326,slow=10,SNR=9.1
STKA LR LR 07 43 54.3
comp=Z,74nm,18.3s,baz=297,slow=42
comp=Z,9.1nm,0.6s
TIXI Tiksi 54.39 3 P **P 07 15 53.1 -1.2**
TIXI IAmb IAmb 07 15 56.3
comp=Z,7.8nm,1.1s
GEYT Alibeck 57.58 304 P **P 07 16 19.3 +1.5**
comp=Z,4.9nm,0.7s,baz=84,slow=14,SNR=7.4
GEYT LR LR 07 43 32.9
comp=Z,222nm,22.0s,baz=106,slow=38
comp=Z,4.9nm,0.7s
GYA0B ALIBECK ARRAY 57.58 304 P **P 07 16 18.1 +0.3**
GYA0B IAmb IAmb 07 16 27.3
comp=Z,9.0nm,0.9s
ABKAR Abkulak array 57.60 318 P **P 07 16 17.7 0.0**
ABKAR Abkulak array 57.60 318 P **P 07 16 17.7 0.0**
AKTO Aktyubinsk 59.05 319 P **P 07 16 28.9 +1.2**
comp=Z,1.1nm,0.3s,baz=67,slow=9.3,SNR=3.8
comp=Z,1.1nm,0.3s
ARU Arti 59.99 326 P **P 07 16 33.5 -0.6**
ARU Arti 59.99 326 P **P 07 16 33.1 -1.0**
comp=Z,5.6nm,0.4s,baz=112,slow=8.7,SNR=7.7
ARU LR LR 07 44 45.1
comp=Z,114nm,19.5s,baz=150,slow=38
comp=Z,5.6nm,0.4s
BELG Belogornoye 65.73 320 LR LR 07 47 19.5
comp=Z,74nm,19.4s,baz=133,slow=37
C16K Lisburne Hills 68.12 23 P **P 07 17 28.1 +0.8**
KBZ Khabaz 69.04 311 P **P 07 17 34.5 +1.0**
comp=Z,2.0nm,0.6s,baz=82,slow=4.6,SNR=5.7
KBZ LR LR 07 51 16.9
comp=Z,119nm,18.6s,baz=84,slow=39
comp=Z,2.0nm,0.6s
C18K Utukok River 69.69 23 P **P 07 17 37.4 +0.2**
KLMR Klimovskoe 70.36 329 *eP* P 07 17 34.3 -7.0
KLMR AMP 07 17 45.1
comp=Z,20nm,1.5s
H19K Roundabout Mou 71.47 26 P **P 07 17 48.6 +0.6**
H19K IAmb IAmb 07 17 51.7
comp=Z,15nm,0.9s
F20K Avaraart Lake 71.73 24 P **P 07 17 50.0 +0.5**
J20K Nowinta River 72.52 27 P **P 07 17 55.4 +1.1**
H21K Melozitna River 72.98 26 P **P 07 17 57.7 +0.7**
H21K IAmb IAmb 07 18 30.2
comp=Z,15nm,1.1s
CAST Castle Rocks 73.50 28 P **P 07 18 00.4 +0.2**
CAST IAmb IAmb 07 18 01.6
comp=Z,13nm,0.8s
G23K Bananza Creek 74.00 24 P **P 07 18 03.6 +0.5**
G23K IAmb IAmb 07 18 04.7
comp=Z,17nm,1.3s
E24K Your Creek 74.41 23 P **P 07 18 05.8 +0.4**
E24K IAmb IAmb 07 18 30.5
comp=Z,9.2nm,0.8s
I23K Minto, Yukon-K 74.47 26 P **P 07 18 06.3 +0.6**
I23K IAmb IAmb 07 18 22.3
comp=Z,17nm,1.3s
NEA2 Nenana 74.67 27 P **P 07 18 07.1 +0.1**
NEA2 IAmb IAmb 07 18 10.2
comp=Z,8.0nm,0.7s
ARCES ARCESS Array B 75.40 339 P **P 07 18 10.4 -0.6**
comp=Z,4.9nm,0.9s,baz=72,slow=7.8,SNR=9.1
ARCES LR LR 07 54 25.5
comp=Z,106nm,18.5s,baz=86,slow=38
comp=Z,4.9nm,0.9s
ILAR Eielson Array 75.57 26 P **P 07 18 12.4 +0.3**
comp=Z,1.2nm,0.7s,baz=261,slow=5.0,SNR=16
ILAR LR LR 07 53 59.4
comp=Z,60nm,19.0s,baz=142,slow=38
comp=Z,1.2nm,0.7s
SPITS Spitsbergen Ar 75.80 348 P **P 07 18 12.8 -0.4**
comp=Z,6.5nm,0.7s,baz=120,slow=10,SNR=3.9
SPITS LR LR 07 55 23.7
comp=Z,137nm,21.2s,baz=29,slow=39
comp=Z,6.5nm,0.7s
KBS Kingsbay 76.39 349 *eP* **P 07 18 18.5 +1.9**
BRTR Keskin Array B 76.46 308 P **P 07 18 16.8 -1.1**
comp=Z,0.5nm,0.4s,baz=134,slow=3.6,SNR=4.4
comp=Z,0.5nm,0.4s
RPZ Rata Peaks 76.63 145 P **P 07 18 18.7 +0.3**
LTZ Lake Taylor 76.72 143 P **P 07 18 19.2 +0.2**
FINES FINESS Array B 76.77 331 P **P 07 18 18.3 -0.7**
comp=Z,3.4nm,0.5s,baz=51,slow=5.4,SNR=16
comp=Z,3.4nm,0.5s
GVZ Greta Valley S 77.27 143 P **P 07 18 22.7 +0.7**
AKASG Malin Array Be 77.28 319 P **P 07 18 20.7 -1.4**
comp=Z,0.5nm,0.4s,baz=64,slow=5.9,SNR=6.2
AKASG LR LR 07 53 32.2
comp=Z,75nm,19.4s,baz=43,slow=36
comp=Z,0.5nm,0.4s
NACGM Naroch 77.82 324 *eP* **P 07 18 23.4 -1.6**
comp=E,839nm,1.1s
NOR Nord 78.87 354 *eP* **P 07 18 30.5 +0.1**
TPGR Topolog 79.12 314 ⇑P **P 07 18 31.6 -0.9**
VRI Vrincioaia 80.03 315 ⇓P **P 07 18 39.5 +2.1**
BURAR Bucovina Array 80.57 317 ⇑P **P 07 18 40.1 -0.2**
MLR Muntele Rosu 80.65 315 ⇑P **P 07 18 41.3 +0.4**
MLR Muntele Rosu 80.65 315 LR LR 07 58 46.3
comp=E,203nm,20.8s,baz=68,slow=39
VOIR 81.28 315 ⇑P **P 07 18 40.9 -3.2**
ARR Arges 81.58 315 ⇓P **P 07 18 46.7 +1.0**
LOT Lotru 82.14 315 ⇑P **P 07 18 49.1 +0.4**
MARR Marisel-Cluj 82.21 316 ⇓P **P 07 18 49.2 +0.1**
CRVS Cervenica-Dubn 82.61 319 *eP* **P 07 18 52.0 +1.0**
CRVS *e* 07 19 05.8
DAG Danmarks Havn 82.81 351 *i* P **P 07 18 49.0 -2.5**
HFS Hagfors 82.94 331 P **P 07 18 51.9 -0.6**
comp=E,3.2nm,0.6s,baz=48,slow=4.3,SNR=5.1
comp=E,3.2nm,0.6s
KMBO Kilima Mbogo 83.62 267 P **P 07 18 56.6 -0.5**
comp=E,0.6nm,0.3s,baz=42,slow=16,SNR=4.0
comp=E,0.6nm,0.3s
NB2 NORSAR Subarra 83.70 332 P **P 07 18 55.0 -1.4**
comp=Z,11nm,1.1s,baz=63,slow=5.3
NOA NORSAR Array B 83.70 332 P **P 07 18 54.9 -1.5**
comp=Z,2.5nm,0.7s,baz=65,slow=4.9,SNR=13
comp=Z,2.5nm,0.7s
MORC Moravsky Berou 84.73 321 *eP* **P 07 19 02.4 +0.5**
JAVC Velka Javorina 84.98 320 *eP* **P 07 19 03.3 +0.1**
JMIC Jan Mayen 85.03 345 LR LR 07 59 56.8
comp=Z,96nm,21.6s,baz=47,slow=38
NEEM North Greenlan 85.11 358 *eP* **P 07 19 03.5 -0.1**
VRAC Vranov 85.48 320 *eP* **P 07 19 06.0 +0.4**
VRAC Vranov 85.48 320 LR LR 07 59 41.1
comp=Z,80nm,18.4s,baz=76,slow=37
KRUC Moravsky 85.69 320 *eP* **P 07 19 05.8 -0.8**
BRG Berggiesshubel 86.46 322 *eP* **P 07 19 11.2 +0.8**
BRG Amp 07 19 12.9
comp=Z,5.1nm,1.1s
BRG Berggiesshubel 86.46 322 P P 07 19 19.1 +8.7
BRG Amp 07 19 25.6
comp=Z,14nm,1.2s
CLL Collm 86.83 323 *eP* **P 07 19 11.0 -1.2**
CLL *ex* x 07 19 25.0
CLL AMS AMS 08 03 00.0
comp=Z,100nm,20.9s
GERES GERESS Array B 87.41 321 P **P 07 19 14.4 -0.8**
comp=Z,0.5nm,0.2s,baz=72,slow=6.5,SNR=1.5
GERES LR LR 08 02 25.8
comp=Z,62nm,18.5s,baz=65,slow=38
comp=Z,0.5nm,0.2s
YKA Yellowknife Ar 89.47 22 P **P 07 19 21.7 -2.8**
comp=Z,3.1nm,0.8s,baz=300,slow=4.9,SNR=3.6
comp=Z,3.1nm,0.8s
DAVOX Davos/Dischmat 90.62 320 LR LR 08 02 44.0
comp=Z,134nm,21.3s,baz=66,slow=37
FRB Frobisher Bay 98.73 4 LR LR 08 08 57.3
comp=Z,52nm,18.5s,baz=3.0,slow=38
TORD Torodi Ar. Bea 112.11 293 PKiKP **PKiKP 07 25 03.4 -0.6**
comp=Z,0.8nm,0.9s,baz=55,slow=3.6,SNR=3.7
TXAR Lajitas Array 117.07 43 PKP **PKPdf 07 25 13.3 0.0**
comp=Z,1.4nm,0.7s,baz=256,slow=0.6,SNR=16
AZU Azuero 147.74 41 *eP* **PKPbc 07 26 12.7 -0.6**
ZARC Zaragoza, Cauc 151.05 32 *eP* **PKPdf 07 26 18.1 +2.2**
SDV Santo Domingo 151.68 23 *eP* **PKPbc 07 26 23.0 -0.3**
BRRC Barranca, Sant 151.95 31 *eP* **PKPbc 07 26 23.5 -0.2**
PTBC PUERTO BERRIO 152.07 32 *eP* **PKPbc 07 26 22.2 -1.7**
PAMC Pamplona, Colo 152.22 28 *eP* **PKPbc 07 26 24.8 -0.1**
PLMC San Jos del P 152.42 38 *eP* **PKiKP 07 26 25.4 +0.2**
BARC Barichara 152.65 30 *eP* **PKPbc 07 26 25.3 -0.3**
GUY2C Guyana, Caldas 152.68 36 *eP* **PKPbc 07 26 25.2 -0.8**
SPBC San Pablo de B 153.02 33 *eP* **PKPbc 07 26 25.8 -0.4**
YOTC Yotoco, Valle 153.12 39 *eP* **PKPdf 07 26 22.5 +3.4**
JAMC Jamundi, Valle 153.52 41 *eP* **PKPbc 07 26 27.3 -0.2**
ROSC El Rosal 153.57 34 PKPbc **PKPbc 07 26 27.7 -0.1**
comp=Z,8.9nm,0.7s,baz=177,slow=9.8,SNR=4.0
ORTC Ortega, Tolima 153.83 37 *eP* **PKPbc 07 26 27.3 -0.6**
POPC Popayan, Colom 154.04 42 *eP* **PKPdf 07 26 20.4 -0.1**
CHIC Chingaza 154.06 33 *eP* **PKPdf 07 26 20.7 -0.2**
PLCA Paso Flores 155.05 160 PKPbc PKPdf 07 26 29.9 +9.0
comp=Z,5.8nm,1.1s,baz=202,slow=3.3,SNR=7.4
CPUP Villa Florida 170.91 194 PKPab **PKPab 07 27 53.2 -1.7**
comp=Z,5.2nm,1.0s,baz=197,slow=6.7,SNR=4.9
LPAZ La Paz 171.92 83 PKP **PKPdf 07 26 38.2 +0.2**
baz=0.0,slow=1.0
LPAZ PKPab **PKPab 07 28 01.1 +0.3**
comp=Z,2.1nm,0.9s,baz=299,slow=4.1,SNR=3.4

---

*NNC **19** 07:07:29.8±0.4, 50.°03N×78.°75E, h0km±7km, mb3.0, mpv2.5, Error ellipse: s-maj=10.7km s-min=3.9km az=75.0, Suspected Mining explosion.*
*IDC **19** 07:07:30.4±1.2, 50.°02N×78.°60E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=16.8km s-min=7.3km az=69.0*
ISC 19 07:07:31.0±1.2, 50.°06N±0.°08×78.°8E±0.°2, h0km, n13, σ0§59/21, 13C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.56**	**341**	⇑P	**Pg**	**07 07 41.3**	**-0.4**
KUR07				⇑S	**Sg**	**07 07 50.0**	**+1.1**
KUR14	**Kurchatov Arra**	**0.57**	**346**	⇑P	**Pg**	**07 07 41.4**	**-0.6**
KUR14				⇓S	**Sg**	**07 07 49.7**	**+0.3**
KUR06	**Kurchatov Arra**	**0.57**	**342**	⇑P	**Pg**	**07 07 41.4**	**-0.6**
KUR06				⇑S	**Sg**	**07 07 49.7**	**+0.2**
KURBB	**Kurchatov Arra**	**0.59**	**343**	⇑P	**Pg**	**07 07 41.8**	**-0.6**
	7.7nm,0.3s						
KURBB				⇑S	**Sg**	**07 07 50.6**	**+0.6**
	33nm,0.8s						
KURBB	**Kurchatov Arra**	**0.59**	**343**	Pg	**Pg**	**07 07 42.1**	**-0.2**
	0.9nm,0.3s,baz=165,slow=17,SNR=9.6						
KURBB				Lg	Lg	07 07 51.3	
	1.0nm,0.3s,baz=176,slow=32,SNR=3.5						
KUR16	**Kurchatov Arra**	**0.60**	**341**	⇓P	**Pg**	**07 07 41.9**	**-0.7**
KUR16				⇑S	**Sg**	**07 07 50.3**	**-0.1**
KUR17	**Kurchatov Arra**	**0.61**	**339**	⇑P	**Pg**	**07 07 42.4**	**-0.4**
KUR17				⇓S	**Sg**	**07 07 50.8**	**+0.1**
KURK	**Kurchatov**	**0.67**	**350**	⇓P	**Pg**	**07 07 43.2**	**-0.6**
	2.3nm,0.3s						
KURK				⇑S	**Sg**	**07 07 53.2**	**+0.7**
	9.7nm,0.7s						
MAKZ	**Makanchi**	**3.88**	**146**	⇑Pg	**Pb**	**07 08 41.2**	**+1.0**
	1.7nm,0.9s						
MAKZ				⇓Lg	Lg	07 09 33.1	
	3.6nm,0.8s						
MK31	**Makanchi Array**	**4.01**	**143**	⇑Pn	**Pn**	**07 08 32.9**	**-0.7**
	baz=127,slow=19,SNR=5.5						
MK31				⇓Pg	**Pb**	**07 08 42.5**	**+0.1**
	0.5nm,0.5s,baz=322,slow=13,SNR=6.6						
MK31				⇑Lg	Lg	07 09 36.2	
	5.0nm,0.8s,baz=334,slow=26,SNR=12						
MKAR	**Makanchi Array**	**4.01**	**143**	Pn	**Pn**	**07 08 34.1**	**+0.5**
	0.2nm,0.3s,baz=318,slow=10,SNR=7.8						
MKAR				Pg	**Pb**	**07 08 42.0**	**-0.4**
	0.3nm,0.3s,baz=314,slow=13,SNR=6.7						
MKAR				Lg	Lg	07 09 35.8	
	0.7nm,0.3s,baz=324,slow=28,SNR=11						
	0.2nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.38**	**41**	I	I	07 40 30.0	
	baz=224,slow=317,SNR=5.7						
ZALV	**Zalesovo Beam**	**5.38**	**41**	Pn	**Pn**	**07 08 52.4**	**0.0**
	0.3nm,0.3s,baz=230,slow=14,SNR=3.4						
	0.7nm,0.3s						

---

*IDC **19** 07:09:01.7±3.8, 7.°44S×128.°49E, h151km±35km, mb3.8/7, mbtmp4.4/9, Error ellipse: s-maj=33.0km s-min=15.5km az=68.0*
*NEIC **19** 07:09:01.6±1.5, 7.°38S±0.°09×128.°51E±0.°04, h146km±9km, mb4.6/15, Error ellipse: s-maj=12.7km s-min=6.0km az=175.0*
ISC 19 07:09:01.8±0.4, 7.°51S±0.°05×128.°56E±0.°07, h151km, n47, σ1§69/52, mb4.6/19, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.79**	**242**		**Pn**	**07 10 12.8**	**+0.1**
BATI	**Baumata**	**5.53**	**241**	P	**Pn**	**07 10 23.5**	**+1.2**
	300nm,0.5s,baz=291,slow=1.5,SNR=25						
BATI				S	**Sn**	**07 11 23.7**	**-1.6**
	440nm,0.3s,baz=5.0,slow=5.5,SNR=13						
FAKI	**Fak Fak**	**5.86**	**39**	Pn	**Pn**	**07 10 25.4**	**-1.3**
MTN	**Manton Dam**	**5.88**	**155**	Pn	**Pn**	**07 10 27.1**	**+0.3**
KNRA	**Kununurra**	**8.12**	**179**		**Pn**	**07 10 56.0**	**-0.8**
LUWI	**Luwuk**	**8.63**	**318**	Pn	**Pn**	**07 11 01.4**	**-2.3**
WRA	**Warramunga Arr**	**13.57**	**156**		**Pn**	**07 12 06.0**	**-2.3**
WRA	**Warramunga Arr**	**13.57**	**156**	P	**Pn**	**07 12 06.1**	**-2.3**
	1.0nm,0.3s,baz=326,slow=13,SNR=30						
WRA				S	Sn	07 14 28.2	-10
	11nm,0.4s,baz=335,slow=23,SNR=10						
WR0	**Warramunga Arr**	**13.67**	**155**		**Pn**	**07 12 07.2**	**-2.4**

COEN Coen 15.72 115 P P 07 12 37.5 +1.4
COEN IAmb IAmb 07 12 43.2
comp=Z,23nm,1.5s
PSA00 Pilbara Seismi 16.32 210 Pn 07 12 43.2 +0.8
PSA00 IAmb IAmb 07 12 57.6
comp=Z,21nm,0.6s
AS31 Alice Springs 16.86 163 P 07 12 50.2 +1.6
ASAR Alice Springs 16.86 163 P 07 12 49.7 +1.0
ASAR Alice Springs 16.86 163 P **Pn 07 12 50.4 +1.3**
comp=Z,16nm,0.5s,baz=338,slow=10,SNR=258
ASAR S **S 07 15 51.8 -4.9**
comp=Z,4.1nm,0.5s,baz=344,slow=24,SNR=7.6
PMG Port Moresby 18.49 97 P **P 07 13 06.0 -0.6**
PMG IAmb IAmb 07 13 14.5
comp=Z,10nm,0.7s
KSM Kuching 20.28 295 P **P 07 13 23.5 -2.4**
GIRL Giralia 20.41 221 P **P 07 13 27.7 +0.6**
FORT Forrest 23.16 181 P **P 07 13 55.4 +0.5**
FORT IAmb IAmb 07 13 57.2
comp=Z,16nm,0.8s
MORW Morawa 24.48 207 P **P 07 14 08.4 +1.4**
MORW IAmb IAmb 07 14 09.4
comp=Z,19nm,0.7s
BBOO Buckleboo 26.12 166 P **P 07 14 22.2 +0.4**
BBOO IAmb IAmb 07 14 50.2
comp=Z,30nm,1.4s
STKA Stephens Creek 27.12 155 P **P 07 14 31.5 +0.8**
STKA Stephens Creek 27.12 155 P **P 07 14 31.6 +0.8**
comp=Z,4.2nm,0.5s,baz=326,slow=9.1,SNR=13
comp=Z,4.2nm,0.5s
NWAO Narrogin (SRO) 27.39 201 P **P 07 14 33.5 +0.3**
TOO Toolangi 33.64 155 P **P 07 15 29.4 +1.3**
TOO IAmb IAmb 07 15 38.9
comp=Z,16nm,1.1s
NJ2 Nanjing 40.42 347 *e*P **P 07 16 27.6 +2.3**
NJ2 pP **pP 07 16 53.4 -3.5**
NJ2 sP **pwP 07 17 07.0 +3.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,580nm,5.4s
PZH PanZhiHua 42.66 323 P **P 07 16 44.8 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 50.60 343 *e*P **P 07 17 46.4 +1.1**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,190nm,7.5s
MDJ Mudanjiang 51.89 1 P **P 07 17 56.8 +2.0**
MDJ pmax pmax
comp=Z,8.0nm,0.9s
MDJ pmax pmax
comp=Z,300nm,4.8s
XLT XiLinHaoTe 52.40 349 *e*P **P 07 17 57.3 -1.4**
XLT pP pP 07 18 31.6 -0.6
XLT sP sP 07 18 53.4 +5.0
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,180nm,5.1s
GTA Gaotai 53.74 332 *e*P **P 07 18 09.0 +0.4**
GTA pP pP 07 18 41.3 -1.0
GTA pmax pmax
comp=Z,7.0nm,0.5s
SONM Songino Array 58.48 343 P **P 07 18 41.8 -0.3**
comp=Z,1.3nm,0.9s,baz=160,slow=6.4,SNR=4.1
comp=Z,1.3nm,0.9s
WMQ Urumqi 63.05 328 *e*P **P 07 19 15.0 +2.0**
PETK Petropavlovsk- 65.26 19 P **P 07 19 25.9 -1.2**
PETK Petropavlovsk- 65.26 19 P **P 07 19 25.4 -1.7**
comp=Z,5.2nm,0.8s,baz=186,slow=4.3,SNR=7.1
comp=Z,5.2nm,0.8s
MK31 Makanchi Array 67.88 328 P **P 07 19 43.0 -1.0**
MKAR Makanchi Array 67.88 328 P **P 07 19 43.1 -0.8**
MKAR Makanchi Array 67.88 328 P **P 07 19 43.6 -0.3**
comp=Z,0.5nm,0.4s,baz=118,slow=8.4,SNR=5.5
comp=Z,0.5nm,0.4s
ZALV Zalesovo Beam 71.41 334 P **P 07 20 05.6 +0.2**
comp=Z,0.5nm,0.3s,baz=131,slow=7.9,SNR=1.4
comp=Z,0.5nm,0.3s
KURBB Kurchatov Arra 72.20 329 P **P 07 20 10.1 -0.1**
comp=Z,0.7nm,0.5s,baz=135,slow=4.9,SNR=2.2
comp=Z,0.7nm,0.5s
VOI Vohitsoka 79.63 249 P **P 07 20 52.7 -0.4**
VOI IAmb IAmb 07 21 06.7
comp=Z,37nm,1.5s
ABKAR Akbulak array 82.02 322 P **P 07 21 02.4 -2.6**
QSPA South Pole Qui 82.47 180 P **P 07 21 06.9 -0.4**
comp=Z,1.8nm,0.6s,baz=261,slow=0.7,SNR=18
comp=Z,1.8nm,0.6s
ELIB Princess Elisa 87.58 198 *d*P **P 07 21 34.0 +1.4**
KNK Knik Glacier 93.19 29 P **P 07 22 01.7 +3.0**
KNK IAmb IAmb 07 22 07.5
comp=Z,13nm,1.2s
BMAR Burnt Mountain 95.67 23 P **P 07 22 09.4 -0.6**
TORD Torodi Ar. Bea 127.50 281 PKP **PKPdf 07 27 49.1 -0.8**
comp=Z,0.4nm,0.6s,baz=71,slow=4.9,SNR=2.4
LPAZ La Paz 151.16 145 PKPbc **PKPbc 07 28 39.3 +0.3**
comp=Z,0.6nm,0.4s,baz=212,slow=2.5,SNR=2.2
LPAZ PKPab **PKPab 07 28 48.5 +1.4**
comp=Z,1.5nm,0.8s,baz=183,slow=2.7,SNR=2.5

*IDC **19** 07:25:31.2±4.5, 53°.72N×90°.92E, h0km, mbtmp3.2/3, ML2.5/3, Error ellipse: s-maj=46.6km s-min=28.0km az=38.0*
*NNC **19** 07:25:39.2±2.1, 53°.33N×90°.25E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=22.3km s-min=16.2km az=158.0, Suspected Mining explosion.*
ISC 19 07:25:31.5±4.1, 53°.7N±0°.2×90°.8E±0°.2, h0km, n8, σ2s 34/10, 8C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.56**	**276**		I	I	07 51 40.0	
	baz=88,slow=336,SNR=2.3							
ZAA0	**Zalesovo Array**	**3.56**	**276**	⇑Pn		**Pb**	**07 26 32.2**	**-3.0**
	1.1nm,0.6s							
ZAA0				⇑Lg		Lg	07 27 22.4	
	6.0nm,0.8s							
ZALV	**Zalesovo Beam**	**3.56**	**276**	Pn		**Pn**	**07 26 29.8**	**+1.9**
	0.3nm,0.3s,baz=89,slow=12,SNR=2.7							
ZALV				Sn		**Sn**	**07 27 12.7**	**+2.1**
	1.3nm,0.3s,baz=108,slow=20,SNR=4.1							
ZALV				Lg		Lg	07 27 25.3	
	2.3nm,0.3s,baz=93,slow=26,SNR=12							
	2.4nm,0.5s							
KURK	**Kurchatov**	**8.06**	**253**	⇑Pn		**Pn**	**07 27 31.4**	**+1.7**
	3.6nm,1.1s							
KURK				⇑Sn		**Sn**	**07 28 59.8**	**-1.7**
	5.4nm,0.8s							
KURK				⇑Lg		Lg	07 29 44.2	
	29nm,1.0s							
KURBB	**Kurchatov Arra**	**8.15**	**253**	⇑Pn		**Pn**	**07 27 31.9**	**+0.9**
	2.1nm,0.5s,baz=66,slow=14							
KURBB				⇑Sn		**Sn**	**07 29 02.9**	**-0.9**
	23nm,0.8s							
KURBB				⇑Lg		Lg	07 29 45.2	
	31nm,1.0s							
KURBB	**Kurchatov Arra**	**8.15**	**253**	Pn		**Pn**	**07 27 31.5**	**+0.6**
	0.2nm,0.3s,baz=68,slow=15,SNR=7.0							
KURBB				Sn		**Sn**	**07 29 07.3**	**+3.6**
	0.1nm,0.3s,baz=67,slow=27,SNR=7.8							
KURBB				Lg		Lg	07 29 52.5	
	0.1nm,0.3s,baz=71,slow=33,SNR=12							
	1.3nm,0.5s							
MKAR	**Makanchi Array**	**8.80**	**222**	Pn		**Pn**	**07 27 40.9**	**+1.0**
	0.1nm,0.3s,baz=47,slow=18,SNR=2.8							
MKAR				Lg		Lg	07 30 06.7	
	0.1nm,0.3s,baz=43,slow=26,SNR=3.8							
	0.4nm,0.4s							
SONM	**Songino Array**	**11.47**	**114**	Lg		Lg	07 31 27.8	
	0.2nm,0.3s,baz=302,slow=28,SNR=7.5							

*IDC **19** 07:39:29.7±0.9, 15°.00S×66°.64E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=35.0km s-min=24.5km az=80.0*
ISC 19 07:39:33.1±0.8, 15°.1S±0°.2×66°.7E±0°.2, h19km, n10, σ1s 28/10, mb4.0/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**61.83**	**34**	*e*P		**P**	**07 49 52.6**	**+1.3**
LZH				pP		pwP	07 50 00.4	+0.3
LZH					pmax	pmax		
	comp=Z,18nm,1.6s							
ASAR	**Alice Springs**	**63.54**	**109**	P		**P**	**07 50 02.7**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=266,slow=5.3,SNR=6.2							
	comp=Z,1.1nm,1.0s							
WRA	**Warramunga Arr**	**64.36**	**105**	P		**P**	**07 50 08.5**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=272,slow=5.3,SNR=7.9							
	comp=Z,1.4nm,1.0s							
KURBB	**Kurchatov Arra**	**66.22**	**8**	P		**P**	**07 50 19.0**	**-0.6**
	comp=Z,0.4nm,0.2s,baz=188,slow=5.6,SNR=1.9							
	comp=Z,0.4nm,0.2s							
BVAR	**Borovoye Array**	**67.87**	**2**	P		**P**	**07 50 29.6**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=157,slow=4.7,SNR=2.6							
	comp=Z,0.4nm,0.4s							
SNAA	**Sanae**	**69.40**	**198**	P		**P**	**07 50 40.1**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=168,slow=17,SNR=2.2							
	comp=Z,0.5nm,0.6s							
SONM	**Songino Array**	**71.95**	**27**	P		**P**	**07 50 55.3**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=224,slow=8.1,SNR=2.3							
	comp=Z,0.4nm,0.4s							
QSPA	**South Pole Qui**	**75.03**	**180**	P		**P**	**07 51 13.1**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=288,slow=1.2,SNR=7.3							
	comp=Z,1.5nm,0.9s							
ESDC	**Sonseca Array**	**85.22**	**313**	P		**P**	**07 52 09.6**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=105,slow=4.8,SNR=2.8							
	comp=Z,0.5nm,0.6s							
PDAR	**Pinedale Array**	**152.19**	**354**	PKPbc		**PKPbc**	**07 59 25.3**	**-2.8**
	comp=Z,0.7nm,0.7s,baz=117,slow=2.3,SNR=5.7							

*BGR **19** 07:39:51.3, 14°.98S×68°.17E, h33km, mb5.1, Ms3.7*
*IDC **19** 07:39:52.3±0.6, 15°.13S×66°.90E, h0km, mb4.1/19, mbtmp4.1/19, MS4.5/2, Error ellipse: s-maj=20.5km s-min=17.3km az=52.0*
*GCMT **19** 07:39:54.0±0.2, 14°.99S±0°.02×66°.87E±0°.02, h12km, MW5.0/119, Moment Tensor Solution. s48,c58; s119,c166; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}=3.88±.07; $M_{\theta\theta}$1.72±.09; $M_{\phi\phi}$2.15±.08; $M_{r\theta}$2.11±.32; $M_{\theta\phi}$-1.58±.07; $M_{\phi r}$-0.28±.31; Best double couple: M_0=4.24000×10^16^ NP1:ϕ_s302.00000°, δ59.00000°, λ-107.00000°. NP2:ϕ_s152.00000°, δ35.00000°, λ-65.00000°. Principal axes: T 3.8860, Plg12.0000°, Azm44.0000°; N 0.6990, Plg14.0000°, Azm311.0000°; P -4.5940, Plg71.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 19 07:39:54.8±0.6, 15°.2S±0°.1×66°.9E±0°.1, h16km, n63, σ1s 61/46, mb4.4/27, MS4.8/4, 4C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.28**	**37**	T		T	07 51 25.6	
	baz=217,slow=75,SNR=196							
H08S2	**Diego Garcia H**	**9.29**	**37**	T		T	07 51 23.9	
	baz=217,slow=75,SNR=492							
H08S3	**Diego Garcia H**	**9.30**	**37**	T		T	07 51 26.1	
	baz=217,slow=75,SNR=604							
KMBO	**Kilima Mbogo**	**32.39**	**293**	P		**P**	**07 46 24.2**	**-0.1**
	0.9nm,0.4s,baz=111,slow=8.3,SNR=7.2							
	0.9nm,0.4s							
H04N2	**CROZET ISLANDS**	**33.38**	**199**	T		T	08 21 58.9	
	baz=27,slow=75,SNR=154							
H04N1	**CROZET ISLANDS**	**33.38**	**199**	T		T	08 21 59.9	
	baz=27,slow=75,SNR=147							
H04N3	**CROZET ISLANDS**	**33.40**	**199**	T		T	08 21 58.7	
	baz=27,slow=75,SNR=150							
LSZ	**Lusaka**	**37.28**	**265**	LR		LR	08 00 52.4	
	comp=Z,2μm,20.1s,baz=113,slow=34							
CMAR	**Chiang Mai Arr**	**45.99**	**44**	P		**P**	**07 48 18.1**	**+0.4**
	0.7nm,0.3s,baz=241,slow=6.7,SNR=5.8							
	0.7nm,0.3s							
H01W3	**Cape Leeuwin H**	**46.63**	**124**	T		T	08 38 15.9	
	baz=283,slow=75,SNR=76							
H01W2	**Cape Leeuwin H**	**46.63**	**124**	T		T	08 38 16.3	
	baz=283,slow=75,SNR=85							
H01W1	**Cape Leeuwin H**	**46.65**	**124**	T		T	08 38 17.2	
	baz=283,slow=75,SNR=98							
KSH	**Kashi**	**55.06**	**9**	P		**P**	**07 49 29.3**	**+3.3**
KSH				pmax		pmax		
	comp=Z,11nm,1.2s							
GTA	**Gaotai**	**62.40**	**28**	*e*P		**P**	**07 50 17.6**	**+0.5**
GTA				pP		sP	07 50 23.3	+0.3
GTA				pmax		pmax		
	comp=Z,4.0nm,1.2s							
BRTR	**Keskin Array B**	**62.78**	**332**	P		**P**	**07 50 20.2**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=161,slow=12,SNR=3.8							
	comp=Z,0.5nm,0.6s							
MKAR	**Makanchi Array**	**63.22**	**12**	P		**P**	**07 50 22.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=193,slow=8.3,SNR=3.8							
MKAR				LR		LR	08 17 16.4	
	comp=Z,176nm,21.2s,baz=200,slow=36							
	comp=Z,0.4nm,0.7s							
ASAR	**Alice Springs**	**63.31**	**109**	P		**P**	**07 50 23.2**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=268,slow=6.0,SNR=8.7							
	comp=Z,2.1nm,0.9s							
WRA	**Warramunga Arr**	**64.14**	**105**	P		**P**	**07 50 28.6**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=266,slow=6.1,SNR=11							
	comp=Z,3.1nm,0.9s							
WHN	**Wuhan**	**64.44**	**45**	P		P	07 50 38.1	+7.5
AKTO	**Aktyubinsk**	**65.78**	**354**	P		**P**	**07 50 39.0**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=170,slow=4.0,SNR=4.5							
	comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**66.31**	**8**	P		**P**	**07 50 42.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=207,slow=6.7,SNR=6.4							
	comp=Z,0.6nm,0.8s							
TROLL	**Troll, Antarti**	**67.84**	**198**	⇑P		**P**	**07 50 51.3**	**-0.7**
	comp=Z,90nm,0.9s							
BVAR	**Borovoye Array**	**67.98**	**2**	P		**P**	**07 50 52.1**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=180,slow=5.9,SNR=6.9							
	comp=Z,2.5nm,0.9s							
PRD	**Provadia**	**68.39**	**330**	*e*P		**P**	**07 50 56.1**	**+0.5**
BTO	**Baotou**	**68.43**	**34**	*e*P		P	07 51 03.6	+7.5
BTO				pP		**PcP**	**07 51 14.0**	**-7.4**
BTO				sP		pwP	07 51 17.9	+14
BTO				PP		PP	07 53 39.3	+12
BTO				S		S	08 00 07.3	+10
BTO				sS		sS	08 00 18.9	+15
BTO	**Baotou**	**68.43**	**34**	SS		SS	08 04 32.8	+11
BTO				pmax		pmax		
	comp=Z,23nm,0.9s							
BTO				pmax		pmax		
	comp=Z,300nm,4.7s							
BTO				LR		LR		
	comp=N,440nm,16.3s							
BTO				LR		LR		
	comp=E,470nm,14.8s							
BTO				LR		LR		
	comp=Z,500nm,22.6s							
RZN	**Rozhen**	**68.65**	**327**	*e*P		**P**	**07 50 58.5**	**+0.9**
MMB	**Musomishta**	**69.07**	**327**	*e*P		**P**	**07 51 00.2**	**+0.2**
SNAA	**Sanae**	**69.35**	**198**	⇑P		**P**	**07 51 01.9**	**+0.5**
	comp=Z,36nm,0.8s							
SNAA	**Sanae**	**69.35**	**198**	P		**P**	**07 51 02.3**	**+1.0**
	comp=Z,2.0nm,1.0s,baz=137,slow=7.9,SNR=5.2							
	comp=Z,2.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**69.44**	**35**	*e*P		P	07 51 09.6	+7.2
HHC				pmax		pmax		
	comp=Z,26nm,0.7s							
HHC				pmax		pmax		
	comp=Z,230nm,6.3s							
KKB	**Krupnik**	**69.61**	**327**	*e*P		**P**	**07 51 02.7**	**-0.6**
VTS	**Vitosha**	**70.09**	**327**	*e*P		**P**	**07 51 05.3**	**-1.1**
TORD	**Torodi Ar. Bea**	**70.35**	**290**	P		**P**	**07 51 08.5**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=108,slow=4.8,SNR=5.7							
	comp=Z,0.7nm,0.9s							
VNA2	**Neumayer--Watz**	**70.62**	**200**	⇑P		**P**	**07 51 09.9**	**+0.8**
	comp=Z,8.3nm,0.8s,baz=74,slow=4.0							
VNA3	**Neumayer Olymp**	**71.41**	**199**	⇑P		**P**	**07 51 14.5**	**+0.6**
	comp=Z,11nm,0.8s							
ARU	**Arti**	**71.67**	**355**	P		**P**	**07 51 15.3**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=131,slow=5.5,SNR=3.6							
	comp=Z,1.3nm,0.3s							
SONM	**Songino Array**	**71.97**	**27**	P		**P**	**07 51 17.4**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=222,slow=5.5,SNR=3.1							
	comp=Z,1.1nm,1.0s							
AKASG	**Malin Array Be**	**73.41**	**336**	P		**P**	**07 51 25.5**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=143,slow=5.2,SNR=2.2							
	comp=Z,1.0nm,0.6s							
XLT	**XiLinHaoTe**	**73.97**	**35**	*e*P		**P**	**07 51 32.6**	**+3.1**
XLT				pP		pwP	07 51 41.1	+3.5
XLT				sP		PcP	07 51 45.9	+1.1
XLT				pmax		pmax		
	comp=Z,7.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,180nm,4.8s							
QSPA	**South Pole Qui**	**74.91**	**180**	P		**P**	**07 51 35.5**	**+0.7**
	comp=Z,4.6nm,1.0s,baz=275,slow=4.7,SNR=6.8							
	comp=Z,4.6nm,1.0s							
KOGS	**Kog**	**76.36**	**327**	*i* P		**P**	**07 51 43.6**	**+0.4**
VYHS	**Vyhne**	**76.39**	**329**	*e*P		P	07 51 49.0	+5.7
LANS	**Liptovska Anna**	**76.53**	**330**	*e*P		P	07 51 49.6	+5.5
CEY	**Cerknica**	**76.90**	**325**	*i* P		**P**	**07 51 46.7**	**+0.4**
LJU	**Ljubljana**	**77.03**	**326**	*i* P		**P**	**07 51 44.9**	**-2.1**
JAVC	**Velka Javorina**	**77.20**	**329**	*e*P		**P**	**07 51 48.4**	**+0.4**
NACGM	**Naroch**	**77.62**	**338**	*e*P		**P**	**07 51 53.1**	**+3.1**
KSRS	**Korea Array**	**77.62**	**45**	P		**P**	**07 51 50.2**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=247,slow=4.1,SNR=4.6							
	comp=Z,1.5nm,0.7s							
MORC	**Moravsky Berou**	**77.88**	**330**	*e*P		**P**	**07 51 50.5**	**-1.2**
KRUC	**Moravsky**	**77.97**	**329**	*e*P		**P**	**07 51 51.3**	**-0.9**
VRAC	**Vranov**	**78.03**	**329**	*e*P		**P**	**07 51 52.3**	**-0.2**
KLMR	**Klimovskoe**	**78.87**	**347**	*e*P		**P**	**07 51 55.9**	**-0.9**
KLMR				AMP			07 52 09.3	
	comp=Z,70nm,1.6s							
BRG	**Berggiesshubel**	**80.35**	**329**	*e*P		**P**	**07 52 07.3**	**+2.2**
BRG				Amp			07 52 15.0	
	comp=Z,30nm,1.7s							
GRF	**Grafenberg Arr**	**81.02**	**327**	*e*P		**P**	**07 52 07.0**	**-1.7**
	comp=Z,9.2nm,0.5s,baz=125,slow=6.3							
MOX	**Moxa**	**81.38**	**328**	*e*L		L	08 31 48.0	
	comp=Z,34nm,21.0s							
MJAR	**Matsushiro Arr**	**84.58**	**50**	P		**P**	**07 52 27.9**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=218,slow=6.1,SNR=4.5							
	comp=Z,2.0nm,0.8s							
ESDC	**Sonseca Array**	**85.44**	**313**	P		**P**	**07 52 32.5**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=104,slow=3.7,SNR=7.7							
	comp=Z,2.0nm,0.8s							
HFS	**Hagfors**	**86.30**	**336**	P		**P**	**07 52 35.5**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=132,slow=8.0,SNR=2.6							
	comp=Z,2.2nm,0.8s							
HNR	**Honiara**	**90.51**	**100**	LR		LR	08 34 28.2	
	comp=Z,1μm,18.0s,baz=214,slow=36							
PDAR	**Pinedale Array**	**152.33**	**354**	PKPbc		**PKPbc**	**07 59 49.4**	**-1.1**
	comp=Z,2.1nm,0.9s,baz=72,slow=1.6,SNR=9.6							
NVAR	**Mina Array Bea**	**156.39**	**10**	PKPbc		PKPdf	08 00 00.1	+11
	comp=Z,0.2nm,0.5s,baz=289,slow=28,SNR=2.7							
TXAR	**Lajitas Array**	**163.41**	**330**	PKP		**PKPdf**	**07 59 58.8**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=340,slow=1.5,SNR=3.7							
TXAR				PKPab		**PKPab**	**08 00 47.8**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=48,slow=4.8,SNR=4.3							

*NCEDC **19** 07:44:17.4±1.0, 37°.979N±0°.007×118°.67W±0°.01, h5km±5km, ML3.0/8, ML3.3/9(REN), ML3.0/38(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=69.0*
*REN **19** 07:44:17.1±1.0, 37°.98N±0°.02×118°.69W±0°.03, h13km±4km, Error ellipse: s-maj=4.0km s-min=1.3km az=124.0*
*NEIC **19** 07:44:17.6±1.0, 37°.98N±0°.01×118°.66W±0°.02, h4km, Error ellipse: s-maj=2.4km s-min=1.4km az=119.0*
*ANF **19** 07:44:18.9±0.4, 37°.87N×118°.58W, h2km±1km, ML3.3/19, Error ellipse: s-maj=3.0km s-min=1.5km az=158.0*
ISC 19 07:44:17.8±0.9, 37°.99N±0°.02×118°.68W±0°.02, h10km±9km, n85, σ0s 77/101, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LHV	**Little Huntoon**	**0.30**	**27**			**Pg**	**07 44 23.8**	**+0.1**
LHV						**Sg**	**07 44 28.7**	**+1.0**
LHV	**Little Huntoon**	**0.30**	**27**	IAML			07 44 29.9	
	comp=N,4μm,0.4s							
LHV				IAML			07 44 31.4	
	comp=E,4μm,0.5s							
MLHM	**Little Hot Cre**	**0.33**	**200**			**Pg**	**07 44 24.2**	**-0.1**
MRCM	**Red Rock Canyo**	**0.34**	**157**			**Pg**	**07 44 24.0**	**-0.6**
MDRNC	**Doe Ridge**	**0.37**	**200**			**Pg**	**07 44 24.9**	**-0.3**
MCSM	**Casa Diablo Ho**	**0.38**	**209**			**Pg**	**07 44 25.0**	**-0.4**
MLAC	**Mammoth, Mammo**	**0.38**	**200**			**Pg**	**07 44 25.0**	**-0.3**
MLAC						**Sg**	**07 44 30.6**	**+0.3**
MLAC	**Mammoth, Mammo**	**0.38**	**200**	P		**Pg**	**07 44 25.0**	**-0.3**
	baz=21							
MLAC				S		**Sg**	**07 44 29.7**	**-0.7**
	baz=21							
MEMM	**East Mammoth H**	**0.38**	**213**			**Pg**	**07 44 25.1**	**-0.3**
MCBM	**Casa Benchmark**	**0.39**	**207**			**Pg**	**07 44 25.1**	**-0.4**
MCBM						**Sg**	**07 44 30.6**	**+0.1**
MDCM	**Deadman Creek**	**0.40**	**226**			**Pg**	**07 44 25.2**	**-0.5**
MGPM	**Gravel Pit**	**0.40**	**206**			**Pg**	**07 44 25.6**	**-0.2**
MMLB	**Mammoth Lakes**	**0.41**	**216**			**Pg**	**07 44 25.6**	**-0.3**
MCVM	**Convict Lake**	**0.41**	**197**			**Pg**	**07 44 25.5**	**-0.5**
MLCM	**Laurel Creek C**	**0.42**	**207**			**Pg**	**07 44 25.7**	**-0.4**
MDYM	**Dry Creek**	**0.42**	**219**			**Pg**	**07 44 26.0**	**-0.2**
MDYM						**Sg**	**07 44 32.0**	**+0.2**
MLIM	**Lincoln Peak**	**0.44**	**218**			**Pg**	**07 44 26.4**	**-0.1**
MINS	**Minaret Summit**	**0.45**	**223**			**Pg**	**07 44 26.2**	**-0.5**
OMMB	**Old Mammoth Mi**	**0.45**	**215**			**Pg**	**07 44 26.2**	**-0.6**
OMMB						**Sg**	**07 44 32.3**	**-0.4**
OMMB	**Old Mammoth Mi**	**0.45**	**215**	IAML			07 44 32.6	
	comp=E,527nm,0.3s							
OMMB				IAML			07 44 33.5	
	comp=N,615nm,0.3s							
MMSM	**Mammoth Summit**	**0.46**	**218**			**Pg**	**07 44 26.5**	**-0.2**
MMPM	**Mammoth Pass**	**0.47**	**217**			**Pg**	**07 44 26.6**	**-0.4**
MCDM	**Chidago Canyon**	**0.48**	**157**			**Pg**	**07 44 26.7**	**-0.4**
MDPB	**Devils Postpil**	**0.48**	**222**			**Pg**	**07 44 26.6**	**-0.5**
MDPB						**Sg**	**07 44 32.9**	**-0.5**
MDPB	**Devils Postpil**	**0.48**	**222**	IAML			07 44 33.3	
	comp=E,2μm,0.5s							
MDPB				IAML			07 44 33.4	
	comp=N,1μm,0.3s							
MRDM	**Red Cones**	**0.49**	**218**			**Pg**	**07 44 27.0**	**-0.4**
NV08	**Mina Array Sit**	**0.50**	**34**			**Pg**	**07 44 27.5**	**-0.1**
NV08						**Sg**	**07 44 35.0**	**+0.7**
NV09	**Mina Array Sit**	**0.52**	**31**			**Pg**	**07 44 27.9**	**-0.1**
NV09						**Sg**	**07 44 35.5**	**+0.6**
NVAR	**Mina Array Bea**	**0.53**	**34**			**Pg**	**07 44 27.6**	**-0.5**
MFBM	**Five Bridges**	**0.59**	**161**			**Pg**	**07 44 28.8**	**-0.5**
NV11	**Mina Array Sit**	**0.60**	**43**			**Pg**	**07 44 29.2**	**-0.3**
NV11						**Sg**	**07 44 37.5**	**0.0**
NV11	**Mina Array Sit**	**0.60**	**43**	IAML			07 44 38.0	
	comp=N,273nm,0.8s							
NV11				IAML			07 44 38.9	
	comp=E,249nm,0.4s							
MTUM	**Tungs

baz=343
SGV South Grapevin 1.65 127 Pn 07 44 46.8 -0.2
MPK Martis Peak 1.68 321 Pn 07 44 47.7 +0.1
MPK IAML 07 45 15.0
comp=E,253nm,0.9s
VOG Valley Oaks Go 1.76 199 P **Pb 07 44 49.6 -0.5**
baz=19
VOG S **Sb 07 45 12.4 +0.2**
baz=19
SPG2 Springville 2 1.79 182 Pn 07 44 49.9 +1.1
DONR Donner Summit 1.87 317 Pb 07 44 52.1 -0.1
PEAR Peavine Mounta 1.90 329 Pb 07 44 53.0 +0.2
LOY Loyalton 2.07 324 Pb 07 44 55.3 -0.2
FURC Furnace Creek, 2.10 136 Pg **Pb 07 44 56.5 +0.6**
baz=317
MPMC Manual Prospec 2.15 153 P **Pn 07 44 53.8 0.0**
baz=334,SNR=42
VES Vestal, Richgr 2.17 189 Pb **Pb 07 44 56.4 -0.7**
baz=8.8,SNR=34
VES Sb **Sb 07 45 24.9 +0.9**
baz=8.8
TPNV Topopah Spring 2.19 118 P **Pn 07 44 54.4 0.0**
baz=299,SNR=108
SLD San Luis Dam 2.22 247 Pb 07 44 57.5 -0.4
WASM Alta Sierra Ca 2.25 178 Pb 07 44 58.4 -0.2
CSTL Corral Hollow 2.26 262 Pb 07 44 58.4 -0.3
HPCM Pacheco Lake 2.27 247 Pb 07 44 57.7 -1.1
BEKR Beckworth 2.29 326 Pb 07 45 00.2 +0.8
SDH Striped Hills 2.30 125 Pn 07 44 56.5 +0.7
ISA Isabella, Lake 2.33 176 Pb **Pb 07 44 59.7 -0.2**
baz=356,SNR=32
ISA Sb **Sb 07 45 29.3 +0.6**
baz=356
CPY CP-1 2.34 116 Pn 07 44 56.7 +0.3
AMDNV Amargosa 2.45 128 Pn 07 44 58.4 +0.6
BMRR Black Mountain 2.46 330 Pb 07 45 01.9 -0.3
R11B Troy Canyon, C 2.46 81 P **Pn 07 44 57.9 -0.3**
baz=262,SNR=32
R11B Sb **Sg 07 45 35.1 -1.8**
baz=262
OHCM Honcut 2.58 302 Pb 07 45 03.6 -0.5
LRMC Laurel Mtn Rad 2.63 162 Sb **Sb 07 45 38.5 +1.1**
baz=343
OGOM Van Goodin Ran 2.83 307 Pb 07 45 08.5 0.0
ARVC Arvin 2.86 183 Pb **Pb 07 45 08.8 0.0**
baz=2.6
ARVC Sb **Sb 07 45 45.0 +1.1**
baz=2.6
SMMC Simmler 2.87 202 P **Pn 07 45 04.6 +0.9**
baz=21
SMMC Sb **Sb 07 45 47.0 +2.7**
baz=21
GSC Goldstone, Bar 3.07 150 Pg **Pg 07 45 15.3 -1.4**
baz=331
EDW2 Edwards Air Fo 3.15 170 Pg **Pg 07 45 17.3 -0.8**
baz=350
EDW2 Sb **Sb 07 45 54.4 +2.0**
baz=350
PKM Mcpherson Peak 3.23 197 Pb **Pb 07 45 15.5 +0.2**
baz=16
PKM Sb **Sb 07 45 56.7 +2.0**
baz=16
OSI Osito Audit: C 3.37 181 Sb **Sb 07 46 00.6 +2.0**
baz=0.8
TUQ Turquoise Moun 3.37 138 Pb **Pb 07 45 17.7 -0.1**
baz=320
TUQ Sg **Sg 07 46 05.9 -0.2**
baz=320
LBCM Butte Creek Ri 3.52 325 Pn 07 45 10.7 -1.9

---

*WEL **19** 07:44:00, 37°.09S×178°.81E, h25km, ML4.6, Mw4.3, Moment Tensor Solution. s4 Moment tensor: Scale 10^{15} Nm; M_{rr}~3.53; $M_{\theta\theta}$0.45; $M_{\phi\phi}$3.08; $M_{r\theta}$0.17; $M_{\theta\phi}$0.07; $M_{\phi r}$~1.66; Fault plane solution: $M_0$3.70000×10^{15} NP1: ϕ_s184.00000°, δ32.00000°, λ-85.00000°. NP2: ϕ_s358.00000°, δ58.00000°, λ-93.00000°. Principal axes: T -393.0900, Plg13.0000°, Azm90.0000°; N 46.1100, Plg3.0000°, Azm359.0000°; P 346.9800, Plg77.0000°, Azm259.0000°;*
*NOU **19** 07:44:08.2, 37°.10S×179°.80W, h0km, MLv5.1/15, East of North Island, N.Z.*
*IDC **19** 07:44:18.9±1.0, 36°.90S×179°.00E, h0km, mb4.5/6, mbtmp4.6/7, ML5.3/1, MS3.8/3, Error ellipse: s-maj=29.8km s-min=24.4km az=55.0*
*WEL **19** 07:44:22.4±1.2, 37°.S±4°.×17°.9E±1°.0, h12km, M4.5/86, ML4.7/18, MLv4.5/86, Error ellipse: s-maj=0.0km s-min=0.0km az=90.4, confirmed*
*NEIC **19** 07:44:25.5±2.4, 37°.34S±0°.09×178°.81E±0°.09, h37km±8km, mb4.6/15, Error ellipse: s-maj=14.1km s-min=9.5km az=153.0*

ISC 19 07:44:23.6±0.9,**37°.26S**±0°.04×**178°.95E**±0°.06,**h26**km±5km,
n174,σ1°**38**/182,**mb4.8**/17,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.60 239**			**Pb**	**07 44 34.8**	**-0.8**
MXZ				Sn	**Sb**	**07 44 42.3**	**-1.3**
MXZ	**Matakaoa Point**	**0.60 239**		P	**Pb**	**07 44 35.0**	**-0.5**
MXZ	**Matakaoa Point**	**0.60 239**		P	**Pb**	**07 44 35.0**	**-0.5**
MXZ				S	**Sb**	**07 44 42.4**	**-1.3**
WMGZ	**Waiomatatini S**	**0.71 217**		P	**Pn**	**07 44 39.1**	**+1.2**
WMGZ				S	**Sn**	**07 44 50.2**	**+2.3**
PKGZ	**Pakihiroa**	**0.94 228**		P	**Pn**	**07 44 41.3**	**+0.2**
PKGZ				S	**Sn**	**07 44 55.3**	**+1.5**
PUZ	**Puketiti**	**0.98 214**		P	**Pb**	**07 44 42.9**	**+0.8**
PUZ				S	**Sn**	**07 44 57.2**	**+2.4**
HAZ	**Te Kaha**	**1.06 241**		P	**Pn**	**07 44 41.9**	**-0.8**
HAZ				S	**Sn**	**07 44 57.9**	**+1.3**
TWGZ	**Tauwhareparae**	**1.20 220**		P	**Pb**	**07 44 46.0**	**+0.3**
RUGZ	**Raukumara Rang**	**1.24 235**		P	**Pn**	**07 44 45.9**	**+0.6**
RUGZ				S	**Sb**	**07 45 03.5**	**+1.6**
CNGZ	**Carnagh Statio**	**1.36 205**		P	**Pb**	**07 44 48.4**	**0.0**
WIZ	**White Island**	**1.43 259**		P	**Pn**	**07 44 46.5**	**-1.4**
WSRZ	**White Island S**	**1.44 259**		P	**Pn**	**07 44 46.6**	**-1.3**
TKGZ	**Te Karaka**	**1.47 216**		P	**Pn**	**07 44 49.1**	**+0.8**
TKGZ				S	**Sb**	**07 45 08.7**	**+0.2**
MWZ	**Matawai**	**1.56 226**		P	**Pn**	**07 44 50.7**	**+1.0**
MWZ				S	**Sn**	**07 45 09.0**	**0.0**
WHRZ	**Whale Island**	**1.68 249**		P	**Pn**	**07 44 52.3**	**+1.0**
RIGZ	**Rimuhau**	**1.73 213**		P	**Pn**	**07 44 52.5**	**+0.6**
RAGZ	**Rawiri**	**1.74 224**		P	**Pn**	**07 44 53.1**	**+1.0**
URZ	**Urewera**	**1.77 235**		P	**Pn**	**07 44 54.0**	**+1.5**
URZ	**Urewera**	**1.77 235**		P	**Pn**	**07 44 53.5**	**+1.0**
URZ	**Urewera**	**1.77 235**		Pn	**Pn**	**07 44 53.5**	**+1.0**
	1μm,0.3s,baz=103,slow=0.9,SNR=6678						
URZ				Sn	**Sn**	**07 45 15.3**	**+1.2**
	465nm,0.3s,baz=314,slow=22,SNR=39						
URZ				LR	LR	07 45 58.3	
	comp=Z,1μm,19.9s,baz=50,slow=49						
	3μm,0.3s						
PRGZ	**Paritu Road**	**1.87 207**		P	**Pn**	**07 44 54.4**	**+0.5**
EDRZ	**Edgecumbe**	**1.95 244**		P	**Pn**	**07 44 56.1**	**+1.0**
MARZ	**Manawahe**	**1.95 247**		P	**Pn**	**07 44 55.6**	**+0.6**
SNGZ	**Shannon Statio**	**1.99 219**		P	**Pn**	**07 44 56.2**	**+0.7**
OPRZ	**Ohinepanea**	**2.00 252**		P	**Pn**	**07 44 55.6**	**0.0**
KNZ	**Kokohu**	**2.03 209**		P	**Pn**	**07 44 56.2**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.07 203**		P	**Pn**	**07 44 57.1**	**+0.5**
RTZ	**Ruatahuna**	**2.07 228**		Pn	**Pn**	**07 44 56.6**	**-0.1**
RTZ	**Ruatahuna**	**2.07 228**		P	**Pn**	**07 44 57.6**	**+1.0**
MUGZ	**Murupara**	**2.12 234**		P	**Pn**	**07 44 58.1**	**+0.8**
MKRZ	**Makatiti**	**2.16 245**		P	**Pn**	**07 44 59.1**	**+1.2**
MYRZ	**Mayor Island**	**2.16 269**		P	**Pn**	**07 44 57.6**	**-0.3**
LIRZ	**Lichensteins R**	**2.17 249**		P	**Pn**	**07 44 59.4**	**+1.4**
TARZ	**Mount Tarawera**	**2.17 242**		P	**Pn**	**07 44 59.4**	**+1.2**
TGRZ	**Tauranga**	**2.19 257**		P	**Pn**	**07 44 57.9**	**-0.4**
RRRZ	**Republican Roa**	**2.21 240**		P	**Pn**	**07 44 59.8**	**+1.2**
OMRZ	**Omania**	**2.22 247**		P	**Pn**	**07 44 59.6**	**+0.9**
RAHZ	**Arahi**	**2.22 221**		P	**Pn**	**07 44 59.6**	**+0.9**
WHHZ	**Waihua**	**2.27 216**		P	**Pn**	**07 44 59.9**	**+0.6**
KARZ	**Kaharoa**	**2.28 250**		P	**Pn**	**07 45 00.4**	**+0.8**
HLRZ	**Highlands Stat**	**2.29 243**		P	**Pn**	**07 45 00.9**	**+1.2**
MTHZ	**Maungataniwha**	**2.31 226**		P	**Pn**	**07 45 00.9**	**+1.0**
NGRZ	**Ngongotaha**	**2.35 248**		P	**Pn**	**07 45 01.7**	**+1.1**
UTU	**Utuhina**	**2.37 246**		P	**Pn**	**07 45 03.0**	**+2.2**
PRRZ	**Plateau Road**	**2.38 238**		P	**Pn**	**07 45 01.4**	**+0.6**
HSRZ	**Hossack Road**	**2.39 243**		P	**Pn**	**07 45 02.8**	**+1.7**
HRRZ	**Handcock Road**	**2.40 241**		P	**Pn**	**07 45 02.2**	**+1.0**
ALRZ	**Allen Road**	**2.44 237**		P	**Pn**	**07 45 02.4**	**+0.7**
KMRZ	**Kaimai**	**2.46 255**		P	**Pn**	**07 45 01.7**	**-0.4**
NMHZ	**Naumai**	**2.50 222**		P	**Pn**	**07 45 03.5**	**+0.9**
GRRZ	**Galatos Road**	**2.50 243**		P	**Pn**	**07 45 03.9**	**+1.3**
ARHZ	**Aropaoanui**	**2.53 217**		P	**Pn**	**07 45 03.4**	**+0.5**
WPRZ	**Whakapapatarin**	**2.54 239**		P	**Pn**	**07 45 04.2**	**+1.0**
MRHZ	**Matea Rd**	**2.55 231**		P	**Pn**	**07 45 03.8**	**+0.5**
KUZ	**Kuaotunu**	**2.64 280**		P	**Pn**	**07 45 03.0**	**-1.4**
KUZ	**Kuaotunu**	**2.64 280**		P	**Pn**	**07 45 02.9**	**-1.5**
BKZ	**Black Stump Fm**	**2.72 225**		Pn	**Pn**	**07 45 05.3**	**-0.3**
BKZ	**Black Stump Fm**	**2.72 225**		P	**Pn**	**07 45 06.7**	**+1.1**
BKZ	**Black Stump Fm**	**2.72 225**		P	**Pn**	**07 45 06.0**	**+0.3**
WHTZ	**Whakaora**	**2.75 238**		P	**Pn**	**07 45 07.8**	**+1.7**
KUTZ	**Kaahu Road**	**2.77 243**		P	**Pn**	**07 45 07.4**	**+1.2**
TOZ	**Tahuroa Road**	**2.79 259**		Pn	**Pn**	**07 45 05.3**	**-1.2**
TOZ	**Tahuroa Road**	**2.79 259**		P	**Pn**	**07 45 05.7**	**-0.8**
HATZ	**Hinemaiaia**	**2.79 233**		P	**Pn**	**07 45 07.3**	**+0.7**
CKHZ	**Cape Kidnapper**	**2.81 211**		P	**Pn**	**07 45 06.4**	**-0.5**
MCHZ	**McNeill Hill**	**2.81 218**		P	**Pn**	**07 45 07.1**	**+0.2**
TLZ	**Tolley Road**	**2.91 247**		P	**Pn**	**07 45 09.1**	**+0.8**
WATZ	**Wairara**	**2.93 239**		P	**Pn**	**07 45 09.7**	**+1.2**
KWHZ	**Kaweka Forest**	**2.94 222**		P	**Pn**	**07 45 08.6**	**-0.1**
GRZ	**Great Barrier**	**2.98 289**		P	**Pn**	**07 45 08.3**	**-0.8**
RATZ	**Rangitukua**	**2.98 236**		P	**Pn**	**07 45 10.2**	**+1.0**
RITZ	**Rihia Road**	**2.99 234**		P	**Pn**	**07 45 10.1**	**+0.8**
KAHZ	**Kahuranaki**	**3.01 212**		P	**Pn**	**07 45 08.9**	**-0.7**
MKAZ	**Moumakai**	**3.03 272**		P	**Pn**	**07 45 09.0**	**-0.9**
KATZ	**Kakaramea**	**3.09 235**		P	**Pn**	**07 45 11.9**	**+1.1**
WIAZ	**Waiheke Island**	**3.09 277**		P	**Pn**	**07 45 09.9**	**-0.8**
KRHZ	**Kereru**	**3.13 220**		P	**Pn**	**07 45 10.4**	**-0.8**
TMVZ	**Te Maari**	**3.16 233**		P	**Pn**	**07 45 12.1**	**+0.3**
ETVZ	**East Tongariro**	**3.17 233**		P	**Pn**	**07 45 12.4**	**+0.5**
NTVZ	**North Tongarir**	**3.17 234**		P	**Pn**	**07 45 12.2**	**+0.3**
BHHZ	**Black Hill Sta**	**3.18 225**		P	**Pn**	**07 45 12.1**	**+0.1**
OTVZ	**Oturere**	**3.21 233**		P	**Pn**	**07 45 12.7**	**+0.2**
PXZ	**Pawanui**	**3.22 210**		P	**Pn**	**07 45 11.0**	**-1.4**
NNVZ	**North Ngauruho**	**3.23 234**		P	**Pn**	**07 45 13.5**	**+0.8**
ETAZ	**East Tamaki Re**	**3.23 274**		P	**Pn**	**07 45 12.2**	**-0.4**
WTVZ	**West Tongariro**	**3.24 234**		P	**Pn**	**07 45 13.6**	**+0.8**
SNVZ	**South Ngauruho**	**3.24 233**		P	**Pn**	**07 45 13.1**	**+0.2**
NGZ	**Ngauruhoe**	**3.26 233**		P	**Pn**	**07 45 13.5**	**+0.3**
MBAZ	**Motutapu North**	**3.28 277**		P	**Pn**	**07 45 13.0**	**-0.3**
TUVZ	**Tukino**	**3.28 231**		P	**Pn**	**07 45 13.9**	**+0.4**
MOVZ	**Moawhango**	**3.31 229**		P	**Pn**	**07 45 13.4**	**-0.3**
TWVZ	**Taurewa**	**3.31 236**		P	**Pn**	**07 45 14.5**	**+0.7**
COVZ	**Chateau Observ**	**3.31 233**		P	**Pn**	**07 45 14.1**	**+0.2**
WHVZ	**Whangaehu Hut**	**3.33 232**		P	**Pn**	**07 45 14.4**	**+0.1**
FWVZ	**Far West T-bar**	**3.34 232**		P	**Pn**	**07 45 14.6**	**+0.3**
WNVZ	**Wahianoa**	**3.35 231**		P	**Pn**	**07 45 14.4**	**0.0**
TRVZ	**Turoa**	**3.37 232**		P	**Pn**	**07 45 15.0**	**+0.3**
EPAZ	**Eden Park BICE**	**3.39 275**		P	**Pn**	**07 45 14.8**	**+0.1**
HBAZ	**Herne Bay Bore**	**3.40 276**		P	**Pn**	**07 45 15.6**	**+0.7**
PNHZ	**Pukenui**	**3.42 218**		P	**Pn**	**07 45 13.9**	**-1.3**
WPHZ	**Waipukurau**	**3.43 214**		P	**Pn**	**07 45 14.3**	**-1.0**
AWAZ	**Awhitu Peninsu**	**3.45 272**		P	**Pn**	**07 45 15.4**	**-0.1**
MTVZ	**Mangateitei**	**3.47 231**		P	**Pn**	**07 45 15.9**	**0.0**
HIZ	**Hauiti**	**3.48 248**		Pn	**Pn**	**07 45 17.0**	**+1.0**
HIZ	**Hauiti**	**3.48 248**		P	**Pn**	**07 45 18.1**	**+2.1**
HIZ	**Hauiti**	**3.48 248**		P	**Pn**	**07 45 17.5**	**+1.5**
PKVZ	**Pokaka**	**3.49 233**		P	**Pn**	**07 45 17.0**	**+0.8**
WTAZ	**Waiatarua**	**3.52 274**		P	**Pn**	**07 45 16.5**	**0.0**
RVAZ	**Riverhead Bore**	**3.53 277**		P	**Pn**	**07 45 16.7**	**0.0**
VRZ	**Vera Road**	**3.79 239**		P	**Pn**	**07 45 21.5**	**+1.2**
WCZ	**Waipu Caves**	**3.93 288**		P	**Pn**	**07 45 22.1**	**-0.2**
WAZ	**Wanganui**	**3.99 230**		P	**Pn**	**07 45 23.9**	**+0.8**
BFZ	**Birch Farm**	**4.02 211**			**Pn**	**07 45 20.6**	**-2.9**
BFZ				Sn	**Sn**	**07 46 06.1**	**-3.6**
BFZ	**Birch Farm**	**4.02 211**		P	**Pn**	**07 45 21.0**	**-2.4**
OHWZ	**Ohakea**	**4.09 223**		P	**Pn**	**07 45 24.7**	**+0.2**
LREZ	**Lake Rotokare**	**4.20 237**		P	**Pn**	**07 45 27.5**	**+1.6**
DREZ	**Durham Road**	**4.21 241**		P	**Pn**	**07 45 28.5**	**+2.5**
MRZ	**Mangatainoka R**	**4.30 217**		Pn	**Pn**	**07 45 24.2**	**-3.1**
MRZ				Sn	**Sn**	**07 46 12.4**	**-4.1**
PREZ	**Palmer Road**	**4.31 240**		P	**Pn**	**07 45 29.6**	**+2.2**
NEZ	**North Egmont**	**4.32 241**		P	**Pn**	**07 45 29.7**	**+2.0**
PKE	**Pukeiti**	**4.36 242**		P	**Pn**	**07 45 30.8**	**+2.6**
KHEZ	**Kahui Hut**	**4.39 241**		P	**Pn**	**07 45 31.1**	**+2.5**
	1μm,0.5s						
KHEZ	**Kahui Hut**	**4.39 241**		P	**Pn**	**07 45 30.7**	**+2.2**
NBEZ	**Newall Road No**	**4.48 242**		P	**Pn**	**07 45 32.6**	**+2.9**
NMEZ	**Namu Road**	**4.54 240**		P	**Pn**	**07 45 32.1**	**+1.6**
OUZ	**Omahuta**	**4.78 294**		P	**Pn**	**07 45 34.3**	**+0.4**
	162nm,0.9s						
OUZ	**Omahuta**	**4.78 294**		P	**Pn**	**07 45 34.3**	**+0.4**
SNZO	**South Karori**	**5.22 218**		P	**Pn**	**07 45 36.6**	**-3.3**
	103nm,0.9s						
QRZ	**Quartz Range**	**6.14 233**		P	**Pn**	**07 45 50.5**	**-2.1**
	28nm,0.6s						
KHZ	**Kahutara**	**6.63 217**		P	**Pn**	**07 45 55.8**	**-3.4**
	34nm,1.1s						
RPZ	**Rata Peaks**	**8.82 221**		P	**Pn**	**07 46 26.4**	**-2.9**
	24nm,0.6s						
RPZ	**Rata Peaks**	**8.82 221**		Pn	**Pn**	**07 46 25.9**	**-3.4**
	4.6nm,0.3s,baz=92,slow=1.7,SNR=17						
RPZ				Sn	Sn	07 47 56.7	-11
	11nm,0.3s,baz=152,slow=21,SNR=20						
ODZ	**Otahua Downs**	**9.98 216**		P	Pn	07 46 40.7	-4.6
	10nm,0.7s						
JCZ	**Jackson Bay**	**10.29 225**		P	**Pn**	**07 46 50.1**	**+0.5**
	22nm,0.6s						
SYZ	**Scrubby Hill**	**11.80 215**		P	**Pn**	**07 47 08.3**	**-1.8**
	48nm,1.1s						
MARNC	**Mare, Loyalty**	**18.35 326**		P	**P**	**07 48 35.5**	**-0.6**
DZM	**Mont Dzumac**	**18.60 321**		P	**P**	**07 48 38.3**	**-0.7**
DZM				IAmb	IAmb	07 48 51.0	
	comp=Z,36nm,1.2s						
STKA	**Stephens Creek**	**31.09 269**		P	**P**	**07 50 39.6**	**-0.1**
STKA	**Stephens Creek**	**31.09 269**		P	**P**	**07 50 39.8**	**+0.1**
	comp=Z,4.9nm,0.6s,baz=103,slow=10,SNR=7.7						
	comp=Z,4.9nm,0.6s						
HNR	**Honiara**	**32.60 323**		P	**P**	**07 50 53.1**	**+0.1**
CTAO	**Charters Tower**	**33.19 292**		P	**P**	**07 50 58.2**	**0.0**
COEN	**Coen**	**39.38 297**		P	**P**	**07 51 50.8**	**-0.4**
COEN				IAmb	IAmb	07 51 52.4	
	comp=Z,21nm,0.8s						
AS31	**Alice Springs**	**40.76 276**		P	**P**	**07 52 01.0**	**-1.6**
AS31				IAmb	IAmb	07 52 02.6	
	comp=Z,3.4nm,0.9s						
ASAR	**Alice Springs**	**40.76 276**		P	**P**	**07 52 00.3**	**-2.3**
ASAR	**Alice Springs**	**40.76 276**		P	**P**	**07 52 01.5**	**-1.1**
	comp=Z,6.8nm,0.8s,baz=120,slow=8.0,SNR=59						
	comp=Z,6.8nm,0.8s						
WR0	**Warramunga Arr**	**42.21 282**		P	**P**	**07 52 13.4**	**-1.0**
WR0				IAmb	IAmb	07 52 14.2	
	comp=Z,8.7nm,0.8s						
FORT	**Forrest**	**42.26 263**		P	**P**	**07 52 13.0**	**-1.8**
FORT				IAmb	IAmb	07 52 16.0	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**42.38 281**		P	**P**	**07 52 14.9**	**-0.9**
WRA	**Warramunga Arr**	**42.38 281**		P	**P**	**07 52 14.8**	**-1.1**
	comp=Z,13nm,0.5s,baz=121,slow=7.8,SNR=201						
	comp=Z,13nm,0.5s						
MTN	**Manton Dam**	**49.03 287**		P	**P**	**07 53 07.5**	**-1.0**
MTN				IAmb	IAmb	07 53 07.5	
	comp=Z,9.7nm,0.8s						
KNRA	**Kununurra**	**49.16 282**		P	**P**	**07 53 08.5**	**-0.9**
KNRA				IAmb	IAmb	07 53 08.9	
	comp=Z,10nm,0.8s						
MORW	**Morawa**	**52.45 259**		P	**P**	**07 53 31.5**	**-2.7**
QSPA	**South Pole Qui**	**52.87 180**		P	**P**	**07 53 40.0**	**+3.1**
	comp=Z,3.5nm,0.7s,baz=26,slow=1.6,SNR=14						
	comp=Z,3.5nm,0.7s						
RPN	**Rapa Nui**	**60.23 103**		LR	LR	08 14 38.2	
	comp=Z,35nm,21.2s,baz=334,slow=30						
BELA	**Belgrano 2**	**63.34 172**		P	**P**	**07 54 50.0**	**+0.2**
BELA				IAmb	IAmb	07 54 52.5	
	comp=Z,3.9nm,0.8s						
SNAA	**Sanae**	**71.37 179**		P	**P**	**07 55 41.8**	**+1.1**
SNAA				IAmb	IAmb	07 55 44.1	
	comp=Z,2.0nm,1.0s						
SNAA	**Sanae**	**71.37 179**		P	**P**	**07 55 41.7**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=164,slow=18,SNR=3.2						
	comp=Z,1.6nm,1.0s						
H03S2	**Juan Fernandez**	**78.78 124**		T	T	09 22 58.2	
	baz=230,slow=74,SNR=15						
H03S1	**Juan Fernandez**	**78.78 124**		T	T	09 22 58.2	
	baz=230,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**78.79 124**		T	T	09 22 58.4	
	baz=230,slow=74,SNR=17						
KSRS	**Korea Array**	**88.03 322**		P	**P**	**07 57 11.6**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=136,slow=5.7,SNR=3.2						
	comp=Z,0.8nm,0.3s						
NJ2	**Nanjing**	**88.89 313**		*e*P	**P**	**07 57 17.9**	**+2.5**
NJ2				pP	**sP**	**07 57 25.4**	**-1.0**
NJ2				sP	**pP**	**07 57 26.3**	**+2.8**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,620nm,4.8s						
MDJ	**Mudanjiang**	**92.91 327**		P	**P**	**07 57 37.3**	**+3.5**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,170nm,3.7s						
PZH	**PanZhiHua**	**96.27 298**		P	**P**	**07 57 51.4**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,3.7s						
CPUP	**Villa Florida**	**97.56 131**		LR	LR	08 35 47.3	
	comp=Z,181nm,21.2s,baz=73,slow=32						
HHC	**Hu-ho-hao-te**	**99.21 315**		*e*P	**Pdif**	**07 58 02.9**	**+0.2**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,5.6s						
WMQ	**Urumqi**	**115.38 307**		*e*P	**PKiKP**	**08 03 03.1**	**+0.5**
KURBB	**Kurchatov Arra**	**123.82 311**		PKP	**PKPdf**	**08 03 16.3**	**-2.2**
	comp=Z,0.4nm,0.2s,baz=113,slow=2.0,SNR=6.6						
BVAR	**Borovoye Array**	**129.33 312**		PKP	**PKPdf**	**08 03 26.9**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=328,slow=5.1,SNR=1.9						
ARCES	**ARCESS Array B**	**144.62 344**		PKP	**PKPab**	**08 03 55.0**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=44,slow=2.7,SNR=13						
MMAI	**Mount Meron Ar**	**150.01 273**		PKPbc	**PKPbc**	**08 04 11.8**	**0.0**
	comp=Z,1.2nm,0.4s,baz=81,slow=5.2,SNR=3.6						
FINES	**FINESS Array B**	**150.44 334**		PKPbc	**PKPbc**	**08 04 10.8**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=38,slow=4.4,SNR=21						
BRTR	**Keskin Array B**	**152.84 286**		PKPbc	**PKPbc**	**08 04 16.6**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=145,slow=5.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**155.87 187**		PKPbc	PKPbc	08 04 27.9	
	comp=Z,0.3nm,0.4s,baz=103,slow=1.9,SNR=3.7						
TORD				PKPab	**PKPab**	**08 04 42.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=145,slow=2.1,SNR=8.1						

---

*KEA **19** 07:50:34.2, 41°.98N×124°.52E, h18km, ML3.5/2*

ISC 19 07:50:34.7±1.1,**42°.10N**±0°.04×**124°.52E**±0°.07,**h10**km,**n7,**
σ1°**81**/12,**Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.83**	**21**	*e*Pg	**Pb**	**07 51 07.9**	**-0.5**
CN2				*e*Sg	**Sg**	**07 51 32.9**	**-0.8**
CN2				smax	smax		
	comp=N,270nm,0.5s						
CN2				smax	smax		
	comp=E,270nm,0.5s						
SUJ	**Sinuiju**	**1.99 181**		Pg	**Pn**	**07 51 08.5**	**+0.1**
SUJ				Sg	**Sn**	**07 51 34.2**	**+0.8**
SUJ				AML	AML		
	comp=N,226nm,0.2s						
SUJ				AML	AML		
	comp=E,412nm,0.3s						
SUJ				AML	AML		
	comp=Z,194nm,0.2s						
PYS	**Pyongsong**	**3.02 160**		Pg	**Pb**	**07 51 27.6**	**-0.9**
PYS				Sg	**Sb**	**07 52 05.5**	**0.0**
PYS				AML	AML		
	comp=N,411nm,0.4s						
PYS				AML	AML		
	comp=E,784nm,0.9s						
PYS				AML	AML		
	comp=Z,202nm,0.4s						
WOSN	**Wonsan**	**3.67 142**		Sg	**Sb**	**07 52 25.6**	**+1.5**
DL2	**Dalian**	**3.88 216**		Pg	**Pb**	**07 51 42.6**	**-0.6**
DL2				Sg	**Sb**	**07 52 32.3**	**+2.2**
DL2				smax	smax		
	comp=N,310nm,0.6s						
DL2				smax	smax		
	comp=E,380nm,0.6s						
HJU	**Haeju**	**4.15 167**		Sg	**Sb**	**07 52 39.3**	**+1.3**
MDJ	**Mudanjiang**	**4.47 54**		Pg	**Pg**	**07 51 58.9**	**-1.5**
MDJ				Sg	**Sb**	**07 52 51.3**	**+4.0**
MDJ				smax	smax		
	comp=N,170nm,0.9s						
MDJ				smax	smax		
	comp=E,290nm,0.7s						

IDC 19 07:56:23.3±6.4,**30°.90S**×**179°.43W**,**h0**km,**mb3.4**/2,
mbtmp3.4/2,**Error ellipse: s-maj=257.2km**
s-min=59.5km az=157.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.86 268**		P	P	08 04 14.7	-0.7
	0.4nm,0.8s,baz=102,slow=8.0,SNR=2.5						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**42.89 273**

AKASG	Malin Array Be	144.68	334	PKP	PKPab	08 39 05.4	-1.9
	0.4nm,0.3s,baz=42,slow=4.4,SNR=2.1						

*IDC **19** 08:25:25.1±2.3, 14°.99S×66°.85E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=91.0km s-min=31.6km az=49.0*

ISC 19 08:25:27.2±2.4, 15°.1S±0°.5×66°.8E±0°.5, h16km, n15, σ0982/6, mb3.7/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.24	38	T	T	08 36 55.8	
	baz=217,slow=75,SNR=58						
H08S2	Diego Garcia H	9.25	38	T	T	08 36 57.4	
	baz=217,slow=75,SNR=129						
H08S3	Diego Garcia H	9.26	38	T	T	08 36 58.0	
	baz=217,slow=75,SNR=128						
H04N2	CROZET ISLANDS	33.47	199	T	T	09 07 34.9	
	baz=27,slow=75,SNR=54						
H04N1	CROZET ISLANDS	33.47	199	T	T	09 07 33.8	
	baz=27,slow=75,SNR=42						
H04N3	CROZET ISLANDS	33.49	199	T	T	09 07 35.8	
	baz=27,slow=75,SNR=41						
H01W3	Cape Leeuwin H	46.78	124	T	T	09 23 49.6	
	baz=283,slow=75,SNR=18						
H01W2	Cape Leeuwin H	46.78	124	T	T	09 23 50.1	
	baz=283,slow=75,SNR=13						
H01W1	Cape Leeuwin H	46.79	124	T	T	09 23 50.8	
	baz=283,slow=75,SNR=19						
MKAR	Makanchi Array	63.12	12	P	P	08 35 53.3	-0.7
	0.3nm,0.6s,baz=216,slow=7.1,SNR=2.1						
	0.3nm,0.6s						
ASAR	Alice Springs	63.44	109	P	P	08 35 56.3	-0.5
	0.4nm,0.8s,baz=278,slow=6.5,SNR=4.6						
	0.4nm,0.8s						
WRA	Warramunga Arr	64.26	105	P	P	08 36 02.8	+0.5
	0.8nm,0.8s,baz=270,slow=5.8,SNR=5.8						
	0.8nm,0.8s						
KURBB	Kurchatov Arra	66.19	8	P	P	08 36 14.8	+0.8
	0.2nm,0.3s,baz=204,slow=7.2,SNR=3.8						
	0.2nm,0.3s						
PDAR	Pinedale Array	152.19	354	PKPbc	PKiKP	08 45 23.4	+0.4
	0.5nm,0.6s,baz=70,slow=1.1,SNR=6.3						
TXAR	Lajitas Array	163.26	330	PKPab	PKPab	08 46 19.7	-0.4
	0.2nm,0.9s,baz=46,slow=3.9,SNR=2.2						

*MDD **19** 08:44:56.7±0.4, 35°.40N×3°.76W, h4km±3km, mb_Lg3.1/23, Error ellipse: s-maj=3.5km s-min=2.1km az=162.0*
*SFS **19** 08:44:56.5, 35°.43N×3°.73W, h12km, ML3.4/16, ML3.5/13, MLv3.4/16*
*CNRM **19** 08:44:57.4, 35°.43N×3°.79W, h29km, ml3.4*
*INMG **19** 08:44:58.2±1.3, 35°.39N×3°.74W, h18km, ML2.8, Error ellipse: s-maj=4.7km s-min=2.7km az=159.0*

ISC 19 08:44:57.5±0.9, 35°.43N±0°.02×3°.76W±0°.02, h28km±8km, n79, σ1925/134, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	Palemas	0.26	214	P	Pb	08 45 04.1	-0.2
PALE				S	Sb	08 45 08.8	-0.1
PVLZ	Peæn de	0.51	240	S	Sb	08 45 15.3	+0.1
PVLZ				P	Pb	08 45 08.0	-0.1
GOG	Mont Gurugu	0.66	108	P	Pb	08 45 10.3	-0.3
GOG				S	Sb	08 45 20.1	+0.6
WMELI	Melilla	0.67	99	S	Sb	08 45 19.1	-0.6
WMELI				P	Pb	08 45 10.4	-0.3
EALB	Alboran	0.78	49	⇑Pg	Pb	08 45 12.3	-0.3
EALB				Sg	Sb	08 45 21.8	-1.0
EALB	Alboran	0.78	49	P	Pb	08 45 12.2	-0.3
EALB				S	Sb	08 45 22.6	-0.2
CHAS	Isla Isabel II	1.12	102	P	Pn	08 45 16.5	-0.7
CHAS				S	Sb	08 45 30.4	-1.9
TAF	Taforalt	1.26	119	P	Pn	08 45 19.5	+0.2
TAF				S	Sb	08 45 36.5	-0.1
CHEFC	Chefchaouen	1.33	256	P	Pn	08 45 21.0	+0.7
CHEFC				S	Sn	08 45 37.5	+0.3
SMIR	Smir Dam	1.34	281	P	Pn	08 45 19.3	-1.1
SMIR				S	Sn	08 45 37.9	+0.6
ECEU	Ceuta	1.40	290	Pg	Pn	08 45 20.8	-0.3
ECEU				Sg	Sn	08 45 37.5	-1.1
ECEU				*i* Vmb_Lg		08 45 39.3	
ECEU	Ceuta	1.40	290	P	Pn	08 45 20.3	-0.9
EMIJ	Mijas	1.40	324	Pg	Pn	08 45 21.4	+0.2
EMIJ				Sg	Sn	08 45 39.0	+0.3
EMIJ				*i* Vmb_Lg		08 45 44.6	
EMIJ	Mijas	1.40	324	P	Pn	08 45 21.0	-0.2
ELGU	Los Guajares,	1.44	4	Pn	Pn	08 45 21.4	-0.4
ELGU				Sn	Sn	08 45 38.3	-1.5
ELGU	Los Guajares,	1.44	4	P	Pn	08 45 21.5	-0.3
ELGU				S	Sn	08 45 39.2	-0.6
EBER	Berja	1.63	25	Pn	Pn	08 45 24.4	0.0
EBER				Sn	Sn	08 45 45.9	+1.3
EBER				*i* Vmb_Lg		08 45 49.0	
EBER	Berja	1.63	25	P	Pn	08 45 24.4	0.0
EGOR	Sierra Gorda,	1.70	351	Pn	Pn	08 45 26.0	+0.5
EGOR				Sn	Sb	08 45 48.5	-0.8
EGOR				*i* Vmb_Lg		08 45 56.1	
EGOR	Sierra Gorda,	1.70	351	P	Pn	08 45 26.2	+0.7
RSA	Sarsar	1.77	253	P	Pn	08 45 26.4	0.0
RSA				S	Sn	08 45 47.1	-0.8
EQUE	Quentar	1.79	8	Pn	Pn	08 45 27.7	+1.1
EQUE				Sn	Sn	08 45 47.1	-1.4
EQUE				*i* Vmb_Lg		08 45 51.7	
EQTA	Presa de Quent	1.79	8	P	Pn	08 45 27.8	+1.1
EQTA				S	Sn	08 45 49.6	+1.1
LCRM	LCR	1.96	208	P	Pn	08 45 31.0	+1.9
LCRM				S	Sb	08 45 56.7	-0.1
ENIJ	Nijar	1.99	39	Pn	Pn	08 45 28.9	-0.4
ENIJ				Sn	Sn	08 45 53.6	+0.3
ENIJ				*i* Vmb_Lg		08 46 13.3	
ESPR	Espera	2.22	311	Pn	Pn	08 45 33.9	+1.5
ESPR				Sn	Sn	08 46 00.1	+1.2
ESPR				*i* Vmb_Lg		08 46 12.3	
ESPR	Espera	2.22	311	P	Pn	08 45 34.7	+2.2
EQES	Quesada	2.43	13	Pn	Pb	08 45 38.3	-2.3
EQES				Sn	Sn	08 46 07.3	+3.0
MD31	MD31	2.69	198	P	Pn	08 45 39.4	+0.5
MD31				S	Sn	08 46 10.0	-0.6
MDT	Midelt	2.70	195	P	Pb	08 45 42.6	-2.7
ELOR	Lorca, Murcia	2.74	36	Pn	Pn	08 45 41.0	+1.4
ELOR				Sn	Sn	08 46 12.9	+1.2
ELOR				*i* Vmb_Lg		08 46 21.2	
EADA	Adamuz	2.81	347	Pn	Pn	08 45 42.0	+1.5
EADA				Sn	Sn	08 46 15.1	+1.6
EADA				*i* Vmb_Lg		08 46 23.7	
EADA	Adamuz	2.81	347	P	Pn	08 45 42.5	+1.9
EZAR	Zarzadilla de	2.95	34	Pn	Pn	08 45 43.7	+1.1
EZAR				Sn	Sn	08 46 18.4	+1.3
EZAR				*i* Vmb_Lg		08 46 37.2	
ECAB	El Cabril	2.96	334	Pn	Pn	08 45 43.8	+1.2
ECAB				Sn	Sn	08 46 19.3	+2.2
ECAB				*i* Vmb_Lg		08 46 27.2	
ECAB	El Cabril	2.96	334	P	Pn	08 45 44.2	+1.6
ZHG	ZHG	3.10	231	P	Pn	08 45 46.2	+1.6
ZHG				S	Sn	08 46 23.0	+2.4
EMUR	La Murta	3.15	39	Pn	Pn	08 45 45.8	+0.6
EMUR				Sn	Sn	08 46 21.1	-0.8
EMUR				*i* Vmb_Lg		08 46 28.0	
EGRO	El Granado	3.66	306	Pn	Pn	08 45 53.3	+1.0
EGRO				Sn	Sn	08 46 34.0	-0.5
EGRO				*i* Vmb_Lg		08 46 39.3	
EGRO	El Granado	3.66	306	P	Pn	08 45 53.2	+1.0
ETOB	Tobarra	3.67	28	Pn	Pn	08 45 55.1	+2.7
ETOB				Sn	Sn	08 46 37.5	+2.8
ETOB				*i* Vmb_Lg		08 46 56.8	
ETOB	Tobarra	3.67	28	P	Pn	08 45 54.7	+2.4
AVE	Averroes	3.69	236	P	Pn	08 45 52.6	-0.1
PVAQ	Vaqueiros	3.75	303	*e*Pn	Pn	08 45 54.6	+1.1
PVAQ				*e*Sn	Sn	08 46 36.2	-0.5
PVAQ				A	A	08 46 37.9	
	23nm,0.6s						
PVAQ	Vaqueiros	3.75	303	P	Pn	08 45 53.1	-0.4
PVAQ	Vaqueiros	3.75	303	P	Pn	08 45 54.2	+0.7
PBAR	Barrancos	3.80	317	*e*Pn	Pn	08 45 55.5	+1.4
PBAR				*e*Sn	Sn	08 46 37.5	-0.3
PBAR				A	A	08 46 41.5	
	9.2nm,0.3s						
PBAR	Barrancos	3.80	317	P	Pn	08 45 54.9	+0.8
PBDV	Barranco-do-Ve	3.82	299	*e*Pn	Pn	08 45 55.6	+1.1
PBDV				*e*Sn	Sn	08 46 39.6	+1.1
PBDV				A	A	08 46 43.1	
	10nm,0.4s						
FIGM	Figuig	3.89	147	P	Pn	08 45 55.3	-0.3
FIGM				S	Sn	08 46 41.4	+1.1
PCVE	Castro Verde	4.09	304	*e*Pn	Pn	08 45 59.1	+1.0
PCVE				*e*Sn	Sn	08 46 45.2	+0.2
PCVE				A	A	08 46 51.4	
	13nm,0.6s						
PCVE	Castro Verde	4.09	304	P	Pn	08 45 58.8	+0.7
PAB	San Pablo	4.13	354	Pn	Pn	08 46 00.4	+1.5
PAB				Sn	Sn	08 46 46.7	+0.4
PAB				*i* Vmb_Lg		08 47 22.3	
PBEJ	Beja	4.19	309	*e*Pn	Pn	08 46 01.6	+2.0
PBEJ				*e*Sn	Sn	08 46 49.2	+1.6
PBEJ				A	A	08 46 51.4	
	8.8nm,0.3s						
EBAD	Badajoz	4.22	323	Pn	Pn	08 46 00.5	+0.7
EBAD				Sn	Sn	08 46 46.3	-1.9
EBAD				*i* Vmb_Lg		08 46 53.7	
EBAD	Badajoz	4.22	323	P	Pn	08 46 01.2	+1.3
MORF	Marmelete	4.37	297	*e*Pn	Pn	08 46 03.0	+1.0
MORF				*e*Sn	Sn	08 46 52.4	+0.4
MORF				A	A	08 46 55.5	
	9.4nm,0.2s						
PFVI	Vila Bisbo	4.43	294	*e*Pn	Pn	08 46 04.5	+1.7
PFVI				*e*Sn	Sn	08 46 53.7	+0.2
PFVI				A	A	08 47 05.4	
	12nm,0.6s						
PFVI	Vila Bisbo	4.43	294	P	Pn	08 46 02.2	-0.7
PFVI				S	Sn	08 46 52.8	-0.7
PTEO	Sao Teotonio	4.52	299	*e*Pn	Pn	08 46 05.5	+1.4
PTEO				*e*Sn	Sn	08 46 56.6	+0.9
PTEO				A	A	08 47 00.8	
	11nm,0.5s						
PESTR	Estremoz	4.60	319	*e*Pn	Pn	08 46 07.3	+2.2
PESTR				*e*Sn	Sn	08 46 56.3	-1.3
PESTR	Estremoz	4.60	319	P	Pn	08 46 05.0	-0.1
PNCL	Nicolau / Gran	4.67	306	*e*Pn	Pn	08 46 07.2	+1.1
PNCL				*e*Sn	Sn	08 46 59.8	+0.5
PNCL	Nicolau / Gran	4.67	306	P	Pn	08 46 07.2	+1.1
PMRV	Marv??o	4.93	325	*e*Pn	Pn	08 46 10.9	+1.2
PMRV				*e*Sn	Sn	08 47 06.0	+0.3
PMRV				A	A	08 47 25.4	
	6.7nm,0.6s						
PMTG	Montargil	5.09	317	*e*Pn	Pn	08 46 13.4	+1.6
PMTG				*e*Sn	Sn	08 47 09.4	-0.2
PMTG				A	A	08 47 10.7	
	13nm,0.8s						
OUZM	OUZ	5.16	210	P	Pn	08 46 15.4	+2.4
PCBR	Castelo Branco	5.30	327	*e*Pn	Pn	08 46 16.3	+1.6
PCBR				*e*Sn	Sn	08 47 14.2	-0.6
PCBR				A	A	08 47 25.9	
	4.4nm,0.6s						
OUK	Oukaimeden	5.43	220	P	Pn	08 46 17.4	+0.5
ETOR	Torete	5.55	14	Pn	Pn	08 46 18.8	+0.5
ETOR				*i* Vmb_Lg		08 48 02.5	
PMAFR	Mafra	5.64	310	*e*Pn	Pn	08 46 21.2	+1.8
PMAFR				*e*Sn	Sn	08 47 23.8	+0.5
PSBE	So Bento	5.71	317	*e*Pn	Pn	08 46 22.6	+2.1
MTE	Manteigas	5.79	330	*e*Sn	Sn	08 47 27.2	+0.1
MTE				A	A	08 47 31.5	
	12nm,0.1s						
PCAS	Casmilo, Conde	5.95	322	*e*Sn	Sn	08 47 30.1	-0.8
PVIS	Viseu	6.20	330	*e*Pn	Pn	08 46 29.6	+2.4
PVIS				*e*Sn	Sn	08 47 36.8	-0.4
PVIS				A	A	08 47 41.6	
	6.0nm,0.2s						
MVO	Moncorvo	6.28	337	*e*Pn	Pn	08 46 30.5	+2.3
MVO				*e*Sn	Sn	08 47 38.7	-0.3
MVO				A	A	08 47 51.7	
	7.8nm,0.5s						
POLO	Lamas de Olo	6.73	333	*e*Pn	Pn	08 46 36.8	+2.4
POLO				*e*Sn	Sn	08 47 49.7	-0.4
POLO				A	A	08 47 57.1	
	2.5nm,0.5s						
PBRG	Braganca	6.78	341	*e*Pn	Pn	08 46 37.9	+2.8
PBRG				*e*Sn	Sn	08 47 51.3	-0.1
ETOS	Mallorca	6.78	48	Pn	Pn	08 46 36.0	+0.9
ETOS				Sn	Sn	08 47 49.9	-1.5

*IDC **19** 08:44:58.8±0.9, 15°.64S×66°.44E, h0km, mb3.9/16, mbtmp3.9/16, MS4.1/8, Error ellipse: s-maj=28.3km s-min=21.6km az=40.0*

ISC 19 08:45:00.4±0.8, 15°.7S±0°.2×66°.5E±0°.2, h10km, n36, σ1917/19, mb4.1/16, MS4.1/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.93	37	T	T	08 56 35.5	
	baz=217,slow=75						
H08S2	Diego Garcia H	9.94	37	T	T	08 56 36.6	
	baz=217,slow=75						
H08S3	Diego Garcia H	9.95	37	T	T	08 56 35.0	
	baz=217,slow=75						
PALK	Pallekele	26.82	33	LR	LR	08 58 31.9	
	comp=Z,348nm,20.4s,baz=306,slow=30						
KMBO	Kilima Mbogo	32.23	294	LR	LR	09 02 36.8	
	comp=Z,149nm,18.9s,baz=92,slow=33						
H04N2	CROZET ISLANDS	32.77	199	T	T	09 27 07.2	
	baz=28,slow=75,SNR=7.0						
H04N1	CROZET ISLANDS	32.77	199	T	T	09 27 10.9	
	baz=28,slow=75,SNR=6.8						
H04N3	CROZET ISLANDS	32.79	199	T	T	09 27 05.9	
	baz=28,slow=75,SNR=7.9						
MATP	Matopo	36.34	257	LR	LR	09 05 10.3	
	comp=Z,141nm,20.9s,baz=60,slow=33						
LSZ	Lusaka	36.85	265	LR	LR	09 06 23.3	
	comp=Z,745nm,19.1s,baz=96,slow=35						
MBAR	Mbarara	38.30	290	LR	LR	09 06 32.5	
	comp=Z,344nm,18.6s,baz=72,slow=34						
BOSA	Boshof	40.08	244	LR	LR	09 06 49.2	
	comp=Z,326nm,18.4s,baz=33,slow=33						
SUR	Sutherland	44.52	240	LR	LR	09 09 29.1	
	comp=Z,233nm,18.6s,baz=79,slow=33						
CMAR	Chiang Mai Arr	46.63	45	P	P	08 53 29.4	+0.1
	1.5nm,0.7s,baz=234,slow=9.4,SNR=7.2						
	1.5nm,0.7s						
TSUM	Tsumeb	46.64	258	LR	LR	09 12 19.8	
	comp=Z,173nm,18.6s,baz=150,slow=35						
H01W3	Cape Leeuwin H	46.67	123	T	T	09 43 23.2	
	baz=283,slow=75,SNR=7.6						
H01W2	Cape Leeuwin H	46.68	123	T	T	09 43 24.6	
	baz=283,slow=75,SNR=7.6						
H01W1	Cape Leeuwin H	46.69	123	T	T	09 43 24.8	
	baz=283,slow=75,SNR=8.8						
BRTR	Keskin Array B	63.05	332	P	P	08 55 26.7	-1.3
	0.4nm,0.3s,baz=144,slow=5.2,SNR=1.5						
	0.4nm,0.3s						
ASAR	Alice Springs	63.51	109	P	P	08 55 31.1	-0.4
	0.4nm,0.8s,baz=267,slow=6.2,SNR=2.9						
	0.4nm,0.8s						
MKAR	Makanchi Array	63.80	12	P	P	08 55 31.3	-1.5
	0.4nm,0.5s,baz=205,slow=6.4,SNR=2.3						
	0.4nm,0.5s						
WRA	Warramunga Arr	64.39	105	P	P	08 55 38.0	+0.8
	2.1nm,1.1s,baz=272,slow=5.9,SNR=8.5						
	2.1nm,1.1s						
KURBB	Kurchatov Arra	66.87	8	P	P	08 55 51.9	-0.6
	0.4nm,0.2s,baz=203,slow=7.1,SNR=4.6						
	0.4nm,0.2s						
BVAR	Borovoye Array	68.51	3	P	P	08 56 02.4	-0.4
	1.3nm,0.8s,baz=165,slow=6.2,SNR=4.7						
	1.3nm,0.8s						
TORD	Torodi Ar. Bea	70.16	290	P	P	08 56 12.3	-1.6
	0.1nm,0.5s,baz=75,slow=2.7,SNR=1.5						
	0.1nm,0.5s						
ZALV	Zalesovo Beam	71.11	11	P	P	08 56 18.0	-0.8
	0.5nm,0.3s,baz=186,slow=2.9,SNR=1.8						
	0.5nm,0.3s						
SONM	Songino Array	72.60	27	P	P	08 56 28.4	+0.3
	0.8nm,0.7s,baz=198,slow=2.9,SNR=2.6						
	0.8nm,0.7s						
AKASG	Malin Array Be	73.72	336	P	P	08 56 34.9	+0.5
	0.7nm,0.6s,baz=133,slow=5.2,SNR=1.4						
	0.7nm,0.6s						
QSPA	South Pole Qui	74.40	180	P	P	08 56 38.0	-0.5
	1.2nm,1.0s,baz=270,slow=5.1,SNR=2.5						
	1.2nm,1.0s						
KRUC	Moravsky	78.21	329	*e*P	P	08 57 02.5	+2.4
KSRS	Korea Array	78.26	46	P	P	08 56 59.0	-1.7
	1.0nm,0.8s,baz=248,slow=6.2,SNR=2.2						
	1.0nm,0.8s						
MJAR	Matsushiro Arr	85.20	50	P	P	08 57 38.0	+0.6
	0.4nm,0.3s,baz=230,slow=3.0,SNR=2.8						
	0.4nm,0.3s						
ESDC	Sonseca Array	85.51	313	P	P	08 57 39.4	+0.5
	3.3nm,1.1s,baz=77,slow=3.4,SNR=10						
	3.3nm,1.1s						
HFS	Hagfors	86.61	336	P	P	08 57 44.6	+0.8
	1.4nm,0.7s,baz=132,slow=8.0,SNR=2.7						
	1.4nm,0.7s						
PDAR	Pinedale Array	152.79	354	PKPbc	PKiKP	09 04 59.5	+1.1
	0.5nm,0.6s,baz=20,slow=2.9,SNR=6.3						
TXAR	Lajitas Array	163.65	328	PKPab	PKPab	09 05 57.5	+1.4
	0.4nm,0.8s,baz=55,slow=4.8,SNR=4.3						

*BGR **19** 09:01:57.5, 27°.30N×133°.05E, h33km, mb6.0, mB_BB6.3, Ms5.8*
*BJI **19** 09:01:58.9±0.0, 28°.35N×131°.23E, h6km, mb5.5/89, mB5.8/72, Ms5.9/94, Ms7 5.7/90*
*IDC **19** 09:01:59.3±0.3, 28°.38N×131°.36E, h0km, mb5.7/46, mbtmp5.7/54, ML5.2/8, MS5.2/78, Error ellipse: s-maj=11.5km s-min=9.2km az=56.0*
*MOS **19** 09:02:00.9±1.1, 28°.37N×131°.31E, h20km, mb6.0/105, MS5.7/48, Error ellipse: s-maj=5.9km s-min=3.2km az=111.4*
*NEIC **19** 09:02:01.7, 28°.23N×131°.40E, h18km, Moment Tensor Solution. Duration: 4s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-8.46; $M_{\theta\theta}$1.36; $M_{\phi\phi}$7.10; $M_{r\theta}$-1.41; $M_{\theta r}$1.11; $M_{\phi r}$-2.36; Fault plane solution: $M_0$8.34000×10^{17} NP1: ϕ_s185.74000°, δ36.16000°, λ-98.59000°. NP2:ϕ_s16.33000°, δ54.31000°, λ-83.77000°. Principal axes: T 7.7170, Plg9.0000°, Azm102.0000°; N 1.2381, Plg5.0000°, Azm193.0000°; P -8.9551, Plg80.0000°, Azm311.0000°;*
*NEIC **19** 09:02:01.6, 28°.32N×131°.20E, h10km*
*NEIC **19** 09:02:01.7, 28°.33N×131°.18E, h18km*
*JMA **19** 09:02:01.5±0.1, 28°.3N±0°.4×131°.3E±0°.8, h98km±2km, MD5.6/34, MW5.9/34, N PHILIPPINE BASIN*
JMA Felt III J1 at N PHILIPPINE BASIN .
*NIED **19** 09:02:01.5, 28°.33N×131°.28E, h98km, MW5.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-5.33; $M_{\theta\theta}$1.82; $M_{\phi\phi}$3.51; $M_{r\theta}$-0.33; $M_{\theta r}$0.88; $M_{\phi r}$-0.99; Fault plane solution: $M_0$4.73000×10^{17} NP1:ϕ_s22.00000°, δ51.00000°, λ-91.00000°. NP2:ϕ_s204.00000°, δ39.00000°, λ-89.00000°.*
*NEIC **19** 09:02:02.2±1.4, 28°.32N±0°.05×131°.21E±0°.07, h14km±1km, mb5.8/603, Ms_20 5.5/367, Mwb5.7/68, Mww5.9/44 Error ellipse: s-maj=9.8km s-min=8.1km az=100.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-3.52; $M_{\theta\theta}$-1.08; $M_{\phi\phi}$4.60; $M_{r\theta}$-0.15; $M_{\theta r}$1.41; $M_{\phi r}$0.04; Fault plane solution: $M_0$4.41000×10^{17} NP1:ϕ_s17.43000°, δ45.14000°, λ-84.06000°. NP2:ϕ_s189.03000°, δ45.17000°, λ-95.94000°. Principal axes: T 4.9364, Plg0.0000°, Azm283.0000°; N -1.4011, Plg4.0000°, Azm193.0000°; P -3.5354, Plg86.0000°, Azm13.0000°;*
*GCMT **19** 09:02:04.2±0.1, 28°.36N±0°.01×131°.21E, h17km, MW5.9/169, Moment Tensor Solution. s159,c340; s169,c553; Duration: 2s2 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.89±.01; $M_{\theta\theta}$0.15±.01; $M_{\phi\phi}$0.74±.01; $M_{r\theta}$0.06±.01; $M_{\theta\phi}$0.18±.00; $M_{\theta r}$0.23±.01; Best double couple: $M_0$0.87700×10^{18} NP1:ϕ_s195.00000°, δ53.00000°, λ-90.00000°. NP2:ϕ_s16.00000°, δ37.00000°, λ-90.00000°. Principal axes: T 0.8260, Plg8.0000°, Azm285.0000°; N 0.1020, Plg0.0000°, Azm195.0000°; P -0.9280, Plg82.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 19 09:02:00.7±0.4, 28°.35N±0°.02×131°.30E±0°.02, h8km±2km, h8km:pP-P, n2166, σ1956/1900, mb5.8/570, MS5.5/321, 64C-116D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	Kikaishima	1.17	269	P	Pn	09 02 23.6	+0.2
JZK				*e*S	Sn	09 02 40.6	+1.0
JZK	Kikaishima	1.17	269	A	A	09 02 23.6	
	comp=E,2μm,1.9s,comp=N,2μm,1.9s						
JAM	Amami Oshima	1.50	273	P	Pb	09 02 27.8	-1.0
JAM				*e*S	Sg	09 02 47.7	-1.2
JAM	Amami Oshima	1.50	273	A	A	09 02 27.8	
	comp=E,906nm,1.6s,comp=N,657nm,0.9s						
JAMN	Amaminishikomi	1.88	267	P	Pn	09 02 32.5	-0.7
JAMN				*e*S	Sn	09 02 56.4	-0.6
JAMN	Amaminishikomi	1.88	267	A	A	09 02 32.5	
	comp=E,323nm,1.6s,comp=N,183nm,1.4s						
JNN	Nakanoshima	1.94	320	*i* P	Pn	09 02 33.8	-0.3
JNN				S	Sn	09 02 57.0	-1.7
JNN	Nakanoshima	1.94	320	A	A	09 02 33.8	
	comp=E,356nm,1.3s,comp=N,420nm,1.2s						
JYAK	Yakushimahirau	2.00	340	*i* P	Pn	09 02 35.0	+0.1
JYAK				S	Sn	09 02 58.3	-1.8
JYAK	Yakushimahirau	2.00	340	A	A	09 02 35.0	
	comp=E,187nm,0.7s,comp=N,509nm,1.1s						
JTAJ	Takarajima	2.01	294	*i* P	Pn	09 02 34.3	-0.7
JTAJ				*e*S	Sn	09 02 58.6	-1.7
JMTN	Minamitane	2.07	350	*i* P	Pn	09 02 35.7	-0.1
JMTN				S	Sn	09 03 00.8	-1.0
JMTN	Minamitane	2.07	350	A	A	09 02 35.7	
	comp=E,147nm,1.2s,comp=N,196nm,1.1s						
JTK	Tokunoshima	2.15	255	*i* P	Pn	09 02 36.6	-0.4
JTK				S	Sn	09 03 02.3	-1.5
JTK	Tokunoshima	2.15	255	A	A	09 02 36.6	
	comp=E,81nm,1.7s,comp=N,112nm,1.6s						
JTN	Tanegashima 3	2.31	353	*e*P	Pn	09 02 38.9	-0.3
JTN				S	Sn	09 03 05.9	-1.9
JTN	Tanegashima 3	2.31	353	A	A	09 02 38.9	
	comp=E,82nm,3.6s,comp=N,102nm,4.0s						
JKC	Kuchinoerabu	2.31	336	*i* P	Pn	09 02 39.0	-0.1
JKDJ	Kitadaitoujima	2.39	180	⇓*i* P	Pn	09 02 39.0	-1.2
JKDJ				⇓S	Sn	09 03 05.5	-4.2
J

JZO	**Okuchi**	**3.83 351**	A	A	09 02 59.6
	comp=E,30nm,2.1s				
JJT3	**Tamagusuku3**	**3.83 236**	*i* P	**Pn**	**09 02 58.8 -1.2**
JTSN	**Tsuno**	**3.88 3**	A	A	09 03 00.5
	comp=N,18nm,4.0s				
JAGN	**Aguni-jima**	**4.01 245**	P	**Pn**	**09 03 01.0 -1.5**
JHHC	**Hyugahichiya**	**4.09 4**	A	A	09 03 03.3
	comp=E,37nm,2.4s				
JIU3	**Izumi3**	**4.21 354**	A	A	09 03 04.8
	comp=E,24nm,3.1s				
JHD	**Hondo**	**4.22 347**	A	A	09 03 05.1
	comp=E,23nm,3.6s,comp=N,18nm,1.7s				
JTA	**Tamana**	**4.64 352**	A	A	09 03 10.9
	comp=E,16nm,3.1s				
JTO	**Tosashimizu**	**4.68 16**	A	A	09 03 11.5
	comp=E,8.0nm,5.5s				
JUS	**Usuki**	**4.71 5**	A	A	09 03 11.9
	comp=E,16nm,0.8s,comp=N,15nm,0.9s				
JNU	**Nakatsue**	**4.77 356**	Pn	**Pn**	**09 03 13.8 +0.8**
JNU	**Nakatsue**	**4.77 356**	P	**Pn**	**09 03 14.8 +1.8**
JNU	**Nakatsue**	**4.77 356**	Pn	**Pn**	**09 03 13.3 +0.4**
	comp=N,204nm,0.3s,baz=170,slow=4.2,SNR=175				
JNU			Sn	**Sn**	**09 04 04.3 -4.1**
	comp=N,189nm,0.3s,baz=218,slow=7.0,SNR=6.2				
JNU			LR	LR	09 05 14.9
	comp=N,18μm,20.3s,baz=163,slow=41				
	comp=N,2μm,0.7s				
JUR	**Ureshino**	**4.87 346**	A	A	09 03 14.0
	comp=N,17nm,4.5s				
JBEP	**Beppuamama**	**4.97 1**	A	A	09 03 15.4
	comp=E,34nm,2.0s,comp=N,32nm,2.3s				
JKI	**Kunimi**	**5.27 2**	A	A	09 03 19.6
	comp=E,13nm,4.0s,comp=N,14nm,1.3s				
JII	**Iki**	**5.59 346**	A	A	09 03 23.9
	comp=N,11nm,4.2s				
JMN	**Monobe**	**5.80 22**	Pn	**Pn**	**09 03 27.9 +0.7**
JMN	**Monobe**	**5.80 22**	P	**Pn**	**09 03 27.6 +0.5**
JTU	**Tsushima**	**6.37 346**	Pn	**Pn**	**09 03 35.8 +1.0**
JTU	**Tsushima**	**6.37 346**	P	**Pn**	**09 03 36.5 +1.7**
JMJ	**Miyako jima 2**	**6.43 238**	P	**Pn**	**09 03 34.4 -1.4**
INU	**Inuyama**	**8.50 33**	Pn	**Pn**	**09 04 05.7 +1.6**
INU	**Inuyama**	**8.50 33**	P	**Pn**	**09 04 06.0 +1.8**
JSG	**Sagara**	**8.62 41**		**Pn**	**09 04 08.4 +2.7**
JSG	**Sagara**	**8.62 41**	P	**Pn**	**09 04 09.1 +3.4**
TJN	**Taejon**	**8.67 338**		**Pn**	**09 04 08.0 +1.5**
TJN	**Taejon**	**8.67 338**	P	**Pn**	**09 04 08.7 +2.3**
TJN	**Taejon**	**8.67 338**	⇓*e*P	**Pn**	**09 04 06.5 +0.1**
JHJ	**Hachijo jima 2**	**8.71 55**	Pn	**Pn**	**09 04 07.6 +0.6**
	comp=N,175nm,0.3s,baz=227,slow=19,SNR=3.9				
JHJ			LR	LR	09 07 11.2
	comp=N,25μm,18.0s,baz=257,slow=36				
	comp=N,390nm,0.3s				
JHJ2	**Mitsune**	**8.73 55**		**Pn**	**09 04 09.7 +2.4**
TATO	**Taipei**	**9.40 251**		**Pn**	**09 04 15.1 -1.4**
TATO	**Taipei**	**9.40 251**	P	**Pn**	**09 04 17.8 +1.3**
TATO	**Taipei**	**9.40 251**	P	**Pn**	**09 04 19.9 +3.4**
TATO			P	**Pn**	**09 04 19.9 +3.4**
TATO			P	**Pn**	**09 04 19.9 +3.4**
KSAR	**Wonju Array Be**	**9.51 343**		**Pn**	**09 04 19.1 +1.1**
KSAR	**Wonju Array Be**	**9.51 343**	P	**Pn**	**09 04 19.1 +1.1**
KSRS	**Korea Array**	**9.51 344**	Pn	**Pn**	**09 04 19.1 +1.2**
	comp=N,8.9nm,0.3s,baz=159,slow=14,SNR=188				
KSRS			LR	LR	09 08 20.6
	comp=N,15μm,19.0s,baz=165,slow=40				
KSRS			PcP	**PcP**	**09 10 35.5 0.0**
	comp=N,6.2nm,0.9s,baz=191,slow=1.5,SNR=4.5				
	comp=N,133nm,0.8s				
KS19	**Wonju Array Si**	**9.57 343**		**Pn**	**09 04 19.5 +0.7**
YHNB	**Yeheng**	**9.62 250**		**Pn**	**09 04 17.6 -1.9**
YHNB	**Yeheng**	**9.62 250**	P	**Pn**	**09 04 19.2 -0.4**
NACB	**Ninganchiao**	**9.65 247**		**Pn**	**09 04 16.9 -3.1**
NACB	**Ninganchiao**	**9.65 247**	P	**Pn**	**09 04 17.6 -2.4**
JCJ	**Chichijima**	**9.72 95**		**Pn**	**09 04 22.0 +1.0**
JCJ	**Chichijima**	**9.72 95**	P	**Pn**	**09 04 22.5 +1.5**
JCJ	**Chichijima**	**9.72 95**	Pn	**Pn**	**09 04 17.9 -3.1**
	comp=N,87nm,0.3s,baz=280,slow=23,SNR=61				
JCJ			LR	LR	09 07 36.6
	comp=N,32μm,19.3s,baz=218,slow=35				
	comp=N,1μm,0.6s				
INCN	**Inchon**	**9.91 338**	Pn	**Pn**	**09 04 26.3 +2.7**
INCN	**Inchon**	**9.91 338**	P	**Pn**	**09 04 26.0 +2.4**
INCN	**Inchon**	**9.91 338**	P	**Pn**	**09 04 26.3 +2.7**
INCN	**Inchon**	**9.91 338**	P	Pn	09 04 28.3 +4.7
INCN			P	Pn	09 04 28.3 +4.7
MAJO	**Matsushiro**	**10.03 34**	Pn	**Pn**	**09 04 27.0 +1.7**
MAJO	**Matsushiro**	**10.03 34**	P	**Pn**	**09 04 27.1 +1.9**
MAJO	**Matsushiro**	**10.03 34**	*ce*P	**Pn**	**09 04 26.9 +1.7**
MAJO			pmax	pmax	
	comp=Z,153nm,0.5s				
MJAR	**Matsushiro Arr**	**10.03 34**	Pn	**Pn**	**09 04 27.0 +1.7**
	comp=Z,6.5nm,0.3s,baz=231,slow=14,SNR=242				
MJAR			LR	LR	09 08 14.0
	comp=Z,18μm,19.6s,baz=210,slow=38				
MJB9	**Matsu-Tunnel**	**10.03 34**		**Pn**	**09 04 27.1 +1.9**
SSLB	**Suanglung**	**10.35 246**		**Pn**	**09 04 25.0 -4.6**
SSLB	**Suanglung**	**10.35 246**	P	**Pn**	**09 04 27.0 -2.6**
TPUB	**Ta-pu**	**10.85 245**		Pn	09 04 31.5 -4.9
JSD	**Sado**	**11.28 29**		**Pn**	**09 04 44.0 +1.8**
JSD	**Sado**	**11.28 29**	P	**Pn**	**09 04 44.4 +2.2**
NJ2	**Nanjing**	**11.38 292**	⇑*i*P	**Pn**	**09 04 44.3 +0.7**
NJ2			pP		09 04 46.4
NJ2			sP		09 04 49.6
NJ2			PP	**PnPn**	**09 04 52.9 +1.5**
NJ2			S	**Sn**	**09 06 53.8 +2.8**
NJ2			sS		09 07 00.9
NJ2			pmax	pmax	
	comp=Z,310nm,1.0s				
NJ2			pmax	pmax	
	comp=Z,2μm,3.5s				
NJ2			LR	LR	
	comp=Z,48μm,13.7s				
NJ2			LR	LR	
	comp=Z,62μm,14.0s				
NJ2			LR	LR	
	comp=Z,75μm,14.4s				
QZH	**Quanzhou**	**11.86 256**	⇓*i*P	**Pn**	**09 04 53.8 +3.5**
QZH			S	**Sn**	**09 07 05.8 +2.9**
QZH			SS	**SnSn**	**09 07 18.3 +3.5**
QZH			pmax	pmax	
	comp=Z,150nm,1.2s				
QZH			pmax	pmax	
	comp=Z,7μm,9.8s				
QZH			LR	LR	
	comp=Z,23μm,13.3s				
QZH			LR	LR	
	comp=Z,46μm,12.9s				
QZH			LR	LR	
	comp=Z,62μm,13.8s				
DL2	**Dalian**	**13.25 325**	P	**Pn**	**09 05 09.9 +0.8**
DL2			SS	**S**	**09 07 54.8 -6.6**
DL2			pmax	pmax	
	comp=Z,130nm,1.1s				
DL2			pmax	pmax	
	comp=Z,530nm,5.3s				
DL2			LR	LR	
	comp=Z,15μm,14.5s				
DL2			LR	LR	
	comp=Z,25μm,15.0s				
DL2			LR	LR	
	comp=Z,34μm,14.1s				
MSHR	**Mys Shultsa**	**14.20 360**	⇓*i*P	**Pn**	**09 05 23.9 +1.8**
MSHR			pmax	pmax	
	comp=Z,57nm,1.0s				
TIA	**Tai'an**	**14.32 307**	⇑P	**Pn**	**09 05 24.8 +1.0**
TIA			S	**Sn**	**09 08 06.5 +3.7**
TIA			pmax	pmax	
	comp=Z,160nm,1.1s				
TIA			pmax	pmax	
	comp=Z,3μm,9.4s				
TIA			LR	LR	
	comp=Z,18μm,13.1s				
TIA			LR	LR	
	comp=Z,26μm,14.5s				
TIA			LR	LR	
	comp=Z,38μm,15.2s				
VLA	**Vladivostok**	**14.74 2**	⇓*e*P	**P**	**09 05 32.5 -3.2**
VLA			pmax	pmax	
	comp=Z,542nm,2.2s				
JTM	**Tenmabayashi**	**14.77 30**		**Pn**	**09 05 30.2 +0.2**
JTM	**Tenmabayashi**	**14.77 30**	P	**Pn**	**09 05 32.2 +2.2**
SNY	**Shenyang**	**14.85 337**	⇑P	**P**	**09 05 33.3 -3.5**
SNY			S	Sn	09 08 23.9 +8.3
SNY			pmax	pmax	
	comp=Z,39nm,1.1s				
SNY			pmax	pmax	
	comp=Z,1μm,7.0s				
SNY			LR	LR	
	comp=Z,18μm,15.5s				
SNY			LR	LR	
	comp=Z,20μm,17.1s				
SNY			LR	LR	
	comp=Z,23μm,14.7s				
WHN	**Wuhan**	**14.93 283**	⇓P	**Pn**	**09 05 31.5 -0.7**
WHN			sP	**P**	**09 05 37.8 -0.1**
WHN			S	**Sn**	**09 08 21.4 +3.6**
WHN			pmax	pmax	
	comp=Z,210nm,1.3s				
WHN			LR	LR	
	comp=Z,25μm,11.9s				
WHN			LR	LR	
	comp=Z,104μm,12.7s				
WHN			LR	LR	
	comp=Z,126μm,14.6s				
USA0B	**Ussuriysk Arra**	**15.83 2**		**Pn**	**09 05 45.0 +1.2**
USA0B	**Ussuriysk Arra**	**15.83 2**	*de*P	**Pn**	**09 05 44.7 +0.8**
USRK	**Ussuriysk Ar.**	**15.83 2**		**P**	**09 05 45.3 -2.4**
USRK	**Ussuriysk Ar.**	**15.83 2**	P	**P**	**09 05 45.3 -2.4**
USRK	**Ussuriysk Ar.**	**15.83 2**	Pn	**P**	**09 05 47.6 -0.1**
	comp=Z,6.1nm,0.3s,baz=186,slow=11,SNR=31				
USRK			LR	LR	09 12 26.9
	comp=Z,7μm,18.0s,baz=180,slow=40				
CN2	**Changchun**	**16.12 345**	*e*P	**Pn**	**09 05 48.1 +0.4**
CN2			*e*S	**Sn**	**09 08 43.8 -2.8**
CN2			pmax	pmax	
	comp=Z,470nm,0.7s				
CN2			LR	LR	
	comp=Z,15μm,17.0s				
CN2			LR	LR	
	comp=Z,18μm,17.0s				
CN2			LR	LR	
	comp=Z,23μm,17.0s				
CNSH	**ChangSha**	**16.19 274**	⇑P	**Pn**	**09 05 46.9 -1.7**
CNSH			S	**Sn**	**09 08 45.4 -3.0**
CNSH			pmax	pmax	
	comp=Z,71nm,1.1s				
CNSH			LR	LR	
	comp=Z,37μm,18.0s				
CNSH			LR	LR	
	comp=Z,12μm,20.8s				
CNSH			LR	LR	
	comp=Z,33μm,12.9s				
MDJ	**Mudanjiang**	**16.29 356**	P	**P**	**09 05 51.6 -1.3**
MDJ			pP	pP	09 05 53.6 -0.3
MDJ			sP	pwP	09 05 55.8 -3.4
MDJ			PP	sP	09 06 00.8 +6.4
MDJ			S	**Sn**	**09 08 55.3 +4.6**
MDJ			SS	**SnSn**	**09 09 07.3 +3.3**
MDJ			PcP	**PcP**	**09 10 40.9 -2.7**
MDJ			ScP	**ScP**	**09 14 18.8 +0.3**
MDJ			ScS	**ScS**	**09 17 57.6 +0.3**
MDJ			pmax	pmax	
	comp=Z,140nm,0.9s				
MDJ			pmax	pmax	
	comp=Z,4μm,8.0s				
MDJ			LR	LR	
	comp=Z,13μm,16.8s				
MDJ			LR	LR	
	comp=Z,17μm,14.9s				
MDJ			LR	LR	
	comp=Z,15μm,15.7s				
MDJ	**Mudanjiang**	**16.29 356**		**Pn**	**09 05 50.1 +0.3**
MDJ	**Mudanjiang**	**16.29 356**	P	**P**	**09 05 51.0 -1.9**
HNS	**HongShan**	**16.59 307**	⇑P	**Pn**	**09 05 52.9 -0.7**
HNS			PP	**pwP**	**09 06 06.4 +3.8**
HNS			S	**Sn**	**09 08 52.8 -5.2**
HNS			SS	**SnSn**	**09 09 12.0 +0.9**
HNS			pmax	pmax	
	comp=Z,550nm,1.2s				
HNS			LR	LR	
	comp=Z,12μm,13.9s				
HNS			LR	LR	
	comp=Z,25μm,14.7s				
HNS			LR	LR	
	comp=Z,27μm,13.9s				
HKPS	**Hong Kong Po S**	**16.65 253**		**Pn**	**09 05 52.7 -1.8**
HKPS	**Hong Kong Po S**	**16.65 253**	P	**P**	**09 05 56.2 -0.8**
ERM	**Erimo**	**16.70 32**		**Pn**	**09 05 53.4 -1.7**
ERM	**Erimo**	**16.70 32**	P	**Pn**	**09 05 54.5 -0.6**
ERM	**Erimo**	**16.70 32**	*c i*P	**Pn**	**09 05 53.2 -1.9**
JEM	**Erimo**	**16.70 32**	P	**Pn**	**09 05 54.7 -0.4**
GZH	**Guangzhou**	**17.00 256**	P	**Pn**	**09 05 53.0 -6.0**
GZH			S	Sn	09 08 55.4 -13
GZH			pmax	pmax	
	comp=Z,150nm,1.2s				
GZH			LR	LR	
	comp=Z,9μm,11.7s				
GZH			LR	LR	
	comp=Z,13μm,13.6s				
GZH			LR	LR	
	comp=Z,14μm,14.3s				
BJT	**Baijiatuau**	**17.07 317**	P	**P**	**09 05 59.9 -1.6**
BJT	**Baijiatuau**	**17.07 317**	P	**P**	**09 06 00.4 -1.1**
BJT	**Baijiatuau**	**17.07 317**	P	**P**	**09 05 59.9 -1.6**
BJT			pmax	pmax	
	comp=Z,312nm,1.0s				
BJI	**Beijing**	**17.07 317**	P	**Pn**	**09 05 59.6 -0.2**
BJI			pP	**P**	**09 06 03.0 +1.4**
BJI			sP	**pwP**	**09 06 07.1 -0.9**
BJI			S	**Sn**	**09 09 06.4 -3.4**
BJI			PcP	**PcP**	**09 10 45.4 +0.5**
BJI			pmax	pmax	
	comp=Z,160nm,1.1s				
BJI			LR	LR	
	comp=Z,24μm,14.8s				
BJI			LR	LR	
	comp=Z,13μm,14.2s				
BJI			LR	LR	
	comp=Z,22μm,14.7s				
TGY	**Tagaytay City**	**17.14 216**	P	**P**	**09 06 02.0 -0.5**
	comp=Z,33nm,0.3s,baz=102,slow=12,SNR=11				
	comp=Z,85nm,0.3s				
TEY	**Ternei**	**17.18 13**	⇑*e*P	**P**	**09 06 03.1 +0.4**
TEY			*e*S	**Sn**	**09 09 16.2 +4.0**
TEY			pmax	pmax	
	comp=N,40nm,1.2s				
TEY			pmax	pmax	
	comp=E,10.0nm,1.2s				
TEY			pmax	pmax	
	comp=Z,50nm,1.2s				
TEY			pmax	pmax	
	comp=Z,700nm,3.5s				
TEY			pmax	pmax	
	comp=N,600nm,3.8s				
TEY			pmax	pmax	
	comp=E,200nm,3.9s				
TEY			smax	smax	
	comp=E,6μm,8.2s				
TEY			smax	smax	
	comp=N,6μm,9.9s				
TEY			MLR	MLR	
	comp=E,7μm,15.0s				
TEY			MLR	MLR	
	comp=N,7μm,16.0s				
TEY			MLR	MLR	
	comp=Z,10μm,17.0s				
MCO	**Taipa Grande**	**17.20 253**	P	**Pn**	**09 05 58.0 -3.5**
LYN	**LuoYang**	**17.21 296**	⇑*i*P	**Pn**	**09 06 00.4 -1.1**
LYN			pP	P	09 06 04.0 +0.9
LYN			PP	pwP	09 06 16.9 +7.2
LYN			S	**Sn**	**09 09 13.8 +0.7**
LYN			pmax	pmax	
	comp=Z,900nm,1.2s				
LYN			pmax	pmax	
	comp=Z,7μm,8.4s				
LYN			LR	LR	
	comp=Z,22μm,14.2s				
LYN			LR	LR	
	comp=Z,66μm,13.6s				
LYN			LR	LR	
	comp=Z,90μm,14.2s				
BNX	**BinXian**	**17.63 351**	⇑P	**P**	**09 06 06.8 -0.9**
BNX			pP	**pwP**	**09 06 10.3 -3.7**
BNX			sP	**pP**	**09 06 11.6 +2.8**
BNX			S	**Sn**	**09 09 23.8 +0.7**
BNX			pmax	pmax	
	comp=Z,93nm,1.0s				
BNX			pmax	pmax	
	comp=Z,5μm,7.9s				
BNX			LR	LR	
	comp=Z,14μm,17.9s				
BNX			LR	LR	
	comp=Z,18μm,13.6s				
BNX			LR	LR	
	comp=Z,20μm,17.4s				
ASAJ	**Asahikawa**	**18.15 27**	P	**Pn**	**09 06 11.9 -1.2**
	comp=Z,2.5nm,0.3s,baz=233,slow=15,SNR=32				
ASAJ			LR	LR	09 13 05.7
	comp=Z,13μm,20.0s,baz=235,slow=37				
	comp=Z,85nm,1.0s				
JKA	**Kamikawa-asahi**	**18.15 27**	P	**Pn**	**09 06 11.6 -1.5**
TIY	**Taiyuan**	**18.34 305**	*e*P	**P**	**09 06 16.1 +0.4**
TIY			PP	**PnPn**	**09 06 30.4 +3.4**
TIY			S	**Sn**	**09 09 40.8 +0.1**
TIY			PcP	**PcP**	**09 10 47.8 +0.7**
TIY			pmax	pmax	
	comp=Z,230nm,1.1s				
TIY			pmax	pmax	
	comp=Z,5μm,5.6s				
TIY			LR	LR	
	comp=Z,13μm,18.0s				
TIY			LR	LR	
	comp=Z,20μm,14.1s				
TIY			LR	LR	
	comp=Z,23μm,14.1s				
GULI	**GuiLin**	**18.93 266**	⇑P	**Pn**	**09 06 22.9 +0.1**
GULI			S	**Sn**	**09 09 51.6 -3.3**
GULI			pmax	pmax	
	comp=Z,690nm,1.2s				
GULI			pmax	pmax	
	comp=Z,5μm,8.1s				
GULI			LR	LR	
	comp=Z,31μm,18.4s				
GULI			LR	LR	
	comp=Z,11μm,17.3s				
GULI			LR	LR	
	comp=Z,23μm,17.4s				
GUMO	**Guam**	**19.37 137**	P	**P**	**09 06 26.8 -0.2**
GUMO	**Guam**	**19.37 137**	P	**Pn**	**09 06 29.6 +1.5**
GUMO	**Guam**	**19.37 137**	P	**P**	**09 06 26.8 -0.2**
GUMO			pmax	pmax	
	comp=Z,1μm,1.2s				
GUMO	**Guam**	**19.37 137**	P	**P**	**09 06 26.8 -0.2**
	comp=Z,12nm,0.3s,baz=340,slow=19,SNR=2.4				
GUMO			LR	LR	09 12 27.5
	comp=Z,5μm,18.4s,baz=335,slow=32				
	comp=Z,418nm,1.1s				
YUK	**Yuzh-Kuril'sk**	**19.52 33**	*d i*P	**Pn**	**09 06 29.4 -0.3**
XLT	**XiLinHaoTe**	**19.75 326**	*e*P	**Pn**	**09 06 31.8 -0.7**
XLT			pP	pwP	09 06 36.3 -1.2
XLT			sP	P	09 06 39.3 +8.2
XLT			PP	**PnPn**	**09 06 48.8 +2.6**
XLT			S	**S**	**09 10 11.9 -1.9**
XLT			sS	pS	09 10 20.8 -3.1
XLT			SS	**SnSn**	**09 10 31.5 +2.6**
XLT			pmax	pmax	
	comp=Z,210nm,0.8s				
XLT			pmax	pmax	
	comp=Z,2μm,5.6s				
XLT			LR	LR	
	comp=Z,20μm,19.6s				
XLT			LR	LR	
	comp=Z,22μm,16.2s				
XAN	**Xi'an**	**19.95 292**	⇑P	**P**	**09 06 32.4 -1.0**
XAN			pP	pwP	09 06 38.4 -1.5
XAN			sP	Pn	09 06 43.6 +8.6
XAN			S	**S**	**09 10 10.8 -7.3**
XAN			sS	Sn	09 10 15.0 -4.6
XAN			pmax	pmax	
	comp=Z,2μm,1.1s				
XAN			pmax	pmax	
	comp=Z,4μm,3.7s				
XAN			LR	LR	
	comp=Z,30μm,12.0s				
XAN			LR	LR	
	comp=Z,24μm,12.4s				
XAN			LR	LR	
	comp=Z,34μm,14.4s				
HHC	**Hu-ho-hao-te**	**20.42 313**	⇑P	**P**	**09 06 38.0 -0.5**
HHC			pP	pwP	09 06 47.3 +2.3
HHC			S	**S**	**09 10 26.0 -1.5**
HHC			SS	**SnSn**	**09 10 48.8 +3.2**
HHC			pmax	pmax	
	comp=Z,89nm,0.9s				
HHC			pmax	pmax	
	comp=Z,7μm,8.4s				
HHC			LR	LR	
	comp=Z,28μm,14.1s				
HHC			LR	LR	
	comp=Z,18μm,12.2s				
HHC			LR	LR	
	comp=Z,39μm,14.9s				
YSS	**Yuzh-Sakhalins**	**20.62 23**	P	**P**	**09 06 40.4 -0.1**
YSS	**Yuzh-Sakhalins**	**20.62 23**	P	Pn	09 06 42.5 -0.2
YSS	**Yuzh-Sakhalins**	**20.62 23**	*d i*P	Pn	09 06 41.0 -1.7
YSS			*e*		09 07 01.6
YSS			*e*S	**S**	**09 10 28.0 -3.1**
YSS			pmax	pmax	
	comp=Z,3μm,3.4s				
YSS			pmax	pmax	
	comp=N,2μm,3.3s				
YSS			pmax	pmax	
	comp=E,1μm,3.0s				
YSS			pmax	pmax	
	comp=Z,640nm,1.2s				
YSS			smax	smax	
	comp=N,4μm,8.2s				
YSS			smax	smax	
	comp=E,3μm,8.3s				
YSS			MLR	MLR	
	comp=Z,8μm,17.0s				
YSS			MLR	MLR	
	comp=N,7μm,16.0s				
YSS			MLR	MLR	
	comp=E,4μm,14.0s				
KLR	**Kul'dur**	**20.85 1**	*d i*P	**P**	**09 06 42.0 -0.9**
KLR			pmax	pmax	
	comp=Z,182nm,1.3s				
KLR			MLR	MLR	
	comp=Z,5μm,13.0s				
KLR	**Kul'dur**	**20.85 1**	P	**P**	**09 06 42.2 -0.7**
	comp=Z,95nm,0.8s,baz=165,slow=9.2,SNR=75				
KLR			LR	LR	09 15 07.0
	comp=Z,6μm,18.9s,baz=179,slow=38				
	comp=Z,95nm,0.8s				
BTO	**Baotou**	**21.32 311**	*e*P	**P**	**09 06 50.0 +1.8**
BTO			pP	**pwP**	**09 06 54.3 -0.4**
BTO			sP	pP	09 06 57.0 +7.7
BTO			PP	**PnPn**	**09 07 14.1 +6.3**
BTO			S	**S**	**09 10 47.0 +1.8**
BTO			sS	Sn	09 10 50.5 -1.9
BTO			SS	**SnSn**	**09 11 16.6 +9.1**
BTO			pmax	pmax	
	comp=Z,130nm,1.1s				
BTO			pmax	pmax	
	comp=Z,5μm,9.8s				
BTO			LR	LR	
	comp=Z,46μm,14.5s				
BTO			LR	LR	
	comp=Z,21μm,15.5s				
BTO			LR	LR	
	comp=Z,44μm,15.1s				
KUR	**Kuril'sk**	**21.38 34**	*e*P	**P**	**09 06 49.0 +0.4**
KUR			*e*		09 07 10.2
KUR			*e*S	**S**	**09 10 47.9 +1.9**
KUR			pmax	pmax	
	comp=Z,343nm,1.1s				
KUR			pmax	pmax	
	comp=N,90nm,0.8s				
KUR			pmax	pmax	
	comp=E,73nm,0.7s				
KUR			pmax	pmax	
	comp=Z,8μm,9.7s				
KUR			MLR	MLR	
	comp=Z,9μm,14.0s				
KUR			MLR	MLR	
	comp=E,9μm,13.0s				
KUR			MLR	MLR	
	comp=N,2μm,14.0s				
QIZ	**Qiongzhong**	**21.70 249**	P	**P**	**09 06 53.5 +1.2**
QIZ			PP	**PnPn**	**09 07 16.6 +3.5**
QIZ			S	**S**	**09 10 53.5 +0.7**
QIZ			SS	**SnSn**	**09 11 26.8 +10**
QIZ			pmax	pmax	
	comp=N,340nm,1.0s				
QIZ			pmax	pmax	
	comp=N,4μm,10.5s				

QIZ				LR	LR	
	comp=N,6μm,14.3s					
QIZ				LR	LR	
	comp=N,8μm,13.5s					
QIZ				LR	LR	
	comp=N,11μm,12.6s					
QIZ	**Qiongzhong**	**21.70**	**249**	P	**P**	**09 06 54.3 +2.0**
DAV	**Davao City (W)**	**21.85**	**195**	P	**P**	**09 06 54.3 +0.4**
	comp=N,132nm,0.4s,baz=107,slow=20,SNR=1.3					
DAV				LR	LR	09 15 50.3
	comp=N,6μm,18.0s,baz=60,slow=38					
	comp=N,132nm,0.4s					
GYA	**Guiyang**	**21.95**	**271**	⇑P	**P**	**09 06 54.1 -1.0**
GYA				S	**S**	**09 10 53.3 -4.4**
GYA				pmax	pmax	
	comp=N,150nm,1.1s					
GYA				pmax	pmax	
	comp=N,2μm,4.6s					
GYA				LR	LR	
	comp=N,21μm,12.7s					
GYA				LR	LR	
	comp=N,27μm,13.9s					
GYA				LR	LR	
	comp=N,32μm,14.0s					
HEH	**HeiHe**	**22.07**	**353**	*e*P	**P**	**09 06 55.5 -0.5**
HEH				pP	**pP**	**09 06 57.8 +0.6**
HEH				PP	**PnPn**	**09 07 25.8 +7.8**
HEH				S	**S**	**09 10 58.6 -0.9**
HEH				pmax	pmax	
	comp=N,320nm,1.1s					
HEH				pmax	pmax	
	comp=N,3μm,4.1s					
HEH				LR	LR	
	comp=N,9μm,15.2s					
HEH				LR	LR	
	comp=N,9μm,14.3s					
HEH				LR	LR	
	comp=N,13μm,15.2s					
UGL	**Uglegorsk**	**22.29**	**19***d*	*i*P	**P**	**09 06 59.2 +0.8**
UGL				*e*S	**S**	**09 11 05.8 +2.1**
UGL				pmax	pmax	
	comp=Z,4μm,6.0s					
UGL				pmax	pmax	
	comp=Z,970nm,1.2s					
UGL				smax	smax	
	comp=E,7μm,8.0s					
UGL				smax	smax	
	comp=N,8μm,12.0s					
HIA	**Hailar**	**22.69**	**340**	IAMs_20	IAMs_20	09 17 25.9
	comp=Z,14μm,18.0s					
HIA	**Hailar**	**22.69**	**340**	P	**P**	**09 07 03.4 +0.7**
GRNR	**Gornyy**	**22.72**	**8**⇑	*i*P	**P**	**09 07 00.3 -2.7**
GRNR				*e*S	**S**	**09 11 09.9 -1.8**
GRNR				pmax	pmax	
	comp=N,110nm,1.0s					
GRNR				pmax	pmax	
	comp=E,9.0nm,1.0s					
GRNR				pmax	pmax	
	comp=Z,150nm,0.9s					
GRNR				smax	smax	
	comp=E,9.0nm,0.9s					
GRNR				MLR	MLR	
	comp=N,7μm,16.0s					
GRNR				MLR	MLR	
	comp=E,6μm,16.0s					
GRNR				MLR	MLR	
	comp=Z,11μm,17.0s					
CD2	**Chengdu**	**24.06**	**283**	P	**P**	**09 07 15.1 -1.5**
CD2				pP	pP	09 07 18.3 +0.6
CD2				sP	pwP	09 07 19.3 -4.0
CD2				S	**S**	**09 11 29.0 -5.2**
CD2				sS	sS	09 11 37.5 +1.5
CD2				pmax	pmax	
	comp=Z,200nm,0.9s					
CD2				pmax	pmax	
	comp=Z,3μm,7.4s					
CD2				LR	LR	
	comp=Z,32μm,13.3s					
CD2				LR	LR	
	comp=Z,36μm,13.3s					
CD2				LR	LR	
	comp=Z,44μm,13.7s					
TYV	**Tymovskoe**	**24.07**	**18**	*e*P	**P**	**09 07 17.4 +1.0**
TYV				*e*S	**S**	**09 11 38.2 +4.3**
TYV				pmax	pmax	
	comp=Z,4μm,4.0s					
TYV				pmax	pmax	
	comp=Z,132nm,1.5s					
TYV				smax	smax	
	comp=N,10.0nm,1.7s					
TYV				smax	smax	
	comp=E,19nm,1.7s					
TYV				smax	smax	
	comp=N,2μm,8.4s					
TYV				MLR	MLR	
	comp=N,5μm,17.0s					
TYV				MLR	MLR	
	comp=Z,5μm,17.0s					
LZH	**Lanzhou**	**24.42**	**295**	⇓P	**P**	**09 07 19.3 -0.8**
LZH				sP	pwP	09 07 29.8 +3.1
LZH				PcP	**PcP**	**09 11 00.8 +1.7**
LZH				S	**S**	**09 11 31.1 -9.1**
LZH				sS	sS	09 11 42.5 +0.4
LZH				pmax	pmax	
	comp=Z,560nm,1.3s					
LZH				pmax	pmax	
	comp=Z,4μm,7.5s					
LZH				LR	LR	
	comp=Z,17μm,12.7s					
LZH				LR	LR	
	comp=Z,15μm,12.5s					
LZH				LR	LR	
	comp=Z,19μm,11.6s					
SGSI	**Sangihe**	**25.14**	**194**	P	**P**	**09 07 24.6 -1.8**
	comp=Z,1μm,1.1s,comp=Z,14μmcomp=Z,5μm					
ZEA	**Zeya**	**25.54**	**354**	*e*P	**P**	**09 07 28.8 -0.9**
ZEA				*e*		09 07 29.4
ZEA				*e*		09 07 37.0
ZEA				*e*S	**S**	**09 11 51.4 -6.0**
ZEA				pmax	pmax	
	comp=N,130nm,1.6s					
ZEA				pmax	pmax	
	comp=Z,280nm,1.5s					
ZEA				pmax	pmax	
	comp=Z,300nm,2.1s					
ZEA				pmax	pmax	
	comp=N,800nm,5.7s					
ZEA				pmax	pmax	
	comp=Z,1μm,3.2s					
ZEA				smax	smax	
	comp=Z,3μm,10.6s					
ZEA				smax	smax	
	comp=E,1μm,11.6s					
ZEA				smax	smax	
	comp=N,8μm,8.9s					
KMI	**Kunming**	**25.68**	**269**	⇑P	**P**	**09 07 33.8 +2.1**
KMI				S	**S**	**09 11 56.9 -3.8**
KMI				pmax	pmax	
	comp=N,250nm,1.4s					
KMI				pmax	pmax	
	comp=N,2μm,7.0s					
KMI				LR	LR	
	comp=N,14μm,13.0s					
KMI				LR	LR	
	comp=N,17μm,13.8s					
KMI				LR	LR	
	comp=N,19μm,13.8s					
NKL	**Nikolayevsk**	**25.73**	**13**	*e*P	**P**	**09 07 29.4 -2.0**
NKL				*e*S	**S**	**09 11 59.7 -0.7**
NKL				pmax	pmax	
	comp=E,236nm,1.0s					
NKL				pmax	pmax	
	comp=N,208nm,1.2s					
NKL				pmax	pmax	
	comp=Z,904nm,1.2s					
NKL				smax	smax	
	comp=E,1μm,5.7s					
NKL				smax	smax	
	comp=N,2μm,7.7s					
NKL				MLR	MLR	
	comp=E,17μm,17.0s					
NKL				MLR	MLR	
	comp=N,19μm,14.0s					
NKL				MLR	MLR	
	comp=Z,24μm,15.0s					
SLVN	**Son La**	**25.79**	**260**	IAmb	IAmb	09 07 49.4
	comp=Z,232nm,1.3s					
PZH	**PanZhiHua**	**26.27**	**273**	P	**P**	**09 07 37.4 +0.5**
PZH				PP	**PnPn**	**09 08 20.3 +4.6**
PZH				S	**S**	**09 12 02.3 -7.5**
PZH				sS	**pS**	**09 12 12.3 +1.2**
PZH				pmax	pmax	
	comp=Z,120nm,1.3s					
PZH				pmax	pmax	
	comp=Z,2μm,9.6s					
PZH				LR	LR	
	comp=Z,19μm,16.7s					
PZH				LR	LR	
	comp=Z,13μm,13.9s					
PZH				LR	LR	
	comp=Z,12μm,13.7s					
DLV	**T Lat**	**26.85**	**237**	P	**P**	**09 07 43.5 +1.3**
ULN	**Ulaanbaatar**	**27.08**	**323**⇓	*e*P	**P**	**09 07 44.5 +0.5**
ULN				pmax	pmax	
	comp=Z,80nm,1.0s					
ULN				MLR	MLR	
	comp=Z,13μm,14.0s					
CIT	**Chita**	**27.11**	**336**	*e*P	**P**	**09 07 43.7 -0.4**
CIT				*e*		09 08 27.9
CIT				*e*		09 08 48.4
CIT				pmax	pmax	
	comp=Z,366nm,2.2s					
SONM	**Songino Array**	**27.42**	**322**	P	**P**	**09 07 46.8 -0.2**
	comp=Z,44nm,0.9s,baz=135,slow=10,SNR=13					
SONM				PcP	**PcP**	**09 11 05.1 -0.6**
	comp=Z,13nm,1.0s,baz=97,slow=1.6,SNR=4.8					
	comp=Z,44nm,0.9s					
TNTI	**Ternate**	**27.68**	**188**	P	**P**	**09 07 49.6 +0.2**
TNTI	**Ternate**	**27.68**	**188**	P	**P**	**09 07 50.1 +0.7**
TNTI	**Ternate**	**27.68**	**188**	P	**P**	**09 07 49.1 -0.3**
	comp=Z,581nm,1.2s,comp=Z,5μmcomp=Z,4μm					
NONG	**Nongkai**	**27.77**	**254**	P	**P**	**09 07 51.6 +1.4**
GTA	**Gaotai**	**28.24**	**301**	*e*P	**P**	**09 07 54.0 -0.4**
GTA				pP	pwP	09 07 57.3 -3.8
GTA				PcP	**PcP**	**09 11 09.0 +1.2**
GTA				S	**S**	**09 12 38.8 -1.8**
GTA				sS	sS	09 12 50.0 +7.5
GTA				pmax	pmax	
	comp=Z,38nm,0.9s					
GTA				pmax	pmax	
	comp=Z,1μm,8.8s					
GTA				LR	LR	
	comp=Z,17μm,15.9s					
GTA				LR	LR	
	comp=Z,10μm,17.9s					
GTA				LR	LR	
	comp=Z,18μm,13.9s					
GTOI	**Gorontalo**	**28.68**	**197**	P	**P**	**09 07 56.9 -1.4**
	comp=Z,73nm,1.0s,comp=Z,699nmcomp=Z,1μm					
TOLI2	**Tolitoli**	**28.89**	**202**	P	**P**	**09 07 59.5 -0.8**
TOLI2	**Tolitoli**	**28.89**	**202**	P	**P**	**09 08 00.5 +0.3**
SWI	**Sorong**	**29.05**	**180**	P	**P**	**09 08 01.9 +0.3**
	comp=Z,177nm,1.2s,comp=Z,2μmcomp=Z,5μm					
LBMI	**Labuha**	**29.05**	**188**	P	P	09 08 15.0 +13
MRSI	**Marisa**	**29.13**	**200**	P	**P**	**09 08 02.9 +0.6**
	comp=Z,161nm,1.4s,comp=Z,2μmcomp=Z,3μm					
SKR	**Severo-Kuril's**	**29.14**	**33**	*e*P	**P**	**09 07 58.3 -3.8**
SKR				*e*S	**S**	**09 12 50.8 -3.5**
SKR				pmax	pmax	
	comp=Z,334nm,0.8s					
SKR				pmax	pmax	
	comp=Z,2μm,9.3s					
SKR				MLR	MLR	
	comp=Z,8μm,16.0s					
CRAI	**Chiangrai**	**29.26**	**261**	P	**P**	**09 08 03.3 -0.3**
CRAI				IAmb	IAmb	09 08 07.7
	comp=Z,160nm,1.0s					
TNCH	**TengChong**	**29.43**	**271**	P	**P**	**09 08 05.6 +0.4**
TNCH				pP	pwP	09 08 08.6 -3.3
TNCH				PP	**PnPn**	**09 09 00.6 +1.8**
TNCH				PcP	**PcP**	**09 11 12.6 +1.5**
TNCH				S	**S**	**09 12 57.3 -2.4**
TNCH				pmax	pmax	
	comp=Z,170nm,0.7s					
TNCH				pmax	pmax	
	comp=Z,1μm,8.2s					
TNCH				LR	LR	
	comp=Z,8μm,12.1s					
TNCH				LR	LR	
	comp=Z,13μm,14.9s					
TNCH				LR	LR	
	comp=Z,29μm,13.9s					
MPSI	**Mapaga**	**29.92**	**203**	P	**P**	**09 08 10.3 +1.0**
	comp=Z,201nm,1.2s,comp=Z,2μmcomp=Z,3μm					
LUWI	**Luwuk**	**30.35**	**197**	P	**P**	**09 08 12.1 -1.0**
LUWI	**Luwuk**	**30.35**	**197**	P	**P**	**09 08 14.7 +1.6**
LUWI	**Luwuk**	**30.35**	**197**	P	**P**	**09 08 11.7 -1.4**
	comp=Z,201nm,0.9s,comp=Z,5μm					
LUWI	**Luwuk**	**30.35**	**197**	P	**P**	**09 08 08.4 -4.7**
ZAK	**Zakamensk**	**30.57**	**324**	*e*P	**P**	**09 08 13.9 -1.0**
ZAK				*e*		09 11 12.4
ZAK				pmax	pmax	
	comp=Z,41nm,1.2s					
ZAK				pmax	pmax	
	comp=Z,27nm,1.2s					
SANI	**Sanana**	**30.66**	**190**	P	**P**	**09 08 14.0 -1.8**
SANI	**Sanana**	**30.66**	**190**	P	**P**	**09 08 14.8 -1.0**
	comp=Z,171nm,1.2s,comp=Z,2μmcomp=Z,3μm					
SANI	**Sanana**	**30.66**	**190**	S	**S**	**09 13 15.5 -3.1**
SANI				P	**P**	**09 08 12.7 -3.1**
CHTO	**Chiang Mai**	**31.06**	**259**	P	**P**	**09 08 18.8 -0.6**
CHTO	**Chiang Mai**	**31.06**	**259**	P	**P**	**09 08 18.8 -0.6**
CHTO				pmax	pmax	
	comp=Z,328nm,1.0s					
CHTO				MLR	MLR	
	comp=Z,300nm,20.0s					
FAKI	**Fak Fak**	**31.10**	**178**	P	**P**	**09 08 19.0 -0.8**
FAKI				IAMs_20	IAMs_20	09 18 32.7
	comp=Z,7μm,20.0s					
FAKI	**Fak Fak**	**31.10**	**178**	P	**P**	**09 08 19.6 -0.2**
FAKI	**Fak Fak**	**31.10**	**178**	P	**P**	**09 08 20.5 +0.7**
	comp=Z,661nm,1.0s,comp=Z,6μmcomp=Z,4μm					
NAYO	**Nakonayok**	**31.12**	**250**	P	**P**	**09 08 22.0 +2.0**
CM31	**Chiang Mai Arr**	**31.20**	**259**	P	**P**	**09 08 21.5 +0.8**
CM31				IAmb	IAmb	09 08 36.0
	comp=Z,138nm,1.0s					
CM31	**Chiang Mai Arr**	**31.20**	**259**	P	**P**	**09 08 23.4 +2.7**
	SNR=37					
CMAR	**Chiang Mai Arr**	**31.20**	**259**	P	**P**	**09 08 20.9 +0.1**
CMAR	**Chiang Mai Arr**	**31.20**	**259**	*i* P	**P**	**09 08 21.2 +0.5**
CMAR				pmax	pmax	
	comp=Z,64nm,0.9s					
CMAR	**Chiang Mai Arr**	**31.20**	**259**	P	**P**	**09 08 21.3 +0.5**
	comp=Z,61nm,0.9s,baz=56,slow=6.9,SNR=142					
CMAR				PcP	**PcP**	**09 11 15.7 +0.1**
	comp=Z,38nm,1.0s,baz=49,slow=0.6,SNR=13					
CMAR				LR	LR	09 22 27.1
	comp=Z,8μm,18.4s,baz=70,slow=39					
	comp=Z,61nm,0.9s					
IRK	**Irkutsk**	**31.21**	**327**	*e*P	**P**	**09 08 21.1 +0.7**
IRK				*e*S	**S**	**09 13 33.8 +7.1**
IRK				pmax	pmax	
	comp=Z,163nm,3.1s					
PEA0B	**Petropavlovsk-**	**31.48**	**31**	P	**P**	**09 08 23.0 +0.2**
PEA0B				IAmb	IAmb	09 08 39.7
	comp=Z,194nm,1.1s					
PEA0B	**Petropavlovsk-**	**31.48**	**31**	P	**P**	**09 08 23.0 +0.2**
PEA0B				pmax	pmax	
	comp=Z,194nm,1.1s					
PEA0B				MLR	MLR	
	comp=Z,6μm,19.0s					
PETK	**Petropavlovsk-**	**31.48**	**31**	P	**P**	**09 08 22.5 -0.3**
PETK	**Petropavlovsk-**	**31.48**	**31**	P	**P**	**09 08 22.0 -0.8**
	comp=Z,87nm,1.0s,baz=222,slow=5.4,SNR=38					
PETK				PcP	**PcP**	**09 11 15.5 -0.2**
	comp=Z,18nm,1.0s,baz=159,slow=1.2,SNR=4.7					
PETK				LR	LR	09 20 52.1
	comp=Z,5μm,18.8s,baz=231,slow=36					
	comp=Z,87nm,1.0s					
SBUM	**Sibu**	**31.54**	**219**	P	**P**	**09 08 23.0 -0.7**
NLAI	**Namlea**	**31.67**	**188**	P	**P**	**09 08 26.0 +1.3**
	comp=Z,102nm,1.1s,comp=Z,10μm					
BOD	**Bodaibo**	**31.85**	**342**	*e*P	**P**	**09 08 25.8 -0.2**
BOD				pmax	pmax	
	comp=Z,66nm,1.6s					
PET	**Petropavlovsk**	**31.86**	**32**	P	**P**	**09 08 26.6 +0.5**
PET				IAmb	IAmb	09 08 42.5
	comp=Z,185nm,1.2s					
PET	**Petropavlovsk**	**31.86**	**32**	P	**P**	**09 08 27.2 +1.1**
PET	**Petropavlovsk**	**31.86**	**32**	*e*P	**P**	**09 08 26.5 +0.5**
PET				*e*S	**S**	**09 13 35.3 -1.5**
PET				pmax	pmax	
	comp=Z,182nm,1.2s					
PET				MLR	MLR	
	comp=Z,6μm,17.0s					
PET				MLR	MLR	
	comp=Z,7μm,21.0s					
GENI	**Genyem**	**31.93**	**163**	P	**P**	**09 08 29.1 +2.1**
GENI	**Genyem**	**31.93**	**163**	P	**P**	**09 08 28.5 +1.5**
	comp=Z,175nm,1.1s					
MND	**Mandalay**	**32.38**	**267**	P	**P**	**09 08 32.4 +1.3**
MOY	**Mondy**	**32.49**	**324**	*e*P	**P**	**09 08 32.1 +0.3**
MOY				pmax	pmax	
	comp=Z,76nm,2.8s					
BKB	**Balikpapan**	**32.53**	**208**	P	**P**	**09 08 32.5 +0.2**
BKB	**Balikpapan**	**32.53**	**208**	P	P	09 08 46.1 +14
BNDI	**Bandanaira**	**32.71**	**183**	P	**P**	**09 08 34.7 +0.8**
BNDI	**Bandanaira**	**32.71**	**183**	P	**P**	**09 08 34.9 +1.0**
	comp=Z,368nm,1.1s,comp=Z,3μm					
SRDT	**SRDT**	**32.93**	**252**	P	**P**	**09 08 36.6 +0.7**
MTKI	**Muara Teweh, K**	**33.10**	**211**	P	**P**	**09 08 39.1 +1.7**
	comp=Z,345nm,1.1s,comp=Z,4μm					
TTSI	**Tana Toraja**	**33.11**	**201**	P	**P**	**09 08 38.4 +1.0**
	comp=Z,103nm,1.1s,comp=Z,1μm					
KOHI	**KOHIMA**	**33.15**	**274**	*e*P	**P**	**09 08 39.1 +1.2**
KOHI				IAmb	IAmb	09 08 54.0
	comp=Z,49nm,1.1s					
ITAN	**ITANAGAR**	**33.20**	**277**	*e*P	**P**	**09 08 41.2 +3.1**
PATS	**Pohnpei**	**33.32**	**125**	P	**P**	**09 08 40.5 +1.2**
IMP	**Imphal**	**33.50**	**273**	*e*P	**P**	**09 08 41.5 +0.6**
H11N2	**WAKE ISLAND Hy**	**33.52**	**97**	T	T	09 44 11.2
	baz=290,slow=75,SNR=5.7					
H11N1	**WAKE ISLAND Hy**	**33.52**	**97**	T	T	09 44 15.7
	baz=290,slow=75,SNR=5.6					
H11N3	**WAKE ISLAND Hy**	**33.54**	**97**	T	T	09 44 14.8
	baz=290,slow=75,SNR=9.1					
YAK	**Yakutsk**	**33.70**	**359**	P	**P**	**09 08 40.9 -1.2**
YAK	**Yakutsk**	**33.70**	**359***d*	*i*P	**P**	**09 08 40.6 -1.5**
YAK				pmax	pmax	
	comp=Z,186nm,0.8s					
YAK				MLR	MLR	
	comp=Z,5μm,17.0s					
H11S3	**WAKE ISLAND Hy**	**33.81**	**99**	T	T	09 44 38.2
	baz=292					
H11S1	**WAKE ISLAND Hy**	**33.82**	**99**	T	T	09 44 41.9
	baz=292,slow=74					
H11S2	**WAKE ISLAND Hy**	**33.83**	**99**	T	T	09 44 41.8
	baz=292,slow=74					
STKI	**Sintang**	**33.93**	**217**	P	P	09 08 57.5 +13
MA2	**Magadan**	**33.95**	**18**	P	**P**	**09 08 43.8 -0.5**
MA2				IAmb	IAmb	09 08 59.2
	comp=Z,113nm,1.0s					
MA2	**Magadan**	**33.95**	**18**	P	**P**	**09 08 44.2 -0.1**
MA2	**Magadan**	**33.95**	**18***d*	*i*P	**P**	**09 08 42.6 -1.7**
MA2				pmax	pmax	
	comp=Z,233nm,2.5s					
MA2				MLR	MLR	
	comp=Z,3μm,14.0s					
MA2	**Magadan**	**33.95**	**18**	LR	LR	09 23 24.4
	comp=Z,3μm,18.6s,baz=208,slow=38					
TEZP	**TEZPUR**	**34.11**	**276**	*e*P	**P**	**09 08 47.0 +0.9**
TEZP				IAmb	IAmb	09 08 52.0
	comp=Z,148nm,1.1s					
BBSI	**Bau Bau**	**34.68**	**195**	P	P	09 09 04.8 +14
TABU	**Tabubil**	**34.77**	**162**	P	**P**	**09 08 54.1 +2.2**
AZL	**Aizawl**	**34.89**	**271**	*e*P	**P**	**09 08 53.2 +0.2**
AZL				IAmb	IAmb	09 08 57.5
	comp=Z,218nm,1.2s					
KAPI	**Kappang**	**34.99**	**200**	P	**P**	**09 08 53.1 -0.6**
KAPI	**Kappang**	**34.99**	**200**	P	**P**	**09 08 53.3 -0.4**
KAPI	**Kappang**	**34.99**	**200**	*i* P	**P**	**09 08 53.0 -0.7**
KAPI				pmax	pmax	
	comp=Z,158nm,1.4s					
KAPI	**Kappang**	**34.99**	**200**	P	**P**	**09 08 53.4 -0.3**
SAIH	**SAIHA**	**34.99**	**269**	*e*P	**P**	**09 08 54.2 +0.2**
SAIH				IAmb	IAmb	09 09 18.0
	comp=Z,135nm,0.7s					
LSA	**Lhasa**	**35.01**	**282**	P	**P**	**09 08 56.1 +1.6**
LSA				IAMs_20	IAMs_20	09 23 50.8
	comp=Z,9μm,21.0s					
LSA	**Lhasa**	**35.01**	**282**	P	**P**	**09 08 56.1 +1.6**
LSA				pmax	pmax	
	comp=Z,39nm,0.9s					
LSA				MLR	MLR	
	comp=Z,9μm,21.0s					
LSA	**Lhasa**	**35.01**	**282**	P	**P**	**09 08 55.5 +1.0**
SHL	**Shillong**	**35.14**	**275**	IAmb	IAmb	09 09 11.4
	comp=Z,136nm,0.9s					
SHL				IAMs_20	IAMs_20	09 23 34.9
	comp=Z,10μm,20.0s					
SHL	**Shillong**	**35.14**	**275**	*e*P	**P**	**09 08 55.0 -0.2**
SHL				IAmb	IAmb	09 09 10.2
	comp=Z,82nm,0.7s					
SHL	**Shillong**	**35.14**	**275**	P	**P**	**09 08 57.4 +2.1**
	SNR=24					
BKSI	**Bulukumba**	**35.17**	**200**	P	**P**	**09 08 55.3 0.0**
	comp=Z,233nm,1.0s,comp=Z,2μmcomp=Z,2μm					
SURA	**Surathani**	**35.37**	**244**	P	**P**	**09 08 59.5 +2.4**
BBKI	**Banjar Baru**	**35.37**	**209**	P	**P**	**09 08 58.1 +1.0**
	comp=Z,321nm,1.2s,comp=Z,12μm					
SRIT	**Nakonsritamara**	**35.73**	**243**	P	**P**	**09 09 02.8 +2.6**
KAVG	**Kavieng**	**36.02**	**145**	P	**P**	**09 09 04.5 +1.9**
SAUI	**Saumlaki**	**36.12**	**180**	P	**P**	**09 09 02.9 -0.6**
SAUI	**Saumlaki**	**36.12**	**180**	P	**P**	**09 09 04.7 +1.3**
SAUI	**Saumlaki**	**36.12**	**180**	P	**P**	**09 09 03.5 +0.1**
	comp=Z,679nm,1.0s,comp=Z,6μm					
KULM	**Kulim**	**37.03**	**237**	IAmb	IAmb	09 09 25.6
	comp=Z,198nm,0.9s					
KULM	**Kulim**	**37.03**	**237**	P	**P**	**09 09 13.0 +1.7**
MYKOM	**Kota Tinggi**	**37.21**	**230**	IAmb	IAmb	09 09 26.9
	comp=Z,186nm,1.0s					
MYKOM	**Kota Tinggi**	**37.21**	**230**	P	**P**	**09 09 15.0 +2.2**
SEY	**Seymchan**	**37.22**	**16**⇑	*i*P	**P**	**09 09 12.7 +0.3**
SEY				pmax	pmax	
	comp=Z,132nm,2.5s					
SEY				MLR	MLR	
	comp=Z,3μm,15.0s					
SEY	**Seymchan**	**37.22**	**16**	LR	LR	09 25 04.2
	comp=Z,3μm,18.3s,baz=210,slow=37					
TPRI	**Tanjung Pinang**	**37.41**	**228**	P	P	09 09 28.4 +14
GTK	**Tadong**	**37.63**	**279**	*e*P	**P**	**09 09 17.1 +0.6**
MMRI	**Maumere**	**37.80**	**195**	P	**P**	**09 09 17.5 -0.3**
MMRI	**Maumere**	**37.80**	**195**	P	**P**	**09 09 18.0 +0.2**
MMRI	**Maumere**	**37.80**	**195**	P	**P**	**09 09 17.9 +0.2**
	comp=Z,398nm,1.2s,comp=Z,3μm					
WMQ	**Urumqi**	**38.01**	**306**	*e*P	**P**	**09 09 20.4 +1.0**
WMQ				pP	pwP	09 09 25.8 -0.3
WMQ				PP	**PnPn**	**09 10 52.0 +4.5**
WMQ				PcP	**PcP**	**09 11 35.8 +0.9**
WMQ				S	**S**	**09 15 12.3 +0.4**
WMQ				pmax	pmax	
	comp=Z,51nm,1.5s					
WMQ				pmax	pmax	
	comp=Z,490nm,5.3s					
WMQ				LR	LR	
	comp=Z,8μm,14.9s					
WMQ				LR	LR	
	comp=Z,8μm,13.9s					
WMQ				LR	LR	
	comp=Z,3μm,20.9s					
EDFI	**Ende, Flores**	**38.03**	**196**	P	**P**	**09 09 18.1 -1.7**
	comp=Z,199nm,1.1s,comp=Z,2μmcomp=Z,2μm					
KRVT	**Keravat (AS076**	**38.11**	**145**	LR	LR	09 24 16.2
	comp=Z,3μm,18.3s,baz=9.1,slow=35					
TAPN	**Taplejung**	**38.40**	**279**	*e*P	**P**	**09 09 24.9 +1.7**
	comp=Z,201nm,1.1s					
DSRI	**Dabo**	**38.44**	**226**	P	**P**	**09 09 23.3 +0.1**
SOEI	**Soe**	**38.49**	**191**	P	**P**	**09 09 22.9 -0.8**
SOEI	**Soe**	**38.49**	**191**	P	**P**	**09 09 22.7 -1.0**
	comp=Z,631nm,1.1s,comp=Z,5μm					
SOEI	**Soe**	**38.49**	**191**	P	**P**	**09 09 19.3 -4.4**
PPBI	**Pangkal Pinang**	**38.79**	**223**	P	**P**	**09 09 27.6 +1.5**
	comp=Z,225nm,1.0s					
BATI	**Baumata**	**39.04**	**192**	P	**P**	**09 09 27.0 -1.2**
	comp=Z,569nm,1.0s,comp=Z,5μm					
BATI	**Baumata**	**39.04**	**192**	LR	LR	09 26 39.1
	comp=Z,1μm,20.6s,baz=28,slow=38					
PLAI	**Plampang**	**39.20**	**201**	P	**P**	**09 09 29.4 -0.2**
PLAI	**Plampang**	**39.20**	**201**	P	**P**	**09 09 29.0 -0.6**
	comp=Z,983nm,1.1s,comp=Z,8μm					
SRBI	**Singaraja**	**39.42**	**206**	P	**P**	**09 09 32.3 +1.0**
	comp=Z,223nm,1.2s					
TWSI	**Taliwang, Sumb**	**39.42**	**203**	P	**P**	**09 09 31.1 -0.2**
	comp=Z,1μm,1.1s,comp=Z,11μm					
RAMN	**Ramite**	**39.45**	**279**	*e*P	**P**	**09 09 33.4 +1.5**
	comp=Z,184nm,1.1s					
DGZ	**Jazzator, Alta**	**39.48**	**315**⇓	*e*P	**P**	**09 09 31.2 -0.6**

DGZ pmax pmax
comp=Z,46nm,1.0s
DGZ MLR MLR
comp=Z,13μm,15.0s
GRJI Gresik 39.49 210 P **P 09 09 33.5 +1.6**
comp=Z,1μm,1.1s,comp=Z,11μm
ABJI Asem Bagus 39.54 207 P **P 09 09 31.4 -0.9**
comp=Z,278nm,1.1s
JIRN Jiri 39.66 280 *e*P **P 09 09 35.3 +1.5**
comp=Z,315nm,1.1s
BLJI Banyuglugur 39.75 208 P **P 09 09 34.5 +0.4**
comp=Z,322nm,1.1s,comp=Z,3μm
SHEM Shemya Is, Ala 39.80 40 LR LR 09 25 41.7
comp=Z,1μm,19.9s,baz=196,slow=36
GUN Gumba 39.88 281 *e*P **P 09 09 36.6 +1.0**
comp=Z,588nm,0.9s
LHMI Lhok Sumawe 39.88 241 P **P 09 09 37.8 +2.5**
LHMI Lhok Sumawe 39.88 241 P **P 09 09 35.9 +0.6**
comp=Z,751nm,1.0s,comp=Z,6μmcomp=Z,6μm
JMBI JAMBI 39.92 226 P **P 09 09 36.2 +0.6**
comp=Z,505nm,1.1s,comp=Z,4μm
DNP Denpasar 39.96 205 P P 09 09 47.8 +12
PSI Prapat 39.97 236 P **P 09 09 37.5 +1.4**
IGBI Denpasar 40.12 205 P P 09 09 48.7 +12
JAGI Jajag, Banyuwa 40.18 207 P **P 09 09 36.9 -0.8**
JAGI Jajag, Banyuwa 40.18 207 P **P 09 09 38.3 +0.6**
JAGI Jajag, Banyuwa 40.18 207 P **P 09 09 38.4 +0.7**
comp=Z,359nm,1.2s
BKNI Bangkinang 40.19 231 P **P 09 09 40.2 +2.4**
BKNI Bangkinang 40.19 231 P **P 09 09 37.9 +0.1**
comp=Z,703nm,1.0s,comp=Z,6μmcomp=Z,5μm
BKNI Bangkinang 40.19 231 P **P 09 09 38.3 +0.5**
BKNI S **S 09 15 46.8 +1.8**
PMBI Palembang 40.22 224 P **P 09 09 39.6 +1.6**
PMBI Palembang 40.22 224 P **P 09 09 38.9 +0.9**
comp=Z,914nm,1.1s
GMJI Gumukmas 40.29 208 P **P 09 09 38.9 +0.3**
comp=Z,98nm,1.2s
KCSI Kotacane, Aceh 40.34 238 P **P 09 09 39.7 +0.5**
comp=Z,160nm,1.0s,comp=Z,2μm
NGJI Ngawi 40.35 211 P **P 09 09 39.3 +0.2**
comp=Z,824nm,1.2s,comp=Z,8μm
PKI Pulchoki 40.35 280 *e*P **P 09 09 40.6 +1.1**
comp=Z,262nm,1.1s
PKIN Phulchoki 40.36 280 *e*P **P 09 09 40.6 +1.1**
comp=Z,178nm,0.9s
PMG Port Moresby 40.55 155 P **P 09 09 40.7 0.0**
PMG IAmb IAmb 09 09 53.8
comp=Z,157nm,1.1s
PMG Port Moresby 40.55 155 P **P 09 09 41.5 +0.8**
PMG Port Moresby 40.55 155 P **P 09 09 41.7 +1.0**
PMG Port Moresby 40.55 155 P **P 09 09 40.7 0.0**
PMG pmax pmax
comp=Z,157nm,1.2s
PMG Port Moresby 40.55 155 LR LR 09 25 33.0
comp=Z,3μm,18.2s,baz=337,slow=35
SMRI Semarang 40.55 213 P **P 09 09 42.3 +1.5**
SMRI Semarang 40.55 213 P **P 09 09 41.0 +0.2**
comp=Z,444nm,1.3s
ZSN Zaisan 40.61 311 *e*P **P 09 09 40.9 -0.2**
baz=311
ZSN *e*S **S 09 15 51.9 +1.1**
baz=311
ZSN Zaisan 40.61 311 *e*P **P 09 09 40.8 -0.2**
ZSN *e*S **S 09 15 51.9 +1.1**
DMN Daman 40.61 280 *e*P **P 09 09 42.7 +1.1**
comp=Z,394nm,1.1s
KDU Kakadu 40.81 178 P **P 09 09 41.9 -1.0**
SDSI Sungai Dareh 40.84 230 P **P 09 09 44.0 +0.8**
comp=Z,341nm,1.1s,comp=Z,4μmcomp=Z,5μm
BOK Bokaro 40.87 274 *e*P **P 09 09 44.5 +1.1**
BOK IAmb IAmb 09 09 47.0
comp=Z,146nm,0.8s
MLSI Meulaboh, Aceh 40.90 241 P **P 09 09 44.5 +0.7**
comp=Z,237nm,1.1s,comp=Z,3μm
GKN Gorkha 40.93 281 *e*P **P 09 09 44.9 +0.8**
comp=Z,272nm,1.0s
MTN Manton Dam 40.95 180 P **P 09 09 43.5 -0.6**
MTN Manton Dam 40.95 180 P **P 09 09 43.1 -0.9**
WOJI Wonogiri, Jawa 41.01 212 P **P 09 09 46.3 +1.8**
comp=Z,595nm,1.0s,comp=Z,7μm
UGM Wanagama 41.26 212 P **P 09 09 46.4 -0.3**
UGM Wanagama 41.26 212 P **P 09 09 47.6 +0.9**
UGM Wanagama 41.26 212 P **P 09 09 48.3 +1.6**
comp=Z,990nm,1.0s
YOGI Yogyakarta 41.28 213 P P 09 09 57.3 +10
PDSI Padang 41.48 231 P **P 09 09 49.4 +0.9**
comp=Z,88nm,1.1s
KPJI Karang Pucung 41.53 215 P **P 09 09 49.9 +1.0**
comp=Z,1μm,1.1s,comp=Z,9μm
DANN Dangsing 41.62 282 *e*P **P 09 09 50.6 +0.7**
comp=Z,352nm,0.8s
KLI Kotabumi 41.71 222 P **P 09 09 50.2 -0.1**
comp=Z,1μm,0.9s,comp=Z,7μm
LEM Lembang 41.78 217 LR LR 09 28 00.8
comp=Z,902nm,19.7s,baz=23,slow=37
GSI Gunungsitoli 41.97 236 P **P 09 09 51.2 -1.3**
GSI Gunungsitoli 41.97 236 P **P 09 09 53.3 +0.8**
GSI Gunungsitoli 41.97 236 P **P 09 09 53.0 +0.5**
comp=Z,415nm,1.2s
SNSI Sinabang, Aceh 42.16 239 P **P 09 09 55.8 +1.8**
comp=Z,382nm,1.0s
MK31 Makanchi Array 42.23 309 P **P 09 09 54.2 -0.2**
MK31 Makanchi Array 42.23 309 P **P 09 09 54.2 -0.2**
MK31 pmax pmax
comp=Z,77nm,1.0s
MKAR Makanchi Array 42.23 309 *i* P **P 09 09 54.2 -0.2**
MKAR pmax pmax
comp=Z,82nm,0.9s
MKAR Makanchi Array 42.23 309 P **P 09 09 54.3 0.0**
comp=Z,81nm,0.9s,baz=94,slow=8.6,SNR=70
MKAR PcP **PcP 09 11 48.0 -0.3**
comp=Z,30nm,0.9s,baz=93,slow=4.9,SNR=4.9
MKAR LR LR 09 28 25.7
comp=Z,2μm,18.4s,baz=103,slow=38
comp=Z,81nm,0.9s
ZAA0 Zalesovo Array 42.29 320 P **P 09 09 54.4 -0.3**
ZAA0 IAmb IAmb 09 09 56.8
comp=Z,123nm,0.9s
ZALV Zalesovo Beam 42.29 320 P **P 09 09 54.4 -0.3**
comp=Z,94nm,0.8s,baz=107,slow=6.9,SNR=96
ZALV PcP **PcP 09 11 47.9 -0.4**
comp=Z,68nm,0.9s,baz=126,slow=2.4,SNR=9.5
ZALV LR LR 09 28 09.7
comp=Z,3μm,21.7s,baz=110,slow=37
comp=Z,94nm,0.8s
BBJI Bungbulang 42.30 216 P **P 09 09 54.3 -0.9**
LWLI Liwa 42.30 223 P **P 09 09 55.9 +0.6**
comp=Z,529nm,0.8s
PYUN Piuthan 42.34 282 *e*P **P 09 09 56.4 +0.7**
comp=Z,652nm,1.2s
PBSI Pulau Batu 42.39 234 P **P 09 09 56.9 +1.0**
comp=Z,220nm,1.2s
CNJI Cibinong 42.44 217 P **P 09 09 54.5 -1.8**
comp=Z,183nm,1.1s,comp=Z,2μm
MAKZ Makanchi 42.45 309 P **P 09 09 56.3 +0.2**
MAKZ Makanchi 42.45 309 P **P 09 09 56.3 +0.2**
MAKZ pmax pmax
comp=Z,118nm,1.1s
KASI Kota Agung 42.45 222 P **P 09 09 56.4 0.0**
comp=Z,261nm,1.0s,comp=Z,3μm
AMKA Amchitka 42.46 44 P **P 09 09 56.5 +0.4**
CGJI Cibinong 42.65 219 P **P 09 09 57.7 -0.3**
comp=Z,533nm,1.0s,comp=Z,4μm
SISI Saibi 42.72 232 P **P 09 09 57.5 -1.1**
comp=Z,195nm,1.0s
TIXI Tiksi 43.36 359 P **P 09 10 01.2 -2.0**
TIXI IAMs_20 IAMs_20 09 29 12.4
comp=Z,7μm,18.0s
TIXI Tiksi 43.36 359 *d* *i* P **P 09 10 01.6 -1.5**
TIXI pmax pmax
comp=Z,45nm,0.8s
TIXI MLR MLR
comp=Z,7μm,17.0s
COEN Coen 43.60 163 P **P 09 10 05.8 +0.1**
COEN IAmb IAmb 09 10 19.5
comp=Z,142nm,1.1s
COEN Coen 43.60 163 P **P 09 10 06.8 +1.1**
KNRA Kununurra 43.84 184 P **P 09 10 07.2 -0.3**
KNRA Kununurra 43.84 184 P **P 09 10 07.0 -0.5**
PDGK Podgornoye 43.89 304 *i* P **P 09 10 07.4 -0.6**
PDGK pmax pmax
comp=Z,118nm,1.4s
SHLS Shalkode 43.91 304 *e*P **P 09 10 04.8 -3.4**
baz=304
SHLS *e*S **S 09 16 36.2 -3.7**
baz=304
SHLS Shalkode 43.91 304 *e*P **P 09 10 04.7 -3.4**
SHLS *e*S **S 09 16 36.1 -3.7**
ALBI Allahabad 44.03 278 *e*P **P 09 10 08.7 -0.4**
UZB Uzynbulak 44.23 304 *e*P **P 09 10 09.7 -1.0**
comp=Z,116nm,2.6s,baz=304
UZB *i* S **S 09 16 44.6 +0.1**
baz=304
UZB Uzynbulak 44.23 304 *e*P **P 09 10 09.7 -1.0**
UZB *i* S **S 09 16 44.6 +0.1**
UZB pmax pmax
comp=Z,116nm,2.6s
PTH Pithoragarh 44.42 284 *e*P **P 09 10 12.6 +0.1**
RAGD RAYAGADA 44.47 269 *e*P **P 09 10 13.1 +0.4**
KPKS Kokpek 44.48 304 *e*P **P 09 10 11.8 -1.0**
comp=Z,68nm,1.9s,baz=304
KPKS *e*S **S 09 16 48.8 +0.6**
baz=304
KPKS Kokpek 44.48 304 *e*P **P 09 10 11.7 -1.0**
KPKS *e*S **S 09 16 48.8 +0.6**
KPKS pmax pmax
comp=Z,68nm,1.9s
ZHN Zhinishke 44.66 304 *e*P **P 09 10 13.1 -1.0**
comp=Z,70nm,2.2s,baz=304
ZHN Zhinishke 44.66 304 *e*P **P 09 10 13.1 -1.0**
ZHN pmax pmax
comp=Z,70nm,2.2s
SATY Saty 44.68 304 *e*P **P 09 10 13.7 -0.6**
comp=Z,100nm,2.1s,baz=304
SATY Saty 44.68 304 *e*P **P 09 10 13.6 -0.6**
SATY pmax pmax
comp=Z,100nm,2.1s
TDK Taldyqorghan 44.75 307 *e*P **P 09 10 14.7 0.0**
comp=Z,213nm,1.5s,baz=306
TDK LR LR 09 28 50.0
comp=Z,4μm,14.2s,baz=306
TDK Taldyqorghan 44.75 307 *e*P **P 09 10 14.6 -0.1**
TDK pmax pmax
comp=Z,213nm,1.5s
TDK MLR MLR
comp=Z,4μm,14.0s
ADK Adak 45.01 44 P **P 09 10 16.0 -0.6**
ADK IAmb IAmb 09 10 17.5
comp=Z,76nm,0.9s
ADK Adak 45.01 44 P **P 09 10 16.0 -0.6**
ADK pmax pmax
comp=Z,76nm,0.9s
TARG Taragay, Kyrgy 45.11 302 IAmb IAmb 09 10 23.8
comp=Z,92nm,1.0s
TARG IAMs_20 IAMs_20 09 30 04.8
comp=Z,5μm,20.0s
ARXS Arharly 45.13 305 *e*P **P 09 10 17.3 -0.5**
KURK Kurchatov 45.22 315 P **P 09 10 18.4 +0.1**
KURK IAmb IAmb 09 10 20.9
comp=Z,158nm,0.9s
KURK Kurchatov 45.22 315 *d* *i* P **P 09 10 18.1 -0.2**
KURK pmax pmax
comp=Z,159nm,0.8s
KURK MLR MLR
comp=Z,11μm,14.0s
KURK Kurchatov 45.22 315 P **P 09 10 19.9 +1.6**
KURK P **P 09 10 19.9 +1.6**
KURBB Kurchatov Arra 45.27 314 P **P 09 10 18.5 -0.1**
comp=Z,136nm,0.9s,baz=99,slow=8.4,SNR=265
KURBB PcP **PcP 09 11 58.1 -0.4**
comp=Z,20nm,1.0s,baz=96,slow=3.4,SNR=4.8
KURBB LR LR 09 30 50.7
comp=Z,6μm,18.9s,baz=104,slow=38
comp=Z,136nm,0.9s
MDOK Medeo 45.67 304 *e*P **P 09 10 21.3 -0.9**
baz=304
MDOK *e*S **S 09 17 06.1 +0.6**
baz=304
MDOK LR LR 09 29 33.8
comp=Z,4μm,15.7s,baz=304
MDOK Medeo 45.67 304 *e*P **P 09 10 21.3 -0.9**
MDOK *e*S **S 09 17 06.1 +0.6**
MDOK MLR MLR
comp=Z,4μm,16.0s
CHKK Chushkaly 45.73 305 *e*P **P 09 10 21.7 -0.8**
baz=305
CHKK Chushkaly 45.73 305 *e*P **P 09 10 21.7 -0.8**
TNSS Tian-Shan 45.75 304 *e*P **P 09 10 23.1 -0.1**
baz=304
TNSS Tian-Shan 45.75 304 *e*P **P 09 10 23.0 -0.1**
XMI Christmas Isla 45.84 216 P **P 09 10 24.1 +0.5**
XMIS Christmas Isla 45.89 216 P **P 09 10 23.0 -1.0**
DDI Dehra Dun 46.10 286 *e*P **P 09 10 26.9 +1.3**
KUU Kurty 46.20 305 *e*P **P 09 10 25.4 -0.8**
comp=Z,198nm,1.4s,baz=305
KUU LR LR 09 29 51.8
comp=Z,2μm,12.1s,baz=305
KUU Kurty 46.20 305 *e*P **P 09 10 25.4 -0.8**
KUU pmax pmax
comp=Z,198nm,1.4s
KUU MLR MLR
comp=Z,2μm,12.0s
ULHL Ulahol 46.27 303 P **P 09 10 29.9 +2.9**
SNR=5.0
BOOM Boomskoye usch 46.49 303 IAmb IAmb 09 12 06.2
comp=Z,70nm,1.0s
ATKA Atka Island 46.58 44 P **P 09 10 27.8 -1.2**
ATKA Atka Island 46.58 44 P **P 09 10 28.2 -0.8**
KSH Kashi 46.59 299 P **P 09 10 33.3 +3.8**
KSH PcP **PcP 09 12 06.0 +2.5**
KSH PcS **PcS 09 16 01.0 +2.6**
KSH S **S 09 17 23.0 +4.3**
KSH pmax pmax
comp=Z,69nm,0.9s
KSH pmax pmax
comp=Z,1μm,7.0s
KSH LR LR
comp=Z,9μm,13.7s
KSH LR LR
comp=Z,7μm,14.4s
KSH LR LR
comp=Z,9μm,15.1s
SMLA Simla 46.70 287 *e*P **P 09 10 30.6 +0.3**
SMLA IAmb IAmb 09 10 37.4
comp=Z,107nm,0.9s
TKM2 Tokmak 2 46.74 304 P **P 09 10 31.2 +0.5**
SNR=48
TKM2 Tokmak 2 46.74 304 *i* P **P 09 10 31.0 +0.3**
TKM2 pmax pmax
comp=Z,159nm,1.1s
JHNI Jhansi 46.83 279 *e*P **P 09 10 28.7 -2.7**
DHRM DHARAMSHALA 47.22 289 *e*P **P 09 10 34.5 -0.1**
DHRM IAmb IAmb 09 10 39.2
comp=Z,72nm,1.1s
KBK Karagaybulak 47.22 303 P **P 09 10 37.4 +3.0**
SNR=34
BHK Bhakra 47.27 288 *e*P **P 09 10 35.2 +0.4**
CHMS Chumysh 47.36 304 P **P 09 10 38.0 +2.7**
SNR=42
SONA Sohna 47.38 283 *e*P **P 09 10 35.0 -0.6**
SGDS Sogindy 47.44 304 *e*P **P 09 10 35.4 -0.6**
comp=Z,51nm,1.3s,baz=304
SGDS Sogindy 47.44 304 *e*P **P 09 10 35.4 -0.6**
SGDS pmax pmax
comp=Z,51nm,1.3s
USP Ospenovka 47.53 304 P **P 09 10 36.5 -0.2**
SNR=57
AAK Ala-Archa 47.55 303 P **P 09 10 39.7 +2.7**
SNR=24
AAK Ala-Archa 47.55 303 P **P 09 10 37.1 +0.1**
AAK IAmb IAmb 09 10 40.4
comp=Z,72nm,1.1s
AAK Ala-Archa 47.55 303 IAMs_20 IAMs_20 09 32 39.1
comp=Z,5μm,20.0s
AAK Ala-Archa 47.55 303 *d* *i* P **P 09 10 38.9 +1.9**
AAK pmax pmax
comp=Z,72nm,1.0s
AAK MLR MLR
comp=Z,6μm,14.0s
AAK Ala-Archa 47.55 303 *i* P **P 09 10 38.3 +1.3**
SNR=11
AAK Ala-Archa 47.55 303 P **P 09 10 39.4 +2.4**
AAK P **P 09 10 39.4 +2.4**
AAK Ala-Archa 47.55 303 LR LR 09 33 00.9
comp=Z,5μm,19.1s,baz=92,slow=39
THN Thein Dam 47.67 289 *e*P **P 09 10 37.1 -0.7**
MTSU Mount Surprise 47.90 163 P **P 09 10 41.1 +1.5**
KUDL Kundal 47.92 283 *e*P **P 09 10 38.3 -1.5**
WB0 Warramunga Arr 47.93 176 P **P 09 10 38.9 -0.9**
VJD Vijayawada 47.97 267 *e*P **P 09 10 41.2 +0.9**
EKS2 Erkin-Say 48.08 303 P **P 09 10 42.1 +1.0**
SNR=60
WRAB Tennant Creek 48.09 176 P **P 09 10 40.5 -0.6**
WRAB Tennant Creek 48.09 176 P **P 09 10 40.6 -0.5**
WRAB Tennant Creek 48.09 176 *d* *i* P **P 09 10 40.2 -0.9**
WRAB pmax pmax
comp=Z,299nm,1.3s
WRAB MLR MLR
comp=Z,2μm,18.0s
WRA Warramunga Arr 48.10 176 P **P 09 10 40.9 -0.2**
comp=Z,110nm,0.8s,baz=354,slow=8.6,SNR=306
comp=Z,110nm,0.8s
AML Almayashu 48.17 303 P **P 09 10 44.7 +2.7**
SNR=17
AML Almayashu 48.17 303 *i* P **P 09 10 42.7 +0.7**
AML pmax pmax
comp=Z,19nm,1.2s
JMU Jammu 48.30 290 *e*P **P 09 10 43.5 +0.8**
BHPL Bhopal 48.45 277 *e*P **P 09 10 43.7 -0.4**
BHPL IAmb IAmb 09 10 46.7
comp=Z,98nm,0.9s
BRZS Berezniki 48.93 313 *e*P **P 09 10 46.1 -1.2**
baz=313
BRZS Berezniki 48.93 313 *e*P **P 09 10 46.0 -1.2**
OTUK Ortayu 49.07 311 *i* P **P 09 10 49.0 +0.5**
OTUK pmax pmax
comp=Z,114nm,1.0s
QIS Mount Isa 49.28 170 P **P 09 10 49.7 -0.5**
HYB Hyderabad 49.47 269 IAmb IAmb 09 10 54.2
comp=Z,93nm,0.9s
HYB Hyderabad 49.47 269 *e*P **P 09 10 52.0 +0.1**
HYB IVmB_BB 09 10 54.8
comp=Z,969nm,2.9s
HYB *e*pP **pwP 09 10 55.7 -3.0**
HYB *e*PcP **PcP 09 12 13.5 -0.5**
HYB *e*PP **PP 09 12 45.6 -0.4**
HYB *e*PcS **PcS 09 16 10.2 -0.8**
HYB *e*S **S 09 17 58.8 -1.0**
HYB IVMs_BB IVMs_BB 09 38 25.4
comp=Z,2μm,12.8s
NIL Nilore 49.49 291 P **P 09 10 52.0 +0.1**
NIL IAmb IAmb 09 10 54.4
comp=Z,125nm,1.0s
NIL Nilore 49.49 291 P **P 09 10 52.0 +0.1**
NIL pmax pmax
comp=Z,125nm,1.0s
NIL Nilore 49.49 291 P **P 09 10 53.6 +1.7**
AKL Akola 49.63 274 *e*P **P 09 10 53.6 +0.6**
TV1H Townsville Har 49.65 161 P **P 09 10 54.4 +1.4**
DZA Taraz 49.87 304 *e*P **P 09 10 54.2 -0.5**
baz=304
DZA Taraz 49.87 304 *e*P **P 09 10 54.1 -0.5**
NIKH Nikolski High 49.91 43 P **P 09 10 54.3 -0.4**
baz=265
AJM Ajmer 49.93 282 *e*P **P 09 10 54.2 -1.1**
AUAYR Ayr State High 50.13 160 P **P 09 10 58.2 +1.5**
CTA Charters Tower 50.28 162 P **P 09 10 58.3 +0.4**
CTA Charters Tower 50.28 162 LR LR 09 30 27.8
comp=Z,2μm,20.4s,baz=348,slow=34
CTAO Charters Tower 50.28 162 P **P 09 10 57.9 +0.1**
CTAO Charters Tower 50.28 162 P **P 09 10 58.2 +0.4**
CTAO Charters Tower 50.28 162 P **P 09 10 57.9 +0.1**
CTAO pmax pmax
comp=Z,262nm,1.3s
KK31 Karatay Array 50.46 304 P **P 09 10 58.5 -0.6**
KK31 Karatay Array 50.46 304 P **P 09 10 58.5 -0.6**
KK31 pmax pmax
comp=Z,232nm,1.0s
KKAR Karatay Array 50.46 304 P **P 09 10 58.5 -0.6**
KKAR Karatay Array 50.46 304 P **P 09 10 58.5 -0.6**
KKAR pmax pmax
comp=Z,232nm,1.0s
MBWA Marble Bar 50.47 194 P **P 09 10 59.0 -0.3**
MBWA IAmb IAmb 09 11 13.1
comp=Z,244nm,1.4s
MBWA Marble Bar 50.47 194 P **P 09 10 59.4 +0.1**
MBWA Marble Bar 50.47 194 P **P 09 10 59.2 -0.1**
BVAR Borovoye Array 50.56 317 P **P 09 10 59.5 -0.2**
comp=Z,255nm,0.9s,baz=93,slow=8.9,SNR=502
BVAR PcP **PcP 09 12 16.8 -0.6**
comp=Z,28nm,0.5s,baz=111,slow=1.4,SNR=9.7
BVAR LR LR 09 32 07.7
comp=Z,5μm,21.0s,baz=90,slow=36
comp=Z,255nm,0.9s
BRVK Borovoye 50.62 317 P **P 09 11 00.2 0.0**
BRVK Borovoye 50.62 317 IAMs_20 IAMs_20 09 31 45.4
comp=Z,6μm,21.0s
BRVK Borovoye 50.62 317 *d* *i* P **P 09 11 00.0 -0.1**
BRVK pmax pmax
comp=Z,370nm,1.0s
BRVK MLR MLR
comp=Z,24μm,15.0s
BRVK Borovoye 50.62 317 P **P 09 11 01.6 +1.4**
PSA00 Pilbara Seismi 50.85 194 IAmb IAmb 09 11 15.2
comp=Z,114nm,0.9s
PSA00 Pilbara Seismi 50.85 194 IAmb IAmb 09 11 15.2
comp=Z,81nm,1.0s
PSA00 Pilbara Seismi 50.85 194 P **P 09 11 02.3 +0.2**
PSAD2 Pilbara Seismi 50.87 194 IAMs_20 IAMs_20 09 30 21.8
comp=Z,4μm,20.0s
IUG Iuzhnay 50.88 303 *e*P **P 09 11 02.2 -0.2**
comp=Z,52nm,1.0s,baz=303
IUG *e*S **S 09 18 19.1 0.0**
baz=303
IUG Iuzhnay 50.88 303 *e*P **P 09 11 02.2 -0.2**
IUG *e*S **S 09 18 19.9 +0.8**
IUG pmax pmax
comp=Z,52nm,1.0s
CHM Chimkent 51.19 303 *e*P **P 09 11 04.5 -0.2**
comp=Z,135nm,0.9s,baz=303
CHM LR LR 09 33 00.5
comp=Z,1μm,13.7s,baz=303
CHM Chimkent 51.19 303 *e*P **P 09 11 04.4 -0.2**
CHM pmax pmax
comp=Z,135nm,0.9s
CHM MLR MLR
comp=Z,1μm,14.0s
UNV Unalaska Valle 51.38 42 P **P 09 11 05.1 -0.7**
baz=266
MALK Mahakanadarawa 51.67 258 P **P 09 11 10.0 +1.5**
MALK S **S 09 18 31.6 +1.2**
AS31 Alice Springs 51.78 177 IAmb IAmb 09 11 22.9
comp=Z,83nm,1.1s
ASAR Alice Springs 51.78 177 P **P 09 11 08.6 -0.5**
comp=Z,63nm,0.8s,baz=2.7,slow=7.1,SNR=274
ASAR PcP **PcP 09 12 22.3 0.0**
comp=Z,50nm,1.0s,baz=1.1,slow=4.6,SNR=1.8
ASAR LR LR 09 32 01.6
comp=Z,2μm,21.0s,baz=12,slow=35
ASAR PKP2bc 09 42 03.3
comp=Z,1.2nm,0.9s,baz=139,slow=1.9,SNR=4.1
comp=Z,63nm,0.8s
PALK Pallekele 52.09 256 P **P 09 11 10.4 -1.3**
PALK IAmb IAmb 09 11 35.0
comp=Z,111nm,1.1s
PALK Pallekele 52.09 256 P **P 09 11 10.4 -1.3**
PALK pmax pmax
comp=Z,111nm,1.1s
PALK Pallekele 52.09 256 P **P 09 11 13.5 +1.8**
PALK P **pP 09 11 13.7 +0.8**
PALK Pallekele 52.09 256 LR LR 09 34 50.6
comp=Z,3μm,20.0s,baz=162,slow=38
M11K Mekoryuk 52.25 34 P **P 09 11 11.8 -0.4**
baz=261
TNA Tin City 52.51 27 P **P 09 11 13.7 -0.3**
baz=256
KBL Kabul 52.75 293 P **P 09 11 16.6 0.0**
KBL IAmb IAmb 09 11 19.5
comp=Z,144nm,1.0s
KBL Kabul 52.75 293 P **P 09 11 16.6 0.0**
KBL pmax pmax
comp=Z,144nm,1.0s
KBL Kabul 52.75 293 P **P 09 11 17.1 +0.5**
SNR=67
KBL P **P 09 11 17.1 +0.5**
SNR=67
F14K Arctic Creek 53.14 28 P **P 09 11 18.8 +0.2**
baz=258,SNR=11
WRKA Warakurna 53.16 183 P **P 09 11 19.1 -0.2**
POO Poona 53.19 273 *e*P **P 09 11 20.7 +0.9**
POO IAmb IAmb 09 11 22.1
comp=Z,135nm,0.9s
K13K Kusilvak Mount 53.22 32 P **P 09 11 19.8 +0.5**
K13K Kusilvak Mount 53.22 32 P **P 09 11 19.7 +0.3**
baz=262,SNR=6.0
FALS False Pass 53.23 41 P **P 09 11 20.0 +0.5**
baz=268

GIRL	Giralia	53.30	200	P	P	09 11 21.7	+1.3
ANM	Nome	53.35	29	P	P	09 11 20.2	0.0
	baz=259						
M13K	Dall Lake	53.66	34	P	P	09 11 23.3	+0.8
M13K				IAmb	IAmb	09 11 25.9	
	comp=Z,121nm,0.9s						
M13K	Dall Lake	53.66	34	P	P	09 11 22.6	+0.1
	baz=264,SNR=6.6						
J14K	Nanvaranak Lak	53.85	31	P	P	09 11 23.3	-0.6
	baz=262						
F15K	North Star Dit	53.87	27	P	P	09 11 24.4	+0.3
F15K				IAmb	IAmb	09 11 26.7	
	comp=Z,94nm,0.9s						
F15K	North Star Dit	53.87	27	P	P	09 11 24.3	+0.2
	baz=259,SNR=16						
G15K	Niukluk	53.99	28	P	P	09 11 24.6	-0.4
	baz=260						
L14K	Kuka Creek	54.08	33	IAmb	IAmb	09 11 28.5	
	comp=Z,144nm,1.0s						
L14K	Kuka Creek	54.08	33	P	P	09 11 26.2	+0.5
	baz=264,SNR=28						
C16K	Lisburne Hills	54.15	24	IAmb	IAmb	09 11 39.1	
	comp=Z,111nm,1.1s						
C16K	Lisburne Hills	54.15	24	P	P	09 11 25.6	-0.5
	baz=256,SNR=9.2						
M14K	Bethel	54.38	34	P	P	09 11 28.0	+0.2
	baz=265,SNR=20						
N14K	Kuskokwak Cree	54.45	35	P	P	09 11 27.8	-0.5
	baz=266,SNR=6.6						
O14K	Tigyukauivet M	54.62	36	P	P	09 11 29.4	-0.1
	baz=267						
RK1H	Rockhampton Ha	54.67	158	P	P	09 11 31.0	+0.7
L15K	Ungalak Mounta	54.69	33	P	P	09 11 30.2	+0.2
	baz=265						
H16K	Elim	54.69	29	P	P	09 11 30.2	+0.1
	baz=262,SNR=6.5						
K15K	Wolf Creek Mou	54.73	32	IAmb	IAmb	09 11 32.4	
	comp=Z,78nm,1.2s						
K15K	Wolf Creek Mou	54.73	32	P	P	09 11 29.8	-0.5
	baz=264,SNR=8.6						
G16K	Koyuk River	54.76	28	P	P	09 11 30.6	+0.1
	baz=261						
SDPT	Sand Point	54.93	40	P	P	09 11 31.6	-0.3
	baz=270						
C17K	DeLong Mountai	54.98	24	P	P	09 11 31.1	-1.1
	baz=258						
M15K	Kasigluk River	54.99	34	P	P	09 11 31.6	-0.7
	baz=266,SNR=16						
BHUJ	Bhuj	55.22	280	*e*P	P	09 11 35.7	+1.2
BHUJ				IAmb	IAmb	09 11 38.2	
	comp=Z,192nm,0.9s						
E17K	Hotham Inlet	55.23	26	P	P	09 11 33.6	-0.4
	baz=261,SNR=8.4						
J16K	Anvik River	55.25	31	P	P	09 11 33.7	-0.4
	baz=264						
N15K	Kwethluk River	55.26	35	IAmb	IAmb	09 11 36.5	
	comp=Z,115nm,1.0s						
N15K	Kwethluk River	55.26	35	P	P	09 11 34.1	-0.1
	baz=267,SNR=16						
I17K	Unalakleet	55.27	30	P	P	09 11 34.3	+0.1
	baz=264						
O15K	Ungalikthiuk R	55.35	36	P	P	09 11 34.6	-0.4
	baz=268,SNR=14						
F17K	Baldwin Pennin	55.36	27	P	P	09 11 35.1	+0.3
	baz=262,SNR=27						
CHNA	Chernabura Isl	55.45	41	P	P	09 11 35.0	-0.7
	baz=271						
G17K	Kiwalik Mounta	55.47	28	P	P	09 11 35.7	0.0
	baz=263,SNR=9.9						
B18K	Kokolik River	55.64	23	P	P	09 11 36.9	0.0
	baz=259						
L16K	Owhat River	55.65	33	IAmb	IAmb	09 11 50.0	
	comp=Z,89nm,1.4s						
L16K	Owhat River	55.65	33	P	P	09 11 36.7	-0.2
	baz=267,SNR=11						
H17K	Granite Mounta	55.72	29	P	P	09 11 37.7	+0.2
	baz=264,SNR=7.4						
C18K	Utukok River	55.73	24	IAmb	IAmb	09 11 39.0	
	comp=Z,123nm,1.2s						
C18K	Utukok River	55.73	24	P	P	09 11 37.5	-0.1
	baz=260,SNR=11						
E18K	Tukpahlearik C	55.76	26	IAmb	IAmb	09 11 53.8	
	comp=Z,249nm,1.8s						
E18K	Tukpahlearik C	55.76	26	P	P	09 11 37.6	-0.1
	baz=262						
M16K	Timber Creek	55.86	34	P	P	09 11 38.3	-0.2
	baz=268,SNR=18						
N16K	Nishlik Lake	55.93	34	P	P	09 11 39.5	+0.4
	baz=268,SNR=26						
OOD	Oodnadatta	55.98	175	P	P	09 11 39.8	+0.1
QLP	Quilpie	56.01	166	P	P	09 11 39.3	-0.7
MEEK	Meekatharra	56.02	194	P	P	09 11 39.8	-0.2
CHGN	Chignik	56.09	39	IAmb	IAmb	09 11 51.4	
	comp=Z,151nm,1.2s						
CHGN	Chignik	56.09	39	P	P	09 11 39.5	-0.7
	baz=271						
L17K	Donlin	56.23	32	P	P	09 11 41.5	+0.3
	baz=267,SNR=19						
O16K	Kokwok River B	56.25	35	P	P	09 11 41.2	-0.1
	baz=269,SNR=19						
K17K	Iditarod	56.25	31	IAmb	IAmb	09 12 54.0	
	comp=Z,63nm,1.1s						
K17K	Iditarod	56.25	31	P	P	09 11 41.5	+0.1
	baz=267,SNR=13						
SVE	Sverdlovsk	56.29	321	*ce*P	P	09 11 42.0	+0.3
SVE				*e*S	S	09 19 32.2	+0.5
SVE				pmax	pmax		
	comp=Z,281nm,1.5s						
SVE				MLR	MLR		
	comp=Z,14µm,16.0s						
SVE				MLR	MLR		
	comp=E,11µm,15.0s						
P16K	Nushagak River	56.30	36	P	P	09 11 41.4	-0.3
	baz=270						
G18K	Tagagawik	56.34	28	IAmb	IAmb	09 11 55.0	
	comp=Z,101nm,1.2s						
G18K	Tagagawik	56.34	28	P	P	09 11 41.6	-0.4
	baz=264,SNR=16						
C19K	Lookout Ridge	56.38	24	IAmb	IAmb	09 11 55.9	
	comp=Z,162nm,1.3s						
C19K				IAMs_20	IAMs_20	09 39 35.8	
	comp=Z,3µm,18.0s						
C19K	Lookout Ridge	56.38	24	P	P	09 11 42.1	-0.2
	baz=262,SNR=6.2						
H18K	Honhosa River	56.39	29	P	P	09 11 42.5	+0.2
	baz=265						
R16K	Pilot Point	56.52	38	P	P	09 11 43.0	-0.3
	baz=271						
M17K	Holitna River	56.61	33	P	P	09 11 44.1	+0.2
	baz=269,SNR=24						
EIDS	Eidsvold	56.70	159	P	P	09 11 44.4	-0.5
EIDS				IAmb	IAmb	09 11 58.1	
	comp=Z,129nm,1.4s						
EIDS	Eidsvold	56.70	159	P	P	09 11 45.6	+0.7
N17K	Nushagak Hills	56.71	34	P	P	09 11 44.8	+0.2
	baz=269,SNR=24						
O17K	Koliganek Bris	56.76	35	P	P	09 11 45.5	+0.6
	baz=270,SNR=5.5						
F19K	Shaleruckik Mo	56.78	27	P	P	09 11 44.5	-0.5
	baz=265						
D19K	Kuna River	56.83	25	P	P	09 11 45.3	-0.1
	baz=263						
L18K	Granite Mounta	56.98	32	P	P	09 11 46.8	+0.2
	baz=269,SNR=19						
Q16K	King Salmon	56.99	36	P	P	09 11 46.5	-0.1
	baz=271,SNR=8.6						
GCSA	Galena City Sc	57.00	29	P	P	09 11 46.2	-0.4
	baz=267						
G19K	Purcell Mounta	57.00	27	IAmb	IAmb	09 12 43.2	
	comp=Z,55nm,0.9s						
G19K	Purcell Mounta	57.00	27	P	P	09 11 46.2	-0.4
	baz=266,SNR=14						
J18K	Innoko River	57.01	31	P	P	09 11 46.6	-0.2
	baz=268,SNR=9.6						
RMQ	Roma	57.04	161	P	P	09 11 47.8	+0.5
E19K	Redstone River	57.05	26	IAmb	IAmb	09 12 00.1	
	comp=Z,92nm,0.8s						
E19K	Redstone River	57.05	26	P	P	09 11 46.7	-0.3
	baz=265						
P17K	Kvichak River	57.09	36	P	P	09 11 47.2	-0.1
	baz=271,SNR=6.2						
R17K	Ugashik Creek	57.16	38	IAmb	IAmb	09 13 03.1	
	comp=Z,66nm,1.1s						
R17K	Ugashik Creek	57.16	38	P	P	09 11 47.3	-0.5
	baz=272						
AB31	Akbulak array	57.22	312	*i*P	P	09 11 47.8	-0.6
AB31				pmax	pmax		
	comp=Z,65nm,0.7s						
ABKAR	Akbulak array	57.22	312	P	P	09 11 48.2	-0.1
ABKAR				IAmb	IAmb	09 12 03.5	
	comp=Z,90nm,0.8s						
H19K	Roundabout Mou	57.22	28	IAmb	IAmb	09 12 45.2	
	comp=Z,104nm,1.1s						
H19K	Roundabout Mou	57.22	28	P	P	09 11 48.3	+0.1
	baz=267,SNR=28						
TTA	Tatalina	57.31	31	P	P	09 11 49.1	+0.1
TTA	Tatalina	57.31	31	P	P	09 11 48.9	-0.1
	baz=269,SNR=12						
B20K	Meade River	57.34	23	P	P	09 11 48.8	-0.1
	baz=263						
N18K	Kilae Creek	57.35	34	P	P	09 11 49.1	-0.1
	baz=270,SNR=8.5						
M18K	Stony River	57.38	33	P	P	09 11 49.5	+0.1
	baz=270,SNR=15						
D20K	Etivluk River	57.40	24	P	P	09 11 49.3	-0.2
	baz=265						
Q17K	Contact Creek	57.41	37	P	P	09 11 49.4	-0.3
	baz=272						
ARU	Arti	57.45	321	P	P	09 11 49.2	-0.6
ARU	Arti	57.45	321	*d*iP	P	09 11 49.3	-0.6
ARU						09 12 40.7	
ARU				S	S	09 19 48.2	+1.1
ARU				SS	SS	09 23 29.0	-7.3
ARU				pmax	pmax		
	comp=Z,194nm,1.5s						
ARU				MLR	MLR		
	comp=Z,6µm,14.0s						
ARU	Arti	57.45	321	P	P	09 11 49.7	-0.2
	comp=Z,78nm,0.9s,baz=95,slow=4.7,SNR=67						
ARU				LR	LR	09 38 17.8	
	comp=Z,6µm,20.1s,baz=84,slow=38						
	comp=Z,78nm,0.9s						
SVW2	Sparrevohn	57.50	33	IAmb	IAmb	09 11 52.8	
	comp=Z,58nm,1.0s						
SVW2	Sparrevohn	57.50	33	P	P	09 11 51.1	+0.8
J19K	Poorman	57.51	30	IAmb	IAmb	09 11 52.4	
	comp=Z,58nm,0.9s						
J19K	Poorman	57.51	30	P	P	09 11 50.3	0.0
	baz=269,SNR=35						
E20K	Nigu River	57.51	25	P	P	09 11 50.4	+0.1
	baz=265						
F20K	Avaraart Lake	57.60	26	P	P	09 11 51.0	+0.1
	baz=266,SNR=8.6						
CHIR	Chirikof Islan	57.67	40	P	P	09 11 51.5	0.0
	baz=274						
O18K	Koktuh Hills	57.71	35	IAmb	IAmb	09 11 54.2	
	comp=Z,111nm,1.1s						
O18K	Koktuh Hills	57.71	35	P	P	09 11 51.9	+0.2
	baz=272,SNR=14						
P18K	Big Mountain,	57.71	35	IAmb	IAmb	09 11 53.7	
	comp=Z,89nm,1.0s						
P18K	Big Mountain,	57.71	35	P	P	09 11 51.5	-0.3
	baz=272,SNR=11						
L19K	White Mountain	57.84	32	IAmb	IAmb	09 11 55.1	
	comp=Z,57nm,0.9s						
L19K	White Mountain	57.84	32	P	P	09 11 52.7	0.0
	baz=270,SNR=23						
Q18K	Katmai Hardscr	57.85	36	P	P	09 11 52.2	-0.6
	baz=272						
H20K	Anotleneega Mo	57.87	28	P	P	09 11 52.6	-0.2
	baz=268,SNR=13						
I20K	Naaghedeneel	58.03	29	P	P	09 11 53.6	-0.2
	baz=269,SNR=26						
N19K	Bonanza Creek	58.04	34	P	P	09 11 53.9	-0.3
	baz=272,SNR=8.6						
M19K	Big River Lodg	58.06	32	P	P	09 11 54.2	0.0
	baz=271						
C21K	Knifeblade Rid	58.09	24	P	P	09 11 54.2	-0.1
	baz=266						
KOUNC	Koumac, New Ca	58.13	143	P	P	09 11 56.1	+1.0
KOUNC	Koumac, New Ca	58.13	143	P	P	09 11 57.0	+1.9
O19K	Port Alsworth	58.14	35	IAmb	IAmb	09 11 57.0	
	comp=Z,68nm,0.8s						
O19K	Port Alsworth	58.14	35	P	P	09 11 54.9	+0.2
	baz=272,SNR=14						
J20K	Nowinta River	58.16	30	IAmb	IAmb	09 11 56.9	
	comp=Z,89nm,1.1s						
J20K	Nowinta River	58.16	30	P	P	09 11 55.0	+0.2
	baz=270,SNR=33						
A22K	Sinclair Lake	58.18	22	P	P	09 11 55.0	+0.2
	baz=265						
B21K	Ikpikpuk River	58.19	23	IAmb	IAmb	09 11 57.4	
	comp=Z,150nm,1.1s						
B21K				IAMs_20	IAMs_20	09 38 36.6	
	comp=Z,3µm,18.0s						
B21K	Ikpikpuk River	58.19	23	P	P	09 11 55.4	+0.5
	baz=266,SNR=18						
K20K	Telida	58.20	31	P	P	09 11 55.5	+0.4
	baz=270						
HRA	Herat	58.26	295	IAmb	IAmb	09 12 00.2	
	comp=Z,120nm,0.9s						
L20K	Farewell, AK	58.29	32	P	P	09 11 56.1	+0.2
	baz=271,SNR=19						
AKTO	Aktyubinsk	58.31	314	P	P	09 11 56.1	0.0
	comp=Z,42nm,0.9s,baz=82,slow=3.8,SNR=49						
AKTO				LR	LR	09 38 55.9	
	comp=Z,6µm,19.9s,baz=84,slow=38						
	comp=Z,42nm,0.9s						
E21K	Killik River	58.35	25	IAmb	IAmb	09 12 09.2	
	comp=Z,84nm,0.9s						
E21K	Killik River	58.35	25	P	P	09 11 56.1	0.0
	baz=267,SNR=20						
MULG	Mulgathing	58.37	177	P	P	09 11 56.7	+0.2
SII	Sitkinak Islan	58.42	39	P	P	09 11 56.6	-0.2
SII	Sitkinak Islan	58.42	39	P	P	09 11 56.9	+0.1
	baz=274						
G21K	Allakaket	58.46	27	P	P	09 11 56.5	-0.4
	baz=269						
F21K	Alatna River	58.49	26	P	P	09 11 56.8	-0.3
	baz=268,SNR=7.3						
Q19K	Cape Douglas,	58.55	36	P	P	09 11 57.0	-0.6
	baz=274						
B22K	Teshekpuk Lake	58.65	23	P	P	09 11 58.0	-0.1
	baz=267						
P19K	Oil Pt	58.72	35	P	P	09 11 58.1	-0.7
	baz=273						
H21K	Melozitna Rive	58.74	28	IAmb	IAmb	09 12 01.4	
	comp=Z,54nm,0.9s						
H21K	Melozitna Rive	58.74	28	P	P	09 11 58.6	-0.2
	baz=270,SNR=35						
D22K	Ayikyak River	58.84	24	P	P	09 11 59.5	0.0
	baz=268,SNR=24						
LCRK	Leigh Creek	58.84	173	P	P	09 12 00.5	+0.7
FORT	Forrest	58.88	183	P	P	09 12 00.4	+0.3
FORT	Forrest	58.88	183	P	P	09 12 00.7	+0.6
MORW	Morawa	58.93	196	P	P	09 12 00.6	+0.1
CHUM	Lake Minchumin	58.97	30	P	P	09 12 00.4	0.0
	baz=272,SNR=35						
F22K	John River	59.00	26	P	P	09 12 00.7	0.0
	baz=270,SNR=38						
PPLA	Purkeypile	59.06	31	P	P	09 12 01.0	-0.3
	baz=272,SNR=13						
I21K	Tanana	59.09	29	IAmb	IAmb	09 12 15.0	
	comp=Z,104nm,1.1s						
I21K	Tanana	59.09	29	P	P	09 12 01.6	+0.4
	baz=271,SNR=33						
CAST	Castle Rocks	59.09	31	IAmb	IAmb	09 12 03.1	
	comp=Z,97nm,1.1s						
CAST	Castle Rocks	59.09	31	P	P	09 12 01.9	+0.6
	baz=272,SNR=54						
N20K	Mount Spurr	59.13	33	P	P	09 12 01.7	-0.1
	baz=273,SNR=22						
SPCR	Spurr Chakacha	59.13	33	P	P	09 12 01.4	-0.3
	baz=273						
E22K	Anaktuvuk Pass	59.14	25	IAmb	IAmb	09 12 14.6	
	comp=Z,88nm,0.9s						
E22K	Anaktuvuk Pass	59.14	25	P	P	09 12 02.0	+0.3
	baz=270,SNR=17						
KDAK	Kodiak Island	59.19	37	P	P	09 12 01.8	-0.3
KDAK	Kodiak Island	59.19	37	P	P	09 12 01.8	-0.3
KDAK				pmax	pmax		
	comp=Z,176nm,0.9s						
KDAK	Kodiak Island	59.19	37	P	P	09 12 01.5	-0.5
	baz=275						
KDAK	Kodiak Island	59.19	37	LR	LR	09 40 55.3	
	comp=Z,584nm,18.4s,baz=261,slow=40						
Q20K	Shuyak Island	59.22	36	P	P	09 12 01.6	-0.6
	baz=275						
G22K	Bettles	59.26	27	P	P	09 12 02.3	-0.1
	baz=270,SNR=15						
H22K	Ishtalitna Cre	59.32	28	P	P	09 12 03.0	+0.1
	baz=271,SNR=54						
SKT	Skwentna	59.41	32	IAmb	IAmb	09 12 05.0	
	comp=Z,72nm,1.0s						
SKT	Skwentna	59.41	32	P	P	09 12 03.2	-0.4
	baz=273,SNR=24						
BPAW	Bear Paw Mtn.	59.55	30	P	P	09 12 04.5	0.0
	baz=273,SNR=31						
D23K	Nanushuk River	59.56	24	P	P	09 12 04.9	+0.4
	baz=270,SNR=11						
C23K	Itkillik River	59.59	23	IAMs_20	IAMs_20	09 40 16.7	
	comp=Z,3µm,18.0s						
C23K	Itkillik River	59.59	23	P	P	09 12 05.3	+0.6
	baz=270,SNR=8.2						
AULRC	Lightning Ridg	59.63	163	P	P	09 12 05.8	+0.5
CAPN	Captain Cook N	59.68	34	P	P	09 12 05.4	+0.1
	baz=274						
COLD	Coldfoot	59.76	26	P	P	09 12 06.2	+0.3
	baz=272						
SUA	Susitna One	59.82	33	P	P	09 12 06.2	-0.3
	baz=274						
G23K	Bananza Creek	59.85	27	P	P	09 12 06.6	+0.1
	baz=272,SNR=19						
BRLK	Bradley Lake	59.89	35	IAmb	IAmb	09 12 09.3	
	comp=Z,109nm,1.1s						
TRF	Thorofare Moun	59.89	31	P	P	09 12 06.6	-0.5
	baz=274,SNR=11						
E23K	Chandalar	59.97	25	P	P	09 12 07.5	+0.1
	baz=272,SNR=27						
BRSE	Bradley Lake S	59.97	35	P	P	09 12 07.4	0.0
	baz=275,SNR=5.5						
TOLK	Toolik Lake Re	59.97	25	IAmb	IAmb	09 12 20.9	
	comp=Z,127nm,1.3s						
TOLK	Toolik Lake Re	59.97	25	P	P	09 12 07.3	0.0
	baz=271,SNR=16						
CUT	Chulitna	59.98	32	IAmb	IAmb	09 12 19.7	
	comp=Z,104nm,0.9s						
CUT	Chulitna	59.98	32	P	P	09 12 06.8	-0.5
	baz=274,SNR=8.0						
KMBL	Kambalda	60.06	189	P	P	09 12 08.3	0.0
H23K	Yukon River	60.08	28	IAmb	IAmb	09 12 11.1	
	comp=Z,76nm,1.0s						
H23K	Yukon River	60.08	28	P	P	09 12 07.7	-0.4
	baz=273						
GC1S	Gold Coast 1 S	60.09	157	P	P	09 12 10.0	+1.5
M22K	Willow	60.09	33	P	P	09 12 08.0	-0.2
	baz=275,SNR=46						
I23K	Minto, Yukon-K	60.19	29	IAmb	IAmb	09 12 57.2	
	comp=Z,65nm,0.9s						
I23K	Minto, Yukon-K	60.19	29	P	P	09 12 08.9	+0.1
	baz=274,SNR=15						
D24K	Happy Valley	60.23	24	IAMs_20	IAMs_20	09 39 55.5	
	comp=Z,3µm,19.0s						
D24K	Happy Valley	60.23	24	P	P	09 12 09.4	+0.4
	baz=272						
C24K	Franklin Bluff	60.26	23	P	P	09 12 09.3	+0.1
	baz=272						
BLDU	Ballidu	60.27	194	P	P	09 12 09.9	+0.2
RC01	Rabbit Creek A	60.34	33	IAmb	IAmb	09 12 23.8	
	comp=Z,82nm,1.0s						
RC01	Rabbit Creek A	60.34	33	P	P	09 12 08.9	-1.0
	baz=276,SNR=13						
NEA2	Nenana	60.35	29	P	P	09 12 09.9	-0.1
	baz=274,SNR=90						
E24K	Your Creek	60.39	25	P	P	09 12 11.1	+0.8
E24K	Your Creek	60.39	25	P	P	09 12 10.5	+0.3
	baz=273,SNR=15						
O22K	Cooper Landing	60.40	34	P	P	09 12 09.8	-0.6
	baz=276						
NOUC	Port Laguerre	60.47	142	P	P	09 12 13.4	+2.1
MCK	McKinley	60.48	30	P	P	09 12 10.4	-0.5
	baz=275,SNR=39						
DZM	Mont Dzumac	60.52	142	*e*P	P	09 12 11.4	-0.3
	comp=Z,226nm,1.2s						
DZM				*e*S	S	09 20 27.0	-0.9
	comp=Z,4µm,27.2s						
DZM				*e*LR	LR	09 29 57.4	
	comp=Z,3µm,24.2s						
DZM	Mont Dzumac	60.52	142	P	P	09 12 11.8	0.0
DZM				IAmb	IAmb	09 12 15.7	
	comp=Z,90nm,1.0s						
DZM	Mont Dzumac	60.52	142	P	P	09 12 12.8	+1.1
DZM	Mont Dzumac	60.52	142	LR	LR	09 36 06.4	
	comp=Z,2µm,20.3s,baz=344,slow=34						
SEW	Seward	60.58	34	P	P	09 12 11.0	-0.5
	baz=276,SNR=11						
PMR	Palmer	60.58	33	IAmb	IAmb	09 12 13.2	
	comp=Z,85nm,1.0s						
PMR	Palmer	60.58	33	P	P	09 12 11.2	-0.3
PMR	Palmer	60.58	33	P	P	09 12 11.0	-0.5
	baz=276,SNR=24						
GEYT	Alibeck	60.61	300	P	P	09 12 12.3	+0.1
GEYT				IAmb	IAmb	09 12 19.8	
	comp=Z,82nm,0.8s						
GEYT	Alibeck	60.61	300	P	P	09 12 13.5	+1.3
	comp=Z,66nm,0.8s,baz=57,slow=5.5,SNR=83						
GEYT				LR	LR	09 41 58.4	
	comp=Z,3µm,20.6s,baz=102,slow=40						
	comp=Z,66nm,0.8s						
GYA0B	ALIBECK ARRAY	60.61	300	P	P	09 12 12.8	+0.6
GYA0B				IAmb	IAmb	09 12 19.7	
	comp=Z,90nm,0.9s						
F24K	Squaw Lake	60.65	26	P	P	09 12 13.0	+1.0
F24K				IAmb	IAmb	09 12 25.0	
	comp=Z,49nm,0.8s						
F24K	Squaw Lake	60.65	26	P	P	09 12 11.8	-0.2
	baz=274,SNR=19						
GHO	Glory Hole Cre	60.66	32	IAmb	IAmb	09 12 15.7	
	comp=Z,97nm,1.0s						
MDM	Murphy Dome	60.69	29	P	P	09 12 12.5	+0.2
STKA	Stephens Creek	60.69	170	P	P	09 12 12.0	-0.5
STKA	Stephens Creek	60.69	170	*i*P	P	09 12 11.6	-1.0
STKA	Stephens Creek	60.69	170	P	P	09 12 12.1	-0.5
	comp=Z,46nm,0.7s,baz=343,slow=7.0,SNR=64						
STKA				LR	LR	09 40 13.6	
	comp=Z,890nm,18.1s,baz=343,slow=38						
	comp=Z,46nm,0.7s						
WAT1	Susitna Watana	60.73	31	P	P	09 12 12.2	-0.4
	baz=276						
YATNC	Mamie plateau,	60.76	142	P	P	09 12 15.1	+1.9
H24K	Noodor Dome	60.76	28	IAmb	IAmb	09 12 26.6	
	comp=Z,93nm,1.3s						
H24K	Noodor Dome	60.76	28	P	P	09 12 13.3	+0.5
	baz=274,SNR=22						
WRH	Wood River Hil	60.79	29	IAmb	IAmb	09 12 58.9	
	comp=Z,76nm,1.0s						
COLA	College	60.85	29	P	P	09 12 13.9	+0.6
COLA				IAmb	IAmb	09 12 16.0	
	comp=Z,39nm,0.8s						
COLA	College	60.85	29	P	P	09 12 13.5	+0.2
COLA	College	60.85	29	P	P	09 12 13.5	+0.2
COLA	College	60.85	29	P	P	09 12 13.0	-0.4
	baz=275						
G24K	Hadweenzic Riv	60.86	27	IAmb	IAmb	09 12 26.7	
	comp=Z,53nm,0.9s						
G24K	Hadweenzic Riv	60.86	27	P	P	09 12 13.8	+0.4
	baz=274,SNR=18						
KNK	Knik Glacier	60.92	33	P	P	09 12 13.2	-0.7
	baz=276,SNR=21						
SML	Sawmill	60.94	32	IAmb	IAmb	09 12 41.9	
	comp=Z,75nm,1.0s						
SML	Sawmill	60.94	32	P	P	09 12 13.9	-0.1
	baz=276,SNR=12						
KLBR	Kellerberrin	60.99	193	P	P	09 12 14.6	0.0
BBOO	Buckleboo	60.99	175	P	P	09 12 14.4	-0.3
BBOO				IAmb	IAmb	09 12 27.0	
	comp=Z,62nm,0.9s						
BBOO	Buckleboo	60.99	175	P	P	09 12 14.5	-0.1
POKR	Poker Plat Res	61.01	29	IAmb	IAmb	09 12 30.8	
	comp=Z,85nm,0.9s						
POKR	Poker Plat Res	61.01	29	P	P	09 12 14.5	+0.1
	baz=275,SNR=20						
OUENC	Ouen Island, N

comp=Z,16nm,0.9s,baz=266,slow=5.0,SNR=74
ILAR LR LR 09 40 50.6
comp=Z,600nm,18.7s,baz=278,slow=38
comp=Z,16nm,0.9s
HDA Harding Lake 61.28 29 IAmb IAmb 09 12 17.6
comp=Z,95nm,0.9s
HDA Harding Lake 61.28 29 P **P 09 12 15.0 -1.3**
baz=276,SNR=76
G25K Bearman Lake 61.40 27 P **P 09 12 16.7 -0.3**
baz=276,SNR=16
SCM Sheep Creek Mo 61.41 32 P **P 09 12 16.3 -1.0**
baz=277,SNR=21
E25K Arctic Village 61.48 25 IAmb IAmb 09 12 31.7
comp=Z,111nm,1.4s
E25K Arctic Village 61.48 25 P **P 09 12 17.0 -0.6**
baz=275,SNR=12
F25K Christian River 61.50 26 P **P 09 12 18.0 +0.2**
baz=276,SNR=22
H25L Birch Creek 61.56 27 P **P 09 12 18.6 +0.4**
baz=276,SNR=24
ARMA Armidale 61.58 160 P **P 09 12 18.5 -0.2**
ARMA IAmb IAmb 09 12 35.5
comp=Z,112nm,1.2s
ARMA Armidale 61.58 160 P **P 09 12 19.8 +1.0**
P23K Montague Islan 61.61 34 P **P 09 12 18.3 -0.2**
baz=278
GLI Glacier Island 61.64 33 IAmb IAmb 09 12 46.7
comp=Z,74nm,0.9s
GLI Glacier Island 61.64 33 P **P 09 12 18.5 -0.3**
baz=278
MUN Mundaring 61.69 195 P **P 09 12 19.3 -0.1**
MTKN Mount Kenneth 61.75 195 P **P 09 12 21.7 +2.0**
PRP Porcupine Dome 61.77 28 IAmb IAmb 09 12 21.6
comp=Z,58nm,1.0s
PRP Porcupine Dome 61.77 28 P **P 09 12 19.2 -0.5**
baz=277,SNR=38
NGCH Negor - Chabah 61.85 285 P **P 09 12 23.1 +2.3**
SNR=9.5
K24K Donnelly Dome 61.87 30 P **P 09 12 19.7 -0.6**
baz=277,SNR=15
HTT Hallett 61.87 173 P **P 09 12 21.1 +0.5**
M24K Tolsona, Glenn 61.91 32 IAmb IAmb 09 12 52.6
comp=Z,106nm,1.1s
M24K Tolsona, Glenn 61.91 32 P **P 09 12 19.8 -0.9**
baz=278,SNR=8.3
J25K Salcha River, 61.94 29 P **P 09 12 20.3 -0.5**
baz=277,SNR=7.7
FID Port Fidalgo 61.96 33 IAmb IAmb 09 12 33.4
comp=Z,72nm,1.0s
AUPHS Peel High Scho 62.00 161 P **P 09 12 23.3 +1.8**
F26K Sheenjek River 62.06 25 P **P 09 12 21.3 -0.3**
baz=277,SNR=36
PAX Paxson 62.12 31 P **P 09 12 21.6 -0.5**
baz=278,SNR=16
KLU Klutina 62.12 33 IAmb IAmb 09 12 23.9
comp=Z,56nm,1.0s
KLU Klutina 62.12 33 P **P 09 12 21.8 -0.3**
baz=278,SNR=16
KIRV Kirov 62.12 324 *de*P **P 09 12 21.2 -0.8**
KIRV Kirov 62.12 324 P **P 09 12 22.1 +0.1**
comp=Z,136nm,0.8s,baz=98,slow=2.7,SNR=42
KIRV LR LR 09 40 29.4
comp=Z,3μm,20.2s,baz=82,slow=37
comp=Z,136nm,0.8s
RIDG Independent Ri 62.28 30 IAmb IAmb 09 13 22.0
comp=Z,75nm,1.0s
RIDG Independent Ri 62.28 30 P **P 09 12 23.3 +0.1**
baz=278,SNR=11
G26K Porcupine Rive 62.29 26 P **P 09 12 23.3 +0.2**
baz=278,SNR=20
HARP HAARP 62.34 32 P **P 09 12 24.1 +0.6**
baz=279,SNR=22
EYAK Cordova Ski Ar 62.34 34 P **P 09 12 24.2 +0.7**
EYAK Cordova Ski Ar 62.34 34 P **P 09 12 23.2 -0.3**
baz=279
NWAO Narrogin (SRO) 62.39 193 P **P 09 12 24.2 +0.1**
NWAO Narrogin (SRO) 62.39 193 P **P 09 12 24.3 +0.3**
NWAO Narrogin (SRO) 62.39 193 P **P 09 12 24.4 +0.4**
NWAO Narrogin (SRO) 62.39 193 P **P 09 12 24.2 +0.1**
NWAO pmax pmax
comp=Z,196nm,1.0s
NWAO Narrogin (SRO) 62.39 193 P **P 09 12 24.7 +0.7**
NWAO Narrogin (SRO) 62.39 193 LR LR 09 40 52.5
comp=Z,693nm,20.3s,baz=34,slow=37
AUDCS Dubbo College 62.46 163 P **P 09 12 25.1 +0.6**
SCRK Sand Creek 62.63 30 IAmb IAmb 09 12 26.3
comp=Z,82nm,1.2s
SCRK Sand Creek 62.63 30 P **P 09 12 24.5 -1.0**
baz=279,SNR=34
N25K Chitina, Valde 62.73 32 P **P 09 12 25.8 -0.4**
baz=280,SNR=6.1
J26L Joseph Creek 62.73 29 IAmb IAmb 09 12 28.0
comp=Z,63nm,0.8s
J26L Joseph Creek 62.73 29 P **P 09 12 25.0 -1.2**
baz=279,SNR=92
I26K Coal Creek Min 62.78 28 P **P 09 12 25.8 -0.5**
baz=279
BMRM Bremner River 62.83 33 P **P 09 12 26.3 -0.5**
baz=280,SNR=27
MENT Mentasta 62.91 31 IAmb IAmb 09 12 35.9
comp=Z,87nm,1.0s
MENT Mentasta 62.91 31 P **P 09 12 27.7 +0.4**
E27K Coleen River 62.95 25 P **P 09 12 27.7 +0.2**
baz=279,SNR=13
D27M Malcolm River 63.01 24 P **P 09 12 27.9 0.0**
baz=279,SNR=10
L26K Log Cabin Wild 63.06 31 IAmb IAmb 09 12 41.5
comp=Z,72nm,1.1s
L26K Log Cabin Wild 63.06 31 P **P 09 12 28.1 -0.2**
baz=280,SNR=30
KAIM Kayak Island 63.10 34 P **P 09 12 28.8 +0.2**
baz=281
HMT Hamilton 63.11 34 IAmb IAmb 09 12 30.6
comp=Z,100nm,1.1s
GLB Gilahina Butte 63.13 32 IAmb IAmb 09 12 30.8
comp=Z,66nm,1.0s
G27K Doyon Strip 63.14 26 P **P 09 12 28.7 -0.1**
baz=280,SNR=15
H27K Steamboat Moun 63.29 27 P **P 09 12 30.0 +0.2**
baz=280,SNR=25
GHSS Government Hou 63.31 173 P **P 09 12 31.8 +1.7**
YSA Yasawairara 63.33 129 P **P 09 12 33.6 +3.0**
M26K Nabesna, AK 63.33 31 P **P 09 12 30.4 +0.2**
baz=280,SNR=63
VRDI Verde Repeater 63.34 33 IAmb IAmb 09 12 32.1
comp=Z,65nm,0.9s
I27K Kandik River 63.36 28 P **P 09 12 30.6 +0.3**
baz=280,SNR=81
K27K Chicken 63.45 29 P **P 09 12 30.9 +0.1**
baz=280
PRGR Permogore 63.46 328 *e*P **P 09 12 30.6 -0.3**
PRGR *e* 09 13 07.8
PRGR pmax pmax
comp=Z,75nm,0.9s
MCARA McCarthy VSAT 63.51 32 IAmb IAmb 09 12 46.1
comp=Z,93nm,1.0s
MCARA McCarthy VSAT 63.51 32 P **P 09 12 31.0 -0.2**
baz=281,SNR=19
CRQM Cirque 63.57 33 IAmb IAmb 09 12 50.3
comp=Z,94nm,0.9s
CRQE Cirque 63.60 33 P **P 09 12 31.6 -0.4**
baz=281,SNR=22
E28M Babbage River 63.63 24 P **P 09 12 32.1 +0.1**
baz=280,SNR=18
F28M Old Crow 63.69 25 IAmb IAmb 09 12 46.2
comp=Z,108nm,1.1s
F28M Old Crow 63.69 25 P **P 09 12 33.1 +0.7**
baz=281,SNR=27
TGL Tana Glacier 63.72 33 IAmb IAmb 09 12 35.4
comp=Z,102nm,0.9s
L27K Beaver Creek, 63.74 30 IAmb IAmb 09 12 47.7
comp=Z,50nm,1.1s
L27K Beaver Creek, 63.74 30 P **P 09 12 32.9 +0.1**
baz=281,SNR=33
WAX Waxell Ridge 63.77 33 IAmb IAmb 09 12 37.6
comp=Z,75nm,0.9s
D28M Stokes Point 63.78 23 P **P 09 12 33.1 +0.2**
baz=281
SNH Sunshine Point 63.83 34 IAmb IAmb 09 12 55.6
comp=Z,103nm,1.0s
M27K Edge Creek, AK 63.85 31 IAmb IAmb 09 12 36.6
comp=Z,61nm,0.9s
M27K Edge Creek, AK 63.85 31 P **P 09 12 33.7 0.0**
baz=282,SNR=30
MGCD Mangrove Creek 64.05 162 P **P 09 12 36.8 +1.8**
RKGY Rocky Gully 64.07 193 P **P 09 12 35.7 +0.6**
I28M Miner Creek 64.08 28 P **P 09 12 35.3 +0.3**
baz=282,SNR=64
BARN Barnard Glacie 64.22 33 IAmb IAmb 09 12 38.4
comp=Z,41nm,1.0s
GRNC Granite Creek 64.25 33 IAmb IAmb 09 13 24.5
comp=Z,144nm,1.7s
E29M Blow River 64.26 24 IAMs_20 IAMs_20 09 41 43.0
comp=Z,2μm,21.0s
E29M Blow River 64.26 24 P **P 09 12 36.3 +0.2**
baz=282,SNR=30
MESA MESA 64.27 34 IAmb IAmb 09 12 40.5
comp=Z,84nm,1.0s
MESA MESA 64.27 34 P **P 09 12 36.2 -0.3**
baz=282
BELG Belogornoye 64.36 317 *d i*P **P 09 12 35.8 -1.1**
BELG pmax pmax
comp=Z,54nm,1.5s
BELG MLR MLR
comp=Z,2μm,15.0s
BELG Belogornoye 64.36 317 P **P 09 12 36.7 -0.2**
comp=Z,151nm,0.9s,baz=108,slow=1.5,SNR=32
BELG LR LR 09 42 41.8
comp=Z,4μm,18.5s,baz=69,slow=38
comp=Z,151nm,0.9s
MSVF Nonsavu 64.37 130 P **P 09 12 38.4 +0.9**
MSVF IAmb IAmb 09 12 52.6
comp=Z,107nm,1.1s
MSVF Nonsavu 64.37 130 P **P 09 12 39.6 +2.1**
MSVF Nonsavu 64.37 130 P **P 09 12 38.4 +0.9**
MSVF pmax pmax
comp=Z,107nm,1.1s
MSVF Nonsavu 64.37 130 LR LR 09 35 44.7
comp=Z,976nm,19.8s,baz=339,slow=32
YNG Young 64.38 164 P **P 09 12 38.8 +1.6**
CTG Chitna Glacier 64.39 33 P **P 09 12 37.1 -0.2**
baz=283
JASK Jask - Hormozg 64.44 287 P **P 09 12 40.3 +2.3**
SNR=18
JLN Jalan Bani Buh 64.46 282 P **P 09 12 40.0 +1.8**
SNR=27
SYDH Sydney Hard Ro 64.46 162 P **P 09 12 39.7 +2.0**
G29M Pine Creek 64.53 26 P **P 09 12 38.0 +0.1**
baz=283,SNR=32
DGTI Dogotuki 64.55 127 P **P 09 12 42.0 +3.4**
H29M Whitestone 64.55 27 IAmb IAmb 09 12 53.5
comp=Z,117nm,1.1s
H29M Whitestone 64.55 27 P **P 09 12 37.9 -0.2**
baz=283,SNR=26
DAWY Dawson 64.60 29 P **P 09 12 38.2 -0.2**
DAWY IAmb IAmb 09 12 51.4
comp=Z,47nm,1.1s
DAWY Dawson 64.60 29 P **P 09 12 38.6 +0.2**
baz=283,SNR=28
YUK3 Moose Creek 64.63 32 P **P 09 12 38.5 -0.4**
baz=283,SNR=24
WBK Wadi Bani Khal 64.67 283 P **P 09 12 42.0 +2.4**
SNR=26
WSAR Wadi Sarin 64.73 284 P **P 09 12 41.2 +1.2**
SNR=17
WSAR Wadi Sarin 64.73 284 LR LR 09 45 17.4
comp=Z,2μm,19.5s,baz=96,slow=40
I29M Ogilvie Camp, 64.76 28 IAmb IAmb 09 12 55.2
comp=Z,84nm,1.1s
I29M Ogilvie Camp, 64.76 28 P **P 09 12 39.3 -0.1**
baz=283,SNR=34
O28M Mount Upton 64.98 33 P **P 09 12 41.2 -0.1**
baz=284,SNR=23
J29N Klondike Camp 65.01 29 P **P 09 12 41.2 +0.1**
baz=284,SNR=16
BIDO Bidbid 65.06 284 P **P 09 12 44.0 +1.9**
SNR=19
YUK8 Steele Glacier 65.06 32 P **P 09 12 42.0 +0.3**
baz=284
TAVE Taveuni 65.07 127 P **P 09 12 43.5 +1.4**
PINM Pinnacle 65.11 34 P **P 09 12 41.5 -0.4**
baz=284,SNR=10
EPYK Eagle Plains 65.16 26 IAmb IAmb 09 12 44.2
comp=Z,94nm,0.9s
EPYK Eagle Plains 65.16 26 P **P 09 12 42.2 +0.1**
baz=284,SNR=37
G30M tAoh Zraii Nji 65.21 26 P **P 09 12 42.4 0.0**
baz=284,SNR=72
F30M Barrier River 65.22 25 P **P 09 12 42.7 +0.4**
baz=284,SNR=30
SMDO Samad 65.30 284 P **P 09 12 45.0 +1.2**
SNR=36
AUMAG Moama Anglican 65.35 168 P **P 09 12 45.3 +1.9**
L29M L29M 65.37 30 P **P 09 12 43.5 +0.1**
baz=284,SNR=44
M29M Somme Creek 65.39 31 IAmb IAmb 09 12 57.5
comp=Z,99nm,1.2s
M29M Somme Creek 65.39 31 P **P 09 12 43.8 +0.1**
baz=284,SNR=33
K29M Barlow Dome 65.45 29 IAmb IAmb 09 12 47.0
comp=Z,64nm,0.9s
K29M Barlow Dome 65.45 29 P **P 09 12 44.1 +0.1**
baz=284,SNR=56
CAN Canberra 65.50 164 IAmb IAmb 09 13 00.6
comp=Z,86nm,1.1s
CAN Canberra 65.50 164 P **P 09 12 46.2 +1.7**
JMDO Jabal Madar 65.51 283 P **P 09 12 46.0 +1.0**
SNR=26
JMDO P **P 09 12 46.0 +1.0**
SNR=26
ARPS Mount Arapiles 65.53 171 P **P 09 12 45.5 +0.9**
YUK4 Talbot Arm 65.57 32 P **P 09 12 45.5 +0.5**
baz=285,SNR=16
CNB Canberra Magne 65.58 164 P **P 09 12 46.6 +1.5**
I30M Mount Dempster 65.58 28 IAmb IAmb 09 13 14.2
comp=Z,99nm,1.1s
I30M Mount Dempster 65.58 28 P **P 09 12 44.8 -0.1**
baz=285,SNR=58
PNL Peninsula 65.64 34 P **P 09 12 46.0 +0.8**
PNL Peninsula 65.64 34 P **P 09 12 45.5 +0.3**
baz=285,SNR=6.1
HOQ Hoqain 65.74 285 P **P 09 12 48.0 +1.5**
SNR=30
J30M Hart River 65.77 28 IAmb IAmb 09 13 03.1
comp=Z,77nm,1.3s
J30M Hart River 65.77 28 P **P 09 12 46.2 0.0**
baz=285,SNR=26
YUK6 Outpost Mounta 65.81 32 P **P 09 12 47.0 +0.4**
baz=285
SHME Shamm 65.83 288 *i*P **P 09 12 47.9 +0.9**
SNR=7.8
SHME Shamm 65.83 288 P **P 09 12 49.2 +2.2**
SNR=5.8
SHME P **P 09 12 49.2 +2.2**
SNR=5.8
INK Inuvik 65.86 24 IAmb IAmb 09 12 48.3
comp=Z,81nm,1.2s
INK Inuvik 65.86 24 P **P 09 12 46.5 +0.1**
baz=286,SNR=29
INK Inuvik 65.86 24 LR LR 09 43 37.6
comp=Z,1μm,19.5s,baz=272,slow=38
O29M Mount Kennedy 65.88 33 IAmb IAmb 09 12 54.6
comp=Z,84nm,1.1s
O29M Mount Kennedy 65.88 33 P **P 09 12 46.8 -0.1**
baz=285,SNR=19
AUUHS Ulladulla High 65.90 163 P **P 09 12 49.1 +2.1**
G31M Satah River 65.96 25 P **P 09 12 46.5 -0.7**
baz=286,SNR=12
MDH Madha 65.97 287 *i*P **P 09 12 47.9 0.0**
SNR=6.2
MDH Madha 65.97 287 P **P 09 12 49.2 +1.3**
F31M Tsiigehtchic 66.02 25 IAmb IAmb 09 12 49.1
comp=Z,47nm,1.1s
F31M Tsiigehtchic 66.02 25 P **P 09 12 47.4 -0.1**
baz=286,SNR=16
MASF Masafi 66.06 287 P **P 09 12 50.7 +2.2**
SNR=10
MSFE Esma-Masafi 66.06 287 *i*P **P 09 12 49.1 +0.5**
SNR=16
M30M Minto, Yukon 66.10 30 IAmb IAmb 09 13 01.9
comp=Z,49nm,1.2s
M30M Minto, Yukon 66.10 30 P **P 09 12 48.6 +0.4**
baz=286,SNR=23
BSY Bisya 66.14 284 P **P 09 12 51.0 +1.9**
SNR=25
MHTO MHTO 66.14 282 P **P 09 12 50.0 +0.9**
SNR=55
UOSS Minazif 66.18 286 P **P 09 12 48.6 -0.6**
UOSS IAmb IAmb 09 13 21.4
comp=Z,52nm,1.1s
UOSS Minazif 66.18 286 *i*P **P 09 12 48.9 -0.4**
SNR=10
UOSS Minazif 66.18 286 P **P 09 12 50.5 +1.3**
UOSS P **P 09 12 50.5 +1.3**
SOHO SOHO 66.19 286 *i*P **P 09 12 51.0 +1.6**
SNR=27
SOHO SOHO 66.19 286 P **P 09 12 50.6 +1.3**
ADZR Andozero 66.22 331 *e*P **P 09 12 50.7 +1.9**
ADZR pmax pmax
comp=Z,83nm,0.6s
MAYO Mayo, Yukon 66.22 29 IAmb IAmb 09 13 02.4
comp=Z,100nm,1.0s
MAYO Mayo, Yukon 66.22 29 P **P 09 12 49.4 +0.6**
baz=286,SNR=20
H31M Peel River 66.25 27 IAmb IAmb 09 13 02.0
comp=Z,130nm,1.2s
H31M Peel River 66.25 27 P **P 09 12 48.9 -0.1**
baz=286,SNR=34
HYT Haines Junctio 66.25 32 IAmb IAmb 09 13 04.5
comp=Z,93nm,1.0s
HYT Haines Junctio 66.25 32 P **P 09 12 49.3 +0.1**
baz=286,SNR=30
N30M Aishikik Lake 66.27 32 IAmb IAmb 09 12 52.8
comp=Z,55nm,1.1s
N30M Aishikik Lake 66.27 32 P **P 09 12 49.6 +0.2**
baz=286,SNR=23
HATD Hatta, Dubai 66.28 286 *i*P **P 09 12 52.0 +2.0**
SNR=24
HATD Hatta, Dubai 66.28 286 P **P 09 12 52.0 +2.0**
SNR=21
HATD P **P 09 12 52.0 +2.0**
SNR=21
HOPEN Hopen 66.35 346 *e*P **P 09 12 49.9 +0.5**
ASHO Ashiyiah 66.40 286 *i*P **P 09 12 51.3 +0.6**
SNR=36
ASHO Ashiyiah 66.40 286 P **P 09 12 53.0 +2.3**
SNR=22
P29M Windy Craggy 66.46 34 IAmb IAmb 09 13 03.6
comp=Z,92nm,1.1s
P29M Windy Craggy 66.46 34 P **P 09 12 51.1 +0.6**
baz=286,SNR=11
ARQ Araqi 66.50 285 P **P 09 12 53.0 +1.6**
SNR=16
ARQ P **P 09 12 53.0 +1.6**
SNR=16
LVZ Lovozero 66.51 336 IAMs_20 IAMs_20 09 45 08.0
comp=Z,2μm,20.0s
LVZ Lovozero 66.51 336 *de*P **P 09 12 50.7 0.0**
LVZ pmax pmax
comp=Z,95nm,1.2s
KLMR Klimovskoe 66.52 328 ⇑*i*P **P 09 12 50.4 -0.4**
KLMR ⇓*i*P **P 09 12 50.4 -0.4**
KLMR *e*P **P 09 12 50.4 -0.4**
KLMR AMP 09 13 08.6
comp=Z,176nm,1.2s
KLMR PP **PP 09 15 18.0 +1.2**
KLMR S **S 09 21 39.8 -1.7**
KLMR S **S 09 21 39.8 -1.7**
KLMR LQ LQ 09 37 38.4
KLMR LQ LQ 09 37 38.4
KLMR LR LR 09 42 34.3
KLMR AMP 09 46 42.7
comp=Z,6μm,15.1s
KLMR Klimovskoe 66.52 328 *c i*P **P 09 12 50.3 -0.5**
KLMR 09 15 18.0
KLMR S **S 09 21 39.8 -1.7**
KLMR pmax pmax
comp=Z,176nm,1.2s
KLMR MLR MLR
comp=Z,6μm,15.0s
BRAT Ballarat 66.62 169 P **P 09 12 52.7 +1.1**
NAZ Nazwa, Dubai 66.62 287 *i*P **P 09 12 52.7 +0.6**
SNR=8.5
NAZ Nazwa, Dubai 66.62 287 P **P 09 12 56.2 +4.1**
SNR=7.0
AIN Ainahou 66.69 80 P **P 09 12 53.5 +0.7**
P30M Million Dollar 66.70 33 P **P 09 12 52.6 +0.5**
baz=286
FAQ Al Faqa, Dubai 66.77 286 *i*P **P 09 12 53.5 +0.5**
SNR=20
FAQ Al Faqa, Dubai 66.77 286 P **P 09 12 57.0 +4.0**
SNR=9.0
FAQ P **P 09 12 57.0 +4.0**
SNR=9.0
HATHI Halema'uma'u T 66.84 80 IAMs_20 IAMs_20 09 33 01.6
comp=Z,3μm,19.0s
N31M Braeburn, Yuko 66.86 31 P **P 09 12 53.6 +0.5**
baz=287,SNR=31
ALNE Al Ain 66.89 286 *i*P **P 09 12 54.4 +0.6**
SNR=15
ALNE Al Ain 66.89 286 P **P 09 12 55.0 +1.2**
SNR=27
TOO Toolangi 66.91 168 P **P 09 12 52.9 -0.7**
TOO Toolangi 66.91 168 P **P 09 12 55.2 +1.7**
TOO Toolangi 66.91 168 P **P 09 12 52.9 -0.7**
TOO pmax pmax
comp=Z,197nm,1.2s
AUHPC Hawkesdale P12 66.92 171 P **P 09 12 55.3 +1.9**
O30N Mendenhall 66.93 32 IAmb IAmb 09 13 08.4
comp=Z,57nm,1.1s
O30N Mendenhall 66.93 32 P **P 09 12 54.0 +0.5**
baz=287,SNR=15
DGAR Diego Garcia 66.94 247 *ce*P **P 09 12 56.0 +1.8**
DGAR pmax pmax
comp=Z,237nm,1.3s
NPOC North of Pu'u 66.98 80 IAMs_20 IAMs_20 09 36 43.4
comp=Z,4μm,19.0s
MAK Makhachkala 67.00 308 *e*P **P 09 12 51.3 -2.9**
MAK *e*S **S 09 21 44.3 -3.7**
MAK pmax pmax
comp=Z,267nm,1.3s
ASUD Al Ashush, Dub 67.03 286 P **P 09 12 56.3 +1.6**
ASUD P **P 09 12 56.3 +1.6**
APA Apatity 67.06 336 ⇓*i*P **P 09 12 52.5 -1.6**
APA *i* 09 15 25.0
APA *i* PPP PPP 09 16 57.0
APA *i* S **S 09 21 40.0 -7.9**
APA *i* 09 22 13.0
APA pmax pmax
comp=Z,84nm,1.0s
APA MLR MLR
comp=Z,5μm,14.0s
PLBC Pleasant Camp 67.18 34 P **P 09 12 55.6 +0.6**
baz=287,SNR=13
MILA Mila 67.19 165 P **P 09 12 57.2 +1.9**
M31M Drury Creek, Y 67.28 30 IAmb IAmb 09 12 58.3
comp=Z,42nm,0.8s
M31M Drury Creek, Y 67.28 30 P **P 09 12 55.6 -0.1**
baz=288,SNR=35
SPB2 Spitsbergen Ar 67.31 348 P **P 09 12 55.5 -0.1**
SPB2 IAmb IAmb 09 13 05.9
comp=Z,75nm,0.9s
SPA0 Spitsbergen Ar 67.32 348 *e*P **P 09 12 55.8 +0.1**
SPITS Spitsbergen Ar 67.32 348 P **P 09 12 54.9 -0.8**
comp=Z,66nm,0.9s,baz=79,slow=7.5,SNR=19
SPITS LR LR 09 46 32.7
comp=Z,2μm,18.0s,baz=11,slow=40
comp=Z,66nm,0.9s
A36M Sachs Harbour 67.34 19 P **P 09 12 56.4 +0.5**
baz=292,SNR=29
AJN Ajban 67.35 287 *i*P **P 09 12 57.0 +0.3**
SNR=6.2
AJN Ajban 67.35 287 P P 09 13 01.1 +4.3
SNR=7.1
WHY Whitehorse 67.53 32 P **P 09 12 57.7 +0.3**
WHY IAmb IAmb 09 12 59.8
comp=Z,63nm,1.0s
WHY Whitehorse 67.53 32 P **P 09 12 57.6 +0.3**
baz=288,SNR=23
VADS Vadso 67.57 339 *e*P **P 09 12 57.3 -0.1**
KBS Kingsbay 67.67 350 P **P 09 12 58.0 +0.1**
KBS IAmb IAmb 09 13 00.4
comp=Z,62nm,0.9s
KBS Kingsbay 67.67 350 *d i*P **P 09 12 58.2 +0.3**
KBS pmax pmax
comp=Z,54nm,0.8s
KBS Kingsbay 67.67 350 *e*P **P 09 12 57.9 +0.1**
SKAG Skagway 67.68 33 IAmb IAmb 09 13 01.2
comp=Z,65nm,1.0s
SKAG Skagway 67.68 33 P **P 09 12 59.3 +1.1**
SKAG Skagway 67.68 33 P **P 09 12 58.6 +0.4**
baz=288,SNR=18
S31K Pelican 67.70 35 IAmb IAmb 09 13 19.9
comp=Z,128nm,1.6s
S31K Pelican 67.70 35 P **P 09 12 58.8 +0.5**
baz=288
FARO Faro, Yukon 67.73 30 P **P 09 12 59.0 +0.5**
baz=289,SNR=86
HSPB Hornsund (broa 68.07 347 *e*P **P 09 12 59.8 -0.7**
GROC Groznyy 68.11 308 *e*P **P 09 13 01.5 +0.2**

GROC e 09 13 26.6
GROC eS S 09 22 00.8 -0.6
GROC pmax pmax
comp=Z,174nm,0.9s
GROC MLR MLR
comp=Z,2μm,14.0s
N32M Quiet Lake 68.20 31 IAmb IAmb 09 13 21.4
comp=Z,69nm,0.9s
N32M Quiet Lake 68.20 31 P P 09 13 01.3 -0.2
baz=289,SNR=22
VRH Novokhopyorsk 68.21 317 eP P 09 13 00.6 -1.1
VRH pmax pmax
comp=Z,87nm,0.8s
P32M Atlin 68.42 33 P P 09 13 02.9 -0.1
baz=289,SNR=10.0
SIT Sitka 68.45 36 P P 09 13 03.2 +0.2
baz=289
KEV Kevo 68.46 339 P P 09 13 02.6 -0.4
KEV IAmb IAmb 09 13 03.7
comp=Z,101nm,1.0s
KEV Kevo 68.46 339 P P 09 13 02.6 -0.4
KEV pmax pmax
comp=Z,101nm,1.0s
KEV MLR MLR
comp=Z,4μm,19.0s
R32K Eaglecrest 68.46 35 P P 09 13 02.5 -0.6
baz=289,SNR=11
MMPY Sheldon Lake, 68.52 30 IAmb IAmb 09 13 16.6
comp=Z,52nm,1.1s
MMPY Sheldon Lake, 68.52 30 P P 09 13 02.8 -0.7
baz=290,SNR=19
P33M Teslin, Yukon 68.64 32 IAmb IAmb 09 13 06.7
comp=Z,54nm,1.0s
P33M Teslin, Yukon 68.64 32 P P 09 13 03.9 -0.4
baz=290,SNR=29
S32K Killisnoo 68.70 35 IAmb IAmb 09 13 17.8
comp=Z,63nm,1.2s
S32K Killisnoo 68.70 35 P P 09 13 04.9 +0.3
baz=289
C36M Paulatuk 68.73 22 P P 09 13 04.0 -0.6
baz=294,SNR=24
ARA0 ARCESS Array S 69.03 339 eP P 09 13 06.3 -0.3
ARCES ARCESS Array B 69.03 339 P P 09 13 05.9 -0.7
ARCES IAmb IAmb 09 13 07.4
comp=Z,78nm,1.1s
ARCES ARCESS Array B 69.03 339 P P 09 13 06.2 -0.4
comp=Z,47nm,0.9s,baz=61,slow=7.6,SNR=30
ARCES LR LR 09 47 53.3
comp=Z,4μm,20.2s,baz=50,slow=40
comp=Z,47nm,0.9s
MOS Moscow 69.05 323 eP P 09 13 06.2 -0.6
MOS e 09 13 28.0
MOS e 09 15 44.0
MOS ePPP PPP 09 17 18.1
MOS eS S 09 22 09.2 -2.8
MOS pmax pmax
comp=Z,141nm,0.8s
MOS pmax pmax
comp=N,94nm,0.8s
MOS pmax pmax
comp=E,58nm,0.7s
MOS MLR MLR
comp=Z,4μm,17.0s
NOR Nord 69.06 355 i P P 09 13 05.7 -0.8
NOR IAmb IAmb 09 13 15.1
comp=Z,11nm,0.8s
HAMF Hammerfest 69.12 340 eP P 09 13 06.5 -0.5
ALE Alert 69.16 2 IAMs_20 IAMs_20 09 44 54.9
comp=Z,2μm,19.0s
MZR Muzera 69.21 286 i P P 09 13 08.5 0.0
SNR=17
MZR Muzera 69.21 286 P P 09 13 10.8 +2.3
SNR=9.5
Q32M Nakina River 69.34 33 P P 09 13 08.6 -0.3
baz=291,SNR=6.6
SHAO Shalim 69.34 280 i P P 09 13 09.4 +0.1
SNR=39
SHAO Shalim 69.34 280 P P 09 13 10.0 +0.7
SNR=50
GOF Gofitskoye 69.38 311 c iP P 09 13 09.5 +0.4
GOF eS S 09 22 19.4 +3.1
LPSR Galich'ya Gora 69.38 319 eP P 09 13 07.7 -1.3
LPSR pmax pmax
comp=Z,130nm,1.0s
LPSR MLR MLR
comp=Z,7μm,14.0s
NCK Nalchik 69.53 309⇑ eP P 09 13 11.5 +1.4
NCK pmax pmax
comp=Z,102nm,0.8s
VORR Voronezh 69.54 318 eP P 09 13 10.1 +0.2
VORR pmax pmax
comp=Z,158nm,0.7s
ZEI Tsey 69.56 308 eP P 09 13 08.0 -2.6
ZEI pmax pmax
comp=Z,157nm,0.9s
VSR Storozhevoye 69.72 318 eP P 09 13 10.4 -0.7
VSR pmax pmax
comp=Z,110nm,1.1s
VSR MLR MLR
comp=Z,12μm,15.0s
VORD Divnogorie 69.73 318 eP P 09 13 10.1 -1.0
VORD pmax pmax
comp=Z,40nm,0.9s
VORD MLR MLR
comp=Z,6μm,13.0s
R33M Jennings River 69.81 33 P P 09 13 11.4 -0.2
baz=292,SNR=14
OBN Obninsk 69.83 322 P P 09 13 11.2 -0.4
OBN Obninsk 69.83 322 d iP P 09 13 10.8 -0.8
OBN i 09 13 16.4
OBN i i 09 13 33.4
OBN i S S 09 22 21.9 +0.7
OBN i SS SS 09 26 51.5 +2.4
OBN pmax pmax
comp=Z,87nm,1.0s
OBN MLR MLR
comp=Z,4μm,13.0s
OBN Obninsk 69.83 322 P P 09 13 11.2 -0.4
comp=Z,44nm,0.5s,baz=85,slow=5.4,SNR=15
OBN LR LR 09 46 24.5
comp=Z,4μm,19.4s,baz=66,slow=38
comp=Z,44nm,0.5s
TRLG Trialeti 69.85 307 P P 09 13 12.6 +0.3
EUNU Eureka 69.88 7 IAmb IAmb 09 13 13.0
comp=Z,64nm,0.9s
GNI Garni 69.88 305 P P 09 13 13.1 +0.6
GNI Garni 69.88 305 d iP P 09 13 13.3 +0.8
GNI pmax pmax
comp=Z,176nm,1.3s
GNI Garni 69.88 305 P P 09 13 13.4 +0.9
GNI Garni 69.88 305 P P 09 13 14.0 +1.5
GNI Garni 69.88 305 P P 09 13 13.3 +0.8
comp=Z,96nm,1.0s,baz=74,slow=1.5,SNR=35
GNI LR LR 09 46 18.7
comp=Z,652nm,19.4s,baz=67,slow=38
comp=Z,96nm,1.0s
U33K Whale Pass 69.92 36 IAmb IAmb 09 13 30.6
comp=Z,90nm,1.2s
U33K Whale Pass 69.92 36 P P 09 13 12.3 +0.2
baz=291
KBZ Khabaz 69.93 310 d iP P 09 13 12.5 0.0
KBZ pmax pmax
comp=Z,199nm,0.9s
KBZ Khabaz 69.93 310 P P 09 13 12.6 0.0
comp=Z,165nm,0.9s,baz=88,slow=4.0,SNR=198
KBZ LR LR 09 45 41.6
comp=Z,2μm,20.2s,baz=64,slow=38
comp=Z,165nm,0.9s
KVAR Kislovodsk Arr 69.99 310 P P 09 13 13.4 +0.4
comp=Z,56nm,1.0s,baz=90,slow=20,SNR=14
comp=Z,56nm,1.0s
KTK1 Kautokeino 69.99 339 eP P 09 13 12.4 -0.1
KIV Kislovodsk 69.99 310 ⇓P P 09 13 14.4 +1.4
KIV Kislovodsk 69.99 310 P P 09 13 12.9 -0.2
KIV IAMs_20 IAMs_20 09 45 33.4
comp=Z,2μm,20.0s
KIV Kislovodsk 69.99 310 eP P 09 13 12.9 -0.2
KIV e 09 15 47.7
KIV eS S 09 22 24.1 +0.3
KIV eSS SS 09 26 54.9 +2.4
KIV pmax pmax
comp=Z,261nm,1.1s
KIV pmax pmax
comp=Z,344nm,4.2s
KIV MLR MLR
comp=Z,2μm,18.0s

KIV Kislovodsk 69.99 310 i P P 09 13 13.2 +0.2
SNR=51
KIV Kislovodsk 69.99 310 P P 09 13 14.9 +1.9
DMTO DMTO 70.06 280 P P 09 13 15.0 +1.3
SNR=32
CRAG Craig 70.15 37 P P 09 13 13.6 0.0
baz=291
SHMA Al-Shehemyia 70.23 289 P P 09 13 15.8 +1.2
TGTN Hyland Airport 70.23 30 P P 09 13 14.1 -0.1
baz=293,SNR=55
S34M Telegraph Cree 70.27 34 IAmb IAmb 09 13 17.8
comp=Z,43nm,0.9s
S34M Telegraph Cree 70.27 34 P P 09 13 14.5 +0.1
baz=292,SNR=12
DOK Doka 70.40 281 P P 09 13 16.0 +0.2
SNR=60
WTLY Watson Lake, Y 70.55 32 IAmb IAmb 09 13 19.2
comp=Z,69nm,0.9s
WTLY Watson Lake, Y 70.55 32 P P 09 13 16.1 0.0
baz=293
DLBC Dease Lake 70.62 33 P P 09 13 15.9 -0.6
baz=293,SNR=7.8
DLBC Dease Lake 70.62 33 LR LR 09 46 37.5
comp=Z,392nm,18.3s,baz=298,slow=38
JETT Jettan, Norway 70.62 340 eP P 09 13 16.4 +0.1
SMRA Abu-Samra 70.78 288 P P 09 13 20.0 +2.0
SNR=11
RBK Rabkut 70.79 280 P P 09 13 19.0 +0.7
SNR=74
AULHS Lilydale High 70.80 167 P P 09 13 19.5 +1.9
WHFO Wadi Hawf 71.00 281 P P 09 13 20.0 +0.5
SNR=63
TRO Tromso 71.03 340 eP P 09 13 18.5 -0.3
T35M Bob Quinn 71.07 35 IAmb IAmb 09 13 22.9
comp=Z,59nm,1.1s
T35M Bob Quinn 71.07 35 P P 09 13 19.2 -0.1
baz=293,SNR=15
PUL Pulkovo 71.18 328⇓ eP P 09 13 20.4 +0.6
PUL pmax pmax
comp=Z,203nm,1.0s
PUL MLR MLR
comp=Z,9μm,15.0s
WRGLY Wrigley 71.56 27 P P 09 13 22.4 +0.3
baz=296,SNR=7.7
BCA Borcka 71.63 308 ⇓P P 09 13 23.8 +0.9
ABTO Aybut 71.64 280 P P 09 13 24.0 +0.5
SNR=64
LIRD Liard River Hi 72.08 32 P P 09 13 25.6 +0.3
baz=295,SNR=51
SOC Sochi 72.13 310 eP P 09 13 23.8 -2.1
SOC e 09 16 04.1
SOC eS S 09 22 47.1 -1.3
SOC eSS SS 09 27 26.3 +1.2
SOC pmax pmax
comp=Z,90nm,0.7s
SOC MLR MLR
comp=Z,2μm,18.0s
FINES FINESS Array B 72.36 331 P P 09 13 25.5 -1.4
FINES FINESS Array B 72.36 331 P P 09 13 25.7 -1.2
comp=Z,55nm,0.9s,baz=68,slow=6.6,SNR=78
FINES LR LR 09 48 26.3
comp=Z,3μm,19.0s,baz=68,slow=38
comp=Z,55nm,0.9s
GURO Guroymak-BITLI 72.42 305 IAmb IAmb 09 13 30.9
comp=Z,122nm,1.0s
TAU Tasmania Unive 72.43 168 P P 09 13 27.7 +0.3
TAU IAmb IAmb 09 13 29.6
comp=Z,71nm,1.1s
TAU Tasmania Unive 72.43 168 P P 09 13 29.0 +1.6
TAU Tasmania Unive 72.43 168 P P 09 13 27.7 +0.3
TAU pmax pmax
comp=Z,71nm,1.1s
SIRT Sirnak 72.53 304 P P 09 13 28.4 -0.1
XMAS Kiritimati 72.55 97 P P 09 13 29.5 +0.6
XMAS Kiritimati 72.55 97 P P 09 13 30.9 +2.0
KOTAN Kotaneelee Air 72.70 30 P P 09 13 29.3 +0.3
baz=297
RES Resolute Bay 72.94 12 IAmb IAmb 09 13 45.8
comp=Z,107nm,1.0s
RES Resolute Bay 72.94 12 LR LR 09 48 30.5
comp=Z,1μm,19.4s,baz=334,slow=38
STEI Steigen 73.08 339 eP P 09 13 30.8 -0.2
KTUT Trabzon 73.09 308 ⇓P P 09 13 31.9 +0.2
ANN Anapa 73.18 312 eP P 09 13 29.5 -2.6
ANN e*PP pP 09 13 32.4 -0.9
ANN e 09 13 43.8
ANN eS S 09 22 58.3 -2.0
ANN pmax pmax
comp=Z,237nm,1.1s
ANN smax smax
comp=N,834nm,3.6s
ANN MLR MLR
comp=Z,3μm,17.0s
ANN MLR MLR
comp=E,3μm,16.0s
ANN MLR MLR
comp=N,3μm,14.0s
FAUS Fauske 73.37 339 eP P 09 13 32.6 -0.2
VSU Vasula 73.42 328⇓ iP P 09 13 32.9 -0.3
VSU pmax pmax
comp=Z,417nm,0.9s
VSU MLR MLR
comp=Z,21μm,15.0s
VSU Vasula 73.42 328 eP P 09 13 33.5 +0.2
LOF Lofoten 73.49 340 eP P 09 13 33.0 -0.5
DAG Danmarks Havn 73.50 353 P P 09 13 32.9 -0.5
DAG Danmarks Havn 73.50 353 i P P 09 13 32.0 -1.4
DAG IAmb IAmb 09 13 36.2
comp=Z,40nm,0.9s
MEF Metsahovi 73.66 330 eP P 09 13 34.8 +0.2
NIUE Niue 73.82 123 P P 09 13 39.5 +3.3
NIUE Niue 73.82 123 P P 09 13 38.5 +2.4
BBB Bella Bella 74.18 39 LR LR 09 48 37.9
comp=Z,270nm,19.1s,baz=295,slow=38
MOR8 Moi Rana 74.34 338 eP P 09 13 36.9 -1.6
RAF Rauma 74.39 332 eP P 09 13 38.5 -0.4
NEEM North Greenlan 74.44 1 i P P 09 13 38.8 -0.5
NEEM IAmb IAmb 09 13 41.9
comp=Z,153nm,0.9s
KONS Konsvik 74.58 338 eP P 09 13 39.5 -0.4
TULEG Thule 74.61 5 i P P 09 13 39.0 -0.9
TULEG IAmb IAmb 09 13 42.2
comp=Z,134nm,0.9s
MTSE Matsula 74.65 329 eP P 09 13 40.5 +0.2
MNK Minsk 74.67 324 i P P 09 13 40.0 -0.7
MNK i P P 09 13 40.0 -0.7
MNK i P P 09 13 40.0 -0.7
comp=Z,225nm,1.0s,baz=63
MNK i PP PP 09 16 28.8 +1.8
MNK i PPP PPP 09 18 14.0
MNK i S S 09 23 16.0 -0.8
MNK i SS SS 09 28 05.9 +2.8
MNK i SSS SSS 09 31 27.7
MNK i LQ LQ 09 41 34.4
MNK i LR LR 09 47 28.5
MNK i LRM MLR 09 49 56.3
comp=Z,5μm,16.4s
MNK i LRM MLR 09 50 01.1
comp=E,2μm,14.6s
MNK i LRM MLR 09 50 03.6
comp=N,2μm,13.3s
MNK Minsk 74.67 324 i P P 09 13 39.9 -0.7
MNK i 09 16 28.8
MNK i PPP PPP 09 18 14.0
MNK i S S 09 23 15.9 -0.8
MNK i SS SS 09 28 05.9 +2.8
MNK pmax pmax
comp=Z,225nm,1.0s
MNK MLR MLR
comp=Z,5μm,16.0s
MNK MLR MLR
comp=E,2μm,15.0s
MNK MLR MLR
comp=N,2μm,13.0s
STOK Stokkvaagen 74.72 338 eP P 09 13 40.2 -0.5
OUZ Omahuta 74.78 145 P P 09 13 43.3 +1.9
IDID Didziasalis 74.88 325 eP P 09 13 40.8 -1.0
IZAR Zarasai 74.92 326 eP P 09 13 41.9 -0.1
NACGM Naroch 75.05 325 eP P 09 13 42.6 -0.2
comp=E,6μm,1.3s
ISAL Salakas 75.06 325 eP P 09 13 44.9 +2.0
RAO Raoul Island 75.09 136 LR LR 09 41 49.1
comp=E,1μm,21.8s,baz=162,slow=32
IIGN Ignalina 75.12 325 eP P 09 13 45.8 +2.6
SIM Simferopol' 75.27 313 eP P 09 13 44.3 0.0

SIM e 09 16 37.0
SIM eS S 09 23 23.0 -0.8
SIM pmax pmax
comp=Z,242nm,0.9s
SIM MLR MLR
comp=Z,2μm,16.4s
YKA Yellowknife Ar 75.44 26 i P P 09 13 44.7 -0.2
YKA pmax pmax
comp=Z,27nm,0.9s
YKA Yellowknife Ar 75.44 26 P P 09 13 44.8 -0.2
comp=Z,30nm,0.9s,baz=303,slow=5.5,SNR=25
YKA LR LR 09 51 34.7
comp=Z,496nm,18.6s,baz=308,slow=39
comp=Z,30nm,0.9s
AAL Aland 75.58 331 eP P 09 13 44.9 -0.8
AKASG Malin Array Be 75.68 320 IAmb IAmb 09 13 47.8
comp=Z,132nm,0.9s
AKASG Malin Array Be 75.68 320 i P P 09 13 45.5 -1.1
AKASG pmax pmax
comp=Z,113nm,0.9s
AKASG Malin Array Be 75.68 320 P P 09 13 45.5 -1.1
comp=Z,101nm,0.9s,baz=52,slow=6.1,SNR=175
AKASG LR LR 09 49 54.2
comp=Z,4μm,18.4s,baz=64,slow=38
comp=Z,101nm,0.9s
AKBB Malin Array Si 75.68 320 IAmb IAmb 09 13 47.9
comp=Z,126nm,0.9s
AKBB Malin Array Si 75.68 320 d iP P 09 13 45.2 -1.3
AKBB pmax pmax
comp=Z,141nm,0.9s
AKBB MLR MLR
comp=Z,13μm,15.0s
SLIT Slitere, Latvi 75.89 328 eP P 09 13 47.4 -0.2
DBG Daneborg 75.89 352 i P P 09 13 46.6 -0.8
DBG IAmb IAmb 09 13 49.0
comp=Z,38nm,0.9s
DIKM Dikmen 75.92 310 ⇓P P 09 13 48.7 +0.6
NSS Namsos 76.16 337 eP P 09 13 48.3 -0.7
PABE Paberze 76.17 326 eP P 09 13 49.7 +0.5
GAZ Gaziantep 76.47 305 IAMs_20 IAMs_20 09 49 25.7
comp=Z,2μm,19.0s
UPP Uppsala 76.75 332 eP P 09 13 52.2 -0.2
PBUR Paburge 76.89 327 eP P 09 13 54.0 +0.7
JMIC Jan Mayen 76.96 347 eP P 09 13 54.6 +1.2
JMIC Jan Mayen 76.96 347 LR LR 09 50 38.9
comp=Z,672nm,19.3s,baz=62,slow=38
JMI Jan Mayen 77.05 347 eP P 09 13 55.0 +1.1
KULLO Kullorsuaq 77.17 2 i P P 09 13 54.1 -0.5
KULLO IAmb IAmb 09 13 56.8
comp=Z,116nm,1.0s
SUW Suwalki 77.32 325 eP P 09 13 55.8 +0.1
SUW eS S 09 23 48.7 +2.8
SUW eL L 09 52 05.6
comp=Z,9μm,18.1s
SUW Suwalki 77.32 325 IAMs_20 IAMs_20 09 50 13.6
comp=Z,3μm,21.0s
SUW Suwalki 77.32 325 eP P 09 13 56.5 +0.8
SORM Soroca 77.38 318 ⇓P P 09 13 55.9 -0.3
SORM Soroca 77.38 318 P P 09 13 55.9 -0.3
TBLU Trondheim 77.55 337 eP P 09 13 55.9 -1.0
KIS Kishinev 77.64 317⇓ iP P 09 13 56.0 -1.7
comp=Z,520nm,8.8s
KIS Kishinev 77.64 317 ePcP PcP 09 14 15.0 +7.1
KIS eS S 09 23 48.0 -1.7
KIS Kishinev 77.64 317 d iP P 09 13 56.0 -1.7
KIS e 09 14 15.0
KIS eS S 09 23 48.0 -1.7
KIS e 09 24 17.0
KIS ePS PnS 09 24 39.0 +10
KIS pmax pmax
comp=Z,520nm,8.8s
TOZ Tahuroa Road 77.69 146 IAMs_20 IAMs_20 09 46 08.4
comp=Z,2μm,20.0s
BR131 Keskin Array S 77.87 309 P P 09 13 59.2 -0.1
BR131 Keskin Array S 77.87 309 d iP P 09 13 58.4 -0.9
BR131 Keskin Array S 77.87 309 P P 09 13 58.7 -0.6
SNR=156
BRTR Keskin Array B 77.87 309 i P P 09 13 58.7 -0.6
BRTR pmax pmax
comp=Z,90nm,1.0s
BRTR Keskin Array B 77.87 309 P P 09 13 59.5 +0.1
comp=Z,89nm,1.0s,baz=100,slow=4.0,SNR=217
BRTR LR LR 09 54 38.8
comp=Z,1μm,18.2s,baz=46,slow=41
comp=Z,89nm,1.0s
VIKU Vikbolandet 77.91 331 eP P 09 13 58.8 -0.1
HIZ Hauiti 77.99 146 IAmb IAmb 09 14 17.0
comp=Z,129nm,1.1s
HFS Hagfors 78.20 333 P P 09 13 59.6 -0.9
comp=Z,132nm,1.1s,baz=48,slow=4.4,SNR=89
HFS LR LR 09 51 53.2
comp=Z,3μm,19.0s,baz=45,slow=38
comp=Z,132nm,1.1s
KHEZ Kahui Hut 78.20 147 P P 09 14 02.5 +1.7
BEIL Beino 78.36 303 eP P 09 14 02.4 +0.3
ANTO Ankara 78.39 309 ⇓P P 09 14 03.1 +0.9
ANTO Ankara 78.39 309 P P 09 14 01.6 -0.4
ANTO Ankara 78.39 309 P P 09 14 01.7 -0.4
ANTO pmax pmax
comp=Z,187nm,1.2s
ANTO Ankara 78.39 309 P P 09 14 02.9 +0.8
NC303 NORSAR Array S 78.43 335 IAmb IAmb 09 14 02.9
comp=Z,127nm,1.1s
VASR Vaslui 78.43 317 ⇑P P 09 14 02.5 +0.3
KLNR Kaliningrad 78.48 326 d iP P 09 14 01.4 -0.8
KLNR pmax pmax
comp=Z,286nm,1.4s
TLCR 78.51 315 ⇑P P 09 14 02.9 +0.4
TLCR 78.51 315 P P 09 14 02.9 +0.4
NB201 NORSAR Array S 78.56 335 IAmb IAmb 09 14 03.5
comp=Z,124nm,1.0s
NB2 NORSAR Subarra 78.60 335 P P 09 14 01.2 -1.6
comp=Z,129nm,1.1s,baz=50,slow=5.9
NB2 NORSAR Subarra 78.60 335 P P 09 14 01.2 -1.6
baz=50,slow=5.9
NOA NORSAR Array B 78.60 335 P P 09 14 02.0 -0.8
comp=Z,84nm,1.0s,baz=50,slow=5.5,SNR=116
NOA LR LR 09 53 48.6
comp=Z,3μm,18.4s,baz=60,slow=40
comp=Z,84nm,1.0s
NC204 NORSAR Array S 78.62 335 IAmb IAmb 09 14 04.0
comp=Z,105nm,0.9s
HWQ Hawqa 78.65 303 eP P 09 14 03.3 -0.5
NC602 NORSAR Array S 78.67 334 eP P 09 14 01.8 -1.3
JURR Jurilovca 78.67 315 ⇓P P 09 14 03.8 +0.4
QRZ Quartz Range 78.73 149 P P 09 14 04.1 +0.5
DOMB Dombas 78.75 336 eP P 09 14 03.3 -0.4
NBO00 NORSAR Array S 78.77 335 IAmb IAmb 09 14 04.1
comp=Z,62nm,0.9s
NAO01 NORSAR Array S 78.85 335 IAmb IAmb 09 14 04.8
comp=Z,66nm,1.0s
ASF Jabal al Asfar 78.88 300 P P 09 14 05.6 +0.6
comp=Z,78nm,1.0s,baz=77,slow=3.0,SNR=55
ASF LR LR 09 55 37.1
comp=Z,2μm,18.5s,baz=94,slow=41
comp=Z,78nm,1.0s
URZ Urewera 78.91 145 LR LR 09 45 08.1
comp=Z,1μm,21.0s,baz=36,slow=33
TPGR Topolog 78.91 315 ⇑P P 09 14 05.4 +0.6
CFR Carcaliu 78.93 315 ⇑P P 09 14 05.0 +0.2
CFR Carcaliu 78.93 315 P P 09 14 05.0 +0.2
MOL Molde 78.94 337 eP P 09 14 04.5 0.0
GHRR 78.95 316 ⇓P P 09 14 06.5 +1.5
UPNV Upernavik 79.01 2 i P P 09 14 03.9 -0.9
UPNV IAmb IAmb 09 14 07.0
comp=Z,84nm,0.9s
LVV L'vov 79.02 321 eP P 09 14 05.0 -0.3
LVV e 09 17 10.1
LVV ePPP PPP 09 18 56.7
LVV eS S 09 23 57.3 -7.2
LVV eSS SS 09 29 11.1 +2.0
LVV pmax pmax
comp=Z,230nm,1.2s
LVV MLR MLR
comp=N,2μm,15.0s
LVV MLR MLR
comp=E,5μm,15.0s
LVV MLR MLR
comp=Z,5μm,15.0s
BHL Bhannes 79.04 303 eP P 09 14 05.2 -0.6
RCY Rachaya 79.08 302 eP P 09 14 06.0 -0.1
SUMG Summit 79.10 357 P P 09 14 06.1 +0.3
SUMG Summit 79.10 357 P P 09 14 06.1 +0.3
SUMG pmax pmax
comp=Z,297nm,1.0s

SUMG	Summit	79.10	357	P	P	09 14 04.6	-1.2
SUMG	Summit	79.10	357	*i* P	P	09 14 06.0	+0.3
SUMG				IAmb	IAmb	09 14 09.9	
	comp=Z,179nm,0.9s						
TIRR	Tirgusor	79.11	315	⇓P	P	09 14 06.3	+0.5
TIRR	Tirgusor	79.11	315	P	P	09 14 05.7	-0.2
TIRR	Tirgusor	79.11	315	P	P	09 14 05.7	-0.2
TIRR				pmax	pmax		
	comp=Z,162nm,1.0s						
TIRR				MLR	MLR		
	comp=Z,11μm,19.0s						
DSZ	Denniston Nort	79.16	150	IAmb	IAmb	09 14 08.3	
	comp=Z,75nm,1.2s						
TESR	Tescani	79.18	317	⇓P	P	09 14 06.7	+0.5
MFTR	Murfatlar	79.24	314	⇑P	P	09 14 07.0	+0.4
BKZ	Black Stump Fm	79.30	146	IAMs_20	IAMs_20	09 46 59.8	
	comp=Z,2μm,21.0s						
BKZ	Black Stump Fm	79.30	146	P	P	09 14 08.5	+1.7
HARR	Harsova	79.30	315	⇓P	P	09 14 07.6	+0.7
HARR	Harsova	79.30	315	P	P	09 14 07.6	+0.7
ODBI	Odobesti	79.31	316	⇑P	P	09 14 08.1	+1.2
MANR	Mangalia	79.31	314	⇓P	P	09 14 07.5	+0.5
AKN	Aaknes	79.39	337	*e*P	P	09 14 07.1	0.0
NNZ	Nelson	79.43	149	IAmb	IAmb	09 14 09.6	
	comp=Z,90nm,1.0s						
VRI	Vrincioaia	79.46	317	⇑P	P	09 14 08.8	+1.0
VRI	Vrincioaia	79.46	317	P	P	09 14 08.7	+1.0
BUR08	Bucovina Ar. S	79.47	319	IAmb	IAmb	09 14 12.7	
	comp=Z,82nm,1.0s						
BURAR	Bucovina Array	79.48	319	⇑P	P	09 14 08.7	+0.7
BURAR	Bucovina Array	79.48	319	IAmb	IAmb	09 14 10.4	
	comp=Z,88nm,1.0s						
BURAR	Bucovina Array	79.48	319	P	P	09 14 08.6	+0.7
OSL	Oslo	79.49	334	*e*P	P	09 14 07.0	-0.6
PLOR	Plostina	79.51	317	⇓P	P	09 14 09.0	+0.9
PLOR	Plostina	79.51	317	P	P	09 14 09.0	+0.9
SCO	Scoresbysund	79.61	351	*i* P	P	09 14 08.1	0.0
SCO				IAmb	IAmb	09 14 11.3	
	comp=Z,109nm,0.9s						
MMAI	Mount Meron Ar	79.62	302	P	P	09 14 09.9	+0.9
	comp=Z,54nm,0.9s,baz=54,slow=6.3,SNR=33						
MMAI				LR	LR	09 55 07.5	
	comp=Z,725nm,18.6s,baz=32,slow=40						
	comp=Z,54nm,0.9s						
THZ	Tophouse	79.65	150	IAmb	IAmb	09 14 21.6	
	comp=Z,67nm,0.9s						
ICOR	Ion Corvin	79.66	315	⇓P	P	09 14 10.1	+1.2
PSN	Preselentsi	79.68	314	*i* P	P	09 14 08.6	-0.4
BEL	Belsk	79.70	324	*e*P	P	09 14 09.6	+0.6
BEL				*e*L	L	09 54 05.6	
	comp=Z,5μm,16.3s						
COVR	Voineasa-Covas	79.78	317	⇓P	P	09 14 10.4	+0.8
FOZ	Fox Glacier	79.78	153	IAmb	IAmb	09 14 12.2	
	comp=Z,98nm,1.3s						
MSEY	Mahe Island	79.81	259	P	P	09 14 10.4	+0.2
MSEY				IAmb	IAmb	09 14 13.1	
	comp=Z,164nm,1.1s						
MSEY	Mahe Island	79.81	259	P	P	09 14 10.4	+0.2
MSEY				pmax	pmax		
	comp=Z,164nm,1.1s						
MSEY				MLR	MLR		
	comp=Z,1μm,19.0s						
MSEY	Mahe Island	79.81	259	*i* P	P	09 14 10.7	+0.5
	SNR=11						
MSEY	Mahe Island	79.81	259	P	P	09 14 11.8	+1.6
KWP	Kalwaria Pacla	79.85	321	*e*P	P	09 14 10.3	+0.5
KWP				*e*S	S	09 24 14.4	+1.1
KWP				*e*SKSac	SKSac	09 24 22.6	-4.7
KWP				*e*L	L	09 52 45.5	
OZUR		79.91	317	⇑P	P	09 14 11.3	+1.0
SKAR	Skarslia	79.92	335	*e*P	P	09 14 09.8	-0.2
NEHR	Nehoiu	79.94	316	⇓P	P	09 14 12.1	+1.7
ISR	Istrita	79.94	316	⇑P	P	09 14 11.6	+1.1
ISR	Istrita	79.94	316	P	P	09 14 11.5	+1.1
MRZ	Mangatainoka R	80.01	147	IAmb	IAmb	09 14 12.7	
	comp=Z,149nm,1.3s						
MRZ				IAMs_20	IAMs_20	09 44 27.6	
	comp=Z,2μm,21.0s						
D05A	Enumclaw	80.06	42	IAmb	IAmb	09 14 35.7	
	comp=Z,70nm,1.1s						
KONO	Kongsberg	80.11	334	P	P	09 14 10.7	-0.3
KONO	Kongsberg	80.11	334	P	P	09 14 10.7	-0.3
KONO				pmax	pmax		
	comp=Z,45nm,1.1s						
KONO				MLR	MLR		
	comp=Z,4μm,18.0s						
KONO	Kongsberg	80.11	334	*e*P	P	09 14 10.6	-0.5
SNZO	South Karori	80.11	148	P	P	09 14 11.0	-0.1
SNZO				IAmb	IAmb	09 14 12.9	
	comp=Z,105nm,1.1s						
SNZO	South Karori	80.11	148	IAMs_20	IAMs_20	09 47 01.1	
	comp=Z,2μm,20.0s						
MLR	Muntele Rosu	80.12	316	⇑P	P	09 14 12.0	+0.5
MLR	Muntele Rosu	80.12	316	IAmb	IAmb	09 14 40.8	
	comp=Z,71nm,1.1s						
MLR	Muntele Rosu	80.12	316	P	P	09 14 11.7	+0.1
	comp=Z,50nm,1.0s,baz=68,slow=5.6,SNR=32						
MLR				LR	LR	09 53 00.4	
	comp=Z,4μm,18.7s,baz=50,slow=38						
	comp=Z,50nm,1.0s						
DOPR	Dopca	80.21	317	⇑P	P	09 14 12.8	+1.0
ARCR	ARCALIA	80.25	318	⇓P	P	09 14 13.5	+1.4
CSS	Mathiatis	80.26	304	IAmb	IAmb	09 14 32.4	
	comp=Z,116nm,0.9s						
CSS				IAMs_20	IAMs_20	09 52 09.2	
	comp=Z,2μm,22.0s						
BHW	Baring Head	80.27	148	IAmb	IAmb	09 14 23.9	
	comp=Z,96nm,1.0s						
GHAJ	Ghor Haditha	80.28	300	IAMs_20	IAMs_20	09 56 35.7	
	comp=Z,2μm,18.0s						
ISK	Istanbul-Kandi	80.34	311	P	P	09 14 12.6	0.0
SULR		80.34	316	⇑P	P	09 14 13.1	+0.6
BFZ	Birch Farm	80.35	147	IAmb	IAmb	09 14 14.2	
	comp=Z,120nm,1.3s						
BFZ	Birch Farm	80.35	147	P	P	09 14 12.0	-0.4
DEL	Delary	80.35	330	*e*P	P	09 14 11.6	-0.7
HYA	Hoyanger	80.36	336	*e*P	P	09 14 12.1	-0.2
PRD	Provadia	80.38	314	*i* P	P	09 14 12.5	-0.3
BMR	Baia Mare	80.44	319	⇓P	P	09 14 14.2	+1.1
BMR	Baia Mare	80.44	319	P	P	09 14 14.1	+1.1
RPZ	Rata Peaks	80.44	152	LR	LR	09 49 31.0	
	comp=Z,1μm,18.1s,baz=332,slow=35						
F04A	Amboy	80.45	43	IAmb	IAmb	09 14 53.8	
	comp=Z,129nm,1.5s						
KHZ	Kahutara	80.46	150	IAmb	IAmb	09 14 14.7	
	comp=Z,107nm,1.2s						
FOO	Floro	80.46	337	*e*P	P	09 14 12.7	-0.1
KOLS	Kolonicke sedl	80.47	321	*e*P	P	09 14 13.5	+0.3
KOLS				pmax	pmax		
	comp=Z,59nm,1.0s						
KOLS	Kolonicke sedl	80.47	321	*e*P	P	09 14 13.5	+0.3
LBZ	Lake Benmore	80.64	153	IAmb	IAmb	09 14 16.9	
	comp=Z,85nm,1.3s						
MLZ	Mavora Lakes	80.66	155	P	P	09 14 13.9	-0.1
MLZ				IAMs_20	IAMs_20	09 54 03.2	
	comp=Z,1μm,19.0s						
GVZ	Greta Valley S	80.68	150	IAmb	IAmb	09 14 31.7	
	comp=Z,69nm,1.2s						
GKP	Gorka Klasztor	80.69	326	*e*P	P	09 14 16.0	+1.7
BSD	Bornholm Skovb	80.70	329	*e*P	P	09 14 14.4	+0.1
BSD	Bornholm Skovb	80.70	329	*i* P	P	09 14 13.4	-0.9
BSD				IAmb	IAmb	09 14 16.4	
	comp=Z,116nm,0.9s						
RAZG	Razgrad	80.74	315	⇓P	P	09 14 15.6	+0.8
TRPA	Tarpa	80.75	320	⇑P	P	09 14 15.6	+1.0
STHS	Stebnicka Huta	80.77	322	*e*P	P	09 14 14.4	-0.4
STHS				pmax	pmax		
	comp=Z,75nm,1.2s						
STHS	Stebnicka Huta	80.77	322	*e*P	P	09 14 14.4	-0.4
LOZB	Loznitsa	80.79	314	⇓P	P	09 14 15.1	+0.1
CRVS	Cervenica-Dubn	80.93	321	*e*P	P	09 14 16.5	+0.8
CRVS				pmax	pmax		
	comp=Z,171nm,1.2s						
CRVS	Cervenica-Dubn	80.93	321	*e*P	P	09 14 16.5	+0.8
SUE	Sulen	80.94	337	*e*P	P	09 14 15.3	-0.1
ARR	Arges	80.98	317	⇑P	P	09 14 17.2	+1.2
I03D	Drain, OR	81.03	45	P	P	09 14 17.0	+0.7
I03D				IAmb	IAmb	09 14 38.5	
	comp=Z,149nm,1.4s						
MESR	Meseseni	81.03	319	⇑P	P	09 14 17.9	+1.7
ODD1	Odda	81.06	335	*e*P	P	09 14 15.9	-0.3
MQZ	McQueen's Vall	81.11	151	IAmb	IAmb	09 14 19.2	
	comp=Z,86nm,1.5s						
OJC	Ojcow	81.11	323	*e*P	P	09 14 16.6	0.0
OJC				*e*S	S	09 24 24.3	-2.2
OJC				*e*SKSac	SKSac	09 24 32.0	-3.9
OJC				*e*L	L	09 54 09.0	
ASK	Askoy	81.19	336	*e*P	P	09 14 16.6	-0.2
MARR	Marisel-Cluj	81.19	319	⇓P	P	09 14 18.0	+0.8
BER	Bergen	81.20	336	*e*P	P	09 14 16.6	-0.2
HOOD	Mount Hood Mea	81.23	43	IAmb	IAmb	09 14 26.3	
	comp=Z,64nm,1.1s						
SZH	Strazhitsa	81.23	315	*i* P	P	09 14 16.9	-0.5
JMB	Yambol	81.27	314	*i* P	P	09 14 17.6	0.0
NIE	Niedzica	81.29	322	*e*P	P	09 14 18.5	+0.9
NIE				*e*L	L	09 55 13.4	
	comp=Z,2μm,19.5s						
EDM	Edmonton	81.34	33	IAmb	IAmb	09 14 19.7	
	comp=Z,87nm,1.1s						
LOT	Lotru	81.45	317	⇑P	P	09 14 19.3	+0.6
BLS5	Blasjo	81.46	335	*e*P	P	09 14 18.2	-0.1
EDRB	Edirne	81.46	313	P	P	09 14 18.4	-0.2
COP	Copenhagen	81.47	330	*i* P	P	09 14 17.9	-0.4
COP				IAmb	IAmb	09 14 21.3	
	comp=Z,238nm,0.9s						
EIL	Elat	81.50	299	P	P	09 14 19.4	+0.4
	comp=Z,74nm,1.0s,baz=62,slow=4.2,SNR=29						
EIL				LR	LR	09 55 46.6	
	comp=Z,2μm,19.4s,baz=67,slow=40						
	comp=Z,74nm,1.0s						
E07A	Sunnyside	81.64	41	IAmb	IAmb	09 14 43.2	
	comp=Z,194nm,2.0s						
KECS	Kecovo	81.70	321	*e*P	P	09 14 20.6	+0.8
KECS				pmax	pmax		
	comp=Z,72nm,0.9s						
KECS	Kecovo	81.70	321	*e*P	P	09 14 20.6	+0.8
DEV	Deva	81.74	318	⇑P	P	09 14 21.4	+1.4
DEV	Deva	81.74	318	P	P	09 14 21.4	+1.4
RGN	Rugen	81.78	329	*e*P	P	09 14 20.8	+0.9
RGN	Rugen	81.78	329	*e*P	P	09 14 20.7	+0.7
	comp=Z,128nm,0.9s,baz=49,slow=4.8						
PVL	Pavlikeni	81.81	315	*i* P	P	09 14 20.1	-0.3
VLAD	Vladila	81.83	316	⇑P	P	09 14 21.2	+0.8
KULA	Kula-Manisa	81.86	309	P	P	09 14 19.9	-1.0
G06A	Carlson Farm,	81.88	43	IAmb	IAmb	09 14 26.1	
	comp=Z,85nm,1.4s						
LANS	Liptovska Anna	81.89	322	*e*P	P	09 14 22.3	+1.5
LANS				pmax	pmax		
	comp=Z,40nm,1.2s						
LANS	Liptovska Anna	81.89	322	*e*P	P	09 14 22.2	+1.5
SNART	Snartemo	81.91	334	*e*P	P	09 14 20.3	-0.3
I05D	Terrebonne, OR	81.93	44	IAmb	IAmb	09 14 35.1	
	comp=Z,66nm,1.1s						
SYZ	Scrubby Hill	82.03	155	P	P	09 14 22.4	+1.3
JCC	Jacoby Creek,	82.06	48	IAmb	IAmb	09 14 26.9	
	comp=Z,74nm,1.1s						
GZR	Gura Zlata	82.07	318	⇑P	P	09 14 22.4	+0.5
GZR	Gura Zlata	82.07	318	P	P	09 14 22.3	+0.5
KMPM	Mount Pierce	82.20	48	IAmb	IAmb	09 14 27.2	
	comp=Z,57nm,1.1s						
OKC	Ostrava-Krasne	82.21	323	*e*P	P	09 14 26.5	+4.1
OKC				*e*		09 24 36.3	
OKC				MLR	MLR		
	comp=Z,5μm,14.4s						
OKC	Ostrava-Krasne	82.21	323	*e*P	P	09 14 23.0	+0.6
OKC				*e*SKS	S	09 24 32.8	-5.0
OKC				AMS	AMS	09 54 30.0	
	comp=Z,5μm,15.5s						
NEW	Newport	82.25	39	P	P	09 14 22.2	-0.5
	baz=304						
SIRR	Siria	82.26	319	⇑P	P	09 14 23.7	+1.0
SURR	Surduc	82.27	318	⇑P	P	09 14 23.4	+0.6
PSZ	Piszkesteto	82.35	321	⇑P	P	09 14 24.3	+1.0
PSZ	Piszkesteto	82.35	321	P	P	09 14 24.2	+1.0
ALN	Alexandroupoli	82.40	312	P	P	09 14 22.3	-1.2
ALN	Alexandroupoli	82.40	312	IAmb	IAmb	09 14 25.3	
	comp=Z,69nm,1.1s						
ALN				IAMs_20	IAMs_20	09 53 11.4	
	comp=Z,2μm,20.0s						
ENEZ	Enez	82.41	312	P	P	09 14 23.8	+0.2
PINE	Pine Mountain	82.47	44	IAmb	IAmb	09 14 39.3	
	comp=Z,112nm,1.2s						
MORC	Moravsky Berou	82.56	323	⇑P	P	09 14 25.4	+1.0
MORC	Moravsky Berou	82.56	323	IAmb	IAmb	09 14 26.2	
	comp=Z,93nm,1.1s						
MORC				IAMs_20	IAMs_20	09 53 41.5	
	comp=Z,3μm,19.0s						
MORC	Moravsky Berou	82.56	323	*e*P	P	09 14 23.9	-0.4
MORC	Moravsky Berou	82.56	323	*e*S	S	09 24 35.9	-5.7
MORC	Moravsky Berou	82.56	323	P	P	09 14 25.3	+1.0
HERR	Herculane	82.56	317	⇓P	P	09 14 24.8	+0.4
K04D	Chiloquin, OR	82.58	45	IAmb	IAmb	09 14 48.9	
	comp=Z,69nm,1.0s						
KSP	Ksiaz	82.58	325	*e*P	P	09 14 24.4	+0.1
KSP				*e*SKSac	SKSac	09 24 48.6	+2.7
PLD	Plovdiv	82.58	314	*i* P	P	09 14 25.0	+0.5
RDO	Rodhopi	82.60	313	P	P	09 14 23.6	-1.0
RDO	Rodhopi	82.60	313	IAmb	IAmb	09 14 26.4	
	comp=Z,106nm,1.1s						
RDO				IAMs_20	IAMs_20	09 54 13.8	
	comp=Z,2μm,20.0s						
VYHS	Vyhne	82.61	322	*e*P	P	09 14 25.5	+1.0
VYHS				pmax	pmax		
	comp=Z,135nm,1.0s						
VYHS	Vyhne	82.61	322	*e*P	P	09 14 25.5	+1.0
DJES	Djerdap	82.62	317	⇓P	P	09 14 24.8	+0.1
ICESG	Greenland Ices	82.62	357	*i* P	P	09 14 24.2	-0.5
ICESG				IAmb	IAmb	09 14 27.3	
	comp=Z,116nm,0.9s						
BZS	Buzias	82.64	318	⇑P	P	09 14 24.7	0.0
BZS	Buzias	82.64	318	P	P	09 14 24.7	0.0
E09A	Wood Farm, Sta	82.65	41	IAmb	IAmb	09 14 27.1	
	comp=Z,51nm,1.0s						
MAUC	Maruska	82.65	323	*e*P	P	09 14 25.4	+0.6
MAUC				*e*SKS	S	09 24 36.6	-5.9
MAUC				AMS	AMS	09 54 50.0	
	comp=Z,11μm,15.4s						
ILULI	Ilulissat	82.71	1	*i* P	P	09 14 23.7	-0.9
ILULI				IAmb	IAmb	09 14 27.4	
	comp=Z,61nm,0.9s						
PGB	Panagyurishte	82.75	315	*i* P	P	09 14 25.8	+0.4
RAR	Rarotonga	82.77	119	LR	LR	09 48 01.3	
	comp=Z,994nm,18.2s,baz=312,slow=33						
KRLC	Kraliky	82.78	324	*e*P	P	09 14 25.6	+0.1
KRLC				*e*		09 24 41.0	
KRLC	Kraliky	82.78	324	*e*P	P	09 14 25.6	+0.1
KRLC				*e*SKS	S	09 24 41.0	-2.8
OSTC	Ostas	82.79	324	*e*P	P	09 14 26.0	+0.5
OSTC				*e*		09 24 36.8	
OSTC				MLR	MLR		
	comp=Z,7μm,14.6s						
OSTC	Ostas	82.79	324	*e*P	P	09 14 26.0	+0.5
OSTC				*e*SKS	S	09 24 36.8	-7.1
OSTC				AMS	AMS	09 57 10.0	
	comp=Z,7μm,14.6s						
YER	Yerkesik	82.80	308	P	P	09 14 25.1	-0.7
SSRD	Sdr. Stenderup	82.82	331	*i* P	P	09 14 25.7	+0.2
SSRD				AMP		09 14 27.5	
	comp=Z,430nm,1.0s						
RZN	Rozhen	82.83	314	*i* P	P	09 14 26.0	0.0
RUE	Ruedersdorf	82.84	327	*e*P	P	09 14 26.9	+1.4
RUE	Ruedersdorf	82.84	327	*e*P	P	09 14 26.6	+1.0
	comp=Z,405nm,1.1s,baz=49,slow=4.8						
CHVC	Chvalec	82.86	324	*e*P	P	09 14 26.1	+0.3
CHVC				*e*		09 24 42.9	
CHVC				MLR	MLR		
	comp=Z,7μm,14.7s						
CHVC	Chvalec	82.86	324	*e*P	P	09 14 26.1	+0.3
CHVC				*e*SKS	S	09 24 42.9	-1.6
CHVC				AMS	AMS	09 57 20.0	
	comp=Z,7μm,14.7s						
DPC	Dobruska-Polom	82.86	324	*e*P	P	09 14 26.5	+0.6
DPC				*e*SKS	S	09 24 36.3	-8.3
DPC				AMS	AMS	09 57 10.0	
	comp=Z,5μm,14.4s						
UPC	Upice	82.93	324	*e*P	P	09 14 26.7	+0.6
UPC				*e*		09 24 42.7	
UPC				MLR	MLR		
	comp=Z,7μm,14.7s						
UPC	Upice	82.93	324	*e*P	P	09 14 26.7	+0.6
UPC				*e*SKS	S	09 24 42.7	-2.5
UPC				AMS	AMS	09 57 20.0	
	comp=Z,7μm,14.7s						
KCPM	Cahto Peak	82.93	49	IAmb	IAmb	09 14 30.7	
	comp=Z,92nm,1.5s						
SMTH	Samothraki Isl	82.95	312	P	P	09 14 24.7	-1.8
JAVC	Velka Javorina	83.03	322	*e*P	P	09 14 27.7	+0.9
JAVC	Velka Javorina	83.03	322	*e*S	S	09 24 45.7	-0.7
MDVR	Moldovita	83.04	317	⇑P	P	09 14 26.9	0.0
K05A	Summer Lake	83.06	45	IAmb	IAmb	09 15 13.5	
	comp=Z,60nm,1.1s						
PRK	Paraskevi	83.10	311	P	P	09 14 27.5	+0.3
ATD	Arta Tunnel	83.27	279	*e*P	P	09 14 30.1	+1.5
ATD	Arta Tunnel	83.27	279	P	P	09 14 30.5	+1.9
	SNR=14						
ATD	Arta Tunnel	83.27	279	LR	LR	09 54 30.5	
	comp=Z,30nm,18.2s,baz=58,slow=38						
ATD	Arta Tunnel	83.27	279	*e*P	P	09 14 30.1	+1.5
	baz=279						
SRO	Srobarova	83.28	321	*e*P	P	09 14 29.4	+1.4
SRO				pmax	pmax		
	comp=Z,41nm,0.9s						
SRO	Srobarova	83.28	321	*e*P	P	09 14 29.4	+1.4
VTS	Vitosha	83.28	315	⇓P	P	09 14 29.5	+1.2
VTS	Vitosha	83.28	315	P	P	09 14 29.5	+1.2
VTS	Vitosha	83.28	315	*i* P	P	09 14 28.6	+0.3
VRAC	Vranov	83.34	323	⇓P	P	09 14 29.7	+1.4
VRAC	Vranov	83.34	323	*e*P	P	09 14 28.5	+0.2
VRAC	Vranov	83.34	323	*e*S	S	09 24 47.3	-2.1
VRAC	Vranov	83.34	323	P	P	09 14 29.7	+1.4
VRAC	Vranov	83.34	323	P	P	09 14 29.3	+1.1
	comp=Z,197nm,0.9s,baz=61,slow=5.1,SNR=103						
VRAC				LR	LR	09 54 58.3	
	comp=Z,3μm,18.1s,baz=66,slow=38						
	comp=Z,197nm,0.9s						
KAVA	Kavala	83.34	313	P	P	09 14 27.6	-0.8
SMOL	Smolenice	83.36	322	*e*P	P	09 14 29.9	+1.5
SMOL				pmax	pmax		
	comp=Z,139nm,1.0s						
SIGR	SIGRI	83.39	311	P	P	09 14 28.6	-0.1
THAS	Thassos island	83.41	313	P	P	09 14 28.5	-0.3
LIA	Limnos Island	83.48	312	P	P	09 14 28.7	-0.5
SMG	Samos	83.50	309	P	P	09 14 29.3	-0.1
BODT	Bodrum	83.51	309	P	P	09 14 28.4	-1.0
MODS	Modra-Piesok	83.52	322	*e*P	P	09 14 30.5	+1.2
MODS				pmax	pmax		
	comp=Z,527nm,1.1s						
MODS	Modra-Piesok	83.52	322	*e*P	P	09 14 30.5	+1.2
BSEG	Bad Segeberg	83.53	329	*e*P	P	09 14 29.5	+0.3
	comp=Z,210nm,0.9s,baz=49,slow=4.8						
BSEG				*e*L	L	09 58 22.3	
	comp=Z,3μm,21.9s						
MMB	Musomishta	83.53	314	*i* P	P	09 14 29.1	-0.4
KRUC	Moravsky	83.59	323	*e*P	P	09 14 29.6	0.0
KRUC	Moravsky	83.59	323	*e*S	S	09 24 48.8	-3.1
LRW	Lerwick	83.62	338	*e*P	P	09 14 28.2	-1.3
LRW				IAmb	IAmb	09 14 30.4	
	comp=Z,206nm,1.0s						
PVCC	Panska Ves	83.65	325	*e*P	P	09 14 30.6	+0.8
PVCC				*e*		09 24 46.0	
PVCC				MLR	MLR		
	comp=Z,6μm,15.3s						
PVCC	Panska Ves	83.65	325	*e*P	P	09 14 30.6	+0.8
PVCC				*e*SKS	S	09 24 46.0	-6.5
PVCC				AMS	AMS	09 56 50.0	
	comp=Z,6μm,15.3s						
CHOS	Chios island	83.69	310	P	P	09 14 29.1	-1.3
GORT1	Trebel	83.69	328	*e*P	P	09 14 30.6	+0.7
	comp=Z,339nm,1.1s,baz=49,slow=4.8						
ZST	Bratislava	83.72	322	*e*P	P	09 14 32.0	+1.7
ZST				pmax	pmax		
	comp=Z,311nm,1.1s						
ZST	Bratislava	83.72	322	*e*P	P	09 14 32.0	+1.7
BRG	Berggiesshubel	83.75	326	*i* P	P	09 14 31.1	+0.7
BRG				Amp		09 14 32.7	
	comp=Z,147nm,1.1s						
BRG	Berggiesshubel	83.75	326	P	P	09 14 40.9	+10
BRG				Amp		09 14 42.0	
	comp=Z,97nm,1.2s						
BRG				PP	PP	09 17 46.4	+3.7
BRG				Amp		09 17 47.8	
	comp=Z,20nm,1.2s						
BRG	Berggiesshubel	83.75	326	SKS	S	09 24 53.0	-0.5
BRG	Berggiesshubel	83.75	326	*i* P	P	09 14 31.0	+0.7
BRG						09 14 40.8	
BRG						09 17 46.4	
BRG						09 24 53.0	
BRG				SS	SS	09 30 22.0	+2.6
BRG				pmax	pmax		
	comp=Z,147nm,1.1s						
BRG				pmax	pmax		
	comp=Z,97nm,1.2s						
BRG				pmax	pmax		
	comp=Z,20nm,1.2s						
BRG				smax	smax		
	comp=E,4μm,19.3s						
BRG	Berggiesshubel	83.75	326	*e*P	P	09 14 31.4	+1.1
	comp=E,128nm,1.0s,baz=49,slow=4.8						
KOKK	Kokkinochori,	83.76	313	P	P	09 14 29.5	-1.1
KKB	Krupnik	83.77	314	*i* P	P	09 14 30.7	0.0
NIS1	Nisyros Isl.	83.83	308	P	P	09 14 30.4	-0.7
SRS	Serrai	83.86	314	P	P	09 14 31.0	-0.2
NISR	Nisiros	83.86	308	P	P	09 14 31.7	+0.5
RICC	Richard	83.88	325	*e*P	P	09 14 31.6	+0.6
RICC				AMS	AMS	09 56 50.0	
	comp=E,7μm,15.8s						
GOPC	GO Pecny, Ondr	83.91	324	*e*P	P	09 14 31.7	+0.5
GOPC				*e*		09 24 46.9	
GOPC				MLR	MLR		
	comp=Z,5μm,16.4s						
GOPC	GO Pecny, Ondr	83.91	324	*e*P	P	09 14 31.7	+0.5
GOPC				*e*SKS	SKSac	09 24 46.9	-7.8
GOPC				AMS	AMS	09 55 20.0	
	comp=Z,5μm,16.4s						
TREC	Trest	83.92	324	*e*P	P	09 14 31.9	+0.6
TREC				*e*		09 24 51.4	
TREC				MLR	MLR		
	comp=Z,4μm,15.6s						
TREC	Trest	83.92	324	*e*P	P	09 14 31.9	+0.6

FBE Freiberg 84.01 326 *eP* **P 09 14 32.4 +0.7**
comp=Z,308nm,1.1s,baz=49,slow=4.8
MORH Mrgy, Hungar 84.02 320 ⇑P **P 09 14 32.4 +0.6**
OUR Ouranopolis 84.03 313 P **P 09 14 31.1 -0.9**
BMO Blue Mountains 84.07 42 IAmb IAmb 09 14 34.4
comp=Z,36nm,1.0s
FLTG Flechtingen 84.14 328 *eP* **P 09 14 32.4 +0.1**
comp=Z,328nm,1.0s,baz=49,slow=4.8
HSKC Hora Svate Kat 84.17 326 *eP* **P 09 14 32.8 +0.2**
HSKC *e*SKS **SKSac 09 24 53.5 -2.9**
HSKC AMS AMS 09 56 40.0
comp=Z,7μm,15.4s
J08A Circle Bar Ran 84.21 43 IAmb IAmb 09 14 54.8
comp=Z,41nm,1.0s
VAY Valandovo 84.40 314 *i* P **P 09 14 33.2 -0.7**
SKY Skiros Island 84.43 311 P **P 09 14 33.8 -0.3**
STIP Stip 84.44 315 *i* P **P 09 14 32.7 -1.3**
DIVS Divibare 84.44 318 IAmb IAmb 09 14 36.1
comp=Z,104nm,1.2s
DIVS IAMs_20 IAMs_20 09 53 01.4
comp=Z,2μm,19.0s
DIVS Divibare 84.44 318 ⇓*i*P **P 09 14 33.5 -0.7**
RONA Rosalia, Austr 84.45 322 *i* P **P 09 14 34.5 +0.4**
comp=Z,91nm,1.1s,SNR=38
TEKS Tekeris 84.46 318 ⇓*i*P **P 09 14 33.3 -0.9**
ZVC Zvikov 84.51 324 *eP* **P 09 14 34.3 0.0**
ZVC *e*SKS **S 09 25 00.2 -1.0**
ZVC AMS AMS 09 58 20.0
comp=Z,7μm,15.0s
ASSE Asse, Remlinge 84.54 328 *eP* **P 09 14 34.6 +0.4**
comp=Z,99nm,1.2s,baz=49,slow=4.8
CONA Conrad Observa 84.55 322 *i* P **P 09 14 35.5 +0.8**
comp=Z,264nm,1.1s,SNR=147
NRDL Niedersach Rie 84.56 328 *eP* **P 09 14 34.8 +0.4**
comp=Z,108nm,1.1s,baz=49,slow=4.8
NEUB Neuenburg 84.61 327 *eP* **P 09 14 35.2 +0.5**
comp=Z,391nm,1.1s,baz=49,slow=4.8
WVOR Wild Horse Val 84.62 44 IAmb IAmb 09 14 50.0
comp=Z,101nm,1.6s
APE Apeiranthos 84.72 309 ⇑P **P 09 14 34.6 -1.1**
APE Apeiranthos 84.72 309 P **P 09 14 34.1 -1.6**
APE Apeiranthos 84.72 309 P **P 09 14 34.5 -1.1**
RETH Rethem/Aller, 84.75 329 *eP* **P 09 14 35.5 +0.2**
comp=Z,164nm,1.1s,baz=49,slow=4.8
SKO Skopje 84.75 315 *i* P **P 09 14 36.3 +0.6**
TEND Ethiopian Broa 84.75 280 *eP* **P 09 14 39.1 +2.9**
baz=280
TANN Tannenbergstha 84.77 326 *eP* **P 09 14 35.9 +0.2**
comp=Z,54nm,1.1s,baz=49,slow=4.8
BORG Borgarnes 84.78 349 LR LR 09 55 34.2
comp=Z,511nm,18.3s,baz=47,slow=38
CKRC Cesky Krumlov 84.83 324 *eP* **P 09 14 36.0 +0.1**
CKRC *e* 09 25 00.9
CKRC Cesky Krumlov 84.83 324 *eP* **P 09 14 36.0 +0.1**
CKRC *e*SKS **SKSac 09 25 00.9 +0.2**
WERD Werda 84.83 326 *eP* **P 09 14 36.1 +0.2**
comp=Z,70nm,1.0s,baz=49,slow=4.8
MSO Missoula 84.84 39 P **P 09 14 35.9 -0.2**
baz=307
KYMI Kymi, Euboea I 84.86 311 P **P 09 14 34.6 -1.7**
CLZ Clausthal 84.87 328 *eP* **P 09 14 36.7 +0.6**
comp=Z,352nm,1.0s,baz=49,slow=4.8
GUNZ Gunzen 84.87 326 *eP* **P 09 14 36.4 +0.3**
comp=Z,91nm,1.0s,baz=49,slow=4.8
PLN Plauen 84.88 326 *eP* **P 09 14 36.4 +0.3**
comp=Z,67nm,1.1s,baz=49,slow=4.8
NKC Novy Kostel 84.90 326 *eP* **P 09 14 36.1 -0.1**
NKC *e* 09 24 56.1
NKC MLR MLR
comp=Z,11μm,15.3s
NKC Novy Kostel 84.90 326 *eP* **P 09 14 36.1 -0.1**
NKC *e*SKS **SKSac 09 24 56.1 -4.9**
NKC AMS AMS 09 57 10.0
comp=Z,11μm,15.3s
WERN Wernitzgruen 84.90 326 *eP* **P 09 14 36.7 +0.5**
comp=Z,131nm,1.0s,baz=49,slow=4.8
SJES Sjenica 84.93 317 ⇓*i*P **P 09 14 36.4 -0.2**
SFJD Kangerlussuaq 84.94 1 P **P 09 14 35.6 -0.5**
SFJD Kangerlussuaq 84.94 1 P **P 09 14 35.6 -0.5**
SFJD pmax pmax
comp=Z,175nm,1.0s
SFJD Kangerlussuaq 84.94 1 *i* P **P 09 14 34.9 -1.1**
SFJD IAmb IAmb 09 14 37.7
comp=Z,72nm,0.9s
SFJD Kangerlussuaq 84.94 1 LR LR 09 56 09.6
comp=Z,918nm,18.0s,baz=340,slow=38
KHC Kasperske Hory 85.02 324 IAmb IAmb 09 14 39.1
comp=Z,60nm,1.1s
KHC Kasperske Hory 85.02 324 *d*iP **P 09 14 36.2 -0.7**
KHC pmax pmax
comp=Z,136nm,1.2s
KHC MLR MLR
comp=Z,8μm,17.0s
KHC Kasperske Hory 85.02 324 *eP* **P 09 14 36.8 -0.1**
KHC *e*pP **pwP 09 14 44.5 +0.8**
KHC *e*SKS **SKSac 09 25 03.2 +1.3**
KHC AMS AMS 09 58 40.0
comp=Z,7μm,14.9s
MOX Moxa 85.04 326 *eP* **P 09 14 37.2 +0.2**
comp=Z,54nm,1.1s,baz=49,slow=4.8
MOX *e*L L 09 55 39.4
comp=Z,4μm,19.6s
PLTX Planet X, Gerl 85.05 46 IAmb IAmb 09 14 41.5
comp=Z,61nm,1.0s
RUDO Rudo 85.09 317 *eP* **P 09 14 37.2 -0.1**
GEC2 GERESS Array S 85.13 324 IAmb IAmb 09 14 40.3
comp=Z,45nm,1.0s
GEC2 GERESS Array S 85.13 324 *eP* **P 09 14 37.5 0.0**
comp=Z,53nm,1.1s,baz=49,slow=4.8
GEC2 *e*L L 09 56 13.1
comp=Z,3μm,20.0s
GERES GERESS Array B 85.13 324 P **P 09 14 37.3 -0.2**
GERES GERESS Array B 85.13 324 P **P 09 14 37.4 -0.1**
comp=Z,49nm,1.1s,baz=35,slow=4.9,SNR=38
GERES PKKPbc **PKKPbc 09 32 43.0 -1.1**
comp=Z,2.1nm,0.9s,baz=186,slow=2.7,SNR=6.2
GERES LR LR 09 56 23.8
comp=Z,3μm,19.2s,baz=52,slow=38
comp=Z,49nm,1.1s
SANT Santorini 85.14 309 ⇑P **P 09 14 36.3 -1.4**
ARSA Arzberg 85.14 322 *i* P **P 09 14 37.9 +0.3**
comp=Z,99nm,1.1s,SNR=38
IVA Berane 85.20 317 ⇓*i*P **P 09 14 37.7 -0.3**
MANZ Manzenberg 85.22 326 *eP* **P 09 14 38.2 +0.3**
comp=Z,15nm,1.0s,baz=49,slow=4.8
PLE Pljevlja 85.24 317 ⇓*i*P **P 09 14 38.0 -0.2**
GTTG Gottingen 85.25 328 *eP* **P 09 14 38.3 +0.4**
comp=Z,179nm,1.0s,baz=49,slow=4.8
ROTZ Rotzenmuhle 85.31 325 *eP* **P 09 14 38.7 +0.4**
comp=Z,14nm,0.9s,baz=49,slow=4.8
WET Wettzell 85.37 325 *eP* **P 09 14 38.9 +0.3**
comp=Z,39nm,1.2s,baz=49,slow=4.8
WET *e*L L 09 55 16.0
comp=Z,4μm,19.4s
MOA Molln 85.45 323 *i* P **P 09 14 39.4 +0.3**
comp=Z,76nm,0.9s,SNR=43
DY2G Dye2 85.46 359 *i* P **P 09 14 37.9 -1.0**
FFC Flin Flon 85.46 28 P **P 09 14 38.9 -0.1**
FFC IAmb IAmb 09 14 40.9
comp=Z,58nm,0.9s
FFC Flin Flon 85.46 28 P **P 09 14 38.9 -0.1**
FFC pmax pmax
comp=Z,58nm,1.0s
MPK Martis Peak 85.47 48 IAmb IAmb 09 14 43.6
comp=Z,70nm,1.2s
EMB Emerald Bay 85.59 48 IAmb IAmb 09 14 42.2
comp=Z,42nm,0.9s
UPM Unac-Piva 85.60 317 ⇓*i*P **P 09 14 40.0 -0.1**
OHR Ohrid 85.63 315 *i* P **P 09 14 39.9 -0.2**
PAHR Pah Rah Range 85.66 47 IAmb IAmb 09 14 42.4
comp=Z,40nm,1.0s
BLY Banja Luka 85.71 319 ⇓*i*P **P 09 14 40.2 -0.2**
A051A Mrakovica 85.71 320 ⇓*i*P **P 09 14 39.6 -0.9**
SOKA Soboth 85.76 322 *i* P **P 09 14 40.8 +0.1**
comp=Z,172nm,1.0s,SNR=108
MFID Camas Ranch 85.76 42 IAmb IAmb 09 14 43.3
comp=Z,48nm,1.0s
IBBN Ibbenburen 85.77 329 *eP* **P 09 14 40.5 0.0**
comp=Z,241nm,1.0s,baz=49,slow=4.8
BIGH Upper Bighouse 85.78 338 *eP* **P 09 14 39.4 -1.0**
BIGH IAmb IAmb 09 14 41.1
comp=Z,112nm,0.9s
NKME Niksic 85.82 317 ⇓*i*P **P 09 14 40.4 -0.7**
PDG Podgorica 85.83 317 ⇓P **P 09 14 41.9 +0.9**
PDG Podgorica 85.83 317 ⇓*i*P **P 09 14 40.3 -0.7**
PDG Podgorica 85.83 317 ⇓*i*P **P 09 14 40.5 -0.5**

GRF Grafenberg Arr 85.85 326 *eP* **P 09 14 41.4 +0.4**
comp=Z,98nm,1.1s,baz=49,slow=4.8
GRF *e*L L 09 57 32.8
comp=Z,5μm,19.2s
GRFO Grafenberg 85.85 326 P **P 09 14 41.3 +0.3**
GRFO Grafenberg 85.85 326 P **P 09 14 41.3 +0.3**
GRFO pmax pmax
comp=Z,187nm,1.0s
PNTR Pine Nut 85.86 48 IAmb IAmb 09 15 02.6
comp=Z,39nm,0.9s
ANGG Ammassalik, Gr 85.95 355 *i* P **P 09 14 39.9 -1.1**
ANGG IAmb IAmb 09 14 42.1
comp=Z,35nm,0.9s
MGRS Mrkonjic Grad 85.96 319 ⇑*i*P **P 09 14 43.2 +1.5**
CEME Cevo 85.97 317 ⇓*i*P **P 09 14 40.8 -1.0**
BRY Bratogost 86.00 317 *eP* **P 09 14 41.4 -0.6**
BRY Bratogost 86.00 317 ⇓*i*P **P 09 14 40.8 -1.2**
DRME Dracevica, Mon 86.02 316 ⇓*i*P **P 09 14 41.1 -0.9**
DRME Dracevica, Mon 86.02 316 ⇓*i*P **P 09 14 41.3 -0.7**
NEVS Nevesinje 86.02 318 *eP* **P 09 14 42.1 0.0**
CRES Cresnjev 86.04 321 ⇓*i*P **P 09 14 41.2 -0.8**
CRES Cresnjev 86.04 321 *i* P **P 09 14 41.1 -0.9**
CRES *e*S **S 09 25 15.6 -0.9**
TIR Tirane 86.08 315 ⇓P **P 09 14 42.9 +0.6**
TIR Tirane 86.08 315 P **P 09 14 42.9 +0.6**
IDI Anoyia 86.10 308 ⇑P **P 09 14 42.0 -0.6**
IDI Anoyia 86.10 308 P **P 09 14 41.9 -0.6**
comp=Z,75nm,1.0s,baz=30,slow=7.8,SNR=23
IDI LR LR 10 00 05.2
comp=Z,677nm,18.6s,baz=36,slow=40
comp=Z,75nm,1.0s
ULC Ulcinj 86.11 316 ⇓*i*P **P 09 14 41.8 -0.6**
OBKA Obir 86.12 322 *eP* **P 09 14 42.4 -0.1**
comp=Z,87nm,0.8s
OBKA Obir 86.12 322 ⇓*i*P **P 09 14 40.9 -1.6**
KASTN Kahler Asten 86.21 328 *eP* **P 09 14 42.8 0.0**
comp=Z,70nm,1.0s,baz=49,slow=4.8
TREB Trebinje 86.22 317 *eP* **P 09 14 41.9 -1.0**
BBGB Big Mountain B 86.27 50 IAmb IAmb 09 15 16.2
comp=Z,109nm,1.4s
HCY Herceg Novi 86.28 317 *eP* **P 09 14 42.5 -0.8**
HCY Herceg Novi 86.28 317 ⇓*i*P **P 09 14 42.5 -0.8**
RJOB Jochberg 86.30 324 *eP* **P 09 14 43.5 +0.2**
comp=Z,114nm,0.9s,baz=49,slow=4.8
EGMT Eagleton 86.34 36 IAmb IAmb 09 14 45.9
comp=Z,94nm,0.9s
EGMT Eagleton 86.34 36 P **P 09 14 42.9 -0.7**
baz=310,SNR=37
BOJS Bojanci 86.35 321 ⇓*i*P **P 09 14 42.9 -0.6**
KBA Koelnbreinsper 86.42 323 *eP* **P 09 14 43.6 -0.5**
comp=Z,47nm,0.9s
LJU Ljubljana 86.42 321 *i* P **P 09 14 43.8 -0.1**
LJU *e*S **S 09 25 16.9 -3.3**
DLMT Dillon 86.47 39 IAmb IAmb 09 14 47.0
comp=Z,80nm,0.8s
LINV Loch Inver, As 86.47 339 *eP* **P 09 14 42.7 -1.1**
LINV IAmb IAmb 09 14 43.9
comp=Z,87nm,1.1s
HLID Hailey 86.51 42 IAmb IAmb 09 14 47.3
comp=Z,38nm,0.9s
HLID Hailey 86.51 42 P **P 09 14 44.2 -0.3**
baz=306
STON Ston 86.51 318 ⇓*i*P **P 09 14 42.5 -1.8**
MYKA Terra Mystica 86.54 322 *i* P **P 09 14 44.0 -0.5**
comp=Z,72nm,0.8s,SNR=38
BUG Bochum–Univer 86.58 329 *eP* **P 09 14 44.3 -0.2**
comp=Z,111nm,1.2s,baz=49,slow=4.8
CEY Cerknica 86.66 321 ⇓*i*P **P 09 14 43.9 -1.2**
CEY Cerknica 86.66 321 *i* P **P 09 14 44.6 -0.5**
CEY *e*PP **PP 09 18 03.5 -3.1**
CEY *e* 09 26 15.5
PRED Cave del Predi 86.70 322 IAmb IAmb 09 14 46.1
comp=Z,32nm,0.9s
FUR Furstenfeldbru 86.81 325 *eL* L 09 57 32.8
comp=Z,4μm,18.1s
VLO Vlora 86.81 315 IAMs_20 IAMs_20 09 57 16.1
comp=Z,2μm,20.0s
KVN Kaiserville 86.85 47 IAmb IAmb 09 14 48.5
comp=Z,42nm,1.0s
TNS Taunus Mts 86.85 327 *eP* **P 09 14 46.0 0.0**
comp=Z,51nm,1.2s,baz=49,slow=4.8
TNS *e*L L 09 59 03.2
comp=Z,4μm,18.0s
BOZ Bozeman (W) 86.86 39 P **P 09 14 46.1 -0.2**
baz=308,SNR=28
FRB Frobisher Bay 86.88 9 LR LR 09 55 47.3
comp=Z,2μm,20.2s,baz=340,slow=37
SABO M.te Sabotino 86.97 322 IAmb IAmb 09 14 48.0
comp=Z,160nm,1.0s
SKDS Skadanscina 87.01 321 ⇓*i*P **P 09 14 44.8 -2.0**
TRI Trieste 87.05 322 IAmb IAmb 09 14 57.6
comp=Z,77nm,0.9s
KEK Kerkira 87.05 314 IAmb IAmb 09 15 18.2
comp=Z,66nm,1.0s
KEK IAMs_20 IAMs_20 09 58 48.6
comp=Z,2μm,18.0s
NVAR Mina Array Bea 87.07 47 P **P 09 14 47.6 +0.1**
comp=Z,15nm,0.8s,baz=297,slow=4.9,SNR=67
NVAR PKKPbc **PKKPbc 09 32 40.1 +0.7**
comp=Z,1.4nm,1.0s,baz=92,slow=3.8,SNR=5.2
NVAR LR LR 09 50 18.6
comp=Z,549nm,19.0s,baz=282,slow=33
comp=Z,15nm,0.8s
ABTA Abfaltersbach 87.07 323 *i* P **P 09 14 46.1 -1.1**
comp=Z,121nm,1.0s,SNR=50
NV11 Mina Array Sit 87.16 47 IAmb IAmb 09 15 02.6
comp=Z,55nm,1.6s
MLAC Mammoth, Mammo 87.17 48 P **P 09 14 47.1 -0.9**
baz=304
WATA Walderalm 87.19 324 *i* P **P 09 14 47.2 -0.6**
comp=Z,33nm,1.0s,SNR=8.0
WTTA Wattenberg 87.20 324 *i* P **P 09 14 47.3 -0.6**
comp=Z,46nm,1.0s,SNR=19
KPL Plockton 87.27 338 *eP* **P 09 14 46.8 -0.9**
KPL IAmb IAmb 09 14 47.8
comp=Z,107nm,1.1s
MOTA Moosalm 87.43 324 *i* P **P 09 14 48.2 -0.8**
comp=Z,43nm,0.9s,SNR=15
INVG Invergeldie, C 87.45 337 *eP* **P 09 14 47.5 -1.1**
SQTA Sankt Quirin 87.45 324 *i* P **P 09 14 48.4 -0.6**
comp=Z,28nm,0.9s,SNR=9.1
STU Stuttgart 87.46 326 IAmb IAmb 09 14 51.1
comp=Z,78nm,1.0s
STU Stuttgart 87.46 326 *eP* **P 09 14 48.8 -0.1**
comp=Z,166nm,0.9s,baz=49,slow=4.8
RETA Reutte 87.51 324 *i* P **P 09 14 48.8 -0.4**
comp=Z,16nm,1.1s,SNR=5.4
YHL Hebgen Lake 87.57 39 IAmb IAmb 09 14 52.6
comp=Z,53nm,0.9s
HMAD Nubian desert 87.65 291 *i* P **P 09 14 49.8 -0.5**
SMMC Simmler 87.67 51 P **P 09 14 49.9 -0.3**
baz=304
SCTE Santa Cesarea 87.68 315 IAMs_20 IAMs_20 09 58 19.2
comp=Z,2μm,18.0s
BTNL Ternell 87.69 329 *dP* **P 09 14 49.3 -0.6**
comp=Z,23nm,1.1s
BTNL *d*PP **PP 09 18 17.2 +2.7**
UBR Ueberruh 87.72 325 *eP* **P 09 14 49.5 -0.8**
comp=Z,43nm,1.1s,baz=49,slow=4.8
MEM Membach 87.73 329 *dP* **P 09 14 49.8 -0.3**
comp=Z,32nm,1.1s
MEM *d*PP **PP 09 18 18.5 +3.6**
BEBN Eben Emael 87.75 329 *dP* **P 09 14 49.0 -1.2**
NUUK Nuuk 87.75 1 *i* P **P 09 14 49.0 -0.9**
YMR Madison River 87.80 39 IAmb IAmb 09 14 53.9
comp=Z,56nm,1.0s
FETA Feichten 87.83 324 *i* P **P 09 14 49.9 -1.0**
comp=Z,40nm,1.0s,SNR=18
DSP Deep Springs 87.88 48 IAmb IAmb 09 15 05.1
comp=Z,113nm,2.0s
TIN Tinemaha, Big 87.89 49 P **P 09 14 50.4 -0.9**
baz=304
BHOU Houvegnez 87.91 328 *dP* **P 09 14 50.4 -0.7**
comp=Z,38nm,1.0s
YNR Norris Junctio 87.93 39 IAmb IAmb 09 15 07.7
comp=Z,90nm,1.4s
BSTI Sart Tilman 87.95 329 *dP* **P 09 14 50.9 -0.3**
EDMD Edmundbyers 87.95 335 *eP* **P 09 14 49.8 -1.3**
EDMD IAmb IAmb 09 14 50.8
comp=Z,64nm,1.1s
CTI Castel Tesino 87.98 323 IAMs_20 IAMs_20 09 52 24.8
comp=Z,2μm,20.0s
VES Vestal, Richgr 87.99 50 P **P 09 14 51.6 -0.1**
baz=304,SNR=11
EKA Eskdalemuir Ar 88.00 336 P **P 09 14 50.5 -0.7**
comp=Z,28nm,0.9s,baz=31,slow=4.2,SNR=22
comp=Z,28nm,0.9s

YFT Old Faithful 88.01 39 IAMs_20 IAMs_20 10 01 59.5
comp=Z,2μm,18.0s
PKM Mcpherson Peak 88.02 51 P **P 09 14 52.2 +0.1**
baz=304
ESK Eskdalemuir 88.03 336 *eP* **P 09 14 50.1 -1.3**
ESK IAmb IAmb 09 14 51.4
comp=Z,65nm,1.1s
ESK Eskdalemuir 88.03 336 P **P 09 14 50.9 -0.5**
ESK IAmb IAmb 09 14 51.6
comp=Z,53nm,1.1s
ESK Eskdalemuir 88.03 336 P **P 09 14 50.9 -0.5**
ESK pmax pmax
comp=Z,53nm,1.1s
ESK MLR MLR
comp=Z,3μm,20.0s
LAWE Loch Awe, Argy 88.05 337 *eP* **P 09 14 49.1 -2.4**
PGBU Glenifferbraes 88.09 337 *eP* **P 09 14 50.6 -1.2**
DAVA Damuels 88.10 324 *i* P **P 09 14 51.3 -0.9**
comp=Z,74nm,1.1s,SNR=20
FURI Furi 88.12 279 *eP* **P 09 14 56.9 +3.9**
FURI IAMs_20 IAMs_20 09 25 53.0
comp=Z,1μm,6.1s
FURI Furi 88.12 279 *eP* **P 09 14 56.9 +3.9**
baz=278
FURI IAMs_20 IAMs_20 09 25 53.0
comp=Z,1μm,6.1s,baz=278
BFO Black Forest 88.18 326 P **P 09 14 51.8 -0.6**
BFO IAmb IAmb 09 14 54.5
comp=Z,76nm,1.0s
BFO Black Forest 88.18 326 P **P 09 14 51.8 -0.6**
BFO pmax pmax
comp=Z,76nm,1.0s
BFO MLR MLR
comp=Z,4μm,20.0s
BFO Black Forest 88.18 326 *eP* **P 09 14 51.7 -0.6**
comp=Z,78nm,1.0s,baz=49,slow=4.8
BFO *e*L L 09 57 41.5
comp=Z,4μm,19.6s
BCLA Clavier 88.18 329 *dP* **P 09 14 51.6 -0.7**
comp=Z,31nm,1.0s
BCLA *d*PP **PP 09 18 22.4 +3.8**
LKWY Lake 88.18 39 IAmb IAmb 09 14 57.4
comp=Z,60nm,0.9s
H17A Grant Village 88.19 39 IAmb IAmb 09 14 57.1
comp=Z,76nm,1.0s
H17A Grant Village 88.19 39 P **P 09 14 54.5 +1.7**
baz=309,SNR=58
BCW Bitter Crk WRg 88.27 51 IAmb IAmb 09 15 29.1
comp=Z,36nm,1.1s
IMW Indian Meadow 88.30 40 IAmb IAmb 09 14 57.4
comp=Z,58nm,1.1s
BGES Gesves 88.31 329 *dP* **P 09 14 52.0 -0.9**
comp=Z,28nm,1.1s
WLF Walferdange 88.32 328 *dP* **P 09 14 52.5 -0.4**
comp=Z,116nm,1.0s
WLF Walferdange 88.32 328 P **P 09 14 51.7 -1.2**
WLF Walferdange 88.32 328 *eP* **P 09 14 53.1 +0.2**
comp=Z,186nm,1.0s,baz=49,slow=4.8
FLWY Flagg Ranch 88.32 40 IAmb IAmb 09 14 56.8
comp=Z,60nm,0.9s
CWC Cottonwood Cre 88.33 49 P **P 09 14 53.7 +0.2**
baz=304
SGRT San Giovanni R 88.34 318 IAMs_20 IAMs_20 09 58 06.6
comp=Z,2μm,18.0s
RCHB Rochefort 88.40 329 *dP* **P 09 14 52.8 -0.5**
comp=Z,73nm,1.0s
RCHB *d*PP **PP 09 18 22.7 +2.4**
TEOL Teolo 88.41 322 IAMs_20 IAMs_20 09 54 49.1
comp=Z,2μm,21.0s
DAVOX Davos/Dischmat 88.43 324 P **P 09 14 53.5 -0.3**
comp=Z,73nm,1.0s,baz=39,slow=2.8,SNR=38
DAVOX LR LR 09 59 19.1
comp=Z,5μm,18.3s,baz=54,slow=39
comp=Z,73nm,1.0s
RLMT Red Lodge 88.45 38 IAmb IAmb 09 14 56.5
comp=Z,46nm,1.0s
RLMT Red Lodge 88.45 38 P **P 09 14 54.1 +0.1**
baz=310,SNR=18
GRAC Grapevine Rang 88.49 48 P **P 09 14 53.8 -0.3**
baz=305,SNR=8.1
HPK Haverah Park 88.49 334 *eP* **P 09 14 52.7 -0.9**
ID07 Smith Canyon R 88.49 41 IAmb IAmb 09 15 09.8
comp=Z,55nm,1.4s
ISA Isabella, Lake 88.50 50 P **P 09 14 54.2 0.0**
baz=304
BMRD Maredsous 88.51 329 *dP* **P 09 14 53.2 -0.6**
comp=Z,57nm,1.0s
BMRD *d*PP **PP 09 18 24.8 +3.7**
HVU Hansel Valley 88.55 42 IAmb IAmb 09 15 09.8
comp=Z,86nm,1.5s
TPAW Teton Pass 88.55 40 IAmb IAmb 09 14 57.4
comp=Z,32nm,0.9s
ARVC Arvin 88.56 50 P **P 09 14 53.8 -0.6**
baz=304
SNOW Snow King Moun 88.68 40 IAmb IAmb 09 14 58.0
comp=Z,26nm,0.8s
DOU Dourbes 88.73 329 *dP* **P 09 14 54.2 -0.7**
comp=Z,38nm,1.0s
DOU *d*PP **PP 09 18 24.5 +1.6**
ID05 Sulphur Canyon 88.79 41 IAmb IAmb 09 15 00.3
comp=Z,42nm,1.0s
ID06 Fossil Canyon 88.83 41 IAmb IAmb 09 15 34.8
comp=Z,46nm,1.0s
DGMT Dagmar 88.83 33 P **P 09 14 54.9 -0.5**
baz=314,SNR=26
DGMT Dagmar 88.83 33 P **P 09 14 56.1 +0.6**
baz=314
ECH Echery 88.83 326 IAmb IAmb 09 14 56.4
comp=Z,70nm,1.1s
SALO Salr 88.86 323 IAMs_20 IAMs_20 10 02 13.0
comp=Z,2μm,21.0s
R11B Troy Canyon, C 88.86 46 P **P 09 14 55.6 -0.4**
baz=306,SNR=29
SBV Sambava 88.90 254 P **P 09 14 57.6 +1.5**
SBV Sambava 88.90 254 P **P 09 14 56.8 +0.6**
TUE Stuetta 88.91 324 IAmb IAmb 09 14 57.2
comp=Z,61nm,1.1s
AHID Auburn Hatcher 88.92 41 IAmb IAmb 09 15 11.1
comp=Z,37nm,1.2s
GUMA Gualdo di Mace 88.94 320 IAmb IAmb 09 15 12.8
comp=Z,106nm,1.0s
MPMC Manual Prospec 88.94 49 P **P 09 14 56.1 -0.3**
baz=305,SNR=9.4
LBWR Ladybower, Pea 88.95 334 *eP* **P 09 14 54.7 -1.1**
LBWR IAmb IAmb 09 14 56.4
comp=Z,103nm,1.0s
SPUT South Promonto 89.03 43 IAmb IAmb 09 15 01.6
comp=Z,49nm,1.3s
PPT Papeete 89.03 110 P **P 09 14 59.0 +2.3**
comp=Z,101nm,1.0s,baz=328,slow=6.4,SNR=4.8
PPT LR LR 09 50 23.4
comp=Z,469nm,18.1s,baz=305,slow=33
LAO LASA Array 89.03 36 IAmb IAmb 09 14 59.3
comp=Z,77nm,0.9s
LAO LASA Array 89.03 36 P **P 09 14 56.4 -0.1**
baz=312,SNR=42
LAO LASA Array 89.03 36 P **P 09 14 56.3 -0.1**
baz=312
PPT2 Papeete2 89.04 110 *eP* **P 09 14 59.6 +2.7**
comp=Z,187nm,1.2s
PPT2 Papeete2 89.04 110 *e*PKIKP P 09 15 01.4 +4.5
comp=Z,268nm,24.0s
PPT2 Papeete2 89.04 110 *e*PP PP 09 18 07.7 -19
comp=Z,181nm,27.5s
PPT2 *e*S **S 09 25 50.7 +4.7**
comp=Z,2μm,25.5s
PPT2 *e*SS SS 09 31 08.3 -31
comp=Z,1μm,26.0s
PPT2 Papeete2 89.04 110 *e*LR LR 09 42 22.7
comp=Z,4μm,38.5s
PPT2 *e*LR LR 09 42 33.6
comp=Z,2μm,41.0s
PPTF Pamatai, Papee 89.05 110 P **P 09 14 59.0 +2.1**
MRWI Hamdab 89.08 291 *i* P **P 09 14 57.0 -0.2**
FURC Furnace Creek, 89.12 48 P **P 09 14 57.0 +0.1**
baz=305,SNR=9.7
LRMC Laurel Mtn Rad 89.14 50 P **P 09 14 57.0 -0.3**
baz=305
PMOR Pomariorio Ree 89.16 107 *eP* **P 09 14 58.6 +1.2**
comp=Z,264nm,1.3s
PMOR Pomariorio Ree 89.16 107 *e*T T 10 52 58.2
comp=Z,4.0nm,0.2s
S11A Rachel 89.17 47 IAmb IAmb 09 15 10.4
comp=Z,48nm,1.1s
ID09 Alton 89.19 41 IAmb IAmb 09 15 02.4
comp=Z,53nm,1.3s

ID10	Lander Cutoff	89.19	41	IAmb	IAmb	09 15 19.6	
	comp=Z,63nm,1.4s						
NRCA	Norcia	89.21	320	IAmb	IAmb	09 17 31.1	
	comp=Z,54nm,0.8s						
TIAR	Tiarei	89.21	110	*e*P	P	09 14 58.1	+0.5
	comp=Z,14nm,1.0s						
CAMP	Campotosto	89.23	319	IAmb	IAmb	09 14 60.0	
	comp=Z,59nm,1.1s						
CAMP				IAMs_20	IAMs_20	09 57 20.0	
	comp=Z,3µm,22.0s						
TPNV	Topopah Spring	89.25	48	P	P	09 14 57.5	-0.4
	baz=306,SNR=14						
INTR	Introdacqua	89.27	319	IAmb	IAmb	09 15 17.3	
	comp=Z,34nm,1.0s						
EDW2	Edwards Air Fo	89.27	50	P	P	09 14 57.8	0.0
	baz=305						
CWF	Charnwood Fore	89.30	333	*e*P	P	09 14 56.4	-1.1
AQU	L'Aquila	89.35	319	IAmb	IAmb	09 15 00.7	
	comp=Z,65nm,1.0s						
CUC	Castrocucco	89.37	316	IAmb	IAmb	09 14 58.6	
	comp=Z,49nm,1.0s						
CUC				IAMs_20	IAMs_20	09 56 58.7	
	comp=Z,2µm,20.0s						
HWUT	Hardware Ranch	89.37	42	IAmb	IAmb	09 15 13.5	
	comp=Z,119nm,1.4s						
DECC	Green Verdugo	89.39	51	P	P	09 14 58.0	-0.4
	baz=304						
TVO	Taravao	89.40	110	*e*P	P	09 15 00.5	+1.9
	comp=Z,85nm,1.1s						
GWY	Greenwater Val	89.41	49	IAMs_20	IAMs_20	10 01 55.5	
	comp=Z,1µm,19.0s						
PAOL	Paolisi	89.48	317	IAMs_20	IAMs_20	09 59 05.8	
	comp=Z,2µm,19.0s						
DUG	Dugway, Tooele	89.49	44	IAmb	IAmb	09 15 01.6	
	comp=Z,43nm,1.1s						
DUG	Dugway, Tooele	89.49	44	P	P	09 14 58.5	-0.3
	baz=308,SNR=39						
DILA	Dilla	89.63	277	*e*P	P	09 15 02.6	+2.7
DILA	Dilla	89.63	277	*e*P	P	09 15 02.6	+2.7
	baz=276						
CESX	Cesi	89.66	320	IAMs_20	IAMs_20	09 54 03.3	
	comp=Z,2µm,21.0s						
TCUT	Toone Canyon	89.76	42	IAmb	IAmb	09 15 15.4	
	comp=Z,112nm,1.5s						
BW06	Boulder Array	89.80	40	IAmb	IAmb	09 15 04.1	
	comp=Z,39nm,1.1s						
BW06	Boulder Array	89.80	40	P	P	09 14 59.3	-1.0
	baz=310,SNR=46						
PD31	Pinedale Array	89.80	40	P	P	09 14 59.7	-0.6
PDAR	Pinedale Array	89.80	40	P	P	09 15 00.3	-0.1
	comp=Z,18nm,0.9s,baz=318,slow=2.0,SNR=67						
PDAR				PKKPbc	PKKPbc	09 32 32.5	-0.4
	comp=Z,1.1nm,1.0s,baz=111,slow=3.3,SNR=5.3						
	comp=Z,18nm,0.9s						
OSSC	Osservatorio P	89.82	321	IAmb	IAmb	09 15 33.2	
	comp=Z,33nm,0.8s						
GSC	Goldstone, Bar	89.83	49	P	P	09 15 00.6	+0.1
	baz=305,SNR=8.4						
BFSC	Mount Baldy Ra	89.86	51	P	P	09 14 59.5	-1.2
	baz=305						
FOEL	Foel Wylfa	89.92	334	*e*P	P	09 14 59.6	-0.8
FOEL				IAmb	IAmb	09 15 02.3	
	comp=Z,58nm,0.9s						
GRD1	Great Renaissa	90.20	283	*e*P	P	09 15 05.5	+3.0
	baz=281						
MPU	Maple Canyon	90.31	43	IAmb	IAmb	09 15 05.4	
	comp=Z,45nm,1.1s						
TUQ	Turquoise Moun	90.34	49	P	P	09 15 02.2	-0.7
	baz=306,SNR=10						
BBRC	Big Bear Solar	90.35	50	P	P	09 15 03.1	0.0
	baz=305						
JAWL	J.Aulia	90.39	287	*i* P	P	09 15 03.2	-0.1
HEC	Hector,Ludlow	90.42	50	P	P	09 15 02.3	-1.0
	baz=306						
BSUT	Blindstream Ca	90.51	42	IAmb	IAmb	09 15 38.7	
	comp=Z,81nm,1.6s						
CASP	Castiglione de	90.51	321	IAmb	IAmb	09 15 03.4	
	comp=Z,40nm,1.1s						
MCH1	Michaelchurch	90.53	334	*e*P	P	09 15 01.6	-1.6
MCH1				IAmb	IAmb	09 15 04.6	
	comp=Z,62nm,0.9s						
MURC	Murrieta	90.54	51	P	P	09 15 03.6	-0.2
	baz=305						
MONM	Monmouth	90.58	334	*e*P	P	09 15 02.5	-1.0
TCRU	Three Creeks R	90.68	45	IAmb	IAmb	09 15 26.1	
	comp=Z,50nm,1.3s						
CCUT	Cedar City	90.75	46	P	P	09 15 04.3	-0.6
IVI	Ivigtut	90.77	360	IAmb	IAmb	09 15 04.3	
	comp=Z,84nm,1.1s						
IVI	Ivigtut	90.77	360	*i* P	P	09 15 02.2	-1.9
IVI				IAmb	IAmb	09 15 06.1	
	comp=Z,33nm,0.9s						
DSB	Dublin	90.81	336	IAMs_20	IAMs_20	10 00 13.4	
	comp=Z,2µm,20.0s						
DSB	Dublin	90.81	336	P	P	09 15 04.2	-0.3
V12A	Nelson	90.88	48	IAMs_20	IAMs_20	10 03 57.3	
	comp=Z,1µm,19.0s						
GMRC	Granite Mounta	90.89	49	P	P	09 15 05.8	+0.3
	baz=306,SNR=6.3						
109C	Camp Elliot, M	91.01	51	P	P	09 15 05.3	-0.6
	baz=305						
TMUT	Trail Mountain	91.02	44	IAmb	IAmb	09 15 21.5	
	comp=Z,39nm,1.3s						
PFO	Pinyon Flats O	91.04	51	P	P	09 15 06.3	+0.1
PFO	Pinyon Flats O	91.04	51	P	P	09 15 06.3	+0.1
PFO				pmax	pmax		
	comp=Z,13nm,1.0s						
PFO	Pinyon Flats O	91.04	51	P	P	09 15 05.0	-1.2
	baz=306,SNR=7.5						
PFO	Pinyon Flats O	91.04	51	LR	LR	09 52 49.5	
	comp=Z,1µm,18.9s,baz=271,slow=34						
TPFO	Pinon Flats	91.04	51	P	P	09 15 05.5	-0.7
	baz=306,SNR=7.3						
BELC	Belle Mtn. Jos	91.12	50	P	P	09 15 06.1	-0.5
	baz=306						
LCMT	Little Creek M	91.15	46	IAmb	IAmb	09 15 11.1	
	comp=Z,38nm,1.2s						
MTPU	Mount Pierson	91.19	45	IAmb	IAmb	09 15 10.3	
	comp=Z,31nm,1.1s						
RDMU	Red Mountain	91.19	42	IAmb	IAmb	09 15 09.4	
	comp=Z,70nm,1.0s						
BNI	Bardonecchia	91.25	324	IAmb	IAmb	09 15 17.4	
	comp=Z,31nm,1.1s						
Q16A	Castle Valley	91.27	44	IAmb	IAmb	09 15 12.1	
	comp=Z,107nm,1.6s						
ULM	Lac du Bonnet	91.28	28	P	P	09 15 06.2	-0.6
	comp=Z,69nm,0.9s,baz=318,slow=5.2,SNR=31						
ULM				LR	LR	10 00 51.4	
	comp=Z,480nm,18.3s,baz=317,slow=39						
	comp=Z,69nm,0.9s						
KNB	Kanab	91.42	46	IAmb	IAmb	09 15 12.0	
	comp=Z,64nm,1.2s						
MDND	Maddock	91.44	32	P	P	09 15 06.3	-1.4
	baz=317,SNR=7.8						
MDND	Maddock	91.44	32	P	P	09 15 08.3	+0.7
	baz=317						
MONP2	Monument Peak	91.48	51	P	P	09 15 06.8	-1.5
	baz=306						
PKCU	Pink Cliffs	91.48	45	IAmb	IAmb	09 15 11.7	
	comp=Z,42nm,1.2s						
K22A	Casper	91.57	39	IAmb	IAmb	09 15 10.4	
	comp=Z,36nm,1.0s						
K22A	Casper	91.57	39	P	P	09 15 07.5	-1.0
	baz=312,SNR=16						
K22A	Casper	91.57	39	P	P	09 15 08.3	-0.3
	baz=312						
IRM	Iron Mountain	91.61	50	P	P	09 15 08.7	0.0
	baz=306,SNR=6.9						
BC3	Big Chuckawall	91.69	50	P	P	09 15 08.4	-0.8
	baz=306,SNR=8.8						
VAE	Valguarnera	91.77	315	P	P	09 15 09.8	+0.4
	comp=Z,14nm,0.6s,baz=41,slow=20,SNR=3.3						
VAE				LR	LR	10 00 02.8	
	comp=Z,2µm,18.8s,baz=45,slow=38						
	comp=Z,14nm,0.6s						
RWWY	Rawlins	91.82	40	IAmb	IAmb	09 15 11.9	
	comp=Z,68nm,1.1s						
IKP	In-Ko-Pah, Jac	91.83	51	P	P	09 15 08.7	-1.2
	baz=306						
E28A	Huff	91.86	33	P	P	09 15 10.1	+0.5
	baz=316						
SWSC	Sam W. Stewart	91.87	51	P	P	09 15 10.1	+0.2
	baz=306						
RSSD	Black Hills	91.91	36	P	P	09 15 10.0	-0.1
RSSD				IAmb	IAmb	09 15 13.9	
	comp=Z,47nm,0.9s						
RSSD	Black Hills	91.91	36	P	P	09 15 10.0	-0.1
RSSD				pmax	pmax		
	comp=Z,47nm,1.0s						
RSSD	Black Hills	91.91	36	P	P	09 15 09.6	-0.5
	baz=314						
RSSD	Black Hills	91.91	36	P	P	09 15 10.1	-0.1
	baz=314						
U15A	North Rim	92.11	46	IAmb	IAmb	09 15 25.8	
	comp=Z,51nm,1.2s						
PDMCI	Parker Dam,Lak	92.19	49	P	P	09 15 12.1	+0.8
	baz=307,SNR=8.1						
O20A	White River Ci	92.25	41	P	P	09 15 10.9	-0.9
	baz=311,SNR=57						
UABX	UABC, Campus M	92.30	51	IAMs_20	IAMs_20	09 57 47.2	
	comp=Z,1µm,18.0s						
GLA	Glamis	92.47	50	P	P	09 15 13.4	+0.7
	baz=306						
WDD	Wied Dalam	92.71	313	IAMs_20	IAMs_20	09 57 46.4	
	comp=Z,1µm,22.0s						
GUVIX	Guadalupe Vict	92.74	51	IAMs_20	IAMs_20	09 49 06.0	
	comp=Z,1µm,19.0s						
VTX	Valle De La Tr	92.79	52	IAMs_20	IAMs_20	09 52 43.2	
	comp=Z,1µm,19.0s						
TAOE	Nuku Hiva Isla	92.88	98	*e*PKIKP	P	09 15 19.0	+4.1
	comp=Z,190nm,23.6s						
TAOE	Nuku Hiva Isla	92.88	98	*e*PP	PP	09 19 01.3	+3.8
	comp=Z,176nm,24.3s						
TAOE				*e*S	S	09 26 25.9	+4.5
	comp=Z,2µm,27.3s						
TAOE				*e*SS	SS	09 31 59.1	-36
	comp=Z,1µm,24.3s						
TAOE	Nuku Hiva Isla	92.88	98	*e*LR	LR	09 43 49.2	
	comp=Z,2µm,34.7s						
PHWY	Pilot Hill	93.06	39	IAmb	IAmb	09 15 17.7	
	comp=Z,40nm,1.1s						
N23A	Red Feather La	93.06	40	IAmb	IAmb	09 15 18.8	
	comp=Z,62nm,1.0s						
N23A	Red Feather La	93.06	40	P	P	09 15 13.9	-1.7
	baz=312,SNR=46						
D32A	Dogwood Acres,	93.15	31	IAmb	IAmb	09 15 17.5	
	comp=Z,39nm,0.9s						
D32B	Dogwood Acres,	93.15	31	P	P	09 15 15.1	-0.4
	baz=319						
WUAZ	Wupatki	93.26	47	P	P	09 15 15.8	-0.6
	baz=308,SNR=67						
LODK	Lodwar	93.61	276	*e*P	P	09 15 23.5	+5.2
LODK	Lodwar	93.61	276	*e*P	P	09 15 23.5	+5.2
	baz=267						
B35A	Bob, Littlefor	93.64	28	IAmb	IAmb	09 15 19.4	
	comp=Z,68nm,1.1s						
B35A	Bob, Littlefor	93.64	28	P	P	09 15 18.0	+0.2
	baz=322						
ABPO	Ambohimpanom	93.84	251	P	P	09 15 18.4	-0.9
ABPO	Ambohimpanom	93.84	251	P	P	09 15 18.4	-0.9
ABPO				pmax	pmax		
	comp=Z,72nm,0.9s						
X16A	Lo Mia Camp, P	93.89	47	IAmb	IAmb	09 15 23.3	
	comp=Z,49nm,1.1s						
KIBK	Kibwezi	93.97	269	P	P	09 15 20.9	+0.9
	SNR=9.0						
KIBK	Kibwezi	93.97	269	P	P	09 15 18.6	-1.4
ISCO	Idaho Springs	93.98	40	P	P	09 15 19.2	-0.7
	baz=312,SNR=27						
ISCO	Idaho Springs	93.98	40	P	P	09 15 20.6	+0.7
	baz=312						
MVCO	Mesa Verde	93.98	44	P	P	09 15 19.7	-0.2
MVCO				IAmb	IAmb	09 15 23.4	
	comp=Z,55nm,1.2s						
MVCO	Mesa Verde	93.98	44	P	P	09 15 19.5	-0.3
	baz=310,SNR=32						
KMBO	Kilima Mbogo	94.10	271	P	P	09 15 20.7	0.0
	comp=Z,14nm,1.0s,baz=42,slow=12,SNR=17						
KMBO				PP	PP	09 19 07.1	-0.1
	comp=Z,0.9nm,0.4s,baz=45,slow=13,SNR=3.1						
	comp=Z,14nm,1.0s						
SUSD	Miller	94.24	34	P	P	09 15 20.5	-0.1
SUSD	Miller	94.24	34	P	P	09 15 20.3	-0.4
	baz=317,SNR=8.2						
SUSD	Miller	94.24	34	P	P	09 15 20.9	+0.3
	baz=317						
F33A	5 Mile Ranch,	94.46	31	IAmb	IAmb	09 15 23.7	
	comp=Z,60nm,0.9s						
F33A	5 Mile Ranch,	94.46	31	P	P	09 15 21.8	+0.2
	baz=319						
214A	Organ Pipe Nat	94.49	50	IAmb	IAmb	09 15 25.6	
	comp=Z,35nm,1.1s						
214A	Organ Pipe Nat	94.49	50	P	P	09 15 22.5	+0.5
	baz=308						
W18A	Petrified Fore	94.55	46	P	P	09 15 22.1	-0.3
	baz=310						
S22A	4UR Ranch, Cre	94.64	42	P	P	09 15 22.4	-0.5
	baz=312,SNR=22						
X18A	Snowflake	94.79	47	IAmb	IAmb	09 15 26.5	
	comp=Z,27nm,1.0s						
EYMN	Ely	94.88	27	IAmb	IAmb	09 15 25.9	
	comp=Z,37nm,0.8s						
EYMN	Ely	94.88	27	P	P	09 15 23.5	0.0
	baz=323						
OGNE	Ogallala	95.18	38	IAmb	IAmb	09 15 26.6	
	comp=Z,26nm,0.9s						
OGNE	Ogallala	95.18	38	P	P	09 15 23.9	-1.2
	baz=315,SNR=6.9						
OGNE	Ogallala	95.18	38	P	P	09 15 25.1	0.0
	baz=315						
K30B	Basset	95.21	35	P	P	09 15 26.0	+0.9
	baz=317						
SDCO	Great Sand Dun	95.43	42	P	P	09 15 25.8	-0.7
	baz=312,SNR=16						
SDCO	Great Sand Dun	95.43	42	P	P	09 15 26.7	+0.2
	baz=312						
VOI	Vohitsoka	95.56	248	IAmb	IAmb	09 15 38.9	
	comp=Z,46nm,0.9s						
VOI	Vohitsoka	95.56	248	P	P	09 15 26.9	-0.1
TUC	Tucson	95.63	49	P	P	09 15 27.4	+0.1
TUC	Tucson	95.63	49	P	P	09 15 27.4	+0.1
TUC				pmax	pmax		
	comp=Z,21nm,1.1s						
TUC	Tucson	95.63	49	P	P	09 15 26.4	-0.9
	baz=309						
SCHQ	Schefferville	95.70	10	IAmb	IAmb	09 15 41.8	
	comp=Z,24nm,0.8s						
SCHQ				IAMs_20	IAMs_20	10 03 17.8	
	comp=Z,2µm,18.0s						
SCHQ	Schefferville	95.70	10	P	P	09 15 26.4	-0.7
	comp=Z,23nm,0.9s,baz=350,slow=4.3,SNR=13						
SCHQ				LR	LR	09 59 35.3	
	comp=Z,1µm,21.7s,baz=345,slow=36						
	comp=Z,23nm,0.9s						
ECSD	EROS Data Cent	95.90	33	P	P	09 15 27.0	-1.2
	baz=319						
ECSD	EROS Data Cent	95.90	33	P	P	09 15 28.0	-0.2
	baz=319						
E38A	The Farm, Brul	95.93	28	IAmb	IAmb	09 15 28.9	
	comp=Z,73nm,1.3s						
KEST	Kesra	96.02	316	IAmb	IAmb	09 15 30.9	
	comp=Z,26nm,1.0s						
KEST	Kesra	96.02	316	P	P	09 15 29.3	+0.3
KEST	Kesra	96.02	316	P	P	09 15 28.9	-0.1
	comp=Z,24nm,0.9s,baz=1.4,slow=9.8,SNR=12						
KEST				LR	LR	10 03 38.9	
	comp=Z,812nm,19.9s,baz=356,slow=38						
	comp=Z,24nm,0.9s						
KSCO	Kaye Shedlock'	96.21	39	P	P	09 15 28.9	-0.9
	baz=314						
T25A	Trinidad	96.48	42	P	P	09 15 30.2	-1.0
	baz=313						
SPMN	Marine on St.	96.49	30	IAmb	IAmb	09 15 33.0	
	comp=Z,22nm,1.1s						
SPMN	Marine on St.	96.49	30	P	P	09 15 29.8	-1.0
	baz=322						
SPMN	Marine on St.	96.49	30	P	P	09 15 30.7	-0.1
	baz=322						
ANMO	Albuquerque	96.71	44	P	P	09 15 31.9	-0.4
ANMO	Albuquerque	96.71	44	*d i* P	P	09 15 33.2	+0.9
ANMO				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ANMO				MLR	MLR		
	comp=Z,488nm,13.0s						
ANMO	Albuquerque	96.71	44	P	P	09 15 31.7	-0.6
	baz=312						
ANMO	Albuquerque	96.71	44	P	P	09 15 32.3	0.0
	baz=312						
ANMO	Albuquerque	96.71	44	LR	LR	10 01 34.7	
	comp=Z,377nm,18.1s,baz=38,slow=37						
FOMA	Nahampoana Res	96.85	245	P	P	09 15 33.5	+0.8
BGNE	Belgrade	96.88	35	IAmb	IAmb	09 15 34.9	
	comp=Z,47nm,1.1s						
BGNE	Belgrade	96.88	35	P	P	09 15 31.5	-1.2
	baz=318						
Y22F	Passcal Instru	97.00	45	P	P	09 15 31.7	-1.8
	baz=311						
Y22A	Socorro	97.06	45	P	Pdif	09 15 34.1	+0.1
	baz=311						
I37A	Lemond, Waseca	97.17	31	IAmb	IAmb	09 15 48.5	
	comp=Z,41nm,1.2s						
I37B	Waseca	97.17	31	P	Pdif	09 15 34.1	0.0
	baz=322						
319A	Douglas	97.21	49	IAmb	IAmb	09 16 04.9	
	comp=Z,22nm,1.2s						
L34A	Svendsen Farm,	97.34	34	IAmb	IAmb	09 15 36.4	
	comp=Z,27nm,0.8s						
L34A	Svendsen Farm,	97.34	34	P	Pdif	09 15 34.7	-0.2
	baz=319						
121A	Cookes Peak, D	97.45	47	P	P	09 15 34.7	-1.0
	baz=310						
G40A	Rib Lake	97.56	28	IAmb	IAmb	09 15 37.7	
	comp=Z,26nm,1.0s						
CBKS	Cedar Bluff	97.94	38	P	P	09 15 36.5	-1.1
	baz=316						
N35A	Tabor	98.54	34	IAmb	IAmb	09 15 42.7	
	comp=Z,22nm,0.8s						
SCIA	State Center	98.90	32	P	P	09 15 40.7	-1.1
	baz=321						
JFWS	Jewell Farm	99.44	30	P	Pdif	09 15 43.0	-1.2
	baz=324						
MNTX	Cornudas Mount	99.53	46	P	Pdif	09 15 43.6	-1.2
	baz=312						
MNTX	Cornudas Mount	99.53	46	P	Pdif	09 15 45.2	+0.4
	baz=312						
MBAR	Mbarara	99.58	275	P	Pdif	09 15 44.5	-1.0
MBAR	Mbarara	99.58	275	IAMs_20	IAMs_20	10 09 35.2	
	comp=Z,1µm,19.0s						
MBAR	Mbarara	99.58	275	*i* P	Pdif	09 15 46.0	+0.5
MBAR				pmax	pmax		
	comp=Z,17nm,1.1s						
MBAR				MLR	MLR		
	comp=Z,781nm,16.0s						
MBAR	Mbarara	99.58	275	*e*P	Pdif	09 15 47.1	+1.6
MBAR	Mbarara	99.58	275	P	Pdif	09 15 45.5	0.0
MBAR	Mbarara	99.58	275	*e*P	Pdif	09 15 47.1	+1.6
	baz=271						
MSTX	Muleshoe	99.62	43	P	Pdif	09 15 43.9	-1.4
	baz=314						
VLDQ	Val d'Or	99.62	19	IAMs_20	IAMs_20	10 06 17.2	
	comp=Z,1µm,20.0s						
AMTX	Amarillo	99.63	42	P	Pdif	09 15 43.9	-1.4
	baz=315						
NOKA	Waynoka	99.95	39	IAMs_20	IAMs_20	09 56 35.2	
	comp=Z,2µm,22.0s						
OK035	E0210 Rd and N	100.02	39	IAMs_20	IAMs_20	10 09 27.1	
	comp=Z,1µm,19.0s						
GLMI	Grayling	100.14	25	IAMs_20	IAMs_20	10 09 08.6	
	comp=Z,1µm,18.0s						
GLMI	Grayling	100.14	25	P	Pdif	09 15 45.5	-1.8
	baz=328						
PBRG	Braganca	100.15	329	*e*Pdif	Pdif	09 15 46.6	-0.8
PBRG				*e*LQ	LQ	09 15 58.4	
PBRG	Braganca	100.15	329	*e*PP	PP	09 19 55.0	+2.9
ESDC	Sonseca Array	100.53	326	P	Pdif	09 15 48.6	-0.5
	comp=Z,14nm,1.0s,baz=25,slow=4.1,SNR=37						
ESDC				PP	PP	09 19 52.9	-2.2
	comp=Z,4.4nm,1.0s,baz=39,slow=7.1,SNR=6.2						
ESDC				PKKPbc	PKKPbc	09 32 03.8	-0.4
	comp=Z,2.5nm,1.0s,baz=218,slow=2.4,SNR=7.6						
CART	Cartagena	100.62	323	IAMs_20	IAMs_20	10 08 21.3	
	comp=Z,2µm,18.0s						
PGAV	Gavieira, Arco	100.70	331	*e*Pdif	Pdif	09 15 49.6	-0.3
PGAV	Gavieira, Arco	100.70	331	*e*PP	PP	09 20 04.2	+8.0
PGAV	Gavieira, Arco	100.70	331	*e*LQ	LQ	09 53 06.1	
PGAV				*e*LR	LR	09 59 43.8	
	comp=Z,2µm,20.0s						
MVO	Moncorvo	100.80	329	*e*Pdif	Pdif	09 15 49.8	-0.5
MVO				*e*LQ	LQ	09 16 01.6	
MVO	Moncorvo	100.80	329	*e*PP	PP	09 20 00.4	+3.4
MVO	Moncorvo	100.80	329	*e*LQ	LQ	09 55 08.6	
MVO				*e*LR	LR	09 59 25.3	
	comp=Z,3µm,20.0s						
POLO	Lamas de Olo	100.97	330	*e*Pdif	Pdif	09 15 49.8	-1.3
POLO				*e*LQ	LQ	09 16 02.0	
POLO	Lamas de Olo	100.97	330	*e*PP	PP	09 19 56.0	-2.3
OK048	Pawnee Station	101.20	38	IAMs_20	IAMs_20	10 10 26.2	
	comp=Z,1µm,18.0s						
OK029	Liberty Lake	101.38	39	IAMs_20	IAMs_20	10 08 24.0	
	comp=Z,937nm,19.0s						
WMOK	Wichita Mounta	101.41	40	P	Pdif	09 15 50.9	-2.2
	baz=317						
WMOK	Wichita Mounta	101.41	40	P	Pdif	09 15 53.5	+0.4
	baz=317						
OK033	Mehan	101.48	38	IAMs_20	IAMs_20	10 08 23.5	
	comp=Z,1µm,19.0s						
PVIS	Viseu	101.55	330	*e*Pdif	Pdif	09 15 53.3	-0.3
I49A	Point Hope	101.56	24	IAMs_20	IAMs_20	10 07 35.1	
	comp=Z,1µm,18.0s						
OK052	Battle Ridge R	101.59	38	IAMs_20	IAMs_20	10 08 38.5	
	comp=Z,1µm,18.0s						
OK031	S. Brethren Rd	101.60	38	IAMs_20	IAMs_20	10 04 06.8	
	comp=Z,963nm,19.0s						
MTE	Manteigas	101.64	329	*e*Pdif	Pdif	09 15 53.9	-0.2
MTE	Manteigas	101.64	329	*e*PP	PP	09 20 01.7	-1.7
MTE	Manteigas	101.64	329	*e*LQ	LQ	09 56 20.6	
MTE				*e*LR	LR	10 00 29.3	
	comp=Z,5µm,16.0s						
HDIL	Hopedale	101.77	30	P	Pdif	09 15 52.6	-1.9
	baz=324						
LMQ	La Malbaie	101.98	15	IAMs_20	IAMs_20	10 08 31.3	
	comp=Z,1µm,18.0s						
PCBR	Castelo Branco	102.06	329	*e*Pdif	Pdif	09 15 56.4	+0.5
SADO	Sadowa	102.10	22	IAMs_20	IAMs_20	10 05 10.2	
	comp=Z,1µm,20.0s						
R40A	Maddies Statio	102.18	34	P	Pdif	09 15 56.5	+0.1
	baz=322						
COI	Coimbra	102.19	330	*e*PP	PP	09 20 05.1	-2.3
TUL3	Leonard	102.20	37	P	Pdif	09 15 54.1	-2.4
	baz=319						
TX31	Lajitas Ar. Si	102.21	47	P	Pdif	09 15 57.5	+0.7
	baz=313						
TXAR	Lajitas Array	102.21	47	P	Pdif	09 15 56.8	-0.1
	comp=Z,7.9nm,1.1s,baz=292,slow=3.0,SNR=23						
TXAR				PP	PP	09 20 07.5	-0.7
	comp=Z,4.6nm,1.1s,baz=292,slow=4.8,SNR=3.5						
TXAR				PKKPbc	PKKPbc	09 31 58.8	-0.4
	comp=Z,1.6nm,1.1s,baz=133,slow=5.3,SNR=5.7						
PCAS	Casmilo, Conde	102.35	330	*e*PP	PP	09 20 12.4	+3.8
PMRV	Marv??o	102.35	328	*e*Pdif	Pdif	09 15 57.2	0.0
PMRV				*e*LQ	LQ	09 16 09.3	
PMRV	Marv??o	102.35	328	*e*PP	PP	09 20 13.3	+4.6
PMRV	Marv??o	102.35

F64A	Sherman	104.01	14	IAMs_20	IAMs_20	10 05 09.9		
	comp=Z,1μm,19.0s							
PCVE	Castro Verde	104.10	328	*e*Pdif	Pdif	09 16 04.4	-0.6	
PCVE	Castro Verde	104.10	328	*e*PP	PKiKP	09 20 26.2	+4.1	
PVAQ	Vaqueiros	104.13	327	*e*Pdif	Pdif	09 16 04.7	-0.4	
PVAQ	Vaqueiros	104.13	327	*e*PP	PKiKP	09 20 23.9	+1.7	
PVAQ	Vaqueiros	104.13	327	*e*LQ	LQ	09 56 26.1		
PVAQ				*e*LR	LR	10 01 07.3		
	comp=Z,3μm,20.0s							
PVAQ	Vaqueiros	104.13	327	IAMs_20	IAMs_20	10 02 41.0		
	comp=Z,2μm,20.0s							
M52A	Chesterland	104.18	25	IAMs_20	IAMs_20	10 09 11.5		
	comp=Z,2μm,18.0s							
O49A	Covington	104.19	27	IAMs_20	IAMs_20	10 10 43.0		
	comp=Z,2μm,18.0s							
J57A	Williamstown	104.32	20	IAMs_20	IAMs_20	10 08 30.6		
	comp=Z,1μm,18.0s							
NCB	Newcomb	104.33	19	IAMs_20	IAMs_20	10 07 55.6		
	comp=Z,995nm,19.0s							
MMNY	Mt. Morris Dam	104.33	22	IAMs_20	IAMs_20	10 08 52.0		
	comp=Z,1μm,19.0s							
PBDV	Barranco-do-Ve	104.36	327	*e*PP	PP	09 20 26.4	+2.7	
PKME	Peaks-Kenny Pk	104.37	15	IAMs_20	IAMs_20	10 09 11.6		
	comp=Z,1μm,18.0s							
PKME	Peaks-Kenny Pk	104.37	15	P	Pdif	09 16 04.1	-1.9	
	baz=342							
VT1	Waterbury	104.39	18	IAMs_20	IAMs_20	10 09 36.7		
	comp=Z,1μm,18.0s							
MIAR	Mount Ida	104.41	37	IAMs_20	IAMs_20	10 08 51.1		
	comp=Z,1μm,20.0s							
PTEO	Sao Teotonio	104.49	328	*e*Pdif	Pdif	09 16 06.3	-0.4	
M53A	WI Miller and	104.52	24	IAMs_20	IAMs_20	10 09 26.3		
	comp=Z,2μm,19.0s							
J58A	Remsen	104.58	20	IAMs_20	IAMs_20	10 07 38.5		
	comp=Z,1μm,20.0s							
Z38A	Mt. Pleasant	104.62	39	IAMs_20	IAMs_20	10 11 01.9		
	comp=Z,1μm,19.0s							
MORF	Marmelete	104.65	328	*e*PP	PP	09 20 29.5	+3.6	
MORF	Marmelete	104.65	328	*e*PP	PP	09 20 27.2	+1.3	
MORF				IAMs_20	IAMs_20	10 01 22.0		
	comp=N,4μm,18.0s							
LBNH	Lisbon	104.70	17	IAMs_20	IAMs_20	10 07 46.4		
	comp=Z,1μm,20.0s							
J59A	Piesco	104.71	19	IAMs_20	IAMs_20	10 13 40.9		
	comp=Z,1μm,18.0s							
LMN	Caledonia Moun	104.71	12	IAMs_20	IAMs_20	10 09 37.2		
	comp=Z,1μm,18.0s							
K57A	Scipio Center	104.77	21	IAMs_20	IAMs_20	10 09 15.7		
	comp=Z,1μm,19.0s							
G65A	Princeton	104.81	14	IAMs_20	IAMs_20	10 06 36.0		
	comp=Z,2μm,19.0s							
PFVI	Vila Bisbo	104.87	328	*e*PP	PP	09 20 28.6	+1.1	
435B	Jarrell	104.96	42	IAMs_20	IAMs_20	10 12 20.3		
	comp=Z,1μm,19.0s							
L56A	Greenwood	104.97	22	IAMs_20	IAMs_20	10 08 52.2		
	comp=Z,1μm,18.0s							
WCI	Wyandotte Cave	105.00	30	IAMs_20	IAMs_20	10 10 17.9		
	comp=Z,1μm,21.0s							
ACCN	Adirondack Com	105.02	19	IAMs_20	IAMs_20	10 11 01.1		
	comp=Z,1μm,19.0s							
GGN	Saint George	105.03	13	IAMs_20	IAMs_20	10 05 52.0		
	comp=Z,1μm,20.0s							
HNH	Hanover	105.10	17	IAMs_20	IAMs_20	10 08 08.1		
	comp=Z,1μm,19.0s							
M55A	Ridgway	105.17	23	IAMs_20	IAMs_20	10 09 17.4		
	comp=Z,1μm,18.0s							
I63A	Otisfield	105.21	16	IAMs_20	IAMs_20	10 10 34.0		
	comp=Z,1μm,18.0s							
O52A	Adamsville	105.23	26	IAMs_20	IAMs_20	10 09 46.5		
	comp=Z,1μm,18.0s							
EMMW	East Machias	105.30	14	IAMs_20	IAMs_20	10 06 59.1		
	comp=Z,1μm,20.0s							
P51A	Williamsport	105.30	27	IAMs_20	IAMs_20	10 12 27.5		
	comp=Z,1μm,18.0s							
WLAR	White Oak Lake	105.31	37	IAMs_20	IAMs_20	10 13 02.0		
	comp=Z,1μm,18.0s							
O53A	New Philadelph	105.36	25	IAMs_20	IAMs_20	10 09 51.7		
	comp=Z,2μm,19.0s							
J61A	Chester	105.36	18	IAMs_20	IAMs_20	10 09 57.1		
	comp=Z,1μm,19.0s							
BINY	Binghamton	105.42	21	IAMs_20	IAMs_20	10 08 57.9		
	comp=Z,1μm,20.0s							
TRY	Troy	105.62	19	IAMs_20	IAMs_20	10 11 33.1		
	comp=Z,974nm,18.0s							
L59A	Walton	105.72	20	IAMs_20	IAMs_20	10 08 02.7		
	comp=Z,1μm,20.0s							
M57A	Sunshine Farm,	105.83	22	IAMs_20	IAMs_20	10 09 11.9		
	comp=Z,2μm,18.0s							
NATX	Nacogdoches	105.93	40	IAMs_20	IAMs_20	10 08 06.6		
	comp=Z,888nm,18.0s							
P53A	Whipple	105.95	26	IAMs_20	IAMs_20	10 10 24.5		
	comp=Z,2μm,19.0s							
Q52A	Bidwell	106.06	27	IAMs_20	IAMs_20	10 10 36.6		
	comp=Z,1μm,18.0s							
KSPA	Keystone Colle	106.07	21	IAMs_20	IAMs_20	10 10 04.1		
	comp=Z,2μm,18.0s							
HAL	Halifax	106.10	11	IAMs_20	IAMs_20	10 08 19.0		
	comp=Z,2μm,20.0s							
L61B	Northampton	106.16	18	IAMs_20	IAMs_20	10 09 58.2		
	comp=Z,1μm,18.0s							
SSPA	Standing Stone	106.21	23	IAMs_20	IAMs_20	10 09 56.9		
	comp=Z,1μm,18.0s							
MCWV	Mont Chateau	106.38	25	IAMs_20	IAMs_20	10 11 08.7		
	comp=Z,2μm,18.0s							
T50A	Nancy	106.65	30	IAMs_20	IAMs_20	10 12 04.3		
	comp=Z,913nm,18.0s							
R53A	Hurricane	106.73	27	IAMs_20	IAMs_20	10 11 08.3		
	comp=Z,1μm,19.0s							
ODNJ	Ogdensburg	106.86	20	IAMs_20	IAMs_20	10 09 57.0		
	comp=Z,1μm,18.0s							
TRNY	Table Rock, Ra	106.92	20	IAMs_20	IAMs_20	10 09 41.5		
	comp=Z,1μm,19.0s							
LUPA	Lehigh Univers	107.07	21	IAMs_20	IAMs_20	10 08 49.5		
	comp=Z,1μm,20.0s							
YLE	Yale	107.14	19	IAMs_20	IAMs_20	10 10 47.4		
	comp=Z,1μm,19.0s							
PAL	Palisades	107.14	20	IAMs_20	IAMs_20	10 09 25.4		
	comp=Z,1μm,20.0s							
Q56A	Snyder Ridge,	107.17	24	IAMs_20	IAMs_20	10 11 40.5		
	comp=Z,2μm,19.0s							
P57A	Homestead Farm	107.19	23	IAMs_20	IAMs_20	10 10 42.1		
	comp=Z,2μm,18.0s							
AVE	Averroes	107.25	325	IAMs_20	IAMs_20	10 06 30.7		
	comp=Z,2μm,22.0s							
N62A	Caumsett State	107.34	19	IAMs_20	IAMs_20	10 12 44.6		
	comp=Z,1μm,18.0s							
S54A	Dingess, Beckl	107.44	27	IAMs_20	IAMs_20	10 11 08.1		
	comp=Z,1μm,19.0s							
WUPA	West Chester U	107.60	21	IAMs_20	IAMs_20	10 11 06.6		
	comp=Z,985nm,18.0s							
X48A	Hartselle	107.77	33	IAMs_20	IAMs_20	10 13 59.5		
	comp=Z,904nm,18.0s							
P61A	Hammonton	108.09	21	IAMs_20	IAMs_20	10 09 38.6		
	comp=Z,1μm,19.0s							
V52A	Sevierville	108.18	29	IAMs_20	IAMs_20	10 13 12.8		
	comp=Z,813nm,18.0s							
MAW	Mawson	108.19	202	PP	PP	09 20 51.6	-0.7	
	comp=Z,9.6nm,1.2s,baz=47,slow=15,SNR=4.6							
MAW				PKKPbc	PKKPbc	09 31 39.4	-2.7	
	comp=Z,5.2nm,1.1s,baz=242,slow=2.9,SNR=5.1							
MAW				PKKPab	PKKPab	09 31 52.0	+0.6	
	comp=Z,7.9nm,0.9s,baz=258,slow=5.8,SNR=8.2							
TKL	Tuckaleechee C	108.25	30	IAMs_20	IAMs_20	10 13 51.9		
	comp=Z,1μm,18.0s							
BLA	Blacksburg	108.30	26	IAMs_20	IAMs_20	10 11 47.8		
	comp=Z,2μm,18.0s							
344A	Westbrook Farm	108.31	37	IAMs_20	IAMs_20	10 15 42.4		
	comp=Z,1μm,18.0s							
U54A	Nelsons Funny	108.34	28	IAMs_20	IAMs_20	10 10 39.0		
	comp=Z,1μm,19.0s							
LSZ	Lusaka	108.46	262	IAMs_20	IAMs_20	10 06 16.8		
	comp=Z,1μm,19.0s							
CBN	Corbin Frederi	108.56	24	IAMs_20	IAMs_20	10 11 41.2		
	comp=Z,1μm,19.0s							
T57A	Hurt	108.94	25	IAMs_20	IAMs_20	10 12 17.6		
	comp=Z,2μm,20.0s							
LRAL	Lakeview Retre	108.95	33	IAMs_20	IAMs_20	10 09 23.6		
	comp=Z,935nm,19.0s							
U56A	King	109.07	27	IAMs_20	IAMs_20	10 12 24.2		
	comp=Z,2μm,19.0s							
V55A	Taylorsville	109.17	28	IAMs_20	IAMs_20	10 12 28.8		
	comp=Z,2μm,18.0s							
T59A	Double "B" Far	109.59	24	IAMs_20	IAMs_20	10 11 30.7		
	comp=Z,2μm,20.0s							
S61A	Accomac	109.61	22	IAMs_20	IAMs_20	10 12 23.1		
	comp=Z,2μm,19.0s							
Y52A	Lilburn	109.64	31	IAMs_20	IAMs_20	10 12 08.6		
	comp=Z,978nm,19.0s							
KMSC	Kings Mountain	109.73	28	IAMs_20	IAMs_20	10 07 06.8		
	comp=Z,1μm,20.0s							
T60A	Surry	109.73	24	IAMs_20	IAMs_20	10 09 59.4		
	comp=Z,1μm,20.0s							
U59A	Littleton	110.06	25	IAMs_20	IAMs_20	10 12 54.0		
	comp=Z,2μm,18.0s							
W57A	Gilead	110.27	27	IAMs_20	IAMs_20	10 13 19.9		
	comp=Z,1μm,19.0s							
GOGA	Godfrey	110.28	31	IAMs_20	IAMs_20	10 14 45.8		
	comp=Z,2μm,18.0s							
JSC	Jenkinsville	110.50	28	IAMs_20	IAMs_20	10 15 52.3		
	comp=Z,2μm,18.0s							
W59A	Clinton	110.86	26	IAMs_20	IAMs_20	10 14 01.5		
	comp=Z,2μm,18.0s							
V61A	Roper	111.00	24	IAMs_20	IAMs_20	10 12 39.9		
	comp=Z,1μm,18.0s							
154A	Montrose	111.12	31	IAMs_20	IAMs_20	10 15 20.9		
	comp=Z,1μm,18.0s							
Y58A	Scranton	111.48	27	IAMs_20	IAMs_20	10 14 25.1		
	comp=Z,1μm,18.0s							
PMPS	Porto Santo	111.64	331	*e*Pdif	Pdif	09 16 39.2	+0.6	
Y60A	Bolivia	111.97	26	IAMs_20	IAMs_20	10 14 30.0		
	comp=Z,1μm,18.0s							
UNM	Universidad Na	111.98	52	IAMs_20	IAMs_20	10 07 49.3		
	comp=Z,1μm,18.0s							
PMOZ	Porto Moniz, M	112.20	332	*e*PP	PP	09 21 25.4	+4.4	
PMOZ	Porto Moniz, M	112.20	332	*e*LR	LR	09 59 05.5		
	comp=Z,1μm,18.0s							
BOSA	Boshof	116.06	250	PKP	PKPdf	09 20 44.0	-0.9	
	comp=Z,7.1nm,0.9s,baz=88,slow=2.4,SNR=5.3							
TORD	Torodi Ar. Bea	116.14	303	IAMs_20	IAMs_20	10 19 34.5		
	comp=Z,1μm,18.0s							
TORD	Torodi Ar. Bea	116.14	303	PKP	PKPdf	09 20 44.4	-1.0	
	comp=Z,25nm,1.1s,baz=25,slow=3.7,SNR=38							
TORD				PP	PP	09 21 48.8	-0.9	
	comp=Z,7.7nm,0.9s,baz=41,slow=7.0,SNR=5.9							
TORD				PKKPbc	PKKPbc	09 31 14.8	+0.4	
	comp=Z,2.8nm,0.7s,baz=229,slow=2.0,SNR=11							
QSPA	South Pole Qui	118.12	180	PKP	PKPdf	09 20 45.9	-1.7	
	comp=Z,12nm,0.8s,baz=356,slow=1.7,SNR=35							
QSPA				PP	PP	09 22 03.0	-0.1	
	comp=Z,22nm,1.0s,baz=335,slow=4.4,SNR=5.4							
QSPA				PKKPbc	PKKPab	09 31 05.3	-2.5	
	comp=Z,5.2nm,1.0s,baz=138,slow=3.6,SNR=5.5							
KOWA	Kowa	119.31	309		PKPdf	09 20 50.4	-1.1	
TSUM	Tsumeb	119.31	263		PKiKP	09 20 51.0	-0.4	
TSUM	Tsumeb	119.31	263	IAMs_20	IAMs_20	10 12 36.1		
	comp=Z,1μm,20.0s							
SOR	Soroa	119.33	37		PKiKP	09 20 51.0	-0.4	
SOR	Soroa	119.33	37	PKIKP	PKiKP	09 20 51.0	-0.4	
WIN	Windhoek	120.95	259	IAMs_20	IAMs_20	10 12 14.8		
	comp=Z,1μm,21.0s							
ELIB	Princess Elisa	122.25	201	*d*PKPdf	PKiKP	09 20 55.3	-0.4	
DBIC	Dimbokro	125.24	303	IAMs_20	IAMs_20	10 27 31.6		
	comp=Z,1μm,18.0s							
DBIC	Dimbokro	125.24	303	PKP	PKPdf	09 21 01.9	-1.0	
	comp=Z,58nm,0.8s,baz=30,slow=1.4,SNR=36							
KIC	Kosan Boka	125.35	302⇑	*e*PKIKP	PKPdf	09 21 02.7	-0.4	
	comp=Z,184nm,1.0s							
TIC	Toumodi	125.37	303⇑	*e*PKIKP	PKPdf	09 21 02.5	-0.7	
	comp=Z,84nm,1.0s							
LIC	Lamto	125.66	302⇑	*e*PKIKP	PKPdf	09 21 03.0	-0.7	
	comp=Z,266nm,1.0s							
BOAB	BOACO BROADBAN	125.92	46	PKP	PKPdf	09 21 03.6	-0.5	
MTDJ	Mount Denham	125.94	34	IAMs_20	IAMs_20	10 23 38.2		
	comp=Z,958nm,19.0s							
NVL	N'lazarevskaya	126.11	201	*e*PKIKP	PKiKP	09 21 04.5	+1.3	
NVL				pmax	pmax			
	comp=Z,37nm,1.2s							
ACON	Acoyapa	126.60	46	*e*P	PKPdf	09 21 04.3	-1.1	
JTS	Las Juntas de	128.00	48		PKPdf	09 21 06.0	-2.2	
JTS	Las Juntas de	128.00	48	PKIKP	PKPdf	09 21 06.0	-2.2	
JTS	Las Juntas de	128.00	48	*e*P	PKPdf	09 21 07.4	-0.8	
SDDR	Presa de Saban	128.12	28	IAMs_20	IAMs_20	10 23 15.0		
	comp=Z,860nm,20.0s							
TROLL	Troll, Antarti	128.35	198	⇑PKPdf	PKiKP	09 21 07.4	-0.5	
	comp=Z,759nm,0.8s							
SNAA	Sanae	129.97	197	⇑PKPdf	PKPdf	09 21 10.2	0.0	
	comp=Z,215nm,1.3s							
SNAA				⇓PP	PP	09 23 21.5	-0.9	
	comp=Z,202nm,1.2s							
SNAA	Sanae	129.97	197	PKhKP	PKPpre	09 20 51.7		
	comp=Z,3.7nm,1.1s,baz=116,slow=3.7,SNR=5.5							
SNAA				PKP	PKPdf	09 21 09.9	-0.3	
	comp=Z,20nm,1.2s,baz=97,slow=1.8,SNR=10							
SNAA				PP	PP	09 23 22.2	-0.1	
	comp=Z,11nm,1.1s,baz=236,slow=3.8,SNR=3.3							
VNA2	Neumayer--Watz	131.59	197	⇑PKPdf	PKiKP	09 21 13.7	-0.5	
	comp=Z,12nm,0.5s,baz=107,slow=1.0							
VNA2				SKP		09 24 39.6		
	comp=Z,1.8nm,0.2s,baz=296,slow=1.0							
VNA3	Neumayer Olymp	131.95	196	⇑PKPdf	PKPdf	09 21 12.7	-1.2	
	comp=Z,5.6nm,0.6s							
VNA3				PP	PP	09 23 33.5	-1.7	
	comp=Z,16nm,1.1s							
VNA3				SKP		09 24 39.8		
	comp=Z,2.4nm,0.8s							
VNA1	Neumayer--Stat	131.99	197	⇑PKPdf	PKPdf	09 21 11.2	-2.8	
	comp=Z,18nm,1.2s							
CRJC	Cerrejon, Guaj	134.40	34	*e*P	PKiKP	09 21 21.3	-0.4	
ZARC	Zaragoza, Cauc	136.32	39	*e*P	PKPdf	09 21 22.4	-1.5	
BRRC	Barranca, Sant	137.27	38	*e*P	PKPdf	09 21 14.7	-11	
SDV	Santo Domingo	137.34	33	IAMs_20	IAMs_20	10 28 02.1		
	comp=Z,800nm,20.0s							
SDV	Santo Domingo	137.34	33	*e*P	PKPdf	09 21 26.0	0.0	
SDV	Santo Domingo	137.34	33	*e*P	PKPdf	09 21 25.1	-0.9	
SDV	Santo Domingo	137.34	33	PKP	PKPdf	09 21 25.3	-0.6	
	comp=Z,90nm,1.0s,baz=353,slow=1.6,SNR=12							
PLMC	San Jos del P	137.58	43	*e*P	PKPdf	09 21 26.6	+0.3	
GUY2C	Guyana, Caldas	137.87	42	*e*P	PKPdf	09 21 27.0	-0.3	
BARC	Barichara	137.99	38	*e*P	PKPdf	09 21 27.4	+0.1	
YOTC	Yotoco, Valle	138.27	44	*e*P	PKPdf	09 21 25.3	-2.3	
SPBC	San Pablo de B	138.27	40	*e*P	PKPdf	09 21 27.7	+0.1	
ANIL	Santa Ana	138.44	42	*e*P	PKiKP	09 21 29.2	-1.0	
BAUV	El Baul	138.48	30	IAMs_20	IAMs_20	10 03 08.7		
	comp=Z,687nm,21.0s							
PCRV	Puerto La Cruz	138.71	24	PKP	PKPdf	09 21 25.5	-2.8	
	comp=Z,18nm,1.0s,baz=13,slow=8.3,SNR=2.9							
ROSC	El Rosal	138.79	41	*e*P	PKPdf	09 21 28.0	-1.0	
ROSC	El Rosal	138.79	41	PKP	PKPdf	09 21 27.9	-1.1	
	comp=Z,100nm,1.1s,baz=313,slow=8.7,SNR=15							
ORTC	Ortega, Tolima	139.00	43	*e*P	PKPdf	09 21 16.8	-12	
PRAC	Prado	139.37	43	*e*P	PKPdf	09 21 24.4	-5.2	
VILC	Villavicencio,	139.74	41	*e*P	PKPdf	09 21 30.6	+0.2	
OTAV	Otavalo	139.75	50	PKPdf	PKPdf	09 21 25.6	-5.2	
OTAV	Otavalo	139.75	50	IAMs_20	IAMs_20	10 28 43.4		
	comp=Z,517nm,18.0s							
OTAV	Otavalo	139.75	50	PKIKP	PKPdf	09 21 25.6	-5.2	
OTAV	Otavalo	139.75	50	*e*P	PKPdf	09 21 29.5	-1.2	
TULM	Tulcn-Chalpat	139.84	49	IAMs_20	IAMs_20	10 22 47.6		
	comp=Z,740nm,20.0s							
CHSH	Refugio Sur-Vo	140.71	53	IAMs_20	IAMs_20	10 23 36.1		
	comp=Z,888nm,21.0s							
PIAT	Ana Tenorio	140.78	51	*e*P	PKiKP	09 21 33.9	-1.2	
MACC	Macarena, Meta	141.23	43	*e*P	PKPdf	09 21 30.7	-2.2	
MCRA	Macar, Loja	141.91	57	*e*P	PKPdf	09 21 28.7	-5.4	
PTLC	Puerto Leguiza	142.20	46	*e*P	PKPdf	09 21 30.1	-4.5	
ATAH	Atahualpa	144.89	59	PKP	PKPdf	09 21 39.8	0.0	
	comp=Z,168nm,1.0s,baz=332,slow=2.9,SNR=44							
MDP	Montagnes des	146.53	7	PKPbc	PKPab	09 21 43.5	-0.9	
	comp=Z,81nm,0.9s,baz=348,slow=4.2,SNR=16							
SGCB	São Gabriel d	146.89	35	*e*P	PKPdf	09 21 42.2	-0.5	
BOAV	Boa Vista	147.39	22	*e*P	PKPdf	09 21 44.2	+0.6	
BOAV	Boa Vista	147.39	22	*e*P	PKPdf	09 21 43.0	-0.5	
TBTG	Tabatinga, AM	148.62	44	*e*P	PKPdf	09 21 44.7	-0.9	
TBTG	Tabatinga, AM	148.62	44	*e*P	PKPdf	09 21 44.7	-0.9	
NNA	Nana	149.09	64	*e*P	PKPdf	09 21 47.5	+1.2	
NNA	Nana	149.09	64	PKPbc	PKPdf	09 21 47.2	+0.9	
	comp=Z,127nm,0.9s,baz=321,slow=5.2,SNR=27							
CZSB	Cruzeiro do Su	149.43	52	*e*P	PKPdf	09 21 47.3	+0.4	
CZSB	Cruzeiro do Su	149.43	52	*e*P	PKPdf	09 21 46.2	-0.7	
USHA	Ushuaia	149.92	157	PKPbc	PKiKP	09 21 51.6	-0.5	
	comp=Z,113nm,1.1s,baz=355,slow=1.6,SNR=6.6							
TEFE	Tefe	151.00	34	*e*P	PKPdf	09 21 48.5	-0.8	
MCPB	Macapa, AP	151.98	7	*e*P	PKPdf	09 21 50.0	-0.8	
MALB	Monte Alegre	153.12	12	*e*P	PKPdf	09 21 51.9	-0.6	
TMAB	Tom-Au,PÁ,Br	154.16	359	*e*P	PKPdf	09 21 53.0	-1.0	
ROSB	Rosrio	154.31	349	*e*P	PKPdf	09 21 53.2	-1.0	
RCBR	Riachuelo	154.52	329	*e*P	PKPdf	09 21 53.6	-0.9	
ITTB	Itaituba	155.23	17	*e*P	PKPdf	09 21 54.4	-1.0	
ETMB	Extrema	155.28	45		PKPdf	09 21 54.7	-0.8	
ETMB	Extrema	155.28	45	*e*P	PKPdf	09 21 54.6	-0.8	
LL01	San Ignacio de	156.23	132	IAMs_20	IAMs_20	10 26 21.4		
	comp=Z,826nm,18.0s							
SAML	Samuel	156.37	38		PKPdf	09 21 56.7	-0.2	
SAML	Samuel	156.37	38	IAMs_20	IAMs_20	10 31 14.0		
	comp=Z,823nm,22.0s							
SAML	Samuel	156.37	38	PKIKP	PKPdf	09 21 56.7	-0.2	
SAML	Samuel	156.37	38	*e*P	PKPdf	09 21 57.0	+0.1	
SAML	Samuel	156.37	38	*e*P	PKPdf	09 21 55.9	-1.0	
NPGB	Novo Progresso	157.89	18	*e*P	PKPdf	09 21 57.8	-1.1	
PRPB	Parauapebas	157.91	3	*e*P	PKPdf	09 21 57.6	-1.4	
PLCA	Paso Flores	158.24	130		PKPdf	09 21 56.8	-1.9	
PLCA	Paso Flores	158.24	130	*e*P	PKPdf	09 21 57.8	-0.8	
PLCA	Paso Flores	158.24	130	PKP	PKPdf	09 21 58.1	-0.5	
	comp=Z,7.1nm,1.1s,baz=234,slow=6.0,SNR=4.9							
PLCA				PKPab	pPKPab	09 22 32.2	-1.6	
	comp=Z,26nm,1.1s,baz=228,slow=4.7,SNR=7.7							
LPAZ	La Paz	158.42	60	*e*P	PKPdf	09 22 01.1	+0.9	
LPAZ	La Paz	158.42	60	*e*P	PKPdf	09 21 58.7	-1.6	
LPAZ	La Paz	158.42	60	PKP	PKPdf	09 22 01.2	+0.9	
	baz=288,slow=1.8							
LPAZ				PKPab	PKPab	09 22 34.4	-0.3	
	comp=Z,14nm,1.1s,baz=14,slow=8.3,SNR=2.4							
SMTB	Santa Maria do	160.58	357	*e*P	PKPdf	09 22 01.2	-0.9	
LVC	Limon Verde	160.89	77	PKP	PKPdf	09 22 03.6	+1.0	
	comp=Z,13nm,1.1s,baz=245,slow=4.3,SNR=3.9							
LVC				PKPab	PKPab	09 22 45.9	+0.8	
	comp=Z,21nm,0.9s,baz=314,slow=4.9,SNR=6.6							
VILB	Vilhena	161.30	37	*e*P	PKPdf	09 22 01.2	-1.6	
CLDB	Colider	161.38	22	*e*P	PKPdf	09 22 02.0	-0.8	
PDRB	Porto dos Gac	161.73	26	*e*P	PKPdf	09 22 02.5	-0.8	
CFA	Coronel Fontan	162.76	106	PKP	PKPdf	09 22 03.5	-0.3	
	comp=Z,7.4nm,0.9s,baz=242,slow=2.9,SNR=4.5							
CFA				PKPab	PKPab	09 22 53.1	+0.4	
	comp=Z,51nm,1.1s,baz=283,slow=4.4,SNR=10							
SIV	San Ignacio	163.21	46	PKP	PKPdf	09 22 04.7	0.0	
	comp=Z,18nm,1.1s,baz=302,slow=2.3,SNR=21							
SIV				PKPab	sPKPab	09 22 53.3	-3.2	
	comp=Z,23nm,1.0s,baz=318,slow=5.3,SNR=8.4							
SIV				PP	PP	09 26 39.8	+0.5	
	comp=Z,2.2nm,0.8s,baz=10,slow=13,SNR=2.5							
SNDB	Serra Nova Dou	163.53	9	*e*P	PKPdf	09 22 04.2	-0.8	
SDBA	SAO DESIDERIO	163.75	347	*e*P	PKPdf	09 22 03.3	-1.9	
PTLB	Pontes e Lacer	163.93	39	*e*P	PKPdf	09 22 04.2	-1.1	
BBSD	Serra de San D	164.39	47	*e*P	PKPdf	09 22 06.3	+0.6	
TRQA	Tornquist	165.28	134		PKPab	09 23 02.9	-0.5	
TRQA	Tornquist	165.28	134	PKP2	PKPab	09 23 02.9	-0.5	
GUA01	Guaratinga, BA	165.70	323	*e*P	PKPdf	09 22 06.3	-0.5	
BBRB	Robore, Bolivi	165.70	48	*e*P	PKPd

RIGZ	Rimuhau	2.00 170	P	Pb	09 07 53.0	-0.9
SNGZ	Shannon Statio	2.05 180	P	Pn	09 07 52.3	+0.2
EPAZ	Eden Park BICE	2.08 265	P	Pn	09 07 52.9	+0.5
HBAZ	Herne Bay Bore	2.09 266	P	Pn	09 07 53.0	+0.4
KUTZ	Kaahu Road	2.12 214	P	Pn	09 07 53.3	+0.3
TLZ	Tolley Road	2.14 221	P	Pn	09 07 53.3	0.0
MTHZ	Maungataniwha	2.15 190	P	Pn	09 07 53.5	0.0
AWAZ	Awhitu Peninsu	2.18 260	P	Pn	09 07 53.8	0.0
RAHZ	Arahi	2.19 185	P	Pn	09 07 54.2	+0.2
RVAZ	Riverhead Bore	2.21 268	P	Pn	09 07 54.4	+0.2
WTAZ	Waiatarua	2.22 264	P	Pn	09 07 54.6	+0.2
MRHZ	Matea Rd	2.22 199	P	Pn	09 07 54.8	+0.3
PRGZ	Paritu Road	2.23 169	P	Pb	09 07 56.3	-1.5
KNZ	Kokohu	2.31 173	P	Pn	09 07 56.6	+1.1
WHHZ	Waihua	2.34 182	P	Pn	09 07 57.5	+1.4
NMHZ	Naumai	2.40 190	P	Pn	09 07 57.6	+0.7
MHGZ	Mahia Peninsul	2.46 169	P	Pn	09 07 59.3	+1.6
RATZ	Rangitukua	2.46 210	P	Pb	09 08 02.4	+0.7
BKZ	Black Stump Fm	2.52 195	P	Pn	09 07 59.0	+0.4
RITZ	Rihia Road	2.53 207	P	Pb	09 08 02.3	-0.5
WCZ	Waipu Caves	2.54 287	P	Pn	09 07 58.1	-0.6
ARHZ	Aropaoanui	2.54 186	P	Pn	09 08 00.7	+1.9
KATZ	Kakaramea	2.59 209	P	Pb	09 08 03.6	-0.3
HIZ	Hauiti	2.65 227	P	Pn	09 08 00.8	+0.5
NTVZ	North Tongarir	2.70 208	P	Pb	09 08 04.6	-1.2
TMVZ	Te Maari	2.71 208	P	Pb	09 08 04.4	-1.5
ETVZ	East Tongariro	2.72 208	P	Pb	09 08 04.8	-1.3
WTVZ	West Tongariro	2.75 209	P	Pb	09 08 07.2	+0.6
NNVZ	North Ngauruho	2.75 209	P	Pb	09 08 05.7	-1.0
MCHZ	McNeill Hill	2.76 190	P	Pn	09 08 04.0	+2.3
OTVZ	Oturere	2.76 208	P	Pb	09 08 05.1	-1.8
TWVZ	Taurewa	2.78 212	P	Pn	09 08 02.9	+0.8
KWHZ	Kaweka Forest	2.78 195	P	Pn	09 08 03.8	+0.9
SNVZ	South Ngauruho	2.79 208	P	Pb	09 08 05.7	-1.7
NGZ	Ngauruhoe	2.80 209	P	Pb	09 08 06.1	-1.3
COVZ	Chateau Observ	2.84 209	P	Pb	09 08 06.8	-1.4
TUVZ	Tukino	2.86 207	P	Pb	09 08 07.7	-0.8
FWVZ	Far West T-bar	2.89 209	P	Pb	09 08 07.2	-1.7
WHVZ	Whangaehu Hut	2.90 208	P	Pb	09 08 07.5	-1.7
TRVZ	Turoa	2.93 208	P	Pb	09 08 08.0	-1.6
BHHZ	Black Hill Sta	2.93 200	P	Pn	09 08 05.3	+1.1
WNVZ	Wahianoa	2.93 207	P	Pb	09 08 07.1	-2.6
MOVZ	Moawhango	2.95 204	P	Pn	09 08 06.3	+1.8
PKVZ	Pokaka	3.00 211	P	Pb	09 08 09.0	-1.8
KRHZ	Kereru	3.01 194	P	Pn	09 08 06.6	+1.4
MTVZ	Mangateitei	3.03 208	P	Pb	09 08 09.2	-2.2
KAHZ	Kahuranaki	3.08 187	P	Pn	09 08 06.8	+0.5
VRZ	Vera Road	3.14 220	P	Pn	09 08 08.1	+1.1
PNHZ	Pukenui	3.30 195	P	Pn	09 08 10.0	+0.8
PXZ	Pawanui	3.32 186	P	Pn	09 08 08.8	-0.6
OUZ	Omahuta	3.38 295	P	Pn	09 08 10.4	0.0
WPHZ	Waipukurau	3.40 192	P	Pn	09 08 10.8	+0.2
DREZ	Durham Road	3.48 224	P	Pn	09 08 13.4	+1.7
TSZ	Takapari Road	3.49 198	P	Pn	09 08 12.6	+0.7
WAZ	Wanganui	3.54 211	P	Pn	09 08 16.1	+3.6
PRHZ	Porangahau	3.57 189	P	Pn	09 08 13.1	+0.1
NEZ	North Egmont	3.60 224	P	Pn	09 08 15.2	+1.8
PKE	Pukeiti	3.61 226	P	Pn	09 08 14.9	+1.4
PREZ	Palmer Road	3.62 223	P	Pn	09 08 16.0	+2.4
KHEZ	Kahui Hut	3.66 225	P	Pn	09 08 16.2	+1.9
DVHZ	Dannevirke	3.68 194	P	Pn	09 08 14.2	-0.3
NBEZ	Newall Road No	3.73 226	P	Pn	09 08 16.5	+1.4
OHWZ	Ohakea	3.81 204	P	Pn	09 08 18.6	+2.4
NMEZ	Namu Road	3.82 224	P	Pn	09 08 19.5	+3.2
PRWZ	Pori Road	3.96 195	P	Pn	09 08 18.9	+0.6
BFZ	Birch Farm	4.04 192	P	Pn	09 08 19.6	+0.2
MRZ	Mangatainoka R	4.16 199	P	Pn	09 08 20.6	-0.4
TIWZ	Tintock	4.20 195	P	Pn	09 08 22.2	+0.7
HOWZ	Holdsworth Sta	4.40 198	P	Pn	09 08 23.6	-0.7
OGWZ	Otaki Gorge	4.42 202	P	Pn	09 08 24.8	+0.3
TMWZ	Te Maipa	4.51 194	P	Pn	09 08 25.0	-0.9
KIW	Kapiti Island	4.54 204	P	Pn	09 08 26.2	0.0
MTW	Mount Morrison	4.65 197	P	Pn	09 08 27.0	-0.7
CAW	Cannon Point	4.71 201	P	Pn	09 08 28.3	-0.4
TRWZ	Traveller	4.83 195	P	Pn	09 08 29.0	-1.3
DUWZ	D'Urville Isla	4.86 212	P	Pn	09 08 31.5	+0.8
PAWZ	Paruwai Farm	4.88 197	P	Pn	09 08 29.8	-1.1
BHW	Baring Head	5.05 202	P	Pn	09 08 32.1	-1.1
TCW	Tory Channel	5.07 207	P	Pn	09 08 32.9	-0.5
PLWZ	Palliser	5.09 198	P	Pn	09 08 32.3	-1.7
TUWZ	Tuamarina	5.38 208	P	Pn	09 08 37.2	-0.6
NNZ	Nelson	5.44 213	P	Pn	09 08 41.2	+2.7
TKNZ	Takaka Hill	5.49 217	P	Pn	09 08 40.5	+1.3
QRZ	Quartz Range	5.55 221	P	Pn	09 08 40.7	+0.6
CMWZ	Cape Campbell	5.56 205	P	Pn	09 08 42.2	+1.9
BSWZ	Blackbirch Sta	5.66 207	P	Pn	09 08 40.8	-0.7
MRNZ	Matariki Terra	5.86 216	P	Pn	09 08 45.1	+0.6
THZ	Tophouse	6.09 213	P	Pn	09 08 47.4	-0.2
DSZ	Denniston Nort	6.59 219	P	Pn	09 08 54.3	-0.2
LTZ	Lake Taylor	7.19 211	P	Pn	09 09 00.8	-1.8
INZ	Inchbonnie	7.51 215	P	Pn	09 09 08.7	+1.7
CTZ	Chatham Island	8.39 148	P	Pn	09 09 19.5	+0.5
RPZ	Rata Peaks	8.47 213	P	Pn	09 09 21.3	+1.2
GCSZ	Gaunt Creek Bo	8.49 217	P	Pn	09 09 23.3	+2.8

IDC 19 09:07:18.9±3.6, 53°.64N×88°.15E, h0km, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=36.4km s-min=19.7km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.00	280	I	I	09 22 43.2	
	baz=98, slow=328, SNR=4.0						
ZALV	Zalesovo Beam	2.00	280	Pn	Pn	09 07 54.0	+0.1
	1.8nm, 0.3s, baz=100, slow=17, SNR=10.0						
ZALV				Lg	Lg	09 08 22.4	
	4.5nm, 0.3s, baz=98, slow=29, SNR=16						
	3.5nm, 0.3s						
KURBB	Kurchatov Arra	6.65	247	Pn	Pn	09 08 57.8	0.0
	0.1nm, 0.3s, baz=62, slow=14, SNR=3.8						
	1.3nm, 0.2s						
MKAR	Makanchi Array	7.82	211	Pn	Pn	09 09 15.3	+1.5
	0.2nm, 0.3s, baz=33, slow=14, SNR=4.5						
	0.3nm, 0.3s						

*NOU **19** 09:12:41.0, 37°.17S×179°.12E, h5km, MLv3.7/6, Off E. Coast of N. Island, N.Z.*
*WEL **19** 09:12:44.2±1.1, 37°.S±4°.×17°.9E±°., h12km, M3.5/48, ML3.7/18, MLv3.5/48, Error ellipse: s-maj=0.0km s-min=0.0km az=91.2, confirmed*

ISC 19 09:12:42.5±2.7, 37°.18S±0°.06×179°.0E±0°.1, h13km±12km, n80, σ0°77/87, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.68	236	P	Pg	09 12 55.8	0.0
MXZ	Matakaoa Point	0.68	236	P	Pg	09 12 55.8	0.0
WMGZ	Waiomatatini S	0.80	217	P	Pb	09 12 59.8	+1.6
WMGZ				S	Sb	09 13 10.5	+1.7
PKGZ	Pakihiroa	1.03	227	P	Pg	09 13 02.2	-0.1
PKGZ				S	Sb	09 13 16.2	+0.6
PUZ	Puketiti	1.07	214	P	Pb	09 13 03.6	+0.7
PUZ				S	Sg	09 13 17.6	+0.4
HAZ	Te Kaha	1.14	239	P	Pb	09 13 02.7	-1.3
TWGZ	Tauwhareparae	1.29	219	P	Pn	09 13 06.9	+0.6
TWGZ				S	Sg	09 13 24.0	-0.1
RUGZ	Raukumara Rang	1.32	233	P	Pn	09 13 06.9	+0.2
RUGZ				S	Sg	09 13 24.0	-1.2
CNGZ	Carnagh Statio	1.45	206	P	Pn	09 13 09.3	+1.0
WIZ	White Island	1.50	256	P	Pn	09 13 09.4	+0.3
TKGZ	Te Karaka	1.56	216	P	Pn	09 13 10.3	+0.4
TKGZ				P	Pb	09 13 10.9	-0.3
MWZ	Matawai	1.65	225	P	Pn	09 13 11.5	+0.3
WHRZ	Whale Island	1.76	247	P	Pn	09 13 13.0	+0.3
RIGZ	Rimuhau	1.82	213	P	Pn	09 13 13.6	+0.1
RAGZ	Rawiri	1.82	224	P	Pn	09 13 14.1	+0.5
URZ	Urewera	1.85	234	P	Pn	09 13 14.5	+0.5
URZ	Urewera	1.85	234	P	Pn	09 13 14.3	+0.3
URZ				S	Sn	09 13 35.9	-1.3
PRGZ	Paritu Road	1.95	207	P	Pn	09 13 15.6	+0.2
MARZ	Manawahe	2.03	246	P	Pn	09 13 17.2	+0.8
EDRZ	Edgecumbe	2.03	242	P	Pn	09 13 16.7	+0.3
OPRZ	Ohinepanea	2.07	251	P	Pn	09 13 16.6	-0.3
SNGZ	Shannon Statio	2.08	219	P	Pn	09 13 17.3	+0.3
MHGZ	Mahia Peninsul	2.15	204	P	Pn	09 13 18.2	+0.1
RTZ	Ruatahuna	2.15	228	P	Pn	09 13 18.4	+0.2
MUGZ	Murupara	2.20	233	P	Pn	09 13 18.8	0.0
MYRZ	Mayor Island	2.22	267	P	Pn	09 13 19.4	+0.4
MKRZ	Makatiti	2.24	244	P	Pn	09 13 20.1	+0.8
TARZ	Mount Tarawera	2.25	241	P	Pn	09 13 20.2	+0.7
RRRZ	Republican Roa	2.29	239	P	Pn	09 13 20.7	+0.6
KARZ	Kaharoa	2.36	248	P	Pn	09 13 21.1	+0.2
MTHZ	Maungataniwha	2.39	225	P	Pn	09 13 21.6	+0.2
HSRZ	Hossack Road	2.47	242	P	Pn	09 13 23.9	+1.4
HRRZ	Handcock Road	2.48	240	P	Pn	09 13 23.0	+0.4
ALRZ	Allen Road	2.52	236	P	Pn	09 13 23.4	+0.2
KMRZ	Kaimai	2.53	254	P	Pn	09 13 23.5	+0.1
NMHZ	Naumai	2.59	222	P	Pn	09 13 24.5	+0.4
ARHZ	Aropaoanui	2.62	217	P	Pn	09 13 24.3	-0.1
MRHZ	Matea Rd	2.63	230	P	Pn	09 13 24.9	+0.1
KUZ	Kuaotunu	2.68	278	P	Pn	09 13 25.3	0.0
KUZ	Kuaotunu	2.68	278	P	Pn	09 13 24.0	-1.3
BKZ	Black Stump Fm	2.81	224	P	Pn	09 13 27.3	+0.2
BKZ	Black Stump Fm	2.81	224	P	Pn	09 13 26.9	-0.2
KUTZ	Kaahu Road	2.85	242	P	Pn	09 13 28.4	+0.7
TOZ	Tahuroa Road	2.85	258	P	Pn	09 13 28.0	+0.3
MCHZ	McNeill Hill	2.90	218	P	Pn	09 13 28.3	-0.1
GRZ	Great Barrier	3.01	287	P	Pn	09 13 30.6	+0.8
KWHZ	Kaweka Forest	3.03	222	P	Pn	09 13 29.8	-0.3
RATZ	Rangitukua	3.06	236	P	Pn	09 13 31.6	+0.9
RITZ	Rihia Road	3.07	233	P	Pn	09 13 31.7	+1.0
MKAZ	Moumakai	3.08	270	P	Pn	09 13 30.0	-0.8
KAHZ	Kahuranaki	3.10	212	P	Pn	09 13 30.0	-1.2
WIAZ	Waiheke Island	3.13	276	P	Pn	09 13 30.9	-0.7
KRHZ	Kereru	3.22	219	P	Pn	09 13 31.9	-0.8
TMVZ	Te Maari	3.25	233	P	Pn	09 13 33.2	0.0
NTVZ	North Tongarir	3.26	233	P	Pn	09 13 33.4	+0.1
BHHZ	Black Hill Sta	3.27	224	P	Pn	09 13 33.4	-0.1
ETAZ	East Tamaki Re	3.28	273	P	Pn	09 13 33.5	-0.1
OTVZ	Oturere	3.30	232	P	Pn	09 13 33.8	-0.2
MBAZ	Motutapu North	3.33	276	P	Pn	09 13 34.4	+0.2
SNVZ	South Ngauruho	3.33	232	P	Pn	09 13 34.2	-0.2
NGZ	Ngauruhoe	3.35	233	P	Pn	09 13 34.5	-0.1
MOVZ	Moawhango	3.40	228	P	Pn	09 13 34.8	-0.4
TWVZ	Taurewa	3.40	235	P	Pn	09 13 36.2	+0.9
WNVZ	Wahianoa	3.44	230	P	Pn	09 13 36.1	+0.2
AWAZ	Awhitu Peninsu	3.50	271	P	Pn	09 13 36.5	-0.1
WPHZ	Waipukurau	3.51	214	P	Pn	09 13 35.4	-1.4
HIZ	Hauiti	3.55	247	P	Pn	09 13 38.3	+1.0
HIZ	Hauiti	3.55	247	P	Pn	09 13 38.4	+1.0
WTAZ	Waiatarua	3.56	273	P	Pn	09 13 37.4	-0.1
RVAZ	Riverhead Bore	3.58	275	P	Pn	09 13 37.7	0.0
TSZ	Takapari Road	3.74	219	P	Pn	09 13 38.2	-1.7
VRZ	Vera Road	3.88	239	P	Pn	09 13 42.5	+0.7
WCZ	Waipu Caves	3.96	287	P	Pn	09 13 43.0	+0.1
WAZ	Wanganui	4.08	230	P	Pn	09 13 44.7	+0.2
NEZ	North Egmont	4.40	240	P	Pn	09 13 50.6	+1.6
KHEZ	Kahui Hut	4.47	240	P	Pn	09 13 52.0	+2.0
OUZ	Omahuta	4.80	292	P	Pn	09 13 55.3	+0.8
OUZ	Omahuta	4.80	292	P	Pn	09 13 55.1	+0.6
DUWZ	D'Urville Isla	5.37	226	P	Pn	09 14 01.1	-1.2
TKNZ	Takaka Hill	6.08	229	P	Pn	09 14 10.1	-2.0

*SJA **19** 09:14:46.2±0.9, 30°.61S×71°.51W, h15km±3km, ML4.1, MW3.8*
*GUC **19** 09:14:50.8±0.6, 30°.63S×71°.25W, h55km±1km, ML4.2*
*NEIC **19** 09:14:51.2±2.1, 30°.65S±0°.05×71°.3W±0°.1, h50km±6km, mb4.4/6, ML4.2(GUC), Error ellipse: s-maj=14.2km s-min=7.0km az=97.0*

ISC 19 09:14:50.4±0.8, 30°.62S±0°.02×71°.43W±0°.04, h49km±6km, n95, σ2°28/141, mb4.3/4, 6C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.18	254		Pn	09 15 00.1	+1.6
CO06	Fray Jorge	0.18	254	⇑iP	Pn	09 15 00.2	+1.6
CO06				eS	Sn	09 15 08.0	+3.6
CO03	El Pedregal	0.67	109		Pn	09 15 02.8	-1.1
CO03	El Pedregal	0.67	109	⇓iP	Pn	09 15 02.8	-1.1
CO03				eS	Sn	09 15 11.6	-2.0
CO03	El Pedregal	0.67	109	eP	Pn	09 15 02.4	-1.5
CO03				eS	Sn	09 15 11.9	-1.7
CO03				IAML		09 15 12.0	
	comp=Z,11μm,0.2s						
CO02	Combarbal	0.69	147		Pn	09 15 03.5	-0.6
CO02	Combarbal	0.69	147	⇑iP	Pn	09 15 03.5	-0.6
CO02				eS	Sn	09 15 12.9	-1.0
CO02	Combarbal	0.69	147	eP	Pn	09 14 57.9	-6.2
CO02				eS	Sn	09 15 13.1	-0.8
CO02				IAML		09 15 13.3	
	comp=Z,12μm,0.5s						
GO04	Tololo Observa	0.71	51		Pn	09 15 04.0	-0.5
GO04	Tololo Observa	0.71	51	⇓iP	Pn	09 15 03.9	-0.5
GO04				eS	Sn	09 15 13.5	-1.1
GO04	Tololo Observa	0.71	51	eP	Pn	09 14 58.4	-6.1
GO04				eS	Sn	09 15 14.4	-0.2
GO04				IAML		09 15 14.9	
	comp=Z,14μm,0.2s						
CO05	La Serena	0.72	13		Pn	09 15 05.0	+0.6
CO05	La Serena	0.72	13	⇓eP	Pn	09 15 04.9	+0.6
CO05				*i* S	Sn	09 15 15.3	+0.7
CO01	Juntas del Tor	1.32	61		Pn	09 15 12.5	-0.2
CO01	Juntas del Tor	1.32	61	⇓iP	Pn	09 15 12.5	-0.2
CO01				eS	Sn	09 15 28.5	-0.9
CO01	Juntas del Tor	1.32	61	eP	Pn	09 15 12.3	-0.5
CO01				eS	Sn	09 15 28.9	-0.5
CO01				IAML		09 15 28.9	
	comp=Z,1μm,0.4s						
LCO	Las Campanas	1.73	22	Pn	Pn	09 15 18.5	+0.2
LCO	Las Campanas	1.73	22	⇓iP	Pn	09 15 18.5	+0.2
LCO				eS	Sn	09 15 39.6	+0.3
LCO				IAML		09 15 45.4	
	comp=Z,6μm,0.5s						
LCO	Las Campanas	1.73	22	eP	Pn	09 15 18.6	+0.3
LCO				eS	Sn	09 15 32.9	-6.4
LCO				IAML		09 15 45.9	
	comp=Z,3μm,0.8s						
AROD	Rodeo	1.75	75	eP	Pn	09 15 19.6	+0.9
AROD				eS	Sn	09 15 42.0	+2.1
ACCO	Cerro Coronel	2.04	90	eP	Pn	09 15 23.9	+1.3
ACCO				eS	Sn	09 15 51.8	+4.7
AC05	El Transito	2.05	30	Pn	Pn	09 15 23.6	+1.0
AC05	El Transito	2.05	30	*i* P	Pn	09 15 23.3	+0.8
AC05				*i* S	Sn	09 15 48.6	+1.7
AC05				IAML		09 15 51.4	
	comp=E,1μm,0.3s						
AC05	El Transito	2.05	30	eP	Pn	09 15 23.4	+0.8
AC05				eS	Sn	09 15 50.2	+3.3
AC05				IAML		09 15 55.2	
	comp=Z,808nm,0.2s						
DOCA	Reserva Natura	2.05	100	eP	Pn	09 15 23.4	+0.7
DOCA				eS	Sn	09 15 51.8	+4.5
ACDV	Cuesta del Vie	2.05	78	eP	Pn	09 15 24.1	+1.6
ACDV				eS	Sn	09 15 52.0	+5.0
RTLS	Leoncito	2.17	123	eP	Pn	09 15 19.9	-4.5
RTLS				eP		09 15 25.6	
RTLS				eS	Sn	09 15 53.9	+3.7
RTLS				IAML		09 15 54.9	
	comp=Z,1μm,0.3s						
VA03	San Esteban	2.26	161		Pn	09 15 26.0	+0.6
VA03	San Esteban	2.26	161	eP	Pn	09 15 26.0	+0.6
VA03				eS	Sn	09 15 53.5	+1.4
VA03				IAML		09 16 01.9	
	comp=E,2μm,0.3s						
VA03	San Esteban	2.26	161	eP	Pn	09 15 25.8	+0.4
VA03				eS	Sn	09 15 55.1	+3.0
VA03				IAML		09 15 57.8	
	comp=Z,986nm,0.2s						
ROCH	El Roble	2.37	171	⇑iP	Pn	09 15 27.8	+0.8
ROCH				eS	Sn	09 15 58.2	+3.3
ROCH				IAML		09 16 02.9	
	comp=E,1μm,0.6s						
ROC1	El Roble	2.37	172		Pn	09 15 28.3	+1.2
ROC1	El Roble	2.37	172	eP	Pn	09 15 23.9	-3.2
ROC1				eP		09 15 27.6	
ROC1				eS	Sn	09 15 58.7	+3.6
AC04	Llanos de Chal	2.43	7	Pn	Pn	09 15 28.7	+0.9
AC04	Llanos de Chal	2.43	7	eP	Pn	09 15 29.0	+1.3
AC04				IAML		09 16 13.6	
	comp=N,668nm,0.2s						
AC04	Llanos de Chal	2.43	7	eP	Pn	09 15 28.6	+0.9
AC04				eS	Sn	09 15 56.4	+0.2
ZON	Zonda	2.53	112		Pn	09 15 29.9	+0.9
ZON	Zonda	2.53	112	eP	Pn	09 15 30.0	+0.9
ZON				eS	Sn	09 16 02.2	+3.4
PEL	Peldehue	2.59	166	Pn	Pn	09 15 31.1	+1.2
PEL	Peldehue	2.59	166	eP	Pn	09 15 30.9	+1.0
PEL				eS	Sn	09 16 01.2	+1.1
PEL				IAML		09 16 08.9	
	comp=N,886nm,0.1s						
PEL	Peldehue	2.59	166	eP	Pn	09 15 30.9	+1.0
PEL				eS	Sn	09 16 05.1	+4.9
PEL				IAML		09 16 09.7	
	comp=Z,405nm,0.3s						
SJA	San Juan	2.62	111	eP	Pn	09 15 31.4	+1.1
SJA				eS	Sn	09 16 06.4	+5.4
SJA				IAML		09 16 12.6	
	comp=Z,418nm,0.3s						
MT02	Curacav	2.64	175		Pn	09 15 32.1	+1.6
MT02	Curacav	2.64	175	eP	Pn	09 15 30.7	+0.2
MT02				eS	Sn	09 16 02.1	+0.8
MT02				IAML		09 16 07.4	
	comp=E,503nm,0.4s						
MT02	Curacav	2.64	175	eP	Pn	09 15 30.7	+0.2
MT02				eS	Sn	09 16 06.1	+4.8
MT02				IAML		09 16 08.5	
	comp=Z,395nm,0.2s						
AGUA	GUANDACOL	2.79	67	eP	Pn	09 15 35.4	+2.7
AGUA				eS	Sn	09 16 10.9	+5.8
AGUA				IAML		09 16 18.4	
	comp=Z,1μm,0.3s						
MT05	Renca	2.82	168		Pn	09 15 34.8	+1.7
MT05	Renca	2.82	168	eP	Pn	09 15 34.6	+1.5
MT05				eS	Sn	09 16 08.9	+3.1
MT05				IAML		09 16 25.4	
	comp=E,1μm,0.3s						
MT05	Renca	2.82	168	eP	Pn	09 15 34.5	+1.4
MT05				eS	Sn	09 16 09.9	+4.0
MT05				IAML		09 16 15.2	
	comp=Z,410nm,0.2s						
FCH	Farellones	2.86	161	⇓iP	Pn	09 15 33.7	-0.2
FCH				eS	Sn	09 16 09.5	+2.2
FCH				IAML		09 16 23.0	
	comp=E,460nm,0.2s						
MT14	Cerro Calıın	2.87	165	eP	Pn	09 15 35.3	+1.6
MT14				eS	Sn	09 16 10.0	+3.0
MT14				IAML		09 16 24.2	
	comp=E,1μm,0.0s						
CFA	Coronel Fontan	2.91	110	eP	Pn	09 15 34.9	+0.7
CFA				eS	Sn	09 16 12.3	+4.3
ASAL	Salagasta	2.96	132	eP	Pn	09 15 31.4	-3.6
ASAL				eP		09 15 36.3	
ASAL				eS	Sn	09 16 15.1	+5.8
MT03	Universidad Ad	2.97	165		Pn	09 15 36.4	+1.3
MT03	Universidad Ad	2.97	165	eP	Pn	09 15 36.6	+1.5
MT03				eS	Sn	09 16 10.5	+1.0
MT03				IAML		09 16 26.3	
	comp=E,1μm,0.4s						
MT03	Universidad Ad	2.97	165	eP	Pn	09 15 36.5	+1.5
MT03				eS	Sn	09 16 13.9	+4.4
MT03				IAML		09 16 25.3	
	comp=Z,581nm,0.8s						
MT04	Ro Olivares	2.98	159	⇓iP	Pn	09 15 32.0	-3.4
MT04				eS	Sn	09 16 13.9	+3.8
MT04				IAML		09 16 17.4	
	comp=E,510nm,0.3s						
VA05	Santo Domingo	3.03	183	eP	Pn	09 15 35.7	-0.1
VA05				eS	Sn	09 16 14.6	+3.8
MT08	Bocatoma Ro	3.06	157	⇓iP	Pn	09 15 31.1	-5.4
MT08				eS	Sn	09 16 16.3	+4.4
MT08				IAML		09 16 26.5	
	comp=N,397nm,0.6s						
ARCO	CERRO ARCO	3.07	137	eP	Pn	09 15 36.0	-0.5
ARCO				eS	Sn	09 16 18.9	+6.8
ARCO				eS		09 16 23.9	
MT09	Talagante	3.17	173	⇑iP	Pn	09 15 38.7	+0.9
MT09				eS	Sn	09 16 15.1	+0.7
MT09				IAML		09 16 21.8	
	comp=E,692nm,0.3s						
MT12	Pirque	3.19	167	eP	Pn	09 15 38.6	+0.6
MT12				eS	Sn	09 16 15.5	+0.6
MT12				IAML		09 16 21.8	
	comp=E,916nm,0.6s						
GO03	Copiap	3.20	19	eP	Pn	09 15 39.0	+0.8
GO03				eS	Sn	09 16 19.2	+4.1
GO03				IAML		09 16 27.3	
	comp=E,616nm,0.5s						
GO03	Copiap	3.20	19	eS	Sn	09 16 22.8	+7.7
MT01	Popeta	3.23	177	⇑iP	Pn	09 15 38.9	+0.2
MT01				eS	Sn	09 16 16.4	+0.5
MT01				IAML		09 16 28.2	
	comp=N,447nm,0.2s						
MT01	Popeta	3.23	177	eP	Pn	09 15 39.2	+0.5
MT13	San Alfonso	3.26	163	Pn	Pn	09 15 38.0	-1.1
MT13	San Alfonso	3.26	163	eP	Pn	09 15 38.0	-1.1
MT13				eS	Sn	09 16 18.8	+2.0
MT13				IAML		09 16 24.8	
	comp=N,497nm,0.3s						

QUBA				S	Sg	09 21 49.3	+1.1
NDR	**Nardaran**	**0.72**	**132**	P	Pb	09 21 41.0	-0.3
	SNR=9.1						
NDR				S	Sn	09 21 54.4	+0.3
GOBA	**Gobu**	**0.75**	**153**	P	Pn	09 21 42.9	-0.5
	SNR=11						
GOBA				S	Sn	09 21 53.8	-1.1
XNQ	**Khinaliq**	**0.88**	**277**	P	Pg	09 21 42.3	-1.2
	SNR=59						
XNQ				S	Sb	09 21 56.6	+0.6
IML	**Ismayilli**	**0.88**	**252**	P	Pg	09 21 43.0	-0.6
	SNR=17						
IML				S	Sb	09 21 57.1	+1.0
QSAR	**Qusar**	**0.89**	**300**	P	Pg	09 21 42.8	-1.0
	SNR=9.7						
QSAR				S	Sb	09 21 57.0	+0.6
KSMR	**Kasumkent**	**1.03**	**302**	*e*Pg	Pg	09 21 45.6	-0.7
	351nm,0.4s						
KSMR				*e*Sg	Sb	09 22 00.9	+0.7
	1μm,0.6s						
KDMR	**Kurdemir**	**1.09**	**231**	S	Sn	09 22 02.8	-0.5
QBL	**Gabala**	**1.11**	**264**	P	Pb	09 21 46.7	-1.3
	SNR=13						
QBL				S	Sn	09 22 05.6	+1.8
ALIB	**Äli-Bayra**	**1.13**	**191**	P	Pn	09 21 49.9	+1.3
	SNR=17						
ALIB				S	Sn	09 22 08.4	+4.2
DRN	**Derbent**	**1.20**	**323**	*e*Pg	Pn	09 21 47.8	-1.8
	143nm,0.3s						
DRN				*e*Sg	Sb	09 22 05.8	+0.6
	8.0nm,1.0s						
AKT	**Akhty**	**1.25**	**290**	*e*Pg	Pn	09 21 48.8	-1.6
	204nm,0.4s						
AKT				*e*Sg	Sg	09 22 07.3	+0.6
	17nm,0.5s						
ZRD	**Zardab**	**1.45**	**238**	Pn	Pn	09 21 52.7	-0.4
ZRD				Sg	Sn	09 22 11.4	-0.9
SEKA	**Sheki**	**1.59**	**276**	Pn	Pn	09 21 55.2	+0.1
	SNR=45						
SEKA				Sn	Sn	09 22 13.0	-2.7
URKR	**Urkarakh**	**1.66**	**312**	*e*Pg	Pn	09 21 55.3	-0.8
	59nm,0.4s						
URKR				*e*Sg	Sb	09 22 19.4	+0.8
	224nm,0.4s						
MNGR	**Mingechevir, A**	**1.70**	**261**	Sn	Sb	09 22 20.1	+0.6
SGKR	**Sergokala**	**1.85**	**319**	*e*Pg	Pn	09 21 58.3	-0.3
	1.0nm,0.4s						
SGKR				*e*Sg	Sb	09 22 25.1	+1.1
	158nm,0.3s						
BLQ	**Beylaqan**	**1.89**	**225**	Pn	Pn	09 21 57.9	-1.2
	SNR=11						
BLQ				Sn	Sb	09 22 25.8	+0.9
AGDM	**Agdam**	**1.92**	**241**	Pn	Pn	09 21 58.8	-0.8
	SNR=6.9						
AGDM				Sn	Sb	09 22 26.2	+0.3
KMKR	**Kumukh**	**1.96**	**304**	*e*Pg	Pn	09 22 00.6	+0.3
	61nm,0.5s						
KMKR				*e*Sg	Sb	09 22 28.1	+0.9
	93nm,0.6s						
ZKTA	**Zakatala**	**2.09**	**287**	Pn	Pn	09 22 01.9	0.0
	SNR=6.0						
ZKTA				Sn	Sn	09 22 28.9	+0.9
GNBR	**Gunib**	**2.19**	**308**	*e*Pn	Pn	09 22 04.1	+0.8
	59nm,0.5s						
GNBR				*e*Sn	Sb	09 22 34.0	+0.4
	90nm,0.5s						
QRD	**Qoradiz**	**2.20**	**224**	Sg	Sb	09 22 33.2	-0.8
GANJ	**Ganja**	**2.29**	**260**	Pn	Pn	09 22 03.0	-1.7
	SNR=11						
GANJ				Sn	Sn	09 22 31.3	-1.7
YRD	**Yardimli**	**2.29**	**201**	Pn	Pn	09 22 05.4	+0.5
	SNR=7.9						
YRD				Sn	Sb	09 22 35.3	-1.6
ARKR	**Arakani**	**2.30**	**313**	*e*Pn	Pn	09 22 05.6	+0.7
	8.0nm,1.0s						
ARKR				*e*Sn	Sb	09 22 35.8	-1.2
	219nm,0.4s						
MAK	**Makhachkala**	**2.31**	**325**	*e*Pn	Pn	09 22 07.0	+2.0
MAK				*e*Sn	Sb	09 22 37.6	+0.4
BUJR	**Buynaksk**	**2.39**	**318**	*e*Pn	Pn	09 22 06.5	+0.4
	70nm,0.2s						
BUJR				*e*Sn	Sb	09 22 38.2	-1.4
	204nm,0.4s						
XNZR	**Khunzakh**	**2.43**	**308**	*e*Pn	Pn	09 22 06.9	+0.1
	25nm,0.4s						
XNZR				*e*Sn	Sb	09 22 40.1	-0.7
	56nm,0.4s						
UNCR	**Uncukul**	**2.48**	**312**	*e*Pn	Pn	09 22 08.5	+1.1
	17nm,0.5s						
UNCR				*e*Sn	Sb	09 22 41.0	-1.2
	56nm,0.6s						
KRNR	**Karanay**	**2.50**	**315**	*e*Pn	Pn	09 22 08.7	+1.1
	17nm,0.4s						
KRNR				*e*Sn	Sb	09 22 41.0	-1.7
	111nm,0.6s						
LRK	**Lerik**	**2.53**	**197**	Pn	Pn	09 22 08.6	+0.6
	SNR=6.6						
LRK				Sn	Sn	09 22 41.0	+1.9
DBC	**Dubki**	**2.68**	**318**	*e*Pn	Pn	09 22 10.5	+0.5
	13nm,0.6s						
DBC				*e*Sn	Sb	09 22 46.4	-1.4
	56nm,0.4s						
GDB	**GEDABAY**	**2.70**	**264**	Pn	Pn	09 22 09.1	-1.3
	SNR=34						
GDB				Sn	Sn	09 22 42.2	-1.2
BTLR	**Botlikh**	**2.79**	**306**	*e*Pn	Pn	09 22 14.1	+2.5
BTLR				*e*Sn	Sn	09 22 47.1	+1.6
DLMR	**Dylym**	**2.81**	**316**	*e*Pn	Pn	09 22 13.6	+1.8
DLMR				*e*Sn	Sn	09 22 48.5	+2.5
QZX	**Qazax, Azerbai**	**2.96**	**271**	Pn	Pn	09 22 12.9	-1.0
	SNR=9.5						
QZX				Sn	Sn	09 22 51.8	+2.2
DVE	**Vedeno**	**3.02**	**310**	*e*Pn	Pb	09 22 19.8	-0.8
DVE				*e*Sn	Sb	09 22 55.8	-1.9
ORD	**Ordubad**	**3.31**	**231**	Pn	Pn	09 22 18.2	-0.6
	SNR=5.7						
ORD				Sn	Sn	09 23 00.4	+2.0
GROC	**Groznyy**	**3.36**	**311**	*e*Pn	Pn	09 22 19.1	-0.3
GROC				*e*Sn	Sn	09 23 02.6	+3.2
NAX	**Nakhchivan**	**3.47**	**238**	Pn	Pn	09 22 21.5	+0.5
NAX				Sg	Sb	09 23 11.9	+1.3
KBZ	**Khabaz**	**5.43**	**301**	*e*Pn	Pn	09 22 53.5	+5.8
KBZ				*e*Sn	Sn	09 23 50.8	+0.5
SHA1	**Shidzhatmaz**	**5.59**	**301**	*e*Pn	Pn	09 22 49.6	-0.5
SHA1				*e*Sn	Sn	09 24 00.5	+5.9
AB31	**Akbulak array**	**11.11**	**39**	⇑Pn	Pn	09 24 05.9	+0.3
	0.3nm,0.3s,baz=211,slow=12,SNR=6.1						
AB31				⇑Sn	Sn	09 26 00.1	-10
	1.4nm,0.5s,baz=220,slow=23,SNR=9.7						
AKTO	**Aktyubinsk**	**11.17**	**30**	⇓Pn	Pn	09 24 09.5	+3.1
	1.5nm,0.6s						
AKTO				⇓Sn	Sn	09 26 06.2	-5.2
	4.9nm,0.7s						

SOME ***19*** *09:58:57.8, 42.°08N×76.°22E, h15km*
KRNET ***19*** *09:58:58.0±0.1, 42.°06N×76.°19E, h18km, mb3.6*
NNC ***19*** *09:58:58.3±0.4, 42.°10N×76.°19E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=2.9km s-min=1.7km az=175.0*
KNET ***19*** *09:58:59.0±0.5, 42.°13N×76.°11E, h11km±5km, ml2.9, Error ellipse: s-maj=5.3km s-min=4.0km az=72.0*

ISC 19 09:58:58.9±1.1, 42.°11N±0.°04×76.°20E±0.°02, h11km±7km, n90, σ0.9 75/90, 52C-18D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.14**	**14**	⇑P	Pg	09 59 02.3	-0.1
	437nm,0.1s						
ULHL				⇓S	Sg	09 59 05.3	+0.4
	3μm,0.2s						
ULHL	**Ulahol**	**0.14**	**14**	⇓*i*P	Pg	09 59 02.3	-0.1
	baz=12						
ULHL				⇓*i*S	Sg	09 59 05.3	+0.4
	baz=12						
BOOM	**Boomskoye usch**	**0.42**	**333**	*i* P	Pg	09 59 07.2	-0.1
	baz=37						
BOOM				*i* S	Sg	09 59 13.7	+0.7
	baz=37						
NRN	**Naryn**	**0.69**	**192**	⇑*i*P	Pg	09 59 10.7	-1.8
	baz=94						
NRN				⇑*i*S	Sg	09 59 19.6	-2.0
	baz=94						
TKM2	**Tokmak 2**	**0.92**	**331**	⇓P	Pg	09 59 16.2	-0.5
	26nm,0.1s,SNR=95						
TKM2				⇓S	Sb	09 59 29.4	0.0
	304nm,0.1s						
TKM2	**Tokmak 2**	**0.92**	**331**	⇓P	Pg	09 59 16.1	-0.6
	5.6nm,0.2s						
TKM2				⇑S	Sb	09 59 29.4	0.0
	33nm,0.2s						
TKM2	**Tokmak 2**	**0.92**	**331**	⇑*i*P	Pg	09 59 16.2	-0.5
	baz=33						
TKM2				⇑*i*S	Sb	09 59 29.3	-0.1
	baz=33						
KST	**Kastek**	**0.94**	**350**	P	Pg	09 59 16.9	-0.3
	36nm,0.2s						
KST				S	Sb	09 59 30.6	+0.5
	155nm,0.2s						
KST	**Kastek**	**0.94**	**350**	*e*P	Pg	09 59 16.7	-0.5
	baz=51						
KST				*e*S	Sb	09 59 30.2	+0.2
	baz=51						
KST	**Kastek**	**0.94**	**350**	*e*P	Pg	09 59 16.7	-0.5
	36nm,0.2s						
KST				*e*S	Sb	09 59 30.2	+0.1
	155nm,0.2s						
MTBS	**Maitube**	**1.03**	**10**	P	Pg	09 59 18.0	-0.8
	44nm,0.1s						
MTBS				S	Sb	09 59 32.5	0.0
	312nm,0.2s						
MTBS	**Maitube**	**1.03**	**10**	*e*P	Pg	09 59 18.0	-0.8
	baz=9.0						
MTBS				*e*S	Sb	09 59 32.5	+0.1
	baz=9.0						
MTBS	**Maitube**	**1.03**	**10**	*e*P	Pg	09 59 18.0	-0.8
	44nm,0.1s						
MTBS				*e*S	Sb	09 59 32.5	0.0
	312nm,0.2s						
KBK	**Karagaybulak**	**1.07**	**301**	⇑P	Pg	09 59 18.8	-0.8
	25nm,0.1s,SNR=48						
KBK				⇑S	Sb	09 59 33.9	+0.2
	211nm,0.2s						
KBK	**Karagaybulak**	**1.07**	**301**	⇑*i*P	Pg	09 59 18.6	-1.0
	baz=3.0						
KBK				⇑*i*S	Sg	09 59 33.4	-0.2
	baz=3.0						
TNSS	**Tian-Shan**	**1.08**	**31**	P	Pg	09 59 19.3	-0.4
	56nm,0.2s						
TNSS				S	Sb	09 59 34.0	0.0
	266nm,0.2s						
TNSS	**Tian-Shan**	**1.08**	**31**	*e*P	Pg	09 59 19.3	-0.4
	baz=29						
TNSS				*e*S	Sb	09 59 34.1	0.0
	baz=29						
TNSS	**Tian-Shan**	**1.08**	**31**	*e*P	Pg	09 59 19.3	-0.4
	56nm,0.2s						
TNSS				*e*S	Sb	09 59 34.0	0.0
	266nm,0.2s						
DGS	**Degeres**	**1.17**	**345**	*e*P	Pb	09 59 20.3	-1.0
	baz=46						
DGS				*e*S	Sg	09 59 36.7	0.0
	baz=46						
DGS	**Degeres**	**1.17**	**345**	*e*P	Pb	09 59 20.3	-1.0
	22nm,0.2s						
DGS				*e*S	Sg	09 59 36.7	0.0
	253nm,0.2s						
AAA	**Alma-Ata**	**1.22**	**26**	P	Pn	09 59 21.9	-0.1
	113nm,0.1s						
AAA				S	Sn	09 59 39.1	+0.6
	358nm,0.2s						
AAA	**Alma-Ata**	**1.22**	**26**	*e*P	Pn	09 59 21.6	-0.3
	113nm,0.1s						
AAA				*e*S	Sn	09 59 38.5	+0.1
	358nm,0.2s						
KNDC	**Almaty**	**1.24**	**27**	⇓P	Pn	09 59 22.3	0.0
	46nm,0.3s						
KNDC				⇑S	Sn	09 59 39.7	+0.7
	550nm,0.7s						
ANVS	**Anan'yevo**	**1.28**	**58**	⇑*i*P	Pn	09 59 22.2	-0.7
	baz=56						
ANVS				⇑*i*S	Sb	09 59 39.7	+0.1
	baz=56						
KOTS	**Kotyrbulak**	**1.31**	**31**	P	Pb	09 59 23.5	-0.1
	45nm,0.1s						
KOTS				S	Sg	09 59 42.0	+0.9
	366nm,0.2s						
KOTS	**Kotyrbulak**	**1.31**	**31**	*e*P	Pb	09 59 23.6	0.0
	baz=30						
KOTS				*e*S	Sg	09 59 42.1	+1.0
	baz=30						
KOTS	**Kotyrbulak**	**1.31**	**31**	*e*P	Pb	09 59 23.6	-0.1
	45nm,0.1s						
KOTS				*e*S	Sg	09 59 42.0	+0.9
	366nm,0.2s						
FRU1	**Bishkek**	**1.35**	**302**	⇓*i*P	Pn	09 59 23.9	+0.1
	baz=4.0						
FRU1				⇓*i*S	Sg	09 59 42.4	-0.1
	baz=4.0						
AAK	**Ala-Archa**	**1.36**	**293**	⇑P	Pn	09 59 23.5	-0.6
	31nm,0.2s,SNR=13						
AAK				⇓S	Sb	09 59 41.6	-0.5
	130nm,0.2s						
AAK	**Ala-Archa**	**1.36**	**293**	⇑*i*P	Pn	09 59 23.5	-0.6
	baz=95						
AAK				⇑*i*S	Sb	09 59 41.9	-0.2
	baz=95						
CHMS	**Chumysh**	**1.39**	**310**	⇓P	Pn	09 59 24.5	+0.2
	20nm,0.2s,SNR=17						
CHMS				⇓S	Sg	09 59 43.4	-0.2
	112nm,0.2s						
CHMS	**Chumysh**	**1.39**	**310**	⇑P	Pn	09 59 24.1	-0.1
	5.0nm,0.2s						
CHMS				⇓S	Sg	09 59 43.2	-0.4
	17nm,0.2s						
CHMS	**Chumysh**	**1.39**	**310**	⇑*i*P	Pn	09 59 24.1	-0.2
	baz=12						
CHMS				⇑*i*S	Sn	09 59 43.0	+0.4
	baz=12						
ARLS	**Aral**	**1.42**	**260**	⇑*e*P	Pn	09 59 24.0	-0.8
	baz=62						
ARLS				⇑*i*S	Sn	09 59 42.7	-0.9
	baz=62						
KRBS	**Karabastau**	**1.63**	**347**	P	Pb	09 59 29.0	0.0
	53nm,0.2s						
KRBS				S	Sg	09 59 51.3	0.0
	57nm,0.2s						
KRBS	**Karabastau**	**1.63**	**347**	*e*P	Pb	09 59 29.0	0.0
	baz=47						
KRBS				*e*S	Sg	09 59 51.3	0.0
	baz=47						
KRBS	**Karabastau**	**1.63**	**347**	*e*P	Pb	09 59 29.0	0.0
	53nm,0.2s						
KRBS				*e*S	Sg	09 59 51.3	0.0
	57nm,0.2s						
KTBS	**Karatobe**	**1.64**	**12**	P	Pb	09 59 29.3	+0.1
	82nm,0.1s						
KTBS				S	Sg	09 59 51.5	-0.1
	242nm,0.1s						
KTBS	**Karatobe**	**1.64**	**12**	*e*P	Pb	09 59 29.3	+0.1
	baz=12						
KTBS				*e*S	Sg	09 59 51.5	-0.1
	baz=12						
KTBS	**Karatobe**	**1.64**	**12**	*e*P	Pb	09 59 29.3	+0.1
	82nm,0.1s						
KTBS				*e*S	Sg	09 59 51.5	-0.1
	298nm,0.2s						
PRZ	**Przheval'sk**	**1.68**	**77**	⇑*e*P	Pn	09 59 29.1	+0.7
	baz=74						
PRZ				⇑*i*S	Sb	09 59 51.6	+0.5
	baz=74						
USP	**Ospenovka**	**1.70**	**313**	⇓P	Pb	09 59 30.0	-0.2
	19nm,0.2s,SNR=15						
USP				⇓S	Sg	09 59 53.3	-0.3
	139nm,0.2s						
USP	**Ospenovka**	**1.70**	**313**	⇓*e*P	Pb	09 59 29.7	-0.5
	baz=15						
USP				⇑*i*S	Sg	09 59 52.7	-0.9
	baz=15						
SGDS	**Sogindy**	**1.77**	**320**	P	Pb	09 59 30.7	-0.7
	15nm,0.1s						
SGDS				S	Sb	09 59 54.4	+0.9
	62nm,0.1s						
KUU	**Kurty**	**1.78**	**3**	P	Pb	09 59 31.7	+0.1
	84nm,0.3s						
KUU				S	Sg	09 59 56.0	-0.3
	130nm,0.1s						
KUU	**Kurty**	**1.78**	**3**	*e*P	Pb	09 59 31.7	+0.1
	baz=3.0						
KUU				*e*S	Sg	09 59 56.0	-0.2
	baz=3.0						
KUU	**Kurty**	**1.78**	**3**	*e*P	Pb	09 59 31.7	+0.1
	84nm,0.3s						
KUU				*e*S	Sg	09 59 56.0	-0.3
	130nm,0.1s						
CHKK	**Chushkaly**	**1.83**	**18**	*e*P	Pb	09 59 32.3	-0.2
	61nm,0.2s						
CHKK				*e*S	Sg	09 59 56.9	-1.1
	259nm,0.3s						
AML	**Almayashu**	**1.86**	**271**	⇑P	Pb	09 59 32.4	-0.8
	93nm,0.2s,SNR=101						
AML				⇑S	Sb	09 59 57.2	+0.6
	93nm,0.2s						
AML	**Almayashu**	**1.86**	**271**	⇑P	Pb	09 59 32.4	-0.8
	0.9nm,0.2s						
AML				⇑S	Sb	09 59 56.4	-0.2
	3.3nm,0.3s						
AML	**Almayashu**	**1.86**	**271**	⇑*e*P	Pn	09 59 31.9	+0.8
	baz=73						
AML				⇑*i*S	Sb	09 59 56.6	0.0
	baz=73						
EKS2	**Erkin-Say**	**1.87**	**288**	⇑P	Pb	09 59 33.0	-0.2
	22nm,0.2s,SNR=29						
EKS2				⇑S	Sg	09 59 58.2	-0.9
	46nm,0.2s						
EKS2	**Erkin-Say**	**1.87**	**288**	⇑*e*P	Pn	09 59 32.1	+1.1
	baz=89						
EKS2				⇑*i*S	Sb	09 59 56.9	+0.2
	baz=89						
SATY	**Saty**	**1.89**	**59**	P	Pb	09 59 33.1	-0.3
	39nm,0.2s						
SATY				S	Sg	09 59 58.4	-1.1
	664nm,0.1s						
SATY	**Saty**	**1.89**	**59**	*e*P	Pb	09 59 33.1	-0.4
	baz=58						
SATY				*e*S	Sg	09 59 58.4	-1.2
	baz=58						
SATY	**Saty**	**1.89**	**59**	*e*P	Pb	09 59 33.1	-0.3
	39nm,0.2s						
SATY				*e*S	Sg	09 59 58.5	-1.1
	664nm,0.1s						
ZHN	**Zhinishke**	**1.96**	**57**	Pg	Pb	09 59 34.0	-0.7
	47nm,0.3s						
ZHN				Lg	Lg	10 00 00.2	
	722nm,0.2s						
ZHN	**Zhinishke**	**1.96**	**57**	*e*P	Pb	09 59 34.0	-0.7
	baz=56						
ZHN				*e*S	Sb	10 00 00.2	+1.0
	baz=56						
ZHN	**Zhinishke**	**1.96**	**57**	*e*P	Pb	09 59 34.0	-0.7
	47nm,0.3s						
ZHN				*e*S	Sb	10 00 00.2	+1.0
	722nm,0.2s						
KURS	**Kuram**	**2.00**	**46**	Pg	Pb	09 59 34.8	-0.6
	20nm,0.4s						
KURS				Lg	Lg	10 00 01.3	
	189nm,0.4s						
KURS	**Kuram**	**2.00**	**46**	*e*P	Pb	09 59 34.8	-0.6
	baz=45						
KURS				*e*S	Sb	10 00 01.3	+1.0
	baz=45						
KURS	**Kuram**	**2.00**	**46**	*e*Pg	Pb	09 59 34.8	-0.6
	20nm,0.4s						
KURS				*e*Lg	Lg	10 00 01.3	
	189nm,0.4s						
KPKS	**Kokpek**	**2.28**	**53**	Pg	Pb	09 59 39.1	-1.0
	45nm,0.4s						
KPKS				Lg	Lg	10 00 08.6	
	315nm,0.3s						
KPKS	**Kokpek**	**2.28**	**53**	*e*Pg	Pb	09 59 39.1	-1.0
	45nm,0.4s						
KPKS				*e*Lg	Lg	10 00 08.6	
	315nm,0.3s						
MRKS	**Merke**	**2.29**	**287**	Pg	Pb	09 59 40.3	0.0
	50nm,0.2s						
MRKS				Lg	Lg	10 00 10.7	
	137nm,0.3s						
MRKS	**Merke**	**2.29**	**287**	*e*Pg	Pb	09 59 40.3	0.0
	50nm,0.2s						
MRKS				*e*Lg	Lg	10 00 10.7	
	137nm,0.3s						
UZB	**Uzynbulak**	**2.33**	**63**	Pg	Pb	09 59 39.4	-1.6
	20nm,0.3s						
UZB				Lg	Lg	10 00 10.6	
	163nm,0.2s						
UZB	**Uzynbulak**	**2.33**	**63**	*e*P	Pb	09 59 39.4	-1.6
	baz=62						
UZB				*e*S	Sb	10 00 09.5	-0.3
	baz=62						
UZB	**Uzynbulak**	**2.33**	**63**	*e*Pg	Pb	09 59 39.4	-1.6
	20nm,0.3s						
UZB				*e*Lg	Lg	10 00 09.5	
	163nm,0.2s						
ARXS	**Arharly**	**2.42**	**29**	Pg	Pb	09 59 41.8	-0.6
	114nm,0.2s						
ARXS				Lg	Lg	10 00 13.3	
	332nm,0.3s						
ARXS	**Arharly**	**2.42**	**29**	*e*Pg	Pb	09 59 41.8	-0.6
	114nm,0.2s						
ARXS				*e*Lg	Lg	10 00 13.3	
	332nm,0.3s						
ARSB	**Arslanbob**	**2.53**	**253**	⇑*i*P	Pn	09 59 40.8	+0.7
	baz=54						
ARSB				⇑*i*S	Sn	10 00 11.9	+0.9
	baz=54						
BLB	**Baldybastay**	**2.59**	**39**	Pg	Pb	09 59 44.8	-0.8
	54nm,0.2s						
BLB				Lg	Lg	10 00 19.7	
	128nm,0.2s						
SHLS	**Shalkode**	**2.63**	**65**	Pg	Pg	09 59 50.4	+1.1
	21nm,0.4s						
SHLS				Lg	Lg	10 00 28.2	
	257nm,0.3s						
SHLS	**Shalkode**	**2.63**	**65**	*e*Pg	Pg	09 59 50.4	+1.1
	21nm,0.4s						
SHLS				*e*Lg	Lg	10 00 28.2	
	257nm,0.3s						
PDGK	**Podgornoye**	**2.71**	**62**	⇓Lg	Lg	10 00 25.7	
	61nm,0.6s						
MNAS	**Manas**	**2.76**	**279**	⇓*i*P	Pn	09 59 44.3	+1.0
	baz=80						
MNAS				⇓*i*S	Sn	10 00 18.1	+1.4
	baz=80						
SFK	**Sufi-Kurgan**	**2.92**	**225**	⇑*i*P	Pn	09 59 46.1	+0.5
	baz=26						
SFK				⇑*i*S	Sn	10 00 20.9	+0.1
	baz=26						
OHH	**Osh**	**3.02**	**239**	⇑*i*P	Pn	09 59 47.3	+0.6
	baz=40						
OHH				⇑*i*S	Sn	10 00 23.4	+0.5
	baz=40						
KNOS	**Konyrlen**	**3.13**	**43**	Pg	Pb	09 59 54.9	+0.2
	17nm,0.2s						
KNOS				Lg	Lg	10 00 35.7	
	51nm,0.4s						
ARK	**Arkit**	**3.17**	**266**	⇑*i*P	Pn	09 59 49.9	+1.0
	baz=67						
ARK				⇑*i*S	Sn	10 00 27.7	+0.9
	baz=67						
TDK	**Taldyqorghan**	**3.31**	**28**	Pg	Pb	09 59 59.2	+1.7
	53nm,0.2s						
TDK				Lg	Lg	10 00 43.3	
	139nm,0.2s						
TDK	**Taldyqorghan**	**3.31**	**28**	*e*Pg	Pb	09 59 59.2	+1.7
	53nm,0.2s						
TDK				*e*Lg	Lg	10 00 43.3	
	139nm,0.2s						
TRKS	**Terek-Say**	**3.82**	**263**	⇑*e*P	Pn	09 59 58.7	+0.8
	baz=63						
TRKS				⇑*i*S	Sn	10 00 42.9	0.0
	baz=63						
DRK	**Karamyk**	**4.25**	**233**	⇑*i*P	Pn	10 00 04.5	+0.7
	baz=34						
DRK				⇑*i*S	Sn	10 00 53.2	-0.3
	baz=34						
KK31	**Karatay Array**	**4.31**	**285**	⇑Pg	Pb	10 00 16.4	+1.7
	2.6nm,0.5s,baz=110,slow=15,SNR=4.7						
KK31				⇑Lg	Lg	10 01 16.4	
	5.3nm,0.5s,baz=103,slow=26,SNR=6.4						
BTK	**Batken**	**4.55**	**245**	⇑*i*P	Pn	10 00 08.8	+1.0
	baz=46						
BTK				⇑*i*S	Sn	10 01 00.4	-0.4
	baz=46						
IUG	**Iuzhnay**	**4.58**	**272**	Pg	Pb	10 00 21.7	+2.3
	14nm,0.3s						
IUG				Lg	Lg	10 01 21.7	
	34nm,0.5s						
IUG	**Iuzhnay**	**4.58**	**272**	*e*Pg	Pb	10 00 21.7	+2.3
	14nm,0.3s

MK31 ⇑Lg Lg 10 02 22.4
5.9nm,0.8s,baz=222,slow=28,SNR=3.5

*NNC **19** 10:09:09.5±0.6,42.°11N×76.°18E,h0km,mb3.6,mpv3.4, Error ellipse: s-maj=4.0km s-min=2.5km az=172.0*
*SOME **19** 10:09:09.4,42.°08N×76.°22E,h10km*
*KRNET **19** 10:09:09.3±0.1,42.°06N×76.°18E,h18km,mb3.0*
*KNET **19** 10:09:10.3±0.6,42.°12N×76.°08E,h9km±5km,ml2.2, Error ellipse: s-maj=4.9km s-min=4.4km az=109.0*
ISC 19 10:09:10.0±0.9,42.°11N±0.°02×76.°18E±0.°02,h11km±6km, n79,σ0°67/136,41C-18D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol** 103nm,0.1s	**0.15**	**19**	⇑P	**Pg**	**10 09 13.6**	**0.0**
ULHL	654nm,0.2s			⇑S	**Sg**	**10 09 16.5**	**+0.5**
ULHL	**Ulahol** baz=14	**0.15**	**19**	⇑*i*P	**Pg**	**10 09 13.5**	**0.0**
ULHL	baz=14			⇑*i*S	**Sg**	**10 09 16.5**	**+0.5**
BOOM	**Boomskoye usch** baz=38	**0.42**	**335**	⇑*i*P	**Pg**	**10 09 18.4**	**0.0**
BOOM	baz=38			⇑*i*S	**Sb**	**10 09 25.0**	**-1.2**
NRN	**Naryn** baz=94	**0.68**	**191**	⇑*i*P	**Pg**	**10 09 21.9**	**-1.4**
NRN	baz=94			⇑*i*S	**Sg**	**10 09 30.8**	**-1.5**
TKM2	**Tokmak 2** 6.9nm,0.1s,SNR=29	**0.92**	**332**	⇑P	**Pg**	**10 09 27.4**	**-0.3**
TKM2	69nm,0.1s			⇑S	**Sb**	**10 09 40.8**	**+0.3**
TKM2	**Tokmak 2** 2.4nm,0.3s	**0.92**	**332**	⇓P	**Pg**	**10 09 27.4**	**-0.3**
TKM2	27nm,0.5s			⇓S	**Sb**	**10 09 40.3**	**-0.2**
TKM2	**Tokmak 2** baz=33	**0.92**	**332**	⇑*i*P	**Pg**	**10 09 27.4**	**-0.3**
TKM2	baz=33			⇑*i*S	**Sb**	**10 09 40.6**	**+0.1**
IZV	**Izvestkoviy** 6.0nm,0.1s	**0.98**	**19**	P	**Pg**	**10 09 28.6**	**-0.3**
IZV	79nm,0.1s			S	**Sb**	**10 09 42.2**	**-0.1**
IZV	**Izvestkoviy** baz=18	**0.98**	**19**	*e*P	**Pg**	**10 09 28.6**	**-0.3**
IZV	baz=18			*e*S	**Sb**	**10 09 42.2**	**-0.1**
IZV	**Izvestkoviy** 6.0nm,0.1s	**0.98**	**19**	*e*P	**Pg**	**10 09 28.6**	**-0.3**
IZV	79nm,0.1s			*e*S	**Sb**	**10 09 42.2**	**-0.1**
MTBS	**Maitube** 15nm,0.1s	**1.04**	**10**	P	**Pg**	**10 09 29.5**	**-0.5**
MTBS	46nm,0.2s			S	**Sb**	**10 09 43.6**	**-0.2**
MTBS	**Maitube** baz=10.0	**1.04**	**10**	*e*P	**Pg**	**10 09 29.5**	**-0.5**
MTBS	baz=10.0			*e*S	**Sb**	**10 09 43.7**	**-0.2**
MTBS	**Maitube** 15nm,0.1s	**1.04**	**10**	*e*P	**Pg**	**10 09 29.5**	**-0.5**
MTBS	46nm,0.2s			*e*S	**Sb**	**10 09 43.6**	**-0.2**
KBK	**Karagaybulak** 9.7nm,0.1s,SNR=5.4	**1.06**	**302**	⇑P	**Pg**	**10 09 30.0**	**-0.5**
KBK	39nm,0.2s			⇓S	**Sb**	**10 09 44.5**	**-0.1**
KBK	**Karagaybulak** baz=3.0	**1.06**	**302**	⇑*i*P	**Pg**	**10 09 29.8**	**-0.7**
KBK	baz=3.0			⇑*i*S	**Sb**	**10 09 44.8**	**+0.2**
TNSS	**Tian-Shan** 20nm,0.3s	**1.09**	**31**	P	**Pg**	**10 09 30.5**	**-0.5**
TNSS	36nm,0.1s			S	**Sb**	**10 09 45.4**	**-0.2**
TNSS	**Tian-Shan** 11nm,0.1s	**1.09**	**31**	*e*P	**Pg**	**10 09 30.5**	**-0.5**
TNSS	36nm,0.1s			*e*S	**Sb**	**10 09 45.4**	**-0.2**
DGS	**Degeres** 6.8nm,0.2s	**1.18**	**345**	P	**Pn**	**10 09 32.3**	**-0.2**
DGS	70nm,0.2s			S	**Sn**	**10 09 48.5**	**-0.2**
DGS	**Degeres** baz=46	**1.18**	**345**	*e*P	**Pn**	**10 09 32.3**	**-0.2**
DGS	baz=46			*e*S	**Sn**	**10 09 48.5**	**-0.2**
DGS	**Degeres** 7.0nm,0.1s	**1.18**	**345**	*e*P	**Pn**	**10 09 32.3**	**-0.2**
DGS	70nm,0.2s			*e*S	**Sn**	**10 09 48.5**	**-0.2**
ANVS	**Anan'yevo** baz=56	**1.29**	**58**	⇑*i*P	**Pn**	**10 09 33.7**	**-0.5**
ANVS	baz=56			⇑*i*S	**Sn**	**10 09 51.5**	**-0.2**
KOTS	**Kotyrbulak** 16nm,0.2s	**1.32**	**31**	P	**Pg**	**10 09 35.0**	**-0.4**
KOTS	88nm,0.2s			S	**Sg**	**10 09 53.4**	**+0.8**
KOTS	**Kotyrbulak** 16nm,0.2s	**1.32**	**31**	*e*P	**Pg**	**10 09 35.0**	**-0.4**
KOTS	88nm,0.2s			*e*S	**Sg**	**10 09 53.4**	**+0.8**
FRU1	**Bishkek** baz=4.0	**1.34**	**302**	⇑*i*P	**Pb**	**10 09 35.0**	**-0.3**
FRU1	baz=4.0			⇑*i*S	**Sg**	**10 09 53.7**	**+0.4**
AAK	**Ala-Archa** 8.3nm,0.2s,SNR=14	**1.36**	**294**	⇓P	**Pn**	**10 09 34.7**	**-0.4**
AAK	26nm,0.2s			⇑S	**Sn**	**10 09 52.9**	**-0.3**
AAK	**Ala-Archa** baz=95	**1.36**	**294**	⇓*i*P	**Pn**	**10 09 34.8**	**-0.3**
AAK	baz=95			⇓*i*S	**Sg**	**10 09 53.3**	**-0.3**
CHMS	**Chumysh** 24nm,0.1s	**1.38**	**311**	⇓P	**Pb**	**10 09 35.6**	**-0.2**
CHMS				⇓S	**Sg**	**10 09 54.3**	**-0.1**
CHMS	**Chumysh** 23nm,0.5s	**1.38**	**311**	⇑Sn	**Sg**	**10 09 54.4**	**-0.1**
CHMS	**Chumysh** baz=12	**1.38**	**311**	⇓*i*P	**Pb**	**10 09 35.4**	**-0.5**
CHMS	baz=12			⇓*i*S	**Sg**	**10 09 54.4**	**-0.1**
ARLS	**Aral** baz=62	**1.40**	**261**	⇑*i*P	**Pn**	**10 09 35.2**	**-0.5**
ARLS	baz=62			⇑*i*S	**Sb**	**10 09 54.0**	**-0.3**
KRBS	**Karabastau** 3.3nm,0.2s	**1.63**	**347**	P	**Pb**	**10 09 40.2**	**0.0**
KRBS	25nm,0.5s			S	**Sg**	**10 10 01.9**	**-0.5**
KRBS	**Karabastau** baz=47	**1.63**	**347**	*e*P	**Pb**	**10 09 40.2**	**0.0**
KRBS	baz=47			*e*S	**Sg**	**10 10 02.0**	**-0.5**
KRBS	**Karabastau** 3.3nm,0.2s	**1.63**	**347**	*e*P	**Pb**	**10 09 40.2**	**0.0**
KRBS	25nm,0.5s			*e*S	**Sg**	**10 10 01.9**	**-0.5**
KTBS	**Karatobe** 24nm,0.2s	**1.65**	**13**	P	**Pb**	**10 09 40.4**	**0.0**
KTBS	24nm,0.2s			S	**Sg**	**10 10 02.6**	**-0.4**
KTBS	**Karatobe** baz=12	**1.65**	**13**	*e*P	**Pb**	**10 09 40.4**	**0.0**
KTBS	baz=12			*e*S	**Sg**	**10 10 02.6**	**-0.4**
KTBS	**Karatobe** 24nm,0.2s	**1.65**	**13**	*e*P	**Pb**	**10 09 40.4**	**0.0**
KTBS	24nm,0.2s			*e*S	**Sg**	**10 10 02.6**	**-0.4**
USP	**Ospenovka** 8.2nm,0.2s,SNR=11	**1.70**	**314**	⇑P	**Pb**	**10 09 41.4**	**+0.1**
USP	38nm,0.3s			⇑S	**Sg**	**10 10 04.5**	**-0.1**
USP	**Ospenovka** baz=15	**1.70**	**314**	⇑*i*P	**Pb**	**10 09 41.0**	**-0.3**
USP	baz=15			⇑*i*S	**Sg**	**10 10 04.2**	**-0.3**
SGDS	**Sogindy** 4.5nm,0.1s	**1.76**	**320**	P	**Pb**	**10 09 42.6**	**+0.2**
SGDS	21nm,0.1s			S	**Sg**	**10 10 06.1**	**-0.6**
KUU	**Kurty** 24nm,0.3s	**1.79**	**4**	P	**Pb**	**10 09 42.9**	**+0.1**
KUU	27nm,0.2s			S	**Sg**	**10 10 06.8**	**-0.8**
KUU	**Kurty** baz=4.0	**1.79**	**4**	*e*P	**Pb**	**10 09 42.9**	**+0.1**
KUU	baz=4.0			*e*S	**Sg**	**10 10 06.7**	**-0.8**
KUU	**Kurty** 24nm,0.3s	**1.79**	**4**	*e*P	**Pb**	**10 09 42.9**	**+0.1**
KUU	27nm,0.2s			*e*S	**Sg**	**10 10 06.8**	**-0.8**
CHKK	**Chushkaly** baz=18	**1.85**	**19**	*e*P	**Pb**	**10 09 43.9**	**+0.1**
CHKK	baz=18			*e*S	**Sg**	**10 10 08.3**	**-1.1**
CHKK	**Chushkaly** 23nm,0.2s	**1.85**	**19**	*e*P	**Pb**	**10 09 43.9**	**+0.1**
CHKK	57nm,0.3s			*e*S	**Sg**	**10 10 08.2**	**-1.1**
AML	**Almayashu** 19nm,0.2s,SNR=20	**1.85**	**272**	⇑P	**Pb**	**10 09 43.8**	**-0.3**
AML	21nm,0.2s			⇑S	**Sg**	**10 10 08.5**	**-1.0**
AML	**Almayashu** 0.3nm,0.3s	**1.85**	**272**	⇑Pn	**Pb**	**10 09 43.2**	**-0.8**
AML	3.4nm,0.6s			⇑Sn	**Sg**	**10 10 08.4**	**-1.0**
AML	**Almayashu** baz=73	**1.85**	**272**	⇑*i*P	**Pb**	**10 09 43.4**	**-0.6**
AML	baz=73			⇑*i*S	**Sg**	**10 10 08.1**	**-1.3**
EKS2	**Erkin-Say** 4.9nm,0.2s,SNR=9.3	**1.86**	**288**	⇑P	**Pb**	**10 09 44.3**	**+0.1**
EKS2	**Erkin-Say** baz=89	**1.86**	**288**	⇓*i*P	**Pb**	**10 09 43.5**	**-0.6**
EKS2	baz=89			⇓*i*S	**Sg**	**10 10 08.5**	**-1.4**
SATY	**Saty** 11nm,0.2s	**1.90**	**59**	P	**Pb**	**10 09 44.7**	**-0.1**
SATY	260nm,0.1s			S	**Sg**	**10 10 09.7**	**-1.4**
SATY	**Saty** baz=58	**1.90**	**59**	*e*P	**Pb**	**10 09 44.7**	**-0.1**
SATY	baz=58			*e*S	**Sg**	**10 10 09.7**	**-1.4**
SATY	**Saty** 11nm,0.2s	**1.90**	**59**	*e*P	**Pb**	**10 09 44.7**	**-0.1**
SATY	260nm,0.1s			*e*S	**Sg**	**10 10 09.7**	**-1.4**
ZHN	**Zhinishke** 14nm,0.2s	**1.98**	**57**	Pg	**Pb**	**10 09 45.6**	**-0.4**
ZHN	121nm,0.2s			Lg	Lg	10 10 11.3	
ZHN	**Zhinishke** baz=56	**1.98**	**57**	*e*P	**Pb**	**10 09 45.6**	**-0.4**
ZHN	baz=56			*e*S	**Sb**	**10 10 11.3**	**+0.5**
ZHN	**Zhinishke** 14nm,0.2s	**1.98**	**57**	*e*P	**Pb**	**10 09 45.6**	**-0.4**
ZHN	121nm,0.2s			*e*S	**Sb**	**10 10 11.3**	**+0.5**
KURS	**Kuram** 7.1nm,0.5s	**2.02**	**46**	Pg	**Pb**	**10 09 46.2**	**-0.5**
KURS	52nm,0.3s			Lg	Lg	10 10 12.4	
KURS	**Kuram** baz=45	**2.02**	**46**	*e*P	**Pb**	**10 09 46.2**	**-0.5**
KURS	baz=45			*e*S	**Sb**	**10 10 12.4**	**+0.6**
KURS	**Kuram** 7.1nm,0.5s	**2.02**	**46**	*e*Pg	**Pb**	**10 09 46.2**	**-0.5**
KURS	52nm,0.3s			*e*Lg	Lg	10 10 12.4	
MRKS	**Merke** 15nm,0.5s	**2.28**	**287**	Pg	**Pb**	**10 09 51.1**	**-0.1**
MRKS	34nm,0.4s			Lg	Lg	10 10 20.8	
MRKS	**Merke** 15nm,0.5s	**2.28**	**287**	*e*Pg	**Pb**	**10 09 51.1**	**-0.1**
MRKS	34nm,0.4s			*e*Lg	Lg	10 10 20.8	
KPKS	**Kokpek** 12nm,0.2s	**2.29**	**53**	Pg	**Pb**	**10 09 50.9**	**-0.5**
KPKS	86nm,0.3s			Lg	Lg	10 10 20.6	
KPKS	**Kokpek** 12nm,0.2s	**2.29**	**53**	*e*Pg	**Pb**	**10 09 50.9**	**-0.5**
KPKS	86nm,0.3s			*e*Lg	Lg	10 10 20.6	
UZB	**Uzynbulak** 5.7nm,0.3s	**2.34**	**63**	Pg	**Pb**	**10 09 51.4**	**-0.9**
UZB	55nm,0.2s			Lg	Lg	10 10 22.1	
UZB	**Uzynbulak** 5.7nm,0.3s	**2.34**	**63**	*e*Pg	**Pb**	**10 09 51.4**	**-0.9**
UZB	55nm,0.2s			*e*Lg	Lg	10 10 22.1	
ARXS	**Arharly** 38nm,0.2s	**2.43**	**29**	Pg	**Pb**	**10 09 53.5**	**-0.2**
ARXS	62nm,0.4s			Lg	Lg	10 10 24.9	
ARXS	**Arharly** 38nm,0.2s	**2.43**	**29**	*e*Pg	**Pb**	**10 09 53.5**	**-0.2**
ARXS	62nm,0.4s			*e*Lg	Lg	10 10 24.9	
ARSB	**Arslanbob** baz=54	**2.52**	**253**	⇑*i*P	**Pn**	**10 09 52.2**	**+1.2**
ARSB	baz=54			⇑*i*S	**Sn**	**10 10 23.3**	**+1.5**
BLB	**Baldybastay** 18nm,0.2s	**2.61**	**39**	Pg	**Pb**	**10 09 56.0**	**-0.8**
BLB	37nm,0.3s			Lg	Lg	10 10 30.7	
SHLS	**Shalkode** 5.6nm,0.3s	**2.64**	**65**	Pg	**Pg**	**10 10 02.3**	**+1.7**
SHLS	74nm,0.3s			Lg	Lg	10 10 39.9	
SHLS	**Shalkode** 5.6nm,0.3s	**2.64**	**65**	*e*Pg	**Pg**	**10 10 02.3**	**+1.7**
SHLS	74nm,0.3s			*e*Lg	Lg	10 10 39.9	
PDGK	**Podgornoye** 25nm,0.8s	**2.73**	**62**	⇑Lg	Lg	10 10 34.8	
SFK	**Sufi-Kurgan** baz=26	**2.91**	**225**	⇓*i*P	**Pn**	**10 09 57.3**	**+0.8**
SFK	baz=26			⇓*i*S	**Sn**	**10 10 32.2**	**+0.7**
OHH	**Osh** baz=40	**3.00**	**239**	⇓*i*P	**Pn**	**10 09 59.0**	**+1.4**
OHH	baz=40			⇓*i*S	**Sn**	**10 10 34.9**	**+1.2**
KNOS	**Konyrlen** 3.7nm,0.4s	**3.14**	**43**	Pg	**Pb**	**10 10 06.2**	**+0.2**
KNOS	13nm,0.4s			Lg	Lg	10 10 46.8	
ARK	**Arkit** baz=67	**3.16**	**266**	⇑*i*P	**Pn**	**10 10 01.3**	**+1.5**
ARK	baz=67			⇑*i*S	**Sn**	**10 10 39.2**	**+1.6**
KTMS	**Ketmen** 0.9nm,0.3s	**3.35**	**65**	Pg	**Pb**	**10 10 08.6**	**-1.0**
KTMS	12nm,0.3s			Lg	Lg	10 10 50.7	
KTMS	**Ketmen** 0.9nm,0.3s	**3.35**	**65**	*e*Pg	**Pb**	**10 10 10.3**	**+0.8**
KTMS	12nm,0.3s			*e*Lg	Lg	10 10 53.6	
TRKS	**Terek-Say** baz=63	**3.81**	**263**	⇑*i*P	**Pn**	**10 10 09.9**	**+1.1**
TRKS	baz=63			⇑*i*S	**Sn**	**10 10 54.4**	**+0.7**
KK31	**Karatay Array** 1.1nm,0.5s,baz=128,slow=36,SNR=4.0	**4.30**	**285**	⇓Pg	**Pb**	**10 10 26.4**	**+0.8**
KK31	1.5nm,0.5s,baz=102,slow=27,SNR=5.0			⇓Lg	Lg	10 11 26.4	

*IDC **19** 10:27:10.2±1.8,4.°74S×131.°28E,h0km,mb3.9/5, mbtmp3.9/7,ML3.9/2,Error ellipse: s-maj=105.1km s-min=25.3km az=72.0*
*DJA **19** 10:27:17.6±0.4,5.°S±3.°×13.°1E±.°,h94km±10km,M4.2/12, mb4.2/2,MLv4.2/12*
ISC 19 10:27:15.2±0.8,4.°96S±0.°07×131.°12E±0.°06,h35km,n15, σ2°13/17,mb4.1/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.29**	**290**	P	**Pn**	**10 27 39.1**	**+2.4**
BNDI				S	**Sn**	**10 27 55.6**	**+2.9**
FAKI	**Fak Fak**	**2.32**	**29**	P	**Pn**	**10 27 50.5**	**-0.4**
KMPI	**Kaimana, Papua**	**2.88**	**64**	P	**Pn**	**10 28 01.4**	**+2.8**
SAUI	**Saumlaki**	**3.01**	**177**	P	Pn	10 28 08.2	+7.8
SWI	**Sorong**	**4.07**	**2**	P	**Pn**	**10 28 13.6**	**-1.4**
RKPI	**Ransiki, Papua**	**4.59**	**42**	P	**Pn**	**10 28 22.4**	**+0.3**
LBMI	**Labuha** 60nm,0.7s,0.4nm	**5.61**	**320**	P	**Pn**	**10 28 34.5**	**-1.7**
SANI	**Sanana**	**5.88**	**299**	P	**Pn**	**10 28 38.8**	**-1.1**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=353,slow=13,SNR=27	**15.22**	**168**	Pn	**Pn**	**10 30 47.5**	**-0.2**
WRA	0.5nm,0.3s,baz=335,slow=22,SNR=3.2			Sn	**Sn**	**10 33 30.8**	**-4.4**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=350,slow=11,SNR=33	**18.79**	**172**	P	**P**	**10 31 34.2**	**+2.5**
ASAR	0.3nm,0.4s,baz=2.1,slow=28,SNR=4.7			S	**Sn**	**10 34 59.0**	**-2.8**
CMAR	**Chiang Mai Arr** 0.6nm,0.4s,baz=133,slow=5.9,SNR=4.5	**39.34**	**307**	P	**P**	**10 34 41.5**	**0.0**
SONM	**Songino Array** 0.3nm,0.4s,baz=152,slow=6.5,SNR=1.6	**56.89**	**340**	P	**P**	**10 36 56.7**	**0.0**
MKAR	**Makanchi Array** 1.0nm,0.5s,baz=115,slow=8.2,SNR=8.8	**67.15**	**326**	P	**P**	**10 38 05.4**	**-0.2**
ZALV	**Zalesovo Beam** 1.3nm,0.6s,baz=77,slow=6.4,SNR=4.6	**70.27**	**333**	P	**P**	**10 38 23.7**	**-1.1**
KURBB	**Kurchatov Arra** 0.8nm,0.4s,baz=122,slow=5.7,SNR=12	**71.38**	**328**	P	**P**	**10 38 31.4**	**-0.2**

*NEIC **19** 10:31:53.6±2.6,30.°27S×0.°07×177.°3W±0.°2,h10km±1km, mb4.6/17,Error ellipse: s-maj=24.3km s-min=12.0km az=79.0*
*IDC **19** 10:31:55.4±4.4,30.°27S×177.°37W,h21km±26km,mb4.3/10, mbtmp4.5/12,ML3.9/2,MS4.0/4,Error ellipse: s-maj=22.4km s-min=14.9km az=76.0*
ISC 19 10:31:53.3±0.6,30.°36S±0.°05×177.°4W±0.°1,h10km,n79, σ1°39/74,mb4.6/18,MS3.9/3,3D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.18**	**339**	P	**Pb**	**10 32 15.2**	**-0.6**
GLKZ				S	**Sb**	**10 32 30.6**	**-0.5**
RAO	**Raoul Island** 1μm,0.3s,baz=114,slow=20,SNR=40	**1.19**	**339**	Pn	**Pb**	**10 32 15.4**	**-0.5**
RAO	4μm,0.3s,baz=104,slow=20,SNR=12			Sn	**Sn**	**10 32 32.6**	**+0.4**
RAO	comp=Z,1μm,19.9s,baz=100,slow=41			LR	LR	10 32 41.5	
MXZ	**Matakaoa Point**	**8.01**	**205**	Pn	**Pn**	**10 33 50.5**	**+0.8**
WMGZ	**Waiomatatini S**	**8.20**	**204**	P	**Pn**	**10 33 51.5**	**-0.8**
HAZ	**Te Kaha**	**8.38**	**207**	P	**Pn**	**10 33 52.6**	**-2.2**
HAZ				S	**Sn**	**10 35 29.9**	**+0.6**
PKGZ	**Pakihiroa**	**8.38**	**205**	P	**Pn**	**10 33 52.6**	**-2.2**
PUZ	**Puketiti**	**8.48**	**204**	P	**Pn**	**10 33 52.9**	**-3.3**
RUGZ	**Raukumara Rang**	**8.60**	**207**	P	**Pn**	**10 33 57.7**	**-0.3**
WCZ	**Waipu Caves**	**8.86**	**229**	P	Pn	10 34 10.3	+8.9
CNGZ	**Carnagh Statio**	**8.87**	**203**	P	Pn	**10 33 59.5**	**-2.0**
OUZ	**Omahuta**	**8.97**	**235**	P	Pn	10 34 11.1	+8.1
MWZ	**Matawai**	**8.98**	**206**	P	**Pn**	**10 34 00.8**	**-2.3**
URZ	**Urewera**	**9.08**	**208**	P	**Pn**	**10 34 02.5**	**-1.9**
URZ				S	**Sn**	**10 35 45.5**	**-1.1**
URZ	**Urewera** 1.2nm,0.3s,baz=359,slow=4.0,SNR=7.0	**9.08**	**208**	Pn	**Pn**	**10 34 02.8**	**-1.6**
URZ	3.5nm,0.3s,baz=109,slow=23,SNR=6.9			Sn	**Sn**	**10 35 44.0**	**-2.6**
RIGZ	**Rimuhau**	**9.22**	**204**	P	**Pn**	**10 34 04.0**	**-2.3**
MUGZ	**Murupara**	**9.40**	**209**	P	**Pn**	**10 34 06.7**	**-2.2**
RTZ	**Ruatahuna**	**9.43**	**208**	P	**Pn**	**10 34 06.8**	**-2.6**
MTHZ	**Maungatanawha**	**9.69**	**208**	P	**Pn**	**10 34 12.1**	**-0.8**
BKZ	**Black Stump Fm**	**10.10**	**208**	P	**Pn**	**10 34 15.0**	**-3.5**
HIZ	**Hauiti**	**10.32**	**216**	P	Pn	10 34 33.9	+12
KWHZ	**Kaweka Forest**	**10.35**	**208**	P	**Pn**	**10 34 19.7**	**-2.2**
BHHZ	**Black Hill Sta**	**10.55**	**209**	P	**Pn**	**10 34 25.7**	**+1.0**
RPZ	**Rata Peaks** 1.7nm,0.3s,baz=32,slow=4.0,SNR=11	**16.17**	**211**	Pn	**Pn**	**10 35 41.4**	**+0.7**
RPZ	0.4nm,0.3s,baz=39,slow=23,SNR=1.2			Sn	Sn	10 38 24.0	-16
DZM	**Mont Dzumac** 8.5nm,0.5s 0.1nm,0.3s,baz=86,slow=7.1,SNR=1.7	**16.65**	**296**	Pn	**P**	**10 35 48.1**	**-1.3**
DZM	comp=Z,371nm,18.5s,baz=196,slow=33			LR	LR	10 41 11.8	
TOO	**Toolangi** 6.6nm,0.8s	**31.43**	**247**	P	**P**	**10 38 17.6**	**+2.7**
TOO	comp=Z,12nm,0.9s			IAmb	IAmb	10 38 24.1	
CTA	**Charters Tower** comp=Z,4.4nm,0.4s,baz=103,slow=9.9,SNR=16	**34.28**	**279**	P	**P**	**10 38 41.7**	**+1.8**
CTA	comp=Z,179nm,18.2s,baz=94,slow=33 comp=Z,4.4nm,0.4s			LR	LR	10 50 40.9	
CTAO	**Charters Tower** comp=Z,9.8nm,0.8s	**34.28**	**279**	P	**P**	**10 38 42.2**	**+2.3**
CTAO	comp=Z,1.2nm,1.1s,baz=122,slow=3.4,SNR=4.3 comp=Z,3.6nm,0.5s			IAmb	IAmb	10 38 52.2	
STKA	**Stephens Creek**	**34.97**	**257**	P	**P**	**10 38 47.2**	**+1.5**
STKA	**Stephens Creek** comp=Z,11nm,0.8s,baz=89,slow=9.2,SNR=15	**34.97**	**257**	P	**P**	**10 38 47.8**	**+2.0**
STKA	comp=Z,188nm,18.5s,baz=28,slow=34 comp=Z,11nm,0.8s			LR	LR	10 51 53.7	
BBOO	**Buckleboo**	**39.45**	**254**	P	**P**	**10 39 25.0**	**+1.1**
BBOO	comp=Z,13nm,0.9s			IAmb	IAmb	10 39 25.7	
AS31	**Alice Springs**	**43.60**	**267**	P	**P**	**10 39 58.3**	**+0.2**
ASAR	**Alice Springs**	**43.60**	**267**	P	**P**	**10 39 57.3**	**-0.7**
ASAR	**Alice Springs** comp=Z,3.6nm,0.5s,baz=104,slow=7.0,SNR=33	**43.60**	**267**	P	**P**	**10 39 58.0**	**-0.1**
ASAR	comp=Z,1.4nm,0.8s,baz=113,slow=4.2,SNR=3.6			PcP	**PcP**	**10 41 45.2**	**-0.4**
ASAR	comp=Z,1.2nm,1.1s,baz=122,slow=3.4,SNR=4.3 comp=Z,3.6nm,0.5s			ScP	**ScP**	**10 45 35.5**	**-1.7**
WR0	**Warramunga Arr**	**44.41**	**272**	P	**P**	**10 40 04.3**	**-0.2**
WR0	comp=Z,8.9nm,1.1s			IAmb	IAmb	10 40 07.5	
WB2	**Warramunga Arr**	**44.58**	**272**	P	**P**	**10 40 06.0**	**+0.1**
WRAB	**Tennant Creek**	**44.59**	**272**	P	**P**	**10 40 06.2**	**+0.3**
WRAB	comp=Z,8.6nm,0.7s			IAmb	IAmb	10 40 07.9	
WRA	**Warramunga Arr**	**44.59**	**272**	P	**P**	**10 40 05.8**	**-0.2**
WRA	**Warramunga Arr** comp=Z,7.6nm,0.5s,baz=111,slow=8.2,SNR=98	**44.59**	**272**	P	**P**	**10 40 05.6**	**-0.4**
WRA	comp=Z,1.1nm,0.8s,baz=102,slow=3.1,SNR=2.9 comp=Z,7.6nm,0.5s			PcP	**PcP**	**10 41 48.6**	**-0.4**
WB0	**Warramunga Arr**	**44.61**	**272**	P	**P**	**10 40 06.2**	**+0.1**
MTN	**Manton Dam**	**50.47**	**279**	P	**P**	**10 40 51.4**	**-0.3**
MTN	comp=Z,7.3nm,1.0s			IAmb	IAmb	10 40 59.9	
KNRA	**Kununurra**	**51.20**	**274**	P	**P**	**10 40 57.7**	**+0.5**
KNRA	comp=Z,10.0nm,1.0s			IAmb	IAmb	10 41 15.8	
MORW	**Morawa**	**57.02**	**253**	P	**P**	**10 41 38.8**	**-0.7**
MORW	comp=Z,7.8nm,1.1s			IAmb	IAmb	10 41 43.0	
BATI	**Baumata** comp=Z,233nm,18.4s,baz=150,slow=36	**58.14**	**277**	LR	LR	11 07 10.4	
QSPA	**South Pole Qui**	**59.75**	**180**	P	**P**	**10 42 00.9**	**+2.7**
QSPA	**South Pole Qui** comp=Z,3.8nm,0.7s,baz=26,slow=3.3,SNR=33	**59.75**	**180**	P	**P**	**10 42 00.1**	**+1.9**
PMSA	**Palmer Station** comp=Z,3.8nm,0.7s	**72.09**	**156**	P	**P**	**10 43 17.0**	**-0.4**
MAW	**Mawson**	**72.52**	**200**	P	**P**	**10 43 20.9**	**+0.9**
MAW	**Mawson** comp=Z,3.4nm,0.8s,baz=159,slow=6.0,SNR=6.4 comp=Z,3.4nm,0.8s	**72.52**	**200**	P	**P**	**10 43 20.8**	**+0.9**
TROLL	**Troll, Antarti** comp=Z,54nm,0.3s	**77.91**	**180**	⇓P	**P**	**10 43 52.4**	**+1.3**
SNAA	**Sanae**	**78.18**	**178**	P	**P**	**10 43 52.4**	**-0.1**
SNAA	comp=Z,3.0nm,0.9s			IAmb	IAmb	10 44 08.7	
SNAA	**Sanae** comp=Z,12nm,0.3s	**78.18**	**178**	⇓P	**P**	**10 43 53.3**	**+0.7**
SNAA	**Sanae** comp=Z,2.1nm,0.9s,baz=187,slow=7.9,SNR=5.3 comp=Z,2.1nm,0.9s	**78.18**	**178**	P	**P**	**10 43 53.2**	**+0.7**
VNA3	**Neumayer Olymp** comp=Z,2.2nm,0.4s	**78.31**	**176**	⇓P	**P**	**10 43 53.8**	**+0.6**

H03S2 Juan Fernandez 80.07 123 T T 12 13 28.6
baz=238,slow=74,SNR=13
H03S1 Juan Fernandez 80.08 123 T T 12 13 33.6
baz=238,slow=74,SNR=9.3
H03S3 Juan Fernandez 80.09 123 T T 12 13 32.8
baz=238,slow=74,SNR=13
H03N3 Juan Fernandez 80.26 123 T T 12 13 52.4
baz=241,slow=73,SNR=4.2
H03N2 Juan Fernandez 80.26 123 T T 12 13 37.2
baz=241,slow=73,SNR=4.5
H03N1 Juan Fernandez 80.28 123 T T 12 13 44.7
baz=241,slow=73,SNR=5.4
PETK Petropavlovsk- 85.90 345 P **P** **10 44 32.4 -0.6**
comp=Z,3.5nm,0.9s,baz=124,slow=4.8,SNR=4.5
comp=Z,3.5nm,0.9s
USRK Ussuriysk Ar. 87.41 326 P **P** **10 44 41.2 +0.6**
comp=Z,2.0nm,0.8s,baz=170,slow=2.5,SNR=2.5
comp=Z,2.0nm,0.8s
NVAR Mina Array Bea 87.88 42 P **P** **10 44 43.5 +0.1**
comp=Z,0.6nm,0.9s,baz=215,slow=7.7,SNR=3.8
comp=Z,0.6nm,0.9s
MKAR Makanchi Array 118.13 310 PKP **PKPdf** **10 50 39.4 -1.0**
comp=Z,0.3nm,0.5s,baz=103,slow=3.1,SNR=2.3
KURBB Kurchatov Arra 121.42 314 PKP **PKPdf** **10 50 44.9 -1.7**
comp=Z,0.5nm,0.2s,baz=110,slow=1.8,SNR=1.2
BVAR Borovoye Array 126.72 316 PKP **PKPdf** **10 50 56.2 -0.4**
comp=Z,1.0nm,0.5s,baz=95,slow=1.6,SNR=4.6
GEYT Alibeck 133.99 295 PKP **PKiKP** **10 51 12.8 +0.5**
comp=Z,1.4nm,0.5s,baz=100,slow=6.0,SNR=1.9
H10N3 ASCENSION HYDR 138.63 154 T T 13 27 22.7
baz=204,slow=75,SNR=14
H10N1 ASCENSION HYDR 138.63 154 T T 13 27 25.6
baz=204,slow=75,SNR=13
H10N2 ASCENSION HYDR 138.64 154 T T 13 27 25.7
baz=204,slow=75,SNR=13
ARCES ARCESS Array B 138.66 348 PKP **PKiKP** **10 51 19.7 -1.0**
comp=Z,3.3nm,0.9s,baz=0.0,slow=0.9,SNR=1.5
FINES FINESS Array B 145.28 340 PKPbc **PKPbc** **10 51 29.7 -0.6**
comp=Z,9.6nm,0.6s,baz=52,slow=3.2,SNR=33
KBZ Khabaz 145.50 304 PKPbc **PKPab** **10 51 31.5 -0.4**
comp=Z,4.5nm,0.9s,baz=210,slow=5.3,SNR=6.1
NB2 NORSAR Subarra 148.79 352 PKP **PKPbc** **10 51 39.8 -0.6**
comp=Z,1.4nm,0.6s,baz=15,slow=4.3
NOA NORSAR Array B 148.79 352 PKPbc **PKPbc** **10 51 40.0 -0.4**
comp=Z,1.9nm,0.8s,baz=14,slow=4.3,SNR=5.8
HFS Hagfors 149.31 349 PKPbc **PKPbc** **10 51 41.4 -0.3**
comp=Z,3.8nm,0.7s,baz=85,slow=1.7,SNR=5.6
AKASG Malin Array Be 151.57 323 PKPbc **PKPbc** **10 51 47.2 -0.2**
comp=Z,1.5nm,0.5s,baz=46,slow=2.8,SNR=9.3
MMAI Mount Meron Ar 152.00 284 PKPbc **PKiKP** **10 51 50.4 +0.9**
comp=Z,3.8nm,0.4s,baz=91,slow=6.7,SNR=6.6
BRTR Keskin Array B 153.02 299 PKPbc **PKPbc** **10 51 50.9 -0.4**
comp=Z,0.9nm,0.4s,baz=156,slow=3.7,SNR=6.5
TORD Torodi Ar. Bea 162.85 177 PKPab **PKPab** **10 52 44.2 -1.0**
comp=Z,0.5nm,0.7s,baz=196,slow=2.4,SNR=2.4

VAO 19 10:44:50.8±0.4, 9°60S×72°19W, h0km, mbR3.8,
Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**1.93**	**345**	*eP*	Pn	10 45 24.2	-0.7
CZSB				*eS*	Sn	10 45 50.2	+0.3
TBTG	**Tabatinga, AM**	**5.84**	**23**	*eP*	Pn	10 46 18.6	-0.1
TBTG				*eS*	Sn	10 47 27.0	+0.6
ETMB	**Extrema**	**5.89**	**93**	*eP*	Pn	10 46 19.6	+0.2
ETMB				*eS*	Sn	10 47 28.7	+0.9
LPAZ	**La Paz**	**7.73**	**150**	*eP*	Pn	10 46 45.0	-0.2
SAML	**Samuel**	**8.91**	**87**	*eP*	Pn	10 47 00.4	-0.5
SAML				*eS*	Sn	10 48 41.7	-0.4
TEFE	**Tefe**	**9.64**	**52**	*eP*	Pn	10 47 11.2	+0.3
TEFE				*eS*	Sn	10 49 01.0	+1.0
SGCB	**São Gabriel d**	**10.73**	**29**	*eP*	Pn	10 47 25.8	0.0
SGCB				*eS*	Sn	10 49 27.8	+1.1
OTAV	**Otavalo**	**11.60**	**327**	*eP*	Pn	10 47 38.0	-0.2
OTAV				*eS*	Sn	10 49 48.5	-0.3
BDQN	**Bodoquena, MS**	**18.38**	**128**	*eP*	Pn	10 49 07.0	-0.3
VAS01	**Vassouras-RJ**	**30.30**	**118**	*eP*	P	10 51 03.8	-0.4

*EAF **19** 11:08:43.5, 25°.88S×29°.80E, h10km, MC3.5*
*BUL **19** 11:08:44.8±1.9, 25°.85S×29°.70E, h10km, MD3.6*
ISC 19 11:08:42.0±1.5, 25°.89S±0°.08×29.79E±0°.08, h10km, n8,
σ1°83/16, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.78**	**32**	*iP*	**Pn**	**11 09 25.4**	**-1.2**
MOPA				*iS*	**Sn**	**11 09 59.5**	**-0.7**
MOPA	**Mopani**	**2.78**	**32**	*iP*	**Pn**	**11 09 25.4**	**-1.2**
baz=32
MOPA				*iS*	**Sn**	**11 09 59.5**	**-0.7**
baz=32
MUSN	**Musina, Limpop**	**3.59**	**1**	*iP*	**Pn**	**11 09 40.1**	**+2.3**
MUSN				*iS*	**Sn**	**11 10 20.4**	**+0.2**
MUSN	**Musina, Limpop**	**3.59**	**1**	*iP*	**Pn**	**11 09 40.1**	**+2.3**
baz=1.0
MUSN				*iS*	**Sn**	**11 10 20.4**	**+0.2**
baz=1.0
LBTB	**Lobatse**	**3.89**	**282**	*iP*	**Pn**	**11 09 42.7**	**+0.7**
LBTB				*iS*	**Sn**	**11 10 25.0**	**-2.8**
LBTB	**Lobatse**	**3.89**	**282**	*iP*	**Pn**	**11 09 42.7**	**+0.7**
baz=282
LBTB				*iS*	**Sn**	**11 10 25.0**	**-2.8**
baz=282
BOSA	**Boshof**	**4.86**	**235**	*iP*	**Pn**	**11 09 57.4**	**+2.0**
BOSA				*iS*	**Sn**	**11 10 50.5**	**-1.3**
BOSA	**Boshof**	**4.86**	**235**	*iP*	**Pn**	**11 09 57.4**	**+2.0**
baz=235
BOSA				*iS*	**Sn**	**11 10 50.5**	**-1.3**
baz=235

*JMA **19** 11:24:15.5±0.3, 27°N±1°×12°7E±°, h96km±2km, MD3.8/13,*
MV3.8/13, NW OFF OKINAWAJIMA IS
*IDC **19** 11:24:15.4±0.5, 27°.00N×127°.38E, h112km±5km, mb3.7/13,*
mbtmp4.1/15, MS3.6/3, Error ellipse: s-maj=19.6km
s-min=9.8km az=46.0
*NIED **19** 11:24:15.5, 27°.01N×127°.16E, h96km, MW4.2, Moment*
Tensor Solution. s3 Moment tensor: Scale 1015Nm;
Mrr0.31; Mθθ-0.82; Mφφ0.51; Mrθ-1.13; Mφθ-0.23; Mφr-1.65;
Fault plane solution: M0 2.14000×1015 NP1:
φs217.00000°, δ86.00000°, λ71.00000°. NP2:
φs117.00000°, δ20.00000°, λ169.00000°.
ISC 19 11:24:15.1±0.6, 26°.98N±0°.06×127°.19E±0°.06, h106km±5km,
n37, σ0°90/49, mb4.0/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.39**	**173**	P	**Pn**	**11 24 30.4**	**-0.5**
JAGN				S	**Sn**	**11 24 41.6**	**-1.0**
JAGN	**Aguni-jima**	**0.39**	**173**	A	A	11 24 30.4	
comp=E,17nm,4.3s,comp=N,15nm,1.0s
JIH	**Iheya**	**0.69**	**85**	*iP*	**Pn**	**11 24 33.1**	**+0.1**
JIH				S	**Sn**	**11 24 45.6**	**-0.8**
JKE	**Kume jima 2**	**0.74**	**209**	*iP*	**Pn**	**11 24 33.0**	**-0.5**
JKE				S	**Sn**	**11 24 45.9**	**-1.3**
JKE	**Kume jima 2**	**0.74**	**209**	A	A	11 24 33.0	
comp=E,10.0nm,2.3s,comp=N,7.0nm,1.0s
JNTH	**Nagotoyohara**	**0.87**	**121**	*iP*	**Pn**	**11 24 34.8**	**+0.1**
JNTH				S	**Sn**	**11 24 48.8**	**-0.6**
JOW	**Kunigami**	**0.98**	**98**	*iP*	**Pn**	**11 24 35.8**	**+0.1**
JOW				S	**Sn**	**11 24 50.3**	**-1.0**
JOW	**Kunigami**	**0.98**	**98**	A	A	11 24 35.8	
comp=E,5.0nm,0.8s,comp=N,7.0nm,0.2s
JOW	**Kunigami**	**0.98**	**98**	P	**Pn**	**11 24 36.0**	**+0.2**
comp=N,974nm,0.2s,baz=270,slow=7.1,SNR=1786
JOW				S	**Sn**	**11 24 50.4**	**-1.0**
comp=N,2μm,0.2s,baz=351,slow=30,SNR=19
JOW				LR	LR	11 24 59.2	
comp=N,117nm,18.1s,baz=176,slow=54
JJT3	**Tamagusuku3**	**0.98**	**147**	*iP*	**Pn**	**11 24 36.5**	**+0.7**
JJT3				S	**Sn**	**11 24 52.4**	**+1.0**
JYRO	**Yoronjima**	**1.12**	**87**	*iP*	**Pn**	**11 24 37.4**	**+0.1**
JYRO				S	**Sn**	**11 24 52.8**	**-1.3**
JOKE	**Okinoerabujima**	**1.29**	**72**	*iP*	**Pn**	**11 24 39.3**	**+0.1**
JOKE				S	**Sn**	**11 24 56.9**	**-0.5**
JTK	**Tokunoshima**	**1.76**	**62**	P	**Pn**	**11 24 44.9**	**0.0**
JTK				S	**Sn**	**11 25 06.6**	**-0.9**
JAMN	**Amaminishikomi**	**2.17**	**54**	*iP*	**Pn**	**11 24 49.9**	**-0.1**
JAMN				*eS*	**Sn**	**11 25 15.2**	**-1.6**
JNU	**Nakatsue**	**6.91**	**27**	P	**Pn**	**11 25 54.4**	**+0.6**
comp=N,3.2nm,0.3s,baz=226,slow=5.4,SNR=9.5

KSRS	**Korea Array**	**10.47**	**3**	P	**Pn**	**11 26 43.6**	**+1.6**
comp=N,3.0nm,0.8s,baz=184,slow=13,SNR=11
SONM	**Songino Array**	**26.43**	**327**	P	**P**	**11 29 43.9**	**+1.9**
comp=N,4.3nm,0.6s,baz=141,slow=10,SNR=12
SONM				pP	**pwP**	**11 30 07.4**	**+0.6**
comp=N,2.8nm,0.8s,baz=138,slow=11,SNR=3.7
comp=N,4.3nm,0.6s
GUN	**Gumba**	**36.55**	**281**	*eP*	**P**	**11 31 12.9**	**+1.7**
comp=N,8.2nm,0.5s
PKI	**Pulchoki**	**37.02**	**281**	*eP*	**P**	**11 31 13.7**	**-1.4**
comp=N,5.9nm,0.4s
PKIN	**Phulchoki**	**37.03**	**281**	*eP*	**P**	**11 31 14.0**	**-1.1**
comp=N,5.8nm,0.4s
DANN	**Dangsing**	**38.34**	**282**	*eP*	**P**	**11 31 26.8**	**+0.6**
PYUN	**Piuthan**	**39.05**	**282**	*eP*	**P**	**11 31 30.7**	**-1.3**
SEY	**Seymchan**	**39.59**	**18**	LR	LR	11 48 58.0	
comp=N,69nm,18.7s,baz=26,slow=38
MKAR	**Makanchi Array**	**40.35**	**311**	P	**P**	**11 31 42.2**	**-0.1**
comp=N,1.4nm,0.5s,baz=98,slow=9.5,SNR=11
MKAR				pP	**pwP**	**11 32 08.9**	**+0.7**
comp=N,0.9nm,0.6s,baz=98,slow=9.5,SNR=4.8
MKAR				PcP	**PcP**	**11 33 44.3**	**+0.6**
comp=N,0.4nm,0.7s,baz=114,slow=1.7,SNR=3.1
comp=N,1.4nm,0.5s
ZALV	**Zalesovo Beam**	**41.09**	**323**	P	**P**	**11 31 48.0**	**-0.3**
comp=N,1.3nm,0.4s,baz=118,slow=7.3,SNR=3.7
ZALV				pP	**pwP**	**11 32 15.2**	**+0.9**
comp=N,1.0nm,0.5s,baz=103,slow=6.2,SNR=2.0
comp=N,1.3nm,0.4s
KURBB	**Kurchatov Arra**	**43.67**	**316**	P	**P**	**11 32 09.3**	**0.0**
comp=N,1.7nm,0.4s,baz=104,slow=9.0,SNR=6.5
KURBB				pP	**pwP**	**11 32 35.4**	**0.0**
comp=N,0.7nm,0.3s,baz=105,slow=7.7,SNR=2.9
KURBB				PcP	**PcP**	**11 33 55.3**	**+0.7**
comp=N,0.4nm,0.3s,baz=93,slow=4.0,SNR=2.0
comp=N,1.7nm,0.4s
WRA	**Warramunga Arr**	**47.15**	**171**	P	**P**	**11 32 36.9**	**0.0**
comp=N,2.1nm,0.7s,baz=352,slow=8.4,SNR=23
comp=N,2.1nm,0.7s
BVAR	**Borovoye Array**	**49.10**	**318**	P	**P**	**11 32 50.1**	**-1.6**
comp=N,0.6nm,0.3s,baz=97,slow=11,SNR=3.7
BVAR				LR	LR	11 57 42.9	
comp=N,67nm,18.3s,baz=275,slow=41
comp=N,0.6nm,0.3s
CTA	**Charters Tower**	**50.30**	**156**	LR	LR	11 55 24.5	
comp=N,79nm,19.6s,baz=194,slow=37
ASAR	**Alice Springs**	**50.76**	**172**	P	**P**	**11 33 05.0**	**+0.4**
comp=N,1.3nm,0.8s,baz=0.5,slow=11,SNR=22
comp=N,1.3nm,0.8s
ILAR	**Eielson Array**	**64.22**	**28**	P	**P**	**11 34 38.4**	**-0.1**
comp=N,0.6nm,0.9s,baz=293,slow=9.8,SNR=8.7
comp=N,0.6nm,0.9s
KBZ	**Khabaz**	**67.97**	**309**	P	**P**	**11 35 02.9**	**+0.1**
comp=N,3.6nm,0.8s,baz=117,slow=2.3,SNR=9.7
comp=N,3.6nm,0.8s
FINES	**FINESS Array B**	**71.76**	**330**	P	**P**	**11 35 25.2**	**-0.4**
comp=N,1.3nm,0.6s,baz=59,slow=7.4,SNR=5.8
comp=N,1.3nm,0.6s
AKASG	**Malin Array Be**	**74.36**	**319**	P	**P**	**11 35 40.4**	**-0.8**
comp=N,0.3nm,0.3s,baz=58,slow=4.6,SNR=4.1
comp=N,0.3nm,0.3s
BRTR	**Keskin Array B**	**75.84**	**307**	P	**P**	**11 35 50.1**	**0.0**
comp=N,3.0nm,0.8s,baz=102,slow=5.6,SNR=15
comp=N,3.0nm,0.8s
NB2	**NORSAR Subarra**	**78.23**	**333**	P	**P**	**11 36 01.8**	**-1.1**
comp=Z,0.7nm,0.6s,baz=53,slow=5.6
NOA	**NORSAR Array B**	**78.23**	**333**	P	**P**	**11 36 01.8**	**-1.1**
comp=Z,0.8nm,0.6s,baz=58,slow=5.1,SNR=5.6
comp=Z,0.8nm,0.6s

*ANF **19** 11:45:31.3±0.7, 36°.47N×121°.12W, h10km±14km, ML3.6/24,*
Error ellipse: s-maj=15.3km s-min=3.5km az=116.0
*NEIC **19** 11:45:32.8±1.7, 36°.45N±0°.03×121°.12W±0°.04, h17km±3km,*
Error ellipse: s-maj=4.3km s-min=4.0km az=55.0
*NCEDC **19** 11:45:32.7±1.5, 36°.47N±0°.04×121°.05W±0°.06, h8km±5km,*
Mwr3.5/5, ML3.4/80(NEIC), Error ellipse: s-maj=8.5km
s-min=4.1km az=48.0
ISC 19 11:45:32.4±0.8, 36°.44N±0°.02×121°.14W±0°.02, h16km±5km,
n227, σ0°83/230, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPIM	**Pinnacles**	**0.06**	**337**		**Pg**	**11 45 35.2**	**-0.4**
BSGM	**Shirttail Gulc**	**0.10**	**255**		**Pg**	**11 45 36.3**	**+0.4**
BSGM					**Sg**	**11 45 38.7**	**+0.7**
LRV	**Little Rabbit**	**0.10**	**98**		**Pg**	**11 45 35.0**	**-0.9**
BVL	**Bear Valley**	**0.14**	**344**		**Pb**	**11 45 36.3**	**-0.5**
BBGB	**Big Mountain B**	**0.16**	**30**		**Pg**	**11 45 36.2**	**-0.5**
BBGB					**Sg**	**11 45 39.1**	**-0.5**
BBGB	**Big Mountain B**	**0.16**	**30**	IAML		11 45 39.5	
comp=E,103μm,0.4s
BBGB				IAML		11 45 39.5	
comp=N,208μm,0.5s
LRC	**Lone Oak Road**	**0.21**	**158**		**Pb**	**11 45 37.4**	**-0.5**
BAVM	**Antelope Valle**	**0.23**	**23**		**Pg**	**11 45 37.2**	**-0.5**
BEMM	**Emmet**	**0.23**	**9**		**Pb**	**11 45 37.6**	**-0.6**
BJCM	**Johnson Can.**	**0.23**	**298**		**Pb**	**11 45 38.3**	**+0.1**
BJOM	**Mount Johnson**	**0.23**	**324**		**Pb**	**11 45 37.8**	**-0.5**
BJOM					**Sg**	**11 45 41.4**	**+0.1**
BSMM	**Soledad Missio**	**0.24**	**257**		**Pb**	**11 45 39.1**	**+0.7**
SCZ	**Santa Cruz**	**0.26**	**307**		**Pb**	**11 45 38.7**	**-0.1**
SCZ					**Sb**	**11 45 42.8**	**-0.3**
BHRM	**Hodges Ranch**	**0.30**	**341**		**Pb**	**11 45 39.8**	**+0.3**
HAST	**Hastings Reser**	**0.34**	**261**		**Pn**	**11 45 40.6**	**-2.0**
HAST					**Sb**	**11 45 46.2**	**+1.1**
PCCM	**Crazy Canyon**	**0.35**	**183**		**Pb**	**11 45 40.7**	**+0.4**
PMPB	**Monarch Peak**	**0.35**	**129**		**Pb**	**11 45 39.6**	**-0.7**
PMPB					**Sg**	**11 45 44.5**	**-0.4**
PMPB	**Monarch Peak**	**0.35**	**129**	IAML		11 45 50.0	
comp=E,7μm,0.8s
BVYM	**Vineyard**	**0.38**	**325**		**Pb**	**11 45 40.5**	**-0.3**
BSRM	**Salinas Radio**	**0.38**	**307**		**Pb**	**11 45 40.9**	**+0.1**
BSRM					**Sb**	**11 45 46.7**	**+0.3**
SAO	**San Andreas Ge**	**0.41**	**323**		**Pb**	**11 45 41.0**	**-0.3**
SAO					**Sb**	**11 45 47.1**	**-0.1**
BPCNC	**Pine Canyon**	**0.41**	**289**		**Pn**	**11 45 42.0**	**-1.7**
FRP	**Fremont Peak**	**0.42**	**318**		**Pb**	**11 45 41.2**	**-0.4**
HULI	**Fort Hunter Li**	**0.42**	**190**		**Pb**	**11 45 42.0**	**+0.5**
PSAM	**San Ardo**	**0.46**	**154**		**Pb**	**11 45 41.8**	**-0.4**
HSFM	**Saint Francis**	**0.47**	**322**		**Pn**	**11 45 43.9**	**-0.7**
PPTM	**Peach Tree Val**	**0.47**	**134**		**Pb**	**11 45 41.7**	**-0.7**
BPRM	**Ponciano Ridge**	**0.48**	**266**		**Pn**	**11 45 43.3**	**-1.3**
PJUM	**Juniper Ridge**	**0.49**	**115**		**Pb**	**11 45 42.2**	**-0.6**
HBTM	**San Juan Bauti**	**0.53**	**321**		**Pb**	**11 45 43.4**	**+0.1**
BPOM	**Post Ranch**	**0.55**	**248**		**Pn**	**11 45 44.6**	**-1.0**
HTUM	**Tustin Road**	**0.56**	**314**		**Pb**	**11 45 43.8**	**0.0**
OCR	**O'Connell Ranc**	**0.56**	**328**		**Pb**	**11 45 43.9**	**0.0**
ANZ	**Anzar Road**	**0.57**	**321**		**Pb**	**11 45 43.9**	**-0.1**
PSMM	**Smith Mountain**	**0.57**	**130**		**Pb**	**11 45 43.8**	**-0.4**
PACP	**Pacheco Peak**	**0.58**	**348**		**Pb**	**11 45 44.5**	**+0.2**
HERM	**Elkhorn Road**	**0.58**	**308**		**Pn**	**11 45 44.7**	**-1.3**
HFEM	**San Felipe**	**0.58**	**339**		**Pb**	**11 45 44.6**	**+0.4**
PHSB	**Hespheria Broad**	**0.62**	**173**		**Pb**	**11 45 45.0**	**+0.2**
HPCM	**Pacheco Lake**	**0.63**	**350**		**Pb**	**11 45 45.1**	**+0.1**
PHPM	**Hope Ranch**	**0.63**	**136**		**Pb**	**11 45 44.4**	**-0.7**
PDRM	**Domengine Ranc**	**0.63**	**99**		**Pg**	**11 45 44.6**	**-0.3**
SLD	**San Luis Dam**	**0.64**	**354**		**Pb**	**11 45 45.2**	**0.0**
HCOM	**Corn Cob Canyo**	**0.64**	**315**		**Pb**	**11 45 45.5**	**+0.3**
HCBM	**Chamberlain**	**0.65**	**320**		**Pb**	**11 45 45.7**	**+0.4**
HMOM	**Monterey**	**0.65**	**285**		**Pn**	**11 45 46.1**	**-0.8**
CDC	**Canada Road**	**0.65**	**335**		**Pn**	**11 45 45.9**	**-1.0**
PANM	**San Antonio Re**	**0.69**	**164**		**Pb**	**11 45 46.3**	**+0.3**
PPO	**Portuguese Can**	**0.71**	**143**		**Pb**	**11 45 46.5**	**+0.1**
PVCM	**Vineyard Canyo**	**0.71**	**136**		**Pb**	**11 45 46.5**	**0.0**
HLPM	**Lions Peak**	**0.72**	**327**		**Pb**	**11 45 46.9**	**+0.3**
PSTM	**Stockdale Moun**	**0.72**	**135**		**Pg**	**11 45 46.0**	**-0.6**
JELB	**Ellicott, Sant**	**0.74**	**312**		**Pn**	**11 45 47.4**	**-0.7**
PWMM	**Westland Maint**	**0.75**	**90**		**Pb**	**11 45 46.8**	**-0.3**
PHCM	**Hearst Castle**	**0.76**	**181**		**Pn**	**11 45 47.8**	**-0.7**
PWKM	**Work Ranch**	**0.81**	**141**		**Pb**	**11 45 48.0**	**-0.1**
PHFM	**Heflinger Ranc**	**0.82**	**133**		**Pb**	**11 45 48.0**	**-0.2**
CADM	**Anderson Res.**	**0.82**	**332**		**Pn**	**11 45 48.9**	**-0.4**
CTM	**Castle Mountai**	**0.82**	**128**		**Pb**	**11 45 48.7**	**+0.2**
RAMR	**Ramage Ranch**	**0.83**	**165**		**Pn**	**11 45 48.8**	**-0.7**
PHAM	**Harlan Ranch**	**0.85**	**135**		**Pg**	**11 45 48.2**	**-0.8**
JLAB	**Laurel Hill**	**0.86**	**326**		**Pn**	**11 45 49.5**	**-0.4**
GHC	**Gold Hill**	**0.88**	**133**		**Pb**	**11 45 49.3**	**0.0**
PSRM	**Scobie Ranch**	**0.91**	**130**		**Pb**	**11 45 49.6**	**-0.2**
PKEM	**Kettleman Hill**	**0.92**	**114**		**Pn**	**11 45 50.4**	**-0.3**
BLDC	**Black Mountain**	**0.92**	**168**		**Pn**	**11 45 50.7**	**-0.1**
CCOB	**Coe Ranch Numb**	**0.92**	**333**		**Pn**	**11 45 51.0**	**+0.3**
CMPM	**Mikes Peak**	**0.93**	**351**		**Pn**	**11 45 50.8**	**-0.1**
PKLM	**Kerr Lake**	**0.93**	**135**		**Pb**	**11 45 49.9**	**-0.2**

PSNM	**Stone Corral**	**0.94**	**133**		**Pg**	**11 45 49.9**	**-0.9**
TCAS	**Cass Winery, P**	**0.95**	**150**		**Pn**	**11 45 50.6**	**-0.6**
TCHL	**Shandon**	**0.96**	**141**		**Pn**	**11 45 50.8**	**-0.4**
ARN	**Arnold Ranch**	**0.96**	**341**		**Pn**	**11 45 51.0**	**-0.3**
PMRM	**Maxey Ranch**	**0.98**	**131**		**Pb**	**11 45 50.7**	**-0.3**
ARDC	**Alexander Ranc**	**0.98**	**172**		**Pn**	**11 45 51.4**	**-0.1**
MHC	**Mount Hamilton**	**0.99**	**336**		**Pn**	**11 45 51.3**	**-0.4**
JJOM	**Saint Joseph's**	**1.02**	**319**		**Pn**	**11 45 51.7**	**-0.4**
SCCB	**Santa Clara Co**	**1.03**	**326**		**Pn**	**11 45 52.7**	**+0.6**
TRAM	**Private Proper**	**1.04**	**137**		**Pb**	**11 45 51.8**	**-0.2**
CMMM	**Mount Mocho**	**1.05**	**345**		**Pn**	**11 45 52.4**	**-0.2**
MTOS	**Mt Oso, Westle**	**1.07**	**352**		**Pn**	**11 45 52.9**	**+0.1**
TSCN	**Private Proper**	**1.10**	**144**		**Pn**	**11 45 52.9**	**-0.3**
PTAM	**Tassajara Cree**	**1.10**	**161**		**Pn**	**11 45 52.9**	**-0.3**
CMLM	**Mount Lewis**	**1.11**	**339**		**Pn**	**11 45 53.3**	**-0.2**
CALM	**Calaveras Res.**	**1.14**	**333**		**Pg**	**11 45 53.6**	**-0.9**
LSDC	**Los Osos Digit**	**1.17**	**168**		**Pg**	**11 45 54.1**	**-0.8**
EFD	**Emergency Oper**	**1.17**	**163**		**Pb**	**11 45 53.6**	**-0.5**
JSJM	**St Joseph**	**1.17**	**320**		**Pg**	**11 45 54.9**	**-0.2**
TSCS	**Shell Creek So**	**1.18**	**147**		**Pb**	**11 45 53.6**	**-0.9**
JBMM	**Black Mountain**	**1.20**	**318**		**Pg**	**11 45 54.7**	**-0.9**
TRAY	**Twisselman Ran**	**1.21**	**137**		**Pn**	**11 45 54.0**	**-0.7**
PBPM	**Bitterwater Pu**	**1.22**	**135**		**Pn**	**11 45 54.5**	**-0.3**
JPSM		**1.23**	**308**		**Pb**	**11 45 54.8**	**-0.5**
CSTL	**Corral Hollow**	**1.23**	**347**		**Pg**	**11 45 55.5**	**-0.7**
DPD	**Davis Peak**	**1.24**	**166**		**Pg**	**11 45 55.0**	**-1.3**
JFP	**Foothills Park**	**1.25**	**318**		**Pg**	**11 45 55.5**	**-1.0**
DCD	**Diablo Creek**	**1.25**	**169**		**Pb**	**11 45 55.0**	**-0.6**
JSFB	**Stanford Teles**	**1.27**	**320**		**Pg**	**11 45 55.9**	**-1.0**
WENL	**Wente Vineyard**	**1.28**	**338**		**Pb**	**11 45 55.8**	**-0.3**
JRSC	**Jasper Ridge**	**1.30**	**318**		**Pn**	**11 45 55.8**	**-0.1**
CVLM	**Vallecito**	**1.31**	**335**		**Pb**	**11 45 56.1**	**-0.5**
BGH	**Bear Gulch**	**1.32**	**314**		**Pg**	**11 45 56.5**	**-1.3**
CBZL	**Buffer Zone**	**1.33**	**340**		**Pg**	**11 45 57.4**	**-0.8**
CNIC	**Niles Canyon**	**1.34**	**331**		**Pb**	**11 45 56.6**	**-0.6**
VOG	**Valley Oaks Go**	**1.42**	**94**		**Pn**	**11 45 56.5**	**-1.1**
VOG	**Valley Oaks Go**	**1.42**	**94**	P	**Pn**	**11 45 56.4**	**-1.2**
baz=277,SNR=17
VOG				S	**Sn**	**11 46 15.2**	**-0.7**
baz=277
CBSNC	**Byron Hot Spri**	**1.43**	**344**		**Pb**	**11 45 58.3**	**-0.5**
SMMC	**Simmler**	**1.46**	**140**		**Pn**	**11 45 57.6**	**-0.5**
SMMC	**Simmler**	**1.46**	**140**	P	**Pn**	**11 45 57.7**	**-0.5**
baz=324,SNR=65
SMMC				S	**Sn**	**11 46 17.2**	**+0.3**
baz=324
JCHM	**Cahill Ridge**	**1.46**	**318**		**Pn**	**11 45 57.9**	**-0.2**
CMOB	**Morgan Territo**	**1.47**	**339**		**Pn**	**11 45 58.2**	**-0.1**
JCPM	**Coyote Point**	**1.49**	**321**		**Pb**	**11 45 58.8**	**-0.8**
CLCB	**Lake Chabot**	**1.49**	**331**		**Pb**	**11 45 59.7**	**0.0**
CSLM	**San Leandro Hi**	**1.50**	**329**		**Pb**	**11 45 59.1**	**-0.8**
SAC	**San Andreas**	**1.53**	**319**		**Pb**	**11 45 59.7**	**-0.8**
CARC	**Carrizo Plain**	**1.54**	**137**		**Pn**	**11 45 58.9**	**-0.4**
CRPB	**Russellman Par**	**1.59**	**338**		**Pn**	**11 45 59.6**	**-0.3**
JSBM	**San Bruno Moun**	**1.59**	**321**		**Pn**	**11 45 59.7**	**-0.3**
PMLM	**Mount Lospe**	**1.60**	**164**		**Pn**	**11 46 00.0**	**0.0**
JMGM	**Milagra Ridge**	**1.60**	**319**		**Pn**	**11 45 59.7**	**-0.4**
CRGC	**Crocker Grade**	**1.66**	**136**		**Pn**	**11 46 00.7**	**-0.3**
MRHM	**Rocky Hill**	**1.67**	**95**		**Pn**	**11 45 59.4**	**-1.5**
BKS	**Berkeley--Byer**	**1.68**	**329**		**Pn**	**11 46 01.3**	**+0.2**
CVPM	**Vollmer Peak**	**1.68**	**329**		**Pn**	**11 46 01.5**	**+0.3**
VAK	**Adit at Lawren**	**1.69**	**329**		**Pn**	**11 46 01.8**	**+0.5**
CMB	**Columbia Colle**	**1.70**	**20**		**Pn**	**11 46 01.3**	**-0.2**
CMB	**Columbia Colle**	**1.70**	**20**	Pn	**Pn**	**11 46 01.0**	**-0.5**
CMB	**Columbia Colle**	**1.70**	**20**	IAML		11 46 31.0	
comp=N,226nm,0.6s
KCC	**Kaiser Creek**	**1.71**	**58**		**Pn**	**11 46 01.8**	**+0.2**
JPRM	**Presidio of Sa**	**1.72**	**322**		**Pn**	**11 46 01.0**	**-0.7**
VES	**Vestal, Richgr**	**1.77**	**109**		**Pn**	**11 46 01.

comp=E,156nm,0.9s
LHV Little Huntoon 2.77 48 Pn 11 46 18.0 +1.9
LHV Little Huntoon 2.77 48 IAML 11 47 07.8
comp=N,248nm,0.9s
LHV IAML 11 47 24.1
comp=E,188nm,1.0s
PNTR Pine Nut 2.91 24 Pn 11 46 19.6 +1.3
PNTR IAML 11 47 15.5
comp=E,226nm,0.9s
PNTR IAML 11 47 28.7
comp=N,187nm,1.1s
LRMC Laurel Mtn Rad 2.96 108 P **Pn 11 46 19.1 +0.2**
baz=291,SNR=40
HOPS Hopland Field 2.97 330 Pn **Pn 11 46 20.7 +1.8**
MPMC Manual Prospec 2.98 96 P **Pn 11 46 19.3 +0.1**
baz=279,SNR=45
MPK Martis Peak 2.98 17 Pn 11 46 21.2 +1.8
EDW2 Edwards Air Fo 3.00 120 P **Pn 11 46 19.4 +0.1**
baz=304,SNR=15
GRAC Grapevine Rang 3.08 78 Pn 11 46 21.3 +0.8
GRAC IAML 11 47 15.1
comp=N,160nm,0.9s
NV11 Mina Array Sit 3.10 49 IAML 11 47 14.2
comp=N,79nm,1.3s
ORV Oroville 3.12 355 Pn 11 46 22.6 +1.6
GMN Gold Mountain 3.23 73 Pn 11 46 23.2 +0.6
GMN IAML 11 47 16.2
comp=E,74nm,0.6s
GMN IAML 11 47 26.4
comp=N,85nm,1.0s
PASC Pasadena Art C 3.31 132 Pn 11 46 23.9 +0.3
PASC IAML 11 47 24.3
comp=E,51nm,1.4s
QSM Queen of Sheba 3.49 97 Pn **Pn 11 46 26.9 +0.8**
QSM IAML 11 47 27.9
comp=N,70nm,0.9s
QSM IAML 11 47 28.7
comp=E,49nm,0.8s
PAHR Pah Rah Range 3.54 22 IAML 11 47 30.4
comp=E,55nm,1.1s
PAHR IAML 11 47 35.1
comp=N,48nm,1.5s
KVN Kaiserville 3.55 42 IAML 11 47 25.8
comp=N,51nm,1.6s
KVN IAML 11 47 27.1
comp=E,53nm,1.1s
BFSC Mount Baldy Ra 3.59 127 P **Pn 11 46 27.0 -0.6**
baz=310,SNR=18
BFSC S **Sn 11 47 11.4 +1.6**
baz=310
GWY Greenwater Val 3.62 93 IAML 11 47 28.2
comp=E,53nm,0.9s
GWY IAML 11 47 45.1
comp=N,49nm,0.8s
WCT Wildcat Mounta 3.65 83 IAML 11 47 26.9
comp=N,56nm,1.1s
WCT IAML 11 47 28.5
comp=E,70nm,0.8s
GSC Goldstone, Bar 3.70 107 IAML 11 47 28.9
comp=N,71nm,0.9s
GSC IAML 11 47 42.8
comp=E,66nm,0.7s
GSC Goldstone, Bar 3.70 107 P **Pn 11 46 28.1 -0.8**
baz=290,SNR=13
GSC S **Sn 11 47 12.8 +0.5**
baz=290
CIS Catalina Islan 3.77 143 P **Pn 11 46 29.6 -0.3**
baz=326
TPNV Topopah Spring 3.96 81 IAML 11 47 43.7
comp=E,60nm,1.1s
TPNV IAML 11 47 47.4
comp=E,68nm,1.4s
TPNV Topopah Spring 3.96 81 P **Pn 11 46 32.1 -0.6**
baz=264,SNR=12
ELS Elsinore Mount 4.13 131 Pn **Pn 11 46 35.9 +1.1**
HEC Hector,Ludlow 4.23 111 P **Pn 11 46 36.4 +0.1**
baz=295,SNR=11
TUQ Turquoise Moun 4.35 102 P **Pn 11 46 38.1 +0.1**
baz=286,SNR=7.9
GMRC Granite Mounta 4.76 109 P **Pn 11 46 43.6 0.0**
baz=293
PFO Pinyon Flats O 4.77 125 Pn **Pn 11 46 44.6 +0.9**
PFO IAML 11 47 44.8
comp=E,17nm,4.4s
PFO Pinyon Flats O 4.77 125 P **Pn 11 46 44.2 +0.5**
baz=309,SNR=8.0
PMD Palm Desert 4.80 124 Pn **Pn 11 46 45.4 +1.4**
R11B Troy Canyon, C 4.82 65 P **Pn 11 46 44.3 -0.1**
baz=248
SHPR Sheep Range 4.82 87 Pn **Pn 11 46 45.4 +0.9**
BELC Belle Mtn. Jos 4.86 119 P **Pn 11 46 45.1 0.0**
baz=302
IRM Iron Mountain 5.41 113 P **Pn 11 46 51.9 -0.5**
baz=297
BC3 Big Chuckawall 5.43 119 P **Pn 11 46 53.0 +0.2**
baz=303,SNR=6.2

---

*IDC **19** 11:46:46.8±1.8, 17.°71S×178.°71W, h596km±19km, mb3.6/9, mbtmp4.5/11, Error ellipse: s-maj=52.0km s-min=14.2km az=148.0*
*NEIC **19** 11:46:46.9±1.3, 17.°8S±0.°1×178.°6W±0.°1, h598km±9km, mb4.4/54, Error ellipse: s-maj=22.3km s-min=15.3km az=149.0*
ISC 19 11:46:46.4±0.6,**17.°9S**±0.°1×**178.°6W**±0.°1,**h600**km,**n71**, σ0°71/71,**mb4.4**/37,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.18**	**272**	P	**P**	**11 48 06.1**	**-0.6**
MSVF	**Nonsavu**	**3.18**	**272**	P	**P**	**11 48 06.3**	**-0.4**
	109nm,0.6s,baz=121,slow=5.9,SNR=116						
MARNC	**Mare, Loyalty**	**13.07**	**252**	P	**P**	**11 49 36.4**	**+0.4**
LIFNC	**LIFOU**	**13.65**	**256**	P	**P**	**11 49 40.4**	**-1.5**
PINNC	**Pines Island,**	**13.89**	**248**	P	**P**	**11 49 42.5**	**-1.7**
DZM	**Mont Dzumac**	**14.64**	**251**	P	**P**	**11 49 52.4**	**+0.9**
DZM	**Mont Dzumac**	**14.64**	**251**	P	**P**	**11 49 51.5**	**+0.1**
	9.6nm,0.6s,baz=90,slow=19,SNR=16						
KOUNC	**Koumac, New Ca**	**16.36**	**258**	P	**P**	**11 50 08.1**	**+0.9**
ARMA	**Armidale**	**29.77**	**240**	P	**P**	**11 52 07.0**	**+0.6**
ARMA				IAmb	IAmb	11 52 47.6	
	comp=Z,24nm,1.4s						
WHZ	**Wether Hill Ro**	**30.07**	**199**	P	**P**	**11 52 08.3**	**-0.2**
CTAO	**Charters Tower**	**33.25**	**261**	P	**P**	**11 52 36.2**	**+0.2**
CAN	**Canberra**	**33.55**	**232**	P	**P**	**11 52 38.7**	**+0.4**
PMG	**Port Moresby**	**34.26**	**280**	P	**P**	**11 52 46.0**	**+1.6**
COEN	**Coen**	**36.91**	**270**	P	**P**	**11 53 06.5**	**+0.3**
COEN				IAmb	IAmb	11 53 08.3	
	comp=Z,17nm,0.8s						
TOO	**Toolangi**	**37.02**	**231**	P	**P**	**11 53 07.4**	**+0.5**
TOO				IAmb	IAmb	11 53 32.2	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**11 53 19.1**	**+0.5**
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**11 53 19.3**	**+0.7**
	comp=Z,8.8nm,0.6s,baz=92,slow=10,SNR=18						
	comp=Z,8.8nm,0.6s						
BBOO	**Buckleboo**	**43.24**	**241**	P	**P**	**11 53 56.4**	**+0.1**
BBOO				IAmb	IAmb	11 53 57.4	
	comp=Z,25nm,1.0s						
HMH	**Humu'ula Sheep**	**43.65**	**32**	P	**P**	**11 53 60.0**	**0.0**
KEKH	**Kekaha**	**43.74**	**26**	P	**P**	**11 53 59.8**	**-0.5**
WR0	**Warramunga Arr**	**44.25**	**260**	P	**P**	**11 54 04.0**	**-0.4**
WR0				IAmb	IAmb	11 54 10.2	
	comp=Z,9.5nm,1.4s						
WB0	**Warramunga Arr**	**44.41**	**260**	P	**P**	**11 54 05.4**	**-0.1**
WB0				IAmb	IAmb	11 54 06.1	
	comp=Z,8.3nm,0.6s						
WB2	**Warramunga Arr**	**44.43**	**260**	P	**P**	**11 54 05.4**	**-0.3**
WB2				IAmb	IAmb	11 54 06.3	
	comp=Z,8.7nm,0.7s						
WRAB	**Tennant Creek**	**44.43**	**260**	P	**P**	**11 54 05.5**	**-0.2**
WRAB				IAmb	IAmb	11 54 06.2	
	comp=Z,8.4nm,0.7s						
WRA	**Warramunga Arr**	**44.44**	**260**	P	**P**	**11 54 05.1**	**-0.7**
WRA	**Warramunga Arr**	**44.44**	**260**	P	**P**	**11 54 05.4**	**-0.4**
	comp=Z,5.8nm,0.5s,baz=94,slow=7.1,SNR=197						
WRA				PcP	**PcP**	**11 55 36.8**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=88,slow=3.4,SNR=2.5						
	comp=Z,5.8nm,0.5s						
AS31	**Alice Springs**	**44.60**	**254**	P	**P**	**11 54 07.3**	**+0.3**
AS31				IAmb	IAmb	11 54 08.3	
	comp=Z,12nm,0.5s						
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**11 54 07.5**	**+0.5**
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**11 54 07.3**	**+0.3**
	comp=Z,39nm,0.6s,baz=88,slow=8.6,SNR=772						
ASAR				PcP	**PcP**	**11 55 36.8**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=106,slow=3.8,SNR=2.3						
	comp=Z,39nm,0.6s						
MTN	**Manton Dam**	**48.60**	**268**	P	**P**	**11 54 37.2**	**+0.1**
MTN				IAmb	IAmb	11 54 37.7	
	comp=Z,9.7nm,0.7s						
FORT	**Forrest**	**49.83**	**245**	P	**P**	**11 54 45.6**	**-0.3**
KNRA	**Kununurra**	**50.29**	**264**	P	**P**	**11 54 49.9**	**+0.4**
KNRA				IAmb	IAmb	11 54 50.5	
	comp=Z,11nm,0.7s						
FAKI	**Fak Fak**	**50.38**	**281**	P	**P**	**11 54 50.8**	**+0.6**
FAKI				IAmb	IAmb	11 55 18.7	
	comp=Z,12nm,1.0s						
SOEI	**Soe**	**55.87**	**270**	P	**P**	**11 55 30.3**	**+1.1**
SOEI				IAmb	IAmb	11 55 32.0	
	comp=Z,18nm,0.7s						
PSA00	**Pilbara Seismi**	**57.72**	**255**	P	**P**	**11 55 39.8**	**-1.8**
MBWA	**Marble Bar**	**57.88**	**256**	P	**P**	**11 55 42.4**	**-0.3**
MBWA				IAmb	IAmb	11 56 08.1	
	comp=Z,20nm,1.4s						
NWAO	**Narrogin (SRO)**	**59.04**	**242**	P	**P**	**11 55 50.5**	**+0.2**
GIRL	**Giralia**	**62.71**	**253**	P	**P**	**11 56 13.9**	**-0.5**
VA02	**Isla de Pascua**	**63.88**	**112**	P	**P**	**11 56 22.0**	**+0.1**
JAGI	**Jajag, Banyuwa**	**65.84**	**269**	P	**P**	**11 56 33.5**	**-0.8**
UGM	**Wanagama**	**69.45**	**268**	P	**P**	**11 56 55.6**	**-0.7**
PETK	**Petropavlovsk-**	**73.62**	**345**	P	**P**	**11 57 19.3**	**-0.3**
PETK	**Petropavlovsk-**	**73.62**	**345**	P	**P**	**11 57 20.3**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=120,slow=6.5,SNR=2.0						
	comp=Z,2.8nm,0.7s						
PMPB	**Monarch Peak**	**76.68**	**45**	P	**P**	**11 57 35.6**	**-1.5**
PMPB				IAmb	IAmb	11 58 11.4	
	comp=Z,17nm,1.1s						
R17K	**Ugashik Creek**	**77.50**	**12**	P	**P**	**11 57 39.4**	**-1.5**
R17K				IAmb	IAmb	11 58 04.4	
	comp=Z,20nm,1.1s						
ISA	**Isabella, Lake**	**77.95**	**46**		**P**	**11 57 45.0**	**+1.0**
YUH	**Yuha Desert**	**78.20**	**50**	P	**P**	**11 57 45.6**	**+0.3**
MDPB	**Devils Postpil**	**78.61**	**44**	P	**P**	**11 57 48.0**	**+0.3**
YBH	**Yreka Blue Hor**	**78.64**	**39**	P	**P**	**11 57 48.0**	**+0.5**
O16K	**Kokwok River B**	**79.01**	**10**	P	**P**	**11 57 47.9**	**-1.0**
O16K				IAmb	IAmb	11 58 11.2	
	comp=Z,41nm,1.5s						
PNTR	**Pine Nut**	**79.07**	**43**	P	**P**	**11 57 50.1**	**+0.1**
PNTR				IAmb	IAmb	11 57 51.7	
	comp=Z,5.3nm,0.6s						
N15K	**Kwethluk River**	**79.23**	**9**	P	**P**	**11 57 48.9**	**-1.2**
N15K				IAmb	IAmb	11 57 50.7	
	comp=Z,21nm,1.1s						
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**11 57 52.9**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=224,slow=8.5,SNR=12						
	comp=Z,1.8nm,0.6s						
KVN	**Kaiserville**	**80.02**	**43**	P	**P**	**11 57 54.5**	**-0.5**
M16K	**Timber Creek**	**80.22**	**10**	P	**P**	**11 57 55.2**	**-0.1**
M16K				IAmb	IAmb	11 57 56.8	
	comp=Z,18nm,1.2s						
PRN	**Pahroc Range**	**81.21**	**46**	P	**P**	**11 58 01.8**	**+0.7**
PRN				IAmb	IAmb	11 58 02.7	
	comp=Z,6.2nm,0.9s						
WVOR	**Wild Horse Val**	**81.53**	**40**		**P**	**11 58 02.6**	**0.0**
L18K	**Granite Mounta**	**81.72**	**10**	P	**P**	**11 58 03.5**	**+0.6**
L18K				IAmb	IAmb	11 58 16.2	
	comp=Z,7.5nm,1.4s						
PSUT	**Pine Spring**	**82.59**	**46**	P	**P**	**11 58 08.1**	**-0.1**
U15A	**North Rim**	**82.66**	**48**	IAmb	IAmb	11 58 10.3	
	comp=Z,6.7nm,0.8s						
F10A	**Beach Ranch, E**	**84.31**	**38**	P	**P**	**11 58 15.7**	**-0.6**
F10A				IAmb	IAmb	11 58 17.1	
	comp=Z,6.4nm,0.9s						
ILAR	**Eielson Array**	**85.92**	**13**	P	**P**	**11 58 22.7**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=222,slow=5.2,SNR=30						
	comp=Z,0.9nm,0.4s						
TX31	**Lajitas Ar. Si**	**86.16**	**58**	P	**P**	**11 58 26.4**	**+0.8**
TX31				IAmb	IAmb	11 58 27.6	
	comp=Z,14nm,0.9s						
TX32	**Lajitas Array**	**86.16**	**58**	P	**P**	**11 58 26.3**	**+0.7**
TX32				IAmb	IAmb	11 58 27.6	
	comp=Z,4.7nm,0.9s						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**11 58 26.6**	**+1.0**
	comp=Z,3.1nm,0.8s,baz=219,slow=6.1,SNR=37						
	comp=Z,3.1nm,0.8s						
ANMO	**Albuquerque**	**86.25**	**52**	P	**P**	**11 58 26.4**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=348,slow=9.3,SNR=3.8						
	comp=Z,1.1nm,0.8s						
IMW	**Indian Meadow**	**87.11**	**42**		**P**	**11 58 30.3**	**+0.3**
IMW				IAmb	IAmb	11 58 31.4	
	comp=Z,3.6nm,0.9s						
CHMT	**Chamberlain Mo**	**87.15**	**39**	P	**P**	**11 58 29.3**	**-0.7**
YHL	**Hebgen Lake**	**87.41**	**41**	IAmb	IAmb	11 58 33.4	
	comp=Z,4.0nm,0.9s						
PD31	**Pinedale Array**	**87.48**	**44**	P	**P**	**11 58 31.8**	**+0.1**
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**	**11 58 31.6**	**0.0**
	comp=Z,1.6nm,0.6s,baz=217,slow=3.7,SNR=18						
	comp=Z,1.6nm,0.6s						

---

*SJA **19** 12:14:03.7±0.9, 33.°15S×66.°60W, h20km±5km, ML3.7, MW3.7*
ISC 19 12:14:04.9±2.1,**33.°15S**±0.°06×**66.°55W**±0.°06,**h7**km±16km, **n20**, σ1°25/29,**1C**,**San Luis Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRA	**San Martin**	**1.01**	**44**	*i* S	**Sg**	**12 14 38.7**	**+1.2**
MRA				IAML		12 14 39.7	
	comp=Z,3μm,0.1s						
AVIZ	**Vizcacheras**	**1.68**	**258**	*i* P	**Pb**	**12 14 35.7**	**-0.5**
AVIZ				*i* S	**Sb**	**12 14 57.4**	**0.0**
AAGR	**Agrelo**	**1.91**	**271**	*i* P	**Pn**	**12 14 37.6**	**-0.4**
AAGR				IAML		12 15 17.1	
	comp=Z,504nm,0.6s						
ASAL	**Salagasta**	**2.00**	**285**	*i* P	**Pn**	**12 14 38.6**	**-0.6**
ASAL				IAML		12 15 16.0	
	comp=Z,442nm,0.7s						
ARCO	**CERRO ARCO**	**2.02**	**278**	*e*P	**Pb**	**12 14 41.8**	**-0.3**
ARCO				*e*S	**Sg**	**12 15 10.1**	**+0.2**
ARCO				IAML		12 15 11.1	
	comp=Z,621nm,0.3s						
CFA	**Coronel Fontan**	**2.10**	**317**	*e*P	**Pn**	**12 14 39.4**	**-1.1**
CFA				*e*S	**Sn**	**12 15 05.5**	**-1.3**
CFA				IAML		12 15 12.6	
	comp=Z,291nm,0.1s						
RFA	**San Rafael**	**2.27**	**224**	*e*P	**Pn**	**12 14 42.0**	**-0.9**
RFA				IAML		12 15 24.9	
	comp=Z,382nm,0.3s						
RTLL	**Cerro Villicun**	**2.44**	**318**	*i* P	**Pn**	**12 14 44.8**	**-0.4**
RTLL				IAML		12 15 36.2	
	comp=Z,244nm,0.4s						
RTLS	**Leoncito**	**2.68**	**299**	*i* P	**Pn**	**12 14 48.2**	**-0.6**
RTLS				*e*S	**Sb**	**12 15 27.6**	**+1.0**
RTLS				IAML		12 15 29.4	
	comp=Z,384nm,0.5s						
APLL	**PUNTA DE LOS L**	**2.74**	**0**	*i* P	**Pn**	**12 14 49.1**	**-0.3**
APLL				*e*S	**Sb**	**12 15 28.1**	**-0.1**
APLL				IAML		12 15 40.9	
	comp=Z,27nm,0.5s						
MT08	**Bocatoma Ro**	**2.92**	**263**	*e*P	**Pn**	**12 14 52.2**	**+0.3**
MT08				*i* S	**Sb**	**12 15 33.7**	**+0.4**
MT04	**Ro Olivares**	**3.01**	**264**	*e*P	**Pn**	**12 14 53.1**	**-0.1**
MT04				*e*S	**Sb**	**12 15 35.5**	**-0.6**
DOCA	**Reserva Natura**	**3.07**	**315**	*i* P	**Pn**	**12 14 53.6**	**-0.6**
DOCA				IAML		12 15 42.4	
	comp=Z,638nm,0.5s						
ACCO	**Cerro Coronel**	**3.33**	**319**	*i* P	**Pn**	**12 14 57.6**	**-0.1**
ACCO				*e*S	**Sn**	**12 15 38.8**	**+1.1**
ACCO				IAML		12 15 50.1	
	comp=Z,190nm,0.3s						
VA03	**San Esteban**	**3.38**	**275**	*e*P	**Pn**	**12 14 59.6**	**+1.4**
VA03				*e*S	**Sb**	**12 15 42.6**	**-4.0**
ROCH	**El Roble**	**3.75**	**271**	↑*i*P	**Pn**	**12 15 03.7**	**+0.3**
ROCH				*i* S	**Sn**	**12 15 51.0**	**+3.2**
AROD	**Rodeo**	**3.88**	**319**	*i* P	**Pn**	**12 15 06.0**	**+0.8**
CO02	**Combarbal**	**4.24**	**296**	*i* P	**Pn**	**12 15 10.1**	**+0.1**
CO02				IAML		12 16 17.7	
	comp=Z,162nm,0.5s						
CO01	**Juntas del Tor**	**4.37**	**315**	IAML		12 16 26.3	
	comp=Z,71nm,0.7s						
CYA	**Choya**	**4.73**	**8**	*i* P	**Pn**	**12 15 15.9**	**-0.9**
CYA				IAML		12 16 40.0	
	comp=Z,72nm,0.5s						

---

*NNC **19** 12:29:35.3±0.6, 42.°14N×76.°17E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=3.8km s-min=2.5km az=8.0*
*SOME **19** 12:29:35.3, 42.°08N×76.°23E, h15km*
ISC 19 12:29:35.2±1.7,**42.°11N**±0.°06×**76.°22E**±0.°03,**h7**km±11km,
n29, σ0°38/49,**1C-3D**,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.93**	**331**	⇓P	**Pg**	**12 29 52.4**	**-0.7**
	3.8nm,1.1s						
TKM2				⇑S	**Sg**	**12 30 05.0**	**-0.3**
	4.1nm,0.5s						
KST	**Kastek**	**0.95**	**349**	P	**Pg**	**12 29 53.5**	**0.0**
	1.2nm,0.2s						
KST				S	**Sb**	**12 30 06.5**	**-0.5**
	4.4nm,0.2s						
KST	**Kastek**	**0.95**	**349**	*e*P	**Pg**	**12 29 53.5**	**0.0**
	2.1nm,0.2s						
KST				*e*S	**Sb**	**12 30 06.5**	**-0.5**
	7.0nm,0.2s						
IZV	**Izvestkoviy**	**0.97**	**17**	P	**Pg**	**12 29 54.3**	**+0.5**
	0.9nm,0.1s						
IZV				S	**Sb**	**12 30 07.7**	**+0.2**
	13nm,0.1s						
IZV	**Izvestkoviy**	**0.97**	**17**	*e*P	**Pg**	**12 29 54.3**	**+0.5**
	0.9nm,0.1s						
IZV				*e*S	**Sb**	**12 30 07.8**	**+0.2**
	13nm,0.1s						
MTBS	**Maitube**	**1.03**	**9**	P	**Pg**	**12 29 54.9**	**-0.1**
	0.9nm,0.1s						
MTBS				S	**Sg**	**12 30 08.9**	**+0.5**
	7.9nm,0.1s						
MTBS	**Maitube**	**1.03**	**9**	*e*P	**Pg**	**12 29 54.9**	**-0.1**
	0.9nm,0.1s						
MTBS				*e*S	**Sg**	**12 30 08.9**	**+0.5**
	7.9nm,0.1s						
TNSS	**Tian-Shan**	**1.07**	**30**	P	**Pg**	**12 29 55.3**	**-0.4**
	1.2nm,0.2s						
TNSS				S	**Sg**	**12 30 10.0**	**+0.3**
	3.4nm,0.2s						
TNSS	**Tian-Shan**	**1.07**	**30**	*e*P	**Pg**	**12 29 55.3**	**-0.4**
	1.2nm,0.1s						
TNSS				*e*S	**Sg**	**12 30 10.0**	**+0.3**
	3.4nm,0.1s						
DGS	**Degeres**	**1.18**	**344**	P	**Pg**	**12 29 57.7**	**-0.1**
	2.2nm,0.2s						
DGS				S	**Sb**	**12 30 13.7**	**+0.2**
	6.2nm,0.2s						
DGS	**Degeres**	**1.18**	**344**	*e*P	**Pg**	**12 29 57.8**	**-0.1**
	2.2nm,0.2s						
DGS				*e*S	**Sb**	**12 30 13.7**	**+0.2**
	6.2nm,0.2s						
KOTS	**Kotyrbulak**	**1.30**	**30**	P	**Pn**	**12 30 00.1**	**+0.1**
	1.9nm,0.2s						
KOTS				S	**Sn**	**12 30 17.6**	**0.0**
	11nm,0.3s						
KOTS	**Kotyrbulak**	**1.30**	**30**	*e*P	**Pn**	**12 30 00.1**	**+0.1**
	2.0nm,0.2s						
KOTS				*e*S	**Sn**	**12 30 17.6**	**0.0**
	9.7nm,0.3s						
KRBS	**Karabastau**	**1.64**	**346**	P	**Pn**	**12 30 04.3**	**-0.1**
	2.1nm,0.3s						
KRBS				S	**Sn**	**12 30 25.0**	**-0.7**
	2.0nm,0.3s						
KRBS	**Karabastau**	**1.64**	**346**	*e*P	**Pb**	**12 30 05.5**	**-0.1**
	1.7nm,0.1s						
KRBS				*e*S	**Sb**	**12 30 27.1**	**+0.5**
	2.1nm,0.2s						
KTBS	**Karatobe**	**1.64**	**12**	P	**Pb**	**12 30 05.5**	**-0.2**
	2.3nm,0.2s						
KTBS				S	**Sb**	**12 30 27.1**	**+0.5**
	2.0nm,0.2s						
KTBS	**Karatobe**	**1.64**	**12**	*e*P	**Pb**	**12 30 05.5**	**-0.2**
	2.3nm,0.2s						
KTBS				*e*S	**Sb**	**12 30 27.1**	**+0.5**
	2.2nm,0.2s						
CHKK	**Chushkaly**	**1.83**	**18**	*e*P	**Pb**	**12 30 09.3**	**+0.3**
	2.8nm,0.2s						
CHKK				*e*S	**Sg**	**12 30 33.6**	**-0.4**
	6.2nm,0.1s						
SATY	**Saty**	**1.87**	**59**	P	**Pb**	**12 30 10.0**	**+0.3**
	1.8nm,0.2s						
SATY				S	**Sg**	**12 30 35.0**	**-0.3**
	14nm,0.1s						
SATY	**Saty**	**1.87**	**59**	*e*P	**Pb**	**12 30 10.0**	**+0.3**
	1.8nm,0.2s						
SATY				*e*S	**Sg**	**12 30 35.0**	**-0.3**
	16nm,0.1s						
AML	**Almayashu**	**1.88**	**271**	⇓Pn	**Pn**	**12 30 08.5**	**+0.4**
	0.1nm,0.6s						
AML				⇓Lg	Lg	12 30 33.7	
	0.5nm,0.7s						
KPKS	**Kokpek**	**2.26**	**52**	Pg	**Pb**	**12 30 16.6**	**+0.2**
	1.0nm,0.1s						
KPKS				Lg	Lg	12 30 46.1	
	8.3nm,0.2s						
KPKS	**Kokpek**	**2.26**	**52**	*e*Pg	**Pb**	**12 30 16.6**	**+0.2**
	1.0nm,0.1s						
KPKS				*e*Lg	Lg	12 30 46.1	
	8.3nm,0.3s						
MRKS	**Merke**	**2.31**	**287**	*e*Pg	**Pb**	**12 30 17.4**	**+0.3**
	1.1nm,0.1s						
MRKS				*e*Lg	Lg	12 30 47.6	
	3.5nm,0.2s						
UZB	**Uzynbulak**	**2.31**	**62**	Pg	**Pb**	**12 30 16.7**	**-0.6**
	4.1nm,0.5s						
UZB				Lg	Lg	12 30 46.5	
	4.7nm,0.4s						
UZB	**Uzynbulak**	**2.31**	**62**	*e*Pg	**Pb**	**12 30 16.7**	**-0.6**
	3.7nm,0.3s						
UZB				*e*Lg	Lg	12 30 46.5	
	4.7nm,0.4s						
ARXS	**Arharly**	**2.41**	**29**	Pg	**Pb**	**12 30 18.4**	**-0.5**
	3.3nm,0.4s						
ARXS				Lg	Lg	12 30 50.0	
	9.6nm,0.4s						
ARXS	**Arharly**	**2.41**	**29**	*e*Pg	**Pb**	**12 30 18.8**	**-0.1**
	3.1nm,0.3s						
ARXS				*e*Lg	Lg	12 30 50.0	
	9.5nm,0.3s						
BLB	**Baldybastay**	**2.58**	**39**	Pg	**Pb**	**12 30 22.4**	**+0.5**
	0.9nm,0.2s						
BLB				Lg	Lg	12 30 56.0	
	3.7nm,0.4s						

---

*JMA **19** 12:34:59.0±0.2, 43.°N±1.°×14.°7E±.°, h37km±1km, MV2.7/26, OFF NEMURO PENINSULA*
*SKHL **19** 12:34:59.0±0.3, 43.°40N×146.°70E, h33km±2km, mb4.2/2*
ISC 19 12:34:59.1±2.0,**43.°44N**±0.°10×**146.°73E**±0.°10,**h33**km±6km, **n12**, σ0°72/21,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.44**	**10**	*e*P	**Pb**	**12 35 08.5**	**-0.2**
SHO				AMB	AMB	12 35 09.0	
	110nm,0.2s						
SHO				*e*S	**Sb**	**12 35 15.7**	**+0.4**
SHO				A	A	12 35 16.7	
	70nm,0.2s						
SHO				A	A	12 35 16.7	
	150nm,0.2s						
NEM2	**Nemuro 2**	**0.72**	**264**	*e*P	**Pn**	**12 35 12.2**	**-0.8**
NEM2				*e*S	**Sn**	**12 35 21.8**	**-0.9**
NMR	**Nemuro--Hokkai**	**0.73**	**265**	*i* P	**Pn**	**12 35 12.3**	**-0.7**
NMR				*e*S	**Sb**	**12 35 22.8**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**0.86**	**314**	*e*P	**Pn**	**12 35 14.6**	**-0.3**
YUK				AMB	AMB	12 35 16.1	
	80nm,0.2s						
YUK				*e*S	**Sn**	**12 35 25.8**	**-0.6**
YUK				A	A	12 35 26.7	
	640nm,0.4s						
YUK				A	A	12 35 26.7	
	420nm,0.4s						
JRA	**Rausu**	**1.27**	**294**	*e*P	**Pn**	**12 35 20.7**	**+0.3**
JNSB	**Nemuroshibetsu**	**1.29**	**286**	*e*P	**Pn**	**12 35 21.1**	**+0.2**
JNSB				*e*S	**Sn**	**12 35 37.0**	**0.0**
JNK	**Nakash**

*NNC **19** 12:39:07.6±0.4, 42°.11N×76°.19E, h0km, mb4.1, mpv4.1, Error ellipse: s-maj=2.9km s-min=1.7km az=172.0*
*KRNET **19** 12:39:07.3±0.1, 42°.07N×76°.20E, h19km, mb3.7*
*KNET **19** 12:39:08.1±0.4, 42°.14N×76°.12E, h10km±5km, ml3.2, Error ellipse: s-maj=5.3km s-min=3.3km az=60.0*
*SOME **19** 12:39:08.0, 42°.12N×76°.20E, h15km*
ISC 19 12:39:08.2±0.9, 42°.11N±0°.02×76°.18E±0°.02, h9km±6km, n93, σ0s73/159, 52C-25D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.15**	**18**	⇑P	**Pg**	**12 39 11.4**	**-0.2**
ULHL				⇑S	**Sg**	**12 39 14.4**	**+0.4**
ULHL	**Ulahol**	**0.15**	**18**	⇑*e*P	**Pg**	**12 39 11.4**	**-0.2**
ULHL	baz=10.0			⇑*e*S	**Sg**	**12 39 14.5**	**+0.5**
BOOM	**Boomskoye usch**	**0.42**	**335**	⇓*e*P	**Pg**	**12 39 16.4**	**-0.2**
BOOM	baz=36			⇓*e*S	**Sg**	**12 39 23.0**	**+0.8**
NRN	**Naryn**	**0.69**	**191**	⇑*e*P	**Pg**	**12 39 19.8**	**-1.7**
NRN	baz=95			⇑*e*S	**Sg**	**12 39 29.3**	**-1.2**
TKM2	**Tokmak 2**	**0.92**	**332**	⇓P	**Pg**	**12 39 25.4**	**-0.6**
TKM2	102nm,0.1s,SNR=452			⇑S	**Sb**	**12 39 38.5**	**-0.4**
TKM2	**Tokmak 2**	**0.92**	**332**	⇓P	**Pg**	**12 39 25.2**	**-0.8**
TKM2	15nm,0.3s			⇑S	**Sg**	**12 39 38.3**	**+0.3**
TKM2	**Tokmak 2**	**0.92**	**332**	⇓*e*P	**Pg**	**12 39 25.4**	**-0.6**
TKM2	baz=32			⇓*e*S	**Sb**	**12 39 38.7**	**-0.2**
KST	**Kastek**	**0.95**	**350**	P	**Pg**	**12 39 26.0**	**-0.5**
KST	90nm,0.3s			S	**Sb**	**12 39 39.3**	**-0.4**
KST	**Kastek**	**0.95**	**350**	*e*P	**Pg**	**12 39 25.9**	**-0.6**
KST	257nm,0.3s			*e*S	**Sg**	**12 39 38.8**	**-0.1**
KST	**Kastek**	**0.95**	**350**	*e*P	**Pg**	**12 39 25.9**	**-0.6**
KST	baz=50			*e*S	**Sg**	**12 39 38.9**	**-0.1**
IZV	**Izvestkoviy**	**0.98**	**19**	P	**Pg**	**12 39 26.6**	**-0.5**
IZV	26nm,0.2s			S	**Sg**	**12 39 39.7**	**-0.2**
IZV	**Izvestkoviy**	**0.98**	**19**	*e*P	**Pg**	**12 39 26.3**	**-0.8**
IZV	644nm,0.2s			*e*S	**Sg**	**12 39 39.4**	**-0.6**
IZV	**Izvestkoviy**	**0.98**	**19**	*e*P	**Pg**	**12 39 26.3**	**-0.8**
IZV	baz=17			*e*S	**Sg**	**12 39 39.3**	**-0.6**
MTBS	**Maitube**	**1.04**	**10**	P	**Pg**	**12 39 27.5**	**-0.7**
MTBS	78nm,0.2s			S	**Sg**	**12 39 41.3**	**-0.4**
MTBS	**Maitube**	**1.04**	**10**	*e*P	**Pg**	**12 39 27.5**	**-0.7**
MTBS	532nm,0.2s			*e*S	**Sg**	**12 39 41.4**	**-0.4**
MTBS	**Maitube**	**1.04**	**10**	*e*P	**Pg**	**12 39 27.4**	**-0.7**
MTBS	baz=9.0			*e*S	**Sg**	**12 39 41.3**	**-0.4**
KBK	**Karagaybulak**	**1.07**	**301**	⇑P	**Pg**	**12 39 27.9**	**-0.8**
KBK	43nm,0.1s,SNR=50			⇓S	**Sg**	**12 39 42.4**	**-0.2**
KBK	**Karagaybulak**	**1.07**	**301**	⇑*e*P	**Pg**	**12 39 27.9**	**-0.8**
KBK	409nm,0.2s			⇑*e*S	**Sg**	**12 39 42.8**	**+0.2**
TNSS	**Tian-Shan**	**1.09**	**31**	P	**Pg**	**12 39 28.2**	**-0.9**
TNSS	86nm,0.3s			S	**Sg**	**12 39 42.5**	**-0.9**
TNSS	**Tian-Shan**	**1.09**	**31**	*e*P	**Pg**	**12 39 28.2**	**-0.9**
TNSS	baz=3.0			*e*S	**Sg**	**12 39 42.5**	**-0.9**
KASK	**Kaskelen**	**1.16**	**17**	⇑P	**Pb**	**12 39 28.6**	**-1.9**
KASK				⇑S	**Sn**	**12 39 46.4**	**-0.3**
DGS	**Degeres**	**1.18**	**345**	P	**Pb**	**12 39 30.2**	**-0.5**
DGS	94nm,0.3s			S	**Sb**	**12 39 45.8**	**-0.2**
DGS	**Degeres**	**1.18**	**345**	*e*P	**Pb**	**12 39 30.2**	**-0.5**
DGS	532nm,0.2s			*e*S	**Sb**	**12 39 45.9**	**-0.2**
DGS	**Degeres**	**1.18**	**345**	*e*P	**Pb**	**12 39 30.2**	**-0.5**
DGS	baz=45			*e*S	**Sb**	**12 39 45.8**	**-0.2**
AAA	**Alma-Ata**	**1.23**	**26**	P	**Pn**	**12 39 31.2**	**-0.3**
AAA	213nm,0.2s			S	**Sg**	**12 39 47.7**	**-0.1**
AAA	**Alma-Ata**	**1.23**	**26**	*e*P	**Pn**	**12 39 31.2**	**-0.3**
AAA	605nm,0.2s			*e*S	**Sg**	**12 39 47.7**	**-0.1**
KNDC	**Almaty**	**1.25**	**27**	⇑P	**Pn**	**12 39 31.4**	**-0.6**
KNDC	100nm,0.3s			⇓S	**Sn**	**12 39 48.8**	**-0.2**
ANVS	**Anan'yevo**	**1.29**	**58**	⇑*e*P	**Pn**	**12 39 31.4**	**-1.2**
ANVS	baz=56			⇑*e*S	**Sb**	**12 39 49.1**	**-0.4**
KOTS	**Kotyrbulak**	**1.32**	**31**	P	**Pn**	**12 39 32.5**	**-0.4**
KOTS	97nm,0.4s			S	**Sb**	**12 39 49.9**	**-0.4**
KOTS	**Kotyrbulak**	**1.32**	**31**	*e*P	**Pn**	**12 39 32.5**	**-0.4**
KOTS	677nm,0.3s			*e*S	**Sb**	**12 39 49.9**	**-0.4**
FRU1	**Bishkek**	**1.35**	**302**	⇓*e*P	**Pn**	**12 39 32.7**	**-0.5**
FRU1	baz=3.0			⇓*e*S	**Sb**	**12 39 51.0**	**0.0**
AAK	**Ala-Archa**	**1.36**	**294**	⇑P	**Pn**	**12 39 32.7**	**-0.8**
AAK	62nm,0.2s,SNR=29			⇓S	**Sb**	**12 39 50.9**	**-0.5**
AAK	**Ala-Archa**	**1.36**	**294**	⇑*e*P	**Pn**	**12 39 32.8**	**-0.6**
AAK	261nm,0.2s			⇑*e*S	**Sn**	**12 39 51.6**	**-0.1**
CHMS	**Chumysh**	**1.38**	**311**	⇑P	**Pn**	**12 39 33.3**	**-0.3**
CHMS	20nm,0.1s,SNR=24			⇓S	**Sn**	**12 39 52.0**	**0.0**
CHMS	**Chumysh**	**1.38**	**311**	⇑P	**Pn**	**12 39 33.1**	**-0.5**
CHMS	168nm,0.1s			⇑S	**Sn**	**12 39 52.2**	**+0.1**
CHMS	10nm,0.3s			Lg	Lg	12 41 35.6	
CHMS	**Chumysh**	**1.38**	**311**	⇑*e*P	**Pn**	**12 39 33.2**	**-0.5**
CHMS	175nm,0.5s			⇑*e*S	**Sn**	**12 39 52.4**	**+0.3**
ARLS	**Aral**	**1.41**	**261**	⇓*e*P	**Pn**	**12 39 33.1**	**-1.0**
ARLS	baz=11			⇓*e*S	**Sn**	**12 39 52.0**	**-0.8**
KRBS	**Karabastau**	**1.63**	**347**	P	**Pb**	**12 39 38.2**	**-0.3**
KRBS	116nm,0.2s			S	**Sb**	**12 39 59.7**	**+0.4**
KRBS	**Karabastau**	**1.63**	**347**	*e*P	**Pb**	**12 39 38.2**	**-0.3**
KRBS	baz=47			*e*S	**Sb**	**12 39 59.6**	**+0.4**
KRBS	**Karabastau**	**1.63**	**347**	*e*P	**Pb**	**12 39 38.2**	**-0.3**
KRBS	116nm,0.2s			*e*S	**Sb**	**12 39 59.7**	**+0.4**
KTBS	**Karatobe**	**1.65**	**13**	P	**Pb**	**12 39 38.4**	**-0.3**
KTBS	160nm,0.3s			S	**Sb**	**12 39 59.9**	**+0.4**
KTBS	**Karatobe**	**1.65**	**13**	*e*P	**Pb**	**12 39 38.4**	**-0.3**
KTBS	baz=12			*e*S	**Sb**	**12 40 00.0**	**+0.4**
KTBS	**Karatobe**	**1.65**	**13**	*e*P	**Pb**	**12 39 38.4**	**-0.3**
KTBS	160nm,0.3s			*e*S	**Sb**	**12 39 59.9**	**+0.4**
PRZ	**Przheval'sk**	**1.69**	**76**	⇑*i*P	**Pn**	**12 39 38.2**	**+0.2**
PRZ	baz=75			⇑*i*S	**Sb**	**12 40 00.7**	**-0.2**
USP	**Ospenovka**	**1.70**	**314**	⇑P	**Pb**	**12 39 39.2**	**-0.4**
USP	49nm,0.3s,SNR=37			⇓S	**Sg**	**12 40 02.5**	**-0.3**
USP	**Ospenovka**	**1.70**	**314**	⇑*i*P	**Pb**	**12 39 39.0**	**-0.6**
USP	baz=14			⇑*i*S	**Sg**	**12 40 02.1**	**-0.7**
SGDS	**Sogindy**	**1.77**	**320**	P	**Pb**	**12 39 40.8**	**+0.1**
SGDS	25nm,0.1s			S	**Sg**	**12 40 04.2**	**-0.7**
KUU	**Kurty**	**1.79**	**4**	P	**Pb**	**12 39 40.8**	**-0.3**
KUU	171nm,0.3s			S	**Sb**	**12 40 04.2**	**+0.5**
KUU	**Kurty**	**1.79**	**4**	*e*P	**Pb**	**12 39 40.9**	**-0.3**
KUU	baz=3.0			*e*S	**Sb**	**12 40 04.2**	**+0.5**
KUU	**Kurty**	**1.79**	**4**	*e*P	**Pb**	**12 39 40.9**	**-0.3**
KUU	171nm,0.3s			*e*S	**Sb**	**12 40 04.2**	**+0.5**
AML	**Almayashu**	**1.85**	**272**	⇑P	**Pb**	**12 39 41.5**	**-0.9**
AML	135nm,0.2s,SNR=167			⇑S	**Sb**	**12 40 06.4**	**+0.7**
AML	**Almayashu**	**1.85**	**272**	⇑P	**Pb**	**12 39 41.5**	**-0.9**
AML	258nm,0.3s			⇑S	**Sb**	**12 40 05.8**	**0.0**
AML	**Almayashu**	**1.85**	**272**	⇑*i*P	**Pn**	**12 39 41.2**	**+0.8**
AML	1.4nm,0.2s			⇑*i*S	**Sb**	**12 40 06.0**	**+0.2**
EKS2	**Erkin-Say**	**1.87**	**288**	⇑P	**Pb**	**12 39 42.2**	**-0.3**
EKS2	36nm,0.2s,SNR=59			⇑S	**Sg**	**12 40 07.4**	**-0.8**
EKS2	**Erkin-Say**	**1.87**	**288**	⇓*i*P	**Pb**	**12 39 41.4**	**-1.1**
EKS2	206nm,0.4s			⇓*i*S	**Sb**	**12 40 06.3**	**+0.3**
SATY	**Saty**	**1.90**	**59**	P	**Pb**	**12 39 42.7**	**-0.4**
SATY	baz=89			S	**Sb**	**12 40 07.4**	**+0.5**
SATY	**Saty**	**1.90**	**59**	*e*P	**Pb**	**12 39 42.7**	**-0.4**
SATY	62nm,0.2s			*e*S	**Sb**	**12 40 07.4**	**+0.5**
ZHN	**Zhinishke**	**1.97**	**57**	Pg	**Pb**	**12 39 43.4**	**-0.9**
ZHN	84nm,0.3s			Lg	Lg	12 40 09.3	
ZHN	**Zhinishke**	**1.97**	**57**	*e*P	**Pb**	**12 39 43.4**	**-0.9**
ZHN	84nm,0.3s			*e*S	**Sb**	**12 40 09.3**	**+0.2**
KURS	**Kuram**	**2.01**	**46**	P	**Pb**	**12 39 44.1**	**-0.9**
KURS	36nm,0.5s			S	**Sb**	**12 40 09.7**	**-0.4**
KURS	**Kuram**	**2.01**	**46**	*e*Pg	**Pb**	**12 39 44.1**	**-0.9**
KURS	36nm,0.5s			*e*Lg	Lg	12 40 09.7	
MRKS	**Merke**	**2.28**	**287**	Pg	**Pb**	**12 39 49.2**	**-0.3**
MRKS	90nm,0.7s			Lg	Lg	12 40 18.7	
MRKS	**Merke**	**2.28**	**287**	*e*Pg	**Pb**	**12 39 49.2**	**-0.3**
MRKS	90nm,0.7s			*e*Lg	Lg	12 40 18.7	
KPKS	**Kokpek**	**2.29**	**53**	Pg	**Pb**	**12 39 48.3**	**-1.4**
KPKS	75nm,0.4s			Lg	Lg	12 40 18.9	
KPKS	**Kokpek**	**2.29**	**53**	*e*Pg	**Pb**	**12 39 49.3**	**-0.4**
KPKS	53nm,0.3s			*e*Lg	Lg	12 40 18.9	
UZB	**Uzynbulak**	**2.34**	**63**	Pg	**Pb**	**12 39 50.0**	**-0.6**
UZB	34nm,0.3s			Lg	Lg	12 40 20.0	
UZB	**Uzynbulak**	**2.34**	**63**	*e*Pg	**Pb**	**12 39 50.0**	**-0.6**
UZB	34nm,0.3s			*e*Lg	Lg	12 40 20.0	
ARXS	**Arharly**	**2.43**	**29**	Pg	**Pb**	**12 39 51.6**	**-0.4**
ARXS	237nm,0.5s			Lg	Lg	12 40 22.6	
ARXS	**Arharly**	**2.43**	**29**	*e*Pg	**Pb**	**12 39 51.6**	**-0.4**
ARXS	237nm,0.5s			*e*Lg	Lg	12 40 22.6	
ARSB	**Arslanbob**	**2.52**	**253**	⇓*i*P	**Pn**	**12 39 50.0**	**+0.6**
ARSB	baz=54			⇓*i*S	**Sn**	**12 40 21.3**	**+1.0**
BLB	**Baldybastay**	**2.61**	**39**	Pg	**Pb**	**12 39 53.9**	**-1.2**
BLB	102nm,0.4s			Lg	Lg	12 40 28.6	
SHLS	**Shalkode**	**2.64**	**65**	Pg	**Pg**	**12 40 00.2**	**+1.5**
SHLS	22nm,0.2s			Lg	Lg	12 40 37.5	
SHLS	**Shalkode**	**2.64**	**65**	*e*Pg	**Pg**	**12 40 00.2**	**+1.5**
SHLS	22nm,0.2s			*e*Lg	Lg	12 40 37.5	
PDGK	**Podgornoye**	**2.73**	**62**	⇑Pn	**Pn**	**12 39 53.3**	**+1.1**
PDGK	15nm,0.4s			⇑Lg	Lg	12 40 32.2	
MNAS	**Manas**	**2.75**	**279**	⇑*i*P	**Pn**	**12 39 53.6**	**+1.0**
MNAS	baz=80			⇑*i*S	**Sn**	**12 40 27.4**	**+1.3**
SFK	**Sufi-Kurgan**	**2.91**	**225**	⇑*i*P	**Pn**	**12 39 55.3**	**+0.5**
SFK	baz=26			⇑*i*S	**Sn**	**12 40 30.3**	**+0.3**
OHH	**Osh**	**3.01**	**239**	⇑*i*P	**Pn**	**12 39 56.6**	**+0.6**
OHH	baz=40			⇑*i*S	**Sn**	**12 40 32.6**	**+0.4**
KNOS	**Konyrlen**	**3.14**	**43**	Pg	**Pb**	**12 40 05.0**	**+0.7**
KNOS	31nm,0.3s			Lg	Lg	12 40 45.6	
ARK	**Arkit**	**3.16**	**266**	⇓*i*P	**Pn**	**12 39 59.0**	**+0.8**
ARK	baz=67			⇓*i*S	**Sn**	**12 40 36.8**	**+0.7**
TDK	**Taldyqorghan**	**3.32**	**28**	Pg	**Pb**	**12 40 06.3**	**-0.8**
TDK	135nm,0.4s			Lg	Lg	12 40 47.9	
TDK	**Taldyqorghan**	**3.32**	**28**	*e*Pg	**Pb**	**12 40 06.8**	**-0.4**
TDK	135nm,0.4s			*e*Lg	Lg	12 40 48.5	
KTMS	**Ketmen**	**3.35**	**65**	Pg	**Pb**	**12 40 06.9**	**-0.9**
KTMS	3.9nm,0.2s			Lg	Lg	12 40 48.8	
KTMS	**Ketmen**	**3.35**	**65**	*e*Pg	**Pb**	**12 40 08.9**	**+1.1**
KTMS	7.2nm,0.4s			*e*Lg	Lg	12 40 52.0	
DJR	**Jarkent**	**3.45**	**49**	Pg	**Pb**	**12 40 09.4**	**0.0**
DJR	11nm,0.4s			Lg	Lg	12 40 53.2	
DJR	**Jarkent**	**3.45**	**49**	*e*Pg	**Pb**	**12 40 09.4**	**0.0**
DJR	11nm,0.4s			*e*Lg	Lg	12 40 53.2	
DZA	**Taraz**	**3.67**	**284**	Pg	**Pb**	**12 40 15.0**	**+1.8**
DZA	92nm,0.1s			Lg	Lg	12 41 02.6	
DZA	**Taraz**	**3.67**	**284**	*e*Pg	**Pb**	**12 40 15.0**	**+1.8**
DZA	92nm,0.1s			*e*Lg	Lg	12 41 02.6	
TRKS	**Terek-Say**	**3.81**	**263**	⇑*i*P	**Pn**	**12 40 07.9**	**+0.7**
TRKS	baz=63			⇑*i*S	**Sn**	**12 40 52.2**	**0.0**
DRK	**Karamyk**	**4.24**	**233**	⇓*i*P	**Pn**	**12 40 13.9**	**+0.8**
DRK	baz=34			⇓*i*S	**Sn**	**12 41 02.1**	**-0.7**
KK31	**Karatay Array**	**4.30**	**285**	Pg	**Pb**	**12 40 25.4**	**+1.5**
KK31	2.3nm,0.3s,baz=127,slow=38,SNR=23			⇑Lg	Lg	12 41 22.9	
MAKZ	**Makanchi**	**6.27**	**39**	⇑Pn	**Pn**	**12 40 41.3**	**+0.6**
MAKZ	12nm,0.5s,baz=99,slow=29,SNR=8.2			⇑Pg	Pb	12 41 02.0	+4.6
MAKZ	**Makanchi**	**6.27**	**39**	⇑Lg	Lg	12 42 26.1	
MK31	**Makanchi Array**	**6.41**	**41**	Pn	**Pn**	**12 40 43.9**	**+1.2**
MK31	1.3nm,0.5s 0.8nm,0.3s,baz=208,slow=15,SNR=17			⇓Pg	**Pb**	**12 41 02.8**	**+3.0**
MK31	1.0nm,0.3s,baz=222,slow=15,SNR=12			⇓Lg	Lg	12 42 29.8	
OTUK	**Ortayu**	**6.71**	**337**	⇑Lg	Lg	12 42 40.8	
	9.4nm,0.7s,baz=222,slow=28,SNR=3.7 31nm,0.8s						

---

*IDC **19** 12:50:21.3±0.7, 36°.91N×141°.20E, h0km, mb4.2/20, mbtmp4.2/23, ML4.3/3, MS3.1/8, Error ellipse: s-maj=21.3km s-min=14.7km az=77.0*
*JMA **19** 12:50:29.0±0.1, 37°.1N±0°.3×141°.1E±0°.8, h51km, MD4.2/40, MV4.6/40, E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
*NIED **19** 12:50:29.0, 37°.06N×141°.14E, h51km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.04; $M_{\theta\theta}$-0.14; $M_{\phi\phi}$-0.90; $M_{r\theta}$0.44; $M_{\theta\phi}$-0.40; $M_{\phi r}$1.01; Fault plane solution: $M_0$1.53000×10^{15} NP1:ϕ_s24.00000°, δ68.00000°, λ.90.00000°. NP2:ϕ_s203.00000°, δ22.00000°, λ.90.00000°.*
*NEIC **19** 12:50:30.4±1.5, 37°.12N±0°.04×141°.03E±0°.08, h51km±8km, mb4.6/25 Error ellipse: s-maj=10.0km s-min=5.6km az=109.0*
ISC 19 12:50:27.8±0.5, 37°.04N±0°.04×141°.24E±0°.06, h39km±1km, n123, σ1s62/118, mb4.5/37, MS3.4/4, 2C-19D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.36**	**280**	⇓P	**Pn**	**12 50 38.0**	**+1.4**
ONAJ				⇓S	**Sn**	**12 50 44.1**	**+0.9**
ONAJ	**Iwakimizuishiy**	**0.36**	**280**	A	A	12 50 38.0	
	comp=E,131nm,0.3s,comp=N,108nm,0.3s						
JFK	**Kawauchi**	**0.44**	**319**	⇓P	**Pn**	**12 50 38.8**	**+1.1**
JFK				⇓S	**Sn**	**12 50 45.5**	**+0.8**
JFK	**Kawauchi**	**0.44**	**319**	A	A	12 50 38.8	
	comp=E,36nm,1.2s,comp=N,36nm,0.3s						
JFFD	**Fukushimafurud**	**0.54**	**276**	⇓P	**Pn**	**12 50 39.9**	**+0.7**
JFFD				⇓S	**Sn**	**12 50 47.4**	**+0.3**
JFFD	**Fukushimafurud**	**0.54**	**276**	A	A	12 50 39.9	
	comp=E,22nm,1.1s,comp=N,18nm,0.3s						
JHO	**Hitachi**	**0.68**	**232**	⇓P	**Pn**	**12 50 41.6**	**+0.6**
JHO				⇓S	**Sn**	**12 50 50.5**	**0.0**
JHO	**Hitachi**	**0.68**	**232**	A	A	12 50 41.6	
	comp=E,12nm,1.1s,comp=N,11nm,0.8s						
JMST	**Minamisoumatoc**	**0.74**	**338**	A	A	12 50 42.7	
	comp=E,10.0nm,1.2s,comp=N,18nm,0.3s						
JOTO	**OTAMA OYAMA**	**0.89**	**306**	*i* P	**Pn**	**12 50 45.1**	**+1.2**
JOTO				S	**Sn**	**12 50 56.4**	**+0.8**
JOTO	**OTAMA OYAMA**	**0.89**	**306**	A	A	12 50 45.1	
	comp=E,57nm,0.4s,comp=N,29nm,0.4s						
JMM	**Marumori**	**0.90**	**337**	Pn	**Pn**	**12 50 44.5**	**+0.5**
JMM				Sn	**Sn**	**12 50 55.5**	**-0.3**
JMM	**Marumori**	**0.90**	**337**	⇓*i*P	**Pn**	**12 50 44.6**	**+0.6**
JMM				⇓S	**Sn**	**12 50 55.9**	**+0.2**
JMM	**Marumori**	**0.90**	**337**	A	A	12 50 44.6	
	comp=E,15nm,0.5s,comp=N,12nm,0.5s						
JSB	**Shiboa**	**1.06**	**267**	A	A	12 50 46.8	
	comp=E,12nm,0.9s,comp=N,11nm,1.0s						
JYT	**Yasato**	**1.16**	**226**	A	A	12 50 48.8	
	comp=E,23nm,0.3s,comp=N,19nm,0.3s						
JYAR	**Yonezawaarcadi**	**1.23**	**315**	A	A	12 50 49.3	
	comp=E,12nm,0.5s,comp=N,9.0nm,0.8s						
JFY	**Yanaizu**	**1.28**	**287**	⇓*i*P	**Pn**	**12 50 49.8**	**+0.6**
JFY	**Yanaizu**	**1.28**	**287**	A	A	12 50 49.8	
	comp=E,3.0nm,3.0s,comp=N,2.0nm,2.0s						
JOU	**Okura**	**1.40**	**341**	⇓*i*P	**Pn**	**12 50 51.7**	**+0.8**
JOU				⇓S	**Sn**	**12 51 08.6**	**+0.4**
JOU	**Okura**	**1.40**	**341**	A	A	12 50 51.7	
	comp=E,9.0nm,0.5s,comp=N,7.0nm,0.4s						
JIO	**Ouri**	**1.42**	**4**	⇓*i*P	**Pn**	**12 50 51.8**	**+0.7**
JIO				⇓S	**Sn**	**12 51 07.9**	**-0.5**
JYS	**Shirataka**	**1.50**	**322**	⇓*i*P	**Pn**	**12 50 53.4**	**+1.2**
JYS				⇓S	**Sn**	**12 51 12.0**	**+1.4**
JYS	**Shirataka**	**1.50**	**322**	A	A	12 50 53.4	
	comp=E,5.0nm,2.0s,comp=N,5.0nm,3.1s						
JAG	**Ashikaga**	**1.56**	**247**	⇓*i*P	**Pn**	**12 50 53.6**	**+0.6**
JKT	**Katashina**	**1.61**	**261**	*i* P	**Pn**	**12 50 55.1**	**+1.2**
JYA	**Atsumi**	**1.97**	**323**	A	A	12 50 59.9	
	comp=E,4.0nm,0.5s,comp=N,3.0nm,0.9s						
MJAR	**Matsushiro Arr**	**2.48**	**259**	Pn	**Pn**	**12 51 05.8**	**+0.1**
	comp=N,5.0nm,0.3s,baz=206,slow=10,SNR=173						
MJAR				Sn	**Sn**	**12 51 39.3**	**+4.6**
	comp=N,5.9nm,0.3s,baz=21,slow=13,SNR=2.6						
MJAR				LR	LR	12 51 58.3	
	comp=N,149nm,20.6s,baz=12,slow=40						
MAJO	**Matsushiro**	**2.48**	**259**	Pn	**Pn**	**12 51 07.1**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.48**	**260**	Pn	**Pn**	**12 51 07.9**	**+2.2**
JSD	**Sado**	**2.57**	**294**	Pn	**Pn**	**12 51 06.6**	**-0.3**
JSG	**Sagara**	**3.42**	**227**	Pn	**Pn**	**12 51 20.1**	**+1.5**
JTM	**Tenmabayashi**	**3.75**	**358**	Pn	**Pn**	**12 51 25.3**	**+2.2**
INU	**Inuyama**	**3.81**	**245**	Pn	**Pn**	**12 51 25.1**	**+1.2**
JHJ2	**Mitsune**	**4.09**	**197**	Pn	Pn	12 51 23.7	-4.0
JHJ	**Hachijo jima 2**	**4.09**	**197**	Pn	Pn	12 51 23.1	-4.7
	comp=N,72nm,0.3s,baz=91,slow=21,SNR=2.6						
JHJ				Sn	**Sn**	**12 52 15.2**	**+0.9**
	comp=N,86nm,0.3s,baz=82,slow=23,SNR=1.7						
	comp=N,400nm,0.6s						
ERM	**Erimo**	**5.19**	**16**	Pn	**Pn**	**12 51 43.1**	**+0.3**
ERM					**Sn**	**12 52 44.0**	**+2.7**
JMN	**Monobe**	**6.86**	**243**	Pn	**Pn**	**12 52 07.0**	**+1.2**
ASAJ	**Asahikawa**	**7.15**	**8**	Pn	**Pn**	**12 52 09.4**	**-0.3**
	comp=N,2.8nm,0.3s,baz=207,slow=13,SNR=32						
ASAJ				Sn	**Sn**	**12 53 31.0**	**+1.4**
	comp=N,1.7nm,0.3s,baz=251,slow=32,SNR=1.9						
	comp=N,7.5nm,0.3s						
JKA	**Kamikawa-asahi**	**7.15**	**8**	Pn	**Pn**	**12 52 09.8**	**0.0**
JNU	**Nakatsue**	**9.34**	**248**	Pn	**Pn**	**12 52 41.2**	**+1.3**
JNU	**Nakatsue**	**9.34**	**248**	Pn	**Pn**	**12 52 41.0**	**+1.1**
	comp=N,0.6nm,0.3s,baz=207,slow=6.7,SNR=4.0						
JCJ	**Chichijima**	**9.95**	**175**	Pn	**Pn**	**12 52 46.8**	**-1.4**
JCJ	**Chichijima**	**9.95**	**175**	Pn	Pn	12 52 42.9	-5.3
	comp=N,5.1nm,0.3s,baz=269,slow=22,SNR=5.2						
JCJ				Sn	Sn	12 54 25.8	-13
	comp=N,3.9nm,0.3s,baz=256,slow=23,SNR=2.2						
	comp=N,23nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.97**	**6**	Pn	**Pn**	**12 52 48.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.02**	**318**	Pn	**Pn**	**12 52 51.6**	**+2.4**
	comp=N,0.8nm,0.3s,baz=145,slow=14,SNR=12						
USRK				LR	LR	12 56 35.3	
	comp=N,22nm,18.4s,baz=194,slow=37						
KSRS	**Korea Array**	**10.62**	**276**	Pn	**Pn**	**12 52 58.6**	**+1.3**

comp=N,0.3nm,0.3s,baz=87,slow=14,SNR=3.3
KSRS LR LR 12 56 48.1
comp=N,73nm,20.5s,baz=75,slow=36
MDJ Mudanjiang 11.62 314 P **Pn 12 53 10.8 -0.1**
MDJ PP **PnPn 12 53 18.6 -0.1**
MDJ S **Sn 12 55 18.0 -1.2**
MDJ SS **SnSn 12 55 30.5 -0.8**
MDJ PcP **PcP 12 59 06.5 +6.9**
MDJ ScP **ScP 13 02 35.8 +6.6**
MDJ PcS **PcS 13 02 38.9 +5.5**
MDJ Mudanjiang 11.62 314 ScS ScS 13 06 12.6 +7.9
MDJ pmax pmax
comp=Z,17nm,2.3s
MDJ pmax pmax
comp=Z,320nm,4.3s
KLR Kul'dur 14.00 333 LR LR 12 58 53.0
comp=Z,60nm,18.2s,baz=138,slow=36
SNY Shenyang 14.46 295 ⇑P **Pn 12 53 47.1 -2.6**
SNY pmax pmax
comp=Z,6.0nm,0.5s
NJ2 Nanjing 19.08 261 *e*P **P 12 54 46.8 -0.3**
NJ2 pP **pP 12 54 56.8 0.0**
NJ2 sP **sP 12 55 02.9 +1.1**
NJ2 pmax pmax
comp=Z,12nm,0.7s
NJ2 pmax pmax
comp=Z,420nm,5.3s
PETK Petropavlovsk- 19.75 30 P **Pn 12 54 56.4 +0.4**
comp=Z,1.6nm,0.8s,baz=262,slow=7.3,SNR=1.5
XLT XiLinHaoTe 20.28 298 *e*P **P 12 54 59.4 -0.8**
XLT pP pP 12 55 10.5 +0.4
XLT sP sP 12 55 17.9 +2.9
XLT pmax pmax
comp=Z,20nm,0.9s
XLT pmax pmax
comp=Z,170nm,4.8s
HNS HongShan 21.11 279 ⇑P **P 12 55 06.8 -2.2**
HNS pmax pmax
comp=Z,18nm,0.8s
TPUB Ta-pu 22.41 238 P **P 12 55 18.7 -4.3**
HHC Hu-ho-hao-te 23.34 289 *e*P **P 12 55 32.0 -0.7**
HHC pmax pmax
comp=Z,33nm,0.6s
HHC pmax pmax
comp=Z,260nm,4.6s
SONM Songino Array 27.66 304 P **P 12 56 11.2 -0.9**
comp=Z,1.3nm,0.5s,baz=85,slow=7.8,SNR=5.3
SONM PcP **PcP 12 59 28.1 -0.3**
comp=Z,0.5nm,0.3s,baz=104,slow=2.8,SNR=2.2
comp=Z,1.3nm,0.5s
H11N2 WAKE ISLAND Hy 28.27 121 T T 13 26 14.1
baz=313,slow=75,SNR=238
H11N1 WAKE ISLAND Hy 28.28 121 T T 13 26 14.7
baz=313,slow=75,SNR=221
H11N3 WAKE ISLAND Hy 28.29 121 T T 13 26 14.9
baz=313,slow=75,SNR=215
H11S1 WAKE ISLAND Hy 28.98 123 T T 13 27 13.4
baz=314,slow=75,SNR=204
H11S3 WAKE ISLAND Hy 28.98 123 T T 13 27 13.5
baz=314,slow=75,SNR=214
H11S2 WAKE ISLAND Hy 29.00 123 T T 13 27 15.0
baz=314,slow=75,SNR=128
LZH Lanzhou 29.93 280 *e*P P 12 56 36.8 +4.5
LZH sP sP 12 56 52.5 +4.6
LZH pmax pmax
comp=Z,16nm,1.1s
WMQ Urumqi 40.71 297 *e*P **P 12 58 04.8 +0.1**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
ZAA0 Zalesovo Array 41.81 312 P **P 12 58 11.8 -1.6**
ZALV Zalesovo Beam 41.81 312 P **P 12 58 12.5 -0.9**
ZALV Zalesovo Beam 41.81 312 P **P 12 58 13.5 +0.1**
comp=Z,5.2nm,0.4s,baz=91,slow=7.2,SNR=25
ZALV PcP **PcP 13 00 08.2 -0.7**
comp=Z,1.4nm,0.3s,baz=125,slow=2.9,SNR=6.0
comp=Z,5.2nm,0.4s
L16K Owhat River 43.78 36 P **P 12 58 30.9 +1.6**
L16K IAmb IAmb 12 58 33.2
comp=Z,19nm,1.4s
MK31 Makanchi Array 44.00 302 P **P 12 58 30.8 -0.5**
MKAR Makanchi Array 44.00 302 P **P 12 58 31.2 -0.1**
MKAR Makanchi Array 44.00 302 P **P 12 58 30.9 -0.5**
comp=Z,1.8nm,0.7s,baz=84,slow=9.9,SNR=19
MKAR PcP **PcP 13 00 15.8 -0.6**
comp=Z,0.3nm,0.4s,baz=74,slow=4.5,SNR=4.1
comp=Z,1.8nm,0.7s
MAKZ Makanchi 44.21 302 P **P 12 58 31.8 -1.2**
C18K Utukok River 44.34 26 P **P 12 58 34.8 +1.0**
C18K IAmb IAmb 12 58 35.1
comp=Z,24nm,1.4s
H18K Honhosa River 44.72 31 P **P 12 58 38.4 +1.6**
H18K IAmb IAmb 12 58 43.7
comp=Z,12nm,1.2s
L18K Granite Mounta 45.14 36 P **P 12 58 42.0 +1.8**
L18K IAmb IAmb 12 59 14.9
comp=Z,12nm,1.4s
E19K Redstone River 45.54 28 P **P 12 58 44.0 +0.7**
H19K Roundabout Mou 45.56 31 P **P 12 58 44.7 +1.2**
H19K IAmb IAmb 12 59 08.8
comp=Z,6.0nm,1.1s
KURK Kurchatov 45.82 308 P **P 12 58 44.8 -0.9**
KURK IAmb IAmb 12 58 47.6
comp=Z,5.7nm,0.5s
KURBB Kurchatov Arra 45.89 308 P **P 12 58 45.4 -0.9**
comp=Z,3.5nm,0.4s,baz=85,slow=8.0,SNR=26
KURBB PcP **PcP 13 00 22.1 -0.8**
comp=Z,0.5nm,0.4s,baz=94,slow=3.1,SNR=0.8
comp=Z,3.5nm,0.4s
B20K Meade River 46.05 25 P **P 12 58 48.8 +1.6**
K20K Telida 46.41 34 P **P 12 58 52.1 +1.9**
K20K IAmb IAmb 12 59 24.6
comp=Z,12nm,1.4s
B21K Ikpikpuk River 46.85 26 P **P 12 58 54.5 +1.1**
B21K IAmb IAmb 12 59 29.6
comp=Z,10nm,1.2s
CAST Castle Rocks 47.30 34 P **P 12 58 58.5 +1.3**
CAST IAmb IAmb 12 59 24.8
comp=Z,6.5nm,1.4s
E22K Anaktuvuk Pass 47.67 28 P **P 12 59 00.6 +0.6**
E22K IAmb IAmb 12 59 12.3
comp=Z,14nm,1.4s
H23K Yukon River 48.44 31 P **P 12 59 08.0 +2.1**
H23K IAmb IAmb 12 59 18.6
comp=Z,6.9nm,1.4s
GHO Glory Hole Cre 48.80 36 P **P 12 59 10.2 +1.3**
H24K Noodor Dome 49.12 31 P **P 12 59 12.1 +0.8**
ILAR Eielson Array 49.57 32 P **P 12 59 15.1 +0.5**
comp=Z,0.6nm,0.7s,baz=266,slow=6.3,SNR=9.1
comp=Z,0.6nm,0.7s
AAK Ala-Archa 50.36 298 LR LR 13 21 45.2
comp=Z,34nm,21.2s,baz=68,slow=37
BVAR Borovoye Array 50.46 312 P **P 12 59 21.1 -0.5**
comp=Z,1.6nm,0.5s,baz=70,slow=7.7,SNR=8.5
BVAR PcP **PcP 13 00 39.0 -0.3**
comp=Z,2.6nm,0.6s,baz=85,slow=3.0,SNR=8.6
comp=Z,1.6nm,0.5s
BCAR Beaver Creek A 51.97 34 P **P 12 59 34.5 +1.7**
I28M Miner Creek 52.43 31 P **P 12 59 37.5 +1.3**
EPYK Eagle Plains 53.59 30 P **P 12 59 46.2 +1.5**
GSI Gunungsitoli 53.68 239 P **P 12 59 45.8 -0.1**
I30M Mount Dempster 53.94 31 P **P 12 59 48.8 +1.4**
I30M IAmb IAmb 13 00 04.6
comp=Z,7.3nm,1.2s
H31M Peel River 54.65 30 P **P 12 59 53.8 +1.4**
H31M IAmb IAmb 13 00 15.2
comp=Z,15nm,1.4s
ARU Arti 56.26 319 P **P 13 00 03.0 -1.0**
ARU Arti 56.26 319 P **P 13 00 03.5 -0.6**
comp=Z,6.3nm,0.4s,baz=121,slow=5.8,SNR=9.4
comp=Z,6.3nm,0.4s
WRA Warramunga Arr 57.05 188 P **P 13 00 09.1 -0.9**
comp=Z,1.2nm,0.6s,baz=5.5,slow=7.3,SNR=9.2
comp=Z,1.2nm,0.6s
ABKAR Abkulak array 57.83 310 P **P 13 00 14.2 -1.0**
AKTO Aktyubinsk 58.57 312 P **P 13 00 21.7 +1.3**
comp=Z,2.0nm,0.7s,baz=69,slow=12,SNR=4.3
comp=Z,2.0nm,0.7s
ASAR Alice Springs 60.77 188 P **P 13 00 33.2 -2.5**
comp=Z,0.7nm,0.8s,baz=342,slow=5.8,SNR=6.6
comp=Z,0.7nm,0.8s
GEYT Alibeck 63.71 299 P **P 13 00 55.0 -0.5**
comp=Z,3.8nm,0.7s,baz=71,slow=18,SNR=2.5
comp=Z,3.8nm,0.7s
ARCES ARCESS Array B 63.94 339 P **P 13 00 56.3 -0.1**
comp=Z,1.6nm,0.8s,baz=61,slow=9.9,SNR=5.5
comp=Z,1.6nm,0.8s

STKA Stephens Creek 68.56 180 LR LR 13 31 34.1
comp=Z,23nm,20.2s,baz=32,slow=36
FINES FINESS Array B 68.74 332 P **P 13 01 26.6 -0.6**
FINES FINESS Array B 68.74 332 P **P 13 01 26.8 -0.5**
comp=Z,2.9nm,0.7s,baz=61,slow=9.0,SNR=9.1
comp=Z,2.9nm,0.7s
KBZ Khabaz 70.79 311 P **P 13 01 39.6 -0.6**
comp=Z,2.0nm,0.8s,baz=48,slow=6.1,SNR=4.7
comp=Z,2.0nm,0.8s
HFS Hagfors 74.03 336 P **P 13 01 58.6 -0.6**
comp=Z,1.2nm,0.5s,baz=188,slow=38,SNR=1.8
comp=Z,1.2nm,0.5s
NOA NORSAR Array B 74.13 337 P **P 13 01 60.0 +0.1**
comp=Z,1.2nm,0.7s,baz=37,slow=6.0,SNR=4.3
NOA LR LR 13 37 46.3
comp=Z,15nm,19.9s,baz=335,slow=38
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 74.21 322 P **P 13 01 59.5 -0.9**
comp=Z,1.5nm,0.3s,baz=48,slow=5.9,SNR=9.5
comp=Z,1.5nm,0.3s
PDAR Pinedale Array 77.77 45 P **P 13 02 20.4 -0.7**
comp=Z,0.2nm,0.5s,baz=354,slow=4.5,SNR=2.4
comp=Z,0.2nm,0.5s
BRTR Keskin Array B 78.74 311 P **P 13 02 25.5 -1.0**
comp=Z,1.2nm,0.8s,baz=98,slow=3.7,SNR=5.1
comp=Z,1.2nm,0.8s
RAR Rarotonga 80.28 126 LR LR 13 31 35.9
comp=Z,67nm,19.5s,baz=145,slow=31
TXAR Lajitas Array 90.23 52 P **P 13 03 25.4 +0.7**
comp=Z,0.1nm,0.4s,baz=279,slow=3.0,SNR=4.5
comp=Z,0.1nm,0.4s
TORD Torodi Ar. Bea 117.23 315 PKP **PKPdf 13 09 07.8 -1.6**
comp=Z,0.2nm,0.4s,baz=40,slow=1.7,SNR=2.0
ELIB Princess Elisa 133.36 202 *d*PKPdf **PKiKP 13 09 40.5 +0.6**
LPAZ La Paz 146.81 59 PKPbc **PKPbc 13 10 06.2 -0.8**
comp=Z,0.8nm,0.5s,baz=27,slow=5.4,SNR=4.6
H03N2 Juan Fernandez 147.16 96 T T 15 55 06.0
baz=291,slow=76,SNR=18
H03N3 Juan Fernandez 147.18 96 T T 15 55 06.0
baz=291,slow=76,SNR=22
H03N1 Juan Fernandez 147.18 96 T T 15 55 10.0
baz=291,slow=76,SNR=20

*DJA **19** 12:54:49.0±0.2, 1°S±2°×12°2E±°, h10km, M4.4/14, mb4.7/5, MLv4.3/14*
*IDC **19** 12:54:52.5±3.5, 0°80S×122°06E, h42km±32km, mb3.7/10, mbtmp3.9/11, ML4.3/1, MS3.0/3, Error ellipse: s-maj=30.8km s-min=11.0km az=71.0*
ISC 19 12:54:51.5±0.6, 0°63S±0°05×122°00E±0°05, h35km, n28, σ2°01/31, mb4.0/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.88**	**118**	P	**Pn**	**12 55 07.2**	**-0.2**
LUWI				S	**Sn**	**12 55 18.9**	**0.0**
MRSI	**Marisa**	**1.10**	**357**	P	**Pn**	**12 55 08.6**	**-1.8**
MRSI				S	**Sn**	**12 55 19.3**	**-5.1**
GTOI	**Gorontalo**	**1.61**	**39**	P	**Pn**	**12 55 16.7**	**-0.8**
MPSI	**Mapaga**	**2.31**	**295**	P	**Pn**	**12 55 25.9**	**-1.2**
KMSI	**Cibinong**	**2.31**	**59**	P	**Pn**	**12 55 27.9**	**+0.7**
TTSI	**Tana Toraja**	**3.24**	**222**	P	**Pn**	**12 55 40.4**	**+0.5**
SANI	**Sanana**	**4.23**	**110**	P	**Pn**	**12 55 53.5**	**0.0**
BBSI	**Bau Bau**	**4.86**	**173**	P	**Pn**	**12 56 01.2**	**-1.0**
KAPI	**Kappang**	**4.90**	**207**	P	**Pn**	**12 56 00.8**	**-1.9**
	14nm,0.3s,baz=36,slow=7.4,SNR=14						
KAPI				S	**Sn**	**12 56 55.7**	**-2.6**
	27nm,0.4s,baz=7.2,slow=22,SNR=7.7						
KAPI				LR	LR	12 57 36.6	
	comp=Z,147nm,18.7s,baz=30,slow=34						
	35nm,0.3s						
BKSI	**Bulukumba**	**5.03**	**202**	P	**Pn**	**12 56 04.0**	**-0.4**
	50nm,0.6s,0.2nm						
NLAI	**Namlea**	**5.72**	**117**	P	**Pn**	**12 56 10.6**	**-3.4**
EDFI	**Ende, Flores**	**8.07**	**182**	P	**Pn**	**12 56 45.9**	**-0.6**
DAV	**Davao City (W)**	**8.44**	**25**	LR	LR	13 01 09.0	
	comp=Z,141nm,18.9s,baz=178,slow=44						
WRA	**Warramunga Arr**	**22.68**	**149**	P	**P**	**12 59 49.8**	**-0.3**
	2.9nm,0.9s,baz=334,slow=9.6,SNR=27						
WRA				S	**S**	**13 03 51.1**	**-5.2**
	0.4nm,0.9s,baz=321,slow=12,SNR=4.8						
	2.9nm,0.9s						
ASAR	**Alice Springs**	**25.65**	**154**	P	**P**	**13 00 18.8**	**+0.6**
	0.8nm,0.7s,baz=347,slow=15,SNR=8.9						
ASAR				PcP	**PcP**	**13 03 48.9**	**+0.4**
	0.3nm,0.5s,baz=350,slow=2.2,SNR=6.5						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.55**	**311**	P	**P**	**13 00 55.7**	**+2.5**
	0.6nm,0.7s,baz=142,slow=5.0,SNR=4.9						
CMAR				LR	LR	13 13 10.1	
	comp=Z,21nm,18.2s,baz=100,slow=37						
	0.6nm,0.7s						
MJAR	**Matsushiro Arr**	**39.93**	**21**	P	**P**	**13 02 21.8**	**-0.7**
	1.3nm,0.6s,baz=203,slow=9.9,SNR=2.8						
	1.3nm,0.6s						
HHC	**Hu-ho-hao-te**	**42.36**	**348**	*e*P	**P**	**13 02 45.4**	**+2.9**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,230nm,6.4s						
GUN	**Gumba**	**44.78**	**312**	*e*P	**P**	**13 03 03.5**	**+1.0**
	comp=Z,9.1nm,0.4s						
PKI	**Pulchoki**	**44.95**	**312**	*e*P	P	13 03 09.2	+5.4
	comp=Z,16nm,1.1s						
DANN	**Dangsing**	**46.60**	**311**	*e*P	**P**	**13 03 14.2**	**-2.6**
	comp=Z,10nm,0.6s						
PYUN	**Piuthan**	**47.05**	**311**	*e*P	**P**	**13 03 19.8**	**-0.4**
	comp=Z,8.1nm,0.6s						
SONM	**Songino Array**	**50.15**	**346**	P	**P**	**13 03 45.2**	**+1.6**
	comp=Z,1.3nm,0.6s,baz=162,slow=8.8,SNR=6.7						
	comp=Z,1.3nm,0.6s						
MKAR	**Makanchi Array**	**58.62**	**329**	P	**P**	**13 04 46.4**	**+1.3**
	comp=Z,2.2nm,0.9s,baz=130,slow=8.0,SNR=12						
	comp=Z,2.2nm,0.9s						
ZALV	**Zalesovo Beam**	**62.47**	**336**	P	**P**	**13 05 11.4**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=108,slow=9.5,SNR=3.8						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**63.01**	**331**	P	**P**	**13 05 16.2**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=130,slow=6.1,SNR=8.2						
	comp=Z,1.3nm,0.7s						
BVAR	**Borovoye Array**	**68.50**	**329**	P	**P**	**13 05 50.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=134,slow=8.3,SNR=2.6						
	comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	**89.31**	**180**	P	**P**	**13 07 44.8**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=276,slow=1.8,SNR=11						
	comp=Z,1.3nm,0.7s						

*NNC **19** 12:55:54.2±2.0, 37°68N×71°62E, h114km±41km, mb3.0, mpv3.7, Error ellipse: s-maj=17.1km s-min=15.4km az=4.0*
ISC 19 12:55:46.2±1.3, 37°17N±0°09×71°7E±0°1, h100km, n23, σ1°90/27, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.18**	**16**	P	**Pn**	**12 57 03.7**	**+1.9**
	SNR=40						
AML	**Almayashu**	**5.18**	**16**	⇑P	**Pn**	**12 57 03.6**	**+1.9**
	0.2nm,0.2s						
AML				⇑S	**Sn**	**12 57 58.1**	**-2.3**
	18nm,0.7s						
EKS2	**Erkin-Say**	**5.71**	**15**	P	**Pn**	**12 57 11.0**	**+2.4**
	SNR=11						
AAK	**Ala-Archa**	**5.86**	**20**	P	**Pn**	**12 57 13.1**	**+2.4**
	SNR=18						
KK31	**Karatay Array**	**6.00**	**351**	⇑P	**Pn**	**12 57 14.3**	**+1.9**
	14nm,0.3s,baz=170,slow=12,SNR=112						
KK31				⇓S	**Sn**	**12 58 15.9**	**-3.8**
	3.9nm,0.3s,baz=184,slow=24,SNR=8.1						
ULHL	**Ulahol**	**6.15**	**33**	P	**Pn**	**12 57 17.4**	**+2.7**
	SNR=7.8						
CHMS	**Chumysh**	**6.26**	**21**	P	**Pn**	**12 57 18.2**	**+2.1**
	SNR=8.2						
CHMS	**Chumysh**	**6.26**	**21**	⇑P	**Pn**	**12 57 17.7**	**+1.6**
	9.5nm,0.4s						
CHMS				⇓S	**Sn**	**12 58 23.2**	**-3.0**
	21nm,0.8s						
USP	**Ospenovka**	**6.45**	**18**	P	**Pn**	**12 57 20.2**	**+1.7**
	SNR=7.3						
TKM2	**Tokmak 2**	**6.46**	**26**	⇑P	**Pn**	**12 57 21.1**	**+2.2**
	3.2nm,0.5s						
TKM2				⇑S	**Sn**	**12 58 31.1**	**-0.3**
	13nm,1.0s						
PYUN	**Piuthan**	**13.10**	**130**	*e*P	**Pn**	**12 58 47.5**	**-1.2**
	27nm,0.3s						
PYUN				*e*S	Sn	13 01 01.2	-12
DANN	**Dangsing**	**13.40**	**128**	*e*P	**Pn**	**12 58 51.4**	**-1.3**
	9.6nm,0.2s						

GKN Gorkha 14.20 126 *e*P **Pn 12 59 02.1 -0.9**
15nm,0.3s
DMN Daman 14.78 126 *e*P **Pn 12 59 09.6 -0.8**
14nm,0.3s
AB31 Akbulak array 14.80 328 ⇑P **Pn 12 59 10.0 -0.2**
1.1nm,0.4s,baz=176,slow=20,SNR=17
PKIN Phulchoki 14.98 126 *e*P **Pn 12 59 11.8 -1.2**
8.6nm,0.2s
PKI Pulchoki 15.00 126 *e*P **Pn 12 59 12.0 -1.3**
5.5nm,0.2s
GUN Gumba 15.08 124 *e*P **Pn 12 59 12.8 -1.5**
9.9nm,0.5s
JIRN Jiri 15.45 124 *e*P **Pn 12 59 18.2 -0.8**
17nm,0.4s
BVA0 Borovoye Array 15.88 357 P **P 12 59 26.5 +0.9**
0.1nm,0.4s,baz=88,slow=7.4,SNR=4.2
RAMN Ramite 16.20 125 *e*P **Pn 12 59 27.5 -0.7**
AKTO Aktyubinsk 16.50 328 ⇓P **P 12 59 33.6 +1.2**
1.8nm,0.8s
TAPN Taplejung 16.68 121 *e*P **Pn 12 59 33.7 -0.4**
7.4nm,0.5s

*JMA **19** 12:56:48.6±0.2, 24°7N±0°9×122°2E±0°4, h99km±2km, MV2.5/14, TAIWAN REGION*
*TAP **19** 12:56:49.5, 24°83N×122°14E, h94km, ML3.3, D*
ISC 19 12:56:49.2±1.4, 24°82N±0°04×122°24E±0°03, h93km±6km, n104, σ0°77/184, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.29**	**309**	P	**Pn**	**12 57 03.3**	**+0.4**
	baz=315						
TWB1				S	**Sn**	**12 57 13.1**	**-0.1**
	baz=315						
EOS2	**EOS2**	**0.40**	**181**	*e*P	**Pn**	**12 57 04.2**	**+0.7**
	baz=172						
EOS2				S	**Sn**	**12 57 15.3**	**+1.3**
	baz=172						
TWC	**Suao**	**0.41**	**239**	P	**Pn**	**12 57 03.5**	**-0.1**
	baz=230						
TWC				S	**Sn**	**12 57 13.7**	**-0.6**
	baz=230						
SXI1	**Grass Mountain**	**0.42**	**309**	P	**Pn**	**12 57 04.0**	**+0.2**
	baz=307						
SXI1				*e*S	**Sn**	**12 57 15.0**	**+0.3**
	baz=307						
NWF	**Wu-fen Shan**	**0.48**	**301**	*e*P	**Pn**	**12 57 04.7**	**+0.5**
	baz=298						
NWF				*e*S	**Sn**	**12 57 15.1**	**-0.3**
	baz=298						
WFSB	**Wu-fen Shan**	**0.48**	**301**	*e*P	**Pn**	**12 57 04.6**	**+0.5**
	baz=300						
NDS	**Dongshan**	**0.51**	**248**	P	**Pn**	**12 57 04.6**	**+0.3**
	baz=239						
NDS				S	**Sn**	**12 57 15.6**	**0.0**
	baz=239						
TWE	**Neicheng**	**0.53**	**259**	*i* P	**Pn**	**12 57 04.7**	**+0.2**
	baz=257						
TWE				S	**Sn**	**12 57 15.4**	**-0.5**
	baz=257						
EOS3	**EOS3**	**0.54**	**172**	P	**Pn**	**12 57 05.0**	**+0.6**
	baz=175						
EOS3				S	**Sn**	**12 57 17.0**	**+1.3**
	baz=175						
EWUT	**Wuta**	**0.56**	**228**	P	**Pn**	**12 57 04.7**	**0.0**
	baz=217						
EWUT				S	**Sn**	**12 57 16.1**	**-0.2**
	baz=217						
FUSB	**Fushanzhiwuyua**	**0.59**	**264**	P	**Pn**	**12 57 05.2**	**+0.1**
	baz=266						
FUSB				S	**Sn**	**12 57 16.6**	**-0.4**
	baz=266						
ENA	**Nanau**	**0.60**	**229**	*e*P	**Pn**	**12 57 05.2**	**+0.1**
	baz=220						
ENA				*e*S	**Sn**	**12 57 16.7**	**-0.2**
	baz=220						
ENTT	**Nioudou**	**0.64**	**254**	*i* P	**Pn**	**12 57 05.9**	**+0.5**
	baz=247						
ENTT				*i* S	**Sn**	**12 57 17.3**	**-0.3**
	baz=247						
NHDH	**Xindian Distri**	**0.66**	**282**	*e*P	**Pn**	**12 57 05.6**	**0.0**
	baz=289						
NHDH				*e*S	**Sn**	**12 57 17.5**	**-0.4**
	baz=289						
NWLT	**Wulai**	**0.67**	**266**	P	**Pn**	**12 57 05.6**	**-0.1**
	baz=268						
NWLT				S	**Sn**	**12 57 18.1**	**-0.1**
	baz=268						
YM01	**YM01**	**0.69**	**298**	*e*P	**Pn**	**12 57 05.8**	**-0.1**
	baz=296						
YM01				*e*S	**Sn**	**12 57 17.1**	**-1.3**
	baz=296						
YM08	**YM08**	**0.69**	**302**	*e*P	**Pn**	**12 57 06.0**	**+0.1**
	baz=305						
YM08				*e*S	**Sn**	**12 57 17.6**	**-0.8**
	baz=305						
NDT	**Datong Townshi**	**0.69**	**252**	*i* P	**Pn**	**12 57 06.5**	**+0.6**
	baz=246						
NDT				S	**Sn**	**12 57 19.1**	**+0.6**
	baz=246						
TATO	**Taipei**	**0.70**	**283**	P	**Pn**	**12 57 06.1**	**+0.2**
EOS4	**EOS4**	**0.70**	**174**	*e*P	**Pn**	**12 57 05.7**	**0.0**
	baz=173						
EOS4				*e*S	**Sn**	**12 57 19.1**	**+1.2**
	baz=173						
LATG	**Datong**	**0.71**	**246**	P	**Pn**	**12 57 06.6**	**+0.5**
	baz=239						
LATG				S	**Sn**	**12 57 19.2**	**+0.3**
	baz=239						
JYNG	**Yonagunijimaku**	**0.74**	**120**	P	**Pn**	**12 57 06.4**	**0.0**
ANP	**Anpu**	**0.74**	**299**	*e*P	**Pn**	**12 57 06.1**	**-0.4**
	baz=296						
ANP				*e*S	**Sn**	**12 57 17.8**	**-1.7**
	baz=296						
YOJ	**Yonaguni jima**	**0.79**	**117**	P	**Pn**	**12 57 06.8**	**0.0**
YOJ				*e*S	**Sn**	**12 57 20.2**	**+0.2**
NTST	**Danshui**	**0.79**	**296**	*e*P	**Pn**	**12 57 06.7**	**-0.2**
	baz=298						
NTST				*e*S	**Sn**	**12 57 19.6**	**-0.6**
	baz=298						
TWS1	**Kuangyinshan**	**0.79**	**291**	*e*P	**Pn**	**12 57 06.7**	**-0.2**
	baz=292						
TWS1				*e*S	**Sn**	**12 57 19.3**	**-0.8**
	baz=292						
YHNB	**Yeheng**	**0.80**	**259**	P	**Pn**	**12 57 07.4**	**+0.4**
YHNB	**Yeheng**	**0.80**	**259**	P	**Pn**	**12 57 07.2**	**+0.2**
	baz=261						
YHNB				S	**Sn**	**12 57 20.4**	**0.0**
	baz=261						
NSK	**Sanguang**	**0.81**	**260**	P	**Pn**	**12 57 07.4**	**+0.2**
	baz=256						
NSK				S	**Sn**	**12 57 20.6**	**0.0**
	baz=256						
ETL	**Fush Village**	**0.87**	**220**	*e*P	**Pn**	**12 57 07.5**	**-0.2**
	baz=205						
ETL				*e*S	**Sn**	**12 57 21.2**	**-0.4**
	baz=205						
NNSB	**Datong**	**0.87**	**243**	P	**Pn**	**12 57 08.1**	**+0.2**
	baz=245						
NNSB				S	**Sn**	**12 57 21.8**	**-0.1**
	baz=245						
NACB	**Ninganchiao**	**0.87**	**222**	P	**Pn**	**12 57 07.5**	**-0.2**
NACB	**Ninganchiao**	**0.87**	**222**	*e*P	**Pn**	**12 57 06.9**	**-0.9**
	baz=207						
NACB				*e*S	**Sn**	**12 57 20.7**	**-0.9**
	baz=207						
NNS	**Nan Shan**	**0.88**	**244**	P	**Pn**	**12 57 08.2**	**+0.3**
	baz=246						
NNS				S	**Sn**	**12 57 21.7**	**-0.2**
	baz=246						
ETLH	**Xiulin Townshi**	**0.92**	**228**	*e*P	**Pn**	**12 57 08.1**	**-0.3**
	baz=232						
ETLH				*e*S	**Sn**	**12 57 21.8**	**-0.9**
	baz=232						
TWD	**Chiawan**	**0.94**	**218**	*e*P	**Pn**	**12 57 08.3**	**-0.2**
	baz=222						
TWD				*e*S	**Sn**	**12 57 21.9**	**-1.0**
	baz=222						
NCU	**National Centr**	**0.97**	**279**	*e*S	**Sn**	**12 57 23.3**	**-0.1**
	baz=285						
NCUH	**Zhongli**	**0.97**	**279**	*e*P	**Pn**	**12 57 09.1**	**+0.4**
	baz=284						
NCUH				*e*S	**Sn**	**12 57 23.3**	**-0.1**
	baz=284						
HWA	**Hwalien**	**1.02**	**215**	*e*S	**Sn**	**12 57 25.0**	**+0.5**
	baz=199						
NFF	**Wufeng Townshi**	**1.04**	**260**	*e*P	**Pn**	**12 57 09.9**	**+0.3**

NFF	baz=257			eS	Sn	12 57 24.5	-0.4
ETM	**Tongmen**	baz=257	**1.09 219**	eS	Sn	12 57 26.1	+0.2
LXIB	**Xiulin Townshi**	baz=211	**1.10 223**	eP	Pn	12 57 09.3	-1.0
LXIB		baz=208		eS	Sn	12 57 24.8	-1.5
WHF	**Hehuan Shan**	baz=208	**1.11 233**	eP	Pn	12 57 11.0	+0.2
WHF		baz=222		eS	Sn	12 57 26.3	-0.8
TWT	**Tachien**	baz=222	**1.12 240**	eP	Pn	12 57 11.9	+1.2
TWT		baz=228		eS	Sn	12 57 26.8	0.0
LIOB	**Emei**	baz=228	**1.13 261**	eP	Pn	12 57 10.6	0.0
LIOB		baz=259		eS	Sn	12 57 26.5	-0.2
TDCB	**Techi**	baz=259	**1.14 240**	eP	Pn	12 57 11.4	+0.5
TDCB		baz=228		eS	Sn	12 57 26.8	-0.3
SBCB	**Hsinchu**	baz=228	**1.14 269**	eP	Pn	12 57 11.3	+0.6
SBCB		baz=267		eS	Sn	12 57 27.3	+0.4
NSTT	**Nanjuang**	baz=267	**1.14 261**	eP	Pn	12 57 10.7	0.0
NSTT		baz=258		eS	Sn	12 57 26.6	-0.4
HSN	**Hsinchu**	baz=258	**1.15 269**	eS	Sn	12 57 26.8	-0.4
CHGB	**Renai**	baz=260	**1.23 232**	eP	Pn	12 57 12.1	+0.1
CHGB		baz=227		eS	Sn	12 57 28.6	-0.7
ESL	**Shilin**	baz=227	**1.25 216**	eS	Sn	12 57 27.5	-1.6
WHP	**Taichung City**	baz=216	**1.30 245**	eP	Pn	12 57 13.2	+0.6
WHP		baz=251		eS	Sn	12 57 30.1	-0.2
OWD	**Renai**	baz=251	**1.30 228**	eP	Pn	12 57 13.0	+0.2
OWD		baz=217		eS	Sn	12 57 29.9	-0.7
WUSB	**Renai**	baz=217	**1.31 231**	eP	Pn	12 57 13.0	+0.1
WUSB		baz=226		eS	Sn	12 57 30.0	-0.8
NMLH	**Miaoli**	baz=226	**1.35 258**	eS	Sn	12 57 31.0	-0.3
WARBT	**Fenglin Townsh**	baz=256	**1.35 215**	eP	Pn	12 57 11.5	-1.8
WARBT		baz=214		eS	Sn	12 57 29.2	-2.2
EGFH	**Guangfu**	baz=214	**1.37 213**	eS	Sn	12 57 30.8	-1.0
NSY	**Sanyi**	baz=217	**1.40 254**	eS	Sn	12 57 33.1	+0.4
TWQ1	**Liyutan**	baz=251	**1.42 251**	eP	Pn	12 57 14.2	+0.2
TWQ1		baz=248		eS	Sn	12 57 32.4	-0.4
WCS	**Beigang Elemen**	baz=248	**1.43 238**	eP	Pn	12 57 14.4	+0.2
WCS		baz=243		eS	Sn	12 57 33.1	-0.1
IRIF	**Iriomote-Funau**	baz=243	**1.44 109**	P	Pn	12 57 14.2	-0.2
IRIF				eS	Sn	12 57 32.8	-0.6
VWDT	**VWDT**		**1.46 223**	eP	Pn	12 57 14.5	-0.1
VWDT		baz=211		eS	Sn	12 57 33.1	-0.7
HGSD	**Ruisui**	baz=211	**1.52 209**	eP	Pn	12 57 15.2	-0.1
HGSD		baz=210		eS	Sn	12 57 34.4	-0.7
WDJ	**Dajia District**	baz=210	**1.53 252**	eS	Sn	12 57 35.0	-0.4
SMLT	**Sun Moon Lake**	baz=242	**1.54 233**	eP	Pn	12 57 16.0	+0.3
SMLT		baz=224		eS	Sn	12 57 36.4	+0.7
EHY	**Hungye**	baz=224	**1.56 213**	eP	Pn	12 57 15.3	-0.5
EHY		baz=206		eS	Sn	12 57 34.3	-1.6
TYC	**Yuchr**	baz=206	**1.56 234**	eP	Pn	12 57 16.5	+0.7
TYC		baz=239		eS	Sn	12 57 36.3	+0.3
SSLB	**Suanglung**	baz=239	**1.56 229**	P	Pn	12 57 16.7	+0.8
SSLB	**Suanglung**		**1.56 229**	P	Pn	12 57 16.2	+0.3
SSLB		baz=228		eS	Sn	12 57 36.3	+0.2
YULB	**Yu-li**	baz=228	**1.66 211**	P	Pn	12 57 20.3	+3.1
YULB	**Yu-li**		**1.66 211**	eP	Pn	12 57 15.9	-1.3
YULB		baz=205		eS	Sn	12 57 37.5	-0.9
WHYT	**Xinyi Township**	baz=205	**1.69 229**	eP	Pn	12 57 18.1	+0.5
WHYT		baz=233		eS	Sn	12 57 39.7	+0.6
EYUL	**Yuli**	baz=233	**1.69 210**	eP	Pn	12 57 17.2	-0.3
EYUL		baz=210		eS	Sn	12 57 37.7	-1.4
TWF1	**Yuli**	baz=210	**1.70 211**	eP	Pn	12 57 17.2	-0.4
TWF1		baz=209		eS	Sn	12 57 37.2	-2.0
WCHH	**Zhanghua**	baz=209	**1.70 245**	eS	Sn	12 57 39.3	0.0
WJS	**Zhushan**	baz=249	**1.70 234**	eS	Sn	12 57 40.1	+0.9
WNT	**Mingjian**	baz=241	**1.70 237**	eP	Pn	12 57 18.2	+0.6
WNT		baz=243		eS	Sn	12 57 39.6	+0.3
JKRS	**Kuro-shima**	baz=243	**1.71 110**	P	Pn	12 57 18.0	+0.2
JKRS				eS	Sn	12 57 39.2	-0.3
JIJ	**Ishigaki jima**		**1.79 104**	P	Pn	12 57 18.6	-0.2
JIJ				S	Sn	12 57 40.3	-1.0
FULB	**Fuli**		**1.83 208**	eP	Pn	12 57 20.5	+1.1
FULB		baz=211		eS	Sn	12 57 41.6	-0.8
ALS	**Alishan**	baz=211	**1.85 225**	eP	Pn	12 57 20.3	+0.5
ALS		baz=231		eS	Sn	12 57 44.4	+1.2
CHN5	**Tsauling**	baz=231	**1.88 230**	eP	Pn	12 57 20.2	+0.2
CHN5		baz=226		eS	Sn	12 57 44.2	+0.7
JISG	**Ishigakijimahi**	baz=226	**1.90 97**	eP	Pn	12 57 20.3	+0.1
JISG				eS	Sn	12 57 44.3	+0.5
EHD	**Haiduan**		**1.92 210**	eP	Pn	12 57 20.2	-0.2
EHD		baz=207		eS	Sn	12 57 42.3	-1.9
WDLH	**Douliu**	baz=207	**1.92 234**	eP	Pn	12 57 20.7	+0.3
WDLH		baz=241		eS	Sn	12 57 44.8	+0.5
WRL	**Guolierlin Hig**	baz=241	**1.93 242**	eP	Pn	12 57 19.9	-0.6
WRL		baz=239		eS	Sn	12 57 43.5	-1.0
ELDTW	**Lidau**	baz=239	**1.97 215**	eP	Pn	12 57 21.4	+0.1
ELDTW		baz=203		eS	Sn	12 57 44.3	-1.4
EDH	**Donghe**	baz=203	**2.03 205**	eS	Sn	12 57 44.3	-2.6
WCKO	**Fanlu**	baz=206	**2.03 228**	eP	Pn	12 57 22.2	+0.3
WCKO		baz=224		eS	Sn	12 57 48.0	+1.1
WTK	**Tuku**	baz=224	**2.03 237**	eP	Pn	12 57 21.9	0.0
WTK		baz=242		eS	Sn	12 57 46.3	-0.6
CHN4	**Tsaushan**	baz=242	**2.10 226**	eP	Pn	12 57 22.9	+0.1
CHN4		baz=223		eS	Sn	12 57 48.4	-0.1
TPUB	**Ta-pu**	baz=223	**2.11 224**	P	Pn	12 57 23.2	+0.2
TPUB	**Ta-pu**		**2.11 224**	eP	Pn	12 57 22.9	-0.1
TPUB		baz=230		eS	Sn	12 57 49.3	+0.5
CHY	**Chiayi**	baz=230	**2.12 232**	eP	Pn	12 57 25.2	+2.2
CHY		baz=228		eS	Sn	12 57 49.4	+0.5
STYH	**Taoyuan**	baz=228	**2.12 219**	eS	Sn	12 57 50.2	+1.2
LONT	**Longtian**	baz=206	**2.16 208**	eP	Pn	12 57 23.4	-0.3
LONT		baz=195		eS	Sn	12 57 48.7	-1.2
WTP	**Ta-pu**	baz=195	**2.16 224**	eP	Pn	12 57 23.5	-0.1
WTP		baz=230		eS	Sn	12 57 50.6	+0.6
JTJ	**Tarama**	baz=230	**2.25 94**	eP	Pn	12 57 25.5	+0.8
CHN1	**Nanshi**		**2.26 224**	eP	Pn	12 57 24.8	-0.1
CHN1		baz=230		eS	Sn	12 57 52.6	+0.3
SLGT	**Liugui**	baz=230	**2.33 219**	eP	Pn	12 57 26.5	+0.6
SLGT		baz=214		eS	Sn	12 57 54.8	+0.7
SSD	**Sandimen**	baz=214	**2.54 216**	eS	Sn	12 58 01.1	+2.3
TSMG	**Majia**	baz=211	**2.56 215**	eP	Pn	12 57 29.5	+0.5
TSMG		baz=210		eS	Sn	12 58 00.2	+0.7
MASBT	**Mashibuluo**	baz=210	**2.65 214**	eP	Pn	12 57 30.7	+0.6
MASBT		baz=209		eS	Sn	12 58 01.7	+0.3
XPSS	**Dashiqiu**	baz=209	**2.79 319**	eP	Pn	12 57 31.9	0.0
		baz=318					

IDC 19 13:04:46.7±5.8, 3°.81S×128°.57E, h138km±60km, mb3.3/2, mbtmp3.8/3, Error ellipse: s-maj=131.3km s-min=17.7km az=70.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.99**	**161**	P	P	13 08 36.1	+0.2
	1.3nm,0.4s,baz=343,slow=13,SNR=47						
WRA				S	S	13 11 43.2	-2.9
	0.1nm,0.3s,baz=337,slow=24,SNR=1.7						
ASAR	**Alice Springs**	**20.40**	**166**	P	P	13 09 14.4	+1.4
	2.1nm,0.3s,baz=344,slow=11,SNR=103						
ASAR				S	S	13 12 54.6	+0.5
	0.3nm,0.7s,baz=353,slow=24,SNR=2.5						
	2.1nm,0.3s						
MKAR	**Makanchi Array**	**64.80**	**327**	P	P	13 15 10.0	-0.7
	0.2nm,0.4s,baz=130,slow=6.4,SNR=2.5						
	0.2nm,0.4s						

ISC 19 13:17:11.8±1.1, 45°.14N±0°.03×14°.89E±0°.03, h10km±11km, n12, σ0°97/22, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBRS	**Gornja Briga**	**0.39**	**352**	*i* Pg	**Pg**	**13 17 19.5**	**-0.1**
GBRS				*i* Sg	**Sb**	**13 17 26.3**	**-0.7**
RABC	**Rab**	**0.40**	**191**	*e*Pg	**Pg**	**13 17 18.6**	**-1.0**
RABC				Sg	**Sg**	**13 17 25.0**	**+0.1**
BOJS	**Bojanci**	**0.44**	**35**	*i* Pg	**Pg**	**13 17 20.0**	**-0.5**
BOJS				*i* Sg	**Sb**	**13 17 27.6**	**-0.8**
BOJS				IAML		13 17 30.2	
	comp=Z,9.1nm,0.2s						
KNDS	**Knezji Dol**	**0.53**	**317**	*i* Pg	**Pg**	**13 17 21.5**	**-0.6**
KNDS				*i* Sg	**Sb**	**13 17 31.4**	**+0.5**
KNDS				IAML		13 17 34.2	
	comp=Z,4.0nm,0.2s						
SMRN	**Sveta Marina**	**0.53**	**259**	*e*Pg	**Pg**	**13 17 22.4**	**+0.3**
PLIT	**Plitvice**	**0.58**	**116**	*e*Pg	**Pg**	**13 17 23.3**	**+0.2**
PLIT				Sg	**Sb**	**13 17 31.9**	**-0.6**
OZLJ	**Ozalj**	**0.63**	**40**	Sg	**Sb**	**13 17 33.5**	**-0.1**
BRJN	**Brijuni**	**0.84**	**254**	*e*Pg	**Pg**	**13 17 28.1**	**+0.1**
BRJN				Sg	**Sg**	**13 17 39.5**	**+0.5**
VIRC	**Vir**	**0.86**	**172**	*e*Pg	**Pg**	**13 17 27.1**	**-1.2**
VIRC				Sg	**Sg**	**13 17 39.5**	**+0.1**
DUGI	**Dugi Otok**	**1.16**	**174**	*e*Pg	**Pb**	**13 17 32.5**	**-1.3**
DUGI				Sg	**Sn**	**13 17 50.5**	**+0.6**
MORI	**Morici**	**1.40**	**155**	*e*Pn	**Pb**	**13 17 38.6**	**+0.6**
MORI				Sn	**Sg**	**13 17 59.5**	**+2.6**
ZIRJ	**Zirje**	**1.58**	**160**	*e*Pn	**Pb**	**13 17 41.0**	**-0.1**
ZIRJ				Sn	**Sg**	**13 18 04.2**	**+1.5**

IDC 19 13:17:32.1±4.0, 5°.34S×130°.35E, h381km±50km, mb3.0/1, mbtmp3.4/3, Error ellipse: s-maj=149.6km s-min=16.7km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.02**	**165**	P	P	13 20 43.9	-1.7
	0.3nm,0.4s,baz=348,slow=13,SNR=18						
WRA				S	S	13 23 10.4	-16
	0.6nm,0.4s,baz=330,slow=23,SNR=10						
ASAR	**Alice Springs**	**18.54**	**170**	P	P	13 21 24.3	+1.0
	0.2nm,0.3s,baz=351,slow=11,SNR=10						
ASAR				S	S	13 24 35.0	+0.6
	0.4nm,0.5s,baz=339,slow=25,SNR=6.1						
MKAR	**Makanchi Array**	**67.05**	**326**	P	P	13 27 45.5	0.0
	0.6nm,0.7s,baz=112,slow=7.2,SNR=4.6						
	0.6nm,0.7s						

*IDC **19** 13:31:30.1±6.7, 9°.02N×124°.69E, h0km, mb4.1/3, mbtmp4.4/6, ML4.6/3, MS3.2/5, Error ellipse: s-maj=102.7km s-min=78.1km az=158.0*

ISC 19 13:31:41.9±2.8, 8°.4N±0°.2×125°.0E±0°.2, h35km, n12, σ1°60/8, mb4.1/3, MS3.0/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.40**	**156**	P	**Pn**	**13 32 07.0**	**+2.1**
DAV	**Davao City (W)**	**1.40**	**156**	Pn	**Pn**	**13 32 06.5**	**+1.6**
	306nm,0.3s,baz=110,slow=4.3,SNR=10						
DAV				Sn	**Sn**	**13 32 20.6**	**-1.6**
	531nm,0.3s,baz=282,slow=21,SNR=7.3						
	1μm,0.4s						
KAPI	**Kappang**	**14.28**	**202**	Pn	**Pn**	**13 35 01.8**	**0.0**
	1.4nm,0.3s,baz=73,slow=17,SNR=1.2						
	5.5nm,0.3s						
BATI	**Baumata**	**18.49**	**184**	P	**Pn**	**13 35 56.8**	**+1.2**
	2.6nm,0.3s,baz=249,slow=2.0,SNR=1.7						
	12nm,0.4s						
JCJ	**Chichijima**	**24.73**	**39**	LR	LR	13 44 55.1	
	comp=Z,30nm,21.5s,baz=126,slow=33						
WRA	**Warramunga Arr**	**29.58**	**162**	P	**P**	**13 37 42.9**	**-0.9**
	0.9nm,0.6s,baz=337,slow=11,SNR=15						
	0.9nm,0.6s						
MJAR	**Matsushiro Arr**	**30.52**	**21**	LR	LR	13 48 22.1	
	comp=Z,35nm,21.7s,baz=197,slow=34						
ASAR	**Alice Springs**	**32.99**	**165**	P	**P**	**13 38 13.3**	**-0.5**
	1.4nm,0.5s,baz=342,slow=7.3,SNR=39						
	1.4nm,0.5s						
KLR	**Kul'dur**	**41.13**	**7**	LR	LR	13 56 49.4	
	comp=Z,20nm,18.7s,baz=65,slow=38						
STKA	**Stephens Creek**	**43.03**	**159**	P	**P**	**13 39 37.3**	**-1.0**
	3.9nm,0.7s,baz=346,slow=8.3,SNR=5.5						
	3.9nm,0.7s						
MKAR	**Makanchi Array**	**52.82**	**324**	LR	LR	14 03 12.6	
	comp=Z,32nm,18.1s,baz=54,slow=36						
AAK	**Ala-Archa**	**55.83**	**316**	LR	LR	14 07 50.1	
	comp=Z,33nm,18.1s,baz=98,slow=40						

*IDC **19** 13:40:17.6±6.2, 18°.98S×179°.11W, h439km±28km, mb3.0/3, mbtmp3.8/4, Error ellipse: s-maj=96.3km s-min=80.1km az=117.0*

ISC 19 13:40:17.3±6.1, 18°.7S±0°.4×179°.1W±0°.7, h450km, n4, σ0°36/5, mb3.3/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.90**	**289**	P	**P**	**13 41 23.7**	**-0.1**
	9.8nm,0.4s,baz=203,slow=21,SNR=29						
MSVF				S	**S**	**13 42 17.6**	**0.0**
	36nm,0.4s,baz=114,slow=23,SNR=20						
STKA	**Stephens Creek**	**37.68**	**242**	P	**P**	**13 46 52.6**	**-0.3**
	1.3nm,0.7s,baz=76,slow=8.6,SNR=3.8						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**43.86**	**260**	P	**P**	**13 47 42.8**	**+0.2**
	0.5nm,0.4s,baz=98,slow=7.4,SNR=8.4						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**43.96**	**255**	P	**P**	**13 47 43.8**	**+0.4**
	0.7nm,0.5s,baz=90,slow=7.9,SNR=14						
	0.7nm,0.5s						

*IDC **19** 14:02:16.8±2.8, 21°.75N×143°.67E, h170km±25km, mb3.0/7, mbtmp3.6/9, Error ellipse: s-maj=37.7km s-min=17.7km az=86.0*

ISC 19 14:02:14.7±1.3, 21°.6N±0°.1×143°.7E±0°.3, h150km, n9, σ0°99/10, mb3.4/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.61**	**346**	P	**Pn**	**14 03 37.9**	**+1.7**
	9.8nm,0.3s,baz=258,slow=19,SNR=1.4						
JCJ				S	**Sn**	**14 04 39.7**	**-0.1**
	20nm,0.3s,baz=275,slow=23,SNR=6.4						
MJAR	**Matsushiro Arr**	**15.60**	**343**	P	**Pn**	**14 05 46.1**	**-0.4**
	3.1nm,1.1s,baz=162,slow=8.1,SNR=4.8						
KSRS	**Korea Array**	**20.85**	**323**	P	**P**	**14 06 45.1**	**+0.4**
	0.4nm,0.4s,baz=156,slow=10,SNR=2.9						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**42.33**	**193**	P	**P**	**14 09 54.7**	**+0.8**
	0.3nm,0.8s,baz=14,slow=9.0,SNR=5.9						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**46.03**	**193**	P	**P**	**14 10 23.9**	**+0.5**
	0.2nm,0.7s,baz=25,slow=6.2,SNR=0.9						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**55.09**	**313**	P	**P**	**14 11 30.6**	**-0.6**
	0.2nm,0.5s,baz=91,slow=7.2,SNR=2.5						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**57.90**	**317**	P	**P**	**14 11 49.9**	**-1.0**
	0.6nm,0.3s,baz=94,slow=7.7,SNR=4.8						
	0.6nm,0.3s						
ILAR	**Eielson Array**	**61.87**	**27**	P	**P**	**14 12 17.2**	**-0.6**
	0.5nm,0.7s,baz=277,slow=5.2,SNR=5.4						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**63.03**	**320**	P	**P**	**14 12 24.6**	**-1.1**
	0.7nm,0.4s,baz=84,slow=6.0,SNR=4.2						
	0.7nm,0.4s						

*NOU **19** 14:06:48.6, 37°.14S×179°.94E, h0km, MLv4.3/9, Off E. Coast of N. Island, N.Z.*

*IDC **19** 14:06:56.7±2.3, 36°.94S×179°.00E, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=65.0km s-min=36.3km az=143.0*

*WEL **19** 14:07:00.8±1.2, 37°S±4°×17°9E±1°0, h12km, M3.8/62, ML4.0/17, MLv3.8/62, Error ellipse: s-maj=0.0km s-min=0.0km az=89.7, confirmed*

ISC 19 14:06:57.4±2.1, 37°.19S±0°.06×179°.14E±0°.08, h12km±10km, n120, σ1°34/128, mb4.1/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.76**	**240**	P	**Pg**	**14 07 12.8**	**+0.7**
MXZ	**Matakaoa Point**	**0.76**	**240**	P	**Pg**	**14 07 12.9**	**+0.7**
MXZ				S	**Sg**	**14 07 20.3**	**-1.8**
WMGZ	**Waiomatatini S**	**0.85**	**222**	P	**Pn**	**14 07 16.9**	**+1.7**
WMGZ				S	**Sb**	**14 07 27.8**	**+2.3**
PKGZ	**Pakihiroa**	**1.09**	**230**	P	**Pg**	**14 07 19.2**	**+0.6**
PKGZ				S	**Sb**	**14 07 33.1**	**+0.5**
PUZ	**Puketiti**	**1.12**	**218**	P	**Pg**	**14 07 20.6**	**+1.5**
PUZ				S	**Sb**	**14 07 34.5**	**+1.1**
HAZ	**Te Kaha**	**1.22**	**242**	P	**Pn**	**14 07 19.7**	**-0.5**
HAZ				S	**Sb**	**14 07 36.0**	**0.0**
TWGZ	**Tauwhareparae**	**1.35**	**223**	P	**Pg**	**14 07 23.8**	**+0.5**
RUGZ	**Raukumara Rang**	**1.39**	**236**	P	**Pb**	**14 07 23.8**	**+0.3**
CNGZ	**Carnagh Statio**	**1.49**	**209**	P	**Pg**	**14 07 26.3**	**+0.3**
WIZ	**White Island**	**1.59**	**257**	P	**Pn**	**14 07 24.4**	**-0.9**
TKGZ	**Te Karaka**	**1.61**	**219**	P	**Pb**	**14 07 27.1**	**0.0**
MWZ	**Matawai**	**1.71**	**228**	P	**Pn**	**14 07 28.3**	**+1.2**
WHRZ	**Whale Island**	**1.84**	**248**	P	**Pn**	**14 07 30.0**	**+1.1**
RIGZ	**Rimuhau**	**1.86**	**215**	P	**Pn**	**14 07 30.2**	**+1.0**
RAGZ	**Rawiri**	**1.89**	**226**	P	**Pn**	**14 07 30.9**	**+1.3**
URZ	**Urewera**	**1.93**	**236**	P	**Pn**	**14 07 31.6**	**+1.6**
URZ	**Urewera**	**1.93**	**236**	P	**Pn**	**14 07 31.3**	**+1.3**
URZ				S	**Sn**	**14 07 53.1**	**-1.0**
URZ	**Urewera**	**1.93**	**236**	Pn	**Pn**	**14 07 31.3**	**+1.3**
	209nm,0.3s,baz=120,slow=23,SNR=1550						
URZ				Sn	**Sn**	**14 07 52.8**	**-1.3**
	91nm,0.3s,baz=285,slow=22,SNR=33						
URZ				LR	LR	14 08 35.4	
	comp=Z,233nm,18.4s,baz=36,slow=50						
PRGZ	**Paritu Road**	**1.99**	**209**	P	**Pn**	**14 07 32.5**	**+1.6**
MARZ	**Manawahe**	**2.11**	**247**	P	**Pn**	**14 07 33.2**	**+0.7**
EDRZ	**Edgecumbe**	**2.11**	**244**	P	**Pn**	**14 07 33.8**	**+1.2**
SNGZ	**Shannon Statio**	**2.13**	**221**	P	**Pn**	**14 07 34.0**	**+1.2**
OPRZ	**Ohinepanea**	**2.15**	**252**	P	**Pn**	**14 07 32.0**	**-1.1**
KNZ	**Kokohu**	**2.16**	**212**	P	**Pn**	**14 07 34.0**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.19**	**206**	P	**Pn**	**14 07 35.0**	**+1.4**
RTZ	**Ruatahuna**	**2.22**	**229**	P	**Pn**	**14 07 35.3**	**+1.2**
MUGZ	**Murupara**	**2.27**	**235**	P	**Pn**	**14 07 35.7**	**+1.0**
MYRZ	**Mayor Island**	**2.31**	**267**	P	**Pn**	**14 07 35.4**	**+0.1**
MKRZ	**Makatiti**	**2.32**	**245**	P	**Pn**	**14 07 37.1**	**+1.6**
TARZ	**Mount Tarawera**	**2.33**	**243**	P	**Pn**	**14 07 37.3**	**+1.6**
TGRZ	**Tauranga**	**2.35**	**256**	P	**Pn**	**14 07 36.4**	**+0.6**
RAHZ	**Arahi**	**2.37**	**223**	P	**Pn**	**14 07 37.2**	**+1.2**
RRRZ	**Republican Roa**	**2.37**	**240**	P	**Pn**	**14 07 37.5**	**+1.3**
OMRZ	**Omania**	**2.38**	**246**	P	**Pn**	**14 07 37.5**	**+1.3**
WHHZ	**Waihua**	**2.41**	**218**	P	**Pn**	**14 07 37.6**	**+1.0**
KARZ	**Kaharoa**	**2.44**	**249**	P	**Pn**	**14 07 38.1**	**+1.0**
HLRZ	**Highlands Stat**	**2.45**	**243**	P	**Pn**	**14 07 38.6**	**+1.4**
MTHZ	**Maungataniwha**	**2.46**	**227**	P	**Pn**	**14 07 38.6**	**+1.2**
NGRZ	**Ngongotaha**	**2.51**	**248**	P	**Pn**	**14 07 39.6**	**+1.5**
PRRZ	**Plateau Road**	**2.54**	**238**	P	**Pn**	**14 07 39.2**	**+0.9**
HSRZ	**Hossack Road**	**2.55**	**243**	P	**Pn**	**14 07 40.5**	**+1.9**
HRRZ	**Handcock Road**	**2.56**	**241**	P	**Pn**	**14 07 40.1**	**+1.4**
ALRZ	**Allen Road**	**2.60**	**237**	P	**Pn**	**14 07 40.1**	**+0.8**
KMRZ	**Kaimai**	**2.62**	**255**	P	**Pn**	**14 07 40.5**	**+0.9**
NMHZ	**Naumai**	**2.65**	**223**	P	**Pn**	**14 07 41.2**	**+1.2**
GRRZ	**Galatos Road**	**2.66**	**243**	P	**Pn**	**14 07 41.6**	**+1.5**
ARHZ	**Aropaoanui**	**2.67**	**218**	P	**Pn**	**14 07 41.2**	**+1.0**
MRHZ	**Matea Rd**	**2.70**	**232**	P	**Pn**	**14 07 41.5**	**+0.8**
WPRZ	**Whakapapatarin**	**2.70**	**240**	P	**Pn**	**14 07 42.3**	**+1.6**
KUZ	**Kuaotunu**	**2.77**	**278**	P	**Pn**	**14 07 40.9**	**-0.7**
KUZ	**Kuaotunu**	**2.77**	**278**	P	**Pn**	**14 07 40.7**	**-0.9**
BKZ	**Black Stump Fm**	**2.87**	**226**	P	**Pn**	**14 07 44.1**	**+1.1**
BKZ	**Black Stump Fm**	**2.87**	**226**	P	**Pn**	**14 07 43.7**	**+0.6**
WHTZ	**Whakaora**	**2.91**	**239**	P	**Pb**	**14 07 47.2**	**-2.2**
KUTZ	**Kaahu Road**	**2.93**	**243**	P	**Pn**	**14 07 45.3**	**+1.5**
TOZ	**Tahuroa Road**	**2.94**	**258**	P	**Pn**	**14 07 43.8**	**-0.2**
CKHZ	**Cape Kidnapper**	**2.95**	**213**	P	**Pn**	**14 07 44.3**	**+0.3**
MCHZ	**McNeill Hill**	**2.96**	**220**	P	**Pn**	**14 07 44.8**	**+0.6**
TLZ	**Tolley Road**	**3.07**	**247**	P	**Pn**	**14 07 46.8**	**+1.0**
KWHZ	**Kaweka Forest**	**3.09**	**223**	P	**Pn**	**14 07 46.3**	**+0.3**
GRZ	**Great Barrier**	**3.10**	**286**	P	**Pn**	**14 07 46.3**	**+0.2**
RATZ	**Rangitukua**	**3.14**	**237**	P	**Pn**	**14 07 48.0**	**+1.2**
RITZ	**Rihia Road**	**3.14**	**234**	P	**Pn**	**14 07 47.9**	**+1.2**
KAHZ	**Kahuranaki**	**3.15**	**214**	P	**Pn**	**14 07 46.8**	**-0.1**
MKAZ	**Moumakai**	**3.18**	**270**	P	**Pn**	**14 07 46.8**	**-0.3**
WIAZ	**Waiheke Island**	**3.23**	**276**	P	**Pn**	**14 07 47.7**	**-0.2**
KRHZ	**Kereru**	**3.27**	**221**	P	**Pn**	**14 07 48.2**	**-0.3**
TMVZ	**Te Maari**	**3.32**	**234**	P	**Pn**	**14 07 49.8**	**+0.6**
NTVZ	**North Tongarir**	**3.33**	**234**	P	**Pn**	**14 07 50.0**	**+0.6**
BHHZ	**Black Hill Sta**	**3.33**	**226**	P	**Pn**	**14 07 49.9**	**+0.5**
PXZ	**Pawanui**	**3.35**	**211**	P	**Pn**	**14 07 48.6**	**-0.9**
OTVZ	**Oturere**	**3.37**	**233**	P	**Pn**	**14 07 50.4**	**+0.4**
ETAZ	**East Tamaki Re**	**3.37**	**273**	P	**Pn**	**14 07 49.9**	**+0.1**
NNVZ	**North Ngauruho**	**3.39**	**234**	P	**Pn**	**14 07 51.5**	**+1.3**
WTVZ

TRVZ	Turoa	3.52 232	P	Pn	14 07 52.8 +0.6
PNHZ	Pukenui	3.56 219	P	Pn	14 07 51.6 -0.9
WPHZ	Waipukurau	3.56 215	P	Pn	14 07 52.1 -0.5
AWAZ	Awhitu Peninsu	3.59 271	P	Pn	14 07 53.2 +0.3
MTVZ	Mangateitei	3.62 232	P	Pn	14 07 54.1 +0.7
HIZ	Hauiti	3.64 247	P	Pn	14 07 55.6 +2.1
HIZ	Hauiti	3.64 247	P	Pn	14 07 55.3 +1.8
PKVZ	Pokaka	3.65 234	P	Pn	14 07 55.1 +1.4
WTAZ	Waiatarua	3.66 273	P	Pn	14 07 54.3 +0.5
RVAZ	Riverhead Bore	3.67 275	P	Pn	14 07 54.5 +0.5
DVHZ	Dannevirke	3.88 216	P	Pn	14 07 55.8 -1.1
VRZ	Vera Road	3.96 239	P	Pn	14 07 59.4 +1.6
WCZ	Waipu Caves	4.05 286	P	Pn	14 07 60.0 +0.7
POWZ	Post Office Ro	4.14 218	P	Pn	14 07 59.7 -0.8
WAZ	Wanganui	4.14 231	P	Pn	14 08 01.4 +0.9
PRWZ	Pori Road	4.17 215	P	Pn	14 08 00.2 -0.7
LREZ	Lake Rotokare	4.36 237	P	Pn	14 08 05.3 +1.9
DREZ	Durham Road	4.37 241	P	Pn	14 08 06.2 +2.6
PREZ	Palmer Road	4.47 240	P	Pn	14 08 07.5 +2.6
NEZ	North Egmont	4.48 241	P	Pn	14 08 07.6 +2.4
PKE	Pukeiti	4.52 242	P	Pn	14 08 08.1 +2.4
KHEZ	Kahui Hut	4.55 241	P	Pn	14 08 08.3 +2.2
KHEZ	Kahui Hut	4.55 241	P	Pn	14 08 08.9 +2.8
NBEZ	Newall Road No	4.64 242	P	Pn	14 08 10.0 +2.7
NMEZ	Namu Road	4.70 240	P	Pn	14 08 11.4 +3.3
OUZ	Omahuta	4.89 292	P	Pn	14 08 12.1 +1.4
OUZ	Omahuta	4.89 292	P	Pn	14 08 12.1 +1.4
SNZO	South Karori	5.36 219	P	Pn	14 08 14.3 -2.9
	66nm,1.4s				
QRZ	Quartz Range	6.30 233	P	Pn	14 08 28.5 -1.6
CTZ	Chatham Island	7.30 155	P	Pn	14 08 47.6 +3.8
RPZ	Rata Peaks	8.96 221	Pn	Pn	14 09 03.0 -3.7
	0.9nm,0.3s,baz=73,slow=5.6,SNR=7.0				
RPZ			Sn	Sn	14 10 31.9 -16
	1.7nm,0.3s,baz=134,slow=22,SNR=11				
STKA	Stephens Creek	31.24 268	P	P	14 13 17.2 +0.3
	2.0nm,0.8s,baz=91,slow=7.2,SNR=3.2				
	2.0nm,0.8s				
ASAR	Alice Springs	40.90 276	P	P	14 14 39.4 -0.3
	1.1nm,0.7s,baz=115,slow=6.2,SNR=21				
	1.1nm,0.7s				
WRA	Warramunga Arr	42.51 281	P	P	14 14 52.5 -0.3
	2.9nm,0.5s,baz=123,slow=8.4,SNR=74				
WRA			PcP	PcP	14 16 46.9 +1.4
	0.3nm,1.0s,baz=122,slow=3.1,SNR=1.9				
	2.9nm,0.5s				
ARCES	ARCESS Array B	144.59 344	PKP	PKPdf	14 26 32.5 -0.2
	4.5nm,1.0s,baz=60,slow=1.5,SNR=5.7				
FINES	FINESS Array B	150.45 334	PKPbc	PKiKP	14 26 48.1 -0.5
	1.7nm,0.9s,baz=46,slow=4.0,SNR=7.5				

*IDC **19** 14:13:53.6±2.5, 9°32S×117°35E, h0km, mb3.2/2, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=162.5km s-min=27.9km az=49.0*
*DJA **19** 14:14:02.6±1.1, 9°S±6°×11°8E±°, h22km±9km, M3.9/9, MLv3.9/9*

ISC 19 14:14:02.4±1.3, 9°59S±0°09×117°54E±0°05, h35km, n16, σ0§91/14, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.79	17	P	Pn	14 14 17.0	0.0
PLAI				S	Sn	14 14 27.1	-0.5
TWSI	Taliwang, Sumb	1.07 322		P	Pn	14 14 20.6	-0.2
TWSI				S	Sn	14 14 34.1	-0.3
DNP	Denpasar	2.48 291		P	Pn	14 14 41.0	+0.8
IGBI	Denpasar	2.49 288		P	Pn	14 14 41.3	+0.9
SRBI	Singaraja	2.74 303		P	Pn	14 14 45.2	+1.3
JAGI	Jajag, Banyuwa	3.53 288		P	Pn	14 14 54.9	+0.1
ABJI	Asem Bagus	3.72 298		P	Pn	14 14 58.9	+1.5
EDFI	Ende, Flores	4.18	79	P	Pn	14 15 04.7	+0.9
GMJI	Gumukmas	4.26 288		P	Pn	14 15 04.6	-0.1
BKSI	Bulukumba	4.95	31	P	Pn	14 15 15.4	+1.1
WRA	Warramunga Arr	19.21 124		P	P	14 18 22.7	-0.8
	baz=300,slow=12,SNR=1.7						
	0.1nm,0.5s						
ASAR	Alice Springs	20.98 134		P	P	14 18 42.1	-0.8
	0.4nm,0.7s,baz=310,slow=10,SNR=6.3						
	0.4nm,0.7s						
H08S2	Diego Garcia H	44.56 269		T	T	15 09 35.4	
	baz=96						
H08S3	Diego Garcia H	44.57 269		T	T	15 09 41.8	
	baz=96						
H08S1	Diego Carcia H	44.58 269		T	T	15 09 37.7	
	baz=96						
MKAR	Makanchi Array	64.33 334		P	P	14 24 29.1	-5.4
	0.3nm,0.4s,baz=139,slow=6.2,SNR=5.8						
	0.3nm,0.4s						

IDC 19 14:19:22.9±1.5, 6°42N×125°14E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=35.7km s-min=11.2km az=116.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.78	34	Pg	Pg	14 19 36.4	-1.5
	62nm,0.3s,baz=300,slow=10,SNR=1.9						
DAV				Lg	Lg	14 19 49.6	
	105nm,0.3s,baz=81,slow=23,SNR=9.1						
WRA	Warramunga Arr	27.72 161		P	P	14 25 12.5	-0.6
	0.2nm,0.6s,baz=340,slow=11,SNR=2.0						
	0.2nm,0.6s						
ASAR	Alice Springs	31.10 164		P	P	14 25 44.0	+0.7
	0.2nm,0.5s,baz=343,slow=7.2,SNR=8.2						
	0.2nm,0.5s						
MKAR	Makanchi Array	54.46 325		P	P	14 28 52.4	+0.2
	0.6nm,0.9s,baz=128,slow=5.9,SNR=3.8						
	0.6nm,0.9s						

*WEL **19** 14:22:34.9±0.6, 38°S±3°×17°8E±°, h31km±5km, M3.4/83, ML4.0/14, MLv3.4/83, Error ellipse: s-maj=0.0km s-min=0.0km az=146.1, confirmed*
*NOU **19** 14:22:34.7, 38°46S×177°79E, h22km, MLv3.6/8, North Island, New Zealand*

ISC 19 14:22:35.5±1.3, 38°50S±0°03×177°76E±0°03, h35km, n136, σ1§10/143, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKGZ	Te Karaka	0.09	51	P	Pn	14 22 41.7	+0.2
TKGZ				S	Sn	14 22 46.7	+1.1
RIGZ	Rimuhau	0.21 179		P	Pn	14 22 43.2	+0.7
RIGZ				S	Sn	14 22 49.7	+2.4
MWZ	Matawai	0.24 312		P	Pn	14 22 42.1	-0.7
MWZ				S	Sn	14 22 47.3	-0.6
RAGZ	Rawiri	0.27 271		P	Pn	14 22 42.9	-0.3
RAGZ				S	Sn	14 22 48.6	+0.2
CNGZ	Carnagh Statio	0.35	88	P	Pn	14 22 45.3	+1.1
TWGZ	Tauwhareparae	0.37	29	P	Pn	14 22 44.6	+0.2
TWGZ				S	Sn	14 22 52.5	+2.0
SNGZ	Shannon Statio	0.43 229		P	Pn	14 22 45.7	+0.4
SNGZ				S	Sn	14 22 53.7	+1.7
PRGZ	Paritu Road	0.43 167		P	Pn	14 22 45.8	+0.5
KNZ	Kokohu	0.53 187		P	Pn	14 22 46.8	+0.2
RUGZ	Raukumara Rang	0.54 353		P	Pn	14 22 45.8	-1.0
URZ	Urewera	0.56 295		P	Pn	14 22 46.7	-0.3
URZ	Urewera	0.56 295		P	Pn	14 22 46.4	-0.7
URZ				S	Sn	14 22 55.3	+0.2
PUZ	Puketiti	0.58	43	P	Pn	14 22 47.1	-0.2
RTZ	Ruatahuna	0.62 259		P	Pn	14 22 47.9	0.0
PKGZ	Pakihiroa	0.66	23	P	Pn	14 22 48.3	-0.1
MHGZ	Mahia Peninsul	0.66 170		P	Pn	14 22 48.9	+0.4
RAHZ	Arahi	0.67 231		P	Pn	14 22 49.0	+0.4
WHHZ	Waihua	0.71 215		P	Pn	14 22 49.7	+0.7
HAZ	Te Kaha	0.74	2	P	Pn	14 22 49.0	-0.5
MUGZ	Murupara	0.77 271		P	Pn	14 22 50.2	+0.2
MTHZ	Maungataniwha	0.80 243		P	Pn	14 22 50.8	+0.5
WMGZ	Waiomatatini S	0.85	38	P	Pn	14 22 50.9	-0.2
WHRZ	Whale Island	0.89 316		P	Pn	14 22 51.5	-0.1
EDRZ	Edgecumbe	0.89 296		P	Pn	14 22 51.6	0.0
NMHZ	Naumai	0.95 231		P	Pn	14 22 53.1	+0.6
ARHZ	Aropaoanui	0.97 218		P	Pn	14 22 53.2	+0.6
RRRZ	Republican Roa	0.99 279		P	Pn	14 22 53.2	+0.2
MARZ	Manawahe	0.99 301		P	Pn	14 22 52.7	-0.4
TARZ	Mount Tarawera	1.02 285		P	Pn	14 22 53.8	+0.4
MXZ	Matakaoa Point	1.03	25	P	Pn	14 22 53.5	0.0
MXZ	Matakaoa Point	1.03	25	P	Pn	14 22 53.3	-0.1
WIZ	White Island	1.07 335		P	Pn	14 22 53.5	-0.5
PRRZ	Plateau Road	1.07 270		P	Pn	14 22 54.2	+0.2
MKRZ	Makatiti	1.08 289		P	Pn	14 22 55.3	+1.1
WSRZ	White Island S	1.08 335		P	Pn	14 22 54.5	+0.3
MRHZ	Matea Rd	1.10 252		P	Pn	14 22 55.0	+0.5
ALRZ	Allen Road	1.11 266		P	Pn	14 22 54.9	+0.3
HLRZ	Highlands Stat	1.13 282		P	Pn	14 22 55.3	+0.4
OPRZ	Ohinepanea	1.15 304		P	Pn	14 22 54.5	-0.6
OMRZ	Omania	1.16 289		P	Pn	14 22 55.3	0.0
HRRZ	Handcock Road	1.16 275		P	Pn	14 22 55.5	+0.1
LIRZ	Lichensteins R	1.19 294		P	Pn	14 22 55.6	-0.1
BKZ	Black Stump Fm	1.19 236		P	Pn	14 22 56.3	+0.5
BKZ	Black Stump Fm	1.19 236		P	Pn	14 22 56.3	+0.5
HSRZ	Hossack Road	1.20 278		P	Pn	14 22 56.2	+0.3
WPRZ	Whakapapatarin	1.25 269		P	Pn	14 22 56.9	+0.4
MCHZ	McNeill Hill	1.25 221		P	Pn	14 22 57.0	+0.4
UTU	Utuhina	1.27 284		P	Pn	14 22 57.7	+0.9
CKHZ	Cape Kidnapper	1.27 204		P	Pn	14 22 56.4	-0.4
KARZ	Kaharoa	1.28 291		P	Pn	14 22 56.7	-0.3
NGRZ	Ngongotaha	1.30 287		P	Pn	14 22 57.7	+0.5
GRRZ	Galatos Road	1.30 276		P	Pn	14 22 57.7	+0.5
HATZ	Hinemaiaia	1.36 253		P	Pn	14 22 58.3	+0.2
KWHZ	Kaweka Forest	1.39 228		P	Pn	14 22 58.6	+0.1
TGRZ	Tauranga	1.41 303		P	Pn	14 22 57.8	-0.9
WHTZ	Whakaora	1.42 263		P	Pn	14 23 00.0	+1.1
KAHZ	Kahuranaki	1.46 208		P	Pn	14 22 59.1	-0.4
KUTZ	Kaahu Road	1.52 270		P	Pn	14 23 00.5	+0.3
RITZ	Rihia Road	1.56 252		P	Pn	14 23 01.3	+0.5
KMRZ	Kaimai	1.57 294		P	Pn	14 23 00.4	-0.6
KRHZ	Kereru	1.57 223		P	Pn	14 23 00.5	-0.4
RATZ	Rangitukua	1.60 256		P	Pn	14 23 01.7	+0.3
WATZ	Wairara	1.60 262		P	Pn	14 23 01.8	+0.4
BHHZ	Black Hill Sta	1.65 233		P	Pn	14 23 02.2	+0.1
PXZ	Pawanui	1.68 204		P	Pn	14 23 00.9	-1.5
KATZ	Kakaramea	1.68 253		P	Pn	14 23 03.0	+0.4
MYRZ	Mayor Island	1.71 315		P	Pn	14 23 01.9	-0.9
TMVZ	Te Maari	1.72 248		P	Pn	14 23 03.3	+0.2
ETVZ	East Tongariro	1.72 248		P	Pn	14 23 03.6	+0.5
NTVZ	North Tongarir	1.73 249		P	Pn	14 23 03.5	+0.3
TLZ	Tolley Road	1.75 275		P	Pn	14 23 03.4	-0.1
KRVZ	Karewarewa	1.76 250		P	Pn	14 23 03.8	+0.2
OTVZ	Oturere	1.76 247		P	Pn	14 23 03.9	+0.2
NNVZ	North Ngauruho	1.79 249		P	Pn	14 23 04.6	+0.5
SNVZ	South Ngauruho	1.79 247		P	Pn	14 23 04.3	+0.2
WTVZ	West Tongariro	1.80 249		P	Pn	14 23 04.4	+0.2
MOVZ	Moawhango	1.81 239		P	Pn	14 23 04.4	+0.2
TUVZ	Tukino	1.81 244		P	Pn	14 23 05.8	+1.4
NGZ	Ngauruhoe	1.81 247		P	Pn	14 23 04.6	+0.1
PNHZ	Pukenui	1.86 220		P	Pn	14 23 04.0	-1.0
WHVZ	Whangaehu Hut	1.86 244		P	Pn	14 23 05.6	+0.4
COVZ	Chateau Observ	1.86 247		P	Pn	14 23 05.2	+0.1
WPHZ	Waipukurau	1.87 213		P	Pn	14 23 04.1	-0.9
WNVZ	Wahianoa	1.88 243		P	Pn	14 23 05.3	+0.1
FWVZ	Far West T-bar	1.88 246		P	Pn	14 23 06.0	+0.6
TRVZ	Turoa	1.90 244		P	Pn	14 23 06.6	+1.0
TWVZ	Taurewa	1.90 252		P	Pn	14 23 06.0	+0.5
TOZ	Tahuroa Road	1.94 293		P	Pn	14 23 05.4	-0.5
PRHZ	Porangahau	1.97 206		P	Pn	14 23 04.8	-1.6
MTVZ	Mangateitei	1.99 243		P	Pn	14 23 06.8	0.0
PKVZ	Pokaka	2.04 246		P	Pn	14 23 08.1	+0.6
TSZ	Takapari Road	2.09 221		P	Pn	14 23 06.7	-1.4
DVHZ	Dannevirke	2.18 214		P	Pn	14 23 07.8	-1.6
ANWZ	Angora Road	2.19 206		P	Pn	14 23 07.7	-1.8
HIZ	Hauiti	2.28 269		P	Pn	14 23 11.9	+1.3
HIZ	Hauiti	2.28 269		P	Pn	14 23 11.7	+1.1
KUZ	Kuaotunu	2.38 317		P	Pn	14 23 10.8	-1.3
KUZ	Kuaotunu	2.38 317		P	Pn	14 23 10.7	-1.3
VRZ	Vera Road	2.42 254		P	Pn	14 23 13.3	+0.7
POWZ	Post Office Ro	2.44 219		P	Pn	14 23 11.5	-1.4
PRWZ	Pori Road	2.47 213		P	Pn	14 23 12.2	-1.2
MKAZ	Moumakai	2.48 303		P	Pn	14 23 12.7	-0.7
WAZ	Wanganui	2.49 239		P	Pn	14 23 14.3	+0.7
OHWZ	Ohakea	2.55 227		P	Pn	14 23 14.5	+0.2
WIAZ	Waiheke Island	2.69 308		P	Pn	14 23 16.1	-0.2
CPWZ	Castlepoint	2.69 206		P	Pn	14 23 14.8	-1.5
TIWZ	Tintock	2.69 212		P	Pn	14 23 14.8	-1.6
ETAZ	East Tamaki Re	2.72 304		P	Pn	14 23 16.6	-0.2
MRZ	Mangatainoka R	2.74 217		P	Pn	14 23 14.5	-2.4
LREZ	Lake Rotokare	2.78 249		P	Pn	14 23 19.0	+1.4
MBAZ	Motutapu North	2.85 306		P	Pn	14 23 18.4	-0.1
AWAZ	Awhitu Peninsu	2.85 299		P	Pn	14 23 18.7	+0.2
DREZ	Durham Road	2.86 255		P	Pn	14 23 20.8	+2.2
GRZ	Great Barrier	2.90 320		P	Pn	14 23 16.6	-2.5
PREZ	Palmer Road	2.93 252		P	Pn	14 23 21.7	+2.0
HOWZ	Holdsworth Sta	2.95 215		P	Pn	14 23 17.2	-2.8
NEZ	North Egmont	2.96 254		P	Pn	14 23 21.9	+1.8
TMWZ	Te Maipa	2.98 208		P	Pn	14 23 17.7	-2.6
PKE	Pukeiti	3.02 256		P	Pn	14 23 22.9	+1.9
KHEZ	Kahui Hut	3.03 254		P	Pn	14 23 23.1	+2.1
KHEZ	Kahui Hut	3.03 254		P	Pn	14 23 23.0	+2.1
RVAZ	Riverhead Bore	3.06 303		P	Pn	14 23 21.3	0.0
OGWZ	Otaki Gorge	3.06 220		P	Pn	14 23 19.2	-2.2
NBEZ	Newall Road No	3.13 255		P	Pn	14 23 24.2	+1.8
NMEZ	Namu Road	3.16 252		P	Pn	14 23 24.6	+1.9
KIW	Kapiti Island	3.22 222		P	Pn	14 23 21.2	-2.5
TRWZ	Traveller	3.30 208		P	Pn	14 23 22.2	-2.6
SNZO	South Karori	3.66 219		P	Pn	14 23 29.6	0.0
WCZ	Waipu Caves	3.73 312		P	Pn	14 23 30.4	-0.2
DUWZ	D'Urville Isla	3.75 231		P	Pn	14 23 28.8	-2.1
TKNZ	Takaka Hill	4.48 234		P	Pn	14 23 38.4	-2.6
OUZ	Omahuta	4.67 313		P	Pn	14 23 44.0	+0.4
OUZ	Omahuta	4.67 313		P	Pn	14 23 43.9	+0.3
MRNZ	Matariki Terra	4.81 231		P	Pn	14 23 42.9	-2.5
CTZ	Chatham Island	6.74 143		P	Pn	14 24 11.5	-0.4
RPZ	Rata Peaks	7.26 222		P	Pn	14 24 16.5	-2.6

*IDC **19** 14:35:56.9±0.9, 6°46N×125°14E, h0km, mb3.7/6, mbtmp3.7/6, MS2.9/3, Error ellipse: s-maj=21.8km s-min=10.2km az=118.0*

ISC 19 14:36:01.5±1.0, 6°6N±0°1×125°5E±0°3, h35km, n10, σ0§78/7, mb3.8/6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.46	15	Pg	Pn	14 36 11.6	0.0
	190nm,0.3s,baz=97,slow=1.4,SNR=9.9						
DAV				Lg	Lg	14 36 21.4	
	146nm,0.3s,baz=267,slow=23,SNR=5.6						
TGY	Tagaytay City	8.66 329		LR	LR	14 41 26.3	
	comp=Z,76nm,18.3s,baz=126,slow=38						
WRA	Warramunga Arr	27.81 162		P	P	14 41 47.3	-0.3
	0.5nm,0.9s,baz=344,slow=10,SNR=2.3						
	0.5nm,0.9s						
CMAR	Chiang Mai Arr	28.38 297		LR	LR	14 53 35.5	
	comp=Z,20nm,20.3s,baz=205,slow=38						
KSRS	Korea Array	30.77	4	LR	LR	14 55 50.4	
	comp=Z,17nm,19.7s,baz=160,slow=39						
ASAR	Alice Springs	31.21 165		P	P	14 42 17.4	-0.4
	0.3nm,0.5s,baz=344,slow=6.8,SNR=14						
	0.3nm,0.5s						
STKA	Stephens Creek	41.27 159		P	P	14 43 44.0	+0.5
	1.7nm,0.9s,baz=328,slow=9.5,SNR=1.5						
	1.7nm,0.9s						
MKAR	Makanchi Array	54.48 325		P	P	14 45 26.6	+0.9
	1.1nm,0.8s,baz=118,slow=8.1,SNR=9.5						
	1.1nm,0.8s						
KURBB	Kurchatov Arra	58.64 327		P	P	14 45 55.6	+0.4
	0.4nm,0.3s,baz=127,slow=6.0,SNR=8.6						
	0.4nm,0.3s						
BVAR	Borovoye Array	64.22 327		P	P	14 46 31.9	-1.0
	0.8nm,0.8s,baz=124,slow=7.2,SNR=3.7						
	0.8nm,0.8s						

IDC 19 14:38:14.8±1.2, 6°50N×125°24E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=24.3km s-min=11.5km az=113.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	0.66	31	Pg	Pg	14 38 27.0	-0.6
	32nm,0.3s,baz=205,slow=19,SNR=0.9						
DAV				Lg	Lg	14 38 37.5	
	126nm,0.3s,baz=68,slow=16,SNR=2.1						
WRA	Warramunga Arr	27.76 161		P	P	14 44 04.9	-0.6
	0.4nm,0.9s,baz=342,slow=10.0,SNR=2.2						
	0.4nm,0.9s						
ASAR	Alice Springs	31.15 165		P	P	14 44 36.6	+1.0
	0.2nm,0.5s,baz=342,slow=6.8,SNR=6.0						
	0.2nm,0.5s						
MKAR	Makanchi Array	54.45 325		P	P	14 47 44.5	+0.3
	0.4nm,0.8s,baz=121,slow=5.7,SNR=3.3						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	58.62 327		P	P	14 48 12.8	-0.9
	0.3nm,0.5s,baz=118,slow=6.7,SNR=1.5						
	0.3nm,0.5s						

*IDC **19** 15:06:02.8±0.9, 12°09N×143°06E, h0km, mb3.9/9, mbtmp3.9/10, ML4.0/1, MS2.9/2, Error ellipse: s-maj=30.3km s-min=18.8km az=111.0*

ISC 19 15:06:07.5±0.9, 12°1N±0°2×143°1E±0°1, h31km, n15, σ0§65/11, mb3.8/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.32	49	Pn	Pn	15 06 43.6	0.0
	37nm,0.3s,baz=213,slow=6.8,SNR=2.1						
GUMO				Sn	Sn	15 07 11.2	0.0
	14nm,0.3s,baz=194,slow=22,SNR=2.4						
	103nm,0.3s						
JNU	Nakatsue	23.76 334		LR	LR	15 19 26.4	
	comp=Z,31nm,18.6s,baz=107,slow=34						
H11N1	WAKE ISLAND Hy	24.12	69	T	T	15 36 25.1	
	baz=257						
H11N2	WAKE ISLAND Hy	24.13	69	T	T	15 36 20.3	
	baz=257						
H11N3	WAKE ISLAND Hy	24.14	69	T	T	15 36 14.9	
	baz=257						
MJAR	Matsushiro Arr	24.77 351		LR	LR	15 20 23.9	
	comp=Z,29nm,19.5s,baz=100,slow=35						
WRA	Warramunga Arr	32.94 195		P	P	15 12 39.4	-0.1
	1.1nm,0.9s,baz=19,slow=9.5,SNR=7.4						
	1.1nm,0.9s						
ASAR	Alice Springs	36.62 194		P	P	15 13 11.4	+0.2
	0.3nm,0.7s,baz=24,slow=12,SNR=7.7						
	0.3nm,0.7s						
SONM	Songino Array	47.01 327		P	P	15 14 37.0	+1.0
	0.3nm,0.4s,baz=135,slow=8.0,SNR=2.3						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	64.67 320		P	P	15 16 41.6	-0.8
	0.4nm,0.5s,baz=106,slow=7.2,SNR=4.7						
	0.4nm,0.5s						
BVAR	Borovoye Array	70.05 322		P	P	15 17 17.0	+0.5
	0.5nm,0.3s,baz=104,slow=7.6,SNR=5.8						
	0.5nm,0.3s						
ILAR	Eielson Array	70.70	25	P	P	15 17 19.7	-0.4
	1.4nm,0.5s,baz=248,slow=6.0,SNR=38						
	1.4nm,0.5s						
ARCES	ARCESS Array B	87.99 342		P	P	15 18 53.8	-0.5
	1.2nm,0.6s,baz=76,slow=7.6,SNR=5.9						
	1.2nm,0.6s						
NVAR	Mina Array Bea	89.24	51	P	P	15 19 01.7	+0.5
	0.3nm,0.6s,baz=292,slow=2.4,SNR=3.0						
	0.3nm,0.6s						
FINES	FINESS Array B	91.80 335		P	P	15 19 11.3	-0.9
	1.9nm,1.0s,baz=66,slow=4.6,SNR=5.8						
	1.9nm,1.0s						

*TEH **19** 15:29:52.4, 36°23N×58°41E, h14km±37km, ML3.4*
*IDC **19** 15:29:55.7±1.7, 36°53N×59°15E, h0km, mb3.5/2, mbtmp3.5/4, ML2.8/1, MS3.4/1, Error ellipse: s-maj=19.2km s-min=15.0km az=27.0*

ISC 19 15:29:52.3±0.8, 36°27N±0°04×58°40E±0°03, h10km, n43, σ1§69/45, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IAKL	Akhelmad	0.44	41	Pg	Pg	15 30 02.5	+1.4
IPAY	Payeh	0.51	69	Pg	Pg	15 30 02.7	+0.3
IPAY				Sg	Sg	15 30 10.5	+1.2
SBZV	Sabzevar	0.65 281		Pg	Pg	15 30 05.0	+0.1
IMOG	Moghan	0.78 102		Pg	Pg	15 30 07.4	0.0
IMOG				Sg	Sg	15 30 18.0	+0.4
ISFR	Sfrayin	0.85 338		Pg	Pg	15 30 09.7	+1.0
IKRD	Kardeh	1.03	60	Pg	Pg	15 30 12.7	+0.5
TBHD	Torbat heydari	1.09 141		Pg	Pg	15 30 13.4	+0.1
IEMG	Emamgholi	1.16	10	Pg	Pg	15 30 15.4	+0.7
IMYA	Miami	1.38	86	Pg	Pn	15 30 18.6	+0.8
IMYA				Sg	Sb	15 30 36.5	+0.5
JRKH	Jarkhoshk	1.62 102		Pg	Pn	15 30 22.3	+1.2
GEYT	Alibeck	1.67 352		Pg	Pb	15 30 25.0	+1.7
	23nm,0.3s,baz=149,slow=15,SNR=113						
GEYT				Lg	Lg	15 30 46.6	
	28nm,0.3s,baz=142,slow=29,SNR=3.5						
GEYT				LR	LR	15 31 06.9	
	comp=Z,62nm,20.4s,baz=156,slow=44						
TBJM	Torbat-e-JAM	1.86 122		Pn	Pn	15 30 26.1	+1.6
MRVT	Maraveh tapeh	2.31 308		Pn	Pn	15 30 32.8	+2.2
IMND	Minoodasht	2.60 293		Pn	Pn	15 30 36.7	+2.2
TNSJ	Nastanj	2.73 213		Pn	Pn	15 30 37.3	+1.0
TKDS	Koohdasht(Taba	2.85 202		Pn	Pn	15 30 38.8	+0.8
AFRZ	Afriz	2.88 170		Pn	Pn	15 30 40.0	+1.6
SHRT	Shahrakht	3.04 149		Pn	Pn	15 30 41.3	+0.7
ITEG	Tejag	3.38 175		Pn	Pn	15 30 46.9	+1.6
TPRV	Parvadeh(Tabas	3.53 204		Pn	Pn	15 30 48.0	+0.7
IGLO	Ghalogh	3.69 275		Pn	Pn	15 30 51.9	+2.2
IDAH	Dahanechah	3.72 161		Pn	Pn	15 30 51.1	+1.0
IKOO	Kooshah	3.87 172		Pn	Pn	15

az=83.0
*JMA **19** 15:42:47.6±0.2,37°.4N±0°.8×134°.9E±0°.8,h384km±1km, MV3.6/35,SEA OF JAPAN*
*NIED **19** 15:42:47.6,37°.37N×134°.88E,h384km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr0.75; Mθθ0.13; Mφφ-0.87; Mrθ-0.24; Mφθ0.58; Mφr-1.37; Fault plane solution: M0 1.71000×10^15^ NP1: φs184.00000°,δ76.00000°,λ113.00000°. NP2: φs305.00000°,δ27.00000°,λ34.00000°.*
*NEIC **19** 15:42:48.6±1.5,37°.39N±0°.07×134°.83E±0°.09, h369km±5km,mb4.1/79 Error ellipse: s-maj=11.7km s-min=9.3km az=138.0*
ISC 19 15:42:47.9±0.5,**37°.40N**±0°.05×**134°.84E**±0°.05,**h373**km±5km, **n160**,σ1°**32**/189,**mb4.0**/57,**Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**1.62**	**106**	P	**Pn**	**15 43 39.8**	**+0.9**
JJH				*e*S	**S**	**15 44 21.2**	**+1.2**
JKG	**Kaga**	**1.64**	**133**	P	**Pn**	**15 43 39.8**	**+0.7**
JKG				S	**S**	**15 44 20.4**	**+0.1**
JOI	**OKI**	**1.69**	**230**	P	**Pn**	**15 43 40.3**	**+0.9**
JHG	**Hegura jima**	**1.71**	**74**	*e*P	**Pn**	**15 43 40.5**	**+1.0**
JSZ	**Suzu**	**2.01**	**88**	P	**Pn**	**15 43 42.4**	**+1.1**
JSZ				S	**S**	**15 44 24.9**	**+0.6**
JWT	**Wachi**	**2.16**	**168**	P	**Pn**	**15 43 43.3**	**+0.8**
JWT				*e*S	**S**	**15 44 26.3**	**-0.1**
JYTA	**Yamagatataniai**	**2.36**	**139**	P	**Pn**	**15 43 44.2**	**+0.3**
JYTA				S	**S**	**15 44 28.4**	**-0.6**
INU	**Inuyama**	**2.70**	**139**		**Pn**	**15 43 46.3**	**-0.2**
INU				Sn	**S**	**15 44 31.5**	**-2.2**
JGF	**Kuroka**	**2.71**	**131**	Pn	**Pn**	**15 43 44.7**	**-1.9**
JHS	**Saijyo**	**2.77**	**211**	P	**Pn**	**15 43 47.9**	**+0.7**
JHS				*e*S	**S**	**15 44 35.2**	**+0.2**
JSD	**Sado**	**2.79**	**76**		**Pn**	**15 43 47.5**	**+0.4**
JSD				Sn	**S**	**15 44 34.2**	**-0.7**
JSD	**Sado**	**2.79**	**76**	P	**Pn**	**15 43 47.6**	**+0.4**
MJB9	**Matsu-Tunnel**	**2.83**	**107**		**Pn**	**15 43 48.5**	**+0.9**
MJB9				Sn	**S**	**15 44 36.8**	**+1.1**
MAJO	**Matsushiro**	**2.83**	**107**		**Pn**	**15 43 47.6**	**0.0**
MAJO				Sn	**S**	**15 44 35.8**	**+0.1**
MAT	**Matsushiro**	**2.83**	**107**	P	**Pn**	**15 43 47.9**	**+0.3**
MJAR	**Matsushiro Arr**	**2.83**	**107**	P	**Pn**	**15 43 47.3**	**-0.3**
	96nm,0.8s,baz=284,slow=10,SNR=140						
MJAR				S	**S**	**15 44 36.6**	**+0.9**
	1.8nm,0.5s,baz=316,slow=16,SNR=0.6						
JGT2	**ShimaneMisato**	**3.00**	**220**	P	**Pn**	**15 43 49.9**	**+0.9**
JGT2				S	**S**	**15 44 38.7**	**+0.4**
JIE	**Ise**	**3.36**	**153**	P	**Pn**	**15 43 53.0**	**+0.8**
JRY	**Ryogami san**	**3.54**	**112**	*e*P	**Pn**	**15 43 54.1**	**+0.2**
JMN	**Monobe**	**3.75**	**192**	Pn	**Pn**	**15 43 56.3**	**+0.4**
JSG	**Sagara**	**3.84**	**134**	Pn	**Pn**	**15 43 56.6**	**-0.1**
JOD2	**Odawara 2**	**4.04**	**121**	P	**Pn**	**15 43 58.9**	**+0.2**
JOD2				*e*S	**S**	**15 44 56.1**	**+0.2**
TTO1	**TONANKAI O.B.S**	**4.09**	**157**	*e*P	**Pn**	**15 44 00.1**	**+1.2**
JMM	**Marumori**	**4.75**	**83**		**Pn**	**15 44 05.8**	**-0.1**
JMM				Sn	**S**	**15 45 05.4**	**-3.7**
JTO	**Tosashimizu**	**4.83**	**201**	*e*P	**Pn**	**15 44 07.5**	**+0.7**
JMK	**Ichinoseki**	**5.26**	**71**	P	**Pn**	**15 44 11.1**	**-0.2**
JTU	**Tsushima**	**5.26**	**239**	Pn	**Pn**	**15 44 11.8**	**+0.3**
JNU	**Nakatsue**	**5.36**	**218**	Pn	**Pn**	**15 44 11.7**	**-0.8**
JNU	**Nakatsue**	**5.36**	**218**	P	**Pn**	**15 44 12.9**	**+0.4**
	12nm,0.6s,baz=64,slow=2.7,SNR=25						
JNU				S	**S**	**15 45 19.9**	**-1.3**
	14nm,0.8s,baz=18,slow=20,SNR=2.9						
KSRS	**Korea Array**	**5.50**	**273**	P	**Pn**	**15 44 15.0**	**+1.0**
	4.5nm,0.5s,baz=91,slow=12,SNR=28						
KSAR	**Wonju Array Be**	**5.54**	**273**	Pn	**Pn**	**15 44 13.5**	**-0.8**
KS19	**Wonju Array Si**	**5.55**	**273**		**Pn**	**15 44 15.5**	**+1.0**
BSO1	**Boso 1**	**5.68**	**117**	*e*P	**Pn**	**15 44 14.7**	**-0.7**
BSO1				*e*S	**S**	**15 45 24.1**	**-2.4**
JTM	**Tenmabayashi**	**5.91**	**53**	Pn	**Pn**	**15 44 18.3**	**-0.1**
TJN	**Taejon**	**6.08**	**263**	Pn	**Pn**	**15 44 22.8**	**+2.4**
JOT	**Ohata**	**6.24**	**48**	P	**Pn**	**15 44 22.6**	**+0.5**
USA0B	**Ussuriysk Arra**	**7.13**	**343**		**P**	**15 44 33.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**7.13**	**343**		**P**	**15 44 33.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**7.13**	**343**	P	**Pn**	**15 44 32.3**	**+0.2**
	9.6nm,0.7s,baz=179,slow=10,SNR=16						
ERM	**Erimo**	**7.89**	**52**		**Pn**	**15 44 40.3**	**-0.8**
ASAJ	**Asahikawa**	**8.92**	**39**	P	**Pn**	**15 44 52.2**	**-0.8**
	32nm,0.6s,baz=240,slow=10.0,SNR=50						
ASAJ				S	**S**	**15 46 29.3**	**-6.4**
	47nm,0.8s,baz=329,slow=30,SNR=16						
JKA	**Kamikawa-asahi**	**8.92**	**39**	Pn	**Pn**	**15 44 52.1**	**-0.9**
YSS	**Yuzh-Sakhalins**	**11.20**	**29**		**P**	**15 45 19.5**	**0.0**
KLR	**Kul'dur**	**12.04**	**350**	P	**P**	**15 45 28.6**	**-0.1**
	1.7nm,0.8s,baz=161,slow=5.2,SNR=4.6						
BJT	**Baijiatuau**	**14.81**	**286**	P	**P**	**15 45 59.5**	**+0.1**
TATO	**Taipei**	**16.82**	**226**	P	**P**	**15 46 21.4**	**+0.2**
YHNB	**Yeheng**	**17.12**	**226**	P	**P**	**15 46 24.7**	**+0.1**
NACB	**Ninganchiao**	**17.39**	**224**	P	**P**	**15 46 24.6**	**-2.6**
SSLB	**Suanglung**	**18.05**	**225**	P	**P**	**15 46 32.1**	**-2.3**
YULB	**Yu-li**	**18.17**	**224**	P	**P**	**15 46 31.8**	**-3.8**
TPUB	**Ta-pu**	**18.62**	**225**	P	**P**	**15 46 36.9**	**-3.5**
PEA0B	**Petropavlovsk-**	**22.34**	**38**	P	**P**	**15 47 15.8**	**+0.6**
PETK	**Petropavlovsk-**	**22.34**	**38**	P	**P**	**15 47 15.3**	**0.0**
PETK	**Petropavlovsk-**	**22.34**	**38**	P	**P**	**15 47 15.0**	**-0.3**
	3.6nm,0.8s,baz=202,slow=4.4,SNR=5.2						
	3.6nm,0.8s						
SONM	**Songino Array**	**23.26**	**306**	P	**P**	**15 47 23.7**	**-0.1**
SONM	**Songino Array**	**23.26**	**306**	P	**P**	**15 47 23.7**	**-0.1**
	2.4nm,0.7s,baz=107,slow=8.0,SNR=12						
	2.4nm,0.7s						
TIXI	**Tiksi**	**34.46**	**357**	P	**P**	**15 49 01.6**	**+0.1**
TIXI				IAmb	IAmb	15 49 02.2	
	comp=Z,2.5nm,0.5s						
CHTO	**Chiang Mai**	**36.39**	**249**	P	**P**	**15 49 18.9**	**+0.4**
CM31	**Chiang Mai Arr**	**36.61**	**249**	P	**P**	**15 49 20.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**36.61**	**249**	P	**P**	**15 49 20.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**36.61**	**249**	P	**P**	**15 49 18.8**	**-1.6**
	comp=Z,1.3nm,0.5s,baz=44,slow=7.1,SNR=8.6						
	comp=Z,1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**37.79**	**312**	P	**P**	**15 49 29.2**	**-0.4**
ZALV	**Zalesovo Beam**	**37.79**	**312**	P	**P**	**15 49 28.7**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=112,slow=8.1,SNR=6.2						
ZALV				PcP	**PcP**	**15 51 37.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=104,slow=6.1,SNR=1.9						
ZALV				ScP	**ScP**	**15 54 47.6**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=101,slow=4.8,SNR=2.3						
	comp=Z,0.9nm,0.4s						
SHL	**Shillong**	**38.19**	**265**	P	**P**	**15 49 32.6**	**-0.9**
SHL				IAmb	IAmb	15 49 34.3	
	comp=Z,7.5nm,0.6s						
MK31	**Makanchi Array**	**39.45**	**301**	P	**P**	**15 49 43.5**	**0.0**
MKAR	**Makanchi Array**	**39.45**	**301**	P	**P**	**15 49 43.2**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=91,slow=9.7,SNR=11						
MKAR				ScP	**ScP**	**15 54 54.9**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=76,slow=6.6,SNR=3.9						
	comp=Z,1.1nm,0.7s						
FAKI	**Fak Fak**	**40.19**	**184**	P	**P**	**15 49 49.9**	**+0.2**
FAKI				IAmb	IAmb	15 50 12.7	
	comp=Z,25nm,1.1s						
TAPN	**Taplejung**	**40.68**	**270**	*e*P	**P**	**15 49 54.2**	**+0.2**
	comp=Z,15nm,0.3s						
KURK	**Kurchatov**	**41.55**	**307**	P	**P**	**15 50 00.2**	**-0.2**
KURK				IAmb	IAmb	15 50 02.2	
	comp=Z,6.0nm,0.7s						
KURBB	**Kurchatov Arra**	**41.62**	**307**	P	**P**	**15 49 59.7**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=85,slow=8.4,SNR=20						
	comp=Z,3.1nm,0.7s						
JIRN	**Jiri**	**41.76**	**271**	*e*P	**P**	**15 50 03.2**	**+0.4**
	comp=Z,7.4nm,0.3s						
GUN	**Gumba**	**41.90**	**272**	*e*P	**P**	**15 50 04.0**	**+0.2**
	comp=Z,16nm,0.4s						
PKI	**Pulchoki**	**42.42**	**271**	*e*P	**P**	**15 50 07.7**	**-0.3**
	comp=Z,4.6nm,0.6s						
PKIN	**Phulchoki**	**42.43**	**272**	*e*P	**P**	**15 50 07.8**	**-0.2**
	comp=Z,5.0nm,0.4s						
GKN	**Gorkha**	**42.84**	**273**	*e*P	**P**	**15 50 11.2**	**0.0**
	comp=Z,25nm,0.6s						
DANN	**Dangsing**	**43.39**	**273**	*e*P	**P**	**15 50 16.0**	**+0.4**
	comp=Z,42nm,0.7s						
PYUN	**Piuthan**	**44.11**	**274**	*e*P	**P**	**15 50 21.5**	**+0.3**
	comp=Z,20nm,0.5s						
C16K	**Lisburne Hills**	**44.73**	**27**	P	**P**	**15 50 26.3**	**+1.1**
I17K	**Unalakleet**	**46.03**	**34**	P	**P**	**15 50 36.4**	**+1.1**
C18K	**Utukok River**	**46.31**	**27**	P	**P**	**15 50 38.8**	**+1.3**
E18K	**Tukpahlearik C**	**46.37**	**29**	P	**P**	**15 50 39.8**	**+1.9**
E18K				IAmb	IAmb	15 50 41.4	
	comp=Z,13nm,1.2s						
BVAR	**Borovoye Array**	**46.41**	**311**	P	**P**	**15 50 37.7**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=98,slow=7.8,SNR=10						
	comp=Z,1.1nm,0.5s						
BRVK	**Borovoye**	**46.47**	**311**	P	**P**	**15 50 39.3**	**+0.4**
L16K	**Owhat River**	**46.53**	**37**	P	**P**	**15 50 40.7**	**+1.5**
L16K				IAmb	IAmb	15 51 03.4	
	comp=Z,30nm,1.5s						
C19K	**Lookout Ridge**	**46.95**	**27**	P	**P**	**15 50 44.0**	**+1.6**
G18K	**Tagagawik**	**47.02**	**31**	P	**P**	**15 50 44.5**	**+1.6**
K17K	**Iditarod**	**47.08**	**35**	P	**P**	**15 50 45.1**	**+1.7**
K17K				IAmb	IAmb	15 51 04.2	
	comp=Z,20nm,1.3s						
H18K	**Honhosa River**	**47.10**	**32**	P	**P**	**15 50 45.0**	**+1.5**
H18K				IAmb	IAmb	15 50 50.0	
	comp=Z,18nm,1.3s						
D19K	**Kuna River**	**47.41**	**27**	P	**P**	**15 50 47.3**	**+1.4**
D19K				IAmb	IAmb	15 50 48.9	
	comp=Z,25nm,1.4s						
F19K	**Shaleruckik Mo**	**47.42**	**30**	P	**P**	**15 50 47.3**	**+1.4**
G19K	**Purcell Mounta**	**47.67**	**31**	P	**P**	**15 50 49.3**	**+1.5**
G19K				IAmb	IAmb	15 51 20.4	
	comp=Z,11nm,1.4s						
E19K	**Redstone River**	**47.67**	**29**	P	**P**	**15 50 49.3**	**+1.5**
E19K				PcP	**PcP**	**15 52 11.7**	**+1.2**
N17K	**Nushagak Hills**	**47.67**	**38**	P	**P**	**15 50 49.9**	**+1.9**
N17K				IAmb	IAmb	15 50 51.9	
	comp=Z,23nm,1.4s						
L18K	**Granite Mounta**	**47.84**	**36**	P	**P**	**15 50 50.6**	**+1.4**
B20K	**Meade River**	**47.90**	**25**	P	**P**	**15 50 51.0**	**+1.6**
H19K	**Roundabout Mou**	**47.91**	**32**	P	**P**	**15 50 51.7**	**+2.1**
H19K				IAmb	IAmb	15 50 52.6	
	comp=Z,8.7nm,0.8s						
J19K	**Poorman**	**48.27**	**34**	P	**P**	**15 50 54.0**	**+1.5**
KKAR	**Karatay Array**	**48.36**	**298**	P	**P**	**15 50 53.7**	**+0.3**
J20K	**Nowinta River**	**48.92**	**33**	P	**P**	**15 50 58.7**	**+1.4**
J20K				IAmb	IAmb	15 51 27.9	
	comp=Z,13nm,1.5s						
K20K	**Telida**	**48.99**	**34**	P	**P**	**15 50 59.5**	**+1.6**
K20K				IAmb	IAmb	15 51 37.4	
	comp=Z,9.3nm,1.4s						
IMAR	**Indian Mountai**	**49.03**	**31**	P	**P**	**15 50 59.4**	**+1.4**
G21K	**Allakaket**	**49.12**	**30**	P	**P**	**15 51 00.4**	**+1.7**
G21K				IAmb	IAmb	15 51 01.5	
	comp=Z,4.7nm,0.8s						
B22K	**Teshekpuk Lake**	**49.19**	**25**	P	**P**	**15 51 00.3**	**+1.1**
D22K	**Ayikyak River**	**49.42**	**27**	P	**P**	**15 51 02.6**	**+1.6**
H21K	**Melozitna Rive**	**49.43**	**31**	P	**P**	**15 51 02.9**	**+1.9**
H21K				IAmb	IAmb	15 51 04.1	
	comp=Z,8.0nm,1.4s						
GSI	**Gunungsitoli**	**49.66**	**233**	P	**P**	**15 51 02.9**	**-0.6**
GSI				IAmb	IAmb	15 51 20.3	
	comp=Z,15nm,1.3s						
E22K	**Anaktuvuk Pass**	**49.74**	**28**	P	**P**	**15 51 05.1**	**+1.7**
E22K				IAmb	IAmb	15 51 41.4	
	comp=Z,15nm,1.4s						
E22K				PcP	**PcP**	**15 52 19.5**	**+1.4**
CAST	**Castle Rocks**	**49.88**	**34**	P	**P**	**15 51 06.6**	**+2.1**
CAST				IAmb	IAmb	15 51 12.0	
	comp=Z,14nm,1.5s						
MTN	**Manton Dam**	**50.09**	**185**	P	**P**	**15 51 05.7**	**-0.9**
MTN				IAmb	IAmb	15 51 46.7	
	comp=Z,8.8nm,1.0s						
C23K	**Itkillik River**	**50.15**	**26**	P	**P**	**15 51 08.1**	**+1.8**
G23K	**Bananza Creek**	**50.49**	**30**	P	**P**	**15 51 10.7**	**+1.7**
G23K				PcP	**PcP**	**15 52 22.3**	**+1.4**
CHGR	**Chuyangaron**	**50.73**	**293**	P	**P**	**15 51 11.4**	**+0.1**
CHGR				IAmb	IAmb	15 51 11.9	
	comp=Z,9.1nm,0.6s						
H23K	**Yukon River**	**50.76**	**31**	P	**P**	**15 51 13.3**	**+2.3**
H23K				IAmb	IAmb	15 51 15.0	
	comp=Z,15nm,1.3s						
E24K	**Your Creek**	**50.99**	**28**	P	**P**	**15 51 14.4**	**+1.7**
E24K				IAmb	IAmb	15 51 14.7	
	comp=Z,10nm,1.3s						
MDM	**Murphy Dome**	**51.40**	**32**	P	**P**	**15 51 15.6**	**-0.1**
MDM				IAmb	IAmb	15 51 19.1	
	comp=Z,14nm,1.2s						
CCB	**Clear Creek Bu**	**51.62**	**32**	P	**P**	**15 51 18.8**	**+1.6**
D25K	**Kavik River**	**51.66**	**26**	P	**P**	**15 51 18.8**	**+1.3**
D25K				IAmb	IAmb	15 51 26.6	
	comp=Z,26nm,1.5s						
COEN	**Coen**	**51.68**	**170**	P	**P**	**15 51 19.0**	**+0.7**
ILAR	**Eielson Array**	**51.99**	**32**	P	**P**	**15 51 20.9**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=266,slow=5.8,SNR=21						
	comp=Z,1.0nm,0.7s						
BMAR	**Burnt Mountain**	**52.54**	**29**	P	**P**	**15 51 26.6**	**+2.6**
BMAR				PcP	**PcP**	**15 52 30.8**	**+2.2**
KNRA	**Kununurra**	**53.10**	**187**	P	**P**	**15 51 28.7**	**+0.1**
KNRA				IAmb	IAmb	15 51 29.3	
	comp=Z,8.4nm,0.8s						
D27M	**Malcolm River**	**53.58**	**26**	P	**P**	**15 51 32.7**	**+1.2**
D27M				IAmb	IAmb	15 51 38.5	
	comp=Z,21nm,1.5s						
D27M				PcP	**PcP**	**15 52 36.2**	**+3.7**
ABKAR	**Akbulak array**	**53.64**	**308**	P	**P**	**15 51 31.9**	**-0.2**
ABKAR	**Akbulak array**	**53.64**	**308**	P	**P**	**15 51 31.9**	**-0.2**
K27K	**Chicken**	**54.18**	**33**	P	**P**	**15 51 37.8**	**+2.0**
MCARA	**McCarthy VSAT**	**54.37**	**36**	P	**P**	**15 51 39.0**	**+1.8**
MCARA				IAmb	IAmb	15 51 56.1	
	comp=Z,11nm,1.1s						
L27K	**Beaver Creek,**	**54.51**	**34**	P	**P**	**15 51 39.3**	**+1.1**
L27K				IAmb	IAmb	15 51 41.2	
	comp=Z,5.6nm,0.8s						
BCAR	**Beaver Creek A**	**54.53**	**34**	P	**P**	**15 51 39.9**	**+1.5**
I28M	**Miner Creek**	**54.75**	**31**	P	**P**	**15 51 42.2**	**+2.2**
CTGM	**Chitina Glacie**	**55.27**	**36**	P	**P**	**15 51 45.5**	**+1.8**
CTGM				IAmb	IAmb	15 52 03.4	
	comp=Z,19nm,1.4s						
M29M	**Somme Creek**	**56.17**	**34**	P	**P**	**15 51 52.5**	**+2.5**
M29M				IAmb	IAmb	15 51 53.1	
	comp=Z,2.7nm,0.6s						
I30M	**Mount Dempster**	**56.25**	**30**	P	**P**	**15 51 51.7**	**+1.2**
I30M				IAmb	IAmb	15 51 53.3	
	comp=Z,6.0nm,0.8s						
G31M	**Satah River**	**56.57**	**28**	P	**P**	**15 51 53.5**	**+1.0**
G31M				IAmb	IAmb	15 52 34.2	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**56.86**	**181**	P	**P**	**15 51 54.8**	**-0.3**
WB0				IAmb	IAmb	15 51 55.6	
	comp=Z,7.7nm,1.1s						
WRA	**Warramunga Arr**	**57.03**	**181**	P	**P**	**15 51 54.9**	**-1.5**
WRA				PcP	**PcP**	**15 52 47.5**	**+0.9**
WRA	**Warramunga Arr**	**57.03**	**181**	P	**P**	**15 51 56.1**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=356,slow=7.6,SNR=90						
WRA				PcP	**PcP**	**15 52 47.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=355,slow=4.5,SNR=7.0						
WRA				ScP	**ScP**	**15 56 10.9**	**+1.4**
	comp=Z,0.5nm,0.9s,baz=358,slow=5.5,SNR=2.5						
	comp=Z,2.9nm,0.5s						
WR0	**Warramunga Arr**	**57.05**	**180**	P	**P**	**15 51 55.3**	**-1.2**
WR0				IAmb	IAmb	15 51 57.0	
	comp=Z,6.8nm,0.9s						
WR0				PcP	**PcP**	**15 52 47.1**	**+0.5**
N32M	**Quiet Lake**	**59.01**	**34**	P	**P**	**15 52 10.9**	**+1.4**
GEYT	**Alibeck**	**59.01**	**296**	P	**P**	**15 52 07.7**	**-2.3**
	comp=Z,1.0nm,0.5s,baz=35,slow=18,SNR=2.4						
	comp=Z,1.0nm,0.5s						
MMPY	**Sheldon Lake,**	**59.26**	**32**	P	**P**	**15 52 13.6**	**+2.4**
C36M	**Paulatuk**	**59.26**	**24**	P	**P**	**15 52 12.2**	**+1.2**
AS31	**Alice Springs**	**60.74**	**181**	P	**P**	**15 52 21.3**	**-0.2**
ASAR	**Alice Springs**	**60.74**	**181**	P	**P**	**15 52 21.3**	**-0.2**
ASAR	**Alice Springs**	**60.74**	**181**	P	**P**	**15 52 21.6**	**0.0**
	comp=Z,0.7nm,0.4s,baz=2.7,slow=6.3,SNR=30						
	comp=Z,0.7nm,0.4s						
ARCES	**ARCESS Array B**	**61.74**	**338**	P	**P**	**15 52 27.3**	**-0.3**
	comp=Z,4.5nm,1.0s,baz=54,slow=8.2,SNR=1.6						
	comp=Z,4.5nm,1.0s						
RES	**Resolute Bay**	**63.50**	**13**	P	**P**	**15 52 38.6**	**-0.3**
RES				IAmb	IAmb	15 53 04.0	
	comp=Z,15nm,1.5s						
FINES	**FINESS Array B**	**65.97**	**330**	P	**P**	**15 52 54.4**	**-0.5**
FINES	**FINESS Array B**	**65.97**	**330**	P	**P**	**15 52 54.1**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=101,slow=10,SNR=5.6						
	comp=Z,1.0nm,0.6s						
FORT	**Forrest**	**68.12**	**186**	P	**P**	**15 53 08.2**	**-0.5**
AKASG	**Malin Array Be**	**70.71**	**320**	P	**P**	**15 53 23.5**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=52,slow=6.2,SNR=6.0						
	comp=Z,0.7nm,0.4s						
HFS	**Hagfors**	**71.49**	**333**	P	**P**	**15 53 28.5**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=51,slow=7.6,SNR=2.6						
	comp=Z,0.8nm,0.4s						
NC204	**NORSAR Array S**	**71.70**	**335**	P	**P**	**15 53 30.3**	**+0.3**
NC204				IAmb	IAmb	15 53 50.3	
	comp=Z,8.3nm,1.2s						
NOA	**NORSAR Array B**	**71.72**	**335**	P	**P**	**15 53 30.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=55,slow=7.1,SNR=4.3						
	comp=Z,0.4nm,0.6s						
PINE	**Pine Mountain**	**74.01**	**47**	P	**P**	**15 53 43.6**	**-0.4**
KVN	**Kaiserville**	**78.61**	**49**	P	**P**	**15 54 10.5**	**+0.9**
KVN				IAmb	IAmb	15 54 11.8	
	comp=Z,2.4nm,0.7s						
NVAR	**Mina Array Bea**	**78.87**	**50**	P	**P**	**15 54 11.8**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=293,slow=5.3,SNR=8.2						
	comp=Z,1.2nm,0.7s						
ULM	**Lac du Bonnet**	**81.95**	**30**	P	**P**	**15 54 26.9**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=85,slow=10.0,SNR=2.9						
	comp=Z,3.1nm,0.8s						
TXAR	**Lajitas Array**	**93.93**	**48**	P	**P**	**15 55 24.8**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=299,slow=3.3,SNR=6.4						
	comp=Z,0.9nm,0.9s						
QSPA	**South Pole Qui**	**127.14**	**180**	PKP	**PKPdf**	**16 01 07.6**	**+0.2**
	comp=Z,1.1nm,1.0s,baz=195,slow=6.2,SNR=2.0						
SNAA	**Sanae**	**139.47**	**199**	PKP	**PKPdf**	**16 01 28.8**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=5.2,slow=11,SNR=2.2						

---

*NCEDC **19** 16:02:17.3±1.4,37°.975N±0°.007×118°.666W±0°.009, h2km±6km,Md2.9/33,ML3.0/10(REN),ML2.8/84(NEIC), Error ellipse: s-maj=1.4km s-min=0.7km az=46.0*
*NEIC **19** 16:02:17.6±1.2,37°.975N±0°.010×118°.67W±0°.01, h6km±2km,Error ellipse: s-maj=1.8km s-min=1.3km az=121.0*
*REN **19** 16:02:17.5±1.2,37°.971N±0°.010×118°.67W±0°.02, h9km±3km,Error ellipse: s-maj=1.9km s-min=1.3km az=116.0*
*ANF **19** 16:02:20.0±0.8,37°.83N×118°.67W,h0km,ML2.9/13,Error ellipse: s-maj=6.7km s-min=3.7km az=135.0*
ISC 19 16:02:17.7±1.0,**37°.98N**±0°.01×**118°.67W**±0°.02,**h8**km±9km, **n121**,σ0°**87**/138,**California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHV	**Little Huntoon**	**0.30**	**26**		**Pg**	**16 02 23.8**	**+0.2**
LHV				IAML		16 02 32.6	
	comp=N,2μm,0.6s						
LHV	**Little Huntoon**	**0.30**	**26**		**Sg**	**16 02 28.5**	**+1.0**
MLHM	**Little Hot Cre**	**0.33**	**201**		**Pg**	**16 02 24.2**	**+0.1**
MRCM	**Red Rock Canyo**	**0.33**	**158**		**Pg**	**16 02 24.0**	**-0.3**
MDRNC	**Doe Ridge**	**0.37**	**201**		**Pg**	**16 02 24.9**	**-0.1**
MLAC	**Mammoth, Mammo**	**0.38**	**201**		**Pg**	**16 02 25.0**	**-0.2**
MLAC					**Sg**	**16 02 30.2**	**+0.1**
MLAC	**Mammoth, Mammo**	**0.38**	**201**	P	**Pg**	**16 02 24.9**	**-0.2**
	baz=21,SNR=26						
MLAC				S	**Sg**	**16 02 29.7**	**-0.4**
	baz=21						
MCSM	**Casa Diablo Ho**	**0.38**	**210**		**Pg**	**16 02 24.9**	**-0.2**
MEMM	**East Mammoth H**	**0.38**	**214**		**Pg**	**16 02 25.1**	**-0.1**
MCBM	**Casa Benchmark**	**0.38**	**208**		**Pg**	**16 02 25.1**	**-0.2**
MCBM					**Sg**	**16 02 30.4**	**+0.1**
MGPM	**Gravel Pit**	**0.40**	**208**		**Pg**	**16 02 25.6**	**0.0**
MDCM	**Deadman Creek**	**0.40**	**227**		**Pg**	**16 02 25.2**	**-0.4**
MMLB	**Mammoth Lakes**	**0.41**	**217**		**Pg**	**16 02 25.5**	**-0.2**
MCVM	**Convict Lake**	**0.41**	**198**		**Pg**	**16 02 25.5**	**-0.3**
MLCM	**Laurel Creek C**	**0.42**	**208**		**Pg**	**16 02 25.7**	**-0.2**
MDYM	**Dry Creek**	**0.42**	**220**		**Pg**	**16 02 25.9**	**-0.1**
MDYM					**Sg**	**16 02 31.9**	**+0.3**
MLIM	**Lincoln Peak**	**0.44**	**219**		**Pg**	**16 02 26.4**	**0.0**
MINS	**Minaret Summit**	**0.45**	**224**		**Pg**	**16 02 26.1**	**-0.4**
MINS					**Sg**	**16 02 32.3**	**-0.2**
OMMB	**Old Mammoth Mi**	**0.45**	**216**		**Pg**	**16 02 26.1**	**-0.4**
OMMB					**Sg**	**16 02 32.3**	**-0.3**
MMSM	**Mammoth Summit**	**0

DONR	**Donner Summit**	**1.88 317**		**Pb**	**16 02 52.0**	**-0.4**
PEAR	**Peavine Mounta**	**1.91 328**		**Pb**	**16 02 53.2**	**+0.3**
WCT	**Wildcat Mounta**	**2.01 126**		**Pn**	**16 02 52.3**	**+0.3**
WCT			IAML		16 03 24.1	
	comp=N,50nm,0.5s					
WCT			IAML		16 03 25.6	
	comp=E,63nm,0.5s					
AFDM	**Forest Hills D**	**2.05 299**		**Pn**	**16 02 52.4**	**-0.1**
AFDM			IAML		16 03 23.5	
	comp=N,53nm,0.4s					
AFDM			IAML		16 03 23.9	
	comp=E,52nm,0.4s					
LOY	**Loyalton**	**2.07 324**		**Pb**	**16 02 55.4**	**-0.3**
FURC	**Furnace Creek,**	**2.09 136**	P	**Pn**	**16 02 54.3**	**+1.3**
	baz=317,SNR=26					
FURC			Sg	**Sg**	**16 03 26.0**	**+1.2**
	baz=317					
MPMC	**Manual Prospec**	**2.14 154**	P	**Pn**	**16 02 55.1**	**+1.2**
	baz=334,SNR=25					
MPMC			Sb	**Sg**	**16 03 25.0**	**-1.5**
	baz=334					
MTOS	**Mt Oso, Westle**	**2.16 258**		**Pb**	**16 02 57.0**	**-0.1**
VES	**Vestal, Richgr**	**2.16 189**	S	**Sb**	**16 03 23.3**	**-0.7**
	baz=8.8					
TPNV	**Topopah Spring**	**2.18 117**		**Pn**	**16 02 54.3**	**-0.2**
TPNV			IAML		16 03 33.0	
	comp=E,72nm,0.9s					
TPNV			IAML		16 03 33.7	
	comp=E,68nm,0.7s					
TPNV	**Topopah Spring**	**2.18 117**	P	**Pb**	**16 02 57.0**	**-0.5**
	baz=299,SNR=55					
TPNV			Sb	**Sg**	**16 03 28.0**	**+0.2**
	baz=299					
WASM	**Alta Sierra Ca**	**2.24 178**		**Pb**	**16 02 58.1**	**-0.5**
BEKR	**Beckworth**	**2.30 325**		**Pb**	**16 02 58.6**	**-0.9**
CMMM	**Mount Mocho**	**2.30 258**		**Pn**	**16 02 56.8**	**+0.7**
ISA	**Isabella, Lake**	**2.32 176**		**Pn**	**16 02 56.2**	**0.0**
ISA	**Isabella, Lake**	**2.32 176**	Pb	**Pb**	**16 02 59.8**	**0.0**
	baz=356,SNR=14					
ISA			Sb	**Sb**	**16 03 29.4**	**+0.8**
	baz=356					
S11A	**Rachel**	**2.34 97**		**Pn**	**16 02 56.5**	**0.0**
BBGB	**Big Mountain B**	**2.35 234**		**Pn**	**16 02 57.0**	**+0.2**
GWY	**Greenwater Val**	**2.40 138**		**Pn**	**16 02 57.2**	**-0.2**
AMDNV	**Amargosa**	**2.44 128**		**Pn**	**16 02 58.3**	**+0.5**
PMPB	**Monarch Peak**	**2.45 225**		**Pn**	**16 02 58.2**	**+0.2**
R11B	**Troy Canyon, C**	**2.46 81**		**Pn**	**16 02 57.7**	**-0.5**
R11B			IAML		16 03 35.8	
	comp=N,58nm,0.9s					
R11B			IAML		16 03 36.1	
	comp=E,29nm,0.7s					
R11B	**Troy Canyon, C**	**2.46 81**	P	**Pb**	**16 03 01.4**	**-0.8**
	baz=262					
R11B			S	**Sg**	**16 03 35.0**	**-1.6**
	baz=262					
QSM	**Queen of Sheba**	**2.48 144**		**Pn**	**16 02 58.2**	**-0.2**
SAO	**San Andreas Ge**	**2.53 242**		**Pn**	**16 03 00.3**	**+1.3**
PAGB	**Antelope Grade**	**2.58 210**	Pn	**Pn**	**16 02 59.9**	**+0.1**
LRMC	**Laurel Mtn Rad**	**2.62 162**	Sb	**Sg**	**16 03 39.6**	**-2.3**
	baz=343					
ORV	**Oroville**	**2.71 306**		**Pn**	**16 03 02.7**	**+1.1**
PLTX	**Planet X, Gerl**	**2.79 347**		**Pn**	**16 03 03.0**	**+0.2**
ARVC	**Arvin**	**2.85 183**	Sb	**Sb**	**16 03 45.8**	**+1.8**
	baz=2.6					
CCAC	**Calif City Air**	**2.87 169**	Pn	**Pn**	**16 03 04.9**	**+1.1**
CCAC				Lg	16 03 49.9	
PRN	**Pahroc Range**	**2.93 100**		**Pn**	**16 03 05.2**	**+0.6**
GSC	**Goldstone, Bar**	**3.07 150**		**Pn**	**16 03 06.3**	**-0.2**
GSC			IAML		16 04 02.8	
	comp=N,15nm,3.1s					
GSC			IAML		16 04 05.4	
	comp=E,20nm,2.9s					
BCW	**Bitter Crk WRg**	**3.10 191**	Pn	**Pn**	**16 03 07.4**	**+0.5**
BCW			Sg	**Sb**	**16 03 52.2**	**+1.2**
LCMM	**Colby Mountain**	**3.10 315**		**Pb**	**16 03 10.7**	**-2.5**
EDW2	**Edwards Air Fo**	**3.14 170**	Sb	**Sb**	**16 03 55.3**	**+3.0**
	baz=350					
SHPR	**Sheep Range**	**3.16 117**		**Pn**	**16 03 07.2**	**-0.7**
MCCM	**Marconi Confer**	**3.33 274**	Pn	**Pn**	**16 03 11.3**	**+1.3**
MCCM			IAML		16 03 41.6	
	comp=N,30nm,4.2s					
OSI	**Osito Audit: C**	**3.36 181**	Sb	**Sb**	**16 04 01.3**	**+2.6**
	baz=0.8					
SPR3	**Spring Creek 3**	**3.55 72**		**Pn**	**16 03 13.5**	**+0.1**
V12A	**Nelson**	**3.80 125**	Pg	**Pb**	**16 03 27.5**	**+2.5**
PASC	**Pasadena Art C**	**3.82 174**	Pn	**Pn**	**16 03 15.4**	**-1.5**
PSUT	**Pine Spring**	**3.83 80**	Pg	**Pb**	**16 03 25.1**	**-0.5**
ELK	**Elko**	**3.83 43**	Pn	**Pn**	**16 03 15.4**	**-1.7**
DCMP	**DeCamp, Califo**	**3.94 294**		**Pn**	**16 03 15.5**	**-2.9**
CCUT	**Cedar City**	**4.22 94**		**Pn**	**16 03 21.2**	**-1.4**
LCMT	**Little Creek M**	**4.42 101**		**Pn**	**16 03 24.3**	**-0.9**
ELS	**Elsinore Mount**	**4.44 167**	Pn	**Pn**	**16 03 25.0**	**-0.4**
ELS			IAML		16 04 40.2	
	comp=E,11nm,3.2s					
ELS			IAML		16 05 00.9	
	comp=N,10nm,4.0s					
KNB	**Kanab**	**4.75 100**		**Pn**	**16 03 29.2**	**-0.5**
W13A	**Hualapai Mount**	**4.81 125**		**Pn**	**16 03 29.3**	**-1.2**
PLM	**Palomar**	**4.85 162**		Pn	16 03 37.0	+5.9
TCRU	**Three Creeks R**	**4.93 81**		**Pn**	**16 03 31.1**	**-1.2**
DUG	**Dugway, Tooele**	**5.06 62**		**Pn**	**16 03 33.4**	**-0.6**
MVU	**Marysvale**	**5.11 82**		**Pn**	**16 03 33.7**	**-1.1**
MTPU	**Mount Pierson**	**5.12 87**		**Pn**	**16 03 33.4**	**-1.6**
MSU	**Marysvale**	**5.14 82**	Pn	**Pn**	**16 03 35.5**	**+0.5**
U15A	**North Rim**	**5.32 105**		**Pn**	**16 03 37.5**	**-0.2**
NLU	**North Lily Min**	**5.50 67**		**Pn**	**16 03 42.3**	**+2.2**

*NOU **19** 16:04:02.0,41.°91S×174.°31E,h8km,MLv3.5/9,Cook Strait, New Zealand*
*WEL **19** 16:04:02.2±0.5,42.°S±3.°×17.°4E±.°,h7km±4km,M3.2/44, ML3.2/12,MLv3.2/44,Error ellipse: s-maj=0.0km s-min=0.0km az=141.6,confirmed*
ISC 19 16:04:01.5±1.1,**41.°84S**±0.°03×**174.°29E**±0.°03,**h6**km±8km, **n86**,σ1°**19/94**,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**327**	P	**Pg**	**16 04 03.4**	**-0.4**
CMWZ				S	**Sg**	**16 04 05.7**	**+0.4**
BSWZ	**Blackbirch Sta**	**0.33**	**291**	P	**Pg**	**16 04 07.5**	**-0.4**
BSWZ				S	**Sg**	**16 04 12.8**	**+0.6**
TUWZ	**Tuamarina**	**0.48**	**327**	P	**Pg**	**16 04 10.5**	**-0.2**
TUWZ				S	**Sg**	**16 04 17.2**	**+0.2**
BHW	**Baring Head**	**0.61**	**46**	P	**Pb**	**16 04 14.8**	**+0.3**
SNZO	**South Karori**	**0.61**	**31**	P	**Pg**	**16 04 14.3**	**+1.1**
TCW	**Tory Channel**	**0.62**	**359**	P	**Pg**	**16 04 13.3**	**-0.2**
WEL	**Wellington**	**0.66**	**33**	P	**Pg**	**16 04 15.1**	**+1.0**
PLWZ	**Palliser**	**0.77**	**70**	P	**Pb**	**16 04 18.0**	**+0.7**
KHZ	**Kahutara**	**0.80**	**224**	P	**Pb**	**16 04 18.2**	**+0.3**
KHZ	**Kahutara**	**0.80**	**224**	P	**Pb**	**16 04 17.9**	**0.0**
KHZ				S	**Sn**	**16 04 30.9**	**-0.7**
NNZ	**Nelson**	**0.92**	**312**	P	**Pg**	**16 04 18.3**	**-0.8**
NNZ				S	**Sg**	**16 04 29.7**	**-1.3**
CAW	**Cannon Point**	**0.93**	**39**	P	**Pg**	**16 04 19.9**	**+0.5**
CAW				S	**Sn**	**16 04 35.0**	**+0.2**
PAWZ	**Paruwai Farm**	**0.97**	**62**	P	**Pg**	**16 04 20.7**	**+0.6**
THZ	**Tophouse**	**1.04**	**274**	P	**Pg**	**16 04 20.9**	**-0.5**
THZ				S	**Sb**	**16 04 35.5**	**-0.2**
DUWZ	**D'Urville Isla**	**1.07**	**345**	P	**Pg**	**16 04 20.9**	**-1.1**
DUWZ				S	**Sg**	**16 04 36.4**	**+0.6**
KIW	**Kapiti Island**	**1.08**	**26**	P	**Pg**	**16 04 22.0**	**-0.2**
MTW	**Mount Morrison**	**1.14**	**54**	P	**Pg**	**16 04 23.0**	**-0.3**
TRWZ	**Traveller**	**1.14**	**68**	P	**Pg**	**16 04 22.7**	**-0.6**
OGWZ	**Otaki Gorge**	**1.22**	**33**	P	**Pb**	**16 04 24.6**	**-0.2**
MRNZ	**Matariki Terra**	**1.23**	**290**	P	**Pb**	**16 04 24.6**	**-0.5**
TKNZ	**Takaka Hill**	**1.28**	**308**	P	**Pn**	**16 04 25.1**	**-0.8**
HOWZ	**Holdsworth Sta**	**1.32**	**45**	P	**Pn**	**16 04 25.6**	**-0.8**
TMWZ	**Te Maipa**	**1.41**	**59**	P	**Pn**	**16 04 26.5**	**-1.2**
GVZ	**Greta Valley S**	**1.46**	**219**	P	**Pn**	**16 04 27.7**	**-0.8**
MRZ	**Mangatainoka R**	**1.52**	**40**	P	**Pn**	**16 04 28.5**	**-0.8**
TIWZ	**Tintock**	**1.60**	**49**	P	**Pn**	**16 04 29.8**	**-0.6**
QRZ	**Quartz Range**	**1.66**	**307**	P	**Pn**	**16 04 31.4**	**+0.2**
QRZ	**Quartz Range**	**1.66**	**307**	P	**Pn**	**16 04 31.5**	**+0.4**
LTZ	**Lake Taylor**	**1.77**	**237**	P	**Pn**	**16 04 32.0**	**-0.7**
PRWZ	**Pori Road**	**1.80**	**45**	P	**Pn**	**16 04 32.2**	**-0.9**
OHWZ	**Ohakea**	**1.80**	**26**	P	**Pn**	**16 04 34.0**	**+0.9**
AMCZ	**Amberley**	**1.81**	**221**	P	**Pg**	**16 04 39.4**	**+3.3**
POWZ	**Post Office Ro**	**1.82**	**38**	P	**Pn**	**16 04 33.2**	**-0.1**
DSZ	**Denniston Nort**	**1.86**	**272**	P	**Pn**	**16 04 34.7**	**+0.8**
BFZ	**Birch Farm**	**1.87**	**53**	P	**Pn**	**16 04 32.6**	**-1.4**
DVHZ	**Dannevirke**	**2.09**	**43**	P	**Pn**	**16 04 35.4**	**-1.7**
WAZ	**Wanganui**	**2.15**	**15**	P	**Pb**	**16 04 40.5**	**-0.2**
TSZ	**Takapari Road**	**2.18**	**36**	P	**Pn**	**16 04 37.3**	**-1.0**
MQZ	**McQueen's Vall**	**2.22**	**212**	P	**Pn**	**16 04 37.1**	**-1.7**
OXZ	**Oxford**	**2.23**	**227**	P	**Pn**	**16 04 40.2**	**+1.2**
INZ	**Inchbonnie**	**2.29**	**246**	P	**Pb**	**16 04 42.2**	**-1.0**
LREZ	**Lake Rotokare**	**2.37**	**2**	P	**Pb**	**16 04 43.8**	**-0.8**
PNHZ	**Pukenui**	**2.41**	**38**	P	**Pn**	**16 04 40.0**	**-1.4**
WPHZ	**Waipukurau**	**2.41**	**43**	P	**Pn**	**16 04 40.0**	**-1.4**
PREZ	**Palmer Road**	**2.49**	**358**	P	**Pb**	**16 04 46.0**	**-0.7**
KHEZ	**Kahui Hut**	**2.55**	**355**	P	**Pn**	**16 04 45.9**	**+2.5**
KHEZ	**Kahui Hut**	**2.55**	**355**	P	**Pb**	**16 04 46.6**	**-1.0**
NEZ	**North Egmont**	**2.57**	**357**	P	**Pb**	**16 04 47.3**	**-0.7**
NBEZ	**Newall Road No**	**2.58**	**353**	P	**Pb**	**16 04 48.5**	**+0.3**
PKE	**Pukeiti**	**2.65**	**355**	P	**Pn**	**16 04 47.0**	**+2.3**
PKVZ	**Pokaka**	**2.67**	**18**	P	**Pn**	**16 04 46.1**	**+1.1**
MOVZ	**Moawhango**	**2.67**	**25**	P	**Pn**	**16 04 47.7**	**+2.6**
WNVZ	**Wahianoa**	**2.70**	**22**	P	**Pn**	**16 04 46.2**	**+0.7**
BHHZ	**Black Hill Sta**	**2.70**	**31**	P	**Pn**	**16 04 45.4**	**-0.1**
TRVZ	**Turoa**	**2.71**	**21**	P	**Pb**	**16 04 50.9**	**+0.4**
VRZ	**Vera Road**	**2.73**	**8**	P	**Pn**	**16 04 47.3**	**+1.4**
WHVZ	**Whangaehu Hut**	**2.73**	**22**	P	**Pb**	**16 04 50.4**	**-0.6**
FWVZ	**Far West T-bar**	**2.75**	**21**	P	**Pb**	**16 04 51.4**	**+0.2**
COVZ	**Chateau Observ**	**2.80**	**20**	P	**Pb**	**16 04 52.2**	**+0.2**
NGZ	**Ngauruhoe**	**2.84**	**21**	P	**Pb**	**16 04 52.2**	**-0.4**
SNVZ	**South Ngauruho**	**2.84**	**22**	P	**Pn**	**16 04 49.2**	**+1.8**
OTVZ	**Oturere**	**2.87**	**22**	P	**Pn**	**16 04 48.2**	**+0.4**
NNVZ	**North Ngauruho**	**2.88**	**21**	P	**Pb**	**16 04 53.7**	**+0.3**
WTVZ	**West Tongariro**	**2.89**	**21**	P	**Pb**	**16 04 53.3**	**-0.2**
TWVZ	**Taurewa**	**2.90**	**18**	P	**Pb**	**16 04 54.0**	**+0.4**
KWHZ	**Kaweka Forest**	**2.91**	**35**	P	**Pb**	**16 04 54.6**	**+0.9**
WVZ	**Waitaha Valley**	**2.91**	**244**	P	**Pn**	**16 04 48.2**	**0.0**
TMVZ	**Te Maari**	**2.92**	**22**	P	**Pb**	**16 04 52.7**	**-1.4**
KRVZ	**Karewarewa**	**2.93**	**21**	P	**Pb**	**16 04 52.3**	**-1.8**
NTVZ	**North Tongarir**	**2.93**	**22**	P	**Pb**	**16 04 55.1**	**+0.9**
RPZ	**Rata Peaks**	**3.03**	**231**	P	**Pn**	**16 04 49.0**	**-1.0**
RPZ	**Rata Peaks**	**3.03**	**231**	P	**Pn**	**16 04 48.9**	**-1.0**
KATZ	**Kakaramea**	**3.05**	**21**	P	**Pb**	**16 04 56.5**	**+0.3**
RITZ	**Rihia Road**	**3.10**	**23**	P	**Pb**	**16 04 56.9**	**-0.1**
BKZ	**Black Stump Fm**	**3.15**	**33**	P	**Pn**	**16 04 52.9**	**+1.2**
BKZ	**Black Stump Fm**	**3.15**	**33**	P	**Pn**	**16 04 51.4**	**-0.3**
RATZ	**Rangitukua**	**3.17**	**21**	P	**Pb**	**16 04 58.8**	**+0.5**
GCSZ	**Gaunt Creek Bo**	**3.28**	**242**	P	**Pn**	**16 04 56.8**	**+3.4**
HIZ	**Hauiti**	**3.35**	**8**	P	**Pn**	**16 04 55.8**	**+1.5**
HIZ	**Hauiti**	**3.35**	**8**	P	**Pn**	**16 04 56.2**	**+1.9**
TMZ	**Timaru**	**3.50**	**222**	P	**Pn**	**16 04 55.4**	**-1.1**
TLZ	**Tolley Road**	**3.63**	**16**	P	**Pn**	**16 05 01.5**	**+3.3**
LIRZ	**Lichensteins R**	**4.15**	**24**	P	**Pn**	**16 05 05.3**	**-0.1**
ODZ	**Otahua Downs**	**4.16**	**218**	P	**Pn**	**16 05 04.5**	**-1.0**
URZ	**Urewera**	**4.18**	**32**	P	**Pn**	**16 05 07.2**	**+1.5**
URZ	**Urewera**	**4.18**	**32**	P	**Pb**	**16 05 12.1**	**-3.2**

*SNET **19** 16:07:51.8±2.4,13.°24N×89.°73W,h63km,ML3.7,ML3.7*
*GCG **19** 16:07:53.8±0.7,13.°29N×90.°06W,h0km±9km,MD3.8*
ISC 19 16:07:53.5±4.1,**13.°24N**±0.°08×**89.°69W**±0.°04,**h37**km±5km, **n30**,σ0°**90/47**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.44**	**55**	*e*P	**Pn**	**16 08 03.8**	**+0.7**
LALI				*e*S	**Sn**	**16 08 11.6**	**+1.5**
JAYA	**Jayaque - finc**	**0.48**	**30**	*e*P	**Pn**	**16 08 04.3**	**+0.4**
JAYA				*e*S	**Sn**	**16 08 12.3**	**+1.0**
JAYA				IAML		16 08 17.9	
	comp=Z,2μm,0.2s						
CEVE	**Cerro Verde**	**0.59**	**6**	*e*P	**Pn**	**16 08 05.9**	**+0.1**
CEVE				*e*S	**Sn**	**16 08 15.5**	**+1.3**
CEVE				IAML		16 08 19.4	
	comp=Z,3μm,0.3s						
SBLS	**San Blas**	**0.60**	**6**	*e*P	**Pn**	**16 08 05.9**	**0.0**
SBLS				*e*S	**Sn**	**16 08 15.3**	**+0.8**
SNET	**Serv Nac Est T**	**0.63**	**45**	*e*P	**Pn**	**16 08 05.9**	**-0.3**
SNET				*e*S	**Sn**	**16 08 16.2**	**+1.1**
SNET				IAML		16 08 17.1	
	comp=Z,2μm,0.2s						
SNJE	**San Jose**	**0.63**	**8**	*e*P	**Pn**	**16 08 06.3**	**0.0**
SNJE				*e*P	**Pn**	**16 08 06.4**	**0.0**
SNJE				*e*S	**Sn**	**16 08 15.5**	**+0.3**
BOQS	**Boqueron**	**0.64**	**39**	*e*P	**Pn**	**16 08 06.0**	**-0.4**
BOQS				*e*S	**Sn**	**16 08 16.7**	**+1.4**
LOMA	**Loma Larga**	**0.65**	**51**	*e*P	**Pn**	**16 08 06.5**	**+0.1**
LOMA				*e*S	**Sn**	**16 08 16.3**	**+0.8**
UEES	**Universidad Ev**	**0.65**	**43**	*e*P	**Pn**	**16 08 06.4**	**0.0**
RTR	**El Retiro**	**0.66**	**4**	*e*P	**Pn**	**16 08 06.6**	**0.0**
NUBE	**Las Nubes**	**0.67**	**353**	*e*P	**Pn**	**16 08 06.6**	**-0.1**
LFRS	**El Faro**	**0.72**	**58**	*e*P	**Pn**	**16 08 07.5**	**+0.1**
LFRS				*e*S	**Sn**	**16 08 18.0**	**+0.8**
LFU	**La Fuente**	**0.76**	**48**	*e*P	**Pn**	**16 08 08.4**	**+0.6**
LFU				*e*S	**Sn**	**16 08 19.4**	**+1.3**
SJTE	**Alcalda de S**	**0.77**	**61**	*e*P	**Pn**	**16 08 08.1**	**+0.2**
SJTE				*e*S	**Sn**	**16 08 18.4**	**+0.2**
SLOZ	**Alcaldia de Sa**	**0.79**	**354**	*e*P	**Pn**	**16 08 08.5**	**+0.3**
PAVA	**Las Pavas**	**0.87**	**57**	*e*P	**Pn**	**16 08 10.3**	**+0.9**
COEG	**Centro de Oper**	**0.88**	**64**	*e*P	**Pn**	**16 08 09.7**	**+0.3**
COEG				IAML		16 08 28.6	
	comp=Z,1μm,0.3s						
SNVI	**San Vicente**	**0.91**	**66**	*e*P	**Pn**	**16 08 10.5**	**+0.5**
TECO	**Alcaldia de Te**	**0.94**	**71**	*e*P	**Pn**	**16 08 10.0**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.04**	**64**	*e*P	**Pn**	**16 08 12.4**	**+0.7**
TECA	**Tecapa**	**1.19**	**77**	*e*P	**Pn**	**16 08 14.4**	**+0.7**
MTO3	**Montecristo**	**1.20**	**16**	*e*P	**Pn**	**16 08 14.1**	**+0.2**
PACA	**Pacayal**	**1.35**	**80**	*e*P	**Pn**	**16 08 16.9**	**+0.9**
PACA				IAML		16 08 42.8	
	comp=Z,6μm,0.2s						
ESQI	**Esquipulas**	**1.36**	**15**	*e*P	**Pn**	**16 08 16.4**	**+0.3**
ESQI				*e*S	**Sn**	**16 08 34.1**	**+1.3**
LCY	**Lacayo**	**1.37**	**82**	*e*P	**Pn**	**16 08 17.1**	**+0.8**
PCG	**Pacaya**	**1.45**	**322**	*e*P	**Pn**	**16 08 17.4**	**0.0**
PCG				*e*S	**Sn**	**16 08 35.8**	**+0.5**
NBG	**Las Nubes**	**1.48**	**335**	*e*P	**Pn**	**16 08 19.3**	**+1.4**
NBG				*e*S	**Sn**	**16 08 39.6**	**+3.4**
FUG	**Fuego 3**	**1.64**	**317**	*e*P	**Pn**	**16 08 20.4**	**+0.4**
FUG				*e*S	**Sn**	**16 08 40.4**	**+0.5**
LCND	**La Caada**	**1.76**	**88**	*e*P	**Pn**	**16 08 21.7**	**+0.3**
LCND				IAML		16 08 50.3	
	comp=Z,666nm,0.4s						
STG3	**Santiaguito 3,**	**2.34**	**309**	*e*P	**Pn**	**16 08 29.8**	**+0.2**
STG3				*e*S	**Sn**	**16 08 58.4**	**+1.2**

*IDC **19** 16:13:27.3±1.1,43.°46N×84.°34E,h0km,mb3.7/6, mbtmp3.6/13,ML3.2/7,Error ellipse: s-maj=17.8km s-min=12.6km az=53.0*
*SOME **19** 16:13:32.0,43.°75N×84.°15E,h15km*
*NNC **19** 16:13:34.4±2.0,43.°73N×84.°05E,h2km±9km,mb4.4, mpv4.1,Error ellipse: s-maj=15.8km s-min=6.0km az=129.0*
ISC 19 16:13:30.9±0.7,**43.°62N**±0.°05×**84.°43E**±0.°04,**h10**km,**n52**, σ2°**12/51**,**mb3.6/5**,**10C-8D**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.97**	**268**	Pg	Pn	16 14 22.8	+4.6
	37nm,0.3s						
KTMS				Lg	Lg	16 14 59.2	
	106nm,0.3s						
KTMS	**Ketmen**	**2.97**	**268**	*e*Pg	Pn	16 14 22.8	+4.6
	37nm,0.3s						
KTMS				*e*Lg	Lg	16 14 59.2	
	106nm,0.2s						
DJR	**Jarkent**	**3.43**	**284**	*e*Pg	Pn	16 14 30.3	+5.9
	50nm,0.3s						
DJR				*e*Lg	Lg	16 15 12.2	
	172nm,0.4s						
MK31	**Makanchi Array**	**3.52**	**335**	Pn	**Pn**	**16 14 26.6**	**+1.0**
	1.3nm,0.3s,baz=152,slow=14,SNR=548						
MK31				⇓Pg	**Pb**	**16 14 35.6**	**+2.5**
	5.8nm,0.2s,baz=163,slow=18,SNR=18						
MK31				⇑Lg	Lg	16 15 20.4	
	117nm,0.5s,baz=144,slow=30,SNR=18						
MKAR	**Makanchi Array**	**3.52**	**335**	Pn	**Pn**	**16 14 26.9**	**+1.3**
	3.3nm,0.3s,baz=152,slow=14,SNR=86						
MKAR				Pg	**Pb**	**16 14 35.1**	**+2.0**
	11nm,0.3s,baz=150,slow=17,SNR=31						
MKAR				Lg	Lg	16 15 18.6	
	64nm,0.3s,baz=147,slow=32,SNR=18						
	4.7nm,0.3s						
PDGK	**Podgornoye**	**3.61**	**267**	⇑Pn	**Pn**	**16 14 28.3**	**+1.4**
	22nm,0.5s						
PDGK				⇑Pg	**Pb**	**16 14 38.7**	**+3.9**
	15nm,0.4s						
PDGK				⇑Lg	Lg	16 15 21.3	
	172nm,0.7s						
MAKZ	**Makanchi**	**3.63**	**332**	⇑Pn	**Pn**	**16 14 29.3**	**+2.2**
	5.5nm,0.6s						
MAKZ				⇓Pg	**Pb**	**16 14 38.0**	**+3.0**
	32nm,0.7s						
MAKZ				⇑Lg	Lg	16 15 24.1	
	270nm,0.8s						
SHLS	**Shalkode**	**3.65**	**264**	Pg	**Pn**	**16 14 29.4**	**+1.8**
	60nm,0.3s						
SHLS				Lg	Lg	16 15 11.2	
	642nm,0.5s						
SHLS	**Shalkode**	**3.65**	**264**	*e*Pg	**Pn**	**16 14 29.4**	**+1.8**
	60nm,0.3s						
SHLS				*e*Lg	Lg	16 15 11.2	
	638nm,0.3s						
ZSN	**Zaisan**	**3.84**	**4**	Pg	**Pb**	**16 14 40.6**	**+1.8**
	55nm,0.5s						
ZSN				Lg	Lg	16 15 30.8	
	111nm,0.8s						
ZSN	**Zaisan**	**3.84**	**4**	*e*Pg	**Pb**	**16 14 40.9**	**+2.1**
	59nm,0.5s						
ZSN				*e*Lg	Lg	16 15 30.8	
	110nm,0.4s						
KNOS	**Konyrlen**	**3.86**	**283**	Pg	**Pb**	**16 14 39.2**	**+0.1**
	38nm,0.2s						
KNOS				Lg	Lg	16 15 28.1	
	93nm,0.4s						
UZB	**Uzynbulak**	**3.97**	**265**	Pg	**Pb**	**16 14 41.7**	**+0.6**
	19nm,0.5s						
UZB				Lg	Lg	16 15 31.7	
	75nm,0.4s						
UZB	**Uzynbulak**	**3.97**	**265**	*e*Pg	**Pb**	**16 14 41.7**	**+0.6**
	19nm,0.5s						
UZB				*e*Lg	Lg	16 15 32.0	
	74nm,0.3s						
KPKS	**Kokpek**	**4.18**	**270**	*e*Pg	**Pb**	**16 14 44.3**	**-0.2**
	15nm,0.1s						
KPKS				*e*Lg	Lg	16 15 36.1	
	155nm,0.2s						
BLB	**Baldybastay**	**4.33**	**278**	Pg	**Pb**	**16 14 47.0**	**-0.2**
	104nm,0.4s						
BLB				Lg	Lg	16 15 41.4	
	90nm,0.5s						
ZHN	**Zhinishke**	**4.39**	**266**	Pg	**Pb**	**16 14 48.2**	**0.0**
	31nm,0.3s						
ZHN				Lg	Lg	16 15 42.8	
	53nm,0.2s						
ZHN	**Zhinishke**	**4.39**	**266**	*e*Pg	**Pb**	**16 14 48.2**	**0.0**
	31nm,0.3s						
ZHN				*e*Lg	Lg	16 15 42.8	
	53nm,0.2s						
SATY	**Saty**	**4.43**	**265**	Pg	**Pb**	**16 14 50.6**	**+1.7**
	39nm,0.3s						
SATY				Lg	Lg	16 15 47.3	
	135nm,0.2s						
SATY	**Saty**	**4.43**	**265**	*e*Pg	**Pb**	**16 14 50.6**	**+1.7**
	39nm,0.3s						
SATY				*e*Lg	Lg	16 15 47.2	
	135nm,0.2s						
TDK	**Taldyqorghan**	**4.54**	**290**	*e*Pg	**Pb**	**16 14 51.1**	**+0.5**
	94nm,0.6s						
TDK				*e*Lg	Lg	16 15 48.2	
	360nm,0.5s						
KURS	**Kuram**	**4.55**	**270**	Pg	**Pb**	**16 14 53.6**	**+2.8**
	16nm,0.5s						
KURS				Lg	Lg	16 15 51.9	
	49nm,0.6s						
KURS	**Kuram**	**4.55**	**270**	*e*Pg	**Pb**	**16 14 51.3**	**+0.4**
	16nm,0.5s						
KURS				*e*Lg	Lg	16 15 48.4	
	49nm,0.4s						
ARXS	**Arharly**	**4.81**	**279**	Pg	**Pb**	**16 14 56.6**	**+1.4**
	15nm,0.4s						
ARXS				Lg	Lg	16 15 57.3	
	118nm,0.6s						
ARXS	**Arharly**	**4.81**	**279**	*e*Pg	**Pb**	**16 14 56.6**	**+1.4**
	15nm,0.4s						
ARXS				*e*Lg	Lg	16 15 57.3	
	118nm,0.6s						
KOTS	**Kotyrbulak**	**5.35**	**268

comp=E,0.2nm,0.4s
AKTO Aktyubinsk 19.19 300 P P 16 17 53.2 -1.4
comp=E,0.1nm,0.3s,baz=72,slow=6.8,SNR=3.3
AKTO S Sn 16 21 16.1 -14
comp=E,0.4nm,0.5s,baz=339,slow=6.9,SNR=1.3
comp=E,1.3nm,0.7s
HHC Hu-ho-hao-te 20.25 88 *e*P Pn 16 18 14.9 +6.7
HHC pmax pmax
comp=Z,45nm,0.6s
HHC pmax pmax
comp=Z,310nm,5.2s
ARU Arti 20.83 317 P P 16 18 11.6 -0.8
comp=Z,1.2nm,0.3s,baz=168,slow=23,SNR=3.4
comp=Z,1.2nm,0.3s
ARCES ARCESS Array B 39.16 332 P **P 16 20 57.0 -1.3**
comp=Z,3.7nm,0.9s,baz=107,slow=8.7,SNR=2.0
comp=Z,3.7nm,0.9s
NOA NORSAR Array B 45.37 319 P P 16 21 48.1 -0.9
comp=Z,0.6nm,0.8s,baz=77,slow=8.0,SNR=1.9
comp=Z,0.6nm,0.8s
TORD Torodi Ar. Bea 75.83 275 P P 16 25 14.9 -2.5
comp=Z,0.4nm,0.7s,baz=32,slow=6.4,SNR=2.4
comp=Z,0.4nm,0.7s
WRA Warramunga Arr 78.06 133 P P 16 25 28.3 -1.5
comp=Z,0.4nm,0.9s,baz=332,slow=5.1,SNR=1.9
comp=Z,0.4nm,0.9s
ASAR Alice Springs 80.89 135 P P 16 25 42.6 -2.6
comp=Z,0.3nm,0.9s,baz=326,slow=4.6,SNR=1.3
comp=Z,0.3nm,0.9s

IDC 19 16:17:00.4±2.3, 1°.85N×126°.82E, h0km, mb3.1/3, mbtmp3.2/3, MS2.7/1, Error ellipse: s-maj=182.1km s-min=27.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**12.38**	**195**	LR	LR	16 24 47.7	
	comp=Z,36nm,19.8s,baz=136,slow=38						
WRA	**Warramunga Arr**	**22.88**	**162**	P	P	16 22 05.4	-0.4
	0.4nm,0.7s,baz=340,slow=11,SNR=13						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**26.28**	**165**	P	P	16 22 38.2	+0.4
	0.2nm,0.5s,baz=345,slow=8.0,SNR=8.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.14**	**326**	P	P	16 27 02.9	-0.1
	0.1nm,0.3s,baz=116,slow=8.0,SNR=1.7						
	0.1nm,0.3s						

---

*NEIC **19** 16:24:40.6±1.2, 24°.3S±0°.2×179°.7W±0°.2, h514km±13km, mb4.5/18, Error ellipse: s-maj=33.0km s-min=21.6km az=49.0*
*IDC **19** 16:24:51.7±7.4, 23°.42S×178°.53E, h514km±30km, mb3.1/3, mbtmp4.0/4, Error ellipse: s-maj=157.7km s-min=42.5km az=128.0*
ISC 19 16:24:41.2±1.5, 24°.3S±0°.1×180°.0E±0°.2, h500km, n27, σ0°.87/28, mb4.4/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.77**	**344**	P	**P**	**16 26 25.3**	**0.0**
MSVF	**Nonsavu**	**6.77**	**344**	P	**P**	**16 26 25.7**	**+0.3**
	4.2nm,0.4s,baz=218,slow=19,SNR=9.7						
RTZ	**Ruatahuna**	**14.50**	**189**	P	**P**	**16 27 46.7**	**+0.6**
BKZ	**Black Stump Fm**	**15.11**	**190**	P	**P**	**16 27 52.4**	**-0.1**
BKZ				IAmb	IAmb	16 27 57.2	
	comp=Z,17nm,1.4s						
QRZ	**Quartz Range**	**17.62**	**199**	P	**P**	**16 28 17.5**	**-0.4**
PLWZ	**Palliser**	**17.67**	**192**	P	**P**	**16 28 16.9**	**-1.5**
TKNZ	**Takaka Hill**	**17.69**	**198**	P	**P**	**16 28 18.3**	**-0.3**
THZ	**Tophouse**	**18.38**	**197**	P	**P**	**16 28 24.6**	**-0.4**
THZ				IAmb	IAmb	16 28 50.6	
	comp=Z,21nm,1.4s						
GVZ	**Greta Valley S**	**19.48**	**195**	P	**P**	**16 28 33.1**	**-1.9**
OXZ	**Oxford**	**20.07**	**197**	P	**P**	**16 28 39.1**	**-1.2**
OXZ				IAmb	IAmb	16 29 10.4	
	comp=Z,21nm,1.4s						
CTAO	**Charters Tower**	**31.44**	**271**	P	**P**	**16 30 22.3**	**+1.1**
CTAO				IAmb	IAmb	16 30 27.2	
	comp=Z,13nm,1.1s						
TOO	**Toolangi**	**32.20**	**238**	P	**P**	**16 30 28.3**	**+0.8**
TOO				IAmb	IAmb	16 30 44.8	
	comp=Z,21nm,1.3s						
STKA	**Stephens Creek**	**34.54**	**249**	P	**P**	**16 30 47.2**	**-0.1**
STKA	**Stephens Creek**	**34.54**	**249**	P	**P**	**16 30 48.3**	**+1.0**
	comp=Z,2.6nm,0.7s,baz=77,slow=9.4,SNR=4.6						
	comp=Z,2.6nm,0.7s						
COEN	**Coen**	**36.14**	**280**	P	**P**	**16 30 59.4**	**-1.5**
BBOO	**Buckleboo**	**39.26**	**247**	P	**P**	**16 31 26.3**	**+0.1**
AS31	**Alice Springs**	**41.93**	**261**	P	**P**	**16 31 48.3**	**+0.6**
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**16 31 47.6**	**-0.2**
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**16 31 47.9**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=95,slow=7.3,SNR=42						
	comp=Z,0.8nm,0.5s						
WR0	**Warramunga Arr**	**42.16**	**267**	P	**P**	**16 31 49.3**	**-0.3**
WB0	**Warramunga Arr**	**42.34**	**267**	P	**P**	**16 31 50.9**	**-0.1**
WB0				IAmb	IAmb	16 32 10.7	
	comp=Z,9.7nm,1.5s						
WRA	**Warramunga Arr**	**42.34**	**267**	P	**P**	**16 31 51.0**	**0.0**
	comp=Z,1.3nm,0.3s,baz=96,slow=8.3,SNR=51						
WRA				ScP	**ScP**	**16 36 38.2**	**+2.1**
	comp=Z,0.3nm,0.9s,baz=100,slow=3.6,SNR=1.5						
	comp=Z,1.3nm,0.3s						
FORT	**Forrest**	**46.14**	**250**	P	**P**	**16 32 19.6**	**-0.7**
MTN	**Manton Dam**	**47.45**	**275**	P	**P**	**16 32 29.9**	**-0.4**
MTN				IAmb	IAmb	16 32 34.0	
	comp=Z,28nm,1.4s						
KNRA	**Kununurra**	**48.65**	**270**	P	**P**	**16 32 39.6**	**+0.3**
KNRA				IAmb	IAmb	16 33 21.4	
	comp=Z,21nm,1.2s						
MORW	**Morawa**	**56.70**	**250**	P	**P**	**16 33 36.5**	**-0.4**
MORW				IAmb	IAmb	16 34 07.9	
	comp=Z,25nm,1.4s						
QSPA	**South Pole Qui**	**65.79**	**180**	P	**P**	**16 34 36.2**	**+0.1**

---

*NORS **19** 16:35:59.5±0.0, 42°.43N×43°.59E, h8km, MPVA3.0*
*AFAD **19** 16:36:01.7±0.0, 42°.08N×43°.94E, h34km±1km, ML1.5*
ISC 19 16:36:00.1±1.9, 42°.48N±0°.05×43°.68E±0°.07, h10km±14km, n9, σ1°.14/18, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEI	**Tsey**	**0.35**	**28**	*e*Pg	**Pb**	**16 36 08.2**	**-0.3**
ZEI				*e*Sg	**Sb**	**16 36 14.4**	**+0.2**
LACR	**Lac**	**0.57**	**53**	*e*Pg	**Pb**	**16 36 12.8**	**+0.6**
LACR				*e*Sg	**Sn**	**16 36 22.0**	**-1.9**
KORR	**Kora**	**0.67**	**25**	*e*Pg	**Pb**	**16 36 14.3**	**+0.5**
KORR				*e*Sg	**Sn**	**16 36 25.4**	**-0.9**
STDR	**Stavd-Durt**	**0.93**	**18**	*e*Pg	**Pn**	**16 36 19.6**	**+0.4**
STDR				*e*Sg	**Sn**	**16 36 34.5**	**+1.8**
NCK	**Nalchik**	**1.02**	**357**	*e*Pg	**Pg**	**16 36 19.4**	**-0.3**
NCK				*e*Sg	**Sb**	**16 36 34.4**	**+1.2**
EPOS	**Posof**	**1.21**	**216**	P	**Pn**	**16 36 22.1**	**-1.0**
EPOS				S	**Sb**	**16 36 37.6**	**-1.1**
EPOS				*i* AML	AML	16 36 39.0	
	comp=E,8.0nm,0.3s						
EPOS				*i* AML	AML	16 36 43.0	
	comp=N,12nm,0.3s						
SHA1	**Shidzhatmaz**	**1.46**	**330**	*e*Pg	**Pn**	**16 36 26.2**	**-0.5**
SHA1				*e*Sg	**Sn**	**16 36 44.3**	**-1.7**
DAGI	**Agillar**	**1.92**	**224**	P	**Pn**	**16 36 33.4**	**+0.5**
DAGI				S	**Sn**	**16 36 57.9**	**+0.7**
DBAD	**Bademkaya**	**2.08**	**226**	P	**Pn**	**16 36 36.3**	**+1.2**
DBAD				S	**Sn**	**16 37 01.6**	**+0.5**

IDC 19 16:48:25.2±847.0, 53°.60N×2°.76E, h0km, Error ellipse: s-maj=368.2km s-min=160.4km az=119.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**8.36**	**120**	I	I	17 37 08.5	
	0.1nm,1.4s,baz=306,slow=316,SNR=2.7						
I48TN	**KESRA INFRASON**	**18.38**	**163**	I	I	18 41 50.0	
	baz=348,slow=325,SNR=1.1						
I43RU	**DUBNA INFRASON**	**19.80**	**67**	I	I	18 45 29.8	
	baz=276,slow=325,SNR=1.4						

---

*SSNC **19** 17:05:11.3±3.2, 23°.74N×80°.67W, h5km, MD3.7, ML3.4, MW3.5*
*IDC **19** 17:05:14.3±2.8, 22°.63N×80°.82W, h0km, mb3.2/2, mbtmp3.3/2, MS3.2/1, Error ellipse: s-maj=133.9km s-min=50.1km az=47.0*
ISC 19 17:05:16.1±1.2, 23°.7N±0°.3×80°.1W±0°.3, h10km, n10, σ2°.37/9, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOR	**Soroa**	**2.78**	**253**	*e*P	Pn	17 05 50.7	-10
LMGC	**Las Mercedes**	**4.60**	**140**	*e*P	**Pn**	**17 06 23.6**	**-2.1**
LMGC				*e*S	**Sn**	**17 07 22.2**	**+3.1**
HLGC	**Holguin**	**4.66**	**125**	*e*P	**Pn**	**17 06 24.1**	**-2.5**
YAR	**Yar**	**4.78**	**132**	*e*P	**Pn**	**17 06 27.0**	**-1.2**
RCC	**Rio Carpintero**	**5.49**	**131**	*e*P	**Pn**	**17 06 36.6**	**-1.4**
TKL	**Tuckaleechee C**	**12.38**	**346**	LR	LR	17 13 41.0	
	comp=Z,98nm,20.4s,baz=294,slow=38						
TXAR	**Lajitas Array**	**21.80**	**290**	P	**P**	**17 10 06.2**	**-2.3**
	1.0nm,0.9s,baz=105,slow=10,SNR=8.3						
	1.0nm,0.9s						
PDAR	**Pinedale Array**	**30.91**	**315**	P	**P**	**17 11 35.3**	**+2.1**
	0.2nm,0.6s,baz=116,slow=8.1,SNR=1.7						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**147.83**	**270**	PKPbc	**PKPdf**	**17 24 59.6**	**+0.4**
	1.2nm,0.7s,baz=79,slow=3.6,SNR=17						
ASAR	**Alice Springs**	**148.87**	**263**	PKPbc	**PKPdf**	**17 25 01.8**	**+0.9**
	1.2nm,0.7s,baz=81,slow=1.9,SNR=13						

---

*DJA **19** 17:07:21.7±1.6, 5°.S±5°.×10°.2E±°, h12km±11km, M4.5/14, mb4.8/7, mB4.8/1, MLv4.4/14, Mw(mB)4.0/1*
*IDC **19** 17:07:22.5±1.6, 4°.07S×102°.55E, h0km, mb3.8/9, mbtmp3.8/10, ML3.9/1, MS3.0/4, Error ellipse: s-maj=53.5km s-min=17.5km az=57.0*
*NEIC **19** 17:07:24.8±1.6, 4°.70S±0°.09×101°.82E±0°.09, h42km±7km, mb4.4/15, Error ellipse: s-maj=16.6km s-min=8.8km az=46.0*
ISC 19 17:07:23.9±0.7, 4°.61S±0°.10×101°.76E±0°.07, h37km, n75, σ1°.83/64, mb4.1/16, MS3.3/3, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.22**	**78**	Pn	**Pn**	**17 07 44.9**	**+0.4**
MNAI	**Manna**	**1.22**	**78**	P	**Pn**	**17 07 45.2**	**+0.8**
MNAI	**Manna**	**1.22**	**78**	P	**Pn**	**17 07 44.4**	**0.0**
MNAI				S	**Sn**	**17 07 59.2**	**-0.5**
LWLI	**Liwa**	**2.33**	**100**	P	**Pn**	**17 08 00.0**	**+0.2**
PPSI	**Pulau Pagai**	**2.54**	**316**	P	**Pn**	**17 08 03.8**	**+1.3**
KASI	**Kota Agung**	**2.87**	**108**	P	**Pn**	**17 08 07.3**	**+0.1**
SDSI	**Sungai Dareh**	**3.67**	**355**	P	**Pn**	**17 08 18.7**	**+0.5**
PDSI	**Padang**	**3.90**	**341**	P	**Pn**	**17 08 22.7**	**+1.4**
SISI	**Saibi**	**4.21**	**321**	P	**Pn**	**17 08 26.1**	**+0.5**
CGJI	**Cibinong**	**4.39**	**117**	P	**Pn**	**17 08 27.1**	**-1.0**
DSRI	**Dabo**	**4.98**	**35**	P	**Pn**	**17 08 38.6**	**+2.4**
	45nm,0.5s,916nm0.2nm						
CBJI	**Citeko**	**5.38**	**110**	P	**Pn**	**17 08 44.4**	**+2.8**
	162nm,0.9s,0.5nm						
PBSI	**Pulau Batu**	**5.71**	**322**	P	**Pn**	**17 08 46.6**	**+0.4**
CNJI	**Cibinong**	**5.97**	**117**	P	**Pn**	**17 08 48.9**	**-0.9**
	35nm,1.3s,0.2nm						
LEM	**Lembang**	**6.23**	**111**	Pn	**Pn**	**17 08 49.1**	**-4.4**
	3.0nm,0.3s,baz=171,slow=24,SNR=2.1						
LEM				Sn	Sn	17 09 50.0	-14
	1.9nm,0.3s,baz=69,slow=21,SNR=0.8						
LEM				LR	LR	17 11 29.4	
	comp=Z,76nm,18.4s,baz=246,slow=43						
	9.6nm,0.4s						
BBJI	**Bungbulang**	**6.51**	**116**	P	**Pn**	**17 08 56.6**	**-0.6**
MYKOM	**Kota Tinggi**	**6.70**	**18**	Pn	**Pn**	**17 09 01.8**	**+2.1**
GSI	**Gunungsitoli**	**7.21**	**324**	Pn	**Pn**	**17 09 08.3**	**+1.4**
GSI				Sn	**Sn**	**17 10 23.2**	**-4.3**
GSI	**Gunungsitoli**	**7.21**	**324**	P	**Pn**	**17 09 08.0**	**+1.1**
GSI	**Gunungsitoli**	**7.21**	**324**	P	**Pn**	**17 09 06.7**	**-0.2**
CMJI	**Cimerak**	**7.36**	**116**	P	**Pn**	**17 09 07.6**	**-1.3**
	56nm,1.1s,0.4nm						
KPJI	**Karang Pucung**	**7.63**	**111**	P	**Pn**	**17 09 13.1**	**+0.6**
	32nm,0.9s,0.2nm						
UGM	**Wanagama**	**9.31**	**111**	Pn	**Pn**	**17 09 34.8**	**-0.9**
UGM	**Wanagama**	**9.31**	**111**	P	**Pn**	**17 09 36.2**	**+0.5**
UGM	**Wanagama**	**9.31**	**111**	P	**Pn**	**17 09 36.0**	**+0.3**
JAGI	**Jajag, Banyuwa**	**12.89**	**108**	Pn	**Pn**	**17 10 24.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**12.89**	**108**	P	**Pn**	**17 10 24.7**	**0.0**
MYLDM	**Lahad Datu**	**19.34**	**60**	P	**P**	**17 11 45.4**	**-1.0**
MYLDM				IAmb	IAmb	17 11 48.8	
	comp=Z,41nm,1.2s						
CMAR	**Chiang Mai Arr**	**23.09**	**353**	P	**P**	**17 12 26.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=182,slow=8.9,SNR=9.2						
CMAR				LR	LR	17 21 30.7	
	comp=Z,24nm,18.1s,baz=215,slow=37						
	comp=Z,0.5nm,0.6s						
CRAI	**Chiangrai**	**24.72**	**357**	P	**P**	**17 12 42.7**	**+0.7**
KNRA	**Kununurra**	**28.72**	**114**	P	**P**	**17 13 16.3**	**-1.7**
KNRA				IAmb	IAmb	17 13 55.2	
	comp=Z,25nm,1.5s						
H08S2	**Diego Garcia H**	**29.25**	**263**	T	T	17 43 40.6	
	baz=86,slow=76,SNR=71						
H08S3	**Diego Garcia H**	**29.26**	**263**	T	T	17 43 41.7	
	baz=86,slow=76,SNR=174						
H08S1	**Diego Carcia H**	**29.27**	**263**	T	T	17 43 42.5	
	baz=86,slow=76,SNR=31						
H01W3	**Cape Leeuwin H**	**32.23**	**161**	T	T	17 47 56.1	
	baz=338,slow=76,SNR=8.0						
H01W2	**Cape Leeuwin H**	**32.24**	**161**	T	T	17 47 58.1	
	baz=338,slow=76,SNR=9.2						
H01W1	**Cape Leeuwin H**	**32.24**	**161**	T	T	17 47 54.7	
	baz=338,slow=76,SNR=7.4						
WB0	**Warramunga Arr**	**35.17**	**118**	P	**P**	**17 14 13.9**	**-0.7**
WB0				IAmb	IAmb	17 14 25.4	
	comp=Z,8.8nm,1.4s						
WRA	**Warramunga Arr**	**35.19**	**118**	P	**P**	**17 14 13.1**	**-1.6**
WRA	**Warramunga Arr**	**35.19**	**118**	P	**P**	**17 14 14.8**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=304,slow=8.7,SNR=18						
	comp=Z,0.3nm,0.4s						
WR0	**Warramunga Arr**	**35.37**	**118**	P	**P**	**17 14 15.9**	**-0.4**
WR0				IAmb	IAmb	17 14 31.8	
	comp=Z,9.1nm,1.4s						
JIRN	**Jiri**	**35.43**	**336**	*e*Pg	**P**	**17 14 19.3**	**+2.2**
GUN	**Gumba**	**35.78**	**336**	*e*P	**P**	**17 14 21.2**	**+1.1**
	comp=Z,12nm,0.4s						
AS31	**Alice Springs**	**36.32**	**125**	P	**P**	**17 14 24.2**	**-0.2**
ASAR	**Alice Springs**	**36.32**	**125**	P	**P**	**17 14 20.2**	**-4.3**
ASAR	**Alice Springs**	**36.32**	**125**	P	**P**	**17 14 24.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=277,slow=16,SNR=7.6						
ASAR				PcP	**PcP**	**17 16 55.0**	**+6.1**
	comp=Z,0.1nm,0.4s,baz=300,slow=2.3,SNR=1.4						
	comp=Z,0.5nm,0.4s						
GKN	**Gorkha**	**36.39**	**334**	*e*P	**P**	**17 14 27.3**	**+2.2**
	comp=Z,2.7nm,0.4s						
PYUN	**Piuthan**	**37.22**	**332**	*e*P	**P**	**17 14 34.3**	**+2.1**
	comp=Z,3.0nm,0.5s						
CTAO	**Charters Tower**	**45.93**	**114**	P	**P**	**17 15 42.9**	**-0.6**
STKA	**Stephens Creek**	**46.12**	**131**	P	**P**	**17 15 44.9**	**+0.1**
STKA				IAmb	IAmb	17 15 53.3	
	comp=Z,2.7nm,1.4s						
KSRS	**Korea Array**	**48.42**	**28**	P	**P**	**17 15 59.7**	**-2.9**
	comp=Z,0.6nm,0.6s,baz=219,slow=7.5,SNR=1.5						
	comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**52.38**	**4**	P	**P**	**17 16 33.8**	**+1.2**
SONM				IAmb	IAmb	17 16 34.1	
	comp=Z,1.7nm,0.8s						
SONM	**Songino Array**	**52.38**	**4**	P	**P**	**17 16 32.8**	**+0.2**
	comp=Z,1.7nm,0.5s,baz=187,slow=9.2,SNR=11						
	comp=Z,1.7nm,0.5s						
MJAR	**Matsushiro Arr**	**53.25**	**37**	P	**P**	**17 16 36.6**	**-2.3**
	comp=Z,1.1nm,0.6s,baz=202,slow=8.7,SNR=5.9						
	comp=Z,1.1nm,0.6s						
MK31	**Makanchi Array**	**54.01**	**344**	P	**P**	**17 16 44.9**	**+0.5**
MK31				IAmb	IAmb	17 17 14.6	
	comp=Z,6.5nm,1.1s						
MKAR	**Makanchi Array**	**54.01**	**344**	P	**P**	**17 16 44.7**	**+0.3**
MKAR	**Makanchi Array**	**54.01**	**344**	P	**P**	**17 16 44.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=155,slow=9.1,SNR=13						
	comp=Z,0.7nm,0.5s						
USRK	**Ussurisk Ar.**	**55.67**	**26**	P	**P**	**17 16 54.5**	**-1.9**
	comp=Z,4.1nm,0.7s,baz=211,slow=5.4,SNR=4.8						
	comp=Z,4.1nm,0.7s						
ERM	**Erimo**	**59.74**	**35**	P	**P**	**17 17 25.1**	**+0.1**
H04N2	**CROZET ISLANDS**	**59.79**	**218**	T	T	18 22 07.2	
	baz=61,slow=75,SNR=240						
H04N1	**CROZET ISLANDS**	**59.80**	**218**	T	T	18 21 55.3	
	baz=61,slow=75,SNR=221						
H04N3	**CROZET ISLANDS**	**59.81**	**218**	T	T	18 22 09.8	
	baz=61,slow=75,SNR=237						
H04S1	**CROZET ISLANDS**	**60.04**	**217**	T	T	18 22 21.5	
	baz=61,slow=75,SNR=49						
H04S3	**CROZET ISLANDS**	**60.06**	**217**	T	T	18 22 15.6	
	baz=61,slow=75,SNR=99						
H04S2	**CROZET ISLANDS**	**60.06**	**217**	T	T	18 22 17.0	
	baz=61,slow=75,SNR=43						
BVAR	**Borovoye Array**	**63.23**	**339**	P	**P**	**17 17 52.1**	**+3.6**
	comp=Z,0.3nm,0.4s,baz=152,slow=8.5,SNR=1.5						
	comp=Z,0.3nm,0.4s						
ABKAR	**Akbulak array**	**64.76**	**331**	P	**P**	**17 17 58.8**	**+0.2**
ABKAR	**Akbulak array**	**64.76**	**331**	P	**P**	**17 17 58.5**	**0.0**
ABKAR				IAmb	IAmb	17 18 12.8	
	comp=Z,1.9nm,0.7s						
GNI	**Garni**	**68.62**	**316**	LR	LR	17 51 20.6	
	comp=Z,15nm,18.3s,baz=14,slow=38						
KBZ	**Khabaz**	**71.42**	**319**	LR	LR	17 55 22.9	
	comp=Z,22nm,18.5s,baz=352,slow=40						
TIXI	**Tiksi**	**78.15**	**8**	*e*P	**P**	**17 19 18.3**	**0.0**
TIXI	**Tiksi**	**78.16**	**8**	P	**P**	**17 19 18.4**	**-0.4**
TIXI				IAmb	IAmb	17 19 46.2	
	comp=Z,6.1nm,1.4s						
TX31	**Lajitas Ar. Si**	**145.59**	**42**	PKPdf	**PKPdf**	**17 26 55.8**	**-3.3**
TXAR	**Lajitas Array**	**145.59**	**42**	PKPdf	**PKPdf**	**17 26 56.6**	**-2.6**
TXAR	**Lajitas Array**	**145.59**	**42**	PKP	**PKPab**	**17 27 00.2**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=251,slow=0.7,SNR=14						

---

*BEO **19** 17:09:02.6±0.8, 34°.73N×23°.29E, h0km, ML4.3/6*
*ISK **19** 17:09:03.5, 34°.83N×24°.22E, h22km, ML3.8/26*
*IDC **19** 17:09:03.8±1.6, 34°.88N×24°.20E, h34km±10km, mb4.0/18, mbtmp4.1/31, ML3.8/13, MS3.2/17, Error ellipse: s-maj=15.6km s-min=11.8km az=176.0*
*MOS **19** 17:09:03.1±1.0, 34°.85N×24°.23E, h36km, mb4.5/16, Error ellipse: s-maj=7.2km s-min=4.0km az=83.2*
*NEIC **19** 17:09:03.8±2.2, 34°.74N±0°.09×24°.18E±0°.07, h37km±9km, mb4.4/35, Error ellipse: s-maj=13.3km s-min=8.6km az=167.0*
*THE **19** 17:09:05.2, 34°.89N×24°.24E, h0km±1km, ML4.0/11, Error ellipse: s-maj=1.0km s-min=0.5km az=172.0*
*NAO **19** 17:09:05.2, 35°.08N×24°.47E, h33km, mb4.1*
*ATH **19** 17:09:05.5, 34°.86N×24°.24E, h11km±1km, ML3.9/14, Error ellipse: s-maj=1.8km s-min=1.1km az=183.0*
*GII **19** 17:09:09.5±0.0, 34°.29N×24°.87E, h5km, Mm3.8/9*
*AFAD **19** 17:09:10.0±0.0, 34°.76N×24°.64E, h55km±83km, MW4.0*
ISC 19 17:09:02.4±0.6, 34°.75N±0°.04×24°.17E±0°.02, h30km±4km, n353, σ2°.16/426, mb4.3/35, MS3.3/8, 33C-13D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.11**	**323**	Pg	**Pb**	**17 09 07.9**	**+0.1**
GVD				Sg	**Sb**	**17 09 11.3**	**-0.2**
GVD	**Gavdhos**	**0.11**	**323**	P	**Pn**	**17 09 08.1**	**-0.1**
GVD				S	**Sb**	**17 09 10.9**	**-0.6**
	188μm,0.2s						
GVD	**Gavdhos**	**0.11**	**323**	P	**Pn**	**17 09 08.1**	**-0.1**
GVD				S	**Sb**	**17 09 11.3**	**-0.2**
GVD				AML	AML	17 09 12.1	
GVD				AML	AML	17 09 13.5	
GVDS	**Gavdos**	**0.11**	**326**	Pg	**Pb**	**17 09 07.8**	**0.0**
GVDS				Sg	**Sb**	**17 09 11.5**	**0.0**
GVDS	**Gavdos**	**0.11**	**326**	P	**Pn**	**17 09 08.2**	**-0.1**
GVDS				S	**Sb**	**17 09 11.8**	**+0.3**
	240μm,0.3s						
TMBK	**Timbaki Herakl**	**0.59**	**57**	P	**Pn**	**17 09 15.0**	**+0.2**
TMBK	**Timbaki Herakl**	**0.59**	**57**	P	**Pn**	**17 09 14.8**	**0.0**
PRNS	**Prines Rethymn**	**0.67**	**24**	P	**Pb**	**17 09 14.9**	**-0.8**
PRNS				S	**Sb**	**17 09 22.4**	**-2.3**
	9μm,0.3s						
IMMV	**Iera Moni Meta**	**0.72**	**348**	Pg	**Pn**	**17 09 16.8**	**+0.1**
IMMV				Sg	**Sn**	**17 09 26.9**	**+0.1**
IMMV	**Iera Moni Meta**	**0.72**	**348**	P	**Pb**	**17 09 16.6**	**+0.1**
IMMV				S	**Sn**	**17 09 26.9**	**+0.1**
	83μm,0.5s						
IMMV	**Iera Moni Meta**	**0.72**	**348**	P	**Pb**	**17 09 16.7**	**+0.1**
IMMV				S	**Sn**	**17 09 27.0**	**+0.3**
IMMV				AML	AML	17 09 29.6	
IMMV				AML	AML	17 09 30.1	
CHAN	**Chania**	**0.77**	**352**	P	**Pb**	**17 09 17.7**	**+0.3**
CHAN				S	**Sn**	**17 09 28.5**	**+0.5**
CHAN				AML	AML	17 09 32.5	
	comp=N,57779μm,0.8s						
CHAN				AML	AML	17 09 37.4	
	comp=E,42586μm,0.7s						
IDI	**Anoyia**	**0.80**	**48**	Pg	**Pn**	**17 09 17.4**	**-0.3**
IDI				Sg	**Sb**	**17 09 28.5**	**+0.1**
IDI	**Anoyia**	**0.80**	**48**	P	**Pn**	**17 09 17.6**	**-0.2**
IDI				S	**Sb**	**17 09 28.3**	**-0.1**
	comp=E,6μm,0.6s						
IDI	**Anoyia**	**0.80**	**48**		**Pn**	**17 09 17.5**	**-0.3**
IDI				Sn	**Sn**	**17 09 28.9**	**+0.2**
IDI	**Anoyia**	**0.80**	**48**	Pg	**Pn**	**17 09 17.0**	**-0.7**
	comp=E,180nm,0.3s,baz=232,slow=15,SNR=130						
IDI				Lg	Lg	17 09 28.2	
	comp=E,580nm,0.3s,baz=327,slow=21,SNR=23						
IDI	**Anoyia**	**0.80**	**48**	P	**Pn**	**17 09 17.8**	**0.0**
IDI				S	**Sb**	**17 09 28.0**	**-0.4**
IDI				AML	AML	17 09 30.1	
	comp=N,13315μm,0.4s						
IDI				AML	AML	17 09 37.8	
	comp=E,11447μm,0.7s						
RODP	**Rodopos**	**0.88**	**338**	Pg	**Pb**	**17 09 19.8**	**+0.7**
RODP				Sg	**Sn**	**17 09 31.9**	**+1.4**
RODP	**Rodopos**	**0.88**	**338**	P	**Pb**	**17 09 19.9**	**+0.8**
RODP				S	**Sn**	**17

VLI AML AML 17 10 17.7
comp=N,1608µm,0.5s
APE Apeiranthos 2.56 25 ⇑P **Pn 17 09 44.2 +2.1**
APE ⇓S **Sn 17 10 14.2 +2.0**
APE Apeiranthos 2.56 25 Pn **Pn 17 09 43.4 +1.4**
APE Apeiranthos 2.56 25 ⇑P **Pn 17 09 44.2 +2.1**
APE S **Sn 17 10 14.2 +2.0**
APE Apeiranthos 2.56 25 P **Pn 17 09 44.1 +2.1**
APE AML AML 17 10 29.1
comp=N,1214µm,0.5s
APE AML AML 17 10 29.2
comp=E,1087µm,0.7s
KARP Karpathos 2.58 71 Pn **Pn 17 09 45.0 +2.8**
KARP Karpathos 2.58 71 P **Pb 17 09 45.7 -2.3**
KARP Karpathos 2.58 71 Pn **Pn 17 09 43.3 +1.1**
KARP Karpathos 2.58 71 P **Pb 17 09 45.8 -2.3**
KRND KRANIDI 2.75 343 P **Pn 17 09 47.3 +2.7**
KRND KRANIDI 2.75 343 P **Pn 17 09 47.6 +3.0**
KRND AML AML 17 10 24.3
comp=N,896µm,0.3s
KRND AML AML 17 10 30.9
comp=E,743µm,0.5s
KOSK Kos Island 3.04 48 Pn **Pn 17 09 51.1 +2.7**
RFTD Palamutbuku-Ka 3.33 54 Pn **Pn 17 09 54.8 +2.4**
RFTB Kemer-Bodrum 3.35 48 Pn **Pn 17 09 55.4 +2.6**
DAT Datca 3.41 54 Pn **Pn 17 09 56.2 +2.6**
BODT Bodrum 3.44 47 Pn **Pn 17 09 56.4 +2.4**
GUR Goura 3.50 336 P **Pn 17 09 58.2 +3.3**
ARG Arkhangelos 3.55 65 Pn **Pn 17 09 58.2 +2.7**
ARG Arkhangelos 3.55 65 **Pn 17 09 56.4 +0.9**
ARG Arkhangelos 3.55 65 P **Pn 17 09 56.4 +0.9**
ARG Arkhangelos 3.55 65 P **Pn 17 09 58.7 +3.2**
RFTC Emecik-Datca 3.59 55 Pn **Pn 17 09 58.7 +2.6**
KLV Kalavryta, Ach 3.67 334 P **Pn 17 10 00.3 +3.1**
KLV AML AML 17 10 54.0
comp=N,459µm,0.9s
KLV AML AML 17 11 00.8
comp=E,519µm,0.9s
RFTAA Mazikoy-Bodrum 3.67 51 Pn **Pn 17 09 59.8 +2.7**
GCAM G?zelcaml? 3.85 39 Pn **Pn 17 10 02.4 +2.8**
MLSB Milas 3.87 48 Pn **Pn 17 10 02.7 +2.7**
TURN Turunc 3.88 57 Pn **Pn 17 10 02.9 +2.8**
TURN Turunc 3.88 57 P **Pn 17 10 02.8 +2.8**
TURN S **Sn 17 10 44.3 -0.3**
DGB zmir 3.96 33 P **Pn 17 10 02.6 +1.6**
ZEYE Izmir, Urla-Ze 3.96 28 P **Pn 17 10 01.5 +0.4**
URLA Izmir 4.10 28 Pn **Pn 17 10 05.2 +2.1**
YER Yerkesik 4.10 53 Pn **Pn 17 10 05.9 +2.8**
DALY Dalyan (Mula) 4.19 59 Pn **Pn 17 10 07.3 +3.0**
MULA Mugla, Merkez- 4.19 52 P **Pn 17 10 08.0 +3.5**
RFT5 Foca 4.42 27 Pn **Pn 17 10 10.7 +3.3**
FETY Fethiye 4.42 63 Pn **Pn 17 10 09.7 +2.2**
IZZE Mula-Seydike 4.45 66 P **Pn 17 10 09.9 +2.0**
IZZE S **Sn 17 10 56.2 -2.5**
AGG Agios Georgios 4.51 341 Pn **Pn 17 10 10.9 +2.1**
AGG Agios Georgios 4.51 341 Pn **Pn 17 10 10.6 +1.9**
AGG Agios Georgios 4.51 341 P **Pn 17 10 10.6 +1.9**
AKAS Kas 4.68 70 Pn **Pn 17 10 10.6 -0.5**
AKAS Kas 4.68 70 P **Pn 17 10 13.5 +2.4**
AKAS S **Sn 17 11 04.8 +0.3**
TAVA DENIZLI_Tavas 4.70 53 P **Pn 17 10 14.1 +2.7**
TAVA S **Sn 17 11 02.3 -2.7**
CAEL Denizli, Camel 4.80 59 P **Pn 17 10 14.9 +2.0**
CAEL S **Sn 17 11 10.2 +2.6**
CAEL *i* AML AML 17 11 23.0
comp=E,121nm,0.6s
CAEL *i* AML AML 17 11 41.0
comp=E,101nm,0.7s
DNIZ Denizli-Tavas- 4.87 53 P **Pn 17 10 16.9 +3.1**
GOLH Golhisar 5.03 59 P **Pn 17 10 19.2 +3.2**
GOLH S **Sn 17 11 13.3 +0.2**
ELL Elmali 5.08 65 Pn **Pn 17 10 18.7 +2.1**
ELL Elmali 5.08 65 P **Pn 17 10 18.7 +2.1**
MANT Manisa 5.14 42 Pn **Pn 17 10 18.5 +1.0**
AKUM Antalya-Kumluc 5.27 71 P **Pn 17 10 20.8 +1.6**
AKUM S **Sn 17 11 17.2 -1.8**
AKUM *i* AML AML 17 11 24.0
comp=E,30nm,0.5s
AKUM *i* AML AML 17 11 24.0
comp=E,38nm,0.4s
IGT Igoumenitsa 5.67 328 *e*Pn **Pn 17 10 25.7 +1.0**
KZIL AFYON_Kizioren 5.95 52 P **Pn 17 10 31.0 +2.4**
KEK Kerkira 6.06 326 Pn **Pn 17 10 30.4 +0.5**
SOH Sokhos 6.09 354 P **Pn 17 10 32.3 +1.8**
ALN Alexandroupoli 6.31 13 **Pn 17 10 32.9 -0.5**
ALN Alexandroupoli 6.31 13 P **Pn 17 10 32.9 -0.5**
SRS Serrai 6.37 356 P **Pn 17 10 37.6 +3.3**
SRS Serrai 6.37 356 *e*Pn **Pn 17 10 37.1 +2.8**
KEPZ Antalya-Kepez 6.41 68 P **Pn 17 10 37.5 +2.6**
KEPZ S **Sn 17 11 46.8 -0.3**
FNA Florina 6.42 341 Pn **Pn 17 10 35.9 +1.0**
FNA Florina 6.42 341 P **Pn 17 10 35.9 +1.0**
FNA Florina 6.42 341 *e*Pn **Pn 17 10 35.7 +0.8**
FNA *e*Sn **Sn 17 11 45.6 -1.6**
KBN Korca 6.45 336 **Pn 17 10 36.6 +1.2**
KBN Korca 6.45 336 P **Pn 17 10 36.6 +1.2**
RDO Rodhopi 6.48 9 Pn **Pn 17 10 37.5 +1.8**
SEDI Konya, Seydise 6.71 64 P **Pn 17 10 41.8 +2.8**
SEDI S **Sn 17 11 53.3 -1.1**
GAZI Gazipasa 6.81 75 P **Pn 17 10 41.1 +0.7**
GAZI S **Sn 17 11 52.7 -4.2**
OHR Ohrid 6.88 338 *e*Pn **Pn 17 10 40.5 -0.9**
OHR *e*Sn **Sn 17 11 55.7 -3.0**
OHR Ohrid 6.88 338 *i* Pn **Pn 17 10 42.5 +1.2**
DOGA KONYA_Doganhis 6.91 59 P **Pn 17 10 44.3 +2.4**
SCTE Santa Cesarea 6.98 321 Pn **Pn 17 10 42.3 -0.4**
BORA Eskisehir 7.16 43 Pn **Pn 17 10 46.5 +1.3**
TIR Tirane 7.41 334 ⇑P **Pn 17 10 48.6 +0.1**
TIR ⇓S **Sn 17 12 05.9 -5.6**
TIR Tirane 7.41 334 ⇑P **Pn 17 10 48.6 +0.1**
TIR S **Sn 17 12 05.9 -5.6**
TIR Tirane 7.41 334 *e*Sn **Sn 17 12 07.2 -4.3**
KKBE Karaman, Kazim 7.53 68 P **Pn 17 10 53.1 +2.8**
KKBE S **Sn 17 12 11.7 -2.9**
CSS Mathiatis 7.54 86 **Pn 17 10 48.4 -1.9**
VTS Vitosha 7.89 355 ⇑P **Pn 17 10 56.2 +1.0**
VTS Vitosha 7.89 355 ⇑P **Pn 17 10 56.2 +1.0**
VTS Vitosha 7.89 355 *e*Pn **Pn 17 10 56.4 +1.2**
PRVS Prvonek 7.92 349 *e*Pn **Pn 17 10 57.5 +2.0**
BARS Barje 8.26 348 *e*Pn **Pn 17 11 01.5 +1.3**
RAFF Raffo Rosso 8.32 290 Pn **Pn 17 11 00.5 -0.6**
MATE Matera 8.34 317 ⇑P **Pn 17 11 01.6 +0.3**
MATE ⇓S **Sn 17 12 29.8 -4.6**
VAE Valguarnera 8.35 292 Pn **Pn 17 11 04.7 +3.2**
comp=E,1.4nm,0.3s,baz=30,slow=8.1,SNR=1.9
VAE Sn **Sn 17 12 29.4 -5.4**
comp=E,0.6nm,0.3s,baz=40,slow=17,SNR=1.7
comp=E,4.8nm,0.4s
DRME Dracevica, Mon 8.39 334 *e*Pn **Pn 17 11 01.0 -0.9**
CUC Castrocucco 8.46 311 Pn **Pn 17 11 04.1 +1.1**
PDG Podgorica 8.58 335 ⇑P **Pn 17 11 04.6 +0.1**
PDG ⇑S **Sn 17 12 35.2 -5.0**
PDG Podgorica 8.58 335 Pn **Pn 17 11 03.4 -1.1**
PDG Podgorica 8.58 335 *e*Pn **Pn 17 11 03.1 -1.4**
PDG *e*Sn **Sn 17 12 34.8 -5.4**
PDG Podgorica 8.58 335 *e*Pn **Pn 17 11 02.5 -2.0**
ZAPS Zavoj 8.59 352 *e*Pn **Pn 17 11 06.2 +1.4**
ZAPS Zavoj 8.59 352 *e*Pn **Pn 17 11 06.8 +2.0**
SELS Selova 8.78 345 *e*Pn **Pn 17 11 06.4 -1.0**
HCY Herceg Novi 8.87 332 *e*Pn **Pn 17 11 06.0 -2.6**
RAZG Razgrad 8.99 11 ⇑P **Pn 17 11 12.8 +2.6**
BR131 Keskin Array S 9.04 54 Pn **Pn 17 11 12.4 +1.4**
BR131 Keskin Array S 9.04 54 P **Pn 17 11 12.4 +1.4**
BRTR Keskin Array B 9.04 54 Pn **Pn 17 11 10.8 -0.2**
BRTR Keskin Array B 9.04 54 P **Pn 17 11 10.8 -0.2**
BRTR Keskin Array B 9.04 54 Pn **Pn 17 11 13.8 +2.8**
comp=E,0.4nm,0.3s,baz=228,slow=14,SNR=19
BRTR LR LR 17 15 22.9
comp=E,215nm,19.6s,baz=258,slow=42
comp=E,3.1nm,0.8s
BOVS Bovan 9.07 349 ⇑P **Pn 17 11 11.9 +0.6**
SJES Sjenica 9.10 340 *e*Pn **Pn 17 11 11.3 -0.5**
SJES *e*Sn **Sn 17 12 47.3 -6.0**
SJES Sjenica 9.10 340 *e*Pn **Pn 17 11 11.7 -0.1**
TREB Trebinje 9.16 332 *e*Pn **Pn 17 11 10.0 -2.5**
TREB *e*Sn **Sn 17 12 45.7 -8.8**
TREB Trebinje 9.16 332 *e*Pn **Pn 17 11 10.3 -2.2**
ZAGS Zajecar 9.17 351 *e*Pn **Pn 17 11 13.0 +0.3**
BRY Bratogost 9.24 333 *e*Pn **Pn 17 11 11.6 -2.2**
UPM Unac-Piva 9.38 336 *e*Pn **Pn 17 11 14.7 -1.0**
SLTI Sal'it 9.42 102 Pn **Pn 17 11 16.7 +0.6**
SLTI Sn **Sn 17 12 56.0 -5.0**
KZIT Kziot 9.42 111 Pn **Pn 17 11 16.6 +0.4**
KZIT Sn **Sn 17 12 55.4 -5.7**
MMC7 Mount Meron ar 9.49 97 Pn **Pn 17 11 18.8 +1.6**
MMA0B Mount Meron ar 9.50 97 Pn **Pn 17 11 18.9 +1.6**
MMA0B Sn **Sn 17 13 00.1 -3.0**
MMAI Mount Meron Ar 9.50 97 Pn **Pn 17 11 17.8 +0.5**
comp=E,1.2nm,0.3s,baz=306,slow=12,SNR=3.9
MMAI Sn **Sn 17 12 59.3 -3.8**
comp=E,2.3nm,0.3s,baz=286,slow=20,SNR=2.7
comp=E,1.5nm,0.3s
STON Ston 9.55 330 *e*Pn **Pn 17 11 15.7 -2.1**
STON *e*Sn Sn 17 12 54.9 -9.1
STON Ston 9.55 330 *e*Pn **Pn 17 11 15.5 -2.3**
AMAZ Amatzia 9.57 107 Pn **Pn 17 11 19.0 +0.8**
AMAZ Sn **Sn 17 12 59.8 -4.9**
RUDO Rudo 9.60 339 *e*Pn **Pn 17 11 16.3 -2.3**
SGRT San Giovanni R 9.63 319 Pn **Pn 17 11 18.5 -0.5**
MMLI Mount Malkishu 9.67 101 Pn **Pn 17 11 20.6 +1.0**
MMLI Sn **Sn 17 13 02.1 -5.1**
GEM Giv'at Ha'Em 9.67 96 Pn **Pn 17 11 21.1 +1.5**
GEM Sn **Sn 17 13 03.8 -3.4**
NATI Neve Ativ 9.72 96 Pn **Pn 17 11 20.7 +0.5**
NATI Sn **Sn 17 13 05.4 -2.9**
NEVS Nevesinje 9.75 333 *e*Pn **Pn 17 11 19.2 -1.5**
YTIR Yattir 9.79 107 Pn **Pn 17 11 22.3 +1.0**
YTIR Sn **Sn 17 13 05.4 -4.8**
HMDT Nahal Hemdat 9.81 102 Pn **Pn 17 11 22.6 +1.2**
HMDT Sn **Sn 17 13 06.1 -4.4**
BBLS Lazići 9.82 339 *e*Pn **Pn 17 11 19.2 -2.4**
BBLS *e*Sn **Sn 17 13 03.2 -7.7**
BBLS Lazići 9.82 339 *e*Pn **Pn 17 11 20.1 -1.5**
PAOL Paolisi 9.84 312 Pn **Pn 17 11 23.2 +1.3**
KSHT Keshet 9.84 97 Pn **Pn 17 11 23.5 +1.5**
KSHT Sn **Sn 17 13 07.9 -3.6**
UJAP Al Uja 9.85 103 Pn **Pn 17 11 22.2 +0.2**
DIVS Divibare 9.88 342 Pn **Pn 17 11 21.4 -1.0**
DIVS Divibare 9.88 342 *e*Pn **Pn 17 11 20.9 -1.5**
DIVS Divibare 9.88 342 *e*Pn **Pn 17 11 21.4 -1.0**
DSI Dead Sea 9.92 106 Pn **Pn 17 11 22.9 -0.1**
DSI Sn **Sn 17 13 08.8 -4.5**
DJES Djerdap 9.98 353 Pn **Pn 17 11 24.2 +0.4**
MSBI Mazada 10.00 107 Pn **Pn 17 11 24.6 +0.6**
MSBI Sn **Sn 17 13 09.2 -6.0**
KRMI Paran Flat 10.04 114 Pn **Pn 17 11 25.1 +0.4**
KRMI Sn **Sn 17 13 09.9 -6.5**
PRNI Paran 10.14 113 Pn **Pn 17 11 26.2 +0.1**
PRNI Sn **Sn 17 13 13.2 -5.6**
GHAJ Ghor Haditha 10.17 107 Pn 17 11 21.2 -5.2
GHAJ Ghor Haditha 10.17 107 Pn **Pn 17 11 27.6 +1.3**
GHAJ Sn **Sn 17 13 14.3 -5.0**
MDVR Moldovita 10.19 350 ⇑P **Pn 17 11 26.7 -0.1**
BNN Bunyan 10.22 63 **Pn 17 11 27.0 -0.2**
HRFI Mount Harif 10.32 114 Pn **Pn 17 11 28.8 +0.3**
HRFI Sn **Sn 17 13 17.0 -6.2**
MBRI Mt Berech 10.35 116 Pn **Pn 17 11 29.3 +0.3**
MBRI Sn **Sn 17 13 18.3 -5.7**
TEKS Tekeris 10.42 341 *e*Pn **Pn 17 11 27.4 -2.3**
EIL Elat 10.44 116 Pn **Pn 17 11 30.2 0.0**
EIL Sn **Sn 17 13 19.9 -6.2**
EIL Elat 10.44 116 Pn **Pn 17 11 29.9 -0.3**
comp=E,1.2nm,0.3s,baz=318,slow=2.7,SNR=12
EIL Sn **Sn 17 13 17.8 -8.3**
comp=E,1.1nm,0.3s,baz=142,slow=7.7,SNR=3.9
comp=E,3.2nm,0.4s
ARR Arges 10.61 2 ⇑P **Pn 17 11 33.1 +0.6**
GZR Gura Zlata 10.68 355 ⇓P **Pn 17 11 35.5 +2.0**
GZR Gura Zlata 10.68 355 ⇓P **Pn 17 11 35.5 +2.0**
LOT Lotru 10.69 358 ⇓P **Pn 17 11 34.7 +1.2**
VOIR 10.70 3 ⇑P **Pn 17 11 35.8 +2.2**
VOIR 10.70 3 ⇑P **Pn 17 11 35.8 +2.2**
SRKY Kupres RS 10.76 332 *e*Pn **Pn 17 11 33.0 -1.5**
MLR Muntele Rosu 10.81 7 ⇓P **Pn 17 11 35.9 +0.6**
MLR Muntele Rosu 10.81 7 **Pn 17 11 35.9 +0.6**
MLR Muntele Rosu 10.81 7 ⇓P **Pn 17 11 35.9 +0.6**
MLR Muntele Rosu 10.81 7 Pn **Pn 17 11 35.6 +0.3**
comp=E,0.1nm,0.3s,baz=197,slow=8.1,SNR=4.9
MLR LR LR 17 16 35.6
comp=E,171nm,18.9s,baz=176,slow=42
comp=E,2.3nm,0.8s
ASF Jabal al Asfar 10.94 100 Pn **Pn 17 11 37.8 +0.7**
comp=E,0.2nm,0.3s,baz=314,slow=17,SNR=1.4
ASF Sn **Sn 17 13 32.6 -5.8**
comp=E,0.2nm,0.3s,baz=106,slow=11,SNR=1.4
comp=E,0.8nm,0.3s
BZS Buzias 11.03 351 ⇑P **Pn 17 11 39.2 +1.1**
BZS Buzias 11.03 351 ⇑P **Pn 17 11 39.2 +1.1**
MGRS Mrkonjic Grad 11.09 333 *e*Pn **Pn 17 11 37.0 -1.9**
DOPR Dopca 11.24 4 ⇑P **Pn 17 11 41.2 +0.1**
PLOR Plostina 11.25 9 ⇑P **Pn 17 11 43.0 +1.9**
PLOR Plostina 11.25 9 ⇑P **Pn 17 11 43.0 +1.9**
VRI Vrincioaia 11.27 9 ⇑P **Pn 17 11 43.4 +1.9**
VRI Vrincioaia 11.27 9 ⇑P **Pn 17 11 43.4 +1.9**
BLY Banja Luka 11.33 334 *e*Pn **Pn 17 11 39.6 -2.7**
A051A Mrakovica 11.66 334 *e*Pn **Pn 17 11 44.0 -2.8**
NRCA Norcia 11.80 316 **Pn 17 11 49.0 +0.2**
MARR Marisel-Cluj 11.94 357 ⇓P **Pn 17 11 51.1 +0.5**
KEST Kesra 12.16 279 LR LR 17 18 10.7
comp=E,23nm,19.0s,baz=338,slow=45
MURB Monte Urbino 12.41 317 Pn **Pn 17 11 55.8 -1.3**
BOJS Bojanci 12.71 330 *e*Pn **Pn 17 11 58.4 -2.7**
BURAR Bucovina Array 12.88 3 ⇑P **Pn 17 12 05.3 +1.8**
BURAR Bucovina Array 12.88 3 ⇑P **Pn 17 12 05.3 +1.8**
CRES Cresnjev 12.90 332 *e*Pn **Pn 17 12 00.3 -3.3**
CEY Cerknica 13.25 329 *e*Pn **Pn 17 12 06.3 -2.1**
SKDS Skadanscina 13.28 327 *e*Pn **Pn 17 12 06.0 -2.8**
ANN Anapa 14.29 41 *e*P Pn 17 12 16.1 -6.5
ANN *e*S Sn 17 14 50.8 -9.3
ANN pmax pmax
comp=Z,13nm,0.8s
STAL STALIGIAL 14.41 326 Pn **Pn 17 12 23.6 -0.7**
CLUD Cludinico 14.48 327 **Pn 17 12 25.4 +0.1**
CTI Castel Tesino 14.75 324 Pn **Pn 17 12 30.1 +1.1**
CTI Castel Tesino 14.75 324 P **Pn 17 12 30.1 +1.1**
GURO Guroymak-BITLI 14.83 70 Pn **Pn 17 12 31.8 +1.6**
ABTA Abfaltersbach 14.87 327 *e*Pn **Pn 17 12 29.3 -1.2**
comp=Z,2.9nm,0.6s
SOC Sochi 14.92 49 *e*P **Pn 17 12 30.9 -0.3**
SOC *e* 17 15 14.4
SOC pmax pmax
comp=Z,12nm,0.7s
SOC MLR MLR
comp=Z,59nm,17.0s
SIRT Sirnak 15.02 74 Pn **Pn 17 12 33.0 +0.3**
LESA Schwarzleotal 15.32 329 *e*Pn **Pn 17 12 35.8 -0.8**
comp=Z,0.8nm,0.3s
MAUC Maruska 15.34 344 *e*P **P 17 12 42.7 +1.6**
VRAC Vranov 15.58 341 *e*P **P 17 12 45.2 +1.3**
VRAC Vranov 15.58 341 Pn **Pn 17 12 40.8 +0.9**
comp=Z,0.2nm,0.3s,baz=260,slow=2.8,SNR=1.8
VRAC LR LR 17 20 18.8
comp=Z,76nm,18.1s,baz=168,slow=44
comp=Z,4.8nm,0.7s
GEVA Gevas 15.60 71 P **P 17 12 43.5 -0.7**
GEVA IAmb IAmb 17 12 45.3
comp=Z,18nm,1.2s
WTTA Wattenberg 15.65 327 *i* Pn **Pn 17 12 41.1 +0.2**
comp=Z,4.1nm,0.4s,SNR=6.2
WATA Walderalm 15.73 327 *e*Pn **Pn 17 12 42.2 +0.3**
comp=Z,4.7nm,0.5s
MORC Moravsky Berou 15.79 344 Pn **Pn 17 12 42.0 -0.6**
MORC P **P 17 12 47.6 +1.5**
MORC Moravsky Berou 15.79 344 P **P 17 12 47.6 +1.5**
MORC pmax pmax
comp=Z,4.0nm,0.7s
FUORN Ofenpass-Fuorn 15.84 323 **Pn 17 12 44.3 +0.9**
FUORN IAmb IAmb 17 12 51.6
comp=Z,11nm,0.7s
CKRC Cesky Krumlov 15.84 336 *e*P **P 17 12 48.5 +1.8**
CKRC Cesky Krumlov 15.84 336 *e*P **P 17 12 48.5 +1.8**
MOTA Moosalm 15.95 326 *e*Pn **Pn 17 12 44.4 -0.4**
comp=Z,2.0nm,0.5s
GEC2 GERESS Array S 16.08 334 P **P 17 12 50.9 +1.5**
GERES GERESS Array B 16.08 334 Pn **Pn 17 12 46.1 -0.2**
GERES P **P 17 12 50.8 +1.3**
GERES GERESS Array B 16.08 334 *e*P **Pn 17 12 46.4 +0.1**
GERES GERESS Array B 16.08 334 Pn **Pn 17 12 45.4 -1.0**
comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=4.4
GERES LR LR 17 20 50.6
comp=Z,71nm,18.8s,baz=94,slow=44
comp=Z,0.7nm,0.5s
DAVOX Davos/Dischmat 16.14 322 Pn **P 17 12 49.0 -1.2**
comp=Z,0.3nm,0.3s,baz=253,slow=5.2,SNR=3.1
DAVOX LR LR 17 20 12.4
comp=Z,47nm,18.4s,baz=214,slow=42
comp=Z,0.9nm,0.4s
KRLC Kraliky 16.24 343 *e*P **P 17 12 52.5 +1.3**
KRLC Kraliky 16.24 343 *e*P **P 17 12 52.5 +1.3**
KHC Kasperske Hory 16.36 335 P **Pn 17 12 51.1 +1.2**
KHC Kasperske Hory 16.36 335 *de*P **Pn 17 12 51.1 +1.2**
KHC Kasperske Hory 16.36 335 *e*P **Pn 17 12 50.9 +1.0**
KHC *ex* x 17 12 54.3
AKASG Malin Array Be 16.36 11 Pn **Pn 17 12 50.1 +0.3**
AKASG Malin Array Be 16.36 11 Pn **Pn 17 12 48.9 -0.9**
comp=Z,3.4nm,0.3s,baz=204,slow=10,SNR=20
AKASG LR LR 17 19 34.3
comp=Z,45nm,19.6s,baz=169,slow=39
comp=Z,1.8nm,0.4s
AKBB Malin Array Si 16.36 11 P **Pn 17 12 50.6 +0.8**
AKBB Malin Array Si 16.36 11 P **Pn 17 12 50.6 +0.8**
AKBB pmax pmax
comp=Z,7.0nm,0.6s
ZVC Zvikov 16.41 336 *e*P **P 17 12 53.7 +0.6**
AKH Akhalkalaki 16.59 61 Pn **Pn 17 12 51.8 -1.2**
AKH IAmb IAmb 17 12 55.7
comp=Z,53nm,1.5s
AKH Akhalkalaki 16.59 61 P **Pn 17 12 51.8 -1.2**
AKH pmax pmax
comp=Z,53nm,1.5s
DPC Dobruska-Polom 16.61 342 *e*P **P 17 12 55.8 +0.5**
DPC *ex* x 17 13 00.6
WET Wettzell 16.62 333 P **P 17 12 57.3 +1.9**
PRU Pruhonice 16.78 338 *e*P **P 17 12 57.6 +0.5**
PRU Pruhonice 16.78 338 *e*P **P 17 12 57.6 +0.5**
KIV Kislovodsk 16.99 52 Pn **Pn 17 12 57.8 -0.1**
KIV Kislovodsk 16.99 52 *e*P **P 17 13 01.4 +1.8**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,30nm,14.0s
KVAR Kislovodsk Arr 16.99 52 Pn **P 17 13 01.2 +1.6**
baz=270,slow=22
KVAR Sn **Sn 17 16 01.8 -4.2**
baz=106,slow=8.2
comp=Z,3.2nm,0.6s
KBZ Khabaz 17.03 53 *de*P **P 17 13 00.1 +0.3**
KBZ pmax pmax
comp=Z,27nm,1.2s
KBZ Khabaz 17.03 53 Pn **P 17 13 00.3 +0.5**
comp=Z,0.3nm,0.3s,baz=254,slow=7.8,SNR=18
KBZ LR LR 17 21 03.0
comp=Z,51nm,19.5s,baz=247,slow=42
comp=Z,21nm,1.1s
GNI Garni 17.19 66 *ce*P **P 17 13 04.2 +2.3**
GNI pmax pmax
comp=Z,10.0nm,1.7s
GNI Garni 17.19 66 P **Pn 17 13 00.5 0.0**
comp=Z,0.6nm,0.3s,baz=202,slow=8.8,SNR=3.3
GNI LR LR 17 20 48.4
comp=Z,116nm,21.5s,baz=267,slow=41
comp=Z,3.3nm,0.5s
ZEI Tsey 17.33 57 *e*P **P 17 13 03.6 +0.1**
ZEI pmax pmax
comp=Z,4.0nm,1.1s
NCK Nalchik 17.39 54 ⇓*e*P **P 17 13 06.0 +2.1**
NCK pmax pmax
comp=Z,8.0nm,0.4s
SLE Schleitheim 17.50 323 P **P 17 13 07.3 +2.2**
CLL Collm 18.41 337 P **Pn 17 13 16.0 +0.7**
CLL Collm 18.41 337 *e*P **Pn 17 13 16.0 +0.7**
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL Collm 18.41 337 *e*P **Pn 17 13 16.0 +0.7**
comp=Z,6.0nm,1.0s
CLL *e*(pP) **pP 17 13 23.0 +0.1**
CLL *e*pPP 17 13 35.0
SUW Suwalki 19.27 358 P **P 17 13 24.4 -0.1**
SUW Suwalki 19.27 358 P **P 17 13 24.4 -0.1**
SUW pmax pmax
comp=Z,56nm,0.6s
SUW Suwalki 19.27 358 *e*P **Pn 17 13 25.6 0.0**
MNK Minsk 19.92 6 *i* P **Pn 17 13 36.4 +3.0**
comp=E,7.0nm,0.9s
MNK *i* P **Pn 17 13 36.4 +3.0**
comp=N,8.0nm,0.9s
MNK *i* P **Pn 17 13 36.4 +3.0**
comp=Z,6.0nm,0.7s,baz=189
MNK *i* PP **PnPn 17 13 50.9 +3.2**
MNK *i* S **S 17 17 13.6 -0.4**
MNK *i* SS **SnSn 17 17 30.6 -0.3**
MNK *i* LQ LQ 17 19 26.9
MNK *i* LR LR 17 20 51.0
MNK *i* LRM MLR 17 22 12.7
comp=Z,32nm,13.3s
MNK *i* LRM MLR 17 22 20.9
comp=N,47nm,15.8s
MNK *i* LRM MLR 17 22 22.9
comp=E,9.0nm,12.4s
MNK Minsk 19.92 6 *i* P **Pn 17 13 36.3 +3.0**
MNK *i* S **S 17 17 13.6 -0.4**
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.7s
MNK MLR MLR
comp=Z,32nm,13.0s
MNK MLR MLR
comp=N,47nm,16.0s
MNK MLR MLR
comp=E,9.0nm,12.0s
NACGM Naroch 20.23 4 *e*P **P 17 13 34.4 -0.6**
comp=E,638nm,1.0s
PABE Paberze 20.75 360 P **P 17 13 39.1 -1.5**
PABE IAmb IAmb 17 13 57.9
comp=Z,17nm,0.7s
PABE Paberze 20.75 360 *e*P **P 17 13 39.9 -0.7**
ESDC Sonseca Array 22.89 291 P **P 17 14 03.7 0.0**
comp=Z,1.4nm,0.8s,baz=78,slow=9.6,SNR=4.6
comp=Z,1.4nm,0.8s
VIKU Vikbolandet 24.28 350 *e*P **P 17 14 16.1 -0.7**
BELG Belogornoye 24.32 36 ⇑*e*P **P 17 14 18.2 +1.0**
BELG pmax pmax
comp=Z,4.0nm,1.4s
HFS Hagfors 26.30 348 P **P 17 14 35.3 +0.2**
comp=Z,4.6nm,0.5s,baz=150,slow=12,SNR=9.9
HFS LR LR 17 26 47.1
comp=Z,54nm,19.4s,baz=95,slow=41
comp=Z,4.6nm,0.5s
FINES FINESS Array B 26.74 2 P **P 17 14 38.1 -1.0**
comp=Z,2.2nm,0.7s,baz=166,slow=10,SNR=12
FINES LR LR 17 25 48.5
comp=Z,87nm,20.4s,baz=182,slow=38
comp=Z,2.2nm,0.7s
NC602 NORSAR Array S 27.25 346 P **P 17 14 42.9 -0.8**
NC602 IAmb IAmb 17 14 46.9
comp=Z,10nm,0.8s
GEYT Alibeck 27.44 73 P **P 17 14 46.4 +0.6**
comp=Z,0.8nm,0.4s,baz=293,slow=7.5,SNR=1.8
comp=Z,0.8nm,0.4s
NAO01 NORSAR Array S 27.48 346 P **P 17 14 45.7 -0.1**
NC405 NORSAR Array S 27.57 347 P **P 17 14 48.2 +1.7**
NC405 IAmb IAmb 17 14 51.5
comp=Z,5.8nm,0.6s
NB201 NORSAR Array S 27.59 346 P **P 17 14 50.4 +3.6**
NB201 IAmb IAmb 17 14 51.4
comp=Z,8.8nm,0.7s
NB2 NORSAR Subarra 27.59 346 P **P 17 14 46.5 -0.3**
comp=Z,3.2nm,0.9s,baz=156,slow=9.3
NOA NORSAR Array B 27.59 346 P **P 17 14 46.9 0.0**
comp=Z,2.4nm,0.7s,baz=186,slow=19,SNR=25
NOA LR LR 17 28 03.2
comp=Z,22nm,18.1s,baz=160,slow=42
comp=Z,2.4nm,0.7s
NC303 NORSAR Array S 27.74 347 P **P 17 14 48.0 -0.1**
NC204 NORSAR Array S 27.90 346 P **P 17 14 49.8 +0.2**
EKA Eskdalemuir Ar 27.91 326 P **P 17 14 50.0 +0.3**
EKA Eskdalemuir Ar 27.91 326 P **P 17 14 50.0 +0.3**
comp=Z,1.3nm,0.7s,baz=124,slow=8.8,SNR=2.8
comp=Z,1.3nm,0.7s
KIRV Kirov 29.14 27 LR LR 17 26 40.4
comp=Z,30nm,20.4s,baz=224,slow=36
TORD Torodi Ar. Bea 29.61 229 P **P 17 15 07.4 +2.3**
comp=Z,2.3nm,0.4s,baz=36,slow=9.0,SNR=26
comp=Z,2.3nm,0.4s
ABKAR Akbulak array 29.96 50 P **P 17 15 07.6 -0.3**
ABKAR Akbulak array 29.96 50 P **P 17 15 08.0 +0.1**
ABKAR IAmb IAmb 17 15 37.1

comp=Z,1.7nm,0.9s
ARU Arti 31.87 36 P 17 15 25.0 +0.4
ARU IAmb IAmb 17 15 26.8
comp=Z,3.1nm,0.8s
ARU Arti 31.87 36*c iP* P 17 15 25.4 +0.7
ARU 17 16 29.5
ARU 17 18 16.9
ARU S **S 17 20 31.9 -1.4**
ARU SS **SnSn 17 22 16.9 -5.5**
ARU pmax pmax
comp=Z,8.0nm,1.5s
ARCES ARCESS Array B 34.85 1 *eP* P 17 15 47.7 -2.8
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 34.85 1 P **P 17 15 48.9 -1.5**
comp=Z,1.0nm,0.5s,baz=182,slow=7.3,SNR=12
ARCES LR LR 17 31 02.2
comp=Z,73nm,18.4s,baz=252,slow=38
comp=Z,1.0nm,0.5s
MBAR Mbarara 35.70 169 LR LR 17 32 12.9
comp=Z,56nm,18.3s,baz=360,slow=39
CHGR Chuyangaron 36.01 70 P **P 17 16 01.6 +0.6**
CHGR IAmb IAmb 17 16 03.3
comp=Z,7.3nm,0.9s
CHGR Chuyangaron 36.01 70 P **P 17 16 01.6 +0.6**
CHGR pmax pmax
comp=Z,7.0nm,0.9s
KK31 Karatay Array 36.62 63 P **P 17 16 07.2 +1.2**
KK31 IAmb IAmb 17 16 08.4
comp=Z,7.2nm,0.9s
KK31 Karatay Array 36.62 63 P **P 17 16 07.2 +1.2**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 36.62 63 P **P 17 16 07.2 +1.2**
KKAR IAmb IAmb 17 16 08.4
comp=Z,7.2nm,0.9s
KKAR Karatay Array 36.62 63 P **P 17 16 07.2 +1.2**
KKAR pmax pmax
comp=Z,7.0nm,0.9s
BRVK Borovoye 37.16 46⇑*eP* P 17 16 11.6 +1.1
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 37.22 46 P **P 17 16 11.1 +0.1**
comp=Z,1.8nm,0.8s,baz=268,slow=5.3,SNR=6.5
comp=Z,1.8nm,0.8s
DBIC Dimbokro 38.68 230 P **P 17 16 25.6 +1.9**
comp=Z,2.1nm,0.6s,baz=277,slow=19,SNR=2.1
comp=Z,2.1nm,0.6s
AAK Ala-Archa 39.57 63 P **P 17 16 31.8 +0.7**
AAK IAmb IAmb 17 16 34.0
comp=Z,4.6nm,0.9s
AAK Ala-Archa 39.57 63*c iP* P 17 16 33.0 +1.9
AAK pmax pmax
comp=Z,11nm,2.5s
NRN Naryn 40.83 65 P **P 17 16 42.8 +1.1**
NRN IAmb IAmb 17 16 44.8
comp=Z,8.2nm,1.0s
NRN Naryn 40.83 65 P **P 17 16 42.8 +1.1**
NRN pmax pmax
comp=Z,8.0nm,1.0s
KURBB Kurchatov Arra 42.01 51 P **P 17 16 51.1 +0.2**
comp=Z,4.4nm,0.7s,baz=278,slow=8.6,SNR=29
comp=Z,4.4nm,0.7s
KURK Kurchatov 42.07 51 P **P 17 16 51.6 +0.3**
KURK IAmb IAmb 17 16 52.8
comp=Z,8.1nm,1.0s
KURK Kurchatov 42.07 51⇑*eP* P 17 16 52.0 +0.7
KURK pmax pmax
comp=Z,2.0nm,0.5s
MK31 Makanchi Array 44.68 56 P 17 17 13.1 +0.5
MK31 Makanchi Array 44.68 56*c iP* P 17 17 13.6 +1.1
MKAR Makanchi Array 44.68 56 P 17 17 13.3 +0.8
MKAR Makanchi Array 44.68 56 *eP* P 17 17 13.7 +1.2
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 44.68 56 P **P 17 17 13.5 +0.9**
comp=Z,6.2nm,0.7s,baz=280,slow=6.5,SNR=30
comp=Z,6.2nm,0.7s
ZAA0 Zalesovo Array 45.87 46 P **P 17 17 21.8 -0.1**
ZALV Zalesovo Beam 45.87 46 P **P 17 17 21.7 -0.1**
ZALV Zalesovo Beam 45.87 46 P **P 17 17 22.1 +0.3**
comp=Z,9.1nm,0.4s,baz=269,slow=8.9,SNR=39
comp=Z,9.1nm,0.4s
DGZ Jazzator, Alta 47.77 52*c eP* P 17 17 37.8 +0.8
DGZ pmax pmax
comp=Z,3.0nm,0.6s
TSUM Tsumeb 54.02 188 LR LR 17 45 12.5
comp=Z,44nm,18.6s,baz=345,slow=40
ZAK Zakamensk 57.62 48 *eP* P 17 18 50.7 +1.0
ZAK pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 60.37 50 P **P 17 19 09.6 +0.7**
SONM IAmb IAmb 17 19 11.1
comp=Z,3.3nm,0.9s
SONM Songino Array 60.37 50 *eP* P 17 19 10.2 +1.3
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 60.37 50 P **P 17 19 09.4 +0.6**
comp=Z,2.9nm,0.8s,baz=280,slow=8.2,SNR=13
comp=Z,2.9nm,0.8s
ULN Ulaanbaatar 60.78 50 P **P 17 19 12.3 +0.7**
ULN Ulaanbaatar 60.78 50⇑*eP* P 17 19 12.8 +1.1
ULN pmax pmax
comp=Z,7.0nm,1.0s
SCHQ Schefferville 62.97 320 P **P 17 19 26.8 +0.7**
comp=Z,4.5nm,0.8s,baz=43,slow=3.2,SNR=2.6
comp=Z,4.5nm,0.8s
HHC Hu-ho-hao-te 66.54 56 *eP* P 17 19 56.1 +6.4
HHC pmax pmax
comp=Z,44nm,0.5s
HHC pmax pmax
comp=Z,160nm,6.4s
XLT XiLinHaoTe 68.15 51 *eP* P 17 20 05.1 +5.3
XLT pP pP 17 20 09.8 +1.1
XLT sP sP 17 20 12.4 +0.4
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT pmax pmax
comp=Z,170nm,4.9s
TRQ Mont Tremblant 71.24 314 **P 17 20 19.5 +0.7**
MA2 Magadan 76.20 25 LR LR 17 58 33.1
comp=Z,39nm,18.5s,baz=96,slow=39
USRK Ussuriysk Ar. 77.70 44 P **P 17 20 56.1 -0.2**
comp=Z,2.0nm,0.7s,baz=280,slow=6.6,SNR=4.9
comp=Z,2.0nm,0.7s
KSRS Korea Array 79.18 52 *eP* **P 17 21 05.5 +1.0**
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS Korea Array 79.18 52 P **P 17 21 03.4 -1.1**
comp=Z,1.4nm,0.7s,baz=307,slow=4.7,SNR=5.1
comp=Z,1.4nm,0.7s
ILAR Eielson Array 80.56 356 *eP* **P 17 21 13.5 +2.0**
ILAR Eielson Array 80.56 356 P **P 17 21 09.9 -1.6**
comp=Z,0.6nm,0.9s,baz=356,slow=3.9,SNR=4.1
comp=Z,0.6nm,0.9s
WRA Warramunga Arr 117.36 96 PKP **PKiKP 17 27 46.4 +0.9**
comp=Z,0.4nm,1.1s,baz=322,slow=2.1,SNR=1.6
ASAR Alice Springs 118.78 100 PKP **PKiKP 17 27 48.5 +0.3**
comp=Z,0.4nm,0.9s,baz=327,slow=1.5,SNR=1.8

---

*IDC **19** 17:25:53.8±1.2, 43°.97N×105°.75W, h0km, mbtmp3.1/3, ML3.2/3, Error ellipse: s-maj=23.6km s-min=10.2km az=149.0*
*NEIC **19** 17:25:54.8±1.6, 43°.53N±0°.06×105°.30W±0°.10, h0km±2km, ML3.4/82, Error ellipse: s-maj=16.0km s-min=3.1km az=49.0*
ISC 19 17:25:53.3±1.0, **43°.57N**±0°.05×**105°.21W**±0°.06, **h0**km, **n51**, σ**1**§**07**/50, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**56**		**Pn**	**17 26 15.2**	**+0.3**
K22A	**Casper**	**1.33**	**227**		**Pg**	**17 26 16.6**	**-2.1**
PHWY	**Pilot Hill**	**2.27**	**185**		**Pn**	**17 26 33.3**	**+1.0**
RWWY	**Rawlins**	**2.39**	**219**		**Pn**	**17 26 34.3**	**+0.4**
RWWY				IAML		17 27 07.3	
	210nm,1.6s						
RWWY				IAML		17 27 08.5	
	283nm,1.5s						
N23A	**Red Feather La**	**2.73**	**192**		**Pn**	**17 26 39.8**	**+1.3**
N23A				IAML		17 27 21.4	
	comp=E,116nm,0.6s						
N23A				IAML		17 27 22.5	
	comp=N,142nm,0.8s						
LAO	**LASA Array**	**3.20**	**347**		**Pn**	**17 26 46.9**	**+1.9**
LAO				IAML		17 27 45.1	
	comp=N,139nm,1.8s						
BW06	**Boulder Array**	**3.28**	**257**		**Pn**	**17 26 45.5**	**-0.7**
PD31	**Pinedale Array**	**3.28**	**257**		**Pn**	**17 26 45.7**	**-0.5**
PDAR	**Pinedale Array**	**3.28**	**257**		**Pn**	**17 26 46.1**	**-0.1**
PDAR	**Pinedale Array**	**3.28**	**257**	Pn	**Pn**	**17 26 45.6**	**-0.5**
	comp=N,1.7nm,0.3s,baz=76,slow=17,SNR=52						
PDAR				Lg	Lg	17 27 29.1	
	comp=N,6.4nm,0.3s,baz=87,slow=35,SNR=6.0						
	comp=N,3.4nm,0.4s						
RLMT	**Red Lodge**	**3.30**	**300**	Pn	**Pn**	**17 26 46.9**	**+0.4**
RLMT				IAML		17 27 48.4	
	comp=N,65nm,0.9s						
YMP	**Mirror Lake Pl**	**3.75**	**290**		**Pn**	**17 26 52.7**	**0.0**
YMP				IAML		17 27 54.5	
	comp=E,82nm,0.9s						
ISCO	**Idaho Springs**	**3.78**	**185**		**Pn**	**17 26 54.7**	**+1.7**
LKWY	**Lake**	**3.87**	**287**		**Pn**	**17 26 54.2**	**-0.1**
LKWY				IAML		17 27 58.8	
	comp=E,66nm,1.6s						
LKWY				IAML		17 28 21.1	
	comp=E,54nm,1.9s						
LOHW	**Long Hollow**	**3.92**	**273**		**Pn**	**17 26 56.5**	**+1.5**
LOHW				IAML		17 28 19.7	
	comp=E,38nm,3.7s						
H17A	**Grant Village**	**3.96**	**284**		**Pn**	**17 26 55.8**	**+0.2**
H17A				IAML		17 28 00.5	
	comp=E,61nm,2.2s						
H17A				IAML		17 28 01.2	
	comp=N,68nm,2.2s						
FLWY	**Flagg Ranch**	**4.01**	**279**		**Pn**	**17 26 56.4**	**+0.3**
FLWY				IAML		17 28 07.8	
	comp=N,65nm,2.3s						
MOOW	**Moose Ponds**	**4.02**	**275**		**Pn**	**17 26 56.9**	**+0.5**
SNOW	**Snow King Moun**	**4.04**	**270**		**Pn**	**17 26 58.2**	**+1.6**
O20A	**White River Ci**	**4.11**	**215**		**Pn**	**17 26 57.0**	**-0.5**
REDW	**Red Top Meadow**	**4.12**	**269**		**Pn**	**17 26 56.5**	**-1.1**
YFT	**Old Faithful**	**4.16**	**284**		**Pg**	**17 27 11.2**	**-1.7**
YFT				IAML		17 28 13.3	
	comp=N,52nm,2.1s						
IMW	**Indian Meadow**	**4.17**	**277**		**Pn**	**17 26 57.8**	**-0.6**
IMW				IAML		17 28 11.0	
	comp=N,31nm,1.3s						
IMW				IAML		17 28 28.5	
	comp=N,37nm,0.7s						
TPAW	**Teton Pass**	**4.18**	**271**		**Pn**	**17 26 57.4**	**-1.1**
TPAW				IAML		17 28 19.0	
	comp=N,55nm,1.3s						
TPAW				IAML		17 28 30.4	
	comp=N,44nm,1.9s						
FXWY	**Fox Creek**	**4.23**	**273**		**Pn**	**17 26 59.4**	**+0.2**
FXWY				IAML		17 28 19.2	
	comp=N,35nm,2.5s						
YHH	**Holmes Hill**	**4.24**	**289**		**Pn**	**17 26 58.3**	**-1.1**
YMR	**Madison River**	**4.29**	**287**		**Pb**	**17 27 10.8**	**+1.1**
ID10	**Lander Cutoff**	**4.30**	**258**		**Pn**	**17 27 00.1**	**0.0**
ID10				IAML		17 28 11.3	
	comp=N,62nm,1.8s						
ID10				IAML		17 28 44.4	
	comp=N,55nm,1.4s						
AHID	**Auburn Hatcher**	**4.38**	**262**		**Pb**	**17 27 13.2**	**+1.9**
RDMU	**Red Mountain**	**4.42**	**229**		**Pn**	**17 27 01.1**	**-0.6**
RDMU				IAML		17 28 24.6	
	comp=E,50nm,1.3s						
RDMU				IAML		17 28 27.8	
	comp=N,47nm,1.6s						
YHL	**Hebgen Lake**	**4.49**	**289**		**Pn**	**17 27 01.7**	**-1.1**
YHL				IAML		17 28 21.2	
	comp=E,52nm,1.5s						
YHL				IAML		17 28 26.3	
	comp=N,55nm,1.1s						
SMCO	**Snowmass**	**4.58**	**197**	Pg	**Pb**	**17 27 15.5**	**+0.7**
SMCO				IAML		17 28 23.3	
	comp=N,36nm,1.5s						
SMCO				IAML		17 28 26.8	
	comp=N,42nm,2.0s						
ID09	**Alton**	**4.59**	**255**		**Pn**	**17 27 04.2**	**0.0**
ID09				IAML		17 28 21.3	
	comp=N,43nm,2.2s						
DGMT	**Dagmar**	**4.96**	**8**		**Pn**	**17 27 08.7**	**-0.3**
BOZ	**Bozeman (W)**	**5.02**	**296**		**Pn**	**17 27 08.1**	**-1.8**
BOZ				IAML		17 28 33.6	
	comp=N,25nm,3.2s						
BOZ				IAML		17 28 33.9	
	comp=N,22nm,1.7s						
HWUT	**Hardware Ranch**	**5.09**	**250**		**Pn**	**17 27 09.6**	**-1.3**
BSUT	**Blindstream Ca**	**5.12**	**236**		**Pn**	**17 27 10.7**	**-1.0**
BSUT				IAML		17 28 46.5	
	comp=N,27nm,1.8s						
BSUT				IAML		17 28 55.7	
	comp=E,23nm,1.6s						
TCUT	**Toone Canyon**	**5.21**	**244**		**Pn**	**17 27 12.0**	**-0.6**
DLMT	**Dillon**	**5.59**	**291**	Pg	**Pb**	**17 27 33.9**	**+2.1**
SPUT	**South Promonto**	**5.81**	**250**		**Pn**	**17 27 20.5**	**-0.4**
HVU	**Hansel Valley**	**5.86**	**255**		**Pn**	**17 27 20.7**	**-0.8**
TMUT	**Trail Mountain**	**6.21**	**229**		**Pn**	**17 27 26.3**	**-0.1**
ECSD	**EROS Data Cent**	**6.24**	**86**		**Pn**	**17 27 26.1**	**-0.4**
T25A	**Trinidad**	**6.45**	**174**		**Pn**	**17 27 29.6**	**0.0**
Q16A	**Castle Valley**	**6.46**	**226**		**Pn**	**17 27 29.2**	**-0.6**
CHMT	**Chamberlain Mo**	**6.59**	**303**		**Pn**	**17 27 30.9**	**-0.8**
DUG	**Dugway, Tooele**	**6.60**	**242**	Pn	**Pn**	**17 27 31.3**	**-0.4**
HMU	**Henry Mountain**	**7.02**	**219**	Pn	**Pn**	**17 27 37.2**	**-0.3**
I10CA	**LAC DU BONNET**	**9.14**	**40**	I	I	18 20 20.0	
	baz=221,slow=319,SNR=4.1						
ULM	**Lac du Bonnet**	**9.24**	**40**	Pn	**Pn**	**17 28 05.7**	**-2.0**
	comp=E,0.6nm,0.3s,baz=231,slow=13,SNR=1.9						
ULM				Lg	Lg	17 30 38.9	
	comp=E,0.2nm,0.3s,baz=301,slow=21,SNR=1.7						
	comp=E,1.8nm,0.4s						
TXAR	**Lajitas Array**	**14.26**	**175**	Pn	**P**	**17 29 25.6**	**+1.5**
	baz=6.7,slow=11,SNR=1.4						
TXAR				Pg		17 30 20.4	
	comp=E,0.1nm,0.3s,baz=344,slow=15,SNR=5.2						
TXAR				Lg	Lg	17 33 28.2	
	comp=E,0.1nm,0.3s,baz=355,slow=26,SNR=2.2						
	comp=E,0.1nm,0.5s						

IDC 19 17:29:42.6±8.6, **5°.46S**×**146°.69E**, **h144**km±89km, **mb3.1**/2, **mbtmp3.4**/4, **Error ellipse: s-maj=102.5km s-min=30.4km az=137.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.95**	**173**	P	Pn	17 30 42.4	+0.5
	6.0nm,0.8s,baz=260,slow=18,SNR=1.1						
PMG				S	Sn	17 31 28.5	+0.4
	10nm,0.5s,baz=204,slow=21,SNR=14						
WRA	**Warramunga Arr**	**18.75**	**219**	P	P	17 33 50.3	-0.2
	0.3nm,0.3s,baz=40,slow=12,SNR=17						
ASAR	**Alice Springs**	**21.89**	**213**	P	P	17 34 24.3	0.0
	0.5nm,0.7s,baz=37,slow=7.4,SNR=7.1						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**85.11**	**23**	P	P	17 42 02.0	+0.1
	0.6nm,0.6s,baz=253,slow=5.3,SNR=8.6						
	0.6nm,0.6s						

---

*IDC **19** 17:50:34.2±1.8, 5°.43S×104°.94E, h0km, mb3.6/8, mbtmp3.7/10, ML4.7/1, Error ellipse: s-maj=70.2km s-min=17.5km az=51.0*
*NEIC **19** 17:50:40.4±1.4, 5°.5S±0°.3×104°.9E±0°.2, h37km±10km, mb4.4/8, Error ellipse: s-maj=42.3km s-min=2.5km az=210.0*
ISC 19 17:50:39.8±0.8, **5°.4S**±0°.2×**104°.9E**±0°.1, **h35**km, **n40**, σ**1**§**78**/28, **mb3.8**/11, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.18**	**297**	Pn	**Pn**	**17 51 14.9**	**+1.3**
LEM	**Lembang**	**3.07**	**119**	Pn	Pn	17 51 21.2	-4.8
	4.2nm,0.4s,baz=325,slow=23,SNR=1.1						
LEM				Sn	**Sn**	**17 52 06.6**	**+5.0**
	2.1nm,0.3s,baz=349,slow=20,SNR=2.1						
UGM	**Wanagama**	**6.13**	**115**	Pn	**Pn**	**17 52 06.5**	**-1.5**
JAGI	**Jajag, Banyuwa**	**9.69**	**109**	Pn	**Pn**	**17 53 01.4**	**+4.6**
GSI	**Gunungsitoli**	**9.86**	**312**	Pn	**Pn**	**17 52 59.6**	**+0.3**
BATI	**Baumata**	**19.20**	**106**	P	**P**	**17 55 00.4**	**-0.5**
	2.2nm,0.3s,baz=149,slow=22,SNR=1.4						
	16nm,0.9s						
SOEI	**Soe**	**19.68**	**104**	Pn	**Pn**	**17 55 08.0**	**+0.1**
SOEI				IAmb	IAmb	17 55 12.8	
	comp=Z,16nm,1.0s						
KNRA	**Kununurra**	**25.57**	**115**	P	**P**	**17 56 03.8**	**-2.0**
H01W3	**Cape Leeuwin H**	**30.60**	**165**	T	T	18 28 13.3	
	baz=342						
H01W1	**Cape Leeuwin H**	**30.62**	**165**	T	T	18 28 39.8	
	baz=342						
H01W2	**Cape Leeuwin H**	**30.62**	**165**	T	T	18 28 39.8	
	baz=342						
WB0	**Warramunga Arr**	**32.07**	**119**	P	**P**	**17 57 03.4**	**-0.3**
WB0				IAmb	IAmb	17 57 20.7	
	comp=Z,10.0nm,1.4s						
WRA	**Warramunga Arr**	**32.09**	**120**	P	**P**	**17 57 03.9**	**0.0**
WRA	**Warramunga Arr**	**32.09**	**120**	P	**P**	**17 57 02.2**	**-1.7**
	comp=Z,0.4nm,0.9s,baz=290,slow=10,SNR=1.9						
	comp=Z,0.4nm,0.9s						
WB2	**Warramunga Arr**	**32.10**	**120**	P	**P**	**17 57 03.3**	**-0.7**
WB2				IAmb	IAmb	17 57 42.2	
	comp=Z,8.4nm,1.2s						
WR0	**Warramunga Arr**	**32.27**	**119**	P	**P**	**17 57 04.2**	**-1.3**
WR0				IAmb	IAmb	17 57 40.3	
	comp=Z,11nm,1.5s						
H08S2	**Diego Garcia H**	**32.28**	**264**	T	T	18 30 34.4	
	baz=89,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**32.29**	**264**	T	T	18 30 29.5	
	baz=89,slow=76,SNR=22						
H08S1	**Diego Garcia H**	**32.30**	**264**	T	T	18 30 28.2	
	baz=89,slow=76,SNR=12						
ASAR	**Alice Springs**	**33.34**	**126**	P	**P**	**17 57 14.1**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=298,slow=7.6,SNR=5.9						
	comp=Z,0.3nm,0.8s						
MNCI	**Minicoy**	**34.53**	**293**	P	**P**	**17 57 24.2**	**-1.0**
STKA	**Stephens Creek**	**43.28**	**132**	P	**P**	**17 58 37.7**	**-0.6**
STKA	**Stephens Creek**	**43.28**	**132**	P	**P**	**17 58 37.7**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=324,slow=14,SNR=1.6						
	comp=Z,1.5nm,0.8s						
KSRS	**Korea Array**	**47.68**	**25**	P	**P**	**17 59 13.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=210,slow=7.5,SNR=1.5						
	comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**52.97**	**1**	P	**P**	**17 59 52.2**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=178,slow=10,SNR=1.7						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**55.65**	**341**	P	**P**	**18 00 13.4**	**+0.9**
MKAR	**Makanchi Array**	**55.65**	**341**	P	**P**	**18 00 13.2**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=155,slow=8.5,SNR=5.6						
	comp=Z,0.5nm,0.6s						
H04N2	**CROZET ISLANDS**	**61.18**	**219**	T	T	19 06 37.4	
	baz=65,slow=75,SNR=27						
H04N1	**CROZET ISLANDS**	**61.20**	**219**	T	T	19 06 31.0	
	baz=65,slow=75,SNR=27						
H04N3	**CROZET ISLANDS**	**61.20**	**219**	T	T	19 06 29.6	
	baz=65,slow=75,SNR=28						
H04S1	**CROZET ISLANDS**	**61.40**	**219**	T	T	19 06 54.2	
	baz=65,slow=74						
H04S3	**CROZET ISLANDS**	**61.41**	**219**	T	T	19 06 47.9	
	baz=65						
H04S2	**CROZET ISLANDS**	**61.41**	**219**	T	T	19 06 49.6	
	baz=65,slow=74						
ZALV	**Zalesovo Beam**	**61.44**	**347**	P	**P**	**18 00 53.0**	**+0.4**
ZALV	**Zalesovo Beam**	**61.44**	**347**	P	**P**	**18 00 52.8**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=152,slow=6.5,SNR=5.6						
	comp=Z,0.7nm,0.3s						
BVAR	**Borovoye Array**	**65.05**	**338**	P	**P**	**18 01 16.3**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.3,SNR=2.7						
	comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**66.94**	**330**	P	**P**	**18 01 28.1**	**-0.6**
T25A	**Trinidad**	**138.54**	**36**		**PKPdf**	**18 10 02.3**	**-0.4**
TXAR	**Lajitas Array**	**143.97**	**45**	PKP	**PKPdf**	**18 10 11.2**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=324,slow=2.1,SNR=5.4						
Q51A	**Peebles**	**145.65**	**11**		**PKPdf**	**18 10 11.4**	**-3.6**

---

*JMA **19** 17:59:18.9±0.1, 24°.2N±0°.4×121°.7E±0°.6, h57km, MV3.2/13, TAIWAN REGION*
*TAP **19** 17:59:19.8, 24°.19N×121°.71E, h50km, ML3.6, B*
ISC 19 17:59:20.3±1.2, **24°.20N**±0°.02×**121°.74E**±0°.02, **h46**km±4km, **n147**, σ**1**§**23**/248, **8C-1D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.11**	**359**	P	**Pn**	**17 59 28.1**	**+0.3**
	baz=19						
EHP				*e*S	**Sn**	**17 59 35.1**	**+2.0**
	baz=19						
ETL	**Fush Village**	**0.12**	**251**	*i* P	**Pn**	**17 59 27.7**	**-0.1**
	baz=261						
NACB	**Ninganchiao**	**0.14**	**260**	P	**Pn**	**17 59 27.7**	**-0.2**
NACB	**Ninganchiao**	**0.14**	**260**	⇑*i* P	**Pn**	**17 59 27.6**	**-0.3**
	baz=259						
NACB				S	**Sn**	**17 59 32.1**	**-1.1**
	baz=259						
TWD	**Chiawan**	**0.18**	**229**	⇑P	**Pn**	**17 59 27.9**	**-0.2**
	baz=231						
TWD				S	**Sn**	**17 59 33.9**	**+0.3**
	baz=231						
ENA	**Nanau**	**0.23**	**360**	*e*P	**Pn**	**17 59 28.8**	**+0.2**
	baz=3.0						
ENA				*e*S	**Sn**	**17 59 35.8**	**+1.5**
	baz=3.0						
ETLH	**Xiulin Townshi**	**0.24**	**273**	⇑*i* P	**Pn**	**17 59 28.4**	**-0.3**
	baz=268						
ETLH				*i* S	**Sn**	**17 59 34.4**	**-0.1**
	baz=268						
EWUT	**Wuta**	**0.25**	**8**	*e*P	**Pn**	**17 59 28.9**	**+0.3**
	baz=5.0						
EWUT				S	**Sn**	**17 59 35.9**	**+1.3**
	baz=5.0						
HWA	**Hwalien**	**0.25**	**210**	*i* P	**Pn**	**17 59 29.0**	**+0.4**
	baz=210						
HWA				*e*S	**Sn**	**17 59 35.7**	**+1.1**
	baz=210						
ETM	**Tongmen**	**0.32**	**225**	⇑P	**Pn**	**17 59 28.7**	**-0.7**
	baz=229						
ETM				S	**Sn**	**17 59 35.0**	**-0.7**
	baz=229						
LXIB	**Xiulin Townshi**	**0.35**	**240**	⇑*i* P	**Pn**	**17 59 29.0**	**-0.8**
	baz=231						
LXIB				*e*S	**Sn**	**17 59 35.9**	**-0.6**
	baz=231						
LATG	**Datong**	**0.39**	**330**	P	**Pn**	**17 59 30.0**	**-0.2**
	baz=334						
LATG				*e*S	**Sn**	**17 59 38.2**	**+1.0**
	baz=334						
NNSB	**Datong**	**0.40**	**305**	P	**Pn**	**17 59 30.1**	**-0.2**
	baz=308						
NNSB				*e*S	**Sn**	**17 59 37.1**	**-0.3**
	baz=308						
NNSH	**Datong**	**0.40**	**305**	P	**Pn**	**17 59 30.2**	**-0.1**
	baz=311						
NNSH				S	**Sn**	**17 59 37.5**	**0.0**
	baz=311						
NNS	**Nan Shan**	**0.41**	**306**	P	**Pn**	**17 59 30.4**	**-0.1**
	baz=309						
NNS				*e*S	**Sn**	**17 59 38.3**	**+0.6**
	baz=309						
TWC	**Suao**	**0.42**	**13**	*e*P	**Pn**	**17 59 30.9**	**+0.5**
	baz=15						
TWC				*e*S	**Sn**	**17 59 39.0**	**+1.4**
	baz=15						
NDS	**Dongshan**	**0.44**	**357**	P	**Pn**	**17 59 30.6**	**0.0**
	baz=352						
NDS				*e*S	**Sn**	**17 59 38.9**	**+1.0**
	baz=352						
WHF	**Hehuan Shan**	**0.44**	**263**	*i* P	**Pn**	**17 59 30.7**	**-0.3**
	baz=259						
WHF				*e*S	**Sn**	**17 59 38.7**	**0.0**
	baz=259						
NDT	**Datong Townshi**	**0.46**	**333**	P	**Pn**	**17 59 30.8**	**-0.1**
	baz=339						
NDT				*e*S	**Sn**	**17 59 38.8**	**+0.5**
	baz=339						
FUSS	**Fushou**	**0.46**	**276**	⇑*i* P	**Pn**	**17 59 31.1**	**0.0**
	baz=277						
FUSS				*i* S	**Sn**	**17 59 38.8**	**+0.1**
	baz=277						
ENTT	**Nioudou**	**0.47**	**340**	*e*P	**Pn**	**17 59 30.9**	**-0.1**
	baz=340						
ENTT				*i* S	**Sn**	**17 59 39.0**	**+0.3**
	baz=340						
ESL	**Shilin**	**0.47**	**217**	P	**Pn**	**17 59 29.9**	**-1.1**
	baz=218						
ESL				S	**Sn**	**17 59 38.0**	**-0.7**
	baz=218						
EOS2	**EOS2**	**0.50**	**64**	*i* P	**Pn**	**17 59 32.1**	**+0.9**
	baz=72						
EOS2				*e*S	**Sn**	**17 59 41.7**	**+2.7**
	baz=72						
TEGC	**Jichi Village**	**0.52**	**201**	P	**Pn**	**17 59 31.5**	**-0.1**
	baz=189						
TWT	**Tachien**	**0.52**	**276**	*i* P	**Pn**	**17 59 32.1**	**+0.3**
	baz=276						
TWT				*i* S	**Sn**	**17 59 40.8**	**+0.8**

	baz=276							
TWE	**Neicheng**	**0.53 353**	*e*P	**Pn**	**17 59 31.8**	**+0.1**		
	baz=352							
TWE			*e*S	**Sn**	**17 59 40.6**	**+0.8**		
	baz=352							
EOS4	**EOS4**	**0.53 98**	P	**Pn**	**17 59 31.4**	**0.0**		
	baz=97							
EOS4			S	**Sn**	**17 59 40.2**	**+0.9**		
	baz=97							
EOS3	**EOS3**	**0.53 80**	*i* P	**Pn**	**17 59 32.4**	**+0.8**		
	baz=79							
EOS3			*e*S	**Sn**	**17 59 42.1**	**+2.4**		
	baz=79							
TDCB	**Techi**	**0.54 276**	P	**Pn**	**17 59 32.0**	**+0.1**		
	baz=277							
TDCB			S	**Sn**	**17 59 40.5**	**+0.2**		
	baz=277							
CHGB	**Renai**	**0.54 255**	⇑*i* P	**Pn**	**17 59 31.9**	**-0.2**		
	baz=252							
CHGB			*i* S	**Sn**	**17 59 40.2**	**-0.2**		
	baz=252							
OWD	**Renai**	**0.57 245**	P	**Pn**	**17 59 32.0**	**-0.3**		
	baz=241							
OWD			*e*S	**Sn**	**17 59 40.7**	**-0.4**		
	baz=241							
WARBT	**Fenglin Townsh**	**0.58 214**	⇑*i* P	**Pn**	**17 59 30.9**	**-1.4**		
	baz=217							
WARBT			S	**Sn**	**17 59 39.2**	**-1.7**		
	baz=217							
YHNB	**Yeheng**	**0.58 325**	P	**Pn**	**17 59 32.3**	**-0.2**		
YHNB	**Yeheng**	**0.58 325**	⇓*i* P	**Pn**	**17 59 32.2**	**-0.2**		
	baz=326							
YHNB			S	**Sn**	**17 59 40.5**	**-0.5**		
	baz=326							
FUSB	**Fushanzhiwuyua**	**0.58 346**	P	**Pn**	**17 59 32.3**	**-0.1**		
	baz=347							
FUSB			S	**Sn**	**17 59 41.1**	**0.0**		
	baz=347							
NSK	**Sanguang**	**0.59 324**	P	**Pn**	**17 59 32.4**	**-0.2**		
	baz=326							
NSK			S	**Sn**	**17 59 41.0**	**-0.4**		
	baz=326							
EGFH	**Guangfu**	**0.60 209**	*e*P	**Pn**	**17 59 31.3**	**-1.3**		
	baz=215							
WUSB	**Renai**	**0.61 250**	*i* P	**Pn**	**17 59 32.7**	**-0.1**		
	baz=247							
WUSB			S	**Sn**	**17 59 41.9**	**+0.1**		
	baz=247							
NWLT	**Wulai**	**0.62 339**	P	**Pn**	**17 59 32.9**	**0.0**		
	baz=335							
NWLT			S	**Sn**	**17 59 41.8**	**-0.2**		
	baz=335							
VWDT	**VWDT**	**0.70 231**	*i* P	**Pn**	**17 59 33.8**	**-0.2**		
	baz=223							
VWDT			*e*S	**Sn**	**17 59 43.5**	**-0.4**		
	baz=223							
NFF	**Wufeng Townshi**	**0.72 307**	P	**Pn**	**17 59 34.4**	**+0.2**		
	baz=309							
NFF			S	**Sn**	**17 59 44.0**	**-0.2**		
	baz=309							
WHP	**Taichung City**	**0.73 277**	P	**Pn**	**17 59 35.0**	**+0.6**		
	baz=277							
WHP			S	**Sn**	**17 59 45.0**	**+0.4**		
	baz=277							
HGSD	**Ruisui**	**0.76 203**	*e*P	**Pn**	**17 59 34.4**	**-0.3**		
	baz=211							
WCS	**Beigang Elemen**	**0.77 260**	P	**Pn**	**17 59 35.0**	**+0.2**		
	baz=260							
WCS			S	**Sn**	**17 59 46.1**	**+0.7**		
	baz=260							
EHY	**Hungye**	**0.79 209**	*e*P	**Pn**	**17 59 33.5**	**-1.6**		
	baz=206							
EHY			*e*S	**Sn**	**17 59 43.5**	**-2.3**		
	baz=206							
NHDH	**Xindian Distri**	**0.79 346**	P	**Pn**	**17 59 34.9**	**-0.2**		
	baz=347							
NHDH			*e*S	**Sn**	**17 59 45.9**	**0.0**		
	baz=347							
LIOB	**Emei**	**0.80 304**	*e*P	**Pn**	**17 59 35.7**	**+0.4**		
	baz=305							
LIOB			*e*S	**Sn**	**17 59 47.1**	**+1.0**		
	baz=305							
NSTT	**Nanjuang**	**0.80 303**	P	**Pn**	**17 59 35.7**	**+0.4**		
	baz=303							
NSTT			S	**Sn**	**17 59 46.9**	**+0.7**		
	baz=303							
TATO	**Taipei**	**0.81 343**	P	**Pn**	**17 59 35.3**	**-0.1**		
SSLB	**Suanglung**	**0.83 241**	P	**Pn**	**17 59 35.6**	**-0.1**		
SSLB	**Suanglung**	**0.83 241**	P	**Pn**	**17 59 35.3**	**-0.4**		
	baz=238							
SSLB			*e*S	**Sn**	**17 59 48.1**	**+1.3**		
	baz=238							
SMLT	**Sun Moon Lake**	**0.83 248**	*e*P	**Pn**	**17 59 35.9**	**+0.1**		
	baz=242							
SMLT			*e*S	**Sn**	**17 59 47.6**	**+0.5**		
	baz=242							
TWB1	**Santiao Chiao**	**0.84 15**	P	**Pn**	**17 59 36.3**	**+0.5**		
	baz=28							
TWB1			*e*S	**Sn**	**17 59 49.0**	**+1.9**		
	baz=28							
NHY	**Taipei**	**0.85 349**	*e*P	**Pn**	**17 59 36.1**	**+0.1**		
	baz=336							
TYC	**Yuchr**	**0.86 250**	*e*P	**Pn**	**17 59 36.1**	**+0.1**		
	baz=245							
TYC			*e*S	**Sn**	**17 59 48.1**	**+0.5**		
	baz=245							
NWF	**Wu-fen Shan**	**0.87 2**	*e*P	**Pn**	**17 59 36.6**	**+0.3**		
	baz=348							
NWF			S	**Sn**	**17 59 49.3**	**+1.3**		
	baz=348							
WFSB	**Wu-fen Shan**	**0.87 2**	P	**Pn**	**17 59 36.5**	**+0.3**		
	baz=349							
WFSB			*e*S	**Sn**	**17 59 49.1**	**+1.3**		
	baz=349							
YULB	**Yu-li**	**0.90 207**	P	**Pn**	**17 59 35.1**	**-1.5**		
YULB	**Yu-li**	**0.90 207**	*e*P	**Pn**	**17 59 34.8**	**-1.8**		
	baz=205							
SXI1	**Grass Mountain**	**0.90 8**	P	**Pn**	**17 59 37.5**	**+0.8**		
	baz=354							
SXI1			*e*S	**Sn**	**17 59 50.1**	**+1.4**		
	baz=354							
SBCB	**Hsinchu**	**0.91 311**	P	**Pn**	**17 59 36.9**	**+0.2**		
	baz=323							
SBCB			*e*S	**Sn**	**17 59 50.5**	**+1.7**		
	baz=323							
NCUH	**Zhongli**	**0.92 327**	*e*P	**Pn**	**17 59 37.0**	**+0.1**		
	baz=326							
NCUH			*i* S	**Sn**	**17 59 49.5**	**+0.5**		
	baz=326							
NCU	**National Centr**	**0.92 327**	P	**Pn**	**17 59 36.8**	**-0.1**		
	baz=327							
NCU			S	**Sn**	**17 59 49.6**	**+0.6**		
	baz=327							
NSY	**Sanyi**	**0.92 284**	*e*P	**Pn**	**17 59 36.7**	**-0.2**		
	baz=284							
NSY			*e*S	**Sn**	**17 59 48.9**	**-0.2**		
	baz=284							
HSN	**Hsinchu**	**0.93 311**	*e*P	**Pn**	**17 59 37.1**	**+0.2**		
	baz=314							
HSN			*e*S	**Sn**	**17 59 49.9**	**+0.7**		
	baz=314							
EYUL	**Yuli**	**0.93 205**	*e*P	**Pn**	**17 59 36.7**	**-0.3**		
	baz=212							
NMLH	**Miaoli**	**0.93 292**	P	**Pn**	**17 59 37.1**	**+0.1**		
	baz=291							
NMLH			S	**Sn**	**17 59 50.2**	**+0.9**		
	baz=291							
TWF1	**Yuli**	**0.93 206**	*e*P	**Pn**	**17 59 35.1**	**-2.0**		
	baz=211							
TWS1	**Kuangyinshan**	**0.95 342**	P	**Pn**	**17 59 36.9**	**-0.4**		
	baz=342							
TWS1			*e*S	**Sn**	**17 59 50.9**	**+1.2**		
	baz=342							
WHYT	**Xinyi Township**	**0.95 239**	*i* P	**Pn**	**17 59 37.8**	**+0.4**		
	baz=238							
WHYT			*i* S	**Sn**	**17 59 51.8**	**+1.9**		
	baz=238							
YM01	**YM01**	**0.96 351**	P	**Pn**	**17 59 36.9**	**-0.5**		
	baz=340							
YM01			*e*S	**Sn**	**17 59 48.2**	**-1.8**		
	baz=340							
TCU	**Taichung**	**0.97 267**	P	**Pn**	**17 59 38.1**	**+0.5**		
	baz=267							
TCU			*e*S	**Sn**	**17 59 51.6**	**+1.2**		
	baz=267							
YM08	**YM08**	**1.00 352**	P	**Pn**	**17 59 37.1**	**-0.8**		
	baz=340							
NTST	**Danshui**	**1.00 345**	*e*P	**Pn**	**17 59 37.7**	**-0.3**		
	baz=343							
WJS	**Zhushan**	**1.00 248**	*i* P	**Pn**	**17 59 39.2**	**+1.2**		
	baz=248							
WJS			S	**Sn**	**17 59 53.3**	**+2.4**		
	baz=248							
ANP	**Anpu**	**1.01 348**	*e*P	**Pn**	**17 59 37.6**	**-0.6**		
	baz=348							
ANP			*e*S	**Sn**	**17 59 51.8**	**+0.5**		
	baz=348							
WDJ	**Dajia District**	**1.02 279**	*e*P	**Pn**	**17 59 38.3**	**+0.2**		
	baz=279							
WDJ			*e*S	**Sn**	**17 59 52.3**	**+1.0**		
	baz=279							
WNT	**Mingjian**	**1.02 252**	*e*P	**Pn**	**17 59 39.1**	**+0.9**		
	baz=252							
WNT			*e*S	**Sn**	**17 59 53.3**	**+2.0**		
	baz=252							
FULB	**Fuli**	**1.07 203**	*e*P	**Pn**	**17 59 38.5**	**-0.5**		
	baz=209							
FULB			*e*S	**Sn**	**17 59 53.7**	**+0.9**		
	baz=209							
TWY	**Chenhua**	**1.08 353**	*e*P	**Pn**	**17 59 39.4**	**+0.3**		
	baz=342							
TWY			*e*S	**Sn**	**17 59 52.9**	**-0.1**		
	baz=342							
WCHH	**Zhanghua**	**1.09 264**	*e*P	**Pn**	**17 59 39.9**	**+0.8**		
	baz=264							
WCHH			*e*S	**Sn**	**17 59 54.6**	**+1.5**		
	baz=264							
ALS	**Alishan**	**1.10 232**	P	**Pn**	**17 59 40.0**	**+0.4**		
	baz=223							
ALS			*e*S	**Sn**	**17 59 54.8**	**+1.1**		
	baz=223							
CHN5	**Tsauling**	**1.14 239**	P	**Pn**	**17 59 40.5**	**+0.5**		
	baz=238							
CHN5			*e*S	**Sn**	**17 59 56.7**	**+2.2**		
	baz=238							
CHKT	**Chengkung**	**1.15 198**	*e*P	**Pn**	**17 59 39.5**	**-0.5**		
	baz=202							
CHKT			*e*S	**Sn**	**17 59 54.1**	**-0.3**		
	baz=202							
EHD	**Haiduan**	**1.15 205**	*e*P	**Pn**	**17 59 38.2**	**-1.9**		
	baz=203							
YOJ	**Yonaguni jima**	**1.19 77**	P	Pn	17 59 29.7	-11		
YOJ	**Yonaguni jima**	**1.19 77**	P	**Pn**	**17 59 40.5**	**0.0**		
ECS	**Chishang**	**1.20 204**	*e*P	**Pn**	**17 59 40.0**	**-0.6**		
	baz=201							
ELDTW	**Lidau**	**1.20 214**	*e*P	**Pn**	**17 59 39.6**	**-1.3**		
	baz=202							
ELDTW			*e*S	**Sn**	**17 59 55.9**	**-0.2**		
	baz=202							
WDLH	**Douliu**	**1.21 246**	*e*P	**Pn**	**17 59 42.0**	**+1.2**		
	baz=245							
WDLH			*e*S	**Sn**	**17 59 58.7**	**+2.6**		
	baz=245							
WRL	**Guolierlin Hig**	**1.28 257**	*e*P	**Pn**	**17 59 41.8**	**0.0**		
	baz=257							
WRL			*e*S	**Sn**	**17 59 57.9**	**0.0**		
	baz=257							
EDH	**Donghe**	**1.28 198**	*e*P	**Pn**	**17 59 41.2**	**-0.6**		
	baz=195							
EDH			*e*S	**Sn**	**17 59 58.6**	**+0.8**		
	baz=195							
WCKO	**Fanlu**	**1.29 234**	*e*P	**Pn**	**17 59 43.0**	**+1.2**		
	baz=234							
WCKO			*e*S	**Sn**	**18 00 00.8**	**+2.8**		
	baz=234							
WTK	**Tuku**	**1.34 248**	*i* P	**Pn**	**17 59 43.2**	**+0.6**		
	baz=261							
WTK			S	**Sn**	**18 00 01.2**	**+2.0**		
	baz=261							
CHN4	**Tsaushan**	**1.35 232**	*e*P	**Pn**	**17 59 43.7**	**+1.0**		
	baz=231							
CHN4			*e*S	**Sn**	**18 00 01.6**	**+2.1**		
	baz=231							
STYH	**Taoyuan**	**1.35 221**	*e*P	**Pn**	**17 59 43.2**	**+0.4**		
	baz=221							
STYH			*e*S	**Sn**	**18 00 00.9**	**+1.4**		
	baz=221							
TPUB	**Ta-pu**	**1.35 229**	P	**Pn**	**17 59 44.1**	**+1.3**		
TPUB	**Ta-pu**	**1.35 229**	*e*P	**Pn**	**17 59 43.6**	**+0.8**		
	baz=219							
TPUB			*e*S	**Sn**	**18 00 01.6**	**+1.9**		
	baz=219							
CHY	**Chiayi**	**1.39 240**	P	**Pn**	**17 59 44.2**	**+0.9**		
	baz=251							
CHY			*e*S	**Sn**	**18 00 02.9**	**+2.4**		
	baz=251							
LONT	**Longtian**	**1.40 204**	*e*P	**Pn**	**17 59 41.8**	**-1.6**		
	baz=191							
WTP	**Ta-pu**	**1.40 228**	*i* P	**Pn**	**17 59 44.2**	**+0.7**		
	baz=227							
WTP			*e*S	**Sn**	**18 00 02.9**	**+2.0**		
	baz=227							
TWK	**Hsinying**	**1.48 231**	*e*P	**Pn**	**17 59 45.5**	**+1.0**		
	baz=231							
TWK			*e*S	**Sn**	**18 00 04.8**	**+2.2**		
	baz=231							
WSF	**Szhu**	**1.50 249**	*e*P	**Pn**	**17 59 45.1**	**+0.4**		
	baz=259							
WSF			S	**Sn**	**18 00 04.2**	**+1.1**		
	baz=259							
SNST	**Tainan City**	**1.50 230**	*e*P	**Pn**	**17 59 45.8**	**+1.0**		
	baz=230							
SNST			*e*S	**Sn**	**18 00 05.1**	**+2.0**		
	baz=230							
CHN1	**Nanshi**	**1.50 228**	P	**Pn**	**17 59 45.6**	**+0.8**		
	baz=228							
CHN1			*e*S	**Sn**	**18 00 05.2**	**+1.9**		
	baz=228							
TWG	**Pinlang**	**1.50 204**	*e*P	**Pn**	**17 59 43.4**	**-1.4**		
	baz=193							
TWG			*e*S	**Sn**	**18 00 01.0**	**-2.2**		
	baz=193							
TWGBT	**Beinan**	**1.50 204**	P	**Pn**	**17 59 45.2**	**+0.4**		
TWGBT	**Beinan**	**1.50 204**	*e*P	**Pn**	**17 59 43.0**	**-1.8**		
	baz=192							
LDUT	**Ludao**	**1.54 189**	*e*S	**Sn**	**18 00 03.6**	**-0.4**		
	baz=197							
WSL	**Shuilin Townsh**	**1.54 244**	P	**Pn**	**17 59 46.2**	**+0.9**		
	baz=256							
WSL			*e*S	**Sn**	**18 00 06.9**	**+2.8**		
	baz=256							
SLGT	**Liugui**	**1.56 220**	*e*P	**Pn**	**17 59 46.7**	**+1.1**		
	baz=220							
SLGT			*e*S	**Sn**	**18 00 06.9**	**+2.1**		
	baz=220							
ICHU	**Yijhu**	**1.58 238**	*e*P	**Pn**	**17 59 46.7**	**+0.9**		
	baz=227							
ICHU			*e*S	**Sn**	**18 00 08.0**	**+3.0**		
	baz=227							
CHN8	**Yiju**	**1.64 239**	P	**Pn**	**17 59 47.4**	**+0.7**		
	baz=239							
CHN8			*e*S	**Sn**	**18 00 09.1**	**+2.6**		
	baz=239							
CHN3	**Shinhua**	**1.69 229**	P	**Pn**	**17 59 49.0**	**+1.7**		
	baz=229							
CHN3			*e*S	**Sn**	**18 00 12.0**	**+4.3**		
	baz=229							
SHHT	**Tainan City**	**1.73 228**	*e*P	**Pn**	**17 59 49.7**	**+1.7**		
	baz=228							
SCLT	**Jiali**	**1.75 235**	P	**Pn**	**17 59 48.9**	**+0.7**		
	baz=224							
SCLT			S	**Sn**	**18 00 10.8**	**+1.6**		
	baz=224							
ECL	**Taimali**	**1.75 205**	*e*P	**Pn**	**17 59 47.8**	**-0.4**		
	baz=194							
SSD	**Sandimen**	**1.77 215**	*e*P	**Pn**	**17 59 49.7**	**+1.3**		
	baz=203							
SSD			*e*S	**Sn**	**18 00 11.8**	**+2.0**		
	baz=203							
TSMG	**Majia**	**1.79 214**	*e*P	**Pn**	**17 59 50.2**	**+1.4**		
	baz=226							
TSMG			*e*S	**Sn**	**18 00 13.7**	**+3.3**		
	baz=226							
IRIF	**Iriomote-Funau**	**1.82 85**	*e*P	**Pn**	**17 59 48.8**	**-0.4**		
IRIF			*e*S	**Sn**	**18 00 10.2**	**-0.8**		
TWM1	**Shoushan**	**1.83 222**	P	**Pn**	**17 59 51.2**	**+1.9**		
	baz=222							
TSCK	**Chigu Township**	**1.84 236**	*e*P	**Pn**	**17 59 49.8**	**+0.3**		
	baz=236							
TSCK			*e*S	**Sn**	**18 00 12.3**	**+0.7**		
	baz=236							
MASBT	**Mashibuluo**	**1.88 213**	*e*P	**Pn**	**17 59 50.6**	**+0.6**		
	baz=214							
MASBT			*e*S	**Sn**	**18 00 14.7**	**+2.2**		
	baz=214							
SNJT	**Kaohsiung City**	**1.93 222**	*e*P	**Pn**	**17 59 52.2**	**+1.5**		
	baz=223							
EAST	**Anshuo**	**1.98 205**	*e*P	**Pn**	**17 59 51.9**	**+0.4**		
	baz=194							
TAWH	**Dawu Township**	**2.01 203**	*e*P	**Pn**	**17 59 52.7**	**+1.0**		
	baz=193							
WSSB	**Gushan**	**2.06 222**	P	**Pn**	**17 59 53.5**	**+1.0**		
	baz=222							
JKRS	**Kuro-shima**	**2.07 88**	*e*S	**Sn**	**18 00 17.6**	**+0.5**		
SCZT	**Fangliau**	**2.09 210**	*e*P	**Pn**	**17 59 53.8**	**+0.9**		
	baz=223							
SCZT			*e*S	**Sn**	**18 00 20.6**	**+3.0**		
	baz=223							
PNG	**Penghu**	**2.10 253**	P	**Pn**	**17 59 51.8**	**-1.1**		
	baz=253							
PNG			S	**Sn**	**18 00 16.1**	**-1.8**		
	baz=253							
PHUB	**P'eng-hu**	**2.10 252**	*e*P	**Pn**	**17 59 49.7**	**-3.3**		
	baz=251							
PHUB			*e*S	**Sn**	**18 00 16.1**	**-1.8**		
	baz=251							
LYUB	**Lan-yu**	**2.19 184**	*e*P	**Pn**	**17 59 51.2**	**-3.0**		
	baz=182							
JIJ	**Ishigaki jima**	**2.20 85**	P	**Pn**	**17 59 53.9**	**-0.4**		
JIJ			S	**Sn**	**18 00 19.3**	**-1.0**		
VWUC	**VWUC**	**2.23 291**	*e*P	**Pn**	**17 59 53.3**	**-1.5**		
	baz=291							
VCHM	**Qimei**	**2.34 246**	*e*P	**Pn**	**17 59 55.3**	**-0.9**		
	baz=245							
VCHM			*e*S	**Sn**	**18 00 22.1**	**-1.6**		
	baz=245							
HEN	**Hengchun**	**2.37 203**	*e*P	**Pn**	**17 59 59.1**	**+2.4**		
	baz=194							
JISG	**Ishigakijimahi**	**2.37 80**	*e*P	**Pn**	**17 59 56.5**	**-0.3**		
JISG			*e*S	**Sn**	**18 00 23.2**	**-1.4**		
PTMZ	**Houxiangcun**	**2.53 290**	*e*P	**Pn**	**17 59 57.4**	**-1.5**		
	baz=290							
MATB	**Ma-tsu**	**2.54 320**	*e*P	**Pn**	**17 59 57.0**	**-2.0**		
	baz=318							
JTJ	**Tarama**	**2.73 80**	*e*S	**Sn**	**18 00 32.7**	**-0.8**		
LYJJ	**Jianjiangzhen**	**2.95 323**	*e*P	**Pn**	**18 00 02.7**	**-2.0**		
	baz=320							
KNM	**Kinmen**	**3.03 275**	*e*P	**Pn**	**18 00 06.2**	**+0.5**		
	baz=275							
XPSS	**Dashiqiu**	**3.06 333**	*e*P	**Pn**	**18 00 04.3**	**-1.9**		
	baz=328							
KNMB	**Chin-men Tao**	**3.07 276**	*e*P	**Pn**	**18 00 04.4**	**-1.9**		
	baz=276							
MHZQ	**Yeshan**	**3.10 308**	*e*P	**Pn**	**18 00 05.1**	**-1.7**		
	baz=307							
AXDP	**Jialang**	**3.51 282**	*e*P	**Pn**	**18 00 10.7**	**-1.6**		
	baz=283							
DSXP	**Dongshan**	**3.98 264**	*e*P	**Pn**	**18 00 17.4**	**-1.4**		
	baz=264							

BJI ***19*** *18:05:51.6±0.0, 16°.82N×147°.84E, h32km, mb4.7/48, mB5.1/29, Ms4.4/7, Ms7 4.1/10*

IDC ***19*** *18:05:51.8±0.6, 17°.07N×147°.36E, h0km, mb4.5/23, mbtmp4.5/25, ML4.8/2, MS3.7/35, Error ellipse: s-maj=21.9km s-min=12.5km az=85.0*

DJA ***19*** *18:05:53.3±2.2, 17°N±4°×14°E±°, h20km±15km, M5.0/26, mb5.0/26, mB5.7/6, MLv4.8/1, Mw(mB)5.2/6*

NEIC ***19*** *18:05:57.5±1.8, 17°.01N±0°.09×147°.44E±0°.05, h37km±8km, mb4.9/61, Error ellipse: s-maj=14.2km s-min=3.2km az=155.0*

ISC 19 18:05:56.9±0.6, 17°.00N±0°.04×147°.37E±0°.09, h34km±1km, h34km:pP-P, n144, σ1§14/136, mb4.8/69, MS3.7/36, 2C,

Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.16**	**216**	Pn	**Pn**	**18 06 58.6**	**+0.7**
GUMO				Sn	**Sn**	**18 07 46.5**	**+1.0**
GUMO	**Guam**	**4.16**	**216**	Pn	**Pn**	**18 06 57.9**	**0.0**
	36nm,0.3s,baz=174,slow=11,SNR=6.6						
GUMO				Sn	**Sn**	**18 07 46.1**	**+0.7**
	80nm,0.3s,baz=16,slow=20,SNR=6.7						
	111nm,0.6s						
JCJ	**Chichijima**	**11.13**	**335**	Pn	**Pn**	**18 08 32.8**	**-0.9**
JCJ	**Chichijima**	**11.13**	**335**	Pn	**Pn**	**18 08 31.2**	**-2.4**
	9.5nm,0.3s,baz=83,slow=19,SNR=5.5						
JCJ				Sn	**Sn**	**18 10 32.4**	**-4.6**
	5.5nm,0.3s,baz=127,slow=18,SNR=3.5						
	26nm,0.5s						
PATS	**Pohnpei**	**14.71**	**132**	Pn	Pn	18 09 14.6	-8.1
JHJ2	**Mitsune**	**17.43**	**338**	Pn	**Pn**	**18 09 54.6**	**-2.7**
JOW	**Kunigami**	**20.21**	**302**	LR	LR	18 17 05.8	
	comp=Z,272nm,20.9s,baz=103,slow=33						
INU	**Inuyama**	**20.47**	**335**	P	**P**	**18 10 32.4**	**+0.8**
INU				IAmb	IAmb	18 10 34.9	
	comp=Z,62nm,1.0s						
JAY	**Jayapura**	**20.48**	**199**	P	**P**	**18 10 29.4**	**-2.5**
	comp=Z,30nm,1.1s,comp=Z,687nm						
GENI	**Genyem**	**20.73**	**201**	P	**P**	**18 10 31.6**	**-3.0**
	comp=Z,44nm,1.0s						
MJAR	**Matsushiro Arr**	**21.09**	**339**	P	**P**	**18 10 37.0**	**-1.4**
	comp=Z,14nm,0.9s,baz=181,slow=12,SNR=22						
	comp=Z,14nm,0.9s						
MAJO	**Matsushiro**	**21.09**	**339**	P	**P**	**18 10 38.3**	**-0.1**
MAJO				IAmb	IAmb	18 10 44.0	
	comp=Z,76nm,1.4s						
MJB9	**Matsu-Tunnel**	**21.09**	**339**	P	**P**	**18 10 39.4**	**+1.0**
MJB9				IAmb	IAmb	18 10 45.0	
	comp=Z,75nm,1.4s						
KRVT	**Keravat (AS076**	**21.67**	**167**	P	**P**	**18 10 44.8**	**+0.1**
	comp=Z,14nm,0.5s,baz=43,slow=4.8,SNR=4.7						
KRVT				LR	LR	18 17 31.3	
	comp=Z,131nm,21.3s,baz=80,slow=32						
	comp=Z,14nm,0.5s						
JNU	**Nakatsue**	**21.88**	**320**	LR	LR	18 18 31.7	
	comp=Z,121nm,18.8s,baz=90,slow=35						
JSD	**Sado**	**22.43**	**341**	P	**P**	**18 10 52.8**	**+0.1**
SWI	**Sorong**	**23.82**	**223**	P	**P**	**18 11 05.6**	**-1.3**
	comp=Z,62nm,1.4s						
FAKI	**Fak Fak**	**24.79**	**218**	P	**P**	**18 11 15.2**	**-0.6**
	comp=Z,27nm,1.3s						
YHNB	**Yeheng**	**25.43**	**292**	P	**P**	**18 11 21.7**	**0.0**
KSRS	**Korea Array**	**26.62**	**324**	P	**P**	**18 11 31.0**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=145,slow=7.9,SNR=6.7						
KSRS				LR	LR	18 21 10.5	
	comp=Z,174nm,19.4s,baz=130,slow=35						
	comp=Z,1.7nm,0.7s						
ASAJ	**Asahikawa**	**27.33**	**353**	LR	LR	18 25 03.2	
	comp=Z,95nm,18.5s,baz=157,slow=42						
KMSI	**Cibinong**	**28.22**	**237**	P	**P**	**18 11 45.1**	**-1.7**
	comp=Z,49nm,0.9s						
SANI	**Sanana**	**28.34**	**230**	P	**P**	**18 11 44.7**	**-3.1**
	comp=Z,21nm,1.1s						
NJ2	**Nanjing**	**29.84**	**305**	*e*P	**P**	**18 12 02.3**	**+1.4**
NJ2				pP	**pP**	**18 12 11.3**	**+1.9**
NJ2				sP	**pwP**	**18 12 15.1**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,13nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,370nm,8.8s						
MDJ	**Mudanjiang**	**31.33**	**335**	P	**P**	**18 12 14.8**	**+0.8**
MDJ				pP	sP	18 12 24.8	-0.8
MDJ				sP	pwP	18 12 28.4	-0.2
MDJ				PcP	**PcP**	**18 15 08.9**	**+1.4**
MDJ				S	**S**	**18 17 19.8**	**+1.0**
MDJ				sS	sS	18 17 36.8	+3.5
MDJ				ScP	**ScP**	**18 18 48.1**	**0.0**
MDJ				PcS	**PcS**	**18 18 52.5**	**+0.9**
MDJ				SS	**SnSn**	**18 19 07.3**	**+3.4**
MDJ				ScS	**Sc

comp=Z,36nm,1.2s
HEH HeiHe 36.85 339 *eP* **P 18 13 01.3 -0.5**
HEH pmax pmax
comp=Z,23nm,1.3s
HEH pmax pmax
comp=Z,240nm,5.4s
CTA Charters Tower 36.88 182 LR LR 18 27 03.7
comp=Z,61nm,20.4s,baz=348,slow=34
PETK Petropavlovsk- 36.93 10 LR LR 18 32 58.9
comp=Z,80nm,18.0s,baz=185,slow=44
SBUM Sibu 37.44 251 P **P 18 13 07.2 0.0**
XLT XiLinHaoTe 37.64 322 *eP* **P 18 13 07.1 -1.6**
XLT sP sP 18 13 21.9 +1.5
XLT pmax pmax
comp=Z,13nm,1.1s
XLT pmax pmax
comp=Z,97nm,5.5s
WB0 Warramunga Arr 38.70 200 P **P 18 13 17.0 -0.8**
GYA Guiyang 38.83 291 *eP* **P 18 13 20.3 +1.3**
GYA pmax pmax
comp=Z,9.0nm,0.9s
WR0 Warramunga Arr 38.83 199 P **P 18 13 18.5 -0.3**
WR0 IAmb IAmb 18 13 21.5
comp=Z,11nm,0.8s
WRAB Tennant Creek 38.87 200 P **P 18 13 19.1 -0.1**
WRAB IAmb IAmb 18 13 22.8
comp=Z,12nm,0.7s
WRAB Tennant Creek 38.87 200 P **P 18 13 19.0 -0.1**
WRAB pP **sP 18 13 29.7 -1.8**
WB2 Warramunga Arr 38.88 200 P **P 18 13 18.9 -0.3**
WB2 IAmb IAmb 18 13 21.9
comp=Z,12nm,0.8s
WRA Warramunga Arr 38.88 200 P **P 18 13 17.2 -2.0**
WRA Warramunga Arr 38.88 200 P **P 18 13 19.1 -0.1**
comp=Z,9.1nm,0.7s,baz=21,slow=9.0,SNR=71
WRA PcP **PcP 18 15 31.1 +1.2**
comp=Z,0.7nm,0.5s,baz=17,slow=3.5,SNR=2.6
comp=Z,9.1nm,0.7s
HHC Hu-ho-hao-te 38.92 315 *eP* **P 18 13 19.6 +0.1**
HHC pmax pmax
comp=Z,33nm,0.6s
HHC pmax pmax
comp=Z,180nm,6.6s
KSM Kuching 39.58 251 P **P 18 13 24.8 -0.4**
KSM IAmb IAmb 18 13 26.5
comp=Z,33nm,1.2s
SLVN Son La 41.18 283 P **P 18 13 39.7 +1.1**
AS31 Alice Springs 42.50 198 P **P 18 13 49.0 -0.1**
ASAR Alice Springs 42.51 198 P **P 18 13 48.2 -1.0**
ASAR Alice Springs 42.51 198 P **P 18 13 49.2 0.0**
comp=Z,2.7nm,0.7s,baz=17,slow=8.3,SNR=38
ASAR PcP **PcP 18 15 42.1 +0.6**
comp=Z,1.7nm,0.9s,baz=33,slow=3.4,SNR=3.1
ASAR LR LR 18 31 50.7
comp=Z,64nm,21.2s,baz=24,slow=37
comp=Z,2.7nm,0.7s
MA2 Magadan 42.59 3 LR LR 18 36 52.7
comp=Z,41nm,18.1s,baz=163,slow=44
LZH Lanzhou 42.91 305 *eP* P 18 13 58.5 +5.9
LZH pP pwP 18 14 06.5 -0.8
LZH pmax pmax
comp=Z,15nm,1.2s
DZM Mont Dzumac 43.09 154 LR LR 18 32 50.3
comp=Z,128nm,18.2s,baz=20,slow=38
PZH PanZhiHua 43.23 291 P **P 18 13 55.8 +0.6**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,180nm,5.0s
SONM Songino Array 45.45 322 P **P 18 14 11.9 -0.8**
SONM Songino Array 45.45 322 P **P 18 14 12.5 -0.2**
comp=Z,3.8nm,0.7s,baz=135,slow=8.2,SNR=21
SONM PcP **PcP 18 15 51.5 +0.1**
comp=Z,2.5nm,1.0s,baz=144,slow=2.2,SNR=4.9
comp=Z,3.8nm,0.7s
LEM Lembang 45.88 242 LR LR 18 36 11.1
comp=Z,45nm,18.0s,baz=172,slow=40
CHTO Chiang Mai 46.00 280 P **P 18 14 17.9 +0.6**
CM31 Chiang Mai Arr 46.04 279 P **P 18 14 18.9 +1.3**
CMAR Chiang Mai Arr 46.04 279 P **P 18 14 18.5 +0.9**
CMAR Chiang Mai Arr 46.04 279 P **P 18 14 18.8 +1.2**
comp=Z,16nm,0.9s,baz=70,slow=6.6,SNR=67
CMAR LR LR 18 34 54.6
comp=Z,17nm,18.5s,baz=55,slow=38
comp=Z,16nm,0.9s
TNCH TengChong 46.09 289 P **P 18 14 19.0 +0.8**
TNCH pmax pmax
comp=Z,14nm,1.1s
MBWA Marble Bar 46.61 217 P **P 18 14 21.9 0.0**
MBWA pP **sP 18 14 33.1 -0.8**
YAK Yakutsk 46.68 349 P **P 18 14 22.0 0.0**
YAK Yakutsk 46.68 349 P **P 18 14 24.1 +2.2**
YAK sP **pwP 18 14 39.0 +1.5**
GTA Gaotai 46.84 308 *eP* **P 18 14 24.9 +1.1**
GTA pP sP 18 14 36.0 +0.7
GTA PcP **PcP 18 15 57.9 +1.5**
GTA ScP **ScP 18 19 49.5 +1.8**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,140nm,13.9s
GTA LR LR
comp=Z,190nm,15.5s
GTA LR LR
comp=Z,200nm,18.3s
KULM Kulim 47.16 261 P **P 18 14 27.7 +1.2**
KULM IAmb IAmb 18 14 29.3
comp=Z,18nm,0.8s
SRIT Nakonsritamara 47.22 266 P **P 18 14 27.0 +0.2**
STKA Stephens Creek 48.91 187 P **P 18 14 40.5 +0.9**
comp=Z,2.2nm,0.8s,baz=14,slow=4.3,SNR=2.6
STKA LR LR 18 36 03.2
comp=Z,65nm,20.2s,baz=26,slow=37
comp=Z,2.2nm,0.8s
RPSI Rantau Prapat 49.64 259 P **P 18 14 46.0 +0.4**
RPSI IAmb IAmb 18 14 47.8
comp=Z,22nm,1.2s
GSI Gunungsitoli 51.38 258 P **P 18 14 58.9 +0.2**
SHL Shillong 52.09 289 P **P 18 15 04.0 -0.1**
SHL IAmb IAmb 18 15 13.9
comp=Z,13nm,0.9s
TIXI Tiksi 55.73 353 P **P 18 15 29.4 -0.3**
TAPN Taplejung 55.75 292 *eP* **P 18 15 31.1 +0.1**
WMQ Urumqi 56.62 312 *eP* **P 18 15 37.3 +0.7**
WMQ sP pwP 18 15 54.6 +2.4
WMQ pmax pmax
comp=Z,29nm,1.3s
JIRN Jiri 57.09 292 *eP* **P 18 15 40.8 +0.2**
comp=Z,12nm,0.7s
GUN Gumba 57.35 293 *eP* **P 18 15 42.7 +0.3**
comp=Z,44nm,1.1s
NWAO Narrogin (SRO) 57.40 210 P **P 18 15 42.5 +0.5**
NWAO sP **pwP 18 15 58.2 +0.5**
PKI Pulchoki 57.78 292 *eP* **P 18 15 44.8 -0.6**
comp=Z,11nm,0.8s
PKIN Phulchoki 57.79 292 *eP* **P 18 15 45.5 +0.1**
comp=Z,10nm,0.7s
DMN Daman 58.05 292 *eP* **P 18 15 47.2 0.0**
comp=Z,8.9nm,0.6s
GKN Gorkha 58.44 293 *eP* **P 18 15 49.9 +0.1**
comp=Z,22nm,0.9s
DANN Dangsing 59.19 293 *eP* **P 18 15 55.5 +0.3**
comp=Z,28nm,0.7s
PYUN Piuthan 59.88 293 *eP* **P 18 15 59.8 -0.1**
comp=Z,23nm,0.9s
ZAA0 Zalesovo Array 60.32 323 P **P 18 16 00.7 -1.5**
ZAA0 IAmb IAmb 18 16 03.7
comp=Z,9.6nm,0.8s
ZALV Zalesovo Beam 60.32 323 P **P 18 16 00.6 -1.5**
ZALV Zalesovo Beam 60.32 323 P **P 18 16 01.7 -0.5**
comp=Z,6.6nm,0.6s,baz=101,slow=7.2,SNR=30
ZALV LR LR 18 42 11.0
comp=Z,67nm,20.0s,baz=39,slow=36
comp=Z,6.6nm,0.6s
MK31 Makanchi Array 60.78 314 IAmb IAmb 18 16 07.5
comp=Z,8.5nm,1.1s
MKAR Makanchi Array 60.78 314 P **P 18 16 05.2 -0.3**
MKAR Makanchi Array 60.78 314 P **P 18 16 05.5 +0.1**
comp=Z,2.6nm,0.5s,baz=90,slow=8.1,SNR=33
MKAR LR LR 18 43 00.0
comp=Z,51nm,20.0s,baz=120,slow=37
comp=Z,2.6nm,0.5s
MAKZ Makanchi 60.99 314 P **P 18 16 07.1 +0.2**
MAKZ pP **sP 18 16 18.5 -0.4**
URZ Urewera 61.65 154 LR LR 18 40 47.6
comp=Z,42nm,19.3s,baz=31,slow=34

KURK Kurchatov 63.59 319 P **P 18 16 23.0 -1.1**
KURK Kurchatov 63.59 319 P **P 18 16 23.8 -0.4**
KURBB Kurchatov Arra 63.63 318 P **P 18 16 24.4 -0.1**
comp=Z,17nm,0.9s,baz=99,slow=6.6,SNR=68
comp=Z,17nm,0.9s
RAR Rarotonga 64.25 124 LR LR 18 38 49.8
comp=Z,50nm,20.8s,baz=207,slow=31
ILAR Eielson Array 64.47 26 P **P 18 16 29.5 -0.2**
comp=Z,2.0nm,1.0s,baz=250,slow=6.5,SNR=7.6
ILAR LR LR 18 46 11.4
comp=Z,99nm,18.0s,baz=174,slow=38
comp=Z,2.0nm,1.0s
NRN Naryn 65.07 308 IAmb IAmb 18 16 36.0
comp=Z,13nm,1.6s
AAK Ala-Archa 66.17 310 LR LR 18 47 56.1
comp=Z,45nm,18.6s,baz=76,slow=38
NIL Nilore 67.74 300 P **P 18 16 51.6 +0.2**
NIL Nilore 67.74 300 P **P 18 16 52.6 +1.2**
NIL pP **sP 18 17 03.7 +0.4**
BVAR Borovoye Array 68.79 321 P **P 18 16 57.5 0.0**
comp=Z,18nm,0.8s,baz=94,slow=7.4,SNR=52
BVAR LR LR 18 47 21.1
comp=Z,42nm,20.0s,baz=71,slow=36
comp=Z,18nm,0.8s
BRVK Borovoye 68.85 321 P **P 18 16 57.0 -0.9**
BRVK IAmb IAmb 18 17 00.2
comp=Z,17nm,0.9s
BRVK Borovoye 68.85 321 P **P 18 16 58.3 +0.4**
BRVK pP **sP 18 17 09.8 -0.1**
SIMJ Simiganj 70.61 306 P **P 18 17 09.3 +0.1**
SIMJ pP **sP 18 17 20.4 -0.8**
PPT Papeete 70.95 116 LR LR 18 40 32.4
comp=Z,118nm,19.9s,baz=301,slow=29
KBL Kabul 71.10 301 P **P 18 17 11.3 -1.0**
BBB Bella Bella 73.43 40 LR LR 18 44 39.7
comp=Z,240nm,21.6s,baz=268,slow=32
ARU Arti 75.36 325 P **P 18 17 35.9 -0.9**
ARU IAmb IAmb 18 17 39.2
comp=Z,17nm,1.0s
HRA Herat 76.66 302 IAmb IAmb 18 17 46.4
comp=Z,13nm,1.0s
AKTO Aktyubinsk 76.68 319 LR LR 18 53 21.0
comp=Z,50nm,18.0s,baz=66,slow=37
GEYT Alibeck 79.17 306 IAmb IAmb 18 18 00.3
comp=Z,12nm,1.3s
GEYT Alibeck 79.17 306 P **P 18 17 58.6 0.0**
comp=Z,4.2nm,0.9s,baz=57,slow=11,SNR=7.4
comp=Z,4.2nm,0.9s
KIRV Kirov 79.73 328 LR LR 18 56 22.3
comp=Z,30nm,18.1s,baz=53,slow=38
CMB Columbia Colle 81.45 53 P **P 18 18 11.1 +0.3**
CMB IAmb IAmb 18 18 13.1
comp=Z,21nm,1.8s
J08A Circle Bar Ran 81.48 47 P **P 18 18 10.7 -0.3**
J08A IAmb IAmb 18 18 21.5
comp=Z,19nm,1.5s
PNTR Pine Nut 81.78 52 IAmb IAmb 18 18 25.2
comp=Z,9.3nm,0.8s
BMO Blue Mountains 81.89 46 IAmb IAmb 18 18 25.3
comp=Z,24nm,1.9s
BELG Belogornoye 82.50 322 LR LR 18 57 39.9
comp=Z,43nm,18.0s,baz=160,slow=38
NVAR Mina Array Bea 82.93 52 P **P 18 18 19.8 +1.0**
comp=Z,2.3nm,0.7s,baz=276,slow=6.0,SNR=14
comp=Z,2.3nm,0.7s
KLMR Klimovskoe 83.69 332 *eP* **P 18 18 20.4 -1.6**
KLMR AMP 18 18 22.8
comp=Z,35nm,1.1s
UOSS Minazif 84.01 294 P **P 18 18 23.2 -1.1**
UOSS IAmb IAmb 18 18 25.7
comp=Z,21nm,1.4s
ARCES ARCESS Array B 84.58 343 P **P 18 18 26.7 +0.3**
comp=Z,5.0nm,0.9s,baz=64,slow=8.2,SNR=8.2
comp=Z,5.0nm,0.9s
R11B Troy Canyon, C 85.00 52 P **P 18 18 25.9 -3.5**
R11B IAmb IAmb 18 18 34.3
comp=Z,9.8nm,1.6s
DAG Danmarks Havn 86.05 357 *i* P **P 18 18 35.0 +1.5**
PSUT Pine Spring 86.23 51 P **P 18 18 34.3 -1.2**
PSUT IAmb IAmb 18 18 41.9
comp=Z,6.4nm,0.9s
DUG Dugway, Tooele 86.46 49 IAmb IAmb 18 18 38.9
comp=Z,4.1nm,0.8s
NLU North Lily Min 87.07 49 IAmb IAmb 18 18 53.0
comp=Z,7.1nm,1.3s
OBN Obninsk 87.55 327 LR LR 18 59 18.6
comp=Z,88nm,20.8s,baz=277,slow=37
PDAR Pinedale Array 87.87 46 P **P 18 18 43.6 +0.2**
comp=Z,0.3nm,0.6s,baz=242,slow=7.1,SNR=2.7
comp=Z,0.3nm,0.6s
KBZ Khabaz 88.46 315 P **P 18 18 45.4 -0.4**
comp=Z,5.4nm,1.0s,baz=162,slow=3.9,SNR=8.8
KBZ LR LR 19 01 59.9
comp=Z,32nm,19.1s,baz=40,slow=38
comp=Z,5.4nm,1.0s
RDMU Red Mountain 88.65 48 IAmb IAmb 18 18 55.9
comp=Z,6.1nm,1.0s
FINES FINESS Array B 89.08 336 P **P 18 18 48.1 -0.2**
comp=Z,5.2nm,0.7s,baz=66,slow=5.0,SNR=24
FINES LR LR 19 01 00.9
comp=Z,37nm,20.8s,baz=19,slow=37
comp=Z,5.2nm,0.7s
WUAZ Wupatki 89.10 53 IAmb IAmb 18 18 56.7
comp=Z,8.1nm,1.1s
NACGM Naroch 92.52 330 *eP* **P 18 19 04.5 0.0**
comp=N,590nm,0.9s
AKASG Malin Array Be 93.59 326 P **P 18 19 09.2 -0.3**
comp=N,0.3nm,0.4s,baz=52,slow=2.8,SNR=4.5
AKASG LR LR 19 02 50.7
comp=N,44nm,19.8s,baz=16,slow=37
comp=N,0.3nm,0.4s
HFS Hagfors 94.54 339 P **P 18 19 13.3 -0.4**
comp=N,1.3nm,0.7s,baz=60,slow=3.6,SNR=2.2
HFS LR LR 19 06 32.0
comp=N,30nm,18.5s,baz=58,slow=38
comp=N,1.3nm,0.7s
NOA NORSAR Array B 94.70 340 P **P 18 19 14.2 -0.3**
comp=N,0.6nm,0.8s,baz=38,slow=5.1,SNR=2.2
NOA LR LR 19 05 56.7
comp=N,26nm,21.0s,baz=350,slow=38
comp=N,0.6nm,0.8s
FRB Frobisher Bay 94.84 15 LR LR 19 07 41.9
comp=N,35nm,18.4s,baz=325,slow=39
BRTR Keskin Array B 96.43 315 P **P 18 19 22.3 -0.7**
comp=N,2.1nm,1.0s,baz=116,slow=2.9,SNR=8.5
BRTR LR LR 19 08 11.0
comp=N,28nm,18.2s,baz=21,slow=39
comp=N,2.1nm,1.0s
MMAI Mount Meron Ar 98.23 308 LR LR 19 09 18.8
comp=N,16nm,18.1s,baz=5.5,slow=39
SNAA Sanae 122.57 191 PKP **PKPdf 18 24 48.2 -0.1**
comp=N,0.6nm,0.6s,baz=197,slow=4.1,SNR=6.0
TORD Torodi Ar. Bea 134.75 309 PKP **PKPdf 18 25 12.8 -0.1**
comp=N,1.8nm,1.0s,baz=32,slow=2.1,SNR=6.4
DBIC Dimbokro 143.84 308 PKP **PKPdf 18 25 29.0 -0.5**
comp=N,6.3nm,0.9s,baz=49,slow=3.0,SNR=4.6

NEIC ***19*** *18:30:31.5±1.4, 17°.45±0°.2×178°.1W±0°.2, h512km±14km, mb4.3/11, Error ellipse: s-maj=26.3km s-min=18.1km az=133.0*
IDC ***19*** *18:30:36.1±2.1, 17°.77S×178°.65W, h515km±19km, mb3.1/6, mbtmp4.0/7, Error ellipse: s-maj=58.8km s-min=19.9km az=150.0*
ISC 19 18:30:35.0±1.2, 17°.8S±0°.3×178°.6W±0°.2, h500km, n26, σ1§21/22, mb4.1/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.19**	**270**	P	**P**	**18 31 49.3**	**+2.0**
MSVF	**Nonsavu**	**3.19**	**270**	P	**P**	**18 31 49.5**	**+2.2**
91nm,0.7s,baz=114,slow=5.1,SNR=42							
AFI	**Afiamalu**	**7.61**	**61**	P	P	18 32 17.1	-10
FUNA	**Funafuti**	**9.43**	**347**	P	P	18 32 40.0	-6.4
CTAO	**Charters Tower**	**33.29**	**260**	P	**P**	**18 36 30.9**	**+0.3**
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**18 37 03.5**	**+1.0**
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**18 37 14.2**	**+0.1**
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**18 37 13.7**	**-0.4**
0.6nm,0.3s,baz=43,slow=9.5,SNR=3.0							
0.6nm,0.3s							
BBOO	**Buckleboo**	**43.31**	**241**	P	**P**	**18 37 52.3**	**+0.1**
BBOO				IAmb	IAmb	18 38 36.2	
comp=Z,17nm,1.2s							
WB0	**Warramunga Arr**	**44.44**	**260**	P	**P**	**18 38 00.1**	**-1.0**
WB0				IAmb	IAmb	18 38 26.4	
comp=Z,9.2nm,1.5s							
WB2	**Warramunga Arr**	**44.46**	**259**	P	**P**	**18 38 00.5**	**-0.9**
WB2				IAmb	IAmb	18 38 21.0	
comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**18 38 00.1**	**-1.3**
WRA	**Warramunga Arr**	**44.47**	**259**	P	**P**	**18 38 00.6**	**-0.9**
comp=Z,0.7nm,0.6s,baz=90,slow=7.6,SNR=7.9							
comp=Z,0.7nm,0.6s							
AS31	**Alice Springs**	**44.65**	**254**	P	**P**	**18 38 01.9**	**-0.9**
AS31				IAmb	IAmb	18 38 03.1	
comp=Z,1.4nm,0.6s							
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**18 38 01.8**	**-1.0**
ASAR	**Alice Springs**	**44.65**	**254**	P	**P**	**18 38 02.6**	**-0.2**
comp=Z,3.3nm,0.4s,baz=89,slow=8.3,SNR=55							
comp=Z,3.3nm,0.4s							
MTN	**Manton Dam**	**48.62**	**268**	P	**P**	**18 38 31.9**	**-0.9**
MTN				IAmb	IAmb	18 39 15.5	
comp=Z,23nm,1.5s							
KNRA	**Kununurra**	**50.32**	**264**	P	**P**	**18 38 45.1**	**-0.4**
KNRA				IAmb	IAmb	18 39 00.9	
comp=Z,38nm,1.4s							
PSA00	**Pilbara Seismi**	**57.76**	**255**	P	**P**	**18 39 36.5**	**-1.6**
PSA00				IAmb	IAmb	18 40 13.5	
comp=Z,28nm,1.2s							
MJAR	**Matsushiro Arr**	**67.68**	**323**	P	**P**	**18 40 41.5**	**-0.4**
comp=Z,1.0nm,0.7s,baz=152,slow=5.4,SNR=2.0							
comp=Z,1.0nm,0.7s							
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**18 41 48.9**	**-0.5**
comp=Z,0.4nm,0.5s,baz=220,slow=8.2,SNR=4.3							
comp=Z,0.4nm,0.5s							
TXAR	**Lajitas Array**	**86.08**	**58**	P	P	18 42 15.2	-7.6
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**18 42 22.7**	**-0.1**
comp=Z,0.6nm,0.8s,baz=205,slow=5.5,SNR=5.4							
comp=Z,0.6nm,0.8s							
BRTR	**Keskin Array B**	**144.55**	**315**	PKP	PKPbc	18 49 14.1	-0.5
comp=Z,0.9nm,0.7s,baz=124,slow=3.3,SNR=5.9							
CLL	**Collm**	**145.28**	**347**	*i* PKiKP	**PKPdf**	**18 49 14.7**	**-0.5**
GERES	**GERESS Array B**	**147.42**	**345**	PKPbc	**PKPdf**	**18 49 21.8**	**+2.8**
comp=Z,1.0nm,0.4s,baz=15,slow=2.5,SNR=5.9							

IDC 19 18:32:50.0±47.0, 18°.37S×173°.33W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=892.0km s-min=182.4km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.68**	**243**	P	P	18 40 49.0	+0.2
1.7nm,0.9s,baz=68,slow=7.0,SNR=1.7							
1.7nm,0.9s							
WRA	**Warramunga Arr**	**49.30**	**259**	P	P	18 41 41.0	-0.3
0.4nm,0.3s,baz=98,slow=7.2,SNR=14							
0.4nm,0.3s							
ASAR	**Alice Springs**	**49.32**	**254**	P	P	18 41 41.1	-0.2
1.0nm,0.5s,baz=89,slow=8.1,SNR=16							
1.0nm,0.5s							

IDC ***19*** *19:05:46.6±0.8, 26°.45S×175°.76W, h0km, mb4.2/6, mbtmp4.3/8, ML4.3/2, MS3.2/3, Error ellipse: s-maj=27.4km s-min=22.1km az=92.0*
NEIC ***19*** *19:05:47.0±1.2, 26°.39S±0°.09×175°.58W±0°.05, h10km±2km, mb4.6/19, Error ellipse: s-maj=15.6km s-min=8.0km az=354.0*
ISC 19 19:05:47.4±0.7, 26°.44S±0°.07×175°.7W±0°.1, h10km, n52, σ1§32/46, mb4.5/14, 1C-1D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.40**	**214**	Pn	**Pn**	**19 06 41.5**	**+1.0**
RAO	**Raoul Island**	**3.40**	**214**	Pn	**Pn**	**19 06 41.9**	**+1.3**
90nm,0.3s,baz=117,slow=21,SNR=1.9							
RAO				Sn	**Sn**	**19 07 22.8**	**+1.9**
210nm,0.3s,baz=107,slow=22,SNR=5.9							
198nm,0.3s							
NIUE	**Niue**	**9.08**	**37**	Pn	Pn	19 07 50.1	-8.4
NIUE				Sn	Sn	19 09 17.7	-23
MSVF	**Nonsavu**	**10.41**	**325**	Pn	**Pn**	**19 08 15.7**	**-1.1**
URZ	**Urewera**	**13.24**	**205**	Pn	**Pn**	**19 08 55.6**	**+0.2**
0.5nm,0.3s,baz=53,slow=22,SNR=1.6							
URZ				Sn	Sn	19 11 13.1	-10
0.9nm,0.3s,baz=227,slow=21,SNR=2.0							
2.6nm,0.5s							
RTZ	**Ruatahuna**	**13.60**	**205**	Pn	**Pn**	**19 08 59.6**	**-0.8**
BKZ	**Black Stump Fm**	**14.26**	**205**	Pn	**Pn**	**19 09 05.9**	**-3.6**
BFZ	**Birch Farm**	**15.69**	**203**	Pn	**Pn**	**19 09 26.6**	**-1.8**
MRZ	**Mangatainoka R**	**15.91**	**205**	Pn	**Pn**	**19 09 29.2**	**-2.2**
PLWZ	**Palliser**	**16.82**	**204**	Pn	**Pn**	**19 09 43.7**	**+0.7**
DZM	**Mont Dzumac**	**16.82**	**281**	LR	LR	19 15 13.9	
comp=Z,68nm,18.9s,baz=60,slow=34							
TUWZ	**Tuamarina**	**17.21**	**207**	Pn	**Pn**	**19 09 46.6**	**-1.2**
CTZ	**Chatham Island**	**17.27**	**182**	Pn	**Pn**	**19 09 45.4**	**-3.2**
CTZ				IAmb	IAmb	19 09 58.9	
comp=Z,41nm,1.2s							
KHZ	**Kahutara**	**18.20**	**206**	Pn	**Pn**	**19 09 57.1**	**-3.0**
GVZ	**Greta Valley S**	**18.87**	**206**	P	**P**	**19 10 05.1**	**-2.6**
GVZ				IAmb	IAmb	19 10 41.1	
comp=Z,27nm,1.0s							
CTA	**Charters Tower**	**35.40**	**272**	LR	LR	19 25 57.5	
comp=Z,27nm,18.9s,baz=84,slow=34							
CTAO	**Charters Tower**	**35.40**	**272**	P	**P**	**19 12 44.4**	**+0.7**
CTAO				IAmb	IAmb	19 12 48.2	
comp=Z,18nm,1.2s							
BBOO	**Buckleboo**	**42.10**	**249**	P	**P**	**19 13 39.8**	**+0.1**
BBOO				IAmb	IAmb	19 14 00.6	
comp=Z,25nm,1.4s							
AS31	**Alice Springs**	**45.48**	**262**	P	**P**	**19 14 07.2**	**0.0**
AS31				IAmb	IAmb	19 14 10.6	
comp=Z,1.6nm,0.5s							
ASAR	**Alice Springs**	**45.48**	**262**	P	**P**	**19 14 06.5**	**-0.7**
ASAR	**Alice Springs**	**45.48**	**262**	P	**P**	**19 14 07.3**	**+0.2**
comp=Z,2.9nm,0.4s,baz=98,slow=7.3,SNR=40							
ASAR				PcP	**PcP**	**19 15 47.6**	**+1.5**
comp=Z,0.5nm,0.7s,baz=109,slow=4.0,SNR=2.2							
comp=Z,2.9nm,0.4s							
WR0	**Warramunga Arr**	**45.94**	**267**	P	**P**	**19 14 10.6**	**-0.2**
WR0				IAmb	IAmb	19 14 14.6	
comp=Z,5.3nm,0.9s							
WB2	**Warramunga Arr**	**46.11**	**267**	P	**P**	**19 14 11.4**	**-0.7**
WB2				IAmb	IAmb	19 14 15.1	
comp=Z,23nm,1.5s							
WRA	**Warramunga Arr**	**46.12**	**267**	P	**P**	**19 14 11.9**	**-0.3**
WRA	**Warramunga Arr**	**46.12**	**267**	P	**P**	**19 14 12.0**	**-0.2**
comp=Z,1.7nm,0.4s,baz=105,slow=7.9,SNR=45							
comp=Z,1.7nm,0.4s							
WB0	**Warramunga Arr**	**46.13**	**267**	P	**P**	**19 14 12.1**	**-0.2**
WB0				IAmb	IAmb	19 14 15.2	
comp=Z,9.6nm,1.2s							
FORT	**Forrest**	**49.10**	**251**	P	**P**	**19 14 34.9**	**-0.4**
FORT				IAmb	IAmb	19 14 47.8	
comp=Z,24nm,1.1s							
SBA	**Scott Base**	**52.12**	**185**	P	**P**	**19 14 56.8**	**-0.6**
SBA				IAmb	IAmb	19 14 56.8	
comp=Z,9.6nm,1.5s							
KNRA	**Kununurra**	**52.55**	**270**	P	**P**	**19 15 01.0**	**-0.4**
BATI	**Baumata**	**59.26**	**274**	LR	LR	19 41 08.1	
comp=Z,32nm,18.2s,baz=215,slow=36							
MORW	**Morawa**	**59.66**	**250**	P	**P**	**19 15 52.5**	**+0.4**
QSPA	**South Pole Qui**	**63.66**	**180**	P	**P**	**19 16 18.8**	**+0.2**
QSPA				IAmb	IAmb	19 16 20.5	
comp=Z,4.0nm,0.8s							
QSPA	**South Pole Qui**	**63.66**	**180**	P	**P**	**19 16 19.6**	**+1.0**
comp=Z,2.9nm,0.7s,baz=4.2,slow=0.5,SNR=11							
comp=Z,2.9nm,0.7s							
LUWI	**Luwuk**	**64.17**	**283**	P	**P**	**19 16 20.4**	**-2.2**
YOJ	**Yonaguni jima**	**77.85**	**305**	P	**P**	**19 17 45.8**	**+0.4**
H03S2	**Juan Fernandez**	**80.96**	**123**	T	T	20 46 14.7	
baz=243,slow=74,SNR=9.0							
H03S1	**Juan Fernandez**	**80.98**	**123**	T	T	20 46 16.5	
baz=243,slow=74,SNR=9.5							
H03S3	**Juan Fernandez**	**80.98**	**123**	T	T	20 46 14.8	
baz=243,slow=74,SNR=11							
TROLL	**Troll, Antarti**	**81.81**	**179**	⇓P	**P**	**19 18 07.1**	**+0.7**
comp=Z,148nm,0.6s							
SNAA	**Sanae**	**82.03**	**178**	⇑P	P	19 18 22.2	+15
comp=Z,42nm,1.0s							
SNAA	**Sanae**	**82.03**	**178**	P	**P**	**19 18 08.3**	**+0.8**
comp=Z,1.6nm,1.1s,baz=180,slow=10,SNR=5.2							
comp=Z,1.6nm,1.1s							
KSRS	**Korea Array**	**82.69**	**318**	P	**P**	**19 18 13.0**	**+1.8**
comp=Z,1.1nm,0.6s,baz=139,slow=6.0,SNR=6.6							
comp=Z,1.1nm,0.6s							
PLCA	**Paso Flores**	**83.72**	**132**	P	**P**	**19 18 17.0**	**+0.2**
comp=Z,0.8nm,0.7s,baz=219,slow=6.5,SNR=1.6							
comp=Z,0.8nm,0.7s							
MKAR	**Makanchi Array**	**116.72**	**311**	PKP	**PKiKP**	**19 24 32.1**	**+0.3**
comp=Z,0.2nm,0.5s,baz=146,slow=1.1,SNR=1.7							
KURBB	**Kurchatov Arra**	**119.76**	**315**	PKP	**PKiKP**	**19 24 38.1**	**+0.6**

comp=Z,0.8nm,0.3s,baz=48,slow=1.4,SNR=3.8
NB2 NORSAR Subarra 145.09 354 PKP **PKPdf 19 25 24.7 +0.2**
comp=Z,2.1nm,0.9s,baz=7.3,slow=3.5
NOA NORSAR Array B 145.09 354 PKPbc **PKPdf 19 25 24.1 -0.4**
comp=Z,3.5nm,0.9s,baz=12,slow=2.4,SNR=11
HFS Hagfors 145.70 352 PKPbc **PKPab 19 25 26.3 +0.1**
comp=Z,1.2nm,0.4s,baz=58,slow=3.6,SNR=3.2
AKASG Malin Array Be 149.17 328 PKPbc **PKiKP 19 25 36.4 -0.7**
comp=Z,0.8nm,0.6s,baz=42,slow=3.6,SNR=4.2
BRTR Keskin Array B 152.19 306 PKPbc **PKiKP 19 25 43.7 -0.1**
comp=Z,0.7nm,0.8s,baz=116,slow=2.9,SNR=3.9
CLL Collm 154.29 347 *e*PKPbc **PKiKP 19 25 48.0 +0.4**
TORD Torodi Ar. Bea 166.56 169 PKPab **PKPab 19 26 56.5 +0.9**
comp=Z,0.4nm,0.6s,baz=173,slow=2.9,SNR=2.5

AFAD 19 19:48:13.7±0.0, 39°.28N×28°.14E, h7km±1km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.41**	**39**	P	Pg	19 48 21.9	+0.2
BKES	**Balkesir-Mer**	**0.48**	**340**	P	Pb	19 48 24.6	+0.1
BKES				S	Sg	19 48 29.9	+0.7
BAND	**Balkesir-Ban**	**1.07**	**358**	P	Pb	19 48 34.6	0.0
BAND				S	Sg	19 48 47.8	-0.4
BAND				*i* AML	AML	19 48 51.0	
	comp=N,16nm,0.4s						
ULDT	**Uludag**	**1.15**	**41**	P	Pg	19 48 35.7	-0.1
ULDT				S	Sg	19 48 50.2	-0.5
ULDT				*i* AML	AML	19 48 58.0	
	comp=N,11nm,0.6s						

AFAD 19 19:48:17.2±0.0, 38°.39N×28°.42E, h7km±1km, ML1.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.15**	**46**	P	Pg	19 48 20.5	0.0
USAK	**Uak-Merkez**	**0.57**	**55**	P	Pg	19 48 28.3	0.0
USAK				*i* AML	AML	19 48 32.0	
	comp=N,56nm,1.3s						
USAK				S	Sg	19 48 36.8	+1.0
USAK	**Uak-Merkez**	**0.57**	**55**	P	Pg	19 48 28.5	+0.2

ISK 19 19:48:26.1, 36°.98N×27°.67E, h13km±1km, ML0.7/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.06**	**77**	Pg	Pg	19 48 29.0	+0.4
RFTAA				Sg	Sg	19 48 30.8	+0.3
RFTC	**Emecik-Datca**	**0.24**	**150**	Pg	Pg	19 48 31.4	+0.3
RFTC				Sg	Sb	19 48 35.5	-0.9
DAT	**Datca**	**0.27**	**196**	Pg	Pg	19 48 31.8	+0.1
BODT	**Bodrum**	**0.30**	**285**	Pg	Pb	19 48 32.9	-0.4
BODT				Sg	Sg	19 48 37.2	+0.8
RFTD	**Palamutbuku-Ka**	**0.33**	**205**	Pg	Pg	19 48 33.1	+0.3
RFTD				Sg	Sb	19 48 38.6	-0.5

*SFS **19** 20:13:35.2, 35°.33N×4°.52W, h0km, ML2.5/8, ML2.5/7, MLv2.5/8*
*MDD **19** 20:13:35.5±0.5, 35°.13N×4°.42W, h16km±4km, mb_Lg2.4/12, Error ellipse: s-maj=5.3km s-min=3.2km az=116.0*
*CNRM **19** 20:13:35.1, 35°.17N×4°.41W, h40km, ml2.2*
*INMG **19** 20:13:36.0±1.1, 35°.10N×4°.42W, h28km±9km, ML1.7, Error ellipse: s-maj=4.1km s-min=2.6km az=100.0*
ISC 19 20:13:35.0±0.9, 35°.19N±0°.03×4°.42W±0°.03, h23km±7km, n38, σ1°19/67, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Peæn de**	**0.10**	**99**	Sg	**Sb**	**20 13 42.2**	**-0.1**
PVLZ				Pg	**Pb**	**20 13 39.2**	**-0.2**
PALE	**Palemas**	**0.40**	**86**	P	**Pb**	**20 13 44.0**	**+0.5**
PALE				S	**Sn**	**20 13 51.4**	**-0.8**
CHEFC	**Chefchaouen**	**0.76**	**264**	P	**Pb**	**20 13 49.4**	**-0.1**
CHEFC				S	**Sb**	**20 14 00.3**	**+0.9**
SMIR	**Smir Dam**	**0.92**	**302**	P	**Pn**	**20 13 51.3**	**-1.3**
SMIR				S	**Sb**	**20 14 04.5**	**+0.3**
CEU	**Ceuta**	**1.05**	**313**	Pg	**Pn**	**20 13 50.9**	**-3.4**
GOG	**Mont Gurugu**	**1.17**	**88**	P	**Pn**	**20 13 54.3**	**-1.7**
GOG				S	**Sn**	**20 14 10.8**	**-0.6**
RSA	**Sarsar**	**1.19**	**256**	P	**Pn**	**20 13 56.7**	**+0.4**
RSA				S	**Sn**	**20 14 11.8**	**+0.1**
SICH	**Sidi Chahed**	**1.31**	**214**	P	**Pn**	**20 13 58.4**	**+0.5**
EMIJ	**Mijas**	**1.40**	**348**	Pn	**Pn**	**20 13 57.7**	**-1.5**
EMIJ				Sn	**Sn**	**20 14 14.5**	**-2.5**
EMIJ	**Mijas**	**1.40**	**348**	Sg	**Sn**	**20 14 14.3**	**-2.7**
EMIJ				Pg	**Pn**	**20 13 57.5**	**-1.7**
LCRM	**LCR**	**1.54**	**194**	P	**Pn**	**20 14 00.6**	**-0.6**
LCRM				S	**Sb**	**20 14 22.5**	**+0.4**
EMAL	**Malaga-Limoner**	**1.57**	**360**	Sn	**Sn**	**20 14 19.2**	**-1.9**
EMAL				Pn	**Pn**	**20 14 01.1**	**-0.4**
TAF	**Taforalt**	**1.69**	**102**	P	**Pn**	**20 14 02.6**	**-0.6**
TAF				S	**Sn**	**20 14 22.3**	**-1.9**
ELGU	**Los Guajares,**	**1.80**	**21**	Pn	**Pn**	**20 14 04.3**	**-0.3**
ELGU				Sn	**Sn**	**20 14 26.8**	**0.0**
ELGU				*i* Vmb_Lg		20 14 32.3	
EGOR	**Sierra Gorda,**	**1.93**	**7**	Pn	**Pn**	**20 14 07.1**	**+0.4**
EGOR				Sn	**Sn**	**20 14 30.7**	**+0.4**
EGOR				*i* Vmb_Lg		20 14 50.2	
EBER	**Berja**	**2.11**	**36**	Pn	**Pn**	**20 14 09.2**	**+0.1**
EBER				Sn	**Sn**	**20 14 34.8**	**+0.1**
EBER				*i* Vmb_Lg		20 14 60.0	
EQUE	**Quentar**	**2.16**	**21**	Pn	**Pn**	**20 14 10.6**	**+0.9**
EQUE				Sn	**Sn**	**20 14 36.8**	**+0.9**
EQUE				*i* Vmb_Lg		20 15 00.8	
EQTA	**Presa de Quent**	**2.17**	**21**	Sn	**Sn**	**20 14 36.5**	**+0.6**
EQTA				Pn	**Pn**	**20 14 10.6**	**+0.9**
MD31	**MD31**	**2.33**	**187**	P	**Pn**	**20 14 11.6**	**-0.5**
MD31				S	**Sn**	**20 14 39.1**	**-0.9**
MDT	**Midelt**	**2.37**	**184**	P	**Pn**	**20 14 12.2**	**-0.4**
MDT				S	**Sn**	**20 14 40.4**	**-0.7**
ZHG	**ZHG**	**2.53**	**227**	P	**Pn**	**20 14 14.5**	**-0.3**
EADA	**Adamuz**	**2.98**	**358**	Pn	**Pn**	**20 14 22.1**	**+1.2**
EADA				Sn	**Sn**	**20 14 57.8**	**+2.0**
EADA				*i* Vmb_Lg		20 15 49.1	
EADA	**Adamuz**	**2.98**	**358**	Sn	**Sn**	**20 14 53.3**	**-2.5**
EADA				Pn	**Pn**	**20 14 22.0**	**+1.2**
ECAB	**El Cabril**	**2.99**	**345**	Pn	**Pn**	**20 14 22.1**	**+1.1**
ECAB				Sn	**Sn**	**20 14 56.6**	**+0.4**
ECAB				*i* Vmb_Lg		20 15 17.1	
PVAQ	**Vaqueiros**	**3.46**	**311**	*e*P	**Pn**	**20 14 28.0**	**+0.6**
PVAQ				*e*S	**Sn**	**20 15 07.1**	**-0.6**
PVAQ	**Vaqueiros**	**3.46**	**311**	P	**Pn**	**20 14 27.2**	**-0.3**
PVAQ				S	**Sn**	**20 15 07.4**	**-0.3**
PVAQ	**Vaqueiros**	**3.46**	**311**	Pn	**Pn**	**20 14 27.3**	**-0.1**
PBDV	**Barranco-do-Ve**	**3.50**	**307**	*e*P	**Pn**	**20 14 28.1**	**+0.1**
PBDV				*e*S	**Sn**	**20 15 07.9**	**-0.8**
PBAR	**Barrancos**	**3.65**	**326**	*e*P	**Pn**	**20 14 30.7**	**+0.7**
PBAR				*e*S	**Sn**	**20 15 12.5**	**+0.2**
PCVE	**Castro Verde**	**3.80**	**311**	*e*P	**Pn**	**20 14 33.0**	**+0.9**
EBAD	**Badajoz**	**4.12**	**331**	Pn	**Pn**	**20 14 36.9**	**+0.4**
EBAD				Sn	**Sn**	**20 15 22.8**	**-1.2**
EBAD				*i* Vmb_Lg		20 15 31.5	
ETOB	**Tobarra**	**4.15**	**33**	Pn	**Pn**	**20 14 39.0**	**+2.0**
PAB	**San Pablo**	**4.35**	**1**	Pn	**Pn**	**20 14 41.1**	**+1.4**
PAB				Sn	**Sn**	**20 15 29.6**	**-0.2**
PAB				*i* Vmb_Lg		20 16 07.7	
PNCL	**Nicolau / Gran**	**4.41**	**313**	*e*P	**Pn**	**20 14 41.5**	**+1.1**
OUZM	**OUZ**	**4.70**	**205**	P	**Pn**	**20 14 44.6**	**0.0**
OUZM				S	**Sn**	**20 15 40.6**	**+2.2**
OUK	**Oukaimeden**	**4.91**	**217**	P	**Pn**	**20 14 46.5**	**-1.2**
EPLA	**Plasencia**	**5.04**	**345**	Pn	**Pn**	**20 14 49.4**	**+0.2**
EPLA				Sn	**Sn**	**20 15 44.5**	**-2.3**
EPLA				*i* Vmb_Lg		20 16 35.6	
ETOR	**Torete**	**5.92**	**18**	Pn	**Pn**	**20 15 02.6**	**+1.2**

*UUSS **19** 20:30:10.5±0.6, 42°.569N±0°.008×111°.43W±0°.01, h7km±1km, Error ellipse: s-maj=1.4km s-min=1.2km az=96.0*
*ANF **19** 20:30:10.7±0.3, 42°.59N×111°.55W, h5km, ML3.7/11, Error ellipse: s-maj=3.4km s-min=2.8km az=36.0*
*NEIC **19** 20:30:10.4±0.7, 42°.571N±0°.010×111°.43W±0°.01, h7km, ML3.6/116, ML3.7/15(UUSS), Mwr3.7/12(SLM), Error ellipse: s-maj=1.6km s-min=1.3km az=47.0*

*NEIC **19** 20:30:10, 42°.57N×111°.43W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-1.92; $M_{\theta\theta}$-1.73; $M_{\phi\phi}$3.66; $M_{r\theta}$2.03; $M_{r\phi}$0.96; $M_{\theta\phi}$-2.51; Fault plane solution: $M_0$4.62000×10^{14} NP1:ϕ_s335.00000°, δ74.00000°, λ-127.00000°. NP2:ϕ_s225.00000°, δ40.00000°, λ-25.00000°. Principal axes: T 4.6247, Plg20.0000°, Azm92.0000°; N -0.0009, Plg36.0000°, Azm346.0000°; P -4.6238, Plg47.0000°, Azm206.0000°;*
ISC 19 20:30:11.1±0.9, 42°.59N±0°.02×111°.46W±0°.02, h5km±6km, n78, σ1°81/68, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ID06	**Fossil Canyon**	**0.00**	**95**	Pg	**Pg**	**20 30 12.1**	**-0.1**
ID05	**Sulphur Canyon**	**0.06**	**357**	Pg	**Pg**	**20 30 12.7**	**0.0**
AHID	**Auburn Hatcher**	**0.32**	**55**		**Pg**	**20 30 16.9**	**-0.4**
AHID					**Sg**	**20 30 21.8**	**+0.2**
AHID	**Auburn Hatcher**	**0.32**	**55**	IAML		20 30 22.2	
	16μm,0.7s						
AHID				IAML		20 30 22.3	
	34μm,0.5s						
ID09	**Alton**	**0.39**	**150**		**Pg**	**20 30 17.6**	**-1.1**
ID09					**Sg**	**20 30 23.5**	**-0.4**
ID09	**Alton**	**0.39**	**150**	IAML		20 30 24.1	
	5μm,0.7s						
ID09				IAML		20 30 24.5	
	4μm,0.4s						
ID08	**Devils Gate**	**0.42**	**318**		**Pg**	**20 30 19.1**	**-0.1**
ID08					**Sg**	**20 30 25.9**	**+1.1**
ID08	**Devils Gate**	**0.42**	**318**	IAML		20 30 26.2	
	7μm,0.4s						
ID08				IAML		20 30 26.4	
	9μm,0.6s						
ID10	**Lander Cutoff**	**0.42**	**99**		**Pg**	**20 30 18.4**	**-0.8**
ID10					**Sg**	**20 30 24.5**	**-0.3**
ID10	**Lander Cutoff**	**0.42**	**99**	IAML		20 30 24.7	
	3μm,0.5s						
ID10				IAML		20 30 30.6	
	5μm,0.7s						
ID07	**Smith Canyon R**	**0.46**	**264**		**Pg**	**20 30 19.7**	**-0.3**
ID07					**Sg**	**20 30 26.7**	**+0.6**
ID07	**Smith Canyon R**	**0.46**	**264**	IAML		20 30 27.1	
	5μm,0.6s						
ID07				IAML		20 30 27.6	
	3μm,0.7s						
ECR	**Eagle Creek**	**0.47**	**8**		**Pg**	**20 30 20.2**	**0.0**
BEI	**Bear River Ran**	**0.53**	**207**		**Pg**	**20 30 20.7**	**-0.5**
BMUT	**Black Mountain**	**0.65**	**165**		**Pg**	**20 30 22.2**	**-1.3**
L17A	**Cokeville**	**0.65**	**138**		**Pg**	**20 30 22.5**	**-1.1**
L17A					**Sg**	**20 30 31.9**	**-0.1**
MLI	**Malad Range**	**0.75**	**222**		**Pg**	**20 30 25.1**	**-0.3**
HDU	**Hyde Park**	**0.81**	**197**		**Pg**	**20 30 25.8**	**-0.9**
REDW	**Red Top Meadow**	**0.89**	**29**		**Pg**	**20 30 27.4**	**-0.8**
NPI	**North Pocatell**	**0.90**	**241**		**Pg**	**20 30 27.7**	**-0.7**
PTU	**Portage**	**0.92**	**225**		**Pg**	**20 30 28.1**	**-0.7**
TPAW	**Teton Pass**	**0.98**	**22**		**Pg**	**20 30 29.5**	**-0.3**
TPAW	**Teton Pass**	**0.98**	**22**	IAML		20 30 47.4	
	2μm,0.3s						
HWUT	**Hardware Ranch**	**0.98**	**185**		**Pg**	**20 30 29.1**	**-0.8**
SNOW	**Snow King Moun**	**1.02**	**30**		**Pg**	**20 30 29.8**	**-0.8**
SNOW	**Snow King Moun**	**1.02**	**30**	IAML		20 30 45.8	
	2μm,0.5s						
SNOW				IAML		20 30 47.8	
	2μm,0.4s						
WVUT	**Wellsville**	**1.04**	**201**		**Pg**	**20 30 30.4**	**-0.7**
FXWY	**Fox Creek**	**1.10**	**16**		**Pg**	**20 30 31.4**	**-0.7**
FXWY				IAML		20 30 49.5	
	796nm,0.9s						
LTU	**Little Mountai**	**1.16**	**211**		**Pg**	**20 30 32.0**	**-1.2**
LOHW	**Long Hollow**	**1.20**	**31**		**Pg**	**20 30 33.0**	**-1.1**
LOHW	**Long Hollow**	**1.20**	**31**	IAML		20 30 52.6	
	1μm,0.7s						
LOHW				IAML		20 30 52.6	
	1μm,0.5s						
HVU	**Hansel Valley**	**1.27**	**231**		**Pn**	**20 30 33.9**	**-1.7**
MOOW	**Moose Ponds**	**1.27**	**24**		**Pn**	**20 30 34.2**	**-1.6**
MOOW				IAML		20 30 54.1	
	770nm,0.7s						
IMW	**Indian Meadow**	**1.36**	**16**		**Pn**	**20 30 35.9**	**-1.3**
IMW				IAML		20 30 58.1	
	2μm,0.5s						
BW06	**Boulder Array**	**1.41**	**82**		**Pn**	**20 30 36.0**	**-1.7**
BW06				IAML		20 30 59.2	
	598nm,0.9s						
BW06				IAML		20 30 59.5	
	807nm,1.2s						
BW06	**Boulder Array**	**1.41**	**82**	P	**Pn**	**20 30 36.7**	**-1.0**
	baz=262,SNR=546						
BW06				S	**Sn**	**20 30 56.6**	**-0.2**
	baz=262						
PD31	**Pinedale Array**	**1.41**	**82**		**Pn**	**20 30 36.7**	**-1.0**
PDAR	**Pinedale Array**	**1.41**	**82**		**Pn**	**20 30 36.6**	**-1.1**
TCUT	**Toone Canyon**	**1.47**	**179**		**Pg**	**20 30 38.4**	**-0.8**
SPUT	**South Promonto**	**1.48**	**210**		**Pn**	**20 30 37.2**	**-1.3**
SPUT				IAML		20 30 58.9	
	comp=N,1μm,0.4s						
SPUT				IAML		20 31 00.2	
	comp=E,1μm,0.5s						
FLWY	**Flagg Ranch**	**1.59**	**20**		**Pn**	**20 30 39.5**	**-0.7**
FLWY				IAML		20 31 03.7	
	comp=E,638nm,0.8s						
CTU	**Camp Tracy**	**1.90**	**187**		**Pn**	**20 30 44.1**	**-0.3**
CTU				IAML		20 31 13.7	
	comp=E,672nm,0.5s						
CTU				IAML		20 31 14.3	
	comp=N,839nm,0.8s						
H17A	**Grant Village**	**1.92**	**19**		**Pn**	**20 30 45.0**	**+0.4**
H17A	**Grant Village**	**1.92**	**19**	P	**Pn**	**20 30 44.7**	**0.0**
	baz=199,SNR=32						
H17A				Sb	**Sg**	**20 31 12.2**	**-0.6**
	baz=199						
YFT	**Old Faithful**	**1.92**	**13**		**Pn**	**20 30 44.7**	**0.0**
YFT				IAML		20 31 17.7	
	comp=N,372nm,1.0s						
BGU	**Big Grassy Mou**	**2.03**	**216**	Pn	**Pn**	**20 30 45.0**	**-1.1**
BGU				IAML		20 31 16.4	
	comp=E,376nm,0.6s						
BGU				IAML		20 31 18.4	
	comp=N,304nm,0.8s						
BSUT	**Blindstream Ca**	**2.11**	**165**		**Pn**	**20 30 46.9**	**-0.5**
YMR	**Madison River**	**2.11**	**10**	IAML		20 31 22.3	
	comp=N,485nm,1.0s						
YMR				IAML		20 31 26.0	
	comp=E,455nm,0.8s						
HLID	**Hailey**	**2.38**	**295**	IAML		20 31 27.1	
	comp=E,339nm,0.7s						
HLID				IAML		20 31 28.5	
	comp=E,312nm,0.8s						
HLID	**Hailey**	**2.38**	**295**	P	**Pn**	**20 30 50.6**	**-0.4**
	baz=114,SNR=262						
HLID				Sb	**Sb**	**20 31 24.5**	**+0.3**
	baz=114						
RDMU	**Red Mountain**	**2.46**	**144**	IAML		20 31 29.6	
	comp=N,308nm,0.4s						
MPU	**Maple Canyon**	**2.57**	**183**	IAML		20 31 36.5	
	comp=E,173nm,0.6s						
DUG	**Dugway, Tooele**	**2.60**	**204**	IAML		20 31 35.3	
	comp=E,255nm,0.8s						
DUG				IAML		20 31 35.6	
	comp=E,202nm,0.7s						
DUG	**Dugway, Tooele**	**2.60**	**204**	P	**Pn**	**20 30 53.2**	**-0.7**
	baz=23,SNR=46						
DUG				Sb	**Sb**	**20 31 31.6**	**+1.0**
	baz=23						
DLMT	**Dillon**	**2.90**	**344**	IAML		20 31 46.7	
	comp=E,140nm,1.3s						
DLMT				IAML		20 31 49.3	
	comp=E,115nm,1.4s						
RLMT	**Red Lodge**	**2.99**	**31**	P	**Pn**	**20 30 59.1**	**-0.3**
	baz=212						
RLMT				Sb	**Sg**	**20 31 44.0**	**-3.1**
	baz=212						
BOZ	**Bozeman (W)**	**3.01**	**358**	Pb	**Pb**	**20 31 04.8**	**-0.6**
	baz=177						
BOZ				Sb	**Sb**	**20 31 44.1**	**+1.6**
	baz=177						
TMUT	**Trail Mountain**	**3.29**	**177**	IAML		20 31 58.4	
	comp=N,256nm,0.6s						
TMUT				IAML		20 32 03.5	
	comp=E,255nm,0.6s						
MFID	**Camas Ranch**	**3.31**	**286**	IAML		20 32 01.6	
	comp=E,216nm,1.0s						
O20A	**White River Ci**	**3.44**	**134**	P	**Pn**	**20 31 06.7**	**+1.2**
	baz=316,SNR=16						
O20A				Sb	**Sb**	**20 31 56.8**	**+2.0**
	baz=316						
K22A	**Casper**	**3.64**	**87**	IAML		20 32 09.2	
	comp=N,189nm,0.9s						
K22A	**Casper**	**3.64**	**87**	P	**Pn**	**20 31 09.5**	**+1.3**
	baz=270,SNR=53						
K22A				Sb	**Sb**	**20 32 02.7**	**+2.2**
	baz=270						
Q16A	**Castle Valley**	**3.67**	**177**	IAML		20 32 05.3	
	comp=N,129nm,0.7s						
Q16A				IAML		20 32 05.8	
	comp=E,133nm,0.5s						
TCRU	**Three Creeks R**	**4.04**	**191**	IAML		20 32 25.7	
	comp=N,74nm,0.8s						
TCRU				IAML		20 32 31.7	
	comp=E,80nm,1.2s						
PLID	**Pearl Lake**	**4.13**	**309**	IAML		20 32 25.9	
	comp=E,49nm,1.3s						
SPR3	**Spring Creek 3**	**4.20**	**212**	IAML		20 32 31.1	
	comp=N,40nm,0.9s						
SPR3				IAML		20 32 37.4	
	comp=E,52nm,1.1s						
PSUT	**Pine Spring**	**4.44**	**205**	IAML		20 32 43.3	
	comp=N,47nm,0.8s						
PSUT				IAML		20 32 50.9	
	comp=E,47nm,1.5s						
N23A	**Red Feather La**	**4.46**	**110**	P	**Pn**	**20 31 20.1**	**+0.5**
	baz=294,SNR=57						
N23A				Sb	**Sb**	**20 32 26.3**	**+2.2**
	baz=294						
MTPU	**Mount Pierson**	**4.57**	**187**	IAML		20 32 38.8	
	comp=N,34nm,1.5s						
MTPU				IAML		20 32 39.2	
	comp=E,40nm,1.4s						
MSO	**Missoula**	**4.60**	**338**	IAML		20 32 42.1	
	comp=E,53nm,1.3s						
MSO				IAML		20 32 47.9	
	comp=E,41nm,1.1s						
ISCO	**Idaho Springs**	**5.21**	**120**	P	**Pn**	**20 31 30.1**	**+0.1**
	baz=304						
ISCO				Sb	**Sb**	**20 32 49.8**	**+3.9**
	baz=304						
R11B	**Troy Canyon, C**	**5.28**	**218**	IAML		20 32 57.2	
	comp=E,24nm,1.2s						
R11B				IAML		20 33 07.7	
	comp=N,18nm,1.9s						
R11B	**Troy Canyon, C**	**5.28**	**218**	P	**Pn**	**20 31 30.2**	**-0.5**
	baz=36,SNR=7.3						
WVOR	**Wild Horse Val**	**5.31**	**271**	IAML		20 33 09.1	
	comp=N,50nm,2.7s						
F10A	**Beach Ranch, E**	**5.35**	**311**	IAML		20 33 06.8	
	comp=E,46nm,0.8s						
F10A				IAML		20 33 07.9	
	comp=N,45nm,2.5s						
LAO	**LASA Array**	**5.55**	**41**	Sb	**Sb**	**20 33 01.1**	**+5.9**
	baz=224						
RSSD	**Black Hills**	**5.62**	**72**	Sb	**Sg**	**20 33 04.0**	**-7.6**
	baz=256						
S22A	**4UR Ranch, Cre**	**5.99**	**142**	P	**Pn**	**20 31 41.3**	**+0.6**
	baz=325,SNR=6.4						
S22A				Sb	**Sb**	**20 33 14.6**	**+6.2**
	baz=325						

*UUSS **19** 20:39:11.1±1.4, 42°.57N±0°.02×111°.43W±0°.05, h6km±5km, Error ellipse: s-maj=6.0km s-min=2.0km az=111.0*
NEIC 19 20:39:10.7±1.9, 42°.59N±0°.01×111°.48W±0°.04, h13km±8km, ML3.0/108, ML3.1/14(UUSS), Error ellipse: s-maj=4.4km s-min=1.6km az=87.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**0.33**	**58**		Pg	20 39 17.4	-0.1
AHID					Sg	20 39 22.2	-0.1
AHID	**Auburn Hatcher**	**0.33**	**58**	IAML		20 39 22.6	
	11μm,0.5s						
AHID				IAML		20 39 22.9	
	5μm,0.5s						
ID08	**Devils Gate**	**0.40**	**320**		Pb	20 39 19.6	-0.3
ID08					Sb	20 39 26.3	+0.2
ID08	**Devils Gate**	**0.40**	**320**	IAML		20 39 26.6	
	3μm,0.3s						
ID08				IAML		20 39 26.8	
	3μm,0.4s						
ID09	**Alton**	**0.41**	**148**		Pg	20 39 18.1	-0.7
ID09					Sg	20 39 24.1	-0.2
ID09	**Alton**	**0.41**	**148**	IAML		20 39 24.6	
	2μm,0.7s						
ID09				IAML		20 39 25.1	
	911nm,0.5s						
ID10	**Lander Cutoff**	**0.44**	**99**		Pg	20 39 18.9	-0.6
ID10					Sg	20 39 25.1	-0.4
ID10	**Lander Cutoff**	**0.44**	**99**	IAML		20 39 27.7	
	930nm,0.5s						
ID10				IAML		20 39 30.5	
	1μm,1.1s						
ID07	**Smith Canyon R**	**0.44**	**263**		Pb	20 39 20.3	-0.2
ID07					Sb	20 39 27.2	0.0
ID07	**Smith Canyon R**	**0.44**	**263**	IAML		20 39 27.6	
	2μm,0.6s						
ID07				IAML		20 39 27.9	
	1μm,0.7s						
BEI	**Bear River Ran**	**0.52**	**205**		Pg	20 39 21.2	+0.3
BMUT	**Black Mountain**	**0.66**	**164**		Pg	20 39 22.9	-0.6
L17A	**Cokeville**	**0.67**	**137**		Pg	20 39 23.0	-0.7
L17A					Sg	20 39 32.4	-0.1
MLI	**Malad Range**	**0.74**	**221**		Pb	20 39 25.6	+0.1
HDU	**Hyde Park**	**0.81**	**195**		Pg	20 39 26.5	+0.1
NPI	**North Pocatell**	**0.88**	**240**		Pb	20 39 28.4	+0.4
REDW	**Red Top Meadow**	**0.90**	**31**		Pg	20 39 28.1	0.0
PTU	**Portage**	**0.91**	**224**		Pb	20 39 28.7	+0.2
HWUT	**Hardware Ranch**	**0.98**	**184**		Pb	20 39 29.8	+0.1
TPAW	**Teton Pass**	**0.98**	**23**		Pb	20 39 29.9	+0.1
TPAW	**Teton Pass**	**0.98**	**23**	IAML		20 39 47.7	
	681nm,0.6s						
SNOW	**Snow King Moun**	**1.02**	**31**		Pg	20 39 30.5	0.0
SNOW	**Snow King Moun**	**1.02**	**31**	IAML		20 39 46.2	
	451nm,0.5s						
SNOW				IAML		20 39 48.1	
	407nm,0.4s						
FXWY	**Fox Creek**	**1.10**	**18**		Pb	20 39 31.8	0.0
FXWY				IAML		20 39 49.9	
	260nm,0.8s						
LTU	**Little Mountai**	**1.15**	**210**		Pg	20 39 32.7	-0.1
LOHW	**Long Hollow**	**1.21**	**32**		Pb	20 39 33.6	0.0
LOHW	**Long Hollow**	**1.21**	**32**	IAML		20 39 52.9	
	375nm,0.5s						
LOHW				IAML		20 39 52.9	
	353nm,0.7s						
HVU	**Hansel Valley**	**1.25**	**230**		Pb	20 39 34.4	+0.1
MOOW	**Moose Ponds**	**1.28**	**25**		Pb	20 39 34.7	-0.1
MOOW	**Moose Ponds**	**1.28**	**25**	IAML		20 39 54.4	
	240nm,0.8s						
IMW	**Indian Meadow**	**1.37**	**17**		Pb	20 39 36.4	+0.1
IMW			

YMR			IAML			20 40 22.6	
	comp=N,142nm,1.1s						
YMR			IAML			20 40 24.2	
	comp=E,83nm,1.1s						
BSUT	**Blindstream Ca**	**2.12 165**			Pb	20 39 48.4	-0.8
YNR	**Norris Junctio**	**2.21 15**			Pn	20 39 48.4	+1.1
BCYI	**Bear Canyon**	**2.22 322**		Pn	Pb	20 39 49.9	-0.9
YHH	**Holmes Hill**	**2.25 12**			Pb	20 39 49.9	-1.4
YHL	**Hebgen Lake**	**2.27 5**			Pb	20 39 50.4	-1.4
HLID	**Hailey**	**2.36 295**			Pb	20 39 52.0	-1.1
HLID			IAML			20 40 27.4	
	comp=E,113nm,0.6s						
HLID			IAML			20 40 27.5	
	comp=E,104nm,0.7s						
RDMU	**Red Mountain**	**2.48 144**			Pn	20 39 52.6	+1.7
RDMU			IAML			20 40 27.8	
	comp=E,100nm,0.5s						
RDMU			IAML			20 40 33.2	
	comp=N,77nm,0.7s						
MPU	**Maple Canyon**	**2.57 183**			Pn	20 39 53.8	+1.5
MPU			IAML			20 40 36.8	
	comp=E,53nm,0.7s						
DUG	**Dugway, Tooele**	**2.59 203**			Pn	20 39 53.8	+1.3
DUG			IAML			20 40 35.9	
	comp=E,63nm,0.9s						
DUG			IAML			20 40 38.6	
	comp=E,50nm,1.0s						
NLU	**North Lily Min**	**2.67 190**			Pn	20 39 55.0	+1.4
RLMT	**Red Lodge**	**3.00 32**			Pn	20 40 00.2	+2.1
BOZ	**Bozeman (W)**	**3.01 358**			Pn	20 40 00.6	+2.4
P17A	**Butcher Ranch,**	**3.16 170**			Pn	20 40 01.4	+1.1
MFID	**Camas Ranch**	**3.29 286**			Pb	20 40 08.1	-1.0
MFID			IAML			20 41 01.2	
	comp=E,63nm,0.9s						
TMUT	**Trail Mountain**	**3.29 176**			Pn	20 40 03.6	+1.3
TMUT			IAML			20 41 01.2	
	comp=N,64nm,0.9s						
RWWY	**Rawlins**	**3.30 104**	Pn	Pn		20 40 03.3	+1.0
ELK	**Elko**	**3.36 238**	Pn	Pn		20 40 02.2	-0.9
O20A	**White River Ci**	**3.46 134**			Pn	20 40 06.7	+2.3
SRU	**San Rafael Swe**	**3.55 168**			Pn	20 40 07.2	+1.6
SRU			IAML			20 40 59.9	
	comp=N,58nm,0.5s						
K22A	**Casper**	**3.66 87**	Pn	Pn		20 40 08.4	+1.2
Q16A	**Castle Valley**	**3.67 176**			Pn	20 40 10.5	+3.1
Q16A			IAML			20 41 06.4	
	comp=E,26nm,0.5s						
Q16A			IAML			20 41 08.0	
	comp=N,28nm,0.8s						
ELMT	**Elliston**	**4.00 350**	Pn	Pn		20 40 12.8	+0.9
TCRU	**Three Creeks R**	**4.04 191**	Pn	Pn		20 40 14.0	+1.5
TCRU			IAML			20 41 31.8	
	comp=E,23nm,3.5s						
TCRU			IAML			20 41 33.8	
	comp=N,23nm,1.0s						
MSU	**Marysvale**	**4.11 188**	Pn	Pn		20 40 14.4	+1.1
PLID	**Pearl Lake**	**4.11 309**	Pg	Pb		20 40 23.7	+0.6
PLID			IAML			20 41 32.4	
	comp=N,15nm,1.1s						
MVU	**Marysvale**	**4.12 188**	Pn	Pn		20 40 15.4	+1.9
SPR3	**Spring Creek 3**	**4.19 212**			Pn	20 40 18.2	+3.7
SPR3			IAML			20 41 31.6	
	comp=E,13nm,0.8s						
SPR3			IAML			20 41 32.0	
	comp=N,12nm,0.8s						
PSUT	**Pine Spring**	**4.43 205**			Pn	20 40 19.0	+1.1
PSUT			IAML			20 41 38.8	
	comp=N,13nm,0.8s						
PSUT			IAML			20 41 51.0	
	comp=E,13nm,1.2s						
N23A	**Red Feather La**	**4.48 110**	Pn	Pn		20 40 20.8	+2.3
CHMT	**Chamberlain Mo**	**4.51 344**			Pn	20 40 19.4	+0.5
MTPU	**Mount Pierson**	**4.57 187**	Pg	Pg		20 40 34.9	-3.4
MTPU			IAML			20 41 39.0	
	comp=E,12nm,1.2s						
MTPU			IAML			20 41 52.1	
	comp=N,11nm,4.1s						
MSO	**Missoula**	**4.59 338**			Pn	20 40 21.2	+1.4
MSO			IAML			20 41 34.2	
	comp=N,10nm,4.8s						
MSO			IAML			20 41 49.0	
	comp=N,19nm,4.2s						
PHWY	**Pilot Hill**	**4.67 104**			Pn	20 40 22.5	+1.2
PHWY			IAML			20 41 41.5	
	comp=N,26nm,0.7s						
HMU	**Henry Mountain**	**4.68 173**	Pn	Pn		20 40 22.4	+1.2
BMO	**Blue Mountains**	**4.79 300**			Pn	20 40 23.8	+1.2
BMO			IAML			20 41 52.6	
	comp=N,21nm,1.6s						
BMO			IAML			20 41 56.4	
	comp=N,15nm,2.5s						
SMCO	**Snowmass**	**4.83 133**			Pb	20 40 35.4	0.0
J08A	**Circle Bar Ran**	**5.19 281**	Pn	Pn		20 40 24.6	-3.5
ISCO	**Idaho Springs**	**5.23 120**			Pb	20 40 41.0	-1.2
ISCO			IAML			20 42 10.2	
	comp=N,6.9nm,1.6s						
RSSD	**Black Hills**	**5.64 72**	Pn	Pn		20 40 35.6	+1.1
MVCO	**Mesa Verde**	**5.84 156**			Pb	20 40 54.7	+2.2
SDCO	**Great Sand Dun**	**6.66 135**	Pn	Pn		20 40 49.1	+0.6

STR 19 20:43:01.0±1.2, 45°N±8°×°±1°1, h3km, MLv0.9/4, Error ellipse: s-maj=0.0km s-min=0.0km az=125.1, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	**Grand'Maison**	**0.28 197**		Pg	Pg	20 43 06.5	+0.1
GDM				Sg	Sg	20 43 10.4	+0.3
RSL	**Roselend**	**0.35 51**		Pg	Pg	20 43 08.1	+0.2
RSL				Sg	Sg	20 43 12.3	-0.1
OGMO	**Fort Saint-Gob**	**0.41 129**		Pg	Pg	20 43 09.2	+0.2
ORIF	**Oris-en-Rattie**	**0.61 205**		Pg	Pg	20 43 12.8	+0.2
ORIF				Sg	Sg	20 43 20.5	0.0
ORIF	**Oris-en-Rattie**	**0.61 205**		*e*Sg	Sg	20 43 20.5	0.0
	2.8nm,0.2s						

*LDG **19** 20:43:03.2±0.1, 45°.29N×6°.42E, h2km, Md1.7/2, Ml1.5/2, Error ellipse: s-maj=3.8km s-min=2.0km az=134.0*

STR 19 20:43:03.9±0.5, 45°N±2°×°±°, h3km, MLv1.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=53.6, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	**Grand'Maison**	**0.26 210**		Pg	Pg	20 43 08.9	-0.1
GDM				Sg	Sg	20 43 12.6	+0.1
LPL	**La Plagne**	**0.31 74**		*e*Pg	Pg	20 43 09.8	-0.2
LPL				*e*Sg	Sg	20 43 14.3	+0.2
	1.1nm,0.2s						
LPG	**La Plagne**	**0.32 78**		*e*Pg	Pg	20 43 10.0	-0.2
LPG				*e*Sg	Sg	20 43 14.5	+0.1
	3.1nm,0.3s						
RSL	**Roselend**	**0.34 42**		Pg	Pg	20 43 10.4	-0.1
RSL				Sg	Sg	20 43 14.7	-0.3
OGMO	**Fort Saint-Gob**	**0.35 130**		Pg	Pg	20 43 11.0	+0.3
OGMO				Sg	Sg	20 43 15.9	+0.6
ORIF	**Oris-en-Rattie**	**0.59 210**		*e*Pg	Pg	20 43 13.8	-1.5
ORIF	**Oris-en-Rattie**	**0.59 210**		Sg	Sg	20 43 22.8	-0.2
ORIF	**Oris-en-Rattie**	**0.59 210**		Pg	Pg	20 43 15.2	-0.1
RRL	**Rocca Remolon**	**0.62 146**		Sg	Sg	20 43 24.5	+0.7
RRL	**Rocca Remolon**	**0.62 146**		Pg	Pg	20 43 15.9	+0.2
MBDF	**Montbardon**	**0.78 155**		*e*Pg	Pg	20 43 14.7	-4.1
MBDF				*e*Sg	Sg	20 43 22.7	-6.2
	0.4nm,0.3s						
OG35	**Corcelles**	**0.80 320**		Pg	Pg	20 43 19.2	+0.1
OG35				Pn	Pn	20 43 21.9	-0.2
CABF	**La Chapelle**	**1.19 353**		*e*P	Pn	20 43 27.5	0.0
CABF				*e*Sg	Sn	20 43 44.8	+0.5
	1.6nm,0.2s						
VIVF	**Saint-Julien-l**	**1.29 244**		*e*Pg	Pg	20 43 27.2	-1.4
VIVF				*e*Sg	Sb	20 43 45.6	-0.2
	0.5nm,0.3s						

*UCR **19** 20:45:00.7±0.6, 8°.41N×82°.69W, h29km±2km, MW3.7*
*UPA **19** 20:45:01.6±1.3, 8°.46N×82°.72W, h19km±2km, MD3.3*

ISC 19 20:45:01.3±0.9, 8°43N±0°.03×82°.71W±0°.03, h31km±6km, n30, σ0°89/41, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.21 313**		*e*P	**Pb**	**20 45 07.3**	**-0.5**
CDITO				*e*S	**Sb**	**20 45 12.5**	**+0.3**
DVD	**David**	**0.26 88**		*e*P	**Pb**	**20 45 08.1**	**-0.3**
DVD				*e*S	**Sn**	**20 45 13.9**	**-0.2**
PTPM	**Petroterminale**	**0.28 217**		*e*P	**Pb**	**20 45 07.9**	**-0.6**
PTPM				*e*S	**Sb**	**20 45 13.4**	**0.0**
PEDE3	**Pedregal, Chir**	**0.29 98**		*e*P	**Pb**	**20 45 08.4**	**-0.3**
PEDE3				*e*S	**Sn**	**20 45 14.2**	**-0.6**
LOCO3	**Loma Colorada,**	**0.29 93**		*e*P	**Pb**	**20 45 08.5**	**-0.2**
LOCO3				*e*S	**Sb**	**20 45 13.8**	**+0.1**
PTAR3	**Potrerillos Ar**	**0.34 39**		*i* P	**Pb**	**20 45 09.6**	**+0.1**
PTAR3				*e*S	**Sb**	**20 45 14.4**	**-0.7**
BCO2	**Palmira**	**0.34 32**		*i* P	**Pb**	**20 45 09.7**	**+0.1**
LIMO3	**Limones**	**0.36 205**		*e*P	**Pb**	**20 45 09.0**	**-0.6**
LIMO3				*e*S	**Sn**	**20 45 17.2**	**+0.8**
BC3P	**Paso Ancho**	**0.40 15**		⇓ *i* P	**Pb**	**20 45 10.2**	**-0.3**
BC3P				*e*S	**Sb**	**20 45 16.7**	**0.0**
GUAL3	**Gualaca, Chiri**	**0.42 76**		*e*P	**Pb**	**20 45 10.2**	**-0.4**
GUAL3				*e*S	**Sb**	**20 45 15.3**	**-1.7**
VITO	**San Vito**	**0.47 327**		*e*P	**Pb**	**20 45 11.3**	**-0.1**
EDSV	**San Vito**	**0.47 327**		*e*P	**Pb**	**20 45 11.3**	**-0.1**
CTCR	**Cotoan**	**0.47 354**		*e*P	**Pb**	**20 45 11.0**	**-0.5**
CTCR				*e*S	**Sb**	**20 45 18.3**	**-0.1**
EDAD	**Golfito**	**0.50 297**		*e*P	**Pb**	**20 45 10.3**	**-1.5**
PTJ1	**Puerto Jimnez**	**0.59 281**		*e*P	**Pb**	**20 45 12.6**	**-0.7**
PIRO	**Carate, Puerto**	**0.62 268**		*e*P	**Pb**	**20 45 12.7**	**-1.0**
POTG	**Potrero Grande**	**0.74 327**		*e*P	**Pb**	**20 45 15.0**	**-0.9**
CHGR2	**Aguacate**	**0.76 48**		*e*P	**Pb**	**20 45 15.1**	**-1.0**
CHGR2				*e*S	**Sb**	**20 45 25.9**	**-0.3**
DRK0	**Durika**	**0.98 328**		*e*P	**Pb**	**20 45 19.1**	**-0.9**
CNI2	**El Empalme, Bo**	**1.02 14**		*e*S	**Sb**	**20 45 32.5**	**-1.0**
SRBA	**San Rafael, Bu**	**1.02 321**		*e*P	**Pn**	**20 45 18.7**	**-1.0**
BRIBI	**Bribri**	**1.20 354**		*e*P	**Pb**	**20 45 23.5**	**0.0**
BUS1	**Rivas**	**1.52 318**		*e*P	**Pn**	**20 45 26.4**	**-0.4**
CDM	**Cerro de Muert**	**1.53 317**		*e*P	**Pn**	**20 45 26.5**	**-0.5**
BATAN	**Batan**	**1.79 339**		*e*P	**Pn**	**20 45 31.4**	**+1.3**
LCOCO	**El Coco**	**1.85 333**		*e*P	**Pn**	**20 45 31.4**	**+0.5**
VTLO	**VTLO**	**1.89 328**		*e*P	**Pn**	**20 45 33.1**	**+1.2**
CACAO	**El Cacao, Vera**	**2.13 120**		*e*P	**Pn**	**20 45 35.5**	**+0.7**
ARE1	**Arenal 1**	**2.83 316**		*e*P	**Pn**	**20 45 47.1**	**+2.6**
PLVR	**Palo Verde**	**3.23 306**		*e*P	**Pn**	**20 45 52.2**	**+2.1**

IDC 19 20:50:25.8±2.1, 29°.76N×140°.58E, h356km±62km, mb2.5/3, mbtmp3.4/4, Error ellipse: s-maj=264.2km s-min=21.2km az=69.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.00 152**		P	Pn	20 51 25.7	0.0
	30nm,0.4s,baz=282,slow=20,SNR=1.7						
JHJ	**Hachijo jima 2**	**3.42 349**		P	Pn	20 51 29.2	-0.1
	424nm,0.5s,baz=102,slow=23,SNR=7.8						
MKAR	**Makanchi Array**	**47.72 308**		P	P	20 58 27.8	-0.2
	0.1nm,0.4s,baz=91,slow=8.4,SNR=2.1						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**49.78 188**		P	P	20 58 43.0	-0.7
	0.3nm,0.5s,baz=6.5,slow=7.7,SNR=11						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**53.50 188**		P	P	20 59 11.7	+0.7
	0.2nm,0.5s,baz=11,slow=15,SNR=5.9						
	0.2nm,0.5s						

*IDC **19** 20:55:03.1±1.1, 5°.67S×153°.35E, h0km, mb3.9/8, mbtmp4.0/9, ML1.8/1, MS3.3/5, Error ellipse: s-maj=28.6km s-min=20.4km az=86.0*

ISC 19 20:55:09.2±1.1, 5°.66S±0°.08×153°.3E±0°.1, h43km, n18, σ1°08/13, mb3.9/7, MS3.2/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.87 316**		Pn	**Pn**	**20 55 37.0**	**-1.8**
	5.2nm,0.3s,baz=150,slow=23,SNR=2.6						
KRVT				Sn	**Sn**	**20 56 01.8**	**+0.6**
	30nm,0.3s,baz=344,slow=0.3,SNR=6.5						
PMG	**Port Moresby**	**7.16 238**		Pn	**Pn**	**20 56 49.9**	**-1.5**
	0.9nm,0.3s,baz=317,slow=20,SNR=1.7						
PMG				Sn	**Sn**	**20 58 12.7**	**+1.2**
	0.6nm,0.3s,baz=244,slow=22,SNR=2.1						
	8.9nm,0.6s						
CTA	**Charters Tower**	**15.90 205**		LR	LR	21 05 00.1	
	comp=Z,75nm,18.6s,baz=78,slow=38						
DZM	**Mont Dzumac**	**20.66 143**		P	**P**	**20 59 45.5**	**-0.1**
	7.4nm,0.9s,baz=211,slow=5.9,SNR=2.1						
	7.4nm,0.9s						
GUMO	**Guam**	**20.89 336**		LR	LR	21 08 38.7	
	comp=Z,38nm,18.5s,baz=298,slow=39						
WRA	**Warramunga Arr**	**23.29 231**		P	**P**	**21 00 12.7**	**-0.8**
	1.0nm,0.7s,baz=62,slow=9.2,SNR=12						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**25.89 224**		P	**P**	**21 00 36.7**	**-0.6**
	2.0nm,0.8s,baz=57,slow=8.8,SNR=17						
ASAR				LR	LR	21 11 09.1	
	comp=Z,58nm,19.3s,baz=82,slow=37						
	2.0nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**27.38 28**		T	T	21 29 14.6	
	baz=208						
H11S2	**WAKE ISLAND Hy**	**27.39 29**		T	T	21 29 14.1	
	baz=208						
H11S1	**WAKE ISLAND Hy**	**27.40 28**		T	T	21 29 14.7	
	baz=208						
STKA	**Stephens Creek**	**28.30 201**		LR	LR	21 12 49.7	
	comp=Z,69nm,18.4s,baz=30,slow=38						
RPZ	**Rata Peaks**	**40.98 160**		LR	LR	21 19 59.9	
	comp=Z,65nm,18.3s,baz=328,slow=36						
CMAR	**Chiang Mai Arr**	**58.72 295**		P	**P**	**21 05 05.0**	**+1.8**
	0.3nm,0.5s,baz=96,slow=4.8,SNR=2.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**81.32 319**		P	**P**	**21 07 21.7**	**+0.4**
	1.2nm,0.7s,baz=96,slow=6.7,SNR=10						
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**82.16 326**		P	**P**	**21 07 25.6**	**+0.1**
	1.0nm,0.6s,baz=113,slow=7.5,SNR=6.3						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**84.80 322**		P	**P**	**21 07 39.3**	**+0.2**
	0.8nm,0.8s,baz=110,slow=3.8,SNR=5.9						
	0.8nm,0.8s						
BVAR	**Borovoye Array**	**90.25 323**		P	**P**	**21 08 05.4**	**+0.1**
	2.0nm,0.8s,baz=111,slow=7.0,SNR=10						
	2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**151.07 287**		PKPbc	**PKPbc**	**21 14 58.8**	**+0.1**
	1.6nm,0.8s,baz=48,slow=3.5,SNR=9.7						

*IDC **19** 20:57:30.0±2.2, 7°.26S×128°.28E, h0km, mb3.4/1, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=154.6km s-min=32.5km az=65.0*

ISC 19 20:57:43.7±1.4, 7°.65S±0°.09×129°.1E±0°.1, h100km, n8, σ3°31/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**5.19 246**		P	**Pn**	**20 58 59.1**	**-0.1**
MTN	**Manton Dam**	**5.55 159**		P	**Pn**	**20 59 08.0**	**+4.1**
FAKI	**Fak Fak**	**5.66 34**		P	**Pn**	**20 59 03.9**	**-1.6**
KDU	**Kakadu**	**6.02 147**		P	**Pn**	**20 59 14.3**	**+4.0**
KNRA	**Kununurra**	**7.99 182**		P	**Pn**	**20 59 38.6**	**+1.6**
WRA	**Warramunga Arr**	**13.24 158**		Pn	**Pn**	**21 00 48.1**	**+0.2**
	0.4nm,0.3s,baz=334,slow=11,SNR=20						
WRA				Sn	**Sn**	**21 03 10.4**	**-3.3**
	0.9nm,0.3s,baz=333,slow=22,SNR=12						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**16.59 164**		P	**P**	**21 01 32.1**	**+0.9**
	0.2nm,0.3s,baz=337,slow=9.9,SNR=8.8						
ASAR				S	**Sn**	**21 04 30.5**	**-4.0**
	0.4nm,0.4s,baz=314,slow=16,SNR=5.8						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**68.27 327**		P	P	21 08 28.0	-5.9
	0.1nm,0.4s,baz=131,slow=7.9,SNR=4.1						
	0.1nm,0.4s						

*NEIC **19** 21:08:13.3±2.6, 21°.32N±0°.08×143°.0E±0°.1, h266km±10km, mb4.1/18, Error ellipse: s-maj=19.9km s-min=12.1km az=87.0*
*IDC **19** 21:08:14.3±1.9, 21°.58N×143°.27E, h284km±17km, mb3.3/14, mbtmp4.0/16, Error ellipse: s-maj=18.7km s-min=12.0km az=81.0*

ISC 19 21:08:13.5±1.3, 21°.4N±0°.1×142°.9E±0°.2, h250km, n43, σ1°39/19, mb3.9/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.71 354**		Pn	**Pn**	**21 09 39.1**	**+1.2**
JCJ	**Chichijima**	**5.71 354**		P	**Pn**	**21 09 37.8**	**-0.1**
	55nm,0.4s,baz=92,slow=23,SNR=9.8						
JCJ				S	**S**	**21 10 45.4**	**-0.1**
	52nm,0.6s,baz=304,slow=23,SNR=2.0						
GUMO	**Guam**	**8.00 166**		Pn	Pn	21 10 03.0	-3.9
JMZ	**Minamidaito 2**	**11.55 295**		Pn	**Pn**	**21 10 51.4**	**-0.1**
JHJ2	**Mitsune**	**11.98 348**		Pn	**Pn**	**21 10 55.2**	**-1.5**
MJAR	**Matsushiro Arr**	**15.63 346**		P	**P**	**21 11 39.1**	**-1.0**
	1.1nm,0.6s,baz=151,slow=9.8,SNR=5.7						
MAJO	**Matsushiro**	**15.63 346**			**P**	**21 11 39.9**	**-0.2**
MAJO				IAmb	IAmb	21 11 42.7	
	comp=Z,17nm,1.4s						
MJB9	**Matsu-Tunnel**	**15.63 346**		Pn	**P**	**21 11 42.0**	**+1.8**
MJB9				IAmb	IAmb	21 11 43.6	
	comp=Z,15nm,1.4s						
JMM	**Marumori**	**16.51 354**			**Pn**	**21 11 52.9**	**+1.4**
JSD	**Sado**	**17.05 348**		P	**P**	**21 11 55.2**	**-0.5**
KSRS	**Korea Array**	**20.58 324**		P	**P**	**21 12 33.1**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=143,slow=8.7,SNR=9.1						
	comp=Z,1.5nm,0.6s						
KNRA	**Kununurra**	**39.36 202**		P	P	21 15 18.3	-0.7
KNRA				IAmb	IAmb	21 15 39.3	
	comp=Z,19nm,1.2s						
SONM	**Songino Array**	**39.38 321**		P	**P**	**21 15 18.6**	**-0.5**
SONM	**Songino Array**	**39.38 321**		P	**P**	**21 15 18.6**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=125,slow=7.4,SNR=5.0						
	comp=Z,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**41.30 274**		P	**P**	**21 15 36.1**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=89,slow=6.0,SNR=6.2						
	comp=Z,0.6nm,0.5s						
WB0	**Warramunga Arr**	**41.74 192**		P	P	21 15 37.6	-0.9
WB0				IAmb	IAmb	21 16 00.7	
	comp=Z,6.4nm,1.4s						
WR0	**Warramunga Arr**	**41.90 192**		P	P	21 15 38.7	-1.1
WR0				IAmb	IAmb	21 15 52.5	
	comp=Z,11nm,1.5s						
WB2	**Warramunga Arr**	**41.92 192**		P	P	21 15 38.6	-1.3
WB2				IAmb	IAmb	21 15 55.9	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**41.92 192**		P	P	21 15 38.7	-1.3
WRA	**Warramunga Arr**	**41.92 192**		P	P	21 15 39.7	-0.4
	comp=Z,0.5nm,0.4s,baz=14,slow=9.8,SNR=23						
	comp=Z,0.5nm,0.4s						
KULM	**Kulim**	**43.90 255**		P	P	21 15 55.9	-0.1
KULM				IAmb	IAmb	21 16 26.6	
	comp=Z,6.3nm,1.0s						
ASAR	**Alice Springs**	**45.63 192**		P	P	21 16 08.6	-0.8
	comp=Z,0.3nm,0.6s,baz=16,slow=12,SNR=7.5						
	comp=Z,0.3nm,0.6s						
ZAA0	**Zalesovo Array**	**54.26 322**		P	P	21 17 11.7	-2.0
ZALV	**Zalesovo Beam**	**54.26 322**		P	P	21 17 11.8	-1.9
ZALV	**Zalesovo Beam**	**54.26 322**		P	P	21 17 11.6	-2.1
	comp=Z,1.4nm,0.6s,baz=115,slow=7.5,SNR=6.2						
ZALV				PcP	pP	21 18 10.8	+2.9
	comp=Z,0.8nm,0.4s,baz=131,slow=4.7,SNR=4.0						
	comp=Z,1.4nm,0.6s						
MK31	**Makanchi Array**	**54.68 313**		P	P	21 17 15.2	-1.8
MKAR	**Makanchi Array**	**54.68 313**		P	P	21 17 15.2	-1.7
MKAR	**Makanchi Array**	**54.68 313**		P	**P**	**21 17 15.6**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=88,slow=8.4,SNR=8.9						
MKAR				PcP	**pP**	**21 18 13.6**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=96,slow=4.2,SNR=1.7						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**57.49 317**		P	P	21 17 34.4	-2.2
KURK				IAmb	IAmb	21 17 52.8	
	comp=Z,2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**57.54 317**		P	P	21 17 35.1	-1.9
	comp=Z,2.4nm,0.4s,baz=94,slow=7.4,SNR=30						
	comp=Z,2.4nm,0.4s						
H18K	**Honhosa River**	**57.80 25**		P	P	21 17 35.4	-3.1
J19K	**Poorman**	**58.57 27**		P	P	21 17 40.9	-2.9
J19K				IAmb	IAmb	21 17 46.8	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**62.44 27**		P	P	21 18 04.8	-5.1
	comp=Z,0.9nm,0.6s,baz=262,slow=5.7,SNR=11						
	comp=Z,0.9nm,0.6s						
BVAR	**Borovoye Array**	**62.71 320**		P	P	21 18 10.0	-1.9
	comp=Z,5.5nm,0.3s,baz=97,slow=7.7,SNR=62						
	comp=Z,5.5nm,0.3s						
BRVK	**Borovoye**	**62.77 320**		P	P	21 18 10.4	-1.8
BRVK				IAmb	IAmb	21 18 11.5	
	comp=Z,3.7nm,1.0s						
MESA	**MESA**	**64.32 32**		P	**P**	**21 18 23.1**	**+0.6**
ABKAR	**Akbulak array**	**69.56 316**		P	P	21 18 53.0	-2.3
ARCES	**ARCESS Array B**	**79.11 341**		P	P	21 19 47.1	-2.8
	comp=Z,3.6nm,0.9s,baz=76,slow=8.9,SNR=25						
	comp=Z,3.6nm,0.9s						
FINES	**FINESS Array B**	**83.32 334**		P	P	21 20 08.1	-4.0
	comp=Z,2.4nm,0.6s,baz=60,slow=4.8,SNR=27						
	comp=Z,2.4nm,0.6s						
NVAR	**Mina Array Bea**	**83.56 51**		P	P	21 20 10.2	-3.9
	comp=Z,0.6nm,0.7s,baz=277,slow=5.8,SNR=4.5						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**90.33 313**		P	P	21 20 43.1	-3.5
	comp=Z,0.3nm,0.5s,baz=60,slow=3.8,SNR=3.2						
	comp=Z,0.3nm,0.5s						
PLCA	**Paso Flores**	**145.78 132**		PKPbc	**PKPdf**	**21 27 19.6**	**-2.8**
	comp=Z,1.1nm,0.8s,baz=221,slow=6.5,SNR=3.9						
LPAZ	**La Paz**	**150.26 86**		PKPbc	**PKPdf**	**21 27 32.5**	**+1.3**
	baz=151,slow=3.1						

*IDC **19** 21:18:40.2±0.8, 2°.61N×95°.87E, h0km, mb4.3/20, mbtmp4.4/21, ML4.3/1, MS4

PALK LR LR 21 27 57.0
comp=Z,895nm,19.5s,baz=212,slow=35
CM31 Chiang Mai Arr 16.06 11 P **Pn 21 22 27.4 -1.0**
CMAR Chiang Mai Arr 16.06 11 **Pn 21 22 27.6 -0.8**
CMAR Chiang Mai Arr 16.06 11 Pn **Pn 21 22 27.4 -0.9**
0.4nm,0.3s,baz=197,slow=11,SNR=25
CMAR LR LR 21 28 49.1
comp=Z,650nm,20.1s,baz=210,slow=38
17nm,1.0s
CMJI Cimerak 16.23 129 P **Pn 21 22 31.2 +0.7**
82nm,1.2s
SBUM Sibu 16.33 90 **Pn 21 22 31.1 -0.7**
CHTO Chiang Mai 16.41 10 **Pn 21 22 31.0 -1.8**
CRAI Chiangrai 18.08 14 P **Pn 21 22 51.3 -2.3**
MND Mandalay 19.32 1 P **P 21 23 05.7 -1.5**
SLVN Son La 20.21 22 **P 21 23 16.0 -1.0**
SLVN IAmb IAmb 21 23 24.2
comp=Z,27nm,0.9s
AZL Aizawl 21.26 352 *eP* **P 21 23 26.3 -2.1**
AZL IAmb IAmb 21 23 35.9
comp=Z,24nm,0.6s
QIZ Qiongzhong 21.31 39 P **P 21 23 29.5 +0.6**
QIZ sP **sP 21 23 41.9 -1.3**
QIZ LR LR
comp=Z,1μm,11.8s
QIZ LR LR
comp=Z,2μm,14.3s
QIZ LR LR
comp=Z,960nm,16.0s
IMP Imphal 22.20 355 *eP* **P 21 23 37.1 -1.4**
IMP IAmb IAmb 21 23 44.5
comp=Z,37nm,1.2s
TNCH TengChong 22.46 6 P **P 21 23 40.5 -0.9**
TNCH pmax pmax
comp=Z,28nm,1.2s
MYLDM Lahad Datu 22.71 83 P **P 21 23 43.3 -0.8**
KOHI KOHIMA 23.07 356 *eP* **P 21 23 46.7 -0.9**
KOHI IAmb IAmb 21 23 48.3
comp=Z,64nm,1.2s
KOHI *eS* **S 21 27 53.2 -2.9**
SHL Shillong 23.17 351 P **P 21 23 45.7 -3.1**
SHL IAmb IAmb 21 23 53.2
comp=Z,40nm,0.9s
SHL Shillong 23.17 351 *eP* **P 21 23 44.8 -4.0**
SHL IAmb IAmb 21 23 53.0
comp=Z,33nm,0.9s
BOK Bokaro 23.20 336 *eP* **P 21 23 48.9 +0.1**
BOK IAmb IAmb 21 23 52.6
comp=Z,139nm,1.2s
KMI Kunming 23.36 16 ⇑P **P 21 23 51.8 +1.1**
KMI pmax pmax
comp=Z,23nm,1.1s
KMI LR LR
comp=Z,520nm,21.1s
KMI LR LR
comp=Z,500nm,15.7s
KMI LR LR
comp=Z,1μm,15.3s
MOKO MOKOCHONG 23.64 357 *eP* **P 21 23 50.2 -3.0**
MOKO IAmb IAmb 21 24 13.5
comp=Z,51nm,1.2s
MOKO *eS* **S 21 28 01.9 -3.6**
PZH PanZhiHua 24.44 13 P **P 21 23 59.9 -0.8**
PZH PP **PnPn 21 24 37.5 +5.0**
PZH S **S 21 28 19.3 +1.0**
PZH pmax pmax
comp=Z,30nm,1.4s
PZH pmax pmax
comp=Z,230nm,7.5s
PZH LR LR
comp=Z,530nm,14.8s
PZH LR LR
comp=Z,860nm,19.4s
PZH LR LR
comp=Z,700nm,13.2s
ITAN ITANAGAR 24.51 355 *eP* **P 21 24 00.1 -1.1**
ITAN IAmb IAmb 21 24 08.2
comp=Z,56nm,0.6s
ZIRO ZIRO 24.88 356 *eP* **P 21 24 04.3 -0.4**
ZIRO IAmb IAmb 21 24 09.8
comp=Z,23nm,0.8s
TOLI2 Tolitoli 24.93 93 P **P 21 24 05.1 -0.1**
TOLI2 IAmb IAmb 21 24 17.1
comp=Z,42nm,1.2s
KAPI Kappang 25.02 108 P **P 21 24 05.7 -0.2**
KAPI IAmb IAmb 21 24 09.2
comp=Z,33nm,1.0s
KAPI Kappang 25.02 108 P **P 21 24 06.6 +0.7**
H08S2 Diego Garcia H 25.45 246 T T 21 50 20.8
baz=67,slow=76,SNR=2621
H08S3 Diego Garcia H 25.45 246 T T 21 50 20.4
baz=67,slow=76,SNR=4580
H08S1 Diego Carcia H 25.46 246 T T 21 50 21.6
baz=67,slow=76,SNR=791
GTK Tadong 25.56 345 *eP* **P 21 24 11.4 +0.6**
GTK IAmb IAmb 21 24 18.7
comp=Z,62nm,1.2s
RAMN Ramite 25.81 341 *eP* **P 21 24 14.6 +1.4**
comp=Z,40nm,0.5s
TAPN Taplejung 25.84 343 *eP* **P 21 24 14.8 +1.3**
comp=Z,156nm,1.1s
GYA Guiyang 25.90 23 ⇑P **P 21 24 13.5 -0.4**
GYA pP sP 21 24 26.8 -2.1
GYA S **S 21 28 46.4 +4.8**
GYA pmax pmax
comp=Z,22nm,1.2s
GYA LR LR
comp=Z,1μm,14.6s
GYA LR LR
comp=Z,900nm,14.4s
GYA LR LR
comp=Z,2μm,16.4s
JIRN Jiri 26.60 341 *eP* **P 21 24 21.6 +1.1**
comp=Z,177nm,1.0s
PKI Pulchoki 26.79 339 *eP* **P 21 24 22.6 +0.4**
comp=Z,113nm,1.2s
PKIN Phulchoki 26.80 339 *eP* **P 21 24 22.6 +0.4**
comp=Z,88nm,1.1s
DMN Daman 26.93 339 *eP* **P 21 24 23.9 +0.5**
comp=Z,102nm,1.1s
GUN Gumba 26.94 340 *eP* **P 21 24 24.2 +0.7**
comp=Z,152nm,1.1s
LUWI Luwuk 27.13 97 P **P 21 24 24.7 -0.3**
LUWI IAmb IAmb 21 24 41.5
comp=Z,45nm,1.2s
TGY Tagaytay City 27.27 64 LR LR 21 35 36.4
comp=Z,255nm,18.8s,baz=304,slow=37
LSA Lhasa 27.34 351 P **P 21 24 27.4 +0.1**
LSA pmax pmax
comp=Z,36nm,1.1s
LSA Lhasa 27.34 351 P **P 21 24 25.1 -2.2**
LSA IAmb IAmb 21 24 29.8
comp=Z,35nm,1.1s
GKN Gorkha 27.46 338 *eP* **P 21 24 28.7 +0.7**
comp=Z,263nm,1.1s
DANN Dangsing 28.11 337 *eP* **P 21 24 34.7 +0.7**
comp=Z,66nm,0.8s
PYUN Piuthan 28.20 335 *eP* **P 21 24 35.5 +0.8**
comp=Z,92nm,1.2s
MMRI Maumere 28.55 113 P **P 21 24 37.4 -0.3**
CD2 Chengdu 29.14 14 P **P 21 24 41.3 -1.5**
CD2 pP pP 21 24 53.1 -0.6
CD2 S **S 21 29 34.3 +1.8**
CD2 sS sS 21 29 51.4 +3.5
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 LR LR
comp=Z,1μm,12.0s
CD2 LR LR
comp=Z,560nm,11.6s
CD2 LR LR
comp=Z,1μm,10.2s
BATI Baumata 30.44 115 LR LR 21 39 03.5
comp=Z,1μm,21.1s,baz=265,slow=40
LGTI Lohaghat 30.57 332 *eP* **P 21 24 56.4 +0.9**
PTH Pithoragarh 30.67 333 *eP* **P 21 24 57.4 +0.9**
SOEI Soe 30.82 114 P **P 21 24 58.5 +0.5**
SOEI IAmb IAmb 21 25 04.5
comp=Z,21nm,1.0s
SONA Sohna 31.20 327 *eP* **P 21 25 01.5 +0.5**
KUDL Kundal 31.44 326 *eP* **P 21 25 02.2 -0.9**
WHN Wuhan 32.85 30 P **P 21 25 15.9 +0.5**
SMLA Simla 33.44 330 *eP* **P 21 25 21.6 +1.0**
XAN Xi'an 33.58 20 ⇓P **P 21 25 21.0 -0.9**
XAN pP pP 21 25 31.1 -1.6
XAN pmax pmax
comp=Z,43nm,1.3s
XAN pmax pmax
comp=Z,260nm,6.0s
XAN LR LR
comp=Z,870nm,17.9s
XAN LR LR
comp=Z,1μm,16.9s
XAN LR LR
comp=Z,960nm,20.6s
LZH Lanzhou 34.14 12 *eP* **P 21 25 26.5 -0.4**
LZH sP sP 21 25 40.3 -1.7
LZH pmax pmax
comp=Z,45nm,1.1s
LZH LR LR
comp=Z,480nm,17.5s
LZH LR LR
comp=Z,790nm,19.9s
LZH LR LR
comp=Z,580nm,19.2s
DHRM DHARAMSHALA 34.78 330 *eP* **P 21 25 32.8 +0.3**
DHRM IAmb IAmb 21 25 41.0
comp=Z,22nm,1.0s
THN Thein Dam 35.22 330 *eP* **P 21 25 37.3 +1.2**
LYN LuoYang 35.36 24 ⇑P **P 21 25 37.6 +0.4**
LYN pmax pmax
comp=Z,86nm,1.0s
LYN LR LR
comp=Z,710nm,15.6s
LYN LR LR
comp=Z,870nm,16.3s
LYN LR LR
comp=Z,1μm,14.0s
NJ2 Nanjing 36.42 34 *eP* **P 21 25 46.6 +0.3**
NJ2 pP **pP 21 25 56.5 -0.7**
NJ2 sP **sP 21 26 00.9 -0.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 pmax pmax
comp=Z,630nm,4.5s
GTA Gaotai 36.83 5 ⇑P **P 21 25 49.3 -0.6**
GTA pP pP 21 25 56.5 -4.3
GTA pmax pmax
comp=Z,29nm,1.1s
GTA LR LR
comp=Z,260nm,14.3s
GTA LR LR
comp=Z,230nm,13.5s
GTA LR LR
comp=Z,340nm,17.1s
KNRA Kununurra 37.24 120 P **P 21 25 54.2 +0.8**
KNRA IAmb IAmb 21 26 00.5
comp=Z,21nm,1.2s
NIL Nilore 37.45 328 P **P 21 25 54.3 -0.8**
NIL IAmb IAmb 21 26 03.1
comp=Z,15nm,0.8s
HNS HongShan 38.73 24 ⇓P **P 21 26 05.8 0.0**
HNS sP **sP 21 26 20.3 -0.6**
HNS *eS* **S 21 31 59.3 -1.0**
HNS pmax pmax
comp=Z,79nm,1.0s
HNS LR LR
comp=Z,210nm,17.7s
HNS LR LR
comp=Z,490nm,18.5s
HNS LR LR
comp=Z,510nm,14.3s
TIA Tai'an 38.80 28 ⇑P **P 21 26 05.5 -0.9**
TIA pmax pmax
comp=Z,20nm,1.6s
TIA LR LR
comp=Z,260nm,18.1s
TIA LR LR
comp=Z,650nm,22.1s
TIA LR LR
comp=Z,920nm,16.2s
BTO Baotou 39.95 17 *eP* **P 21 26 16.9 +0.8**
BTO pP **pP 21 26 26.8 -0.3**
BTO sP **sP 21 26 30.8 -0.5**
BTO PP **PnPn 21 27 54.1 +2.1**
BTO S **S 21 32 21.4 +2.5**
BTO sS **sS 21 32 37.6 +3.0**
BTO SS **SS 21 35 13.4 -3.4**
BTO pmax pmax
comp=Z,73nm,1.2s
BTO pmax pmax
comp=Z,410nm,6.4s
BTO LR LR
comp=Z,2μm,15.3s
BTO LR LR
comp=Z,1μm,15.1s
BTO LR LR
comp=Z,2μm,17.0s
KBL Kabul 40.44 325 P **P 21 26 20.1 -0.2**
HHC Hu-ho-hao-te 40.64 18 ⇑P **P 21 26 22.5 +0.7**
HHC pP pP 21 26 32.8 0.0
HHC *eS* **S 21 32 30.8 +1.6**
HHC pmax pmax
comp=Z,63nm,1.0s
HHC pmax pmax
comp=Z,260nm,4.9s
HHC LR LR
comp=Z,2μm,15.1s
HHC LR LR
comp=Z,910nm,16.9s
HHC LR LR
comp=Z,2μm,13.7s
NWAO Narrogin (SRO) 40.69 152 LR LR 21 43 19.7
comp=Z,334nm,18.5s,baz=34,slow=36
H01W3 Cape Leeuwin H 41.02 157 T T 22 09 55.6
baz=333,slow=76,SNR=234
H01W2 Cape Leeuwin H 41.03 157 T T 22 09 52.4
baz=333,slow=76,SNR=358
H01W1 Cape Leeuwin H 41.04 157 T T 22 09 56.8
baz=333,slow=76,SNR=251
WSAR Wadi Sarin 41.49 303 LR LR 21 44 11.5
comp=Z,114nm,18.5s,baz=57,slow=37
BJT Baijiatuau 41.56 24 P **P 21 26 29.2 0.0**
BJI Beijing 41.58 24 P **P 21 26 30.4 +1.0**
BJI sP **sP 21 26 44.0 -0.6**
BJI pmax pmax
comp=Z,32nm,1.0s
BJI LR LR
comp=Z,200nm,15.3s
BJI LR LR
comp=Z,210nm,16.2s
BJI LR LR
comp=Z,220nm,15.2s
WMQ Urumqi 41.70 351 ⇓P **P 21 26 31.8 +1.4**
WMQ pP pP 21 26 38.3 -3.2
WMQ sP sP 21 26 43.1 -2.7
WMQ pmax pmax
comp=Z,31nm,1.3s
WMQ LR LR
comp=Z,440nm,16.9s
WMQ LR LR
comp=Z,220nm,20.9s
TARG Taragay, Kyrgy 42.22 340 P **P 21 26 34.4 -0.7**
TARG IAmb IAmb 21 26 44.8
comp=Z,21nm,0.9s
NRN Naryn 42.61 338 P **P 21 26 36.9 -1.3**
NRN IAmb IAmb 21 26 47.4
comp=Z,19nm,1.0s
SHLS Shalkode 42.97 342 *eP* **P 21 26 40.1 -0.7**
comp=Z,24nm,1.4s,baz=343
UZB Uzynbulak 43.09 342 *eP* **P 21 26 42.2 +0.3**
baz=342
SATY Saty 43.21 341 *eP* **P 21 26 42.1 -0.7**
comp=Z,23nm,1.5s,baz=341
ZHN Zhinishke 43.30 341 *eP* **P 21 26 43.3 -0.2**
baz=341
KPKS Kokpek 43.49 342 *eP* **P 21 26 45.0 0.0**
comp=Z,14nm,1.3s,baz=342
TNSS Tian-Shan 43.67 340 *eP* **P 21 26 46.6 -0.2**
baz=340
MDOK Medeo 43.75 340 *eP* **P 21 26 46.5 -0.7**
baz=340
AAA Alma-Ata 43.84 340 *eP* **P 21 26 47.3 -0.5**
baz=340
WB0 Warramunga Arr 43.85 122 P **P 21 26 46.7 -1.4**
WRA Warramunga Arr 43.88 122 P **P 21 26 48.1 -0.3**
WRA Warramunga Arr 43.88 122 P **P 21 26 49.2 +0.8**
comp=Z,6.2nm,1.1s,baz=301,slow=9.1,SNR=19
comp=Z,6.2nm,1.1s
WRAB Tennant Creek 43.89 122 P **P 21 26 48.0 -0.5**
WRAB IAmb IAmb 21 27 03.0
comp=Z,20nm,1.1s
WB2 Warramunga Arr 43.90 122 P **P 21 26 47.9 -0.6**
WB2 IAmb IAmb 21 26 50.4
comp=Z,19nm,1.3s
WR0 Warramunga Arr 44.06 122 P **P 21 26 49.3 -0.5**
WR0 IAmb IAmb 21 26 51.9
comp=Z,21nm,1.2s
AAK Ala-Archa 44.22 337 P **P 21 26 49.7 -1.3**
AAK IAmb IAmb 21 27 01.1
comp=Z,12nm,1.0s
AAK Ala-Archa 44.22 337 LR LR 21 48 39.9
comp=Z,223nm,20.3s,baz=148,slow=41
CHKK Chushkaly 44.38 340 *eP* **P 21 26 51.6 -0.4**
baz=340
KUU Kurty 44.64 340 *eP* **P 21 26 53.7 -0.4**
comp=Z,23nm,1.2s,baz=340
JNU Nakatsue 44.68 43 LR LR 21 47 38.4
comp=Z,190nm,18.2s,baz=222,slow=39
SGDS Sogindy 44.87 338 *eP* **P 21 26 55.6 -0.4**
baz=338
XLT XiLinHaoTe 44.87 21 *eP* **P 21 26 56.4 +0.4**
XLT pP pP 21 27 04.4 -2.8
XLT sP sP 21 27 13.6 +2.2
XLT PcP **PcP 21 28 34.9 -2.4**
XLT PP **PP 21 28 40.3 -1.1**
XLT pmax pmax
comp=Z,21nm,1.1s
XLT pmax pmax
comp=Z,200nm,4.9s
XLT LR LR
comp=Z,89nm,14.9s
XLT LR LR
comp=Z,690nm,17.4s
XLT LR LR
comp=Z,1μm,15.3s
TDK Taldyqorghan 44.96 342 *eP* **P 21 26 56.1 -0.5**
baz=342
ASAR Alice Springs 45.28 127 P **P 21 27 00.0 +0.5**
ASAR Alice Springs 45.28 127 P **P 21 26 60.0 +0.5**
comp=Z,0.9nm,0.5s,baz=299,slow=7.9,SNR=14
ASAR LR LR 21 47 01.7
comp=Z,145nm,20.4s,baz=306,slow=38
comp=Z,0.9nm,0.5s
KSAR Wonju Array Be 45.46 36 P **P 21 26 59.1 -1.6**
KS19 Wonju Array Si 45.49 36 P **P 21 27 01.2 +0.2**
KS19 IAmb IAmb 21 27 14.7
comp=Z,15nm,1.1s
KSRS Korea Array 45.49 36 P **P 21 27 00.3 -0.6**
comp=Z,5.2nm,0.9s,baz=228,slow=8.7,SNR=18
KSRS LR LR 21 48 40.1
comp=Z,494nm,18.6s,baz=220,slow=40
comp=Z,5.2nm,0.9s
MK31 Makanchi Array 45.60 347 P **P 21 27 01.1 -0.6**
MK31 IAmb IAmb 21 27 12.7
comp=Z,19nm,1.0s
MKAR Makanchi Array 45.60 347 P **P 21 27 01.1 -0.6**
MKAR Makanchi Array 45.60 347 P **P 21 27 01.9 +0.3**
comp=Z,5.9nm,0.4s,baz=159,slow=8.6,SNR=75
MKAR LR LR 21 51 52.8
comp=Z,102nm,18.5s,baz=176,slow=44
comp=Z,5.9nm,0.4s
MAKZ Makanchi 45.68 347 P **P 21 27 02.1 -0.2**
IUG Iuzhnay 45.69 333 *eP* **P 21 27 03.0 +0.4**
comp=Z,16nm,1.2s,baz=333
ZSN Zaisan 45.70 350 *eP* **P 21 27 02.7 +0.3**
comp=Z,23nm,1.2s,baz=350
DZA Taraz 45.72 335 *eP* **P 21 27 02.4 -0.3**
baz=335
SONM Songino Array 45.98 10 P **P 21 27 04.3 -0.5**
SONM Songino Array 45.98 10 P **P 21 27 05.2 +0.4**
comp=Z,18nm,1.0s,baz=195,slow=8.2,SNR=54
comp=Z,18nm,1.0s
CHM Chimkent 46.02 333 *eP* **P 21 27 05.0 0.0**
baz=333
ULN Ulaanbaatar 46.13 10 P **P 21 27 04.8 -1.2**
ULN IAmb IAmb 21 27 07.3
comp=Z,22nm,1.4s
KK31 Karatay Array 46.24 334 P **P 21 27 06.5 -0.3**
KK31 IAmb IAmb 21 27 16.0
comp=Z,22nm,1.2s
KKAR Karatay Array 46.24 334 P **P 21 27 06.6 -0.2**
BTLS Baital 46.45 339 *eP* **P 21 27 08.6 +0.2**
baz=339
CN2 Changchun 48.70 28 *eP* **P 21 27 24.5 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=Z,450nm,14.0s
CN2 LR LR
comp=Z,230nm,14.0s
CN2 LR LR
comp=Z,330nm,14.0s
GEYT Alibeck 49.31 320 P **P 21 27 30.2 -0.5**
GEYT IAmb IAmb 21 27 40.2
comp=Z,6.9nm,0.8s
GEYT Alibeck 49.31 320 P **P 21 27 31.8 +1.1**
comp=Z,4.0nm,0.8s,baz=134,slow=8.5,SNR=7.9
comp=Z,4.0nm,0.8s
GYA0B ALIBECK ARRAY 49.31 320 P **P 21 27 30.2 -0.5**
GYA0B IAmb IAmb 21 27 45.0
comp=Z,7.0nm,0.8s
GUMO Guam 49.62 74 LR LR 21 47 39.0
comp=Z,101nm,21.3s,baz=250,slow=35
KURBB Kurchatov Arra 50.07 346 P **P 21 27 36.8 +0.6**
comp=Z,5.3nm,0.6s,baz=166,slow=6.9,SNR=38
KURBB LR LR 21 53 22.5
comp=Z,197nm,19.2s,baz=172,slow=42
comp=Z,5.3nm,0.6s
KURK Kurchatov 50.13 346 P **P 21 27 36.6 0.0**
JCJ Chichijima 50.54 57 LR LR 21 46 50.6
comp=Z,119nm,21.8s,baz=150,slow=34
HIA Hailar 50.78 20 P **P 21 27 41.7 0.0**
HIA IAmb IAmb 21 27 46.6
comp=Z,15nm,1.0s
BNX BinXian 51.07 28 ⇓P **P 21 27 43.8 -0.1**
BNX pmax pmax
comp=Z,12nm,1.0s
BNX pmax pmax
comp=Z,210nm,4.6s
BRZS Berezniki 51.17 341 *eP* **P 21 27 44.2 -0.4**
baz=341
MDJ Mudanjiang 51.33 31 P **P 21 27 47.1 +1.3**
MDJ pmax pmax
comp=Z,13nm,1.1s
MDJ pmax pmax
comp=Z,160nm,5.4s
MDJ Mudanjiang 51.33 31 P **P 21 27 44.2 -1.6**
MDJ IAmb IAmb 21 28 01.0
comp=Z,20nm,1.3s
MJAR Matsushiro Arr 51.59 44 LR LR 21 51 59.7
comp=Z,150nm,18.5s,baz=230,slow=39
ZAA0 Zalesovo Array 52.00 352 P **P 21 27 50.2 -0.4**
ZALV Zalesovo Beam 52.00 352 P **P 21 27 50.1 -0.5**
ZALV Zalesovo Beam 52.00 352 P **P 21 27 51.0 +0.3**
comp=Z,6.2nm,0.5s,baz=179,slow=6.7,SNR=34
ZALV LR LR 21 54 01.9
comp=Z,77nm,19.7s,baz=196,slow=41
comp=Z,6.2nm,0.5s
USA0B Ussuriysk Arra 52.30 32 P **P 21 27 52.5 -0.5**
USA0B IAmb IAmb 21 27 55.1
comp=Z,26nm,1.4s
USRK Ussuriysk Ar. 52.30 32 P **P 21 27 52.9 -0.1**
USRK Ussuriysk Ar. 52.30 32 P **P 21 27 54.0 +1.0**
comp=Z,9.3nm,1.1s,baz=251,slow=5.8,SNR=7.5
USRK LR LR 21 51 38.3
comp=Z,153nm,18.9s,baz=219,slow=38
comp=Z,9.3nm,1.1s
PMG Port Moresby 52.46 104 LR LR 21 54 59.9
comp=Z,98nm,18.2s,baz=299,slow=42
CTA Charters Tower 54.30 117 LR LR 21 54 32.0
comp=Z,230nm,18.7s,baz=277,slow=40
HEH HeiHe 54.48 24 *eP* **P 21 28 08.8 -0.2**
HEH pmax pmax
comp=Z,12nm,1.4s
HEH LR LR
comp=Z,270nm,12.6s
HEH LR LR
comp=Z,360nm,13.5s
HEH LR LR
comp=Z,440nm,12.5s
BVAR Borovoye Array 54.52 341 P **P 21 28 09.2 0.0**
comp=Z,8.5nm,1.0s,baz=146,slow=6.4,SNR=19
BVAR LR LR 21 53 21.3
comp=Z,148nm,21.4s,baz=153,slow=38
comp=Z,8.5nm,1.0s
BRVK Borovoye 54.59 341 P **P 21 28 09.0 -0.7**
BRVK IAmb IAmb 21 28 19.4
comp=Z,11nm,1.1s

STKA	Stephens Creek	55.26	132	P	P	21 28 15.9 +1.0
	comp=Z,2.3nm,0.6s,baz=298,slow=14,SNR=2.9					
STKA				LR	LR	21 56 10.4
	comp=Z,106nm,18.6s,baz=303,slow=41					
	comp=Z,2.3nm,0.6s					
ABKAR	Abkulak array	55.68	332	P	P	21 28 17.3 -0.3
ABKAR	Abkulak array	55.68	332	P	P	21 28 17.6 0.0
KRVT	Keravat (AS076	56.52	97	LR	LR	21 55 24.9
	comp=Z,73nm,19.0s,baz=292,slow=39					
AKTO	Aktyubinsk	57.40	332	P	P	21 28 30.2 +0.4
	comp=Z,4.3nm,0.9s,baz=127,slow=4.6,SNR=11					
	comp=Z,4.3nm,0.9s					
KMBO	Kilima Mbogo	58.73	267	LR	LR	21 51 38.1
	comp=Z,333nm,18.6s,baz=91,slow=34					
GNI	Garni	59.39	316	LR	LR	21 57 30.6
	comp=Z,55nm,18.4s,baz=114,slow=39					
YSS	Yuzh-Sakhalins	59.97	35	P	P	21 28 47.8 0.0
LODK	Lodwar	60.43	272	P	P	21 28 51.3 -0.4
GURO	Guroymak-BITLI	60.67	313	P	P	21 28 53.1 +0.2
TOO	Toolangi	60.85	136	P	P	21 28 53.2 -0.8
TOO				IAmb	IAmb	21 28 56.4
	comp=Z,8.8nm,1.2s					
ARU	Arti	61.41	337	P	P	21 28 56.6 -0.8
ARU	Arti	61.41	337	P	P	21 28 57.8 +0.4
	comp=Z,6.9nm,0.9s,baz=158,slow=5.9,SNR=9.0					
ARU				LR	LR	21 57 56.1
	comp=Z,166nm,20.6s,baz=138,slow=38					
	comp=Z,6.9nm,0.9s					
H04N2	CROZET ISLANDS	62.19	213	T	T	22 36 30.1
	baz=52,slow=75,SNR=3440					
H04N1	CROZET ISLANDS	62.20	213	T	T	22 36 30.7
	baz=52,slow=75,SNR=3378					
H04N3	CROZET ISLANDS	62.20	213	T	T	22 36 29.4
	baz=52,slow=75,SNR=3918					
CRZF	Crozet Islands	62.32	213	P	P	21 29 04.2 +0.5
PATS	Pohnpei	62.33	84	P	P	21 29 04.1 -0.3
KVAR	Kislovodsk Arr	62.40	319	LR	LR	21 58 00.8
	comp=Z,35nm,20.2s,baz=110,slow=38					
KIV	Kislovodsk	62.40	319	P	P	21 29 04.0 -0.5
KIV				IAmb	IAmb	21 29 22.4
	comp=Z,7.6nm,1.2s					
H04S1	CROZET ISLANDS	62.55	212	T	T	22 36 58.0
	baz=49,slow=75,SNR=279					
H04S3	CROZET ISLANDS	62.56	212	T	T	22 37 06.4
	baz=49,slow=75,SNR=511					
H04S2	CROZET ISLANDS	62.56	212	T	T	22 37 06.6
	baz=49,slow=75,SNR=466					
EIL	Elat	63.61	302	LR	LR	21 57 02.1
	comp=Z,157nm,18.1s,baz=70,slow=36					
MMAI	Mount Meron Ar	64.03	306	LR	LR	21 59 04.4
	comp=Z,130nm,18.8s,baz=74,slow=38					
YAK	Yakutsk	64.48	17	P	P	21 29 16.9 -0.8
HNR	Honiara	64.93	102	LR	LR	22 01 54.4
	comp=Z,679nm,18.8s,baz=132,slow=40					
MBAR	Mbarara	65.20	268	LR	LR	21 55 47.6
	comp=Z,166nm,18.9s,baz=76,slow=34					
BNN	Bunyan	65.32	312	P	P	21 29 24.0 +0.2
KIRV	Kirov	66.51	336	LR	LR	22 03 21.7
	comp=Z,104nm,19.0s,baz=132,slow=40					
BRTR	Keskin Array B	67.21	312	P	P	21 29 35.6 -0.3
BRTR	Keskin Array B	67.21	312	P	P	21 29 36.5 +0.6
	comp=Z,0.6nm,0.7s,baz=130,slow=7.3,SNR=4.3					
BRTR				LR	LR	22 00 02.7
	comp=Z,110nm,21.9s,baz=105,slow=37					
	comp=Z,0.6nm,0.7s					
LSZ	Lusaka	69.25	253	P	P	21 29 49.7 +0.6
LSZ	Lusaka	69.25	253	LR	LR	21 54 56.5
	comp=Z,174nm,21.9s,baz=90,slow=31					
ELL	Elmali	69.30	308	P	P	21 29 49.2 +0.1
KLMR	Klimovskoe	71.94	335	*e*P	P	21 30 03.5 -1.0
KLMR				AMP		21 30 05.9
	comp=Z,34nm,1.6s					
TIXI	Tiksi	72.07	10	P	P	21 30 04.0 -1.0
HARR	Harsova	72.61	316	⇓P	P	21 30 14.7 +5.9
IDI	Anoyia	73.02	306	⇓P	P	21 30 19.4 +7.8
IDI	Anoyia	73.02	306	P	P	21 30 10.0 -1.6
IDI	Anoyia	73.02	306	LR	LR	22 05 24.0
	comp=Z,40nm,20.0s,baz=86,slow=38					
ALN	Alexandroupoli	73.12	312	P	P	21 30 12.7 +0.8
SORM	Soroca	73.20	320	⇓P	P	21 30 11.6 -0.6
AKASG	Malin Array Be	73.36	322	P	P	21 30 13.1 0.0
	comp=Z,0.2nm,0.3s,baz=89,slow=5.2,SNR=4.2					
	comp=Z,0.2nm,0.3s					
RDO	Rodhopi	73.55	312	P	P	21 30 13.4 -1.1
VRI	Vrincioaia	73.71	317	⇑P	P	21 30 20.7 +5.4
MAW	Mawson	73.76	193	P	P	21 30 16.2 +1.1
MAW	Mawson	73.76	193	LR	LR	21 59 21.6
	comp=Z,66nm,18.4s,baz=46,slow=33					
TESR	Tescani	73.92	318	⇑P	P	21 30 29.3 +13
MLR	Muntele Rosu	74.16	317	P	P	21 30 18.1 -0.1
MLR				IAmb	IAmb	21 30 32.3
	comp=Z,8.9nm,1.3s					
BOSA	Boshof	74.33	239	P	P	21 30 19.4 0.0
BOSA				IAmb	IAmb	21 30 29.0
	comp=Z,10nm,1.2s					
BOSA	Boshof	74.33	239	LR	LR	22 00 19.2
	comp=Z,213nm,18.6s,baz=42,slow=34					
ARR	Arges	75.04	316	⇓P	P	21 30 23.8 +0.7
BURAR	Bucovina Array	75.12	319	⇓P	P	21 30 30.5 +6.9
BURAR	Bucovina Array	75.12	319	P	P	21 30 23.2 -0.4
BUR08	Bucovina Ar. S	75.14	319	P	P	21 30 23.8 +0.1
MNK	Minsk	75.25	326	*i* P	P	21 30 21.9 -2.1
	comp=E,6.0nm,0.8s					
MNK				*i* P	P	21 30 21.9 -2.1
	comp=N,12nm,1.1s					
MNK				*i* P	P	21 30 21.9 -2.1
	comp=Z,11nm,1.0s,baz=106					
MNK				*i* PP	PP	21 33 13.7 +0.9
MNK				*i* PPP	PPP	21 34 58.0
MNK				*i* S	S	21 39 58.7 -1.6
MNK				*i* SS	SS	21 44 48.2 -2.3
MNK				*i* SSS	SSS	21 48 11.3
MNK				*i* LQ	LQ	21 57 44.8
MNK				*i* LR	LR	22 04 24.2
MNK				*i* LRM	MLR	22 06 19.0
	comp=E,36nm,17.2s					
MNK				*i* LRM	MLR	22 07 00.4
	comp=N,51nm,15.2s					
MNK				*i* LRM	MLR	22 07 22.0
	comp=Z,136nm,19.1s					
VTS	Vitosha	75.51	313	⇓P	P	21 30 32.1 +6.1
NACGM	Naroch	75.97	326	*e*P	P	21 30 27.8 -0.4
	comp=E,592nm,1.4s					
BOVS	Bovan	76.78	314	⇓P	P	21 30 37.0 +3.9
TRPA	Tarpa	76.99	319	⇑P	P	21 30 35.4 +1.3
KWP	Kalwaria Pacla	77.17	320	P	P	21 30 36.0 +0.8
KWP				IAmb	IAmb	21 30 37.4
	comp=Z,21nm,1.5s					
SUW	Suwalki	77.79	325	P	P	21 30 37.8 -0.6
STHS	Stebnicka Huta	78.07	320	*e*	P	21 30 54.8 +15
FINES	FINESS Array B	78.17	333	P	P	21 30 40.7 +0.4
	comp=Z,1.8nm,0.8s,baz=112,slow=5.1,SNR=12					
FINES				LR	LR	22 09 46.0
	comp=Z,142nm,19.1s,baz=109,slow=39					
	comp=Z,1.8nm,0.8s					
SUR	Sutherland	78.82	236	LR	LR	22 02 05.4
	comp=Z,188nm,18.3s,baz=72,slow=33					
TSUM	Tsumeb	79.81	250	LR	LR	22 04 25.4
	comp=Z,154nm,18.0s,baz=152,slow=34					
MATE	Matera	80.11	311	⇓P	P	21 31 02.3 +11
ARCES	ARCESS Array B	80.80	340	P	P	21 30 55.3 +0.7
	comp=Z,1.2nm,0.4s,baz=93,slow=6.0,SNR=17					
ARCES				LR	LR	22 10 06.4
	comp=Z,95nm,19.4s,baz=96,slow=38					
	comp=Z,1.2nm,0.4s					
PRED	Cave del Predi	82.83	316	P	P	21 31 06.1 +0.2
GEC2	GERESS Array S	82.91	319	P	P	21 31 05.8 -0.5
GEC2				IAmb	IAmb	21 31 18.0
	comp=Z,7.5nm,1.3s					
GERES	GERESS Array B	82.91	319	P	P	21 31 06.6 +0.4
GERES	GERESS Array B	82.91	319	P	P	21 31 07.6 +1.4
	comp=Z,1.8nm,0.9s,baz=53,slow=5.2,SNR=7.4					
GERES				LR	LR	22 11 26.6
	comp=Z,53nm,20.5s,baz=74,slow=38					
	comp=Z,1.8nm,0.9s					
BRG	Berggiesshubel	82.91	321	*e*P	P	21 31 17.9 +12
BRG				Amp		21 31 23.1
	comp=Z,4.5nm,1.1s					
NRCA	Norcia	82.94	313	P	P	21 31 05.5 -1.0
CLUD	Cludinico	83.31	316	P	P	21 31 08.1 -0.2
CLUD				IAmb	IAmb	21 31 19.5
	comp=Z,6.6nm,0.9s					
STAL	STALIGIAL	83.41	316	P	P	21 31 08.5 -0.3
STAL				IAmb	IAmb	21 31 21.0
	comp=Z,14nm,1.4s					
CLL	Collm	83.53	321	*e*P	P	21 31 09.0 -0.2
CLL				*e*sP	pP	21 31 22.0 +0.9
CLL				*e*PP	PP	21 34 24.0 +2.1
CLL				*e*S	S	21 41 36.0 +7.7
CLL				*e*PPS	PPS	21 42 48.0
CLL				*e*SS	SS	21 46 42.0 -13
CIMO	Cimolais	83.60	316	P	P	21 31 09.6 -0.2
CIMO				IAmb	IAmb	21 31 12.3
	comp=Z,5.3nm,1.1s					
HFS	Hagfors	83.87	330	LR	LR	22 13 38.5
	comp=Z,76nm,18.9s,baz=78,slow=39					
CTI	Castel Tesino	84.14	316	P	P	21 31 13.3 +0.7
CTI				IAmb	IAmb	21 31 14.7
	comp=Z,4.7nm,1.0s					
NC405	NORSAR Array S	84.92	331	P	P	21 31 16.2 +0.1
NC405				IAmb	IAmb	21 31 20.3
	comp=Z,12nm,1.3s					
NC602	NORSAR Array S	84.98	331	P	P	21 31 15.8 -0.6
PRMA	PARMA	85.04	315	P	P	21 31 16.2 -0.8
NOA	NORSAR Array B	85.16	331	P	P	21 31 18.0 +0.6
	comp=Z,2.0nm,1.0s,baz=96,slow=5.1,SNR=3.4					
NOA				LR	LR	22 13 37.6
	comp=Z,80nm,20.1s,baz=80,slow=39					
	comp=Z,2.0nm,1.0s					
SPITS	Spitsbergen Ar	85.34	348	LR	LR	22 14 20.4
	comp=Z,162nm,21.7s,baz=82,slow=39					
QSPA	South Pole Qui	92.52	180	LR	LR	22 09 05.6
	comp=Z,207nm,18.2s,baz=308,slow=33					
TORD	Torodi Ar. Bea	93.49	283	P	P	21 31 58.6 +0.8
	comp=Z,0.7nm,1.1s,baz=53,slow=6.5,SNR=2.4					
	comp=Z,0.7nm,1.1s					
ILAR	Eielson Array	98.94	23	PP	PP	21 36 24.1 +0.9
	comp=Z,0.5nm,1.0s,baz=290,slow=9.5,SNR=4.1					
NVAR	Mina Array Bea	128.42	34	PKP	PKiKP	21 37 49.6 +0.3
	comp=Z,0.3nm,0.6s,baz=255,slow=4.0,SNR=3.9					
TXAR	Lajitas Array	143.15	29	PKP	PKPdf	21 38 14.8 -1.3
	comp=Z,0.5nm,0.9s,baz=76,slow=1.5,SNR=4.3					

*IDC **19** 21:28:52.6±1.1, 57°.12S×25°.02W, h0km, mb4.1/3, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=45.3km s-min=27.1km az=74.0*
*NEIC **19** 21:28:54.2±1.5, 57°.1S±0°.1×25°.1W±0°.2, h10km±2km, mb4.5/14, Error ellipse: s-maj=23.3km s-min=17.1km az=215.0*

ISC 19 21:28:55.5±0.7, 57°.2S±0°.1×25°.2W±0°.1, h22km, n26, σ0°82/26, mb4.6/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	7.02	289	Pn	Pn	21 30 35.4	-1.5
VNA1	Neumayer--Stat	15.34	159	P	Pn	21 32 29.3	-0.9
	comp=Z,0.6nm,0.2s						
VNA3	Neumayer Olymp	15.57	161	P	Pn	21 32 32.6	-0.7
	comp=Z,0.5nm,0.2s						
VNA2	Neumayer--Watz	15.74	158	P	Pn	21 32 35.5	+0.1
	comp=Z,0.6nm,0.2s,baz=328,slow=15						
SNAA	Sanae	17.27	156	P	P	21 32 56.0	-0.2
SNAA	Sanae	17.27	156	P	P	21 32 55.9	-0.3
	comp=Z,9.6nm,0.3s						
SNAA	Sanae	17.27	156	P	Pn	21 32 55.1	+0.3
	comp=Z,0.2nm,0.3s,baz=328,slow=15,SNR=12						
	comp=Z,0.5nm,0.3s						
EFI	East Falkland	19.79	272	P	P	21 33 24.6	+0.6
EFI				IAmb	IAmb	21 33 26.7	
	comp=Z,29nm,1.1s						
GO10	Punta Arenas	26.14	259	P	P	21 34 29.1	+1.4
PLTB	Pedras Altas	32.08	310	P	P	21 35 21.1	+0.5
PLTB				IAmb	IAmb	21 35 27.4	
	comp=Z,8.6nm,1.1s						
QSPA	South Pole Qui	33.09	180	P	P	21 35 30.1	+0.7
	comp=Z,1.3nm,0.6s,baz=188,slow=1.9,SNR=6.4						
	comp=Z,1.3nm,0.6s						
MT02	Curacav	39.20	288	P	P	21 36 20.2	-1.6
MT02				IAmb	IAmb	21 36 39.0	
	comp=Z,17nm,1.1s						
CO06	Fray Jorge	41.51	289	P	P	21 36 42.6	+1.8
CO06				IAmb	IAmb	21 36 49.3	
	comp=Z,6.4nm,0.8s						
GO02	Mina Guanaco	45.00	296	P	P	21 37 09.1	-0.4
LVC	Limon Verde	46.83	299	P	P	21 37 24.4	+0.5
LVC				IAmb	IAmb	21 37 41.4	
	comp=Z,7.2nm,1.1s						
PB07	IPOC Station P	48.05	298	P	P	21 37 33.1	-0.1
PB07				IAmb	IAmb	21 37 35.0	
	comp=Z,9.2nm,1.1s						
GO01	Chusmiza	49.49	300	P	P	21 37 45.1	+0.4
GO01				IAmb	IAmb	21 37 59.9	
	comp=Z,2.4nm,0.9s						
PB16	IPOC Station P	50.79	301	P	P	21 37 55.3	+0.7
PB12	IPOC Station P	50.93	300	P	P	21 37 54.9	-0.2
LPAZ	La Paz	51.94	304	P	P	21 38 04.0	+0.7
LPAZ				IAmb	IAmb	21 38 06.3	
	comp=Z,3.3nm,0.5s						
LPAZ	La Paz	51.94	304	P	P	21 38 04.0	+0.7
	comp=Z,2.6nm,0.3s,baz=225,slow=7.6,SNR=8.3						
	comp=Z,2.6nm,0.3s						
VOI	Vohitsoka	62.10	87	P	P	21 39 14.2	-0.5
BOAV	Boa Vista	65.85	321	P	P	21 39 39.3	+0.1
TORD	Torodi Ar. Bea	73.50	27	P	P	21 40 26.4	+0.2
	comp=Z,0.7nm,0.8s,baz=204,slow=6.1,SNR=5.8						
	comp=Z,0.7nm,0.8s						
SONM	Songino Array	149.66	87	PKPbc	PKiKP	21 48 42.8	-0.6
	comp=Z,0.2nm,0.3s,baz=225,slow=3.9,SNR=1.8						
ILAR	Eielson Array	151.70	310	PKPbc	PKiKP	21 48 47.2	+0.3
	comp=Z,0.4nm,0.5s,baz=126,slow=2.2,SNR=5.0						

*IDC **19** 21:30:43.9±1.4, 7°.44S×155°.98E, h114km±13km, mb4.1/12, mbtmp4.5/14, MS3.1/1, Error ellipse: s-maj=18.1km s-min=10.5km az=43.0*
*NEIC **19** 21:30:44.1±1.4, 7°.43S±0°.08×156°.04E±0°.08, h113km±4km, mb4.5/24, Error ellipse: s-maj=12.9km s-min=10.2km az=46.0*

ISC 19 21:30:42.5±0.5, 7°.46S±0°.08×155°.98E±0°.07, h100km, n49, σ1°02/47, mb4.4/23, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.39	117	Pn	Pn	21 31 47.7	+0.7
HNR	Honiara	4.39	117	P	Pn	21 31 48.9	+1.9
	2μm,0.4s,baz=242,slow=7.2,SNR=1.5						
HNR				S	Sn	21 32 39.0	+1.9
	9μm,0.8s,baz=230,slow=16,SNR=5.9						
KRVT	Keravat (AS076	5.02	308	P	Pn	21 31 58.0	+2.3
	57nm,0.6s,baz=109,slow=6.4,SNR=6.5						
KRVT				S	Sn	21 32 55.0	+2.5
	51nm,0.7s,baz=339,slow=24,SNR=1.7						
KRVT				LR	LR	21 34 00.4	
	comp=Z,208nm,21.7s,baz=203,slow=39						
PMG	Port Moresby	8.94	257	Pn	Pn	21 32 49.6	+0.7
WR0	Warramunga Arr	24.21	237	P	P	21 35 50.1	+0.1
WR0				IAmb	IAmb	21 35 50.8	
	comp=Z,9.2nm,0.7s						
WB0	Warramunga Arr	24.25	238	P	P	21 35 50.1	-0.3
WB0				IAmb	IAmb	21 35 51.9	
	comp=Z,7.8nm,0.5s						
WB2	Warramunga Arr	24.36	237	P	P	21 35 51.4	-0.1
WB2				IAmb	IAmb	21 35 52.2	
	comp=Z,8.1nm,0.6s						
WRA	Warramunga Arr	24.37	237	P	P	21 35 50.5	-1.0
WRA	Warramunga Arr	24.37	237	P	P	21 35 51.3	-0.2
	comp=Z,6.6nm,0.5s,baz=62,slow=9.7,SNR=70						
WRA				PcP	PcP	21 39 28.9	+0.2
	comp=Z,0.2nm,0.7s,baz=62,slow=2.4,SNR=6.3						
	comp=Z,6.6nm,0.5s						
ASAR	Alice Springs	26.61	230	P	P	21 36 10.6	-1.2
	comp=Z,1.2nm,0.7s,baz=60,slow=9.8,SNR=17						
ASAR				PcP	PcP	21 39 34.0	+0.3
	comp=Z,0.4nm,0.5s,baz=75,slow=2.0,SNR=4.4						
	comp=Z,1.2nm,0.7s						
STKA	Stephens Creek	27.75	207	P	P	21 36 23.3	+1.4
STKA	Stephens Creek	27.75	207	P	P	21 36 22.8	+0.9
	comp=Z,2.1nm,0.6s,baz=39,slow=14,SNR=3.8						
	comp=Z,2.1nm,0.6s						
KNRA	Kununurra	27.86	251	P	P	21 36 23.1	+0.1
KNRA				IAmb	IAmb	21 36 24.0	
	comp=Z,5.8nm,0.7s						
H11S3	WAKE ISLAND Hy	27.87	22	T	T	22 04 41.4	
	baz=202,slow=75,SNR=118						
H11S2	WAKE ISLAND Hy	27.87	22	T	T	22 04 42.5	
	baz=202,slow=75,SNR=153						
H11S1	WAKE ISLAND Hy	27.89	22	T	T	22 04 53.2	
	baz=202,slow=75,SNR=70						
H11N1	WAKE ISLAND Hy	29.06	22	T	T	22 06 10.8	
	baz=201,slow=74,SNR=6.7						
H11N3	WAKE ISLAND Hy	29.07	22	T	T	22 06 12.7	
	baz=201,slow=74,SNR=9.6						
H11N2	WAKE ISLAND Hy	29.08	22	T	T	22 06 12.4	
	baz=201						
FORT	Forrest	34.94	225	P	P	21 37 24.0	-1.0
MBWA	Marble Bar	37.56	245	P	P	21 37 46.6	-0.8
MBWA				IAmb	IAmb	21 38 03.2	
	comp=Z,5.5nm,0.9s						
SNZO	South Karori	37.60	157	P	P	21 37 46.7	-0.8
FOZ	Fox Glacier	37.93	164	P	P	21 37 49.3	-0.9
FOZ				IAmb	IAmb	21 38 03.7	
	comp=Z,9.8nm,0.9s						
NWAO	Narrogin (SRO)	43.92	229	P	P	21 38 40.5	+0.8
JNU	Nakatsue	46.88	331	P	P	21 39 01.2	-1.8
JNU				IAmb	IAmb	21 39 04.2	
	comp=Z,12nm,1.0s						
KSRS	Korea Array	51.80	332	P	P	21 39 39.4	-0.9
	comp=Z,1.0nm,0.5s,baz=155,slow=7.2,SNR=4.4						
	comp=Z,1.0nm,0.5s						
CMAR	Chiang Mai Arr	61.86	295	P	P	21 40 51.9	+0.1
	comp=Z,0.4nm,0.3s,baz=129,slow=5.2,SNR=5.9						
	comp=Z,0.4nm,0.3s						
SONM	Songino Array	70.25	327	P	P	21 41 45.2	+0.1
	comp=Z,1.9nm,0.5s,baz=138,slow=7.3,SNR=16						
	comp=Z,1.9nm,0.5s						
M19K	Big River Lodg	79.02	22	P	P	21 42 35.5	+0.2
L19K	White Mountain	79.03	21	P	P	21 42 35.4	+0.1
G19K	Purcell Mounta	80.93	18	P	P	21 42 43.9	-1.6
C19K	Lookout Ridge	82.32	15	P	P	21 42 51.0	-1.8
QSPA	South Pole Qui	82.52	180	P	P	21 42 54.4	+0.3
QSPA				IAmb	IAmb	21 42 54.6	
	comp=Z,3.7nm,0.6s						
QSPA	South Pole Qui	82.52	180	P	P	21 42 54.0	-0.1
	comp=Z,5.2nm,0.9s,baz=355,slow=0.5,SNR=13						
	comp=Z,5.2nm,0.9s						
CTGM	Chitina Glacie	83.72	26	P	P	21 43 00.3	0.0
CTGM				IAmb	IAmb	21 43 14.3	
	comp=Z,5.5nm,1.2s						
D22K	Ayikyak River	84.01	17	P	P	21 43 01.9	+0.4
D22K				IAmb	IAmb	21 43 15.5	
	comp=Z,5.3nm,1.1s						
MAW	Mawson	84.35	203	P	P	21 43 03.9	+0.7
MAW	Mawson	84.35	203	P	P	21 43 03.5	+0.2
	comp=Z,2.3nm,0.6s,baz=95,slow=7.2,SNR=10						
	comp=Z,2.3nm,0.6s						
MK31	Makanchi Array	84.39	319	P	P	21 43 04.0	+0.1
MK31				IAmb	IAmb	21 43 04.6	
	comp=Z,6.6nm,0.8s						
MKAR	Makanchi Array	84.39	319	P	P	21 43 03.8	-0.1
	comp=Z,8.4nm,0.7s,baz=102,slow=6.1,SNR=63						
	comp=Z,8.4nm,0.7s						
MAKZ	Makanchi	84.60	318	P	P	21 43 04.9	-0.1
S31K	Pelican	84.80	30	P	P	21 43 05.5	0.0
ZAA0	Zalesovo Array	85.11	326	P	P	21 43 06.4	-0.9
ZAA0				IAmb	IAmb	21 43 06.7	
	comp=Z,5.6nm,0.6s						
ZALV	Zalesovo Beam	85.11	326	P	P	21 43 06.2	-1.0
	comp=Z,5.6nm,0.5s,baz=114,slow=5.7,SNR=27						
	comp=Z,5.6nm,0.5s						
KURBB	Kurchatov Arra	87.83	322	P	P	21 43 19.8	-0.8
	comp=Z,1.4nm,0.3s,baz=102,slow=4.0,SNR=12						
	comp=Z,1.4nm,0.3s						
YERR	Yerington	90.60	51	P	P	21 43 33.2	-0.9
BVAR	Borovoye Array	93.25	323	P	P	21 43 44.4	-1.5
	comp=Z,1.7nm,0.5s,baz=105,slow=6.5,SNR=7.7						
	comp=Z,1.7nm,0.5s						
BDFB	Brasília	146.96	134	PKPbc	PKPbc	21 50 13.9	-0.8
	comp=Z,3.6nm,0.6s,baz=210,slow=1.9,SNR=4.9						
TORD	Torodi Ar. Bea	154.09	285	PKPbc	PKPbc	21 50 31.0	-0.7
	comp=Z,0.8nm,0.7s,baz=69,slow=3.0,SNR=5.9						

DJA 19 21:32:20.3±1.2, 3°.N±4°.×9°.6E±1°.0, h30km±6km, M3.6/7, mb3.6/1, MLv3.6/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.48	106	P	Pn	21 32 30.9	-0.3
SNSI				S	Sn	21 32 40.4	+1.8
MLSI	Meulaboh, Aceh	1.80	18	P	Pn	21 32 49.2	-0.1
MLSI				S	Sn	21 33 11.3	+0.1
GSI	Gunungsitoli	2.11	126	P	Pn	21 32 54.0	+0.4
GSI				S	Sn	21 33 19.0	+0.2
LHMI	Lhok Sumawe	2.88	22	P	Pn	21 33 04.2	0.0
PBSI	Pulau Batu	3.54	137	P	Pn	21 33 13.1	-0.1

NNC 19 21:51:55.5±1.9, 37°.71N×68°.98E, h0km, mb3.7, mpv3.4, 5C-8D, Error ellipse: s-maj=19.7km s-min=12.7km az=163.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.51	12	⇓Pn	Pn	21 53 19.7	+0.8
	0.4nm,0.3s,baz=203,slow=16,SNR=8.8						
KK31				⇑Pg	Pg	21 53 37.2	-3.9
	19nm,1.1s,baz=192,slow=17,SNR=14						
KK31				⇓Lg	Lg	21 54 50.7	
	23nm,0.8s,baz=193,slow=27,SNR=7.4						
AML	Almayashu	5.71	38	⇓Pn	Pn	21 53 22.3	+0.3
	0.3nm,0.6s						
AML				⇓Pg	Pg	21 53 40.8	-4.1
	0.6nm,0.5s						
AML				⇓Lg	Lg	21 54 56.7	
	2.3nm,0.6s						
CHMS	Chumysh	6.88	38	⇓Pn	Pn	21 53 37.4	-0.3
	3.8nm,0.8s						
CHMS				⇑Pg	Pb	21 53 59.3	+3.4
	5.9nm,0.8s						
CHMS				⇑Lg	Lg	21 55 33.1	
	11nm,0.8s						
TKM2	Tokmak 2	7.25	42	⇑Pn	Pn	21 53 42.9	-0.1
	2.0nm,0.5s						
TKM2				⇑Pg	Pb	21 54 06.9	+4.5
	3.5nm,0.6s						
TKM2				⇓Lg	Lg	21 55 43.1	

Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}1.47; $M_{\theta\theta}$-4.06; $M_{\phi\phi}$2.59; $M_{r\theta}$-0.38; $M_{\theta\phi}$-5.11; $M_{\phi r}$-4.16; Fault plane solution: $M_0$7.50000×10^{14} NP1:$\phi_1$200.00000°, δ80.00000°, λ35.00000°. NP2:$\phi_2$103.00000°, δ56.00000°, λ168.00000°. Principal axes: T 7.4982, Plg31.0000°, Azm67.0000°; N 0.0020, Plg54.0000°, Azm214.0000°; P -7.5002, Plg16.0000°, Azm327.0000°;

BUT ***19*** *22:18:16.4±1.8, 46°.91N±0°.04×112°.52W±0°.03, h6km±5km Error ellipse: s-maj=5.5km s-min=3.1km az=194.0*

NEIC ***19*** *22:18:16.8±1.3, 46°.89N±0°.03×112°.55W±0°.03, h4km±5km, ML4.3/58, ML4.4/32(BUT), Mwr3.9/4(SLM), Error ellipse: s-maj=5.2km s-min=2.9km az=203.0*

ISC 19 22:18:16.1±1.2, 46°.91N±0°.03×112°.54W±0°.03, h4km±9km, n88, σ1^{s}75/103, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.18**	**72**	Pg	**Pg**	**22 18 20.0**	**+0.3**
BEMT	**Mount Belmont**	**0.22**	**139**	Pg	**Pg**	**22 18 20.4**	**0.0**
OVMT	**Ovando**	**0.35**	**296**	Pg	**Pg**	**22 18 23.5**	**+0.7**
ELMT	**Elliston**	**0.39**	**176**	Pg	**Pg**	**22 18 23.6**	**-0.1**
CHMT	**Chamberlain Mo**	**0.49**	**270**	Pg	**Pg**	**22 18 26.3**	**+0.7**
BPMT	**Black Pine Rid**	**0.79**	**233**		**Pg**	**22 18 31.1**	**-0.1**
MSO	**Missoula**	**0.97**	**265**	Pg	**Pg**	**22 18 34.7**	**+0.1**
MSO				Sg	**Sg**	**22 18 47.4**	**+0.3**
MSO				IAML		22 18 48.2	
	7μm,0.5s						
MSO				IAML		22 18 52.5	
	8μm,0.5s						
MSO	**Missoula**	**0.97**	**265**	P	**Pg**	**22 18 34.5**	**-0.2**
	baz=86,SNR=222						
MSO				S	**Sg**	**22 18 47.7**	**+0.5**
	baz=86						
BOZ	**Bozeman (W)**	**1.46**	**154**		**Pn**	**22 18 42.5**	**-1.0**
BOZ				Sn	**Sb**	**22 19 01.7**	**-1.2**
BOZ				IAML		22 19 04.8	
	2μm,0.5s						
BOZ				IAML		22 19 04.9	
	3μm,0.4s						
BOZ	**Bozeman (W)**	**1.46**	**154**	P	**Pn**	**22 18 42.3**	**-1.1**
	baz=334						
BOZ				S	**Sb**	**22 19 01.8**	**-1.1**
	baz=334						
DLMT	**Dillon**	**1.55**	**182**		**Pn**	**22 18 45.2**	**+0.5**
DLMT				Sn	**Sn**	**22 19 05.5**	**+0.1**
DLMT				IAML		22 19 10.8	
	2μm,1.0s						
DLMT				IAML		22 19 10.9	
	4μm,0.9s						
EGMT	**Eagleton**	**2.19**	**59**	Pn	**Pn**	**22 18 53.4**	**-0.1**
EGMT				IAML		22 19 29.3	
	2μm,0.6s						
EGMT				IAML		22 19 33.5	
	2μm,0.7s						
EGMT	**Eagleton**	**2.19**	**59**	P	**Pn**	**22 18 53.5**	**+0.1**
	baz=240,SNR=108						
EGMT				S	**Sb**	**22 19 23.9**	**0.0**
	baz=240						
YHL	**Hebgen Lake**	**2.27**	**155**		**Pn**	**22 18 54.5**	**-0.2**
YHL				IAML		22 19 28.9	
	comp=E,3μm,0.6s						
MKRVA	**Milk River, Al**	**2.29**	**13**		**Pn**	**22 18 55.8**	**+1.1**
MKRVA	**Milk River, Al**	**2.29**	**13**	IAML		22 19 34.2	
	comp=N,2μm,0.6s						
GCR	**Grayling Creek**	**2.34**	**154**		**Pb**	**22 18 59.6**	**+0.5**
YHB	**Horse Butte**	**2.36**	**156**		**Pn**	**22 18 55.8**	**-0.1**
YPDC	**Denny Creek**	**2.38**	**157**		**Pn**	**22 18 56.1**	**-0.1**
YMC	**Maple Creek**	**2.41**	**153**		**Pn**	**22 18 56.3**	**-0.2**
YHH	**Holmes Hill**	**2.43**	**150**		**Pn**	**22 18 56.6**	**-0.4**
CMI	**Centennial Mou**	**2.47**	**165**		**Pn**	**22 18 57.4**	**-0.1**
YMR	**Madison River**	**2.50**	**153**		**Pn**	**22 18 57.7**	**-0.1**
YMR				IAML		22 19 35.9	
	comp=E,2μm,0.6s						
YMR				IAML		22 19 39.0	
	comp=N,2μm,0.8s						
YPWB	**West Boundary**	**2.52**	**156**		**Pn**	**22 18 58.1**	**0.0**
YPM	**Purple Mountai**	**2.54**	**152**		**Pn**	**22 18 58.9**	**+0.5**
YNR	**Norris Junctio**	**2.55**	**149**		**Pn**	**22 18 58.7**	**+0.1**
HSPGA	**Hill Springs,**	**2.56**	**343**		**Pn**	**22 19 00.2**	**+1.7**
PZCI	**Patelzick Cree**	**2.58**	**176**		**Pn**	**22 18 58.1**	**-0.8**
YJC	**Joseph's Coat**	**2.65**	**144**		**Pb**	**22 19 05.5**	**+1.2**
YML	**Mary Lake**	**2.66**	**149**		**Pb**	**22 19 05.4**	**+0.9**
BCYI	**Bear Canyon**	**2.67**	**193**		**Pg**	**22 19 06.2**	**-1.1**
LKWY	**Lake**	**2.79**	**147**		**Pb**	**22 19 07.6**	**+1.0**
YPPC	**Pelican Cone**	**2.80**	**143**		**Pb**	**22 19 07.0**	**+0.1**
YLT	**Little Thumb C**	**2.83**	**150**		**Pn**	**22 19 02.3**	**0.0**
YPK	**Parker Peak, Y**	**2.85**	**139**		**Pn**	**22 19 02.6**	**-0.1**
H17A	**Grant Village**	**2.87**	**151**	Pb	**Pb**	**22 19 06.8**	**-1.3**
	baz=332,SNR=31						
H17A				Sb	**Sb**	**22 19 44.6**	**+0.9**
	baz=332						
YPLA	**Lake Butte**	**2.88**	**146**		**Pb**	**22 19 06.9**	**-1.4**
MCID	**Moose Creek**	**2.89**	**160**		**Pn**	**22 19 00.8**	**-2.3**
RLMT	**Red Lodge**	**2.90**	**127**		**Pn**	**22 19 04.2**	**+0.9**
RLMT				IAML		22 19 47.8	
	comp=N,1μm,0.6s						
RLMT				IAML		22 19 47.8	
	comp=N,1μm,0.5s						
RLMT	**Red Lodge**	**2.90**	**127**	P	**Pn**	**22 19 03.4**	**+0.1**
	baz=309,SNR=25						
RLMT				S	**Sn**	**22 19 39.3**	**+0.5**
	baz=309						
YPP	**Pitchstone Pla**	**2.91**	**155**		**Pn**	**22 19 05.6**	**+2.1**
YTP	**The Promontory**	**2.98**	**147**		**Pn**	**22 19 06.7**	**+2.3**
PLID	**Pearl Lake**	**3.03**	**234**		**Pn**	**22 19 04.8**	**-0.2**
PLID				IAML		22 19 57.7	
	comp=N,561nm,0.7s						
PLID				IAML		22 19 58.5	
	comp=N,592nm,0.6s						
FLWY	**Flagg Ranch**	**3.11**	**155**		**Pn**	**22 19 06.4**	**+0.2**
FLWY				IAML		22 19 56.3	
	comp=N,780nm,1.2s						
FLWY				IAML		22 19 56.3	
	comp=N,637nm,1.2s						
IMW	**Indian Meadow**	**3.22**	**159**		**Pn**	**22 19 08.1**	**+0.4**
IMW				IAML		22 20 02.5	
	comp=N,809nm,0.5s						
F10A	**Beach Ranch, E**	**3.38**	**256**		**Pn**	**22 19 09.9**	**+0.2**
NEW	**Newport**	**3.38**	**295**		**Pn**	**22 19 09.9**	**+0.1**
NEW				IAML		22 20 03.8	
	comp=N,464nm,0.7s						
NEW				IAML		22 20 05.5	
	comp=N,635nm,0.5s						
NEW	**Newport**	**3.38**	**295**	P	**Pn**	**22 19 09.3**	**-0.5**
	baz=112,SNR=21						
NEW				Sb	**Sg**	**22 20 01.9**	**-2.9**
	baz=112						
NEW	**Newport**	**3.38**	**295**	Pn	**Pn**	**22 19 09.9**	**+0.1**
	comp=N,65nm,0.3s,baz=117,slow=8.3,SNR=77						
NEW				Pg	**Pb**	**22 19 18.5**	**+1.8**
	comp=N,29nm,0.3s,baz=110,slow=15,SNR=18						
NEW				Lg	Lg	22 20 00.1	
	comp=N,115nm,0.3s,baz=17,slow=15,SNR=15						
MOOW	**Moose Ponds**	**3.41**	**158**		**Pn**	**22 19 11.2**	**+0.8**
FXWY	**Fox Creek**	**3.44**	**161**		**Pn**	**22 19 11.7**	**+0.9**
LOHW	**Long Hollow**	**3.57**	**157**		**Pn**	**22 19 13.6**	**+1.1**
TPAW	**Teton Pass**	**3.60**	**161**		**Pn**	**22 19 14.4**	**+1.4**
TPAW				IAML		22 20 17.3	
	comp=N,624nm,1.0s						
HLID	**Hailey**	**3.60**	**202**		**Pn**	**22 19 12.7**	**-0.3**
HLID				IAML		22 20 09.5	
	comp=N,654nm,0.6s						
HLID				IAML		22 20 11.6	
	comp=N,996nm,0.5s						
HLID	**Hailey**	**3.60**	**202**	P	**Pn**	**22 19 12.4**	**-0.6**
	baz=21,SNR=6.0						
HLID				Sb	**Sb**	**22 20 07.2**	**+2.5**
	baz=21						
SNOW	**Snow King Moun**	**3.67**	**159**		**Pn**	**22 19 15.3**	**+1.3**
SNOW				IAML		22 20 13.7	
	comp=N,312nm,1.0s						
SNOW				IAML		22 20 34.4	
	comp=N,294nm,1.0s						
REDW	**Red Top Meadow**	**3.75**	**161**		**Pn**	**22 19 16.8**	**+1.9**
E09A	**Wood Farm, Sta**	**3.88**	**266**		**Pn**	**22 19 17.0**	**+0.5**
E09A				IAML		22 20 30.0	
	comp=E,546nm,0.7s						
BMO	**Blue Mountains**	**3.92**	**240**		**Pn**	**22 19 16.8**	**-0.3**
BMO				IAML		22 20 25.6	
	comp=E,251nm,0.4s						
C09A	**Chrisman Ranch**	**4.00**	**285**	Pn	**Pn**	**22 19 18.4**	**+0.2**
LNOR	**Lincton Mounta**	**4.11**	**257**		**Pn**	**22 19 20.9**	**+1.2**
MFID	**Camas Ranch**	**4.20**	**215**	Pn	**Pn**	**22 19 20.5**	**-0.6**
MFID				IAML		22 20 30.1	
	comp=E,556nm,0.8s						
OD2	**Odessa Site #2**	**4.24**	**279**		**Pn**	**22 19 22.5**	**+1.0**
LAO	**LASA Array**	**4.34**	**91**	Pn	**Pn**	**22 19 24.2**	**+1.2**
LAO	**LASA Array**	**4.34**	**91**	P	**Pn**	**22 19 24.3**	**+1.3**
	baz=275,SNR=11						
LAO				Sb	**Sb**	**22 20 29.8**	**+3.9**
	baz=275						
BW06	**Boulder Array**	**4.66**	**152**	Pb	**Pb**	**22 19 37.2**	**-1.3**
	baz=334,SNR=31						
PDAR	**Pinedale Array**	**4.66**	**152**	Pn	**Pn**	**22 19 32.1**	**+4.6**
	comp=E,0.9nm,0.3s,baz=5.2,slow=17,SNR=25						
PDAR				Lg	Lg	22 20 42.9	
	comp=E,3.3nm,0.3s,baz=357,slow=28,SNR=14						
	comp=E,3.1nm,0.6s						
HAWA	**Hanford**	**4.84**	**266**		**Pn**	**22 19 29.5**	**-0.3**
HAWA				IAML		22 20 55.3	
	comp=E,288nm,0.9s						
E07A	**Sunnyside**	**5.04**	**269**		**Pn**	**22 19 32.3**	**-0.2**
HWUT	**Hardware Ranch**	**5.35**	**172**		**Pn**	**22 19 39.2**	**+2.3**
DGMT	**Dagmar**	**5.84**	**72**	Pn	**Pn**	**22 19 44.0**	**+0.4**
DGMT	**Dagmar**	**5.84**	**72**	P	**Pn**	**22 19 44.0**	**+0.4**
	baz=257,SNR=9.0						
DGMT				Sb	**Sb**	**22 21 12.9**	**+3.9**
	baz=257						
K22A	**Casper**	**6.04**	**133**	P	**Pn**	**22 19 46.7**	**+0.3**
	baz=317						
K22A				Sb	**Sb**	**22 21 18.3**	**+3.6**
	baz=317						
ELK	**Elko**	**6.47**	**199**	Pn	**Pn**	**22 19 56.9**	**+4.5**
	comp=E,0.2nm,0.3s,baz=13,slow=16,SNR=7.5						
ELK				Pg	**Pb**	**22 20 11.5**	**+2.1**
	comp=E,1.0nm,0.3s,baz=354,slow=15,SNR=16						
ELK				Lg	Lg	22 21 35.8	
	comp=E,4.4nm,0.3s,baz=141,slow=17,SNR=13						
	comp=E,1.0nm,0.5s						
RSSD	**Black Hills**	**6.59**	**112**	P	**Pn**	**22 19 53.1**	**-0.9**
	baz=298						
RSSD				Sb	**Sb**	**22 21 36.7**	**+6.0**
	baz=298						
O20A	**White River Ci**	**7.46**	**154**	P	**Pn**	**22 20 06.3**	**+0.4**
	baz=337,SNR=5.9						
PHWY	**Pilot Hill**	**7.58**	**135**		**Pn**	**22 20 10.2**	**+2.6**
N23A	**Red Feather La**	**7.67**	**139**	P	**Pn**	**22 20 09.7**	**+0.9**
	baz=324,SNR=10						
ISCO	**Idaho Springs**	**8.71**	**142**	P	**Pn**	**22 20 23.1**	**-0.1**
	baz=327						
YBH	**Yreka Blue Hor**	**8.94**	**238**	Pn	**Pn**	**22 20 30.4**	**+4.3**
	comp=E,0.1nm,0.3s,baz=72,slow=9.6,SNR=2.2						
	comp=E,2.8nm,0.9s						
NVAR	**Mina Array Bea**	**9.48**	**209**	Pn	**Pn**	**22 20 37.5**	**+3.9**
	comp=E,0.1nm,0.3s,baz=22,slow=12,SNR=7.5						
NVAR				Lg	Lg	22 23 13.2	
	comp=E,0.3nm,0.3s,baz=39,slow=29,SNR=5.2						
	comp=E,1.3nm,0.7s						
SDCO	**Great Sand Dun**	**10.53**	**148**	P	**Pn**	**22 20 49.7**	**+1.6**
	baz=333,SNR=11						
ULM	**Lac du Bonnet**	**11.53**	**67**	Pn	**Pn**	**22 20 58.5**	**-3.0**
	comp=E,2.0nm,0.6s,baz=245,slow=4.8,SNR=2.0						
ULM				Pg		22 21 44.2	
	comp=E,0.9nm,0.3s,baz=263,slow=17,SNR=6.9						
ULM				Lg	Lg	22 24 11.2	
	comp=E,1.6nm,0.3s,baz=344,slow=11,SNR=6.3						
YKA	**Yellowknife Ar**	**15.66**	**356**	Pn	**Pn**	**22 21 51.9**	**-5.5**
	comp=E,0.3nm,0.3s,baz=177,slow=12,SNR=3.6						
YKA				Lg	Lg	22 26 15.5	
	baz=172,slow=27						
	comp=E,2.1nm,0.7s						
TXAR	**Lajitas Array**	**18.86**	**155**	P	**Pn**	**22 22 38.5**	**+0.6**
	baz=325,slow=8.8,SNR=1.6						
	comp=E,0.4nm,0.9s						
ILAR	**Eielson Array**	**25.80**	**326**	P	**P**	**22 23 48.6**	**+0.7**
	comp=E,1.0nm,0.7s,baz=125,slow=7.4,SNR=14						
	comp=E,1.0nm,0.7s						
WMQ	**Urumqi**	**87.89**	**345**	*e*P	**P**	**22 31 08.9**	**+2.0**
LZH	**Lanzhou**	**91.15**	**331**	*e*P	**P**	**22 31 19.6**	**-2.8**
LZH				pP	PcP	22 31 22.8	-0.6
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						

IDC ***19*** *22:18:49.0±0.6, 26°.70S×176°.36W, h0km, mb4.5/17, mbtmp4.4/21, ML3.8/3, MS4.6/19, Error ellipse: s-maj=19.7km s-min=14.8km az=110.0*

NEIC ***19*** *22:18:50.4±2.9, 26°.82S±0°.07×176°.21W±0°.08, h10km±1km, mb4.7/54, Error ellipse: s-maj=14.7km s-min=10.3km az=133.0*

GCMT ***19*** *22:18:54.4±0.2, 26°.63S±0°.02×175°.88W±0°.01, h22km, MW5.2/109, Moment Tensor Solution. s72,c90; s109,c151; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.82±.24; $M_{\theta\theta}$-0.20±.16; $M_{\phi\phi}$-5.62±.15; $M_{r\theta}$-0.21±.30; $M_{\theta\phi}$0.00±.12; $M_{\phi r}$3.63±.23; Best double couple: $M_0$6.77800×10^{16} NP1:ϕ_S358.00000°, δ61.00000°, λ88.00000°. NP2:ϕ_S182.00000°, δ29.00000°, λ93.00000°. Principal axes: T 6.8800, Plg74.0000°, Azm264.0000°; N -0.2090, Plg1.0000°, Azm359.0000°; P -6.6750, Plg16.0000°, Azm89.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 22:18:50.5±0.4, 26°.95S±0°.06×176°.44W±0°.07, h10km, n133, σ1^{s}71/118, mb4.7/47, MS4.9/19, 1C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.64**	**209**	Pn	**Pb**	**22 19 36.6**	**-1.4**
RAO	**Raoul Island**	**2.64**	**209**	Pn	**Pb**	**22 19 37.5**	**-0.4**
	810nm,0.2s,baz=81,slow=8.1,SNR=18						
RAO				Sn	**Sb**	**22 20 12.5**	**+2.1**
	189nm,0.3s,baz=67,slow=21,SNR=3.7						
RAO				LR	LR	22 20 27.3	
	comp=Z,2μm,20.1s,baz=136,slow=34						
MSVF	**Nonsavu**	**10.49**	**330**	Pn	**Pn**	**22 21 20.7**	**-0.5**
MSVF	**Nonsavu**	**10.49**	**330**	Pn	Pn	22 21 25.5	+4.3
	0.6nm,0.3s,baz=154,slow=13,SNR=3.8						
MSVF				LR	LR	22 25 01.1	
	comp=Z,3μm,18.4s,baz=132,slow=36						
URZ	**Urewera**	**12.52**	**204**	Pn	**Pn**	**22 21 53.5**	**+4.8**
	0.6nm,0.3s,baz=237,slow=5.2,SNR=2.3						
URZ				Sn	**Sn**	**22 24 03.9**	**-4.2**
	4.4nm,0.3s,baz=199,slow=23,SNR=12						
URZ				LR	LR	22 26 42.8	
	comp=Z,3μm,18.6s,baz=98,slow=37						
	4.0nm,0.7s						
BKZ	**Black Stump Fm**	**13.54**	**204**	Pn	**Pn**	**22 22 00.7**	**-2.0**
BFZ	**Birch Farm**	**14.98**	**202**		**Pn**	**22 22 19.6**	**-2.7**
BFZ				IAmb	IAmb	22 22 33.8	
	comp=Z,27nm,0.6s						
MRZ	**Mangatainoka R**	**15.19**	**204**	Pn	**Pn**	**22 22 22.5**	**-2.6**
MRZ				IAmb	IAmb	22 23 02.2	
	comp=Z,50nm,1.4s						
SNZO	**South Karori**	**16.08**	**205**	Pn	**Pn**	**22 22 37.8**	**+1.2**
BHW	**Baring Head**	**16.10**	**204**	Pn	**Pn**	**22 22 37.5**	**+0.5**
PLWZ	**Palliser**	**16.11**	**203**	Pn	**Pn**	**22 22 38.0**	**+0.9**
LIFNC	**LIFOU**	**16.14**	**289**	P	**P**	**22 22 42.6**	**+1.7**
TCW	**Tory Channel**	**16.16**	**206**	Pn	**Pn**	**22 22 37.7**	**+0.1**
RAR	**Rarotonga**	**16.25**	**73**	LR	LR	22 28 26.5	
	comp=Z,589nm,18.3s,baz=248,slow=36						
DZM	**Mont Dzumac**	**16.32**	**284**	*e*P	**Pn**	**22 22 35.7**	**-4.3**
	comp=Z,666nm,28.2s						
DZM				*e*LR	LR	22 26 15.9	
	comp=Z,5μm,23.9s						
DZM	**Mont Dzumac**	**16.32**	**284**	P	**P**	**22 22 48.5**	**+5.5**
DZM				IAmb	IAmb	22 23 09.5	
	comp=Z,80nm,1.4s						
DZM	**Mont Dzumac**	**16.32**	**284**	Pn	**P**	**22 22 41.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=289,slow=20,SNR=2.0						
DZM				LR	LR	22 27 56.6	
	comp=Z,4μm,19.2s,baz=116,slow=34						
	comp=Z,6.0nm,0.8s						
TUWZ	**Tuamarina**	**16.47**	**206**		**Pn**	**22 22 42.0**	**+0.2**
BSWZ	**Blackbirch Sta**	**16.74**	**206**	Pn	**Pn**	**22 22 45.6**	**+0.5**
CTZ	**Chatham Island**	**16.75**	**180**	Pn	**Pn**	**22 22 44.8**	**-0.4**
CTZ				IAmb	IAmb	22 22 59.2	
	comp=Z,93nm,1.5s						
THZ	**Tophouse**	**17.18**	**208**	Pn	**Pn**	**22 22 51.0**	**+0.4**
KHZ	**Kahutara**	**17.47**	**205**		**Pn**	**22 22 52.7**	**-1.5**
GVZ	**Greta Valley S**	**18.14**	**206**	P	**Pn**	**22 23 02.1**	**-0.3**
GVZ				IAmb	IAmb	22 23 24.9	
	comp=Z,50nm,1.2s						
LTZ	**Lake Taylor**	**18.28**	**207**	P	**Pn**	**22 23 02.4**	**-2.0**
INZ	**Inchbonnie**	**18.59**	**209**	P	**P**	**22 23 06.7**	**-1.0**
RPZ	**Rata Peaks**	**19.55**	**208**	P	**Pn**	**22 23 19.6**	**-0.1**
RPZ				IAmb	IAmb	22 23 21.8	
	comp=Z,38nm,1.5s						
RPZ	**Rata Peaks**	**19.55**	**208**	P	**Pn**	**22 23 21.0**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=20,slow=10,SNR=3.2						
RPZ				LR	LR	22 31 11.6	
	comp=Z,1μm,20.7s,baz=14,slow=38						
	comp=Z,4.1nm,0.6s						
FOZ	**Fox Glacier**	**19.95**	**210**	P	**P**	**22 23 22.9**	**+0.3**
MLZ	**Mavora Lakes**	**22.14**	**210**	P	**P**	**22 23 47.2**	**+0.8**
MLZ				IAmb	IAmb	22 24 02.8	
	comp=Z,52nm,1.4s						
PPT2	**Papeete2**	**26.50**	**75**	*e*P	P	22 24 07.6	-21
	comp=Z,146nm,23.0s						
PPT2				*e*LR	LR	22 30 43.1	
	comp=Z,3μm,27.0s						
PPT2				*e*LR	LR	22 30 50.7	
	comp=Z,2μm,26.0s						
PPT	**Papeete**	**26.51**	**75**	LR	LR	22 31 54.4	
	comp=Z,844nm,20.0s,baz=237,slow=30						
PPTF	**Pamatai, Papee**	**26.51**	**75**	P	**P**	**22 24 25.1**	**-3.4**
ARMA	**Armidale**	**28.18**	**255**	P	**P**	**22 24 44.5**	**+1.1**
HNR	**Honiara**	**28.32**	**304**	LR	LR	22 34 15.9	
	comp=Z,21μm,20.5s,baz=140,slow=33						
EIDS	**Eidsvold**	**29.16**	**266**	P	**P**	**22 24 53.0**	**+1.0**
EIDS				IAmb	IAmb	22 24 56.3	
	comp=Z,22nm,1.2s						
CTA	**Charters Tower**	**34.79**	**273**	P	**P**	**22 25 43.0**	**+1.4**
	comp=Z,9.0nm,0.9s,baz=116,slow=12,SNR=5.2						
CTA				LR	LR	22 38 55.1	
	comp=Z,2μm,18.4s,baz=100,slow=35						
	comp=Z,9.0nm,0.9s						
CTAO	**Charters Tower**	**34.79**	**273**	P	**P**	**22 25 42.3**	**+0.7**
CTAO				IAmb	IAmb	22 25 46.1	
	comp=Z,27nm,1.2s						
STKA	**Stephens Creek**	**36.72**	**252**	P	**P**	**22 25 57.5**	**-0.5**
STKA	**Stephens Creek**	**36.72**	**252**	P	**P**	**22 25 59.6**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=90,slow=3.0,SNR=2.3						
STKA				LR	LR	22 40 09.7	
	comp=Z,2μm,18.2s,baz=77,slow=35						
	comp=Z,2.0nm,0.7s						
KRVT	**Keravat (AS076**	**37.60**	**301**	LR	LR	22 39 54.7	
	comp=Z,417nm,21.8s,baz=21,slow=34						
PMG	**Port Moresby**	**38.55**	**290**	LR	LR	22 40 03.9	
	comp=Z,1μm,19.3s,baz=131,slow=33						
TAOE	**Nuku Hiva Isla**	**38.74**	**69**	*e*S	**S**	**22 32 17.5**	**+4.7**
	comp=Z,72nm,22.8s						
TAOE				*e*LR	LR	22 36 19.8	
	comp=Z,1μm,26.9s						
COEN	**Coen**	**39.82**	**281**	P	**P**	**22 26 25.4**	**+1.1**
COEN				IAmb	IAmb	22 27 05.9	
	comp=Z,16nm,1.1s						
BBOO	**Buckleboo**	**41.33**	**250**	P	**P**	**22 26 37.6**	**+1.0**
BBOO				IAmb	IAmb	22 27 18.5	
	comp=Z,24nm,1.4s						
AS31	**Alice Springs**	**44.79**	**263**	P	**P**	**22 27 03.6**	**-1.1**
ASAR	**Alice Springs**	**44.79**	**263**	P	**P**	**22 27 05.1**	**+0.3**
ASAR	**Alice Springs**	**44.79**	**263**	P	**P**	**22 27 04.3**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=97,slow=7.1,SNR=12						
ASAR				LR	LR	22 45 07.7	
	comp=Z,1μm,18.4s,baz=110,slow=35						
	comp=Z,2.3nm,0.9s						
WR0	**Warramunga Arr**	**45.28**	**268**	P	**P**	**22 27 08.7**	**0.0**
WR0				IAmb	IAmb	22 27 11.8	
	comp=Z,5.8nm,0.8s						
WB2	**Warramunga Arr**	**45.46**	**268**	P	**P**	**22 27 10.6**	**+0.5**
WRA	**Warramunga Arr**	**45.47**	**268**	P	**P**	**22 27 10.1**	**-0.1**
WRA	**Warramunga Arr**	**45.47**	**268**	P	**P**	**22 27 10.0**	**-0.2**
	comp=Z,5.5nm,0.7s,baz=106,slow=7.6,SNR=33						
WRA				PcP	**PcP**	**22 28 49.3**	**0.0**
	comp=Z,1.1nm,0.9s,baz=103,slow=3.8,SNR=2.2						
	comp=Z,5.5nm,0.7s						
WB0	**Warramunga Arr**	**45.48**	**268**	P	**P**	**22 27 10.3**	**+0.1**
WB0				IAmb	IAmb	22 27 13.2	
	comp=Z,9.8nm,0.8s						
FORT	**Forrest**	**48.35**	**252**	P	**P**	**22 27 30.5**	**-2.1**
KHLU	**Kahalu`u**	**50.37**	**25**	P	**P**	**22 27 46.6**	**-1.5**
RIM	**Rim**	**50.44**	**26**	P	**P**	**22 27 47.6**	**-1.0**
SBA	**Scott Base**	**51.57**	**184**	P	P	22 28 07.2	+11
KNRA	**Kununurra**	**51.93**	**271**	P	**P**	**22 28 00.4**	**+0.5**
NWAO	**Narrogin (SRO)**	**56.96**	**247**	LR	LR	22 52 42.7	
	comp=Z,898nm,18.1s,baz=64,slow=36						
BATI	**Baumata**	**58.67**	**274**	LR	LR	22 54 50.3	
	comp=Z,1μm,18.6s,baz=131,slow=37						
CASY	**Casey**	**58.82**	**207**	P	**P**	**22 28 50.0**	**+1.2**
QSPA	**South Pole Qui**	**63.15**	**180**	P	**P**	**22 29 18.6**	**+0.2**
QSPA	**South Pole Qui**	**63.15**	**180**	P	**P**	**22 29 20.3**	**+1.9**
	comp=Z,11nm,0.9s,baz=42,slow=2.5,SNR=28						
	comp=Z,11nm,0.9s						
LUWI	**Luwuk**	**63.66**	**283**	P	**P**	**22 29 22.4**	**-0.1**
KAPI	**Kappang**	**64.43**	**278**	LR	LR	22 58 16.3	
	comp=Z,262nm,18.4s,baz=136,slow=37						
LEM	**Lembang**	**74.43**	**270**	P	**P**	**22 30 30.3**	**+0.7**
	comp=Z,21nm,0.7s,baz=357,slow=7.9,SNR=4.8						
LEM				LR	LR	23 03 31.3	
	comp=Z,904nm,19.5s,baz=156,slow=36						
	comp=Z,21nm,0.7s						
MAW	**Mawson**	**76.01**	**200**	P	**P**	**22 30 38.5**	**+1.0**
MAW	**Mawson**	**76.01**	**200**	P	**P**	**22 30 39.6**	**+2.0**
	comp=Z,3.1nm,0.8s,baz=66,slow=7.0,S

PRN	**Pahroc Range**	**86.12**	**44**	P	**P**	**22 31 32.7**	**+0.8**
PRN				IAmb	IAmb	22 31 41.2	
	comp=Z,8.8nm,1.1s						
MDJ	**Mudanjiang**	**86.59**	**325**	P	**P**	**22 31 37.8**	**+3.9**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.2s						
X16A	**Lo Mia Camp, P**	**86.66**	**49**	P	**P**	**22 31 34.2**	**-0.5**
X16A				IAmb	IAmb	22 31 47.6	
	comp=Z,3.6nm,1.0s						
PSUT	**Pine Spring**	**87.55**	**44**	P	**P**	**22 31 39.1**	**+0.1**
PSUT				IAmb	IAmb	22 31 51.1	
	comp=Z,6.5nm,1.4s						
MTPU	**Mount Pierson**	**88.31**	**45**	P	**P**	**22 31 42.6**	**-0.2**
MTPU				IAmb	IAmb	22 31 48.0	
	comp=Z,6.2nm,1.2s						
TIA	**Tai'an**	**88.66**	**312**	*e*P	**P**	**22 31 43.8**	**-0.3**
TIA				pmax	pmax		
	comp=Z,12nm,2.2s						
TIA				LR	LR		
	comp=N,410nm,18.6s						
TIA				LR	LR		
	comp=E,470nm,21.6s						
TIA				LR	LR		
	comp=Z,730nm,18.6s						
TXAR	**Lajitas Array**	**89.36**	**57**	P	**P**	**22 31 45.4**	**-2.2**
TXAR	**Lajitas Array**	**89.36**	**57**	P	**P**	**22 31 48.1**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=254,slow=4.6,SNR=5.0						
	comp=Z,1.1nm,0.9s						
TMUT	**Trail Mountain**	**89.66**	**45**	P	**P**	**22 31 47.0**	**-2.1**
TMUT				IAmb	IAmb	22 32 01.5	
	comp=Z,4.2nm,0.9s						
PLID	**Pearl Lake**	**90.35**	**38**	P	**P**	**22 31 53.1**	**+1.0**
PLID				IAmb	IAmb	22 32 02.5	
	comp=Z,13nm,1.4s						
HNS	**HongShan**	**90.93**	**312**	*e*P	**P**	**22 31 56.0**	**+1.4**
T35M	**Bob Quinn**	**92.23**	**23**	P	**P**	**22 32 01.8**	**+1.5**
PDAR	**Pinedale Array**	**92.69**	**43**	P	**P**	**22 32 02.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=254,slow=2.8,SNR=4.1						
	comp=Z,0.7nm,0.8s						
NNA	**Nana**	**93.01**	**105**	LR	LR	23 04 05.0	
	comp=Z,154nm,18.5s,baz=274,slow=29						
ELMT	**Elliston**	**93.17**	**38**	P	**P**	**22 32 03.2**	**-1.9**
KMI	**Kunming**	**93.52**	**296**	⇑P	**P**	**22 32 09.5**	**+2.3**
KMI				pmax	pmax		
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**93.58**	**289**	P	**P**	**22 32 06.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.58**	**289**	P	**P**	**22 32 08.6**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=139,slow=3.3,SNR=11						
	comp=Z,1.8nm,0.8s						
CHTO	**Chiang Mai**	**93.74**	**289**	P	**P**	**22 32 06.8**	**-1.3**
ATAH	**Atahualpa**	**93.92**	**100**	LR	LR	23 05 40.0	
	comp=Z,414nm,19.2s,baz=246,slow=30						
ILAR	**Eielson Array**	**94.27**	**12**	P	**P**	**22 32 08.0**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=216,slow=5.0,SNR=5.9						
	comp=Z,0.6nm,0.7s						
LVC	**Limon Verde**	**94.36**	**118**	LR	LR	23 05 15.5	
	comp=Z,290nm,20.9s,baz=309,slow=30						
HHC	**Hu-ho-hao-te**	**94.85**	**314**	*e*P	**P**	**22 32 14.9**	**+2.1**
HHC				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,4.8s						
PZH	**PanZhiHua**	**94.95**	**297**	P	P	22 32 05.1	-8.6
PZH	**PanZhiHua**	**94.95**	**297**	P	**P**	**22 32 15.9**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.3s						
PZH				pmax	pmax		
	comp=Z,310nm,5.9s						
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,280nm,5.0s						
TNCH	**TengChong**	**96.88**	**294**	*e*P	**P**	**22 32 23.8**	**+1.3**
TNCH				pP	sP	22 32 26.4	+0.8
TNCH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH	**Lanzhou**	**97.78**	**306**	*e*P	**P**	**22 32 24.0**	**-2.3**
LZH				pP	pwP	22 32 31.1	-1.8
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
LZH				LR	LR		
	comp=N,310nm,15.1s						
LZH				LR	LR		
	comp=E,320nm,15.5s						
LZH				LR	LR		
	comp=Z,410nm,17.2s						
WMQ	**Urumqi**	**112.16**	**309**	*e*P	**PKiKP**	**22 37 27.5**	**+1.1**
WMQ				LR	LR		
	comp=N,500nm,17.1s						
WMQ				LR	LR		
	comp=E,340nm,17.1s						
WMQ				LR	LR		
	comp=Z,380nm,24.1s						
ZALV	**Zalesovo Beam**	**116.35**	**319**	PKP	**PKPdf**	**22 37 32.0**	**-1.9**
	comp=Z,1.5nm,1.1s,baz=102,slow=6.2,SNR=3.9						
MKAR	**Makanchi Array**	**116.58**	**311**	P	**PKPdf**	**22 37 32.5**	**-2.2**
MKAR	**Makanchi Array**	**116.58**	**311**	PKP	**PKPdf**	**22 37 32.5**	**-2.2**
	comp=Z,0.8nm,0.7s,baz=29,slow=2.8,SNR=5.6						
BVAR	**Borovoye Array**	**124.85**	**317**	PKP	**PKPdf**	**22 37 49.6**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=48,slow=2.1,SNR=4.0						
FINES	**FINESS Array B**	**142.33**	**342**	PKhKP	PKPpre	22 38 19.5	
	comp=Z,2.1nm,0.8s,baz=42,slow=3.1,SNR=4.1						
NB2	**NORSAR Subarra**	**145.53**	**353**	PKP	**PKPdf**	**22 38 26.4**	**-2.0**
	comp=Z,42nm,2.0s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**145.53**	**353**	PKPbc	**PKPdf**	**22 38 26.9**	**-1.5**
	comp=Z,4.1nm,0.8s,baz=8.4,slow=2.4,SNR=13						
HFS	**Hagfors**	**146.11**	**351**	PKPbc	**PKPdf**	**22 38 28.5**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=241,slow=1.5,SNR=4.6						
AKASG	**Malin Array Be**	**149.27**	**327**	PKPbc	**PKPbc**	**22 38 37.9**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=39,slow=3.2,SNR=9.7						
MMAI	**Mount Meron Ar**	**151.84**	**290**	PKPbc	**PKiKP**	**22 38 46.3**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=92,slow=5.0,SNR=4.2						
MARR	**Marisel-Cluj**	**154.97**	**327**	⇓P	**PKPab**	**22 39 04.5**	**-3.4**
TORD	**Torodi Ar. Bea**	**166.16**	**172**	PKPab	**PKPab**	**22 39 57.4**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=171,slow=2.5,SNR=10						

MOS ***19*** *22:23:25.4±0.9, 7.°38N×35.°79W, h10km, mb5.3/109, MS4.6/22, Error ellipse: s-maj=5.9km s-min=3.8km az=51.9*

IDC ***19*** *22:23:26.1±0.4, 7.°37N×35.°78W, h0km, mb4.7/43, mbtmp4.7/45, ML4.6/2, MS4.7/70, Error ellipse: s-maj=13.1km s-min=10.1km az=140.0*

NEIC ***19*** *22:23:27.6±1.3, 7.°40N±0.°10×35.°70W±0.°08, h10km±1km, mb5.2/582, Error ellipse: s-maj=16.5km s-min=13.3km az=160.0*

INMG ***19*** *22:23:28.0, 7.°20N×35.°75W, h10km*

BGR ***19*** *22:23:30.7, 7.°09N×35.°38W, h33km, mb5.1, Ms4.8*

GCMT ***19*** *22:23:30.6±0.1, 7.°45N±0.°01×35.°72W±0.°01, h12km, MW5.4/143, Moment Tensor Solution. s114,c196; s143,c281; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.27±.02; M_{tt}0.02±.02; M_{pp}0.24±.02; M_{rt}0.21±.05; M_{rp}-1.59±.02; M_{tp}-0.30±.05; Best double couple: $M_0$1.62800×10^{17} NP1:ϕ_s182.00000°, δ85.00000°, λ9.00000°. NP2:ϕ_s92.00000°, δ81.00000°, λ175.00000°. Principal axes: T 1.7920, Plg10.0000°, Azm47.0000°; N -0.3280, Plg80.0000°, Azm213.0000°; P -1.4640, Plg2.0000°, Azm317.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 22:23:27.0±0.2, **7.°38N**±0.°05×**35.°74W**±0.°05, **h10**km, **n1446**, σ**1**§**21**/1450, **mb5.2**/452, **MS4.7**/105, **73C-57D, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**13.12**	**181**	*e*P	**Pn**	**22 26 32.9**	**-0.7**
RCBR	**Riachuelo**	**13.12**	**181**	Pn	**Pn**	**22 26 33.2**	**-0.4**
	14nm,0.3s,baz=359,slow=15,SNR=54						
RCBR				Sn	Sn	22 28 48.3	-11
	12nm,0.3s,baz=98,slow=23,SNR=13						
RCBR				LR	LR	22 29 57.8	
	comp=Z,1μm,19.0s,baz=9.5,slow=30						
	63nm,0.5s						
ROSB	**Rosrio**	**13.19**	**220**	*e*P	**Pn**	**22 26 32.9**	**-1.7**
SACV	**Santiago Islan**	**14.09**	**57**	Pn	**Pn**	**22 26 42.9**	**-4.0**
TMAB	**Tom-Au,PA,Br**	**15.67**	**232**	*e*P	**Pn**	**22 27 07.4**	**-0.8**
MDP	**Montagnes des**	**16.95**	**263**	Pn	**P**	**22 27 26.4**	**-0.1**
	0.5nm,0.3s,baz=83,slow=13,SNR=6.3						
MDP				Sn	Sn	22 30 13.9	-19
	0.3nm,0.3s,baz=145,slow=10,SNR=1.7						
MDP				LR	LR	22 32 33.4	
	comp=Z,2μm,21.9s,baz=72,slow=32						
	14nm,0.8s						
MCPB	**Macapa, AP**	**17.99**	**245**	*e*P	**Pn**	**22 27 36.5**	**-1.0**
PRPB	**Paraua pebas**	**19.45**	**227**	*e*P	**Pn**	**22 27 54.6**	**-0.6**
MBO	**M'Bour**	**19.71**	**68**	P	**P**	**22 27 56.2**	**-0.6**
MALB	**Monte Alegre**	**20.63**	**244**	*e*P	**P**	**22 28 07.5**	**+0.6**
SDBA	**SAO DESIDERIO**	**21.66**	**205**	*e*P	**P**	**22 28 17.1**	**-0.9**
ITTB	**Itaituba**	**23.11**	**240**	*e*P	**P**	**22 28 32.4**	**-1.0**
JANB	**Januaria**	**23.85**	**201**	*e*P	**P**	**22 28 40.7**	**-0.1**
GUA01	**Guaratinga, BA**	**24.14**	**190**	*e*P	**P**	**22 28 44.5**	**+1.1**
NPGB	**Novo Progresso**	**24.25**	**234**	*e*P	**P**	**22 28 43.6**	**-0.9**
SNDB	**Serra Nova Dou**	**24.67**	**219**	*e*P	**P**	**22 28 48.9**	**+0.5**
BOAV	**Boa Vista**	**25.17**	**260**	P	**P**	**22 28 52.9**	**-0.1**
BOAV				IAmb	IAmb	22 28 55.7	
	comp=Z,86nm,1.2s						
BOAV	**Boa Vista**	**25.17**	**260**	*e*P	**P**	**22 28 53.7**	**+0.8**
H05S1	**Guadeloupe/Mar**	**25.60**	**288**	T	T	22 55 26.4	
	SNR=23						
BDFB	**Brasilia**	**25.90**	**208**	P	**P**	**22 28 59.2**	**-0.3**
BDFB				IAmb	IAmb	22 29 05.8	
	comp=Z,66nm,1.4s						
BDFB	**Brasilia**	**25.90**	**208**	P	**P**	**22 28 59.2**	**-0.3**
BDFB				pmax	pmax		
	comp=Z,67nm,1.4s						
BDFB	**Brasilia**	**25.90**	**208**	P	**P**	**22 28 59.5**	**0.0**
	comp=Z,16nm,1.1s,baz=32,slow=13,SNR=10						
BDFB				LR	LR	22 38 40.8	
	comp=Z,2μm,18.5s,baz=14,slow=35						
	comp=Z,16nm,1.1s						
H10N3	**ASCENSION HYDR**	**26.02**	**125**	T	T	22 56 21.4	
	baz=305,slow=75,SNR=59						
H10N2	**ASCENSION HYDR**	**26.02**	**125**	T	T	22 56 21.7	
	baz=305,slow=75,SNR=75						
H10N1	**ASCENSION HYDR**	**26.04**	**125**	T	T	22 56 22.9	
	baz=305,slow=75,SNR=75						
H05N1	**Guadeloupe/Mar**	**26.29**	**292**	T	T	22 56 24.3	
	SNR=9.2						
GDSD	**La Dsirade Is**	**26.30**	**292**	P	**P**	**22 29 01.9**	**-1.2**
GDSD				IAmb	IAmb	22 29 03.6	
	comp=Z,95nm,1.2s						
SJMB	**Sao Joao De Ma**	**26.46**	**192**	*e*P	**P**	**22 29 05.5**	**+1.0**
H10S3	**ASCENSION HYDR**	**26.54**	**127**	T	T	22 56 59.7	
	baz=277,slow=74,SNR=125						
H10S2	**ASCENSION HYDR**	**26.56**	**127**	T	T	22 56 46.8	
	baz=303,slow=74,SNR=34						
DIAM	**Diamantina, MG**	**26.68**	**197**	*e*P	**P**	**22 29 07.7**	**+1.0**
CLDB	**Colider**	**26.96**	**228**	*e*P	**P**	**22 29 09.4**	**+0.3**
PMNB	**Patos De Minas**	**27.83**	**202**	*e*P	**P**	**22 29 16.8**	**-0.1**
ARAG	**Araguaiana, MT**	**27.91**	**215**	*e*P	**P**	**22 29 18.6**	**+1.0**
PDRB	**Porto dos Gac**	**28.14**	**228**	*e*P	**P**	**22 29 19.6**	**-0.1**
ALF01	**Guarapari-ES**	**28.24**	**190**	*e*P	**P**	**22 29 23.4**	**+2.9**
PCRV	**Puerto La Cruz**	**28.68**	**278**	LR	LR	22 41 43.2	
	comp=Z,626nm,18.5s,slow=38						
BSCB	**Bom Sucesso**	**29.56**	**197**	*e*P	**P**	**22 29 33.2**	**+1.0**
SALV	**Santo Antonio**	**30.42**	**220**	*e*P	**P**	**22 29 40.5**	**+0.6**
TIC	**Toumodi**	**30.50**	**89**⇓	*e*P	**P**	**22 29 39.7**	**-1.0**
	comp=Z,37nm,0.8s						
ITRB	**Iturama**	**30.52**	**208**	*e*P	**P**	**22 29 40.9**	**+0.2**
LIC	**Lamto**	**30.52**	**90**↑	*i*P	**P**	**22 29 40.4**	**-0.4**
	comp=Z,35nm,0.9s						
PMOZ	**Porto Moniz, M**	**30.62**	**32**	*e*LQ	LQ	22 36 12.0	
PMOZ				*e*LR	LR	22 37 23.4	
	comp=Z,1μm,20.0s						
PMOZ	**Porto Moniz, M**	**30.62**	**32**	*e*T	T	23 00 51.2	
FUL	**Funchal**	**30.64**	**32**	*e*P	**P**	**22 29 42.9**	**+1.2**
	comp=Z,97nm,2.0s						
FUL	**Funchal**	**30.64**	**32**	*e*T	T	23 00 51.9	
DBIC	**Dimbokro**	**30.66**	**89**	P	**P**	**22 29 38.8**	**-3.2**
DBIC				IAmb	IAmb	22 29 56.4	
	comp=Z,29nm,0.9s						
DBIC	**Dimbokro**	**30.66**	**89**	P	**P**	**22 29 43.6**	**+1.5**
DBIC	**Dimbokro**	**30.66**	**89**	P	**P**	**22 29 42.0**	**-0.1**
	comp=Z,16nm,0.7s,baz=267,slow=9.7,SNR=18						
DBIC				LR	LR	22 39 22.0	
	comp=Z,752nm,18.6s,baz=250,slow=31						
	comp=Z,16nm,0.7s						
PMAR	**Madeira**	**30.69**	**32**	*e*P	**P**	**22 29 43.6**	**+1.3**
	comp=Z,106nm,1.9s						
PMAR	**Madeira**	**30.69**	**32**	*e*T	T	23 00 49.0	
KIC	**Kosan Boka**	**30.79**	**90**↑	*e*P	**P**	**22 29 42.9**	**-0.4**
	comp=Z,15nm,0.9s						
PP1B	**Ponte de Pedra**	**31.20**	**217**	*e*P	**P**	**22 29 48.3**	**+1.6**
SJG	**San Juan**	**31.47**	**293**	P	**P**	**22 29 47.9**	**-1.2**
SJG				IAmb	IAmb	22 29 53.5	
	comp=Z,23nm,0.8s						
SJG	**San Juan**	**31.47**	**293**	P	**P**	**22 29 47.9**	**-1.2**
SJG				pmax	pmax		
	comp=Z,23nm,0.8s						
VILB	**Vilhena**	**31.60**	**230**	P	**P**	**22 29 49.0**	**-1.3**
VILB				IAmb	IAmb	22 30 40.8	
	comp=Z,28nm,1.1s						
VILB	**Vilhena**	**31.60**	**230**	*e*P	**P**	**22 29 51.9**	**+1.6**
SAML	**Samuel**	**31.79**	**240**	P	**P**	**22 29 51.5**	**-0.5**
SAML				IAmb	IAmb	22 29 57.4	
	comp=Z,35nm,1.1s						
SAML	**Samuel**	**31.79**	**240**	P	**P**	**22 29 51.5**	**-0.5**
SAML				pmax	pmax		
	comp=Z,35nm,1.1s						
SAML	**Samuel**	**31.79**	**240**	*e*P	**P**	**22 29 52.5**	**+0.5**
SAML	**Samuel**	**31.79**	**240**	*e*P	**P**	**22 29 52.7**	**+0.7**
KOWA	**Kowa**	**31.91**	**74**	P	**P**	**22 29 52.2**	**-0.9**
KOWA	**Kowa**	**31.91**	**74**	P	**P**	**22 29 53.8**	**+0.6**
KOWA	**Kowa**	**31.91**	**74**	LR	LR	22 42 13.8	
	comp=Z,510nm,18.1s,baz=284,slow=35						
BAUV	**El Baul**	**32.01**	**275**	P	**P**	**22 29 53.5**	**-0.4**
SGCB	**S.o Gabriel d**	**32.08**	**258**	*e*P	**P**	**22 29 55.5**	**+1.0**
PTLB	**Pontes e Lacer**	**32.43**	**226**	P	**P**	**22 29 56.9**	**-0.7**
PTLB	**Pontes e Lacer**	**32.43**	**226**	*e*P	**P**	**22 29 59.0**	**+1.4**
PCMB	**Pacaembu**	**32.58**	**208**	*e*P	**P**	**22 30 00.4**	**+1.5**
RPRD	**Ribas do Rio P**	**32.83**	**212**	*e*P	**P**	**22 30 03.0**	**+1.9**
FRTB	**Fartura**	**33.39**	**204**	*e*P	**P**	**22 30 06.2**	**+0.3**
AQDB	**Aquidauana**	**33.93**	**215**	*e*P	**P**	**22 30 12.2**	**+1.6**
SIV	**San Ignacio**	**34.18**	**227**	LR	LR	22 43 29.2	
	comp=Z,4μm,19.0s,baz=86,slow=35						
BDQN	**Bodoquena, MS**	**34.51**	**216**	*e*P	**P**	**22 30 17.4**	**+1.8**
SDV	**Santo Domingo**	**34.56**	**275**	P	**P**	**22 30 15.8**	**-0.7**
SDV	**Santo Domingo**	**34.56**	**275**	*e*P	**P**	**22 30 17.4**	**+0.9**
SDV	**Santo Domingo**	**34.56**	**275**	LR	LR	22 44 21.2	
	comp=Z,501nm,21.4s,baz=94,slow=36						
BBSD	**Serra de San D**	**34.64**	**225**	*e*P	**P**	**22 30 18.7**	**+1.8**
ETMB	**Extrema**	**34.83**	**241**	P	**P**	**22 30 18.2**	**-0.3**
ETMB				IAmb	IAmb	22 30 23.3	
	comp=Z,30nm,1.1s						
ETMB	**Extrema**	**34.83**	**241**	*e*P	**P**	**22 30 18.9**	**+0.4**
BBRB	**Robore, Bolivi**	**34.84**	**223**	*e*P	**P**	**22 30 19.5**	**+0.9**
OUK	**Oukaimeden**	**35.22**	**44**	P	**P**	**22 30 24.4**	**+2.3**
ANTJ	**Antonio Joao (**	**35.31**	**214**	*e*P	**P**	**22 30 24.3**	**+1.7**
TIO	**Tiouine**	**35.47**	**45**	P	**P**	**22 30 26.1**	**+2.0**
AMBA	**Amambai (Brazi**	**35.52**	**212**	*e*P	**P**	**22 30 25.9**	**+1.5**
PTGB	**Pitanga**	**35.64**	**206**	*e*P	**P**	**22 30 27.5**	**+2.0**
OUZM	**OUZ**	**35.82**	**45**	P	**P**	**22 30 29.1**	**+2.0**
MURT	**Porto Murtinho**	**35.96**	**216**	*e*P	**P**	**22 30 28.3**	**+0.2**
ZGR	**Zagora**	**36.20**	**47**	P	**P**	**22 30 33.0**	**+2.7**
SDDR	**Presa de Saban**	**36.40**	**292**	P	**P**	**22 30 30.9**	**-1.2**
SDDR				IAmb	IAmb	22 30 34.1	
	comp=Z,49nm,1.2s						
PAMC	**Pamplona, Colo**	**36.65**	**272**	*e*P	**P**	**22 30 36.3**	**+1.6**
AVE	**Averroes**	**36.79**	**42**	P	**P**	**22 30 34.2**	**-1.0**
AVE	**Averroes**	**36.79**	**42**	P	**P**	**22 30 37.3**	**+2.2**
AVE	**Averroes**	**36.79**	**42**	P	**P**	**22 30 36.7**	**+1.6**
RUSC	**La Rusia**	**37.11**	**270**	*e*P	**P**	**22 30 42.6**	**+3.9**
BARC	**Barichara**	**37.16**	**271**	*e*P	**P**	**22 30 40.0**	**+1.1**
FRBT	**Francisco Belt**	**37.18**	**206**	*e*P	**P**	**22 30 39.8**	**+1.2**
TOA0	**Torodi Ar. Sit**	**37.25**	**78**	P	**P**	**22 30 38.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**37.25**	**78**	P	**P**	**22 30 38.4**	**-1.0**
TORD				IAmb	IAmb	22 30 40.5	
	comp=Z,65nm,1.0s						
TORD	**Torodi Ar. Bea**	**37.25**	**78**	P	**P**	**22 30 39.4**	**+0.1**
	comp=Z,52nm,0.9s,baz=273,slow=8.8,SNR=273						
TORD				LR	LR	22 44 32.1	
	comp=Z,1μm,19.0s,baz=260,slow=34						
	comp=Z,52nm,0.9s						
CHIC	**Chingaza**	**37.87**	**268**	*e*P	**P**	**22 30 44.6**	**-0.4**
ARF	**Arif**	**37.92**	**47**	P	**P**	**22 30 47.3**	**+2.5**
MDT	**Midelt**	**38.40**	**45**	P	**P**	**22 30 51.7**	**+2.7**
MDT	**Midelt**	**38.40**	**45**	LR	LR	22 45 00.5	
	comp=Z,2μm,20.2s,baz=247,slow=34						
PFVI	**Vila Bisbo**	**38.42**	**36**	*e*P	**P**	**22 30 50.6**	**+1.7**
PFVI	**Vila Bisbo**	**38.42**	**36**	*e*T	T	23 10 46.5	
PTBC	**PUERTO BERRIO,**	**38.43**	**271**	*e*P	**P**	**22 30 48.9**	**-0.5**
ROSC	**El Rosal**	**38.43**	**269**	P	**P**	**22 30 49.3**	**-0.5**
ROSC				IAmb	IAmb	22 31 45.7	
	comp=Z,51nm,1.4s						
ROSC	**El Rosal**	**38.43**	**269**	P	**P**	**22 30 49.3**	**-0.5**
ROSC				pmax	pmax		
	comp=Z,51nm,1.4s						
ROSC	**El Rosal**	**38.43**	**269**	P	**P**	**22 30 50.3**	**+0.5**
	comp=Z,15nm,0.5s,baz=331,slow=1.1,SNR=6.1						
ROSC				LR	LR	22 47 04.2	
	comp=Z,2μm,20.0s,baz=98,slow=37						
	comp=Z,15nm,0.5s						
IFR	**Ifrane**	**38.45**	**43**	P	**P**	**22 30 51.2**	**+1.8**
MORF	**Marmelete**	**38.64**	**36**	*e*P	**P**	**22 30 52.2**	**+1.4**
	comp=Z,112nm,1.7s						
MORF	**Marmelete**	**38.64**	**36**	*e*T	T	23 10 54.1	
MORF	**Marmelete**	**38.64**	**36**	P	**P**	**22 30 49.7**	**-1.1**
MORF				IAmb	IAmb	22 31 16.9	
	comp=Z,108nm,1.7s						
MORF	**Marmelete**	**38.64**	**36**	P	**P**	**22 30 49.7**	**-1.1**
MORF				pmax	pmax		
	comp=Z,108nm,1.7s						
MORF	**Marmelete**	**38.64**	**36**	*e*P	**P**	**22 30 51.4**	**+0.5**
MORF				*e*S	S	**22 36 48.6**	**+1.1**
MORF				IAMs_20	IAMs_20	22 43 32.0	
	comp=Z,934nm,19.6s						
LCRM	**LCR**	**38.73**	**43**	P	**P**	**22 30 54.1**	**+2.4**
PTEO	**Sao Teotonio**	**38.77**	**35**	*e*T	T	23 10 57.0	
NORC	**Norcasia**	**38.91**	**270**	*e*P	**P**	**22 30 52.9**	**-0.5**
PBDV	**Barranco-do-Ve**	**39.02**	**36**	*e*P	**P**	**22 30 55.8**	**+1.8**
	comp=Z,111nm,1.4s						
PBDV	**Barranco-do-Ve**	**39.02**	**36**	*e*T	T	23 10 58.3	
SJCC	**San Jacinto, C**	**39.05**	**277**	*e*P	**P**	**22 30 50.6**	**-4.1**
PRAC	**Prado**	**39.12**	**267**	*e*P	**P**	**22 30 54.8**	**-0.4**
PCVE	**Castro Verde**	**39.22**	**36**	*e*P	**P**	**22 30 57.2**	**+1.6**
PCVE	**Castro Verde**	**39.22**	**36**	*e*T	T	23 11 06.0	
PCVE	**Castro Verde**	**39.22**	**36**	P	**P**	**22 30 57.0**	**+1.4**
CHEFC	**Chefchaouen**	**39.25**	**41**	P	**P**	**22 30 59.4**	**+3.3**
PVAQ	**Vaqueiros**	**39.25**	**36**	*e*P	**P**	**22 30 57.9**	**+2.0**
	comp=Z,92nm,1.9s						
PVAQ	**Vaqueiros**	**39.25**	**36**	*e*LR	LR	22 41 22.7	
	comp=Z,989nm,22.0s						
PVAQ	**Vaqueiros**	**39.25**	**36**	*e*T	T	23 11 08.5	
PVAQ	**Vaqueiros**	**39.25**	**36**	P	**P**	**22 30 55.1**	**-0.8**
PVAQ				IAmb	IAmb	22 30 59.2	
	comp=Z,123nm,2.0s						
PVAQ	**Vaqueiros**	**39.25**	**36**	P	**P**	**22 30 57.5**	**+1.6**
PNCL	**Nicolau / Gran**	**39.27**	**35**	*e*P	**P**	**22 30 57.4**	**+1.4**
	comp=Z,70nm,1.7s						
PNCL	**Nicolau / Gran**	**39.27**	**35**	*e*T	T	23 11 08.7	
PNCL	**Nicolau / Gran**	**39.27**	**35**	P	**P**	**22 30 57.0**	**+1.0**
GUY2C	**Guyana, Caldas**	**39.43**	**269**	*e*P	**P**	**22 30 57.3**	**-0.9**
ORTC	**Ortega, Tolima**	**39.45**	**267**	*e*P	**P**	**22 30 57.4**	**-0.5**
EGRO	**El Granado**	**39.48**	**36**	P	**P**	**22 30 59.3**	**+1.5**
CPUP	**Villa Florida**	**39.52**	**211**	P	**P**	**22 30 59.1**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=0.3,slow=6.0,SNR=5.4						
CPUP				LR	LR	22 47 15.4	
	comp=Z,1μm,19.9s,baz=30,slow=36						
	comp=Z,4.7nm,0.9s						
PBEJ	**Beja**	**39.59**	**35**	*e*P	**P**	**22 31 00.3**	**+1.6**
	comp=Z,47nm,1.5s						
ALGR	**Alto Alegre (B**	**39.64**	**204**	*e*P	**P**	**22 31 01.1**	**+1.8**
CEU	**Ceuta**	**39.72**	**40**	P	**P**	**22 31 02.2**	**+2.4**
LPAZ	**La Paz**	**39.75**	**234**	P	**P**	**22 31 00.6**	**-0.4**
LPAZ				IAmb	IAmb	22 31 06.4	
	comp=Z,63nm,0.9s						
LPAZ	**La Paz**	**39.75**	**234**	P	**P**	**22 31 00.6**	**-0.4**
LPAZ				pmax	pmax		
	comp=Z,63nm,1.0s						
LPAZ	**La Paz**	**39.75**	**234**	*e*P	**P**	**22 31 00.1**	**-0.9**
LPAZ	**La Paz**	**39.75**	**234**	*e*P	**P**	**22 31 01.9**	**+0.9**
LPAZ	**La Paz**	**39.75**	**234**	P	**P**	**22 31 01.6**	**+0.5**
	comp=Z,46nm,0.9s,baz=60,slow=8.6,SNR=39						
LPAZ				LR	LR	22 47 12.3	
	comp=Z,2μm,21.3s,baz=44,slow=36						
	comp=Z,46nm,0.9s						
CZSB	**Cruzeiro do Su**	**39.79**	**249**	P	**P**	**22 30 60.0**	**-0.8**
CZSB	**Cruzei

ESDC Sonseca Array 42.96 37 P P 22 31 27.6 +1.1
comp=Z,8.6nm,1.1s,baz=236,slow=8.5,SNR=22
ESDC LR LR 22 45 38.9
comp=Z,1µm,20.9s,baz=228,slow=31
comp=Z,8.6nm,1.1s
ESBB Sonseca Array 42.96 37 P P 22 31 26.6 +0.1
OTAV Otavalo 43.17 262 P P 22 31 28.1 -0.9
OTAV Otavalo 43.17 262 P P 22 31 28.1 -0.9
OTAV pmax pmax
comp=Z,22nm,1.2s
OTAV Otavalo 43.17 262 *e*P **P 22 31 28.6 -0.4**
OTAV *e*P **pP 22 31 30.4 -0.4**
OTAV Otavalo 43.17 262 *e*P **P 22 31 29.9 +0.9**
PULU Pululahua 43.26 262 P **P 22 31 29.1 -0.5**
SLOR San Lorenzo - 43.40 261 P **P 22 31 30.5 -0.3**
PAC1 Pacto, Paraso 43.50 263 *e*P **P 22 31 32.4 +1.1**
BOSC San Juan Bosco 43.92 258 P **P 22 31 33.3 -1.5**
PB02 IPOC Station P 44.01 229 P **P 22 31 34.4 -0.8**
PB02 IAmb IAmb 22 31 38.8
comp=Z,39nm,1.3s
LVC Limon Verde 44.07 227 LR LR 22 50 37.1
comp=Z,1µm,18.2s,baz=48,slow=37
HAL Halifax 44.33 331 P **P 22 31 36.7 -0.6**
HAL Halifax 44.33 331 P **P 22 31 36.7 -0.6**
HAL pmax pmax
comp=Z,27nm,1.1s
COHC Cochancay 44.50 259 P **P 22 31 38.2 -1.0**
COHC Cochancay 44.50 259 *e*P **P 22 31 39.6 +0.4**
PB15 IPOC Station P 44.85 226 P **P 22 31 41.3 -0.7**
PB15 IAmb IAmb 22 32 08.3
comp=Z,30nm,1.0s
ATAH Atahualpa 44.91 252 LR LR 22 51 44.8
comp=Z,2µm,18.5s,baz=80,slow=38
NNA Nana 45.17 245 LR LR 22 49 56.5
comp=Z,1µm,21.7s,baz=68,slow=35
DRLN Deer Lake 45.58 340 P **P 22 31 46.5 -0.8**
DRLN IAmb IAmb 22 32 25.9
comp=Z,60nm,1.4s
MCRA Macar, Loja 45.63 257 P **P 22 31 47.2 -1.1**
MCRA Macar, Loja 45.63 257 *e*P **P 22 31 45.6 -2.6**
LMN Caledonia Moun 45.80 332 P **P 22 31 47.0 -2.0**
LMN IAmb IAmb 22 31 59.5
comp=Z,42nm,1.3s
SALI Salinas 46.13 260 P **P 22 31 52.1 0.0**
GO02 Mina Guanaco 46.17 224 P **P 22 31 51.2 -1.4**
L64A Middleborough 46.34 324 P **P 22 31 53.4 0.0**
L64A IAmb IAmb 22 32 49.6
comp=Z,40nm,1.2s
PB14 IPOC Station P 46.40 226 P **P 22 31 53.9 -0.5**
G65A Princeton 46.68 329 P **P 22 31 55.5 -0.4**
BRYW Bryant College 46.74 323 P **P 22 31 56.7 +0.2**
BRYW IAmb IAmb 22 32 08.3
comp=Z,31nm,1.0s
AC02 Maricunga 46.94 222 P **P 22 31 58.1 -0.8**
AC02 IAmb IAmb 22 32 04.0
comp=Z,34nm,1.2s
UCCT U. Connecticut 47.08 323 P **P 22 31 58.6 -0.5**
UCCT IAmb IAmb 22 32 08.9
comp=Z,41nm,1.2s
HRV Adam Dziewonsk 47.11 324 P **P 22 32 00.0 +0.6**
HRV Adam Dziewonsk 47.11 324 P **P 22 32 00.0 +0.6**
HRV pmax pmax
comp=Z,147nm,1.9s
HRV Adam Dziewonsk 47.11 324 P **P 22 32 00.8 +1.4**
baz=128
WSPT Westport, CT 47.39 321 P **P 22 32 01.9 +0.3**
WSPT IAmb IAmb 22 32 03.8
comp=Z,23nm,0.9s
QUA2 Belchertown 47.44 323 P **P 22 32 02.4 +0.4**
QUA2 IAmb IAmb 22 32 14.6
comp=Z,45nm,1.4s
AC01 Pan de Azucar 47.49 224 P **P 22 32 01.5 -1.1**
CPNY Central Park 47.57 320 P **P 22 32 03.2 +0.2**
CPNY IAmb IAmb 22 32 07.2
comp=Z,15nm,0.8s
RIMA Rio Macho 47.61 276 P **P 22 32 03.9 -0.1**
PKME Peaks-Kenny Pk 47.62 328 P **P 22 32 02.5 -0.8**
PKME Peaks-Kenny Pk 47.62 328 P **P 22 32 04.8 +1.5**
baz=132
PAL Palisades 47.66 321 P **P 22 32 03.9 +0.2**
PAL Palisades 47.66 321 P **P 22 32 03.9 +0.2**
PAL pmax pmax
comp=Z,35nm,0.9s
PAL Palisades 47.66 321 P **P 22 32 04.7 +1.1**
baz=124
PAL Palisades 47.66 321 P **P 22 32 04.3 +0.6**
baz=124
L61B Northampton 47.74 323 P **P 22 32 04.3 0.0**
L61B Northampton 47.74 323 P **P 22 32 05.3 +1.1**
baz=126
FFD Franklin Falls 47.76 325 P **P 22 32 04.8 +0.4**
FFD IAmb IAmb 22 32 17.4
comp=Z,26nm,0.9s
DWPF Disney Wildern 47.80 301 P **P 22 32 05.7 +0.7**
baz=107
I62A Tamworth 47.83 325 P **P 22 32 05.5 +0.6**
I62A IAmb IAmb 22 32 35.7
comp=Z,27nm,1.1s
I62A Tamworth 47.83 325 P **P 22 32 06.2 +1.3**
baz=129
I62A P **P 22 32 06.2 +1.3**
baz=129
W59A Clinton 47.91 312 P **P 22 32 05.3 -0.4**
TRNY Table Rock, Ra 47.94 321 P **P 22 32 06.1 +0.3**
TRNY IAmb IAmb 22 32 27.0
comp=Z,37nm,1.1s
U59A Littleton 47.95 313 P **P 22 32 06.3 +0.4**
BRNY Black Rk. Fore 47.95 321 P **P 22 32 07.1 +1.1**
baz=124,SNR=10
PSUB Penn St. - Bra 48.07 319 P **P 22 32 07.5 +0.7**
baz=122
ODNJ Ogdensburg 48.14 320 P **P 22 32 07.8 +0.4**
ODNJ IAmb IAmb 22 32 19.6
comp=Z,48nm,1.6s
WUPA West Chester U 48.17 319 P **P 22 32 06.9 -0.7**
J61A Chester 48.20 324 P **P 22 32 07.5 -0.4**
J61A IAmb IAmb 22 32 58.3
comp=Z,18nm,1.0s
G62A West of Eustis 48.25 327 P **P 22 32 08.1 -0.1**
Y58A Scranton 48.32 309 P **P 22 32 08.0 -0.9**
X58A Rowland 48.33 310 P **P 22 32 07.9 -1.0**
X58A IAmb IAmb 22 32 11.0
comp=Z,50nm,1.4s
SOCE Pocosol 48.35 277 P **P 22 32 07.3 -2.1**
SOCE IAmb IAmb 22 32 11.3
comp=Z,97nm,1.5s
LUPA Lehigh Univers 48.37 319 P **P 22 32 07.8 -1.4**
LUPA IAmb IAmb 22 32 21.6
comp=Z,34nm,1.1s
LBNH Lisbon 48.39 325 P **P 22 32 09.3 0.0**
LBNH Lisbon 48.39 325 P **P 22 32 09.3 0.0**
LBNH pmax pmax
comp=Z,59nm,1.6s
LBNH Lisbon 48.39 325 P **P 22 32 10.5 +1.2**
baz=128
F62A Pittston Farm, 48.40 328 P **P 22 32 08.7 -0.6**
F62A IAmb IAmb 22 33 38.6
comp=Z,30nm,1.4s
NHSC New Hope 48.41 308 P **P 22 32 10.9 +1.3**
baz=112
TRY Troy 48.49 323 P **P 22 32 10.1 0.0**
CBN Corbin Frederi 48.50 316 P **P 22 32 09.1 -1.2**
V58A Windy Hill, Pi 48.67 312 P **P 22 32 11.4 -0.2**
V58A Windy Hill, Pi 48.67 312 P **P 22 32 11.8 +0.2**
baz=115,SNR=9.2
V58A P **P 22 32 11.8 +0.2**
baz=115,SNR=9.2
MVL Millersville 48.70 318 P **P 22 32 11.5 -0.2**
MVL IAmb IAmb 22 32 14.1
comp=Z,15nm,0.8s
D62A Allapoint, All 48.73 330 P **P 22 32 11.7 -0.2**
D62A IAmb IAmb 22 32 22.9
comp=Z,22nm,1.1s
R58B Mineral 48.74 315 P **P 22 32 11.9 -0.2**
R58B IAmb IAmb 22 32 13.7
comp=Z,14nm,0.8s
R58B Mineral 48.74 315 P **P 22 32 11.0 -1.1**
baz=118,SNR=6.1
R58B P **P 22 32 11.0 -1.1**
baz=118,SNR=6.1
ACCN Adirondack Com 48.88 323 P **P 22 32 12.8 -0.2**
ACCN IAmb IAmb 22 32 31.3
comp=Z,55nm,1.7s
ACON Acoyapa 48.89 279 P **P 22 32 13.5 -0.1**
ACON IAmb IAmb 22 32 43.1
comp=Z,23nm,1.1s
VT1 Waterbury 48.91 325 P **P 22 32 13.6 +0.2**
VT1 IAmb IAmb 22 32 32.8
comp=Z,54nm,1.7s
HCNY Howe Caverns 48.92 322 P **P 22 32 14.6 +1.3**
baz=125
Y57A Sumter 48.92 309 P **P 22 32 13.2 -0.3**
L59A Walton 49.03 321 P **P 22 32 14.0 -0.3**
L59A IAmb IAmb 22 32 27.0
comp=Z,20nm,1.1s
L59A Walton 49.03 321 P **P 22 32 15.2 +0.9**
baz=124
L59A P **P 22 32 15.2 +0.9**
baz=124
PAGS Pennsylvania G 49.06 318 P **P 22 32 14.5 0.0**
PAGS IAmb IAmb 22 32 16.3
comp=Z,41nm,1.4s
W57A Gilead 49.06 311 P **P 22 32 14.9 +0.3**
W57A IAmb IAmb 22 32 16.7
comp=Z,27nm,1.1s
W57A Gilead 49.06 311 P **P 22 32 15.9 +1.3**
baz=114
W57A P **P 22 32 15.9 +1.3**
baz=114
KSPA Keystone Colle 49.13 320 P **P 22 32 15.1 0.0**
KSPA IAmb IAmb 22 32 17.1
comp=Z,20nm,0.8s
KSPA Keystone Colle 49.13 320 P **P 22 32 16.2 +1.2**
baz=122,SNR=6.3
AC04 Llanos de Chal 49.14 222 P **P 22 32 15.4 +0.1**
BIRD Birdtown, Kers 49.22 310 P **P 22 32 15.6 -0.2**
BIRD IAmb IAmb 22 32 18.0
comp=Z,32nm,1.0s
BIRD Birdtown, Kers 49.22 310 P **P 22 32 16.0 +0.2**
baz=113,SNR=7.7
T57A Hurt 49.29 313 P **P 22 32 15.7 -0.6**
T57A IAmb IAmb 22 32 21.5
comp=Z,28nm,1.4s
H09N1 TRISTAN DA CUN 49.35 155 T T 23 24 19.4
SNR=43
TRIS Tristan da Cun 49.35 155 P **P 22 32 15.9 -0.8**
N58A Sunbury 49.37 319 P **P 22 32 16.1 -0.7**
H09W1 TRISTAN DA CUN 49.37 155 T T 23 25 28.0
SNR=8.6
BOAB BOACO BROADBAN 49.38 280 P **P 22 32 16.5 -0.8**
BOAB BOACO BROADBAN 49.38 280 P **P 22 32 17.0 -0.4**
S57A Dark Hollow, R 49.41 314 P **P 22 32 17.6 +0.3**
S57A IAmb IAmb 22 32 19.8
comp=Z,52nm,1.4s
S57A Dark Hollow, R 49.41 314 P **P 22 32 18.2 +1.0**
baz=117,SNR=6.9
S57A P **P 22 32 18.2 +1.0**
baz=117,SNR=6.9
J59A Piesco 49.42 323 P **P 22 32 17.5 +0.3**
J59A IAmb IAmb 22 32 30.0
comp=Z,26nm,1.1s
LCO Las Campanas 49.42 221 P **P 22 32 17.9 +0.1**
LCO IAmb IAmb 22 32 21.7
comp=Z,32nm,1.1s
LCO Las Campanas 49.42 221 P **P 22 32 17.9 +0.1**
LCO pmax pmax
comp=Z,32nm,1.2s
BINY Binghamton 49.62 321 P **P 22 32 18.5 -0.3**
BINY Binghamton 49.62 321 P **P 22 32 19.8 +1.0**
baz=123
CFA Coronel Fontan 49.66 217 LR LR 22 53 03.0
comp=Z,875nm,20.2s,baz=62,slow=36
CO01 Juntas del Tor 49.68 220 P **P 22 32 19.2 -0.4**
CO01 IAmb IAmb 22 32 25.3
comp=Z,28nm,1.1s
JSC Jenkinsville 49.69 309 P **P 22 32 20.0 +0.6**
JSC Jenkinsville 49.69 309 P **P 22 32 20.0 +0.6**
JSC pmax pmax
comp=Z,16nm,0.9s
JSC Jenkinsville 49.69 309 P **P 22 32 20.7 +1.3**
baz=112
FRNY Flat Rock 49.69 325 P **P 22 32 19.7 +0.5**
J58A Remsen 49.83 323 P **P 22 32 20.5 +0.1**
J58A IAmb IAmb 22 32 22.9
comp=Z,40nm,1.4s
U56A King 49.83 312 P **P 22 32 19.4 -1.1**
U56A IAmb IAmb 22 32 20.3
comp=Z,52nm,1.7s
ZON Zonda 49.88 217 P **P 22 32 19.9 -1.1**
ZON Zonda 49.88 217 P **P 22 32 19.9 -1.1**
ZON pmax pmax
comp=Z,88nm,1.9s
KEST Kesra 49.92 49 P **P 22 32 19.9 -1.4**
KEST IAmb IAmb 22 32 24.3
comp=Z,40nm,0.9s
KEST Kesra 49.92 49 P **P 22 32 23.1 +1.8**
comp=Z,33nm,0.8s,baz=175,slow=2.2,SNR=25
KEST LR LR 22 52 23.4
comp=Z,3µm,21.2s,baz=204,slow=35
comp=Z,33nm,0.8s
SSPA Standing Stone 50.03 318 P **P 22 32 22.6 +0.7**
SSPA Standing Stone 50.03 318 P **P 22 32 23.3 +1.3**
baz=120
KMSC Kings Mountain 50.07 310 P **P 22 32 23.3 +1.0**
baz=112
LONY Lake Ozonia 50.14 324 P **P 22 32 24.6 +1.9**
baz=126
Q56A Snyder Ridge, 50.15 316 P **P 22 32 22.7 -0.2**
Q56A IAmb IAmb 22 32 25.0
comp=Z,19nm,0.8s
Q56A Snyder Ridge, 50.15 316 P **P 22 32 24.4 +1.5**
baz=117,SNR=5.0
Q56A P **P 22 32 24.4 +1.5**
baz=117,SNR=5.0
BLA Blacksburg 50.22 313 P **P 22 32 23.6 +0.1**
BLA IAmb IAmb 22 32 25.9
comp=Z,38nm,0.9s
BLA Blacksburg 50.22 313 P **P 22 32 23.6 +0.1**
BLA pmax pmax
comp=Z,38nm,0.9s
BLA Blacksburg 50.22 313 P **P 22 32 25.0 +1.5**
baz=115,SNR=5.7
BLA Blacksburg 50.22 313 P **P 22 32 24.8 +1.3**
baz=115,SNR=5.7
K57A Scipio Center 50.23 321 P **P 22 32 23.3 -0.1**
K57A IAmb IAmb 22 32 25.4
comp=Z,28nm,0.8s
V55A Taylorsville 50.25 311 P **P 22 32 23.8 +0.1**
V55A IAmb IAmb 22 32 26.2
comp=Z,20nm,0.8s
HODGE Hodges 50.44 309 P **P 22 32 25.0 -0.1**
HODGE IAmb IAmb 22 32 27.4
comp=Z,29nm,1.1s
HODGE Hodges 50.44 309 P **P 22 32 24.6 -0.5**
baz=111,SNR=6.0
154A Montrose 50.55 306 P **P 22 32 25.7 -0.3**
154A IAmb IAmb 22 32 28.5
comp=Z,43nm,0.9s
TIGA Tifton 50.57 305 P **P 22 32 27.4 +1.2**
baz=108
L56A Greenwood 50.58 320 P **P 22 32 26.3 +0.2**
L56A IAmb IAmb 22 32 46.5
comp=Z,43nm,1.3s
CRIN San Cristobal 50.73 280 P **P 22 32 25.4 -2.3**
J56A Wolcott 50.74 322 P **P 22 32 27.4 +0.2**
J56A IAmb IAmb 22 32 39.8
comp=Z,40nm,1.1s
LATQ La Tuque 50.84 328 P **P 22 32 28.1 +0.3**
LATQ IAmb IAmb 22 32 40.3
comp=Z,24nm,0.9s
PSDB Penn State Uni 50.84 318 P **P 22 32 29.5 +1.4**
baz=119
MCWV Mont Chateau 50.89 316 P **P 22 32 29.7 +1.3**
baz=117
U54A Nelsons Funny 50.97 312 P **P 22 32 28.7 -0.4**
U54A IAmb IAmb 22 32 48.3
comp=Z,36nm,1.2s
U54A Nelsons Funny 50.97 312 P **P 22 32 30.5 +1.3**
baz=113
U54A P **P 22 32 30.5 +1.3**
baz=113
TGUH Tegucigalpa,Un 50.98 282 P **P 22 32 29.1 -0.6**
TGUH IAmb IAmb 22 32 31.3
comp=Z,32nm,0.9s
GOGA Godfrey 51.10 307 P **P 22 32 29.7 -0.4**
GOGA Godfrey 51.10 307 P **P 22 32 29.7 -0.4**
GOGA pmax pmax
comp=Z,12nm,0.9s
GOGA Godfrey 51.10 307 P **P 22 32 31.3 +1.2**
baz=110
MMNY Mt. Morris Dam 51.10 321 P **P 22 32 29.6 -0.4**
MMNY IAmb IAmb 22 32 51.6
comp=Z,69nm,1.4s
CO06 Fray Jorge 51.13 220 P **P 22 32 29.9 -0.4**
BG3 Lake Jocassee 51.23 309 P **P 22 32 30.8 -0.3**
BG3 IAmb IAmb 22 32 33.8
comp=Z,32nm,0.9s
CASEE Lake Jocassee 51.23 309 P **P 22 32 30.7 -0.4**
baz=111,SNR=8.1
Q54A Coxs Mills 51.27 315 P **P 22 32 31.7 +0.4**
Q54A IAmb IAmb 22 33 05.8
comp=Z,48nm,1.6s
SSB Saint Sauveur 51.35 36 P **P 22 32 32.1 +0.2**
SSB IAmb IAmb 22 32 39.9
comp=Z,32nm,1.1s
SSB Saint Sauveur 51.35 36 P **P 22 32 32.1 +0.2**
SSB pmax pmax
comp=Z,32nm,1.1s
V53A Saluda 51.38 310 P **P 22 32 32.4 +0.1**
V53A Saluda 51.38 310 P **P 22 32 33.2 +0.9**
baz=112
V53A P **P 22 32 33.2 +0.9**
baz=112
O54A Avella 51.49 317 P **P 22 32 32.7 -0.2**
Y52A Lilburn 51.72 308 P **P 22 32 33.1 -1.7**
CLF Chambon-Foret 51.75 32 P **P 22 32 34.9 +0.2**
DELO Deloro Mine 51.87 323 P **P 22 32 33.6 -2.0**
P53A Whipple 51.88 315 P **P 22 32 35.4 -0.5**
P53A IAmb IAmb 22 32 37.5
comp=Z,26nm,0.8s
P53A Whipple 51.88 315 P **P 22 32 36.8 +0.9**
baz=116,SNR=6.5
P53A P **P 22 32 36.8 +0.9**
baz=116,SNR=6.5
MT08 Bocatoma Ro 52.02 217 P **P 22 32 36.3 -1.0**
V52A Sevierville 52.04 310 P **P 22 32 38.0 +0.8**
baz=111
N53A Lisbon 52.09 317 P **P 22 32 37.8 +0.4**
N53A IAmb IAmb 22 32 49.7
comp=Z,33nm,0.9s
N53A Lisbon 52.09 317 P **P 22 32 38.4 +1.1**
baz=117
N53A P **P 22 32 38.4 +1.1**
baz=117
O53A New Philadelph 52.09 316 P **P 22 32 37.3 -0.2**
O53A IAmb IAmb 22 32 39.6
comp=Z,29nm,0.8s
O53A New Philadelph 52.09 316 P **P 22 32 38.6 +1.1**
baz=116,SNR=6.1
TKL Tuckaleechee C 52.11 310 P **P 22 32 37.1 -0.6**
TKL Tuckaleechee C 52.11 310 P **P 22 32 37.1 -0.6**
TKL pmax pmax
comp=Z,17nm,1.0s
TKL Tuckaleechee C 52.11 310 LR LR 22 50 06.5
comp=Z,432nm,21.1s,baz=126,slow=31
TZTN Tazewell 52.26 311 P **P 22 32 38.8 0.0**
TZTN IAmb IAmb 22 32 41.1
comp=Z,52nm,1.4s
TZTN Tazewell 52.26 311 P **P 22 32 39.9 +1.2**
baz=112
M53A WI Miller and 52.27 318 P **P 22 32 39.6 +0.9**
baz=118
Q52A Bidwell 52.27 314 P **P 22 32 39.3 +0.5**
Q52A IAmb IAmb 22 32 40.7
comp=Z,24nm,0.8s
ROC1 El Roble 52.30 218 P **P 22 32 36.8 -2.6**
ROC1 IAmb IAmb 22 32 41.3
comp=Z,23nm,0.9s
MT03 Universidad Ad 52.35 217 P **P 22 32 37.9 -1.7**
MT03 IAmb IAmb 22 32 50.4
comp=Z,50nm,1.2s
TEIG Tepich 52.38 290 LR LR 22 51 47.1
comp=Z,1µm,21.1s,baz=212,slow=32
MT05 Renca 52.42 217 P **P 22 32 39.9 -0.1**
P52A Corning 52.46 315 P **P 22 32 40.4 +0.2**
P52A IAmb IAmb 22 32 42.0
comp=Z,25nm,0.9s
P52A Corning 52.46 315 P **P 22 32 41.1 +0.9**
baz=115,SNR=7.2
O52A Adamsville 52.46 316 P **P 22 32 40.7 +0.5**
O52A IAmb IAmb 22 32 42.4
comp=Z,34nm,0.9s
O52A Adamsville 52.46 316 P **P 22 32 41.2 +1.0**
baz=116,SNR=7.3
O52A P **P 22 32 41.2 +1.0**
baz=116,SNR=7.3
X51A Calhoun 52.57 308 P **P 22 32 41.0 -0.1**
X51A IAmb IAmb 22 33 16.2
comp=Z,72nm,1.7s
V51A Loudon 52.60 310 P **P 22 32 41.4 +0.1**
CPCT Cooper Cave 52.61 309 P **P 22 32 41.3 -0.1**
S51A Beattyville 52.70 312 P **P 22 32 42.8 +0.7**
BO04 La Punta 52.76 217 P **P 22 32 42.5 +0.1**
BO04 IAmb IAmb 22 32 45.0
comp=Z,28nm,1.1s
SSFO Shawnee State 52.83 314 P **P 22 32 43.0 0.0**
MT09 Talagante 52.83 217 P **P 22 32 42.1 -1.0**
MT09 IAmb IAmb 22 32 43.7
comp=Z,36nm,1.1s
250A Grady 52.91 305 P **P 22 32 43.3 -0.3**
250A IAmb IAmb 22 33 12.3
comp=Z,39nm,1.3s
SADO Sadowa 52.93 322 P **P 22 32 43.4 -0.1**
SADO IAmb IAmb 22 33 31.3
comp=Z,61nm,1.4s
SADO Sadowa 52.93 322 LR LR 22 51 46.4
comp=Z,502nm,20.0s,baz=140,slow=32
MTO3 Montecristo 53.02 282 P **P 22 32 43.2 -1.7**
P51A Williamsport 53.05 315 P **P 22 32 45.0 +0.4**
P51A IAmb IAmb 22 32 46.5
comp=Z,36nm,0.8s
MT01 Popeta 53.05 217 P **P 22 32 43.9 -0.7**
MT01 IAmb IAmb 22 32 48.3
comp=Z,52nm,1.3s
Q51A Peebles 53.07 314 P **P 22 32 45.2 +0.5**
Q51A Peebles 53.07 314 P **P 22 32 45.2 +0.5**
baz=114,SNR=11
Q51A P **P 22 32 45.2 +0.5**
baz=114,SNR=11
VA05 Santo Domingo 53.13 218 P **P 22 32 44.5 -0.7**
W50A Signal Mountai 53.13 309 P **P 22 32 45.4 +0.1**
W50A IAmb IAmb 22 32 47.1
comp=Z,21nm,0.8s
W50A Signal Mountai 53.13 309 P **P 22 32 46.2 +0.9**
baz=109,SNR=7.0
FPAL Fort Paine 53.15 308 P **P 22 32 45.5 +0.1**
FPAL IAmb IAmb 22 32 47.8
comp=Z,21nm,0.9s
N51A Ashland 53.18 317 P **P 22 32 45.0 -0.4**
N51A IAmb IAmb 22 33 20.1
comp=Z,64nm,1.6s
BO01 Tunca 53.32 217 P **P 22 32 46.7 +0.2**
BO01 IAmb IAmb 22 32 50.8
comp=Z,48nm,1.4s
T50A Nancy 53.40 311 P **P 22 32 47.6 +0.5**
T50A Nancy 53.40 311 P **P 22 32 48.3 +1.1**
baz=111
T50A P **P 22 32 48.3 +1.1**
baz=111
SCHQ Schefferville 53.46 338 P **P 22 32 47.7 +0.5**
SCHQ IAmb IAmb 22 33 05.2
comp=Z,52nm,1.5s
SCHQ Schefferville 53.46 338 P **P 22 32 47.9 +0.6**
comp=Z,7.6nm,0.6s,baz=112,slow=4.4,SNR=9.2
SCHQ LR LR 22 51 17.5
comp=Z,403nm,21.8s,baz=130,slow=31
comp=Z,7.6nm,0.6s
R50A Paris 53.49 313 P **P 22 32 48.0 +0.2**
R50A IAmb IAmb 22 32 50.3
comp=Z,27nm,1.0s
R50A Paris 53.49 313 P **P 22 32 49.0 +1.2**
baz=112,SNR=6.8
R50A P **P 22 32 49.0 +1.2**
baz=112,SNR=6.8
CLTB Caltabellotta 53.50 48 P **P 22 32 47.2 -0.8**
SENIN Lac Senin/Sane 53.56 36 P **P 22 32 47.6 -0.9**
Y49A Blount Mountai 53.57 307 P **P 22 32 48.6 +0.1**
Y49A IAmb IAmb 22 32 50.1
comp=Z,31nm,1.4s
PETF Flores 53.61 286 P **P 22 32 48.2 -0.8**
SWET Sewanee 53.62 309 P **P 22 32 48.1 -0.7**
SWET IAmb IAmb 22 32 51.1
comp=Z,34nm,1.3s
VLDQ Val d'Or 53.78 326 P **P 22 32 49.7 0.0**
VLDQ IAmb IAmb 22 33 02.5
comp=Z,73nm,2.0s
LRAL Lakeview Retre 53.80 306 P **P 22 32 50.2 0.0**

LRAL IAmb IAmb 22 32 52.2
comp=Z,18nm,0.9s
LRAL Lakeview Retre 53.80 306 P **P 22 32 51.2 +1.1**
baz=107,SNR=7.6
LRAL Lakeview Retre 53.80 306 P **P 22 32 50.7 +0.5**
baz=107,SNR=7.6
M50A Fremont 53.84 317 P **P 22 32 50.9 +0.6**
MSSA Maissana 53.85 39 P **P 22 32 50.7 +0.2**
WDD Wied Dalam 53.88 51 P **P 22 32 50.5 -0.1**
U49A Red Boiling Sp 53.93 310 P **P 22 32 51.8 +0.8**
U49A IAmb IAmb 22 32 53.4
comp=Z,50nm,1.4s
U49A Red Boiling Sp 53.93 310 P **P 22 32 52.0 +1.0**
baz=110,SNR=7.1
R49A Shelbyville 54.11 312 P **P 22 32 52.8 +0.5**
R49A IAmb IAmb 22 32 54.4
comp=Z,19nm,0.8s
R49A Shelbyville 54.11 312 P **P 22 32 53.5 +1.2**
baz=112,SNR=6.4
R49A P **P 22 32 53.5 +1.2**
baz=112,SNR=6.4
CLTN Cedars of Leba 54.21 310 P **P 22 32 52.8 -0.3**
RAFF Raffo Rosso 54.23 49 P **P 22 32 53.1 -0.1**
RAFF IAmb IAmb 22 32 56.6
comp=Z,28nm,1.0s
O49A Covington 54.23 315 P **P 22 32 53.0 -0.2**
O49A IAmb IAmb 22 32 54.8
comp=Z,19nm,0.8s
O49A Covington 54.23 315 P **P 22 32 54.1 +0.9**
baz=114
O49A P **P 22 32 54.1 +0.9**
baz=114
DOU Dourbes 54.24 31 *d*P **P 22 32 53.9 +0.8**
comp=Z,28nm,0.8s
DOU *d*PP **PP 22 34 54.2 -0.7**
P49A Miami Univ. Ec 54.24 314 P **P 22 32 52.8 -0.5**
P49A IAmb IAmb 22 32 58.5
comp=Z,45nm,1.3s
P49A Miami Univ. Ec 54.24 314 P **P 22 32 53.9 +0.6**
baz=113
P49A Miami Univ. Ec 54.24 314 P **P 22 32 54.2 +0.9**
baz=113
X48A Hartselle 54.25 307 P **P 22 32 51.5 -2.0**
X48A Hartselle 54.25 307 P **P 22 32 54.2 +0.8**
baz=108,SNR=5.3
VAE Valguarnera 54.35 49 LR LR 22 58 06.3
comp=Z,1µm,18.2s,baz=293,slow=38
EKA Eskdalemuir Ar 54.40 22 P **P 22 32 54.2 +0.1**
comp=Z,5.3nm,0.8s,baz=210,slow=6.6,SNR=7.4
comp=Z,5.3nm,0.8s
N49A Columbus Grove 54.42 316 P **P 22 32 54.2 -0.3**
N49A IAmb IAmb 22 33 15.4
comp=Z,24nm,1.1s
N49A Columbus Grove 54.42 316 P **P 22 32 55.6 +1.0**
baz=114
N49A P **P 22 32 55.6 +1.0**
baz=114
BMRD Maredsous 54.45 31 *d*P **P 22 32 55.3 +0.8**
comp=Z,9.9nm,1.0s
ML02 Panimavida 54.47 216 P **P 22 32 55.1 +0.2**
V48A Smith Brothers 54.47 309 P **P 22 32 55.1 0.0**
V48A IAmb IAmb 22 32 57.1
comp=Z,24nm,0.8s
V48A Smith Brothers 54.47 309 P **P 22 32 56.3 +1.3**
baz=108,SNR=7.1
ECH Echery 54.50 34 P **P 22 32 55.3 +0.3**
ECH IAmb IAmb 22 32 57.3
comp=Z,28nm,0.9s
ECH Echery 54.50 34 P **P 22 32 55.3 +0.3**
ECH pmax pmax
comp=Z,28nm,0.9s
PRMA PARMA 54.56 39 P **P 22 32 56.2 +0.7**
OSSC Osservatorio P 54.58 41 P **P 22 32 56.2 +0.6**
OSSC IAmb IAmb 22 33 13.4
comp=Z,33nm,1.1s
RCHB Rochefort 54.60 31 *d*P **P 22 32 56.1 +0.4**
comp=Z,14nm,1.0s
AAM Ann Arbor 54.64 318 P **P 22 32 57.0 +0.9**
AAM Ann Arbor 54.64 318 P **P 22 32 57.0 +0.9**
AAM pmax pmax
comp=Z,33nm,0.8s
AAM Ann Arbor 54.64 318 P **P 22 32 57.1 +1.0**
baz=116
BGES Gesves 54.66 31 *d*P **P 22 32 56.4 +0.3**
comp=Z,14nm,0.8s
BGES *d*PP **PP 22 34 56.3 -2.4**
Z47A Carrollton 54.71 306 P **P 22 32 56.9 +0.1**
Z47A IAmb IAmb 22 33 15.6
comp=Z,31nm,1.1s
P48A Milroy 54.72 314 P **P 22 32 57.3 +0.5**
P48A IAmb IAmb 22 32 58.1
comp=Z,22nm,1.0s
P48A Milroy 54.72 314 P **P 22 32 57.2 +0.5**
baz=112
P48A P **P 22 32 57.2 +0.5**
baz=112
WLF Walferdange 54.78 32 P **P 22 32 57.7 +0.6**
WLF IAmb IAmb 22 32 59.0
comp=Z,26nm,0.9s
WLF Walferdange 54.78 32 P **P 22 32 57.7 +0.6**
WLF pmax pmax
comp=Z,26nm,0.9s
WLF Walferdange 54.78 32 *d*P **P 22 32 57.8 +0.8**
comp=Z,18nm,1.0s
WLF Walferdange 54.78 32 *e*P **P 22 32 58.0 +1.0**
comp=Z,27nm,0.9s,baz=239,slow=7.0
ZCCA Zocca 54.78 40 P **P 22 32 58.0 +0.8**
BCLA Clavier 54.79 31 *d*P **P 22 32 57.9 +0.9**
TUE Stuetta 54.82 37 P **P 22 32 57.8 +0.1**
O48B Farmland 54.84 315 P **P 22 32 57.4 -0.2**
O48B IAmb IAmb 22 32 59.0
comp=Z,17nm,0.8s
O48B Farmland 54.84 315 P **P 22 32 58.0 +0.4**
baz=113
O48B Farmland 54.84 315 P **P 22 32 58.3 +0.7**
baz=113
WCI Wyandotte Cave 54.91 312 P **P 22 32 58.1 -0.1**
WCI IAmb IAmb 22 33 00.2
comp=Z,19nm,0.8s
WCI Wyandotte Cave 54.91 312 P **P 22 32 58.1 -0.1**
WCI pmax pmax
comp=Z,19nm,0.8s
WCI Wyandotte Cave 54.91 312 P **P 22 32 59.2 +1.1**
baz=111
WCI Wyandotte Cave 54.91 312 P **P 22 32 59.5 +1.3**
baz=111,SNR=5.6
L48A N Adams 55.02 317 P **P 22 32 59.1 +0.2**
BSTI Sart Tilman 55.03 31 *d*P **P 22 33 00.2 +1.4**
CESX Cesi 55.05 42 P **P 22 32 59.4 +0.3**
CESX IAmb IAmb 22 33 06.1
comp=Z,56nm,1.7s
T47A Sharon Grove 55.09 310 P **P 22 32 59.7 +0.2**
T47A Sharon Grove 55.09 310 P **P 22 33 00.9 +1.4**
baz=109,SNR=8.2
SALO Salr 55.11 38 P **P 22 32 59.7 +0.2**
SALO IAmb IAmb 22 33 00.9
comp=Z,16nm,0.8s
BFO Black Forest 55.22 34 P **P 22 33 00.0 -0.2**
BFO IAmb IAmb 22 33 02.6
comp=Z,21nm,0.9s
BFO Black Forest 55.22 34 P **P 22 33 00.0 -0.2**
BFO pmax pmax
comp=Z,21nm,0.9s
BFO Black Forest 55.22 34 *e*P **P 22 33 01.4 +1.2**
comp=Z,20nm,0.9s,baz=239,slow=7.0
BFO *e*L L 22 52 05.1
comp=Z,860nm,21.5s
PLAL Pickwick Lake 55.22 308 P **P 22 33 00.6 +0.2**
PLAL IAmb IAmb 22 33 02.0
comp=Z,16nm,0.8s
MEM Membach 55.27 31 *d*P **P 22 33 00.5 0.0**
comp=Z,23nm,0.8s
MURB Monte Urbino 55.29 42 P **P 22 33 00.4 -0.5**
MURB IAmb IAmb 22 33 26.0
comp=Z,44nm,1.2s
DAVOX Davos/Dischmat 55.30 37 LR LR 22 54 13.8
comp=Z,1µm,19.6s,baz=256,slow=33
BTNL Ternell 55.32 31 *d*P **P 22 33 01.9 +1.0**
comp=Z,17nm,1.1s
146A Union 55.36 305 P **P 22 33 01.6 +0.1**
146A IAmb IAmb 22 33 03.3
comp=Z,36nm,0.9s
BLO Bloomington 55.41 313 P **P 22 33 01.7 -0.1**
BLO IAmb IAmb 22 33 12.5
comp=Z,20nm,0.8s
BLO Bloomington 55.41 313 P **P 22 33 01.7 -0.1**
BLO pmax pmax
comp=Z,20nm,0.8s
FUORN Ofenpass-Fuorn 55.44 37 P **P 22 33 02.2 +0.1**
AQU L'Aquila 55.49 43 P **P 22 33 02.4 +0.1**
AQU IAmb IAmb 22 33 04.9
comp=Z,27nm,1.0s
AQU L'Aquila 55.49 43 P **P 22 33 02.4 +0.1**
AQU pmax pmax
comp=Z,27nm,1.0s
NRCA Norcia 55.50 42 P **P 22 33 02.5 0.0**
DAVA Damuels 55.55 36 *i*P **P 22 33 03.9 +1.0**
comp=Z,27nm,0.7s,SNR=7.8
FDMO Fiordimonte 55.57 42 P **P 22 33 02.4 -0.5**
CAMP Campotosto 55.57 43 P **P 22 33 03.0 0.0**
CAMP IAmb IAmb 22 33 18.1
comp=Z,33nm,1.5s
TEOL Teolo 55.69 39 P **P 22 33 02.8 -0.9**
TEOL IAmb IAmb 22 33 19.7
comp=Z,26nm,0.8s
INTR Introdacqua 55.69 43 P **P 22 33 03.3 -0.5**
GUMA Gualdo di Mace 55.74 42 P **P 22 33 04.0 -0.2**
GUMA IAmb IAmb 22 33 09.3
comp=Z,32nm,1.1s
PAOL Paolisi 55.77 45 P **P 22 33 04.5 +0.2**
J47A Sunmer 55.82 318 P **P 22 33 04.6 0.0**
USIN University of 55.84 311 P **P 22 33 04.6 -0.2**
UBR Ueberruh 55.89 36 *e*P **P 22 33 06.3 +1.2**
comp=Z,24nm,0.8s,baz=239,slow=7.0
FETA Feichten 55.92 37 *i*P **P 22 33 06.0 +0.6**
comp=Z,14nm,0.9s,SNR=7.2
STU Stuttgart 55.94 34 P **P 22 33 04.8 -0.6**
STU Stuttgart 55.94 34 P **P 22 33 04.8 -0.6**
STU pmax pmax
comp=Z,12nm,0.7s
CTI Castel Tesino 56.00 38 P **P 22 33 05.7 -0.3**
CTI IAmb IAmb 22 33 08.2
comp=Z,30nm,0.8s
CTI Castel Tesino 56.00 38 P **P 22 33 05.7 -0.3**
CTI pmax pmax
comp=Z,30nm,0.8s
P46A Rosedale 56.06 313 P **P 22 33 07.0 +0.5**
P46A Rosedale 56.06 313 P **P 22 33 07.5 +1.0**
baz=111,SNR=7.0
Y45A Yeager Farm, C 56.07 306 P **P 22 33 06.6 0.0**
Y45A Yeager Farm, C 56.07 306 P **P 22 33 07.8 +1.2**
baz=105,SNR=5.5
RETA Reutte 56.17 36 *i*P **P 22 33 07.9 +0.7**
comp=Z,19nm,0.7s,SNR=7.2
SFIN Lafayette 56.26 314 P **P 22 33 08.3 +0.6**
SFIN Lafayette 56.26 314 P **P 22 33 08.4 +0.6**
baz=111
SFIN Lafayette 56.26 314 P **P 22 33 08.8 +1.0**
baz=111
CUC Castrocucco 56.26 46 P **P 22 33 07.9 0.0**
CUC IAmb IAmb 22 33 09.3
comp=Z,36nm,1.4s
T45A Paducah 56.27 310 P **P 22 33 08.2 +0.2**
MOTA Moosalm 56.30 37 *i*P **P 22 33 08.6 +0.4**
comp=Z,19nm,0.7s,SNR=6.6
SQTA Sankt Quirin 56.30 37 *i*P **P 22 33 08.7 +0.5**
comp=Z,30nm,0.7s,SNR=11
TNS Taunus Mts 56.32 33 *e*P **P 22 33 09.3 +1.2**
comp=Z,22nm,0.8s,baz=239,slow=7.0
TNS *e*L L 22 52 11.3
comp=Z,870nm,21.9s
OLIL Olney 56.41 312 P **P 22 33 09.4 +0.5**
OLIL IAmb IAmb 22 33 10.9
comp=Z,34nm,1.0s
HICK Hickman 56.57 309 P **P 22 33 10.9 +0.7**
WATA Walderalm 56.58 37 *i*P **P 22 33 10.5 +0.3**
comp=Z,19nm,0.7s,SNR=7.2
WTTA Wattenberg 56.58 37 *i*P **P 22 33 10.7 +0.5**
comp=Z,28nm,0.7s,SNR=18
CIMO Cimolais 56.61 38 P **P 22 33 10.2 -0.1**
CIMO IAmb IAmb 22 33 26.4
comp=Z,20nm,1.0s
STAL STALIGIAL 56.75 38 P **P 22 33 11.2 -0.1**
STAL IAmb IAmb 22 33 17.6
comp=Z,32nm,1.1s
FUR Furstenfeldbru 56.81 36 *e*P **P 22 33 12.8 +1.2**
comp=Z,29nm,0.9s,baz=239,slow=7.0
FUR *e*L L 22 53 55.2
comp=Z,1µm,21.0s
KASTN Kahler Asten 56.85 32 *e*P **P 22 33 13.0 +1.1**
comp=Z,17nm,0.9s,baz=239,slow=7.0
ABTA Abfaltersbach 56.86 38 *i*P **P 22 33 13.0 +0.9**
comp=Z,21nm,0.8s,SNR=9.8
E46A Sault Ste Mari 56.87 322 P **P 22 33 11.7 -0.4**
SIUC Southern Illin 56.92 310 P **P 22 33 12.8 +0.2**
SIUC IAmb IAmb 22 33 14.1
comp=Z,24nm,0.8s
S44A Carbondale 56.94 310 P **P 22 33 12.5 -0.2**
S44A IAmb IAmb 22 33 14.2
comp=Z,26nm,1.0s
CLUD Cludinico 56.95 38 P **P 22 33 12.4 -0.2**
CLUD IAmb IAmb 22 33 27.4
comp=Z,33nm,1.2s
CGM3 Cape Girardeau 57.13 310 P **P 22 33 13.1 -0.9**
CGM3 IAmb IAmb 22 33 47.9
comp=Z,41nm,1.8s
Q44A Meyer Farm, Va 57.14 312 P **P 22 33 14.3 +0.2**
Q44A Meyer Farm, Va 57.14 312 P **P 22 33 14.4 +0.2**
baz=109
IBBN Ibbenburen 57.15 30 *e*P **P 22 33 15.2 +1.3**
comp=Z,24nm,0.9s,baz=239,slow=7.0
O44A Mansfield 57.16 313 P **P 22 33 13.3 -0.9**
TRI Trieste 57.16 39 P **P 22 33 13.7 -0.5**
TRI IAmb IAmb 22 33 15.2
comp=Z,30nm,0.9s
TRI Trieste 57.16 39 P **P 22 33 13.7 -0.5**
TRI pmax pmax
comp=Z,30nm,0.9s
SABO M.te Sabotino 57.18 39 P **P 22 33 14.8 +0.5**
SABO IAmb IAmb 22 33 16.8
comp=Z,39nm,0.9s
GO06 Curarrehue 57.23 212 P **P 22 33 14.5 -0.3**
SKDS Skadanscina 57.25 40⇑ *i*P **P 22 33 15.8 +1.0**
LESA Schwarzleotal 57.28 37 *e*P **P 22 33 15.6 +0.5**
comp=Z,23nm,0.6s
M44A Midewin, Midew 57.29 315 P **P 22 33 15.6 +0.4**
M44A IAmb IAmb 22 33 17.2
comp=Z,49nm,1.4s
143A Socs Landing, 57.30 304 P **P 22 33 15.6 +0.3**
PRED Cave del Predi 57.37 39 P **P 22 33 16.3 +0.6**
PRED IAmb IAmb 22 33 33.1
comp=Z,46nm,1.3s
CADS Cadrg 57.38 39 *i*P **P 22 33 15.9 +0.2**
HBAR Harrisburg 57.41 308 P **P 22 33 16.0 -0.1**
L44A Lake County Fo 57.49 316 P **P 22 33 16.9 +0.4**
L44A Lake County Fo 57.49 316 P **P 22 33 17.5 +1.0**
baz=112
MYKA Terra Mystica 57.50 38 *i*P **P 22 33 17.9 +1.3**
comp=Z,28nm,0.9s,SNR=9.6
RJOB Jochberg 57.50 37 *e*P **P 22 33 16.9 +0.4**
comp=Z,15nm,0.8s,baz=239,slow=7.0
KBA Koelnbreinsper 57.52 38 *e*P **P 22 33 17.4 +0.6**
comp=Z,14nm,0.7s
GRFO Grafenberg 57.55 34 P **P 22 33 17.5 +0.7**
GRFO Grafenberg 57.55 34 P **P 22 33 17.5 +0.7**
GRFO pmax pmax
comp=Z,49nm,0.9s
GRA1 Grafenberg Arr 57.55 34 P **P 22 33 17.5 +0.6**
GRF Grafenberg Arr 57.55 34 P **P 22 33 17.5 +0.6**
GRF pmax pmax
comp=Z,48nm,0.8s
GRF Grafenberg Arr 57.55 34 *e*P **P 22 33 18.0 +1.2**
comp=Z,49nm,0.9s,baz=239,slow=7.0
GRF *e*L L 22 54 27.2
comp=Z,509nm,20.5s
PLCA Paso Flores 57.59 211 P **P 22 33 17.3 0.0**
PLCA IAmb IAmb 22 33 39.1
comp=Z,25nm,1.4s
PLCA Paso Flores 57.59 211 P **P 22 33 17.3 0.0**
PLCA pmax pmax
comp=Z,25nm,1.4s
PLCA Paso Flores 57.59 211 *e*P **P 22 33 18.5 +1.2**
PLCA Paso Flores 57.59 211 P **P 22 33 18.3 +1.0**
comp=Z,1.7nm,0.7s,baz=48,slow=13,SNR=3.5
PLCA LR LR 22 58 48.5
comp=Z,2µm,18.2s,baz=50,slow=37
comp=Z,1.7nm,0.7s
CEY Cerknica 57.59 40⇑ *i*P **P 22 33 17.8 +0.6**
P43A Skaggs, Pawnee 57.75 313 P **P 22 33 17.7 -0.7**
P43A IAmb IAmb 22 33 19.1
comp=Z,15nm,0.6s
LJU Ljubljana 57.79 39 *i*P **P 22 33 19.9 +1.4**
LJU *i*S S 22 41 28.5 +11
GTTG Gottingen 57.85 32 *e*P **P 22 33 20.3 +1.4**
comp=Z,46nm,1.2s,baz=239,slow=7.0
HDIL Hopedale 57.89 314 P **P 22 33 18.8 -0.6**
HDIL IAmb IAmb 22 33 40.1
comp=Z,22nm,0.7s
HDIL Hopedale 57.89 314 P **P 22 33 19.7 +0.3**
baz=110
FVM French Village 57.91 310 P **P 22 33 19.1 -0.5**
FVM IAmb IAmb 22 33 20.6
comp=Z,14nm,0.8s
FVM French Village 57.91 310 P **P 22 33 19.1 -0.5**
FVM pmax pmax
comp=Z,14nm,0.8s
FVM French Village 57.91 310 P **P 22 33 19.9 +0.3**
baz=107,SNR=5.5
LCAR Lake Charles 57.93 308 P **P 22 33 19.1 -0.7**
SLM Saint Louis 57.97 311 P **P 22 33 19.9 0.0**
SLM IAmb IAmb 22 33 21.0
comp=Z,56nm,1.4s
SLM Saint Louis 57.97 311 P **P 22 33 19.9 0.0**
SLM pmax pmax
comp=Z,56nm,1.5s
K43A Burlington 57.97 316 P **P 22 33 19.5 -0.4**
K43A IAmb IAmb 22 33 21.4
comp=Z,41nm,1.1s
BIOA Bad Ischl, Aus 57.98 37 *i*P **P 22 33 20.2 +0.3**
comp=Z,12nm,0.6s,SNR=9.9
OBKA Obir 58.00 39 *e*P **P 22 33 21.6 +1.4**
comp=Z,28nm,0.9s
OBKA Obir 58.00 39⇑ *i*P **P 22 33 21.2 +1.0**
BOJS Bojanci 58.02 40⇑ *i*P **P 22 33 21.7 +1.5**
ROTZ Rotzenmuhle 58.14 35 *e*P **P 22 33 22.0 +1.0**
comp=Z,5.7nm,1.0s,baz=239,slow=7.0
T42A Van Buren 58.15 309 P **P 22 33 20.3 -0.9**
T42A Van Buren 58.15 309 P **P 22 33 20.7 -0.5**
baz=106,SNR=10
BORG Borgarnes 58.18 7 LR LR 22 52 24.6
comp=Z,474nm,21.2s,baz=195,slow=30
MANZ Manzenberg 58.20 34 *e*P **P 22 33 22.3 +0.9**
comp=Z,3.0nm,0.9s,baz=239,slow=7.0
SCTE Santa Cesarea 58.21 47 P **P 22 33 21.1 -0.4**
WET Wettzell 58.22 35 *e*P **P 22 33 22.2 +0.7**
comp=Z,8.3nm,0.9s,baz=239,slow=7.0
WET *e*L L 22 54 33.6
comp=Z,583nm,21.8s
CLZ Clausthal 58.23 32 *e*P **P 22 33 22.5 +0.9**
comp=Z,8.0nm,0.9s,baz=239,slow=7.0
MOX Moxa 58.26 33 *e*P **P 22 33 22.9 +1.1**
comp=Z,9.3nm,0.8s,baz=239,slow=7.0
MOX *e*L L 22 54 17.8
comp=Z,770nm,20.3s
H43A Windswept, Lux 58.27 318 P **P 22 33 21.7 -0.2**
H43A IAmb IAmb 22 33 52.8
comp=Z,22nm,0.8s
CRES Cresnjev 58.28 40⇑ *i*P **P 22 33 22.9 +0.8**
SOKA Soboth 58.38 39 *i*P **P 22 33 23.9 +1.1**
comp=Z,43nm,1.0s,SNR=29
MOA Molln 58.43 37 *i*P **P 22 33 23.3 +0.3**
comp=Z,9.4nm,0.6s,SNR=7.2
PLN Plauen 58.47 34 *e*P **P 22 33 24.4 +1.1**
comp=Z,27nm,0.9s,baz=239,slow=7.0
WERN Wernitzgruen 58.49 34 *e*P **P 22 33 24.8 +1.3**
comp=Z,39nm,1.1s,baz=239,slow=7.0
NKC Novy Kostel 58.51 34 *e*P **P 22 33 24.5 +0.9**
NKC *e*S **S 22 41 22.3 -4.9**
NKC MLR MLR
comp=Z,800nm,25.2s
NKC Novy Kostel 58.51 34 *e*P **P 22 33 24.5 +0.9**
NKC *e*S S 22 41 22.3 -4.9
NKC AMS AMS 22 56 10.0
comp=Z,800nm,25.2s
GUNZ Gunzen 58.51 34 *e*P **P 22 33 24.8 +1.2**
comp=Z,17nm,0.8s,baz=239,slow=7.0
WERD Werda 58.54 34 *e*P **P 22 33 24.8 +1.1**
comp=Z,23nm,0.9s,baz=239,slow=7.0
UALR University of 58.54 306 P **P 22 33 23.7 -0.4**
UALR IAmb IAmb 22 33 25.1
comp=Z,28nm,0.8s
E43A Lone Tree Farm 58.55 321 P **P 22 33 23.9 +0.1**
E43A IAmb IAmb 22 33 44.5
comp=Z,30nm,1.1s
GEC2 GERESS Array S 58.55 36 P **P 22 33 23.7 -0.3**
GEC2 GERESS Array S 58.55 36 *e*P **P 22 33 24.6 +0.6**
comp=Z,7.6nm,0.8s,baz=239,slow=7.0
GEC2 *e*L L 22 54 47.6
comp=Z,1µm,21.6s
GERES GERESS Array B 58.55 36 P **P 22 33 24.1 +0.1**
GERES GERESS Array B 58.55 36 P **P 22 33 24.4 +0.4**
comp=Z,5.1nm,0.7s,baz=235,slow=6.3,SNR=12
GERES LR LR 22 55 21.0
comp=Z,812nm,21.9s,baz=252,slow=33
comp=Z,5.1nm,0.7s
CCM Cathedral Cave 58.55 310 P **P 22 33 23.0 -1.1**
CCM IAmb IAmb 22 33 24.9
comp=Z,20nm,0.9s
CCM Cathedral Cave 58.55 310 P **P 22 33 23.0 -1.1**
CCM pmax pmax
comp=Z,20nm,0.9s
CCM Cathedral Cave 58.55 310 P **P 22 33 24.0 -0.1**
baz=107
CCM Cathedral Cave 58.55 310 P **P 22 33 24.0 -0.1**
baz=107,SNR=8.1
Z41A Richland Creek 58.57 304 P **P 22 33 23.8 -0.4**
TANN Tannenbergstha 58.61 34 *e*P **P 22 33 25.4 +1.1**
comp=Z,32nm,1.1s,baz=239,slow=7.0
KHC Kasperske Hory 58.61 36 P **P 22 33 23.9 -0.4**
KHC IAmb IAmb 22 33 26.2
comp=Z,51nm,1.8s
KHC Kasperske Hory 58.61 36⇓ *i*P **P 22 33 24.4 +0.1**
KHC pmax pmax
comp=Z,56nm,1.8s
KHC Kasperske Hory 58.61 36 *e*P **P 22 33 24.5 +0.1**
KHC *e*S **S 22 41 25.6 -3.0**
KHC AMS AMS 22 53 40.0
comp=Z,800nm,20.7s
STON Ston 58.62 44⇑ *i*P **P 22 33 24.1 -0.3**
WHAR Wooly Hollow 58.63 307 P **P 22 33 24.1 -0.5**
NEUB Neuenburg 58.63 33 *e*P **P 22 33 25.5 +1.2**
comp=Z,36nm,0.9s,baz=239,slow=7.0
FCAR Ozark Folk Cen 58.65 308 P **P 22 33 24.2 -0.5**
L42A Oliver, Polo 58.65 315 P **P 22 33 24.1 -0.6**
L42A IAmb IAmb 22 33 37.0
comp=Z,56nm,1.7s
SRKY Kupres RS 58.70 42⇑ *i*P **P 22 33 26.3 +1.2**
TSUM Tsumeb 58.79 118 P **P 22 33 25.9 -0.2**
TSUM Tsumeb 58.79 118 LR LR 22 53 03.7
comp=Z,1µm,20.6s,baz=328,slow=30
I42A Draeger Farm, 58.81 317 P **P 22 33 25.3 -0.4**
I42A IAmb IAmb 22 33 27.2
comp=Z,20nm,0.8s
I42A Draeger Farm, 58.81 317 P **P 22 33 26.4 +0.7**
baz=112
A051A Mrakovica 58.89 41⇑ *i*P **P 22 33 27.2 +0.8**
CKRC Cesky Krumlov 58.90 36 *e*P **P 22 33 26.9 +0.6**
CKRC *e*S **S 22 41 32.4 +0.1**
CKRC Cesky Krumlov 58.90 36 *e*P **P 22 33 26.9 +0.6**
CKRC *e*S **S 22 41 32.4 +0.1**
WLAR White Oak Lake 58.91 305 P **P 22 33 26.9 +0.3**
ARSA Arzberg 58.93 38 *i*P **P 22 33 27.1 +0.6**
comp=Z,9.9nm,0.8s,SNR=6.9
FLTG Flechtingen 58.94 32 *e*P **P 22 33 27.5 +1.0**
comp=Z,14nm,0.8s,baz=239,slow=7.0
BLY Banja Luka 58.97 42⇑ *i*P **P 22 33 27.8 +1.0**
F42A Maple Grove Fa 59.02 320 P **P 22 33 26.6 -0.5**
F42A IAmb IAmb 22 33 28.2
comp=Z,19nm,1.1s
HCY Herceg Novi 59.02 44⇑ *i*P **P 22 33 29.1 +1.9**
KOGS Kog 59.04 39 *i*P **P 22 33 28.2 +0.9**
N41A Harden Midland 59.06 313 P **P 22 33 26.4 -1.2**
N41A Harden Midland 59.06 313 P **P 22 33 27.5 0.0**
baz=108
KEK Kerkira 59.07 48 P **P 22 33 28.0 +0.4**
VLO Vlora 59.08 47 P **P 22 33 28.1 +0.5**
VLO Vlora 59.08 47 P **P 22 33 28.1 +0.5**
VLO pmax pmax
comp=Z,50nm,1.1s
MGMO Mountain Grove 59.09 309 P **P 22 33 27.6 -0.3**
MGMO IAmb IAmb 22 33 28.8
comp=Z,20nm,0.8s
ZVC Zvikov 59.11 36 *e*P **P 22 33 28.1 +0.3**
ZVC AMS AMS 22 54 00.0
comp=Z,800nm,24.9s
BRY Bratogost 59.20 44⇑ *i*P **P 22 33 29.7 +1.0**

HSKC Hora Svate Kat 59.24 34 *eP* **P 22 33 29.6 +0.9**
HSKC *eS* **S 22 41 42.5 +5.8**
HSKC AMS AMS 22 56 50.0
comp=Z,700nm,15.3s
U40A Yellville 59.34 308 P **P 22 33 29.3 -0.2**
baz=104,SNR=11
U40A P **P 22 33 29.3 -0.2**
baz=104,SNR=11
CLL Collm 59.35 33 P **P 22 33 28.3 -1.0**
CLL IAmb IAmb 22 33 31.5
comp=Z,29nm,1.7s
CLL Collm 59.35 33 *eP* **P 22 33 30.0 +0.7**
CLL *e**PP **sP 22 33 33.0 +1.0**
CLL *eS* **S 22 41 40.0 +2.0**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL MLR MLR
comp=Z,700nm,21.0s
CLL Collm 59.35 33 *eP* **P 22 33 30.2 +0.9**
comp=Z,4.8nm,0.8s,baz=239,slow=7.0
CLL *eL* L 22 54 59.9
comp=Z,692nm,21.0s
CLL Collm 59.35 33 *eP* **P 22 33 30.0 +0.7**
comp=Z,9.0nm,1.0s
CLL *e*pP **sP 22 33 33.0 +1.0**
CLL *e*PcP **PcP 22 34 18.0 +0.7**
CLL *eS* **S 22 41 40.0 +2.0**
comp=N,400nm,31.5s
CLL *eS* **S 22 41 40.0 +2.0**
comp=E,500nm,27.8s
CLL *ex* x 22 44 28.0
CLL *eSS* **SS 22 45 30.0 -2.8**
CLL *ex* x 22 46 30.0
CLL *eSSS* SSS 22 48 11.0
CLL AMS AMS 22 54 00.0
comp=Z,700nm,21.0s
BSEG Bad Segeberg 59.35 30 *eP* **P 22 33 30.2 +0.9**
comp=Z,44nm,0.9s,baz=239,slow=7.0
BSEG *eL* L 22 55 55.1
comp=Z,592nm,18.8s
FBE Freiberg 59.35 34 *eP* **P 22 33 30.6 +1.2**
comp=Z,17nm,0.8s,baz=239,slow=7.0
JFWS Jewell Farm 59.36 316 P **P 22 33 29.2 -0.4**
JFWS IAmb IAmb 22 33 30.7
comp=Z,22nm,0.8s
JFWS Jewell Farm 59.36 316 P **P 22 33 29.2 -0.4**
JFWS pmax pmax
comp=Z,22nm,0.8s
JFWS Jewell Farm 59.36 316 P **P 22 33 29.7 +0.1**
baz=110,SNR=5.6
JFWS Jewell Farm 59.36 316 P **P 22 33 29.8 +0.2**
baz=110,SNR=5.6
R40A Maddies Statio 59.39 310 P **P 22 33 28.7 -1.2**
R40A IAmb IAmb 22 33 30.7
comp=Z,18nm,0.9s
R40A Maddies Statio 59.39 310 P **P 22 33 29.8 -0.1**
baz=106,SNR=10
IGT Igoumenitsa 59.41 48 P **P 22 33 29.8 -0.2**
DRME Dracevica, Mon 59.41 45 ⇑*iP* **P 22 33 31.7 +1.7**
CONA Conrad Observa 59.42 38 *i P* **P 22 33 30.9 +0.8**
comp=Z,29nm,1.7s,SNR=7.1
LKD2 Lefkada island 59.44 49 P **P 22 33 31.8 +1.6**
NYDR Nydri-Lefkada 59.45 49 P **P 22 33 31.6 +1.4**
MIAR Mount Ida 59.48 306 P **P 22 33 30.2 -0.4**
MIAR Mount Ida 59.48 306 P **P 22 33 30.2 -0.4**
MIAR pmax pmax
comp=Z,10.0nm,1.0s
MIAR Mount Ida 59.48 306 P **P 22 33 30.5 0.0**
baz=103
PDG Podgorica 59.54 45 ⇓P **P 22 33 32.0 +1.2**
PDG Podgorica 59.54 45 P **P 22 33 31.5 +0.7**
PDG IAmb IAmb 22 33 33.6
comp=Z,24nm,0.9s
PDG Podgorica 59.54 45 ⇑*iP* **P 22 33 32.3 +1.5**
PRA Prague 59.55 35 *eP* **P 22 33 31.8 +1.1**
PRA *eS* **S 22 41 47.5 +6.9**
PRA MLR MLR
comp=Z,500nm,13.8s
PRA Prague 59.55 35 *eP* **P 22 33 31.8 +1.1**
PRA *eS* **S 22 41 47.5 +6.9**
PRA AMS AMS 22 59 40.0
comp=Z,500nm,13.8s
UPM Unac-Piva 59.56 44 ⇑*iP* **P 22 33 32.6 +1.4**
PRU Pruhonice 59.57 35 *eP* **P 22 33 31.7 +0.8**
PRU *eS* **S 22 41 40.8 -0.1**
PRU MLR MLR
comp=Z,600nm,23.7s
PRU Pruhonice 59.57 35 *eP* **P 22 33 31.7 +0.8**
PRU *eS* **S 22 41 40.8 -0.1**
PRU AMS AMS 22 52 50.0
comp=Z,600nm,23.7s
P40A Paris 59.58 312 P **P 22 33 30.2 -0.9**
P40A Paris 59.58 312 P **P 22 33 31.0 -0.2**
baz=107,SNR=9.3
RICC Richard 59.58 34 *eP* **P 22 33 32.3 +1.3**
RICC AMS AMS 22 53 30.0
comp=Z,700nm,24.1s
RONA Rosalia, Austr 59.59 38 *i* P **P 22 33 32.1 +1.0**
comp=Z,25nm,0.9s,SNR=19
TIR Tirane 59.62 46 P **P 22 33 32.7 +1.3**
TIR Tirane 59.62 46 P **P 22 33 32.7 +1.3**
TIR pmax pmax
comp=Z,35nm,1.0s
BRG Berggiesshubel 59.65 34 *i* P **P 22 33 33.2 +1.7**
BRG Amp 22 33 34.6
comp=Z,18nm,1.3s
BRG Berggiesshubel 59.65 34 *i* P **P 22 33 33.1 +1.7**
BRG S S 22 41 55.0 +13
BRG pmax pmax
comp=Z,18nm,1.3s
BRG smax smax
comp=N,132nm,15.8s
BRG MLR MLR
comp=Z,641nm,17.6s
BRG MLR MLR
comp=E,254nm,19.1s
BRG Berggiesshubel 59.65 34 *eP* **P 22 33 33.2 +1.7**
comp=E,28nm,1.5s,baz=239,slow=7.0
WIN Windhoek 59.66 121 P **P 22 33 32.1 -0.1**
WIN Windhoek 59.66 121 P **P 22 33 32.1 -0.1**
WIN pmax pmax
comp=Z,76nm,1.9s
GOPC GO Pecny, Ondr 59.68 35 *eP* **P 22 33 32.6 +0.9**
GOPC *eS* **S 22 41 39.1 -3.2**
GOPC MLR MLR
comp=Z,700nm,25.6s
GOPC GO Pecny, Ondr 59.68 35 *eP* **P 22 33 32.6 +0.9**
GOPC *eS* **S 22 41 39.1 -3.2**
GOPC AMS AMS 22 53 10.0
comp=Z,700nm,25.6s
L40A Anamosa 59.76 315 P **P 22 33 31.8 -0.5**
L40A Anamosa 59.76 315 P **P 22 33 31.9 -0.5**
baz=109
LSK Leskovik 59.79 48 P **P 22 33 34.9 +2.2**
TREC Trest 59.80 36 *eP* **P 22 33 33.3 +0.8**
TREC *eS* **S 22 41 45.8 +1.8**
TREC MLR MLR
comp=Z,1μm,24.9s
TREC Trest 59.80 36 *eP* **P 22 33 33.3 +0.8**
TREC *eS* **S 22 41 45.8 +1.8**
TREC AMS AMS 22 55 00.0
comp=Z,1μm,24.9s
NATX Nacogdoches 59.80 302 P **P 22 33 33.1 +0.2**
NATX Nacogdoches 59.80 302 P **P 22 33 33.0 +0.2**
baz=101
PVCC Panska Ves 59.84 35 *eP* **P 22 33 34.4 +1.7**
PVCC *eS* **S 22 41 49.2 +4.9**
PVCC MLR MLR
comp=Z,600nm,23.9s
PVCC Panska Ves 59.84 35 *eP* **P 22 33 34.4 +1.7**
PVCC *eS* **S 22 41 49.2 +4.9**
PVCC AMS AMS 22 53 30.0
comp=Z,600nm,23.9s
I40A Norwalk 59.96 317 P **P 22 33 33.3 -0.4**
I40A IAmb IAmb 22 33 34.4
comp=Z,16nm,0.6s
DRO Drossia 60.01 50 P **P 22 33 36.6 +2.4**
RUDO Rudo 60.02 43 ⇑*iP* **P 22 33 34.7 +0.5**
S39A Bolivar 60.03 309 P **P 22 33 33.7 -0.7**
S39A IAmb IAmb 22 33 35.0
comp=Z,19nm,0.8s
S39A Bolivar 60.03 309 P **P 22 33 34.1 -0.2**
baz=105,SNR=12
PVO Paravola 60.04 50 P **P 22 33 35.7 +1.3**
LL02 Futaleuf 60.06 210 P **P 22 33 34.4 +0.1**

KBN Korca 60.06 47 P **P 22 33 35.5 +0.9**
KBN IAmb IAmb 22 33 39.0
comp=Z,32nm,1.2s
KBN Korca 60.06 47 P **P 22 33 35.5 +0.9**
KBN pmax pmax
comp=Z,32nm,1.2s
BBLS Lazići 60.13 43 ⇑*iP* **P 22 33 36.1 +1.1**
G40A Rib Lake 60.17 319 P **P 22 33 34.9 -0.3**
OHR Ohrid 60.22 47 *i P* **P 22 33 38.1 +2.5**
KRUC Moravsky 60.23 37 *eP* **P 22 33 36.0 +0.5**
KPRO Kipourio 60.29 48 P **P 22 33 38.7 +2.6**
ZST Bratislava 60.29 38 *eP* **P 22 33 36.8 +0.9**
ZST pmax pmax
comp=Z,61nm,0.9s
ZST Bratislava 60.29 38 *eP* **P 22 33 36.8 +0.9**
SJES Sjenica 60.32 44 ⇑*iP* **P 22 33 37.7 +1.4**
ANX Ano Chora 60.33 50 P **P 22 33 38.8 +2.3**
EVR Evrytania 60.34 49 P **P 22 33 39.8 +3.3**
RUE Ruedersdorf 60.35 32 *eP* **P 22 33 37.6 +1.4**
RUE Ruedersdorf 60.35 32 *eP* **P 22 33 37.6 +1.4**
comp=Z,38nm,0.8s,baz=239,slow=7.0
KLV Kalavryta, Ach 60.37 50 P **P 22 33 39.0 +2.3**
SFJD Kangerlussuaq 60.40 353 LR LR 22 56 18.2
comp=Z,151nm,18.4s,baz=176,slow=33
TEKS Tekeris 60.45 42 ⇑*iP* **P 22 33 38.1 +1.0**
VRAC Vranov 60.46 37 ⇓P **P 22 33 37.2 +0.1**
VRAC Vranov 60.46 37 *eP* **P 22 33 37.6 +0.6**
VRAC Vranov 60.46 37 ⇓P **P 22 33 37.2 +0.1**
VRAC Vranov 60.46 37 LR LR 22 56 18.0
comp=Z,877nm,21.9s,baz=254,slow=33
MODS Modra-Piesok 60.47 38 *eP* **P 22 33 38.1 +0.9**
MODS pmax pmax
comp=Z,58nm,0.8s
MODS Modra-Piesok 60.47 38 *eP* **P 22 33 38.1 +0.9**
MORH Mrgy, Hungar 60.48 40 ⇓P **P 22 33 38.1 +1.0**
GUR Goura 60.48 50 P **P 22 33 39.8 +2.2**
HKT Hockley 60.49 300 P **P 22 33 37.9 +0.4**
HKT Hockley 60.49 300 P **P 22 33 37.9 +0.4**
HKT pmax pmax
comp=Z,16nm,1.4s
FNA Florina 60.54 47 P **P 22 33 38.2 +0.4**
FNA Florina 60.54 47 P **P 22 33 38.2 +0.4**
FNA pmax pmax
comp=Z,7.0nm,1.1s
U38A Gravette 60.55 308 P **P 22 33 36.0 -2.0**
MAKR Makrakomi, Fth 60.60 49 P **P 22 33 40.7 +2.4**
DIVS Divibare 60.61 43 P **P 22 33 36.1 -2.1**
DIVS IAmb IAmb 22 33 37.7
comp=Z,39nm,1.4s
DIVS Divibare 60.61 43 ⇑*iP* **P 22 33 35.7 -2.6**
SMOL Smolenice 60.62 38 *eP* **P 22 33 39.1 +0.9**
UPC Upice 60.65 35 *eP* **P 22 33 39.1 +0.8**
UPC *eS* **S 22 41 56.0 +1.2**
UPC MLR MLR
comp=Z,700nm,26.0s
UPC Upice 60.65 35 *eP* **P 22 33 39.1 +0.8**
UPC *eS* **S 22 41 56.0 +1.2**
UPC AMS AMS 22 54 20.0
comp=Z,700nm,26.0s
VLI Veliai 60.65 52 P **P 22 33 41.0 +2.4**
THL Klokotos Trika 60.66 49 P **P 22 33 40.1 +1.5**
P38A Dawn 60.70 311 P **P 22 33 38.0 -0.9**
P38A IAmb IAmb 22 33 39.1
comp=Z,12nm,0.7s
CHVC Chvalec 60.71 35 *eP* **P 22 33 39.6 +0.9**
CHVC MLR MLR
comp=Z,600nm,22.8s
CHVC Chvalec 60.71 35 *eP* **P 22 33 39.6 +0.9**
CHVC AMS AMS 22 54 10.0
comp=Z,600nm,22.8s
AGG Agios Georgios 60.76 49 P **P 22 33 41.4 +2.1**
AGG Agios Georgios 60.76 49 P **P 22 33 39.4 +0.1**
AGG Agios Georgios 60.76 49 P **P 22 33 39.4 +0.1**
AGG pmax pmax
comp=Z,12nm,1.0s
DPC Dobruska-Polom 60.76 35 *eP* **P 22 33 39.9 +0.8**
DPC *eS* **S 22 41 52.6 -3.6**
DPC AMS AMS 22 54 10.0
comp=Z,600nm,20.2s
OSTC Ostas 60.79 35 *eP* **P 22 33 40.1 +0.8**
OSTC *eS* **S 22 42 02.7 +6.1**
OSTC MLR MLR
comp=Z,700nm,24.9s
OSTC Ostas 60.79 35 *eP* **P 22 33 40.1 +0.8**
OSTC *eS* **S 22 42 02.7 +6.1**
OSTC AMS AMS 22 54 10.0
comp=Z,700nm,24.9s
237A Washetta, Mont 60.81 302 P **P 22 33 39.4 -0.3**
N38A Joes South For 60.81 313 P **P 22 33 38.8 -0.8**
N38A IAmb IAmb 22 33 40.1
comp=Z,30nm,1.0s
FRGS Fruska Gora 60.85 42 ⇑*iP* **P 22 33 41.3 +1.5**
FRGS Fruska Gora 60.85 42 ⇑*iP* **P 22 33 41.0 +1.2**
SRO Srobarova 60.88 39 *eP* **P 22 33 41.5 +1.6**
SRO pmax pmax
comp=Z,43nm,0.9s
SRO Srobarova 60.88 39 *eP* **P 22 33 41.5 +1.6**
KRLC Kraliky 60.90 36 *eP* **P 22 33 41.3 +1.2**
KRLC MLR MLR
comp=Z,600nm,22.2s
KRLC Kraliky 60.90 36 *eP* **P 22 33 41.3 +1.2**
KRLC AMS AMS 22 55 20.0
comp=Z,600nm,22.2s
JAVC Velka Javorina 60.91 37 *eP* **P 22 33 41.2 +1.0**
X37A Clayton 60.94 305 P **P 22 33 40.1 -0.4**
KSP Ksiaz 60.96 35 *eP* **P 22 33 41.4 +1.0**
FRB Frobisher Bay 60.99 344 LR LR 22 58 19.3
comp=Z,363nm,18.1s,baz=168,slow=34
RLO Rose Lookout 60.99 307 P **P 22 33 40.2 -0.8**
RLO IAmb IAmb 22 33 41.4
comp=Z,20nm,0.7s
K38A Parkersburg 61.03 315 P **P 22 33 39.6 -1.5**
K38A IAmb IAmb 22 33 40.7
comp=Z,17nm,0.8s
ATAL Atalanti 61.19 50 P **P 22 33 43.5 +1.3**
MAUC Maruska 61.21 37 *eP* **P 22 33 43.8 +1.6**
MAUC AMS AMS 22 55 40.0
comp=Z,1μm,15.0s
MORC Moravsky Berou 61.22 36 ⇑P **P 22 33 42.2 0.0**
MORC Moravsky Berou 61.22 36 P **P 22 33 42.0 -0.3**
MORC Moravsky Berou 61.22 36 *eP* **P 22 33 43.1 +0.9**
MORC Moravsky Berou 61.22 36 ⇑P **P 22 33 42.2 0.0**
VILL Vilia 61.28 50 P **P 22 33 44.4 +1.5**
GRG Griva 61.33 47 P **P 22 33 44.4 +1.2**
VYHS Vyhne 61.47 38 *eP* **P 22 33 44.4 +0.5**
VYHS pmax pmax
comp=Z,14nm,1.1s
VYHS Vyhne 61.47 38 *eP* **P 22 33 44.4 +0.5**
NEO Neokhori 61.50 49 P **P 22 33 46.8 +2.5**
TUL3 Leonard 61.55 307 P **P 22 33 43.8 -0.9**
TUL3 Leonard 61.55 307 P **P 22 33 44.4 -0.3**
baz=102
TUL3 Leonard 61.55 307 P **P 22 33 44.2 -0.5**
baz=102
VAY Valandovo 61.56 47 *i P* **P 22 33 46.1 +1.5**
OKC Ostrava-Krasne 61.60 36 *eP* **P 22 33 45.4 +0.7**
OKC *eS* **S 22 42 09.4 +2.5**
OKC MLR MLR
comp=Z,700nm,19.1s
OKC Ostrava-Krasne 61.60 36 *eP* **P 22 33 45.4 +0.7**
OKC *eS* **S 22 42 09.4 +2.5**
OKC AMS AMS 22 56 10.0
comp=Z,700nm,19.1s
BOVS Bovan 61.63 44 ⇓P **P 22 33 45.4 +0.3**
DION Dionisos Attik 61.74 51 P **P 22 33 48.3 +2.3**
KNT Kendrikon 61.75 47 P **P 22 33 47.2 +1.2**
AMBH Ambrzfalva 61.87 41 ⇓P **P 22 33 48.8 +2.2**
SPMN Marine on St. 61.88 318 P **P 22 33 46.3 -0.4**
SPMN Marine on St. 61.88 318 P **P 22 33 46.7 -0.1**
baz=109,SNR=5.7
SPMN Marine on St. 61.88 318 P **P 22 33 46.6 -0.1**
baz=109,SNR=5.7
IDI Anoyia 61.88 54 ⇓P **P 22 33 48.8 +1.7**
IDI Anoyia 61.88 54 P **P 22 33 48.4 +1.4**
IDI Anoyia 61.88 54 P **P 22 33 47.6 +0.5**
IDI Anoyia 61.88 54 LR LR 23 00 40.7
comp=Z,437nm,21.8s,baz=254,slow=36
PSZ Piszkesteto 61.91 39 ⇓P **P 22 33 48.8 +1.8**
PSZ Piszkesteto 61.91 39 P **P 22 33 47.2 +0.2**
PSZ IAmb IAmb 22 33 49.4
comp=Z,25nm,1.0s
PSZ Piszkesteto 61.91 39 ⇓P **P 22 33 48.8 +1.8**
BSZH Besenyszg 61.91 40 ⇑P **P 22 33 48.8 +1.9**

TLIG Tlapa 61.94 286 P **P 22 33 46.9 -0.8**
TLIG IAmb IAmb 22 33 49.9
comp=Z,23nm,1.3s
KYMI Kymi, Euboea I 62.00 50 P **P 22 33 49.0 +1.3**
MDVR Moldovita 62.00 43 ⇑P **P 22 33 48.6 +1.0**
FW14 Alvarado 62.03 303 P **P 22 33 47.8 -0.2**
FW14 IAmb IAmb 22 34 14.5
comp=Z,26nm,0.6s
735A Kenedy 62.04 299 P **P 22 33 48.2 0.0**
435B Jarrell 62.11 301 P **P 22 33 47.4 -1.2**
435B IAmb IAmb 22 33 49.0
comp=Z,15nm,0.9s
LANS Liptovska Anna 62.11 38 *eP* **P 22 33 49.9 +1.6**
LANS pmax pmax
comp=Z,8.0nm,1.0s
LANS Liptovska Anna 62.11 38 *eP* **P 22 33 49.9 +1.6**
WHTX Lake Whitney, 62.19 302 P **P 22 33 48.0 -1.0**
WHTX IAmb IAmb 22 34 24.2
comp=Z,24nm,1.1s
BZS Buzias 62.21 42 ⇑P **P 22 33 50.0 +1.1**
BZS Buzias 62.21 42 ⇑P **P 22 33 50.0 +1.1**
FW13 Cleburne 62.22 303 P **P 22 33 48.4 -0.9**
FW13 IAmb IAmb 22 33 49.5
comp=Z,23nm,0.5s
Z35A Perchaven, San 62.24 304 P **P 22 33 48.8 -0.6**
SRS Serrai 62.24 47 P **P 22 33 50.4 +1.1**
LOOK Love County 62.29 304 P **P 22 33 48.9 -0.9**
OUR Ouranopolis 62.33 48 P **P 22 33 50.7 +0.9**
T35B Sooner Cattle 62.33 308 P **P 22 33 49.4 -0.5**
baz=102
QUOK Quay 62.33 307 P **P 22 33 49.1 -0.8**
QUOK IAmb IAmb 22 33 50.5
comp=Z,22nm,0.9s
T35A Sooner Cattle 62.33 308 P **P 22 33 49.5 -0.4**
T35A IAmb IAmb 22 33 50.6
comp=Z,16nm,0.9s
OK052 Battle Ridge R 62.37 307 P **P 22 33 49.9 -0.3**
OK052 IAmb IAmb 22 33 50.9
comp=Z,20nm,0.8s
OK031 S. Brethren Rd 62.39 307 P **P 22 33 49.8 -0.6**
VTS Vitosha 62.40 46 ⇓P **P 22 33 51.7 +1.2**
VTS Vitosha 62.40 46 ⇓P **P 22 33 51.7 +1.2**
VTS Vitosha 62.40 46 *eP* **P 22 33 47.4 -3.1**
FW06 Azle 62.43 303 P **P 22 33 50.5 -0.2**
FW06 IAmb IAmb 22 33 50.9
comp=Z,14nm,0.7s
SIRR Siria 62.45 41 ⇑P **P 22 33 51.7 +1.1**
KOKK Kokkinochori, 62.46 48 P **P 22 33 52.7 +2.0**
MMB Musomishta 62.47 47 *eP* **P 22 33 51.5 +0.7**
OK033 Mehan 62.48 307 P **P 22 33 50.7 -0.3**
NVR Nevrokopi 62.50 47 P **P 22 33 53.7 +2.7**
HERR Herculane 62.50 43 ⇑P **P 22 33 51.8 +0.9**
DJES Djerdap 62.51 43 ⇓P **P 22 33 52.2 +1.2**
DJES Djerdap 62.51 43 P **P 22 33 52.2 +1.2**
THR3 Thira Island, 62.52 53 P **P 22 33 52.2 +1.0**
SANT Santorini 62.55 53 ⇓P **P 22 33 52.0 +0.5**
SANT Santorini 62.55 53 P **P 22 33 51.8 +0.3**
OK048 Pawnee Station 62.56 307 P **P 22 33 51.0 -0.5**
FW07 Weatherford 62.57 303 P **P 22 33 50.2 -1.5**
FW07 IAmb IAmb 22 33 52.0
comp=Z,12nm,0.8s
N35A Tabor 62.59 312 P **P 22 33 49.8 -1.8**
NIE Niedzica 62.72 38 *eP* **P 22 33 54.8 +2.4**
OJC Ojcow 62.73 37 *eP* **P 22 33 53.8 +1.4**
OJC Ojcow 62.73 37 P **P 22 33 52.7 +0.3**
OJC IAmb IAmb 22 33 55.0
comp=Z,27nm,1.1s
OJC Ojcow 62.73 37 P **P 22 33 52.7 +0.3**
OJC pmax pmax
comp=Z,27nm,1.1s
APE Apeiranthos 62.75 52 ⇓P **P 22 33 53.5 +0.7**
APE Apeiranthos 62.75 52 ⇓P **P 22 33 53.5 +0.7**
BLOK Blackwell 62.85 308 P **P 22 33 52.8 -0.6**
BLOK IAmb IAmb 22 33 53.9
comp=Z,18nm,0.7s
OK029 Liberty Lake 62.85 306 P **P 22 33 53.0 -0.4**
KSU1 Kansas State U 62.88 310 P **P 22 33 52.8 -0.8**
GZR Gura Zlata 62.91 42 ⇑P **P 22 33 55.0 +1.3**
GZR Gura Zlata 62.91 42 ⇑P **P 22 33 55.0 +1.3**
THAS Thassos island 62.94 48 P **P 22 33 55.1 +1.2**
MPEP Malo Peshtene 62.96 45 *eP* **P 22 33 55.1 +1.1**
LTVH Ltavrtes, Hu 62.98 40 ⇓P **P 22 33 56.4 +2.3**
PGB Panagyurishte 63.03 46 *eP* **P 22 33 55.4 +0.8**
LIA Limnos Island 63.11 49 P **P 22 33 56.6 +1.5**
DEV Deva 63.15 42 ⇑P **P 22 33 57.4 +2.2**
DEV Deva 63.15 42 ⇑P **P 22 33 57.4 +2.2**
KS20 Mayfield South 63.21 308 P **P 22 33 54.9 -0.9**
RZN Rozhen 63.23 47 *eP* **P 22 33 57.7 +1.7**
CRVS Cervenica-Dubn 63.24 38 *eP* **P 22 33 57.2 +1.4**
CRVS pmax pmax
comp=Z,27nm,0.9s
CRVS Cervenica-Dubn 63.24 38 *eP* **P 22 33 57.2 +1.4**
STHS Stebnicka Huta 63.29 38 *eP* **P 22 33 57.2 +1.1**
STHS pmax pmax
comp=Z,9.0nm,0.8s
STHS Stebnicka Huta 63.29 38 *eP* **P 22 33 57.2 +1.1**
WTFS Witchita Falls 63.31 304 P **P 22 33 55.6 -0.9**
WTFS IAmb IAmb 22 34 22.4
comp=Z,29nm,1.3s
PLD Plovdiv 63.35 46 *eP* **P 22 33 57.9 +1.3**
833A Chaparral WMA, 63.37 298 P **P 22 33 55.3 -1.7**
833A IAmb IAmb 22 33 58.1
comp=Z,22nm,0.9s
833A Chaparral WMA, 63.37 298 P **P 22 33 57.0 0.0**
baz=96
833A Chaparral WMA, 63.37 298 P **P 22 33 57.1 +0.1**
baz=96
BRDY Brady 63.38 301 P **P 22 33 55.6 -1.5**
BRDY IAmb IAmb 22 33 57.3
comp=Z,16nm,0.8s
CROK Carrier 63.40 307 P **P 22 33 56.1 -1.0**
CROK IAmb IAmb 22 33 57.9
comp=Z,20nm,0.8s
HNDO Hondo 63.40 299 P **P 22 33 56.4 -0.8**
HNDO IAmb IAmb 22 34 10.7
comp=Z,26nm,1.5s
L34A Svendsen Farm, 63.41 313 P **P 22 33 56.2 -0.8**
KAN05 Bluff City Nor 63.43 308 P **P 22 33 56.4 -0.8**
KAN06 Argonia West S 63.45 308 P **P 22 33 56.7 -0.7**
SIGR SIGRI 63.46 50 P **P 22 33 57.1 -0.3**
SMTH Samothraki Isl 63.51 48 P **P 22 33 58.1 +0.4**
KAN08 Anthony NE Sta 63.53 308 P **P 22 33 57.0 -1.0**
MARR Marisel-Cluj 63.54 41 ⇑P **P 22 33 59.4 +1.5**
KAN12 Harper NE Stat 63.57 308 P **P 22 33 58.2 0.0**
MESR Meseseni 63.58 41 ⇓P **P 22 33 57.8 -0.2**
LOT Lotru 63.59 43 ⇓P **P 22 33 59.4 +1.1**
NAO01 NORSAR Array S 63.59 23 P **P 22 33 58.0 +0.1**
NAO01 IAmb IAmb 22 34 07.2
comp=Z,37nm,1.4s
OK032 Salt Plains WL 63.64 307 P **P 22 33 57.7 -0.9**
OK032 IAmb IAmb 22 33 58.9
comp=Z,15nm,0.7s
TRPA Tarpa 63.64 39 ⇑P **P 22 33 59.1 +0.7**
RDO Rodhopi 63.67 48 P **P 22 33 59.9 +1.2**
RDO Rodhopi 63.67 48 P **P 22 33 58.9 +0.1**
RDO IAmb IAmb 22 34 01.3
comp=Z,31nm,1.2s
WMOK Wichita Mounta 63.73 305 P **P 22 33 58.0 -1.3**
WMOK Wichita Mounta 63.73 305 P **P 22 33 58.0 -1.3**
WMOK pmax pmax
comp=Z,9.0nm,1.0s
WMOK Wichita Mounta 63.73 305 P **P 22 33 58.3 -1.0**
baz=100,SNR=5.6
WMOK Wichita Mounta 63.73 305 P **P 22 33 58.1 -1.3**
baz=100,SNR=5.6
KOLS Kolonicke sedl 63.75 39 *eP* **P 22 34 00.4 +1.3**
KOLS pmax pmax
comp=Z,12nm,0.9s
KOLS Kolonicke sedl 63.75 39 *eP* **P 22 34 00.4 +1.3**
KARP Karpathos 63.76 54 P **P 22 33 59.9 +0.4**
KARP Karpathos 63.76 54 P **P 22 33 59.6 +0.2**
NC602 NORSAR Array S 63.79 24 P **P 22 33 59.3 +0.2**
NC204 NORSAR Array S 63.80 23 P **P 22 33 58.6 -0.8**
NC204 IAmb IAmb 22 34 22.5
comp=Z,28nm,1.3s
CSTR Hydro, Custer 63.81 306 P **P 22 33 59.2 -0.6**
NB2 NORSAR Subarra 63.84 23 P **P 22 34 00.3 +0.7**
comp=Z,66nm,2.0s,baz=234,slow=6.9
NB2 NORSAR Subarra 63.84 23 P **P 22 34 00.3 +0.7**
baz=234,slow=6.9
NOA NORSAR Array B 63.84 23 P **P 22 34 00.5 +0.9**
comp=Z,7.2nm,0.7s,baz=234,slow=6.6,SNR=21
NOA LR LR 22 56 58.8

comp=Z,696nm,21.9s,baz=235,slow=32
comp=Z,7.2nm,0.7s
CJR Cluj-Napoca 63.86 41 ⇓P P 22 34 02.3 +2.3
CJR Cluj-Napoca 63.86 41 ⇓P P 22 34 02.3 +2.3
NB201 NORSAR Array S 63.88 23 P P 22 33 60.0 +0.2
SMG Samos 63.90 52 P P 22 34 01.2 +0.8
DIM Dimitrovgrad 63.92 47 *eP* **P 22 34 02.1 +1.7**
EZN Ezine 63.95 49 P P 22 34 02.0 +1.4
JCT Junction City 63.97 300 P P 22 34 00.3 -0.7
JCT Junction City 63.97 300 P P 22 34 00.3 -0.7
JCT pmax pmax
comp=Z,63nm,1.8s
JCT Junction City 63.97 300 P P 22 34 00.3 -0.7
baz=97
ALN Alexandroupoli 63.99 48 P P 22 34 01.1 +0.3
ALN Alexandroupoli 63.99 48 P P 22 34 01.2 +0.4
ALN IAmb IAmb 22 34 03.2
comp=Z,26nm,1.1s
ALN Alexandroupoli 63.99 48 P P 22 34 01.2 +0.4
ALN pmax pmax
comp=Z,26nm,1.1s
NC303 NORSAR Array S 64.01 23 P P 22 34 00.8 +0.2
ECSD EROS Data Cent 64.04 315 P P 22 33 60.0 -1.2
ECSD IAmb IAmb 22 34 01.6
comp=Z,12nm,0.8s
ECSD EROS Data Cent 64.04 315 P P 22 34 00.6 -0.5
baz=106,SNR=5.3
ECSD EROS Data Cent 64.04 315 P P 22 34 01.0 -0.2
baz=106,SNR=5.3
NC405 NORSAR Array S 64.08 23 P P 22 34 01.3 +0.2
NC405 IAmb IAmb 22 34 03.4
comp=Z,19nm,0.8s
BMR Baia Mare 64.10 40 ⇓P P 22 34 02.5 +1.0
BMR Baia Mare 64.10 40 ⇓P P 22 34 02.5 +1.0
ABTX Abilene, Hawle 64.11 303 P P 22 34 01.1 -0.8
ABTX IAmb IAmb 22 34 01.9
comp=Z,13nm,0.7s
ABTX Abilene, Hawle 64.11 303 P P 22 34 01.3 -0.6
baz=98
ARR Arges 64.15 43 ⇓P P 22 34 03.3 +1.4
HUMR Humele 64.15 44 ⇑P P 22 34 03.1 +1.3
NOKA Waynoka 64.18 307 P P 22 34 01.8 -0.5
COPA Copaceanca 64.20 44 ⇑P P 22 34 03.7 +1.5
KWP Kalwaria Pacla 64.26 38 *eP* **P 22 34 04.1 +1.6**
KWP Kalwaria Pacla 64.26 38 P P 22 34 02.7 +0.2
KWP Kalwaria Pacla 64.26 38 P P 22 34 02.7 +0.2
KWP pmax pmax
comp=Z,36nm,1.0s
KS23 Northwest Mank 64.28 311 P P 22 34 01.9 -1.0
HFS Hagfors 64.33 25 P P 22 34 03.0 +0.3
HFS Hagfors 64.33 25 P P 22 34 03.0 +0.3
comp=Z,4.3nm,0.7s,baz=191,slow=6.8,SNR=7.1
HFS LR LR 22 58 18.4
comp=Z,708nm,20.6s,baz=245,slow=32
comp=Z,4.3nm,0.7s
R32A Long Quarter, 64.34 309 P P 22 34 03.0 -0.3
R32A Long Quarter, 64.34 309 P P 22 34 03.4 +0.1
baz=101,SNR=5.2
VOIR 64.45 43 ⇓P P 22 34 05.3 +1.4
VOIR 64.45 43 ⇓P P 22 34 05.3 +1.4
ELIS Ellis County 64.46 306 P P 22 34 03.6 -0.5
ELIS IAmb IAmb 22 34 05.3
comp=Z,24nm,1.2s
ARCR ARCALIA 64.47 41 ⇓P P 22 34 05.2 +1.3
SZH Strazhitsa 64.51 45 *eP* **P 22 34 05.7 +1.5**
DRIO Del Rio 64.55 299 P P 22 34 04.3 -0.5
DRIO IAmb IAmb 22 34 05.8
comp=Z,11nm,1.3s
BGNE Belgrade 64.56 312 P P 22 34 03.8 -0.8
BGNE Belgrade 64.56 312 P P 22 34 04.5 -0.2
baz=103
BGNE Belgrade 64.56 312 P P 22 34 04.8 +0.2
baz=103
APMT Aspermont 64.61 303 P P 22 34 04.3 -0.8
APMT IAmb IAmb 22 34 05.2
comp=Z,13nm,0.9s
ARG Arkhangelos 64.64 53 P P 22 34 05.0 -0.2
ARG Arkhangelos 64.64 53 P P 22 34 05.0 -0.2
ARG pmax pmax
comp=Z,51nm,0.9s
EDRB Edirne 64.72 47 P P 22 34 07.4 +1.8
DOPR Dopca 64.83 42 ⇑P P 22 34 06.9 +0.6
RAZG Razgrad 64.96 45 ⇑P P 22 34 07.8 +0.6
LOZB Loznitsa 64.97 45 ⇑P P 22 34 08.2 +1.0
SULR 65.07 44 ⇑P P 22 34 07.7 -0.1
MLR Muntele Rosu 65.07 43 ⇓P P 22 34 09.4 +1.4
MLR Muntele Rosu 65.07 43 P P 22 34 08.0 0.0
MLR Muntele Rosu 65.07 43 ⇓P P 22 34 09.4 +1.4
MLR Muntele Rosu 65.07 43 P P 22 34 09.1 +1.1
comp=Z,46nm,0.8s,baz=151,slow=13,SNR=40
MLR LR LR 23 02 15.4
comp=Z,724nm,19.3s,baz=264,slow=36
OZUR 65.13 42 ⇑P P 22 34 09.4 +1.1
LVV L'vov 65.13 38 *eP* **P 22 34 07.5 -0.6**
LVV MLR MLR
comp=N,200nm,13.0s
LVV MLR MLR
comp=E,100nm,13.0s
LVV MLR MLR
comp=Z,200nm,13.0s
OZNA Ozona 65.15 301 P P 22 34 08.7 0.0
OZNA IAmb IAmb 22 34 09.8
comp=Z,25nm,1.2s
SUMG Summit 65.16 359 P P 22 34 08.9 +0.5
SUMG Summit 65.16 359 P P 22 34 08.9 +0.5
SUMG pmax pmax
comp=Z,42nm,1.3s
SUMG Summit 65.16 359 *i P* **P 22 34 09.1 +0.6**
SUMG IAmb IAmb 22 34 16.8
comp=Z,34nm,1.2s
SN01 Snyder 1 65.18 303 P P 22 34 08.5 -0.4
SN01 IAmb IAmb 22 34 09.7
comp=Z,17nm,0.8s
BUR08 Bucovina Ar. S 65.19 41 P P 22 34 08.6 -0.1
BUR08 IAmb IAmb 22 34 15.4
comp=Z,13nm,1.0s
BURAR Bucovina Array 65.19 41 ⇑P P 22 34 10.4 +1.7
BURAR Bucovina Array 65.19 41 P P 22 34 08.8 +0.1
BURAR Bucovina Array 65.19 41 ⇑P P 22 34 10.4 +1.7
CBKS Cedar Bluff 65.21 309 P P 22 34 08.6 -0.3
CBKS Cedar Bluff 65.21 309 P P 22 34 08.6 -0.3
CBKS pmax pmax
comp=Z,37nm,0.9s
CBKS Cedar Bluff 65.21 309 P P 22 34 08.6 -0.3
baz=101
SGCY Sterling City 65.27 302 P P 22 34 08.6 -0.9
SGCY IAmb IAmb 22 34 10.5
comp=Z,17nm,1.0s
NEHR Nehoiu 65.29 43 ⇑P P 22 34 12.3 +2.9
DKNS Dickens 65.32 304 P P 22 34 09.2 -0.6
DKNS IAmb IAmb 22 34 09.9
comp=Z,10nm,0.7s
COVR Voineasa-Covas 65.34 43 ⇑P P 22 34 11.3 +1.6
ISR Istrita 65.38 44 ⇓P P 22 34 11.4 +1.5
ISR Istrita 65.38 44 ⇓P P 22 34 11.4 +1.5
MANT Manisa 65.38 51 P P 22 34 10.6 +0.3
MANT IAmb IAmb 22 34 13.0
comp=Z,19nm,1.0s
ULM Lac du Bonnet 65.49 322 P P 22 34 08.8 -1.7
ULM IAmb IAmb 22 34 10.4
comp=Z,13nm,0.9s
ULM Lac du Bonnet 65.49 322 P P 22 34 08.8 -1.7
ULM pmax pmax
comp=Z,13nm,0.9s
ULM Lac du Bonnet 65.49 322 P P 22 34 09.8 -0.7
comp=Z,7.8nm,0.8s,baz=93,slow=7.3,SNR=6.1
ULM LR LR 22 57 52.2
comp=Z,452nm,21.9s,baz=110,slow=32
comp=Z,7.8nm,0.8s
PLOR Plostina 65.64 43 ⇑P P 22 34 11.9 +0.3
PLOR Plostina 65.64 43 ⇑P P 22 34 11.9 +0.3
VRI Vrincioaia 65.70 43 ⇑P P 22 34 12.8 +0.9
VRI ⇑P **pP 22 34 13.1 -0.7**
VRI Vrincioaia 65.70 43 ⇑P P 22 34 12.8 +0.9
POST Post 65.72 303 P P 22 34 12.0 -0.4
POST IAmb IAmb 22 34 14.2
comp=Z,9.0nm,0.8s
PRAR RASCA 65.77 41 ⇑P P 22 34 13.5 +1.1
TESR Tescani 65.82 42 ⇓P P 22 34 13.1 +0.4
AKAS Kas 65.83 54 P P 22 34 13.2 +0.1
JMIC Jan Mayen 65.83 9 LR LR 22 55 31.2
comp=Z,272nm,21.7s,baz=257,slow=29
ZAIG Zacatecas 65.84 292 P P 22 34 13.3 -0.3
UPP Uppsala 65.87 26 *eP* **P 22 34 13.5 +0.8**

K30B Basset 65.91 314 P P 22 34 12.5 -0.8
SAND Sanderson 65.91 299 P P 22 34 12.9 -0.7
SAND IAmb IAmb 22 34 14.7
comp=Z,21nm,1.3s
ICOR Ion Corvin 66.00 45 ⇓P P 22 34 14.8 +0.9
SUW Suwalki 66.10 34 *eP* **P 22 34 15.2 +0.9**
SUW Suwalki 66.10 34 P P 22 34 14.8 +0.6
SUW Suwalki 66.10 34 P P 22 34 14.9 +0.6
SUW pmax pmax
comp=Z,113nm,1.1s
SUW Suwalki 66.10 34 *eP* **P 22 34 15.7 +1.3**
AMTX Amarillo 66.11 305 P P 22 34 12.8 -2.1
AMTX IAmb IAmb 22 34 19.7
comp=Z,10nm,0.8s
AMTX Amarillo 66.11 305 P P 22 34 14.7 -0.2
baz=98
PSN Preselentsi 66.13 45 *eP* **P 22 34 16.3 +1.6**
ELL Elmali 66.15 53 P P 22 34 15.1 0.0
ELL Elmali 66.15 53 P P 22 34 15.1 0.0
ELL pmax pmax
comp=Z,138nm,1.0s
GHRR 66.21 43 ⇑P P 22 34 13.4 -1.8
PBUR Paburge 66.22 31 *eP* **P 22 34 16.2 +1.2**
HARR Harsova 66.23 44 ⇑P P 22 34 16.2 +0.9
HARR Harsova 66.23 44 ⇑P P 22 34 16.2 +0.9
TLBR Topalu 66.27 44 ⇓P P 22 34 16.5 +0.9
CFR Carcaliu 66.48 44 ⇓P P 22 34 16.5 -0.4
TIRR Tirgusor 66.51 45 ⇑P P 22 34 17.0 -0.1
TIRR Tirgusor 66.51 45 ⇑P P 22 34 17.0 -0.1
TPGR Topolog 66.60 44 ⇓P P 22 34 18.2 +0.4
VLDR Vladesti 66.61 43 ⇓P P 22 34 17.8 +0.1
VASR Vaslui 66.61 42 ⇓P P 22 34 18.4 +0.6
SUR Sutherland 66.76 130 LR LR 22 57 54.9
comp=Z,624nm,18.4s,baz=277,slow=31
MBAR Mbarara 66.77 94⇓ *eP* **P 22 34 20.1 +0.5**
MBAR pmax pmax
comp=Z,9.0nm,1.1s
MBAR Mbarara 66.77 94 LR LR 23 01 07.9
comp=Z,227nm,18.3s,baz=269,slow=34
MSTX Muleshoe 66.88 304 P P 22 34 19.3 -0.6
MSTX IAmb IAmb 22 34 51.2
comp=Z,21nm,1.2s
MSTX Muleshoe 66.88 304 P P 22 34 19.8 -0.1
baz=97
JURR Jurilovca 66.90 44 ⇓P P 22 34 21.4 +1.8
AAL Aland 67.07 27 *eP* **P 22 34 20.6 +0.2**
BORA Eskisehir 67.08 50 P P 22 34 20.8 -0.2
BORA IAmb IAmb 22 34 22.7
comp=Z,23nm,1.2s
PABE Paberze 67.08 32 P P 22 34 20.8 +0.3
PABE Paberze 67.08 32 *eP* **P 22 34 21.9 +1.4**
MDND Maddock 67.13 319 P P 22 34 20.9 -0.2
MDND Maddock 67.13 319 P P 22 34 21.1 0.0
baz=105
TX31 Lajitas Ar. Si 67.19 299 P P 22 34 21.4 -0.5
TX31 IAmb IAmb 22 34 23.4
comp=Z,20nm,1.1s
TX31 Lajitas Ar. Si 67.19 299 P P 22 34 21.8 -0.1
baz=94,SNR=8.6
TX32 Lajitas Array 67.19 299 P P 22 34 21.4 -0.5
TXAR Lajitas Array 67.19 299 P P 22 34 20.1 -1.8
TXAR Lajitas Array 67.19 299 P P 22 34 21.9 0.0
comp=Z,1.4nm,0.6s,baz=99,slow=5.4,SNR=19
TXAR LR LR 23 01 18.8
comp=Z,245nm,21.2s,baz=73,slow=34
comp=Z,1.4nm,0.6s
LSZ Lusaka 67.22 110 P P 22 34 21.6 -0.7
LSZ IAmb IAmb 22 34 49.4
comp=Z,18nm,1.2s
LSZ Lusaka 67.22 110 P P 22 34 21.6 -0.7
LSZ pmax pmax
comp=Z,18nm,1.2s
LSZ Lusaka 67.22 110 LR LR 22 59 31.0
comp=Z,293nm,19.7s,baz=297,slow=32
ALPN Alpine 67.25 300 P P 22 34 22.2 -0.1
ALPN IAmb IAmb 22 34 23.5
comp=Z,11nm,0.9s
SORM Soroca 67.36 41 ⇑P P 22 34 22.1 -0.4
SORM Soroca 67.36 41 ⇑P P 22 34 22.1 -0.4
KSCO Kaye Shedlock' 67.46 309 P P 22 34 23.6 +0.1
KSCO IAmb IAmb 22 34 25.0
comp=Z,27nm,1.1s
PECS Pecos 67.53 301 P P 22 34 23.7 -0.3
PECS IAmb IAmb 22 34 37.4
comp=Z,8.4nm,0.7s
E28A Huff 67.54 317 P P 22 34 23.1 -0.6
CLN7 Carlsbad 7 67.58 302 P P 22 34 24.1 -0.2
CLNB Carlsbad 67.62 302 P P 22 34 24.1 -0.5
CPRX Cap Rock 67.69 303 P P 22 34 24.5 -0.5
MDUB Mudurnu 67.74 49 P P 22 34 25.2 0.0
GDL2 Guadalupe Moun 68.03 302 P P 22 34 27.1 -0.1
MTSE Matsula 68.22 29 *eP* **P 22 34 29.0 +1.4**
IIGN Ignalina 68.23 33 *eP* **P 22 34 30.9 +3.1**
RAF Rauma 68.23 26 *eP* **P 22 34 27.9 +0.2**
ISAL Salakas 68.25 33 *eP* **P 22 34 31.2 +3.3**
NACGM Naroch 68.39 33 *eP* **P 22 34 30.4 +1.6**
comp=E,2μm,0.9s
425A Indio Mountain 68.44 300 P P 22 34 30.0 +0.1
AK05 Malin Array Si 68.54 38 P P 22 34 29.9 0.0
AKASG Malin Array Be 68.57 38 P P 22 34 29.5 -0.6
AKASG IAmb IAmb 22 34 31.4
comp=Z,16nm,1.1s
AKASG Malin Array Be 68.57 38 *i P* **P 22 34 30.2 +0.1**
AKASG pmax pmax
comp=Z,14nm,0.7s
AKASG Malin Array Be 68.57 38 P P 22 34 30.3 +0.3
comp=Z,15nm,0.7s,baz=259,slow=5.8,SNR=17
comp=Z,15nm,0.7s
AKBB Malin Array Si 68.57 38 P P 22 34 29.8 -0.3
AKBB Malin Array Si 68.57 38 *cP* **P 22 34 30.3 +0.2**
AKBB pmax pmax
comp=Z,20nm,1.1s
T25A Trinidad 68.59 307 P P 22 34 30.9 +0.1
T25A IAmb IAmb 22 34 51.2
comp=Z,15nm,1.1s
T25A Trinidad 68.59 307 P P 22 34 31.5 +0.7
baz=97,SNR=6.8
CSS Mathiatis 68.67 55 P P 22 34 30.1 -0.9
CSS IAmb IAmb 22 34 33.1
comp=Z,28nm,1.2s
BOSA Boshof 68.77 124 P P 22 34 32.0 +0.1
BOSA Boshof 68.77 124 P P 22 34 32.0 +0.1
BOSA pmax pmax
comp=Z,70nm,1.7s
BOSA Boshof 68.77 124 P P 22 34 32.2 +0.3
comp=Z,16nm,0.9s,baz=296,slow=5.3,SNR=10
BOSA LR LR 22 58 47.6
comp=Z,1μm,20.4s,baz=284,slow=31
comp=Z,16nm,0.9s
MNTX Cornudas Mount 68.85 301 P P 22 34 31.7 -0.5
MNTX Cornudas Mount 68.85 301 P P 22 34 32.0 -0.2
baz=94,SNR=8.8
MNTX Cornudas Mount 68.85 301 P P 22 34 31.8 -0.4
baz=94,SNR=8.8
ANTO Ankara 68.86 50 P P 22 34 31.5 -0.7
ANTO IAmb IAmb 22 34 33.8
comp=Z,24nm,1.1s
ANTO Ankara 68.86 50 P P 22 34 31.5 -0.7
ANTO pmax pmax
comp=Z,24nm,1.2s
MNK Minsk 68.86 34 *i P* **P 22 34 30.3 -1.5**
comp=E,14nm,1.3s
MNK *i P* **P 22 34 30.3 -1.5**
comp=N,8.0nm,0.8s
MNK *i P* **P 22 34 30.3 -1.5**
comp=Z,42nm,1.0s,baz=252
MNK *i* PP **PP 22 37 06.0 +2.2**
MNK *i* PPP PPP 22 38 42.6
MNK *i* S **S 22 43 34.2 -1.7**
MNK *i* SS **SS 22 47 59.2 -1.8**
MNK *i* SSS SSS 22 51 12.7
MNK *i* LQ LQ 22 59 50.6
MNK *i* LR LR 23 05 11.9
MNK *i* LRM MLR 23 07 27.3
comp=Z,216nm,15.1s
MNK *i* LRM MLR 23 07 45.4
comp=N,126nm,16.8s
MNK *i* LRM MLR 23 08 09.0
comp=E,110nm,17.2s
MNK Minsk 68.86 34 *i P* **P 22 34 30.2 -1.5**
MNK *i* 22 37 05.9
MNK *i* PPP PPP 22 38 42.6
MNK *i* S **S 22 43 34.1 -1.7**
MNK *i* SS **SS 22 47 59.2 -1.8**

MNK pmax pmax
comp=Z,42nm,1.0s
MNK pmax pmax
comp=E,14nm,1.3s
MNK pmax pmax
comp=N,8.0nm,0.8s
MNK MLR MLR
comp=Z,216nm,15.0s
MNK MLR MLR
comp=N,126nm,17.0s
MNK MLR MLR
comp=E,110nm,17.0s
MATP Matopo 68.90 115 LR LR 22 59 49.0
comp=E,379nm,19.4s,baz=254,slow=32
MEF Metsahovi 69.08 28 *eP* **P 22 34 34.0 +0.9**
BR131 Keskin Array S 69.48 50 *c i P* **P 22 34 37.0 +0.9**
BRTR Keskin Array B 69.48 50 P P 22 34 36.1 0.0
BRTR Keskin Array B 69.48 50 P P 22 34 37.0 +0.9
comp=E,7.6nm,0.8s,baz=248,slow=5.2,SNR=52
BRTR LR LR 23 07 08.7
comp=E,302nm,18.8s,baz=246,slow=38
comp=E,7.6nm,0.8s
SDCO Great Sand Dun 69.53 307 P P 22 34 37.1 +0.5
SDCO Great Sand Dun 69.53 307 P P 22 34 37.3 +0.7
baz=97,SNR=12
SDCO Great Sand Dun 69.53 307 P P 22 34 37.4 +0.7
baz=97,SNR=12
EIL Elat 69.62 61 P P 22 34 38.5 +1.5
comp=E,7.0nm,1.0s,baz=270,slow=6.1,SNR=4.9
EIL LR LR 23 06 18.5
comp=E,1μm,19.4s,baz=266,slow=37
comp=E,7.0nm,1.0s
ILGA Ilgaz 69.72 49 P P 22 34 37.6 -0.1
ISCO Idaho Springs 69.86 310 P P 22 34 39.0 +0.3
ISCO IAmb IAmb 22 34 60.0
comp=Z,23nm,1.6s
ISCO Idaho Springs 69.86 310 P P 22 34 39.0 +0.3
ISCO pmax pmax
comp=Z,23nm,1.6s
ISCO Idaho Springs 69.86 310 P P 22 34 39.7 +1.0
baz=97,SNR=6.1
ISCO Idaho Springs 69.86 310 P P 22 34 39.3 +0.5
baz=97,SNR=6.1
DAG Danmarks Havn 69.98 4 *eP* **P 22 34 37.6 -0.6**
DAG IAmb IAmb 22 34 40.1
comp=Z,6.1nm,0.9s
ANMO Albuquerque 70.01 304 P P 22 34 38.7 -0.9
ANMO Albuquerque 70.01 304 *i P* **P 22 34 41.3 +1.7**
ANMO pmax pmax
comp=Z,12nm,1.5s
ANMO Albuquerque 70.01 304 P P 22 34 40.5 +0.9
baz=95
ANMO Albuquerque 70.01 304 LR LR 23 01 33.5
comp=Z,688nm,21.1s,baz=200,slow=33
BNM Barren Site 70.09 304 P P 22 34 40.0 -0.1
CRNM Carthage 70.16 303 P P 22 34 40.5 0.0
MMAI Mount Meron Ar 70.22 58 P P 22 34 41.7 +1.0
comp=Z,16nm,1.0s,baz=266,slow=7.4,SNR=12
MMAI LR LR 23 06 48.2
comp=Z,246nm,21.8s,baz=230,slow=37
comp=Z,16nm,1.0s
N23A Red Feather La 70.25 311 P P 22 34 41.0 0.0
N23A IAmb IAmb 22 35 33.6
comp=Z,17nm,0.9s
N23A Red Feather La 70.25 311 P P 22 34 42.0 +0.9
baz=98
DGMT Dagmar 70.27 319 P P 22 34 40.2 -0.5
DGMT Dagmar 70.27 319 P P 22 34 41.7 +1.0
baz=101
FIA0 FINESS Array S 70.31 27 P P 22 34 40.7 +0.1
FIA0 FINESS Array S 70.31 27 P P 22 34 40.7 +0.1
FINES FINESS Array B 70.31 27 P P 22 34 40.9 +0.3
FINES FINESS Array B 70.31 27 P P 22 34 41.5 +0.9
comp=Z,14nm,0.7s,baz=244,slow=5.4,SNR=38
FINES LR LR 23 02 48.8
comp=Z,770nm,19.7s,baz=247,slow=34
comp=Z,14nm,0.7s
FIA1 FINESS Array S 70.31 27 P P 22 34 40.6 0.0
NEEM North Greenlan 70.51 356 *i P* **P 22 34 42.4 +0.5**
NEEM IAmb IAmb 22 34 49.5
comp=Z,13nm,1.0s
SBM South Baldy 70.53 303 P P 22 34 41.6 -1.4
S22A 4UR Ranch, Cre 70.58 307 P P 22 34 43.8 +0.8
S22A 4UR Ranch, Cre 70.58 307 P P 22 34 43.9 +0.8
baz=96,SNR=5.4
SIM Simferopol' 70.59 45 *eP* **P 22 34 43.9 +1.2**
SIM pmax pmax
comp=Z,18nm,1.0s
SIM MLR MLR
comp=Z,390nm,19.1s
SMCO Snowmass 70.84 309 P P 22 34 44.8 0.0
LODK Lodwar 70.84 89 P P 22 34 44.2 -0.6
LODK IAmb IAmb 22 34 58.1
comp=Z,15nm,0.9s
K22A Casper 70.92 313 P P 22 34 46.0 +1.1
baz=98
121A Cookes Peak, D 70.94 302 P P 22 34 45.9 +0.7
121A Cookes Peak, D 70.94 302 P P 22 34 46.6 +1.3
baz=93
BNN Bunyan 71.08 52 P P 22 34 46.9 +1.0
LAO LASA Array 71.30 317 P P 22 34 46.8 -0.3
LAO IAmb IAmb 22 34 49.1
comp=Z,23nm,0.8s
LAO LASA Array 71.30 317 P P 22 34 48.3 +1.2
baz=99,SNR=5.5
LAO LASA Array 71.30 317 P P 22 34 48.1 +1.1
baz=99,SNR=5.5
RWWY Rawlins 71.30 311 P P 22 34 46.5 -0.9
ASF Jabal al Asfar 71.42 59 P P 22 34 49.3 +1.2
comp=Z,8.4nm,1.0s,baz=235,slow=3.6,SNR=11
comp=Z,8.4nm,1.0s
TOKA Tokat 71.72 50 P P 22 34 49.6 0.0
O20A White River Ci 71.91 310 P P 22 34 51.0 0.0
O20A IAmb IAmb 22 34 53.0
comp=Z,23nm,0.9s
O20A White River Ci 71.91 310 P P 22 34 51.9 +0.9
baz=96,SNR=7.1
PV01 Paradox Valley 71.98 308 P P 22 34 51.2 -0.3
GAZ Gaziantep 72.00 53 P P 22 34 51.5 0.0
GAZ IAmb IAmb 22 34 58.8
comp=Z,17nm,1.0s
DUN6 Lazy B Ranch 72.04 302 P P 22 34 52.2 +0.3
PV07 Paradox Valley 72.07 308 P P 22 34 52.1 +0.1
PV02 Paradox Valley 72.12 308 P P 22 34 52.4 +0.1
319A Douglas 72.15 300 P P 22 34 53.0 +0.5
PV12 Saucer Basin, 72.18 308 P P 22 34 52.8 +0.1
PV12 IAmb IAmb 22 34 55.0
comp=Z,38nm,1.8s
PV13 Radium Mtn., P 72.18 308 P P 22 34 53.0 +0.2
PV22 Blue Mesa, Par 72.18 308 P P 22 34 51.9 -0.9
PV03 Paradox Valley 72.21 308 P P 22 34 53.0 +0.1
PV11 David Mesa, Pa 72.23 308 P P 22 34 52.4 -0.6
PV11 IAmb IAmb 22 34 55.4
comp=Z,54nm,1.8s
PV16 Nyswonger Mesa 72.27 308 P P 22 34 52.9 -0.3
PV16 IAmb IAmb 22 35 06.0
comp=Z,27nm,1.5s
PV17 East Wray Mesa 72.30 308 P P 22 34 52.5 -0.9
PV17 IAmb IAmb 22 35 06.2
comp=Z,22nm,1.4s
PV20 West Nyswonger 72.31 308 P P 22 34 53.0 -0.4
PV19 Morning Glory 72.32 308 P P 22 34 53.2 -0.3
PV21 Cone Mtn., Par 72.33 308 P P 22 34 54.1 +0.5
PV21 IAmb IAmb 22 35 08.7
comp=Z,17nm,1.0s
PV23 Carpenter Ridg 72.35 308 P P 22 34 53.8 0.0
PV23 IAmb IAmb 22 37 06.0
comp=Z,30nm,1.4s
PV14 Lion Creek, Pa 72.36 308 P P 22 34 52.0 -1.8
PV14 IAmb IAmb 22 35 24.3
comp=Z,21nm,1.3s
PV10 Paradox Valley 72.37 308 P P 22 34 53.0 -0.8
PV10 IAmb IAmb 22 35 29.7
comp=Z,19nm,1.2s
PV05 Paradox Valley 72.39 308 P P 22 34 53.1 -0.9
W18A Petrified Fore 72.71 304 P P 22 34 56.3 +0.4
W18A IAmb IAmb 22 35 09.1
comp=Z,14nm,0.8s
W18A Petrified Fore 72.71 304 P P 22 34 56.8 +0.9
baz=93
X18A Snowflake 72.85 304 P P 22 34 56.6 -0.2
ANN Anapa 72.91 45 *eP* **P 22 34 53.0 -3.6**
ANN *e**PP **pP 22 34 56.9 -1.6**
ANN *e* 22 35 10.9
ANN *e*S **S 22 44 17.9 -5.3**

ANN pmax pmax
comp=Z,44nm,1.3s
ANN MLR MLR
comp=E,474nm,15.0s
ANN MLR MLR
comp=N,291nm,17.0s
ANN MLR MLR
comp=Z,414nm,14.0s
RDMU Red Mountain 72.96 310 P **P** **22 34 56.9 -0.4**
RDMU IAmb IAmb 22 35 18.8
comp=Z,40nm,1.2s
BW06 Boulder Array 73.15 312 P **P** **22 34 57.9 -0.6**
BW06 IAmb IAmb 22 35 20.1
comp=Z,36nm,1.4s
BW06 Boulder Array 73.15 312 P **P** **22 34 58.5 +0.1**
baz=96
PD31 Pinedale Array 73.15 312 P **P** **22 34 58.4 0.0**
PD31 IAmb IAmb 22 35 20.1
comp=Z,27nm,1.4s
PDAR Pinedale Array 73.15 312 P **P** **22 34 58.1 -0.3**
PDAR Pinedale Array 73.15 312 P **P** **22 34 58.7 +0.3**
comp=Z,3.8nm,0.7s,baz=107,slow=7.6,SNR=14
PDAR LR LR 23 02 50.6
comp=Z,478nm,21.4s,baz=116,slow=32
comp=Z,3.8nm,0.7s
RLMT Red Lodge 73.19 315 P **P** **22 34 57.9 -0.6**
RLMT IAmb IAmb 22 35 10.8
comp=Z,27nm,1.4s
RLMT Red Lodge 73.19 315 P **P** **22 34 59.3 +0.7**
baz=96
KMBO Kilima Mbogo 73.29 93 P **P** **22 35 01.1 +1.3**
comp=Z,2.7nm,0.9s,baz=293,slow=1.8,SNR=7.1
KMBO LR LR 23 06 53.9
comp=Z,193nm,18.0s,baz=270,slow=36
comp=Z,2.7nm,0.9s
ARCES ARCESS Array B 73.31 19 P **P** **22 34 59.0 +0.4**
ARCES ARCESS Array B 73.31 19 P **P** **22 34 59.0 +0.4**
comp=Z,8.1nm,0.7s,baz=228,slow=4.7,SNR=15
ARCES LR LR 23 03 46.4
comp=Z,284nm,19.4s,baz=246,slow=33
comp=Z,8.1nm,0.7s
TUC Tucson 73.47 301 P **P** **22 34 59.9 -0.4**
TUC IAmb IAmb 22 37 39.2
comp=Z,13nm,0.6s
TUC Tucson 73.47 301 P **P** **22 34 59.9 -0.4**
TUC pmax pmax
comp=Z,13nm,0.6s
TUC Tucson 73.47 301 P **P** **22 35 01.0 +0.7**
baz=92
HSIG 73.54 298 P **P** **22 35 00.5 -0.2**
HMU Henry Mountain 73.68 307 P **P** **22 35 02.0 +0.3**
HMU IAmb IAmb 22 35 15.2
comp=Z,24nm,1.2s
P17A Butcher Ranch, 73.77 309 P **P** **22 35 02.1 0.0**
YMP Mirror Lake Pl 73.78 314 P **P** **22 35 01.7 -0.5**
YMP IAmb IAmb 22 35 40.0
comp=Z,42nm,1.3s
BSUT Blindstream Ca 73.86 310 P **P** **22 35 02.8 0.0**
KEV Kevo 73.88 19 P **P** **22 35 01.6 -0.2**
KEV Kevo 73.88 19 P **P** **22 35 01.6 -0.2**
KEV pmax pmax
comp=Z,39nm,0.9s
OBN Obninsk 73.89 35 P **P** **22 35 02.1 0.0**
OBN IAmb IAmb 22 35 08.7
comp=Z,14nm,0.6s
OBN Obninsk 73.89 35 *c iP* **P** **22 35 01.9 -0.2**
OBN *i* 22 35 07.4
OBN *i* 22 35 16.8
OBN *i* S **SKiKP** **22 44 28.3 -3.2**
OBN pmax pmax
comp=Z,42nm,1.7s
OBN MLR MLR
comp=Z,326nm,18.0s
LKWY Lake 73.93 314 P **P** **22 35 03.6 +0.6**
LKWY IAmb IAmb 22 36 00.1
comp=Z,19nm,0.9s
LKWY Lake 73.93 314 P **P** **22 35 03.6 +0.6**
LKWY pmax pmax
comp=Z,19nm,1.0s
LOHW Long Hollow 73.99 313 P **P** **22 35 03.4 0.0**
LOHW IAmb IAmb 22 35 24.7
comp=Z,36nm,1.2s
H17A Grant Village 74.04 314 P **P** **22 35 03.1 -0.6**
H17A Grant Village 74.04 314 P **P** **22 35 04.5 +0.9**
baz=95
WUAZ Wupatki 74.06 305 P **P** **22 35 04.3 +0.5**
WUAZ Wupatki 74.06 305 P **P** **22 35 05.3 +1.4**
baz=92,SNR=7.6
Q16A Castle Valley 74.07 308 P **P** **22 35 03.9 0.0**
Q16A IAmb IAmb 22 35 17.3
comp=Z,38nm,1.9s
X16A Lo Mia Camp, P 74.08 304 P **P** **22 35 04.3 +0.3**
SNOW Snow King Moun 74.09 313 P **P** **22 35 04.5 +0.6**
SNOW IAmb IAmb 22 35 22.5
comp=Z,31nm,1.2s
FLWY Flagg Ranch 74.10 314 P **P** **22 35 03.9 0.0**
FLWY IAmb IAmb 22 35 34.9
comp=Z,33nm,1.1s
MOOW Moose Ponds 74.11 313 P **P** **22 35 03.9 -0.1**
MOOW IAmb IAmb 22 35 24.6
comp=Z,26nm,1.4s
ID10 Lander Cutoff 74.11 312 P **P** **22 35 03.9 -0.1**
TMUT Trail Mountain 74.12 309 P **P** **22 35 03.3 -1.0**
TMUT IAmb IAmb 22 35 20.7
comp=Z,34nm,1.7s
YNR Norris Junctio 74.15 314 P **P** **22 35 04.6 +0.3**
YNR IAmb IAmb 22 35 41.7
comp=Z,56nm,1.9s
REDW Red Top Meadow 74.15 313 P **P** **22 35 03.7 -0.5**
TPAW Teton Pass 74.23 313 P **P** **22 35 04.9 +0.1**
TPAW IAmb IAmb 22 35 27.0
comp=Z,32nm,1.1s
YFT Old Faithful 74.23 314 P **P** **22 35 05.6 +0.9**
YFT IAmb IAmb 22 35 24.2
comp=Z,37nm,1.2s
KIBK Kibwezi 74.25 95 P **P** **22 35 05.3 +0.1**
IMW Indian Meadow 74.26 313 P **P** **22 35 05.3 +0.4**
IMW IAmb IAmb 22 35 26.6
comp=Z,24nm,1.1s
YHH Holmes Hill 74.27 314 P **P** **22 35 05.9 +0.8**
AHID Auburn Hatcher 74.28 312 P **P** **22 35 04.5 -0.5**
AHID IAmb IAmb 22 35 17.1
comp=Z,28nm,1.3s
FXWY Fox Creek 74.30 313 P **P** **22 35 05.3 +0.2**
ID09 Alton 74.31 312 P **P** **22 35 05.2 0.0**
YMR Madison River 74.34 314 P **P** **22 35 06.0 +0.6**
TCUT Toone Canyon 74.39 311 P **P** **22 35 06.0 +0.2**
TCUT IAmb IAmb 22 35 27.8
comp=Z,36nm,1.0s
SOC Sochi 74.42 47 *eP* **P** **22 35 05.0 -0.5**
SOC *e* 22 37 49.2
SOC *e*PPP PPP 22 39 34.6
SOC *e*S **S** **22 44 40.3 -0.1**
SOC *e*SS **SS** **22 49 27.2 +0.6**
SOC *e*SSS SSS 22 52 47.4
SOC pmax pmax
comp=Z,24nm,0.8s
SOC MLR MLR
comp=Z,196nm,18.0s
MPU Maple Canyon 74.49 309 P **P** **22 35 06.7 +0.4**
YHL Hebgen Lake 74.52 314 P **P** **22 35 05.6 -0.9**
YHL IAmb IAmb 22 36 36.4
comp=Z,15nm,0.7s
ID06 Fossil Canyon 74.53 312 P **P** **22 35 07.0 +0.6**
ID06 IAmb IAmb 22 35 18.6
comp=Z,28nm,0.9s
ID05 Sulphur Canyon 74.54 312 P **P** **22 35 06.4 -0.1**
ID05 IAmb IAmb 22 35 26.4
comp=Z,28nm,1.1s
HWUT Hardware Ranch 74.54 311 P **P** **22 35 06.4 -0.1**
HWUT IAmb IAmb 22 35 35.2
comp=Z,23nm,0.9s
MOS Moscow 74.59 34 *eP* **P** **22 35 06.5 +0.3**
MOS *e* 22 35 19.7
MOS *e* 22 37 56.2
MOS *e*S **S** **22 44 46.7 +4.9**
MOS pmax pmax
comp=Z,36nm,0.9s
CTU Camp Tracy 74.62 310 P **P** **22 35 06.3 -0.7**
NOR Nord 74.69 3 *eP* **P** **22 35 07.2 +0.7**
NOR IAmb IAmb 22 35 08.0
comp=Z,8.1nm,0.9s
KOPT Kop Dagi 74.76 51 P **P** **22 35 07.1 -0.9**
MTPU Mount Pierson 74.82 307 P **P** **22 35 09.1 +0.6**
MTPU IAmb IAmb 22 35 21.6
comp=Z,20nm,1.1s
NLU North Lily Min 74.83 309 P **P** **22 35 07.4 -0.9**
ID08 Devils Gate 74.83 312 P **P** **22 35 08.0 -0.2**
ID08 IAmb IAmb 22 37 21.6
comp=Z,18nm,0.6s
MSU Marysvale 74.84 308 P **P** **22 35 09.1 +0.8**
MSU Marysvale 74.84 308 P **P** **22 35 09.1 +0.8**
VSR Storozhevoye 74.84 39 *eP* **P** **22 35 06.6 -1.2**
VSR pmax pmax
comp=Z,40nm,1.4s
U15A North Rim 74.84 306 P **P** **22 35 08.9 +0.4**
MARD Mardin 74.85 53 P **P** **22 35 08.8 +0.5**
MVU Marysvale 74.86 308 P **P** **22 35 08.4 -0.1**
LPSR Galich'ya Gora 74.87 38 *eP* **P** **22 35 06.8 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 74.89 39 *eP* **P** **22 35 07.9 -0.1**
VORD pmax pmax
comp=Z,30nm,0.7s
BOZ Bozeman (W) 74.89 315 P **P** **22 35 06.3 -2.1**
BOZ Bozeman (W) 74.89 315 P **P** **22 35 06.4 -2.1**
BOZ pmax pmax
comp=Z,7.0nm,1.0s
BOZ Bozeman (W) 74.89 315 P **P** **22 35 08.8 +0.4**
baz=95
PKCU Pink Cliffs 74.90 307 P **P** **22 35 08.9 +0.1**
VORR Voronezh 74.92 39 *eP* **P** **22 35 09.0 +0.8**
VORR pmax pmax
comp=Z,36nm,0.7s
ID07 Smith Canyon R 74.99 312 P **P** **22 35 08.5 -0.6**
ID07 IAmb IAmb 22 35 19.6
comp=Z,33nm,1.6s
RES Resolute Bay 75.05 346 LR LR 23 05 20.1
comp=Z,247nm,20.0s,baz=160,slow=34
TCRU Three Creeks R 75.05 308 P **P** **22 35 09.7 +0.1**
214A Organ Pipe Nat 75.18 301 P **P** **22 35 10.1 -0.1**
214A IAmb IAmb 22 35 12.7
comp=Z,45nm,1.9s
214A Organ Pipe Nat 75.18 301 P **P** **22 35 11.5 +1.3**
baz=90,SNR=6.1
SPUT South Promonto 75.19 311 P **P** **22 35 09.8 -0.5**
SPUT IAmb IAmb 22 35 22.0
comp=Z,32nm,1.4s
KNB Kanab 75.29 306 P **P** **22 35 09.3 -1.6**
KNB Kanab 75.29 306 P **P** **22 35 09.4 -1.6**
KNB pmax pmax
comp=Z,10.0nm,1.2s
APA Apatity 75.33 22⇓ *iP* **P** **22 35 10.2 -0.1**
APA pmax pmax
comp=Z,14nm,0.9s
APA MLR MLR
comp=Z,1μm,19.0s
DUG Dugway, Tooele 75.41 310 P **P** **22 35 11.6 +0.1**
DUG IAmb IAmb 22 35 25.2
comp=Z,25nm,1.2s
DUG Dugway, Tooele 75.41 310 P **P** **22 35 11.6 +0.1**
DUG pmax pmax
comp=Z,25nm,1.3s
DUG Dugway, Tooele 75.41 310 P **P** **22 35 12.4 +0.9**
baz=93,SNR=5.6
HVU Hansel Valley 75.46 311 P **P** **22 35 11.7 -0.1**
HVU Hansel Valley 75.46 311 P **P** **22 35 11.7 -0.1**
HVU pmax pmax
comp=Z,24nm,1.5s
LRM Limekiln Ridge 75.49 315 P **P** **22 35 12.0 0.0**
SPITS Spitsbergen Ar 75.50 10 P **P** **22 35 12.2 +1.0**
comp=Z,19nm,0.9s,baz=150,slow=3.5,SNR=3.6
SPITS LR LR 23 02 08.8
comp=Z,285nm,18.8s,baz=208,slow=31
comp=Z,19nm,0.9s
DLMT Dillon 75.55 315 P **P** **22 35 12.0 -0.3**
ELMT Elliston 75.57 316 P **P** **22 35 12.2 -0.2**
BGU Big Grassy Mou 75.61 310 P **P** **22 35 11.8 -0.8**
BGU IAmb IAmb 22 35 33.7
comp=Z,40nm,1.5s
PIX Pinacate 75.73 301 P **P** **22 35 13.3 0.0**
GURO Guroymak-BITLI 75.89 52 P **P** **22 35 14.8 +0.5**
113A Mohawk Valley, 75.99 302 P **P** **22 35 15.2 +0.4**
W13A Hualapai Mount 76.11 304 P **P** **22 35 15.2 -0.5**
CHMT Chamberlain Mo 76.12 316 P **P** **22 35 15.5 0.0**
PSUT Pine Spring 76.15 308 P **P** **22 35 16.0 +0.1**
SIRT Sirnak 76.18 53 P **P** **22 35 17.0 +1.1**
BPMT Black Pine Rid 76.22 316 P **P** **22 35 17.1 +0.9**
PDMCI Parker Dam,Lak 76.31 303 P **P** **22 35 17.6 +1.0**
baz=90
KLMR Klimovskoe 76.42 29 *eP* **P** **22 35 14.8 -1.9**
KLMR AMP 22 35 18.8
comp=Z,68nm,1.1s
KLMR LQ LQ 22 54 54.7
KLMR LQ LQ 22 54 54.7
KLMR LR LR 23 00 48.5
KLMR AMP 23 05 48.3
comp=Z,888nm,15.8s
KLMR Klimovskoe 76.42 29 *eP* **P** **22 35 14.8 -1.9**
KLMR pmax pmax
comp=Z,68nm,1.1s
VRH Novokhopyorsk 76.44 39 *eP* **P** **22 35 17.4 +0.5**
VRH pmax pmax
comp=Z,26nm,0.8s
SPR3 Spring Creek 3 76.54 308 P **P** **22 35 16.6 -1.6**
SPR3 IAmb IAmb 22 35 31.4
comp=Z,21nm,1.3s
MSO Missoula 76.59 316 P **P** **22 35 17.6 -0.5**
MSO Missoula 76.59 316 P **P** **22 35 19.1 +1.0**
baz=94
KIV Kislovodsk 76.59 47 P **P** **22 35 17.6 -0.5**
KIV IAmb IAmb 22 35 26.0
comp=Z,18nm,1.1s
KIV Kislovodsk 76.59 47 *eP* **P** **22 35 19.2 +1.1**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV MLR MLR
comp=Z,196nm,18.0s
BLYC Blythe 76.63 303 P **P** **22 35 17.8 -0.6**
EDM Edmonton 76.71 323 P **P** **22 35 19.1 +0.6**
EDM Edmonton 76.71 323 P **P** **22 35 19.1 +0.6**
EDM pmax pmax
comp=Z,133nm,2.0s
KBZ Khabaz 76.73 47 *ceP* **P** **22 35 20.2 +1.4**
KBZ pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 76.73 47 P **P** **22 35 20.2 +1.4**
comp=Z,5.6nm,0.9s,baz=252,slow=4.6,SNR=14
comp=Z,5.6nm,0.9s
HLID Hailey 76.75 313 P **P** **22 35 18.8 -0.3**
HLID Hailey 76.75 313 P **P** **22 35 20.1 +1.0**
baz=92,SNR=9.5
KARS Kars 76.76 50 P **P** **22 35 18.6 -0.6**
KARS Kars 76.76 50 P **P** **22 35 18.6 -0.6**
KARS pmax pmax
comp=Z,76nm,1.2s
GLA Glamis 76.88 302 P **P** **22 35 21.1 +1.2**
GLA Glamis 76.88 302 P **P** **22 35 21.1 +1.2**
GLA pmax pmax
comp=Z,8.0nm,0.9s
GOF Gofitskoye 76.90 46 *ceP* **P** **22 35 21.4 +1.7**
V12A Nelson 76.90 305 P **P** **22 35 19.8 -0.2**
PRN Pahroc Range 77.08 307 P **P** **22 35 21.5 +0.4**
PRN IAmb IAmb 22 35 42.6
comp=Z,24nm,1.2s
AKH Akhalkalaki 77.09 49 P **P** **22 35 20.7 -0.4**
AKH IAmb IAmb 22 35 23.4
comp=Z,23nm,1.1s
AKH Akhalkalaki 77.09 49 P **P** **22 35 20.7 -0.4**
AKH pmax pmax
comp=Z,23nm,1.1s
IRM Iron Mountain 77.14 303 P **P** **22 35 22.8 +1.4**
baz=90,SNR=5.1
SHPR Sheep Range 77.16 306 P **P** **22 35 21.2 -0.3**
NCK Nalchik 77.23 47⇑ *eP* **P** **22 35 19.6 -2.0**
NCK pmax pmax
comp=Z,47nm,2.7s
ELK Elko 77.28 310 P **P** **22 35 22.3 +0.1**
ELK Elko 77.28 310 P **P** **22 35 22.3 +0.1**
ELK pmax pmax
comp=Z,13nm,1.2s
BC3 Big Chuckawall 77.40 303 P **P** **22 35 24.0 +1.1**
baz=90
ATD Arta Tunnel 77.43 80 P **P** **22 35 21.6 -1.7**
ATD Arta Tunnel 77.43 80 LR LR 23 09 47.8
comp=Z,7.1nm,18.4s,baz=263,slow=36
ZEI Tsey 77.43 48 *eP* **P** **22 35 23.5 +0.5**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
R11B Troy Canyon, C 77.51 308 P **P** **22 35 24.3 +0.8**
R11B Troy Canyon, C 77.51 308 P **P** **22 35 24.7 +1.2**
baz=90,SNR=8.9
GMRC Granite Mounta 77.56 304 P **P** **22 35 24.8 +1.0**
baz=90,SNR=5.1
S11A Rachel 77.63 307 P **P** **22 35 25.0 +0.9**
S11A IAmb IAmb 22 36 15.6
comp=Z,28nm,1.1s
SWSC Sam W. Stewart 77.70 302 P **P** **22 35 25.7 +1.2**
baz=89
MFID Camas Ranch 77.77 313 P **P** **22 35 25.5 +0.7**
MFID IAmb IAmb 22 35 36.6
comp=Z,32nm,1.8s
TUQ Turquoise Moun 77.78 305 P **P** **22 35 26.0 +0.9**
baz=90
BELC Belle Mtn. Jos 77.85 303 P **P** **22 35 26.7 +1.3**
baz=89
PLID Pearl Lake 77.94 314 P **P** **22 35 25.5 -0.4**
IKP In-Ko-Pah, Jac 77.97 302 P **P** **22 35 26.9 +0.9**
baz=89
GNI Garni 78.02 51 P **P** **22 35 26.3 0.0**
GNI IAmb IAmb 22 36 14.8
comp=Z,39nm,1.6s
GNI Garni 78.02 51⇑ *eP* **P** **22 35 27.5 +1.2**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI Garni 78.02 51 P **P** **22 35 27.7 +1.4**
comp=Z,5.2nm,0.9s,baz=174,slow=6.4,SNR=5.5
comp=Z,5.2nm,0.9s
TPNV Topopah Spring 78.03 306 P **P** **22 35 26.8 +0.4**
TPNV Topopah Spring 78.03 306 P **P** **22 35 26.8 +0.4**
TPNV Topopah Spring 78.03 306 P **P** **22 35 28.1 +1.7**
baz=90,SNR=6.1
HEC Hector,Ludlow 78.12 304 P **P** **22 35 28.2 +1.4**
baz=89
MONP2 Monument Peak 78.22 302 P **P** **22 35 28.8 +1.2**
baz=89
TPFO Pinon Flats 78.24 303 P **P** **22 35 29.0 +1.4**
baz=89
PFO Pinyon Flats O 78.24 303 P **P** **22 35 29.0 +1.4**
baz=89
PFO Pinyon Flats O 78.24 303 LR LR 23 08 15.0
comp=Z,404nm,19.6s,baz=104,slow=34
WCT Wildcat Mounta 78.33 306 P **P** **22 35 28.1 +0.1**
WCT IAmb IAmb 22 35 44.4
comp=Z,22nm,1.3s
YKA Yellowknife Ar 78.35 332 P **P** **22 35 27.3 -0.1**
comp=Z,3.1nm,0.8s,baz=129,slow=8.6,SNR=2.8
YKA LR LR 23 07 16.6
comp=Z,467nm,19.9s,baz=72,slow=34
comp=Z,3.1nm,0.8s
GWY Greenwater Val 78.38 305 P **P** **22 35 28.7 +0.4**
CCX Cicese 78.45 301 P **P** **22 35 28.9 +0.3**
CCX IAmb IAmb 22 37 39.6
comp=Z,34nm,1.1s
GSC Goldstone, Bar 78.50 304 P **P** **22 35 29.6 +0.6**
GSC Goldstone, Bar 78.50 304 P **P** **22 35 29.6 +0.6**
GSC pmax pmax
comp=Z,14nm,1.4s
GSC Goldstone, Bar 78.50 304 P **P** **22 35 29.4 +0.4**
baz=89
SMAI San Martin Ant 78.52 191 P **P** **22 35 28.6 +0.5**
QSM Queen of Sheba 78.54 305 P **P** **22 35 30.2 +1.1**
QSM IAmb IAmb 22 35 42.5
comp=Z,19nm,1.0s
TPH Tonopah 78.80 307 P **P** **22 35 31.5 +0.8**
TPH Tonopah 78.80 307 P **P** **22 35 31.5 +0.8**
TPH pmax pmax
comp=Z,102nm,1.1s
GROC Groznyy 78.83 47 *eP* **P** **22 35 30.7 +0.2**
GROC *e* 22 38 27.1
GROC pmax pmax
comp=Z,14nm,1.0s
GMN Gold Mountain 78.84 306 P **P** **22 35 30.7 -0.3**
MURC Murrieta 78.86 303 P **P** **22 35 32.5 +1.6**
baz=88
BMO Blue Mountains 78.86 314 P **P** **22 35 30.9 +0.1**
BMO Blue Mountains 78.86 314 P **P** **22 35 30.9 +0.1**
BMO pmax pmax
comp=Z,26nm,1.6s
GRAC Grapevine Rang 78.93 306 P **P** **22 35 31.6 +0.4**
GRAC IAmb IAmb 22 35 45.3
comp=Z,41nm,1.4s
GRAC Grapevine Rang 78.93 306 P **P** **22 35 32.6 +1.4**
baz=89
MZP Montezuma Peak 78.93 307 P **P** **22 35 31.8 +0.3**
RPN Rapa Nui 78.94 241 LR LR 23 07 49.0
comp=Z,296nm,18.4s,baz=78,slow=34
MPMC Manual Prospec 79.04 305 P **P** **22 35 32.7 +0.7**
baz=89,SNR=5.4
ELS Elsinore Mount 79.05 303 P **P** **22 35 31.4 -0.5**
BRLDA Berland Lookou 79.18 324 P **P** **22 35 32.4 +0.1**
BRLDA IAmb IAmb 22 35 42.5
comp=Z,54nm,1.3s
LRMC Laurel Mtn Rad 79.21 305 P **P** **22 35 33.7 +0.7**
baz=89
BFSC Mount Baldy Ra 79.22 303 P **P** **22 35 33.4 +0.3**
baz=88
GANJ Ganja 79.23 50 P **P** **22 35 33.7 +0.9**
DSP Deep Springs 79.40 307 P **P** **22 35 34.2 +0.5**
ZKTA Zakatala 79.44 49 P **P** **22 35 34.3 +0.4**
PRGR Permogore 79.45 29⇓ *iP* **P** **22 35 35.3 +1.9**
PRGR pmax pmax
comp=Z,44nm,0.8s
E09A Wood Farm, Sta 79.47 316 P **P** **22 35 33.2 -0.8**
E09A IAmb IAmb 22 37 25.6
comp=Z,51nm,2.0s
KVN Kaiserville 79.47 308 P **P** **22 35 33.6 -0.7**
KVN Kaiserville 79.47 308 P **P** **22 35 33.6 -0.7**
KVN pmax pmax
comp=Z,9.0nm,0.8s
EDW2 Edwards Air Fo 79.48 304 P **P** **22 35 34.9 +0.5**
baz=88
CCAC Calif City Air 79.49 304 P **P** **22 35 34.2 -0.1**
CWC Cottonwood Cre 79.51 306 P **P** **22 35 35.4 +0.8**
baz=88
NV11 Mina Array Sit 79.53 308 P **P** **22 35 34.5 -0.1**
NVAR Mina Array Bea 79.64 308 P **P** **22 35 35.2 -0.1**
NVAR Mina Array Bea 79.64 308 P **P** **22 35 35.9 +0.6**
comp=Z,4.6nm,1.0s,baz=95,slow=6.0,SNR=17
comp=Z,4.6nm,1.0s
PASC Pasadena Art C 79.66 303 P **P** **22 35 35.4 +0.1**
J08A Circle Bar Ran 79.70 313 P **P** **22 35 35.2 -0.2**
J08A IAmb IAmb 22 35 47.6
comp=Z,43nm,1.9s
LHV Little Huntoon 79.80 307 P **P** **22 35 36.3 +0.4**
LHV IAmb IAmb 22 35 49.3
comp=Z,23nm,1.0s
WVOR Wild Horse Val 79.83 312 P **P** **22 35 36.4 +0.2**
WVOR Wild Horse Val 79.83 312 P **P** **22 35 36.4 +0.2**
WVOR pmax pmax
comp=Z,32nm,1.7s
ISA Isabella, Lake 79.85 305 P **P** **22 35 37.3 +1.0**
ISA Isabella, Lake 79.85 305 P **P** **22 35 37.3 +1.0**
ISA pmax pmax
comp=Z,16nm,1.1s
ISA Isabella, Lake 79.85 305 P **P** **22 35 37.4 +1.1**
baz=88
SEKA Sheki 79.88 50 P **P** **22 35 37.0 +0.6**
VNA1 Neumayer--Stat 80.03 171 P **P** **22 35 36.7 +0.4**
comp=Z,4.0nm,0.7s
MAK Makhachkala 80.08 48 *eP* P 22 35 31.8 -5.5
MAK *e* 22 38 33.9
MAK *e*S **S** **22 45 34.2 -7.8**
MAK pmax pmax
comp=Z,69nm,1.0s
MAK MLR MLR
comp=Z,176nm,15.0s
BELG Belogornoye 80.16 38 *c iP* **P** **22 35 38.1 +0.6**
BELG pmax pmax
comp=Z,5.0nm,0.9s
BELG Belogornoye 80.16 38 P **P** **22 35 38.4 +0.9**
comp=Z,23nm,0.8s,baz=319,slow=1.6,SNR=12
BELG LR LR 23 09 05.2
comp=Z,278nm,20.1s,baz=302,slow=34
comp=Z,23nm,0.8s
OMMB Old Mammoth Mi 80.21 307 P **P** **22 35 37.2 -1.4**
MDPB Devils Postpil 80.28 307 P **P** **22 35 38.9 0.0**
VNA3 Neumayer Olymp 80.36 172 P **P** **22 35 39.5 +1.4**
comp=Z,1.9nm,0.7s
PNT Penticton 80.46 319 P **P** **22 35 40.5 +1.2**
PNT pmax pmax
comp=Z,18nm,0.8s
PNTR Pine Nut 80.64 308 P **P** **22 35 40.5 -0.2**
PNTR IAmb IAmb 22 35 54.5
comp=Z,18nm,0.8s
PKM Mcpherson Peak 80.98 304 P **P** **22 35 42.0 -0.6**

baz=87
EMB Emerald Bay 81.03 308 P P 22 35 42.6 -0.2
EMB IAmb IAmb 22 38 43.0
comp=Z,18nm,0.9s
LKRN Lenkeran, Azer 81.17 52 P P 22 35 43.0 -0.2
KIRV Kirov 81.23 32c iP P 22 35 43.9 +0.8
KIRV Kirov 81.23 32 P P 22 35 44.1 +1.0
comp=Z,15nm,0.7s,baz=269,slow=3.1,SNR=7.1
KIRV LR LR 23 08 47.0
comp=Z,423nm,22.0s,baz=276,slow=34
comp=Z,15nm,0.7s
CMB Columbia Colle 81.30 307 P P 22 35 43.7 -0.3
CMB Columbia Colle 81.30 307 P P 22 35 43.7 -0.3
CMB pmax pmax
comp=Z,27nm,2.0s
PINE Pine Mountain 81.48 313 P P 22 35 45.7 +0.6
PINE IAmb IAmb 22 36 01.0
comp=Z,16nm,0.9s
AFDM Forest Hills D 81.71 308 P P 22 35 47.0 +0.9
PMPB Monarch Peak 81.72 305 P P 22 35 45.9 -0.4
PMPB IAmb IAmb 22 35 59.4
comp=Z,18nm,0.9s
SNAA Sanae 81.81 170 P P 22 35 45.9 0.0
SNAA Sanae 81.81 170⇓ eP P 22 35 46.1 +0.2
SNAA pmax pmax
comp=Z,19nm,2.5s
SNAA Sanae 81.81 170 P P 22 35 46.8 +0.9
comp=Z,84nm,0.8s
SNAA Sanae 81.81 170 P P 22 35 46.5 +0.6
comp=Z,3.7nm,0.8s,baz=313,slow=5.1,SNR=13
comp=Z,3.7nm,0.8s
ORV Oroville 82.09 309 P P 22 35 48.5 +0.4
ORV Oroville 82.09 309 P P 22 35 48.5 +0.4
ORV pmax pmax
comp=Z,11nm,1.2s
WRGLY Wrigley 82.44 333 P P 22 35 49.4 0.0
WRGLY IAmb IAmb 22 36 13.3
comp=Z,26nm,1.1s
WRGLY Wrigley 82.44 333 P P 22 35 49.6 +0.2
baz=89
YBH Yreka Blue Hor 82.89 311 LR LR 23 10 38.9
comp=Z,325nm,19.0s,baz=128,slow=34
TROLL Troll, Antarti 83.06 169 P P 22 35 55.2 +2.6
comp=Z,79nm,0.6s
NVL N'lazarevskaya 84.18 166 eP P 22 36 11.2 +13
NVL pmax pmax
comp=Z,12nm,1.1s
BELA Belgrano 2 85.12 180 P P 22 36 02.1 -0.7
BBB Bella Bella 85.69 322 LR LR 23 10 03.5
comp=Z,337nm,21.6s,baz=80,slow=33
DLBC Dease Lake 86.02 328 P P 22 36 06.6 -1.2
DLBC Dease Lake 86.02 328 P P 22 36 08.8 +1.0
baz=82
DLBC Dease Lake 86.02 328 P P 22 36 08.8 +1.0
comp=Z,5.8nm,0.8s,baz=116,slow=6.4,SNR=7.8
DLBC LR LR 23 12 34.0
comp=Z,397nm,18.7s,baz=90,slow=34
comp=Z,5.8nm,0.8s
MMPY Sheldon Lake, 86.05 333 P P 22 36 08.4 +0.6
baz=82
INK Inuvik 86.08 338 P P 22 36 09.2 +1.4
baz=80
INK Inuvik 86.08 338 P P 22 36 09.9 +2.1
comp=Z,5.6nm,0.9s,baz=25,slow=5.6,SNR=3.4
comp=Z,5.6nm,0.9s
ARU Arti 86.29 34 P P 22 36 08.6 -0.5
ARU IAmb IAmb 22 36 11.9
comp=Z,22nm,1.0s
ARU Arti 86.29 34c iP P 22 36 10.7 +1.6
ARU 22 39 29.9
ARU S **SKSac 22 46 36.9 +1.4**
ARU SS **SS 22 52 24.0 +0.6**
ARU pmax pmax
comp=Z,25nm,1.0s
ARU MLR MLR
comp=Z,412nm,17.0s
ARU Arti 86.29 34 P P 22 36 10.7 +1.6
comp=Z,12nm,0.8s,baz=308,slow=3.2,SNR=20
ARU LR LR 23 15 22.2
comp=Z,339nm,18.0s,baz=274,slow=36
comp=Z,12nm,0.8s
F31M Tsiigehtchic 86.31 337 P P 22 36 09.1 +0.1
baz=80
T35M Bob Quinn 86.33 327 P P 22 36 08.5 -0.8
baz=82
R33M Jennings River 86.37 329 P P 22 36 08.7 -0.9
baz=82
G31M Satah River 86.61 337 P P 22 36 11.6 +1.2
baz=79
S34M Telegraph Cree 86.67 328 P P 22 36 12.7 +1.7
baz=82
AKTO Aktyubinsk 86.76 40 P P 22 36 12.5 +0.9
comp=Z,4.3nm,0.9s,baz=270,slow=5.1,SNR=10
AKTO LR LR 23 14 12.6
comp=Z,289nm,20.6s,baz=258,slow=35
comp=Z,4.3nm,0.9s
F30M Barrier River 87.05 338 P P 22 36 12.2 -0.4
baz=78
FARO Faro, Yukon 87.07 332 P P 22 36 14.8 +2.0
baz=80
N32M Quiet Lake 87.13 331 P P 22 36 13.4 +0.2
baz=80
SVE Sverdlovsk 87.37 33 eP P 22 36 16.2 +1.9
SVE pmax pmax
comp=Z,13nm,0.9s
M31M Drury Creek, Y 87.55 332 P P 22 36 17.4 +2.2
baz=79
ELIB Princess Elisa 87.84 164 dP P 22 36 15.8 -0.6
comp=Z,4.4nm,1.1s
WHY Whitehorse 88.09 331 P P 22 36 20.9 +3.1
baz=78
ABKAR Akbulak array 88.17 41 P P 22 36 18.2 -0.1
H29M Whitestone 88.36 337 P P 22 36 19.7 +0.7
baz=76
R32K Eaglecrest 88.38 329 P P 22 36 22.1 +2.9
baz=79
GEYT Alibeck 88.55 52 P P 22 36 21.8 +1.3
comp=Z,1.5nm,0.8s,baz=264,slow=1.5,SNR=3.8
comp=Z,1.5nm,0.8s
M30M Minto, Yukon 88.57 333 P P 22 36 19.4 -0.6
baz=77
K29M Barlow Dome 88.59 334 P P 22 36 21.0 +0.8
baz=76
L29M L29M 89.04 334 P P 22 36 24.6 +2.4
baz=76
DAWY Dawson 89.33 335 P P 22 36 26.3 +2.6
baz=74
G27K Doyon Strip 89.46 338 P P 22 36 26.3 +2.2
baz=72
H27K Steamboat Moun 89.59 337 P P 22 36 28.4 +3.6
baz=73
I27K Kandik River 89.81 336 P P 22 36 28.0 +2.1
baz=72
F26K Sheenjek River 90.10 339 P P 22 36 28.8 +1.7
baz=70
G26K Porcupine Rive 90.22 338 P P 22 36 29.6 +2.0
baz=70
K27K Chicken 90.48 335 P P 22 36 32.5 +3.6
baz=72
I26K Coal Creek Min 90.51 336 P P 22 36 31.5 +2.5
baz=71
F25K Christian Rive 90.67 339 P P 22 36 31.7 +1.9
baz=69
M27K Edge Creek, AK 90.90 333 P P 22 36 33.5 +2.4
baz=72
J26L Joseph Creek 90.94 336 P P 22 36 34.7 +3.5
baz=71
WSAR Wadi Sarin 91.12 67 LR LR 23 20 30.0
comp=Z,459nm,18.2s,baz=290,slow=38
H25L Birch Creek 91.22 338 P P 22 36 34.7 +2.5
baz=69
SCRK Sand Creek 91.29 335 P P 22 36 35.8 +3.0
baz=70
E24K Your Creek 91.48 340 P P 22 36 35.9 +2.4
baz=66
F24K Squaw Lake 91.49 339 P P 22 36 36.5 +2.9
baz=67
MESA MESA 91.60 331 P P 22 36 38.5 +4.1
baz=72
TOLK Toolik Lake Re 91.61 340 P P 22 36 38.5 +4.4
baz=65
J25K Salcha River, 91.64 336 P P 22 36 36.1 +1.8
baz=69
ILAR Eielson Array 92.19 336 P P 22 36 37.2 +0.4
comp=Z,0.9nm,1.0s,baz=86,slow=3.0,SNR=3.4
ILAR LR LR 23 17 00.5
comp=Z,610nm,18.2s,baz=59,slow=35
comp=Z,0.9nm,1.0s

BRVK Borovoye 93.65 36⇑ eP P 22 36 45.4 +1.6
BRVK pmax pmax
comp=Z,11nm,3.0s
BVAR Borovoye Array 93.72 36 P P 22 36 45.7 +1.6
comp=Z,1.1nm,0.8s,baz=96,slow=3.0,SNR=5.4
BVAR LR LR 23 17 20.7
comp=Z,443nm,20.7s,baz=299,slow=34
comp=Z,1.1nm,0.8s
QSPA South Pole Qui 97.40 180 P Pdif 22 37 02.1 +1.4
comp=Z,0.3nm,0.3s,baz=210,slow=4.5,SNR=1.7
comp=Z,0.3nm,0.3s
KDAK Kodiak Island 97.60 331 LR LR 23 21 17.2
comp=Z,477nm,18.3s,baz=83,slow=36
KURBB Kurchatov Arra 99.29 36 P Pdif 22 37 11.1 +1.7
comp=Z,0.4nm,0.2s,baz=291,slow=5.9,SNR=3.6
KURBB LR LR 23 23 09.6
comp=Z,202nm,18.7s,baz=198,slow=36
comp=Z,0.4nm,0.2s
KURK Kurchatov 99.30 36 P Pdif 22 37 11.1 +1.6
AAK Ala-Archa 99.62 45 LR LR 23 22 51.2
comp=Z,260nm,21.4s,baz=327,slow=36
MKAR Makanchi Array 103.16 39 PKiKP PKiKP 22 41 46.3 -0.1
comp=Z,1.1nm,0.8s,baz=321,slow=3.7,SNR=5.4
TAOE Nuku Hiva Isla 105.27 263 eLR LR 23 12 18.6
comp=Z,278nm,24.8s
WMQ Urumqi 107.92 39 eP Pdif 22 37 48.8 +0.7
WMQ LR LR
comp=N,570nm,17.3s
WMQ LR LR
comp=E,370nm,23.1s
WMQ LR LR
comp=Z,400nm,26.9s
PPT2 Papeete2 114.87 254 eSS SS 22 59 15.3 +11
comp=Z,255nm,32.0s
PPT2 Papeete2 114.87 254 eLR LR 23 16 37.5
comp=Z,253nm,27.0s
PPT2 eLR LR 23 16 46.8
comp=Z,338nm,25.2s
SONM Songino Array 115.68 27 PKP PKPdf 22 42 10.3 +0.2
comp=Z,0.4nm,0.7s,baz=325,slow=1.8,SNR=2.8
XLT XiLinHaoTe 122.95 24 ePKP PKPdf 22 42 22.3 -1.8
XLT LR LR
comp=Z,360nm,17.4s
XLT LR LR
comp=Z,650nm,21.3s
HHC Hu-ho-hao-te 123.38 29 ePKP PKiKP 22 42 26.0 +0.7
HHC LR LR
comp=Z,840nm,20.0s
HHC LR LR
comp=Z,800nm,16.7s
HHC LR LR
comp=Z,1μm,18.4s
CD2 Chengdu 125.67 43 PKP PKPdf 22 42 28.1 -1.5
MDJ Mudanjiang 126.58 13 PKP PKPdf 22 42 29.1 -1.8
MDJ sPKP 22 42 36.8
MDJ PP **PP 22 44 28.8 +3.1**
MDJ SS SS 23 01 31.9 +1.7
MDJ AMB AMB
comp=Z,280nm,6.0s
PZH PanZhiHua 126.77 49 PKP PKPdf 22 42 29.3 -2.6
KMI Kunming 128.27 50 ⇓PKP PKPdf 22 42 33.9 -1.1
KMI SS SS 23 01 51.5 -2.4
KMI LR LR
comp=Z,390nm,50.3s
CMAR Chiang Mai Arr 128.46 60 PKP PKiKP 22 42 35.5 -0.3
comp=Z,0.8nm,0.4s,baz=286,slow=3.3,SNR=6.8
NJ2 Nanjing 133.90 30 ePKP PKPdf 22 42 43.8 -1.3
DZM Mont Dzumac 154.10 233 eSS SS 23 06 48.1 -7.1
comp=Z,164nm,26.1s
DZM Mont Dzumac 154.10 233 eLR LR 23 35 05.8
comp=Z,487nm,24.0s
ASAR Alice Springs 161.00 150 PKP PKPdf 22 43 28.8 +0.2
comp=Z,0.7nm,0.9s,baz=151,slow=2.1,SNR=3.4
ASAR PKPab **PKPab 22 44 11.3 +0.1**
comp=Z,1.7nm,1.0s,baz=210,slow=3.8,SNR=5.9
WRA Warramunga Arr 164.23 143 PKPab PKPab 22 44 25.5 0.0
comp=Z,1.2nm,0.8s,baz=216,slow=3.4,SNR=5.3

*STR **19** 22:32:38.7±0.3, 45°N±2°×°±°, h3km, MLv1.6/18, Error ellipse: s-maj=0.0km s-min=0.0km az=22.7, preliminary*
*GEN **19** 22:32:38.1, 44.°99N×6.°68E, h6km, Ml0.8*
*LDG **19** 22:32:38.7±0.1, 44.°98N×6.°65E, h2km, Md1.7/3, Ml2.0/3, Error ellipse: s-maj=1.1km s-min=0.9km az=69.0*
ISC 19 22:32:38.5±0.9, **44.°98N**±0.°02×**6.°65E**±0.°02, **h8**km±6km, **n47**, σ0°**47**/66, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNI	**Bardonecchia**	**0.07**	**14**	P	**Pg**	**22 32 40.5**	**-0.2**
BNI				S	**Sg**	**22 32 41.7**	**-0.4**
BNI	**Bardonecchia**	**0.07**	**14**	P	**Pg**	**22 32 40.9**	**+0.3**
BNI	**Bardonecchia**	**0.07**	**14**	P	**Pg**	**22 32 40.9**	**+0.3**
RRL	**Rocca Remolon**	**0.12**	**122**	P	**Pg**	**22 32 41.3**	**+0.1**
RRL				S	**Sg**	**22 32 43.2**	**0.0**
RRL	**Rocca Remolon**	**0.12**	**122**	Pg	**Pg**	**22 32 41.3**	**+0.1**
RRL				Sg	**Sg**	**22 32 43.2**	**0.0**
OGMO	**Fort Saint-Gob**	**0.23**	**6**	P	**Pg**	**22 32 43.4**	**+0.3**
OGMO				S	**Sg**	**22 32 46.3**	**+0.1**
OGMO	**Fort Saint-Gob**	**0.23**	**6**	Pg	**Pg**	**22 32 43.0**	**-0.1**
OGMO				Sg	**Sg**	**22 32 46.3**	**+0.1**
MBDF	**Montbardon**	**0.27**	**162**	ePg	**Pg**	**22 32 44.1**	**+0.2**
MBDF				eSg	**Sg**	**22 32 47.8**	**+0.3**
4.4nm,0.2s							
CREF	**Crivoux**	**0.43**	**183**	Pn	**Pg**	**22 32 47.0**	**0.0**
CREF				Sg	**Sg**	**22 32 53.3**	**+0.6**
GDM	**Grand'Maison**	**0.44**	**300**	Pg	**Pg**	**22 32 47.1**	**-0.1**
GDM				Sg	**Sg**	**22 32 52.8**	**-0.1**
BHB	**Bricherasio**	**0.46**	**108**	P	**Pg**	**22 32 47.5**	**+0.2**
BHB				S	**Sg**	**22 32 53.4**	**+0.1**
BHB	**Bricherasio**	**0.46**	**108**	Pg	**Pg**	**22 32 47.6**	**+0.2**
BHB	**Bricherasio**	**0.46**	**108**	Sg	**Sg**	**22 32 53.4**	**+0.1**
RSP	**Reno Superiore**	**0.46**	**69**	P	**Pg**	**22 32 47.9**	**+0.4**
RSP				S	**Sg**	**22 32 54.2**	**+0.5**
RSP	**Reno Superiore**	**0.46**	**69**	Pg	**Pg**	**22 32 47.5**	**-0.1**
RSP	**Reno Superiore**	**0.46**	**69**	Sg	**Sg**	**22 32 54.2**	**+0.5**
LPG	**La Plagne**	**0.52**	**8**	ePg	**Pg**	**22 32 48.6**	**-0.1**
LPG				eSg	**Sg**	**22 32 55.3**	**-0.2**
2.6nm,0.2s							
OGAG	**Argentiere**	**0.53**	**189**	P	Pg	22 32 43.3	-5.6
OGAG				S	Sg	22 32 46.1	-10
OGAG	**Argentiere**	**0.53**	**189**	Pg	Pg	22 32 43.2	-5.7
OGAG				Sg	Sg	22 32 46.0	-10
LPL	**La Plagne**	**0.54**	**6**	ePg	**Pg**	**22 32 49.1**	**+0.1**
LPL				eSg	**Sg**	**22 32 55.5**	**-0.6**
2.7nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.55**	**264**	ePg	**Pg**	**22 32 49.0**	**-0.2**
ORIF				eSg	**Sg**	**22 32 56.3**	**-0.2**
4.1nm,0.2s							
ORIF	**Oris-en-Rattie**	**0.55**	**264**	Pg	**Pg**	**22 32 49.1**	**-0.2**
PZZ	**Stroppo**	**0.58**	**145**	P	**Pg**	**22 32 49.7**	**-0.1**
PZZ				S	**Sg**	**22 32 57.1**	**-0.2**
PZZ	**Stroppo**	**0.58**	**145**	Pg	**Pg**	**22 32 49.5**	**-0.2**
PZZ	**Stroppo**	**0.58**	**145**	Sg	**Sg**	**22 32 57.7**	**+0.3**
LSD	**Lago del Serru**	**0.58**	**35**	P	**Pg**	**22 32 50.0**	**+0.1**
LSD				S	**Sg**	**22 32 57.2**	**-0.4**
LSD	**Lago del Serru**	**0.58**	**35**	Sg	**Sg**	**22 32 57.3**	**-0.4**
LSD	**Lago del Serru**	**0.58**	**35**	Pg	**Pg**	**22 32 49.8**	**-0.1**
GRN	**Grenoble**	**0.69**	**292**	Pg	**Pg**	**22 32 52.5**	**+0.6**
GRN				Sg	**Sg**	**22 33 01.8**	**+0.8**
ENAUX	**Enaux**	**0.88**	**174**	Pg	**Pg**	**22 32 55.6**	**+0.2**
ENAUX				Sg	**Sg**	**22 33 07.2**	**+0.4**
STV	**Sant Anna di V**	**0.88**	**147**	Pg	**Pg**	**22 32 55.6**	**+0.2**
STV	**Sant Anna di V**	**0.88**	**147**	Sg	**Sg**	**22 33 07.8**	**+0.9**
CIRO	**Champorcher**	**0.89**	**46**	Pg	**Pg**	**22 32 55.0**	**-0.8**
CIRO	**Champorcher**	**0.89**	**46**	Sg	**Sg**	**22 33 07.6**	**+0.2**
TRAV	**Traversella**	**0.94**	**55**	Pn	**Pb**	**22 32 57.7**	**+0.6**
TRAV	**Traversella**	**0.94**	**55**	Sg	**Sg**	**22 33 08.9**	**+0.2**
SPIF	**crte de Spivo**	**1.02**	**156**	Pg	**Pg**	**22 32 58.4**	**+0.4**
GBOS	**Grotte di Boss**	**1.12**	**131**	Pg	**Pg**	**22 32 59.6**	**-0.5**
GBOS	**Grotte di Boss**	**1.12**	**131**	Sg	**Sg**	**22 33 14.3**	**-0.4**
TURF	**col de Turini**	**1.14**	**152**	Pg	**Pg**	**22 33 00.5**	**+0.1**
TRIGF	**Trigance**	**1.25**	**188**	Pg	**Pn**	**22 33 03.0**	**+0.7**
SBF	**Sospel**	**1.25**	**153**	ePg	**Pg**	**22 33 02.3**	**-0.2**
SBF				eSg	**Sg**	**22 33 17.2**	**-1.6**
2.9nm,0.3s							
OG35	**Corcelles**	**1.31**	**325**	Pg	**Pg**	**22 33 04.7**	**+1.1**
RORO	**Rocca Rossa**	**1.33**	**130**	Pg	**Pn**	**22 33 03.8**	**+0.4**
VIVF	**Saint-Julien-l**	**1.41**	**266**	ePg	**Pn**	**22 33 03.7**	**-0.9**
VIVF				eSg	**Sb**	**22 33 22.1**	**-1.3**
1.7nm,0.3s							
SSB	**Saint Sauveur**	**1.52**	**282**	Pg	**Pg**	**22 33 08.3**	**+0.6**
SSB				Sn	**Sg**	**22 33 27.7**	**+0.2**
LMR	**La Mourre**	**1.65**	**184**	ePg	**Pb**	**22 33 09.0**	**-0.2**
LMR				eSg	**Sb**	**22 33 30.2**	**0.0**
9.4nm,0.8s							

*ISK **19** 22:37:04.9, 40.°77N×33.°88E, h5km, ML3.9/25*
*IDC **19** 22:37:05.7±0.7, 40.°74N×33.°72E, h0km, mb3.5/6, mbtmp3.6/14, ML3.4/8, Error ellipse: s-maj=12.2km s-min=6.6km az=87.0*
*AFAD **19** 22:37:05.0±0.0, 40.°77N×33.°89E, h10km±3km, MW3.8*
ISC 19 22:37:05.1±1.0, **40.°75N**±0.°02×**33.°88E**±0.°02, **h4**km±8km, **n108**, σ1°**35**/135, **mb3.5**/6, **12C-19D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.30**	**21**	Pg	**Pg**	**22 37 11.2**	**+0.1**
TOS				Sg	**Sg**	**22 37 15.4**	**+0.3**
ILGA	**Ilgaz**	**0.32**	**338**	P	**Pg**	**22 37 11.9**	**+0.5**
ILGA				S	**Sg**	**22 37 15.1**	**-0.6**
ELDT	**Eldivan**	**0.43**	**233**	P	**Pb**	**22 37 14.7**	**-0.7**
ELDT				S	**Sb**	**22 37 21.1**	**-1.2**
ELDT				i AML	AML	22 37 22.0	
comp=E,1μm,0.3s							
KAGI	**orum-Kargı**	**0.60**	**50**	P	**Pg**	**22 37 16.6**	**+0.1**
KAGI				S	**Sg**	**22 37 23.8**	**-0.5**
KAGI				i AML	AML	22 37 26.0	
comp=N,4μm,0.3s							
KAGI				i AML	AML	22 37 27.0	
comp=E,3μm,0.5s							
KMON	**Kastamonu**	**0.62**	**353**	Pg	**Pg**	**22 37 17.3**	**+0.2**
KMON				Sg	**Sb**	**22 37 26.4**	**-1.4**
PELI	**Kastamonı-Ara**	**0.69**	**322**	P	**Pg**	**22 37 18.7**	**+0.2**
PELI				S	**Sg**	**22 37 27.2**	**-0.3**
PELI				i AML	AML	22 37 30.0	
comp=N,2μm,0.3s							
CTAK	**Corum_Osmancik**	**0.70**	**98**	P	**Pb**	**22 37 19.3**	**-0.7**
CTAK				S	**Sg**	**22 37 28.5**	**+0.8**
DELI	**KIRIKKALE**	**0.76**	**178**	P	**Pg**	**22 37 19.9**	**+0.3**
DELI				S	**Sg**	**22 37 29.8**	**+0.4**
CORM	**Corum**	**0.81**	**135**	Pg	**Pg**	**22 37 21.2**	**+0.5**
SEYI	**Kastamonu-Seyd**	**0.89**	**353**	P	**Pg**	**22 37 22.0**	**-0.2**
SEYI				S	**Sg**	**22 37 33.6**	**-0.1**
COAL	**Corum-Alaca**	**0.98**	**120**	P	**Pg**	**22 37 24.0**	**0.0**
COAL				S	**Sg**	**22 37 36.7**	**0.0**
BOYA	**Sinop/Boyabat-**	**0.99**	**38**	P	**Pg**	**22 37 23.3**	**-0.8**
BOYA				i AML	AML	22 37 41.0	
comp=E,2μm,0.4s							
BOYA				i AML	AML	22 37 42.0	
comp=N,4μm,0.5s							
SAFT	**Safranbolu**	**1.02**	**299**	Pg	**Pb**	**22 37 24.9**	**-0.5**
SAFT				Sg	**Sb**	**22 37 39.2**	**0.0**
BRTR	**Keskin Array B**	**1.04**	**190**	Pg	**Pg**	**22 37 25.1**	**0.0**
101nm,0.3s,baz=16,slow=14,SNR=1456							
BRTR				Lg	Lg	22 37 41.7	
268nm,0.3s,baz=90,slow=29,SNR=15							
KBUK	**KARABUK-Merkez**	**1.06**	**297**	P	**Pb**	**22 37 26.1**	**0.0**
KBUK				S	**Sb**	**22 37 40.1**	**-0.3**
CMDR	**Camlidere-ANKA**	**1.10**	**257**	P	**Pb**	**22 37 26.6**	**-0.2**
CMDR				S	**Sn**	**22 37 43.6**	**+0.5**
CDAG	**Cicekdag**	**1.19**	**161**	P	**Pg**	**22 37 27.6**	**-0.3**
CDAG				S	**Sg**	**22 37 42.9**	**-0.5**
CDAG				i AML	AML	22 37 47.0	
comp=N,933nm,0.7s							
CDAG				i AML	AML	22 37 50.0	
comp=E,988nm,0.7s							
ANTO	**Ankara**	**1.21**	**224**	⇓P	**Pn**	**22 37 28.8**	**-0.1**
AKPI	**Kirsehir/Akpin**	**1.25**	**176**	P	**Pg**	**22 37 28.4**	**-0.7**
AKPI				S	**Sg**	**22 37 44.9**	**-0.5**
AKPI				i AML	AML	22 37 49.0	
comp=E,804nm,0.5s							
AKPI				i AML	AML	22 37 52.0	
comp=N,599nm,0.6s							
CIDE	**Kastamonu/Cide**	**1.33**	**328**	P	**Pg**	**22 37 30.5**	**0.0**
CIDE				S	**Sn**	**22 37 47.9**	**-0.6**
BBAL	**Bala**	**1.34**	**206**	P	**Pb**	**22 37 30.9**	**0.0**
BBAL				S	**Sg**	**22 37 47.8**	**-0.4**
DIKM	**Dikmen**	**1.37**	**49**	Pn	**Pn**	**22 37 30.7**	**-0.4**
DIKM				Sn	**Sn**	**22 37 50.1**	**+0.4**
BCAM	**Yenicaga**	**1.38**	**273**	P	**Pb**	**22 37 31.3**	**-0.2**
BCAM				S	**Sn**	**22 37 50.4**	**+0.5**
KURC	**Kurucasile-Bar**	**1.39**	**322**	Pn	**Pb**	**22 37 31.2**	**-0.4**
KURC				Sn	**Sn**	**22 37 50.9**	**+0.9**
KAMT	**Kaman**	**1.39**	**185**	Pn	**Pn**	**22 37 31.2**	**-0.2**
KAMT				Sn	**Sn**	**22 37 51.3**	**+1.1**
CKRK	**Yozgat, Cekere**	**1.41**	**118**	P	**Pn**	**22 37 31.5**	**-0.2**
CKRK				S	**Sb**	**22 37 48.1**	**-2.3**
CKRK				i AML	AML	22 37 53.0	
comp=E,699nm,0.7s							
CKRK				i AML	AML	22 38 04.0	
comp=N,573nm,0.7s							
HAVZ	**Havza**	**1.43**	**76**	P	**Pn**	**22 37 31.8**	**-0.1**
HAVZ				S	**Sb**	**22 37 50.2**	**-0.8**
AFSR	**Afar-Bala (An**	**1.44**	**206**	Pn	**Pb**	**22 37 32.5**	**-0.1**
YARM	**Yarimca-Ladik(**	**1.49**	**83**	Pn	**Pb**	**22 37 32.9**	**-0.5**
AMSY	**Amasya-Merkez**	**1.49**	**94**	P	Pg	22 37 38.5	+4.7
AMSY				S	**Sg**	**22 37 58.0**	**+4.9**
DEVR	**Zonguldak/Devr**	**1.50**	**286**	P	**Pg**	**22 37 33.5**	**-0.3**
DEVR				S	**Sn**	**22 37 51.5**	**-1.2**
BTIN	**Bartın**	**1.51**	**306**	P	**Pg**	**22 37 34.0**	**-0.2**
BTIN				i AML	AML	22 37 56.0	
comp=N,1μm,1.0s							
BTIN				i AML	AML	22 37 56.0	
comp=E,2μm,0.5s							
KIZO	**Buyukkizoglu-L**	**1.57**	**84**	Pn	**Pb**	**22 37 34.2**	**-0.5**
YOZ	**Yozgat**	**1.57**	**135**	Pn	**Pb**	**22 37 34.3**	**-0.5**
KIBS	**BOLU**	**1.58**	**258**	P	**Pb**	**22 37 34.7**	**-0.3**
KIBS				i AML	AML	22 38 00.0	
comp=E,991nm,0.5s							
KIBS				i AML	AML	22 38 01.0	
comp=N,1μm,0.5s							
KIRS	**Kirsehir-Merke**	**1.62**	**179**	P	**Pn**	**22 37 35.0**	**+0.5**
KIRS				S	**Sb**	**22 37 56.3**	**-0.1**
BOLU	**Bolu-Merkez-Mu**	**1.67**	**272**	P	**Pb**	**22 37 36.6**	**+0.1**
BOLU				S	**Sg**	**22 38 01.2**	**+2.3**
KVT	**Kavak**	**1.68**	**78**	Pn	**Pb**	**22 37 36.4**	**-0.1**
YUVA	**Yuva-Kibriscik**	**1.71**	**258**	Pn	**Pb**	**22 37 36.6**	**-0.5**
KOZK	**Kozakli-Nevseh**	**1.72**	**153**	Pn	**Pb**	**22 37 36.7**	**-0.6**
SIRC	**Yozgat**	**1.72**	**145**	P	**Pb**	**22 37 36.7**	**-0.6**
SIRC				S	**Sn**	**22 37 58.6**	**+0.3**
SIRC				i AML	AML	22 38 02.0	
comp=N,598nm,0.5s							
SIRC				i AML	AML	22 38 05.0	
comp=E,372nm,0.6s							
KKUL	**Konya-Kulu**	**1.74**	**205**	P	**Pn**	**22 37 36.9**	**+0.7**
HACI	**Hacifakili, Ak**	**1.76**	**126**	P	**Pb**	**22 37 37.5**	**-0.6**
HACI				S	**Sn**	**22 37 59.3**	**-0.2**
YAYX	**Yaylak**	**1.81**	**182**	Pn	**Pn**	**22 37 37.6**	**+0.4**
SERE	**Sereflikochisa**	**1.82**	**188**	Pn	**Pn**	**22 37 37.7**	**+0.4**
KULU	**Kulu**	**1.84**	**202**	Pn	**Pn**	**22 37 38.3**	**+0.8**
YIGI	**Dzce**	**1.85**	**277**	P	**Pb**	**22 37 38.4**	**-1.1**
AUMIH	**MIHALICIK**	**2.03**	**245**	P	**Pn**	**22 37 40.9**	**+0.6**
AUMIH				S	**Sg**	**22 38 09.7**	**-0.7**
MDUB	**Mudurnu**	**2.06**	**263**	Pn	**Pn**	**22 37 41.1**	**+0.5**
TOKT	**Tokat**	**2.08**	**101**	Pn	**Pn**	**22 37 41.7**	**+0.9**
AKSY	**AKSARAY - Alti**	**2.10**	**182**	P	**Pg**	**22 37 43.1**	**-0.8**
AKSY				S	**Sg**	**22 38 12.1**	**-0.6**
BTAS	**Taskesti**	**2.20**	**266**	P	**Pn**	**22 37 43.2**	**+0.8**
BTAS				S	**Sg**	**22 38 15.1**	**-0.7**
AUSIV	**SIVRIHISAR**	**2.22**	**235**	P	**Pn**	**22 37 43.9**	**+1.1**
AUSIV				S	**Sb**	**22 38 12.3**	**-1.4**
SVRH	**Sivrihisar-ESK**	**2.23**	**235**	Pn	**Pn**	**22 37 43.2**	**+0.3**
GUNE	**Kayseri**	**2.29**	**143**	P	**Pb**	**22 37 46.0**	**-0.9**
GUNE				i AML	AML	22 38 27.0	
comp=E,930nm,0.5s							
GUNE				i AML	AML	22 38 36.0	
comp=N,1μm,0.7s							
CHBY	**Cihanbeyli**	**2.30**	**200**	Pn	**Pn**	**22 37 44.6**	**+0.7**
SUSU	**Bolu-G¶ynk-**	**2.35**	**261**	P	**Pn**	**22 37 45.3**	**+0.7**
SUSU				S	**Sg**	**22 38 20.5**	**0.0**
GULA	**Gulagac**	**2.42**	**173**	Pn	**Pn**	**22 37 46.9**	**+1.3**
BNN	**Bunyan**	**2.43**	**141**	Pn	**Pn**	**22 37 46.4**	**+0.7**
SVSK	**Karacayir**	**2.53**	**108**	Pn	**Pn**	**22 37 47.7**	**+0.8**
SGAZ	**Eskisehir, Sey**	**2.63**	**243**	P	**Pn**	**22 37 48.5**	**+0.1**
RSDY	**Resadiye-TOKAT**	**2.65**	**97**	Pn	**Pn**	**22 37 49.3**	**+0.6**
KAYN	**Sakarya, Kayna**	**2.69**	**276**	P	**Pn**	**22 37 49.9**	**+0.8**
KURO	**Afyon-Bolvadin**	**3.04**	**229**	P	**Pn**	**22 37 55.1**	**+1.1**
KTUT	**Trabzon**	**4.47**	**85**	⇑P	**Pb**	**22 38 24.8**	**+0.6**
MANR	**Mangalia**	**4.98**	**310**	⇓P	**Pn**	**22 38 24.8**	**+4.2**
MFTR	**Murfatlar**	**5.29**

TLCR		5.78 322	⇓P		Pn		22 38 31.9 +0.3
HARR	Harsova	5.89 314	⇑P		Pn		22 38 33.3 +0.3
BCA	Borcka	5.89 81	⇓P		Pn		22 38 28.7 -4.5
CFR	Carcaliu	6.11 318	⇓P		Pn		22 38 36.1 0.0
RAZG	Razgrad	6.16 300	⇑P		Pb		22 38 47.4 -5.4
VLDR	Vladesti	6.62 322	⇑P		Pn		22 38 43.0 0.0
VARL	Varlezi	6.76 321	⇓P		Pn		22 38 47.1 +2.0
ISR	Istrita	6.93 311	⇑P		Pn		22 38 49.3 +1.9
ODBI	Odobesti	7.06 317	⇑P		Pn		22 38 51.0 +1.8
GHRR		7.09 321	⇓P		Pn		22 38 50.0 +0.3
KIV	Kislovodsk	7.27 61	⇓P		Pn		22 38 59.6 +7.5
KVAR	Kislovodsk Arr	7.27 61	Pn		Pn		22 38 57.1 +4.9
	baz=263,slow=17						
	1.3nm,0.4s						
VRI	Vrincioaia	7.30 317	⇓P		Pn		22 38 55.4 +2.9
KBZ	Khabaz	7.32 63	Pn		Pn		22 38 57.8 +5.0
	0.1nm,0.3s,baz=239,slow=5.9,SNR=1.4						
	1.2nm,0.7s						
PLOR	Plostina	7.33 316	⇓P		Pn		22 38 58.8 +5.8
VASR	Vaslui	7.35 325	⇑P		Pn		22 38 52.8 -0.4
MLR	Muntele Rosu	7.49 312	⇓P		Pn		22 38 57.2 +2.0
MLR	Muntele Rosu	7.49 312	Pn		Pn		22 38 56.4 +1.3
	0.3nm,0.3s,baz=138,slow=16,SNR=3.1						
MLR			Sn		Sn		22 40 19.6 -1.0
	0.2nm,0.3s,baz=231,slow=21,SNR=1.2						
	1.6nm,0.5s						
COVR	Voineasa-Covas	7.56 315	⇑P		Pn		22 38 56.7 +0.6
TESR	Tescani	7.78 320	⇓P		Pn		22 38 58.1 -1.0
MMAI	Mount Meron Ar	7.82 171	Pn		Pn		22 39 01.1 +1.4
	3.0nm,0.3s,baz=4.5,slow=12,SNR=15						
	2.9nm,0.4s						
OZUR		7.95 315	⇑P		Pn		22 39 04.2 +2.8
DOPR	Dopca	8.09 313	⇑P		Pn		22 39 05.3 +2.1
ARR	Arges	8.19 307	⇑P		Pn		22 38 56.9 -7.9
SORM	Soroca	8.37 334	⇓P		Pn		22 39 04.5 -2.6
LOT	Lotru	8.76 306	⇓P		Pn		22 39 15.7 +3.1
ASF	Jabal al Asfar	8.90 163	Pn		Pn		22 39 15.2 +0.6
	0.1nm,0.3s,baz=338,slow=1.3,SNR=4.7						
	4.4nm,0.9s						
IDI	Anoyia	8.95 235	Pn		Pn		22 39 16.3 +1.1
	0.2nm,0.3s,baz=59,slow=18,SNR=1.4						
	1.9nm,0.5s						
BURAR	Bucovina Array	9.26 321	⇓P		Pn		22 39 19.0 -0.4
GZR	Gura Zlata	9.35 303	⇑P		Pn		22 39 26.0 +5.3
AKASG	Malin Array Be	10.46 343	Pn		Pn		22 39 33.8 -2.0
	2.4nm,0.3s,baz=161,slow=12,SNR=10						
AKASG			Sn		Sn		22 41 28.7 -4.7
	0.8nm,0.3s,baz=155,slow=24,SNR=5.9						
	1.6nm,0.4s						
AKTO	Aktyubinsk	19.39 52	P		Pn		22 41 35.5 +2.5
	0.1nm,0.3s,baz=245,slow=7.8,SNR=4.9						
	1.4nm,0.6s						
FINES	FINESS Array B	21.26 350	P		P		22 41 53.4 +1.3
	1.1nm,0.6s,baz=141,slow=12,SNR=5.9						
	1.1nm,0.6s						
HFS	Hagfors	23.10 334	P		P		22 42 12.4 +0.8
	1.4nm,0.5s,baz=138,slow=11,SNR=2.9						
	1.4nm,0.5s						
NOA	NORSAR Array B	24.60 333	P		P		22 42 27.6 +1.5
	0.7nm,0.9s,baz=147,slow=9.6,SNR=2.7						
	0.7nm,0.9s						
KURBB	Kurchatov Arra	32.27 57	P		P		22 43 37.0 +2.3
	0.4nm,0.6s,baz=276,slow=9.2,SNR=2.8						
	0.4nm,0.6s						
MKAR	Makanchi Array	35.02 64	P		P		22 44 00.9 +2.3
	0.6nm,0.9s,baz=305,slow=5.1,SNR=2.2						
	0.6nm,0.9s						
TORD	Torodi Ar. Bea	39.35 235	P		P		22 44 35.8 +0.1
	1.0nm,0.8s,baz=37,slow=10,SNR=5.0						
	1.0nm,0.8s						

*IDC **19** 23:07:19.3±0.4, 11°.69N×143°.23E, h0km, mb5.0/42, mbtmp5.0/45, ML5.1/3, MS4.2/46, Error ellipse: s-maj=14.5km s-min=10.2km az=81.0*
*BJI **19** 23:07:19.3±0.0, 11°.63N×143°.63E, h25km, mb5.1/70, mB5.1/37, Ms4.5/37, Ms7 4.4/38*
*MOS **19** 23:07:20.0±0.8, 11°.67N×143°.19E, h18km, mb5.3/68, Error ellipse: s-maj=7.8km s-min=4.6km az=113.8*
*NEIC **19** 23:07:21.2±1.3, 11°.66N±0°.07×143°.26E±0°.08, h10km±1km, mb5.3/291, Error ellipse: s-maj=14.4km s-min=10.5km az=297.0*
*DJA **19** 23:07:25.3±0.6, 12°.N±3°.×14°.3E±°, h40km±6km, M5.2/33, mb5.0/33, mB6.1/7, MLv4.8/1, Mw(mB)5.7/7, MwMwp5.9/1, Mwp6.0/1*
*GCMT **19** 23:07:28.2±0.4, 11°.65N±0°.03×143°.18E±0°.02, h39km±1km, MW5.1/74, Moment Tensor Solution. s30,c33; s74,c105; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.43±.39; Mθθ=4.50±.21; Mφφ=-1.07±.23; Mrθ=2.97±.20; Mφθ=-0.33±.18; Mφr=0.99±.23; Best double couple: M0=5.10500×10^16 NP1:φs=258.00000°, δ65.00000°, λ=-107.00000°. NP2: φs=113.00000°, δ30.00000°, λ=-58.00000°. Principal axes: T 5.4890, Plg18.0000°, Azm360.0000°; N -0.7690, Plg15.0000°, Azm265.0000°; P -4.7200, Plg66.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 23:07:23.1±0.6, 11°.70N±0°.03×143°.27E±0°.04, h26km±3km, n918, σ1§20/931, mb5.2/269, MS4.3/64, 26C-10D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.44	39	Pn	Pn	23 08 01.5	+0.2
GUMO				Sn	Sn	23 08 31.6	+1.3
GUMO	Guam	2.44	39	P	Pb	23 08 04.0	-2.3
GUMO	Guam	2.44	39	P	Pn	23 08 01.5	+0.2
GUMO						23 08 31.6	
GUMO	Guam	2.44	39	Pn	Pn	23 08 02.5	+1.2
	394nm,0.3s,baz=219,slow=9.3,SNR=42						
GUMO				Sn	Sn	23 08 29.9	-0.5
	313nm,0.3s,baz=208,slow=22,SNR=5.1						
GUMO				LR	LR	23 08 43.8	
	comp=Z,713nm,18.6s,baz=233,slow=34						
	2μm,0.7s						
JAY	Jayapura	14.35 190		P	Pn	23 10 46.6	+1.8
	22nm,0.9s						
GENI	Genyem	14.53 192		P	P	23 10 51.3	-2.2
	90nm,1.1s						
GENI	Genyem	14.53 192		P	Pn	23 10 50.1	+2.9
	85nm,1.2s,3μm						
JCJ	Chichijima	15.35 356			Pn	23 10 58.4	+0.3
JCJ	Chichijima	15.35 356		P	P	23 11 02.4	-0.2
	333nm,1.1s						
JCJ	Chichijima	15.35 356		Pn	Pn	23 10 58.3	+0.2
	7.4nm,0.3s,baz=151,slow=5.4,SNR=5.2						
	193nm,0.9s						
PATS	Pohnpei	15.61 107			Pn	23 10 59.9	-1.6
PATS	Pohnpei	15.61 107		P	Pn	23 11 02.1	+0.6
	111nm,1.0s						
RKPI	Ransiki, Papua	15.94 215		P	Pn	23 11 06.5	+0.7
	79nm,1.0s,8μm						
KAVG	Kavieng	16.04 152		P	P	23 11 09.2	-1.2
	4μm,0.8s						
TABU	Tabubil	16.98 187		P	P	23 11 23.7	+2.9
	2μm,0.8s						
SWI	Sorong	17.27 225		P	P	23 11 25.7	+1.7
	23nm,1.1s						
DAV	Davao City (W)	18.05 257		LR	LR	23 17 08.0	
	comp=Z,429nm,19.9s,baz=90,slow=33						
RABL	Rabaul	18.09 150		P	P	23 11 33.0	-0.1
RABL				IAmb	IAmb	23 11 41.2	
	comp=Z,157nm,0.6s						
KRVT	Keravat (AS076	18.13 151		P	Pn	23 11 33.2	-0.1
	comp=Z,5.7nm,0.3s,baz=202,slow=1.1,SNR=7.8						
KRVT				LR	LR	23 17 05.1	
	comp=Z,678nm,20.9s,baz=261,slow=32						
	comp=Z,32nm,0.6s						
FAKI	Fak Fak	18.20 218			Pn	23 11 31.6	-2.5
FAKI	Fak Fak	18.20 218		P	P	23 11 35.0	+0.8
	comp=Z,47nm,1.0s						
JOW	Kunigami	20.63 319		P	P	23 12 01.1	+0.3
JOW				IAmb	IAmb	23 12 04.7	
	comp=Z,78nm,0.7s						
JOW	Kunigami	20.63 319		P	Pn	23 12 03.3	+0.1
	comp=Z,143nm,0.9s						
JOW	Kunigami	20.63 319		P	P	23 12 00.0	-0.8
	comp=Z,77nm,0.8s,baz=126,slow=11,SNR=9.3						
JOW				LR	LR	23 18 22.2	
	comp=Z,584nm,20.9s,baz=134,slow=32						
	comp=Z,77nm,0.8s						
BNDI	Bandanaira	20.89 220		P	Pn	23 12 07.1	+0.8
	comp=Z,79nm,1.1s						
BNDI	Bandanaira	20.89 220		P	P	23 12 03.6	-0.1
	comp=Z,102nm,1.0s,comp=Z,12μm						
PMG	Port Moresby	21.32 169		P	P	23 12 07.0	-1.2
PMG	Port Moresby	21.32 169		P	P	23 12 10.0	+1.8
	comp=Z,71nm,0.9s						
PMG	Port Moresby	21.32 169		P	P	23 12 10.2	+2.0
	comp=Z,71nm,0.9s						
PMG	Port Moresby	21.32 169	*d*	*iP*	P	23 12 07.6	-0.6
PMG				pmax	pmax		
	comp=Z,86nm,1.3s						
PMG	Port Moresby	21.32 169		P	P	23 12 08.2	-0.1
	comp=Z,36nm,0.8s,baz=343,slow=11,SNR=6.5						
PMG				LR	LR	23 20 23.7	
	comp=Z,624nm,19.7s,baz=352,slow=37						
	comp=Z,36nm,0.8s						
JHJ	Hachijo jima 2	21.56 352		LR	LR	23 19 19.8	
	comp=Z,620nm,19.1s,baz=183,slow=33						
TGY	Tagaytay City	21.90 279		P	P	23 12 14.8	+0.2
	comp=Z,175nm,0.4s,baz=8.3,slow=11,SNR=4.6						
	comp=Z,175nm,0.4s						
SANI	Sanana	21.95 233		P	P	23 12 14.8	-0.3
	comp=Z,16nm,0.9s						
SAUI	Saumlaki	22.89 212		P	P	23 12 24.7	-0.4
SAUI				IAmb	IAmb	23 12 28.3	
	comp=Z,200nm,1.4s						
GTOI	Gorontalo	22.92 243		P	P	23 12 27.3	+1.9
	comp=Z,19nm,0.8s						
JMN	Monobe	23.55 340		P	P	23 12 30.7	-0.9
JMN				IAmb	IAmb	23 12 33.7	
	comp=Z,107nm,1.4s						
JMN	Monobe	23.55 340		P	P	23 12 33.4	+1.8
	comp=Z,80nm,2.5s						
H11S3	WAKE ISLAND Hy	23.58 71		T	T	23 36 42.6	
	baz=255,slow=79,SNR=16						
H11S1	WAKE ISLAND Hy	23.59 70		T	T	23 36 42.6	
	baz=255,slow=79,SNR=13						
H11S2	WAKE ISLAND Hy	23.59 71		T	T	23 36 44.4	
	baz=255,slow=79,SNR=18						
YULB	Yu-li	23.93 302		P	P	23 12 35.7	+0.4
YULB				IAmb	IAmb	23 13 02.9	
	comp=Z,80nm,1.4s						
MRSI	Marisa	23.93 244		P	P	23 12 35.6	+0.2
	comp=Z,72nm,1.2s						
LUWI	Luwuk	23.98 239		P	P	23 12 34.9	-1.0
LUWI	Luwuk	23.98 239		P	P	23 12 36.4	+0.6
	comp=Z,185nm,0.8s						
LUWI	Luwuk	23.98 239		P	P	23 12 34.2	-1.6
	comp=Z,187nm,0.8s						
NACB	Ninganchiao	24.03 304		P	P	23 12 36.5	+0.3
H11N1	WAKE ISLAND Hy	24.07 68		T	T	23 37 23.8	
	baz=247,slow=75,SNR=66						
H11N2	WAKE ISLAND Hy	24.08 68		T	T	23 37 26.0	
	baz=247,slow=75,SNR=20						
H11N3	WAKE ISLAND Hy	24.09 68		T	T	23 37 24.9	
	baz=247,slow=75,SNR=21						
JNU	Nakatsue	24.16 334		P	P	23 12 37.6	+0.2
JNU				IAmb	IAmb	23 12 39.6	
	comp=Z,88nm,0.8s						
JNU	Nakatsue	24.16 334		P	P	23 12 39.3	+1.9
	comp=Z,120nm,0.9s						
JNU	Nakatsue	24.16 334		P	P	23 12 37.2	-0.2
	comp=Z,71nm,0.8s,baz=134,slow=5.1,SNR=25						
JNU				LR	LR	23 20 44.5	
	comp=Z,374nm,19.2s,baz=169,slow=33						
	comp=Z,71nm,0.8s						
INU	Inuyama	24.22 347		P	P	23 12 38.1	+0.3
INU	Inuyama	24.22 347		P	P	23 12 39.3	+1.5
	comp=Z,40nm,1.1s						
SSLB	Suanglung	24.38 303		P	P	23 12 40.2	+0.7
SSLB				IAmb	IAmb	23 12 41.7	
	comp=Z,51nm,0.7s						
SSLB	Suanglung	24.38 303		P	P	23 12 40.2	+0.7
	comp=Z,97nm,0.7s						
YHNB	Yeheng	24.43 305		P	P	23 12 40.6	+0.6
TPUB	Ta-pu	24.44 301		P	P	23 12 39.1	-0.9
TPUB				IAmb	IAmb	23 12 41.2	
	comp=Z,64nm,1.0s						
MJAR	Matsushiro Arr	25.15 350		P	P	23 12 44.6	-1.8
	comp=Z,21nm,0.7s,baz=188,slow=12,SNR=61						
MJAR				LR	LR	23 21 52.2	
	comp=Z,429nm,21.0s,baz=148,slow=35						
	comp=Z,21nm,0.7s						
MAJO	Matsushiro	25.16 350		P	P	23 12 46.2	-0.1
MAJO				IAmb	IAmb	23 12 46.5	
	comp=Z,53nm,0.8s						
MAJO	Matsushiro	25.16 350		P	P	23 12 45.8	-0.5
	comp=Z,86nm,0.9s						
MAJO	Matsushiro	25.16 350	*c*	*iP*	P	23 12 44.7	-1.6
MAJO				pmax	pmax		
	comp=Z,81nm,0.9s						
MJB9	Matsu-Tunnel	25.16 350		P	P	23 12 46.7	+0.3
MJB9				IAmb	IAmb	23 12 47.0	
	comp=Z,72nm,0.9s						
COEN	Coen	25.49 180		P	P	23 12 49.6	+0.1
COEN				IAmb	IAmb	23 12 51.1	
	comp=Z,57nm,1.2s						
COEN	Coen	25.49 180		P	P	23 12 50.9	+1.4
	comp=Z,53nm,1.2s						
MPSI	Mapaga	25.81 246		P	P	23 12 52.8	+0.3
	comp=Z,26nm,1.1s,comp=Z,4μm						
JTU	Tsushima	26.00 333		P	P	23 12 53.7	-0.3
JMM	Marumori	26.15 356		P	P	23 12 55.1	-0.3
JMM	Marumori	26.15 356		P	P	23 12 55.0	-0.3
	comp=Z,180nm,0.9s						
KDU	Kakadu	26.49 204		P	P	23 13 00.3	+1.7
	comp=Z,44nm,0.8s						
JSD	Sado	26.61 351		P	P	23 12 58.8	-0.7
JSD				IAmb	IAmb	23 13 02.2	
	comp=Z,156nm,1.4s						
JSD	Sado	26.61 351		P	P	23 12 59.8	+0.3
	comp=Z,74nm,1.0s						
HNR	Honiara	26.75 141		LR	LR	23 24 21.0	
	comp=Z,5μm,18.4s,baz=322,slow=38						
TJN	Taejon	28.46 332		P	P	23 13 15.2	-0.9
TJN	Taejon	28.46 332		P	P	23 13 15.9	-0.2
	comp=Z,156nm,1.1s						
TJN	Taejon	28.46 332	*de*	P	P	23 13 16.2	+0.1
SOEI	Soe	28.48 222		P	P	23 13 17.0	+0.4
KAPI	Kappang	28.69 236		P	P	23 13 18.4	0.0
KAPI	Kappang	28.69 236		P	P	23 13 18.4	0.0
KAPI				pmax	pmax		
	comp=Z,25nm,1.4s						
JTM	Tenmabayashi	29.04 357		P	P	23 13 20.7	-0.5
JTM				IAmb	IAmb	23 13 22.0	
	comp=Z,75nm,1.3s						
KSRS	Korea Array	29.11 334		P	P	23 13 21.1	-0.7
	comp=Z,8.5nm,0.9s,baz=148,slow=10,SNR=17						
KSRS				LR	LR	23 24 43.6	
	comp=Z,299nm,19.0s,baz=115,slow=36						
	comp=Z,8.5nm,0.9s						
KSAR	Wonju Array Be	29.12 334		P	P	23 13 20.4	-1.5
KSAR	Wonju Array Be	29.12 334		P	P	23 13 20.4	-1.5
KS19	Wonju Array Si	29.18 334		P	P	23 13 23.0	+0.6
BATI	Baumata	29.21 223		P	P	23 13 21.4	-1.6
	comp=Z,20nm,0.6s,baz=348,slow=12,SNR=3.7						
BATI				LR	LR	23 26 10.3	
	comp=Z,180nm,18.1s,baz=26,slow=39						
	comp=Z,20nm,0.6s						
NJ2	Nanjing	30.26 316	*e*	P	P	23 13 34.8	+2.7
NJ2				pP	sP	23 13 40.6	-0.2
NJ2				sP	pwP	23 13 44.1	-0.7
NJ2				pmax	pmax		
	comp=Z,15nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,490nm,5.8s						
KNRA	Kununurra	30.76 208		P	P	23 13 35.8	-0.9
KNRA				IAmb	IAmb	23 13 38.7	
	comp=Z,65nm,1.4s						
KNRA	Kununurra	30.76 208		P	P	23 13 37.7	+1.1
	comp=Z,30nm,1.5s						
CTA	Charters Tower	31.72 175		LR	LR	23 25 05.8	
	comp=Z,315nm,21.8s,baz=350,slow=34						
QIS	Mount Isa	32.26 186		P	P	23 13 50.1	+0.3
	comp=Z,58nm,0.9s						
ASAJ	Asahikawa	32.31 359		LR	LR	23 25 48.3	
	comp=Z,250nm,22.0s,baz=174,slow=34						
WB0	Warramunga Arr	32.47 196		P	P	23 13 50.7	-0.9
WB0				IAmb	IAmb	23 13 52.5	
	comp=Z,82nm,1.5s						
WR0	Warramunga Arr	32.61 195		P	P	23 13 52.4	-0.5
WR0				IAmb	IAmb	23 13 53.3	
	comp=Z,22nm,0.7s						
WRAB	Tennant Creek	32.64 196		P	P	23 13 52.4	-0.7
WRAB				IAmb	IAmb	23 13 54.1	
	comp=Z,60nm,1.1s						
WRAB	Tennant Creek	32.64 196		P	P	23 13 53.2	+0.1
	comp=Z,72nm,1.4s						
WRAB	Tennant Creek	32.64 196	*d*	*iP*	P	23 13 52.8	-0.3
WRAB				pmax	pmax		
	comp=Z,83nm,1.7s						
WB2	Warramunga Arr	32.65 196		P	P	23 13 52.8	-0.4
WB2				IAmb	IAmb	23 13 54.2	
	comp=Z,48nm,0.9s						
WRA	Warramunga Arr	32.65 196		P	P	23 13 52.4	-0.8
WRA	Warramunga Arr	32.65 196		*i P*	P	23 13 50.9	-2.3
WRA				pmax	pmax		
	comp=Z,28nm,0.7s						
WRA	Warramunga Arr	32.65 196		P	P	23 13 53.1	-0.1
	comp=Z,27nm,0.7s,baz=18,slow=9.5,SNR=106						
	comp=Z,27nm,0.7s						
WHN	Wuhan	32.70 309		P	P	23 13 54.6	+1.0
QIZ	Qiongzhong	33.01 287		P	P	23 13 57.6	+1.1
QIZ				S	S	23 19 15.1	+1.4
QIZ				LR	LR		
	comp=Z,380nm,15.1s						
QIZ				LR	LR		
	comp=Z,460nm,15.1s						
QIZ				LR	LR		
	comp=Z,590nm,17.7s						
DL2	Dalian	33.24 328		P	P	23 13 58.6	+0.4
DL2				pmax	pmax		
	comp=Z,28nm,1.0s						
USRK	Ussuriysk Ar.	33.81 345		P	P	23 14 03.2	+0.1
USRK	Ussuriysk Ar.	33.81 345		P	P	23 14 03.3	+0.1
USRK	Ussuriysk Ar.	33.81 345		P	P	23 14 03.4	+0.3
	comp=Z,36nm,0.8s,baz=164,slow=8.8,SNR=43						
	comp=Z,36nm,0.8s						
USA0B	Ussuriysk Arra	33.81 345		P	P	23 14 03.6	+0.4
USA0B				IAmb	IAmb	23 14 04.8	
	comp=Z,48nm,0.9s						
USA0B	Ussuriysk Arra	33.81 345		P	P	23 14 03.6	+0.4
USA0B				pmax	pmax		
	comp=Z,47nm,1.0s						
GULI	GuiLin	33.90 298		⇑P	P	23 14 07.4	+3.2
GULI				pmax	pmax		
	comp=Z,20nm,1.0s						
GULI				LR	LR		
	comp=Z,320nm,18.7s						
GULI				LR	LR		
	comp=Z,430nm,21.7s						
GULI				LR	LR		
	comp=Z,560nm,21.7s						
MDJ	Mudanjiang	34.84 343		P	P	23 14 12.8	+0.7
MDJ				pP	pwP	23 14 23.0	-1.8
MDJ				sP	sP	23 14 27.1	+6.3
MDJ				PP	PP	23 15 33.8	+2.4
MDJ				PcP	PcP	23 16 41.0	-3.9
MDJ				S	S	23 19 47.0	+5.5
MDJ				ScP	ScP	23 20 23.0	-5.8
MDJ				PcS	PcS	23 20 31.1	-0.3
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,270nm,8.8s						
MDJ				LR	LR		
	comp=Z,400nm,13.0s						
MDJ				LR	LR		
	comp=Z,270nm,16.3s						
MDJ				LR	LR		
	comp=Z,440nm,14.7s						
YSS	Yuzh-Sakhalins	35.14 359	⇓	*eP*	P	23 14 13.4	-1.2
YSS				pmax	pmax		
	comp=Z,59nm,2.5s						
CN2	Changchun	35.50 338		*eP*	P	23 14 15.8	-1.9
CN2				*es*P	pP	23 14 24.5	+0.6
CN2				*eS*	S	23 19 48.6	-3.0
CN2				LR	LR		
	comp=Z,390nm,15.0s						
CN2				LR	LR		
	comp=Z,170nm,15.0s						
CN2				LR	LR		
	comp=Z,410nm,17.0s						
RK1H	Rockhampton Ha	35.58 169		P	P	23 14 18.6	0.0
	comp=Z,28nm,0.9s						
LYN	LuoYang	36.09 314	⇑	*iP*	P	23 14 23.4	+0.5
LYN				pmax	pmax		
	comp=Z,33nm,0.7s						
LYN				LR	LR		
	comp=Z,730nm,18.4s						
LYN				LR	LR		
	comp=Z,490nm,15.9s						
LYN				LR	LR		
	comp=Z,820nm,21.2s						
HNS	HongShan	36.20 320	⇓	P	P	23 14 23.9	+0.1
HNS				sP	pwP	23 14 35.0	-1.5
HNS				*eS*	S	23 20 01.1	-1.4
HNS				pmax	pmax		
	comp=Z,24nm,0.9s						
HNS				LR	LR		
	comp=Z,510nm,21.9s						
HNS				LR	LR		
	comp=Z,410nm,17.7s						
AS31	Alice Springs	36.32 195		P	P	23 14 24.9	-0.1
ASAR	Alice Springs	36.32 195		P	P	23 14 24.8	-0.2
ASAR	Alice Springs	36.32 195		P	P	23 14 25.2	+0.2
	comp=Z,5.0nm,0.6s,baz=19,slow=8.9,SNR=85						
ASAR				PcP	PcP	23 16 50.5	+0.9
	comp=Z,1.5nm,0.6s,baz=41,slow=3.3,SNR=4.5						
ASAR				LR	LR	23 29 08.8	
	comp=Z,579nm,19.8s,baz=17,slow=36						
	comp=Z,5.0nm,0.6s						
BNX	BinXian	36.52 341	⇑	P	P	23 14 26.4	-0.1
BNX				pmax	pmax		
	comp=Z,53nm,1.1s						
BNX				pmax	pmax		
	comp=Z,150nm,4.6s						
BJT	Baijiatuau	37.00 324		P	P	23 14 30.3	-0.3
BJT	Baijiatuau	37.00 324		P	P	23 14 30.3	-0.3
BJT				pmax	pmax		
	comp=Z,13nm,0.8s						
BJI	Beijing	37.01 324		P	P	23 14 30.8	+0.1
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BJI				LR	LR		
	comp=Z,280nm,18.6s						
BJI				LR	LR		
	comp=Z,230nm,19.6s						
BJI				LR	LR		
	comp=Z,320nm,19.3s						
GYA	Guiyang	37.43 298		*eP*	P	23 14 36.6	+2.0
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
EIDS	Eidsvold	37.62 168		P	P	23 14 35.4	-0.6
QLP	Quilpie	38.06 179		P	P	23 14 39.3	-0.4
	comp=Z,45nm,1.7s						
KOUNC	Koumac, New Ca	38.13 147		P	P	23 14 40.0	-0.3
KOUNC				IAmb	IAmb	23 14 42.7	
	comp=Z,45nm,1.0s						
XAN	Xi'an	38.40 311	⇑	P	P	23 14 42.4	-0.2
XAN				pP	pP	23 14 49.1	+0.3
XAN				pmax	pmax		
	comp=Z,21nm,0.6s						
XAN				pmax	pmax		
	comp=Z,160nm,5.3s						
XAN				LR	LR		
	comp=Z,820nm,16.2s						
XAN				LR	LR		
	comp=Z,720nm,5.7s						
XAN				LR	LR		
	comp=Z,540nm,6.9s						
KLR	Kul'dur	38.62 348	*c*	*iP*	P	23 14 44.5	+0.3
KLR				pmax	pmax		
	comp=Z,57nm,1.3s						
KLR	Kul'dur	38.62 348		LR	LR	23 29 10.7	
	comp=Z,597nm,21.4s,baz=188,slow=34						
SLVN	Son La	38.85 289		P	P	23 14 46.9	+0.3
TYV	Tymovskoe	39.06 359		*eP*	P	23 14 48.2	+0.4
TYV				*eS*	S	23 20 50.2	+4.7
TYV				pmax	pmax		
	comp=Z,34nm,0.9

XLT pmax pmax
comp=N,27nm,0.8s
XLT pmax pmax
comp=N,130nm,5.9s
XLT LR LR
comp=N,440nm,18.3s
XLT LR LR
comp=N,650nm,20.8s
OOD Oodnadatta 39.94 190 P **P 23 14 55.7 +0.3**
comp=N,76nm,1.4s
HHC Hu-ho-hao-te 40.24 322 ⇑P **P 23 15 00.6 +2.7**
HHC PP **PnPn 23 16 35.8 +1.3**
HHC S **S 23 21 05.8 +2.0**
HHC pmax pmax
comp=N,22nm,0.5s
HHC pmax pmax
comp=N,250nm,4.4s
HHC LR LR
comp=N,660nm,15.5s
HHC LR LR
comp=N,620nm,16.7s
HHC LR LR
comp=N,1μm,19.4s
PSA00 Pilbara Seismi 40.28 215 P **P 23 14 57.7 -0.6**
NOUC Port Laguerre 40.48 146 P **P 23 15 01.5 +1.5**
comp=N,52nm,1.0s
DZM Mont Dzumac 40.53 146 *e*LR LR 23 26 05.1
comp=N,570nm,24.3s
DZM Mont Dzumac 40.53 146 P **P 23 15 00.9 +0.4**
DZM Mont Dzumac 40.53 146 P **P 23 15 01.6 +1.1**
comp=N,173nm,0.8s
DZM Mont Dzumac 40.53 146 LR LR 23 29 43.7
comp=N,250nm,21.1s,baz=256,slow=33
KMI Kunming 40.55 295 ⇑P **P 23 15 02.6 +1.7**
KMI pP sP 23 15 09.6 +0.8
KMI sP pwP 23 15 13.0 -2.6
KMI pmax pmax
comp=N,16nm,0.9s
HEH HeiHe 40.60 344 *e*P **P 23 15 01.0 +0.4**
HEH sP **pwP 23 15 12.8 -0.5**
HEH PcP **PcP 23 17 07.0 +4.6**
HEH ScP **ScP 23 20 50.8 +0.4**
HEH S **S 23 21 06.3 -2.3**
HEH pmax pmax
comp=N,130nm,1.1s
HEH pmax pmax
comp=N,210nm,5.1s
HEH LR LR
comp=N,380nm,16.1s
HEH LR LR
comp=N,290nm,17.3s
HEH LR LR
comp=N,730nm,17.3s
ONTNC Ouen Toro 40.73 146 P **P 23 15 01.3 -0.8**
NAYO Nakonayok 40.92 278 P **P 23 15 06.3 +2.5**
comp=N,242nm,1.0s
OUENC Ouen Island, N 41.03 146 P **P 23 15 04.5 -0.1**
OUENC IAmb IAmb 23 15 06.7
comp=Z,56nm,0.8s
BTO Baotou 41.04 321 *e*P **P 23 15 05.9 +1.3**
BTO pP **pwP 23 15 18.3 +1.1**
BTO S **S 23 21 16.0 +0.3**
BTO sS sS 23 21 36.0 +10
BTO SS **SS 23 24 14.3 -4.1**
BTO pmax pmax
comp=Z,41nm,1.1s
BTO pmax pmax
comp=Z,540nm,6.2s
BTO LR LR
comp=Z,920nm,19.9s
BTO LR LR
comp=Z,1μm,17.6s
BTO LR LR
comp=Z,1μm,17.9s
CD2 Chengdu 41.20 304 P **P 23 15 05.8 -0.2**
CD2 S **S 23 21 20.3 +2.0**
CD2 pmax pmax
comp=Z,70nm,0.7s
CD2 pmax pmax
comp=Z,300nm,5.3s
CD2 LR LR
comp=Z,420nm,17.9s
CD2 LR LR
comp=Z,370nm,16.5s
CD2 LR LR
comp=Z,570nm,14.7s
PINNC Pines Island, 41.52 145 P **P 23 15 08.7 +0.2**
PINNC Pines Island, 41.52 145 P **P 23 15 10.2 +1.7**
comp=Z,92nm,0.8s
PZH PanZhiHua 41.71 297 P **P 23 15 11.3 +0.9**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,240nm,7.7s
CRAI Chiangrai 42.01 287 P **P 23 15 12.8 +0.1**
LCRK Leigh Creek 42.18 187 P **P 23 15 14.1 +0.3**
HIA Hailar 42.23 337 P **P 23 15 14.2 +0.1**
HIA Hailar 42.23 337 P **P 23 15 14.2 +0.1**
HIA pmax pmax
comp=Z,8.0nm,0.5s
KULM Kulim 42.60 265 P **P 23 15 18.0 +0.5**
ARMA Armidale 42.64 169 P **P 23 15 18.5 +0.8**
comp=Z,36nm,1.0s
MULG Mulgathing 42.67 192 P **P 23 15 18.1 +0.3**
comp=Z,71nm,1.4s
PEA0B Petropavlovsk- 42.89 13 P **P 23 15 20.0 +0.6**
PEA0B IAmb IAmb 23 15 24.9
comp=Z,73nm,1.5s
PEA0B Petropavlovsk- 42.89 13 P **P 23 15 20.0 +0.6**
PEA0B pmax pmax
comp=Z,73nm,1.5s
PETK Petropavlovsk- 42.89 13 P **P 23 15 19.7 +0.3**
comp=Z,2.3nm,0.6s,baz=211,slow=4.7,SNR=2.2
PETK LR LR 23 30 22.2
comp=Z,438nm,21.4s,baz=188,slow=32
comp=Z,2.3nm,0.6s
SURA Surathani 42.97 271 P **P 23 15 23.3 +2.8**
comp=Z,44nm,1.0s
LZH Lanzhou 43.03 311 *e*P **P 23 15 22.3 +1.3**
LZH pP sP 23 15 29.0 -0.9
LZH sP pwP 23 15 32.8 -0.8
LZH pmax pmax
comp=Z,33nm,1.1s
LZH LR LR
comp=Z,430nm,17.2s
LZH LR LR
comp=Z,750nm,17.2s
LZH LR LR
comp=Z,850nm,19.9s
CMSA Cobar Meteorol 43.05 177 P **P 23 15 20.8 -0.1**
comp=Z,23nm,1.1s
SRDT SRDT 43.05 279 P **P 23 15 23.6 +2.4**
comp=Z,39nm,1.3s
SRIT Nakonsritamara 43.07 270 P **P 23 15 23.1 +1.8**
SRIT IAmb IAmb 23 15 31.1
comp=Z,82nm,1.2s
SRIT Nakonsritamara 43.07 270 P **P 23 15 23.8 +2.4**
comp=Z,64nm,1.0s
CM31 Chiang Mai Arr 43.24 284 P **P 23 15 23.5 +0.7**
CM31 Chiang Mai Arr 43.24 284 P **P 23 15 25.0 +2.2**
SNR=8.3
CMAR Chiang Mai Arr 43.24 284 P **P 23 15 23.1 +0.3**
CMAR Chiang Mai Arr 43.24 284 *i*P **P 23 15 24.5 +1.7**
CMAR pmax pmax
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 43.24 284 P **P 23 15 24.1 +1.4**
comp=Z,20nm,0.8s,baz=86,slow=6.4,SNR=102
CMAR LR LR 23 31 53.6
comp=Z,195nm,20.5s,baz=285,slow=34
comp=Z,20nm,0.8s
CHTO Chiang Mai 43.26 285 P **P 23 15 22.8 -0.1**
CHTO Chiang Mai 43.26 285 P **P 23 15 22.8 -0.1**
STKA Stephens Creek 43.36 182 P **P 23 15 22.2 -1.1**
STKA Stephens Creek 43.36 182 P **P 23 15 22.2 -1.1**
STKA pmax pmax
comp=Z,5.0nm,1.2s
STKA Stephens Creek 43.36 182 P **P 23 15 22.7 -0.6**
comp=Z,11nm,0.6s,baz=5.9,slow=8.8,SNR=17
STKA PcP **PcP 23 17 10.5 -1.3**
comp=Z,3.4nm,0.8s,baz=0.0,slow=8.1,SNR=2.9
comp=Z,11nm,0.6s
ZEA Zeya 43.84 346 *e*P **P 23 15 27.2 +0.2**
ZEA *e* 23 26 04.5
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,30nm,1.1s
TNCH TengChong 44.29 294 P **P 23 15 32.6 +1.3**
TNCH pP pP 23 15 35.8 -1.2
TNCH pmax pmax
comp=Z,32nm,1.1s
FORT Forrest 44.69 199 P **P 23 15 34.0 -0.1**
FORT IAmb IAmb 23 15 35.8
comp=Z,49nm,0.8s
FORT Forrest 44.69 199 P **P 23 15 34.9 +0.8**
comp=Z,83nm,0.9s
BBOO Buckleboo 44.79 189 P **P 23 15 34.1 -0.7**
BBOO IAmb IAmb 23 15 35.8
comp=Z,45nm,0.8s
BBOO Buckleboo 44.79 189 P **P 23 15 34.9 0.0**
comp=Z,67nm,0.8s
PSI Prapat 44.82 262 P **P 23 15 37.0 +1.4**
comp=Z,13nm,0.9s
PSI Prapat 44.82 262 P **P 23 15 35.7 +0.1**
PSI pmax pmax
comp=Z,8.0nm,0.7s
RPSI Rantau Prapat 44.84 262 P **P 23 15 35.7 +0.1**
MSVF Nonsavu 45.10 130 P **P 23 15 37.2 -0.5**
MSVF IAmb IAmb 23 15 39.6
comp=Z,86nm,1.4s
MSVF Nonsavu 45.10 130 P **P 23 15 39.0 +1.3**
comp=Z,46nm,1.0s
MSVF Nonsavu 45.10 130⇓*e*P **P 23 15 38.9 +1.3**
MSVF pmax pmax
comp=Z,56nm,1.2s
MND Mandalay 46.12 289 P **P 23 15 46.6 +0.9**
comp=Z,25nm,1.1s
GSI Gunungsitoli 46.49 261 P **P 23 15 48.3 -0.4**
GSI Gunungsitoli 46.49 261 P **P 23 15 49.2 +0.5**
comp=Z,17nm,0.9s
ULN Ulaanbaatar 47.08 327 P **P 23 15 52.9 -0.1**
ULN Ulaanbaatar 47.08 327*c i*P **P 23 15 53.6 +0.7**
ULN pmax pmax
comp=Z,20nm,1.2s
ULN Ulaanbaatar 47.08 327 P **P 23 15 53.7 +0.7**
ULN P **P 23 15 53.7 +0.7**
GTA Gaotai 47.30 314 ⇑P **P 23 15 55.5 +0.7**
GTA pmax pmax
comp=Z,22nm,1.0s
GTA LR LR
comp=Z,240nm,19.1s
GTA LR LR
comp=Z,250nm,18.7s
GTA LR LR
comp=Z,450nm,19.5s
SONM Songino Array 47.41 327 P **P 23 15 54.9 -0.6**
SONM Songino Array 47.41 327 P **P 23 15 54.9 -0.6**
SONM pmax pmax
comp=Z,22nm,1.3s
SONM Songino Array 47.41 327 P **P 23 15 56.1 +0.5**
comp=Z,5.8nm,0.9s,baz=138,slow=8.6,SNR=29
comp=Z,5.8nm,0.9s
MA2 Magadan 48.11 5 LR LR 23 37 16.9
comp=Z,131nm,18.3s,baz=194,slow=37
MORW Morawa 48.31 212 P **P 23 16 02.5 -0.1**
MORW Morawa 48.31 212 P **P 23 16 03.0 +0.4**
comp=Z,56nm,1.0s
TOO Toolangi 49.05 178 P **P 23 16 07.0 -1.1**
TOO IAmb IAmb 23 16 10.0
comp=Z,19nm,0.8s
TOO Toolangi 49.05 178 P **P 23 16 09.4 +1.3**
comp=Z,32nm,2.3s
TOO Toolangi 49.05 178 P **P 23 16 07.0 -1.1**
TOO pmax pmax
comp=Z,19nm,0.8s
BLDU Ballidu 49.22 211 P **P 23 16 09.8 +0.3**
comp=Z,65nm,1.1s
SHL Shillong 50.32 293 P **P 23 16 18.1 -0.2**
SHL IAmb IAmb 23 16 19.4
comp=Z,27nm,0.8s
SHL Shillong 50.32 293 P **P 23 16 18.1 -0.2**
SHL pmax pmax
comp=Z,27nm,0.8s
SHL Shillong 50.32 293 P **P 23 16 18.8 +0.5**
ZAK Zakamensk 50.57 328 *e*P **P 23 16 19.1 -0.6**
ZAK pmax pmax
comp=Z,37nm,1.1s
NWAO Narrogin (SRO) 50.86 208 LR LR 23 38 02.5
comp=Z,148nm,20.9s,baz=167,slow=36
BOD Bodaibo 51.14 340 *e*P **P 23 16 23.8 +0.1**
BOD pmax pmax
comp=Z,32nm,1.3s
YAK Yakutsk 51.21 352 P **P 23 16 23.3 -0.8**
YAK Yakutsk 51.21 352*c i*P **P 23 16 23.8 -0.3**
YAK pmax pmax
comp=Z,188nm,0.8s
LSA Lhasa 51.50 299 P **P 23 16 28.4 +0.9**
LSA pmax pmax
comp=Z,21nm,0.8s
LSA Lhasa 51.50 299 P **P 23 16 27.2 -0.2**
LSA Lhasa 51.50 299 P **P 23 16 27.2 -0.2**
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 51.50 299 P **P 23 16 28.9 +1.4**
LSA Lhasa 51.50 299 P **P 23 16 29.1 +1.6**
LSA P **P 23 16 29.1 +1.6**
SEY Seymchan 51.57 5⇓*i*P **P 23 16 27.6 +0.8**
SEY pmax pmax
comp=Z,24nm,1.3s
SEY Seymchan 51.57 5 LR LR 23 37 01.3
comp=Z,154nm,21.2s,baz=178,slow=34
COCO West Island 51.85 244 P **P 23 16 27.7 -1.9**
COCO West Island 51.85 244 P **P 23 16 27.7 -1.9**
COCO pmax pmax
comp=Z,108nm,1.1s
MOY Mondy 52.49 328 *e*P **P 23 16 34.3 +0.3**
MOY pmax pmax
comp=Z,25nm,1.4s
TAPN Taplejung 54.22 295 *e*P **P 23 16 47.9 +0.5**
comp=Z,71nm,1.2s
RAMN Ramite 55.17 295 *e*P **P 23 16 55.0 +0.8**
comp=Z,54nm,0.8s
RAO Raoul Island 55.31 138 LR LR 23 35 55.9
comp=Z,286nm,21.9s,baz=139,slow=31
JIRN Jiri 55.59 296 *e*P **P 23 16 58.1 +0.7**
comp=Z,37nm,0.7s
GUN Gumba 55.88 296 *e*P **P 23 17 00.3 +0.8**
comp=Z,150nm,0.9s
NIKH Nikolski High 56.09 33 P **P 23 17 00.4 +0.3**
baz=241
PKI Pulchoki 56.27 295 *e*P **P 23 17 02.3 +0.1**
comp=Z,101nm,1.3s
PKIN Phulchoki 56.28 295 *e*P **P 23 17 02.4 +0.2**
comp=Z,72nm,1.1s
DMN Daman 56.54 295 *e*P **P 23 17 04.5 +0.4**
comp=Z,100nm,1.0s
GKN Gorkha 56.98 296 *e*P **P 23 17 07.5 +0.4**
comp=Z,122nm,1.0s
KUZ Kuaotunu 57.05 149 P **P 23 17 07.6 +0.6**
comp=Z,42nm,1.1s
WMQ Urumqi 57.33 315 ⇑P **P 23 17 10.5 +1.3**
WMQ pP sP 23 17 17.6 -0.7
WMQ pmax pmax
comp=Z,62nm,1.1s
WMQ pmax pmax
comp=Z,300nm,4.9s
WMQ LR LR
comp=Z,240nm,24.1s
WMQ LR LR
comp=Z,190nm,16.9s
WMQ LR LR
comp=Z,260nm,19.3s
DANN Dangsing 57.78 296 *e*P **P 23 17 13.2 +0.3**
comp=Z,144nm,0.8s
PYUN Piuthan 58.44 296 *e*P **P 23 17 17.9 +0.5**
comp=Z,192nm,0.8s
RTZ Ruatahuna 59.13 150 P **P 23 17 21.4 -0.3**
RTZ IAmb IAmb 23 17 23.7
comp=Z,31nm,1.0s
TKNZ Takaka Hill 59.20 154 P **P 23 17 22.4 +0.3**
DSZ Denniston Nort 59.31 155 P **P 23 17 22.3 -0.6**
BKZ Black Stump Fm 59.32 150 P **P 23 17 22.7 -0.2**
BKZ IAmb IAmb 23 17 24.1
comp=Z,29nm,0.8s
BKZ Black Stump Fm 59.32 150 P **P 23 17 23.5 +0.5**
comp=Z,42nm,1.0s
DGZ Jazzator, Alta 59.32 321*c i*P **P 23 17 23.8 +0.8**
DGZ pmax pmax
comp=Z,33nm,0.9s
THZ Tophouse 59.78 155 P **P 23 17 25.9 -0.3**
THZ IAmb IAmb 23 17 27.9
comp=Z,17nm,0.9s
TCW Tory Channel 59.92 153 P **P 23 17 26.7 -0.3**
TUWZ Tuamarina 59.95 154 P **P 23 17 26.4 -0.8**
INZ Inchbonnie 59.99 156 P **P 23 17 26.5 -0.9**
INZ IAmb IAmb 23 17 29.1
comp=Z,36nm,0.9s
MRZ Mangataiinoka R 60.06 152 P **P 23 17 27.3 -0.7**
MRZ IAmb IAmb 23 17 28.9
comp=Z,39nm,1.0s
BSWZ Blackbirch Sta 60.16 154 P **P 23 17 28.2 -0.4**
SNZO South Karori 60.19 153 P **P 23 17 28.4 -0.4**
ZSN Zaisan 60.25 318 *e*P **P 23 17 29.5 +0.2**
baz=318
ZSN Zaisan 60.25 318 *e*P **P 23 17 29.5 +0.2**
CMWZ Cape Campbell 60.33 154 P **P 23 17 28.6 -1.2**
BHW Baring Head 60.34 153 P **P 23 17 29.2 -0.7**
LTZ Lake Taylor 60.37 156 P **P 23 17 29.9 -0.3**
LTZ IAmb IAmb 23 17 31.7
comp=Z,23nm,0.7s
BFZ Birch Farm 60.39 152 P **P 23 17 30.1 -0.1**
BFZ Birch Farm 60.39 152 P **P 23 17 30.7 +0.5**
comp=Z,50nm,1.2s
TIXI Tiksi 60.55 355 P **P 23 17 29.9 -1.0**
TIXI IAmb IAmb 23 17 33.5
comp=Z,32nm,0.9s
TIXI Tiksi 60.55 355*ce*P **P 23 17 30.4 -0.5**
TIXI pmax pmax
comp=Z,37nm,1.0s
KHZ Kahutara 60.59 155 P **P 23 17 30.9 -0.6**
KHZ IAmb IAmb 23 17 32.4
comp=Z,14nm,0.7s
PLWZ Palliser 60.64 153 P **P 23 17 30.8 -1.2**
RPZ Rata Peaks 60.68 157 P **P 23 17 31.6 -0.6**
OXZ Oxford 60.73 156 P **P 23 17 31.9 -0.7**
GVZ Greta Valley S 60.84 155 P **P 23 17 33.0 -0.3**
LBZ Lake Benmore 60.93 158 P **P 23 17 33.4 -0.5**
MLZ Mavora Lakes 61.07 160 P **P 23 17 34.2 -0.7**
MQZ McQueen's Vall 61.30 156 P **P 23 17 36.1 -0.2**
MQZ IAmb IAmb 23 17 37.3
comp=Z,35nm,1.1s
MK31 Makanchi Array 61.78 317 P **P 23 17 39.9 +0.2**
MK31 IAmb IAmb 23 17 41.6
comp=Z,22nm,1.0s
MK31 Makanchi Array 61.78 317*c i*P **P 23 17 40.5 +0.7**
MKAR Makanchi Array 61.78 317 P **P 23 17 40.4 +0.6**
MKAR Makanchi Array 61.78 317 P **P 23 17 40.5 +0.7**
comp=Z,18nm,0.8s,baz=95,slow=8.6,SNR=103
comp=Z,18nm,0.8s
MAKZ Makanchi 62.00 317 P **P 23 17 41.4 +0.2**
MAKZ Makanchi 62.00 317 P **P 23 17 41.4 +0.2**
MAKZ pmax pmax
comp=Z,36nm,0.9s
ZAA0 Zalesovo Array 62.26 325 P **P 23 17 42.5 -0.3**
ZAA0 IAmb IAmb 23 17 43.7
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 62.26 325 P **P 23 17 42.9 +0.1**
ZALV Zalesovo Beam 62.26 325 P **P 23 17 42.9 +0.1**
ZALV Zalesovo Beam 62.26 325 P **P 23 17 42.7 -0.1**
comp=Z,16nm,0.7s,baz=106,slow=7.1,SNR=64
ZALV LR LR 23 44 34.7
comp=Z,272nm,20.8s,baz=74,slow=36
comp=Z,16nm,0.7s
M13K Dall Lake 62.30 27 P **P 23 17 43.7 +0.9**
baz=243
K13K Kusilvak Mount 62.47 25 P **P 23 17 44.8 +0.8**
K13K Kusilvak Mount 62.47 25 P **P 23 17 45.0 +1.0**
baz=241,SNR=8.8
HYB Hyderabad 62.66 284 *e*P **P 23 17 46.8 +0.7**
HYB IVmB_BB 23 17 47.3
comp=Z,371nm,2.4s
HYB *e*PcP **PcP 23 18 24.6 -0.3**
HYB *e*PP **PP 23 20 05.7 +1.5**
O14K Tigyukauivet M 62.73 28 P **P 23 17 46.7 +0.9**
baz=245
N14K Kuskokwak Cree 62.82 28 P **P 23 17 46.9 +0.5**
baz=244
L14K Kuka Creek 63.02 26 P **P 23 17 47.9 +0.2**
L14K Kuka Creek 63.02 26 P **P 23 17 48.4 +0.7**
baz=243,SNR=8.5
SHLS Shalkode 63.02 313 *e*P **P 23 17 46.3 -2.0**
comp=Z,11nm,0.9s,baz=313
SHLS Shalkode 63.02 313 *e*P **P 23 17 46.3 -2.0**
SHLS pmax pmax
comp=Z,11nm,0.9s
M14K Bethel 63.06 27 P **P 23 17 48.5 +0.5**
M14K Bethel 63.06 27 P **P 23 17 48.9 +0.9**
baz=244,SNR=5.6
TNA Tin City 63.15 21 P **P 23 17 49.4 +0.9**
baz=236
J14K Nanvaranak Lak 63.31 24 P **P 23 17 50.4 +0.8**
baz=241
UZB Uzynbulak 63.34 312 *e*P **P 23 17 50.4 0.0**
baz=312
UZB Uzynbulak 63.34 312 *e*P **P 23 17 50.4 0.0**
O15K Ungalikthiuk R 63.38 29 P **P 23 17 51.0 +0.9**
baz=247
ANM Nome 63.52 22 P **P 23 17 51.7 +0.7**
baz=239
M15K Kasigluk River 63.60 27 P **P 23 17 52.1 +0.6**
baz=245
KPKS Kokpek 63.63 313 *e*P **P 23 17 51.9 -0.4**
baz=313
KPKS Kokpek 63.63 313 *e*P **P 23 17 51.9 -0.4**
N15K Kwethluk River 63.65 28 P **P 23 17 52.4 +0.4**
N15K IAmb IAmb 23 17 54.3
comp=Z,32nm,0.9s
N15K Kwethluk River 63.65 28 P **P 23 17 52.5 +0.5**
baz=246
F14K Arctic Creek 63.66 21 P **P 23 17 52.7 +0.9**
baz=237
L15K Ungalak Mounta 63.68 26 P **P 23 17 52.9 +0.8**
baz=244
PRZ Przheval'sk 63.69 312 P **P 23 17 52.8 0.0**
PRZ Przheval'sk 63.69 312 P **P 23 17 52.8 0.0**
PRZ pmax pmax
comp=Z,46nm,0.8s
ZHN Zhinishke 63.77 312 *e*P **P 23 17 53.5 +0.3**
baz=312
ZHN Zhinishke 63.77 312 *e*P **P 23 17 53.5 +0.3**
SATY Saty 63.77 312 *e*P **P 23 17 53.5 +0.3**
baz=312
SATY Saty 63.77 312 *e*P **P 23 17 53.5 +0.3**
K15K Wolf Creek Mou 63.93 25 P **P 23 17 54.4 +0.6**
K15K Wolf Creek Mou 63.93 25 P **P 23 17 54.6 +0.9**
baz=244,SNR=8.3
TDK Taldyqorghan 64.08 314 *e*P **P 23 17 55.4 +0.2**
baz=314
TDK Taldyqorghan 64.08 314 *e*P **P 23 17 55.3 +0.2**
P16K Nushagak River 64.19 29 P **P 23 17 56.2 +0.7**
baz=248
G15K Niukluk 64.23 22 P **P 23 17 56.3 +0.6**
baz=240
CHIR Chirikof Islan 64.31 33 P **P 23 17 57.0 +0.6**
baz=252
O16K Kokwok River B 64.36 29 P **P 23 17 56.7 +0.2**
O16K IAmb IAmb 23 17 58.8
comp=Z,15nm,1.0s
O16K Kokwok River B 64.36 29 P **P 23 17 57.1 +0.6**
baz=248
F15K North Star Dit 64.38 21 P **P 23 17 55.5 -1.1**
F15K IAmb IAmb 23 17 58.4
comp=Z,20nm,0.9s
F15K North Star Dit 64.38 21 P **P 23 17 57.3 +0.7**
baz=239
N16K Nishlik Lake 64.38 28 P **P 23 17 57.6 +0.9**
baz=247,SNR=5.8
R17K Ugashik Creek 64.50 31 P **P 23 17 58.0 +0.5**
baz=250
M16K Timber Creek 64.51 27 P **P 23 17 58.0 +0.5**
M16K IAmb IAmb 23 17 59.2
comp=Z,28nm,0.9s
M16K Timber Creek 64.51 27 P **P 23 17 58.2 +0.7**
baz=247
L16K Owhat River 64.56 26 P **P 23 17 57.8 -0.1**
L16K IAmb IAmb 23 17 59.3
comp=Z,22nm,0.8s
L16K Owhat River 64.56 26 P **P 23 17 58.4 +0.6**
baz=246
H16K Elim 64.73 23 P **P 23 17 59.1 +0.2**
baz=242
J16K Amvik River 64.76 25 P **P 23 17 59.5 +0.4**
J16K Amvik River 64.76 25 P **P 23 18 00.0 +0.9**
baz=244
MDOK Medeo 64.77 312 *e*P **P 23 18 00.0 +0.2**
baz=312
MDOK Medeo 64.77 312 *e*P **P 23 18 00.0 +0.2**
RAR Rarotonga 64.79 120 LR LR 23 38 18.9

comp=Z,180nm,21.9s,baz=319,slow=29
TNSS Tian-Shan 64.83 312 *e*P P 23 18 00.6 +0.1
baz=312
TNSS Tian-Shan 64.83 312 *e*P P 23 18 00.6 +0.1
O17K Koliganek Bris 64.89 29 P P 23 18 01.2 +1.2
baz=249,SNR=7.2
CHKK Chushkaly 64.91 313 *e*P P 23 18 00.1 -0.4
baz=313
CHKK Chushkaly 64.91 313 *e*P P 23 18 00.1 -0.4
I17K Unalakleet 64.98 24 P P 23 18 00.3 -0.3
I17K Unalakleet 64.98 24 P P 23 18 01.7 +1.1
baz=244
KURK Kurchatov 65.03 321 P P 23 18 00.9 -0.2
KURK Kurchatov 65.03 321*c i*P P 23 18 01.4 +0.3
KURK pmax pmax
comp=Z,82nm,0.8s
KURK Kurchatov 65.03 321 P P 23 18 01.7 +0.5
KURBB Kurchatov Arra 65.07 321 P P 23 18 01.7 +0.3
comp=Z,51nm,0.7s,baz=105,slow=6.6,SNR=345
KURBB LR LR 23 47 49.6
comp=Z,196nm,19.1s,baz=166,slow=37
comp=Z,51nm,0.7s
N17K Nushagak Hills 65.12 28 P P 23 18 02.7 +1.2
N17K IAmb IAmb 23 18 04.3
comp=Z,20nm,0.8s
N17K Nushagak Hills 65.12 28 P P 23 18 02.8 +1.2
baz=248,SNR=5.6
KSH Kashi 65.16 308 P P 23 18 06.0 +3.6
KSH pmax pmax
comp=Z,28nm,0.8s
L17K Donlin 65.24 26 P P 23 18 03.5 +1.2
baz=247,SNR=7.6
NRN Naryn 65.33 310 P P 23 18 03.8 +0.1
NRN IAmb IAmb 23 18 05.5
comp=Z,22nm,1.1s
NRN Naryn 65.33 310 P P 23 18 03.8 +0.1
NRN pmax pmax
comp=Z,22nm,1.1s
M17K Holitna River 65.34 27 P P 23 18 03.4 +0.5
M17K Holitna River 65.34 27 P P 23 18 04.3 +1.4
baz=248,SNR=7.4
KUU Kurty 65.38 313 *e*P P 23 18 03.5 -0.1
comp=Z,20nm,0.5s,baz=313
KUU Kurty 65.38 313 *e*P P 23 18 03.5 -0.1
KUU pmax pmax
comp=Z,20nm,0.5s
K17K Iditarod 65.47 26 P P 23 18 05.1 +1.3
K17K Iditarod 65.47 26 P P 23 18 05.1 +1.3
baz=246,SNR=18
C16K Lisburne Hills 65.51 19 P P 23 18 04.1 +0.2
C16K Lisburne Hills 65.51 19 P P 23 18 04.5 +0.7
baz=237
Q18K Katmai Hardscr 65.52 30 P P 23 18 04.9 +0.6
baz=251
G17K Kiwalik Mounta 65.73 22 P P 23 18 06.0 +0.6
baz=243,SNR=11
H17K Granite Mounta 65.75 23 P P 23 18 06.4 +0.8
baz=244,SNR=7.7
N18K Kilae Creek 65.78 28 P P 23 18 06.5 +0.7
baz=250
TKM2 Tokmak 2 65.80 312 P P 23 18 07.4 +0.9
SNR=11
O18K Koktuh Hills 65.81 29 P P 23 18 05.8 -0.3
O18K IAmb IAmb 23 18 08.1
comp=Z,27nm,1.1s
O18K Koktuh Hills 65.81 29 P P 23 18 06.7 +0.7
baz=251
F17K Baldwin Pennin 65.95 21 P P 23 18 07.6 +0.9
baz=242,SNR=8.1
L18K Granite Mounta 65.97 26 P P 23 18 07.9 +0.9
L18K Granite Mounta 65.97 26 P P 23 18 08.3 +1.3
baz=248,SNR=12
E17K Hotham Inlet 66.05 21 P P 23 18 08.6 +1.2
baz=241,SNR=11
SVW2 Sparrevohn 66.06 28 P P 23 18 08.4 +0.8
SVW2 IAmb IAmb 23 18 09.7
comp=Z,23nm,0.9s
SVW2 Sparrevohn 66.06 28 P P 23 18 09.2 +1.6
comp=Z,30nm,1.2s
M18K Stony River 66.09 27 P P 23 18 09.0 +1.2
baz=249,SNR=9.5
KBK Karagaybulak 66.24 311 P P 23 18 10.3 +0.9
SNR=14
C17K DeLong Mountai 66.30 19 P P 23 18 10.0 +1.0
baz=239
CHMS Chumysh 66.42 312 P P 23 18 10.8 +0.5
SNR=8.6
J18K Innoko River 66.43 25 P P 23 18 10.5 +0.5
baz=248
H18K Honhosa River 66.44 23 P P 23 18 10.4 +0.4
H18K IAmb IAmb 23 18 11.4
comp=Z,27nm,0.8s
H18K Honhosa River 66.44 23 P P 23 18 10.6 +0.6
baz=245,SNR=6.6
N19K Bonanza Creek 66.47 28 P P 23 18 10.0 -0.3
N19K IAmb IAmb 23 18 12.7
comp=Z,29nm,0.9s
N19K Bonanza Creek 66.47 28 P P 23 18 11.6 +1.2
baz=251,SNR=7.3
KDAK Kodiak Island 66.49 32 P P 23 18 12.2 +1.8
comp=Z,7.2nm,0.7s,baz=252,slow=16,SNR=2.1
comp=Z,7.2nm,0.7s
FRU1 Bishkek 66.49 312 P P 23 18 10.6 -0.2
FRU1 IAmb IAmb 23 18 12.0
comp=Z,13nm,0.8s
FRU1 Bishkek 66.49 312 P P 23 18 10.6 -0.2
FRU1 pmax pmax
comp=Z,13nm,0.8s
TTA Tatalina 66.53 26 P P 23 18 10.9 +0.3
TTA IAmb IAmb 23 18 12.4
comp=Z,18nm,1.0s
TTA Tatalina 66.53 26 P P 23 18 11.6 +0.9
comp=Z,25nm,1.1s
TTA Tatalina 66.53 26 P P 23 18 10.9 +0.3
TTA pmax pmax
comp=Z,18nm,1.0s
TTA Tatalina 66.53 26 P P 23 18 11.5 +0.9
baz=249,SNR=5.8
SGDS Sogindy 66.56 312 *e*P P 23 18 10.8 -0.4
baz=312
SGDS Sogindy 66.56 312 *e*P P 23 18 10.8 -0.4
AAK Ala-Archa 66.57 311 P P 23 18 12.2 +0.8
SNR=7.9
AAK Ala-Archa 66.57 311 P P 23 18 11.4 -0.1
AAK Ala-Archa 66.57 311*c i*P P 23 18 11.9 +0.4
AAK pmax pmax
comp=Z,12nm,1.3s
AAK Ala-Archa 66.57 311 P P 23 18 11.9 +0.4
AAK Ala-Archa 66.57 311 P P 23 18 12.2 +0.8
AAK Ala-Archa 66.57 311 P P 23 18 12.0 +0.6
comp=Z,4.1nm,0.5s,baz=124,slow=6.1,SNR=14
AAK LR LR 23 49 36.6
comp=Z,249nm,18.3s,baz=100,slow=38
comp=Z,4.1nm,0.5s
E18K Tukpahlearik C 66.63 20 P P 23 18 12.2 +1.0
E18K Tukpahlearik C 66.63 20 P P 23 18 12.4 +1.3
baz=242,SNR=13
USP Ospenovka 66.63 312 P P 23 18 12.2 +0.5
SNR=6.9
G18K Tagagawik 66.64 22 P P 23 18 11.7 +0.4
G18K Tagagawik 66.64 22 P P 23 18 12.1 +0.8
baz=245,SNR=16
L19K White Mountain 66.76 27 P P 23 18 12.4 +0.3
L19K White Mountain 66.76 27 P P 23 18 13.0 +0.9
baz=250,SNR=13
Q20K Shuyak Island 66.81 31 P P 23 18 13.4 +0.9
baz=254
GCSA Galena City Sc 66.86 24 P P 23 18 13.9 +1.3
baz=247
M19K Big River Lodg 66.87 27 P P 23 18 13.3 +0.5
M19K IAmb IAmb 23 18 15.0
comp=Z,24nm,0.8s
M19K Big River Lodg 66.87 27 P P 23 18 13.9 +1.1
baz=251
C18K Utukok River 67.02 19 P P 23 18 13.6 0.0
C18K Utukok River 67.02 19 P P 23 18 14.3 +0.6
baz=241
NIL Nilore 67.03 302 P P 23 18 14.7 +0.3
NIL Nilore 67.03 302 P P 23 18 14.7 +0.3
NIL pmax pmax
comp=Z,66nm,0.8s
NIL Nilore 67.03 302 P P 23 18 15.4 +1.1
J19K Poorman 67.08 25 P P 23 18 14.6 +0.5
J19K IAmb IAmb 23 18 16.0
comp=Z,28nm,0.8s
J19K Poorman 67.08 25 P P 23 18 14.9 +0.8
baz=249,SNR=16

EKS2 Erkin-Say 67.10 311 P P 23 18 15.6 +0.8
SNR=7.3
AML Almayashu 67.12 311 P P 23 18 16.5 +1.3
SNR=19
BTLS Baital 67.15 314 *e*P P 23 18 14.7 -0.2
comp=Z,16nm,1.3s,baz=314
BTLS Baital 67.15 314 *e*P P 23 18 14.6 -0.2
BTLS pmax pmax
comp=Z,16nm,1.3s
B18K Kokolik River 67.17 18 P P 23 18 15.8 +1.2
baz=240
L20K Farewell, AK 67.29 27 P P 23 18 16.4 +1.0
baz=251,SNR=6.9
H19K Roundabout Mou 67.33 23 P P 23 18 16.3 +0.7
H19K Roundabout Mou 67.33 23 P P 23 18 16.4 +0.8
baz=247,SNR=18
G19K Purcell Mounta 67.33 22 P P 23 18 16.2 +0.6
G19K Purcell Mounta 67.33 22 P P 23 18 16.6 +1.0
baz=246,SNR=33
F19K Shaleruckik Mo 67.36 22 P P 23 18 15.4 -0.4
F19K IAmb IAmb 23 18 17.1
comp=Z,16nm,0.8s
F19K Shaleruckik Mo 67.36 22 P P 23 18 16.7 +0.9
baz=245
M20K Styx River 67.43 27 P P 23 18 16.4 -0.1
M20K IAmb IAmb 23 18 20.4
comp=Z,36nm,1.1s
M20K Styx River 67.43 27 P P 23 18 17.6 +1.2
baz=252
HOM Homer 67.48 30 P P 23 18 17.5 +0.9
baz=254
K20K Telida 67.50 26 P P 23 18 18.0 +1.2
K20K IAmb IAmb 23 18 19.2
comp=Z,28nm,0.8s
K20K Telida 67.50 26 P P 23 18 18.1 +1.3
baz=250
CNPM China Poot 67.64 30 P P 23 18 18.3 +0.5
C19K Lookout Ridge 67.75 19 P P 23 18 19.2 +1.0
C19K Lookout Ridge 67.75 19 P P 23 18 19.8 +1.6
baz=243,SNR=7.7
J20K Nowinta River 67.75 25 P P 23 18 19.5 +1.2
J20K Nowinta River 67.75 25 P P 23 18 19.7 +1.4
baz=250,SNR=20
E19K Redstone River 67.81 21 P P 23 18 19.2 +0.6
E19K Redstone River 67.81 21 P P 23 18 19.4 +0.8
baz=246,SNR=23
I20K Naaghedeneel 67.83 24 P P 23 18 20.0 +1.3
I20K Naaghedeneel 67.83 24 P P 23 18 20.3 +1.6
baz=249,SNR=8.9
H20K Anotleneega Mo 67.92 23 P P 23 18 20.2 +0.8
baz=249,SNR=17
BRSE Bradley Lake S 67.94 30 P P 23 18 20.6 +1.0
baz=255
D19K Kuna River 67.95 20 P P 23 18 20.0 +0.4
D19K Kuna River 67.95 20 P P 23 18 20.6 +1.0
baz=244,SNR=9.3
PPLA Purkeypile 68.16 26 P P 23 18 21.8 +0.7
baz=252
SKT Skwentna 68.18 28 P P 23 18 20.7 -0.4
SKT IAmb IAmb 23 18 22.4
comp=Z,19nm,0.8s
SKT Skwentna 68.18 28 P P 23 18 21.2 +0.1
baz=253,SNR=8.6
F20K Avaraart Lake 68.19 22 P P 23 18 21.2 +0.2
F20K IAmb IAmb 23 18 23.2
comp=Z,30nm,0.8s
F20K Avaraart Lake 68.19 22 P P 23 18 22.4 +1.5
baz=247
CAST Castle Rocks 68.37 26 P P 23 18 22.3 +0.1
CAST Castle Rocks 68.37 26 P P 23 18 23.0 +0.8
baz=252,SNR=26
SUA Susitna One 68.40 28 P P 23 18 23.3 +0.7
baz=254
CHUM Lake Minchumin 68.41 25 P P 23 18 23.7 +1.2
baz=252,SNR=11
E20K Nigu River 68.50 20 P P 23 18 24.2 +1.1
baz=246,SNR=24
IMAR Indian Mountai 68.53 23 P P 23 18 23.5 +0.3
D20K Etivluk River 68.55 20 P P 23 18 24.1 +0.9
baz=246,SNR=17
O22K Cooper Landing 68.62 29 P P 23 18 24.5 +0.7
baz=256
BRZS Berezniki 68.66 319 *e*P P 23 18 24.2 -0.2
comp=Z,14nm,1.1s,baz=319
BRZS Berezniki 68.66 319 *e*P P 23 18 24.1 -0.2
BRZS pmax pmax
comp=Z,14nm,1.1s
SEW Seward 68.66 30 P P 23 18 24.8 +0.8
baz=256
M22K Willow 68.76 28 P P 23 18 24.3 -0.3
M22K Willow 68.76 28 P P 23 18 25.0 +0.3
baz=255
RC01 Rabbit Creek A 68.77 29 P P 23 18 24.8 0.0
RC01 Rabbit Creek A 68.77 29 P P 23 18 25.0 +0.2
baz=255
H21K Melozitna Rive 68.79 24 P P 23 18 24.9 +0.1
H21K Melozitna Rive 68.79 24 P P 23 18 26.1 +1.3
baz=251,SNR=22
G21K Allakaket 68.81 23 P P 23 18 25.5 +0.6
G21K IAmb IAmb 23 18 27.0
comp=Z,33nm,1.1s
G21K Allakaket 68.81 23 P P 23 18 26.1 +1.2
baz=250,SNR=8.3
CUT Chulitna 68.87 27 P P 23 18 25.8 +0.5
baz=254
B20K Meade River 68.91 19 P P 23 18 26.2 +0.8
baz=245
DZA Taraz 68.92 312 *e*P P 23 18 26.3 +0.2
baz=312
DZA Taraz 68.92 312 *e*P P 23 18 26.2 +0.2
I21K Tanana 68.96 24 P P 23 18 26.8 +1.0
I21K Tanana 68.96 24 P P 23 18 27.2 +1.4
baz=252
BPAW Bear Paw Mtn. 69.04 25 P P 23 18 26.3 -0.1
BPAW Bear Paw Mtn. 69.04 25 P P 23 18 27.2 +0.8
baz=253,SNR=20
F21K Alatna River 69.07 22 P P 23 18 27.1 +0.5
F21K IAmb IAmb 23 18 29.5
comp=Z,21nm,0.8s
F21K Alatna River 69.07 22 P P 23 18 27.4 +0.9
baz=249,SNR=12
TRF Thorofare Moun 69.15 26 P P 23 18 27.0 -0.3
TRF IAmb IAmb 23 18 28.1
comp=Z,23nm,0.8s
TRF Thorofare Moun 69.15 26 P P 23 18 27.3 0.0
baz=254,SNR=9.4
PMR Palmer 69.18 28 P P 23 18 27.3 +0.1
PMR IAmb IAmb 23 18 28.6
comp=Z,25nm,0.7s
PMR Palmer 69.18 28 P P 23 18 27.5 +0.3
comp=Z,37nm,0.7s
PMR Palmer 69.18 28 P P 23 18 27.3 +0.1
PMR pmax pmax
comp=Z,25nm,0.7s
PMR Palmer 69.18 28 P P 23 18 27.7 +0.5
baz=256
GHO Glory Hole Cre 69.32 28 P P 23 18 27.9 -0.3
C21K Knifeblade Rid 69.33 20 P P 23 18 29.0 +0.9
baz=248,SNR=5.6
E21K Killik River 69.33 21 P P 23 18 28.3 +0.1
E21K IAmb IAmb 23 18 30.1
comp=Z,21nm,0.8s
E21K Killik River 69.33 21 P P 23 18 28.9 +0.7
baz=248
PWL Port Wells 69.38 29 P P 23 18 27.9 -0.7
PWL Port Wells 69.38 29 P P 23 18 29.7 +1.2
baz=257,SNR=6.6
H22K Ishtalitna Cre 69.42 23 P P 23 18 30.1 +1.3
baz=252,SNR=14
KNK Knik Glacier 69.45 28 P P 23 18 29.3 +0.3
KNK Knik Glacier 69.45 28 P P 23 18 30.5 +1.5
baz=256,SNR=6.0
KK31 Karatay Array 69.53 312 P P 23 18 29.8 0.0
KK31 IAmb IAmb 23 18 31.5
comp=Z,33nm,1.2s
KK31 Karatay Array 69.53 312 P P 23 18 29.8 0.0
KK31 pmax pmax
comp=Z,33nm,1.3s
KKAR Karatay Array 69.53 312 P P 23 18 29.8 0.0
KKAR IAmb IAmb 23 18 31.5
comp=Z,33nm,1.2s
KKAR Karatay Array 69.53 312 P P 23 18 29.6 -0.2
KKAR Karatay Array 69.53 312 P P 23 18 29.8 0.0
KKAR pmax pmax
comp=Z,33nm,1.3s
B21K Ikpikpuk River 69.56 19 P P 23 18 30.9 +1.4

B21K Ikpikpuk River 69.56 19 P P 23 18 30.9 +1.4
baz=248
SML Sawmill 69.60 28 P P 23 18 30.2 +0.3
SML Sawmill 69.60 28 P P 23 18 30.7 +0.8
baz=256,SNR=10
P23K Montague Islan 69.64 30 P P 23 18 30.9 +0.8
baz=258
F22K John River 69.64 22 P P 23 18 31.5 +1.4
baz=251
G22K Bettles 69.70 22 P P 23 18 31.4 +1.0
baz=252
BWN Browne 69.70 26 P P 23 18 31.0 +0.5
WAT1 Susitna Watana 69.75 27 P P 23 18 30.9 +0.1
baz=256
RND Reindeer 69.76 26 P P 23 18 31.1 +0.1
RND IAmb IAmb 23 18 32.3
comp=Z,18nm,0.9s
RND Reindeer 69.76 26 P P 23 18 31.1 +0.1
RND pmax pmax
comp=Z,18nm,0.9s
MCK McKinley 69.81 26 P P 23 18 31.2 0.0
baz=255,SNR=5.1
IUG Iuzhnay 69.84 311 *e*P P 23 18 32.0 +0.1
baz=311
IUG Iuzhnay 69.84 311 *e*P P 23 18 31.9 +0.1
M23K Glacier View 69.88 28 P P 23 18 32.1 +0.5
baz=257
D22K Ayikyak River 69.93 20 P P 23 18 33.1 +1.2
baz=250
GLI Glacier Island 69.97 29 P P 23 18 33.2 +1.0
baz=258
NEA2 Nenana 69.98 25 P P 23 18 32.4 +0.2
NEA2 Nenana 69.98 25 P P 23 18 33.5 +1.3
baz=255
E22K Anaktuvuk Pass 69.98 21 P P 23 18 32.9 +0.7
E22K Anaktuvuk Pass 69.98 21 P P 23 18 33.5 +1.3
baz=251,SNR=19
I23K Minto, Yukon-K 70.01 25 P P 23 18 33.0 +0.7
I23K IAmb IAmb 23 18 34.4
comp=Z,37nm,0.9s
I23K Minto, Yukon-K 70.01 25 P P 23 18 33.2 +0.9
baz=254,SNR=25
WAT6 Susitna Watana 70.05 27 P P 23 18 33.0 +0.1
baz=257,SNR=11
SCM Sheep Creek Mo 70.07 28 P P 23 18 33.0 +0.1
SCM Sheep Creek Mo 70.07 28 P P 23 18 33.0 +0.1
SCM pmax pmax
comp=Z,58nm,1.0s
SCM Sheep Creek Mo 70.07 28 P P 23 18 34.5 +1.6
baz=257,SNR=11
H23K Yukon River 70.12 24 P P 23 18 34.0 +0.9
H23K IAmb IAmb 23 18 35.2
comp=Z,37nm,0.9s
H23K Yukon River 70.12 24 P P 23 18 34.1 +1.1
baz=254
CHM Chimkent 70.16 311 *e*P P 23 18 34.0 +0.3
comp=Z,12nm,0.7s,baz=311
CHM Chimkent 70.16 311 *e*P P 23 18 34.0 +0.3
CHM pmax pmax
comp=Z,12nm,0.7s
G23K Bananza Creek 70.19 23 P P 23 18 34.7 +1.2
G23K Bananza Creek 70.19 23 P P 23 18 34.7 +1.2
baz=253,SNR=19
B22K Teshekpuk Lake 70.22 19 P P 23 18 35.0 +1.5
baz=248
COLD Coldfoot 70.28 22 P P 23 18 35.3 +1.3
baz=253,SNR=30
DHY Denali Highway 70.33 27 P P 23 18 34.1 -0.4
DHY IAmb IAmb 23 18 36.7
comp=Z,14nm,0.8s
DHY Denali Highway 70.33 27 P P 23 18 35.0 +0.5
baz=257,SNR=9.4
WRH Wood River Hil 70.36 25 P P 23 18 34.2 -0.3
WRH IAmb IAmb 23 18 35.3
comp=Z,33nm,0.9s
MDM Murphy Dome 70.42 25 P P 23 18 35.3 +0.4
MDM IAmb IAmb 23 18 37.3
comp=Z,28nm,0.8s
BVAR Borovoye Array 70.45 322 P P 23 18 35.8 +0.5
comp=Z,69nm,0.7s,baz=104,slow=7.7,SNR=312
BVAR LR LR 23 51 25.0
comp=Z,309nm,18.1s,baz=88,slow=38
comp=Z,69nm,0.7s
BRVK Borovoye 70.52 322 P P 23 18 35.6 0.0
BRVK Borovoye 70.52 322*c i*P P 23 18 35.8 +0.1
BRVK pmax pmax
comp=Z,80nm,0.8s
BRVK Borovoye 70.52 322 P P 23 18 36.5 +0.9
CCB Clear Creek Bu 70.52 25 P P 23 18 34.6 -0.8
CCB IAmb IAmb 23 18 36.2
comp=Z,32nm,1.2s
KBL Kabul 70.52 303 P P 23 18 36.1 -0.2
KBL IAmb IAmb 23 18 38.9
comp=Z,28nm,1.1s
KBL Kabul 70.52 303 P P 23 18 36.2 -0.2
KBL pmax pmax
comp=Z,29nm,1.1s
KBL Kabul 70.52 303 P P 23 18 37.7 +1.3
SNR=11
EYAK Cordova Ski Ar 70.55 30 P P 23 18 37.5 +1.7
baz=259
COLA College 70.56 25 P P 23 18 35.9 +0.3
COLA IAmb IAmb 23 18 37.5
comp=Z,15nm,0.7s
COLA College 70.56 25 P P 23 18 35.8 +0.2
comp=Z,9.6nm,0.8s
COLA College 70.56 25 P P 23 18 35.9 +0.3
COLA pmax pmax
comp=Z,15nm,0.7s
COLA College 70.56 25 P P 23 18 37.3 +1.6
baz=256
D23K Nanushuk River 70.64 20 P P 23 18 37.7 +1.5
baz=252,SNR=12
KLU Klutina 70.65 29 P P 23 18 37.5 +1.1
KLU IAmb IAmb 23 18 39.0
comp=Z,21nm,0.9s
KLU Klutina 70.65 29 P P 23 18 38.5 +2.0
baz=259,SNR=6.8
M24K Tolsona, Glenn 70.66 28 P P 23 18 36.9 +0.4
M24K IAmb IAmb 23 19 00.1
comp=Z,50nm,1.3s
M24K Tolsona, Glenn 70.66 28 P P 23 18 37.4 +1.0
baz=258
E23K Chandalar 70.74 22 P P 23 18 38.3 +1.4
baz=253,SNR=40
H24K Noodor Dome 70.79 24 P P 23 18 37.4 +0.2
H24K Noodor Dome 70.79 24 P P 23 18 38.3 +1.2
baz=255,SNR=22
POKR Poker Plat Res 70.79 25 P P 23 18 36.0 -1.1
POKR IAmb IAmb 23 18 38.7
comp=Z,24nm,1.3s
POKR Poker Plat Res 70.79 25 P P 23 18 37.7 +0.6
baz=256,SNR=7.3
HDA Harding Lake 70.82 26 P P 23 18 36.7 -0.7
HDA IAmb IAmb 23 18 37.8
comp=Z,19nm,0.8s
HDA Harding Lake 70.82 26 P P 23 18 37.5 +0.2
baz=257,SNR=11
TOLK Toolik Lake Re 70.93 21 P P 23 18 37.2 -0.8
TOLK Toolik Lake Re 70.93 21 P P 23 18 39.0 +1.1
baz=253,SNR=7.9
IL31 70.93 25 P P 23 18 36.1 -1.8
IL31 IAmb IAmb 23 18 38.2
comp=Z,26nm,0.9s
ILAR Eielson Array 70.93 25 P P 23 18 37.0 -1.0
ILAR Eielson Array 70.93 25 P P 23 18 37.2 -0.8
comp=Z,14nm,0.8s,baz=249,slow=6.2,SNR=118
ILAR LR LR 23 46 03.4
comp=Z,158nm,21.7s,baz=252,slow=33
comp=Z,14nm,0.8s
C23K Itkillik River 70.94 20 P P 23 18 38.4 +0.4
C23K Itkillik River 70.94 20 P P 23 18 38.8 +0.9
baz=251,SNR=14
IL03 Eielson Array 70.95 25 P P 23 18 36.6 -1.4
E24K Your Creek 71.15 22 P P 23 18 39.2 -0.1
E24K IAmb IAmb 23 18 41.7
comp=Z,30nm,1.0s
E24K Your Creek 71.15 22 P P 23 18 40.4 +1.0
baz=254
PAX Paxson 71.16 27 P P 23 18 40.2 +0.7
baz=258,SNR=11
G24K Hadweenzic Riv 71.16 23 P P 23 18 38.6 -0.8
G24K IAmb IAmb 23 18 41.7
comp=Z,29nm,1.1s
G24K Hadweenzic Riv 71.16 23 P P 23 18 40.4 +1.1
baz=255,SNR=9.5

BMRM	Bremner River	71.18	29	P	P	23 18 40.7 +1.1
	baz=260,SNR=5.9					
K24K	Donnelly Dome	71.19	26	P	P	23 18 39.9 +0.3
	baz=258,SNR=12					
F24K	Squaw Lake	71.22	22	P	P	23 18 39.1 -0.6
F24K	Squaw Lake	71.22	22	P	P	23 18 41.0 +1.3
	baz=255,SNR=14					
N25K	Chitina, Valde	71.30	29	P	P	23 18 40.2 -0.1
N25K	Chitina, Valde	71.30	29	P	P	23 18 41.3 +0.9
	baz=260					
D24K	Happy Valley	71.34	20	P	P	23 18 41.4 +1.0
D24K	Happy Valley	71.34	20	P	P	23 18 41.7 +1.3
	baz=253					
J25K	Salcha River,	71.53	26	P	P	23 18 40.8 -0.9
J25K	Salcha River,	71.53	26	P	P	23 18 41.4 -0.3
	baz=258,SNR=8.3					
C24K	Franklin Bluff	71.54	20	P	P	23 18 42.8 +1.3
	baz=253					
RIDG	Independent Ri	71.58	26	P	P	23 18 42.0 0.0
RIDG				IAmb	IAmb	23 18 44.1
	comp=Z,34nm,1.0s					
RIDG	Independent Ri	71.58	26	P	P	23 18 42.5 +0.5
	baz=259,SNR=9.1					
GLB	Gilahina Butte	71.64	29	P	P	23 18 42.6 +0.2
GLB				IAmb	IAmb	23 18 45.1
	comp=Z,32nm,1.2s					
PRP	Porcupine Dome	71.66	25	P	P	23 18 40.6 -1.9
H25L	Birch Creek	71.71	24	P	P	23 18 43.6 +1.0
	baz=257					
G25K	Bearman Lake	71.71	23	P	P	23 18 43.7 +1.1
	baz=257					
VRDI	Verde Repeater	71.78	29	P	P	23 18 43.7 +0.3
VRDI				IAmb	IAmb	23 18 45.3
	comp=Z,12nm,0.7s					
CRQM	Cirque	71.86	30	P	P	23 18 44.5 +0.6
CRQM				IAmb	IAmb	23 18 46.1
	comp=Z,19nm,0.7s					
CRQE	Cirque	71.88	30	P	P	23 18 44.8 +0.9
	baz=261					
MENT	Mentasta	71.94	27	P	P	23 18 45.0 +0.8
SCRK	Sand Creek	72.00	26	P	P	23 18 44.2 -0.4
SCRK				IAmb	IAmb	23 18 46.1
	comp=Z,22nm,1.1s					
SCRK	Sand Creek	72.00	26	P	P	23 18 45.3 +0.7
	baz=260,SNR=9.9					
FYU	Fort Yukon	72.00	24	P	P	23 18 44.0 -0.4
MCARA	McCarthy VSAT	72.01	29	P	P	23 18 45.2 +0.7
MCARA				IAmb	IAmb	23 18 47.2
	comp=Z,17nm,0.8s					
MCARA	McCarthy VSAT	72.01	29	P	P	23 18 45.6 +1.1
	baz=261,SNR=5.2					
TGL	Tana Glacier	72.01	30	P	P	23 18 45.1 +0.4
TGL				IAmb	IAmb	23 19 07.6
	comp=Z,21nm,1.1s					
F25K	Christian Rive	72.07	22	P	P	23 18 46.2 +1.3
	baz=257,SNR=18					
L26K	Log Cabin Wild	72.12	27	P	P	23 18 45.8 +0.6
L26K	Log Cabin Wild	72.12	27	P	P	23 18 46.2 +1.0
	baz=260,SNR=9.5					
M26K	Nabesna, AK	72.18	28	P	P	23 18 46.5 +0.9
M26K	Nabesna, AK	72.18	28	P	P	23 18 46.9 +1.2
	baz=261					
E25K	Arctic Village	72.22	22	P	P	23 18 46.4 +0.7
E25K				IAmb	IAmb	23 18 55.0
	comp=Z,31nm,1.0s					
E25K	Arctic Village	72.22	22	P	P	23 18 47.5 +1.7
	baz=257,SNR=13					
D25K	Kavik River	72.22	21	P	P	23 18 46.1 +0.4
D25K				IAmb	IAmb	23 18 48.0
	comp=Z,38nm,1.1s					
D25K	Kavik River	72.22	21	P	P	23 18 46.7 +1.0
	baz=256					
ISLE	Juniper Island	72.22	30	P	P	23 18 46.4 +0.4
ISLE				IAmb	IAmb	23 19 08.4
	comp=Z,31nm,1.2s					
J26L	Joseph Creek	72.28	26	P	P	23 18 46.0 -0.2
J26L				IAmb	IAmb	23 18 48.5
	comp=Z,18nm,0.9s					
J26L	Joseph Creek	72.28	26	P	P	23 18 46.8 +0.6
	baz=260					
MESA	MESA	72.36	30	P	P	23 18 48.2 +1.3
	baz=263					
PPT2	Papeete2	72.40	113	*e*LR	LR	23 40 05.6
PPT2				*e*LR	LR	23 40 32.7
	comp=Z,211nm,35.0s					
BMAR	Burnt Mountain	72.44	23	P	P	23 18 47.3 +0.3
GRNC	Granite Creek	72.53	30	P	P	23 18 48.0 +0.1
GRNC				IAmb	IAmb	23 18 50.7
	comp=Z,23nm,0.8s					
I26K	Coal Creek Min	72.59	25	P	P	23 18 47.2 -0.8
I26K	Coal Creek Min	72.59	25	P	P	23 18 48.6 +0.6
	baz=260					
G26K	Porcupine Rive	72.64	23	P	P	23 18 49.6 +1.4
	baz=259,SNR=14					
F26K	Sheenjek River	72.65	22	P	P	23 18 49.7 +1.4
	baz=258,SNR=20					
M27K	Edge Creek, AK	72.69	28	P	P	23 18 49.1 +0.4
M27K				IAmb	IAmb	23 18 51.5
	comp=Z,22nm,1.1s					
M27K	Edge Creek, AK	72.69	28	P	P	23 18 50.0 +1.3
	baz=262,SNR=6.9					
CTG	Chitna Glacier	72.76	30	P	P	23 18 50.2 +1.0
	baz=263,SNR=9.9					
CTGM	Chitina Glacie	72.76	30	P	P	23 18 50.0 +0.8
CTGM				IAmb	IAmb	23 18 52.3
	comp=Z,33nm,0.8s					
TABL	Table Mountain	72.79	30	P	P	23 18 49.8 +0.3
L27K	Beaver Creek,	72.81	27	P	P	23 18 49.6 +0.3
L27K	Beaver Creek,	72.81	27	P	P	23 18 50.6 +1.3
	baz=262,SNR=7.3					
BCAR	Beaver Creek A	72.83	27	P	P	23 18 49.4 0.0
K27K	Chicken	72.84	26	P	P	23 18 49.5 +0.1
K27K				IAmb	IAmb	23 18 52.1
	comp=Z,25nm,1.1s					
K27K	Chicken	72.84	26	P	P	23 18 51.0 +1.6
	baz=261					
C26K	Camden Bay	72.86	20	P	P	23 18 51.4 +2.0
	baz=257					
LOGN	Logan Glacier	72.90	30	P	P	23 18 50.7 +0.6
LOGN				IAmb	IAmb	23 18 53.1
	comp=Z,22nm,0.8s					
PINM	Pinnacle	73.19	31	P	P	23 18 53.4 +1.7
	baz=264					
I27K	Kandik River	73.27	25	P	P	23 18 53.5 +1.5
	baz=261,SNR=9.0					
YUK3	Moose Creek	73.27	29	P	P	23 18 53.6 +1.2
	baz=264,SNR=10					
O28M	Mount Upton	73.29	30	P	P	23 18 53.7 +1.1
	baz=264,SNR=8.8					
H27K	Steamboat Moun	73.41	24	P	P	23 18 54.3 +1.5
	baz=261,SNR=29					
G27K	Doyon Strip	73.45	24	P	P	23 18 53.0 -0.1
G27K	Doyon Strip	73.45	24	P	P	23 18 54.5 +1.5
	baz=261,SNR=6.4					
YUK8	Steele Glacier	73.55	29	P	P	23 18 55.6 +1.6
	baz=264,SNR=7.3					
PNL	Peninsula	73.58	31	P	P	23 18 55.3 +1.3
	baz=265					
E27K	Coleen River	73.69	22	P	P	23 18 55.1 +0.7
E27K	Coleen River	73.69	22	P	P	23 18 55.9 +1.5
	baz=260					
I28M	Miner Creek	73.94	25	P	P	23 18 56.5 +0.4
I28M				IAmb	IAmb	23 18 58.2
	comp=Z,32nm,1.3s					
I28M	Miner Creek	73.94	25	P	P	23 18 56.9 +0.8
	baz=263,SNR=9.8					
DAWY	Dawson	74.02	27	P	P	23 18 56.3 -0.2
DAWY				IAmb	IAmb	23 18 59.5
	comp=Z,26nm,1.1s					
DAWY	Dawson	74.02	27	P	P	23 18 57.5 +1.1
	baz=264,SNR=12					
O29M	Mount Kennedy	74.05	30	P	P	23 18 57.6 +0.8
O29M	Mount Kennedy	74.05	30	P	P	23 18 58.1 +1.3
	baz=266,SNR=5.7					
D27M	Malcolm River	74.09	21	P	P	23 18 57.5 +0.6
D27M				IAmb	IAmb	23 18 59.4
	comp=Z,26nm,1.0s					
D27M	Malcolm River	74.09	21	P	P	23 18 58.2 +1.3
	baz=261					
YUK4	Talbot Arm	74.10	29	P	P	23 18 59.1 +1.9
	baz=265,SNR=8.8					
YUK6	Outpost Mounta	74.20	30	P	P	23 18 59.3 +1.5
	baz=266					
F28M	Old Crow	74.25	23	P	P	23 18 58.5 +0.8
F28M				IAmb	IAmb	23 19 00.3
	comp=Z,34nm,1.1s					
F28M	Old Crow	74.25	23	P	P	23 18 59.2 +1.4
	baz=262,SNR=12					
M29M	Somme Creek	74.28	28	P	P	23 18 58.5 +0.4
M29M				IAmb	IAmb	23 19 01.5
	comp=Z,17nm,0.8s					
M29M	Somme Creek	74.28	28	P	P	23 18 59.6 +1.5
	baz=265,SNR=16					
P29M	Windy Craggy	74.42	31	P	P	23 18 59.8 +0.9
P29M				IAmb	IAmb	23 19 02.1
	comp=Z,18nm,0.8s					
P29M	Windy Craggy	74.42	31	P	P	23 19 00.5 +1.7
	baz=266					
L29M	L29M	74.48	28	P	P	23 19 00.7 +1.5
	baz=265,SNR=18					
E28M	Babbage River	74.51	22	P	P	23 19 00.7 +1.5
	baz=262					
HYT	Haines Junctio	74.61	30	P	P	23 19 00.5 +0.4
HYT				IAmb	IAmb	23 19 03.8
	comp=Z,23nm,1.0s					
HYT	Haines Junctio	74.61	30	P	P	23 19 01.6 +1.5
	baz=266,SNR=7.9					
I29M	Ogilvie Camp,	74.61	25	P	P	23 19 00.6 +0.8
I29M	Ogilvie Camp,	74.61	25	P	P	23 19 00.8 +0.9
	baz=264,SNR=12					
H29M	Whitestone	74.67	24	P	P	23 19 00.1 -0.1
H29M				IAmb	IAmb	23 19 12.6
	comp=Z,25nm,1.1s					
H29M	Whitestone	74.67	24	P	P	23 19 01.3 +1.1
	baz=264,SNR=5.2					
K29M	Barlow Dome	74.82	27	P	P	23 19 02.1 +0.9
K29M				IAmb	IAmb	23 19 04.7
	comp=Z,28nm,1.0s					
K29M	Barlow Dome	74.82	27	P	P	23 19 02.8 +1.6
	baz=266,SNR=18					
P30M	Million Dollar	74.84	31	P	P	23 19 02.6 +1.3
	baz=267					
N30M	Aishikik Lake	74.85	29	P	P	23 19 02.4 +1.0
N30M	Aishikik Lake	74.85	29	P	P	23 19 02.8 +1.4
	baz=267,SNR=5.6					
G29M	Pine Creek	74.88	24	P	P	23 19 01.9 +0.5
G29M				IAmb	IAmb	23 19 04.2
	comp=Z,46nm,1.2s					
G29M	Pine Creek	74.88	24	P	P	23 19 02.9 +1.6
	baz=264,SNR=8.5					
M30M	Minto, Yukon	75.06	28	P	P	23 19 03.5 +1.0
M30M	Minto, Yukon	75.06	28	P	P	23 19 04.0 +1.5
	baz=266,SNR=6.7					
E29M	Blow River	75.08	22	P	P	23 19 04.6 +2.2
	baz=264					
PLBC	Pleasant Camp	75.11	31	P	P	23 19 04.8 +2.0
	baz=268,SNR=6.5					
O30N	Mendenhall	75.30	30	P	P	23 19 05.2 +1.2
	baz=268					
EPYK	Eagle Plains	75.35	24	P	P	23 19 04.5 +0.3
EPYK				IAmb	IAmb	23 19 12.9
	comp=Z,26nm,1.1s					
EPYK	Eagle Plains	75.35	24	P	P	23 19 06.1 +2.0
	baz=266					
J30M	Hart River	75.39	26	P	P	23 19 05.0 +0.5
J30M	Hart River	75.39	26	P	P	23 19 06.0 +1.6
	baz=266,SNR=11					
I30M	Mount Dempster	75.41	25	P	P	23 19 03.8 -0.8
I30M	Mount Dempster	75.41	25	P	P	23 19 05.6 +1.0
	baz=266,SNR=5.7					
N31M	Braeburn, Yuko	75.48	29	P	P	23 19 06.0 +1.1
N31M				IAmb	IAmb	23 19 27.7
	comp=Z,25nm,1.1s					
N31M	Braeburn, Yuko	75.48	29	P	P	23 19 06.1 +1.1
	baz=268					
MAYO	Mayo, Yukon	75.53	27	P	P	23 19 06.7 +1.6
G30M	tAoh Zraii Nji	75.59	24	P	P	23 19 05.5 -0.1
G30M				IAmb	IAmb	23 19 08.1
	comp=Z,35nm,1.1s					
G30M	tAoh Zraii Nji	75.59	24	P	P	23 19 06.5 +0.9
	baz=266,SNR=9.6					
SKAG	Skagway	75.64	31	P	P	23 19 07.0 +1.2
	baz=269					
F30M	Barrier River	75.81	23	P	P	23 19 08.0 +1.3
	baz=266					
WHY	Whitehorse	75.89	30	P	P	23 19 07.9 +0.5
WHY	Whitehorse	75.89	30	P	P	23 19 08.9 +1.5
	baz=269,SNR=6.2					
S32K	Killisnoo	76.01	33	P	P	23 19 09.1 +1.2
	baz=270					
R32K	Eaglecrest	76.04	33	P	P	23 19 09.1 +0.9
	baz=270					
HRA	Herat	76.14	303	P	P	23 19 09.8 +0.3
HRA				IAmb	IAmb	23 19 11.4
	comp=Z,33nm,0.8s					
M31M	Drury Creek, Y	76.16	29	P	P	23 19 09.4 +0.5
M31M				IAmb	IAmb	23 19 12.0
	comp=Z,35nm,1.4s					
M31M	Drury Creek, Y	76.16	29	P	P	23 19 10.3 +1.5
	baz=269,SNR=5.9					
SVE	Sverdlovsk	76.27	326	*de*P	P	23 19 10.3 +0.8
SVE				pmax	pmax	
	comp=Z,75nm,1.0s					
H31M	Peel River	76.29	25	P	P	23 19 10.4 +0.9
H31M				IAmb	IAmb	23 19 12.5
	comp=Z,22nm,1.1s					
H31M	Peel River	76.29	25	P	P	23 19 11.3 +1.9
	baz=268,SNR=5.6					
G31M	Satah River	76.36	24	P	P	23 19 10.6 +0.9
	baz=268,SNR=11					
P32M	Atlin	76.46	31	P	P	23 19 11.1 +0.5
P32M				IAmb	IAmb	23 19 14.7
	comp=Z,32nm,1.4s					
P32M	Atlin	76.46	31	P	P	23 19 12.1 +1.5
	baz=270					
FARO	Faro, Yukon	76.65	29	P	P	23 19 13.1 +1.6
FARO				IAmb	IAmb	23 19 14.8
	comp=Z,24nm,1.1s					
FARO	Faro, Yukon	76.65	29	P	P	23 19 13.2 +1.6
	baz=270,SNR=8.2					
INK	Inuvik	76.69	22	P	P	23 19 11.7 +0.1
INK	Inuvik	76.69	22	P	P	23 19 11.7 +0.1
INK				pmax	pmax	
	comp=Z,18nm,1.1s					
INK	Inuvik	76.69	22	P	P	23 19 12.5 +0.8
	baz=268,SNR=6.6					
INK	Inuvik	76.69	22	P	P	23 19 11.9 +0.2
	comp=Z,12nm,1.0s,baz=259,slow=7.6,SNR=9.6					
	comp=Z,12nm,1.0s					
N32M	Quiet Lake	76.78	30	P	P	23 19 12.4 +0.1
N32M				IAmb	IAmb	23 19 15.9
	comp=Z,28nm,1.0s					
N32M	Quiet Lake	76.78	30	P	P	23 19 13.7 +1.3
	baz=270					
ABKAR	Akbulak array	76.90	318	P	P	23 19 12.9 -0.3
ABKAR				IAmb	IAmb	23 19 14.3
	comp=Z,36nm,0.8s					
ABKAR	Akbulak array	76.90	318	P	P	23 19 12.6 -0.6
P33M	Teslin, Yukon	76.91	31	P	P	23 19 13.6 +0.4
P33M	Teslin, Yukon	76.91	31	P	P	23 19 14.8 +1.6
	baz=271					
Q32M	Nakina River	77.21	32	P	P	23 19 16.0 +1.0
	baz=271					
ARU	Arti	77.43	325	P	P	23 19 15.7 -0.3
ARU	Arti	77.43	325	*c i*P	P	23 19 16.1 +0.1
ARU						23 22 04.9
ARU				S	S	23 29 08.2 +3.1
ARU				SS	SS	23 34 09.3 +5.6
ARU				pmax	pmax	
	comp=Z,59nm,0.8s					
ARU	Arti	77.43	325	P	P	23 19 16.2 +0.2
	comp=Z,45nm,0.7s,baz=103,slow=2.0,SNR=84					
ARU				LR	LR	23 56 05.8
	comp=Z,124nm,18.7s,baz=86,slow=38					
	comp=Z,45nm,0.7s					
MMPY	Sheldon Lake,	77.62	28	P	P	23 19 17.6 +0.5
MMPY	Sheldon Lake,	77.62	28	P	P	23 19 19.8 +2.8
	baz=271,SNR=5.4					
S34M	Telegraph Cree	77.85	33	P	P	23 19 19.3 +0.9
S34M				IAmb	IAmb	23 19 22.4
	comp=Z,24nm,1.1s					
S34M	Telegraph Cree	77.85	33	P	P	23 19 20.5 +2.2
	baz=273					
R33M	Jennings River	77.87	31	P	P	23 19 19.5 +0.9
R33M	Jennings River	77.87	31	P	P	23 19 20.7 +2.1
	baz=272,SNR=8.2					
NGCH	Negor - Chabah	78.05	294	P	P	23 19 21.2 +1.1
AKTO	Aktyubinsk	78.07	319	P	P	23 19 19.8 0.0
	comp=Z,12nm,0.6s,baz=95,slow=6.3,SNR=39					
AKTO				LR	LR	23 54 09.5
	comp=Z,154nm,21.4s,baz=48,slow=36					
	comp=Z,12nm,0.6s					
T35M	Bob Quinn	78.37	34	P	P	23 19 22.0 +0.7
T35M	Bob Quinn	78.37	34	P	P	23 19 23.0 +1.7
	baz=274					
DLBC	Dease Lake	78.40	32	P	P	23 19 22.4 +0.8
DLBC	Dease Lake	78.40	32	P	P	23 19 23.6 +2.1
	baz=273,SNR=5.9					
TGTN	Hyland Airport	79.08	29	P	P	23 19 27.0 +1.9
	baz=274					
GEYT	Alibeck	79.12	307	P	P	23 19 26.5 +0.7
GEYT				IAmb	IAmb	23 19 28.1
	comp=Z,30nm,1.0s					
GEYT	Alibeck	79.12	307	P	P	23 19 26.5 +0.7
GEYT				pmax	pmax	
	comp=Z,30nm,1.0s					
GEYT	Alibeck	79.12	307	P	P	23 19 27.0 +1.1
	comp=Z,18nm,0.8s,baz=70,slow=4.9,SNR=24					
GEYT				LR	LR	23 59 06.6
	comp=Z,143nm,18.4s,baz=106,slow=39					
	comp=Z,18nm,0.8s					
GYA0B	ALIBECK ARRAY	79.12	307	P	P	23 19 26.1 +0.3
GYA0B				IAmb	IAmb	23 19 28.0
	comp=Z,26nm,1.0s					
BBB	Bella Bella	80.02	39	LR	LR	23 48 55.4
	comp=Z,213nm,20.6s,baz=253,slow=31					
JLN	Jalan Bani Buh	80.06	291	P	P	23 19 31.1 -0.1
LIRD	Liard River Hi	80.35	31	P	P	23 19 33.5 +1.5
	baz=276					
WBK	Wadi Bani Khal	80.40	291	P	P	23 19 34.2 +1.2
WSAR	Wadi Sarin	80.61	292	P	P	23 19 35.1 +0.9
WSAR	Wadi Sarin	80.61	292	P	P	23 19 34.9 +0.7
	comp=Z,3.2nm,0.7s,baz=131,slow=5.0,SNR=6.7					
	comp=Z,3.2nm,0.7s					
JASK	Jask - Hormozg	80.91	295	P	P	23 19 36.8 +1.1
	SNR=5.5					
BIDO	Bidbid	81.03	292	P	P	23 19 37.4 +1.0
	SNR=6.7					
WRGLY	Wrigley	81.12	27	P	P	23 19 37.6 +1.5
	baz=278					
SMDO	Samad	81.17	292	P	P	23 19 38.3 +1.1
KOTAN	Kotaneelee Air	81.28	30	P	P	23 19 38.6 +1.6
	baz=278					
MHTO	MHTO	81.57	290	P	P	23 19 40.1 +0.8
	SNR=7.9					
HOQ	Hoqain	81.75	292	P	P	23 19 41.3 +1.0
	SNR=8.4					
BSY	Bisya	81.99	292	P	P	23 19 42.4 +0.9
KIRV	Kirov	82.12	328	*c i*P	P	23 19 41.9 +0.5
KIRV	Kirov	82.12	328	P	P	23 19 42.4 +1.0
	comp=Z,21nm,0.5s,baz=109,slow=3.8,SNR=20					
KIRV				LR	LR	23 57 53.2
	comp=Z,246nm,20.3s,baz=75,slow=37					
	comp=Z,21nm,0.5s					
SOHO	SOHO	82.37	293	P	P	23 19 43.2 -0.2
SOHO	SOHO	82.37	293	P	P	23 19 43.7 +0.3
MDH	Madha	82.39	294	P	P	23 19 44.4 +0.8
SHME	Shamm	82.41	295	P	P	23 19 44.8 +1.2
MASF	Masafi	82.50	294	P	P	23 19 45.6 +1.5
MSFE	Esma-Masafi	82.51	294	P	P	23 19 44.9 +0.7
ARQ	Araqi	82.51	292	P	P	23 19 46.2 +2.0
	SNR=5.0					
UOSS	Minazif	82.53	294	P	P	23 19 43.9 -0.4
UOSS	Minazif	82.53	294	P	P	23 19 43.8 -0.5
UOSS	Minazif	82.53	294	P	P	23 19 45.6 +1.3
HATD	Hatta, Dubai	82.62	294	P	P	23 19 45.3 +0.5
HATD	Hatta, Dubai	82.62	294	P	P	23 19 45.8 +1.0
ASHO	Ashiyiah	82.71	294	P	P	23 19 45.3 +0.1
ASHO	Ashiyiah	82.71	294	P	P	23 19 46.0 +0.8
ALNE	Al Ain	83.09	293	P	P	23 19 48.2 +1.0
ALNE	Al Ain	83.09	293	P	P	23 19 48.5 +1.3
PRGR	Permogore	83.41	332	⇑*i*P	P	23 19 48.4 +0.4
PRGR				pmax	pmax	
	comp=Z,56nm,0.8s					
BELG	Belogornoye	84.25	322	*d i*P	P	23 19 52.7 +0.2
BELG				pmax	pmax	
	comp=Z,17nm,1.1s					
BELG	Belogornoye	84.25	322	P	P	23 19 52.9 +0.4
	comp=Z,63nm,0.8s,baz=158,slow=0.5,SNR=15					
BELG				LR	LR	23 58 19.4
	comp=Z,230nm,21.7s,baz=132,slow=36					
	comp=Z,63nm,0.8s					
EUNU	Eureka	84.94	8	P	P	23 19 56.2 +0.6
YKA	Yellowknife Ar	85.24	27	P	P	23 19 58.4 +1.1
	comp=Z,7.0nm,0.7s,baz=285,slow=5.0,SNR=7.1					
YKA				LR	LR	23 58 08.4
	comp=Z,93nm,19.2s,baz=286,slow=36					
	comp=Z,7.0nm,0.7s					
YBH	Yreka Blue Hor	85.28	49	P	P	23 20 00.0 +1.9
YBH	Yreka Blue Hor	85.28	49	P	P	23 19 60.0 +1.9
	comp=Z,2.2nm,0.6s,baz=277,slow=7.1,SNR=6.0					
YBH				LR	LR	23 51 47.1
	comp=Z,132nm,19.0s,baz=341,slow=31					
	comp=Z,2.2nm,0.6s					
MZR	Muzera	85.33	292	P	P	23 19 59.6 +1.0
DOK	Doka	85.54	288	P	P	23 19 59.8 +0.1
SPITS	Spitsbergen Ar	85.65	350	P	P	23 20 00.3 +1.2
	comp=Z,22nm,1.0s,baz=97,slow=4.5,SNR=5.1					
SPITS				LR	LR	23 58 53.9
	comp=Z,141nm,19.7s,baz=18,slow=36					
	comp=Z,22nm,1.0s					
WHFO	Wadi Hawf	86.00	287	P	P	23 20 02.0 -0.1
KLMR	Klimovskoe	86.47	332	*e*P	P	23 19 59.5 -4.0
KLMR				AMP		23 20 05.9
	comp=Z,20nm,1.2s					
KLMR	Klimovskoe	86.47	332	*e*P	P	23 19 59.4 -4.0
KLMR				pmax	pmax	
	comp=Z,20nm,1.2s					
HAWA	Hanford	86.53	43	P	P	23 20 03.4 -0.7
HAWA				IAmb	IAmb	23 20 25.4
	comp=Z,18nm,1.1s					
ABTO	Aybut	86.56	287	P	P	23 20 05.4 +0.5
	SNR=7.1					
RES	Resolute Bay	86.73	13	P	P	23 20 05.0 +0.5
RES				IAmb	IAmb	23 20 06.5
	comp=Z,14nm,0.7s					
RES	Resolute Bay	86.73	13	P	P	23 20 05.0 +0.5
RES				pmax	pmax	
	comp=Z,14nm,0.7s					
D08A	Wollman Farm,	86.79	43	P	P	23 20 05.8 +0.4
D08A				IAmb	IAmb	23 20 18.4
	comp=Z,32nm,1.5s					
SEKA	Sheki	86.91	311	P	P	23 20 05.8 -0.3
E09A	Wood Farm, Sta	87.43	43	P	P	23 20 09.2 +0.8
E09A				IAmb	IAmb	23 20 29.8
	comp=Z,33nm,1.4s					
NEW	Newport	87.67	41	P	P	23 20 10.0 +0.3
NEW				IAmb	IAmb	23 20 31.3
	comp=Z,22nm,1.1s					
NEW	Newport	87.67	41	P	P	23 20 09.1 -0.5
	comp=Z,3.6nm,0.7s,baz=319,slow=2.8,SNR=7.7					
	comp=Z,3.6nm,0.7s					
GANJ	Ganja	87.68	311	P	P	23 20 08.5 -1.3
CMB	Columbia Colle	87.81	52	P	P	23 20 10.0 -0.5
CMB	Columbia Colle	87.81	52	P	P	23 20 10.0 -0.5
CMB				pmax	pmax	
	comp=Z,11nm,1.2s					
VRH	Novokhopyorsk	88.10	322	*e*P	P	23 20 09.4 -2.1
VRH				pmax	pmax	
	comp=Z,10.0nm,0.7s					
PAHR	Pah Rah Range	88.19	50	P	P	23 20 11.6 -0.9
ARCES	ARCESS Array B	88.39	342	P	P	23 20 12.3 -0.2
	comp=Z,2.4nm,0.4s,baz=72,slow=7.0,SNR=37					
ARCES				LR	LR	00 05 02.6
	comp=Z,142nm,18.2s,baz=90,slow=39					
	comp=Z,2.4nm,0.4s					
BMO	Blue Mountains	88.42	45	P	P	23 20 13.4 0.0
BMO				IAmb	IAmb	23 20 34.3
	comp=Z,12nm,1.0s					
BMO	Blue Mountains	88.42	45	P	P	23 20 13.4 0.0
BMO				pmax	pmax	
	comp=Z,12nm,1.0s					
SMMC	Simmler	88.74	54	P	P	23 20 16.0 +1.1
	baz=283					
ZEI	Tsey	88.92	313	*e*P	P	23 20 13.2 -2.7
ZEI				pmax	pmax	
	comp=Z,5.0nm,1.0s				

NVAR	**Mina Array Bea**	**89.31**	**51**	P	**P**	**23 20 19.1**	**+1.3**
NVAR	**Mina Array Bea**	**89.31**	**51**	P	**P**	**23 20 19.6**	**+1.8**
	comp=Z,3.5nm,0.7s,baz=265,slow=5.9,SNR=26						
NVAR				LR	LR	23 52 18.8	
	comp=Z,95nm,20.3s,baz=320,slow=30						
	comp=Z,3.5nm,0.7s						
LPSR	**Galich'ya Gora**	**89.33**	**324**	*e*P	**P**	**23 20 15.1**	**-2.2**
LPSR				pmax	pmax		
	comp=Z,20nm,1.4s						
VES	**Vestal, Richgr**	**89.33**	**54**	P	**P**	**23 20 19.0**	**+1.4**
	baz=284						
KBZ	**Khabaz**	**89.38**	**315**	*ce*P	**P**	**23 20 19.4**	**+1.7**
KBZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBZ	**Khabaz**	**89.38**	**315**	P	**P**	**23 20 16.9**	**-0.8**
	comp=Z,5.1nm,0.9s,baz=105,slow=20,SNR=13						
KBZ				LR	LR	00 03 39.1	
	comp=Z,109nm,20.4s,baz=48,slow=38						
	comp=Z,5.1nm,0.9s						
NV11	**Mina Array Sit**	**89.42**	**51**	P	**P**	**23 20 19.4**	**+1.1**
NV11				IAmb	IAmb	23 20 40.2	
	comp=Z,15nm,1.1s						
VORR	**Voronezh**	**89.46**	**323**	*e*P	**P**	**23 20 16.1**	**-1.8**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
KIV	**Kislovodsk**	**89.46**	**315**	*e*P	**P**	**23 20 17.3**	**-1.0**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VSR	**Storozhevoye**	**89.63**	**322**	*e*P	**P**	**23 20 16.2**	**-2.5**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
VNDA	**Vanda**	**89.69**	**176**	P	**P**	**23 20 18.3**	**-0.1**
VNDA	**Vanda**	**89.69**	**176**	P	**P**	**23 20 18.3**	**-0.1**
OBN	**Obninsk**	**89.82**	**327**	*i* P	**P**	**23 20 18.4**	**-1.1**
OBN				*i*		23 20 25.0	
OBN				pmax	pmax		
	comp=Z,20nm,1.1s						
OBN	**Obninsk**	**89.82**	**327**	P	**P**	**23 20 18.1**	**-1.4**
	comp=Z,9.1nm,0.4s,baz=63,slow=8.6,SNR=5.1						
	comp=Z,9.1nm,0.4s						
MFID	**Camas Ranch**	**89.83**	**46**	P	**P**	**23 20 20.7**	**+0.7**
MFID				IAmb	IAmb	23 20 41.3	
	comp=Z,17nm,1.1s						
DSP	**Deep Springs**	**89.83**	**52**	P	**P**	**23 20 21.1**	**+1.2**
DSP				IAmb	IAmb	23 20 41.8	
	comp=Z,13nm,1.0s						
CWC	**Cottonwood Cre**	**89.98**	**53**	P	**P**	**23 20 21.6**	**+0.7**
	baz=284						
TPH	**Tonopah**	**90.22**	**51**	P	**P**	**23 20 23.1**	**+1.0**
TPH	**Tonopah**	**90.22**	**51**	P	**P**	**23 20 23.1**	**+1.0**
TPH				pmax	pmax		
	comp=Z,60nm,0.9s						
GMN	**Gold Mountain**	**90.39**	**52**	P	**P**	**23 20 22.9**	**-0.1**
LRMC	**Laurel Mtn Rad**	**90.53**	**54**	P	**P**	**23 20 25.4**	**+1.9**
	baz=285						
MPMC	**Manual Prospec**	**90.53**	**53**	P	**P**	**23 20 25.0**	**+1.4**
	baz=285						
HLID	**Hailey**	**90.77**	**45**	P	**P**	**23 20 23.6**	**-0.9**
HLID	**Hailey**	**90.77**	**45**	P	**P**	**23 20 26.0**	**+1.5**
	baz=287						
BFSC	**Mount Baldy Ra**	**90.86**	**55**	P	**P**	**23 20 26.3**	**+1.3**
	baz=285						
FURC	**Furnace Creek,**	**90.92**	**53**	P	**P**	**23 20 27.3**	**+2.2**
	baz=285						
ELK	**Elko**	**90.99**	**48**	P	**P**	**23 20 25.7**	**+0.1**
ELK	**Elko**	**90.99**	**48**	P	**P**	**23 20 25.7**	**+0.1**
ELK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WCT	**Wildcat Mounta**	**91.02**	**52**	P	**P**	**23 20 25.9**	**+0.3**
WCT				IAmb	IAmb	23 20 47.0	
	comp=Z,17nm,1.0s						
QSM	**Queen of Sheba**	**91.05**	**53**	P	**P**	**23 20 25.9**	**+0.2**
QSM				IAmb	IAmb	23 20 47.0	
	comp=Z,16nm,0.9s						
DAG	**Danmarks Havn**	**91.06**	**356**	*i* P	**P**	**23 20 24.0**	**-0.9**
GWY	**Greenwater Val**	**91.14**	**53**	P	**P**	**23 20 25.8**	**-0.5**
GWY				IAmb	IAmb	23 20 47.5	
	comp=Z,11nm,1.0s						
TPNV	**Topopah Spring**	**91.27**	**52**	P	**P**	**23 20 26.7**	**-0.2**
TPNV				IAmb	IAmb	23 20 48.2	
	comp=Z,16nm,0.9s						
TPNV	**Topopah Spring**	**91.27**	**52**	P	**P**	**23 20 26.7**	**-0.2**
TPNV				pmax	pmax		
	comp=Z,16nm,1.0s						
TPNV	**Topopah Spring**	**91.27**	**52**	P	**P**	**23 20 28.6**	**+1.6**
	baz=286						
GSC	**Goldstone, Bar**	**91.27**	**54**	P	**P**	**23 20 26.1**	**-0.7**
GSC				IAmb	IAmb	23 20 48.2	
	comp=Z,18nm,0.9s						
GSC	**Goldstone, Bar**	**91.27**	**54**	P	**P**	**23 20 26.1**	**-0.7**
GSC				pmax	pmax		
	comp=Z,19nm,0.9s						
GSC	**Goldstone, Bar**	**91.27**	**54**	P	**P**	**23 20 28.4**	**+1.5**
	baz=285						
R11B	**Troy Canyon, C**	**91.39**	**51**	P	**P**	**23 20 27.4**	**-0.1**
R11B	**Troy Canyon, C**	**91.39**	**51**	P	**P**	**23 20 29.5**	**+1.9**
	baz=286						
GURO	**Guroymak-BITLI**	**91.42**	**310**	P	**P**	**23 20 26.8**	**-0.7**
SOC	**Sochi**	**91.63**	**315**	*e*P	**P**	**23 20 24.7**	**-3.5**
SOC				*e*PPP	PPP	23 26 02.5	
SOC				*e*S	**SKSac**	**23 30 56.0**	**-3.5**
SOC				*e*SS	SKKPbc	23 41 11.5	-14
SOC				MLR	MLR		
	comp=Z,125nm,18.0s						
HEC	**Hector,Ludlow**	**91.77**	**54**	P	**P**	**23 20 30.9**	**+1.7**
	baz=286						
TUQ	**Turquoise Moun**	**91.93**	**53**	P	**P**	**23 20 31.3**	**+1.3**
	baz=286						
PFO	**Pinyon Flats O**	**91.99**	**55**	*i* P	**P**	**23 20 32.7**	**+2.4**
PFO	**Pinyon Flats O**	**91.99**	**55**	P	**P**	**23 20 31.5**	**+1.2**
	baz=285						
PFO	**Pinyon Flats O**	**91.99**	**55**	LR	LR	23 53 56.7	
	comp=Z,98nm,21.4s,baz=238,slow=30						
BOZ	**Bozeman (W)**	**92.04**	**43**	P	**P**	**23 20 31.3**	**+0.9**
	baz=289						
PRN	**Pahroc Range**	**92.06**	**51**	P	**P**	**23 20 30.1**	**-0.5**
SPR3	**Spring Creek 3**	**92.15**	**50**	P	**P**	**23 20 29.5**	**-1.6**
FINES	**FINESS Array B**	**92.20**	**335**	*i* P	**P**	**23 20 29.3**	**-1.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	**FINESS Array B**	**92.20**	**335**	P	**P**	**23 20 29.3**	**-1.2**
	comp=Z,2.3nm,0.4s,baz=62,slow=4.3,SNR=44						
FINES				LR	LR	00 04 35.2	
	comp=Z,187nm,20.1s,baz=54,slow=37						
	comp=Z,2.3nm,0.4s						
SHPR	**Sheep Range**	**92.23**	**52**	P	**P**	**23 20 31.0**	**-0.4**
BELC	**Belle Mtn. Jos**	**92.25**	**55**	P	**P**	**23 20 32.8**	**+1.2**
	baz=286						
GMRC	**Granite Mounta**	**92.31**	**54**	P	**P**	**23 20 33.2**	**+1.5**
	baz=286						
YHL	**Hebgen Lake**	**92.58**	**43**	P	**P**	**23 20 31.1**	**-1.9**
YHL				IAmb	IAmb	23 20 55.5	
	comp=Z,22nm,1.1s						
V12A	**Nelson**	**92.69**	**53**	P	**P**	**23 20 32.4**	**-1.0**
V12A				IAmb	IAmb	23 20 55.5	
	comp=Z,20nm,0.9s						
SWSC	**Sam W. Stewart**	**92.70**	**56**	P	**P**	**23 20 34.9**	**+1.5**
	baz=286						
ID07	**Smith Canyon R**	**92.71**	**46**	P	**P**	**23 20 32.7**	**-0.8**
BC3	**Big Chuckawall**	**92.78**	**55**	P	**P**	**23 20 35.5**	**+1.5**
	baz=286						
ANN	**Anapa**	**92.80**	**317**	*e*P	**P**	**23 20 29.9**	**-3.7**
ANN				*e**PP	**PcP**	**23 20 36.2**	**+2.0**
ANN				*e*		23 24 19.4	
ANN				*e*S	**SKSac**	**23 31 02.3**	**-3.6**
ANN				*e*SS	**SS**	**23 37 48.6**	**-1.7**
ANN				pmax	pmax		
	comp=Z,16nm,0.8s						
IRM	**Iron Mountain**	**92.89**	**54**	P	**P**	**23 20 36.3**	**+1.9**
	baz=286						
DUG	**Dugway, Tooele**	**92.92**	**48**	P	**P**	**23 20 35.9**	**+1.4**
	baz=288						
H17A	**Grant Village**	**93.14**	**44**	P	**P**	**23 20 37.1**	**+1.5**
	baz=290						
FLWY	**Flagg Ranch**	**93.17**	**44**	P	**P**	**23 20 34.2**	**-1.4**
FLWY				IAmb	IAmb	23 20 57.3	
	comp=Z,14nm,1.1s						
MOOW	**Moose Ponds**	**93.25**	**44**	P	**P**	**23 20 35.0**	**-1.0**
BLYC	**Blythe**	**93.50**	**55**	P	**P**	**23 20 37.9**	**+0.8**
BLYC				IAmb	IAmb	23 20 58.3	
	comp=Z,11nm,0.8s						
PDMCI	**Parker Dam,Lak**	**93.65**	**54**	P	**P**	**23 20 39.4**	**+1.7**
	baz=287						
RLMT	**Red Lodge**	**93.77**	**43**	P	**P**	**23 20 40.5**	**+2.1**
	baz=291						
PDAR	**Pinedale Array**	**94.39**	**45**	P	**P**	**23 20 42.5**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=278,slow=2.6,SNR=2.4						
	comp=Z,0.3nm,0.6s						
MNK	**Minsk**	**94.67**	**328**	*i* P	**P**	**23 20 38.7**	**-3.3**
	comp=E,2.0nm,0.8s						
MNK				*i* LR	LR	00 00 23.0	
MNK				*i* LRM	MLR	00 00 22.7	
	comp=N,112nm,19.0s						
MNK				*i* LRM	MLR	00 05 26.6	
	comp=E,47nm,21.6s						
MNK				*i* LRM	MLR	00 05 43.0	
	comp=Z,157nm,18.4s						
MNK				*i* P	**P**	**23 20 38.7**	**-3.3**
	comp=N,12nm,1.0s						
MNK				*i* P	**P**	**23 20 38.7**	**-3.3**
	comp=Z,5.0nm,1.0s,baz=63						
MNK				*i* PP	**PP**	**23 24 27.1**	**-2.7**
MNK				*i* PPP	PPP	23 26 28.5	
MNK				*i* S	**SKSac**	**23 31 13.2**	**-2.5**
MNK				*i* SS	**SS**	**23 38 15.0**	**-1.3**
MNK				*i* SSS	SSS	23 41 57.0	
MNK				*i* LQ	LQ	23 57 25.8	
MNK	**Minsk**	**94.67**	**328**	*i* P	**P**	**23 20 38.6**	**-3.3**
MNK				*i*		23 24 27.1	
MNK				*i* S	**SKSac**	**23 31 13.2**	**-2.5**
MNK				*i* SS	**SS**	**23 38 14.9**	**-1.3**
MNK				*i* SSS	SSS	23 41 56.9	
MNK				pmax	pmax		
	comp=E,2.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,12nm,1.0s						
MNK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MNK				MLR	MLR		
	comp=N,112nm,19.0s						
MNK				MLR	MLR		
	comp=E,47nm,22.0s						
MNK				MLR	MLR		
	comp=Z,157nm,18.0s						
NACGM	**Naroch**	**95.04**	**329**	LR	LR	00 03 20.9	
	comp=Z,368nm,22.9s						
LAO	**LASA Array**	**95.17**	**40**	P	**P**	**23 20 44.9**	**+0.3**
LAO				IAmb	IAmb	23 21 06.1	
	comp=Z,17nm,1.0s						
LAO	**LASA Array**	**95.17**	**40**	P	**P**	**23 20 45.8**	**+1.3**
	baz=293						
AKASG	**Malin Array Be**	**95.64**	**324**	LR	LR	00 06 02.4	
	comp=Z,240nm,20.3s,baz=36,slow=37						
MAW	**Mawson**	**97.09**	**202**	P	**P**	**23 20 51.2**	**-1.4**
	comp=Z,2.4nm,0.9s,baz=48,slow=6.8,SNR=4.0						
	comp=Z,2.4nm,0.9s						
BR131	**Keskin Array S**	**97.22**	**313**	⇑*e*P	**P**	**23 20 53.1**	**-1.0**
BRTR	**Keskin Array B**	**97.22**	**313**	*i* P	Pdif	23 20 55.9	+1.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**97.22**	**313**	P	**P**	**23 20 52.8**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=82,slow=2.6,SNR=5.4						
	comp=Z,0.7nm,0.7s						
HFS	**Hagfors**	**97.93**	**337**	P	**P**	**23 20 55.3**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=62,slow=10.0,SNR=1.9						
HFS				LR	LR	00 09 43.1	
	comp=Z,75nm,18.7s,baz=66,slow=38						
	comp=Z,1.1nm,0.7s						
S22A	**4UR Ranch, Cre**	**98.13**	**49**	P	Pdif	23 20 59.5	+1.0
	baz=292						
NOA	**NORSAR Array B**	**98.24**	**339**	P	**P**	**23 20 56.5**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=48,slow=4.7,SNR=2.7						
NOA				PP	**PP**	**23 24 51.8**	**-5.4**
	comp=Z,1.2nm,0.8s,baz=41,slow=7.9,SNR=3.4						
NOA				LR	LR	00 10 00.1	
	comp=Z,53nm,18.1s,baz=60,slow=38						
	comp=Z,0.5nm,0.6s						
MLR	**Muntele Rosu**	**99.97**	**321**	LR	LR	00 08 49.0	
	comp=Z,193nm,21.5s,baz=48,slow=37						
QSPA	**South Pole Qui**	**101.55**	**180**	P	**Pdif**	**23 21 13.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=330,slow=9.1,SNR=4.1						
EYMN	**Ely**	**103.34**	**34**	P	**Pdif**	**23 21 21.7**	**+0.6**
	baz=305						
CLL	**Collm**	**103.92**	**330**	*e*P	**Pdif**	**23 21 24.0**	**+0.4**
CLL				*e*		23 25 40.0	
CLL	**Collm**	**103.92**	**330**	*e*P	**Pdif**	**23 21 24.0**	**+0.4**
CLL				*e*PP	**PP**	**23 25 40.0**	**-0.2**
CLL				AMS	AMS	00 11 00.0	
	comp=N,100nm,21.1s						
CLL				AMS	AMS	00 11 00.0	
	comp=E,200nm,19.9s						
CLL				AMS	AMS	00 11 00.0	
	comp=Z,300nm,20.8s						
ELIB	**Princess Elisa**	**110.11**	**197**	*d*PKiKP	**PKiKP**	**23 25 53.4**	**+1.2**
ESDC	**Sonseca Array**	**120.50**	**331**	PP	**PP**	**23 27 37.5**	**-1.4**
	comp=Z,2.5nm,1.1s,baz=21,slow=5.6,SNR=5.3						
TORD	**Torodi Ar. Bea**	**134.59**	**302**	PKhKP	PKPpre	23 26 33.4	
	comp=Z,0.2nm,0.6s,baz=27,slow=2.7,SNR=1.5						
TORD				PKP	**PKPdf**	**23 26 39.4**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=27,slow=2.8,SNR=4.8						
TORD				PP	**PP**	**23 29 07.3**	**-5.6**
	comp=Z,1.8nm,1.0s,baz=45,slow=6.6,SNR=3.6						
PLCA	**Paso Flores**	**138.53**	**140**	PKP	**PKPdf**	**23 26 46.7**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=235,slow=3.7,SNR=3.8						
DBIC	**Dimbokro**	**143.42**	**298**	PKP	PKPbc	23 26 54.2	+0.6
	comp=Z,1.6nm,0.6s,baz=79,slow=3.4,SNR=1.9						
KIC	**Kosan Boka**	**143.47**	**298**	⇑*i* P	PKiKP	23 27 13.0	+13
	comp=Z,19nm,0.9s						
TIC	**Toumodi**	**143.57**	**298**	⇑*e*P	PKiKP	23 27 10.3	+10
	comp=Z,14nm,0.7s						
LIC	**Lamto**	**143.79**	**298**	⇑*i* P	PKiKP	23 27 14.1	+14
	comp=Z,46nm,0.8s						
ZON	**Zonda**	**144.53**	**129**	PKPdf	PKPbc	23 26 56.9	+0.2
ZON	**Zonda**	**144.53**	**129**	PKIKP	PKPbc	23 26 56.9	+0.2
AC06	**Mina Casimiro**	**144.83**	**121**		**PKPdf**	**23 26 58.6**	**-0.1**
GO03	**Copiap**	**144.85**	**122**		**PKPdf**	**23 26 58.3**	**-0.4**
TRQA	**Tornquist**	**145.38**	**144**		**PKPbc**	**23 26 58.6**	**-0.5**
TRQA	**Tornquist**	**145.38**	**144**	PKIKP	**PKPbc**	**23 26 58.6**	**-0.5**
PB16	**IPOC Station P**	**147.69**	**106**	PKPab	**PKiKP**	**23 27 09.0**	**-0.2**
PB08	**IPOC Station P**	**147.75**	**109**	PKPab	**PKPbc**	**23 27 08.0**	**+0.9**
GO01	**Chusmiza**	**147.80**	**108**	PKPab	**PKiKP**	**23 27 08.7**	**-0.5**
LPAZ	**La Paz**	**149.21**	**102**	PKPbc	**PKiKP**	**23 27 12.7**	**+0.3**
	comp=Z,12nm,0.7s,baz=320,slow=2.5,SNR=21						
SAML	**Samuel**	**153.83**	**87**		**PKiKP**	**23 27 22.3**	**+1.0**
SAML				PKPab	**PKPab**	**23 27 34.9**	**+0.7**
CPUP	**Villa Florida**	**155.74**	**130**	PKPab	**PKPab**	**23 27 41.6**	**-0.3**
	comp=Z,5.6nm,0.8s,baz=237,slow=5.3,SNR=8.6						

TAP 19 23:12:24.4, 24°.30N×121°.86E, h10km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.11**	**278**	*e*P	Pg	23 12 27.7	+0.5
	baz=278						
EWUT	**Wuta**	**0.17**	**333**	*i* P	Pg	23 12 28.2	+0.1
	baz=332						
EWUT				*i* S	Sg	23 12 31.0	+0.4
	baz=332						
ETL	**Fush Village**	**0.26**	**238**	P	Pg	23 12 30.2	+0.6
	baz=241						
ETL				S	Sg	23 12 33.5	+0.3
	baz=241						
NACB	**Ninganchiao**	**0.27**	**244**	*e*P	Pg	23 12 30.2	+0.2
	baz=245						
NACB				S	Sg	23 12 34.0	+0.3
	baz=245						
TWC	**Suao**	**0.31**	**358**	*e*P	Pg	23 12 31.0	+0.4
	baz=359						
TWC				S	Sg	23 12 35.3	+0.4
	baz=359						
ETLH	**Xiulin Townshi**	**0.36**	**256**	*e*P	Pg	23 12 31.4	-0.1
	baz=257						
ETLH				*e*S	Sg	23 12 36.4	+0.1
	baz=257						
LATG	**Datong**	**0.39**	**308**	*i* P	Pg	23 12 32.4	+0.3
	baz=308						
LATG				S	Sb	23 12 39.1	-0.4
	baz=308						
EOS3	**EOS3**	**0.41**	**91**	*e*P	Pb	23 12 33.7	0.0
	baz=90						
EOS3				*e*S	Sb	23 12 39.3	-0.7
	baz=90						
ENTT	**Nioudou**	**0.44**	**322**	P	Pg	23 12 33.5	+0.6
	baz=322						
ENTT				*e*S	Sb	23 12 40.5	-0.3
	baz=322						
NDT	**Datong Townshi**	**0.44**	**314**	*e*P	Pg	23 12 33.5	+0.4
	baz=313						
NDT				*e*S	Sb	23 12 40.5	-0.4
	baz=313						
NNSB	**Datong**	**0.46**	**287**	*i* P	Pb	23 12 34.2	-0.4
	baz=287						
NNSB				*i* S	Sg	23 12 40.0	+0.6
	baz=287						
TWE	**Neicheng**	**0.46**	**337**	*e*P	Pg	23 12 33.8	+0.4
	baz=337						
NNS	**Nan Shan**	**0.47**	**288**	*e*P	Pb	23 12 34.6	-0.3
	baz=288						
NNS				*e*S	Sb	23 12 41.1	-0.8
	baz=288						
LXIB	**Xiulin Townshi**	**0.49**	**237**	*e*S	Sb	23 12 42.0	-0.5
	baz=239						
FUSB	**Fushanzhiwuyua**	**0.53**	**332**	P	Pg	23 12 35.2	+0.5
	baz=320						
FUSB				S	Sb	23 12 43.4	-0.1
	baz=320						
WHF	**Hehuan Shan**	**0.57**	**255**	*e*S	Sg	23 12 42.9	-0.1
	baz=256						
YHNB	**Yeheng**	**0.58**	**310**	*i* P	Pb	23 12 36.4	-0.3
	baz=317						
YHNB				S	Sb	23 12 44.3	-0.7
	baz=317						
NWLT	**Wulai**	**0.58**	**326**	P	Pb	23 12 36.5	-0.2
	baz=325						
NWLT				S	Sb	23 12 44.7	-0.3
	baz=325						

IDC 19 23:38:51.1±3.7, 4°.47S×153°.00E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=133.5km s-min=37.1km az=112.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.82**	**228**	P	P	23 44 05.5	-0.5
	0.6nm,0.4s,baz=52,slow=9.8,SNR=12						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.53**	**222**	P	P	23 44 31.6	+0.8
	0.2nm,0.3s,baz=56,slow=9.2,SNR=1.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**80.21**	**319**	P	P	23 51 04.1	+0.5
	0.2nm,0.5s,baz=106,slow=5.1,SNR=1.8						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.40**	**289**	PKPbc	PKPbc	23 58 44.9	-0.9
	0.7nm,0.9s,baz=85,slow=2.0,SNR=6.6						

*IDC **20** 00:12:00.5±1.0, 24°.13N×122°.14E, h0km, mb3.7/6, mbtmp3.8/7, ML4.1/1, Error ellipse: s-maj=40.6km s-min=19.1km az=63.0*
*TAP **20** 00:12:07.5, 24°.14N×122°.27E, h57km, ML4.1, B*
*JMA **20** 00:12:07.4±0.1, 24°.1N±0°.6×122°.3E±0°.2, h49km±2km, MV3.8/18, TAIWAN REGION*
ISC 20 00:12:07.6±0.8, 24°.12N±0°.02×122°.30E±0°.02, h53km±5km, n170, σ1§12/303, mb3.7/6, 4C-25D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.02**	**98**	⇑P	**Pn**	**00 12 15.6**	**+0.4**
	baz=117						
EOS4				S	**Sn**	**00 12 21.7**	**+1.2**
	baz=117						
EOS3	**EOS3**	**0.16**	**7**	⇑P	**Pn**	**00 12 16.6**	**+0.7**
	baz=338						
EOS3				S	**Sn**	**00 12 23.0**	**+1.2**
	baz=338						
EOS2	**EOS2**	**0.30**	**349**	⇑P	**Pn**	**00 12 17.4**	**+0.5**
	baz=330						
EOS2				S	**Sn**	**00 12 25.0**	**+1.5**
	baz=330						
EHP	**Heping Village**	**0.54**	**290**	⇓P	**Pn**	**00 12 19.6**	**+0.1**
	baz=289						
EHP				S	**Sn**	**00 12 28.6**	**+0.5**
	baz=289						
EWUT	**Wuta**	**0.57**	**304**	P	**Pn**	**00 12 19.8**	**0.0**
	baz=309						
ENA	**Nanau**	**0.59**	**301**	⇓*i* P	**Pn**	**00 12 20.1**	**0.0**
	baz=308						
ENA				*i* S	**Sn**	**00 12 29.1**	**0.0**
	baz=308						
ETL	**Fush Village**	**0.61**	**273**	⇓P	**Pn**	**00 12 20.1**	**-0.4**
	baz=263						
ETL				S	**Sn**	**00 12 29.6**	**-0.2**
	baz=263						
TWC	**Suao**	**0.63**	**320**	*i* P	**Pn**	**00 12 20.4**	**-0.2**
	baz=321						
TWC				*i* S	**Sn**	**00 12 29.2**	**-0.9**
	baz=321						
NACB	**Ninganchiao**	**0.64**	**275**	P	**Pn**	**00 12 20.3**	**-0.5**
NACB	**Ninganchiao**	**0.64**	**275**	⇓P	**Pn**	**00 12 20.3**	**-0.5**
	baz=266						
NACB				S	**Sn**	**00 12 29.8**	**-0.5**
	baz=266						
HWA	**Hwalien**	**0.65**	**257**	*i* P	**Pn**	**00 12 20.8**	**0.0**
	baz=254						
HWA				*i* S	**Sn**	**00 12 30.8**	**+0.4**
	baz=254						
JYNG	**Yonaguni jima**	**0.68**	**61**	*e*P	**Pn**	**00 12 21.5**	**+0.3**
JYNG				*e*S	**Sn**	**00 12 31.6**	**+0.5**
NDS	**Dongshan**	**0.73**	**314**	P	**Pn**	**00 12 22.2**	**+0.3**
	baz=316						
NDS				S	**Sn**	**00 12 32.4**	**+0.1**
	baz=316						
YOJ	**Yonaguni jima**	**0.73**	**63**	P	**Pn**	**00 12 22.7**	**+0.8**
YOJ	**Yonaguni jima**	**0.73**	**63**	P	**Pn**	**00 12 22.5**	**+0.5**
YOJ				*e*S	**Sn**	**00 12 32.8**	**+0.4**
YOJ	**Yonaguni jima**	**0.73**	**63**	P	**Pn**	**00 12 22.6**	**+0.8**
	baz=64						
YOJ				S	**Sn**	**00 12 33.3**	**+1.0**
	baz=64						
ETLH	**Xiulin Townshi**	**0.75**	**277**	⇓P	**Pn**	**00 12 21.9**	**-0.3**
	baz=275						
ETLH				S	**Sn**	**00 12 32.0**	**-0.8**
	baz=275						
ETM	**Tongmen**	**0.75**	**258**	⇓P	**Pn**	**00 12 21.7**	**-0.4**
	baz=256						
ETM				S	**Sn**	**00 12 32.1**	**-0.6**
	baz=256						
EGS	**Datong**	**0.79**	**335**	*i* P	**Pn**	**00 12 23.6**	**+0.9**
	baz=337						
EGS				S	**Sn**	**00 12 34.1**	**+0.4**
	baz=337						
TEGC	**Jichi Village**	**0.81**	**239**	P	**Pn**	**00 12 22.9**	**0.0**
	baz=229						
TEGC				S	**Sn**	**00 12 34.4**	**+0.4**
	baz=229						
LATG	**Datong**	**0.81**	**300**	⇓P	**Pn**	**00 12 22.9**	**-0.1**
	baz=299						
LATG				S	**Sn**	**00 12 34.9**	**+0.6**
	baz=299						
LXIB	**Xiulin Townshi**	**0.81**	**263**	⇓P	**Pn**	**00 12 22.6**	**-0.5**
	baz=261						
LXIB				S	**Sn**	**00 12 33.5**	**-0.9**
	baz=261						
TWE	**Neicheng**	**0.83**	**316**	*i* P	**Pn**	**

	baz=233						
TWB1	**Santiao Chiao**	**0.92 342**	⇓	*i* P	**Pn**	**00 12 24.1**	**-0.3**
	baz=344						
TWB1				*i* S	**Sn**	**00 12 35.7**	**-1.1**
	baz=344						
WARBT	**Fenglin Townsh**	**0.93 244**		P	**Pn**	**00 12 23.9**	**-0.5**
	baz=242						
WARBT				S	**Sn**	**00 12 36.1**	**-0.7**
	baz=242						
WHF	**Hehuan Shan**	**0.94 272**		*i* P	**Pn**	**00 12 24.7**	**-0.3**
	baz=261						
WHF				*i* S	**Sn**	**00 12 37.4**	**-0.4**
	baz=261						
NWLT	**Wulai**	**0.97 312**	⇓	*i* P	**Pn**	**00 12 25.5**	**+0.4**
	baz=303						
NWLT				*i* S	**Sn**	**00 12 38.5**	**+0.5**
	baz=303						
YHNB	**Yeheng**	**1.00 303**		P	**Pn**	**00 12 25.7**	**+0.2**
YHNB	**Yeheng**	**1.00 303**	⇓	P	**Pn**	**00 12 25.7**	**+0.2**
	baz=302						
YHNB				S	**Sn**	**00 12 38.4**	**-0.3**
	baz=302						
HGSD	**Ruisui**	**1.02 232**		P	**Pn**	**00 12 25.2**	**-0.4**
	baz=225						
HGSD				S	**Sn**	**00 12 39.6**	**+0.7**
	baz=225						
NSK	**Sanguang**	**1.02 303**	⇓	*i* P	**Pn**	**00 12 25.9**	**+0.1**
	baz=302						
NSK				*i* S	**Sn**	**00 12 38.6**	**-0.5**
	baz=302						
CHGB	**Renai**	**1.03 267**	⇓	P	**Pn**	**00 12 25.9**	**0.0**
	baz=256						
CHGB				S	**Sn**	**00 12 40.1**	**+0.6**
	baz=256						
TWT	**Tachien**	**1.03 277**		*i* P	**Pn**	**00 12 26.4**	**+0.4**
	baz=267						
TWT				S	**Sn**	**00 12 40.5**	**+1.0**
	baz=267						
OWD	**Renai**	**1.04 261**	⇓	P	**Pn**	**00 12 25.9**	**-0.1**
	baz=266						
OWD				S	**Sn**	**00 12 39.4**	**-0.3**
	baz=266						
SXI1	**Grass Mountain**	**1.04 339**		P	**Pn**	**00 12 25.8**	**-0.2**
	baz=348						
SXI1				S	**Sn**	**00 12 39.5**	**-0.2**
	baz=348						
TDCB	**Techi**	**1.05 277**	⇓	P	**Pn**	**00 12 26.4**	**+0.2**
	baz=268						
TDCB				S	**Sn**	**00 12 40.7**	**+0.8**
	baz=268						
NWF	**Wu-fen Shan**	**1.05 334**		*i* P	**Pn**	**00 12 26.2**	**0.0**
	baz=344						
NWF				*e*S	**Sn**	**00 12 39.6**	**-0.4**
	baz=344						
WFSB	**Wu-fen Shan**	**1.05 334**		P	**Pn**	**00 12 26.1**	**0.0**
	baz=344						
WFSB				*e*S	**Sn**	**00 12 39.9**	**0.0**
	baz=344						
TWA	**Mucha**	**1.07 323**		P	**Pn**	**00 12 26.9**	**+0.5**
	baz=334						
TWA				S	**Sn**	**00 12 41.7**	**+1.4**
	baz=334						
EHY	**Hungye**	**1.08 236**		*i* P	**Pn**	**00 12 26.0**	**-0.5**
	baz=233						
EHY				*e*S	**Sn**	**00 12 38.9**	**-1.7**
	baz=233						
WUSB	**Renai**	**1.08 263**	⇓	P	**Pn**	**00 12 26.8**	**+0.1**
	baz=261						
WUSB				S	**Sn**	**00 12 41.0**	**+0.2**
	baz=261						
NHDH	**Xindian Distri**	**1.09 320**		P	**Pn**	**00 12 27.4**	**+0.7**
	baz=329						
NHDH				S	**Sn**	**00 12 42.0**	**+1.3**
	baz=329						
ECBN	**Changbin**	**1.11 224**		P	**Pn**	**00 12 26.9**	**-0.1**
	baz=214						
ECBN				S	**Sn**	**00 12 40.9**	**-0.5**
	baz=214						
VWDT	**VWDT**	**1.12 251**	⇓	P	**Pn**	**00 12 27.4**	**+0.4**
	baz=249						
VWDT				S	**Sn**	**00 12 41.1**	**-0.2**
	baz=249						
TATO	**Taipei**	**1.12 319**		P	**Pn**	**00 12 27.6**	**+0.5**
TATO	**Taipei**	**1.12 319**		P	**Pn**	**00 12 27.6**	**+0.5**
	baz=309						
TATO				S	**Sn**	**00 12 42.2**	**+0.7**
	baz=309						
NHY	**Taipei**	**1.13 324**		*e*S	**Sn**	**00 12 42.9**	**+1.3**
	baz=334						
TNOU	**National Taiwa**	**1.13 335**		P	**Pn**	**00 12 26.8**	**-0.3**
	baz=344						
TNOU				S	**Sn**	**00 12 40.5**	**-1.1**
	baz=344						
TAP	**Taipei**	**1.16 322**		S	**Sn**	**00 12 43.8**	**+1.4**
	baz=335						
YULB	**Yu-li**	**1.17 232**		P	**Pn**	**00 12 27.3**	**-0.4**
YULB	**Yu-li**	**1.17 232**	⇓	P	**Pn**	**00 12 27.3**	**-0.4**
	baz=239						
YULB				S	**Sn**	**00 12 41.1**	**-1.5**
	baz=239						
EYUL	**Yuli**	**1.18 229**		*i* P	**Pn**	**00 12 28.1**	**+0.2**
	baz=239						
EYUL				S	**Sn**	**00 12 42.7**	**-0.3**
	baz=239						
NFF	**Wufeng Townshi**	**1.19 295**		*e*P	**Pn**	**00 12 28.7**	**+0.7**
	baz=294						
NFF				*e*S	**Sn**	**00 12 43.8**	**+0.7**
	baz=294						
TWF1	**Yuli**	**1.19 230**	⇓	*i* P	**Pn**	**00 12 27.8**	**-0.2**
	baz=238						
TWF1				*i* S	**Sn**	**00 12 42.3**	**-1.0**
	baz=238						
YM01	**YM01**	**1.21 327**		P	**Pn**	**00 12 28.6**	**+0.2**
	baz=338						
YM01				*e*S	**Sn**	**00 12 43.7**	**-0.1**
	baz=338						
YM08	**YM08**	**1.24 329**		P	**Pn**	**00 12 28.3**	**-0.4**
	baz=339						
YM08				S	**Sn**	**00 12 43.2**	**-1.2**
	baz=339						
WHP	**Taichung City**	**1.24 277**		P	**Pn**	**00 12 29.7**	**+0.9**
	baz=270						
WHP				S	**Sn**	**00 12 45.8**	**+1.3**
	baz=270						
DPDB	**Guoxing**	**1.25 266**		P	**Pn**	**00 12 29.6**	**+0.6**
	baz=260						
DPDB				*e*S	**Sn**	**00 12 46.9**	**+2.1**
	baz=260						
TWS1	**Kuangyinshan**	**1.26 321**		*i* P	**Pn**	**00 12 29.4**	**+0.5**
	baz=331						
TWS1				*i* S	**Sn**	**00 12 45.9**	**+1.1**
	baz=331						
WCS	**Beigang Elemen**	**1.27 267**		P	**Pn**	**00 12 29.6**	**+0.7**
	baz=262						
WCS				S	**Sn**	**00 12 46.6**	**+1.6**
	baz=262						
ANP	**Anpu**	**1.27 326**		*i* P	**Pn**	**00 12 29.6**	**+0.4**
	baz=338						
ANP				*e*S	**Sn**	**00 12 46.0**	**+0.8**
	baz=338						
SSLB	**Suanglung**	**1.27 255**		P	**Pn**	**00 12 29.3**	**+0.2**
SSLB	**Suanglung**	**1.27 255**	⇓	P	**Pn**	**00 12 29.3**	**+0.2**
	baz=259						
SSLB				S	**Sn**	**00 12 45.8**	**+0.6**
	baz=259						
LIOB	**Emei**	**1.28 294**		P	**Pn**	**00 12 30.4**	**+1.2**
	baz=293						
LIOB				S	**Sn**	**00 12 46.8**	**+1.5**
	baz=293						
NSTT	**Nanjuang**	**1.28 293**	⇑	*i* P	**Pn**	**00 12 30.2**	**+0.9**
	baz=292						
NSTT				*i* S	**Sn**	**00 12 47.2**	**+1.8**
	baz=292						
NTST	**Danshui**	**1.29 324**		P	**Pn**	**00 12 30.3**	**+1.0**
	baz=335						
NTST				*i* S	**Sn**	**00 12 46.7**	**+1.2**
	baz=335						
SMLT	**Sun Moon Lake**	**1.30 260**	⇓	*i* P	**Pn**	**00 12 30.0**	**+0.4**
	baz=257						
SMLT				*e*S	**Sn**	**00 12 46.1**	**+0.1**
	baz=257						
FULB	**Fuli**	**1.30 225**		P	**Pn**	**00 12 28.9**	**-0.6**
	baz=214						
FULB				S	**Sn**	**00 12 45.5**	**-0.4**
	baz=214						
TWY	**Chenhua**	**1.31 331**		P	**Pn**	**00 12 30.4**	**+0.8**
	baz=342						
TWY				S	**Sn**	**00 12 47.7**	**+1.7**
	baz=342						
NCU	**National Centr**	**1.31 310**		*i* P	**Pn**	**00 12 30.1**	**+0.4**
	baz=309						
NCU				*i* S	**Sn**	**00 12 47.1**	**+0.9**
	baz=309						
NCUH	**Zhongli**	**1.31 310**		*i* P	**Pn**	**00 12 29.9**	**+0.3**
	baz=309						
NCUH				S	**Sn**	**00 12 47.6**	**+1.4**
	baz=309						
IRIF	**Iriomote-Funau**	**1.33 81**		P	**Pn**	**00 12 30.3**	**+0.5**
IRIF				*e*S	**Sn**	**00 12 46.8**	**+0.4**
CHKT	**Chengkung**	**1.33 220**		*i* P	**Pn**	**00 12 29.0**	**-0.9**
	baz=211						
CHKT				*i* S	**Sn**	**00 12 44.8**	**-1.7**
	baz=211						
TYC	**Yuchr**	**1.33 261**		*i* P	**Pn**	**00 12 30.3**	**+0.4**
	baz=253						
TYC				S	**Sn**	**00 12 47.6**	**+1.0**
	baz=253						
SBCB	**Hsinchu**	**1.37 299**		P	**Pn**	**00 12 30.9**	**+0.6**
	baz=298						
SBCB				S	**Sn**	**00 12 50.1**	**+2.7**
	baz=298						
HATJ	**Hateruma jima**	**1.38 92**		S	**Sn**	**00 12 49.3**	**+1.5**
HSN	**Hsinchu**	**1.38 299**		P	**Pn**	**00 12 30.8**	**+0.2**
	baz=300						
HSN				S	**Sn**	**00 12 48.5**	**+0.7**
	baz=300						
WHYT	**Xinyi Township**	**1.39 252**		P	**Pn**	**00 12 31.8**	**+1.1**
	baz=245						
WHYT				S	**Sn**	**00 12 50.0**	**+2.0**
	baz=245						
EHD	**Haiduan**	**1.39 226**		P	**Pn**	**00 12 30.3**	**-0.4**
	baz=234						
EHD				S	**Sn**	**00 12 47.1**	**-0.9**
	baz=234						
TWQ1	**Liyutan**	**1.41 279**		*i* P	**Pn**	**00 12 32.0**	**+1.1**
	baz=277						
TWQ1				*i* S	**Sn**	**00 12 50.8**	**+2.4**
	baz=277						
ECS	**Chishang**	**1.42 224**		P	**Pn**	**00 12 31.6**	**+0.5**
	baz=234						
ECS				S	**Sn**	**00 12 50.0**	**+1.2**
	baz=234						
NSY	**Sanyi**	**1.43 282**		*i* P	**Pn**	**00 12 32.5**	**+1.2**
	baz=280						
NSY				*i* S	**Sn**	**00 12 50.7**	**+1.7**
	baz=280						
NMLH	**Miaoli**	**1.43 287**		*e*P	**Pn**	**00 12 32.6**	**+1.3**
	baz=285						
EDH	**Donghe**	**1.46 219**		P	**Pn**	**00 12 31.3**	**-0.4**
	baz=211						
EDH				*i* S	**Sn**	**00 12 48.8**	**-1.0**
	baz=211						
WJS	**Zhushan**	**1.47 258**		*i* P	**Pn**	**00 12 33.8**	**+2.1**
	baz=256						
WJS				S	**Sn**	**00 12 51.8**	**+2.0**
	baz=256						
TCU	**Taichung**	**1.48 271**		*i* P	**Pn**	**00 12 33.2**	**+1.4**
	baz=269						
TCU				S	**Sn**	**00 12 51.6**	**+1.4**
	baz=269						
WNT	**Mingjian**	**1.49 261**		*i* P	**Pn**	**00 12 33.9**	**+1.8**
	baz=249						
WNT				*i* S	**Sn**	**00 12 52.1**	**+1.6**
	baz=249						
ALS	**Alishan**	**1.50 246**		*i* P	**Pn**	**00 12 33.2**	**+0.9**
	baz=237						
ALS				S	**Sn**	**00 12 52.0**	**+1.0**
	baz=237						
ELDTW	**Lidau**	**1.50 232**		*i* P	**Pn**	**00 12 31.9**	**-0.4**
	baz=223						
ELDTW				*i* S	**Sn**	**00 12 49.9**	**-0.9**
	baz=223						
WDJ	**Dajia District**	**1.53 279**		P	**Pn**	**00 12 33.7**	**+1.2**
	baz=276						
WDJ				S	**Sn**	**00 12 53.6**	**+2.3**
	baz=276						
JKRS	**Kuro-shima**	**1.57 86**		P	**Pn**	**00 12 34.1**	**+1.0**
JKRS				S	**Sn**	**00 12 53.7**	**+1.4**
WCHH	**Zhanghua**	**1.59 269**		*i* P	**Pn**	**00 12 34.8**	**+1.4**
	baz=266						
WCHH				S	**Sn**	**00 12 54.9**	**+2.1**
	baz=266						
LONT	**Longtian**	**1.62 222**		*e*P	**Pn**	**00 12 35.2**	**+1.4**
	baz=227						
LONT				*i* S	**Sn**	**00 12 54.0**	**+0.5**
	baz=227						
LDUT	**Ludao**	**1.63 208**		S	**Sn**	**00 12 52.9**	**-0.9**
	baz=206						
WDLH	**Douliu**	**1.67 255**		*i* P	**Pn**	**00 12 36.5**	**+2.1**
	baz=243						
WDLH				S	**Sn**	**00 12 56.4**	**+1.8**
	baz=243						
STYH	**Taoyuan**	**1.69 236**		P	**Pn**	**00 12 35.8**	**+1.1**
	baz=228						
STYH				S	**Sn**	**00 12 56.2**	**+1.1**
	baz=228						
WCKO	**Fanlu**	**1.69 247**		P	**Pn**	**00 12 36.7**	**+1.9**
	baz=236						
WCKO				S	**Sn**	**00 12 57.7**	**+2.3**
	baz=236						
JIJ	**Ishigaki jima**	**1.70 82**		P	**Pn**	**00 12 35.0**	**+0.1**
JIJ				S	**Sn**	**00 12 55.5**	**-0.1**
TWGBT	**Beinan**	**1.71 221**		P	**Pn**	**00 12 36.6**	**+1.5**
TWGBT	**Beinan**	**1.71 221**		P	**Pn**	**00 12 34.6**	**-0.5**
	baz=227						
TWGBT				S	**Sn**	**00 12 55.6**	**-0.2**
	baz=227						
TWG	**Pinlang**	**1.72 221**		*i* P	**Pn**	**00 12 34.6**	**-0.5**
	baz=227						
TWG				*i* S	**Sn**	**00 12 55.5**	**-0.4**
	baz=227						
TPUB	**Ta-pu**	**1.73 242**		P	**Pn**	**00 12 37.3**	**+1.9**
TPUB	**Ta-pu**	**1.73 242**		P	**Pn**	**00 12 36.8**	**+1.5**
	baz=240						
TPUB				S	**Sn**	**00 12 58.2**	**+1.8**
	baz=240						
CHN4	**Tsaushan**	**1.74 244**		*i* P	**Pn**	**00 12 37.3**	**+1.9**
	baz=242						
CHN4				*i* S	**Sn**	**00 12 58.8**	**+2.3**
	baz=242						
WRL	**Guolierlin Hig**	**1.77 263**		*e*P	**Pn**	**00 12 37.9**	**+2.1**
	baz=261						
WRL				S	**Sn**	**00 12 57.0**	**-0.2**
	baz=261						
WTP	**Ta-pu**	**1.77 241**		*i* P	**Pn**	**00 12 37.4**	**+1.5**
	baz=238						
WTP				S	**Sn**	**00 12 58.9**	**+1.5**
	baz=238						
WTK	**Tuku**	**1.80 256**		*i* P	**Pn**	**00 12 38.1**	**+1.9**
	baz=266						
WTK				S	**Sn**	**00 12 59.2**	**+1.3**
	baz=266						
CHY	**Chiayi**	**1.82 250**		*e*P	**Pn**	**00 12 38.6**	**+2.0**
	baz=248						
CHY				S	**Sn**	**00 12 59.8**	**+1.2**
	baz=248						
TWK	**Hsinying**	**1.86 243**		*i* P	**Pn**	**00 12 39.1**	**+1.9**
	baz=240						
TWK				S	**Sn**	**00 13 00.9**	**+1.3**
	baz=240						
CHN1	**Nanshi**	**1.87 240**		*i* P	**Pn**	**00 12 38.9**	**+1.6**
	baz=238						
CHN1				S	**Sn**	**00 13 01.5**	**+1.7**
	baz=238						
SNST	**Tainan City**	**1.88 242**		P	**Pn**	**00 12 39.5**	**+2.2**
	baz=239						
SNST				*e*S	**Sn**	**00 13 01.9**	**+2.0**
	baz=239						
SLGT	**Liugui**	**1.89 234**		P	**Pn**	**00 12 39.5**	**+2.1**
	baz=224						
SLGT				S	**Sn**	**00 13 02.3**	**+2.2**
	baz=224						
JISG	**Ishigakijimahi**	**1.90 75**		P	**Pn**	**00 12 37.9**	**+0.3**
JISG				*e*S	**Sn**	**00 13 00.1**	**-0.2**
ECL	**Taimali**	**1.96 219**		*e*P	**Pn**	**00 12 39.0**	**+0.6**
	baz=224						
ECL				S	**Sn**	**00 13 00.9**	**-0.9**
	baz=224						
WSF	**Szhu**	**1.96 256**		*i* P	**Pn**	**00 12 38.7**	**+0.3**
	baz=265						
WSF				*e*S	**Sn**	**00 13 02.9**	**+1.1**
	baz=265						
WSL	**Shuilin Townsh**	**1.99 253**		P	**Pn**	**00 12 39.8**	**+1.0**
	baz=250						
WSL				S	**Sn**	**00 13 04.8**	**+2.3**
	baz=250						
ICHU	**Yijhu**	**2.00 248**		*i* P	**Pn**	**00 12 40.5**	**+1.6**
	baz=245						
ICHU				S	**Sn**	**00 13 04.5**	**+1.7**
	baz=245						
SSD	**Sandimen**	**2.05 228**		*i* P	**Pn**	**00 12 41.6**	**+1.9**
	baz=226						
SSD				S	**Sn**	**00 13 06.0**	**+1.9**
	baz=226						
CHN8	**Yiju**	**2.06 248**		*e*P	**Pn**	**00 12 41.2**	**+1.4**
	baz=246						
CHN8				S	**Sn**	**00 13 05.4**	**+1.0**
	baz=246						
TSMG	**Majia**	**2.07 227**		*i* P	**Pn**	**00 12 42.0**	**+2.0**
	baz=223						
TSMG				S	**Sn**	**00 13 06.5**	**+1.8**
	baz=223						
SHHT	**Tainan City**	**2.10 239**		P	**Pn**	**00 12 42.7**	**+2.4**
	baz=248						
SHHT				*e*S	**Sn**	**00 13 07.2**	**+2.0**
	baz=248						
MASBT	**Mashibuluo**	**2.14 226**		P	**Pn**	**00 12 41.8**	**+0.8**
	baz=223						
MASBT				S	**Sn**	**00 13 07.7**	**+1.3**
	baz=223						
TWM1	**Shoushan**	**2.15 233**		*i* P	**Pn**	**00 12 44.9**	**+3.8**
	baz=231						
TWM1				*e*S	**Sn**	**00 13 08.2**	**+1.5**
	baz=231						
TAW	**Tawu**	**2.18 216**		*i* S	**Sn**	**00 13 06.4**	**-0.8**
	baz=214						
EAST	**Anshuo**	**2.19 218**		*i* P	**Pn**	**00 12 41.6**	**+0.1**
	baz=216						
EAST				S	**Sn**	**00 13 07.2**	**-0.2**
	baz=216						
TAWH	**Dawu Township**	**2.20 216**		P	**Pn**	**00 12 42.6**	**+0.9**
	baz=214						
TAWH				S	**Sn**	**00 13 06.9**	**-0.8**
	baz=214						
LYUB	**Lan-yu**	**2.21 197**		*e*P	**Pn**	**00 12 41.2**	**-0.7**
	baz=200						
LYUB				*e*S	**Sn**	**00 13 06.8**	**-1.2**
	baz=200						
TSCK	**Chigu Township**	**2.25 245**		*e*P	**Pn**	**00 12 43.7**	**+1.3**
	baz=242						
TSCK				S	**Sn**	**00 13 09.9**	**+1.0**
	baz=242						
JTJ	**Tarama**	**2.25 76**		P	**Pn**	**00 12 43.2**	**+0.8**
SNJT	**Kaohsiung City**	**2.26 233**		*e*P	**Pn**	**00 12 44.7**	**+2.2**
	baz=231						
SNJT				*e*S	**Sn**	**00 13 11.4**	**+2.2**
	baz=231						
SCZT	**Fangliau**	**2.33 222**		P	**Pn**	**00 12 45.2**	**+1.7**
	baz=218						
SCZT				*e*S	**Sn**	**00 13 12.1**	**+1.2**
	baz=218						
WSSB	**Gushan**	**2.38 232**		*e*P	**Pn**	**00 12 45.6**	**+1.3**
	baz=229						
WSSB				*e*S	**Sn**	**00 13 12.8**	**+0.5**
	baz=229						
SMST	**Manzhou Townsh**	**2.49 213**		S	**Sn**	**00 13 14.5**	**-0.3**
	baz=211						
HEN	**Hengchun**	**2.55 215**		*e*P	**Pn**	**00 12 49.2**	**+2.7**
	baz=217						
HEN				S	**Sn**	**00 13 16.8**	**+0.4**
	baz=217						
WDGT	**Dungji**	**2.56 251**		*i* P	**Pn**	**00 12 47.4**	**+0.7**
	baz=248						
WDGT				*i* S	**Sn**	**00 13 16.5**	**-0.2**
	baz=248						
TWKBT	**Hengchun**	**2.57 212**		S	**Sn**	**00 13 17.6**	**+0.9**
	baz=211						
PHUB	**P'eng-hu**	**2.57 257**		P	**Pn**	**00 12 46.8**	**0.0**
	baz=266						
PHUB				S	**Sn**	**00 13 17.1**	**+0.3**
	baz=266						
TWK1	**Hengchun**	**2.57 213**		*i* S	**Sn**	**00 13 17.5**	**+0.7**
	baz=211						
PNG	**Penghu**	**2.57 258**		*i* P	**Pn**	**00 12 46.8**	**0.0**
	baz=255						
PNG				*i* S	**Sn**	**00 13 17.1**	**+0.3**
	baz=255						
JIRB	**Irabujima**	**2.71 74**		P	**Pn**	**00 12 49.3**	**+0.6**
VWUC	**VWUC**	**2.73 289**		P	**Pn**	**00 12 48.4**	**-0.6**
	baz=286						
VCHM	**Qimei**	**2.78 251**		P	**Pn**	**00 12 50.4**	**+0.7**
	baz=248						
VCHM				S	**Sn**	**00 13 22.6**	**+0.5**
	baz=248						
JIKM	**Ikemajima**	**2.81 73**		P	**Pn**	**00 12 50.9**	**+0.9**
JIKM				*e*S	**Sn**	**00 13 23.0**	**+0.4**
JMJ2	**Miyako jima3**	**2.83 77**		P	**Pn**	**00 12 51.4**	**+1.1**
MATB	**Ma-tsu**	**2.94 314**		*e*P	**Pn**	**00 12 51.3**	**-0.5**
	baz=301						
MATB				*e*S	**Sn**	**00 13 23.8**	**-2.0**
	baz=301						
PTMZ	**Houxiangcun**	**3.03 288**		P	**Pn**	**00 12 52.4**	**-0.7**
	baz=285						
LYJJ	**Jianjiangzhen**	**3.33 317**		P	**Pn**	**00 12 56.6**	**-0.6**
	baz=316						
XPSS	**Dashiqiu**	**3.38 326**		P	**Pn**	**00 12 57.4**	**-0.5**
	baz=336						
KNM	**Kinmen**	**3.54 276**		*i* P	**Pn**	**00 13 01.5**	**+1.5**
	baz=263						
MHZQ	**Yeshan**	**3.55 304**		P	**Pn**	**00 12 59.3**	**-0.9**
	baz=301						
KNMB	**Chin-men Tao**	**3.58 276**		P	**Pn**	**00 13 00.0**	**-0.6**
	baz=264						
KNMB				S	**Sn**	**00 13 39.6**	**-2.1**
	baz=264						
AXDP	**Jialang**	**4.01 282**		P	**Pn**	**00 13 06.0**	**-0.6**
	baz=269						
ZPLA	**Ao Xicun**	**4.16 268**		P	**Pn**	**00 13 07.0**	**-1.6**
	baz=265						
DSXP	**Dongshan**	**4.47 266**		P	**Pn**	**00 13 12.5**	**-0.4**
	baz=262						
DSXP				S	**Sn**	**00 14 00.9**	**-2.8**
	baz=262						
SXFK	**Yanhouchang**	**4.78 299**		P	**Pn**	**00 13 16.4**	**-0.7**
	baz=295						
JOW	**Kunigami**	**6.04 62**		Pn	**Pn**	**00 13 33.0**	**-1.3**
	9.5nm,0.3s,baz=111,slow=26,SNR=18						
JOW				Sn	**Sn**	**00 14 39.1**	**-3.1**
	baz=93,slow=23						
	23nm,0.3s						
SONM	**Songino Array**	**26.83 336**		P	**P**	**00 17 42.3**	**-0.8**
	1.5nm,0.7s,baz=151,slow=9.3,SNR=8.2						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**39.09 316**		P	**P**	**00 19 29.1**	**-0.6**
	0.3nm,0.4s,baz=101,slow=11,SNR=7.7						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**40.85 327**		P	P	00 19 41.7	-2.4
	0.7nm,0.4s,baz=134,slow=10,SNR=2.9						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**45.34 164**		P	**P**	**00 20 20.6**	**-0.2**
	0.9nm,0.6s,baz=346,slow=8.8,SNR=9.6						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**48.82 166**		P	**P**	**00 20 48.1**	**+0.3**
	0.8nm,0.7s,baz=341,slow=7.5,SNR=8.5						
	0.8nm,0.7s						
BRTR	**Keskin Array B**	**74.02 307**		P	**P**	**00 23 38.0**	**-0.1**
	0.6nm,0.8s,baz=97,slow=10,SNR=5.1						
	0.6nm,0.8s						

EAF ***20*** *00:19:35.2,3°.89N×38°.17E,h0km*
AAE 20 00:19:46.5±4.2,5°.23N×36°.64E,h0km±39km,Ms2.7,
MW3.5,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DILA	**Dilla**	**2.03**	**54**	*e*P	Pn	00 20 18.6	-3.6
DILA				*e*S	Sn	00 20 49.1	+0.7
DILA	**Dilla**	**2.03**	**54**	*e*P	Pn	00 20 18.6	-3.6
	baz=3.0						
DILA				*e*S	Sn	00 20 49.1	+0.7
	baz=3.0						
LODK	**Lodwar**	**2.20**	**215**	*e*P	Pn	00 20 19.7	-4.7
LODK				*e*S	Sb	00 20 54.8	-0.3
LODK	**Lodwar**	**2.20**	**215**	*e*P	Pn	00 20 19.7	-4.7
	baz=261						
LODK				*e*S	Sb	00 20 54.8	-0.3
	baz=261						
FURI	**Furi**	**4.17**	**29**	*e*P	Pn	00 20 51.1	-0.6
FURI				*e*S	Sn	00 21 42.2	+0.8
FURI				IAMs_20	IAMs_20	00 21 55.8	
	comp=Z,323nm,13.2s						
FURI	**Furi**	**4.17**	**29**	*e*P	Pn	00 20 51.1	-0.6
	baz=6.0						

FURI				*e*S	Sn	00 21 42.2	+0.8
	baz=6.0						
FURI				IAMs_20	IAMs_20	00 21 55.8	
	323nm,13.2s,baz=6.0						
MBAR	**Mbarara**	**8.26**	**226**	*e*P	Pn	00 21 43.6	-4.2
MBAR	**Mbarara**	**8.26**	**226**	*e*P	Pn	00 21 43.6	-4.2
	baz=239						

IDC 20 00:36:22.2±5.7, 1°.90N×99°.89E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=313.1km s-min=26.5km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.17**	**124**	P	P	00 44 00.1	-0.4
	1.3nm,0.3s,baz=302,slow=9.0,SNR=20						
	1.3nm,0.3s						
ASAR	**Alice Springs**	**41.72**	**130**	P	P	00 44 13.6	+0.4
	0.2nm,0.4s,baz=302,slow=7.5,SNR=2.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**47.28**	**344**	P	P	00 44 57.2	-0.1
	0.6nm,0.4s,baz=155,slow=9.0,SNR=12						
	0.6nm,0.4s						

*NOU **20** 00:37:32.7, 42°.78S×173°.15E, h23km, MLv3.5/10, South Island, New Zealand*
*WEL **20** 00:37:33.1±0.3, 43°.3S±2°.×17°.3E±°, h5km, M3.4/36, ML3.6/12, MLv3.4/36, Error ellipse: s-maj=0.0km s-min=0.0km az=112.8, confirmed*

ISC 20 00:37:32.6±1.3, 42°.68S±0°.03×172°.99E±0°.03, h16km±12km, n97, σ1°.04/104, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.29**	**174**	P	**Pb**	**00 37 40.6**	**+1.1**
GVZ				S	**Sb**	**00 37 46.2**	**+2.1**
KHZ	**Kahutara**	**0.48**	**57**	P	**Pb**	**00 37 43.3**	**+0.5**
KHZ	**Kahutara**	**0.48**	**57**	P	**Pb**	**00 37 43.2**	**+0.5**
KHZ				S	**Sb**	**00 37 50.2**	**+0.7**
LTZ	**Lake Taylor**	**0.54**	**259**	P	**Pg**	**00 37 43.3**	**-0.2**
LTZ				S	**Sg**	**00 37 50.5**	**-0.2**
AMCZ	**Amberley**	**0.56**	**207**	P	**Pb**	**00 37 45.2**	**+1.1**
THZ	**Tophouse**	**0.92**	**356**	P	**Pb**	**00 37 49.5**	**-0.7**
THZ				S	**Sb**	**00 38 00.5**	**-1.8**
OXZ	**Oxford**	**0.95**	**227**	P	**Pb**	**00 37 50.8**	**0.0**
OXZ				S	**Sg**	**00 38 04.0**	**+0.4**
OKCZ	**Okains Bay**	**1.04**	**177**	P	**Pn**	**00 37 53.0**	**+0.3**
MQZ	**McQueen's Vall**	**1.05**	**194**	P	**Pb**	**00 37 52.1**	**-0.4**
INZ	**Inchbonnie**	**1.14**	**267**	P	**Pn**	**00 37 53.5**	**-0.5**
BSWZ	**Blackbirch Sta**	**1.17**	**34**	P	**Pb**	**00 37 54.9**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.19**	**183**	P	**Pn**	**00 37 54.5**	**-0.2**
RACZ	**Rakaia**	**1.22**	**211**	P	**Pn**	**00 37 54.4**	**-0.6**
DSZ	**Denniston Nort**	**1.29**	**316**	P	**Pn**	**00 37 56.0**	**0.0**
DSZ				S	**Sb**	**00 38 12.9**	**+0.1**
MRNZ	**Matariki Terra**	**1.29**	**352**	P	**Pn**	**00 37 55.8**	**-0.3**
MRNZ				S	**Sb**	**00 38 11.8**	**-1.1**
CMWZ	**Cape Campbell**	**1.30**	**45**	P	**Pb**	**00 37 57.2**	**+0.5**
MHCZ	**Mount Hutt**	**1.35**	**230**	P	**Pn**	**00 37 56.0**	**-0.8**
TUWZ	**Tuamarina**	**1.44**	**30**	P	**Pn**	**00 37 58.7**	**+0.7**
NNZ	**Nelson**	**1.49**	**11**	P	**Pn**	**00 37 59.5**	**+0.8**
WACZ	**Wakanui South**	**1.52**	**213**	P	**Pn**	**00 37 58.6**	**-0.6**
TKNZ	**Takaka Hill**	**1.65**	**359**	P	**Pn**	**00 38 01.4**	**+0.5**
WVZ	**Waitaha Valley**	**1.71**	**256**	P	**Pn**	**00 38 01.9**	**+0.2**
TCW	**Tory Channel**	**1.75**	**33**	P	**Pn**	**00 38 02.6**	**+0.3**
RPZ	**Rata Peaks**	**1.76**	**233**	P	**Pn**	**00 38 01.9**	**-0.5**
RPZ	**Rata Peaks**	**1.76**	**233**	P	**Pn**	**00 38 01.8**	**-0.7**
ARCZ	**Arundel**	**1.83**	**226**	P	**Pn**	**00 38 02.8**	**-0.7**
SNZO	**South Karori**	**1.87**	**44**	P	**Pn**	**00 38 04.2**	**+0.2**
QRZ	**Quartz Range**	**1.89**	**349**	P	**Pn**	**00 38 05.0**	**+0.8**
QRZ	**Quartz Range**	**1.89**	**349**	P	**Pn**	**00 38 04.5**	**+0.3**
BHW	**Baring Head**	**1.89**	**48**	P	**Pn**	**00 38 04.1**	**-0.2**
WEL	**Wellington**	**1.92**	**44**	P	**Pn**	**00 38 04.6**	**-0.1**
DUWZ	**D'Urville Isla**	**2.00**	**21**	P	**Pn**	**00 38 06.8**	**+1.0**
PLWZ	**Palliser**	**2.02**	**57**	P	**Pn**	**00 38 05.4**	**-0.6**
GCSZ	**Gaunt Creek Bo**	**2.06**	**251**	P	**Pn**	**00 38 06.7**	**+0.1**
CAW	**Cannon Point**	**2.21**	**45**	P	**Pn**	**00 38 08.4**	**-0.2**
PAWZ	**Paruwai Farm**	**2.23**	**55**	P	**Pn**	**00 38 08.1**	**-0.9**
TMZ	**Timaru**	**2.23**	**220**	P	**Pn**	**00 38 08.3**	**-0.7**
KIW	**Kapiti Island**	**2.31**	**39**	P	**Pn**	**00 38 10.2**	**+0.1**
TRWZ	**Traveller**	**2.38**	**58**	P	**Pn**	**00 38 10.0**	**-1.0**
MTW	**Mount Morrison**	**2.41**	**52**	P	**Pn**	**00 38 10.5**	**-1.0**
OGWZ	**Otaki Gorge**	**2.47**	**42**	P	**Pn**	**00 38 12.1**	**-0.2**
FOZ	**Fox Glacier**	**2.48**	**249**	P	**Pn**	**00 38 12.5**	**+0.2**
HOWZ	**Holdsworth Sta**	**2.59**	**47**	P	**Pn**	**00 38 13.2**	**-0.8**
LBZ	**Lake Benmore**	**2.66**	**229**	P	**Pn**	**00 38 14.4**	**-0.5**
TMWZ	**Te Maipa**	**2.67**	**55**	P	**Pn**	**00 38 13.9**	**-1.2**
MRZ	**Mangatainoka R**	**2.80**	**45**	P	**Pn**	**00 38 15.9**	**-0.8**
ODZ	**Otahua Downs**	**2.91**	**215**	P	**Pn**	**00 38 17.4**	**-0.9**
ODZ	**Otahua Downs**	**2.91**	**215**	P	**Pn**	**00 38 17.3**	**-1.0**
PRWZ	**Pori Road**	**3.08**	**47**	P	**Pn**	**00 38 20.1**	**-0.5**
POWZ	**Post Office Ro**	**3.09**	**43**	P	**Pn**	**00 38 19.9**	**-0.9**
BFZ	**Birch Farm**	**3.15**	**52**	P	**Pn**	**00 38 19.5**	**-2.1**
BFZ	**Birch Farm**	**3.15**	**52**	P	**Pn**	**00 38 20.1**	**-1.5**
WAZ	**Wanganui**	**3.29**	**28**	P	**Pn**	**00 38 25.1**	**+1.6**
DVHZ	**Dannevirke**	**3.37**	**46**	P	**Pn**	**00 38 22.9**	**-1.7**
JCZ	**Jackson Bay**	**3.37**	**244**	P	**Pn**	**00 38 24.2**	**-0.5**
JCZ	**Jackson Bay**	**3.37**	**244**	P	**Pn**	**00 38 24.3**	**-0.5**
TSZ	**Takapari Road**	**3.44**	**41**	P	**Pn**	**00 38 24.6**	**-1.0**
KHEZ	**Kahui Hut**	**3.47**	**13**	P	**Pn**	**00 38 27.0**	**+0.9**
KHEZ	**Kahui Hut**	**3.47**	**13**	P	**Pn**	**00 38 28.3**	**+2.3**
NBEZ	**Newall Road No**	**3.47**	**11**	P	**Pn**	**00 38 28.0**	**+2.0**
PKE	**Pukeiti**	**3.56**	**13**	P	**Pn**	**00 38 28.9**	**+1.6**
WKZ	**Wanaka**	**3.59**	**232**	P	**Pn**	**00 38 26.5**	**-1.2**
EAZ	**Earnscleugh**	**3.69**	**225**	P	**Pn**	**00 38 28.0**	**-0.9**
VRZ	**Vera Road**	**3.80**	**21**	P	**Pn**	**00 38 32.2**	**+1.7**
PKVZ	**Pokaka**	**3.83**	**28**	P	**Pn**	**00 38 32.0**	**+1.1**
MOVZ	**Moawhango**	**3.88**	**33**	P	**Pn**	**00 38 31.1**	**-0.5**
WNVZ	**Wahianoa**	**3.89**	**31**	P	**Pn**	**00 38 32.4**	**+0.5**
WHVZ	**Whangaehu Hut**	**3.92**	**31**	P	**Pn**	**00 38 32.9**	**+0.5**
FWVZ	**Far West T-bar**	**3.93**	**30**	P	**Pn**	**00 38 33.1**	**+0.5**
BHHZ	**Black Hill Sta**	**3.94**	**37**	P	**Pn**	**00 38 32.1**	**-0.4**
TUWZ	**Tukino**	**3.96**	**31**	P	**Pn**	**00 38 32.8**	**0.0**
KRHZ	**Kereru**	**3.96**	**41**	P	**Pn**	**00 38 31.3**	**-1.5**
COVZ	**Chateau Observ**	**3.98**	**30**	P	**Pn**	**00 38 33.9**	**+0.8**
NGZ	**Ngauruhoe**	**4.02**	**30**	P	**Pn**	**00 38 34.5**	**+0.8**
SNVZ	**South Ngauruho**	**4.03**	**31**	P	**Pn**	**00 38 34.2**	**+0.4**
TWVZ	**Taurewa**	**4.05**	**28**	P	**Pn**	**00 38 34.7**	**+0.6**
NNVZ	**North Ngauruho**	**4.06**	**30**	P	**Pn**	**00 38 34.7**	**+0.4**
TUZ	**Tuapeka**	**4.07**	**215**	P	**Pn**	**00 38 33.4**	**-0.8**
WTVZ	**West Tongariro**	**4.07**	**30**	P	**Pn**	**00 38 34.6**	**+0.3**
KRVZ	**Karewarewa**	**4.11**	**30**	P	**Pn**	**00 38 34.6**	**-0.2**
KAHZ	**Kahuranaki**	**4.11**	**47**	P	**Pn**	**00 38 32.7**	**-2.1**
TMVZ	**Te Maari**	**4.11**	**31**	P	**Pn**	**00 38 35.2**	**+0.3**
NTVZ	**North Tongarir**	**4.12**	**30**	P	**Pn**	**00 38 35.4**	**+0.5**
KWHZ	**Kaweka Forest**	**4.16**	**40**	P	**Pn**	**00 38 34.5**	**-1.0**
BKZ	**Black Stump Fm**	**4.40**	**38**	P	**Pn**	**00 38 37.8**	**-1.0**
BKZ	**Black Stump Fm**	**4.40**	**38**	P	**Pn**	**00 38 37.1**	**-1.7**
MLZ	**Mavora Lakes**	**4.42**	**231**	P	**Pn**	**00 38 37.7**	**-1.4**
SYZ	**Scrubby Hill**	**4.74**	**214**	P	**Pn**	**00 38 43.2**	**-0.2**
SYZ	**Scrubby Hill**	**4.74**	**214**	P	**Pn**	**00 38 43.1**	**-0.2**
TLZ	**Tolley Road**	**4.76**	**25**	P	**Pn**	**00 38 44.0**	**+0.3**
MTHZ	**Maungataniwha**	**4.81**	**39**	P	**Pn**	**00 38 42.9**	**-1.6**
TOZ	**Tahuroa Road**	**5.30**	**22**	P	**Pn**	**00 38 48.6**	**-2.6**
AWAZ	**Awhitu Peninsu**	**5.75**	**13**	P	**Pn**	**00 38 58.8**	**+1.5**
MKAZ	**Moumakai**	**5.81**	**17**	P	**Pn**	**00 38 58.6**	**+0.4**
RUGZ	**Raukumara Rang**	**5.91**	**39**	P	**Pn**	**00 38 58.5**	**-1.1**
MYRZ	**Mayor Island**	**5.94**	**26**	P	**Pn**	**00 39 03.9**	**+3.9**
WIAZ	**Waiheke Island**	**6.11**	**16**	P	**Pn**	**00 39 02.3**	**+0.1**

*NIED **20** 00:47:36.5, 45°.00N×149°.46E, h30km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.38; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$-2.94; $M_{r\theta}$1.30; $M_{\theta\phi}$-5.92; $M_{\phi r}$-6.61; Fault plane solution: $M_0$9.51000×10^{15} NP1: ϕ_s182.00000°, δ76.00000°, λ51.00000°. NP2:ϕ_s76.00000°, δ41.00000°, λ159.00000°.*
*JMA **20** 00:47:36.5±0.6, 45°.N-3°.×14°.9E±°, h30km, MD5.1/12, MV5.8/12, SE OFF ETOROFU*
*SKHL **20** 00:47:37.1±0.1, 44°.70N×149°.60E, h57km±3km, mb5.6/11*
*MOS **20** 00:47:37.0±0.9, 44°.78N×149°.45E, h55km, mb4.9/61, MS3.3/8, Error ellipse: s-maj=5.6km s-min=4.3km az=116.4*
*BJI **20** 00:47:37.3±0.0, 44°.71N×149°.47E, h65km, mb4.9/59, mB5.0/32, Ms4.4/15, Ms7 4.1/19*
*NEIC **20** 00:47:38.7±1.3, 44°.74N±0°.09×149°.3E±0°.1, h57km±7km, mb4.8/308, Error ellipse: s-maj=14.0km s-min=9.5km az=145.0*
*IDC **20** 00:47:40.0±1.7, 44°.96N×149°.33E, h62km±14km, mb4.1/27, mbtmp4.5/35, MS3.7/36, Error ellipse: s-maj=13.8km s-min=10.0km az=154.0*

ISC 20 00:47:38.4±0.4, 44°.74N±0°.04×149°.41E±0°.04, h56km±2km, h56km:pP-P, n1044, σ1°.02/1063, mb4.8/247, MS3.8/35, 76C-50D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.20**	**295**	*c i*PN	**Pn**	**00 47 58.1**	**-0.8**
KUR				*e*S	**Sn**	**00 48 15.1**	**+1.0**
KUR	**Kuril'sk**	**1.20**	**295**	*i* P	**Pn**	**00 47 58.5**	**-0.4**
KUR				AMB	AMB	00 48 01.9	
	3μm,0.4s						
KUR				*e*S	**Sn**	**00 48 13.3**	**-0.8**
KUR				A	A	00 48 17.6	
	14μm,0.3s						
KUR				A	A	00 48 17.6	
	18μm,0.3s						
SHO	**Shikotan**	**2.04**	**246**	⇓*i*PN	**Pn**	**00 48 09.4**	**-0.9**
SHO				*e*S	**Sn**	**00 48 33.8**	**-0.8**
SHO				pmax	pmax		
	comp=Z,942nm,0.4s						
SHO				pmax	pmax		
	comp=N,652nm,0.3s						
SHO				smax	smax		
	comp=E,3μm,0.2s						
SHO				smax	smax		
	comp=N,10μm,0.5s						
SHO	**Shikotan**	**2.04**	**246**	*i* P	**Pn**	**00 48 09.7**	**-0.6**
SHO				AMB	AMB	00 48 15.7	
	comp=N,900nm,0.4s						
SHO				*e*S	**Sn**	**00 48 34.1**	**-0.5**
SHO				A	A	00 48 44.7	
	comp=N,10μm,0.4s						
SHO				A	A	00 48 44.7	
	comp=N,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.63**	**256**	*d i*PN	**Pn**	**00 48 18.9**	**+0.5**
YUK				*e*S	**Sn**	**00 48 49.7**	**+0.5**
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				pmax	pmax		
	comp=N,356nm,0.1s						
YUK				smax	smax		
	comp=E,12μm,0.5s						
YUK				smax	smax		
	comp=N,4μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.63**	**256**	*i* P	**Pn**	**00 48 18.9**	**+0.5**
YUK				AMB	AMB	00 48 23.0	
	comp=N,2μm,0.2s						
YUK				*e*S	**Sn**	**00 48 49.7**	**+0.5**
YUK				A	A	00 48 57.6	
	comp=N,4μm,0.4s						
YUK				A	A	00 48 57.6	
	comp=N,12μm,0.4s						
NEM2	**Nemuro 2**	**2.98**	**244**	*e*P	**Pn**	**00 48 22.6**	**-0.4**
NEM2				*e*S	**Sn**	**00 48 57.2**	**-0.3**
NEM2	**Nemuro 2**	**2.98**	**244**	A	A	00 48 22.6	
	comp=E,6.0nm,0.7s,comp=N,4.0nm,0.7s						
NMR	**Nemuro--Hokkai**	**2.98**	**244**	*e*PN	**Pn**	**00 48 22.6**	**-0.6**
NMR				*e*S	**Sn**	**00 48 56.8**	**-0.9**
NMR	**Nemuro--Hokkai**	**2.98**	**244**	*e*P	**Pn**	**00 48 22.6**	**-0.6**
NMR				*e*S	**Sn**	**00 48 56.8**	**-0.9**
RUSJ	**Misakicho**	**3.04**	**259**	⇓*i*PN	**Pn**	**00 48 26.2**	**+2.2**
RUSJ				*e*S	**Sn**	**00 49 03.7**	**+4.5**
JRA	**Rausu**	**3.17**	**257**	*e*P	**Pn**	**00 48 27.4**	**+1.7**
JRA				*e*S	**Sn**	**00 49 05.7**	**+3.3**
JRA	**Rausu**	**3.17**	**257**	A	A	00 48 27.4	
	comp=E,6.0nm,2.1s,comp=N,8.0nm,2.1s						
JNSB	**Nemuroshibetsu**	**3.30**	**255**	A	A	00 48 26.9	
	comp=E,11nm,2.1s,comp=N,14nm,1.6s						
JKHN	**Kushirohamanak**	**3.48**	**243**	A	A	00 48 29.9	
	comp=E,8.0nm,1.7s,comp=N,9.0nm,1.8s						
JNK	**Nakash**	**3.56**	**253**	*e*P	**Pn**	**00 48 32.3**	**+1.2**
JNK				*e*S	**Sn**	**00 49 13.2**	**+1.3**
JNK	**Nakash**	**3.56**	**253**	A	A	00 48 32.3	
	comp=E,5.0nm,0.7s,comp=N,5.0nm,0.9s						
JAK	**Akkeshi**	**3.82**	**245**	*e*P	**Pn**	**00 48 34.9**	**+0.3**
JAK				*e*S	**Sn**	**00 49 18.2**	**-0.1**
JAK	**Akkeshi**	**3.82**	**245**	A	A	00 48 34.9	
	comp=E,9.0nm,1.2s,comp=N,10.0nm,1.5s						
JTKR	**Abashiri--Toko**	**4.02**	**261**	*e*P	**Pn**	**00 48 39.1**	**+1.8**
JAR	**Ashorobuto**	**4.31**	**252**	*e*P	**Pn**	**00 48 43.3**	**+1.9**
JAR				*e*S	**Sn**	**00 49 32.4**	**+2.0**
JAR	**Ashorobuto**	**4.31**	**252**	A	A	00 48 43.3	
	comp=E,5.0nm,0.8s,comp=N,7.0nm,1.9s						
JOB	**Onbets**	**4.43**	**247**	A	A	00 48 42.8	
	comp=E,9.0nm,1.3s,comp=N,8.0nm,1.3s						
JKK2	**Kamakawa 2**	**4.86**	**262**	*e*P	**Pn**	**00 48 51.8**	**+2.9**
JCH	**Churui**	**4.87**	**246**	*e*P	**Pn**	**00 48 49.6**	**+0.6**
JCH				*e*S	**Sn**	**00 49 43.3**	**-0.7**
JCH	**Churui**	**4.87**	**246**	A	A	00 48 49.6	
	comp=E,5.0nm,1.3s,comp=N,8.0nm,0.9s						
JKA	**Kamikawa-asahi**	**4.91**	**265**	Pn	**Pn**	**00 48 50.0**	**+0.4**
JKA	**Kamikawa-asahi**	**4.91**	**265**	*e*P	**Pn**	**00 48 52.5**	**+2.9**
ASAJ	**Asahikawa**	**4.92**	**265**	P	**Pn**	**00 48 52.5**	**+2.8**
	comp=N,36nm,0.4s,baz=77,slow=17,SNR=31						
ASAJ				S	**Sn**	**00 49 46.5**	**+1.3**
	comp=N,127nm,0.6s,baz=175,slow=14,SNR=4.0						
YSS	**Yuzh-Sakhalins**	**5.15**	**298**	Pn	**Pn**	**00 48 52.2**	**-0.6**
YSS	**Yuzh-Sakhalins**	**5.15**	**298**	P	**Pn**	**00 48 54.6**	**+1.8**
YSS	**Yuzh-Sakhalins**	**5.15**	**298**	*ce*PN	**Pn**	**00 48 54.3**	**+1.5**
YSS				*e*S	**Sn**	**00 49 51.0**	**+0.2**
YSS				pmax	pmax		
	comp=Z,200nm,2.6s						
YSS				pmax	pmax		
	comp=Z,150nm,0.4s						
YSS				smax	smax		
	comp=N,70nm,0.5s						
YSS				smax	smax		
	comp=E,90nm,0.7s						
YSS				MLR	MLR		
	comp=Z,700nm,19.0s						
YSS				MLR	MLR		
	comp=N,300nm,17.0s						
YSS				MLR	MLR		
	comp=E,700nm,18.0s						
YSS	**Yuzh-Sakhalins**	**5.15**	**298**	*e*P	**Pn**	**00 48 54.3**	**+1.5**
YSS				AMB	AMB	00 48 58.2	
	comp=E,150nm,0.4s						
YSS				*e*S	**Sn**	**00 49 51.0**	**+0.2**
JFR	**Furan**	**5.16**	**255**	A	A	00 48 52.5	
	comp=E,4.0nm,4.9s,comp=N,4.0nm,3.4s						
JEM	**Erimo**	**5.30**	**241**	P	**Pn**	**00 48 57.3**	**+2.3**
JEM	**Erimo**	**5.30**	**241**	A	A	00 48 55.1	
	comp=E,10.0nm,2.0s,comp=N,8.0nm,1.1s						
ERM	**Erimo**	**5.30**	**241**	Pn	**Pn**	**00 48 55.2**	**+0.2**
ERM	**Erimo**	**5.30**	**241**	P	**Pn**	**00 48 57.2**	**+2.2**
ERM	**Erimo**	**5.30**	**241**	*ce*PN	**Pn**	**00 48 56.8**	**+1.8**
ERM				pmax	pmax		
	comp=Z,149nm,0.4s						
JWK2	**Keihoku**	**5.35**	**279**	*e*P	**Pn**	**00 48 59.8**	**+4.2**
JNBK	**Urakawa-nobuka**	**5.42**	**245**	*e*P	**Pn**	**00 48 57.1**	**+0.5**
JNBK	**Urakawa-nobuka**	**5.42**	**245**	A	A	00 48 57.1	
	comp=E,18nm,0.7s,comp=N,12nm,0.8s						
JSHD	**Hidakashinhida**	**5.55**	**248**	A	A	00 48 58.1	
	comp=E,12nm,1.1s,comp=N,7.0nm,1.5s						
JIAM	**Iburiatsuma**	**5.82**	**251**	A	A	00 49 01.8	
	comp=E,10.0nm,1.1s,comp=N,11nm,1.0s						
JISS	**Ishikarishitsu**	**5.94**	**259**	A	A	00 49 03.0	
	comp=E,6.0nm,3.2s,comp=N,5.0nm,3.6s						
JEW	**Eniwo**	**6.06**	**255**	A	A	00 49 04.8	
	comp=E,4.0nm,1.4s,comp=N,5.0nm,2.4s						
UGL	**Uglegorsk**	**6.64**	**313**	*e*PN	**Pn**	**00 49 15.7**	**+2.5**
UGL				*e*S	**Sn**	**00 50 28.4**	**+0.9**
UGL				pmax	pmax		
	comp=Z,148nm,0.6s						
UGL				smax	smax		
	comp=N,197nm,0.9s						
UGL				smax	smax		
	comp=E,112nm,0.4s						
UGL	**Uglegorsk**	**6.64**	**313**	*e*P	**Pn**	**00 49 15.7**	**+2.5**
UGL				AMB	AMB	00 49 17.0	
	comp=E,150nm,0.6s						
UGL				*e*S	**Sn**	**00 50 26.1**	**-1.4**
UGL				A	A	00 50 30.2	
	comp=E,200nm,0.6s						
UGL				A	A	00 50 30.2	
	comp=E,110nm,0.6s						
JAHD	**Aomorihigashid**	**6.86**	**242**	A	A	00 49 16.2	
	comp=E,8.0nm,1.2s,comp=N,7.0nm,3.8s						
JTM	**Tenmabayashi**	**7.29**	**240**	Pn	**Pn**	**00 49 21.2**	**-1.0**
JTM				Sn	**Sn**	**00 50 40.0**	**-3.6**
JTM	**Tenmabayashi**	**7.29**	**240**	P	**Pn**	**00 49 22.5**	**+0.3**
SKR	**Severo-Kuril's**	**7.47**	**35**	*e*PN	**Pn**	**00 49 24.1**	**-0.5**
SKR				pmax	pmax		
	comp=Z,502nm,0.7s						
SKR				MLR	MLR		
	comp=Z,700nm,14.0s						
SKR	**Severo-Kuril's**	**7.47**	**35**	*e*P	**Pn**	**00 49 24.1**	**-0.5**
SKR				AMB	AMB	00 49 26.9	
	comp=Z,500nm,0.7s						
SKR				*e*S	**Sn**	**00 50 46.5**	**-1.4**
TYV	**Tymovskoe**	**7.63**	**326**	*e*PN	**Pn**	**00 49 28.0**	**+1.3**
TYV				pmax	pmax		
	comp=Z,100nm,2.5s						
TYV				pmax	pmax		
	comp=Z,28nm,0.6s						
TYV	**Tymovskoe**	**7.63**	**326**	*e*P	**Pn**	**00 49 28.0**	**+1.3**
TYV				AMB	AMB	00 49 32.5	
	comp=Z,30nm,0.6s						
TYV				*e*S	**Sn**	**00 50 52.1**	**+0.4**
JOM	**Ohasama**	**8.00**	**232**	A	A	00 49 32.1	
	comp=E,3.0nm,1.4s,comp=N,2.0nm,0.6s						
TEY	**Ternei**	**9.10**	**276**	⇑*e*PN	Pn	00 49 52.7	+5.8
TEY				pmax	pmax		
	comp=E,90nm,0.9s						
TEY				pmax	pmax		
	comp=Z,90nm,0.9s						
JMM	**Marumori**	**9.44**	**226**		**Pn**	**00 49 50.0**	**-1.5**
JMM	**Marumori**	**9.44**	**226**	P	**Pn**	**00 49 51.5**	**0.0**
PEA0B	**Petropavlovsk-**	**9.99**	**30**	Pn	**Pn**	**00 49 59.4**	**+0.3**
PEA0B	**Petropavlovsk-**	**9.99**	**30**	*d i*PN	**Pn**	**00 49 58.8**	**-0.3**
PETK	**Petropavlovsk-**	**9.99**	**30**	Pn	**Pn**	**00 49 59.0**	**-0.1**
PETK	**Petropavlovsk-**	**9.99**	**30**	PN	**Pn**	**00 49 59.0**	**-0.1**
PETK	**Petropavlovsk-**	**9.99**	**30**	P	**Pn**	**00 49 58.5**	**-0.6**
	comp=Z,69nm,0.6s,baz=213,slow=12,SNR=73						
PETK				LR	LR	00 53 42.5	
	comp=Z,584nm,20.6s,baz=217,slow=37						
NKL	**Nikolayevsk**	**10.18**	**329**	*e*P	**Pn**	**00 50 02.9**	**+1.3**
NKL				AMB	AMB	00 50 05.7	
	comp=Z,20nm,0.3s						
PET	**Petropavlovsk**	**10.28**	**33**		**Pn**	**00 50 03.7**	**+0.7**
PET	**Petropavlovsk**	**10.28**	**33**	*e*PN	**Pn**	**00 50 02.8**	**-0.2**
PET				pmax	pmax		
	comp=Z,63nm,0.6s						
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
PET	**Petropavlovsk**	**10.28**	**33**	*e*P	**Pn**	**00 50 02.8**	**-0.2**
PET				AMB	AMB	00 50 19.2	
	comp=Z,60nm,0.6s						
GRNR	**Gornyy**	**10.62**	**309**	⇓*i*PN	**Pn**	**00 50 10.8**	**+3.2**
GRNR				pmax	pmax		
	comp=N,10.0nm,0.6s						
GRNR				pmax	pmax		
	comp=Z,30nm,0.7s						
GRNR				MLR	MLR		
	comp=E,170nm,19.0s						
GRNR				MLR	MLR		
	comp=N,160nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,160nm,15.0s						
GRNR	**Gornyy**	**10.62**	**309**	*e*P	**Pn**	**00 50 10.8**	**+3.2**
JSD	**Sado**	**10.71**	**235**	Pn	**Pn**	**00 50 07.8**	**-1.2**
JSD	**Sado**	**10.71**	**235**	P	**Pn**	**00 50 08.4**	**-0.6**
MJB9	**Matsu-Tunnel**	**11.79**	**230**		**Pn**	**00 50 22.7**	**-1.2**
MAJO	**Matsushiro**	**11.79**	**230**	Pn	**Pn**	**00 50 22.2**	**-1.6**
MAJO	**Matsushiro**	**11.79**	**230**	P	**Pn**	**00 50 23.1**	**-0.7**
MAJO	**Matsushiro**	**11.79**	**230**	*ce*PN	**Pn**	**00 50 22.7**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,12nm,0.5s						
MJAR	**Matsushiro Arr**	**11.79**	**230**	P	**Pn**	**00 50 22.7**	**-1.1**
	comp=Z,7.5nm,0.5s,baz=28,slow=13,SNR=20						
USA0B	**Ussuriysk Arra**	**12.46**	**274**		**Pn**	**00 50 31.8**	**-0.9**
USA0B	**Ussuriysk Arra**	**12.46**	**274**	⇓*e*PN	**Pn**	**00 50 34.5**	**+1.7**
USRK	**Ussuriysk Ar.**	**12.46**	**274**	Pn	**Pn**	**00 50 32.8**	**0.0**
USRK	**Ussuriysk Ar.**	**12.46**	**274**	PN	**Pn**	**00 50 32.8**	**0.0**
USRK	**Ussuriysk Ar.**	**12.46**	**274**	P	**Pn**	**00 50 34.4**	**+1.6**
	comp=Z,16nm,0.7s,baz=87,slow=13,SNR=15						
KLR	**Kul'dur**	**12.86**	**297**	*c i*PN	**Pn**	**00 50 42.1**	**+3.9**
KLR				pmax	pmax		
	comp=Z,45nm,1.3s	

SNY				LR	LR		
	comp=Z,270nm,4.8s						
SNY				LR	LR		
	comp=Z,350nm,22.3s						
YAK	**Yakutsk**	**20.79**	**333**		Pn	00 52 16.8	-0.6
YAK	**Yakutsk**	**20.79**	**333**	*e*P	Pn	00 52 16.6	-0.9
YAK				*e**PP	sP	00 52 32.1	-1.8
YAK				*e*S	**S**	**00 56 05.5**	**+2.4**
YAK				*e*		00 56 18.4	
YAK				*e**SS	sS	00 56 36.2	+14
YAK				pmax	pmax		
	comp=Z,90nm,1.1s						
YAK				pmax	pmax		
	comp=N,46nm,1.3s						
YAK				pmax	pmax		
	comp=E,32nm,1.5s						
YAK				smax	smax		
	comp=N,106nm,2.0s						
YAK				smax	smax		
	comp=E,84nm,2.8s						
YAK	**Yakutsk**	**20.79**	**333**	*e*P	Pn	00 52 16.6	-0.9
DL2	**Dalian**	**21.45**	**264**	P	**P**	**00 52 22.1**	**+0.3**
DL2				pmax	pmax		
	comp=E,29nm,0.9s						
XLT	**XiLinHaoTe**	**23.77**	**280**	*e*P	**P**	**00 52 43.8**	**-1.9**
XLT				pmax	pmax		
	comp=E,21nm,0.9s						
XLT				pmax	pmax		
	comp=E,140nm,4.8s						
JOW	**Kunigami**	**24.64**	**231**	LR	LR	01 02 47.8	
	comp=E,205nm,20.1s,baz=338,slow=37						
BJI	**Beijing**	**24.88**	**271**	P	**P**	**00 52 56.3**	**+0.6**
BJI				pP	**pP**	**00 53 10.3**	**+0.8**
BJT	**Baijiatuau**	**24.89**	**271**	P	**P**	**00 52 54.9**	**-1.0**
BJT	**Baijiatuau**	**24.89**	**271**	P	**P**	**00 52 54.9**	**-1.0**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIA	**Tai'an**	**25.86**	**262**	P	**P**	**00 53 06.0**	**+1.3**
TIA				pmax	pmax		
	comp=Z,30nm,0.7s						
NJ2	**Nanjing**	**26.92**	**252**	⇓P	**P**	**00 53 14.8**	**+0.6**
NJ2				pP	**pP**	**00 53 27.3**	**-0.4**
NJ2				sP	**sP**	**00 53 33.6**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,74nm,3.6s						
HNS	**HongShan**	**27.01**	**266**	⇑P	**P**	**00 53 18.3**	**+3.3**
HNS				pP	**sP**	**00 53 31.6**	**-3.6**
HNS				pmax	pmax		
	comp=Z,32nm,1.1s						
HHC	**Hu-ho-hao-te**	**27.87**	**275**	*e*P	**P**	**00 53 22.8**	**0.0**
HHC				pmax	pmax		
	comp=Z,48nm,1.0s						
HHC				pmax	pmax		
	comp=Z,330nm,4.0s						
HHC				LR	LR		
	comp=Z,430nm,14.7s						
HHC				LR	LR		
	comp=Z,480nm,15.9s						
HHC				LR	LR		
	comp=Z,520nm,16.1s						
H11N2	**WAKE ISLAND Hy**	**28.87**	**144**	T	T	01 24 22.9	
	baz=334,slow=75,SNR=2736						
H11N1	**WAKE ISLAND Hy**	**28.88**	**144**	T	T	01 24 22.2	
	baz=334,slow=75,SNR=1126						
H11N3	**WAKE ISLAND Hy**	**28.89**	**144**	T	T	01 24 22.7	
	baz=334,slow=75,SNR=1495						
BTO	**Baotou**	**29.05**	**276**	*e*P	**P**	**00 53 35.4**	**+2.1**
BTO				pP	**sP**	**00 53 49.8**	**-4.0**
BTO				sP	pP	00 53 57.8	+11
BTO				PP	**PnPn**	**00 54 31.1**	**+3.4**
BTO				S	**S**	**00 58 18.9**	**-2.0**
BTO				sS	**sS**	**00 58 45.6**	**+2.3**
BTO				SS	**SnSn**	**00 59 48.8**	**+0.1**
BTO				pmax	pmax		
	comp=Z,15nm,0.4s						
BTO				pmax	pmax		
	comp=Z,260nm,6.0s						
BTO				LR	LR		
	comp=Z,520nm,5.0s						
BTO				LR	LR		
	comp=Z,620nm,6.4s						
BTO				LR	LR		
	comp=Z,680nm,10.5s						
ULN	**Ulaanbaatar**	**29.16**	**291**	P	**P**	**00 53 32.8**	**-1.5**
ULN	**Ulaanbaatar**	**29.16**	**291**	⇓*i*P	**P**	**00 53 34.2**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ULN	**Ulaanbaatar**	**29.16**	**291**	*e*P	**P**	**00 53 34.2**	**-0.1**
SONM	**Songino Array**	**29.60**	**292**	P	**P**	**00 53 38.0**	**-0.2**
SONM	**Songino Array**	**29.60**	**292**	P	**P**	**00 53 38.0**	**-0.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**29.60**	**292**	P	**P**	**00 53 37.9**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=78,slow=8.0,SNR=22						
SONM				ScP	**ScP**	**01 00 18.3**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=134,slow=6.4,SNR=3.5						
	comp=Z,2.1nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**29.88**	**146**	T	T	01 25 41.8	
	baz=336,slow=76,SNR=2592						
H11S3	**WAKE ISLAND Hy**	**29.89**	**146**	T	T	01 25 37.3	
	baz=336,slow=76,SNR=2151						
H11S2	**WAKE ISLAND Hy**	**29.90**	**146**	T	T	01 25 43.1	
	baz=336,slow=76,SNR=2814						
LYN	**LuoYang**	**29.98**	**263**	*e*P	**P**	**00 53 42.1**	**+0.6**
LYN				pmax	pmax		
	comp=Z,12nm,0.7s						
TATO	**Taipei**	**29.99**	**238**	P	**P**	**00 53 41.9**	**+0.3**
NACB	**Ninganchiao**	**30.53**	**237**	P	**P**	**00 53 45.2**	**-1.1**
TNA	**Tin City**	**31.14**	**33**	P	**P**	**00 53 50.3**	**-1.0**
	baz=249						
GUMO	**Guam**	**31.28**	**189**	LR	LR	01 06 27.9	
	comp=Z,44nm,18.9s,baz=9.5,slow=36						
FALS	**False Pass**	**31.52**	**54**	P	**P**	**00 53 54.1**	**-0.8**
	baz=271						
J14K	**Nanvaranak Lak**	**32.19**	**39**	P	**P**	**00 53 59.8**	**-0.8**
	baz=258						
L14K	**Kuka Creek**	**32.34**	**42**	P	**P**	**00 54 01.3**	**-0.6**
	baz=261						
G15K	**Niukluk**	**32.52**	**35**	P	**P**	**00 54 03.3**	**-0.1**
	baz=254						
M14K	**Bethel**	**32.61**	**43**	P	**P**	**00 54 04.3**	**0.0**
	baz=263						
K15K	**Wolf Creek Mou**	**33.03**	**40**	P	**P**	**00 54 06.2**	**-1.8**
K15K	**Wolf Creek Mou**	**33.03**	**40**	P	**P**	**00 54 07.7**	**-0.3**
	baz=261						
M15K	**Kasigluk River**	**33.23**	**43**	P	**P**	**00 54 09.6**	**-0.1**
	baz=264						
N15K	**Kwethluk River**	**33.47**	**44**	P	**P**	**00 54 12.0**	**+0.1**
	baz=266						
J16K	**Anvik River**	**33.61**	**39**	P	**P**	**00 54 12.5**	**-0.5**
	baz=260						
C17K	**DeLong Mountai**	**33.91**	**29**	P	**P**	**00 54 15.3**	**-0.3**
	baz=250						
L16K	**Owhat River**	**33.91**	**42**	P	**P**	**00 54 15.8**	**+0.2**
L16K	**Owhat River**	**33.91**	**42**	P	**P**	**00 54 15.3**	**-0.3**
	baz=264						
E17K	**Hotham Inlet**	**33.96**	**32**	P	**P**	**00 54 15.9**	**-0.2**
	baz=254,SNR=5.2						
F17K	**Baldwin Pennin**	**34.01**	**33**	P	**P**	**00 54 16.5**	**+0.1**
	baz=255						
G17K	**Kiwalik Mounta**	**34.02**	**35**	P	**P**	**00 54 16.9**	**+0.3**
	baz=257						
M16K	**Timber Creek**	**34.10**	**43**	P	**P**	**00 54 17.4**	**+0.2**
M16K				IAmb	IAmb	00 54 19.7	
	comp=Z,29nm,1.2s						
M16K	**Timber Creek**	**34.10**	**43**	P	**P**	**00 54 17.0**	**-0.3**
	baz=266						
N16K	**Nishlik Lake**	**34.15**	**44**	P	**P**	**00 54 17.7**	**-0.1**
	baz=266						
H17K	**Granite Mounta**	**34.21**	**36**	P	**P**	**00 54 18.4**	**+0.2**
	baz=259						
CHGN	**Chignik**	**34.31**	**51**	P	**P**	**00 54 18.9**	**-0.2**
O16K	**Kokwok River B**	**34.45**	**46**	P	**P**	**00 54 20.2**	**-0.1**
L17K	**Donlin**	**34.51**	**41**	P	**P**	**00 54 21.0**	**+0.2**
	baz=264						
E18K	**Tukpahlearik C**	**34.51**	**31**	P	**P**	**00 54 21.4**	**+0.6**
E18K	**Tukpahlearik C**	**34.51**	**31**	P	**P**	**00 54 21.0**	**+0.2**
	baz=254						
K17K	**Iditarod**	**34.57**	**40**	P	**P**	**00 54 21.7**	**+0.3**
K17K				IAmb	IAmb	00 54 23.3	
	comp=Z,11nm,0.8s						
K17K	**Iditarod**	**34.57**	**40**	P	**P**	**00 54 21.4**	**0.0**
	baz=264						
C18K	**Utukok River**	**34.66**	**29**	P	**P**	**00 54 22.1**	**+0.1**
C18K	**Utukok River**	**34.66**	**29**	P	**P**	**00 54 22.0**	**0.0**
	baz=252						
M17K	**Holitna River**	**34.86**	**42**	P	**P**	**00 54 24.6**	**+0.7**
M17K	**Holitna River**	**34.86**	**42**	P	**P**	**00 54 24.4**	**+0.5**
	baz=266,SNR=6.1						
H18K	**Honhosa River**	**34.89**	**36**	P	**P**	**00 54 24.6**	**+0.5**
H18K				IAmb	IAmb	00 54 25.8	
	comp=Z,28nm,1.2s						
H18K	**Honhosa River**	**34.89**	**36**	P	**P**	**00 54 23.9**	**-0.2**
	baz=260						
G18K	**Tagagawik**	**34.91**	**34**	P	**P**	**00 54 24.8**	**+0.5**
G18K				IAmb	IAmb	00 54 26.2	
	comp=Z,17nm,0.8s						
G18K	**Tagagawik**	**34.91**	**34**	P	**P**	**00 54 24.3**	**0.0**
	baz=259,SNR=7.1						
N17K	**Nushagak Hills**	**34.94**	**44**	P	**P**	**00 54 24.5**	**0.0**
N17K				IAmb	IAmb	00 55 20.0	
	comp=Z,37nm,1.8s						
N17K	**Nushagak Hills**	**34.94**	**44**	P	**P**	**00 54 25.1**	**+0.6**
	baz=268						
O17K	**Koliganek Bris**	**34.96**	**45**	P	**P**	**00 54 25.1**	**+0.4**
	baz=269						
L18K	**Granite Mounta**	**35.27**	**41**	P	**P**	**00 54 28.4**	**+1.1**
L18K				IAmb	IAmb	00 54 29.6	
	comp=Z,11nm,0.8s						
L18K	**Granite Mounta**	**35.27**	**41**	P	**P**	**00 54 28.0**	**+0.6**
	baz=266						
C19K	**Lookout Ridge**	**35.35**	**29**	P	**P**	**00 54 28.4**	**+0.4**
C19K	**Lookout Ridge**	**35.35**	**29**	P	**P**	**00 54 28.3**	**+0.3**
	baz=253						
LZH	**Lanzhou**	**35.36**	**272**	⇑P	**P**	**00 54 30.3**	**+1.7**
LZH				pP	sP	00 54 45.8	-3.1
LZH				sP	pP	00 54 52.6	+10
LZH				pmax	pmax		
	comp=Z,60nm,1.4s						
R17K	**Ugashik Creek**	**35.36**	**49**	P	**P**	**00 54 28.3**	**+0.1**
	baz=273						
J18K	**Innoko River**	**35.37**	**39**	P	**P**	**00 54 28.6**	**+0.4**
	baz=264						
F19K	**Shaleruckik Mo**	**35.45**	**33**	P	**P**	**00 54 28.7**	**-0.1**
F19K	**Shaleruckik Mo**	**35.45**	**33**	P	**P**	**00 54 29.2**	**+0.4**
	baz=258						
GCSA	**Galena City Sc**	**35.45**	**37**	P	**P**	**00 54 29.5**	**+0.7**
	baz=262						
N18K	**Kilae Creek**	**35.58**	**44**		**P**	**00 54 31.4**	**+1.3**
N18K	**Kilae Creek**	**35.58**	**44**	P	**P**	**00 54 30.2**	**+0.1**
	baz=269						
G19K	**Purcell Mounta**	**35.59**	**34**	P	**P**	**00 54 29.9**	**-0.2**
G19K				IAmb	IAmb	00 54 31.1	
	comp=Z,16nm,1.1s						
G19K	**Purcell Mounta**	**35.59**	**34**	P	**P**	**00 54 29.8**	**-0.2**
	baz=260						
M18K	**Stony River**	**35.64**	**42**	P	**P**	**00 54 30.6**	**+0.1**
	baz=268						
TTA	**Tatalina**	**35.64**	**40**	P	**P**	**00 54 30.7**	**+0.1**
TTA				IAmb	IAmb	00 54 32.1	
	comp=Z,12nm,0.8s						
TTA	**Tatalina**	**35.64**	**40**	P	**P**	**00 54 30.7**	**+0.1**
TTA				pmax	pmax		
	comp=Z,12nm,0.8s						
TTA	**Tatalina**	**35.64**	**40**	P	**P**	**00 54 30.6**	**+0.1**
	baz=266,SNR=6.8						
D19K	**Kuna River**	**35.70**	**30**	P	**P**	**00 54 30.8**	**-0.2**
D19K	**Kuna River**	**35.70**	**30**	P	**P**	**00 54 30.7**	**-0.3**
	baz=256						
SVW2	**Sparrevohn**	**35.74**	**43**	P	**P**	**00 54 31.9**	**+0.4**
SVW2				IAmb	IAmb	00 54 33.4	
	comp=Z,10nm,0.8s						
H19K	**Roundabout Mou**	**35.75**	**35**		**P**	**00 54 31.5**	**+0.1**
H19K	**Roundabout Mou**	**35.75**	**35**	P	**P**	**00 54 31.1**	**-0.3**
	baz=262,SNR=19						
E19K	**Redstone River**	**35.79**	**32**	P	**P**	**00 54 32.5**	**+0.7**
E19K	**Redstone River**	**35.79**	**32**	P	**P**	**00 54 31.8**	**0.0**
	baz=258,SNR=7.6						
J19K	**Poorman**	**35.91**	**38**	P	**P**	**00 54 32.5**	**-0.4**
J19K				IAmb	IAmb	00 54 34.1	
	comp=Z,18nm,1.0s						
J19K	**Poorman**	**35.91**	**38**	P	**P**	**00 54 32.8**	**-0.1**
	baz=264,SNR=7.5						
P18K	**Big Mountain,**	**35.91**	**46**	P	**P**	**00 54 33.4**	**+0.4**
	baz=271						
Q18K	**Katmai Hardscr**	**36.05**	**47**	P	**P**	**00 54 34.2**	**0.0**
	baz=272						
L19K	**White Mountain**	**36.13**	**41**	P	**P**	**00 54 35.3**	**+0.6**
	baz=268						
N19K	**Bonanza Creek**	**36.27**	**43**	P	**P**	**00 54 35.9**	**-0.2**
N19K				IAmb	IAmb	00 54 38.2	
	comp=Z,20nm,1.1s						
N19K	**Bonanza Creek**	**36.27**	**43**	P	**P**	**00 54 36.8**	**+0.7**
	baz=270						
F20K	**Avaraart Lake**	**36.28**	**33**	P	**P**	**00 54 36.1**	**+0.2**
	baz=260						
D20K	**Etivluk River**	**36.29**	**30**	P	**P**	**00 54 35.8**	**-0.3**
	baz=257						
M19K	**Big River Lodg**	**36.34**	**42**	P	**P**	**00 54 36.2**	**-0.3**
M19K				IAmb	IAmb	00 54 38.5	
	comp=Z,11nm,0.9s						
M19K	**Big River Lodg**	**36.34**	**42**	P	**P**	**00 54 36.5**	**0.0**
	baz=268						
E20K	**Nigu River**	**36.34**	**31**	P	**P**	**00 54 36.5**	**0.0**
	baz=258,SNR=8.2						
H20K	**Anotleneega Mo**	**36.39**	**36**	P	**P**	**00 54 36.9**	**0.0**
	baz=263,SNR=10						
B20K	**Meade River**	**36.42**	**28**	P	**P**	**00 54 37.2**	**+0.1**
	baz=255						
K20K	**Telida**	**36.55**	**39**	P	**P**	**00 54 38.6**	**+0.3**
K20K				IAmb	IAmb	00 54 40.2	
	comp=Z,22nm,1.4s						
K20K	**Telida**	**36.55**	**39**	P	**P**	**00 54 38.6**	**+0.3**
	baz=267						
J20K	**Nowinta River**	**36.57**	**38**	P	**P**	**00 54 39.1**	**+0.7**
J20K	**Nowinta River**	**36.57**	**38**	P	**P**	**00 54 38.9**	**+0.4**
	baz=266,SNR=6.5						
L20K	**Farewell, AK**	**36.59**	**41**	P	**P**	**00 54 39.0**	**+0.3**
	baz=268						
GTA	**Gaotai**	**36.73**	**279**	*e*P	**P**	**00 54 41.3**	**+1.0**
GTA				pP	sP	00 54 56.8	-4.1
GTA				pmax	pmax		
	comp=Z,41nm,0.8s						
IMAR	**Indian Mountai**	**36.91**	**35**	P	**P**	**00 54 41.6**	**+0.3**
M20K	**Styx River**	**36.93**	**42**	P	**P**	**00 54 41.6**	**-0.1**
	baz=270						
C21K	**Knifeblade Rid**	**37.03**	**29**	P	**P**	**00 54 42.6**	**+0.3**
	baz=258						
G21K	**Allakaket**	**37.07**	**34**	P	**P**	**00 54 43.1**	**+0.4**
G21K	**Allakaket**	**37.07**	**34**	P	**P**	**00 54 43.1**	**+0.4**
	baz=263,SNR=11						
F21K	**Alatna River**	**37.17**	**33**	P	**P**	**00 54 43.8**	**+0.2**
F21K				IAmb	IAmb	00 54 45.0	
	comp=Z,18nm,1.1s						
F21K	**Alatna River**	**37.17**	**33**	P	**P**	**00 54 43.8**	**+0.2**
	baz=262,SNR=6.0						
E21K	**Killik River**	**37.18**	**31**	P	**P**	**00 54 44.0**	**+0.4**
	baz=260						
B21K	**Ikpikpuk River**	**37.19**	**29**	P	**P**	**00 54 44.3**	**+0.7**
B21K	**Ikpikpuk River**	**37.19**	**29**	P	**P**	**00 54 44.0**	**+0.4**
	baz=258						
H21K	**Melozitna Rive**	**37.27**	**35**		**P**	**00 54 44.4**	**+0.1**
H21K	**Melozitna Rive**	**37.27**	**35**	P	**P**	**00 54 44.7**	**+0.3**
	baz=265,SNR=8.9						
CHUM	**Lake Minchumin**	**37.36**	**38**	P	**P**	**00 54 45.8**	**+0.6**
	baz=268						
N20K	**Mount Spurr**	**37.38**	**43**	P	**P**	**00 54 46.0**	**+0.5**
	baz=271						
A22K	**Sinclair Lake**	**37.38**	**26**	P	**P**	**00 54 45.8**	**+0.6**
	baz=256						
KDAK	**Kodiak Island**	**37.38**	**48**	P	**P**	**00 54 45.1**	**-0.3**
KDAK	**Kodiak Island**	**37.38**	**48**	P	**P**	**00 54 45.1**	**-0.3**
KDAK				pmax	pmax		
	comp=Z,105nm,1.6s						
KDAK	**Kodiak Island**	**37.38**	**48**	P	**P**	**00 54 45.1**	**-0.3**
KDAK				pP	**pP**	**00 54 58.5**	**-0.8**
PPLA	**Purkeypile**	**37.38**	**40**	P	**P**	**00 54 45.9**	**+0.4**
	baz=269						
SYI	**Shuyak Island**	**37.41**	**47**	P	**P**	**00 54 45.1**	**-0.6**
CAST	**Castle Rocks**	**37.44**	**39**		**P**	**00 54 46.6**	**+0.7**
CAST				IAmb	IAmb	00 54 47.9	
	comp=Z,11nm,0.7s						
CAST	**Castle Rocks**	**37.44**	**39**	P	**P**	**00 54 46.6**	**+0.7**
	baz=268,SNR=7.7						
I21K	**Tanana**	**37.57**	**36**	P	**P**	**00 54 47.9**	**+1.0**
I21K				IAmb	IAmb	00 54 48.8	
	comp=Z,29nm,1.4s						
I21K	**Tanana**	**37.57**	**36**	P	**P**	**00 54 47.7**	**+0.8**
	baz=266						
SKT	**Skwentna**	**37.69**	**41**	P	**P**	**00 54 48.8**	**+0.8**
SKT	**Skwentna**	**37.69**	**41**	P	**P**	**00 54 48.5**	**+0.5**
	baz=271						
F22K	**John River**	**37.71**	**32**	P	**P**	**00 54 48.6**	**+0.4**
	baz=263						
D22K	**Ayikyak River**	**37.72**	**30**	P	**P**	**00 54 48.6**	**+0.4**
	baz=261						
B22K	**Teshekpuk Lake**	**37.74**	**28**	P	**P**	**00 54 47.9**	**-0.3**
B22K	**Teshekpuk Lake**	**37.74**	**28**	P	**P**	**00 54 48.9**	**+0.7**
	baz=258						
H22K	**Ishtalitna Cre**	**37.87**	**35**	P	**P**	**00 54 49.8**	**+0.3**
	baz=266,SNR=6.2						
G22K	**Bettles**	**37.91**	**33**	P	**P**	**00 54 50.1**	**+0.3**
	baz=264						
E22K	**Anaktuvuk Pass**	**37.93**	**31**	P	**P**	**00 54 50.2**	**+0.2**
	baz=263						
CNPM	**China Poot**	**37.94**	**45**	P	**P**	**00 54 50.4**	**+0.2**
BPAW	**Bear Paw Mtn.**	**37.95**	**38**		**P**	**00 54 50.6**	**+0.4**
BPAW				IAmb	IAmb	00 54 52.9	
	comp=Z,9.6nm,0.9s						
BPAW	**Bear Paw Mtn.**	**37.95**	**38**	P	**P**	**00 54 50.9**	**+0.7**
	baz=269						
MLY	**Manley**	**38.09**	**37**	P	**P**	**00 54 51.8**	**+0.4**
MLY	**Manley**	**38.09**	**37**	P	**P**	**00 54 51.7**	**+0.4**
	baz=268,SNR=5.9						
TRF	**Thorofare Moun**	**38.25**	**39**	P	**P**	**00 54 53.2**	**+0.4**
TRF	**Thorofare Moun**	**38.25**	**39**	P	**P**	**00 54 53.1**	**+0.2**
	baz=270						
COLD	**Coldfoot**	**38.45**	**33**	P	**P**	**00 54 54.6**	**+0.3**
	baz=265,SNR=9.4						
D23K	**Nanushuk River**	**38.45**	**30**	P	**P**	**00 54 54.7**	**+0.3**
	baz=263						
G23K	**Bananza Creek**	**38.48**	**34**	P	**P**	**00 54 55.2**	**+0.6**
G23K				IAmb	IAmb	00 54 56.0	
	comp=Z,19nm,1.2s						
G23K	**Bananza Creek**	**38.48**	**34**	P	**P**	**00 54 55.0**	**+0.4**
	baz=266						
RC01	**Rabbit Creek A**	**38.58**	**43**	P	**P**	**00 54 53.7**	**-1.8**
C23K	**Itkillik River**	**38.59**	**29**	P	**P**	**00 54 55.7**	**+0.2**
C23K	**Itkillik River**	**38.59**	**29**	P	**P**	**00 54 55.8**	**+0.3**
	baz=262						
BWN	**Browne**	**38.62**	**38**	P	**P**	**00 54 56.9**	**+1.1**
H23K	**Yukon River**	**38.62**	**35**	P	**P**	**00 54 56.7**	**+0.9**
H23K				IAmb	IAmb	00 54 59.0	
	comp=Z,15nm,0.8s						
H23K	**Yukon River**	**38.62**	**35**	P	**P**	**00 54 56.4**	**+0.6**
	baz=268						
O22K	**Cooper Landing**	**38.63**	**44**	P	**P**	**00 54 55.5**	**-0.3**
I23K	**Minto, Yukon-K**	**38.68**	**36**	P	**P**	**00 54 56.8**	**+0.6**
I23K	**Minto, Yukon-K**	**38.68**	**36**	P	**P**	**00 54 57.0**	**+0.8**
	baz=269,SNR=6.1						
E23K	**Chandalar**	**38.74**	**32**	P	**P**	**00 54 57.3**	**+0.5**
	baz=265,SNR=9.6						
NEA2	**Nenana**	**38.79**	**37**	P	**P**	**00 54 57.7**	**+0.5**
NEA2				IAmb	IAmb	00 54 58.6	
	comp=Z,12nm,0.8s						
NEA2	**Nenana**	**38.79**	**37**	P	**P**	**00 54 57.4**	**+0.2**
	baz=270,SNR=9.6						
TOLK	**Toolik Lake Re**	**38.81**	**31**	P	**P**	**00 54 57.8**	**+0.4**
TOLK	**Toolik Lake Re**	**38.81**	**31**	P	**P**	**00 54 57.8**	**+0.4**
	baz=264						
PMR	**Palmer**	**38.84**	**42**	P	**P**	**00 54 58.0**	**+0.4**
PMR	**Palmer**	**38.84**	**42**	P	**P**	**00 54 58.0**	**+0.4**
PMR				pmax	pmax		
	comp=Z,52nm,1.7s						
PMR	**Palmer**	**38.84**	**42**	P	**P**	**00 54 58.1**	**+0.4**
	baz=273						
MCK	**McKinley**	**38.85**	**39**	P	**P**	**00 54 58.4**	**+0.7**
	baz=271						
RND	**Reindeer**	**38.90**	**39**		**P**	**00 54 57.7**	**-0.5**
RND				IAmb	IAmb	00 54 59.0	
	comp=Z,9.1nm,1.0s						
RND	**Reindeer**	**38.90**	**39**	P	**P**	**00 54 57.7**	**-0.5**
RND				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GHO	**Glory Hole Cre**	**38.93**	**42**	P	**P**	**00 54 58.7**	**+0.2**
WAT1	**Susitna Watana**	**39.05**	**40**	P	**P**	**00 54 59.0**	**-0.4**
	baz=272						
D24K	**Happy Valley**	**39.14**	**30**	P	**P**	**00 55 00.4**	**+0.4**
	baz=264						
MDM	**Murphy Dome**	**39.15**	**37**		**P**	**00 55 00.6**	**+0.4**
MDM				IAmb	IAmb	00 55 01.8	
	comp=Z,12nm,0.9s						
E24K	**Your Creek**	**39.16**	**32**	P	**P**	**00 55 00.7**	**+0.3**
	baz=266						
KNK	**Knik Glacier**	**39.18**	**42**	P	**P**	**00 55 00.6**	**+0.2**
KNK	**Knik Glacier**	**39.18**	**42**	P	**P**	**00 55 00.7**	**+0.2**
	baz=274						
SML	**Sawmill**	**39.21**	**42**		**P**	**00 55 01.0**	**+0.2**
SML	**Sawmill**	**39.21**	**42**	P	**P**	**00 55 01.0**	**+0.2**
	baz=274,SNR=6.8						
WRH	**Wood River Hil**	**39.22**	**37**		**P**	**00 55 01.1**	**+0.3**
WRH				IAmb	IAmb	00 55 02.8	
	comp=Z,17nm,1.3s						
C24K	**Franklin Bluff**	**39.24**	**29**	P	**P**	**00 55 01.1**	**+0.2**
	baz=264						
PWL	**Port Wells**	**39.28**	**43**	P	**P**	**00 55 01.0**	**-0.3**
PWL	**Port Wells**	**39.28**	**43**	P	**P**	**00 55 01.9**	**+0.5**
	baz=275						
H24K	**Noodor Dome**	**39.31**	**35**	P	**P**	**00 55 02.2**	**+0.6**
H24K				IAmb	IAmb	00 55 03.6	
	comp=Z,37nm,1.6s						
H24K	**Noodor Dome**	**39.31**	**35**	P	**P**	**00 55 02.3**	**+0.7**
	baz=269						
COLA	**College**	**39.31**	**37**	P	**P**	**00 55 02.5**	**+1.0**
COLA				IAmb	IAmb	00 55 03.1	
	comp=Z,16nm,0.8s						
COLA	**College**	**39.31**	**37**	P	**P**	**00 55 02.5**	**+1.0**
COLA				pmax	pmax		
	comp=Z,16nm,0.8s						
COLA	**College**	**39.31**	**37**	P	**P**	**00 55 01.8**	**+0.3**
	baz=270						
COLA	**College**	**39.31**	**37**	P	**P**	**00 55 02.4**	**+0.9**
COLA				pP	**pP**	**00 55 16.6**	**+1.1**
COLA				sP	**sP**	**00 55 22.1**	**+0.3**
CCB	**Clear Creek Bu**	**39.34**	**37**		**P**	**00 55 02.0**	**+0.3**
CCB				IAmb	IAmb	00 55 05.3	
	comp=Z,38nm,2.0s						
F24K	**Squaw Lake**	**39.36**	**33**	P	**P**	**00 55 02.2**	**+0.3**
F24K	**Squaw Lake**	**39.36**	**33**	P	**P**	**00 55 02.7**	**+0.7**
	baz=267						
WAT6	**Susitna Watana**	**39.44**	**40**	P	**P**	**00 55 02.2**	**-0.6**
	baz=273						
G24K	**Hadweenzic Riv**	**39.49**	**34**	P	**P**	**00 55 04.1**	**+1.1**
G24K				IAmb	IAmb	00 55 05.8	
	comp=Z,16nm,0.7s						
G24K	**Hadweenzic Riv**	**39.49**	**34**	P	**P**	**00 55 03.4**	**+0.4**
	baz=269,SNR=10						
POKR

baz=269
K24K Donnelly Dome 40.25 38 P P 00 55 09.4 -0.1
baz=274
E25K Arctic Village 40.26 32 P P 00 55 10.1 +0.7
E25K IAmb IAmb 00 55 12.0
comp=Z,53nm,1.9s
E25K Arctic Village 40.26 32 P P 00 55 09.9 +0.5
baz=269
PRP Porcupine Dome 40.28 36 P P 00 55 10.1 +0.3
PRP Porcupine Dome 40.28 36 P P 00 55 09.9 +0.1
baz=272,SNR=6.3
FYU Fort Yukon 40.38 34 P P 00 55 11.5 +1.1
KLU Klutina 40.38 42 P P 00 55 10.6 +0.1
KLU IAmb IAmb 00 55 12.1
comp=Z,28nm,1.3s
KLU Klutina 40.38 42 P P 00 55 11.0 +0.4
baz=276,SNR=6.3
J25K Salcha River, 40.39 37 P P 00 55 09.1 -1.4
J25K Salcha River, 40.39 37 P P 00 55 09.9 -0.6
baz=273,SNR=5.5
Q23K Middleton Isla 40.43 45 P P 00 55 11.2 +0.4
baz=278
PAX Paxson 40.45 40 P P 00 55 11.4 +0.3
baz=275
DIV Divide 40.49 43 P P 00 55 10.8 -0.7
DIV IAmb IAmb 00 55 12.9
comp=Z,16nm,0.9s
C26K Camden Bay 40.57 29 P P 00 55 12.2 +0.4
baz=267
EYAK Cordova Ski Ar 40.58 43 P P 00 55 11.9 -0.1
baz=277
BMAR Burnt Mountain 40.63 33 P P 00 55 12.3 -0.2
HARP HAARP 40.65 41 P P 00 55 12.5 -0.1
baz=276
RIDG Independent Ri 40.67 38 P P 00 55 11.7 -1.2
RIDG IAmb IAmb 00 55 13.5
comp=Z,24nm,1.4s
RIDG Independent Ri 40.67 38 P P 00 55 12.8 -0.1
baz=274
F26K Sheenjek River 40.80 32 P P 00 55 14.6 +0.8
baz=270,SNR=5.8
G26K Porcupine Rive 40.95 34 P P 00 55 16.2 +1.2
baz=272,SNR=11
N25K Chitina, Valde 41.00 42 P P 00 55 16.5 +0.9
baz=277
SCRK Sand Creek 41.03 38 P P 00 55 15.1 -0.9
SCRK Sand Creek 41.03 38 P P 00 55 15.9 0.0
baz=275,SNR=6.8
BMRM Bremner River 41.08 43 P P 00 55 16.7 +0.5
BMRM IAmb IAmb 00 55 17.9
comp=Z,14nm,0.8s
BMRM Bremner River 41.08 43 P P 00 55 17.1 +0.9
baz=278
J26L Joseph Creek 41.17 37 P P 00 55 16.5 -0.6
J26L Joseph Creek 41.17 37 P P 00 55 16.7 -0.4
baz=275
MENT Mentasta 41.25 40 P P 00 55 18.4 +0.8
MENT IAmb IAmb 00 56 38.4
comp=Z,15nm,0.7s
I26K Coal Creek Min 41.29 36 P P 00 55 17.2 -0.7
I26K IAmb IAmb 00 55 48.5
comp=Z,32nm,1.9s
I26K Coal Creek Min 41.29 36 P P 00 55 18.1 +0.3
baz=274
DGZ Jazzator, Alta 41.33 300⇑ *i* P **P 00 55 19.8 +1.2**
DGZ pmax pmax
comp=Z,5.0nm,1.4s
HMT Hamilton 41.34 44 P P 00 55 18.7 +0.3
L26K Log Cabin Wild 41.41 39 P P 00 55 18.6 -0.4
L26K Log Cabin Wild 41.41 39 P P 00 55 19.6 +0.6
baz=277,SNR=7.0
VRDI Verde Repeater 41.60 42 P P 00 55 21.0 +0.3
VRDI IAmb IAmb 00 55 39.8
comp=Z,59nm,2.0s
M26K Nabesna, AK 41.65 40 P P 00 55 21.9 +0.9
M26K IAmb IAmb 00 55 23.2
comp=Z,31nm,1.3s
M26K Nabesna, AK 41.65 40 P P 00 55 21.9 +0.9
baz=278,SNR=11
ZALV Zalesovo Beam 41.70 307 P P 00 55 21.4 0.0
ZALV Zalesovo Beam 41.70 307 *i* P **P 00 55 23.7 +2.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 41.70 307 P P 00 55 20.3 -1.1
comp=Z,0.9nm,0.4s,baz=64,slow=8.2,SNR=5.4
ZALV PcP **PcP 00 57 17.6 +0.7**
comp=Z,2.7nm,0.6s,baz=85,slow=3.0,SNR=8.1
ZALV LR LR 01 12 51.3
comp=Z,79nm,21.7s,baz=60,slow=36
comp=Z,0.9nm,0.4s
E27K Coleen River 41.75 32 P P 00 55 22.6 +1.0
E27K IAmb IAmb 00 56 25.4
comp=Z,42nm,1.8s
E27K Coleen River 41.75 32 P P 00 55 22.5 +0.9
baz=272
MCARA McCarthy VSAT 41.78 42 P P 00 55 23.1 +1.1
MCARA IAmb IAmb 00 55 38.1
comp=Z,20nm,1.2s
MCARA McCarthy VSAT 41.78 42 P P 00 55 22.8 +0.9
baz=279
G27K Doyon Strip 41.80 34 P P 00 55 22.3 +0.3
baz=274
CRQM Cirque 41.82 43 P P 00 55 22.8 +0.3
CRQE Cirque 41.84 43 P P 00 55 23.3 +0.7
baz=279
K27K Chicken 41.87 38 P P 00 55 23.4 +0.8
K27K IAmb IAmb 00 55 24.4
comp=Z,28nm,1.1s
K27K Chicken 41.87 38 P P 00 55 23.4 +0.8
baz=276,SNR=15
H27K Steamboat Moun 41.89 35 P P 00 55 23.9 +1.1
baz=274,SNR=6.2
I27K Kandik River 41.90 35 P P 00 55 23.4 +0.4
baz=275
D27M Malcolm River 41.94 30 P P 00 55 23.8 +0.6
baz=272
TGL Tana Glacier 41.97 43 P P 00 55 24.2 +0.6
WAX Waxell Ridge 42.01 43 P P 00 55 24.8 +0.9
SNH Sunshine Point 42.06 44 P P 00 55 26.0 +1.7
L27K Beaver Creek, 42.09 39 P P 00 55 25.0 +0.4
L27K Beaver Creek, 42.09 39 P P 00 55 25.4 +0.8
baz=278,SNR=12
BCAR Beaver Creek A 42.11 39 P P 00 55 25.3 +0.6
PZH PanZhiHua 42.14 261 P P 00 55 27.5 +2.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.4s
M27K Edge Creek, AK 42.17 40 P P 00 55 25.7 +0.5
M27K Edge Creek, AK 42.17 40 P P 00 55 26.5 +1.2
baz=278,SNR=5.9
ISLE Juniper Island 42.23 43 P P 00 55 25.6 -0.2
KMI Kunming 42.31 258 ⇑ P **P 00 55 28.8 +1.9**
KMI pmax pmax
comp=Z,15nm,0.6s
KMI LR LR
comp=Z,150nm,25.3s
F28M Old Crow 42.43 32 P P 00 55 28.2 +1.0
F28M IAmb IAmb 00 55 29.4
comp=Z,19nm,1.3s
F28M Old Crow 42.43 32 P P 00 55 27.9 +0.7
baz=274
BARN Barnard Glacie 42.48 42 P P 00 55 28.4 +0.5
BARN IAmb IAmb 00 55 29.9
comp=Z,12nm,0.9s
E28M Babbage River 42.49 31 P P 00 55 28.3 +0.7
baz=274
GRNC Granite Creek 42.49 43 P P 00 55 28.8 +0.8
GRNC IAmb IAmb 00 55 29.8
comp=Z,13nm,0.8s
MESA MESA 42.50 44 P P 00 55 28.9 +0.8
MESA MESA 42.50 44 P P 00 55 28.8 +0.8
baz=281
I28M Miner Creek 42.62 36 P P 00 55 29.6 +0.8
I28M IAmb IAmb 00 55 30.6
comp=Z,10nm,0.7s
I28M Miner Creek 42.62 36 P P 00 55 29.8 +1.0
baz=277,SNR=9.6
CTG Chitna Glacier 42.65 42 P P 00 55 30.0 +0.8
baz=280
CTGM Chitina Glacie 42.66 42 P P 00 55 29.9 +0.6
TABL Table Mountain 42.84 43 P P 00 55 31.4 +0.5
YUK3 Moose Creek 42.92 41 P P 00 55 31.7 +0.2
baz=280
DAWY Dawson 43.03 38 P P 00 55 32.7 +0.6
DAWY Dawson 43.03 38 P P 00 55 32.5 +0.4
baz=279
E29M Blow River 43.11 31 P P 00 55 33.9 +1.3
baz=275,SNR=7.5
H29M Whitestone 43.16 34 P P 00 55 34.3 +1.2
H29M IAmb IAmb 00 55 35.0
comp=Z,25nm,1.4s
H29M Whitestone 43.16 34 P P 00 55 34.0 +0.9
baz=277
G29M Pine Creek 43.22 33 P P 00 55 34.8 +1.2
G29M IAmb IAmb 00 55 36.0
comp=Z,19nm,1.1s
G29M Pine Creek 43.22 33 P P 00 55 34.4 +0.9
baz=277,SNR=5.3
WMQ Urumqi 43.24 292 *e*P **P 00 55 36.0 +1.9**
WMQ LR LR
comp=Z,140nm,22.9s
O28M Mount Upton 43.24 42 P P 00 55 34.9 +0.8
baz=282
I29M Ogilvie Camp, 43.30 36 P P 00 55 34.1 -0.2
I29M IAmb IAmb 00 55 35.9
comp=Z,12nm,0.8s
I29M Ogilvie Camp, 43.30 36 P P 00 55 35.2 +0.9
baz=278,SNR=8.4
ZSN Zaisan 43.69 297 *i* P **P 00 55 37.9 +0.2**
baz=298
ZSN Zaisan 43.69 297 *i* P **P 00 55 37.8 +0.2**
M29M Somme Creek 43.72 40 P P 00 55 38.2 +0.4
M29M Somme Creek 43.72 40 P P 00 55 38.6 +0.8
baz=281
L29M L29M 43.75 39 P P 00 55 39.1 +1.2
baz=281,SNR=7.2
EPYK Eagle Plains 43.80 34 P P 00 55 38.8 +0.5
EPYK IAmb IAmb 00 55 40.3
comp=Z,23nm,1.1s
EPYK Eagle Plains 43.80 34 P P 00 55 39.3 +1.0
baz=278,SNR=5.9
K29M Barlow Dome 43.88 38 P P 00 55 39.4 +0.4
K29M Barlow Dome 43.88 38 P P 00 55 40.0 +0.9
baz=280,SNR=5.8
G30M tAoh Zraii Nji 43.91 33 P P 00 55 39.3 +0.2
G30M IAmb IAmb 00 55 41.6
comp=Z,14nm,1.1s
G30M tAoh Zraii Nji 43.91 33 P P 00 55 39.7 +0.6
baz=278
F30M Barrier River 43.99 32 P P 00 55 40.8 +1.1
baz=278,SNR=10.0
O29M Mount Kennedy 44.12 43 P P 00 55 41.4 +0.4
baz=283
I30M Mount Dempster 44.12 36 P P 00 55 41.0 0.0
I30M IAmb IAmb 00 55 42.7
comp=Z,19nm,0.9s
I30M Mount Dempster 44.12 36 P P 00 55 41.8 +0.8
baz=280,SNR=14
J30M Hart River 44.26 37 P P 00 55 42.6 +0.5
J30M Hart River 44.26 37 P P 00 55 42.8 +0.7
baz=281
M30M Minto, Yukon 44.45 39 P P 00 55 44.5 +0.9
baz=282
HYT Haines Junctio 44.52 42 P P 00 55 44.9 +0.7
HYT IAmb IAmb 00 55 46.4
comp=Z,16nm,1.1s
HYT Haines Junctio 44.52 42 P P 00 55 45.1 +0.9
baz=284,SNR=7.1
G31M Satah River 44.68 33 P P 00 55 46.0 +0.9
baz=280
P29M Windy Craggy 44.69 44 P P 00 55 46.1 +0.7
P29M IAmb IAmb 00 55 48.1
comp=Z,15nm,0.7s
P29M Windy Craggy 44.69 44 P P 00 55 46.8 +1.4
baz=284
INK Inuvik 44.73 31 P P 00 55 45.4 -0.1
INK IAmb IAmb 00 55 47.2
comp=Z,19nm,1.3s
INK Inuvik 44.73 31 P P 00 55 45.4 -0.1
INK pmax pmax
comp=Z,19nm,1.3s
INK Inuvik 44.73 31 P P 00 55 46.0 +0.5
baz=279
F31M Tsiigehtchic 44.79 32 P P 00 55 46.1 0.0
F31M IAmb IAmb 00 55 48.3
comp=Z,23nm,1.2s
F31M Tsiigehtchic 44.79 32 P P 00 55 46.1 0.0
baz=280
H31M Peel River 44.85 35 P P 00 55 46.3 -0.4
H31M Peel River 44.85 35 P P 00 55 47.2 +0.6
baz=281
P30M Million Dollar 44.95 43 P P 00 55 48.3 +0.8
baz=285
N31M Braeburn, Yuko 45.17 41 P P 00 55 50.6 +1.4
baz=284
O30N Mendenhall 45.20 42 P P 00 55 50.2 +0.7
baz=285
PLBC Pleasant Camp 45.41 44 P P 00 55 51.7 +0.6
baz=286
SEM Semipalatinsk 45.47 303 *e*P **P 00 55 53.2 +1.2**
baz=303
SEM Semipalatinsk 45.47 303 *e*P **P 00 55 53.1 +1.2**
MK31 Makanchi Array 45.56 298 P P 00 55 52.4 -0.2
MK31 IAmb IAmb 00 55 53.7
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 45.56 298 *c i*P **P 00 55 52.5 -0.1**
MKAR Makanchi Array 45.56 298 P P 00 55 52.4 -0.2
MKAR Makanchi Array 45.56 298 *i* P **P 00 55 53.0 +0.4**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 45.56 298 *e*P **P 00 55 53.0 +0.4**
MKAR Makanchi Array 45.56 298 P P 00 55 52.1 -0.5
comp=Z,6.4nm,0.6s,baz=73,slow=8.0,SNR=61
MKAR PcP **PcP 00 57 31.4 +1.1**
comp=Z,1.7nm,0.5s,baz=81,slow=4.3,SNR=2.5
MKAR ScP **ScP 01 01 16.7 -1.5**
comp=Z,0.6nm,0.9s,baz=63,slow=6.6,SNR=2.5
MKAR LR LR 01 16 17.4
comp=Z,253nm,18.3s,baz=36,slow=38
comp=Z,6.4nm,0.6s
M31M Drury Creek, Y 45.63 40 P P 00 55 52.8 -0.1
M31M IAmb IAmb 00 55 55.3
comp=Z,13nm,1.4s
M31M Drury Creek, Y 45.63 40 P P 00 55 53.4 +0.6
baz=285
MAKZ Makanchi 45.76 298 P P 00 55 53.5 -0.6
MAKZ Makanchi 45.76 298 P P 00 55 53.5 -0.6
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
MAKZ Makanchi 45.76 298 P P 00 55 54.0 0.0
MAKZ pP **pP 00 56 08.6 0.0**
FARO Faro, Yukon 46.10 39 P P 00 55 57.0 +0.5
baz=285
KURK Kurchatov 46.32 304 P P 00 55 58.0 -0.4
KURK Kurchatov 46.32 304 ⇑ *i*P **P 00 55 58.3 -0.1**
KURK pmax pmax
comp=Z,3.0nm,0.6s
KURK Kurchatov 46.32 304 *e*P **P 00 55 58.3 -0.1**
KURBB Kurchatov Arra 46.41 304 P P 00 55 57.8 -1.3
comp=Z,1.8nm,0.3s,baz=70,slow=8.2,SNR=16
KURBB PcP **PcP 00 57 33.6 +0.5**
comp=Z,0.9nm,0.3s,baz=74,slow=3.8,SNR=7.4
comp=Z,1.8nm,0.3s
SIT Sitka 46.65 47 P P 00 56 02.4 +1.6
baz=289
R32K Eaglecrest 46.67 45 P P 00 56 02.0 +0.9
baz=288
P33M Teslin, Yukon 46.91 42 P P 00 56 03.9 +0.9
baz=288
MMPY Sheldon Lake, 46.92 38 P P 00 56 04.1 +1.1
baz=287
C36M Paulatuk 47.84 29 P P 00 56 10.0 0.0
baz=286
R33M Jennings River 48.06 43 P P 00 56 13.4 +1.4
baz=290
S34M Telegraph Cree 48.49 44 P P 00 56 16.5 +1.4
baz=291
TGTN Hyland Airport 48.60 39 P P 00 56 17.2 +1.1
baz=290
DLBC Dease Lake 48.85 44 P P 00 56 18.9 +0.9
baz=291
CHTO Chiang Mai 49.11 255 P P 00 56 21.1 +0.7
CHTO Chiang Mai 49.11 255 P P 00 56 21.1 +0.7
V35K Ketchikan 49.20 48 P P 00 56 21.5 +1.0
baz=293
T35M Bob Quinn 49.27 45 P P 00 56 22.2 +1.0
baz=292
CMAR Chiang Mai Arr 49.35 255 *i* P **P 00 56 24.0 +1.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 49.35 255 P P 00 56 23.9 +1.7
comp=Z,1.0nm,0.3s,baz=44,slow=7.3,SNR=8.0
CMAR LR LR 01 19 10.5
comp=Z,116nm,18.7s,baz=55,slow=38
comp=Z,1.0nm,0.3s
SATY Saty 49.66 295 *e*P **P 00 56 25.7 +1.2**
baz=295
SATY Saty 49.66 295 *e*P **P 00 56 25.7 +1.2**
WUS Wushi 50.02 292 P **P 00 56 27.8 +0.6**
WUS pP **pP 00 56 42.0 +0.1**
BRZS Berezniki 50.11 305 *e*P **P 00 56 27.5 -0.1**
baz=305
BRZS Berezniki 50.11 305 *e*P **P 00 56 27.5 -0.1**
BVA0 Borovoye Array 50.13 309 *i* P **P 00 56 26.6 -1.1**
BVAR Borovoye Array 50.13 309 P **P 00 56 27.2 -0.5**
comp=Z,1.5nm,0.6s,baz=44,slow=8.9,SNR=8.9
BVAR PcP **PcP 00 57 46.8 +0.3**
comp=Z,1.4nm,0.4s,baz=75,slow=3.8,SNR=4.4
BVAR LR LR 01 19 27.8
comp=Z,74nm,18.7s,baz=46,slow=38
comp=Z,1.5nm,0.6s
BRVK Borovoye 50.17 309 P **P 00 56 27.1 -1.0**
BRVK IAmb IAmb 00 56 30.1
comp=Z,12nm,1.6s
BRVK Borovoye 50.17 309 *c i*P **P 00 56 28.5 +0.4**
BRVK pmax pmax
comp=Z,16nm,3.1s
BRVK Borovoye 50.17 309 *e*P **P 00 56 28.5 +0.4**
BRVK Borovoye 50.17 309 P **P 00 56 28.7 +0.6**
BRVK pP **pP 00 56 43.5 +0.8**
BRVK sP **sP 00 56 49.1 0.0**
CHKK Chushkaly 50.20 296 *e*P **P 00 56 28.1 -0.4**
baz=296
CHKK Chushkaly 50.20 296 *e*P **P 00 56 28.0 -0.4**
MDOK Medeo 50.49 295 *e*P **P 00 56 31.2 +0.3**
baz=295
MDOK Medeo 50.49 295 *e*P **P 00 56 31.1 +0.3**
KUU Kurty 50.60 296 *e*P **P 00 56 31.6 +0.1**
comp=Z,4.8nm,0.5s,baz=297
KUU Kurty 50.60 296 *e*P **P 00 56 31.5 +0.1**
KUU pmax pmax
comp=Z,5.0nm,0.5s
TNSS Tian-Shan 50.62 295 *e*P **P 00 56 32.8 +0.8**
baz=295
TNSS Tian-Shan 50.62 295 *e*P **P 00 56 32.8 +0.8**
TKM2 Tokmak 2 51.54 296 *i* P **P 00 56 38.9 +0.1**
TKM2 pmax pmax
comp=Z,2.0nm,0.5s
SGDS Sogindy 51.90 297 *e*P **P 00 56 42.0 +0.7**
baz=297
SGDS Sogindy 51.90 297 *e*P **P 00 56 41.9 +0.7**
AAK Ala-Archa 52.39 296 *c i*P **P 00 56 45.5 +0.5**
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 52.39 296 *e*P **P 00 56 45.5 +0.5**
AAK Ala-Archa 52.39 296 LR LR 01 20 56.5
comp=Z,63nm,18.8s,baz=62,slow=38
AAK Ala-Archa 52.39 296 P **P 00 56 45.9 +1.0**
JIRN Jiri 52.50 274 *e*P **P 00 56 47.0 +0.8**
comp=Z,53nm,0.6s
GUN Gumba 52.57 274 *e*P **P 00 56 47.9 +1.2**
comp=Z,38nm,0.4s
RAMN Ramite 52.63 273 *e*P **P 00 56 48.0 +0.9**
comp=Z,36nm,0.3s
KSH Kashi 53.00 292 P **P 00 56 54.3 +4.8**
KSH pmax pmax
comp=Z,9.0nm,0.6s
PKI Pulchoki 53.10 274 *e*P **P 00 56 51.1 +0.4**
comp=Z,23nm,0.6s
PKIN Phulchoki 53.11 274 *e*P **P 00 56 51.0 +0.4**
comp=Z,11nm,0.5s
AML Almayashu 53.15 296 *i* P **P 00 56 51.2 +0.3**
AML pmax pmax
comp=Z,1.0nm,0.8s
DMN Daman 53.30 274 *e*P **P 00 56 52.9 +0.9**
comp=Z,26nm,0.5s
GKN Gorkha 53.40 275 *e*P **P 00 56 53.4 +0.8**
comp=Z,23nm,0.3s
RES Resolute Bay 53.55 17 P **P 00 56 52.7 -0.2**
RES IAmb IAmb 00 56 53.0
comp=Z,18nm,1.3s
RES Resolute Bay 53.55 17 P **P 00 56 52.7 -0.2**
RES pmax pmax
comp=Z,18nm,1.3s
RES Resolute Bay 53.55 17 LR LR 01 22 52.5
comp=Z,122nm,19.0s,baz=312,slow=40
DANN Dangsing 53.81 276 *e*P **P 00 56 56.9 +1.1**
comp=Z,25nm,0.3s
YKA Yellowknife Ar 54.07 35 P **P 00 56 56.8 -0.1**
comp=Z,1.8nm,0.5s,baz=302,slow=7.3,SNR=10
comp=Z,1.8nm,0.5s
PYUN Piuthan 54.51 276 *e*P **P 00 57 01.6 +0.8**
comp=Z,19nm,0.3s
KK31 Karatay Array 54.68 298 P **P 00 57 01.5 -0.1**
KK31 Karatay Array 54.68 298 P **P 00 57 01.5 -0.1**
KK31 pmax pmax
comp=Z,7.0nm,1.2s
KKAR Karatay Array 54.68 298 P **P 00 57 01.6 0.0**
KKAR Karatay Array 54.68 298 P **P 00 57 01.4 -0.2**
KKAR IAmb IAmb 00 57 02.2
comp=Z,6.5nm,1.2s
KKAR Karatay Array 54.68 298 P **P 00 57 01.4 -0.2**
KKAR pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 54.73 317 P **P 00 57 00.3 -1.3**
ARU IAmb IAmb 00 57 02.5
comp=Z,5.6nm,0.6s
ARU Arti 54.73 317 *c i*P **P 00 57 00.6 -1.1**
ARU 00 58 00.6
ARU S **S 01 04 38.1 +0.4**
ARU SS **SS 01 08 18.1 -2.5**
ARU pmax pmax
comp=Z,5.0nm,0.6s
ARU Arti 54.73 317 P **P 00 57 01.8 +0.1**
HNR Honiara 54.75 167 LR LR 01 23 31.2
comp=Z,382nm,18.1s,baz=318,slow=39
IUG Iuzhnay 55.48 297 *e*P **P 00 57 07.7 +0.1**
baz=298
IUG Iuzhnay 55.48 297 *e*P **P 00 57 07.6 +0.1**
KAPI Kappang 56.21 216 LR LR 01 24 06.7
comp=Z,13nm,18.3s,baz=54,slow=39
AB31 Akbulak array 57.70 309 *e*P **P 00 57 22.6 -0.4**
ABKAR Akbulak array 57.70 309 P **P 00 57 22.2 -0.8**
ABKAR IAmb IAmb 00 57 23.7
comp=Z,7.1nm,0.5s
ABKAR Akbulak array 57.70 309 P **P 00 57 22.0 -1.0**
KIRV Kirov 57.81 322 LR LR 01 26 26.4
comp=Z,52nm,18.2s,baz=49,slow=40
SIMJ Simiganj 58.03 294 P **P 00 57 25.6 -0.1**
SIMJ pP **pP 00 57 39.5 -1.1**
NIL Nilore 58.05 287 P **P 00 57 26.2 +0.5**
NIL Nilore 58.05 287 P **P 00 57 26.2 +0.5**
NIL pmax pmax
comp=Z,38nm,0.8s
NIL Nilore 58.05 287 P **P 00 57 26.8 +1.1**
AKTO Aktyubinsk 58.11 311 P **P 00 57 24.3 -1.6**
AKTO Aktyubinsk 58.11 311 LR LR 01 22 54.2
comp=Z,82nm,18.9s,baz=348,slow=36
ARCES ARCESS Array B 58.88 340 P **P 00 57 28.8 -2.1**
comp=Z,1.3nm,0.6s,baz=39,slow=6.6,SNR=7.3
ARCES PcP **PcP 00 58 20.8 +1.1**
comp=Z,3.0nm,0.8s,baz=58,slow=4.6,SNR=3.8
ARCES LR LR 01 26 47.0
comp=Z,25nm,18.8s,baz=30,slow=40
comp=Z,1.3nm,0.6s
KBL Kabul 60.37 291 P **P 00 57 40.9 -1.1**
KBL Kabul 60.37 291 P **P 00 57 40.9 -1.1**
KBL pmax pmax
comp=Z,24nm,0.6s
NEW Newport 60.46 50 P **P 00 57 42.4 +0.2**
baz=305
L04D Klamath Falls 60.96 58 P **P 00 57 47.1 +1.3**
YBH Yreka Blue Hor 61.00 59 LR LR 01 22 56.4
comp=Z,192nm,18.9s,baz=2.5,slow=35
BELG Belogornoye 62.28 317 *d i*P **P 00 57 53.9 -0.4**
BELG pmax pmax
comp=Z,3.0nm,0.7s
BMO Blue Mountains 62.36 53 P **P 00 57 55.9 +0.8**
BMO IAmb IAmb 00 57 60.0
comp=Z,12nm,1.8s
BMO Blue Mountains 62.36 53 P **P 00 57 55.9 +0.8**
BMO pmax pmax
comp=Z,12nm,1.8s
SUMG Summit 62.86 3 P **P 00 57 58.2 -0.1**
SUMG Summit 62.86 3 P **P 00 57 58.2 -0.1**
SUMG pmax pmax
comp=Z,30nm,1.5s
PLID Pearl Lake 62.96 52 P **P 00 57 60.0 +0.7**

PLID IAmb IAmb 00 58 00.9
comp=Z,11nm,1.1s
MSO Missoula 63.05 50 P P 00 57 59.0 -0.6
MSO IAmb IAmb 00 58 01.4
comp=Z,10nm,1.1s
MSO Missoula 63.05 50 P P 00 58 00.3 +0.7
baz=308
CHMT Chamberlain Mo 63.37 50 P P 00 58 02.0 +0.1
FFC Flin Flon 63.94 38 P P 00 58 06.1 +0.9
EGMT Eagleton 64.54 47 P P 00 58 10.4 +1.0
baz=309
CTA Charters Tower 64.57 183 LR LR 01 27 14.7
comp=Z,20nm,19.3s,baz=64,slow=37
FINES FINESS Array B 64.72 334 P P 00 58 08.5 -1.7
comp=Z,3.5nm,0.5s,baz=34,slow=7.0,SNR=36
comp=Z,3.5nm,0.5s
HLID Hailey 64.79 53 P P 00 58 11.9 +0.7
HLID Hailey 64.79 53 P P 00 58 12.2 +0.9
baz=309
MCMT McKenzie Canyo 64.88 51 P P 00 58 12.1 +0.2
HRA Herat 64.94 294 P P 00 58 12.1 -0.3
HRA IAmb IAmb 00 58 14.0
comp=Z,9.9nm,0.8s
BOZ Bozeman (W) 65.07 50 P P 00 58 14.0 +1.0
BOZ Bozeman (W) 65.07 50 P P 00 58 14.0 +1.0
BOZ pmax pmax
comp=Z,51nm,2.0s
BOZ Bozeman (W) 65.07 50 P P 00 58 13.8 +0.8
baz=309
GEYT Alibeck 65.37 300 P P 00 58 14.9 0.0
GEYT IAmb IAmb 00 58 16.3
comp=Z,6.7nm,0.8s
GEYT Alibeck 65.37 300 P P 00 58 14.9 0.0
GEYT pmax pmax
comp=Z,7.0nm,0.9s
GEYT Alibeck 65.37 300 P P 00 58 13.6 -1.4
comp=Z,5.8nm,0.8s,baz=64,slow=6.8,SNR=10
GEYT LR LR 01 29 26.7
comp=Z,50nm,19.4s,baz=336,slow=38
comp=Z,5.8nm,0.8s
GYA0B ALIBECK ARRAY 65.37 300 P P 00 58 14.2 -0.7
GYA0B IAmb IAmb 00 58 19.3
comp=Z,8.2nm,0.9s
KVN Kaiserville 65.42 59 P P 00 58 15.5 +0.1
KVN IAmb IAmb 00 58 17.6
comp=Z,7.6nm,1.0s
KVN Kaiserville 65.42 59 P P 00 58 15.5 +0.1
KVN pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 65.47 324⇑ *e*P **P 00 58 15.7 +0.6**
OBN *e* 00 58 45.9
OBN *e* 01 00 39.9
OBN *e*S **S 01 06 56.5 +1.2**
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN Obninsk 65.47 324 *e*P **P 00 58 15.7 +0.6**
PMPB Monarch Peak 65.50 63 P **P 00 58 16.1 +0.3**
PMPB IAmb IAmb 00 58 31.3
comp=Z,14nm,1.1s
WB0 Warramunga Arr 65.64 196 P **P 00 58 17.0 +0.4**
WB0 IAmb IAmb 01 00 18.7
comp=Z,33nm,2.0s
QLMT Earthquake Lak 65.66 50 P **P 00 58 17.1 +0.1**
LHV Little Huntoon 65.67 60 P **P 00 58 17.2 +0.4**
LHV IAmb IAmb 00 58 19.6
comp=Z,11nm,1.1s
NVAR Mina Array Bea 65.68 59 P **P 00 58 17.2 +0.1**
NVAR Mina Array Bea 65.68 59 P **P 00 58 17.9 +0.8**
comp=Z,2.3nm,0.8s,baz=286,slow=6.7,SNR=15
comp=Z,2.3nm,0.8s
MDPB Devils Postpil 65.70 61 P **P 00 58 17.8 +0.5**
MDPB IAmb IAmb 00 58 47.9
comp=Z,8.4nm,0.8s
NV11 Mina Array Sit 65.77 59 P **P 00 58 18.1 +0.5**
WRAB Tennant Creek 65.81 196⇑ *e*P **P 00 58 18.9 +1.2**
WRAB pmax pmax
comp=Z,6.0nm,1.0s
WRAB Tennant Creek 65.81 196 P **P 00 58 18.7 +1.0**
WRAB pP **pwP 00 58 33.9 -2.1**
WRAB sP **sP 00 58 39.6 +1.7**
WRA Warramunga Arr 65.82 196 P **P 00 58 18.1 +0.3**
WRA Warramunga Arr 65.82 196 P **P 00 58 18.6 +0.8**
comp=Z,2.5nm,0.8s,baz=15,slow=6.7,SNR=14
comp=Z,2.5nm,0.8s
VRH Novokhopyorsk 65.85 319 *e*P **P 00 58 16.6 -1.1**
VRH pmax pmax
comp=Z,8.0nm,0.7s
YHH Holmes Hill 66.01 50 P **P 00 58 19.4 +0.2**
LPSR Galich'ya Gora 66.18 321 *e*P **P 00 58 18.0 -1.8**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
YFT Old Faithful 66.23 50 P **P 00 58 22.0 +1.4**
LKWY Lake 66.40 50 P **P 00 58 21.4 -0.3**
LKWY IAmb IAmb 00 59 44.4
comp=Z,11nm,1.1s
LKWY Lake 66.40 50 P **P 00 58 21.4 -0.3**
LKWY pmax pmax
comp=Z,11nm,1.2s
H17A Grant Village 66.41 50 P **P 00 58 22.4 +0.6**
H17A IAmb IAmb 00 58 25.4
comp=Z,16nm,1.3s
H17A Grant Village 66.41 50 P **P 00 58 23.6 +1.8**
baz=310
YMP Mirror Lake Pl 66.42 50 P **P 00 58 22.5 +0.6**
YMP IAmb IAmb 00 58 24.4
comp=Z,11nm,1.4s
IMW Indian Meadow 66.53 51 P **P 00 58 22.9 +0.3**
IMW IAmb IAmb 00 58 25.2
comp=Z,9.3nm,1.1s
DSP Deep Springs 66.55 60 P **P 00 58 22.4 0.0**
DSP IAmb IAmb 00 58 25.6
comp=Z,23nm,1.7s
TPH Tonopah 66.57 59 P **P 00 58 22.4 -0.4**
TPH Tonopah 66.57 59 P **P 00 58 22.4 -0.4**
TPH pmax pmax
comp=Z,28nm,0.9s
FXWY Fox Creek 66.65 51 P **P 00 58 23.4 +0.1**
RLMT Red Lodge 66.65 49 P **P 00 58 24.1 +0.9**
RLMT IAmb IAmb 00 58 25.6
comp=Z,10nm,1.4s
RLMT Red Lodge 66.65 49 P **P 00 58 24.2 +0.9**
baz=311
VORR Voronezh 66.69 320 *e*P **P 00 58 22.3 -0.8**
VORR pmax pmax
comp=Z,10.0nm,0.4s
MOOW Moose Ponds 66.73 51 P **P 00 58 24.2 +0.4**
MOOW IAmb IAmb 00 58 27.0
comp=Z,10nm,1.4s
VSU Vasula 66.76 331⇓ *e*P **P 00 58 23.4 0.0**
VSU pmax pmax
comp=Z,21nm,1.3s
ID07 Smith Canyon R 66.77 53 P **P 00 58 24.6 +0.6**
ID07 IAmb IAmb 00 58 26.5
comp=Z,14nm,1.7s
TPAW Teton Pass 66.79 51 P **P 00 58 24.4 +0.2**
TPAW IAmb IAmb 00 58 26.9
comp=Z,11nm,0.9s
HVU Hansel Valley 66.85 54 P **P 00 58 25.8 +1.3**
HVU Hansel Valley 66.85 54 P **P 00 58 25.8 +1.3**
HVU pmax pmax
comp=Z,4.0nm,0.9s
LOHW Long Hollow 66.90 51 P **P 00 58 24.7 -0.2**
LOHW IAmb IAmb 00 58 27.3
comp=Z,20nm,1.6s
SNOW Snow King Moun 66.91 51 P **P 00 58 25.1 +0.1**
SNOW IAmb IAmb 00 58 27.7
comp=Z,9.3nm,1.0s
REDW Red Top Meadow 66.92 51 P **P 00 58 25.1 +0.1**
VSR Storozhevoye 67.03 320 *e*P **P 00 58 23.6 -1.6**
VSR pmax pmax
comp=Z,9.0nm,0.5s
GMN Gold Mountain 67.03 60 P **P 00 58 26.2 +0.3**
ID05 Sulphur Canyon 67.05 52 P **P 00 58 26.2 +0.4**
ID05 IAmb IAmb 00 59 12.9
comp=Z,7.4nm,0.6s
DGMT Dagmar 67.07 44 P **P 00 58 26.4 +0.8**
DGMT IAmb IAmb 00 59 03.5
comp=Z,23nm,1.2s
DGMT Dagmar 67.07 44 P **P 00 58 26.0 +0.4**
baz=312
CWC Cottonwood Cre 67.07 61 P **P 00 58 27.2 +1.2**
baz=310
ID06 Fossil Canyon 67.09 52 P **P 00 58 26.2 +0.1**
ID06 IAmb IAmb 01 00 05.8
comp=Z,8.5nm,0.7s
VORD Divnogorie 67.14 320 *e*P **P 00 58 24.3 -1.6**
VORD pmax pmax
comp=Z,8.0nm,0.7s
GRAC Grapevine Rang 67.16 60 P **P 00 58 27.3 +0.9**
GRAC Grapevine Rang 67.16 60 P **P 00 58 27.9 +1.5**
baz=310
AHID Auburn Hatcher 67.17 52 P **P 00 58 26.5 0.0**
LAO LASA Array 67.23 46 P **P 00 58 27.8 +1.0**
baz=312
R11B Troy Canyon, C 67.39 58 P **P 00 58 28.6 +0.6**
R11B Troy Canyon, C 67.39 58 P **P 00 58 28.7 +0.7**
baz=310
ID10 Lander Cutoff 67.45 52 P **P 00 58 28.1 -0.3**
ID09 Alton 67.45 52 P **P 00 58 29.0 +0.6**
SFJD Kangerlussuaq 67.55 8 LR LR 01 29 13.0
comp=Z,61nm,18.6s,baz=332,slow=37
HWUT Hardware Ranch 67.66 53 P **P 00 58 29.8 +0.1**
HWUT IAmb IAmb 00 58 31.6
comp=Z,10nm,1.4s
MPMC Manual Prospec 67.68 61 P **P 00 58 30.3 +0.4**
baz=310
SPR3 Spring Creek 3 67.72 57 P **P 00 58 31.1 +0.9**
FRB Frobisher Bay 67.77 17 LR LR 01 31 12.0
comp=Z,78nm,18.2s,baz=20,slow=39
FURC Furnace Creek, 67.81 60 P **P 00 58 31.5 +1.1**
baz=310
DUG Dugway, Tooele 67.85 55 P **P 00 58 31.4 +0.6**
DUG Dugway, Tooele 67.85 55 P **P 00 58 31.4 +0.6**
DUG pmax pmax
comp=Z,5.0nm,0.9s
DUG Dugway, Tooele 67.85 55 P **P 00 58 31.9 +1.1**
baz=310
TPNV Topopah Spring 67.88 60 P **P 00 58 31.1 0.0**
TPNV IAmb IAmb 00 58 33.0
comp=Z,9.5nm,1.1s
TPNV Topopah Spring 67.88 60 P **P 00 58 31.1 0.0**
TPNV pmax pmax
comp=Z,9.0nm,1.1s
TPNV Topopah Spring 67.88 60 P **P 00 58 32.2 +1.2**
baz=310
BW06 Boulder Array 68.03 51 P **P 00 58 31.8 -0.3**
BW06 Boulder Array 68.03 51 P **P 00 58 32.3 +0.3**
baz=311
PD31 Pinedale Array 68.03 51 P **P 00 58 31.6 -0.5**
PDAR Pinedale Array 68.03 51 P **P 00 58 32.2 +0.2**
PDAR Pinedale Array 68.03 51 P **P 00 58 32.5 +0.4**
comp=Z,2.9nm,0.8s,baz=252,slow=1.6,SNR=28
comp=Z,2.9nm,0.8s
GWY Greenwater Val 68.11 60 P **P 00 58 32.5 0.0**
QSM Queen of Sheba 68.13 61 P **P 00 58 32.8 +0.3**
PRN Pahroc Range 68.32 59 P **P 00 58 34.3 +0.5**
PRN IAmb IAmb 00 58 35.9
comp=Z,13nm,1.5s
NLU North Lily Min 68.44 55 P **P 00 58 34.3 -0.3**
BSUT Blindstream Ca 68.82 54 P **P 00 58 37.2 +0.1**
SHPR Sheep Range 68.83 59 P **P 00 58 36.5 -0.5**
TUQ Turquoise Moun 69.05 61 P **P 00 58 39.6 +1.2**
baz=311
HEC Hector,Ludlow 69.19 61 P **P 00 58 39.8 +0.6**
baz=311
NB2 NORSAR Subarra 69.25 340 P **P 00 58 37.6 -1.5**
comp=Z,1.2nm,0.4s,baz=26,slow=6.5
NOA NORSAR Array B 69.25 340 P **P 00 58 37.9 -1.2**
comp=Z,1.1nm,0.6s,baz=31,slow=6.7,SNR=18
NOA LR LR 01 34 59.4
comp=Z,14nm,18.1s,baz=335,slow=41
comp=Z,1.1nm,0.6s
MVU Marysvale 69.31 56 P **P 00 58 40.5 +0.4**
MVU IAmb IAmb 00 58 42.4
comp=Z,22nm,1.3s
MSU Marysvale 69.32 56 P **P 00 58 39.7 -0.4**
MSU Marysvale 69.32 56 P **P 00 58 39.7 -0.4**
GOF Gofitskoye 69.36 313 *ce*P **P 00 58 40.9 +1.0**
MNK Minsk 69.36 328 *i* P **P 00 58 38.4 -1.4**
comp=E,6.0nm,0.9s
MNK *i* P **P 00 58 38.4 -1.4**
comp=N,11nm,0.9s
MNK *i* P **P 00 58 38.4 -1.4**
comp=Z,10.0nm,0.8s,baz=220
MNK *i* pP **pP 00 58 54.8 -0.3**
MNK *i* PP **PP 01 01 12.3 -0.7**
MNK *i* PPP PPP 01 02 53.7
MNK *i* S **S 01 07 41.7 -0.4**
MNK *i* sS **sS 01 08 10.0 +2.1**
MNK *i* SS **SS 01 12 11.0 +2.1**
MNK *i* SSS SSS 01 15 28.7
MNK *i* LQ LQ 01 24 23.2
MNK *i* LR LR 01 29 40.5
MNK *i* LRM MLR 01 33 38.4
comp=N,42nm,15.5s
MNK *i* LRM MLR 01 33 54.5
comp=Z,51nm,16.8s
MNK *i* LRM MLR 01 34 17.0
comp=E,21nm,17.4s
MNK Minsk 69.36 328 *i* P **P 00 58 38.3 -1.4**
MNK *i* *PP **pP 00 58 54.7 -0.3**
MNK *i* 01 01 12.3
MNK *i* PPP PPP 01 02 53.7
MNK *i* S **S 01 07 41.7 -0.4**
MNK *i* *SS **sS 01 08 09.9 +2.1**
MNK *i* SS **SS 01 12 10.9 +2.1**
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK MLR MLR
comp=N,42nm,15.0s
MNK MLR MLR
comp=Z,51nm,17.0s
MNK MLR MLR
comp=E,21nm,17.0s
TMUT Trail Mountain 69.37 55 P **P 00 58 41.0 +0.5**
HFS Hagfors 69.39 338 P **P 00 58 38.0 -1.9**
HFS Hagfors 69.39 338 P **P 00 58 38.0 -1.9**
comp=E,2.6nm,0.4s,baz=64,slow=6.8,SNR=7.6
HFS LR LR 01 33 36.1
comp=E,28nm,19.5s,baz=54,slow=40
comp=E,2.6nm,0.4s
RDMU Red Mountain 69.47 53 P **P 00 58 41.1 0.0**
RDMU IAmb IAmb 00 58 43.0
comp=Z,16nm,0.8s
V12A Nelson 69.53 60 P **P 00 58 41.1 -0.2**
P17A Butcher Ranch, 69.53 54 P **P 00 58 41.7 +0.4**
ASAR Alice Springs 69.53 195 P **P 00 58 41.5 +0.4**
ASAR Alice Springs 69.53 195 P **P 00 58 43.0 +1.9**
comp=Z,1.8nm,0.8s,baz=14,slow=6.3,SNR=20
ASAR LR LR 01 29 11.8
comp=Z,17nm,19.3s,baz=11,slow=36
comp=Z,1.8nm,0.8s
MTPU Mount Pierson 69.63 56 P **P 00 58 42.7 +0.5**
GMRC Granite Mounta 69.64 61 P **P 00 58 42.3 +0.3**
baz=311
LCMT Little Creek M 69.67 58 P **P 00 58 43.2 +1.1**
SEKA Sheki 69.72 308 P **P 00 58 41.9 -0.4**
MDND Maddock 69.73 42 P **P 00 58 41.8 -0.4**
MDND IAmb IAmb 00 58 43.8
comp=Z,15nm,0.9s
MDND Maddock 69.73 42 P **P 00 58 43.3 +1.1**
baz=315
ZKTA Zakatala 69.75 309 P **P 00 58 42.7 +0.2**
K22A Casper 69.78 50 P **P 00 58 43.2 +0.4**
baz=313
PALK Pallekele 69.82 260 LR LR 01 32 14.1
comp=Z,41nm,18.5s,baz=182,slow=38
PFO Pinyon Flats O 69.90 62 P **P 00 58 44.5 +0.8**
baz=311
TPFO Pinon Flats 69.91 62 P **P 00 58 43.5 -0.2**
baz=311
KNB Kanab 69.92 58 P **P 00 58 43.6 -0.2**
KNB Kanab 69.92 58 P **P 00 58 43.6 -0.2**
KNB pmax pmax
comp=Z,8.0nm,1.1s
MNGR Mingechevir, A 70.07 308 P **P 00 58 45.0 +0.6**
RSSD Black Hills 70.10 47 P **P 00 58 44.4 -0.4**
RSSD IAmb IAmb 00 58 46.0
comp=Z,5.7nm,0.7s
RSSD Black Hills 70.10 47 P **P 00 58 44.4 -0.4**
RSSD pmax pmax
comp=Z,6.0nm,0.7s
RSSD Black Hills 70.10 47 P **P 00 58 44.9 0.0**
baz=314
RSSD Black Hills 70.10 47 P **P 00 58 44.8 0.0**
NCK Nalchik 70.14 312⇑ *e*P **P 00 58 45.9 +1.1**
NCK pmax pmax
comp=Z,10.0nm,0.8s
KVAR Kislovodsk Arr 70.29 313 LR LR 01 33 18.6
comp=Z,50nm,19.2s,baz=280,slow=39
KIV Kislovodsk 70.30 313 ⇓P **P 00 58 47.4 +1.6**
KIV Kislovodsk 70.30 313 P **P 00 58 46.2 +0.3**
KIV Kislovodsk 70.30 313 *e*P **P 00 58 46.9 +1.0**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,48nm,17.0s
KIV Kislovodsk 70.30 313 P **P 00 58 47.0 +1.1**
KIV pP **pP 00 59 02.5 +1.3**
KBZ Khabaz 70.34 312 *de*P **P 00 58 46.9 +1.0**
KBZ pmax pmax
comp=Z,12nm,0.8s
KBZ Khabaz 70.34 312 P **P 00 58 47.0 +1.0**
comp=Z,10nm,0.7s,baz=82,slow=3.9,SNR=36
KBZ LR LR 01 34 07.3
comp=Z,79nm,18.1s,baz=9.0,slow=40
comp=Z,10nm,0.7s
IRM Iron Mountain 70.37 61 P **P 00 58 47.3 +0.9**
baz=311
ZEI Tsey 70.46 311 *e*P **P 00 58 46.4 -0.6**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
BC3 Big Chuckawall 70.51 62 P **P 00 58 48.1 +0.8**
baz=311
O20A White River Ci 70.52 53 P **P 00 58 47.9 +0.5**
baz=313
W13A Hualapai Mount 70.53 60 P **P 00 58 47.2 -0.4**
W13A IAmb IAmb 00 58 49.4
comp=Z,13nm,1.6s
HMU Henry Mountain 70.55 56 P **P 00 58 47.3 -0.4**
HMU IAmb IAmb 00 58 49.5
comp=Z,7.4nm,0.7s
GANJ Ganja 70.58 308 P **P 00 58 48.1 +0.5**
U15A North Rim 70.63 58 P **P 00 58 48.2 -0.1**
PDMCI Parker Dam,Lak 70.90 61 P **P 00 58 50.7 +1.1**
baz=312
BLYC Blythe 71.03 61 P **P 00 58 50.6 +0.3**
PHWY Pilot Hill 71.28 50 P **P 00 58 52.1 0.0**
PHWY IAmb IAmb 00 58 53.8
comp=Z,19nm,2.0s
N23A Red Feather La 71.29 51 P **P 00 58 52.4 +0.2**
N23A IAmb IAmb 00 58 54.3
comp=Z,16nm,1.3s
N23A Red Feather La 71.29 51 P **P 00 58 52.7 +0.5**
baz=313
AKH Akhalkalaki 71.62 310 P **P 00 58 54.6 +0.5**
AKH IAmb IAmb 00 58 56.5
comp=Z,19nm,1.0s
AKH Akhalkalaki 71.62 310 P **P 00 58 54.6 +0.5**
AKH pmax pmax
comp=Z,19nm,1.0s
AKASG Malin Array Be 71.73 325 *i* P **P 00 58 54.0 -0.3**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 71.73 325 P **P 00 58 53.5 -0.7**
comp=Z,3.7nm,0.4s,baz=37,slow=6.0,SNR=24
comp=Z,3.7nm,0.4s
AKBB Malin Array Si 71.73 325 P **P 00 58 53.7 -0.6**
AKBB IAmb IAmb 00 58 54.7
comp=Z,11nm,0.6s
AKBB Malin Array Si 71.73 325 *c i* P **P 00 58 53.9 -0.4**
AKBB pmax pmax
comp=Z,10.0nm,0.6s
WUAZ Wupatki 71.79 58 P **P 00 58 54.5 -0.6**
WUAZ IAmb IAmb 00 59 58.0
comp=Z,18nm,1.9s
WUAZ Wupatki 71.79 58 P **P 00 58 55.7 +0.5**
baz=312
GNI Garni 71.81 309 P **P 00 58 54.6 -0.6**
GNI IAmb IAmb 00 59 05.9
comp=Z,14nm,1.1s
GNI Garni 71.81 309 *de*P **P 00 58 56.8 +1.7**
GNI pmax pmax
comp=Z,13nm,1.1s
GNI Garni 71.81 309 LR LR 01 32 39.3
comp=Z,33nm,19.2s,baz=34,slow=38
GNI Garni 71.81 309 P **P 00 58 56.9 +1.7**
SMCO Snowmass 71.89 53 P **P 00 58 54.5 -1.4**
NAX Nakhchivan 72.05 308 P **P 00 58 57.1 +0.6**
ISCO Idaho Springs 72.22 51 P **P 00 58 57.5 -0.3**
ISCO Idaho Springs 72.22 51 P **P 00 58 57.5 -0.3**
ISCO pmax pmax
comp=Z,5.0nm,1.1s
ISCO Idaho Springs 72.22 51 P **P 00 58 58.3 +0.5**
baz=314
MVCO Mesa Verde 72.35 55 P **P 00 58 58.1 -0.5**
MVCO Mesa Verde 72.35 55 P **P 00 58 59.8 +1.2**
baz=313
ANN Anapa 72.38 316 *e*P **P 00 58 58.0 -0.2**
ANN *e**PP **pP 00 59 11.3 -2.3**
ANN pmax pmax
comp=Z,17nm,0.8s
ANN Anapa 72.38 316 *e*P **P 00 58 58.0 -0.2**
KARS Kars 72.39 310 P **P 00 58 59.2 +0.6**
KARS Kars 72.39 310 P **P 00 58 59.2 +0.6**
KARS pmax pmax
comp=Z,30nm,0.7s
SUSD Miller 72.47 44 P **P 00 59 00.3 +1.4**
baz=316
X16A Lo Mia Camp, P 72.49 59 P **P 00 58 59.6 +0.3**
BCA Borcka 72.61 311 ⇑P **P 00 59 00.9 +1.1**
F33A 5 Mile Ranch, 72.75 42 P **P 00 59 00.4 -0.1**
S22A 4UR Ranch, Cre 72.95 54 P **P 00 59 02.0 -0.2**
S22A IAmb IAmb 00 59 05.2
comp=Z,17nm,1.6s
S22A 4UR Ranch, Cre 72.95 54 P **P 00 59 03.6 +1.4**
baz=314
214A Organ Pipe Nat 73.30 62 P **P 00 59 04.3 +0.3**
214A Organ Pipe Nat 73.30 62 P **P 00 59 04.7 +0.7**
baz=313
X18A Snowflake 73.32 58 P **P 00 59 03.4 -0.8**
OGNE Ogallala 73.38 49 P **P 00 59 02.4 -2.0**
OGNE Ogallala 73.38 49 P **P 00 59 05.0 +0.6**
baz=315
SDCO Great Sand Dun 73.71 53 P **P 00 59 06.6 0.0**
SDCO Great Sand Dun 73.71 53 P **P 00 59 07.3 +0.6**
baz=314
SORM Soroca 74.06 323 ⇓P **P 00 59 07.8 -0.3**
SORM Soroca 74.06 323 ⇓P **P 00 59 07.8 -0.3**
ECSD EROS Data Cent 74.14 44 P **P 00 59 07.5 -1.2**
ECSD EROS Data Cent 74.14 44 P **P 00 59 09.0 +0.3**
baz=318
TUC Tucson 74.32 60 P **P 00 59 10.0 0.0**
TUC Tucson 74.32 60 P **P 00 59 10.0 0.0**
TUC pmax pmax
comp=Z,3.0nm,1.1s
TUC Tucson 74.32 60 P **P 00 59 10.9 +0.8**
baz=313
GURO Guroymak-BITLI 74.42 309 P **P 00 59 11.2 +0.6**
GURO IAmb IAmb 00 59 13.1
comp=Z,8.8nm,0.7s
T25A Trinidad 74.75 53 P **P 00 59 11.8 -0.8**
T25A Trinidad 74.75 53 P **P 00 59 13.1 +0.5**
baz=315
SPMN Marine on St. 74.84 40 P **P 00 59 13.0 +0.3**
baz=319
SIRT Sirnak 74.94 308 P **P 00 59 13.3 -0.3**
UOSS Minazif 75.04 290 P **P 00 59 14.1 -0.1**
ANMO Albuquerque 75.11 56 P **P 00 59 14.2 -0.5**
ANMO Albuquerque 75.11 56⇑ *e*P **P 00 59 14.4 -0.3**
ANMO pmax pmax
comp=Z,17nm,3.9s
ANMO Albuquerque 75.11 56 P **P 00 59 15.3 +0.6**
baz=314
IAS Iasi 75.14 323 ⇑P **P 00 59 14.6 +0.3**
IAS Iasi 75.14 323 ⇑P **P 00 59 14.6 +0.3**
KWP Kalwaria Pacla 75.17 327 *e*P **P 00 59 15.2 +0.7**
KWP Kalwaria Pacla 75.17 327 P **P 00 59 14.5 0.0**
KWP Kalwaria Pacla 75.17 327 P **P 00 59 14.5 0.0**
KWP pmax pmax
comp=Z,17nm,0.7s
DUN6 Lazy B Ranch 75.19 59 P **P 00 59 14.2 -0.9**
DUN6 IAmb IAmb 00 59 17.4
comp=Z,20nm,1.2s
VASR Vaslui 75.46 323 ⇓P **P 00 59 16.9 +0.6**
I37A Lemond, Waseca 75.48 42 P **P 00 59 16.3 -0.1**
DIKM Dikmen 75.76 315 ⇓P **P 00 59 19.8 +1.7**
BUR08 Bucovina Ar. S 75.77 325 P **P 00 59 18.2 +0.1**
BUR08 IAmb IAmb 00 59 19.3
comp=Z,11nm,0.5s
OJC Ojcow 75.78 329 *e*P **P 00 59 18.5 +0.5**

OJC Ojcow 75.78 329 P **P** **00 59 16.8 -1.2**
OJC IAmb IAmb 00 59 19.2
comp=Z,12nm,0.5s
OJC Ojcow 75.78 329 P **P** **00 59 16.8 -1.2**
OJC pmax pmax
comp=Z,12nm,0.5s
BURAR Bucovina Array 75.78 325 ⇓P **P** **00 59 18.6 +0.4**
BURAR Bucovina Array 75.78 325 P **P** **00 59 18.4 +0.2**
BURAR Bucovina Array 75.78 325 ⇓P **P** **00 59 18.6 +0.4**
BIR Birlad 75.83 323 ⇑P **P** **00 59 19.7 +1.3**
BIR Birlad 75.83 323 ⇑P **P** **00 59 19.7 +1.3**
319A Douglas 75.89 60 P **P** **00 59 18.6 -0.5**
319A IAmb IAmb 00 59 21.2
comp=Z,9.7nm,0.9s
STHS Stebnicka Huta 75.90 328 *e*P **P** **00 59 19.2 +0.5**
KOLS Kolonicke sedl 75.90 327 *e*P **P** **00 59 19.4 +0.7**
KOLS pmax pmax
comp=Z,9.0nm,0.6s
KOLS Kolonicke sedl 75.90 327 *e*P **P** **00 59 19.4 +0.7**
VLDR Vladesti 75.96 322 ⇓P **P** **00 59 19.9 +0.8**
121A Cookes Peak, D 76.00 58 P **P** **00 59 19.5 -0.3**
121A Cookes Peak, D 76.00 58 P **P** **00 59 20.8 +1.0**
baz=314
MARD Mardin 76.00 309 P **P** **00 59 19.6 -0.1**
VARL Varlezi 76.02 322 ⇑P **P** **00 59 20.4 +1.0**
TESR Tescani 76.06 323 ⇓P **P** **00 59 19.8 +0.1**
GHRR 76.08 323 ⇑P **P** **00 59 18.9 -0.9**
SCHQ Schefferville 76.14 21 P **P** **00 59 19.4 -0.6**
comp=Z,2.7nm,0.7s,baz=236,slow=12,SNR=1.4
comp=Z,2.7nm,0.7s
TLCR 76.14 321 ⇓P **P** **00 59 21.0 +0.8**
TLCR 76.14 321 ⇓P **P** **00 59 21.0 +0.8**
CRVS Cervenica-Dubn 76.24 328 *e*P **P** **00 59 21.5 +0.8**
CRVS Cervenica-Dubn 76.24 328 *e*P **P** **00 59 21.5 +0.8**
NIE Niedzica 76.25 329 *e*P **P** **00 59 22.8 +2.0**
PANC Panciu 76.34 323 ⇑P **P** **00 59 23.0 +1.8**
BMR Baia Mare 76.44 326 ⇑P **P** **00 59 23.0 +1.2**
BMR Baia Mare 76.44 326 ⇑P **P** **00 59 23.0 +1.2**
TRPA Tarpa 76.45 327 ⇓P **P** **00 59 22.8 +1.0**
CFR Carcaliu 76.45 322 ⇑P **P** **00 59 22.4 +0.5**
CFR Carcaliu 76.45 322 ⇑P **P** **00 59 22.4 +0.5**
ODBI Odobesti 76.47 323 ⇓P **P** **00 59 24.2 +2.2**
VRI Vrincioaia 76.53 323 ⇓P **P** **00 59 22.9 +0.5**
VRI Vrincioaia 76.53 323 ⇓P **P** **00 59 22.9 +0.5**
ARCR ARCALIA 76.56 325 ⇑P **P** **00 59 24.2 +1.7**
PLOR Plostina 76.58 323 ⇑P **P** **00 59 23.7 +1.0**
TPGR Topolog 76.58 321 ⇓P **P** **00 59 23.2 +0.6**
OKC Ostrava-Krasne 76.69 330 *e*P **P** **00 59 23.8 +0.6**
OKC Ostrava-Krasne 76.69 330 *e*P **P** **00 59 23.3 +0.1**
OZUR 76.75 323 ⇑P **P** **00 59 25.1 +1.5**
COVR Voineasa-Covas 76.77 323 ⇑P **P** **00 59 25.0 +1.2**
LANS Liptovska Anna 76.78 329 *e*P **P** **00 59 25.2 +1.4**
LANS pmax pmax
comp=Z,7.0nm,0.7s
LANS Liptovska Anna 76.78 329 *e*P **P** **00 59 25.2 +1.4**
CHVC Chvalec 76.78 332 *e*P **P** **00 59 24.0 +0.3**
CHVC Chvalec 76.78 332 *e*P **P** **00 59 24.0 +0.3**
GRER 76.81 322 ⇑P **P** **00 59 27.0 +3.1**
CEI Carei 76.84 326 ⇑P **P** **00 59 26.0 +2.0**
CEI Carei 76.84 326 ⇑P **P** **00 59 26.0 +2.0**
TIRR Tirgusor 76.89 321 P **P** **00 59 24.3 -0.1**
TIRR Tirgusor 76.89 321 P **P** **00 59 24.3 -0.1**
TIRR pmax pmax
comp=Z,62nm,1.4s
DPC Dobruska-Polom 76.89 331 *e*P **P** **00 59 23.8 -0.6**
HARR Harsova 76.92 321 ⇓P **P** **00 59 25.0 +0.4**
HARR Harsova 76.92 321 ⇓P **P** **00 59 25.0 +0.4**
MORC Moravsky Berou 76.95 330 ⇑P **P** **00 59 25.2 +0.4**
MORC Moravsky Berou 76.95 330 P **P** **00 59 24.9 +0.1**
MORC IAmb IAmb 00 59 26.2
comp=Z,8.6nm,0.9s
MORC Moravsky Berou 76.95 330 *e*P **P** **00 59 25.1 +0.4**
MORC Moravsky Berou 76.95 330 ⇑P **P** **00 59 25.2 +0.4**
KRLC Kraliky 76.97 331 *e*P **P** **00 59 25.4 +0.6**
KRLC Kraliky 76.97 331 *e*P **P** **00 59 25.4 +0.6**
ILGA Ilgaz 76.98 316 P **P** **00 59 26.0 +0.7**
TLBR Topalu 76.99 321 ⇓P **P** **00 59 26.0 +1.1**
DOPR Dopca 77.02 324 ⇑P **P** **00 59 26.5 +1.4**
NEHR Nehoiu 77.06 323 ⇓P **P** **00 59 29.3 +3.9**
MESR Meseseni 77.08 326 ⇑P **P** **00 59 27.0 +1.6**
MLR Muntele Rosu 77.16 323 ⇑P **P** **00 59 26.8 +0.7**
MLR Muntele Rosu 77.16 323 P **P** **00 59 26.5 +0.4**
MLR IAmb IAmb 00 59 28.1
comp=Z,5.8nm,0.7s
MLR Muntele Rosu 77.16 323 ⇑P **P** **00 59 26.8 +0.7**
CLL Collm 77.17 334 P **P** **00 59 24.8 -1.0**
CLL IAmb IAmb 00 59 26.4
comp=Z,9.0nm,0.7s
CLL Collm 77.17 334 ⇓*i*P **P** **00 59 25.5 -0.3**
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 77.17 334 ⇓*i*P **P** **00 59 25.5 -0.3**
comp=Z,9.0nm,0.7s
CLL *i* x x 00 59 29.4
ISR Istrita 77.20 322 ⇑P **P** **00 59 27.5 +1.3**
ISR ⇑P **P** **00 59 27.7 +1.5**
ISR Istrita 77.20 322 ⇑P **P** **00 59 27.5 +1.3**
PVCC Panska Ves 77.33 332 *e*P **P** **00 59 27.6 +0.8**
PVCC Panska Ves 77.33 332 *e*P **P** **00 59 27.6 +0.8**
MARR Marisel-Cluj 77.39 325 ⇑P **P** **00 59 28.1 +0.8**
ICOR Ion Corvin 77.43 321 ⇑P **P** **00 59 28.2 +0.7**
BNN Bunyan 77.54 313 P **P** **00 59 28.7 +0.4**
VYHS Vyhne 77.56 329 *e*P **P** **00 59 29.0 +0.9**
VYHS Vyhne 77.56 329 *e*P **P** **00 59 29.0 +0.9**
VOIR 77.59 323 ⇑P **P** **00 59 29.7 +1.3**
VOIR 77.59 323 ⇑P **P** **00 59 29.7 +1.3**
BORR Bors 77.59 326 ⇓P P 00 59 47.5 +19
EKA Eskdalemuir Ar 77.63 344 P **P** **00 59 27.9 -0.4**
comp=Z,0.6nm,0.3s,baz=17,slow=4.8,SNR=14
comp=Z,0.6nm,0.3s
HSKC Hora Svate Kat 77.64 333 *e*P **P** **00 59 28.5 0.0**
PSZ Piszkesteto 77.64 328 ⇑P **P** **00 59 29.7 +1.1**
PSZ Piszkesteto 77.64 328 P **P** **00 59 28.7 +0.1**
PSZ IAmb IAmb 00 59 30.3
comp=Z,6.4nm,0.7s
PSZ Piszkesteto 77.64 328 ⇑P **P** **00 59 29.7 +1.1**
JAVC Velka Javorina 77.68 330 *e*P **P** **00 59 30.2 +1.4**
VRAC Vranov 77.68 331 ⇑P **P** **00 59 30.0 +1.2**
VRAC Vranov 77.68 331 *e*P **P** **00 59 29.2 +0.4**
VRAC Vranov 77.68 331 ⇑P **P** **00 59 30.0 +1.2**
GOPC GO Pecny, Ondr 77.79 332 *e*P **P** **00 59 29.4 +0.1**
GOPC GO Pecny, Ondr 77.79 332 *e*P **P** **00 59 29.4 +0.1**
PRU Pruhonice 77.80 332 *e*P P 00 59 35.3 +5.9
PRU Pruhonice 77.80 332 *e*P **P** **00 59 29.1 -0.3**
ARR Arges 77.82 324 ⇑P **P** **00 59 31.4 +1.7**
AMTX Amarillo 77.91 53 P **P** **00 59 30.8 +0.4**
baz=317
MSTX Muleshoe 77.94 54 P **P** **00 59 31.2 +0.6**
MSTX IAmb IAmb 00 59 32.8
comp=Z,22nm,1.8s
KRUC Moravsky 77.96 331 *e*P **P** **00 59 30.5 +0.2**
BR131 Keskin Array S 78.02 315 P **P** **00 59 31.1 +0.1**
BR131 IAmb IAmb 00 59 32.6
comp=Z,8.4nm,0.8s
BR131 Keskin Array S 78.02 315 *d*/*i*P **P** **00 59 31.6 +0.6**
BRTR Keskin Array B 78.02 315 P **P** **00 59 31.1 +0.1**
BRTR Keskin Array B 78.02 315 P **P** **00 59 31.8 +0.8**
comp=Z,3.9nm,0.7s,baz=90,slow=4.0,SNR=33
comp=Z,3.9nm,0.7s
MNTX Cornudas Mount 78.03 57 P **P** **00 59 31.1 +0.1**
MNTX Cornudas Mount 78.03 57 P **P** **00 59 31.6 +0.5**
baz=316
TREC Trest 78.08 331 *e*P **P** **00 59 31.2 +0.2**
TREC Trest 78.08 331 *e*P **P** **00 59 31.2 +0.2**
LOT Lotru 78.12 324 ⇑P **P** **00 59 33.1 +1.7**
MODS Modra-Piesok 78.23 330 *e*P **P** **00 59 33.4 +1.6**
MODS pmax pmax
comp=Z,14nm,0.8s
MODS Modra-Piesok 78.23 330 *e*P **P** **00 59 33.4 +1.6**
GDL2 Guadalupe Moun 78.28 56 P **P** **00 59 32.7 +0.1**
SIRR Siria 78.31 326 ⇑P **P** **00 59 33.1 +0.8**
SRO Srobarova 78.32 329 *e*P **P** **00 59 33.5 +1.2**
SRO pmax pmax
comp=Z,9.0nm,0.7s
SRO Srobarova 78.32 329 *e*P **P** **00 59 33.5 +1.2**
ANTO Ankara 78.33 315 ⇑P **P** **00 59 34.3 +1.6**
ANTO Ankara 78.33 315 P **P** **00 59 33.1 +0.5**
ANTO Ankara 78.33 315 P **P** **00 59 33.1 +0.5**
ANTO pmax pmax
comp=Z,23nm,0.7s
ZVC Zvikov 78.39 332 *e*P **P** **00 59 32.8 +0.1**
KAN17 Caldwell West 78.49 49 P **P** **00 59 32.7 -0.8**
KAN17 IAmb IAmb 00 59 41.2
comp=Z,13nm,0.7s
GZR Gura Zlata 78.57 325 ⇑P **P** **00 59 34.3 +0.5**
GZR Gura Zlata 78.57 325 ⇑P **P** **00 59 34.3 +0.5**
L42A Oliver, Polo 78.78 41 P **P** **00 59 36.0 +1.1**
BZS Buzias 78.86 326 ⇑P **P** **00 59 35.7 +0.4**
BZS Buzias 78.86 326 ⇑P **P** **00 59 35.7 +0.4**
KHC Kasperske Hory 78.86 332 P **P** **00 59 35.3 0.0**
KHC IAmb IAmb 00 59 36.8
comp=Z,12nm,0.6s
KHC Kasperske Hory 78.86 332 *d*/*i*P **P** **00 59 35.8 +0.5**
KHC pmax pmax
comp=Z,26nm,0.7s
KHC Kasperske Hory 78.86 332 *e*P **P** **00 59 35.3 0.0**
CKRC Cesky Krumlov 78.89 332 *e*P **P** **00 59 34.9 -0.5**
CKRC Cesky Krumlov 78.89 332 *e*P **P** **00 59 34.9 -0.5**
425A Indio Mountain 78.92 58 P **P** **00 59 36.5 +0.4**
425A IAmb IAmb 00 59 37.9
comp=Z,17nm,1.6s
GEC2 GERESS Array S 79.07 332 P **P** **00 59 36.4 -0.2**
GEC2 IAmb IAmb 00 59 37.5
comp=Z,4.4nm,0.6s
GERES GERESS Array B 79.07 332 P **P** **00 59 36.4 -0.2**
GERES GERESS Array B 79.07 332 P **P** **00 59 36.8 +0.3**
comp=Z,4.0nm,0.5s,baz=37,slow=5.9,SNR=25
comp=Z,4.0nm,0.5s
CONA Conrad Observa 79.11 330 *i*P **P** **00 59 37.7 +0.9**
comp=Z,6.2nm,0.6s,SNR=11
HERR Herculane 79.14 325 ⇓P **P** **00 59 36.0 -0.8**
RONA Rosalia, Austr 79.15 330 *e*P **P** **00 59 37.8 +0.8**
comp=Z,3.7nm,0.5s
MDVR Moldovita 79.51 325 ⇓P **P** **00 59 39.0 +0.1**
MORH Mrgy, Hungar 79.53 328 ⇓P **P** **00 59 39.0 0.0**
MOA Molln 79.73 331 *i*P **P** **00 59 40.8 +0.7**
comp=Z,2.4nm,0.6s,SNR=4.9
ARSA Arzberg 79.81 330 *e*P **P** **00 59 41.3 +0.8**
comp=Z,2.3nm,0.6s
FRGS Fruska Gora 79.96 326 ⇑P **P** **00 59 41.8 +0.5**
FRGS Fruska Gora 79.96 326 *e*P **P** **00 59 40.1 -1.3**
HDIL Hopedale 80.08 41 P **P** **00 59 41.8 -0.3**
baz=322
BIOA Bad Ischl, Aus 80.09 331 *e*P **P** **00 59 43.1 +1.1**
comp=Z,3.2nm,0.6s
S39A Bolivar 80.33 46 P **P** **00 59 42.7 -0.7**
S39A IAmb IAmb 00 59 44.5
comp=Z,22nm,1.7s
SGCY Sterling City 80.39 54 P **P** **00 59 43.2 -0.7**
SGCY IAmb IAmb 00 59 45.6
comp=Z,16nm,1.3s
BOVS Bovan 80.45 324 ⇑P **P** **00 59 43.5 -0.4**
BMRD Maredsous 80.47 338 *d*P **P** **00 59 44.1 +0.2**
BMRD *d*PP **PP** **01 02 44.3 -2.6**
GROS Grobnik 80.49 330 *i*P **P** **00 59 44.3 +0.1**
TEKS Tekeris 80.58 326 *e*P **P** **00 59 44.6 -0.1**
RLO Rose Lookout 80.61 48 P **P** **00 59 44.0 -0.9**
RLO IAmb IAmb 00 59 46.1
comp=Z,20nm,1.4s
VTS Vitosha 80.63 323 ⇓P **P** **00 59 45.6 +0.4**
VTS ⇑P **P** **00 59 46.3 +1.1**
VTS Vitosha 80.63 323 ⇓P **P** **00 59 45.6 +0.4**
LESA Schwarzleotal 80.64 332 *e*P **P** **00 59 45.9 +0.8**
comp=Z,4.1nm,0.5s
KBA Koelnbreinsper 80.72 331 *e*P **P** **00 59 46.5 +0.9**
comp=Z,5.5nm,0.5s
ABTX Abilene, Hawle 80.72 53 P **P** **00 59 44.1 -1.5**
ABTX IAmb IAmb 01 01 03.0
comp=Z,25nm,1.8s
U38A Gravette 80.73 47 P **P** **00 59 44.3 -1.3**
U38A IAmb IAmb 00 59 46.7
comp=Z,16nm,1.6s
TX31 Lajitas Ar. Si 80.75 58 P **P** **00 59 46.0 0.0**
TX31 IAmb IAmb 00 59 47.7
comp=Z,12nm,0.8s
TX32 Lajitas Array 80.75 58 P **P** **00 59 46.1 +0.1**
TXAR Lajitas Array 80.75 58 P **P** **00 59 46.2 +0.3**
TXAR Lajitas Array 80.75 58 P **P** **00 59 46.6 +0.6**
comp=Z,2.5nm,0.5s,baz=300,slow=4.4,SNR=46
comp=Z,2.5nm,0.5s
DIVS Divibare 80.77 326 P **P** **00 59 41.8 -4.0**
DIVS Divibare 80.77 326 *e*P **P** **00 59 41.5 -4.3**
ALN Alexandroupoli 80.77 320 P **P** **00 59 44.8 -0.9**
ALN Alexandroupoli 80.77 320 P **P** **00 59 44.8 -0.9**
ALN pmax pmax
comp=Z,7.0nm,1.1s
OBKA Obir 80.79 330 *e*P **P** **00 59 45.6 -0.3**
comp=Z,3.6nm,0.6s
OBKA Obir 80.79 330 *e*P **P** **00 59 45.4 -0.5**
RDO Rodhopi 80.80 321 P **P** **00 59 45.7 -0.2**
GOLS Golise 80.83 329 *i*P **P** **00 59 46.0 0.0**
A052A Srbac 80.90 328 *e*P **P** **00 59 45.4 -0.9**
CRES Cresnjev 81.05 329 *e*P **P** **00 59 46.6 -0.6**
CRES Cresnjev 81.05 329 *i*P **P** **00 59 47.0 -0.1**
WATA Walderalm 81.09 332 *i*P **P** **00 59 48.3 +0.8**
comp=Z,7.5nm,0.6s,SNR=6.2
CCM Cathedral Cave 81.09 44 P **P** **00 59 47.2 -0.3**
CCM IAmb IAmb 00 59 47.8
comp=Z,40nm,2.0s
CCM Cathedral Cave 81.09 44 P **P** **00 59 47.2 -0.3**
CCM pmax pmax
comp=Z,40nm,2.0s
CCM Cathedral Cave 81.09 44 P **P** **00 59 47.6 0.0**
baz=321
WTTA Wattenberg 81.13 332 *i*P **P** **00 59 48.3 +0.5**
comp=Z,9.3nm,0.5s,SNR=12
PRED Cave del Predi 81.19 331 P **P** **00 59 46.6 -1.4**
PRED IAmb IAmb 00 59 48.2
comp=Z,5.5nm,0.6s
BBLS Lazići 81.20 326 *e*P **P** **00 59 48.1 0.0**
A051A Mrakovica 81.20 328 *e*P **P** **00 59 47.4 -0.7**
RETA Reutte 81.22 333 *e*P **P** **00 59 48.8 +0.7**
comp=Z,4.2nm,0.9s
SAND Sanderson 81.23 56 P **P** **00 59 48.1 -0.4**
SAND IAmb IAmb 00 59 49.5
comp=Z,7.4nm,1.4s
MOTA Moosalm 81.23 333 *i*P **P** **00 59 48.6 +0.3**
comp=Z,6.2nm,0.7s,SNR=8.2
HPIG 81.25 61 P **P** **00 59 48.9 +0.1**
HPIG IAmb IAmb 00 59 51.3
comp=Z,13nm,1.6s
MGMO Mountain Grove 81.28 45 P **P** **00 59 47.9 -0.6**
MGMO IAmb IAmb 00 59 49.9
comp=Z,17nm,1.5s
ABTA Abfaltersbach 81.29 332 *e*P **P** **00 59 48.8 +0.3**
comp=Z,0.5nm,0.3s
FW03 Perrin-Whitt E 81.30 52 P **P** **00 59 48.3 -0.4**
FW03 IAmb IAmb 00 59 49.9
comp=Z,8.4nm,1.0s
SQTA Sankt Quirin 81.31 333 *i*P **P** **00 59 49.5 +0.8**
comp=Z,6.0nm,0.7s,SNR=4.7
BLY Banja Luka 81.32 328 *e*P **P** **00 59 46.9 -1.7**
BOJS Bojanci 81.40 329 *e*P **P** **00 59 48.1 -0.9**
RUDO Rudo 81.42 326 *e*P **P** **00 59 45.9 -3.3**
SJES Sjenica 81.47 325 *e*P **P** **00 59 49.8 +0.2**
CEY Cerknica 81.49 330 *e*P **P** **00 59 48.0 -1.5**
Z35A Perchaven, San 81.53 51 P **P** **00 59 49.5 -0.4**
Z35A IAmb IAmb 01 02 15.7
comp=Z,9.9nm,0.8s
SABO M.te Sabotino 81.58 331 P **P** **00 59 50.0 0.0**
SABO IAmb IAmb 00 59 52.2
comp=Z,25nm,1.8s
FETA Feichten 81.64 333 *e*P **P** **00 59 50.7 +0.2**
comp=Z,1.0nm,0.6s
MGRS Mrkonjic Grad 81.64 328 *e*P **P** **00 59 51.2 +0.9**
STAL STALIGIAL 81.64 331 P **P** **00 59 49.4 -1.0**
STAL IAmb IAmb 00 59 50.5
comp=Z,5.2nm,0.7s
DAVA Damuels 81.68 333 *e*P **P** **00 59 50.2 -0.5**
comp=Z,15nm,1.6s
CIMO Cimolais 81.69 331 P **P** **00 59 50.3 -0.3**
CIMO IAmb IAmb 00 59 53.9
comp=Z,2.4nm,0.7s
CSS Mathiatis 81.79 312 P **P** **00 59 50.5 -0.8**
CSS IAmb IAmb 00 59 52.8
comp=Z,9.6nm,0.7s
SRKY Kupres RS 81.90 327 *e*P **P** **00 59 52.0 +0.2**
UPM Unac-Piva 81.95 326 *e*P **P** **00 59 51.6 -0.6**
BRDY Brady 82.07 53 P **P** **00 59 52.5 -0.3**
BRDY IAmb IAmb 00 59 53.8
comp=Z,4.1nm,1.1s
MMAI Mount Meron Ar 82.14 309 P **P** **00 59 54.8 +1.6**
comp=Z,7.5nm,0.6s,baz=42,slow=6.7,SNR=16
MMAI LR LR 01 40 37.4
comp=Z,32nm,18.5s,baz=357,slow=39
comp=Z,7.5nm,0.6s
FUORN Ofenpass-Fuorn 82.14 333 P **P** **00 59 53.0 -0.2**
ELL Elmali 82.18 315 P **P** **00 59 53.4 -0.1**
ELL Elmali 82.18 315 P **P** **00 59 53.4 -0.1**
ELL pmax pmax
comp=Z,25nm,0.8s
CTI Castel Tesino 82.19 332 P **P** **00 59 52.4 -0.9**
CTI IAmb IAmb 01 01 55.3
comp=Z,26nm,2.0s
CTI Castel Tesino 82.19 332 P **P** **00 59 52.4 -0.9**
CTI pmax pmax
comp=Z,27nm,2.0s
JCT Junction City 82.21 55 P **P** **00 59 53.7 +0.1**
JCT IAmb IAmb 00 59 55.8
comp=Z,14nm,1.4s
JCT Junction City 82.21 55 P **P** **00 59 53.7 +0.1**
JCT pmax pmax
comp=Z,14nm,1.4s
JCT Junction City 82.21 55 P **P** **00 59 53.8 +0.2**
baz=318
O48B Farmland 82.23 39 P **P** **00 59 53.7 +0.2**
baz=324
FCAR Ozark Folk Cen 82.33 46 P **P** **00 59 53.7 -0.4**
BRY Bratogost 82.35 326 *e*P **P** **00 59 53.4 -0.8**
WHTX Lake Whitney, 82.42 52 P **P** **00 59 54.7 0.0**
baz=319
PDG Podgorica 82.45 325 ⇑P **P** **00 59 54.8 +0.2**
PDG Podgorica 82.45 325 P **P** **00 59 53.6 -1.0**
PDG IAmb IAmb 00 59 55.3
comp=Z,9.0nm,0.5s
PDG Podgorica 82.45 325 *e*P **P** **00 59 54.1 -0.5**
DRIO Del Rio 82.51 56 P **P** **00 59 55.4 +0.3**
DRIO IAmb IAmb 00 59 56.6
comp=Z,6.7nm,0.8s
TUE Stuetta 82.57 333 P **P** **00 59 54.7 -0.7**
TUE IAmb IAmb 00 59 56.7
comp=Z,5.6nm,0.8s
TREB Trebinje 82.58 326 *e*P **P** **00 59 54.1 -1.1**
MIAR Mount Ida 82.61 48 P **P** **00 59 55.8 +0.2**
baz=320
STON Ston 82.71 326 *e*P **P** **00 59 55.0 -0.9**
FNA Florina 82.93 323 P **P** **00 59 56.3 -0.9**
FNA Florina 82.93 323 P **P** **00 59 56.3 -0.9**
FNA pmax pmax
comp=Z,2.0nm,0.8s
TIR Tirane 83.11 324 ⇓P **P** **00 59 58.8 +0.8**
TIR Tirane 83.11 324 ⇓P **P** **00 59 58.8 +0.8**
KBN Korca 83.32 323 P **P** **00 59 58.3 -0.9**
KBN IAmb IAmb 01 00 39.0
comp=Z,6.9nm,0.5s
KBN Korca 83.32 323 P **P** **00 59 58.3 -0.9**
KBN pmax pmax
comp=Z,7.0nm,0.5s
WCI Wyandotte Cave 83.34 41 P **P** **00 59 59.3 0.0**
baz=324
O53A New Philadelph 83.95 37 P **P** **01 00 02.2 -0.2**
baz=326
NATX Nacogdoches 84.15 50 P **P** **01 00 04.7 +1.2**
baz=320
FDMO Fiordimonte 84.31 329 P **P** **01 00 03.8 -0.4**
FDMO IAmb IAmb 01 00 08.7
comp=Z,6.5nm,0.6s
MURB Monte Urbino 84.32 330 P **P** **01 00 02.9 -1.3**
MURB IAmb IAmb 01 00 06.4
comp=Z,11nm,1.0s
SGRT San Giovanni R 84.42 327 P **P** **01 00 04.6 -0.2**
SGRT IAmb IAmb 01 00 52.9
comp=Z,7.7nm,1.0s
NRCA Norcia 84.48 329 P **P** **01 00 04.7 -0.3**
NRCA IAmb IAmb 01 00 10.7
comp=Z,9.2nm,0.7s
KEK Kerkira 84.49 323 P **P** **01 00 04.8 -0.3**
KEK IAmb IAmb 01 00 14.0
comp=Z,9.0nm,1.0s
KARP Karpathos 84.50 316 P **P** **01 00 05.5 +0.2**
CAMP Campotosto 84.63 329 P **P** **01 00 05.3 -0.6**
CAMP IAmb IAmb 01 00 07.2
comp=Z,8.2nm,1.0s
AQU L'Aquila 84.79 329 P **P** **01 00 06.6 0.0**
AQU IAmb IAmb 01 00 17.6
comp=Z,9.0nm,0.9s
AQU L'Aquila 84.79 329 P **P** **01 00 06.6 0.0**
AQU pmax pmax
comp=Z,9.0nm,0.9s
INTR Introdacqua 84.90 328 P **P** **01 00 04.0 -3.2**
EIL Elat 84.91 307 LR LR 01 44 19.0
comp=Z,36nm,18.5s,baz=62,slow=40
T50A Nancy 85.00 41 P **P** **01 00 07.5 -0.2**
SSPA Standing Stone 85.00 34 P **P** **01 00 07.8 +0.1**
baz=328
IDI Anoyia 85.81 317 ⇓P **P** **01 00 08.7 -3.2**
IDI Anoyia 85.81 317 P **P** **01 00 09.5 -2.3**
IDI IAmb IAmb 01 00 18.0
comp=Z,5.8nm,0.9s
TKL Tuckaleechee C 86.60 41 LR LR 01 42 30.3
comp=Z,71nm,18.1s,baz=322,slow=38
KEST Kesra 92.11 328 P **P** **01 00 42.7 +1.0**
comp=Z,1.9nm,0.6s,baz=291,slow=2.6,SNR=4.2
comp=Z,1.9nm,0.6s
ESDC Sonseca Array 92.62 340 P **P** **01 00 44.1 +0.2**
comp=Z,0.9nm,0.9s,baz=10,slow=3.3,SNR=3.5
comp=Z,0.9nm,0.9s
CMIG Matias Romero 95.21 60 LR LR 01 46 27.3
comp=Z,24nm,18.1s,baz=277,slow=37
TORD Torodi Ar. Bea 115.36 325 PKP **PKiKP** **01 06 13.8 -0.3**
comp=Z,0.4nm,0.6s,baz=23,slow=1.6,SNR=5.6
MAW Mawson 129.15 210 PKP **PKPdf** **01 06 38.8 0.0**
comp=Z,0.7nm,0.4s,baz=275,slow=6.7,SNR=2.4
H03N2 Juan Fernandez 141.34 90 T T 03 44 48.2
baz=306,slow=77,SNR=51
H03N3 Juan Fernandez 141.36 90 T T 03 44 51.1
baz=306,slow=77,SNR=53
H03N1 Juan Fernandez 141.36 90 T T 03 44 51.1
baz=306,slow=77,SNR=53
BDFB Brasilia 147.47 32 PKPbc **PKPbc** **01 07 16.5 0.0**
comp=Z,2.6nm,0.9s,baz=30,slow=21,SNR=1.8
TROLL Troll, Antarti 148.45 199 ⇑PKPbc **PKiKP** **01 07 19.0 0.0**
comp=Z,268nm,0.7s
SNAA Sanae 149.88 197 ⇑PKPbc **PKiKP** **01 07 21.9 +0.1**
comp=Z,34nm,0.6s
SNAA Sanae 149.88 197 PKPbc **PKiKP** **01 07 22.0 +0.1**
comp=Z,2.1nm,0.8s,baz=213,slow=0.9,SNR=22
PLCA Paso Flores 150.59 96 PKPbc **PKiKP** **01 07 24.6 +0.3**
comp=Z,1.7nm,0.9s,baz=225,slow=4.3,SNR=2.6
VNA2 Neumayer--Watz 151.38 196 ⇑PKPbc **PKiKP** **01 07 25.7 +0.8**
comp=Z,12nm,0.7s,baz=146,slow=1.0
VNA3 Neumayer Olymp 151.53 194 ⇑PKPbc **PKiKP** **01 07 25.9 +0.6**
comp=Z,5.1nm,0.7s
VNA1 Neumayer--Stat 151.77 196 ⇑PKPbc **PKiKP** **01 07 26.6 +0.9**

EAF ***20*** *01:20:15.1,25°.14S×32°.94E,h10km,MC3.9*
BUL ***20*** *01:20:18.9±1.1,25°.26S×32°.72E,h10km,MD4.2*
PRE ***20*** *01:20:27.3±0.8,24°.80S×32°.17E,h5km,ML2.6*
ISC 20 01:20:28.4±1.5,**24°.78S**±0°.04×**32°.05E**±0°.10,**h10**km,**n24,**
σ2**05/42,Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**1.39**	**334**	*i* P	Pn	01 20 49.1	-4.8
MOPA				*i* S	**Sb**	**01 21 10.2**	**-2.1**
MOPA	**Mopani**	**1.39**	**334**	*i* P	Pn	01 20 49.1	-4.8
MOPA				*i* S	**Sb**	**01 21 10.2**	**-2.1**
MMAL	**MMAL**	**1.48**	**211**	*e*P	**Pg**	**01 20 57.5**	**+0.6**
MMAL				*e*S	**Sg**	**01 21 18.1**	**+2.0**
MMAL				IAML		01 21 24.3	
HAGI	**HAGI**	**1.55**	**210**	*e*P	**Pn**	**01 20 56.1**	**-0.1**
HAGI				*e*S	**Sb**	**01 21 16.9**	**0.0**
HAGI				IAML		01 21 25.8	
POGA	**Pongola**	**2.58**	**187**	*e*P	**Pn**	**01 21 09.8**	**-0.5**
POGA				*e*S	**Sn**	**01 21 42.0**	**+0.3**
POGA				IAML		01 21 54.3	
MUSN	**Musina, Limpop**	**3.19**	**320**	*i* P	**Pn**	**01 21 18.5**	**-0.3**
MUSN				*i* S	**Sb**	**01 22 03.1**	**-1.2**
MUSN	**Musina, Limpop**	**3.19**	**320**	*e*P	**Pn**	**01 21 19.5**	**+0.8**
MUSN				*e*S	**Sn**	**01 21 59.0**	**+2.1**
MUSN				IAML		01 22 11.8	
MUSN	**Musina, Limpop**	**3.19**	**320**	*i* P	**Pn**	**01 21 18.5**	**-0.3**
MUSN				*i* S	**Sb**	**01 22 03.1**	**-1.2**

LEPH	**Lephalale, Lim**	**3.99 282**	*e*P	**Pn**	**01 21 31.0**	**+1.3**
LEPH			*e*S	**Sn**	**01 22 18.4**	**+1.8**
LEPH			IAML		01 22 48.7	
	comp=Z,27nm,0.5s					
PRYS	**Parys**	**4.74 242**	*e*P	**Pn**	**01 21 41.4**	**+1.2**
PRYS			*e*S	**Sn**	**01 22 35.6**	**+0.4**
PRYS			IAML		01 22 57.6	
	comp=Z,6.5nm,0.3s					
MATP	**Matopo**	**5.43 322**	*i* P	**Pn**	**01 21 48.5**	**-1.1**
MATP			*i* S	**Sn**	**01 22 55.6**	**+3.3**
MATP	**Matopo**	**5.43 322**	*i* P	**Pn**	**01 21 48.5**	**-1.1**
	baz=319					
MATP			*i* S	**Sn**	**01 22 55.6**	**+3.3**
	baz=319					
LBTB	**Lobatse**	**5.87 266**	*i* P	**Pn**	**01 21 53.4**	**-2.2**
LBTB			*i* S	**Sn**	**01 23 02.1**	**-0.9**
LBTB	**Lobatse**	**5.87 266**	*e*P	**Pn**	**01 21 58.2**	**+2.6**
LBTB			*e*S	**Sn**	**01 23 03.5**	**+0.5**
LBTB			IAML		01 23 47.3	
	comp=Z,11nm,0.5s					
LBTB	**Lobatse**	**5.87 266**	*i* P	**Pn**	**01 21 53.4**	**-2.2**
	baz=269					
LBTB			*i* S	**Sn**	**01 23 02.1**	**-0.9**
	baz=269					
KSTD	**Kokstad**	**6.31 202**	*e*P	**Pn**	**01 22 02.5**	**+0.9**
KSTD			*e*S	**Sn**	**01 23 11.9**	**-2.0**
KSTD			IAML		01 23 18.0	
	comp=Z,12nm,0.4s					
BOSA	**Boshof**	**7.18 236**	*i* P	Pn	01 22 06.9	-6.8
BOSA			*i* S	Sn	01 23 25.3	-10
BOSA	**Boshof**	**7.18 236**	*e*P	**Pn**	**01 22 15.0**	**+1.3**
BOSA			*e*S	**Sn**	**01 23 34.0**	**-1.3**
BOSA			IAML		01 23 51.3	
	comp=Z,2.7nm,0.5s					
BOSA	**Boshof**	**7.18 236**	*i* P	Pn	01 22 06.9	-6.8
	baz=241					
BOSA			*i* S	Sn	01 23 25.3	-10
	baz=241					
GRAF	**Camdeboo Natio**	**10.00 220**	*e*P	**Pn**	**01 22 53.2**	**+0.9**
GRAF			*e*S	**Sn**	**01 24 41.6**	**-3.0**
GRAF			IAML		01 24 48.3	
	comp=Z,2.7nm,0.4s					
BFON	**Badsfontein, M**	**10.16 225**	*e*P	**Pn**	**01 22 55.5**	**+0.9**
BFON			*e*S	**Sn**	**01 24 45.2**	**-3.5**
BFON			IAML		01 24 52.9	
	comp=Z,2.6nm,0.7s					
BRAK	**Brakfontein**	**10.67 227**	*e*P	**Pn**	**01 23 03.3**	**+1.9**
BRAK			*e*S	**Sn**	**01 24 57.3**	**-3.7**
BRAK			IAML		01 25 05.8	
	comp=Z,1.8nm,0.2s					
GRAN	**Grantham**	**11.47 227**	*e*P	**Pn**	**01 23 15.4**	**+2.9**
GRAN			*e*S	**Sn**	**01 25 17.1**	**-3.6**
GRAN			IAML		01 25 31.8	
	comp=Z,1.3nm,0.7s					
FRAZ	**Fraserburg**	**11.77 230**	*e*P	**Pn**	**01 23 18.7**	**+2.1**
FRAZ			*e*S	**Sn**	**01 25 23.7**	**-4.4**
FRAZ			IAML		01 25 43.8	
	comp=Z,1.9nm,0.4s					

*JMA **20** 01:24:19.8±0.1, 24°.7N±0°.9×122°.4E±0°.3, h7km, NW OFF ISHIGAKIJIMA IS*
*TAP **20** 01:24:19.2, 24°.77N×122°.43E, h18km, ML3.0, D*
ISC 20 01:24:19.5±1.2, 24°.73N±0°.04×122°.42E±0°.03, h12km±11km, n43, σ0s32/59, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.36**	**209**	*e*P	**Pb**	**01 24 27.6**	**-0.2**
	baz=212						
EOS2				*e*S	**Sb**	**01 24 34.1**	**+0.8**
	baz=212						
EOS3	**EOS3**	**0.46**	**192**	P	**Pb**	**01 24 29.4**	**0.0**
	baz=200						
TWB1	**Santiao Chiao**	**0.48**	**305**	*e*P	**Pg**	**01 24 28.6**	**-0.4**
	baz=301						
TWC	**Suao**	**0.53**	**257**	P	**Pg**	**01 24 29.7**	**-0.3**
	baz=253						
YOJ	**Yonaguni jima**	**0.60**	**117**	*e*P	**Pg**	**01 24 31.1**	**-0.2**
SXI1	**Grass Mountain**	**0.61**	**306**	P	**Pg**	**01 24 31.6**	**+0.1**
	baz=303						
SXI1				S	**Sb**	**01 24 40.4**	**-0.4**
	baz=303						
EOS4	**EOS4**	**0.62**	**189**	*e*P	**Pb**	**01 24 32.5**	**+0.4**
	baz=182						
NDS	**Dongshan**	**0.65**	**261**	*e*P	**Pb**	**01 24 32.9**	**+0.1**
	baz=252						
EWUT	**Wuta**	**0.65**	**244**	*e*P	**Pb**	**01 24 32.6**	**-0.3**
	baz=251						
EWUT				*i* S	**Sb**	**01 24 41.5**	**-0.4**
	baz=251						
NWF	**Wu-fen Shan**	**0.67**	**300**	P	**Pg**	**01 24 32.8**	**+0.2**
	baz=297						
NWF				*e*S	**Sg**	**01 24 42.0**	**+0.5**
	baz=297						
WFSB	**Wu-fen Shan**	**0.67**	**300**	P	**Pg**	**01 24 32.8**	**+0.3**
	baz=297						
WFSB				S	**Sb**	**01 24 42.1**	**-0.3**
	baz=297						
ENA	**Nanau**	**0.69**	**244**	*e*P	**Pb**	**01 24 33.2**	**-0.3**
	baz=250						
ENA				*e*S	**Sb**	**01 24 42.8**	**-0.3**
	baz=250						
FUSB	**Fushanzhiwuyua**	**0.76**	**272**	P	**Pb**	**01 24 34.6**	**-0.1**
	baz=270						
FUSB				*e*S	**Sg**	**01 24 44.7**	**+0.5**
	baz=270						
ENTT	**Nioudou**	**0.78**	**263**	*e*P	**Pb**	**01 24 35.5**	**+0.3**
	baz=261						
ENTT				*i* S	**Sb**	**01 24 45.7**	**0.0**
	baz=261						
NDT	**Datong Townshi**	**0.84**	**261**	*e*P	**Pg**	**01 24 35.9**	**+0.2**
	baz=259						
NDT				S	**Sb**	**01 24 47.1**	**-0.2**
	baz=259						
NWLT	**Wulai**	**0.84**	**273**	*e*P	**Pb**	**01 24 36.4**	**+0.3**
	baz=271						
NWLT				*e*S	**Sg**	**01 24 46.0**	**-0.6**
	baz=271						
LATG	**Datong**	**0.84**	**257**	*e*P	**Pb**	**01 24 35.8**	**0.0**
	baz=254						
LATG				*i* S	**Sb**	**01 24 47.4**	**0.0**
	baz=254						
YM01	**YM01**	**0.88**	**298**	*e*P	**Pg**	**01 24 36.3**	**-0.2**
	baz=296						
NACB	**Ninganchiao**	**0.94**	**234**	*e*P	**Pg**	**01 24 37.4**	**-0.2**
	baz=242						
NACB				S	**Sb**	**01 24 50.4**	**+0.2**
	baz=242						
YHNB	**Yeheng**	**0.95**	**266**	*e*P	**Pg**	**01 24 38.0**	**0.0**
	baz=275						
NSK	**Sanguang**	**0.97**	**267**	*e*P	**Pg**	**01 24 38.2**	**-0.1**
	baz=265						
NSK				*e*S	**Sg**	**01 24 50.8**	**0.0**
	baz=265						
NNSB	**Datong**	**0.99**	**252**	*e*P	**Pb**	**01 24 38.6**	**-0.2**
	baz=250						
NNS	**Nan Shan**	**1.00**	**253**	*e*P	**Pg**	**01 24 38.9**	**+0.1**
	baz=251						
NNS				*e*S	**Sb**	**01 24 52.0**	**0.0**
	baz=251						
ETLH	**Xiulin Townshi**	**1.00**	**239**	*e*P	**Pb**	**01 24 38.8**	**-0.1**
	baz=237						
ETM	**Tongmen**	**1.14**	**228**	*e*P	**Pb**	**01 24 41.1**	**-0.1**
	baz=209						
LXIB	**Xiulin Townshi**	**1.16**	**233**	P	**Pb**	**01 24 41.5**	**-0.1**
	baz=231						
NFF	**Wufeng Townshi**	**1.19**	**265**	*e*P	**Pn**	**01 24 41.7**	**-0.4**
	baz=280						
WHF	**Hehuan Shan**	**1.21**	**241**	*e*P	**Pb**	**01 24 42.3**	**-0.3**
	baz=249						
WHF				*e*S	**Sb**	**01 24 58.2**	**-0.1**
	baz=249						
IRIF	**Iriomote-Funau**	**1.26**	**108**	*e*P	**Pb**	**01 24 43.1**	**-0.1**
IRIF				S	**Sn**	**01 24 59.7**	**-0.1**
LIOB	**Emei**	**1.28**	**266**	*e*P	**Pb**	**01 24 43.6**	**0.0**
	baz=282						
NSTT	**Nanjuang**	**1.29**	**266**	*e*P	**Pb**	**01 24 44.1**	**+0.2**
	baz=281						
CHGB	**Renai**	**1.32**	**240**	*e*P	**Pb**	**01 24 44.4**	**0.0**
	baz=223						
WARBT	**Fenglin Townsh**	**1.38**	**223**	*e*P	**Pb**	**01 24 45.1**	**-0.3**
	baz=205						
WUSB	**Renai**	**1.40**	**238**	*e*P	**Pn**	**01 24 45.2**	**+0.1**
	baz=224						
WHP	**Taichung City**	**1.42**	**252**	*e*P	**Pb**	**01 24 46.3**	**+0.3**
	baz=237						
VWDT	**VWDT**	**1.52**	**230**	*e*P	**Pb**	**01 24 47.1**	**-0.6**
	baz=215						
WCS	**Beigang Elemen**	**1.53**	**244**	*e*P	**Pn**	**01 24 47.1**	**+0.4**
	baz=229						
HGSD	**Ruisui**	**1.54**	**217**	*e*P	**Pn**	**01 24 47.1**	**+0.4**
	baz=202						
SSLB	**Suanglung**	**1.64**	**235**	*e*P	**Pb**	**01 24 49.0**	**-0.7**
	baz=217						
TYC	**Yuchr**	**1.65**	**240**	*e*P	**Pn**	**01 24 48.7**	**+0.4**
	baz=222						
YULB	**Yu-li**	**1.68**	**218**	*e*P	**Pn**	**01 24 48.6**	**-0.3**
	baz=217						
WHYT	**Xinyi Township**	**1.77**	**234**	*e*P	**Pn**	**01 24 50.5**	**+0.5**
	baz=220						
ALS	**Alishan**	**1.91**	**231**	*e*P	**Pn**	**01 24 52.6**	**+0.3**
	baz=213						

IDC 20 01:34:06.1±3.5, 6°.60S×149°.76E, h0km, mb3.0/1, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=128.8km s-min=39.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**223**	Pn	Pn	01 35 07.9	+2.0
	16nm,0.3s,baz=13,slow=4.0,SNR=6.2						
PMG				Sn	Sn	01 35 52.0	+0.8
	10nm,0.3s,baz=31,slow=23,SNR=8.6						
WRA	**Warramunga Arr**	**20.00**	**227**	P	P	01 38 40.3	-0.2
	0.4nm,0.3s,baz=52,slow=11,SNR=22						
	2.5nm,0.6s						
ASAR	**Alice Springs**	**22.81**	**220**	P	P	01 39 09.4	-1.3
	0.3nm,0.6s,baz=55,slow=9.5,SNR=4.7						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.89**	**284**	PKPbc	PKPbc	01 53 54.0	-0.3
	0.3nm,0.7s,baz=63,slow=2.4,SNR=2.5						

*IDC **20** 02:00:19.7±2.3, 29°.18N×64°.19E, h0km, mb3.6/8, mbtmp3.7/9, ML4.2/1, Error ellipse: s-maj=55.5km s-min=21.7km az=131.0*
*DSN **20** 02:00:27.6±4.1, 28°.39N×64°.69E, h15km, ML3.7/8, Error ellipse: s-maj=56.3km s-min=42.6km az=177.0*
*OMAN **20** 02:00:38.7±1.2, 28°.16N×63°.66E, h10km, mb5.2/20, ms2.0/1, Error ellipse: s-maj=12.9km s-min=10.9km az=158.0*
ISC 20 02:00:25.8±0.8, 28°.60N±0°.09×64°.60E±0°.09, h100km, n46, σ3s19/46, mb3.5/8, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**4.47**	**225**	P	Pn	02 01 35.9	+4.6
	SNR=11						
JASK	**Jask - Hormozg**	**6.58**	**247**	P	Pn	02 02 04.8	+4.7
	SNR=29						
THW	**Thamme Wali**	**7.44**	**54**	P	**Pn**	**02 02 08.7**	**-3.0**
WSAR	**Wadi Sarin**	**7.57**	**227**	P	**Pn**	**02 02 15.9**	**+2.4**
WSAR				S	**Sn**	**02 03 33.7**	**-4.1**
WSAR	**Wadi Sarin**	**7.57**	**227**	Pn	**Pn**	**02 02 15.5**	**+2.0**
	3.2nm,0.3s,baz=101,slow=7.6,SNR=62						
WSAR				Sn	**Sn**	**02 03 34.1**	**-3.7**
	3.3nm,0.3s,baz=274,slow=17,SNR=9.1						
	7.6nm,0.3s						
BIDO	**Bidbid**	**7.71**	**230**	P	**Pn**	**02 02 18.8**	**+3.4**
SARP	**Sargodha**	**7.73**	**63**	P	**Pn**	**02 02 12.4**	**-3.2**
WBK	**Wadi Bani Khal**	**7.83**	**222**	P	Pn	02 02 20.7	+3.6
	SNR=72						
WBK				S	**Sn**	**02 03 39.4**	**-4.8**
SHME	**Shamm**	**7.94**	**253**	*i* P	Pn	02 02 22.3	+3.8
	SNR=9.9						
SHME	**Shamm**	**7.94**	**253**	P	Pn	02 02 22.9	+4.5
	SNR=11						
SHME				S	**Sn**	**02 03 43.9**	**-2.8**
JLN	**Jalan Bani Buh**	**7.95**	**217**	P	Pn	02 02 22.6	+3.9
	SNR=16						
JLN				S	**Sn**	**02 03 44.0**	**-3.0**
SMDO	**Samad**	**8.08**	**228**	P	Pn	02 02 24.7	+4.2
	SNR=26						
MDH	**Madha**	**8.10**	**248**	*i* P	**Pn**	**02 02 23.3**	**+2.5**
	SNR=18						
MDH	**Madha**	**8.10**	**248**	P	**Pn**	**02 02 23.6**	**+2.8**
	SNR=18						
MDH				S	**Sn**	**02 03 45.2**	**-5.4**
MASF	**Masafi**	**8.18**	**249**	P	**Pn**	**02 02 24.8**	**+2.9**
	SNR=18						
MASF				S	**Sn**	**02 03 48.8**	**-4.0**
MSFE	**Esma-Masafi**	**8.19**	**249**	*i* P	**Pn**	**02 02 24.8**	**+2.8**
	SNR=18						
HOQ	**Hoqain**	**8.24**	**234**	P	**Pn**	**02 02 25.0**	**+2.4**
	SNR=332						
HOQ				S	**Sn**	**02 03 48.2**	**-5.8**
UOSS	**Minazif**	**8.34**	**246**	*i* P	**Pn**	**02 02 26.3**	**+2.3**
	SNR=10						
UOSS	**Minazif**	**8.34**	**246**	P	**Pn**	**02 02 26.2**	**+2.3**
UOSS				P	**Pn**	**02 02 26.2**	**+2.3**
UOSS				S	**Sn**	**02 03 50.5**	**-5.9**
UOSS				S	**Sn**	**02 03 50.5**	**-5.9**
HATD	**Hatta, Dubai**	**8.45**	**246**	*i* P	**Pn**	**02 02 27.9**	**+2.5**
	SNR=11						
HATD	**Hatta, Dubai**	**8.45**	**246**	P	**Pn**	**02 02 28.5**	**+3.0**
HATD				S	**Sn**	**02 03 55.5**	**-3.7**
SOHO	**SOHO**	**8.49**	**240**	*i* P	**Pn**	**02 02 28.4**	**+2.5**
	SNR=57						
SOHO	**SOHO**	**8.49**	**240**	P	**Pn**	**02 02 28.7**	**+2.8**
SOHO				S	**Sn**	**02 03 55.8**	**-4.2**
JMDO	**Jabal Madar**	**8.54**	**225**	P	Pn	02 02 31.0	+4.3
	SNR=86						
JMDO				S	**Sn**	**02 03 59.6**	**-1.7**
ASHO	**Ashiyiah**	**8.58**	**245**	*i* P	**Pn**	**02 02 30.3**	**+3.1**
	SNR=35						
ASHO	**Ashiyiah**	**8.58**	**245**	P	**Pn**	**02 02 30.6**	**+3.3**
	SNR=35						
NAZ	**Nazwa, Dubai**	**8.76**	**248**	P	Pn	02 02 34.7	+5.0
NAZ	**Nazwa, Dubai**	**8.76**	**248**	P	Pn	02 02 34.5	+4.9
	SNR=5.6						
BSY	**Bisya**	**8.86**	**231**	P	Pn	02 02 36.0	+4.9
	SNR=39						
FAQ	**Al Faqa, Dubai**	**8.92**	**247**	P	Pn	02 02 36.8	+4.9
ALNE	**Al Ain**	**9.13**	**242**	P	Pn	02 02 39.2	+4.4
ASUD	**Al Ashush, Dub**	**9.19**	**247**	P	Pn	02 02 40.5	+5.0
MHTO	**MHTO**	**9.68**	**220**	P	Pn	02 02 46.3	+4.2
	SNR=6.1						
MHTO				S	**Sn**	**02 04 26.1**	**-3.0**
DOK	**Doka**	**13.80**	**226**	P	**P**	**02 03 42.9**	**+0.6**
	SNR=14						
DMTO	**DMTO**	**13.99**	**221**	P	**P**	**02 03 45.9**	**+1.4**
WHFO	**Wadi Hawf**	**14.55**	**225**	P	**P**	**02 03 52.2**	**+1.5**
	SNR=13						
ABTO	**Aybut**	**15.27**	**225**	P	**P**	**02 04 01.9**	**+3.2**
AAK	**Ala-Archa**	**16.14**	**27**	Pn	**Pn**	**02 04 06.4**	**-0.5**
	0.3nm,0.3s,baz=44,slow=24,SNR=2.8						
AKTO	**Aktyubinsk**	**22.37**	**349**	P	**P**	**02 05 13.6**	**-2.0**
	0.4nm,0.3s,baz=238,slow=9.3,SNR=2.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**22.84**	**33**	P	**P**	**02 05 21.1**	**+0.7**
	0.7nm,0.8s,baz=213,slow=8.7,SNR=5.0						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**24.39**	**22**	P	**P**	**02 05 35.6**	**+1.0**
	0.5nm,0.2s,baz=211,slow=9.4,SNR=1.3						
	0.5nm,0.2s						
BVAR	**Borovoye Array**	**24.77**	**8**	P	**P**	**02 05 38.6**	**+0.5**
	1.8nm,0.7s,baz=178,slow=9.8,SNR=8.1						
	1.8nm,0.7s						
FINES	**FINESS Array B**	**41.56**	**333**	P	**P**	**02 08 03.1**	**-0.2**
	0.8nm,0.4s,baz=126,slow=7.4,SNR=13						
	0.8nm,0.4s						
NOA	**NORSAR Array B**	**47.83**	**328**	P	**P**	**02 08 53.6**	**+0.5**
	0.3nm,0.6s,baz=108,slow=7.6,SNR=1.8						
	0.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**54.48**	**319**	P	**P**	**02 09 43.8**	**+1.0**
	0.2nm,0.3s,baz=101,slow=7.3,SNR=3.9						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**60.14**	**269**	P	**P**	**02 10 26.4**	**+3.1**
	0.8nm,0.5s,baz=53,slow=7.2,SNR=19						
	0.8nm,0.5s						

*ISU **20** 02:00:51.3, 39°.70N×72°.51E, h18km*
*KRNET **20** 02:00:51.1±0.1, 39°.70N×72°.60E, h14km, mb2.2*
*SOME **20** 02:00:52.8, 39°.87N×72°.52E, h0km*
*NNC **20** 02:00:55.5±4.1, 39°.94N×72°.56E, h0km, mb2.2, mpv1.8, Error ellipse: s-maj=32.2km s-min=16.3km az=165.0*
ISC 20 02:00:51.0±1.1, 39°.77N±0°.04×72°.59E±0°.03, h13km±10km, n28, σ1s55/40, 17C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.68**	**245**	⇓*e*P	**Pg**	**02 01 03.5**	**-0.7**
	baz=51						
DRK				⇓*e*S	**Sg**	**02 01 12.4**	**-0.8**
	baz=51						
SFK	**Sufi-Kurgan**	**0.74**	**71**	⇓*e*P	**Pg**	**02 01 05.7**	**+0.2**
	baz=65						
SFK				⇓*e*S	**Sb**	**02 01 16.4**	**+0.3**
	baz=65						
OHH	**Osh**	**0.77**	**11**	⇑*e*P	**Pn**	**02 01 07.2**	**-0.4**
	baz=10.0						
OHH				⇑*e*S	**Sn**	**02 01 18.4**	**-0.7**
	baz=10.0						
TSTA	**Tashata**	**0.81**	**354**	P	**Pg**	**02 01 06.3**	**-0.4**
TSTA				S	**Sb**	**02 01 18.8**	**+1.0**
ANR	**Andizhan**	**1.00**	**350**	S	**Sn**	**02 01 26.1**	**+1.4**
BTK	**Batken**	**1.39**	**282**	⇑*e*P	**Pg**	**02 01 17.6**	**-0.2**
	baz=85						
BTK				⇑*e*S	**Sg**	**02 01 36.8**	**+0.9**
	baz=85						
MINT	**Mingtut**	**1.42**	**300**	P	**Pg**	**02 01 18.7**	**+0.4**
MINT				S	**Sg**	**02 01 38.4**	**+1.7**
ARSB	**Arslanbob**	**1.58**	**11**	⇑*e*P	**Pg**	**02 01 21.6**	**+0.2**
	baz=10.0						
ARSB				⇑*e*S	**Sg**	**02 01 43.8**	**+1.9**
	baz=10.0						
TRKS	**Terek-Say**	**2.07**	**328**	⇑*i*P	**Pb**	**02 01 28.3**	**-0.3**
	baz=29						
TRKS				⇑*e*S	**Sb**	**02 01 55.5**	**+1.2**
	baz=29						
ARK	**Arkit**	**2.08**	**347**	⇑*e*P	**Pb**	**02 01 29.3**	**+0.6**
	baz=47						
ARK				⇑*e*S	**Sg**	**02 01 57.3**	**-0.6**
	baz=47						
ARLS	**Aral**	**2.47**	**32**	⇓*e*P	**Pb**	**02 01 34.7**	**-0.6**
	baz=31						
ARLS				⇓*e*S	**Sb**	**02 02 06.1**	**+0.4**
	baz=31						
AML	**Almayashu**	**2.50**	**19**	⇑Pg	**Pg**	**02 01 38.4**	**-0.6**
	0.1nm,0.4s						
AML				⇑Lg	Lg	02 02 12.0	
	1.5nm,0.6s						
AML	**Almayashu**	**2.50**	**19**	⇑*e*P	**Pb**	**02 01 35.3**	**-0.7**
	baz=19						
AML				⇑*e*S	**Sb**	**02 02 07.7**	**+0.8**
	baz=19						
CHMG	**Chimgan**	**2.65**	**313**	P	**Sg**	**02 02 15.1**	**-0.9**
MNAS	**Manas**	**2.71**	**359**	⇑*e*P	**Pb**	**02 01 38.1**	**-1.4**
	baz=59						
MNAS				⇑*e*S	**Sb**	**02 02 12.7**	**0.0**
	baz=59						
MRKS	**Merke**	**3.01**	**9**	*e*Pg	**Pg**	**02 01 47.8**	**-0.9**
	1.4nm,0.3s						
MRKS				*e*Lg	Lg	02 02 27.3	
	8.1nm,0.3s						
KK31	**Karatay Array**	**3.68**	**336**	⇑Pg	**Pg**	**02 01 59.2**	**-2.3**
	0.2nm,0.3s,baz=154,slow=17,SNR=4.9						
KK31				⇓Lg	Lg	02 02 46.2	
	0.7nm,0.6s,baz=151,slow=29						
TKM2	**Tokmak 2**	**3.88**	**35**	Pg	**Pg**	**02 02 04.1**	**-1.2**
	0.1nm,0.3s						
TKM2				Lg	Lg	02 02 55.5	
	1.6nm,0.8s						
CEP	**Cherat**	**5.96**	**185**	P	**Pn**	**02 02 18.8**	**-0.3**
DANN	**Dangsing**	**14.66**	**138**	*e*P	**Pn**	**02 04 22.3**	**+3.9**
	14nm,0.8s						
GKN	**Gorkha**	**15.40**	**136**	*e*P	**Pn**	**02 04 29.9**	**+1.7**
	13nm,0.8s						
DMN	**Daman**	**15.97**	**136**	*e*P	**Pn**	**02 04 34.4**	**-1.2**
	9.8nm,0.6s						
PKIN	**Phulchoki**	**16.15**	**135**	*e*P	**Pn**	**02 04 36.9**	**-1.1**
	6.0nm,0.5s						
GUN	**Gumba**	**16.16**	**133**	*e*P	**P**	**02 04 41.8**	**+0.4**
PKI	**Pulchoki**	**16.16**	**135**	*e*P	**Pn**	**02 04 37.1**	**-1.1**
	7.8nm,0.7s						
JIRN	**Jiri**	**16.53**	**133**	*e*P	**Pn**	**02 04 44.0**	**+1.1**
	5.2nm,0.4s						
RAMN	**Ramite**	**17.31**	**133**	*e*P	**Pn**	**02 04 46.5**	**-6.0**
	9.3nm,0.5s						
TAPN	**Taplejung**	**17.64**	**130**	*e*P	**Pn**	**02 04 57.1**	**+0.3**
	14nm,1.0s						

*KRNET **20** 02:16:32.9±0.1, 42°.05N×76°.19E, h18km, mb2.4*
*SOME **20** 02:16:32.9, 42°.03N×76°.18E, h15km*
*NNC **20** 02:16:35.9±0.7, 42°.16N×76°.22E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=4.2km s-min=2.9km az=3.0*
ISC 20 02:16:32.7±1.0, 42°.05N±0°.03×76°.20E±0°.03, h14km±7km, n47, σ0s52/84, 2C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.20**	**10**	⇓*e*P	**Pg**	**02 16 37.2**	**-0.3**
	baz=11						
ULHL				⇓*e*S	**Sg**	**02 16 40.4**	**-0.3**
	baz=11						
BOOM	**Boomskoye usch**	**0.48**	**337**	⇓*e*P	**Pg**	**02 16 42.4**	**+0.1**
	baz=37						
BOOM				⇓*e*S	**Sg**	**02 16 49.4**	**+0.6**
	baz=37						
NRN	**Naryn**	**0.63**	**194**	⇓*e*P	**Pg**	**02 16 45.3**	**+0.1**
	baz=95						
NRN				⇓*e*S	**Sb**	**02 16 54.5**	**-0.1**
	baz=95						
TKM2	**Tokmak 2**	**0.98**	**333**	⇓*e*P	**Pb**	**02 16 51.1**	**-0.5**
	baz=33						
TKM2				⇓*e*S	**Sb**	**02 17 04.5**	**0.0**
	baz=33						
KST	**Kastek**	**1.01**	**350**	P	**Pn**	**02 16 53.1**	**+0.5**
	2.0nm,0.3s						
KST				S	**Sg**	**02 17 06.0**	**+0.5**
	5.6nm,0.3s						
KST	**Kastek**	**1.01**	**350**	*e*P	**Pb**	**02 16 51.7**	**-0.4**
	baz=51						
KST				*e*S	**Sb**	**02 17 05.3**	**+0.1**
	baz=51						
KST	**Kastek**	**1.01**	**350**	*e*P	**Pb**	**02 16 51.7**	**-0.4**
	2.0nm,0.2s						
KST				*e*S	**Sb**	**02 17 05.4**	**+0.1**
	5.6nm,0.3s						
IZV	**Izvestkoviy**	**1.03**	**17**	P	**Pn**	**02 16 53.7**	**+0.7**
	2.1nm,0.2s						
IZV				S	**Sn**	**02 17 07.1**	**-0.2**
	14nm,0.2s						
IZV	**Izvestkoviy**	**1.03**	**17**	*e*P	**Pb**	**02 16 52.3**	**-0.2**
	baz=17						
IZV				*e*S	**Sg**	**02 17 06.6**	**+0.4**
	baz=17						
IZV	**Izvestkoviy**	**1.03**	**17**	*e*P	**Pb**	**02 16 52.3**	**-0.2**
	2.1nm,0.2s						
IZV				*e*S	**Sg**	**02 17 06.7**	**+0.4**
	14nm,0.2s						
MTBS	**Maitube**	**1.09**	**9**	P	**Pg**	**02 16 54.5**	**+0.6**
	3.4nm,0.2s						
MTBS				S	**Sg**	**02 17 08.2**	**+0.1**
	18nm,0.2s						
MTBS	**Maitube**	**1.09**	**9**	*e*P	**Pb**	**02 16 53.2**	**-0.3**

TARG				⇑eS		Sn	02 17 13.0	+0.2
	baz=4.0							
MDOK	**Medeo**	**1.28**	**29**	Pg		**Pg**	02 16 57.4	0.0
	2.1nm,0.4s							
MDOK				Lg		Lg	02 17 13.5	
	5.2nm,0.4s							
MDOK	**Medeo**	**1.28**	**29**	eP		**Pn**	02 16 56.3	-0.1
	baz=29							
MDOK				eS		**Sn**	02 17 13.5	+0.1
	baz=29							
MDOK	**Medeo**	**1.28**	**29**	eP		**Pn**	02 16 56.3	-0.1
	2.1nm,0.4s							
MDOK				eS		**Sn**	02 17 13.5	+0.1
	5.2nm,0.4s							
KOTS	**Kotyrbulak**	**1.36**	**29**	P		**Pg**	02 16 59.5	+0.5
	2.0nm,0.2s							
KOTS				S		**Sg**	02 17 17.1	+0.4
	10.0nm,0.4s							
KOTS	**Kotyrbulak**	**1.36**	**29**	eP		**Pb**	02 16 58.4	+0.3
	baz=30							
KOTS				eS		**Sg**	02 17 16.6	-0.2
	baz=30							
KOTS	**Kotyrbulak**	**1.36**	**29**	eP		**Pb**	02 16 58.4	+0.3
	2.0nm,0.2s							
KOTS				eS		**Sg**	02 17 16.5	-0.2
	10.0nm,0.4s							
KRBS	**Karabastau**	**1.69**	**347**	P		**Pg**	02 17 05.1	-0.1
	1.4nm,0.2s							
KRBS				S		**Sg**	02 17 26.6	-0.6
	2.0nm,0.3s							
KRBS	**Karabastau**	**1.69**	**347**	eP		**Pb**	02 17 04.2	+0.6
	1.7nm,0.2s							
KRBS				eS		**Sg**	02 17 26.9	-0.3
	2.5nm,0.1s							
KTBS	**Karatobe**	**1.70**	**12**	P		**Pg**	02 17 05.2	-0.1
	1.8nm,0.2s							
KTBS				S		**Sg**	02 17 26.7	-0.7
	7.3nm,0.2s							
KTBS	**Karatobe**	**1.70**	**12**	eP		**Pb**	02 17 04.2	+0.4
	baz=12							
KTBS				eS		**Sg**	02 17 26.7	-0.7
	baz=12							
KTBS	**Karatobe**	**1.70**	**12**	eP		**Pb**	02 17 04.2	+0.4
	1.8nm,0.2s							
KTBS				eS		**Sg**	02 17 26.7	-0.7
	7.3nm,0.2s							
SGDS	**Sogindy**	**1.82**	**321**	P		**Pg**	02 17 07.2	-0.3
	1.2nm,0.3s							
SGDS				S		**Sg**	02 17 30.1	-1.1
	3.4nm,0.2s							
KUU	**Kurty**	**1.85**	**3**	P		**Pg**	02 17 08.0	-0.2
	2.6nm,0.2s							
KUU				S		**Sg**	02 17 31.4	-0.7
	3.8nm,0.2s							
KUU	**Kurty**	**1.85**	**3**	eP		**Pb**	02 17 06.7	+0.4
	baz=3.0							
KUU				eS		**Sg**	02 17 31.1	-1.0
	baz=3.0							
KUU	**Kurty**	**1.85**	**3**	eP		**Pb**	02 17 06.7	+0.4
	2.6nm,0.2s							
KUU				eS		**Sg**	02 17 31.1	-1.0
	3.8nm,0.2s							
CHKK	**Chushkaly**	**1.90**	**18**	P		**Pg**	02 17 08.9	-0.2
	1.6nm,0.1s							
CHKK				S		**Sg**	02 17 33.2	-0.5
	8.0nm,0.2s							
CHKK	**Chushkaly**	**1.90**	**18**	eP		**Pb**	02 17 08.1	+0.9
	1.6nm,0.1s							
CHKK				eS		**Sg**	02 17 33.2	-0.5
	8.0nm,0.2s							
SATY	**Saty**	**1.92**	**58**	P		**Pg**	02 17 09.8	+0.3
	2.0nm,0.2s							
SATY				S		**Sg**	02 17 34.5	0.0
	22nm,0.2s							
SATY	**Saty**	**1.92**	**58**	eP		**Pg**	02 17 08.8	-0.8
	2.0nm,0.2s							
SATY				eS		**Sg**	02 17 34.0	-0.5
	22nm,0.2s							
KURS	**Kuram**	**2.04**	**45**	Pg		**Pg**	02 17 11.4	-0.6
	1.8nm,0.5s							
KURS				Lg		Lg	02 17 37.2	
	6.5nm,0.5s							
KURS	**Kuram**	**2.04**	**45**	ePg		**Pb**	02 17 10.5	+0.8
	1.8nm,0.5s							
KURS				eLg		Lg	02 17 37.2	
	6.5nm,0.5s							
MRKS	**Merke**	**2.31**	**289**	Pg		**Pg**	02 17 17.8	+0.9
	0.9nm,0.2s							
MRKS				Lg		Lg	02 17 48.3	
	4.6nm,0.5s							
MRKS	**Merke**	**2.31**	**289**	ePg		**Pg**	02 17 15.7	-1.3
	1.1nm,0.2s							
MRKS				eLg		Lg	02 17 46.5	
	4.6nm,0.5s							
KPKS	**Kokpek**	**2.32**	**51**	Pg		**Pg**	02 17 16.3	-0.8
	1.5nm,0.2s							
KPKS				Lg		Lg	02 17 45.8	
	8.4nm,0.2s							
KPKS	**Kokpek**	**2.32**	**51**	ePg		**Pb**	02 17 15.1	+0.8
	2.8nm,0.2s							
KPKS				eLg		Lg	02 17 45.7	
	8.4nm,0.2s							
UZB	**Uzynbulak**	**2.36**	**61**	Pg		**Pg**	02 17 16.9	-1.0
	2.3nm,0.3s							
UZB				Lg		Lg	02 17 46.6	
	5.1nm,0.4s							
UZB	**Uzynbulak**	**2.36**	**61**	ePg		**Pb**	02 17 15.7	+0.6
	2.3nm,0.3s							
UZB				eLg		Lg	02 17 46.6	
	5.1nm,0.4s							
BLB	**Baldybastay**	**2.64**	**38**	Pg		**Pg**	02 17 22.0	-1.4
	2.5nm,0.2s							
BLB				Lg		Lg	02 17 55.7	
	5.2nm,0.3s							

IDC 20 02:17:16.4±2.1,3°.85S×129°.98E,h0km,mb3.7/4, mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=164.9km s-min=25.5km az=71.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.55**	**165**	Pn	Pn	02 21 10.8	+0.7
	0.2nm,0.3s,baz=349,slow=12,SNR=11						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**20.06**	**169**	P	P	02 21 51.2	-0.3
	0.7nm,0.4s,baz=350,slow=10,SNR=13						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**65.61**	**326**	P	P	02 28 02.3	0.0
	0.3nm,0.4s,baz=131,slow=8.2,SNR=4.5						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**69.84**	**328**	P	P	02 28 28.8	-0.1
	1.1nm,0.7s,baz=127,slow=5.5,SNR=12						
	1.1nm,0.7s						
BVAR	**Borovoye Array**	**75.41**	**327**	P	P	02 29 02.4	+0.3
	0.6nm,0.5s,baz=130,slow=6.2,SNR=2.8						
	0.6nm,0.5s						

*FUNV **20** 02:19:37.2, 11°.77N×70°.80W, h26km, MW3.9*
*RSNC **20** 02:19:38.0±0.8, 11°.69N×70°.87W, h27km, ML3.7, Mw3.7*
ISC 20 02:19:33.7±1.1,11°.75N±0°.06×70°.84W±0°.03,h10km,n34, σ2°.12/59,2C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**1.13**	**268**	⇑eP		**Pb**	02 19 56.9	+1.6
URIC				eS		**Sb**	02 20 12.2	+2.1
URIC				i			02 20 13.1	
	comp=Z,314nm,0.1s							
SIQV	**Siquisique**	**1.49**	**137**	eP		**Pn**	02 20 02.4	+1.8
SIQV				eS		**Sn**	02 20 20.9	+0.7
CURV	**Curarigua**	**1.93**	**153**	eP		**Pn**	02 20 07.2	+0.5
CURV				eS		**Sn**	02 20 30.1	-1.0
JACV	**Jacura**	**2.08**	**108**	eP		**Pn**	02 20 09.7	+0.9
JACV				eS		**Sn**	02 20 33.7	-1.0
CRJC	**Cerrejon, Guaj**	**2.13**	**250**	⇑eP		**Pn**	02 20 09.9	+0.5
CRJC				eS		**Sn**	02 20 35.6	-0.4
CRJC				i			02 20 36.6	
	comp=Z,624nm,0.3s							
MCQV	**Machiques**	**2.37**	**225**	eP		**Pn**	02 20 14.1	+1.4
MCQV				eS		**Sn**	02 20 42.6	+0.7
TEPV	**Terepaima**	**2.40**	**137**	eP		**Pn**	02 20 13.9	+0.7
TEPV				eS		**Sn**	02 20 40.7	-2.0
SANV	**Sanarito**	**2.58**	**150**	eP		**Pn**	02 20 16.9	+1.2
SDV	**Santo Domingo**	**2.85**	**176**	eP		**Pn**	02 20 20.7	+1.2
SDV				eS		**Sn**	02 20 52.8	-1.2
SDV				i			02 21 00.8	
	comp=Z,70nm,0.6s							
SMRC	**Santa Marta, M**	**3.37**	**260**	eP		Pn	02 20 24.7	-1.7
SMRC				eS		**Sn**	02 21 03.4	-3.1
SMRC				i			02 21 11.6	
	comp=Z,100nm,0.6s							
SOCV	**Socops**	**3.44**	**180**	eP		**Pn**	02 20 29.0	+1.5
SOCV				eS		**Sn**	02 21 06.8	-1.6
BENV	**Beln**	**3.65**	**119**	eP		**Pn**	02 20 31.7	+1.3
ARGC	**Ariguani, Magd**	**3.84**	**241**	eP		**Pn**	02 20 33.0	+0.1
ARGC				eS		**Sn**	02 21 16.3	-1.8
ARGC				i			02 21 25.3	
	comp=Z,63nm,0.3s							
BAUV	**El Baul**	**3.92**	**135**	eP		**Pn**	02 20 34.3	+0.3
BAUV				eS		**Sn**	02 21 16.2	-3.9
TACV	**Tcata**	**4.07**	**113**	eP		**Pn**	02 20 35.5	-0.7
TACV				eS		**Sn**	02 21 20.1	-3.9
CAPV	**Capacho**	**4.12**	**201**	eP		**Pn**	02 20 38.0	+1.0
CAPV				eS		**Sn**	02 21 23.0	-2.4
SJCC	**San Jacinto, C**	**4.64**	**247**	eP		**Pn**	02 20 45.3	+1.3
SJCC				eS		**Sn**	02 21 37.0	-1.1
SJCC				i			02 21 45.6	
	comp=Z,49nm,0.4s							
PAMC	**Pamplona, Colo**	**4.75**	**203**	eP		**Pn**	02 20 47.2	+1.3
PAMC				eS		**Sn**	02 21 39.5	-1.7
PAMC				i			02 21 42.9	
	comp=Z,101nm,0.3s							
TAMC	**Tame, Arauca**	**5.36**	**190**	eP		**Pn**	02 20 54.4	+0.5
TAMC				eS		**Sn**	02 21 53.6	-2.2
TAMC				i			02 21 58.3	
	comp=Z,41nm,0.4s							
BARC	**Barichara**	**5.62**	**204**	eP		**Pn**	02 20 59.3	+1.6
BARC				i			02 22 08.2	
	comp=Z,70nm,0.5s							
ZARC	**Zaragoza, Cauc**	**5.79**	**223**	eP		**Pn**	02 20 59.5	-0.3
ZARC				eS		**Sn**	02 22 02.9	-3.5
ZARC				i			02 22 09.6	
	comp=Z,71nm,1.2s							
UREC	**San Jos de Ur**	**6.09**	**230**	eP		**Pn**	02 21 05.4	+1.4
UREC				eS		**Sn**	02 22 11.3	-2.5
RUSC	**La Rusia**	**6.23**	**201**	eP		**Pn**	02 21 07.2	+1.0
RUSC				eS		**Sn**	02 22 14.4	-3.3
RUSC				i			02 22 16.8	
	comp=Z,33nm,0.5s							
PTBC	**PUERTO BERRIO,**	**6.29**	**215**	eP		**Pn**	02 21 06.5	-0.1
PTBC				eS		**Sn**	02 22 15.0	-3.5
PTBC				i			02 22 22.2	
	comp=Z,24nm,0.6s							
APAC	**Apartado, Choc**	**6.83**	**236**	eP		**Pn**	02 21 14.8	+0.8
APAC				i			02 22 31.4	
	comp=Z,11nm,1.3s							
SPBC	**San Pablo de B**	**6.85**	**208**	eP		**Pn**	02 21 14.9	+0.5
SPBC				eS		**Sn**	02 22 28.5	-4.0
SPBC				i			02 22 35.8	
	comp=Z,21nm,0.4s							
DBBC	**Dabeiba**	**7.08**	**229**	eP		**Pn**	02 21 18.1	+0.5
DBBC				i			02 22 50.9	
	comp=Z,9.6nm,0.7s							
DBBC				i			02 22 52.0	
	comp=Z,14nm,0.8s							
SDDR	**Presa de Saban**	**7.21**	**357**	eP		**Pn**	02 21 20.2	+0.9
SDDR				eS		**Sn**	02 22 35.4	-5.8
SDDR				i			02 22 41.5	
	comp=Z,50nm,0.4s							
NORC	**Norcasia**	**7.32**	**213**	eP		**Pn**	02 21 23.1	+2.2
NORC				i			02 22 44.4	
	comp=Z,15nm,1.1s							
CHIC	**Chingaza**	**7.63**	**202**	eP		**Pn**	02 21 26.4	+1.0
CHIC				eS		**Sn**	02 22 48.6	-3.5
CHIC				i			02 22 58.8	
	comp=Z,9.3nm,0.5s							
GUY2C	**Guyana, Caldas**	**7.88**	**215**	eP		**Pn**	02 21 30.7	+1.9
GUY2C				eS		**Sn**	02 22 56.0	-2.4
GUY2C				i			02 23 05.7	
	comp=Z,15nm,0.6s							
ORTC	**Ortega, Tolima**	**8.93**	**210**	eP		**Pn**	02 21 44.6	+1.7
ORTC				eS		**Sn**	02 23 20.4	-3.2
ORTC				i			02 23 27.5	
	comp=Z,12nm,1.3s							
PRAC	**Prado**	**8.93**	**207**	eP		**Pn**	02 21 44.5	+1.6
PRAC				eS		**Sn**	02 23 20.1	-3.6
PRAC				i			02 23 25.1	
	comp=Z,11nm,0.9s							
MACC	**Macarena, Meta**	**10.00**	**198**	eP		Pn	02 21 50.2	-7.4
MACC				eS		Sn	02 23 40.4	-9.5
MACC				i			02 24 05.3	
	comp=Z,18nm,0.7s							

*IDC **20** 02:19:29.6±21.0, 30°.54N×46°.86E, h0km, mb3.6/6, mbtmp3.5/7, ML2.3/1, Error ellipse: s-maj=417.4km s-min=30.1km az=10.0*
*ISN **20** 02:19:41.3±0.8, 31°.92N×47°.08E, h9km±20km, ML3.5*
*TEH **20** 02:19:44.3, 32°.04N×47°.24E, h20km±27km, ML3.5*
ISC 20 02:19:42.5±0.8,31°.92N±0°.06×47°.10E±0°.04,h10km,n45, σ0°.98/48,mb3.5/6,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAFI	**Al-Rafai**	**0.86**	**257**	ePg	Pg	02 19 58.0	-1.1
RAFI				eSg	**Sg**	02 20 09.6	-0.8
RAFI				AML	AML	02 20 25.0	
	comp=E,2μm,0.3s						
RAFI				AML	AML	02 20 28.9	
	comp=N,2μm,0.6s						
AHWZ	**Ahwaz**	**1.44**	**114**	Pg	**Pg**	02 20 11.2	+1.0
AHWZ				Sg	**Sg**	02 20 30.0	+1.1
IBDR	**Badra**	**1.55**	**321**	ePn	**Pn**	02 20 11.0	+0.8
IBDR				eSn	**Sn**	02 20 32.0	+1.7
IKFM	**Kafar-mosalman**	**1.72**	**21**	Pg	**Pb**	02 20 13.3	-1.0
AMIS	**Naft Sefid**	**1.88**	**97**	Pg	**Pn**	02 20 15.8	+1.1
IKOM	**Komasi**	**2.28**	**9**	Pn	**Pn**	02 20 21.1	+0.7
KCHF	**Cheshme Sefid,**	**2.35**	**359**	Pn	**Pn**	02 20 22.6	+1.2
IGHG	**Ghaleghazi**	**2.45**	**350**	Pn	**Pn**	02 20 24.0	+1.2
HSAM	**Samen**	**2.61**	**28**	Pn	**Pn**	02 20 25.6	+0.5
IBZA	**Bozab**	**2.63**	**14**	Pn	**Pn**	02 20 26.1	+0.8
BHD	**Baghdad**	**2.67**	**301**	ePn	**Pn**	02 20 25.5	0.0
BHD				eSn	**Sn**	02 20 59.0	+1.1
BHD				AML	AML	02 21 24.9	
	comp=E,285nm,0.5s						
IDHR	**Dehrash**	**2.84**	**348**	Pn	**Pn**	02 20 28.9	+0.8
ILIN	**Lien**	**3.00**	**358**	Pn	**Pn**	02 20 31.0	+0.7
JHBN	**Jahan bin**	**3.04**	**83**	Pn	**Pn**	02 20 31.4	+0.4
ZNGN	**Zangian**	**3.19**	**85**	Pn	**Pn**	02 20 33.5	+0.3
IPIR	**Pirpir**	**3.30**	**76**	Pn	**Pn**	02 20 35.7	+1.2
HAGD	**Aghdareh**	**3.36**	**30**	Pn	**Pn**	02 20 35.9	+0.5
IBRJ	**Brojen**	**3.54**	**89**	Pn	**Pn**	02 20 38.2	+0.4
KLNJ	**Kolanjah**	**3.94**	**102**	Pn	**Pn**	02 20 44.1	+0.7
IKLH	**Kolahrood**	**4.03**	**68**	Pn	**Pn**	02 20 45.3	+0.8
QAMS	**Qamsar**	**4.05**	**62**	Pn	**Pn**	02 20 45.7	+0.9
IRAZ	**Razeghan**	**4.20**	**33**	Pn	**Pn**	02 20 48.3	+1.4
IGAR	**Gharneh**	**4.22**	**82**	Pn	**Pn**	02 20 47.3	+0.2
IQOM	**Qom**	**4.42**	**48**	Pn	**Pn**	02 20 49.8	-0.1
IRAM	**Ramesheh**	**4.49**	**90**	Pn	**Pn**	02 20 51.4	+0.5
IZEF	**Zefreh**	**4.53**	**76**	Pn	**Pn**	02 20 51.2	-0.2
KRSH	**Karshahi**	**4.70**	**63**	Pn	**Pn**	02 20 53.9	+0.2
QSDN	**Sirdan**	**4.89**	**20**	Pn	**Pn**	02 20 57.1	+0.7
ISFB	**Sefidab**	**4.95**	**59**	Pn	**Pn**	02 20 57.7	+0.7
IGZV	**Ghazvin**	**5.15**	**29**	Pn	**Pn**	02 21 00.2	+0.2
JIR1	**Jirandeh**	**5.28**	**24**	Pn	**Pn**	02 21 01.8	+0.2
KLST	**Kelardasht - M**	**5.64**	**34**	Pn	**Pn**	02 21 06.5	-0.2
MZPU	**Pul - Mazandar**	**5.84**	**38**	Pn	**Pn**	02 21 09.9	+0.5
ILAS	**Lasjerd**	**5.98**	**53**	Pn	**Pn**	02 21 11.2	-0.2
IFIR	**Firoozkooh**	**6.00**	**50**	Pn	**Pn**	02 21 11.7	+0.2
IHRS	**Heris**	**6.39**	**360**	Pn	**Pn**	02 21 17.7	+0.8
ISHM	**Shahmirzad**	**6.45**	**51**	Pn	**Pn**	02 21 18.0	+0.2
IMRD	**Marand**	**6.88**	**351**	Pn	**Pn**	02 21 24.6	+1.0
BRTR	**Keskin Array B**	**13.41**	**309**	Pn	**Pn**	02 22 55.2	+2.2
	baz=130,slow=13,SNR=4.5						
	comp=E,0.7nm,0.9s						
AKASG	**Malin Array Be**	**22.97**	**330**	P	**P**	02 24 46.8	-0.2
	comp=E,0.4nm,0.4s,baz=136,slow=8.7,SNR=6.2						
	comp=E,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**29.80**	**42**	P	**P**	02 25 49.0	-0.4
	comp=E,0.4nm,0.6s,baz=244,slow=9.1,SNR=4.0						
	comp=E,0.4nm,0.6s						
MKAR	**Makanchi Array**	**30.71**	**51**	P	**P**	02 25 55.4	-2.1
	comp=E,0.4nm,0.6s,baz=251,slow=4.4,SNR=3.1						
	comp=E,0.4nm,0.6s						
FINES	**FINESS Array B**	**32.56**	**341**	P	**P**	02 26 12.6	-1.0
	comp=E,0.6nm,0.5s,baz=146,slow=8.6,SNR=6.4						
	comp=E,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**34.72**	**39**	P	**P**	02 26 30.7	-1.7
	comp=E,0.5nm,0.3s,baz=251,slow=9.0,SNR=1.4						
	comp=E,0.5nm,0.3s						
NOA	**NORSAR Array B**	**37.35**	**332**	P	**P**	02 26 52.8	-2.2
	comp=E,0.6nm,0.8s,baz=119,slow=7.6,SNR=1.3						
	comp=E,0.6nm,0.8s						

*BJI **20** 02:21:57.3±0.0, 5°.60S×147°.58E, h195km, mb5.5/78, mB5.1/42*
*MOS **20** 02:21:58.5±0.8, 5°.50S×147°.23E, h186km, mb5.3/43, Error ellipse: s-maj=9.1km s-min=4.9km az=113.4*
*NEIC **20** 02:21:59.9±1.6, 5°.64S±0°.04×147°.26E±0°.07, h182km±4km, mb5.2/285, Mww5.3/18, Error ellipse: s-maj=10.2km s-min=5.2km az=117.0*
*NEIC **20** 02:22:00.5, 5°.62S×147°.28E, h180km*
*IDC **20** 02:22:00.6±0.6, 5°.59S×147°.31E, h198km±4km, mb4.9/22, mbtmp5.4/27, MS3.9/19, Error ellipse: s-maj=10.3km s-min=6.9km az=93.0*
*GCMT **20** 02:22:00.9±0.1, 5°.69S±0°.01×147°.42E±0°.01, h192km±1km, MW5.3/146, Moment Tensor Solution. s107,c142; s146,c244; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.42±.02; $M_{\theta\theta}$-0.72±.02; $M_{\phi\phi}$0.29±.02; $M_{r\theta}$-0.50±.01; $M_{\theta\phi}$0.11±.02; $M_{\phi r}$-0.83±.01; Best double couple: $M_0$1.11900×10^{17} NP1:ϕ_s231.00000°, δ78.00000°, λ59.00000°. NP2:ϕ_s123.00000°, δ33.00000°, λ158.00000°. Principal axes: T 1.2880, Plg48.0000°, Azm109.0000°; N -0.3380, Plg30.0000°, Azm238.0000°; P -0.9500, Plg27.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **20** 02:22:00.5, 5°.62S×147°.28E, h180km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{16}Nm; M_{rr}2.22; $M_{\theta\theta}$-5.17; $M_{\phi\phi}$2.96; $M_{r\theta}$-3.98; $M_{\theta\phi}$-4.09; $M_{\phi r}$-6.13; Fault plane solution: $M_0$9.43000×10^{16} NP1: ϕ_s109.70000°, δ35.75000°, λ165.46000°. NP2: ϕ_s211.58000°, δ81.57000°, λ55.13000°. Principal axes: T 8.7332, Plg43.0000°, Azm88.0000°; N 1.3884, Plg34.0000°, Azm217.0000°; P -10.1216, Plg28.0000°, Azm329.0000°;*
*DJA **20** 02:22:01.0±0.3, 6°.S±2°.×14°.7E±°, h193km±3km, M5.3/61, mB5.7/32, mb5.4/61, MLv5.7/5, Mw(mB)5.2/32, MwMwp5.1/2, Mwp5.3/2*
ISC 20 02:22:00.1±0.3,5°.61S±0°.03×147°.28E±0°.03,h195km±2km, h196km:pP-P,n1315,σ1s14/1270,mb5.2/236,67C-66D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.55**	**1**		**Pn**	02 22 57.1	+0.9
PMG	**Port Moresby**	**3.77**	**182**	Pn	**Pn**	02 22 58.0	-1.0
PMG	**Port Moresby**	**3.77**	**182**	P	**Pn**	02 22 58.0	-1.0
PMG	**Port Moresby**	**3.77**	**182**	d iP	**Pn**	02 22 57.9	-1.0
PMG	**Port Moresby**	**3.77**	**182**	P	**Pn**	02 22 58.3	-0.6
	1μm,0.3s,baz=28,slow=5.5,SNR=408						
PMG				S	**Sn**	02 23 42.1	-3.0
	926nm,0.3s,baz=215,slow=16,SNR=6.7						
PMG				LR	LR	02 24 50.7	
	comp=Z,2μm,18.1s,baz=217,slow=45						
KAVG	**Kavieng**	**4.63**	**50**	P	**Pn**	02 23 10.1	+0.4
KRVT	**Keravat (AS076**	**4.90**	**75**	P	**Pn**	02 23 12.6	-0.6
	632nm,0.6s,baz=122,slow=0.2,SNR=24						
RABL	**Rabaul**	**5.06**	**74**		**Pn**	02 23 15.0	-0.3
RABL	**Rabaul**	**5.06**	**74**	P	**Pn**	02 23 15.4	+0.1
TABU	**Tabubil**	**6.04**	**273**	P	**Pn**	02 23 28.3	+0.3
JAY	**Jayapura**	**7.25**	**295**	P	**Pn**	02 23 43.5	-0.2
	199nm,0.9s,2μm1.9nm						
GENI	**Genyem**	**7.71**	**293**	P	**Pn**	02 23 49.6	0.0
GENI	**Genyem**	**7.71**	**293**	P	**Pn**	02 23 48.8	-0.8
	308nm,0.9s,3.4nm						
COEN	**Coen**	**9.23**	**206**	P	**Pn**	02 24 10.9	+1.4
	baz=9.3						
COEN	**Coen**	**9.23**	**206**	Pn	**Pn**	02 24 11.3	+1.8
COEN	**Coen**	**9.23**	**206**	P	**Pn**	02 24 11.3	+1.8
MTSU	**Mount Surprise**	**12.78**	**193**	P	**P**	02 24 57.4	-1.4
	baz=13,SNR=46						
MTSU	**Mount Surprise**	**12.78**	**193**	P	**P**	02 24 57.5	-1.3
HNR	**Honiara**	**13.11**	**108**	Pn	**Pn**	02 24 58.8	-0.5
HNR	**Honiara**	**13.11**	**108**	P	**Pn**	02 24 59.0	-0.3
HNR	**Honiara**	**13.11**	**108**	P	**Pn**	02 24 59.2	-0.2
	37μm,0.7s,baz=230,slow=3.1,SNR=37						
HNR				S	**S**	02 27 26.6	0.0
	726nm,0.3s,baz=170,slow=21,SNR=1.2						
TV1H	**Townsville Har**	**13.57**	**182**	P	**P**	02 25 07.6	0.0
AUAYR	**Ayr State High**	**13.88**	**180**	P	**P**	02 25 10.8	-0.2
CTA	**Charters Tower**	**14.42**	**184**	P	**P**	02 25 18.0	+0.9
CTA	**Charters Tower**	**14.42**	**184**	P	**P**	02 25 17.3	+0.2
	87nm,0.7s,baz=5.1,slow=12,SNR=40						
CTA				S	**Sn**	02 27 58.1	+1.2
	12nm,0.9s,baz=298,slow=11,SNR=1.6						
CTA				ScP	**ScP**	02 33 31.8	-0.6
	10nm,0.8s,baz=319,slow=2.9,SNR=5.1						
CTAO	**Charters Tower**	**14.42**	**184**		**P**	02 25 17.2	+0.2
CTAO	**Charters Tower**	**14.42**	**184**	P	**P**	02 25 18.0	+0.9
CTAO	**Charters Tower**	**14.42**	**184**	P	**P**	02 25 17.2	+0.2
FAKI	**Fak Fak**	**15.23**	**280**	P	**P**	02 25 26.2	+0.2
FAKI				IAmb	IAmb	02 25 42.5	
	comp=Z,53nm,0.8s						
SAUI	**Saumlaki**	**16.04**	**261**	P	**Pn**	02 25 36.1	+0.7
SAUI	**Saumlaki**	**16.04**	**261**	P	**Pn**	02 25 37.1	+1.7
SAUI	**Saumlaki**	**16.04**	**261**	P	**Pn**	02 25 39.9	+4.5
	comp=Z,372nm,0.9s,comp=Z,9μm						
KDU	**Kakadu**	**16.22**	**243**	P	**P**	02 25 37.1	+0.2
	baz=16,SNR=388						
KDU	**Kakadu**	**16.22**	**243**	P	**Pn**	02

AS31 IAmb IAmb 02 26 46.9
comp=Z,72nm,1.1s
ASAR Alice Springs 22.09 214 P P 02 26 41.1 +1.3
ASAR Alice Springs 22.09 214 P P 02 26 41.5 +1.6
comp=Z,148nm,0.7s,baz=50,slow=8.6,SNR=1051
ASAR S **S 02 30 30.7 +1.5**
comp=Z,56nm,1.0s,baz=33,slow=18,SNR=9.9
ASAR ScP **ScP 02 33 48.1 -0.8**
comp=Z,16nm,0.9s,baz=42,slow=3.3,SNR=13
ASAR LR LR 02 36 28.5
comp=Z,804nm,19.0s,baz=65,slow=39
comp=Z,148nm,0.7s
KOUNC Koumac, New Ca 22.20 134 P P 02 26 41.0 +0.2
KOUNC IAmb IAmb 02 26 56.1
comp=Z,108nm,1.0s
KOUNC Koumac, New Ca 22.20 134 P P 02 26 41.1 +0.2
INKA Innaminka 22.87 195 P P 02 26 48.8 +2.0
SOEI Soe 23.17 258 P P 02 26 50.4 +0.5
SOEI Soe 23.17 258 P P 02 26 50.9 +1.0
SOEI Soe 23.17 258 P P 02 26 50.8 +0.9
comp=Z,404nm,0.8s,comp=Z,4μm comp=Z,2μm
GC1S Gold Coast 1 S 23.19 166 P P 02 26 51.7 +2.0
AULRC Lightning Ridg 23.70 178 P P 02 26 55.4 +1.1
BATI Baumata 23.83 257 P P 02 26 57.2 +1.5
comp=Z,1μm,0.8s,comp=Z,11μm
BATI Baumata 23.83 257 P P 02 26 57.6 +1.9
comp=Z,988nm,0.7s,baz=135,slow=1.0,SNR=76
KMSI Cibinong 24.07 284 P P 02 27 02.1 +4.2
comp=Z,172nm,0.6s,comp=Z,2μm
LIFNC LIFOU 24.54 130 P P 02 27 03.6 +1.5
NOUC Port Laguerre 24.64 134 P P 02 27 03.8 +0.9
OOD Oodnadatta 24.66 205 P P 02 27 04.8 +1.7
DZM Mont Dzumac 24.72 133 P P 02 27 02.9 -0.9
DZM Mont Dzumac 24.72 133 P P 02 27 04.4 +0.6
DZM Mont Dzumac 24.72 133 LR LR 02 35 19.4
comp=Z,1μm,18.6s,baz=276,slow=32
ONTNC Ouen Toro 24.88 134 P P 02 27 05.1 0.0
LUWI Luwuk 24.88 280 P P 02 27 06.9 +1.6
LUWI Luwuk 24.88 280 P P 02 27 09.9 +4.6
comp=Z,111nm,0.6s,comp=Z,15μm
ARMA Armidale 25.01 171 P P 02 27 07.7 +1.4
baz=25,SNR=103
ARMA Armidale 25.01 171 P P 02 27 07.1 +0.7
ARMA Armidale 25.01 171 P P 02 27 07.9 +1.5
GTOI Gorontalo 25.02 284 P P 02 27 15.2 +8.7
MMRI Maumere 25.03 262 P P 02 27 05.4 -1.2
MMRI Maumere 25.03 262 P P 02 27 05.9 -0.7
MMRI Maumere 25.03 262 P P 02 27 05.6 -1.0
comp=Z,488nm,1.1s,comp=Z,5μm
YATNC Mamie plateau, 25.04 133 P P 02 27 07.4 +0.8
OUENC Ouen Island, N 25.22 133 P P 02 27 08.0 -0.2
OUENC IAmb IAmb 02 27 11.2
comp=Z,73nm,0.8s
OUENC Ouen Island, N 25.22 133 P P 02 27 09.7 +1.5
MARNC Mare, Loyalty 25.55 130 P P 02 27 11.3 +0.1
MARNC Mare, Loyalty 25.55 130 P P 02 27 13.4 +2.2
AUPHS Peel High Scho 25.58 173 P P 02 27 13.0 +1.6
EDFI Ende, Flores 25.58 262 P P 02 27 10.2 -1.5
comp=Z,471nm,0.8s,comp=Z,4μm
PINNC Pines Island, 25.78 133 P P 02 27 14.5 +1.2
CMSA Cobar Meteorol 25.83 183 P P 02 27 14.6 +1.0
baz=26,SNR=13
CMSA Cobar Meteorol 25.83 183 P P 02 27 15.0 +1.4
LCRK Leigh Creek 26.14 198 P P 02 27 17.7 +1.3
AUDCS Dubbo College 26.51 177 P P 02 27 20.9 +1.2
WRKA Warakurna 26.54 221 P P 02 27 21.1 +1.0
baz=27,SNR=48
WRKA Warakurna 26.54 221 P P 02 27 21.5 +1.4
STKA Stephens Creek 26.67 191 P P 02 27 21.1 0.0
STKA Stephens Creek 26.67 191 P P 02 27 21.8 +0.7
comp=Z,13nm,0.7s,baz=359,slow=8.6,SNR=26
STKA S **S 02 31 41.5 -0.3**
comp=Z,13nm,1.1s,baz=209,slow=21,SNR=3.1
STKA ScP **ScP 02 34 01.8 +0.3**
comp=Z,13nm,0.9s,baz=42,slow=4.6,SNR=5.4
STKA LR LR 02 38 25.6
comp=Z,208nm,18.4s,baz=1.2,slow=37
comp=Z,13nm,0.7s
BASI Baing, Sumba 26.84 259 P P 02 27 24.2 +1.4
comp=Z,654nm,0.9s,comp=Z,5μm
BKSI Bulukumba 27.04 269 P P 02 27 27.3 +2.7
comp=Z,35nm,1.2s,comp=Z,785nm
TOLI2 Tolitoli 27.30 283 P P 02 27 27.3 +0.3
KAPI Kappang 27.42 270 P P 02 27 27.9 -0.2
KAPI Kappang 27.42 270 P P 02 27 28.6 +0.6
KAPI Kappang 27.42 270 P **P 02 27 27.7 -0.3**
comp=Z,6.7nm,0.3s,baz=67,slow=7.0,SNR=5.9
comp=Z,6.7nm,0.3s
TTSI Tana Toraja 27.50 274 P P 02 27 35.7 +6.9
MULG Mulgathing 27.52 205 P P 02 27 29.7 +1.0
MGCD Mangrove Creek 27.69 173 P P 02 27 31.5 +1.4
baz=28,SNR=14
MGCD Mangrove Creek 27.69 173 P P 02 27 32.0 +1.8
LHI Lord Howe Isla 28.04 158 P P 02 27 33.9 +0.6
LHI IAmb IAmb 02 27 36.8
comp=Z,111nm,1.3s
HTT Hallett 28.75 195 P P 02 27 40.9 +1.3
baz=29,SNR=5.7
HTT Hallett 28.75 195 P P 02 27 41.2 +1.5
BBOO Buckleboo 29.01 200 P P 02 27 42.7 +0.8
baz=29,SNR=13
BBOO Buckleboo 29.01 200 P P 02 27 42.7 +0.8
BBOO IAmb IAmb 02 27 43.4
comp=Z,25nm,0.8s
BBOO Buckleboo 29.01 200 P P 02 27 42.9 +1.0
PLAI Plampang 29.44 262 P P 02 27 44.9 -1.0
PLAI Plampang 29.44 262 P P 02 27 44.4 -1.5
comp=Z,122nm,0.7s
CAN Canberra 29.61 177 P P 02 27 48.4 +1.2
CAN IAmb IAmb 02 27 49.5
comp=Z,51nm,0.6s
CAN Canberra 29.61 177 P P 02 27 48.9 +1.7
CAN Canberra 29.61 177 P P 02 27 48.4 +1.2
CAN pmax pmax
comp=Z,51nm,0.6s
CNB Canberra Magne 29.62 177 P P 02 27 48.9 +1.6
baz=30,SNR=22
CNB Canberra Magne 29.62 177 P P 02 27 49.1 +1.8
MBWA Marble Bar 30.85 237 P P 02 27 59.0 +0.7
MBWA IAmb IAmb 02 27 59.8
comp=Z,52nm,0.7s
MBWA Marble Bar 30.85 237 P P 02 27 59.0 +0.7
MBWA Marble Bar 30.85 237 P P 02 27 59.0 +0.7
MBWA pP **pP 02 28 38.1 -0.6**
MBWA sP **sP 02 28 59.4 -2.0**
FORT Forrest 30.88 214 P P 02 27 59.6 +1.3
baz=31,SNR=25
FORT Forrest 30.88 214 P P 02 27 58.8 +0.5
FORT IAmb IAmb 02 28 00.5
comp=Z,60nm,0.8s
FORT Forrest 30.88 214 P P 02 28 00.3 +1.9
PSA00 Pilbara Seismi 30.94 237 P P 02 27 59.1 +0.1
PSA00 IAmb IAmb 02 28 00.6
comp=Z,33nm,0.7s
PSA00 Pilbara Seismi 30.94 237 P P 02 28 00.0 +0.9
MILA Mila 31.34 177 P P 02 28 03.8 +1.4
baz=32,SNR=5.6
ARPS Mount Arapiles 31.41 188 P P 02 28 04.5 +1.6
baz=32,SNR=31
ARPS Mount Arapiles 31.41 188 P P 02 28 04.5 +1.6
FUNA Funafuti 31.80 97 P P 02 28 06.7 0.0
FUNA Funafuti 31.80 97 P P 02 28 07.4 +0.8
FUNA Funafuti 31.80 97 P P 02 28 06.6 0.0
TOO Toolangi 31.85 183 P P 02 28 08.6 +1.7
baz=32,SNR=12
TOO Toolangi 31.85 183 IAmb IAmb 02 28 09.4
comp=Z,50nm,0.9s
TOO Toolangi 31.85 183 P P 02 28 08.8 +1.9
BRAT Ballarat 31.93 185 P P 02 28 09.6 +2.1
MSVF Nonsavu 32.38 114 P P 02 28 11.9 +0.1
MSVF IAmb IAmb 02 28 18.0
comp=Z,63nm,0.8s
MSVF Nonsavu 32.38 114 P P 02 28 13.0 +1.2
MSVF Nonsavu 32.38 114 *c iP* **P 02 28 13.1 +1.2**
MSVF pmax pmax
comp=Z,65nm,0.8s
MSVF Nonsavu 32.38 114 P P 02 28 12.7 +0.9
JCJ Chichijima 32.89 352 P P 02 28 15.8 -0.1
JAGI Jajag, Banyuwa 33.00 263 P P 02 28 14.9 -2.3
JAGI Jajag, Banyuwa 33.00 263 P P 02 28 16.6 -0.5
JAGI Jajag, Banyuwa 33.00 263 P P 02 28 15.4 -1.7
comp=Z,109nm,0.9s
DGTI Dogotuki 33.53 111 P P 02 28 22.3 +0.6
TAVE Taveuni 33.97 112 P P 02 28 26.2 +0.8

MEEK Meekatharra 34.42 229 P P 02 28 30.3 +1.1
baz=34,SNR=43
MEEK Meekatharra 34.42 229 P P 02 28 30.7 +1.4
KMBL Kambalda 34.98 220 P P 02 28 35.2 +1.2
baz=35,SNR=14
KMBL Kambalda 34.98 220 P P 02 28 35.3 +1.3
FUTU Fugatoga 35.11 107 P P 02 28 37.3 +2.0
FUTU Fugatoga 35.11 107 P P 02 28 36.6 +1.4
PWJI Pagerwojo 35.30 264 P P 02 28 43.8 +6.9
LKBA Tubou, Lakemba 35.38 114 P P 02 28 39.0 +1.5
AULHS Lilydale High 35.48 180 P P 02 28 40.1 +2.0
GIRL Giralia 36.11 239 P P 02 28 45.4 +1.7
baz=36,SNR=16
GIRL Giralia 36.11 239 P P 02 28 44.6 +0.9
WOJI Wonogiri, Jawa 36.17 264 P P 02 28 45.3 +1.0
comp=Z,150nm,0.7s,comp=Z,11μm
MOO Moorlands 36.67 180 P P 02 28 50.3 +2.1
baz=37,SNR=4.7
MOO Moorlands 36.67 180 P P 02 28 50.1 +1.9
JOW Kunigami 37.14 331 P P 02 28 51.9 -0.4
JOW Kunigami 37.14 331 P P 02 28 53.3 +1.0
MORW Morawa 37.64 228 P P 02 28 57.5 +1.0
baz=38,SNR=18
MORW Morawa 37.64 228 IAmb IAmb 02 28 58.4
comp=Z,42nm,0.9s
MORW Morawa 37.64 228 P P 02 28 57.7 +1.2
KLBR Kellerberrin 37.85 223 P P 02 28 58.9 +0.6
baz=38,SNR=26
KLBR Kellerberrin 37.85 223 P P 02 28 58.7 +0.5
BLDU Ballidu 38.00 225 P P 02 29 00.1 +0.5
baz=38,SNR=26
BLDU Ballidu 38.00 225 P P 02 29 00.1 +0.5
KPJI Karang Pucung 38.14 265 P P 02 29 01.6 +0.7
comp=Z,67nm,0.6s
TWGBT Beinan 38.14 319 P P 02 29 01.4 +0.6
TWG Pinlang 38.15 319 P P 02 28 59.5 -1.3
OUZ Omahuta 38.16 144 P P 02 29 03.0 +2.2
YULB Yu-li 38.41 320 P P 02 29 02.8 -0.2
YULB Yu-li 38.41 320 P P 02 29 03.2 +0.2
CMJI Cimerak 38.62 265 P P 02 29 04.1 -0.8
comp=Z,256nm,1.0s
NACB Ninganchiao 38.78 321 P P 02 29 06.7 +0.7
TPUB Ta-pu 38.78 319 P P 02 29 05.6 -0.5
SSLB Suanglung 38.91 320 P P 02 29 07.2 0.0
NWAO Narrogin (SRO) 39.00 222 P P 02 29 08.7 +0.8
baz=39,SNR=5.6
NWAO P **P 02 29 08.7 +0.8**
baz=39,SNR=5.6
NWAO Narrogin (SRO) 39.00 222 P P 02 29 08.1 +0.2
NWAO IAmb IAmb 02 29 18.8
comp=Z,46nm,1.1s
NWAO Narrogin (SRO) 39.00 222 P P 02 29 08.8 +0.9
NWAO Narrogin (SRO) 39.00 222 P P 02 29 08.1 +0.2
NWAO pmax pmax
comp=Z,46nm,1.1s
NWAO Narrogin (SRO) 39.00 222 LR LR 02 45 59.6
comp=Z,463nm,21.6s,baz=48,slow=37
NWAO Narrogin (SRO) 39.00 222 P P 02 29 08.6 +0.8
NWAO pP **pP 02 29 49.7 +0.5**
WCZ Waipu Caves 39.10 144 P P 02 29 10.5 +1.9
MUN Mundaring 39.14 224 P P 02 29 09.7 +0.7
baz=39,SNR=5.9
MUN Mundaring 39.14 224 P P 02 29 09.4 +0.4
JHJ Hachijo jima 2 39.17 350 LR LR 02 44 35.4
comp=Z,172nm,20.8s,baz=123,slow=35
YHNB Yeheng 39.27 321 P P 02 29 11.3 +1.1
BBJI Bungbulang 39.41 265 P P 02 29 11.1 -0.5
TATO Taipei 39.42 322 P P 02 29 12.6 +1.2
TATO Taipei 39.42 322 P P 02 29 12.2 +0.8
CNJI Cibinong 39.92 265 P P 02 29 15.3 -0.4
comp=Z,137nm,1.2s,comp=Z,2μm
GRZ Great Barrier 39.97 144 P P 02 29 17.3 +1.5
RKGY Rocky Gully 40.21 220 P P 02 29 19.1 +1.3
baz=40,SNR=6.4
RKGY Rocky Gully 40.21 220 P P 02 29 19.4 +1.6
CBJI Citeko 40.21 267 P P 02 29 23.8 +5.7
KUZ Kuaotunu 40.46 144 P P 02 29 20.3 +0.5
KUZ Kuaotunu 40.46 144 P P 02 29 21.5 +1.7
TOZ Tahuroa Road 41.01 145 P P 02 29 26.2 +1.9
TOZ Tahuroa Road 41.01 145 P P 02 29 26.7 +2.4
KNMB Chin-men Tao 41.06 318 P P 02 29 24.1 -0.7
AFI Afiamalu 41.12 105 P P 02 29 25.6 0.0
AFI Afiamalu 41.12 105 P P 02 29 27.2 +1.6
AFI Afiamalu 41.12 105 P P 02 29 25.6 0.0
AFI pmax pmax
comp=Z,419nm,1.0s
AFI Afiamalu 41.12 105 P P 02 29 26.1 +0.5
AFI pP **pP 02 30 07.7 +0.5**
MYRZ Mayor Island 41.13 144 P P 02 29 27.3 +2.0
JMN Monobe 41.14 343 P P 02 29 25.9 +0.5
QZH Quanzhou 41.25 319 ⇓ *iP* **P 02 29 27.1 +0.7**
QZH pmax pmax
comp=Z,230nm,0.7s
KHEZ Kahui Hut 41.32 148 P P 02 29 29.0 +2.1
XMI Christmas Isla 41.44 261 P P 02 29 29.0 +0.9
TLZ Tolley Road 41.45 146 P P 02 29 30.2 +2.3
XMIS Christmas Isla 41.48 261 P P 02 29 28.1 -0.4
XMIS Christmas Isla 41.48 261 P P 02 29 29.1 +0.6
JNU Nakatsue 41.55 339 P P 02 29 29.4 +0.7
VRZ Vera Road 41.59 147 P P 02 29 31.8 +2.8
QRZ Quartz Range 41.72 151 P P 02 29 32.3 +2.4
OMRZ Omania 41.77 145 P P 02 29 30.7 +0.2
WATZ Wairara 41.83 146 P P 02 29 33.7 +2.8
INU Inuyama 41.87 347 IAmb IAmb 02 29 32.4
comp=Z,88nm,1.0s
INU Inuyama 41.87 347 P P 02 29 31.8 +0.5
INU Inuyama 41.87 347 P P 02 29 31.2 0.0
TWVZ Taurewa 41.92 147 P P 02 29 34.2 +2.4
WHRZ Whale Island 41.95 144 P P 02 29 34.9 +3.0
KATZ Kakaramea 41.99 146 P P 02 29 35.0 +2.5
PKVZ Pokaka 42.03 147 P P 02 29 35.5 +2.9
NNVZ North Ngauruho 42.06 147 P P 02 29 35.8 +2.8
COVZ Chateau Observ 42.07 147 P P 02 29 35.6 +2.6
NGZ Ngauruhoe 42.08 147 P P 02 29 35.9 +2.8
DSZ Denniston Nort 42.09 152 P P 02 29 32.7 -0.4
DSZ IAmb IAmb 02 29 36.9
comp=Z,58nm,0.7s
DSZ Denniston Nort 42.09 152 P P 02 29 35.0 +1.9
TMVZ Te Maari 42.10 146 P P 02 29 36.2 +2.9
OTVZ Oturere 42.11 147 P P 02 29 36.4 +3.0
WAZ Wanganui 42.17 148 P P 02 29 36.9 +3.3
MRHZ Matea Rd 42.30 146 P P 02 29 36.4 +1.6
URZ Urewera 42.30 144 P P 02 29 36.2 +1.5
URZ Urewera 42.30 144 P P 02 29 35.8 +1.1
HAZ Te Kaha 42.36 143 P P 02 29 36.7 +1.5
NNZ Nelson 42.43 151 P P 02 29 37.0 +1.2
RTZ Ruatahuna 42.47 145 P P 02 29 37.3 +1.2
MXZ Matakaoa Point 42.54 143 P P 02 29 38.6 +1.9
MXZ Matakaoa Point 42.54 143 P P 02 29 38.1 +1.4
BKZ Black Stump Fm 42.57 146 P P 02 29 38.2 +1.2
BKZ Black Stump Fm 42.57 146 P P 02 29 38.2 +1.2
MWZ Matawai 42.59 144 P P 02 29 38.1 +1.0
THZ Tophouse 42.62 151 P P 02 29 38.4 +1.1
FOZ Fox Glacier 42.67 156 P P 02 29 39.5 +2.0
WVZ Waitaha Valley 42.68 155 P P 02 29 38.2 +0.5
INZ Inchbonnie 42.71 154 P P 02 29 38.7 +0.8
JCZ Jackson Bay 42.71 157 P P 02 29 40.1 +2.0
JCZ Jackson Bay 42.71 157 P P 02 29 40.1 +2.0
MJAR Matsushiro Arr 42.79 349 P P 02 29 37.3 -1.3
comp=Z,62nm,0.8s,baz=186,slow=10,SNR=96
MJAR ScP **ScP 02 34 56.9 -2.1**
comp=Z,3.0nm,0.7s,baz=186,slow=5.2,SNR=8.0
comp=Z,62nm,0.8s
MAJO Matsushiro 42.79 349 P P 02 29 38.8 +0.1
MAJO Matsushiro 42.79 349 P P 02 29 39.0 +0.3
MAJO Matsushiro 42.79 349 *c iP* **P 02 29 38.0 -0.7**
MAJO pmax pmax
comp=Z,281nm,1.5s
MAJO Matsushiro 42.79 349 P P 02 29 38.7 0.0
PUZ Puketiti 42.85 143 P P 02 29 40.4 +1.2
TCW Tory Channel 42.87 150 P P 02 29 40.5 +1.2
TSZ Takapari Road 42.91 147 P P 02 29 41.1 +1.4
LTZ Lake Taylor 43.12 153 P P 02 29 42.5 +1.2
MRZ Mangatainoka R 43.13 148 P P 02 29 42.4 +1.0
KNZ Kokohu 43.14 145 P P 02 29 42.4 +0.9
SNZO South Karori 43.16 150 P P 02 29 43.3 +1.7
SNZO South Karori 43.16 150 P P 02 29 42.1 +0.5
DCZ Deep Cove 43.30 160 P P 02 29 44.1 +1.5
RPZ Rata Peaks 43.33 155 P P 02 29 43.9 +0.9
RPZ Rata Peaks 43.33 155 LR LR 02 45 07.3
comp=Z,221nm,21.9s,baz=8.0,slow=32
PXZ Pawanui 43.38 147 P P 02 29 44.4 +1.1

KHZ Kahutara 43.42 152 P P 02 29 44.0 +0.4
WKZ Wanaka 43.44 157 P P 02 29 45.2 +1.4
OXZ Oxford 43.45 154 P P 02 29 44.2 +0.3
BFZ Birch Farm 43.50 148 P P 02 29 45.2 +0.8
BFZ Birch Farm 43.50 148 P P 02 29 45.2 +0.8
LBZ Lake Benmore 43.52 156 P P 02 29 45.3 +0.8
MLZ Mavora Lakes 43.56 159 P P 02 29 46.4 +1.7
GVZ Greta Valley S 43.62 152 P P 02 29 46.2 +1.0
JMM Marumori 43.68 353 P P 02 29 45.3 -0.4
JMM Marumori 43.68 353 P P 02 29 46.2 +0.5
NIUE Niue 43.75 112 P P 02 29 46.8 +0.2
baz=44,SNR=5.2
NIUE Niue 43.75 112 P P 02 29 47.1 +0.4
NIUE Niue 43.75 112 P P 02 29 48.4 +1.7
PYZ Puysegur Point 43.76 161 P P 02 29 47.8 +1.5
PYZ Puysegur Point 43.76 161 P P 02 29 48.3 +2.0
TMZ Timaru 43.86 155 P P 02 29 47.6 +0.5
EAZ Earnscleugh 43.89 158 P P 02 29 48.1 +0.7
WHZ Wether Hill Ro 43.95 159 P P 02 29 48.8 +1.0
MQZ McQueen's Vall 44.02 153 P P 02 29 49.3 +0.9
SSE Sheshan 44.21 327 P P 02 29 50.6 +0.6
JSD Sado 44.23 350 IAmb IAmb 02 29 52.0
comp=Z,109nm,0.9s
JSD Sado 44.23 350 P P 02 29 50.2 +0.1
ODZ Otahua Downs 44.25 156 P P 02 29 50.9 +0.6
QIZ Qiongzhong 44.27 305 P P 02 29 50.4 -0.3
QIZ pP **pP 02 30 31.4 -1.3**
QIZ S **S 02 36 14.4 +4.5**
QIZ pmax pmax
comp=Z,540nm,3.0s
TUZ Tuapeka 44.62 158 P P 02 29 54.5 +1.4
APZ The Paps 44.78 160 P P 02 29 55.3 +0.9
SYZ Scrubby Hill 44.93 159 P P 02 29 56.1 +0.6
TJN Taejon 45.75 337 P P 02 30 02.0 -0.1
TJN Taejon 45.75 337 *d iP* **P 02 30 02.1 -0.1**
SDSI Sungai Dareh 46.00 274 P P 02 30 04.2 -0.3
comp=Z,18nm,0.9s,comp=Z,2μm
NJ2 Nanjing 46.22 326 ⇓ *iP* **P 02 30 06.8 +1.0**
NJ2 pP **pP 02 30 49.1 +1.3**
NJ2 sP **sP 02 31 09.3 -0.1**
NJ2 pmax pmax
comp=Z,230nm,0.7s
NJ2 pmax pmax
comp=Z,690nm,4.2s
KSRS Korea Array 46.49 339 P P 02 30 08.6 +0.7
comp=Z,51nm,0.7s,baz=153,slow=8.5,SNR=151
KSRS pP **pwP 02 30 51.5 -0.9**
comp=Z,13nm,1.1s,baz=157,slow=8.9,SNR=1.4
KSRS PcP **PcP 02 31 40.0 +0.9**
comp=Z,5.0nm,0.6s,baz=203,slow=2.4,SNR=6.1
KSRS ScP **ScP 02 35 12.5 -1.6**
comp=Z,7.5nm,1.1s,baz=144,slow=6.1,SNR=8.5
KSRS S **S 02 36 39.4 -1.8**
comp=Z,0.6nm,0.4s,baz=140,slow=49,SNR=1.9
KSRS LR LR 02 48 21.7
comp=Z,48nm,20.9s,baz=150,slow=34
comp=Z,51nm,0.7s
KSAR Wonju Array Be 46.50 339 P P 02 30 08.4 +0.5
KSAR Wonju Array Be 46.50 339 P P 02 30 08.4 +0.5
JTM Tenmabayashi 46.52 353 P P 02 30 08.6 +0.5
JTM Tenmabayashi 46.52 353 P P 02 30 07.6 -0.5
KS19 Wonju Array Si 46.56 339 IAmb IAmb 02 30 09.6
comp=Z,83nm,0.9s
INCN Inchon 47.00 337 P P 02 30 12.5 +0.6
INCN Inchon 47.00 337 P P 02 30 12.2 +0.3
INCN Inchon 47.00 337 P P 02 30 12.5 +0.6
INCN pmax pmax
comp=Z,126nm,0.7s
INCN Inchon 47.00 337 P P 02 30 12.7 +0.9
INCN pP **pP 02 30 53.8 -0.2**
ERM Erimo 47.55 356 P P 02 30 16.4 +0.4
ERM Erimo 47.55 356 P P 02 30 16.4 +0.4
ERM pmax pmax
comp=Z,25nm,0.9s
WHN Wuhan 47.81 321 ⇓ *iP* **P 02 30 19.4 +1.2**
WHN pmax pmax
comp=Z,490nm,1.1s
PSI Prapat 49.02 279 P P 02 30 26.7 -1.2
CTZ Chatham Island 49.47 146 P P 02 30 32.1 +1.4
NONG Nongkai 49.49 299 P P 02 30 31.1 -0.1
MCQ Macquarie Isla 49.65 171 P P 02 30 33.6 +1.8
baz=50
JKA Kamikawa-asahi 49.68 356 IAmb IAmb 02 30 34.6
comp=Z,113nm,1.5s
GSI Gunungsitoli 50.11 276 P P 02 30 35.0 -1.0
GSI Gunungsitoli 50.11 276 P P 02 30 36.5 +0.5
comp=Z,26nm,0.4s,comp=Z,14μm
DL2 Dalian 50.27 334 P P 02 30 37.0 +0.3
DL2 pmax pmax
comp=Z,80nm,0.9s
TIA Tai'an 50.30 328 P P 02 30 36.8 -0.2
TIA pmax pmax
comp=Z,150nm,0.8s
GYA Guiyang 50.64 311 ⇑ *iP* **P 02 30 41.3 +1.4**
GYA pP pP 02 31 22.8 +0.2
GYA pmax pmax
comp=Z,34nm,0.9s
USA0B Ussuriysk Arra 51.47 346 IAmb IAmb 02 30 47.3
comp=Z,106nm,1.3s
USA0B Ussuriysk Arra 51.47 346 *d iP* **P 02 30 46.1 +0.6**
USRK Ussuriysk Ar. 51.47 346 P P 02 30 46.1 +0.6
USRK Ussuriysk Ar. 51.47 346 P P 02 30 46.3 +0.8
comp=Z,41nm,0.7s,baz=162,slow=7.3,SNR=72
USRK LR LR 02 50 38.5
comp=Z,44nm,21.9s,baz=149,slow=33
comp=Z,41nm,0.7s
LYN LuoYang 51.71 323 ⇓ *iP* **P 02 30 47.6 0.0**
LYN pmax pmax
comp=Z,230nm,0.7s
SRDT SRDT 51.72 293 P P 02 30 48.5 +0.6
SNY Shenyang 51.94 338 ⇓ *iP* **P 02 30 48.9 -0.2**
SNY S **S 02 37 59.1 +2.2**
SNY pmax pmax
comp=Z,61nm,1.0s
SNY pmax pmax
comp=Z,290nm,5.2s
SNY LR LR
comp=Z,270nm,5.3s
SNY LR LR
comp=Z,280nm,5.3s
SNY LR LR
comp=Z,310nm,5.5s
MDJ Mudanjiang 52.47 344 P P 02 30 53.8 +0.9
MDJ pP pwP 02 31 37.4 -1.0
MDJ sP sP 02 31 56.4 -0.8
MDJ ScP **ScP 02 35 38.4 -1.1**
MDJ PcS **PcS 02 36 01.1 +1.7**
MDJ sS sS 02 39 18.8 -0.7
MDJ pmax pmax
comp=Z,58nm,1.0s
MDJ pmax pmax
comp=Z,260nm,5.5s
MDJ Mudanjiang 52.47 344 P P 02 30 53.6 +0.6
MDJ IAmb IAmb 02 30 54.5
comp=Z,40nm,0.8s
MDJ Mudanjiang 52.47 344 P P 02 30 53.4 +0.5
HNS HongShan 52.47 327 ⇑ *iP* **P 02 30 52.9 -0.2**
HNS pP **pwP 02 31 37.5 -1.0**
HNS ScP **ScP 02 35 40.1 +0.4**
HNS S **S 02 38 04.3 0.0**
HNS pmax pmax
comp=Z,340nm,0.9s
YSS Yuzh-Sakhalins 52.49 356 P P 02 30 53.9 +0.8
YSS IAmb IAmb 02 30 54.9
comp=Z,50nm,1.0s
YSS Yuzh-Sakhalins 52.49 356 P P 02 30 53.4 +0.4
YSS Yuzh-Sakhalins 52.49 356 *eP* **P 02 30 53.5 +0.4**
YSS *eS* **S 02 38 05.8 +1.6**
YSS pmax pmax
comp=Z,300nm,2.4s
YSS pmax pmax
comp=Z,30nm,0.8s
CRAI Chiangrai 52.77 301 P P 02 30 55.6 0.0
KMI Kunming 52.99 307 ⇑ *iP* **P 02 30 57.6 +0.2**
KMI pP pP 02 31 40.8 +0.3
KMI pmax pmax
comp=Z,33nm,1.0s
CN2 Changchun 52.99 340 ⇑ *iP* **P 02 30 56.9 +0.1**
CN2 *es*P sP 02 32 00.9 -0.2
CN2 *eS* **S 02 38 10.8 -0.3**
CN2 pmax pmax
comp=Z,30nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s

CM31 Chiang Mai Arr 53.32 298 P **P** **02 30 59.8 +0.2**
CMAR Chiang Mai Arr 53.32 298 P **P** **02 31 00.1 +0.4**
comp=Z,11nm,0.7s,baz=119,slow=5.7,SNR=31
CMAR pP **pP** **02 31 42.5 -0.4**
comp=Z,12nm,1.1s,baz=116,slow=5.3,SNR=2.9
CMAR PcP **PcP** **02 32 05.4 +0.8**
comp=Z,17nm,0.9s,baz=118,slow=2.7,SNR=11
comp=Z,11nm,0.7s
CHTO Chiang Mai 53.45 298 P **P** **02 31 00.5 -0.1**
CHTO Chiang Mai 53.45 298 P **P** **02 31 00.5 -0.1**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
RAR Rarotonga 53.52 112 P **P** **02 31 01.6 +0.5**
RAR Rarotonga 53.52 112 P **P** **02 31 02.5 +1.4**
RAR Rarotonga 53.52 112 P **P** **02 31 01.6 +0.5**
RAR pmax pmax
comp=Z,98nm,1.1s
RAR Rarotonga 53.52 112 P **P** **02 31 01.9 +0.9**
XAN Xi'an 53.57 320 ⇓P **P** **02 31 01.0 -0.2**
XAN pmax pmax
comp=Z,230nm,1.1s
XAN Xi'an 53.57 320 P **P** **02 31 01.3 0.0**
BJT Baijiatuau 53.69 330 P **P** **02 31 02.2 +0.3**
BJT lAmb lAmb 02 31 03.2
comp=Z,65nm,1.0s
BJT Baijiatuau 53.69 330 P **P** **02 31 02.2 +0.3**
BJT pmax pmax
comp=Z,65nm,1.0s
BJT Baijiatuau 53.69 330 P **P** **02 31 02.1 +0.1**
BJI Beijing 53.71 331 P **P** **02 31 02.0 0.0**
BJI pmax pmax
comp=Z,30nm,0.9s
TIY Taiyuan 53.95 326 *e*P **P** **02 31 04.1 +0.2**
TIY pmax pmax
comp=Z,41nm,0.5s
BNX BinXian 54.12 343 ⇓P **P** **02 31 05.0 +0.1**
BNX pmax pmax
comp=Z,99nm,1.2s
BNX pmax pmax
comp=Z,160nm,5.2s
PZH PanZhiHua 54.44 308 P **P** **02 31 08.3 +0.5**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,4.5s
CD2 Chengdu 55.21 314 P **P** **02 31 13.0 -0.1**
CD2 pmax pmax
comp=Z,110nm,0.5s
XMAS Kiritimati 55.72 84 P **P** **02 31 17.3 +0.2**
KLR Kul'dur 56.27 348*d i*P **P** **02 31 20.6 +0.3**
KLR pmax pmax
comp=Z,86nm,1.3s
TYV Tymovskoe 56.39 356 *e*P **P** **02 31 22.1 +1.1**
TYV *e*S **S** **02 38 58.2 +2.0**
TYV pmax pmax
comp=Z,36nm,0.7s
TYV pmax pmax
comp=Z,100nm,2.5s
TYV smax smax
comp=N,700nm,5.1s
TYV smax smax
comp=E,500nm,5.1s
HHC Hu-ho-hao-te 56.66 328 *e*P **P** **02 31 23.5 +0.2**
HHC S **S** **02 38 55.4 -4.9**
HHC pmax pmax
comp=E,170nm,0.7s
HHC LR LR
comp=E,440nm,16.2s
HHC LR LR
comp=E,340nm,16.2s
HHC LR LR
comp=E,460nm,17.0s
XLT XiLinHaoTe 56.75 333 ⇓*i*P **P** **02 31 24.0 +0.1**
XLT pP pP 02 32 06.8 -0.8
XLT pmax pmax
comp=E,40nm,1.2s
XLT pmax pmax
comp=E,160nm,5.5s
GRNR Gornyy 56.93 352 *e*P **P** **02 31 25.7 +0.8**
MND Mandalay 57.12 301 P **P** **02 31 27.8 +1.1**
BTO Baotou 57.31 327 *e*P **P** **02 31 29.5 +1.6**
BTO pP **pP** **02 32 13.0 +1.4**
BTO sP **sP** **02 32 34.1 +1.4**
BTO PP **PP** **02 33 41.5 +4.0**
BTO S **S** **02 39 10.3 +1.4**
BTO sS **sS** **02 40 26.1 +0.1**
BTO SS **SS** **02 43 04.6 +2.9**
BTO pmax pmax
comp=E,180nm,0.8s
BTO pmax pmax
comp=E,430nm,4.8s
LZH Lanzhou 58.10 319 ⇑P **P** **02 31 35.3 +1.7**
LZH pP pwP 02 32 19.1 -0.6
LZH sP sP 02 32 38.8 +0.2
LZH pmax pmax
comp=E,120nm,1.2s
LZH pmax pmax
comp=E,320nm,4.8s
HEH HeiHe 58.24 345 *e*P **P** **02 31 34.0 0.0**
HEH PcP **PcP** **02 32 22.3 -0.8**
HEH ScP **ScP** **02 36 03.3 -1.4**
HEH S **S** **02 39 24.4 +4.0**
HEH ScS **ScS** **02 41 00.0 -3.9**
HEH pmax pmax
comp=E,52nm,0.7s
HEH pmax pmax
comp=E,250nm,3.7s
PEA0B Petropavlovsk- 59.16 7 P **P** **02 31 41.3 +1.0**
PEA0B lAmb lAmb 02 31 42.3
comp=Z,68nm,1.1s
PEA0B Petropavlovsk- 59.16 7*de*P **P** **02 31 41.1 +0.8**
PETK Petropavlovsk- 59.16 7 P **P** **02 31 40.5 +0.1**
PETK Petropavlovsk- 59.16 7 P **P** **02 31 41.2 +0.9**
comp=Z,33nm,0.9s,baz=175,slow=6.6,SNR=17
PETK ScP **ScP** **02 36 06.8 -2.0**
comp=Z,2.6nm,0.9s,baz=204,slow=44,SNR=3.1
PETK LR LR 02 53 26.8
comp=Z,88nm,21.7s,baz=165,slow=32
comp=Z,33nm,0.9s
PET Petropavlovsk 59.20 8 *e*P **P** **02 31 41.1 +0.5**
PET *e*S **S** **02 39 32.9 +0.2**
PET pmax pmax
comp=Z,52nm,0.9s
HIA Hailar 59.69 339 P **P** **02 31 44.8 +0.7**
HIA Hailar 59.69 339 P **P** **02 31 44.8 +0.7**
HIA pmax pmax
comp=Z,121nm,0.9s
HIA Hailar 59.69 339 P **P** **02 31 44.7 +0.7**
KIP Kipapa 59.96 61*ce*P **P** **02 31 48.3 +1.9**
KIP pmax pmax
comp=Z,266nm,2.5s
DRV Dumont d'Urvil 61.16 183 P **P** **02 31 54.4 +0.7**
DRV pP **pP** **02 32 38.1 -0.6**
KHLU Kahalu`u 61.24 64 P **P** **02 31 56.0 +0.8**
ZEA Zeya 61.49 347 *e*P **P** **02 31 57.2 +1.1**
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,70nm,1.0s
ZEA pmax pmax
comp=Z,130nm,0.8s
ZEA pmax pmax
comp=Z,100nm,2.2s
HPAH Hawaii Prepara 61.55 64 P **P** **02 31 56.7 -0.6**
POHA Pohakuloa 61.62 64 P **P** **02 31 57.6 -0.3**
POHA Pohakuloa 61.62 64 P **P** **02 31 59.0 +1.1**
POHA Pohakuloa 61.62 64 P **P** **02 31 59.0 +1.1**
SHL Shillong 62.05 303 P **P** **02 32 00.2 -0.4**
SHL lAmb lAmb 02 32 01.6
comp=Z,44nm,1.1s
SHL Shillong 62.05 303 P **P** **02 32 00.2 -0.4**
SHL pmax pmax
comp=Z,44nm,1.1s
GTA Gaotai 62.63 320 ⇑P **P** **02 32 05.5 +1.4**
GTA pP pwP 02 32 51.3 +0.5
GTA pmax pmax
comp=Z,85nm,0.8s
PPT Papeete 62.73 107 P **P** **02 32 06.3 +1.2**
comp=Z,61nm,0.7s,baz=290,slow=14,SNR=4.2
comp=Z,61nm,0.7s
ULN Ulaanbaatar 63.91 331 P **P** **02 32 13.4 +1.0**
ULN Ulaanbaatar 63.91 331*d i*P **P** **02 32 13.5 +1.1**
ULN pmax pmax
comp=Z,109nm,0.7s
ULN Ulaanbaatar 63.91 331 P **P** **02 32 13.4 +1.0**

SONM Songino Array 64.21 331 P **P** **02 32 15.1 +0.8**
SONM Songino Array 64.21 331 P **P** **02 32 15.1 +0.8**
SONM pmax pmax
comp=Z,68nm,0.8s
SONM Songino Array 64.21 331 P **P** **02 32 15.1 +0.8**
comp=Z,49nm,0.7s,baz=147,slow=8.8,SNR=206
SONM PKP2bc 03 01 07.9
comp=Z,4.7nm,0.9s,baz=296,slow=2.2,SNR=14
comp=Z,49nm,0.7s
CIT Chita 64.21 338 *e*P **P** **02 32 15.6 +1.5**
CIT *e* 02 32 51.1
CIT *e* 02 33 03.8
CIT pmax pmax
comp=Z,226nm,1.2s
LSA Lhasa 64.24 307 P **P** **02 32 16.3 +1.0**
LSA pmax pmax
comp=Z,47nm,0.9s
LSA Lhasa 64.24 307 P **P** **02 32 15.2 -0.1**
LSA lAmb lAmb 02 32 17.8
comp=Z,31nm,0.8s
LSA Lhasa 64.24 307 P **P** **02 32 15.2 -0.1**
LSA pmax pmax
comp=Z,31nm,0.8s
LSA Lhasa 64.24 307 P **P** **02 32 16.2 +1.0**
LSA Lhasa 64.24 307 P **P** **02 32 16.5 +1.2**
KIWB Kanaga Island 64.79 23 P **P** **02 32 18.5 +0.7**
MA2 Magadan 65.04 2 P **P** **02 32 20.0 +0.7**
MA2 Magadan 65.04 2*de*P **P** **02 32 19.7 +0.4**
MA2 pmax pmax
comp=Z,82nm,1.1s
MA2 Magadan 65.04 2 LR LR 02 57 37.3
comp=Z,60nm,21.6s,baz=170,slow=33
MA2 Magadan 65.04 2 P **P** **02 32 19.7 +0.4**
CASY Casey 65.70 195 P **P** **02 32 23.9 +0.5**
CASY lAmb lAmb 02 32 24.4
comp=Z,17nm,0.6s
CASY Casey 65.70 195 P **P** **02 32 23.9 +0.5**
TAPN Taplejung 66.18 303 *e*P **P** **02 32 26.7 -0.9**
comp=Z,34nm,0.5s
RAMN Ramite 66.97 302 *e*P **P** **02 32 31.8 -0.8**
comp=Z,19nm,0.4s
ZAK Zakamensk 67.44 331 *e*P **P** **02 32 35.1 +0.2**
ZAK *e* 02 33 19.4
ZAK pmax pmax
comp=Z,116nm,1.0s
ZAK pmax pmax
comp=Z,19nm,1.4s
JIRN Jiri 67.55 303 *e*P **P** **02 32 35.8 -0.6**
comp=Z,41nm,0.6s
GUN Gumba 67.89 303 *e*P **P** **02 32 38.0 -0.5**
comp=Z,84nm,0.4s
PKI Pulchoki 68.18 303 *e*P **P** **02 32 39.1 -1.1**
comp=Z,17nm,0.4s
PKIN Phulchoki 68.19 303 *e*P **P** **02 32 39.3 -0.9**
comp=Z,15nm,0.4s
DMN Daman 68.44 302 *e*P **P** **02 32 41.1 -0.7**
comp=Z,61nm,0.6s
SEY Seymchan 68.46 3 ⇓*e*P **P** **02 32 41.0 +0.2**
SEY pmax pmax
comp=Z,27nm,0.9s
BOD Bodaibo 68.70 342 *e*P **P** **02 32 42.2 -0.2**
BOD pmax pmax
comp=Z,89nm,0.8s
YAK Yakutsk 68.80 351 P **P** **02 32 42.9 0.0**
YAK Yakutsk 68.80 351 *e*P **P** **02 32 43.5 +0.6**
YAK *e**PP **pP** **02 33 27.3 -0.9**
YAK *e*PPP PPP 02 37 00.0
YAK *e*S **S** **02 41 31.2 +0.8**
YAK *e* 02 42 18.0
YAK pmax pmax
comp=Z,84nm,1.1s
YAK pmax pmax
comp=N,37nm,1.1s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,109nm,3.5s
YAK pmax pmax
comp=N,58nm,2.5s
YAK pmax pmax
comp=E,162nm,3.8s
YAK smax smax
comp=E,209nm,2.0s
YAK smax smax
comp=N,223nm,2.9s
YAK Yakutsk 68.80 351 P **P** **02 32 43.5 +0.6**
GKN Gorkha 68.96 303 *e*P **P** **02 32 44.1 -0.8**
comp=N,47nm,0.4s
NIKH Nikolski High 69.11 27 P **P** **02 32 46.5 +1.5**
baz=228
MOY Mondy 69.37 331 *e*P **P** **02 32 47.5 +0.7**
MOY pmax pmax
comp=Z,80nm,1.5s
DANN Dangsing 69.81 303 *e*P **P** **02 32 49.2 -1.0**
comp=Z,85nm,0.7s
PYUN Piuthan 70.38 302 *e*P **P** **02 32 52.5 -1.1**
comp=Z,47nm,0.4s
UNV Unalaska Valle 70.74 27 P **P** **02 32 56.1 +1.2**
baz=230
CCD Concordia, Ant 70.79 186 P **P** **02 32 56.2 +0.8**
HYB Hyderabad 71.59 290 *e*P **P** **02 33 01.7 +0.9**
HYB *e*PcP **PcP** **02 33 19.0 0.0**
HYB *es*P **sP** **02 34 04.6 -2.6**
HYB *e*PP **PP** **02 35 42.7 +0.1**
HYB *e*S **S** **02 42 05.9 +1.3**
VNDA Vanda 72.28 177 P **P** **02 33 04.9 +1.1**
VNDA Vanda 72.28 177 P **P** **02 33 04.9 +1.1**
WMQ Urumqi 72.69 319 *e*P **P** **02 33 08.1 +1.2**
WMQ pP pP 02 33 55.4 +2.5
WMQ pmax pmax
comp=Z,56nm,0.7s
FALS False Pass 72.78 27 P **P** **02 33 08.6 +1.5**
baz=232
SBA Scott Base 72.92 176 P **P** **02 33 09.3 +1.7**
SBA Scott Base 72.92 176 P **P** **02 33 09.3 +1.7**
SBA pmax pmax
comp=Z,18nm,0.8s
SDPT Sand Point 74.44 28 P **P** **02 33 18.3 +1.7**
baz=235
M11K Mekoryuk 75.18 22 P **P** **02 33 22.5 +1.7**
baz=228
DGZ Jazzator, Alta 75.48 325 *i* P **P** **02 33 22.9 -0.1**
DGZ pmax pmax
comp=Z,28nm,0.7s
CHGN Chignik 75.93 28 P **P** **02 33 26.7 +1.5**
baz=236
ZSN Zaisan 76.03 322 *e*P **P** **02 33 26.4 +0.3**
baz=322
ZSN Zaisan 76.03 322 *e*P **P** **02 33 26.3 +0.3**
M13K Dall Lake 76.27 23 P **P** **02 33 28.6 +1.5**
baz=231,SNR=15
O14K Tigyukauivet M 76.39 24 lAmb lAmb 02 33 31.6
comp=Z,57nm,0.9s
O14K Tigyukauivet M 76.39 24 P **P** **02 33 29.3 +1.6**
baz=233,SNR=6.4
N14K Kuskokwak Cree 76.62 24 P **P** **02 33 30.5 +1.5**
baz=233
K13K Kusilvak Mount 76.76 21 lAmb lAmb 02 33 32.3
comp=Z,39nm,1.2s
K13K Kusilvak Mount 76.76 21 P **P** **02 33 31.6 +1.8**
baz=230,SNR=5.3
O15K Ungalikthiuk R 76.94 25 P **P** **02 33 32.5 +1.7**
baz=234,SNR=7.9
M14K Bethel 77.02 23 P **P** **02 33 32.7 +1.5**
baz=232,SNR=16
L14K Kuka Creek 77.11 22 P **P** **02 33 33.4 +1.7**
L14K lAmb lAmb 02 33 35.4
comp=Z,60nm,0.8s
L14K Kuka Creek 77.11 22 P **P** **02 33 33.3 +1.6**
baz=232,SNR=19
MK31 Makanchi Array 77.38 320 P **P** **02 33 33.7 +0.1**
MK31 Makanchi Array 77.38 320*d i*P **P** **02 33 33.4 -0.2**
MKAR Makanchi Array 77.38 320 P **P** **02 33 33.6 0.0**
comp=Z,16nm,0.3s,baz=97,slow=8.7,SNR=219
MKAR PP **PP** **02 36 27.9 -3.1**
comp=Z,8.3nm,0.9s,baz=106,slow=11,SNR=6.4
comp=Z,16nm,0.3s
N15K Kwethluk River 77.41 24 P **P** **02 33 34.5 +1.0**
N15K lAmb lAmb 02 33 37.0
comp=Z,43nm,0.9s
N15K Kwethluk River 77.41 24 P **P** **02 33 34.9 +1.4**
baz=234,SNR=8.3
M15K Kasigluk River 77.49 23 P **P** **02 33 35.1 +1.3**
baz=233,SNR=6.7
MAKZ Makanchi 77.59 320 P **P** **02 33 34.7 0.0**
MAKZ lAmb lAmb 02 33 36.3
comp=Z,34nm,0.7s
MAKZ Makanchi 77.59 320 P **P** **02 33 34.7 0.0**
MAKZ pmax pmax
comp=Z,34nm,0.7s
R17K Ugashik Creek 77.59 27 lAmb lAmb 02 33 37.2
comp=Z,61nm,1.2s
R17K Ugashik Creek 77.59 27 P **P** **02 33 35.6 +1.1**
baz=238
P16K Nushagak River 77.64 26 P **P** **02 33 36.1 +1.4**
baz=236
J14K Nanvaranak Lak 77.68 21 lAmb lAmb 02 33 38.0
comp=Z,28nm,0.8s
J14K Nanvaranak Lak 77.68 21 P **P** **02 33 36.2 +1.3**
baz=230,SNR=6.7
L15K Ungalak Mounta 77.77 22 P **P** **02 33 36.5 +1.1**
baz=232
O16K Kokwok River B 77.91 25 lAmb lAmb 02 33 38.9
comp=Z,22nm,0.8s
O16K Kokwok River B 77.91 25 P **P** **02 33 37.1 +1.0**
baz=236,SNR=6.4
SHLS Shalkode 77.95 316 *e*P **P** **02 33 35.8 -1.2**
comp=Z,24nm,0.5s,baz=316
SHLS Shalkode 77.95 316 *e*P **P** **02 33 35.8 -1.2**
SHLS pmax pmax
comp=Z,24nm,0.5s
PDGK Podgornoye 77.99 316 P **P** **02 33 37.1 -0.1**
Q16K King Salmon 78.03 26 P **P** **02 33 37.9 +1.1**
baz=238
TIXI Tiksi 78.06 354 P **P** **02 33 35.5 -1.2**
TIXI Tiksi 78.06 354 ⇓*e*P **P** **02 33 35.5 -1.2**
TIXI pmax pmax
comp=Z,20nm,1.0s
SII Sitkinak Islan 78.07 29 P **P** **02 33 37.9 +0.7**
baz=240
N16K Nishlik Lake 78.13 24 P **P** **02 33 38.9 +1.4**
baz=235,SNR=7.6
K15K Wolf Creek Mou 78.13 22 lAmb lAmb 02 33 41.1
comp=Z,46nm,0.8s
K15K Wolf Creek Mou 78.13 22 P **P** **02 33 38.6 +1.2**
baz=232,SNR=16
Q17K Contact Creek 78.15 27 P **P** **02 33 38.3 +0.6**
baz=238,SNR=7.2
ANM Nome 78.25 19 P **P** **02 33 39.2 +1.2**
baz=228
UZB Uzynbulak 78.25 316 *e*P **P** **02 33 39.0 +0.2**
comp=Z,19nm,0.5s,baz=316
UZB Uzynbulak 78.25 316 *e*P **P** **02 33 38.9 +0.2**
UZB pmax pmax
comp=Z,19nm,0.5s
M16K Timber Creek 78.37 24 lAmb lAmb 02 33 42.2
comp=Z,43nm,0.8s
M16K Timber Creek 78.37 24 P **P** **02 33 39.9 +1.2**
baz=235,SNR=16
P17K Kvichak River 78.40 26 P **P** **02 33 40.1 +1.2**
baz=238
O17K Koliganek Bris 78.43 25 P **P** **02 33 40.3 +1.3**
baz=237,SNR=24
R18K Karluk 78.45 28 P **P** **02 33 40.2 +1.0**
baz=240
PRZ Przheval'sk 78.47 315 lAmb lAmb 02 33 42.7
comp=Z,71nm,0.8s
L16K Owhat River 78.56 23 P **P** **02 33 41.0 +1.3**
baz=234,SNR=10
KPKS Kokpek 78.59 316 *e*P **P** **02 33 40.9 +0.5**
baz=316
KPKS Kokpek 78.59 316 *e*P **P** **02 33 40.9 +0.5**
SATY Saty 78.65 316 *e*P **P** **02 33 41.2 +0.3**
comp=Z,13nm,0.5s,baz=316
SATY Saty 78.65 316 *e*P **P** **02 33 41.1 +0.3**
SATY pmax pmax
comp=Z,13nm,0.5s
ZHN Zhinishke 78.67 316 *e*P **P** **02 33 41.5 +0.5**
baz=316
ZHN Zhinishke 78.67 316 *e*P **P** **02 33 41.4 +0.5**
Q18K Katmai Hardscr 78.75 27 P **P** **02 33 41.4 +0.5**
baz=239,SNR=10
N17K Nushagak Hills 78.81 25 P **P** **02 33 42.5 +1.4**
baz=237,SNR=9.3
ZAA0 Zalesovo Array 78.84 328 P **P** **02 33 40.6 -0.8**
ZAA0 lAmb lAmb 02 33 41.7
comp=Z,39nm,0.6s
ZALV Zalesovo Beam 78.84 328 *i* P **P** **02 33 40.5 -0.9**
ZALV pmax pmax
comp=Z,36nm,0.4s
ZALV Zalesovo Beam 78.84 328 P **P** **02 33 40.5 -0.9**
comp=Z,35nm,0.4s,baz=110,slow=5.5,SNR=109
ZALV LR LR 03 09 21.5
comp=Z,40nm,19.0s,baz=6.5,slow=36
comp=Z,35nm,0.4s
P18K Big Mountain, 79.03 26 P **P** **02 33 43.5 +1.1**
baz=239
J16K Anvik River 79.07 21 lAmb lAmb 02 33 45.0
comp=Z,26nm,0.8s
J16K Anvik River 79.07 21 P **P** **02 33 43.9 +1.4**
baz=233,SNR=5.2
M17K Holitna River 79.19 24 lAmb lAmb 02 33 47.1
comp=Z,38nm,0.9s
M17K Holitna River 79.19 24 P **P** **02 33 44.7 +1.5**
baz=236,SNR=8.3
F15K North Star Dit 79.24 18 lAmb lAmb 02 33 45.6
comp=Z,42nm,1.1s
F15K North Star Dit 79.24 18 P **P** **02 33 44.9 +1.5**
baz=229
L17K Donlin 79.26 23 P **P** **02 33 44.8 +1.2**
baz=235,SNR=10.0
TDK Taldyqorghan 79.28 318 *e*P **P** **02 33 43.9 -0.2**
baz=318
TDK Taldyqorghan 79.28 318 *e*P **P** **02 33 43.9 -0.2**
KSH Kashi 79.33 312 P **P** **02 33 46.8 +2.2**
KSH pP pwP 02 34 32.6 -0.7
KSH pmax pmax
comp=Z,40nm,0.7s
H16K Elim 79.33 20 P **P** **02 33 45.1 +1.3**
baz=231,SNR=5.6
I17K Unalakleet 79.40 21 P **P** **02 33 45.6 +1.4**
baz=233
ARXS Arharly 79.42 317 *e*P **P** **02 33 43.8 -1.1**
KDAK Kodiak Island 79.43 28 P **P** **02 33 45.8 +1.2**
baz=241
N18K Kilae Creek 79.43 25 P **P** **02 33 45.6 +1.1**
baz=238
Q19K Cape Douglas, 79.50 27 P **P** **02 33 46.0 +1.1**
baz=240
K17K Iditarod 79.59 22 lAmb lAmb 02 33 49.0
comp=Z,40nm,0.9s
K17K Iditarod 79.59 22 P **P** **02 33 46.8 +1.5**
baz=235,SNR=12
MDOK Medeo 79.63 316 *e*P **P** **02 33 46.7 +0.6**
baz=316
MDOK Medeo 79.63 316 *e*P **P** **02 33 46.7 +0.6**
TNSS Tian-Shan 79.66 315 *e*P **P** **02 33 46.9 +0.2**
baz=316
TNSS Tian-Shan 79.66 315 *e*P **P** **02 33 46.8 +0.2**
AAA Alma-Ata 79.73 316 *e*P **P** **02 33 47.0 +0.3**
baz=316
AAA Alma-Ata 79.73 316 *e*P **P** **02 33 46.9 +0.3**
G16K Koyuk River 79.77 19 P **P** **02 33 47.7 +1.5**
baz=231
SVW2 Sparrevohn 79.78 24 lAmb lAmb 02 33 50.5
comp=Z,42nm,1.0s
SVW2 Sparrevohn 79.78 24 P **P** **02 33 47.5 +1.1**
O19K Port Alsworth 79.84 26 P **P** **02 33 47.9 +1.3**
baz=239
CHKK Chushkaly 79.88 316 *e*P **P** **02 33 47.3 0.0**
baz=316
CHKK Chushkaly 79.88 316 *e*P **P** **02 33 47.3 0.0**
M18K Stony River 79.89 24 P **P** **02 33 48.4 +1.5**
baz=238,SNR=9.7
Q20K Shuyak Island 79.91 28 P **P** **02 33 47.9 +0.8**
baz=241
ULHL Ulahol 79.92 315 P **P** **02 33 49.2 +1.4**
SNR=7.4
NIL Nilore 79.93 305 P **P** **02 33 47.7 -0.1**
NIL Nilore 79.93 305 P **P** **02 33 47.7 -0.1**
NIL pmax pmax
comp=Z,142nm,0.7s
L18K Granite Mounta 79.94 23 P **P** **02 33 48.9 +1.8**
baz=237,SNR=8.4
P19K Oil Pt 80.04 26 P **P** **02 33 49.1 +1.3**
baz=240,SNR=5.7
N19K Bonanza Creek 80.09 25 P **P** **02 33 49.1 +1.0**
baz=239,SNR=6.7
H17K Granite Mounta 80.31 20 P **P** **02 33 50.7 +1.6**
baz=234,SNR=12
KUU Kurty 80.34 316 *e*P **P** **02 33 49.9 0.0**
comp=Z,42nm,0.6s,baz=316
KUU Kurty 80.34 316 *e*P **P** **02 33 49.8 0.0**

KUU pmax pmax
comp=Z,42nm,0.6s
G17K Kiwalik Mounta 80.40 19 P **P** 02 33 50.5 +1.0
baz=233,SNR=10
O20K Slope Mountain 80.52 26 P **P** 02 33 51.3 +0.9
baz=241
TKM2 Tokmak 2 80.57 315 P **P** 02 33 51.6 +0.3
SNR=8.9
TKM2 Tokmak 2 80.57 315 *i* P **P** 02 33 51.2 -0.1
TKM2 pmax pmax
comp=Z,30nm,0.6s
TTA Tatalina 80.59 23 P **P** 02 33 51.7 +1.0
TTA Tatalina 80.59 23 P **P** 02 33 51.5 +0.8
baz=238,SNR=6.2
J18K Innoko River 80.61 22 P **P** 02 33 51.8 +1.0
baz=237,SNR=6.3
L19K White Mountain 80.64 24 IAmb IAmb 02 33 54.3
comp=Z,41nm,0.9s
L19K White Mountain 80.64 24 P **P** 02 33 51.8 +0.8
baz=239,SNR=18
M19K Big River Lodg 80.69 24 IAmb IAmb 02 33 54.6
comp=Z,25nm,0.8s
M19K Big River Lodg 80.69 24 P **P** 02 33 52.1 +0.9
baz=239
C16K Lisburne Hills 80.75 16 P **P** 02 33 52.2 +0.9
baz=228
HOM Homer 80.75 27 P **P** 02 33 52.5 +0.9
baz=242
F17K Baldwin Pennin 80.78 19 P **P** 02 33 52.6 +1.0
baz=232,SNR=5.2
KBK Karagaybulak 80.96 315 P **P** 02 33 54.6 +1.3
SNR=15
H18K Honhosa River 80.97 20 P **P** 02 33 53.4 +0.7
baz=235
E17K Hotham Inlet 81.00 18 P **P** 02 33 53.6 +0.9
baz=231,SNR=12
KURK Kurchatov 81.07 323 P **P** 02 33 52.8 -0.6
KURK Kurchatov 81.07 323 *d i* P **P** 02 33 52.6 -0.8
KURK pmax pmax
comp=Z,25nm,0.8s
KURBB Kurchatov Arra 81.09 323 P **P** 02 33 52.4 -1.2
KURBB Kurchatov Arra 81.09 323 P **P** 02 33 53.1 -0.5
comp=Z,9.5nm,0.7s,baz=108,slow=4.6,SNR=56
KURBB pP **pP** 02 34 41.0 +0.3
comp=Z,2.6nm,0.8s,baz=111,slow=4.6,SNR=1.7
KURBB PKKPbc **PKKPbc** 02 52 29.1 -2.2
comp=Z,1.0nm,0.7s,baz=288,slow=2.7,SNR=6.6
KURBB PKPPKP **P'P'df** 03 00 32.9 -0.2
comp=Z,0.3nm,0.2s,baz=278,slow=2.5,SNR=2.4
KURBB LR LR 03 09 44.4
comp=Z,81nm,20.4s,baz=169,slow=35
comp=Z,9.5nm,0.7s
BRLK Bradley Lake 81.14 27 IAmb IAmb 02 33 56.1
comp=Z,42nm,0.8s
L20K Farewell, AK 81.19 24 P **P** 02 33 54.8 +0.9
baz=240,SNR=11
CHMS Chumysh 81.19 315 P **P** 02 33 54.5 +0.2
SNR=11
M20K Styx River 81.19 24 IAmb IAmb 02 33 56.8
comp=Z,41nm,0.8s
M20K Styx River 81.19 24 P **P** 02 33 55.0 +1.1
baz=240
BRSE Bradley Lake S 81.20 27 P **P** 02 33 54.6 +0.7
baz=243
N20K Mount Spurr 81.24 25 P **P** 02 33 55.0 +0.7
baz=241
GCSA Galena City Sc 81.26 21 P **P** 02 33 55.0 +0.9
baz=236,SNR=13
AAK Ala-Archa 81.27 315 P **P** 02 33 56.0 +1.1
SNR=16
AAK Ala-Archa 81.27 315 P **P** 02 33 55.0 +0.1
AAK IAmb IAmb 02 33 56.8
comp=Z,31nm,0.8s
AAK Ala-Archa 81.27 315 *d i* P **P** 02 33 54.4 -0.5
AAK pmax pmax
comp=Z,31nm,0.7s
AAK Ala-Archa 81.27 315 P **P** 02 33 54.8 -0.2
AAK Ala-Archa 81.27 315 LR LR 03 12 07.1
comp=Z,32nm,19.4s,baz=98,slow=37
G18K Tagagawik 81.30 20 IAmb IAmb 02 33 55.8
comp=Z,23nm,0.7s
G18K Tagagawik 81.30 20 P **P** 02 33 55.1 +0.8
baz=235,SNR=12
J19K Poorman 81.31 22 P **P** 02 33 55.4 +1.0
baz=238,SNR=7.4
SGDS Sogindy 81.40 315 *eP* **P** 02 33 55.4 -0.1
baz=315
SGDS Sogindy 81.40 315 *eP* **P** 02 33 55.3 -0.1
C17K DeLong Mountai 81.49 16 P **P** 02 33 56.3 +1.0
baz=230
K20K Telida 81.56 23 IAmb IAmb 02 33 59.1
comp=Z,30nm,0.9s
K20K Telida 81.56 23 P **P** 02 33 56.8 +1.0
baz=239
E18K Tukpahlearik C 81.58 18 IAmb IAmb 02 33 58.4
comp=Z,41nm,1.1s
E18K Tukpahlearik C 81.58 18 P **P** 02 33 57.0 +1.2
baz=233,SNR=7.6
AML Almayashu 81.71 314 P **P** 02 33 59.0 +1.4
SNR=9.0
EKS2 Erkin-Say 81.79 314 P **P** 02 33 57.9 +0.3
SNR=38
H19K Roundabout Mou 81.84 20 IAmb IAmb 02 33 59.0
comp=Z,32nm,0.8s
H19K Roundabout Mou 81.84 20 P **P** 02 33 58.5 +1.3
baz=237,SNR=15
SKT Skwentna 81.90 25 P **P** 02 33 57.5 -0.1
baz=242,SNR=5.2
SEW Seward 81.94 27 P **P** 02 33 58.3 +0.5
baz=244,SNR=6.2
J20K Nowinta River 81.95 22 P **P** 02 33 58.7 +0.9
baz=239,SNR=12
G19K Purcell Mounta 81.97 20 P **P** 02 33 58.3 +0.5
G19K IAmb IAmb 02 33 59.9
comp=Z,45nm,1.1s
G19K Purcell Mounta 81.97 20 P **P** 02 33 58.7 +0.8
baz=236,SNR=14
SUA Susitna One 81.99 25 P **P** 02 33 58.6 +0.4
baz=242
PPLA Purkeypile 82.07 24 P **P** 02 33 59.3 +0.6
baz=241
F19K Shaleruckik Mo 82.13 19 P **P** 02 33 59.1 +0.5
baz=235
I20K Naaghedeneel 82.15 22 IAmb IAmb 02 34 01.3
comp=Z,46nm,0.9s
I20K Naaghedeneel 82.15 22 P **P** 02 33 59.5 +0.7
baz=239,SNR=6.2
C18K Utukok River 82.16 17 P **P** 02 33 59.5 +0.7
baz=232
BTLS Baital 82.24 317 *eP* **P** 02 33 59.1 -0.6
comp=Z,12nm,0.5s,baz=317
BTLS Baital 82.24 317 *eP* **P** 02 33 59.9 +0.2
BTLS pmax pmax
comp=Z,12nm,0.5s
RC01 Rabbit Creek A 82.25 26 P **P** 02 33 59.7 +0.2
baz=244
CAST Castle Rocks 82.37 23 P **P** 02 34 00.2 +0.2
baz=241,SNR=21
H20K Anotleneega Mo 82.38 21 P **P** 02 34 00.5 +0.6
baz=238,SNR=9.7
M22K Willow 82.39 25 P **P** 02 34 00.5 +0.4
baz=243,SNR=6.2
CHUM Lake Minchumin 82.50 23 P **P** 02 34 01.1 +0.4
baz=241,SNR=19
CUT Chulitna 82.62 25 IAmb IAmb 02 34 03.1
comp=Z,51nm,0.6s
CUT Chulitna 82.62 25 P **P** 02 34 01.2 0.0
baz=243,SNR=8.7
E19K Redstone River 82.66 19 IAmb IAmb 02 34 04.8
comp=Z,56nm,0.8s
E19K Redstone River 82.66 19 P **P** 02 34 02.1 +0.7
baz=236,SNR=26
MAW Mawson 82.71 203 P **P** 02 34 02.2 +0.5
baz=83,SNR=18
MAW Mawson 82.71 203 P **P** 02 34 02.1 +0.5
comp=Z,7.3nm,0.6s,baz=94,slow=5.8,SNR=33
MAW pP **pP** 02 34 49.4 -0.9
comp=Z,4.8nm,0.9s,baz=96,slow=10.0,SNR=2.3
comp=Z,7.3nm,0.6s
PMR Palmer 82.74 26 IAmb IAmb 02 34 03.7
comp=Z,30nm,0.8s
PMR Palmer 82.74 26 P **P** 02 34 02.4 +0.5
PMR Palmer 82.74 26 P **P** 02 34 02.1 +0.2
baz=244,SNR=8.3
PWL Port Wells 82.77 26 P **P** 02 34 02.4 +0.3
baz=245,SNR=13
P23K Montague Islan 82.83 27 P **P** 02 34 02.8 +0.4
baz=246

C19K Lookout Ridge 82.90 17 P **P** 02 34 03.4 +0.7
baz=233
GHO Glory Hole Cre 82.91 25 IAmb IAmb 02 34 04.8
comp=Z,38nm,0.9s
F20K Avaraart Lake 82.92 19 IAmb IAmb 02 34 06.0
comp=Z,94nm,1.9s
F20K Avaraart Lake 82.92 19 P **P** 02 34 03.4 +0.7
baz=237
KNK Knik Glacier 82.95 26 P **P** 02 34 03.5 +0.5
KNK IAmb IAmb 02 34 05.5
comp=Z,41nm,0.9s
KNK Knik Glacier 82.95 26 P **P** 02 34 03.6 +0.5
baz=245,SNR=10
D19K Kuna River 82.98 18 IAmb IAmb 02 34 05.2
comp=Z,52nm,1.3s
D19K Kuna River 82.98 18 P **P** 02 34 03.6 +0.5
baz=235
IMAR Indian Mountai 83.03 21 P **P** 02 34 03.8 +0.4
TRF Thorofare Moun 83.09 24 P **P** 02 34 03.0 -0.9
TRF IAmb IAmb 02 34 06.7
comp=Z,22nm,0.6s
TRF Thorofare Moun 83.09 24 P **P** 02 34 04.0 +0.1
baz=243,SNR=8.7
BPAW Bear Paw Mtn. 83.12 23 P **P** 02 34 03.9 0.0
baz=242,SNR=9.2
SML Sawmill 83.17 26 P **P** 02 34 04.3 0.0
baz=245,SNR=15
H21K Melozitna Rive 83.20 21 P **P** 02 34 04.5 +0.3
baz=240,SNR=9.9
I21K Tanana 83.27 22 P **P** 02 34 05.0 +0.4
baz=241,SNR=12
GLI Glacier Island 83.33 27 IAmb IAmb 02 34 07.1
comp=Z,62nm,0.8s
GLI Glacier Island 83.33 27 P **P** 02 34 05.3 +0.4
baz=246
G21K Allakaket 83.39 20 P **P** 02 34 05.9 +0.7
baz=239
M23K Glacier View 83.43 26 P **P** 02 34 06.0 +0.5
baz=245,SNR=9.5
E20K Nigu River 83.43 18 P **P** 02 34 06.1 +0.7
baz=237,SNR=11
GAR Garm 83.45 310 IAmb IAmb 02 34 06.9
comp=Z,43nm,0.9s
WAT1 Susitna Watana 83.53 25 P **P** 02 34 06.1 +0.1
baz=244
KBL Kabul 83.53 306 P **P** 02 34 05.8 -1.1
KBL IAmb IAmb 02 34 06.9
comp=Z,25nm,0.7s
KBL Kabul 83.53 306 P **P** 02 34 05.8 -1.1
KBL pmax pmax
comp=Z,25nm,0.7s
FID Port Fidalgo 83.55 27 IAmb IAmb 02 34 08.2
comp=Z,60nm,0.8s
D20K Etivluk River 83.56 18 P **P** 02 34 06.4 +0.4
baz=236,SNR=5.2
DZA Taraz 83.59 314 *eP* **P** 02 34 06.8 +0.1
baz=314
DZA Taraz 83.59 314 *eP* **P** 02 34 06.8 +0.1
SCM Sheep Creek Mo 83.62 26 IAmb IAmb 02 34 09.0
comp=Z,65nm,1.0s
SCM Sheep Creek Mo 83.62 26 P **P** 02 34 06.6 +0.1
baz=246,SNR=8.0
RND Reindeer 83.65 24 IAmb IAmb 02 34 08.1
comp=Z,49nm,0.7s
MLY Manley 83.66 22 IAmb IAmb 02 34 09.0
comp=Z,39nm,0.7s
MLY Manley 83.66 22 P **P** 02 34 06.9 +0.3
baz=242,SNR=45
BWN Browne 83.75 23 IAmb IAmb 02 34 09.1
comp=Z,36nm,0.8s
WAT6 Susitna Watana 83.76 25 P **P** 02 34 07.2 -0.1
baz=245,SNR=9.8
F21K Alatna River 83.76 20 P **P** 02 34 07.1 0.0
baz=239
MCK McKinley 83.76 24 P **P** 02 34 06.4 -0.8
baz=244,SNR=33
EYAK Cordova Ski Ar 83.80 27 P **P** 02 34 07.1 -0.2
baz=247
H22K Ishtalitna Cre 83.83 21 P **P** 02 34 07.9 +0.5
baz=241
DIV Divide 84.02 27 P **P** 02 34 09.0 +0.4
DIV IAmb IAmb 02 34 10.7
comp=Z,44nm,0.7s
NEA2 Nenana 84.09 23 P **P** 02 34 08.5 -0.3
baz=244,SNR=22
KLU Klutina 84.09 26 IAmb IAmb 02 34 11.6
comp=Z,54nm,0.9s
KLU Klutina 84.09 26 P **P** 02 34 09.4 +0.5
baz=247,SNR=18
DHY Denali Highway 84.12 25 IAmb IAmb 02 34 11.3
comp=Z,48nm,0.8s
DHY Denali Highway 84.12 25 P **P** 02 34 08.9 -0.2
baz=245,SNR=26
B20K Meade River 84.12 17 P **P** 02 34 09.3 +0.5
baz=236
KAIM Kayak Island 84.18 28 P **P** 02 34 10.3 +1.0
baz=248
KK31 Karatay Array 84.22 314 P **P** 02 34 09.7 -0.2
KK31 IAmb IAmb 02 34 11.5
comp=Z,70nm,1.2s
KK31 Karatay Array 84.22 314 P **P** 02 34 09.7 -0.2
KK31 pmax pmax
comp=Z,70nm,1.3s
KKAR Karatay Array 84.22 314 P **P** 02 34 09.7 -0.2
KKAR IAmb IAmb 02 34 11.5
comp=Z,70nm,1.2s
KKAR Karatay Array 84.22 314 P **P** 02 34 09.7 -0.2
KKAR pmax pmax
comp=Z,70nm,1.3s
E21K Killik River 84.23 19 P **P** 02 34 09.6 +0.2
baz=239
M24K Tolsona, Glenn 84.23 26 P **P** 02 34 10.1 +0.5
baz=247,SNR=11
I23K Minto, Yukon-K 84.23 22 P **P** 02 34 09.7 +0.3
baz=243,SNR=16
G22K Bettles 84.28 20 P **P** 02 34 10.2 +0.6
baz=241,SNR=11
F22K John River 84.34 20 P **P** 02 34 10.4 +0.4
baz=241
QSPA South Pole Qui 84.35 180 P **P** 02 34 10.4 +0.2
QSPA IAmb IAmb 02 34 11.6
comp=Z,98nm,1.3s
QSPA South Pole Qui 84.35 180 P **P** 02 34 10.4 +0.2
comp=Z,32nm,0.6s,baz=308,slow=0.5,SNR=119
QSPA S **SKSac** 02 44 12.0 -3.2
comp=Z,0.4nm,0.3s,baz=115,slow=22,SNR=9.0
QSPA PKKPbc **PKKPbc** 02 52 21.0 -3.9
comp=Z,1.6nm,0.7s,baz=230,slow=2.7,SNR=6.5
comp=Z,32nm,0.6s
C21K Knifeblade Rid 84.35 18 P **P** 02 34 10.6 +0.6
baz=238
IUG Iuzhnay 84.36 313 *eP* **P** 02 34 10.8 +0.1
comp=Z,25nm,0.9s,baz=313
IUG Iuzhnay 84.36 313 *eP* **P** 02 34 10.8 +0.1
IUG pmax pmax
comp=Z,25nm,0.9s
HMT Hamilton 84.41 28 IAmb IAmb 02 34 12.6
comp=Z,42nm,0.7s
WRH Wood River Hil 84.42 23 IAmb IAmb 02 34 11.9
comp=Z,48nm,1.1s
H23K Yukon River 84.47 22 IAmb IAmb 02 34 12.0
comp=Z,19nm,0.7s
H23K Yukon River 84.47 22 P **P** 02 34 10.8 +0.2
baz=243
BRZS Berezniki 84.47 321 *eP* **P** 02 34 11.0 -0.1
baz=321
BRZS Berezniki 84.47 321 *eP* **P** 02 34 10.9 -0.1
BMRM Bremner River 84.48 27 P **P** 02 34 11.1 +0.2
baz=248,SNR=7.0
B21K Ikpikpuk River 84.65 17 IAmb IAmb 02 34 13.5
comp=Z,24nm,0.8s
B21K Ikpikpuk River 84.65 17 P **P** 02 34 11.7 +0.3
baz=238
BERG Berg Lake 84.68 28 IAmb IAmb 02 34 14.6
comp=Z,54nm,1.0s
COLA College 84.69 23 P **P** 02 34 11.1 -0.6
COLA College 84.69 23 P **P** 02 34 11.2 -0.5
COLA College 84.69 23 P **P** 02 34 11.1 -0.6
COLA pmax pmax
comp=Z,50nm,0.5s
COLA College 84.69 23 P **P** 02 34 11.5 -0.2
baz=245
G23K Bananza Creek 84.70 21 IAmb IAmb 02 34 14.7
comp=Z,32nm,0.8s
G23K Bananza Creek 84.70 21 P **P** 02 34 12.3 +0.4
baz=243,SNR=20
CHM Chimkent 84.70 313 *eP* **P** 02 34 13.0 +0.6
baz=313

CHM Chimkent 84.70 313 *eP* **P** 02 34 12.9 +0.6
N25K Chitina, Valde 84.72 26 P **P** 02 34 12.5 +0.4
baz=248,SNR=5.7
E22K Anaktuvuk Pass 84.77 19 P **P** 02 34 12.5 +0.4
baz=241
HARP HAARP 84.78 26 P **P** 02 34 12.5 +0.2
baz=248,SNR=8.3
HDA Harding Lake 84.84 23 IAmb IAmb 02 34 14.2
comp=Z,31nm,1.0s
HDA Harding Lake 84.84 23 P **P** 02 34 12.2 -0.3
baz=246,SNR=20
D22K Ayikyak River 84.86 18 P **P** 02 34 12.3 -0.2
baz=240,SNR=8.5
PAX Paxson 84.87 25 P **P** 02 34 13.0 +0.2
baz=247,SNR=12
COLD Coldfoot 84.88 20 P **P** 02 34 13.1 +0.4
baz=242,SNR=21
POKR Poker Plat Res 84.95 23 P **P** 02 34 12.7 -0.4
baz=245,SNR=5.8
GLB Gilahina Butte 85.01 27 IAmb IAmb 02 34 15.9
comp=Z,31nm,0.7s
IL31 85.02 23 IAmb IAmb 02 34 14.2
comp=Z,41nm,0.7s
ILAR Eielson Array 85.02 23 P **P** 02 34 12.7 -0.7
ILAR Eielson Array 85.02 23 P **P** 02 34 12.7 -0.7
ILAR Eielson Array 85.02 23 P **P** 02 34 12.0 -1.4
comp=Z,43nm,0.8s,baz=253,slow=4.5,SNR=199
ILAR S **SKSac** 02 44 17.6 -1.4
comp=Z,0.3nm,0.9s,baz=353,slow=11,SNR=2.3
comp=Z,43nm,0.8s
K24K Donnelly Dome 85.07 24 P **P** 02 34 14.0 +0.3
baz=247,SNR=10.0
CRQM Cirque 85.07 28 IAmb IAmb 02 34 17.1
comp=Z,47nm,0.8s
H24K Noodor Dome 85.09 22 P **P** 02 34 14.2 +0.4
baz=245,SNR=19
CRQE Cirque 85.09 28 P **P** 02 34 14.4 +0.3
baz=249,SNR=10
VRDI Verde Repeater 85.10 27 IAmb IAmb 02 34 16.5
comp=Z,77nm,1.6s
TGL Tana Glacier 85.22 28 IAmb IAmb 02 34 17.2
comp=Z,30nm,0.9s
A22K Sinclair Lake 85.29 16 P **P** 02 34 15.0 +0.4
baz=238
MCARA McCarthy VSAT 85.35 27 IAmb IAmb 02 34 17.8
comp=Z,30nm,0.8s
MCARA McCarthy VSAT 85.35 27 P **P** 02 34 15.7 +0.6
baz=249,SNR=6.2
B22K Teshekpuk Lake 85.38 17 P **P** 02 34 15.7 +0.7
baz=239
ISLE Juniper Island 85.39 28 IAmb IAmb 02 34 17.9
comp=Z,32nm,0.9s
RIDG Independent Ri 85.43 24 IAmb IAmb 02 34 17.2
comp=Z,23nm,0.8s
RIDG Independent Ri 85.43 24 P **P** 02 34 15.8 +0.3
baz=248,SNR=11
MESA MESA 85.43 28 P **P** 02 34 15.7 -0.1
baz=250
E23K Chandalar 85.46 20 P **P** 02 34 16.2 +0.6
baz=243,SNR=11
D23K Nanushuk River 85.53 19 P **P** 02 34 16.8 +0.9
baz=242
J25K Salcha River, 85.55 24 IAmb IAmb 02 34 18.0
comp=Z,58nm,0.8s
J25K Salcha River, 85.55 24 P **P** 02 34 15.6 -0.5
baz=247,SNR=52
MENT Mentasta 85.60 25 IAmb IAmb 02 34 18.8
comp=Z,28nm,0.8s
MENT Mentasta 85.60 25 P **P** 02 34 17.0 +0.6
G24K Hadweenzic Riv 85.60 21 IAmb IAmb 02 34 18.7
comp=Z,29nm,0.9s
G24K Hadweenzic Riv 85.60 21 P **P** 02 34 16.6 +0.3
baz=245,SNR=13
M26K Nabesna, AK 85.72 26 P **P** 02 34 17.4 +0.4
baz=249,SNR=9.1
TOLK Toolik Lake Re 85.74 19 P **P** 02 34 18.1 +1.2
TOLK Toolik Lake Re 85.74 19 P **P** 02 34 17.5 +0.5
baz=243,SNR=8.3
L26K Log Cabin Wild 85.79 25 IAmb IAmb 02 34 19.4
comp=Z,28nm,0.7s
L26K Log Cabin Wild 85.79 25 P **P** 02 34 18.0 +0.7
baz=249,SNR=28
F24K Squaw Lake 85.81 20 IAmb IAmb 02 34 20.1
comp=Z,39nm,0.8s
F24K Squaw Lake 85.81 20 P **P** 02 34 17.8 +0.5
baz=245,SNR=28
E24K Your Creek 85.84 20 P **P** 02 34 17.6 +0.1
baz=244
PRP Porcupine Dome 85.84 23 P **P** 02 34 17.4 -0.3
baz=247
SCRK Sand Creek 85.87 24 P **P** 02 34 18.1 +0.3
baz=248,SNR=16
C23K Itkillik River 85.97 18 IAmb IAmb 02 34 20.0
comp=Z,36nm,0.6s
C23K Itkillik River 85.97 18 P **P** 02 34 18.6 +0.6
baz=242,SNR=7.3
CTG Chitna Glacier 85.97 28 P **P** 02 34 18.7 +0.3
baz=251,SNR=23
H25L Birch Creek 86.03 22 P **P** 02 34 18.9 +0.6
baz=247
G25K Bearman Lake 86.13 21 P **P** 02 34 19.4 +0.7
baz=246
M27K Edge Creek, AK 86.19 26 P **P** 02 34 20.0 +0.6
baz=250,SNR=46
PINM Pinnacle 86.21 29 P **P** 02 34 20.1 +0.7
baz=252,SNR=7.1
D24K Happy Valley 86.21 19 IAmb IAmb 02 34 25.1
comp=Z,22nm,0.8s
D24K Happy Valley 86.21 19 P **P** 02 34 20.0 +0.8
baz=244
J26L Joseph Creek 86.23 24 P **P** 02 34 19.8 +0.3
baz=249,SNR=16
FYU Fort Yukon 86.37 22 IAmb IAmb 02 34 21.6
comp=Z,26nm,0.8s
O28M Mount Upton 86.44 28 P **P** 02 34 21.0 +0.1
baz=252,SNR=23
L27K Beaver Creek, 86.45 26 IAmb IAmb 02 34 23.4
comp=Z,33nm,1.1s
L27K Beaver Creek, 86.45 26 P **P** 02 34 20.9 +0.3
baz=250,SNR=19
PNL Peninsula 86.49 29 P **P** 02 34 21.2 +0.5
PNL Peninsula 86.49 29 P **P** 02 34 21.3 +0.5
baz=253,SNR=5.9
C24K Franklin Bluff 86.50 18 P **P** 02 34 21.4 +0.8
baz=244
F25K Christian Rive 86.62 21 P **P** 02 34 22.1 +0.8
baz=247,SNR=5.5
BVA0 Borovoye Array 86.62 324 *i* P **P** 02 34 20.2 -1.4
BVAR Borovoye Array 86.62 324 P **P** 02 34 20.5 -1.1
comp=Z,18nm,0.5s,baz=108,slow=5.6,SNR=41
BVAR LR LR 03 12 39.7
comp=Z,53nm,22.0s,baz=70,slow=35
comp=Z,18nm,0.5s
YUK3 Moose Creek 86.64 27 P **P** 02 34 21.9 +0.2
baz=252,SNR=26
K27K Chicken 86.67 25 P **P** 02 34 22.1 +0.5
baz=250
I26K Coal Creek Min 86.69 23 P **P** 02 34 21.9 +0.3
baz=249
BRVK Borovoye 86.69 324 P **P** 02 34 21.1 -0.8
BRVK Borovoye 86.69 324 *d i* P **P** 02 34 20.3 -1.6
BRVK pmax pmax
comp=Z,21nm,1.0s
YUK8 Steele Glacier 86.80 28 P **P** 02 34 22.6 0.0
baz=252,SNR=15
E25K Arctic Village 86.86 20 P **P** 02 34 23.0 +0.6
baz=247
G26K Porcupine Rive 87.04 22 P **P** 02 34 24.0 +0.8
baz=248,SNR=32
O29M Mount Kennedy 87.07 29 IAmb IAmb 02 34 26.7
comp=Z,54nm,0.8s
O29M Mount Kennedy 87.07 29 P **P** 02 34 24.1 +0.4
baz=253,SNR=18
D25K Kavik River 87.08 19 P **P** 02 34 23.9 +0.5
baz=246,SNR=7.7
F26K Sheenjek River 87.19 21 P **P** 02 34 24.7 +0.7
baz=248,SNR=7.2
P29M Windy Craggy 87.28 29 P **P** 02 34 25.4 +0.7
baz=254,SNR=15
YUK4 Talbot Arm 87.33 28 P **P** 02 34 26.2 +1.2
baz=253,SNR=12
YUK6 Outpost Mounta 87.35 28 P **P** 02 34 25.6 +0.4
baz=254
I27K Kandik River 87.39 23 P **P** 02 34 25.7 +0.7
baz=250,SNR=23
S31K Pelican 87.61 31 P **P** 02 34 27.2 +1.1
baz=256
H27K Steamboat Moun 87.64 23 P **P** 02 34 27.1 +1.0

baz=250,SNR=22
HYT Haines Junctio 87.72 28 IAmb IAmb 02 34 30.4
comp=Z,52nm,1.0s
HYT Haines Junctio 87.72 28 P P 02 34 27.7 +0.9
baz=254,SNR=19
M29M Somme Creek 87.73 27 IAmb IAmb 02 34 29.7
comp=Z,32nm,1.1s
M29M Somme Creek 87.73 27 P P 02 34 27.9 +1.1
baz=254,SNR=20
G27K Doyon Strip 87.78 22 P P 02 34 27.9 +1.0
baz=250,SNR=8.9
C26K Camden Bay 87.78 19 P P 02 34 28.1 +1.4
baz=247,SNR=6.6
P30M Million Dollar 87.79 29 P P 02 34 28.1 +1.0
baz=255
DAWY Dawson 87.81 25 P P 02 34 27.8 +0.7
DAWY IAmb IAmb 02 34 30.6
comp=Z,44nm,1.4s
DAWY Dawson 87.81 25 P P 02 34 27.7 +0.7
baz=253,SNR=19
PLBC Pleasant Camp 87.91 30 P P 02 34 28.6 +1.0
baz=255,SNR=9.5
I28M Miner Creek 88.00 24 IAmb IAmb 02 34 30.6
comp=Z,33nm,1.4s
I28M Miner Creek 88.00 24 P P 02 34 28.7 +0.7
baz=252,SNR=8.5
L29M L29M 88.07 26 P P 02 34 29.1 +0.8
baz=254,SNR=13
N30M Aishikik Lake 88.08 28 P P 02 34 29.4 +1.0
baz=255,SNR=5.0
E27K Coleen River 88.27 21 P P 02 34 30.1 +1.0
baz=250,SNR=8.7
S32K Killisnoo 88.35 32 IAmb IAmb 02 34 32.3
comp=Z,46nm,1.1s
S32K Killisnoo 88.35 32 P P 02 34 30.5 +0.9
baz=257,SNR=5.3
O30N Mendenhall 88.38 29 IAmb IAmb 02 34 32.7
comp=Z,25nm,0.9s
O30N Mendenhall 88.38 29 P P 02 34 30.5 +0.8
baz=256,SNR=11
J29N Klondike Camp 88.41 25 P P 02 34 31.3 +1.4
baz=254
SKAG Skagway 88.43 30 IAmb IAmb 02 34 32.9
comp=Z,34nm,1.0s
SKAG Skagway 88.43 30 P P 02 34 31.8 +1.9
SKAG Skagway 88.43 30 P P 02 34 31.7 +1.7
baz=256,SNR=8.1
M30M Minto, Yukon 88.51 27 P P 02 34 31.1 +0.7
baz=255
K29M Barlow Dome 88.53 25 IAmb IAmb 02 34 32.9
comp=Z,19nm,0.7s
K29M Barlow Dome 88.53 25 P P 02 34 31.2 +0.7
baz=254,SNR=20
R32K Eaglecrest 88.56 31 P P 02 34 31.4 +0.8
baz=257
I29M Ogilvie Camp, 88.63 24 P P 02 34 31.3 +0.4
baz=254
F28M Old Crow 88.70 21 P P 02 34 31.8 +0.7
baz=252,SNR=9.2
N31M Braeburn, Yuko 88.70 28 IAmb IAmb 02 34 36.0
comp=Z,21nm,0.9s
N31M Braeburn, Yuko 88.70 28 P P 02 34 32.3 +1.0
baz=256
D27M Malcolm River 88.84 20 P P 02 34 32.6 +0.9
baz=251
U33K Whale Pass 88.84 33 P P 02 34 32.7 +0.7
baz=258
H29M Whitestone 88.85 23 IAmb IAmb 02 34 34.3
comp=Z,41nm,1.6s
H29M Whitestone 88.85 23 P P 02 34 32.4 +0.6
baz=253
WHY Whitehorse 88.93 29 P P 02 34 33.5 +1.0
baz=257
HRA Herat 89.05 305 P P 02 34 33.1 -0.7
HRA IAmb IAmb 02 34 34.6
comp=Z,37nm,1.1s
E28M Babbage River 89.12 21 P P 02 34 33.9 +0.9
baz=252
MAYO Mayo, Yukon 89.17 26 IAmb IAmb 02 34 38.0
comp=Z,34nm,0.7s
MAYO Mayo, Yukon 89.17 26 P P 02 34 34.2 +0.9
baz=256
G29M Pine Creek 89.18 22 IAmb IAmb 02 34 34.8
comp=Z,25nm,1.0s
G29M Pine Creek 89.18 22 P P 02 34 34.2 +0.8
baz=254,SNR=7.7
J30M Hart River 89.23 25 IAmb IAmb 02 34 36.5
comp=Z,22nm,0.9s
J30M Hart River 89.23 25 P P 02 34 34.5 +0.7
baz=255,SNR=16
P32M Atlin 89.26 30 IAmb IAmb 02 34 36.5
comp=Z,19nm,0.8s
P32M Atlin 89.26 30 P P 02 34 34.8 +0.9
baz=258,SNR=6.0
I30M Mount Dempster 89.37 24 P P 02 34 35.0 +0.5
baz=255,SNR=7.7
RER Riviere de l'E 89.43 249 P P 02 34 35.4 -0.2
RER IAmb IAmb 02 34 39.4
comp=Z,51nm,1.0s
M31M Drury Creek, Y 89.51 27 P P 02 34 35.9 +0.9
baz=257
V35K Ketchikan 89.53 34 P P 02 34 36.2 +1.1
baz=260
EPYK Eagle Plains 89.53 23 IAmb IAmb 02 34 36.1
comp=Z,25nm,0.8s
EPYK Eagle Plains 89.53 23 P P 02 34 35.3 +0.3
baz=255,SNR=11
E29M Blow River 89.64 21 P P 02 34 36.2 +0.7
baz=254
P33M Teslin, Yukon 89.83 29 P P 02 34 37.2 +0.6
baz=258
Q32M Nakina River 89.86 31 P P 02 34 37.2 +0.3
baz=259
G30M tAoh Zraii Nji 89.88 22 IAmb IAmb 02 34 38.4
comp=Z,18nm,1.0s
G30M tAoh Zraii Nji 89.88 22 P P 02 34 37.1 +0.4
baz=255
N32M Quiet Lake 89.89 28 P P 02 34 37.6 +0.7
baz=258
FARO Faro, Yukon 89.99 27 P P 02 34 38.0 +0.7
FARO Faro, Yukon 89.99 27 P P 02 34 37.8 +0.5
baz=258,SNR=6.7
F30M Barrier River 90.20 22 P P 02 34 38.6 +0.5
baz=256,SNR=6.8
S34M Telegraph Cree 90.25 32 P P 02 34 38.7 +0.2
baz=260,SNR=6.4
H31M Peel River 90.34 24 IAmb IAmb 02 34 40.8
comp=Z,81nm,1.9s
H31M Peel River 90.34 24 P P 02 34 39.1 +0.3
baz=257,SNR=6.3
T35M Bob Quinn 90.57 33 P P 02 34 40.9 +0.8
baz=261
R33M Jennings River 90.60 30 P P 02 34 40.9 +0.6
baz=260,SNR=5.4
G31M Satah River 90.61 23 P P 02 34 40.3 +0.3
baz=257,SNR=11
DLBC Dease Lake 90.92 31 P P 02 34 42.3 +0.5
baz=261
F31M Tsiigehtchic 90.93 22 P P 02 34 41.5 0.0
baz=258
INK Inuvik 91.19 21 IAmb IAmb 02 34 44.6
comp=Z,17nm,0.9s
INK Inuvik 91.19 21 P P 02 34 42.9 +0.3
baz=258
WTLY Watson Lake, Y 91.80 30 IAmb IAmb 02 34 48.2
comp=Z,23nm,0.9s
WTLY Watson Lake, Y 91.80 30 P P 02 34 46.3 +0.7
baz=262,SNR=15
TGTN Hyland Airport 92.24 29 P P 02 34 48.6 +0.9
baz=262
AB31 Abkulak array 92.47 319 *i* P P 02 34 46.9 -2.1
ABKAR Abkulak array 92.47 319 P P 02 34 47.2 -1.8
GEYT Alibeck 92.75 308 IAmb IAmb 02 34 51.2
comp=Z,20nm,0.8s
GEYT Alibeck 92.75 308 P P 02 34 49.6 -1.1
comp=Z,18nm,0.7s,baz=90,slow=4.4,SNR=22
GEYT LR LR 03 20 07.1
comp=Z,33nm,19.4s,baz=144,slow=38
comp=Z,18nm,0.7s
GYA0B ALIBECK ARRAY 92.75 308 IAmb IAmb 02 34 51.2
comp=Z,17nm,0.8s
SOHO SOHO 92.95 294 P P 02 34 50.8 -0.9
LIRD Liard River Hi 93.06 31 P P 02 34 52.7 +1.2
baz=264
MDH Madha 93.25 295 P P 02 34 51.6 -1.5
UOSS Minazif 93.31 295 P P 02 34 53.3 -0.2
UOSS IAmb IAmb 02 34 53.8
comp=Z,9.4nm,0.6s
UOSS Minazif 93.31 295 P P 02 34 52.2 -1.2
HATD Hatta, Dubai 93.37 294 P P 02 34 53.9 +0.2
MSFE Esma-Masafi 93.39 295 P P 02 34 53.5 -0.3
ASHO Ashiyiah 93.42 294 P P 02 34 53.8 -0.2
SHME Shamm 93.46 296 P P 02 34 53.5 -0.5
NAZ Nazwa, Dubai 93.81 295 P P 02 34 55.2 -0.5
FAQ Al Faqa, Dubai 93.85 294 P P 02 34 55.5 -0.4
ARU Arti 93.93 326 P P 02 34 54.4 -1.1
ARU Arti 93.93 326*d i* P P 02 34 53.5 -2.0
ARU 02 38 40.2
ARU S SKSac 02 45 09.1 -2.4
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 93.93 326 LR LR 03 18 52.0
comp=Z,30nm,18.4s,baz=263,slow=36
KOTAN Kotaneelee Air 94.16 30 P P 02 34 57.5 +1.0
baz=266,SNR=6.7
ORV Oroville 94.47 51 IAmb IAmb 02 34 59.8
comp=Z,18nm,1.0s
WRGLY Wrigley 94.64 27 P P 02 34 59.0 +0.5
baz=267
ELIB Princess Elisa 94.64 195 *d*P P 02 34 58.5 -0.2
comp=Z,15nm,0.9s
LLLB Lilloet 94.83 40 IAmb IAmb 02 35 01.9
comp=Z,20nm,0.9s
AFDM Forest Hills D 94.84 51 P P 02 35 00.5 +0.3
AFDM IAmb IAmb 02 35 01.9
comp=Z,20nm,1.1s
PKM Mcpherson Peak 95.55 56 P P 02 35 03.9 +0.2
baz=267
MZR Muzera 95.66 292 P P 02 35 03.8 -0.5
VES Vestal, Richgr 96.19 55 P P 02 35 06.9 +0.5
baz=268
HAWA Hanford 96.22 44 IAmb IAmb 02 35 08.1
comp=Z,17nm,0.9s
SCI2 San Clemente I 96.52 58 P P 02 35 08.1 +0.3
baz=268
G08A Pilot Rock 96.60 45 IAmb IAmb 02 35 09.7
comp=Z,21nm,1.2s
BELA Belgrano 2 96.62 180 P P 02 35 07.2 -0.3
D08A Wollman Farm, 96.66 43 IAmb IAmb 02 35 09.4
comp=Z,10nm,1.0s
ISA Isabella, Lake 96.68 55 P P 02 35 09.2 +0.6
baz=268
LHV Little Huntoon 96.75 52 IAmb IAmb 02 35 10.9
comp=Z,9.3nm,1.1s
J08A Circle Bar Ran 96.90 47 IAmb IAmb 02 35 11.5
comp=Z,10.0nm,0.9s
NVAR Mina Array Bea 96.91 52 P P 02 35 10.1 +0.3
NVAR Mina Array Bea 96.91 52 P P 02 35 09.9 +0.1
comp=Z,3.6nm,0.9s,baz=261,slow=6.0,SNR=20
NVAR PP PP 02 39 09.2 +1.3
comp=Z,2.9nm,0.8s,baz=261,slow=9.6,SNR=5.1
comp=Z,3.6nm,0.9s
NV11 Mina Array Sit 97.03 52 IAmb IAmb 02 35 11.3
comp=Z,12nm,1.4s
CWC Cottonwood Cre 97.03 54 P Pdif 02 35 10.8 +0.4
baz=268
EDW2 Edwards Air Fo 97.05 56 P Pdif 02 35 10.8 +0.4
baz=268
C09A Chrisman Ranch 97.11 43 IAmb IAmb 02 35 11.7
comp=Z,14nm,0.8s
BFSC Mount Baldy Ra 97.30 56 P Pdif 02 35 12.1 +0.4
baz=268
LRMC Laurel Mtn Rad 97.32 55 P Pdif 02 35 12.6 +0.9
baz=268
MPMC Manual Prospec 97.49 54 P Pdif 02 35 13.5 +0.9
baz=268,SNR=7.1
GRAC Grapevine Rang 97.61 54 P Pdif 02 35 13.7 +0.8
baz=269
109C Camp Elliot, M 97.72 58 P Pdif 02 35 14.4 +1.0
baz=268
TPH Tonopah 97.75 52 IAmb IAmb 02 35 16.2
comp=Z,13nm,0.8s
BMO Blue Mountains 97.76 46 IAmb IAmb 02 35 14.7
comp=Z,8.2nm,0.8s
F10A Beach Ranch, E 97.82 44 P P 02 35 13.2 -0.3
NEW Newport 97.88 42 P Pdif 02 35 14.0 +0.3
baz=270,SNR=18
NEW Newport 97.88 42 P Pdif 02 35 14.2 +0.4
comp=Z,21nm,0.9s,baz=240,slow=4.1,SNR=38
comp=Z,21nm,0.9s
QSM Queen of Sheba 98.00 55 IAmb IAmb 02 35 16.3
comp=Z,14nm,1.5s
FURC Furnace Creek, 98.01 54 P Pdif 02 35 14.9 +0.4
baz=269
GSC Goldstone, Bar 98.03 55 P Pdif 02 35 15.4 +0.6
baz=269
WCT Wildcat Mounta 98.20 54 IAmb IAmb 02 35 17.7
comp=Z,6.4nm,0.9s
PFO Pinyon Flats O 98.28 57 P Pdif 02 35 16.3 +0.3
baz=269
TPFO Pinon Flats 98.29 57 P Pdif 02 35 16.7 +0.7
baz=269
MONP2 Monument Peak 98.30 58 P Pdif 02 35 17.0 +0.8
baz=269
TPNV Topopah Spring 98.51 54 IAmb IAmb 02 35 18.1
comp=Z,10nm,1.2s
TPNV Topopah Spring 98.51 54 P Pdif 02 35 17.5 +0.5
baz=269
IKP In-Ko-Pah, Jac 98.56 58 P Pdif 02 35 18.1 +0.9
baz=269
BELC Belle Mtn. Jos 98.67 57 P Pdif 02 35 18.8 +1.0
baz=269
PLID Pearl Lake 98.69 45 IAmb IAmb 02 35 18.5
comp=Z,7.5nm,0.8s
YKA Yellowknife Ar 98.70 28 *i* P Pdif 02 35 18.0 +1.0
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 98.70 28 P Pdif 02 35 17.3 +0.3
comp=Z,4.6nm,0.8s,baz=275,slow=5.1,SNR=7.1
YKA LR LR 03 16 26.5
comp=Z,90nm,21.7s,baz=272,slow=33
comp=Z,4.6nm,0.8s
SWSC Sam W. Stewart 98.82 58 P Pdif 02 35 19.0 +0.8
baz=269
MFID Camas Ranch 98.83 47 IAmb IAmb 02 35 19.9
comp=Z,11nm,1.1s
KIRV Kirov 98.87 328 LR LR 03 21 16.8
comp=Z,70nm,19.8s,baz=81,slow=36
GMRC Granite Mounta 98.97 56 P Pdif 02 35 19.7 +0.6
baz=269
R11B Troy Canyon, C 99.04 52 Pdif 02 35 19.4 0.0
R11B Troy Canyon, C 99.04 52 P Pdif 02 35 20.2 +0.9
baz=270,SNR=6.1
BC3 Big Chuckawall 99.12 57 P Pdif 02 35 20.6 +0.8
baz=269
TROLL Troll, Antarti 99.22 190 ⇑Pdiff Pdif 02 35 19.3 -0.1
comp=Z,168nm,0.5s
ELK Elko 99.30 50 Pdif Pdif 02 35 20.5 0.0
ELK Elko 99.30 50 P Pdif 02 35 21.0 +0.5
comp=Z,2.6nm,0.8s,baz=24,slow=4.1,SNR=12
ELK PP PP 02 39 24.5 -1.6
comp=Z,2.3nm,1.1s,baz=349,slow=4.6,SNR=5.8
comp=Z,2.6nm,0.8s
IRM Iron Mountain 99.38 56 P Pdif 02 35 21.5 +0.7
baz=270
HLID Hailey 99.86 47 Pdif Pdif 02 35 23.8 +0.9
HLID Hailey 99.86 47 P Pdif 02 35 23.8 +0.9
baz=272,SNR=7.8
SPR3 Spring Creek 3 100.02 52 Pdif Pdif 02 35 24.8 +1.0
MSO Missoula 100.07 44 P Pdif 02 35 24.6 +1.0
baz=273
PDMCI Parker Dam,Lak 100.22 56 P Pdif 02 35 25.2 +0.8
baz=270
SNAA Sanae 100.42 189 Pdif Pdif 02 35 23.1 -1.5
SNAA Sanae 100.42 189⇓*e*P Pdif 02 35 22.7 -1.9
SNAA pmax pmax
comp=Z,17nm,3.2s
SNAA Sanae 100.42 189 ⇑Pdiff Pdif 02 35 24.0 -0.6
comp=Z,38nm,0.7s
SNAA Sanae 100.42 189 P Pdif 02 35 24.1 -0.6
comp=Z,3.1nm,1.1s,baz=268,slow=20,SNR=14
SNAA PP PP 02 39 31.8 -1.2
comp=Z,6.5nm,1.0s,baz=155,slow=8.7,SNR=9.4
SNAA PKiKP PKiKP 02 39 50.7 +0.4
comp=Z,0.7nm,0.6s,baz=0.0,slow=0.0,SNR=6.0
PRGR Permogore 100.45 332 *e*P Pdif 02 35 22.4 -2.4
PRGR pmax pmax
comp=Z,10.0nm,0.7s
BCYI Bear Canyon 100.56 46 Pdif Pdif 02 35 26.4 +0.3
HVU Hansel Valley 101.13 49 Pdif Pdif 02 35 28.9 +0.4
HVU Hansel Valley 101.13 49 P Pdif 02 35 28.9 +0.4
DUG Dugway, Tooele 101.16 50 P Pdif 02 35 29.5 +0.8
baz=272
214A Organ Pipe Nat 101.34 59 P Pdif 02 35 30.6 +1.1
baz=270
NLU North Lily Min 101.74 50 Pdif Pdif 02 35 31.1 -0.3
BOZ Bozeman (W) 101.75 45 P Pdif 02 35 31.5 +0.3
baz=274
VNA2 Neumayer--Watz 101.77 188 ⇑Pdiff Pdif 02 35 30.1 -0.4
comp=Z,3.4nm,0.8s,baz=164,slow=3.0
VNA3 Neumayer Olymp 101.79 187 ⇑Pdiff Pdif 02 35 30.0 -0.7
comp=Z,3.5nm,0.8s
ID09 Alton 102.28 48 Pdif Pdif 02 35 33.8 0.0
WUAZ Wupatki 102.47 55 P Pdif 02 35 35.0 +0.3
baz=272
SMAI San Martin Ant 102.57 167 Pdif Pdif 02 35 34.0 -0.1
H17A Grant Village 102.58 46 P Pdif 02 35 35.6 +0.6
baz=274
EGMT Eagleton 102.82 42 P Pdif 02 35 36.7 +0.9
baz=276
RLMT Red Lodge 103.44 45 P Pdif 02 35 38.9 +0.1
baz=276
BW06 Boulder Array 103.45 48 P Pdif 02 35 39.5 +0.5
baz=275
PDAR Pinedale Array 103.45 48 Pdif Pdif 02 35 38.1 -0.8
PDAR Pinedale Array 103.45 48 Pdiff Pdif 02 35 38.6 -0.3
comp=Z,3.7nm,0.9s,baz=244,slow=2.0,SNR=25
PDAR PP PKiKP 02 39 52.5 -4.3
comp=Z,1.1nm,0.9s,baz=272,slow=4.0,SNR=4.7
KLMR Klimovskoe 103.50 331 *e*Pdif Pdif 02 35 35.8 -2.5
KLMR AMP 02 35 37.4
comp=Z,22nm,1.2s
KLMR *e*PP PKiKP 02 39 52.7 -3.3
KLMR Klimovskoe 103.50 331 *e*P Pdif 02 35 35.8 -2.5
KLMR *e* 02 39 52.6
KLMR pmax pmax
comp=Z,22nm,1.2s
KBZ Khabaz 104.25 314 Pdiff Pdif 02 35 41.3 -0.8
comp=Z,0.9nm,0.7s,baz=127,slow=5.1,SNR=2.6
KBZ PKiKP PKiKP 02 39 58.4 +0.5
comp=Z,2.1nm,1.0s,baz=7.2,slow=3.2,SNR=2.8
KIV Kislovodsk 104.38 314 ⇑P PP 02 40 04.6 +0.7
O20A White River Ci 104.66 50 P Pdif 02 35 44.6 +0.3
baz=275
MVCO Mesa Verde 104.69 53 P Pdif 02 35 44.9 +0.3
baz=274
GURO Guroymak-BITLI 105.40 308 Pdif Pdif 02 35 47.0 -0.5
S22A 4UR Ranch, Cre 105.97 52 P PKiKP 02 40 01.5 -0.1
baz=275
ARCES ARCESS Array B 105.98 342 Pdiff Pdif 02 35 50.3 +1.0
comp=Z,6.8nm,0.9s,baz=74,slow=8.9,SNR=12
ARCES PKiKP PKiKP 02 40 00.3 -0.1
comp=Z,0.6nm,0.3s,baz=99,slow=1.4,SNR=27
ARCES PKKPbc PKKPbc 02 51 22.2 -4.1
comp=Z,5.6nm,1.1s,baz=237,slow=3.0,SNR=16
ANMO Albuquerque 106.52 55 P PKiKP 02 40 02.6 0.0
baz=275
ANMO Albuquerque 106.52 55 PKiKP PKiKP 02 40 03.1 +0.4
comp=Z,0.4nm,0.4s,baz=312,slow=0.8,SNR=5.9
SDCO Great Sand Dun 107.02 52 P PKiKP 02 40 03.6 0.0
baz=276
MNTX Cornudas Mount 107.67 59 P PKiKP 02 40 04.8 +0.1
baz=274
TXAR Lajitas Array 109.33 61 PKiKP PKiKP 02 40 07.9 0.0
comp=Z,0.7nm,0.7s,baz=354,slow=2.5,SNR=5.8
TXAR PP PP 02 40 39.0 -1.5
comp=Z,1.3nm,0.9s,baz=261,slow=7.3,SNR=8.1
TXAR PKKPbc PKKPbc 02 51 13.8 -0.8
comp=Z,0.3nm,0.7s,baz=100,slow=3.7,SNR=2.3
TXAR PKKPab PKKPab 02 51 27.3 +0.7
comp=Z,1.0nm,0.8s,baz=127,slow=8.2,SNR=9.3
FINES FINESS Array B 109.45 334 Pdiff Pdif 02 36 02.8 -2.0
comp=Z,1.9nm,0.7s,baz=315,slow=0.5,SNR=10
FINES PKiKP PKiKP 02 40 06.5 -0.5
comp=Z,1.8nm,0.5s,baz=86,slow=2.9,SNR=21
FINES PP PP 02 40 39.0 -1.1
comp=Z,1.9nm,0.7s,baz=37,slow=7.4,SNR=5.7
FINES PKKPbc PKKPbc 02 51 12.4 -2.8
comp=Z,2.8nm,0.9s,baz=193,slow=7.8,SNR=4.3
MSTX Muleshoe 109.64 56 P PKiKP 02 40 08.3 -0.1
baz=277
MEF Metsahovi 110.73 333 *e*P PKiKP 02 40 08.6 -0.8
MMAI Mount Meron Ar 111.37 303 PKiKP PKiKP 02 40 12.1 +0.4
comp=Z,1.6nm,0.7s,baz=59,slow=4.7,SNR=2.3
RAF Rauma 111.50 335 *e*P PKiKP 02 40 09.8 -1.1
MTSE Matsula 111.67 332 *e*P PKiKP 02 40 10.9 -0.4
BR131 Keskin Array S 111.70 311 ⇓*i*PKiKP PKiKP 02 40 11.3 -0.9
BRTR Keskin Array B 111.70 311 PKiKP PKiKP 02 40 11.5 -0.7
comp=Z,1.3nm,0.6s,baz=131,slow=2.9,SNR=11
BRTR PP PP 02 40 54.1 -3.0
comp=Z,1.2nm,0.7s,baz=104,slow=3.2,SNR=4.3
BRTR PKKPbc PKKPbc 02 51 06.6 -0.8
comp=Z,0.6nm,0.7s,baz=204,slow=2.7,SNR=4.6
AKASG Malin Array Be 111.88 323 PKiKP PKiKP 02 40 11.1 -0.9
comp=Z,1.7nm,0.4s,baz=61,slow=2.2,SNR=9.1
AKASG PP PP 02 40 56.3 -1.5
comp=Z,3.8nm,0.8s,baz=58,slow=6.6,SNR=15
AKASG PKKPbc PKKPbc 02 51 04.2 -2.7
comp=Z,1.8nm,0.6s,baz=261,slow=3.7,SNR=6.6
AKBB Malin Array Si 111.88 323 ⇑*i*PKiKP PKiKP 02 40 11.5 -0.4
ABTX Abilene, Hawle 112.41 57 P PKiKP 02 40 13.6 +0.1
baz=278
JCT Junction City 112.56 59 P PKiKP 02 40 14.0 +0.1
baz=277
ECSD EROS Data Cent 112.60 45 P PKiKP 02 40 13.7 +0.1
baz=285
AAL Aland 112.68 334 *e*P PKiKP 02 40 12.0 -1.1
PABE Paberze 113.01 329 *e*P PKiKP 02 40 13.3 -0.6
833A Chaparral WMA, 113.16 62 P PKiKP 02 40 15.1 +0.1
baz=276
TLCR 113.84 317 ⇓P PKiKP 02 40 15.6 -0.3
TLCR 113.84 317 ⇓PKiKP PKiKP 02 40 15.6 -0.3
SUW Suwalki 114.07 328 *e*P PKPdf 02 40 15.8 -0.2
SUW Suwalki 114.07 328 *e*P PKPdf 02 40 15.6 -0.4
VLDR Vladesti 114.14 318 ⇑P PKiKP 02 40 16.6 +0.1
GIUM Giurgiulesti 114.16 318 ⇑P PKiKP 02 40 24.1 +7.7
SCTR Scanteiesti 114.25 318 ⇓P PKiKP 02 40 17.3 +0.6
TIRR Tirgusor 114.33 317 ⇓P PKPdf 02 40 16.8 0.0
TIRR Tirgusor 114.33 317 ⇓P PKPdf 02 40 16.8 0.0
TIRR Tirgusor 114.33 317 ⇓PKiKP PKPdf 02 40 16.8 0.0
MANR Mangalia 114.39 316 ⇓P PKPdf 02 40 16.9 -0.1
MFTR Murfatlar 114.40 316 ⇑P PKiKP 02 40 17.1 +0.1
SLCR Slobozia Conac 114.42 318 ⇓P PKiKP 02 40 17.4 +0.5
IZVR Izvoarele 114.44 318 ⇓P PKiKP 02 40 17.4 +0.4
TUDR 114.49 318 ⇓P PKiKP 02 40 18.7 +1.6
TLBR Topalu 114.55 317 ⇑P PKiKP 02 40 17.9 +0.6
HARR Harsova 114.59 317 ⇑P PKPdf 02 40 17.3 0.0
HARR Harsova 114.59 317 ⇑PKiKP PKPdf 02 40 17.3 0.0
BOSA Boshof 114.69 235 PKP PKiKP 02 40 18.1 -0.1
comp=Z,3.2nm,1.0s,baz=63,slow=2.3,SNR=4.5
PANC Panciu 114.75 318 ⇓P PKPdf 02 40 17.3 -0.3
ICOR Ion Corvin 114.85 316 ⇓P PKiKP 02 40 17.6 -0.3
TESR Tescani 114.87 319 ⇓P PKiKP 02 40 17.2 -0.6
TUL3 Leonard 115.00 53 P PKiKP 02 40 18.3 -0.1
baz=282
VRI Vrincioaia 115.03 318 ⇑P PKiKP 02 40 18.0 -0.2
VRI Vrincioaia 115.03 318 ⇑PKiKP PKiKP 02 40 18.0 -0.2
PLOR Plostina 115.08 318 ⇓P PKiKP 02 40 17.9 -0.4
PLOR Plostina 115.08 318 ⇓PKiKP PKiKP 02 40 17.9 -0.4
HFS Hagfors 115.31 336 PKP PKiKP 02 40 16.4 -1.9
comp=Z,1.4nm,0.6s,baz=350,slow=1.8,SNR=2.5
COVR Voineasa-Covas 115.38 319 ⇑P PKiKP 02 40 18.0 -0.9
ISR Istrita 115.39 318 ⇓P PKPdf 02 40 19.1 +0.2
ISR Istrita 115.39 318 ⇓PKiKP PKPdf 02 40 19.1 +0.2
BUR08 Bucovina Ar. S 115.41 321 PKiKP 02 40 18.7 -0.3
BURAR Bucovina Array 115.41 321 ⇓P PKPdf 02 40 20.1 +1.1
BURAR Bucovina Array 115.41 321 ⇓PKiKP PKPdf 02 40 20.1 +1.1
NEHR Nehoiu 115.46 318 ⇓P PKiKP 02 40 18.9 -0.1
MLR Muntele Rosu 115.67 318 ⇓P PKPdf 02 40 19.2 -0.4
MLR Muntele Rosu 115.67 318 PKPdf 02 40 18.6 -0.9
MLR Muntele Rosu 115.67 318 ⇓PKiKP PKPdf 02 40 19.2 -0.4
NB2 NORSAR Subarra 115.70 338 PKPdf PKPdf 02 40 17.8 -1.3
comp=Z,1.2nm,0.6s,baz=44,slow=1.9
NB2 PP PP 02 41 21.6 -2.8
comp=Z,6.7nm,1.4s,baz=38,slow=6.2
NB2 PKKP PKKPbc 02 50 51.7 -2.8
comp=Z,0.6nm,0.7s,baz=218,slow=3.5
NOA NORSAR Array B 115.70 338 PKP PKPdf 02 40 18.3 -0.8
comp=Z,0.8nm,0.5s,baz=50,slow=1.9,SNR=6.3
NOA PKKPbc PKKPbc 02 50 52.0 -2.5
comp=Z,2.3nm,0.9s,baz=49,slow=3.4,SNR=4.2
DOPR Dopca 115.88 319 ⇑P PKiKP 02 40 20.5 +0.6
LOZB Loznitsa 115.91 316 ⇓P PKPdf 02 40 19.5 -0.5
KWP Kalwaria Pacla 116.17 323 *e*P PKiKP 02 40 20.4 +0.1
VOIR 116.28 318 ⇑P PKiKP 02 40 22.2 +1.5
VOIR 116.28 318 ⇑PKiKP PKiKP 02 40 22.2 +1.5
ARR Arges 116.58 318 ⇓P PKiKP 02 40 21.5 +0.3
HUMR Humele 116.64 317 ⇓P PKPdf 02 40 20.9 -0.4
KOLS Kolonicke sedl 116.72 323 *e*PKiKP PKiKP 02 40 22.1 +0.8
KOLS Kolonicke sedl 116.72 323 *e*PKP PKiKP 02 40 22.1 +0.8

NATX	Nacogdoches	116.72	57	P		PKiKP	02 40 22.1	+0.2
	baz=280							
TRPA	Tarpa	116.88	322	⇓P		PKPdf	02 40 21.3	-0.3
MIAR	Mount Ida	117.06	54	P		PKPdf	02 40 22.3	-0.1
	baz=283							
MARR	Marisel-Cluj	117.08	320	⇓P		PKPdf	02 40 21.8	-0.5
LOT	Lotru	117.12	319	⇓P		PKPdf	02 40 15.9	-6.5
STHS	Stebnicka Huta	117.13	324	*e*PKP		PKPdf	02 40 21.8	-0.3
JFWS	Jewell Farm	117.29	44	P		PKPdf	02 40 22.0	-0.6
	baz=289							
RDO	Rodhopi	117.33	314	PKPdf		PKPdf	02 40 22.0	-0.7
GKP	Gorka Klasztor	117.54	329	*e*P		PKiKP	02 40 23.0	+0.3
GKP	Gorka Klasztor	117.54	329	*e*P		PKPdf	02 40 22.6	-0.1
OJC	Ojcow	117.62	325	*e*P		PKiKP	02 40 23.1	+0.1
NIE	Niedzica	117.68	324	*e*P		PKiKP	02 40 24.5	+1.3
SRE	Strehaia	117.78	318	⇓P		PKiKP	02 40 24.0	+0.5
SRE	Strehaia	117.78	318	⇓PKIKP		PKiKP	02 40 24.0	+0.5
GZR	Gura Zlata	117.79	319	⇑P		PKPdf	02 40 23.1	-0.5
GZR	Gura Zlata	117.79	319	⇑PKIKP		PKPdf	02 40 23.1	-0.5
CCM	Cathedral Cave	118.02	50	PKPdf		PKPdf	02 40 23.7	-0.5
CCM	Cathedral Cave	118.02	50	PKIKP		PKPdf	02 40 23.7	-0.5
CCM	Cathedral Cave	118.02	50	P		PKPdf	02 40 23.7	-0.5
	baz=286							
SIRR	Siria	118.17	320	⇑P		PKPdf	02 40 24.0	-0.3
HERR	Herculane	118.22	319	⇓P		PKPdf	02 40 23.5	-0.8
LANS	Liptovska Anna	118.29	324	*e*PKIKP		PKiKP	02 40 25.1	+0.7
LANS	Liptovska Anna	118.29	324	*e*PKP		PKiKP	02 40 25.1	+0.7
BZS	Buzias	118.46	320	⇑P		PKPdf	02 40 24.5	-0.2
BZS	Buzias	118.46	320	⇑PKIKP		PKPdf	02 40 24.5	-0.2
VTS	Vitosha	118.48	316	⇑P		PKPdf	02 40 24.8	-0.3
VTS	Vitosha	118.48	316	⇑PKIKP		PKPdf	02 40 24.8	-0.3
APE	Apeiranthos	118.51	309	⇑P		PKPdf	02 40 23.5	-1.7
APE	Apeiranthos	118.51	309	⇑PKIKP		PKPdf	02 40 23.5	-1.7
PSZ	Piszkesteto	118.58	323	⇑P		PKPdf	02 40 23.9	-1.1
PSZ	Piszkesteto	118.58	323	⇑PKIKP		PKPdf	02 40 23.9	-1.1
MDVR	Moldovita	118.72	319	⇓P		PKPdf	02 40 24.0	-1.3
HDIL	Hopedale	118.73	46	P		PKPdf	02 40 24.9	-0.5
	baz=289							
OKC	Ostrava-Krasne	118.74	325	*e*PKIKP		PKiKP	02 40 26.9	+1.7
SANT	Santorini	118.75	309	⇑P		PKPdf	02 40 24.0	-1.6
VYHS	Vyhne	118.96	323	*e*PKIKP		PKPdf	02 40 25.3	-0.4
VYHS	Vyhne	118.96	323	*e*PKP		PKPdf	02 40 25.3	-0.4
MORC	Moravsky Berou	119.11	325	⇓P		PKiKP	02 40 26.3	+0.3
MORC	Moravsky Berou	119.11	325	*e*PKP		PKiKP	02 40 26.0	0.0
MORC	Moravsky Berou	119.11	325	⇓PKIKP		PKiKP	02 40 26.3	+0.3
MAUC	Maruska	119.14	325	*e*PKPDF		PKiKP	02 40 26.3	+0.2
MAUC				*ex*		x	02 41 49.5	
BOVS	Bovan	119.16	317	⇓P		PKPdf	02 40 25.5	-0.6
L44A	Lake County Fo	119.16	44	P		PKPdf	02 40 25.9	-0.3
	baz=291							
KSP	Ksiaz	119.28	327	*e*P		PKiKP	02 40 26.3	0.0
KRLC	Kraliky	119.39	326	*e*PKIKP		PKiKP	02 40 26.6	0.0
KRLC	Kraliky	119.39	326	*e*PKPDF		PKiKP	02 40 26.6	0.0
OSTC	Ostas	119.47	326	*e*PKIKP		PKiKP	02 40 27.0	+0.3
OSTC	Ostas	119.47	326	*e*PKPDF		PKiKP	02 40 27.0	+0.3
JAVC	Velka Javorina	119.47	324	*e*PKP		PKiKP	02 40 27.6	+0.8
JAVC				*e*PP		PP	02 41 53.0	+2.1
IDI	Anoyia	119.48	307	⇓P		PKPdf	02 40 26.6	-0.5
DPC	Dobruska-Polom	119.51	326	*e*PKPDF		PKiKP	02 40 26.9	+0.1
CHVC	Chvalec	119.54	327	*e*PKIKP		PKPdf	02 40 26.7	0.0
CHVC	Chvalec	119.54	327	*e*PKPDF		PKPdf	02 40 26.7	0.0
SRO	Srobarova	119.58	323	*e*PKIKP		PKiKP	02 40 27.0	0.0
SRO	Srobarova	119.58	323	*e*PKP		PKiKP	02 40 26.9	0.0
FRGS	Fruska Gora	119.81	320	⇓P		PKPdf	02 40 27.2	-0.2
FRGS	Fruska Gora	119.81	320	⇑*i*P		PKPdf	02 40 26.6	-0.8
VRAC	Vranov	119.88	325	⇑P		PKPdf	02 40 26.9	-0.5
VRAC	Vranov	119.88	325	*e*PKP		PKPdf	02 40 27.3	-0.1
VRAC	Vranov	119.88	325	⇑PKIKP		PKPdf	02 40 26.9	-0.5
MODS	Modra-Piesok	119.94	324	*e*PKIKP		PKiKP	02 40 27.8	+0.2
MODS	Modra-Piesok	119.94	324	*e*PKP		PKiKP	02 40 27.8	+0.2
VBMS	Vicksburg	120.07	56	P		PKPdf	02 40 28.0	-0.3
	baz=283							
MORH	Mrgy, Hungar	120.10	321	⇑P		PKPdf	02 40 27.7	-0.2
KRUC	Moravsky	120.11	325	*e*PKP		PKPdf	02 40 27.6	-0.2
DIVS	Divibare	120.12	318	⇑*i*P		PKPdf	02 40 23.6	-4.5
TEKS	Tekeris	120.24	319	*e*P		PKPdf	02 40 27.0	-1.3
AGG	Agios Georgios	120.34	312	PKPdf		PKPdf	02 40 27.8	-0.8
AGG	Agios Georgios	120.34	312	PKIKP		PKPdf	02 40 27.8	-0.8
SFIN	Lafayette	120.36	46	P		PKPdf	02 40 28.4	-0.2
	baz=290							
PVCC	Panska Ves	120.38	327	*e*PKIKP		PKPdf	02 40 28.0	-0.3
PVCC	Panska Ves	120.38	327	*e*PKPDF		PKPdf	02 40 28.0	-0.3
SJES	Sjenica	120.47	318	⇑*i*P		PKPdf	02 40 28.5	-0.4
TREC	Trest	120.51	325	*e*PKIKP		PKPdf	02 40 28.5	-0.1
TREC	Trest	120.51	325	*e*PKPDF		PKPdf	02 40 28.5	-0.1
BRG	Berggiesshubel	120.53	328	*i*PKP		PKiKP	02 40 29.4	+0.7
BRG				Amp			02 40 30.0	
	comp=Z,12nm,0.9s							
BRG	Berggiesshubel	120.53	328	*i*PKIKP		PKiKP	02 40 29.3	+0.7
BRG				pmax		pmax		
	comp=Z,12nm,0.9s							
GOPC	GO Pecny, Ondr	120.58	326	*e*PKIKP		PKPdf	02 40 28.6	-0.2
GOPC	GO Pecny, Ondr	120.58	326	*e*PKPDF		PKPdf	02 40 28.6	-0.2
BBLS	Lazići	120.60	318	⇑*i*P		PKPdf	02 40 28.9	-0.1
RICC	Richard	120.62	327	*e*PKPDF		PKPdf	02 40 28.7	-0.1
PRU	Pruhonice	120.68	327	*e*PKIKP		PKiKP	02 40 30.8	+1.8
PRU				*e*			02 42 06.9	
PRU	Pruhonice	120.68	327	*e*PKPDF		PKPdf	02 40 28.6	-0.3
OHR	Ohrid	120.72	315	*i*P		PKPdf	02 40 28.6	-0.7
RUDO	Rudo	120.73	318	*e*P		PKPdf	02 40 28.0	-1.2
CLL	Collm	120.78	328	⇑*i*PKIKP		PKPdf	02 40 28.5	-0.5
CLL				pmax		pmax		
	comp=Z,14nm,0.6s							
CLL	Collm	120.78	328	⇑*i*PKPdf		PKPdf	02 40 28.5	-0.5
	comp=Z,14nm,0.6s							
CLL				*ex*		x	02 41 24.0	
CLL				*ex*		x	02 41 57.0	
CLL				*e*PP		PP	02 42 00.0	+0.4
CLL				*e*SKSac		SKSac	02 47 12.0	+3.2
CLL				*ex*		x	02 51 24.0	
CLL				*e*pPS			02 52 30.0	
CLL				*e*PPS		PPS	02 53 18.0	
CLL				*ex*		x	02 56 12.0	
CLL				*ex*		x	03 00 24.0	
RONA	Rosalia, Austr	120.84	324	*e*PKP		PKPdf	02 40 29.0	-0.3
	comp=Z,3.5nm,0.5s							
RONA				*e*PKKP		PKKPab	02 50 34.1	-1.4
	comp=Z,2.2nm,0.9s							
HSKC	Hora Svate Kat	120.95	328	*e*PKPDF		PKPdf	02 40 29.3	-0.1
CONA	Conrad Observa	120.98	324	*i*PKP		PKPdf	02 40 29.4	-0.3
	comp=Z,8.2nm,0.6s,SNR=5.5							
CONA				*e*PKKP		PKKPab	02 50 33.3	-1.6
	comp=Z,1.9nm,1.0s							
ZVC	Zvikov	121.16	326	*e*PKPDF		PKPdf	02 40 29.8	-0.1
UPM	Unac-Piva	121.21	318	*e*P		PKPdf	02 40 27.6	-2.8
PDG	Podgorica	121.28	317	⇑P		PKPdf	02 40 29.2	-1.1
PDG	Podgorica	121.28	317	⇑*i*P		PKPdf	02 40 29.4	-0.9
CKRC	Cesky Krumlov	121.42	325	*e*PKIKP		PKiKP	02 40 30.5	0.0
CKRC				*e*			02 42 00.3	
CKRC	Cesky Krumlov	121.42	325	*e*PKPDF		PKiKP	02 40 30.5	0.0
CKRC				*ex*		x	02 42 00.3	
DRME	Dracevica, Mon	121.43	317	*e*P		PKPdf	02 40 30.0	-0.6
ARSA	Arzberg	121.51	323	*e*PKP		PKPdf	02 40 30.0	-0.6
	comp=Z,4.1nm,0.6s							
ARSA				*e*PKKP		PKKPab	02 50 29.9	-2.6
	comp=Z,3.8nm,1.1s							
BRY	Bratogost	121.57	318	⇑*i*P		PKPdf	02 40 30.0	-1.0
KHC	Kasperske Hory	121.67	326	*e*PKPDF		PKPdf	02 40 30.8	-0.1
KHC				*ex*		x	02 42 06.9	
BLY	Banja Luka	121.67	320	⇑*i*P		PKPdf	02 40 30.4	-0.6
NKC	Novy Kostel	121.68	328	*e*PKIKP		PKiKP	02 40 31.1	+0.1
NKC	Novy Kostel	121.68	328	*e*PKPDF		PKiKP	02 40 31.1	+0.1
WCI	Wyandotte Cave	121.69	48	PKPdf		PKPdf	02 40 31.1	-0.1
WCI	Wyandotte Cave	121.69	48	PKIKP		PKPdf	02 40 31.1	-0.1
WCI	Wyandotte Cave	121.69	48	P		PKPdf	02 40 31.2	0.0
	baz=290							
NEVS	Nevesinje	121.70	318	*e*P		PKPdf	02 40 30.5	-0.7
A051A	Mrakovica	121.72	321	⇑*i*P		PKPdf	02 40 30.7	-0.5
GERES	GERESS Array B	121.75	326	PKP		PKPdf	02 40 30.8	-0.3
	comp=Z,9.9nm,0.5s,baz=76,slow=1.7,SNR=26							
GERES				PKKPbc		PKKPab	02 50 31.1	-0.4
	comp=Z,0.5nm,0.5s,baz=336,slow=2.9,SNR=4.1							
TREB	Trebinje	121.78	318	⇑*i*P		PKPdf	02 40 30.4	-0.8
HCY	Herceg Novi	121.79	317	⇑*i*P		PKPdf	02 40 29.8	-1.5
O48B	Farmland	121.79	46	P		PKPdf	02 40 30.9	-0.4
	baz=292,SNR=5.6							
MGRS	Mrkonjic Grad	121.88	320	⇑*i*P		PKPdf	02 40 31.2	-0.2
MOA	Molln	121.95	325	*e*PKP		PKPdf	02 40 30.8	-0.7
	comp=Z,4.2nm,0.5s							
MOA				*e*PKKP		PKKPab	02 50 28.9	-1.7
	comp=Z,6.1nm,1.2s							
SRKY	Kupres RS	121.98	319	*e*P		PKPdf	02 40 30.0	-1.7
SOKA	Soboth	122.09	323	*i*PKP		PKPdf	02 40 31.1	-0.7
	comp=Z,6.2nm,0.6s,SNR=6.7							
STON	Ston	122.15	318	⇑*i*P		PKPdf	02 40 30.6	-1.3
CRES	Cresnjev	122.25	322	⇑*i*P		PKPdf	02 40 31.8	-0.3
CRES	Cresnjev	122.25	322	*i*PKPdf		PKPdf	02 40 31.7	-0.3
CRES				*i*PKKPbc		PKKPab	02 50 28.9	-0.5
PLCA	Paso Flores	122.29	147	PKPdf		PKPdf	02 40 32.5	0.0
PLCA	Paso Flores	122.29	147	*e*P		PKPdf	02 40 32.4	-0.1
PLCA	Paso Flores	122.29	147	PKP		PKPdf	02 40 32.3	-0.1
	comp=Z,5.4nm,0.6s,baz=268,slow=2.1,SNR=24							
PLCA				SKP			02 43 49.3	
	comp=Z,2.2nm,0.8s,baz=236,slow=7.8,SNR=4.8							
PLCA				PKKPbc		PKKPbc	02 50 29.1	-1.1
	comp=Z,1.0nm,0.7s,baz=48,slow=4.9,SNR=3.6							
P49A	Miami Univ. Ec	122.38	46	P		PKPdf	02 40 32.2	-0.3
	baz=292							
BIOA	Bad Ischl, Aus	122.39	325	*e*PKP		PKPdf	02 40 31.4	-0.9
	comp=Z,3.7nm,0.5s							
OBKA	Obir	122.46	323	*e*PKP		PKPdf	02 40 31.7	-0.9
	comp=Z,3.3nm,0.5s							
OBKA				*e*PKKP		PKKPab	02 50 28.1	-0.4
	comp=Z,6.0nm,1.0s							
OBKA	Obir	122.46	323	⇑*i*P		PKPdf	02 40 31.1	-1.5
BOJS	Bojanci	122.53	322	⇑*i*P		PKPdf	02 40 32.4	-0.2
BOJS	Bojanci	122.53	322	*i*PKPdf		PKPdf	02 40 32.5	-0.2
LJU	Ljubljana	122.71	323	*i*PKPdf		PKPdf	02 40 32.8	-0.1
LJU				*i*SKPdf		SKPdf	02 43 48.2	-1.8
LRAL	Lakeview Retre	122.74	54	P		PKPdf	02 40 33.0	-0.3
	baz=286							
KBA	Koelnbreinsper	122.88	324	*e*PKP		PKPdf	02 40 32.2	-1.2
	comp=Z,5.5nm,0.5s							
CEY	Cerknica	122.92	322	⇑*i*P		PKPdf	02 40 32.9	-0.5
CEY	Cerknica	122.92	322	*i*PKPdf		PKPdf	02 40 32.9	-0.5
MYKA	Terra Mystica	122.94	324	*e*PKP		PKPdf	02 40 32.6	-0.8
	comp=Z,4.9nm,0.5s							
MYKA				*e*PKKP		PKKPab	02 50 26.2	-0.2
	comp=Z,2.2nm,0.5s							
LESA	Schwarzleotal	123.09	325	*e*PKP		PKPdf	02 40 33.0	-0.8
	comp=Z,17nm,0.5s							
VLDQ	Val d'Or	123.09	34	PKPdf		PKPdf	02 40 32.4	-1.2
SKDS	Skadanscina	123.27	322	⇑*i*P		PKPdf	02 40 33.0	-1.1
SABO	M.te Sabotino	123.30	323	PKPdf		PKPdf	02 40 33.9	-0.2
ABTA	Abfaltersbach	123.54	324	*i*PKP		PKPdf	02 40 33.5	-1.1
	comp=Z,13nm,0.6s,SNR=7.5							
ABTA				*e*PKKP		PKKPbc	02 50 25.4	+0.1
	comp=Z,4.5nm,1.3s							
MATE	Matera	123.76	316	⇓P		PKPdf	02 40 34.8	-0.2
WATA	Walderalm	123.76	325	*i*PKP		PKPdf	02 40 34.4	-0.7
	comp=Z,11nm,0.5s,SNR=6.6							
WATA				*e*PKKP		PKKPbc	02 50 24.8	+0.3
	comp=Z,7.2nm,1.3s							
WTTA	Wattenberg	123.77	325	*i*PKP		PKPdf	02 40 34.7	-0.5
	comp=Z,16nm,0.5s,SNR=12							
MOTA	Moosalm	124.03	325	*i*PKP		PKPdf	02 40 35.0	-0.6
	comp=Z,17nm,0.5s,SNR=7.2							
SQTA	Sankt Quirin	124.04	325	*i*PKP		PKPdf	02 40 35.3	-0.3
	comp=Z,14nm,0.6s,SNR=5.5							
Z51A	Franklin	124.12	53			PKPdf	02 40 35.9	-0.1
RETA	Reutte	124.14	326	*e*PKP		PKPdf	02 40 34.7	-1.1
	comp=Z,2.5nm,0.5s							
P52A	Corning	124.18	45	P		PKPdf	02 40 35.6	-0.3
	baz=294							
TZTN	Tazewell	124.32	49	P		PKPdf	02 40 36.2	-0.2
	baz=291							
M53A	WI Miller and	124.42	43	P		PKPdf	02 40 35.5	-0.8
	baz=296							
FETA	Feichten	124.42	325	*e*PKP		PKPdf	02 40 35.6	-0.8
	comp=Z,11nm,0.6s,SNR=6.2							
FETA				*e*PKKP		PKKPbc	02 50 21.2	-0.7
	comp=Z,5.4nm,1.1s							
CTI	Castel Tesino	124.42	324	PKPdf		PKPdf	02 40 36.3	-0.1
CTI	Castel Tesino	124.42	324	PKIKP		PKPdf	02 40 36.3	-0.1
O53A	New Philadelph	124.56	44	P		PKPdf	02 40 36.6	0.0
	baz=295							
ERPA	Erie	124.57	42	P		PKPdf	02 40 36.7	+0.1
	baz=298							
MEM	Membach	124.72	331	*d*PKP		PKPdf	02 40 36.6	-0.1
DAVA	Damuels	124.75	326	*e*PKP		PKPdf	02 40 36.3	-0.7
	comp=Z,23nm,0.7s,SNR=6.4							
DAVA				*e*PKKP		PKKPbc	02 50 19.9	-0.7
	comp=Z,6.9nm,0.9s							
INTR	Introdacqua	125.05	319	PKPdf		PKPdf	02 40 37.5	-0.1
EKA	Eskdalemuir Ar	125.06	340	PKP		PKPdf	02 40 37.0	-0.1
	comp=Z,6.3nm,0.5s,baz=17,slow=3.3,SNR=46							
EKA				PKKPbc		PKKPab	02 50 17.4	+0.4
	comp=Z,0.7nm,0.5s,baz=214,slow=3.9,SNR=6.0							
CAMP	Campotosto	125.12	319			PKPdf	02 40 37.6	-0.2
BCLA	Clavier	125.19	331	*d*PKP		PKPdf	02 40 37.1	-0.4
GOGA	Godfrey	125.45	53	P		PKPdf	02 40 38.4	-0.2
	baz=289							
TUE	Stuetta	125.51	325	PKPdf		PKPdf	02 40 38.1	-0.5
BMRD	Maredsous	125.52	331	*d*PKP		PKPdf	02 40 38.2	0.0
DOU	Dourbes	125.74	331	*d*PKP		PKiKP	02 40 39.0	0.0
MCWV	Mont Chateau	125.77	44	P		PKPdf	02 40 39.0	0.0
	baz=296							
TIGA	Tifton	125.96	55	P		PKPdf	02 40 39.6	0.0
	baz=288,SNR=5.1							
BLA	Blacksburg	126.39	47	P		PKPdf	02 40 40.4	0.0
	baz=294							
KMSC	Kings Mountain	126.51	50	P		PKPdf	02 40 40.6	+0.1
	baz=292							
SSPA	Standing Stone	126.66	42			PKPdf	02 40 40.3	-0.3
SSPA	Standing Stone	126.66	42	P		PKPdf	02 40 40.4	-0.2
	baz=298							
LONY	Lake Ozonia	126.68	36	P		PKPdf	02 40 40.8	+0.2
	baz=304							
BINY	Binghamton	127.12	40	P		PKPdf	02 40 41.7	+0.2
	baz=301							
CBN	Corbin Frederi	128.14	45	P		PKPdf	02 40 43.5	0.0
	baz=297							
NHSC	New Hope	128.14	52	P		PKPdf	02 40 44.0	+0.3
	baz=291							
LBNH	Lisbon	128.45	35	P		PKiKP	02 40 44.3	-0.3
	baz=307							
L61B	Northampton	129.04	38	P		PKPdf	02 40 45.0	-0.1
	baz=305							
PAL	Palisades	129.07	40	P		PKPdf	02 40 45.4	+0.2
	baz=302							
PKME	Peaks-Kenny Pk	129.29	33	P		PKiKP	02 40 45.9	-0.4
	baz=310							
HRV	Adam Dziewonsk	129.69	37	P		PKPdf	02 40 46.5	+0.2
	baz=306							
CFA	Coronel Fontan	129.83	140	PKP		PKPdf	02 40 47.1	0.0
	comp=Z,6.6nm,0.5s,baz=246,slow=3.2,SNR=16							
CFA				SKPbc		SKPbc	02 43 51.6	+0.5
	comp=Z,7.5nm,0.9s,baz=224,slow=23,SNR=7.5							
KEST	Kesra	131.12	314	PKP		PKPdf	02 40 49.4	0.0
	comp=Z,8.2nm,0.7s,baz=247,slow=1.2,SNR=9.5							
KEST				SKPbc		SKPbc	02 43 55.3	-0.6
	comp=Z,5.1nm,1.0s,baz=127,slow=2.8,SNR=4.3							
MCRA	Macar, Loja	131.79	101	PKPdf		PKPdf	02 40 50.4	-0.9
MCRA	Macar, Loja	131.79	101	*e*P		PKPdf	02 40 50.8	-0.5
ATAH	Atahualpa	132.69	105	SKPab		SKPab	02 44 03.6	-0.5
	comp=Z,16nm,0.9s,baz=186,slow=4.8,SNR=7.5							
LVC	Limon Verde	134.84	130	SKP			02 44 11.7	
	comp=Z,6.4nm,0.9s,baz=232,slow=4.4,SNR=4.0							
POPC	Popayan, Colom	136.06	92	*e*P		PKPpre	02 40 49.0	
YOTC	Yotoco, Valle	136.50	90	*e*P		PKPdf	02 41 00.2	0.0
PLMC	San Jos del P	136.62	89	*e*P		PKPpre	02 40 50.6	
PBRG	Braganca	137.18	331	*e*PKPdf		PKiKP	02 41 01.5	-0.9
PBRG				*e*SKP			02 44 15.8	
ESDC	Sonseca Array	137.32	327	PKP		PKiKP	02 41 01.9	-0.9
	comp=Z,0.9nm,0.7s,baz=21,slow=2.1,SNR=7.5							
ESDC				PP		PP	02 43 49.1	+1.7
	comp=Z,1.7nm,1.0s,baz=30,slow=6.8,SNR=6.4							
ESDC				SKPbc		SKPbc	02 44 13.8	-2.2
	comp=Z,2.5nm,0.8s,baz=30,slow=2.5,SNR=8.1							
UREC	San Jos de Ur	137.44	85	*e*P		PKPdf	02 41 01.2	-0.5
GUY2C	Guyana, Caldas	137.55	88	*e*P		PKPpre	02 40 52.8	
ORTC	Ortega, Tolima	137.59	90	*e*P		PKPpre	02 40 54.2	
MVO	Moncorvo	137.81	331	*e*PKPdf		PKPdf	02 41 02.5	+0.8
MVO				*e*SKP			02 44 17.7	
PRAC	Prado	137.93	91	*e*P		PKPpre	02 40 52.0	
CZSB	Cruzeiro do Su	137.96	108	*e*P		PKPdf	02 41 03.0	+0.3
POLO	Lamas de Olo	138.01	332	*e*SKP			02 44 17.6	
PVRL	Vila Real	138.05	332	*e*SKP			02 44 18.3	
ITQB	Itaqui	138.07	148	*e*P		PKPdf	02 41 02.1	-0.4
RODS	Rosario do Sul	138.26	150	*e*P		PKPdf	02 41 02.7	-0.1
PTBC	PUERTO BERRIO	138.49	86	*e*P		PKPpre	02 40 53.6	
ROSC	El Rosal	138.57	89	PKPdf		PKPdf	02 41 04.0	-0.3
ROSC	El Rosal	138.57	89	PKIKP		PKPdf	02 41 04.0	-0.3
ROSC	El Rosal	138.57	89	PKhKP		PKPpre	02 40 52.1	
	comp=Z,7.5nm,0.3s,baz=209,slow=21,SNR=4.2							
ROSC				PKP		PKPdf	02 41 05.3	+1.0
	comp=Z,18nm,0.5s,baz=164,slow=13,SNR=6.7							
PVIS	Viseu	138.57	331	*e*PKPdf		PKPdf	02 41 02.8	-0.3
PVIS				*e*SKP			02 44 19.4	
MTE	Manteigas	138.64	331	*e*PKPdf		PKPdf	02 41 01.0	-2.3
MTE				*e*SKP			02 44 20.1	
LPAZ	La Paz	138.75	122	*e*P		PKPpre	02 40 53.3	
SPBC	San Pablo de B	138.85	88	*e*P		PKPpre	02 40 54.1	
PCBR	Castelo Branco	139.04	330	*e*PKPdf		PKPdf	02 41 04.7	+0.8
PCBR				*e*SKP			02 44 21.0	
COI	Coimbra	139.21	331	*e*PKPdf		PKiKP	02 41 05.9	-0.6
PMRV	Marv??o	139.31	329	*e*PKPdf		PKPdf	02 41 03.7	-0.8
PMRV				*e*SKP			02 44 21.6	
BARC	Barichara	139.76	86	*e*P		PKPpre	02 40 58.2	
RUSC	La Rusia	139.84	88	*e*P		PKPpre	02 40 57.2	
PSBE	So Bento	139.94	331	*e*PKPdf		PKiKP	02 41 07.0	-1.1
PSBE				*e*SKP			02 44 23.6	
PMTG	Montargil	140.00	330	*e*PKPdf		PKPdf	02 41 06.4	+0.7
PMTG				*e*SKP			02 44 22.7	
PBAR	Barrancos	140.06	328	*e*PKPdf		PKPdf	02 41 06.8	+0.9
PBAR				*e*SKP			02 44 23.3	
PAMC	Pamplona, Colo	140.24	85	*e*P		PKPpre	02 41 00.1	
CPUP	Villa Florida	140.28	144	*e*P		PKPdf	02 41 06.4	-0.2
CPUP	Villa Florida	140.28	144	PKhKP		PKPpre	02 40 56.6	
	comp=Z,5.0nm,0.9s,baz=196,slow=5.9,SNR=7.4							
CPUP				PKP		PKPdf	02 41 07.3	+0.7
	comp=Z,4.6nm,0.7s,baz=338,slow=0.6,SNR=8.6							
CPUP				SKPbc		SKPbc	02 44 24.6	+0.1
	comp=Z,6.1nm,0.9s,baz=294,slow=2.6,SNR=5.5							
ESFA	Espinillo Form	140.60	142	*e*P		PKPdf	02 41 06.7	-0.5
PBEJ	Beja	140.61	328	*e*PKPdf		PKPdf	02 41 07.6	+0.7
PBEJ				*e*SKP			02 44 25.3	
PMAFR	Mafra	140.61	331	*e*PKPdf		PKiKP	02 41 08.2	-1.3
PCVE	Castro Verde	140.99	328	*e*PKPdf		PKPdf	02 41 08.1	+0.5
PCVE				*e*SKP			02 44 25.4	
PBDV	Barranco-do-Ve	141.23

RAR	**Rarotonga**	**14.60**	**78**	Pn	**Pn**	**02 49 02.6**	**-2.1**
RAR	**Rarotonga**	**14.60**	**78**	P	**P**	**02 49 10.9**	**-0.2**
	47nm,0.7s,baz=270,slow=14,SNR=8.6						
RAR				LR	LR	02 56 18.7	
	comp=Z,312nm,18.1s,baz=228,slow=41						
URZ	**Urewera**	**14.68**	**205**	P	P	02 49 17.8	+5.9
	2.1nm,0.3s,baz=334,slow=3.8,SNR=8.1						
URZ				S	**Sn**	**02 51 45.6**	**-2.7**
	2.8nm,0.5s,baz=248,slow=14,SNR=1.5						
	3.9nm,0.3s						
BFZ	**Birch Farm**	**17.12**	**203**		**Pn**	**02 49 37.8**	**+0.4**
DZM	**Mont Dzumac**	**17.21**	**276**	*e*Pn	**Pn**	**02 49 38.2**	**-0.4**
	117nm,1.6s						
DZM				*e*LR	LR	02 53 28.5	
	comp=Z,753nm,23.6s						
DZM	**Mont Dzumac**	**17.21**	**276**	Pn	**Pn**	**02 49 36.8**	**-1.8**
DZM	**Mont Dzumac**	**17.21**	**276**	P	**P**	**02 49 39.6**	**-0.5**
	19nm,0.9s,baz=90,slow=20,SNR=6.2						
DZM				LR	LR	02 54 55.4	
	comp=Z,561nm,20.4s,baz=74,slow=34						
PPT2	**Papeete2**	**24.88**	**77**	*e*LQ	LQ	02 56 23.2	
	2μm,15.2s						
PPT2				*e*LR	LR	02 56 39.1	
	comp=Z,292nm,28.0s						
PPT2				*e*LR	LR	02 57 08.0	
	comp=Z,403nm,26.0s						
PPT	**Papeete**	**24.89**	**77**	LR	LR	02 59 19.4	
	comp=Z,185nm,19.1s,baz=278,slow=32						
HNR	**Honiara**	**28.42**	**299**	LR	LR	03 00 48.9	
	comp=Z,5μm,20.4s,baz=164,slow=33						
CTA	**Charters Tower**	**35.96**	**270**	P	**P**	**02 52 38.7**	**-0.4**
	2.4nm,0.3s,baz=103,slow=10,SNR=6.8						
CTA				LR	LR	03 05 51.5	
	comp=Z,302nm,18.8s,baz=91,slow=34						
	2.4nm,0.3s						
CTAO	**Charters Tower**	**35.96**	**270**	P	**P**	**02 52 37.5**	**-1.6**
TAOE	**Nuku Hiva Isla**	**36.96**	**70**	*e*LR	LR	03 02 41.0	
	comp=Z,149nm,23.3s						
KRVT	**Keravat (AS076**	**37.77**	**298**	LR	LR	03 06 19.2	
	comp=Z,220nm,20.3s,baz=302,slow=34						
STKA	**Stephens Creek**	**38.47**	**250**	LR	LR	03 07 41.3	
	comp=Z,577nm,18.3s,baz=70,slow=35						
PMG	**Port Moresby**	**39.13**	**287**	P	**P**	**02 53 03.4**	**-2.5**
	18nm,0.8s,baz=91,slow=4.9,SNR=3.8						
	18nm,0.8s						
AS31	**Alice Springs**	**46.26**	**261**	P	**P**	**02 54 01.8**	**-2.1**
ASAR	**Alice Springs**	**46.26**	**261**	P	**P**	**02 54 01.5**	**-2.3**
ASAR	**Alice Springs**	**46.26**	**261**	P	**P**	**02 54 03.0**	**-0.9**
	5.7nm,1.0s,baz=99,slow=8.1,SNR=25						
ASAR				PcP	**PcP**	**02 55 43.1**	**+3.7**
	1.2nm,0.8s,baz=121,slow=3.7,SNR=4.8						
ASAR				LR	LR	03 12 57.9	
	comp=Z,462nm,18.1s,baz=113,slow=36						
	5.7nm,1.0s						
WR0	**Warramunga Arr**	**46.60**	**266**	P	**P**	**02 54 04.1**	**-2.4**
WR0				IAmb	IAmb	02 54 25.0	
	comp=Z,4.3nm,1.0s						
WB2	**Warramunga Arr**	**46.78**	**266**	P	**P**	**02 54 06.5**	**-1.4**
WB2				IAmb	IAmb	02 54 08.0	
	comp=Z,7.2nm,0.8s						
WRA	**Warramunga Arr**	**46.79**	**266**	P	**P**	**02 54 06.4**	**-1.6**
	comp=Z,5.5nm,0.8s,baz=99,slow=6.9,SNR=38						
WRA				PcP	**PcP**	**02 55 44.5**	**+3.3**
	comp=Z,1.8nm,0.9s,baz=96,slow=3.9,SNR=4.7						
	comp=Z,5.5nm,0.8s						
KNRA	**Kununurra**	**53.16**	**269**	P	**P**	**02 54 54.0**	**-2.4**
SBA	**Scott Base**	**53.48**	**185**	P	**P**	**02 54 57.0**	**-0.9**
VNDA	**Vanda**	**53.59**	**186**	P	**P**	**02 54 58.6**	**-0.1**
GUMO	**Guam**	**54.82**	**310**	LR	LR	03 15 22.7	
	comp=Z,120nm,21.3s,baz=136,slow=33						
NWAO	**Narrogin (SRO)**	**58.81**	**245**	LR	LR	03 20 06.7	
	comp=Z,129nm,18.2s,baz=269,slow=35						
BATI	**Baumata**	**59.77**	**273**	LR	LR	03 20 19.6	
	comp=Z,382nm,20.4s,baz=100,slow=35						
QSPA	**South Pole Qui**	**64.97**	**180**	P	P	02 56 28.7	+11
	comp=Z,5.6nm,0.9s,baz=54,slow=3.0,SNR=13						
	comp=Z,5.6nm,0.9s						
KAPI	**Kappang**	**65.43**	**276**	LR	LR	03 24 15.2	
	comp=Z,90nm,19.9s,baz=114,slow=36						
JCJ	**Chichijima**	**66.28**	**319**	LR	LR	03 21 57.4	
	comp=Z,97nm,19.8s,baz=106,slow=33						
MJAR	**Matsushiro Arr**	**75.51**	**323**	P	**P**	**02 57 21.0**	**-1.5**
	comp=Z,1.8nm,0.6s,baz=196,slow=28,SNR=5.1						
MJAR				LR	LR	03 25 33.6	
	comp=Z,67nm,19.5s,baz=159,slow=32						
	comp=Z,1.8nm,0.6s						
LEM	**Lembang**	**75.66**	**269**	LR	LR	03 30 38.0	
	comp=Z,214nm,19.7s,baz=180,slow=36						
PMSA	**Palmer Station**	**75.99**	**156**	LR	LR	03 28 31.3	
	comp=Z,40nm,18.5s,baz=295,slow=33						
JNU	**Nakatsue**	**77.47**	**316**	LR	LR	03 27 53.7	
	comp=Z,81nm,18.2s,baz=132,slow=33						
MAW	**Mawson**	**78.13**	**199**	P	P	02 57 44.6	+7.7
	comp=Z,1.3nm,0.5s,baz=146,slow=7.6,SNR=3.9						
MAW				LR	LR	03 33 07.4	
	comp=Z,135nm,18.0s,baz=110,slow=36						
	comp=Z,1.3nm,0.5s						
ASAJ	**Asahikawa**	**79.06**	**330**	LR	LR	03 32 37.2	
	comp=Z,57nm,18.2s,baz=134,slow=36						
ISA	**Isabella, Lake**	**80.72**	**44**	P	**P**	**02 57 47.9**	**-3.7**
ISA				IAmb	IAmb	02 57 59.7	
	comp=Z,9.6nm,1.1s						
H03S2	**Juan Fernandez**	**81.19**	**123**	T	T	04 29 18.1	
	baz=244,slow=74,SNR=3.3						
H03S1	**Juan Fernandez**	**81.20**	**123**	T	T	04 29 13.1	
	baz=244,slow=74,SNR=3.5						
H03S3	**Juan Fernandez**	**81.21**	**123**	T	T	04 29 18.9	
	baz=244,slow=74,SNR=3.3						
H03N2	**Juan Fernandez**	**81.35**	**123**	T	T	04 29 16.0	
	baz=240						
H03N3	**Juan Fernandez**	**81.35**	**123**	T	T	04 29 18.3	
	baz=240						
H03N1	**Juan Fernandez**	**81.36**	**123**	T	T	04 29 17.1	
	baz=240						
PETK	**Petropavlovsk-**	**81.42**	**344**	P	**P**	**02 57 52.4**	**-2.4**
PETK	**Petropavlovsk-**	**81.42**	**344**	P	**P**	**02 57 56.5**	**+1.8**
	comp=Z,12nm,0.9s,baz=142,slow=7.5,SNR=11						
PETK				LR	LR	03 29 45.7	
	comp=Z,64nm,21.7s,baz=139,slow=33						
	comp=Z,12nm,0.9s						
KSRS	**Korea Array**	**82.11**	**318**	P	**P**	**02 57 57.7**	**-1.0**
	comp=Z,3.7nm,0.9s,baz=268,slow=37,SNR=3.7						
KSRS				LR	LR	03 29 48.9	
	comp=Z,47nm,20.2s,baz=160,slow=33						
	comp=Z,3.7nm,0.9s						
KSAR	**Wonju Array Be**	**82.13**	**318**	P	**P**	**02 57 57.1**	**-1.7**
NVAR	**Mina Array Bea**	**82.60**	**41**	P	**P**	**02 57 59.7**	**-2.0**
NVAR	**Mina Array Bea**	**82.60**	**41**	P	P	02 58 08.2	+6.6
	comp=Z,2.6nm,0.9s,baz=219,slow=9.3,SNR=17						
NVAR				LR	LR	03 29 55.4	
	comp=Z,111nm,18.9s,baz=278,slow=32						
	comp=Z,2.6nm,0.9s						
TROLL	**Troll, Antarti**	**83.12**	**179**	⇑P	P	02 58 12.8	+9.1
	comp=Z,418nm,0.7s						
SNAA	**Sanae**	**83.32**	**178**	P	**P**	**02 58 04.2**	**-0.5**
SNAA				IAmb	IAmb	02 58 21.2	
	comp=Z,5.7nm,1.0s						
SNAA	**Sanae**	**83.32**	**178**	⇑P	P	02 58 14.2	+9.5
	comp=Z,78nm,0.9s						
SNAA	**Sanae**	**83.32**	**178**	P	P	02 58 13.6	+8.9
	comp=Z,3.3nm,0.9s,baz=172,slow=2.0,SNR=12						
	comp=Z,3.3nm,0.9s						
SHPR	**Sheep Range**	**83.34**	**45**	P	**P**	**02 58 02.5**	**-3.0**
SHPR				IAmb	IAmb	02 58 13.9	
	comp=Z,3.0nm,1.1s						
VNA3	**Neumayer Olymp**	**83.35**	**175**	⇑P	P	02 58 14.1	+9.3
	comp=Z,4.6nm,0.7s						
TUC	**Tucson**	**83.78**	**50**	P	**P**	**02 58 04.7**	**-3.0**
TUC				IAmb	IAmb	02 58 19.5	
	comp=Z,6.3nm,1.5s						
VNA2	**Neumayer--Watz**	**83.82**	**176**	⇑P	P	02 58 16.6	+9.4
	comp=Z,5.9nm,0.8s,baz=196,slow=3.0						
VNA1	**Neumayer--Stat**	**84.04**	**176**	⇑P	P	02 58 17.0	+8.7
	comp=Z,7.8nm,0.9s						
USRK	**Ussuriysk Ar.**	**84.28**	**325**	P	**P**	**02 58 09.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**84.28**	**325**	P	**P**	**02 58 12.1**	**+2.3**
	comp=Z,19nm,0.9s,baz=127,slow=3.5,SNR=28						
USRK				LR	LR	03 34 11.1	
	comp=Z,68nm,18.6s,baz=208,slow=35						
	comp=Z,19nm,0.9s						
SPR3	**Spring Creek 3**	**85.38**	**43**	P	**P**	**02 58 13.3**	**-2.6**
SPR3				IAmb	IAmb	02 58 34.5	
	comp=Z,5.5nm,1.4s						
MDJ	**Mudanjiang**	**85.83**	**324**	P	**P**	**02 58 19.6**	**+2.0**
MDJ				PcP	**PcP**	**02 58 20.3**	**0.0**
MDJ				pP	sP	02 58 21.0	+2.4
MDJ				sP	pwP	02 58 23.6	-5.0
MDJ				PP	**PP**	**03 01 41.8**	**+4.3**
MDJ	**Mudanjiang**	**85.83**	**324**	S	**S**	**03 08 56.1**	**+5.5**
TXAR	**Lajitas Array**	**87.33**	**56**	P	**P**	**02 58 23.6**	**-1.9**
TXAR	**Lajitas Array**	**87.33**	**56**	P	P	02 58 33.1	+7.6
	comp=Z,1.4nm,1.0s,baz=212,slow=4.4,SNR=7.2						
TXAR				LR	LR	03 32 51.5	
	comp=Z,58nm,18.8s,baz=312,slow=32						
	comp=Z,1.4nm,1.0s						
P17A	**Butcher Ranch,**	**87.91**	**44**	P	**P**	**02 58 24.4**	**-3.7**
P17A				IAmb	IAmb	02 58 39.6	
	comp=Z,3.5nm,1.1s						
ANMO	**Albuquerque**	**88.24**	**50**	LR	LR	03 34 34.8	
	comp=Z,137nm,18.2s,baz=23,slow=33						
TIA	**Tai'an**	**88.36**	**311**	P	**P**	**02 58 32.3**	**+2.2**
TIA				pmax	pmax		
	comp=Z,26nm,1.0s						
CMIG	**Matias Romero**	**88.61**	**71**	LR	LR	03 35 11.6	
	comp=Z,42nm,18.2s,baz=268,slow=33						
MA2	**Magadan**	**88.95**	**343**	LR	LR	03 35 02.2	
	comp=Z,96nm,19.5s,baz=121,slow=34						
NEW	**Newport**	**89.58**	**34**	LR	LR	03 39 36.8	
	comp=Z,131nm,18.1s,baz=254,slow=36						
SDCO	**Great Sand Dun**	**90.38**	**48**	P	**P**	**02 58 37.1**	**-2.8**
SDCO				IAmb	IAmb	02 58 48.2	
	comp=Z,3.6nm,1.3s						
HNS	**HongShan**	**90.63**	**311**	*e*P	**P**	**02 58 42.5**	**+1.9**
HEH	**HeiHe**	**90.64**	**327**	*e*P	**P**	**02 58 42.6**	**+2.2**
LYN	**LuoYang**	**90.73**	**308**	*e*P	**P**	**02 58 44.3**	**+3.1**
LYN				pmax	pmax		
	comp=Z,30nm,0.9s						
ILAR	**Eielson Array**	**92.24**	**12**	P	**P**	**02 58 51.0**	**+3.5**
	comp=Z,2.2nm,1.1s,baz=240,slow=4.5,SNR=7.8						
	comp=Z,2.2nm,1.1s						
NNA	**Nana**	**92.29**	**104**	LR	LR	03 33 06.6	
	comp=Z,95nm,18.9s,baz=280,slow=30						
ATAH	**Atahualpa**	**93.02**	**99**	LR	LR	03 34 46.8	
	comp=Z,62nm,18.3s,baz=287,slow=31						
XAN	**Xi'an**	**93.05**	**306**	P	**P**	**02 58 55.0**	**+3.0**
XAN				pP	pwP	02 59 03.3	+0.2
XAN				pmax	pmax		
	comp=Z,19nm,1.0s						
LVC	**Limon Verde**	**94.12**	**117**	LR	LR	03 36 12.2	
	comp=Z,37nm,18.2s,baz=241,slow=32						
CMAR	**Chiang Mai Arr**	**94.16**	**288**	P	**P**	**02 59 00.1**	**+2.7**
	comp=Z,5.5nm,0.7s,baz=140,slow=3.2,SNR=32						
CMAR				LR	LR	03 39 28.0	
	comp=Z,12nm,20.2s,baz=110,slow=35						
	comp=Z,5.5nm,0.7s						
CHTO	**Chiang Mai**	**94.31**	**289**	P	**P**	**02 58 55.2**	**-3.0**
TEIG	**Tepich**	**95.60**	**70**	LR	LR	03 37 22.9	
	comp=Z,499nm,18.1s,baz=356,slow=32						
SONM	**Songino Array**	**100.98**	**318**	P	**Pdif**	**02 59 30.4**	**+2.6**
	comp=Z,0.7nm,0.8s,baz=116,slow=3.4,SNR=2.6						
	comp=Z,0.7nm,0.8s						
WMQ	**Urumqi**	**111.95**	**309**	*e*P	**PKiKP**	**03 04 12.3**	**-1.1**
KURBB	**Kurchatov Arra**	**119.24**	**316**	PKP	**PKiKP**	**03 04 29.8**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=100,slow=1.9,SNR=2.5						
FINES	**FINESS Array B**	**140.94**	**344**	PKP	**PKiKP**	**03 05 13.5**	**+3.1**
	comp=Z,0.4nm,0.5s,baz=318,slow=2.6,SNR=1.4						
SIRT	**Sirnak**	**145.87**	**300**		**PKPdf**	**03 05 14.5**	**-2.8**
NACGM	**Naroch**	**146.16**	**337**	*e*PKP	**PKiKP**	**03 05 21.1**	**-0.1**
PABE	**Paberze**	**146.59**	**340**	PKPbc	**PKPdf**	**03 05 16.5**	**-1.2**
AKASG	**Malin Array Be**	**148.34**	**330**	PKPbc	**PKPdf**	**03 05 21.0**	**+0.2**
AKASG	**Malin Array Be**	**148.34**	**330**	PKPbc	**PKPab**	**03 05 26.8**	**-0.6**
	comp=Z,5.3nm,0.7s,baz=39,slow=3.9,SNR=19						
EKA	**Eskdalemuir Ar**	**149.24**	**9**	PKPbc	**PKPab**	**03 05 30.2**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=304,slow=4.9,SNR=4.1						
GAZ	**Gaziantep**	**150.01**	**301**	PKPbc	**PKPdf**	**03 05 25.4**	**+1.3**
BRTR	**Keskin Array B**	**151.87**	**308**	PKPbc	**PKiKP**	**03 05 36.3**	**+2.5**
	comp=Z,1.8nm,0.8s,baz=160,slow=3.8,SNR=9.9						
MMAI	**Mount Meron Ar**	**152.29**	**294**	PKPbc	**PKiKP**	**03 05 37.7**	**+2.9**
	comp=Z,1.8nm,0.5s,baz=305,slow=8.7,SNR=4.4						
STHS	**Stebnicka Huta**	**152.61**	**336**	*e*PKP	**PKPab**	**03 05 43.5**	**-1.6**
CRVS	**Cervenica-Dubn**	**152.96**	**336**	*e*PKP	**PKPab**	**03 05 49.5**	**+3.0**
CLL	**Collm**	**153.13**	**349**	*e*PKPbc	**PKPbc**	**03 05 35.0**	**-0.6**
CLL				*ex*	x	03 05 40.0	
CLL				*i* PKPab	**PKPab**	**03 05 45.0**	**-2.1**
	comp=Z,9.0nm,1.2s						
CLL				*e*PP	**PP**	**03 09 20.0**	**+0.1**
BRG	**Berggiesshubel**	**153.37**	**347**	*e*PKP	**PKPbc**	**03 05 35.3**	**-0.8**
BRG				Amp		03 05 35.8	
	comp=Z,6.4nm,1.3s						
BRG	**Berggiesshubel**	**153.37**	**347**	P	**PKiKP**	**03 05 41.4**	**+5.1**
BRG				Amp		03 05 42.3	
	comp=Z,5.0nm,1.1s						
VYHS	**Vyhne**	**154.23**	**338**	*e*PKP	**PKPab**	**03 05 55.1**	**+3.2**
TORD	**Torodi Ar. Bea**	**167.71**	**165**	PKP	**PKPdf**	**03 05 50.1**	**+4.8**
	comp=Z,0.6nm,0.9s,baz=297,slow=0.6,SNR=4.4						
TORD				PKPab	**sPKPab**	**03 07 01.1**	**+8.3**
	comp=Z,0.9nm,0.9s,baz=222,slow=1.9,SNR=3.5						

*AFAD **20** 03:02:16.6±0.0, 35°.32N×27°.92E, h7km±1km, ML2.9*
*ISK **20** 03:02:17.8, 35°.26N×27°.94E, h9km, ML3.0/13*
*THE **20** 03:02:21.3, 35°.46N×27°.79E, h0km, ML2.9/3, Error ellipse: s-maj=1.3km s-min=0.4km az=140.0*
*ATH **20** 03:02:23.5, 35°.58N×27°.67E, h16km±5km, ML2.7/9,*
Manual Solution by A.Plessa First location: 2019/04/15 16:20:29, This location: 2019/04/15 16:19:40 ML
Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 11 km; Longitude uncertainty: 9 km

ISC 20 03:02:19.2±1.5, 35°.37N±0°.05×27°.91E±0°.04, h8km±10km, n53, σ0s75/71, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KRPA	**Karpathos**	**0.58**	**284**	P	**Pb**		**03 02 31.4**	**-0.2**
KRPA				S	**Sg**		**03 02 36.6**	**-1.5**
KARP	**Karpathos**	**0.63**	**286**	Pg	**Pg**		**03 02 31.8**	**+0.4**
KARP				Sg	**Sb**		**03 02 41.8**	**+0.4**
KARP	**Karpathos**	**0.63**	**286**	P	**Pb**		**03 02 32.0**	**-0.4**
KARP				S	**Sb**		**03 02 40.8**	**-0.6**
	1μm,0.3s							
KARP	**Karpathos**	**0.63**	**286**	P	**Pb**		**03 02 32.1**	**-0.4**
KARP				S	**Sg**		**03 02 38.6**	**-1.1**
ARG	**Arkhangelos**	**0.86**	**12**	Pg	**Pb**		**03 02 36.9**	**+0.6**
ARG				Sg	**Sn**		**03 02 50.5**	**+0.2**
ARG	**Arkhangelos**	**0.86**	**12**	P	**Pb**		**03 02 37.1**	**+0.8**
ARG				S	**Sn**		**03 02 50.2**	**-0.1**
	675nm,0.3s							
ARG	**Arkhangelos**	**0.86**	**12**	P	**Pb**		**03 02 36.9**	**+0.6**
ARG				S	**Sb**		**03 02 48.2**	**+0.2**
RFTD	**Palamutbuku-Ka**	**1.35**	**346**	Pn	**Pb**		**03 02 44.7**	**+0.1**
RFTD				Sn	**Sg**		**03 03 04.8**	**+2.2**
NIS1	**Nisyros Isl.**	**1.36**	**335**	Pn	**Pb**		**03 02 45.1**	**+0.2**
NIS1				Sn	**Sg**		**03 03 05.3**	**+2.3**
NIS1	**Nisyros Isl.**	**1.36**	**335**	P	**Pn**		**03 02 44.2**	**-0.3**
NIS1				S	**Sn**		**03 03 02.3**	**-0.4**
	830nm,0.6s							
DAT	**Datca**	**1.38**	**349**	Pn	**Pb**		**03 02 45.3**	**0.0**
DAT	**Datca**	**1.38**	**349**	P	**Pn**		**03 02 45.0**	**+0.2**
DAT				S	**Sg**		**03 03 03.3**	**-0.3**
RFTC	**Emecik-Datca**	**1.41**	**357**	Pn	**Pb**		**03 02 45.9**	**+0.3**
ZKR	**Zakros**	**1.41**	**260**	Pn	**Pn**		**03 02 44.3**	**-0.7**
ZKR	**Zakros**	**1.41**	**260**	P	**Pb**		**03 02 45.8**	**+0.2**
ZKR				S	**Sg**		**03 03 04.8**	**+0.5**
ZKR	**Zakros**	**1.41**	**260**	P	**Pb**		**03 02 45.7**	**0.0**
TURN	**Turunc**	**1.43**	**11**	P	**Pb**		**03 02 46.6**	**+0.6**
TURN				S	**Sg**		**03 03 04.8**	**-0.3**
TURN				*i* AML	AML		03 03 12.0	
	comp=E,151nm,0.5s							
IZZE	**Mula-Seydike**	**1.51**	**45**	P	**Pn**		**03 02 46.6**	**+0.1**
KOSK	**Kos Island**	**1.57**	**332**	Pn	**Pb**		**03 02 48.0**	**-0.4**
KOSK	**Kos Island**	**1.57**	**332**	P	**Pn**		**03 02 46.3**	**-0.9**
AKAS	**Kas**	**1.63**	**58**	P	**Pn**		**03 02 47.7**	**-0.6**
RFTB	**Kemer-Bodrum**	**1.67**	**342**	Pn	**Pb**		**03 02 49.5**	**-0.6**
BDRM	**Kayabasi**	**1.73**	**348**	P	**Pn**		**03 02 49.6**	**0.0**
BDRM				S	**Sb**		**03 03 12.4**	**-0.7**
BDRM				*i* AML	AML		03 03 19.0	
	comp=E,120nm,0.6s							
BODT	**Bodrum**	**1.75**	**344**	Pn	**Pn**		**03 02 50.7**	**+0.8**
BODT	**Bodrum**	**1.75**	**344**	P	**Pn**		**03 02 50.0**	**+0.2**
BODT				S	**Sb**		**03 03 12.6**	**-1.1**
BODT	**Bodrum**	**1.75**	**344**	P	**Pn**		**03 02 50.6**	**+0.8**
YER	**Yerkesik**	**1.79**	**10**	P	**Pn**		**03 02 51.0**	**+0.7**
YER				S	**Sb**		**03 03 14.3**	**-0.4**
YER	**Yerkesik**	**1.79**	**10**	P	**Pb**		**03 02 51.7**	**-0.4**
YER				S	**Sg**		**03 03 17.3**	**+0.7**
FRMA	**Ierapetra Chan**	**1.81**	**259**	P	**Pn**		**03 02 51.7**	**+1.1**
MULA	**Mugla, Merkez-**	**1.91**	**10**	P	**Pn**		**03 02 52.8**	**+0.8**
MULA				S	**Sg**		**03 03 20.3**	**-0.3**
MLSB	**Milas**	**1.92**	**357**	P	**Pg**		**03 02 55.5**	**-0.5**
ELL	**Elmali**	**2.13**	**49**	P	**Pn**		**03 02 55.5**	**+0.5**
DDIM	**Aydin, Didim**	**2.15**	**346**	P	**Pg**		**03 03 00.2**	**-0.2**
SANT	**Santorini**	**2.22**	**297**	Pn	**Pn**		**03 02 56.3**	**0.0**
SANT	**Santorini**	**2.22**	**297**	P	**Pn**		**03 02 56.7**	**+0.4**
TAVA	**DENIZLI_Tavas**	**2.24**	**21**	P	**Pn**		**03 02 57.2**	**+0.5**
AYDN	**Tasoluk**	**2.28**	**359**	P	**Pn**		**03 02 58.5**	**+1.3**
THR9	**Santorini-Faro**	**2.29**	**296**	P	**Pn**		**03 02 57.4**	**+0.2**
GOLH	**Golhisar**	**2.29**	**35**	P	**Pb**		**03 02 59.9**	**-0.9**
CMBO	**Columbo, Santo**	**2.31**	**299**	P	**Pn**		**03 02 57.8**	**+0.4**
GCAM	**G?zelcaml?**	**2.38**	**347**	P	**Pn**		**03 02 57.4**	**-1.1**
DNIZ	**Denizli-Tavas-**	**2.43**	**22**	P	**Pn**		**03 02 58.0**	**-1.2**
IDI	**Anoyia**	**2.47**	**269**	Pn	**Pn**		**03 03 00.2**	**+0.5**
IDI	**Anoyia**	**2.47**	**269**	P	**Pn**		**03 03 00.1**	**+0.4**
IDI	**Anoyia**	**2.47**	**269**	P	**Pn**		**03 03 01.1**	**+1.4**
SMG	**Samos**	**2.48**	**340**	P	**Pn**		**03 02 59.7**	**-0.2**
SMG	**Samos**	**2.48**	**340**	P	**Pn**		**03 02 59.6**	**-0.3**
APE	**Apeiranthos**	**2.56**	**312**	Pn	**Pn**		**03 03 01.2**	**+0.2**
APE	**Apeiranthos**	**2.56**	**312**	P	**Pn**		**03 03 00.9**	**-0.1**
APE	**Apeiranthos**	**2.56**	**312**	P	**Pn**		**03 03 00.8**	**-0.1**
KORT	**Korkueli**	**2.56**	**50**	P	**Pn**		**03 03 01.2**	**+0.2**
IMMV	**Iera Moni Meta**	**3.21**	**273**	P	**Pn**		**03 03 10.3**	**+0.5**
RODP	**Rodopos**	**3.39**	**274**	P	**Pn**		**03 03 13.9**	**+1.6**

*IDC **20** 03:15:20.2±1.0, 45°.28N×148°.34E, h0km, mb3.6/8, mbtmp3.6/8, Error ellipse: s-maj=40.2km s-min=24.7km az=95.0*
*JMA **20** 03:15:21.0±1.1, 45°N±5°×15°1E±°, h30km, MV4.4/12, KURILE ISLANDS REGION*
*SKHL **20** 03:15:21.2±0.3, 44°.90N×151°.10E, h44km±6km, mb4.8/4*

ISC 20 03:15:20.6±1.2, 45°.1N±0°.1×151°.1E±0°.1, h35km, n29, σ1s71/28, mb3.7/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.29**	**275**	*e*P	**Pn**		**03 15 57.1**	**+1.3**
KUR				AMB	AMB		03 15 58.4	
	120nm,0.3s							
KUR				*i* S	**Sn**		**03 16 22.9**	**+0.2**
KUR				A	A		03 16 26.5	
	540nm,0.4s							
KUR				A	A		03 16 26.5	
	140nm,0.4s							
SHO	**Shikotan**	**3.29**	**250**	*e*P	**Pn**		**03 16 09.7**	**+0.2**
SHO				AMB	AMB		03 16 13.4	
	60nm,0.3s							
SHO				*e*S	**Sn**		**03 16 47.1**	**-0.3**
SHO				A	A		03 16 51.5	
	110nm,0.3s							
SHO				A	A		03 16 51.5	
	90nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.89**	**256**	*e*P	**Pn**		**03 16 19.1**	**+1.4**
YUK				AMB	AMB		03 16 23.5	
	260nm,0.3s							
NEM2	**Nemuro 2**	**4.22**	**248**	*e*P	**Pn**		**03 16 22.6**	**+0.3**
NEM2				*e*S	**Sn**		**03 17 08.8**	**-1.5**
NMR	**Nemuro--Hokkai**	**4.22**	**248**	*e*P	**Pn**		**03 16 22.7**	**+0.3**
NMR				*e*S	**Sn**		**03 17 07.7**	**-2.8**
JRA	**Rausu**	**4.43**	**257**	*e*P	**Pn**		**03 16 27.6**	**+2.4**
JNK	**Nakash**	**4.82**	**254**	*e*P	**Pn**		**03 16 32.1**	**+1.6**
AKK	**Akkeshi**	**4.96**	**247**	*e*P	**Pn**		**03 16 32.8**	**+0.3**
AKK				*e*S	**Sn**		**03 17 26.6**	**-2.0**
JAK	**Akkeshi**	**5.07**	**248**	*e*P	**Pn**		**03 16 34.4**	**+0.4**
JTKR	**Abashiri--Toko**	**5.26**	**260**	*e*P	**Pn**		**03 16 39.0**	**+2.4**
JAR	**Ashorobuto**	**5.57**	**254**	*e*P	**Pn**		**03 16 42.8**	**+2.0**
JAR				*e*S	**Sn**		**03 17 44.4**	**+0.9**
JOB	**Onbets**	**5.68**	**250**	*e*P	**Pn**		**03 16 43.8**	**+1.4**
JKK2	**Kamakawa

TURN S **Sg** **03 44 39.2 0.0**
TURN *i* AML AML 03 44 40.0
comp=E,399nm,0.2s
TURN *i* AML AML 03 44 41.0
comp=N,391nm,0.3s
ARG Arkhangelos 0.33 202 Pg **Pg** **03 44 37.2 +0.1**
ARG Sg **Sb** **03 44 42.8 -0.5**
ARG Arkhangelos 0.33 202 P **Pg** **03 44 36.8 -0.3**
ARG S **Sg** **03 44 42.6 +0.9**
502nm,0.3s
DALY Dalyan (Mula) 0.42 46 Pg **Pg** **03 44 38.3 -0.3**
DALY Sg **Sb** **03 44 44.4 -1.3**
RFTC Emecik-Datca 0.45 304 Pg **Pg** **03 44 39.5 +0.3**
RFTC Sg **Sb** **03 44 46.3 -0.3**
DAT Datca 0.60 290 Pg **Pg** **03 44 42.4 +0.3**
DAT Datca 0.60 290 P **Pg** **03 44 41.7 -0.4**
DAT S **Sg** **03 44 50.8 +0.8**
DAT Datca 0.60 290 P **Pg** **03 44 42.4 +0.3**
YER Yerkesik 0.61 0 Pg **Pg** **03 44 41.9 -0.3**
YER Sg **Sb** **03 44 50.8 -0.5**
YER Yerkesik 0.61 0 P **Pg** **03 44 41.2 -1.0**
YER S **Sg** **03 44 49.9 -0.4**
RFTAA Mazikoy-Bodrum 0.64 318 Pg **Pg** **03 44 42.9 +0.2**
RFTD Palamutbuku-Ka 0.65 284 Pg **Pg** **03 44 42.9 0.0**
FETY Fethiye 0.66 80 Pg **Pg** **03 44 42.4 -0.7**
MULA Mugla, Merkez- 0.73 3 P **Pb** **03 44 44.5 -0.4**
IZZE Mula-Seydike 0.77 96 P **Pb** **03 44 44.9 -0.6**
IZZE S **Sb** **03 44 56.0 +0.1**
IZZE *i* AML AML 03 44 57.0
comp=E,266nm,0.2s
BDRM Kayabasi 0.86 309 P **Pg** **03 44 46.8 -0.1**
BDRM S **Sb** **03 44 59.2 +0.7**
BDRM *i* AML AML 03 45 01.0
comp=E,157nm,0.3s
MLSB Milas 0.87 332 Pg **Pb** **03 44 47.2 0.0**
NIS1 Nisyros Isl. 0.89 275 Pg **Pb** **03 44 47.8 +0.2**
NIS1 Nisyros Isl. 0.89 275 P **Pg** **03 44 46.5 -1.0**
NIS1 S **Sb** **03 45 00.2 +0.9**
RFTB Kemer-Bodrum 0.92 299 Pg **Pb** **03 44 48.3 +0.3**
CAME Cameli-Denizli 0.92 63 Pg **Pg** **03 44 47.3 -0.8**
BODT Bodrum 0.94 305 Pg **Pb** **03 44 48.4 -0.1**
BODT Bodrum 0.94 305 P **Pg** **03 44 47.2 -1.3**
BODT S **Sg** **03 45 00.9 0.0**
CAEL Denizli, Camel 1.03 54 P **Pn** **03 44 51.4 +1.0**
CAEL S **Sn** **03 45 06.1 +1.4**
CAEL *i* AML AML 03 45 13.0
comp=E,98nm,0.4s
TAVA DENIZLI_Tavas 1.07 28 P **Pb** **03 44 50.8 +0.1**
KOSK Kos Island 1.07 283 Pn **Pn** **03 44 51.4 +0.5**
KOSK Kos Island 1.07 283 P **Pg** **03 44 49.4 -1.5**
KOSK S **Sg** **03 45 04.8 -0.1**
90nm,0.5s
AKAS Kas 1.11 105 Pn **Pn** **03 44 51.5 -0.1**
AKAS Kas 1.11 105 P **Pn** **03 44 52.5 +0.9**
AYDN Tasoluk 1.18 344 P **Pn** **03 44 52.7 +0.2**
GOLH Golhisar 1.25 55 P **Pn** **03 44 53.8 +0.3**
GOLH S **Sn** **03 45 12.8 +2.6**
GOLH *i* AML AML 03 45 16.0
comp=N,58nm,0.5s
APMY Acipayam-Deniz 1.25 41 Pn **Pn** **03 44 53.9 +0.4**
DNIZ Denizli-Tavas- 1.25 29 P **Pn** **03 44 53.8 +0.3**
DNIZ S **Sn** **03 45 12.2 +1.9**
DNIZ *i* AML AML 03 45 16.0
comp=E,175nm,0.4s
ELL Elmali 1.33 80 Pn **Pg** **03 44 55.2 -0.7**
KARP Karpathos 1.33 223 P **Pn** **03 44 53.5 -1.1**
KARP S **Sb** **03 45 12.0 -0.1**
122nm,0.4s
GCAM G?zelcaml? 1.44 325 Pn **Pb** **03 44 57.2 +0.3**
GCAM G?zelcaml? 1.44 325 P **Pn** **03 44 55.6 -0.4**
SMG Samos 1.65 316 P **Pn** **03 44 56.6 -2.3**
SMG S **Sn** **03 45 18.5 -1.5**
32nm,0.4s
AKUM Antalya-Kumluc 1.68 96 P **Pb** **03 45 00.1 -0.9**
MANT Manisa 1.97 6 P **Pn** **03 45 03.4 -0.2**

---

*IDC **20** 03:48:01.6±0.9, 60.″24S×47.″47W, h0km, mb3.8/5, mbtmp3.9/6, ML4.0/1, MS3.2/4, Error ellipse: s-maj=29.0km s-min=25.4km az=59.0*

ISC 20 03:48:03.8±0.8, 60.″2S±0.″1×47.″7W±0.″1, h10km, n22, σ1§10/14, mb4.1/4, MS3.0/4, 1C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**8.84**	**232**	Pn	**Pn**	**03 50 11.1**	**-0.3**
	1.7nm,0.3s,baz=78,slow=9.3,SNR=13						
	3.6nm,0.4s						
VNA3	**Neumayer Olymp**	**18.70**	**142**	⇑P	**P**	**03 52 22.1**	**+0.2**
VNA1	**Neumayer--Stat**	**19.00**	**139**	P	**Pn**	**03 52 26.7**	**+0.9**
VNA2	**Neumayer--Watz**	**19.34**	**140**	P	**P**	**03 52 28.9**	**+0.1**
	baz=293,slow=13						
SNAA	**Sanae**	**20.93**	**141**	P	Pn	03 52 48.8	+0.1
SNAA	**Sanae**	**20.93**	**141**	P	**P**	**03 52 44.6**	**-1.6**
	0.6nm,0.8s,baz=35,slow=9.2,SNR=1.9						
SNAA				LR	LR	03 59 32.6	
	comp=Z,35nm,20.2s,baz=193,slow=33						
	0.6nm,0.8s						
TROLL	**Troll, Antarti**	**22.64**	**142**	P	**P**	**03 53 05.6**	**+1.0**
	comp=Z,129nm,0.7s						
PLCA	**Paso Flores**	**24.12**	**314**	P	**P**	**03 53 19.8**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=159,slow=9.1,SNR=9.9						
PLCA				LR	LR	04 02 58.4	
	comp=Z,42nm,18.0s,baz=156,slow=37						
	comp=Z,2.8nm,0.7s						
QSPA	**South Pole Qui**	**30.01**	**180**	P	**P**	**03 54 12.1**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=178,slow=1.5,SNR=12						
	comp=Z,3.6nm,0.7s						
CPUP	**Villa Florida**	**34.53**	**345**	LR	LR	04 11 09.2	
	comp=Z,27nm,18.1s,baz=14,slow=40						
MAW	**Mawson**	**42.84**	**148**	LR	LR	04 12 16.4	
	comp=Z,61nm,19.4s,baz=225,slow=34						
H10S2	**ASCENSION HYDR**	**56.80**	**40**	T	T	05 00 05.2	
	baz=199						
H10S3	**ASCENSION HYDR**	**56.80**	**40**	T	T	05 00 08.2	
	baz=21						
BOSA	**Boshof**	**57.19**	**91**	P	**P**	**03 57 49.2**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=188,slow=7.1,SNR=1.9						
	comp=Z,1.2nm,0.5s						
H10N3	**ASCENSION HYDR**	**57.90**	**40**	T	T	05 01 23.4	
	baz=199,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**57.90**	**40**	T	T	05 01 20.4	
	baz=199,slow=75,SNR=5.4						
H10N2	**ASCENSION HYDR**	**57.91**	**40**	T	T	05 01 24.2	
	baz=199,slow=75,SNR=5.1						
TORD	**Torodi Ar. Bea**	**83.06**	**48**	P	**P**	**04 00 29.5**	**+0.2**
	comp=Z,0.7nm,1.1s,baz=204,slow=5.5,SNR=1.9						
	comp=Z,0.7nm,1.1s						
ILAR	**Eielson Array**	**144.81**	**313**	PKP	**PKPab**	**04 07 37.5**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=133,slow=1.6,SNR=9.7						
BVAR	**Borovoye Array**	**146.34**	**74**	PKPbc	**PKPdf**	**04 07 42.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=254,slow=3.8,SNR=4.3						
MKAR	**Makanchi Array**	**148.19**	**92**	PKPbc	**PKPdf**	**04 07 47.0**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=245,slow=2.7,SNR=4.4						
KURBB	**Kurchatov Arra**	**148.84**	**83**	PKPbc	**PKPdf**	**04 07 48.1**	**+1.7**
	comp=Z,0.2nm,0.2s,baz=243,slow=3.9,SNR=2.5						

---

*DJA **20** 03:48:30.9±0.6, 0.°S±7.°×13.°4E±.°, h68km±11km, M4.3/7, mb4.6/4, mB5.3/1, MLv4.1/7, Mw(mB)4.7/1*
*IDC **20** 03:48:32.4±3.0, 0.°82S×133.°21E, h0km, mb3.3/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=141.6km s-min=29.9km az=75.0*

ISC 20 03:48:35.5±1.5, 0.°8S±0.°1×133.°7E±0.°1, h35km, n9, σ1§17/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.88**	**148**	P	**Pn**	**03 48 50.6**	**-0.8**
RKPI				S	**Sn**	**03 49 03.7**	**+0.7**
SWI	**Sorong**	**2.45**	**268**	P	**Pn**	**03 49 13.4**	**+0.4**
FAKI	**Fak Fak**	**2.59**	**214**	P	**Pn**	**03 49 15.2**	**+0.2**
LBMI	**Labuha**	**6.21**	**271**	P	**Pn**	**03 50 02.7**	**-2.0**
	120nm,0.8s,0.5nm						
JAY	**Jayapura**	**7.21**	**104**	P	Pn	03 50 11.0	-7.5
	18nm,1.1s,3μm0.1nm						
BBSI	**Bau Bau**	**12.07**	**247**	P	**Pn**	**03 51 24.2**	**-0.9**
	83nm,0.8s						
WRA	**Warramunga Arr**	**19.07**	**178**	P	**Pn**	**03 52 56.3**	**+0.1**
	0.2nm,0.3s,baz=356,slow=12,SNR=7.3						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**22.77**	**180**	P	**P**	**03 53 36.4**	**+1.3**
	1.0nm,0.8s,baz=360,slow=11,SNR=4.1						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**65.24**	**324**	P	**P**	**03 59 14.1**	**+0.5**
	0.2nm,0.5s,baz=101,slow=7.5,SNR=1.8						
	0.2nm,0.5s						

---

*IDC **20** 03:58:52.5±1.9, 1.°40N×126.°55E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=187.7km s-min=22.7km az=66.0*
*DJA **20** 03:58:57.8±0.3, 1.°N±5.°×12.°6E±.°, h10km, M3.8/8, mb3.8/1, MLv3.7/8*

ISC 20 03:58:59.0±1.1, 1.°20N±0.°09×126.°32E±0.°07, h35km, n9, σ1§75/9, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.13**	**112**	P	**Pn**	**03 59 19.8**	**+1.5**
LBMI	**Labuha**	**2.17**	**147**	P	**Pn**	**03 59 34.4**	**+1.7**
KMSI	**Cibinong**	**2.42**	**255**	P	**Pn**	**03 59 36.8**	**+0.7**
SGSI	**Sangihe**	**2.59**	**342**	P	**Pn**	**03 59 40.0**	**+1.5**
GTOI	**Gorontalo**	**3.36**	**260**	P	**Pn**	**03 59 51.3**	**+2.3**
WRA	**Warramunga Arr**	**22.44**	**160**	P	**P**	**04 03 53.4**	**-1.6**
	0.6nm,0.3s,baz=339,slow=9.8,SNR=15						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**25.80**	**164**	P	**P**	**04 04 26.2**	**-0.7**
	0.3nm,0.4s,baz=343,slow=7.4,SNR=4.1						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.40**	**326**	P	**P**	**04 08 57.1**	**-0.9**
	0.2nm,0.3s,baz=129,slow=8.4,SNR=1.8						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**63.65**	**328**	P	**P**	**04 09 25.5**	**-1.1**
	0.4nm,0.2s,baz=129,slow=6.1,SNR=4.6						
	0.4nm,0.2s						

---

*IDC **20** 04:06:21.9±0.8, 17.°09N×147.°59E, h0km, mb4.2/20, mbtmp4.3/21, ML4.8/1, MS3.6/31, Error ellipse: s-maj=26.6km s-min=15.3km az=89.0*
*NEIC **20** 04:06:29.5±0.8, 16.°9N±0.°1×147.°3E±0.°2, h44km±7km, mb4.6/31, Error ellipse: s-maj=21.3km s-min=16.4km az=82.0*

ISC 20 04:06:27.8±0.5, 16.°89N±0.°07×147.°50E±0.°10, h41km, n88, σ1§01/61, mb4.5/39, MS3.7/30, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.15**	**218**	Pn	**Pn**	**04 07 30.8**	**+2.1**
	54nm,0.3s,baz=230,slow=21,SNR=2.3						
GUMO				Sn	**Sn**	**04 08 13.2**	**-2.8**
	24nm,0.3s,baz=263,slow=22,SNR=1.5						
GUMO				LR	LR	04 09 17.4	
	comp=Z,354nm,20.2s,baz=332,slow=40						
	144nm,0.3s						
JCJ	**Chichijima**	**11.29**	**335**	Pn	**Pn**	**04 09 06.6**	**0.0**
PATS	**Pohnpei**	**14.54**	**132**	Pn	**Pn**	**04 09 49.3**	**-1.7**
H11S3	**WAKE ISLAND Hy**	**18.35**	**82**	T	T	04 29 23.7	
	baz=281						
H11S1	**WAKE ISLAND Hy**	**18.36**	**82**	T	T	04 29 28.5	
	baz=281,slow=74						
H11S2	**WAKE ISLAND Hy**	**18.37**	**82**	T	T	04 29 24.3	
	baz=281,slow=74						
H11N1	**WAKE ISLAND Hy**	**18.62**	**78**	T	T	04 29 41.0	
	baz=264,slow=74,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**18.63**	**78**	T	T	04 29 43.0	
	baz=264,slow=74,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**18.64**	**78**	T	T	04 29 45.3	
	baz=264,slow=74,SNR=6.3						
JOW	**Kunigami**	**20.38**	**302**	LR	LR	04 17 25.8	
	comp=Z,320nm,21.9s,baz=120,slow=33						
MJAR	**Matsushiro Arr**	**21.24**	**339**	P	**P**	**04 11 09.2**	**-1.1**
	5.2nm,0.7s,baz=169,slow=9.6,SNR=8.6						
MJAR				LR	LR	04 19 58.2	
	comp=Z,106nm,19.3s,baz=154,slow=39						
	5.2nm,0.7s						
MAJO	**Matsushiro**	**21.24**	**339**	P	**P**	**04 11 09.2**	**-1.2**
MAJO				IAmb	IAmb	04 11 27.8	
	comp=Z,25nm,1.1s						
MJB9	**Matsu-Tunnel**	**21.24**	**339**	P	**P**	**04 11 09.4**	**-1.0**
MJB9				IAmb	IAmb	04 11 28.7	
	comp=Z,24nm,1.0s						
JNU	**Nakatsue**	**22.05**	**320**	LR	LR	04 18 53.4	
	comp=Z,95nm,18.3s,baz=84,slow=34						
JSD	**Sado**	**22.58**	**341**	P	**P**	**04 11 24.4**	**-0.3**
TGY	**Tagaytay City**	**25.74**	**268**	LR	LR	04 22 05.6	
	comp=Z,214nm,18.5s,baz=186,slow=36						
KSRS	**Korea Array**	**26.79**	**324**	P	**P**	**04 12 01.8**	**-2.1**
	comp=Z,1.3nm,0.5s,baz=145,slow=8.6,SNR=4.7						
KSRS				LR	LR	04 23 23.3	
	comp=Z,162nm,18.2s,baz=125,slow=38						
	comp=Z,1.3nm,0.5s						
MDJ	**Mudanjiang**	**31.49**	**335**	P	**P**	**04 12 47.8**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,11nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,150nm,4.4s						
KAPI	**Kappang**	**35.02**	**234**	P	**P**	**04 13 16.5**	**-0.2**
KAPI	**Kappang**	**35.02**	**234**	LR	LR	04 25 39.8	
	comp=Z,36nm,20.2s,baz=60,slow=33						
CTA	**Charters Tower**	**36.77**	**182**	LR	LR	04 28 15.6	
	comp=Z,48nm,19.6s,baz=274,slow=36						
HEH	**HeiHe**	**37.00**	**339**	*e*P	**P**	**04 13 33.0**	**-0.3**
HEH				pmax	pmax		
	comp=Z,11nm,1.3s						
PETK	**Petropavlovsk-**	**37.02**	**10**	LR	LR	04 32 00.3	
	comp=Z,73nm,18.0s,baz=194,slow=42						
WB0	**Warramunga Arr**	**38.64**	**200**	P	**P**	**04 13 47.1**	**-0.4**
WB0				IAmb	IAmb	04 13 49.0	
	comp=Z,4.7nm,0.8s						
WR0	**Warramunga Arr**	**38.77**	**200**	P	**P**	**04 13 48.5**	**-0.1**
WR0				IAmb	IAmb	04 13 52.4	
	comp=Z,5.5nm,0.6s						
WB2	**Warramunga Arr**	**38.82**	**200**	P	**P**	**04 13 49.4**	**+0.4**
WB2				IAmb	IAmb	04 13 53.4	
	comp=Z,9.3nm,1.1s						
WRA	**Warramunga Arr**	**38.82**	**200**	P	**P**	**04 13 50.0**	**+1.0**
	comp=Z,5.2nm,0.8s,baz=25,slow=9.2,SNR=50						
	comp=Z,5.2nm,0.8s						
HHC	**Hu-ho-hao-te**	**39.09**	**315**	*e*P	**P**	**04 13 51.8**	**+0.6**
HHC				pmax	pmax		
	comp=Z,33nm,0.8s						
AS31	**Alice Springs**	**42.44**	**199**	P	**P**	**04 14 19.0**	**+0.2**
ASAR	**Alice Springs**	**42.44**	**199**	P	**P**	**04 14 19.3**	**+0.4**
ASAR	**Alice Springs**	**42.44**	**199**	P	**P**	**04 14 20.1**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=16,slow=7.9,SNR=13						
ASAR				LR	LR	04 32 21.5	
	comp=Z,62nm,21.3s,baz=18,slow=37						
	comp=Z,1.0nm,0.5s						
MA2	**Magadan**	**42.69**	**2**	LR	LR	04 29 13.1	
	comp=Z,44nm,21.5s,baz=136,slow=32						
DZM	**Mont Dzumac**	**42.94**	**154**	LR	LR	04 32 44.1	
	comp=Z,110nm,18.2s,baz=24,slow=37						
ULN	**Ulaanbaatar**	**45.25**	**322**	P	**P**	**04 14 41.6**	**+0.3**
ULN				IAmb	IAmb	04 14 42.6	
	comp=Z,8.2nm,1.4s						
SONM	**Songino Array**	**45.62**	**322**	P	**P**	**04 14 44.1**	**-0.2**
SONM	**Songino Array**	**45.62**	**322**	P	**P**	**04 14 43.5**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=135,slow=8.1,SNR=6.9						
	comp=Z,1.6nm,0.6s						
MSVF	**Nonsavu**	**45.70**	**137**	LR	LR	04 31 16.5	
	comp=Z,46nm,20.3s,baz=168,slow=33						
CMAR	**Chiang Mai Arr**	**46.19**	**280**	P	**P**	**04 14 48.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**46.19**	**280**	P	**P**	**04 14 49.9**	**+0.9**
	comp=Z,2.5nm,0.4s,baz=71,slow=6.3,SNR=23						
CMAR				LR	LR	04 35 06.2	
	comp=Z,22nm,18.6s,baz=80,slow=37						
	comp=Z,2.5nm,0.4s						
STKA	**Stephens Creek**	**48.82**	**187**	P	**P**	**04 15 11.4**	**+2.3**
	comp=Z,1.6nm,0.6s,baz=17,slow=8.9,SNR=3.0						
STKA				LR	LR	04 36 03.2	
	comp=Z,69nm,19.9s,baz=26,slow=36						
	comp=Z,1.6nm,0.6s						
WMQ	**Urumqi**	**56.79**	**312**	*e*P	**P**	**04 16 08.0**	**0.0**
WMQ				pP	pP	04 16 16.0	-2.3
WMQ				sP	sP	04 16 21.8	-0.7
WMQ				pmax	pmax		
	comp=Z,19nm,1.5s						
NWAO	**Narrogin (SRO)**	**57.37**	**210**	LR	LR	04 43 13.6	
	comp=Z,64nm,18.5s,baz=116,slow=38						
ZAA0	**Zalesovo Array**	**60.49**	**323**	P	**P**	**04 16 33.6**	**+0.1**
ZAA0				IAmb	IAmb	04 16 35.2	
	comp=Z,3.1nm,0.7s						
ZALV	**Zalesovo Beam**	**60.49**	**323**	P	**P**	**04 16 32.2**	**-1.3**
	comp=Z,2.4nm,0.4s,baz=110,slow=8.1,SNR=5.7						
ZALV				LR	LR	04 42 50.4	
	comp=Z,46nm,18.0s,baz=97,slow=36						
	comp=Z,2.4nm,0.4s						
MK31	**Makanchi Array**	**60.95**	**314**	P	**P**	**04 16 36.5**	**-0.3**
MK31				IAmb	IAmb	04 16 47.8	
	comp=Z,4.0nm,1.1s						
MKAR	**Makanchi Array**	**60.95**	**314**	P	**P**	**04 16 36.2**	**-0.7**
MKAR	**Makanchi Array**	**60.95**	**314**	P	**P**	**04 16 36.3**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=94,slow=7.5,SNR=23						
MKAR				LR	LR	04 43 29.4	
	comp=Z,36nm,18.8s,baz=110,slow=37						
	comp=Z,1.6nm,0.5s						
MAKZ	**Makanchi**	**61.16**	**314**	P	**P**	**04 16 38.1**	**-0.2**
MAKZ				IAmb	IAmb	04 16 39.0	
	comp=Z,3.3nm,0.6s						
KURK	**Kurchatov**	**63.76**	**319**	P	**P**	**04 16 54.6**	**-0.8**
KURBB	**Kurchatov Arra**	**63.81**	**319**	P	**P**	**04 16 54.9**	**-0.9**
	comp=Z,3.0nm,0.4s,baz=93,slow=7.4,SNR=46						
KURBB				LR	LR	04 44 06.8	
	comp=Z,78nm,20.4s,baz=172,slow=36						
	comp=Z,3.0nm,0.4s						
ILAR	**Eielson Array**	**64.51**	**26**	P	**P**	**04 17 02.4**	**+2.2**
ILAR	**Eielson Array**	**64.51**	**26**	P	**P**	**04 16 59.0**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=269,slow=6.3,SNR=3.3						
	comp=Z,0.5nm,0.8s						
KSH	**Kashi**	**65.31**	**306**	P	P	04 17 10.3	+4.2
KSH				pP	sP	04 17 19.8	-0.7
PALK	**Pallekele**	**65.77**	**270**	LR	LR	04 45 10.9	
	comp=Z,23nm,19.2s,baz=166,slow=35						
AAK	**Ala-Archa**	**66.34**	**310**	LR	LR	04 48 26.3	
	comp=Z,57nm,18.3s,baz=71,slow=38						
NIL	**Nilore**	**67.91**	**300**	P	**P**	**04 17 23.4**	**+0.8**
BVAR	**Borovoye Array**	**68.96**	**321**	P	**P**	**04 17 28.3**	**-0.4**
	comp=Z,4.9nm,0.6s,baz=93,slow=7.6,SNR=18						
BVAR				LR	LR	04 49 48.4	
	comp=Z,71nm,18.1s,baz=75,slow=38						
	comp=Z,4.9nm,0.6s						
BRVK	**Borovoye**	**69.02**	**321**	P	**P**	**04 17 29.7**	**+0.6**
BRVK				IAmb	IAmb	04 17 30.9	
	comp=Z,4.3nm,0.8s						
KK31	**Karatay Array**	**69.24**	**310**	P	**P**	**04 17 30.7**	**0.0**
KKAR	**Karatay Array**	**69.24**	**310**	P	**P**	**04 17 30.2**	**-0.5**
KBL	**Kabul**	**71.27**	**301**	P	**P**	**04 17 43.1**	**-0.5**
ARU	**Arti**	**75.53**	**325**	P	**P**	**04 18 08.3**	**+0.4**
ARU				IAmb	IAmb	04 18 09.2	
	comp=Z,14nm,1.4s						
ARU	**Arti**	**75.53**	**325**	P	**P**	**04 18 07.6**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=50,slow=7.9,SNR=4.4						
	comp=Z,2.8nm,0.4s						
ABKAR	**Akbulak array**	**75.83**	**318**	P	**P**	**04 18 09.7**	**-0.1**
HRA	**Herat**	**76.83**	**302**	P	**P**	**04 18 15.6**	**-0.5**
HRA				IAmb	IAmb	04 18 17.1	
	comp=Z,14nm,1.4s						
AKTO	**Aktyubinsk**	**76.85**	**319**	LR	LR	04 53 43.6	
	comp=Z,61nm,18.3s,baz=352,slow=37						
YKA	**Yellowknife Ar**	**78.77**	**28**	LR	LR	04 54 41.2	
	comp=Z,37nm,18.8s,baz=288,slow=37						
GEYT	**Alibeck**	**79.35**	**306**	P	**P**	**04 18 29.5**	**-0.2**
KIRV	**Kirov**	**79.90**	**328**	LR	LR	04 54 16.2	
	comp=Z,32nm,20.0s,baz=40,slow=36						
BELG	**Belogornoye**	**82.67**	**323**	P	**P**	**04 18 47.1**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=41,slow=16,SNR=2.7						
BELG				LR	LR	04 56 00.9	
	comp=Z,35nm,18.8s,baz=156,slow=36						
	comp=Z,4.7nm,0.8s						
NVAR	**Mina Array Bea**	**82.89**	**52**	P	**P**	**04 18 48.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=258,slow=4.5,SNR=2.7						
	comp=Z,0.6nm,0.7s						
ELK	**Elko**	**84.50**	**49**	IAmb	IAmb	04 19 04.6	
	comp=Z,3.5nm,1.2s						
ARCES	**ARCESS Array B**	**84.73**	**343**	P	**P**	**04 18 57.6**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=32,slow=7.1,SNR=7.4						
	comp=Z,2.0nm,0.7s						
SPR3	**Spring Creek 3**	**85.70**	**51**	P	**P**	**04 19 04.1**	**+0.9**
SPR3				IAmb	IAmb	04 19 09.0	
	comp=Z,8.0nm,1.4s						
HVU	**Hansel Valley**	**85.94**	**48**	IAmb	IAmb	04 19 35.3	
	comp=Z,5.3nm,1.3s						
ID07	**Smith Canyon R**	**86.18**	**47**	P	**P**	**04 19 06.5**	**+1.2**
ID07				IAmb	IAmb	04 19 23.6	
	comp=Z,3.2nm,1.0s						
MNGR	**Mingechevir, A**	**86.77**	**312**	P	**P**	**04 19 06.7**	**-1.2**
PDAR	**Pinedale Array**	**87.85**	**46**	P	**P**	**04 19 12.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=255,slow=3.5,SNR=2.2						
	comp=Z,0.2nm,0.5s						
KBZ	**Khabaz**	**88.63**	**315**	P	**P**	**04 19 15.8**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=155,slow=5.7,SNR=3.8						
	comp=Z,0.9nm,0.4s						
GNI	**Garni**	**88.66**	**312**	LR	LR	05 02 43.2	
	comp=Z,25nm,18.3s,baz=31,slow=38						
KVAR	**Kislovodsk Arr**	**88.68**	**316**	LR	LR	05 02 30.6	
	comp=Z,28nm,18.2s,baz=314,slow=38						
FINES	**FINESS Array B**	**89.23**	**336**	P	**P**	**04 19 18.6**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=58,slow=5.2,SNR=10						
FINES				LR	LR	05 04 02.4	
	comp=Z,35nm,18.2s,baz=4.0,slow=39						
	comp=Z,1.9nm,0.6s						
SMCO	**Snowmass**	**91.00**	**49**	P	**P**	**04 19 29.3**	**+0.8**
ANMO	**Albuquerque**	**93.02**	**52**	LR	LR	04 57 20.0	
	comp=Z,37nm,19.4s,baz=38,slow=33						
BRTR	**Keskin Array B**	**96.60**	**315**	P	**P**	**04 19 52.7**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=76,slow=1.8,SNR=4.8						
	comp=Z,0.3nm,0.4s						
MLR	**Muntele Rosu**	**98.47**	**323**	LR	LR	05 08 09.8	
	comp=Z,63nm,18.3s,baz=55,slow=38						
TORD	**Torodi Ar. Bea**	**134.92**	**309**	PKP	**PKPdf**	**04 25 43.2**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=32,slow=2.0,SNR=5.3						
ETMB	**Extrema**	**146.49**	**82**	PKPbc	**PKPbc**	**04 26 05.3**	**-0.3**

---

*IDC **20** 04:21:31.1±2.4, 17.°09N×147.°61E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=81.3km s-min=21.2km az=84.0*

ISC 20 04:21:37.1±2.2, 17.°1N±0.°2×147.°6E±0.°5, h41km, n9, σ0§66/9, mb3.8/9, Mariana Islands region

| Code | Station Name | Δ° | AZ° |

0.7nm,0.3s
WRA Warramunga Arr 38.98 200 P **P 04 33 54.0 -0.4**
1.4nm,0.6s,baz=23,slow=9.1,SNR=26
1.4nm,0.6s
ASAR Alice Springs 42.60 199 P **P 04 34 24.2 -0.1**
0.3nm,0.6s,baz=15,slow=8.7,SNR=5.5
0.3nm,0.6s
SONM Songino Array 45.46 322 P **P 04 34 47.4 +0.3**
0.7nm,0.6s,baz=146,slow=7.7,SNR=3.0
0.7nm,0.6s
CMAR Chiang Mai Arr 46.12 279 P **P 04 34 53.5 +0.8**
1.1nm,0.3s,baz=73,slow=6.3,SNR=7.3
1.1nm,0.3s
ZALV Zalesovo Beam 60.32 323 P **P 04 36 35.4 -1.1**
1.1nm,0.5s,baz=101,slow=7.9,SNR=3.8
ZALV PcP **PcP 04 37 21.7 +0.4**
0.9nm,0.5s,baz=145,slow=5.3,SNR=2.0
1.1nm,0.5s
MKAR Makanchi Array 60.80 314 P **P 04 36 39.7 -0.2**
0.6nm,0.4s,baz=88,slow=7.2,SNR=9.6
0.6nm,0.4s
KURBB Kurchatov Arra 63.65 318 P **P 04 36 58.8 -0.1**
2.2nm,0.7s,baz=97,slow=7.2,SNR=15
2.2nm,0.7s
ILAR Eielson Array 64.37 26 P **P 04 37 02.5 -0.8**
0.2nm,0.5s,baz=256,slow=6.3,SNR=2.1
0.2nm,0.5s
BVAR Borovoye Array 68.79 321 P **P 04 37 31.9 +0.1**
1.6nm,0.5s,baz=100,slow=6.5,SNR=7.8
1.6nm,0.5s
NVAR Mina Array Bea 82.81 52 P **P 04 38 53.3 +0.8**
0.2nm,0.3s,baz=270,slow=5.0,SNR=2.3
0.2nm,0.3s
ARCES ARCESS Array B 84.55 343 P **P 04 39 00.8 +0.3**
2.9nm,0.9s,baz=64,slow=4.1,SNR=5.2
2.9nm,0.9s
FINES FINESS Array B 89.05 336 P **P 04 39 22.4 -0.1**
0.8nm,0.5s,baz=35,slow=4.7,SNR=5.6
0.8nm,0.5s

---

*IDC **20** 04:37:58.8±2.8, 36°.24N×70°.68E, h183km±24km, mb3.9/18, mbtmp4.5/23, MS3.3/2, Error ellipse: s-maj=18.0km s-min=11.7km az=10.0*
*MOS **20** 04:38:00.2±1.0, 36°.52N×70°.69E, h198km, mb4.6/19, Error ellipse: s-maj=7.2km s-min=3.9km az=82.9*
*NEIC **20** 04:38:01.5±1.1, 36°.51N±0°.07×70°.64E±0°.10, h202km±7km, mb4.4/17, Error ellipse: s-maj=11.2km s-min=9.7km az=108.0*
*NNC **20** 04:38:04.7±2.6, 36°.84N×70°.76E, h192km±21km, mb3.9, mpv5.2, Error ellipse: s-maj=21.8km s-min=15.0km az=26.0*

ISC 20 04:38:01.6±0.3, 36°.53N±0°.04×70°.68E±0°.04, h204km, n243, σ1§64/272, mb4.4/40, 25C-17D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KBL	**Kabul**	**2.39**	**214**		Pn	**Pn**	**04 38 43.6**	**-1.2**
KBL	**Kabul**	**2.39**	**214**		PN	**Pn**	**04 38 43.6**	**-1.2**
KBL	**Kabul**	**2.39**	**214**		P	**Pn**	**04 38 43.6**	**-1.2**
	SNR=229							
KBL					S	**S**	**04 39 14.7**	**-3.1**
CHGR	**Chuyangaron**	**2.44**	**331**			**Pn**	**04 38 44.6**	**-0.5**
CHGR	**Chuyangaron**	**2.44**	**331**		PN	**Pn**	**04 38 44.6**	**-0.5**
GAR	**Garm**	**2.48**	**353**			**Pn**	**04 38 45.4**	**-0.2**
CEP	**Cherat**	**2.88**	**159**		P	**Pn**	**04 38 48.9**	**-1.3**
CEP					S	**S**	**04 39 25.0**	**-2.6**
CHCP	**Chirah Chowk**	**3.56**	**143**		P	**Pn**	**04 38 57.4**	**-0.8**
NIL	**Nilore**	**3.56**	**143**		Pn	**Pn**	**04 38 57.9**	**-0.3**
NIL	**Nilore**	**3.56**	**143**		PN	**Pn**	**04 38 57.9**	**-0.3**
NIL	**Nilore**	**3.56**	**143**		P	**Pn**	**04 38 58.0**	**-0.3**
THW	**Thamme Wali**	**3.83**	**166**		P	**Pn**	**04 39 00.2**	**-1.2**
OHH	**Osh**	**4.32**	**22**		PN	**Pn**	**04 39 07.2**	**-0.3**
SARP	**Sargodha**	**4.88**	**160**		P	**Pn**	**04 39 12.8**	**-1.8**
TRKS	**Terek-Say**	**5.01**	**4**		PN	**Pn**	**04 39 15.5**	**-0.7**
KSH	**Kashi**	**5.13**	**53**		P	**Pn**	**04 39 13.6**	**-4.2**
KSH					S	S	04 40 07.8	-10
KSH					pmax	pmax		
	comp=Z,140nm,0.5s							
KSH					smax	smax		
	comp=N,430nm,0.6s							
KSH					smax	smax		
	comp=E,410nm,0.8s							
JMU	**Jammu**	**5.15**	**136**	*e*S		**S**	**04 40 13.0**	**-5.0**
ARK	**Arkit**	**5.36**	**10**		PN	**Pn**	**04 39 20.3**	**-0.3**
IUG	**Iuzhnay**	**5.63**	**355**		PN	**Pn**	**04 39 24.5**	**+0.3**
THN	**Thein Dam**	**5.83**	**133**	*e*P		**Pn**	**04 39 25.8**	**-0.9**
THN				*e*S		**S**	**04 40 29.6**	**-4.1**
THN				IAML			04 40 31.6	
	comp=E,463nm,0.4s							
ARLS	**Aral**	**6.03**	**27**		PN	**Pn**	**04 39 28.3**	**-1.0**
AML	**Almayashu**	**6.06**	**22**		P	**Pn**	**04 39 29.6**	**-0.4**
	SNR=917							
AML	**Almayashu**	**6.06**	**22**	⇑P		**Pn**	**04 39 29.5**	**-0.4**
	comp=E,58nm,0.6s							
AML				⇑S		**S**	**04 40 36.3**	**-3.4**
	comp=E,197nm,0.8s							
AML	**Almayashu**	**6.06**	**22**	*i* PN		**Pn**	**04 39 29.5**	**-0.4**
AML				pmax		pmax		
	comp=Z,58nm,0.5s							
DHRM	**DHARAMSHALA**	**6.31**	**131**	*e*P		**Pn**	**04 39 31.5**	**-1.6**
DHRM				*e*S		**S**	**04 40 40.5**	**-4.8**
DHRM				IAML			04 40 41.3	
	comp=E,373nm,0.7s							
DHRM				IAML			04 40 42.6	
	comp=N,635nm,0.5s							
NRN	**Naryn**	**6.41**	**39**		Pn	**Pn**	**04 39 32.5**	**-2.0**
NRN	**Naryn**	**6.41**	**39**		PN	**Pn**	**04 39 32.5**	**-2.0**
KK31	**Karatay Array**	**6.57**	**359**		P	**Pn**	**04 39 35.5**	**-0.6**
	comp=N,73nm,0.3s,baz=191,slow=14,SNR=872							
KK31				⇓S		**S**	**04 40 46.9**	**-4.1**
	comp=N,94nm,0.6s,baz=188,slow=22,SNR=16							
KK31	**Karatay Array**	**6.57**	**359**		Pn	**Pn**	**04 39 35.9**	**-0.3**
KK31	**Karatay Array**	**6.57**	**359**		PN	**Pn**	**04 39 35.5**	**-0.6**
KKAR	**Karatay Array**	**6.57**	**359**		Pn	**Pn**	**04 39 35.9**	**-0.3**
KKAR	**Karatay Array**	**6.57**	**359**		Pn	**Pn**	**04 39 35.8**	**-0.3**
KKAR	**Karatay Array**	**6.57**	**359**		PN	**Pn**	**04 39 35.9**	**-0.3**
EKS2	**Erkin-Say**	**6.58**	**20**		P	**Pn**	**04 39 36.0**	**-0.3**
	SNR=64							
AAK	**Ala-Archa**	**6.77**	**25**		P	**Pn**	**04 39 39.0**	**0.0**
	SNR=155							
AAK	**Ala-Archa**	**6.77**	**25**	*d i* PN		**Pn**	**04 39 38.7**	**-0.3**
AAK				pmax		pmax		
	comp=Z,82nm,0.6s							
AAK	**Ala-Archa**	**6.77**	**25**		P	**Pn**	**04 39 38.1**	**-0.8**
AAK	**Ala-Archa**	**6.77**	**25**		P	**Pn**	**04 39 39.0**	**0.0**
AAK					S	**S**	**04 40 53.6**	**-2.6**
AAK	**Ala-Archa**	**6.77**	**25**		P	**Pn**	**04 39 38.9**	**0.0**
	comp=Z,102nm,0.4s,baz=196,slow=6.7,SNR=241							
AAK					S	**S**	**04 40 53.2**	**-2.9**
	comp=Z,129nm,0.7s,baz=331,slow=22,SNR=20							
KBK	**Karagaybulak**	**6.95**	**27**		P	**Pn**	**04 39 41.4**	**+0.2**
	SNR=38							
FRU1	**Bishkek**	**6.97**	**25**			**Pn**	**04 39 40.7**	**-0.7**
FRU1	**Bishkek**	**6.97**	**25**		PN	**Pn**	**04 39 40.7**	**-0.7**
BHK	**Bhakra**	**6.98**	**135**	*e*P		**Pn**	**04 39 39.5**	**-2.1**
BHK				*e*S		**S**	**04 40 54.9**	**-5.9**
BHK				IAML			04 41 02.2	
	comp=E,211nm,0.5s							
ULHL	**Ulahol**	**7.15**	**35**		P	**Pn**	**04 39 43.2**	**-0.7**
	SNR=8.2							
CHMS	**Chumysh**	**7.18**	**25**		P	**Pn**	**04 39 43.7**	**-0.4**
	SNR=70							
CHMS	**Chumysh**	**7.18**	**25**	⇓P		**Pn**	**04 39 43.3**	**-0.8**
	comp=E,90nm,0.5s							
CHMS				⇓S		**S**	**04 41 01.5**	**-4.0**
	comp=E,92nm,0.6s							
CHMS	**Chumysh**	**7.18**	**25**		PN	**Pn**	**04 39 43.3**	**-0.8**
HRA	**Herat**	**7.21**	**255**		Pn	**Pn**	**04 39 43.6**	**-1.1**
USP	**Ospenovka**	**7.34**	**22**		P	**Pn**	**04 39 45.3**	**-0.9**
	SNR=28							
TKM2	**Tokmak 2**	**7.42**	**29**		P	**Pn**	**04 39 47.2**	**-0.2**
	SNR=112							
TKM2	**Tokmak 2**	**7.42**	**29**	⇑P		**Pn**	**04 39 46.7**	**-0.7**
	comp=E,135nm,0.5s							
TKM2				⇑S		**S**	**04 41 07.5**	**-4.0**
	comp=E,75nm,0.8s							
TKM2	**Tokmak 2**	**7.42**	**29**	*i* PN		**Pn**	**04 39 46.7**	**-0.7**
TKM2				pmax		pmax		
	comp=Z,135nm,0.4s							
SGDS	**Sogindy**	**7.55**	**22**		PN	**Pn**	**04 39 47.8**	**-1.1**
TARG	**Taragay, Kyrgy**	**7.59**	**45**			**Pn**	**04 39 48.5**	**-1.3**
TARG	**Taragay, Kyrgy**	**7.59**	**45**		PN	**Pn**	**04 39 48.5**	**-1.3**
SMLA	**Simla**	**7.62**	**133**	*e*P		**Pn**	**04 39 47.7**	**-2.2**
SMLA				*e*S		S	04 41 06.9	-9.2
SMLA				IAML			04 41 11.0	
	comp=N,310nm,0.5s							
PRZ	**Przheval'sk**	**8.42**	**43**		PN	**Pn**	**04 40 00.3**	**-0.1**
BTLS	**Baital**	**8.88**	**16**	*i* PN		**Pn**	**04 40 05.2**	**-0.9**
UZB	**Uzynbulak**	**9.21**	**42**		P	**Pn**	**04 40 09.8**	**-0.7**
KPKS	**Kokpek**	**9.26**	**39**		P	**Pn**	**04 40 09.2**	**-1.9**
ARXS	**Arharly**	**9.41**	**33**	*i* P		**Pn**	**04 40 11.8**	**-1.3**
NDI	**New Delhi**	**9.57**	**143**	*e*P		**Pn**	**04 40 11.0**	**-4.2**
NDI				*e*S		S	04 41 44.0	-18
PDGK	**Podgornoye**	**9.58**	**42**	⇑P		**Pn**	**04 40 14.7**	**-0.7**
	comp=N,4.1nm,0.7s							
PDGK	**Podgornoye**	**9.58**	**42**		P	**Pn**	**04 40 14.6**	**-0.7**
KUDL	**Kundal**	**9.69**	**148**	*e*P		**Pn**	**04 40 12.8**	**-4.0**
KUDL				*e*S		S	04 41 52.7	-13
SONA	**Sohna**	**9.87**	**145**	*e*P		**Pn**	**04 40 16.4**	**-2.6**
SONA				*e*S		S	04 41 58.0	-12
GEYT	**Alibeck**	**10.12**	**282**		Pn	**Pn**	**04 40 20.8**	**-1.5**
GEYT	**Alibeck**	**10.12**	**282**		P	**Pn**	**04 40 20.8**	**-1.5**
GEYT	**Alibeck**	**10.12**	**282**		P	**Pn**	**04 40 21.6**	**-0.6**
	comp=N,1.7nm,0.3s,baz=112,slow=9.9,SNR=4.5							
GEYT					S	**S**	**04 42 08.8**	**-7.0**
	comp=N,4.9nm,0.6s,baz=97,slow=12,SNR=3.6							
AJM	**Ajmer**	**10.57**	**160**	*e*P		**Pn**	**04 40 26.3**	**-1.9**
OTUK	**Ortayu**	**11.77**	**5**	⇑P		**Pn**	**04 40 42.1**	**-1.2**
	comp=N,5.1nm,0.4s							
OTUK	**Ortayu**	**11.77**	**5**	P		**Pn**	**04 40 42.1**	**-1.2**
JHNI	**Jhansi**	**12.92**	**146**	*e*P		**Pn**	**04 40 55.4**	**-2.5**
JHNI				*e*S		S	04 43 08.4	-13
JHNI				IAML			04 43 10.8	
	comp=E,22nm,0.5s							
MAKZ	**Makanchi**	**13.28**	**36**	⇑P		**Pn**	**04 41 02.2**	**-0.1**
	comp=E,37nm,0.7s							
MAKZ	**Makanchi**	**13.28**	**36**		Pn	**Pn**	**04 41 02.2**	**-0.1**
MAKZ	**Makanchi**	**13.28**	**36**		P	**Pn**	**04 41 02.2**	**-0.1**
PYUN	**Piuthan**	**13.37**	**125**	*e*P		**Pn**	**04 41 01.1**	**-2.7**
	comp=E,16nm,0.4s							
MK31	**Makanchi Array**	**13.42**	**37**	⇑P		**Pn**	**04 41 03.7**	**-0.3**
	comp=E,20nm,0.7s,baz=218,slow=13,SNR=94							
MK31	**Makanchi Array**	**13.42**	**37**		Pn	**Pn**	**04 41 04.2**	**+0.2**
MK31	**Makanchi Array**	**13.42**	**37**	*de*P		**Pn**	**04 41 03.9**	**-0.1**
MKAR	**Makanchi Array**	**13.42**	**37**		Pn	**Pn**	**04 41 03.8**	**-0.3**
MKAR	**Makanchi Array**	**13.42**	**37**		P	**Pn**	**04 41 04.2**	**+0.1**
	comp=E,20nm,0.8s,baz=220,slow=11,SNR=37							
MKAR					S	**S**	**04 43 33.8**	**+0.7**
	comp=E,1.1nm,0.8s,baz=243,slow=13,SNR=1.3							
DANN	**Dangsing**	**13.72**	**123**	*e*P		**Pn**	**04 41 06.0**	**-2.2**
	comp=E,22nm,0.5s							
GKN	**Gorkha**	**14.54**	**122**	*e*P		**Pn**	**04 41 16.5**	**-1.6**
	comp=E,21nm,0.5s							
WMQ	**Urumqi**	**14.89**	**55**	*e*P		**P**	**04 41 23.1**	**+0.1**
WMQ				pmax		pmax		
	comp=Z,15nm,0.7s							
AB31	**Akbulak array**	**14.94**	**332**	⇓P		**Pn**	**04 41 21.3**	**-1.4**
	comp=Z,7.9nm,0.4s							
AB31					S	**S**	**04 44 07.8**	**-0.3**
	comp=Z,8.3nm,0.6s,baz=151,slow=24,SNR=5.6							
AB31	**Akbulak array**	**14.94**	**332**		P	**Pn**	**04 41 21.2**	**-1.4**
ABKAR	**Akbulak array**	**14.94**	**332**			**Pn**	**04 41 22.1**	**-0.5**
DMN	**Daman**	**15.11**	**122**	*e*P		**Pn**	**04 41 24.3**	**-0.9**
	comp=Z,32nm,0.7s							
KURBB	**Kurchatov Arra**	**15.18**	**19**	⇑P		**Pn**	**04 41 24.9**	**-0.7**
	comp=Z,7.5nm,0.4s							
KURBB	**Kurchatov Arra**	**15.18**	**19**		P	**Pn**	**04 41 24.4**	**-1.1**
	comp=Z,4.6nm,0.4s,baz=210,slow=9.7,SNR=38							
KURK	**Kurchatov**	**15.29**	**19**	⇑P		**Pn**	**04 41 26.8**	**-0.1**
	comp=Z,6.0nm,0.6s							
KURK	**Kurchatov**	**15.29**	**19**			**Pn**	**04 41 26.1**	**-0.8**
KURK	**Kurchatov**	**15.29**	**19**	⇑*e*P		**Pn**	**04 41 26.1**	**-0.8**
KURK				pmax		pmax		
	comp=Z,11nm,1.0s							
PKIN	**Phulchoki**	**15.33**	**121**	*e*P		**Pn**	**04 41 26.9**	**-1.0**
	comp=Z,50nm,0.7s							
PKI	**Pulchoki**	**15.34**	**121**	*e*P		**Pn**	**04 41 27.0**	**-1.1**
	comp=Z,52nm,0.7s							
GUN	**Gumba**	**15.45**	**119**	*e*P		**Pn**	**04 41 28.2**	**-1.3**
	comp=Z,39nm,0.8s							
JIRN	**Jiri**	**15.82**	**120**	*e*P		**P**	**04 41 33.0**	**-0.7**
	comp=Z,30nm,0.5s							
SHME	**Shamm**	**16.21**	**234**		P	**Pn**	**04 41 38.6**	**+0.3**
SHME	**Shamm**	**16.21**	**234**	⇑P		**Pn**	**04 41 38.9**	**+0.6**
BVA0	**Borovoye Array**	**16.50**	**359**	⇑P		**Pn**	**04 41 41.9**	**+0.5**
	comp=Z,6.5nm,0.4s,baz=157,slow=11,SNR=69							
BVA0	**Borovoye Array**	**16.50**	**359**	*i* P		**Pn**	**04 41 42.0**	**+0.5**
BVAR	**Borovoye Array**	**16.50**	**359**		P	**Pn**	**04 41 42.2**	**+0.8**
	comp=Z,14nm,0.4s,baz=154,slow=8.8,SNR=82							
BVAR					S	**S**	**04 44 38.8**	**-3.8**
	comp=Z,0.7nm,0.3s,baz=160,slow=40,SNR=1.9							
BRVK	**Borovoye**	**16.53**	**359**	⇑P		**Pn**	**04 41 42.0**	**+0.2**
	comp=Z,16nm,0.6s							
BRVK	**Borovoye**	**16.53**	**359**		P	**P**	**04 41 41.2**	**+0.4**
BRVK	**Borovoye**	**16.53**	**359**	*c i* P		**Pn**	**04 41 42.5**	**+0.7**
BRVK				pmax		pmax		
	comp=Z,30nm,1.3s							
BRVK	**Borovoye**	**16.53**	**359**		P	**Pn**	**04 41 42.6**	**+0.8**
RAMN	**Ramite**	**16.55**	**121**	*e*P		**P**	**04 41 41.7**	**+0.1**
	comp=Z,22nm,0.5s							
AKTO	**Aktyubinsk**	**16.63**	**331**	⇓P		**Pn**	**04 41 43.4**	**+0.4**
	comp=Z,19nm,0.5s							
AKTO				⇓S		**S**	**04 44 46.3**	**+1.1**
	comp=Z,7.0nm,0.7s							
AKTO	**Aktyubinsk**	**16.63**	**331**		P	**Pn**	**04 41 44.1**	**+1.1**
	comp=Z,28nm,0.4s,baz=140,slow=9.1,SNR=104							
AKTO					S	**S**	**04 44 39.9**	**-5.3**
	comp=Z,3.9nm,0.6s,baz=301,slow=15,SNR=3.7							
MDH	**Madha**	**16.64**	**232**		P	**P**	**04 41 41.1**	**-1.2**
MDH	**Madha**	**16.64**	**232**		P	**P**	**04 41 41.5**	**-0.8**
MASF	**Masafi**	**16.68**	**232**		P	**Pn**	**04 41 44.7**	**+0.8**
	SNR=6.4							
MSFE	**Esa-Masafi**	**16.68**	**232**	*i* P		**Pn**	**04 41 44.5**	**+0.5**
	SNR=5.7							
AKL	**Akola**	**16.71**	**159**	*e*P		**Pn**	**04 41 45.1**	**+0.8**
WSAR	**Wadi Sarin**	**16.85**	**221**	⇑P		**Pn**	**04 41 46.0**	**+0.1**
WSAR	**Wadi Sarin**	**16.85**	**221**		P	**Pn**	**04 41 45.8**	**-0.1**
	comp=Z,5.9nm,0.5s,baz=73,slow=10,SNR=18							
UOSS	**Minazif**	**16.95**	**231**			**P**	**04 41 45.3**	**-0.4**
UOSS	**Minazif**	**16.95**	**231**	*i* P		**P**	**04 41 46.1**	**+0.4**
	SNR=11							
UOSS	**Minazif**	**16.95**	**231**		P	**P**	**04 41 46.1**	**+0.4**
HATD	**Hatta, Dubai**	**17.08**	**231**		P	**Pn**	**04 41 48.9**	**+0.2**
HATD	**Hatta, Dubai**	**17.08**	**231**		P	**Pn**	**04 41 49.2**	**+0.6**
TAPN	**Taplejung**	**17.09**	**118**	*e*P		**P**	**04 41 48.0**	**+0.5**
	comp=Z,14nm,0.5s							
WBK	**Wadi Bani Khal**	**17.19**	**219**		P	**Pn**	**04 41 50.0**	**+0.1**
ASHO	**Ashiyiah**	**17.23**	**231**	*i* P		**P**	**04 41 49.7**	**+0.8**
	SNR=11							
ASHO	**Ashiyiah**	**17.23**	**231**		P	**Pn**	**04 41 50.0**	**-0.4**
	SNR=11							
NAZ	**Nazwa, Dubai**	**17.26**	**232**	*i* P		**Pn**	**04 41 50.5**	**-0.3**
	SNR=6.6							
NAZ	**Nazwa, Dubai**	**17.26**	**232**		P	**Pn**	**04 41 50.1**	**-0.7**
	SNR=6.6							
SMDO	**Samad**	**17.31**	**223**		P	**Pn**	**04 41 51.0**	**-0.4**
JLN	**Jalan Bani Buh**	**17.35**	**217**		P	**Pn**	**04 41 51.6**	**-0.2**
JLN					S	**S**	**04 45 03.1**	**+3.1**
FAQ	**Al Faqa, Dubai**	**17.48**	**232**		P	**P**	**04 41 52.4**	**+0.9**
FAQ	**Al Faqa, Dubai**	**17.48**	**232**		P	**P**	**04 41 52.4**	**+0.9**
ASUD	**Al Ashush, Dub**	**17.73**	**232**		P	**Pn**	**04 41 55.7**	**-0.6**
ASUD	**Al Ashush, Dub**	**17.73**	**232**		P	**P**	**04 41 55.0**	**+0.8**
JMDO	**Jabal Madar**	**17.84**	**221**		P	**P**	**04 41 56.3**	**+0.9**
ALNE	**Al Ain**	**17.88**	**230**	*i* P		**P**	**04 41 56.7**	**+0.8**
	SNR=8.5							
ALNE	**Al Ain**	**17.88**	**230**		P	**P**	**04 41 56.9**	**+1.0**
	SNR=8.5							
DGZ	**Jazzator, Alta**	**17.91**	**37**	*ce*P		**Pn**	**04 41 57.8**	**-0.5**
DGZ				pmax		pmax		
	comp=Z,14nm,0.5s							
ARQ	**Araqi**	**17.95**	**227**		P	**Pn**	**04 41 58.0**	**-0.9**
AJN	**Ajban**	**18.00**	**233**		P	**P**	**04 41 57.4**	**+0.3**
BSY	**Bisya**	**18.03**	**224**		P	**Pn**	**04 41 59.2**	**-0.6**
LSA	**Lhasa**	**18.43**	**106**		P	**P**	**04 42 02.6**	**+0.3**
LSA	**Lhasa**	**18.43**	**106**		P	**P**	**04 42 02.6**	**+0.3**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MHTO	**MHTO**	**19.05**	**219**		P	**P**	**04 42 10.0**	**+1.5**
JRN	**Qarnain Island**	**19.16**	**238**		P	**P**	**04 42 09.0**	**-0.7**
SHMA	**Al-Shehemyia**	**19.90**	**243**		P	**P**	**04 42 17.6**	**-0.1**
ZAA0	**Zalesovo Array**	**20.00**	**25**	⇑P		**P**	**04 42 19.1**	**+0.7**
	comp=Z,6.3nm,0.8s							
ZALV	**Zalesovo Beam**	**20.00**	**25**		P	**P**	**04 42 19.1**	**+0.7**
ZALV	**Zalesovo Beam**	**20.00**	**25**		P	**P**	**04 42 19.2**	**+0.9**
	comp=Z,23nm,0.3s,baz=220,slow=11,SNR=89							
ZALV					S	**S**	**04 45 51.2**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=283,slow=16,SNR=2.4							
	comp=Z,23nm,0.3s							
MZR	**Muzera**	**20.07**	**233**		P	**P**	**04 42 18.7**	**-0.8**
MZR	**Muzera**	**20.07**	**233**		P	**P**	**04 42 18.5**	**-1.0**
GNI	**Garni**	**20.64**	**288**	⇓*e*P		Pn	04 42 29.3	-1.9
GNI				pmax		pmax		
	comp=Z,13nm,1.3s							
SMRA	**Abu-Samra**	**20.69**	**241**		P	**P**	**04 42 25.0**	**-1.0**
SHL	**Shillong**	**21.15**	**115**		P	**P**	**04 42 30.9**	**-0.2**
SHL				IAmb		IAmb	04 42 33.6	
	comp=Z,11nm,0.8s							
SHL	**Shillong**	**21.15**	**115**		P	**P**	**04 42 30.9**	**-0.2**
SHL				pmax		pmax		
	comp=Z,11nm,0.8s							
ARU	**Arti**	**21.52**	**341**		P	**P**	**04 42 34.6**	**+0.2**
ARU	**Arti**	**21.52**	**341**	*d i* P		**P**	**04 42 36.1**	**+1.7**
ARU				*PP		**pP**	**04 43 07.2**	**-2.2**
ARU				S		**S**	**04 46 22.9**	**+3.7**
ARU				pmax		pmax		
	comp=Z,15nm,0.7s							
ARU	**Arti**	**21.52**	**341**		P	**P**	**04 42 35.3**	**+0.9**
	comp=Z,6.4nm,0.4s,baz=156,slow=5.7,SNR=16							
	comp=Z,6.4nm,0.4s							
NCK	**Nalchik**	**21.82**	**297**	⇑*e*P		**P**	**04 42 37.7**	**+0.1**
NCK				pmax		pmax		
	comp=Z,13nm,0.3s							
KBZ	**Khabaz**	**22.36**	**297**	⇓*e*P		**P**	**04 42 42.6**	**0.0**
KBZ				pmax		pmax		
	comp=Z,9.0nm,2.5s							
KBZ	**Khabaz**	**22.36**	**297**		P	**P**	**04 42 42.6**	**0.0**
	comp=Z,1.1nm,0.6s,baz=120,slow=13,SNR=4.3							
	comp=Z,1.1nm,0.6s							
KIV	**Kislovodsk**	**22.55**	**298**	*e*P		**P**	**04 42 46.4**	**+1.9**
KIV				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BELG	**Belogornoye**	**22.71**	**322**	*d i* P		**P**	**04 42 47.6**	**+2.0**
BELG				pmax		pmax		
	comp=Z,5.0nm,0.6s							
BELG	**Belogornoye**	**22.71**	**322**		P	**P**	**04 42 47.2**	**+1.5**
	comp=Z,36nm,0.8s,baz=296,slow=0.1,SNR=15							
	comp=Z,36nm,0.8s							
SHAO	**Shalim**	**22.72**	**220**		P	**P**	**04 42 47.3**	**+1.2**
DOK	**Doka**	**23.04**	**224**		P	**P**	**04 42 49.3**	**+0.3**
	SNR=5.2							
GTA	**Gaotai**	**23.10**	**74**	*e*P		**P**	**04 42 51.6**	**+2.0**
GTA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
DMTO	**DMTO**	**23.33**	**221**		P	**P**	**04 42 52.1**	**+0.5**
WHFO	**Wadi Hawf**	**23.80**	**223**		P	**P**	**04 42 55.6**	**-0.4**
	SNR=5.6							
ABTO	**Aybut**	**24.52**	**223**		P	**P**	**04 43 02.5**	**0.0**
	SNR=14							
SOC	**Sochi**	**24.63**	**296**	*e*P		**P**	**04 43 03.5**	**+0.3**
SOC				*e*			04 43 48.1	
SOC				*e*S		**S**	**04 47 11.8**	**+2.6**
VRH	**Novokhopyorsk**	**25.31**	**315**	*e*P		**P**	**04 43 09.0**	**-0.2**
VRH				pmax		pmax		
	comp=Z,7.0nm,0.4s							
KIRV	**Kirov**	**26.10**	**334**	⇓*e*P		**P**	**04 43 18.5**	**+2.3**
TNCH	**TengChong**	**26.43**	**108**	⇑P		P	04 43 29.1	+9.3
TNCH				pmax		pmax		
	comp=Z,660nm,10.4s							
VSR	**Storozhevoye**	**26.80**	**313**	*e*P		**P**	**04 43 21.9**	**-0.6**
VSR				pmax		pmax		
	comp=Z,9.0nm,1.0s							
LPSR	**Galich'ya Gora**	**27.45**	**316**	*e*P		**P**	**04 43 27.9**	**-0.5**
LPSR				pmax		pmax		
	comp=Z,10.0nm,1.0s							
SONM	**Songino Array**	**28.53**	**55**		P	**P**	**04 43 37.1**	**-1.1**
SONM	**Songino Array**	**28.53**	**55**		P	**P**	**04 43 39.5**	**+1.4**
	comp=Z,2.5nm,0.8s,baz=257,slow=9.7,SNR=12							
	comp=Z,2.5nm,0.8s							
ULN	**Ulaanbaatar**	**28.97**	**56**		P	**P**	**04 43 41.5**	**-0.6**
ULN	**Ulaanbaatar**	**28.97**	**56**	⇑*e*P		**P**	**04 43 43.6**	**+1.5**
ULN				pmax		pmax		
	comp=Z,5.0nm,1.4s							
BR131	**Keskin Array S**	**29.18**	**288**	*de*P		**P**	**04 43 47.6**	**+3.6**
OBN	**Obninsk**	**29.

STEI	Steigen	43.83	333	eP		P		04 45 49.0 +2.1
NC602	NORSAR Array S	44.01	323	eP		P		04 45 49.6 +1.1
YAK	Yakutsk	44.09	36	⇑eP		P		04 45 49.9 +0.8
YAK					pmax	pmax		
	comp=Z,18nm,0.6s							
NC303	NORSAR Array S	44.15	323	P		P		04 45 50.9 +1.3
NC303					IAmb	IAmb		04 46 07.5
	comp=Z,9.5nm,1.2s							
NB2	NORSAR Subarra	44.20	323	P		P		04 45 50.7 +0.6
	comp=Z,2.7nm,0.5s,baz=97,slow=7.9							
NB2	NORSAR Subarra	44.20	323	P		P		04 45 50.7 +0.6
	baz=97,slow=7.9							
NOA	NORSAR Array B	44.20	323	P		P		04 45 50.8 +0.7
	comp=Z,5.5nm,0.7s,baz=97,slow=7.8,SNR=23							
	comp=Z,5.5nm,0.7s							
KONS	Konsvik	44.26	331	eP		P		04 45 52.3 +1.9
LOF	Lofoten	44.50	333	eP		P		04 45 52.8 +0.5
KLR	Kul'dur	45.34	54	⇑eP		P		04 46 00.1 +1.0
KLR					pmax	pmax		
	comp=Z,5.0nm,1.9s							
TIXI	Tiksi	45.84	22	P		P		04 46 03.1 +0.3
TIXI					IAmb	IAmb		04 46 05.0
	comp=Z,14nm,0.9s							
TIXI	Tiksi	45.84	22	⇑iP		P		04 46 03.9 +1.1
TIXI					pmax	pmax		
	comp=Z,13nm,0.8s							
EKA	Eskdalemuir Ar	52.09	316	P		P		04 46 50.5 +0.2
	comp=Z,4.2nm,1.0s,baz=76,slow=7.0,SNR=4.0							
	comp=Z,4.2nm,1.0s							
ESDC	Sonseca Array	57.22	298	P		P		04 47 27.8 +0.3
	comp=Z,0.6nm,0.6s,baz=53,slow=7.3,SNR=6.0							
ESDC					LR	LR		05 17 37.4
	comp=Z,30nm,18.1s,baz=330,slow=42							
	comp=Z,0.6nm,0.6s							
TOA0	Torodi Ar. Sit	65.46	268	P		P		04 48 22.5 -0.5
TOA0	Torodi Ar. Sit	65.46	268	P		P		04 48 21.7 -1.3
TORD	Torodi Ar. Bea	65.46	268	P		P		04 48 21.9 -1.1
TORD					IAmb	IAmb		04 48 23.5
	comp=Z,3.4nm,0.6s							
TORD	Torodi Ar. Bea	65.46	268	P		P		04 48 22.0 -1.1
	comp=Z,5.6nm,0.5s,baz=46,slow=5.9,SNR=119							
	comp=Z,5.6nm,0.5s							
TOLK	Toolik Lake Re	70.96	15	P		P		04 48 57.0 +0.6
TOLK					IAmb	IAmb		04 49 02.1
	comp=Z,11nm,1.3s							
MBWA	Marble Bar	73.74	133	P		P		04 49 17.9 +4.6
INK	Inuvik	73.92	9	P		P		04 49 14.4 +0.8
INK					IAmb	IAmb		04 49 19.1
	comp=Z,14nm,1.5s							
INK	Inuvik	73.92	9	P		P		04 49 14.5 +0.8
INK					pmax	pmax		
	comp=Z,14nm,1.5s							
G27K	Doyon Strip	74.06	13	IAmb		IAmb		04 49 18.4
	comp=Z,3.9nm,0.6s							
DBIC	Dimbokro	74.44	267	P		P		04 49 16.6 -1.1
	comp=Z,4.4nm,0.9s,baz=34,slow=6.4,SNR=1.9							
	comp=Z,4.4nm,0.9s							
CAST	Castle Rocks	74.74	18	P		P		04 49 19.2 +0.6
CAST					IAmb	IAmb		04 49 21.6
	comp=Z,13nm,1.2s							
ILAR	Eielson Array	74.82	16	P		P		04 49 19.2 +0.1
ILAR	Eielson Array	74.82	16	P		P		04 49 19.2 +0.1
ILAR	Eielson Array	74.82	16	P		P		04 49 19.8 +0.8
	comp=Z,1.4nm,0.9s,baz=342,slow=4.0,SNR=14							
	comp=Z,1.4nm,0.9s							
BCAR	Beaver Creek A	77.40	15	P		P		04 49 34.8 +1.1
YKA	Yellowknife Ar	81.23	2	P		P		04 49 55.0 +0.8
	comp=Z,1.9nm,0.9s,baz=25,slow=9.8,SNR=6.1							
	comp=Z,1.9nm,0.9s							
WRA	Warramunga Arr	82.22	122	P		P		04 49 58.8 -1.3
	comp=Z,2.0nm,0.8s,baz=324,slow=4.9,SNR=16							
	comp=Z,2.0nm,0.8s							
ASAR	Alice Springs	84.48	125	P		P		04 50 10.7 -0.9
	comp=Z,1.4nm,0.7s,baz=309,slow=4.9,SNR=11							
	comp=Z,1.4nm,0.7s							
QSPA	South Pole Qui	126.33	180	PKP		PKPdf		04 56 38.3 -0.6
	comp=Z,0.9nm,0.7s,baz=261,slow=2.3,SNR=3.6							

*IDC **20** 04:51:17.1±0.5, 23°.92S×175°.86W, h0km, mb4.5/15, mbtmp4.5/17, ML3.7/2, MS3.9/20, Error ellipse: s-maj=20.3km s-min=17.8km az=124.0*
*NEIC **20** 04:51:17.4±2.2, 24°.3S±0°.1×175°.3W±0°.1, h10km±1km, mb4.9/42, Error ellipse: s-maj=19.3km s-min=15.3km az=196.0*

ISC 20 04:51:16.4±0.7, 24°.11S±0°.07×175°.45W±0°.07, h6km±3km, h6km:pP-P, n134, σ1°.50/127, mb4.9/45, MS3.8/19, 10C-4D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.17	47		Pn	04 52 58.6	-3.3
MSVF	Nonsavu	8.79	315		Pn	04 53 26.6	+2.5
MSVF	Nonsavu	8.79	315	Pn	Pn	04 53 26.9	+2.8
	2.9nm,0.3s,baz=140,slow=13,SNR=18						
MSVF				LR	LR	04 56 26.2	
	comp=Z,1μm,18.4s,baz=139,slow=37						
AFI	Afiamalu	10.73	20	Pn	Pn	04 53 48.4	-2.3
RAR	Rarotonga	14.75	82		Pn	04 54 43.6	-2.1
RAR	Rarotonga	14.75	82	Pn	Pn	04 54 43.8	-1.9
	18nm,0.3s,baz=245,slow=8.8,SNR=17						
RAR				Sn	Sn	04 57 13.8	-16
	1.2nm,0.3s,baz=99,slow=18,SNR=2.2						
RAR				LR	LR	05 01 02.6	
	comp=Z,308nm,18.2s,baz=320,slow=39						
URZ	Urewera	15.46	202	Pn	P	04 54 58.7	-0.9
	1.8nm,0.3s,baz=55,slow=3.6,SNR=11						
URZ				Sn	Sn	04 57 31.0	-16
	0.4nm,0.3s,baz=301,slow=23,SNR=1.4						
	4.6nm,0.4s						
DZM	Mont Dzumac	16.79	273	ePn	P	04 55 14.0	-0.6
	82nm,1.1s						
DZM				eLR	LR	04 59 02.8	
	comp=Z,386nm,23.4s						
DZM	Mont Dzumac	16.79	273		Pn	04 55 13.1	+0.7
DZM	Mont Dzumac	16.79	273	Pn	Pn	04 55 10.6	-1.8
	baz=123,slow=18,SNR=1.9						
DZM				LR	LR	05 00 22.2	
	comp=Z,254nm,20.4s,baz=62,slow=33						
	5.2nm,0.8s						
PPT2	Papeete2	25.01	80	eLR	LR	05 02 12.4	
	comp=Z,217nm,24.0s						
PPT2				eLR	LR	05 02 35.9	
	comp=Z,267nm,22.8s						
PPT	Papeete	25.02	80	LR	LR	05 05 57.0	
	comp=Z,276nm,18.3s,baz=278,slow=35						
HNR	Honiara	27.65	298	LR	LR	05 06 29.9	
	comp=Z,2μm,19.0s,baz=157,slow=34						
CTA	Charters Tower	35.64	269	LR	LR	05 11 29.0	
	comp=Z,127nm,18.6s,baz=88,slow=34						
CTAO	Charters Tower	35.64	269	P	P	04 58 14.3	-1.1
CTAO					IAmb	IAmb	04 58 33.4
	comp=Z,28nm,1.2s						
TOO	Toolangi	35.86	239	P	P	04 58 17.4	+0.2
TAOE	Nuku Hiva Isla	36.95	72	eLR	LR	05 08 06.8	
	comp=Z,110nm,23.0s						
KRVT	Keravat (AS076	37.01	297	LR	LR	05 13 12.4	
	comp=Z,51nm,18.1s,baz=101,slow=36						
STKA	Stephens Creek	38.52	249	P	P	04 58 38.6	-1.2
STKA	Stephens Creek	38.52	249	P	P	04 58 38.9	-0.8
	comp=Z,1.3nm,0.4s,baz=332,slow=20,SNR=4.1						
	comp=Z,1.3nm,0.4s						
PMG	Port Moresby	38.53	286	P	P	04 58 38.1	-1.9
PMG					IAmb	IAmb	04 58 39.3
	comp=Z,34nm,0.8s						
PMG	Port Moresby	38.53	286	P	P	04 58 38.1	-1.9
	comp=Z,28nm,0.8s,baz=129,slow=8.5,SNR=5.9						
	comp=Z,28nm,0.8s						
AS31	Alice Springs	46.10	260		P	04 59 40.1	-1.7
ASAR	Alice Springs	46.10	260	P	P	04 59 39.0	-2.8
ASAR	Alice Springs	46.10	260	P	P	04 59 40.0	-1.7
	comp=Z,4.8nm,0.9s,baz=96,slow=8.5,SNR=28						
ASAR				LR	LR	05 18 09.8	
	comp=Z,239nm,18.6s,baz=110,slow=35						
	comp=Z,4.8nm,0.9s						
WR0	Warramunga Arr	46.35	265	P	P	04 59 40.7	-3.1
WR0					IAmb	IAmb	04 59 51.8
	comp=Z,30nm,1.9s						
WRA	Warramunga Arr	46.54	265	P	P	04 59 41.9	-3.3
WRA	Warramunga Arr	46.54	265	P	P	04 59 42.2	-3.0
	comp=Z,4.0nm,0.6s,baz=104,slow=8.0,SNR=40						
	comp=Z,4.0nm,0.6s						
KNRA	Kununurra	52.85	268	P	P	05 00 32.1	-1.1
KNRA					IAmb	IAmb	05 00 47.2
	comp=Z,10nm,0.8s						
VNDA	Vanda	54.55	186	P	P	05 00 44.0	-0.9
BATI	Baumata	59.40	272	LR	LR	05 26 05.5	
	comp=Z,184nm,20.0s,baz=338,slow=35						
MORW	Morawa	60.70	249	P	P	05 01 26.7	-2.3
MORW					IAmb	IAmb	05 01 52.7
	comp=Z,14nm,1.1s						
CASY	Casey	61.75	206	P	P	05 01 35.0	-0.4
CASY					IAmb	IAmb	05 01 38.4
	comp=Z,9.2nm,0.9s						
KAPI	Kappang	64.99	276	LR	LR	05 29 24.0	
	comp=Z,51nm,20.2s,baz=104,slow=35						
QSPA	South Pole Qui	65.97	180	P	P	05 02 04.4	+0.9
QSPA					IAmb	IAmb	05 02 21.0
	comp=Z,7.9nm,0.9s						
QSPA	South Pole Qui	65.97	180	P	P	05 02 06.9	+3.4
	comp=Z,6.8nm,0.9s,baz=27,slow=3.1,SNR=21						
	comp=Z,6.8nm,0.9s						
TOLI2	Tolitoli	66.68	282	P	P	05 02 07.7	-0.9
SMAI	San Martin Ant	74.40	158	P	P	05 02 53.2	-1.6
MJAR	Matsushiro Arr	74.51	323	LR	LR	05 32 49.1	
	comp=Z,39nm,19.0s,baz=167,slow=34						
LEM	Lembang	75.34	269	LR	LR	05 35 47.6	
	comp=Z,88nm,19.9s,baz=242,slow=36						
JNU	Nakatsue	76.51	316	LR	LR	05 32 22.0	
	comp=Z,54nm,20.0s,baz=214,slow=32						
PMSA	Palmer Station	77.04	156	LR	LR	05 33 39.2	
	comp=Z,30nm,18.2s,baz=288,slow=33						
MAW	Mawson	78.97	199	P	P	05 03 23.4	+2.7
	comp=Z,7.2nm,1.0s,baz=98,slow=1.4,SNR=9.2						
	comp=Z,7.2nm,1.0s						
PETK	Petropavlovsk-	80.37	344	P	P	05 03 29.0	+0.7
	comp=Z,5.2nm,0.8s,baz=116,slow=6.8,SNR=5.1						
PETK				LR	LR	05 34 11.3	
	comp=Z,52nm,22.0s,baz=130,slow=32						
	comp=Z,5.2nm,0.8s						
KSRS	Korea Array	81.14	318	P	P	05 03 32.2	-0.6
	comp=Z,0.8nm,0.5s,baz=143,slow=5.3,SNR=2.3						
KSRS				LR	LR	05 35 16.4	
	comp=Z,44nm,20.6s,baz=90,slow=33						
	comp=Z,0.8nm,0.5s						
KSAR	Wonju Array Be	81.16	318	P	P	05 03 33.5	+0.6
NVAR	Mina Array Bea	82.07	42	P	P	05 03 40.6	+2.6
	comp=Z,1.2nm,0.7s,baz=224,slow=7.6,SNR=4.4						
	comp=Z,1.2nm,0.7s						
NV11	Mina Array Sit	82.17	42	P	P	05 03 38.0	-0.4
TPH	Tonopah	82.52	43	P	P	05 03 40.9	+0.5
W13A	Hualapai Mount	82.86	47	P	P	05 03 42.4	+0.2
USRK	Ussuriysk Ar.	83.27	325	P	P	05 03 44.6	+0.8
USRK	Ussuriysk Ar.	83.27	325	P	P	05 03 45.1	+1.3
	comp=Z,4.6nm,0.6s,baz=145,slow=3.8,SNR=7.3						
	comp=Z,4.6nm,0.6s						
ELIB	Princess Elisa	83.32	186	dP	P	05 03 46.5	+2.5
	comp=Z,9.6nm,1.1s						
TUC	Tucson	83.39	50	P	P	05 03 45.1	+0.2
PRN	Pahroc Range	83.47	44	P	P	05 03 44.6	-0.6
PRN					IAmb	IAmb	05 04 01.8
	comp=Z,6.8nm,1.1s						
KDAK	Kodiak Island	83.80	12	LR	LR	05 35 49.0	
	comp=Z,87nm,18.8s,baz=203,slow=32						
NJ2	Nanjing	83.99	309	eP	P	05 03 49.3	+1.5
NJ2				pP	pwP	05 03 53.9	-1.7
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,440nm,5.4s						
X16A	Lo Mia Camp, P	84.12	48	P	P	05 03 49.3	+0.7
X16A					IAmb	IAmb	05 04 05.2
	comp=Z,8.3nm,1.4s						
TROLL	Troll, Antarti	84.12	179	⇑P	P	05 03 50.7	+2.6
	comp=Z,899nm,0.8s						
SNAA	Sanae	84.33	178	P	P	05 03 48.9	-0.2
SNAA					IAmb	IAmb	05 03 52.5
	comp=Z,8.2nm,0.9s						
SNAA	Sanae	84.33	178	⇑P	P	05 03 51.4	+2.3
	comp=Z,157nm,0.8s						
SNAA	Sanae	84.33	178	P	P	05 03 51.4	+2.3
	comp=Z,7.4nm,0.9s,baz=205,slow=5.6,SNR=30						
	comp=Z,7.4nm,0.9s						
VNA3	Neumayer Olymp	84.38	175	P	P	05 03 51.8	+2.5
	comp=Z,21nm,0.9s						
LCMT	Little Creek M	84.40	45	P	P	05 03 50.8	+0.8
LCMT					IAmb	IAmb	05 04 06.4
	comp=Z,6.6nm,1.1s						
O16K	Kokwok River B	84.61	9	P	P	05 03 50.9	+0.6
O16K					IAmb	IAmb	05 03 57.8
	comp=Z,9.9nm,1.1s						
KNB	Kanab	84.68	46	P	P	05 03 51.2	-0.2
KNB					IAmb	IAmb	05 04 10.8
	comp=Z,19nm,1.6s						
U15A	North Rim	84.69	46	P	P	05 03 52.2	+0.6
U15A					IAmb	IAmb	05 04 08.8
	comp=Z,6.0nm,0.8s						
VNA2	Neumayer--Watz	84.85	176	⇑P	P	05 03 54.2	+2.6
	comp=Z,12nm,0.8s,baz=184,slow=3.0						
VNA2	Neumayer--Watz	84.85	176	⇑P	P	05 03 55.3	+3.7
	baz=188,slow=3.0						
VNA1	Neumayer--Stat	85.06	176	⇑P	P	05 03 55.2	+2.6
	comp=Z,15nm,0.9s						
O19K	Port Alsworth	85.77	10	P	P	05 03 56.7	+0.7
BNX	BinXian	86.73	324	⇓P	P	05 04 02.0	+0.9
BNX				pmax	pmax		
	comp=Z,11nm,1.0s						
BNX				pmax	pmax		
	comp=Z,120nm,5.2s						
KLR	Kul'dur	86.83	328	LR	LR	05 37 57.9	
	comp=Z,51nm,19.9s,baz=181,slow=32						
MNTX	Cornudas Mount	86.95	53	P	P	05 04 03.2	+0.6
MNTX					IAmb	IAmb	05 04 18.6
	comp=Z,7.8nm,1.1s						
TMUT	Trail Mountain	87.03	44	P	P	05 04 04.3	+1.2
TMUT					IAmb	IAmb	05 04 19.8
	comp=Z,3.8nm,0.8s						
TX31	Lajitas Ar. Si	87.05	56	P	P	05 04 03.5	+0.2
TXAR	Lajitas Array	87.05	56	P	P	05 04 06.0	+2.7
	comp=Z,1.5nm,0.9s,baz=210,slow=7.2,SNR=14						
	comp=Z,1.5nm,0.9s						
RPSI	Rantau Prapat	87.10	274	P	P	05 04 03.0	-0.7
ANMO	Albuquerque	87.85	50	P	P	05 04 08.1	+1.0
TTA	Tatalina	88.11	9	IAmb	IAmb	05 04 10.9	
	comp=Z,9.3nm,1.1s						
CAST	Castle Rocks	89.17	10	P	P	05 04 12.4	0.0
CAST					IAmb	IAmb	05 04 13.7
	comp=Z,5.3nm,0.9s						
TRF	Thorofare Moun	89.50	11	P	P	05 04 14.7	+0.6
HEH	HeiHe	89.61	327	eP	P	05 04 16.1	+1.3
RND	Reindeer	89.72	12	P	P	05 04 15.9	+0.8
RND					IAmb	IAmb	05 04 17.5
	comp=Z,10nm,1.0s						
LYN	LuoYang	89.85	308	eP	P	05 04 18.1	+1.8
LYN				pmax	pmax		
	comp=Z,20nm,0.9s						
PDAR	Pinedale Array	90.00	42	P	P	05 04 18.8	+1.7
	comp=Z,0.5nm,0.8s,baz=251,slow=9.2,SNR=3.6						
	comp=Z,0.5nm,0.8s						
BCAR	Beaver Creek A	90.88	15	P	P	05 04 20.7	+0.3
HDA	Harding Lake	90.98	12	IAmb	IAmb	05 04 23.4	
	comp=Z,4.7nm,0.8s						
CCB	Clear Creek Bu	91.04	12	IAmb	IAmb	05 04 23.0	
	comp=Z,4.7nm,0.9s						
ILAR	Eielson Array	91.32	12	P	P	05 04 23.3	+0.9
ILAR	Eielson Array	91.32	12	P	P	05 04 22.7	+0.3
	comp=Z,2.1nm,1.0s,baz=218,slow=5.3,SNR=10						
	comp=Z,2.1nm,1.0s						
J25K	Salcha River,	91.47	12	IAmb	IAmb	05 04 25.7	
	comp=Z,6.5nm,1.0s						
XAN	Xi'an	92.18	306	⇓P	P	05 04 28.6	+1.4
XAN				pP	pwP	05 04 36.8	+1.7
XAN				pmax	pmax		
	comp=Z,18nm,1.1s						
CRAI	Chiangrai	93.02	291	P	P	05 04 31.2	-0.1
KMI	Kunming	93.07	296	⇑P	P	05 04 31.3	-0.5
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CMAR	Chiang Mai Arr	93.53	289	P	P	05 04 34.6	+0.9
CMAR	Chiang Mai Arr	93.53	289	P	P	05 04 34.4	+0.7
	comp=Z,8.7nm,0.9s,baz=134,slow=3.1,SNR=30						
CMAR				LR	LR	05 48 45.8	
	comp=Z,11nm,18.0s,baz=85,slow=37						
	comp=Z,8.7nm,0.9s						
HHC	Hu-ho-hao-te	93.55	313	eP	P	05 04 33.8	+0.3
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
CHTO	Chiang Mai	93.67	289	P	P	05 04 35.2	+0.8
PZH	PanZhiHua	94.47	297	P	P	05 04 39.3	+1.3
PZH				pmax	pmax		
	comp=Z,20nm,0.5s						
PZH				pmax	pmax		
	comp=Z,240nm,5.3s						
CD2	Chengdu	94.71	302	P	P	05 04 39.5	+0.6
MKAR	Makanchi Array	115.38	312	PKP	PKiKP	05 09 59.0	0.0
	comp=Z,0.1nm,0.4s,baz=77,slow=2.5,SNR=1.8						
KURBB	Kurchatov Arra	118.28	316	PKP	PKPdf	05 10 04.4	-0.1
	comp=Z,0.4nm,0.6s,baz=95,slow=2.2,SNR=6.3						
BVAR	Borovoye Array	123.35	319	PKP	PKPdf	05 10 13.7	-0.5
	comp=Z,1.0nm,0.7s,baz=104,slow=6.3,SNR=4.2						
ARCES	ARCESS Array B	132.88	350	PKP	PKPdf	05 10 31.9	+0.1
	comp=Z,3.1nm,0.8s,baz=51,slow=4.8,SNR=5.1						
FINES	FINESS Array B	139.88	344	PKhKP	PKPpre	05 10 36.4	
	comp=Z,0.7nm,0.7s,baz=155,slow=33,SNR=3.4						
FINES				PKP	PKPdf	05 10 43.7	-1.3
	comp=Z,1.2nm,0.8s,baz=106,slow=3.0,SNR=5.1						
NB201	NORSAR Array S	142.79	355	PKPdf	PKPdf	05 10 50.5	+0.2
HFS	Hagfors	143.44	352	PKhKP	PKPpre	05 10 49.4	
	comp=Z,2.8nm,0.9s,baz=77,slow=2.0,SNR=2.9						
MBAR	Mbarara	144.66	230	PKPdf	PKPab	05 10 52.7	-1.1
MNK	Minsk	145.02	336	iPKP	PKPbc	05 10 53.4	-0.2
	comp=E,7.0nm,0.8s						
MNK				iPKP	PKPbc	05 10 53.4	-0.2
	comp=N,16nm,0.8s						
MNK				iPKP	PKPbc	05 10 53.4	-0.2
	comp=Z,30nm,0.9s,baz=220						
MNK				iPP	PP	05 14 12.5	+0.3
MNK				iPPP	PPP	05 17 25.0	
MNK				iSKS	SKSdf	05 18 02.7	-1.3
MNK				iSKKS	SKKSdf	05 27 16.2	+0.9
MNK				iSS	SS	05 33 04.0	+2.1
MNK				iSSS	SSS	05 38 30.4	
MNK				iLQ	LQ	06 08 24.4	
MNK				iLR	LR	06 18 46.0	
MNK				iLRM	MLR	06 20 38.2	
	comp=E,58nm,20.6s						
MNK				iLRM	MLR	06 20 39.5	
	comp=N,154nm,18.7s						
MNK				iLRM	MLR	06 21 14.9	
	comp=Z,91nm,21.9s						
NACGM	Naroch	145.10	338	⇓iPKP	PKPdf	05 10 55.1	+0.7
	comp=Z,39nm,0.8s,baz=37						
GURO	Guroymak-BITLI	145.16	303	PKPbc	PKPbc	05 10 54.5	-0.4
PABE	Paberze	145.53	340	PKPdf	PKPbc	05 10 55.3	+0.1
SUW	Suwalki	147.04	340		PKPbc	05 10 59.2	-0.6
AKASG	Malin Array Be	147.31	331	PKPbc	PKPdf	05 10 58.9	+0.5
AKASG	Malin Array Be	147.31	331	PKPbc	PKPbc	05 11 00.8	+0.2
	comp=Z,3.3nm,0.5s,baz=41,slow=3.9,SNR=20						
AKBB	Malin Array Si	147.31	331		PKPbc	05 10 59.8	-0.9
EKA	Eskdalemuir Ar	148.30	8	PKPbc	PKiKP	05 11 04.4	-0.5
	comp=Z,2.4nm,0.8s,baz=337,slow=1.9,SNR=5.1						
BNN	Bunyan	149.71	306	PKPbc	PKPbc	05 11 06.4	-1.1
BR131	Keskin Array S	150.98	309	PKPbc	PKPbc	05 11 09.7	-0.9
BRTR	Keskin Array B	150.98	309	PKPbc	PKPbc	05 11 09.9	-0.6
BRTR	Keskin Array B	150.98	309	PKPbc	PKiKP	05 11 11.3	+0.2
	comp=Z,3.9nm,0.9s,baz=126,slow=2.1,SNR=18						
BURAR	Bucovina Array	151.36	330	PKPbc	PKPbc	05 11 10.6	-0.5
OJC	Ojcow	151.37	339	ePKP	PKiKP	05 11 12.5	+1.1
MMAI	Mount Meron Ar	151.57	295	PKPbc	PKiKP	05 11 13.2	+0.7
	comp=Z,6.6nm,0.6s,baz=57,slow=6.1,SNR=8.7						
KSP	Ksiaz	151.81	344	ePKP	PKiKP	05 11 13.7	+1.4
CLL	Collm	152.08	349	ePKPbc	PKiKP	05 11 13.0	+0.2
CLL				iPKPab	sPKPab	05 11 22.2	+0.1
	comp=Z,9.0nm,1.0s						
OSTC	Ostas	152.09	344	⇑ePKP	PKiKP	05 11 14.3	+1.4
OSTC				ePKPAB	sPKPab	05 11 23.2	+0.9
DPC	Dobruska-Polom	152.26	344	⇑ePKP	PKiKP	05 11 14.8	+1.5
DPC				ePKPAB	sPKPab	05 11 24.0	+1.0
BRG	Berggiesshubel	152.31	347	iPKP	PKiKP	05 11 15.3	+2.0
BRG				Amp		05 11 16.0	
	comp=Z,6.7nm,0.8s						
MDUB	Mudurnu	152.34	313	PKPbc	PKPbc	05 11 12.3	-1.3
KRLC	Kraliky	152.39	343	⇑ePKP	PKiKP	05 11 14.6	+1.0
KHC	Kasperske Hory	154.04	346	⇑ePKP	PKiKP	05 11 19.6	+2.6
KHC				ePKPAB	sPKPab	05 11 31.8	+1.3
TORD	Torodi Ar. Bea	168.76	166	PKP	PKPdf	05 11 25.2	0.0
	comp=Z,0.8nm,0.9s,baz=338,slow=0.8,SNR=3.7						
TORD				PKPab	sPKPab	05 12 37.3	+1.9
	comp=Z,1.3nm,0.8s,baz=183,slow=2.3,SNR=6.6						

IDC 20 05:05:31.4±30.0, 18°.86S×172°.51W, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=560.3km s-min=176.9km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	38.83	261	P	P	05 12 59.5	+1.1
	1.9nm,0.5s,baz=101,slow=10,SNR=1.3						
	1.9nm,0.5s						
STKA	Stephens Creek	43.15	243	P	P	05 13 34.2	+0.3
	0.6nm,0.4s,baz=90,slow=20,SNR=1.2						
	0.6nm,0.4s						
ASAR	Alice Springs	49.93	255	P	P	05 14 25.9	-1.5
	0.3nm,0.6s,baz=90,slow=8.5,SNR=2.1						
	0.3nm,0.6s						
WRA	Warramunga Arr	49.97	259	P	P	05 14 27.3	-0.3
	0.3nm,0.5s,baz=96,slow=8.5,SNR=9.1						
	0.3nm,0.5s						

*IDC **20** 05:07:08.3±0.8, 58°.80S×23°.74W, h0km, mb4.2/5, mbtmp4.2/5, MS3.4/9, Error ellipse: s-maj=28.9km s-min=25.6km az=79.0*
*NEIC **20** 05:07:10.8±1.6, 58°.87S±0°.05×23°.7W±0°.2, h10km±1km, mb4.5/24,

comp=Z,2.3nm,0.7s,baz=270,slow=6.2,SNR=4.5
MAW LR LR 05 27 29.2
comp=Z,64nm,19.3s,baz=182,slow=33
comp=Z,2.3nm,0.7s
ITAB Concordia 37.34 315 P **P 05 14 21.2 -1.2**
BO02 Sierra Bellavi 39.13 287 P **P 05 14 37.4 -0.2**
BO02 IAmb IAmb 05 15 13.5
comp=Z,14nm,1.0s
SUR Sutherland 39.69 68 LR LR 05 27 25.0
comp=Z,52nm,18.9s,baz=216,slow=31
MT09 Talagante 40.05 288 P **P 05 14 44.5 -0.7**
MT09 IAmb IAmb 05 14 52.3
comp=Z,15nm,1.0s
MT01 Popeta 40.11 287 P **P 05 14 45.3 -0.3**
MT01 IAmb IAmb 05 15 01.8
comp=Z,22nm,1.2s
CPUP Villa Florida 40.15 309 LR LR 05 30 27.1
comp=Z,20nm,20.4s,baz=168,slow=35
CFA Coronel Fontan 40.47 292 LR LR 05 30 29.4
comp=Z,90nm,21.6s,baz=130,slow=35
CO01 Juntas del Tor 42.71 292 P **P 05 15 08.6 +1.3**
CO01 IAmb IAmb 05 15 18.1
comp=Z,11nm,1.4s
BOSA Boshof 44.95 69 P **P 05 15 25.8 +0.6**
comp=Z,2.8nm,0.8s,baz=149,slow=8.7,SNR=3.2
comp=Z,2.8nm,0.8s
BDFB Brasilia 46.82 327 P **P 05 15 39.8 -0.1**
BDFB IAmb IAmb 05 15 43.2
comp=Z,8.3nm,1.3s
LBTB Lobatse 48.13 67 P **P 05 15 51.9 +1.7**
LBTB IAmb IAmb 05 15 59.9
comp=Z,6.3nm,1.0s
LVC Limon Verde 48.41 298 LR LR 05 38 19.2
comp=Z,45nm,19.7s,baz=214,slow=39
PTLB Pontes e Lacer 50.70 314 P **P 05 16 09.5 -0.1**
GO01 Chusmiza 51.09 300 P **P 05 16 13.1 0.0**
GO01 IAmb IAmb 05 16 49.0
comp=Z,13nm,1.4s
H10N1 ASCENSION HYDR 51.41 12 T T 06 12 15.4
baz=185
H10N3 ASCENSION HYDR 51.41 12 T T 06 12 25.3
baz=185,slow=74
H10N2 ASCENSION HYDR 51.43 12 T T 06 12 07.9
baz=185,slow=74
LPAZ La Paz 53.60 303 P **P 05 16 32.6 +0.7**
LPAZ IAmb IAmb 05 16 33.9
comp=Z,2.4nm,0.5s
SAML Samuel 58.19 312 P **P 05 17 04.3 +0.2**
BOAV Boa Vista 67.73 320 P **P 05 18 08.2 +0.7**
TOA0 Torodi Ar. Sit 74.69 26 P **P 05 18 50.0 +0.4**
TOA0 IAmb IAmb 05 18 50.9
comp=Z,3.5nm,1.0s
TORD Torodi Ar. Bea 74.69 26 P **P 05 18 49.9 +0.4**
TORD Torodi Ar. Bea 74.69 26 P **P 05 18 49.0 -0.6**
comp=Z,1.5nm,0.4s,baz=204,slow=5.9,SNR=22
TORD LR LR 05 43 18.9
comp=Z,52nm,19.2s,baz=178,slow=29
comp=Z,1.5nm,0.4s
BAUV El Baul 76.47 315 P **P 05 19 00.2 +0.4**
PDAR Pinedale Array 123.47 298 PKP **PKPdf 05 26 05.2 -1.7**
comp=Z,0.2nm,0.5s,baz=152,slow=4.1,SNR=2.3
FINES FINESS Array B 126.02 27 PKP **PKPdf 05 26 10.1 -0.7**
comp=Z,2.2nm,0.9s,baz=338,slow=2.1,SNR=6.9
ARCES ARCESS Array B 132.88 21 PKP **PKPdf 05 26 23.5 -0.1**
comp=Z,7.7nm,1.2s,baz=197,slow=2.8,SNR=4.2
SONM Songino Array 148.90 88 PKPbc **PKPbc 05 26 56.9 -0.2**
comp=Z,2.2nm,0.8s,baz=194,slow=3.1,SNR=9.5
ILAR Eielson Array 153.44 307 PKPbc **PKiKP 05 27 07.3 +0.3**
comp=Z,2.4nm,1.0s,baz=137,slow=3.8,SNR=9.8

*IDC **20** 05:12:21.5±2.5, 19°.86S×177°.70W, h367km±24km, mb3.0/5, mbtmp3.8/7, Error ellipse: s-maj=29.6km s-min=21.1km az=139.0*
ISC 20 05:12:19.9±0.9, 19°.9S±0°.2×177°.6W±0°.2, h350km, n10, σ1°.23/10, mb3.3/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.66**	**296**	P	**Pn**	**05 13 37.1**	**+1.2**
	2.7nm,0.5s,baz=287,slow=19,SNR=1.0						
URZ	**Urewera**	**18.90**	**193**	P	**P**	**05 16 16.6**	**+0.3**
	8.3nm,0.4s,baz=28,slow=2.4,SNR=16						
ASAR	**Alice Springs**	**45.06**	**256**	P	**P**	**05 20 01.6**	**-0.9**
	1.2nm,0.7s,baz=88,slow=8.4,SNR=11						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**45.09**	**261**	P	**P**	**05 20 02.1**	**-0.7**
	0.3nm,0.5s,baz=98,slow=5.7,SNR=8.1						
	0.3nm,0.5s						
NVAR	**Mina Array Bea**	**80.29**	**43**	P	**P**	**05 23 53.6**	**+0.7**
	0.4nm,0.3s,baz=218,slow=6.8,SNR=2.4						
	0.4nm,0.3s						
TXAR	**Lajitas Array**	**86.37**	**57**	P	**P**	**05 24 24.7**	**+0.9**
	0.5nm,0.7s,baz=212,slow=4.4,SNR=7.7						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**87.61**	**13**	P	**P**	**05 24 27.4**	**-1.2**
	0.2nm,0.5s,baz=216,slow=4.5,SNR=1.9						
	0.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**144.34**	**5**	PKP	**PKPab**	**05 31 11.5**	**-2.0**
	1.7nm,0.8s,baz=312,slow=3.9,SNR=4.0						
BRTR	**Keskin Array B**	**146.71**	**313**	PKPbc	**PKPdf**	**05 31 20.1**	**+1.0**
	1.0nm,0.6s,baz=108,slow=4.7,SNR=6.3						
GERES	**GERESS Array B**	**149.70**	**345**	PKPbc	**PKPbc**	**05 31 28.6**	**-0.1**
	0.3nm,0.3s,baz=12,slow=5.0,SNR=3.6						

IDC 20 05:38:33.9±27.0, 20°.65S×173°.18W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=497.0km s-min=161.4km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.97**	**264**	P	P	05 45 54.2	+0.5
	4.0nm,0.6s,baz=109,slow=9.6,SNR=5.4						
	4.0nm,0.6s						
STKA	**Stephens Creek**	**41.80**	**245**	P	P	05 46 24.2	-1.3
	1.0nm,0.5s,baz=66,slow=10.0,SNR=3.7						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**48.88**	**256**	P	P	05 47 21.9	+0.1
	1.5nm,0.7s,baz=95,slow=8.1,SNR=19						
	1.5nm,0.7s						
WRA	**Warramunga Arr**	**49.05**	**261**	P	P	05 47 23.2	+0.1
	0.5nm,0.4s,baz=94,slow=8.1,SNR=18						
	0.5nm,0.4s						

*TIF **20** 05:44:42.5, 43°.68N×44°.31E, h20km±1km*
*MOS **20** 05:44:43.0±0.0, 43°.53N×44°.20E, h6km, MPVA3.8*
*NORS **20** 05:44:43.7±0.0, 43°.53N×44°.23E, h6km, MPVA3.9*
*DRS **20** 05:44:49.7±0.0, 43°.05N×43°.97E, h26km*
ISC 20 05:44:44.8±1.0, 43°.53N±0°.02×44°.25E±0°.02, h8km±8km, n32, σ0°.86/62, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDR	**Stavd-Durt**	**0.21**	**219**	*i* Pg	**Pg**	**05 44 49.3**	**+0.3**
STDR				*i* Sg	**Sg**	**05 44 52.6**	**+0.7**
PRTR	**Priterechnaya**	**0.22**	**7**	*e*Pg	**Pg**	**05 44 49.4**	**+0.1**
PRTR				*e*Sg	**Sg**	**05 44 52.8**	**+0.5**
BTKR	**Batakoyurt**	**0.27**	**126**	*i* Pg	**Pg**	**05 44 49.5**	**-0.6**
BTKR				*e*Sg	**Sb**	**05 44 55.6**	**-0.9**
ARNR	**Ardon**	**0.35**	**175**	*e*Pg	**Pb**	**05 44 52.1**	**-1.2**
ARNR				*e*Sg	**Sb**	**05 44 57.7**	**-1.2**
LSNR	**Lesken**	**0.40**	**231**	*e*Pg	**Pb**	**05 44 53.4**	**-0.6**
LSNR				*e*Sg	**Sb**	**05 45 00.0**	**-0.2**
TRKR	**Terskaya**	**0.40**	**61**	*e*Pg	**Pb**	**05 44 53.4**	**-0.7**
TRKR				*e*Sg	**Sb**	**05 45 00.5**	**+0.1**
KORR	**Kora**	**0.46**	**196**	*e*Pg	**Pb**	**05 44 54.2**	**-1.0**
KORR				*e*Sg	**Sb**	**05 45 02.5**	**+0.4**
NCK	**Nalchik**	**0.47**	**266**	*e*Pg	**Pb**	**05 44 54.7**	**-0.6**
NCK				*e*Sg	**Sb**	**05 45 02.9**	**+0.4**
VLKR	**Vladikavkaz**	**0.58**	**147**	*e*Pg	**Pb**	**05 44 56.5**	**-0.6**
VLKR				*e*Sg	**Sb**	**05 45 07.3**	**+1.8**
KBTC	**Kuba-Taba**	**0.67**	**295**	*e*Pg	**Pb**	**05 44 58.3**	**-0.4**
KBTC				*e*Sg	**Sb**	**05 45 09.0**	**+0.8**
LACR	**Lac**	**0.70**	**177**	*e*Pg	**Pb**	**05 44 58.8**	**-0.5**
LACR				*e*Sg	**Sb**	**05 45 09.7**	**+0.5**
ZEI	**Tsey**	**0.78**	**199**	*e*Pg	**Pg**	**05 44 59.9**	**+0.1**
ZEI				*e*Sg	**Sb**	**05 45 11.1**	**-0.5**
MTEO	**Meteo**	**0.88**	**166**	P	**Pb**	**05 45 01.7**	**-0.7**
MTEO				S	**Sn**	**05 45 16.6**	**-0.3**
KBZ	**Khabaz**	**1.00**	**282**	*e*Pg	**Pg**	**05 45 03.3**	**-0.6**
KBZ				*e*Sg	**Sb**	**05 45 17.7**	**+0.2**
GUDG	**Gudauri**	**1.08**	**171**	P	**Pg**	**05 45 03.9**	**-1.6**
GUDG				S	**Sb**	**05 45 20.6**	**+0.5**
SHTL	**Shatili**	**1.10**	**142**	P	**Pg**	**05 45 05.2**	**-0.6**
SHTL				S	**Sn**	**05 45 21.7**	**-0.2**
BEYR	**Belyy Ugol+**	**1.14**	**295**	*e*Pg	**Pg**	**05 45 05.8**	**-0.9**
BEYR				*e*Sg	**Sb**	**05 45 22.0**	**+0.3**
SHA1	**Shidzhatmaz**	**1.17**	**281**	*i* Pg	**Pg**	**05 45 06.3**	**-0.9**
SHA1				*e*Sg	**Sn**	**05 45 23.7**	**-0.2**
KIV0	**Kislovodsk Arr**	**1.20**	**291**	*e*Pg	**Pg**	**05 45 07.1**	**-0.7**
KIV0				*e*Sg	**Sn**	**05 45 24.9**	**+0.4**
KIV	**Kislovodsk**	**1.21**	**291**	*e*Pg	**Pg**	**05 45 07.2**	**-0.8**
KIV				*e*Sg	**Sn**	**05 45 25.1**	**+0.5**
ALIG	**Mtskhetisjvari**	**1.49**	**197**	P	**Pb**	**05 45 12.3**	**-0.4**
ALIG				S	**Sg**	**05 45 34.3**	**+1.6**
BTLR	**Botlikh**	**1.69**	**120**	*e*Pg	**Pn**	**05 45 15.1**	**+0.5**
	17nm,0.3s						
BTLR				*e*Sg	**Sg**	**05 45 38.6**	**-0.3**
	27nm,0.3s						
DBC	**Dubki**	**1.96**	**104**	*e*Pg	**Pb**	**05 45 19.7**	**-0.9**
	7.0nm,0.2s						
DBC				*e*Sg	**Sg**	**05 45 47.1**	**-0.5**
	48nm,0.5s						
TRLG	**Trialeti**	**1.99**	**183**	P	**Pn**	**05 45 19.5**	**+0.7**
UNCR	**Uncukul**	**2.04**	**113**	*e*Pg	**Pn**	**05 45 20.5**	**+1.1**
	9.0nm,0.3s						
UNCR				*e*Sg	**Sb**	**05 45 48.4**	**+0.9**
	17nm,0.7s						
XNZR	**Khunzakh**	**2.06**	**118**	*e*Pg	**Pn**	**05 45 20.5**	**+0.8**
	7.0nm,0.2s						
XNZR				*e*Sg	**Sb**	**05 45 48.4**	**+0.3**
	26nm,0.3s						
KRNR	**Karanay**	**2.07**	**109**	*e*Pg	**Pb**	**05 45 21.5**	**-1.1**
	4.0nm,0.2s						
KRNR				*e*Sg	**Sg**	**05 45 50.4**	**-0.9**
	20nm,0.4s						
ARKR	**Arakani**	**2.22**	**114**	*e*Pn	**Pn**	**05 45 22.9**	**+1.0**
	3.0nm,0.5s						
ARKR				*e*Sn	**Sb**	**05 45 53.1**	**+0.4**
	27nm,0.2s						
DGRG	**David-gareji**	**2.24**	**158**	P	**Pn**	**05 45 23.1**	**+0.9**
GNBR	**Gunib**	**2.30**	**119**	*e*Pn	**Pn**	**05 45 22.1**	**-0.9**
	6.0nm,0.6s						
GNBR				*e*Sn	**Sn**	**05 45 53.4**	**+2.0**
	17nm,0.6s						
KMKR	**Kumukh**	**2.52**	**123**	*e*Pn	**Pn**	**05 45 26.9**	**+0.8**
KMKR				*e*Sn	**Sn**	**05 45 59.4**	**+2.2**
GUZR	**Guzeripl'**	**3.03**	**280**	*e*Pn	**Pn**	**05 45 32.8**	**-0.2**
GUZR				*e*Sn	**Sn**	**05 46 08.8**	**-0.6**

*IDC **20** 06:01:15.2±0.6, 11°.02N×58°.45W, h0km, mb4.1/16, mbtmp4.1/17, ML4.1/1, MS3.5/11, Error ellipse: s-maj=18.5km s-min=15.5km az=53.0*
*NEIC **20** 06:01:16.8±1.6, 11°.05N±0°.04×58°.60W±0°.08, h10km±1km, mb4.8/34, Error ellipse: s-maj=14.1km s-min=5.5km az=111.0*
*TRN **20** 06:01:18.9, 11°.23N×58°.69W, h114km, MD4.7*
ISC 20 06:01:16.0±0.4, 11°.05N±0°.04×58°.58W±0°.04, h10km, n266, σ2°.23/262, mb4.7/31, MS3.5/11, 4C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**2.29**	**335**		**Pn**	**06 01 54.8**	**+0.8**
BBGH	**Gun Hill**	**2.29**	**335**	*e*P	**Pn**	**06 01 55.1**	**+1.2**
BBGH				*e*S	**Sn**	**06 02 19.7**	**-2.5**
BCHC	**Barbados, Cave**	**2.31**	**334**	*e*P	**Pn**	**06 01 56.0**	**+1.8**
BCHC				*e*S	**Sn**	**06 02 21.5**	**-1.2**
TRN	**Trinidad (W)**	**2.80**	**262**	⇑*i*P	**Pb**	**06 02 04.1**	**-2.2**
TRN				*e*S	**Sn**	**06 02 35.0**	**+0.2**
GCMP	**Grenada, Carri**	**3.13**	**297**	*e*P	**Pn**	**06 02 05.0**	**-0.5**
GCMP				*e*S	**Sn**	**06 02 40.4**	**-2.5**
GRGR	**Grenville**	**3.20**	**290**		**Pn**	**06 02 07.0**	**+0.6**
GRGR	**Grenville**	**3.20**	**290**	*e*P	**Pn**	**06 02 06.9**	**+0.4**
GRGR				*e*S	**Sn**	**06 02 41.4**	**-3.3**
GRW	**Mount Saint Ca**	**3.21**	**290**	*e*P	**Pn**	**06 02 07.6**	**+0.9**
GRW				*e*S	**Sn**	**06 02 43.0**	**-2.2**
GRHS	**Sauteurs**	**3.22**	**292**	*e*P	**Pn**	**06 02 06.4**	**-0.3**
GRHS				*e*S	**Sn**	**06 02 42.7**	**-2.5**
SVOC	**Richmond Hill,**	**3.32**	**309**	*e*P	**Pn**	**06 02 07.2**	**-1.0**
SVOC				*e*S	**Sn**	**06 02 43.8**	**-3.9**
SVB	**Belmont**	**3.42**	**310**	*e*P	**Pn**	**06 02 08.4**	**-1.1**
SVB				*e*S	**Sn**	**06 02 46.7**	**-3.5**
SLDE	**Delcer**	**3.65**	**319**	*e*P	**Pn**	**06 02 11.9**	**-0.8**
SLDE				*e*S	**Sn**	**06 02 52.0**	**-3.9**
SLB	**Belfond**	**3.66**	**319**	*e*P	**Pn**	**06 02 12.5**	**-0.4**
SLCP	**Castries, St.**	**3.77**	**322**	*e*P	**Pn**	**06 02 13.1**	**-1.1**
SLCP				*e*S	**Sn**	**06 02 54.4**	**-4.2**
SLBI	**Saint Lucia, B**	**3.77**	**322**	⇑*i*P	**Pn**	**06 02 13.1**	**-1.2**
SLBI				*e*S	**Sn**	**06 02 53.4**	**-5.3**
MPOM	**Morne Pois Mar**	**4.04**	**327**		**Pn**	**06 02 16.5**	**-1.5**
MPOM	**Morne Pois Mar**	**4.04**	**327**	*e*	Pg	06 02 39.3	+5.8
MVM	**Montagne Vaucl**	**4.15**	**327**	*e*P	**Pn**	**06 02 18.7**	**-0.9**
LPMF	**Morne Lapointe**	**4.21**	**327**	*e*P	**Pn**	**06 02 19.4**	**-0.9**
BIM	**Bigot**	**4.22**	**325**	⇑*i*P	**Pn**	**06 02 19.6**	**-0.9**
BIM				*e*S	**Sn**	**06 03 03.8**	**-6.0**
TRMF	**Trois Ilets**	**4.22**	**325**	*e*P	**Pn**	**06 02 19.9**	**-0.6**
ILAM	**Ilet Lapin Mar**	**4.33**	**329**	⇑*i*P	**Pn**	**06 02 20.8**	**-1.1**
ILAM	**Ilet Lapin Mar**	**4.33**	**329**	*e*S	**Sn**	**06 03 06.2**	**-6.2**
FDF	**Fort de France**	**4.44**	**326**	Pn	**Pn**	**06 02 22.7**	**-0.8**
FDF	**Fort de France**	**4.44**	**326**	*e*P	**Pn**	**06 02 22.7**	**-0.8**
FDF	**Fort de France**	**4.44**	**326**	*e*S	**Sn**	**06 03 10.2**	**-5.1**
PML	**Morne Lenard**	**4.50**	**326**	*e*P	**Pn**	**06 02 24.1**	**-0.2**
GBMF	**Grand Be**	**4.50**	**326**	*e*P	**Pn**	**06 02 23.9**	**-0.4**
BAMF	**Morne Balai**	**4.50**	**326**	*e*P	**Pn**	**06 02 24.0**	**-0.5**
CXM	**Morne La Croix**	**4.51**	**326**	*e*P	**Pn**	**06 02 24.7**	**+0.1**
SVN	**Savane Anatole**	**4.54**	**326**		**Pn**	**06 02 23.6**	**-1.2**
SVN	**Savane Anatole**	**4.54**	**326**	*e*P	**Pn**	**06 02 24.2**	**-0.6**
SVN	**Savane Anatole**	**4.54**	**326**	*e*S	**Sn**	**06 03 11.5**	**-6.2**
PCM	**Pelee Case Pet**	**4.54**	**326**	*e*P	**Pn**	**06 02 24.6**	**-0.3**
MAGL	**Barre de l'ile**	**5.53**	**332**	Pn	**Pn**	**06 02 36.7**	**-1.8**
MAGL	**Barre de l'ile**	**5.53**	**332**	*e*P	**Pn**	**06 02 37.5**	**-1.0**
MAGL	**Barre de l'ile**	**5.53**	**332**	*e*S	**Sn**	**06 03 36.7**	**-5.6**
TDBA	**Terre de Bas,**	**5.62**	**328**	*e*	**Pn**	**06 02 41.0**	**+1.3**
GDSD	**La Dsirade Is**	**5.76**	**335**		**Pn**	**06 02 38.8**	**-2.9**
CBE	**Ff, Capester**	**5.79**	**330**		**Pn**	**06 02 40.7**	**-1.5**
CBE	**Ff, Capester**	**5.79**	**330**	*e*	**Pn**	**06 02 44.7**	**+2.5**
PCRV	**Puerto La Cruz**	**6.02**	**262**	Pn	**Pn**	**06 02 45.7**	**+0.5**
	5.1nm,0.3s,baz=66,slow=3.4,SNR=50						
PCRV				Sn	**Sn**	**06 03 50.8**	**-3.5**
	34nm,0.3s,baz=256,slow=18,SNR=14						
	18nm,0.5s						
ABD	**La Joyeuse, An**	**6.09**	**333**		**Pn**	**06 02 45.4**	**-0.7**
ABD	**La Joyeuse, An**	**6.09**	**333**	*e*	**Pb**	**06 03 00.8**	**-1.4**
MLYT	**Lee's Yard**	**6.64**	**329**	*e*P	**Pn**	**06 02 53.7**	**-0.1**
MBFL	**Flemmings, Mon**	**6.67**	**328**	*e*P	**Pn**	**06 02 52.8**	**-1.4**
ANBD	**Bethesda, Anti**	**6.72**	**333**	*e*P	**Pn**	**06 02 52.6**	**-2.2**
ANBD	**Bethesda, Anti**	**6.72**	**333**	*e*S	Sn	06 04 02.1	-9.3
ANDO	**Antigua, Disas**	**6.80**	**333**	*e*P	**Pn**	**06 02 54.7**	**-1.2**
ANDO	**Antigua, Disas**	**6.80**	**333**	*e*S	**Sn**	**06 04 04.5**	**-9.0**
MDP	**Montagnes des**	**8.33**	**135**	Pn	**Pn**	**06 03 13.0**	**-4.1**
	7.7nm,0.3s,baz=325,slow=17,SNR=111						
MDP				Sn	Sn	06 04 40.5	-11
	13nm,0.3s,baz=308,slow=17,SNR=5.8						
BOAV	**Boa Vista**	**8.81**	**193**	Pn	**Pn**	**06 03 23.9**	**+0.3**
BOAV	**Boa Vista**	**8.81**	**193**	*e*P	**Pn**	**06 03 23.2**	**-0.4**
BOAV				*e*S	**Sn**	**06 04 56.4**	**-6.7**
BAUV	**El Baul**	**9.55**	**258**	Pn	**Pn**	**06 03 33.7**	**-0.1**
BAUV	**El Baul**	**9.55**	**258**	*e*P	**Pn**	**06 03 33.0**	**-0.7**
BAUV	**El Baul**	**9.55**	**258**	*e*S	Sn	06 05 11.0	-10
SJG	**San Juan**	**10.15**	**315**		**Pn**	**06 03 40.1**	**-1.7**
SJG	**San Juan**	**10.15**	**315**	*e*P	**Pn**	**06 03 40.8**	**-1.1**
SDV	**Santo Domingo**	**12.07**	**261**	Pn	**Pn**	**06 04 08.4**	**0.0**
SDV	**Santo Domingo**	**12.07**	**261**	*e*P	**Pn**	**06 04 07.9**	**-0.5**
	4.2nm,0.3s,baz=105,slow=9.7,SNR=7.4						
SDV				Sn	Sn	06 06 13.5	-10
	30nm,0.3s,baz=44,slow=19,SNR=24						
MCPB	**Macapa, AP**	**13.06**	**150**	*e*P	Pn	06 04 15.8	-6.0
MCPB				*e*S	Sn	06 06 28.8	-18
MALB	**Monte Alegre**	**13.52**	**161**	*e*P	Pn	06 04 23.3	-4.7
PAMC	**Pamplona, Colo**	**14.42**	**256**	*e*P	**Pn**	**06 04 38.6**	**-2.2**
SDDR	**Presa de Saban**	**14.58**	**304**	Pn	**Pn**	**06 04 43.1**	**+0.4**
SDDR	**Presa de Saban**	**14.58**	**304**	*e*P	**Pn**	**06 04 43.4**	**+0.7**
BARC	**Barichara**	**15.09**	**254**	*e*P	**Pn**	**06 04 49.8**	**0.0**
RUSC	**La Rusia**	**15.23**	**252**	*e*P	**Pn**	**06 04 51.9**	**+0.1**
BRRC	**Barranca, Sant**	**15.45**	**257**	*e*P	**Pn**	**06 04 53.9**	**-0.3**
ITTB	**Itaituba**	**15.57**	**169**	*e*P	**Pn**	**06 04 51.1**	**-4.8**
ITTB				*e*S	Sn	06 07 32.1	-17
TEFE	**Tefe**	**15.67**	**203**	*e*P	**Pn**	**06 04 56.6**	**-0.5**
SPBC	**San Pablo de B**	**16.24**	**252**	*e*P	**P**	**06 05 06.4**	**-1.2**
SPBC				*e*S	**Sn**	**06 07 58.1**	**-6.8**
GUVC	**San Jose del G**	**16.30**	**240**	*e*P	**Pn**	**06 05 04.3**	**-0.9**
GUVC				*e*S	Sn	06 07 54.1	-12
CHIC	**Chingaza**	**16.30**	**248**	*e*P	**P**	**06 05 10.8**	**+2.1**
PTBC	**PUERTO BERRIO,**	**16.32**	**255**	*e*P	**Pn**	**06 05 04.5**	**-1.0**
ZARC	**Zaragoza, Cauc**	**16.45**	**259**	*e*P	**Pn**	**06 05 07.8**	**+0.7**
ZARC				*e*S	Sn	06 07 57.2	-13
ROSC	**El Rosal**	**16.76**	**250**	*e*P	**P**	**06 05 17.3**	**+3.6**
ROSC	**El Rosal**	**16.76**	**250**	Pn	**P**	**06 05 16.7**	**+3.0**
	3.3nm,0.3s,baz=48,slow=4.6,SNR=22						
ROSC				Sn	**Sn**	**06 08 09.9**	**-8.1**
	0.7nm,0.3s,baz=120,slow=20,SNR=1.8						
NORC	**Norcasia**	**17.01**	**253**	*e*P	**P**	**06 05 15.7**	**-0.5**
UREC	**San Jos de Ur**	**17.04**	**260**	*e*P	**Pn**	**06 05 13.5**	**-1.2**
MACC	**Macarena, Meta**	**17.55**	**241**	*e*P	**P**	**06 05 24.4**	**+2.3**
MACC				*e*S	Sn	06 08 24.8	-12
GUY2C	**Guyana, Caldas**	**17.59**	**252**	*e*P	**P**	**06 05 25.3**	**+2.2**
PRAC	**Prado**	**17.73**	**247**	*e*P	**P**	**06 05 28.0**	**+3.9**
DBBC	**Dabeiba**	**17.86**	**259**	*e*P	**P**	**06 05 25.5**	**-0.2**
ORTC	**Ortega, Tolima**	**17.98**	**248**	*e*P	**P**	**06 05 29.9**	**+3.1**
APAC	**Apartado, Choc**	**18.03**	**262**	*e*P	**Pn**	**06 05 26.8**	**-0.1**
NPGB	**Novo Progresso**	**18.26**	**170**	*e*P	**Pn**	**06 05 26.1**	**-3.7**
PLMC	**San Jos del P**	**18.56**	**252**	*e*P	**Pn**	**06 05 36.5**	**+3.0**
TBTG	**Tabatinga, AM**	**18.88**	**217**	P	**P**	**06 05 36.1**	**-0.6**
YOTC	**Yotoco, Valle**	**18.95**	**250**	*e*P	**Pn**	**06 05 40.6**	**+2.3**
GARC	**Garzon, Huila**	**18.95**	**244**	*e*P	**Pn**	**06 05 44.0**	**+5.5**
PRPB	**Parauapebas**	**19.20**	**153**	*e*P	**P**	**06 05 37.6**	**-2.7**
UPD2	**Meteti**	**19.31**	**264**	*e*P	**Pn**	**06 05 42.2**	**-0.4**
JAMC	**Jamundi, Valle**	**19.56**	**248**	*e*P	**Pn**	**06 05 48.4**	**+2.7**
MTDJ	**Mount Denham**	**19.67**	**293**	P	**P**	**06 05 44.6**	**-0.9**
MTDJ				IAmb	IAmb	06 05 48.0	
	comp=Z,84nm,1.1s						
POPC	**Popayan, Colom**	**19.84**	**246**	*e*P	**Pn**	**06 05 52.4**	**+3.2**
ROSB	**Rosrio**	**19.97**	**133**	*e*P	**P**	**06 05 48.5**	**-0.2**
SAML	**Samuel**	**20.39**	**193**		**P**	**06 05 53.0**	**-0.2**
SAML	**Samuel**	**20.39**	**193**	*e*P	Pn	06 05 55.7	+0.4
SAML	**Samuel**	**20.39**	**193**	*e*P	Pn	06 05 55.5	+0.2
CRUC	**La Cruz**	**20.53**	**244**	*e*P	Pn	06 06 01.4	+4.0
ETMB	**Extrema**	**22.08**	**200**		**P**	**06 06 11.4**	**0.0**
ETMB				IAmb	IAmb	06 06 18.7	
	comp=Z,34nm,0.9s						
ETMB	**Extrema**	**22.08**	**200**	*e*P	**P**	**06 06 14.0**	**+2.6**
PDRB	**Porto dos Gac**	**22.59**	**175**	*e*P	**P**	**06 06 16.7**	**-0.2**
PULU	**Pululahua**	**22.63**	**242**	P	**P**	**06 06 18.8**	**+0.9**
PAC1	**Pacto, Paraso**	**22.76**	**243**	*e*P	**P**	**06 06 22.5**	**+3.6**
SLOR	**San Lorenzo -**	**23.00**	**241**	P	**P**	**06 06 22.9**	**+1.1**
CZSB	**Cruzeiro do Su**	**23.36**	**218**	P	**P**	**06 06 26.4**	**+1.4**
CZSB				IAmb	IAmb	06 06 43.9	
	comp=Z,29nm,0.8s						
CZSB	**Cruzeiro do Su**	**23.36**	**218**	*e*P	**P**	**06 06 28.2**	**+3.3**
CHSH	**Refugio Sur-Vo**	**23.72**	**240**	P	**P**	**06 06 30.4**	**+1.3**
VILB	**Vilhena**	**23.90**	**184**	P	**P**	**06 06 30.4**	**+0.2**
VILB				IAmb	IAmb	06 06 51.9	
	comp=Z,16nm,0.8s						
VILB	**Vilhena**	**23.90**	**184**	*e*P	**P**	**06 06 31.1**	**+0.9**
SNDB	**Serra Nova Dou**	**23.99**	**162**	*e*P	**P**	**06 06 30.5**	**-0.6**
HDC	**Heredia**	**25.13**	**270**	*e*P	P	06 06 55.4	+14
COVE	**Coope Vega, Sa**	**25.36**	**272**	P	**P**	**06 06 41.9**	**-1.7**
SOCE	**Pocosol**	**25.59**	**271**	P	**P**	**06 06 45.7**	**0.0**
SOCE				IAmb	IAmb	06 06 50.0	
	comp=Z,31nm,1.1s						
ARE1	**Arenal 1**	**25.69**	**271**	P	**P**	**06 06 45.3**	**-1.3**
ARNL	**Arenillas**	**25.84**	**237**	P	**P**	**06 06 47.2**	**-0.7**
ARNL				IAmb	IAmb	06 07 10.7	
	comp=Z,12nm,0.5s						
MCRA	**Macar, Loja**	**26.22**	**235**	P	**P**	**06 06 51.2**	**-0.3**
PTLB	**Pontes e Lacer**	**26.33**	**181**	*e*P	**P**	**06 06 53.4**	**+1.1**
ORTG	**Ortega, Santa**	**26.42**	**271**	P	**P**	**06 06 52.1**	**-1.2**
ORTG				IAmb	IAmb	06 07 18.9	
	comp=Z,36nm,1.5s				

TXAR	Lajitas Array	45.73	300	P	P	06 09 39.0 +1.1
	comp=Z,0.9nm,0.6s,baz=128,slow=8.3,SNR=21					
	comp=Z,0.9nm,0.6s					
TX31	Lajitas Ar. Si	45.73	300	P	P	06 09 39.2 +1.3
AMTX	Amarillo	45.76	308	P	P	06 09 39.1 +1.1
	baz=111					
CBKS	Cedar Bluff	45.87	314	P	P	06 09 41.1 +2.3
	baz=116					
EYMN	Ely	45.97	329	P	P	06 09 40.9 +1.6
	baz=132					
BGNE	Belgrade	46.00	318	P	P	06 09 42.0 +2.3
	baz=120					
ECSD	EROS Data Cent	46.24	322	P	P	06 09 42.9 +1.3
	baz=123					
MSTX	Muleshoe	46.30	307	P	P	06 09 43.9 +1.5
	baz=109,SNR=14					
H10N3	ASCENSION HYDR	47.70	111	T	T	07 00 49.9
	baz=292,slow=74,SNR=193					
H10N2	ASCENSION HYDR	47.71	111	T	T	07 00 50.5
	baz=292,slow=74,SNR=338					
H10N1	ASCENSION HYDR	47.73	111	T	T	07 00 54.1
	baz=292,slow=74,SNR=273					
MNTX	Cornudas Mount	47.75	303	P	P	06 09 55.4 +1.8
	baz=105,SNR=12					
H10S3	ASCENSION HYDR	47.99	113	T	T	07 01 08.8
	baz=292,slow=74					
H10S2	ASCENSION HYDR	48.01	113	T	T	07 01 10.2
	baz=288,slow=74					
T25A	Trinidad	48.62	310	P	P	06 10 01.7 +1.2
	baz=110					
ANMO	Albuquerque	49.50	307	P	P	06 10 09.7 +2.5
	baz=107					
SDCO	Great Sand Dun	49.64	311	P	P	06 10 10.2 +1.8
	baz=110,SNR=8.4					
ULM	Lac du Bonnet	49.66	329	P	P	06 10 08.2 +0.4
	comp=Z,5.0nm,0.7s,baz=133,slow=6.7,SNR=5.6					
ULM				LR	LR	06 31 44.7
	comp=Z,52nm,19.4s,baz=38,slow=37					
	comp=Z,5.0nm,0.7s					
121A	Cookes Peak, D	49.93	303	P	P	06 10 12.8 +2.3
	baz=104,SNR=6.2					
ISCO	Idaho Springs	50.44	313	P	P	06 10 17.1 +2.6
	baz=111,SNR=5.8					
S22A	4UR Ranch, Cre	50.63	310	P	P	06 10 18.6 +2.6
	baz=109,SNR=7.7					
MVCO	Mesa Verde	51.73	309	P	P	06 10 26.4 +2.3
	baz=107					
K22A	Casper	52.14	316	P	P	06 10 29.4 +2.4
	baz=113					
TUC	Tucson	52.36	302	P	P	06 10 30.8 +2.1
	baz=102					
O20A	White River Ci	52.45	313	P	P	06 10 31.6 +2.2
	baz=109					
PLCA	Paso Flores	52.70	191	P	P	06 10 30.9 0.0
	comp=Z,0.9nm,0.7s,baz=358,slow=11,SNR=1.9					
	comp=Z,0.9nm,0.7s					
FRB	Frobisher Bay	53.09	354	LR	LR	06 33 35.7
	comp=Z,48nm,18.9s,baz=196,slow=36					
DGMT	Dagmar	53.19	324	P	P	06 10 36.5 +2.0
	baz=119					
DBIC	Dimbokro	53.20	90	P	P	06 10 34.8 -0.3
DBIC				IAmb	IAmb	06 11 41.0
	comp=Z,21nm,1.2s					
DBIC	Dimbokro	53.20	90	P	P	06 10 34.3 -0.8
	comp=Z,2.8nm,0.7s,baz=291,slow=6.3,SNR=3.9					
	comp=Z,2.8nm,0.7s					
WUAZ	Wupatki	53.53	306	P	P	06 10 40.0 +2.6
	baz=104,SNR=11					
BW06	Boulder Array	54.27	315	P	P	06 10 44.4 +1.6
	baz=110,SNR=11					
PDAR	Pinedale Array	54.27	315	P	P	06 10 44.2 +1.5
	comp=Z,3.2nm,0.5s,baz=117,slow=9.8,SNR=36					
	comp=Z,3.2nm,0.5s					
RLMT	Red Lodge	54.91	318	P	P	06 10 49.2 +1.9
	baz=112					
W13A	Hualapai Mount	55.45	305	P	P	06 10 52.1 +0.7
W13A				IAmb	IAmb	06 10 55.5
	comp=Z,7.0nm,0.8s					
DUG	Dugway, Tooele	55.81	311	P	P	06 10 56.4 +2.5
	baz=106,SNR=8.2					
ESDC	Sonseca Array	55.96	49	P	P	06 10 54.3 -0.5
	comp=Z,0.5nm,0.7s,baz=265,slow=6.9,SNR=1.9					
	comp=Z,0.5nm,0.7s					
PSUT	Pine Spring	56.17	309	P	P	06 10 56.0 -0.5
PSUT				IAmb	IAmb	06 11 00.7
	comp=Z,10.0nm,0.8s					
IRM	Iron Mountain	56.29	304	P	P	06 10 59.8 +2.6
	baz=100,SNR=5.1					
EGMT	Eagleton	56.34	321	P	P	06 10 59.5 +2.1
	baz=113					
BC3	Big Chuckawall	56.46	303	P	P	06 11 01.1 +2.6
	baz=100					
BOZ	Bozeman (W)	56.64	318	P	P	06 11 02.0 +2.4
	baz=110					
GMRC	Granite Mounta	56.82	304	P	P	06 11 04.1 +3.0
	baz=100,SNR=5.6					
BELC	Belle Mtn. Jos	56.96	303	P	P	06 11 04.9 +2.8
	baz=99					
TUQ	Turquoise Moun	57.15	305	P	P	06 11 06.1 +2.7
	baz=100					
HEC	Hector,Ludlow	57.38	304	P	P	06 11 07.6 +2.6
	baz=100					
R11B	Troy Canyon, C	57.45	309	P	P	06 11 08.2 +2.6
	baz=102					
TPNV	Topopah Spring	57.69	307	P	P	06 11 10.7 +3.5
	baz=101,SNR=12					
GSC	Goldstone, Bar	57.84	305	P	P	06 11 11.1 +2.9
	baz=100					
HLID	Hailey	57.89	315	P	P	06 11 11.0 +2.5
	baz=106,SNR=5.5					
FURC	Furnace Creek,	58.08	306	P	P	06 11 13.6 +3.8
	baz=100					
MPMC	Manual Prospec	58.51	306	P	P	06 11 15.8 +2.7
	baz=100,SNR=6.3					
LRMC	Laurel Mtn Rad	58.57	305	P	P	06 11 17.2 +3.8
	baz=99					
GRAC	Grapevine Rang	58.57	307	P	P	06 11 16.7 +3.4
	baz=100,SNR=6.4					
EDW2	Edwards Air Fo	58.73	304	P	P	06 11 17.1 +2.7
	baz=99					
TOA0	Torodi Ar. Sit	58.85	81	P	P	06 11 15.2 -0.3
TORD	Torodi Ar. Bea	58.85	81	P	P	06 11 14.8 -0.8
TORD				IAmb	IAmb	06 12 46.1
	comp=Z,7.1nm,0.8s					
TORD	Torodi Ar. Bea	58.85	81	P	P	06 11 15.2 -0.3
	comp=Z,2.6nm,0.4s,baz=292,slow=6.2,SNR=26					
	comp=Z,2.6nm,0.4s					
CWC	Cottonwood Cre	59.04	306	P	P	06 11 19.8 +3.0
	baz=100					
ISA	Isabella, Lake	59.24	305	P	P	06 11 20.5 +2.6
	baz=99					
NVAR	Mina Array Bea	59.56	308	P	P	06 11 22.4 +2.1
	comp=Z,2.2nm,0.7s,baz=111,slow=6.3,SNR=12					
	comp=Z,2.2nm,0.7s					
NEW	Newport	61.05	319	P	P	06 11 31.2 +1.1
	baz=107					
NEW	Newport	61.05	319	LR	LR	06 42 51.4
	comp=Z,84nm,18.3s,baz=246,slow=41					
YKA	Yellowknife Ar	64.95	335	LR	LR	06 43 09.0
	comp=Z,48nm,18.4s,baz=36,slow=39					
HFS	Hagfors	71.67	30	P	P	06 12 38.6 +0.7
	comp=Z,1.9nm,0.7s,baz=258,slow=7.2,SNR=2.5					
	comp=Z,1.9nm,0.7s					
M31M	Drury Creek, Y	73.68	332	P	P	06 12 51.8 +1.9
	baz=97					
INK	Inuvik	74.24	338	P	P	06 12 53.8 +0.9
	baz=100					
O30N	Mendenhall	74.33	330	P	P	06 12 54.6 +0.9
	baz=96					
PLBC	Pleasant Camp	74.35	329	P	P	06 12 55.9 +2.2
	baz=95					
MAYO	Mayo, Yukon	74.53	333	P	P	06 12 56.8 +2.0
	baz=96					
HYT	Haines Junctio	75.03	330	P	P	06 12 58.8 +1.0
	baz=94					
G30M	tAoh Zraii Nji	75.07	337	P	P	06 12 58.1 +0.3
	baz=97					
YUK6	Outpost Mounta	75.45	330	P	P	06 13 00.7 +0.2
	baz=94					
O29M	Mount Kennedy	75.52	330	P	P	06 13 01.5 +0.8
	baz=93					
H29M	Whitestone	75.84	336	P	P	06 13 02.5 +0.3
	baz=95					
L27K	Beaver Creek,	77.17	332	P	P	06 13 09.3 -0.6
	baz=91					
ARCES	ARCESS Array B	77.65	21	LR	LR	06 40 51.1
	comp=Z,34nm,20.6s,baz=310,slow=31					
BUR08	Bucovina Ar. S	77.75	43	P	P	06 13 13.6 +0.1
BUR08				IAmb	IAmb	06 14 28.5
	comp=Z,15nm,1.8s					
BURAR	Bucovina Array	77.76	43	P	P	06 13 14.2 +0.6
FINES	FINESS Array B	77.82	29	P	P	06 13 14.2 +0.7
FINES	FINESS Array B	77.82	29	P	P	06 13 13.9 +0.4
	comp=Z,1.7nm,0.8s,baz=256,slow=4.1,SNR=6.2					
	comp=Z,1.7nm,0.8s					
F26K	Sheenjek River	78.17	337	P	P	06 13 15.9 +0.5
	baz=90					
C26K	Camden Bay	78.44	339	P	P	06 13 17.1 +0.3
	baz=90					
KAIM	Kayak Island	78.44	329	P	P	06 13 17.6 +0.6
	baz=88					
BMRM	Bremner River	78.50	330	P	P	06 13 19.1 +1.8
	baz=88					
RIDG	Independent Ri	78.52	333	P	P	06 13 19.6 +2.2
	baz=88					
J25K	Salcha River,	78.72	334	P	P	06 13 19.9 +1.4
	baz=88					
F25K	Christian Rive	78.75	337	P	P	06 13 19.8 +1.2
	baz=88					
PAX	Paxson	78.83	332	P	P	06 13 20.6 +1.4
	baz=88					
ILAR	Eielson Array	79.37	334	P	P	06 13 25.0 +3.0
	comp=Z,0.2nm,0.7s,baz=82,slow=4.4,SNR=2.5					
ILAR				LR	LR	06 52 57.5
	comp=Z,112nm,18.3s,baz=185,slow=39					
	comp=Z,0.2nm,0.7s					
BPAW	Bear Paw Mtn.	81.20	334	P	P	06 13 33.5 +1.6
	baz=83					
KDAK	Kodiak Island	82.87	327	P	P	06 13 42.3 +1.6
	baz=81					
SUR	Sutherland	87.05	124	LR	LR	06 53 45.9
	comp=Z,12nm,18.6s,baz=309,slow=36					
BOSA	Boshof	89.89	119	P	P	06 14 17.1 +1.1
	comp=Z,2.1nm,0.6s,baz=287,slow=2.3,SNR=6.4					
BOSA				LR	LR	06 50 41.3
	comp=Z,17nm,19.1s,baz=212,slow=33					
	comp=Z,2.1nm,0.6s					
SNAA	Sanae	90.33	165	P	P	06 14 18.0 +1.0
	comp=Z,1.4nm,1.1s,baz=252,slow=6.6,SNR=2.5					
	comp=Z,1.4nm,1.1s					
PZH	PanZhiHua	138.06	27	PKP	PKPdf	06 20 41.1 -1.1

*IDC **20** 06:08:18.8±1.1, 1°.85N×123°.39E, h0km, mb3.8/6, mbtmp3.8/6, MS3.0/2, Error ellipse: s-maj=158.6km s-min=19.8km az=65.0*
*DJA **20** 06:08:21.0±0.5, 2°.N±4°×12°.3E±°, h10km, M3.8/6, MLv3.8/6*
ISC 20 06:08:24.1±0.9, 1°.69N±0°.09×123°.14E±0°.10, h35km, n12, σ0°.72/11, mb3.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	1.06	187	P	Pn	06 08 41.9	-0.5
GTOI				S	Sn	06 08 55.6	-0.3
KMSI	Cibinong	1.39	143	P	Pn	06 08 47.9	+0.9
MRSI	Marisa	1.70	225	P	Pn	06 08 52.4	+1.1
MPSI	Mapaga	3.51	248	P	Pn	06 09 16.5	+0.3
KAPI	Kappang	7.47	207	LR	LR	06 13 38.1	
	comp=Z,81nm,19.1s,baz=44,slow=41						
WRA	Warramunga Arr	24.14	153	P	P	06 13 37.1	+0.1
	1.2nm,0.6s,baz=335,slow=9.7,SNR=10						
	1.2nm,0.6s						
ASAR	Alice Springs	27.29	158	P	P	06 14 05.5	-0.1
	0.3nm,0.7s,baz=336,slow=8.2,SNR=4.9						
	0.3nm,0.7s						
MJAR	Matsushiro Arr	37.37	20	LR	LR	06 29 07.8	
	comp=Z,28nm,21.5s,baz=126,slow=34						
SONM	Songino Array	48.20	345	P	P	06 17 01.1	-0.2
	0.4nm,0.5s,baz=162,slow=10,SNR=3.3						
	0.4nm,0.5s						
MKAR	Makanchi Array	57.26	328	P	P	06 18 08.9	+0.7
	1.0nm,0.6s,baz=128,slow=8.4,SNR=5.9						
	1.0nm,0.6s						
ZALV	Zalesovo Beam	60.84	335	P	P	06 18 31.8	-1.1
	0.6nm,0.4s,baz=131,slow=7.9,SNR=0.8						
	0.6nm,0.4s						
AKTO	Aktyubinsk	73.06	323	P	P	06 19 50.6	-0.1
	1.4nm,0.7s,baz=84,slow=17,SNR=4.7						
	1.4nm,0.7s						

*TEH **20** 06:25:40.5, 28°.03N×54°.19E, h7km±15km, ML3.2*
*OMAN **20** 06:25:46.5±0.4, 27°.77N×54°.24E, h10km, mb3.9/5, ml3.0/9, Error ellipse: s-maj=6.8km s-min=3.3km az=11.0*
ISC 20 06:25:43.6±0.9, 28°.04N±0°.05×54°.28E±0°.04, h17km, n46, σ1°.63/60, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	LAR	0.38	167	Pg	Pg	06 25 49.6	-1.9
LAR1				Sg	Sg	06 25 56.1	-0.7
JHRM	Jahrom	0.77	307	Pg	Pb	06 25 56.8	-1.8
QIR1	Qir	1.17	292	Pg	Pg	06 26 05.6	-0.6
LMD1	Lamerd	1.21	235	Pg	Pb	06 26 06.0	0.0
LMD1				Sg	Sg	06 26 25.2	+2.5
GENO	Geno	1.80	110	Pn	Pb	06 26 16.6	+0.5
SHME	Shamm	2.59	140	Pn	Pn	06 26 25.3	+0.7
TVBK	TV Kerman	2.92	48	Pn	Pn	06 26 31.7	+2.2
KHGB	Koh Gabri	3.02	39	Pn	Pn	06 26 32.5	+1.7
MASF	Masafi	3.15	147	P	Pn	06 26 34.2	+1.9
MASF				S	Sn	06 27 10.4	+0.8
MSFE	Esma-Masafi	3.16	147	Pn	Pn	06 26 35.2	+2.7
MDH	Madha	3.27	146	P	Pn	06 26 35.9	+1.8
MDH	Madha	3.27	146	Pn	Pn	06 26 37.3	+3.2
IMEH	Mehriz	3.35	5	Pn	Pn	06 26 37.0	+1.5
FAQ	Al Faqa, Dubai	3.49	160	P	Pn	06 26 38.4	+1.4
FAQ				S	Sn	06 27 18.2	+0.3
FAQ	Al Faqa, Dubai	3.49	160	Pn	Pn	06 26 38.8	+1.7
ASUD	Al Ashush, Dub	3.53	164	P	Pn	06 26 39.2	+1.6
ASUD				S	Sn	06 27 20.7	+1.8
ASUD	Al Ashush, Dub	3.53	164	Pn	Pn	06 26 39.8	+2.2
UOSS	Minazif	3.53	150	P	Pn	06 26 40.9	+3.3
UOSS	Minazif	3.53	150	Pn	Pn	06 26 39.0	+1.4
HATD	Hatta, Dubai	3.61	152	P	Pn	06 26 42.0	+3.3
HATD				S	Sn	06 27 22.2	+1.3
HATD	Hatta, Dubai	3.61	152	Pn	Pn	06 26 41.4	+2.6
SHMA	Al-Shehemyia	3.67	234	P	Pn	06 26 41.2	+1.7
	SNR=7.1						
SHMA				S	Sn	06 27 24.4	+2.0
ASHO	Ashiyiah	3.70	154	P	Pn	06 26 41.2	+1.2
	SNR=9.8						
ASHO				S	Sn	06 27 23.3	0.0
ASHO	Ashiyiah	3.70	154	Pn	Pn	06 26 41.3	+1.2
IBAF	Bafgh	3.71	17	Pn	Pn	06 26 41.5	+1.3
KLNJ	Kolanjah	3.77	322	Pn	Pn	06 26 41.4	+0.1
KBAM	BAM	3.83	72	Pn	Pn	06 26 43.8	+1.9
ISAD	Sadrabad	3.90	353	Pn	Pn	06 26 44.1	+1.2
IRAM	Ramesheh	4.10	337	Pn	Pn	06 26 46.3	+0.6
ALNE	Al Ain	4.18	161	P	Pn	06 26 46.7	+0.1
ALNE				S	Sn	06 27 34.6	-0.5
ALNE	Al Ain	4.18	161	Pn	Pn	06 26 48.4	+1.8
SOHO	SOHO	4.39	152	P	Pn	06 26 47.9	-1.5
SOHO				S	Sn	06 27 39.2	-0.9
SOHO	SOHO	4.39	152	Pn	Pn	06 26 51.1	+1.7
SMRA	Abu-Samra	4.51	224	P	Pn	06 26 52.0	+0.9
SMRA				S	Sn	06 27 43.2	+0.1
ARQ	Araqi	5.10	156	P	Pn	06 27 00.0	+0.7
ARQ				S	Sn	06 27 56.8	-1.1
TPRV	Parvadeh(Tabas	5.39	22	Pn	Pn	06 27 04.2	+0.9
BSY	Bisya	5.90	153	P	Pn	06 27 13.3	+3.1
SMDO	Samad	6.02	145	P	Pn	06 27 13.3	+1.4
SMDO				S	Sn	06 28 19.5	-1.0
WSAR	Wadi Sarin	6.19	140	P	Pn	06 27 14.9	+0.7
WSAR				S	Sn	06 28 22.0	-2.6
ISFB	Sefidab	6.53	345	Pn	Pn	06 27 19.6	+0.6
JMDO	Jabal Madar	6.62	148	P	Pn	06 27 20.3	+0.1
WBK	Wadi Bani Khal	6.87	141	P	Pn	06 27 23.8	+0.2
MHTO	MHTO	7.78	154	P	Pn	06 27 35.9	-0.2
	SNR=10						
DOK	Doka	9.38	181	P	Pn	06 27 56.7	-1.3
WHFO	Wadi Hawf	10.08	183	P	Pn	06 28 07.0	-0.7
	SNR=18						
ABTO	Aybut	10.67	185	P	Pn	06 28 14.0	-1.8

*NEIC **20** 06:38:27.5±0.7, 51°.81N±0°.10×178°.26E±0°.10, h113km±4km, mb3.7/9, ML3.4(AEIC), Error ellipse: s-maj=14.0km s-min=8.5km az=189.0*
*IDC **20** 06:38:27.0±2.3, 51°.98N×178°.31E, h104km±21km, mb3.4/8, mbtmp3.8/10, Error ellipse: s-maj=31.8km s-min=16.4km az=177.0*
*AEIC **20** 06:38:28.4±1.0, 51°.84N±0°.10×178°.22E±0°.08, h107km±3km, Error ellipse: s-maj=13.7km s-min=6.9km az=183.0*
ISC 20 06:38:27.5±0.8, 51°.9N±0°.1×178°.24E±0°.05, h112km±6km, n49, σ0°.82/49, mb3.7/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	Little Sitkin	0.20	60		Pn	06 38 42.9	-0.3
LSSE	Little Sitkin	0.21	73		Pn	06 38 43.1	-0.1
LSSE					Sn	06 38 55.2	+0.2
LSPA	Little Sitkin	0.23	67		Pn	06 38 43.1	-0.1
LSPA					Sn	06 38 56.0	+1.0
CESW	Semis' Southwe	0.82	87		Pn	06 38 46.8	-0.3
AMKA	Amchitka	0.83	126		Pn	06 38 47.0	-0.1
AMKA					Sn	06 39 01.2	-0.6
CEAP	Semis' Anvil P	0.84	80		Pn	06 38 47.3	0.0
CEAP					Sn	06 39 01.6	-0.5
CEPE	Semis' Perret	0.88	83		Pn	06 38 47.6	0.0
GANE	Gareloi Northe	1.85	90		Pn	06 38 58.5	-0.1
TANO	Tanaga North	2.26	87		Pn	06 39 04.0	+0.2
TAFP	Tanaga Falls P	2.34	88		Pn	06 39 04.8	-0.1
TAFP					Sn	06 39 33.0	-0.6
TAPA	Tanaga Point A	2.45	90		Pn	06 39 06.4	+0.1
SHEM	Shemya Is, Ala	2.68	290	P	Pn	06 39 09.6	+0.4
	99nm,0.5s,baz=294,slow=9.6,SNR=3.7						
SHEM				S	Sn	06 39 41.2	-0.3
	89nm,0.3s,baz=251,slow=17,SNR=6.8						
KIMD	Kanaga Island	2.81	90		Pn	06 39 10.9	-0.1
KICM	Kanaga Island	2.83	87		Pn	06 39 11.3	+0.1
KIWB	Kanaga Island	2.86	89		Pn	06 39 11.8	+0.1
ADK	Adak	3.15	88	Pn	Pn	06 39 14.7	-0.7
ADAG	Mount Adagdak	3.20	86		Pn	06 39 15.9	-0.2
GSCK	Great Sitkin C	3.47	85		Pn	06 39 19.5	-0.3
GSTR	Great Sitkin T	3.53	84	Pn	Pn	06 39 20.2	-0.4
GSMY	Great Sitkin M	3.54	85		Pn	06 39 20.3	-0.3
ATKA	Atka Island	4.68	83		Pn	06 39 35.9	0.0
NIKH	Nikolski High	7.97	77		Pn	06 40 22.2	+1.8
SDPT	Sand Point	13.10	66	Pn	Pn	06 41 28.0	-1.0
CNBA	Chernabura Isl	13.56	69	Pn	Pn	06 41 32.6	-2.4
O16K	Kokwok River B	15.34	51	P	P	06 41 59.9	0.0
O16K				IAmb	IAmb	06 42 24.4	
	comp=Z,4.9nm,1.1s						
M16K	Timber Creek	15.51	45	P	Pn	06 42 00.8	+1.1
N17K	Nushagak Hills	16.10	48	P	P	06 42 10.1	+1.8
N17K				IAmb	IAmb	06 42 14.8	
	comp=Z,6.0nm,1.0s						
KDAK	Kodiak Island	17.73	59	P	P	06 42 23.9	-2.2
	comp=Z,4.5nm,0.5s,baz=203,slow=3.1,SNR=25						
L19K	White Mountain	17.77	44	P	P	06 42 27.0	+0.3
L19K				IAmb	IAmb	06 42 52.4	
	comp=Z,4.1nm,1.1s						
M19K	Big River Lodg	17.87	45	P	P	06 42 28.4	+0.6
M19K				IAmb	IAmb	06 42 33.3	
	comp=Z,4.3nm,1.0s						
CNPM	China Poot	18.69	54	P	P	06 42 36.5	-0.3
BRLK	Bradley Lake	18.91	53	P	P	06 42 38.8	-0.4
J20K	Nowinta River	18.92	39	P	P	06 42 39.8	+0.6
CAST	Castle Rocks	19.43	42	P	P	06 42 46.1	+1.3
CAST				IAmb	IAmb	06 42 57.0	
	comp=Z,3.4nm,1.1s						
IMAR	Indian Mountai	19.96	34	P	Pn	06 42 53.7	+0.5
H11N2	WAKE ISLAND Hy	33.28	200	T	T	07 20 22.6	
	baz=11						
H11N3	WAKE ISLAND Hy	33.29	200	T	T	07 20 25.7	
	baz=11						
H11N1	WAKE ISLAND Hy	33.30	200	T	T	07 20 25.8	
	baz=11						
H11S1	WAKE ISLAND Hy	34.51	200	T	T	07 21 59.0	
	baz=11						
H11S3	WAKE ISLAND Hy	34.53	200	T	T	07 21 57.4	
	baz=11						
H11S2	WAKE ISLAND Hy	34.53	200	T	T	07 21 54.5	
	baz=11						
NVAR	Mina Array Bea	45.31	81	P	P	06 46 34.5	+0.2
	comp=Z,0.7nm,0.5s,baz=290,slow=8.3,SNR=3.7						
	comp=Z,0.7nm,0.5s						
PDAR	Pinedale Array	47.91	71	P	P	06 46 53.1	-1.3
	comp=Z,0.4nm,0.6s,baz=318,slow=5.1,SNR=4.1						
	comp=Z,0.4nm,0.6s						
MKAR	Makanchi Array	58.27	307	P	P	06 48 09.4	-0.6
	comp=Z,0.9nm,0.8s,baz=59,slow=6.3,SNR=4.9						
	comp=Z,0.9nm,0.8s						
BVAR	Borovoye Array	59.30	318	P	P	06 48 17.5	+0.4
	comp=Z,1.0nm,0.4s,baz=53,slow=0.7,SNR=4.9						
	comp=Z,1.0nm,0.4s						
TXAR	Lajitas Array	60.39	79	P	P	06 48 25.4	+0.5
	comp=Z,0.4nm,0.6s,baz=299,slow=5.4,SNR=6.4						
	comp=Z,0.4nm,0.6s						
AKASG	Malin Array Be	74.48	340	P	P	06 49 53.5	+0.3
	comp=Z,0.3nm,0.4s,baz=60,slow=1.2,SNR=2.2						
	comp=Z,0.3nm,0.4s						
WRA	Warramunga Arr	81.12	221	P	P	06 50 31.0	+0.7
	comp=Z,0.9nm,0.6s,baz=31,slow=5.9,SNR=5.8						
	comp=Z,0.9nm,0.6s						
ASAR	Alice Springs	84.64	220	P	P	06 50 49.5	+1.1
	comp=Z,0.3nm,0.7s,baz=29,slow=5.1,SNR=4.1						
	comp=Z,0.3nm,0.7s						

WEL 20 06:49:09.6±1.3, 36°S±13°×17°9E±1°6, h192km±20km, M3.4/7, ML3.6/11, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=63.5, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.69	194	P	Pn	06 49 44.2	-0.1
HAZ	Te Kaha	2.01	204	P	Pn	06 49 47.2	-0.3
HAZ				S	Sn	06 50 16.4	-0.8
TWGZ	Tauwhareparae	2.35	196	P	Pn	06 49 52.0	+0.8
TWGZ				S	Sn	06 50 25.5	+1.7
CNGZ	Carnagh Statio	2.60	191	P	Pn	06 49 54.3	+0.2
MWZ	Matawai	2.62	203	P	Pn	06 49 54.8	+0.5
TKGZ	Te Karaka	2.63	197	P	Pn	06 49 54.6	+0.3
TKGZ				S	Sn	06 50 29.5	+0.1
OPRZ	Ohinepanea	2.64	223	P	Pn	06 49 54.0	-0.4
URZ	Urewera	2.70	210	P	Pn	06 49 54.1	-1.1
GRZ	Great Barrier	2.74	262	P	Pn	06 49 56.0	+0.3
RIGZ	Rimuhau	2.90	196	P	Pn	06 49 57.7	+0.1
RIGZ				S	Sn	06 50 35.0	-0.3
RTZ	Ruatahuna	3.06	208	P	Pn	06 49 58.7	-0.8
SNGZ	Shannon Statio	3.08	202	P	Pn	06 50 00.1	+0.3
TOZ	Tahuroa Road	3.21	235	P	Pn	06 50 02.2	+1.0
KNZ	Kokohu	3.22	196	P	Pn	06 50 01.0	-0

0.3nm,0.6s
ASAR Alice Springs 35.22 190 P P 07 15 17.9 +0.3
0.7nm,0.6s,baz=17,slow=12,SNR=24
ASAR LR LR 07 28 39.5
comp=Z,58nm,19.0s,baz=50,slow=35
0.7nm,0.6s
CMAR Chiang Mai Arr 40.58 285 P P 07 16 02.8 -0.3
1.4nm,0.3s,baz=91,slow=7.1,SNR=4.8
1.4nm,0.3s
RPZ Rata Peaks 61.40 155 LR LR 07 44 15.3
comp=Z,14nm,18.1s,baz=185,slow=35
ILAR Eielson Array 72.61 25 P P 07 19 50.5 +0.1
0.4nm,0.8s,baz=242,slow=6.3,SNR=6.2
0.4nm,0.8s

IDC 20 07:08:30.9±5.8, 51°.11N×108°.66E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=55.8km s-min=34.1km az=81.0, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**3.59**	**205**	Pn	Pn	07 09 26.5	-1.5
	0.3nm,0.3s,baz=22,slow=14,SNR=6.8						
SONM				Pg	Pb	07 09 36.5	+1.1
	0.9nm,0.3s,baz=12,slow=16,SNR=6.0						
SONM				Sn	Sn	07 10 13.9	+2.7
	0.4nm,0.3s,baz=20,slow=23,SNR=1.7						
SONM				Lg	Lg	07 10 25.3	
	0.9nm,0.3s,baz=19,slow=29,SNR=4.6						
	0.5nm,0.4s						
I34MN	**SONGINO INFRAS**	**3.62**	**205**	I	I	07 32 20.0	
	baz=23,slow=330,SNR=1.4						
MKAR	**Makanchi Array**	**17.80**	**266**	P	P	07 12 41.3	+0.4
	baz=64,slow=14,SNR=2.1						
	0.5nm,0.8s						

GUC 20 07:15:00.0±0.5, 37°.22S×71°.81W, h139km±14km, ML3.1, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.10**	**289**	*e*P	Pn	07 15 24.9	+0.4
CCSP				*i* S	Sn	07 15 43.2	-0.1
CCSP				IAML		07 15 46.6	
	comp=E,451nm,0.5s						
CCSP	**San Pedro de C**	**1.10**	**289**	*e*P	Pn	07 15 24.2	-0.4
CCSP				*e*S	Sn	07 15 43.6	+0.3
CCSP				IAML		07 15 46.4	
	comp=E,442nm,0.4s						
BI05	**Punta Hualpn**	**1.20**	**293**	*e*P	Pn	07 15 24.8	-0.7
BI05				*i* S	Sn	07 15 44.4	-0.6
BI05				IAML		07 15 49.7	
	comp=N,242nm,0.2s						
BI05	**Punta Hualpn**	**1.20**	**293**	*e*P	Pn	07 15 24.6	-0.9
BI05				*e*S	Sn	07 15 44.5	-0.5
BI05				IAML		07 15 49.7	
	comp=E,265nm,0.2s						
ML02	**Panimavida**	**1.49**	**12**	*e*P	Pn	07 15 27.6	-1.0
ML02				*i* S	Sn	07 15 48.4	-2.0
LC02	**Puerto Saavedr**	**2.00**	**218**	*e*P	Pn	07 15 33.0	-1.4
LC02				*i* S	Sn	07 15 56.5	-4.3
LC02	**Puerto Saavedr**	**2.00**	**218**	*e*P	Pn	07 15 34.2	-0.2
LC02				IAML		07 16 07.1	
	comp=E,409nm,0.3s						
GO05	**Huala**	**2.21**	**358**	IAML		07 16 08.5	
	comp=E,33nm,0.4s						
GO05	**Huala**	**2.21**	**358**	*e*P	Pn	07 15 36.9	-0.1
GO05				*e*S	Sn	07 16 01.1	-4.2
GO05				IAML		07 16 08.5	
	comp=N,32nm,0.3s						
LR03	**Panguipulli**	**2.44**	**190**	*e*P	Pn	07 15 36.8	-3.1
LR03				*i* S	Sn	07 16 03.8	-6.8
LR03				IAML		07 16 13.2	
	comp=E,49nm,0.3s						
BO02	**Sierra Bellavi**	**2.56**	**19**	*e*P	Pn	07 15 41.7	+0.3
BO02				*i* S	Sn	07 16 14.0	+0.7
BO02				IAML		07 16 18.7	
	comp=N,60nm,0.3s						
BO02	**Sierra Bellavi**	**2.56**	**19**	*e*P	Pn	07 15 41.8	+0.3
BO02				*e*S	Sn	07 16 12.7	-0.6
BO02				IAML		07 16 18.7	
	comp=N,62nm,0.3s						
BO01	**Tunca**	**2.88**	**12**	*e*P	Pn	07 15 44.9	-0.6
BO01				*i* S	Sn	07 16 19.8	-0.7
BO01	**Tunca**	**2.88**	**12**	*e*P	Pn	07 15 44.9	-0.5
BO01				*e*S	Sn	07 16 19.7	-0.8
BO01				IAML		07 16 23.0	
	comp=E,30nm,0.3s						

*KRNET **20** 07:16:01.5±0.1, 41°.57N×71°.46E, h17km, mb2.3*
*NNC **20** 07:16:01.9±2.3, 41°.42N×71°.47E, h7km±18km, mb3.0, mpv2.6, Error ellipse: s-maj=31.0km s-min=6.8km az=15.0*
*SOME **20** 07:16:02.0, 41°.55N×71°.58E, h0km*
ISC 20 07:16:01.8±1.2, 41°.54N±0°.04×71°.49E±0°.02, h4km±10km, n18, σ0s83/34, 14C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**0.26**	**268**	⇑*e*P	Pg	07 16 06.7	-0.2
	baz=43						
TRKS				⇑*e*S	Sg	07 16 10.4	+0.1
	baz=43						
ARK	**Arkit**	**0.44**	**54**	⇑*e*P	Pg	07 16 10.3	0.0
	baz=59						
ARK				⇑*e*S	Sg	07 16 16.5	+0.5
	baz=59						
ARSB	**Arslanbob**	**1.15**	**100**	⇓*e*P	Pg	07 16 23.5	-0.2
	baz=2.0						
ARSB				⇓*e*S	Sg	07 16 38.9	+0.3
	baz=2.0						
MNAS	**Manas**	**1.21**	**38**	⇑*e*P	Pg	07 16 23.8	-1.2
	baz=40						
MNAS				⇑*e*S	Sg	07 16 39.9	-0.8
	baz=40						
IUG	**Iuzhnay**	**1.25**	**300**	P	Pg	07 16 25.2	-0.4
	16nm,0.2s						
IUG				S	Sn	07 16 42.3	-1.0
	36nm,0.6s						
IUG	**Iuzhnay**	**1.25**	**300**	*e*P	Pn	07 16 26.2	+0.1
	13nm,0.2s						
IUG				*e*S	Sn	07 16 42.8	-0.5
	30nm,0.2s						
OHH	**Osh**	**1.41**	**136**	⇓*e*P	Pn	07 16 28.3	0.0
	baz=36						
OHH				⇓*e*S	Sn	07 16 47.5	+0.1
	baz=36						
KK31	**Karatay Array**	**1.72**	**335**	Pn	Pg	07 16 34.7	-0.1
	1.5nm,0.3s,baz=160,slow=16,SNR=18						
KK31				⇑Sn	Sg	07 16 58.4	+1.4
	3.8nm,0.5s,baz=152,slow=29,SNR=12						
KKAR	**Karatay Array**	**1.72**	**335**	⇓*e*P	Pn	07 16 32.5	0.0
	baz=36						
KKAR				⇓*i*S	Sn	07 16 54.8	-0.1
	baz=36						
AML	**Almayashu**	**1.75**	**70**	⇑Pn	Pb	07 16 35.0	+0.3
	0.1nm,0.3s						
AML				⇑Sn	Sb	07 16 57.3	+0.1
	1.0nm,0.5s						
AML	**Almayashu**	**1.75**	**70**	⇑*e*P	Pn	07 16 33.9	+0.6
	baz=71						
AML				⇑*e*S	Sb	07 16 57.3	+0.1
	baz=71						
MRKS	**Merke**	**1.77**	**46**	P	Pb	07 16 35.2	+0.4
	3.2nm,0.2s						
MRKS				S	Sg	07 16 59.4	+0.9
	13nm,0.3s						
MRKS	**Merke**	**1.77**	**46**	*e*P	Pb	07 16 35.2	+0.4
	3.2nm,0.2s						
MRKS				*e*S	Sg	07 16 59.4	+0.9
	13nm,0.3s						
EKS2	**Erkin-Say**	**2.04**	**56**	⇓*e*P	Pn	07 16 37.8	+0.8
	baz=57						
EKS2				⇓*e*S	Sb	07 17 04.1	-1.1
	baz=57						
ARLS	**Aral**	**2.15**	**80**	⇓*e*P	Pn	07 16 39.6	+1.1
	baz=82						
ARLS				⇓*e*S	Sb	07 17 07.1	-1.2
	baz=82						
AAK	**Ala-Archa**	**2.49**	**63**	⇑*e*P	Pn	07 16 44.1	+0.9
	baz=64						
AAK				⇑*e*S	Sn	07 17 15.2	+1.0
	baz=64						
TKM2	**Tokmak 2**	**3.35**	**64**	⇓Pg	Pg	07 17 04.5	-1.4
	0.6nm,0.4s						
TKM2				⇑Lg	Lg	07 17 48.0	
	1.7nm,0.7s						
KST	**Kastek**	**3.64**	**64**	*e*Pg	Pg	07 17 09.6	-2.0
	0.8nm,0.2s						
KST				*e*Lg	Lg	07 17 58.1	
	3.9nm,0.4s						

IDC 20 07:35:09.5±5.5, 2°.15S×102°.47E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=293.6km s-min=24.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.80**	**122**	P	P	07 42 11.3	+0.3
	0.3nm,0.5s,baz=302,slow=9.0,SNR=4.5						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**37.19**	**128**	P	P	07 42 22.4	-0.3
	0.2nm,0.4s,baz=298,slow=8.2,SNR=4.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**51.87**	**342**	P	P	07 44 19.8	+0.1
	0.9nm,0.6s,baz=144,slow=7.6,SNR=7.1						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**57.80**	**348**	P	P	07 45 02.5	0.0
	1.1nm,0.4s,baz=164,slow=6.6,SNR=5.1						
	1.1nm,0.4s						
TXAR	**Lajitas Array**	**143.27**	**40**	PKP	PKPbc	07 54 44.6	+0.9
	0.3nm,0.7s,baz=347,slow=2.8,SNR=4.4						

*SJA **20** 07:50:06.2±0.8, 21°.43S×66°.77W, h249km±7km, ML3.9, MW3.7*
*SCB **20** 07:50:08.3±1.2, 21°.51S×66°.78W, h217km±7km, ML3.9/3, MW4.0, Error ellipse: s-maj=4.4km s-min=2.9km az=0.0*
ISC 20 07:50:07.0±1.6, 21°.48S±0°.04×66°.79W±0°.04, h233km±12km, n53, σ1s51/86, 1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.10**	**78**	Pg	Pn	07 50 41.6	+0.2
MOCB				Sg	S	07 51 05.7	-2.5
MOCB				IAML		07 51 06.5	
	1μm,0.2s						
YJA	**Yavi**	**1.38**	**121**	Pg	Pn	07 50 43.8	+0.5
YJA	**Yavi**	**1.38**	**121**	*e*P	Pn	07 50 43.9	+0.5
YJA				*e*S	S	07 51 10.4	-1.2
AOVT	**TarijaAcel**	**1.94**	**92**	Pg	Pn	07 50 48.0	+0.2
LVC	**Limon Verde**	**2.27**	**240**	Pg	Pn	07 50 51.5	+0.4
LVC	**Limon Verde**	**2.27**	**240**	*e*P	Pn	07 50 52.2	+1.2
LVC				*e*S	S	07 51 26.2	+0.7
PB09	**IPOC Station P**	**2.30**	**262**	Pg	Pn	07 50 52.0	+0.8
PB09				Sg	S	07 51 25.8	0.0
PB09	**IPOC Station P**	**2.30**	**262**	*e*P	Pn	07 50 52.4	+1.1
PB09				*i* S	S	07 51 26.8	+1.0
PB09	**IPOC Station P**	**2.30**	**262**	*e*P	Pn	07 50 52.4	+1.1
PB09				*e*S	S	07 51 27.3	+1.5
PB09				IAML		07 51 28.9	
	comp=Z,93nm,0.3s						
PB01	**IPOC Station P**	**2.55**	**279**	Pg	Pn	07 50 54.8	+1.1
PB01				Sg	S	07 51 29.4	-0.9
PB01				IAML		07 51 33.0	
	comp=Z,160nm,0.2s						
PB01	**IPOC Station P**	**2.55**	**279**	*e*P	Pn	07 50 54.2	+0.5
PB01				*i* S	S	07 51 28.8	-1.5
PB01				IAML		07 51 32.4	
	comp=E,213nm,0.3s						
PB01	**IPOC Station P**	**2.55**	**279**	*e*P	Pn	07 50 54.3	+0.6
PB01				*e*S	S	07 51 30.4	+0.1
PB01				IAML		07 51 31.7	
	comp=Z,163nm,0.1s						
PB08	**IPOC Station P**	**2.58**	**301**	Pg	Pn	07 50 55.3	+1.0
PB08	**IPOC Station P**	**2.58**	**301**	*e*P	Pn	07 50 55.4	+1.0
PB08				*i* S	S	07 51 31.0	-0.4
PB08				IAML		07 51 32.9	
	comp=E,120nm,0.4s						
PB08	**IPOC Station P**	**2.58**	**301**	*e*P	Pn	07 50 55.4	+1.0
PB08				*e*S	S	07 51 32.3	+1.0
PB06	**IPOC Station P**	**2.85**	**244**	Pg	Pn	07 50 58.5	+1.5
PB06	**IPOC Station P**	**2.85**	**244**	*e*P	Pn	07 50 58.3	+1.3
PB06				*e*S	S	07 51 36.4	+0.1
PB06				IAML		07 51 41.3	
	comp=Z,134nm,0.3s						
GO01	**Chusmiza**	**2.88**	**308**	Pg	Pn	07 50 58.7	+1.0
GO01	**Chusmiza**	**2.88**	**308**	*e*P	Pn	07 50 58.6	+0.9
GO01				*e*P		07 50 58.8	
GO01				*e*S	S	07 51 41.6	+4.2
GO01				IAML		07 51 46.2	
	comp=Z,79nm,0.1s						
PB07	**IPOC Station P**	**2.89**	**264**	Pg	Pn	07 50 58.3	+0.9
PB07	**IPOC Station P**	**2.89**	**264**	*e*P	Pn	07 50 58.0	+0.6
PB07				*i* S	S	07 51 34.8	-2.2
PB07				IAML		07 51 35.5	
	comp=E,485nm,0.4s						
PB07	**IPOC Station P**	**2.89**	**264**	*e*P	Pn	07 50 58.1	+0.6
PB07				*e*S	S	07 51 35.2	-1.8
PB07				*e*S	S	07 51 35.8	-1.2
PB07				IAML		07 51 36.3	
	comp=Z,403nm,0.4s						
PB02	**IPOC Station P**	**2.90**	**273**	Pg	Pn	07 50 58.2	+0.7
PB02				Sg	S	07 51 35.3	-1.8
PB02				IAML		07 51 41.9	
	comp=Z,291nm,0.5s						
PB02	**IPOC Station P**	**2.90**	**273**	⇓*i*P	Pn	07 50 58.2	+0.7
PB02				*i* S	S	07 51 34.7	-2.3
PB02	**IPOC Station P**	**2.90**	**273**	*e*P	Pn	07 50 58.2	+0.7
PB02				*e*S	S	07 51 35.2	-1.8
PB02				IAML		07 51 35.5	
	comp=Z,580nm,0.4s						
PB15	**IPOC Station P**	**3.02**	**235**	Pg	Pn	07 50 59.8	+0.9
PB15	**IPOC Station P**	**3.02**	**235**	*e*P	Pn	07 51 00.8	+1.9
PB15				*i* S	S	07 51 39.4	-0.3
PB15	**IPOC Station P**	**3.02**	**235**	*e*P	Pn	07 51 00.6	+1.7
PB15				*e*S	S	07 51 39.4	-0.3
SOEO	**Opoqueri**	**3.08**	**340**	Pg	Pn	07 51 01.9	+2.0
HMBC	**Humberstone**	**3.13**	**292**	*e*P	Pn	07 51 00.2	+0.1
HMBC				*e*S	S	07 51 40.4	-1.4
HMBC				IAML		07 51 42.2	
	comp=Z,301nm,0.4s						
AZAP	**Zapla**	**3.17**	**150**	*e*P	Pn	07 51 01.5	+1.0
AZAP				*e*S	S	07 51 42.7	0.0
PATCX	**Punta Patache**	**3.20**	**281**	*e*P	Pn	07 51 01.5	+0.7
PATCX				*e*S	S	07 51 42.3	-0.9
PATCX				IAML		07 51 43.6	
	comp=Z,94nm,0.4s						
PB04	**IPOC Station P**	**3.23**	**254**	Pg	Pn	07 51 02.0	+0.8
PB04	**IPOC Station P**	**3.23**	**254**	*e*P	Pn	07 51 02.1	+0.8
PB04				*i* S	S	07 51 41.5	-2.4
PB04	**IPOC Station P**	**3.23**	**254**	*e*P	Pn	07 51 02.1	+0.8
PB04				*e*S	S	07 51 42.2	-1.7
PB04				IAML		07 51 46.8	
	comp=Z,168nm,0.1s						
ASTB	**Santa Barbara**	**3.27**	**139**	*e*P	Pn	07 51 02.7	+1.0
ASTB				*e*S	S	07 51 43.5	-1.3
TA01	**Diego Aracena**	**3.29**	**285**	*e*P	Pn	07 51 01.7	-0.1
TA01	**Diego Aracena**	**3.29**	**285**	*e*P	Pn	07 51 02.0	+0.2
TA01				*e*S	S	07 51 42.5	-2.3
SOTI	**Planta Incahua**	**3.36**	**61**	Pg	Pn	07 51 03.2	+0.4
SLA	**San Lorenzo**	**3.44**	**160**	*e*P	Pn	07 51 05.9	+2.3
SOET	**ToroToro**	**3.47**	**16**	Pg	Pn	07 51 05.1	+0.9
ALOL	**LOMAS DE OLMED**	**3.49**	**132**	*e*P	Pn	07 51 04.4	+0.4
PB16	**IPOC Station P**	**4.04**	**320**	Pg	Pn	07 51 13.1	+2.0
PB16	**IPOC Station P**	**4.04**	**320**	*e*P	Pn	07 51 12.8	+1.7
PB16				*i* S	S	07 52 02.0	+0.4
PB16	**IPOC Station P**	**4.04**	**320**	*e*P	Pn	07 51 12.8	+1.7
PB16				*e*S	S	07 51 58.8	-2.8
PB16				IAML		07 52 06.8	
	comp=Z,48nm,0.5s						
PB12	**IPOC Station P**	**4.38**	**310**	*e*P	Pn	07 51 14.1	-0.6
PB12				*i* S	S	07 52 03.8	-4.6
PB12	**IPOC Station P**	**4.38**	**310**	*e*P	Pn	07 51 14.2	-0.6
PB12				*e*S	S	07 52 05.4	-2.9
PB12				IAML		07 52 10.8	
	comp=Z,56nm,0.3s						
GO02	**Mina Guanaco**	**4.48**	**214**	Pg	Pn	07 51 17.3	+1.1
GO02	**Mina Guanaco**	**4.48**	**214**	*e*P	Pn	07 51 17.3	+1.1
GO02				*e*S	S	07 52 09.7	-1.2
GO02				IAML		07 52 13.8	
	comp=Z,241nm,0.1s						
PB14	**IPOC Station P**	**4.57**	**226**	*e*P	Pn	07 51 18.1	+0.9
PB14				*e*S	S	07 52 09.8	-3.1
PB14				IAML		07 52 11.2	
	comp=Z,136nm,0.2s						
BBOE	**La Paz, Chanca**	**4.77**	**346**	Pg	Pn	07 51 22.3	+2.2
BBOD	**La Paz, Gloria**	**5.11**	**340**	Pg	Pn	07 51 26.2	+2.0
LPAZ	**La Paz**	**5.31**	**346**	Pg	Pn	07 51 28.6	+1.7

*UPA **20** 08:05:55.0±0.3, 8°.59N×84°.33W, h30km±12km, ML3.7*
*UCR **20** 08:05:56.2±0.8, 8°.85N×84°.11W, h0km±8km, MW3.5*
ISC 20 08:05:54.8±2.1, 8°.76N±0°.08×84°.14W±0°.06, h8km±12km, n39, σ1s05/47, 2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	**Naranjito**	**0.71**	**3**	*e*P	Pb	08 06 09.1	-0.4
LLNJ				*e*S	Sb	08 06 19.5	+0.1
CDM	**Cerro de Muert**	**0.87**	**25**	*e*P	Pg	08 06 11.8	+0.1
BUS1	**Rivas**	**0.88**	**26**	*e*P	Pg	08 06 11.7	-0.1
BUS1				*e*S	Sb	08 06 23.9	-0.9
RAZU	**San Marcos de**	**0.90**	**7**	*e*P	Pb	08 06 12.3	-0.5
ABE2	**San Pablo**	**0.94**	**5**	*e*P	Pb	08 06 13.2	-0.4
DRK0	**Durika**	**1.02**	**60**	*e*P	Pg	08 06 14.6	+0.2
ACOS	**Acosta**	**1.03**	**359**	*e*P	Pg	08 06 14.5	-0.1
REPA	**Paraso**	**1.10**	**14**	*e*P	Pn	08 06 16.6	-0.1
SANTA	**Santa Ana**	**1.17**	**358**	*e*P	Pg	08 06 16.8	-0.4
VINA	**Juan Vinas**	**1.20**	**19**	*e*P	Pb	08 06 17.5	-0.3
BELE	**Belen**	**1.21**	**358**	*e*P	Pb	08 06 17.5	-0.6
TURIB	**Turrialba**	**1.23**	**21**	*e*P	Pn	08 06 18.6	+0.2
RAFA	**San Farael, Vo**	**1.24**	**15**	*e*P	Pb	08 06 18.3	-0.3
ICR3	**Volcano Irazu**	**1.25**	**14**	*e*P	Pn	08 06 19.1	+0.1
VICA	**Volcano Irazu**	**1.25**	**13**	*e*P	Pg	08 06 18.4	-0.5
VERB	**Verbena**	**1.26**	**20**	*e*P	Pg	08 06 18.7	-0.3
VTCV	**VTCV, Calle Va**	**1.28**	**19**	*e*P	Pb	08 06 19.0	-0.4
CVTQ	**Turrialba Volc**	**1.29**	**17**	*e*P	Pg	08 06 19.3	-0.3
CVTV	**Tajo**	**1.30**	**17**	*e*P	Pb	08 06 19.2	-0.4
MLIR3	**Monte Lirio, C**	**1.30**	**88**	*e*P	Pn	08 06 20.2	+0.8
MLIR3				*e*S	Sn	08 06 38.5	+1.4
RVSTA	**Santa Teresita**	**1.30**	**22**	*e*P	Pg	08 06 19.4	-0.4
VTR0	**Volcan Turrial**	**1.31**	**17**	*e*P	Pn	08 06 19.7	-0.1
CVTR	**Volcan Turrial**	**1.31**	**17**	*e*P	Pg	08 06 19.6	-0.3
VTLO	**VTLO**	**1.34**	**18**	*e*P	Pn	08 06 19.9	-0.2
RVLA	**Villa Bonita**	**1.45**	**22**	*e*P	Pb	08 06 21.7	-0.4
BC3P	**Paso Ancho**	**1.51**	**88**	*e*P	Pn	08 06 22.8	+0.4
BATAN	**Batan**	**1.53**	**29**	*e*P	Pb	08 06 23.3	-0.2
BATAN				*e*S	Sg	08 06 45.5	+1.5
CPMI	**Catarata Coope**	**1.53**	**351**	*e*P	Pn	08 06 23.1	+0.4
BRIBI	**Bribri**	**1.54**	**56**	*e*P	Pg	08 06 24.4	+0.1
BCO2	**Palmira**	**1.59**	**91**	*e*P	Pn	08 06 19.6	-3.9
BCO2				*e*S	Sb	08 06 46.0	+0.9
BCO2	**Palmira**	**1.59**	**91**	⇓*e*P	Pn	08 06 24.3	+0.9
BCO2				AMP		08 06 24.8	
	comp=Z,920nm,0.2s						
BCO2				*e*S	Sg	08 06 46.4	+0.2
DVD	**David**	**1.70**	**101**	*e*P	Pn	08 06 18.9	-5.9
CASO	**Castillo**	**1.76**	**341**	*i* P	Pb	08 06 27.7	+0.2
CNI2	**El Empalme, Bo**	**1.78**	**68**	*e*P	Pn	08 06 21.4	-4.4
CNI2				*e*S	Sb	08 06 49.5	-0.6
CNI2	**El Empalme, Bo**	**1.78**	**68**	⇓*e*P	Pn	08 06 26.4	+0.6
CNI2				AMP		08 06 26.6	
	comp=Z,550nm,0.2s						
CNI2				*e*S	Sb	08 06 50.0	-0.1
CEDE	**Laguna Cedeo**	**1.81**	**342**	*i* P	Pg	08 06 29.0	-0.4
TABAC	**Tabacon**	**1.84**	**340**	*i* P	Pg	08 06 30.0	0.0
COVE	**Coope Vega, Sa**	**1.97**	**352**	*e*P	Pb	08 06 30.7	-0.2
CHGR2	**Aguacate**	**1.98**	**85**	*e*P	Pn	08 06 29.4	+0.8
CHGR2				*e*S	Sb	08 06 55.3	-0.7

IDC 20 08:54:14.2±823.0, 38°.81N×2°.44W, h0km, Error ellipse: s-maj=362.2km s-min=160.5km az=83.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**9.84**	**104**	I	I	09 53 00.0	
	0.1nm,1.3s,baz=291,slow=360,SNR=6.1						
I26DE	**FREYUNG INFRAS**	**15.35**	**44**	I	I	10 25 40.0	
	baz=235,slow=323,SNR=0.5						
I43RU	**DUBNA INFRASON**	**31.53**	**42**	I	I	12 06 40.0	
	baz=253,slow=327,SNR=1.7						
I31KZ	**AKTYUBINSK INF**	**43.45**	**54**	I	I	13 20 50.0	
	baz=278,slow=307,SNR=0.7						

IDC 20 09:00:05.2±1.9, 0°.68S×127°.66E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=170.1km s-min=23.4km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.23**	**162**	P	P	09 04 41.6	-0.4
	0.4nm,0.5s,baz=340,slow=11,SNR=4.8						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**23.64**	**166**	P	P	09 05 18.6	+0.2
	1.6nm,0.8s,baz=345,slow=9.9,SNR=19						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**61.70**	**326**	P	P	09 10 24.5	-0.8
	0.4nm,0.6s,baz=116,slow=7.6,SNR=3.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**65.94**	**328**	P	P	09 10 53.7	+0.6
	0.4nm,0.6s,baz=135,slow=5.6,SNR=4.4						
	0.4nm,0.6s						

*NEIC **20** 09:16:07.2±1.2, 17°.65S±0°.08×178°.4W±0°.2, h584km±17km, mb4.1/17, Error ellipse: s-maj=22.8km s-min=10.6km az=78.0*
*IDC **20** 09:16:09.7±1.9, 17°.25S×179°.01W, h578km±18km, mb3.3/6, mbtmp4.2/8, Error ellipse: s-maj=75.8km s-min=17.3km az=148.0*
ISC 20 09:16:07.3±0.8, 17°.6S±0°.2×178°.4W±0°.1, h600km, n31, σ1s42/30, mb4.2/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**268**	P	P	09 17 27.3	-1.7
MSVF	**Nonsavu**	**3.41**	**268**	P	P	09 17 26.5	-2.5
	25nm,0.6s,baz=101,slow=2.8,SNR=21						
AFI	**Afiamalu**	**7.35**	**61**	P	P	09 17 58.5	-2.2
NIUE	**Niue**	**8.15**	**102**	P	P	09 18 06.2	-1.8
PINNC	**Pines Island,**	**14.21**	**247**	P	P	09 19 05.6	-2.6
DZM	**Mont Dzumac**	**14.95**	**250**	P	P	09 19 14.2	-0.9
DZM	**Mont Dzumac**	**14.95**	**250**	P	P	09 19 12.7	-2.5
	6.8nm,0.8s,baz=62,slow=10,SNR=2.7						
ARMA	**Armidale**	**30.11**	**239**	P	P	09 21 30.5	+0.4
ARMA				IAmb	IAmb	09 21 43.2	
	comp=Z,1.9nm,0.8s						
PYZ	**Puysegur Point**	**31.05**	**200**	P	P	09 21 38.0	+0.3
CTAO	**Charters Tower**	**33.53**	**260**	P	P	09 21 59.2	+0.2
CTAO				IAmb	IAmb	09 22 06.

CASY Casey 66.41 205 P P 09 25 58.7 +1.0
CASY IAmb IAmb 09 26 03.6
comp=Z,5.8nm,1.1s
ILAR Eielson Array 85.61 13 P P 09 27 46.0 +3.1
comp=Z,0.3nm,0.4s,baz=225,slow=5.2,SNR=14
comp=Z,0.3nm,0.4s
TXAR Lajitas Array 85.82 58 P P 09 27 50.8 +5.9
comp=Z,0.7nm,0.8s,baz=214,slow=5.6,SNR=7.3
comp=Z,0.7nm,0.8s
PDAR Pinedale Array 87.12 43 P P 09 27 55.8 +4.9
comp=Z,0.5nm,0.6s,baz=232,slow=4.3,SNR=6.3
comp=Z,0.5nm,0.6s

KRSC 20 09:20:45.1±1.9, 52°.26N×168°.92E, h40km±65km, MI4.2, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**4.88**	**301**	*eP*	Pn	09 21 58.7	+3.0
MKZ				*eS*	Sn	09 22 55.6	+4.7
KII	**Karymskiy**	**5.97**	**291**	*eP*	Pn	09 22 14.5	+3.6
KII				*eS*	Sn	09 23 23.9	+6.0
SDLR	**Sedlovina**	**6.18**	**283**	*eP*	Pn	09 22 18.6	+4.9
UGLR	**Uglovaya**	**6.21**	**283**	*eP*	Pn	09 22 19.3	+5.1
SMAR	**Somma**	**6.22**	**283**	*eP*	Pn	09 22 19.3	+4.8
DALK	**Dalny**	**6.24**	**281**	*eP*	Pn	09 22 18.9	+4.5
KRER	**Koryakskii**	**6.26**	**284**	*eP*	Pn	09 22 19.7	+4.8
AVH	**Avacha**	**6.26**	**283**	*eP*	Pn	09 22 19.8	+4.9
KRX	**Arik**	**6.33**	**284**	*eP*	Pn	09 22 20.2	+4.4
KOK	**Koryaka**	**6.33**	**283**	*eP*	Pn	09 22 20.3	+4.6
RUS	**Russkaya**	**6.38**	**276**	*eP*	Pn	09 22 21.4	+5.0
MTVR	**Mutnovka**	**6.58**	**276**	*eP*	Pn	09 22 24.6	+5.3
KRMR	**Karymshinskiy**	**6.61**	**279**	*eP*	Pn	09 22 24.4	+4.8
GRL	**Gorelyy**	**6.64**	**277**	*eP*	Pn	09 22 25.9	+5.7
KDTR	**Khodutka, Kamc**	**6.71**	**270**	*eP*	Pn	09 22 26.0	+5.1
KDTR				*eS*	Sn	09 23 40.0	+4.1
ASAK	**Asacha**	**6.76**	**275**	*eP*	Pn	09 22 27.8	+6.1
GNL	**Ganaly**	**6.78**	**287**	*eP*	Pn	09 22 27.7	+5.6

---

*IDC **20** 09:24:22.2±4.1, 6°.60S×128°.89E, h290km±71km, mb3.2/1, mbtmp4.5/4, Error ellipse: s-maj=63.6km s-min=41.0km az=115.0*

ISC 20 09:24:21.5±1.1, 6°.5S±0°.1×128°.80E±0°.09, h300km, n16, σ1§04/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.94**	**44**	P	**Pn**	**09 25 38.9**	**+0.5**
SOEI	**Soe**	**5.53**	**234**	P	**Pn**	**09 25 46.8**	**+1.4**
BATI	**Baumata**	**6.28**	**234**	P	**Pn**	**09 25 55.0**	**+0.8**
	42nm,0.4s,baz=65,slow=5.4,SNR=6.2						
BATI				S	**S**	**09 27 08.8**	**-0.2**
	52nm,0.5s,baz=66,slow=20,SNR=9.4						
KDU	**Kakadu**	**7.13**	**150**	P	Pn	09 26 09.7	+5.2
KNRA	**Kununurra**	**9.12**	**180**	P	**P**	**09 26 33.6**	**+0.2**
PLAI	**Plampang**	**11.17**	**257**	P	**Pn**	**09 26 52.8**	**-1.2**
WRAB	**Tennant Creek**	**14.40**	**159**	P	**Pn**	**09 27 33.4**	**+0.5**
WRA	**Warramunga Arr**	**14.40**	**159**	P	**Pn**	**09 27 33.4**	**+0.4**
	5.0nm,0.4s,baz=340,slow=11,SNR=65						
WRA				S	**S**	**09 30 08.6**	**-1.8**
	0.4nm,0.4s,baz=340,slow=22,SNR=3.2						
COEN	**Coen**	**15.96**	**119**	P	**Pn**	**09 27 50.7**	**-0.5**
QIS	**Mount Isa**	**17.46**	**144**	P	**Pn**	**09 28 07.0**	**-1.8**
ASAR	**Alice Springs**	**17.76**	**164**	P	**P**	**09 28 09.8**	**+1.1**
	5.6nm,0.3s,baz=343,slow=11,SNR=190						
ASAR				S	**S**	**09 31 17.1**	**-0.1**
	3.2nm,0.9s,baz=344,slow=21,SNR=21						
WRKA	**Warakurna**	**18.44**	**181**	P	**P**	**09 28 17.2**	**+1.3**
OOD	**Oodnadatta**	**22.16**	**164**	P	**P**	**09 28 53.3**	**+0.3**
MULG	**Mulgathing**	**24.17**	**169**	P	**P**	**09 29 10.3**	**-0.9**
KMBL	**Kambalda**	**25.57**	**194**	P	**P**	**09 29 23.1**	**-0.7**
STKA	**Stephens Creek**	**27.93**	**156**	P	**P**	**09 29 44.2**	**-0.5**
	0.9nm,0.5s,baz=340,slow=11,SNR=4.0						
	0.9nm,0.5s						

---

*IDC **20** 09:27:00.4±0.8, 52°.26N×169°.76W, h0km, mb4.2/18, mbtmp4.2/21, ML3.5/3, MS3.6/2, Error ellipse: s-maj=24.9km s-min=15.9km az=173.0*

*AEIC **20** 09:27:02.7±2.6, 51°.76N±0°.07×169°.86W±0°.09, h27km±7km, Error ellipse: s-maj=11.7km s-min=6.2km az=151.0*

*NEIC **20** 09:27:03.4±2.4, 51°.77N±0°.09×169°.86W±0°.09, h31km±9km, mb4.0/33, ML3.8/6, ML3.6(AEIC), Error ellipse: s-maj=14.1km s-min=6.2km az=154.0*

ISC 20 09:27:03.5±0.6, 51°.82N±0°.07×169°.83W±0°.05, h29km, n100, σ1§09/104, mb4.2/23, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.97**	**4**		**Pn**	**09 27 21.2**	**+0.1**
CLCO					**Sb**	**09 27 35.3**	**+1.2**
CLES	**Cleveland East**	**1.01**	**358**		**Pn**	**09 27 21.3**	**-0.3**
CLES					**Sn**	**09 27 35.5**	**+0.7**
CLES				IAML		09 27 49.8	
	comp=E,3μm,0.6s						
NIKH	**Nikolski High**	**1.30**	**27**		**Pn**	**09 27 25.3**	**-0.3**
NIKH	**Nikolski High**	**1.30**	**27**		**Sn**	**09 27 43.1**	**+1.1**
OKWR	**Okmok West Rim**	**1.90**	**31**		**Pn**	**09 27 35.2**	**+1.3**
OKCE	**Okmok Cone E**	**1.90**	**32**		**Pn**	**09 27 34.8**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**1.91**	**34**		**Pn**	**09 27 34.7**	**+0.6**
OKNC	**Okmok New Cone**	**1.94**	**32**		**Pn**	**09 27 36.0**	**+1.5**
OKFG	**Magazine Ridge**	**1.98**	**35**		**Pn**	**09 27 35.4**	**+0.5**
OKFG					**Sn**	**09 28 00.6**	**+1.9**
MAPS	**Pakushin South**	**2.65**	**40**		**Pn**	**09 27 44.4**	**+0.2**
KOFP	**Korovin Flat P**	**2.68**	**281**		**Pn**	**09 27 45.0**	**+0.4**
ATKA	**Atka Island**	**2.73**	**280**		**Pn**	**09 27 45.1**	**-0.1**
ATKA					**Sn**	**09 28 16.9**	**-0.3**
ATKA				IAML		09 28 22.7	
	comp=E,181nm,0.7s						
KOKL	**Mount Kliuchef**	**2.75**	**282**		**Pn**	**09 27 46.0**	**+0.5**
KOWE	**Korovin West**	**2.78**	**283**		**Pn**	**09 27 46.7**	**+0.7**
MNAT	**Makushin Natee**	**2.81**	**41**		**Pn**	**09 27 47.7**	**+1.3**
UNV	**Unalaska Valle**	**2.86**	**44**		**Pn**	**09 27 48.1**	**+1.1**
GSMY	**Great Sitkin M**	**3.86**	**276**		**Pn**	**09 28 01.0**	**+0.1**
GSTR	**Great Sitkin T**	**3.87**	**277**		**Pn**	**09 28 01.6**	**+0.7**
GSCK	**Great Sitkin C**	**3.93**	**275**		**Pn**	**09 28 02.0**	**+0.3**
ADAG	**Mount Adagdak**	**4.20**	**275**		**Pn**	**09 28 06.6**	**+1.1**
ADK	**Adak**	**4.25**	**274**	Pn	**Pn**	**09 28 06.6**	**+0.4**
ADK				IAML		09 28 59.0	
	comp=E,144nm,0.7s						
ADK				IAML		09 29 22.7	
	comp=E,118nm,1.5s						
KIWB	**Kanaga Island**	**4.54**	**273**		**Pn**	**09 28 10.8**	**+0.7**
KIMD	**Kanaga Island**	**4.60**	**272**		**Pn**	**09 28 11.4**	**+0.5**
TAPA	**Tanaga Point A**	**4.95**	**273**		**Pn**	**09 28 16.6**	**+0.7**
TAFP	**Tanaga Falls P**	**5.06**	**274**		**Pn**	**09 28 17.8**	**+0.6**
SDPT	**Sand Point**	**6.59**	**54**	Pn	**Pn**	**09 28 39.9**	**+1.5**
CNBA	**Chernabura Isl**	**6.83**	**60**	Pn	**Pn**	**09 28 42.3**	**+0.8**
CHIR	**Chirikof Islan**	**9.30**	**59**	Pn	**Pn**	**09 29 16.3**	**+0.9**
KDAK	**Kodiak Island**	**11.59**	**52**	Pn	**Pn**	**09 29 44.6**	**-2.1**
	comp=E,0.4nm,0.3s,baz=189,slow=18,SNR=0.9						
	comp=E,7.4nm,1.0s						
GHO	**Glory Hole Cre**	**15.11**	**41**	Pn	**Pn**	**09 30 35.6**	**+1.0**
GHO				IAmb	IAmb	09 30 59.1	
	comp=Z,14nm,1.1s						
KLU	**Klutina**	**16.23**	**44**	Pn	**Pn**	**09 30 47.5**	**-1.6**
KLU				IAmb	IAmb	09 30 57.8	
	comp=Z,9.9nm,0.9s						
RAGM	**Ragged Mountai**	**16.35**	**49**	Pn	**Pn**	**09 30 49.1**	**-1.5**
H21K	**Melozitna Rive**	**16.36**	**26**	Pn	**Pn**	**09 30 50.7**	**0.0**
H21K				IAmb	IAmb	09 31 01.9	
	comp=Z,10nm,1.4s						
M24K	**Tolsona, Glenn**	**16.40**	**42**	Pn	**Pn**	**09 30 49.8**	**-1.5**
HMT	**Hamilton**	**16.53**	**49**	Pn	**Pn**	**09 30 51.9**	**-1.0**
HMT				IAmb	IAmb	09 31 17.6	
	comp=Z,15nm,0.9s						
N25K	**Chitina, Valde**	**16.85**	**45**	Pn	**Pn**	**09 30 55.4**	**-1.6**
N25K				IAmb	IAmb	09 31 23.1	
	comp=Z,17nm,1.3s						
GLB	**Gilahina Butte**	**17.13**	**46**	P	**Pn**	**09 30 59.7**	**-0.8**
CCB	**Clear Creek Bu**	**17.18**	**33**		**Pn**	**09 30 59.5**	**-1.4**
CCB				IAmb	IAmb	09 31 20.2	
	comp=Z,10.0nm,1.4s						
VRDI	**Verde Repeater**	**17.21**	**47**	P	**Pn**	**09 31 00.0**	**-1.6**
VRDI				IAmb	IAmb	09 31 09.4	
	comp=Z,19nm,1.4s						
MDM	**Murphy Dome**	**17.23**	**32**	P	**Pn**	**09 31 00.9**	**-0.7**
H23K	**Yukon River**	**17.40**	**29**	P	**Pn**	**09 31 03.9**	**+0.1**
ILAR	**Eielson Array**	**17.57**	**34**	P	**Pn**	**09 31 02.0**	**-3.8**
	baz=227,slow=12,SNR=7.7						
	comp=Z,0.5nm,0.8s						
H24K	**Noodor Dome**	**17.91**	**30**	P	**Pn**	**09 31 10.3**	**+0.1**
L26K	**Log Cabin Wild**	**17.98**	**41**	P	**Pn**	**09 31 10.6**	**-0.4**
SCRK	**Sand Creek**	**18.18**	**38**	P	**Pn**	**09 31 12.1**	**-1.4**
M27K	**Edge Creek, AK**	**18.33**	**44**	P	**P**	**09 31 14.8**	**-0.4**
M27K				IAmb	IAmb	09 31 23.2	
	comp=Z,23nm,1.5s						
J26L	**Joseph Creek**	**18.61**	**37**	P	**P**	**09 31 16.7**	**-1.6**
J26L				IAmb	IAmb	09 31 27.4	
	comp=Z,5.8nm,0.6s						
D22K	**Ayikyak River**	**18.97**	**19**	P	**Pn**	**09 31 22.9**	**0.0**
D22K				IAmb	IAmb	09 31 33.1	
	comp=Z,21nm,1.4s						
I26K	**Coal Creek Min**	**19.18**	**35**	P	**P**	**09 31 23.5**	**-0.9**
O29M	**Mount Kennedy**	**19.24**	**52**	P	**P**	**09 31 25.1**	**-0.2**
TOLK	**Toolik Lake Re**	**19.46**	**22**	P	**P**	**09 31 26.1**	**-1.4**
PETK	**Petropavlovsk-**	**19.74**	**287**	P	**P**	**09 31 30.3**	**-0.3**
	comp=Z,2.8nm,0.3s,baz=83,slow=14,SNR=15						
	comp=Z,9.2nm,0.5s						
HYT	**Haines Junctio**	**19.87**	**50**	P	**P**	**09 31 32.1**	**0.0**
BMAR	**Burnt Mountain**	**19.95**	**29**	P	**P**	**09 31 32.7**	**-0.1**
DAWY	**Dawson**	**20.03**	**41**	P	**P**	**09 31 33.9**	**+0.1**
I28M	**Miner Creek**	**20.42**	**37**	P	**P**	**09 31 37.0**	**-1.0**
I28M				IAmb	IAmb	09 31 42.2	
	comp=Z,7.3nm,1.2s						
K29M	**Barlow Dome**	**20.72**	**42**	P	**P**	**09 31 41.0**	**-0.2**
K29M				IAmb	IAmb	09 31 49.0	
	comp=Z,3.9nm,0.9s						
I29M	**Ogilvie Camp,**	**20.99**	**38**	P	**P**	**09 31 43.9**	**-0.2**
I29M				IAmb	IAmb	09 31 49.0	
	comp=Z,5.0nm,0.9s						
H29M	**Whitestone**	**21.35**	**36**	P	**P**	**09 31 48.0**	**+0.1**
I30M	**Mount Dempster**	**21.68**	**39**	P	**P**	**09 31 51.0**	**-0.6**
I30M				IAmb	IAmb	09 32 14.3	
	comp=Z,5.7nm,1.1s						
G29M	**Pine Creek**	**21.79**	**34**	P	**P**	**09 31 52.2**	**-0.5**
G29M				IAmb	IAmb	09 32 17.4	
	comp=Z,10nm,0.9s						
G30M	**tAoh Zraii Nji**	**22.46**	**35**	P	**P**	**09 31 59.8**	**0.0**
G30M				IAmb	IAmb	09 32 19.8	
	comp=Z,5.0nm,0.8s						
MA2	**Magadan**	**23.22**	**305**	P	**P**	**09 32 08.1**	**+0.4**
DLBC	**Dease Lake**	**23.41**	**58**	LR	LR	09 41 07.2	
	comp=Z,110nm,18.3s,baz=222,slow=37						
INK	**Inuvik**	**23.96**	**33**	P	**P**	**09 32 14.9**	**+0.1**
INK				IAmb	IAmb	09 32 36.4	
	comp=Z,5.5nm,1.0s						
YKA	**Yellowknife Ar**	**30.82**	**48**	LR	LR	09 47 36.1	
	comp=Z,135nm,20.2s,baz=9.5,slow=40						
H11S1	**WAKE ISLAND Hy**	**38.03**	**218**	T	T	10 15 26.9	
	baz=18,slow=74						
H11S2	**WAKE ISLAND Hy**	**38.05**	**218**	T	T	10 15 36.3	
	baz=18						
H11S3	**WAKE ISLAND Hy**	**38.05**	**218**	T	T	10 15 42.1	
	baz=18,slow=74						
PDAR	**Pinedale Array**	**40.79**	**78**	P	**P**	**09 34 42.0**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=305,slow=5.2,SNR=7.2						
	comp=Z,0.9nm,0.9s						
SZCU	**Shurtz Canyon**	**41.69**	**87**	P	**P**	**09 34 47.3**	**-2.4**
KSRS	**Korea Array**	**45.19**	**277**	P	**P**	**09 35 18.8**	**+1.3**
	comp=Z,4.1nm,1.0s,baz=50,slow=7.4,SNR=12						
	comp=Z,4.1nm,1.0s						
NEEM	**North Greenlan**	**45.60**	**16**	*i P*	**P**	**09 35 20.1**	**-0.5**
SPITS	**Spitsbergen Ar**	**50.21**	**358**	P	**P**	**09 35 54.0**	**-2.0**
	comp=Z,8.7nm,1.0s,baz=27,slow=13,SNR=1.6						
SPITS				PcP	**PcP**	**09 37 14.8**	**+0.2**
	comp=Z,12nm,0.9s,baz=104,slow=6.1,SNR=2.6						
	comp=Z,8.7nm,1.0s						
SONM	**Songino Array**	**51.34**	**301**	P	**P**	**09 36 04.9**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=52,slow=7.7,SNR=9.1						
	comp=Z,1.8nm,0.8s						
SUMG	**Summit**	**51.39**	**17**	*i P*	**P**	**09 36 05.8**	**+0.4**
SUMG				IAmb	IAmb	09 36 07.6	
	comp=Z,11nm,0.9s						
TXAR	**Lajitas Array**	**53.04**	**88**	P	**P**	**09 36 19.7**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=289,slow=5.9,SNR=7.2						
	comp=Z,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**57.64**	**318**	P	**P**	**09 36 49.9**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=54,slow=7.3,SNR=1.6						
ZALV				PcP	**PcP**	**09 37 44.6**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=64,slow=3.4,SNR=5.9						
	comp=Z,0.7nm,0.5s						
ARCES	**ARCESS Array B**	**58.44**	**354**	P	**P**	**09 36 53.6**	**-2.2**
	comp=Z,2.5nm,0.8s,baz=55,slow=6.4,SNR=1.6						
	comp=Z,2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**62.70**	**318**	P	**P**	**09 37 25.0**	**-0.2**
	comp=Z,1.8nm,0.2s,baz=46,slow=6.9,SNR=7.1						
KURBB				PcP	**PcP**	**09 38 04.6**	**+0.9**
	comp=Z,2.0nm,0.2s,baz=46,slow=3.5,SNR=4.2						
	comp=Z,1.8nm,0.2s						
MKAR	**Makanchi Array**	**63.98**	**313**	P	**P**	**09 37 32.5**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=72,slow=1.5,SNR=4.8						
	comp=Z,0.8nm,0.6s						
BVAR	**Borovoye Array**	**63.98**	**324**	P	**P**	**09 37 33.1**	**-0.6**
	comp=Z,3.3nm,0.5s,baz=46,slow=7.2,SNR=13						
BVAR				PcP	**PcP**	**09 38 10.3**	**+1.4**
	comp=Z,3.5nm,0.7s,baz=35,slow=3.6,SNR=5.6						
	comp=Z,3.3nm,0.5s						
FINES	**FINESS Array B**	**66.37**	**352**	P	**P**	**09 37 46.7**	**-2.3**
	comp=Z,4.5nm,0.8s,baz=77,slow=4.1,SNR=8.0						
	comp=Z,4.5nm,0.8s						
NB2	**NORSAR Subarra**	**67.49**	**359**	P	**P**	**09 37 56.2**	**+0.1**
	comp=Z,4.6nm,1.1s,baz=1.2,slow=6.5						
NOA	**NORSAR Array B**	**67.49**	**359**	P	**P**	**09 37 53.8**	**-2.3**
	comp=Z,1.5nm,0.8s,baz=0.3,slow=6.2,SNR=4.4						
	comp=Z,1.5nm,0.8s						
HFS	**Hagfors**	**68.36**	**358**	P	**P**	**09 38 00.3**	**-1.3**
	comp=Z,4.9nm,0.8s,baz=325,slow=2.3,SNR=5.1						
	comp=Z,4.9nm,0.8s						
TAPN	**Taplejung**	**76.16**	**297**	*eP*	**P**	**09 38 50.3**	**+1.2**
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**76.46**	**283**	P	**P**	**09 38 51.6**	**+1.1**
	comp=Z,1.8nm,0.4s,baz=28,slow=7.1,SNR=12						
	comp=Z,1.8nm,0.4s						
AKASG	**Malin Array Be**	**76.58**	**348**	P	**P**	**09 38 49.7**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=16,slow=6.5,SNR=5.4						
	comp=Z,0.9nm,0.5s						
GUN	**Gumba**	**76.73**	**298**	*eP*	**P**	**09 38 53.9**	**+1.5**
	comp=Z,31nm,1.2s						
JIRN	**Jiri**	**76.76**	**298**	*eP*	**P**	**09 38 53.8**	**+1.2**
RAMN	**Ramite**	**77.09**	**297**	*eP*	**P**	**09 38 55.0**	**+0.7**
PKI	**Pulchoki**	**77.26**	**298**	*eP*	**P**	**09 38 55.8**	**+0.5**
	comp=Z,18nm,1.2s						
DANN	**Dangsing**	**77.54**	**300**	*eP*	**P**	**09 38 57.9**	**+1.1**
	comp=Z,16nm,0.7s						
PYUN	**Piuthan**	**78.15**	**300**	*eP*	**P**	**09 39 01.1**	**+1.0**
	comp=Z,13nm,1.0s						
KBZ	**Khabaz**	**80.70**	**337**	P	**P**	**09 39 14.2**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=57,slow=13,SNR=1.8						
	comp=Z,0.8nm,0.5s						
DAVOX	**Davos/Dischmat**	**81.78**	**0**	P	**P**	**09 39 20.0**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=31,slow=5.9,SNR=4.5						
	comp=Z,2.3nm,0.6s						
ESDC	**Sonseca Array**	**88.05**	**11**	P	**P**	**09 39 51.1**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=353,slow=6.5,SNR=6.9						
	comp=Z,1.2nm,0.9s						
QSPA	**South Pole Qui**	**141.58**	**180**	PKP	**PKiKP**	**09 46 32.6**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=106,slow=6.5,SNR=1.8						
MAW	**Mawson**	**150.27**	**218**	PKPbc	**PKiKP**	**09 46 51.4**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=168,slow=2.6,SNR=5.9						
MAW				PKPab	**pPKPbc**	**09 46 58.3**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=5.4,slow=5.4,SNR=4.6						

---

*IDC **20** 09:29:12.4±0.6, 52°.09S×15°.99E, h0km, mb4.5/15, mbtmp4.5/15, MS4.3/25, Error ellipse: s-maj=22.1km s-min=15.6km az=76.0*

*NEIC **20** 09:29:17.2±1.9, 52°.30S±0°.10×15°.5E±0°.2, h10km±1km, mb5.1/32, Error ellipse: s-maj=20.2km s-min=16.6km az=99.0*

*GCMT **20** 09:29:21.2±0.2, 52°.25S±0°.01×15°.86E±0°.03, h12km, MW5.1/111, Moment Tension Solution. s30, c42; s111, c163; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-4.76±.23; Mθθ4.69±.19; Mφφ0.06±.12; Mrθ-0.15±.40; Mθφ-0.78±.11; Mφr-0.93±.40; Best double couple: M0 4.88000×1016 NP1:φs89.00000°, δ46.00000°, λ-105.00000°. NP2:φs290.00000°, δ46.00000°, λ-75.00000°. Principal axes: T 4.8190, Plg0.0000°, Azm189.0000°; N 0.1140, Plg11.0000°, Azm99.0000°; P -4.9400, Plg79.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 09:29:15.9±0.3, 52°.24S±0°.07×15°.59E±0°.09, h10km, n116, σ1§69/90, mb4.9/28, MS4.4/30, 5C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.21**	**13**	P	**P**	**09 33 52.9**	**+1.9**
SUR	**Sutherland**	**20.21**	**13**	P	**P**	**09 33 45.6**	**-5.4**
	9.0nm,1.1s,baz=322,slow=22,SNR=1.7						
SUR				S	S	09 37 28.1	-10
	6.1nm,0.9s,baz=196,slow=11,SNR=1.7						
SUR				LR	LR	09 39 47.0	
	comp=Z,2μm,21.2s,baz=190,slow=32						
	9.0nm,1.1s						
GRHM	**Grahamstown, E**	**20.50**	**27**	P	**P**	**09 33 54.9**	**+0.9**
GRHM				IAmb	IAmb	09 34 03.5	
	comp=Z,56nm,1.1s						
TROLL	**Troll, Antarti**	**20.66**	**191**	⇑P	**P**	**09 33 56.6**	**+1.1**
	comp=Z,3μm,1.4s						
SNAA	**Sanae**	**21.15**	**196**		**P**	**09 34 01.3**	**+0.5**
SNAA				IAmb	IAmb	09 34 07.0	
	comp=Z,110nm,1.1s						
SNAA	**Sanae**	**21.15**	**196**	⇑P	**P**	**09 34 01.6**	**+0.8**
	comp=Z,929nm,1.0s						
SNAA	**Sanae**	**21.15**	**196**	P	**P**	**09 34 00.0**	**-0.7**
	comp=Z,47nm,1.0s,baz=27,slow=9.7,SNR=75						
SNAA				LR	LR	09 40 15.1	
	comp=Z,1μm,20.8s,baz=26,slow=31						
	comp=Z,47nm,1.0s						
VNA1	**Neumayer--Stat**	**21.42**	**202**	⇑P	**P**	**09 34 05.2**	**+1.7**
	comp=Z,90nm,0.9s						
VNA2	**Neumayer--Watz**	**21.43**	**201**	⇑P	**P**	**09 34 04.2**	**+0.5**
	comp=Z,70nm,0.8s,baz=32,slow=11						
VNA3	**Neumayer Olymp**	**22.17**	**201**	⇑P	**P**	**09 34 11.6**	**0.0**
	comp=Z,90nm,0.9s						
H04S2	**CROZET ISLANDS**	**23.99**	**92**	T	T	10 00 06.8	
	baz=245,slow=74,SNR=121						
H04S3	**CROZET ISLANDS**	**23.99**	**92**	T	T	10 00 07.5	
	baz=245,SNR=5.8						
H04S1	**CROZET ISLANDS**	**24.00**	**92**	T	T	10 00 08.6	
	baz=245,slow=74,SNR=138						
BOSA	**Boshof**	**24.68**	**21**	P	**P**	**09 34 38.6**	**+1.6**
BOSA	**Boshof**	**24.68**	**21**	P	**P**	**09 34 32.8**	**-4.2**
	comp=Z,4.0nm,1.1s,baz=117,slow=7.3,SNR=2.2						
BOSA				LR	LR	09 42 38.6	
	comp=Z,1μm,20.2s,baz=202,slow=33						
	comp=Z,4.0nm,1.1s						
MAW	**Mawson**	**27.35**	**142**	P	**P**	**09 35 01.4**	**+0.8**
MAW	**Mawson**	**27.35**	**142**	P	**P**	**09 34 57.7**	**-2.9**
	comp=Z,0.9nm,0.6s,baz=61,slow=18,SNR=3.5						
MAW				LR	LR	09 43 42.8	
	comp=Z,537nm,21.6s,baz=292,slow=32						
	comp=Z,0.9nm,0.6s						
BELA	**Belgrano 2**	**31.36**	**198**	P	**P**	**09 35 36.3**	**+0.1**
TSUM	**Tsumeb**	**33.01**	**3**	P	**P**	**09 35 51.8**	**+0.6**
TSUM				IAmb	IAmb	09 36 03.5	
	comp=Z,20nm,1.3s						
TSUM	**Tsumeb**	**33.01**	**3**	LR	LR	09 47 06.3	
	comp=Z,666nm,19.4s,baz=156,slow=33						
MATP	**Matopo**	**33.31**	**22**	LR	LR	09 48 00.6	
	comp=Z,552nm,19.8s,baz=238,slow=34						
QSPA	**South Pole Qui**	**37.99**	**180**	P	**P**	**09 36 33.9**	**+0.1**
QSPA				IAmb	IAmb	09 36 43.5	
	comp=Z,19nm,1.1s						
QSPA	**South Pole Qui**	**37.99**	**180**	P	**P**	**09 36 33.3**	**-0.4**
	comp=Z,11nm,1.0s,baz=260,slow=3.4,SNR=20						
QSPA				LR	LR	09 51 02.7	
	comp=Z,547nm,21.4s,baz=224,slow=34						
	comp=Z,11nm,1.0s						
LSZ	**Lusaka**	**38.22**	**20**	LR	LR	09 50 53.7	
	comp=Z,1μm,19.9s,baz=177,slow=34						
SHEL	**Horse Pasture**	**39.96**	**327**	P	**P**	**09 36 50.1**	**-0.4**
SMAI	**San Martin Ant**	**40.50**	**215**	P	**P**	**09 36 53.6**	**-0.7**
SMAI				IAmb	IAmb	09 37 05.1	
	comp=Z,25nm,1.1s						
PMSA	**Palmer Station**	**40.55**	**220**	P	**P**	**09 36 55.8**	**+1.0**
PMSA	**Palmer Station**	**40.55**	**220**	LR	LR	09 49 57.8	
	comp=Z,593nm,21.6s,baz=114,slow=30						
RER	**Riviere de l'E**	**43.81**	**60**	P	**P**	**09 37 21.6**	**-0.3**
CASY	**Casey**	**45.60**	**146**	P	**P**	**09 37 35.9**	**+0.2**
SBA	**Scott Base**	**48.96**	**172**	P	**P**	**09 38 02.6**	**+0.9**
SBA				IAmb	IAmb	09 38 22.6	
	comp=Z,42nm,1.9s						
H10S2	**ASCENSION HYDR**	**49.69**	**319**	T	T	10 31 39.2	
	baz=154,slow=74,SNR=6.6						
H10S3	**ASCENSION HYDR**	**49.70**

EIL Elat 83.31 17 LR LR 10 17 28.4
comp=Z,391nm,20.8s,baz=242,slow=35
STKA Stephens Creek 83.87 136 P **P** **09 41 41.8 -3.9**
comp=Z,3.0nm,0.9s,baz=266,slow=5.5,SNR=3.3
comp=Z,3.0nm,0.9s
WSAR Wadi Sarin 84.03 39 LR LR 10 13 09.9
comp=Z,223nm,20.4s,baz=230,slow=32
MDT Midelt 86.52 343 LR LR 10 15 18.5
comp=Z,146nm,21.3s,baz=180,slow=32
MMAI Mount Meron Ar 86.65 17 LR LR 10 20 13.6
comp=Z,409nm,19.4s,baz=172,slow=35
ASAR Alice Springs 87.29 126 P **P** **09 42 04.2 +1.3**
ASAR Alice Springs 87.29 126 P **P** **09 42 02.1 -0.8**
comp=Z,6.0nm,0.8s,baz=207,slow=4.9,SNR=24
comp=Z,6.0nm,0.8s
AS31 Alice Springs 87.29 126 P **P** **09 42 04.2 +1.3**
IDI Anoyia 87.54 8 LR LR 10 21 50.9
comp=Z,220nm,21.5s,baz=186,slow=36
HYB Hyderabad 88.15 58 *e*P **P** **09 42 08.8 +1.9**
HYB *e*PcP **pP** **09 42 10.2 +1.2**
WRA Warramunga Arr 90.62 124 P **P** **09 42 17.3 -1.4**
comp=Z,2.9nm,1.0s,baz=202,slow=3.3,SNR=6.2
comp=Z,2.9nm,1.0s
BRTR Keskin Array B 92.93 14 P **P** **09 42 25.8 -3.0**
comp=Z,0.3nm,0.5s,baz=180,slow=24,SNR=2.2
BRTR LR LR 10 26 49.7
comp=Z,131nm,18.3s,baz=194,slow=37
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 93.11 345 P **P** **09 42 28.5 -1.0**
comp=Z,2.7nm,1.1s,baz=170,slow=4.0,SNR=7.3
comp=Z,2.7nm,1.1s
MLR Muntele Rosu 97.76 7 LR LR 10 27 41.3
comp=Z,95nm,21.8s,baz=182,slow=36
DZM Mont Dzumac 101.75 153 *e*LR LR 10 16 17.1
comp=Z,214nm,31.1s
CLL Collm 103.19 358 *e*SS SS 10 02 17.0 +4.0
CLL AMS AMS 10 32 00.0
comp=Z,100nm,18.9s
PPT2 Papeete2 109.28 195 *e*LR LR 10 19 44.8
comp=Z,2μm,26.0s
PPT2 *e*LR LR 10 19 49.2
comp=Z,1μm,26.5s
WMQ Urumqi 114.04 49 *e*P **PKiKP** **09 47 56.8 +2.3**
TAOE Nuku Hiva Isla 115.69 207 *e*LR LR 10 22 47.9
comp=Z,172nm,34.3s
NJ2 Nanjing 122.43 78 *e*P **PKiKP** **09 48 13.3 +2.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
HHC Hu-ho-hao-te 124.22 66 *e*P **PKPdf** **09 48 14.5 +0.3**
SONM Songino Array 126.06 56 PKP **PKPdf** **09 48 14.2 -3.3**
comp=Z,0.5nm,0.3s,baz=315,slow=0.4,SNR=2.1
TXAR Lajitas Array 130.30 267 PKP **PKPdf** **09 48 22.1 -4.1**
comp=Z,0.3nm,0.9s,baz=170,slow=5.5,SNR=2.0
MPU Maple Canyon 142.25 273 PKPdf **PKPdf** **09 48 47.5 -0.7**
PDAR Pinedale Array 142.58 278 PKP **PKPdf** **09 48 44.3 -4.4**
comp=Z,1.3nm,0.9s,baz=108,slow=2.9,SNR=9.1
HWUT Hardware Ranch 143.15 275 PKPdf PKPbc 09 48 47.8 +1.2
SPR3 Spring Creek 3 143.30 269 PKPdf PKPbc 09 48 48.4 +1.1
R11B Troy Canyon, C 143.66 267 PKPdf **PKPdf** **09 48 51.0 +0.4**
RES Resolute Bay 144.83 334 PKPdf **PKPdf** **09 48 52.3 +1.0**
ELK Elko 144.90 271 PKPdf **PKPdf** **09 48 53.1 +0.3**
NV11 Mina Array Sit 145.29 265 **PKPdf** **09 48 54.3 +0.9**
NVAR Mina Array Bea 145.38 265 PKPbc **PKPbc** **09 48 52.7 -1.0**
comp=Z,11nm,0.8s,baz=138,slow=4.7,SNR=21
EGMT Eagleton 145.41 285 **PKPab** **09 48 54.3 +0.8**
TIXI Tiksi 145.58 31 PKPdf **PKPdf** **09 48 53.0 +0.3**
KVN Kaiserville 145.64 266 **PKPab** **09 48 55.5 +0.7**
DLMT Dillon 145.82 279 **PKPab** **09 48 56.7 +1.5**
HLID Hailey 145.98 276 **PKPab** **09 48 56.8 +1.0**
CMB Columbia Colle 146.41 263 **PKPab** **09 48 58.0 +0.5**
MFID Camas Ranch 146.77 274 PKPab **PKPab** **09 48 58.9 +0.1**
CHMT Chamberlain Mo 146.98 282 **PKPbc** **09 48 57.6 -0.6**
CHMT PKPbc **PKPab** **09 49 00.1 +0.4**
AFDM Forest Hills D 147.34 263 **PKPbc** **09 49 00.5 +1.3**
MSO Missoula 147.36 281 **PKPbc** **09 49 00.4 +1.4**
PLID Pearl Lake 147.75 277 **PKPbc** **09 49 01.2 +0.8**
EDM Edmonton 149.60 292 PKPdf **PKPdf** **09 49 00.8 +0.9**
EDM PKPbc **PKiKP** **09 49 05.6 0.0**
EDM PKPab **sPKPab** **09 49 14.1 +1.5**
G08A Pilot Rock 149.66 275 **PKiKP** **09 49 06.7 +0.6**
E08A Dider Farm, El 150.30 277 **PKiKP** **09 49 09.4 +2.2**
YKA Yellowknife Ar 151.97 311 **PKPbc** **09 49 10.3 +0.5**
YKA Yellowknife Ar 151.97 311 PKPbc **PKPdf** **09 49 06.8 +3.6**
comp=Z,5.1nm,1.0s,baz=103,slow=2.2,SNR=7.2
ILAR Eielson Array 164.54 331 PKPab **PKPab** **09 50 10.3 -3.2**
comp=Z,0.2nm,0.5s,baz=39,slow=3.5,SNR=2.4

*IDC **20** 09:31:06.3±0.7, 17°.10N×147°.67E, h0km, mb4.4/18, mbtmp4.4/19, ML4.4/1, MS3.7/7, Error ellipse: s-maj=24.9km s-min=15.5km az=89.0*
*NEIC **20** 09:31:13.2±1.9, 16°.99N±0°.08×147°.2E±0°.1, h35km±2km, mb4.8/57, Error ellipse: s-maj=19.6km s-min=13.2km az=96.0*
ISC 20 09:31:09.5±0.7, 17°.01N±0°.06×147°.49E±0°.08, h19km±2km, h20km:pP-P, n115, σ1$20/117, mb4.8/56, MS4.2/7, 1C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.24**	**217**	Pn	**Pn**	**09 32 11.3**	**-1.7**
GUMO	**Guam**	**4.24**	**217**	Pn	**Pn**	**09 32 14.6**	**+1.6**
	18nm,0.3s,baz=30,slow=20,SNR=1.5						
GUMO				Sn	**Sn**	**09 33 04.6**	**+2.7**
	40nm,0.3s,baz=351,slow=19,SNR=4.0						
GUMO				LR	LR	09 34 02.8	
	comp=Z,332nm,19.0s,baz=40,slow=40						
	78nm,0.4s						
JCJ	**Chichijima**	**11.18**	**335**	Pn	**Pn**	**09 33 46.2**	**-2.1**
PATS	**Pohnpei**	**14.63**	**132**	Pn	**Pn**	**09 34 32.2**	**-3.4**
JHJ2	**Mitsune**	**17.46**	**338**	Pn	**Pn**	**09 35 10.5**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**18.35**	**82**	T	T	09 54 45.8	
	baz=274						
H11S1	**WAKE ISLAND Hy**	**18.36**	**82**	T	T	09 54 43.6	
	baz=274						
H11S2	**WAKE ISLAND Hy**	**18.36**	**83**	T	T	09 54 21.3	
	baz=274						
H11N1	**WAKE ISLAND Hy**	**18.61**	**79**	T	T	09 54 32.8	
	baz=269,slow=74						
H11N2	**WAKE ISLAND Hy**	**18.62**	**79**	T	T	09 54 32.9	
	baz=269						
H11N3	**WAKE ISLAND Hy**	**18.63**	**79**	T	T	09 54 38.1	
	baz=269,slow=74						
INU	**Inuyama**	**20.52**	**335**	P	**P**	**09 35 45.6**	**-0.9**
INU				IAmb	IAmb	09 36 03.9	
	comp=Z,51nm,1.0s						
MJAR	**Matsushiro Arr**	**21.12**	**339**	P	**P**	**09 35 52.6**	**-0.5**
	comp=Z,9.5nm,0.8s,baz=176,slow=11,SNR=21						
MJAR				LR	LR	09 44 35.3	
	comp=Z,70nm,19.8s,baz=136,slow=38						
	comp=Z,9.5nm,0.8s						
MAJO	**Matsushiro**	**21.12**	**339**	P	**P**	**09 35 52.7**	**-0.5**
MAJO				IAmb	IAmb	09 36 19.0	
	comp=Z,34nm,1.0s						
MJB9	**Matsu-Tunnel**	**21.13**	**339**	P	**P**	**09 35 53.5**	**+0.3**
MJB9				IAmb	IAmb	09 36 20.0	
	comp=Z,33nm,1.0s						
JMM	**Marumori**	**21.60**	**345**	P	**P**	**09 35 57.4**	**-0.8**
JMM				IAmb	IAmb	09 36 21.7	
	comp=Z,32nm,0.8s						
JNU	**Nakatsue**	**21.95**	**320**	P	**P**	**09 36 01.2**	**-0.8**
JNU				IAmb	IAmb	09 36 27.6	
	comp=Z,42nm,1.4s						
JNU	**Nakatsue**	**21.95**	**320**	LR	LR	09 43 27.0	
	comp=Z,53nm,20.6s,baz=100,slow=34						
JHS	**Saijyo**	**22.04**	**327**	P	**P**	**09 36 01.5**	**-1.6**
JSD	**Sado**	**22.46**	**341**	P	**P**	**09 36 08.0**	**+0.5**
DAV	**Davao City (W)**	**23.57**	**248**	P	**P**	**09 36 16.5**	**-2.5**
FAKI	**Fak Fak**	**24.87**	**219**	P	**P**	**09 36 29.8**	**-1.3**
YHNB	**Yeheng**	**25.54**	**292**	P	**P**	**09 36 36.1**	**-1.1**
SSLB	**Suanglung**	**25.74**	**290**	P	**P**	**09 36 38.9**	**-0.1**
SSLB				IAmb	IAmb	09 36 51.6	
	comp=Z,42nm,1.2s						
KSRS	**Korea Array**	**26.68**	**324**	P	**P**	**09 36 46.1**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=141,slow=8.8,SNR=7.6						
	comp=Z,1.6nm,0.7s						
KSAR	**Wonju Array Be**	**26.70**	**324**	P	**P**	**09 36 45.7**	**-1.7**
JKA	**Kamikawa-asahi**	**27.34**	**352**	P	**P**	**09 36 54.1**	**+1.0**
HNR	**Honiara**	**29.02**	**154**	LR	LR	09 49 01.2	
	comp=Z,1μm,18.9s,baz=332,slow=37						
SAUI	**Saumlaki**	**29.54**	**214**	P	**P**	**09 37 12.6**	**-0.5**
NJ2	**Nanjing**	**29.93**	**305**	*e*P	**P**	**09 37 16.1**	**-0.3**
NJ2				pP	**pP**	**09 37 20.0**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,400nm,4.5s						
USRK	**Ussuriysk Ar.**	**30.10**	**337**	P	**P**	**09 37 17.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**30.10**	**337**	P	**P**	**09 37 17.0**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=190,slow=23,SNR=3.4						
	comp=Z,2.2nm,0.7s						
TOLI2	**Tolitoli**	**30.66**	**242**	P	**P**	**09 37 22.3**	**-0.8**
TOLI2				IAmb	IAmb	09 37 43.5	
	comp=Z,18nm,0.7s						
BNX	**BinXian**	**33.19**	**334**	⇑P	**P**	**09 37 47.4**	**+2.5**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BNX				pmax	pmax		
	comp=Z,250nm,4.9s						
HNS	**HongShan**	**35.27**	**312**	⇓P	**P**	**09 38 03.8**	**+0.8**
HNS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HEH	**HeiHe**	**36.89**	**338**	*e*P	**P**	**09 38 18.8**	**+2.1**
HEH				pmax	pmax		
	comp=Z,17nm,1.1s						
HEH				pmax	pmax		
	comp=Z,170nm,6.7s						
PETK	**Petropavlovsk-**	**36.90**	**10**	LR	LR	09 57 31.8	
	comp=Z,38nm,18.3s,baz=167,slow=43						
WB0	**Warramunga Arr**	**38.74**	**200**	P	**P**	**09 38 33.7**	**+1.0**
WB0				IAmb	IAmb	09 38 54.9	
	comp=Z,13nm,1.1s						
WR0	**Warramunga Arr**	**38.88**	**200**	P	**P**	**09 38 34.9**	**+1.0**
WRAB	**Tennant Creek**	**38.91**	**200**	P	**P**	**09 38 35.2**	**+1.1**
WRAB				pP	**pwP**	**09 38 45.6**	**-0.7**
WB2	**Warramunga Arr**	**38.92**	**200**	P	**P**	**09 38 35.3**	**+1.1**
WB2				IAmb	IAmb	09 38 46.2	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**38.93**	**200**	P	**P**	**09 38 35.2**	**+0.9**
WRA	**Warramunga Arr**	**38.93**	**200**	P	**P**	**09 38 35.0**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=22,slow=9.1,SNR=22						
	comp=Z,3.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**39.00**	**315**	*e*P	**P**	**09 38 34.5**	**-0.3**
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,590nm,5.4s						
KOUNC	**Koumac, New Ca**	**40.80**	**156**	P	**P**	**09 38 51.2**	**+1.4**
KOUNC				IAmb	IAmb	09 38 53.8	
	comp=Z,24nm,1.1s						
AS31	**Alice Springs**	**42.55**	**199**	P	**P**	**09 39 04.3**	**+0.1**
ASAR	**Alice Springs**	**42.55**	**199**	P	**P**	**09 39 05.3**	**+1.2**
ASAR	**Alice Springs**	**42.55**	**199**	P	**P**	**09 39 05.2**	**+1.0**
	comp=Z,1.3nm,0.7s,baz=17,slow=7.8,SNR=16						
ASAR				PcP	**PcP**	**09 40 58.1**	**+1.5**
	comp=Z,1.1nm,0.8s,baz=23,slow=3.5,SNR=1.5						
	comp=Z,1.3nm,0.7s						
PZH	**PanZhiHua**	**43.34**	**291**	P	**P**	**09 39 12.1**	**+1.4**
PZH				PKP	PKiKP	09 47 46.0	-16
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,260nm,4.7s						
SONM	**Songino Array**	**45.52**	**322**	P	**P**	**09 39 28.8**	**+0.9**
SONM	**Songino Array**	**45.52**	**322**	P	**P**	**09 39 28.2**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=134,slow=8.8,SNR=15						
SONM				PcP	**PcP**	**09 41 06.9**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=116,slow=3.4,SNR=1.8						
	comp=Z,3.0nm,0.7s						
CHTO	**Chiang Mai**	**46.12**	**280**	P	**P**	**09 39 32.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**46.15**	**279**	P	**P**	**09 39 32.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**46.15**	**279**	P	**P**	**09 39 34.6**	**+1.5**
	comp=Z,14nm,1.0s,baz=68,slow=6.4,SNR=32						
	comp=Z,14nm,1.0s						
TNCH	**TengChong**	**46.20**	**289**	P	**P**	**09 39 33.3**	**-0.4**
TNCH				pP	pP	09 39 36.4	-1.9
TNCH				pmax	pmax		
	comp=Z,36nm,0.8s						
KULM	**Kulim**	**47.28**	**261**	P	**P**	**09 39 40.9**	**-1.2**
GSI	**Gunungsitoli**	**51.50**	**258**	P	**P**	**09 40 13.3**	**-0.9**
WMQ	**Urumqi**	**56.70**	**312**	*e*P	**P**	**09 40 52.8**	**+0.9**
WMQ				pP	pP	09 40 56.8	+0.7
WMQ				pmax	pmax		
	comp=Z,22nm,1.3s						
ZAA0	**Zalesovo Array**	**60.39**	**323**	P	**P**	**09 41 17.8**	**+0.4**
ZAA0				IAmb	IAmb	09 41 20.0	
	comp=Z,8.9nm,1.0s						
ZALV	**Zalesovo Beam**	**60.39**	**323**	P	**P**	**09 41 17.5**	**+0.2**
	comp=Z,7.1nm,0.8s,baz=102,slow=7.1,SNR=12						
	comp=Z,7.1nm,0.8s						
MK31	**Makanchi Array**	**60.86**	**314**	P	**P**	**09 41 21.1**	**+0.4**
MK31				IAmb	IAmb	09 41 23.8	
	comp=Z,7.2nm,1.1s						
MKAR	**Makanchi Array**	**60.86**	**314**	P	**P**	**09 41 21.7**	**+1.0**
	comp=Z,3.4nm,0.8s,baz=96,slow=8.7,SNR=15						
	comp=Z,3.4nm,0.8s						
MAKZ	**Makanchi**	**61.07**	**314**	P	**P**	**09 41 22.5**	**+0.3**
MAKZ				IAmb	IAmb	09 41 25.2	
	comp=Z,12nm,1.2s						
MAKZ	**Makanchi**	**61.07**	**314**	P	**P**	**09 41 23.2**	**+1.0**
MAKZ				pP	**pwP**	**09 41 34.5**	**0.0**
I20K	**Naaghedeneel**	**61.34**	**24**	P	**P**	**09 41 25.9**	**+2.3**
URZ	**Urewera**	**61.61**	**154**	LR	LR	10 03 07.9	
	comp=Z,462nm,21.4s,baz=176,slow=31						
KURK	**Kurchatov**	**63.66**	**319**	P	**P**	**09 41 40.1**	**+0.7**
KURK	**Kurchatov**	**63.66**	**319**	P	**P**	**09 41 40.0**	**+0.7**
KURBB	**Kurchatov Arra**	**63.71**	**318**	P	**P**	**09 41 40.2**	**+0.5**
	comp=Z,12nm,0.7s,baz=99,slow=6.4,SNR=29						
	comp=Z,12nm,0.7s						
TARG	**Taragay, Kyrgy**	**63.80**	**309**	P	**P**	**09 41 40.0**	**-1.1**
TARG				IAmb	IAmb	09 41 44.9	
	comp=Z,8.4nm,1.1s						
ILAR	**Eielson Array**	**64.41**	**26**	P	**P**	**09 41 45.6**	**+1.5**
ILAR	**Eielson Array**	**64.41**	**26**	P	**P**	**09 41 44.1**	**+0.1**
	comp=Z,1.4nm,1.0s,baz=271,slow=6.1,SNR=8.4						
ILAR				PcP	**PcP**	**09 42 18.4**	**+0.1**
	comp=Z,2.2nm,1.0s,baz=238,slow=5.2,SNR=5.3						
	comp=Z,1.4nm,1.0s						
BOOM	**Boomskoye usch**	**65.19**	**309**	P	**P**	**09 41 49.9**	**+0.1**
BOOM				IAmb	IAmb	09 41 56.9	
	comp=Z,4.8nm,0.8s						
KSH	**Kashi**	**65.24**	**306**	P	P	09 41 54.9	+4.8
KSH				pmax	pmax		
	comp=Z,7.0nm,1.6s						
M29M	**Somme Creek**	**67.69**	**29**	P	**P**	**09 42 06.9**	**+1.6**
M29M				IAmb	IAmb	09 42 26.9	
	comp=Z,12nm,1.3s						
D27M	**Malcolm River**	**67.69**	**21**	P	**P**	**09 42 06.0**	**+0.8**
D27M				IAmb	IAmb	09 42 32.4	
	comp=Z,8.7nm,1.1s						
NIL	**Nilore**	**67.84**	**300**	P	**P**	**09 42 06.6**	**-0.1**
BVAR	**Borovoye Array**	**68.86**	**321**	P	**P**	**09 42 13.2**	**+0.5**
	comp=Z,15nm,0.8s,baz=91,slow=7.8,SNR=33						
	comp=Z,15nm,0.8s						
BRVK	**Borovoye**	**68.92**	**321**	P	**P**	**09 42 13.0**	**-0.1**
BRVK				IAmb	IAmb	09 42 16.5	
	comp=Z,12nm,0.8s						
BRVK	**Borovoye**	**68.92**	**321**	P	**P**	**09 42 14.4**	**+1.4**
BRVK				pP	**pwP**	**09 42 26.1**	**+0.7**
KK31	**Karatay Array**	**69.16**	**310**	P	**P**	**09 42 15.8**	**+1.1**
KK31				IAmb	IAmb	09 42 22.1	
	comp=Z,11nm,1.4s						
KKAR	**Karatay Array**	**69.16**	**310**	P	**P**	**09 42 15.5**	**+0.8**
SIMJ	**Simiganj**	**70.70**	**306**	P	**P**	**09 42 26.1**	**+1.6**
SIMJ				pP	**pwP**	**09 42 38.2**	**+1.4**
KBL	**Kabul**	**71.20**	**301**	P	**P**	**09 42 28.1**	**+0.4**
ARU	**Arti**	**75.42**	**325**	P	**P**	**09 42 52.6**	**+0.7**
ARU				IAmb	IAmb	09 42 55.6	
	comp=Z,13nm,1.0s						
ABKAR	**Akbulak array**	**75.73**	**318**	P	**P**	**09 42 54.4**	**+0.6**
HRA	**Herat**	**76.76**	**302**	P	**P**	**09 43 00.8**	**+0.6**
HRA				IAmb	IAmb	09 43 02.7	
	comp=Z,6.4nm,0.8s						
GEYT	**Alibeck**	**79.27**	**306**	P	**P**	**09 43 14.9**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=61,slow=3.7,SNR=5.1						
	comp=Z,1.1nm,0.3s						
J08A	**Circle Bar Ran**	**81.39**	**47**	P	**P**	**09 43 26.9**	**+1.6**
J08A				IAmb	IAmb	09 43 35.3	
	comp=Z,8.8nm,1.2s						
MFID	**Camas Ranch**	**83.23**	**47**	P	**P**	**09 43 36.1**	**+1.1**
UOSS	**Minazif**	**84.12**	**294**	P	**P**	**09 43 40.0**	**+0.3**
ELK	**Elko**	**84.43**	**49**	P	**P**	**09 43 43.0**	**+1.6**
ELMT	**Elliston**	**84.53**	**43**	P	**P**	**09 43 43.6**	**+2.0**
WCT	**Wildcat Mounta**	**84.57**	**53**	P	**P**	**09 43 43.6**	**+1.7**
ARCES	**ARCESS Array B**	**84.61**	**343**	P	**P**	**09 43 40.2**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=38,slow=8.2,SNR=5.7						
	comp=Z,2.6nm,0.7s						
GWY	**Greenwater Val**	**84.72**	**54**	P	**P**	**09 43 43.8**	**+1.0**
BOZ	**Bozeman (W)**	**85.40**	**44**	P	**P**	**09 43 46.9**	**+0.9**
BOZ				IAmb	IAmb	09 43 48.0	
	comp=Z,6.6nm,0.8s						
HVU	**Hansel Valley**	**85.87**	**48**	P	**P**	**09 43 49.6**	**+1.2**
ID07	**Smith Canyon R**	**86.11**	**47**	P	**P**	**09 43 51.2**	**+1.6**
ID07				IAmb	IAmb	09 44 18.4	
	comp=Z,7.7nm,1.3s						
PSUT	**Pine Spring**	**86.13**	**51**	P	**P**	**09 43 51.3**	**+1.5**
PSUT				IAmb	IAmb	09 44 17.8	
	comp=Z,7.1nm,1.0s						
FLWY	**Flagg Ranch**	**86.54**	**45**	P	**P**	**09 43 53.6**	**+1.9**
FLWY				IAmb	IAmb	09 44 16.8	
	comp=Z,5.2nm,0.8s						
MOOW	**Moose Ponds**	**86.62**	**45**	P	**P**	**09 43 53.5**	**+1.4**
KNB	**Kanab**	**87.40**	**52**	P	**P**	**09 43 56.7**	**+0.7**
KNB				IAmb	IAmb	09 44 21.0	
	comp=Z,6.0nm,1.2s						
PDAR	**Pinedale Array**	**87.78**	**46**	P	**P**	**09 43 58.5**	**+0.7**
PDAR	**Pinedale Array**	**87.78**	**46**	P	**P**	**09 43 56.2**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=270,slow=2.7,SNR=1.8						
	comp=Z,0.2nm,0.6s						
KBZ	**Khabaz**	**88.54**	**315**	P	**P**	**09 44 00.9**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=14,slow=4.2,SNR=6.1						
	comp=Z,3.3nm,0.9s						
WUAZ	**Wupatki**	**89.00**	**53**	P	**P**	**09 44 05.0**	**+1.4**
WUAZ				IAmb	IAmb	09 44 29.0	
	comp=Z,5.6nm,0.8s						
FINES	**FINESS Array B**	**89.12**	**336**	P	**P**	**09 44 03.1**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=76,slow=5.0,SNR=9.8						
	comp=Z,3.2nm,0.7s						
MNK	**Minsk**	**92.27**	**330**	*i* P	**P**	**09 44 16.6**	**-1.6**
	comp=E,12nm,0.8s						
MNK				*i* P	**P**	**09 44 16.6**	**-1.6**
	comp=N,22nm,0.8s						
MNK				*i* P	**P**	**09 44 16.6**	**-1.6**
	comp=Z,11nm,0.7s,baz=237						
MNK				*i* PP	**PP**	**09 47 56.2**	**-1.9**
MNK				*i* PPP	PPP	09 49 55.0	
MNK				*i* S	**SKSac**	**09 54 49.5**	**-1.0**
MNK				*i* SS	**SS**	**10 01 29.4**	**-0.1**
MNK				*i* SSS	SSS	10 05 08.0	
MNK				*i* LQ	LQ	10 22 00.1	
MNK				*i* LR	LR	10 27 40.4	
MNK				*i* LRM	MLR	10 29 31.3	
	comp=E,120nm,24.9s						
MNK				*i* LRM	MLR	10 29 59.7	
	comp=Z,129nm,19.8s						
MNK				*i* LRM	MLR	10 30 19.4	
	comp=N,262nm,24.9s						
NACGM	**Naroch**	**92.57**	**330**	*e*P	**P**	**09 44 20.7**	**+1.1**
	comp=Z,17nm,1.1s,baz=55						
AKASG	**Malin Array Be**	**93.66**	**326**	LR	LR	10 30 46.1	
	comp=Z,72nm,18.6s,baz=171,slow=38						
BRTR	**Keskin Array B**	**96.51**	**315**	P	**P**	**09 44 37.4**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=95,slow=5.5,SNR=5.7						
	comp=Z,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**134.84**	**309**	PKP	**PKPdf**	**09 50 27.3**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=50,slow=1.7,SNR=4.3						
DBIC	**Dimbokro**	**143.93**	**308**	PKP	**PKPdf**	**09 50 44.0**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=0.0,slow=1.0,SNR=1.5						
LPAZ	**La Paz**	**145.89**	**94**	PKPbc	**PKPdf**	**09 50 47.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=256,slow=4.2,SNR=1.5						

IDC 20 09:53:02.3±1.7, 54°.49N×83°.57E, h0km, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=15.7km s-min=11.1km az=1.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**126**	I	I	09 58 20.0	
	0.1nm,0.7s,baz=307,slow=328,SNR=11						
ZALV	**Zalesovo Beam**	**0.92**	**126**	Pg	Pg	09 53 19.5	-0.3
	8.0nm,0.3s,baz=306,slow=18,SNR=33						
ZALV				Lg	Lg	09 53 33.1	
	8.0nm,0.3s,baz=307,slow=27,SNR=4.3						
MKAR	**Makanchi Array**	**7.75**	**187**	Pn	Pn	09 54 56.6	+0.3
	0.3nm,0.3s,baz=10,slow=13,SNR=7.5						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**7.95**	**265**	Pn	Pn	09 54 58.2	-0.8
	baz=76,slow=13,SNR=2.4						
	0.7nm,0.3s						

*NEIC **20** 09:55:58.7±1.9, 30°.52S±0°.03×177°.3W±0°.1, h10km±1km, mb5.2/45, Error ellipse: s-maj=18.2km s-min=3.7km az=77.0*
*NOU **20** 09:55:59.4, 31°.13S×175°.80W, h68km, mb4.9/17, Kermadec Islands Region*
*BJI **20** 09:56:00.6±0.0, 30°.53S×177°.43W, h28km, mb5.0/14, mB5.6/6, Ms5.3/4, Ms7 5.0/5*
*IDC **20** 09:56:06.4±1.2, 30°.21S×177°.97W, h50km±10km, mb4.4/18, mbtmp4.6/19, ML3.4/1, MS4.4/26, Error ellipse: s-maj=13.4km s-min=12.4km az=53.0*
*GCMT **20** 09:56:08.7±0.3, 30°.27S±0°.02×177°.77W±0°.02, h44km, MW5.1/72, Moment Tensor Solution. s62,c80; s72,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.37±.23; $M_{\theta\theta}$-0.14±.16; $M_{\phi\phi}$-5.23±.14; $M_{r\theta}$0.26±.13; $M_{\theta\phi}$-1.10±.12; $M_{\phi r}$1.77±.11; Best double couple: $M_0$5.70200×10^{16} NP1:ϕ_s11.00000°, δ54.00000°, λ89.00000°. NP2: ϕ_s193.00000°, δ36.00000°, λ92.00000°. Principal axes: T 5.6590, Plg81.0000°, Azm275.0000°; N 0.0900, Plg1.0000°, Azm11.0000°; P -5.7450, Plg9.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 09:56:02.2±0.3, 30°.49S±0°.04×177°.41W±0°.05, h33km, n329, σ2$13/310, mb5.1/46, MS4.5/26, 6C-3D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.30**	**340**	P	**Pn**	**09 56 23.2**	**-0.8**

MHGZ	Mahia Peninsul	9.46 203	P	Pn	09 58 13.8	-2.3
PRRZ	Plateau Road	9.48 211	P	Pn	09 58 17.1	+0.7
RAHZ	Arahi	9.55 207	P	Pn	09 58 15.9	-1.4
MTHZ	Maungataniwha	9.59 208	P	Pn	09 58 15.6	-2.3
WHHZ	Waihua	9.63 206	P	Pn	09 58 18.3	-0.1
TLZ	Tolley Road	9.75 215	P	Pn	09 58 22.1	+2.1
MRHZ	Matea Rd	9.75 210	P	Pn	09 58 18.0	-2.1
NMHZ	Naumai	9.81 207	P	Pn	09 58 19.0	-2.1
ARHZ	Aropaoanui	9.88 206	P	Pn	09 58 19.6	-2.2
BKZ	Black Stump Fm	10.00 208	P	Pn	09 58 21.1	-2.4
BKZ	Black Stump Fm	10.00 208	P	Pn	09 58 20.7	-2.8
RATZ	Rangitukua	10.06 212	P	Pn	09 58 25.1	+0.7
RITZ	Rihia Road	10.11 211	P	Pn	09 58 30.8	+5.8
MCHZ	McNeill Hill	10.15 207	P	Pn	09 58 23.2	-2.4
CKHZ	Cape Kidnapper	10.20 205	P	Pn	09 58 24.6	-1.6
HIZ	Hauiti	10.23 216	P	Pn	09 58 31.2	+4.5
NTVZ	North Tongarir	10.29 212	P	Pn	09 58 25.7	-1.9
TMVZ	Te Maari	10.30 211	P	Pn	09 58 27.0	-0.7
KRVZ	Karewarewa	10.31 212	P	Pn	09 58 27.2	-0.7
ETVZ	East Tongariro	10.31 211	P	Pn	09 58 26.9	-1.0
WTVZ	West Tongariro	10.35 212	P	Pn	09 58 29.7	+1.3
NNVZ	North Ngauruho	10.35 212	P	Pn	09 58 29.1	+0.7
OTVZ	Oturere	10.35 211	P	Pn	09 58 27.0	-1.4
SNVZ	South Ngauruho	10.38 211	P	Pn	09 58 27.5	-1.4
TWVZ	Taurewa	10.38 213	P	Pn	09 58 29.8	+1.0
NGZ	Ngauruhoe	10.39 212	P	Pn	09 58 29.8	+0.8
KAHZ	Kahuranaki	10.39 205	P	Pn	09 58 25.3	-3.6
BHHZ	Black Hill Sta	10.45 209	P	Pn	09 58 26.7	-3.0
KRHZ	Kereru	10.46 207	P	Pn	09 58 26.2	-3.5
FWVZ	Far West T-bar	10.48 212	P	Pn	09 58 31.3	+1.1
WNVZ	Wahianoa	10.52 211	P	Pn	09 58 32.0	+1.3
PXZ	Pawanui	10.61 205	P	Pn	09 58 28.4	-3.4
VRZ	Vera Road	10.75 215	P	Pn	09 58 39.3	+5.6
PNHZ	Pukenui	10.75 207	P	Pn	09 58 30.0	-3.9
WPHZ	Waipukurau	10.79 206	P	Pn	09 58 31.8	-2.5
PRHZ	Porangahau	10.89 205	P	Pn	09 58 31.6	-4.1
TSZ	Takapari Road	10.97 208	P	Pn	09 58 33.4	-3.5
DVHZ	Dannevirke	11.10 206	P	Pn	09 58 35.7	-2.8
ANWZ	Angora Road	11.12 205	P	Pn	09 58 35.1	-3.8
NEZ	North Egmont	11.19 216	P	Pn	09 58 43.5	+3.7
KHEZ	Kahui Hut	11.25 216	P	Pn	09 58 44.4	+3.7
PRWZ	Pori Road	11.39 206	P	Pn	09 58 40.1	-2.4
BFZ	Birch Farm	11.40 205	P	Pn	09 58 39.0	-3.7
BFZ	Birch Farm	11.40 205	P	Pn	09 58 37.4	-5.3
TIWZ	Tintock	11.62 206	P	Pn	09 58 42.1	-3.5
HOWZ	Holdsworth Sta	11.87 207	P	Pn	09 58 43.9	-5.1
TMWZ	Te Maipa	11.90 205	P	Pn	09 58 43.8	-5.7
OGWZ	Otaki Gorge	11.94 208	P	Pn	09 58 45.4	-4.6
TRWZ	Traveller	12.23 205	P	Pn	09 58 49.3	-4.7
PAWZ	Paruwai Farm	12.31 206	P	Pn	09 58 50.5	-4.7
DUWZ	D'Urville Isla	12.46 212	P	Pn	09 58 53.7	-3.5
SNZO	South Karori	12.54 208	P	Pn	09 58 56.6	-1.6
BHW	Baring Head	12.55 208	P	Pn	09 58 55.7	-2.7
NFK	Norfolk Island	12.81 273	P	Pn	09 59 01.2	-0.8
	baz=12					
TUWZ	Tuamarina	12.96 210	P	Pn	09 58 59.8	-4.2
NNZ	Nelson	13.04 212	P	Pn	09 59 01.7	-3.4
TKNZ	Takaka Hill	13.10 214	P	Pn	09 59 07.3	+1.4
QRZ	Quartz Range	13.15 216	P	Pn	09 59 09.0	+2.4
BSWZ	Blackbirch Sta	13.22 210	P	Pn	09 59 05.9	-1.6
NIUE	Niue	13.23 33	P	Pn	09 59 08.0	+0.2
	baz=13,SNR=3.1					
MSVF	Nonsavu	13.35 341	Pn	Pn	09 59 08.0	-1.6
MSVF	Nonsavu	13.35 341	P	Pn	09 59 04.5	-5.1
	6.7nm,0.8s,baz=185,slow=18,SNR=2.1					
MSVF		LR	LR		10 03 28.2	
	comp=Z,2µm,20.1s,baz=176,slow=34					
THZ	Tophouse	13.69 212	P	Pn	09 59 10.3	-3.7
DGTI	Dogotuki	14.36 349	P	P	09 59 31.8	+2.0
LTZ	Lake Taylor	14.79 211	P	Pn	09 59 24.8	-4.0
AMCZ	Amberley	14.94 209	P	Pn	09 59 30.9	+0.1
INZ	Inchbonnie	15.12 213	P	Pn	09 59 32.3	-1.0
OXZ	Oxford	15.32 210	P	Pn	09 59 32.4	-3.5
PINNC	Pines Island,	15.64 296	Pn	Pn	09 59 38.9	-1.3
MHCZ	Mount Hutt	15.69 211	P	Pn	09 59 40.0	-0.8
WVZ	Waitaha Valley	15.72 214	P	Pn	09 59 41.6	+0.4
WACZ	Wakanui South	15.91 209	P	Pn	09 59 39.8	-3.6
RPZ	Rata Peaks	16.07 212	P	Pn	09 59 43.1	-2.5
RPZ	Rata Peaks	16.07 212	P	Pn	09 59 42.9	-2.7
RPZ	Rata Peaks	16.07 212	P	Pn	09 59 42.9	-2.7
	6.5nm,0.3s,baz=211,slow=1.0,SNR=13					
RPZ		S	Sn		10 02 25.6	-17
	23nm,0.7s,baz=152,slow=23,SNR=9.3					
RPZ		LR	LR		10 06 51.4	
	comp=Z,367nm,18.3s,baz=44,slow=40					
GCSZ	Gaunt Creek Bo	16.10 214	P	Pn	09 59 44.0	-2.0
OUENC	Ouen Island, N	16.22 296	Pn	Pn	09 59 46.2	-1.4
OUENC		IAmb	IAmb		09 59 54.5	
	comp=Z,210nm,1.7s					
OUENC	Ouen Island, N	16.22 296	P	P	10 00 00.3	+10
YATNC	Mamie plateau,	16.38 297	P	P	10 00 04.8	+13
DZM	Mont Dzumac	16.72 296	*e*Pn	P	09 59 56.2	+0.2
	comp=Z,221nm,1.4s					
DZM		*e*LR	LR		10 03 39.7	
	comp=Z,4µm,25.1s					
DZM	Mont Dzumac	16.72 296		P	09 59 56.3	+0.3
DZM	Mont Dzumac	16.72 296	P	Pn	09 59 44.8	-9.2
	comp=Z,11nm,1.1s,baz=89,slow=16,SNR=2.5					
LIFNC	LIFOU	16.87 301	P	P	10 00 08.6	+11
LBZ	Lake Benmore	16.98 212	P	Pn	09 59 57.5	+0.4
ODZ	Otahua Downs	17.30 210	P	Pn	09 59 59.9	-1.2
JCZ	Jackson Bay	17.42 215	P	Pn	10 00 00.3	-2.3
RAR	Rarotonga	18.35 64	P	Pn	10 00 19.0	+4.9
	comp=Z,1.3nm,0.3s,baz=310,slow=13,SNR=2.5					
RAR		S	Sn		10 03 32.6	-5.5
	comp=Z,20nm,0.9s,baz=195,slow=22,SNR=2.2					
RAR		LR	LR		10 05 47.4	
	comp=Z,829nm,20.5s,baz=210,slow=31					
	comp=Z,13nm,0.6s					
SYZ	Scrubby Hill	19.13 209	P	Pn	10 00 23.4	+0.1
KOUNC	Koumac, New Ca	19.23 297	P	P	10 00 24.0	+0.3
KOUNC		IAmb	IAmb		10 00 28.7	
	comp=Z,287nm,2.0s					
LHI	Lord Howe Isla	20.19 261	P	P	10 00 33.5	-0.5
ARMA	Armidale	26.65 262	P	P	10 01 38.6	+0.5
	baz=26,SNR=7.2					
ARMA	Armidale	26.65 262	P	P	10 01 37.9	-0.2
ARMA		IAmb	IAmb		10 02 10.5	
	comp=Z,112nm,1.9s					
MGCD	Mangrove Creek	26.83 256	P	P	10 01 40.6	+1.1
	baz=27,SNR=11					
CNB	Canberra Magne	28.23 251	P	P	10 01 52.7	+0.6
	baz=28,SNR=11					
EIDS	Eidsvold	28.25 273	P	P	10 01 51.9	-0.4
	baz=28,SNR=4.0					
EIDS	Eidsvold	28.25 273	P	P	10 01 52.1	-0.2
PAE	Paea	28.35 70	*e*T	T	10 32 03.6	
	comp=Z,37nm,0.3s					
PPT2	Papeete2	28.39 70	*e*S	S	10 06 34.8	-3.9
	comp=Z,301nm,27.8s					
PPT2		*e*LR	LR		10 08 45.3	
	comp=Z,2µm,26.0s					
PPT2		*e*LR	LR		10 08 56.4	
	comp=Z,1µm,27.8s					
PPT2	Papeete2	28.39 70	*e*T	T	10 31 59.4	
	comp=Z,14nm,0.2s					
MILA	Mila	28.45 248	P	P	10 01 55.3	+1.2
	baz=28,SNR=6.2					
CAN	Canberra	28.53 251	P	P	10 01 54.9	+0.1
CAN		IAmb	IAmb		10 01 58.8	
	comp=Z,83nm,1.5s					
TVO	Taravao	28.55 70	*e*T	T	10 32 05.5	
	comp=Z,8.2nm,0.3s					
HNR	Honiara	29.74 310	LR	LR	10 11 55.6	
	comp=Z,6µm,21.3s,baz=152,slow=32					
PMOR	Pomariorio Ree	31.16 67	*e*T	T	10 35 05.1	
	comp=Z,9.0nm,0.3s					
TOO	Toolangi	31.39 247	P	P	10 02 21.2	+1.1
	baz=31,SNR=6.2					
TOO	Toolangi	31.39 247	P	P	10 02 20.5	+0.3
TOO		IAmb	IAmb		10 02 24.9	
	comp=Z,20nm,0.9s					
CMSA	Cobar Meteorol	31.55 258	P	P	10 02 21.6	+0.1
	baz=31,SNR=24					
QLP	Quilpie	33.81 267	P	P	10 02 41.6	+0.3
	baz=34,SNR=20					
CTA	Charters Tower	34.31 279	P	P	10 02 45.5	-0.3
	comp=Z,38nm,0.7s,baz=103,slow=9.8,SNR=59					
CTA		LR	LR		10 15 21.7	
	comp=Z,993nm,18.0s,baz=108,slow=34					
	comp=Z,38nm,0.7s					
CTAO	Charters Tower	34.31 279	P	P	10 02 46.7	+0.9
CTAO		IAmb	IAmb		10 02 47.7	
	comp=Z,40nm,0.7s					
STKA	Stephens Creek	34.95 257	P	P	10 02 51.8	+0.6
	baz=35,SNR=22					
STKA	Stephens Creek	34.95 257	P	P	10 02 52.1	+0.8
STKA	Stephens Creek	34.95 257	P	P	10 02 52.0	+0.8
	comp=Z,46nm,0.8s,baz=89,slow=9.7,SNR=55					
	comp=Z,46nm,0.8s					
MTSU	Mount Surprise	36.81 281	P	P	10 03 06.4	-0.8
	baz=36,SNR=22					
HTT	Hallett	36.96 254	P	P	10 03 09.3	+0.9
	baz=37,SNR=36					
PMG	Port Moresby	39.10 295	LR	LR	10 16 38.5	
	comp=Z,449nm,22.0s,baz=118,slow=32					
BBOO	Buckleboo	39.43 254	P	P	10 03 29.3	+0.1
	baz=39,SNR=27					
BBOO	Buckleboo	39.43 254	P	P	10 03 29.4	+0.1
BBOO		IAmb	IAmb		10 03 34.1	
	comp=Z,24nm,0.6s					
COEN	Coen	39.78 286	P	P	10 03 32.5	+0.2
QIS	Mount Isa	39.83 274	P	P	10 03 32.5	-0.1
	baz=40,SNR=12					
TAOE	Nuku Hiva Isla	40.88 66	*e*S	S	10 09 44.2	-6.8
	comp=Z,211nm,29.0s					
TAOE		*e*LR	LR		10 14 33.1	
	comp=Z,933nm,26.6s					
AS31	Alice Springs	43.61 267	P	P	10 04 03.1	-0.5
ASAR	Alice Springs	43.61 267	P	P	10 04 02.6	-1.0
ASAR	Alice Springs	43.61 267	P	P	10 04 01.9	-1.7
	comp=Z,10nm,0.7s,baz=103,slow=7.6,SNR=181					
ASAR		PcP	PcP		10 05 51.2	+0.4
	comp=Z,1.9nm,0.5s,baz=109,slow=5.7,SNR=2.0					
ASAR		ScP	ScP		10 09 38.6	-1.2
	comp=Z,2.8nm,0.8s,baz=118,slow=3.9,SNR=9.4					
ASAR		S	S		10 10 24.1	-7.0
	comp=Z,0.3nm,0.7s,baz=114,slow=14,SNR=2.2					
ASAR		LR	LR		10 21 56.4	
	comp=Z,1µm,18.2s,baz=140,slow=36					
	comp=Z,10nm,0.7s					
MANU	Manus Island	43.73 304	P	P	10 04 05.0	+0.5
WR0	Warramunga Arr	44.43 272	P	P	10 04 09.2	-1.0
WR0		IAmb	IAmb		10 04 11.4	
	comp=Z,20nm,0.6s					
WB2	Warramunga Arr	44.60 272	P	P	10 04 10.4	-1.1
WB2		IAmb	IAmb		10 04 14.1	
	comp=Z,105nm,1.5s					
WRAB	Tennant Creek	44.60 272	P	P	10 04 11.0	-0.5
WRA	Warramunga Arr	44.61 272	P	P	10 04 10.5	-1.1
WRA	Warramunga Arr	44.61 272	P	P	10 04 10.0	-1.6
	comp=Z,13nm,0.3s,baz=111,slow=8.1,SNR=223					
WRA		PcP	PP		10 05 56.2	+0.2
	comp=Z,1.8nm,0.6s,baz=113,slow=7.2,SNR=1.7					
WRA		ScP	ScP		10 09 42.4	-1.6
	comp=Z,0.9nm,0.9s,baz=109,slow=4.0,SNR=2.9					
WRA		S	S		10 10 38.7	-6.9
	comp=Z,4.0nm,0.8s,baz=109,slow=14,SNR=8.9					
	comp=Z,13nm,0.3s					
WB0	Warramunga Arr	44.63 272	P	P	10 04 10.4	-1.3
WB0		IAmb	IAmb		10 04 13.5	
	comp=Z,53nm,1.1s					
FORT	Forrest	46.51 255	P	P	10 04 27.0	+0.5
	baz=46,SNR=11					
FORT	Forrest	46.51 255	P	P	10 04 25.9	-0.6
FORT		IAmb	IAmb		10 04 27.0	
	comp=Z,29nm,0.8s					
WRKA	Warakurna	47.97 263	P	P	10 04 36.4	-1.7
	baz=48,SNR=42					
VNDA	Vanda	48.06 186	P	P	10 04 36.6	-1.3
KDU	Kakadu	49.43 280	P	P	10 04 48.3	-1.0
	baz=49,SNR=5.8					
MTN	Manton Dam	50.50 279	P	P	10 04 53.6	-3.8
	baz=50,SNR=7.6					
KNRA	Kununurra	51.22 274	P	P	10 05 02.0	-0.7
	baz=51,SNR=15					
KNRA	Kununurra	51.22 274	P	P	10 05 02.0	-0.7
KLBR	Kellerberrin	54.80 251	P	P	10 05 28.0	-1.1
	baz=55,SNR=4.5					
NWAO	Narrogin (SRO)	54.84 249	LR	LR	10 27 32.6	
	comp=Z,269nm,20.0s,baz=87,slow=35					
CASY	Casey	55.30 208	P	P	10 05 31.3	-0.8
CASY		IAmb	IAmb		10 05 35.5	
	comp=Z,25nm,0.7s					
MEEK	Meekatharra	55.66 257	P	P	10 05 34.4	-0.9
	baz=55,SNR=5.3					
MBWA	Marble Bar	56.72 263	P	P	10 05 41.5	-1.5
MBWA		IAmb	IAmb		10 06 18.6	
	comp=Z,95nm,1.9s					
GUMO	Guam	56.90 315	LR	LR	10 28 17.0	
	comp=Z,146nm,19.4s,baz=172,slow=34					
MORW	Morawa	56.99 253	P	P	10 05 43.7	-1.1
	baz=57,SNR=3.3					
MORW	Morawa	56.99 253	P	P	10 05 43.7	-1.1
BATI	Baumata	58.16 277	LR	LR	10 30 43.2	
	comp=Z,1µm,19.6s,baz=138,slow=36					
RPN	Rapa Nui	58.92 105	LR	LR	10 24 53.4	
	comp=Z,280nm,20.9s,baz=306,slow=29					
QSPA	South Pole Qui	59.62 180	P	P	10 06 07.3	+4.6
	comp=Z,9.7nm,0.5s,baz=278,slow=0.6,SNR=39					
	comp=Z,9.7nm,0.5s					
GIRL	Giralia	60.83 260	P	P	10 06 12.2	+0.8
	baz=61,SNR=3.0					
GIRL	Giralia	60.83 260	P	P	10 06 11.5	0.0
KAPI	Kappang	64.12 280	LR	LR	10 35 01.7	
	comp=Z,236nm,18.0s,baz=123,slow=37					
BELA	Belgrano 2	69.63 172	P	P	10 07 07.6	-0.1
BELA		IAmb	IAmb		10 07 28.5	
	comp=Z,16nm,1.1s					
MAW	Mawson	72.40 200	P	P	10 07 27.6	+3.0
	baz=72,SNR=18					
MAW	Mawson	72.40 200	P	P	10 07 26.5	+1.9
MAW	Mawson	72.40 200	P	P	10 07 26.7	+2.1
	comp=Z,6.7nm,0.7s,baz=138,slow=7.6,SNR=21					
MAW		LR	LR		10 37 49.0	
	comp=Z,303nm,20.7s,baz=157,slow=34					
	comp=Z,6.7nm,0.7s					
LEM	Lembang	73.63 272	LR	LR	10 41 02.4	
	comp=Z,236nm,19.1s,baz=168,slow=37					
ELIB	Princess Elisa	76.82 187	*d*P	P	10 07 53.5	+3.1
	comp=Z,18nm,0.7s					
TROLL	Troll, Antarti	77.78 180	⇑P	P	10 07 59.7	+4.0
	comp=Z,572nm,0.8s					
SNAA	Sanae	78.05 178	P	P	10 07 57.2	+0.1
SNAA		IAmb	IAmb		10 08 18.5	
	comp=Z,35nm,1.5s					
SNAA	Sanae	78.05 178	⇑P	P	10 08 00.9	+3.7
	comp=Z,41nm,0.3s					
SNAA	Sanae	78.05 178	P	P	10 08 00.4	+3.3
	comp=Z,1.9nm,0.4s,baz=203,slow=7.2,SNR=46					
	comp=Z,1.9nm,0.4s					
VNA3	Neumayer Olymp	78.18 176	⇓P	P	10 08 01.6	+3.8
	comp=Z,8.7nm,0.4s					
COYC	Coyhaique	78.52 136	P	P	10 07 59.8	-0.3
COYC		IAmb	IAmb		10 08 23.8	
	comp=Z,25nm,0.9s					
MJAR	Matsushiro Arr	78.60 325	P	P	10 07 59.9	-0.6
	comp=Z,1.4nm,0.8s,baz=152,slow=37,SNR=3.1					
	comp=Z,1.4nm,0.8s					
VNA2	Neumayer--Watz	78.62 177	⇑P	P	10 08 04.1	+3.9
	comp=Z,13nm,0.6s,baz=182,slow=5.0					
VNA1	Neumayer--Stat	78.85 176	⇑P	P	10 08 06.3	+4.8
	comp=Z,11nm,0.8s					
H03S2	Juan Fernandez	79.99 123	T	T	11 37 15.7	
	baz=238,slow=74,SNR=269					
H03S1	Juan Fernandez	80.00 123	T	T	11 37 23.5	
	baz=238,slow=74,SNR=272					
H03S3	Juan Fernandez	80.01 123	T	T	11 37 22.4	
	baz=238,slow=74,SNR=274					
H03N3	Juan Fernandez	80.18 123	T	T	11 37 34.6	
	baz=241,slow=72,SNR=51					
H03N2	Juan Fernandez	80.19 123	T	T	11 37 37.7	
	baz=241,slow=72,SNR=80					
H03N1	Juan Fernandez	80.20 123	T	T	11 37 27.7	
	baz=241,slow=72,SNR=169					
PLCA	Paso Flores	82.08 133	P	P	10 08 17.6	-1.9
PLCA	Paso Flores	82.08 133	P	P	10 08 24.9	+5.5
	comp=Z,4.1nm,0.8s,baz=216,slow=4.7,SNR=11					
	comp=Z,4.1nm,0.8s					
KSRS	Korea Array	84.74 319	P	P	10 08 32.9	+0.1
	comp=Z,1.6nm,0.7s,baz=146,slow=5.2,SNR=5.9					
	comp=Z,1.6nm,0.7s					
MURC	Murrieta	85.42 47	P	P	10 08 39.0	+2.6
	baz=228					
MONP2	Monument Peak	85.45 48	P	P	10 08 39.1	+2.3
	baz=229					
BFSC	Mount Baldy Ra	85.56 46	P	P	10 08 39.0	+1.8
	baz=228					
VES	Vestal, Richgr	85.76 44	P	P	10 08 40.1	+2.1
	baz=227					
TPFO	Pinon Flats	85.89 47	P	P	10 08 41.5	+2.6
	baz=229					
PFO	Pinyon Flats O	85.89 47	LR	LR	10 40 38.9	
	comp=Z,139nm,19.1s,baz=193,slow=31					
PETK	Petropavlovsk-	86.03 345	P	P	10 08 39.3	+0.4
	comp=Z,7.7nm,0.9s,baz=143,slow=8.7,SNR=9.2					
	comp=Z,7.7nm,0.9s					
BC3	Big Chuckawall	86.56 48	P	P	10 08 44.1	+1.9
	baz=230					
NJ2	Nanjing	86.69 310	*e*P	P	10 08 44.3	+1.7
NJ2		pP	pP		10 08 50.8	-0.9
NJ2		sP	sP		10 08 53.4	-1.3
NJ2		pmax	pmax			
	comp=Z,6.0nm,0.5s					
NJ2		pmax	pmax			
	comp=Z,570nm,5.2s					
SDPT	Sand Point	86.72 10	P	P	10 08 42.7	+0.6
SDPT	Sand Point	86.72 10	P	P	10 08 43.1	+0.9
	baz=194					
HEC	Hector,Ludlow	86.77 46	P	P	10 08 43.4	+0.3
	baz=229					
MPMC	Manual Prospec	86.86 45	P	P	10 08 45.2	+1.5
	baz=228					
214A	Organ Pipe Nat	87.20 50	P	P	10 08 45.9	+0.7
	baz=231					
DSP	Deep Springs	87.45 43	P	P	10 08 44.6	-1.5
DSP		IAmb	IAmb		10 09 08.2	
	comp=Z,22nm,1.7s					
USRK	Ussuriysk Ar.	87.51 326	P	P	10 08 46.9	+0.6
	comp=Z,1.4nm,0.5s,baz=145,slow=43,SNR=2.1					
	comp=Z,1.4nm,0.5s					
USA0B	Ussuriysk Arra	87.52 326	P	P	10 08 44.2	-2.2
USA0B		IAmb	IAmb		10 08 52.5	
	comp=Z,29nm,1.6s					
YBH	Yreka Blue Hor	87.79 38	LR	LR	10 44 22.8	
	comp=Z,129nm,18.1s,baz=203,slow=33					
CHGN	Chignik	87.95 10	P	P	10 08 50.5	+2.5
	baz=196					
NVAR	Mina Array Bea	87.96 42	P	P	10 08 53.0	+4.0
	comp=Z,0.8nm,0.3s,baz=217,slow=8.4,SNR=4.3					
NVAR		LR	LR		10 46 03.0	
	comp=Z,195nm,18.1s,baz=270,slow=34					
	comp=Z,0.8nm,0.3s					
TUC	Tucson	88.77 51	P	P	10 08 51.4	-1.4
TUC		IAmb	IAmb		10 09 16.8	
	comp=Z,18nm,1.2s					
CFA	Coronel Fontan	88.78 126	LR	LR	10 40 22.4	
	comp=Z,195nm,20.3s,baz=298,slow=30					
WHN	Wuhan	88.81 307	P	P	10 08 54.4	+1.6
PRN	Pahroc Range	89.23 45	P	P	10 08 54.2	-0.6
PRN		IAmb	IAmb		10 09 17.4	
	comp=Z,25nm,1.6s					
X16A	Lo Mia Camp, P	89.62 49	IAmb	IAmb	10 09 19.9	
	comp=Z,11nm,0.9s					
DUN6	Lazy B Ranch	90.06 52	P	P	10 08 55.6	-3.2
LCMT	Little Creek M	90.09 46	P	P	10 08 57.7	-1.1
Q17K	Contact Creek	90.23 11	P	P	10 09 00.7	+1.8
	baz=198					
Q18K	Katmai Hardscr	90.75 11	P	P	10 09 03.1	+1.7
	baz=199					
BNX	BinXian	90.87 325	⇑P	P	10 09 04.3	+2.2
BNX		pmax	pmax			
	comp=Z,8.0nm,0.9s					
BNX		pmax	pmax			
	comp=Z,160nm,4.6s					
P17K	Kvichak River	91.03 11	P	P	10 09 05.4	+2.9
	baz=198					
ELK	Elko	91.27 42	LR	LR	10 47 41.4	
	comp=Z,169nm,18.1s,baz=250,slow=34					
KLR	Kul'dur	91.37 329	P	P	10 09 05.0	+0.7
	comp=Z,3.7nm,0.9s,baz=142,slow=8.5,SNR=7.4					
	comp=Z,3.7nm,0.9s					
N15K	Kwethluk River	91.44 9	P	P	10 09 06.8	+2.4
	baz=195					
O18K	Koktuh Hills	91.86 11	P	P	10 09 08.5	+2.1
	baz=199					
M15K	Kasigluk River	91.88 8	P	P	10 09 08.6	+2.2
	baz=194					
N16K	Nishlik Lake	91.92 9	P	P	10 09 09.5	+2.8
	baz=196					
TXAR	Lajitas Array	92.01 57	P	P	10 09 12.5	+4.5
	comp=Z,0.5nm,0.7s,baz=214,slow=4.1,SNR=4.1					
TXAR		LR	LR		10 45 40.6	
	comp=Z,76nm,18.5s,baz=276,slow=32					
	comp=Z,0.5nm,0.7s					
CMIG	Matias Romero	92.30 72	LR	LR	10 44 24.6	
	comp=Z,51nm,18.9s,baz=218,slow=31					
HNS	HongShan	92.66 312	⇓P	P	10 09 15.3	+4.7
HNS		pmax	pmax			
	comp=Z,8.0nm,0.9s					
NNA	Nana	92.91 106	LR	LR	10 41 35.4	
	comp=Z,150nm,21.9s,baz=251,slow=29					
ANMO	Albuquerque	93.24 51	LR	LR	10 48 08.9	
	comp=Z,106nm,18.2s,baz=342,slow=33					
LVC	Limon Verde	93.45 119	LR	LR	10 42 60.0	
	comp=Z,170nm,20.6s,baz=278,slow=30					
PLID	Pearl Lake	93.65 39	P	P	10 09 14.7	-0.6
PLID		IAmb	IAmb		10 09 36.3	
	comp=Z,6.9nm,1.0s					
CMAR	Chiang Mai Arr	93.91 289	P	P	10 09 18.1	+1.3
	comp=Z,0.7nm,0.3s,baz=133,slow=5.1,SNR=5.6					
	comp=Z,0.7nm,0.3s					
HEH	HeiHe	94.05 328	*e*P	P	10 09 18.3	+1.6
SKT	Skwentna	94.49 12	P	P	10 09 18.7	+0.3
GHO	Glory Hole Cre	94.78 13	P	P	10 09 17.6	-2.3
SML	Sawmill	94.93 13	P	P	10 09 20.1	-0.5
NEW	Newport	95.15 36	LR	LR	10 47 56.2	
	comp=Z,174nm,18.4s,baz=222,slow=33					
PZH	PanZhiHua	95.80 297	P	P	10 09 27.3	+1.8
PZH		pmax	pmax			
	comp=Z,10.0nm,0.7s					
PDAR	Pinedale Array	95.85 43	P	P	10 09 29.6	+4.2
	comp=Z,0.3nm,0.7s,baz=75,slow=34,SNR=2.4					
PDAR		LR	LR		10 44 45.5	
	comp=Z,139nm,21.9s,baz=246,slow=30					
	comp=Z,0.3nm,0.7s					
BOZ	Bozeman (W)	96.37 40	P	P	10 09 27.8	+0.1
BOZ		IAmb	IAmb		10 09 30.3	
	comp=Z,6.6nm,0.8s					
CD2	Chengdu	96.56 302	P	P	10 09 28.4	-0.4
HHC	Hu-ho-hao-te	96.66 314

comp=Z,32nm,0.6s,baz=60,slow=3.8,SNR=126
NSS Namsos 145.43 353 *eP* **PKPab 10 15 37.3 +1.2**
OBN Obninsk 145.53 325 PKPbc **PKPdf 10 15 36.1 -0.2**
comp=Z,26nm,0.4s,baz=11,slow=5.9,SNR=8.9
KBZ Khabaz 145.58 304 PKPbc **PKPbc 10 15 37.0 0.0**
comp=Z,10nm,1.0s,baz=57,slow=2.2,SNR=9.5
VSU Vasula 147.51 336 *eP* **PKiKP 10 15 43.5 -0.8**
DOMB Dombas 148.15 354 *eP* **PKiKP 10 15 45.4 -0.3**
AKN Aaknes 148.17 356 *eP* **PKiKP 10 15 45.7 0.0**
MTSE Matsula 148.27 339 *eP* **PKiKP 10 15 45.6 -0.2**
NC303 NORSAR Array S 148.71 352 PKiKP 10 15 47.2 +0.5
NC303 NORSAR Array S 148.71 352 *eP* **PKiKP 10 15 46.9 +0.2**
NB2 NORSAR Subarra 148.91 352 PKP **PKiKP 10 15 47.3 +0.1**
comp=Z,7.3nm,0.7s,baz=17,slow=2.6
NB2 NORSAR Subarra 148.91 352 PKP **PKiKP 10 15 47.3 +0.1**
baz=17,slow=2.6
NOA NORSAR Array B 148.91 352 PKPbc **PKiKP 10 15 46.7 -0.5**
comp=Z,6.7nm,0.8s,baz=15,slow=4.3,SNR=18
UPP Uppsala 148.93 345 *eP* **PKiKP 10 15 46.6 -0.6**
HFS Hagfors 149.43 349 PKPbc **PKiKP 10 15 47.9 -0.3**
comp=Z,9.7nm,0.6s,baz=48,slow=2.2,SNR=14
SKAR Skarslia 149.56 354 *eP* **PKiKP 10 15 49.8 +1.2**
MNK Minsk 149.91 330 *i* PKP **PKPdf 10 15 42.2 -1.4**
comp=E,8.0nm,0.8s
MNK *i* PKP **PKPdf 10 15 42.2 -1.4**
comp=N,13nm,0.7s
MNK *i* PKP **PKPdf 10 15 42.2 -1.4**
comp=Z,8.0nm,0.6s,baz=228
MNK *i* PKiKP **PKiKP 10 15 49.2 -0.2**
MNK *i* PP **PP 10 19 21.6 -1.0**
MNK *i* PPP PPP 10 22 42.9
MNK *i* SKS **SKSdf 10 22 47.6 -1.2**
MNK *i* SS **SS 10 38 36.4 +0.2**
MNK *i* SSS SSS 10 44 16.4
MNK *i* LR LR 11 14 26.4
MNK *i* LRM MLR 11 19 04.2
comp=N,190nm,24.5s
MNK *i* LRM MLR 11 19 52.5
comp=E,84nm,23.2s
MNK *i* LRM MLR 11 20 13.1
comp=Z,181nm,21.9s
ASK Askoy 149.95 357 *eP* **PKiKP 10 15 50.0 +0.7**
NACGM Naroch 150.10 332 ⇑ *i* PKP **PKiKP 10 15 50.1 +0.3**
comp=Z,45nm,0.9s,baz=45
VIKU Vikbolandet 150.36 345 *eP* **PKiKP 10 15 50.7 +0.5**
KONO Kongsberg 150.46 353 *eP* **PKiKP 10 15 51.4 +1.0**
ASF Jabal al Asfar 150.71 282 PKPbc **PKiKP 10 15 52.5 +0.6**
comp=Z,4.5nm,0.9s,baz=136,slow=4.1,SNR=4.3
PABE Paberze 150.75 335 PKiKP 10 15 51.9 +0.8
PABE Paberze 150.75 335 *eP* **PKiKP 10 15 52.3 +1.3**
BNN Bunyan 151.52 296 PKiKP 10 15 54.5 +1.0
AKASG Malin Array Be 151.68 323 PKPbc **PKiKP 10 15 53.6 +0.4**
comp=Z,16nm,0.8s,baz=48,slow=2.4,SNR=7.5
MMAI Mount Meron Ar 152.04 284 PKPbc **PKiKP 10 15 55.2 +0.5**
comp=Z,25nm,0.8s,baz=72,slow=5.4,SNR=18
DEL Delary 152.84 346 *eP* **PKiKP 10 15 57.1 +1.7**
BRTR Keskin Array B 153.09 298 PKPdf 10 15 49.4 +0.3
BRTR PKPbc **PKiKP 10 15 57.5 +0.8**
BRTR Keskin Array B 153.09 298 PKPbc **PKiKP 10 15 57.5 +0.8**
comp=Z,5.0nm,0.7s,baz=143,slow=3.1,SNR=13
CLL Collm 157.80 343 *es*PKPab sPKPab 10 16 36.0 -3.7
CLL Collm 157.80 343 *e*PKPdif PKPdf 10 16 08.0 +13
CLL Collm 157.80 343 *e*PKPab **PKPab 10 16 28.0 +0.4**
CLL Collm 157.80 343 *ep*PKPab pPKPab 10 16 34.0 -2.9
TOA0 Torodi Ar. Sit 162.72 177 PKPab **PKPab 10 16 53.8 +3.9**
FUORN Ofenpass-Fuorn 162.82 342 PKPab **PKPab 10 16 51.4 +1.4**
ESDC Sonseca Array 169.38 29 PKP **PKPdf 10 16 08.6 +2.4**
comp=Z,0.2nm,0.4s,baz=299,slow=1.5,SNR=4.3

*IDC **20** 10:01:37.9±0.9,3°.67S×103°.62W,h0km,mb4.1/7,*
mbtmp4.1/7,MS4.6/45,Error ellipse: s-maj=47.0km
s-min=22.3km az=66.0
*NEIC **20** 10:01:41.8±1.0,4°.0S±0°.1×104°.1W±0°.1,h10km±1km,*
mb4.7/52,Error ellipse: s-maj=24.9km s-min=21.5km
az=231.0
*GCMT **20** 10:01:43.8±0.2,3°.89S±0°.01×104°.14W±0°.01,h14km±1km,*
MW5.1/130,Moment Tensor Solution. s82,c116;
s130,c211; Duration: 0 Moment tensor: Scale 10^16Nm;
Mrr=1.11±.12; Mθθ1.87±.12; Mφφ-0.75±.12; Mrθ0.55±.23;
Mθφ5.89±.12; Mrφ0.22±.23; Best double couple:
M0=6.05800×10^16 NP1:φs=96.00000°,δ=89.00000°,
λ=5.00000°. NP2:φs=6.00000°,δ=85.00000°,λ=179.00000°.
Principal axes: T 6.6330, Plg4.0000°, Azm321.0000°; N
-1.1440, Plg85.0000°, Azm113.0000°; P -5.4830,
Plg2.0000°, Azm231.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
ISC 20 10:01:40.7±0.7,**4°.1S**±0°.1×**104°.2W**±0°.1,**h18**km,**n114,**
σ1**9**41/61,**mb4.7**/32,**MS4.7**/45,**Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**14.26**	**77**	Pn	**Pn**	**10 05 01.1**	**-0.8**
CMIG	**Matias Romero**	**22.94**	**23**	LR	LR	10 12 09.9	
comp=Z,268nm,18.2s,baz=204,slow=28							
DUNO	**Dulce Nombre,**	**23.31**	**53**	P	**P**	**10 06 48.6**	**+0.7**
MTO3	**Montecristo**	**23.50**	**38**	P	**P**	**10 06 50.4**	**+0.4**
ARNL	**Arenillas**	**24.04**	**90**	P	**P**	**10 06 56.6**	**+1.6**
ARE1	**Arenal 1**	**24.15**	**53**	P	**P**	**10 06 57.4**	**+1.4**
ARE1				IAmb	IAmb	10 07 11.7	
comp=Z,33nm,1.2s							
SOCE	**Pocosol**	**24.18**	**53**	P	**P**	**10 06 57.6**	**+1.2**
SOCE				IAmb	IAmb	10 07 11.3	
comp=Z,89nm,1.6s							
TGUH	**Tegucigalpa,Un**	**24.60**	**43**	P	**P**	**10 07 01.1**	**+0.8**
TGUH				IAmb	IAmb	10 07 05.8	
comp=Z,18nm,1.1s							
ACON	**Acoyapa**	**24.70**	**50**	P	**P**	**10 07 02.0**	**+1.0**
ACON				IAmb	IAmb	10 07 05.1	
comp=Z,24nm,1.1s							
COHC	**Cochancay**	**24.91**	**87**	P	**P**	**10 07 04.6**	**+1.7**
PETF	**Flores**	**25.19**	**34**	P	**P**	**10 07 06.7**	**+1.3**
PETF				IAmb	IAmb	10 07 08.9	
comp=Z,29nm,1.4s							
BOSC	**San Juan Bosco**	**25.62**	**89**	P	**P**	**10 07 10.9**	**+1.2**
BOSC				IAmb	IAmb	10 07 31.6	
comp=Z,6.5nm,0.4s							
OTAV	**Otavalo**	**26.04**	**81**	P	**P**	**10 07 14.3**	**+0.6**
OTAV				IAmb	IAmb	10 07 32.3	
comp=Z,27nm,1.4s							
NNA	**Nana**	**28.14**	**108**	LR	LR	10 15 40.9	
comp=Z,1μm,18.7s,baz=276,slow=30							
CZSB	**Cruzeiro do Su**	**31.48**	**98**	P	**P**	**10 08 03.2**	**+1.5**
TXAR	**Lajitas Array**	**33.23**	**1**	P	P	10 08 11.7	-5.2
comp=Z,0.4nm,1.0s,baz=166,slow=4.5,SNR=3.5							
comp=Z,0.4nm,1.0s							
HNDO	**Hondo**	**33.74**	**8**	P	**P**	**10 08 22.9**	**+1.6**
HNDO				IAmb	IAmb	10 08 30.2	
comp=Z,13nm,1.5s							
SAND	**Sanderson**	**33.90**	**3**	P	**P**	**10 08 23.6**	**+0.9**
SAND				IAmb	IAmb	10 08 37.7	
comp=Z,14nm,1.5s							
TBTG	**Tabatinga, AM**	**34.16**	**91**	P	**P**	**10 08 25.7**	**+0.6**
ALPN	**Alpine**	**34.26**	**1**	P	**P**	**10 08 26.5**	**+0.5**
ALPN				IAmb	IAmb	10 08 41.1	
comp=Z,13nm,1.5s							
MNTX	**Cornudas Mount**	**35.60**	**358**	P	**P**	**10 08 37.2**	**-0.1**
SGCY	**Sterling City**	**35.91**	**4**	P	**P**	**10 08 40.7**	**+0.6**
SGCY				IAmb	IAmb	10 08 50.2	
comp=Z,8.2nm,0.8s							
PIX	**Pinacate**	**36.53**	**347**	P	**P**	**10 08 45.6**	**+0.3**
121A	**Cookes Peak, D**	**36.57**	**355**	P	**P**	**10 08 46.6**	**+0.7**
PB16	**IPOC Station P**	**36.72**	**115**	P	**P**	**10 08 48.5**	**+0.7**
PB16				IAmb	IAmb	10 08 51.4	
comp=Z,22nm,1.3s							
DUN6	**Lazy B Ranch**	**36.73**	**353**	P	**P**	**10 08 48.1**	**+0.9**
DUN6				IAmb	IAmb	10 08 58.6	
comp=Z,23nm,1.1s							
TUC	**Tucson**	**36.73**	**351**	P	**P**	**10 08 48.3**	**+1.2**
NATX	**Nacogdoches**	**36.77**	**14**	P	**P**	**10 08 48.8**	**+1.5**
NATX				IAmb	IAmb	10 08 59.1	
comp=Z,16nm,0.9s							
LPAZ	**La Paz**	**37.39**	**112**	P	**P**	**10 08 54.7**	**+1.1**
LPAZ	**La Paz**	**37.39**	**112**	P	**P**	**10 08 55.0**	**+1.3**
comp=Z,4.0nm,1.1s,baz=253,slow=8.6,SNR=5.5							
H03N2	**Juan Fernandez**	**37.50**	**144**	T	T	10 48 45.5	
baz=318,slow=77,SNR=60							
H03N1	**Juan Fernandez**	**37.52**	**144**	T	T	10 48 46.8	
baz=318,slow=77,SNR=72							
H03N3	**Juan Fernandez**	**37.52**	**144**	T	T	10 48 47.3	
baz=318,slow=77,SNR=47							
MSTX	**Muleshoe**	**37.87**	**2**	P	**P**	**10 08 58.1**	**+1.4**
MSTX				IAmb	IAmb	10 09 08.2	
comp=Z,22nm,1.6s							
ETMB	**Extrema**	**38.07**	**101**	P	**P**	**10 08 58.2**	**-0.4**
ETMB				IAmb	IAmb	10 09 00.2	
comp=Z,20nm,1.7s							
LVC	**Limon Verde**	**38.76**	**122**	P	**P**	**10 09 06.1**	**+1.3**
LVC	**Limon Verde**	**38.76**	**122**	LR	LR	10 20 53.5	
comp=Z,807nm,19.6s,baz=290,slow=30							
X18A	**Snowflake**	**38.79**	**352**	P	**P**	**10 09 05.5**	**+0.9**
ANMO	**Albuquerque**	**38.88**	**357**	P	**P**	**10 09 06.8**	**+1.4**
ANMO	**Albuquerque**	**38.88**	**357**	LR	LR	10 22 55.7	
comp=Z,204nm,18.4s,baz=274,slow=33							
PFO	**Pinyon Flats O**	**39.25**	**344**	LR	LR	10 21 44.7	
comp=Z,973nm,18.3s,baz=165,slow=31							
MIAR	**Mount Ida**	**39.69**	**14**	P	**P**	**10 09 12.8**	**+0.9**
MIAR				IAmb	IAmb	10 09 15.0	
comp=Z,24nm,1.6s							
SAML	**Samuel**	**40.97**	**99**	P	**P**	**10 09 23.5**	**+0.7**
SAML				IAmb	IAmb	10 09 24.7	
comp=Z,21nm,1.2s							
MVCO	**Mesa Verde**	**41.28**	**355**	P	**P**	**10 09 26.3**	**+1.0**
MVCO				IAmb	IAmb	10 09 42.5	
comp=Z,14nm,1.4s							
WTNK	**Soaring Height**	**41.33**	**347**	P	**P**	**10 09 26.2**	**+0.7**
S22A	**4UR Ranch, Cre**	**41.69**	**357**	P	**P**	**10 09 29.5**	**+0.8**
PLAL	**Pickwick Lake**	**41.69**	**20**	P	**P**	**10 09 29.3**	**+0.8**
PCRV	**Puerto La Cruz**	**41.83**	**70**	LR	LR	10 26 10.0	
comp=Z,616nm,20.2s,slow=36							
PBMO	**Poplar Bluff**	**42.62**	**16**	IAmb	IAmb	10 09 48.0	
comp=Z,27nm,1.5s							
T42A	**Van Buren**	**42.67**	**15**	P	**P**	**10 09 37.3**	**+0.9**
CGM3	**Cape Girardeau**	**43.32**	**17**	P	**P**	**10 09 43.1**	**+1.5**
CGM3				IAmb	IAmb	10 09 53.4	
comp=Z,26nm,1.5s							
CFA	**Coronel Fontan**	**43.44**	**133**	LR	LR	10 23 27.2	
comp=Z,1μm,18.8s,baz=296,slow=30							
P17A	**Butcher Ranch,**	**43.76**	**353**	IAmb	IAmb	10 09 59.8	
comp=Z,14nm,1.4s							
TKL	**Tuckaleechee C**	**43.91**	**24**	LR	LR	10 28 21.8	
comp=Z,234nm,18.4s,baz=214,slow=37							
SIV	**San Ignacio**	**43.94**	**109**	LR	LR	10 25 48.0	
comp=Z,1μm,20.1s,baz=297,slow=33							
NVAR	**Mina Array Bea**	**44.28**	**344**	LR	LR	10 24 15.8	
comp=Z,756nm,22.0s,baz=186,slow=31							
MPU	**Maple Canyon**	**44.41**	**352**	P	**P**	**10 09 51.3**	**+0.6**
MPU				IAmb	IAmb	10 10 05.0	
comp=Z,12nm,1.4s							
PTLB	**Pontes e Lacer**	**45.68**	**108**	P	**P**	**10 10 01.0**	**+0.1**
ELK	**Elko**	**45.75**	**348**	LR	LR	10 26 16.9	
comp=Z,454nm,20.8s,baz=168,slow=32							
PPT	**Papeete**	**46.44**	**250**	LR	LR	10 24 15.5	
comp=Z,536nm,20.0s,baz=106,slow=29							
PD31	**Pinedale Array**	**46.88**	**355**	IAmb	IAmb	10 10 39.7	
comp=Z,8.5nm,1.5s							
PDAR	**Pinedale Array**	**46.88**	**355**	P	**P**	**10 10 07.7**	**-2.5**
comp=Z,0.8nm,0.6s,baz=180,slow=7.7,SNR=8.6							
comp=Z,0.8nm,0.6s							
PLCA	**Paso Flores**	**47.37**	**145**	LR	LR	10 25 46.0	
comp=Z,1μm,18.0s,baz=296,slow=30							
P52A	**Corning**	**47.99**	**23**	P	**P**	**10 10 19.4**	**+0.8**
YBH	**Yreka Blue Hor**	**48.63**	**341**	LR	LR	10 26 27.2	
comp=Z,542nm,21.1s,baz=168,slow=31							
CPUP	**Villa Florida**	**49.93**	**121**	P	**P**	**10 10 31.4**	**-2.3**
comp=Z,4.9nm,1.0s,baz=290,slow=9.7,SNR=5.0							
CPUP				LR	LR	10 28 23.5	
comp=Z,474nm,20.6s,baz=291,slow=32							
comp=Z,4.9nm,1.0s							
MDP	**Montagnes des**	**52.26**	**80**	LR	LR	10 30 57.6	
comp=Z,394nm,19.7s,baz=320,slow=34							
NEW	**Newport**	**53.35**	**349**	LR	LR	10 31 00.1	
comp=Z,699nm,19.0s,baz=180,slow=33							
SADO	**Sadowa**	**53.54**	**22**	LR	LR	10 33 55.3	
comp=Z,203nm,18.1s,baz=234,slow=37							
ULM	**Lac du Bonnet**	**54.58**	**7**	P	**P**	**10 11 04.4**	**-3.4**
comp=Z,3.5nm,0.9s,baz=164,slow=7.4,SNR=2.5							
ULM				LR	LR	10 33 11.8	
comp=Z,741nm,18.6s,baz=209,slow=35							
comp=Z,3.5nm,0.9s							
BDFB	**Brasília**	**56.33**	**106**	P	**P**	**10 11 19.1**	**-2.1**
comp=Z,3.7nm,0.8s,baz=277,slow=9.0,SNR=2.6							
BDFB				LR	LR	10 33 40.6	
comp=Z,421nm,19.3s,baz=297,slow=34							
comp=Z,3.7nm,0.8s							
BBB	**Bella Bella**	**59.63**	**343**	LR	LR	10 34 32.3	
comp=Z,258nm,19.1s,baz=184,slow=33							
DLBC	**Dease Lake**	**65.67**	**345**	LR	LR	10 37 52.4	
comp=Z,436nm,19.1s,baz=154,slow=33							
SCHQ	**Schefferville**	**66.34**	**23**	LR	LR	10 40 34.4	
comp=Z,480nm,19.4s,baz=262,slow=36							
YKA	**Yellowknife Ar**	**66.87**	**355**	LR	LR	10 39 31.7	
comp=Z,450nm,18.3s,baz=180,slow=34							
PMSA	**Palmer Station**	**67.00**	**163**	LR	LR	10 34 25.9	
comp=Z,668nm,19.5s,baz=304,slow=35							
RCBR	**Riachuelo**	**67.99**	**95**	LR	LR	10 41 07.6	
comp=Z,408nm,19.2s,baz=259,slow=35							
FRB	**Frobisher Bay**	**72.70**	**16**	LR	LR	10 46 18.8	
comp=Z,224nm,18.8s,baz=198,slow=37							
KDAK	**Kodiak Island**	**72.85**	**335**	LR	LR	10 37 12.4	
comp=Z,694nm,20.6s,baz=161,slow=29							
RAO	**Raoul Island**	**73.86**	**241**	LR	LR	10 37 45.9	
comp=Z,1μm,19.3s,baz=138,slow=29							
INK	**Inuvik**	**75.07**	**349**	LR	LR	10 44 46.4	
comp=Z,456nm,18.3s,baz=179,slow=35							
IL31		**75.51**	**343**	P	**P**	**10 13 25.0**	**+1.4**
IL31				IAmb	IAmb	10 13 44.5	
comp=Z,14nm,1.5s							
ILAR	**Eielson Array**	**75.51**	**343**	P	**P**	**10 13 22.2**	**-1.5**
comp=Z,2.0nm,0.8s,baz=151,slow=5.2,SNR=17							
comp=Z,2.0nm,0.8s							
H24K	**Noodor Dome**	**76.57**	**343**	P	**P**	**10 13 31.0**	**+1.3**
H24K				IAmb	IAmb	10 13 33.0	
comp=Z,4.5nm,0.9s							
MLY	**Manley**	**76.88**	**342**	P	**P**	**10 13 32.5**	**+1.0**
MLY				IAmb	IAmb	10 13 33.8	
comp=Z,8.3nm,1.2s							
URZ	**Urewera**	**78.64**	**232**	LR	LR	10 43 18.8	
comp=Z,397nm,18.1s,baz=210,slow=32							
RES	**Resolute Bay**	**78.84**	**2**	LR	LR	10 47 49.8	
comp=Z,391nm,18.2s,baz=201,slow=35							
SFJD	**Kangerlussuaq**	**80.33**	**19**	LR	LR	10 49 14.6	
comp=Z,280nm,18.9s,baz=228,slow=36							
RPZ	**Rata Peaks**	**83.44**	**227**	LR	LR	10 44 28.6	
comp=Z,414nm,19.0s,baz=60,slow=31							
QSPA	**South Pole Qui**	**85.97**	**180**	P	**P**	**10 14 22.6**	**+2.8**
QSPA	**South Pole Qui**	**85.97**	**180**	P	**P**	**10 14 21.0**	**+1.2**
comp=Z,3.2nm,0.9s,baz=53,slow=10,SNR=6.9							
QSPA				LR	LR	10 46 13.4	
comp=Z,311nm,19.6s,baz=112,slow=31							
comp=Z,3.2nm,0.9s							
SHEM	**Shemya Is, Ala**	**88.22**	**323**	LR	LR	10 45 12.9	
comp=Z,559nm,21.4s,baz=116,slow=30							
SNAA	**Sanae**	**89.71**	**162**	LR	LR	10 46 25.4	
comp=Z,247nm,21.9s,baz=205,slow=30							
H11N3	**WAKE ISLAND Hy**	**90.36**	**290**	T	T	11 54 39.2	
baz=95,slow=74,SNR=96							
H11N2	**WAKE ISLAND Hy**	**90.37**	**290**	T	T	11 54 40.3	
baz=95,slow=74,SNR=87							
H11N1	**WAKE ISLAND Hy**	**90.38**	**290**	T	T	11 54 41.8	
baz=95,slow=74,SNR=89							
H11S2	**WAKE ISLAND Hy**	**90.46**	**288**	T	T	11 54 45.1	
baz=95,slow=75,SNR=146							
H11S1	**WAKE ISLAND Hy**	**90.47**	**288**	T	T	11 54 47.0	
baz=95,slow=75,SNR=155							
H11S3	**WAKE ISLAND Hy**	**90.48**	**288**	T	T	11 54 47.8	
baz=95,slow=75,SNR=150							
HNR	**Honiara**	**95.14**	**260**	LR	LR	10 49 52.8	
comp=Z,1μm,19.0s,baz=182,slow=30							
JMIC	**Jan Mayen**	**95.68**	**19**	LR	LR	10 56 39.6	
comp=Z,214nm,21.8s,baz=262,slow=35							
PETK	**Petropavlovsk-**	**98.14**	**323**	LR	LR	10 51 39.3	
comp=Z,289nm,20.3s,baz=101,slow=31							
DBIC	**Dimbokro**	**99.69**	**84**	LR	LR	10 59 23.7	
comp=Z,81nm,18.1s,baz=221,slow=35							
SEY	**Seymchan**	**99.73**	**333**	LR	LR	10 55 33.9	
comp=Z,200nm,18.2s,baz=114,slow=32							
SPITS	**Spitsbergen Ar**	**100.00**	**10**	LR	LR	11 00 53.2	
comp=Z,299nm,18.4s,baz=276,slow=36							
MDT	**Midelt**	**100.22**	**58**	LR	LR	10 55 02.2	
comp=Z,113nm,19.9s,baz=276,slow=32							
ESDC	**Sonseca Array**	**100.44**	**51**	LR	LR	10 53 00.0	
comp=Z,162nm,21.6s,baz=281,slow=31							
SONM	**Songino Array**	**129.12**	**334**	PKP	**PKPdf**	**10 20 48.4**	**+0.4**
comp=Z,0.2nm,0.4s,baz=29,slow=3.3,SNR=2.1							
ZALV	**Zalesovo Beam**	**129.75**	**353**	PKP	**PKPdf**	**10 20 48.3**	**-0.6**
comp=Z,0.3nm,0.3s,baz=338,slow=3.1,SNR=1.7							
BVAR	**Borovoye Array**	**131.00**	**4**	PKP	**PKiKP**	**10 20 52.3**	**+0.1**
comp=Z,0.4nm,0.4s,baz=30,slow=12,SNR=2.1							
MKAR	**Makanchi Array**	**137.09**	**353**	PKP	**PKPdf**	**10 21 02.4**	**-0.6**
comp=Z,0.5nm,0.8s,baz=27,slow=2.3,SNR=2.6							
KSH	**Kashi**	**144.72**	**360**	PKPbc	**PKiKP**	**10 21 19.4**	**-1.4**
TNCH	**TengChong**	**149.85**	**316**	*eP*	**PKPdf**	**10 21 21.3**	**-4.8**
TNCH				pmax	pmax		
comp=Z,870nm,8.9s							
CMAR	**Chiang Mai Arr**	**153.27**	**304**	PKP	**PKPdf**	**10 21 31.0**	**-0.2**
comp=Z,0.4nm,0.3s,baz=126,slow=1.2,SNR=1.5							
CMAR				PKPbc	**PKiKP**	**10 21 40.1**	**+1.3**
comp=Z,0.5nm,0.3s,baz=19,slow=1.4,SNR=6.4							

*NEIC **20** 10:36:51.0±1.1,30°.17S±0°.09×177°.2W±0°.2,h10km±2km,*
mb4.7/20,Error ellipse: s-maj=26.6km s-min=3.4km
az=57.0
*IDC **20** 10:36:55.0±2.9,30°.16S×177°.60W,h31km±19km,mb4.2/12,*
mbtmp4.4/14,ML3.8/2,MS4.1/14,Error ellipse:
s-maj=19.7km s-min=14.3km az=80.0
ISC 20 10:36:54.8±0.4,**30°.20S**±0°.05×**177°.45W**±0°.08,**h35**km,**n82,**
σ1**9**48/69,**mb4.7**/28,**MS4.0**/15,**4C,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.03**	**337**	Pn	**Pn**	**10 37 12.6**	**-0.1**
RAO				Sg	**Sn**	**10 37 26.6**	**+0.7**
RAO	**Raoul Island**	**1.03**	**337**	Pn	**Pn**	**10 37 12.4**	**-0.3**
2μm,0.3s,baz=109,slow=5.1,SNR=109							
RAO				Sn	**Sn**	**10 37 26.8**	**+0.9**
9μm,0.3s,baz=306,slow=24,SNR=19							
URZ	**Urewera**	**9.21**	**208**	Pn	Pn	10 38 59.3	-5.9
1.1nm,0.3s,baz=320,slow=6.7,SNR=11							
URZ				Sn	**Sn**	**10 40 43.5**	**-4.1**
2.5nm,0.3s,baz=224,slow=20,SNR=2.0							
MSVF	**Nonsavu**	**13.07**	**341**	Pn	**Pn**	**10 39 54.1**	**-4.1**
MSVF	**Nonsavu**	**13.07**	**341**	LR	LR	10 44 23.0	
comp=Z,518nm,18.8s,baz=195,slow=34							
CTZ	**Chatham Island**	**13.53**	**177**	Pn	**Pn**	**10 40 00.9**	**-3.3**
MARNC	**Mare, Loyalty**	**15.68**	**300**	Pn	**Pn**	**10 40 34.1**	**+1.0**
RPZ	**Rata Peaks**	**16.30**	**211**	Pn	**Pn**	**10 40 39.5**	**-1.5**
1.0nm,0.3s,baz=349,slow=16,SNR=3.3							
RPZ				Sn	Sn	10 43 21.8	-19
0.3nm,0.3s,baz=93,slow=16,SNR=1.4							
5.3nm,0.5s							
DZM	**Mont Dzumac**	**16.56**	**295**	*e*Pn	**Pn**	**10 40 39.4**	**-5.1**
75nm,1.1s							
DZM				*e*LR	LR	10 44 43.9	
comp=Z,1μm,23.8s							
DZM	**Mont Dzumac**	**16.56**	**295**	Pn	**Pn**	**10 40 44.8**	**+0.3**
DZM	**Mont Dzumac**	**16.56**	**295**	Pn	**Pn**	**10 40 41.6**	**-2.9**
0.2nm,0.3s,baz=128,slow=17,SNR=1.6							
3.8nm,0.8s							
RAR	**Rarotonga**	**18.25**	**65**	P	**P**	**10 41 02.3**	**-3.0**
12nm,0.6s,baz=214,slow=7.3,SNR=2.3							
ARMA	**Armidale**	**26.66**	**262**	P	**P**	**10 42 31.4**	**+0.8**
ARMA				IAmb	IAmb	10 42 40.6	
comp=Z,40nm,1.5s							
PAE	**Paea**	**28.28**	**70**	*e*T	T	11 11 59.9	
comp=Z,4.7nm,0.3s							
PPT2	**Papeete2**	**28.32**	**70**	*e*LR	LR	10 49 28.9	
comp=Z,299nm,28.0s							
PPT2				*e*LR	LR	10 49 48.8	
comp=Z,442nm,26.2s							
PPT2	**Papeete2**	**28.32**	**70**	*e*T	T	11 11 56.7	
comp=Z,4.4nm,0.3s							
PPT	**Papete**	**28.33**	**70**	LR	LR	10 52 23.3	
comp=Z,24nm,20.9s,baz=212,slow=33							
TOO	**Toolangi**	**31.48**	**246**	P	**P**	**10 43 13.6**	**+0.3**
TOO				IAmb	IAmb	10 43 24.6	
comp=Z,9.2nm,1.0s							
CTA	**Charters Tower**	**34.24**	**279**	P	**P**	**10 43 38.4**	**+0.9**
comp=Z,5.0nm,0.5s,baz=108,slow=9.4,SNR=12							
CTA				LR	LR	10 55 49.1	
comp=Z,310nm,19.3s,baz=90,slow=33							
comp=Z,5.0nm,0.5s							
CTAO	**Charters Tower**	**34.24**	**279**	P	**P**	**10 43 38.1**	**+0.6**
STKA	**Stephens Creek**	**34.99**	**257**	P	**P**	**10 43 45.3**	**+1.4**
STKA	**Stephens Creek**	**34.99**	**257**	P	**P**	**10 43 43.1**	**-0.8**
comp=Z,4.3nm,0.7s,baz=97,slow=9.8,SNR=9.1							
STKA				LR	LR	10 57 18.1	
comp=Z,293nm,18.4s,baz=42,slow=35							
comp=Z,4.3nm,0.7s							
BBOO	**Buckleboo**	**39.48**	**254**	P	**P**	**10 44 22.3**	**+0.3**
BBOO				IAmb	IAmb	10 44 44.8	
comp=Z,27nm,1.3s							
COEN	**Coen**	**39.67**	**285**	P	**P**	**10 44 24.4**	**+0.6**
COEN				IAmb	IAmb	10 44 38.3	
comp=Z,16nm,1.1s							
AS31	**Alice Springs**	**43.59**	**266**	P	**P**	**10 44 56.7**	**+0.8**
ASAR	**Alice Springs**	**43.59**	**266**	P	**P**	**10 44 55.4**	**-0.5**
ASAR	**Alice Springs**	**43.59**	**266**	P	**P**	**10 44 54.5**	**-1.4**
comp=Z,1.4nm,0.5s,baz=105

PLCA Paso Flores 82.30 133 P P 10 49 14.5 +1.5
comp=Z,1.2nm,0.8s,baz=238,slow=9.5,SNR=3.5
comp=Z,1.2nm,0.8s
KSRS Korea Array 84.50 319 P P 10 49 29.2 +5.2
comp=Z,1.8nm,0.9s,baz=144,slow=6.5,SNR=4.9
PETK Petropavlovsk- 85.74 345 P **P 10 49 28.4 -1.5**
comp=Z,4.0nm,0.9s,baz=141,slow=7.3,SNR=2.6
comp=Z,4.0nm,0.9s
NJ2 Nanjing 86.47 310 *e*P **P 10 49 35.6 +1.6**
NJ2 pP **PcP 10 49 39.3 +2.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,610nm,4.5s
NVAR Mina Array Bea 87.77 42 P **P 10 49 41.1 +0.7**
comp=Z,2.3nm,0.8s,baz=232,slow=7.2,SNR=5.0
comp=Z,2.3nm,0.8s
CFA Coronel Fontan 88.97 126 LR LR 11 20 47.5
comp=Z,66nm,21.3s,baz=289,slow=30
KDAK Kodiak Island 90.10 13 LR LR 11 22 10.6
comp=Z,114nm,21.9s,baz=204,slow=30
TXAR Lajitas Array 91.88 57 P **P 10 50 00.2 +0.5**
comp=Z,0.5nm,1.0s,baz=197,slow=8.5,SNR=3.2
comp=Z,0.5nm,1.0s
CMIG Matias Romero 92.24 72 LR LR 11 26 05.7
comp=Z,58nm,18.0s,baz=228,slow=32
PZH PanZhiHua 95.64 297 P **P 10 50 18.8 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,290nm,6.1s
PDAR Pinedale Array 95.66 43 PP **PP 10 54 07.5 -1.7**
comp=Z,0.7nm,0.9s,baz=165,slow=6.2,SNR=4.0
HHC Hu-ho-hao-te 96.44 314 *e*P **P 10 50 20.6 +0.2**
HHC pmax pmax
comp=Z,35nm,0.7s
HHC pmax pmax
comp=Z,360nm,5.9s
CPUP Villa Florida 99.74 128 LR LR 11 27 22.7
comp=Z,44nm,20.9s,baz=240,slow=30
KURBB Kurchatov Arra 121.29 314 PKP **PKiKP 10 55 43.6 -0.3**
comp=Z,0.6nm,0.6s,baz=114,slow=1.8,SNR=6.2
BVAR Borovoye Array 126.59 316 PKP **PKiKP 10 55 54.4 0.0**
comp=Z,0.6nm,0.4s,baz=86,slow=2.8,SNR=2.4
FINES FINESS Array B 145.12 340 PKPbc **PKPdf 10 56 27.6 -0.2**
comp=Z,12nm,0.7s,baz=55,slow=3.4,SNR=19
KBZ Khabaz 145.39 304 PKPbc **PKPbc 10 56 28.2 -0.6**
comp=Z,1.3nm,0.7s,baz=124,slow=11,SNR=2.5
NB2 NORSAR Subarra148.62 352 PKP **PKiKP 10 56 39.0 0.0**
comp=Z,5.2nm,1.1s,baz=17,slow=2.6
NOA NORSAR Array B148.62 352 PKPbc **PKiKP 10 56 37.9 -1.1**
comp=Z,0.8nm,0.8s,baz=15,slow=4.4,SNR=1.6
HFS Hagfors 149.14 349 PKPbc **PKPbc 10 56 38.7 -0.1**
comp=Z,0.6nm,0.6s,baz=42,slow=12,SNR=3.4
AKASG Malin Array Be 151.43 323 PKPbc **PKPbc 10 56 43.8 -0.8**
comp=Z,1.0nm,0.3s,baz=43,slow=2.9,SNR=2.8
MMAI Mount Meron Ar 151.94 284 PKPbc **PKiKP 10 56 46.5 -0.3**
comp=Z,2.6nm,0.4s,baz=83,slow=6.8,SNR=6.7
BRTR Keskin Array B 152.92 299 PKPbc **PKiKP 10 56 48.7 0.0**
comp=Z,1.4nm,0.8s,baz=128,slow=2.0,SNR=6.5
CLL Collm 157.52 343 *e*pPKPab pPKPab 10 57 25.0 -3.6
TORD Torodi Ar. Bea 163.01 177 PKPab **PKPab 10 57 44.5 +1.0**
comp=Z,0.3nm,0.5s,baz=170,slow=2.3,SNR=2.0

*BUT **20** 10:48:14.6±1.2, 46°.90N±0°.05×112°.51W±0°.06, h10km±4km, Error ellipse: s-maj=8.5km s-min=3.6km az=217.0*
NEIC 20 10:48:13.5±1.4, 46°.92N±0°.05×112°.47W±0°.06, h5km±6km, ML2.6/22, ML2.7/10(BUT), Error ellipse: s-maj=8.8km s-min=2.4km az=218.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.14**	**67**		Pg	10 48 17.7	+1.3
BEMT	**Mount Belmont**	**0.20**	**150**		Pg	10 48 18.1	+0.7
OVMT	**Ovando**	**0.39**	**292**		Pg	10 48 21.2	+0.2
ELMT	**Elliston**	**0.40**	**182**		Pg	10 48 21.4	+0.2
CHMT	**Chamberlain Mo**	**0.54**	**270**		Pg	10 48 24.0	+0.2
BPMT	**Black Pine Rid**	**0.82**	**235**		Pg	10 48 29.1	-0.2
MSO	**Missoula**	**1.01**	**266**		Pg	10 48 33.0	+0.1
MSO				Sg	Sg	10 48 45.2	-0.7
MSO				IAML		10 48 50.1	
	128nm,0.5s						
MSO				IAML		10 48 50.3	
	180nm,0.7s						
BOZ	**Bozeman (W)**	**1.44**	**156**		Pb	10 48 40.8	-0.1
BOZ					Sb	10 48 59.6	-0.1
BOZ				IAML		10 49 03.0	
	54nm,0.4s						
DLMT	**Dillon**	**1.56**	**183**		Pb	10 48 42.7	-0.2
DLMT				IAML		10 49 06.6	
	58nm,0.3s						
DLMT				IAML		10 49 06.8	
	55nm,0.3s						
RLMT	**Red Lodge**	**2.87**	**128**		Pn	10 49 02.4	+2.5
RLMT				IAML		10 49 45.9	
	23nm,0.5s						
RLMT				IAML		10 49 48.3	
	20nm,0.4s						
PLID	**Pearl Lake**	**3.06**	**235**		Pn	10 49 03.2	+0.5
PLID				IAML		10 49 56.6	
	11nm,0.5s						
MOOW	**Moose Ponds**	**3.40**	**158**		Pn	10 49 08.5	+1.2
NEW	**Newport**	**3.42**	**295**	Pn	Pn	10 49 08.1	+0.6
NEW				IAML		10 50 02.9	
	15nm,3.8s						
LOHW	**Long Hollow**	**3.56**	**158**		Pn	10 49 11.7	+2.2
LOHW				IAML		10 50 28.5	
	10nm,4.5s						
HLID	**Hailey**	**3.62**	**203**		Pn	10 49 10.0	-0.4
HLID				IAML		10 50 05.4	
	17nm,2.8s						
HLID				IAML		10 50 08.3	
	12nm,0.5s						
C09A	**Chrisman Ranch**	**4.04**	**285**	Pn	Pn	10 49 14.9	-1.0
LAO	**LASA Array**	**4.30**	**91**		Pn	10 49 22.1	+2.6

*DJA **20** 10:48:33.9±0.5, 9°.S±4°.×12°.4E±°, h100km±7km, M3.6/7, mb4.0/4, MLv3.4/7*
ISC 20 10:48:34.0±1.5, 9°.1S±0°.2×123°.88E±0°.10, h100km, n14, σ0°.82/15, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.75**	**149**	P	**Pn**	**10 48 53.1**	**+1.0**
SOEI	**Soe**	**0.75**	**149**	P	**Pn**	**10 48 53.0**	**+1.0**
SOEI				S	**Sn**	**10 49 06.7**	**+1.1**
BATI	**Baumata**	**1.11**	**191**	P	**Pn**	**10 48 56.1**	**+0.4**
MMRI	**Maumere**	**1.68**	**286**	P	**Pn**	**10 49 03.1**	**+0.5**
MMRI	**Maumere**	**1.68**	**286**	P	**Pn**	**10 49 03.0**	**+0.5**
EDFI	**Ende, Flores**	**2.19**	**279**	P	**Pn**	**10 49 09.5**	**+0.4**
BASI	**Baing, Sumba**	**3.43**	**251**	P	**Pn**	**10 49 25.7**	**+0.2**
PLAI	**Plampang**	**6.03**	**272**	P	**Pn**	**10 50 01.3**	**+0.6**
PLAI	**Plampang**	**6.03**	**272**	P	**Pn**	**10 50 01.1**	**+0.4**
	38nm,1.6s,0.2nm						
TWSI	**Taiwang, Sumb**	**6.92**	**272**	P	**Pn**	**10 50 12.7**	**-0.1**
	20nm,1.1s,0.1nm						
MTN	**Manton Dam**	**8.04**	**118**	P	**Pn**	**10 50 28.2**	**+0.2**
KNRA	**Kununurra**	**8.09**	**144**	P	**Pn**	**10 50 28.2**	**-0.5**
KDU	**Kakadu**	**9.16**	**114**	P	**Pn**	**10 50 41.9**	**-1.4**
WRAB	**Tennant Creek**	**14.78**	**138**	P	**Pn**	**10 51 57.0**	**-1.0**

*IDC **20** 10:52:27.4±6.2, 15°.40S×175°.11W, h323km±39km, mb3.2/5, mbtmp3.9/6, Error ellipse: s-maj=150.7km s-min=26.5km az=137.0*
ISC 20 10:52:26.1±3.1, 14°.9S±0°.8×175°.3W±0°.6, h300km, n7, σ1°.61/7, mb3.4/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.98**	**245**	P	**Pn**	**10 54 09.5**	**+2.1**
	5.9nm,0.7s,baz=115,slow=19,SNR=2.1						
CTA	**Charters Tower**	**36.97**	**256**	P	**P**	**10 59 07.0**	**-0.7**
	4.6nm,1.0s,baz=62,slow=17,SNR=2.0						
	4.6nm,1.0s						
STKA	**Stephens Creek**	**42.71**	**239**	P	**P**	**10 59 53.9**	**-0.6**
	1.2nm,0.5s,baz=94,slow=15,SNR=3.7						
	1.2nm,0.5s						
WRA	**Warramunga Arr**	**48.17**	**256**	P	**P**	**11 00 35.5**	**-1.8**
	0.2nm,0.5s,baz=94,slow=6.7,SNR=5.3						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**48.53**	**251**	P	**P**	**11 00 38.8**	**-1.1**
	2.2nm,0.4s,baz=88,slow=7.8,SNR=40						
	2.2nm,0.4s						

ILAR Eielson Array 82.31 12 P **P 11 04 14.6 +0.5**
0.2nm,0.4s,baz=222,slow=5.3,SNR=8.5
0.2nm,0.4s
BRTR Keskin Array B 144.59 320 PKPbc **PKPdf 11 11 28.3 +0.8**
0.2nm,0.3s,baz=66,slow=3.0,SNR=4.2

*DNK **20** 10:56:14.9±0.9, 81°.37N×2°.87W, h36km±15km, ML1.3*
*BER **20** 10:56:15.0±1.3, 81°.18N×3°.10W, h10km, mb(Pn)3.0, Confirmed Earthquake*
*KOLA **20** 10:56:18.4, 81°.33N×0°.44W, h0km, ML2.0, Error ellipse: s-maj=78.9km s-min=18.3km az=40.0, Greenland sea, Arctic Ocean, Knipovich ridge, north*
ISC 20 10:56:10.9±1.8, 81°.2N±0°.1×3°.21W±0°.04, h10km, n13, σ2°.08/21, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.06**	**287**	*i* P	**Pn**	**10 56 46.2**	**+0.8**
NOR				IAML		10 57 14.3	
	comp=Z,2.2nm,0.4s						
KBS	**Kingsbay**	**3.48**	**124**	P	**Pn**	**10 57 05.8**	**+0.9**
KBS				S	**Sn**	**10 57 42.9**	**-3.2**
KBS	**Kingsbay**	**3.48**	**124**	*e*P	**Pn**	**10 57 06.0**	**+1.1**
KBS				IAML		10 57 07.2	
	comp=Z,4.9nm,0.1s						
KBS	**Kingsbay**	**3.48**	**124**	*i* P	**Pn**	**10 57 05.7**	**+0.8**
KBS				*i* S	**Sn**	**10 57 43.8**	**-2.3**
BRBB	**Barentsburg B**	**4.42**	**126**	P	**Pn**	**10 57 20.3**	**+2.5**
BRBB				S	**Sn**	**10 58 08.0**	**-1.2**
BRBB	**Barentsburg B**	**4.42**	**126**	*e*P	**Pn**	**10 57 20.5**	**+2.7**
BRBB				*e*S	**Sn**	**10 58 07.5**	**-1.7**
SPA0	**Spitsbergen Ar**	**4.63**	**121**	*e*P	**Pn**	**10 57 21.9**	**+1.2**
SPA0				IAML		10 57 23.5	
	comp=Z,2.0nm,0.1s						
SPITS	**Spitsbergen Ar**	**4.63**	**121**	P	**Pn**	**10 57 21.9**	**+1.2**
SPITS				S	**Sn**	**10 58 12.4**	**-1.9**
DAG	**Danmarks Havn**	**5.33**	**221**	*e*P	**Pn**	**10 57 32.5**	**+2.1**
DAG				*e*S	**Sn**	**10 58 28.9**	**-2.8**
DAG	**Danmarks Havn**	**5.33**	**221**	*e*	**Pn**	**10 57 32.0**	**+1.7**
	baz=22,slow=16						
DAG				*i* P	**Pn**	**10 57 32.4**	**+2.1**
DAG				*e*S	**Sn**	**10 58 29.4**	**-2.3**
DAG				IAML		10 58 32.3	
	comp=Z,1.5nm,0.3s						
HSPB	**Hornsund (broa**	**5.49**	**130**	P	**Pn**	**10 57 34.7**	**+2.2**
HSPB	**Hornsund (broa**	**5.49**	**130**	*e*P	**Pn**	**10 57 34.3**	**+1.8**
DBG	**Daneborg**	**7.77**	**216**	*i* P	**Pn**	**10 58 05.0**	**+1.2**

TAP 20 11:26:03.5, 23°.04N×120°.40E, h16km, ML2.0, 5C-6D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN3	**Shinhua**	**0.05**	**320**	⇓P	Pg	11 26 06.8	+0.3
CHN3				*e*S	Sg	11 26 10.2	+1.8
	baz=318						
SHHT	**Tainan City**	**0.05**	**252**	⇓P	Pg	11 26 06.5	+0.1
SHHT				*i* S	Sg	11 26 09.6	+1.2
	baz=251						
SCST	**Cishan**	**0.17**	**150**	⇑P	Pb	11 26 09.0	+0.6
SCST				S	Sb	11 26 12.6	+1.0
	baz=150						
CHN1	**Nanshi**	**0.19**	**39**	P	Pg	11 26 08.3	+0.2
CHN1				*e*S	Sb	11 26 13.4	+1.3
	baz=38						
TAI	**Tainan**	**0.19**	**257**	*i* P	Pb	11 26 08.9	+0.2
TAI				S	Sb	11 26 12.7	+0.5
	baz=257						
SNST	**Tainan City**	**0.20**	**26**	P	Pb	11 26 08.7	-0.2
SNST				*i* S	Sb	11 26 13.3	+0.7
	baz=26						
SLGT	**Liugui**	**0.23**	**101**	⇑P	Pb	11 26 09.1	-0.3
SLGT				*e*S	Sb	11 26 14.4	+1.1
	baz=100						
SCLT	**Jiali**	**0.23**	**306**	*i* P	Pb	11 26 09.7	+0.3
SCLT				*e*S	Sb	11 26 13.5	+0.1
	baz=306						
TWK	**Hsinying**	**0.24**	**19**	*e*P	Pb	11 26 09.9	+0.2
	baz=21						
WTP	**Ta-pu**	**0.29**	**43**	⇓P	Pb	11 26 10.5	+0.1
WTP				S	Sb	11 26 16.0	+1.0
	baz=44						
TSCK	**Chigu Township**	**0.31**	**291**	P	Pb	11 26 10.8	+0.1
TSCK				S	Sb	11 26 16.7	+1.1
	baz=290						
SGLT	**Jiouru**	**0.32**	**165**	*i* P	Pb	11 26 11.3	+0.4
SGLT				*i* S	Sb	11 26 16.9	+1.0
	baz=163						
TPUB	**Ta-pu**	**0.34**	**39**	⇓*e*P	Pb	11 26 10.9	-0.3
TPUB				S	Sb	11 26 17.1	+0.7
	baz=38						
ICHU	**Yijhu**	**0.34**	**341**	⇑P	Pb	11 26 12.1	+0.8
ICHU				S	Sb	11 26 17.9	+1.4
	baz=340						
CHN8	**Yiju**	**0.35**	**331**	*i* P	Pb	11 26 11.7	+0.3
CHN8				*i* S	Sb	11 26 17.5	+0.7
	baz=332						
CHN4	**Tsaushan**	**0.36**	**30**	*e*P	Pb	11 26 11.7	+0.1
SSD	**Sandimen**	**0.36**	**144**	*e*P	Pb	11 26 11.9	+0.3
	baz=142						
STYH	**Taoyuan**	**0.37**	**69**	*i* P	Pb	11 26 12.2	+0.5
STYH				S	Sb	11 26 18.7	+1.4
	baz=67						
TSMG	**Majia**	**0.40**	**146**	⇑P	Pb	11 26 12.4	+0.2
TSMG				S	Sb	11 26 19.3	+1.1
	baz=145						
WCKO	**Fanlu**	**0.44**	**25**	⇓*e*P	Pb	11 26 13.9	+0.9
WCKO				*i* S	Sb	11 26 20.4	+1.0
	baz=25						
CHY	**Chiayi**	**0.46**	**3**	*e*P	Pb	11 26 13.9	+0.6
	baz=3.0						
MASBT	**Mashibuluo**	**0.47**	**153**	⇑*i*P	Pb	11 26 13.9	+0.3
MASBT				S	Sb	11 26 21.6	+1.3
	baz=153						
ELDTW	**Lidau**	**0.59**	**75**	*i* P	Pb	11 26 16.0	+0.4
	baz=75						
ALS	**Alishan**	**0.60**	**38**	*i* P	Pb	11 26 16.2	+0.3
	baz=38						
CHN5	**Tsauling**	**0.61**	**25**	⇓*i*P	Pb	11 26 16.4	+0.4
	baz=24						
WTK	**Tuku**	**0.65**	**359**	P	Pb	11 26 16.6	+0.1
	baz=359						
WTK				S	Sn	11 26 26.7	-1.3
	baz=359						
TWG	**Pinlang**	**0.66**	**109**	*e*P	Pn	11 26 18.0	-0.2
	baz=109						
WGK	**Gukeng**	**0.66**	**13**	*e*P	Pb	11 26 16.9	+0.1
	baz=13						
TWGBT	**Beinan**	**0.66**	**109**	*e*P	Pn	11 26 17.9	-0.4
	baz=109						
LONT	**Longtian**	**0.69**	**101**	P	Pb	11 26 17.4	+0.3
	baz=100						
EHD	**Haiduan**	**0.75**	**81**	P	Pb	11 26 18.4	+0.1
	baz=81						
WHYT	**Xinyi Township**	**0.78**	**32**	P	Pb	11 26 18.9	+0.1
	baz=32						
FULB	**Fuli**	**0.84**	**79**	P	Pn	11 26 20.6	-0.2
FULB				S	Sn	11 26 32.0	-0.8
	baz=78						
YULB	**Yu-li**	**0.90**	**67**	*e*P	Pg	11 26 21.1	+0.1
	baz=66						
SSLB	**Suanglung**	**0.90**	**34**	*i* P	Pg	11 26 21.4	+0.3
	baz=34						
SSLB				*i* S	Sn	11 26 34.3	-0.2
	baz=34						

*HEL **20** 11:29:24.4±0.1, 63°.98N×28°.10E, h0km, ML1.6, Suspected explosion*
*IDC **20** 11:29:25.2±1.9, 63°.92N×28°.36E, h0km, mbtmp2.9/2, ML1.7/2, Error ellipse: s-maj=43.2km s-min=10.7km az=96.0*
ISC 20 11:29:23.7±0.8, 63°.92N±0°.03×28°.03E±0°.03, h0km, n28, σ1°.51/47, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.54**	**191**	PG	**Pb**	**11 29 35.5**	**-0.5**
	baz=12						
NIF				SG	**Sg**	**11 29 39.6**	**-1.3**
RMF	**Romuvaara**	**0.89**	**69**	PB	**Pg**	**11 29 40.3**	**-0.4**
RMF				MSG		11 29 50.3	
	comp=Z,7.1nm,0.2s						
RMF				SB	**Sg**	**11 29 51.3**	**-0.9**
OUL	**Oulu**	**1.49**	**323**	PN	**Pn**	**11 29 51.7**	**0.0**
	baz=134						
OUL				SN	**Sg**	**11 30 11.6**	**0.0**
OUF	**Merijarvi**	**1.52**	**289**	PN	**Pn**	**11 29 52.2**	**+0.1**
OUF				MSG		11 30 10.0	
	comp=Z,6.6nm,0.2s						
OUF				SN	**Sg**	**11 30 12.6**	**+0.3**
OBF4	**Vikkela, Lumij**	**1.56**	**307**	PN	**Pn**	**11 29 53.0**	**+0.4**
OBF4				MSG		11 30 10.8	
	comp=Z,3.7nm,0.2s						
OBF4				SN	**Sb**	**11 30 14.3**	**+0.7**
OBF0	**Syolatti, Pyha**	**1.76**	**291**	PG	**Pb**	**11 29 56.6**	**-0.2**
OBF0				MSG		11 30 17.0	
	comp=Z,7.4nm,0.2s						
OBF0				SN	**Sb**	**11 30 20.0**	**+0.6**
JOF	**Joensuu**	**1.78**	**123**	PG	**Pb**	**11 29 56.8**	**-0.4**
	baz=304						
JOF				SN	**Sg**	**11 30 20.6**	**-0.3**
KAF	**Kangasniemi**	**1.98**	**204**	PG	**Pg**	**11 30 01.0**	**-0.5**
	baz=23						
KAF				MSG		11 30 25.3	
	comp=Z,4.8nm,0.2s						
KAF				SG	**Sg**	**11 30 29.3**	**+2.2**
MSF	**Maaselka**	**2.05**	**12**	PG	**Pn**	**11 29 60.0**	**+0.6**
MSF				SG	**Sn**	**11 30 25.6**	**0.0**
KU6	**Riekki**	**2.26**	**20**	PG	**Pn**	**11 30 03.7**	**+1.4**
KU6				MSG		11 30 29.2	
	comp=Z,1.9nm,0.2s						
KU6				SG	**Sn**	**11 30 31.7**	**+0.9**
KEF	**Keuruu**	**2.27**	**221**	PG	**Pg**	**11 30 06.2**	**-0.9**
KEF				MSG		11 30 33.6	
	comp=Z,3.8nm,0.2s						
KEF				SG	**Sg**	**11 30 36.2**	**-0.4**
OLKF	**Oulanka, Finla**	**2.48**	**13**	PG	**Pn**	**11 30 07.5**	**+2.2**
OLKF				MSG		11 30 35.7	
	comp=Z,2.1nm,0.2s						
OLKF				SG	**Sn**	**11 30 38.2**	**+1.9**
RUF	**Ruokolahti**	**2.54**	**170**	PG	**Pb**	**11 30 10.1**	**0.0**
RUF				MSG		11 30 41.1	
	comp=Z,3.7nm,0.2s						
RUF				SG	**Sg**	**11 30 44.2**	**-0.9**
VAF	**Ylistaro**	**2.56**	**252**	PG	**Pb**	**11 30 10.4**	**0.0**
VAF				MSG		11 30 41.4	
	comp=Z,3.6nm,0.2s						
VAF				SG	**Sg**	**11 30 44.9**	**-0.9**
FIA0	**FINESS Array S**	**2.64**	**201**	PB	**Pb**	**11 30 11.4**	**-0.4**
FIA0				MSG		11 30 44.5	
	comp=Z,1.9nm,0.2s						
FIA0				SB	**Sb**	**11 30 45.1**	**+0.4**
FINES	**FINESS Array B**	**2.64**	**201**	Pn	**Pb**	**11 30 11.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=26,slow=14,SNR=8.9						
FINES				Sn	**Sg**	**11 30 46.4**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=22,slow=27,SNR=24						
	comp=Z,1.5nm,0.4s						
TOF	**Tornio**	**2.68**	**326**	PB	**Pn**	**11 30 09.7**	**+1.7**
	baz=144						
TOF				MSG		11 30 42.1	
	comp=Z,1.0nm,0.2s						
TOF				SB	**Sn**	**11 30 43.2**	**+2.0**
KALU	**Kalix**	**2.79**	**316**	PB	**Pn**	**11 30 11.6**	**+2.1**
KALU				SB	**Sn**	**11 30 45.7**	**+2.0**
RNF	**Rovaniemi**	**2.83**	**343**	SG	**Sb**	**11 30 49.6**	**-0.7**
BURU	**Burvik**	**2.98**	**286**	PN	**Pn**	**11 30 13.5**	**+1.4**
UMAU	**Umeaa**	**3.25**	**273**	PN	**Pn**	**11 30 16.8**	**+1.0**
ERTU	**Ertsjaerv**	**3.61**	**320**	PN	**Pn**	**11 30 22.5**	**+1.6**
KLF	**Kolari**	**3.73**	**335**	PN	**Pn**	**11 30 20.7**	**-1.8**
KLF				SN	**Sn**	**11 31 07.2**	**+0.1**
HEMU	**Hemsoen**	**4.68**	**259**	PN	**Pn**	**11 30 37.5**	**+2.1**
LANU	**Lannavaara**	**4.82**	**332**	SB	**Sb**	**11 31 41.5**	**-5.9**
LVZ	**Lovozero**	**4.83**	**31**	SG	**Sb**	**11 31 49.1**	**+1.5**
ARCES	**ARCESS Array B**	**5.73**	**351**	Pn	**Pn**	**11 30 51.1**	**+1.2**
	baz=174,slow=13,SNR=1.6						
ARCES				Sn	**Sn**	**11 31 54.3**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=171,slow=24,SNR=2.2						
	comp=Z,3.0nm,1.0s						
I43RU	**DUBNA INFRASON**	**8.53**	**144**	I	I	12 20 10.0	
	baz=334,slow=326,SNR=4.0						

*IDC **20** 11:31:57.1±4.7, 5°.57S×147°.27E, h75km±44km, mb3.3/4, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=52.9km s-min=30.9km az=113.0*
ISC 20 11:31:59.0±1.1, 5°.74S±0°.10×147°.2E±0°.3, h100km, n8, σ2°.26/9, mb3.4/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**181**	P	**Pn**	**11 32 54.5**	**+1.0**
	8.3nm,0.4s,baz=3.5,slow=19,SNR=15						
PMG				S	**Sn**	**11 33 33.3**	**-2.2**
	36nm,0.4s,baz=216,slow=21,SNR=16						
WRA	**Warramunga Arr**	**18.89**	**220**	P	**Pn**	**11 36 12.7**	**-0.8**
	0.3nm,0.3s,baz=41,slow=12,SNR=16						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**21.97**	**214**	P	**P**	**11 36 46.8**	**+1.9**
	0.8nm,0.5s,baz=43,slow=9.9,SNR=26						
	0.8nm,0.5s						
SONM	**Songino Array**	**64.29**	**331**	P	**P**	**11 42 22.3**	**-1.6**
	0.3nm,0.6s,baz=114,slow=6.5,SNR=2.0						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**84.23**	**180**	P	**P**	**11 44 19.8**	**+0.5**
	0.5nm,0.6s,baz=0.0,slow=2.0,SNR=1.7						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**85.14**	**23**	P	**P**	**11 44 24.4**	**+0.7**
	0.5nm,0.9s,baz=253,slow=5.5,SNR=5.0						
	0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**145.26**	**285**	PKPbc	**PKiKP**	**11 51 27.0**	**-3.0**
	0.2nm,0.7s,baz=65,slow=4.8,SNR=4.3						
DBIC	**Dimbokro**	**152.25**	**273**	PKPab	**PKPab**	**11 51 57.2**	**+2.8**
	4.6nm,1.1s,baz=100,slow=4.7,SNR=3.6						

*IDC **20** 11:39:58.2±1.1, 6°.45S×152°.68E, h0km, mb3.9/8, mbtmp3.9/10, ML1.3/1, MS3.5/2, Error ellipse: s-maj=35.1km s-min=16.9km az=103.0*
ISC 20 11:40:01.6±1.0, 6°.36S±0°.07×152°.6E±0°.1, h23km, n13, σ1°.10/13, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.11**	**345**	Pn	**Pb**	**11 40 38.3**	**-0.9**
	354nm,0.2s,baz=23,slow=0.7,SNR=129						
KRVT				Sn	**Sb**	**11 41 05.4**	**+0.5**
	162nm,0.3s,baz=344,slow=1.3,SNR=8.0						
PMG	**Port Moresby**	**6.16**	**240**	Pn	**Pn**	**11 41 30.0**	**-1.3**
	0.4nm,0.3s,baz=18,slow=19,SNR=2.1						
PMG				Sn	**Sn**	**11 42 42.0**	**+0.9**
	4.4nm,0.3s,baz=63,slow=12,SNR=7.3						
	9.9nm,0.9s						
HNR	**Honiara**	**7.92**	**113**	LR	LR	11 44 37.4	
	comp=Z,917nm,19.7s,baz=256,slow=36						
DZM	**Mont Dzumac**	**20.59**	**141**	LR	LR	11 50 30.4	
	comp=Z,48nm,20.4s,baz=120,slow=31						
WRA	**Warramunga Arr**	**22.27**	**231**	P	**P**	**11 44 58.1**	**+0.8**
	1.6nm,0.8s,baz=53,slow=10.0,SNR=5.6						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**24.87**	**224**	P	**P**	**11 45 23.5**	**+0.7**
	5.7nm,1.1s,baz=60,slow=9.6,SNR=18						
	5.7nm,1.1s						
STKA	**Stephens Creek**	**27.39**	**201**	P	**P**	**11 45 43.9**	**-1.6**
	2.0nm,0.7s,baz=21,slow=13,SNR=4.3						
	2.0n

SONM	**Songino Array**	**67.51**	**328**	P	**P**	**11 50 55.5**	**-0.7**
	0.3nm,0.4s,baz=108,slow=9.3,SNR=1.8						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**83.61**	**180**	P	**P**	**11 52 28.4**	**+0.3**
	1.5nm,1.1s,baz=303,slow=1.4,SNR=5.0						
	1.5nm,1.1s						
ILAR	**Eielson Array**	**83.68**	**22**	P	**P**	**11 52 29.6**	**+1.4**
	0.6nm,0.6s,baz=225,slow=2.4,SNR=12						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.53**	**285**	PKPbc	**PKiKP**	**11 59 53.8**	**+0.4**
	0.4nm,0.7s,baz=95,slow=4.8,SNR=1.2						

*IDC **20** 11:41:19.5±7.8, 8°.00S×127°.71E, h168km±86km, mb3.2/3, mbtmp3.5/5, Error ellipse: s-maj=88.7km s-min=25.5km az=35.0*

ISC 20 11:41:17.8±1.3, 8°.1S±0°.1×127°.9E±0°.1, h150km, n6, σ2s70/9, mb3.4/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.69**	**243**	P	**Pn**	**11 42 27.9**	**+0.6**
	178nm,0.4s,baz=135,slow=4.1,SNR=56						
BATI				S	**Sn**	**11 43 21.0**	**-0.3**
	49nm,0.4s,baz=72,slow=20,SNR=8.3						
WRA	**Warramunga Arr**	**13.32**	**153**	P	**Pn**	**11 44 23.7**	**+2.5**
	0.8nm,0.6s,baz=333,slow=12,SNR=14						
WRA				S	**Sn**	**11 46 46.5**	**-2.2**
	2.6nm,0.5s,baz=334,slow=22,SNR=13						
ASAR	**Alice Springs**	**16.51**	**160**	P	**P**	**11 45 03.7**	**+2.8**
	0.4nm,0.9s,baz=338,slow=11,SNR=3.1						
ASAR				S	**S**	**11 48 00.5**	**-4.0**
	1.1nm,0.5s,baz=88,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**68.03**	**328**	P	**P**	**11 51 58.5**	**-2.6**
	0.5nm,0.7s,baz=111,slow=8.0,SNR=3.4						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**71.67**	**335**	P	**P**	**11 52 22.9**	**-0.1**
	0.3nm,0.4s,baz=144,slow=7.6,SNR=1.8						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**72.38**	**330**	P	**P**	**11 52 25.9**	**-1.4**
	0.2nm,0.4s,baz=129,slow=4.8,SNR=2.0						
	0.2nm,0.4s						

IDC 20 11:48:54.1±1.9, 29°.60S×61°.15E, h0km, mb3.8/5, mbtmp3.8/5, MS3.3/2, Error ellipse: s-maj=57.6km s-min=34.1km az=96.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**18.08**	**201**	T	T	12 11 19.3	
	baz=26,slow=75,SNR=131						
H04N1	**CROZET ISLANDS**	**18.09**	**201**	T	T	12 11 20.3	
	baz=26,slow=75,SNR=145						
H04N3	**CROZET ISLANDS**	**18.10**	**201**	T	T	12 11 19.9	
	baz=26,slow=75,SNR=157						
H08S1	**Diego Carcia H**	**24.30**	**28**	T	T	12 19 46.9	
	baz=204,slow=76						
H08S2	**Diego Garcia H**	**24.31**	**28**	T	T	12 19 49.2	
	baz=204						
H08S3	**Diego Garcia H**	**24.32**	**28**	T	T	12 19 49.9	
	baz=204,slow=76						
MBAR	**Mbarara**	**40.87**	**309**	LR	LR	12 11 09.7	
	comp=Z,34nm,20.0s,baz=50,slow=33						
H01W2	**Cape Leeuwin H**	**44.70**	**111**	T	T	12 45 32.7	
	baz=261						
H01W3	**Cape Leeuwin H**	**44.70**	**111**	T	T	12 45 31.8	
	baz=261						
H01W1	**Cape Leeuwin H**	**44.71**	**111**	T	T	12 45 29.6	
	baz=261						
CMAR	**Chiang Mai Arr**	**60.09**	**42**	P	P	11 59 03.3	0.0
	0.8nm,0.3s,baz=232,slow=6.8,SNR=2.8						
CMAR				LR	LR	12 22 36.9	
	comp=Z,22nm,18.5s,baz=310,slow=34						
	0.8nm,0.3s						
QSPA	**South Pole Qui**	**60.56**	**180**	P	P	11 59 06.1	0.0
	1.1nm,0.8s,baz=275,slow=1.2,SNR=4.1						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**64.35**	**104**	P	P	11 59 31.8	-0.3
	0.6nm,0.7s,baz=242,slow=5.9,SNR=7.9						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**66.20**	**100**	P	P	11 59 44.4	+0.4
	0.8nm,0.7s,baz=248,slow=5.1,SNR=5.0						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**78.40**	**15**	P	P	12 00 56.3	0.0
	0.6nm,0.8s,baz=199,slow=7.5,SNR=4.0						
	0.6nm,0.8s						

*IDC **20** 12:00:49.1±5.4, 6°.49S×130°.16E, h138km±46km, mb3.8/5, mbtmp4.2/8, Error ellipse: s-maj=60.5km s-min=20.3km az=65.0*

*NEIC **20** 12:00:51.2±1.2, 6°.48S±0°.06×130°.1E±0°.1, h198km±10km, mb4.1/7, Error ellipse: s-maj=15.2km s-min=7.1km az=70.0*

ISC 20 12:00:51.9±0.6, 6°.47S±0°.06×130°.00E±0°.07, h200km, n37, σ2s31/36, mb3.9/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.94**	**357**	P	**Pn**	**12 01 30.4**	**+0.5**
SAUI	**Saumlaki**	**1.98**	**139**		**Pn**	**12 01 29.0**	**-1.2**
FAKI	**Fak Fak**	**4.18**	**32**		**Pn**	**12 01 54.9**	**-1.2**
MTN	**Manton Dam**	**6.43**	**170**		**Pn**	**12 02 23.4**	**-1.3**
MTN	**Manton Dam**	**6.43**	**170**	P	**Pn**	**12 02 23.7**	**-1.1**
SOEI	**Soe**	**6.55**	**240**		**Pn**	**12 02 25.6**	**-0.9**
SOEI	**Soe**	**6.55**	**240**	P	**Pn**	**12 02 26.4**	**-0.1**
KDU	**Kakadu**	**6.64**	**159**	P	**Pn**	**12 02 26.1**	**-1.4**
BATI	**Baumata**	**7.29**	**239**	P	**Pn**	**12 02 35.0**	**-0.9**
	36nm,0.4s,baz=182,slow=2.3,SNR=12						
BATI				S	**Sn**	**12 03 54.9**	**-3.7**
	67nm,0.4s,baz=188,slow=20,SNR=11						
KNRA	**Kununurra**	**9.23**	**187**		**Pn**	**12 02 59.0**	**-2.2**
TOLI2	**Tolitoli**	**11.90**	**309**	Pn	**Pn**	**12 03 35.2**	**-0.4**
PLAI	**Plampang**	**12.34**	**258**	P	**P**	**12 03 43.7**	**-1.7**
WB0	**Warramunga Arr**	**13.88**	**163**		**Pn**	**12 03 58.6**	**-2.0**
WRA	**Warramunga Arr**	**14.04**	**163**		**Pn**	**12 03 58.6**	**-3.8**
WRA	**Warramunga Arr**	**14.04**	**163**	P	**Pn**	**12 03 59.9**	**-2.5**
	2.4nm,0.4s,baz=346,slow=13,SNR=36						
WRA				S	S	12 06 28.0	-11
	2.7nm,0.4s,baz=334,slow=23,SNR=10						
WB2	**Warramunga Arr**	**14.04**	**163**		**Pn**	**12 04 00.2**	**-2.3**
WR0	**Warramunga Arr**	**14.11**	**162**		**Pn**	**12 04 01.6**	**-1.7**
COEN	**Coen**	**14.94**	**121**		**Pn**	**12 04 10.9**	**-2.6**
JAGI	**Jajag, Banyuwa**	**15.84**	**262**		**P**	**12 04 24.1**	**-0.1**
JAGI				IAmb	IAmb	12 04 46.1	
	comp=Z,27nm,1.1s						
QIS	**Mount Isa**	**16.81**	**147**	P	**Pn**	**12 04 38.2**	**+2.1**
AS31	**Alice Springs**	**17.50**	**168**	P	**P**	**12 04 41.3**	**-1.2**
AS31				IAmb	IAmb	12 04 50.2	
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**17.50**	**168**	P	**Pn**	**12 04 44.8**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=342,slow=9.1,SNR=44						
ASAR				S	**S**	**12 07 54.8**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=355,slow=26,SNR=8.0						
MBWA	**Marble Bar**	**17.66**	**213**	P	**P**	**12 04 44.2**	**0.0**
MBWA				IAmb	IAmb	12 04 50.1	
	comp=Z,6.6nm,1.1s						
PSA00	**Pilbara Seismi**	**17.94**	**212**	P	**P**	**12 04 46.6**	**-0.6**
PSA00				IAmb	IAmb	12 05 07.7	
	comp=Z,5.8nm,0.8s						
PSA00	**Pilbara Seismi**	**17.94**	**212**	P	**Pn**	**12 04 50.4**	**+1.1**
WRKA	**Warakurna**	**18.53**	**185**	P	**Pn**	**12 04 56.8**	**+0.5**
OOD	**Oodnadatta**	**21.88**	**166**	P	**P**	**12 05 33.2**	**+4.2**
MULG	**Mulgathing**	**23.99**	**171**	P	**P**	**12 05 53.4**	**+5.1**
LCRK	**Leigh Creek**	**25.07**	**163**	P	**P**	**12 06 02.6**	**+4.5**
CMAR	**Chiang Mai Arr**	**39.40**	**310**	P	**P**	**12 08 06.3**	**+3.7**
	comp=Z,0.5nm,0.3s,baz=136,slow=6.4,SNR=4.5						
	comp=Z,0.5nm,0.3s						
JGF	**Kuroka**	**42.42**	**9**	P	**P**	**12 08 25.4**	**-1.6**
JGF				IAmb	IAmb	12 08 29.1	
	comp=Z,3.7nm,0.4s						
LSA	**Lhasa**	**51.82**	**316**	P	**P**	**12 09 39.5**	**-0.8**
MKAR	**Makanchi Array**	**67.79**	**327**	P	P	12 11 33.0	+4.7
	comp=Z,2.3nm,0.5s,baz=115,slow=6.8,SNR=22						
	comp=Z,2.3nm,0.5s						
KURBB	**Kurchatov Arra**	**72.07**	**328**	P	P	12 11 58.9	+4.7
	comp=Z,2.4nm,0.2s,baz=126,slow=4.8,SNR=4.5						
	comp=Z,2.4nm,0.2s						
MAW	**Mawson**	**75.44**	**201**	P	P	12 12 18.0	+4.5
	comp=Z,1.0nm,0.7s,baz=85,slow=12,SNR=2.0						
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**12 12 59.1**	**+1.9**
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**12 13 00.8**	**+3.6**
	comp=Z,0.5nm,0.5s,baz=90,slow=1.1,SNR=1.9						
	comp=Z,0.5nm,0.5s						

IDC 20 12:15:27.3±973.0, 48°.39N×3°.98W, h0km, Error ellipse: s-maj=438.8km s-min=168.4km az=92.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**11.72**	**81**	I	I	13 20 00.0	
	0.1nm,1.2s,baz=277,slow=354,SNR=8.8						
I48TN	**KESRA INFRASON**	**15.96**	**137**	I	I	13 51 20.0	
	0.1nm,1.1s,baz=325,slow=319,SNR=13						
I43RU	**DUBNA INFRASON**	**26.05**	**56**	I	I	14 57 30.0	
	baz=268,slow=324,SNR=1.3						

*IDC **20** 12:17:45.3±2.6, 20°.27S×178°.39W, h560km±20km, mb3.2/7, mbtmp4.0/8, Error ellipse: s-maj=59.6km s-min=15.7km az=152.0*

ISC 20 12:17:43.9±1.1, 20°.4S±0°.3×178°.3W±0°.2, h550km, n14, σ1s12/17, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.37**	**307**	P	**P**	**12 19 09.4**	**+0.6**
	8.6nm,0.3s,baz=155,slow=6.6,SNR=38						
ASAR	**Alice Springs**	**44.25**	**257**	P	**P**	**12 25 05.6**	**+0.4**
	2.6nm,0.5s,baz=98,slow=7.5,SNR=50						
ASAR				PcP	**PcP**	**12 26 37.8**	**+0.2**
	1.0nm,0.7s,baz=102,slow=3.8,SNR=8.1						
ASAR				S	**S**	**12 30 59.0**	**-0.2**
	0.7nm,0.9s,baz=108,slow=11,SNR=4.6						
	2.6nm,0.5s						
WRA	**Warramunga Arr**	**44.32**	**262**	P	**P**	**12 25 05.6**	**-0.1**
	1.3nm,0.4s,baz=97,slow=7.4,SNR=27						
WRA				PcP	**PcP**	**12 26 38.0**	**+0.1**
	0.5nm,0.7s,baz=92,slow=3.7,SNR=3.0						
	1.3nm,0.4s						
PETK	**Petropavlovsk-**	**76.13**	**345**	P	**P**	**12 28 35.6**	**+0.3**
	2.0nm,0.7s,baz=124,slow=5.6,SNR=2.4						
	2.0nm,0.7s						
TXAR	**Lajitas Array**	**87.26**	**57**	P	**P**	**12 29 33.9**	**+1.2**
	0.2nm,0.6s,baz=238,slow=5.2,SNR=2.5						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**88.31**	**13**	P	**P**	**12 29 35.7**	**-1.0**
	0.5nm,0.5s,baz=214,slow=5.3,SNR=9.1						
	0.5nm,0.5s						
PDAR	**Pinedale Array**	**89.11**	**43**	P	**P**	**12 29 41.4**	**+0.2**
	0.4nm,0.7s,baz=187,slow=3.6,SNR=3.8						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.82**	**290**	P	**P**	**12 29 44.8**	**+0.1**
	1.0nm,0.8s,baz=120,slow=2.7,SNR=6.2						
	1.0nm,0.8s						
MKAR	**Makanchi Array**	**110.94**	**313**	PKiKP	**PKiKP**	**12 35 14.9**	**+0.1**
	0.3nm,0.5s,baz=90,slow=1.4,SNR=2.3						
BVAR	**Borovoye Array**	**118.84**	**320**	PKP	**PKPdf**	**12 35 29.0**	**-0.7**
	0.7nm,0.4s,baz=82,slow=1.9,SNR=4.3						
AKASG	**Malin Array Be**	**142.81**	**331**	PKP	**PKPdf**	**12 36 11.8**	**-3.0**
	3.8nm,0.5s,baz=43,slow=4.3,SNR=23						
BRTR	**Keskin Array B**	**146.58**	**312**	PKPbc	**PKPdf**	**12 36 23.9**	**+2.0**
	1.3nm,0.6s,baz=45,slow=2.2,SNR=7.5						
MMAI	**Mount Meron Ar**	**147.53**	**300**	PKPbc	**PKPbc**	**12 36 26.8**	**-0.2**
	1.8nm,0.5s,baz=69,slow=4.7,SNR=5.6						
GERES	**GERESS Array B**	**150.06**	**344**	PKPbc	**PKPbc**	**12 36 32.0**	**-0.7**
	0.7nm,0.4s,baz=345,slow=7.1,SNR=3.8						

NOU 20 12:34:12.9, 15°.61S×167°.81E, h32km, MLv3.7/4, Vanuatu Islands, Vanuatu Islands

*IDC **20** 12:43:32.8±1.3, 63°.16N×150°.40W, h124km±28km, mb3.4/4, mbtmp3.7/7, Error ellipse: s-maj=50.5km s-min=10.9km az=111.0*

*NEIC **20** 12:43:34.3±0.8, 63°.26N±0°.03×150°.50W±0°.05, h132km±5km, Error ellipse: s-maj=5.4km s-min=0.3km az=139.0*

*AEIC **20** 12:43:34.8±0.8, 63°.25N±0°.04×150°.49W±0°.08, h128km±4km, ML3.2, ML3.4/220(NEIC), Error ellipse: s-maj=5.3km s-min=5.1km az=134.0*

ISC 20 12:43:34.1±0.8, 63°.24N±0°.03×150°.50W±0°.03, h135km±5km, n344, σ0s56/365, mb3.8/4, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.23**	**24**	Pn	**Pn**	**12 43 52.9**	**+0.1**
TRF					**Sn**	**12 44 06.3**	**-0.7**
TRF				IAML		12 44 06.7	
	comp=N,632nm,0.7s						
TRF				IAML		12 44 08.1	
	comp=E,438nm,0.8s						
TRF	**Thorofare Moun**	**0.23**	**24**	P	**Pn**	**12 43 52.9**	**+0.1**
	baz=205						
TRF				S	**Sn**	**12 44 06.3**	**-0.7**
	baz=205						
KTH	**Kantishna Hill**	**0.36**	**328**		**Pn**	**12 43 53.2**	**+0.1**
KTH					**Sn**	**12 44 06.8**	**-0.8**
KTH				IAML		12 44 07.1	
	comp=E,942nm,1.0s						
KTH				IAML		12 44 07.4	
	comp=N,1μm,0.8s						
CAST	**Castle Rocks**	**0.74**	**285**	Pn	**Pn**	**12 43 55.1**	**-0.1**
CAST					**Sn**	**12 44 10.0**	**-1.3**
CAST				IAML		12 44 10.6	
	comp=E,334nm,0.7s						
CAST				IAML		12 44 10.9	
	comp=N,509nm,0.7s						
CAST	**Castle Rocks**	**0.74**	**285**	P	**Pn**	**12 43 55.1**	**-0.1**
	baz=103						
CAST				S	**Sn**	**12 44 09.9**	**-1.3**
	baz=103						
RND	**Reindeer**	**0.76**	**77**	Pn	**Pn**	**12 43 55.6**	**+0.2**
RND				IAML		12 44 11.9	
	comp=E,827nm,0.6s						
RND				IAML		12 44 12.3	
	comp=N,671nm,0.6s						
PPLA	**Purkeypile**	**0.85**	**246**		**Pn**	**12 43 56.5**	**+0.3**
PPLA	**Purkeypile**	**0.85**	**246**		**Sn**	**12 44 12.7**	**-0.4**
PPLA	**Purkeypile**	**0.85**	**246**	P	**Pn**	**12 43 56.5**	**+0.3**
	baz=65						
CUT	**Chulitna**	**0.85**	**173**		**Pn**	**12 43 56.3**	**+0.3**
CUT					**Sn**	**12 44 12.7**	**0.0**
CUT	**Chulitna**	**0.85**	**173**	P	**Pn**	**12 43 56.3**	**+0.3**
	baz=353						
CUT				S	**Sn**	**12 44 12.8**	**+0.1**
	baz=353						
MCK	**McKinley**	**0.85**	**54**		**Pn**	**12 43 56.4**	**+0.2**
MCK	**McKinley**	**0.85**	**54**		**Sn**	**12 44 12.0**	**-0.9**
MCK	**McKinley**	**0.85**	**54**	P	**Pn**	**12 43 56.4**	**+0.2**
	baz=236						
MCK				S	**Sn**	**12 44 12.0**	**-0.9**
	baz=236						
WAT7	**Susitna Watana**	**0.86**	**118**		**Pn**	**12 43 56.3**	**+0.1**
BPAW	**Bear Paw Mtn.**	**0.89**	**346**	Pn	**Pn**	**12 43 56.4**	**-0.1**
BPAW					**Sn**	**12 44 12.1**	**-1.3**
BPAW				IAML		12 44 12.7	
	comp=E,706nm,0.3s						
BPAW				IAML		12 44 12.8	
	comp=N,817nm,0.7s						
BPAW	**Bear Paw Mtn.**	**0.89**	**346**	P	**Pn**	**12 43 56.3**	**-0.1**
	baz=165						
BPAW				S	**Sn**	**12 44 12.1**	**-1.3**
	baz=165						
WAT1	**Susitna Watana**	**0.98**	**114**		**Pn**	**12 43 57.4**	**+0.1**
WAT1	**Susitna Watana**	**0.98**	**114**	P	**Pn**	**12 43 57.4**	**+0.1**
	baz=296						
CHUM	**Lake Minchumin**	**1.04**	**309**		**Pn**	**12 43 57.8**	**+0.1**
CHUM					**Sn**	**12 44 14.7**	**-1.0**
CHUM	**Lake Minchumin**	**1.04**	**309**	P	**Pn**	**12 43 57.8**	**+0.1**
	baz=127						
CHUM				S	**Sn**	**12 44 14.7**	**-1.0**
	baz=127						
BWN	**Browne**	**1.04**	**26**		**Pn**	**12 43 58.3**	**+0.6**
BWN				IAML		12 44 18.5	
	comp=E,573nm,0.9s						
SKT	**Skwentna**	**1.36**	**201**		**Pn**	**12 44 01.0**	**+0.1**
SKT					**Sn**	**12 44 20.9**	**-0.4**
SKT				IAML		12 44 23.5	
	comp=N,721nm,0.5s						
SKT	**Skwentna**	**1.36**	**201**	P	**Pn**	**12 44 01.1**	**+0.2**
	baz=20						
SKT				S	**Sn**	**12 44 21.0**	**-0.4**
	baz=20						
DHY	**Denali Highway**	**1.43**	**95**		**Pn**	**12 44 02.0**	**+0.2**
DHY				IAML		12 44 23.6	
	comp=N,573nm,0.8s						
DHY				IAML		12 44 24.3	
	comp=E,588nm,0.6s						
DHY	**Denali Highway**	**1.43**	**95**	P	**Pn**	**12 44 02.0**	**+0.2**
	baz=278						
WAT6	**Susitna Watana**	**1.43**	**117**		**Pn**	**12 44 01.6**	**-0.2**
WAT6	**Susitna Watana**	**1.43**	**117**	P	**Pn**	**12 44 01.6**	**-0.2**
	baz=299						
NEA2	**Nenana**	**1.49**	**24**		**Pn**	**12 44 02.1**	**-0.3**
NEA2					**Sn**	**12 44 22.1**	**-1.9**
NEA2				IAML		12 44 23.1	
	comp=E,228nm,1.0s						
NEA2				IAML		12 44 24.2	
	comp=N,134nm,0.7s						
NEA2	**Nenana**	**1.49**	**24**	P	**Pn**	**12 44 02.1**	**-0.3**
	baz=206						
M22K	**Willow**	**1.51**	**173**		**Pn**	**12 44 02.7**	**+0.2**
M22K	**Willow**	**1.51**	**173**	P	**Pn**	**12 44 02.7**	**+0.2**
	baz=354						
K20K	**Telida**	**1.62**	**276**		**Pn**	**12 44 03.9**	**+0.1**
K20K					**Sn**	**12 44 25.7**	**-0.8**
K20K				IAML		12 44 26.1	
	comp=N,124nm,0.6s						
K20K	**Telida**	**1.62**	**276**	P	**Pn**	**12 44 03.7**	**0.0**
	baz=92						
WRH	**Wood River Hil**	**1.63**	**40**		**Pn**	**12 44 04.0**	**+0.1**
WRH				IAML		12 44 26.4	
	comp=E,123nm,1.3s						
WRH				IAML		12 44 26.4	
	comp=N,156nm,0.8s						
GHO	**Glory Hole Cre**	**1.65**	**153**		**Pn**	**12 44 04.5**	**+0.3**
L20K	**Farewell, AK**	**1.73**	**245**		**Pn**	**12 44 05.2**	**+0.1**
L20K					**Sn**	**12 44 27.9**	**-0.9**
L20K	**Farewell, AK**	**1.73**	**245**	P	**Pn**	**12 44 05.2**	**+0.1**
	baz=62						
SML	**Sawmill**	**1.76**	**144**	Pn	**Pn**	**12 44 05.3**	**-0.2**
SML				IAML		12 44 30.6	
	comp=E,570nm,0.9s						
SML	**Sawmill**	**1.76**	**144**	P	**Pn**	**12 44 05.3**	**-0.2**
	baz=326						
PMR	**Palmer**	**1.77**	**158**		**Pn**	**12 44 05.5**	**-0.1**
PMR					**Sn**	**12 44 29.0**	**-0.6**
PMR				IAML		12 44 29.9	
	comp=N,361nm,0.3s						
PMR				IAML		12 44 30.2	
	comp=E,387nm,0.3s						
PMR	**Palmer**	**1.77**	**158**	P	**Pn**	**12 44 05.4**	**-0.1**
PMR	**Palmer**	**1.77**	**158**	P	**Pn**	**12 44 05.4**	**-0.1**
	baz=340						
SUA	**Susitna One**	**1.79**	**184**	P	**Pn**	**12 44 06.6**	**+0.7**
	baz=3.6						
MLY	**Manley**	**1.80**	**357**		**Pn**	**12 44 05.8**	**0.0**
MLY	**Manley**	**1.80**	**357**	P	**Pn**	**12 44 05.8**	**0.0**
	baz=176						
M20K	**Styx River**	**1.83**	**223**		**Pn**	**12 44 06.2**	**-0.2**
M20K				IAML		12 44 32.6	
	comp=N,156nm,0.5s						
M20K				IAML		12 44 34.4	
	comp=E,160nm,0.3s						
M20K	**Styx River**	**1.83**	**223**	P	**Pn**	**12 44 06.2**	**-0.2**
	baz=40						
CCB	**Clear Creek Bu**	**1.84**	**39**	Pn	**Pn**	**12 44 06.5**	**+0.2**
CCB				IAML		12 44 30.6	
	comp=E,212nm,0.9s						
CCB				IAML		12 44 30.8	
	comp=N,228nm,0.6s						
STLK	**Strandline Lak**	**1.86**	**200**		**Pn**	**12 44 07.0**	**+0.4**
J20K	**Nowinta River**	**1.88**	**302**		**Pn**	**12 44 06.8**	**+0.1**
J20K	**Nowinta River**	**1.88**	**302**	P	**Pn**	**12 44 06.8**	**+0.1**
	baz=118						
M23K	**Glacier View**	**1.94**	**137**		**Pn**	**12 44 07.2**	**-0.4**
M23K	**Glacier View**	**1.94**	**137**	P	**Pn**	**12 44 07.2**	**-0.4**
	baz=320						
HDA	**Harding Lake**	**1.96**	**52**		**Pn**	**12 44 07.7**	**0.0**
HDA				IAML		12 44 37.2	
	comp=N,335nm,0.5s						
HDA				IAML		12 44 38.3	
	comp=E,359nm,0.4s						
HDA	**Harding Lake**	**1.96**	**52**	P	**Pn**	**12 44 07.8**	**+0.1**
	baz=235						
I23K	**Minto, Yukon-K**	**1.98**	**14**		**Pn**	**12 44 08.0**	**+0.1**
I23K				IAML		12 44 33.6	
	comp=E,105nm,1.3s						
I23K				IAML		12 44 34.0	
	comp=N,116nm,0.8s						
I23K	**Minto, Yukon-K**	**1.98**	**14**	P	**Pn**	**12 44 08.0**	**+0.1**
	baz=195						
MDM	**Murphy Dome**	**1.99**	**29**	Pn	**Pn**	**12 44 08.1**	**0.0**
MDM					**Sn**	**12 44 32.5**	**-1.7**
MDM				IAML		12 44 33.5	
	comp=E,123nm,1.4s						
MDM				IAML		12 44 34.0	
	comp=N,87nm,0.8s						
COLA	**College**	**2.01**	**34**	Pn	**Pn**	**12 44 08.4**	**+0.2**
COLA				IAML		12 44 36.9	
	comp=N,232nm,0.5s						
COLA				IAML		12 44 51.1	
	comp=N,214nm,0.5s						
COLA	**College**	**2.01**	**34**	P	**Pn**	**12 44 08.4**	**+0.2**
SCM	**Sheep Creek Mo**	**2.04**	**133**		**Pn**	**12 44 08.9**	**+0.1**
SCM				IAML		12 44 42.6	
	comp=N,341nm,0.6s						
SCM	**Sheep Creek Mo**	**2.04**	**133**	P	**Pn**	**12 44 08.6**	**-0.2**
	baz=316						
I21K	**Tanana**	**2.05**	**342**		**Pn**	**12 44 09.0**	**+0.2**
I21K	**Tanana**	**2.05**	**342**	P	**Pn**	**12 44 08.7**	**-0.1**
	baz=161						
KNK	**Knik Glacier**	**2.07**	**152**		**Pn**	**12 44 09.2**	**+0.1**
KNK				IAML		12 44 46.9	
	comp=N,369nm,0.5s						
KNK	**Knik Glacier**	**2.07**	**152**	P	**Pn**	**12 44 09.3**	**+0.2**
	baz=334						
SPCG	**Spurr Capps Gl**	**2.08**	**201**		**Pn**	**12 44 09.8**	**+0.4**
CRP	**Crater Peak**	**2.13**	**202**		**Pn**	**12 44 10.4**	**+0.4**
SPCP	**Crater Peak Br**	**2.13**	**202**		**Pn**	**12 44 10.3**	**+0.3**
SPNN	**North Nagishla**	**2.15**	**210**		**Pn**	**12 44 10.6**	**+0.4**
SPCN	**Chakachatna No**	**2.17**	**202**		**Pn**	**12 44 11.3**	**+0.9**
SPBG	**Spurr Blockage**	**2.18**	**205**		**Pn**	**12 44 11.2**	**+0.8**
K24K	**Donnelly Dome**	**2.19**	**73**		**Pn**	**12 44 11.1**	**+0.5**
K24K	**Donnelly Dome**	**2.19**	**73**	P	**Pn**	**12 44 11.1**	**+0.5**
	baz=257						
RC01	**Rabbit Creek A**	**2.19**	**170**		**Pn**	**12 44 10.8**	**+0.2**
RC01	**Rabbit Creek A**	**2.19**	**170**	P	**Pn**	**12 44 10.6**	**+0.1**
	baz=351						
N20K	**Mount Spurr**	**2.20**	**202**	P

baz=292
PWL Port Wells 2.60 156 Pn 12 44 15.6 -0.1
PWL Port Wells 2.60 156 P **Pn 12 44 15.6 -0.1**
baz=338
H21K Melozitna Rive 2.62 339 Pn **Pn 12 44 16.0 +0.1**
H21K Melozitna Rive 2.62 339 P **Pn 12 44 15.9 -0.1**
baz=156
H23K Yukon River 2.62 9 Pn 12 44 16.3 +0.3
H23K Yukon River 2.62 9 P **Pn 12 44 16.2 +0.3**
baz=189
J25K Salcha River, 2.65 56 Pn 12 44 16.5 +0.1
J25K IAML 12 44 50.7
comp=E,196nm,0.3s
J25K IAML 12 44 52.8
comp=N,190nm,0.6s
J25K Salcha River, 2.65 56 P **Pn 12 44 16.3 -0.1**
baz=241
H22K Ishtalitna Cre 2.69 352 Pn 12 44 16.9 +0.1
H22K Ishtalitna Cre 2.69 352 P **Pn 12 44 16.9 +0.1**
baz=171
SLKM Skilak Lake 2.75 177 Pn 12 44 17.8 +0.2
KLU Klutina 2.76 127 Pn 12 44 17.4 -0.4
KLU IAML 12 45 02.6
comp=N,195nm,0.4s
KLU IAML 12 45 03.4
comp=E,204nm,0.5s
KLU Klutina 2.76 127 P **Pn 12 44 17.2 -0.6**
baz=312
O22K Cooper Landing 2.80 172 Pn 12 44 18.4 +0.3
O22K Cooper Landing 2.80 172 P **Pn 12 44 18.2 +0.1**
baz=353
J18K Innoko River 2.81 277 Pn 12 44 18.5 +0.2
J18K Innoko River 2.81 277 P **Pn 12 44 18.5 +0.2**
baz=92
RDT Redoubt 2.83 199 Pn 12 44 19.2 +0.6
H24K Noodor Dome 2.84 22 Pn 12 44 18.8 +0.1
H24K Noodor Dome 2.84 22 P **Pn 12 44 18.8 +0.1**
baz=205
DFR Drift River 2.86 202 Pn 12 44 19.3 +0.3
GLI Glacier Island 2.86 144 Pn 12 44 18.5 -0.5
GLI Glacier Island 2.86 144 P **Pn 12 44 18.5 -0.5**
baz=328
RDJH Redoubt Jeurge 2.88 203 Pn 12 44 20.0 +0.6
NCT North Crescent 2.93 204 Pn 12 44 20.5 +0.6
H20K Anotleneega Mo 2.96 322 Pn 12 44 20.1 -0.1
H20K Anotleneega Mo 2.96 322 P **Pn 12 44 20.1 -0.1**
baz=138
RDWB Redoubt West 2.98 203 Pn 12 44 21.2 +0.5
RSO Redoubt South 2.99 202 Pn 12 44 21.3 +0.5
SCRK Sand Creek 3.00 73 Pn **Pn 12 44 21.0 +0.1**
SCRK IAML 12 45 01.5
comp=E,123nm,0.7s
SCRK IAML 12 45 01.6
comp=N,170nm,0.7s
SCRK Sand Creek 3.00 73 P **Pn 12 44 21.0 +0.1**
baz=259
L18K Granite Mounta 3.03 253 Pn 12 44 21.5 +0.4
L18K Granite Mounta 3.03 253 P **Pn 12 44 21.4 +0.2**
baz=67
RED Redoubt Volcan 3.03 202 Pn 12 44 21.8 +0.5
M18K Stony River 3.04 237 Pn 12 44 21.1 -0.2
M18K Stony River 3.04 237 P **Pn 12 44 21.1 -0.2**
baz=52
DIV Divide 3.07 132 Pn 12 44 20.8 -0.9
N19K Bonanza Creek 3.08 219 Pn **Pn 12 44 22.1 +0.3**
N19K IAML 12 45 19.6
comp=E,46nm,0.9s
N19K IAML 12 45 31.2
comp=N,37nm,0.7s
N19K Bonanza Creek 3.08 219 P **Pn 12 44 22.2 +0.3**
baz=36
IMAR Indian Mountai 3.09 334 Pn **Pn 12 44 21.8 0.0**
MENT Mentasta 3.10 93 Pn 12 44 22.5 +0.5
MENT Mentasta 3.10 93 P **Pn 12 44 22.8 +0.8**
WACK Wrangell Chich 3.12 111 Pn 12 44 22.6 0.0
FID Port Fidalgo 3.14 141 Pn 12 44 22.1 -0.5
PRP Porcupine Dome 3.14 41 Pn **Pn 12 44 22.6 -0.1**
PRP IAML 12 45 14.5
comp=E,38nm,0.7s
PRP IAML 12 45 15.1
comp=N,45nm,0.6s
PRP Porcupine Dome 3.14 41 P **Pn 12 44 22.6 -0.1**
baz=226
SEW Seward 3.19 171 Pn 12 44 23.0 -0.2
SEW Seward 3.19 171 P **Pn 12 44 23.1 -0.2**
baz=352
N25K Chitina, Valde 3.20 118 Pn 12 44 23.6 +0.2
N25K IAML 12 45 04.4
comp=N,105nm,0.4s
N25K IAML 12 45 04.6
comp=E,100nm,0.9s
N25K Chitina, Valde 3.20 118 P **Pn 12 44 23.6 +0.2**
baz=304
WASW Wrangell South 3.21 111 Pn 12 44 23.8 +0.1
SVW2 Sparrevohn 3.21 230 Pn 12 44 23.7 +0.2
SVW2 IAML 12 45 25.1
comp=N,38nm,0.6s
SVW2 Sparrevohn 3.21 230 P **Pn 12 44 23.8 +0.2**
L26K Log Cabin Wild 3.25 91 Pn 12 44 24.4 +0.3
L26K IAML 12 45 10.5
comp=N,149nm,0.7s
J26L Joseph Creek 3.32 65 Pn 12 44 25.5 +0.6
J26L IAML 12 45 07.9
comp=E,162nm,1.0s
J26L IAML 12 45 08.2
comp=N,172nm,0.7s
J26L Joseph Creek 3.32 65 P **Pn 12 44 25.7 +0.8**
baz=251
O20K Slope Mountain 3.33 199 Pn 12 44 26.1 +1.0
O20K Slope Mountain 3.33 199 P **Pn 12 44 26.1 +1.0**
baz=17
HIN Hinchinbrook I 3.43 145 Pn 12 44 26.1 -0.3
IVE Iliamna Volcan 3.45 202 Pn 12 44 26.9 +0.1
H19K Roundabout Mou 3.46 314 Pn 12 44 26.4 -0.2
H19K Roundabout Mou 3.46 314 P **Pn 12 44 26.5 -0.2**
baz=129
G23K Bananza Creek 3.49 3 Pn **Pn 12 44 27.5 +0.4**
G23K IAML 12 45 08.7
comp=E,29nm,0.8s
G23K Bananza Creek 3.49 3 P **Pn 12 44 27.4 +0.4**
baz=184
BRLK Bradley Lake 3.50 183 Pn 12 44 27.5 +0.2
BRLK IAML 12 45 09.0
comp=E,127nm,0.3s
ILSW Iliamna Southw 3.51 202 Pn **Pn 12 44 28.7 +1.2**
ILSW IAML 12 45 19.1
comp=N,37nm,1.2s
ILSW IAML 12 45 22.7
comp=E,42nm,0.7s
EYAK Cordova Ski Ar 3.52 138 Pn 12 44 27.4 -0.1
EYAK Cordova Ski Ar 3.52 138 P **Pn 12 44 27.5 +0.1**
EYAK Cordova Ski Ar 3.52 138 P **Pn 12 44 27.4 -0.1**
baz=322
BRSE Bradley Lake S 3.52 182 Pn 12 44 27.6 +0.1
BRSE Bradley Lake S 3.52 182 P **Pn 12 44 27.6 +0.1**
baz=1.8
G21K Allakaket 3.53 340 Pn **Pn 12 44 27.6 0.0**
G21K Allakaket 3.53 340 P **Pn 12 44 27.6 0.0**
baz=157
M26K Nabesna, AK 3.54 100 Pn **Pn 12 44 28.2 +0.3**
M26K IAML 12 45 32.5
comp=E,64nm,0.4s
M26K IAML 12 45 35.4
comp=N,87nm,0.6s
M26K Nabesna, AK 3.54 100 P **Pn 12 44 28.1 +0.2**
baz=287
O19K Port Alsworth 3.56 212 Pn 12 44 28.0 0.0
O19K IAML 12 45 11.9
comp=E,117nm,0.5s
O19K IAML 12 45 29.5
comp=N,104nm,0.5s
O19K Port Alsworth 3.56 212 P **Pn 12 44 28.2 +0.2**
baz=29
P23K Montague Islan 3.58 154 Pn 12 44 27.5 -0.7
P23K Montague Islan 3.58 154 P **Pn 12 44 27.5 -0.7**
baz=337
BMRM Bremner River 3.59 127 Pn 12 44 27.8 -0.7
BMRM Bremner River 3.59 127 P **Pn 12 44 27.7 -0.7**
baz=312
K17K Iditarod 3.60 265 Pn **Pn 12 44 28.7 +0.2**
K17K IAML 12 45 11.1
comp=E,35nm,0.8s
K17K Iditarod 3.60 265 P **Pn 12 44 28.8 +0.2**
baz=78
GLB Gilahina Butte 3.60 117 Pn 12 44 28.7 +0.1
GLB IAML 12 45 11.0
comp=N,109nm,1.0s
GLB IAML 12 45 16.1
comp=E,105nm,0.8s
N18K Kilae Creek 3.62 227 Pn 12 44 28.8 -0.1
N18K IAML 12 45 12.6
comp=N,26nm,1.4s
N18K Kilae Creek 3.62 227 P **Pn 12 44 29.0 +0.2**
baz=42
HOM Homer 3.64 189 Pn 12 44 29.8 +0.7
HOM Homer 3.64 189 P **Pn 12 44 29.8 +0.7**
baz=8.2
G24K Hadweenzic Riv 3.70 19 Pn 12 44 29.9 +0.1
G24K Hadweenzic Riv 3.70 19 P **Pn 12 44 30.0 +0.1**
baz=202
M17K Holitna River 3.73 243 Pn 12 44 29.9 -0.4
M17K IAML 12 45 52.4
comp=N,32nm,1.9s
M17K IAML 12 45 59.4
comp=E,37nm,0.8s
M17K Holitna River 3.73 243 P **Pn 12 44 30.0 -0.2**
baz=57
CNPM China Poot 3.75 186 Pn **Pn 12 44 30.9 +0.3**
L17K Donlin 3.76 256 Pn 12 44 30.5 -0.2
L17K Donlin 3.76 256 P **Pn 12 44 30.5 -0.2**
baz=69
I26K Coal Creek Min 3.81 54 Pn **Pn 12 44 31.2 -0.1**
I26K IAML 12 45 21.4
comp=E,48nm,0.9s
I26K IAML 12 45 35.6
comp=N,59nm,0.8s
I26K Coal Creek Min 3.81 54 P **Pn 12 44 31.2 -0.1**
baz=240
P19K Oil Pt 3.83 201 Pn 12 44 32.5 +0.7
P19K IAML 12 45 27.1
comp=N,104nm,0.7s
P19K IAML 12 45 28.9
comp=E,92nm,0.7s
P19K Oil Pt 3.83 201 P **Pn 12 44 32.1 +0.4**
baz=19
K27K Chicken 3.84 74 Pn 12 44 31.9 +0.2
K27K IAML 12 45 15.1
comp=E,75nm,0.6s
K27K Chicken 3.84 74 P **Pn 12 44 31.9 +0.2**
baz=262
VRDI Verde Repeater 3.87 118 Pn **Pn 12 44 32.1 -0.2**
VRDI IAML 12 45 18.9
comp=N,75nm,1.0s
VRDI IAML 12 45 19.1
comp=E,53nm,0.8s
H18K Honhosa River 3.94 303 Pn 12 44 33.1 +0.1
H18K Honhosa River 3.94 303 P **Pn 12 44 32.9 -0.1**
baz=116
L27K Beaver Creek, 3.94 89 Pn **Pn 12 44 32.8 -0.2**
L27K IAML 12 45 20.8
comp=N,26nm,0.7s
L27K IAML 12 45 22.9
comp=E,24nm,0.6s
L27K Beaver Creek, 3.94 89 P **Pn 12 44 32.6 -0.4**
baz=277
MCARA McCarthy VSAT 3.95 115 Pn **Pn 12 44 33.7 +0.5**
MCARA McCarthy VSAT 3.95 115 P **Pn 12 44 33.7 +0.5**
baz=302
BCAR Beaver Creek A 3.96 89 Pn 12 44 33.1 -0.2
RAGM Ragged Mountai 3.98 133 Pn 12 44 33.2 -0.4
G25K Bearman Lake 4.00 26 Pn 12 44 34.0 +0.3
G25K Bearman Lake 4.00 26 P **Pn 12 44 34.0 +0.3**
baz=210
COLD Coldfoot 4.00 2 Pn 12 44 33.9 +0.1
COLD Coldfoot 4.00 2 P **Pn 12 44 34.0 +0.1**
baz=182
FYU Fort Yukon 4.02 32 Pn **Pn 12 44 34.4 +0.4**
FYU IAML 12 46 01.7
comp=E,31nm,1.9s
FYU IAML 12 46 02.6
comp=N,28nm,1.4s
M27K Edge Creek, AK 4.05 99 Pn 12 44 35.8 +1.1
M27K IAML 12 45 46.2
comp=N,37nm,1.3s
M27K IAML 12 45 48.7
comp=E,35nm,1.4s
M27K Edge Creek, AK 4.05 99 P **Pn 12 44 35.6 +0.9**
baz=287
O18K Koktuh Hills 4.08 216 Pn 12 44 35.3 +0.3
O18K IAML 12 45 50.9
comp=E,22nm,1.0s
O18K IAML 12 45 57.1
comp=N,22nm,1.6s
O18K Koktuh Hills 4.08 216 P **Pn 12 44 35.2 +0.3**
baz=31
AUCH Augustine Cone 4.15 201 Pn 12 44 37.0 +1.2
HMT Hamilton 4.16 132 Pn 12 44 35.8 -0.1
N17K Nushagak Hills 4.18 232 Pn 12 44 36.6 +0.4
N17K IAML 12 45 54.4
comp=N,17nm,1.3s
N17K Nushagak Hills 4.18 232 P **Pn 12 44 36.4 +0.2**
baz=46
F21K Alatna River 4.19 344 Pn 12 44 36.8 +0.4
F21K Alatna River 4.19 344 P **Pn 12 44 36.7 +0.4**
baz=161
CRQM Cirque 4.27 122 Pn 12 44 37.6 0.0
PTPK Patty Peak 4.29 115 Pn 12 44 38.2 +0.4
CRQE Cirque 4.29 122 P **Pn 12 44 37.6 -0.2**
baz=309
BERG Berg Lake 4.31 129 Pn 12 44 37.6 -0.3
NICHA Nichawak Mount 4.33 131 Pn 12 44 38.0 -0.2
F22K John River 4.34 351 Pn 12 44 38.8 +0.5
F22K John River 4.34 351 P **Pn 12 44 38.8 +0.5**
baz=170
TGL Tana Glacier 4.39 121 Pn 12 44 39.0 -0.2
TGL IAML 12 45 34.0
comp=N,70nm,0.8s
TGL IAML 12 45 47.7
comp=E,71nm,0.6s
G18K Tagagawik 4.41 311 Pn 12 44 39.6 +0.5
G18K Tagagawik 4.41 311 P **Pn 12 44 39.7 +0.5**
baz=123
F20K Avaraart Lake 4.41 332 Pn 12 44 39.8 +0.6
F20K Avaraart Lake 4.41 332 P **Pn 12 44 39.3 +0.1**
baz=148
KAIM Kayak Island 4.42 136 Pn 12 44 38.8 -0.6
KAIM Kayak Island 4.42 136 P **Pn 12 44 38.7 -0.6**
baz=322
F24K Squaw Lake 4.43 13 Pn **Pn 12 44 39.8 +0.3**
F24K Squaw Lake 4.43 13 P **Pn 12 44 39.8 +0.3**
baz=196
KHIT Khitrov Hills 4.44 126 Pn 12 44 39.2 -0.5
L16K Owhat River 4.44 254 Pn **Pn 12 44 40.2 +0.5**
L16K IAML 12 45 31.3
comp=N,14nm,1.8s
L16K Owhat River 4.44 254 P **Pn 12 44 39.8 +0.1**
baz=66
H17K Granite Mounta 4.47 297 Pn 12 44 40.6 +0.6
H17K Granite Mounta 4.47 297 P **Pn 12 44 40.9 +0.9**
baz=108
P18K Big Mountain, 4.49 213 Pn 12 44 40.4 +0.1
P18K IAML 12 45 59.4
comp=E,18nm,1.9s
P18K IAML 12 47 24.2
comp=N,14nm,1.3s
P18K Big Mountain, 4.49 213 P **Pn 12 44 40.5 +0.1**
baz=28
SUCK Suckling Hills 4.51 132 Pn 12 44 40.5 -0.2
SUCK IAML 12 46 00.3
comp=E,69nm,1.5s
I27K Kandik River 4.52 54 Pn 12 44 40.4 -0.3
I27K Kandik River 4.52 54 P **Pn 12 44 40.4 -0.3**
baz=242
GRIN Grindle Hills 4.52 128 Pn 12 44 40.6 -0.2
M16K Timber Creek 4.55 245 Pn 12 44 41.3 +0.1
M16K IAML 12 45 34.5
comp=E,12nm,1.2s
M16K IAML 12 46 09.6
comp=N,14nm,1.8s
M16K Timber Creek 4.55 245 P **Pn 12 44 41.3 +0.1**
baz=57
WAX Waxell Ridge 4.58 124 Pn 12 44 41.5 -0.1
Q19K Cape Douglas, 4.59 201 Pn 12 44 42.3 +0.5
Q19K Cape Douglas, 4.59 201 P **Pn 12 44 42.0 +0.3**
baz=18
ISLE Juniper Island 4.68 121 Pn 12 44 42.8 -0.2
ISLE IAML 12 46 04.4
comp=E,53nm,1.6s
G26K Porcupine Rive 4.68 34 Pn 12 44 42.5 -0.2
G26K Porcupine Rive 4.68 34 P **Pn 12 44 42.5 -0.2**
baz=220
BARN Barnard Glacie 4.69 114 Pn 12 44 43.8 +0.7
BARN IAML 12 46 03.6
comp=N,25nm,1.0s
BARN IAML 12 46 06.0
comp=E,31nm,0.6s
O17K Koliganek Bris 4.70 225 Pn 12 44 43.5 +0.4
O17K Koliganek Bris 4.70 225 P **Pn 12 44 43.5 +0.4**
baz=39
YUK2 White River 4.71 104 Pn 12 44 43.9 +0.6
SYI Shuyak Island 4.74 192 Pn 12 44 43.4 -0.2
SYI IAML 12 45 53.6
comp=N,48nm,0.7s
Q20K Shuyak Island 4.74 192 P **Pn 12 44 43.5 -0.2**
baz=10
BARK Barkley Ridge 4.74 123 Pn 12 44 44.0 +0.2
N16K Nishlik Lake 4.80 238 Pn 12 44 44.6 +0.1
N16K Nishlik Lake 4.80 238 P **Pn 12 44 44.6 +0.1**
baz=51
F25K Christian Rive 4.81 23 Pn 12 44 44.8 +0.2
F25K Christian Rive 4.81 23 P **Pn 12 44 44.8 +0.2**
baz=207
GRNC Granite Creek 4.83 118 Pn 12 44 44.8 -0.3
GRNC IAML 12 45 54.4
comp=N,30nm,1.4s
GRNC IAML 12 46 06.8
comp=E,19nm,1.4s
BAGL Bagley Icefiel 4.84 121 Pn 12 44 44.7 -0.3
E23K Chandalar 4.85 4 Pn 12 44 45.6 +0.5
E23K Chandalar 4.85 4 P **Pn 12 44 45.6 +0.5**
baz=185
CTG Chitna Glacier 4.87 114 P **Pn 12 44 45.7 +0.2**
baz=302
H27K Steamboat Moun 4.87 48 Pn 12 44 45.0 -0.4
H27K Steamboat Moun 4.87 48 P **Pn 12 44 45.1 -0.4**
baz=236
CTGM Chitina Glacie 4.87 114 Pn 12 44 46.1 +0.6
CTGM IAML 12 45 43.7
comp=E,17nm,0.7s
CTGM IAML 12 45 50.7
comp=N,20nm,1.2s
BMAR Burnt Mountain 4.88 28 Pn **Pn 12 44 45.5 +0.1**
E24K Your Creek 4.92 9 Pn 12 44 46.7 +0.6
E24K IAML 12 47 52.3
comp=N,9.7nm,2.0s
E24K Your Creek 4.92 9 P **Pn 12 44 46.4 +0.3**
baz=191
P17K Kvichak River 4.97 218 Pn 12 44 47.4 +0.7
P17K Kvichak River 4.97 218 P **Pn 12 44 47.4 +0.7**
baz=33
DAWY Dawson 5.02 76 Pn 12 44 47.6 +0.2
E19K Redstone River 5.08 329 Pn 12 44 48.7 +0.6
E19K IAML 12 46 17.9
comp=N,10nm,1.9s
E19K Redstone River 5.08 329 P **Pn 12 44 48.6 +0.4**
baz=143
LOGN Logan Glacier 5.08 114 Pn 12 44 48.6 +0.2
LOGN IAML 12 45 50.7
comp=N,20nm,1.0s
LOGN IAML 12 45 55.9
comp=E,17nm,1.9s
I28M Miner Creek 5.09 60 Pn 12 44 48.9 +0.5
I28M IAML 12 46 14.7
comp=N,22nm,1.1s
I28M IAML 12 46 25.2
comp=E,17nm,1.0s
I28M Miner Creek 5.09 60 P **Pn 12 44 48.6 +0.2**
baz=249
MESA MESA 5.10 123 Pn 12 44 48.4 -0.2
MESA MESA 5.10 123 P **Pn 12 44 48.4 -0.2**
baz=311
KAHC Katmai Hardscr 5.11 208 Pn 12 44 49.1 +0.4
KAHC Katmai Hardscr 5.11 208 Pn 12 44 48.9 +0.2
KAHC Katmai Hardscr 5.11 208 P **Pn 12 44 49.1 +0.4**
baz=24
Q18K Katmai Hardscr 5.11 208 P **Pn 12 44 48.9 +0.2**
baz=24
KAHG Katmai Hook Gl 5.16 204 Pn 12 44 49.6 +0.3
O16K Kokwok River B 5.17 228 Pn 12 44 49.8 +0.5
O16K IAML 12 46 27.5
comp=E,8.9nm,1.9s
O16K IAML 12 46 43.6
comp=N,10nm,1.4s
O16K Kokwok River B 5.17 228 P **Pn 12 44 49.4 0.0**
baz=42
G27K Doyon Strip 5.18 42 Pn 12 44 49.1 -0.4
G27K Doyon Strip 5.18 42 P **Pn 12 44 48.6 -0.9**
baz=230
F26K Sheenjek River 5.19 28 Pn 12 44 49.5 -0.1
F26K Sheenjek River 5.19 28 P **Pn 12 44 49.5 -0.1**
baz=214
TABL Table Mountain 5.25 118 Pn 12 44 50.1 -0.5
TABL IAML 12 45 50.3
comp=E,21nm,1.9s
TABL IAML 12 46 23.1
comp=N,18nm,1.0s
L15K Ungalak Mounta 5.34 258 Pn 12 44 52.1 +0.5
L15K Ungalak Mounta 5.34 258 P **Pn 12 44 52.1 +0.5**
baz=68
KAKN Katmai Knife C 5.44 206 Pn 12 44 53.1 -0.1
M15K Kasigluk River 5.44 247 Pn 12 44 53.2 +0.2
M15K Kasigluk River 5.44 247 P **Pn 12 44 53.2 +0.2**
baz=58
O28M Mount Upton 5.45 112 Pn 12 44 53.8 +0.4
O28M Mount Upton 5.45 112 P **Pn 12 44 53.8 +0.4**
baz=302
N15K Kwethluk River 5.51 240 Pn **Pn 12 44 54.1 +0.2**
KABU Katmai Buttres 5.51 207 Pn 12 44 54.8 +0.8
M29M Somme Creek 5.57 93 Pn **Pn 12 44 55.4 +0.5**
KDAK Kodiak Island 5.58 192 P **Pn 12 44 52.7 -2.1**
comp=N,6.1nm,0.3s,baz=8.8,slow=12,SNR=87
KDAK S **Sn 12 45 54.3 -3.5**
comp=N,9.7nm,0.4s,baz=306,slow=24,SNR=7.5
L29M L29M 5.60 86 Pn 12 44 55.8 +0.6
L29M L29M 5.60 86 P **Pn 12 44 55.5 +0.3**
baz=277
ANCK Angle Creek 5.62 208 Pn 12 44 56.0 +0.5
I29M Ogilvie Camp, 5.71 63 Pn 12 44 56.8 +0.2
K29M Barlow Dome 5.83 78 Pn **Pn 12 44 58.6 +0.3**
M14K Bethel 5.95 250 Pn 12 45 01.1 +1.4
M14K Bethel 5.95 250 P **Pn 12 45 00.6 +0.8**
baz=60
D24K Happy Valley 5.97 6 Pn **Pn 12 45 02.1 +2.0**
H29M Whitestone 5.99 55 Pn 12 45 00.9 +0.6
L14K Kuka Creek 6.00 257 Pn **Pn 12 45 02.1 +1.8**
D25K Kavik River 6.33 13 Pn **Pn 12 45 06.3 +1.4**
J30M Hart River 6.39 72 Pn **Pn 12 45 06.8 +1.0**
PNL Peninsula 6.41 119 P **Pn 12 45 06.5 +0.5**
I30M Mount Dempster 6.47 66 Pn **Pn 12 45 06.7 -0.1**
EPYK Eagle Plains 6.66 56 Pn 12 45 09.0 -0.3
SII Sitkinak Islan 6.96 197 P **Pn 12 45 13.8 +0.4**
G30M tAoh Zraii Nji 7.09 52 Pn **Pn 12 45 14.4 -0.7**
P29M Windy Craggy 7.11 115 Pn **Pn 12 45 16.3 +0.9**
E29M Blow River 7.30 39 Pn **Pn 12 45 17.8 -0.1**
SKAG Skagway 8.21 111 P **Pn 12 45 30.6 +0.5**
INK Inuvik 8.61 46 P **Pn 12 45 35.8 +0.5**
comp=N,1.9nm,0.9s,baz=234,slow=16,SNR=4.2
SIT Sitka 9.76 123 P **Pn 12 45 52.9 +2.0**
SONM Songino Array 53.86 306 P **P 12 52 44.2 +1.4**
comp=N,0.8nm,0.5s,baz=36,slow=7.5,SNR=4.3
comp=N,0.8nm,0.5s
ZALV Zalesovo Beam 55.46 324 P **P 12 52 54.2 +0.1**
comp=N,0.5nm,0.4s,baz=8.5,slow=5.6,SNR=4.7
comp=N,0.5nm,0.4s
BVAR Borovoye Array 59.74 333 P **P 12 53 24.0 0.0**
comp=N,0.5nm,0.5s,baz=29,slow=6.6,SNR=2.7
comp=N,0.5nm,0.5s
MKAR Makanchi Array 62.62 322 P **P 12 53 43.3 -0.2**
comp=N,0.3nm,0.5s,baz=43,slow=6.5,SNR=2.5
comp=N,0.3nm,0.5s

---

*NEIC **20** 13:00:50.0±1.9,23°.4S±0°.1×175°.6W±0°.1,h10km±1km, mb4.9/41,Error ellipse: s-maj=23.0km s-min=17.5km az=114.0*
*NOU **20** 13:00:52.5,23°.56S×174°.99W,h0km,mb5.0/9,Tonga Islands Region*
*GCMT **20** 13:00:55.0±0.5,23°.69S±0°.05×175°.17W±0°.03,h30km±1km, MW4.9/60,Moment Tensor Solution. s20,c28; s60,c74; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.80±.25; $M_{\theta\theta}$-0.23±.17; $M_{\phi\phi}$-2.56±.16; $M_{r\theta}$1.33±.26; $M_{r\phi}$-0.77±.11; $M_{\theta\phi}$1.01±.19; Best double couple: $M_0$3.24900×10^{16} NP1:ϕ_s33.00000°,δ60.00000°,λ107.00000°. NP2: ϕ_s182.00000°,δ34.00000°,λ63.00000°. Principal axes: T*

3.3810, Plg70.0000°, Azm340.0000°; N -0.2560, Plg14.0000°, Azm205.0000°; P -3.1180, Plg14.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*IDC **20** 13:00:59.4±4.0, 23°.67S×175°.89W, h59km±32km, mb4.2/15, mbtmp4.5/17, ML5.1/2 Error ellipse: s-maj=21.4km s-min=16.3km az=98.0*
ISC 20 13:00:56.0±0.4, **23°.68S**±0°.07×**175°.87W**±0°.10, **h35**km, **h36**km:**pP-P**, **n141**, σ1**§43**/127, **mb4.9**/47, **MS4.5**/6, **11C-7D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.19**	**51**	Pn	Pn	13 02 29.4	-9.2
NIUE				Sn	Sn	13 03 36.4	-23
NIUE	**Niue**	**7.19**	**51**	P	Pn	13 02 29.0	-10
MSVF	**Nonsavu**	**8.21**	**315**	Pn	Pn	13 02 57.3	+4.6
MSVF	**Nonsavu**	**8.21**	**315**	P	Pn	13 02 58.8	+6.1
MSVF	**Nonsavu**	**8.21**	**315**	P	Pn	13 02 57.4	+4.7
	2.8nm,0.3s,baz=132,slow=13,SNR=28						
	118nm,1.0s						
AFI	**Afiamalu**	**10.46**	**22**	Pn	Pn	13 03 14.6	-9.0
AFI				Sn	Sn	13 04 59.6	-20
AFI	**Afiamalu**	**10.46**	**22**	P	Pn	13 03 17.6	-6.0
RAR	**Rarotonga**	**15.09**	**84**	Pn	Pn	13 04 16.0	-11
RAR	**Rarotonga**	**15.09**	**84**	P	Pn	13 04 17.0	-10
RAR	**Rarotonga**	**15.09**	**84**	P	Pn	13 04 16.2	-10
	90nm,0.9s,baz=250,slow=6.1,SNR=15						
RAR				S	Sn	13 06 42.3	-30
	5.0nm,0.4s,baz=51,slow=9.0,SNR=1.4						
PINNC	**Pines Island,**	**15.38**	**271**		**P**	**13 04 34.6**	**-0.1**
PINNC				IAmb	IAmb	13 04 48.4	
	comp=Z,152nm,1.3s						
URZ	**Urewera**	**15.72**	**201**	P	**P**	**13 04 40.0**	**+1.7**
URZ	**Urewera**	**15.72**	**201**	P	**P**	**13 04 38.0**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=56,slow=2.9,SNR=2.5						
URZ				S	**Sn**	**13 07 22.3**	**-5.4**
	comp=Z,4.4nm,0.5s,baz=321,slow=16,SNR=1.8						
	comp=Z,4.1nm,0.4s						
YATNC	**Mamie plateau,**	**15.97**	**272**	P	P	13 04 49.7	+8.4
	comp=Z,76nm,1.1s						
DZM	**Mont Dzumac**	**16.38**	**272**	*e*Pn	Pn	13 04 35.4	-8.0
	comp=Z,146nm,1.5s						
DZM				*e*LR	LR	13 08 37.2	
	comp=Z,998nm,22.4s						
DZM	**Mont Dzumac**	**16.38**	**272**	P	**P**	**13 04 47.1**	**+1.2**
DZM	**Mont Dzumac**	**16.38**	**272**	P	**P**	**13 04 48.6**	**+2.7**
	comp=Z,28nm,0.8s,baz=84,slow=17,SNR=12						
BKZ	**Black Stump Fm**	**16.74**	**201**	P	**P**	**13 04 53.4**	**+3.7**
BFZ	**Birch Farm**	**18.20**	**200**	P	**P**	**13 05 05.8**	**+0.1**
BFZ	**Birch Farm**	**18.20**	**200**	P	**P**	**13 05 10.4**	**+4.6**
MRZ	**Mangatainoka R**	**18.39**	**201**	P	**Pn**	**13 05 07.6**	**-0.5**
BHW	**Baring Head**	**19.30**	**201**	P	**P**	**13 05 17.6**	**-0.2**
TUWZ	**Tuamarina**	**19.64**	**203**	P	**P**	**13 05 19.8**	**-1.7**
CTZ	**Chatham Island**	**20.01**	**182**	P	**P**	**13 05 25.3**	**-0.3**
CTZ				IAmb	IAmb	13 05 27.1	
	comp=Z,100nm,1.5s						
KHZ	**Kahutara**	**20.65**	**203**	P	**P**	**13 05 30.0**	**-2.5**
LTZ	**Lake Taylor**	**21.43**	**204**	P	**P**	**13 05 41.3**	**+0.3**
LHI	**Lord Howe Isla**	**23.51**	**245**	P	**P**	**13 06 03.6**	**+0.8**
WKZ	**Wanaka**	**24.43**	**207**	P	**P**	**13 06 11.5**	**+0.2**
PAE	**Paea**	**25.30**	**81**	*e*T	T	13 32 15.7	
	comp=Z,8.9nm,0.4s						
PPT2	**Papeete2**	**25.32**	**81**	*e*LR	LR	13 12 14.7	
	comp=Z,714nm,25.5s						
PPT2				*e*LR	LR	13 12 23.3	
	comp=Z,585nm,27.5s						
PPT2	**Papeete2**	**25.32**	**81**	*e*T	T	13 32 18.8	
	comp=Z,9.4nm,0.4s						
WHZ	**Wether Hill Ro**	**25.74**	**207**	P	**P**	**13 06 23.9**	**+0.7**
WHZ				IAmb	IAmb	13 06 29.5	
	comp=Z,31nm,1.0s						
ARMA	**Armidale**	**29.64**	**250**	P	**P**	**13 06 58.8**	**+0.4**
ARMA				IAmb	IAmb	13 07 12.3	
	comp=Z,9.5nm,0.8s						
EIDS	**Eidsvold**	**30.07**	**260**	P	**P**	**13 07 02.9**	**+0.8**
EIDS				IAmb	IAmb	13 07 10.7	
	comp=Z,13nm,1.1s						
CAN	**Canberra**	**32.54**	**241**	P	**P**	**13 07 24.5**	**+0.7**
CAN				IAmb	IAmb	13 07 37.8	
	comp=Z,22nm,1.2s						
CTAO	**Charters Tower**	**35.26**	**268**	P	**P**	**13 07 48.4**	**+0.8**
CTAO				IAmb	IAmb	13 08 02.5	
	comp=Z,16nm,0.9s						
TAOE	**Nuku Hiva Isla**	**37.19**	**73**	*e*LR	LR	13 17 40.8	
	comp=Z,243nm,27.6s						
STKA	**Stephens Creek**	**38.31**	**248**	P	**P**	**13 08 11.3**	**-2.1**
STKA	**Stephens Creek**	**38.31**	**248**	P	**P**	**13 08 13.4**	**0.0**
	comp=Z,3.8nm,0.7s,baz=86,slow=8.7,SNR=7.0						
	comp=Z,3.8nm,0.7s						
BBOO	**Buckleboo**	**43.01**	**247**	P	**P**	**13 08 49.7**	**-2.4**
BBOO				IAmb	IAmb	13 08 51.2	
	comp=Z,53nm,1.5s						
AS31	**Alice Springs**	**45.80**	**259**	P	**P**	**13 09 13.0**	**-1.6**
ASAR	**Alice Springs**	**45.80**	**259**	P	**P**	**13 09 15.0**	**+0.3**
ASAR	**Alice Springs**	**45.80**	**259**	P	**P**	**13 09 14.5**	**-0.1**
	comp=Z,9.7nm,0.9s,baz=92,slow=8.5,SNR=58						
ASAR				PcP	**PcP**	**13 10 52.1**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=96,slow=5.7,SNR=1.9						
	comp=Z,9.7nm,0.9s						
WR0	**Warramunga Arr**	**46.01**	**265**	P	**P**	**13 09 14.5**	**-1.8**
WR0				IAmb	IAmb	13 09 16.8	
	comp=Z,8.0nm,0.8s						
WB2	**Warramunga Arr**	**46.18**	**265**	P	**P**	**13 09 15.8**	**-1.9**
WB2				IAmb	IAmb	13 09 18.7	
	comp=Z,16nm,0.8s						
WB0	**Warramunga Arr**	**46.19**	**265**	P	**P**	**13 09 17.0**	**-0.8**
WB0				IAmb	IAmb	13 09 18.7	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**46.19**	**265**	P	**P**	**13 09 16.3**	**-1.5**
WRA	**Warramunga Arr**	**46.19**	**265**	P	**P**	**13 09 17.0**	**-0.7**
	comp=Z,11nm,0.8s,baz=101,slow=8.3,SNR=52						
WRA				PcP	**PcP**	**13 10 53.2**	**0.0**
	comp=Z,2.6nm,0.9s,baz=108,slow=3.7,SNR=4.2						
	comp=Z,11nm,0.8s						
FORT	**Forrest**	**49.92**	**249**	P	**P**	**13 09 45.6**	**-0.8**
MTN	**Manton Dam**	**51.22**	**272**	P	**P**	**13 09 54.8**	**-1.6**
MTN				IAmb	IAmb	13 10 11.7	
	comp=Z,10nm,0.9s						
KNRA	**Kununurra**	**52.47**	**268**	P	**P**	**13 10 05.2**	**-0.6**
KNRA				IAmb	IAmb	13 10 19.7	
	comp=Z,30nm,1.2s						
SOEI	**Soe**	**58.60**	**273**	P	**P**	**13 10 49.0**	**-1.0**
MBWA	**Marble Bar**	**59.13**	**259**	P	**P**	**13 10 51.9**	**-1.6**
MORW	**Morawa**	**60.49**	**249**	P	**P**	**13 11 03.5**	**+0.7**
MORW				IAmb	IAmb	13 11 14.2	
	comp=Z,13nm,1.1s						
CASY	**Casey**	**61.96**	**206**	P	**P**	**13 11 12.0**	**0.0**
CASY				IAmb	IAmb	13 11 16.3	
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**66.40**	**180**	P	**P**	**13 11 42.7**	**+1.4**
QSPA	**South Pole Qui**	**66.40**	**180**	P	**P**	**13 11 43.2**	**+1.9**
	comp=Z,4.0nm,0.7s,baz=31,slow=5.0,SNR=25						
	comp=Z,4.0nm,0.7s						
MJAR	**Matsushiro Arr**	**73.93**	**323**	P	**P**	**13 12 24.5**	**-3.1**
	comp=Z,1.0nm,0.6s,baz=166,slow=6.2,SNR=1.9						
ADK	**Adak**	**75.24**	**359**	P	**P**	**13 12 30.8**	**-4.0**
JKA	**Kamikawa-asahi**	**77.45**	**331**	P	**P**	**13 12 48.7**	**+1.2**
MAW	**Mawson**	**79.24**	**199**	P	**P**	**13 12 57.8**	**+0.6**
MAW	**Mawson**	**79.24**	**199**	P	**P**	**13 12 58.2**	**+1.0**
	comp=Z,7.2nm,1.0s,baz=104,slow=6.1,SNR=12						
	comp=Z,7.2nm,1.0s						
PEA0B	**Petropavlovsk-**	**79.85**	**344**	P	**P**	**13 12 59.7**	**-0.9**
PETK	**Petropavlovsk-**	**79.85**	**344**	P	**P**	**13 13 00.1**	**-0.4**
PETK	**Petropavlovsk-**	**79.85**	**344**	P	**P**	**13 13 00.9**	**+0.4**
	comp=Z,13nm,0.9s,baz=134,slow=8.5,SNR=14						
	comp=Z,13nm,0.9s						
KSRS	**Korea Array**	**80.57**	**318**	P	**P**	**13 13 05.6**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=135,slow=6.4,SNR=9.0						
	comp=Z,1.9nm,0.7s						
CHGN	**Chignik**	**81.03**	**10**	P	**P**	**13 13 05.9**	**-0.8**
NVAR	**Mina Array Bea**	**82.02**	**42**	P	**P**	**13 13 13.1**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=212,slow=6.7,SNR=4.5						
	comp=Z,0.8nm,0.8s						
H03S2	**Juan Fernandez**	**82.58**	**124**	T	T	14 45 10.4	
	baz=245,slow=74,SNR=39						
H03S1	**Juan Fernandez**	**82.59**	**124**	T	T	14 44 58.8	
	baz=245,slow=74,SNR=48						
H03S3	**Juan Fernandez**	**82.60**	**124**	T	T	14 44 45.8	
	baz=245,slow=74,SNR=52						
USRK	**Ussuriysk Ar.**	**82.69**	**325**	P	**P**	**13 13 17.6**	**+1.7**
	comp=Z,10nm,0.8s,baz=143,slow=3.2,SNR=13						
	comp=Z,10nm,0.8s						
H03N2	**Juan Fernandez**	**82.73**	**123**	T	T	14 45 04.6	
	baz=251,slow=72,SNR=20						
H03N3	**Juan Fernandez**	**82.73**	**123**	T	T	14 45 00.1	
	baz=251,slow=72,SNR=16						
H03N1	**Juan Fernandez**	**82.75**	**123**	T	T	14 44 48.3	
	baz=251,slow=72,SNR=13						
NJ2	**Nanjing**	**83.42**	**309**	*e*P	**P**	**13 13 21.9**	**+2.0**
NJ2				pP	**sP**	**13 13 35.5**	**+1.1**
NJ2				sP	pP	13 13 42.4	+12
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,340nm,4.7s						
ELIB	**Princess Elisa**	**83.71**	**186**	*d*P	**P**	**13 13 20.5**	**-0.4**
	comp=Z,5.3nm,1.2s						
MDJ	**Mudanjiang**	**84.25**	**324**	P	**P**	**13 13 26.3**	**+2.5**
MDJ				PcP	**pP**	**13 13 34.1**	**-0.4**
MDJ				pP	sP	13 13 43.0	+4.6
MDJ				sP	PcP	13 13 48.0	+20
MDJ				SKS	S	13 23 08.8	-38
MDJ	**Mudanjiang**	**84.25**	**324**	S	**SKSac**	**13 23 41.9**	**-2.7**
MDJ	**Mudanjiang**	**84.25**	**324**	sS	sS	13 24 08.4	+3.9
MDJ				pmax	pmax		
	comp=Z,17nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,91nm,6.5s						
TROLL	**Troll, Antarti**	**84.56**	**180**	⇓P	**P**	**13 13 26.6**	**+1.3**
	comp=Z,173nm,0.6s						
SNAA	**Sanae**	**84.78**	**178**	P	**P**	**13 13 25.2**	**-1.1**
SNAA				IAmb	IAmb	13 13 30.2	
	comp=Z,11nm,1.5s						
SNAA	**Sanae**	**84.78**	**178**	⇓P	**P**	**13 13 27.1**	**+0.8**
	comp=Z,30nm,0.8s						
SNAA	**Sanae**	**84.78**	**178**	P	**P**	**13 13 26.2**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=180,slow=7.6,SNR=4.2						
	comp=Z,1.7nm,0.9s						
VNA3	**Neumayer Olymp**	**84.84**	**176**	⇓P	**P**	**13 13 27.3**	**+0.7**
	comp=Z,3.3nm,0.6s						
VNA2	**Neumayer--Watz**	**85.30**	**176**	⇓P	**P**	**13 13 29.8**	**+0.9**
	comp=Z,3.4nm,0.7s,baz=194,slow=4.0						
VNA1	**Neumayer--Stat**	**85.52**	**176**	⇓P	**P**	**13 13 30.5**	**+0.6**
	comp=Z,2.9nm,0.8s						
BNX	**BinXian**	**86.15**	**324**	⇓P	**P**	**13 13 34.1**	**+0.8**
BNX				pmax	pmax		
	comp=Z,17nm,1.0s						
BNX				pmax	pmax		
	comp=Z,250nm,5.4s						
TXAR	**Lajitas Array**	**87.14**	**56**	P	**P**	**13 13 38.5**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=215,slow=7.1,SNR=14						
	comp=Z,1.7nm,0.8s						
HEH	**HeiHe**	**89.04**	**328**	*e*P	**P**	**13 13 47.8**	**+0.7**
HEH				pmax	pmax		
	comp=Z,11nm,1.1s						
HEH				pmax	pmax		
	comp=Z,280nm,5.7s						
HNS	**HongShan**	**89.14**	**312**	⇑P	**P**	**13 13 50.8**	**+3.0**
HNS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TRF	**Thorofare Moun**	**89.15**	**11**	P	**P**	**13 13 46.9**	**-0.6**
TRF				IAmb	IAmb	13 13 52.5	
	comp=Z,10nm,1.0s						
LYN	**LuoYang**	**89.28**	**308**	*e*P	**P**	**13 13 50.9**	**+2.3**
LYN				pmax	pmax		
	comp=Z,21nm,0.9s						
M27K	**Edge Creek, AK**	**89.93**	**15**	P	**P**	**13 13 50.9**	**-0.3**
M27K				IAmb	IAmb	13 13 52.9	
	comp=Z,8.9nm,0.9s						
PDAR	**Pinedale Array**	**89.94**	**42**	P	**P**	**13 13 51.5**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=222,slow=1.2,SNR=2.0						
	comp=Z,0.2nm,0.4s						
L27K	**Beaver Creek,**	**90.55**	**15**	P	**P**	**13 13 54.4**	**+0.4**
L27K				IAmb	IAmb	13 13 55.1	
	comp=Z,5.1nm,0.9s						
ILAR	**Eielson Array**	**90.98**	**12**	P	**P**	**13 13 55.7**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=225,slow=5.5,SNR=7.2						
	comp=Z,1.2nm,0.9s						
J26L	**Joseph Creek**	**91.41**	**13**	P	**P**	**13 13 57.7**	**-0.2**
J26L				IAmb	IAmb	13 13 59.6	
	comp=Z,7.7nm,0.8s						
XAN	**Xi'an**	**91.62**	**307**	⇑P	**P**	**13 14 01.0**	**+1.4**
XAN				pP	pP	13 14 08.0	-2.3
XAN				pmax	pmax		
	comp=Z,19nm,1.1s						
K29M	**Barlow Dome**	**92.26**	**16**	P	**P**	**13 14 00.9**	**-1.0**
K29M				IAmb	IAmb	13 14 15.1	
	comp=Z,9.5nm,1.2s						
KMI	**Kunming**	**92.53**	**296**	⇑P	**P**	**13 14 06.0**	**+1.7**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMI				LR	LR		
	comp=Z,200nm,25.4s						
HHC	**Hu-ho-hao-te**	**92.97**	**314**	*e*P	**P**	**13 14 07.0**	**+1.2**
HHC				pmax	pmax		
	comp=Z,46nm,0.6s						
HHC				pmax	pmax		
	comp=Z,350nm,5.3s						
HHC				LR	LR		
	comp=N,450nm,19.6s						
HHC				LR	LR		
	comp=E,570nm,20.4s						
HHC				LR	LR		
	comp=Z,700nm,20.4s						
CMAR	**Chiang Mai Arr**	**93.02**	**289**	P	**P**	**13 14 07.9**	**+1.6**
	comp=Z,6.9nm,0.9s,baz=132,slow=3.1,SNR=40						
	comp=Z,6.9nm,0.9s						
PZH	**PanZhiHua**	**93.92**	**297**	P	**P**	**13 14 10.3**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,210nm,6.6s						
SONM	**Songino Array**	**99.44**	**318**	P	**Pdif**	**13 14 35.0**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=104,slow=6.1,SNR=1.8						
	comp=Z,0.4nm,0.4s						
WMQ	**Urumqi**	**110.48**	**310**	*e*P	**PKiKP**	**13 19 23.4**	**-1.3**
WMQ				LR	LR		
	comp=Z,180nm,21.7s						
ZALV	**Zalesovo Beam**	**114.20**	**320**	PKP	**PKiKP**	**13 19 30.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=62,slow=3.4,SNR=5.1						
BDFB	**Brasilia**	**115.79**	**122**	PKP	**PKiKP**	**13 19 35.4**	**-0.4**
	comp=Z,2.3nm,0.4s,baz=158,slow=8.6,SNR=3.9						
KURBB	**Kurchatov Arra**	**117.71**	**316**	PKP	**PKiKP**	**13 19 37.6**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=85,slow=2.2,SNR=7.0						
BVAR	**Borovoye Array**	**122.77**	**319**	PKP	**PKiKP**	**13 19 47.6**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=76,slow=1.8,SNR=8.6						
GEYT	**Alibeck**	**132.12**	**300**	PKP	**PKiKP**	**13 20 07.5**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=242,slow=2.5,SNR=4.8						
FINES	**FINESS Array B**	**139.37**	**344**	PKP	**PKiKP**	**13 20 19.9**	**-1.3**
	comp=Z,3.0nm,0.9s,baz=38,slow=5.3,SNR=4.4						
NB2	**NORSAR Subarra**	**142.35**	**354**	PKP	sPKiKP	13 20 39.1	-2.9
	comp=Z,1.3nm,0.8s,baz=17,slow=2.6						
NACGM	**Naroch**	**144.56**	**337**	*e*PKP	**PKPdf**	**13 20 27.9**	**-0.4**
	comp=Z,21nm,0.9s,baz=38						
AKASG	**Malin Array Be**	**146.74**	**331**	PKPbc	**PKPbc**	**13 20 33.2**	**-0.7**
	comp=Z,5.3nm,0.6s,baz=41,slow=3.9,SNR=28						
EKA	**Eskdalemuir Ar**	**147.93**	**8**	PKPbc	**PKPbc**	**13 20 36.8**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=309,slow=3.1,SNR=5.3						
ASF	**Jabal al Asfar**	**149.93**	**294**	PKPbc	**PKiKP**	**13 20 44.2**	**+0.2**
	comp=Z,6.3nm,0.8s,baz=77,slow=2.5,SNR=9.9						
BRTR	**Keskin Array B**	**150.41**	**310**	PKPbc	**PKiKP**	**13 20 44.5**	**-0.3**
	comp=Z,5.1nm,0.8s,baz=90,slow=2.9,SNR=28						
STHS	**Stebnicka Huta**	**151.01**	**337**	*e*PKP	**PKiKP**	**13 20 45.4**	**-0.2**
KOLS	**Kolonicke sedl**	**151.02**	**335**	*e*PKP	**PKiKP**	**13 20 46.7**	**+1.1**
MMAI	**Mount Meron Ar**	**151.04**	**296**	PKPbc	**PKiKP**	**13 20 46.5**	**+0.3**
	comp=Z,12nm,0.8s,baz=57,slow=3.1,SNR=16						
CRVS	**Cervenica-Dubn**	**151.35**	**336**	*e*PKP	**PKiKP**	**13 20 46.7**	**+0.4**
CRVS				*e*		13 20 55.1	
OSTC	**Ostas**	**151.57**	**344**	⇑*e*PKP	**PKiKP**	**13 20 47.2**	**+0.5**
CLL	**Collm**	**151.58**	**348**	*e*PKPdf	**PKPdf**	**13 20 40.0**	**0.0**
CLL				*i* PKPbc	**PKiKP**	**13 20 46.5**	**-0.1**
	comp=Z,13nm,0.9s						
CLL				*i* (PKPab)	**sPKPdf**	**13 20 53.1**	**-1.5**
	comp=Z,10.0nm,1.0s						
CLL				*i* x	x	13 20 58.6	
	comp=Z,18nm,0.8s						
CLL				AMS	AMS	14 45 00.0	
	comp=Z,100nm,18.8s						
CHVC	**Chvalec**	**151.59**	**344**	⇑*e*PKP	**PKiKP**	**13 20 46.7**	**0.0**
DPC	**Dobruska-Polom**	**151.74**	**343**	⇑*e*PKP	**PKiKP**	**13 20 47.1**	**0.0**
BRG	**Berggiesshubel**	**151.81**	**347**	*i* PKP	**PKiKP**	**13 20 48.2**	**+1.1**
BRG				Amp		13 20 49.0	
	comp=Z,13nm,0.8s						
BRG	**Berggiesshubel**	**151.81**	**347**	P	**PKPab**	**13 21 00.1**	**+4.3**
BRG				Amp		13 21 00.8	
	comp=Z,11nm,0.8s						
LANS	**Liptovska Anna**	**151.86**	**338**	*e*PKP	**PKiKP**	**13 20 49.0**	**+1.6**
KRLC	**Kraliky**	**151.86**	**343**	⇑*e*PKP	**PKiKP**	**13 20 47.8**	**+0.4**
EIL	**Elat**	**151.87**	**289**	PKPbc	**PKiKP**	**13 20 48.5**	**+0.6**
	comp=Z,7.7nm,0.8s,baz=56,slow=3.6,SNR=6.7						
EIL				PKPab	**PKPab**	**13 20 56.9**	**+0.1**
	comp=Z,9.4nm,0.9s,baz=74,slow=5.8,SNR=5.4						
MORC	**Moravsky Berou**	**151.91**	**341**	*e*PKP	**PKiKP**	**13 20 47.6**	**+0.1**
MLR	**Muntele Rosu**	**151.96**	**326**	PKPbc	**PKiKP**	**13 20 48.3**	**+0.5**
	comp=Z,3.2nm,0.5s,baz=27,slow=2.3,SNR=3.6						
PVCC	**Panska Ves**	**152.00**	**346**	⇑*e*PKP	**PKiKP**	**13 20 48.2**	**+0.7**
MAUC	**Maruska**	**152.19**	**341**	⇑*e*PKP	**PKiKP**	**13 20 48.8**	**+0.8**
MAUC				*e*PKPab	**sPKPbc**	**13 21 00.2**	**-2.1**
JAVC	**Velka Javorina**	**152.69**	**340**	*e*PKP	**PKiKP**	**13 20 50.6**	**+1.5**
KRUC	**Moravsky**	**152.89**	**342**	*e*PKP	**PKiKP**	**13 20 50.5**	**+1.1**
KHC	**Kasperske Hory**	**153.53**	**346**	⇑*e*PKP	**PKiKP**	**13 20 50.9**	**+0.1**
KHC				*e*PKPab	**sPKPbc**	**13 21 04.7**	**-0.6**
CKRC	**Cesky Krumlov**	**153.65**	**345**	⇑*e*PKP	**PKiKP**	**13 20 51.6**	**+0.5**
GERES	**GERESS Array B**	**153.77**	**346**	PKPbc	**PKiKP**	**13 20 52.2**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=343,slow=3.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**169.27**	**167**	PKPab	**PKPab**	**13 22 13.1**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=210,slow=4.8,SNR=1.8						

---

*MEX **20** 13:01:06.4±0.9, 15°.20N×94°.20W, h17km±999km, MD4.5*
*IDC **20** 13:01:06.8±2.3, 15°.38N×94°.09W, h57km±18km, mb3.7/11, mbtmp3.9/13, ML4.0/2, MS3.4/5, Error ellipse: s-maj=25.4km s-min=12.4km az=42.0*
*GCG **20** 13:01:09.0±0.8, 15°.41N×93°.99W, h35km±999km, MD4.4*
*NEIC **20** 13:01:10.6±2.5, 15°.41N±0°.06×93°.89W±0°.09, h67km±11km, mb4.1/15, Md4.6/26(MEX), Error ellipse: s-maj=13.8km s-min=8.5km az=69.0*
ISC 20 13:01:05.5±1.0, **15°.21N**±0°.04×**94°.23W**±0°.03, **h48**km±10km, **n88**, σ2§**09**/123, **mb4.0**/13, **MS3.1**/3, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.07**	**16**	*e*P	**Pn**	**13 01 23.2**	**-1.1**
CARR				*e*S	**Sn**	**13 01 35.5**	**-2.5**
PCIG		**1.09**	**63**		**Pn**	**13 01 23.1**	**-1.3**
PCIG					**Sn**	**13 01 36.2**	**-2.2**
PCIG		**1.09**	**63**	*e*P	**Pn**	**13 01 23.1**	**-1.3**
PCIG				*e*S	**Sn**	**13 01 36.2**	**-2.2**
NILT	**Santiago Nilte**	**1.40**	**344**	*e*P	**Pn**	**13 01 27.8**	**-0.8**
NILT				*e*S	**Sn**	**13 01 45.1**	**-0.9**
TGIG		**1.89**	**34**		**Pn**	**13 01 35.4**	**0.0**
TGIG					**Sn**	**13 01 56.3**	**-1.8**
TGIG		**1.89**	**34**	*i* P	**Pn**	**13 01 35.4**	**0.0**
TGIG				*i* S	**Sn**	**13 01 56.3**	**-1.8**
HUIG	**Huatulco**	**1.90**	**287**		**Sn**	**13 01 54.5**	**-3.7**
HUIG	**Huatulco**	**1.90**	**287**	*e*P	**Pn**	**13 01 34.7**	**-0.8**
HUIG				*e*S	**Sn**	**13 01 54.5**	**-3.7**
TGBT	**Tuxtla Gutierr**	**1.90**	**35**		**Pn**	**13 01 35.6**	**0.0**
TGBT					**Sn**	**13 01 57.1**	**-1.2**
TGBT	**Tuxtla Gutierr**	**1.90**	**35**	*e*P	**Pn**	**13 01 35.6**	**0.0**
TGBT				*e*S	**Sn**	**13 01 57.1**	**-1.2**
THIG		**1.92**	**99**		**Pn**	**13 01 34.7**	**-1.0**
THIG					**Sn**	**13 01 56.9**	**-1.7**
THIG		**1.92**	**99**	*e*P	**Pn**	**13 01 34.7**	**-1.0**
THIG				*i* S	**Sn**	**13 01 56.9**	**-1.7**
PATR	**El Naranjo**	**1.93**	**92**	*e*P	**Pn**	**13 01 34.6**	**-1.5**
PATR				*e*S	**Sn**	**13 01 56.4**	**-2.9**
CMIG	**Matias Romero**	**1.98**	**341**		**Pn**	**13 01 36.4**	**-0.1**
CMIG					**Sn**	**13 01 58.2**	**-1.9**
CMIG	**Matias Romero**	**1.98**	**341**	P	**Pn**	**13 01 36.4**	**-0.1**
	133nm,0.3s,baz=183,slow=8.3,SNR=236						
CMIG				S	**Sn**	**13 01 59.1**	**-1.0**
	510nm,0.4s,baz=191,slow=18,SNR=15						
CMIG	**Matias Romero**	**1.98**	**341**	*e*P	**Pn**	**13 01 36.4**	**-0.1**
CMIG				*e*S	**Sn**	**13 01 58.2**	**-1.9**
PAVE	**Pavencul**	**1.98**	**90**	*e*P	**Pn**	**13 01 36.0**	**-0.8**
PAVE				*e*S	**Sn**	**13 01 57.9**	**-2.6**
CHUJ	**Union Juarez**	**2.05**	**93**	*e*P	**Pn**	**13 01 36.8**	**-0.9**
CHUJ				*e*S	**Sn**	**13 01 59.1**	**-3.2**
UXUV	**UXUV**	**2.10**	**2**	*e*P	**Pn**	**13 01 38.7**	**+0.5**
UXUV				*

comp=Z,6.5nm,0.6s
GTBY Guantanamo Bay 18.82 73 P **P** 13 05 19.3 -1.9
MIAR Mount Ida 19.26 2 P **P** 13 05 25.1 -0.9
MIAR IAmb IAmb 13 05 34.1
comp=Z,12nm,1.1s
FCAR Ozark Folk Cen 20.68 5 P Pn 13 05 43.2 -1.0
FCAR IAmb IAmb 13 05 46.0
comp=Z,4.8nm,0.7s
AMTX Amarillo 20.71 342 P Pn 13 05 43.4 -1.2
121A Cookes Peak, D 21.20 327 P **P** 13 05 50.4 +3.1
121A IAmb IAmb 13 05 56.1
comp=Z,9.3nm,0.8s
TKL Tuckaleechee C 22.41 23 LR LR 13 15 38.8
comp=Z,61nm,18.1s,baz=228,slow=39
RTBA Rita Blanca 22.46 342 P **P** 13 06 03.9 +3.1
RTBA IAmb IAmb 13 06 05.8
comp=Z,9.1nm,0.9s
N38A Joes South For 25.50 2 P **P** 13 06 28.1 -1.2
PDAR Pinedale Array 30.46 337 P **P** 13 07 14.9 +1.0
comp=Z,0.3nm,0.6s,baz=138,slow=11,SNR=2.7
comp=Z,0.3nm,0.6s
NVAR Mina Array Bea 31.39 322 P **P** 13 07 24.0 +1.8
comp=Z,1.7nm,0.8s,baz=148,slow=9.4,SNR=5.0
comp=Z,1.7nm,0.8s
ULM Lac du Bonnet 34.97 358 P **P** 13 07 50.4 -2.5
comp=Z,2.3nm,0.3s,baz=171,slow=10,SNR=6.5
comp=Z,2.3nm,0.3s
LPAZ La Paz 40.54 139 P **P** 13 08 40.8 -0.2
comp=Z,0.8nm,0.6s,baz=313,slow=4.9,SNR=3.9
comp=Z,0.8nm,0.6s
SCHQ Schefferville 44.88 22 LR LR 13 30 07.4
comp=Z,103nm,18.3s,baz=275,slow=39
YKA Yellowknife Ar 49.38 348 P **P** 13 09 50.0 0.0
comp=Z,1.2nm,0.6s,baz=154,slow=7.4,SNR=4.3
comp=Z,1.2nm,0.6s
BDFB Brasilia 54.99 122 P **P** 13 10 33.5 +1.1
comp=Z,3.3nm,0.6s,baz=290,slow=12,SNR=3.4
comp=Z,3.3nm,0.6s
ILAR Eielson Array 60.89 337 P **P** 13 11 13.0 0.0
comp=Z,0.4nm,0.6s,baz=121,slow=5.4,SNR=6.6
comp=Z,0.4nm,0.6s
EKA Eskdalemuir Ar 78.25 36 P **P** 13 12 59.2 -0.9
comp=Z,0.2nm,0.3s,baz=284,slow=5.8,SNR=3.7
comp=Z,0.2nm,0.3s
ESDC Sonseca Array 80.66 51 P **P** 13 13 11.4 -2.3
comp=Z,0.2nm,0.4s,baz=260,slow=7.7,SNR=2.3
comp=Z,0.2nm,0.4s
NOA NORSAR Array B 84.11 28 P **P** 13 13 30.9 -0.2
comp=Z,1.0nm,0.8s,baz=296,slow=5.1,SNR=3.6
NOA LR LR 13 53 27.9
comp=Z,6.9nm,18.8s,baz=345,slow=37
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 85.66 18 P **P** 13 13 39.1 +0.3
comp=Z,2.9nm,0.9s,baz=297,slow=6.0,SNR=9.9
comp=Z,2.9nm,0.9s
WRA Warramunga Arr 133.59 257 PKP **PKPdf** 13 20 15.5 -2.0
comp=Z,1.4nm,1.1s,baz=91,slow=2.8,SNR=4.5
ASAR Alice Springs 134.02 252 PKP **PKPdf** 13 20 16.9 -1.5
comp=Z,0.9nm,0.9s,baz=96,slow=4.5,SNR=4.5

---

*NEIC **20** 13:06:09.2±2.5, 23°.54S±0°.09×175°.6W±0°.1, h10km±1km, mb4.9/33, Error ellipse: s-maj=19.6km s-min=14.2km az=121.0*
*GCMT **20** 13:06:14.2±0.2, 23°.73S±0°.02×175°.30W±0°.01, h24km, MW5.1/108, Moment Tensor Solution. s75,c105; s108,c153; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.25±.20; Mθθ-1.25±.13; Mφφ-4.00±.12; Mrθ1.23±.21; Mθφ-1.48±.07; Mφr2.03±.15; Best double couple: M0 5.48600×10^16^ NP1:φs27.00000°, δ58.00000°, λ93.00000°. NP2:φs201.00000°, δ32.00000°, λ85.00000°. Principal axes: T 5.7960, Plg77.0000°, Azm306.0000°; N -0.6190, Plg3.0000°, Azm205.0000°; P -5.1770, Plg13.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **20** 13:06:17.1±3.8, 23°.60S×176°.11W, h58km±32km, mb3.9/16, mbtmp4.2/18, ML4.1/3, MS4.4/46 Error ellipse: s-maj=19.8km s-min=18.6km az=94.0*
ISC 20 13:06:15.9±0.6, 23.75S±0.06×175.83W±0.09, h56km±4km, h56km:pP-P, n156, σ2≥06/128, mb4.7/40, MS4.5/48, 11C-2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.79**	**198**	P	**Pn**	**13 07 42.0**	**+2.8**
	22nm,0.3s,baz=49,slow=22,SNR=1.5						
RAO				S	**Sn**	**13 08 46.6**	**+2.4**
	372nm,0.5s,baz=72,slow=22,SNR=4.4						
NIUE	**Niue**	**7.20**	**51**	Pn	Pn	13 07 46.2	-12
MSVF	**Nonsavu**	**8.29**	**315**	Pn	**Pn**	**13 08 16.1**	**+2.6**
MSVF	**Nonsavu**	**8.29**	**315**	P	**Pn**	**13 08 14.7**	**+1.3**
	234nm,1.1s,baz=135,slow=12,SNR=15						
MSVF				LR	LR	13 11 02.8	
	comp=Z,7μm,20.2s,baz=100,slow=36						
AFI	**Afiamalu**	**10.51**	**22**	Pn	Pn	13 08 33.4	-11
RAR	**Rarotonga**	**15.05**	**83**	Pn	Pn	13 09 35.0	-10
RAR	**Rarotonga**	**15.05**	**83**	P	Pn	13 09 35.2	-10
	54nm,0.8s,baz=254,slow=11,SNR=9.2						
RAR				S	Sn	13 12 05.0	-26
	6.3nm,0.4s,baz=349,slow=18,SNR=3.1						
RAR				LR	LR	13 15 54.5	
	comp=Z,1μm,18.2s,baz=262,slow=38						
MARNC	**Mare, Loyalty**	**15.08**	**275**		**P**	**13 09 49.5**	**-0.2**
URZ	**Urewera**	**15.67**	**201**	P	**P**	**13 09 56.0**	**-0.1**
	0.5nm,0.3s,baz=46,slow=2.9,SNR=1.4						
URZ				S	**Sn**	**13 12 37.3**	**-8.4**
	5.9nm,0.5s,baz=309,slow=22,SNR=7.6						
URZ				LR	LR	13 15 33.3	
	comp=Z,788nm,19.5s,baz=93,slow=35						
	3.8nm,0.4s						
LIFNC	**LIFOU**	**15.95**	**277**		**P**	**13 09 59.2**	**-0.2**
RTZ	**Ruatahuna**	**16.04**	**201**	Pn	**P**	**13 09 59.4**	**-0.9**
DZM	**Mont Dzumac**	**16.42**	**272**	*e*LR	LR	13 13 55.0	
	comp=Z,2μm,22.4s						
DZM	**Mont Dzumac**	**16.42**	**272**		**Pn**	**13 10 02.5**	**-0.3**
DZM	**Mont Dzumac**	**16.42**	**272**	P	**Pn**	**13 10 02.5**	**-0.3**
	0.2nm,0.3s,baz=86,slow=19,SNR=2.8						
	5.7nm,0.8s						
BFZ	**Birch Farm**	**18.15**	**200**	P	**P**	**13 10 22.6**	**-1.0**
KHZ	**Kahutara**	**20.61**	**203**	P	**P**	**13 10 51.3**	**+1.0**
KHZ				IAmb	IAmb	13 11 06.2	
	comp=Z,20nm,1.0s						
FOZ	**Fox Glacier**	**23.00**	**207**	P	**P**	**13 11 18.0**	**+2.2**
FOZ				IAmb	IAmb	13 11 34.6	
	comp=Z,31nm,1.1s						
PAE	**Paea**	**25.27**	**81**	*e*T	T	13 37 30.7	
	comp=Z,12nm,0.4s						
PPT2	**Papeete2**	**25.29**	**81**	*e*LQ	LQ	13 16 29.3	
	comp=Z,2μm,16.2s						
PPT2				*e*LR	LR	13 17 32.7	
	comp=Z,2μm,25.5s						
PPT2				*e*LR	LR	13 17 40.8	
	comp=Z,1μm,27.2s						
PPT2	**Papeete2**	**25.29**	**81**	*e*T	T	13 37 40.1	
	comp=Z,8.3nm,0.3s						
PPT	**Papeete**	**25.30**	**81**	LR	LR	13 20 48.0	
	comp=Z,768nm,18.8s,baz=258,slow=34						
EIDS	**Eidsvold**	**30.10**	**260**	P	**P**	**13 12 20.2**	**0.0**
EIDS				IAmb	IAmb	13 13 20.0	
	comp=Z,43nm,1.8s						
CTA	**Charters Tower**	**35.30**	**268**	LR	LR	13 27 04.7	
	comp=Z,434nm,18.4s,baz=98,slow=36						
CTAO	**Charters Tower**	**35.30**	**268**	P	**P**	**13 13 05.6**	**-0.1**
CTAO				IAmb	IAmb	13 13 14.3	
	comp=Z,17nm,0.9s						
KRVT	**Keravat (AS076**	**36.53**	**297**	LR	LR	13 26 38.8	
	comp=Z,426nm,20.7s,baz=1,6,slow=34						
TAOE	**Nuku Hiva Isla**	**37.17**	**73**	*e*LR	LR	13 22 58.7	
	comp=Z,657nm,28.9s						
PMG	**Port Moresby**	**38.10**	**286**	P	**P**	**13 13 29.3**	**-0.2**
PMG				IAmb	IAmb	13 13 36.3	
	comp=Z,24nm,0.8s						
PMG	**Port Moresby**	**38.10**	**286**	LR	LR	13 26 37.6	
	comp=Z,484nm,20.9s,baz=154,slow=32						
STKA	**Stephens Creek**	**38.33**	**248**	P	**P**	**13 13 31.0**	**-0.2**
STKA	**Stephens Creek**	**38.33**	**248**	P	**P**	**13 13 31.1**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=92,slow=8.9,SNR=6.5						
STKA				LR	LR	13 28 14.2	
	comp=Z,1μm,18.7s,baz=75,slow=34						
	comp=Z,2.7nm,0.6s						
AS31	**Alice Springs**	**45.82**	**259**		**P**	**13 14 33.5**	**+0.9**
ASAR	**Alice Springs**	**45.82**	**259**		**P**	**13 14 31.4**	**-1.2**
ASAR	**Alice Springs**	**45.82**	**259**	P	**P**	**13 14 31.6**	**-1.0**
	comp=Z,3.5nm,0.9s,baz=94,slow=8.2,SNR=19						
ASAR				LR	LR	13 33 06.8	
	comp=Z,945nm,18.8s,baz=110,slow=35						
	comp=Z,3.5nm,0.9s						
WR0	**Warramunga Arr**	**46.04**	**265**	P	**P**	**13 14 34.5**	**+0.2**
WR0				IAmb	IAmb	13 14 43.9	
	comp=Z,9.6nm,1.0s						
WB2	**Warramunga Arr**	**46.22**	**265**		**P**	**13 14 33.5**	**-2.2**
WB2				IAmb	IAmb	13 14 41.8	
	comp=Z,28nm,1.4s						
WB0	**Warramunga Arr**	**46.22**	**265**	P	**P**	**13 14 34.5**	**-1.2**
WB0				IAmb	IAmb	13 14 41.2	
	comp=Z,8.4nm,0.8s						
WRA	**Warramunga Arr**	**46.23**	**265**		**P**	**13 14 34.1**	**-1.7**
WRA	**Warramunga Arr**	**46.23**	**265**	P	**P**	**13 14 33.9**	**-1.9**
	comp=Z,3.7nm,0.8s,baz=102,slow=8.4,SNR=18						
	comp=Z,3.7nm,0.8s						
FORT	**Forrest**	**49.94**	**249**	P	**P**	**13 15 03.8**	**-0.5**
MTN	**Manton Dam**	**51.26**	**272**	P	**P**	**13 15 13.2**	**-1.2**
MTN				IAmb	IAmb	13 15 33.3	
	comp=Z,15nm,1.1s						
KNRA	**Kununurra**	**52.51**	**268**	P	**P**	**13 15 22.3**	**-1.4**
KNRA				IAmb	IAmb	13 15 36.8	
	comp=Z,21nm,1.1s						
GUMO	**Guam**	**53.42**	**310**	LR	LR	13 35 41.7	
	comp=Z,232nm,21.7s,baz=178,slow=33						
VNDA	**Vanda**	**54.88**	**186**	P	**P**	**13 15 39.4**	**-0.7**
NWAO	**Narrogin (SRO)**	**58.77**	**245**	LR	LR	13 40 20.8	
	comp=Z,399nm,19.5s,baz=73,slow=35						
BATI	**Baumata**	**59.03**	**272**	LR	LR	13 40 26.4	
	comp=Z,139nm,21.3s,baz=155,slow=35						
RPN	**Rapa Nui**	**59.51**	**108**	LR	LR	13 37 13.0	
	comp=Z,137nm,18.1s,baz=274,slow=31						
MORW	**Morawa**	**60.51**	**249**	P	**P**	**13 16 19.9**	**-0.5**
CASY	**Casey**	**61.92**	**206**	P	**P**	**13 16 31.1**	**+1.8**
KAPI	**Kappang**	**64.60**	**276**	LR	LR	13 44 09.9	
	comp=Z,221nm,20.3s,baz=122,slow=35						
JCJ	**Chichijima**	**64.80**	**319**	LR	LR	13 40 01.2	
	comp=Z,484nm,21.6s,baz=124,slow=31						
DAV	**Davao City (W)**	**64.85**	**291**	LR	LR	13 41 30.4	
	comp=Z,151nm,21.9s,baz=96,slow=33						
QSPA	**South Pole Qui**	**66.33**	**180**	P	**P**	**13 17 00.3**	**+1.9**
QSPA	**South Pole Qui**	**66.33**	**180**	P	**P**	**13 17 01.1**	**+2.6**
	comp=Z,3.3nm,1.0s,baz=28,slow=11,SNR=12						
QSPA				LR	LR	13 43 13.4	
	comp=Z,345nm,19.5s,baz=35,slow=33						
	comp=Z,3.3nm,1.0s						
JHJ	**Hachijo jima 2**	**70.63**	**322**	LR	LR	13 49 23.1	
	comp=Z,174nm,18.2s,baz=284,slow=37						
TGY	**Tagaytay City**	**72.34**	**295**	LR	LR	13 47 54.3	
	comp=Z,180nm,18.9s,baz=84,slow=35						
JOW	**Kunigami**	**73.79**	**310**	LR	LR	13 46 40.0	
	comp=Z,299nm,19.5s,baz=82,slow=33						
MJAR	**Matsushiro Arr**	**74.01**	**323**	LR	LR	13 44 55.9	
	comp=Z,336nm,22.0s,baz=134,slow=31						
LEM	**Lembang**	**75.00**	**269**	LR	LR	13 49 33.2	
	comp=Z,259nm,21.6s,baz=170,slow=35						
JNU	**Nakatsue**	**76.01**	**316**	LR	LR	13 45 31.6	
	comp=Z,245nm,19.7s,baz=100,slow=31						
SHEM	**Shemya Is, Ala**	**76.66**	**354**	LR	LR	13 46 42.3	
	comp=Z,363nm,19.9s,baz=125,slow=32						
JKA	**Kamikawa-asahi**	**77.53**	**331**	P	**P**	**13 18 05.0**	**-0.4**
JKA				IAmb	IAmb	13 18 17.9	
	comp=Z,26nm,1.3s						
ASAJ	**Asahikawa**	**77.53**	**331**	LR	LR	13 47 30.3	
	comp=Z,269nm,21.1s,baz=164,slow=32						
MAW	**Mawson**	**79.19**	**199**	P	**P**	**13 18 15.8**	**+1.4**
MAW	**Mawson**	**79.19**	**199**	P	**P**	**13 18 16.5**	**+2.1**
	comp=Z,2.5nm,0.8s,baz=146,slow=3.9,SNR=8.8						
MAW				LR	LR	13 52 42.1	
	comp=Z,210nm,19.2s,baz=116,slow=35						
	comp=Z,2.5nm,0.8s						
PETK	**Petropavlovsk-**	**79.92**	**344**	P	**P**	**13 18 17.7**	**-0.7**
PETK	**Petropavlovsk-**	**79.92**	**344**	P	**P**	**13 18 18.2**	**-0.2**
	comp=Z,6.3nm,0.9s,baz=114,slow=6.5,SNR=8.8						
PETK				LR	LR	13 48 23.5	
	comp=Z,279nm,20.5s,baz=164,slow=32						
	comp=Z,6.3nm,0.9s						
KSRS	**Korea Array**	**80.64**	**318**	P	**P**	**13 18 22.9**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=126,slow=6.7,SNR=1.6						
KSRS				LR	LR	13 48 51.3	
	comp=Z,265nm,21.8s,baz=120,slow=32						
	comp=Z,0.5nm,0.4s						
YBH	**Yreka Blue Hor**	**81.60**	**37**	LR	LR	13 48 30.2	
	comp=Z,241nm,18.6s,baz=238,slow=31						
NVAR	**Mina Array Bea**	**82.04**	**42**	P	**P**	**13 18 32.1**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=219,slow=5.4,SNR=3.1						
NVAR				LR	LR	13 47 11.2	
	comp=Z,221nm,20.9s,baz=272,slow=30						
	comp=Z,0.7nm,0.7s						
H03S2	**Juan Fernandez**	**82.51**	**124**	T	T	14 50 27.3	
	baz=245,slow=74,SNR=66						
H03S1	**Juan Fernandez**	**82.52**	**124**	T	T	14 50 14.6	
	baz=245,slow=74,SNR=56						
H03S3	**Juan Fernandez**	**82.53**	**124**	T	T	14 50 19.4	
	baz=245,slow=74,SNR=80						
H03N2	**Juan Fernandez**	**82.66**	**123**	T	T	14 50 19.9	
	baz=251,slow=72,SNR=15						
H03N3	**Juan Fernandez**	**82.66**	**123**	T	T	14 50 18.8	
	baz=251,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**82.68**	**123**	T	T	14 50 26.6	
	baz=251,slow=72,SNR=9.0						
USRK	**Ussuriysk Ar.**	**82.77**	**325**	P	**P**	**13 18 34.0**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=146,slow=3.1,SNR=4.7						
	comp=Z,2.4nm,0.6s						
NJ2	**Nanjing**	**83.49**	**309**	*e*P	**P**	**13 18 38.5**	**+0.8**
NJ2				pP	**sP**	**13 18 59.3**	**+0.1**
NJ2				sP	pP	13 19 08.3	+15
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,540nm,3.6s						
KDAK	**Kodiak Island**	**83.52**	**12**	LR	LR	13 48 17.6	
	comp=Z,272nm,21.3s,baz=228,slow=30						
ELIB	**Princess Elisa**	**83.64**	**186**	*e*P	**P**	**13 18 39.4**	**+1.3**
TROLL	**Troll, Antarti**	**84.49**	**179**	⇑P	**P**	**13 18 43.4**	**+0.9**
	comp=Z,345nm,0.9s						
SNAA	**Sanae**	**84.71**	**178**	P	**P**	**13 18 44.5**	**+1.1**
SNAA				IAmb	IAmb	13 18 53.0	
	comp=Z,11nm,1.4s						
SNAA	**Sanae**	**84.71**	**178**	⇑P	**P**	**13 18 43.8**	**+0.3**
	comp=Z,65nm,1.0s						
SNAA	**Sanae**	**84.71**	**178**	P	**P**	**13 18 44.5**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=177,slow=7.3,SNR=3.7						
SNAA				LR	LR	13 53 43.2	
	comp=Z,181nm,19.7s,baz=192,slow=34						
	comp=Z,1.3nm,0.9s						
VNA3	**Neumayer Olymp**	**84.77**	**176**	⇑P	**P**	**13 18 48.0**	**+4.3**
	comp=Z,2.9nm,0.6s						
VNA2	**Neumayer--Watz**	**85.23**	**176**	⇑P	**P**	**13 18 49.0**	**+3.0**
	comp=Z,4.3nm,0.8s,baz=192,slow=2.0						
ELK	**Elko**	**85.33**	**42**	P	**P**	**13 18 49.6**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=243,slow=3.5,SNR=2.6						
	comp=Z,0.2nm,0.3s						
VNA1	**Neumayer--Stat**	**85.45**	**176**	⇑P	**P**	**13 18 50.1**	**+3.1**
	comp=Z,6.8nm,0.9s						
M16K	**Timber Creek**	**85.57**	**8**	P	**P**	**13 18 45.0**	**-2.5**
PLCA	**Paso Flores**	**85.59**	**133**	LR	LR	13 50 12.3	
	comp=Z,82nm,18.6s,baz=236,slow=31						
BNX	**BinXian**	**86.23**	**324**	⇓P	**P**	**13 18 51.8**	**+0.7**
BNX				pmax	pmax		
	comp=Z,11nm,1.1s						
BNX				pmax	pmax		
	comp=Z,210nm,5.7s						
BBB	**Bella Bella**	**86.33**	**27**	LR	LR	13 52 29.2	
	comp=Z,146nm,18.3s,baz=216,slow=32						
425A	**Indio Mountain**	**86.86**	**55**	P	**P**	**13 18 53.5**	**-1.3**
425A				IAmb	IAmb	13 19 10.3	
	comp=Z,10nm,1.3s						
MNTX	**Cornudas Mount**	**87.02**	**54**	P	**P**	**13 18 54.6**	**-0.8**
MNTX				IAmb	IAmb	13 19 02.3	
	comp=Z,5.6nm,1.1s						
L18K	**Granite Mounta**	**87.03**	**9**	P	**P**	**13 18 54.5**	**-0.2**
L18K				IAmb	IAmb	13 19 19.5	
	comp=Z,12nm,1.1s						
TX31	**Lajitas Ar. Si**	**87.14**	**56**	P	**P**	**13 18 55.8**	**-0.4**
TXAR	**Lajitas Array**	**87.14**	**56**	P	**P**	**13 18 56.4**	**+0.3**
TXAR	**Lajitas Array**	**87.14**	**56**	P	**P**	**13 18 57.0**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=220,slow=8.1,SNR=16						
TXAR				LR	LR	13 53 28.3	
	comp=Z,224nm,18.1s,baz=234,slow=32						
	comp=Z,1.4nm,0.8s						
MA2	**Magadan**	**87.45**	**344**	LR	LR	13 52 48.2	
	comp=Z,190nm,20.5s,baz=148,slow=32						
ANMO	**Albuquerque**	**87.89**	**50**	P	**P**	**13 18 60.0**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=249,slow=8.6,SNR=2.0						
	comp=Z,1.3nm,0.9s						
CMIG	**Matias Romero**	**88.80**	**71**	LR	LR	13 53 25.1	
	comp=Z,122nm,18.2s,baz=222,slow=32						
NEW	**Newport**	**88.85**	**35**	LR	LR	13 52 32.0	
	comp=Z,168nm,20.7s,baz=223,slow=31						
CAST	**Castle Rocks**	**88.87**	**10**	P	**P**	**13 18 59.6**	**-3.9**
CAST				IAmb	IAmb	13 19 16.2	
	comp=Z,5.3nm,0.8s						
HEH	**HeiHe**	**89.12**	**328**	*e*P	**P**	**13 19 04.8**	**-0.1**
HEH				pmax	pmax		
	comp=Z,11nm,1.6s						
TRF	**Thorofare Moun**	**89.21**	**11**	P	**P**	**13 19 03.8**	**-1.4**
LYN	**LuoYang**	**89.35**	**308**	*e*P	**P**	**13 19 08.3**	**+1.9**
LYN				pmax	pmax		
	comp=Z,16nm,0.8s						
PDAR	**Pinedale Array**	**89.97**	**42**	P	**P**	**13 19 10.2**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=245,slow=5.8,SNR=2.5						
PDAR				LR	LR	13 57 34.8	
	comp=Z,160nm,19.2s,baz=261,slow=34						
	comp=Z,0.1nm,0.4s						
DLBC	**Dease Lake**	**90.26**	**22**	LR	LR	13 54 06.1	
	comp=Z,133nm,18.3s,baz=214,slow=32						
ILAR	**Eielson Array**	**91.04**	**12**	P	**P**	**13 19 13.3**	**-0.2**
ILAR	**Eielson Array**	**91.04**	**12**	P	**P**	**13 19 15.0**	**+1.5**
	comp=Z,1.3nm,0.9s,baz=225,slow=3.5,SNR=6.0						
ILAR				LR	LR	13 57 13.8	
	comp=Z,83nm,19.2s,baz=211,slow=34						
	comp=Z,1.3nm,0.9s						
J26L	**Joseph Creek**	**91.47**	**13**	P	**P**	**13 19 15.0**	**-0.7**
J26L				IAmb	IAmb	13 19 22.4	
	comp=Z,11nm,1.0s						
HHC	**Hu-ho-hao-te**	**93.05**	**314**	*e*P	**P**	**13 19 25.0**	**+1.5**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,350nm,5.4s						
HHC				LR	LR		
	comp=N,450nm,18.7s						
HHC				LR	LR		
	comp=E,570nm,18.7s						
HHC				LR	LR		
	comp=Z,700nm,18.9s						
CMAR	**Chiang Mai Arr**	**93.08**	**289**	P	**P**	**13 19 23.6**	**-0.5**
	comp=Z,5.0nm,1.0s,baz=131,slow=2.9,SNR=18						
CMAR				LR	LR	14 01 51.6	
	comp=Z,52nm,19.5s,baz=95,slow=36						
	comp=Z,5.0nm,1.0s						
NNA	**Nana**	**93.29**	**105**	LR	LR	13 53 22.7	
	comp=Z,354nm,19.3s,baz=226,slow=30						
ATAH	**Atahualpa**	**93.91**	**99**	LR	LR	13 53 23.1	
	comp=Z,244nm,20.0s,baz=240,slow=30						
PZH	**PanZhiHua**	**93.99**	**297**	P	**P**	**13 19 28.9**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
JTS	**Las Juntas de**	**94.87**	**81**	LR	LR	13 55 36.5	
	comp=Z,59nm,18.0s,baz=248,slow=31						
TEIG	**Tepich**	**95.79**	**71**	LR	LR	13 57 36.4	
	comp=Z,401nm,18.9s,baz=358,slow=32						
MKAR	**Makanchi Array**	**114.88**	**312**	PKiKP	PKPdf	13 24 50.1	-0.1
	comp=Z,0.7nm,0.9s,baz=101,slow=1.5,SNR=2.9						
KURBB	**Kurchatov Arra**	**117.78**	**316**	PKP	**PKPdf**	**13 24 54.8**	**-0.8**
	comp=Z,0.6nm,0.2s,baz=100,slow=1.7,SNR=5.4						
BVAR	**Borovoye Array**	**122.85**	**319**	PKP	**PKPdf**	**13 25 05.2**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=149,slow=3.4,SNR=3.3						
FINES	**FINESS Array B**	**139.44**	**344**	PKP	**PKiKP**	**13 25 38.0**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=56,slow=3.5,SNR=1.9						
HFS	**Hagfors**	**143.04**	**352**	PKP	**PKPdf**	**13 25 43.1**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=29,slow=3.3,SNR=1.6						
MNK	**Minsk**	**144.55**	**336**	*i* PKP	**PKPab**	**13 25 43.2**	**-1.0**
MNK				*i* PKP	**PKPab**	**13 25 43.2**	**-1.0**
MNK				*i* PKP	**PKPab**	**13 25 43.2**	**-1.0**
	comp=Z,9.0nm,0.6s,baz=219						
MNK				*i* pPKP	**sPKPdf**	**13 26 05.8**	**-2.0**
MNK				*i* PP	**PP**	**13 28 60.0**	**-2.0**
MNK				*i* PPP	PPP	13 32 11.8	
MNK				*i* SKS	**SKSdf**	**13 32 45.2**	**-4.9**
MNK				*i* SKKS	**SKKSdf**	**13 41 56.7**	**-6.4**
MNK				*i* SS	**SS**	**13 47 54.9**	**+10**
MNK				*i* SSS	SSS	13 52 54.4	
MNK				*i* LQ	LQ	14 22 44.0	
MNK				*i* LR	LR	14 28 17.4	
MNK				*i* LRM	MLR	14 29 59.8	
	comp=N,113nm,19.8s						
MNK				*i* LRM	MLR	14 29 59.8	
	comp=Z,136nm,21.5s						
MNK				*i* LRM	MLR	14 30 11.7	
	comp=E,31nm,16.4s						
NACGM	**Naroch**	**144.63**	**337**	*e*PKP	**PKPdf**	**13 25 47.2**	**+1.4**
	comp=Z,13nm,0.9s,baz=37						
AKASG	**Malin Array Be**	**146.82**	**331**	PKPbc	**PKPbc**	**13 25 50.9**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=40,slow=4.1,SNR=12						
AKBB	**Malin Array Si**	**146.82**	**331**	PKPdf	**PKPdf**	**13 25 49.0**	**-0.7**
EKA	**Eskdalemuir Ar**	**147.99**	**8**	PKPbc	**PKPbc**	**13 25 54.3**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=330,slow=2.4,SNR=4.5						
BRTR	**Keskin Array B**	**150.48**	**310**	PKPdf	**PKPdf**	**13 25 54.3**	**-1.9**
BRTR					**PKPbc**	**13 25 59.7**	**-1.8**
BRTR				PKPab	**PKPab**	**13 26 07.0**	**-1.3**
BRTR	**Keskin Array B**	**150.48**	**310**	PKPbc	**PKPbc**	**13 26 01.6**	**0.0**
	comp=Z,1.5nm,0.7s,baz=138,slow=5.1,SNR=6.9						
BUR08	**Bucovina Ar. S**	**150.86**	**330**		**PKPdf**	**13 25 53.8**	**-2.7**
BUR08				PKPab	**PKPab**	**13 26 08.2**	**-1.3**
MMAI	**Mount Meron Ar**	**151.10**	**296**	PKPbc	**PKPbc**	**13 26 03.2**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=54,slow=8.6,SNR=5.7						
OSTC	**Ostas**	**151.

ellipse: s-maj=4.7km s-min=1.7km az=350.0
GII **20** *13:11:38.3±0.0, 34°.28N×26°.79E, h20km, MD3.7/4, Mm4.1/5*
ISK **20** *13:11:41.8, 34°.87N×26°.49E, h29km, ML3.2/20*
ISC 20 13:11:35.8±1.3,**34°.43N**±0'.04×**26°.61E**±0'.03,**h16**km±8km,
n195,σ1§**29**/215,**mb4.3**/28,**MS3.4**/3,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.76**	**335**	Pg	**Pg**	**13 11 50.4**	**-0.2**
ZKR	**Zakros**	**0.76**	**335**	P	**Pg**	**13 11 50.4**	**-0.2**
ZKR				S	**Sg**	**13 11 59.2**	**-1.4**
ZKR	**Zakros**	**0.76**	**335**	P	**Pg**	**13 11 50.0**	**-0.6**
ZKR				S	**Sg**	**13 12 00.6**	**0.0**
ZKR				AML	AML	13 12 06.1	
	3.3nm,0.3s						
ZKR				AML	AML	13 12 10.4	
	8.2nm,0.7s						
ZKR	**Zakros**	**0.76**	**335**	P	**Pg**	**13 11 50.4**	**-0.2**
ZKR				S	**Sg**	**13 12 00.6**	**0.0**
ZKR				AML	AML	13 12 07.3	
	comp=N,3672μm,0.3s						
ZKR				AML	AML	13 12 14.2	
	comp=E,8692μm,0.5s						
FRMA	**Ierapetra Chan**	**0.93**	**309**	P	**Pb**	**13 11 52.5**	**-1.0**
FRMA				S	**Sb**	**13 12 05.3**	**-0.3**
FRMA	**Ierapetra Chan**	**0.93**	**309**	P	**Pb**	**13 11 52.3**	**-1.3**
FRMA				S	**Sb**	**13 12 04.7**	**-0.9**
FRMA				AML	AML	13 12 07.5	
	comp=N,8329μm,0.4s						
FRMA				AML	AML	13 12 12.1	
	comp=E,10647μm,0.6s						
KARP	**Karpathos**	**1.21**	**22**	Pg	**Pb**	**13 11 58.4**	**+0.1**
KARP	**Karpathos**	**1.21**	**22**	P	**Pg**	**13 11 59.4**	**+0.3**
KARP	**Karpathos**	**1.21**	**22**		**Pg**	**13 11 59.5**	**+0.3**
KARP	**Karpathos**	**1.21**	**22**	P	**Pg**	**13 11 59.3**	**+0.1**
KARP				S	**Sb**	**13 12 12.0**	**-1.7**
KARP				AML	AML	13 12 26.6	
	comp=E,2.9nm,0.6s						
KARP				AML	AML	13 12 31.4	
	comp=E,3.6nm,0.7s						
KARP	**Karpathos**	**1.21**	**22**	P	**Pg**	**13 11 59.2**	**+0.1**
KARP				AML	AML	13 12 31.8	
	comp=N,3699μm,0.7s						
KARP				AML	AML	13 12 37.6	
	comp=E,3217μm,0.8s						
KARP	**Karpathos**	**1.21**	**22**	P	**Pg**	**13 11 59.6**	**+0.5**
HRKL	**Herakleio**	**1.52**	**306**	Pn	**Pn**	**13 12 03.4**	**+1.1**
HRKL				Sn	**Sn**	**13 12 18.9**	**-2.9**
KSTL	**Kastelli Herak**	**1.54**	**305**	P	**Pn**	**13 12 00.1**	**-2.4**
KSTL				AML	AML	13 12 22.4	
	comp=N,3163μm,0.4s						
KSTL				AML	AML	13 12 26.9	
	comp=E,1465μm,0.7s						
IDI	**Anoyia**	**1.65**	**302**	Pn	**Pb**	**13 12 05.7**	**-0.2**
IDI				Sn	**Sn**	**13 12 22.7**	**-2.5**
IDI	**Anoyia**	**1.65**	**302**	P	**Pb**	**13 12 07.0**	**+1.1**
IDI	**Anoyia**	**1.65**	**302**		**Pb**	**13 12 07.0**	**+1.1**
IDI	**Anoyia**	**1.65**	**302**	Pn	**Pb**	**13 12 06.4**	**+0.5**
	comp=E,22nm,0.3s,baz=132,slow=13,SNR=70						
IDI				Sn	**Sb**	**13 12 26.8**	**+0.2**
	comp=E,20nm,0.3s,baz=224,slow=23,SNR=5.6						
IDI	**Anoyia**	**1.65**	**302**	P	**Pb**	**13 12 06.6**	**+0.6**
IDI				AML	AML	13 12 41.1	
	comp=N,1292μm,0.6s						
IDI				AML	AML	13 12 53.3	
	comp=E,710μm,0.7s						
PRNS	**Prines Rethymn**	**1.97**	**299**	P	**Pb**	**13 12 12.6**	**+1.3**
GVDS	**Gavdos**	**2.12**	**282**	Pn	**Pb**	**13 12 13.9**	**+0.1**
GVD	**Gavdhos**	**2.12**	**282**	Pn	**Pb**	**13 12 13.9**	**+0.1**
GVD	**Gavdhos**	**2.12**	**282**	P	**Pb**	**13 12 13.4**	**-0.4**
GVD				AML	AML	13 12 54.7	
	comp=N,1323μm,0.5s						
GVD				AML	AML	13 12 54.8	
	comp=E,1076μm,0.5s						
SANT	**Santorini**	**2.15**	**335**	Pn	**Pn**	**13 12 10.2**	**-0.9**
SANT	**Santorini**	**2.15**	**335**		**Pn**	**13 12 12.6**	**+1.4**
SANT	**Santorini**	**2.15**	**335**	P	**Pn**	**13 12 12.7**	**+1.5**
SANT				AML	AML	13 12 56.1	
	comp=E,1234μm,0.5s						
SANT				AML	AML	13 12 57.4	
	comp=N,422μm,0.7s						
THR6	**Thira Island,**	**2.16**	**333**	P	**Pn**	**13 12 11.5**	**+0.3**
ARG	**Arkhangelos**	**2.17**	**34**	Pn	**Pn**	**13 12 13.1**	**+1.8**
ARG	**Arkhangelos**	**2.17**	**34**	P	**Pb**	**13 12 14.4**	**-0.4**
ARG	**Arkhangelos**	**2.17**	**34**		**Pb**	**13 12 14.1**	**-0.7**
ARG	**Arkhangelos**	**2.17**	**34**	P	**Pb**	**13 12 14.4**	**-0.4**
ARG				S	**Sn**	**13 12 36.6**	**-1.4**
ARG				AML	AML	13 12 46.4	
	comp=N,0.5nm,0.9s						
ARG				AML	AML	13 13 02.5	
	comp=N,0.8nm,0.9s						
ARG	**Arkhangelos**	**2.17**	**34**	P	**Pb**	**13 12 14.1**	**-0.7**
THR8	**Santorini-Mono**	**2.18**	**335**	P	**Pn**	**13 12 12.6**	**+1.2**
THR8	**Santorini-Mono**	**2.18**	**335**	P	**Pn**	**13 12 12.7**	**+1.2**
THR9	**Santorini-Faro**	**2.18**	**332**	P	**Pn**	**13 12 12.7**	**+1.3**
THR9	**Santorini-Faro**	**2.18**	**332**	P	**Pn**	**13 12 12.4**	**+1.0**
SNT5	**Nea Kammeni, S**	**2.21**	**334**	P	**Pn**	**13 12 12.9**	**+1.1**
NIS1	**Nisyros Isl.**	**2.22**	**12**	P	**Pn**	**13 12 12.2**	**+0.2**
THR5	**Thira Island,**	**2.24**	**333**	P	**Pn**	**13 12 13.6**	**+1.4**
THR5	**Thira Island,**	**2.24**	**333**	P	**Pn**	**13 12 13.4**	**+1.2**
KOSK	**Kos Island**	**2.34**	**7**	Pn	**Pn**	**13 12 13.3**	**-0.3**
RFTD	**Palamutbuku-Ka**	**2.36**	**18**	Pn	**Pn**	**13 12 13.9**	**-0.1**
CHAN	**Chania**	**2.37**	**298**	P	**Pb**	**13 12 17.4**	**-0.8**
CHAN				AML	AML	13 13 04.0	
	comp=E,702μm,0.5s						
CHAN				AML	AML	13 13 17.1	
	comp=N,861μm,0.9s						
IMMV	**Iera Moni Meta**	**2.39**	**296**	Pn	**Pn**	**13 12 16.7**	**+2.4**
IMMV	**Iera Moni Meta**	**2.39**	**296**	P	**Pb**	**13 12 17.5**	**-1.0**
DAT	**Datca**	**2.43**	**19**	Pn	**Pn**	**13 12 15.4**	**+0.4**
DAT	**Datca**	**2.43**	**19**	P	**Pn**	**13 12 16.1**	**+1.2**
DAT				S	**Sn**	**13 12 44.8**	**+0.4**
DAT				*i* AML	AML	13 13 07.0	
	comp=N,55nm,0.8s						
DAT				*i* AML	AML	13 13 14.0	
	comp=N,70nm,0.6s						
RFTC	**Emecik-Datca**	**2.54**	**22**	Pn	**Pn**	**13 12 16.9**	**+0.5**
RFTB	**Kemer-Bodrum**	**2.59**	**12**	Pn	**Pn**	**13 12 16.9**	**-0.1**
BODT	**Bodrum**	**2.69**	**12**	Pn	**Pn**	**13 12 18.4**	**-0.1**
TURN	**Turunc**	**2.70**	**29**	Pn	**Pn**	**13 12 19.7**	**+1.2**
TURN	**Turunc**	**2.70**	**29**	P	**Pn**	**13 12 18.6**	**+0.1**
TURN				S	**Sn**	**13 12 53.0**	**+2.2**
TURN				*i* AML	AML	13 12 55.0	
	comp=N,50nm,0.4s						
TURN				*i* AML	AML	13 13 11.0	
	comp=N,51nm,0.5s						
RFTAA	**Mazikoy-Bodrum**	**2.73**	**20**	Pn	**Pn**	**13 12 19.4**	**+0.5**
APE	**Apeiranthos**	**2.78**	**342**	Pn	**Pn**	**13 12 18.8**	**-0.9**
APE	**Apeiranthos**	**2.78**	**342**	Pn	**Pn**	**13 12 20.9**	**+1.2**
APE	**Apeiranthos**	**2.78**	**342**	P	**Pn**	**13 12 20.6**	**+1.0**
APE	**Apeiranthos**	**2.78**	**342**	P	**Pn**	**13 12 20.7**	**+1.0**
MHLO	**Agia Marina, M**	**2.89**	**322**	P	**Pn**	**13 12 23.0**	**+1.9**
ANKY	**Antikythira Is**	**3.07**	**299**	P	**Pn**	**13 12 25.9**	**+2.3**
SMG	**Samos**	**3.28**	**3**	P	**Pn**	**13 12 27.4**	**+0.8**
KTHA	**Kythira Island**	**3.42**	**303**	Pn	**Pn**	**13 12 30.0**	**+1.4**
KTHA	**Kythira Island**	**3.42**	**303**	P	**Pn**	**13 12 29.3**	**+0.7**
ELL	**Elmali**	**3.55**	**48**	Pn	**Pn**	**13 12 32.4**	**+2.0**
TAVA	**DENIZLI_Tavas**	**3.56**	**31**	P	Pn	13 12 19.4	-11
TAVA				*i* AML	AML	13 13 36.0	
	comp=N,27nm,0.8s						
TAVA				*i* AML	AML	13 13 39.0	
	comp=N,25nm,0.8s						
AKUM	**Antalya-Kumluc**	**3.59**	**57**	P	**Pn**	**13 12 34.1**	**+3.3**
AKUM				*i* AML	AML	13 13 27.0	
	comp=N,27nm,0.5s						
AKUM				*i* AML	AML	13 13 28.0	
	comp=N,38nm,0.5s						
VLI	**Veliai**	**3.77**	**308**	P	**Pn**	**13 12 34.4**	**+1.2**
ZEYE	**Izmir, Urla-Ze**	**3.81**	**359**	P	**Pn**	**13 12 33.3**	**-0.4**
ZEYE				*i* AML	AML	13 14 01.0	
	comp=N,13nm,0.9s						
ZEYE				*i* AML	AML	13 14 12.0	
	comp=N,25nm,0.8s						
URLA	**Izmir**	**3.92**	**360**	Pn	**Pn**	**13 12 35.6**	**+0.1**
CHOS	**Chios island**	**3.98**	**354**	P	**Pn**	**13 12 37.1**	**+0.9**
KORT	**Korkueli**	**3.98**	**49**	P	**Pn**	**13 12 39.9**	**+3.5**
KORT				*i* AML	AML	13 13 31.0	
	comp=N,73nm,0.5s						
KORT				*i* AML	AML	13 13 36.0	
	comp=N,39nm,0.5s						
OSC1	**CSNet OBS 1**	**3.99**	**102**	P	**Pn**	**13 12 40.8**	**+4.5**
KARB	**zmir-Karabur**	**4.23**	**358**	P	**Pn**	**13 12 38.2**	**-1.4**
KARB				*i* AML	AML	13 13 48.0	
	comp=N,16nm,0.9s						
KARB				*i* AML	AML	13 14 20.0	
	comp=N,15nm,1.7s						
DION	**Dionisos Attik**	**4.24**	**330**	P	**Pn**	**13 12 42.9**	**+3.1**
EPID	**Epidavros**	**4.25**	**319**	P	**Pn**	**13 12 41.9**	**+1.9**
PASA	**Karahalli, USA**	**4.55**	**30**	P	**Pn**	**13 12 44.8**	**+0.7**
PASA				*i* AML	AML	13 13 43.0	
	comp=N,13nm,0.5s						
PASA				*i* AML	AML	13 14 03.0	
	comp=N,8.7nm,0.6s						
VIL2	**Platees**	**4.64**	**325**	P	**Pn**	**13 12 46.2**	**+0.9**
AKMS	**Akamas**	**4.75**	**81**	P	**Pn**	**13 12 47.2**	**+0.3**
AKMS				AML	AML	13 13 43.5	
	comp=N,0.2nm,0.3s						
AKMS				AML	AML	13 13 44.7	
	comp=N,0.2nm,0.3s						
KEPZ	**Antalya-Kepez**	**4.76**	**57**	P	**Pn**	**13 12 48.9**	**+2.0**
KEPZ				*i* AML	AML	13 13 47.0	
	comp=N,30nm,0.5s						
KEPZ				*i* AML	AML	13 13 49.0	
	comp=N,25nm,0.5s						
OSC2	**CSNet OBS 4**	**4.90**	**104**	P	**Pn**	**13 12 48.9**	**0.0**
OSC2				S	**Sn**	**13 13 46.4**	**+1.1**
GUR	**Goura**	**4.92**	**317**	P	**Pn**	**13 12 50.4**	**+1.2**
NATA	**Nata**	**4.93**	**84**	P	**Pn**	**13 12 50.0**	**+0.7**
NATA				AML	AML	13 13 52.2	
	comp=N,0.4nm,0.7s						
NATA				AML	AML	13 13 53.5	
	comp=N,0.5nm,0.4s						
ALFC	**Alefka**	**4.98**	**80**	P	**Pn**	**13 12 50.4**	**+0.4**
ALFC				AML	AML	13 13 49.4	
	comp=N,0.2nm,0.4s						
ALFC				AML	AML	13 13 53.4	
	comp=N,0.2nm,0.4s						
KLV	**Kalavryta, Ach**	**5.10**	**316**	P	**Pn**	**13 12 53.0**	**+1.3**
SEDI	**Konya, Seydise**	**5.15**	**53**	P	**Pn**	**13 12 56.3**	**+3.9**
SEDI				S	**Sn**	**13 13 51.9**	**+0.3**
SEDI				*i* AML	AML	13 13 58.0	
	comp=N,24nm,1.1s						
SEDI				*i* AML	AML	13 14 08.0	
	comp=N,30nm,0.6s						
TROD	**Troodos**	**5.18**	**82**	P	**Pn**	**13 12 52.7**	**-0.2**
TROD				AML	AML	13 13 58.7	
	comp=N,0.1nm,0.5s						
TROD				AML	AML	13 13 60.0	
	comp=N,0.2nm,0.5s						
BAYC	**CANAKKALE_Bayr**	**5.30**	**359**	P	**Pn**	**13 12 55.4**	**+1.1**
LAKA	**Lakka**	**5.33**	**317**	P	**Pn**	**13 12 56.5**	**+1.7**
ASGA	**Asgata**	**5.49**	**84**	P	**Pn**	**13 12 57.6**	**+0.7**
ASGA				AML	AML	13 14 02.8	
	comp=N,0.4nm,0.5s						
ASGA				AML	AML	13 14 06.0	
	comp=N,0.2nm,0.5s						
CSS	**Mathiatis**	**5.56**	**83**		**Pn**	**13 12 59.3**	**+1.3**
CSS	**Mathiatis**	**5.56**	**83**	Pn	**Pn**	**13 12 59.1**	**+1.1**
CSS				Sn	**Sn**	**13 14 01.2**	**-0.4**
CSS	**Mathiatis**	**5.56**	**83**	P	**Pn**	**13 12 58.7**	**+0.7**
MVOU	**Mavrovouni**	**5.81**	**82**	P	**Pn**	**13 13 02.1**	**+0.7**
PARAL	**Paralimni**	**6.15**	**83**	P	**Pn**	**13 13 07.1**	**+1.2**
RDO	**Rodhopi**	**6.76**	**353**	Pn	**Pn**	**13 13 15.9**	**+1.6**
HNTI	**Hanita**	**7.26**	**98**	Pn	**Pn**	**13 13 21.9**	**+0.6**
HNTI	**Hanita**	**7.26**	**98**	P	**Pn**	**13 13 21.9**	**+0.6**
SLTI	**Sal'it**	**7.39**	**105**	Pn	**Pn**	**13 13 22.6**	**-0.4**
KZIT	**Kziot**	**7.45**	**116**	Pn	**Pn**	**13 13 23.1**	**-0.7**
KZIT				Sn	**Sn**	**13 14 44.7**	**-3.3**
MMA0B	**Mount Meron ar**	**7.46**	**98**	Pn	**Pn**	**13 13 24.9**	**+0.8**
MMA0B				Sn	**Sn**	**13 14 47.4**	**-1.1**
MMAI	**Mount Meron Ar**	**7.46**	**98**	Pn	**Pn**	**13 13 24.1**	**0.0**
	comp=N,5.3nm,0.3s,baz=262,slow=11,SNR=20						
MMAI				Sn	**Sn**	**13 14 49.7**	**+1.3**
	comp=N,6.9nm,0.3s,baz=260,slow=22,SNR=7.3						
	comp=N,2.5nm,0.3s						
AMAZ	**Amatzia**	**7.55**	**110**	Pn	**Pn**	**13 13 25.7**	**+0.4**
AMAZ				Sn	**Sn**	**13 14 47.7**	**-2.9**
SALP	**Salfit**	**7.56**	**106**	Pn	**Pn**	**13 13 25.3**	**-0.2**
SALP				Sn	**Sn**	**13 14 48.7**	**-2.2**
KEK	**Kerkira**	**7.58**	**316**	Pn	**Pn**	**13 13 26.1**	**+0.5**
GEM	**Giv'at Ha'Em**	**7.63**	**97**	Pn	**Pn**	**13 13 26.6**	**+0.2**
NATI	**Neve Ativ**	**7.68**	**96**	P	**Pn**	**13 13 27.3**	**+0.3**
BRTR	**Keskin Array B**	**7.71**	**45**	Pn	**Pn**	**13 13 26.9**	**-0.8**
	comp=N,0.7nm,0.4s,baz=218,slow=14,SNR=6.5						
BRTR				LR	LR	13 17 34.1	
	comp=N,178nm,19.4s,baz=243,slow=47						
HMDT	**Nahal Hemdat**	**7.77**	**104**	P	**Pn**	**13 13 27.9**	**-0.4**
YTIR	**Yattir**	**7.78**	**111**	Pn	**Pn**	**13 13 29.1**	**+0.6**
YTIR				Sn	**Sn**	**13 14 53.7**	**-2.6**
YTIR	**Yattir**	**7.78**	**111**	P	**Pn**	**13 13 28.2**	**-0.3**
QRNJ	**Al-Qirein**	**7.79**	**103**	P	**Pn**	**13 13 29.1**	**+0.7**
KSHT	**Keshet**	**7.80**	**98**	Pn	**Pn**	**13 13 28.8**	**0.0**
UJAP	**Al Uja**	**7.82**	**106**	Pn	**Pn**	**13 13 29.0**	**+0.1**
UJAP	**Al Uja**	**7.82**	**106**	P	**Pn**	**13 13 29.1**	**+0.1**
SHMJ	**Saham**	**7.83**	**100**	P	**Pn**	**13 13 29.6**	**+0.5**
DSI	**Dead Sea**	**7.90**	**109**	Pn	**Pn**	**13 13 30.3**	**+0.3**
DSI	**Dead Sea**	**7.90**	**109**	P	**Pn**	**13 13 30.4**	**+0.4**
MDBI	**Mazsada**	**7.99**	**110**	Pn	**Pn**	**13 13 31.2**	**0.0**
MDBI	**Mazsada**	**7.99**	**110**	P	**Pn**	**13 13 31.0**	**-0.2**
MSBI	**Mazsada**	**7.99**	**110**	Pn	**Pn**	**13 13 31.5**	**+0.3**
GHAJ	**Ghor Haditha**	**8.15**	**110**		**Pn**	**13 13 34.7**	**+1.2**
PRNI	**Paran**	**8.18**	**117**	Pn	**Pn**	**13 13 34.1**	**+0.2**
PRNI				Sn	**Sn**	**13 15 02.5**	**-3.6**
PRNI	**Paran**	**8.18**	**117**	P	**Pn**	**13 13 33.4**	**-0.5**
ZFRI	**Zfri**	**8.20**	**116**	Pn	**Pn**	**13 13 33.8**	**-0.4**
ZFRI				Sn	**Sn**	**13 15 03.5**	**-3.1**
ZFRI	**Zfri**	**8.20**	**116**	P	**Pn**	**13 13 33.3**	**-0.9**
WALJ	**Wala**	**8.24**	**108**	P	**Pn**	**13 13 34.6**	**-0.1**
KARJ	**KARJ**	**8.30**	**111**	P	Pn	13 13 30.1	-5.4
HRFI	**Mount Harif**	**8.37**	**119**	Pn	**Pn**	**13 13 37.0**	**+0.4**
HRFI				Sn	**Sn**	**13 15 08.7**	**-2.1**
MBRI	**Mt Berech**	**8.42**	**121**	Pn	**Pn**	**13 13 38.1**	**+0.8**
MBRI	**Mt Berech**	**8.42**	**121**	P	**Pn**	**13 13 37.5**	**+0.2**
EIL	**Elat**	**8.52**	**122**	Pn	**Pn**	**13 13 39.2**	**+0.6**
EIL				Sn	**Sn**	**13 15 10.7**	**-3.7**
EIL	**Elat**	**8.52**	**122**	P	**Pn**	**13 13 39.0**	**+0.4**
EIL	**Elat**	**8.52**	**122**	Pn	**Pn**	**13 13 39.4**	**+0.8**
	comp=N,3.0nm,0.3s,baz=324,slow=5.0,SNR=38						
EIL				Sn	**Sn**	**13 15 10.9**	**-3.5**
	comp=N,2.8nm,0.3s,baz=291,slow=20,SNR=4.8						
	comp=N,9.8nm,0.2s						
SCTE	**Santa Cesarea**	**8.59**	**313**	Pn	**Pn**	**13 13 38.9**	**-0.6**
ASF	**Jabal al Asfar**	**8.90**	**102**	Pn	**Pn**	**13 13 44.1**	**+0.2**
	comp=N,1.1nm,0.3s,baz=15,slow=2.5,SNR=6.3						
ASF				Sn	**Sn**	**13 15 22.8**	**-1.1**
	comp=N,0.6nm,0.3s,baz=14,slow=12,SNR=2.1						
	comp=N,2.5nm,0.3s						
CUC	**Castrocucco**	**10.24**	**306**		**Pn**	**13 14 03.1**	**+1.0**
RAFF	**Raffo Rosso**	**10.33**	**289**	Pn	**Pn**	**13 14 04.5**	**+1.2**
MLR	**Muntele Rosu**	**11.06**	**358**	LR	LR	13 19 23.1	
	comp=N,44nm,21.7s,baz=176,slow=43						
SGRT	**San Giovanni R**	**11.25**	**314**	Pn	**Pn**	**13 14 13.6**	**-2.5**
KBZ	**Khabaz**	**15.67**	**49**	Pn	**Pn**	**13 15 17.2**	**+1.3**
	comp=N,0.2nm,0.3s,baz=291,slow=7.0,SNR=5.7						
	comp=N,2.4nm,0.9s						
AKASG	**Malin Array Be**	**16.38**	**6**	Pn	**Pn**	**13 15 25.8**	**+0.9**
AKASG	**Malin Array Be**	**16.38**	**6**	Pn	**Pn**	**13 15 24.2**	**-0.6**
	comp=N,2.5nm,0.3s,baz=192,slow=10,SNR=6.4						
	comp=N,0.6nm,0.3s						
AKBB	**Malin Array Si**	**16.38**	**6**	Pn	**Pn**	**13 15 25.1**	**+0.2**
GERES	**GERESS Array B**	**17.30**	**330**	P	**P**	**13 15 38.3**	**+0.2**
	comp=N,0.3nm,0.3s,baz=262,slow=40,SNR=2.6						
	comp=N,0.9nm,0.5s						
DAVOX	**Davos/Dischmat**	**17.66**	**319**	P	**P**	**13 15 42.3**	**+0.1**
	comp=N,0.4nm,0.3s,baz=156,slow=20,SNR=2.5						
DAVOX				LR	LR	13 24 02.2	
	comp=N,45nm,18.5s,baz=84,slow=42						
	comp=N,1.3nm,0.3s						
SENIN	**Lac Senin/Sane**	**18.87**	**315**	P	**P**	**13 15 52.4**	**-3.2**
SENIN				IAmb	IAmb	13 16 09.0	
	comp=Z,48nm,1.3s						
ESDC	**Sonseca Array**	**24.89**	**291**	P	**P**	**13 16 58.3**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=78,slow=8.8,SNR=3.4						
	comp=Z,0.8nm,0.7s						
GEYT	**Alibeck**	**25.61**	**73**	P	**P**	**13 17 04.6**	**+0.1**
	comp=Z,3.1nm,0.4s,baz=258,slow=11,SNR=8.2						
	comp=Z,3.1nm,0.4s						
FINES	**FINESS Array B**	**27.04**	**359**	P	**P**	**13 17 15.2**	**-1.8**
FINES	**FINESS Array B**	**27.04**	**359**	P	**P**	**13 17 15.8**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=178,slow=9.7,SNR=2.1						
	comp=Z,0.8nm,0.4s						
HFS	**Hagfors**	**27.07**	**346**	P	**P**	**13 17 17.2**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=154,slow=17,SNR=2.3						
	comp=Z,1.4nm,0.6s						
NOA	**NORSAR Array B**	**28.42**	**344**	LR	LR	13 29 09.2	
	comp=Z,16nm,18.6s,baz=295,slow=37						
ABKAR	**Akbulak array**	**28.64**	**49**	P	**P**	**13 17 32.1**	**+0.6**
EKA	**Eskdalemuir Ar**	**29.32**	**325**	P	**P**	**13 17 38.7**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=112,slow=9.4,SNR=1.9						
	comp=Z,0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**30.96**	**233**	P	**P**	**13 17 53.6**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=38,slow=9.1,SNR=7.0						
	comp=Z,0.6nm,0.5s						
ARCES	**ARCESS Array B**	**35.17**	**359**	P	**P**	**13 18 26.8**	**-1.7**
ARCES	**ARCESS Array B**	**35.17**	**359**	P	**P**	**13 18 27.0**	**-1.6**
	comp=Z,1.4nm,0.4s,baz=178,slow=8.3,SNR=16						
	comp=Z,1.4nm,0.4s						
BVAR	**Borovoye Array**	**36.00**	**45**	P	**P**	**13 18 36.9**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=251,slow=4.4,SNR=3.2						
	comp=Z,0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**40.66**	**50**	P	**P**	**13 19 16.4**	**+1.2**
	comp=Z,1.7nm,0.5s,baz=278,slow=8.9,SNR=14						
	comp=Z,1.7nm,0.5s						
MKAR	**Makanchi Array**	**43.19**	**56**	P	**P**	**13 19 37.5**	**+1.6**
	comp=Z,0.9nm,0.4s,baz=278,slow=6.6,SNR=1.5						
	comp=Z,0.9nm,0.4s						
SPITS	**Spitsbergen Ar**	**44.08**	**357**	P	**P**	**13 19 41.9**	**-0.7**
	comp=Z,9.0nm,0.9s,baz=141,slow=9.3,SNR=2.0						
	comp=Z,9.0nm,0.9s						
ZAA0	**Zalesovo Array**	**44.66**	**46**	P	**P**	**13 19 46.3**	**-1.2**
ZALV	**Zalesovo Beam**	**44.66**	**46**	P	**P**	**13 19 46.9**	**-0.6**
ZALV	**Zalesovo Beam**	**44.66**	**46**	P	**P**	**13 19 48.2**	**+0.7**
	comp=Z,1.7nm,0.4s,baz=263,slow=7.8,SNR=8.6						
	comp=Z,1.7nm,0.4s						
PYUN	**Piuthan**	**48.09**	**81**	*e*P	**P**	**13 20 15.5**	**+0.4**
	comp=Z,6.9nm,0.4s						
DANN	**Dangsing**	**48.62**	**81**	*e*P	**P**	**13 20 20.9**	**+1.6**
	comp=Z,38nm,0.8s						
SACV	**Santiago Islan**	**49.03**	**260**	P	P	13 20 15.9	-6.3
PKIN	**Phulchoki**	**50.25**	**81**	*e*P	**P**	**13 20 31.1**	**-0.7**
	comp=Z,9.9nm,0.8s						
PKI	**Pulchoki**	**50.27**	**81**	*e*P	**P**	**13 20 32.1**	**+0.2**
	comp=Z,21nm,1.3s						
GUN	**Gumba**	**50.52**	**80**	*e*P	**P**	**13 20 35.2**	**+1.3**
	comp=Z,48nm,1.4s						
JIRN	**Jiri**	**50.87**	**80**	*e*P	**P**	**13 20 37.4**	**+0.9**
	comp=Z,6.4nm,0.3s						
OPO	**Ambohidratompo**	**56.23**	**156**	LR	LR	13 46 30.6	
	comp=Z,32nm,18.8s,baz=20,slow=37						
SONM	**Songino Array**	**59.03**	**51**	P	**P**	**13 21 34.0**	**-1.0**
SONM	**Songino Array**	**59.03**	**51**	P	**P**	**13 21 36.6**	**+1.6**
	comp=Z,1.7nm,0.5s,baz=286,slow=7.7,SNR=10						
	comp=Z,1.7nm,0.5s						
SCHQ	**Schefferville**	**64.51**	**320**	P	**P**	**13 22 11.7**	**0.0**
SCHQ	**Schefferville**	**64.51**	**320**	P	**P**	**13 22 12.0**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=45,slow=4.3,SNR=1.6						
	comp=Z,4.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**65.47**	**84**	P	**P**	**13 22 19.2**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=296,slow=6.8,SNR=2.7						
	comp=Z,0.4nm,0.4s						
USRK	**Ussuriysk Ar.**	**76.51**	**45**	P	**P**	**13 23 23.8**	**-1.3**
USRK	**Ussuriysk Ar.**	**76.51**	**45**	P	**P**	**13 23 25.3**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=289,slow=3.8,SNR=5.2						
	comp=Z,2.4nm,0.6s						
E29M	**Blow River**	**76.84**	**354**	P	**P**	**13 23 26.6**	**+0.1**
E29M				IAmb	IAmb	13 23 47.7	
	comp=Z,4.8nm,1.1s						
D22K	**Ayikyak River**	**77.00**	**360**	P	**P**	**13 23 28.1**	**+0.7**
E21K	**Kilik River**	**77.44**	**0**	P	**P**	**13 23 29.7**	**-0.2**
KSRS	**Korea Array**	**77.78**	**53**	P	**P**	**13 23 32.7**	**+0.4**

FIAM	**Fiamignano**	**0.26 215**	P	Pg	13 23 56.6	+0.2
FIAM			S	Sg	13 24 00.7	+0.6
FIAM			AML	AML		
	comp=E,2365μm,0.5s					
FIAM			AML	AML		
	comp=N,3220μm,0.5s					
FIAM			AML	AML		
	comp=N,3220μm,0.5s					
TERO	**Teramo**	**0.26 55⇑**	*i*P	Pg	13 23 56.6	+0.1
TERO			S	Sg	13 24 00.8	+0.6
TERO			AML	AML		
	comp=N,1592μm,0.3s					
TERO			AML	AML		
	comp=N,2838μm,0.3s					
TERO			AML	AML		
	comp=E,3353μm,0.3s					
TERO			AML	AML		
	comp=E,1527μm,0.3s					
MTRA	**Matera**	**0.29 12⇑**	*i*P	Pg	13 23 56.9	-0.1
MTRA			S	Sg	13 24 01.5	+0.4
MTRA			AML	AML		
	comp=N,1796μm,0.1s					
MTRA			AML	AML		
	comp=E,2474μm,0.2s					
FAGN	**Fagnano**	**0.29 137**	P	Pg	13 23 57.3	+0.3
FAGN			S	Sb	13 24 02.1	-0.6
FAGN			AML	AML		
	comp=E,3045μm,0.9s					
FAGN			AML	AML		
	comp=N,3580μm,0.4s					
T1214	**Arquata del Tr**	**0.29 344⇑**	*i*P	Pg	13 23 57.3	+0.1
T1214			S	Sg	13 24 02.1	+0.8
T1214			AML	AML		
	comp=E,2660μm,0.2s					
T1214			AML	AML		
	comp=N,1870μm,0.2s					
T1214			AML	AML		
	comp=E,2495μm,0.2s					
T1214			AML	AML		
	comp=N,1845μm,0.7s					
T1214			AML	AML		
	comp=N,1870μm,0.2s					
T1214			AML	AML		
	comp=E,2494μm,0.2s					
T1214			AML	AML		
	comp=N,1802μm,0.4s					
T1214			AML	AML		
	comp=E,2663μm,0.2s					
GAVE	**Gavelli**	**0.38 305**	⇑P	Pg	13 23 58.5	-0.2
GAVE			AML	AML		
	comp=E,3725μm,0.6s					
GAVE			AML	AML		
	comp=N,835μm,0.2s					
GAVE			AML	AML		
	comp=E,3995μm,0.2s					
GAVE			AML	AML		
	comp=N,2730μm,0.6s					
GAVE			AML	AML		
	comp=E,3725μm,1.4s					
GAVE			AML	AML		
	comp=N,2409μm,0.3s					
GAVE			AML	AML		
	comp=N,835μm,0.2s					
GAVE			AML	AML		
	comp=E,3658μm,0.2s					
NRCA	**Norcia**	**0.39 337⇑**	*i*P	Pg	13 23 58.6	-0.2
NRCA			S	Sg	13 24 04.8	+0.7
NRCA			AML	AML		
	comp=E,5780μm,0.1s					
NRCA			AML	AML		
	comp=E,6295μm,0.1s					
NRCA			AML	AML		
	comp=N,3670μm,0.7s					
NRCA			AML	AML		
	comp=N,3170μm,0.7s					
NRCA			AML	AML		
	comp=N,3164μm,0.2s					
NRCA			AML	AML		
	comp=E,5781μm,0.1s					
NRCA			AML	AML		
	comp=N,3497μm,0.2s					
NRCA			AML	AML		
	comp=E,6293μm,0.1s					
VCEL	**Villa Celiera**	**0.40 102**	P	Pg	13 23 59.4	+0.4
VCEL			AML	AML		
	comp=E,1310μm,0.3s					
VCEL			AML	AML		
	comp=N,1305μm,0.5s					
VCEL			AML	AML		
	comp=E,1313μm,0.3s					
VCEL			AML	AML		
	comp=N,1303μm,0.5s					
ARRO	**Arrone**	**0.42 284**	P	Pg	13 23 59.2	-0.2
ARRO			AML	AML		
	comp=E,1008μm,0.2s					
ARRO			AML	AML		
	comp=N,1075μm,0.1s					
ARRO			AML	AML		
	comp=N,1074μm,0.1s					
ARRO			AML	AML		
	comp=E,1009μm,0.2s					
MMO1	**Montemonaco**	**0.42 1⇑**	*i*P	Pg	13 23 59.3	-0.2
MMO1			S	Sb	13 24 06.0	-0.7
T0110	**Collepietro**	**0.42 126**	P	Pg	13 23 59.6	+0.1
T0110			S	Sb	13 24 06.2	-0.4
T0110			AML	AML		
	comp=E,1265μm,0.4s					
T0110			AML	AML		
	comp=N,822μm,1.6s					
T0110			AML	AML		
	comp=N,822μm,0.4s					
T0110			AML	AML		
	comp=E,1265μm,1.6s					
T0110			AML	AML		
	comp=N,814μm,0.4s					
T0110			AML	AML		
	comp=E,1266μm,0.4s					
MC2	**Monte Cornacci**	**0.45 348⇑**	*i*P	Pg	13 23 59.8	-0.1
MC2			S	Sb	13 24 07.2	-0.2
PTQR	**Pietraquaria**	**0.46 172**	P	Pg	13 24 00.1	0.0
PTQR			S	Sg	13 24 07.0	+0.7
PTQR			AML	AML		
	comp=E,396μm,0.7s					
PTQR			AML	AML		
	comp=E,396μm,1.3s					
PTQR			AML	AML		
	comp=N,352μm,0.4s					
PTQR			AML	AML		
	comp=E,365μm,0.4s					
PTQR			AML	AML		
	comp=N,351μm,0.4s					
T1221	**Campello sul C**	**0.52 318⇑**	*i*P	Pg	13 24 00.9	-0.3
T1221			S	Sb	13 24 08.8	-0.6
MF5	**Montefalcone A**	**0.52 12⇑**	*i*P	Pg	13 24 01.4	+0.1
MF5			S	Sb	13 24 08.9	-0.6
MF5			AML	AML		
	comp=E,1255μm,0.2s					
MF5			AML	AML		
	comp=N,1595μm,0.5s					
MF5			AML	AML		
	comp=E,1253μm,0.2s					
MF5			AML	AML		
	comp=N,1594μm,0.5s					
FEMA	**Monte Fema**	**0.52 338**	P	Pg	13 24 01.1	-0.3
FEMA			S	Sb	13 24 09.4	-0.3
OFFI	**Offida**	**0.53 31**	P	Pb	13 24 02.1	0.0
OFFI			AML	AML		
	comp=E,1054μm,0.5s					
OFFI			AML	AML		
	comp=N,1070μm,0.4s					
OFFI			AML	AML		
	comp=E,1054μm,1.5s					
OFFI			AML	AML		
	comp=N,1068μm,0.4s					
OFFI			AML	AML		
	comp=E,1054μm,0.5s					
CESX	**Cesi**	**0.56 284**	P	Pg	13 24 01.6	-0.4
CESX			AML	AML		
	comp=N,606μm,0.7s					
CESX			AML	AML		
	comp=E,550μm,0.4s					
CESX			AML	AML		
	comp=N,606μm,1.3s					
CESX			AML	AML		
	comp=N,597μm,0.2s					
CESX			AML	AML		
	comp=E,551μm,0.4s					

CERT	**Cerreto**	**0.58 205**	P	Pg	13 24 02.1	-0.4
CERT			AML	AML		
	comp=E,801μm,0.5s					
CERT			AML	AML		
	comp=N,436μm,0.5s					
FDMO	**Fiordimonte**	**0.58 343⇑**	*i*P	Pg	13 24 02.0	-0.5
FDMO			S	Sb	13 24 11.0	-0.3
FDMO			AML	AML		
	comp=E,798μm,0.2s					
FDMO			AML	AML		
	comp=N,689μm,0.6s					
FDMO			AML	AML		
	comp=N,689μm,1.4s					
FDMO			AML	AML		
	comp=E,799μm,0.2s					
FDMO			AML	AML		
	comp=N,611μm,0.2s					
GUMA	**Gualdo di Mace**	**0.59 1⇑**	*i*P	Pg	13 24 02.4	-0.1
GUMA			S	Sb	13 24 11.6	+0.3
GUMA			AML	AML		
	comp=E,2125μm,1.0s					
GUMA			AML	AML		
	comp=N,1905μm,1.5s					
GUMA			AML	AML		
	comp=E,2025μm,0.3s					
GUMA			AML	AML		
	comp=N,1905μm,0.5s					
GUMA			AML	AML		
	comp=E,2125μm,1.0s					
GUMA			AML	AML		
	comp=N,2475μm,0.3s					
GUMA			AML	AML		
	comp=E,1987μm,0.3s					
GUMA			AML	AML		
	comp=E,2025μm,0.3s					
GUMA			AML	AML		
	comp=N,1789μm,0.3s					
GUMA			AML	AML		
	comp=N,2472μm,0.3s					
CESI	**CESI - Serrava**	**0.61 330**	P	Pg	13 24 02.5	-0.4
CESI			S	Sb	13 24 11.9	-0.1
CSP1	**Cessapalombo**	**0.62 352⇑**	*i*P	Pg	13 24 02.7	-0.4
CSP1			S	Sb	13 24 12.3	-0.1
CSP1			AML	AML		
	comp=E,910μm,0.2s					
CSP1			AML	AML		
	comp=N,1150μm,0.3s					
CSP1			AML	AML		
	comp=N,1150μm,0.3s					
CSP1			AML	AML		
	comp=E,910μm,0.2s					
MTCE	**Montecelio**	**0.62 223**	P	Pb	13 24 03.5	-0.2
INTR	**Introdacqua**	**0.64 137**	P	Pg	13 24 02.8	-0.6
INTR			AML	AML		
	comp=N,446nm,0.5s					
INTR			AML	AML		
	comp=N,657μm,0.4s					
INTR			AML	AML		
	comp=E,346μm,0.4s					
INTR			AML	AML		
	comp=E,323nm,0.4s					
INTR			AML	AML		
	comp=N,446nm,1.5s					
INTR			AML	AML		
	comp=N,657μm,0.4s					
INTR			AML	AML		
	comp=E,346μm,0.4s					
INTR			AML	AML		
	comp=E,323nm,0.4s					
MOMA	**Monte Martano**	**0.64 301**	P	Pg	13 24 03.4	-0.2
MOMA			S	Sb	13 24 12.8	-0.1
MOMA			AML	AML		
	comp=N,828μm,1.6s					
MOMA			AML	AML		
	comp=N,828μm,0.4s					
MOMA			AML	AML		
	comp=E,1090μm,0.2s					
MOMA			AML	AML		
	comp=N,750μm,0.2s					
MOMA			AML	AML		
	comp=E,1090μm,0.2s					
MOMA			AML	AML		
	comp=E,1080μm,0.2s					
SRES	**S.Oreste - Sor**	**0.64 248**	P	Pb	13 24 04.0	-0.1
SRES			S	Sb	13 24 13.1	+0.2
VVLD	**Villa Vallelon**	**0.65 159**	P	Pg	13 24 03.4	-0.2
VVLD			AML	AML		
	comp=E,570μm,0.5s					
VVLD			AML	AML		
	comp=N,616μm,0.7s					
VVLD			AML	AML		
	comp=E,569μm,0.5s					
VVLD			AML	AML		
	comp=N,616μm,0.7s					
MNTP	**Montappone**	**0.67 10**	P	Pg	13 24 04.2	+0.2
GUAR	**Guarcino**	**0.68 180**	P	Pb	13 24 04.7	0.0
RCAV	**Rocca di Cave**	**0.69 204**	P	Pg	13 24 04.5	+0.2
SEF1	**Sefro**	**0.72 338**	P	Pg	13 24 04.4	-0.6
SEF1			S	Sg	13 24 14.8	+0.2
MDAR	**Monte D'Aria**	**0.73 350**	P	Pg	13 24 04.5	-0.6
MDAR			S	Sb	13 24 15.8	+0.3
ASSB	**Assisi San Ben**	**0.74 320**	⇑P	Pg	13 24 04.8	-0.7
ASSB			AML	AML		
	comp=E,704μm,1.3s					
ASSB			AML	AML		
	comp=N,1067μm,0.3s					
ASSB			AML	AML		
	comp=N,1065μm,0.3s					
SSM1	**San Severino M**	**0.76 352**	P	Pg	13 24 05.1	-0.6
LPEL	**Lama dei Pelig**	**0.77 123**	P	Pg	13 24 05.0	-0.9
LPEL			AML	AML		
	comp=E,322μm,1.6s					
LPEL			AML	AML		
	comp=N,246μm,1.3s					
LPEL			AML	AML		
	comp=E,322μm,0.4s					
LPEL			AML	AML		
	comp=N,229μm,0.5s					
POFI	**Posta Fibreno**	**0.81 159**	P	Pn	13 24 08.1	-0.1
SNTG	**Esanatoglia**	**0.83 341**	P	Pg	13 24 06.1	-0.9
SNTG			S	Sb	13 24 18.8	+0.6
SNTG			AML	AML		
	comp=E,324μm,0.9s					
SNTG			AML	AML		
	comp=E,306μm,0.9s					
SNTG			AML	AML		
	comp=N,350μm,0.3s					
SNTG			AML	AML		
	comp=N,338μm,0.7s					
SNTG			AML	AML		
	comp=E,324μm,1.1s					
SNTG			AML	AML		
	comp=E,306μm,1.1s					
ATCC	**AVT- Casa Cast**	**0.87 325**	P	Pg	13 24 07.1	-0.7
ATCC			AML	AML		
	comp=E,646μm,0.7s					
ATCC			AML	AML		
	comp=N,630μm,1.0s					
EL6	**Elcito**	**0.87 350**	P	Pg	13 24 07.0	-0.8
EL6			AML	AML		
	comp=N,715μm,0.3s					
EL6			AML	AML		
	comp=E,910μm,0.3s					
EL6			AML	AML		
	comp=E,910μm,0.3s					
EL6			AML	AML		
	comp=N,715μm,0.3s					
CIMA	**Civitanova Mar**	**0.87 17**	P	Pn	13 24 08.6	-0.3
CING	**Cingoli**	**0.90 354**	P	Pg	13 24 07.6	-0.9
CING			AML	AML		
	comp=E,446μm,0.7s					
CING			AML	AML		
	comp=N,408μm,0.2s					
CING			AML	AML		
	comp=N,408μm,0.2s					
FOSV	**Fossato di Vic**	**0.91 334**	P	Pg	13 24 08.0	-0.7
FOSV			S	Sb	13 24 21.5	+0.7
FOSV			AML	AML		
	comp=E,256μm,0.4s					
FOSV			AML	AML		
	comp=N,331μm,0.3s					
FOSV			AML	AML		
	comp=E,227μm,0.3s					
PP3	**Marolino**	**0.93 13**	P	Pg	13 24 09.0	+0.1
PP3			AML	AML		
	comp=E,518μm,0.4s					

PP3			AML	AML		
	comp=E,536μm,0.4s					
PP3			AML	AML		
	comp=N,1472μm,1.6s					
PP3			AML	AML		
	comp=E,518μm,1.6s					
PP3			AML	AML		
	comp=E,536μm,1.6s					
PP3			AML	AML		
	comp=N,692μm,1.6s					
PP3			AML	AML		
	comp=N,1472μm,0.4s					
PP3			AML	AML		
	comp=E,488μm,0.4s					
PP3			AML	AML		
	comp=E,518μm,0.4s					
MURB	**Monte Urbino**	**0.98 324**	P	Pb	13 24 09.3	-0.6
MURB			AML	AML		
	comp=E,1052μm,0.3s					
MURB			AML	AML		
	comp=N,1318μm,0.3s					
MURB			AML	AML		
	comp=E,1225μm,0.3s					
MURB			AML	AML		
	comp=N,1350μm,0.3s					
MURB			AML	AML		
	comp=E,1227μm,0.3s					
MURB			AML	AML		
	comp=N,1350μm,0.3s					
MURB			AML	AML		
	comp=N,1316μm,0.3s					
MURB			AML	AML		
	comp=E,1051μm,0.3s					
RNI2	**Rionero Sannit**	**0.99 141**	P	Pn	13 24 11.8	+1.1
CERA	**Filignano**	**1.02 149**	P	Pb	13 24 10.0	-0.6
CERA			AML	AML		
	comp=E,285μm,0.7s					
CERA			AML	AML		
	comp=N,387μm,0.5s					
CERA			AML	AML		
	comp=E,294μm,0.7s					
CERA			AML	AML		
	comp=N,398μm,0.5s					
CERA			AML	AML		
	comp=N,398μm,1.5s					
CERA			AML	AML		
	comp=N,387μm,1.5s					
CERA			AML	AML		
	comp=E,294μm,1.3s					
CERA			AML	AML		
	comp=E,285μm,1.3s					
SSFR	**Montelago di S**	**1.04 338**	P	Pb	13 24 10.1	-0.7
SSFR			AML	AML		
	comp=N,716μm,0.2s					
SSFR			AML	AML		
	comp=N,670μm,0.3s					
SSFR			AML	AML		
	comp=E,618μm,1.2s					
SSFR			AML	AML		
	comp=E,659μm,1.2s					
SSFR			AML	AML		
	comp=N,715μm,0.2s					
SSFR			AML	AML		
	comp=N,670μm,0.3s					
SSFR			AML	AML		
	comp=E,608μm,0.2s					
SSFR			AML	AML		
	comp=E,591μm,0.3s					
ARVD	**Arcevia**	**1.06 345**	P	Pb	13 24 10.2	-0.9
ARVD			AML	AML		
	comp=N,202μm,0.8s					
ARVD			AML	AML		
	comp=N,202μm,1.2s					
ARVD			AML	AML		
	comp=E,213μm,0.7s					
ARVD			AML	AML		
	comp=E,212μm,0.4s					
ARVD			AML	AML		
	comp=N,199μm,0.3s					
ATVO	**AVT- Monte Val**	**1.12 324**	P	Pb	13 24 11.6	-0.7
ATVO			AML	AML		
	comp=N,139μm,0.7s					
ATVO			AML	AML		
	comp=E,182μm,0.8s					
FRON	**Frontone**	**1.13 338**	P	Pb	13 24 11.4	-0.9
FRON			AML	AML		
	comp=E,178μm,1.5s					
FRON			AML	AML		
	comp=N,270μm,0.3s					
FRON			AML	AML		
	comp=E,178μm,0.5s					
FRON			AML	AML		
	comp=E,166μm,0.4s					
FRON			AML	AML		
	comp=N,270μm,0.3s					

---

*IDC **20** 13:28:31.3±1.7, 15°.53N×93°.68W, h61km±14km, mb3.6/6, mbtmp3.9/8, MS3.8/4, Error ellipse: s-maj=21.8km s-min=11.7km az=49.0*
*NEIC **20** 13:28:34.0±3.1, 15°.72N±0°.03×93°.66W±0°.06, h81km±7km, mb4.0/10, Md4.5/32(MEX), Error ellipse: s-maj=7.8km s-min=4.6km az=81.0*
*MEX **20** 13:28:33.8±0.5, 15°.67N×93°.69W, h88km±4km, MD4.4*
*GCG **20** 13:28:53.7±0.4, 15°.14N×92°.33W, h48km±13km, MD4.5*
ISC 20 13:28:33.5±0.7, 15°.65N±0°.04×93°.66W±0°.03, h82km±7km, n83, σ2=09/124, mb4.1/8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.43**	**82**		**Pn**	**13 28 46.6**	**-0.3**
PCIG					**Sn**	**13 28 56.7**	**-0.1**
PCIG		**0.43**	**82**	*i* P	**Pn**	**13 28 46.6**	**-0.3**
PCIG				*e*S	**Sn**	**13 28 56.8**	**-0.1**
CARR	**Arriaga**	**0.64**	**338**	*e*P	**Pn**	**13 28 49.0**	**+0.2**
CARR				*i* S	**Sn**	**13 29 00.5**	**+0.4**
TGIG		**1.24**	**25**	*e*P	**Pn**	**13 28 54.9**	**-0.8**
TGIG				*e*S	**Sn**	**13 29 10.3**	**-2.0**
TGBT	**Tuxtla Gutierr**	**1.25**	**26**		**Pn**	**13 28 55.2**	**-0.6**
TGBT					**Sn**	**13 29 10.5**	**-2.0**
TGBT	**Tuxtla Gutierr**	**1.25**	**26**	*i* P	**Pn**	**13 28 55.1**	**-0.7**
TGBT				*e*S	**Sn**	**13 29 10.6**	**-1.8**
NILT	**Santiago Nilte**	**1.29**	**315**	*i* P	**Pn**	**13 28 56.6**	**+0.3**
NILT				*i* S	**Sn**	**13 29 14.8**	**+1.3**
PATR	**El Naranjo**	**1.47**	**111**	*e*P	**Pn**	**13 28 58.4**	**-0.4**
PATR				*e*S	**Sn**	**13 29 18.4**	**+0.5**
PAVE	**Pavencul**	**1.50**	**107**	*e*P	**Pn**	**13 28 59.0**	**-0.2**
PAVE				*e*S	**Sn**	**13 29 19.2**	**+0.7**
THIG		**1.53**	**118**		**Pn**	**13 28 59.3**	**-0.1**
THIG					**Sn**	**13 29 19.3**	**+0.4**
THIG		**1.53**	**118**	*e*P	**Pn**	**13 28 59.3**	**-0.1**
THIG				*e*S	**Sn**	**13 29 18.6**	**-0.3**
CHUJ	**Union Juarez**	**1.59**	**110**	*e*P	**Pn**	**13 28 59.5**	**-0.9**
CHUJ				*e*S	**Sn**	**13 29 21.2**	**+0.4**
CCIG	**Comitan**	**1.60**	**66**	*e*P	**Pn**	**13 28 60.0**	**-0.4**
CCIG				*e*S	**Sn**	**13 29 18.5**	**-2.1**
UXUV	**UXUV**	**1.73**	**344**	*e*P	**Pn**	**13 29 02.2**	**+0.3**
UXUV				*e*S	**Sn**	**13 29 21.8**	**-1.5**
CMIG	**Matias Romero**	**1.85**	**321**		**Pn**	**13 29 03.5**	**-0.1**
CMIG					**Sn**	**13 29 24.6**	**-1.8**
CMIG	**Matias Romero**	**1.85**	**321**	P	**Pn**	**13 29 03.3**	**-0.2**
	274nm,0.4s,baz=139,slow=12,SNR=544						
CMIG				S	**Sn**	**13 29 25.3**	**-1.1**
	714nm,0.5s,baz=136,slow=12,SNR=17						
CMIG	**Matias Romero**	**1.85**	**321**	*e*P	**Pn**	**13 29 03.5**	**-0.1**
CMIG				*e*S	**Sn**	**13 29 23.6**	**-2.8**
HUEH	**Huehuetenango**	**2.11**	**99**		**Pn**	**13 29 06.4**	**-0.7**
RTAL	**Retalhuleu**	**2.20**	**120**	Pn	**Pn**	**13 29 09.0**	**+0.8**
STG3	**Santiaguito 3,**	**2.22**	**114**	*e*P	**Pn**	**13 29 09.8**	**+1.1**
STG3				*e*S	Sn	13 29 22.7	-13
HUIG	**Huatulco**	**2.36**	**273**		**Pn**	**13 29 09.4**	**-0.8**
HUIG					**Sn**	**13 29 34.5**	**-4.0**
HUIG	**Huatulco**	**2.36**	**273**	*e*P	**Pn**	**13 29 09.0**	**-1.3**
HUIG				*e*S	**Sn**	**13 29 35.0**	**-3.4**
VHSA	**Villahermosa**	**2.42**	**16**	*i* P	**Pn**	**13 29 11.8**	**+0.6**
VHSA				*e*S	**Sn**	**13 29 41.0**	**+1.1**
SULM	**Suchitepequez,**	**2.43**	**123**	*e*P	**Pn**	**13 29 12.8**	**+1.6**
SULM				*e*S	**Sn**	**13 29 33.0**	**-7.0**
TUIG	**Tuzandepetl**	**2.48**	**343**	*e*P	**Pn**	**13 29 09.6**	**-2.4**
TUIG				*e*S	**Sn**	**13 29 38.6**	**-2.7**
NEUV	**Arroyo Zacate**	**2.90**	**315**	*e*P	**Pn**	**13 29 16.8**	**-0.8**
NEUV				*e*S	**Sn**	**13 29 43.7**	**-7.8**
FUG	**Fuego 3**	**2.97**	**113**	*e*P	**Pn**	**13 29 20.1**	**+1.4**
FUG				*e*S	Sn	13 29 40.6	-13

PMUV	**Sontecomapan**	**3.20**	**334**	*e*P	**Pn**	**13 29 19.2**	**-2.6**
PMUV				*e*S	**Sn**	**13 29 54.9**	**-4.0**
OXLC	**Oaxaca**	**3.24**	**296**	*e*P	**Pn**	**13 29 22.1**	**-0.3**
OXLC				*e*S	**Sn**	**13 30 01.4**	**+1.3**
OXBJ	**Oaxaca**	**3.26**	**296**	*e*P	**Pn**	**13 29 22.4**	**-0.3**
OXBJ				*e*S	**Sn**	**13 30 02.0**	**+1.4**
VHO	**Vista Hermosa**	**3.27**	**296**	*e*P	**Pn**	**13 29 23.6**	**+0.8**
VHO				*e*S	**Sn**	**13 29 59.7**	**-1.1**
NBG	**Las Nubes**	**3.37**	**108**	*e*P	**Pn**	**13 29 26.0**	**+1.9**
NBG				*e*S	Sn	13 29 48.5	-15
PEIG	**Puerto Escondi**	**3.37**	**276**		**Pn**	**13 29 23.1**	**-0.9**
PEIG					**Sn**	**13 29 58.0**	**-5.0**
PEIG	**Puerto Escondi**	**3.37**	**276**	*e*P	**Pn**	**13 29 23.1**	**-0.9**
PEIG				*e*S	**Sn**	**13 29 58.3**	**-4.7**
PETF	**Flores**	**3.86**	**70**		**Pn**	**13 29 30.1**	**-0.5**
YOIG	**Yosondua**	**3.92**	**288**	*e*P	**Pn**	**13 29 32.0**	**+0.4**
YOIG				*e*S	**Sn**	**13 30 16.8**	**+0.1**
SCIG	**Sabancuy**	**4.06**	**35**	*e*P	**Pn**	**13 29 31.8**	**-1.6**
SCIG				*e*S	**Sn**	**13 30 16.1**	**-3.6**
TOIG	**Toxpalan**	**4.07**	**307**	*e*P	**Pn**	**13 29 31.9**	**-1.6**
TOIG				*i* P		13 29 33.5	
TOIG				*e*S	**Sn**	**13 30 20.1**	**+0.1**
TXIG	**Tlaxiaco**	**4.25**	**293**	*e*P	**Pn**	**13 29 36.1**	**-0.1**
TXIG				*e*S	**Sn**	**13 30 22.1**	**-2.7**
MTO3	**Montecristo**	**4.34**	**106**	Pn	**Pn**	**13 29 36.2**	**-1.0**
PNIG	**Pinotepa**	**4.36**	**280**	*e*P	**Pn**	**13 29 36.4**	**-1.0**
PNIG				*e*S	**Sn**	**13 30 23.7**	**-3.4**
TPIG	**Tehuac#an**	**4.49**	**308**	*e*P	**Pn**	**13 29 40.1**	**+0.8**
TPIG				*e*S	**Sn**	**13 30 30.4**	**+0.1**
HLIG	**Huajuapan de L**	**4.52**	**299**	*e*P	**Pn**	**13 29 41.2**	**+1.4**
JAUV	**Jalcomulco**	**4.76**	**321**	*e*P	**Pn**	**13 29 41.7**	**-1.2**
JAUV				*e*S	**Sn**	**13 30 34.8**	**-2.1**
LVIG	**Laguna Verde**	**4.83**	**327**	*e*P	**Pn**	**13 29 41.4**	**-2.4**
FTIG	**Fresnillo de T**	**4.84**	**298**	*e*P	**Pn**	**13 29 43.9**	**-0.1**
FTIG				*e*S	**Sn**	**13 30 36.7**	**-2.1**
CXUV	**Coxquihui**	**5.85**	**321**	*e*P	**Pn**	**13 29 57.0**	**-0.8**
CXUV				*e*S	Sn	13 30 53.8	-10
DAIG	**Los Arroyos**	**5.91**	**284**	*e*P	**Pn**	**13 29 58.3**	**-0.3**
DAIG				*e*S	**Sn**	**13 30 58.9**	**-6.0**
YAIG	**Yautepec**	**6.07**	**303**	*e*P	**Pn**	**13 30 02.4**	**+1.4**
MEIG	**Mezcala**	**6.14**	**292**	*e*P	**Pn**	**13 30 02.1**	**+0.3**
MEIG				*e*S	**Sn**	**13 31 06.4**	**-4.3**
PLIG	**Platanillo**	**6.22**	**297**	*e*P	**Pn**	**13 30 05.6**	**+2.7**
MYIG	**Mrida**	**6.46**	**35**	*e*P	**Pn**	**13 30 04.6**	**-1.4**
MYIG				*e*S	**Sn**	**13 31 14.5**	**-3.8**
TEIG	**Tepich**	**6.86**	**48**	Pn	**Pn**	**13 30 09.2**	**-2.2**
TEIG	**Tepich**	**6.86**	**48**	P	**Pn**	**13 30 09.4**	**-2.0**
	808nm,0.3s,baz=262,slow=0.3,SNR=84						
TEIG				S	**Sn**	**13 31 23.2**	**-4.8**
	3μm,0.5s,baz=197,slow=21,SNR=19						
TEIG				LR	LR	13 33 10.8	
	comp=Z,1μm,20.1s,baz=30,slow=40						
CTUV	**Llano Grande**	**7.31**	**323**	*e*P	Pn	13 30 11.7	-5.9
CNGN	**Cerro Negro**	**7.44**	**114**	Pn	**Pn**	**13 30 19.1**	**-0.4**
HZTE	**Horizontes, Gu**	**9.26**	**121**	Pn	**Pn**	**13 30 45.3**	**+1.0**
ORTG	**Ortega, Santa**	**9.56**	**122**	Pn	**Pn**	**13 30 50.0**	**+1.5**
DUNO	**Dulce Nombre,**	**9.70**	**124**		**Pn**	**13 30 51.2**	**+0.9**
JTS	**Las Juntas de**	**10.02**	**121**	Pn	**Pn**	**13 30 54.4**	**-0.3**
JTS	**Las Juntas de**	**10.02**	**121**	P	**Pn**	**13 30 53.8**	**-0.8**
	6.0nm,0.4s,baz=304,slow=6.4,SNR=5.3						
JTS				S	**Sn**	**13 32 43.1**	**-2.3**
	2.2nm,0.3s,baz=195,slow=23,SNR=1.3						
RIMA	**Rio Macho**	**11.20**	**120**		**Pn**	**13 31 12.0**	**+1.1**
SRBA	**San Rafael, Bu**	**11.91**	**121**		**Pn**	**13 31 20.8**	**+0.4**
SOR	**Soroa**	**12.31**	**53**	Pn	**Pn**	**13 31 22.6**	**-3.3**
833A	**Chaparral WMA,**	**13.69**	**338**	Pn	**Pn**	**13 31 44.9**	**+0.9**
DRIO	**Del Rio**	**15.13**	**336**		**Pn**	**13 32 03.9**	**+1.1**
DRIO				IAmb	IAmb	13 32 36.1	
	comp=Z,8.5nm,1.3s						
SAND	**Sanderson**	**16.23**	**333**		**P**	**13 32 18.8**	**+0.5**
SAND				IAmb	IAmb	13 32 20.8	
	comp=Z,7.2nm,0.8s						
TXAR	**Lajitas Array**	**16.45**	**328**		**P**	**13 32 21.1**	**+0.4**
TXAR	**Lajitas Array**	**16.45**	**328**	P	**P**	**13 32 20.9**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=148,slow=12,SNR=21						
425A	**Indio Mountain**	**18.29**	**327**	P	**Pn**	**13 32 43.6**	**+1.7**
425A				IAmb	IAmb	13 32 47.5	
	comp=Z,6.4nm,0.8s						
MNTX	**Cornudas Mount**	**19.22**	**328**	P	**Pn**	**13 32 53.2**	**+0.3**
AMTX	**Amarillo**	**20.46**	**341**	P	**P**	**13 33 05.3**	**+0.7**
121A	**Cookes Peak, D**	**21.15**	**325**	P	**P**	**13 33 14.7**	**+2.6**
121A				IAmb	IAmb	13 33 18.4	
	comp=Z,14nm,0.9s						
TKL	**Tuckaleechee C**	**21.80**	**22**	P	**P**	**13 33 18.3**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=203,slow=12,SNR=2.5						
TKL				S	**S**	**13 37 19.7**	**+4.3**
	comp=Z,3.1nm,0.7s,baz=311,slow=14,SNR=2.6						
TKL				LR	LR	13 42 42.7	
	comp=Z,47nm,19.0s,baz=333,slow=39						
	comp=Z,2.1nm,0.6s						
ANMO	**Albuquerque**	**22.39**	**331**	P	**P**	**13 33 27.2**	**+1.8**
PDAR	**Pinedale Array**	**30.27**	**336**	P	**P**	**13 34 38.5**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=146,slow=14,SNR=4.4						
	comp=Z,0.3nm,0.6s						
REDW	**Red Top Meadow**	**31.28**	**335**	P	**P**	**13 34 47.8**	**+1.8**
NVAR	**Mina Array Bea**	**31.39**	**321**	P	**P**	**13 34 48.5**	**+1.6**
	comp=Z,1.7nm,0.6s,baz=141,slow=7.6,SNR=7.7						
	comp=Z,1.7nm,0.6s						
F10A	**Beach Ranch, E**	**36.10**	**332**	P	**P**	**13 35 29.4**	**+1.9**
F10A				IAmb	IAmb	13 35 32.3	
	comp=Z,3.4nm,0.7s						
RES	**Resolute Bay**	**59.05**	**360**	LR	LR	14 06 22.6	
	comp=Z,203nm,19.3s,baz=348,slow=38						
PLCA	**Paso Flores**	**60.06**	**160**	P	**P**	**13 38 30.5**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=327,slow=9.5,SNR=4.1						
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**60.70**	**337**	P	**P**	**13 38 35.7**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=128,slow=5.6,SNR=7.2						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**85.08**	**18**	P	**P**	**13 41 01.0**	**+1.0**
	comp=Z,2.2nm,0.8s,baz=298,slow=10,SNR=1.5						
ARCES				LR	LR	14 20 42.2	
	comp=Z,77nm,19.8s,baz=50,slow=37						
	comp=Z,2.2nm,0.8s						

*EAF **20** 13:38:15.1,26.°33S×29.°73E,h10km,MC3.5*
*BUL **20** 13:38:17.3±0.6,26.°26S×29.°60E,h10km,MD3.6*
ISC 20 13:38:11.3±1.9,26.°0S±0.°1×29.°49E±0.°07,h10km,n7,σ1°01/13,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.01**	**36**	*i* P	**Pb**	**13 39 05.0**	**0.0**
MOPA				*i* S	**Sb**	**13 39 40.3**	**-1.5**
MOPA	**Mopani**	**3.01**	**36**	*i* P	**Pb**	**13 39 05.0**	**0.0**
	baz=29						
MOPA				*i* S	**Sb**	**13 39 40.3**	**-1.5**
	baz=29						
LBTB	**Lobatse**	**3.65**	**285**	*i* P	**Pb**	**13 39 15.8**	**-0.2**
LBTB				*i* S	**Sb**	**13 39 59.0**	**-1.4**
LBTB	**Lobatse**	**3.65**	**285**	*i* P	**Pb**	**13 39 15.8**	**-0.2**
	baz=289						
LBTB				*i* S	**Sb**	**13 39 59.0**	**-1.4**
	baz=289						
MUSN	**Musina, Limpop**	**3.70**	**5**	*i* P	**Pb**	**13 39 17.3**	**+0.6**
MUSN				*i* S	**Sb**	**13 40 01.8**	**+0.1**
MUSN	**Musina, Limpop**	**3.70**	**5**	*i* P	**Pb**	**13 39 17.3**	**+0.6**
	baz=2.0						
MUSN				*i* S	**Sb**	**13 40 01.8**	**+0.1**
	baz=2.0						
ARMS	**Ukamas**	**8.93**	**255**	*i* P	**Pg**	**13 41 03.4**	**+1.1**

*IDC **20** 13:55:02.1±1.1,10.°95S×161.°79E,h0km,mb4.0/9,*
mbtmp4.1/12,ML4.4/3,MS3.5/7,Error ellipse:
s-maj=27.9km s-min=19.8km az=85.0
*NEIC **20** 13:55:08.5±1.3,11.°02S±0.°08×161.°8E±0.°1,h42km±8km,*
mb4.4/19,Error ellipse: s-maj=20.4km s-min=8.9km
az=67.0
ISC 20 13:55:07.6±0.7,11.°03S±0.°08×161.°8E±0.°1,h36km,n39,σ0°80/38,mb4.2/18,MS3.5/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.39**	**311**	Pn	**Pn**	**13 55 44.9**	**+0.6**
HNR	**Honiara**	**2.39**	**311**	Pn	**Pn**	**13 55 43.9**	**-0.3**
	452nm,0.3s,baz=178,slow=11,SNR=16						
HNR				Sn	**Sn**	**13 56 13.0**	**+0.7**
	1μm,0.3s,baz=43,slow=22,SNR=4.9						
	1μm,0.4s						
KOUNC	**Koumac, New Ca**	**9.77**	**166**	Pn	**Pn**	**13 57 25.9**	**+0.3**
LIFNC	**LIFOU**	**11.03**	**152**	Pn	**Pn**	**13 57 41.0**	**-1.8**
DZM	**Mont Dzumac**	**11.86**	**158**	Pn	**Pn**	**13 57 54.8**	**+0.6**
DZM	**Mont Dzumac**	**11.86**	**158**	Pn	**Pn**	**13 57 54.3**	**+0.1**
	1.1nm,0.3s,baz=348,slow=12,SNR=8.8						
DZM				LR	LR	14 01 59.1	
	comp=Z,132nm,19.9s,baz=357,slow=35						
	5.9nm,0.6s						
CTA	**Charters Tower**	**17.43**	**237**	P	**Pn**	**13 59 07.5**	**-0.6**
	0.4nm,0.3s,baz=57,slow=13,SNR=3.6						
CTA				LR	LR	14 04 46.5	
	comp=Z,91nm,20.4s,baz=82,slow=33						
	8.8nm,0.8s						
CTAO	**Charters Tower**	**17.43**	**237**		**Pn**	**13 59 07.8**	**-0.3**
EIDS	**Eidsvold**	**17.49**	**214**	P	**P**	**13 59 09.2**	**-0.4**
PATS	**Pohnpei**	**18.08**	**349**		**P**	**13 59 16.7**	**+0.6**
COEN	**Coen**	**18.38**	**259**	P	**Pn**	**13 59 20.1**	**+0.3**
WR0	**Warramunga Arr**	**27.66**	**248**	P	**P**	**14 00 51.8**	**-0.5**
WR0				IAmb	IAmb	14 00 57.6	
	comp=Z,4.2nm,0.8s						
WB0	**Warramunga Arr**	**27.75**	**248**	P	**P**	**14 00 52.0**	**-1.1**
WB0				IAmb	IAmb	14 01 11.3	
	comp=Z,6.4nm,0.9s						
WB2	**Warramunga Arr**	**27.83**	**248**	P	**P**	**14 00 53.3**	**-0.5**
WB2				IAmb	IAmb	14 01 26.5	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**27.84**	**248**	P	**P**	**14 00 53.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=77,slow=9.7,SNR=13						
	comp=Z,1.5nm,0.8s						
STKA	**Stephens Creek**	**27.88**	**219**	P	**P**	**14 00 56.0**	**+2.0**
	comp=Z,2.8nm,0.8s,baz=47,slow=9.1,SNR=3.6						
STKA				LR	LR	14 11 36.8	
	comp=Z,164nm,18.9s,baz=25,slow=36						
	comp=Z,2.8nm,0.8s						
AS31	**Alice Springs**	**29.34**	**241**	P	**P**	**14 01 05.9**	**-1.4**
ASAR	**Alice Springs**	**29.34**	**241**	P	**P**	**14 01 05.7**	**-1.6**
ASAR	**Alice Springs**	**29.34**	**241**	P	**P**	**14 01 06.5**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=65,slow=9.7,SNR=19						
ASAR				LR	LR	14 12 00.8	
	comp=Z,105nm,18.1s,baz=48,slow=35						
	comp=Z,1.5nm,0.8s						
TOO	**Toolangi**	**30.20**	**206**	P	**P**	**14 01 14.7**	**0.0**
TOO				IAmb	IAmb	14 01 43.2	
	comp=Z,15nm,1.1s						
BKZ	**Black Stump Fm**	**30.94**	**157**	P	**P**	**14 01 22.5**	**+1.3**
BKZ				IAmb	IAmb	14 01 47.6	
	comp=Z,16nm,1.2s						
BBOO	**Buckleboo**	**32.06**	**223**	P	**P**	**14 01 30.6**	**-0.6**
KNRA	**Kununurra**	**32.42**	**258**	P	**P**	**14 01 34.3**	**-0.1**
FORT	**Forrest**	**36.90**	**233**	P	**P**	**14 02 12.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**46.26**	**235**	LR	LR	14 22 25.0	
	comp=Z,52nm,18.6s,baz=358,slow=36						
JNU	**Nakatsue**	**52.87**	**327**	LR	LR	14 24 34.5	
	comp=Z,48nm,19.6s,baz=182,slow=34						
KSRS	**Korea Array**	**57.74**	**328**	P	**P**	**14 04 54.7**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=148,slow=6.0,SNR=2.6						
KSRS				LR	LR	14 28 55.9	
	comp=Z,25nm,18.8s,baz=160,slow=35						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**68.54**	**295**	P	**P**	**14 06 07.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=115,slow=6.1,SNR=2.4						
	comp=Z,0.5nm,0.7s						
SONM	**Songino Array**	**76.39**	**325**	P	**P**	**14 06 52.7**	**-0.7**
SONM				IAmb	IAmb	14 06 54.1	
	comp=Z,2.3nm,0.8s						
SONM	**Songino Array**	**76.39**	**325**	P	**P**	**14 06 53.4**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=137,slow=5.2,SNR=12						
	comp=Z,2.6nm,0.7s						
QSPA	**South Pole Qui**	**78.97**	**180**	P	**P**	**14 07 08.4**	**+0.9**
QSPA				IAmb	IAmb	14 07 20.6	
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**78.97**	**180**	P	**P**	**14 07 08.6**	**+1.1**
	comp=Z,1.5nm,0.9s,baz=355,slow=4.8,SNR=3.0						
	comp=Z,1.5nm,0.9s						
SVW2	**Sparrevohn**	**79.36**	**20**	P	**P**	**14 07 08.8**	**-0.7**
SVW2				IAmb	IAmb	14 07 16.1	
	comp=Z,7.7nm,1.0s						
L18K	**Granite Mounta**	**79.84**	**18**	P	**P**	**14 07 12.0**	**0.0**
L18K				IAmb	IAmb	14 07 14.3	
	comp=Z,6.2nm,1.0s						
L19K	**White Mountain**	**80.39**	**19**	P	**P**	**14 07 15.4**	**+0.4**
L19K				IAmb	IAmb	14 07 37.7	
	comp=Z,6.0nm,1.1s						
IMAR	**Indian Mountai**	**83.50**	**17**	P	**P**	**14 07 31.5**	**+0.3**
ILAR	**Eielson Array**	**84.78**	**20**	P	**P**	**14 07 37.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=256,slow=3.6,SNR=4.3						
	comp=Z,0.4nm,0.6s						
J25K	**Salcha River,**	**85.18**	**20**	P	**P**	**14 07 39.8**	**-0.1**
J25K				IAmb	IAmb	14 07 47.8	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**90.86**	**318**	P	**P**	**14 08 06.4**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=94,slow=6.1,SNR=4.9						
	comp=Z,0.7nm,0.7s						

IDC 20 14:15:14.0±56.0,16.°42S×175.°57W,h0km,mb3.7/3,
mbtmp3.7/3,Error ellipse: s-maj=1051.0km
s-min=191.8km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.72**	**240**	P	P	14 23 04.8	-0.2
	0.6nm,0.3s,baz=90,slow=6.7,SNR=3.8						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**47.58**	**258**	P	P	14 23 51.8	-0.2
	0.2nm,0.5s,baz=92,slow=7.4,SNR=1.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**47.81**	**253**	P	P	14 23 53.6	-0.1
	1.7nm,0.5s,baz=88,slow=8.3,SNR=48						
	1.7nm,0.5s						

IDC 20 14:17:45.4±3.0,24.°31N×94.°86E,h119km±34km,mb3.2/3,
mbtmp3.6/5,Error ellipse: s-maj=31.9km s-min=19.3km
az=44.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**3.37**	**242**	P	Pn	14 18 35.8	-0.8
	101nm,0.3s,baz=270,slow=22,SNR=1.5						
BRDH				S	Sn	14 19 16.8	+0.7
	109nm,0.4s,baz=270,slow=19,SNR=5.7						
CMAR	**Chiang Mai Arr**	**6.96**	**146**	P	Pn	14 19 25.0	+0.2
	1.8nm,0.7s,baz=320,slow=13,SNR=13						
MKAR	**Makanchi Array**	**24.59**	**339**	P	P	14 22 54.4	0.0
	1.3nm,0.5s,baz=151,slow=9.3,SNR=20						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**58.42**	**135**	P	P	14 27 28.0	-0.9
	0.3nm,0.8s,baz=314,slow=8.4,SNR=1.4						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**60.90**	**139**	P	P	14 27 46.4	+0.5
	0.3nm,0.6s,baz=316,slow=6.9,SNR=5.4						
	0.3nm,0.6s						

*EAF **20** 14:27:27.7,26.°07S×29.°08E,h10km,MC3.7*
BUL 20 14:27:27.6±1.2,26.°07S×29.°09E,h10km,MD3.9,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**3.32**	**288**	*i* P	Pn	14 28 18.1	-1.7
LBTB				*i* S	Sn	14 28 57.6	-1.8
LBTB	**Lobatse**	**3.32**	**288**	*i* P	Pn	14 28 18.1	-1.7
	baz=288						
LBTB				*i* S	Sn	14 28 57.6	-1.8
	baz=288						
MUSN	**Musina, Limpop**	**3.83**	**11**	*i* P	Pn	14 28 26.2	-0.6
MUSN				*i* S	Sn	14 29 09.7	-2.2
MUSN	**Musina, Limpop**	**3.83**	**11**	*i* P	Pn	14 28 26.2	-0.6
	baz=11						
MUSN				*i* S	Sn	14 29 09.7	-2.2
	baz=11						
BOSA	**Boshof**	**4.25**	**233**	*i* P	Pn	14 28 31.8	-0.7
BOSA				*i* S	Sn	14 29 19.6	-2.6
BOSA	**Boshof**	**4.25**	**233**	*i* P	Pn	14 28 31.8	-0.7
	baz=233						
BOSA				*i* S	Sn	14 29 19.6	-2.6
	baz=233						

*NEIC **20** 14:34:39.4±2.2,24.°14S±0.°05×174.°7W±0.°1,h24km±5km,*
mb4.5/11,Error ellipse: s-maj=15.4km s-min=6.5km
az=108.0
*IDC **20** 14:34:49.9±4.5,23.°93S×175.°74W,h44km±37km,mb3.8/9,*
mbtmp4.1/12,ML4.9/2,Error ellipse: s-maj=33.4km
s-min=24.4km az=120.0

ISC 20 14:34:40.1±0.6,24.°21S±0.°10×174.°99W±0.°08,h10km,n38,σ2°16/30,mb4.4/15,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.95**	**44**	Pn	**Pn**	**14 36 19.3**	**-2.7**
MSVF	**Nonsavu**	**9.15**	**313**	Pn	**Pn**	**14 36 51.8**	**-0.6**
MSVF	**Nonsavu**	**9.15**	**313**	P	**Pn**	**14 36 50.8**	**-1.6**
	1.3nm,0.3s,baz=120,slow=23,SNR=11						
	23nm,0.8s						
AFI	**Afiamalu**	**10.69**	**17**	Pn	Pn	14 37 05.5	-7.9
RAR	**Rarotonga**	**14.35**	**81**	P	**P**	**14 38 10.7**	**+0.1**
	16nm,0.5s,baz=318,slow=2.5,SNR=5.5						
URZ	**Urewera**	**15.54**	**204**	P	**P**	**14 38 25.9**	**+2.2**
	0.7nm,0.3s,baz=240,slow=8.7,SNR=1.6						
	8.4nm,1.0s						
BKZ	**Black Stump Fm**	**16.57**	**204**	P	**Pn**	**14 38 33.7**	**+1.1**
BKZ				IAmb	IAmb	14 38 47.5	
	comp=Z,21nm,1.5s						
DZM	**Mont Dzumac**	**17.21**	**273**	*e*LR	LR	14 42 28.1	
	comp=Z,478nm,22.4s						
DZM	**Mont Dzumac**	**17.21**	**273**	P	**Pn**	**14 38 38.6**	**-2.2**
	comp=Z,4.3nm,0.8s,baz=110,slow=23,SNR=1.3						
PAE	**Paea**	**24.59**	**79**	*e*T	T	15 06 01.3	
	comp=Z,6.4nm,0.4s						
PPT2	**Papeete2**	**24.61**	**79**	*e*S	**S**	**14 44 24.3**	**+2.0**
	comp=Z,61nm,29.2s						
PPT2				*e*LR	LR	14 46 11.2	
	comp=Z,362nm,24.2s						
PPT2				*e*LR	LR	14 46 17.2	
	comp=Z,280nm,26.0s						
PPT2	**Papeete2**	**24.61**	**79**	*e*T	T	15 06 08.8	
	comp=Z,4.4nm,0.3s						
CTAO	**Charters Tower**	**36.05**	**269**	P	**P**	**14 41 41.2**	**-0.8**
CTAO				IAmb	IAmb	14 42 09.5	
	comp=Z,7.3nm,0.7s						
TAOE	**Nuku Hiva Isla**	**36.59**	**71**	*e*LR	LR	14 52 01.3	
	comp=Z,141nm,25.7s						
STKA	**Stephens Creek**	**38.87**	**249**	P	**P**	**14 42 06.6**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=137,slow=16,SNR=2.9						
	comp=Z,0.6nm,0.4s						
PMG	**Port Moresby**	**38.96**	**286**	P	**P**	**14 42 07.8**	**+1.1**
PMG				IAmb	IAmb	14 42 29.6	
	comp=Z,17nm,0.9s						
AS31	**Alice Springs**	**46.49**	**260**	P	**P**	**14 43 07.0**	**-0.9**
ASAR	**Alice Springs**	**46.50**	**260**	P	**P**	**14 43 07.2**	**-0.7**
ASAR	**Alice Springs**	**46.50**	**260**	P	**P**	**14 43 07.7**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=94,slow=6.9,SNR=19						
	comp=Z,1.2nm,0.7s						
WR0	**Warramunga Arr**	**46.76**	**265**	P	**P**	**14 43 07.5**	**-2.5**
WR0				IAmb	IAmb	14 43 31.4	
	comp=Z,5.4nm,1.1s						
WB2	**Warramunga Arr**	**46.94**	**265**	P	**P**	**14 43 08.8**	**-2.5**
WB2				IAmb	IAmb	14 43 32.9	
	comp=Z,3.7nm,0.8s						
WB0	**Warramunga Arr**	**46.95**	**265**	P	**P**	**14 43 09.1**	**-2.3**
WB0				IAmb	IAmb	14 43 33.3	
	comp=Z,3.8nm,0.8s						
WRA	**Warramunga Arr**	**46.95**	**265**	P	**P**	**14 43 08.7**	**-2.8**
WRA	**Warramunga Arr**	**46.95**	**265**	P	**P**	**14 43 10.4**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=90,slow=5.9,SNR=17						
	comp=Z,1.5nm,0.7s						
KNRA	**Kununurra**	**53.26**	**268**	P	**P**	**14 43 57.5**	**-1.9**
QSPA	**South Pole Qui**	**65.88**	**180**	P	**P**	**14 45 23.6**	**-2.2**
SMAI	**San Martin Ant**	**74.15**	**158**	P	**P**	**14 46 12.8**	**-3.7**
SMAI				IAmb	IAmb	14 46 15.7	
	comp=Z,6.4nm,1.5s						
MAW	**Mawson**	**79.02**	**199**	P	P	14 46 50.0	+6.1
	comp=Z,1.1nm,0.8s,baz=35,slow=4.7,SNR=2.7						
	comp=Z,1.1nm,0.8s						
PETK	**Petropavlovsk-**	**80.58**	**344**	P	**P**	**14 46 54.2**	**+1.7**
	comp=Z,3.4nm,0.8s,baz=132,slow=4.3,SNR=3.2						
	comp=Z,3.4nm,0.8s						
SNAA	**Sanae**	**84.22**	**178**	P	P	14 47 16.9	+5.3
	comp=Z,0.8nm,1.0s,baz=264,slow=17,SNR=1.7						
	comp=Z,0.8nm,1.0s						
TXAR	**Lajitas Array**	**86.76**	**56**	P	P	14 47 32.0	+7.1
	comp=Z,0.6nm,0.8s,baz=218,slow=7.9,SNR=5.5						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**91.33**	**12**	P	**P**	**14 47 47.9**	**+2.4**
	comp=Z,1.1nm,1.2s,baz=321,slow=33,SNR=2.4						
	comp=Z,1.1nm,1.2s						
CMAR	**Chiang Mai Arr**	**93.95**	**288**	P	**P**	**14 48 01.3**	**+2.6**
	comp=Z,1.7nm,1.0s,baz=129,slow=3.0,SNR=4.4						
	comp=Z,1.7nm,1.0s						
BVAR	**Borovoye Array**	**123.70**	**319**	PKP	**PKiKP**	**14 53 40.7**	**+2.6**
	comp=Z,0.6nm,0.5s,baz=354,slow=1.4,SNR=3.3						
AKASG	**Malin Array Be**	**147.59**	**331**	PKPbc	**PKPab**	**14 54 26.9**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=42,slow=3.6,SNR=8.4						
BRTR	**Ke

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	0.8nm,0.4s,baz=172,slow=13,SNR=7.1						
AKTO	**Aktyubinsk**	**16.49**	**328**	⇓P	**Pn**	**14 56 24.1**	**+0.4**
	0.7nm,0.4s						
AKTO				⇑S	**S**	**14 59 23.0**	**-2.0**
	2.4nm,0.8s						
AKTO	**Aktyubinsk**	**16.49**	**328**	P	**Pn**	**14 56 26.3**	**+2.6**
	4.1nm,0.4s,baz=142,slow=7.1,SNR=15						
ZALV	**Zalesovo Beam**	**19.03**	**24**	P	**Pn**	**14 56 52.2**	**-1.3**
	3.7nm,0.3s,baz=207,slow=10,SNR=20						
ARCES	**ARCESS Array B**	**40.73**	**337**	P	**P**	**15 00 07.4**	**+2.9**
	5.2nm,1.1s,baz=99,slow=7.5,SNR=6.3						
	5.2nm,1.1s						
HFS	**Hagfors**	**42.89**	**321**	P	**P**	**15 00 25.4**	**+3.2**
	1.2nm,0.4s,baz=104,slow=12,SNR=2.6						
	1.2nm,0.4s						

*OSPL **20** 14:56:17.9±3.5, 17°.61N×68°.32W, h31km±372km, ML3.6*
*NEIC **20** 14:56:18.9±2.6, 17°.69N±0°.02×68°.51W±0°.04, h35km±2km, ML3.8/10, Md3.6/7(RSPR), Error ellipse: s-maj=7.3km s-min=3.1km az=59.0*
*RSPR **20** 14:56:19.5±2.8, 18°.1N±0°.1×68°.46W±0°.05, h94km±6km, Error ellipse: s-maj=15.3km s-min=6.1km az=188.0*
*SDD **20** 14:56:20.9±3.5, 17°.91N×68°.44W, h65km±18km, MD3.7, ML3.5, MW3.6, Fault plane solution: NP1:φ69.50000°, δ12.10000°, λ-2.20000°.*

ISC 20 14:56:19.1±1.0, 17°.89N±0°.06×68°.47W±0°.03, h72km±11km, n47, σ1°27/72, 6C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADR	**Isla Saona**	**0.42**	**316**	⇓ePg	**Pn**	**14 56 31.8**	**+0.4**
SADR				eSg	**Sn**	**14 56 41.1**	**+0.7**
SADR				IAML		14 56 41.5	
	comp=Z,2μm,0.2s						
PCDR	**Punta Cana, DR**	**0.63**	**7**		**Pn**	**14 56 33.9**	**+0.5**
PCDR					**Sn**	**14 56 44.6**	**+0.7**
PCDR	**Punta Cana, DR**	**0.63**	**7**	⇑ePg	**Pn**	**14 56 33.8**	**+0.4**
PCDR				eSg	**Sn**	**14 56 44.7**	**+0.9**
PCDR				IAML		14 56 47.4	
	comp=Z,2μm,0.8s						
HIDR	**Higuey Centro**	**0.74**	**341**	ePg	**Pn**	**14 56 34.3**	**-0.3**
HIDR				eSg	**Sn**	**14 56 45.3**	**-0.7**
HIDR				IAML		14 56 47.6	
	comp=Z,2μm,0.1s						
SPM1	**San Pedro UASD**	**0.97**	**305**	⇓ePg	**Pn**	**14 56 37.0**	**-0.3**
SPM1				eSg	**Sn**	**14 56 51.0**	**0.0**
SPM1				IAML		14 56 51.2	
	comp=Z,878nm,1.8s						
MIDR	**Miches**	**1.22**	**333**	⇓ePg	**Pn**	**14 56 39.2**	**-1.3**
MIDR				eSg	**Sn**	**14 56 54.0**	**-2.6**
MIDR				IAML		14 56 55.1	
	comp=Z,914nm,0.5s						
HATOM	**Hato Mayor del**	**1.25**	**316**	⇓ePg	**Pn**	**14 56 39.8**	**-1.0**
HATOM				eSg	**Sn**	**14 56 54.9**	**-2.3**
HATOM				IAML		14 56 55.7	
	comp=Z,1μm,0.2s						
PRSN	**Puerto Rico Se**	**1.30**	**75**		**Pn**	**14 56 42.0**	**+0.5**
PRSN					**Sn**	**14 56 58.0**	**-0.3**
SDD	**Santo Domingo**	**1.49**	**293**		**Pn**	**14 56 43.6**	**-0.3**
SDD				IAML		14 57 02.8	
	comp=E,707nm,0.9s						
SDD				IAML		14 57 02.8	
	comp=N,994nm,0.4s						
SDD	**Santo Domingo**	**1.49**	**293**		**Sn**	**14 57 01.8**	**-0.9**
SDD	**Santo Domingo**	**1.49**	**293**	⇓ePg	**Pn**	**14 56 43.6**	**-0.3**
SDD				eSg	**Sn**	**14 57 02.2**	**-0.4**
SDD				IAML		14 57 04.1	
	comp=Z,179nm,0.6s						
SDD	**Santo Domingo**	**1.49**	**293**	eS	**Sn**	**14 57 02.3**	**-0.4**
SMDR	**Samana, DR**	**1.55**	**334**	⇑ePg	**Pn**	**14 56 44.0**	**-0.8**
SMDR				eSg	**Sn**	**14 57 03.7**	**-0.5**
SMDR				IAML		14 57 09.1	
	comp=Z,369nm,0.3s						
BANI	**BANI**	**1.87**	**286**	⇓ePg	**Pn**	**14 56 49.1**	**0.0**
BANI				IAML		14 57 17.7	
	comp=Z,235nm,0.5s						
NADR	**Nagua**	**1.97**	**318**	ePg	**Pn**	**14 56 50.9**	**+0.6**
NADR				eSg	**Sn**	**14 57 12.8**	**-1.3**
NADR				IAML		14 57 27.5	
	comp=Z,781nm,0.3s						
LONA1	**Toro Cenizo, N**	**1.99**	**318**	i P	**Pn**	**14 56 49.5**	**-1.2**
LONA1				IAML		14 57 16.0	
	comp=Z,1μm,3.4s						
LONA1				eS	**Sn**	**14 57 16.5**	**+1.8**
SFDR	**San Fco. de Ma**	**2.18**	**310**	ePg	**Pn**	**14 56 53.2**	**-0.1**
SFDR				eSg	**Sn**	**14 57 20.9**	**+1.6**
SJG	**San Juan**	**2.22**	**84**		**Pn**	**14 56 53.2**	**-0.4**
SJG				IAML		14 57 26.2	
	comp=Z,780nm,0.2s						
SJG				IAML		14 57 27.2	
	comp=Z,666nm,0.2s						
SJG	**San Juan**	**2.22**	**84**	eP	**Pn**	**14 56 54.1**	**+0.4**
SJG	**San Juan**	**2.22**	**84**	ePg	**Pn**	**14 56 54.6**	**+0.9**
SJG				eSg	**Sn**	**14 57 20.6**	**+0.5**
ABDR	**Alto Bandera**	**2.25**	**294**	⇑ePg	**Pn**	**14 56 54.4**	**-0.1**
ABDR				eSg	**Sn**	**14 57 20.8**	**-0.7**
ABDR				IAML		14 57 22.9	
	comp=Z,87nm,0.3s						
CADR	**Cabrera**	**2.25**	**322**	⇑ePg	**Pn**	**14 56 54.4**	**+0.2**
CADR				eSg	**Sn**	**14 57 19.6**	**-1.4**
CADR				IAML		14 57 25.3	
	comp=Z,644nm,0.8s						
SC01	**Santiago de lo**	**2.63**	**306**		**Pn**	**14 57 00.9**	**+1.5**
SC01					**Sn**	**14 57 33.6**	**+3.2**
SC01	**Santiago de lo**	**2.63**	**306**	IAML		14 57 36.4	
	comp=N,355nm,0.6s						
SC01				IAML		14 57 39.9	
	comp=E,328nm,0.3s						
SC01	**Santiago de lo**	**2.63**	**306**	i P	**Pn**	**14 57 01.4**	**+2.0**
SC01				eS	**Sn**	**14 57 33.7**	**+3.4**
SC01				IAML		14 57 42.9	
	comp=Z,177nm,0.4s						
PODR	**Polo**	**2.69**	**276**	⇓ePg	**Pn**	**14 56 59.7**	**-0.6**
PODR				IAML		14 57 32.5	
	comp=Z,141nm,0.3s						
PODR	**Polo**	**2.69**	**276**	i P	**Pn**	**14 56 59.8**	**-0.6**
PODR				eS	**Sn**	**14 57 30.4**	**-1.7**
SODR	**Sosua Marina B**	**2.73**	**313**	ePg	**Pn**	**14 57 01.1**	**+0.5**
SODR				eSg	**Sn**	**14 57 32.5**	**0.0**
SODR				IAML		14 57 45.1	
	comp=Z,436nm,0.7s						
SDDR	**Presa de Saban**	**2.89**	**293**		**Pn**	**14 57 04.2**	**+1.3**
SDDR	**Presa de Saban**	**2.89**	**293**	eP	**Pn**	**14 57 03.0**	**0.0**
SDDR				eS	**Sn**	**14 57 37.1**	**+0.4**
SDDR	**Presa de Saban**	**2.89**	**293**	ePg	**Pn**	**14 57 04.8**	**+1.9**
SDDR				eSg	**Sn**	**14 57 37.0**	**+0.4**
SDDR				IAML		14 57 52.1	
	comp=Z,70nm,0.4s						
SDDR	**Presa de Saban**	**2.89**	**293**	i P	**Pn**	**14 57 03.9**	**+1.0**
SDDR				eS	**Sn**	**14 57 36.4**	**-0.2**
SDDR				IAML		14 57 39.0	
	comp=Z,57nm,0.5s						
LUDR	**Luperon**	**3.09**	**311**	⇑ePg	**Pn**	**14 57 05.1**	**-0.4**
LUDR				eSg	**Sn**	**14 57 42.2**	**+0.9**
LUDR				IAML		14 57 45.2	
	comp=Z,201nm,0.2s						
LOPE2	**Hotel El Peder**	**3.12**	**273**	i P	**Pn**	**14 57 06.0**	**0.0**
LOPE2				eS	**Sn**	**14 57 42.5**	**+0.2**
LOPE2				IAML		14 57 47.2	
	comp=Z,138nm,0.8s						
JIDR	**Jimani**	**3.27**	**281**	⇑ePg	**Pn**	**14 57 08.8**	**+0.8**
JIDR				eSg	**Sn**	**14 57 46.7**	**+0.9**
JIDR				IAML		14 57 47.8	
	comp=Z,304nm,1.1s						
PAPH	**Port-au-Prince**	**3.70**	**280**	Pn	**Pn**	**14 57 14.7**	**+0.9**
ANBD	**Bethesda, Anti**	**6.45**	**96**	eP	**Pn**	**14 57 52.5**	**+1.0**
ANBD	**Bethesda, Anti**	**6.45**	**96**	eS	**Sn**	**14 59 00.8**	**-2.9**
CBE	**Ff, Capester**	**6.81**	**104**	eP	**Pn**	**14 57 56.9**	**+0.5**
CBE	**Ff, Capester**	**6.81**	**104**	eS	**Sn**	**14 59 09.1**	**-3.4**
ABD	**La Joyeuse, An**	**6.82**	**101**	Pn	**Pn**	**14 57 57.0**	**+0.5**
MAGL	**Barre de l'ile**	**7.14**	**105**	eP	**Pn**	**14 58 02.3**	**+1.4**
BAUV	**El Baul**	**8.90**	**177**	Pn	**Pn**	**14 58 22.4**	**-2.6**
BARC	**Barichara**	**12.13**	**203**	eP	**Pn**	**14 59 10.3**	**+0.9**
PTBC	**PUERTO BERRIO,**	**12.70**	**208**	eP	**Pn**	**14 59 17.0**	**0.0**
RUSC	**La Rusia**	**12.75**	**201**	eP	**Pn**	**14 59 19.2**	**+1.2**
CHIC	**Chingaza**	**14.15**	**202**	eP	**Pn**	**14 59 37.8**	**+1.3**

IDC 20 14:50:56.2±269.0, 38°.71N×10°.89E, h0km, Error ellipse: s-maj=106.9km s-min=69.2km az=21.0, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**3.15**	**204**	I	I	15 10 40.0	
	baz=22,slow=317,SNR=1.5						
I26DE	**FREYUNG INFRAS**	**10.35**	**10**	I	I	15 51 20.0	
	baz=191,slow=329,SNR=1.4						
I43RU	**DUBNA INFRASON**	**25.02**	**35**	I	I	17 24 50.0	
	baz=234,slow=330,SNR=1.9						

*IDC **20** 14:52:48.1±4.8, 37°.42N×71°.83E, h195km±28km, mb3.7/2, mbtmp3.9/9, Error ellipse: s-maj=62.3km s-min=24.0km az=151.0*
*NNC **20** 14:52:52.0±3.1, 37°.88N×72°.20E, h243km±29km, mb2.1, mpv2.8, Error ellipse: s-maj=32.2km s-min=23.4km az=33.0*

ISC 20 14:52:43.8±0.8, 37°.21N±0°.05×71°.75E±0°.08, h200km, n16, σ2°27/23, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.38**	**178**	P	**Pn**	**14 53 37.5**	**-0.6**
CEP				S	**Sn**	**14 54 18.0**	**-2.6**
CHCP	**Chirah Chowk**	**3.75**	**160**	P	**Pn**	**14 53 42.4**	**-0.1**
THW	**Thamme Wali**	**4.40**	**180**	P	**Pn**	**14 53 49.7**	**-1.0**
AML	**Almayashu**	**5.14**	**16**	⇓P	**Pn**	**14 54 00.7**	**+0.4**
	0.2nm,0.3s						
AML				⇓S	**Sn**	**14 54 56.1**	**-4.6**
	17nm,0.7s						
AAK	**Ala-Archa**	**5.82**	**20**	P	**Pn**	**14 54 09.9**	**+1.2**
	3.3nm,0.3s,baz=190,slow=6.1,SNR=11						
AAK				S	**Sn**	**14 55 14.0**	**-2.0**
	5.6nm,0.3s,baz=202,slow=19,SNR=3.8						
KK31	**Karatay Array**	**5.97**	**351**	⇑P	**Pn**	**14 54 12.0**	**+1.5**
	1.5nm,0.3s,baz=163,slow=11,SNR=32						
KK31				⇑S	**Sn**	**14 55 15.6**	**-3.6**
	42nm,0.7s,baz=164,slow=22,SNR=22						
GEYT	**Alibeck**	**10.85**	**278**	P	**P**	**14 55 19.3**	**-1.2**
	0.8nm,0.3s,baz=95,slow=15,SNR=2.3						
GEYT				S	**S**	**14 57 14.2**	**-1.1**
	2.8nm,0.6s,baz=97,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**12.37**	**36**	P	**P**	**14 55 36.3**	**-1.0**
	0.3nm,0.7s,baz=235,slow=12,SNR=2.0						
KURBB	**Kurchatov Arra**	**14.27**	**18**	P	**P**	**14 56 00.0**	**+1.7**
	0.4nm,0.4s,baz=208,slow=11,SNR=6.2						
AB31	**Akbulak array**	**14.78**	**328**	⇑P	**P**	**14 56 03.6**	**-0.4**
	0.9nm,0.5s,baz=138,slow=12,SNR=36						
AB31				⇓S	**Sn**	**14 58 46.2**	**-2.1**
	2.3nm,0.8s,baz=147,slow=23,SNR=6.8						
BVAR	**Borovoye Array**	**15.85**	**357**	P	**Pn**	**14 56 19.1**	**+3.1**
WRA	**Warramunga Arr**	**35.55**	**200**	P	**P**	**15 09 17.9**	**-0.9**
	0.7nm,0.9s,baz=25,slow=9.3,SNR=3.0						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**39.16**	**199**	P	**P**	**15 09 50.0**	**+0.5**
	0.2nm,0.6s,baz=16,slow=11,SNR=5.4						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**62.77**	**316**	P	**P**	**15 12 47.0**	**+0.1**
	0.5nm,0.5s,baz=91,slow=8.4,SNR=6.8						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**65.81**	**320**	P	**P**	**15 13 06.5**	**-0.3**
	0.6nm,0.4s,baz=102,slow=7.1,SNR=4.6						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**71.06**	**322**	P	**P**	**15 13 39.9**	**+0.3**
	0.6nm,0.5s,baz=107,slow=6.4,SNR=4.8						
	0.6nm,0.5s						

*NOU **20** 15:04:45.2, 20°.25S×173°.42W, h5km, mb4.6/9, Tonga Islands*
*IDC **20** 15:04:56.2±4.0, 20°.64S×174°.00W, h102km±35km, mb3.8/13, mbtmp4.2/16, MS3.6/4, Error ellipse: s-maj=22.7km s-min=16.0km az=120.0*

ISC 20 15:04:46.3±0.6, 20°.45±0°.1×173°.57W±0°.10, h21km, n33, σ2°20/29, mb4.2/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.69**	**69**	P	**Pn**	**15 05 39.5**	**-2.6**
AFI	**Afiamalu**	**6.72**	**15**	P	**Pn**	**15 06 22.1**	**-1.8**
MSVF	**Nonsavu**	**8.37**	**287**	P	Pn	15 06 52.2	+5.6
	16nm,0.7s,baz=126,slow=14,SNR=8.5						
MSVF				LR	LR	15 10 02.0	
	comp=Z,490nm,18.4s,baz=138,slow=38						
RAO	**Raoul Island**	**9.62**	**203**	LR	LR	15 10 14.3	
	comp=Z,113nm,22.0s,baz=260,slow=34						
PINNC	**Pines Island,**	**17.80**	**260**	P	**P**	**15 08 55.2**	**+1.7**
YATNC	**Mamie plateau,**	**18.29**	**261**	P	**P**	**15 09 01.2**	**+2.3**
DZM	**Mont Dzumac**	**18.70**	**261**	P	**Pn**	**15 09 06.2**	**+2.1**
DZM	**Mont Dzumac**	**18.70**	**261**	P	**P**	**15 09 03.0**	**-0.6**
	11nm,0.8s,baz=93,slow=22,SNR=5.9						
DZM				LR	LR	15 14 48.4	
	comp=Z,76nm,19.1s,baz=192,slow=32						
URZ	**Urewera**	**19.50**	**202**	P	**P**	**15 09 10.9**	**-1.2**
	4.7nm,0.5s,baz=356,slow=1.4,SNR=9.0						
BFZ	**Birch Farm**	**21.97**	**201**	P	**P**	**15 09 42.0**	**+3.2**
QRZ	**Quartz Range**	**23.52**	**207**	P	**P**	**15 09 59.7**	**+4.7**
JCZ	**Jackson Bay**	**27.77**	**208**	P	**P**	**15 10 37.3**	**+3.5**
HNR	**Honiara**	**27.79**	**289**	LR	LR	15 20 56.5	
	comp=Z,558nm,18.3s,baz=267,slow=35						
STKA	**Stephens Creek**	**41.56**	**245**	P	**P**	**15 12 29.8**	**-2.9**
	2.1nm,0.7s,baz=105,slow=12,SNR=4.1						
	2.1nm,0.7s						
ASAR	**Alice Springs**	**48.57**	**256**	P	**P**	**15 13 25.6**	**-3.1**
	2.9nm,0.9s,baz=80,slow=8.4,SNR=26						
ASAR				PcP	**PcP**	**15 14 53.4**	**-0.8**
	1.0nm,0.7s,baz=117,slow=4.4,SNR=5.2						
	2.9nm,0.9s						
WRA	**Warramunga Arr**	**48.72**	**261**	P	**P**	**15 13 26.1**	**-3.6**
	0.9nm,0.4s,baz=96,slow=7.0,SNR=28						
WRA				PcP	**PcP**	**15 14 54.0**	**-0.8**
	0.8nm,0.7s,baz=100,slow=3.2,SNR=4.8						
	0.9nm,0.4s						
QSPA	**South Pole Qui**	**69.63**	**180**	P	**P**	**15 15 53.5**	**-0.5**
	4.6nm,0.9s,baz=24,slow=3.1,SNR=11						
	4.6nm,0.9s						
MJAR	**Matsushiro Arr**	**72.70**	**321**	P	**P**	**15 16 13.1**	**+0.2**
	1.5nm,0.8s,baz=128,slow=7.9,SNR=2.8						
	1.5nm,0.8s						
PETK	**Petropavlovsk-**	**77.37**	**343**	P	**P**	**15 16 39.9**	**+0.6**
	2.4nm,0.8s,baz=110,slow=9.4,SNR=5.8						
	2.4nm,0.8s						
NVAR	**Mina Array Bea**	**78.18**	**41**	P	**P**	**15 16 47.2**	**+2.7**
	3.5nm,0.9s,baz=220,slow=9.0,SNR=13						
	3.5nm,0.9s						
H03S2	**Juan Fernandez**	**82.57**	**123**	T	T	16 49 35.7	
	baz=248,slow=74,SNR=3.9						
H03S1	**Juan Fernandez**	**82.58**	**123**	T	T	16 49 36.3	
	baz=248,slow=74,SNR=4.4						
H03S3	**Juan Fernandez**	**82.59**	**123**	T	T	16 49 36.9	
	baz=248,slow=74,SNR=3.2						
MAW	**Mawson**	**82.99**	**199**	P	**P**	**15 17 08.9**	**-0.7**
	1.6nm,0.8s,baz=158,slow=5.8,SNR=5.4						
	1.6nm,0.8s						
TXAR	**Lajitas Array**	**83.56**	**56**	P	**P**	**15 17 15.2**	**+1.8**
	1.0nm,0.8s,baz=222,slow=8.4,SNR=7.0						
	1.0nm,0.8s						
ANMO	**Albuquerque**	**84.16**	**50**	P	**P**	**15 17 19.2**	**+2.8**
	0.9nm,0.4s,baz=296,slow=9.4,SNR=3.6						
	0.9nm,0.4s						
PDAR	**Pinedale Array**	**86.12**	**42**	P	**P**	**15 17 27.4**	**+1.3**
	0.6nm,0.8s,baz=200,slow=3.9,SNR=4.3						
	0.6nm,0.8s						
ILAR	**Eielson Array**	**87.40**	**11**	P	**P**	**15 17 32.5**	**+1.0**
	0.8nm,0.7s,baz=216,slow=5.3,SNR=21						
	0.8nm,0.7s						
SNAA	**Sanae**	**87.91**	**177**	P	**P**	**15 17 33.6**	**-0.6**
	1.7nm,1.0s,baz=195,slow=1.8,SNR=4.6						
	1.7nm,1.0s						
EKA	**Eskdalemuir Ar**	**144.42**	**9**	PKP	**PKPab**	**15 24 19.2**	**+0.3**
	1.2nm,0.6s,baz=317,slow=3.5,SNR=4.3						
AKASG	**Malin Array Be**	**144.86**	**335**	PKP	**PKPab**	**15 24 20.9**	**+0.3**
	2.2nm,0.5s,baz=42,slow=4.3,SNR=9.7						
BRTR	**Keskin Array B**	**149.80**	**316**	PKPbc	**PKPbc**	**15 24 35.0**	**-0.2**
	0.8nm,0.6s,baz=98,slow=2.9,SNR=4.3						
GERES	**GERESS Array B**	**151.07**	**350**	PKPbc	**PKPbc**	**15 24 36.6**	**-1.3**
	0.8nm,0.8s,baz=352,slow=6.0,SNR=3.7						

*BUL **20** 15:12:11.3±0.7, 24°.22S×30°.05E, h10km, MD3.5*
*PRE **20** 15:12:11.8±0.9, 24°.43S×29°.86E, h5km, ML1.7*
*EAF **20** 15:12:12.2, 24°.19S×29°.97E, h10km, MC3.4*

ISC 20 15:12:11.2±1.7, 24°.26S±0°.04×29°.99E±0°.03, h20km±7km, n12, σ0°88/24, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PILG	**Pilgrimsrest,**	**0.94**	**136**	eP	**Pn**	**15 12 30.2**	**+0.6**
PILG				eS	**Sn**	**15 12 42.5**	**0.0**
PILG				IAML		15 12 48.3	
	comp=Z,18nm,0.4s						
MOPA	**Mopani**	**1.49**	**60**	i P	**Pb**	**15 12 37.5**	**-0.7**
MOPA				i S	**Sb**	**15 12 57.4**	**+0.6**
MOPA	**Mopani**	**1.49**	**60**	i P	**Pb**	**15 12 37.5**	**-0.7**
	baz=63						
MOPA				i S	**Sb**	**15 12 57.4**	**+0.6**
	baz=63						
CRLN	**Carolina, Mapu**	**1.73**	**179**	eP	**Pn**	**15 12 40.6**	**+0.3**
CRLN				eS	**Sn**	**15 13 02.0**	**+0.1**
CRLN				IAML		15 13 11.1	
	comp=Z,10.0nm,0.8s						
MUSN	**Musina, Limpop**	**1.97**	**357**	i P	**Pn**	**15 12 43.5**	**-0.1**
MUSN				i S	**Sn**	**15 13 08.1**	**+0.4**
MUSN	**Musina, Limpop**	**1.97**	**357**	eP	**Pg**	**15 12 48.5**	**-0.6**
MUSN				eS	**Sg**	**15 13 15.6**	**+0.9**
MUSN				IAML		15 13 20.4	
	comp=Z,13nm,0.2s						
MUSN	**Musina, Limpop**	**1.97**	**357**	i P	**Pn**	**15 12 43.5**	**-0.1**
	baz=357						
MUSN				i S	**Sn**	**15 13 08.1**	**+0.4**
	baz=357						
LEPH	**Lephalale, Lim**	**2.04**	**281**	eP	**Pb**	**15 12 46.7**	**-1.0**
LEPH				eS	**Sb**	**15 13 12.5**	**-0.2**
LEPH				IAML		15 13 23.6	
	comp=Z,9.4nm,0.4s						
LBTB	**Lobatse**	**4.06**	**258**	i P	**Pn**	**15 13 13.7**	**+1.2**
LBTB				i S	**Sn**	**15 14 00.2**	**+0.7**
LBTB	**Lobatse**	**4.06**	**258**	i P	**Pn**	**15 13 13.7**	**+1.2**
	baz=257						
LBTB				i S	**Sn**	**15 14 00.2**	**+0.7**
	baz=257						
BOSA	**Boshof**	**6.06**	**223**	i P	**Pn**	**15 13 41.1**	**+1.2**
BOSA				i S	**Sn**	**15 14 47.5**	**-1.4**
BOSA	**Boshof**	**6.06**	**223**	i P	**Pn**	**15 13 41.1**	**+1.2**
	baz=223						
BOSA				i S	**Sn**	**15 14 47.5**	**-1.4**
	baz=223						

*DNK **20** 15:40:16.3±1.5, 79°.04N×2°.70E, h36km±999km, ML0.9*
*BER **20** 15:40:19.8±0.4, 79°.39N×4°.25E, h10km, mb(Pn)2.5, Confirmed Earthquake*

ISC 20 15:40:08.3±1.1, 79°.7N±0°.1×1°.91E±0°.05, h10km, n6, σ2°88/10, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.02**	**107**	*e*P	**Pb**	**15 40 45.2**	**+0.1**
KBS				IAML		15 40 46.2	
	comp=Z,4.2nm,0.3s						
KBS				*e*S	**Sn**	**15 41 04.2**	**-3.5**
KBS	**Kingsbay**	**2.02**	**107**	*i* P	**Pb**	**15 40 44.9**	**-0.2**
KBS				*i* S	**Sn**	**15 41 04.1**	**-3.5**
BRBB	**Barentsburg B**	**2.87**	**118**	*e*P	**Pn**	**15 40 56.5**	**+2.5**
SPA0	**Spitsbergen Ar**	**3.17**	**111**	*e*P	**Pn**	**15 41 01.2**	**+3.1**
NOR	**Nord**	**3.58**	**311**	*e*P	**Pg**	**15 41 16.2**	**-0.5**
NOR				IAML		15 42 05.3	
	comp=Z,0.3nm,0.4s						
DAG	**Danmarks Havn**	**5.10**	**246**	*e*	**Pn**	**15 41 25.3**	**+0.7**
	baz=48,slow=8.6						
DAG				*i* P	**Pn**	**15 41 27.8**	**+3.2**
DAG				*i* S	**Sn**	**15 42 20.7**	**-2.7**
DAG				IAML		15 42 25.6	
	comp=Z,1.1nm,0.3s						

IDC 20 15:46:43.2±2.1, 3°.68N×123°.72E, h0km, mb3.2/3, mbtmp3.2/3, MS3.3/1, Error ellipse: s-maj=216.3km s-min=29.0km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.69**	**156**	P	P	15 52 15.1	-0.1
	0.2nm,0.5s,baz=334,slow=11,SNR=6.6 0.2nm,0.5s						
ASAR	**Alice Springs**	**28.94**	**160**	P	P	15 52 44.5	+0.1
	0.1nm,0.5s,baz=346,slow=7.6,SNR=5.6 0.1nm,0.5s						
DZM	**Mont Dzumac**	**48.98**	**123**	LR	LR	16 15 47.2	
	comp=Z,33nm,18.6s,baz=124,slow=36						
MKAR	**Makanchi Array**	**55.92**	**327**	P	P	15 56 22.9	-0.1
	0.3nm,0.5s,baz=127,slow=9.2,SNR=2.0 0.3nm,0.5s						

*IDC **20** 16:02:00.4±2.4, 31°.27S×178°.63W, h0km, mb3.5/3, mbtmp3.5/3, MS3.2/1, Error ellipse: s-maj=67.7km s-min=41.6km az=41.0*
*WEL **20** 16:02:11.1±1.1, 32°.S±8°.×17°.8W±2°.6, h33km, M4.4/7, mB4.9/4, ML4.5/8, MLv4.5/7, Mw(mB)4.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=106.2, confirmed*
ISC 20 16:02:10.0±1.0, 32°.17S±0°.08×178°.0W±0°.2, h35km, n32, σ1§82/34, mb3.4/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.90**	**2**	P	**Pn**	**16 02 55.3**	**+1.6**
GLKZ				S	**Sn**	**16 03 28.0**	**+0.8**
MXZ	**Matakaoa Point**	**6.17**	**208**	P	**Pn**	**16 03 41.0**	**+2.4**
WMGZ	**Waiomatatini S**	**6.35**	**206**	P	**Pn**	**16 03 42.7**	**+1.6**
WMGZ				S	**Sn**	**16 04 53.1**	**+0.7**
PKGZ	**Pakihiroa**	**6.54**	**208**	P	**Pn**	**16 03 44.1**	**+0.3**
HAZ	**Te Kaha**	**6.56**	**211**	P	**Pn**	**16 03 44.0**	**+0.2**
HAZ				S	**Sn**	**16 04 59.3**	**+1.9**
PUZ	**Puketiti**	**6.63**	**206**	P	**Pn**	**16 03 45.0**	**0.0**
RUGZ	**Raukumara Rang**	**6.78**	**210**	P	**Pn**	**16 03 48.4**	**+1.3**
RUGZ				S	**Sn**	**16 05 02.9**	**-0.1**
TWGZ	**Tauwhareparae**	**6.83**	**208**	P	**Pn**	**16 03 50.3**	**+2.5**
CNGZ	**Carnagh Statio**	**7.02**	**205**	P	**Pn**	**16 03 51.5**	**+1.3**
TKGZ	**Te Karaka**	**7.11**	**207**	P	**Pn**	**16 03 54.1**	**+2.6**
MWZ	**Matawai**	**7.15**	**209**	P	**Pn**	**16 03 51.0**	**-1.1**
URZ	**Urewera**	**7.27**	**212**	P	**Pn**	**16 03 52.9**	**-0.7**
URZ				S	**Sn**	**16 05 12.6**	**-2.3**
WCZ	**Waipu Caves**	**7.37**	**237**	P	**Pn**	**16 03 56.4**	**+1.3**
RIGZ	**Rimuhau**	**7.38**	**207**	P	**Pn**	**16 03 55.8**	**+0.6**
PRGZ	**Paritu Road**	**7.52**	**205**	P	**Pn**	**16 03 59.9**	**+2.7**
SNGZ	**Shannon Statio**	**7.61**	**209**	P	**Pn**	**16 03 56.7**	**-1.7**
RTZ	**Ruatahuna**	**7.62**	**211**	P	**Pn**	**16 03 59.5**	**+0.9**
MHGZ	**Mahia Peninsul**	**7.72**	**204**	P	**Pn**	**16 04 02.1**	**+2.3**
RAHZ	**Arahi**	**7.83**	**209**	P	**Pn**	**16 04 02.9**	**+1.5**
MTHZ	**Maungataniwha**	**7.88**	**211**	P	**Pn**	**16 04 02.8**	**+0.7**
MRHZ	**Matea Rd**	**8.05**	**213**	P	**Pn**	**16 04 04.7**	**+0.2**
ARHZ	**Aropaoanui**	**8.16**	**208**	P	**Pn**	**16 04 06.7**	**+0.8**
BKZ	**Black Stump Fm**	**8.29**	**211**	P	**Pn**	**16 04 08.1**	**+0.3**
MCHZ	**McNeill Hill**	**8.43**	**209**	P	**Pn**	**16 04 09.3**	**-0.3**
BHHZ	**Black Hill Sta**	**8.74**	**212**	P	**Pn**	**16 04 13.2**	**-0.8**
PPT	**Papeete**	**29.50**	**67**	LR	LR	16 18 17.7	
	comp=Z,41nm,19.6s,baz=120,slow=33						
ASAR	**Alice Springs**	**43.03**	**269**	P	P	16 09 57.4	-9.1
	0.3nm,0.7s,baz=106,slow=7.6,SNR=7.1 0.3nm,0.7s						
WRA	**Warramunga Arr**	**44.18**	**274**	P	P	16 10 06.9	-8.8
	0.2nm,0.3s,baz=112,slow=8.1,SNR=7.3 0.2nm,0.3s						
QSPA	**South Pole Qui**	**57.95**	**180**	P	**P**	**16 12 00.6**	**+2.0**
	1.0nm,0.9s,baz=347,slow=2.7,SNR=2.2 1.0nm,0.9s						
VNA3	**Neumayer Olymp**	**76.55**	**176**	P	**P**	**16 13 55.0**	**-1.2**
VNA2	**Neumayer--Watz**	**76.98**	**177**	P	**P**	**16 13 57.4**	**-1.2**
	baz=319,slow=13						
FINES	**FINESS Array B**	**146.79**	**339**	PKPbc	**PKPdf**	**16 21 39.8**	**-5.9**
	0.8nm,0.7s,baz=33,slow=3.3,SNR=1.1						

*LDG **20** 16:16:36.5±0.1, 42°.79N×13°.15E, h8km, Ml3.2/10, Error ellipse: s-maj=4.8km s-min=3.0km az=42.0*
*ROM **20** 16:16:37.1±0.0, 42°.799N±0°.001×13°.131E±0°.003, h10km, ML3.4/237, Mw3.3, Error ellipse: s-maj=0.2km s-min=0.1km az=71.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.19; $M_{\theta\theta}$0.48; $M_{\phi\phi}$-0.29; $M_{r\theta}$-0.64; $M_{\theta\phi}$-0.20; $M_{\phi r}$0.68; Fault plane solution: $M_0$1.04490×10^{14} NP1:ϕ_s242.00000°, δ23.00000°, λ-163.00000°. NP2:ϕ_s137.00000°, δ84.00000°, λ-68.00000°.*
*IDC **20** 16:16:39.3±3.1, 43°.03N×13°.66E, h0km, mb3.4/3, mbtmp3.4/6, ML3.2/3, MS3.0/1 Error ellipse: s-maj=53.5km s-min=21.1km az=63.0*
*PRU **20** 16:16:39.0, 42°.79N×13°.56E, h10km*
ISC 20 16:16:37.4±0.7, 42°.78N±0°.01×13°.11E±0°.02, h13km±4km, n218, σ1§47/277, mb3.5/3, 26C-4D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**8**	P	**Pg**	**16 16 39.5**	**-0.7**
NRCA				S	**Sg**	**16 16 40.7**	**-1.3**
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
NRCA				AML	AML		
T1214	**Arquata del Tr**	**0.08**	**106**	⇓*i*P	**Pg**	**16 16 40.0**	**-0.4**
T1214				S	**Sg**	**16 16 41.7**	**-0.8**
T1214				AML	AML		
	comp=E,47400μm,0.5s						
T1214				AML	AML		
	comp=E,48100μm,0.5s						
T1214				AML	AML		
	comp=N,54950μm,0.2s						
T1214				AML	AML		
	comp=E,48100μm,0.5s						
T1214				AML	AML		
	comp=E,47400μm,0.5s						
T1214				AML	AML		
	comp=N,54426μm,0.2s						
T1214				AML	AML		
	comp=N,54450μm,0.2s						
T1214				AML	AML		
	comp=N,54996μm,0.2s						
T1214				AML	AML		
	comp=N,55000μm,0.2s						
T1214				AML	AML		
	comp=E,37180μm,0.2s						
T1214				AML	AML		
	comp=E,34869μm,0.2s						
MC2	**Monte Cornacci**	**0.15**	**26**	⇑*i*P	**Pg**	**16 16 40.6**	**-0.6**
MC2				S	**Sg**	**16 16 43.0**	**-1.0**
GAVE	**Gavelli**	**0.18**	**240**	P	**Pg**	**16 16 42.3**	**+0.7**
GAVE				S	**Sb**	**16 16 46.0**	**-0.1**
GAVE				AML	AML		
	comp=E,47250μm,1.5s						
GAVE				AML	AML		
	comp=E,44550μm,1.5s						
GAVE				AML	AML		
	comp=N,55500μm,0.6s						
GAVE				AML	AML		
	comp=N,15250μm,0.6s						
GAVE				AML	AML		
	comp=N,40634μm,0.5s						
GAVE				AML	AML		
	comp=N,11128μm,0.4s						
GAVE				AML	AML		
	comp=E,43086μm,0.3s						
GAVE				AML	AML		
	comp=E,46519μm,0.3s						
LNSS	**Leonessa**	**0.18**	**195**	⇑*i*P	**Pg**	**16 16 42.3**	**+0.6**
LNSS				S	**Sg**	**16 16 45.9**	**+1.2**
LNSS				AML	AML		
	comp=N,37300μm,0.7s						
LNSS				AML	AML		
	comp=E,34000μm,0.3s						
LNSS				AML	AML		
	comp=E,34026μm,0.3s						
LNSS				AML	AML		
	comp=N,34685μm,0.1s						
FEMA	**Monte Fema**	**0.19**	**347**	P	**Pg**	**16 16 41.5**	**-0.4**
FEMA				S	**Sg**	**16 16 44.3**	**-0.5**
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,67150μm,1.0s						
FEMA				AML	AML		
	comp=N,67150μm,1.1s						
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,67150μm,0.9s						
FEMA				AML	AML		
	comp=E,89080μm,0.2s						
FEMA				AML	AML		
	comp=N,65990μm,0.2s						
MMO1	**Montemonaco**	**0.20**	**54**	⇑*i*P	**Pg**	**16 16 41.4**	**-0.6**
MMO1				S	**Sg**	**16 16 44.3**	**-0.8**
T1221	**Campello sul C**	**0.21**	**293**	⇓*i*P	**Pg**	**16 16 42.4**	**+0.3**
T1221				S	**Sb**	**16 16 46.0**	**-0.9**
T1221				AML	AML		
	comp=E,16500μm,0.4s						
T1221				AML	AML		
	comp=N,15900μm,1.5s						
T1221				AML	AML		
	comp=E,15300μm,0.4s						
T1221				AML	AML		
	comp=N,15150μm,1.5s						
T1221				AML	AML		
	comp=N,15900μm,1.5s						
T1221				AML	AML		
	comp=E,15350μm,0.4s						
T1221				AML	AML		
	comp=E,14071μm,0.2s						
T1221				AML	AML		
	comp=E,15532μm,0.2s						
T1221				AML	AML		
	comp=N,13886μm,0.6s						
T1221				AML	AML		
	comp=N,13781μm,0.5s						
T1221				AML	AML		
	comp=N,15100μm,1.5s						
MTRA	**Matera**	**0.22**	**96**	⇓P	**Pg**	**16 16 41.9**	**-0.3**
MTRA				S	**Sg**	**16 16 45.2**	**-0.3**
MTRA				AML	AML		
	comp=N,14650μm,0.8s						
MTRA				AML	AML		
	comp=E,14650μm,0.6s						
MTRA				AML	AML		
	comp=E,14600μm,0.6s						
MTRA				AML	AML		
	comp=N,14650μm,0.8s						
MTRA				AML	AML		
	comp=E,14600μm,0.6s						
MTRA				AML	AML		
	comp=N,14550μm,0.8s						
MTRA				AML	AML		
	comp=E,11482μm,0.4s						
MTRA				AML	AML		
	comp=E,11505μm,0.4s						
MTRA				AML	AML		
	comp=N,12745μm,0.3s						
MTRA				AML	AML		
	comp=N,12652μm,0.3s						
SMA1	**SAN MARTINO**	**0.23**	**131**	⇑P	**Pg**	**16 16 42.5**	**+0.1**
SMA1				S	**Sg**	**16 16 46.4**	**+0.6**
SMA1				AML	AML		
	comp=E,20850μm,0.5s						
SMA1				AML	AML		
	comp=N,12334μm,0.5s						
SMA1				AML	AML		
	comp=E,20850μm,1.5s						
SMA1				AML	AML		
	comp=N,13600μm,0.8s						
FDMO	**Fiordimonte**	**0.26**	**357**	⇑*i*P	**Pg**	**16 16 42.5**	**-0.4**
FDMO				S	**Sg**	**16 16 46.2**	**-0.4**
FDMO				AML	AML		
	comp=N,55450μm,0.3s						
FDMO				AML	AML		
	comp=N,55450μm,1.7s						
FDMO				AML	AML		
	comp=N,55467μm,0.3s						
FDMO				AML	AML		
	comp=E,37300μm,0.2s						
FDMO				AML	AML		
	comp=E,37298μm,0.2s						
CESI	**CESI - Serrava**	**0.27**	**327**	⇑*i*P	**Pg**	**16 16 43.1**	**0.0**
CESI				S	**Sg**	**16 16 47.3**	**+0.3**
CESI				AML	AML		
	comp=E,31750μm,0.5s						
CESI				AML	AML		
	comp=N,61550μm,0.5s						
CESI				AML	AML		
	comp=N,61550μm,1.5s						
CESI				AML	AML		
	comp=E,31750μm,1.5s						
CESI				AML	AML		
	comp=N,59821μm,0.3s						
CESI				AML	AML		
	comp=E,30083μm,0.2s						
RM33	**Pellescritta (**	**0.28**	**163**	⇑*i*P	**Pg**	**16 16 43.7**	**+0.3**
RM33				S	**Sg**	**16 16 48.6**	**+1.2**
RM33				AML	AML		
	comp=E,7315μm,1.1s						
RM33				AML	AML		
	comp=N,8125μm,1.4s						
RM33				AML	AML		
	comp=N,8125μm,1.5s						
RM33				AML	AML		
	comp=E,7125μm,1.1s						
RM33				AML	AML		
	comp=N,8010μm,1.5s						
RM33				AML	AML		
	comp=N,8125μm,0.5s						
RM33				AML	AML		
	comp=N,6602μm,0.2s						
RM33				AML	AML		
	comp=N,8010μm,0.5s						
RM33				AML	AML		
	comp=N,6604μm,0.2s						
RM33				AML	AML		
	comp=E,5518μm,0.5s						
RM33				AML	AML		
	comp=E,5251μm,0.5s						
CSP1	**Cessapalombo**	**0.32**	**13**	⇑P	**Pg**	**16 16 43.5**	**-0.5**
CSP1				S	**Sg**	**16 16 48.3**	**-0.2**
CSP1				AML	AML		
	comp=E,33850μm,0.3s						
CSP1				AML	AML		
	comp=N,46750μm,0.4s						
CSP1				AML	AML		
	comp=N,39303μm,0.2s						
CSP1				AML	AML		
	comp=E,33821μm,0.3s						
ARRO	**Arrone**	**0.32**	**231**	⇑*i*P	**Pg**	**16 16 44.6**	**+0.6**
ARRO				S	**Sb**	**16 16 50.1**	**0.0**
ARRO				AML	AML		
	comp=E,7100μm,0.8s						
ARRO				AML	AML		
	comp=N,8565μm,0.7s						
ARRO				AML	AML		
	comp=N,7319μm,0.3s						
ARRO				AML	AML		
	comp=E,7100μm,1.2s						
ARRO				AML	AML		
	comp=E,5582μm,0.3s						
GUMA	**Gualdo di Mace**	**0.33**	**31**	⇑P	**Pg**	**16 16 43.9**	**-0.3**
GUMA				S	**Sg**	**16 16 49.0**	**+0.3**
GUMA				AML	AML		
	comp=E,69600μm,0.4s						
GUMA				AML	AML		
	comp=N,76350μm,0.4s						
GUMA				AML	AML		
	comp=N,90600μm,0.3s						
GUMA				AML	AML		
	comp=N,90606μm,0.3s						
GUMA				AML	AML		
	comp=E,86600μm,0.3s						
GUMA				AML	AML		
	comp=E,86628μm,0.3s						
GUMA				AML	AML		
	comp=E,69590μm,0.4s						
GUMA				AML	AML		
	comp=N,76352μm,0.4s						
CAMP	**Campotosto**	**0.33**	**137**	⇑*i*P	**Pg**	**16 16 44.2**	**0.0**
CAMP				S	**Sg**	**16 16 49.5**	**+0.6**
CAMP				AML	AML		
	comp=E,4820μm,0.7s						
CAMP				AML	AML		
	comp=E,4820μm,1.3s						
CAMP				AML	AML		
	comp=N,3732μm,0.7s						
CAMP				AML	AML		
	comp=N,3735μm,0.7s						
CAMP				AML	AML		
	comp=E,4820μm,0.7s						
MF5	**Montefalcone A**	**0.33**	**51**	⇑P	**Pg**	**16 16 44.1**	**-0.2**
MF5				S	**Sg**	**16 16 49.6**	**+0.7**
MF5				AML	AML		
	comp=N,19600μm,0.4s						
MF5				AML	AML		
	comp=E,28450μm,0.4s						
MF5				AML	AML		
	comp=E,28449μm,0.4s						
MF5				AML	AML		
	comp=N,19582μm,0.4s						
T1247	**Pizzolo (AQ)**	**0.37**	**157**	⇑*i*P	**Pg**	**16 16 45.1**	**+0.2**
T1247				S	**Sg**	**16 16 51.2**	**+1.3**
T1247				AML	AML		
	comp=N,6840μm,0.6s						
T1247				AML	AML		
	comp=N,6840μm,1.4s						
T1247				AML	AML		
	comp=E,6025μm,0.5s						
T1247				AML	AML		
	comp=E,5406μm,0.3s						
T1247				AML	AML		
	comp=N,5697μm,0.3s						
SEF1	**Sefro**	**0.38**	**343**	P	**Pg**	**16 16 44.9**	**-0.3**
SEF1				S	**Sg**	**16 16 50.7**	**+0.3**
SEF1				AML	AML		
	comp=N,43350μm,0.2s						
SEF1				AML	AML		
	comp=N,43350μm,1.8s						
SEF1				AML	AML		
	comp=N,43338μm,0.2s						
SEF1				AML	AML		
	comp=E,37650μm,0.3s						
SEF1				AML	AML		
	comp=E,37649μm,0.3s						
MOMA	**Monte Martano**	**0.39**	**274**	⇓*i*P	**Pg**	**16 16 45.8**	**+0.4**
MOMA				S	**Sb**	**16 16 52.6**	**+0.3**
MOMA				AML	AML		
	comp=E,8065μm,0.3s						
MOMA				AML	AML		
	comp=N,5635μm,0.8s						
MOMA				AML	AML		
	comp=N,5635μm,0.8s						
MOMA				AML	AML		
	comp=E,8065μm,0.3s						
MOMA				AML	AML		
	comp=N,5940μm,0.8s						
MOMA				AML	AML		
	comp=N,5119μm,0.3s						
MOMA				AML	AML		
	comp=N,5201μm,0.3s						
MOMA				AML	AML		
	comp=E,8445μm,0.3s						
MOMA				AML	AML		
	comp=E,8066μm,0.3s						
MOMA				AML	AML		
	comp=E,8446μm,0.3s						
TERO	**Teramo**	**0.40**	**113**	P	**Pg**	**16 16 45.2**	**-0.3**
TERO				S	**Sg**	**16 16 51.0**	**+0.1**
TERO				AML	AML		
	comp=E,2075μm,0.6s						
TERO				AML	AML		
	comp=N,2220μm,0.7s						
TERO				AML	AML		
	comp=N,3625μm,1.5s						
TERO				AML	AML		
	comp=E,2070μm,0.6s						
TERO				AML	AML		
	comp=E,4410μm,0.6s						
TERO				AML	AML		
	comp=E,3147μm,0.1s						
TERO				AML	AML		
	comp=N,3625μm,0.5s						
TERO				AML	AML		
	comp=N,3045μm,0.2s						
TERO				AML	AML		
	comp=N,1723μm,0.3s						
TERO				AML	AML		
	comp=N,2220μm,1.3s						
TERO				AML	AML		
	comp=E,1767μm,0.4s						
PIO1	**Pioraco**	**0.41**	**347**	P	**Pg**	**16 16 45.2**	**-0.4**
PIO1				S	**Sg**	**16 16 51.2**	**+0.1**
MDAR	**Monte D'Aria**	**0.41**	**4**	P	**Pg**	**16 16 45.1**	**-0.6**
MDAR				S	**Sg**	**16 16 51.1**	**-0.2**
MDAR				AML	AML		
	comp=E,24400μm,0.2s						
MDAR				AML	AML		
	comp=N,20100μm,0.4s						
MDAR				AML	AML		
	comp=E,24380μm,0.2s						
MDAR				AML	AML		
	comp=N,19264μm,0.3s						
ASSB	**Assisi San Ben**	**0.42**	**309**	⇑P	**Pg**	**16 16 45.7**	**-0.1**
ASSB				AML	AML		
	comp=E,6415μm,0.2s						
ASSB				AML	AML		
	comp=N,5660μm,0.2s						
ASSB				AML	AML		
	comp=N,5664μm,0.2s						
ASSB				AML	AML		
	comp=E,6411μm,0.2s						
CESX	**Cesi**	**0.42**	**246**	⇑P	**Pg**	**16 16 46.3**	**+0.4**
CESX				AML	AML		
	comp=E,10171μm,0.6s						
CESX				AML	AML		
	comp=N,7395μm,1.3s						
CESX				AML	AML		
	comp=E,10300μm,1.4s						
CESX				AML	AML		
	comp=N,6160μm,0.4s						
FIU1	**Fiuminata**	**0.43**	**343**	P	**Pg**	**16 16 45.7**	**-0.3**
FIU1				S	**Sg**	**16 16 52.0**	**+0.3**
MNTP	**Montappone**	**0.45**	**37**	P	**Pg**	**16 16 46.5**	**+0.2**
MNTP				AML	AML		
	comp=E,21900μm,0.4s						
MNTP				AML	AML		
	comp=N,26750μm,0.4s						
MNTP				AML	AML		
	comp=E,21900μm,0.4s						
MNTP				AML	AML		
	comp=N,26750μm,0.4s						
MNTP				AML	AML		
	comp=N,26768μm,0.4s						
MNTP				AML	AML		
	comp=E,21883μm,0.4s						
SSM1	**San Severino M**	**0.45**	**7**	P	**Pg**	**16 16 45.9**	**-0.5**
SSM1				S	**Sg**	**16 16 52.6**	**+0.2**
OFFI	**Offida**	**0.45**	**70**	P	**Pg**	**16 16 46.8**	**+0.3**
OFFI				AML	AML		
	comp=E,11050μm,0.6s						
OFFI				AML	AML		
	comp=N,14700μm,0.6s						
OFFI				AML	AML		
	comp=E,10908μm,0.5s						
OFFI				AML	AML		
	comp=N,14700μm,1.4s						
OFFI				AML	AML		

	comp=N,14685µm,0.6s						
GAG1	**Gagliole**	**0.46 357**	P	**Pg**	**16 16 46.1**	**-0.4**	
GAG1			S	**Sg**	**16 16 53.0**	**+0.3**	
GIGS	**Gran Sasso**	**0.48 134**	⇑P	**Pg**	**16 16 46.4**	**-0.5**	
GIGS			S	**Sg**	**16 16 53.4**	**+0.2**	
GIGS			AML	AML			
	comp=E,1152µm,0.7s						
GIGS			AML	AML			
	comp=N,1028µm,1.2s						
GIGS			AML	AML			
	comp=E,1157µm,0.7s						
GIGS			AML	AML			
	comp=N,1028µm,0.8s						
GIGS			AML	AML			
	comp=E,828µm,0.2s						
GIGS			AML	AML			
	comp=E,1157µm,1.3s						
GIGS			AML	AML			
	comp=N,760µm,0.2s						
AQU	**L'Aquila**	**0.48 153**	⇑P	**Pg**	**16 16 46.9**	**0.0**	
AQU			AML	AML			
	comp=E,3235µm,1.6s						
AQU			AML	AML			
	comp=N,3065µm,0.9s						
AQU			AML	AML			
	comp=E,3170µm,1.6s						
AQU			AML	AML			
	comp=N,3105µm,0.9s						
AQU			AML	AML			
	comp=N,3105µm,1.1s						
AQU			AML	AML			
	comp=N,3065µm,1.1s						
AQU			AML	AML			
	comp=N,2934µm,0.6s						
AQU			AML	AML			
	comp=N,2943µm,0.9s						
AQU			AML	AML			
	comp=E,3170µm,0.4s						
AQU			AML	AML			
	comp=E,2931µm,1.0s						
AQU			AML	AML			
	comp=E,2896µm,1.0s						
AQU			AML	AML			
	comp=E,3235µm,0.4s						
MTL1	**Matelica**	**0.48 352**	P	**Pg**	**16 16 46.6**	**-0.4**	
MTL1			S	**Sg**	**16 16 53.9**	**+0.5**	
MTL1			AML	AML			
	comp=E,28000µm,0.2s						
MTL1			AML	AML			
	comp=N,24050µm,0.4s						
MTL1			AML	AML			
	comp=N,24050µm,0.4s						
MTL1			AML	AML			
	comp=N,24057µm,0.4s						
MTL1			AML	AML			
	comp=N,24050µm,1.6s						
SNTG	**Esanatoglia**	**0.49 346**	⇑P	**Pg**	**16 16 46.5**	**-0.6**	
SNTG			S	**Sg**	**16 16 53.9**	**+0.2**	
SNTG			AML	AML			
	comp=E,10290µm,0.3s						
SNTG			AML	AML			
	comp=N,7665µm,0.5s						
SNTG			AML	AML			
	comp=E,10435µm,0.3s						
SNTG			AML	AML			
	comp=N,6855µm,0.2s						
SNTG			AML	AML			
	comp=E,7869µm,0.1s						
SNTG			AML	AML			
	comp=E,7981µm,0.2s						
SNTG			AML	AML			
	comp=N,6859µm,0.2s						
SNTG			AML	AML			
	comp=N,7219µm,0.2s						
FIAM	**Fiamignano**	**0.51 179**	⇑*i*P	**Pg**	**16 16 47.6**	**+0.1**	
FIAM			S	**Sg**	**16 16 55.8**	**+1.4**	
FIAM			AML	AML			
	comp=E,3485µm,0.8s						
FIAM			AML	AML			
	comp=N,5050µm,0.6s						
FIAM			AML	AML			
	comp=N,5050µm,1.4s						
FIAM			AML	AML			
	comp=N,5047µm,0.6s						
FIAM			AML	AML			
	comp=E,2800µm,0.6s						
ATCC	**AVT- Casa Cast**	**0.53 320**	⇑P	**Pg**	**16 16 47.7**	**-0.2**	
ATCC			S	**Sb**	**16 16 55.9**	**-0.3**	
ATCC			AML	AML			
	comp=E,6395µm,0.3s						
ATCC			AML	AML			
	comp=N,7015µm,0.7s						
ATCC			AML	AML			
	comp=E,6396µm,0.3s						
ATCC			AML	AML			
	comp=N,7015µm,1.3s						
ATCC			AML	AML			
	comp=N,5303µm,0.3s						
EL6	**Elcito**	**0.55 360**	⇑P	**Pg**	**16 16 47.6**	**-0.7**	
EL6			S	**Sg**	**16 16 55.8**	**+0.2**	
EL6			AML	AML			
	comp=E,17750µm,0.2s						
EL6			AML	AML			
	comp=N,24350µm,0.7s						
EL6			AML	AML			
	comp=N,23947µm,0.2s						
EL6			AML	AML			
	comp=E,17730µm,0.2s						
FOSV	**Fossato di Vic**	**0.57 334**	⇑*i*P	**Pg**	**16 16 48.2**	**-0.5**	
FOSV			S	**Sg**	**16 16 56.6**	**+0.3**	
FOSV			AML	AML			
	comp=E,5280µm,1.0s						
FOSV			AML	AML			
	comp=N,6870µm,1.4s						
FOSV			AML	AML			
	comp=N,6870µm,0.6s						
FOSV			AML	AML			
	comp=E,5280µm,1.0s						
FOSV			AML	AML			
	comp=E,3450µm,0.1s						
CING	**Cingoli**	**0.60 6**	P	**Pg**	**16 16 48.4**	**-0.8**	
CING			S	**Sg**	**16 16 57.3**	**+0.2**	
CING			AML	AML			
	comp=N,9605µm,1.1s						
CING			AML	AML			
	comp=E,12630µm,0.2s						
CING			AML	AML			
	comp=E,12651µm,0.2s						
CING			AML	AML			
	comp=N,9256µm,0.2s						
FAGN	**Fagnano**	**0.62 145**	P	**Pg**	**16 16 49.1**	**-0.5**	
FAGN			AML	AML			
	comp=E,6220µm,0.5s						
FAGN			AML	AML			
	comp=N,3285µm,1.6s						
FAGN			AML	AML			
	comp=N,3285µm,0.4s						
FAGN			AML	AML			
	comp=E,6222µm,0.5s						
FAGN			AML	AML			
	comp=N,3268µm,0.4s						
CADA	**Capodarco di F**	**0.64 49**	P	**Pg**	**16 16 50.5**	**+0.7**	
CADA			AML	AML			
	comp=E,19850µm,0.4s						
CADA			AML	AML			
	comp=N,21200µm,0.4s						
CADA			AML	AML			
	comp=N,21207µm,0.5s						
CADA			AML	AML			
	comp=N,21200µm,1.6s						
CADA			AML	AML			
	comp=E,19850µm,1.6s						
CADA			AML	AML			
	comp=E,19812µm,0.4s						
MURB	**Monte Urbino**	**0.64 319**	P	**Pg**	**16 16 49.8**	**-0.2**	
MURB			AML	AML			
	comp=E,8825µm,0.2s						
MURB			AML	AML			
	comp=N,8060µm,0.3s						
MURB			AML	AML			
	comp=E,8825µm,0.2s						
MURB			AML	AML			
	comp=E,9810µm,0.2s						
MURB			AML	AML			
	comp=N,8965µm,1.0s						
MURB			AML	AML			
	comp=E,8825µm,1.8s						
MURB			AML	AML			
	comp=E,9810µm,1.8s						
MURB			AML	AML			
	comp=N,8060µm,0.3s						
MURB			AML	AML			
	comp=N,7934µm,0.3s						
MURB			AML	AML			
	comp=E,8826µm,0.2s						
MURB			AML	AML			
	comp=E,9795µm,0.2s						
MURB			AML	AML			
	comp=N,8058µm,0.3s						
MMUR	**Monte Murano**	**0.67 353**	P	**Pg**	**16 16 49.7**	**-0.7**	
MMUR			S	**Sg**	**16 16 59.7**	**+0.5**	
MMUR			AML	AML			
	comp=E,10050µm,0.4s						
MMUR			AML	AML			
	comp=E,10055µm,0.3s						
MMUR			AML	AML			
	comp=N,9210µm,0.3s						
MMUR			AML	AML			
	comp=N,9210µm,0.3s						
MMUR			AML	AML			
	comp=E,10056µm,0.3s						
VCEL	**Villa Celiera**	**0.67 125**	P	**Pg**	**16 16 50.3**	**-0.2**	
VCEL			AML	AML			
	comp=E,3020µm,0.9s						
VCEL			AML	AML			
	comp=N,3270µm,0.8s						
VCEL			AML	AML			
	comp=N,3270µm,1.2s						
VCEL			AML	AML			
	comp=E,3020µm,1.1s						
VCEL			AML	AML			
	comp=E,3002µm,0.7s						
VCEL			AML	AML			
	comp=N,2998µm,0.7s						
CIMA	**Civitanova Mar**	**0.67 38**	P	**Pg**	**16 16 50.6**	**+0.2**	
ATTE	**AVT- Monte Tez**	**0.69 307**	P	**Pg**	**16 16 51.1**	**+0.2**	
ATTE			AML	AML			
	comp=E,1320µm,1.0s						
ATTE			AML	AML			
	comp=E,1214µm,0.3s						
ATTE			AML	AML			
	comp=N,1614µm,0.4s						
ATTE			AML	AML			
	comp=N,1610µm,0.4s						
SSFR	**Montelago di S**	**0.70 340**	P	**Pg**	**16 16 50.4**	**-0.6**	
SSFR			S	**Sb**	**16 17 01.0**	**0.0**	
SSFR			AML	AML			
	comp=E,11250µm,0.2s						
SSFR			AML	AML			
	comp=N,14350µm,0.2s						
SSFR			AML	AML			
	comp=E,11070µm,0.2s						
SSFR			AML	AML			
	comp=N,14343µm,0.2s						
SSFR			AML	AML			
	comp=N,14725µm,0.2s						
SSFR			AML	AML			
	comp=N,14750µm,0.2s						
SSFR			AML	AML			
	comp=E,11064µm,0.2s						
SSFR			AML	AML			
	comp=E,11270µm,0.2s						
SRES	**S.Oreste - Sor**	**0.70 219**	P	**Pg**	**16 16 51.1**	**0.0**	
SRES			AML	AML			
	comp=N,1365µm,1.2s						
SRES			AML	AML			
	comp=N,1365µm,0.8s						
SRES			AML	AML			
	comp=N,1352µm,0.4s						
SRES			AML	AML			
	comp=E,1275µm,0.6s						
SRES			AML	AML			
	comp=E,989µm,0.2s						
PP3	**Marolino**	**0.70 32**	P	**Pg**	**16 16 51.1**	**0.0**	
PP3			AML	AML			
	comp=E,21900µm,0.3s						
PP3			AML	AML			
	comp=N,32450µm,0.4s						
PP3			AML	AML			
	comp=N,30100µm,0.4s						
PP3			AML	AML			
	comp=N,32500µm,0.4s						
PP3			AML	AML			
	comp=E,19000µm,0.3s						
PP3			AML	AML			
	comp=N,30110µm,0.4s						
PP3			AML	AML			
	comp=N,32487µm,0.4s						
PP3			AML	AML			
	comp=E,21928µm,0.3s						
PP3			AML	AML			
	comp=E,19026µm,0.3s						
ATFO	**Monte Foce - G**	**0.70 326**	⇑P	**Pg**	**16 16 50.6**	**-0.6**	
ATFO			AML	AML			
	comp=N,2490µm,0.4s						
ATFO			AML	AML			
	comp=E,2670µm,0.2s						
ATFO			AML	AML			
	comp=N,2489µm,0.4s						
ATFO			AML	AML			
	comp=E,2668µm,0.2s						
ATSC	**Scheggia e Pas**	**0.71 335**	P	**Pg**	**16 16 50.6**	**-0.7**	
ATSC			S	**Sb**	**16 17 01.5**	**0.0**	
ARVD	**Arcevia**	**0.73 351**	⇑P	**Pg**	**16 16 50.8**	**-0.8**	
ARVD			S	**Sb**	**16 17 01.8**	**0.0**	
ARVD			AML	AML			
	comp=N,2295µm,0.8s						
ARVD			AML	AML			
	comp=E,3760µm,0.1s						
ARVD			AML	AML			
	comp=N,2295µm,1.2s						
ARVD			AML	AML			
	comp=N,2290µm,0.1s						
ARVD			AML	AML			
	comp=E,3757µm,0.1s						
ATLO	**AVT- Montelove**	**0.74 316**	P	**Pg**	**16 16 51.3**	**-0.5**	
ATLO			S	**Sb**	**16 17 02.5**	**+0.3**	
MGAB	**Montegabbione**	**0.74 281**	P	**Pg**	**16 16 52.2**	**+0.3**	
MGAB			AML	AML			
	comp=N,4530µm,0.5s						
MGAB			AML	AML			
	comp=N,4280µm,0.5s						
MGAB			AML	AML			
	comp=E,4023µm,0.5s						
MGAB			AML	AML			
	comp=E,3327µm,0.5s						
MGAB			AML	AML			
	comp=E,4020µm,0.5s						
MGAB			AML	AML			
	comp=E,3330µm,0.5s						
MGAB			AML	AML			
	comp=N,4283µm,0.5s						
MGAB			AML	AML			
	comp=N,4529µm,0.5s						
T0110	**Collepietro**	**0.74 138**	P	**Pg**	**16 16 51.2**	**-0.7**	
T0110			AML	AML			
	comp=E,2810µm,0.7s						
T0110			AML	AML			
	comp=N,2745µm,0.4s						
T0110			AML	AML			
	comp=N,2745µm,1.6s						
T0110			AML	AML			
	comp=E,2811µm,0.7s						
T0110			AML	AML			
	comp=N,2745µm,0.5s						
ATVA	**AVT- Monte Val**	**0.78 310**	P	**Pg**	**16 16 52.4**	**-0.2**	
FRON	**Frontone**	**0.79 339**	⇑P	**Pg**	**16 16 51.7**	**-1.0**	
FRON			S	**Sb**	**16 17 03.6**	**0.0**	
FRON			AML	AML			
	comp=E,2680µm,0.3s						
FRON			AML	AML			
	comp=E,2680µm,1.7s						
FRON			AML	AML			
	comp=N,3310µm,0.3s						
FRON			AML	AML			
	comp=E,2677µm,0.3s						
FRON			AML	AML			
	comp=N,2993µm,0.3s						
ATVO	**AVT- Monte Val**	**0.79 320**	P	**Pg**	**16 16 52.0**	**-0.8**	
ATVO			AML	AML			
	comp=E,1830µm,0.4s						
ATVO			AML	AML			
	comp=N,1685µm,0.4s						
ATVO			AML	AML			
	comp=N,1685µm,1.6s						
ATVO			AML	AML			
	comp=N,1683µm,0.4s						
ATVO			AML	AML			
	comp=E,1832µm,0.4s						
PTQR	**Pietraquaria**	**0.79 164**	P	**Pg**	**16 16 52.0**	**-0.8**	
PTQR			AML	AML			
	comp=N,690µm,0.6s						
PTQR			AML	AML			
	comp=E,674µm,0.7s						
PTQR			AML	AML			
	comp=N,689µm,0.6s						
PTQR			AML	AML			
	comp=E,675µm,0.7s						
MTCE	**Montecelio**	**0.80 200**	P	**Pg**	**16 16 52.6**	**-0.4**	
MTCE			AML	AML			
	comp=E,1093µm,0.6s						
MTCE			AML	AML			
	comp=N,856µm,0.7s						
MTCE			AML	AML			
	comp=E,1093µm,1.4s						
MTCE			AML	AML			
	comp=E,1093µm,0.6s						
ATBU	**Serra di Buran**	**0.81 330**	P	**Pg**	**16 16 52.5**	**-0.6**	
ATMI	**Monte Miggiano**	**0.83 312**	P	**Pb**	**16 16 53.7**	**+0.1**	
ATMI			AML	AML			
	comp=E,3030µm,0.4s						
ATMI			AML	AML			
	comp=N,3975µm,1.0s						
ATMI			AML	AML			
	comp=N,3975µm,1.0s						
ATMI			AML	AML			
	comp=N,3973µm,1.0s						
ATMI			AML	AML			
	comp=E,3029µm,0.4s						
CERT	**Cerreto**	**0.84 186**	P	**Pg**	**16 16 52.9**	**-0.8**	
CERT			AML	AML			
	comp=N,1068µm,0.6s						
CERT			AML	AML			
	comp=N,1068µm,1.4s						
CERT			AML	AML			
	comp=N,1035µm,0.4s						
CERT			AML	AML			
	comp=E,1608µm,0.5s						
CERT			AML	AML			
	comp=E,1610µm,0.5s						
ATPI	**Pietralunga -**	**0.84 323**	⇑P	**Pg**	**16 16 53.0**	**-0.8**	
ATPI			S	**Sb**	**16 17 06.0**	**+0.7**	
ATPI			AML	AML			
	comp=E,1745µm,0.5s						
ATPI			AML	AML			
	comp=N,1430µm,0.4s						
ATPI			AML	AML			
	comp=E,1750µm,0.5s						
ATPC	**Poggio Castell**	**0.84 326**	P	**Pg**	**16 16 53.1**	**-0.7**	
AOI	**Ancona**	**0.85 25**	P	**Pg**	**16 16 53.1**	**-0.8**	
AOI			AML	AML			
	comp=N,3265µm,0.4s						
AOI			AML	AML			
	comp=E,3950µm,0.3s						
AOI			AML	AML			
	comp=E,3947µm,0.3s						
AOI			AML	AML			
	comp=N,3265µm,0.4s						
COR1	**Corinaldo**	**0.85 355**	P	**Pg**	**16 16 53.9**	**-0.1**	
COR1			AML	AML			
	comp=E,7595µm,0.3s						
COR1			AML	AML			
	comp=E,4490µm,0.3s						
COR1			AML	AML			
	comp=E,7600µm,0.3s						
COR1			AML	AML			
	comp=N,6080µm,0.4s						
COR1			AML	AML			
	comp=E,7596µm,0.3s						
COR1			AML	AML			
	comp=E,4490µm,0.3s						
COR1			AML	AML			
	comp=N,5645µm,0.3s						
COR1			AML	AML			
	comp=N,5645µm,0.3s						
COR1			AML	AML			
	comp=N,5986µm,0.3s						
PIEI	**Pieia**	**0.86 331**	P	**Pg**	**16 16 53.0**	**-1.1**	
PIEI			AML	AML			
	comp=E,2165µm,1.0s						
PIEI			AML	AML			
	comp=N,1525µm,0.7s						
PIEI			AML	AML			
	comp=N,1357µm,0.2s						
PIEI			AML	AML			
	comp=E,2058µm,0.2s						
SACS	**San Casciano d**	**0.88 275**	P	**Pb**	**16 16 54.9**	**+0.2**	
SACS			AML	AML			
	comp=E,1665µm,0.9s						
SACS			AML	AML			
	comp=N,1830µm,0.7s						
SACS			AML	AML			
	comp=N,1920µm,0.7s						
SACS			AML	AML			
	comp=E,1670µm,0.9s						
SACS			AML	AML			
	comp=E,1650µm,0.9s						
SACS			AML	AML			
	comp=N,1920µm,1.3s						
SACS			AML	AML			
	comp=N,1830µm,1.3s						
SACS			AML	AML			
	comp=E,1670µm,1.1s						
SACS			AML	AML			
	comp=E,1665µm,0.9s						
SACS			AML	AML			
	comp=E,1650µm,0.9s						
SACS			AML	AML			
	comp=N,1919µm,0.7s						
SACS			AML	AML			
	comp=N,1828µm,0.7s						
PCRO	**Pietralacroce**	**0.88 21**	P	**Pg**	**16 16 55.1**	**+0.5**	
MPAG	**Monte Paganucc**	**0.89 344**	P	**Pg**	**16 16 53.7**	**-0.9**	
APEC	**Apecchio**	**0.93 327**	P	**Pb**	**16 16 55.0**	**-0.4**	
SENI	**Senigallia**	**0.93 6**	P	**Pb**	**16 16 55.5**	**+0.1**	
RCAV	**Rocca di Cave**	**0.94 187**	P	**Pb**	**16 16 55.2**	**-0.4**	
RCAV			AML	AML			
	comp=E,1304µm,0.4s						
RCAV			AML	AML			
	comp=E,1305µm,0.4s						
RCAV			AML	AML			
	comp=N,1280µm,1.5s						
RCAV			AML	AML			
	comp=N,1157µm,0.8s						
ATMC	**Monte Cedrone**	**0.94 315**	P	**Pb**	**16 16 55.6**	**-0.1**	
BADI	**Badiali**	**0.96 319**	P	**Pb**	**16 16 55.7**	**-0.3**	
BADI			AML	AML			
	comp=E,1280µm,0.5s						
BADI			AML	AML			
	comp=N,1805µm,1.5s						
BADI			AML	AML			
	comp=E,1280µm,1.5s						
BADI			AML	AML			
	comp=N,1805µm,0.5s						
BADI			AML	AML			
	comp=E,1279µm,0.5s						
BADI			AML	AML			
	comp=N,1687µm,0.7s						
INTR	**Introdacqua**	**0.97 142**	P	**Pb**	**16 16 54.8**	**-1.3**	
INTR			AML	AML			
	comp=E,2µm,0.6s						
INTR			AML	AML			
	comp=N,1µm,0.8s						
INTR			AML	AML			
	comp=E,1590µm,0.6s						
INTR			AML	AML			
	comp=E,2µm,0.7s						
INTR			AML	AML			
	comp=E,1590µm,1.4s						
INTR			AML	AML			
	comp=E,2µm,1.3s						
INTR			AML	AML			
	comp=N,1µm,0.8s						
INTR			AML	AML			
	comp=E,1590µm,0.6s						
INTR			AML	AML			
	comp=E,2µm,0.7s						
INTR			AML	AML			
	comp=N,1µm,0.8s						
INTR			AML	AML			
	comp=N,2160µm,0.6s						

INTR			AML	AML		
	comp=N,2160µm,0.6s					
VVLD	**Villa Vallelon**	**0.99 157**	P	**Pb**	**16 16 56.4**	**0.0**
CAFI	**Castiglion Fio**	**1.00 304**	P	**Pb**	**16 16 56.4**	**-0.2**
CAFI			AML	AML		
	comp=E,677µm,1.1s					
CAFI			AML	AML		
	comp=E,692µm,1.1s					
CAFI			AML	AML		
	comp=E,677µm,0.9s					
CAFI			AML	AML		
	comp=N,1065µm,1.0s					
CAFI			AML	AML		
	comp=N,1120µm,1.0s					
CAFI			AML	AML		
	comp=E,692µm,0.9s					
CAFI			AML	AML		
	comp=N,973µm,0.8s					
CAFI			AML	AML		
	comp=N,1035µm,0.8s					
CAFI			AML	AML		
	comp=E,647µm,0.5s					
CAFI			AML	AML		
	comp=E,680µm,0.5s					
GUAR	**Guarcino**	**1.00 171**	P	**Pb**	**16 16 56.5**	**0.0**
RMP	**Rome, Mte Porz**	**1.01 197**	P	**Pb**	**16 16 56.8**	**-0.1**
RMP			AML	AML		
	comp=N,2025µm,0.5s					
RMP			AML	AML		
	comp=E,1845µm,0.8s					
RMP			AML	AML		
	comp=N,2022µm,0.5s					
RMP			AML	AML		
	comp=E,1845µm,0.8s					
PE3	**Peglio**	**1.02 334**	P	**Pb**	**16 16 57.1**	**+0.2**
SF03	**Valle Cupa**	**1.04 272**	P	**Pn**	**16 16 58.4**	**+0.6**
MCIV	**Monte Civitell**	**1.05 270**	P	**Pn**	**16 16 58.1**	**+0.2**
MCIV			AML	AML		
	comp=E,659µm,1.4s					
MCIV			AML	AML		
	comp=N,690µm,0.9s					
MCIV			AML	AML		
	comp=E,659µm,0.6s					
MCIV			AML	AML		
	comp=N,690µm,0.9s					
MCIV			AML	AML		
	comp=E,623µm,0.7s					
SF11	**Podere del Sol**	**1.05 275**	P	**Pn**	**16 16 58.3**	**+0.4**
VIVA	**Pratoni del Vi**	**1.06 194**	P	**Pb**	**16 16 56.7**	**-0.9**
VIVA			AML	AML		
	comp=N,2500µm,0.5s					
VIVA			AML	AML		
	comp=E,2965µm,0.5s					
VIVA			AML	AML		
	comp=E,2963µm,0.5s					
RDP	**Rocca di Papa**	**1.06 196**	P	**Pb**	**16 16 57.5**	**-0.2**
MA9	**Marino**	**1.06 198**	P	**Pb**	**16 16 57.9**	**+0.2**
SF04	**Casetta**	**1.06 273**	P	**Pn**	**16 16 58.4**	**+0.3**
SSP9	**Sansepolcro**	**1.07 318**	P	**Pb**	**16 16 57.4**	**-0.3**
SSP9			AML	AML		
	comp=E,1088µm,1.4s					
SSP9			AML	AML		
	comp=E,1088µm,0.6s					
SSP9			AML	AML		
	comp=N,978µm,0.8s					
SSP9			AML	AML		
	comp=E,924µm,0.5s					
SSP9			AML	AML		
	comp=N,978µm,0.8s					
SAMA	**S.Maria delle**	**1.07 201**	P	**Pb**	**16 16 57.6**	**-0.1**
PARC	**Parchiule**	**1.07 324**	P	**Pb**	**16 16 57.2**	**-0.7**
PARC			AML	AML		
	comp=E,1555µm,0.7s					
PARC			AML	AML		
	comp=N,1310µm,0.5s					
PARC			AML	AML		
	comp=N,1310µm,1.5s					
PARC			AML	AML		
	comp=E,1553µm,0.7s					
PARC			AML	AML		
	comp=E,1555µm,1.3s					
PARC			AML	AML		
	comp=N,1311µm,0.5s					
LPEL	**Lama dei Pelig**	**1.08 132**	P	**Pb**	**16 16 57.0**	**-1.1**
TOLF	**Tolfa**	**1.09 229**	P	**Pb**	**16 16 58.1**	**0.0**
TOLF			AML	AML		
	comp=N,821µm,0.3s					
TOLF			AML	AML		
	comp=E,805µm,0.4s					
TOLF			AML	AML		
	comp=E,805µm,0.4s					
TOLF			AML	AML		
	comp=N,821µm,0.3s					
SF13	**Bagnolo**	**1.09 272**	P	**Pn**	**16 16 58.6**	**+0.1**
SF14	**Selvena**	**1.10 269**	P	**Pb**	**16 16 58.2**	**0.0**
SF01	**Poggio Pratacc**	**1.14 272**	P	**Pg**	**16 16 59.8**	**+0.5**
SF01			AML	AML		
	comp=N,1014µm,1.0s					
SF01			AML	AML		
	comp=N,1014µm,1.0s					
SF01			AML	AML		
	comp=N,980µm,0.8s					
SF01			AML	AML		
	comp=E,1385µm,0.4s					
SF01			AML	AML		
	comp=E,1382µm,0.4s					
POFI	**Posta Fibreno**	**1.15 157**	P	**Pn**	**16 16 59.3**	**0.0**
POFI			AML	AML		
	comp=E,790µm,1.0s					
CPGN	**Carpegna, Ital**	**1.17 331**	P	**Pb**	**16 16 59.4**	**-0.2**
PESA	**Pesaro**	**1.18 351**	P	**Pb**	**16 16 59.8**	**+0.2**
PESA			AML	AML		
	comp=N,3495µm,0.6s					
PESA			AML	AML		
	comp=E,4335µm,0.3s					
PESA			AML	AML		
	comp=N,3495µm,1.4s					
PESA			AML	AML		
	comp=E,4335µm,0.3s					
PESA			AML	AML		
	comp=N,3424µm,0.2s					
LRP	**Arpino**	**1.19 162**	AML	AML		
	comp=N,499µm,0.8s					
LRP			AML	AML		
	comp=E,436µm,0.7s					
LRP			AML	AML		
	comp=E,430µm,0.6s					
LRP			AML	AML		
	comp=N,499µm,0.8s					
CRE	**Caprese Michel**	**1.19 315**	P	**Pb**	**16 17 00.0**	**+0.1**
CRE			AML	AML		
	comp=E,798µm,0.6s					
CRE			AML	AML		
	comp=N,720µm,1.2s					
CRE			AML	AML		
	comp=N,720µm,0.8s					
CRE			AML	AML		
	comp=N,621µm,0.4s					
CRE			AML	AML		
	comp=E,797µm,0.6s					
ARCI	**Arcidosso**	**1.20 274**	P	**Pg**	**16 17 00.6**	**0.0**
ARCI			AML	AML		
	comp=E,274µm,1.4s					
ARCI			AML	AML		
	comp=N,266µm,0.6s					
ARCI			AML	AML		
	comp=E,274µm,0.6s					
ARCI			AML	AML		
	comp=E,244µm,0.6s					
ARCI			AML	AML		
	comp=N,266µm,1.4s					
ARCI			AML	AML		
	comp=N,266µm,0.6s					
GIUL	**Giuliano Di Ro**	**1.23 175**	P	**Pn**	**16 17 01.0**	**+0.7**
RSM	**Repubblica di**	**1.24 338**	P	**Pg**	**16 17 01.5**	**+0.1**
LATB	**Latina**	**1.29 185**	P	**Pn**	**16 17 01.0**	**-0.1**
RNI2	**Rionero Sannit**	**1.33 144**	P	**Pn**	**16 17 01.8**	**+0.1**
CERA	**Filignano**	**1.36 150**	P	**Pn**	**16 17 02.5**	**+0.2**
MCI	**Monte Cassino**	**1.40 158**	P	**Pn**	**16 17 03.4**	**+0.7**
MIDA	**Miranda**	**1.42 143**	P	**Pn**	**16 17 02.9**	**-0.1**
TRIV	**Trivento**	**1.48 133**	P	**Pn**	**16 17 04.5**	**+0.8**
FROS	**Frosini**	**1.49 287**	P	**Pn**	**16 17 04.7**	**+0.7**
CSNT	**Castellina Chi**	**1.50 298**	P	**Pb**	**16 17 04.9**	**-0.2**
MAON	**Monte Argentar**	**1.50 257**	P	**Pn**	**16 17 04.5**	**+0.5**
RUFI	**Rufina**	**1.57 313**	P	**Pb**	**16 17 06.5**	**+0.1**
RUFI			AML	AML		
	comp=E,394µm,0.5s					
RUFI			AML	AML		
	comp=N,520µm,0.6s					
RUFI			AML	AML		
	comp=E,394µm,1.5s					
RUFI			AML	AML		
	comp=N,521µm,0.6s					
RUFI			AML	AML		
	comp=E,394µm,0.5s					
VAGA	**Valle Agricola**	**1.60 148**	P	**Pn**	**16 17 07.1**	**+1.6**
LMD	**Lutirano**	**1.65 322**	P	**Pb**	**16 17 07.8**	**+0.2**
CASP	**Castiglione de**	**1.65 271**	P	**Pn**	**16 17 06.4**	**+0.3**
CASP			AML	AML		
	comp=N,97µm,1.3s					
CASP			AML	AML		
	comp=N,97µm,0.7s					
CASP			AML	AML		
	comp=E,93µm,1.1s					
CASP			AML	AML		
	comp=N,97µm,1.3s					
BSSO	**Busso**	**1.66 138**	P	**Pb**	**16 17 08.8**	**+0.9**
PTRJ	**Pietraroja**	**1.77 143**	P	**Pb**	**16 17 10.5**	**+0.7**
BRIS	**BRISIGHELLA**	**1.79 320**	P	**Pg**	**16 17 11.7**	**-0.2**
SEI	**Scarperia**	**1.80 316**	P	**Pb**	**16 17 10.4**	**+0.1**
MELA	**Melanico ??? S**	**1.85 125**	P	**Pn**	**16 17 10.6**	**+1.8**
MOCL	**Monte Cuccoli**	**1.86 312**	P	**Pb**	**16 17 11.4**	**+0.1**
MTRZ	**Monterenzio**	**1.99 324**	P	**Pb**	**16 17 14.0**	**+0.5**
APRC	**Apricena**	**2.08 119**	P	**Pn**	**16 17 13.3**	**+1.3**
MOCO	**Biccari - m.te**	**2.08 132**	P	**Pn**	**16 17 14.3**	**+2.2**
VBKN	**Vesuvio Bunker**	**2.19 153**	AML	AML		
	comp=N,336µm,0.4s					
VBKN			AML	AML		
	comp=E,338µm,0.4s					
SGRT	**San Giovanni R**	**2.21 117**	P	**Pn**	**16 17 15.3**	**+1.4**
SGRT			AML	AML		
	comp=E,330µm,0.9s					
SGRT			AML	AML		
	comp=N,226µm,1.4s					
SGRT			AML	AML		
	comp=N,226µm,0.6s					
SGRT			AML	AML		
	comp=E,319µm,0.7s					
SGRT			AML	AML		
	comp=N,212µm,0.8s					
SARO	**Sassorosso**	**2.42 306**	P	**Pn**	**16 17 17.7**	**+1.0**
NDIM	**Novi di Modena**	**2.64 324**	AML	AML		
	comp=E,1480µm,0.1s					
NDIM			AML	AML		
	comp=E,1465µm,0.1s					
NDIM			AML	AML		
	comp=N,1100µm,1.4s					
NDIM			AML	AML		
	comp=N,1125µm,0.7s					
NDIM			AML	AML		
	comp=N,1125µm,1.3s					
NDIM			AML	AML		
	comp=N,1100µm,0.6s					
VENL	**Venezia Lido**	**2.69 349**	AML	AML		
	comp=E,872µm,0.8s					
VENL			AML	AML		
	comp=N,897µm,0.7s					
SKDS	**Skadanscina**	**2.84 13**	*e*Pn	**Pn**	**16 17 22.0**	**-0.5**
PGF	**Pioggiola**	**3.04 267**	*e*P	**Pn**	**16 17 26.4**	**+1.1**
PGF			*e*Sn	**Sn**	**16 17 58.1**	**-3.4**
	comp=N,11nm,0.5s					
CEY	**Cerknica**	**3.11 17**	*e*Pn	**Pn**	**16 17 27.2**	**+1.1**
BOJS	**Bojanci**	**3.13 29**	*e*Pn	**Pn**	**16 17 27.3**	**+0.9**
BOJS	**Bojanci**	**3.13 29**	AML	AML		
	comp=N,279µm,1.2s					
BOJS			AML	AML		
	comp=E,386µm,1.0s					
BOJS			AML	AML		
	comp=N,279µm,1.2s					
BOJS			AML	AML		
	comp=N,279µm,0.8s					
BOJS			AML	AML		
	comp=E,385µm,1.0s					
SABO	**M.te Sabotino**	**3.22 6**	P	**Pn**	**16 17 27.9**	**+0.2**
SABO			AML	AML		
	comp=N,1625µm,0.5s					
SABO			AML	AML		
	comp=E,226µm,1.5s					
SABO			AML	AML		
	comp=N,416µm,0.8s					
SABO			AML	AML		
	comp=E,873µm,0.4s					
SABO			AML	AML		
	comp=N,1625µm,1.5s					
SABO			AML	AML		
	comp=E,226µm,0.5s					
SABO			AML	AML		
	comp=E,226µm,0.4s					
SABO			AML	AML		
	comp=E,873µm,0.4s					
SABO			AML	AML		
	comp=N,416µm,0.8s					
SABO			AML	AML		
	comp=N,1624µm,0.6s					
SRKY	**Kupres RS**	**3.23 65**	*e*Pn	**Pn**	**16 17 30.4**	**+2.6**
CGRP	**Cima Grappa**	**3.24 344**	P	**Pn**	**16 17 29.5**	**+1.4**
CGRP			AML	AML		
	comp=E,328µm,1.5s					
CGRP			AML	AML		
	comp=N,307µm,0.6s					
CGRP			AML	AML		
	comp=E,266µm,0.4s					
CGRP			AML	AML		
	comp=N,306µm,0.7s					
CGRP			AML	AML		
	comp=N,307µm,1.4s					
CGRP			AML	AML		
	comp=N,306µm,0.7s					
CGRP			AML	AML		
	comp=N,307µm,0.6s					
CGRP			AML	AML		
	comp=E,289µm,0.7s					
MGRS	**Mrkonjic Grad**	**3.32 59**	*e*Pn	**Pn**	**16 17 31.6**	**+2.5**
STON	**Ston**	**3.38 87**	*e*Pn	**Pn**	**16 17 30.5**	**+0.6**
STON	**Ston**	**3.38 87**	AML	AML		
	comp=N,47µm,0.8s					
STON			AML	AML		
	comp=E,44µm,1.5s					
STON			AML	AML		
	comp=E,44µm,0.5s					
STON			AML	AML		
	comp=N,47µm,0.8s					
STON			AML	AML		
	comp=E,38µm,0.6s					
SALO	**Salr**	**3.39 328**	P	**Pn**	**16 17 32.2**	**+2.2**
SALO			AML	AML		
	comp=E,174µm,0.9s					
SALO			AML	AML		
	comp=N,208µm,0.6s					
SALO			AML	AML		
	comp=E,168µm,0.5s					
SALO			AML	AML		
	comp=N,219µm,0.6s					
SALO			AML	AML		
	comp=E,174µm,1.1s					
SALO			AML	AML		
	comp=E,170µm,0.4s					
SALO			AML	AML		
	comp=E,168µm,0.5s					
SALO			AML	AML		
	comp=N,219µm,0.6s					
SALO			AML	AML		
	comp=N,208µm,0.6s					
DOSS	**Dosso del Somm**	**3.39 337**	P	**Pn**	**16 17 32.2**	**+2.0**
LJU	**Ljubljana**	**3.42 17**	AML	AML		
	comp=E,1026µm,0.6s					
LJU			AML	AML		
	comp=N,1068µm,0.4s					
CTI	**Castel Tesino**	**3.43 343**	P	**Pn**	**16 17 32.2**	**+1.5**
CTI			AML	AML		
	comp=E,162µm,0.2s					
CTI			AML	AML		
	comp=N,244µm,0.9s					
CTI			AML	AML		
	comp=N,244µm,1.1s					
CTI			AML	AML		
	comp=E,163µm,0.2s					
CTI			AML	AML		
	comp=N,216µm,0.3s					
MPRI	**Monte Prat**	**3.46 359**	P	**Pn**	**16 17 31.9**	**+0.8**
MPRI			AML	AML		
	comp=N,269µm,0.6s					
MPRI			AML	AML		
	comp=N,363µm,0.5s					
MPRI			AML	AML		
	comp=E,230µm,0.6s					
MPRI			AML	AML		
	comp=E,182µm,0.7s					
MPRI			AML	AML		
	comp=E,230µm,0.6s					
MPRI			AML	AML		
	comp=E,182µm,0.7s					
MPRI			AML	AML		
	comp=N,269µm,0.6s					
MPRI			AML	AML		
	comp=N,363µm,0.5s					
CRES	**Cresnjev**	**3.48 28**	*e*Pn	**Pn**	**16 17 31.9**	**+0.6**
STAL	**STALIGIAL**	**3.49 356**	P	**Pn**	**16 17 32.4**	**+1.0**
STAL			AML	AML		
	comp=N,208µm,0.3s					
STAL			AML	AML		
	comp=N,208µm,1.7s					
STAL			AML	AML		
	comp=E,276µm,0.3s					
STAL			AML	AML		
	comp=N,230µm,0.3s					
STAL			AML	AML		
	comp=N,207µm,0.3s					
STAL			AML	AML		
	comp=E,276µm,0.3s					
STAL			AML	AML		
	comp=E,222µm,0.3s					
LUSI	**Trento, Gardas**	**3.54 335**	P	**Pn**	**16 17 33.8**	**+1.8**
A051A	**Mrakovica**	**3.54 50**	*e*Pn	**Pn**	**16 17 32.5**	**+0.4**
BLY	**Banja Luka**	**3.55 55**	*e*Pn	**Pn**	**16 17 33.1**	**+0.9**
CIMO	**Cimolais**	**3.56 353**	P	**Pn**	**16 17 32.8**	**+0.4**
CIMO			AML	AML		
	comp=E,62µm,1.5s					
CIMO			AML	AML		
	comp=N,55µm,0.4s					
CIMO			AML	AML		
	comp=E,46µm,0.7s					
CIMO			AML	AML		
	comp=N,53µm,1.6s					
CIMO			AML	AML		
	comp=E,62µm,0.5s					
CIMO			AML	AML		
	comp=N,55µm,1.6s					
CIMO			AML	AML		
	comp=N,53µm,0.4s					
CIMO			AML	AML		
	comp=E,46µm,1.3s					
CIMO			AML	AML		
	comp=N,50µm,0.6s					
CIMO			AML	AML		
	comp=N,55µm,0.4s					
CIMO			AML	AML		
	comp=E,46µm,0.7s					
CIMO			AML	AML		
	comp=E,48µm,0.7s					
PTCC	**Patocco-Chiusa**	**3.63 3**	P	**Pn**	**16 17 33.5**	**+0.2**
PTCC			AML	AML		
	comp=N,92µm,0.9s					
PTCC			AML	AML		
	comp=E,101µm,0.6s					
PTCC			AML	AML		
	comp=N,92µm,1.1s					
PTCC			AML	AML		
	comp=N,91µm,0.9s					
GAGG	**Gaggia**	**3.64 336**	P	**Pn**	**16 17 35.5**	**+1.9**
ZONE	**Zone**	**3.67 325**	AML	AML		
	comp=N,150µm,0.4s					
ZONE			AML	AML		
	comp=E,114µm,0.8s					
ZONE			AML	AML		
	comp=N,150µm,1.6s					
CLUD	**Cludinico**	**3.68 358**	AML	AML		
	comp=N,120µm,0.7s					
CLUD			AML	AML		
	comp=E,97µm,0.9s					
CLUD			AML	AML		
	comp=N,120µm,1.3s					
NEVS	**Nevesinje**	**3.70 80**	*e*Pn	**Pn**	**16 17 36.8**	**+2.5**
MABI	**Malga Bissina**	**3.76 331**	P	**Pn**	**16 17 37.2**	**+1.9**
MABI			AML	AML		
	comp=E,130µm,1.2s					
MABI			AML	AML		
	comp=N,55µm,1.0s					
MABI			AML	AML		
	comp=N,55µm,1.0s					
MABI			AML	AML		
	comp=E,130µm,0.8s					
MABI			AML	AML		
	comp=N,47µm,0.4s					
MABI			AML	AML		
	comp=E,127µm,0.9s					
ZOU	**Zoufplan**	**3.78 359**	P	**Pn**	**16 17 36.1**	**+0.6**
ZOU			AML	AML		
	comp=N,155µm,0.7s					
ZOU			AML	AML		
	comp=E,120µm,0.6s					
ZOU			AML	AML		
	comp=N,107µm,1.1s					
ZOU			AML	AML		
	comp=E,120µm,1.4s					
ZOU			AML	AML		
	comp=E,122µm,1.2s					
ZOU			AML	AML		
	comp=N,107µm,0.9s					
ZOU			AML	AML		
	comp=E,120µm,0.6s					
ZOU			AML	AML		
	comp=E,116µm,0.6s					
ZOU			AML	AML		
	comp=N,107µm,1.1s					
ZOU			AML	AML		
	comp=N,155µm,0.7s					
ACOM	**Acomizza, Ital**	**3.78 4**	P	**Pn**	**16 17 36.4**	**+0.9**
ACOM			AML	AML		
	comp=E,192µm,1.0s					
ACOM			AML	AML		
	comp=E,190µm,1.5s					
ACOM			AML	AML		
	comp=N,174µm,1.5s					
ACOM			AML	AML		
	comp=N,174µm,0.5s					
ACOM			AML	AML		
	comp=N,180µm,0.7s					
ACOM			AML	AML		
	comp=E,186µm,0.3s					
ACOM			AML	AML		
	comp=E,192µm,1.0s					
ACOM			AML	AML		
	comp=N,184µm,0.6s					
ACOM			AML	AML		
	comp=N,185µm,0.5s					
TREB	**Trebinje**	**3.86 89**	*e*Pn	**Pn**	**16 17 37.6**	**+1.1**
MYKA	**Terra Mystica**	**3.87 5**	*i* Pn	**Pn**	**16 17 38.0**	**+1.3**
	comp=N,11nm,0.6s					
MYKA			*e*Sn	**Sn**	**16 18 23.7**	**+1.8**
	comp=N,13nm,0.4s					
OBKA	**Obir**	**3.87 15**	*i* Pn	**Pn**	**16 17 37.6**	**+1.0**
	comp=N,1.8nm,0.2s					
OBKA	**Obir**	**3.87 15**	*e*Pn	**Pn**	**16 17 37.7**	**+1.0**
APPI	**Appiano**	**3.93 341**	P	**Pn**	**16 17 39.2**	**+1.7**
ABTA	**Abfaltersbach**	**3.99 354**	*e*Pn	**Pn**	**16 17 40.1**	**+1.8**
	comp=N,24nm,0.4s,SNR=25					
ABTA			*e*Sn	**Sn**	**16 18 26.6**	**+1.6**
	comp=N,31nm,0.0s					
HCY	**Herceg Novi**	**3.99 93**	*e*Pn	**Pn**	**16 17 37.9**	**-0.4**
BRY	**Bratogost**	**4.00 86**	*e*Pn	**Pn**	**16 17 39.5**	**+1.0**
SOKA	**Soboth**	**4.13 19**	*e*Pn	**Pn**	**16 17 41.9**	**+1.6**
	comp=N,2.6nm,0.4s					
SOKA			*e*Sn	**Sn**	**16 18 28.4**	**-0.1**
	comp=N,5.2nm,0.4s					
SBF	**Sospel**	**4.28 287**	*e*P	**Pn**	**16 17 45.2**	**+3.0**
SBF			*e*Sn	**Sn**	**16 18 27.3**	**-4.7**
	comp=N,11nm,0.5s					
UPM	**Unac-Piva**	**4.28 82**	*e*Pn	**Pn**	**16 17 44.0**	**+1.6**
MUGIO	**Muggio**	**4.28 319**	AML	AML		
	comp=N,35µm,0.6s					
MUGIO			AML	AML		
	comp=E,36µm,0.2s					
KBA	**Koelnbreinsper**	**4.30 2**	*i* Pn	**Pn**	**16 17 44.3**	**+1.6**
	comp=E,4.9nm,0.3s					
KBA			*i* Sn	**Sn**	**16 18 33.9**	**+1.1**
	comp=E,14nm,0.3s					
ROSI	**Rosskopf**	**4.32 344**	P	**Pn**	**16 17 44.8**	**+1.8**
DRME	**Dracevica, Mon**	**4.54 95**	*e*Pn	**Pn**	**16 17 47.1**	**+1.4**
PDG	**Podgorica**	**4.55 92**	*e*Pn	**Pn**	**16 17 47.3**	**+1.3**

FETA Feichten 4.56 339 *i* Pn **Pn 16 17 48.9 +2.7**
comp=E,1.3nm,0.2s
FETA *i* Sn **Sn 16 18 41.1 +1.9**
comp=E,4.1nm,0.4s
WTTA Wattenberg 4.60 347 *i* Pn **Pn 16 17 50.1 +3.3**
comp=E,2.3nm,0.2s
WTTA *i* Sn **Sn 16 18 41.8 +1.6**
comp=E,32nm,0.7s
DAVOX Davos/Dischmat 4.61 331 Pn **Pn 16 17 50.5 +3.5**
comp=E,2.2nm,0.3s,baz=142,slow=13,SNR=17
DAVOX Sn **Sn 16 18 39.8 -0.6**
comp=E,0.6nm,0.3s,baz=141,slow=18,SNR=1.8
comp=E,7.8nm,0.4s
SQTA Sankt Quirin 4.64 344 *e*Pn **Pn 16 17 50.5 +3.3**
comp=E,5.6nm,0.2s
SQTA *i* Sn **Sn 16 18 43.4 +2.3**
comp=E,16nm,0.3s
LESA Schwarzleotal 4.65 356 *i* Pn **Pn 16 17 49.0 +1.5**
comp=E,8.5nm,0.4s
LESA *i* Sn **Sn 16 18 40.2 -1.1**
comp=E,12nm,0.3s
WATA Walderalm 4.68 347 *e*Pn **Pn 16 17 51.1 +3.2**
comp=E,4.0nm,0.2s,SNR=6.8
WATA *i* Sn **Sn 16 18 44.4 +2.3**
comp=E,18nm,0.3s
BBLS Lazići 4.72 75 *e*Pn **Pn 16 17 49.7 +1.3**
MOTA Moosalm 4.78 343 *e*Pn **Pn 16 17 52.1 +2.8**
comp=E,5.7nm,0.5s,SNR=5.3
MOTA *i* Sn **Sn 16 18 48.1 +3.6**
comp=E,14nm,0.5s
ARSA Arzberg 4.79 20 *i* Pn **Pn 16 17 49.0 -0.2**
comp=E,2.5nm,0.4s
ARSA *i* Sn **Sn 16 18 42.3 -2.3**
comp=E,11nm,0.5s
LMR La Mourre 4.87 279 *e*P **Pn 16 17 51.3 +1.0**
BIOA Bad Ischl, Aus 4.92 4 *e*Pn **Pn 16 17 52.8 +1.7**
comp=E,11nm,0.3s,SNR=10
BIOA *i* Sn **Sn 16 18 50.3 +2.4**
comp=E,22nm,0.4s
MBDF Montbardon 4.98 295 *e*P **Pn 16 17 54.9 +2.9**
MBDF *e*Sn **Sn 16 18 45.0 -4.6**
comp=E,9.2nm,0.7s
DAVA Damuels 5.05 334 *i* Pn **Pn 16 17 55.4 +2.4**
comp=E,5.9nm,0.5s
DAVA *i* Sn **Sn 16 18 54.9 +3.6**
comp=E,9.5nm,0.4s
SJES Sjenica 5.06 82 *e*Pn **Pn 16 17 55.0 +2.0**
MOA Molln 5.13 9 *i* Pn **Pn 16 17 55.5 +1.5**
comp=E,2.1nm,0.2s
MOA *i* Sn **Sn 16 18 53.2 +0.1**
comp=E,5.5nm,0.3s
LPG La Plagne 5.32 303 *e*P **Pn 16 17 58.9 +2.1**
LPG *e*Sn **Sn 16 18 53.0 -5.0**
comp=E,8.7nm,0.8s
LPL La Plagne 5.34 303 *e*P **Pn 16 17 59.5 +2.5**
LPL *e*Sn **Sn 16 18 53.3 -5.1**
comp=E,6.3nm,0.5s
RONA Rosalia, Austr 5.41 24 *i* Pn **Pn 16 17 58.3 +0.5**
comp=E,2.1nm,0.4s
RONA *i* Sn **Sn 16 18 59.6 -0.3**
comp=E,4.6nm,0.5s
CONA Conrad Observa 5.50 20 *i* Pn **Pn 16 17 59.5 +0.4**
comp=E,2.1nm,0.2s
CONA *e*Sn **Sn 16 19 00.7 -1.5**
comp=E,6.1nm,0.3s
ORIF Oris-en-Rattie 5.64 295 *e*P **Pn 16 18 05.3 +4.2**
GERES GERESS Array B 6.08 4 Pn **Pn 16 18 07.4 +0.3**
comp=E,0.6nm,0.3s,baz=183,slow=14,SNR=4.7
GERES Sn **Sn 16 19 13.9 -2.5**
comp=E,2.2nm,0.3s,baz=181,slow=20,SNR=8.8
comp=E,0.8nm,0.3s
CKRC Cesky Krumlov 6.10 8 *e*PN **Pn 16 18 07.3 +0.1**
CKRC *e*SN **Sn 16 19 14.5 -2.3**
CABF La Chapelle 6.30 310 *e*P **Pn 16 18 12.4 +2.4**
MODS Modra-Piesok 6.31 26 *e*PN Pn 16 18 15.5 +5.3
KHC Kasperske Hory 6.36 3 *e*PN **Pn 16 18 10.9 +0.1**
KHC *e*SN **Sn 16 19 20.7 -2.6**
HINF Hinteralfeld 6.69 321 *e*P **Pn 16 18 16.3 +0.9**
HINF *e*Sn **Sn 16 19 28.4 -3.1**
comp=E,12nm,0.4s
ZVC Zvikov 6.70 6 *e*SN **Sn 16 19 30.1 -1.5**
LASF Ste Croix 6.86 284 *e*P **Pn 16 18 20.6 +3.0**
CDF Champ du Feu 6.96 326 *e*P **Pn 16 18 20.4 +1.3**
CDF *e*Sn **Sn 16 19 35.0 -3.1**
comp=E,7.1nm,0.4s
HAU Haudompre 7.06 320 *e*P **Pn 16 18 21.7 +1.2**
HAU *e*Sn **Sn 16 19 36.9 -3.7**
comp=E,19nm,0.5s
PAGF Fort de Pagny 7.75 321 *e*P **Pn 16 18 32.4 +2.6**
SFTF Sexfontaines 7.84 317 *e*P **Pn 16 18 34.6 +3.5**
LOR Lormes 7.94 308 *e*P **Pn 16 18 34.7 +2.2**
LOR *e*Sn **Sn 16 19 55.2 -6.9**
comp=E,2.1nm,0.3s
BRG Berggiesshubel 8.12 4 *e*P Pn 16 18 44.1 +9.2
BRG Amp 16 18 45.9
comp=Z,2.0nm,0.7s
BRG S **Sn 16 20 02.6 -3.8**
BRG Amp 16 20 17.8
comp=Z,3.0nm,0.5s
BRG r 16 21 11.0
BRG Amp 16 21 16.4
comp=Z,4.6nm,0.9s
HFS Hagfors 17.38 1 LR LR 16 27 48.2
comp=Z,43nm,18.7s,baz=264,slow=39
FINES FINESS Array B 20.25 18 P **P 16 21 11.8 -0.3**
comp=Z,0.1nm,0.3s,baz=194,slow=11,SNR=5.1
comp=Z,0.8nm,0.6s
BVAR Borovoye Array 38.77 54 P **P 16 24 01.9 +0.6**
comp=Z,0.7nm,0.7s,baz=281,slow=8.3,SNR=2.5
comp=Z,0.7nm,0.7s
KURBB Kurchatov Arra 44.22 56 P **P 16 24 45.7 -0.3**
comp=Z,0.2nm,0.4s,baz=291,slow=9.0,SNR=2.4
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 47.82 60 P **P 16 25 14.2 -0.3**
comp=Z,0.4nm,0.8s,baz=309,slow=7.7,SNR=3.7
comp=Z,0.4nm,0.8s

NEIC ***20*** *16:27:28.0±0.7, 19°.31N±0°.04×155°.139W±0°.008, h10km±1km, Error ellipse: s-maj=6.5km s-min=2.1km az=354.0*
HVO 20 16:27:28.4±0.8, 19°.34N±0°.03×155°.135W±0°.009, h7km±2km, ML2.8/34, ML2.9/48(NEIC), Error ellipse: s-maj=4.0km s-min=0.7km az=165.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.05**	**11**		Pg	16 27 30.2	+0.3
STCH				IAML		16 27 32.0	
	comp=N,15μm,0.7s						
STCH				IAML		16 27 32.0	
	comp=E,13μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.05**	**322**		Pg	16 27 30.4	+0.4
JCUZ	**Jacuzzi**	**0.06**	**34**		Pg	16 27 29.2	-0.8
JCUZ				Sg	Sg	16 27 31.9	+0.7
JCUZ				IAML		16 27 32.2	
	comp=N,9μm,0.7s						
JCUZ				IAML		16 27 32.2	
	comp=E,8μm,0.4s						
NPOC	**North of Pu'u**	**0.06**	**23**		Pg	16 27 30.4	+0.3
NPOC				IAML		16 27 32.3	
	comp=E,10μm,0.2s						
PUH	**Pauahi**	**0.09**	**295**		Pg	16 27 30.7	+0.3
PUH				Sg	Sg	16 27 32.4	+0.5
PUH				IAML		16 27 32.9	
	comp=E,5μm,0.2s						
KKO	**Keanakako`i**	**0.14**	**296**		Pg	16 27 31.6	+0.2
KKO				IAML		16 27 34.6	
	comp=N,4μm,0.5s						
BYL	**Byron's Ledge**	**0.14**	**302**		Pg	16 27 30.5	-0.9
BYL				Sg	Sg	16 27 34.2	+0.8
BYL				IAML		16 27 34.5	
	comp=N,6μm,0.5s						
RIM	**Rim**	**0.14**	**294**		Pg	16 27 31.2	-0.2
RIM				IAML		16 27 34.7	
	comp=E,4μm,0.4s						
RIM				IAML		16 27 34.7	
	comp=N,6μm,0.4s						
HATHI	**Halema'uma'u T**	**0.15**	**305**		Pg	16 27 31.6	+0.1
HATHI				Sg	Sg	16 27 34.4	+0.8
HATHI				IAML		16 27 34.8	
	comp=E,3μm,0.4s						
HATHI				IAML		16 27 36.7	
	comp=N,4μm,0.5s						
SBLHI	**Steaming Bluff**	**0.15**	**305**		Pg	16 27 31.6	0.0
SBLHI				Sg	Sg	16 27 33.9	+0.1
SBLHI				IAML		16 27 36.9	
	comp=E,3μm,0.3s						
JOKA	**Jonika Flow**	**0.16**	**52**		Pg	16 27 31.7	+0.1
JOKA					Sg	16 27 34.1	+0.3
NPH	**North Pit**	**0.16**	**298**		Pg	16 27 31.7	+0.1
SDHHI	**Sand Hill**	**0.16**	**289**		Pg	16 27 32.0	+0.3
SDHHI				IAML		16 27 35.1	
	comp=E,4μm,0.4s						
SDHHI				IAML		16 27 37.3	
	comp=N,4μm,0.4s						
UWB	**Uwekahuna B**	**0.16**	**303**		Pg	16 27 31.5	-0.2
OBL	**Observatory Le**	**0.16**	**299**		Pg	16 27 31.7	0.0
OBL				IAML		16 27 37.2	
	comp=N,4μm,0.6s						
HLP	**Hilina Pali**	**0.17**	**256**		Pg	16 27 32.4	+0.5
HLP				IAML		16 27 35.6	
	comp=N,3μm,0.2s						
HLP				IAML		16 27 35.6	
	comp=E,3μm,0.3s						
WRMHI	**West Rim**	**0.17**	**294**		Pg	16 27 32.0	+0.1
WRMHI				IAML		16 27 38.6	
	comp=E,3μm,0.5s						
UWE	**Uwekahuna**	**0.17**	**299**		Pg	16 27 32.1	+0.2
UWE				IAML		16 27 38.2	
	comp=E,4μm,0.3s						
RSD	**Rainshed**	**0.18**	**313**		Pg	16 27 32.2	+0.1
RSD				IAML		16 27 35.8	
	comp=N,2μm,0.5s						
HTC	**Hot Caves**	**0.27**	**248**		Pg	16 27 34.2	+0.5
PHO	**Puu Honuaula**	**0.27**	**58**		Pg	16 27 34.5	+0.8
MLH	**Mauna Loa**	**0.28**	**303**		Sg	16 27 39.2	+1.4
MLH	**Mauna Loa**	**0.28**	**303**		Pg	16 27 34.0	-0.1
MLH	**Mauna Loa**	**0.28**	**303**	IAML		16 27 40.8	
	comp=E,1μm,0.3s						
MLH				IAML		16 27 41.1	
	comp=N,996nm,0.2s						
AIN	**Ainahou**	**0.31**	**276**		Sb	16 27 40.6	-1.1
AIN	**Ainahou**	**0.31**	**276**		Pg	16 27 34.6	+0.2
AIN	**Ainahou**	**0.31**	**276**	IAML		16 27 41.1	
	comp=E,13μm,0.3s						
AIN				IAML		16 27 41.4	
	comp=N,7μm,0.3s						
HMH	**Humu'ula Sheep**	**0.42**	**309**		Sg	16 27 43.6	+1.4
HMH	**Humu'ula Sheep**	**0.42**	**309**		Pg	16 27 36.9	+0.3
HMH	**Humu'ula Sheep**	**0.42**	**309**	IAML		16 27 44.0	
	comp=N,4μm,0.3s						
HMH				IAML		16 27 44.0	
	comp=E,8μm,0.3s						
MWH	**Moku'aweowe**	**0.46**	**289**		Sg	16 27 44.5	+1.0
MWH	**Moku'aweowe**	**0.46**	**289**		Pg	16 27 37.2	-0.2
MWH	**Moku'aweowe**	**0.46**	**289**	IAML		16 27 45.4	
	comp=N,2μm,0.5s						
MWH				IAML		16 27 46.4	
	comp=E,2μm,0.5s						
MLOA	**Mauna Loa Obse**	**0.46**	**295**		Sg	16 27 44.3	+0.8
MLOA	**Mauna Loa Obse**	**0.46**	**295**		Pg	16 27 37.4	0.0
MLOA	**Mauna Loa Obse**	**0.46**	**295**	IAML		16 27 44.9	
	comp=E,3μm,0.6s						
MLOA				IAML		16 27 45.2	
	comp=N,1μm,0.4s						
KHU	**Kahuku**	**0.46**	**259**		Sg	16 27 44.4	+0.9
KHU	**Kahuku**	**0.46**	**259**		Pg	16 27 37.1	-0.3
KHU	**Kahuku**	**0.46**	**259**	IAML		16 27 49.3	
	comp=E,968nm,0.5s						
KHU				IAML		16 27 49.6	
	comp=N,678nm,0.6s						
ALEP	**Alea Permanent**	**0.52**	**293**		Pg	16 27 38.4	-0.1
ALEP					Sg	16 27 45.8	+0.4
POHA	**Pohakuloa**	**0.56**	**318**		Pg	16 27 38.4	-0.9
POHA				IAML		16 27 47.4	
	comp=N,1μm,0.2s						
HUH	**Hualalai**	**0.75**	**298**		Pg	16 27 42.3	-0.4
KHLU	**Kahalu`u**	**0.76**	**290**		Pg	16 27 41.5	-1.5
HPAH	**Hawaii Prepara**	**0.87**	**323**	Pg	Pg	16 27 43.1	-2.0
MHA	**Mahukona**	**1.11**	**320**	Pg	Pg	16 27 47.8	-1.9

IDC 20 16:44:26.8±2.9, 0°.41N×132°.55E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=145.0km s-min=29.7km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.30**	**175**	P	P	16 49 05.0	+0.5
	0.4nm,0.5s,baz=354,slow=11,SNR=11						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**23.97**	**177**	P	P	16 49 42.7	-0.4
	0.2nm,0.5s,baz=359,slow=9.0,SNR=4.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**63.62**	**324**	P	P	16 54 59.7	0.0
	0.1nm,0.5s,baz=104,slow=6.1,SNR=1.8						
	0.1nm,0.5s						

IDC 20 17:26:25.8±732.0, 52°.45N×33°.99E, h0km, Error ellipse: s-maj=316.4km s-min=102.4km az=29.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.68**	**22**	I	I	17 56 30.0	
	0.3nm,0.7s,baz=205,slow=322,SNR=2.2						
I31KZ	**AKTYUBINSK INF**	**15.12**	**88**	I	I	18 57 00.0	
	baz=288,slow=309,SNR=2.5						
I46RU	**ZALESOVO INFRA**	**29.96**	**67**	I	I	20 29 00.0	
	baz=285,slow=293,SNR=0.9						

IDC 20 17:33:19.6±3.0, 3°.81S×136°.34E, h0km, mb3.4/1, mbtmp3.6/3, ML3.4/2, Error ellipse: s-maj=110.0km s-min=33.1km az=80.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.16**	**187**	Pn	Pn	17 37 06.2	-2.1
	0.1nm,0.3s,baz=8.6,slow=12,SNR=5.5						
WRA				Sn	Sn	17 39 58.4	-10
	0.1nm,0.3s,baz=12,slow=22,SNR=2.6						
WRA				Lg	Lg	17 41 34.5	
	baz=1.3,slow=27						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**19.88**	**187**	P	Pn	17 37 53.5	-0.7
	0.2nm,0.3s,baz=11,slow=10,SNR=22						
	3.7nm,0.9s						
MKAR	**Makanchi Array**	**69.23**	**323**	P	P	17 44 28.4	0.0
	0.3nm,0.7s,baz=110,slow=6.6,SNR=2.3						
	0.3nm,0.7s						

IDC ***20*** *17:44:39.5±1.1, 13°.76N×147°.80E, h36km±5km, mb3.7/8, mbtmp3.9/8, Error ellipse: s-maj=34.3km s-min=21.1km az=98.0*
NEIC ***20*** *17:44:39.6±0.9, 13°.8N±0°.1×147°.41E±0°.08, h23km±5km, mb5.0/29, Error ellipse: s-maj=19.1km s-min=11.7km az=173.0*
ISC 20 17:44:40.8±0.7, 13°.78N±0°.10×147°.41E±0°.09, h35km±2km, h35km:pP-P, n47, σ0s90/57, mb4.8/21, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.48**	**266**	Pn	**Pn**	**17 45 16.9**	**-1.8**
GUMO				Sn	**Sn**	**17 45 48.0**	**+0.3**
GUMO	**Guam**	**2.48**	**266**	Pn	**Pn**	**17 45 18.5**	**-0.2**
	29nm,0.3s,baz=72,slow=4.2,SNR=7.1						
GUMO				Sn	**Sn**	**17 45 47.8**	**+0.1**
	87nm,0.3s,baz=356,slow=22,SNR=7.4						
PATS	**Pohnpei**	**12.75**	**122**	Pn	Pn	17 47 33.0	-6.8
TNTI	**Ternate**	**23.68**	**239**	P	**P**	**17 49 49.0**	**-0.5**
COEN	**Coen**	**27.88**	**189**	P	**P**	**17 50 27.4**	**-0.2**
SOEI	**Soe**	**32.77**	**226**	P	**P**	**17 51 09.5**	**-1.5**
SOEI				IAmb	IAmb	17 51 42.7	
	comp=Z,17nm,1.2s						
WR0	**Warramunga Arr**	**35.84**	**201**	P	**P**	**17 51 36.9**	**-0.5**
WB2	**Warramunga Arr**	**35.89**	**201**	P	**P**	**17 51 37.5**	**-0.3**
WRA	**Warramunga Arr**	**35.90**	**201**	P	**P**	**17 51 37.8**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=24,slow=9.3,SNR=6.3						
WRA				pP	**pP**	**17 51 47.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=25,slow=10,SNR=2.5						
	comp=Z,0.6nm,0.7s						
AS31	**Alice Springs**	**39.49**	**200**	P	**P**	**17 52 10.8**	**+2.5**
ASAR	**Alice Springs**	**39.49**	**200**	P	**P**	**17 52 09.6**	**+1.3**
ASAR	**Alice Springs**	**39.49**	**200**	PcP	**PcP**	**17 54 14.9**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=27,slow=2.5,SNR=2.2						
CMAR	**Chiang Mai Arr**	**46.69**	**282**	P	**P**	**17 53 08.4**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=81,slow=5.2,SNR=6.5						
	comp=Z,0.7nm,0.6s						
SONM	**Songino Array**	**48.02**	**324**	P	**P**	**17 53 17.3**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=109,slow=7.8,SNR=3.1						
SONM				pP	**sP**	**17 53 28.3**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=123,slow=8.2,SNR=2.5						
	comp=Z,0.5nm,0.5s						
AKUT	**Akutan**	**54.36**	**32**	P	**P**	**17 54 05.3**	**+1.3**
M16K	**Timber Creek**	**60.84**	**27**	P	**P**	**17 54 48.8**	**-0.6**
N17K	**Nushagak Hills**	**61.41**	**28**	P	**P**	**17 54 53.5**	**+0.2**
N17K				IAmb	IAmb	17 55 11.1	
	comp=Z,20nm,1.4s						
M17K	**Holitna River**	**61.66**	**27**	P	**P**	**17 54 55.7**	**+0.6**
H17K	**Granite Mounta**	**62.28**	**22**	P	**P**	**17 54 59.2**	**0.0**
H18K	**Honhosa River**	**62.97**	**23**	P	**P**	**17 55 03.8**	**+0.1**
MKAR	**Makanchi Array**	**63.07**	**316**	P	**P**	**17 55 04.8**	**0.0**
MKAR	**Makanchi Array**	**63.07**	**316**	P	**P**	**17 55 05.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=96,slow=7.2,SNR=4.6						
MKAR				pP	**sP**	**17 55 15.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=100,slow=7.0,SNR=4.1						
	comp=Z,0.4nm,0.5s						
L19K	**White Mountain**	**63.10**	**26**	P	**P**	**17 55 04.3**	**-0.5**
L19K				IAmb	IAmb	17 56 34.2	
	comp=Z,18nm,1.6s						
MAKZ	**Makanchi**	**63.29**	**316**	P	**P**	**17 55 05.9**	**-0.3**
G19K	**Purcell Mounta**	**63.89**	**22**	P	**P**	**17 55 10.2**	**+0.4**
G19K				IAmb	IAmb	17 55 47.8	
	comp=Z,19nm,1.5s						
K20K	**Telida**	**63.89**	**25**	P	**P**	**17 55 10.8**	**+0.9**
K20K				IAmb	IAmb	17 55 52.9	
	comp=Z,32nm,1.9s						
F19K	**Shaleruckik Mo**	**63.97**	**21**	P	**P**	**17 55 10.2**	**0.0**
F19K				IAmb	IAmb	17 55 38.8	
	comp=Z,12nm,1.1s						
J20K	**Nowinta River**	**64.18**	**24**	P	**P**	**17 55 12.7**	**+1.0**
J20K				IAmb	IAmb	17 56 02.3	
	comp=Z,24nm,1.8s						
PPLA	**Purkeypile**	**64.52**	**26**	P	**P**	**17 55 14.6**	**+0.4**
D19K	**Kuna River**	**64.65**	**19**	P	**P**	**17 55 15.2**	**+0.5**
CAST	**Castle Rocks**	**64.75**	**26**	P	**P**	**17 55 15.7**	**+0.2**
CAST				IAmb	IAmb	17 56 04.4	
	comp=Z,27nm,2.0s						
KTH	**Kantishna Hill**	**65.28**	**26**	P	**P**	**17 55 19.0**	**0.0**
TRF	**Thorofare Moun**	**65.52**	**26**	P	**P**	**17 55 20.4**	**-0.2**
KURBB	**Kurchatov Arra**	**66.08**	**319**	P	**P**	**17 55 24.0**	**-0.2**
	comp=Z,2.1nm,0.2s,baz=96,slow=5.8,SNR=2.6						
KURBB				pP	**sP**	**17 55 35.7**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=97,slow=8.0,SNR=1.8						
	comp=Z,2.1nm,0.2s						
HYB	**Hyderabad**	**66.11**	**283**	*e*P	**P**	**17 55 25.7**	**+0.6**
HYB				*e*sP	**pP**	**17 55 35.1**	**+1.3**
HYB				*e*PP	**PP**	**17 57 50.6**	**-0.3**
HYB				*e*S	**S**	**18 04 12.8**	**+1.2**
E22K	**Anaktuvuk Pass**	**66.60**	**21**	P	**P**	**17 55 27.7**	**+0.3**
ILAR	**Eielson Array**	**67.34**	**25**	P	**P**	**17 55 30.1**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=248,slow=5.3,SNR=4.9						
ILAR				pP	**pP**	**17 55 41.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=247,slow=5.9,SNR=2.4						
	comp=Z,0.4nm,0.5s						
E24K	**Your Creek**	**67.74**	**21**	P	**P**	**17 55 34.8**	**+0.1**
E24K				IAmb	IAmb	17 56 50.1	
	comp=Z,28nm,1.8s						
J26L	**Joseph Creek**	**68.66**	**26**	P	**P**	**17 55 40.3**	**-0.2**
J26L				IAmb	IAmb	17 55 51.6	
	comp=Z,17nm,1.8s						
BMAR	**Burnt Mountain**	**68.97**	**23**	P	**P**	**17 55 42.9**	**+0.5**
BCAR	**Beaver Creek A**	**69.13**	**27**	P	**P**	**17 55 43.3**	**-0.2**
F28M	**Old Crow**	**70.78**	**23**	P	**P**	**17 55 51.5**	**-1.9**
F28M				IAmb	IAmb	17 57 44.1	
	comp=Z,26nm,1.8s						
BVAR	**Borovoye Array**	**71.31**	**322**	P	**P**	**17 55 56.9**	**0.0**
	comp=Z,0.5nm,0.4s,baz=104,slow=8.1,SNR=2.8						
BVAR				pP	**sP**	**17 56 08.0**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=106,slow=8.4,SNR=3.8						
	comp=Z,0.5nm,0.4s						
E29M	**Blow River**	**71.65**	**22**	P	**P**	**17 55 57.4**	**-1.2**
E29M				IAmb	IAmb	17 58 11.9	
	comp=Z,37nm,1.9s						
J30M	**Hart River**	**71.75**	**26**	P	**P**	**17 55 58.7**	**-0.8**
J30M				IAmb	IAmb	17 57 53.3	
	comp=Z,20nm,1.8s						
FINES	**FINESS Array B**	**92.01**	**336**	P	**P**	**17 57 44.5**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=60,slow=5.2,SNR=13						
	comp=Z,1.5nm,0.6s						
LR03	**Panguipulli**	**136.66**	**134**		**PKPdf**	**18 04 00.1**	**+0.4**

IDC 20 17:47:03.2±999.0, 50°.84N×49°.12E, h0km, Error ellipse: s-maj=689.8km s-min=128.5km az=91.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**5.69**	**91**	I	I	18 21 00.0	
	0.3nm,0.7s,baz=278,slow=306,SNR=4.1						
I46RU	**ZALESOVO INFRA**	**21.86**	**68**	I	I	19 56 20.0	
	baz=276,slow=305,SNR=1.8						
I34MN	**SONGINO INFRAS**	**36.67**	**72**	I	I	21 32 30.0	
	baz=297,slow=331,SNR=0.7						

IDC 20 17:51:05.8±4.5, 12°.23S×167°.06E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=223.7km s-min=33.5km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.32**	**252**	P	P	17 57 36.9	-0.1
	0.5nm,0.8s,baz=84,slow=9.0,SNR=2.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**33.45**	**245**	P	P	17 57 46.9	0.0
	0.3nm,0.6s,baz=70,slow=9.9,SNR=12						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**84.22**	**18**	P	P	18 03 38.9	0.0
	0.4nm,0.5s,baz=226,slow=5.6,SNR=6.4						
	0.4nm,0.5s						

DNK ***20*** *17:57:06.2±0.3, 80°.98N×6°.21E, h36km±7km, ML1.4*
BER 20 17:57:12.2±2.0, 77°.37N×7°.92E, h15km±13km, mb(Pn)2.6, Confirmed Earthquake, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBB	**Barentsburg B**	**1.53**	**59**	*e*P	Pn	17 57 37.8	-1.0
BRBB				*e*S	Sn	17 57 55.7	-2.7
HSPB	**Hornsund (broa**	**1.74**	**99**	*e*P	Pn	17 57 40.6	-1.2
HSPB				*e*S	Sn	17 57 59.9	-3.7
HSPB				IAML		17 58 02.4	
	comp=Z,2.8nm,0.1s						
KBS	**Kingsbay**	**1.77**	**26**	*e*P	Pn	17 57 40.7	-1.5
KBS				*e*S	Sn	17 58 00.5	-3.9
KBS				IAML		17 58 03.3	
	comp=Z,3.7nm,0.2s						
KBS	**Kingsbay**	**1.77**	**26**	*i* P	Pn	17 57 40.7	-1.5
SPA0	**Spitsbergen Ar**	**1.97**	**62**	*e*Pg	Pn	17 57 45.2	+0.2
SPA0				*e*S	Sn	17 58 07.9	-1.6
SPA0				IAML		17 58 13.5	
	comp=Z,6.0nm,0.4s						
DAG	**Danmarks Havn**	**5.96**	**277**	*i* P	Pn	17 58 35.2	-4.5
DAG				IAML		17 59 13.8	
	comp=Z,1.8nm,0.9s						

IDC ***20*** *18:12:43.6±3.2, 36°.17N×71°.08E, h215km±29km, mb3.1/9, mbtmp3.7/14, Error ellipse: s-maj=25.3km s-min=18.6km az=22.0*
ISC 20 18:12:43.3±0.7, 36°.35N±0°.07×71°.09E±0°.09, h200km, n33, σ1s66/36, mb3.5/8, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.12**	**18**	⇑P	**Pn**	**18 14 14.2**	**+1.8**
	1.0nm,0.5s						
AML				⇓S	**Sn**	**18 15 18.9**	**-4.0**
	6.7nm,0.7s						
KK31	**Karatay Array**	**6.76**	**356**	⇑P	**Pn**	**18 14 22.2**	**+1.9**
	1.1nm,0.5s,baz=179

1.9nm,0.6s,baz=106,slow=14,SNR=3.6
PYUN Piuthan 13.00 126 *eP* **P 18 15 41.8 -2.5**
7.8nm,0.4s
PYUN Piuthan 13.00 126 *eP* **P 18 15 42.0 -2.3**
7.8nm,0.4s
DANN Dangsing 13.35 123 *eP* **P 18 15 46.6 -1.6**
10nm,0.5s
MKAR Makanchi Array 13.37 35 P **Pn 18 15 45.2 -0.1**
0.2nm,0.6s,baz=208,slow=8.0,SNR=5.5
GKN Gorkha 14.16 122 *eP* **P 18 15 57.0 -0.1**
23nm,0.3s
GKN Gorkha 14.16 122 *eP* **P 18 15 57.2 +0.1**
23nm,0.3s
DMN Daman 14.73 122 *eP* **P 18 16 04.0 +0.4**
7.0nm,0.4s
PKIN Phulchoki 14.95 122 *eP* **P 18 16 06.3 +0.3**
11nm,0.4s
PKIN Phulchoki 14.95 122 *eP* **P 18 16 06.7 +0.7**
11nm,0.4s
PKI Pulchoki 14.96 122 *eP* **P 18 16 06.7 +0.5**
13nm,0.5s
GUN Gumba 15.08 120 *eP* **P 18 16 08.2 +0.7**
18nm,0.7s
GUN Gumba 15.08 120 *eP* **P 18 16 08.4 +0.9**
18nm,0.7s
JIRN Jiri 15.45 120 *eP* **P 18 16 13.1 +1.5**
12nm,0.4s
JIRN Jiri 15.45 120 *eP* **P 18 16 13.2 +1.6**
12nm,0.4s
RAMN Ramite 16.18 121 *eP* **Pn 18 16 21.8 +1.7**
20nm,0.9s
RAMN Ramite 16.18 121 *eP* **Pn 18 16 21.9 +1.8**
20nm,0.9s
BVAR Borovoye Array 16.68 359 P **P 18 16 27.1 +2.6**
0.3nm,0.4s,baz=159,slow=8.7,SNR=2.3
TAPN Taplejung 16.71 118 *eP* **Pn 18 16 26.9 +0.4**
14nm,0.7s
TAPN Taplejung 16.71 118 *eP* **Pn 18 16 27.3 +0.8**
14nm,0.7s
AKTO Aktyubinsk 16.95 330 P **P 18 16 28.2 +0.8**
2.4nm,0.5s,baz=139,slow=9.3,SNR=4.1
ZALV Zalesovo Beam 20.02 24 P **P 18 17 01.7 +1.1**
0.8nm,0.4s,baz=220,slow=9.7,SNR=2.5
0.8nm,0.4s
ARU Arti 21.80 341 P **P 18 17 20.4 +1.1**
0.8nm,0.3s,baz=159,slow=8.7,SNR=3.3
0.8nm,0.3s
FINES FINESS Array B 37.65 326 P **P 18 19 39.2 +0.5**
2.3nm,1.0s,baz=128,slow=8.0,SNR=7.3
2.3nm,1.0s
ARCES ARCESS Array B 41.31 338 P **P 18 20 08.4 -0.4**
2.3nm,0.7s,baz=110,slow=7.9,SNR=6.5
2.3nm,0.7s
HFS Hagfors 43.23 322 P **P 18 20 24.7 +0.2**
1.3nm,0.7s,baz=101,slow=9.5,SNR=1.5
1.3nm,0.7s
NOA NORSAR Array B 44.54 323 P **P 18 20 34.8 -0.1**
0.3nm,0.6s,baz=96,slow=7.6,SNR=1.5
0.3nm,0.6s
TORD Torodi Ar. Bea 65.79 269 P **P 18 23 05.4 -2.0**
0.4nm,0.5s,baz=53,slow=6.5,SNR=4.3
0.4nm,0.5s
WRA Warramunga Arr 81.85 122 P **P 18 24 39.1 -1.3**
0.3nm,0.8s,baz=327,slow=4.9,SNR=1.6
0.3nm,0.8s
ASAR Alice Springs 84.11 125 P **P 18 24 50.2 -1.7**
0.2nm,0.5s,baz=310,slow=4.7,SNR=7.5
0.2nm,0.5s

*PRE **20** 18:22:47.0±0.7,26°.92S×26°.70E,h2km,ML2.0*
*BUL **20** 18:22:56.7±1.3,26°.93S×26°.22E,h21km±17km,MD3.4*
*EAF **20** 18:22:56.7,26°.93S×26°.22E,h21km,MC3.4*
ISC 20 18:22:46.9±0.7,26°.92S±0°.02×26°.73E±0°.03,h10km,n20,
σ1§75/38,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.56**	**91**	*eP*	**Pg**	**18 22 58.5**	**+0.5**
PRYS				*eS*	**Sg**	**18 23 06.5**	**+1.0**
PRYS				IAML		18 23 07.7	
	comp=Z,69nm,0.2s						
KSR	**Koster**	**1.07**	**8**	*eP*	**Pn**	**18 23 08.2**	**0.0**
KSR				*eS*	**Sb**	**18 23 22.7**	**+0.8**
KSR				IAML		18 23 27.6	
	comp=Z,155nm,0.2s						
SWZ	**Schweizer**	**1.27**	**258**	*eP*	**Pg**	**18 23 11.0**	**-0.4**
SWZ				*eS*	**Sn**	**18 23 28.4**	**+0.2**
SWZ				IAML		18 23 34.2	
	comp=Z,92nm,0.3s						
SNKL	**Senekal, Frees**	**1.64**	**146**	*eP*	**Pb**	**18 23 18.1**	**+0.7**
SNKL				*eS*	**Sg**	**18 23 40.0**	**+0.3**
SNKL				IAML		18 23 45.5	
	comp=Z,26nm,0.5s						
BOSA	**Boshof**	**2.13**	**217**	*i* P	**Pg**	**18 23 26.9**	**-0.9**
BOSA				*i* S	**Sb**	**18 23 50.9**	**-1.5**
BOSA	**Boshof**	**2.13**	**217**	*eP*	**Pb**	**18 23 24.3**	**-1.4**
BOSA				*eS*	**Sb**	**18 23 51.7**	**-0.7**
BOSA				IAML		18 23 57.9	
	comp=Z,10nm,0.3s						
BOSA	**Boshof**	**2.13**	**217**	*i* P	**Pg**	**18 23 26.9**	**-0.9**
	baz=207						
BOSA				*i* S	**Sb**	**18 23 50.9**	**-1.5**
	baz=207						
LBTB	**Lobatse**	**2.15**	**332**	*i* P	**Pg**	**18 23 28.9**	**+0.7**
LBTB				*i* S	**Sb**	**18 23 52.9**	**0.0**
LBTB	**Lobatse**	**2.15**	**332**	*eP*	**Pn**	**18 23 24.3**	**+1.4**
LBTB				*eS*	**Sb**	**18 23 52.3**	**-0.6**
LBTB				IAML		18 23 56.6	
	comp=Z,26nm,0.3s						
LBTB	**Lobatse**	**2.15**	**332**	*i* P	**Pg**	**18 23 28.9**	**+0.7**
	baz=343						
LBTB				*i* S	**Sb**	**18 23 52.9**	**0.0**
	baz=343						
LEPH	**Lephalale, Lim**	**3.20**	**18**	*eP*	**Pn**	**18 23 39.6**	**+2.2**
LEPH				*eS*	**Sn**	**18 24 17.1**	**+1.5**
LEPH				IAML		18 24 31.6	
	comp=Z,6.5nm,0.3s						
KSTD	**Kokstad**	**4.33**	**149**	*eP*	**Pn**	**18 23 55.3**	**+2.3**
KSTD				*eS*	**Sn**	**18 24 44.8**	**+1.3**
KSTD				IAML		18 25 10.5	
	comp=Z,3.0nm,0.3s						
UPI	**Upington**	**5.07**	**252**	*eP*	**Pn**	**18 24 05.1**	**+2.1**
UPI				*eS*	**Sn**	**18 25 01.0**	**-0.7**
UPI				IAML		18 25 16.6	
	comp=Z,1.3nm,0.5s						
MOPA	**Mopani**	**5.42**	**52**	*i* P	**Pb**	**18 24 21.6**	**-0.1**
MOPA				*i* S	**Sb**	**18 25 21.6**	**-5.2**
MOPA	**Mopani**	**5.42**	**52**	*i* P	**Pb**	**18 24 21.6**	**-0.1**
	baz=55						
MOPA				*i* S	**Sb**	**18 25 21.6**	**-5.2**
	baz=55						
MUSN	**Musina, Limpop**	**5.42**	**32**	*i* P	**Pb**	**18 24 20.2**	**-1.6**
MUSN	**Musina, Limpop**	**5.42**	**32**	*i* P	**Pb**	**18 24 20.2**	**-1.6**
	baz=36						
GRAF	**Camdeboo Natio**	**5.69**	**200**	*eP*	**Pn**	**18 24 13.2**	**+1.7**
GRAF				*eS*	**Sn**	**18 25 16.8**	**-0.2**
GRAF				IAML		18 25 51.1	
	comp=Z,2.0nm,0.5s						
BRAK	**Brakfontein**	**5.89**	**214**	*eP*	**Pn**	**18 24 16.5**	**+2.2**
BRAK				*eS*	**Sn**	**18 25 20.9**	**-1.0**
BRAK				IAML		18 25 28.8	
	comp=Z,1.7nm,0.3s						
FRAZ	**Fraserburg**	**6.81**	**222**	*eP*	**Pn**	**18 24 28.6**	**+1.5**
FRAZ				*eS*	**Sn**	**18 25 42.8**	**-2.0**
FRAZ				IAML		18 26 21.5	
	comp=Z,1.7nm,0.6s						

KRSC 20 18:47:04.3±1.6,49°.56N×157°.20E,h16km±39km,MI3.9,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.32**	**328**	*eP*	Pn	18 47 27.3	-0.8
SKR				*eS*	Sn	18 47 43.3	-2.1
PAU	**Pauzhetka**	**1.92**	**353**	*eP*	Pb	18 47 38.3	-0.7
PAU				*eS*	Sb	18 48 02.9	+0.1
KDTR	**Khodutka, Kamc**	**2.32**	**14**	*eP*	Pb	18 47 44.4	-1.4
KDTR				*eS*	Sb	18 48 13.3	-0.9
ASAK	**Asacha**	**2.86**	**9**	*eP*	Pb	18 47 52.8	-2.3
MTVR	**Mutnovka**	**2.99**	**12**	*eP*	Pn	18 47 54.2	+3.0
MTVR				*eS*	Sn	18 48 30.2	+3.3
RUS	**Russkaya**	**2.99**	**16**	*eP*	Pn	18 47 53.7	+2.6
RUS				*eS*	Sn	18 48 29.7	+3.1
GRL	**Gorelyy**	**3.04**	**10**	*eP*	Pb	18 47 55.4	-2.8
GRL				*eS*	Sb	18 48 32.1	-3.1
KRMR	**Karymshinskiy**	**3.32**	**10**	*eP*	Pn	18 47 59.0	+3.3
KRMR				*eS*	Sn	18 48 38.3	+3.5
DALK	**Dalny**	**3.61**	**15**	*eP*	Pn	18 48 02.9	+3.3
DALK				*eS*	Sn	18 48 45.8	+4.0
UGLR	**Uglovaya**	**3.79**	**15**	*eP*	Pn	18 48 05.8	+3.6
AVH	**Avacha**	**3.83**	**14**	*eP*	Pn	18 48 06.8	+4.1
SMAR	**Somma**	**3.84**	**14**	*eP*	Pb	18 48 07.4	-4.4
KRX	**Arik**	**3.91**	**13**	*eP*	Pn	18 48 07.8	+4.0
GNL	**Ganaly**	**4.17**	**6**	*eP*	Pn	18 48 10.8	+3.4
MKZ	**Mys Kozlova**	**5.73**	**27**	*eP*	Pn	18 48 31.6	+3.0

*IDC **20** 18:55:26.1±0.8,32°.14N×142°.14E,h0km,mb4.0/14,*
mbtmp4.0/19,ML3.2/5,MS3.1/1,Error ellipse:
s-maj=23.8km s-min=16.4km az=68.0
*JMA **20** 18:55:28.1±0.7,32°N±2°×14°2E±°,h0km,MV4.1/26,FAR*
E OFF IZU ISLANDS
*NEIC **20** 18:55:31.2±1.5,32°.17N±0°.09×141°.8E±0°.1,h25km±6km,*
mb4.5/30,Error ellipse: s-maj=14.0km s-min=12.7km
az=217.0
ISC 20 18:55:28.4±0.6,32°.22N±0°.07×142°.00E±0°.08,h10km,n73,
σ1§31/79,mb4.4/29,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.05**	**296**	Pn	**Pn**	**18 56 03.5**	**+0.6**
JHJ2	**Mitsune**	**2.05**	**296**	*eP*	**Pn**	**18 56 03.7**	**+0.8**
JHJ	**Hachijo jima 2**	**2.08**	**296**	Pn	**Pn**	**18 56 03.4**	**+0.1**
	27nm,0.3s,baz=248,slow=21,SNR=1.7						
JHJ				Sn	**Sn**	**18 56 26.7**	**-2.5**
	38nm,0.3s,baz=84,slow=21,SNR=1.7						
	140nm,0.5s						
BSO1	**Boso 1**	**2.57**	**341**	*eP*	**Pn**	**18 56 10.1**	**+0.4**
BSO3	**Boso 3**	**2.86**	**335**	*eP*	**Pn**	**18 56 15.2**	**+1.3**
JHU	**Hanno**	**4.27**	**329**	*eP*	**Pn**	**18 56 35.4**	**+1.9**
JYT	**Yasato**	**4.27**	**340**	*eP*	**Pn**	**18 56 34.9**	**+1.5**
JYT				*eS*	**Sn**	**18 57 24.3**	**+1.0**
JHO	**Hitachi**	**4.54**	**345**	P	**Pn**	**18 56 37.8**	**+0.6**
JRY	**Ryogami san**	**4.58**	**327**	*eP*	**Pn**	**18 56 39.5**	**+1.8**
JAG	**Ashikaga**	**4.69**	**334**	*eP*	**Pn**	**18 56 40.4**	**+1.1**
JAG				*eS*	**Sn**	**18 57 34.7**	**+0.8**
JFK	**Kawauchi**	**5.22**	**350**	*eP*	**Pn**	**18 56 46.4**	**-0.1**
MJAR	**Matsushiro Arr**	**5.33**	**325**	Pn	**Pn**	**18 56 48.7**	**+0.6**
	0.2nm,0.3s,baz=161,slow=11,SNR=18						
	2.6nm,0.5s						
MAJO	**Matsushiro**	**5.33**	**325**	Pn	**Pn**	**18 56 49.0**	**+0.9**
MAT	**Matsushiro**	**5.33**	**325**	P	**Pn**	**18 56 49.6**	**+1.5**
MJB9	**Matsu-Tunnel**	**5.34**	**325**		**Pn**	**18 56 49.5**	**+1.3**
JMM	**Marumori**	**5.72**	**350**		**Pn**	**18 56 52.8**	**-0.6**
JSD	**Sado**	**6.56**	**333**	Pn	**Pn**	**18 57 05.2**	**+0.2**
JMK	**Ichinoseki**	**6.75**	**355**	*eP*	**Pn**	**18 57 08.7**	**+1.2**
JMK				*eS*	**Sn**	**18 58 19.7**	**-4.7**
JTM	**Tenmabayashi**	**8.58**	**355**	Pn	**Pn**	**18 57 33.4**	**+0.7**
ASAJ	**Asahikawa**	**11.89**	**2**	Pn	**Pn**	**18 58 17.2**	**-0.7**
	0.2nm,0.3s,baz=196,slow=34,SNR=1.3						
ASAJ				Sn	Sn	19 00 23.4	-7.1
	0.2nm,0.3s,baz=184,slow=19,SNR=1.4						
	1.8nm,0.5s						
KSRS	**Korea Array**	**12.69**	**298**	Pn	**Pn**	**18 58 30.9**	**+2.0**
	0.1nm,0.3s,baz=111,slow=13,SNR=2.5						
	0.8nm,0.6s						
KLR	**Kul'dur**	**18.65**	**339**	P	**P**	**18 59 45.1**	**-1.2**
	0.2nm,0.3s,baz=217,slow=5.6,SNR=5.4						
KLR				LR	LR	19 07 55.3	
	comp=Z,55nm,18.2s,baz=150,slow=40						
	0.9nm,0.6s						
SONM	**Songino Array**	**31.09**	**311**	P	**P**	**19 01 46.0**	**-0.8**
SONM	**Songino Array**	**31.09**	**311**	P	**P**	**19 01 47.9**	**+1.0**
	1.3nm,0.8s,baz=105,slow=8.2,SNR=8.5						
	1.3nm,0.8s						
TIXI	**Tiksi**	**40.12**	**354**	P	**P**	**19 03 04.7**	**+0.8**
ZAA0	**Zalesovo Array**	**45.61**	**316**	P	**P**	**19 03 48.1**	**-0.6**
ZALV	**Zalesovo Beam**	**45.61**	**316**	P	**P**	**19 03 47.7**	**-1.0**
ZALV	**Zalesovo Beam**	**45.61**	**316**	P	**P**	**19 03 48.5**	**-0.2**
	1.6nm,0.8s,baz=101,slow=8.0,SNR=6.7						
ZALV				PcP	**PcP**	**19 05 25.9**	**-1.0**
	0.7nm,0.5s,baz=113,slow=4.3,SNR=3.6						
	1.6nm,0.8s						
MK31	**Makanchi Array**	**47.21**	**306**	P	**P**	**19 04 01.1**	**-0.4**
MK31				IAmb	IAmb	19 04 02.4	
	comp=Z,3.4nm,0.8s						
MKAR	**Makanchi Array**	**47.21**	**306**	P	**P**	**19 04 00.8**	**-0.6**
MKAR	**Makanchi Array**	**47.21**	**306**	P	**P**	**19 04 01.6**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=91,slow=9.7,SNR=25						
	comp=Z,3.9nm,0.7s						
MAKZ	**Makanchi**	**47.43**	**306**	P	**P**	**19 04 03.2**	**+0.1**
MAKZ				IAmb	IAmb	19 04 03.7	
	comp=Z,3.6nm,0.7s						
N17K	**Nushagak Hills**	**48.27**	**35**	P	**P**	**19 04 11.8**	**+2.4**
KURK	**Kurchatov**	**49.38**	**312**	P	**P**	**19 04 18.3**	**+0.3**
KURK				IAmb	IAmb	19 04 18.8	
	comp=Z,6.2nm,0.8s						
KURBB	**Kurchatov Arra**	**49.44**	**311**	P	**P**	**19 04 18.6**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=88,slow=7.5,SNR=30						
	comp=Z,2.9nm,0.5s						
F21K	**Alatna River**	**50.89**	**27**	P	**P**	**19 04 31.3**	**+1.9**
F21K				IAmb	IAmb	19 05 04.0	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**52.20**	**189**	P	**P**	**19 04 38.0**	**-1.6**
WB0				IAmb	IAmb	19 04 39.1	
	comp=Z,5.1nm,0.6s						
WR0	**Warramunga Arr**	**52.37**	**189**	P	**P**	**19 04 38.9**	**-1.9**
WR0				IAmb	IAmb	19 04 40.2	
	comp=Z,9.6nm,1.3s						
WRA	**Warramunga Arr**	**52.38**	**189**	P	**P**	**19 04 39.1**	**-1.8**
WRA	**Warramunga Arr**	**52.38**	**189**	P	**P**	**19 04 39.3**	**-1.6**
	comp=Z,2.9nm,0.5s,baz=5.0,slow=7.5,SNR=87						
	comp=Z,2.9nm,0.5s						
H24K	**Noodor Dome**	**52.97**	**29**	P	**P**	**19 04 47.5**	**+2.6**
ILAR	**Eielson Array**	**53.34**	**30**	P	**P**	**19 04 47.0**	**-0.5**
	comp=Z,2.7nm,1.1s,baz=263,slow=7.3,SNR=7.4						
	comp=Z,2.7nm,1.1s						
BVAR	**Borovoye Array**	**54.24**	**315**	P	**P**	**19 04 54.6**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=114,slow=6.6,SNR=7.3						
BVAR				PcP	**PcP**	**19 05 58.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=70,slow=5.4,SNR=2.0						
	comp=Z,1.4nm,0.7s						
BRVK	**Borovoye**	**54.30**	**315**	P	**P**	**19 04 53.4**	**-1.3**
BRVK				IAmb	IAmb	19 04 57.3	
	comp=Z,4.4nm,1.1s						
BMAR	**Burnt Mountain**	**54.35**	**27**	P	**P**	**19 04 57.4**	**+2.5**
KK31	**Karatay Array**	**56.06**	**303**	P	**P**	**19 05 06.6**	**-1.0**
KK31				IAmb	IAmb	19 05 08.4	
	comp=Z,3.3nm,0.8s						
KKAR	**Karatay Array**	**56.06**	**303**	P	**P**	**19 05 07.0**	**-0.7**
KKAR	**Karatay Array**	**56.06**	**303**	P	**P**	**19 05 07.2**	**-0.4**
KKAR				IAmb	IAmb	19 05 08.4	
	comp=Z,3.3nm,0.8s						
AS31	**Alice Springs**	**56.11**	**189**	P	**P**	**19 05 06.8**	**-1.2**
ASAR	**Alice Springs**	**56.11**	**189**	P	**P**	**19 05 06.9**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=2.6,slow=6.3,SNR=23						
	comp=Z,0.6nm,0.4s						
I28M	**Miner Creek**	**56.27**	**29**	P	**P**	**19 05 09.6**	**+0.7**
G29M	**Pine Creek**	**56.92**	**28**	P	**P**	**19 05 14.7**	**+1.3**
G29M				IAmb	IAmb	19 05 17.0	
	comp=Z,9.8nm,1.1s						
MBWA	**Marble Bar**	**57.20**	**205**	P	**P**	**19 05 15.2**	**-0.6**
M29M	**Somme Creek**	**57.23**	**33**	P	**P**	**19 05 18.8**	**+3.1**
M29M				IAmb	IAmb	19 05 21.5	
	comp=Z,6.7nm,1.2s						
K29M	**Barlow Dome**	**57.47**	**31**	P	**P**	**19 05 18.0**	**+0.6**
K29M				IAmb	IAmb	19 05 20.7	
	comp=Z,3.5nm,0.9s						
EPYK	**Eagle Plains**	**57.49**	**28**	P	**P**	**19 05 18.8**	**+1.3**
PSA00	**Pilbara Seismi**	**57.54**	**205**	P	**P**	**19 05 17.5**	**-0.7**
PSA00				IAmb	IAmb	19 05 58.0	
	comp=Z,8.4nm,1.4s						
PSA00	**Pilbara Seismi**	**57.54**	**205**	P	**P**	**19 05 18.0**	**-0.2**
PSA00				IAmb	IAmb	19 05 58.0	
	comp=Z,14nm,1.3s						
I30M	**Mount Dempster**	**57.77**	**30**	P	**P**	**19 05 20.0**	**+0.4**
I30M				IAmb	IAmb	19 05 23.5	
	comp=Z,5.9nm,1.2s						
INK	**Inuvik**	**58.47**	**26**	P	**P**	**19 05 25.1**	**+0.9**
H31M	**Peel River**	**58.53**	**29**	P	**P**	**19 05 25.6**	**+0.9**
N31M	**Braeburn, Yuko**	**58.63**	**34**	P	**P**	**19 05 26.3**	**+0.9**
ABKAR	**Akbulak array**	**61.47**	**312**	P	**P**	**19 05 44.8**	**-0.3**
ABKAR				IAmb	IAmb	19 06 03.1	
	comp=Z,3.6nm,1.2s						
ABKAR	**Akbulak array**	**61.47**	**312**	P	**P**	**19 05 44.0**	**-1.1**
BBOO	**Buckleboo**	**64.93**	**186**	P	**P**	**19 06 10.7**	**+2.6**
FINES	**FINESS Array B**	**73.30**	**333**	P	**P**	**19 06 59.8**	**0.0**
FINES	**FINESS Array B**	**73.30**	**333**	P	**P**	**19 06 60.0**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=42,slow=5.9,SNR=9.1						
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**74.44**	**312**	P	**P**	**19 07 07.5**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=103,slow=3.2,SNR=8.2						
	comp=Z,2.1nm,0.8s						
NB2	**NORSAR Subarra**	**78.81**	**338**	P	**P**	**19 07 31.7**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**78.81**	**338**	P	**P**	**19 07 31.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=41,slow=5.5,SNR=4.2						
	comp=Z,0.8nm,0.6s						
PDAR	**Pinedale Array**	**80.70**	**45**	P	**P**	**19 07 41.5**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=329,slow=1.6,SNR=2.2						
	comp=Z,0.2nm,0.7s						
BRTR	**Keskin Array B**	**82.42**	**312**	P	**P**	**19 07 51.4**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=121,slow=5.6,SNR=3.7						
	comp=Z,0.5nm,0.8s						
TXAR	**Lajitas Array**	**92.65**	**53**	P	**P**	**19 08 40.0**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=292,slow=2.9,SNR=5.5						
	comp=Z,0.6nm,0.8s						

*IDC **20** 19:27:27.4±2.3,23°.25S×68°.75W,h0km,mb4.2/1,*
mbtmp4.2/1,Error ellipse: s-maj=223.6km s-min=73.7km
az=154.0
*SJA **20** 19:27:37.3±0.7,22°.78S×69°.14W,h92km±3km,ML4.1,*
MW4.0
*NEIC **20** 19:27:38.1±3.0,22°.76S±0°.03×69°.17W±0°.04,h87km±6km,*
mb4.0/3,ML4.1(GUC),Error ellipse: s-maj=6.1km
s-min=4.2km az=123.0
*GUC **20** 19:27:39.3±0.8,22°.77S×69°.13W,h86km±3km,ML4.1*
ISC 20 19:27:38.1±0.7,22°.78S±0°.03×69°.14W±0°.03,h84km±5km,
n76,σ1§64/106,6C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.27**	**52**		**Pn**	**19 27 51.4**	**+0.3**
LVC				Sn	**Sn**	**19 28 00.6**	**-0.2**
LVC	**Limon Verde**	**0.27**	**52**	LR	LR	19 28 01.0	
	comp=Z,121nm,20.2s,baz=248,slow=52						
LVC	**Limon Verde**	**0.27**	**52**	*eP*	**Pn**	**19 27 51.4**	**+0.3**
LVC				*i* S	**Sn**	**19 28 00.7**	**0.0**
LVC				IAML		19 28 01.5	
	comp=Z,19μm,0.2s						
LVC	**Limon Verde**	**0.27**	**52**	*eP*	**Pn**	**19 27 51.6**	**+0.5**
LVC				*eS*	**Sn**	**19 28 03.3**	**+2.5**
PB06	**IPOC Station P**	**0.40**	**280**		**Pn**	**19 27 52.1**	**+0.4**
PB06				Sn	**Sn**	**19 28 01.9**	**+0.2**
PB06	**IPOC Station P**	**0.40**	**280**	⇓*i*P	**Pn**	**19 27 52.5**	**+0.9**
PB06				*i* S	**Sn**	**19 28 02.9**	**+1.2**
PB06				IAML		19 28 03.5	
	comp=E,13μm,0.1s						
PB06	**IPOC Station P**	**0.40**	**280**	*eP*	**Pn**	**19 27 52.2**	**+0.5**
PB06				*eP*		19 27 52.4	
PB06				*eS*	**Sn**	**19 28 03.2**	**+1.4**
PB06				IAML		19 28 03.3	
	comp=Z,4μm,0.2s						
PB15	**IPOC Station P**	**0.53**	**215**		**Pn**	**19 27 53.3**	**+0.6**
PB15				Sn	**Sn**	**19 28 05.2**	**+1.7**
PB15	**IPOC Station P**	**0.53**	**215**	⇓*i*P	**Pn**	**19 27 53.8**	**+1.1**
PB15				*i* S	**Sn**	**19 28 04.9**	**+1.4**
PB15	**IPOC Station P**	**0.53**	**215**	*eP*	**Pn**	**19 27 53.1**	**+0.4**
PB15				*eS*	**Sn**	**19 28 05.6**	**+2.1**
PB15				IAML		19 28 06.9	
	comp=Z,20μm,0.2s						
AF01	**San Pedro de A**	**0.91**	**101**	Pn	**Pn**	**19 27 57.8**	**+1.2**
AF01				Sn	**Sn**	**19 28 11.8**	**+1.4**
AF01	**San Pedro de A**	**0.91**	**101**	⇑*i*P	**Pn**	**19 27 57.8**	**+1.2**
AF01				*i* S	**Sn**	**19 28 11.6**	**+1.2**
PB09	**IPOC Station P**	**0.98**	**355**		**Pn**	**19 27 58.1**	**+0.7**
PB09				Sn	**Sn**	**19 28 12.9**	**+1.3**
PB09	**IPOC Station P**	**0.98**	**355**	⇑*i*P	**Pn**	**19 27 58.8**	**+1.5**
PB09				*i* S	**Sn**	**19 28 13.5**	**+1.8**
PB09				IAML		19 28 14.5	
	comp=E,6μm,0.4s						
PB09	**IPOC Station P**	**0.98**	**355**	*eP*	**Pn**	**19 27 58.1**	**+0.7**
PB09				*eS*	**Sn**	**19 28 13.6**	**+1.8**
PB09				IAML		19 28 14.3	
	comp=Z,6μm,0.3s						
PB04	**IPOC Station P**	**1.03**	**295**		**Pn**	**19 27 58.6**	**+0.8**
PB04				Sn	**Sn**	**19 28 13.5**	**+0.8**
PB04	**IPOC Station P**	**1.03**	**295**	⇑*i*P	**Pn**	**19 27 58.9**	**+0.9**
PB04				*i* S	**Sn**	**19 28 14.1**	**+1.4**
PB04	**IPOC Station P**	**1.03**	**295**	*eP*	**Pn**	**19 27 58.7**	**+0.8**
PB04				*eS*	**Sn**	**19 28 14.7**	**+1.9**
PB04				IAML		19 28 18.1	
	comp=Z,3μm,0.1s						
PB07	**IPOC Station P**	**1.25**	**326**		**Pn**	**19 28 01.5**	**+0.9**
PB07				Sn	**Sn**	**19 28 16.3**	**-1.3**
PB07	**IPOC Station P**	**1.25**	**326**	⇑*i*P	**Pn**	**19 28 01.7**	**+1.1**
PB07				*i* S	**Sn**	**19 28 18.9**	**+1.3**
PB07				IAML		19 28 20.2	
	comp=E,3μm,0.2s						
PB07	**IPOC Station P**	**1.25**	**326**	*eP*	**Pn**	**19 28 01.4**	**+0.8**
PB07				*eS*	**Sn**	**19 28 18.9**	**+1.3**
PB07				IAML		19 28 20.1	
	comp=Z,2μm,0.3s						
PB02	**IPOC Station P**	**1.61**	**334**		**Pn**	**19 28 06.2**	**+1.1**
PB02				Sn	**Sn**	**19 28 26.7**	**+1.2**
PB02	**IPOC Station P**	**1.61**	**334**	⇑*i*P	**Pn**	**19 28 06.4**	**+1.3**
PB02				*i* S	**Sn**	**19 28 27.0**	**+1.5**
PB02				IAML		19 28 29.1	
	comp=E,6μm,0.3s						
PB02	**IPOC Station P**	**1.61**	**334**	*eP*	**Pn**	**19 28 05.7**	**+0.6**
PB02				*eS*	**Sn**	**19 28 27.4**	**+1.8**
PB02				IAML		19 28 28.6	
	comp=Z,6μm,0.3s						
PB01	**IPOC Station P**	**1.75**	**349**		**Pn**	**19 28 07.9**	**+0.9**
PB01				Sn	**Sn**	**19 28 30.5**

PB16 IAML 19 30 02.1
comp=Z,104nm,0.9s
AC06 Mina Casimiro 4.69 193 Pn 19 28 47.5 +1.0
GO03 Copiap 4.90 191 Pn 19 28 48.9 -0.5
PB18 Visviri 5.17 356 Pn **Pn 19 28 51.9 -1.6**
AC04 Llanos de Chal 5.68 198 Pn **Pn 19 28 59.0 -1.0**
AC05 El Transito 6.12 189 Pn **Pn 19 29 05.0 -1.1**
LCO Las Campanas 6.37 192 Pn **Pn 19 29 08.0 -1.5**
LPAZ La Paz 6.53 9 Pn **Pn 19 29 09.7 -2.3**
CO01 Juntas del Tor 7.22 187 Pn **Pn 19 29 19.6 -1.6**
CO05 La Serena 7.36 194 Pn **Pn 19 29 20.7 -2.0**
GO04 Tololo Observa 7.51 191 Pn **Pn 19 29 22.6 -2.6**
CO03 El Pedregal 8.15 189 Pn **Pn 19 29 32.4 -1.2**
CO06 Fray Jorge 8.17 195 Pn **Pn 19 29 33.2 -0.7**
CO02 Combarbal 8.55 191 Pn **Pn 19 29 37.5 -1.8**
ROC1 El Roble 10.29 189 Pn **Pn 19 30 01.5 -1.6**
VA01 Torpederas 10.44 192 Pn **Pn 19 30 03.6 -1.3**
MT09 Talagante 11.08 188 Pn **Pn 19 30 12.7 -1.0**
ITAB Concordia 16.04 110 Pn 19 31 19.8 +1.1
TRQA Tornquist 16.42 160 Pn 19 31 23.5 +0.1
TRQA IAmb IAmb 19 31 46.4
comp=Z,18nm,1.5s
PLTB Pedras Altas 16.45 126 Pn 19 31 24.1 +0.4
PLTB IAmb IAmb 19 31 43.8
comp=Z,18nm,1.5s
BDFB Brasilia 21.16 74 P **P 19 32 15.4 -1.3**
BDFB IAmb IAmb 19 32 46.1
comp=Z,7.2nm,1.1s
TORD Torodi Ar. Bea 77.99 70 P **P 19 39 27.1 -0.6**
comp=Z,1.3nm,0.5s,baz=255,slow=5.2,SNR=17
comp=Z,1.3nm,0.5s
WRA Warramunga Arr 131.75 210 PKP **PKPdf 19 46 42.4 +0.2**
comp=Z,0.3nm,0.7s,baz=149,slow=2.4,SNR=1.8
MKAR Makanchi Array 146.78 37 PKPbc **PKPbc 19 47 11.1 +0.6**
comp=Z,0.4nm,0.6s,baz=316,slow=3.3,SNR=3.7
PZH PanZhiHua 170.92 64 PKP **PKPdf 19 47 34.4 -2.8**

---

*IDC **20** 19:29:39.5±2.5, 19°.04N×145°.59E, h190km±25km, mb3.2/7, mbtmp3.8/9, Error ellipse: s-maj=27.9km s-min=16.8km az=91.0*
*NEIC **20** 19:29:39.4±0.9, 18°.9N±0°.1×145°.8E±0°.1, h172km±9km, mb4.5/37, Error ellipse: s-maj=20.4km s-min=15.3km az=99.0*
ISC 20 19:29:42.2±0.6, 18°.92N±0°.08×145°.6E±0°.1, h214km, n50, σ1§31/51, mb4.3/25, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.34**	**188**	P	**Pn**	**19 30 59.9**	**-1.4**
GUMO	68nm,0.4s,baz=11,slow=24,SNR=1.7			S	**S**	**19 32 02.3**	**-1.5**
	66nm,0.4s,baz=288,slow=19,SNR=1.4						
PATS	**Pohnpei**	**17.24**	**132**	P	**Pn**	**19 33 33.8**	**+3.1**
MJAR	**Matsushiro Arr**	**18.73**	**341**	P	**P**	**19 33 43.7**	**-1.2**
	2.5nm,1.1s,baz=161,slow=9.3,SNR=2.6						
KSRS	**Korea Array**	**24.09**	**324**	P	**P**	**19 34 36.8**	**-1.4**
	0.7nm,0.6s,baz=135,slow=9.0,SNR=2.8						
	0.7nm,0.6s						
WB0	**Warramunga Arr**	**39.98**	**197**	P	**P**	**19 36 57.0**	**+0.7**
WB2	**Warramunga Arr**	**40.16**	**197**	P	**P**	**19 36 58.3**	**+0.5**
WRA	**Warramunga Arr**	**40.16**	**197**	P	**P**	**19 36 58.4**	**+0.7**
	1.0nm,0.8s,baz=21,slow=8.9,SNR=7.8						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**43.83**	**196**	P	**P**	**19 37 28.2**	**+0.8**
	0.3nm,0.9s,baz=19,slow=8.8,SNR=1.9						
	0.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**44.10**	**277**	P	**P**	**19 37 29.2**	**-0.4**
	0.6nm,0.8s,baz=71,slow=7.2,SNR=5.4						
	0.6nm,0.8s						
GSI	**Gunungsitoli**	**50.19**	**255**	P	**P**	**19 38 18.2**	**+1.5**
SDPT	**Sand Point**	**54.35**	**35**	P	**P**	**19 38 44.2**	**-2.3**
WRMHI	**West Rim**	**55.58**	**79**	P	**P**	**19 38 54.3**	**-1.8**
M14K	**Bethel**	**55.66**	**28**	P	**P**	**19 38 56.9**	**+1.1**
N15K	**Kwethluk River**	**56.28**	**29**	P	**P**	**19 39 00.9**	**+0.6**
N15K				IAmb	IAmb	19 39 36.6	
	comp=Z,14nm,1.2s						
K15K	**Wolf Creek Mou**	**56.50**	**27**	P	**P**	**19 39 02.8**	**+0.9**
L16K	**Owhat River**	**57.15**	**28**	P	**P**	**19 39 07.2**	**+0.8**
L16K				IAmb	IAmb	19 39 28.4	
	comp=Z,19nm,1.5s						
MKAR	**Makanchi Array**	**58.24**	**314**	P	**P**	**19 39 15.7**	**+1.4**
N19K	**Bonanza Creek**	**59.11**	**30**	P	**P**	**19 39 21.9**	**+1.8**
N19K				IAmb	IAmb	19 39 22.9	
	comp=Z,13nm,1.1s						
KDAK	**Kodiak Island**	**59.23**	**33**	P	**P**	**19 39 21.7**	**+0.9**
KDAK				IAmb	IAmb	19 39 58.9	
	comp=Z,20nm,1.2s						
M20K	**Styx River**	**60.04**	**29**	P	**P**	**19 39 28.0**	**+1.6**
M20K				IAmb	IAmb	19 40 09.3	
	comp=Z,5.3nm,1.1s						
J20K	**Nowinta River**	**60.30**	**26**	P	**P**	**19 39 29.5**	**+1.5**
J20K				IAmb	IAmb	19 39 49.4	
	comp=Z,12nm,1.4s						
CNPM	**China Poot**	**60.33**	**32**	P	**P**	**19 39 28.7**	**+0.4**
D19K	**Kuna River**	**60.45**	**21**	P	**P**	**19 39 29.8**	**+0.8**
D19K				IAmb	IAmb	19 40 09.8	
	comp=Z,12nm,1.2s						
BRLK	**Bradley Lake**	**60.56**	**31**	P	**P**	**19 39 28.5**	**-1.4**
SKT	**Skwentna**	**60.80**	**29**	P	**P**	**19 39 31.5**	**+0.1**
SKT				IAmb	IAmb	19 39 40.0	
	comp=Z,8.4nm,1.4s						
CAST	**Castle Rocks**	**60.95**	**27**	P	**P**	**19 39 33.7**	**+1.2**
CAST				IAmb	IAmb	19 40 01.1	
	comp=Z,7.5nm,1.5s						
IMAR	**Indian Mountai**	**61.06**	**24**	P	**P**	**19 39 34.4**	**+1.3**
B20K	**Meade River**	**61.40**	**19**	P	**P**	**19 39 36.7**	**+1.5**
KTH	**Kantishna Hill**	**61.48**	**27**	P	**P**	**19 39 36.8**	**+0.7**
KTH				IAmb	IAmb	19 39 37.7	
	comp=Z,9.7nm,1.2s						
MLY	**Manley**	**61.96**	**26**	P	**P**	**19 39 40.3**	**+1.0**
D22K	**Ayikyak River**	**62.43**	**21**	P	**P**	**19 39 43.5**	**+1.3**
CCB	**Clear Creek Bu**	**63.08**	**26**	P	**P**	**19 39 45.9**	**-0.7**
H24K	**Noodor Dome**	**63.33**	**25**	P	**P**	**19 39 49.4**	**+1.2**
TOLK	**Toolik Lake Re**	**63.43**	**22**	P	**P**	**19 39 49.8**	**+1.0**
TOLK				IAmb	IAmb	19 40 21.6	
	comp=Z,16nm,1.3s						
ILAR	**Eielson Array**	**63.49**	**26**	P	**P**	**19 39 48.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=253,slow=6.0,SNR=5.4						
	comp=Z,0.4nm,0.4s						
G24K	**Hadweenzic Riv**	**63.69**	**24**	P	**P**	**19 39 51.7**	**+1.2**
G24K				IAmb	IAmb	19 40 33.0	
	comp=Z,10nm,1.4s						
D24K	**Happy Valley**	**63.83**	**21**	P	**P**	**19 39 53.0**	**+1.5**
SCRK	**Sand Creek**	**64.59**	**27**	P	**P**	**19 39 57.1**	**+0.6**
SCRK				IAmb	IAmb	19 40 22.6	
	comp=Z,7.1nm,1.5s						
BMAR	**Burnt Mountain**	**64.96**	**24**	P	**P**	**19 40 00.4**	**+1.6**
BCAR	**Beaver Creek A**	**65.44**	**29**	P	**P**	**19 40 02.7**	**+0.8**
I28M	**Miner Creek**	**66.50**	**26**	P	**P**	**19 40 09.3**	**+0.6**
D27M	**Malcolm River**	**66.59**	**22**	P	**P**	**19 40 10.7**	**+1.5**
D27M				IAmb	IAmb	19 40 54.6	
	comp=Z,8.2nm,1.3s						
L29M	**L29M**	**67.10**	**29**	P	**P**	**19 40 13.8**	**+1.3**
L29M				IAmb	IAmb	19 40 14.2	
	comp=Z,9.0nm,1.4s						
H29M	**Whitestone**	**67.22**	**25**	P	**P**	**19 40 14.2**	**+1.0**
H29M				IAmb	IAmb	19 40 58.4	
	comp=Z,16nm,1.4s						
K29M	**Barlow Dome**	**67.41**	**28**	P	**P**	**19 40 15.7**	**+1.2**
M30M	**Minto, Yukon**	**67.69**	**29**	P	**P**	**19 40 17.5**	**+1.3**
KBL	**Kabul**	**68.68**	**300**	P	**P**	**19 40 24.1**	**+1.1**
KBL				IAmb	IAmb	19 40 48.2	
	comp=Z,2.5nm,0.5s						
G31M	**Satah River**	**68.89**	**25**	P	**P**	**19 40 23.6**	**+0.1**
G31M				IAmb	IAmb	19 40 44.5	
	comp=Z,14nm,1.4s						
NVAR	**Mina Array Bea**	**83.08**	**52**	P	**P**	**19 41 44.8**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=270,slow=5.2,SNR=4.0						
	comp=Z,0.6nm,0.6s						
FINES	**FINESS Array B**	**86.65**	**335**	P	**P**	**19 41 59.0**	**-2.4**
	comp=Z,1.0nm,0.8s,baz=48,slow=4.3,SNR=9.2						
	comp=Z,1.0nm,0.8s						

---

*IDC **20** 19:33:30.8±1.1, 49°.28N×28°.22W, h0km, mb3.8/11, mbtmp3.8/13, ML3.6/2, MS3.3/22, Error ellipse: s-maj=32.0km s-min=21.0km az=2.0*
*NEIC **20** 19:33:31.1±0.7, 49°.3N±0°.3×28°.6W±0°.2, h10km±2km, mb4.3/9, Error ellipse: s-maj=60.5km s-min=11.1km az=167.0*
ISC 20 19:33:32.4±0.9, 49°.3N±0°.2×28°.4W±0°.1, h17km, n43, σ1§09/25, mb4.1/15, MS3.3/20, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**15.98**	**11**	LR	LR	19 41 37.7	
	comp=Z,130nm,20.0s,baz=231,slow=30						
EKA	**Eskdalemuir Ar**	**16.53**	**59**	Pn	**P**	**19 37 24.3**	**-1.5**
	baz=256,slow=12						
	4.6nm,0.9s						
ESDC	**Sonseca Array**	**19.81**	**110**	P	**P**	**19 38 00.9**	**-1.1**
	baz=301,slow=9.8,SNR=6.6						
ESDC				LR	LR	19 44 00.4	
	comp=Z,76nm,18.8s,baz=302,slow=32						
	1.5nm,0.9s						
SENIN	**Lac Senin/Sane**	**24.00**	**83**	P	**P**	**19 38 45.0**	**-1.3**
SCHQ	**Schefferville**	**24.07**	**298**	LR	LR	19 45 56.1	
	comp=Z,60nm,18.1s,baz=248,slow=31						
NOA	**NORSAR Array B**	**25.09**	**47**	P	**P**	**19 38 55.9**	**+0.1**
	0.6nm,0.7s,baz=270,slow=12,SNR=3.9						
NOA				LR	LR	19 47 53.2	
	comp=Z,54nm,18.3s,baz=265,slow=34						
	0.6nm,0.7s						
DAVOX	**Davos/Dischmat**	**25.53**	**81**	LR	LR	19 48 31.7	
	comp=Z,98nm,18.3s,baz=262,slow=35						
HFS	**Hagfors**	**26.18**	**49**	P	**P**	**19 39 04.3**	**-1.3**
	1.3nm,0.6s,baz=252,slow=15,SNR=2.5						
HFS				LR	LR	19 47 16.9	
	comp=Z,31nm,21.3s,baz=244,slow=32						
	1.3nm,0.6s						
GERES	**GERESS Array B**	**27.33**	**75**	LR	LR	19 49 32.6	
	comp=Z,74nm,19.2s,baz=265,slow=35						
PRED	**Cave del Predi**	**28.03**	**80**	P	**P**	**19 39 22.9**	**+0.4**
PRED				IAmb	IAmb	19 39 24.1	
	comp=Z,12nm,1.5s						
SABO	**M.te Sabotino**	**28.22**	**81**	P	**P**	**19 39 25.1**	**+0.9**
SABO				IAmb	IAmb	19 40 03.2	
	comp=Z,4.9nm,1.2s						
TRI	**Trieste**	**28.43**	**81**	P	**P**	**19 39 26.8**	**+0.8**
TRI				IAmb	IAmb	19 39 28.8	
	comp=Z,7.8nm,1.4s						
G62A	**West of Eustis**	**28.63**	**278**	P	**P**	**19 39 25.8**	**-2.0**
VRAC	**Vranov**	**29.01**	**73**	LR	LR	19 50 13.8	
	comp=Z,71nm,20.1s,baz=289,slow=35						
FINES	**FINESS Array B**	**32.27**	**47**	P	**P**	**19 39 59.6**	**-0.1**
FINES	**FINESS Array B**	**32.27**	**47**	P	**P**	**19 40 00.1**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=330,slow=7.3,SNR=4.2						
FINES				LR	LR	19 52 22.9	
	comp=Z,53nm,18.3s,baz=278,slow=35						
	comp=Z,2.1nm,0.8s						
SADO	**Sadowa**	**34.36**	**282**	LR	LR	19 53 07.1	
	comp=Z,75nm,21.0s,baz=300,slow=34						
BURAR	**Bucovina Array**	**34.98**	**72**	P	**P**	**19 40 25.1**	**+1.6**
AKASG	**Malin Array Be**	**36.27**	**65**	P	**P**	**19 40 34.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=285,slow=8.9,SNR=5.5						
AKASG				LR	LR	19 56 16.7	
	comp=Z,65nm,18.3s,baz=351,slow=38						
	comp=Z,0.6nm,0.5s						
MLR	**Muntele Rosu**	**36.32**	**75**	LR	LR	19 55 10.3	
	comp=Z,39nm,20.8s,baz=270,slow=36						
RDO	**Rodhopi**	**38.13**	**81**	P	**P**	**19 40 51.1**	**+0.7**
RDO				IAmb	IAmb	19 40 53.1	
	comp=Z,6.8nm,1.0s						
ALN	**Alexandroupoli**	**38.59**	**81**	P	**P**	**19 40 54.9**	**+0.6**
ALN				IAmb	IAmb	19 40 58.1	
	comp=Z,7.9nm,1.5s						
TKL	**Tuckaleechee C**	**42.14**	**273**	LR	LR	19 58 28.3	
	comp=Z,56nm,20.3s,baz=87,slow=35						
TORD	**Torodi Ar. Bea**	**43.70**	**135**	P	**P**	**19 41 37.3**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=340,slow=8.8,SNR=3.1						
	comp=Z,0.6nm,0.7s						
BRTR	**Keskin Array B**	**44.11**	**78**	P	**P**	**19 41 40.0**	**+0.1**
BRTR	**Keskin Array B**	**44.11**	**78**	P	**P**	**19 41 39.8**	**0.0**
	comp=Z,1.1nm,0.7s,baz=308,slow=6.1,SNR=7.7						
BRTR				LR	LR	19 59 26.3	
	comp=Z,46nm,21.2s,baz=312,slow=35						
	comp=Z,1.1nm,0.7s						
KIRV	**Kirov**	**44.27**	**47**	LR	LR	19 58 57.1	
	comp=Z,46nm,19.5s,baz=324,slow=35						
BELG	**Belogornoye**	**46.04**	**56**	LR	LR	20 01 04.3	
	comp=Z,36nm,18.6s,baz=153,slow=36						
MDP	**Montagnes des**	**48.57**	**213**	LR	LR	19 56 56.0	
	comp=Z,45nm,20.9s,baz=276,slow=29						
MMAI	**Mount Meron Ar**	**49.24**	**84**	LR	LR	20 04 22.4	
	comp=Z,5.3nm,18.8s,baz=15,slow=38						
ARU	**Arti**	**49.64**	**47**	LR	LR	20 01 51.8	
	comp=Z,37nm,18.5s,baz=328,slow=34						
GNI	**Garni**	**50.88**	**71**	LR	LR	20 04 29.0	
	comp=Z,14nm,21.3s,baz=345,slow=37						
SDV	**Santo Domingo**	**53.48**	**236**	LR	LR	20 04 57.7	
	comp=Z,24nm,19.3s,baz=308,slow=35						
PDAR	**Pinedale Array**	**54.19**	**296**	P	**P**	**19 42 58.8**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=74,slow=9.5,SNR=3.9						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**57.20**	**45**	P	**P**	**19 43 18.0**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=298,slow=3.1,SNR=9.6						
	comp=Z,2.6nm,0.7s						
H10N2	**ASCENSION HYDR**	**58.14**	**164**	T	T	20 45 48.5	
	baz=350,slow=75,SNR=4.2						
H10N3	**ASCENSION HYDR**	**58.15**	**164**	T	T	20 45 49.5	
	baz=350,slow=75,SNR=3.6						
H10N1	**ASCENSION HYDR**	**58.16**	**164**	T	T	20 45 50.9	
	baz=350,slow=75,SNR=4.1						
NVAR	**Mina Array Bea**	**62.07**	**297**	P	**P**	**19 43 53.3**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=40,slow=4.7,SNR=2.5						
	comp=Z,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**62.55**	**43**	P	**P**	**19 43 55.5**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=318,slow=7.0,SNR=10						
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**67.04**	**44**	P	**P**	**19 44 26.1**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=322,slow=6.1,SNR=8.7						
MKAR				LR	LR	20 14 35.6	
	comp=Z,28nm,18.6s,baz=20,slow=37						
	comp=Z,1.3nm,0.7s						
WRA	**Warramunga Arr**	**147.64**	**31**	PKPbc	**PKiKP**	**19 53 16.7**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=333,slow=2.7,SNR=2.5						
ASAR	**Alice Springs**	**150.90**	**35**	PKPbc	**PKiKP**	**19 53 24.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=346,slow=2.2,SNR=6.9						

---

*TEH **20** 19:41:00.4, 36°.17N×45°.82E, h8km±51km, ML2.9*
*ISN **20** 19:41:01.0±0.7, 36°.16N×45°.67E, h1km±10km, ML3.0*
ISC 20 19:41:00.8±1.0, 36°.14N±0°.03×45°.77E±0°.06, h10km, n12, σ1§83/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	**Mahabad**	**0.63**	**355**	Pg	**Pb**	**19 41 13.2**	**-0.8**
IDHR	**Dehrash**	**1.52**	**160**	Pg	**Pg**	**19 41 30.4**	**+0.3**
IDHR				Sg	**Sg**	**19 41 52.5**	**+2.7**
IAZR	**Azarshahr**	**1.55**	**6**	Pg	**Pg**	**19 41 30.1**	**-0.4**
ILIN	**Lien**	**1.56**	**141**	Pg	**Pg**	**19 41 31.5**	**+0.8**
IHSH	**Hashtrud**	**1.67**	**45**	Pg	**Pg**	**19 41 31.9**	**-1.0**
IGHG	**Ghaleghazi**	**1.92**	**160**	Pn	**Pg**	**19 41 37.8**	**+0.1**
ITBZ	**Tabriz**	**2.11**	**8**	Pn	**Pb**	**19 41 39.1**	**-0.3**
MSL	**Mosul**	**2.16**	**278**	*e*Pn	**Pb**	**19 41 39.0**	**-1.1**
MSL				*e*Sn	**Sb**	**19 42 07.0**	**0.0**
IHRS	**Heris**	**2.40**	**25**	Pn	**Pb**	**19 41 43.3**	**-1.0**
IMRD	**Marand**	**2.57**	**359**	Pn	**Pb**	**19 41 46.3**	**-0.8**
IBDR	**Badra**	**3.02**	**177**	*e*Pn	**Pb**	**19 41 52.0**	**-2.8**
IBDR				*e*Sn	**Sb**	**19 42 30.0**	**-1.7**
BHD	**Baghdad**	**3.08**	**202**	*e*Pn	**Pb**	**19 41 53.0**	**-2.7**
BHD				*e*Sn	**Sn**	**19 42 30.0**	**+3.6**

SSNC 20 19:46:04.9±3.4, 18°.66N×80°.17W, h20km±48km, ML3.9, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSCY	**Frank Sound, G**	**1.16**	**304**	*e*P	Pn	19 46 20.3	-5.6
FSCY				*e*S	Sb	19 46 36.7	-4.1
FSCY				IAML		19 46 37.0	
	comp=N,895nm,0.3s						
FSCY				IAML		19 46 37.4	
	comp=E,793nm,0.3s						
MTDJ	**Mount Denham**	**2.54**	**99**	*e*P	Pn	19 46 41.5	-3.5
MTDJ				*e*S	Sn	19 47 10.8	-4.7
MTDJ				IAML		19 47 13.3	
	comp=E,12μm,0.2s						
MTDJ				IAML		19 47 13.5	
	comp=E,5μm,0.1s						
RCC	**Rio Carpintero**	**4.43**	**72**	*e*P	Pn	19 47 10.1	-0.9
RCC				*e*S	Sn	19 47 57.5	-4.4
RCC				*e*Sg	Sn	19 47 58.9	-3.1
GTBY	**Guantanamo Bay**	**4.94**	**74**	*e*P	Pn	19 47 18.5	+0.4
GTBY				*e*S	Sn	19 48 10.4	-4.2
GTMO	**Guantanamo**	**4.95**	**73**	*e*P	Pn	19 47 19.5	+1.3
GTMO				*e*S	Sn	19 48 12.3	-2.6
MASC	**Masc**	**5.80**	**74**	*e*P	Pn	19 47 30.8	+0.9
MASC				*e*S	Sn	19 48 30.9	-5.0

---

*NEIC **20** 19:51:24.2±1.5, 23°.1S±0°.2×175°.2W±0°.1, h10km±1km, mb4.6/9, Error ellipse: s-maj=31.0km s-min=6.1km az=331.0*
*IDC **20** 19:51:26.4±0.8, 24°.18S×175°.80W, h0km, mb4.0/9, mbtmp3.9/9, MS3.4/9, Error ellipse: s-maj=30.6km s-min=27.8km az=146.0*
ISC 20 19:51:23.6±0.6, 23°.2S±0°.2×175°.20W±0°.09, h10km, n35, σ1§63/26, mb4.1/11, MS3.3/6, 4C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.39**	**51**	Pn	**Pn**	**19 52 57.9**	**0.0**
MSVF	**Nonsavu**	**8.33**	**309**	Pn	Pb	19 53 37.1	-11
	0.5nm,0.3s,baz=153,slow=12,SNR=4.5						
MSVF				LR	LR	19 56 46.5	
	comp=Z,279nm,18.3s,baz=101,slow=37						
RAR	**Rarotonga**	**14.42**	**85**		**Pn**	**19 54 48.1**	**+0.2**
RAR	**Rarotonga**	**14.42**	**85**	Pn	**P**	**19 54 53.4**	**-1.4**
	2.0nm,0.3s,baz=246,slow=11,SNR=5.7						
RAR				LR	LR	19 58 48.4	
	comp=Z,136nm,21.9s,baz=199,slow=29						
DZM	**Mont Dzumac**	**16.99**	**270**	LR	LR	20 00 43.9	
	comp=Z,101nm,18.6s,baz=23,slow=34						
PPT	**Papeete**	**24.64**	**82**	LR	LR	20 06 24.4	
	comp=Z,78nm,18.3s,baz=150,slow=35						
CTA	**Charters Tower**	**35.90**	**267**	LR	LR	20 10 52.2	
	comp=Z,41nm,19.8s,baz=85,slow=33						
CTAO	**Charters Tower**	**35.90**	**267**	P	**P**	**19 58 23.2**	**-1.1**
STKA	**Stephens Creek**	**39.08**	**248**	LR	LR	20 13 44.2	
	comp=Z,110nm,18.6s,baz=25,slow=35						
COEN	**Coen**	**40.40**	**276**	P	**P**	**19 59 03.3**	**+1.1**
COEN				IAmb	IAmb	19 59 34.9	
	comp=Z,16nm,1.4s						
ASAR	**Alice Springs**	**46.50**	**259**	P	**P**	**19 59 49.2**	**-2.3**
	comp=Z,1.7nm,0.9s,baz=98,slow=8.1,SNR=11						
ASAR				PcP	**PcP**	**20 01 27.5**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=114,slow=4.6,SNR=1.4						
ASAR				LR	LR	20 18 28.7	
	comp=Z,84nm,18.3s,baz=92,slow=35						
	comp=Z,1.7nm,0.9s						
WB0	**Warramunga Arr**	**46.85**	**264**	P	**P**	**19 59 52.6**	**-1.7**
WB0				IAmb	IAmb	19 59 54.7	
	comp=Z,6.9nm,1.3s						
WRA	**Warramunga Arr**	**46.86**	**264**	P	**P**	**19 59 53.1**	**-1.2**
WRA	**Warramunga Arr**	**46.86**	**264**	P	**P**	**19 59 52.7**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=103,slow=8.1,SNR=10						
WRA				PcP	**PcP**	**20 01 27.9**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=96,slow=4.7,SNR=2.2						
	comp=Z,1.4nm,0.8s						
KNRA	**Kununurra**	**53.11**	**267**	P	**P**	**20 00 41.2**	**-0.6**
MORW	**Morawa**	**61.25**	**249**	P	**P**	**20 01 40.9**	**+1.6**
KAPI	**Kappang**	**65.12**	**275**	LR	LR	20 29 52.9	
	comp=Z,19nm,18.2s,baz=304,slow=36						
QSPA	**South Pole Qui**	**66.91**	**180**	P	**P**	**20 02 16.4**	**+0.4**
QSPA				IAmb	IAmb	20 02 42.5	
	comp=Z,7.0nm,1.4s						
QSPA	**South Pole Qui**	**66.91**	**180**	P	**P**	**20 02 14.2**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=328,slow=1.7,SNR=2.2						
	comp=Z,0.9nm,0.8s						
MJAR	**Matsushiro Arr**	**73.90**	**322**	P	P	20 03 04.3	+5.3
	comp=Z,1.1nm,0.9s,baz=126,slow=5.2,SNR=1.7						
	comp=Z,1.1nm,0.9s						
PMSA	**Palmer Station**	**77.80**	**156**	LR	LR	20 33 07.2	
	comp=Z,16nm,19.5s,baz=320,slow=32						
MAW	**Mawson**	**79.93**	**199**	P	**P**	**20 03 33.5**	**+1.1**
MAW	**Mawson**	**79.93**	**199**	P	**P**	**20 03 31.3**	**-1.1**
	comp=Z,1.8nm,1.0s,baz=125,slow=2.4,SNR=3.2						
	comp=Z,1.8nm,1.0s						
NVAR	**Mina Array Bea**	**81.22**	**42**	P	P	20 03 49.3	+9.2
	comp=Z,0.3nm,0.3s,baz=215,slow=11,SNR=2.6						
	comp=Z,0.3nm,0.3s						
TROLL	**Troll, Antarti**	**85.06**	**179**	⇑P	**P**	**20 04 01.0**	**+1.6**
	comp=Z,129nm,0.7s						
SNAA	**Sanae**	**85.26**	**178**	P	**P**	**20 04 01.6**	**+1.3**
SNAA				IAmb	IAmb	20 04 13.9	
	comp=Z,3.5nm,1.0s						
SNAA	**Sanae**	**85.26**	**178**	⇑P	**P**	**20 04 00.4**	**+0.1**
SNAA	**Sanae**	**85.26**	**178**	P	**P**	**20 03 58.9**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=170,slow=6.5,SNR=4.0						
	comp=Z,1.3nm,0.9s						
VNA2	**Neumayer--Watz**	**85.77**	**176**	⇑P	**P**	**20 04 03.6**	**+0.9**
	baz=194,slow=2.0						
VNA1	**Neumayer--Stat**	**85.98**	**176**	⇑P	**P**	**20 04 05.3**	**+1.5**
TXAR	**Lajitas Array**	**86.34**	**56**	P	P	20 04 15.3	+8.9
	comp=Z,0.5nm,1.0s,baz=213,slow=6.5,SNR=2.8						
	comp=Z,0.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**93.44**	**288**	P	P	20 04 45.3	+5.4
	comp=Z,2.0nm,0.9s,baz=129,slow=3.0,SNR=15						
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**146.60**	**331**	PKPbc	**PKiKP**	**20 11 12.0**	**+3.9**
	comp=Z,0.6nm,0.5s,baz=30,slow=2.3,SNR=4.7						
BRTR	**Kesk

baz=168
KBN S **Sb** 19 59 34.5 -0.3
baz=168
KBN AMP
comp=E,2.6nm,0.7s,baz=168
PVY Plav 1.05 340 ⇑ *i* Pg **Pg** 19 59 19.6 -1.2
PVY *i* Sg **Sn** 19 59 35.7 -1.9
FNA Florina 1.09 139 P **Pg** 19 59 19.9 -1.6
FNA S **Sn** 19 59 37.2 -1.2
FNA Florina 1.09 139 P **Pg** 19 59 19.8 -1.6
baz=141
FNA S **Sg** 19 59 35.6 -0.1
baz=141
FNA Florina 1.09 139 *e*Pg **Pg** 19 59 19.9 -1.6
FNA Florina 1.09 139 *i* Sg **Sg** 19 59 35.5 -0.1
DRME Dracevica, Mon 1.10 302 ⇓ *i*Pn **Pg** 19 59 20.4 -1.3
DRME Dracevica, Mon 1.10 302 ⇑ *i*Pg **Pg** 19 59 20.2 -1.5
DRME *i* Sg **Sn** 19 59 37.2 -1.4
PDG Podgorica 1.20 313 ⇑P **Pb** 19 59 22.1 -2.0
PDG Podgorica 1.20 313 *e*Pg **Pb** 19 59 22.9 -1.2
PDG *e*Sg **Sn** 19 59 41.5 +0.3
PDG Podgorica 1.20 313 ⇓ *i*Pn **Pb** 19 59 22.1 -2.0
PDG Podgorica 1.20 313 ⇓ *i*Pg **Pb** 19 59 22.3 -1.8
PDG *i* Sg **Sn** 19 59 40.9 -0.3
NEST Nestorio 1.28 159 P **Pn** 19 59 23.7 -1.8
BEY Berane 1.32 342 *i* Pg **Pn** 19 59 25.0 -1.1
IVA Berane 1.32 342 *e*Pg **Pn** 19 59 24.6 -1.6
IVA *i* Sg **Sg** 19 59 45.2 +1.9
BUM Brajici-Budva 1.34 302 ⇓ *i*Pg **Pn** 19 59 24.8 -1.6
BUM *i* Sg **Sg** 19 59 45.5 +1.7
VLO Vlora 1.34 212 P **Pg** 19 59 27.0 +0.6
VLO Vlora 1.34 212 P **Pg** 19 59 26.3 -0.1
baz=215
VLO S **Sg** 19 59 47.9 +4.1
baz=215
LSK Leskovik 1.46 175 P **Pn** 19 59 27.1 -0.9
LSK S **Sg** 19 59 51.5 +3.8
LSK Leskovik 1.46 175 P **Pb** 19 59 28.2 -0.3
baz=177
LSK S **Sg** 19 59 50.3 +2.6
baz=177
LSK AMP
comp=E,4.0nm,0.7s,baz=177
CEME Cevo 1.47 310 ⇓ *i*Pg **Pn** 19 59 27.2 -0.9
CEME *i* Sg **Sg** 19 59 49.8 +2.0
PENT Pentalofos 1.51 159 P **Pg** 19 59 30.0 +0.4
PENT S **Sg** 19 59 52.1 +3.0
PRVS Prvonek 1.52 53 *e*Pn **Pb** 19 59 28.6 -0.9
PRVS *e*Sn **Sg** 19 59 48.9 -0.5
BARS Barje 1.58 40 *e*Pn **Pb** 19 59 30.0 -0.6
BARS Barje 1.58 40 *i* Pn **Pb** 19 59 30.1 -0.5
GRG Griva 1.62 113 P **Pn** 19 59 29.9 -0.2
GRG S **Sg** 19 59 54.0 +1.3
GRG Griva 1.62 113 *i* Pn **Pn** 19 59 29.9 -0.2
VAY Valandovo 1.63 99 *e*Pn **Pb** 19 59 30.3 -1.1
VAY *e*Sn **Sb** 19 59 51.7 -0.6
VAY Valandovo 1.63 99 *i* Pn **Pb** 19 59 30.6 -0.7
HCY Herceg Novi 1.67 301 *e*Pn **Pn** 19 59 30.5 -0.3
HCY Herceg Novi 1.67 301 ⇓ *i*Pn **Pb** 19 59 30.8 -1.3
HCY *i* Sn **Sg** 19 59 55.7 +1.3
SJES Sjenica 1.69 348 *e*Pn **Pb** 19 59 31.6 -0.8
SJES *e*Sn **Sb** 19 59 52.6 -1.5
SJES Sjenica 1.69 348 ⇑ *i*Pn **Pb** 19 59 32.0 -0.4
SELS Selova 1.69 17 *e*Pn **Pb** 19 59 31.0 -1.4
SRN Sarande 1.76 191 P **Pb** 19 59 33.1 -0.4
SRN S **Sg** 19 59 56.6 -0.5
SRN Sarande 1.76 191 P **Pb** 19 59 33.4 -0.1
baz=194
SRN S **Sg** 19 59 59.1 +2.0
baz=194
SRN AMP
comp=N,0.7nm,0.7s,baz=194
KPRO Kipourio 1.80 157 P **Pn** 19 59 32.7 +0.1
PLE Pljevlja 1.89 336 *e*Pn **Pb** 19 59 34.2 -1.6
PLE *i* Sn **Sg** 20 00 01.1 -0.2
TREB Trebinje 1.91 306 *e*Pn **Pb** 19 59 34.6 -1.5
TREB *e*Sn **Sn** 19 59 57.4 -1.1
TREB Trebinje 1.91 306 *e*Pn **Pb** 19 59 34.4 -1.7
KNT Kendrikon 1.91 103 P **Pn** 19 59 34.3 +0.2
KNT S **Sb** 20 00 00.8 +0.5
KNT Kendrikon 1.91 103 *i* Pn **Pn** 19 59 34.3 +0.2
BRY Bratogost 1.91 313 ⇑ *i*Pn **Pb** 19 59 35.7 -0.5
BRY Bratogost 1.91 313 ⇓ *i*Pn **Pb** 19 59 34.5 -1.7
BRY *i* Sn **Sg** 20 00 01.5 -0.6
KEK Kerkira 1.96 195 P **Pb** 19 59 35.4 -1.5
UPM Unac-Piva 1.96 325 ⇓ *i*Pn **Pg** 19 59 38.0 -0.2
UPM Unac-Piva 1.96 325 *e*Pn **Pb** 19 59 35.2 -1.8
UPM *i* Sn **Sg** 20 00 02.6 -0.9
JAN Janina 1.98 171 P **Pb** 19 59 37.5 +0.2
KKB Krupnik 2.03 83 *i* P **Pb** 19 59 36.6 -1.6
IGT Igoumenitsa 2.08 182 P **Pb** 19 59 37.3 -1.7
THE Thessaloniki 2.15 116 *i* Pn **Pn** 19 59 37.7 +0.3
RUDO Rudo 2.16 339 *e*Pn **Pb** 19 59 38.3 -2.1
BOVS Bovan 2.23 24 ⇑P **Pn** 19 59 38.5 0.0
BOVS Bovan 2.23 24 *e*Pn **Pn** 19 59 38.2 -0.3
GRUS Gruza 2.29 5 *e*Pn **Pn** 19 59 39.5 +0.2
VTS Vitosha 2.31 63 ⇓P **Pn** 19 59 40.4 +0.6
VTS Vitosha 2.31 63 *e*Pn **Pn** 19 59 40.4 +0.6
VTS *e*Sn **Sn** 20 00 06.9 -1.9
VTS Vitosha 2.31 63 *i* Pn **Pn** 19 59 40.6 +0.8
VTS Vitosha 2.31 63 *i* P **Pn** 19 59 40.6 +0.8
ZAPS Zavoj 2.33 44 *e*Pn **Pb** 19 59 41.2 -2.1
TYRN Tyrnavos 2.34 144 P **Pn** 19 59 40.7 +0.7
THL Klokotos Trika 2.37 149 P **Pn** 19 59 41.1 +0.7
BBLS Lazići 2.38 342 *e*Pn **Pn** 19 59 41.5 +0.9
BBLS Lazići 2.38 342 ⇑ *i*Pn **Pb** 19 59 41.7 -2.5
STON Ston 2.39 303 *e*Pn **Pn** 19 59 40.9 +0.2
STON *e*Sn **Sn** 20 00 09.6 -0.9
STON Ston 2.39 303 ⇑ *i*Pn **Pn** 19 59 40.4 -0.3
NEVS Nevesinje 2.42 315 *e*Pn **Pb** 19 59 43.9 -0.9
SRS Serrai 2.43 101 P **Pn** 19 59 41.5 +0.3
SRS Serrai 2.43 101 *e*Pn **Pn** 19 59 41.3 +0.1
SRS *e*Sn **Sn** 20 00 11.1 -0.3
MMB Musomishta 2.49 90 *i* P **Pn** 19 59 42.6 +0.5
DIVS Divibare 2.51 353 *e*Pn **Pn** 19 59 42.4 0.0
DIVS Divibare 2.51 353 *e*Pn **Pn** 19 59 42.9 +0.5
ZAGS Zajecar 2.57 30 *e*Pn **Pn** 19 59 43.7 +0.5
NVR Nevrokopi 2.59 95 P **Pb** 19 59 45.2 -2.5
TRUS Trudelj 2.61 360 *e*Pn **Pn** 19 59 44.2 +0.4
KUBS Kucevo 2.95 18 *e*Pn **Pn** 19 59 47.8 -0.6
MATE Matera 2.98 252 ⇓P **Pn** 19 59 47.5 -1.3
MPEP Malo Peshtene 3.00 53 *i* P **Pb** 19 59 54.9 +0.1
TEKS Tekeris 3.01 348 *e*Pn **Pn** 19 59 49.0 -0.3
TEKS Tekeris 3.01 348 *e*Pn **Pn** 19 59 50.0 +0.7
RZN Rozhen 3.23 87 *i* P **Pn** 19 59 53.6 +1.2
PUNG Punghina 3.24 34 ⇑P **Pn** 19 59 53.4 +1.1
MDVR Moldovita 3.31 16 ⇓P **Pn** 19 59 53.4 +0.1
DJES Djerdap 3.42 26 ⇑P **Pn** 19 59 56.2 +1.4
SRKY Kupres RS 3.44 317 *e*Pn **Pn** 19 59 57.5 +2.3
FRGS Fruska Gora 3.58 353 ⇓P **Pn** 19 59 57.8 +0.8
FRGS Fruska Gora 3.58 353 *e*Pn **Pn** 19 59 57.9 +0.8
FRGS Fruska Gora 3.58 353 ⇑ *i*Pn **Pn** 19 59 57.5 +0.5
HERR Herculane 3.58 23 ⇓P **Pn** 19 59 57.8 +0.8
SRE Strehaia 3.66 33 ⇓P **Pn** 19 59 59.8 +1.6
MGRS Mrkonjic Grad 3.73 320 *e*Pn **Pn** 20 00 00.7 +1.5
BLY Banja Luka 3.94 324 *e*Pn **Pn** 19 59 59.7 -2.3
BZS Buzias 4.10 12 ⇓P **Pn** 20 00 04.9 +0.7
GZR Gura Zlata 4.15 23 ⇑P **Pn** 20 00 06.1 +1.1
A051A Mrakovica 4.27 324 ⇑ *i*Pn **Pn** 20 00 08.0 +1.4
LOT Lotru 4.54 31 ⇑P **Pn** 20 00 11.3 +1.0
SIRR Siria 4.74 10 ⇓P **Pn** 20 00 13.7 +0.7
MORH Mrgy, Hungar 4.78 345 ⇓P **Pn** 20 00 14.4 +0.8
ARR Arges 4.84 38 ⇓P **Pn** 20 00 15.4 +0.9
LOZB Loznitsa 4.88 67 ⇑P **Pn** 20 00 16.7 +1.8
VOIR 5.09 40 ⇑P **Pn** 20 00 20.1 +2.2
BOJS Bojanci 5.42 318 ⇓ *i*Pn **Pn** 20 00 23.5 +1.2
CRES Cresnjev 5.55 321 *e*Pn **Pn** 20 00 25.3 +1.2
MLR Muntele Rosu 5.58 44 ⇓P **Pn** 20 00 26.9 +2.3
MLR Muntele Rosu 5.58 44 P **Pn** 20 00 27.2 +2.6
comp=N,0.9nm,0.3s,baz=151,slow=9.8,SNR=8.5
comp=N,2.8nm,0.5s
DOPR Dopca 5.64 38 ⇓P **Pn** 20 00 27.2 +1.8
OZUR 5.92 39 ⇑P **Pn** 20 00 31.1 +1.8
ICOR Ion Corvin 5.96 63 ⇓P **Pn** 20 00 31.6 +1.8
CEY Cerknica 6.00 315 ⇓ *i*Pn **Pn** 20 00 31.4 +1.0
APE Apeiranthos 6.01 137 ⇓P **Pn** 20 00 32.4 +1.9
SKDS Skadanscina 6.10 312 *e*Pn **Pn** 20 00 32.0 +0.3
PLOR Plostina 6.18 45 ⇑P **Pn** 20 00 34.8 +1.9
VAE Valguarnera 6.22 230 P **Pn** 20 00 36.9 +3.5
comp=N,0.7nm,0.3s,baz=66,slow=19,SNR=1.7
comp=N,3.9nm,0.5s

VRI Vrincioaia 6.23 45 ⇑P **Pn** 20 00 34.2 +0.7
PSZ Piszkesteto 6.32 357 ⇓P **Pn** 20 00 35.6 +0.8
SOKA Soboth 6.38 324 *e*Pn **Pn** 20 00 37.2 +1.5
comp=N,3.7nm,0.5s,SNR=7.2
SOKA *e*Sn **Sn** 20 01 51.9 +2.8
comp=N,4.7nm,1.4s
SRO Srobarova 6.38 347 *e*PN **Pn** 20 00 39.2 +3.6
SRO *e*SN **Sn** 20 01 53.9 +5.0
OBKA Obir 6.48 321 *e*Pn **Pn** 20 00 39.1 +2.1
comp=N,6.9nm,0.5s
OBKA Sg **Sg** 20 02 36.9 +8.3
comp=N,18nm,1.2s
OBKA Obir 6.48 321 *e*Pn **Pn** 20 00 38.1 +1.1
ARSA Arzberg 6.64 330 *i* Pn **Pn** 20 00 41.7 +2.5
comp=N,1.9nm,0.5s
BURAR Bucovina Array 6.91 28 ⇓P **Pn** 20 00 45.2 +2.4
VYHS Vyhne 6.98 351 *e*PN **Pn** 20 00 45.3 +1.6
VYHS *e*SN **Sn** 20 02 05.1 +1.5
MYKA Terra Mystica 7.00 318 *e*Pn **Pn** 20 00 45.5 +1.4
comp=N,2.7nm,0.4s,SNR=4.5
CONA Conrad Observa 7.11 334 Pn **Pn** 20 00 46.6 +1.0
comp=N,2.9nm,1.1s
MODS Modra-Piesok 7.12 343 *e*PN **Pn** 20 00 48.2 +2.4
MODS *e*SN **Sn** 20 02 08.9 +1.7
IDI Anoyia 7.21 150 P Pn 20 00 52.0 +4.9
comp=N,0.3nm,0.3s,baz=287,slow=18,SNR=3.7
comp=N,6.4nm,0.9s
KOLS Kolonicke sedl 7.44 9 *e*PN **Pn** 20 00 51.8 +1.8
KBA Koelnbreinsper 7.46 319 *i* Pn **Pn** 20 00 52.2 +1.6
comp=N,7.9nm,0.5s
KBA *e*Sn **Sn** 20 02 17.6 +1.9
comp=N,3.0nm,0.8s
MOA Molln 7.63 327 *e*Pn **Pn** 20 00 55.6 +2.9
comp=N,2.9nm,0.6s,SNR=6.2
ABTA Abfaltersbach 7.67 315 *i* Pn **Pn** 20 00 54.4 +1.2
comp=N,4.0nm,0.4s,SNR=9.1
ABTA *e*Sn **Sn** 20 02 20.3 -0.3
comp=N,3.7nm,0.7s
BIOA Bad Ischl, Aus 7.77 324 *i* Pn **Pn** 20 00 56.9 +2.3
comp=N,3.8nm,0.5s,SNR=5.9
LESA Schwarzleotal 8.03 319 *e*Pn **Pn** 20 00 58.9 +0.7
comp=N,6.8nm,0.5s
LESA *e*Sn **Sn** 20 02 31.5 +1.9
comp=N,3.1nm,0.7s
CKRC Cesky Krumlov 8.40 331 *e*PN **Pn** 20 01 05.8 +2.5
WTTA Wattenberg 8.46 315 *e*Pn **Pn** 20 01 05.5 +1.3
comp=N,5.6nm,0.5s
WTTA *e*Sn **Sn** 20 02 42.8 +2.6
comp=N,11nm,0.7s
WATA Walderalm 8.54 315 *e*Pn **Pn** 20 01 07.1 +1.9
comp=N,9.0nm,0.5s
GERES GERESS Array B 8.65 329 P **Pn** 20 01 08.9 +2.2
comp=N,0.2nm,0.3s,baz=150,slow=14,SNR=10
comp=N,2.0nm,0.7s
SQTA Sankt Quirin 8.66 313 Pn **Pn** 20 01 08.6 +1.7
comp=N,4.6nm,0.7s,SNR=5.1
MOTA Moosalm 8.79 314 *e*Pn **Pn** 20 01 10.7 +1.9
comp=N,8.3nm,0.8s,SNR=9.4
MOTA Sn **Sn** 20 02 50.4 +1.9
comp=N,6.0nm,0.7s
FETA Feichten 8.81 311 Pn **Pn** 20 01 11.3 +2.3
comp=N,3.7nm,0.7s
KHC Kasperske Hory 8.93 330 *e*PN **Pn** 20 01 12.6 +2.0
KHC *e*SN **Sn** 20 02 54.2 +2.5
DAVOX Davos/Dischmat 9.17 308 P **Pn** 20 01 15.8 +1.7
comp=N,0.5nm,0.3s,baz=182,slow=23,SNR=11
DAVOX S **Sn** 20 02 55.2 -2.6
comp=N,1.3nm,0.6s,baz=146,slow=16,SNR=2.0
comp=N,3.4nm,0.7s
MMAI Mount Meron Ar 14.66 121 P **P** 20 02 34.5 -0.9
comp=N,0.3nm,0.3s,baz=332,slow=9.8,SNR=4.7
comp=N,0.9nm,0.6s
HFS Hagfors 19.01 350 P **Pn** 20 03 23.7 -0.3
comp=N,0.2nm,0.3s,baz=170,slow=9.8,SNR=2.2
comp=N,1.4nm,0.5s
FINES FINESS Array B 20.16 8 P Pn 20 03 36.1 -1.5
comp=N,2.2nm,1.1s,baz=182,slow=15,SNR=1.3
comp=N,2.2nm,1.1s
NB2 NORSAR Subarra 20.25 347 P Pn 20 03 37.7 -1.1
comp=Z,1.0nm,0.5s,baz=150,slow=11
NOA NORSAR Array B 20.25 347 P Pn 20 03 37.0 -1.8
comp=Z,0.4nm,0.6s,baz=152,slow=9.9,SNR=4.1
comp=Z,0.4nm,0.6s
EKA Eskdalemuir Ar 20.68 320 P **P** 20 03 41.1 -0.4
comp=Z,0.0nm,0.8s,baz=113,slow=11,SNR=4.1
comp=Z,2.0nm,0.8s
TORD Torodi Ar. Bea 32.72 215 P **P** 20 05 34.5 -0.1
comp=Z,0.3nm,0.7s,baz=29,slow=11,SNR=1.8
comp=Z,0.3nm,0.7s
JMIC Jan Mayen 32.85 343 LR LR 20 19 23.7
comp=Z,83nm,19.4s,baz=82,slow=37
MKAR Makanchi Array 43.64 61 P **P** 20 07 06.6 +0.3
comp=Z,0.9nm,0.6s,baz=281,slow=7.1,SNR=6.5
comp=Z,0.9nm,0.6s
ILAR Eielson Array 73.49 354 P **P** 20 10 34.1 0.0
comp=Z,0.3nm,0.8s,baz=350,slow=5.6,SNR=4.4
comp=Z,0.3nm,0.8s

NEIC ***20*** *20:23:13.4±1.9, 18°.0S±0°.1×178°.27W±0°.08, h583km±6km, mb4.6/104, Error ellipse: s-maj=15.6km s-min=11.5km az=170.0*
IDC ***20*** *20:23:15.8±1.4, 18°.08S×178°.33W, h614km±16km, mb3.9/22, mbtmp4.8/24, Error ellipse: s-maj=13.6km s-min=11.6km az=117.0*
NOU ***20*** *20:23:15.4, 18°.15S×178°.21W, h615km, mb4.8/44, Fiji Islands Region*
BGR ***20*** *20:23:16.2, 17°.78S×177°.55W, h600km*
ISC 20 20:23:15.1±0.6, 18°.08S±0°.06×178°.34W±0°.07, h611km±5km, n474, σ0s99/491, mb4.6/93, 44C-50D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.47**	**252**	P	**P**	**20 24 27.8**	**+1.3**
TAVE	**Taveuni**	**2.03**	**312**	P	**P**	**20 24 31.9**	**+1.3**
DGTI	**Dogotuki**	**2.55**	**314**	P	**P**	**20 24 33.6**	**+0.7**
MSVF	**Nonsavu**	**3.46**	**275**	P	**P**	**20 24 39.7**	**+1.8**
MSVF	**Nonsavu**	**3.46**	**275**	P	**P**	**20 24 39.8**	**+1.8**
MSVF	**Nonsavu**	**3.46**	**275**	P	**P**	**20 24 39.6**	**+1.7**
176nm,0.7s,baz=128,slow=3.1,SNR=100							
FUTU	**Fugatoga**	**3.76**	**3**	P	**P**	**20 24 41.0**	**+1.1**
AFI	**Afiamalu**	**7.55**	**58**	P	**P**	**20 25 08.8**	**-2.1**
NIUE	**Niue**	**8.04**	**98**	P	**P**	**20 25 16.2**	**+1.0**
FUNA	**Funafuti**	**9.80**	**346**	P	**P**	**20 25 30.1**	**-2.1**
MARNC	**Mare, Loyalty**	**13.27**	**253**	P	**P**	**20 26 05.8**	**-0.7**
LIFNC	**LIFOU**	**13.86**	**257**	P	**P**	**20 26 11.8**	**-0.6**
PINNC	**Pines Island,**	**14.07**	**249**	P	**P**	**20 26 13.3**	**-1.0**
OUENC	**Ouen Island, N**	**14.56**	**250**	P	**P**	**20 26 17.5**	**-1.4**
DZM	**Mont Dzumac**	**14.83**	**252**	P	**P**	**20 26 21.0**	**-0.5**
DZM	**Mont Dzumac**	**14.83**	**252**	P	**P**	**20 26 21.6**	**+0.1**
7.8nm,0.8s,baz=122,slow=14,SNR=8.7							
ONTNC	**Ouen Toro**	**14.88**	**251**	P	**P**	**20 26 21.1**	**-0.7**
KOUNC	**Koumac, New Ca**	**16.58**	**259**	P	**P**	**20 26 37.1**	**-0.2**
KOUNC				IAmb	IAmb	20 26 44.4	
comp=Z,39nm,1.2s							
URZ	**Urewera**	**20.49**	**190**	P	**P**	**20 27 11.5**	**-1.0**
comp=Z,13nm,0.4s,baz=324,slow=5.2,SNR=12							
URZ				S	**S**	**20 30 19.0**	**-5.1**
comp=Z,7.2nm,0.9s,baz=333,slow=20,SNR=2.1							
comp=Z,13nm,0.4s							
RTZ	**Ruatahuna**	**20.86**	**190**	P	**P**	**20 27 13.8**	**-2.2**
RTZ				IAmb	IAmb	20 27 25.2	
comp=Z,12nm,1.0s							
BKZ	**Black Stump Fm**	**21.48**	**191**	P	**P**	**20 27 18.9**	**-2.6**
BKZ				IAmb	IAmb	20 27 37.4	
comp=Z,9.6nm,0.7s							
MRZ	**Mangatainoka R**	**23.10**	**192**	P	**P**	**20 27 35.3**	**-0.6**
KIW	**Kapiti Island**	**23.43**	**193**	P	**P**	**20 27 40.0**	**+1.3**
TCW	**Tory Channel**	**23.91**	**194**	P	**P**	**20 27 45.2**	**+2.3**
BHW	**Baring Head**	**23.96**	**193**	P	**P**	**20 27 41.9**	**-1.5**
BHW	**Baring Head**	**23.96**	**193**	P	**P**	**20 27 43.5**	**0.0**
QRZ	**Quartz Range**	**23.99**	**197**	P	**P**	**20 27 45.2**	**+1.5**
NNZ	**Nelson**	**24.13**	**195**	P	**P**	**20 27 45.6**	**+0.7**
TUWZ	**Tuamarina**	**24.19**	**194**	P	**P**	**20 27 45.0**	**-0.4**
MRNZ	**Matariki Terra**	**24.46**	**196**	P	**P**	**20 27 48.2**	**+0.3**
THZ	**Tophouse**	**24.76**	**196**	P	**P**	**20 27 51.3**	**+0.7**
DSZ	**Denniston Nort**	**25.05**	**198**	P	**P**	**20 27 53.9**	**+0.8**
KHZ	**Kahutara**	**25.22**	**194**	P	**P**	**20 27 54.5**	**0.0**
GVZ	**Greta Valley S**	**25.86**	**195**	P	**P**	**20 27 59.6**	**-0.6**
LTZ	**Lake Taylor**	**25.88**	**196**	P	**P**	**20 27 59.0**	**-1.4**
LTZ				IAmb	IAmb	20 28 02.5	
comp=Z,12nm,0.7s							
LTZ	**Lake Taylor**	**25.88**	**196**	P	**P**	**20 27 59.7**	**-0.7**
INZ	**Inchbonnie**	**26.05**	**197**	P	**P**	**20 28 00.7**	**-1.1**

INZ	**Inchbonnie**	**26.05 197**	P	**P**	**20 28 01.8**	**0.0**
FOZ	**Fox Glacier**	**27.27 199**	P	**P**	**20 28 12.0**	**-0.5**
EIDS	**Eidsvold**	**29.27 250**	P	**P**	**20 28 30.5**	**+0.4**
EIDS			IAmb	IAmb	20 28 31.4	
comp=Z,7.9nm,0.6s						
MLZ	**Mavora Lakes**	**29.45 200**	P	**P**	**20 28 31.9**	**+0.5**
ARMA	**Armidale**	**29.91 240**	P	**P**	**20 28 36.5**	**+0.9**
ARMA			IAmb	IAmb	20 28 45.7	
comp=Z,26nm,1.2s						
WHZ	**Wether Hill Ro**	**29.98 199**	P	**P**	**20 28 36.8**	**+1.0**
CTA	**Charters Tower**	**33.48 261**	P	**P**	**20 29 06.4**	**+0.5**
CTA	**Charters Tower**	**33.48 261**	P	**P**	**20 29 06.5**	**+0.5**
comp=Z,19nm,0.7s,baz=98,slow=9.7,SNR=36						
comp=Z,19nm,0.7s						
CTAO	**Charters Tower**	**33.48 261**	P	**P**	**20 29 06.1**	**+0.2**
CTAO			IAmb	IAmb	20 29 07.3	
comp=Z,21nm,0.8s						
CTAO	**Charters Tower**	**33.48 261**	P	**P**	**20 29 06.6**	**+0.6**
CAN	**Canberra**	**33.65 233**	P	**P**	**20 29 08.5**	**+1.3**
CAN			IAmb	IAmb	20 29 10.7	
comp=Z,19nm,1.1s						
PMG	**Port Moresby**	**34.55 280**	P	**P**	**20 29 15.8**	**+0.8**
PMG	**Port Moresby**	**34.55 280**	P	**P**	**20 29 16.3**	**+1.4**
PMG	**Port Moresby**	**34.55 280**	P	**P**	**20 29 16.0**	**+1.1**
comp=Z,80nm,0.8s,baz=97,slow=5.1,SNR=31						
comp=Z,80nm,0.8s						
CMSA	**Cobar Meteorol**	**35.12 241**	P	**P**	**20 29 20.5**	**+1.1**
MTSU	**Mount Surprise**	**35.45 264**	P	**P**	**20 29 22.9**	**+0.5**
TOO	**Toolangi**	**37.11 231**	P	**P**	**20 29 36.8**	**+1.1**
TOO			IAmb	IAmb	20 30 02.2	
comp=Z,22nm,1.5s						
COEN	**Coen**	**37.17 271**	P	**P**	**20 29 37.0**	**+0.6**
COEN	**Coen**	**37.17 271**	P	**P**	**20 29 37.6**	**+1.2**
MANU	**Manus Island**	**37.22 291**	P	**P**	**20 29 37.6**	**+0.7**
STKA	**Stephens Creek**	**38.60 241**	P	**P**	**20 29 48.6**	**+0.8**
STKA	**Stephens Creek**	**38.60 241**	P	**P**	**20 29 49.3**	**+1.5**
STKA	**Stephens Creek**	**38.60 241**	P	**P**	**20 29 49.3**	**+1.5**
comp=Z,10nm,0.5s,baz=89,slow=9.3,SNR=49						
STKA			PcP	**PcP**	**20 31 43.8**	**-0.2**
comp=Z,2.0nm,0.6s,baz=27,slow=6.8,SNR=2.2						
comp=Z,10nm,0.5s						
INKA	**Innaminka**	**38.74 248**	P	**P**	**20 29 50.7**	**+1.8**
QIS	**Mount Isa**	**39.69 259**	P	**P**	**20 29 57.0**	**+0.3**
LCRK	**Leigh Creek**	**41.24 244**	P	**P**	**20 30 09.7**	**+0.9**
TABU	**Tabubil**	**41.49 283**	P	**P**	**20 30 13.4**	**+2.4**
OOD	**Oodnadatta**	**43.21 248**	P	**P**	**20 30 25.5**	**+1.3**
BBOO	**Buckleboo**	**43.38 241**	P	**P**	**20 30 26.0**	**+0.5**
BBOO			IAmb	IAmb	20 30 27.1	
comp=Z,20nm,0.9s						
GENI	**Genyem**	**43.48 286**	P	**P**	**20 30 27.5**	**+1.1**
WR0	**Warramunga Arr**	**44.47 260**	P	**P**	**20 30 33.6**	**-0.5**
WB0	**Warramunga Arr**	**44.63 260**	P	**P**	**20 30 34.6**	**-0.6**
WB0			IAmb	IAmb	20 30 36.0	
comp=Z,28nm,0.8s						
WB2	**Warramunga Arr**	**44.65 260**	P	**P**	**20 30 34.6**	**-0.8**
WB2			PcP	**PcP**	**20 32 04.8**	**+0.3**
WRAB	**Tennant Creek**	**44.66 260**	P	**P**	**20 30 35.3**	**-0.1**
WRA	**Warramunga Arr**	**44.66 260**	P	**P**	**20 30 34.3**	**-1.2**
WRA			PcP	**PcP**	**20 32 04.6**	**0.0**
WRA	**Warramunga Arr**	**44.66 260**	P	**P**	**20 30 35.3**	**-0.2**
comp=Z,12nm,0.3s,baz=95,slow=7.5,SNR=392						
WRA			PcP	**PcP**	**20 32 04.9**	**+0.3**
comp=Z,2.4nm,0.4s,baz=89,slow=3.8,SNR=8.5						
WRA			S	**S**	**20 36 24.6**	**-4.4**
comp=Z,2.6nm,0.8s,baz=99,slow=13,SNR=7.6						
comp=Z,12nm,0.3s						
MULG	**Mulgathing**	**44.80 245**	P	**P**	**20 30 37.0**	**+0.6**
AS31	**Alice Springs**	**44.80 254**	P	**P**	**20 30 36.7**	**+0.1**
AS31			PcP	**PcP**	**20 32 05.2**	**+0.2**
ASAR	**Alice Springs**	**44.81 254**	P	**P**	**20 30 36.8**	**+0.2**
ASAR				**PcP**	**20 32 05.6**	**+0.5**
ASAR	**Alice Springs**	**44.81 254**	P	**P**	**20 30 37.0**	**+0.4**
comp=Z,67nm,0.6s,baz=86,slow=8.8,SNR=814						
ASAR			PcP	**PcP**	**20 32 05.3**	**+0.3**
comp=Z,6.9nm,0.6s,baz=97,slow=4.4,SNR=9.9						
ASAR			S	**S**	**20 36 28.4**	**-2.6**
comp=Z,6.8nm,0.9s,baz=88,slow=16,SNR=31						
comp=Z,67nm,0.6s						
KDU	**Kakadu**	**47.62 269**	P	**P**	**20 30 58.0**	**+0.2**
MTN	**Manton Dam**	**48.86 269**	P	**P**	**20 31 06.5**	**-0.5**
MTN			IAmb	IAmb	20 31 07.8	
comp=Z,33nm,0.8s						
MTN	**Manton Dam**	**48.86 269**	P	**P**	**20 31 06.8**	**-0.2**
WRKA	**Warakurna**	**49.85 252**	P	**P**	**20 31 14.7**	**+0.5**
FORT	**Forrest**	**49.99 245**	P	**P**	**20 31 15.0**	**-0.1**
KNRA	**Kununurra**	**50.54 264**	P	**P**	**20 31 19.1**	**-0.1**
KNRA	**Kununurra**	**50.54 264**	P	**P**	**20 31 19.2**	**0.0**
FAKI	**Fak Fak**	**50.68 281**	P	**P**	**20 31 20.6**	**+0.3**
SWI	**Sorong**	**52.35 283**	P	**P**	**20 31 31.9**	**-0.4**
comp=Z,161nm,0.9s,comp=Z,2μm						
NLAI	**Namlea**	**55.39 279**	P	**P**	**20 31 51.7**	**-1.9**
comp=Z,21nm,0.8s,comp=Z,3μm						
LBMI	**Labuha**	**55.92 282**	P	**P**	**20 31 56.2**	**-1.1**
comp=Z,68nm,1.4s						
SOEI	**Soe**	**56.14 270**	P	**P**	**20 32 00.1**	**+1.1**
SOEI	**Soe**	**56.14 270**	P	**P**	**20 32 00.6**	**+1.7**
SOEI	**Soe**	**56.14 270**	P	**P**	**20 31 58.7**	**-0.2**
comp=Z,94nm,1.0s						
BATI	**Baumata**	**56.59 270**	P	**P**	**20 32 02.8**	**+0.9**
comp=Z,34nm,0.8s						
BATI	**Baumata**	**56.59 270**	P	**P**	**20 32 03.8**	**+1.8**
comp=Z,23nm,0.6s,baz=119,slow=0.9,SNR=9.8						
comp=Z,23nm,0.6s						
SANI	**Sanana**	**56.84 280**	P	**P**	**20 32 04.9**	**+1.3**
SANI	**Sanana**	**56.84 280**	P	**P**	**20 32 00.7**	**-2.9**
PSA00	**Pilbara Seismi**	**57.93 256**	P	**P**	**20 32 09.7**	**-1.2**
PSA00	**Pilbara Seismi**	**57.93 256**	P	**P**	**20 32 10.5**	**-0.4**
PSA00			IAmb	IAmb	20 32 11.3	
comp=Z,32nm,1.1s						
PSA00			PcP	**PcP**	**20 32 54.7**	**0.0**
PSA00	**Pilbara Seismi**	**57.93 256**	P	**P**	**20 32

SSLB Suanglung 72.39 303 P P 20 33 40.2 -0.8
SSLB IAmb IAmb 20 33 42.5
comp=Z,34nm,1.0s

TPUB Ta-pu 72.41 302 P P 20 33 40.4 -0.8
KSM Kuching 72.77 277 P P 20 33 44.2 +0.7
KSM Kuching 72.77 277 P P 20 33 44.7 +1.2
YSS Yuzh-Sakhalins 73.60 333 P P 20 33 47.3 -0.1
YSS IAmb IAmb 20 33 48.8
comp=Z,14nm,0.8s

PEA0B Petropavlovsk- 73.86 345 P P 20 33 48.4 -0.4
PEA0B IAmb IAmb 20 34 17.9
comp=Z,26nm,1.2s

PETK Petropavlovsk- 73.86 345 P P 20 33 48.1 -0.7
PETK Petropavlovsk- 73.86 345 P P 20 33 48.9 +0.1
comp=Z,10nm,0.8s,baz=126,slow=8.4,SNR=13
comp=Z,10nm,0.8s

KSRS Korea Array 74.88 318 P P 20 33 56.0 +1.2
comp=Z,2.1nm,0.6s,baz=134,slow=6.3,SNR=9.7
comp=Z,2.1nm,0.6s

USRK Ussuriysk Ar. 76.80 326 P P 20 34 06.9 +1.7
USRK Ussuriysk Ar. 76.80 326 P P 20 34 06.5 +1.3
comp=Z,2.5nm,0.7s,baz=99,slow=6.0,SNR=5.0
comp=Z,2.5nm,0.7s

NJ2 Nanjing 78.10 309 ⇑i/P P 20 34 13.8 +1.3
NJ2 pmax pmax
comp=Z,8.0nm,0.7s

MDJ Mudanjiang 78.37 325 P P 20 34 14.5 +0.9
MDJ PcP PcP 20 34 19.5 -0.7
MDJ pP pwP 20 36 22.0 -1.1
MDJ sP PP 20 37 24.3 +1.5
MDJ PP PP 20 37 28.6 +5.8
MDJ S SKSac 20 43 31.4 +0.6
MDJ Mudanjiang 78.37 325 SS SS 20 48 54.3 +12
MDJ pmax pmax
comp=Z,38nm,1.7s

MDJ pmax pmax
comp=Z,250nm,4.8s

MDJ Mudanjiang 78.37 325 P P 20 34 14.0 +0.4
MDJ IAmb IAmb 20 34 15.8
comp=Z,32nm,1.0s

MDJ Mudanjiang 78.37 325 P P 20 34 15.1 +1.5
KDAK Kodiak Island 78.56 14 P P 20 34 14.7 +0.4
KDAK IAmb IAmb 20 34 33.5
comp=Z,65nm,1.5s

O16K Kokwok River 79.15 10 P P 20 34 16.2 -1.2
N15K Kwethluk River 79.37 9 P P 20 34 19.0 +0.4
N15K IAmb IAmb 20 34 49.9
comp=Z,27nm,1.4s

P18K Big Mountain, 79.48 12 P P 20 34 18.7 -0.5
NVAR Mina Array Bea 79.50 44 P P 20 34 21.2 +1.2
comp=Z,3.4nm,0.8s,baz=225,slow=8.9,SNR=17
comp=Z,3.4nm,0.8s

O18K Koktuh Hills 79.91 12 P P 20 34 20.8 -0.6
O18K IAmb IAmb 20 34 22.1
comp=Z,15nm,0.8s

N17K Nushagak Hills 80.18 10 P P 20 34 22.1 -0.7
BNX BinXian 80.28 325 ⇑P P 20 34 24.3 +0.7
BNX pmax pmax
comp=Z,25nm,1.0s

BNX pmax pmax
comp=Z,170nm,4.6s

M16K Timber Creek 80.36 9 P P 20 34 23.9 +0.1
M16K IAmb IAmb 20 34 26.4
comp=Z,37nm,1.4s

J05D Fort Rock, OR 80.42 38 P P 20 34 25.6 +0.9
ILSW Iliamna Southw 80.44 13 P P 20 34 23.6 -0.7
ILSW IAmb IAmb 20 34 24.5
comp=Z,19nm,0.9s

BRLK Bradley Lake 80.73 14 P P 20 34 25.2 -0.5
L16K Owhat River 80.94 9 P P 20 34 26.8 +0.1
L16K IAmb IAmb 20 34 28.3
comp=Z,16nm,1.1s

M17K Holitna River 80.96 10 P P 20 34 27.4 +0.6
M17K IAmb IAmb 20 34 29.4
comp=Z,24nm,1.0s

SMAI San Martin Ant 80.97 159 P P 20 34 28.6 +1.7
PRN Pahroc Range 81.15 46 P P 20 34 28.7 +0.2
K15K Wolf Creek Mou 81.21 8 P P 20 34 28.4 +0.4
K15K IAmb IAmb 20 34 30.1
comp=Z,29nm,0.9s

R11B Troy Canyon, C 81.27 45 P P 20 34 29.1 -0.1
L18K Granite Mounta 81.86 10 P P 20 34 31.5 +0.1
M19K Big River Lodg 81.96 11 P P 20 34 31.6 -0.3
L19K White Mountain 82.14 11 P P 20 34 32.6 -0.2
L19K IAmb IAmb 20 34 36.1
comp=Z,23nm,1.4s

J16K Anvik River 82.28 8 P P 20 34 33.7 +0.2
J16K IAmb IAmb 20 34 35.8
comp=Z,37nm,1.5s

PSUT Pine Spring 82.53 46 P P 20 34 36.5 +0.8
TTA Tatalina 82.63 10 P P 20 34 35.6 +0.3
TTA Tatalina 82.63 10 P P 20 34 35.6 +0.3
GHO Glory Hole Cre 82.96 14 P P 20 34 36.3 -0.7
GHO IAmb IAmb 20 34 37.6
comp=Z,17nm,0.8s

HEH HeiHe 83.10 328 eP P 20 34 37.9 +0.1
HEH pmax pmax
comp=Z,10.0nm,1.2s

K20K Telida 83.36 11 P P 20 34 38.2 -0.7
HNS HongShan 83.69 312 ⇑P P 20 34 42.4 +1.4
HNS pmax pmax
comp=Z,16nm,1.1s

MAW Mawson 83.72 200 P P 20 34 41.7 +1.0
comp=Z,4.9nm,1.1s,baz=107,slow=6.7,SNR=8.2
comp=Z,4.9nm,1.1s

CAST Castle Rocks 83.79 12 P P 20 34 39.3 -1.7
CAST IAmb IAmb 20 34 40.4
comp=Z,14nm,0.8s

VRDI Verde Repeater 83.83 16 P P 20 34 40.6 -0.8
N25K Chitina, Valde 83.85 15 P P 20 34 40.9 -0.5
N25K IAmb IAmb 20 34 42.4
comp=Z,11nm,0.8s

GLB Gilahina Butte 83.92 16 P P 20 34 40.5 -1.2
RPSI Rantau Prapat 83.93 275 P P 20 34 41.7 -1.1
RPSI IAmb IAmb 20 34 44.2
comp=Z,22nm,0.9s

BJT Baijiatuau 83.95 315 P P 20 34 43.2 +0.9
BJI Beijing 83.95 315 P P 20 34 42.8 +0.5
BJI pmax pmax
comp=Z,5.0nm,1.1s

PSI Prapat 83.96 275 P P 20 34 43.2 0.0
LYN LuoYang 83.99 309 eP P 20 34 44.3 +1.7
LYN pmax pmax
comp=Z,53nm,0.7s

J20K Nowinta River 84.11 10 P P 20 34 42.4 -0.2
TRF Thorofare Moun 84.17 12 P P 20 34 42.3 -0.8
TRF IAmb IAmb 20 34 44.2
comp=Z,21nm,0.8s

F10A Beach Ranch, E 84.30 38 P P 20 34 44.2 +0.1
RND Reindeer 84.42 13 IAmb IAmb 20 34 44.8
comp=Z,16nm,0.9s

GSI Gunungsitoli 84.78 273 P P 20 34 47.5 +0.5
GSI Gunungsitoli 84.78 273 P P 20 34 48.6 +1.6
M26K Nabesna, AK 84.93 16 IAmb IAmb 20 34 48.4
comp=Z,13nm,1.1s

SRIT Nakonsritamara 85.17 281 P P 20 34 50.3 +1.5
GYA Guiyang 85.18 300 ⇑P P 20 34 50.0 +1.2
GYA pmax pmax
comp=Z,13nm,0.8s

M27K Edge Creek, AK 85.19 16 IAmb IAmb 20 34 49.4
comp=Z,15nm,1.1s

WRH Wood River Hil 85.53 13 P P 20 34 48.6 -0.8
WRH IAmb IAmb 20 34 50.4
comp=Z,14nm,1.2s

IMAR Indian Mountai 85.84 10 P P 20 34 50.4 -0.4
XLT XiLinHaoTe 85.92 319 ⇑i/P P 20 34 52.6 +0.7
XLT pmax pmax
comp=Z,15nm,1.0s

XLT pmax pmax
comp=Z,110nm,4.3s

COLA College 85.93 13 P P 20 34 50.7 -0.5
TXAR Lajitas Array 86.03 58 P P 20 34 54.8 +2.0
comp=Z,8.1nm,1.0s,baz=224,slow=6.0,SNR=53
comp=Z,8.1nm,1.0s

ILAR Eielson Array 86.04 13 P P 20 34 50.5 -1.4
ILAR Eielson Array 86.04 13 P P 20 34 51.0 -0.8
comp=Z,3.6nm,0.8s,baz=232,slow=5.5,SNR=24
comp=Z,3.6nm,0.8s

J25K Salcha River, 86.24 14 P P 20 34 51.9 -1.0
J25K IAmb IAmb 20 34 54.8
comp=Z,17nm,1.5s

XAN Xi'an 86.42 307 ⇓P P 20 34 55.4 +1.0
XAN pP PcP 20 35 01.0 +5.1
XAN pmax pmax
comp=Z,38nm,1.1s

M30M Minto, Yukon 86.78 18 IAmb IAmb 20 34 56.6
comp=Z,7.5nm,0.8s

S22A 4UR Ranch, Cre 87.07 49 P P 20 34 57.8 0.0
PDAR Pinedale Array 87.43 43 P P 20 34 58.8 -0.4
PDAR Pinedale Array 87.43 43 P P 20 34 60.0 +0.8
comp=Z,4.5nm,1.0s,baz=227,slow=3.6,SNR=18
comp=Z,4.5nm,1.0s

HHC Hu-ho-hao-te 87.44 314 eP P 20 35 00.5 +1.4
HHC pmax pmax
comp=Z,22nm,0.7s

HHC pmax pmax
comp=Z,280nm,5.1s

K29M Barlow Dome 87.57 17 IAmb IAmb 20 35 00.7
comp=Z,12nm,1.4s

KMI Kunming 87.97 297 ⇑P P 20 35 04.0 +1.9
KMI pmax pmax
comp=Z,11nm,1.2s

BTO Baotou 88.39 314 eP P 20 35 02.9 -0.6
BTO pP pP 20 37 13.4 -1.3
BTO sP sP 20 38 12.5 -3.0
BTO pmax pmax
comp=Z,17nm,0.4s

BTO pmax pmax
comp=Z,330nm,5.6s

MMPY Sheldon Lake, 88.52 20 IAmb IAmb 20 35 05.2
comp=Z,8.7nm,0.9s

DRIO Del Rio 88.53 59 P P 20 35 04.5 +0.2
DRIO IAmb IAmb 20 35 06.7
comp=Z,9.9nm,0.9s

I30M Mount Dempster 88.95 16 IAmb IAmb 20 35 06.5
comp=Z,9.3nm,1.0s

ELIB Princess Elisa 88.99 187 dP P 20 35 06.3 +0.4
comp=Z,11nm,0.8s

CMAR Chiang Mai Arr 89.00 290 P P 20 35 07.2 +0.5
CMAR Chiang Mai Arr 89.00 290 P P 20 35 08.3 +1.5
comp=Z,7.0nm,0.9s,baz=109,slow=2.9,SNR=42
comp=Z,7.0nm,0.9s

CHTO Chiang Mai 89.12 290 P P 20 35 07.3 0.0
CHTO IAmb IAmb 20 35 09.4
comp=Z,8.7nm,0.8s

PZH PanZhiHua 89.30 298 P P 20 35 07.8 -0.3
PZH pmax pmax
comp=Z,10.0nm,0.8s

PZH pmax pmax
comp=Z,110nm,4.5s

TROLL Troll, Antarti 90.13 180 P P 20 35 11.8 +0.6
comp=Z,306nm,0.9s

G30M tAoh Zraii Nji 90.36 15 P P 20 35 10.9 -1.1
G30M IAmb IAmb 20 35 12.7
comp=Z,11nm,0.9s

SNAA Sanae 90.42 179 ⇓P P 20 35 12.4 +0.1
comp=Z,35nm,0.6s

SNAA Sanae 90.42 179 P P 20 35 12.2 -0.2
comp=Z,1.5nm,0.7s,baz=193,slow=8.5,SNR=17
comp=Z,1.5nm,0.7s

VNA3 Neumayer Olymp 90.56 176 ⇓P P 20 35 13.9 +0.9
comp=Z,3.6nm,0.4s

VNA2 Neumayer--Watz 91.00 177 ⇓P P 20 35 16.1 +1.1
comp=Z,3.9nm,0.7s,baz=193,slow=4.0

LZH Lanzhou 91.05 308 eP P 20 35 17.8 +1.8
LZH pP pP 20 37 24.1 -3.6
LZH sP sP 20 38 28.9 +0.6
LZH pmax pmax
comp=Z,12nm,1.2s

VNA1 Neumayer--Stat 91.23 177 ⇓P P 20 35 17.6 +1.6
comp=Z,5.0nm,0.8s

SONM Songino Array 93.73 319 P P 20 35 27.8 -0.1
comp=Z,0.6nm,0.6s,baz=145,slow=2.8,SNR=5.5
comp=Z,0.6nm,0.6s

GTA Gaotai 95.20 310 eP P 20 35 35.5 +0.7
GTA pP PcP 20 35 42.1 +7.2
GTA pmax pmax
comp=Z,3.0nm,1.0s

BVAR Borovoye Array 117.02 321 PKP PKPdf 20 40 50.9 -0.7
comp=Z,2.4nm,0.4s,baz=104,slow=1.4,SNR=19

KK31 Karatay Array 117.48 310 PKPdf PKPdf 20 40 51.7 -1.1
KKAR Karatay Array 117.48 310 PKPdf PKPdf 20 40 51.5 -1.2
SPITS Spitsbergen Ar 119.45 357 PKP PKPdf 20 40 54.5 -1.0
comp=Z,5.6nm,0.8s,baz=66,slow=4.9,SNR=2.8

ARU Arti 123.03 326 PKPdf PKPdf 20 41 02.4 -0.5
ABKAR Akbulak array 124.11 318 PKPdf PKPdf 20 41 04.1 -1.1
ARCES ARCESS Array B 126.50 350 PKP PKPdf 20 41 08.2 -1.1
comp=Z,7.3nm,0.9s,baz=87,slow=0.8,SNR=11

GEYT Alibeck 127.19 304 PKP PKPdf 20 41 11.2 -0.4
comp=Z,5.5nm,0.9s,baz=96,slow=4.5,SNR=9.3

FINES FINESS Array B 133.37 344 PKhKP PKPpre 20 41 19.0
comp=Z,2.8nm,0.7s,baz=87,slow=1.3,SNR=7.3

NB2 NORSAR Subarra136.56 353 PKPdf PKPpre 20 41 19.1
comp=Z,0.8nm,0.7s,baz=13,slow=1.9

NOA NORSAR Array B 136.56 353 PKP PKPdf 20 41 28.8 +0.3
comp=Z,1.2nm,0.8s,baz=14,slow=4.1,SNR=4.5

KBZ Khabaz 136.98 316 PKP PKPdf 20 41 30.0 +0.3
comp=Z,1.5nm,0.8s,baz=43,slow=5.9,SNR=5.1

HFS Hagfors 137.12 351 PKhKP PKPpre 20 41 20.0
comp=Z,1.1nm,0.4s,baz=6.5,slow=5.4,SNR=2.6

NACGM Naroch 138.53 338 ePKP PKiKP 20 41 35.0 +0.5
comp=Z,13nm,0.9s,baz=37

AKASG Malin Array Be 140.75 332 PKhKP PKPpre 20 41 30.1
comp=Z,1.2nm,0.5s,baz=42,slow=4.2,SNR=7.9

EKA Eskdalemuir Ar 142.64 5 PKhKP PKPpre 20 41 36.0
comp=Z,1.2nm,0.7s,baz=330,slow=2.5,SNR=4.7

DIKM Dikmen 142.94 317 ⇓P PKPdf 20 41 39.5 -1.1
SORM Soroca 142.97 330 ⇓P PKPdf 20 41 38.1 -2.3
BEL Belsk 143.09 340 ePKP PKPbc 20 41 39.7 +0.8
GAZ Gaziantep 143.49 309 PKPdf PKPab 20 41 40.5 -0.1
BSEG Bad Segeberg 143.60 351 ePKPbc PKPbc 20 41 40.5 +0.2
baz=16,slow=2.7

BNN Bunyan 143.82 312 PKPdf PKPab 20 41 41.9 0.0
LODK Lodwar 143.93 250 PKPbc 20 41 42.3 -0.4
LEOM Leova 144.18 328 ⇓P PKPab 20 41 43.2 +0.4
KWP Kalwaria Pacla 144.26 336 ePKP PKPab 20 41 42.9 -0.2
VASR Vaslui 144.29 329 ⇓P PKPab 20 41 43.4 +0.2
RUE Ruedersdorf 144.38 347 ePKPbc PKPab 20 41 43.1 -0.2
baz=16,slow=2.7

VLDR Vladesti 144.70 327 ⇑P PKPab 20 41 45.2 +0.3
TLCR 144.75 326 ⇓P PKPab 20 41 45.2 +0.1
VARL Varlezi 144.78 328 ⇓P PKPab 20 41 45.5 +0.4
BUR08 Bucovina Ar. S 144.78 332 PKPdf PKPdf 20 41 42.6 -1.1
BURAR Bucovina Array 144.80 332 ⇑P PKPab 20 41 45.4 +0.1
BURAR Bucovina Array 144.80 332 PKPdf PKPdf 20 41 43.9 +0.1
OJC Ojcow 144.80 340 ePKP PKPbc 20 41 44.4 +0.2
OJC Ojcow 144.80 340 PKPdf PKPdf 20 41 42.9 -0.6
SCTR Scanteiesti 144.86 327 ⇑P PKPab 20 41 45.5 +0.1
GHRR 144.89 328 ⇓P PKPab 20 41 45.7 +0.1
NAKD Nakauka 144.90 243 eP PKPdf 20 41 43.3 -1.7
TESR Tescani 144.94 329 ⇑P PKPbc 20 41 45.1 +0.4
BRTR Keskin Array B 144.95 315 PKPdf PKPdf 20 41 43.2 -1.1
BRTR Keskin Array B 144.95 315 PKP PKPdf 20 41 44.4 +0.1
comp=Z,11nm,0.9s,baz=123,slow=2.4,SNR=53

STHS Stebnicka Huta 144.98 338 ePKP PKPbc 20 41 44.5 -0.3
KOLS Kolonicke sedl 144.99 336 ePKP PKPab 20 41 45.4 -0.5
JURR Jurilovca 145.00 325 ⇑P PKPbc 20 41 45.4 +0.5
FLTG Flechtingen 145.00 350 ePKPbc PKPbc 20 41 44.6 -0.1
baz=16,slow=2.7

NRDL Niedersach Rie 145.03 351 ePKPbc PKPbc 20 41 44.5 -0.2
baz=16,slow=2.7

SLCR Slobozia Conac 145.03 327 ⇑P PKPab 20 41 46.0 -0.1
IZVR Izvoarele 145.06 327 ⇓P PKPab 20 41 47.0 +0.8
CFR Carcaliu 145.12 327 ⇑P PKPab 20 41 45.9 -0.6
PANC Panciu 145.15 328 ⇑P PKPab 20 41 46.6 0.0
TPGR Topolog 145.18 326 ⇓P PKPbc 20 41 46.1 +0.6
ODBI Odobesti 145.27 328 ⇑P PKPab 20 41 47.4 +0.3
KSP Ksiaz 145.30 344 ePKP PKPab 20 41 46.5 -0.5
NIE Niedzica 145.31 338 ePKP PKPab 20 41 47.3 +0.2
CRVS Cervenica-Dubn 145.32 337 ePKP PKPbc 20 41 46.4 +0.6
VRI Vrincioaia 145.36 329 ⇑P PKPbc 20 41 46.4 +0.4
PLOR Plostina 145.41 329 ⇑P PKPbc 20 41 46.3 +0.2
PLOR ⇓P PKPbc 20 41 46.4 +0.2
TIRR Tirgusor 145.45 325 ⇓P PKPbc 20 41 46.5 +0.3
TIRR Tirgusor 145.45 325 PKPdf 20 41 45.3 +0.6
ANTO Ankara 145.45 315 ⇑P PKPdf 20 41 45.5 +0.5
BMR Baia Mare 145.50 334 ⇑P PKPbc 20 41 46.6 +0.3
IBBN Ibbenburen 145.51 353 ePKPbc PKPab 20 41 47.1 -0.7
baz=16,slow=2.7

TRPA Tarpa 145.53 335 ⇑P PKPbc 20 41 46.9 +0.5
OSTC Ostas 145.58 344 ePKP PKPbc 20 41 46.0 -0.5
ARCR ARCALIA 145.58 332 ⇑P PKPbc 20 41 47.3 +0.7
TLBR Topalu 145.59 326 ⇓P PKPbc 20 41 47.0 +0.4
CHVC Chvalec 145.59 344 ePKP PKPbc 20 41 46.8 +0.3
CLZ Clausthal 145.62 350 ePKPbc PKPbc 20 41 47.3 +0.8
baz=16,slow=2.7

MFTR Murfatlar 145.63 325 ⇓P PKPab 20 41 47.9 -0.6
COVR Voineasa-Covas 145.63 329 ⇑P PKPbc 20 41 46.8 0.0
CLL Collm 145.65 347 ePKPbc PKPbc 20 41 47.1 +0.6
baz=16,slow=2.7

CLL Collm 145.65 347 ePKPdf PKPdf 20 41 45.0 +0.1
CLL ⇓iPKPbc PKPbc 20 41 46.7 +0.1
comp=Z,42nm,0.9s

OZUR 145.66 330 ⇑P PKPab 20 41 47.8 -0.9
UPC Upice 145.68 344 ePKP PKPbc 20 41 47.3 +0.6
DPC Dobruska-Polom 145.74 343 ePKP PKPbc 20 41 47.6 +0.7
MANR Mangalia 145.77 324 ⇑P PKPab 20 41 48.2 -0.9
LANS Liptovska Anna 145.83 339 ePKP PKPab 20 41 48.5 -0.7
BRG Berggiesshubel 145.85 346 ePKP PKPbc 20 41 46.4 -0.8
BRG Amp 20 41 47.3
comp=Z,4.2nm,1.1s

BRG Berggiesshubel 145.85 346 P PKPab 20 41 48.5 -0.7
BRG Amp 20 41 49.3
comp=Z,19nm,0.9s

BRG Berggiesshubel 145.85 346 P PKiKP 20 41 55.1 +5.4
BRG Amp 20 41 55.9
comp=Z,5.8nm,1.0s

BRG Berggiesshubel 145.85 346 ePKPbc PKPab 20 41 48.4 -0.8
baz=16,slow=2.7

KRLC Kraliky 145.85 343 ePKP PKPbc 20 41 47.7 +0.4
NEHR Nehoiu 145.89 328 ⇑P PKPbc 20 41 48.5 +0.9
MORC Moravsky Berou 145.90 342 ⇑P PKPab 20 41 48.0 +0.6
MORC Moravsky Berou 145.90 342 ePKP PKPbc 20 41 47.5 +0.1
MBAR Mbarara 145.90 240 eP PKPdf 20 41 44.5 -2.2
AMRR Amara 145.92 326 ⇑P PKPbc 20 41 46.9 -0.6
FBE Freiberg 145.94 347 ePKPbc PKPab 20 41 48.5 -1.0
baz=16,slow=2.7

DOPR Dopca 145.94 330 ⇓P PKPbc 20 41 48.5 +0.9
GTTG Gottingen 145.97 351 ePKPbc PKPbc 20 41 48.2 +0.7
baz=16,slow=2.7

ISR Istrita 145.98 328 ⇓P PKPbc 20 41 48.8 +1.0
NEUB Neuenburg 145.99 349 ePKPbc PKPbc 20 41 48.0 +0.5
baz=16,slow=2.7

MLR Muntele Rosu 146.01 329 ⇑P PKPbc 20 41 48.1 +0.1
MLR Muntele Rosu 146.01 329 PKPdf PKPdf 20 41 46.6 +0.7
RICC Richard 146.12 346 ePKP PKPbc 20 41 49.0 +1.1
MESR Meseseni 146.14 334 ⇑P PKPbc 20 41 49.0 +0.9
MAUC Maruska 146.17 341 ePKP PKPbc 20 41 49.2 +1.0
MDUB Mudurnu 146.18 317 PKPdf PKPdf 20 41 45.4 -0.9
MDUB PKPbc 20 41 48.7 +0.1
CJR Cluj-Napoca 146.20 332 ⇓P PKPbc 20 41 48.9 +0.5
HSKC Hora Svate Kat 146.22 346 ePKP PKPbc 20 41 48.5 +0.3
MMAI Mount Meron Ar 146.29 303 PKPbc PKPbc 20 41 49.5 +0.5
comp=Z,18nm,0.7s,baz=60,slow=5.0,SNR=32

LTVH Ltavrtes, Hu 146.39 335 ⇑P PKiKP 20 41 50.0 -0.9
MARR Marisel-Cluj 146.44 333 ⇑P PKPbc 20 41 49.2 +0.1
PRA Prague 146.48 345 ePKP PKPbc 20 41 49.4 +0.5
VOIR 146.49 330 ⇑P PKPbc 20 41 49.5 +0.3
KASTN Kahler Asten 146.52 352 ePKPbc PKPbc 20 41 49.5 +0.4
baz=16,slow=2.7

PRU Pruhonice 146.53 345 ePKP PKPbc 20 41 49.2 +0.1
GOPC GO Pecny, Ondr 146.54 345 ePKP PKPbc 20 41 49.6 +0.5
MOX Moxa 146.56 348 ePKPbc PKPbc 20 41 49.5 +0.4
baz=16,slow=2.7

VRAC Vranov 146.60 342 ⇓P PKPbc 20 41 50.0 +0.7
VRAC Vranov 146.60 342 ePKP PKPbc 20 41 49.6 +0.3
TANN Tannenbergstha 146.60 347 ePKPbc PKPbc 20 41 50.0 +0.6
baz=16,slow=2.7

VYHS Vyhne 146.60 339 ePKP PKPbc 20 41 50.2 +0.9
WERD Werda 146.61 348 ePKPbc PKPbc 20 41 49.9 +0.6
baz=16,slow=2.7

JAVC Velka Javorina 146.67 341 ePKP PKiKP 20 41 50.7 -0.8
GUNZ Gunzen 146.68 348 ePKPbc PKPbc 20 41 50.3 +0.8
baz=16,slow=2.7

PSZ Piszkesteto 146.72 337 ⇑P PKPbc 20 41 50.3 +0.5
PSZ Piszkesteto 146.72 337 PKPdf PKPdf 20 41 47.2 +0.3
PSZ PKPbc 20 41 49.9 +0.1
ARR Arges 146.74 330 ⇓P PKPbc 20 41 50.8 +0.9
WERN Wernitzgruen 146.74 347 ePKPbc PKPbc 20 41 50.5 +0.8
baz=16,slow=2.7

NKC Novy Kostel 146.78 347 ePKP PKPbc 20 41 49.8 0.0
KRUC Moravsky 146.88 342 ePKP PKPbc 20 41 50.0 0.0
MANZ Manzenberg 147.09 348 ePKPbc PKPbc 20 41 51.3 +0.7
baz=16,slow=2.7

BSZH Besenyszg 147.10 336 ⇑P PKPbc 20 41 49.8 -0.8
ZVC Zvikov 147.13 345 ePKP PKPbc 20 41 51.1 +0.4
LOZB Loznitsa 147.15 325 ⇑P PKPbc 20 41 51.2 +0.2
MODS Modra-Piesok 147.22 341 ePKP PKiKP 20 41 52.1 -0.5
CSS Mathiatis 147.24 307 PKPdf PKPdf 20 41 48.1 0.0
ROTZ Rotzenmuhle 147.27 347 ePKPbc PKPbc 20 41 51.3 +0.2
baz=16,slow=2.7

MEM Membach 147.37 355 dPKiKP PKPbc 20 41 51.4 +0.1
SRO Srobarova 147.37 339 ePKP PKiKP 20 41 52.4 -0.5
BTNL Ternell 147.38 355 dPKiKP PKPbc 20 41 51.4 +0.1
SIRR Siria 147.38 334 ⇑P PKPbc 20 41 52.1 +0.6
BSTI Sart Tilman 147.43 355 dPKP PKPbc 20 41 50.4 -1.0
BSTI dPKiKP PKiKP 20 41 51.7 -1.2
TNS Taunus Mts 147.48 352 ePKPbc PKPbc 20 41 52.2 +0.5
baz=16,slow=2.7

GRF Grafenberg Arr 147.54 348 ePKPbc PKiKP 20 41 52.7 -0.5
baz=16,slow=2.7

KHC Kasperske Hory 147.56 345 PKPdf PKPdf 20 41 47.1 -1.1
KHC PKPbc PKPbc 20 41 51.8 0.0
KHC Kasperske Hory 147.56 345 ePKP PKPdf 20 41 47.5 -0.7
KHC ex x 20 41 51.5
GZR Gura Zlata 147.58 332 ⇓P PKPbc 20 41 51.8 -0.2
CKRC Cesky Krumlov 147.67 344 ePKP PKPdf 20 41 49.2 +0.8
CKRC ex x 20 41 52.6
WET Wettzell 147.71 346 ePKPbc PKPbc 20 41 52.7 +0.5
baz=16,slow=2.7

BMRD Maredsous 147.76 356 dPKPdf PKPdf 20 41 48.0 -0.4
BMRD dPKP PKPbc 20 41 51.1 -1.2
BMRD dPKiKP PKiKP 20 41 52.7 -1.0
GEC2 GERESS Array S 147.80 345 ePKPbc PKPbc 20 41 52.8 +0.3
baz=16,slow=2.7

GERES GERESS Array B 147.80 345 PKPbc PKPbc 20 41 52.7 +0.1
comp=Z,11nm,0.8s,baz=28,slow=3.2,SNR=42

VLAD Vladila 147.85 328 ⇑P PKPbc 20 41 53.1 +0.4
BZS Buzias 147.92 333 ⇓P PKPbc 20 41 52.9 +0.1
DOU Dourbes 147.98 356 dPKPdf PKPdf 20 41 48.0 -0.8
DOU dPKiKP PKPbc 20 41 53.2 +0.5
CONA Conrad Observa 148.05 342 ePKP PKPbc 20 41 53.0 -0.2
comp=Z,31nm,1.3s,SNR=12

RONA Rosalia, Austr 148.12 341 ePKP PKPbc 20 41 53.2 -0.2
comp=Z,28nm,1.3s,SNR=11

HERR Herculane 148.14 331 ⇓P PKPbc 20 41 53.4 0.0
WLF Walferdange 148.29 354 PKiKP 20 41 54.4 -0.4
WLF Walferdange 148.29 354 dPKiKP PKiKP 20 41 54.5 -0.2
WLF Walferdange 148.29 354 ePKPbc PKiKP 20 41 54.9 +0.2
baz=16,slow=2.7

MDVR Moldovita 148.53 332 ⇓P PKPbc 20 41 54.5 +0.1
MOA Molln 148.57 344 ePKP PKPdf 20 41 49.8 -0.1
comp=Z,11nm,1.2s

MORH Mrgy, Hungar 148.62 337 ⇑P PKPbc 20 41 54.7 +0.2
ARSA Arzberg 148.76 342 ePKP PKPbc 20 41 55.1 +0.2
comp=Z,9.4nm,1.1s

BIOA Bad Ischl, Aus 148.88 344 ePKP PKPbc 20 41 55.0 -0.2
comp=Z,17nm,1.4s

ELL Elmali 148.96 313 PKPbc 20 41 55.4 -0.5
FUR Furstenfeldbru 148.99 347 ePKPbc PKPbc 20 41 55.8 +0.4
baz=16,slow=2.7

FRGS Fruska Gora 149.04 335 ⇓P PKPbc 20 41 55.7 +0.1
FRGS Fruska Gora 149.04 335 ⇓iP PKPbc 20 41 55.4 -0.2
RJOB Jochberg 149.05 345 ePKPbc PKPbc 20 41 55.9 +0.3
baz=16,slow=2.7

ALN Alexandroupoli 149.09 322 P PKPbc 20 41 55.1 -0.7
RDO Rodhopi 149.22 323 P PKPbc 20 41 55.8 -0.3
RDO Rodhopi 149.22 323 PKPdf 20 41 49.6 -1.4
RDO PKPbc 20 41 55.4 -0.7
RDO PKPab PKPab 20 42 03.9 +0.6
BFO Black Forest 149.35 351 PKPbc 20 41 55.7 -0.5
BFO Black Forest 149.35 351 ePKPbc PKPbc 20 41 56.5 +0.2
baz=16,slow=2.7

LESA Schwarzleotal 149.37 345 ePKP PKPbc 20 41 56.2 -0.2
comp=Z,12nm,1.0s

SOKA Soboth 149.42 342 ePKP PKPbc 20 41 56.2 -0.4
comp=Z,16nm,1.0s,SNR=9.6

BOVS Bovan 149.42 331 ⇓P PKPbc 20 41 55.9 -0.6
PERS Pernie 149.43 342 iPKPbc PKPbc 20 41 56.0 -0.6
KBA Koelnbreinsper 149.53 344 ePKP PKPbc 20 41 56.6 -0.3
comp=Z,15nm,0.9s

EZN Ezine 149.60 321 P PKPbc 20 41 56.5 -0.6
TEKS Tekeris 149.66 334 eP PKPbc 20 41 56.6 -0.5
SMTH Samothraki Isl 149.66 322 P PKPbc 20 41 56.5 -0.7
UBR Ueberruh 149.68 349 ePKPbc PKiKP 20 41 57.5 -0.3
baz=16,slow=2.7

WATA Walderalm 149.71 347 ePKP PKPbc 20 41 57.2 -0.1
comp=Z,26nm,1.2s,SNR=7.6

OBKA Obir 149.72 342 ePKP PKPbc 20 41 56.8 -0.5
comp=Z,8.6nm,1.4s

OBKA Obir 149.72 342 eP PKPbc 20 41 56.8 -0.5
RETA Reutte 149.74 348 ePKP PKPbc 20 41 57.2 -0.1
comp=Z,14nm,1.3s

WTTA	**Wattenberg**	**149.76**	**346**	*e*PKP	**PKPbc**	**20 41 57.3**	**-0.2**
	comp=Z,28nm,0.8s,SNR=12						
MOTA	**Moosalm**	**149.80**	**347**	*e*PKP	**PKPbc**	**20 41 57.4**	**-0.1**
	comp=Z,20nm,1.0s,SNR=6.6						
DIVS	**Divibare**	**149.83**	**333**	PKPdf	**PKPdf**	**20 41 50.2**	**-1.9**
DIVS				PKPbc	**PKPbc**	**20 41 57.3**	**-0.4**
DIVS				PKPab	**PKPab**	**20 42 05.5**	**-0.3**
DIVS	**Divibare**	**149.83**	**333**	⇓*i*P	**PKPbc**	**20 41 57.5**	**-0.1**
MYKA	**Terra Mystica**	**149.86**	**343**	*e*PKP	**PKPbc**	**20 41 57.3**	**-0.3**
	comp=Z,15nm,0.9s,SNR=5.5						
KAVA	**Kavala**	**149.89**	**324**	P	**PKPbc**	**20 41 57.3**	**-0.4**
SQTA	**Sankt Quirin**	**149.90**	**347**	*i* PKP	**PKPbc**	**20 41 57.7**	**0.0**
	comp=Z,17nm,0.8s,SNR=7.2						
PRK	**Paraskevi**	**149.99**	**320**	P	**PKPbc**	**20 41 57.5**	**-0.5**
NVR	**Nevrokopi**	**150.01**	**325**	P	**PKiKP**	**20 41 58.7**	**+0.1**
THAS	**Thassos island**	**150.04**	**323**	P	**PKPbc**	**20 41 57.1**	**-1.0**
ABTA	**Abfaltersbach**	**150.04**	**345**	*i* PKP	**PKPbc**	**20 41 57.6**	**-0.5**
	comp=Z,29nm,0.8s,SNR=11						
PRED	**Cave del Predi**	**150.05**	**343**		**PKPbc**	**20 41 57.0**	**-1.1**
CRES	**Cresnjev**	**150.06**	**340**	⇓*i*P	**PKPbc**	**20 41 57.6**	**-0.4**
DAVA	**Damuels**	**150.10**	**349**	*i* PKiKP	**PKiKP**	**20 41 58.7**	**-0.1**
	comp=Z,21nm,0.9s,SNR=5.9						
LJU	**Ljubljana**	**150.15**	**342**	*e*PKPdf	**PKPdf**	**20 41 51.7**	**-0.7**
LJU				*i* PKPbc	**PKPbc**	**20 41 58.2**	**+0.1**
CRNS	**Crni Vrh**	**150.19**	**342**	*i* PKPbc	**PKPbc**	**20 41 57.9**	**-0.5**
FETA	**Feichten**	**150.19**	**347**	*e*PKP	**PKPbc**	**20 41 58.6**	**+0.2**
	comp=Z,26nm,1.0s,SNR=7.5						
CLUD	**Cludinico**	**150.22**	**344**	PKPdf	**PKPdf**	**20 41 50.6**	**-1.9**
CLUD				PKPbc	**PKPbc**	**20 41 57.4**	**-1.0**
CLUD				PKPab	**PKPab**	**20 42 06.1**	**-1.2**
LIA	**Limnos Island**	**150.24**	**322**	P	**PKPbc**	**20 41 57.9**	**-0.6**
ROBS	**Robic**	**150.25**	**343**	*i* PKPbc	**PKPbc**	**20 41 58.0**	**-0.4**
ROBS				*i* PKPab	**PKPab**	**20 42 06.2**	**-1.1**
BBLS	**Lazići**	**150.26**	**334**	⇓*i*P	**PKPbc**	**20 41 58.8**	**+0.2**
SIGR	**SIGRI**	**150.27**	**320**	P	**PKPbc**	**20 41 57.9**	**-0.7**
A051A	**Mrakovica**	**150.28**	**338**	⇓*i*P	**PKPbc**	**20 41 58.5**	**-0.1**
KOKK	**Kokkinochori,**	**150.30**	**324**	P	**PKPbc**	**20 41 57.7**	**-1.0**
SRS	**Serrai**	**150.32**	**325**	P	**PKPbc**	**20 41 57.5**	**-1.3**
BLY	**Banja Luka**	**150.41**	**337**	⇓*i*P	**PKPbc**	**20 41 58.8**	**0.0**
BOJS	**Bojanci**	**150.41**	**340**	⇓*i*P	**PKPbc**	**20 41 58.8**	**0.0**
BOJS	**Bojanci**	**150.41**	**340**	*i* PKPbc	**PKiKP**	**20 41 59.1**	**-0.2**
CEY	**Cerknica**	**150.45**	**342**	*e*P	**PKPbc**	**20 41 58.8**	**-0.1**
RUDO	**Rudo**	**150.48**	**333**	⇑*i*P	**PKPbc**	**20 41 58.4**	**-0.6**
SJES	**Sjenica**	**150.50**	**332**	⇓*i*P	**PKPbc**	**20 41 59.3**	**+0.1**
SMG	**Samos**	**150.54**	**317**	P	**PKPbc**	**20 41 58.2**	**-1.2**
OUR	**Ouranopolis**	**150.64**	**324**	P	**PKPbc**	**20 41 58.4**	**-1.1**
CHOS	**Chios island**	**150.64**	**319**	P	**PKPbc**	**20 41 59.1**	**-0.6**
KNT	**Kendrikon**	**150.66**	**326**	P	**PKPbc**	**20 41 58.6**	**-0.9**
FUORN	**Ofenpass-Fuorn**	**150.67**	**348**	PKPdf	**PKPdf**	**20 41 51.4**	**-2.1**
FUORN				PKPbc	**PKPbc**	**20 41 59.7**	**0.0**
MGRS	**Mrkonjic Grad**	**150.73**	**337**	*e*P	**PKPbc**	**20 41 58.2**	**-1.4**
SKDS	**Skadanscina**	**150.75**	**342**	*e*P	**PKPbc**	**20 41 58.1**	**-1.5**
UPM	**Unac-Piva**	**151.01**	**333**	⇑*i*P	**PKPbc**	**20 41 59.8**	**-0.7**
NEVS	**Nevesinje**	**151.27**	**335**	*e*P	**PKPbc**	**20 42 00.6**	**-0.3**
BRY	**Bratogost**	**151.42**	**334**	⇑*i*P	**PKPbc**	**20 42 00.8**	**-0.6**
PDG	**Podgorica**	**151.48**	**332**	⇑P	**PKPbc**	**20 42 01.2**	**-0.1**
PDG	**Podgorica**	**151.48**	**332**	PKPdf	**PKPdf**	**20 41 53.5**	**-0.9**
PDG				PKPbc	**PKPbc**	**20 42 00.5**	**-0.8**
PDG	**Podgorica**	**151.48**	**332**	⇓*i*P	**PKPbc**	**20 42 00.6**	**-0.7**
TEOL	**Teolo**	**151.55**	**345**	PKPdf	**PKPdf**	**20 41 54.1**	**-0.5**
TEOL					**PKPbc**	**20 42 01.1**	**-0.3**
TEOL				PKPab	**PKPab**	**20 42 12.6**	**-0.3**
TREB	**Trebinje**	**151.65**	**334**	*e*P	**PKPbc**	**20 42 00.8**	**-0.9**
DRME	**Dracevica, Mon**	**151.71**	**332**	*e*P	**PKPbc**	**20 41 59.5**	**-2.3**
FNA	**Florina**	**151.73**	**327**	P	**PKPbc**	**20 42 01.4**	**-0.6**
FNA	**Florina**	**151.73**	**327**	PKPdf	**PKPdf**	**20 41 53.0**	**-2.0**
FNA					**PKPbc**	**20 42 01.0**	**-1.0**
STON	**Ston**	**151.79**	**335**	*e*P	**PKPbc**	**20 42 01.2**	**-0.8**
HCY	**Herceg Novi**	**151.81**	**333**	⇑*i*P	**PKPbc**	**20 42 01.4**	**-0.7**
DION	**Dionisos Attik**	**152.15**	**320**	P	**PKiKP**	**20 42 03.2**	**+0.1**
NEST	**Nestorio**	**152.17**	**327**	P	**PKPbc**	**20 42 03.1**	**+0.1**
SANT	**Santorini**	**152.20**	**316**	⇑P	**PKPbc**	**20 42 00.3**	**-2.8**
PTL	**Penteli**	**152.21**	**320**	P	**PKPbc**	**20 42 03.1**	**0.0**
ATAL	**Atalanti**	**152.29**	**322**	P	**PKPbc**	**20 42 02.5**	**-0.7**
KPRO	**Kipourio**	**152.34**	**326**	P	**PKPbc**	**20 42 03.3**	**-0.1**
AGG	**Agios Georgios**	**152.47**	**324**	P	**PKPbc**	**20 42 02.3**	**-1.4**
MAKR	**Makrakomi, Fth**	**152.58**	**324**	P	**PKPbc**	**20 42 03.4**	**-0.5**
LSK	**Leskovik**	**152.59**	**327**	P	**PKPbc**	**20 42 03.6**	**-0.4**
EPID	**Epidavros**	**152.94**	**320**	P	**PKPbc**	**20 42 03.5**	**-1.2**
ANX	**Ano Chora**	**152.99**	**323**	P	**PKiKP**	**20 42 05.6**	**+0.6**
LAKA	**Lakka**	**153.20**	**323**	P	**PKiKP**	**20 42 05.6**	**+0.3**
MURB	**Monte Urbino**	**153.27**	**342**	PKPdf	**PKPdf**	**20 41 55.1**	**-2.1**
MURB				PKPbc	**PKPbc**	**20 42 04.8**	**-0.5**
ESDC	**Sonseca Array**	**157.94**	**12**	PKPab	**PKPab**	**20 42 39.5**	**-1.0**
	comp=Z,1.6nm,1.0s,baz=357,slow=3.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**175.09**	**180**	PKP	**PKPdf**	**20 42 15.9**	**-1.0**
	comp=Z,1.7nm,1.1s,baz=245,slow=2.4,SNR=7.4						

LDG ***20*** *20:27:34.2±0.1, 42°.69N×13°.18E, h10km, Ml2.7/12, Error ellipse: s-maj=3.3km s-min=2.1km az=37.0*
PDG ***20*** *20:27:34.3±0.4, 42°.67N×13°.14E, h5km±1km, ML3.5/12, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0*
ROM ***20*** *20:27:34.5±0.0, 42°.698N±0°.002×13°.162E±0°.002, h11km, ML3.0/225, Error ellipse: s-maj=0.2km s-min=0.1km az=77.0*
BEO ***20*** *20:27:37.0±0.9, 42°.45N×13°.39E, h0km, ML3.2/8*
PRU ***20*** *20:27:39.1, 42°.82N×13°.39E, h10km*
ISC 20 20:27:34.7±0.7,**42°.69N**±0°.01×**13°.15E**±0°.01,**h15**km±4km, **n214**,σ1§**47**/281,**21C-10D,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1214	**Arquata del Tr**	**0.09**	**32**	⇓P	**Pg**	**20 27 37.4**	**-0.7**
T1214				S	**Sg**	**20 27 39.1**	**-1.2**
T1214				AML	AML		
	comp=E,40600μm,0.3s						
T1214				AML	AML		
	comp=N,30500μm,0.2s						
T1214				AML	AML		
	comp=E,38250μm,0.3s						
T1214				AML	AML		
	comp=N,30750μm,0.2s						
T1214				AML	AML		
	comp=E,40600μm,0.3s						
T1214				AML	AML		
	comp=N,30550μm,0.2s						
T1214				AML	AML		
	comp=N,30514μm,0.2s						
T1214				AML	AML		
	comp=N,30715μm,0.2s						
T1214				AML	AML		
	comp=E,40578μm,0.3s						
T1214				AML	AML		
	comp=E,38256μm,0.3s						
LNSS	**Leonessa**	**0.12**	**223**	⇑P	**Pg**	**20 27 38.4**	**+0.1**
LNSS				S	**Sg**	**20 27 41.1**	**+0.5**
LNSS				AML	AML		
	comp=E,70100μm,0.2s						
LNSS				AML	AML		
	comp=N,77200μm,0.2s						
LNSS				AML	AML		
	comp=N,77177μm,0.2s						
LNSS				AML	AML		
	comp=E,70107μm,0.2s						
NRCA	**Norcia**	**0.15**	**351**	⇓P	**Pg**	**20 27 38.2**	**-0.6**
NRCA				S	**Sg**	**20 27 40.6**	**-0.8**
NRCA				AML	AML		
	comp=E,21350μm,0.6s						
NRCA				AML	AML		
	comp=N,22950μm,0.1s						
NRCA				AML	AML		
	comp=E,23250μm,0.6s						
NRCA				AML	AML		
	comp=N,24800μm,0.1s						
NRCA				AML	AML		
	comp=N,23000μm,0.1s						
NRCA				AML	AML		
	comp=N,24800μm,1.9s						
NRCA				AML	AML		
	comp=N,23000μm,1.9s						
NRCA				AML	AML		
	comp=E,23250μm,1.4s						
NRCA				AML	AML		
	comp=E,21350μm,1.4s						
NRCA				AML	AML		
	comp=N,24778μm,0.1s						
NRCA				AML	AML		
	comp=N,22974μm,0.1s						
NRCA				AML	AML		
	comp=E,20873μm,0.1s						
NRCA				AML	AML		
	comp=E,22328μm,0.1s						
SMA1	**SAN MARTINO**	**0.15**	**112**	⇑P	**Pg**	**20 27 38.6**	**-0.2**
SMA1				S	**Sg**	**20 27 41.4**	**0.0**
SMA1				AML	AML		
	comp=E,49800μm,1.4s						
SMA1				AML	AML		
	comp=N,27800μm,1.0s						
SMA1				AML	AML		
	comp=E,47372μm,0.2s						
SMA1				AML	AML		
	comp=N,26894μm,0.3s						
RM33	**Pellescritta (**	**0.18**	**164**	⇑*i*P	**Pg**	**20 27 39.4**	**+0.1**
RM33				S	**Sg**	**20 27 42.9**	**+0.6**
RM33				AML	AML		
	comp=E,10220μm,0.8s						
RM33				AML	AML		
	comp=N,12700μm,0.2s						
RM33				AML	AML		
	comp=N,12650μm,0.2s						
RM33				AML	AML		
	comp=N,12900μm,0.2s						
RM33				AML	AML		
	comp=E,10225μm,0.8s						
RM33				AML	AML		
	comp=E,9910μm,0.8s						
RM33				AML	AML		
	comp=E,8732μm,0.1s						
RM33				AML	AML		
	comp=E,8523μm,0.1s						
RM33				AML	AML		
	comp=N,10883μm,0.3s						
RM33				AML	AML		
	comp=N,11249μm,0.3s						
GAVE	**Gavelli**	**0.19**	**272**	⇑P	**Pg**	**20 27 39.3**	**0.0**
GAVE				S	**Sg**	**20 27 42.7**	**+0.4**
GAVE				AML	AML		
	comp=E,27400μm,0.8s						
GAVE				AML	AML		
	comp=N,5135μm,0.6s						
GAVE				AML	AML		
	comp=N,18150μm,0.2s						
GAVE				AML	AML		
	comp=E,27400μm,0.8s						
GAVE				AML	AML		
	comp=N,5135μm,1.4s						
GAVE				AML	AML		
	comp=E,25650μm,0.8s						
GAVE				AML	AML		
	comp=N,4872μm,0.2s						
GAVE				AML	AML		
	comp=N,18140μm,0.2s						
GAVE				AML	AML		
	comp=E,23050μm,0.2s						
GAVE				AML	AML		
	comp=E,23157μm,0.2s						
MTRA	**Matera**	**0.20**	**69**	⇑P	**Pg**	**20 27 39.0**	**-0.4**
MTRA				S	**Sg**	**20 27 41.9**	**-0.6**
MTRA				AML	AML		
	comp=E,46650μm,0.3s						
MTRA				AML	AML		
	comp=N,33550μm,0.6s						
MTRA				AML	AML		
	comp=E,46050μm,0.3s						
MTRA				AML	AML		
	comp=N,33500μm,0.6s						
MTRA				AML	AML		
	comp=N,33550μm,0.6s						
MTRA				AML	AML		
	comp=E,46650μm,0.3s						
MTRA				AML	AML		
	comp=E,46664μm,0.3s						
MTRA				AML	AML		
	comp=E,46054μm,0.3s						
MTRA				AML	AML		
	comp=N,28725μm,0.2s						
MTRA				AML	AML		
	comp=N,29134μm,0.2s						
MC2	**Monte Cornacci**	**0.23**	**8**	⇓*i*P	**Pg**	**20 27 39.5**	**-0.5**
MC2				S	**Sg**	**20 27 43.3**	**-0.2**
CAMP	**Campotosto**	**0.24**	**128**	⇑*i*P	**Pg**	**20 27 40.1**	**-0.1**
CAMP				S	**Sg**	**20 27 44.1**	**+0.2**
CAMP				AML	AML		
	comp=N,3165μm,1.6s						
CAMP				AML	AML		
	comp=E,3855μm,0.6s						
CAMP				AML	AML		
	comp=N,3165μm,0.4s						
CAMP				AML	AML		
	comp=E,3145μm,0.3s						
CAMP				AML	AML		
	comp=N,2987μm,0.3s						
MMO1	**Montemonaco**	**0.25**	**32**	⇓P	**Pg**	**20 27 39.8**	**-0.5**
MMO1				S	**Sg**	**20 27 43.7**	**-0.4**
T1247	**Pizzolo (AQ)**	**0.27**	**156**	⇑P	**Pb**	**20 27 40.7**	**-0.6**
T1247				S	**Sb**	**20 27 45.6**	**-0.1**
T1247				AML	AML		
	comp=N,6535μm,0.4s						
T1247				AML	AML		
	comp=E,7765μm,0.6s						
T1247				AML	AML		
	comp=N,6538μm,0.4s						
T1247				AML	AML		
	comp=E,6091μm,0.2s						
T1221	**Campello sul C**	**0.28**	**308**	⇑P	**Pg**	**20 27 40.7**	**-0.1**
T1221				S	**Sg**	**20 27 45.2**	**+0.3**
T1221				AML	AML		
	comp=E,3855μm,0.5s						
T1221				AML	AML		
	comp=E,4125μm,0.5s						
T1221				AML	AML		
	comp=N,4075μm,0.5s						
T1221				AML	AML		
	comp=E,3860μm,0.5s						
T1221				AML	AML		
	comp=N,4520μm,0.8s						
T1221				AML	AML		
	comp=E,4130μm,0.5s						
T1221				AML	AML		
	comp=N,4520μm,1.2s						
T1221				AML	AML		
	comp=E,3860μm,1.5s						
T1221				AML	AML		
	comp=E,4130μm,1.5s						
T1221				AML	AML		
	comp=N,4074μm,0.5s						
T1221				AML	AML		
	comp=N,4274μm,0.4s						
T1221				AML	AML		
	comp=E,3797μm,0.4s						
T1221				AML	AML		
	comp=E,3936μm,0.4s						
FEMA	**Monte Fema**	**0.28**	**345**	P	**Pg**	**20 27 40.5**	**-0.4**
FEMA				S	**Sg**	**20 27 45.0**	**-0.1**
FEMA				AML	AML		
	comp=E,9990μm,0.4s						
FEMA				AML	AML		
	comp=N,9890μm,0.5s						
FEMA				AML	AML		
	comp=E,9955μm,0.4s						
FEMA				AML	AML		
	comp=N,9865μm,0.5s						
FEMA				AML	AML		
	comp=N,9763μm,0.3s						
FEMA				AML	AML		
	comp=E,9555μm,0.3s						
ARRO	**Arrone**	**0.30**	**249**	⇑*i*P	**Pg**	**20 27 41.3**	**+0.2**
ARRO				S	**Sb**	**20 27 46.6**	**0.0**
ARRO				AML	AML		
	comp=E,6675μm,0.2s						
ARRO				AML	AML		
	comp=E,6675μm,1.8s						
ARRO				AML	AML		
	comp=N,4270μm,0.8s						
ARRO				AML	AML		
	comp=E,6675μm,0.2s						
ARRO				AML	AML		
	comp=N,4052μm,0.2s						
TERO	**Teramo**	**0.34**	**101**	P	**Pg**	**20 27 41.5**	**-0.4**
TERO				S	**Sb**	**20 27 46.5**	**-1.3**
TERO				AML	AML		
	comp=E,4300μm,0.7s						
TERO				AML	AML		
	comp=N,4210μm,0.6s						
TERO				AML	AML		
	comp=N,8830μm,1.1s						
TERO				AML	AML		
	comp=E,4300μm,0.7s						
TERO				AML	AML		
	comp=E,10300μm,0.2s						
TERO				AML	AML		
	comp=N,8830μm,0.9s						
TERO				AML	AML		
	comp=N,4210μm,0.6s						
TERO				AML	AML		
	comp=N,3438μm,0.1s						
TERO				AML	AML		
	comp=E,10307μm,0.1s						
TERO				AML	AML		
	comp=E,3812μm,0.1s						
TERO				AML	AML		
	comp=N,8211μm,0.2s						
FDMO	**Fiordimonte**	**0.35**	**353**	⇓*i*P	**Pg**	**20 27 41.6**	**-0.4**
FDMO				S	**Sg**	**20 27 47.0**	**+0.1**
FDMO				AML	AML		
	comp=E,2715μm,0.2s						
FDMO				AML	AML		
	comp=N,4375μm,0.4s						
FDMO				AML	AML		
	comp=N,4378μm,0.4s						
FDMO				AML	AML		
	comp=E,2714μm,0.2s						
CESI	**CESI - Serrava**	**0.36**	**331**	⇓*i*P	**Pg**	**20 27 42.0**	**-0.2**
CESI				S	**Sg**	**20 27 47.6**	**+0.3**
CESI				AML	AML		
	comp=E,3440μm,1.1s						
CESI				AML	AML		
	comp=N,6760μm,0.4s						
CESI				AML	AML		
	comp=N,6760μm,1.6s						
CESI				AML	AML		
	comp=E,3440μm,0.9s						
CESI				AML	AML		
	comp=N,6194μm,0.3s						
CESI				AML	AML		
	comp=E,2869μm,0.2s						
MF5	**Montefalcone A**	**0.38**	**37**	⇑*i*P	**Pg**	**20 27 42.4**	**-0.1**
MF5				S	**Sb**	**20 27 48.8**	**-0.1**
MF5				AML	AML		
	comp=E,6200μm,0.5s						
MF5				AML	AML		
	comp=N,6570μm,0.5s						
MF5				AML	AML		
	comp=E,6200μm,0.5s						
MF5				AML	AML		
	comp=N,6570μm,0.5s						
AQU	**L'Aquila**	**0.38**	**150**	P	**Pb**	**20 27 42.6**	**-0.6**
AQU				S	**Sb**	**20 27 49.0**	**0.0**
AQU				AML	AML		
	comp=E,1855μm,1.3s						
AQU				AML	AML		
	comp=N,2080μm,1.1s						
AQU				AML	AML		
	comp=E,1860μm,1.3s						
AQU				AML	AML		
	comp=N,2055μm,1.1s						
AQU				AML	AML		
	comp=E,1860μm,0.7s						
AQU				AML	AML		
	comp=E,1855μm,0.7s						
AQU				AML	AML		
	comp=N,2055μm,0.9s						
AQU				AML	AML		
	comp=N,2080μm,0.9s						
AQU				AML	AML		
	comp=E,1766μm,0.3s						
AQU				AML	AML		
	comp=E,1650μm,0.2s						
AQU				AML	AML		
	comp=N,1753μm,0.3s						
AQU				AML	AML		
	comp=N,1781μm,0.3s						
GIGS	**Gran Sasso**	**0.39**	**127**	⇑P	**Pg**	**20 27 42.3**	**-0.4**
GIGS				S	**Sb**	**20 27 48.2**	**-1.0**
GIGS				AML	AML		
	comp=E,1425μm,1.5s						
GIGS				AML	AML		
	comp=N,1375μm,0.4s						
GIGS				AML	AML		
	comp=E,1425μm,0.5s						
GIGS				AML	AML		
	comp=E,1169μm,0.2s						
GIGS				AML	AML		
	comp=N,1055μm,0.2s						
GUMA	**Gualdo di Mace**	**0.40**	**20**	⇑*i*P	**Pg**	**20 27 42.8**	**-0.1**
GUMA				S	**Sb**	**20 27 49.1**	**-0.4**
GUMA				AML	AML		
	comp=N,22000μm,0.3s						
GUMA				AML	AML		
	comp=N,18200μm,0.6s						
GUMA				AML	AML		
	comp=E,19400μm,0.3s						
GUMA				AML	AML		
	comp=E,29750μm,0.3s						
GUMA				AML	AML		
	comp=E,29737μm,0.3s						
GUMA				AML	AML		
	comp=N,21989μm,0.3s						
GUMA				AML	AML		
	comp=N,16811μm,0.2s						
GUMA				AML	AML		
	comp=E,19405μm,0.3s						
CSP1	**Cessapalombo**	**0.41**	**6**	P	**Pg**	**20 27 42.6**	**-0.4**
CSP1				S	**Sg**	**20 27 48.6**	**0.0**
CSP1				AML	AML		
	comp=N,6790μm,0.3s						
CSP1				AML	AML		
	comp=E,6445μm,0.4s						
CSP1				AML	AML		
	comp=N,6785μm,0.3s						
CSP1				AML	AML		
	comp=E,6445μm,1.6s						
CSP1				AML	AML		
	comp=N,6790μm,0.3s						
CSP1				AML	AML		
	comp=E,6445μm,0.4s						
FIAM	**Fiamignano**	**0.42**	**183**	⇑*i*P	**Pg**	**20 27 43.3**	**+0.1**
FIAM				S	**Sb**	**20 27 50.1**	**0.0**
FIAM				AML	AML		
	comp=E,4040μm,0.2s						
FIAM				AML	AML		
	comp=N,2905μm,0.3s						
FIAM				AML	AML		
	comp=N,2900μm,0.3s						
FIAM				AML	AML		
	comp=E,4036μm,0.2s						
FIAM				AML	AML		
	comp=N,2901μm,0.3s						
CESX	**Cesi**	**0.43**	**260**	⇑*i*P	**Pg**	**20 27 43.2**	**-0.1**
CESX				AML	AML		
	comp=N,3255μm,0.3s						
CESX				AML	AML		
	comp=E,2330μm,0.3s						
CESX				AML	AML		
	comp=N,3250μm,0.3s						
MOMA	**Monte Martano**	**0.44**	**286**	⇑*i*P	**Pg**	**20 27 43.5**	**-0.1**
MOMA				S	**Sb**	**20 27 50.8**	**+0.1**
MOMA				AML	AML		
	comp=E,3980μm,0.3s						
MOMA				AML	AML		
	comp=N,4180μm,1.1s						
MOMA				AML	AML		
	comp=N,4070μm,1.1s						
MOMA				AML	AML		
	comp=N,4180μm,1.1s						
MOMA				AML	AML		
	comp=N,4180μm,0.9s						
MOMA				AML	AML		
	comp=N,4070μm,0.9s						
MOMA				AML	AML		
	comp=E,3980μm,0.3s						
MOMA				AML	AML		
	comp=E,4085μm,0.3s						
MOMA				AML	AML		
	comp=N,3749μm,0.3s						
MOMA				AML	AML		
	comp=N,3647μm,0.3s						
MOMA				AML	AML		
	comp=E,3980μm,0.3s						
MOMA				AML	AML		
	comp=E,4085μm,0.3s						
OFFI	**Offida**	**0.47**	**58**	⇑*i*P	**Pb**	**20 27 44.4**	**-0.2**
OFFI				AML	AML		
	comp=E,5645μm,0.5s						
OFFI				AML	AML		
	comp=N,6805μm,0.3s						

OFFI				AML	AML		
	comp=N,6804µm,0.3s						
OFFI				AML	AML		
	comp=E,5056µm,0.5s						
SEF1	**Sefro**	**0.48**	**342**	P	**Pg**	**20 27 43.9**	**-0.4**
SEF1				S	**Sb**	**20 27 51.7**	**-0.1**
MDAR	**Monte D'Aria**	**0.51**	**360**	P	**Pg**	**20 27 44.3**	**-0.5**
MDAR				S	**Sg**	**20 27 51.9**	**+0.3**
PIO1	**Pioraco**	**0.51**	**346**	P	**Pg**	**20 27 44.3**	**-0.5**
PIO1				S	**Sg**	**20 27 51.9**	**+0.3**
ASSB	**Assisi San Ben**	**0.51**	**315**	⇑P	**Pg**	**20 27 44.4**	**-0.4**
ASSB				AML	AML		
	comp=E,3830µm,0.3s						
ASSB				AML	AML		
	comp=N,3825µm,0.3s						
ASSB				AML	AML		
	comp=E,3828µm,0.3s						
ASSB				AML	AML		
	comp=N,3412µm,0.2s						
MNTP	**Montappone**	**0.51**	**28**	P	**Pg**	**20 27 44.9**	**0.0**
FIU1	**Fiuminata**	**0.53**	**343**	P	**Pg**	**20 27 44.5**	**-0.7**
FIU1				S	**Sg**	**20 27 52.5**	**+0.3**
FAGN	**Fagnano**	**0.53**	**142**	P	**Pg**	**20 27 44.8**	**-0.4**
FAGN				AML	AML		
	comp=E,4410µm,0.4s						
FAGN				AML	AML		
	comp=N,2890µm,0.3s						
FAGN				AML	AML		
	comp=E,4410µm,1.6s						
FAGN				AML	AML		
	comp=E,4411µm,0.4s						
FAGN				AML	AML		
	comp=N,2889µm,0.3s						
SSM1	**San Severino M**	**0.54**	**2**	P	**Pg**	**20 27 44.9**	**-0.5**
SSM1				S	**Sb**	**20 27 53.2**	**-0.3**
MTL1	**Matelica**	**0.58**	**350**	P	**Pg**	**20 27 45.7**	**-0.4**
MTL1				S	**Sb**	**20 27 54.9**	**+0.3**
SNTG	**Esanatoglia**	**0.59**	**345**	P	**Pg**	**20 27 45.7**	**-0.7**
SNTG				AML	AML		
	comp=E,758µm,0.9s						
SNTG				AML	AML		
	comp=E,726µm,0.6s						
SNTG				AML	AML		
	comp=N,906µm,0.9s						
SNTG				AML	AML		
	comp=N,990µm,0.9s						
SNTG				AML	AML		
	comp=E,757µm,0.9s						
SNTG				AML	AML		
	comp=N,757µm,0.2s						
SNTG				AML	AML		
	comp=N,849µm,0.2s						
SNTG				AML	AML		
	comp=E,716µm,0.4s						
SNTG				AML	AML		
	comp=E,688µm,0.4s						
VCEL	**Villa Celiera**	**0.59**	**119**	P	**Pg**	**20 27 46.0**	**-0.4**
VCEL				S	**Sb**	**20 27 55.1**	**+0.1**
VCEL				AML	AML		
	comp=E,4925µm,0.2s						
VCEL				AML	AML		
	comp=N,4430µm,0.8s						
VCEL				AML	AML		
	comp=N,3962µm,0.2s						
VCEL				AML	AML		
	comp=E,4923µm,0.2s						
ATCC	**AVT- Casa Cast**	**0.62**	**323**	P	**Pg**	**20 27 46.5**	**-0.5**
ATCC				S	**Sg**	**20 27 55.9**	**+0.6**
ATCC				AML	AML		
	comp=N,1795µm,0.8s						
ATCC				AML	AML		
	comp=E,2130µm,0.5s						
ATCC				AML	AML		
	comp=E,2129µm,0.5s						
ATCC				AML	AML		
	comp=N,1395µm,0.5s						
EL6	**Elcito**	**0.64**	**357**	P	**Pg**	**20 27 46.7**	**-0.7**
EL6				S	**Sb**	**20 27 56.6**	**+0.1**
EL6				AML	AML		
	comp=E,1895µm,0.3s						
EL6				AML	AML		
	comp=N,2390µm,1.6s						
EL6				AML	AML		
	comp=N,2390µm,0.4s						
EL6				AML	AML		
	comp=N,2264µm,0.3s						
EL6				AML	AML		
	comp=E,1896µm,0.3s						
SRES	**S.Oreste - Sor**	**0.65**	**227**	P	**Pg**	**20 27 47.2**	**-0.3**
SRES				S	**Sb**	**20 27 58.1**	**+1.4**
SRES				AML	AML		
	comp=N,894µm,0.4s						
SRES				AML	AML		
	comp=E,1020µm,0.5s						
SRES				AML	AML		
	comp=N,894µm,0.4s						
SRES				AML	AML		
	comp=E,851µm,0.2s						
T0110	**Collepietro**	**0.66**	**134**	P	**Pg**	**20 27 47.0**	**-0.6**
T0110				AML	AML		
	comp=E,2045µm,0.4s						
T0110				AML	AML		
	comp=N,2385µm,0.3s						
T0110				AML	AML		
	comp=N,2384µm,0.3s						
T0110				AML	AML		
	comp=E,2044µm,0.4s						
FOSV	**Fossato di Vic**	**0.67**	**335**	P	**Pg**	**20 27 47.2**	**-0.6**
FOSV				S	**Sg**	**20 27 57.4**	**+0.6**
FOSV				AML	AML		
	comp=E,638µm,0.3s						
FOSV				AML	AML		
	comp=E,638µm,1.7s						
FOSV				AML	AML		
	comp=N,989µm,0.5s						
FOSV				AML	AML		
	comp=E,638µm,0.3s						
FOSV				AML	AML		
	comp=N,990µm,0.5s						
CADA	**Capodarco di F**	**0.68**	**41**	P	**Pb**	**20 27 48.6**	**+0.4**
CING	**Cingoli**	**0.69**	**3**	P	**Pg**	**20 27 47.4**	**-0.9**
CING				AML	AML		
	comp=N,985µm,0.4s						
CING				AML	AML		
	comp=E,1270µm,0.3s						
CING				AML	AML		
	comp=N,985µm,1.6s						
CING				AML	AML		
	comp=E,1271µm,0.3s						
CING				AML	AML		
	comp=N,913µm,0.3s						
PTQR	**Pietraquaria**	**0.69**	**164**	P	**Pg**	**20 27 47.7**	**-0.5**
PTQR				AML	AML		
	comp=E,466µm,0.7s						
PTQR				AML	AML		
	comp=N,448µm,1.4s						
PTQR				AML	AML		
	comp=N,448µm,0.6s						
PTQR				AML	AML		
	comp=N,431µm,0.3s						
PTQR				AML	AML		
	comp=E,357µm,0.3s						
CIMA	**Civitanova Mar**	**0.73**	**32**	P	**Pb**	**20 27 49.6**	**+0.5**
MTCE	**Montecelio**	**0.73**	**204**	P	**Pg**	**20 27 48.2**	**-0.7**
MTCE				AML	AML		
	comp=N,676µm,0.8s						
MTCE				AML	AML		
	comp=E,956µm,0.3s						
MTCE				AML	AML		
	comp=N,676µm,1.2s						
MTCE				AML	AML		
	comp=E,956µm,1.7s						
MTCE				AML	AML		
	comp=N,666µm,0.3s						
MTCE				AML	AML		
	comp=E,956µm,0.3s						
MURB	**Monte Urbino**	**0.73**	**322**	P	**Pg**	**20 27 48.6**	**-0.4**
MURB				AML	AML		
	comp=E,4930µm,0.3s						
MURB				AML	AML		
	comp=N,4720µm,0.3s						
MURB				AML	AML		
	comp=E,4935µm,0.3s						
MURB				AML	AML		
	comp=N,4895µm,0.3s						
MURB				AML	AML		
	comp=E,5415µm,0.3s						
MURB				AML	AML		
	comp=E,4933µm,0.2s						
MURB				AML	AML		
	comp=E,5417µm,0.3s						
MURB				AML	AML		
	comp=N,4894µm,0.3s						
MURB				AML	AML		
	comp=N,4723µm,0.3s						
CERT	**Cerreto**	**0.75**	**190**	P	**Pg**	**20 27 48.6**	**-0.7**
CERT				AML	AML		
	comp=N,1224µm,0.3s						
CERT				AML	AML		
	comp=E,2370µm,0.4s						
CERT				AML	AML		
	comp=N,1224µm,0.3s						
CERT				AML	AML		
	comp=E,2369µm,0.4s						
MMUR	**Monte Murano**	**0.76**	**352**	P	**Pg**	**20 27 48.9**	**-0.7**
PP3	**Marolino**	**0.77**	**26**	P	**Pb**	**20 27 49.7**	**-0.1**
PP3				AML	AML		
	comp=N,4520µm,0.6s						
PP3				AML	AML		
	comp=E,6615µm,0.4s						
PP3				AML	AML		
	comp=N,3705µm,0.7s						
PP3				AML	AML		
	comp=E,7325µm,0.5s						
PP3				AML	AML		
	comp=N,3702µm,0.7s						
PP3				AML	AML		
	comp=N,4521µm,0.6s						
PP3				AML	AML		
	comp=E,6618µm,0.4s						
PP3				AML	AML		
	comp=E,7323µm,0.5s						
ATTE	**AVT- Monte Tez**	**0.78**	**311**	P	**Pg**	**20 27 49.2**	**-0.6**
ATTE				AML	AML		
	comp=E,776µm,0.4s						
ATTE				AML	AML		
	comp=N,926µm,0.4s						
ATTE				AML	AML		
	comp=E,776µm,0.4s						
ATTE				AML	AML		
	comp=N,926µm,0.4s						
MGAB	**Montegabbione**	**0.80**	**287**	P	**Pg**	**20 27 49.8**	**-0.4**
MGAB				AML	AML		
	comp=E,2075µm,0.5s						
MGAB				AML	AML		
	comp=N,1820µm,1.5s						
MGAB				AML	AML		
	comp=E,2090µm,0.5s						
MGAB				AML	AML		
	comp=N,1820µm,0.5s						
MGAB				AML	AML		
	comp=N,1880µm,0.9s						
MGAB				AML	AML		
	comp=E,2090µm,1.5s						
MGAB				AML	AML		
	comp=E,2075µm,1.5s						
MGAB				AML	AML		
	comp=N,1678µm,0.4s						
MGAB				AML	AML		
	comp=N,1814µm,0.4s						
MGAB				AML	AML		
	comp=E,2090µm,0.5s						
MGAB				AML	AML		
	comp=E,2076µm,0.5s						
SSFR	**Montelago di S**	**0.80**	**340**	P	**Pg**	**20 27 49.4**	**-0.8**
SSFR				AML	AML		
	comp=E,1565µm,0.2s						
SSFR				AML	AML		
	comp=N,1785µm,0.3s						
SSFR				AML	AML		
	comp=E,1730µm,1.1s						
SSFR				AML	AML		
	comp=E,1565µm,1.8s						
SSFR				AML	AML		
	comp=N,1680µm,0.3s						
SSFR				AML	AML		
	comp=E,1534µm,0.2s						
SSFR				AML	AML		
	comp=E,1562µm,0.2s						
SSFR				AML	AML		
	comp=N,1786µm,0.3s						
SSFR				AML	AML		
	comp=N,1678µm,0.3s						
ATFO	**Monte Foce - G**	**0.80**	**328**	P	**Pg**	**20 27 49.6**	**-0.7**
ATFO				AML	AML		
	comp=E,684µm,0.7s						
ATFO				AML	AML		
	comp=N,799µm,0.5s						
ATFO				AML	AML		
	comp=E,684µm,1.3s						
ATFO				AML	AML		
	comp=E,667µm,0.4s						
ATFO				AML	AML		
	comp=N,799µm,0.5s						
ATSC	**Scheggia e Pas**	**0.81**	**336**	P	**Pg**	**20 27 49.6**	**-0.9**
ARVD	**Arcevia**	**0.82**	**350**	P	**Pg**	**20 27 49.8**	**-0.9**
ARVD				S	**Sb**	**20 28 02.3**	**+0.7**
ARVD				AML	AML		
	comp=E,620µm,1.5s						
ARVD				AML	AML		
	comp=N,676µm,0.6s						
ARVD				AML	AML		
	comp=N,676µm,0.6s						
ARVD				AML	AML		
	comp=E,566µm,0.3s						
ATLO	**AVT- Montelove**	**0.83**	**319**	P	**Pg**	**20 27 50.2**	**-0.6**
ATLO				S	**Sb**	**20 28 02.4**	**+0.6**
RCAV	**Rocca di Cave**	**0.85**	**190**	P	**Pg**	**20 27 50.6**	**-0.7**
RCAV				AML	AML		
	comp=E,1190µm,0.5s						
RCAV				AML	AML		
	comp=N,1002µm,0.5s						
RCAV				AML	AML		
	comp=N,981µm,0.6s						
RCAV				AML	AML		
	comp=E,1190µm,0.5s						
ATVA	**AVT- Monte Val**	**0.87**	**313**	P	**Pg**	**20 27 51.0**	**-0.5**
ATVA				S	**Sg**	**20 28 03.3**	**+0.3**
INTR	**Introdacqua**	**0.88**	**140**	P	**Pg**	**20 27 50.5**	**-1.3**
INTR				AML	AML		
	comp=E,670nm,0.7s						
INTR				AML	AML		
	comp=N,860nm,0.9s						
INTR				AML	AML		
	comp=E,671nm,0.7s						
INTR				AML	AML		
	comp=E,682µm,0.7s						
INTR				AML	AML		
	comp=N,1280µm,0.9s						
INTR				AML	AML		
	comp=N,860nm,1.1s						
INTR				AML	AML		
	comp=N,1280µm,1.1s						
INTR				AML	AML		
	comp=N,1119µm,0.4s						
INTR				AML	AML		
	comp=N,804nm,0.4s						
INTR				AML	AML		
	comp=E,658µm,0.6s						
INTR				AML	AML		
	comp=E,662nm,0.7s						
ATVO	**AVT- Monte Val**	**0.88**	**322**	P	**Pg**	**20 27 51.0**	**-0.8**
ATVO				AML	AML		
	comp=E,698µm,1.3s						
ATVO				AML	AML		
	comp=N,663µm,0.8s						
ATVO				AML	AML		
	comp=N,571µm,0.5s						
ATVO				AML	AML		
	comp=E,623µm,0.3s						
FRON	**Frontone**	**0.89**	**340**	P	**Pg**	**20 27 50.8**	**-1.1**
FRON				AML	AML		
	comp=E,688µm,0.9s						
FRON				AML	AML		
	comp=N,976µm,0.7s						
FRON				AML	AML		
	comp=N,976µm,1.3s						
FRON				AML	AML		
	comp=N,975µm,0.7s						
FRON				AML	AML		
	comp=E,609µm,0.3s						
VVLD	**Villa Vallelon**	**0.89**	**156**	P	**Pg**	**20 27 51.5**	**-0.5**
VVLD				AML	AML		
	comp=N,710µm,0.4s						
VVLD				AML	AML		
	comp=E,607µm,0.5s						
VVLD				AML	AML		
	comp=N,711µm,0.4s						
VVLD				AML	AML		
	comp=E,607µm,0.5s						
GUAR	**Guarcino**	**0.90**	**172**	P	**Pb**	**20 27 52.3**	**+0.3**
GUAR				AML	AML		
	comp=E,658µm,0.6s						
GUAR				AML	AML		
	comp=E,658µm,1.4s						
GUAR				AML	AML		
	comp=N,945µm,0.5s						
GUAR				AML	AML		
	comp=E,658µm,0.6s						
GUAR				AML	AML		
	comp=N,945µm,0.5s						
ATBU	**Serra di Buran**	**0.90**	**331**	P	**Pg**	**20 27 51.8**	**-0.5**
ATMI	**Monte Miggiano**	**0.91**	**315**	P	**Pg**	**20 27 52.0**	**-0.5**
ATMI				AML	AML		
	comp=N,2725µm,0.8s						
ATMI				AML	AML		
	comp=E,2610µm,0.8s						
ATMI				AML	AML		
	comp=N,2725µm,1.2s						
ATMI				AML	AML		
	comp=E,2610µm,1.2s						
ATMI				AML	AML		
	comp=N,2515µm,0.4s						
ATMI				AML	AML		
	comp=E,2387µm,0.3s						
AOI	**Ancona**	**0.93**	**21**	P	**Pg**	**20 27 51.7**	**-0.9**
SACS	**San Casciano d**	**0.93**	**280**	P	**Pg**	**20 27 52.1**	**-0.6**
SACS				AML	AML		
	comp=E,657µm,0.6s						
SACS				AML	AML		
	comp=N,775µm,0.9s						
SACS				AML	AML		
	comp=N,797µm,0.9s						
SACS				AML	AML		
	comp=E,656µm,0.6s						
SACS				AML	AML		
	comp=N,776µm,0.9s						
SACS				AML	AML		
	comp=E,634µm,0.6s						
SACS				AML	AML		
	comp=N,797µm,0.9s						
SACS				AML	AML		
	comp=N,776µm,0.9s						
SACS				AML	AML		
	comp=E,657µm,0.6s						
SACS				AML	AML		
	comp=E,634µm,0.6s						
RMP	**Rome, Mte Porz**	**0.94**	**201**	P	**Pg**	**20 27 52.2**	**-0.7**
ATPI	**Pietralunga -**	**0.94**	**325**	P	**Pg**	**20 27 52.1**	**-0.8**
ATPI				AML	AML		
	comp=E,720µm,0.6s						
ATPI				AML	AML		
	comp=N,480µm,0.7s						
ATPI				AML	AML		
	comp=E,720µm,0.6s						
ATPI				AML	AML		
	comp=N,480µm,0.7s						
ATPC	**Poggio Castell**	**0.94**	**328**	P	**Pg**	**20 27 52.3**	**-0.7**
COR1	**Corinaldo**	**0.95**	**354**	P	**Pg**	**20 27 52.9**	**-0.3**
COR1				AML	AML		
	comp=E,1014µm,1.1s						
COR1				AML	AML		
	comp=E,1654µm,0.8s						
COR1				AML	AML		
	comp=E,928µm,0.5s						
COR1				AML	AML		
	comp=N,3855µm,1.0s						
COR1				AML	AML		
	comp=N,1475µm,0.5s						
PIEI	**Pieia**	**0.96**	**332**	P	**Pg**	**20 27 52.3**	**-1.0**
PIEI				AML	AML		
	comp=E,411µm,1.1s						
PIEI				AML	AML		
	comp=N,689µm,0.3s						
PIEI				AML	AML		
	comp=N,689µm,0.3s						
PIEI				AML	AML		
	comp=E,397µm,0.3s						
PCRO	**Pietralacroce**	**0.96**	**17**	P	**Pg**	**20 27 52.7**	**-0.7**
VIVA	**Pratoni del Vi**	**0.98**	**197**	P	**Pg**	**20 27 53.5**	**-0.1**
RDP	**Rocca di Papa**	**0.98**	**199**	P	**Pn**	**20 27 54.3**	**+0.3**
MPAG	**Monte Paganucc**	**0.98**	**343**	P	**Pg**	**20 27 52.8**	**-1.0**
MPAG				AML	AML		
	comp=E,571µm,0.9s						
MPAG				AML	AML		
	comp=N,510µm,1.1s						
MPAG				AML	AML		
	comp=N,510µm,0.9s						
MPAG				AML	AML		
	comp=E,499µm,0.3s						
MPAG				AML	AML		
	comp=E,537µm,0.3s						
MPAG				AML	AML		
	comp=N,559µm,0.5s						
MPAG				AML	AML		
	comp=N,488µm,0.6s						
MA9	**Marino**	**0.98**	**202**	P	**Pb**	**20 27 54.1**	**+0.6**
LPEL	**Lama dei Pelig**	**1.00**	**129**	P	**Pg**	**20 27 52.7**	**-1.3**
LPEL				AML	AML		
	comp=N,642µm,0.5s						
LPEL				AML	AML		
	comp=N,634µm,0.3s						
LPEL				AML	AML		
	comp=E,692µm,0.6s						
SENI	**Senigallia**	**1.02**	**3**	P	**Pb**	**20 27 54.5**	**+0.5**
APEC	**Apecchio**	**1.02**	**329**	P	**Pg**	**20 27 53.8**	**-0.7**
APEC				AML	AML		
	comp=N,968µm,0.8s						
APEC				AML	AML		
	comp=E,622µm,0.7s						
APEC				AML	AML		
	comp=N,979µm,1.7s						
APEC				AML	AML		
	comp=N,971µm,0.8s						
APEC				AML	AML		
	comp=E,622µm,0.7s						
APEC				AML	AML		
	comp=E,802µm,0.9s						
ATMC	**Monte Cedrone**	**1.03**	**318**	P	**Pg**	**20 27 54.1**	**-0.6**
TOLF	**Tolfa**	**1.05**	**234**	P	**Pg**	**20 27 54.4**	**-0.6**
TOLF				AML	AML		
	comp=E,478µm,0.6s						
TOLF				AML	AML		
	comp=N,424µm,0.3s						
TOLF				AML	AML		
	comp=E,477µm,0.6s						
TOLF				AML	AML		
	comp=N,423µm,0.3s						
BADI	**Badiali**	**1.05**	**321**	P	**Pg**	**20 27 54.5**	**-0.6**
POFI	**Posta Fibreno**	**1.06**	**156**	P	**Pg**	**20 27 54.4**	**-0.8**
POFI				AML	AML		
	comp=E,304µm,1.1s						
POFI				AML	AML		
	comp=N,240µm,0.4s						
POFI				AML	AML		
	comp=E,329µm,1.1s						
POFI				AML	AML		
	comp=N,240µm,0.4s						
POFI				AML	AML		
	comp=E,329µm,0.9s						
POFI				AML	AML		
	comp=E,304µm,0.9s						
POFI				AML	AML		
	comp=E,285µm,0.5s						
POFI				AML	AML		
	comp=E,287µm,0.5s						
POFI				AML	AML		
	comp=N,240µm,0.4s						
POFI				AML	AML		
	comp=N,240µm,0.4s						
LAV9	**Lanuvio**	**1.06**	**198**	P	**Pb**	**20 27 55.2**	**+0.4**
CAFI	**Castiglion Fio**	**1.08**	**307**	P	**Pg**	**20 27 54.7**	**-0.9**
CAFI				AML	AML		
	comp=E,488µm,0.6s						
CAFI				AML	AML		
	comp=N,428µm,0.5s						
CAFI				AML	AML		
	comp=E,480µm,0.5s						
CAFI				AML	AML		
	comp=N,408µm,0.4s						
CAFI				AML	AML		

	comp=N,428µm,1.5s					
CAFI			AML	AML		
	comp=E,488µm,0.6s					
CAFI			AML	AML		
	comp=E,480µm,0.5s					
CAFI			AML	AML		
	comp=N,408µm,0.4s					
CAFI			AML	AML		
	comp=N,428µm,0.5s					
SF03	**Valle Cupa**	**1.08 277**	P	**Pb**	**20 27 54.8**	**-0.4**
MCIV	**Monte Civitell**	**1.09 275**	P	**Pb**	**20 27 55.1**	**-0.1**
MCIV			AML	AML		
	comp=N,264µm,0.4s					
MCIV			AML	AML		
	comp=E,267µm,0.4s					
MCIV			AML	AML		
	comp=N,264µm,0.5s					
MCIV			AML	AML		
	comp=E,267µm,0.4s					
LRP	**Arpino**	**1.09 162**	P	**Pn**	**20 27 55.8**	**+0.4**
LRP			AML	AML		
	comp=E,400µm,0.7s					
LRP			AML	AML		
	comp=N,332µm,0.6s					
LRP			AML	AML		
	comp=E,400µm,1.3s					
LRP			AML	AML		
	comp=N,332µm,1.4s					
LRP			AML	AML		
	comp=E,333µm,0.4s					
LRP			AML	AML		
	comp=N,332µm,0.6s					
SF11	**Podere del Sol**	**1.10 280**	P	**Pb**	**20 27 55.6**	**+0.2**
SF04	**Casetta**	**1.10 278**	P	**Pb**	**20 27 54.9**	**-0.6**
SF04			AML	AML		
	comp=N,374µm,0.3s					
SF04			AML	AML		
	comp=E,528µm,0.3s					
SF04			AML	AML		
	comp=N,374µm,0.3s					
SF04			AML	AML		
	comp=E,528µm,0.3s					
PE3	**Peglio**	**1.11 335**	P	**Pb**	**20 27 55.6**	**-0.1**
GIUL	**Giuliano Di Ro**	**1.13 176**	P	**Pb**	**20 27 55.5**	**-0.4**
GIUL			AML	AML		
	comp=N,340µm,0.6s					
GIUL			AML	AML		
	comp=E,333µm,0.8s					
GIUL			AML	AML		
	comp=N,340µm,0.6s					
GIUL			AML	AML		
	comp=E,333µm,0.8s					
SF14	**Selvena**	**1.13 274**	P	**Pb**	**20 27 55.5**	**-0.4**
SF13	**Bagnolo**	**1.13 277**	P	**Pb**	**20 27 56.2**	**+0.2**
SSP9	**Sansepolcro**	**1.16 320**	P	**Pb**	**20 27 56.2**	**-0.2**
PARC	**Parchiule**	**1.17 326**	P	**Pb**	**20 27 56.4**	**-0.2**
PARC			AML	AML		
	comp=E,460µm,0.7s					
PARC			AML	AML		
	comp=N,360µm,1.5s					
PARC			AML	AML		
	comp=N,360µm,0.5s					
PARC			AML	AML		
	comp=N,344µm,0.4s					
PARC			AML	AML		
	comp=E,460µm,0.7s					
SF01	**Poggio Pratacc**	**1.17 277**	P	**Pb**	**20 27 56.2**	**-0.5**
LATB	**Latina**	**1.20 187**	P	**Pb**	**20 27 55.9**	**-1.2**
RNI2	**Rionero Sannit**	**1.23 142**	P	**Pn**	**20 27 57.1**	**-0.4**
ARCI	**Arcidosso**	**1.24 278**	P	**Pn**	**20 27 58.2**	**+0.5**
ARCI			AML	AML		
	comp=N,105µm,0.7s					
ARCI			AML	AML		
	comp=E,107µm,0.4s					
ARCI			AML	AML		
	comp=E,107µm,0.4s					
ARCI			AML	AML		
	comp=N,105µm,0.7s					
CERA	**Filignano**	**1.27 149**	P	**Pn**	**20 27 57.6**	**-0.3**
CPGN	**Carpegna, Ital**	**1.27 332**	P	**Pb**	**20 27 58.9**	**+0.5**
PESA	**Pesaro**	**1.27 350**	P	**Pn**	**20 27 58.4**	**+0.4**
PESA			AML	AML		
	comp=N,672µm,0.6s					
PESA			AML	AML		
	comp=N,672µm,1.4s					
PESA			AML	AML		
	comp=E,739µm,0.4s					
PESA			AML	AML		
	comp=N,624µm,0.3s					
PESA			AML	AML		
	comp=E,739µm,0.4s					
CRE	**Caprese Michel**	**1.28 317**	P	**Pn**	**20 27 58.2**	**+0.1**
CRE			AML	AML		
	comp=N,298µm,0.4s					
CRE			AML	AML		
	comp=E,241µm,0.5s					
CRE			AML	AML		
	comp=N,298µm,0.4s					
CRE			AML	AML		
	comp=E,241µm,0.5s					
MCI	**Monte Cassino**	**1.30 157**	P	**Pn**	**20 27 58.4**	**+0.1**
MIDA	**Miranda**	**1.33 141**	P	**Pn**	**20 27 58.2**	**-0.5**
MIDA			AML	AML		
	comp=E,263µm,0.8s					
MIDA			AML	AML		
	comp=N,610µm,1.6s					
MIDA			AML	AML		
	comp=E,264µm,0.9s					
MIDA			AML	AML		
	comp=N,286µm,0.5s					
MIDA			AML	AML		
	comp=N,610µm,0.4s					
MIDA			AML	AML		
	comp=N,570µm,1.2s					
MIDA			AML	AML		
	comp=N,287µm,0.5s					
MIDA			AML	AML		
	comp=E,263µm,0.9s					
MIDA			AML	AML		
	comp=E,263µm,0.8s					
TRIV	**Trivento**	**1.39 131**	P	**Pg**	**20 28 01.4**	**-0.1**
TRIV			AML	AML		
	comp=E,315µm,0.8s					
TRIV			AML	AML		
	comp=N,206µm,0.6s					
TRIV			AML	AML		
	comp=E,308µm,0.7s					
TRIV			AML	AML		
	comp=N,226µm,0.6s					
TRIV			AML	AML		
	comp=E,309µm,0.7s					
TRIV			AML	AML		
	comp=E,315µm,0.8s					
TRIV			AML	AML		
	comp=N,226µm,0.6s					
TRIV			AML	AML		
	comp=N,207µm,0.6s					
VAGA	**Valle Agricola**	**1.51 147**	P	**Pb**	**20 28 02.3**	**-0.1**
MAON	**Monte Argentar**	**1.51 261**	P	**Pn**	**20 28 01.6**	**+0.4**
MAON			AML	AML		
	comp=E,115µm,0.4s					
MAON			AML	AML		
	comp=N,101µm,1.1s					
MAON			AML	AML		
	comp=E,115µm,1.6s					
MAON			AML	AML		
	comp=N,101µm,0.9s					
MAON			AML	AML		
	comp=E,115µm,0.4s					
MAON			AML	AML		
	comp=N,88µm,0.4s					
RIBO	**Ribolla Roccas**	**1.57 280**	P	**Pn**	**20 28 02.7**	**+0.7**
RIBO	**Ribolla Roccas**	**1.57 280**	AML	AML		
	comp=E,121µm,0.9s					
SGG	**Gregorio Mates**	**1.59 144**	P	**Pg**	**20 28 04.9**	**-0.4**
MODR	**Mondragone**	**1.63 160**	P	**Pn**	**20 28 03.9**	**+1.0**
PIGN	**Pignataro Magg**	**1.67 152**	P	**Pb**	**20 28 05.3**	**+0.1**
CASP	**Castiglione de**	**1.69 274**	P	**Pn**	**20 28 04.0**	**+0.4**
CASP			AML	AML		
	comp=N,60µm,1.0s					
CASP			AML	AML		
	comp=N,60µm,1.0s					
CASP			AML	AML		
	comp=E,65µm,0.6s					
CASP			AML	AML		
	comp=N,47µm,0.9s					
TRIF	**Trifonti**	**1.70 285**	P	**Pn**	**20 28 04.7**	**+0.8**
TRIF			AML	AML		
	comp=N,122µm,0.5s					
TRIF			AML	AML		
	comp=E,98µm,0.8s					
TRIF			AML	AML		
	comp=E,88µm,0.5s					
TRIF			AML	AML		
	comp=N,122µm,0.6s					
MELA	**Melanico ??? S**	**1.77 123**	P	**Pb**	**20 28 06.8**	**0.0**
MELA			AML	AML		
	comp=E,401µm,1.3s					
MELA			AML	AML		
	comp=N,530µm,0.5s					
MELA			AML	AML		
	comp=E,401µm,0.7s					
MELA			AML	AML		
	comp=E,395µm,0.4s					
MELA			AML	AML		
	comp=E,438µm,0.4s					
MELA			AML	AML		
	comp=N,669µm,0.6s					
MELA			AML	AML		
	comp=N,530µm,0.6s					
APRC	**Apricena**	**2.01 117**	P	**Pb**	**20 28 09.8**	**-1.1**
APRC			AML	AML		
	comp=E,212µm,1.2s					
APRC			AML	AML		
	comp=N,285µm,0.4s					
APRC			AML	AML		
	comp=E,212µm,0.8s					
APRC			AML	AML		
	comp=N,285µm,1.6s					
APRC			AML	AML		
	comp=N,1236µm,0.8s					
APRC			AML	AML		
	comp=E,189µm,0.3s					
APRC			AML	AML		
	comp=N,285µm,0.4s					
APRC			AML	AML		
	comp=E,188µm,0.4s					
SGRT	**San Giovanni R**	**2.14 115**	P	**Pb**	**20 28 11.9**	**-1.4**
SGRT			AML	AML		
	comp=N,169µm,0.6s					
SGRT			AML	AML		
	comp=E,226µm,0.3s					
SGRT			AML	AML		
	comp=N,169µm,1.4s					
SGRT			AML	AML		
	comp=N,161µm,0.5s					
SGRT			AML	AML		
	comp=E,226µm,0.3s					
POPM	**Popiglio**	**2.21 309**	P	**Pn**	**20 28 11.5**	**+0.6**
POPM			AML	AML		
	comp=E,53µm,1.1s					
POPM			AML	AML		
	comp=N,44µm,0.8s					
POPM			AML	AML		
	comp=N,44µm,1.2s					
POPM			AML	AML		
	comp=N,42µm,0.4s					
POPM			AML	AML		
	comp=E,53µm,1.1s					
BRJN	**Brijuni**	**2.26 11**	P	**Pn**	**20 28 12.1**	**+0.6**
SGTA	**Sant Agata di**	**2.27 132**	P	**Pb**	**20 28 14.8**	**-0.6**
HVAR	**Hvar**	**2.47 77**	P	**Pn**	**20 28 15.4**	**+1.0**
PALZ	**Palazzo San Ge**	**2.73 129**	P	**Pn**	**20 28 20.2**	**+2.2**
PALZ			AML	AML		
	comp=N,129µm,0.7s					
PALZ			AML	AML		
	comp=N,129µm,1.3s					
PALZ			AML	AML		
	comp=E,134µm,1.0s					
PALZ			AML	AML		
	comp=N,129µm,0.7s					
PALZ			AML	AML		
	comp=E,134µm,1.0s					
MRVN	**Minervino Murg**	**2.80 124**	P	**Pn**	**20 28 20.6**	**+1.6**
MRVN			AML	AML		
	comp=E,36µm,0.5s					
MRVN			AML	AML		
	comp=N,40µm,0.9s					
MRVN			AML	AML		
	comp=E,36µm,1.5s					
MRVN			AML	AML		
	comp=N,40µm,0.4s					
MRVN			AML	AML		
	comp=E,36µm,0.5s					
PZUN	**Potenza**	**2.85 135**	AML	AML		
	comp=E,109µm,0.7s					
PZUN			AML	AML		
	comp=E,61µm,0.2s					
PZUN			AML	AML		
	comp=N,139µm,0.1s					
PZUN			AML	AML		
	comp=N,139µm,0.1s					
PZUN			AML	AML		
	comp=E,55µm,0.1s					
PZUN			AML	AML		
	comp=N,160µm,0.8s					
SBPO	**S.Benedetto Po**	**2.86 326**	AML	AML		
	comp=N,1898µm,1.7s					
SBPO			AML	AML		
	comp=E,2162µm,0.1s					
SKDS	**Skadanscina**	**2.93 12**	*e*Pn	**Pn**	**20 28 19.9**	**-0.8**
PGF	**Pioggiola**	**3.06 269**	*e*P	**Pn**	**20 28 24.4**	**+1.7**
PGF			*e*Sn	**Sn**	**20 28 56.2**	**-2.9**
	comp=E,4.0nm,0.4s					
PGF	**Pioggiola**	**3.06 269**	AML	AML		
	comp=E,29µm,1.6s					
PGF			AML	AML		
	comp=E,29µm,0.4s					
PGF			AML	AML		
	comp=N,33µm,1.6s					
PGF			AML	AML		
	comp=N,40µm,2.0s					
PGF			AML	AML		
	comp=E,35µm,2.7s					
AMUR	**Altamura**	**3.14 123**	P	**Pn**	**20 28 25.5**	**+1.9**
AMUR			AML	AML		
	comp=N,69µm,1.3s					
AMUR			AML	AML		
	comp=E,68µm,1.0s					
AMUR			AML	AML		
	comp=E,62µm,0.4s					
AMUR			AML	AML		
	comp=N,63µm,0.3s					
CEY	**Cerknica**	**3.19 16**	*e*Pn	**Pn**	**20 28 26.4**	**+2.1**
BOJS	**Bojanci**	**3.20 28**	*e*Pn	**Pn**	**20 28 26.1**	**+1.7**
BOJS	**Bojanci**	**3.20 28**	AML	AML		
	comp=E,100µm,1.1s					
BOJS			AML	AML		
	comp=E,100µm,0.9s					
BOJS			AML	AML		
	comp=N,75µm,1.5s					
BOJS			AML	AML		
	comp=N,75µm,0.5s					
BOJS			AML	AML		
	comp=N,72µm,0.5s					
BOJS			AML	AML		
	comp=E,100µm,0.9s					
SRKY	**Kupres RS**	**3.24 63**	*e*Pn	**Pn**	**20 28 27.0**	**+1.9**
MGRS	**Mrkonjic Grad**	**3.34 58**	*e*Pn	**Pn**	**20 28 28.0**	**+1.6**
STON	**Ston**	**3.36 85**	*e*Pn	**Pn**	**20 28 27.6**	**+1.1**
STON			*e*Sn	**Sn**	**20 29 07.2**	**+1.1**
STON	**Ston**	**3.36 85**	*e*Pn	**Pn**	**20 28 27.6**	**+1.1**
STON	**Ston**	**3.36 85**	AML	AML		
	comp=E,52µm,0.3s					
STON			AML	AML		
	comp=N,45µm,0.3s					
STON			AML	AML		
	comp=N,45µm,0.3s					
STON			AML	AML		
	comp=E,52µm,0.3s					
LTRZ	**Laterza**	**3.45 126**	P	**Pn**	**20 28 30.0**	**+2.2**
LTRZ			AML	AML		
	comp=E,168µm,0.5s					
LTRZ			AML	AML		
	comp=N,2431µm,2.3s					
LTRZ			AML	AML		
	comp=E,37µm,0.5s					
LTRZ			AML	AML		
	comp=N,231µm,1.2s					
DOSS	**Dosso del Somm**	**3.49 337**	P	**Pn**	**20 28 30.2**	**+1.7**
NOCI	**Noci**	**3.49 122**	P	**Pn**	**20 28 30.4**	**+1.9**
NOCI			AML	AML		
	comp=E,52µm,0.5s					
NOCI			AML	AML		
	comp=N,59µm,0.8s					
NOCI			AML	AML		
	comp=N,59µm,1.2s					
NOCI			AML	AML		
	comp=E,52µm,0.5s					
NOCI			AML	AML		
	comp=N,52µm,0.5s					
CTI	**Castel Tesino**	**3.53 343**	P	**Pn**	**20 28 30.8**	**+1.7**
CTI			AML	AML		
	comp=E,65µm,1.4s					
CTI			AML	AML		
	comp=N,74µm,1.6s					
CTI			AML	AML		
	comp=N,74µm,0.4s					
CTI			AML	AML		
	comp=E,65µm,0.6s					
CTI			AML	AML		
	comp=N,60µm,0.3s					
CTI			AML	AML		
	comp=E,60µm,0.4s					
CRES	**Cresnjev**	**3.55 27**	*e*Pn	**Pn**	**20 28 30.8**	**+1.5**
A051A	**Mrakovica**	**3.58 48**	*e*Pn	**Pn**	**20 28 31.2**	**+1.5**
BLY	**Banja Luka**	**3.58 53**	*e*Pn	**Pb**	**20 28 34.2**	**-3.5**
BLY	**Banja Luka**	**3.58 53**	*e*Pn	**Pn**	**20 28 31.1**	**+1.5**
STAL	**STALIGIAL**	**3.59 355**	AML	AML		
	comp=N,69µm,0.9s					
STAL			AML	AML		
	comp=N,69µm,1.1s					
STAL			AML	AML		
	comp=E,71µm,0.2s					
NEVS	**Nevesinje**	**3.69 79**	*e*Pn	**Pn**	**20 28 33.3**	**+2.1**
PTCC	**Patocco-Chiusa**	**3.72 2**	AML	AML		
	comp=E,26µm,0.8s					
PTCC			AML	AML		
	comp=N,30µm,0.6s					
PTCC			AML	AML		
	comp=E,26µm,1.2s					
PTCC			AML	AML		
	comp=N,30µm,0.6s					
PTCC			AML	AML		
	comp=E,26µm,0.8s					
TREB	**Trebinje**	**3.83 88**	*e*Pn	**Pn**	**20 28 34.2**	**+1.0**
TREB			*e*Sn	**Sn**	**20 29 18.0**	**+0.1**
TREB	**Trebinje**	**3.83 88**	*e*Pn	**Pn**	**20 28 34.1**	**+0.9**
ZOU	**Zoufplan**	**3.87 358**	AML	AML		
	comp=N,106µm,1.4s					
ZOU			AML	AML		
	comp=E,82µm,1.2s					
ZOU			AML	AML		
	comp=E,30µm,1.3s					
ZOU			AML	AML		
	comp=N,27µm,1.0s					
OBKA	**Obir**	**3.95 14**	*i* Pn	**Pn**	**20 28 34.9**	**+0.1**
	comp=N,0.2nm,0.1s					
OBKA			*i* Sn	**Sn**	**20 29 22.1**	**+1.1**
	comp=N,6.1nm,0.4s					
OBKA	**Obir**	**3.95 14**	*e*Pn	**Pn**	**20 28 35.8**	**+1.0**
HCY	**Herceg Novi**	**3.96 92**	*e*Pn	**Pn**	**20 28 35.8**	**+1.0**
HCY	**Herceg Novi**	**3.96 92**	⇓*i*Pn	**Pn**	**20 28 36.5**	**+1.7**
HCY			*i* Sn	**Sn**	**20 29 23.4**	**+2.5**
BRY	**Bratogost**	**3.97 85**	*e*Pn	**Pn**	**20 28 36.3**	**+1.1**
BRY	**Bratogost**	**3.97 85**	⇑*i*Pn	**Pn**	**20 28 37.0**	**+1.8**
BRY			*i* Sn	**Sn**	**20 29 23.8**	**+2.2**
ABTA	**Abfaltersbach**	**4.08 354**	*i* Pn	**Pn**	**20 28 38.0**	**+1.3**
	comp=N,2.9nm,0.3s					
ABTA			*e*Sn	**Sn**	**20 29 26.4**	**+2.2**
	comp=N,4.6nm,0.4s					
SOKA	**Soboth**	**4.21 18**	*i* Pn	**Pn**	**20 28 39.6**	**+1.2**
	comp=N,0.8nm,0.3s					
SOKA			*i* Sn	**Sn**	**20 29 28.8**	**+1.5**
	comp=N,1.8nm,0.4s					
UPM	**Unac-Piva**	**4.26 81**	*e*Pn	**Pn**	**20 28 41.7**	**+2.5**
UPM	**Unac-Piva**	**4.26 81**	*e*Pn	**Pn**	**20 28 41.1**	**+1.9**
UPM			*i* Sn	**Sn**	**20 29 30.9**	**+2.2**
CEME	**Cevo**	**4.26 90**	⇑*i*Pn	**Pn**	**20 28 40.9**	**+1.8**
CEME			*i* Sn	**Sn**	**20 29 30.7**	**+2.2**
BUM	**Brajici-Budva**	**4.27 93**	⇓*i*Pn	**Pn**	**20 28 40.8**	**+1.6**
BUM			*i* Sn	**Sn**	**20 29 30.7**	**+2.0**
NKME	**Niksic**	**4.28 87**	*e*Pn	**Pn**	**20 28 41.3**	**+2.0**
NKME			*i* Sn	**Sn**	**20 29 31.3**	**+2.4**
SBF	**Sospel**	**4.33 288**	*e*P	**Pn**	**20 28 41.6**	**+1.5**
SBF			*e*Sn	**Sn**	**20 29 26.5**	**-3.8**
	comp=N,5.9nm,0.4s					
KBA	**Koelnbreinsper**	**4.39 2**	*i* Pn	**Pn**	**20 28 42.0**	**+1.0**
	comp=N,0.8nm,0.3s					
KBA			*i* Sn	**Sn**	**20 29 32.8**	**+0.8**
	comp=N,6.0nm,0.3s					
DRME	**Dracevica, Mon**	**4.50 94**	*e*Pn	**Pn**	**20 28 44.3**	**+2.1**
DRME	**Dracevica, Mon**	**4.50 94**	⇓*i*Pn	**Pn**	**20 28 44.1**	**+1.9**
DRME			*i* Sn	**Sn**	**20 29 36.2**	**+2.0**
PDG	**Podgorica**	**4.52 91**	*e*Pn	**Pn**	**20 28 44.2**	**+1.7**
PDG			*e*Sn	**Sn**	**20 29 33.8**	**-1.0**
PDG	**Podgorica**	**4.52 91**	*e*Pn	**Pn**	**20 28 44.2**	**+1.7**
PDG	**Podgorica**	**4.52 91**	*e*Pn	**Pn**	**20 28 44.5**	**+2.0**
PDG			*i* Sn	**Sn**	**20 29 37.0**	**+2.2**
ULC	**Ulcinj**	**4.58 97**	⇑*i*Pn	**Pn**	**20 28 45.1**	**+1.7**
ULC			*i* Sn	**Sn**	**20 29 38.0**	**+1.7**
PLE	**Pljevlja**	**4.62 80**	⇓*i*Pn	**Pn**	**20 28 46.1**	**+2.0**
PLE			*i* Sn	**Sn**	**20 29 39.9**	**+2.4**
RUDO	**Rudo**	**4.65 76**	*e*Pn	**Pn**	**20 28 45.3**	**+1.0**
FETA	**Feichten**	**4.66 339**	*i* Pn	**Pn**	**20 28 44.9**	**+0.2**
	comp=N,1.4nm,0.4s					
FETA			*e*Sn	**Sn**	**20 29 39.7**	**+1.1**
	comp=N,3.2nm,0.7s					
WTTA	**Wattenberg**	**4.70 347**	*e*Pn	**Pn**	**20 28 45.9**	**+0.7**
	comp=N,0.8nm,0.3s					
WTTA			*e*Sn	**Sn**	**20 29 40.9**	**+1.4**
	comp=N,6.2nm,0.4s					
BBLS	**Lazići**	**4.72 73**	*e*Pn	**Pn**	**20 28 46.8**	**+1.4**
BBLS			*e*Sn	**Sn**	**20 29 40.6**	**+0.8**
BBLS	**Lazići**	**4.72 73**	*e*Pn	**Pn**	**20 28 47.0**	**+1.6**
LESA	**Schwarzleotal**	**4.75 356**	*i* Pn	**Pn**	**20 28 47.6**	**+1.8**
	comp=N,0.3nm,0.2s					
WATA	**Walderalm**	**4.78 347**	*i* Pn	**Pn**	**20 28 48.0**	**+1.7**
	comp=N,2.4nm,0.3s					
ARSA	**Arzberg**	**4.86 19**	*e*Pn	**Pn**	**20 28 49.0**	**+1.6**
	comp=N,2.0nm,0.5s					
ARSA			*e*Sn	**Sn**	**20 29 42.7**	**-0.7**
	comp=N,2.2nm,0.4s					
MOTA	**Moosalm**	**4.88 343**	*e*Sn	**Sn**	**20 29 47.2**	**+3.4**
	comp=N,6.1nm,0.5s					
LMR	**La Mourre**	**4.91 280**	*e*P	**Pn**	**20 28 48.7**	**+0.8**
LMR			*e*Sn	**Sn**	**20 29 39.4**	**-5.0**
	comp=N,0.8nm,0.3s					
IVA	**Berane**	**4.97 86**	⇑*i*Pn	**Pn**	**20 28 50.9**	**+2.1**
IVA			*i* Sn	**Sn**	**20 29 47.9**	**+1.9**
BIOA	**Bad Ischl, Aus**	**5.02 4**	*e*Pn	**Pn**	**20 28 50.1**	**+0.7**
	comp=N,0.9nm,0.2s					
BIOA			*e*Sn	**Sn**	**20 29 48.9**	**+1.8**
	comp=N,2.3nm,0.3s					
PVY	**Plav**	**5.03 89**	*e*Pn	**Pn**	**20 28 51.6**	**+2.0**
PVY			*i* Sn	**Sn**	**20 29 49.2**	**+1.7**
SJES	**Sjenica**	**5.04 81**	*e*Pn	**Pn**	**20 28 52.1**	**+2.3**
SJES			*e*Sn	**Sn**	**20 29 47.5**	**-0.3**
SJES	**Sjenica**	**5.04 81**	*e*Pn	**Pn**	**20 28 52.7**	**+2.9**
MBDF	**Montbardon**	**5.05 296**	*e*P	**Pn**	**20 28 52.9**	**+2.9**
MBDF			*e*Sn	**Sn**	**20 29 44.2**	**-4.0**
	comp=N,1.4nm,0.4s					
DAVA	**Damuels**	**5.15 334**	*i* Pn	**Pn**	**20 28 52.8**	**+1.4**
	comp=N,0.4nm,0.2s					
DAVA			*i* Sn	**Sn**	**20 29 54.4**	**+3.8**
	comp=N,4.6nm,0.6s					
MOA	**Molln**	**5.22 8**	*e*Pn	**Pn**	**20 28 53.3**	**+1.1**
	comp=N,0.2nm,0.1s,SNR=6.2					
MOA			*i* Sn	**Sn**	**20 29 53.0**	**+0.8**
	comp=N,1.1nm,0.2s					
LPG	**La Plagne**	**5.39 304**	*e*P	**Pn**	**20 28 57.4**	**+2.5**
LPG			*e*Sn	**Sn**	**20 29 52.2**	**-4.6**
	comp=N,3.5nm,0.5s					
LPL	**La Plagne**	**5.42 304**	*e*P	Pb	20 29 03.3	-5.8
LPL			*e*Sn	**Sn**	**20 29 52.8**	**-4.4**
	comp=N,1.8nm,0.4s					
RONA	**Rosalia, Austr**	**5.48 23**	*i* Pn	**Pn**	**20 28 56.9**	**+1.0**
	comp=N,0.6nm,0.1s					
TRUS	**Trudelj**	**5.50 71**	*e*Pn	**Pn**	**20 28 58.2**	**+2.1**
CONA	**Conrad Observa**	**5.58 19**	*i* Pn	**Pn**	**20 28 57.1**	**-0.1**
	comp=N,0.5nm,0.3s,SNR=4.6					
CONA			*e*Sn	**Sn**	**20 30 01.0**	**-0.1**
	comp=N,2.2nm,0.3s					
SMRF	**Simiane la Rot**	**5.67 286**	*e*P	**Pn**	**20 29 01.1**	**+2.7**
ORIF	**Oris-en-Rattie**	**5.71 295**	*e*P	**Pn**	**20 29 02.4**	**+3.4**
SELS	**Selova**	**5.87 82**	*e*Pn	**Pn**	**20 29 02.3**	**+1.1**
CKRC	**Cesky Krumlov**	**6.19 7**	*e*PN	**Pn**	**20 29 08.5**	**+3.0**
CKRC			*e*SN	**Sn**	**20 30 14.4**	**-1.5**
CABF	**La Chapelle**	**6.38 310**	*e*Pn	**Pn**	**20 29 06.8**	**-1.4**

CABF *e*Sn **Sn** **20 30 15.8 -5.0**
comp=N,1.1nm,0.4s
BARS Barje 6.38 86 *e*Pn **Pn** **20 29 09.3 +1.1**
KHC Kasperske Hory 6.45 3 *e*SN **Sn** **20 30 21.3 -1.2**
PRVS Prvonek 6.59 89 *e*Pn **Pn** **20 29 12.5 +1.4**
HINF Hinteralfeld 6.78 321 *e*P **Pn** **20 29 15.8 +2.1**
HINF *e*Sn **Sn** **20 30 25.4 -5.2**
comp=N,2.9nm,0.4s
LASF Ste Croix 6.91 285 *e*P **Pn** **20 29 15.5 +0.1**
ZAPS Zavoj 6.98 82 *e*Pn **Pn** **20 29 17.9 +1.5**
CDF Champ du Feu 7.05 326 *e*P **Pn** **20 29 18.0 +0.6**
CDF *e*Sn **Sn** **20 30 32.0 -5.3**
comp=N,1.5nm,0.3s
HAU Haudompre 7.16 320 *e*P **Pn** **20 29 20.9 +2.1**
HAU *e*Sn **Sn** **20 30 35.0 -4.8**
comp=N,4.8nm,0.4s

---

*IDC **20** 21:03:13.1±1.5, 15°.89N×94°.76W, h0km, mb3.6/7, mbtmp3.6/8, ML3.7/1, Error ellipse: s-maj=32.1km s-min=17.2km az=73.0*
*MEX **20** 21:03:14.6±0.4, 15°.77N×94°.98W, h102km±13km, MD4.3*
*NEIC **20** 21:03:16.2±1.6, 15°.83N±0°.05×94°.97W±0°.04, h32km±4km, mb4.2/57, Md4.3/30(MEX), Error ellipse: s-maj=8.7km s-min=4.5km az=206.0*
ISC 20 21:03:13.2±1.5, 15°.84N±0°.04×94°.93W±0°.02, h10km±9km, n115, σ1°52/157, mb3.9/14, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.78**	**23**	*e*P	**Pg**	**21 03 28.4**	**+0.1**
NILT				*e*S	**Sg**	**21 03 38.1**	**-0.5**
CARR	**Arriaga**	**1.06**	**67**	*e*P	**Pb**	**21 03 33.1**	**-0.5**
CARR				*e*S	**Sb**	**21 03 46.8**	**-0.8**
HUIG	**Huatulco**	**1.14**	**267**		**Pb**	**21 03 34.9**	**-0.1**
HUIG					**Sn**	**21 03 50.8**	**0.0**
HUIG	**Huatulco**	**1.14**	**267**	*e*P	**Pb**	**21 03 34.9**	**-0.1**
HUIG				*i* S	**Sn**	**21 03 50.8**	**0.0**
CMIG	**Matias Romero**	**1.25**	**2**		**Pn**	**21 03 36.1**	**-0.7**
CMIG					**Sb**	**21 03 51.3**	**-1.7**
CMIG	**Matias Romero**	**1.25**	**2**	Pg	**Pn**	**21 03 36.0**	**-0.7**
CMIG	698nm,0.3s,baz=178,slow=11,SNR=2626			Lg	Lg	21 03 51.7	
	1μm,0.3s,baz=161,slow=11,SNR=23						
CMIG	**Matias Romero**	**1.25**	**2**	*i* P	**Pn**	**21 03 36.1**	**-0.7**
CMIG				*i* S	**Sb**	**21 03 51.3**	**-1.7**
PCIG		**1.65**	**94**		**Pn**	**21 03 42.8**	**+0.5**
PCIG					**Sn**	**21 04 03.6**	**0.0**
PCIG		**1.65**	**94**	*e*P	**Pn**	**21 03 42.8**	**+0.5**
PCIG				*e*S	**Sn**	**21 04 03.6**	**0.0**
UXUV	**UXUV**	**1.65**	**27**	*e*P	**Pn**	**21 03 42.6**	**+0.3**
UXUV				*i* S	**Sb**	**21 04 04.9**	**+0.2**
TGIG		**1.97**	**61**	*e*P	**Pb**	**21 03 48.3**	**-0.9**
TGIG				*e*S	**Sb**	**21 04 13.4**	**-0.5**
TGBT	**Tuxtla Gutierr**	**2.00**	**62**	*i* P	**Pb**	**21 03 48.5**	**-1.1**
TGBT				*e*S	**Sn**	**21 04 12.8**	**+0.6**
NEUV	**Arroyo Zacate**	**2.04**	**336**	*e*P	**Pn**	**21 03 47.3**	**-0.4**
NEUV				*e*S	**Sn**	**21 04 14.3**	**+1.1**
OXLC	**Oaxaca**	**2.09**	**306**	*e*P	**Pn**	**21 03 50.1**	**+1.6**
OXLC				*e*S	**Sn**	**21 04 15.5**	**+0.7**
OXBJ	**Oaxaca**	**2.11**	**306**		**Pn**	**21 03 49.2**	**+0.4**
OXBJ					**Sn**	**21 04 16.0**	**+0.8**
OXBJ	**Oaxaca**	**2.11**	**306**	*e*P	**Pn**	**21 03 49.2**	**+0.4**
OXBJ				*e*S	**Sn**	**21 04 16.0**	**+0.8**
VHO	**Vista Hermosa**	**2.12**	**306**	*e*P	**Pn**	**21 03 50.4**	**+1.5**
VHO				*e*S	**Sn**	**21 04 13.6**	**-1.9**
PEIG	**Puerto Escondi**	**2.14**	**275**		**Pn**	**21 03 49.0**	**0.0**
PEIG					**Sn**	**21 04 12.3**	**-3.4**
PEIG	**Puerto Escondi**	**2.14**	**275**	*e*P	**Pn**	**21 03 49.0**	**0.0**
PEIG				*e*S	**Sn**	**21 04 12.3**	**-3.4**
TUIG	**Tuzandepetl**	**2.24**	**12**	*i* P	**Pn**	**21 03 51.1**	**+0.7**
TUIG				*e*S	**Sb**	**21 04 22.9**	**+1.4**
PATR	**El Naranjo**	**2.70**	**105**	*e*P	**Pn**	**21 03 58.2**	**+1.3**
PATR				*e*S	**Sn**	**21 04 29.1**	**-0.6**
PMUV	**Sontecomapan**	**2.70**	**356**	*e*P	**Pn**	**21 03 55.9**	**-0.9**
PMUV				*e*S	**Sn**	**21 04 27.3**	**-2.2**
YOIG	**Yosondua**	**2.71**	**292**	*e*P	**Pn**	**21 03 59.4**	**+2.4**
YOIG				*e*S	**Sn**	**21 04 29.2**	**-0.9**
CCIG	**Comitan**	**2.72**	**80**	Pn	**Pn**	**21 03 58.3**	**+1.1**
CCIG				Sn	**Sn**	**21 04 32.8**	**+2.6**
CCIG	**Comitan**	**2.72**	**80**	*e*P	**Pn**	**21 03 59.0**	**+1.9**
CCIG				*e*S	**Sn**	**21 04 31.8**	**+1.5**
PAVE	**Pavencul**	**2.73**	**103**	*e*P	**Pn**	**21 03 59.2**	**+1.9**
PAVE				*e*S	**Sn**	**21 04 32.0**	**+1.5**
THIG		**2.73**	**109**	*e*P	**Pb**	**21 04 00.4**	**-1.8**
THIG				*i* S	**Sn**	**21 04 29.8**	**-0.4**
CHUJ	**Union Juarez**	**2.82**	**105**	*e*P	**Pn**	**21 04 00.2**	**+1.6**
CHUJ				*e*S	**Sn**	**21 04 32.9**	**+0.2**
TOIG	**Toxpalan**	**3.04**	**318**		**Pn**	**21 04 03.5**	**+2.1**
TOIG					**Sn**	**21 04 38.0**	**0.0**
TOIG	**Toxpalan**	**3.04**	**318**	*e*P	**Pn**	**21 04 03.5**	**+2.1**
TOIG				*e*S	**Sn**	**21 04 38.0**	**0.0**
TXIG	**Tlaxiaco**	**3.06**	**298**		**Pn**	**21 04 04.8**	**+2.8**
TXIG					**Sn**	**21 04 37.0**	**-1.9**
TXIG	**Tlaxiaco**	**3.06**	**298**	*e*P	**Pn**	**21 04 04.8**	**+2.8**
TXIG				*e*S	**Sn**	**21 04 37.0**	**-1.9**
PNIG	**Pinotepa**	**3.12**	**281**		**Pn**	**21 04 03.2**	**+0.7**
PNIG					**Sn**	**21 04 37.1**	**-2.8**
PNIG	**Pinotepa**	**3.12**	**281**	*e*P	**Pn**	**21 04 03.2**	**+0.7**
PNIG				*i* S	**Sn**	**21 04 37.1**	**-2.8**
HUEH	**Huehuetenango**	**3.34**	**98**	Pn	**Pn**	**21 04 06.2**	**+0.4**
RTAL	**Retalhuleu**	**3.38**	**112**		**Pn**	**21 04 07.5**	**+1.4**
RTAL				Sn	**Sn**	**21 04 45.6**	**-0.8**
TPIG	**Tehuac#an**	**3.46**	**318**	*e*P	**Pn**	**21 04 10.0**	**+2.7**
TPIG				*e*S	**Sn**	**21 04 49.4**	**+0.9**
FTIG	**Fresnillo de T**	**3.69**	**304**	*e*P	**Pn**	**21 04 13.8**	**+3.3**
FTIG				*e*S	**Sn**	**21 04 55.0**	**+0.8**
TLIG	**Tlapa**	**3.88**	**297**	Pn	**Pn**	**21 04 13.1**	**-0.1**
JAUV	**Jalcomulco**	**3.94**	**333**	*e*P	**Pn**	**21 04 12.4**	**-1.4**
JAUV				*e*S	**Sb**	**21 05 07.5**	**-3.1**
LVIG	**Laguna Verde**	**4.12**	**340**	*e*P	**Pn**	**21 04 15.7**	**-0.5**
LVIG				*e*S	**Sn**	**21 05 08.7**	**+4.3**
PPM	**Popocatepetl**	**4.77**	**313**	*e*P	**Pn**	**21 04 29.5**	**+3.9**
PPM				*e*S	**Sn**	**21 05 25.7**	**+4.4**
PETF	**Flores**	**4.98**	**77**	Pn	**Pn**	**21 04 28.6**	**+0.6**
CXUV	**Coxquihui**	**5.00**	**330**	*e*P	**Pn**	**21 04 28.0**	**-0.3**
CXUV				*e*S	**Sn**	**21 05 25.0**	**-1.3**
ESQI	**Esquipulas**	**5.54**	**103**	Pn	**Pn**	**21 04 36.6**	**+0.7**
MTO3	**Montecristo**	**5.57**	**104**		**Pn**	**21 04 37.4**	**+1.1**
TEIG	**Tepich**	**7.69**	**54**	Pn	**Pn**	**21 05 05.1**	**-0.2**
TEIG	63nm,0.3s,baz=298,slow=19,SNR=12			Sn	**Sn**	**21 06 25.4**	**-7.0**
	12nm,0.3s,baz=128,slow=22,SNR=1.1						
MATN	**Matagalpa**	**9.19**	**107**	Pn	**Pn**	**21 05 26.7**	**+0.7**
HNDO	**Hondo**	**14.20**	**344**		**Pn**	**21 06 37.4**	**+2.9**
JCT	**Junction City**	**15.24**	**344**		**Pn**	**21 06 49.3**	**+0.7**
JCT				IAmb	IAmb	21 06 57.8	
	comp=Z,10.0nm,0.8s						
SAND	**Sanderson**	**15.53**	**336**		**Pn**	**21 06 53.4**	**+1.1**
SAND				IAmb	IAmb	21 07 03.8	
	comp=Z,2.4nm,0.8s						
TXAR	**Lajitas Array**	**15.66**	**331**	Pn	**Pn**	**21 06 52.9**	**-1.2**
TXAR	**Lajitas Array**	**15.66**	**331**	Pn	**P**	**21 06 56.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=148,slow=17,SNR=4.7						
TXAR				Sn	**Sn**	**21 09 45.7**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=151,slow=26,SNR=1.7						
	comp=Z,0.3nm,0.6s						
TX31	**Lajitas Ar. Si**	**15.66**	**331**		**Pn**	**21 06 53.9**	**-0.2**
TX32	**Lajitas Array**	**15.66**	**331**		**Pn**	**21 06 54.1**	**0.0**
BRDY	**Brady**	**15.82**	**347**		**Pn**	**21 06 56.0**	**-0.1**
BRDY				IAmb	IAmb	21 07 13.0	
	comp=Z,7.8nm,0.7s						
OZNA	**Ozona**	**16.05**	**340**		**Pn**	**21 06 59.2**	**0.0**
OZNA				IAmb	IAmb	21 07 13.4	
	comp=Z,16nm,0.9s						
WHTX	**Lake Whitney,**	**16.25**	**352**		**Pn**	**21 07 01.5**	**0.0**
WHTX				IAmb	IAmb	21 07 12.8	
	comp=Z,22nm,0.7s						
ALPN	**Alpine**	**16.53**	**333**	Pn	**Pn**	**21 07 04.6**	**-0.7**
ALPN				IAmb	IAmb	21 07 14.3	
	comp=Z,7.1nm,0.8s						
FW13	**Cleburne**	**16.60**	**353**		**Pn**	**21 07 06.0**	**-0.1**
FW13				IAmb	IAmb	21 07 17.0	
	comp=Z,26nm,0.5s						
FW14	**Alvarado**	**16.62**	**353**	Pn	**Pn**	**21 07 06.1**	**-0.2**
FW14				IAmb	IAmb	21 07 17.3	
	comp=Z,35nm,0.4s						
SGCY	**Sterling City**	**16.97**	**342**	Pn	**Pn**	**21 07 10.8**	**0.0**
SGCY				IAmb	IAmb	21 07 21.0	
	comp=Z,12nm,0.8s						
FW07	**Weatherford**	**16.99**	**352**	Pn	**Pn**	**21 07 10.8**	**-0.2**
FW07				IAmb	IAmb	21 07 22.9	
	comp=Z,21nm,0.5s						
MNHN	**Monahans**	**17.01**	**337**	Pn	**Pn**	**21 07 10.8**	**-0.5**
MNHN				IAmb	IAmb	21 07 22.8	
	comp=Z,5.2nm,0.7s						
PLPT	**Palo Pinto**	**17.18**	**350**		**Pn**	**21 07 13.5**	**+0.1**
PLPT				IAmb	IAmb	21 07 31.9	
	comp=Z,10.0nm,0.5s						
FW06	**Azle**	**17.23**	**353**	Pn	**Pn**	**21 07 12.4**	**-1.6**
FW06				IAmb	IAmb	21 07 34.3	
	comp=Z,25nm,0.5s						
ABTX	**Abilene, Hawle**	**17.25**	**346**	P	**Pn**	**21 07 14.8**	**+0.5**
ABTX				IAmb	IAmb	21 07 25.3	
	comp=Z,11nm,0.8s						
PECS	**Pecos**	**17.48**	**334**	Pn	**Pn**	**21 07 16.4**	**-0.9**
PECS				IAmb	IAmb	21 07 56.4	
	comp=Z,3.7nm,0.7s						
425A	**Indio Mountain**	**17.50**	**330**		**Pn**	**21 07 16.7**	**-0.8**
ODSA	**Odessa**	**17.63**	**338**	Pn	**Pn**	**21 07 18.1**	**-1.0**
ODSA				IAmb	IAmb	21 07 47.6	
	comp=Z,11nm,0.7s						
APMT	**Aspermont**	**18.03**	**346**	P	**Pn**	**21 07 23.0**	**-1.1**
APMT				IAmb	IAmb	21 07 35.9	
	comp=Z,9.9nm,0.9s						
WTFS	**Witchita Falls**	**18.14**	**351**	P	**Pn**	**21 07 23.9**	**-1.3**
WTFS				IAmb	IAmb	21 07 38.4	
	comp=Z,14nm,0.9s						
POST	**Post**	**18.16**	**342**		**Pn**	**21 07 25.4**	**-0.1**
POST				IAmb	IAmb	21 07 39.9	
	comp=Z,8.3nm,0.6s						
LOOK	**Love County**	**18.19**	**354**		**P**	**21 07 26.4**	**+0.2**
LOOK				IAmb	IAmb	21 07 39.3	
	comp=Z,23nm,0.8s						
MNTX	**Cornudas Mount**	**18.44**	**331**	P	**Pn**	**21 07 31.4**	**+2.4**
DKNS	**Dickens**	**18.56**	**344**	P	**Pn**	**21 07 30.9**	**+0.4**
DKNS				IAmb	IAmb	21 07 51.9	
	comp=Z,7.6nm,0.6s						
MIAR	**Mount Ida**	**18.67**	**3**	P	**Pn**	**21 07 31.8**	**+0.1**
X37A	**Clayton**	**18.68**	**359**		**Pn**	**21 07 32.1**	**+0.2**
X37A				IAmb	IAmb	21 07 44.7	
	comp=Z,14nm,0.7s						
X34A	**Smith Ranch, M**	**18.87**	**353**		**Pn**	**21 07 34.1**	**0.0**
WMOK	**Wichita Mounta**	**19.14**	**350**	P	**P**	**21 07 36.5**	**-0.1**
W35A	**Tecumseh**	**19.31**	**355**	P	**Pn**	**21 07 39.1**	**-0.5**
W35A				IAmb	IAmb	21 07 41.1	
	comp=Z,9.5nm,0.7s						
MSTX	**Muleshoe**	**19.39**	**340**	P	**P**	**21 07 39.8**	**+0.3**
MSTX				IAmb	IAmb	21 07 43.0	
	comp=Z,8.3nm,0.8s						
SMWD	**Samnorwood**	**19.77**	**347**	P	**P**	**21 07 42.8**	**-0.8**
SMWD				IAmb	IAmb	21 07 56.2	
	comp=Z,10nm,0.8s						
AMTX	**Amarillo**	**19.91**	**344**	P	**P**	**21 07 45.4**	**+0.3**
AMTX				IAmb	IAmb	21 08 16.8	
	comp=Z,19nm,0.8s						
DEOK	**Depew**	**19.97**	**356**	P	**P**	**21 07 44.6**	**-1.1**
DEOK				IAmb	IAmb	21 07 51.9	
	comp=Z,21nm,1.0s						
OK031	**S. Brethren Rd**	**20.11**	**355**	P	**P**	**21 07 47.0**	**-0.1**
FCAR	**Ozark Folk Cen**	**20.13**	**7**	P	**P**	**21 07 46.9**	**-0.5**
OK052	**Battle Ridge R**	**20.14**	**356**	P	**P**	**21 07 47.3**	**-0.3**
OK033	**Mehan**	**20.20**	**355**	P	**P**	**21 07 48.4**	**+0.1**
121A	**Cookes Peak, D**	**20.31**	**327**	P	**P**	**21 07 49.1**	**-0.5**
121A				IAmb	IAmb	21 07 59.4	
	comp=Z,8.1nm,0.9s						
QUOK	**Quay**	**20.31**	**356**	P	**P**	**21 07 48.9**	**-0.5**
QUOK				IAmb	IAmb	21 07 55.8	
	comp=Z,17nm,0.9s						
GOGA	**Godfrey**	**20.34**	**29**	P	**P**	**21 07 50.1**	**+0.4**
GOGA				IAmb	IAmb	21 08 26.5	
	comp=Z,16nm,1.4s						
U32A	**Winter Ranch,**	**20.78**	**351**	P	**P**	**21 07 54.9**	**+0.4**
NOKA	**Waynoka**	**21.02**	**351**	P	**P**	**21 07 56.5**	**-0.5**
DUN6	**Lazy B Ranch**	**21.03**	**325**	P	**P**	**21 07 57.3**	**0.0**
BNM	**Barren Site**	**21.06**	**332**	P	**P**	**21 07 57.4**	**-0.4**
GC02	**Grant County #**	**21.09**	**353**	P	**P**	**21 07 58.9**	**+1.1**
W50A	**Signal Mountai**	**21.12**	**22**	P	**P**	**21 07 59.1**	**+0.9**
KAN12	**Harper NE Stat**	**21.55**	**353**	P	**P**	**21 08 03.0**	**+0.2**
ANMO	**Albuquerque**	**21.66**	**334**	P	**P**	**21 08 06.5**	**+2.4**
	comp=Z,1.2nm,0.7s,baz=323,slow=2.0,SNR=2.3						
	comp=Z,1.2nm,0.7s						
RTBA	**Rita Blanca**	**21.66**	**343**	P	**P**	**21 08 03.6**	**-0.5**
RTBA				IAmb	IAmb	21 08 13.5	
	comp=Z,9.2nm,0.9s						
TUC	**Tucson**	**21.83**	**322**	P	**P**	**21 08 04.7**	**-1.2**
TUC				IAmb	IAmb	21 08 17.9	
	comp=Z,9.8nm,1.4s						
TKL	**Tuckaleechee C**	**22.11**	**25**	P	**P**	**21 08 10.3**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=29,slow=12,SNR=1.5						
	comp=Z,0.8nm,0.3s						
U54A	**Nelsons Funny**	**23.67**	**27**	P	**P**	**21 08 25.0**	**-0.1**
U54A				IAmb	IAmb	21 08 36.7	
	comp=Z,8.3nm,0.6s						
X16A	**Lo Mia Camp, P**	**23.72**	**324**	P	**P**	**21 08 24.3**	**-1.4**
X16A				IAmb	IAmb	21 08 36.2	
	comp=Z,5.3nm,0.8s						
SDCO	**Great Sand Dun**	**23.74**	**339**	P	**P**	**21 08 24.2**	**-1.7**
SDCO				IAmb	IAmb	21 08 46.0	
	comp=Z,6.0nm,0.9s						
SMCO	**Snowmass**	**25.54**	**338**	P	**P**	**21 08 41.5**	**-1.0**
SMCO				IAmb	IAmb	21 08 52.9	
	comp=Z,6.7nm,0.9s						
PV17	**East Wray Mesa**	**25.55**	**334**	P	**P**	**21 08 39.9**	**-2.5**
PV16	**Nyswonger Mesa**	**25.55**	**334**	P	**P**	**21 08 42.7**	**+0.2**
PV16				IAmb	IAmb	21 08 52.4	
	comp=Z,9.4nm,0.9s						
RWWY	**Rawlins**	**27.86**	**340**	P	**P**	**21 09 03.3**	**0.0**
PDAR	**Pinedale Array**	**29.62**	**338**	P	**P**	**21 09 22.1**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=162,slow=15,SNR=2.5						
	comp=Z,0.2nm,0.3s						
NVAR	**Mina Array Bea**	**30.48**	**322**	P	**P**	**21 09 29.6**	**+3.0**
	comp=Z,1.0nm,0.7s,baz=138,slow=9.6,SNR=4.4						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**60.05**	**337**	P	**P**	**21 13 20.2**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=141,slow=5.8,SNR=4.3						
	comp=Z,0.3nm,0.8s						
ESDC	**Sonseca Array**	**80.80**	**51**	P	**P**	**21 15 28.2**	**+0.7**
	comp=Z,1.1nm,1.0s,baz=307,slow=9.3,SNR=4.3						
	comp=Z,1.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**92.69**	**76**	P	**P**	**21 16 26.1**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=262,slow=4.4,SNR=1.8						
	comp=Z,0.3nm,0.8s						

---

*IDC **20** 21:05:38.6±3.0, 34°.80N×137°.90E, h107km±54km, mb3.3/6, mbtmp3.7/7, Error ellipse: s-maj=100.8km s-min=8.8km az=68.0*
*JMA **20** 21:05:39.5±0.2, 35°.3N±0°.7×139°.3E±0°.8, h149km±1km, MV3.3/36, KANAGAWA PREF*
ISC 20 21:05:39.1±0.8, 35°.29N±0°.06×139°.21E±0°.08, h154km±6km, n21, σ0°60/26, mb3.4/6, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.10**	**256**	*i* P	**Pn**	**21 05 59.9**	**+0.2**
JOD2				S	**Sn**	**21 06 15.2**	**-0.1**
JYN	**Shimob**	**0.58**	**291**	P	**Pn**	**21 06 01.6**	**+0.2**
JYN				S	**Sn**	**21 06 18.9**	**+0.6**
JIM2	**Oshima 3**	**0.60**	**162**	P	**Pn**	**21 06 01.3**	**-0.1**
JIZS	**Izushimoda**	**0.63**	**206**	P	**Pn**	**21 06 01.8**	**+0.2**
JRY	**Ryogami san**	**0.77**	**341**	*i* P	**Pn**	**21 06 03.0**	**+0.5**
JRY				S	**Sn**	**21 06 20.3**	**-0.1**
JAG	**Ashikaga**	**1.15**	**10**	*i* P	**Pn**	**21 06 05.4**	**-0.1**
JAG				S	**Sn**	**21 06 24.9**	**-0.9**
MJAR	**Matsushiro Arr**	**1.49**	**327**	P	**Pn**	**21 06 07.5**	**-1.3**
	32nm,0.5s,baz=161,slow=10,SNR=103						
MJAR				S	**Sn**	**21 06 31.0**	**-0.7**
	8.4nm,0.4s,baz=172,slow=20,SNR=2.9						
MAT	**Matsushiro**	**1.49**	**327**	*i* P	**Pn**	**21 06 08.8**	**0.0**
MAT				S	**Sn**	**21 06 31.2**	**-0.5**
BSO1	**Boso 1**	**1.58**	**113**	P	**Pn**	**21 06 09.5**	**+0.3**
BSO1				S	**Sn**	**21 06 32.9**	**+0.6**
JYTA	**Yamagatataniai**	**2.04**	**279**	P	**Pn**	**21 06 15.4**	**+0.5**
JHJ	**Hachijo jima 2**	**2.22**	**167**	P	**Pn**	**21 06 16.4**	**-0.5**
	92nm,0.3s,baz=47,slow=17,SNR=6.4						
JHJ				S	**Sn**	**21 06 44.7**	**-1.4**
	118nm,0.4s,baz=0.0,slow=20,SNR=1.8						
JHJ2	**Mitsune**	**2.23**	**167**	P	**Pn**	**21 06 17.2**	**+0.1**
SONM	**Songino Array**	**27.35**	**307**	P	**P**	**21 11 10.2**	**+0.4**
	0.1nm,0.4s,baz=111,slow=7.9,SNR=1.8						
	0.1nm,0.4s						
H11N2	**WAKE ISLAND Hy 28.91**	**115**		T	T	21 41 16.1	
	baz=309,slow=75,SNR=3.5						
H11N1	**WAKE ISLAND Hy 28.91**	**115**		T	T	21 41 16.7	
	baz=309,slow=75,SNR=3.7						
H11N3	**WAKE ISLAND Hy 28.91**	**115**		T	T	21 41 16.0	
	baz=309,slow=75,SNR=4.1						
MKAR	**Makanchi Array**	**43.56**	**303**	P	**P**	**21 13 27.5**	**-0.1**
	0.3nm,0.6s,baz=96,slow=6.8,SNR=2.2						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**45.69**	**309**	P	**P**	**21 13 44.5**	**+0.2**
	0.4nm,0.4s,baz=83,slow=7.4,SNR=4.1						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**50.44**	**313**	P	**P**	**21 14 21.2**	**+0.4**
	0.3nm,0.3s,baz=90,slow=5.8,SNR=2.5						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**55.12**	**186**	P	**P**	**21 14 54.8**	**-0.6**
	2.1nm,0.5s,baz=0.9,slow=7.7,SNR=37						
	2.1nm,0.5s						
ASAR	**Alice Springs**	**58.85**	**186**	P	**P**	**21 15 21.9**	**+0.3**
	0.2nm,0.4s,baz=7.1,slow=15,SNR=6.6						
	0.2nm,0.4s						

IDC 20 21:21:58.9±8.5, 26°.60S×179°.82E, h68km±85km, mb3.1/2, mbtmp3.6/3, ML4.2/2, Error ellipse: s-maj=91.4km s-min=45.0km az=19.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.32**	**143**	P	Pn	**21 22 49.7**	**+1.3**
	109nm,0.3s,baz=79,slow=4.9,SNR=7.8						
RAO				S	Sn	**21 23 26.5**	**-0.1**
	267nm,0.6s,baz=66,slow=22,SNR=1.4						
URZ	**Urewera**	**11.85**	**190**	P	Pn	**21 24 45.1**	**+0.1**
	0.3nm,0.3s,baz=300,slow=20,SNR=1.5						
	3.1nm,0.7s						
ASAR	**Alice Springs**	**41.51**	**264**	P	P	**21 29 39.9**	**+0.3**
	0.2nm,0.4s,baz=98,slow=7.8,SNR=4.4						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**42.13**	**269**	P	P	**21 29 44.0**	**-0.8**
	0.3nm,0.4s,baz=104,slow=8.7,SNR=5.2						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**140.93**	**340**	PKP	PKPdf	**21 41 21.5**	**+1.1**
	2.0nm,0.9s,baz=49,slow=2.8,SNR=2.9						

---

*EAF **20** 21:26:44.7, 26°.22S×27°.70E, h12km, MC3.4*
*BUL **20** 21:26:44.6±0.9, 26°.22S×27°.69E, h12km±14km, MD3.5*
*PRE **20** 21:26:47.6±0.9, 26°.44S×27°.28E, h2km, ML1.9*
ISC 20 21:26:48.3±1.5, 26°.43S±0°.04×27°.25E±0°.06, h11km±12km, n17, σ1°58/24, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**0.66**	**331**	*e*P	**Pg**	**21 27 01.2**	**0.0**
KSR				*e*S	**Sg**	**21 27 10.2**	**+0.3**
KSR				IAML		21 27 14.8	
	comp=Z,114nm,0.1s						
SWZ	**Schweizer**	**1.87**	**246**	*e*P	**Pn**	**21 27 21.6**	**+1.2**
SWZ				*e*S	**Sb**	**21 27 47.2**	**+1.1**
SWZ				IAML		21 27 53.0	
	comp=Z,12nm,0.5s						
SNKL	**Senekal, Frees**	**1.90**	**166**	*e*P	**Pb**	**21 27 22.1**	**-0.9**
SNKL				*e*S	**Sb**	**21 27 46.2**	**-0.6**
SNKL				IAML		21 27 48.2	
	comp=Z,31nm,0.3s						
LBTB	**Lobatse**	**2.05**	**313**	*i* P	**Pn**	**21 27 21.4**	**-1.6**
LBTB	**Lobatse**	**2.05**	**313**	*e*P	**Pn**	**21 27 24.6**	**+1.6**
LBTB				*e*S	**Sn**	**21 27 50.7**	**+2.1**
LBTB				IAML		21 27 56.7	
	comp=Z,20nm,0.2s						
LBTB	**Lobatse**	**2.05**	**313**	*i* P	**Pn**	**21 27 21.4**	**-1.6**
	baz=302						
LEPH	**Lephalale, Lim**	**2.61**	**11**	*e*P	**Pn**	**21 27 31.6**	**+1.1**
LEPH				*e*S	**Sn**	**21 28 03.3**	**+1.0**
LEPH				IAML		21 28 14.3	
	comp=Z,4.3nm,0.2s						
BOSA	**Boshof**	**2.81**	**219**	*i* P	**Pn**	**21 27 35.4**	**+2.1**
BOSA				*i* S	**Sb**	**21 28 11.1**	**-1.9**
BOSA	**Boshof**	**2.81**	**219**	*e*P	**Pn**	**21 27 34.1**	**+0.8**
BOSA				*e*S	**Sn**	**21 28 08.9**	**+1.7**
BOSA				IAML		21 28 18.3	
	comp=Z,6.8nm,0.3s						
BOSA	**Boshof**	**2.81**	**219**	*i* P	**Pn**	**21 27 35.4**	**+2.1**
	baz=222						
BOSA				*i* S	**Sb**	**21 28 11.1**	**-1.9**
	baz=222						
KSTD	**Kokstad**	**4.55**	**157**	*e*P	**Pn**	**21 27 58.4**	**+1

FINES FINESS Array B 37.54 326 P **P 22 23 23.8 +4.4**
1.2nm,0.8s,baz=123,slow=10,SNR=5.5
1.2nm,0.8s
NOA NORSAR Array B 44.45 323 P **P 22 24 20.2 +4.1**
0.5nm,0.6s,baz=95,slow=7.7,SNR=3.4
0.5nm,0.6s
ESDC Sonseca Array 57.66 298 P **P 22 25 59.4 +4.2**
0.5nm,0.7s,baz=53,slow=6.7,SNR=4.5
0.5nm,0.7s
TORD Torodi Ar. Bea 66.02 269 P **P 22 26 54.0 +2.6**
0.2nm,0.4s,baz=50,slow=5.9,SNR=8.4
0.2nm,0.4s

*IDC **20** 22:16:50.8±1.6, 13°.60N×91°.64W, h0km, mb3.7/4, mbtmp3.7/7, ML3.6/3, MS3.6/3, Error ellipse: s-maj=31.6km s-min=26.3km az=29.0*
*SNET **20** 22:16:52.9±1.3, 13°.61N×91°.87W, h36km±999km, ML3.5*
*GCG **20** 22:16:59.5±0.4, 13°.87N×91°.43W, h30km±3km, MD3.9*
ISC 20 22:16:52.5±2.1, 13°.64N±0°.07×91°.66W±0°.05, h10km±12km, n23, σ1§31/29, mb3.7/4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.67**	**8**	*e*P	**Pn**	**22 17 09.0**	**+0.9**
SULM				*e*S	**Sb**	**22 17 16.2**	**+0.5**
STG3	**Santiaguito 3,**	**1.07**	**5**	*e*P	**Pb**	**22 17 13.3**	**+0.1**
STG3				*e*S	**Sb**	**22 17 28.6**	**+1.1**
FUG	**Fuego 3**	**1.13**	**44**	*e*P	**Pn**	**22 17 15.0**	**+0.4**
FUG				*e*S	**Sn**	**22 17 31.3**	**+1.0**
PCG	**Pacaya**	**1.27**	**54**	*e*P	**Pn**	**22 17 17.6**	**+1.1**
PCG				*e*S	**Sg**	**22 17 31.9**	**-1.6**
NBG	**Las Nubes**	**1.59**	**53**	*e*P	**Pg**	**22 17 23.5**	**+0.4**
NBG				*e*S	**Sn**	**22 17 40.9**	**-0.7**
HUEH	**Huehuetenango**	**1.68**	**5**	*e*S	**Sn**	**22 17 43.6**	**-0.3**
NUBE	**Las Nubes**	**1.85**	**82**	*e*P	**Pn**	**22 17 25.1**	**+0.7**
NUBE				IAML		22 17 51.9	
	comp=Z,163nm,0.3s						
JAYA	**Jayaque - finc**	**2.15**	**89**	*e*P	**Pn**	**22 17 28.9**	**+0.3**
JAYA				IAML		22 18 01.8	
	comp=Z,729nm,0.2s						
MTO3	**Montecristo**	**2.36**	**71**	*e*S	**Sb**	**22 18 03.0**	**-1.5**
LOMA	**Loma Larga**	**2.42**	**90**	*e*P	**Pn**	**22 17 33.4**	**+1.1**
ESQI	**Esquipulas**	**2.43**	**68**	*e*P	**Pn**	**22 17 33.9**	**+1.5**
ESQI				*e*S	**Sb**	**22 18 06.0**	**-0.5**
LFRS	**El Faro**	**2.53**	**90**	*e*P	**Pn**	**22 17 34.7**	**+1.0**
CMIG	**Matias Romero**	**4.63**	**318**	Pn	**Pn**	**22 18 02.6**	**0.0**
	comp=Z,1.3nm,0.3s,baz=156,slow=13,SNR=8.3						
CMIG				Sn	**Sn**	**22 18 53.0**	**-3.5**
	comp=Z,2.2nm,0.3s,baz=155,slow=16,SNR=1.8						
	comp=Z,3.7nm,0.4s						
TEIG	**Tepich**	**7.31**	**26**	Pn	**Pn**	**22 18 39.9**	**+0.5**
	comp=Z,42nm,0.3s,baz=254,slow=8.8,SNR=26						
TEIG				Sn	**Sn**	**22 20 00.3**	**-2.2**
	baz=153,slow=17						
TEIG				Lg	Lg	22 20 43.1	
	comp=Z,2.0nm,0.3s,baz=243,slow=23,SNR=0.9						
TEIG				LR	LR	22 22 04.1	
	comp=Z,1μm,18.5s,baz=359,slow=43						
JTS	**Las Juntas de**	**7.36**	**116**	Pn	**Pn**	**22 18 38.3**	**-1.8**
	comp=Z,1.5nm,0.3s,baz=314,slow=22,SNR=2.6						
JTS				Lg	Lg	22 20 36.5	
	comp=Z,0.5nm,0.3s,baz=284,slow=19,SNR=2.8						
	comp=Z,3.8nm,0.5s						
TXAR	**Lajitas Array**	**19.18**	**326**	P	**Pn**	**22 21 18.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=14						
	comp=Z,1.2nm,0.8s						
TKL	**Tuckaleechee C**	**23.05**	**17**	P	**P**	**22 21 56.5**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=200,slow=11,SNR=1.6						
	comp=Z,1.6nm,0.6s						
NVAR	**Mina Array Bea**	**34.16**	**321**	P	**P**	**22 23 38.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=142,slow=7.4,SNR=3.9						
	comp=Z,0.5nm,0.6s						
LVC	**Limon Verde**	**42.36**	**148**	LR	LR	22 40 23.3	
	comp=Z,29nm,18.2s,baz=236,slow=33						
SFJD	**Kangerlussuaq**	**59.76**	**17**	LR	LR	22 52 45.8	
	comp=Z,28nm,20.9s,baz=134,slow=36						
ILAR	**Eielson Array**	**63.30**	**337**	P	**P**	**22 27 20.8**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=112,slow=5.7,SNR=5.7						
	comp=Z,0.7nm,0.8s						
ESDC	**Sonseca Array**	**79.68**	**52**	P	**P**	**22 29 02.6**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=283,slow=6.4,SNR=3.1						
	comp=Z,0.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**146.44**	**342**	PKPbc	**PKPdf**	**22 36 33.3**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=344,slow=3.0,SNR=11						

*IDC **20** 22:47:12.3±1.3, 32°.09N×141°.86E, h0km, mb3.6/6, mbtmp3.6/7, ML2.4/1, Error ellipse: s-maj=43.9km s-min=21.1km az=74.0*
*JMA **20** 22:47:15.1±0.5, 32°N±3°×14°2E±°, h81km, MV3.4/24, FAR E OFF IZU ISLANDS*
ISC 20 22:47:16.3±1.1, 32°.17N±0°.10×142°.1E±0°.2, h29km, n15, σ1§41/20, mb3.6/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.65**	**340**	*e*P	**Pn**	**22 47 55.9**	**-0.7**
BSO1				*e*S	**Sn**	**22 48 27.6**	**+0.1**
BSO2	**Boso 2**	**2.81**	**337**	*e*S	**Sn**	**22 48 33.3**	**+1.5**
BSO3	**Boso 3**	**2.94**	**334**	*e*S	**Sn**	**22 48 36.8**	**+1.7**
BSO4	**Boso 4**	**3.17**	**333**	*e*P	**Pn**	**22 48 05.0**	**+0.8**
BSO4				*e*S	**Sn**	**22 48 43.6**	**+2.6**
JYN	**Shimob**	**4.44**	**319**	*e*P	**Pn**	**22 48 22.6**	**+0.8**
JHO	**Hitachi**	**4.61**	**345**	*e*P	**Pn**	**22 48 23.1**	**-1.0**
JHO				*e*S	**Sn**	**22 49 14.2**	**-2.4**
JAG	**Ashikaga**	**4.78**	**334**	*e*P	**Pn**	**22 48 26.2**	**-0.2**
JAG				*e*S	**Sn**	**22 49 18.8**	**-1.9**
JNG	**Nsakai**	**5.37**	**323**	*e*P	**Pn**	**22 48 35.0**	**+0.4**
MJAR	**Matsushiro Arr**	**5.42**	**325**	Pn	**Pn**	**22 48 33.2**	**-2.0**
	0.1nm,0.3s,baz=160,slow=11,SNR=8.9						
MJAR				Sn	**Sn**	**22 49 36.0**	**-0.6**
	baz=155,slow=18,SNR=1.8						
	2.0nm,0.6s						
SONM	**Songino Array**	**31.18**	**311**	P	**P**	**22 53 32.1**	**-0.8**
	0.4nm,0.6s,baz=111,slow=7.9,SNR=2.1						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**47.31**	**306**	P	**P**	**22 55 46.9**	**-0.4**
	1.4nm,0.7s,baz=95,slow=9.8,SNR=9.0						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**52.34**	**189**	P	**P**	**22 56 24.3**	**-1.4**
	0.7nm,0.6s,baz=4.1,slow=7.6,SNR=7.0						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**53.35**	**30**	P	**P**	**22 56 34.2**	**+1.5**
	0.6nm,1.0s,baz=277,slow=7.2,SNR=3.1						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**56.07**	**189**	P	**P**	**22 56 53.5**	**+0.7**
	0.3nm,0.6s,baz=17,slow=13,SNR=2.6						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**73.39**	**333**	P	**P**	**22 58 45.6**	**+0.4**
	0.4nm,0.5s,baz=47,slow=8.4,SNR=3.5						
	0.4nm,0.5s						

*IDC **20** 22:53:44.7±0.8, 54°.98S×30°.84W, h0km, mb4.0/6, mbtmp4.0/7, ML3.7/1, MS3.3/6, Error ellipse: s-maj=33.0km s-min=20.6km az=65.0*
*NEIC **20** 22:53:46.2±0.9, 55°.1S±0°.1×31°.1W±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=27.2km s-min=16.7km az=34.0*
ISC 20 22:53:46.3±0.6, 55°.05S±0°.1×31°.0W±0°.1, h10km, n40, σ0§98/31, mb4.3/10, MS3.5/5, 3C-1D, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.26**	**280**		Pn	22 54 35.6	-1.7
VNA3	**Neumayer Olymp**	**18.77**	**159**	⇑P	**P**	**22 58 06.7**	**+1.5**
PMSA	**Palmer Station**	**19.04**	**226**	P	**P**	**22 58 10.0**	**+1.9**
	0.2nm,0.3s,baz=49,slow=4.4,SNR=4.7						
PMSA				LR	LR	23 04 28.6	
	comp=Z,58nm,18.9s,baz=63,slow=34						
	4.1nm,0.7s						
VNA2	**Neumayer--Watz**	**19.04**	**156**	⇓P	**P**	**22 58 08.9**	**+0.8**
	baz=322,slow=12						
SNAA	**Sanae**	**20.63**	**155**	P	**P**	**22 58 24.3**	**-1.2**
SNAA	**Sanae**	**20.63**	**155**	⇑P	**P**	**22 58 24.9**	**-0.6**
SNAA	**Sanae**	**20.63**	**155**	P	**P**	**22 58 24.8**	**-0.7**
	4.9nm,0.8s,baz=299,slow=7.7,SNR=13						
	4.9nm,0.8s						
TROLL	**Troll, Antarti**	**22.19**	**153**	⇑P	**P**	**22 58 43.4**	**+1.0**
	comp=Z,129nm,0.7s						
PLCA	**Paso Flores**	**29.66**	**282**	LR	LR	23 11 04.0	
	comp=Z,24nm,19.8s,baz=180,slow=35						
CPUP	**Villa Florida**	**34.49**	**315**	P	**P**	**23 00 34.0**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=133,slow=5.1,SNR=3.3						
CPUP				LR	LR	23 14 42.3	
	comp=Z,22nm,18.6s,baz=222,slow=36						
	comp=Z,1.4nm,0.6s						
MT09	**Talagante**	**34.90**	**291**	P	**P**	**23 00 37.2**	**-0.7**
QSPA	**South Pole Qui**	**35.29**	**180**	P	**P**	**23 00 40.5**	**-0.5**
QSPA				IAmb	IAmb	23 00 51.8	
	comp=Z,4.8nm,1.1s						
QSPA	**South Pole Qui**	**35.29**	**180**	P	**P**	**23 00 40.4**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=200,slow=4.9,SNR=3.2						
	comp=Z,1.9nm,0.8s						
CO01	**Juntas del Tor**	**37.39**	**296**	P	**P**	**23 00 58.4**	**-1.0**
CO01				IAmb	IAmb	23 01 00.3	
	comp=Z,9.9nm,1.1s						
MAW	**Mawson**	**42.30**	**145**	P	**P**	**23 01 38.9**	**-0.6**
MAW	**Mawson**	**42.30**	**145**	P	**P**	**23 01 38.5**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=252,slow=6.4,SNR=5.0						
	comp=Z,1.1nm,0.7s						
PB08	**IPOC Station P**	**45.11**	**305**	P	**P**	**23 02 03.7**	**+0.6**
PB08				IAmb	IAmb	23 02 12.8	
	comp=Z,3.9nm,1.0s						
GO01	**Chusmiza**	**45.54**	**305**	P	**P**	**23 02 06.8**	**+0.2**
GO01				IAmb	IAmb	23 02 14.0	
	comp=Z,4.9nm,1.1s						
PB16	**IPOC Station P**	**46.84**	**306**	P	**P**	**23 02 16.6**	**-0.2**
PB16				IAmb	IAmb	23 02 26.0	
	comp=Z,3.6nm,1.0s						
LPAZ	**La Paz**	**47.99**	**309**	P	**P**	**23 02 26.7**	**+0.8**
LPAZ	**La Paz**	**47.99**	**309**	P	**P**	**23 02 26.5**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=136,slow=6.0,SNR=4.0						
	comp=Z,2.7nm,0.5s						
H10N1	**ASCENSION HYDR**	**48.81**	**22**	T	T	23 56 07.1	
	baz=201						
H10N3	**ASCENSION HYDR**	**48.81**	**22**	T	T	23 56 00.5	
	baz=201						
H10N2	**ASCENSION HYDR**	**48.83**	**22**	T	T	23 56 01.2	
	baz=201						
SAML	**Samuel**	**52.52**	**318**	P	**P**	**23 02 59.5**	**-0.1**
BOAV	**Boa Vista**	**62.13**	**326**	P	**P**	**23 04 07.2**	**-0.2**
BOAV				IAmb	IAmb	23 04 17.9	
	comp=Z,2.6nm,1.0s						
PAYG	**Puerto Ayora**	**72.30**	**296**	P	**P**	**23 05 10.9**	**-1.1**
KOWA	**Kowa**	**72.87**	**27**	LR	LR	23 31 13.4	
	comp=Z,29nm,21.3s,baz=327,slow=31						
TOA0	**Torodi Ar. Sit**	**73.26**	**33**	P	**P**	**23 05 17.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.26**	**33**	P	**P**	**23 05 18.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=210,slow=6.0,SNR=3.8						
	comp=Z,0.6nm,0.6s						
JTS	**Las Juntas de**	**79.11**	**306**	LR	LR	23 41 41.6	
	comp=Z,52nm,20.0s,baz=166,slow=36						
TUWZ	**Tuamarina**	**81.64**	**199**	P	**P**	**23 06 03.6**	**-0.6**
MDT	**Midelt**	**90.33**	**22**	LR	LR	23 40 30.8	
	comp=Z,34nm,20.5s,baz=318,slow=31						
FINES	**FINESS Array B**	**124.47**	**29**	PKP	**PKPdf**	**23 12 43.7**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=222,slow=1.7,SNR=1.4						
CMAR	**Chiang Mai Arr**	**127.48**	**114**	PKP	**PKPdf**	**23 12 50.6**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=208,slow=3.1,SNR=1.7						
BVAR	**Borovoye Array**	**136.05**	**59**	PKP	**PKPdf**	**23 13 07.4**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=287,slow=5.9,SNR=1.9						
MKAR	**Makanchi Array**	**138.62**	**73**	PKP	**PKPdf**	**23 13 12.2**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=280,slow=2.5,SNR=1.9						
ZALV	**Zalesovo Beam**	**143.85**	**64**	PKP	PKPab	23 13 18.7	+1.1
	comp=Z,0.6nm,0.6s,baz=222,slow=3.7,SNR=2.5						
ILAR	**Eielson Array**	**147.78**	**314**	PKPbc	**PKPdf**	**23 13 29.5**	**+2.6**
	comp=Z,1.5nm,0.7s,baz=112,slow=1.6,SNR=17						
SONM	**Songino Array**	**152.84**	**87**	PKPbc	**PKPbc**	**23 13 42.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=227,slow=3.4,SNR=4.7						

*IDC **20** 23:00:25.6±0.7, 45°.30N×37°.33E, h0km, mb3.5/3, mbtmp3.4/12, ML3.1/7, Error ellipse: s-maj=12.7km s-min=7.2km az=26.0*
*SIGU **20** 23:00:28.0, 45°.52N×37°.31E, h18km, Azov Sea district 7*
ISC 20 23:00:29.9±1.5, 45°.38N±0°.07×37°.33E±0°.05, h33km±11km, n20, σ1§17/31, 2C, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.58**	**173**	*e*Pg	**Pb**	**23 00 41.2**	**-0.5**
ANN				Pgm		23 00 41.8	
	comp=Z,300nm,0.1s						
ANN				*e*Sg	**Sb**	**23 00 50.2**	**+0.4**
ANN				Sgm		23 00 51.1	
	comp=N,814nm,0.4s						
ANN				Sgm		23 00 51.3	
	comp=E,916nm,0.7s						
FEO	**Feodosiya**	**1.42**	**256**	*e*Pg	**Pn**	**23 00 53.3**	**0.0**
FEO				Pgm		23 00 53.7	
	comp=Z,10.0nm,0.2s						
FEO				*e*Sg	**Sn**	**23 01 10.3**	**-0.6**
FEO				Sgm		23 01 15.5	
	comp=N,36nm,0.2s						
FEO				Sgm		23 01 16.9	
	comp=E,20nm,0.2s						
SUDU	**Sudak**	**1.72**	**254**	⇑*i*Pn	**Pn**	**23 00 58.2**	**+0.7**
SUDU				Pnm		23 00 58.5	
	comp=Z,11nm,0.2s						
SUDU				*e*Sn	**Sn**	**23 01 19.4**	**+1.1**
SUDU				Snm		23 01 20.7	
	comp=E,18nm,0.2s						
SUDU				Snm		23 01 23.8	
	comp=N,42nm,0.3s						
ALU	**Alushta**	**2.19**	**253**	*e*Pn	**Pn**	**23 01 04.0**	**+0.1**
ALU				Pnm		23 01 07.7	
	comp=Z,3.0nm,0.2s						
ALU				*e*Sn	**Sn**	**23 01 29.2**	**-0.7**
ALU				Snm		23 01 35.2	
	comp=E,11nm,0.3s						
ALU				Snm		23 01 36.1	
	comp=N,6.0nm,0.2s						
SIM	**Simferopol'**	**2.32**	**261**	*e*(Sn)	**Sn**	**23 01 35.5**	**+2.5**
SIM				Snm		23 01 37.3	
	comp=E,8.0nm,0.2s						
SIM				Snm		23 01 40.0	
	comp=N,15nm,0.3s						
YAL	**Yalta**	**2.43**	**250**	*e*Pn	**Pn**	**23 01 08.0**	**+0.8**
YAL				Pnm		23 01 09.2	
	comp=Z,5.0nm,0.1s						
YAL				*e*Sn	**Sn**	**23 01 35.7**	**0.0**
YAL				Snm		23 01 37.8	
	comp=N,12nm,0.3s						
YAL				Snm		23 01 38.4	
	comp=E,19nm,0.2s						
SEV	**Sevastopol'**	**2.73**	**254**	⇑*i*Pn	**Pn**	**23 01 12.2**	**+0.8**
SEV				Pnm		23 01 12.7	
	comp=Z,6.0nm,0.3s						
SEV				*e*Sn	**Sn**	**23 01 43.9**	**+0.7**
SEV				Snm		23 01 44.5	
	comp=N,8.0nm,0.4s						
SEV				Snm		23 01 44.5	
	comp=E,9.0nm,0.4s						
TARU	**Tarkhankut**	**3.38**	**272**	*e*Pn	**Pn**	**23 01 22.1**	**+1.8**
TARU				Pnm		23 01 32.4	
	comp=Z,3.0nm,0.2s						
TARU				*e*Sn	**Sn**	**23 02 00.3**	**+1.0**
TARU				Snm		23 02 08.7	
	comp=E,8.0nm,0.2s						
TARU				Snm		23 02 09.6	
	comp=N,6.0nm,0.2s						
KVAR	**Kislovodsk Arr**	**4.08**	**108**	Pn	**Pn**	**23 01 31.1**	**+1.0**
	comp=N,0.6nm,0.4s,baz=346,slow=20,SNR=1.6						
KVAR				Sn	**Sn**	**23 02 15.1**	**-1.7**
	baz=285,slow=20						
KVAR				Lg	Lg	23 02 33.7	
	baz=346,slow=12						
KBZ	**Khabaz**	**4.30**	**111**	Pn	**Pn**	**23 01 33.9**	**+0.9**
	comp=N,0.3nm,0.3s,baz=286,slow=9.1,SNR=14						
KBZ				Sn	**Sn**	**23 02 20.5**	**-1.6**
	comp=N,0.6nm,0.3s,baz=224,slow=4.2,SNR=4.1						
KBZ				Lg	Lg	23 02 39.8	
	comp=N,0.9nm,0.3s,baz=173,slow=17,SNR=2.6						
	comp=N,0.8nm,0.2s						
BRTR	**Keskin Array B**	**6.27**	**207**	Pn	**Pn**	**23 02 00.5**	**+0.3**
	comp=N,0.1nm,0.3s,baz=40,slow=14,SNR=3.0						
BRTR				Sn	**Sn**	**23 03 09.2**	**-1.6**
	comp=N,0.1nm,0.3s,baz=64,slow=26,SNR=2.4						
	comp=N,0.2nm,0.3s						
AKASG	**Malin Array Be**	**7.61**	**317**	Pn	**Pn**	**23 02 17.8**	**-0.5**
	comp=N,1.8nm,0.3s,baz=122,slow=14,SNR=7.6						
AKASG				Sn	**Sn**	**23 03 40.5**	**-2.8**
	comp=N,0.9nm,0.3s,baz=128,slow=24,SNR=2.4						
AKASG				Lg	Lg	23 04 23.2	
	comp=N,1.4nm,0.3s,baz=73,slow=29,SNR=1.8						
	comp=N,0.4nm,0.2s						
MLR	**Muntele Rosu**	**8.01**	**275**	Pn	**Pn**	**23 02 25.3**	**+1.2**
	comp=N,0.6nm,0.7s,baz=109,slow=18,SNR=1.4						
BELG	**Belogornoye**	**9.75**	**40**	Pn	**Pn**	**23 02 48.1**	**+0.4**
	comp=N,0.2nm,0.3s,baz=42,slow=11,SNR=2.5						
	comp=N,5.4nm,0.8s						
FINES	**FINESS Array B**	**17.39**	**342**	P	**P**	**23 04 31.0**	**+0.2**
	comp=N,0.1nm,0.3s,baz=155,slow=14,SNR=4.0						
	comp=N,0.7nm,0.8s						
VAE	**Valguarnera**	**18.87**	**253**	P	**P**	**23 04 48.0**	**+0.7**
	comp=N,1.3nm,0.3s,baz=137,slow=15,SNR=2.2						
	comp=N,3.8nm,0.4s						
DAVOX	**Davos/Dischmat**	**19.07**	**284**	P	**P**	**23 04 48.7**	**-0.8**
	comp=N,0.1nm,0.3s,baz=358,slow=21,SNR=1.9						
	comp=N,0.6nm,0.5s						
HFS	**Hagfors**	**20.40**	**325**	P	**P**	**23 05 03.6**	**-0.1**
	comp=N,1.2nm,0.6s,baz=147,slow=8.4,SNR=1.7						
	comp=N,1.2nm,0.6s						
NOA	**NORSAR Array B**	**21.92**	**325**	P	**P**	**23 05 18.9**	**-1.2**
	comp=N,1.0nm,1.0s,baz=128,slow=10,SNR=1.9						
	comp=N,1.0nm,1.0s						
ARCES	**ARCESS Array B**	**24.95**	**350**	P	**P**	**23 05 49.7**	**-0.2**
	comp=N,2.5nm,0.9s,baz=169,slow=11,SNR=1.4						
	comp=N,2.5nm,0.9s						

*IDC **20** 23:19:38.5±0.7, 50°.19N×18°.90E, h0km, mb3.4/2, mbtmp3.4/10, ML2.9/8, Error ellipse: s-maj=12.9km s-min=6.5km az=146.0*
*VIE **20** 23:19:38.5±0.3, 50°.24N×18°.97E, h0km, mb2.5/8, ml2.7/7, Error ellipse: s-maj=6.4km s-min=1.9km az=168.0 2 km SW of Katowice Suspected Mining induced.*
*IPEC **20** 23:19:38.4±0.2, 50°.23N×18°.98E, h1km, ML2.9/4, Error ellipse: s-maj=2.4km s-min=1.1km az=168.0*
*PRU **20** 23:19:39.1, 50°.22N×18°.93E, h0km*
ISC 20 23:19:38.1±0.7, 50°.25N±0°.03×18°.97E±0°.02, h0km, n66, σ0§86/101, 10C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.53**	**252**	*e*PG	**Pb**	**23 19 50.1**	**-0.1**
RAC				*e*SG	**Sb**	**23 19 58.7**	**+0.3**
OJC	**Ojcow**	**0.53**	**93**	*e*Pg	**Pg**	**23 19 48.7**	**+0.4**
OJC				*e*Sg	**Sg**	**23 19 56.5**	**+1.2**
OKC	**Ostrava-Krasne**	**0.67**	**233**	*e*PG	**Pb**	**23 19 51.9**	**-0.8**
MORC	**Moravsky Berou**	**1.03**	**244**	⇓P	**Pg**	**23 19 58.2**	**+0.3**
MORC	**Moravsky Berou**	**1.03**	**244**	*e*Pg	**Pg**	**23 19 58.2**	**+0.3**
	baz=63						
MORC				*e*Sg	**Sg**	**23 20 10.9**	**-0.4**
	265nm,0.9s,baz=63						
LANS	**Liptovska Anna**	**1.14**	**163**	*e*PG	**Pg**	**23 20 00.2**	**+0.2**
LANS				*e*SG	**Sg**	**23 20 15.2**	**+0.4**
LANS				*e*LG	Lg	23 20 19.1	
MAUC	**Maruska**	**1.15**	**220**	*e*PG	**Pb**	**23 20 00.6**	**-0.3**
NIE	**Niedzica**	**1.20**	**133**	*e*Pg	**Pg**	**23 20 01.4**	**+0.3**
NIE				*e*Sg	**Sn**	**23 20 19.4**	**+0.3**
KRLC	**Kraliky**	**1.42**	**264**	*e*PG	**Pn**	**23 20 04.7**	**-0.5**
KRLC				*e*SG	**Sg**	**23 20 23.7**	**0.0**
	comp=Z,90nm,0.4s						
JAVC	**Velka Javorina**	**1.63**	**212**	*e*Pn	**Pn**	**23 20 08.1**	**0.0**
	baz=31						
STHS	**Stebnicka Huta**	**1.69**	**119**	*e*PN	**Pn**	**23 20 08.0**	**-0.9**
STHS				*e*SN	**Sg**	**23 20 32.6**	**+0.2**
STHS				*e*LG	Lg	23 20 43.2	
DPC	**Dobruska-Polom**	**1.70**	**275**	*e*PG	**Pn**	**23 20 09.4**	**+0.3**
DPC				*e*SG	**Sb**	**23 20 32.5**	**+0.2**
	comp=Z,96nm,0.5s						
VYHS	**Vyhne**	**1.76**	**183**	*e*PN	**Pn**	**23 20 09.2**	**-0.6**
VYHS				*e*SN	**Sn**	**23 20 31.1**	**-1.8**
OSTC	**Ostas**	**1.79**	**281**	*e*PG	**Pn**	**23 20 10.5**	**+0.2**
OSTC				*e*SG	**Sg**	**23 20 35.7**	**+0.1**
	comp=Z,43nm,0.6s						
VRAC	**Vranov**	**1.81**	**240**	⇑P	**Pn**	**23 20 11.2**	**+0.7**
VRAC	**Vranov**	**1.81**	**240**	*e*Pn	**Pn**	**23 20 10.3**	**-0.2**
	baz=58						
VRAC				*e*Sg	**Sb**	**23 20 34.8**	**-0.4**
	75nm,0.5s,baz=58						
VRAC	**Vranov**	**1.81**	**240**	Pg	**Pn**	**23 20 10.9**	**+0.4**
	12nm,0.3s,baz=54,slow=14,SNR=93						
VRAC				Lg	Lg	23 20 34.1	
	5.1nm,0.3s,baz=137,slow=18,SNR=3.5						
KSP	**Ksiaz**	**1.81**	**290**	*e*Pb	**Pn**	**23 20 10.8**	**+0.2**
KSP				*e*Pg	**Pg**	**23 20 13.0**	**+0.2**
KSP				*e*Sg	**Sg**	**23 20 37.6**	**+1.3**
CHVC	**Chvalec**	**1.90**	**282**	*e*PG	**Pn**	**23 20 12.1**	**+0.3**
UPC	**Upice**	**1.91**	**279**	*e*PG	**Pn**	**23 20 11.9**	**-0.1**
UPC				*e*SG	**Sg**	**23 20 39.9**	**+0.4**
	comp=Z,51nm,0.6s						
KECS	**Kecovo**	**2.02**	**150**	*e*PN	**Pn**	**23 20 12.8**	**-0.7**
KECS				*e*LG	Lg	23 20 49.2	
KRUC	**Moravsky**	**2.05**	**236**	*e*Pn	**Pn**	**23 20 13.7**	**-0.2**
	baz=54						
KRUC				*e*Sg	**Sb**	**23 20 42.7**	**+0.4**
	48nm,0.8s,baz=54						
CRVS	**Cervenica-Dubn**	**2.11**	**129**	*e*PN	**Pn**	**23 20 15.4**	**+0.8**
CRVS				*e*SG	**Sb**	**23 20 44.8**	**+0.9**
PSZ	**Piszkesteto**	**2.41**	**165**	⇑P	**Pn**	**23 20 18.2**	**-0.6**
KOLS	**Kolonicke sedl**	**2.52**	**120**	*e*PG	**Pg**	**23 20 25.6**	**-0.8**
KOLS				*e*SN	**Sn**	**23 20 51.1**	**-0.6**

comp=Z,3.3nm,0.4s
BZS Buzias 4.96 158 ⇑P Pn 23 20 53.5 -0.4
FRGS Fruska Gora 5.12 173 ⇑P Pn 23 20 56.2 0.0
BSD Bornholm Skovb 5.46 335 *i P* **Pn 23 21 00.1 -0.6**
GZR Gura Zlata 5.49 151 ⇓P Pn 23 21 01.5 +0.3
HERR Herculane 5.85 155 ⇑P Pn 23 21 06.5 +0.5
LUNU Lund 6.34 330 *i P* **Pn 23 21 12.6 -0.2**
BLEU Blekinge 6.36 344 *i P* **Pn 23 21 12.8 -0.2**
AKASG Malin Array Be 6.56 82 Pn **Pn 23 21 14.1 -1.7**
comp=Z,0.7nm,0.3s,baz=259,slow=14,SNR=1.7
AKASG Pg **Pb 23 21 32.8 -0.3**
comp=Z,0.6nm,0.3s,baz=272,slow=12,SNR=1.6
AKASG Lg Lg 23 23 02.4
comp=Z,0.8nm,0.3s,baz=262,slow=24,SNR=1.6
comp=Z,0.6nm,0.5s
NACGM Naroch 6.66 43 *eP* **Pn 23 21 15.5 -1.7**
comp=Z,6.0nm,0.8s,baz=230
MLR Muntele Rosu 6.68 133 Pn **Pn 23 21 18.5 +0.9**
comp=Z,0.1nm,0.3s,baz=279,slow=12,SNR=2.0
comp=Z,0.8nm,0.6s
BJUU Bjuv 6.84 331 *i P* **Pn 23 21 19.9 +0.3**
DEL Delary 6.94 336 *i P* **Pn 23 21 21.2 +0.2**
DAVOX Davos/Dischmat 6.96 244 Pn **Pn 23 21 20.7 -0.8**
comp=Z,0.5nm,0.3s,baz=62,slow=17,SNR=8.3
DAVOX Sn **Sn 23 22 39.9 -1.6**
baz=354,slow=19,SNR=1.3
DAVOX Lg Lg 23 23 19.1
comp=Z,0.4nm,0.3s,baz=13,slow=19,SNR=2.3
comp=Z,1.4nm,0.4s
HFS Hagfors 10.35 345 Pn Pn 23 22 03.2 -4.5
comp=Z,0.1nm,0.3s,baz=129,slow=14,SNR=1.8
comp=Z,2.3nm,1.0s
NOA NORSAR Array B 11.66 341 Pn Pn 23 22 21.1 -4.5
baz=152,slow=12,SNR=2.0
comp=Z,0.5nm,0.7s
FINES FINESS Array B 11.90 17 Pn Pn 23 22 24.4 -4.5
comp=Z,0.5nm,0.3s,baz=198,slow=12,SNR=24
FINES Sn Sn 23 24 32.7 -10
comp=Z,0.2nm,0.3s,baz=200,slow=22,SNR=1.9
comp=Z,1.7nm,0.4s
ARCES ARCESS Array B 19.60 7 P **P 23 24 06.7 -0.9**
comp=Z,0.2nm,0.3s,baz=193,slow=12,SNR=13
comp=Z,3.4nm,0.8s
TORD Torodi Ar. Bea 39.60 207 P **P 23 27 11.4 +0.2**
comp=Z,0.2nm,0.4s,baz=14,slow=8.0,SNR=2.1
comp=Z,0.2nm,0.4s
SONM Songino Array 54.13 56 P **P 23 29 05.1 +0.3**
comp=Z,0.5nm,0.9s,baz=308,slow=7.1,SNR=3.0
comp=Z,0.5nm,0.9s

---

*IDC **20** 23:20:22.8±4.6, 14°.67S×167°.54E, h146km±40km, mb3.4/8, mbtmp3.8/9, Error ellipse: s-maj=30.5km s-min=28.5km az=154.0*
*NOU **20** 23:20:42.2, 15°.52S×167°.65E, h0km, MLv4.0/4, Vanuatu Islands*
ISC 20 23:20:22.9±0.9, 14°.7S±0°.1×167°.6E±0°.2, h150km, n11, σ1§03/11, mb3.5/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.45**	**188**	P	**Pn**	**23 22 09.7**	**+0.7**
	3.7nm,0.3s,baz=82,slow=4.9,SNR=32						
DZM				S	**Sn**	**23 23 31.8**	**-0.5**
	4.3nm,0.6s,baz=293,slow=16,SNR=1.5						
STKA	**Stephens Creek**	**29.27**	**230**	P	**P**	**23 26 10.8**	**-0.3**
	1.0nm,0.5s,baz=16,slow=8.0,SNR=2.8						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**32.15**	**256**	P	**P**	**23 26 36.7**	**+0.1**
	0.6nm,0.8s,baz=85,slow=8.5,SNR=2.1						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**32.99**	**249**	P	**P**	**23 26 42.2**	**-1.7**
	0.4nm,0.3s,baz=76,slow=9.5,SNR=6.3						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**75.36**	**180**	P	**P**	**23 31 50.5**	**+0.8**
	1.1nm,0.8s,baz=284,slow=4.2,SNR=8.5						
	1.1nm,0.8s						
SONM	**Songino Array**	**82.63**	**323**	P	**P**	**23 32 31.1**	**+1.5**
	0.2nm,0.4s,baz=107,slow=5.0,SNR=2.1						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**86.37**	**18**	P	**P**	**23 32 47.2**	**-0.5**
	0.4nm,0.8s,baz=227,slow=6.7,SNR=2.9						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	**94.67**	**47**	P	**P**	**23 33 26.2**	**-1.2**
	0.1nm,0.4s,baz=224,slow=6.3,SNR=1.6						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**97.37**	**316**	P	Pdif	23 33 40.2	+0.9
	0.7nm,0.8s,baz=104,slow=6.1,SNR=2.9						
	0.7nm,0.8s						
ARCES	**ARCESS Array B**	**120.27**	**346**	PKP	**PKiKP**	**23 38 56.0**	**+0.3**
	1.8nm,0.7s,baz=30,slow=2.2,SNR=8.4						
FINES	**FINESS Array B**	**125.78**	**338**	PKP	**PKiKP**	**23 39 07.0**	**+0.2**
	0.4nm,0.5s,baz=61,slow=3.5,SNR=4.8						

---

*DJA **20** 23:32:26.4±0.3, 0°.N±3°.×12°.5E±°., h10km, M4.1/11, mb4.2/2, MLv4.0/11*
*IDC **20** 23:32:32.0±8.4, 0°.01N×124°.89E, h96km±79km, mb3.4/6, mbtmp3.7/7, ML3.8/1, MS2.6/1, Error ellipse: s-maj=63.2km s-min=19.5km az=51.0*
ISC 20 23:32:27.4±0.9, 0°.12N±0°.07×125°.11E±0°.06, h53km, n17, σ1§81/19, mb3.6/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.22**	**292**	P	**Pn**	**23 32 47.5**	**-0.6**
KMSI				S	**Sn**	**23 33 01.4**	**-2.1**
GTOI	**Gorontalo**	**2.16**	**284**	P	**Pn**	**23 33 04.1**	**+3.1**
GTOI				S	**Sn**	**23 33 30.3**	**+3.7**
SANI	**Sanana**	**2.33**	**158**	P	**Pn**	**23 33 02.7**	**-0.5**
SANI				S	Sn	23 33 40.2	+10
LBMI	**Labuha**	**2.51**	**107**	P	**Pn**	**23 33 08.0**	**+2.3**
LUWI	**Luwuk**	**2.60**	**244**	P	**Pn**	**23 33 08.5**	**+1.5**
MRSI	**Marisa**	**3.19**	**276**	P	**Pn**	**23 33 14.0**	**-1.0**
SGSI	**Sangihe**	**3.57**	**7**	P	Pn	23 33 26.3	+6.0
NLAI	**Namlea**	**3.88**	**149**	P	**Pn**	**23 33 24.8**	**+0.2**
TTSI	**Tana Toraja**	**6.15**	**239**	P	**Pn**	**23 33 56.7**	**+1.0**
	25nm,0.7s,0.1nm						
BKSI	**Bulukumba**	**7.35**	**223**	P	**Pn**	**23 34 13.4**	**+1.3**
KAPI	**Kappang**	**7.39**	**226**	P	**Pn**	**23 34 14.0**	**+1.3**
	1.5nm,0.3s,baz=36,slow=8.7,SNR=2.5						
KAPI				S	**Sn**	**23 35 34.2**	**-1.1**
	1.5nm,0.3s,baz=76,slow=17,SNR=1.2						
KAPI				LR	LR	23 37 20.8	
	comp=Z,46nm,20.8s,baz=9.0,slow=40						
	5.4nm,0.5s						
WRA	**Warramunga Arr**	**21.89**	**156**	P	**P**	**23 37 16.4**	**+0.2**
	1.0nm,0.6s,baz=337,slow=11,SNR=5.2						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**25.14**	**161**	P	**P**	**23 37 49.0**	**+1.2**
	2.5nm,1.0s,baz=335,slow=10,SNR=15						
	2.5nm,1.0s						
STKA	**Stephens Creek**	**35.44**	**155**	P	**P**	**23 39 18.5**	**-0.1**
	2.3nm,0.7s,baz=316,slow=11,SNR=4.6						
	2.3nm,0.7s						
MKAR	**Makanchi Array**	**59.64**	**327**	P	**P**	**23 42 26.6**	**+0.4**
	0.2nm,0.4s,baz=128,slow=8.6,SNR=1.7						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.94**	**329**	P	**P**	**23 42 55.0**	**+0.1**
	0.4nm,0.7s,baz=128,slow=7.1,SNR=2.1						
	0.4nm,0.7s						
AKASG	**Malin Array Be**	**93.65**	**321**	P	**P**	**23 45 35.4**	**-2.8**
	0.3nm,0.4s,baz=90,slow=2.8,SNR=1.4						
	0.3nm,0.4s						

---

*NNC **20** 23:58:21.9±0.5, 43°.11N×78°.62E, h0km, mpv3.2, Error ellipse: s-maj=7.8km s-min=2.5km az=176.0*
*SOME **20** 23:58:22.6, 43°.10N×78°.40E, h10km*
ISC 20 23:58:20.8±1.0, 43°.18N±0°.08×78°.58E±0°.07, h17km±9km, n6, σ0§65/12, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.11**	**264**	P	**Pg**	**23 58 25.2**	**+0.7**
	26nm,0.0s						
ZHN				S	**Sg**	**23 58 26.7**	**-0.3**
	163nm,0.1s						
ZHN	**Zhinishke**	**0.11**	**264**	*eP*	**Pg**	**23 58 25.2**	**+0.7**
	26nm,0.0s						
ZHN				*eS*	**Sg**	**23 58 26.8**	**-0.2**
	132nm,0.1s						
SATY	**Saty**	**0.17**	**226**	P	**Pg**	**23 58 25.4**	**0.0**
	56nm,0.1s						
SATY				S	**Sg**	**23 58 27.4**	**-1.0**
	447nm,0.1s						
KPKS	**Kokpek**	**0.30**	**15**	*eP*	**Pn**	**23 58 30.5**	**0.0**
	1.0nm,0.1s						
KPKS				*eS*	**Sn**	**23 58 36.2**	**-0.4**
	15nm,0.2s						
UZB	**Uzynbulak**	**0.33**	**96**	P	**Pb**	**23 58 27.9**	**-0.3**
	0.8nm,0.1s						
UZB				S	**Sg**	**23 58 31.7**	**-0.8**
	5.2nm,0.1s						
UZB	**Uzynbulak**	**0.33**	**96**	*eP*	**Pn**	**23 58 31.4**	**+0.5**
	8.2nm,0.1s						
UZB				*eS*	**Sn**	**23 58 37.9**	**+0.5**
	15nm,0.1s						

IDC 21 00:49:18.5±9.4, 5°.18S×103°.82E, h0km, mb3.4/3, mbtmp3.4/3, MS2.5/1, Error ellipse: s-maj=500.9km s-min=30.1km az=50.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**4.12**	**114**	LR	LR	00 51 24.6	
	comp=Z,59nm,21.7s,baz=114,slow=31						
WRA	**Warramunga Arr**	**33.12**	**119**	P	P	00 55 56.6	0.0
	0.4nm,0.7s,baz=297,slow=7.0,SNR=2.0						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**34.31**	**125**	P	P	00 56 07.0	-0.1
	0.2nm,0.5s,baz=296,slow=7.1,SNR=4.5						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**55.15**	**342**	P	P	00 58 52.7	-0.1
	0.4nm,0.5s,baz=158,slow=7.6,SNR=4.9						
	0.4nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.63**	**219**	T	T	02 05 30.3	
	baz=63						
H04N1	**CROZET ISLANDS**	**60.64**	**219**	T	T	02 05 29.6	
	baz=63,SNR=3.9						
H04N3	**CROZET ISLANDS**	**60.64**	**219**	T	T	02 05 29.0	
	baz=63						

---

*SJA **21** 00:52:05.3±0.8, 30°.46S×71°.80W, h26km±2km, ML3.5, MW3.7*
*GUC **21** 00:52:07.4±0.8, 30°.46S×71°.70W, h44km±2km, ML3.9*
ISC 21 00:52:06.8±1.5, 30°.41S±0°.03×71°.81W±0°.07, h19km±3km, n31, σ1§51/46, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.30**	**150**	⇑*iP*	**Pg**	**00 52 14.7**	**+1.2**
CO06				*eS*	**Sb**	**00 52 19.9**	**+1.8**
CO06				IAML		00 52 20.8	
	comp=N,27μm,0.2s						
CO05	**La Serena**	**0.70**	**45**	*eP*	**Pg**	**00 52 21.1**	**+0.5**
CO05				*eS*	**Sg**	**00 52 30.4**	**+0.4**
CO05				IAML		00 52 34.5	
	comp=E,4μm,0.5s						
GO04	**Tololo Observa**	**0.91**	**75**	*eP*	**Pg**	**00 52 23.6**	**-1.0**
GO04				*eS*	**Sg**	**00 52 35.5**	**-1.2**
GO04				IAML		00 52 36.6	
	comp=N,9μm,0.3s						
GO04	**Tololo Observa**	**0.91**	**75**	*eP*	**Pg**	**00 52 23.6**	**-1.0**
GO04				*eS*	**Sg**	**00 52 36.7**	**0.0**
GO04				IAML		00 52 37.0	
	comp=Z,2μm,0.1s						
CO02	**Combarbal**	**1.05**	**139**	*eP*	**Pb**	**00 52 25.4**	**-1.1**
CO02				*eS*	**Sb**	**00 52 38.8**	**-1.2**
CO02				IAML		00 52 43.8	
	comp=E,9μm,0.3s						
CO02	**Combarbal**	**1.05**	**139**	*eP*	**Pb**	**00 52 25.4**	**-1.1**
CO02				*eP*		00 52 25.4	
CO02				*eS*	**Sb**	**00 52 39.3**	**-0.7**
CO02				IAML		00 52 40.7	
	comp=Z,2μm,0.6s						
CO03	**El Pedregal**	**1.06**	**114**	*eP*	**Pb**	**00 52 25.4**	**-1.2**
CO03				*eS*	**Sb**	**00 52 38.6**	**-1.4**
CO03				IAML		00 52 39.9	
	comp=N,5μm,0.1s						
CO03	**El Pedregal**	**1.06**	**114**	*eP*	**Pb**	**00 52 25.4**	**-1.2**
CO03				*eS*	**Sb**	**00 52 39.7**	**-0.3**
CO03				IAML		00 52 39.8	
	comp=Z,1μm,0.3s						
CO01	**Juntas del Tor**	**1.55**	**74**	*eP*	**Pn**	**00 52 33.7**	**+0.1**
CO01	**Juntas del Tor**	**1.55**	**74**	*eP*	**Pn**	**00 52 33.7**	**+0.1**
CO01				*eS*	**Sn**	**00 52 53.4**	**+0.2**
CO01				IAML		00 52 54.1	
	comp=Z,463nm,0.6s						
LCO	**Las Campanas**	**1.70**	**35**	IAML		00 53 01.0	
	comp=Z,3μm,0.2s						
LCO	**Las Campanas**	**1.70**	**35**	*eP*	**Pn**	**00 52 35.6**	**0.0**
LCO				*eS*	**Sn**	**00 52 59.2**	**+2.3**
LCO				IAML		00 53 02.6	
	comp=Z,576nm,0.5s						
AROD	**Rodeo**	**2.04**	**84**	*eP*	**Pn**	**00 52 42.3**	**+1.9**
AROD				*eS*	**Sn**	**00 53 02.0**	**-3.4**
AC05	**El Transito**	**2.06**	**41**	*eP*	**Pn**	**00 52 41.4**	**+0.8**
AC05	**El Transito**	**2.06**	**41**	*eP*	**Pn**	**00 52 40.9**	**+0.3**
AC05				*eS*	**Sn**	**00 53 08.2**	**+2.4**
AC05				IAML		00 53 10.1	
	comp=Z,375nm,0.5s						
AC04	**Llanos de Chal**	**2.29**	**17**	*eP*	**Pn**	**00 52 43.2**	**-0.4**
AC04				IAML		00 53 23.8	
	comp=Z,145nm,0.5s						
ACDV	**Cuesta del Vie**	**2.34**	**85**	*eP*	**Pn**	**00 52 47.6**	**+3.2**
ACDV				IAML		00 53 28.8	
	comp=Z,127nm,0.8s						
ACCO	**Cerro Coronel**	**2.38**	**95**	*eP*	**Pn**	**00 52 47.5**	**+2.5**
ACCO				*eP*		00 52 47.6	
ACCO				*eS*	Sn	00 52 59.8	-14
RTLS	**Leoncito**	**2.56**	**123**	*eP*	**Pn**	**00 52 49.8**	**+2.2**
RTLS				IAML		00 53 33.9	
	comp=Z,686nm,0.6s						
VA03	**San Esteban**	**2.58**	**156**	*eP*	**Pn**	**00 52 47.4**	**-0.2**
VA03				*eS*	**Sn**	**00 53 19.5**	**+1.0**
VA03				IAML		00 53 21.4	
	comp=Z,270nm,0.2s						
MT02	**Curacav**	**2.90**	**169**	*eP*	**Pn**	**00 52 52.0**	**+0.2**
MT02	**Curacav**	**2.90**	**169**	*eP*	**Pn**	**00 52 51.2**	**-0.7**
MT02				*eS*	**Sn**	**00 53 25.5**	**-0.7**
MT02				IAML		00 53 40.4	
	comp=Z,112nm,0.5s						
ZON	**Zonda**	**2.92**	**114**	*eP*	**Pn**	**00 52 53.6**	**+1.3**
ZON				IAML		00 53 45.6	
	comp=Z,124nm,0.8s						
RTLL	**Cerro Villicun**	**3.01**	**109**	*eP*	**Pn**	**00 52 54.4**	**+0.8**
RTLL				*eS*	**Sn**	**00 53 29.5**	**+0.4**
AGUA	**GUANDACOL**	**3.03**	**73**	*eP*	**Pn**	**00 52 57.9**	**+4.1**
AGUA				IAML		00 53 48.7	
	comp=Z,122nm,0.7s						
MT05	**Renca**	**3.11**	**163**	*eP*	**Pn**	**00 52 54.7**	**-0.1**
MT05				*eS*	**Sn**	**00 53 31.8**	**+0.3**
MT05				IAML		00 53 47.2	
	comp=Z,145nm,0.5s						
GO03	**Copiap**	**3.13**	**27**	*eP*	**Pn**	**00 52 55.6**	**+0.5**
GO03				IAML		00 53 53.4	
	comp=Z,144nm,0.3s						
MT03	**Universidad Ad**	**3.27**	**161**	*eP*	**Pn**	**00 52 57.0**	**0.0**
MT03				IAML		00 53 53.5	
	comp=Z,114nm,0.3s						
MT04	**Ro Olivares**	**3.31**	**155**	*eP*	**Pn**	**00 52 58.7**	**+1.0**
MT08	**Bocatoma Ro**	**3.39**	**154**	*eP*	**Pn**	**00 53 00.2**	**+1.4**
MT01	**Popeta**	**3.48**	**172**	*eP*	**Pn**	**00 53 02.0**	**+2.1**

---

*TEH **21** 01:26:35.3, 28°.46N×57°.01E, h8km±94km, ML2.9*
*OMAN **21** 01:26:36.0±1.2, 28°.28N×57°.38E, h10km, ml2.7/9, Error ellipse: s-maj=14.6km s-min=8.3km az=108.0*
ISC 21 01:26:34.4±1.0, 28°.41N±0°.04×57°.31E±0°.08, h10km, n22, σ0§72/35, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**1.17**	**216**	Pg	**Pb**	**01 26 56.3**	**-0.4**
IBND				Sg	**Sg**	**01 27 12.5**	**+0.4**
KBAM	**BAM**	**1.24**	**54**	Pg	Pg	01 27 03.0	+4.8
NGRK	**Negar Kerman**	**1.33**	**338**	Pg	**Pn**	**01 26 59.4**	**-0.1**
GENO	**Geno**	**1.42**	**225**	Pg	**Pn**	**01 26 59.4**	**-1.0**
CHMN	**Cheshme madani**	**1.47**	**8**	Pg	**Pg**	**01 27 03.5**	**+1.0**
TVBK	**TV Kerman**	**1.65**	**343**	Pg	**Pn**	**01 27 04.3**	**+0.5**
KHGB	**Koh Gabri**	**2.09**	**340**	Pn	**Pb**	**01 27 11.4**	**-1.2**
SHME	**Shamm**	**2.57**	**204**	P	**Pn**	**01 27 16.2**	**+0.2**
	SNR=13						
SHME				S	**Sn**	**01 27 46.7**	**-0.6**
MASF	**Masafi**	**3.19**	**199**	P	**Pn**	**01 27 25.8**	**+1.1**
	SNR=6.8						
MASF				S	**Sn**	**01 28 02.1**	**-0.7**
MDH	**Madha**	**3.22**	**197**	P	**Pn**	**01 27 24.7**	**-0.4**
MDH				S	**Sn**	**01 28 02.9**	**-0.6**
UOSS	**Minazif**	**3.58**	**196**	P	**Pn**	**01 27 30.2**	**+0.1**
UOSS				S	**Sn**	**01 28 12.1**	**-0.4**
NAZ	**Nazwa, Dubai**	**3.71**	**204**	P	**Pn**	**01 27 32.7**	**+0.9**
HATD	**Hatta, Dubai**	**3.72**	**197**	P	**Pn**	**01 27 33.2**	**+1.4**
HATD				S	**Sn**	**01 28 16.6**	**+0.9**
ASHO	**Ashiyiah**	**3.87**	**197**	P	**Pn**	**01 27 34.5**	**+0.5**
ASHO				S	**Sn**	**01 28 19.9**	**+0.3**
FAQ	**Al Faqa, Dubai**	**3.96**	**203**	P	**Pn**	**01 27 35.4**	**+0.3**
	SNR=8.0						
FAQ				S	**Sn**	**01 28 21.2**	**-0.4**
ASUD	**Al Ashush, Dub**	**4.16**	**206**	P	**Pn**	**01 27 38.7**	**+0.7**
	SNR=29						
ASUD				S	**Sn**	**01 28 26.6**	**-0.1**
HOQ	**Hoqain**	**4.80**	**180**	P	**Pn**	**01 27 46.4**	**-0.4**
HOQ				S	**Sn**	**01 28 41.5**	**-1.0**
ARQ	**Araqi**	**5.10**	**188**	P	**Pn**	**01 27 51.9**	**+1.0**
ARQ				S	**Sn**	**01 28 48.7**	**-1.1**
WSAR	**Wadi Sarin**	**5.28**	**167**	P	**Pn**	**01 27 53.5**	**+0.1**
	SNR=6.2						
WSAR				S	**Sn**	**01 28 54.2**	**-0.2**
SMDO	**Samad**	**5.37**	**173**	P	**Pn**	**01 27 54.5**	**-0.1**
SMDO				S	**Sn**	**01 28 56.2**	**-0.4**
MZR	**Muzera**	**6.39**	**214**	P	**Pn**	**01 28 09.5**	**+0.9**
JLN	**Jalan Bani Buh**	**6.51**	**163**	P	**Pn**	**01 28 10.6**	**+0.3**
JLN				S	**Sn**	**01 29 23.8**	**-0.8**

---

*IDC **21** 01:31:23.2±3.1, 5°.84S×131°.03E, h96km±26km, mb4.3/9, mbtmp4.7/13, Error ellipse: s-maj=24.9km s-min=15.7km az=38.0*
*BJI **21** 01:31:24.4±0.0, 5°.78S×130°.79E, h99km, mb5.4/22, mB5.4/10*
*DJA **21** 01:31:24.3±0.2, 6°.S±2°.×13°.1E±°., h124km±3km, M5.2/43, mb5.0/43, mB5.6/22, MLv5.8/16, Mw(mB)5.1/22, MwMwp5.1/6, Mwp5.3/6*
*NEIC **21** 01:31:24.2±1.5, 5°.88S±0°.07×130°.97E±0°.04, h104km±7km, mb4.8/21, Error ellipse: s-maj=10.7km s-min=2.5km az=206.0*
ISC 21 01:31:24.5±0.4, 5°.94S±0°.04×131°.02E±0°.05, h108km±3km, h108km:pP-P, n187, σ1§24/194, mb4.9/36, 2C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.80**	**322**	P	**Pn**	**01 31 55.6**	**+0.8**
BNDI	**Bandanaira**	**1.80**	**322**	P	**Pn**	**01 31 55.6**	**+0.8**
SAUI	**Saumlaki**	**2.05**	**172**	Pn	**Pn**	**01 31 58.1**	**+0.1**
SAUI	**Saumlaki**	**2.05**	**172**	P	**Pn**	**01 32 00.5**	**+2.5**
SAUI	**Saumlaki**	**2.05**	**172**	P	**Pn**	**01 31 59.0**	**+1.0**
FAKI	**Fak Fak**	**3.24**	**22**	Pn	**Pn**	**01 32 12.0**	**-1.7**
FAKI	**Fak Fak**	**3.24**	**22**	P	**Pn**	**01 32 12.7**	**-1.0**
FAKI	**Fak Fak**	**3.24**	**22**	P	**Pn**	**01 32 12.6**	**-1.1**
KMPI	**Kaimana, Papua**	**3.51**	**50**	P	**Pn**	**01 32 16.7**	**-0.5**
NLAI	**Namlea**	**4.74**	**304**	P	**Pn**	**01 32 34.8**	**+1.0**
SWI	**Sorong**	**5.05**	**3**	P	**Pn**	**01 32 36.0**	**-2.0**
RKPI	**Ransiki, Papua**	**5.41**	**36**	P	**Pn**	**01 32 42.8**	**-0.1**
	1μm,0.6s,84μm34nm						
LBMI	**Labuha**	**6.33**	**326**	P	**Pn**	**01 32 54.7**	**-0.7**
	837nm,0.9s,20μm18nm						
SANI	**Sanana**	**6.34**	**307**	P	**Pn**	**01 32 55.7**	**+0.3**
SANI	**Sanana**	**6.34**	**307**	P	**Pn**	**01 32 54.8**	**-0.6**
	270nm,0.5s,9μm2.6nm						
KDU	**Kakadu**	**6.85**	**168**	P	**Pn**	**01 33 01.5**	**-0.9**
	baz=6.8,SNR=304						
KDU				S	**Sn**	**01 34 15.3**	**-3.6**
	baz=6.8						
KDU	**Kakadu**	**6.85**	**168**	P	**Pn**	**01 33 01.8**	**-0.6**
MTN	**Manton Dam**	**6.86**	**179**	P	**Pn**	**01 33 02.7**	**+0.2**
	baz=6.8,SNR=210						
MTN				S	**Sn**	**01 34 17.2**	**-1.9**
	baz=6.8						
MTN	**Manton Dam**	**6.86**	**179**	Pn	**Pn**	**01 33 02.9**	**+0.5**
MTN	**Manton Dam**	**6.86**	**179**	P	**Pn**	**01 33 03.0**	**+0.5**
SOEI	**Soe**	**7.69**	**240**	Pn	**Pn**	**01 33 13.3**	**-0.6**
SOEI	**Soe**	**7.69**	**240**	P	**Pn**	**01 33 15.0**	**+1.1**
SOEI	**Soe**	**7.69**	**240**	P	**Pn**	**01 33 13.9**	**0.0**
	134nm,0.7s,0.8nm						
BBSI	**Bau Bau**	**8.42**	**273**	P	**Pn**	**01 33 24.9**	**+1.2**
	59nm,1.0s,2μm						
BATI	**Baumata**	**8.43**	**239**		**Pn**	**01 33 24.1**	**+0.3**
BATI	**Baumata**	**8.43**	**239**	P	**Pn**	**01 33 23.6**	**-0.2**
	95nm,0.8s,2μm						
BATI	**Baumata**	**8.43**	**239**	P	**Pn**	**01 33 24.1**	**+0.3**
	61nm,0.4s,baz=184,slow=2.6,SNR=12						
BATI				S	**Sn**	**01 34 56.9**	**-0.4**
	72nm,0.4s,baz=301,slow=19,SNR=6.2						
KNRA	**Kununurra**	**9.92**	**193**	P	**Pn**	**01 33 42.7**	**-1.4**
	baz=9.9,SNR=64						
KNRA	**Kununurra**	**9.92**	**193**	Pn	**Pn**	**01 33 42.9**	**-1.2**
KNRA	**Kununurra**	**9.92**	**193**	P	**Pn**	**01 33 42.9**	**-1.2**
TABU	**Tabubil**	**10.18**	**87**	P	**Pn**	**01 33 47.4**	**-0.2**
JAY	**Jayapura**	**10.24**	**71**	P	**Pn**	**01 33 48.0**	**-0.5**
	31nm,0.9s						
BKSI	**Bulukumba**	**10.86**	**273**	P	**Pn**	**01 33 58.1**	**+1.2**
	27nm,0.9s						
KAPI	**Kappang**	**11.26**	**274**	P	**Pn**	**01 34 02.7**	**+0.6**
	3.5nm,0.3s,baz=74,slow=20,SNR=1.6						
TTSI	**Tana Toraja**	**11.53**	**284**	P	**Pn**	**01 34 08.7**	**+2.9**
	62nm,1.0s,2μm						
PLAI	**Plampang**	**13.44**	**257**	P	**Pn**	**01 34 29.7**	**-1.3**
PLAI	**Plampang**	**13.44**	**257**	P	**Pn**	**01 34 29.4**	**-1.6**
	66nm,0.9s,3μm						
WB0	**Warramunga Arr**	**14.13**	**167**	Pn	**Pn**	**01 34 38.8**	**-1.0**
WRA	**Warramunga Arr**	**14.29**	**167**	Pn	**Pn**	**01 34 42.1**	**+0.2**
WRA	**Warramunga Arr**	**14.29**	**167**	P	**Pn**	**01 34 37.8**	**-4.1**
	5.5nm,0.4s,baz=351,slow=13,SNR=36						
WRA				S	Sn	01 37 08.3	-11
	23nm,0.9s,baz=347,slow=23,SNR=5.6						
WB2	**Warramunga Arr**	**14.29**	**167**	Pn	**Pn**	**01 34 41.1**	**-0.8**
TWSI	**Taliwang, Sumb**	**14.29**	**258**	P	**Pn**	**01 34 42.2**	**+0.2**
	29nm,1.0s						
WR0	**Warramunga Arr**	**14.35**	**167**	Pn	**Pn**	**01 34 42.5**	**-0.1**
COEN	**Coen**	**14.37**	**125**	Pn	**Pn**	**01 34 42.0**	**-1.0**
COEN	**Coen**

SMRI IAmb IAmb 01 35 56.9
comp=Z,58nm,0.9s
KPJI Karang Pucung 21.98 265 P **P 01 36 09.5 -0.5**
comp=Z,64nm,0.9s
OOD Oodnadatta 22.18 169 P **P 01 36 12.2 +0.3**
GIRL Giralia 23.20 223 P **P 01 36 22.9 +0.9**
BBJI Bungbulang 23.26 265 P **P 01 36 21.1 -1.7**
LEM Lembang 23.27 267 P **P 01 36 22.0 -1.0**
comp=Z,63nm,1.1s
INKA Innaminka 23.57 158 P **P 01 36 27.2 +1.9**
MEEK Meekatharra 23.74 209 P **P 01 36 26.9 -0.1**
baz=24,SNR=11
MEEK Meekatharra 23.74 209 P **P 01 36 26.9 -0.1**
CNJI Cibinong 23.77 265 P **P 01 36 26.5 -0.8**
comp=Z,189nm,1.2s,comp=Z,2μm
CBJI Citeko 24.03 268 P **P 01 36 27.9 -1.8**
comp=Z,117nm,0.7s
QLP Quilpie 24.09 150 P **P 01 36 31.9 +1.9**
baz=24,SNR=16
QLP Quilpie 24.09 150 P **P 01 36 32.0 +1.9**
MULG Mulgathing 24.38 174 P **P 01 36 33.6 +0.9**
FORT Forrest 24.86 186 P **P 01 36 37.9 +0.9**
baz=25,SNR=17
FORT Forrest 24.86 186 P **P 01 36 37.8 +0.8**
FORT IAmb IAmb 01 36 41.3
comp=Z,23nm,0.6s
FORT Forrest 24.86 186 P **P 01 36 37.9 +0.9**
CGJI Cibinong 25.18 267 P **P 01 36 39.4 -0.8**
comp=Z,54nm,0.9s
LCRK Leigh Creek 25.30 165 P **P 01 36 42.4 +1.4**
KASI Kota Agung 26.39 270 P **P 01 36 51.3 +0.2**
comp=Z,38nm,0.9s
KMBL Kambalda 26.70 198 P **P 01 36 54.2 +0.5**
baz=27,SNR=12
KMBL Kambalda 26.70 198 P **P 01 36 54.2 +0.5**
DSRI Dabo 26.94 281 P **P 01 36 53.8 -2.3**
comp=Z,49nm,2.0s,comp=Z,3μm
MORW Morawa 27.01 210 P **P 01 36 57.6 +1.1**
baz=27,SNR=3.2
MORW Morawa 27.01 210 P **P 01 36 57.4 +0.9**
comp=Z,16nm,1.8s
BBOO Buckleboo 27.14 171 P **P 01 36 58.5 +0.8**
baz=27,SNR=7.6
BBOO Buckleboo 27.14 171 P **P 01 36 58.4 +0.8**
STKA Stephens Creek 27.63 160 P **P 01 37 02.9 +0.9**
baz=28,SNR=17
STKA Stephens Creek 27.63 160 P **P 01 37 01.9 -0.1**
STKA Stephens Creek 27.63 160 P **P 01 37 02.7 +0.7**
STKA Stephens Creek 27.63 160 P **P 01 37 01.9 -0.1**
comp=Z,5.9nm,0.3s,baz=342,slow=8.0,SNR=23
comp=Z,5.9nm,0.3s
BLDU Ballidu 27.99 207 P **P 01 37 05.5 +0.3**
baz=28,SNR=14
BLDU Ballidu 27.99 207 P **P 01 37 05.3 +0.1**
HTT Hallett 28.32 166 P **P 01 37 09.2 +1.1**
baz=28,SNR=8.4
HTT Hallett 28.32 166 P **P 01 37 09.3 +1.1**
KLBR Kellerberrin 28.38 204 P **P 01 37 09.2 +0.5**
baz=28,SNR=10
KLBR Kellerberrin 28.38 204 P **P 01 37 09.0 +0.3**
CMSA Cobar Meteorol 28.93 153 P **P 01 37 15.0 +1.4**
baz=29,SNR=11
CMSA Cobar Meteorol 28.93 153 P **P 01 37 14.9 +1.3**
SDSI Sungai Dareh 29.95 278 P **P 01 37 19.5 -3.2**
comp=Z,20nm,1.4s
ARMA Armidale 31.12 144 P **P 01 37 33.7 +0.6**
baz=31,SNR=5.2
ARPS Mount Arapiles 32.24 164 P **P 01 37 44.2 +1.6**
baz=32,SNR=13
ARPS Mount Arapiles 32.24 164 P **P 01 37 44.1 +1.5**
KULM Kulim 32.31 290 P **P 01 37 42.2 -1.4**
KULM IAmb IAmb 01 37 50.9
comp=Z,19nm,0.9s
MGCD Mangrove Creek 32.94 148 P **P 01 37 50.9 +2.1**
RPSI Rantau Prapat 33.18 284 P **P 01 37 49.0 -2.2**
RPSI IAmb IAmb 01 37 55.3
comp=Z,11nm,0.8s
CAN Canberra 33.60 153 P **P 01 37 54.5 -0.1**
CAN Canberra 33.60 153 P **P 01 37 56.1 +1.5**
TOO Toolangi 34.13 159 P **P 01 38 02.0 +2.8**
baz=34,SNR=4.1
GSI Gunungsitoli 34.16 281 P **P 01 37 57.6 -2.0**
GSI Gunungsitoli 34.16 281 P **P 01 37 55.9 -3.8**
comp=Z,71nm,0.8s
NOUC Port Laguerre 37.67 119 P **P 01 38 30.2 +0.7**
DZM Mont Dzumac 37.79 119 P **P 01 38 29.3 -1.3**
NJ2 Nanjing 39.52 344 *e*P **P 01 38 45.4 +0.6**
NJ2 pP **pP 01 39 07.1 -0.3**
NJ2 sP **pwP 01 39 17.3 +1.3**
NJ2 pmax pmax
comp=Z,29nm,0.5s
NJ2 pmax pmax
comp=Z,720nm,4.1s
WHN Wuhan 39.64 337 P **P 01 38 46.1 +0.3**
WHN pmax pmax
comp=Z,150nm,1.0s
KMI Kunming 41.35 319 ⇑P **P 01 38 59.4 -0.9**
KMI pmax pmax
comp=Z,31nm,1.4s
PZH PanZhiHua 42.96 320 P **P 01 39 14.5 +1.3**
PZH pmax pmax
comp=Z,20nm,1.5s
PZH pmax pmax
comp=Z,260nm,4.1s
LYN LuoYang 43.92 338 ⇑P **P 01 39 20.1 -0.5**
LYN sP sP 01 39 57.4 +2.5
LYN pmax pmax
comp=Z,97nm,0.8s
TNCH TengChong 44.13 316 *e*P **P 01 39 23.6 +0.9**
TNCH pP pwP 01 39 50.3 -0.9
TNCH pmax pmax
comp=Z,43nm,0.7s
LZH Lanzhou 48.97 331 *e*P **P 01 40 03.8 +3.5**
LZH pP pP 01 40 27.1 +3.3
LZH sP sP 01 40 37.3 +1.8
LZH pmax pmax
comp=Z,72nm,1.2s
ERM Erimo 49.00 12 P **P 01 40 00.6 +0.4**
ERM pP **pP 01 40 24.4 +1.0**
CN2 Changchun 49.77 355 *e*P **P 01 40 10.5 +4.5**
CN2 pmax pmax
comp=Z,20nm,0.1s
HHC Hu-ho-hao-te 49.87 341 *e*P **P 01 40 09.3 +2.3**
HHC pmax pmax
comp=Z,45nm,0.7s
HHC pmax pmax
comp=Z,190nm,4.3s
MDJ Mudanjiang 50.34 359 P **P 01 40 11.3 +1.0**
MDJ pP pP 01 40 33.9 +0.2
MDJ sP sP 01 40 46.5 +1.7
MDJ PcP **PcP 01 41 27.6 +0.1**
MDJ S **S 01 47 16.3 +1.2**
MDJ ScS **ScS 01 49 50.9 +0.2**
MDJ pmax pmax
comp=Z,21nm,1.8s
MDJ pmax pmax
comp=Z,180nm,4.1s
PALK Pallekele 51.89 284 P **P 01 40 21.7 -0.8**
comp=Z,13nm,0.8s,baz=168,slow=11,SNR=5.4
comp=Z,13nm,0.8s
PALK Pallekele 51.89 284 P **P 01 40 22.0 -0.5**
PALK pP **pP 01 40 46.9 -0.4**
HEH HeiHe 56.05 357 *e*P **P 01 40 53.8 +1.7**
HEH pmax pmax
comp=Z,23nm,1.3s
HEH pmax pmax
comp=Z,230nm,4.4s
DRV Dumont d'Urvil 60.94 176 P **P 01 41 26.8 +1.0**
WMQ Urumqi 63.08 326 *e*P **P 01 41 39.9 -0.6**
WMQ pmax pmax
comp=Z,110nm,0.9s
WMQ LR LR
comp=Z,570nm,15.7s
WMQ LR LR
comp=Z,630nm,18.7s
WMQ LR LR
comp=Z,510nm,20.1s
CCD Concordia, Ant 69.25 182 P **P 01 42 21.3 +1.4**
CCD PcP **PcP 01 42 43.7 +0.8**
CCD pP **pP 01 42 46.2 +1.1**
CCD sP **sP 01 42 56.4 +0.1**
VNDA Vanda 73.37 173 P **P 01 42 45.2 +1.0**
MAW Mawson 76.30 201 P **P 01 43 01.2 +0.1**
comp=Z,1.9nm,0.6s,baz=40,slow=6.1,SNR=5.3
comp=Z,1.9nm,0.6s

SOHO SOHO 78.39 296 P **P 01 43 13.4 -0.3**
UOSS Minazif 78.85 297 P **P 01 43 14.9 -1.3**
UOSS IAmb IAmb 01 43 16.7
comp=Z,15nm,1.1s
UOSS Minazif 78.85 297 P **P 01 43 15.7 -0.5**
HATD Hatta, Dubai 78.89 297 P **P 01 43 16.9 +0.4**
ASHO Ashiyiah 78.93 296 P **P 01 43 17.1 +0.4**
MSFE Esma-Masafi 78.97 297 P **P 01 43 17.3 +0.4**
SHME Shamm 79.13 298 P **P 01 43 18.4 +0.6**
FAQ Al Faqa, Dubai 79.35 296 P **P 01 43 18.9 0.0**
ASUD Al Ashush, Dub 79.56 296 P **P 01 43 19.0 -1.1**
AJN Ajban 79.86 296 P **P 01 43 21.8 +0.2**
GEYT Alibeck 80.31 310 P **P 01 43 23.6 -0.3**
GEYT IAmb IAmb 01 43 31.1
comp=Z,20nm,0.9s
GEYT Alibeck 80.31 310 P **P 01 43 24.0 +0.1**
comp=Z,6.5nm,0.8s,baz=91,slow=8.9,SNR=11
comp=Z,6.5nm,0.8s
MZR Muzera 80.92 294 P **P 01 43 27.6 +0.2**
ABKAR Akbulak array 82.32 321 P **P 01 43 33.9 -0.3**
QSPA South Pole Qui 84.03 180 P **P 01 43 42.8 -0.1**
QSPA IAmb IAmb 01 43 44.3
comp=Z,4.5nm,0.8s
QSPA South Pole Qui 84.03 180 P **P 01 43 43.1 +0.2**
comp=Z,4.2nm,0.7s,baz=288,slow=1.4,SNR=28
comp=Z,4.2nm,0.7s
ELIB Princess Elisa 89.80 197 *d*P **P 01 44 11.8 +1.0**
ELIB *dp*P **pP 01 44 37.7 +0.8**
ELIB *ds*P **sP 01 44 48.7 +1.0**
ZEI Tsey 91.88 313 *e*P **P 01 44 19.8 -1.3**
ZEI Tsey 91.88 313 pmax pmax
comp=Z,15nm,0.7s
ILAR Eielson Array 91.97 25 P **P 01 44 18.6 -2.0**
comp=Z,0.8nm,0.6s,baz=273,slow=4.5,SNR=12
comp=Z,0.8nm,0.6s
GURO Guroymak-BITLI 92.87 308 P **P 01 44 25.0 -0.7**
GURO IAmb IAmb 01 44 27.0
comp=Z,5.3nm,0.9s
KMBO Kilima Mbogo 93.63 268 P **P 01 44 27.9 -2.0**
KMBO IAmb IAmb 01 44 31.3
comp=Z,5.8nm,1.3s
I28M Miner Creek 94.96 25 P **P 01 44 33.4 -1.2**
SNAA Sanae 96.92 193 P **P 01 44 44.0 +0.6**
comp=Z,0.4nm,0.6s,baz=155,slow=6.2,SNR=9.0
comp=Z,0.4nm,0.6s
BRTR Keskin Array B 99.44 309 P **Pdif 01 44 55.9 +0.5**
comp=Z,0.5nm,0.8s,baz=100,slow=6.9,SNR=4.2
comp=Z,0.5nm,0.8s
FINES FINESS Array B 102.32 332 P **Pdif 01 45 05.5 -2.0**
comp=Z,1.9nm,0.7s,baz=264,slow=3.6,SNR=8.5
NACGM Naroch 103.02 325 *e*P **Pdif 01 45 10.3 -0.4**
comp=Z,8.0nm,0.7s,baz=79
RONA Rosalia, Austr 110.91 319 *e*PKiKP **PKiKP 01 49 43.5 -1.7**
comp=Z,3.1nm,1.1s
RONA *ep*PKiKP **pPKiKP 01 50 09.7 -2.5**
comp=Z,8.2nm,1.6s
CONA Conrad Observa 111.13 319 pPKiKP pPKiKP 01 50 11.6 -1.1
comp=Z,7.0nm,2.0s
BRG Berggiesshubel 111.50 323 *e*PKP PKiKP 01 49 59.9 +14
BRG Amp 01 50 01.8
comp=Z,3.3nm,0.9s
ARSA Arzberg 111.53 319 *ep*PKiKP pPKiKP 01 50 13.7 +0.3
comp=Z,3.4nm,1.0s
KBA Koeninseinsper 113.01 319 *e*PKiKP **PKiKP 01 49 47.8 -1.6**
comp=Z,2.6nm,1.1s
LESA Schwarzleotal 113.34 319 *i* sPKiKP sPKiKP 01 50 29.5 +2.3
comp=Z,5.6nm,1.1s
ABTA Abfaltersbach 113.65 319 *es*PKiKP sPKiKP 01 50 31.0 +3.2
comp=Z,6.6nm,1.3s
PLCA Paso Flores 129.50 159 PKP **PKiKP 01 50 21.6 -0.3**
comp=Z,1.5nm,1.0s,baz=226,slow=8.8,SNR=3.1
TORD Torodi Ar. Bea 129.59 282 PKP **PKiKP 01 50 22.4 -0.2**
comp=Z,2.5nm,0.8s,baz=50,slow=2.9,SNR=13
PB06 IPOC Station P 145.12 145 PKPbc **PKPab 01 50 30.3 +0.1**
LVC Limon Verde 145.57 146 PKPbc **PKPab 01 50 52.6 +0.6**
comp=Z,6.1nm,0.6s,baz=19,slow=2.8,SNR=4.7
CPUP Villa Florida 146.91 166 PKPbc **PKPab 01 50 56.4 -0.2**
comp=Z,2.2nm,0.7s,baz=55,slow=2.1,SNR=6.1
PB16 IPOC Station P 148.50 140 PKPbc **PKPbc 01 50 58.8 -1.6**
LPAZ La Paz 150.90 140 *e*P **PKiKP 01 51 07.2 +0.3**

MOS ***21*** *01:32:08.8±0.8, 4°.20N×127°.87E, h38km, mb5.6/75, Error ellipse: s-maj=8.1km s-min=4.0km az=116.5*
BJI ***21*** *01:32:09.0±0.0, 3°.80N×128°.24E, h58km, mb5.3/85, mB5.4/57, Ms4.8/59, Ms7 4.6/61*
IDC ***21*** *01:32:11.3±0.5, 4°.14N×127°.97E, h47km±5km, mb4.9/38, mbtmp5.1/40, MS4.4/61, Error ellipse: s-maj=16.2km s-min=9.1km az=73.0*
GCMT ***21*** *01:32:13.4±0.1, 4°.18N±0°.01×127°.85E±0°.01, h54km, MW5.4/132, Moment Tensor Solution. s132,c219; s131,c223; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.19±.02; Mθθ0.25±.02; Mφφ-1.44±.02; Mrθ0.59±.02; Mθφ-0.10±.02; Mφr-0.28±.02; Best double couple: M0=1.48600×10^17 NP1:φ=160.00000°, δ56.00000°, λ59.00000°. NP2:φ=27.00000°, δ45.00000°, λ127.00000°. Principal axes: T 1.5010, Plg64.0000°, Azm13.0000°; N -0.0300, Plg25.0000°, Azm179.0000°; P -1.4710, Plg6.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***21*** *01:32:14.4±0.4, 4°N±2°×12°8E±°, h64km±3km, M5.4/44, mB5.8/28, mb5.5/44, MLv5.8/10, Mw(mB)5.4/28, MwMwp5.0/10, Mwp5.3/10*
NEIC ***21*** *01:32:14.4±1.6, 4°.15N±0°.06×127°.87E±0°.08, h63km±4km, mb5.5/282, Mww5.3/18, Error ellipse: s-maj=12.4km s-min=8.7km az=71.0*
KLM ***21*** *01:32:16, 4°.07N×127°.97E, h99km, mb5.7*
ISC 21 01:32:12.9±0.2, 4°.09N±0°.03×127°.95E±0°.04, h58km±1km, h59km:pP-P, n1025, σ1948/1014, mb5.4/248, MS4.5/90, 29C-24D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.45**	**261**	P	**Pn**	**01 32 49.4**	**-1.1**
TNTI	**Ternate**	**3.35**	**190**		**Pn**	**01 33 04.8**	**+2.0**
TNTI	**Ternate**	**3.35**	**190**	P	**Pn**	**01 33 05.3**	**+2.5**
TNTI	**Ternate**	**3.35**	**190**	P	**Pn**	**01 33 04.3**	**+1.5**
TNTI	**Ternate**	**3.35**	**190**	P	**Pn**	**01 33 04.0**	**+1.2**
2μm,0.8s,64μm38μm17nm							
DAV	**Davao City (W)**	**3.79**	**322**	Pn	**Pn**	**01 33 11.0**	**+2.2**
DAV	**Davao City (W)**	**3.79**	**322**	P	**Pn**	**01 33 10.4**	**+1.5**
DAV	**Davao City (W)**	**3.79**	**322**	P	**Pn**	**01 33 10.1**	**+1.2**
2μm,0.5s,baz=316,slow=1.7,SNR=19							
DAV				S	**Sn**	**01 33 57.5**	**+5.3**
1μm,0.6s,baz=138,slow=16,SNR=3.9							
LBMI	**Labuha**	**4.72**	**186**	P	**Pn**	**01 33 23.8**	**+2.2**
KMSI	**Cibinong**	**5.29**	**229**	P	**Pn**	**01 33 30.2**	**+0.8**
5μm,0.6s,43μm5μm25nm							
GTOI	**Gorontalo**	**6.01**	**235**	P	**Pn**	**01 33 39.5**	**+0.2**
496nm,0.7s,5μm5μm11.9nm							
MRSI	**Marisa**	**7.00**	**239**	P	**Pn**	**01 33 53.3**	**+0.5**
4μm,0.7s,34μm8μm12nm							
LUWI	**Luwuk**	**7.27**	**226**		**Pn**	**01 33 59.2**	**+2.7**
LUWI	**Luwuk**	**7.27**	**226**	P	**Pn**	**01 33 57.2**	**+0.7**
TOLI2	**Tolitoli**	**7.75**	**248**	Pn	**Pn**	**01 34 01.8**	**-1.3**
TOLI2	**Tolitoli**	**7.75**	**248**	P	**Pn**	**01 34 02.2**	**-1.0**
MPSI	**Mapaga**	**8.87**	**245**	P	**Pn**	**01 34 17.5**	**-0.9**
386nm,0.7s,3μm7μm							
MPSI	**Mapaga**	**8.87**	**245**	P	**Pn**	**01 34 17.6**	**-0.9**
386nm,0.7s,3μm7μm							
MYLDM	**Lahad Datu**	**9.48**	**277**	Pn	**Pn**	**01 34 29.6**	**+2.6**
BBSI	**Bau Bau**	**10.93**	**210**	P	**Pn**	**01 34 47.3**	**+0.7**
178nm,0.9s,3μm3μm							
SPMM	**Sapulut**	**11.47**	**274**	P	**Pn**	**01 34 56.0**	**+1.9**
TGY	**Tagaytay City**	**12.12**	**326**	LR	LR	01 40 24.8	
comp=Z,2μm,19.3s,baz=180,slow=41							
BKSI	**Bulukumba**	**12.19**	**220**	P	**Pn**	**01 35 01.8**	**-2.1**
123nm,0.7s,1μm							
KAPI	**Kappang**	**12.20**	**222**	Pn	**Pn**	**01 35 04.1**	**+0.1**
KAPI	**Kappang**	**12.20**	**222**	P	**Pn**	**01 35 04.9**	**+0.9**
KAPI	**Kappang**	**12.20**	**222**	P	**Pn**	**01 35 04.1**	**+0.1**
KAPI	**Kappang**	**12.20**	**222**	P	**Pn**	**01 35 03.2**	**-0.8**
31nm,0.6s,baz=32,slow=9.1,SNR=9.3							
KAPI				S	**Sn**	**01 37 16.5**	**-2.1**
18nm,0.6s,baz=165,slow=18,SNR=1.7							
KAPI				LR	LR	01 40 42.4	
comp=Z,1μm,18.3s,baz=60,slow=42							
MMRI	**Maumere**	**13.87**	**204**	Pn	**Pn**	**01 35 26.9**	**+0.3**
GENI	**Genyem**	**13.89**	**118**	P	**P**	**01 35 30.7**	**-2.8**
3μm,0.9s,31μm7μm							
JAY	**Jayapura**	**14.33**	**117**	P	**P**	**01 35 38.1**	**-0.3**
223nm,0.9s,3μm6μm							
BATI	**Baumata**	**14.83**	**197**	P	**Pn**	**01 35 40.2**	**+0.8**
88nm,0.7s,baz=227,slow=1.8,SNR=3.5							
BATI				LR	LR	01 42 55.8	
comp=Z,556nm,18.2s,baz=44,slow=43							
SBUM	**Sibu**	**15.79**	**265**	Pn	**Pn**	**01 35 51.3**	**-0.5**
SBUM				IAmb	IAmb	01 36 09.6	
comp=Z,263nm,1.0s							
BASI	**Baing, Sumba**	**16.00**	**207**	P	**Pn**	**01 35 54.2**	**-0.2**
comp=Z,376nm,0.8s,comp=Z,5μm							
PLAI	**Plampang**	**16.36**	**218**	P	**P**	**01 36 01.9**	**+1.0**
PLAI	**Plampang**	**16.36**	**218**	P	**Pn**	**01 35 59.0**	**+0.1**
comp=Z,994nm,1.2s,comp=Z,11μmcomp=Z,3μm							
TWSI	**Taliwang, Sumb**	**16.86**	**221**	P	**Pn**	**01 36 04.0**	**-1.1**
comp=Z,442nm,1.3s,comp=Z,6μm							
STKI	**Sintang**	**16.94**	**257**	P	**Pn**	**01 36 06.4**	**+0.2**
comp=Z,340nm,0.9s							
SRBI	**Singaraja**	**17.54**	**226**	P	**Pn**	**01 36 13.4**	**-0.2**
comp=Z,240nm,1.3s,comp=Z,3μm							
MMPI	**Merauke**	**17.58**	**135**	P	**P**	**01 36 16.9**	**+2.5**
comp=Z,1μm,0.6s,comp=Z,40μm							
KSM	**Kuching**	**17.81**	**262**	P	**Pn**	**01 36 15.6**	**-1.4**
KSM				IAmb	IAmb	01 36 31.0	
comp=Z,343nm,0.9s							
KSM	**Kuching**	**17.81**	**262**	P	**Pn**	**01 36 17.0**	**+0.1**
IGBI	**Denpasar**	**18.10**	**225**	P	**P**	**01 36 19.5**	**-0.6**
comp=Z,287nm,0.8s,comp=Z,3μmcomp=Z,4μm							
BLJI	**Banyuglugur**	**18.53**	**231**	P	**Pn**	**01 36 26.2**	**+0.6**
comp=Z,312nm,0.8s,comp=Z,2μm							
JAGI	**Jajag, Banyuwa**	**18.58**	**228**	P	**Pn**	**01 36 26.0**	**-0.2**
JAGI				IAmb	IAmb	01 36 34.0	
comp=Z,439nm,1.4s							
JAGI	**Jajag, Banyuwa**	**18.58**	**228**	P	**Pn**	**01 36 27.6**	**+1.4**
JAGI	**Jajag, Banyuwa**	**18.58**	**228**	P	**Pn**	**01 36 26.4**	**+0.2**
comp=Z,222nm,0.9s,comp=Z,2μm							
GMJI	**Gumukmas**	**18.98**	**230**	P	**Pn**	**01 36 30.8**	**-0.2**
comp=Z,171nm,0.8s							
GUMO	**Guam**	**19.18**	**59**	LR	LR	01 42 40.4	
comp=Z,2μm,20.8s,baz=222,slow=33							
TWG	**Pinlang**	**19.78**	**341**	P	**P**	**01 36 37.6**	**-0.8**
YULB	**Yu-li**	**20.24**	**342**	P	**P**	**01 36 42.4**	**-1.1**
YULB	**Yu-li**	**20.24**	**342**	P	**P**	**01 36 43.2**	**-0.3**
MANU	**Manus Island**	**20.33**	**107**	P	Pn	01 36 47.2	+0.1
MANU				IAmb	IAmb	01 37 06.5	
comp=Z,196nm,1.3s							
TPUB	**Ta-pu**	**20.37**	**340**	P	**P**	**01 36 44.7**	**-0.2**
TPUB				IAmb	IAmb	01 36 50.4	
comp=Z,171nm,0.7s							
TPUB	**Ta-pu**	**20.37**	**340**	P	**P**	**01 36 44.8**	**-0.1**
SMRI	**Semarang**	**20.69**	**238**	P	**P**	**01 36 48.5**	**+0.2**
SMRI	**Semarang**	**20.69**	**238**	P	**P**	**01 36 47.6**	**-0.8**
comp=Z,107nm,0.9s							
SSLB	**Suanglung**	**20.72**	**342**	P	**P**	**01 36 49.3**	**+0.7**
SSLB				IAmb	IAmb	01 36 53.3	
comp=Z,159nm,0.7s							
SSLB	**Suanglung**	**20.72**	**342**	P	**P**	**01 36 49.1**	**+0.5**
DLV	**T Lat**	**20.78**	**293**	P	**P**	**01 36 49.1**	**-0.5**
DLV				IAmb	IAmb	01 36 50.9	
comp=Z,219nm,0.7s							
NACB	**Ninganchiao**	**20.89**	**344**	P	**P**	**01 36 51.8**	**+1.4**
NACB	**Ninganchiao**	**20.89**	**344**	P	**P**	**01 36 51.9**	**+1.5**
YHNB	**Yeheng**	**21.42**	**343**	P	**P**	**01 36 56.4**	**+0.2**
YHNB	**Yeheng**	**21.42**	**343**	P	**P**	**01 36 58.4**	**+2.2**
JMZ	**Minamidaito 2**	**21.83**	**8**	P	**P**	**01 36 59.5**	**-1.0**
KNMB	**Chin-men Tao**	**22.25**	**336**	P	**P**	**01 37 03.9**	**-1.2**
KNMB				IAmb	IAmb	01 37 06.6	
comp=Z,123nm,0.8s							
QZH	**Quanzhou**	**22.61**	**337**	⇑*i*P	**P**	**01 37 08.3**	**-0.5**
QZH				S	**S**	**01 41 11.8**	**-0.7**
QZH				pmax	pmax		
comp=Z,110nm,1.0s							
QZH				LR	LR		
comp=Z,1μm,18.8s							
JOW	**Kunigami**	**22.62**	**1**	P	**P**	**01 37 08.5**	**-0.5**
JOW				IAmb	IAmb	01 37 11.5	
comp=Z,122nm,0.8s							
JOW	**Kunigami**	**22.62**	**1**	P	**P**	**01 37 09.0**	**0.0**
JOW	**Kunigami**	**22.62**	**1**	LR	LR	01 45 57.5	
comp=Z,559nm,20.4s,baz=120,slow=37							
QIZ	**Qiongzhong**	**23.10**	**311**	⇓*i*P	**P**	**01 37 12.6**	**-1.4**
QIZ				pP	**pP**	**01 37 27.4**	**+0.7**
QIZ				S	**S**	**01 41 17.9**	**-2.9**
QIZ				sS	Sn	01 41 41.8	+0.1
QIZ				SS	**SnSn**	**01 42 10.3**	**+12**
QIZ				pmax	pmax		
comp=Z,52nm,0.7s							
QIZ				LR	LR		
comp=Z,1μm,18.5s							
QIZ				LR	LR		
comp=Z,1μm,15.1s							
QIZ				LR	LR		
comp=Z,1μm,28.6s							
QIZ	**Qiongzhong**	**23.10**	**311**	P	**P**	**01 37 14.7**	**+0.7**
BBJI	**Bungbulang**	**23.29**	**241**	P	**P**	**01 37 16.6**	**+0.7**
PMG	**Port Moresby**	**23.37**	**125**	P	**P**	**01 37 18.3**	**+1.7**
PMG				IAmb	IAmb	01 37 31.3	
comp=Z,189nm,1.1s							
PMG	**Port Moresby**	**23.37**	**125**	P	**P**	**01 37 15.4**	**-1.2**
comp=Z,12nm,0.6s,baz=319,slow=9.3,SNR=1.9							
PMG				pP	**pP**	**01 37 27.3**	**-2.5**
comp=Z,70nm,0.9s,baz=341,slow=8.3,SNR=8.0							
PMG				LR	LR	01 47 23.4	
comp=Z,1μm,18.1s,baz=324,slow=39							
comp=Z,12nm,0.6s							
GZH	**Guangzhou**	**23.59**	**325**	P	**P**	**01 37 21.1**	**+2.6**
GZH				sP	**sP**	**01 37 38.9**	**+0.2**
GZH				S	**S**	**01 41 34.8**	**+6.1**
GZH				pmax	pmax		
comp=Z,43nm,0.9s							
MYKOM	**Kota Tinggi**	**24.18**	**265**	P	**P**	**01 37 23.0**	**-1.1**
MYKOM				IAmb	IAmb	01 37 38.2	
comp=Z,349nm,1.3s							
PMBI	**Palembang**	**24.19**	**254**	P	**P**	**01 37 24.2**	**0.0**
WB0	**Warramunga Arr**	**24.54**	**165**	P	**P**	**01 37 26.7**	**-0.5**
WB0				IAmb	IAmb	01 37 39.8	
comp=Z,184nm,0.8s							
CGJI	**Cibinong**	**24.64**	**245**	P	**P**	**01 37 28.2**	**0.0**
comp=Z,166nm,0.8s,comp=Z,2μm							
WRAB	**Tennant Creek**	**24.69**	**165**	P	**P**	**01 37 28.9**	**+0.3**
WRAB				IAmb	IAmb	01 37 41.3	
comp=Z,172nm,0.8s							
WRAB	**Tennant Creek**	**24.69**	**165**	P	**P**	**01 37 28.9**	**+0.3**
WRAB				pmax	pmax		
comp=Z,172nm,0.8s							
WRA	**Warramunga Arr**	**24.69**	**165**	P	**P**	**01 37 28.9**	**+0.3**
WRA	**Warramunga Arr**	**24.69**	**165**	P	**P**	**01 37 28.1**	**-0.5**
comp=Z,39nm,0.6s,baz=343,slow=10,SNR=10							
WRA				pP	**pP**	**01 37 39.4**	**-3.4**
comp=Z,135nm,0.8s,baz=343,slow=10,SNR=12							
WRA				LR	LR	01 49 24.0	
comp=Z,1μm,20.0s,baz=350,slow=42							
WRA				P3KPbc		02 10 36.0	
comp=Z,0.5nm,0.7s,baz=168,slow=3.9,SNR=4.6							
comp=Z,39nm,0.6s							
WR0	**Warramunga Arr**	**24.76**	**165**	P	**P**	**01 37 29.8**	**+0.5**
WR0				IAmb	IAmb	01 37 43.0	
comp=Z,140nm,0.7s							
JRMM	**Jerantut**	**25.42**	**270**	P	**P**	**01 37 34.0**	**-1.3**
KRVT	**Keravat (AS076**	**25.46**	**109**	LR	LR	01 45 36.7	
comp=Z,3μm,21.9s,baz=207,slow=32							
MBWA	**Marble Bar**	**26.36**	**198**	P	**P**	**01 37 43.6**	**-0.1**
MBWA				IAmb	IAmb	01 37 46.1	
comp=Z,84nm,0.8s							
MBWA	**Marble Bar**	**26.36**	**198**	P	**P**	**01 37 45.3**	**+1.6**
XMIS	**Christmas Isla**	**26.51**	**237**	P	**P**	**01 37 45.2**	**0.0**
XMIS				IAmb	IAmb	01 38 00.8	
comp=Z,109nm,0.9s							
JCJ	**Chichijima**	**26.61**	**29**	LR	LR	01 46 09.8	
comp=Z,1μm,21.4s,baz=244,slow=32							
PSA00	**Pilbara Seismi**	**26.71**	**197**	P	**P**	**01 37 46.8**	**-0.1**
PSA00				IAmb	IAmb	01 37 58.9	
comp=Z,86nm,0.9s							
PSA00	**Pilbara Seismi**	**26.71**	**197**	P	**P**	**01 37 48.7**	**+1.8**
GULI	**GuiLin**	**27.02**	**323**	⇑P	**P**	**01 37 51.4**	**+1.7**
QIS	**Mount Isa**	**27.03**	**155**	P	**P**	**01 37 52.1**	**+2.2**
BKNI	**Bangkinang**	**27.15**	**263**	P	**P**	**01 37 49.8**	**-1.2**
NAYO	**Nakonayok**	**28.15**	**293**	P	**P**	**01 38 00.3**	**+0.4**
AS31	**Alice Springs**	**28.19**	**168**	P	**P**	**01 38 00.6**	**+0.4**
ASAR	**Alice Springs**	**28.19**	**168**	P	**P**	**01 38 01.4**	**+1.2**
ASAR	**Alice Springs**	**28.19**	**168**	P	**P**	**01 38 00.0**	**-0.2**
comp=Z,4.6nm,0.5s,baz=357,slow=

ASAR P3KPbc 02 10 20.4
comp=Z,0.7nm,0.7s,baz=159,slow=4.1,SNR=6.9
comp=Z,4.6nm,0.5s
SRIT Nakonsritamara 28.52 280 IAmb IAmb 01 38 04.5
comp=Z,87nm,1.0s
SLVN Son La 28.97 308 P **P** **01 38 06.4 -0.8**
PSI Prapat 29.00 268 P **P** **01 38 06.0 -1.7**
PSI Prapat 29.00 268 P **P** **01 38 06.0 -1.7**
PSI pmax pmax
comp=Z,62nm,1.2s
RPSI Rantau Prapat 29.01 268 P **P** **01 38 06.0 -1.6**
JNU Nakatsue 29.01 5 P **P** **01 38 06.4 -1.1**
JNU Nakatsue 29.01 5 P **P** **01 38 06.3 -1.1**
JNU Nakatsue 29.01 5 LR LR 01 48 03.2
comp=Z,732nm,20.7s,baz=170,slow=33
NJ2 Nanjing 29.10 344 *e*P **P** **01 38 08.9 +0.8**
NJ2 pP **pwP** **01 38 25.4 -0.1**
NJ2 sP **sP** **01 38 31.8 +3.5**
NJ2 pmax pmax
comp=Z,34nm,0.7s
NJ2 pmax pmax
comp=Z,770nm,4.6s
WHN Wuhan 29.28 335 ⇓*i*P **P** **01 38 11.4 +1.7**
WHN pP **pwP** **01 38 26.9 +0.5**
WHN sP **sP** **01 38 34.8 +4.5**
WHN pmax pmax
comp=Z,70nm,0.6s
WHN LR LR
comp=Z,5μm,22.1s
SISI Saibi 29.34 260 P **P** **01 38 10.1 -0.4**
comp=Z,121nm,1.0s
GIRL Giralia 29.76 206 P **P** **01 38 15.6 +1.5**
baz=30,SNR=3.5
JMN Monobe 30.00 10 P **P** **01 38 17.4 +1.2**
CTA Charters Tower 30.01 144 P **P** **01 38 17.8 +1.4**
comp=Z,2.6nm,0.5s,baz=42,slow=14,SNR=0.8
CTA LR LR 01 52 01.4
comp=Z,792nm,18.2s,baz=328,slow=40
comp=Z,2.6nm,0.5s
GYA Guiyang 30.17 320 ⇑P **P** **01 38 19.9 +2.1**
GYA sP sP 01 38 43.9 +5.3
GYA S **S** **01 43 19.1 +6.0**
GYA pmax pmax
comp=Z,23nm,0.7s
GYA LR LR
comp=Z,880nm,18.1s
GYA LR LR
comp=Z,810nm,15.3s
GYA LR LR
comp=Z,2μm,20.1s
SRDT SRDT 30.19 292 P **P** **01 38 18.4 +0.4**
GSI Gunungsitoli 30.47 266 P **P** **01 38 18.2 -2.3**
GSI IAmb IAmb 01 38 32.7
comp=Z,141nm,1.0s
JHJ Hachijo jima 2 30.93 20 LR LR 01 48 06.3
comp=Z,1μm,20.9s,baz=252,slow=31
CRAI Chiangrai 31.28 303 P **P** **01 38 26.4 -1.2**
CM31 Chiang Mai Arr 31.76 299 IAmb IAmb 01 38 33.2
comp=Z,46nm,0.8s
CMAR Chiang Mai Arr 31.76 299 P **P** **01 38 31.9 +0.1**
CMAR Chiang Mai Arr 31.76 299 P **P** **01 38 32.0 +0.1**
comp=Z,28nm,0.8s,baz=116,slow=7.1,SNR=129
CMAR LR LR 01 53 25.9
comp=Z,578nm,18.6s,baz=105,slow=40
comp=Z,28nm,0.8s
MEEK Meekatharra 31.85 196 P **P** **01 38 32.7 +0.1**
baz=32,SNR=7.6
CHTO Chiang Mai 31.90 300 P **P** **01 38 33.0 0.0**
CHTO Chiang Mai 31.90 300 P **P** **01 38 33.0 0.0**
CHTO pmax pmax
comp=Z,2.0nm,0.9s
KMI Kunming 32.01 313 ⇑P **P** **01 38 36.1 +1.9**
KMI pP pP 01 38 48.9 +0.5
KMI S **S** **01 43 42.3 +0.2**
KMI sS sS 01 44 06.4 +0.2
KMI pmax pmax
comp=Z,42nm,0.8s
KMI pmax pmax
comp=Z,210nm,7.0s
KMI LR LR
comp=Z,450nm,16.9s
KMI LR LR
comp=Z,820nm,21.9s
KMI LR LR
comp=Z,1μm,25.4s
TJN Taejon 32.14 359 *i*P **P** **01 38 34.2 -0.7**
INU Inuyama 32.22 14 P **P** **01 38 35.0 -0.6**
INU IAmb IAmb 01 38 53.4
comp=Z,48nm,0.7s
INU Inuyama 32.22 14 P **P** **01 38 36.4 +0.8**
INU Inuyama 32.22 14 P **P** **01 38 36.2 +0.6**
INU pP **pP** **01 38 51.2 +2.2**
KSAR Wonju Array Be 33.20 360 P **P** **01 38 43.6 -0.5**
KSAR Wonju Array Be 33.20 360 P **P** **01 38 43.6 -0.5**
KSRS Korea Array 33.21 360 P **P** **01 38 44.0 -0.3**
comp=Z,44nm,0.7s,baz=178,slow=9.7,SNR=82
KSRS pP **pP** **01 38 57.4 -0.4**
comp=Z,53nm,0.8s,baz=187,slow=9.6,SNR=17
KSRS PcP **PcP** **01 41 25.9 +0.1**
comp=Z,1.8nm,0.6s,baz=209,slow=2.3,SNR=4.1
comp=Z,44nm,0.7s
KS19 Wonju Array Si 33.26 360 IAmb IAmb 01 39 00.1
comp=Z,62nm,0.8s
TIA Tai'an 33.49 344 P **P** **01 38 46.3 -0.4**
TIA pmax pmax
comp=Z,31nm,0.7s
LYN LuoYang 33.55 336 ⇑P **P** **01 38 48.1 +0.8**
LYN pP pP 01 39 00.3 -1.0
LYN sP pwP 01 39 05.3 +1.3
LYN S **S** **01 44 06.0 +0.6**
LYN sS sS 01 44 27.8 -1.7
LYN pmax pmax
comp=Z,150nm,0.7s
LYN pmax pmax
comp=Z,830nm,4.7s
LYN LR LR
comp=Z,1μm,21.0s
LYN LR LR
comp=Z,1μm,22.0s
LYN LR LR
comp=Z,1μm,23.1s
PZH PanZhiHua 33.55 314 P **P** **01 38 47.6 0.0**
PZH S **S** **01 44 12.8 +6.9**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,320nm,5.1s
PZH LR LR
comp=Z,600nm,17.1s
PZH LR LR
comp=Z,500nm,14.5s
PZH LR LR
comp=Z,660nm,19.8s
MJAR Matsushiro Arr 33.65 15 P **P** **01 38 47.1 -1.0**
comp=Z,14nm,0.7s,baz=182,slow=9.9,SNR=45
MJAR PcP **PcP** **01 41 27.7 +0.5**
comp=Z,6.7nm,0.7s,baz=188,slow=3.5,SNR=6.3
MJAR LR LR 01 50 25.9
comp=Z,2μm,21.6s,baz=216,slow=33
comp=Z,14nm,0.7s
MAJO Matsushiro 33.65 15 P **P** **01 38 47.3 -0.8**
MAJO IAmb IAmb 01 38 49.6
comp=Z,28nm,0.7s
MAJO **PcP** **01 41 27.0 -0.2**
MAJO Matsushiro 33.65 15 P **P** **01 38 47.3 -0.8**
MAJO 01 41 27.0
MAJO pmax pmax
comp=Z,28nm,0.7s
MAJO Matsushiro 33.65 15 P **P** **01 38 46.3 -1.9**
QLP Quilpie 34.32 154 P **P** **01 38 55.1 +1.0**
baz=34,SNR=3.2
HNR Honiara 34.60 113 P **P** **01 38 59.1 +2.6**
HNR Honiara 34.60 113 P **P** **01 38 59.2 +2.6**
HNR pmax pmax
comp=Z,126nm,1.0s
HNR Honiara 34.60 113 LR LR 01 52 09.5
comp=Z,14μm,21.1s,baz=292,slow=35
XAN Xi'an 34.66 332 ⇑P **P** **01 38 56.8 -0.2**
XAN pmax pmax
comp=Z,130nm,0.9s
XAN pmax pmax
comp=Z,510nm,4.2s
XAN LR LR
comp=Z,890nm,10.7s
XAN LR LR
comp=Z,790nm,13.4s
XAN LR LR
comp=Z,2μm,21.6s
XAN Xi'an 34.66 332 P **P** **01 38 56.9 -0.1**
XAN pP **pP** **01 39 11.3 +0.3**
FORT Forrest 34.67 180 P **P** **01 38 57.3 +0.3**
baz=35,SNR=8.9
FORT Forrest 34.67 180 P **P** **01 38 57.7 +0.7**
MULG Mulgathing 34.67 171 P **P** **01 38 59.3 +2.3**
MORW Morawa 34.90 198 P **P** **01 38 59.7 +0.7**
baz=35,SNR=5.2
MORW Morawa 34.90 198 P **P** **01 38 59.7 +0.7**
MORW IAmb IAmb 01 39 10.5
comp=Z,116nm,1.8s
MORW Morawa 34.90 198 P **P** **01 38 59.6 +0.6**
JSD Sado 35.08 14 IAmb IAmb 01 39 15.5
comp=Z,32nm,0.8s
JSD Sado 35.08 14 P **P** **01 38 58.9 -1.5**
CD2 Chengdu 35.09 322 P **P** **01 39 01.3 +0.5**
CD2 pP pP 01 39 14.4 -0.6
CD2 sP sP 01 39 22.4 +0.7
CD2 S **S** **01 44 30.3 +0.9**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,520nm,5.4s
CD2 LR LR
comp=Z,1μm,21.4s
CD2 LR LR
comp=Z,910nm,24.1s
CD2 LR LR
comp=Z,1μm,22.0s
DL2 Dalian 35.13 351 P **P** **01 39 00.3 -0.6**
DL2 *e*S **S** **01 44 25.5 -4.1**
DL2 pmax pmax
comp=Z,77nm,1.3s
DL2 pmax pmax
comp=Z,390nm,4.7s
DL2 LR LR
comp=Z,490nm,13.3s
DL2 LR LR
comp=Z,480nm,15.7s
DL2 LR LR
comp=Z,510nm,19.1s
HNS HongShan 35.30 342 ⇑P **P** **01 39 02.5 +0.1**
HNS pP **pwP** **01 39 19.3 -0.1**
HNS *e*S **S** **01 44 31.4 -1.0**
HNS pmax pmax
comp=Z,130nm,0.9s
HNS pmax pmax
comp=Z,630nm,4.4s
HNS LR LR
comp=Z,560nm,22.7s
HNS LR LR
comp=Z,650nm,17.7s
JMM Marumori 35.61 18 P **P** **01 39 04.8 -0.2**
LCRK Leigh Creek 35.72 165 P **P** **01 39 08.8 +2.8**
KMBL Kambalda 35.73 189 P **P** **01 39 06.5 +0.3**
baz=36,SNR=8.5
KMBL Kambalda 35.73 189 P **P** **01 39 06.4 +0.3**
BLDU Ballidu 36.14 197 P **P** **01 39 10.6 +0.9**
baz=36,SNR=7.8
BLDU Ballidu 36.14 197 P **P** **01 39 10.5 +0.9**
TIY Taiyuan 36.35 339 *e*P **P** **01 39 11.9 +0.4**
TIY pmax pmax
comp=Z,64nm,0.8s
KLBR Kellerberrin 36.79 195 P **P** **01 39 16.2 +1.0**
baz=37,SNR=14
KLBR Kellerberrin 36.79 195 P **P** **01 39 16.2 +1.0**
EIDS Eidsvold 36.90 144 P **P** **01 39 19.7 +3.5**
BJT Baijiatuau 37.32 345 P **P** **01 39 18.6 -1.0**
BJT Baijiatuau 37.32 345 P **P** **01 39 19.9 +0.3**
BJT Baijiatuau 37.32 345 P **P** **01 39 18.6 -1.0**
BJT pmax pmax
comp=Z,98nm,0.8s
BJT Baijiatuau 37.32 345 P **P** **01 39 19.5 -0.1**
BJT pP **pP** **01 39 34.3 +0.7**
BJI Beijing 37.34 345 P **P** **01 39 19.4 -0.3**
BJI pP **pP** **01 39 34.4 +0.6**
BJI sP **sP** **01 39 40.8 +0.5**
BJI PcP **PcP** **01 41 38.8 +0.9**
BJI S **S** **01 45 02.0 -1.4**
BJI pmax pmax
comp=Z,66nm,0.8s
BJI LR LR
comp=Z,270nm,21.3s
BJI LR LR
comp=Z,170nm,18.3s
BJI LR LR
comp=Z,250nm,24.7s
BBOO Buckleboo 37.49 169 P **P** **01 39 21.4 +0.2**
baz=38,SNR=12
BBOO Buckleboo 37.49 169 P **P** **01 39 21.3 +0.2**
MUN Mundaring 37.57 196 P **P** **01 39 22.6 +0.8**
baz=38,SNR=4.9
MUN Mundaring 37.57 196 P **P** **01 39 22.8 +1.0**
SNY Shenyang 37.78 355 ⇓P **P** **01 39 23.6 +0.2**
SNY sP **sP** **01 39 43.5 0.0**
SNY pmax pmax
comp=Z,50nm,0.8s
SNY pmax pmax
comp=Z,240nm,9.8s
SNY LR LR
comp=Z,500nm,14.2s
SNY LR LR
comp=Z,590nm,19.0s
STKA Stephens Creek 38.05 161 P **P** **01 39 26.3 +0.5**
baz=38,SNR=26
STKA Stephens Creek 38.05 161 P **P** **01 39 27.4 +1.6**
STKA Stephens Creek 38.05 161 P **P** **01 39 26.7 +0.9**
STKA Stephens Creek 38.05 161 P **P** **01 39 27.4 +1.6**
STKA pmax pmax
comp=Z,20nm,0.9s
STKA Stephens Creek 38.05 161 P **P** **01 39 26.1 +0.3**
comp=Z,74nm,0.7s,baz=338,slow=8.2,SNR=18
STKA LR LR 01 56 39.2
comp=Z,373nm,19.1s,baz=332,slow=38
comp=Z,74nm,0.7s
NWAO Narrogin (SRO) 38.19 195 P **P** **01 39 28.4 +1.4**
baz=38,SNR=6.0
NWAO P **P** **01 39 28.4 +1.4**
baz=38,SNR=6.0
NWAO Narrogin (SRO) 38.19 195 P **P** **01 39 27.5 +0.6**
NWAO Narrogin (SRO) 38.19 195 P **P** **01 39 27.3 +0.3**
NWAO Narrogin (SRO) 38.19 195 P **P** **01 39 27.5 +0.6**
NWAO pmax pmax
comp=Z,124nm,1.0s
NWAO Narrogin (SRO) 38.19 195 P **P** **01 39 27.6 +0.6**
NWAO pP **pP** **01 39 42.0 +0.5**
JTM Tenmabayashi 38.40 16 P **P** **01 39 28.8 +0.2**
MSHR Mys Shultsa 38.43 4 *i*P **P** **01 39 28.6 -0.3**
HTT Hallett 38.73 165 P **P** **01 39 32.2 +0.6**
baz=39,SNR=5.1
HTT Hallett 38.73 165 P **P** **01 39 33.0 +1.4**
LZH Lanzhou 38.83 328 *e*P **P** **01 39 33.4 +0.8**
LZH pP pwP 01 39 48.4 -1.4
LZH sP sP 01 39 56.3 +3.1
LZH S **S** **01 45 26.0 -0.4**
LZH pmax pmax
comp=Z,160nm,1.4s
LZH pmax pmax
comp=Z,290nm,5.5s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,1μm,16.1s
LZH LR LR
comp=Z,2μm,17.5s
CMSA Cobar Meteorol 39.25 156 P **P** **01 39 39.3 +3.4**
HHC Hu-ho-hao-te 39.46 340 *e*P **P** **01 39 38.3 +0.6**
HHC sP sP 01 39 58.4 +0.1
HHC S **S** **01 45 44.4 +8.8**
HHC sS sS 01 46 05.4 +5.4
HHC pmax pmax
comp=Z,100nm,0.8s
HHC pmax pmax
comp=Z,500nm,5.1s
HHC LR LR
comp=Z,480nm,14.5s
HHC LR LR
comp=Z,850nm,16.2s
HHC LR LR
comp=Z,1μm,14.5s
CN2 Changchun 39.61 357 *e*P **P** **01 39 38.3 -0.4**
CN2 *e*S **S** **01 45 36.0 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
CN2 LR LR
comp=Z,100nm,11.0s
BTO Baotou 39.78 339 *e*P **P** **01 39 41.0 +0.6**
BTO pP **pP** **01 39 53.4 -1.1**
BTO sP **pwP** **01 39 58.8 +1.2**
BTO PP **PnPn** **01 41 18.0 +1.6**
BTO S **S** **01 45 42.4 +1.9**
BTO sS **sS** **01 46 03.9 -1.0**
BTO SS **SS** **01 48 36.3 -2.1**
BTO pmax pmax
comp=Z,34nm,0.7s
BTO pmax pmax
comp=Z,500nm,3.9s
BTO LR LR
comp=Z,1μm,19.8s
BTO LR LR
comp=Z,1μm,16.8s
BTO LR LR
comp=Z,980nm,22.1s
RKGY Rocky Gully 39.86 194 P **P** **01 39 42.7 +1.8**
baz=40,SNR=6.5
USA0B Ussuriysk Arra 40.10 5 *i*P **P** **01 39 42.2 -0.6**
USRK Ussuriysk Ar. 40.10 5 P **P** **01 39 41.6 -1.2**
comp=Z,25nm,0.7s,baz=182,slow=6.8,SNR=25
USRK LR LR 01 53 50.6
comp=Z,474nm,21.8s,baz=178,slow=32
comp=Z,25nm,0.7s
MDJ Mudanjiang 40.39 2 P **P** **01 39 45.3 +0.1**
MDJ pP pP 01 40 00.3 +0.9
MDJ PP **PP** **01 41 18.8 -0.3**
MDJ ScP **ScP** **01 45 29.1 -2.8**
MDJ PcS **PcS** **01 45 35.6 -2.2**
MDJ S **S** **01 45 43.8 -5.4**
MDJ pmax pmax
comp=Z,51nm,1.0s
MDJ pmax pmax
comp=Z,490nm,4.6s
MDJ LR LR
comp=Z,300nm,12.1s
MDJ LR LR
comp=Z,270nm,11.2s
MDJ LR LR
comp=Z,1μm,18.6s
MDJ Mudanjiang 40.39 2 P **P** **01 39 44.7 -0.4**
MDJ IAmb IAmb 01 39 46.7
comp=Z,40nm,0.9s
MDJ Mudanjiang 40.39 2 P **P** **01 39 45.0 -0.1**
MDJ pP **pP** **01 39 60.0 +0.6**
H11S3 WAKE ISLAND Hy 40.47 66 T T 02 23 07.8
baz=253,slow=75,SNR=60
H11S2 WAKE ISLAND Hy 40.48 66 T T 02 23 04.3
baz=253,slow=75,SNR=75
H11S1 WAKE ISLAND Hy 40.49 66 T T 02 23 08.8
baz=253,slow=75,SNR=53
SHL Shillong 40.66 305 P **P** **01 39 47.8 -0.1**
SHL Shillong 40.66 305 P **P** **01 39 47.8 -0.1**
SHL pmax pmax
comp=Z,297nm,0.7s
H11N1 WAKE ISLAND Hy 41.00 64 T T 02 23 56.5
baz=262,slow=75,SNR=6.9
H11N2 WAKE ISLAND Hy 41.01 64 T T 02 23 57.6
SNR=7.7
XLT XiLinHaoTe 41.01 347 ⇑*i*P **P** **01 39 50.3 -0.1**
XLT pP pP 01 40 02.3 -2.4
XLT sP pwP 01 40 07.8 0.0
XLT S **S** **01 45 59.8 +1.1**
XLT ScS **ScS** **01 49 48.0 -1.9**
XLT pmax pmax
comp=Z,77nm,0.8s
XLT pmax pmax
comp=Z,230nm,4.2s
XLT LR LR
comp=Z,400nm,15.3s
XLT LR LR
comp=Z,470nm,20.8s
H11N3 WAKE ISLAND Hy 41.02 64 T T 02 23 58.1
baz=251,slow=75,SNR=7.4
ARMA Armidale 41.11 148 P **P** **01 39 52.4 +1.0**
baz=41,SNR=5.2
ARMA Armidale 41.11 148 P **P** **01 39 51.6 +0.2**
ARMA Armidale 41.11 148 P **P** **01 39 52.9 +1.5**
TEY Ternei 41.48 9 ⇑*e*P **P** **01 39 54.1 0.0**
TEY pmax pmax
comp=N,20nm,0.8s
TEY pmax pmax
comp=Z,30nm,0.8s
TEY pmax pmax
comp=Z,100nm,3.3s
BNX BinXian 41.49 359 ⇓P **P** **01 39 53.6 -0.6**
BNX pmax pmax
comp=Z,30nm,0.8s
BNX pmax pmax
comp=Z,400nm,4.9s
ASAJ Asahikawa 41.91 16 P **P** **01 39 57.5 -0.1**
ASAJ pmax pmax
comp=Z,30nm,0.7s
ASAJ Asahikawa 41.91 16 LR LR 01 55 27.3
comp=Z,1μm,21.7s,baz=206,slow=33
JKA Kamikawa-asahi 41.91 16 P **P** **01 39 57.5 -0.1**
ARPS Mount Arapiles 42.66 163 P **P** **01 40 04.9 +1.0**
baz=43,SNR=27
ARPS Mount Arapiles 42.66 163 P **P** **01 40 04.7 +0.8**
LSA Lhasa 43.13 310 P **P** **01 40 09.8 +1.4**
LSA pmax pmax
comp=Z,62nm,0.8s
LSA Lhasa 43.13 310 P **P** **01 40 07.8 -0.6**
LSA IAmb IAmb 01 40 12.3
comp=Z,40nm,0.7s
LSA Lhasa 43.13 310 P **P** **01 40 07.8 -0.6**
LSA pmax pmax
comp=Z,40nm,0.7s
LSA Lhasa 43.13 310 P **P** **01 40 09.5 +1.1**
LSA pP **pwP** **01 40 24.4 -0.6**
GTA Gaotai 43.43 328 ⇑P **P** **01 40 10.9 +0.6**
GTA pP pP 01 40 25.0 +0.4
GTA S **S** **01 46 33.0 -1.6**
GTA pmax pmax
comp=Z,63nm,1.2s
GTA pmax pmax
comp=Z,290nm,6.2s
GTA LR LR
comp=Z,470nm,23.3s
GTA LR LR
comp=Z,500nm,22.9s
GTA LR LR
comp=Z,890nm,23.6s
CAN Canberra 43.90 155 P **P** **01 40 18.1 +4.2**
BRAT Ballarat 44.01 162 P **P** **01 40 16.4 +1.7**
GOMU GeErMu 44.17 321 P **P** **01 40 17.5 +0.9**
GOMU S **S** **01 46 43.3 -2.6**
GOMU pmax pmax
comp=Z,13nm,0.8s
GOMU LR LR
comp=Z,400nm,16.0s
GOMU LR LR
comp=Z,340nm,16.0s
GOMU LR LR
comp=Z,640nm,16.6s
TOO Toolangi 44.54 160 P **P** **01 40 20.0 +0.9**
baz=45,SNR=5.7
TOO Toolangi 44.54 160 P **P** **01 40 21.1 +2.1**
TOO IAmb IAmb 01 40 34.6
comp=Z,202nm,1.8s
TOO Toolangi 44.54 160 P **P** **01 40 21.5 +2.5**
TOO Toolangi 44.54 160 P **P** **01 40 21.1 +2.1**
TOO pmax pmax
comp=Z,202nm,1.8s
YSS Yuzh-Sakhalins 44.58 14 P **P** **01 40 19.1 -0.1**
YSS Yuzh-Sakhalins 44.58 14 *e*P **P** **01 40 18.4 -0.8**
YSS *e* 01 40 32.2
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,200nm,4.3s
YSS MLR MLR
comp=Z,500nm,18.0s
TAPN Taplejung 44.80 305 *e*P **P** **01 40 21.4 -0.2**
comp=Z,144nm,0.6s
ODAN Odare 44.87 305 *e*P **P** **01 40 22.0 -0.1**

comp=Z,219nm,0.7s
KLR Kul'dur 45.09 4 *i* P **P 01 40 21.7 -1.5**
KLR pmax pmax
comp=Z,43nm,1.1s
KLR Kul'dur 45.09 4 LR LR 01 56 59.2
comp=Z,371nm,21.9s,baz=201,slow=33
MILA Mila 45.45 156 P **P 01 40 28.4 +2.0**
baz=46,SNR=4.6
MILA Mila 45.45 156 P **P 01 40 28.2 +1.9**
RAMN Ramite 45.55 304 *e*P **P 01 40 28.1 +0.6**
comp=Z,377nm,0.9s
HIA Hailar 45.55 352 P **P 01 40 26.2 -0.7**
HIA Hailar 45.55 352 *i* P **P 01 40 26.4 -0.5**
HIA pmax pmax
comp=Z,29nm,1.0s
NOUC Port Laguerre 45.65 126 P **P 01 40 24.6 -3.4**
NOUC pP **pP 01 40 40.5 -2.4**
NOUC sP **sP 01 40 46.9 -2.6**
DZM Mont Dzumac 45.75 126 *e*P **P 01 40 27.5 -1.5**
comp=Z,70nm,1.1s
DZM *e*S S 01 46 56.0 -13
comp=Z,511nm,33.4s
DZM *e*SS **SS 01 50 44.0 +10**
comp=Z,914nm,32.4s
DZM *e*LR LR 01 53 26.5
comp=Z,1μm,26.1s
DZM Mont Dzumac 45.75 126 P **P 01 40 31.0 +2.0**
DZM Mont Dzumac 45.75 126 P **P 01 40 30.0 +1.0**
DZM Mont Dzumac 45.75 126 LR LR 01 59 27.7
comp=Z,343nm,21.4s,baz=295,slow=36
DZM Mont Dzumac 45.75 126 P **P 01 40 32.4 +3.4**
HEH HeiHe 46.01 360 *e*P **P 01 40 28.9 -1.5**
HEH pP **pwP 01 40 46.9 -1.2**
HEH pmax pmax
comp=Z,36nm,0.7s
HEH pmax pmax
comp=Z,450nm,5.2s
JIRN Jiri 46.16 305 *e*P **P 01 40 32.3 -0.2**
comp=Z,215nm,0.7s
GUN Gumba 46.51 305 *e*P **P 01 40 35.0 -0.2**
comp=Z,264nm,0.7s
PKI Pulchoki 46.77 305 *e*P **P 01 40 36.8 -0.4**
comp=Z,68nm,0.8s
PKIN Phulchoki 46.78 305 *e*P **P 01 40 37.4 +0.2**
comp=Z,63nm,0.8s
KKN Kakani 46.95 305 *e*P **P 01 40 38.0 -0.5**
comp=Z,141nm,1.0s
DMN Daman 47.03 304 *e*P **P 01 40 39.0 -0.1**
comp=Z,142nm,0.9s
GRNR Gornyy 47.06 7 *e*P **P 01 40 38.9 +0.2**
PALK Pallekele 47.11 276 P **P 01 40 39.4 -0.3**
comp=Z,15nm,0.9s,baz=163,slow=2.0,SNR=4.8
comp=Z,15nm,0.9s
ULN Ulaanbaatar 47.17 341 P **P 01 40 40.0 +0.2**
ULN Ulaanbaatar 47.17 341 P **P 01 40 40.0 +0.2**
ULN pmax pmax
comp=Z,106nm,0.9s
ULN Ulaanbaatar 47.17 341 P **P 01 40 40.0 +0.2**
ULN pP **pP 01 40 55.6 +1.3**
SONM Songino Array 47.36 340 P **P 01 40 41.0 -0.2**
SONM lAmb lAmb 01 40 57.9
comp=Z,44nm,1.0s
SONM Songino Array 47.36 340 P **P 01 40 41.3 +0.1**
comp=Z,17nm,0.7s,baz=159,slow=9.3,SNR=58
SONM PcP **PcP 01 42 11.5 +0.2**
comp=Z,7.4nm,0.7s,baz=166,slow=3.6,SNR=1.9
comp=Z,17nm,0.7s
GKN Gorkha 47.56 305 *e*P **P 01 40 42.7 -0.5**
comp=Z,175nm,0.9s
KOLN Koldanda 48.33 304 *e*P **P 01 40 49.1 -0.1**
comp=Z,423nm,0.8s
DANN Dangsing 48.41 305 *e*P **P 01 40 49.6 -0.3**
comp=Z,407nm,0.7s
PYUN Piuthan 48.95 304 *e*P **P 01 40 54.0 +0.1**
comp=Z,427nm,0.9s
CIT Chita 49.25 348 *e*P **P 01 40 56.1 +0.5**
CIT *e* 01 41 02.9
CIT *e* 01 41 10.3
CIT pmax pmax
comp=Z,182nm,2.5s
ZEA Zeya 49.50 359 *e*P **P 01 40 56.3 -1.1**
ZEA pmax pmax
comp=Z,20nm,0.8s
TAU Tasmania Unive 49.96 161 P **P 01 41 02.1 +1.1**
TAU Tasmania Unive 49.96 161 P **P 01 41 02.1 +1.1**
TAU pmax pmax
comp=Z,221nm,1.8s
HYB Hyderabad 50.15 289 *e*P **P 01 41 02.6 -0.3**
HYB *es*P **sP 01 41 26.4 +1.8**
HYB *e*S **S 01 48 11.8 +0.9**
HYB *e*ScS **ScS 01 50 48.1 -1.5**
ZAK Zakamensk 50.60 340 *e*P **P 01 41 05.5 -0.5**
ZAK pmax pmax
comp=Z,19nm,1.4s
IRK Irkutsk 51.86 342 *e*P **P 01 41 15.4 +0.1**
IRK pmax pmax
comp=Z,101nm,2.1s
WMQ Urumqi 53.14 324 ||P **P 01 41 26.3 +1.4**
WMQ S **S 01 48 49.3 -2.1**
WMQ pmax pmax
comp=Z,68nm,0.9s
WMQ pmax pmax
comp=Z,390nm,5.3s
WMQ LR LR
comp=Z,740nm,16.3s
WMQ LR LR
comp=Z,550nm,22.5s
WMQ LR LR
comp=Z,940nm,29.3s
MSVF Nonsavu 53.95 115 *i* P **P 01 41 32.7 +1.4**
MSVF pmax pmax
comp=Z,44nm,1.3s
MSVF Nonsavu 53.95 115 LR LR 02 02 22.2
comp=Z,400nm,21.2s,baz=267,slow=34
MSVF Nonsavu 53.95 115 P **P 01 41 33.8 +2.5**
MSVF pP **pwP 01 41 48.6 -0.6**
MSVF sP **sP 01 41 55.1 +2.6**
PEA0B Petropavlovsk- 54.65 22 P **P 01 41 36.2 +0.6**
PEA0B lAmb lAmb 01 41 37.0
comp=Z,46nm,0.7s
PEA0B Petropavlovsk- 54.65 22 P **P 01 41 36.2 +0.6**
PEA0B pmax pmax
comp=Z,46nm,0.7s
PETK Petropavlovsk- 54.65 22 P **P 01 41 35.4 -0.3**
comp=Z,33nm,0.7s,baz=182,slow=4.4,SNR=47
PETK LR LR 02 03 11.7
comp=Z,289nm,21.6s,baz=208,slow=34
comp=Z,33nm,0.7s
BOD Bodaibo 54.70 351 *e*P **P 01 41 35.5 -0.4**
BOD pmax pmax
comp=Z,70nm,1.8s
PET Petropavlovsk 54.93 22 P **P 01 41 38.3 +0.6**
PET lAmb lAmb 01 41 52.0
comp=Z,59nm,1.2s
PET Petropavlovsk 54.93 22 *i* P **P 01 41 36.7 -1.0**
PET pmax pmax
comp=Z,61nm,1.3s
ZSN Zaisan 56.88 326 *e*P **P 01 41 50.4 -1.4**
comp=Z,21nm,1.2s,baz=326
ZSN Zaisan 56.88 326 *e*P **P 01 41 50.4 -1.4**
ZSN pmax pmax
comp=Z,21nm,1.2s
DGZ Jazzator, Alta 56.89 330 *i* P **P 01 41 51.4 -0.6**
DGZ pmax pmax
comp=Z,36nm,1.3s
WUS Wushi 57.12 318 P **P 01 41 54.3 +0.5**
WUS pP **pwP 01 42 10.3 -1.1**
YAK Yakutsk 57.82 1 P **P 01 41 57.5 -0.6**
YAK Yakutsk 57.82 1 *e*P **P 01 41 57.8 -0.3**
YAK *e**PP **pP 01 42 13.0 +0.1**
YAK *e* 01 42 49.6
YAK *e* 01 44 08.7
YAK *e*S **S 01 49 52.5 -0.5**
YAK *e* 01 51 40.2
YAK pmax pmax
comp=Z,224nm,0.9s
YAK pmax pmax
comp=N,57nm,1.1s
YAK pmax pmax
comp=E,17nm,1.1s
YAK pmax pmax
comp=Z,333nm,4.3s
YAK pmax pmax
comp=N,97nm,4.0s
YAK pmax pmax
comp=E,106nm,4.3s

YAK smax smax
comp=E,130nm,4.2s
YAK smax smax
comp=N,71nm,2.2s
YAK Yakutsk 57.82 1 P **P 01 41 57.7 -0.4**
YAK pP **pP 01 42 13.2 +0.3**
SHLS Shalkode 57.86 320 *e*P **P 01 41 55.9 -3.1**
comp=N,25nm,0.9s,baz=320
SHLS Shalkode 57.86 320 *e*P **P 01 41 55.8 -3.1**
SHLS pmax pmax
comp=Z,25nm,0.9s
PDGK Podgornoye 57.92 320 P **P 01 41 58.8 -0.6**
MK31 Makanchi Array 57.97 325 P **P 01 41 59.7 +0.2**
MK31 Makanchi Array 57.97 325 P **P 01 41 59.7 +0.2**
MK31 pmax pmax
comp=Z,52nm,0.8s
MKAR Makanchi Array 57.97 325 P **P 01 41 59.6 +0.2**
comp=Z,63nm,0.6s,baz=114,slow=6.7,SNR=239
MKAR LR LR 02 08 53.6
comp=Z,460nm,18.5s,baz=122,slow=38
comp=Z,63nm,0.6s
OUZ Omahuta 57.97 136 P **P 01 42 02.3 +2.7**
MA2 Magadan 58.07 13 P **P 01 42 00.2 +0.3**
MA2 Magadan 58.07 13 P **P 01 42 00.2 +0.3**
MA2 pmax pmax
comp=Z,163nm,1.7s
MA2 Magadan 58.07 13 LR LR 02 04 28.1
comp=Z,383nm,22.0s,baz=202,slow=33
MA2 Magadan 58.07 13 P **P 01 42 00.2 +0.3**
MA2 pP **pP 01 42 15.2 +0.9**
UZB Uzynbulak 58.14 319 *e*P **P 01 41 59.5 -1.4**
comp=Z,14nm,0.7s,baz=320
UZB Uzynbulak 58.14 319 *e*P **P 01 41 59.5 -1.4**
UZB pmax pmax
comp=Z,14nm,0.7s
MAKZ Makanchi 58.16 324 P **P 01 42 00.9 +0.1**
MAKZ Makanchi 58.16 324 P **P 01 42 00.9 +0.1**
MAKZ pmax pmax
comp=Z,69nm,0.8s
MAKZ Makanchi 58.16 324 P **P 01 42 01.0 +0.1**
MAKZ pP **pP 01 42 16.9 +0.9**
PRZ Przheval'sk 58.24 319 P **P 01 42 02.2 +0.5**
PRZ Przheval'sk 58.24 319 P **P 01 42 02.2 +0.5**
PRZ pmax pmax
comp=Z,70nm,0.9s
TARG Taragay, Kyrgy 58.30 318 lAmb lAmb 01 42 20.9
comp=Z,30nm,0.8s
SATY Saty 58.50 319 *e*P **P 01 42 02.0 -1.5**
baz=319
SATY Saty 58.50 319 *e*P **P 01 42 01.9 -1.5**
KPKS Kokpek 58.51 320 *e*P **P 01 42 01.8 -1.6**
comp=Z,17nm,0.7s,baz=320
KPKS Kokpek 58.51 320 *e*P **P 01 42 01.8 -1.6**
KPKS pmax pmax
comp=Z,17nm,0.7s
ZHN Zhinishke 58.53 319 *e*P **P 01 42 02.3 -1.3**
baz=319
ZHN Zhinishke 58.53 319 *e*P **P 01 42 02.3 -1.3**
KSH Kashi 58.66 314 P **P 01 42 06.8 +2.2**
KSH pP pwP 01 42 23.3 +0.9
KSH PcP **PcP 01 42 51.8 -2.3**
KSH S **S 01 50 08.5 +3.5**
KSH pmax pmax
comp=Z,27nm,1.4s
KSH LR LR
comp=Z,300nm,16.3s
KSH LR LR
comp=Z,440nm,15.9s
KSH LR LR
comp=Z,560nm,27.0s
NIL Nilore 58.68 307 P **P 01 42 04.7 0.0**
NIL Nilore 58.68 307 P **P 01 42 04.7 0.0**
NIL pmax pmax
comp=Z,98nm,1.2s
NIL Nilore 58.68 307 P **P 01 42 05.0 +0.3**
NIL pP **pP 01 42 21.4 +1.3**
TDK Taldyqorghan 59.40 321 *e*P **P 01 42 08.5 -1.0**
baz=321
TDK Taldyqorghan 59.40 321 *e*P **P 01 42 08.5 -1.0**
NRN Naryn 59.41 317 P **P 01 42 10.2 +0.2**
NRN lAmb lAmb 01 42 13.7
comp=Z,24nm,0.7s
NRN Naryn 59.41 317 P **P 01 42 10.2 +0.2**
NRN pmax pmax
comp=Z,24nm,0.7s
MDOK Medeo 59.43 319 *e*P **P 01 42 08.7 -1.3**
baz=319
MDOK Medeo 59.43 319 *e*P **P 01 42 08.6 -1.3**
TNSS Tian-Shan 59.45 319 *e*P **P 01 42 09.1 -1.3**
baz=319
TNSS Tian-Shan 59.45 319 *e*P **P 01 42 09.0 -1.3**
AAA Alma-Ata 59.54 319 *e*P **P 01 42 09.8 -0.7**
comp=Z,21nm,0.6s,baz=319
AAA Alma-Ata 59.54 319 *e*P **P 01 42 09.8 -0.7**
AAA pmax pmax
comp=Z,21nm,0.6s
ULHL Ulahol 59.58 317 P **P 01 42 07.7 -3.3**
SNR=8.8
CHKK Chushkaly 59.78 319 *e*P **P 01 42 11.1 -1.1**
baz=320
CHKK Chushkaly 59.78 319 *e*P **P 01 42 11.0 -1.1**
BOOM Boomskoye usch 59.88 318 P **P 01 42 13.3 +0.3**
BOOM lAmb lAmb 01 42 31.0
comp=Z,42nm,0.8s
BOOM Boomskoye usch 59.88 318 P **P 01 42 13.3 +0.3**
BOOM pmax pmax
comp=Z,42nm,0.8s
KUU Kurty 60.22 319 *e*P **P 01 42 13.9 -1.2**
baz=319
KUU Kurty 60.22 319 *e*P **P 01 42 13.9 -1.2**
TKM2 Tokmak 2 60.29 318 P **P 01 42 16.4 +0.5**
SNR=14
TKM2 Tokmak 2 60.29 318 P **P 01 42 15.7 -0.2**
JCZ Jackson Bay 60.34 147 P **P 01 42 18.0 +2.0**
QRZ Quartz Range 60.46 142 P **P 01 42 17.4 +0.7**
KBK Karagaybulak 60.62 317 P **P 01 42 18.8 +0.7**
SNR=8.1
ZAA0 Zalesovo Array 60.83 332 lAmb lAmb 01 42 35.3
comp=Z,56nm,1.1s
ZALV Zalesovo Beam 60.83 332 P **P 01 42 17.7 -1.3**
ZALV Zalesovo Beam 60.83 332 P **P 01 42 17.9 -1.1**
comp=Z,20nm,0.9s,baz=118,slow=6.7,SNR=66
ZALV LR LR 02 10 28.0
comp=Z,251nm,21.9s,baz=129,slow=38
ZALV PKP2bc **P'P'ab 02 11 54.8 -2.4**
comp=Z,2.3nm,0.8s,baz=297,slow=4.3,SNR=6.1
comp=Z,20nm,0.9s
CHMS Chumysh 60.89 318 P **P 01 42 19.8 +0.1**
SNR=12
AAK Ala-Archa 60.92 317 P **P 01 42 20.7 +0.5**
SNR=17
AAK Ala-Archa 60.92 317 P **P 01 42 20.6 +0.5**
AAK lAmb lAmb 01 42 40.3
comp=Z,26nm,0.8s
AAK Ala-Archa 60.92 317 P **P 01 42 20.6 +0.5**
AAK pmax pmax
comp=Z,27nm,0.9s
AAK Ala-Archa 60.92 317 P **P 01 42 20.2 +0.1**
comp=Z,9.4nm,0.7s,baz=141,slow=8.7,SNR=19
AAK LR LR 02 10 44.3
comp=Z,636nm,21.9s,baz=100,slow=38
comp=Z,9.4nm,0.7s
AAK Ala-Archa 60.92 317 P **P 01 42 20.6 +0.5**
AAK pP **pwP 01 42 36.7 -1.2**
SEM Semipalatinsk 61.06 327 *e*P **P 01 42 19.5 -1.5**
baz=327
SEM Semipalatinsk 61.06 327 *e*P **P 01 42 19.4 -1.5**
SGDS Sogindy 61.16 318 *e*P **P 01 42 20.5 -1.1**
baz=318
SGDS Sogindy 61.16 318 *e*P **P 01 42 20.4 -1.1**
USP Osenovka 61.17 318 P **P 01 42 21.8 +0.2**
SNR=24
AML Almayashu 61.27 316 P **P 01 42 23.5 +0.7**
SNR=34
AML Almayashu 61.27 316 P **P 01 42 23.0 +0.3**
LBZ Lake Benmore 61.30 147 P **P 01 42 23.4 +1.0**
RPZ Rata Peaks 61.36 146 P **P 01 42 25.2 +2.4**
RPZ Rata Peaks 61.36 146 LR LR 02 09 08.9
comp=Z,741nm,19.5s,baz=298,slow=36
EKS2 Erkin-Say 61.41 317 P **P 01 42 24.1 +0.7**
SNR=31
SEY Seymchan 61.42 12 *i* P **P 01 42 22.8 0.0**
SEY pmax pmax
comp=Z,45nm,1.5s
SEY Seymchan 61.42 12 LR LR 02 09 47.0
comp=Z,172nm,19.7s,baz=200,slow=37

SHEM Shemya Is, Ala 61.54 30 LR LR 02 03 36.1
comp=Z,511nm,21.5s,baz=228,slow=31
RAO Raoul Island 61.55 126 LR LR 02 05 41.8
comp=Z,179nm,21.2s,baz=335,slow=33
URZ Urewera 61.97 138 P **P 01 42 29.1 +2.1**
URZ Urewera 61.97 138 LR LR 02 08 50.0
comp=Z,657nm,20.6s,baz=31,slow=36
BKZ Black Stump Fm 62.04 139 P **P 01 42 28.3 +0.8**
KURK Kurchatov 62.10 327 P **P 01 42 27.4 -0.2**
KURK Kurchatov 62.10 327 *c*eP **P 01 42 27.5 -0.2**
KURK pmax pmax
comp=Z,66nm,0.9s
KURK Kurchatov 62.10 327 P **P 01 42 27.4 -0.2**
KURK pP **pP 01 42 43.6 +0.6**
KURBB Kurchatov Arra 62.10 327 P **P 01 42 27.3 -0.4**
comp=Z,49nm,0.7s,baz=125,slow=6.2,SNR=266
KURBB LR LR 02 10 44.6
comp=Z,162nm,21.7s,baz=169,slow=37
KURBB PKP2bc **P'P'ab 02 11 52.4 +0.1**
comp=Z,2.1nm,1.1s,baz=294,slow=3.2,SNR=4.7
comp=Z,49nm,0.7s
BTLS Baital 62.19 320 *e*P **P 01 42 27.1 -1.3**
comp=Z,17nm,0.8s,baz=320
BTLS Baital 62.19 320 *e*P **P 01 42 27.1 -1.3**
BTLS pmax pmax
comp=Z,17nm,0.8s
KBL Kabul 62.28 307 P **P 01 42 29.3 -0.2**
KBL lAmb lAmb 01 42 31.1
comp=Z,42nm,0.9s
KBL Kabul 62.28 307 P **P 01 42 29.3 -0.2**
KBL pmax pmax
comp=Z,42nm,0.9s
BTK Batken 62.56 313 lAmb lAmb 01 42 49.2
comp=Z,42nm,0.9s
DZA Taraz 63.17 317 *e*P **P 01 42 33.5 -1.5**
comp=Z,10nm,0.6s,baz=317
DZA Taraz 63.17 317 *e*P **P 01 42 33.5 -1.5**
DZA pmax pmax
comp=Z,10.0nm,0.6s
SIMJ Simiganj 63.45 311 P **P 01 42 36.9 -0.2**
SIMJ pP **pP 01 42 53.2 +1.0**
SIMJ sP **sP 01 43 00.3 +1.4**
KK31 Karatay Array 63.81 317 P **P 01 42 39.1 0.0**
KK31 lAmb lAmb 01 42 56.7
comp=Z,73nm,0.9s
KK31 Karatay Array 63.81 317 P **P 01 42 39.2 0.0**
KK31 pmax pmax
comp=Z,73nm,1.0s
KKAR Karatay Array 63.81 317 P **P 01 42 39.1 0.0**
KKAR lAmb lAmb 01 42 56.7
comp=Z,73nm,0.9s
KKAR Karatay Array 63.81 317 P **P 01 42 39.2 0.0**
KKAR pmax pmax
comp=Z,73nm,1.0s
IUG Iuzhnay 63.81 315 *e*P **P 01 42 38.3 -1.1**
comp=Z,32nm,1.3s,baz=315
IUG Iuzhnay 63.81 315 *e*P **P 01 42 38.3 -1.1**
IUG pmax pmax
comp=Z,32nm,1.3s
CHM Chimkent 64.17 315 *e*P **P 01 42 40.6 -1.0**
baz=316
CHM Chimkent 64.17 315 *e*P **P 01 42 40.6 -1.0**
BRZS Berezniki 65.11 324 *e*P **P 01 42 46.4 -1.2**
comp=Z,16nm,0.9s,baz=324
BRZS Berezniki 65.11 324 *e*P **P 01 42 46.3 -1.2**
BRZS pmax pmax
comp=Z,16nm,0.9s
NIUE Niue 65.28 113 P **P 01 42 52.2 +3.0**
TIXI Tiksi 67.47 0 P **P 01 43 00.7 -1.5**
TIXI lAmb lAmb 01 43 02.4
comp=Z,63nm,0.9s
TIXI Tiksi 67.47 0 *i* P **P 01 43 01.0 -1.2**
TIXI pmax pmax
comp=Z,43nm,0.8s
TIXI Tiksi 67.47 0 P **P 01 43 01.1 -1.2**
TIXI pP **pP 01 43 17.0 -0.6**
ATKA Atka Island 67.51 34 P **P 01 43 02.8 0.0**
BVA0 Borovoye Array 67.69 327 *i* P **P 01 43 03.2 -0.8**
BVAR Borovoye Array 67.69 327 P **P 01 43 03.4 -0.6**
comp=Z,30nm,0.7s,baz=123,slow=7.4,SNR=144
BVAR LR LR 02 14 47.7
comp=Z,248nm,18.5s,baz=116,slow=38
comp=Z,30nm,0.7s
ROCAM Rodrigues Isla 67.70 247 P **P 01 43 05.3 +0.7**
ROCAM pP **pP 01 43 19.9 -0.5**
BRVK Borovoye 67.76 327 P **P 01 43 04.1 -0.3**
BRVK Borovoye 67.76 327 P **P 01 43 04.1 -0.3**
BRVK pmax pmax
comp=Z,84nm,1.0s
BRVK Borovoye 67.76 327 P **P 01 43 03.9 -0.5**
BRVK pP **pP 01 43 20.1 +0.2**
WSAR Wadi Sarin 69.41 293 LR LR 02 19 10.3
comp=Z,63nm,18.1s,baz=64,slow=41
NIKH Nikolski High 70.82 35 P **P 01 43 23.0 -0.3**
baz=251
DRV Dumont d'Urvil 71.12 175 P **P 01 43 25.0 +0.2**
CASY Casey 71.32 187 P **P 01 43 26.1 +0.1**
CASY lAmb lAmb 01 43 28.2
comp=Z,44nm,0.8s
CASY Casey 71.32 187 P **P 01 43 27.1 +1.1**
UOSS Minazif 71.74 295 P **P 01 43 28.7 -0.8**
UOSS Minazif 71.74 295 P **P 01 43 29.4 -0.1**
UOSS pP **pP 01 43 46.2 +1.2**
UOSS sP **sP 01 43 52.4 +1.0**
UNV Unalaska Valle 72.44 34 P **P 01 43 33.0 0.0**
UNV Unalaska Valle 72.44 34 P **P 01 43 33.3 +0.3**
baz=252,SNR=5.9
AB31 Akbulak array 72.65 320 P **P 01 43 33.0 -1.4**
ABKAR Akbulak array 72.65 320 P **P 01 43 33.3 -1.1**
GAMB Gambell 73.58 24 P **P 01 43 39.2 -0.3**
baz=245
AKTO Aktyubinsk 74.14 321 P **P 01 43 42.1 -1.1**
comp=Z,24nm,0.7s,baz=95,slow=7.3,SNR=68
AKTO LR LR 02 19 12.4
comp=Z,300nm,18.1s,baz=66,slow=38
comp=Z,24nm,0.7s
SVE Sverdlovsk 74.30 328 *de*P **P 01 43 43.1 -0.8**
SVE pmax pmax
comp=Z,85nm,1.0s
FALS False Pass 74.46 34 P **P 01 43 44.4 -0.5**
baz=255
RAR Rarotonga 75.05 113 LR LR 02 13 32.9
comp=Z,116nm,21.5s,baz=338,slow=33
ARU Arti 75.29 327 P **P 01 43 48.0 -1.6**
ARU lAmb lAmb 01 43 49.8
comp=Z,32nm,0.8s
ARU Arti 75.29 327 *c i* P **P 01 43 48.6 -1.1**
ARU *PP **PcP 01 44 03.9 +1.1**
ARU S **S 01 53 26.0 +1.5**
ARU pmax pmax
comp=Z,37nm,0.8s
ARU Arti 75.29 327 P **P 01 43 48.6 -1.1**
comp=Z,28nm,0.7s,baz=106,slow=4.6,SNR=24
ARU LR LR 02 21 08.7
comp=Z,138nm,18.1s,baz=116,slow=39
comp=Z,28nm,0.7s
K13K Kusilvak Mount 75.89 27 P **P 01 43 53.5 +0.5**
K13K lAmb lAmb 01 43 55.0
comp=Z,64nm,0.8s
K13K Kusilvak Mount 75.89 27 P **P 01 43 54.7 +1.7**
baz=252,SNR=7.7
M13K Dall Lake 76.03 28 lAmb lAmb 01 43 55.5
comp=Z,58nm,0.9s
M13K Dall Lake 76.03 28 P **P 01 43 55.0 +1.2**
baz=253
SDPT Sand Point 76.22 34 P **P 01 43 55.1 +0.2**
SDPT Sand Point 76.22 34 P **P 01 43 54.6 -0.3**
baz=257,SNR=6.7
F14K Arctic Creek 76.37 23 P **P 01 43 57.0 +1.3**
baz=249
ANM Nome 76.44 24 P **P 01 43 57.0 +0.9**
baz=250
CHNA Chernabura Isl 76.60 35 P **P 01 43 57.9 +0.8**
baz=258
L14K Kuka Creek 76.61 28 lAmb lAmb 01 43 59.2
comp=Z,68nm,0.9s
L14K Kuka Creek 76.61 28 P **P 01 43 57.9 +0.8**
baz=254,SNR=13
J14K Nanvaranak Lak 76.63 26 P **P 01 43 58.1 +0.9**
baz=253
N14K Kuskokwak Cree 76.70 29 P **P 01 43 58.1 +0.6**
baz=255,SNR=7.4
O14K Tigyukauivet M 76.73 30 lAmb lAmb 01 44 14.7
comp=Z,40nm,0.9s
O14K Tigyukauivet M 76.73 30 P **P 01 43 58.1 +0.3**
baz=256

M14K	**Bethel**	76.79	28	P	P	01 43 57.9 -0.1
	baz=254,SNR=20					
S14K	**Fog Glacier**	76.93	33	P	P	01 43 59.1 0.0
	baz=258					
F15K	**North Star Dit**	77.11	23	P	P	01 43 59.6 -0.2
	baz=251					
G15K	**Niukluk**	77.12	24	P	P	01 44 00.5 +0.6
	baz=252					
L15K	**Ungalak Mounta**	77.26	27	P	P	01 44 01.3 +0.6
	baz=255					
M15K	**Kasigluk River**	77.38	29	P	P	01 44 01.9 +0.5
	baz=256,SNR=16					
K15K	**Wolf Creek Mou**	77.40	27	IAmb	IAmb	01 44 03.7
	comp=Z,55nm,0.9s					
K15K	**Wolf Creek Mou**	77.40	27	P	P	01 44 02.5 +1.0
	baz=255,SNR=8.7					
O15K	**Ungalikthiuk R**	77.44	30	P	P	01 44 01.9 +0.1
	baz=257					
N15K	**Kwethluk River**	77.54	29	IAmb	IAmb	01 44 19.4
	comp=Z,41nm,0.9s					
N15K	**Kwethluk River**	77.54	29	P	P	01 44 02.9 +0.6
	baz=256,SNR=8.9					
CHGN	**Chignik**	77.56	33	P	P	01 44 03.0 +0.5
CHGN				IAmb	IAmb	01 44 21.0
	comp=Z,53nm,0.8s					
CHGN	**Chignik**	77.56	33	P	P	01 44 02.1 -0.3
	baz=259					
C16K	**Lisburne Hills**	77.72	20	P	P	01 44 03.9 +0.7
	baz=250					
H16K	**Elim**	77.75	24	P	P	01 44 03.9 +0.6
	baz=253					
G16K	**Koyuk River**	77.92	24	P	P	01 44 05.1 +0.8
	baz=253					
J16K	**Anvik River**	78.07	26	IAmb	IAmb	01 44 22.7
	comp=Z,40nm,0.8s					
J16K	**Anvik River**	78.07	26	P	P	01 44 06.5 +1.3
	baz=255,SNR=6.1					
I17K	**Unalakleet**	78.19	25	IAmb	IAmb	01 44 23.4
	comp=Z,49nm,0.8s					
I17K	**Unalakleet**	78.19	25	P	P	01 44 06.5 +0.7
	baz=255					
L16K	**Owhat River**	78.19	28	P	P	01 44 06.9 +1.0
	baz=257,SNR=15					
N16K	**Nishlik Lake**	78.25	29	P	P	01 44 07.4 +1.1
	baz=257,SNR=17					
M16K	**Timber Creek**	78.28	28	IAmb	IAmb	01 44 23.6
	comp=Z,59nm,0.8s					
M16K	**Timber Creek**	78.28	28	P	P	01 44 07.2 +0.8
	baz=257,SNR=11					
P16K	**Nushagak River**	78.33	31	P	P	01 44 07.4 +0.7
	baz=258					
D17K	**Noatak River**	78.34	21	P	P	01 44 07.6 +1.0
	baz=252					
O16K	**Kokwok River B**	78.39	30	IAmb	IAmb	01 44 08.8
	comp=Z,43nm,0.9s					
O16K	**Kokwok River B**	78.39	30	P	P	01 44 07.3 +0.2
	baz=258,SNR=12					
C17K	**DeLong Mountai**	78.55	21	P	P	01 44 08.3 +0.5
	baz=252					
E17K	**Hotham Inlet**	78.62	22	P	P	01 44 09.3 +1.1
	baz=253,SNR=9.6					
G17K	**Kiwalik Mounta**	78.63	24	P	P	01 44 09.1 +0.9
	baz=255,SNR=5.5					
H17K	**Granite Mounta**	78.79	24	P	P	01 44 10.2 +1.1
	baz=256,SNR=7.1					
L17K	**Donlin**	78.83	27	P	P	01 44 10.9 +1.5
	baz=258,SNR=16					
R17K	**Ugashik Creek**	78.90	32	IAmb	IAmb	01 44 10.6
	comp=Z,48nm,0.8s					
R17K	**Ugashik Creek**	78.90	32	P	P	01 44 09.7 -0.1
	baz=260,SNR=10					
O17K	**Koliganek Bris**	78.92	30	P	P	01 44 10.4 +0.5
	baz=259,SNR=16					
Q16K	**King Salmon**	78.94	31	P	P	01 44 09.9 -0.1
	baz=260					
K17K	**Iditarod**	78.96	27	IAmb	IAmb	01 44 12.6
	comp=Z,70nm,0.8s					
K17K	**Iditarod**	78.96	27	P	P	01 44 11.6 +1.5
	baz=257,SNR=16					
N17K	**Nushagak Hills**	79.02	29	IAmb	IAmb	01 44 13.0
	comp=Z,67nm,1.4s					
N17K	**Nushagak Hills**	79.02	29	P	P	01 44 11.6 +1.1
	baz=259,SNR=8.3					
M17K	**Holitna River**	79.08	28	IAmb	IAmb	01 44 28.5
	comp=Z,44nm,0.9s					
M17K	**Holitna River**	79.08	28	P	P	01 44 12.0 +1.2
	baz=258,SNR=11					
P17K	**Kvichak River**	79.14	31	P	P	01 44 11.3 +0.1
	baz=260,SNR=8.9					
E18K	**Tukpahlearik C**	79.17	22	IAmb	IAmb	01 44 13.2
	comp=Z,66nm,0.8s					
E18K	**Tukpahlearik C**	79.17	22	P	P	01 44 11.9 +0.8
	baz=254,SNR=20					
Q17K	**Contact Creek**	79.27	31	P	P	01 44 11.3 -0.8
	baz=260,SNR=23					
B18K	**Kokolik River**	79.30	20	P	P	01 44 12.8 +1.0
	baz=253,SNR=5.7					
C18K	**Utukok River**	79.30	21	IAmb	IAmb	01 44 13.4
	comp=Z,34nm,0.9s					
C18K	**Utukok River**	79.30	21	P	P	01 44 12.6 +0.7
	baz=254					
H18K	**Honhosa River**	79.48	24	IAmb	IAmb	01 44 14.9
	comp=Z,158nm,1.9s					
H18K	**Honhosa River**	79.48	24	P	P	01 44 13.2 +0.2
	baz=257					
G18K	**Tagagawik**	79.53	24	P	P	01 44 13.9 +0.6
G18K	**Tagagawik**	79.53	24	P	P	01 44 13.7 +0.5
	baz=256,SNR=5.2					
L18K	**Granite Mounta**	79.59	27	IAmb	IAmb	01 44 31.1
	comp=Z,36nm,0.8s					
L18K	**Granite Mounta**	79.59	27	P	P	01 44 14.5 +0.9
	baz=259,SNR=14					
N18K	**Kilae Creek**	79.68	29	P	P	01 44 15.0 +0.8
	baz=260,SNR=9.3					
Q18K	**Katmai Hardscr**	79.78	31	P	P	01 44 13.9 -0.9
	baz=261,SNR=8.8					
P18K	**Big Mountain,**	79.79	30	P	P	01 44 14.3 -0.5
	baz=261,SNR=7.3					
J18K	**Innoko River**	79.82	26	P	P	01 44 15.4 +0.5
	baz=259,SNR=8.2					
M18K	**Stony River**	79.86	28	P	P	01 44 16.1 +1.1
	baz=260,SNR=11					
O18K	**Koktuh Hills**	79.88	30	IAmb	IAmb	01 44 32.4
	comp=Z,64nm,0.9s					
O18K	**Koktuh Hills**	79.88	30	P	P	01 44 16.0 +0.8
	baz=261,SNR=17					
SVW2	**Sparrevohn**	79.90	29	P	P	01 44 16.5 +1.2
R18K	**Karluk**	79.91	32	P	P	01 44 15.0 -0.4
	baz=262					
SII	**Sitkinak Islan**	79.92	33	P	P	01 44 16.8 +1.3
SII	**Sitkinak Islan**	79.92	33	P	P	01 44 16.4 +0.9
	baz=262,SNR=6.3					
C19K	**Lookout Ridge**	79.98	20	P	P	01 44 17.0 +1.3
	baz=255,SNR=7.2					
GCSA	**Galena City Sc**	80.01	25	P	P	01 44 16.3 +0.6
	baz=258,SNR=6.9					
TTA	**Tatalina**	80.03	27	P	P	01 44 16.8 +0.7
TTA	**Tatalina**	80.03	27	P	P	01 44 16.5 +0.5
	baz=260,SNR=10.0					
F19K	**Shaleruckik Mo**	80.09	23	P	P	01 44 16.4 +0.2
	baz=257					
G19K	**Purcell Mounta**	80.21	23	P	P	01 44 17.1 +0.2
G19K				IAmb	IAmb	01 44 18.8
	comp=Z,56nm,0.8s					
G19K	**Purcell Mounta**	80.21	23	P	P	01 44 17.6 +0.7
	baz=258,SNR=21					
MAK	**Makhachkala**	80.24	313	*e*P	P	01 44 16.2 -1.2
MAK				*e**PP	pP	01 44 32.2 -1.3
MAK				*e*S	S	01 54 18.1 -0.2
MAK				pmax	pmax	
	comp=Z,51nm,1.2s					
MAK				MLR	MLR	
	comp=Z,117nm,18.0s					
H19K	**Roundabout Mou**	80.34	24	P	P	01 44 18.6 +1.1
	baz=259,SNR=19					
D19K	**Kuna River**	80.35	21	IAmb	IAmb	01 44 34.6
	comp=Z,59nm,0.8s					
D19K	**Kuna River**	80.35	21	P	P	01 44 18.4 +0.8
	baz=257,SNR=17					
O19K	**Port Alsworth**	80.37	30	IAmb	IAmb	01 44 19.5
	comp=Z,73nm,1.4s					
O19K	**Port Alsworth**	80.37	30	P	P	01 44 18.2 +0.4
	baz=261,SNR=5.2					
N19K	**Bonanza Creek**	80.38	29	IAmb	IAmb	01 44 37.6
	comp=Z,60nm,0.8s					
N19K	**Bonanza Creek**	80.38	29	P	P	01 44 19.1 +1.1
	baz=261,SNR=20					
J19K	**Poorman**	80.40	26	IAmb	IAmb	01 44 20.0
	comp=Z,46nm,1.1s					
J19K	**Poorman**	80.40	26	P	P	01 44 19.1 +1.2
	baz=260,SNR=15					
L19K	**White Mountain**	80.43	28	P	P	01 44 19.2 +1.0
	baz=261,SNR=9.9					
E19K	**Redstone River**	80.44	22	IAmb	IAmb	01 44 35.5
	comp=Z,78nm,0.8s					
E19K	**Redstone River**	80.44	22	P	P	01 44 19.1 +1.0
	baz=258,SNR=22					
Q19K	**Cape Douglas,**	80.53	31	P	P	01 44 18.3 -0.4
	baz=262					
KIRV	**Kirov**	80.55	329	P	P	01 44 18.8 0.0
	comp=Z,29nm,0.7s,baz=4.9,slow=2.8,SNR=11					
KIRV				LR	LR	02 22 51.7
	comp=Z,294nm,21.4s,baz=100,slow=38					
	comp=Z,29nm,0.7s					
M19K	**Big River Lodg**	80.60	28	P	P	01 44 20.0 +1.0
	baz=261					
P19K	**Oil Pt**	80.83	30	P	P	01 44 20.6 +0.2
	baz=262					
BELG	**Belogornoye**	80.87	322	P	P	01 44 20.0 -0.6
	comp=Z,37nm,0.7s,baz=356,slow=1.8,SNR=8.2					
BELG				LR	LR	02 22 59.4
	comp=Z,129nm,21.5s,baz=167,slow=38					
	comp=Z,37nm,0.7s					
L20K	**Farewell, AK**	80.92	27	P	P	01 44 21.9 +1.0
	baz=261,SNR=11					
F20K	**Avaraart Lake**	80.93	23	IAmb	IAmb	01 44 38.1
	comp=Z,35nm,0.8s					
F20K	**Avaraart Lake**	80.93	23	P	P	01 44 21.8 +1.2
	baz=259					
D20K	**Etivluk River**	80.94	21	P	P	01 44 21.5 +0.8
	baz=258,SNR=13					
KDAK	**Kodiak Island**	80.94	32	P	P	01 44 21.1 +0.2
KDAK				IAmb	IAmb	01 44 37.8
	comp=Z,61nm,0.8s					
KDAK	**Kodiak Island**	80.94	32	P	P	01 44 21.5 +0.6
	baz=263					
KDAK	**Kodiak Island**	80.94	32	P	P	01 44 21.1 +0.2
KDAK				pmax	pmax	
	comp=Z,61nm,0.9s					
KDAK	**Kodiak Island**	80.94	32	LR	LR	02 17 08.2
	comp=Z,235nm,21.2s,baz=267,slow=33					
K20K	**Telida**	80.97	27	IAmb	IAmb	01 44 23.4
	comp=Z,43nm,0.9s					
K20K	**Telida**	80.97	27	P	P	01 44 22.4 +1.4
	baz=261					
H20K	**Anotleneega Mo**	80.98	24	P	P	01 44 21.9 +0.9
	baz=260,SNR=13					
E20K	**Nigu River**	80.99	21	P	P	01 44 22.1 +1.0
	baz=258,SNR=22					
I20K	**Naaghedeneel**	81.03	25	P	P	01 44 22.6 +1.4
	baz=261,SNR=11					
J20K	**Nowinta River**	81.07	26	IAmb	IAmb	01 44 23.8
	comp=Z,40nm,0.8s					
J20K	**Nowinta River**	81.07	26	P	P	01 44 22.8 +1.3
	baz=261,SNR=20					
SYI	**Shuyak Island**	81.14	31	IAmb	IAmb	01 44 38.9
	comp=Z,56nm,0.8s					
M20K	**Styx River**	81.19	28	IAmb	IAmb	01 44 42.7
	comp=Z,52nm,0.9s					
M20K	**Styx River**	81.19	28	P	P	01 44 23.1 +0.8
	baz=262					
GROC	**Groznyy**	81.50	313	*e*P	P	01 44 23.6 -0.6
GROC				*e**PP	pP	01 44 36.6 -3.7
GROC				*e*S	S	01 54 32.9 +1.4
GROC				pmax	pmax	
	comp=Z,14nm,0.7s					
N20K	**Mount Spurr**	81.54	29	P	P	01 44 24.1 0.0
	baz=263,SNR=6.3					
SPCR	**Spurr Chakacha**	81.54	29	P	P	01 44 24.2 +0.1
	baz=263					
C21K	**Knifeblade Rid**	81.67	21	P	P	01 44 25.4 +0.8
	baz=260,SNR=8.5					
G21K	**Allakaket**	81.70	23	IAmb	IAmb	01 44 27.0
	comp=Z,150nm,1.8s					
G21K	**Allakaket**	81.70	23	P	P	01 44 25.6 +0.8
	baz=261,SNR=10					
PPLA	**Purkeypile**	81.75	27	P	P	01 44 25.7 +0.4
	baz=263,SNR=16					
B21K	**Ikpikpuk River**	81.82	20	P	P	01 44 26.0 +0.7
	baz=260					
F21K	**Alatna River**	81.82	23	P	P	01 44 25.9 +0.4
	baz=261,SNR=7.8					
CHUM	**Lake Minchumin**	81.82	26	P	P	01 44 26.3 +0.8
	baz=263,SNR=6.7					
E21K	**Killik River**	81.84	21	IAmb	IAmb	01 44 42.6
	comp=Z,54nm,0.8s					
E21K	**Killik River**	81.84	21	P	P	01 44 26.3 +0.7
	baz=260					
H21K	**Melozitna Rive**	81.86	24	P	P	01 44 26.7 +1.0
	baz=262,SNR=25					
CAST	**Castle Rocks**	81.87	27	IAmb	IAmb	01 44 42.6
	comp=Z,49nm,0.8s					
CAST	**Castle Rocks**	81.87	27	P	P	01 44 26.2 +0.5
	baz=263,SNR=31					
SKT	**Skwentna**	81.95	28	IAmb	IAmb	01 44 42.1
	comp=Z,32nm,0.9s					
SKT	**Skwentna**	81.95	28	P	P	01 44 25.7 -0.5
	baz=264,SNR=12					
A22K	**Sinclair Lake**	81.95	19	P	P	01 44 26.8 +0.9
	baz=259					
BRLK	**Bradley Lake**	82.03	30	IAmb	IAmb	01 44 45.4
	comp=Z,38nm,0.8s					
BRSE	**Bradley Lake S**	82.10	30	P	P	01 44 26.9 -0.2
	baz=265,SNR=6.0					
I21K	**Tanana**	82.13	25	IAmb	IAmb	01 44 44.6
	comp=Z,62nm,0.8s					
I21K	**Tanana**	82.13	25	P	P	01 44 28.1 +1.1
	baz=263,SNR=29					
GNI	**Garni**	82.19	310	P	P	01 44 28.4 +0.2
GNI				IAmb	IAmb	01 44 47.6
	comp=Z,97nm,1.9s					
GNI	**Garni**	82.19	310	P	P	01 44 28.4 +0.2
GNI				pmax	pmax	
	comp=Z,97nm,1.9s					
GNI	**Garni**	82.19	310	P	P	01 44 27.9 -0.2
	comp=Z,4.8nm,0.7s,baz=231,slow=15,SNR=4.1					
	comp=Z,4.8nm,0.7s					
SUA	**Susitna One**	82.27	29	P	P	01 44 27.6 -0.4
	baz=264,SNR=21					
B22K	**Teshekpuk Lake**	82.34	20	P	P	01 44 29.0 +0.9
	baz=261					
F22K	**John River**	82.36	22	P	P	01 44 29.3 +1.0
	baz=262					
D22K	**Ayikyak River**	82.37	21	P	P	01 44 29.2 +0.9
	baz=262					
KTH	**Kantishna Hill**	82.40	27	IAmb	IAmb	01 44 30.7
	comp=Z,11nm,1.5s					
BPAW	**Bear Paw Mtn.**	82.43	26	IAmb	IAmb	01 44 45.7
	comp=Z,66nm,1.1s					
BPAW	**Bear Paw Mtn.**	82.43	26	P	P	01 44 29.1 +0.4
	baz=264,SNR=33					
H22K	**Ishtalitna Cre**	82.47	24	P	P	01 44 29.9 +1.0
	baz=263					
G22K	**Bettles**	82.55	23	P	P	01 44 30.1 +1.0
	baz=263					
ABPO	**Ambohimpanom**	82.58	250	P	P	01 44 30.6 +0.1
ABPO	**Ambohimpanom**	82.58	250	P	P	01 44 30.6 +0.1
ABPO				pmax	pmax	
	comp=Z,20nm,0.9s					
CUT	**Chulitna**	82.58	28	P	P	01 44 28.9 -0.5
	baz=265,SNR=6.9					
E22K	**Anaktuvuk Pass**	82.58	22	IAmb	IAmb	01 44 46.9
	comp=Z,40nm,0.8s					
E22K	**Anaktuvuk Pass**	82.58	22	P	P	01 44 30.3 +0.9
	baz=262					
M22K	**Willow**	82.59	28	P	P	01 44 28.8 -0.7
	baz=265,SNR=7.8					
MLY	**Manley**	82.64	25	P	P	01 44 30.3 +0.5
	baz=264					
O22K	**Cooper Landing**	82.67	30	P	P	01 44 29.8 -0.2
	baz=265					
TRF	**Thorofare Moun**	82.67	27	IAmb	IAmb	01 44 48.7
	comp=Z,46nm,0.9s					
TRF	**Thorofare Moun**	82.67	27	P	P	01 44 30.0 -0.1
	baz=264,SNR=16					
RC01	**Rabbit Creek A**	82.72	29	IAmb	IAmb	01 44 46.2
	comp=Z,46nm,0.8s					
RC01	**Rabbit Creek A**	82.72	29	P	P	01 44 29.7 -0.5
	baz=265,SNR=13					
PRGR	**Permogore**	82.77	332	*e*P	P	01 44 22.8 -7.6
PRGR				pmax	pmax	
	comp=Z,29nm,0.6s					
SEW	**Seward**	82.78	30	P	P	01 44 30.3 -0.2
	baz=266					
PMR	**Palmer**	83.05	29	IAmb	IAmb	01 44 48.0
	comp=Z,36nm,0.8s					
PMR	**Palmer**	83.05	29	P	P	01 44 32.7 +0.8
PMR	**Palmer**	83.05	29	P	P	01 44 31.6 -0.3
	baz=266,SNR=11					
COLD	**Coldfoot**	83.09	23	P	P	01 44 33.3 +1.2
	baz=264,SNR=26					
D23K	**Nanushuk River**	83.10	21	P	P	01 44 33.6 +1.5
	baz=264,SNR=9.3					
G23K	**Bananza Creek**	83.11	23	IAmb	IAmb	01 44 34.6
	comp=Z,69nm,0.9s					
G23K	**Bananza Creek**	83.11	23	P	P	01 44 33.5 +1.3
	baz=264,SNR=38					
NCK	**Nalchik**	83.11	313	*i* P	P	01 44 30.0 -2.7
NCK				pmax	pmax	
	comp=Z,62nm,3.3s					
GHO	**Glory Hole Cre**	83.16	28	IAmb	IAmb	01 44 36.1
	comp=Z,28nm,0.8s					
H23K	**Yukon River**	83.22	24	IAmb	IAmb	01 44 50.3
	comp=Z,69nm,0.8s					
H23K	**Yukon River**	83.22	24	P	P	01 44 33.7 +1.0
	baz=265					
C23K	**Itkillik River**	83.23	20	P	P	01 44 33.7 +1.1
	baz=263,SNR=11					
I23K	**Minto, Yukon-K**	83.23	25	P	P	01 44 33.6 +0.8
	baz=265,SNR=21					
MCK	**McKinley**	83.30	26	P	P	01 44 33.0 -0.2
	baz=266,SNR=31					
NEA2	**Nenana**	83.31	26	IAmb	IAmb	01 44 50.8
	comp=Z,39nm,0.9s					
NEA2	**Nenana**	83.31	26	P	P	01 44 32.9 -0.3
	baz=266,SNR=26					
VOI	**Vohitsoka**	83.33	247	P	P	01 44 34.1 -0.3
VOI				IAmb	IAmb	01 44 52.1
	comp=Z,54nm,0.9s					
VOI	**Vohitsoka**	83.33	247	P	P	01 44 34.7 +0.3
KNK	**Knik Glacier**	83.36	29	IAmb	IAmb	01 44 34.4
	comp=Z,72nm,1.0s					
KNK	**Knik Glacier**	83.36	29	P	P	01 44 33.9 +0.4
	baz=266,SNR=18					
PWL	**Port Wells**	83.38	29	IAmb	IAmb	01 44 50.2
	comp=Z,70nm,0.9s					
PWL	**Port Wells**	83.38	29	P	P	01 44 33.8 +0.1
	baz=267,SNR=15					
E23K	**Chandalar**	83.39	22	P	P	01 44 34.8 +1.1
	baz=265					
WAT1	**Susitna Watana**	83.41	27	P	P	01 44 33.5 -0.3
	baz=266					
SML	**Sawmill**	83.44	28	P	P	01 44 34.2 +0.2
SML	**Sawmill**	83.44	28	P	P	01 44 34.2 +0.2
	baz=266,SNR=25					
KARS	**Kars**	83.47	310	P	P	01 44 34.1 -0.6
KARS	**Kars**	83.47	310	P	P	01 44 34.1 -0.6
KARS				pmax	pmax	
	comp=Z,152nm,1.2s					
TOLK	**Toolik Lake Re**	83.47	21	IAmb	IAmb	01 44 51.6
	comp=Z,55nm,0.8s					
TOLK	**Toolik Lake Re**	83.47	21	P	P	01 44 35.0 +1.0
	baz=265,SNR=11					
FOMA	**Nahampoana Res**	83.55	244	P	P	01 44 33.6 -1.6
KBZ	**Khabaz**	83.62	313	P	P	01 44 34.6 -0.6
	comp=Z,3.1nm,0.7s,baz=95,slow=7.7,SNR=13					
KBZ				LR	LR	02 26 02.7
	comp=Z,155nm,20.6s,baz=75,slow=39					
	comp=Z,3.1nm,0.7s					
VNDA	**Vanda**	83.63	173	P	P	01 44 34.9 +0.4
VNDA	**Vanda**	83.63	173	P	P	01 44 34.9 +0.4
MDM	**Murphy Dome**	83.69	25	IAmb	IAmb	01 44 53.4
	comp=Z,52nm,1.1s					
WRH	**Wood River Hil**	83.72	26	IAmb	IAmb	01 44 53.6
	comp=Z,52nm,1.0s					
M23K	**Glacier View**	83.73	28	P	P	01 44 35.6 +0.2
	baz=267,SNR=26					
WAT6	**Susitna Watana**	83.77	28	P	P	01 44 35.8 0.0
	baz=267,SNR=32					
KVAR	**Kislovodsk Arr**	83.77	314	P	P	01 44 36.8 +0.6
	comp=Z,1.6nm,0.6s,baz=103,slow=23,SNR=3.4					
	comp=Z,1.6nm,0.6s					
KIV	**Kislovodsk**	83.78	314	⇓P	P	01 44 36.1 0.0
KIV	**Kislovodsk**	83.78	314	P	P	01 44 36.8 +0.6
KIV	**Kislovodsk**	83.78	314	*e*P	P	01 44 35.4 -0.8
KIV				*e*		01 54 52.6
KIV				pmax	pmax	
	comp=Z,11nm,1.1s					
KIV				MLR	MLR	
	comp=Z,163nm,19.0s					
D24K	**Happy Valley**	83.78	21	P	P	01 44 36.8 +1.2
	baz=265					
P23K	**Montague Islan**	83.80	30	P	P	01 44 36.3 +0.5
	baz=268					
E24K	**Your Creek**	83.82	22	IAmb	IAmb	01 44 53.9
	comp=Z,33nm,0.9s					
E24K	**Your Creek**	83.82	22	P	P	01 44 36.8 +0.9
	baz=266					
COLA	**College**	83.85	25	P	P	01 44 35.7 -0.2
COLA				IAmb	IAmb	01 44 53.2
	comp=Z,27nm,0.7s					
COLA	**College**	83.85	25	P	P	01 44 35.5 -0.5
	baz=267					
COLA	**College**	83.85	25	P	P	01 44 35.7 -0.2
COLA				pmax	pmax	
	comp=Z,27nm,0.7s					
CCB	**Clear Creek Bu**	83.86	26	IAmb	IAmb	01 44 51.8
	comp=Z,40nm,1.0s					
C24K	**Franklin Bluff**	83.88	20	P	P	01 44 36.6 +0.6
	baz=265					
H24K	**Noodor Dome**	83.90	24	P	P	01 44 37.1 +0.8
	baz=266					
SCM	**Sheep Creek Mo**	83.92	28	P	P	01 44 36.7 +0.2
	baz=267,SNR=14					
DHY	**Denali Highway**	83.96	27	IAmb	IAmb	01 44 39.2
	comp=Z,71nm,1.5s					
DHY	**Denali Highway**	83.96	27	P	P	01 44 36.9 +0.1
	baz=267,SNR=9.1					
SIRT	**Sirnak**	83.97	307	P	P	01 44 36.7 -0.6
GLI	**Glacier Island**	83.99	29	P	P	01 44 36.3 -0.5
GLI				IAmb	IAmb	01 44 37.5
	comp=Z,58nm,0.8s					
GLI	**Glacier Island**	83.99	29	P	P	01 44 36.9 +0.1
	baz=268,SNR=12					
F24K	**Squaw Lake**	84.01	23	IAmb	IAmb	01 44 57.3
	comp=Z,51nm,1.1s					
F24K	**Squaw Lake**	84.01	23	P	P	01 44 37.8 +1.0
	baz=266,SNR=17					
POKR	**Poker Plat Res**	84.04	25	IAmb	IAmb	01 44 54.9
	comp=Z,30nm,0.8s					
POKR	**Poker Plat Res**	84.04	25	P	P	01 44 38.2 +1.2
	baz=267,SNR=6.3					
PPT	**Papeete**	84.06	108	LR	LR	02 18 44.2
	comp=Z,206nm,19.7s,baz=328,slow=33					
PPT2	**Papeete2**	84.06	108	*e*P	P	01 44 34.4 -3.7
	comp=Z,127nm,26.2s					
PPT2	**Papeete2**	84.06	108	*e*S	SKSac	01 54 56.1 -1.0
	comp=Z,144nm,24.0s					
PPT2				*e*SS	SS	02 00 30.7 +2.1
	comp=Z,250nm,30.0s					
PPT2	**Papeete2**	84.06	108	*e*LR	LR	02 11 03.0
	comp=Z,699nm,26.5s					
PPT2				*e*LR	LR	02 11 10.9
	comp=Z,481nm,27.0s					
G24K	**Hadweenzic Riv**	84.12	23	P	P	01 44 38.1 +0.8
	baz=267,SNR=30					
HDA	**Harding Lake**	84.21	26	IAmb	IAmb	01 44 53.2
	comp=Z,42nm,0.8s					
HDA	**Harding Lake**	84.21	26	P	P	01 44 36.9 -0.9
	baz=267,SNR=24					
ILAR	**Eielson Array**	84.26	25	P	P	01 44 36.9 -1.2
	comp=Z,6.7nm,0.8s,baz=244,slow=5.0,SNR=40					
ILAR				pP	pP	01 44 51.6 -2.0
	comp=Z,15nm,0.8s,baz=247,slow=3.7,SNR=19					
ILAR				LR	LR	02 22 26.8
	comp=Z,113nm,19.3s,baz=246,slow=36					
	comp=Z,6.7nm,0.8s					
GURO	**Guroymak-BITLI**	84.28	308	P	P	01 44 39.1 +0.1
GURO				IAmb	IAmb	01 44 44.8
	comp

MAW	**Mawson**	84.51	200	P	P	01 44 40.1	+1.0
	comp=Z,12nm,0.7s,baz=61,slow=5.1,SNR=23						
MAW				LR	LR	02 18 35.0	
	comp=Z,62nm,21.6s,baz=65,slow=33						
	comp=Z,12nm,0.7s						
SBA	**Scott Base**	84.52	172	P	P	01 44 40.0	+0.9
SBA	**Scott Base**	84.52	172	P	P	01 44 40.0	+0.9
SBA				pmax	pmax		
	comp=Z,23nm,1.2s						
BCA	**Borcka**	84.57	311	⇑P	P	01 44 38.9	-1.3
KLU	**Klutina**	84.58	29	IAmb	IAmb	01 44 40.9	
	comp=Z,38nm,0.6s						
KLU	**Klutina**	84.58	29	P	P	01 44 40.5	+0.7
	baz=269,SNR=31						
EYAK	**Cordova Ski Ar**	84.64	30	P	P	01 44 40.6	+0.6
	baz=269						
G25K	**Bearman Lake**	84.66	23	P	P	01 44 38.4	-1.6
	baz=268,SNR=16						
D25K	**Kavik River**	84.67	21	IAmb	IAmb	01 44 58.5	
	comp=Z,37nm,1.3s						
D25K	**Kavik River**	84.67	21	P	P	01 44 40.6	+0.5
	baz=268						
K24K	**Donnelly Dome**	84.70	26	P	P	01 44 40.1	-0.3
	baz=269,SNR=10						
H25L	**Birch Creek**	84.76	24	P	P	01 44 41.7	+1.2
	baz=268						
PAX	**Paxson**	84.82	27	P	P	01 44 41.3	+0.3
	baz=269,SNR=17						
PRP	**Porcupine Dome**	84.86	25	P	P	01 44 40.6	-0.6
	baz=269						
F25K	**Christian Rive**	84.87	23	P	P	01 44 42.5	+1.3
	baz=268,SNR=13						
J25K	**Salcha River,**	84.90	26	P	P	01 44 40.4	-1.0
	baz=269,SNR=8.2						
E25K	**Arctic Village**	84.92	22	IAmb	IAmb	01 44 59.6	
	comp=Z,31nm,0.9s						
E25K	**Arctic Village**	84.92	22	P	P	01 44 42.4	+1.0
	baz=268,SNR=10						
HARP	**HAARP**	84.96	28	P	P	01 44 42.3	+0.6
	baz=269,SNR=12						
RIDG	**Independent Ri**	85.12	26	P	P	01 44 42.5	0.0
	baz=269,SNR=10.0						
C26K	**Camden Bay**	85.20	20	P	P	01 44 43.9	+1.2
	baz=269						
BMRM	**Bremner River**	85.21	29	P	P	01 44 43.5	+0.5
	baz=270,SNR=14						
N25K	**Chitina, Valde**	85.21	29	P	P	01 44 43.8	+0.8
	baz=270,SNR=17						
BMAR	**Burnt Mountain**	85.28	23	P	P	01 44 43.8	+0.6
KAIM	**Kayak Island**	85.30	30	P	P	01 44 44.5	+1.2
	baz=270						
HMT	**Hamilton**	85.38	30	IAmb	IAmb	01 45 01.0	
	comp=Z,49nm,0.8s						
F26K	**Sheenjek River**	85.44	22	P	P	01 44 44.7	+0.6
	baz=270,SNR=13						
SCRK	**Sand Creek**	85.50	26	P	P	01 44 45.4	+1.0
	baz=270						
G26K	**Porcupine Rive**	85.58	23	P	P	01 44 45.6	+1.0
	baz=270,SNR=11						
MENT	**Mentasta**	85.62	27	IAmb	IAmb	01 45 02.1	
	comp=Z,21nm,0.7s						
J26L	**Joseph Creek**	85.68	26	P	P	01 44 45.0	-0.3
	baz=270,SNR=9.8						
VRDI	**Verde Repeater**	85.77	29	IAmb	IAmb	01 45 03.4	
	comp=Z,34nm,1.0s						
L26K	**Log Cabin Wild**	85.79	27	P	P	01 44 45.8	0.0
	baz=271,SNR=9.2						
I26K	**Coal Creek Min**	85.85	25	IAmb	IAmb	01 45 03.0	
	comp=Z,23nm,0.9s						
I26K	**Coal Creek Min**	85.85	25	P	P	01 44 45.9	-0.1
	baz=271						
CRQM	**Cirque**	85.93	29	IAmb	IAmb	01 44 48.5	
	comp=Z,45nm,1.0s						
SOC	**Sochi**	85.93	313	*e*P	P	01 44 43.8	-3.1
SOC				*e**PP	pP	01 45 00.7	-2.4
SOC				*e*		01 48 03.1	
SOC				*e*PPP	PPP	01 49 59.8	
SOC				*e*S	SKSac	01 55 04.2	-3.7
SOC				*e*SS	SS	02 00 51.9	-2.7
SOC				*e*SSS	SSS	02 04 23.3	
SOC				pmax	pmax		
	comp=Z,14nm,0.7s						
SOC				MLR	MLR		
	comp=Z,171nm,21.0s						
CRQE	**Cirque**	85.95	29	P	P	01 44 47.4	+0.6
	baz=271,SNR=8.4						
M26K	**Nabesna, AK**	85.96	28	P	P	01 44 47.0	+0.3
	baz=271,SNR=5.4						
MCARA	**McCarthy VSAT**	85.97	29	IAmb	IAmb	01 45 04.6	
	comp=Z,31nm,0.9s						
MCARA	**McCarthy VSAT**	85.97	29	P	P	01 44 47.4	+0.7
	baz=271						
VORD	**Divnogorie**	86.01	321	*e*P	P	01 44 45.7	-1.4
VORD				*e**SP	pP	01 45 01.0	-2.1
VORD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VORR	**Voronezh**	86.04	321	*e*P	P	01 44 46.2	-1.0
VORR				*e**SP	pP	01 45 01.3	-1.9
VORR				pmax	pmax		
	comp=Z,40nm,0.5s						
TGL	**Tana Glacier**	86.08	29	IAmb	IAmb	01 45 04.6	
	comp=Z,48nm,0.8s						
VSR	**Storozhevoye**	86.08	321	*e*P	P	01 44 45.2	-2.2
VSR				*e**SP	pP	01 45 01.4	-2.0
VSR				pmax	pmax		
	comp=Z,20nm,0.7s						
LPSR	**Galich'ya Gora**	86.19	322	*e*P	P	01 44 47.0	-0.9
LPSR				*e**SP	pP	01 45 02.2	-1.7
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
ISLE	**Juniper Island**	86.32	30	P	P	01 44 49.1	+0.5
ISLE				IAmb	IAmb	01 45 06.3	
	comp=Z,40nm,0.7s						
K27K	**Chicken**	86.34	26	P	P	01 44 49.3	+0.8
	baz=272						
E27K	**Coleen River**	86.40	22	IAmb	IAmb	01 45 06.3	
	comp=Z,21nm,0.8s						
E27K	**Coleen River**	86.40	22	P	P	01 44 49.1	+0.4
	baz=272,SNR=7.9						
G27K	**Doyon Strip**	86.43	23	P	P	01 44 49.5	+0.6
	baz=272						
L27K	**Beaver Creek,**	86.48	27	P	P	01 44 49.7	+0.4
	baz=272,SNR=16						
I27K	**Kandik River**	86.48	25	P	P	01 44 49.6	+0.4
	baz=272,SNR=8.3						
M27K	**Edge Creek, AK**	86.49	28	P	P	01 44 49.6	+0.2
	baz=272						
H27K	**Steamboat Moun**	86.50	24	P	P	01 44 49.8	+0.6
	baz=272,SNR=12						
MESA	**MESA**	86.53	30	P	P	01 44 50.3	+0.6
	baz=272						
D27M	**Malcolm River**	86.59	21	IAmb	IAmb	01 45 07.8	
	comp=Z,26nm,0.8s						
D27M	**Malcolm River**	86.59	21	P	P	01 44 50.1	+0.5
	baz=273						
GRNC	**Granite Creek**	86.61	29	IAmb	IAmb	01 45 07.7	
	comp=Z,39nm,0.8s						
BARN	**Barnard Glacie**	86.64	29	IAmb	IAmb	01 45 08.0	
	comp=Z,33nm,0.8s						
CTG	**Chitna Glacier**	86.80	29	P	P	01 44 51.7	+0.7
	baz=273,SNR=7.0						
MOS	**Moscow**	86.84	326	*e*P	P	01 44 49.6	-1.4
MOS				*e**PP	pP	01 45 05.4	-1.6
MOS				*e*		01 48 13.4	
MOS				pmax	pmax		
	comp=Z,50nm,0.8s						
MOS				pmax	pmax		
	comp=Z,100nm,0.9s						
F28M	**Old Crow**	87.08	23	IAmb	IAmb	01 45 09.4	
	comp=Z,21nm,0.8s						
F28M	**Old Crow**	87.08	23	P	P	01 44 51.7	-0.4
	baz=274,SNR=22						
E28M	**Babbage River**	87.14	22	P	P	01 44 52.3	0.0
	baz=274,SNR=7.7						
YUK3	**Moose Creek**	87.18	28	P	P	01 44 52.7	-0.1
	baz=273						
I28M	**Miner Creek**	87.19	25	P	P	01 44 52.9	+0.2
	baz=274,SNR=15						
O28M	**Mount Upton**	87.37	29	P	P	01 44 54.3	+0.4
	baz=274						
PINM	**Pinnacle**	87.38	30	P	P	01 44 53.9	+0.2
	baz=274						
OBN	**Obninsk**	87.47	325	P	P	01 44 53.8	-0.2
OBN	**Obninsk**	87.47	325	⇓*e*P	P	01 44 51.6	-2.5
OBN				*i*		01 45 09.2	
OBN				pmax	pmax		
	comp=Z,20nm,0.7s						
OBN				MLR	MLR		
	comp=Z,248nm,19.0s						
OBN	**Obninsk**	87.47	325	LR	LR	02 26 45.1	
	comp=Z,248nm,19.4s,baz=125,slow=37						
ANN	**Anapa**	87.52	315	*e*P	P	01 44 52.8	-1.8
ANN				pmax	pmax		
	comp=Z,28nm,0.8s						
DAWY	**Dawson**	87.52	26	P	P	01 44 53.8	-0.4
DAWY	**Dawson**	87.52	26	P	P	01 44 54.0	-0.2
	baz=274						
YUK8	**Steele Glacier**	87.55	29	P	P	01 44 54.7	0.0
	baz=274						
E29M	**Blow River**	87.76	22	P	P	01 44 55.6	+0.3
	baz=276						
H29M	**Whitestone**	87.78	24	P	P	01 44 55.5	+0.1
	baz=275						
PNL	**Peninsula**	87.84	30	P	P	01 44 55.5	-0.4
G29M	**Pine Creek**	87.85	23	IAmb	IAmb	01 45 13.2	
	comp=Z,27nm,0.9s						
G29M	**Pine Creek**	87.85	23	P	P	01 44 55.6	-0.1
	baz=275						
I29M	**Ogilvie Camp,**	87.88	25	P	P	01 44 56.1	+0.2
	baz=275						
M29M	**Somme Creek**	88.07	28	P	P	01 44 57.3	+0.3
	baz=275						
GAZ	**Gaziantep**	88.15	307	P	P	01 44 58.1	+0.2
L29M	**L29M**	88.16	27	P	P	01 44 57.8	+0.5
	baz=275						
O29M	**Mount Kennedy**	88.20	30	P	P	01 44 58.1	+0.4
	baz=275						
YUK6	**Outpost Mounta**	88.25	29	P	P	01 44 58.6	+0.6
	baz=275						
K29M	**Barlow Dome**	88.36	26	P	P	01 44 58.4	+0.1
	baz=276						
EPYK	**Eagle Plains**	88.42	24	P	P	01 44 57.7	-0.8
	baz=277						
G30M	**tAoh Zraii Nji**	88.55	23	P	P	01 44 58.1	-1.0
	baz=277						
F30M	**Barrier River**	88.64	22	P	P	01 44 58.6	-0.8
	baz=277						
HYT	**Haines Junctio**	88.68	29	P	P	01 45 00.0	+0.1
	baz=276						
P29M	**Windy Craggy**	88.69	30	P	P	01 44 60.0	+0.1
	baz=276						
I30M	**Mount Dempster**	88.70	25	P	P	01 45 00.6	+0.6
I30M	**Mount Dempster**	88.70	25	P	P	01 44 59.5	-0.4
	baz=277						
ASF	**Jabal al Asfar**	88.74	302	P	P	01 45 00.8	0.0
	comp=Z,13nm,0.8s,baz=115,slow=4.3,SNR=18						
	comp=Z,13nm,0.8s						
J30M	**Hart River**	88.80	25	P	P	01 45 00.3	-0.1
	baz=277						
N30M	**Aishikik Lake**	88.81	29	P	P	01 45 00.6	+0.1
	baz=276						
M30M	**Minto, Yukon**	88.83	27	P	P	01 45 00.7	+0.2
	baz=277						
P30M	**Milton Dollar**	89.02	30	P	P	01 45 02.1	+0.6
	baz=276						
BNN	**Bunyan**	89.11	309	P	P	01 45 02.6	+0.2
BNN				IAmb	IAmb	01 45 10.6	
	comp=Z,21nm,0.9s						
MAYO	**Mayo, Yukon**	89.11	26	P	P	01 45 01.8	+0.1
	baz=277						
G31M	**Satah River**	89.32	23	P	P	01 45 02.1	-0.4
	baz=279						
O30N	**Mendenhall**	89.38	29	P	P	01 45 03.1	0.0
	baz=277						
INK	**Inuvik**	89.38	22	P	P	01 45 02.2	-0.6
	baz=280						
PLBC	**Pleasant Camp**	89.40	31	P	P	01 45 03.1	-0.1
	baz=277						
N31M	**Braeburn, Yuko**	89.43	28	P	P	01 45 03.4	+0.1
	baz=278						
F31M	**Tsiigehtchic**	89.44	22	IAmb	IAmb	01 45 04.0	
	comp=Z,12nm,0.7s						
F31M	**Tsiigehtchic**	89.44	22	P	P	01 45 02.1	-1.0
	baz=279						
H31M	**Peel River**	89.46	24	P	P	01 45 03.5	+0.1
	baz=279						
SIM	**Simferopol'**	89.86	315	*e*P	P	01 45 04.3	-1.3
SIM				pmax	pmax		
	comp=Z,20nm,0.8s						
SIM				MLR	MLR		
	comp=Z,70nm,19.0s						
SKAG	**Skagway**	89.92	30	P	P	01 45 05.8	+0.2
	baz=278						
MMAI	**Mount Meron Ar**	89.94	303	P	P	01 45 06.2	-0.2
	comp=Z,5.0nm,0.8s,baz=95,slow=10,SNR=6.1						
MMAI				LR	LR	02 29 14.9	
	comp=Z,89nm,21.8s,baz=54,slow=38						
	comp=Z,5.0nm,0.8s						
GHAJ	**Ghor Haditha**	89.94	301	IAmb	IAmb	01 45 25.5	
	comp=Z,22nm,0.9s						
WHY	**Whitehorse**	89.98	29	P	P	01 45 06.3	+0.4
	baz=278						
M31M	**Drury Creek, Y**	89.98	28	P	P	01 45 05.6	-0.2
	baz=279						
KIBK	**Kibwezi**	90.07	268	P	P	01 45 06.7	-0.7
SPITS	**Spitsbergen Ar**	90.36	349	P	P	01 45 05.5	-1.9
	comp=Z,16nm,0.8s,baz=89,slow=6.8,SNR=9.9						
SPITS				LR	LR	02 30 28.4	
	comp=Z,242nm,21.5s,baz=34,slow=39						
	comp=Z,16nm,0.8s						
FARO	**Faro, Yukon**	90.46	28	P	P	01 45 07.7	-0.4
FARO				IAmb	IAmb	01 45 24.8	
	comp=Z,32nm,0.9s						
FARO	**Faro, Yukon**	90.46	28	P	P	01 45 08.2	+0.1
	baz=280						
R32K	**Eaglecrest**	90.51	32	P	P	01 45 08.0	-0.4
	baz=279						
ARCES	**ARCESS Array B**	90.53	340	P	P	01 45 06.7	-1.6
ARCES	**ARCESS Array B**	90.53	340	P	P	01 45 06.7	-1.6
ARCES				pmax	pmax		
	comp=Z,53nm,1.2s						
ARCES	**ARCESS Array B**	90.53	340	P	P	01 45 06.3	-2.0
	comp=Z,11nm,0.8s,baz=84,slow=5.4,SNR=22						
ARCES				LR	LR	02 31 06.9	
	comp=Z,217nm,19.3s,baz=81,slow=39						
	comp=Z,11nm,0.8s						
S32K	**Killisnoo**	90.60	32	P	P	01 45 08.5	-0.3
	baz=279						
EIL	**Elat**	90.61	300	P	P	01 45 08.4	-1.1
	comp=Z,5.8nm,0.7s,baz=339,slow=4.5,SNR=8.3						
EIL				LR	LR	02 31 26.5	
	comp=Z,79nm,20.5s,baz=77,slow=39						
	comp=Z,5.8nm,0.7s						
BR131	**Keskin Array S**	90.73	310	*i* P	P	01 45 07.9	-2.1
BRTR	**Keskin Array B**	90.73	310	P	P	01 45 08.4	-1.6
	comp=Z,1.9nm,0.8s,baz=122,slow=4.5,SNR=11						
BRTR				PP	PP	01 48 50.9	+4.9
	comp=Z,1.0nm,0.7s,baz=94,slow=7.2,SNR=4.4						
	comp=Z,1.9nm,0.8s						
N32M	**Quiet Lake**	90.77	29	P	P	01 45 09.6	0.0
	baz=280						
KMBO	**Kilima Mbogo**	90.78	269	P	P	01 45 09.7	-1.2
KMBO	**Kilima Mbogo**	90.78	269	P	P	01 45 09.7	-1.2
KMBO				pmax	pmax		
	comp=Z,12nm,1.3s						
CRAG	**Craig**	91.71	34	P	P	01 45 14.4	+0.4
	baz=280						
FINES	**FINESS Array B**	92.09	332	P	P	01 45 14.3	-1.3
	comp=Z,2.2nm,0.4s,baz=79,slow=4.4,SNR=27						
FINES				LR	LR	02 31 20.6	
	comp=Z,264nm,19.2s,baz=76,slow=39						
	comp=Z,2.2nm,0.4s						
R33M	**Jennings River**	92.13	30	P	P	01 45 16.2	+0.2
	baz=282						
LODK	**Lodwar**	92.34	274	P	P	01 45 17.7	-0.2
S34M	**Telegraph Cree**	92.35	32	P	P	01 45 17.4	+0.5
	baz=282						
AKASG	**Malin Array Be**	92.39	321	P	P	01 45 15.5	-1.8
AKASG				IAmb	IAmb	01 45 32.9	
	comp=Z,16nm,1.1s						
AKASG	**Malin Array Be**	92.39	321	P	P	01 45 15.4	-1.8
	comp=Z,3.2nm,0.7s,baz=67,slow=4.8,SNR=9.2						
AKASG				LR	LR	02 31 41.5	
	comp=Z,146nm,18.1s,baz=72,slow=39						
	comp=Z,3.2nm,0.7s						
AKBB	**Malin Array Si**	92.39	321	IAmb	IAmb	01 45 32.6	
	comp=Z,21nm,0.9s						
AKBB	**Malin Array Si**	92.39	321	*i* P	P	01 45 14.7	-2.5
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
C36M	**Paulatuk**	92.46	20	P	P	01 45 16.7	-0.5
	baz=288						
TAOE	**Nuku Hiva Isla**	92.49	99	*e*LR	LR	02 15 04.1	
	comp=Z,609nm,25.1s						
MNK	**Minsk**	92.53	325	*i* P	P	01 45 14.3	-3.6
	comp=E,3.0nm,0.8s						
MNK				*i* P	P	01 45 14.3	-3.6
	comp=N,9.0nm,0.9s						
MNK				*i* P	P	01 45 14.3	-3.6
	comp=Z,13nm,0.8s,baz=80						
MNK				*i* pP	pP	01 45 31.0	-2.9
MNK				*i* sP	pwP	01 45 34.9	-1.2
MNK				*i* PP	PP	01 49 05.9	+6.4
MNK				*i* PPP	PPP	01 50 47.2	
MNK				*i* SKS	SKSac	01 55 30.7	-16
MNK				*i* S	SKSac	01 55 42.9	-3.5
MNK				*i* sS	SKKSac	01 56 09.0	+4.7
MNK				*i* PS	PnS	01 58 15.5	+38
MNK				*i* SS	SS	02 02 27.2	-2.5
MNK				*i* SSS	SSS	02 05 48.7	
MNK				*i* LQ	LQ	02 18 40.4	
MNK				*i* LR	LR	02 24 45.5	
MNK				*i* LRM	MLR	02 27 49.0	
	comp=N,151nm,19.4s						
MNK				*i* LRM	MLR	02 29 25.1	
	comp=Z,307nm,19.0s						
MNK				*i* LRM	MLR	02 29 29.9	
	comp=E,105nm,19.0s						
MNK	**Minsk**	92.53	325	*i* P	P	01 45 14.2	-3.6
MNK				*i* *PP	pP	01 45 31.0	-2.9
MNK				*i*		01 49 05.8	
MNK				*i* S	SKSac	01 55 42.8	-3.5
MNK				*i* *SS	SKKSac	01 56 08.9	+4.7
MNK				*i* PS	PnS	01 58 15.5	+38
MNK				*i* SS	SS	02 02 27.2	-2.5
MNK				pmax	pmax		
	comp=N,9.0nm,0.9s						
MNK				pmax	pmax		
	comp=E,3.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,13nm,0.8s						
MNK				MLR	MLR		
	comp=N,151nm,19.0s						
MNK				MLR	MLR		
	comp=Z,307nm,19.0s						
MNK				MLR	MLR		
	comp=E,105nm,19.0s						
V35K	**Ketchikan**	92.58	34	P	P	01 45 18.4	+0.4
	baz=281						
PURM	**Purcari**	92.61	317	⇓P	P	01 45 16.9	-1.4
DLBC	**Dease Lake**	92.81	31	P	P	01 45 19.4	+0.3
	baz=282						
DLBC	**Dease Lake**	92.81	31	LR	LR	02 20 20.2	
	comp=E,585nm,21.6s,baz=279,slow=31						
NOR	**Nord**	92.84	355	*i* P	P	01 45 17.0	-1.7
NOR				IAmb	IAmb	01 45 18.4	
	comp=Z,4.6nm,0.7s						
TGTN	**Hyland Airport**	92.96	28	P	P	01 45 20.1	+0.4
	baz=284						
T35M	**Bob Quinn**	93.00	32	P	P	01 45 20.5	+0.5
	baz=282						
TLCR		93.55	316	⇓P	P	01 45 21.5	-1.3
TLCR		93.55	316	P	P	01 45 21.4	-1.3
TPGR	**Topolog**	93.88	315	⇓P	P	01 45 24.4	+0.1
QSPA	**South Pole Qui**	93.99	180	P	P	01 45 24.3	-0.1
QSPA	**South Pole Qui**	93.99	180	P	P	01 45 25.0	+0.6
	comp=Z,15nm,0.8s,baz=323,slow=2.2,SNR=17						
QSPA				LR	LR	02 30 17.7	
	comp=Z,168nm,18.6s,baz=1.5,slow=37						
	comp=Z,15nm,0.8s						
CFR	**Carcaliu**	94.03	316	⇑P	P	01 45 23.9	-1.0
CFR	**Carcaliu**	94.03	316	P	P	01 45 23.8	-1.0
SCTR	**Scanteiesti**	94.04	316	⇓P	P	01 45 24.8	-0.1
TLBR	**Topalu**	94.20	315	⇓P	P	01 45 24.7	-1.0
HARR	**Harsova**	94.25	315	⇑P	P	01 45 26.0	+0.1
HARR	**Harsova**	94.25	315	P	P	01 45 26.0	+0.1
GHRR		94.38	317	⇓P	P	01 45 27.0	+0.6
LIRD	**Liard River Hi**	94.55	30	P	P	01 45 27.4	+0.4
	baz=286						
WRGLY	**Wrigley**	94.64	26	P	P	01 45 27.2	-0.1
	baz=289						
ODBI	**Odobesti**	94.67	316	⇑P	P	01 45 27.8	-0.1
TESR	**Tescani**	94.81	317	⇑P	P	01 45 27.1	-1.3
VRI	**Vrincioaia**	94.88	317	⇑P	P	01 45 28.4	-0.5
VRI	**Vrincioaia**	94.88	317	P	P	01 45 28.3	-0.5
PLOR	**Plostina**	94.93	317	⇑P	P	01 45 28.0	-1.2
PLOR	**Plostina**	94.93	317	P	P	01 45 27.9	-1.2
COVR	**Voineasa-Covas**	95.24	317	⇓P	P	01 45 29.8	-0.7
NEHR	**Nehoiu**	95.26	316	⇓P	P	01 45 30.1	-0.5
BBB	**Bella Bella**	95.28	37	LR	LR	02 21 44.7	
	comp=Z,153nm,21.6s,baz=267,slow=31						
KOTAN	**Kotaneelee Air**	95.33	29	P	P	01 45 30.6	0.0
	baz=288						
LOZB	**Loznitsa**	95.44	314	⇓P	P	01 45 30.2	-1.2
OZUR		95.48	317	⇑P	P	01 45 31.8	+0.2
MLR	**Muntele Rosu**	95.49	316	⇓P	P	01 45 30.5	-1.3
MLR	**Muntele Rosu**	95.49	316	IAmb	IAmb	01 45 48.1	
	comp=Z,14nm,1.1s						
MLR	**Muntele Rosu**	95.49	316	P	P	01 45 30.5	-1.3
MLR	**Muntele Rosu**	95.49	316	LR	LR	02 34 05.3	
	comp=Z,203nm,21.9s,baz=74,slow=39						
BURAR	**Bucovina Array**	95.55	318	⇓P	P	01 45 31.7	-0.2
BURAR	**Bucovina Array**	95.55	318	IAmb	IAmb	01 45 48.6	
	comp=Z,11nm,1.0s						
BURAR	**Bucovina Array**	95.55	318	P	P	01 45 31.7	-0.2
BUR08	**Bucovina Ar. S**	95.55	318	P	P	01 45 31.3	-0.7
BUR08				IAmb	IAmb	01 45 48.3	
	comp=Z,13nm,1.1s						
FLDN	**Fort Liard**	95.57	28	P	P	01 45 32.6	+1.0
	baz=288						
DOPR	**Dopca**	95.77	317	⇑P	P	01 45 32.9	0.0
VOIR		96.12	316	⇑P	P	01 45 33.1	-1.5
VOIR		96.12	316	P	P	01 45 33.1	-1.5
ARR	**Arges**	96.42	316	⇑P	P	01 45 34.0	-1.9
VLAD	**Vladila**	96.87	315	⇑P	P	01 45 37.4	-0.5
LOT	**Lotru**	96.99	317	⇓P	P	01 45 37.9	-0.7
DAG	**Danmarks Havn**	97.06	353	*i* P	P	01 45 36.0	-2.1
DAG				IAmb	IAmb	01 45 37.5	
	comp=Z,13nm,0.7s						
MARR	**Marisel-Cluj**	97.15	318	⇓P	P	01 45 38.5	-0.8
KOLS	**Kolonicke sedl**	97.15	320	*e*PDIFF	Pdif	01 45 40.3	+1.1
KOLS				*e*		01 45 48.7	
KOLS	**Kolonicke sedl**	97.15	320	*e*P	Pdif	01 45 40.3	+1.1
KOLS				*e*		01 45 48.7	
MBAR	**Mbarara**	97.24	270	LR	LR	02 29 01.6	
	comp=Z,132nm,19.0s,baz=67,slow=35						
RES	**Resolute Bay**	97.24	10	IAmb	IAmb	01 45 39.4	
	comp=Z,10nm,0.7s						
RES	**Resolute Bay**	97.24	10	LR	LR	02 33 23.6	
	comp=Z,52nm,19.0s,baz=7.0,slow=38						
CRVS	**Cervenica-Dubn**	97.68	320	*e*	Pdif	01 45 47.7	+6.2
CRVS	**Cervenica-Dubn**	97.68	320	*e*P	Pdif	01 45 47.7	+6.2
STHS	**Stebnicka Huta**	97.68	321	*e*PDIFF	P	01 45 41.0	-0.5
STHS				*e*		01 45 47.6	
STHS	**Stebnicka Huta**	97.68	321	*e*P	P	01 45 41.0	-0.5
VTS	**Vitosha**	98.01	314	⇑P	P	01 45 42.4	-0.9
VTS	**Vitosha**	98.01	314	P	P	01 45 42.3	-0.9
HFS	**Hagfors**	98.27	333	P	P	01 45 41.7	-2.2
	com

NOA LR LR 02 34 38.3
comp=Z,206nm,21.9s,baz=65,slow=38
comp=Z,1.7nm,0.7s
OKC Ostrava-Krasne 99.49 322 *e*P **Pdif 01 45 53.1 +3.6**
JMIC Jan Mayen 99.79 347 LR LR 02 35 02.8
comp=Z,116nm,21.7s,baz=78,slow=38
MAUC Maruska 99.83 321 *e*PDIFF **Pdif 01 45 57.5 +6.4**
MAUC *ex* x 01 46 07.0
DIVS Divibare 99.93 316 Pdif **Pdif 01 45 51.8 +0.1**
KRLC Kraliky 100.25 322 *e*PDIFF **Pdif 01 45 58.8 +5.8**
KRLC Kraliky 100.25 322 *e*P **Pdif 01 45 58.8 +5.8**
DPC Dobruska-Polom 100.44 323 *e*PDIFF **Pdif 01 45 53.1 -0.7**
LSZ Lusaka 100.48 255 Pdif **Pdif 01 45 55.2 +0.4**
LSZ Lusaka 100.48 255 P **Pdif 01 45 55.2 +0.4**
LSZ Lusaka 100.48 255 P **Pdif 01 45 52.5 -2.3**
comp=Z,1.0nm,0.4s,baz=88,slow=4.6,SNR=8.5
PRU Pruhonice 101.64 323 *e*P **Pdif 01 46 09.6 +11**
BRG Berggiesshubel 101.68 324 P **PkiKP 01 50 21.1 -1.4**
BRG Amp 01 50 22.0
comp=Z,12nm,1.4s
ZVC Zvikov 102.05 322 *e*PDIFF **Pdif 01 46 00.8 -0.1**
CLL Collm 102.06 324 *e*PP **PP 01 50 14.0 +1.3**
CLL *i* PKiKP **PKiKP 01 50 22.9 -0.3**
CLL AMS AMS 02 35 00.0
comp=Z,300nm,19.9s
CKRC Cesky Krumlov 102.20 322 *e*PDIFF **Pdif 01 45 59.9 -1.7**
CKRC *ex* x 01 46 08.5
CKRC Cesky Krumlov 102.20 322 *e*P **Pdif 01 45 59.9 -1.7**
F07A Phinny Hill Vi 102.22 41 Pdif **Pdif 01 46 01.2 -0.5**
KHC Kasperske Hory 102.53 322 *e*PDIFF **Pdif 01 46 09.6 +6.4**
KHC *e*pP **pPdif 01 46 18.5 -0.8**
GERES GERESS Array B 102.56 322 P **Pdif 01 46 00.9 -2.5**
comp=Z,0.3nm,0.6s,baz=255,slow=3.0,SNR=2.4
VNA2 Neumayer--Watz 107.47 194 ⇑Pdiff **Pdif 01 46 27.8 +3.3**
comp=Z,1.9nm,0.6s,baz=130,slow=3.0
FURC Furnace Creek, 107.47 50 P **PKiKP 01 50 33.3 -0.2**
baz=289
109C Camp Elliot, M 108.40 54 P **PKiKP 01 50 34.5 -1.0**
baz=288
TUQ Turquoise Moun 108.53 51 P **PKiKP 01 50 35.8 0.0**
baz=289
PDAR Pinedale Array 110.28 41 PKKPbc **PKKPab 02 01 50.0 -1.9**
comp=Z,2.5nm,0.8s,baz=124,slow=6.5,SNR=16
ISCO Idaho Springs 114.28 43 P PKPdf 01 50 46.4 -0.4
baz=298
S22A 4UR Ranch, Cre 114.38 45 P PKPdf 01 50 46.8 -0.2
baz=297
SDCO Great Sand Dun 115.32 45 P **PKiKP 01 50 48.7 -0.1**
baz=298
ANMO Albuquerque 115.88 48 P **PKPdf 01 50 49.9 0.0**
baz=296
ANMO Albuquerque 115.88 48 *i* PKIKP **PKiKP 01 50 46.8 -3.1**
OGNE Ogallala 116.08 40 P **PKPdf 01 50 49.9 -0.1**
baz=302
EYMN Ely 117.74 29 P **PKiKP 01 50 52.9 +0.1**
baz=314
ESDC Sonseca Array 117.99 319 PKP **PKPdf 01 50 52.5 -1.1**
comp=Z,0.4nm,0.7s,baz=7.4,slow=3.0,SNR=1.4
ESDC pPKP **pPKPdf 01 51 06.8 -3.6**
comp=Z,0.6nm,0.6s,baz=47,slow=1.3,SNR=2.3
MNTX Cornudas Mount 118.08 51 PKPdf **PKPdf 01 50 52.2 -1.7**
MNTX Cornudas Mount 118.08 51 P **PKPdf 01 50 53.9 0.0**
baz=295
425A Indio Mountain 118.77 52 PKPdf **PKPdf 01 50 54.5 -1.0**
TXAR Lajitas Array 120.41 53 PKPdf **PKPdf 01 50 58.2 -0.5**
TXAR Lajitas Array 120.41 53 PKP **PKPdf 01 50 58.0 -0.6**
comp=Z,1.3nm,0.8s,baz=218,slow=0.9,SNR=14
TXAR pPKP **pPKPdf 01 51 11.5 -3.8**
comp=Z,1.2nm,0.7s,baz=198,slow=1.5,SNR=7.7
TXAR PKKPbc **PKKPbc 02 01 05.4 -0.2**
comp=Z,0.5nm,0.7s,baz=122,slow=5.1,SNR=6.8
ABTX Abilene, Hawle 121.98 47 P **PKPdf 01 51 01.4 -0.1**
baz=300
P38A Dawn 122.15 37 PKPdf **PKPdf 01 51 00.4 -1.2**
JCT Junction City 122.90 50 P **PKiKP 01 51 03.5 -0.1**
baz=299
GLMI Grayling 123.26 27 P **PKiKP 01 51 03.7 0.0**
baz=320
U38A Gravette 123.55 41 PKPdf **PKPdf 01 51 03.8 -0.5**
WHTX Lake Whitney, 123.90 47 P **PKiKP 01 51 05.4 +0.1**
baz=301
TOA0 Torodi Ar. Sit 123.96 289 PKPdf **PKPdf 01 51 04.2 -1.5**
TORD Torodi Ar. Bea 123.96 289 PKP **PKPdf 01 51 05.1 -0.5**
comp=Z,4.9nm,0.8s,baz=43,slow=3.5,SNR=16
TORD pPKKPbc **pPKKPdf 01 51 19.3 -3.1**
comp=Z,8.3nm,0.8s,baz=43,slow=3.0,SNR=11
TORD PKKPbc **PKKPbc 02 00 51.5 +0.1**
comp=Z,0.5nm,0.7s,baz=271,slow=2.7,SNR=4.5
833A Chaparral WMA, 124.22 52 PKPdf **PKPdf 01 51 05.7 -0.1**
833A Chaparral WMA, 124.22 52 P **PKiKP 01 51 06.3 +0.2**
baz=298
CCM Cathedral Cave 124.52 37 PKPdf **PKPdf 01 51 04.9 -1.2**
CCM Cathedral Cave 124.52 37 P **PKPdf 01 51 06.2 0.0**
baz=310
CCM Cathedral Cave 124.52 37 PKIKP **PKPdf 01 51 04.9 -1.2**
MIAR Mount Ida 125.20 42 P **PKPdf 01 51 07.5 0.0**
baz=306
NATX Nacogdoches 126.03 45 P **PKPdf 01 51 08.8 -0.4**
baz=304
O48B Farmland 126.43 31 P **PKPdf 01 51 09.8 0.0**
baz=318
P49A Miami Univ. Ec 127.19 32 P **PKPdf 01 51 11.0 -0.2**
baz=318
LONY Lake Ozonia 127.47 20 P **PKPdf 01 51 11.3 -0.3**
baz=331
P51A Williamsport 128.08 30 PKPdf **PKPdf 01 51 12.9 0.0**
O53A New Philadelph 128.39 28 P **PKPdf 01 51 13.8 +0.3**
baz=322
P52A Corning 128.43 30 P **PKPdf 01 51 13.6 0.0**
baz=321
PLAL Pickwick Lake 128.46 38 PKPdf **PKPdf 01 51 12.6 -1.2**
VBMS Vicksburg 128.64 42 P **PKPdf 01 51 14.2 0.0**
baz=308
BINY Binghamton 129.05 23 P **PKPdf 01 51 14.6 -0.2**
baz=329
MCWV Mont Chateau 129.50 28 P **PKPdf 01 51 15.7 +0.1**
baz=323
SSPA Standing Stone 129.59 25 P **PKPdf 01 51 15.2 -0.6**
baz=326
TZTN Tazewell 130.01 33 P **PKPdf 01 51 16.4 -0.2**
baz=317
L61B Northampton 130.04 20 P **PKPdf 01 51 16.3 -0.3**
baz=333
HRV Adam Dziewonsk 130.36 19 P **PKPdf 01 51 17.4 +0.3**
baz=334
LRAL Lakeview Retre 130.42 39 P **PKPdf 01 51 17.6 +0.1**
baz=312
BLA Blacksburg 131.15 30 P **PKPdf 01 51 18.9 0.0**
baz=321
KIC Kosan Boka 131.64 282⇑ *e*PKP1 **PKPdf 01 51 19.8 -0.6**
comp=Z,9.9nm,0.7s
TIC Toumodi 131.86 283⇑ *e*PKP1 **PKPdf 01 51 20.7 -0.1**
comp=Z,9.2nm,0.7s
LIC Lamto 131.95 282⇑ *e*PKP1 **PKPdf 01 51 20.9 0.0**
comp=Z,22nm,0.8s
NHSC New Hope 134.41 34 P **PKPdf 01 51 24.4 -0.6**
baz=319
DWPF Disney Wildern 137.27 40 P **PKPdf 01 51 29.1 -1.4**
baz=314
PLCA Paso Flores 139.90 158 PKP **PKPdf 01 51 35.9 +0.8**
comp=Z,2.2nm,0.8s,baz=331,slow=4.0,SNR=5.7
ACON Acoyapa 143.40 64 PKPbc 01 51 39.4 +0.2
JTS Las Juntas de 144.25 66 PKPdf **PKPab 01 51 41.6 +0.2**
JTS Las Juntas de 144.25 66 *e*P PKPbc 01 51 42.6 +0.8
JTS Las Juntas de 144.25 66 PKIKP **PKPab 01 51 41.6 +0.2**
TRQA Tornquist 144.99 166 **PKPab 01 51 43.5 0.0**
TRQA Tornquist 144.99 166 PKIKP **PKPab 01 51 43.5 0.0**
BO01 Tunca 145.04 152 **PKPbc 01 51 42.5 -1.3**
HDC Heredia 145.12 66 *e*P **PKPbc 01 51 44.5 -0.2**
VA05 Santo Domingo 145.39 151 **PKPbc 01 51 43.6 -1.2**
MT09 Talagante 145.59 151 PKPbc **PKPab 01 51 46.0 +0.1**
PRVC Isla de Provid 146.12 59 *e*P **PKPab 01 51 48.6 +0.4**
PEL Peldehue 146.25 151 PKPbc **PKPbc 01 51 48.0 +0.4**
PEL Peldehue 146.25 151 PKP2 **PKPbc 01 51 48.0 +0.4**
MT08 Bocatoma Ro 146.32 152 PKPbc **PKPdf 01 51 46.8 -0.1**
CO03 El Pedregal 148.11 149 PKPbc **PKPbc 01 51 52.7 -0.3**
BCIP Isla Barro Col 149.33 64 *e*P **PKPbc 01 51 54.9 -1.4**
LCO Las Campanas 149.54 146 **PKPbc 01 51 55.8 -1.1**
LCO Las Campanas 149.54 146 PKP2 **PKPbc 01 51 55.8 -1.1**
UPA Univ. de Panam 149.68 65 *e*P **PKPbc 01 51 56.7 -0.5**
AC04 Llanos de Chal 149.95 145 PKPbc **PKPbc 01 51 55.9 -1.6**
SDDR Presa de Saban 150.26 39 *e*P **PKPbc 01 51 58.7 +0.1**
APAC Apartado, Choc 152.78 64 *e*P **PKiKP 01 52 05.3 +0.7**
PAC1 Pacto, Paraso 152.93 81 *e*P **PKPbc 01 52 04.2 -0.8**
SJCC San Jacinto, C 153.09 59 *e*P **PKPdf 01 51 58.2 +0.5**
OTAV Otavalo 153.27 81 *e*P **PKPdf 01 51 57.9 -0.7**
RODS Rosario do Sul 153.71 174 *e*P **PKPdf 01 51 58.3 +0.1**
UREC San Jos de Ur 153.78 63 *e*P **PKPbc 01 52 05.8 -0.9**
CPSB Cacapava Do Su 153.79 177 *e*P **PKPdf 01 51 58.3 0.0**
BBAC Balboa, Cauca 154.09 77 *e*P **PKPbc 01 52 07.1 -0.5**
GCUF Volcan Galeras 154.17 79 *e*P **PKiKP 01 52 08.5 +0.3**
ITQB Itaqui 154.19 171 *e*P **PKPdf 01 51 59.1 +0.2**
PLMC San Jos del P 154.19 70 *e*P **PKiKP 01 52 08.0 +0.3**
MECA Mercedes 154.26 168 *e*P **PKPdf 01 51 58.5 -0.5**
CRJC Cerrejon, Guaj 154.40 54 *e*P **PKPab 01 52 22.8 +0.4**
YOTC Yotoco, Valle 154.43 72 *e*P **PKPbc 01 52 07.8 -0.4**
CNLB Canela 154.89 182 *e*P **PKPdf 01 51 59.9 -0.1**
PTBC PUERTO BERRIO 155.26 65 *e*P PKPdf 01 52 09.0 +8.2
ALGR Alto Alegre (B 155.41 178 *e*P **PKPdf 01 52 00.5 -0.2**
ORTC Ortega, Tolima 155.50 71 *e*P PKPdf 01 52 10.0 +8.8
SCCA San Cayetano, 155.82 166 *e*P **PKPdf 01 52 01.4 +0.3**
TICA Tres Isletas 156.43 161 *e*P **PKPdf 01 52 01.4 -0.5**
PAMC Pamplona, Colo 156.47 61 *e*P **PKPab 01 52 32.1 +0.3**
CRSM Crissiumal (Br 156.65 176 *e*P **PKPdf 01 52 02.4 +0.2**
ITAB Concordia 156.98 180 *e*P **PKPdf 01 52 02.2 -0.4**
CPUP Villa Florida 157.31 168 *e*P **PKPdf 01 52 02.8 -0.3**
MACC Macarena, Meta 157.35 75 *e*P **PKPdf 01 52 02.9 -0.7**
SDV Santo Domingo 157.43 55 *e*P **PKPdf 01 52 03.2 -0.6**
ESFA Espinillo Form 158.34 164 *e*P **PKPdf 01 52 04.2 -0.2**
CZSB Cruzeiro do Su 159.14 101 *e*P **PKPdf 01 52 05.8 +0.1**
PTGB Pitanga 159.49 180 *e*P **PKPdf 01 52 05.8 -0.1**
PARB Paraibuna 159.88 197 *e*P **PKPdf 01 52 06.2 -0.2**
LPAZ La Paz 160.09 129 *e*P **PKPdf 01 52 06.6 -0.8**
ALF01 Guarapari-ES 160.22 213 *e*P **PKPdf 01 52 06.8 +0.1**
FRTB Fartura 160.71 187 *e*P **PKPdf 01 52 07.0 -0.2**
MURT Porto Murtinho 161.72 163 *e*P **PKPdf 01 52 08.0 -0.3**
BSCB Bom Sucesso 161.76 202 *e*P **PKPdf 01 52 08.2 -0.3**
ANTJ Antonio Joao (161.79 168 *e*P **PKPdf 01 52 08.6 +0.2**
BB19B Bebedouro 162.78 191 *e*P **PKPdf 01 52 09.6 +0.2**
AQDB Aquidauana 163.33 168 *e*P **PKPdf 01 52 10.0 +0.1**
BBRB Robore, Bolivi 163.98 152 *e*P **PKPdf 01 52 10.8 +0.2**
ITRB Iturama 164.39 186 *e*P **PKPdf 01 52 10.8 -0.2**
PMNB Patos De Minas 164.63 200 *e*P **PKPdf 01 52 11.0 -0.3**
SIV San Ignacio 165.21 144 PKP **PKPdf 01 52 11.7 -0.1**
comp=Z,1.9nm,0.8s,baz=181,slow=2.5,SNR=6.6
BDFB Brasilia 167.85 199 PKPab **PKPab 01 53 21.9 +1.2**
comp=Z,3.9nm,0.6s,baz=193,slow=5.1,SNR=5.2

IDC 21 01:48:39.3±1.2,9°.55S×159°.05E,h0km,mb3.7/3,
mbtmp3.7/4,ML3.7/1,Error ellipse: s-maj=48.1km
s-min=19.0km az=164.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.89**	**83**	Pn	Pn	01 48 59.3	+0.2
	1μm,0.3s,baz=183,slow=14,SNR=11						
HNR				Sn	Sn	01 49 18.5	+5.8
	2μm,0.3s,baz=324,slow=20,SNR=4.8						
CTA	**Charters Tower**	**16.20**	**228**	Pn	P	01 52 30.4	-1.4
	0.2nm,0.3s,baz=53,slow=14,SNR=3.6						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**26.00**	**244**	P	P	01 54 15.6	+1.5
	0.9nm,0.9s,baz=75,slow=8.9,SNR=4.7						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**27.82**	**237**	P	P	01 54 28.8	-1.7
	0.7nm,0.9s,baz=62,slow=11,SNR=4.5						
	0.7nm,0.9s						
SONM	**Songino Array**	**73.66**	**326**	P	P	02 00 14.6	-0.3
	0.5nm,0.5s,baz=128,slow=6.0,SNR=3.9						
	0.5nm,0.5s						

---

*IDC **21** 01:52:58.2±3.2,36°.78S×178°.99E,h0km,mb3.7/2,*
mbtmp3.7/3,ML3.5/1,Error ellipse: s-maj=73.8km
s-min=41.8km az=124.0
*NOU **21** 01:52:59.1,37°.08S×179°.21E,h5km,MLv3.8/7,Off E. Coast of N. Island, N.Z.*
*WEL **21** 01:53:01.5±1.3,37°.5S±5°.×17°.9E±1°.1,h12km,M3.5/27,*
ML3.8/15,MLv3.5/27,Error ellipse: s-maj=0.0km
s-min=0.0km az=96.2,confirmed
ISC 21 01:52:59.0±2.2,37°.16S±0°.07×179°.21E±0°.09,h13km±11km,
n60,σ1§15/67,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.82**	**240**	P	**Pn**	01 53 15.7	-0.6
MXZ	**Matakaoa Point**	**0.82**	**240**	P	**Pn**	01 53 15.8	-0.5
MXZ				S	**Sb**	01 53 25.4	-0.8
WMGZ	**Waiomatatini S**	**0.91**	**223**	P	**Pn**	01 53 19.2	+1.6
WMGZ				S	**Sn**	01 53 32.0	+1.5
PKGZ	**Pakihiroa**	**1.16**	**231**	P	**Pn**	01 53 22.4	+1.4
PKGZ				S	**Sn**	01 53 37.1	+0.4
PUZ	**Puketiti**	**1.19**	**219**	P	**Pg**	01 53 22.9	+1.0
PUZ				S	**Sn**	01 53 38.5	+1.1
HAZ	**Te Kaha**	**1.28**	**242**	P	**Pg**	01 53 24.8	+1.1
HAZ				S	**Sn**	01 53 40.5	+0.9
TWGZ	**Tauwhareparae**	**1.41**	**223**	P	**Pg**	01 53 26.2	+0.1
TWGZ				S	**Sg**	01 53 44.6	+0.1
RUGZ	**Raukumara Rang**	**1.46**	**236**	P	**Pg**	01 53 26.9	-0.2
CNGZ	**Carnagh Statio**	**1.54**	**211**	P	**Pg**	01 53 28.6	-0.1
MWZ	**Matawai**	**1.78**	**228**	P	**Pb**	01 53 31.1	-0.4
WHRZ	**Whale Island**	**1.91**	**248**	P	**Pb**	01 53 33.2	-0.5
RIGZ	**Rimuhau**	**1.92**	**216**	P	**Pn**	01 53 32.8	+1.3
RAGZ	**Rawiri**	**1.95**	**226**	P	**Pb**	01 53 33.4	-1.0
URZ	**Urewera**	**1.99**	**236**	P	**Pb**	01 53 34.1	-1.1
URZ	**Urewera**	**1.99**	**236**	P	**Pb**	01 53 34.0	-1.1
URZ	**Urewera**	**1.99**	**236**	Pn	**Pb**	01 53 34.0	-1.1
	16nm,0.3s,baz=357,slow=4.7,SNR=97						
URZ				Sn	**Sn**	01 53 57.2	0.0
	23nm,0.3s,baz=336,slow=21,SNR=23						
	38nm,0.3s						
PRGZ	**Paritu Road**	**2.05**	**210**	P	**Pn**	01 53 34.4	+1.2
EDRZ	**Edgecumbe**	**2.18**	**243**	P	**Pb**	01 53 36.9	-1.4
SNGZ	**Shannon Statio**	**2.19**	**222**	P	**Pn**	01 53 36.4	+1.2
OPRZ	**Ohinepanea**	**2.22**	**251**	P	**Pb**	01 53 37.3	-1.7
KNZ	**Kokohu**	**2.22**	**213**	P	**Pn**	01 53 36.1	+0.6
MHGZ	**Mahia Peninsul**	**2.24**	**207**	P	**Pn**	01 53 37.0	+1.2
RTZ	**Ruatahuna**	**2.29**	**230**	P	**Pb**	01 53 38.5	-1.7
RAHZ	**Arahi**	**2.43**	**223**	P	**Pn**	01 53 40.5	+2.1
RRRZ	**Republican Roa**	**2.44**	**240**	P	**Pb**	01 53 41.1	-1.7
WHHZ	**Waihua**	**2.47**	**218**	P	**Pn**	01 53 40.1	+1.1
MTHZ	**Maungataniwha**	**2.52**	**227**	P	**Pn**	01 53 41.4	+1.6
NMHZ	**Naumai**	**2.71**	**224**	P	**Pn**	01 53 43.6	+1.3
ARHZ	**Aropaoanui**	**2.73**	**219**	P	**Pn**	01 53 43.5	+1.0
KUZ	**Kuaotunu**	**2.82**	**277**	P	**Pn**	01 53 43.4	-0.4
KUZ	**Kuaotunu**	**2.82**	**277**	P	**Pn**	01 53 43.4	-0.4
BKZ	**Black Stump Fm**	**2.93**	**226**	P	**Pn**	01 53 46.5	+1.1
BKZ	**Black Stump Fm**	**2.93**	**226**	P	**Pn**	01 53 46.5	+1.1
TOZ	**Tahuroa Road**	**3.00**	**258**	P	**Pn**	01 53 46.7	+0.4
CKHZ	**Cape Kidnapper**	**3.01**	**213**	P	**Pn**	01 53 46.4	0.0
MCHZ	**McNeill Hill**	**3.02**	**220**	P	**Pn**	01 53 47.3	+0.8
GRZ	**Great Barrier**	**3.15**	**286**	P	**Pn**	01 53 49.4	+1.2
KAHZ	**Kahuranaki**	**3.21**	**214**	P	**Pn**	01 53 49.1	-0.1
MKAZ	**Moumakai**	**3.23**	**270**	P	**Pn**	01 53 49.6	+0.2
KRHZ	**Kereru**	**3.34**	**221**	P	**Pn**	01 53 51.4	+0.5
BHHZ	**Black Hill Sta**	**3.40**	**226**	P	**Pn**	01 53 52.4	+0.7
PXZ	**Pawanui**	**3.41**	**212**	P	**Pn**	01 53 51.2	-0.6
ETAZ	**East Tamaki Re**	**3.43**	**272**	P	**Pn**	01 53 53.3	+1.2
NGZ	**Ngauruhoe**	**3.48**	**234**	P	**Pn**	01 53 54.3	+1.3
MOVZ	**Moawhango**	**3.53**	**229**	P	**Pn**	01 53 54.5	+1.0
WNVZ	**Wahianoa**	**3.57**	**232**	P	**Pn**	01 53 55.4	+1.1
PNHZ	**Pukenui**	**3.62**	**220**	P	**Pn**	01 53 54.6	-0.3
AWAZ	**Awhitu Peninsu**	**3.65**	**270**	P	**Pn**	01 53 56.1	+0.9
HIZ	**Hauiti**	**3.70**	**247**	P	**Pn**	01 53 58.2	+2.4
HIZ	**Hauiti**	**3.70**	**247**	P	**Pn**	01 53 58.3	+2.4
TSZ	**Takapari Road**	**3.86**	**220**	P	**Pn**	01 53 57.6	-0.4
WCZ	**Waipu Caves**	**4.10**	**286**	P	**Pn**	01 54 02.6	+1.2
KHEZ	**Kahui Hut**	**4.61**	**241**	P	**Pn**	01 54 09.8	+1.3
OGWZ	**Otaki Gorge**	**4.82**	**219**	P	**Pn**	01 54 10.3	-0.9
OUZ	**Omahuta**	**4.93**	**291**	P	**Pn**	01 54 14.1	+1.3
OUZ	**Omahuta**	**4.93**	**291**	P	**Pn**	01 54 14.3	+1.6
CTZ	**Chatham Island**	**7.30**	**155**	P	**Pn**	01 54 47.6	+2.3
ASAR	**Alice Springs**	**40.95**	**276**	P	**P**	02 00 41.1	-0.3
	0.5nm,0.5s,baz=119,slow=8.0,SNR=10						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**42.56**	**281**	P	**P**	02 00 53.7	-0.9
	0.7nm,0.5s,baz=121,slow=7.8,SNR=8.2						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**150.44**	**334**	PKPbc	**PKPbc**	02 12 49.2	-0.1
	1.3nm,0.8s,baz=62,slow=4.5,SNR=4.3						

---

*NEIC **21** 01:53:29.3±1.8,19°.8S±0°.1×172°.98W±0°.09,h10km±1km,*
mb4.4/7,Error ellipse: s-maj=24.5km s-min=10.9km
az=333.0
*IDC **21** 01:53:31.1±1.7,19°.44S×173°.57W,h0km,mb4.2/6,*
mbtmp4.3/7,ML4.2/1,Error ellipse: s-maj=57.3km
s-min=27.0km az=136.0
ISC 21 01:53:28.9±0.8,19°.8S±0°.2×172°.93W±0°.08,h10km,n19,
σ1§36/19,mb4.4/8,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.92**	**76**	Pn	**Pn**	01 54 16.2	+0.7
NIUE					**Sn**	01 54 48.0	-2.7
AFI	**Afiamalu**	**5.98**	**11**	Pn	**Pn**	01 54 57.4	-0.2
DZM	**Mont Dzumac**	**19.40**	**260**	P	**P**	01 57 53.9	-1.5
DZM				IAmb	IAmb	01 58 12.0	
	comp=Z,13nm,0.9s						
DZM	**Mont Dzumac**	**19.40**	**260**	P	**P**	01 57 55.1	-0.2
	comp=Z,0.8nm,0.3s,baz=77,slow=20,SNR=2.7						
	comp=Z,5.9nm,0.6s						
URZ	**Urewera**	**20.31**	**203**	P	Pn	01 58 09.4	+2.3
	comp=Z,3.5nm,0.3s,baz=94,slow=15,SNR=2.4						
	comp=Z,3.5nm,0.3s						
CTA	**Charters Tower**	**38.30**	**262**	P	**P**	02 00 48.7	-1.3
	comp=Z,4.1nm,0.6s,baz=101,slow=9.6,SNR=13						
	comp=Z,4.1nm,0.6s						
CTAO	**Charters Tower**	**38.30**	**262**	P	**P**	02 00 49.6	-0.3
CTAO				IAmb	IAmb	02 01 15.6	
	comp=Z,13nm,1.4s						
STKA	**Stephens Creek**	**42.37**	**244**	P	**P**	02 01 24.4	+0.8
	comp=Z,1.9nm,0.6s,baz=73,slow=9.4,SNR=4.3						
	comp=Z,1.9nm,0.6s						
WR0	**Warramunga Arr**	**49.22**	**260**	P	**P**	02 02 17.5	-0.4
WR0				IAmb	IAmb	02 02 34.4	
	comp=Z,8.2nm,1.4s						
AS31	**Alice Springs**	**49.31**	**255**	P	**P**	02 02 16.8	-1.7
AS31				IAmb	IAmb	02 02 19.7	
	comp=Z,1.9nm,0.9s						
ASAR	**Alice Springs**	**49.31**	**255**	P	**P**	02 02 18.2	-0.3
ASAR	**Alice Springs**	**49.31**	**255**	P	**P**	02 02 18.7	+0.2
	comp=Z,8.7nm,1.0s,baz=88,slow=8.5,SNR=46						
	comp=Z,8.7nm,1.0s						
WB0	**Warramunga Arr**	**49.39**	**261**	P	**P**	02 02 18.0	-1.2
WB0				IAmb	IAmb	02 02 19.4	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**49.40**	**260**	P	**P**	02 02 17.5	-1.8
WRA	**Warramunga Arr**	**49.41**	**260**	P	**P**	02 02 18.9	-0.5
WRA	**Warramunga Arr**	**49.41**	**260**	P	**P**	02 02 18.1	-1.2
	comp=Z,1.6nm,0.4s,baz=98,slow=8.0,SNR=27						
	comp=Z,1.6nm,0.4s						
ILAR	**Eielson Array**	**86.67**	**11**	P	**P**	02 06 14.7	+2.3
	comp=Z,0.7nm,0.6s,baz=220,slow=5.2,SNR=12						
	comp=Z,0.7nm,0.6s						
CLL	**Collm**	**148.23**	**353**	*e*PKPbc	**PKiKP**	02 13 17.0	+0.2
BRTR	**Keskin Array B**	**149.77**	**317**	PKPbc	**PKiKP**	02 13 22.1	+1.6
	comp=Z,1.3nm,0.7s,baz=77,slow=1.9,SNR=8.4						

---

*IDC **21** 02:44:59.2±0.9,36°.93N×27°.61E,h0km,mb3.7/8,*
mbtmp3.6/15,ML3.5/7,Error ellipse: s-maj=17.9km
s-min=16.2km az=168.0
*AFAD **21** 02:45:00.8±0.0,36°.92N×27°.56E,h15km±1km,MW3.8*
*ISK **21** 02:45:00.9,36°.94N×27°.61E,h7km,ML3.8/22*
*ATH **21** 02:45:01.8,36°.93N×27°.59E,h14km,ML3.7/12,Error ellipse: s-maj=1.3km s-min=0.5km az=250.0*
*THE **21** 02:45:01.4,36°.94N×27°.61E,h7km±1km,ML3.7/10,Error ellipse: s-maj=1.0km s-min=0.5km az=199.0*
*GII **21** 02:45:04.3±0.0,36°.55N×27°.73E,h10km,Mm3.8/4*
ISC 21 02:45:01.1±0.7,36°.93N±0°.02×27°.60E±0°.02,h15km±4km,
n204,σ1§19/254,mb3.6/7,6C-10D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.14**	**58**	Pg	**Pg**	02 45 04.5	-0.3
RFTAA				Sg	**Sg**	02 45 06.8	-0.5
BDRM	**Kayabasi**	**0.19**	**318**	P	**Pg**	02 45 05.3	-0.3
BDRM				*i* AML	AML	02 45 08.0	
	comp=Z,3μm,0.3s						
BDRM				S	**Sg**	02 45 08.1	-0.5
DAT	**Datca**	**0.20**	**185**	Pg	**Pg**	02 45 05.5	-0.2
DAT				Sg	**Sg**	02 45 09.3	+0.4
DAT	**Datca**	**0.20**	**185**	P	**Pg**	02 45 05.6	-0.2
DAT				S	**Sg**	02 45 09.3	+0.4
DAT	**Datca**	**0.20**	**185**	P	**Pg**	02 45 05.7	-0.1
DAT				S	**Sg**	02 45 09.0	0.0
DAT				*i* AML	AML	02 45 10.0	
	comp=Z,6μm,0.5s						
RFTC	**Emecik-Datca**	**0.23**	**130**	Pg	**Pg**	02 45 06.1	-0.1
RFTC				Sg	**Sg**	02 45 09.9	+0.3
RFTD	**Palamutbuku-Ka**	**0.26**	**199**	Pg	**Pg**	02 45 06.7	+0.1
RFTD				Sg	**Sg**	02 45 10.9	+0.5
RFTB	**Kemer-Bodrum**	**0.27**	**278**	Pg	**Pg**	02 45 06.7	-0.1
RFTB				Sg	**Sb**	02 45 11.6	-0.2
BODT	**Bodrum**	**0.27**	**300**	Pg	**Pg**	02 45 06.6	-0.3
BODT				Sg	**Sg**	02 45 10.9	+0.1
BODT	**Bodrum**	**0.27**	**300**	P	**Pg**	02 45 06.7	-0.2
BODT				S	**Sg**	02 45 10.7	-0.1
MLSB	**Milas**	**0.40**	**21**	Pg	**Pg**	02 45 08.7	-0.4
NIS1	**Nisyros Isl.**	**0.47**	**226**	Pg	**Pg**	02 45 10.8	+0.4
NIS1	**Nisyros Isl.**	**0.47**	**226**	P	**Pg**	02 45 10.9	+0.5
NIS1				S	**Sb**	02 45 17.7	0.0
	38μm,0.4s						
NIS1	**Nisyros Isl.**	**0.47**	**226**	P	**Pg**	02 45 10.9	+0.5
NIS1				S	**Sb**	02 45 18.0	+0.4
NIS1				AML	AML	02 45 21.3	
	comp=E,76666μm,0.3s						
NIS1				AML	AML	02 45 21.4	

GCAM			S	Sg	02 45 28.6	+0.6
GCAM			*i* AML	AML	02 45 34.0	
comp=N,2μm,0.4s						
DALY	**Dalyan (Mula)**	**0.85 97**	Pg	Pb	02 45 17.4	-0.1
SMG	**Samos**	**0.99 322**	P	Pb	02 45 19.7	-0.2
SMG			S	Sn	02 45 34.3	+0.2
comp=N,6μm,0.4s						
SMG	**Samos**	**0.99 322**	P	Pb	02 45 19.6	-0.2
SMG			S	Sg	02 45 33.4	+0.2
SMG			AML	AML	02 45 35.6	
comp=N,10290μm,0.4s						
SMG			AML	AML	02 45 38.8	
comp=E,10071μm,0.4s						
TAVA	**DENIZLI_Tavas**	**1.18 62**	P	Pg	02 45 23.9	0.0
TAVA			S	Sg	02 45 39.9	+0.6
FETY	**Fethiye**	**1.23 103**	Pn	Pb	02 45 24.3	+0.4
IZMR	**zmir-demi**	**1.24 13**	P	Pn	02 45 24.1	+0.2
IZMR			S	Sg	02 45 40.9	-0.3
IZMR			*i* AML	AML	02 45 47.0	
IKRA	**Agios-Kirikos-**	**1.25 304**	P	Pn	02 45 23.9	+0.1
IKRA			S	Sb	02 45 39.4	-0.7
IKRA			AML	AML	02 45 47.9	
comp=N,8740μm,0.6s						
IKRA			AML	AML	02 45 48.5	
comp=E,6937μm,0.6s						
DGB	**zmir**	**1.26 333**	P	Pn	02 45 24.0	0.0
DGB			S	Sn	02 45 40.9	+0.2
DGB			*i* AML	AML	02 45 48.0	
comp=E,416nm,0.9s						
DNIZ	**Denizli-Tavas-**	**1.34 58**	P	Pb	02 45 26.4	+0.5
DNIZ			S	Sg	02 45 45.6	+1.1
CAME	**Cameli-Denizli**	**1.36 89**	Pn	Pb	02 45 26.9	+0.6
KARP	**Karpathos**	**1.42 195**	Pn	Pg	02 45 28.4	0.0
KARP	**Karpathos**	**1.42 195**	P	Pn	02 45 26.2	-0.1
KARP			S	Sb	02 45 45.3	+0.2
comp=E,2μm,0.5s						
KARP	**Karpathos**	**1.42 195**	P	Pn	02 45 26.4	+0.1
KARP			S	Sn	02 45 44.3	-0.5
KARP			AML	AML	02 45 51.5	
comp=E,3337μm,0.4s						
KARP			AML	AML	02 45 52.5	
comp=N,3561μm,0.7s						
APMY	**Acipayam-Deniz**	**1.46 68**	Pn	Pb	02 45 28.4	+0.4
APE	**Apeiranthos**	**1.66 276**	⇓P	Pn	02 45 29.6	-0.1
APE	**Apeiranthos**	**1.66 276**	P	Pn	02 45 29.6	-0.1
APE			S	Sn	02 45 49.9	-0.8
comp=N,585nm,0.6s						
APE	**Apeiranthos**	**1.66 276**	P	Pn	02 45 29.6	-0.1
APE			S	Sn	02 45 49.6	-1.1
APE			AML	AML	02 45 58.0	
comp=N,1289μm,0.6s						
APE			AML	AML	02 46 01.9	
comp=E,1052μm,0.7s						
AKAS	**Kas**	**1.76 113**	Pn	Pb	02 45 32.8	-0.2
THR8	**Santorini-Mono**	**1.78 254**	P	Pn	02 45 31.4	+0.2
KULA	**Kula-Manisa**	**1.79 28**	Pn	Pn	02 45 32.4	+0.9
KULA	**Kula-Manisa**	**1.79 28**	P	Pn	02 45 31.9	+0.4
KULA			S	Sn	02 45 53.8	-0.3
GOMA	**Golmarmara-Man**	**1.80 8**	Pn	Pn	02 45 32.3	+0.9
SANT	**Santorini**	**1.81 253**	⇓P	Pn	02 45 32.0	+0.3
SANT	**Santorini**	**1.81 253**	P	Pn	02 45 32.2	+0.5
SANT			S	Sn	02 45 54.7	+0.4
comp=E,448nm,0.7s						
SANT	**Santorini**	**1.81 253**	P	Pn	02 45 31.6	0.0
SANT			AML	AML	02 46 04.9	
comp=E,1206μm,0.5s						
SANT			AML	AML	02 46 06.7	
comp=N,533μm,0.7s						
THT2	**Imerovigli**	**1.82 255**	P	Pn	02 45 32.4	+0.6
CMBO	**Columbo, Santo**	**1.82 256**	P	Pn	02 45 32.8	+1.0
THR3	**Thira Island,**	**1.84 254**	P	Pn	02 45 32.1	0.0
SNT5	**Nea Kammeni, S**	**1.85 254**	P	Pn	02 45 32.2	0.0
THR6	**Thira Island,**	**1.86 253**	P	Pn	02 45 32.8	+0.5
ELL	**Elmali**	**1.86 95**	Pn	Pb	02 45 33.9	-0.9
THR5	**Thira Island,**	**1.88 255**	P	Pb	02 45 34.1	-0.9
CHOS	**Chios island**	**1.91 320**	P	Pn	02 45 33.0	0.0
CHOS			S	Sn	02 45 57.0	+0.2
comp=N,1μm,0.7s						
CHOS	**Chios island**	**1.91 320**	P	Pn	02 45 33.1	+0.1
CHOS			AML	AML	02 46 10.4	
comp=E,2955μm,0.7s						
CHOS			AML	AML	02 46 10.5	
comp=N,1850μm,0.8s						
EAG2	**Marmaro, Chios**	**2.00 324**	P	Pn	02 45 34.9	+0.6
TNSA	**Tinos**	**2.04 288**	P	Pn	02 45 34.7	0.0
ZKR	**Zakros**	**2.13 212**	P	Pn	02 45 36.6	+0.6
ZKR	**Zakros**	**2.13 212**	P	Pn	02 45 36.7	+0.6
ZKR			AML	AML	02 46 14.9	
comp=N,456μm,0.7s						
ZKR			AML	AML	02 46 20.7	
comp=E,971μm,0.8s						
PSRA	**Psara**	**2.28 316**	P	Pn	02 45 38.7	+0.6
EAG3	**Mitilini, Lesv**	**2.30 340**	P	Pn	02 45 38.9	+0.5
EAG1	**Polichnitos, L**	**2.42 334**	P	Pn	02 45 40.3	+0.3
FRMA	**Ierapetra Chan**	**2.44 219**	P	Pn	02 45 40.9	+0.7
FRMA	**Ierapetra Chan**	**2.44 219**	P	Pn	02 45 40.5	+0.3
PRK	**Paraskevi**	**2.54 336**	P	Pn	02 45 42.1	+0.4
PRK	**Paraskevi**	**2.54 336**	P	Pn	02 45 42.0	+0.4
MHLO	**Agia Marina, M**	**2.58 266**	P	Pn	02 45 43.0	+0.8
SIGR	**SIGRI**	**2.67 329**	P	Pn	02 45 43.7	+0.3
SIGR	**SIGRI**	**2.67 329**	P	Pn	02 45 43.9	+0.5
IDI	**Anoyia**	**2.74 234**	⇑P	Pn	02 45 45.0	+0.6
IDI	**Anoyia**	**2.74 234**	P	Pn	02 45 44.9	+0.5
IDI	**Anoyia**	**2.74 234**	Pn	Pn	02 45 45.1	+0.6
comp=E,1.4nm,0.3s,baz=357,slow=6.0,SNR=35						
IDI			Sn	Sn	02 46 15.0	-2.3
comp=E,4.3nm,0.3s,baz=107,slow=18,SNR=5.1						
comp=E,3.3nm,0.2s						
IDI	**Anoyia**	**2.74 234**	P	Pn	02 45 44.9	+0.6
SKY	**Skiros Island**	**3.10 310**	P	Pn	02 45 50.4	+1.0
SKY	**Skiros Island**	**3.10 310**	P	Pn	02 45 50.6	+1.2
DION	**Dionisos Attik**	**3.13 293**	P	Pn	02 45 51.5	+1.6
DION	**Dionisos Attik**	**3.13 293**	P	Pn	02 45 50.9	+1.1
VLY	**Voula,Athens**	**3.17 288**	P	Pn	02 45 51.4	+1.1
VLY	**Voula,Athens**	**3.17 288**	P	Pn	02 45 51.3	+1.0
PTL	**Penteli**	**3.17 292**	P	Pn	02 45 51.9	+1.4
ATHU	**Athens Univers**	**3.21 290**	P	Pn	02 45 50.4	-0.5
ATHU	**Athens Univers**	**3.21 290**	P	Pn	02 45 51.0	+0.1
KYMI	**Kymi, Euboea I**	**3.25 303**	P	Pn	02 45 52.5	+1.0
KYMI	**Kymi, Euboea I**	**3.25 303**	P	Pn	02 45 52.5	+1.0
IMMV	**Iera Moni Meta**	**3.27 245**	P	Pn	02 45 52.7	+1.0
RODP	**Rodopos**	**3.39 247**	P	Pn	02 45 54.9	+1.5
LIA	**Limnos Island**	**3.52 328**	P	Pn	02 45 56.0	+0.9
LIA	**Limnos Island**	**3.52 328**	P	Pn	02 45 56.1	+0.9
KRND	**KRANIDI**	**3.58 279**	P	Pn	02 45 56.6	+0.6
KRND	**KRANIDI**	**3.58 279**	P	Pn	02 45 56.7	+0.6
ANKY	**Antikythira Is**	**3.62 254**	P	Pn	02 45 57.0	+0.4
VILL	**Villia**	**3.62 291**	P	Pn	02 45 57.9	+1.3
VIL2	**Platees**	**3.67 292**	P	Pn	02 45 57.8	+0.5
KTHA	**Kythira Island**	**3.71 261**	P	Pn	02 45 59.0	+1.1
KTHA	**Kythira Island**	**3.71 261**	P	Pn	02 45 58.9	+1.1
VLI	**Veliai**	**3.75 268**	P	Pn	02 45 58.6	+0.3
VLI	**Veliai**	**3.75 268**	P	Pn	02 45 59.1	+0.8
SMTH	**Samothraki Isl**	**3.89 336**	P	Pn	02 46 00.8	+0.5
SMTH	**Samothraki Isl**	**3.89 336**	P	Pn	02 46 00.6	+0.3
ATAL	**Atalanti**	**4.03 297**	P	Pn	02 46 03.4	+1.2
ATAL	**Atalanti**	**4.03 297**	P	Pn	02 46 03.0	+0.9
ALN	**Alexandroupoli**	**4.15 343**	P	Pn	02 46 04.0	+0.3
ALN	**Alexandroupoli**	**4.15 343**	P	Pn	02 46 04.2	+0.4
NEO	**Neokhori**	**4.19 306**	P	Pn	02 46 05.6	+1.2
NEO	**Neokhori**	**4.19 306**	P	Pn	02 46 05.6	+1.2
GUR	**Goura**	**4.30 285**	P	Pn	02 46 07.1	+1.1
GUR	**Goura**	**4.30 285**	P	Pn	02 46 07.5	+1.5
THAS	**Thassos island**	**4.31 329**	P	Pn	02 46 06.5	+0.5
THAS	**Thassos island**	**4.31 329**	P	Pn	02 46 06.4	+0.5
AXAR	**Agios Charalam**	**4.32 297**	P	Pn	02 46 06.0	-0.2
AXAR	**Agios Charalam**	**4.32 297**	P	Pn	02 46 07.8	+1.6
OUR	**Ouranopolis**	**4.43 321**	P	Pn	02 46 08.5	+0.9
OUR	**Ouranopolis**	**4.43 321**	P	Pn	02 46 08.5	+0.9
KLV	**Kalavryta, Ach**	**4.47 286**	P	Pn	02 46 09.9	+1.6
RDO	**Rodhopi**	**4.51 340**	P	Pn	02 46 09.5	+0.8
RDO	**Rodhopi**	**4.51 340**	P	Pn	02 46 09.5	+0.8
KALE	**Kalithea**	**4.57 290**	P	Pn	02 46 11.3	+1.6
KALE	**Kalithea**	**4.57 290**	P	Pn	02 46 10.8	+1.2
LAKA	**Lakka**	**4.65 288**	P	Pn	02 46 12.5	+1.7
LAKA	**Lakka**	**4.65 288**	P	Pn	02 46 12.3	+1.5
AGG	**Agios Georgios**	**4.66 298**	P	Pn	02 46 12.5	+1.7
AGG	**Agios Georgios**	**4.66 298**	P	Pn	02 46 12.3	+1.5
KAVA	**Kavala**	**4.72 330**	P	Pn	02 46 12.5	+0.8
EFP	**Efpalio**	**4.76 290**	P	Pn	02 46 12.3	+0.1
KOKK	**Kokkinochori,**	**4.79 325**	P	Pn	02 46 13.5	+0.9
KOKK	**Kokkinochori,**	**4.79 325**	P	Pn	02 46 13.6	+0.9
DRO	**Drossia**	**4.80 284**	P	Pn	02 46 14.0	+1.3
MAKR	**Makrakomi, Fth**	**4.80 297**	P	Pn	02 46 15.1	+2.4
MAKR	**Makrakomi, Fth**	**4.80 297**	P	Pn	02 46 14.9	+2.2
ANX	**Ano Chora**	**4.80 292**	P	Pn	02 46 14.7	+1.9
ANX	**Ano Chora**	**4.80 292**	P	Pn	02 46 14.7	+1.9
EDRB	**Edirne**	**4.96 353**	P	Pn	02 46 15.0	+0.1
KDZ	**Kurdzhali**	**5.01 340**	*i* P	Pn	02 46 16.5	+0.8
ANTO	**Ankara**	**5.03 53**	⇓P	Pn	02 46 18.6	+2.7
CSS	**Mathiatis**	**5.04 111**	Pn	Pn	02 46 17.6	+1.5
TYRN	**Tyrnavos**	**5.05 305**	P	Pn	02 46 18.2	+2.0
HORT	**Hortiatis**	**5.08 318**	P	Pn	02 46 18.3	+1.6
PVO	**Paravola**	**5.10 291**	P	Pn	02 46 17.7	+0.9
SOH	**Sokhos**	**5.11 321**	P	Pn	02 46 18.7	+1.6
SOH	**Sokhos**	**5.11 321**	P	Pn	02 46 18.6	+1.6
SRS	**Serrai**	**5.22 325**	P	Pn	02 46 19.9	+1.4
SRS	**Serrai**	**5.22 325**	P	Pn	02 46 19.7	+1.2
RZN	**Rozhen**	**5.25 336**	*i* P	Pn	02 46 20.4	+1.3
NVR	**Nevrokopi**	**5.29 328**	P	Pn	02 46 21.5	+2.0
DIM	**Dimitrovgrad**	**5.35 344**	*i* P	Pn	02 46 21.1	+0.9
MMB	**Musomishta**	**5.50 328**	*i* P	Pn	02 46 24.2	+1.8
BRTR	**Keskin Array B**	**5.51 58**	Pn	Pn	02 46 24.5	+1.9
comp=E,1.1nm,0.3s,baz=238,slow=16,SNR=58						
comp=E,4.8nm,0.5s						
KNT	**Kendrikon**	**5.59 321**	P	Pn	02 46 25.5	+1.9
KNT	**Kendrikon**	**5.59 321**	P	Pn	02 46 25.6	+1.9
JMB	**Yambol**	**5.62 352**	*e*P	Pg	02 46 49.7	+1.1
KPRO	**Kipourio**	**5.75 304**	P	Pn	02 46 27.6	+1.7
LKD2	**Lefkada island**	**5.80 291**	P	Pn	02 46 28.6	+2.1
KKB	**Krupnik**	**6.01 326**	*i* P	Pn	02 46 31.4	+2.1
PEHC	**Pehcevo**	**6.06 325**	*i* P	Pn	02 46 31.6	+1.4
LOZB	**Loznitsa**	**6.48 353**	⇓P	Pn	02 46 36.7	+0.8
VTS	**Vitosha**	**6.60 331**	⇓P	Pn	02 46 39.8	+2.1
VTS	**Vitosha**	**6.60 331**	*i* P	Pn	02 46 39.5	+1.9
ICOR	**Ion Corvin**	**7.18 1**	⇓P	Pn	02 46 48.6	+3.1
HNTI	**Hanita**	**7.30 119**	Pn	Pn	02 46 47.8	+0.7
MMAI	**Mount Meron Ar**	**7.50 119**	Pn	Pn	02 46 49.2	-0.7
comp=E,2.4nm,0.3s,baz=304,slow=13,SNR=20						
MMAI			Sn	Sn	02 48 11.9	-2.8
comp=E,7.4nm,0.3s,baz=333,slow=31,SNR=16						
comp=E,3.1nm,0.4s						
GEM	**Giv'at Ha'Em**	**7.58 117**	Pn	Pn	02 46 51.4	+0.5
GEM			Sn	Sn	02 48 14.7	-1.8
KSHT	**Keshet**	**7.80 118**	Pn	Pn	02 46 55.1	+1.0
MMLI	**Mount Malkishu**	**7.84 123**	Pn	Pn	02 46 55.4	+0.8
MMLI			Sn	Sn	02 48 19.9	-3.2
SALP	**Salfit**	**7.92 126**	Pn	Pn	02 46 55.8	+0.2
SALP			Sn	Sn	02 48 21.7	-3.3
BOVS	**Bovan**	**8.07 328**	⇑P	Pn	02 46 59.5	+1.8
AMAZ	**Amatzia**	**8.10 129**	Pn	Pn	02 46 57.3	-0.8
AMAZ			Sn	Sn	02 48 27.4	-2.0
KZIT	**Kziot**	**8.24 135**	Pn	Pn	02 46 59.4	-0.6
KZIT			Sn	Sn	02 48 28.7	-4.2
CFR	**Carcaliu**	**8.25 3**	⇑P	Pn	02 47 02.0	+1.9
YTIR	**Yattir**	**8.34 130**	Pn	Pn	02 47 01.3	-0.2
MSBI	**Mazada**	**8.53 129**	Pn	Pn	02 47 03.5	-0.4
MLR	**Muntele Rosu**	**8.65 352**	⇓P	Pn	02 47 07.2	+1.6
MLR	**Muntele Rosu**	**8.65 352**	Pn	Pn	02 47 05.9	+0.3
comp=E,0.2nm,0.3s,baz=185,slow=7.7,SNR=4.6						
comp=E,1.6nm,0.7s						
VOIR		**8.72 348**	⇑P	Pn	02 47 08.5	+1.9
PLOR	**Plostina**	**8.95 356**	⇓P	Pn	02 47 12.6	+2.9
VRI	**Vrincioaia**	**8.96 356**	⇓P	Pn	02 47 11.9	+2.1
COVR	**Voineasa-Covas**	**8.97 354**	⇑P	Pn	02 47 12.2	+2.2
PRNI	**Paran**	**9.00 135**	Pn	Pn	02 47 09.8	-0.7
ASF	**Jabal al Asfar**	**9.01 119**	Pn	Pn	02 47 11.6	+0.9
comp=E,0.3nm,0.3s,baz=202,slow=17,SNR=2.5						
comp=E,0.7nm,0.3s						
KRMI	**Paran Flat**	**9.02 137**	Pn	Pn	02 47 09.6	-1.2
KRMI			Sn	Sn	02 48 48.7	-3.4
DOPR	**Dopca**	**9.18 350**	⇓P	Pn	02 47 14.9	+2.0
GZR	**Gura Zlata**	**9.21 338**	⇑P	Pn	02 47 14.0	+0.7
HRFI	**Mount Harif**	**9.26 136**	Pn	Pn	02 47 13.5	-0.5
HRFI			Sn	Sn	02 48 53.7	-4.2
EIL	**Elat**	**9.49 138**	Pn	Pn	02 47 16.4	-0.8
EIL			Sn	Sn	02 49 00.2	-3.4
EIL	**Elat**	**9.49 138**	Pn	Pn	02 47 16.5	-0.8
comp=E,0.6nm,0.3s,baz=346,slow=6.1,SNR=7.4						
EIL			Sn	Sn	02 48 59.4	-4.2
comp=E,1.5nm,0.3s,baz=132,slow=3.2,SNR=6.2						
comp=E,1.9nm,0.4s						
GERES	**GERESS Array B**	**15.64 324**	Pn	P	02 48 43.5	-1.5
comp=E,0.2nm,0.3s,baz=142,slow=8.5,SNR=3.2						
comp=E,0.4nm,0.7s						
BELG	**Belogornoye**	**20.92 36**	P	P	02 49 43.3	+0.5
comp=E,9.3nm,0.8s,baz=219,slow=5.7,SNR=4.1						
comp=E,9.3nm,0.8s						
FINES	**FINESS Array B**	**24.56 358**	P	P	02 50 20.1	+0.1
comp=E,1.6nm,0.7s,baz=206,slow=12,SNR=4.3						
comp=E,1.6nm,0.7s						
ESDC	**Sonseca Array**	**24.86 286**	P	P	02 50 23.2	+0.3
comp=E,1.2nm,0.8s,baz=76,slow=9.5,SNR=10						
comp=E,1.2nm,0.8s						
NOA	**NORSAR Array B**	**26.27 342**	P	P	02 50 37.1	+1.7
comp=E,0.7nm,0.9s,baz=164,slow=7.9,SNR=2.2						
comp=E,0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**33.14 231**	P	P	02 51 37.4	+0.6
comp=E,0.7nm,0.7s,baz=36,slow=8.3,SNR=6.9						
comp=E,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**38.48 53**	P	P	02 52 23.5	+1.3
comp=E,0.6nm,0.6s,baz=276,slow=8.8,SNR=5.1						
comp=E,0.6nm,0.6s						
MKAR	**Makanchi Array**	**41.16 58**	P	P	02 52 45.5	+0.9
comp=E,0.9nm,0.8s,baz=284,slow=6.1,SNR=3.8						
comp=E,0.9nm,0.8s						
ILAR	**Eielson Array**	**78.54 358**	P	P	02 57 00.7	-0.6
comp=E,0.4nm,0.8s,baz=354,slow=6.3,SNR=4.9						
comp=E,0.4nm,0.8s						

*PDG **21** 02:45:24.1±0.1,42°.75N×19°.16E,h18km,ML1.5/10,Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
ISC 21 02:45:24.3±1.1,**42°.75N**±0°.03×**19°.17E**±0°.03,**h17**km±7km,
n12,σ0**°68**/24,**2C-2D**,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKME	**Niksic**	**0.16**	**278**	*e*Pg	**Pg**	**02 45 28.3**	**-0.3**
NKME				*i* Sg	**Sg**	**02 45 31.8**	**+0.3**
CEME	**Cevo**	**0.27**	**223**	⇓*i*Pg	**Pg**	**02 45 29.9**	**-0.4**
CEME				*i* Sg	**Sb**	**02 45 34.4**	**-0.8**
PDG	**Podgorica**	**0.32**	**168**	*e*Pg	**Pg**	**02 45 30.9**	**-0.2**
PDG				*i* Sg	**Sb**	**02 45 36.3**	**-0.2**
BUM	**Brajici-Budva**	**0.49**	**205**	*e*Pg	**Pg**	**02 45 33.7**	**-0.5**
BUM				*i* Sg	**Sb**	**02 45 41.7**	**+0.3**
BRY	**Bratogost**	**0.49**	**289**	⇑*i*Pg	**Pg**	**02 45 33.5**	**-0.7**
BRY				*i* Sg	**Sb**	**02 45 41.4**	**-0.1**
UPM	**Unac-Piva**	**0.50**	**337**	*e*Pg	**Pg**	**02 45 33.7**	**-0.7**
UPM				*i* Sg	**Sb**	**02 45 41.9**	**+0.1**
DRME	**Dracevica, Mon**	**0.56**	**179**	⇑*i*Pg	**Pg**	**02 45 34.8**	**-0.6**
DRME				*i* Sg	**Sb**	**02 45 43.9**	**+0.5**
HCY	**Herceg Novi**	**0.58**	**239**	*e*Pg	**Pg**	**02 45 35.1**	**-0.7**
HCY				*i* Sg	**Sb**	**02 45 44.4**	**+0.4**
PVY	**Plav**	**0.60**	**104**	*e*Pg	**Pg**	**02 45 35.8**	**-0.5**
PVY				*i* Sg	**Sb**	**02 45 45.5**	**+0.7**
PLE	**Pljevlja**	**0.61**	**15**	⇓*i*Pg	**Pg**	**02 45 35.7**	**-0.7**
PLE				*i* Sg	**Sb**	**02 45 45.6**	**+0.7**
DBRK	**Dubrovnik**	**0.76**	**265**	*e*Pg	**Pg**	**02 45 39.1**	**0.0**
DBRK				Sg	**Sn**	**02 45 50.7**	**-0.6**
STON	**Ston**	**1.09**	**277**	*e*Pg	**Pg**	**02 45 45.1**	**-0.2**
STON				Sg	**Sg**	**02 46 01.4**	**+1.8**

*IDC **21** 02:45:49.6±1.7,36°.98N×27°.63E,h0km,mb3.3/2, mbtmp3.4/4,ML3.4/2,Error ellipse: s-maj=46.3km s-min=26.5km az=171.0*
*THE **21** 02:45:51.9,36°.91N×27°.66E,h8km±1km,ML3.5/6,Error ellipse: s-maj=1.7km s-min=0.8km az=204.0*
*AFAD **21** 02:45:51.7±0.0,36°.91N×27°.66E,h7km±1km,ML3.3*
*ISK **21** 02:45:51.6,36°.91N×27°.66E,h5km,ML3.1/11*
*GII **21** 02:45:52.2±0.0,36°.90N×27°.87E,h10km,Mm3.5/2*
ISC 21 02:45:51.6±0.8,**36°.90N**±0°.02×**27°.67E**±0°.02,**h15**km±5km,
n48,σ0**°75**/78,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.12**	**33**	Pg	**Pg**	**02 45 54.6**	**-0.5**
RFTAA				Sg	**Sg**	**02 45 56.9**	**-0.4**
RFTC	**Emecik-Datca**	**0.17**	**135**	Pg	**Pg**	**02 45 55.7**	**-0.1**
RFTC				Sg	**Sg**	**02 45 59.1**	**+0.5**
DAT	**Datca**	**0.18**	**202**	Pg	**Pg**	**02 45 56.0**	**-0.1**
DAT				Sg	**Sg**	**02 45 59.8**	**+0.7**
DAT	**Datca**	**0.18**	**202**	P	**Pg**	**02 45 56.0**	**-0.1**
DAT				S	**Sg**	**02 45 59.4**	**+0.3**
DAT	**Datca**	**0.18**	**202**	P	**Pg**	**02 45 56.0**	**-0.1**
DAT				S	**Sg**	**02 45 59.8**	**+0.7**
DAT				*i* AML	AML	02 46 01.0	
comp=N,6μm,0.4s							
DAT				*i* AML	AML	02 46 01.0	
comp=E,5μm,0.2s							
BDRM	**Kayabasi**	**0.24**	**313**	P	**Pg**	**02 45 56.7**	**-0.3**
BDRM				S	**Sg**	**02 46 00.3**	**-0.3**
BDRM				*i* AML	AML	02 46 01.0	
comp=Z,1μm,0.3s							
RFTD	**Palamutbuku-Ka**	**0.26**	**212**	Pg	**Pg**	**02 45 57.2**	**0.0**
RFTD				Sg	**Sg**	**02 46 01.4**	**+0.5**
RFTB	**Kemer-Bodrum**	**0.32**	**281**	Pg	**Pg**	**02 45 58.6**	**+0.3**
RFTB				Sg	**Sg**	**02 46 03.9**	**+1.0**
BODT	**Bodrum**	**0.33**	**300**	Pg	**Pg**	**02 45 58.1**	**-0.3**
BODT				Sg	**Sg**	**02 46 03.4**	**+0.3**
BODT	**Bodrum**	**0.33**	**300**	P	**Pg**	**02 45 58.3**	**-0.1**
BODT				S	**Sg**	**02 46 03.1**	**0.0**
MLSB	**Milas**	**0.40**	**13**	Pg	**Pg**	**02 45 59.7**	**-0.1**
MLSB				Sg	**Sg**	**02 46 05.4**	**0.0**
TURN	**Turunc**	**0.48**	**105**	Pg	**Pg**	**02 46 01.0**	**-0.2**
TURN	**Turunc**	**0.48**	**105**	P	**Pg**	**02 46 00.4**	**-0.7**
TURN				S	**Sb**	**02 46 08.7**	**0.0**
TURN				*i* AML	AML	02 46 11.0	
comp=E,2μm,0.8s							
TURN				*i* AML	AML	02 46 13.0	
comp=N,2μm,0.4s							
NIS1	**Nisyros Isl.**	**0.49**	**233**	Pg	**Pg**	**02 46 01.8**	**+0.4**
NIS1	**Nisyros Isl.**	**0.49**	**233**	P	**Pg**	**02 46 01.8**	**+0.4**
NIS1				S	**Sb**	**02 46 08.9**	**-0.1**
15μm,0.2s							
NISR	**Nisiros**	**0.52**	**236**	P	**Pg**	**02 46 02.2**	**+0.3**
NISR				S	**Sb**	**02 46 09.9**	**+0.1**
12μm,0.2s							
YER	**Yerkesik**	**0.55**	**65**	Pg	**Pg**	**02 46 02.6**	**+0.2**
YER	**Yerkesik**	**0.55**	**65**	P	**Pg**	**02 46 02.6**	**+0.2**
YER				S	**Sg**	**02 46 10.0**	**+0.2**
KOSK	**Kos Island**	**0.57**	**255**	Pg	**Pg**	**02 46 03.3**	**+0.4**
KOSK	**Kos Island**	**0.57**	**255**	P	**Pg**	**02 46 03.2**	**+0.4**
KOSK				S	**Sb**	**02 46 12.1**	**+0.8**
4μm,0.5s							
MULA	**Mugla, Merkez-**	**0.63**	**56**	P	**Pg**	**02 46 04.3**	**+0.3**
MULA				S	**Sg**	**02 46 11.5**	**-1.0**
DDIM	**Aydin, Didim**	**0.65**	**329**	P	**Pg**	**02 46 04.0**	**-0.4**
DDIM				S	**Sg**	**02 46 13.7**	**+0.6**
DDIM				*i* AML	AML	02 46 17.0	
comp=N,2μm,0.6s							
DDIM				*i* AML	AML	02 46 20.0	
comp=Z,1μm,0.7s							
DDIM				*i* AML	AML	02 46 23.0	
comp=E,2μm,0.9s							
ARG	**Arkhangelos**	**0.78**	**151**	Pg	**Pb**	**02 46 07.1**	**+0.2**
ARG	**Arkhangelos**	**0.78**	**151**	P	**Pg**	**02 46 06.9**	**+0.1**
ARG				S	**Sn**	**02 46 19.9**	**+0.4**
4μm,0.4s							
AYDN	**Tasoluk**	**0.78**	**13**	P	**Pg**	**02 46 06.1**	**-0.7**
AYDN				S	**Sg**	**02 46 16.4**	**-0.6**
AYDN				*i* AML	AML	02 46 20.0	
comp=N,2μm,0.6s							
AYDN				*i* AML	AML	02 46 20.0	
comp=E,2μm,0.5s							
AYDN				*i* AML	AML	02 46 21.0	
comp=Z,997nm,0.3s							
GCAM	**G?zelcaml?**	**0.87**	**337**	Pg	**Pg**	**02 46 08.9**	**+0.4**
GCAM	**G?zelcaml?**	**0.87**	**337**	P	**Pg**	**02 46 08.1**	**-0.4**
GCAM				S	**Sb**	**02 46 22.4**	**+2.5**
GCAM				*i* AML	AML	02 46 26.0	
comp=E,2μm,0.2s							
GCAM

comp=Z,7.9nm,0.4s,baz=90,slow=12,SNR=13
comp=Z,7.9nm,0.4s
CTAO Charters Tower 31.89 268 P **P 02 57 44.1 +0.4**
TOO Toolangi 33.63 235 P **P 02 57 58.2 0.0**
STKA Stephens Creek 35.68 246 P **P 02 58 15.6 +0.3**
STKA Stephens Creek 35.68 246 P **P 02 58 16.4 +1.0**
comp=Z,2.0nm,0.5s,baz=87,slow=11,SNR=9.1
comp=Z,2.0nm,0.5s
BBOO Buckleboo 40.42 245 P **P 02 58 53.2 -0.5**
BBOO IAmb IAmb 02 59 02.9
comp=Z,11nm,1.3s
AS31 Alice Springs 42.69 259 P **P 02 59 11.3 -0.4**
ASAR Alice Springs 42.69 259 P **P 02 59 11.9 +0.1**
ASAR Alice Springs 42.69 259 P **P 02 59 12.1 +0.4**
comp=Z,7.1nm,0.7s,baz=94,slow=8.0,SNR=69
ASAR PcP **PcP 03 00 49.1 -1.0**
comp=Z,0.9nm,0.6s,baz=106,slow=3.8,SNR=6.0
ASAR S **S 03 04 52.5 -1.7**
comp=Z,0.9nm,0.9s,baz=94,slow=16,SNR=6.2
comp=Z,7.1nm,0.7s
WR0 Warramunga Arr 42.73 264 P **P 02 59 11.7 -0.4**
WR0 IAmb IAmb 02 59 28.5
comp=Z,8.9nm,1.4s
WB0 Warramunga Arr 42.90 265 P **P 02 59 12.2 -1.3**
WB2 Warramunga Arr 42.90 264 P **P 02 59 11.9 -1.5**
WB2 IAmb IAmb 02 59 13.9
comp=Z,8.5nm,0.8s
WRA Warramunga Arr 42.91 264 P **P 02 59 13.4 -0.1**
WRA Warramunga Arr 42.91 264 P **P 02 59 13.4 -0.1**
comp=Z,5.9nm,0.6s,baz=94,slow=7.9,SNR=64
WRA ScP **ScP 03 03 48.7 +1.4**
comp=Z,0.7nm,0.9s,baz=102,slow=4.2,SNR=5.9
WRA S **S 03 04 55.4 -2.1**
comp=Z,0.9nm,0.8s,baz=95,slow=15,SNR=4.8
comp=Z,5.9nm,0.6s
KNRA Kununurra 49.09 268 P **P 02 59 59.7 -0.6**
VNDA Vanda 55.96 185 P **P 03 00 49.5 +1.2**
MBWA Marble Bar 56.03 259 P **P 03 00 48.5 -1.2**
QSPA South Pole Qui 67.74 180 P **P 03 02 06.0 +0.9**
QSPA IAmb IAmb 03 02 07.5
comp=Z,12nm,0.9s
QSPA South Pole Qui 67.74 180 P **P 03 02 06.4 +1.4**
comp=Z,12nm,0.8s,baz=0.2,slow=0.7,SNR=55
comp=Z,12nm,0.8s
PETK Petropavlovsk- 77.67 346 P **P 03 03 01.9 +0.1**
PETK Petropavlovsk- 77.67 346 P **P 03 03 01.3 -0.5**
comp=Z,1.3nm,0.6s,baz=160,slow=4.6,SNR=2.7
comp=Z,1.3nm,0.6s
BELA Belgrano 2 77.93 173 P **P 03 03 03.1 +0.1**
BELA IAmb IAmb 03 03 04.3
comp=Z,11nm,1.0s
MAW Mawson 79.34 200 P **P 03 03 10.3 -0.3**
MAW Mawson 79.34 200 P **P 03 03 11.6 +1.1**
comp=Z,2.9nm,0.7s,baz=135,slow=12,SNR=11
comp=Z,2.9nm,0.7s
PNTR Pine Nut 82.93 43 P **P 03 03 29.1 -0.6**
PNTR IAmb IAmb 03 03 31.3
comp=Z,7.6nm,0.8s
NVAR Mina Array Bea 83.37 44 P **P 03 03 32.6 +0.7**
comp=Z,1.5nm,0.9s,baz=226,slow=8.8,SNR=7.3
comp=Z,1.5nm,0.9s
TUC Tucson 85.27 52 P **P 03 03 42.6 +1.4**
TROLL Troll, Antarti 85.89 181 ⇑Pdiff **P 03 03 43.6 0.0**
comp=Z,205nm,0.5s
SNAA Sanae 86.22 179 ⇑Pdiff **P 03 03 44.5 -0.6**
comp=Z,28nm,0.6s
SNAA Sanae 86.22 179 P **P 03 03 44.2 -0.8**
comp=Z,1.2nm,0.6s,baz=209,slow=7.1,SNR=16
comp=Z,1.2nm,0.6s
U15A North Rim 86.28 48 P **P 03 03 46.4 +0.2**
U15A IAmb IAmb 03 03 48.2
comp=Z,3.2nm,0.9s
VNA3 Neumayer Olymp 86.41 177 ⇑Pdiff **P 03 03 45.4 -0.5**
comp=Z,4.1nm,0.8s
VNA2 Neumayer--Watz 86.83 177 ⇑Pdiff **P 03 03 47.2 -0.7**
comp=Z,3.6nm,0.6s,baz=190,slow=4.0
VNA1 Neumayer--Stat 87.07 177 ⇑Pdiff **P 03 03 48.5 -0.4**
comp=Z,5.7nm,0.9s
MNTX Cornudas Mount 89.01 55 P **P 03 03 58.5 -0.2**
MNTX IAmb IAmb 03 04 00.5
comp=Z,2.9nm,0.8s
PLCA Paso Flores 89.08 134 P **P 03 03 59.9 +0.8**
comp=Z,2.0nm,0.8s,baz=236,slow=6.0,SNR=4.0
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 89.28 58 P **P 03 03 59.5 -0.6**
TXAR Lajitas Array 89.28 58 P **P 03 04 00.2 +0.1**
comp=Z,1.6nm,0.9s,baz=220,slow=5.6,SNR=14
comp=Z,1.6nm,0.9s
PV18 Skein Mesa, Pa 89.53 48 P **P 03 04 00.8 -0.4**
ALPN Alpine 89.76 57 IAmb IAmb 03 04 03.9
comp=Z,1.9nm,0.6s
PDAR Pinedale Array 91.30 44 P **P 03 04 09.7 +0.3**
comp=Z,0.7nm,1.0s,baz=241,slow=6.1,SNR=3.7
comp=Z,0.7nm,1.0s
DRIO Del Rio 91.72 59 P **P 03 04 11.1 -0.3**
DRIO IAmb IAmb 03 04 12.5
comp=Z,4.1nm,0.9s
MKAR Makanchi Array 111.37 313 PKiKP **PKiKP 03 09 32.3 -1.1**
comp=Z,0.8nm,0.8s,baz=205,slow=2.0,SNR=4.0
BVAR Borovoye Array 119.51 319 PKP **PKPdf 03 09 48.0 -0.8**
comp=Z,1.3nm,0.4s,baz=106,slow=1.7,SNR=7.2
FINES FINESS Array B 137.08 342 PKP **PKPdf 03 10 20.6 -1.3**
comp=Z,0.5nm,0.4s,baz=110,slow=4.5,SNR=3.3
HFS Hagfors 141.09 349 PKhKP PKPpre 03 10 23.3
comp=Z,1.0nm,0.5s,baz=72,slow=4.7,SNR=2.3
AKASG Malin Array Be 143.85 329 PKP PKPbc 03 10 32.6 -1.0
comp=Z,1.3nm,0.4s,baz=43,slow=4.0,SNR=9.4
BRTR Keskin Array B 146.91 309 PKPbc **PKPbc 03 10 42.5 -0.5**
comp=Z,1.3nm,0.7s,baz=148,slow=4.2,SNR=12
EKA Eskdalemuir Ar 146.94 4 PKPbc **PKPbc 03 10 41.2 -1.2**
comp=Z,3.9nm,0.8s,baz=7.0,slow=2.3,SNR=5.6
MMAI Mount Meron Ar 147.37 297 PKPbc **PKPbc 03 10 44.9 +0.5**
comp=Z,1.7nm,0.4s,baz=74,slow=7.0,SNR=14
OSTC Ostas 149.23 340 *e*PKP **PKPbc 03 10 48.9 +0.5**
CHVC Chvalec 149.25 340 *e*PKP **PKPbc 03 10 48.7 +0.3**
DPC Dobruska-Polom 149.38 340 *e*PKP **PKPbc 03 10 49.2 +0.4**
CLL Collm 149.47 344 *e*PKPbc **PKPbc 03 10 49.0 +0.2**
comp=Z,8.0nm,0.6s
CLL *e*pPKPab **pPKPab 03 13 06.0 +2.4**
KRLC Kraliky 149.47 339 *e*PKP **PKPbc 03 10 49.3 +0.3**
MAUC Maruska 149.71 337 *e*PKP **PKiKP 03 10 50.1 -0.1**
PVCC Panska Ves 149.75 342 *e*PKP **PKiKP 03 10 50.1 -0.1**
PRU Pruhonice 150.24 341 *e*PKP **PKPbc 03 10 50.8 +0.1**
ZVC Zvikov 150.84 341 *e*PKP **PKPbc 03 10 52.3 +0.2**
KHC Kasperske Hory 151.29 342 *e*PKP **PKPbc 03 10 53.3 +0.1**
CKRC Cesky Krumlov 151.35 341 *e*PKP **PKPbc 03 10 53.4 +0.1**
GERES GERESS Array B 151.51 341 PKPbc **PKPbc 03 10 52.9 -0.9**
comp=Z,0.7nm,0.5s,baz=99,slow=1.8,SNR=5.1
CONA Conrad Observa 151.62 338 *i* PKP **PKPbc 03 10 53.8 -0.3**
comp=Z,1.9nm,0.7s
RONA Rosalia, Austr 151.66 337 *e*PKP **PKPbc 03 10 54.0 0.0**
comp=Z,2.8nm,0.6s
WTTA Wattenberg 153.53 343 *i* PKP **PKPbc 03 10 57.8 -0.6**
comp=Z,1.1nm,0.5s
MOTA Moosalm 153.60 344 *i* PKP **PKPbc 03 10 56.3 -2.2**
comp=Z,1.8nm,0.7s
ABTA Abfaltersbach 153.75 341 *i* PKP **PKPbc 03 10 57.4 -1.3**
comp=Z,2.3nm,0.9s
TORD Torodi Ar. Bea 170.78 188 PKP **PKPdf 03 11 06.4 -1.3**
comp=Z,1.0nm,0.9s,baz=13,slow=1.5,SNR=4.8
TORD PKPab **PKPab 03 12 29.1 -0.7**
comp=Z,1.5nm,0.8s,baz=164,slow=2.2,SNR=8.0

---

*IDC **21** 03:16:10.8±1.5, 11°.94N×57°.83E, h0km, mb3.7/10, mbtmp3.7/11, ML3.6/1, MS3.5/3, Error ellipse: s-maj=41.5km s-min=22.3km az=40.0*

ISC 21 03:16:16.4±1.2, 12°.0N±0°.2×58°.1E±0°.1, h35km, n29, σ1§37/26, mb3.6/10, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res (ISC)
DMTO	**DMTO**	**6.46**	**333**	P		**Pn**	**03 17 51.7**	**+2.5**
	SNR=6.3							
SHAO	**Shalim**	**6.47**	**339**	P		**Pn**	**03 17 51.3**	**+2.0**
	SNR=9.3							
ABTO	**Aybut**	**7.07**	**320**	P		**Pn**	**03 17 57.8**	**+0.3**
ABTO				P		**Pn**	**03 17 57.8**	**+0.3**
WHFO	**Wadi Hawf**	**7.23**	**326**	P		**Pn**	**03 18 00.9**	**+1.2**
	SNR=6.3							
WHFO				P		**Pn**	**03 18 00.9**	**+1.2**
	SNR=6.3							
DOK	**Doka**	**7.63**	**331**	P		**Pn**	**03 18 07.5**	**+2.3**
MHTO	**MHTO**	**8.98**	**360**	P		**Pn**	**03 18 25.0**	**+1.2**
JLN	**Jalan Bani Buh**	**10.22**	**7**	P		**Pn**	**03 18 40.2**	**-0.6**
	SNR=9.4							
JMDO	**Jabal Madar**	**10.36**	**0**	P		**Pn**	**03 18 43.1**	**+0.5**
WBK	**Wadi Bani Khal**	**10.63**	**5**	P		**Pn**	**03 18 46.4**	**0.0**
	SNR=8.8							
BSY	**Bisya**	**10.76**	**356**	P		**Pn**	**03 18 49.9**	**+1.7**
SMDO	**Samad**	**11.04**	**0**	P		**Pn**	**03 18 53.1**	**+1.0**
WSAR	**Wadi Sarin**	**11.24**	**3**	P		**Pn**	**03 18 55.3**	**+0.7**
WSAR	**Wadi Sarin**	**11.24**	**3**	Pn		**Pn**	**03 18 53.0**	**-1.6**
	0.4nm,0.3s,baz=222,slow=9.3,SNR=8.7							
WSAR				LR		LR	03 22 40.6	
	comp=Z,58nm,20.2s,baz=224,slow=35							
	1.7nm,0.4s							
ARQ	**Araqi**	**11.41**	**353**	P		**Pn**	**03 18 58.7**	**+1.6**
KBZ	**Khabaz**	**34.26**	**340**	P		**P**	**03 22 58.6**	**-0.4**
	1.4nm,0.8s,baz=159,slow=9.6,SNR=4.6							
	1.4nm,0.8s							
BRTR	**Keskin Array B**	**35.09**	**326**	P		**P**	**03 23 05.3**	**-1.2**
	0.5nm,0.7s,baz=133,slow=8.7,SNR=5.0							
	0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**39.92**	**76**	P		**P**	**03 23 47.7**	**+0.1**
	2.1nm,0.3s,baz=281,slow=9.1,SNR=4.3							
	2.1nm,0.3s							
MKAR	**Makanchi Array**	**40.31**	**26**	P		**P**	**03 23 51.0**	**+0.5**
	0.3nm,0.7s,baz=205,slow=9.2,SNR=1.3							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**42.05**	**19**	P		**P**	**03 24 05.4**	**+0.8**
	0.2nm,0.4s,baz=216,slow=7.8,SNR=1.7							
	0.2nm,0.4s							
GERES	**GERESS Array B**	**51.92**	**324**	LR		LR	03 50 02.6	
	comp=Z,94nm,18.3s,baz=255,slow=39							
FINES	**FINESS Array B**	**54.59**	**342**	P		**P**	**03 25 40.1**	**-1.1**
	1.8nm,0.7s,baz=145,slow=10,SNR=6.5							
	1.8nm,0.7s							
HFS	**Hagfors**	**58.10**	**336**	P		**P**	**03 26 04.8**	**-1.4**
	1.2nm,0.8s,baz=101,slow=4.6,SNR=1.9							
	1.2nm,0.8s							
ESDC	**Sonseca Array**	**60.97**	**309**	P		**P**	**03 26 24.6**	**-1.8**
	0.4nm,0.7s,baz=86,slow=5.4,SNR=1.8							
	0.4nm,0.7s							
KLR	**Kul'dur**	**70.40**	**42**	LR		LR	03 58 46.3	
	comp=Z,50nm,18.7s,baz=316,slow=36							
H01W3	**Cape Leeuwin H**	**70.63**	**134**	T		T	04 44 51.2	
	baz=301,slow=75,SNR=8.3							
H01W2	**Cape Leeuwin H**	**70.64**	**134**	T		T	04 44 51.8	
	baz=301,slow=75,SNR=6.0							
H01W1	**Cape Leeuwin H**	**70.65**	**134**	T		T	04 44 45.5	
	baz=301,slow=75,SNR=6.6							
WRA	**Warramunga Arr**	**81.47**	**112**	P		**P**	**03 28 31.7**	**+1.0**
	0.3nm,0.9s,baz=294,slow=4.3,SNR=2.6							
	0.3nm,0.9s							
ASAR	**Alice Springs**	**82.12**	**116**	P		**P**	**03 28 35.8**	**+1.6**
	0.1nm,0.3s,baz=282,slow=4.5,SNR=1.7							
	0.1nm,0.3s							

ROM 21 03:32:28.9±0.1, 42°.991N±0°.003×13°.109E±0°.004, h9km, ML0.4/5, Error ellipse: s-maj=0.3km s-min=0.1km az=174.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res (ISC)
FDMO	**Fiordimonte**	**0.05**	**341**	P		Pg	03 32 31.1	+0.2
FDMO				S		Sg	03 32 32.4	+0.1
FDMO				AML		AML		
	comp=E,82μm,0.2s							
FDMO				AML		AML		
	comp=N,122μm,0.2s							
FDMO				AML		AML		
	comp=E,82μm,1.8s							
FEMA	**Monte Fema**	**0.05**	**236**	P		Pg	03 32 31.6	+0.6
MC2	**Monte Cornacci**	**0.10**	**143**	P		Pg	03 32 31.8	+0.2
MC2				S		Sg	03 32 34.3	+0.7
CSP1	**Cessapalombo**	**0.12**	**35**	P		Pg	03 32 32.2	+0.3
CSP1				S		Sg	03 32 34.4	+0.4
CSP1				AML		AML		
	comp=N,25μm,0.1s							
CSP1				AML		AML		
	comp=E,29μm,0.2s							
CESI	**CESI - Serrava**	**0.15**	**275**	P		Pg	03 32 32.9	+0.6
CESI				S		Sg	03 32 35.6	+1.0
CESI				AML		AML		
	comp=E,22μm,1.6s							
CESI				AML		AML		
	comp=N,20μm,0.4s							
CESI				AML		AML		
	comp=N,20μm,1.6s							
CESI				AML		AML		
	comp=E,22μm,0.4s							
NRCA	**Norcia**	**0.16**	**179**	P		Pg	03 32 32.9	+0.5
GUMA	**Gualdo di Mace**	**0.18**	**67**	P		Pg	03 32 33.4	+0.6
GUMA				S		Sg	03 32 36.9	+1.5
MMO1	**Montemonaco**	**0.18**	**120**	P		Pg	03 32 33.3	+0.4
MMO1				S		Sg	03 32 36.5	+0.9
SEF1	**Sefro**	**0.20**	**323**	P		Pg	03 32 33.9	+0.9
MDAR	**Monte D'Aria**	**0.20**	**7**	P		Pg	03 32 33.6	+0.4
T1221	**Campello sul C**	**0.23**	**236**	P		Pg	03 32 34.3	+0.6
T1221				S		Sg	03 32 38.3	+1.4
T1214	**Arquata del Tr**	**0.24**	**162**	P		Pg	03 32 34.3	+0.4
T1214				S		Sg	03 32 38.8	+1.5
MF5	**Montefalcone A**	**0.26**	**90**	P		Pb	03 32 35.0	-0.8
MF5				S		Sb	03 32 39.6	-0.7

ROM 21 03:33:10.1±0.1, 42°.385N±0°.003×13°.375E±0°.005, h9km, ML1.0/18, Error ellipse: s-maj=0.4km s-min=0.2km az=233.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res (ISC)
AQU	**L'Aquila**	**0.04**	**148**	P		Pg	03 33 12.3	+0.4
AQU				S		Sg	03 33 13.7	+0.5
AQU				AML		AML		
	comp=E,160μm,0.1s							
AQU				AML		AML		
	comp=N,237μm,0.1s							
AQU				AML		AML		
	comp=N,220μm,0.1s							
AQU				AML		AML		
	comp=E,137μm,0.1s							
T1247	**Pizzolo (AQ)**	**0.08**	**315**	P		Pg	03 33 12.9	+0.5
T1247				S		Sg	03 33 14.9	+0.8
T1247				AML		AML		
	comp=E,218μm,0.1s							
T1247				AML		AML		
	comp=N,200μm,0.7s							
T1247				AML		AML		
	comp=E,218μm,0.1s							
T1247				AML		AML		
	comp=N,193μm,0.2s							
CAMP	**Campotosto**	**0.15**	**9**	P		Pg	03 33 13.9	+0.4
CAMP				S		Sg	03 33 16.7	+0.8
GIGS	**Gran Sasso**	**0.16**	**66**	P		Pg	03 33 13.9	+0.4
GIGS				S		Sg	03 33 16.7	+0.7
GIGS				AML		AML		
	comp=E,31μm,0.1s							
GIGS				AML		AML		
	comp=N,23μm,0.2s							
RM33	**Pellescritta (**	**0.17**	**316**	P		Pg	03 33 14.4	+0.6
RM33				S		Sg	03 33 17.5	+1.1
RM33				AML		AML		
	comp=E,43μm,0.2s							
RM33				AML		AML		
	comp=N,59μm,0.2s							
RM33				AML		AML		
	comp=N,124μm,0.6s							
RM33				AML		AML		
	comp=E,43μm,0.2s							
RM33				AML		AML		
	comp=N,59μm,0.2s							
RM33				AML		AML		
	comp=E,113μm,0.8s							
FAGN	**Fagnano**	**0.20**	**128**	P		Pg	03 33 14.9	+0.7
FAGN				S		Sg	03 33 18.0	+1.0
FAGN				AML		AML		
	comp=N,46μm,0.3s							
FAGN				AML		AML		
	comp=E,63μm,1.1s							
FAGN				AML		AML		
	comp=E,62μm,0.3s							
FAGN				AML		AML		
	comp=N,46μm,0.3s							
FIAM	**Fiamignano**	**0.22**	**239**	P		Pg	03 33 14.9	+0.2
FIAM				S		Sg	03 33 18.8	+0.9
SMA1	**SAN MARTINO**	**0.25**	**353**	P		Pg	03 33 16.4	+1.2
SMA1				S		Sg	03 33 20.2	+1.7
TERO	**Teramo**	**0.29**	**35**	P		Pg	03 33 16.8	+0.8
TERO				AML		AML		
	comp=E,30μm,0.7s							
TERO				AML		AML		
	comp=N,24μm,0.2s							
TERO				AML		AML		
	comp=E,114μm,0.9s							
TERO				AML		AML		
	comp=E,28μm,0.1s							
TERO				AML		AML		
	comp=N,18μm,0.1s							
TERO				AML		AML		
	comp=N,82μm,0.6s							
LNSS	**Leonessa**	**0.33**	**311**	P		Pg	03 33 17.1	+0.4
LNSS				S		Sb	03 33 22.6	-1.1
T0110	**Collepietro**	**0.34**	**118**	P		Pg	03 33 17.6	+0.7
T0110				S		Sb	03 33 23.3	-0.6
VCEL	**Villa Celiera**	**0.34**	**88**	P		Pg	03 33 17.5	+0.5
VCEL				S		Sb	03 33 23.3	-0.8
VCEL				AML		AML		
	comp=N,28μm,0.4s							
VCEL				AML		AML		
	comp=E,36μm,0.5s							
PTQR	**Pietraquaria**	**0.36**	**177**	P		Pb	03 33 18.2	-0.6

---

*IPEC **21** 03:33:51.3±0.3, 51°.53N×16°.23E, h0km, ML3.1/5, Error ellipse: s-maj=2.9km s-min=1.5km az=64.0*
*DNK **21** 03:33:51.6±1.9, 51°.44N×15°.72E, h15km±73km, ML3.1*
*IDC **21** 03:33:51.9±0.7, 51°.49N×15°.97E, h0km, mb3.5/1, mbtmp3.5/9, ML3.2/8, Error ellipse: s-maj=11.8km s-min=6.7km az=110.0*
*BGR **21** 03:33:52.9±0.4, 51°.46N×16°.12E, h1km, ML3.3/12, Error ellipse: s-maj=6.7km s-min=3.3km az=31.0*
*VIE **21** 03:33:53.8±0.5, 51°.35N×16°.08E, h0km, mb3.0/19, ml3.2/16, ms3.8/1, Error ellipse: s-maj=5.8km s-min=2.7km az=52.0 71 km WNW of Wroclaw Suspected Mining induced.*
*LDG **21** 03:33:54.8±0.2, 51°.44N×16°.04E, h1km, Ml3.5/13, Error ellipse: s-maj=5.8km s-min=2.4km az=14.0, Suspected Mining induced.*
*PRU **21** 03:33:54.7, 51°.39N×16°.10E, h0km*
*UPP **21** 03:33:55.2±2.8, 51°.72N×15°.54E, h0km, ML3.0*

ISC 21 03:33:49.0±0.6, 51°.58N±0°.03×16°.11E±0°.02, h0km, n153, σ1§95/231, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time (h m s)	Res (ISC)
KSP	**Ksiaz**	**0.75**	**171**	*i* Pg		**Pb**	**03 34 04.9**	**0.0**
KSP				*e*Sg		**Sg**	**03 34 13.4**	**+0.4**
KSP	**Ksiaz**	**0.75**	**171**	*e*Pg		**Pb**	**03 34 04.9**	**0.0**
KSP				*e*Sg		**Sg**	**03 34 12.7**	**-0.3**
CHVC	**Chvalec**	**0.99**	**182**	*e*PG		**Pb**	**03 34 09.7**	**+0.6**
CHVC				*e*SG		**Sg**	**03 34 21.8**	**+0.9**
OSTC	**Ostas**	**1.03**	**176**	*e*PG		**Pb**	**03 34 10.4**	**+0.7**
OSTC				*e*SG		**Sg**	**03 34 22.3**	**+0.3**
	comp=Z,214nm,0.4s							
UPC	**Upice**	**1.08**	**183**	*e*PG		**Pb**	**03 34 10.9**	**+0.4**
UPC				*e*SG		**Sg**	**03 34 23.9**	**+0.4**
	comp=Z,350nm,0.4s							
DPC	**Dobruska-Polom**	**1.24**	**174**	*e*PG		**Pb**	**03 34 13.6**	**+0.3**
DPC				*e*SG		**Sg**	**03 34 28.0**	**-0.8**
	comp=Z,128nm,0.5s							
DPC	**Dobruska-Polom**	**1.24**	**174**	*e*Pg		**Pb**	**03 34 13.6**	**+0.3**
PVCC	**Panska Ves**	**1.43**	**223**	*e*PG		**Pb**	**03 34 18.1**	**+1.5**
PVCC				*e*SG		**Sn**	**03 34 36.8**	**+1.1**
	comp=Z,524nm,0.3s							
PVCC	**Panska Ves**	**1.43**	**223**	*e*Pn		**Pb**	**03 34 18.1**	**+1.5**
BRG	**Berggiesshubel**	**1.53**	**243**	Pn		**Pg**	**03 34 19.7**	**+1.3**
BRG				Pg		**Pb**	**03 34 21.2**	**+2.9**
BRG				Sg		**Sg**	**03 34 41.6**	**+3.4**
BRG				Amp			03 34 42.8	
	comp=Z,364nm,0.3s							
BRG	**Berggiesshubel**	**1.53**	**243**	*e*Pn		**Pg**	**03 34 19.6**	**+1.3**
KRLC	**Kraliky**	**1.57**	**164**	*e*PG		**Pb**	**03 34 19.2**	**+0.3**
KRLC				*e*SG		**Sn**	**03 34 37.9**	**-1.2**
RICC	**Richard**	**1.64**	**231**	*e*PG		**Pg**	**03 34 21.3**	**+0.9**
RICC				*e*SG		**Sg**	**03 34 43.6**	**+2.0**
	comp=Z,230nm,0.4s							
GKP	**Gorka Klasztor**	**1.83**	**22**	*e*P		Pg	03 34 30.0	+6.0
PRA	**Prague**	**1.85**	**216**	*e*PG		**Pg**	**03 34 26.3**	**+1.9**
PRA				*e*SG		**Sb**	**03 34 47.6**	**+0.3**
FBE	**Freiberg**	**1.85**	**250**	*e*Pn		**Pb**	**03 34 23.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	*e*PG		**Pb**	**03 34 24.8**	**+0.8**
GOPC				*e*SG		**Sn**	**03 34 47.1**	**+0.6**
	comp=Z,94nm,0.4s							
PRU	**Pruhonice**	**1.88**	**213**	*e*PG		**Pg**	**03 34 25.7**	**+0.7**
PRU				*e*SG		**Sn**	**03 34 47.8**	**+1.1**
	comp=Z,114nm,0.4s							
PRU	**Pruhonice**	**1.88**	**213**	*e*Pn		**Pn**	**03 34 23.6**	**+1.2**
HSKC	**Hora Svate Kat**	**1.95**	**241**	*e*PG		**Pg**	**03 34 27.1**	**+0.8**
HSKC				*e*SG		**Sg**	**03 34 52.6**	**+1.1**
CLL	**Collm**	**1.96**	**263**	*e*Pn		**Pb**	**03 34 25.0**	**-0.5**
CLL				*e*Pg		**Pg**	**03 34 28.0**	**+1.4**
CLL				*i* x		x	03 34 31.6	
CLL				*e*x		x	03 34 43.0	
CLL				*e*Sg		**Sg**	**03 34 54.0**	**+2.1**
	comp=Z,126nm,0.5s							
CLL	**Collm**	**1.96**	**263**	*e*Pn		**Pb**	**03 34 25.5**	**0.0**
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pn		**Pn**	**03 34 25.4**	**+1.0**
	baz=335							
MORC				*e*Sg		**Sb**	**03 34 52.1**	**-0.3**
	comp=Z,98nm,0.5s,baz=335							
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pn		**Pn**	**03 34 25.4**	**+1.0**
OKC	**Ostrava-Krasne**	**2.18**	**143**	*e*PN		**Pn**	**03 34 27.3**	**+0.9**
OKC				*e*PG		**Pg**	**03 34 31.1**	**+0.4**
OKC				*e*SG		**Sb**	**03 34 57.3**	**+0.6**
	comp=Z,191nm,0.7s							
OKC	**Ostrava-Krasne**	**2.18**	**143**	*e*Pn		**Pn**	**03 34 27.4**	**+0.9**
VRAC	**Vranov**	**2.30**	**172**	*e*Pn		**Pn**	**03 34 29.6**	**+1.5**
VRAC				*e*Sg		**Sb**	**03 35 00.9**	**+0.7**
	baz=354							
	comp=Z,92nm,0.6s,baz=354							
VRAC	**Vranov**	**2.30**	**172**	Pn		**Pn**	**03 34 29.7**	**+1.6**
	comp=Z,3.8nm,0.3s,baz=341,slow=14,SNR=28							
VRAC				Lg		Lg	03 35 02.0	
	comp=Z,5.8nm,0.3s,baz=115,slow=5.2,SNR=4.5							
	comp=Z,18nm,0.3s							
VRAC	**Vranov**	**2.30**	**172**	*e*Pn		**Pn**	**03 34 29.6**	**+1.5**
ABG1	**Leinawald**	**2.30**	**256**	*e*Pn		**Pb**	**03 34 30.8**	**-0.6**
TREC	**Trest**	**2.32**	**190**	*e*PG		**Pg**	**03 34 33.8**	**+0.3**
TREC				*e*SG		**Sg**	**03 35 03.0**	**-0.6**
	comp=Z,84nm,0.5s							
TREC	**Trest**	**2.32**	**190**	*e*Pn		**Pn**	**03 34 29.4**	**+0.9**
MUHB	**Muldenstein**	**2.35**	**273**	*e*Pn		**Pb**	**03 34 31.0**	**-1.1**
MODW	**Modelwitz**	**2.37**	**256**	*e*Pn		**Pb**	**03 34 31.4**	**-1.2**
ZVC	**Zvikov**	**2.47**	**210**	*e*PG		**Pg**	**03 34 37.2**	**+0.9**
SCHF	**Schoenfels**	**2.50**	**250**	*e*Pn		**Pn**	**03 34 33.2**	**+2.2**
HKWD	**Heukewalde**	**2.53**	**254**	*e*Pn		**Pb**	**03 34 33.7**	**-1.6**
KRUC	**Moravsky**	**2.53**	**176**	*e*Pn		**Pn**	**03 34 32.7**	**+1.5**
	baz=358							
KRUC				*e*Sg		**Sb**	**03 35 08.7**	**+1.9**
	comp=Z,99nm,0.7s,baz=358							
KRUC	**Moravsky**	**2.53**	**176**	*e*PN		**Pn**	**03 34 32.8**	**+1.5**
KRUC				*e*SG		**Sb**	**03 35 08.8**	**+1.9**
KRUC	**Moravsky**	**2.53**	**176**	*e*Pn		**Pn**	**03 34 33.1**	**+1.8**
GRZ1	**

GERES	**GERESS Array B**	3.14 210	Pn	Pn	03 34 40.5	+0.6
	comp=Z,4.3nm,0.3s,baz=28,slow=12,SNR=62					
GERES			Pg	Pb	03 34 47.9	+2.1
	comp=Z,13nm,0.3s,baz=27,slow=18,SNR=46					
GERES			Lg	Lg	03 35 27.0	
	comp=Z,11nm,0.3s,baz=35,slow=24,SNR=6.2					
	comp=Z,8.6nm,0.4s					
WET	**Wettzell**	3.20 222	ePn	Pn	03 34 42.3	+1.8
LANS	**Liptovska Anna**	3.25 137	ePN	Pn	03 34 43.1	+1.9
LANS			ePG	Pg	03 34 52.2	+1.0
LANS			eSG	Sg	03 35 33.8	+0.5
MODS	**Modra-Piesok**	3.30 166	ePN	Pn	03 34 44.8	+2.9
MODS			ePG	Pg	03 34 53.2	+1.0
MODS			eSG	Sg	03 35 35.9	+1.0
NIE	**Niedzica**	3.44 127	ePn	Pn	03 34 46.5	+2.6
NIE			e		03 34 56.3	
NIE			eSg	Sg	03 35 42.2	+2.6
ZST	**Bratislava**	3.45 169	eSG	Sg	03 35 41.1	+1.3
VYHS	**Vyhne**	3.56 149	ePN	Pn	03 34 46.4	+1.0
VYHS			ePG	Pg	03 34 58.1	+1.0
BSD	**Bornholm Skovb**	3.61 349	eP	Pn	03 34 48.5	+2.4
BSD	**Bornholm Skovb**	3.61 349	i P	Pn	03 34 47.8	+1.7
BSD			i S	Sn	03 35 31.4	+2.0
BSD			IAML		03 35 34.7	
	comp=Z,9.3nm,0.3s					
CONA	**Conrad Observa**	3.66 183	ePn	Pn	03 34 48.7	+1.8
	comp=Z,3.9nm,0.3s,SNR=14					
CONA			Sg	Sg	03 35 44.3	-2.3
	comp=Z,39nm,0.4s					
RONA	**Rosalia, Austr**	3.89 178	i Pn	Pn	03 34 51.8	+1.8
	comp=Z,0.8nm,0.2s					
RONA			eSg	Sg	03 35 51.6	-2.2
	comp=Z,15nm,0.3s					
MOA	**Molln**	3.92 198	ePn	Pn	03 34 52.2	+1.8
	comp=Z,7.1nm,0.3s,SNR=22					
MOA			eSg	Sg	03 35 54.5	-0.4
	comp=Z,55nm,0.5s					
STHS	**Stebnicka Huta**	3.93 121	ePN	Pn	03 34 52.0	+1.4
STHS			ePG	Pg	03 35 05.2	+0.9
STHS			eSG	Sg	03 36 00.1	+4.9
KECS	**Kecovo**	4.19 136	ePN	Pn	03 34 55.0	+0.8
KECS			ePG	Pg	03 35 09.8	+0.5
KECS			eSG	Sg	03 36 03.9	+0.3
BIOA	**Bad Ischl, Aus**	4.21 203	ePn	Pn	03 34 56.3	+1.8
	comp=Z,5.2nm,0.3s,SNR=9.6					
ARSA	**Arzberg**	4.35 185	i Pn	Pn	03 34 58.1	+1.7
	comp=Z,3.2nm,0.2s					
ARSA			eSg	Sg	03 36 07.2	-1.5
	comp=Z,64nm,0.8s					
LUNU	**Lund**	4.36 340	P	Pn	03 34 58.3	+1.9
LUNU			S	Sn	03 35 48.1	+0.3
LUNU	**Lund**	4.36 340	i P	Pn	03 34 58.0	+1.6
LUNU			P	Pn	03 34 58.3	+1.9
LUNU			S	Sn	03 35 48.1	+0.3
CRVS	**Cervenica-Dubn**	4.36 126	ePN	Pn	03 34 58.6	+2.1
CRVS			ePG	Pg	03 35 14.4	+1.9
CRVS			eSG	Sg	03 36 10.8	+1.8
LESA	**Schwarzleotal**	4.72 210	i Pn	Pn	03 35 03.3	+1.8
	comp=Z,2.3nm,0.3s					
LESA			Sg	Sg	03 36 19.2	-1.4
	comp=Z,12nm,0.4s					
BLEU	**Blekinge**	4.74 358	P	Pn	03 35 04.5	+3.0
BLEU			S	Sn	03 35 56.7	-0.5
BLEU	**Blekinge**	4.74 358	P	Pn	03 35 04.5	+3.0
BLEU			eP	Pn	03 35 04.6	+3.0
BLEU			S	Sn	03 35 56.7	-0.5
BLEU			i S	Sn	03 35 57.9	+0.8
KOLS	**Kolonicke sedl**	4.76 121	ePN	Pn	03 35 03.1	+1.1
KOLS			ePG	Pg	03 35 22.8	+2.6
KOLS			eSG	Sg	03 36 22.6	+0.7
KBA	**Koelnbreinsper**	4.86 203	i Pn	Pn	03 35 05.6	+2.2
	comp=Z,8.8nm,0.4s					
KBA			Sg	Sg	03 36 24.0	-0.9
	comp=Z,18nm,0.5s					
BJUU	**Bjuv**	4.86 339	P	Pn	03 35 05.0	+1.7
BJUU			S	Sn	03 35 58.8	-1.4
BJUU	**Bjuv**	4.86 339	P	Pn	03 35 05.0	+1.7
BJUU			eP	Pn	03 35 05.6	+2.3
BJUU			S	Sn	03 35 58.8	-1.4
SOKA	**Soboth**	4.96 189	i Pn	Pn	03 35 06.3	+1.6
	comp=Z,1.5nm,0.4s,SNR=5.3					
DEL	**Delary**	5.07 346	P	Pn	03 35 08.6	+2.4
DEL	**Delary**	5.07 346	eP	Pn	03 35 08.1	+1.9
DEL	**Delary**	5.07 346	i P	Pn	03 35 08.0	+1.8
DEL			P	Pn	03 35 08.6	+2.4
WATA	**Walderalm**	5.17 217	ePn	Pn	03 35 10.3	+2.5
	comp=Z,5.4nm,0.3s,SNR=6.2					
OBKA	**Obir**	5.18 192	i Pn	Pn	03 35 09.9	+2.1
	comp=Z,2.1nm,0.4s					
MYKA	**Terra Mystica**	5.21 199	eSg	Sg	03 36 36.6	+0.2
	comp=Z,28nm,0.7s					
WTTA	**Wattenberg**	5.21 216	ePn	Pn	03 35 10.6	+2.3
	comp=Z,5.3nm,0.4s,SNR=9.0					
WTTA			eSg	Sg	03 36 37.3	+0.9
	comp=Z,19nm,0.4s					
MOTA	**Moosalm**	5.35 220	ePn	Pn	03 35 12.1	+2.0
	comp=Z,3.1nm,0.2s,SNR=10					
RETA	**Reutte**	5.37 222	ePn	Pn	03 35 12.1	+1.7
	comp=Z,3.4nm,0.4s,SNR=8.9					
RETA			Sg	Sg	03 36 40.7	-0.9
	comp=Z,14nm,0.6s					
VXJU	**Vaexsjoe**	5.39 353	P	Pn	03 35 13.6	+3.0
VXJU	**Vaexsjoe**	5.39 353	P	Pn	03 35 13.6	+3.0
SQTA	**Sankt Quirin**	5.41 218	i Pn	Pn	03 35 13.4	+2.5
	comp=Z,6.8nm,0.3s,SNR=11					
SSRD	**Sdr. Stenderup**	5.49 318	i S	Sn	03 36 16.9	+1.1
SSRD			IAML		03 36 21.4	
	comp=Z,35nm,0.5s					
OSKU	**Oskarshamn**	5.62 360	P	Pn	03 35 16.8	+3.1
OSKU	**Oskarshamn**	5.62 360	P	Pn	03 35 16.8	+3.1
BYXU	**Byxelkrok**	5.75 5	P	Pn	03 35 18.9	+3.5
BYXU	**Byxelkrok**	5.75 5	P	Pn	03 35 18.9	+3.5
FETA	**Feichten**	5.76 220	i Pn	Pn	03 35 18.1	+2.2
	comp=Z,1.8nm,0.5s,SNR=5.1					
FABU	**Falkenberg**	5.78 341	P	Pn	03 35 18.1	+2.2
FABU	**Falkenberg**	5.78 341	P	Pn	03 35 18.1	+2.2
GNOU	**Gnosjoe**	5.88 347	P	Pn	03 35 20.1	+2.8
GNOU	**Gnosjoe**	5.88 347	P	Pn	03 35 20.1	+2.8
DAVA	**Damuels**	5.91 226	i Pn	Pn	03 35 19.4	+1.5
	comp=Z,3.0nm,0.3s,SNR=5.1					
DAVA			eSg	Sg	03 37 02.7	+3.9
	comp=Z,20nm,0.5s					
EKSU	**Eksjoe**	6.02 356	P	Pn	03 35 22.4	+3.1
EKSU	**Eksjoe**	6.02 356	P	Pn	03 35 22.4	+3.1
VSTU	**Vaestervik**	6.10 2	P	Pn	03 35 23.7	+3.4
VSTU	**Vaestervik**	6.10 2	P	Pn	03 35 23.7	+3.4
DAVOX	**Davos/Dischmat**	6.30 223	Pn	Pn	03 35 24.1	+0.8
	comp=Z,0.7nm,0.3s,baz=58,slow=14,SNR=12					
DAVOX			Lg	Lg	03 37 11.2	
	comp=Z,1.4nm,0.3s,baz=200,slow=23,SNR=3.6					
	comp=Z,3.1nm,0.6s					
BORU	**Boraas**	6.37 344	eP	Pn	03 35 27.7	+3.7
CDF	**Champ du Feu**	6.52 244	ePn	Pn	03 35 28.4	+2.3
CDF	**Champ du Feu**	6.52 244	ePg	Pg	03 35 53.7	-0.1
CDF			eSn	Sn	03 36 37.9	-3.3
	comp=Z,2.7nm,0.3s					
CDF			eSg	Sg	03 37 15.8	-2.4
	comp=Z,68nm,1.2s					
VIKU	**Vikbolandet**	6.95 3	eP	Pn	03 35 32.5	+0.6
HINF	**Hinteralfeld**	7.08 241	ePn	Pn	03 35 35.7	+1.8
HINF	**Hinteralfeld**	7.08 241	ePg	Pg	03 36 04.7	+0.1
HINF			eSn	Sn	03 36 51.3	-3.8
HINF			eSg	Sg	03 37 33.4	-3.0
	comp=Z,26nm,0.9s					
IIGN	**Ignalina**	7.12 54	eP	Pn	03 35 38.2	+3.9
NACGM	**Naroch**	7.22 58	eP	Pn	03 35 35.7	0.0
	comp=Z,4.0nm,0.6s,baz=245					
HAU	**Haudompre**	7.26 244	ePn	Pn	03 35 38.3	+2.0
HAU	**Haudompre**	7.26 244	ePg	Pg	03 36 07.8	-0.2
HAU			eSn	Sn	03 36 55.6	-3.7
HAU			eSg	Sg	03 37 38.6	-3.3
	comp=Z,48nm,1.0s					
GIVF	**Givet**	7.30 263	ePn	Pn	03 35 39.3	+2.5
GIVF	**Givet**	7.30 263	ePg	Pg	03 36 08.8	+0.1
GIVF			eSg	Sg	03 37 41.1	-2.1
	comp=Z,18nm,0.8s					
PAGF	**Fort de Pagny**	7.33 250	ePn	Pn	03 35 39.0	+1.7
PAGF	**Fort de Pagny**	7.33 250	ePg	Pg	03 36 07.5	-1.9
PAGF			eSn	Sn	03 36 57.5	-3.7
	comp=Z,2.9nm,0.3s					
SAVF	**Savonnieres en**	7.66 251	ePn	Pn	03 35 43.5	+1.8
SAVF			eSn	Sn	03 37 05.4	-3.8
BAIF	**Baives**	7.69 263	ePn	Pn	03 35 44.6	+2.5
BAIF	**Baives**	7.69 263	ePg	Pg	03 36 16.1	-0.1
BAIF			eSg	Sg	03 37 53.1	-2.7
	comp=Z,49nm,1.2s					
AKASG	**Malin Array Be**	8.30 91	Pn	Pn	03 35 51.1	+0.6
	comp=Z,2.5nm,0.3s,baz=281,slow=12,SNR=11					
AKASG			Sn	Sn	03 37 21.5	-3.3
	comp=Z,1.2nm,0.3s,baz=276,slow=22,SNR=3.2					
	comp=Z,1.9nm,0.5s					
MTSE	**Matsula**	8.40 29	eP	Pn	03 35 53.2	+1.4
HFS	**Hagfors**	8.68 352	Pn	Pn	03 35 58.3	+2.6
	comp=Z,0.3nm,0.3s,baz=170,slow=8.8,SNR=2.3					
	comp=Z,1.3nm,0.5s					
LPL	**La Plagne**	8.68 229	ePn	Pn	03 35 57.8	+1.8
LPG	**La Plagne**	8.69 229	ePn	Pn	03 35 57.4	+1.3
AAL	**Aland**	8.89 13	eP	Pn	03 35 58.6	+0.1
LOR	**Lormes**	9.07 246	ePn	Pn	03 36 03.0	+1.9
	baz=58					
LOR			eSg	Sn	03 38 35.3	+51
	comp=Z,2.9nm,0.5s					
MBDF	**Montbardon**	9.27 226	ePn	Pn	03 36 05.4	+1.5
SSF	**Saint Saulge**	9.39 246	ePn	Pn	03 36 06.8	+1.4
SSF	**Saint Saulge**	9.39 246	ePg	Pn	03 36 46.8	+41
SSF			eSn	Sn	03 37 47.2	-4.4
SSF			eSg		03 38 46.4	
	comp=Z,1.9nm,0.5s					
SMF	**Signal de Mont**	9.44 243	ePn	Pn	03 36 08.0	+1.9
SMF	**Signal de Mont**	9.44 243	ePg	Pn	03 36 47.3	+41
SMF			eSn	Sn	03 37 47.7	-5.1
SMF			eSg		03 38 46.8	
	comp=Z,2.1nm,0.3s					
ORIF	**Oris-en-Rattie**	9.53 230	ePn	Pn	03 36 08.9	+1.4
AVF	**Avril sur Loir**	9.62 245	ePn	Pn	03 36 10.2	+1.5
AVF	**Avril sur Loir**	9.62 245	ePg	Pn	03 36 50.6	+42
AVF			eSg	Sn	03 38 52.6	+55
	comp=Z,0.6nm,0.2s					
SBF	**Sospel**	9.68 220	ePn	Pn	03 36 11.6	+2.1
NOA	**NORSAR Array B**	9.86 346	Pn	Pn	03 36 12.4	+0.5
	baz=182,slow=10,SNR=6.5					
	comp=Z,0.2nm,0.5s					
RAF	**Rauma**	9.97 16	eP	Pn	03 36 13.0	-0.3
SMRF	**Simiane la Rot**	10.39 227	ePn	Pn	03 36 20.5	+1.3
LMR	**La Mourre**	10.49 222	ePn	Pn	03 36 22.5	+1.9
LASF	**Ste Croix**	11.13 232	ePn	Pn	03 36 30.5	+1.2
FINES	**FINESS Array B**	11.30 25	Pn	Pn	03 36 31.9	+0.4
	comp=Z,0.3nm,0.3s,baz=207,slow=11,SNR=14					
FINES			Sn	Sn	03 38 32.7	-5.6
	comp=Z,0.3nm,0.3s,baz=214,slow=19,SNR=2.1					
	comp=Z,1.4nm,0.5s					
EKA	**Eskdalemuir Ar**	12.07 296	Pn	Pn	03 36 40.1	-2.0
	baz=100,slow=14					
ARCES	**ARCESS Array B**	18.55 10	Pn	P	03 38 05.8	-1.1
	comp=Z,0.3nm,0.3s,baz=190,slow=14,SNR=19					
	comp=Z,1.0nm,0.4s					
TORD	**Torodi Ar. Bea**	40.06 202	P	P	03 41 27.8	+1.8
	comp=Z,0.6nm,0.7s,baz=9.6,slow=8.5,SNR=2.9					
	comp=Z,0.6nm,0.7s					

TIR ***21*** *03:34:05.5, 41.11N×20.19E, h3km±2km, Md3.0, Ml2.4*
ATH ***21*** *03:34:06.5, 41.26N×20.25E, h11km±3km, ML2.0/5, Error ellipse: s-maj=4.8km s-min=1.6km az=41.0*
BEO ***21*** *03:34:06.2±0.6, 40.97N×20.05E, h3km±2km, ML2.0/9*
PDG ***21*** *03:34:06.1±0.1, 41.09N×20.12E, h1km, ML2.4/12, Error ellipse: s-maj=0.2km s-min=0.1km az=90.0*
SKO ***21*** *03:34:06.1, 41.24N×20.05E, h3km, ML2.2*
THE ***21*** *03:34:07.0, 41.13N×20.21E, h0km±2km, ML2.0/7, Error ellipse: s-maj=2.8km s-min=0.8km az=31.0*

ISC 21 03:34:06.9±1.1, 41.13N±0.02×20.18E±0.02, h5km±10km, n61, σ1.20/102, 1C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	0.33	313	P	Pg	03 34 13.2	0.0
TIR				S	Sb	03 34 18.9	-1.9
	295nm,0.4s						
TIR	**Tirane**	0.33	313	P	Pg	03 34 13.2	0.0
	baz=315						
TIR				S	Sb	03 34 18.7	-2.1
	baz=315						
TIR				AMP			
	comp=N,0.6nm,0.3s,baz=315						
TIR	**Tirane**	0.33	313	ePg	Pg	03 34 12.8	-0.4
TIR				eSg	Sb	03 34 19.6	-1.2
OHR	**Ohrid**	0.47	92	ePg	Pb	03 34 16.7	-1.0
OHR				eSg	Sb	03 34 24.7	-0.2
OHR	**Ohrid**	0.47	92	i Pg	Pb	03 34 16.6	-1.0
OHR				i Sg	Sb	03 34 24.9	0.0
OHR				eLg	Lg	03 34 25.2	
	comp=N,112nm,0.1s						
KBN	**Korca**	0.68	137	P	Pg	03 34 19.3	-0.7
KBN				S	Sb	03 34 30.0	-1.1
	comp=N,228nm,0.5s						
KBN	**Korca**	0.68	137	P	Pg	03 34 19.5	-0.5
	baz=136						
KBN				S	Sb	03 34 30.6	-0.5
	baz=136						
KBN				AMP			
	comp=E,0.8nm,0.4s,baz=136						
FNA	**Florina**	0.97	110	P	Pg	03 34 25.1	-0.4
FNA				S	Sb	03 34 39.4	+0.1
	comp=E,110nm,0.5s						
FNA	**Florina**	0.97	110	P	Pg	03 34 24.8	-0.7
	baz=109						
FNA				S	Sn	03 34 40.3	-1.1
	baz=109						
FNA	**Florina**	0.97	110	ePg	Pg	03 34 25.2	-0.4
FNA				eSg	Sb	03 34 38.7	-0.7
FNA	**Florina**	0.97	110	i Pg	Pb	03 34 25.6	-0.6
FNA				i Sg	Sn	03 34 41.4	0.0
FNA	**Florina**	0.97	110	P	Pg	03 34 25.1	-0.4
FNA				S	Sb	03 34 38.6	-0.7
FNA				AML	AML	03 34 43.6	
	comp=E,206μm,0.3s						
FNA				AML	AML	03 34 45.9	
	comp=N,196μm,0.3s						
NEST	**Nestorio**	0.97	137	P	Pg	03 34 25.0	-0.5
NEST				S	Sb	03 34 39.7	+0.3
	comp=N,58nm,0.5s						
NEST	**Nestorio**	0.97	137	P	Pg	03 34 25.2	-0.3
NEST				S	Sb	03 34 39.9	+0.4
NEST				AML	AML	03 34 46.5	
	comp=N,136μm,0.4s						
NEST				AML	AML	03 34 49.0	
	comp=E,120μm,0.3s						
LSK	**Leskovik**	1.03	162	P	Pg	03 34 24.7	-1.9
LSK				S	Sb	03 34 40.8	-0.2
	comp=E,112nm,0.5s						
LSK	**Leskovik**	1.03	162	P	Pg	03 34 24.6	-1.9
	baz=161						
LSK				S	Sb	03 34 41.2	+0.2
	baz=161						
LSK				AMP			
	comp=E,0.4nm,0.5s,baz=161						
ULC	**Ulcinj**	1.09	320	ePg	Pg	03 34 26.2	-1.7
ULC				i Sg	Sb	03 34 43.1	+0.2
PENT	**Pentalofos**	1.18	142	P	Pg	03 34 28.5	-1.1
PENT	**Pentalofos**	1.18	142	P	Pg	03 34 29.0	-0.5
BCI	**Bajram Curri**	1.24	356	P	Pb	03 34 30.2	-0.7
	baz=356						
BCI				S	Sn	03 34 50.7	+2.6
	baz=356						
BCI				AMP			
	comp=E,0.2nm,0.9s,baz=356						
SRN	**Sarande**	1.25	186	P	Pn	03 34 30.8	-0.2
SRN				S	Sn	03 34 49.6	+1.3
	comp=E,32nm,0.4s						
SRN	**Sarande**	1.25	186	P	Pn	03 34 31.0	-0.1
	baz=187						
SRN				S	Sn	03 34 48.8	+0.5
	baz=187						
SRN				AMP			
	comp=E,0.1nm,0.3s,baz=187						
DRME	**Dracevica, Mon**	1.30	325	i Pg	Pg	03 34 30.0	-1.8
DRME				i Sg	Sn	03 34 50.3	+0.9
KEK	**Kerkira**	1.44	192	P	Pg	03 34 34.0	-0.5
KEK				S	Sn	03 34 54.8	+1.8
	comp=E,38nm,0.7s						
KEK	**Kerkira**	1.44	192	P	Pb	03 34 33.8	-0.4
KEK				S	Sn	03 34 53.7	+0.7
KEK				AML	AML	03 34 58.3	
	comp=N,73μm,0.4s						
KEK				AML	AML	03 34 59.7	
	comp=E,66μm,0.4s						
PDG	**Podgorica**	1.48	332	ePg	Pn	03 34 33.6	-0.5
PDG				eSg	Sg	03 34 56.6	+2.3
PDG	**Podgorica**	1.48	332	ePg	Pn	03 34 33.4	-0.7
PDG				i Sg	Sg	03 34 56.7	+2.4
KPRO	**Kipourio**	1.48	142	P	Pn	03 34 33.7	-0.5
PVY	**Plav**	1.48	354	i,iPg	Pn	03 34 33.9	-0.4
PVY				i Sg	Sn	03 34 57.4	+3.3
BUM	**Brajici-Budva**	1.52	321	ePg	Pn	03 34 34.1	-0.7
BUM				i Sg	Sg	03 34 57.6	+1.9
IGT	**Igoumenitsa**	1.60	176	P	Pb	03 34 36.6	-0.3
IGT	**Igoumenitsa**	1.60	176	i Pg	Pg	03 34 37.2	-0.2
IGT				i Sg	Sg	03 35 00.8	+2.6
IGT	**Igoumenitsa**	1.60	176	P	Pb	03 34 36.2	-0.7
IGT				AML	AML	03 35 03.0	
	comp=N,55μm,0.6s						
IGT				AML	AML	03 35 03.0	
	comp=E,77μm,0.6s						
SCTE	**Santa Cesarea**	1.68	232	P	Pn	03 34 36.4	-0.5
GRG	**Griva**	1.69	95	i Pg	Pg	03 34 39.6	+0.3
GRG				i Sg	Sg	03 35 03.0	+1.8
CEME	**Cevo**	1.70	327	ePn	Pb	03 34 37.6	-1.2
CEME				i Sn	Sg	03 35 03.3	+1.6
IVA	**Berane**	1.76	353	ePn	Pb	03 34 39.0	-0.7
IVA				i Sn	Sg	03 35 05.2	+1.8
VAY	**Valandovo**	1.81	83	ePg	Pg	03 34 40.9	-0.7
VAY	**Valandovo**	1.81	83	i Pn	Pg	03 34 41.0	-0.7
VAY				i Sn	Sg	03 35 09.1	+4.0
VAY				eLg	Lg	03 35 09.5	
	comp=E,4.3nm,0.4s						
HCY	**Herceg Novi**	1.82	317	ePn	Pb	03 34 39.6	-1.2
HCY				i Sn	Sg	03 35 06.0	+0.4
NKME	**Niksic**	1.88	331	ePn	Pb	03 34 40.5	-1.2
NKME				i Sn	Sg	03 35 07.6	+0.3
PRVS	**Prvonek**	1.98	45	ePn	Pb	03 34 42.7	-0.7
PRVS				eSn	Sg	03 35 09.0	-1.5
KNT	**Kendrikon**	2.05	88	P	Pn	03 34 42.0	-0.1
KNT	**Kendrikon**	2.05	88	i Pn	Pb	03 34 42.9	-1.8
KNT				i Sn	Sg	03 35 14.2	+1.4
KNT	**Kendrikon**	2.05	88	P	Pn	03 34 39.5	-2.6
BARS	**Barje**	2.08	35	ePn	Pb	03 34 44.8	-0.4
BARS				eSn	Sg	03 35 13.2	-0.7
TREB	**Trebinje**	2.10	320	ePn	Pb	03 34 43.9	-1.5
THL	**Klokotos Trika**	2.10	137	P	Pn	03 34 42.4	-0.3
THL				AML	AML	03 35 17.5	
	comp=E,24μm,0.5s						
THL				AML	AML	03 35 22.2	
	comp=N,28μm,0.5s						
TYRN	**Tyrnavos**	2.11	131	P	Pn	03 34 43.1	+0.2
TYRN	**Tyrnavos**	2.11	131	P	Pn	03 34 42.2	-0.6
BRY	**Bratogost**	2.15	326	ePn	Pn	03 34 44.2	+0.6
BRY				i Sn	Sb	03 35 14.1	+0.5
SELS	**Selova**	2.21	18	ePn	Pb	03 34 46.5	-0.8
PLE	**Pljevlja**	2.28	345	ePn	Pn	03 34 46.2	+0.9
PLE				i Sn	Sb	03 35 17.6	+0.5
UPM	**Unac-Piva**	2.28	336	ePn	Pn	03 34 46.2	+0.8
UPM				i Sn	Sb	03 35 17.5	+0.2
LKD2	**Lefkada island**	2.36	171	P	Pn	03 34 46.6	+0.2
EVGI	**Lefkada island**	2.53	172	P	Pn	03 34 48.7	+0.1
STON	**Ston**	2.54	314	ePn	Pn	03 34 47.9	-0.9
AGG	**Agios Georgios**	2.67	141	P	Pn	03 34 51.1	+0.5
AGG				S	Sb	03 35 26.0	-2.3
AGG	**Agios Georgios**	2.67	141	P	Pn	03 34 50.4	-0.3
VTS	**Vitosha**	2.73	56	ePn	Pn	03 34 52.4	+0.9
ANX	**Ano Chora**	2.86	152	P	Pn	03 34 53.1	-0.2

ROM 21 03:36:27.2±0.1, 43.624N±0.006×12.082E±0.007, h10km, ML0.5/10, Error ellipse: s-maj=0.7km s-min=0.5km az=183.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSP9	**Sansepolcro**	0.06	145	P	Pg	03 36 29.6	+0.4
SSP9				S	Sg	03 36 31.2	+0.4
SSP9				AML	AML		
	comp=N,39μm,0.1s						
SSP9				AML	AML		
	comp=E,51μm,0.2s						
CRE	**Caprese Michel**	0.10	267	P	Pg	03 36 30.3	+0.5
CRE				S	Sg	03 36 32.1	+0.5
CRE				AML	AML		
	comp=N,54μm,0.2s						
CRE				AML	AML		
	comp=E,31μm,0.2s						
PARC	**Parchiule**	0.12	78	P	Pg	03 36 30.5	+0.5
PARC				S	Sg	03 36 32.6	+0.6
PARC				AML	AML		
	comp=E,36μm,1.6s						
PARC				AML	AML		
	comp=N,50μm,1.1s						
PARC				AML	AML		
	comp=N,44μm,0.1s						
PARC				AML	AML		
	comp=E,34μm,0.2s						
BADI	**Badiali**	0.16	134	P	Pg	03 36 31.4	+0.6
BADI				S	Sg	03 36 34.2	+1.1
CDCA	**Citt' di Caste**	0.20	146	P	Pg	03 36 31.8	+0.5
CPGN	**Carpegna, Ital**	0.25	44	P	Pg	03 36 32.8	+0.6
CPGN				S	Sg	03 36 36.5	+0.8
APEC	**Apecchio**	0.25	105	P	Pb	03 36 33.5	-0.4
APEC				S	Sb	03 36 37.1	-1.2
CAFI	**Castiglion Fio**	0.31	196	P	Pb	03 36 34.1	-0.7
CAFI				S	Sb	03 36 39.0	-0.9
PE3	**Peglio**	0.31	76	P	Pb	03 36 34.4	-0.4
PE3				S	Sb	03 36 39.4	-0.6
PIEI	**Pieia**	0.34	105	P	Pg	03 36 34.3	+0.3
PIEI				S	Sb	03 36 39.9	-0.9
PIEI				AML	AML		
	comp=E,13μm,0.1s						
PIEI				AML	AML		
	comp=N,9μm,0.1s						
NARO	**Abbazia di Nar**	0.36	92	P	Pg	03 36 34.9	+0.6
NARO				S	Sb	03 36 40.6	-0.9
NARO				AML	AML		
	comp=E,5μm,0.2s						
NARO				AML	AML		
	comp=N,9μm,0.1s						
RSM	**Repubblica di**	0.41	41	P	Pb	03 36 36.3	-0.2
RUFI	**Rufina**	0.47	298	P	Pg	03 36 36.6	+0.3
LMD	**Lutirano**	0.53	329	P	Pb	03 36 38.2	-0.4
BLLA	**Bell

TERO			AML	AML		
	comp=N,50μm,0.1s					
TERO			AML	AML		
	comp=E,45μm,0.1s					
MTRA	**Matera**	**0.25 15**	P	Pg	03 36 48.2	+0.1
MTRA			S	Sg	03 36 52.4	+0.6
T1214	**Arquata del Tr**	**0.26 343**	P	Pg	03 36 48.6	+0.3
T1214			S	Sb	03 36 53.0	-0.7
FIAM	**Fiamignano**	**0.28 210**	P	Pg	03 36 48.4	-0.3
FAGN	**Fagnano**	**0.32 141**	P	Pb	03 36 50.0	-0.3
FAGN			S	Sb	03 36 55.1	-0.2
NRCA	**Norcia**	**0.35 336**	P	Pg	03 36 50.1	+0.1
NRCA			S	Sg	03 36 55.5	+0.7
NRCA			AML	AML		
	comp=E,50μm,1.3s					
NRCA			AML	AML		
	comp=N,33μm,0.1s					
NRCA			AML	AML		
	comp=E,50μm,0.7s					
MMO1	**Montemonaco**	**0.39 2**	P	Pg	03 36 50.7	+0.2
MMO1			S	Sb	03 36 56.8	-0.5
MMUR	**Monte Murano**	**0.96 346**	S	Sb	03 37 13.6	-0.1

*IDC **21** 03:50:12.7±3.9,2°.39S×141°.12E,h0km,mb3.8/2,*
mbtmp3.8/3,ML3.9/1,Error ellipse: s-maj=134.4km
s-min=31.7km az=88.0
*DJA **21** 03:50:19.7±0.8,2°.5±9°×14°.0E±°,h10km,M3.9/3,MLv3.9/3*
ISC 21 03:50:18.9±1.0,2°.7S±0°.1×140°.35E±0°.06,h10km,n12,
σ1°87/8,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.21**	**300**	P	**Pg**	**03 50 23.3**	**-0.1**
GENI				S	**Sg**	**03 50 28.3**	**+1.9**
JAY	**Jayapura**	**0.40**	**62**	P	**Pb**	**03 50 27.6**	**-0.5**
JAY				S	**Sb**	**03 50 36.3**	**+2.0**
RKPI	**Ransiki, Papua**	**6.28**	**281**	P	**Pn**	**03 51 52.0**	**+0.3**
WRA	**Warramunga Arr**	**18.11**	**198**	P	**Pn**	**03 54 31.7**	**+0.8**
	0.4nm,0.3s,baz=22,slow=12,SNR=15						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**21.75**	**196**	P	**P**	**03 55 11.6**	**+0.7**
	1.7nm,0.5s,baz=27,slow=10,SNR=34						
	1.7nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**33.40**	**50**	T	T	04 32 02.8	
	baz=231,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**33.42**	**50**	T	T	04 32 04.6	
	baz=231,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**33.42**	**50**	T	T	04 32 06.3	
	baz=231,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**34.29**	**48**	T	T	04 33 04.0	
	baz=233,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**34.30**	**48**	T	T	04 33 07.2	
	baz=233,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**34.30**	**48**	T	T	04 33 13.8	
	baz=233,slow=75,SNR=8.5						
MKAR	**Makanchi Array**	**70.79**	**322**	P	**P**	**04 01 32.8**	**-2.9**
	0.8nm,0.7s,baz=124,slow=7.7,SNR=3.1						
	0.8nm,0.7s						

MEX 21 03:51:19.7±1.3,15°.96N×95°.12W,h8km±25km,MD3.5,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.77**	**38**	*e*P	Pg	03 51 33.8	-0.8
NILT				*e*S	Sg	03 51 40.5	-4.2
NILT	**Santiago Nilte**	**0.77**	**38**	*e*P	Pg	03 51 30.5	-4.1
NILT				*e*S	Sg	03 51 40.2	-4.5
HUIG	**Huatulco**	**0.97**	**259**	*e*P	Pg	03 51 35.2	-3.2
HUIG				*i* S	Sg	03 51 48.5	-2.5
HUIG	**Huatulco**	**0.97**	**259**	*e*P	Pg	03 51 35.3	-3.1
HUIG				*e*S	Sg	03 51 48.3	-2.8
CMIG	**Matias Romero**	**1.15**	**11**	*i* P	Pg	03 51 34.9	-7.0
CMIG				*i* S	Sg	03 51 47.5	-9.3
CMIG	**Matias Romero**	**1.15**	**11**	*e*P	Pg	03 51 34.8	-7.0
CMIG				*e*S	Sg	03 51 47.3	-9.5
CARR	**Arriaga**	**1.19**	**76**	*e*P	Pb	03 51 38.9	-3.6
CARR				*e*S	Sb	03 51 56.4	-1.7
UXUV	**UXUV**	**1.64**	**34**	*e*P	Pn	03 51 45.1	-3.7
UXUV				*i* S	Sn	03 52 05.6	-4.6
UXUV	**UXUV**	**1.64**	**34**	*e*P	Pn	03 51 45.2	-3.7
UXUV				*e*S	Sn	03 52 03.3	-6.9
PCIG		**1.84**	**98**	*e*P	Pn	03 51 49.4	-2.2
PCIG				*e*S	Sn	03 52 11.4	-3.7
VHO	**Vista Hermosa**	**1.91**	**306**	*e*P	Pn	03 51 47.8	-4.9
VHO				*e*S	Sn	03 52 09.1	-7.9
VHO	**Vista Hermosa**	**1.91**	**306**	*e*P	Pn	03 51 47.0	-5.7
VHO				*e*S	Sn	03 52 06.7	-10
PEIG	**Puerto Escondi**	**1.95**	**271**	*e*P	Pn	03 51 49.6	-3.5
PEIG				*e*S	Sn	03 52 12.5	-5.4
PEIG	**Puerto Escondi**	**1.95**	**271**	*e*P	Pn	03 51 49.5	-3.6
PEIG				*e*S	Sn	03 52 12.4	-5.5
YOIG	**Yosondua**	**2.50**	**291**	*e*P	Pn	03 51 58.7	-2.1
YOIG				*e*S	Sn	03 52 28.2	-3.5
YOIG	**Yosondua**	**2.50**	**291**	*e*P	Pn	03 51 59.5	-1.4
YOIG				*e*S	Sn	03 52 27.4	-4.3
TOIG	**Toxpalan**	**2.83**	**319**	*e*P	Pn	03 52 04.2	-1.0
TOIG				*e*S	Sn	03 52 36.2	-3.4
TOIG	**Toxpalan**	**2.83**	**319**	*e*P	Pn	03 52 02.4	-2.8
TOIG				*e*S	Sn	03 52 31.7	-7.9
TXIG	**Tlaxiaco**	**2.85**	**297**	*e*P	Pn	03 52 03.9	-1.9
TXIG				*e*S	Sn	03 52 37.0	-3.4
TXIG	**Tlaxiaco**	**2.85**	**297**	*e*P	Pn	03 52 03.1	-2.7
TXIG				*e*S	Sn	03 52 29.3	-11
PATR	**El Naranjo**	**2.90**	**106**	*e*P	Pn	03 52 08.8	+2.4
PATR				*e*S	Sn	03 52 40.1	-1.4
CHUJ	**Union Juarez**	**3.02**	**106**	*e*P	Pn	03 52 10.5	+2.5
CHUJ				*e*S	Sn	03 52 44.0	-0.6
FTIG	**Fresnillo de T**	**3.48**	**304**	*e*P	Pn	03 52 16.3	+2.0
FTIG				*i* S	Sn	03 52 57.8	+2.1
FTIG	**Fresnillo de T**	**3.48**	**304**	*e*P	Pn	03 52 12.7	-1.6
FTIG				*e*S	Sn	03 52 48.9	-6.8

*PRE **21** 04:13:07.8±2.5,15°.42S×34°.94E,h10km,ML4.0*
*IDC **21** 04:13:12.5±3.0,15°.97S×34°.49E,h0km,mb4.0/3,*
mbtmp3.9/4,ML3.5/1,MS2.6/1,Error ellipse: s-maj=82.2km
s-min=32.3km az=117.0
*EAF **21** 04:13:17.9,16°.07S×34°.34E,h10km,MC4.3*
ISC 21 04:13:13.7±0.7,15°.72S±0°.05×34°.62E±0°.05,h10km,n31,
σ2°58/38,mb3.9/3,1D,Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZOMB	**Zomba**	**0.79**	**65**	*i* P	**Pg**	**04 13 28.0**	**-0.9**
ZOMB	**Zomba**	**0.79**	**65**	*i* P	**Pg**	**04 13 28.0**	**-0.9**
ZOMB				*i* P	**Pg**	**04 13 28.0**	**-0.9**
ZOMB				S	**Sg**	**04 13 36.9**	**-2.2**
ZOMB				S	**Sg**	**04 13 36.9**	**-2.2**
LSZ	**Lusaka**	**6.21**	**273**	*i* P	**Pn**	**04 14 45.9**	**+0.2**
LSZ				*i* S	**Sn**	**04 15 51.8**	**-5.0**
LSZ	**Lusaka**	**6.21**	**273**	*i* P	**Pn**	**04 14 45.9**	**+0.2**
	baz=280						
LSZ				*i* S	**Sn**	**04 15 51.8**	**-5.0**
	baz=280						
KSMZ	**Kasama**	**6.43**	**329**	*i* P	**Pn**	**04 14 48.8**	**+0.1**
KSMZ				*i*		04 14 48.9	
	baz=293,slow=16						
KSMZ				*i* S	**Sn**	**04 15 58.0**	**-4.3**
KSMZ				*i* Sg	**Sb**	**04 16 29.5**	**+6.5**
MUSN	**Musina, Limpop**	**7.93**	**214**	*i* P	Pn	04 15 04.6	-4.5
MUSN	**Musina, Limpop**	**7.93**	**214**	*e*P	**Pn**	**04 15 10.6**	**+1.4**
MUSN				IAML		04 17 31.0	
	comp=Z,106nm,0.5s						
MUSN	**Musina, Limpop**	**7.93**	**214**	*i* P	Pn	04 15 04.6	-4.5
	baz=211						
MPHEP	**Siloam, Limpop**	**8.28**	**210**	*e*P	**Pn**	**04 15 16.6**	**+2.5**
MPHEP				*e*S	**Sn**	**04 16 49.1**	**+1.3**
MPHEP				IAML		04 17 32.6	
	comp=Z,107nm,0.6s						
MOPA	**Mopani**	**8.32**	**201**	*i* P	**Pn**	**04 15 15.3**	**+0.8**
MOPA				*i* S	**Sn**	**04 16 45.8**	**-2.9**
MOPA	**Mopani**	**8.32**	**201**	⇓*i* P	**Pn**	**04 15 15.6**	**+1.0**
MOPA				*e*S	**Sn**	**04 16 48.1**	**-0.6**
MOPA	**Mopani**	**8.32**	**201**	*i* P	**Pn**	**04 15 15.3**	**+0.8**
	baz=197						
MOPA				*i* S	**Sn**	**04 16 45.8**	**-2.9**
	baz=197						
HOED	**Hoedspruit, Li**	**9.31**	**201**	*e*P	**Pn**	**04 15 29.7**	**+1.6**
PILG	**Pilgrimsrest,**	**9.87**	**201**	*e*P	**Pn**	**04 15 36.5**	**+0.6**
LEPH	**Lephalale, Lim**	**10.33**	**217**	*e*P	**Pn**	**04 15 43.0**	**+0.9**
DULL	**Dullstroom, Mp**	**10.45**	**203**	*e*P	**Pn**	**04 15 44.5**	**+0.6**
MMAL	**MMAL**	**10.76**	**197**	*e*P	**Pn**	**04 15 49.4**	**+1.5**
LBTB	**Lobatse**	**12.52**	**221**	*i* P	**Pn**	**04 16 08.4**	**-3.7**
LBTB	**Lobatse**	**12.52**	**221**	*e*P	**Pn**	**04 16 13.2**	**+1.1**
LBTB	**Lobatse**	**12.52**	**221**	*i* P	**Pn**	**04 16 08.4**	**-3.7**
	baz=220						
BOSA	**Boshof**	**15.47**	**212**	*i* P	**Pn**	**04 16 49.0**	**-3.3**
BOSA				*i* S	Sn	04 19 33.1	-11
BOSA	**Boshof**	**15.47**	**212**	*e*P	**Pn**	**04 16 54.7**	**+2.5**
BOSA	**Boshof**	**15.47**	**212**	Pn	**Pn**	**04 16 50.5**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=36,slow=15,SNR=1.8						
BOSA				Lg	Lg	04 21 12.5	
	comp=Z,0.6nm,0.3s,baz=124,slow=18,SNR=4.2						
	comp=Z,2.1nm,0.9s						
BOSA	**Boshof**	**15.47**	**212**	*i* P	**Pn**	**04 16 49.0**	**-3.3**
	baz=211						
BOSA				*i* S	Sn	04 19 33.1	-11
	baz=211						
MBAR	**Mbarara**	**15.50**	**345**	*e*P	**Pn**	**04 16 51.9**	**-0.8**
MBAR	**Mbarara**	**15.50**	**345**	LR	LR	04 23 24.8	
	comp=Z,24nm,20.2s,baz=188,slow=39						
KSTD	**Kokstad**	**15.60**	**197**	*e*P	**Pn**	**04 16 56.4**	**+2.4**
SUR	**Sutherland**	**20.79**	**215**	*e*P	Pn	04 18 03.2	+5.4
TORD	**Torodi Ar. Bea**	**43.40**	**310**	P	**P**	**04 21 17.6**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=124,slow=7.1,SNR=8.0						
	comp=Z,1.5nm,0.6s						
BRTR	**Keskin Array B**	**55.16**	**359**	P	**P**	**04 22 48.4**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=169,slow=7.2,SNR=4.5						
	comp=Z,0.7nm,0.9s						
FINES	**FINESS Array B**	**77.20**	**356**	P	**P**	**04 25 09.2**	**+1.8**
	comp=Z,3.3nm,1.1s,baz=188,slow=8.4,SNR=4.3						
	comp=Z,3.3nm,1.1s						

*TIR **21** 04:13:45.2,41°.14N×20°.21E,h3km,Md3.4,Ml2.8*
*BEO **21** 04:13:46.5±0.6,41°.05N×20°.11E,h6km±2km,ML2.5/15*
*THE **21** 04:13:46.6,41°.13N×20°.21E,h0km±2km,ML2.4/11,Error*
ellipse: s-maj=2.3km s-min=0.8km az=348.0
*PDG **21** 04:13:47.7±0.4,41°.17N×20°.13E,h0km±11km,ML2.9/12,*
Error ellipse: s-maj=0.4km s-min=0.7km az=0.0
*ATH **21** 04:13:47.5,41°.12N×20°.24E,h8km±3km,ML2.3/9,Error*
ellipse: s-maj=3.7km s-min=1.5km az=74.0
*SKO **21** 04:13:47.5,41°.16N×20°.14E,h8km,ML2.8*
ISC 21 04:13:46.7±1.0,41°.14N±0°.01×20°.21E±0°.02,h5km±9km,
n77,σ1°08/134,3C-1D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.33**	**310**	P	**Pg**	**04 13 52.6**	**-0.6**
TIR				S	**Sg**	**04 13 58.4**	**+0.9**
	720nm,0.4s						
TIR	**Tirane**	**0.33**	**310**	P	**Pg**	**04 13 52.7**	**-0.5**
	baz=309						
TIR				S	**Sg**	**04 13 59.0**	**+1.5**
	baz=309						
TIR				AMP			
	comp=E,2.8nm,0.1s,baz=309						
TIR	**Tirane**	**0.33**	**310**	*e*Pg	**Pg**	**04 13 52.5**	**-0.6**
TIR				*e*Sg	**Sg**	**04 13 58.3**	**+0.8**
OHR	**Ohrid**	**0.45**	**93**	*e*Pg	**Pb**	**04 13 56.3**	**-0.9**
OHR				*e*Sg	**Sb**	**04 14 03.9**	**-0.3**
OHR	**Ohrid**	**0.45**	**93**	*i* Pg	**Pb**	**04 13 56.2**	**-0.9**
OHR				*i* Sg	**Sb**	**04 14 04.7**	**+0.5**
OHR				*e*Lg	Lg	04 14 04.8	
	comp=E,542nm,0.5s						
OHR				*e*Lg	Lg	04 14 04.9	
	comp=N,848nm,0.4s						
KBN	**Korca**	**0.68**	**139**	P	**Pg**	**04 13 59.0**	**-0.6**
KBN				S	**Sb**	**04 14 09.9**	**-0.8**
	comp=N,562nm,0.5s						
KBN	**Korca**	**0.68**	**139**	P	**Pg**	**04 13 58.8**	**-0.9**
	baz=139						
KBN				S	**Sb**	**04 14 10.6**	**-0.1**
	baz=139						
KBN				AMP			
	comp=N,1.8nm,0.6s,baz=139						
VLO	**Vlora**	**0.86**	**219**	P	**Pg**	**04 14 02.3**	**-0.8**
VLO				S	**Sg**	**04 14 15.7**	**+1.5**
	comp=N,728nm,0.5s						
VLO	**Vlora**	**0.86**	**219**	P	**Pg**	**04 14 02.9**	**-0.2**
	baz=220						
VLO				S	**Sb**	**04 14 16.3**	**+0.5**
	baz=220						
VLO				AMP			
	comp=E,2.2nm,0.4s,baz=220						
FNA	**Florina**	**0.95**	**111**	P	**Pg**	**04 14 04.3**	**-0.6**
FNA				S	**Sb**	**04 14 19.1**	**+0.4**
	comp=E,445nm,0.5s						
FNA	**Florina**	**0.95**	**111**	P	**Pg**	**04 14 04.4**	**-0.6**
	baz=111						
FNA				S	**Sn**	**04 14 19.8**	**-1.0**
	baz=111						
FNA	**Florina**	**0.95**	**111**	*i* Pg	**Pg**	**04 14 04.4**	**-0.6**
FNA				*i* Sg	**Sn**	**04 14 19.6**	**-1.2**
FNA	**Florina**	**0.95**	**111**	P	**Pg**	**04 14 04.6**	**-0.3**
FNA				S	**Sb**	**04 14 17.9**	**-0.8**
FNA				AML	AML	04 14 22.8	
	comp=E,903μm,0.3s						
FNA				AML	AML	04 14 22.8	
	comp=N,865μm,0.7s						
NEST	**Nestorio**	**0.96**	**138**	P	**Pg**	**04 14 04.1**	**-1.1**
NEST				S	**Sb**	**04 14 18.4**	**-0.6**
	comp=N,162nm,0.4s						
NEST	**Nestorio**	**0.96**	**138**	P	**Pg**	**04 14 04.7**	**-0.5**
NEST				S	**Sb**	**04 14 18.5**	**-0.6**
NEST				AML	AML	04 14 20.5	
	comp=E,509μm,0.4s						
NEST				AML	AML	04 14 30.5	
	comp=N,338μm,0.5s						
LSK	**Leskovik**	**1.03**	**163**	P	**Pg**	**04 14 04.3**	**-2.1**
LSK				S	**Sg**	**04 14 20.4**	**+0.7**
	comp=N,318nm,0.6s						
LSK	**Leskovik**	**1.03**	**163**	P	**Pg**	**04 14 04.5**	**-1.9**
	baz=163						
LSK				S	**Sb**	**04 14 21.8**	**+0.9**
	baz=163						
LSK				AMP			
	comp=N,1.3nm,0.5s,baz=163						
ULC	**Ulcinj**	**1.10**	**319**	*i* Pg	**Pg**	**04 14 06.1**	**-1.7**
ULC	**Ulcinj**	**1.10**	**319**	*e*Pg	**Pg**	**04 14 06.7**	**-1.0**
ULC				*i* Sg	**Sb**	**04 14 23.0**	**+0.1**
PENT	**Pentalofos**	**1.18**	**143**	P	**Pg**	**04 14 08.0**	**-1.2**
PENT				S	**Sb**	**04 14 25.8**	**+0.6**
PENT	**Pentalofos**	**1.18**	**143**	P	**Pg**	**04 14 08.0**	**-1.2**
PENT				S	**Sg**	**04 14 24.7**	**+0.3**
BCI	**Bajram Curri**	**1.23**	**355**	P	**Pg**	**04 14 09.2**	**-1.2**
	baz=355						
BCI				S	**Sn**	**04 14 29.5**	**+1.8**
	baz=355						
BCI				AMP			
	comp=E,0.9nm,0.3s,baz=355						
SKO	**Skopje**	**1.25**	**48**	*e*Pg	**Pn**	**04 14 10.9**	**+0.1**
SKO				*e*Sg	**Sn**	**04 14 29.7**	**+1.6**
SKO	**Skopje**	**1.25**	**48**	*i* Pg	**Pn**	**04 14 11.2**	**+0.3**
SKO				*i* Sg	**Sn**	**04 14 28.5**	**+0.4**
SRN	**Sarande**	**1.26**	**187**	P	**Pn**	**04 14 10.3**	**-0.7**
SRN				S	**Sn**	**04 14 29.1**	**+0.8**
	comp=E,110nm,0.7s						
SRN	**Sarande**	**1.26**	**187**	P	**Pn**	**04 14 10.8**	**-0.2**
	baz=188						
SRN				S	**Sn**	**04 14 30.2**	**+1.9**
	baz=188						
SRN				AMP			
	comp=E,0.4nm,0.8s,baz=188						
DRME	**Dracevica, Mon**	**1.30**	**324**	*e*Pg	**Pn**	**04 14 10.5**	**-1.0**
DRME				*i* Sg	**Sn**	**04 14 29.9**	**+0.6**
KEK	**Kerkira**	**1.45**	**192**	P	**Pn**	**04 14 13.4**	**-0.2**
KEK				S	**Sg**	**04 14 35.1**	**+1.7**
	comp=E,112nm,0.4s						
KEK	**Kerkira**	**1.45**	**192**	P	**Pn**	**04 14 14.0**	**+0.4**
KEK				S	**Sn**	**04 14 31.5**	**-1.6**
KEK				AML	AML	04 14 41.2	
	comp=N,177μm,0.3s						
KEK				AML	AML	04 14 41.8	
	comp=E,266μm,0.5s						
PVY	**Plav**	**1.47**	**353**	*e*Pg	**Pn**	**04 14 13.9**	**-0.1**
PVY				*i* Sg	**Sg**	**04 14 36.3**	**+2.4**
KPRO	**Kipourio**	**1.47**	**143**	P	**Pn**	**04 14 12.7**	**-1.3**
KPRO				AML	AML	04 14 47.0	
	comp=E,278μm,1.3s						
KPRO				AML	AML	04 14 48.5	
	comp=N,217μm,0.5s						
PDG	**Podgorica**	**1.48**	**332**	*e*Pg	**Pn**	**04 14 13.2**	**-0.8**
PDG				*e*Sg	**Sg**	**04 14 36.0**	**+1.9**
PDG	**Podgorica**	**1.48**	**332**	*e*Pg	**Pn**	**04 14 13.7**	**-0.3**
PDG				*i* Sg	**Sg**	**04 14 36.1**	**+1.9**
BUM	**Brajici-Budva**	**1.52**	**320**	⇑*i*Pg	**Pn**	**04 14 14.6**	**-0.1**
BUM				*i* Sg	**Sg**	**04 14 37.4**	**+1.7**
IGT	**Igoumenitsa**	**1.60**	**176**	P	**Pn**	**04 14 16.2**	**+0.5**
IGT	**Igoumenitsa**	**1.60**	**176**	P	**Pb**	**04 14 17.2**	**+0.4**
	baz=176						
IGT				S	**Sg**	**04 14 40.6**	**+2.4**
	baz=176						
IGT	**Igoumenitsa**	**1.60**	**176**	*i* Pg	**Pn**	**04 14 16.5**	**+0.8**
IGT				*i* Sg	**Sg**	**04 14 41.0**	**+2.9**
IGT	**Igoumenitsa**	**1.60**	**176**	P	**Pn**	**04 14 15.8**	**+0.1**
IGT				AML	AML	04 14 42.6	
	comp=E,308μm,0.7s						
IGT				AML	AML	04 14 49.6	
	comp=N,185μm,1.0s						
GRG	**Griva**	**1.67 95**	P	**Pn**	**04 14 17.0**	**+0.4**
GRG			S	**Sg**	**04 14 40.0**	**-0.4**
	comp=N,62nm,0.5s						
GRG	**Griva**	**1.67 95**	*i* Pn	**Pn**	**04 14 17.1**	**+0.4**
GRG			*i* Sn	**Sg**	**04 14 41.5**	**+1.2**
GRG	**Griva**	**1.67 95**	P	**Pn**	**04 14 16.3**	**-0.3**
GRG			AML	AML	04 14 46.4	
	comp=E,136μm,0.5s						
GRG			AML	AML	04 14 47.3	
	comp=N,123μm,0.5s						
SCTE	**Santa Cesarea**	**1.70 232**	P	**Pn**	**04 14 17.0**	**+0.1**
SCTE			S	**Sn**	**04 14 37.7**	**-1.3**
SCTE			AML	AML	04 14 46.1	
	comp=E,65μm,0.4s						
SCTE			AML	AML	04 14 49.4	
	comp=N,53μm,0.5s						
CEME	**Cevo**	**1.71 326**	*e*Pn	**Pn**	**04 14 18.0**	**+0.8**
CEME			*i* Sn	**Sg**	**04 14 43.8**	**+2.2**
BEY	**Berane**	**1.75 352**	*i* Pn	**Pb**	**04 14 19.0**	**-0.3**
IVA	**Berane**	**1.75 352**	⇓*i*Pn	**Pb**	**04 14 19.1**	**-0.3**
IVA			*i* Sn	**Sg**	**04 14 45.9**	**+2.9**
VAY	**Valandovo**	**1.79 83**	*e*Pg	**Pb**	**04 14 20.1**	**+0.1**
VAY			*e*Sg	**Sg**	**04 14 45.4**	**+1.1**
VAY	**Valandovo**	**1.79 83**	*i* Pn	**Pg**	**04 14 20.8**	**-0.3**
VAY			*i* Sn	**Sg**	**04 14 46.9**	**+2.6**
VAY			*e*Lg	Lg	04 14 49.3	
	comp=E,20nm,0.4s						
VAY			*e*Lg	Lg	04 14 50.7	
	comp=N,86nm,1.4s						
HCY	**Herceg Novi**	**1.83 316**	*e*Pn	**Pn**	**04 14 19.7**	**+0.8**
HCY			*i* Sn	**Sg**	**04 14 46.6**	**+1.0**
NKME	**Niksic**	**1.88 331**	*e*Pn	**Pb**	**04 14 21.3**	**-0.2**
NKME			*i* Sn	**Sg**	**04 14 48.7**	**+1.6**
PRVS	**Prvonek**	**1.96 45**	*e*Pn	**Pb**	**04 14 22.6**	**-0.3**
PRVS			*e*Sn	**Sb**	**04 14 47.1**	**-0.5**
KNT	**Kendrikon**	**2.03 88**	P	**Pn**	**04 14 22.3**	**+0.7**
KNT	**Kendrikon**	**2.03 88**	*i* Pn	**Pb**	**04 14 23.3**	**-0.9**
KNT			*i* Sn	**Sb**	**04 14 50.2**	**+0.4**
KNT	**Kendrikon**	**2.03 88**	P	**Pn**	**04 14 21.4**	**-0.2**
KNT			AML	AML	04 14 55.8	
	comp=N,76μm,0.7s						
KNT			AML	AML	04 15 02.8	
	comp=E,50μm,0.9s						
BARS	**Barje**	**2.06 35**	*e*Pn	**Pb**	**04 14 23.6**	**-1.1**
BARS			*e*Sn	**Sb**	**04 14 49.9**	**-0.8**
BARS	**Barje**	**2.06 35**	*i* Pn	**Pb**	**04 14 23.9**	**-0.7**
BARS			*i* Sn	**Sg**	**04 14 52.1**	**-0.9**
THL	**Klokotos Trika**	**2.09 138**	P	**Pn**	**04 14 23.0**	**+0.6**
THL			S	**Sb**	**04 14 50.4**	**-1.0**
	comp=E,42nm,0.6s						
THL	**Klokotos Trika**	**2.09 138**	P	**Pn**	**04 14 21.7**	**-0.7**
THL			AML	AML	04 14 57.0	
	comp=E,95μm,0.6s						
THL			AML	AML	04 15 00.6	
	comp=N,80μm,0.6s						
TREB	**Trebinje**	**2.10 319**	*e*Pn	**Pn**	**04 14 22.2**	**-0.4**
TREB			*e*Sn	**Sn**	**04 14 49.1**	**0.0**
TYRN	**Tyrnavos**	**2.10 132**	P	**Pn**	**04 14 22.9**	**+0.4**
TYRN	**Tyrnavos**	**2.10 132**	P	**Pn**	**04 14 22.4**	**-0.1**
SJES	**Sjenica**	**2.13 355**	*e*Pn	**Pb**	**04 14 25.1**	**-0.8**
SJES			*e*Sn	**Sn**	**04 14 50.8**	**+0.8**
BRY	**Bratogost**	**2.16 325**	⇑*i*Pn	**Pb**	**04 14 25.4**	**-1.0**
BRY			*i* Sn	**Sg**	**04 14 55.5**	**-0.5**
SELS	**Selova**	**2.19 18**	*e*Pn	**Pb**	**04 14 25.9**	**-0.9**
HORT	**Hortiatis**	**2.26 103**	P	**Pn**	**04 14 23.8**	**-1.0**
PLE	**Pljevlja**	**2.28 345**	*e*Pn	**Pb**	**04 14 27.2**	**-1.1**
PLE			*i* Sn	**Sg**	**04 14 58.5**	**-1.3**
UPM	**Unac-Piva**	**2.28 335**	⇑*i*Pn	**Pb**	**04 14 27.2**	**-1.3**
UPM			*i* Sn	**Sg**	**04 14 58.5**	**-1.5**
KKB	**Krupnik**	**2.31 71**	*i* Pn	**Pb**	**04 14 28.5**	**-0.3**
TSLK	**Tsoukalades, L**	**2.33 171**	P	**Pn**	**04 14 25.1**	**-0.6**
LKD2	**Lefkada island**	**2.37 171**	P	**Pn**	**04 14 26.2**	**0.0**
STON	**Ston**	**2.55 314**	*e*Pn	**Pn**	**04 14 27.5**	**-1.2**
STON			*e*Sn	**Sn**	**04 14 59.4**	**-0.7**
MAKR	**Makrakomi, Fth**	**2.58 144**	P	**Pn**	**04 14 29.5**	**+0.3**
MAKR			S	**Sn**	**04 15 03.1**	**+2.1**
	comp=N,115nm,0.6s						
VTS	**Vitosha**	**2.71 56**	*e*Pn	**Pn**	**04 14 31.8**	**+0.8**
VTS			*e*Sn	**Sn**	**04 15 04.6**	**+0.4**
BOVS	**Bovan**	**2.73 23**	*e*Pn	**Pn**	**04 14 32.3**	**+1.0**
GRUS	**Gruza**	**2.78 8**	*e*Pn	**Pn**	**04 14 32.8**	**+0.9**
BBLS	**Lazići**	**2.79 348**	*e*Pn	**Pn**	**04 14 33.5**	**+1.4**
BBLS			*e*Sn	**Sn**	**04 15 07.6**	**+1.3**
DIVS	**Divibare**	**2.97 357**	*e*Pn	**Pn**	**04 14 35.0**	**+0.5**
ZAGS	**Zajecar**	**3.07 29**	*e*Pn	**Pn**	**04 14 37.3**	**+1.5**

$M_{\theta\theta}$-0.34±.12; $M_{\phi\phi}$0.29±.10; $M_{r\theta}$-0.77±.35; $M_{r\phi}$-1.67±.07; M_{tt}2.09±.36; Best double couple: $M_0$2.68100×10^{16} NP1:ϕ_s359.00000°, δ88.00000°, λ51.00000°. NP2: ϕ_s267.00000°, δ39.00000°, λ177.00000°. Principal axes: T 3.1510, Plg35.0000°, Azm236.0000°; N -0.9400, Plg39.0000°, Azm1.0000°; P -2.2110, Plg32.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function

ISC 21 04:15:28.4±0.9, 34°.7S±0°.2×107°.3W±0°.2, h10^{km}, n35, σ0^{s}80/11, mb3.8/7, MS4.0/28, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**29.52**	**113**	P	**P**	**04 21 34.0**	**+1.0**
0.9nm,0.8s,baz=285,slow=12,SNR=1.6							
PLCA				LR	LR	04 29 47.7	
comp=Z,78nm,21.9s,baz=275,slow=29							
0.9nm,0.8s							
CFA	**Coronel Fontan**	**32.70**	**96**	LR	LR	04 32 03.1	
comp=Z,174nm,19.2s,baz=256,slow=30							
LVC	**Limon Verde**	**35.57**	**81**	LR	LR	04 33 30.8	
comp=Z,175nm,19.5s,baz=252,slow=30							
NNA	**Nana**	**35.72**	**58**	LR	LR	04 33 27.9	
comp=Z,293nm,18.2s,baz=231,slow=30							
ATAH	**Atahualpa**	**38.22**	**51**	LR	LR	04 35 01.3	
comp=Z,282nm,18.6s,baz=216,slow=31							
PMSA	**Palmer Station**	**39.70**	**153**	LR	LR	04 35 18.1	
comp=Z,202nm,18.1s,baz=262,slow=30							
CPUP	**Villa Florida**	**43.47**	**93**	P	**P**	**04 23 30.5**	**-1.4**
2.2nm,1.1s,baz=233,slow=20,SNR=2.2							
CPUP				LR	LR	04 39 03.4	
comp=Z,88nm,18.0s,baz=234,slow=33							
2.2nm,1.1s							
SIV	**San Ignacio**	**45.30**	**78**	P	**P**	**04 23 46.6**	**-0.1**
0.5nm,0.5s,baz=238,slow=15,SNR=2.7							
SIV				LR	LR	04 37 42.6	
comp=Z,27nm,18.6s,baz=240,slow=30							
0.5nm,0.5s							
ROSC	**El Rosal**	**50.12**	**45**	LR	LR	04 41 48.0	
comp=Z,226nm,21.2s,baz=232,slow=32							
CMIG	**Matias Romero**	**52.86**	**15**	LR	LR	04 41 36.4	
comp=Z,110nm,21.4s,baz=196,slow=30							
QSPA	**South Pole Qui**	**55.48**	**180**	P	**P**	**04 25 03.2**	**0.0**
2.3nm,1.1s,baz=139,slow=2.9,SNR=4.4							
QSPA				LR	LR	04 45 27.7	
comp=Z,95nm,19.7s,baz=104,slow=32							
2.3nm,1.1s							
SDV	**Santo Domingo**	**55.53**	**46**	LR	LR	04 45 38.0	
comp=Z,126nm,18.3s,baz=240,slow=33							
BDFB	**Brasilia**	**56.12**	**86**	LR	LR	04 46 52.1	
comp=Z,92nm,18.8s,baz=112,slow=34							
RAO	**Raoul Island**	**59.04**	**254**	LR	LR	04 44 52.9	
comp=Z,90nm,20.0s,baz=200,slow=30							
URZ	**Urewera**	**59.28**	**242**	LR	LR	04 44 36.3	
comp=Z,228nm,20.8s,baz=211,slow=30							
PCRV	**Puerto La Cruz**	**60.20**	**50**	LR	LR	04 49 04.5	
comp=Z,144nm,19.9s,slow=34							
RPZ	**Rata Peaks**	**61.50**	**235**	LR	LR	04 46 55.4	
comp=Z,163nm,18.7s,baz=71,slow=31							
SNAA	**Sanae**	**61.78**	**160**	LR	LR	04 48 32.1	
comp=Z,65nm,19.8s,baz=280,slow=32							
TXAR	**Lajitas Array**	**63.80**	**4**	P	**P**	**04 26 01.5**	**+0.7**
0.5nm,0.8s,baz=165,slow=7.5,SNR=2.3							
0.5nm,0.8s							
MDP	**Montagnes des**	**64.87**	**64**	LR	LR	04 51 39.9	
comp=Z,378nm,18.6s,baz=174,slow=34							
TKL	**Tuckaleechee C**	**73.38**	**20**	LR	LR	04 53 54.6	
comp=Z,57nm,21.3s,baz=196,slow=32							
NVAR	**Mina Array Bea**	**73.50**	**351**	P	**P**	**04 27 00.5**	**-0.8**
1.1nm,0.9s,baz=163,slow=6.6,SNR=2.4							
1.1nm,0.9s							
DZM	**Mont Dzumac**	**74.84**	**254**	LR	LR	04 53 30.6	
comp=Z,56nm,19.3s,baz=79,slow=30							
PDAR	**Pinedale Array**	**77.14**	**358**	P	**P**	**04 27 22.5**	**+0.3**
1.5nm,1.0s,baz=164,slow=5.9,SNR=7.7							
1.5nm,1.0s							
MAW	**Mawson**	**77.72**	**176**	LR	LR	04 59 21.9	
comp=Z,66nm,18.9s,baz=200,slow=34							
HNR	**Honiara**	**86.95**	**261**	LR	LR	05 02 52.0	
comp=Z,291nm,19.0s,baz=212,slow=33							
STKA	**Stephens Creek**	**87.39**	**233**	LR	LR	05 00 19.0	
comp=Z,72nm,18.6s,baz=198,slow=31							
CTA	**Charters Tower**	**91.47**	**244**	LR	LR	05 03 55.3	
comp=Z,77nm,18.4s,baz=84,slow=32							
SUR	**Sutherland**	**97.35**	**138**	LR	LR	05 06 11.4	
comp=Z,58nm,18.2s,baz=218,slow=31							
ASAR	**Alice Springs**	**97.91**	**234**	LR	LR	05 09 23.7	
comp=Z,122nm,18.1s,baz=161,slow=33							
KDAK	**Kodiak Island**	**99.69**	**337**	LR	LR	05 06 25.6	
comp=Z,105nm,18.1s,baz=209,slow=31							
AKASG	**Malin Array Be**	**144.85**	**49**	PKP	**PKPab**	**04 35 04.8**	**+0.6**
0.4nm,0.5s,baz=285,slow=3.6,SNR=1.9							
BRTR	**Keskin Array B**	**148.66**	**69**	PKPbc	**PKPdf**	**04 35 12.7**	**+0.6**
0.5nm,0.9s,baz=336,slow=3.2,SNR=2.1							
CMAR	**Chiang Mai Arr**	**151.62**	**242**	PKPbc	**PKPbc**	**04 35 23.0**	**-0.4**
1.3nm,0.3s,baz=186,slow=2.7,SNR=1.9							
SONM	**Songino Array**	**151.74**	**308**	PKPbc	**PKPbc**	**04 35 22.6**	**-0.4**
0.4nm,0.7s,baz=101,slow=2.9,SNR=1.7							

WEL 21 04:17:41.2±2.2, 33°S±47°×18°0E±6°2, h350^{km}±71^{km}, M4.3/3, mB4.6/3, ML4.2/8, MLv4.4/3, Mw(mB)3.8/3, Error ellipse: s-maj=0.1km s-min=0.1km az=113.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**4.79**	**201**	P	Pn	04 18 57.9	-0.5
HAZ				S	S	04 20 02.2	+1.4
PKGZ	**Pakihiroa**	**4.84**	**198**	P	Pn	04 18 59.4	+0.4
PUZ	**Puketiti**	**4.97**	**195**	P	Pn	04 19 00.2	-0.1
PUZ				S	S	04 20 04.1	-0.3
RUGZ	**Raukumara Rang**	**5.02**	**201**	P	Pn	04 19 00.5	-0.5
MWZ	**Matawai**	**5.40**	**201**	P	Pn	04 19 05.2	0.0
TKGZ	**Te Karaka**	**5.42**	**198**	P	Pn	04 19 06.2	+0.9
URZ	**Urewera**	**5.47**	**204**	P	Pn	04 19 05.7	-0.1
RIGZ	**Rimuhau**	**5.69**	**197**	P	Pn	04 19 08.9	+0.6
MUGZ	**Murupara**	**5.78**	**205**	P	Pn	04 19 09.2	-0.2
RTZ	**Ruatahuna**	**5.83**	**203**	P	Pn	04 19 09.9	-0.1
KNZ	**Kokohu**	**6.01**	**197**	P	Pn	04 19 11.6	-0.4
MHGZ	**Mahia Peninsul**	**6.08**	**195**	P	Pn	04 19 14.1	+1.4
MRHZ	**Matea Rd**	**6.23**	**206**	P	Pn	04 19 16.1	+1.6

*NEIC **21** 04:22:46.6±1.2, 20°.3S±0°.1×173°.47W±0°.08, h10^{km}±1^{km}, mb4.5/16, Error ellipse: s-maj=21.3km s-min=13.0km az=173.0*
*IDC **21** 04:22:48.9±0.8, 20°.38S×173°.92W, h0^{km}, mb4.2/8, mbtmp4.3/10, ML4.2/2, MS3.8/3, Error ellipse: s-maj=30.9km s-min=18.9km az=141.0*

ISC 21 04:22:46.6±0.6, 20°.30S±0°.09×173°.45W±0°.09, h10^{km}, n38, σ1^{s}58/34, mb4.4/13, MS3.8/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.53**	**70**		**Pn**	**04 23 41.9**	**+0.3**
AFI	**Afiamalu**	**6.55**	**14**	Pn	**Pn**	**04 24 22.9**	**-0.3**
MSVF	**Nonsavu**	**8.44**	**286**		**Pn**	**04 24 48.0**	**-1.1**
MSVF	**Nonsavu**	**8.44**	**286**	Pn	**Pn**	**04 24 51.8**	**+2.7**
0.3nm,0.3s,baz=103,slow=23,SNR=2.6							
FUNA	**Funafuti**	**13.70**	**328**	Pn	**Pn**	**04 26 01.5**	**+0.5**
DZM	**Mont Dzumac**	**18.84**	**261**		**P**	**04 27 05.8**	**-1.1**
DZM				IAmb	IAmb	04 27 12.2	
comp=Z,25nm,0.9s							
DZM	**Mont Dzumac**	**18.84**	**261**	P	**P**	**04 27 06.5**	**-0.4**
comp=Z,0.6nm,0.3s,baz=60,slow=18,SNR=8.9							
comp=Z,17nm,0.7s							
URZ	**Urewera**	**19.68**	**203**	P	**Pn**	**04 27 17.5**	**+0.2**
comp=Z,1.0nm,0.3s,baz=119,slow=21,SNR=5.8							
comp=Z,12nm,0.8s							
KOUNC	**Koumac, New Ca**	**20.87**	**265**		**P**	**04 27 28.1**	**-0.9**
KOUNC				IAmb	IAmb	04 27 40.6	
comp=Z,35nm,1.3s							
PPT	**Papeete**	**22.74**	**87**	LR	LR	04 35 16.5	
comp=Z,174nm,18.3s,baz=263,slow=32							
CTAO	**Charters Tower**	**37.76**	**263**	P	**P**	**04 30 02.8**	**-0.4**
CTAO				IAmb	IAmb	04 30 10.3	
comp=Z,14nm,1.5s							
TOO	**Toolangi**	**39.49**	**235**	P	**P**	**04 30 16.7**	**-0.9**
TOO				IAmb	IAmb	04 30 18.7	
comp=Z,7.8nm,0.8s							
STKA	**Stephens Creek**	**41.73**	**245**	P	**P**	**04 30 35.2**	**-0.8**
STKA	**Stephens Creek**	**41.73**	**245**	P	**P**	**04 30 35.5**	**-0.5**
comp=Z,4.0nm,0.7s,baz=75,slow=8.8,SNR=7.7							
comp=Z,4.0nm,0.7s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WR0	**Warramunga Arr**	**48.66**	**261**	P	**P**	**04 31 30.8**	**-0.6**
WR0				IAmb	IAmb	04 31 33.7	
comp=Z,5.3nm,0.8s							
AS31	**Alice Springs**	**48.72**	**256**	P	**P**	**04 31 31.3**	**-0.5**
ASAR	**Alice Springs**	**48.72**	**256**	P	**P**	**04 31 30.6**	**-1.1**
ASAR	**Alice Springs**	**48.72**	**256**	P	**P**	**04 31 31.4**	**-0.4**
comp=Z,5.2nm,0.8s,baz=88,slow=8.4,SNR=46							
ASAR				PcP	**PcP**	**04 33 00.1**	**+3.2**
comp=Z,2.7nm,0.8s,baz=107,slow=4.1,SNR=8.8							
comp=Z,5.2nm,0.8s							
WRA	**Warramunga Arr**	**48.85**	**261**	P	**P**	**04 31 31.2**	**-1.7**
WRA	**Warramunga Arr**	**48.85**	**261**	P	**P**	**04 31 32.0**	**-0.9**
comp=Z,3.7nm,0.9s,baz=98,slow=6.7,SNR=17							
WRA				PcP	**PcP**	**04 33 00.5**	**+3.0**
comp=Z,2.2nm,1.0s,baz=93,slow=3.8,SNR=5.1							
comp=Z,3.7nm,0.9s							
KNRA	**Kununurra**	**54.93**	**265**	P	**P**	**04 32 16.6**	**-1.6**
RPN	**Rapa Nui**	**58.56**	**110**	LR	LR	04 53 46.2	
comp=Z,76nm,18.8s,baz=271,slow=32							
MBWA	**Marble Bar**	**62.06**	**256**	P	**P**	**04 33 07.4**	**-0.5**
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**04 33 56.7**	**-0.3**
QSPA				IAmb	IAmb	04 34 12.9	
comp=Z,5.9nm,1.0s							
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**04 34 00.5**	**+3.5**
comp=Z,3.4nm,0.9s,baz=27,slow=4.0,SNR=8.4							
comp=Z,3.4nm,0.9s							
MJAR	**Matsushiro Arr**	**72.66**	**321**	P	**P**	**04 34 17.8**	**+3.1**
comp=Z,1.0nm,0.3s,baz=163,slow=5.8,SNR=4.4							
comp=Z,1.0nm,0.3s							
NVAR	**Mina Array Bea**	**78.00**	**41**	P	P	04 34 51.7	+6.1
comp=Z,1.5nm,0.7s,baz=225,slow=9.1,SNR=9.1							
comp=Z,1.5nm,0.7s							
BELA	**Belgrano 2**	**79.18**	**172**	P	**P**	**04 34 50.9**	**-0.4**
BELA				IAmb	IAmb	04 34 59.0	
comp=Z,5.4nm,1.4s							
MAW	**Mawson**	**83.16**	**199**	P	**P**	**04 35 12.8**	**+0.2**
TXAR	**Lajitas Array**	**83.38**	**56**	P	P	04 35 19.8	+5.2
comp=Z,1.0nm,1.0s,baz=228,slow=7.9,SNR=6.7							
comp=Z,1.0nm,1.0s							
MVCO	**Mesa Verde**	**83.70**	**47**	P	**P**	**04 35 14.0**	**-2.2**
TCUT	**Toone Canyon**	**83.88**	**42**	P	**P**	**04 35 15.4**	**-1.6**
PV11	**David Mesa, Pa**	**84.02**	**46**	P	**P**	**04 35 16.9**	**-0.8**
PV11				IAmb	IAmb	04 35 29.7	
comp=Z,3.4nm,0.8s							
ILAR	**Eielson Array**	**87.23**	**11**	P	P	04 35 37.4	+4.6
comp=Z,0.8nm,0.7s,baz=236,slow=5.5,SNR=8.9							
comp=Z,0.8nm,0.7s							
INK	**Inuvik**	**93.01**	**14**	LR	LR	05 14 46.4	
comp=Z,41nm,19.1s,baz=177,slow=34							
AKASG	**Malin Array Be**	**144.78**	**335**	PKP	**PKiKP**	**04 42 25.7**	**-1.7**
comp=Z,2.4nm,0.6s,baz=40,slow=4.3,SNR=12							
CLL	**Collm**	**148.64**	**352**	*e*PKPbc	**PKiKP**	**04 42 35.0**	**-0.4**
CLL				*ex*	x	04 42 43.0	
BRTR	**Keskin Array B**	**149.77**	**316**	PKPbc	**PKPab**	**04 42 40.9**	**-1.7**
comp=Z,0.7nm,0.8s,baz=123,slow=1.5,SNR=4.7							

*IDC **21** 04:25:55.4±1.4, 37°.57N×21°.78E, h0^{km}, mb3.6/9, mbtmp3.6/10, ML3.5/1, Error ellipse: s-maj=26.8km s-min=22.6km az=157.0*
*ATH **21** 04:25:57.7±0.2, 37°.49N×21°.72E, h3^{km}±1^{km}, ML3.1/22, Manual Solution by N.Liadopoulou This location: 2019/12/22 06:58:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **21** 04:25:58.0, 37°.50N×21°.71E, h0^{km}±1^{km}, ML3.1/17, Error ellipse: s-maj=1.7km s-min=0.5km az=205.0*

ISC 21 04:25:57.6±1.0, 37°.48N±0°.02×21°.74E±0°.02, h17^{km}±7^{km}, n103, σ1^{s}13/142, mb3.6/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLMT	**Kalamata**	**0.49**	**148**	P	**Pn**	**04 26 08.8**	**-1.0**
KLMT				S	**Sn**	**04 26 16.2**	**-1.7**
PYL	**PYLOS**	**0.58**	**180**	P	**Pb**	**04 26 08.7**	**-0.6**
PYL				S	**Sn**	**04 26 18.5**	**-1.7**
2μm,0.4s							
PYL	**PYLOS**	**0.58**	**180**	P	**Pb**	**04 26 08.9**	**-0.5**
PYL				S	**Sb**	**04 26 17.6**	**+0.3**
RLS	**Riolos of Patr**	**0.61**	**340**	P	**Pg**	**04 26 08.4**	**-1.4**
RLS				S	**Sb**	**04 26 18.6**	**+0.4**
3μm,0.4s							
RLS	**Riolos of Patr**	**0.61**	**340**	P	**Pg**	**04 26 08.8**	**-1.0**
RLS				S	**Sg**	**04 26 17.6**	**-0.4**
KLV	**Kalavryta, Ach**	**0.65**	**30**	P	**Pg**	**04 26 09.6**	**-0.9**
KLV				S	**Sb**	**04 26 19.6**	**+0.3**
998nm,0.3s							
KLV	**Kalavryta, Ach**	**0.65**	**30**	P	**Pg**	**04 26 09.7**	**-0.8**
KLV				S	**Sn**	**04 26 20.2**	**-1.8**
GUR	**Goura**	**0.66**	**46**	P	**Pg**	**04 26 09.7**	**-1.0**
GUR				S	**Sb**	**04 26 19.7**	**0.0**
2μm,0.3s							
GUR	**Goura**	**0.66**	**46**	P	**Pg**	**04 26 09.9**	**-0.7**
GUR				S	**Sb**	**04 26 19.9**	**+0.2**
LTHK	**Lithakia**	**0.75**	**288**	P	**Pb**	**04 26 11.8**	**-0.4**
LTHK				S	**Sn**	**04 26 23.4**	**-0.9**
5μm,0.6s							
LTHK	**Lithakia**	**0.75**	**288**	P	**Pb**	**04 26 11.7**	**-0.5**
LTHK				S	**Sb**	**04 26 21.6**	**-0.5**
KRI1	**kERI**	**0.75**	**284**	P	**Pb**	**04 26 11.8**	**-0.4**
LAKA	**Lakka**	**0.78**	**14**	P	**Pb**	**04 26 11.8**	**-0.9**
LAKA				S	**Sg**	**04 26 23.8**	**+0.5**
UPR	**University Cam**	**0.80**	**3**	P	**Pn**	**04 26 13.9**	**-0.2**
ALIK	**Aliki, Aigiali**	**0.83**	**21**	P	**Pb**	**04 26 13.2**	**-0.4**
THAL	**Thalero**	**0.92**	**53**	P	**Pb**	**04 26 14.5**	**-0.6**
THAL				S	**Sn**	**04 26 28.1**	**-0.4**
3μm,0.8s							
EFP	**Éfpalio**	**0.95**	**8**	P	**Pb**	**04 26 14.8**	**-0.8**
EFP				S	**Sn**	**04 26 30.4**	**+1.0**
2μm,0.9s							
EFP	**Éfpalio**	**0.95**	**8**	P	**Pb**	**04 26 15.1**	**-0.5**
EFP				S	**Sn**	**04 26 29.2**	**-0.2**
KALE	**Kalithea**	**0.96**	**19**	P	**Pb**	**04 26 15.0**	**-0.9**
KALE				S	**Sn**	**04 26 29.9**	**+0.2**
2μm,0.4s							
LOUT	**Loutraki**	**1.10**	**62**	P	**Pg**	**04 26 19.0**	**0.0**
LOUT				S	**Sg**	**04 26 35.9**	**+2.4**
742nm,0.9s							
EPID	**Epidavros**	**1.11**	**83**	P	**Pg**	**04 26 19.1**	**+0.1**
EPID				S	**Sg**	**04 26 36.1**	**+2.6**
612nm,0.6s							
PSDA	**Pessada-Kefalo**	**1.11**	**305**	P	**Pn**	**04 26 17.7**	**-0.6**
PSDA				S	**Sg**	**04 26 33.7**	**+0.1**
878nm,0.8s							
PSDA	**Pessada-Kefalo**	**1.11**	**305**	P	**Pn**	**04 26 17.6**	**-0.6**
ANX	**Ano Chora**	**1.12**	**7**	P	**Pb**	**04 26 18.1**	**-0.5**
ANX				S	**Sg**	**04 26 35.8**	**+1.8**
2μm,0.6s							
ANX	**Ano Chora**	**1.12**	**7**	P	**Pn**	**04 26 18.2**	**-0.4**
ANX				S	**Sg**	**04 26 34.5**	**+0.5**
KRND	**KRANIDI**	**1.13**	**95**	P	**Pg**	**04 26 19.4**	**-0.1**
KRND				S	**Sg**	**04 26 36.5**	**+2.3**
465nm,0.6s							
KRND	**KRANIDI**	**1.13**	**95**	P	**Pg**	**04 26 19.3**	**-0.1**
VLS	**Valsamata**	**1.14**	**308**	P	**Pn**	**04 26 18.0**	**-0.8**
VLS				S	**Sg**	**04 26 36.4**	**+1.7**
455nm,0.6s							
VLS	**Valsamata**	**1.14**	**308**	P	**Pn**	**04 26 18.5**	**-0.3**
PVO	**Paravola**	**1.15**	**352**	P	**Pn**	**04 26 17.5**	**-1.3**
PVO				S	**Sg**	**04 26 36.1**	**+1.3**
3μm,0.8s							
AST1	**Astakos**	**1.18**	**334**	P	**Pn**	**04 26 18.8**	**-0.4**
AST1				S	**Sg**	**04 26 37.6**	**+1.9**
1μm,0.8s							
VLI	**Veliai**	**1.23**	**128**	P	**Pg**	**04 26 21.1**	**-0.2**
VLI	**Veliai**	**1.23**	**128**	P	**Pg**	**04 26 21.2**	**0.0**
VLI				S	**Sg**	**04 26 38.4**	**+1.2**
KEF4	**Livadi, Kephal**	**1.30**	**307**	P	**Pb**	**04 26 21.8**	**+0.3**
KEF4				S	**Sg**	**04 26 41.7**	**+2.2**
KEF4	**Livadi, Kephal**	**1.30**	**307**	P	**Pb**	**04 26 21.5**	**+0.1**
VSK1	**VASILIKIADES**	**1.31**	**315**	P	**Pg**	**04 26 22.5**	**-0.4**
KEF3	**Kipouria, Keph**	**1.31**	**304**	P	**Pn**	**04 26 21.2**	**+0.1**
KEF3				S	**Sg**	**04 26 40.4**	**+0.3**
KEF3	**Kipouria, Keph**	**1.31**	**304**	P	**Pb**	**04 26 21.5**	**-0.3**
KEF3				S	**Sg**	**04 26 39.8**	**-0.3**
DMLN	**Damoulianata-K**	**1.32**	**305**	P	**Pb**	**04 26 21.9**	**0.0**
DMLN	**Damoulianata-K**	**1.32**	**305**	P	**Pg**	**04 26 22.4**	**-0.6**
FSK	**Fiskardo**	**1.35**	**317**	P	**Pb**	**04 26 21.8**	**-0.5**
FSK				S	**Sg**	**04 26 42.4**	**+1.2**
415nm,1.4s							
FSK	**Fiskardo**	**1.35**	**317**	P	**Pg**	**04 26 22.8**	**-0.8**
FSK				S	**Sg**	**04 26 40.5**	**-0.6**
EVGI	**Lefkada island**	**1.42**	**323**	P	**Pb**	**04 26 23.4**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVGI	**Lefkada island**	**1.42**	**323**	P	**Pb**	**04 26 23.4**	**-0.2**
VILL	**Villia**	**1.42**	**61**	P	**Pg**	**04 26 24.2**	**-0.8**
EVR	**Evrytania**	**1.43**	**2**	P	**Pg**	**04 26 24.7**	**-0.6**
EVR				S	**Sg**	**04 26 45.2**	**+1.2**
EVR	**Evrytania**	**1.43**	**2**	P	**Pg**	**04 26 24.5**	**-0.8**
AXAR	**Agios Charalam**	**1.48**	**29**	P	**Pg**	**04 26 25.2**	**-0.8**
AXAR				S	**Sg**	**04 26 46.6**	**+1.3**
NYDR	**Nydri-Lefkada**	**1.48**	**327**	P	**Pb**	**04 26 23.8**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.48**	**327**	P	**Pb**	**04 26 24.0**	**-0.6**
DRAG	**Dragano-Lefkad**	**1.51**	**323**	P	**Pb**	**04 26 24.4**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.51**	**323**	P	**Pb**	**04 26 24.3**	**-0.9**
LKR	**Lokris**	**1.54**	**40**	P	**Pb**	**04 26 25.6**	**0.0**
LKR				S	**Sg**	**04 26 46.6**	**-0.6**
LKD2	**Lefkada island**	**1.56**	**327**	P	**Pb**	**04 26 25.5**	**-0.5**
LKD2	**Lefkada island**	**1.56**	**327**	P	**Pb**	**04 26 25.9**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.56**	**11**	P	**Pb**	**04 26 26.3**	**+0.3**
ATAL	**Atalanti**	**1.58**	**40**	P	**Pb**	**04 26 25.5**	**-0.8**
ATAL				S	**Sg**	**04 26 47.8**	**-0.7**
TSLK	**Tsoukalades, L**	**1.59**	**328**	P	**Pb**	**04 26 26.7**	**+0.2**
AGG	**Agios Georgios**	**1.61**	**17**	P	**Pb**	**04 26 26.5**	**-0.3**
AGG				S	**Sg**	**04 26 49.5**	**0.0**
AGG	**Agios Georgios**	**1.61**	**17**	P	**Pb**	**04 26 26.7**	**-0.2**
AGG				S	**Sb**	**04 26 47.5**	**+0.6**
KTHA	**Kythira Island**	**1.62**	**139**	P	**Pb**	**04 26 28.1**	**-0.7**
KTHA	**Kythira Island**	**1.62**	**139**	P	**Pg**	**04 26 27.6**	**-1.2**
ATH	**Athens Observa**	**1.65**	**72**	P	**Pb**	**04 26 27.2**	**-0.2**
ATH				S	**Sg**	**04 26 49.2**	**-1.4**
VLY	**Voula,Athens**	**1.68**	**77**	P	**Pg**	**04 26 28.4**	**-1.4**
VLY	**Voula,Athens**	**1.68**	**77**	P	**Pg**	**04 26 28.5**	**-1.4**
VLY				S	**Sg**	**04 26 49.5**	**-2.1**
ATHU	**Athens Univers**	**1.69**	**73**	P	**Pg**	**04 26 28.6**	**-1.6**
PTL	**Penteli**	**1.78**	**71**	P	**Pb**	**04 26 29.1**	**-0.6**
PTL	**Penteli**	**1.78**	**71**	P	**Pb**	**04 26 28.7**	**-1.0**
DION	**Dionisos Attik**	**1.84**	**70**	P	**Pg**	**04 26 31.4**	**-1.6**
DION	**Dionisos Attik**	**1.84**	**70**	P	**Pb**	**04 26 30.4**	**-0.4**
ANKY	**Antikythira Is**	**2.04**	**142**	P	**Pb**	**04 26 34.0**	**-0.2**
ANKY	**Antikythira Is**	**2.04**	**142**	P	**Pb**	**04 26 33.5**	**-0.7**
THL	**Klokotos Trika**	**2.09**	**6**	P	**Pb**	**04 26 33.1**	**-1.9**
THL	**Klokotos Trika**	**2.09**	**6**	P	**Pb**	**04 26 33.7**	**-1.4**
NEO	**Neokhori**	**2.17**	**32**	P	**Pb**	**04 26 34.2**	**-2.1**
NEO	**Neokhori**	**2.17**	**32**	P	**Pb**	**04 26 34.9**	**-1.4**
KYMI	**Kymi, Euboea I**	**2.19**	**58**	P	**Pb**	**04 26 35.1**	**-1.7**
KYMI	**Kymi, Euboea I**	**2.19**	**58**	P	**Pb**	**04 26 34.7**	**-2.1**
XOR	**Xorichti**	**2.20**	**31**	P	**Pb**	**04 26 35.9**	**-1.0**
TYRN	**Tyrnavos**	**2.26**	**10**	P	**Pb**	**04 26 36.5**	**-1.4**
TYRN	**Tyrnavos**	**2.26**	**10**	P	**Pb**	**04 26 36.1**	**-1.8**
IGT	**Igoumenitsa**	**2.33**	**332**	P	**Pb**	**04 26 37.0**	**-2.0**
IGT	**Igoumenitsa**	**2.33**	**332**	P	**Pn**	**04 26 36.7**	**+1.7**
KPRO	**Kipourio**	**2.49**	**353**	P	**Pb**	**04 26 40.4**	**-1.4**
RODP	**Rodopos**	**2.52**	**139**	P	**Pb**	**04 26 40.9**	**-1.4**
SKY	**Skiros Island**	**2.62**	**57**	P	**Pn**	**04 26 40.9**	**+1.8**
SKY	**Skiros Island**	**2.62**	**57**	P	**Pb**	**04 26 41.3**	**-2.8**
KEK	**Kerkira**	**2.70**	**326**	P	**Pn**	**04 26 41.6**	**+1.5**
SRN	**Sarande**	**2.75**	**331**	P	**Pn**	**04 26 42.6**	**+1.7**
LSK	**Leskovik**	**2.81**	**342**	P	**Pn**	**04 26 44.2**	**+2.4**
IDI	**Anoyia**	**3.36**	**130**	P	**Pn**	**04 26 51.0**	**+1.7**
CHOS	**Chios island**	**3.53**	**74**	P	**Pn**	**04 26 54.4**	**+2.7**
KNT	**Kendrikon**	**3.79**	**13**	P	**Pn**	**04 26 57.7**	**+2.6**
GERES	**GERESS Array B**	**12.77**	**335**	Pn	**Pn**	**04 28 58.9**	**+0.5**
0.1nm,0.3s,baz=160,slow=12,SNR=2.4							
0.2n

GPNR	**Gulpinar-Canak**	**0.63**	**9**	Pg	**Pg**	**04 33 24.6**	**-0.4**
GPNR				Sg	**Sb**	**04 33 34.0**	**+0.1**
URLA	**Izmir**	**0.66**	**136**	Pg	**Pg**	**04 33 25.6**	**0.0**
URLA				Sg	**Sb**	**04 33 35.6**	**+0.6**
URLA	**Izmir**	**0.66**	**136**	P	**Pg**	**04 33 25.4**	**-0.3**
URLA				S	**Sb**	**04 33 35.5**	**+0.6**
URLA				*i* AML	AML	04 33 40.0	
	comp=N,149nm,0.6s						
URLA				*i* AML	AML	04 33 40.0	
	comp=N,161nm,0.7s						
KOCA	**Canakkale, Ayv**	**0.67**	**9**	P	**Pg**	**04 33 25.8**	**0.0**
KOCA				S	**Sb**	**04 33 35.8**	**+0.5**
AYVA	**Ayvalik**	**0.71**	**48**	P	**Pg**	**04 33 26.4**	**-0.2**
AYVA				S	**Sg**	**04 33 35.9**	**0.0**
AYVA				*i* AML	AML	04 33 39.0	
	comp=N,252nm,0.4s						
AYVA				*i* AML	AML	04 33 39.0	
	comp=N,262nm,0.3s						
RFT7	**Candarli**	**0.72**	**80**	Pg	**Pg**	**04 33 26.9**	**+0.1**
RFT7				Sg	**Sb**	**04 33 37.6**	**+0.9**
DKL	**Dikili**	**0.74**	**71**	Pg	**Pb**	**04 33 27.4**	**+0.2**
DKL				Sg	**Sb**	**04 33 37.9**	**+0.8**
RFT1	**Sazli**	**0.77**	**26**	Pg	**Pg**	**04 33 27.6**	**-0.2**
ZEDA	**zmir-Bergama**	**0.85**	**81**	P	**Pg**	**04 33 29.2**	**+0.1**
ZEDA				S	**Sg**	**04 33 40.0**	**-0.2**
ZEDA				*i* AML	AML	04 33 41.0	
	comp=N,110nm,1.0s						
ZEDA				*i* AML	AML	04 33 42.0	
	comp=N,151nm,0.4s						
RFT2	**Karaagac**	**0.89**	**49**	Pg	**Pg**	**04 33 29.9**	**0.0**
EZN	**Ezine**	**1.02**	**14**	Pg	**Pb**	**04 33 31.7**	**-0.3**
EZN	**Ezine**	**1.02**	**14**	P	**Pb**	**04 33 31.6**	**-0.4**
EZN				S	**Sg**	**04 33 46.0**	**+0.3**
DGB	**zmir**	**1.04**	**138**	P	**Pb**	**04 33 32.1**	**-0.2**
DGB				S	**Sb**	**04 33 45.9**	**+0.1**
DGB				*i* AML	AML	04 33 48.0	
	comp=N,85nm,0.6s						
EFSA	**Agios Efstrati**	**1.06**	**312**	P	**Pb**	**04 33 31.7**	**-1.0**
BUHA	**Balikesir, Bur**	**1.06**	**51**	P	**Pb**	**04 33 31.1**	**-1.7**
BUHA				S	**Sb**	**04 33 46.4**	**-0.1**
SKY	**Skiros Island**	**1.14**	**273**	P	**Pg**	**04 33 34.8**	**+0.2**
SKY				S	**Sn**	**04 33 50.2**	**+0.8**
LIA	**Limnos Island**	**1.24**	**329**	P	**Pn**	**04 33 35.6**	**+0.2**
LIA				S	**Sb**	**04 33 52.2**	**+0.7**
	comp=N,510nm,0.5s						
LIA	**Limnos Island**	**1.24**	**329**	P	**Pn**	**04 33 35.7**	**+0.2**
LIA				AML	AML	04 33 54.8	
	comp=E,992μm,0.4s						
LIA				AML	AML	04 33 55.2	
	comp=N,1049μm,0.6s						
IKRA	**Agios-Kirikos-**	**1.24**	**169**	P	**Pn**	**04 33 35.1**	**-0.4**
SMG	**Samos**	**1.30**	**150**	P	**Pn**	**04 33 35.5**	**-0.8**
SMG				S	**Sb**	**04 33 53.6**	**+0.3**
	comp=N,365nm,0.4s						
SMG	**Samos**	**1.30**	**150**	P	**Pn**	**04 33 35.5**	**-0.8**
SMG				S	**Sn**	**04 33 54.0**	**+0.6**
SMG				AML	AML	04 33 57.4	
	comp=N,791μm,0.5s						
SMG				AML	AML	04 33 57.4	
	comp=E,667μm,0.3s						
KYMI	**Kymi, Euboea I**	**1.50**	**263**	P	**Pn**	**04 33 38.7**	**-0.4**
KYMI				S	**Sn**	**04 33 58.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.60**	**13**	Pn	**Pn**	**04 33 40.2**	**-0.2**
LPK	**Lapseki**	**1.64**	**21**	Pn	**Pn**	**04 33 40.9**	**-0.1**
SMTH	**Samothraki Isl**	**1.67**	**347**	P	**Pn**	**04 33 41.1**	**-0.4**
SMTH				S	**Sn**	**04 34 03.1**	**+0.4**
SMTH	**Samothraki Isl**	**1.67**	**347**	P	**Pn**	**04 33 41.3**	**-0.2**
APE	**Apeiranthos**	**1.80**	**192**	P	**Pn**	**04 33 42.8**	**-0.5**
APE				S	**Sn**	**04 34 07.0**	**+1.1**
KRBG	**Karabiga-Canak**	**1.85**	**32**	Pn	**Pn**	**04 33 43.8**	**0.0**
ERIK	**Erikli-Kesan**	**1.87**	**12**	Pn	**Pn**	**04 33 44.5**	**+0.3**
THAS	**Thassos island**	**2.03**	**331**	P	**Pn**	**04 33 45.2**	**-1.1**
ALN	**Alexandroupoli**	**2.06**	**1**	Pn	**Pn**	**04 33 46.8**	**+0.1**
ALN	**Alexandroupoli**	**2.06**	**1**	P	**Pn**	**04 33 47.0**	**+0.2**
ALN	**Alexandroupoli**	**2.06**	**1**	P	**Pn**	**04 33 46.9**	**+0.2**
RDO	**Rodhopi**	**2.34**	**351**	P	**Pn**	**04 33 51.0**	**+0.4**

*SJA **21** 04:35:32.0±0.5, 22°.43S×67°.52W, h207km±6km, ML4.6, MW4.5*
*SCB **21** 04:35:36.3±1.4, 22°.54S×67°.59W, h159km±11km, ML4.0/4, MW4.1, Error ellipse: s-maj=4.5km s-min=3.3km az=0.0*
*GUC **21** 04:35:36.9±0.8, 22°.55S×67°.74W, h190km±9km, ML4.1*
ISC 21 04:35:33.8±1.4, 22°.58S±0°.03×67°.57W±0°.03, h192km±11km, n68, σ1°57/105, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.67**	**237**	Pg	**Pn**	**04 36 01.0**	**-0.1**
LVC	**Limon Verde**	**1.24**	**268**	Pg	**Pn**	**04 36 05.4**	**+0.5**
LVC	**Limon Verde**	**1.24**	**268**	*i* P	**Pn**	**04 36 05.2**	**+0.3**
LVC				*i* S	**Sn**	**04 36 30.3**	**+1.4**
LVC	**Limon Verde**	**1.24**	**268**	*e*P	**Pn**	**04 36 05.5**	**+0.5**
LVC				*e*S	**Sn**	**04 36 28.5**	**-0.4**
PB09	**IPOC Station P**	**1.73**	**296**	Pg	**Pn**	**04 36 10.5**	**+1.3**
PB09	**IPOC Station P**	**1.73**	**296**	*e*P	**Pn**	**04 36 10.3**	**+1.1**
PB09				*i* S	**Sn**	**04 36 35.5**	**-1.1**
PB09				IAML		04 36 37.5	
	comp=N,425nm,0.3s						
PB09	**IPOC Station P**	**1.73**	**296**	*e*P	**Pn**	**04 36 10.5**	**+1.3**
PB09				*e*S	**Sn**	**04 36 35.9**	**-0.7**
PB06	**IPOC Station P**	**1.85**	**266**	Pg	**Pn**	**04 36 11.4**	**+1.0**
PB06	**IPOC Station P**	**1.85**	**266**	*e*P	**Pn**	**04 36 11.1**	**+0.8**
PB06				*i* S	**Sn**	**04 36 37.7**	**-0.9**
PB06				IAML		04 36 40.7	
	comp=E,1μm,0.1s						
PB06	**IPOC Station P**	**1.85**	**266**	*e*P	**Pn**	**04 36 11.3**	**+1.0**
PB06				*e*S	**Sn**	**04 36 38.8**	**+0.2**
PB06				*e*S	**Sn**	**04 36 38.8**	**+0.2**
PB06				IAML		04 36 41.7	
	comp=Z,513nm,0.1s						
PB15	**IPOC Station P**	**1.86**	**250**	Pg	**Pn**	**04 36 11.7**	**+1.3**
PB15	**IPOC Station P**	**1.86**	**250**	*e*P	**Pn**	**04 36 11.5**	**+1.1**
PB15				*i* S	**Sn**	**04 36 38.3**	**-0.7**
PB15	**IPOC Station P**	**1.86**	**250**	*i* P	**Pn**	**04 36 11.5**	**+1.1**
PB15				*i* S	**Sn**	**04 36 40.6**	**+1.7**
PB15				IAML		04 36 46.0	
	comp=Z,2μm,0.2s						
PB15	**IPOC Station P**	**1.86**	**250**	*e*P	**Pn**	**04 36 11.6**	**+1.1**
PB15				*e*S	**Sn**	**04 36 38.8**	**-0.1**
PB15				IAML		04 36 46.1	
	comp=Z,2μm,0.2s						
YJA	**Yavi**	**1.95**	**78**	Pg	**Pn**	**04 36 12.7**	**+1.1**
YJA	**Yavi**	**1.95**	**78**	*e*P	**Pn**	**04 36 12.7**	**+1.1**
YJA				*e*S	**Sn**	**04 36 36.7**	**-4.3**
MOCB	**Mochara**	**2.23**	**54**	Pg	**Pn**	**04 36 15.6**	**+0.9**
MOCB				Sg	**Sn**	**04 36 45.2**	**-1.2**
MOCB				IAML		04 36 46.9	
	comp=Z,148nm,0.4s						
PB07	**IPOC Station P**	**2.31**	**291**	Pg	**Pn**	**04 36 16.0**	**+0.8**
PB07	**IPOC Station P**	**2.31**	**291**	*e*P	**Pn**	**04 36 16.1**	**+0.8**
PB07				*i* S	**Sn**	**04 36 45.4**	**-2.0**
PB07	**IPOC Station P**	**2.31**	**291**	*e*P	**Pn**	**04 36 16.1**	**+0.8**
PB07				*e*S	**Sn**	**04 36 45.8**	**-1.6**
PB07				IAML		04 36 46.7	
	comp=Z,1μm,0.4s						
PB01	**IPOC Station P**	**2.35**	**310**	Pg	**Pn**	**04 36 16.4**	**+0.8**
PB01				Sg	**Sn**	**04 36 46.3**	**-1.8**
PB01				IAML		04 36 49.1	
	comp=Z,558nm,0.5s						
PB01	**IPOC Station P**	**2.35**	**310**	*e*P	**Pn**	**04 36 16.2**	**+0.6**
PB01				*i* S	**Sn**	**04 36 46.1**	**-1.9**
PB01				IAML		04 36 47.8	
	comp=E,807nm,0.3s						
PB01	**IPOC Station P**	**2.35**	**310**	*e*P	**Pn**	**04 36 15.8**	**+0.3**
PB01				*e*S	**Sn**	**04 36 47.3**	**-0.8**
PB01				IAML		04 36 48.9	
	comp=Z,626nm,0.1s						
PB04	**IPOC Station P**	**2.40**	**275**	Pg	**Pn**	**04 36 17.1**	**+0.9**
PB04				Sg	**Sn**	**04 36 47.3**	**-1.8**
PB04				IAML		04 36 48.1	
	comp=Z,712nm,0.4s						
PB04	**IPOC Station P**	**2.40**	**275**	*e*P	**Pn**	**04 36 17.1**	**+0.9**
PB04				*i* S	**Sn**	**04 36 46.9**	**-2.2**
PB04				IAML		04 36 50.7	
	comp=N,975nm,0.1s						
PB04	**IPOC Station P**	**2.40**	**275**	*e*P	**Pn**	**04 36 17.4**	**+1.3**
PB04				*e*S	**Sn**	**04 36 47.4**	**-1.7**
PB04				IAML		04 36 50.5	
	comp=Z,834nm,0.2s						
PB02	**IPOC Station P**	**2.50**	**300**	Pg	**Pn**	**04 36 17.9**	**+0.7**
PB02				Sg	**Sn**	**04 36 49.1**	**-2.0**
PB02				IAML		04 36 50.1	
	comp=Z,1μm,0.2s						
PB02	**IPOC Station P**	**2.50**	**300**	*e*P	**Pn**	**04 36 17.8**	**+0.5**
PB02				*i* S	**Sn**	**04 36 48.7**	**-2.4**
PB02	**IPOC Station P**	**2.50**	**300**	*e*S	**Sn**	**04 36 49.4**	**-1.7**
PB02				IAML		04 36 52.5	
	comp=Z,953nm,0.3s						
AZAP	**Zapla**	**2.82**	**126**	*e*P	**Pn**	**04 36 22.0**	**+0.9**
PB08	**IPOC Station P**	**2.84**	**328**	Pg	**Pn**	**04 36 23.1**	**+1.6**
PB08	**IPOC Station P**	**2.84**	**328**	*e*P	**Pn**	**04 36 23.1**	**+1.6**
PB08				*i* S	**Sn**	**04 36 58.5**	**-0.3**
PB08	**IPOC Station P**	**2.84**	**328**	*e*P	**Pn**	**04 36 22.8**	**+1.2**
PB08				*e*S	**Sn**	**04 36 59.1**	**+0.3**
SLA	**San Lorenzo**	**2.85**	**139**	Pg	**Pn**	**04 36 23.5**	**+2.1**
SLA	**San Lorenzo**	**2.85**	**139**	*e*P	**Pn**	**04 36 23.5**	**+2.1**
PATCX	**Punta Patache**	**2.97**	**306**	*e*P	**Pn**	**04 36 22.8**	**0.0**
PATCX				*i* S	**Sn**	**04 36 58.7**	**-2.3**
PATCX	**Punta Patache**	**2.97**	**306**	*e*P	**Pn**	**04 36 22.8**	**0.0**
PATCX				*e*S	**Sn**	**04 36 59.5**	**-1.5**
PATCX				IAML		04 37 02.7	
	comp=Z,243nm,0.2s						
TA01	**Diego Aracena**	**3.15**	**309**	Pg	**Pn**	**04 36 25.3**	**+0.5**
TA01	**Diego Aracena**	**3.15**	**309**	*e*P	**Pn**	**04 36 24.9**	**+0.1**
TA01	**Diego Aracena**	**3.15**	**309**	*e*P	**Pn**	**04 36 25.1**	**+0.4**
TA01				*e*S	**Sn**	**04 37 03.7**	**-1.0**
GO02	**Mina Guanaco**	**3.16**	**215**	Pg	**Pn**	**04 36 27.0**	**+1.8**
GO02	**Mina Guanaco**	**3.16**	**215**	*e*P	**Pn**	**04 36 26.9**	**+1.6**
GO02				*i* S	**Sn**	**04 37 05.5**	**-0.1**
GO02	**Mina Guanaco**	**3.16**	**215**	*i* P	**Sn**	**04 36 26.7**	**+1.5**
GO02				*i* S	**Sn**	**04 37 07.0**	**+1.4**
GO02	**Mina Guanaco**	**3.16**	**215**	*e*P	**Pn**	**04 36 26.7**	**+1.5**
GO02				*e*S	**Sn**	**04 37 05.7**	**+0.2**
GO02				IAML		04 37 09.0	
	comp=Z,274nm,0.2s						
ASTB	**Santa Barbara**	**3.17**	**116**	*e*P	**Pn**	**04 36 26.4**	**+1.2**
GO01	**Chusmiza**	**3.27**	**332**	Pg	**Pn**	**04 36 28.1**	**+1.3**
GO01	**Chusmiza**	**3.27**	**332**	*e*P	**Pn**	**04 36 27.7**	**+1.0**
GO01				*e*S	**Sn**	**04 37 07.4**	**-0.8**
GO01				IAML		04 37 11.6	
	comp=E,380nm,0.1s						
GO01	**Chusmiza**	**3.27**	**332**	*e*P	**Pn**	**04 36 27.9**	**+1.1**
GO01				*e*S	**Sn**	**04 37 08.3**	**+0.2**
PB14	**IPOC Station P**	**3.30**	**231**	*e*P	**Pn**	**04 36 28.2**	**+1.3**
PB14				*e*S	**Sn**	**04 37 06.2**	**-2.2**
ALOL	**LOMAS DE OLMED**	**3.52**	**111**	*i* P	**Pn**	**04 36 28.8**	**-0.6**
ALOL				*i* S	**Sn**	**04 37 11.1**	**-1.8**
ALOL	**LOMAS DE OLMED**	**3.52**	**111**	*e*P	**Pn**	**04 36 29.9**	**+0.6**
FSA	**Cafayete**	**3.80**	**158**	*i* P	**Pn**	**04 36 34.4**	**+1.5**
SOEO	**Opoqueri**	**4.01**	**356**	Pg	**Pn**	**04 36 38.3**	**+2.4**
AC02	**Maricunga**	**4.46**	**198**	*e*P	**Pn**	**04 36 43.4**	**+1.7**
AC02	**Maricunga**	**4.46**	**198**	*e*P	**Pn**	**04 36 43.3**	**+1.7**
AC02				*e*S	**Sn**	**04 37 31.9**	**-3.0**
AC01	**Pan de Azucar**	**4.50**	**217**	*e*P	**Pn**	**04 36 41.9**	**+0.4**
AC01				*e*S	**Sn**	**04 37 28.5**	**-6.4**
SOTI	**Planta Incahua**	**4.57**	**54**	Pg	**Pn**	**04 36 43.8**	**+1.2**
PB16	**IPOC Station P**	**4.60**	**336**	Pg	**Pn**	**04 36 44.8**	**+1.3**
PB16	**IPOC Station P**	**4.60**	**336**	*e*P	**Pn**	**04 36 44.7**	**+1.3**
AHML	**Horco Molle**	**4.65**	**155**	*i* P	**Pn**	**04 36 44.8**	**+1.2**
AHML				*i* S	**Sn**	**04 37 37.9**	**-0.7**
AHML	**Horco Molle**	**4.65**	**155**	*e*P	**Pn**	**04 36 46.8**	**+3.2**
PB12	**IPOC Station P**	**4.72**	**326**	*e*P	**Pn**	**04 36 43.5**	**-1.0**
PB12	**IPOC Station P**	**4.72**	**326**	*e*S	**Sn**	**04 37 37.9**	**-2.2**
SOET	**ToroToro**	**4.74**	**21**	Pg	**Pn**	**04 36 46.1**	**+1.0**
SOEJ	**Jacaque**	**5.61**	**354**	Pg	**Pn**	**04 36 58.2**	**+1.8**
BBOE	**La Paz, Chanca**	**5.75**	**356**	Pg	**Pn**	**04 37 00.7**	**+2.4**
BBOD	**La Paz, Gloria**	**5.99**	**351**	Pg	**Pn**	**04 37 03.4**	**+2.0**
LPAZ	**La Paz**	**6.28**	**355**	Pg	**Pn**	**04 37 07.4**	**+2.1**

*RSNC **21** 04:38:51.7±0.6, 8°.94N×73°.00W, h2km±4km, ML2.4*
*FUNV **21** 04:38:53.0, 8°.99N×72°.68W, h9km, MW3.4*
ISC 21 04:38:51.1±1.2, 8°.97N±0°.03×72°.81W±0°.03, h28km±14km, n14, σ1°71/25, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL6C	**La Loma 6 Bece**	**0.88**	**329**	*e*P	**Pb**	**04 39 06.9**	**-1.0**
LL6C				*e*S	**Sb**	**04 39 18.2**	**-1.2**
MCQV	**Machiques**	**1.10**	**14**	*e*P	**Pb**	**04 39 12.1**	**+0.5**
MCQV				*e*S	**Sb**	**04 39 26.1**	**+0.4**
CAPV	**Capacho**	**1.21**	**156**	*e*P	**Pb**	**04 39 14.3**	**+0.9**
CAPV				*e*S	**Sn**	**04 39 29.9**	**+2.0**
PAMC	**Pamplona, Colo**	**1.63**	**176**	*e*P	**Pb**	**04 39 20.4**	**-0.4**
PAMC				*e*S	**Sb**	**04 39 42.8**	**+1.7**
PAMC				*i*		04 39 44.2	
	comp=Z,46nm,0.3s						
SOCV	**Socops**	**2.05**	**109**	*e*P	**Pb**	**04 39 26.1**	**-1.6**
SOCV				*e*S	**Sn**	**04 39 49.2**	**+0.7**
ZARC	**Zaragoza, Cauc**	**2.50**	**234**	*e*P	**Pn**	**04 39 29.8**	**-0.2**
ZARC				*e*S	**Sn**	**04 39 58.5**	**-1.3**
ZARC				*i*		04 40 12.7	
	comp=Z,15nm,0.4s						
SJCC	**San Jacinto, C**	**2.51**	**292**	*e*P	**Pn**	**04 39 31.5**	**+1.4**
SJCC				*e*S	**Sn**	**04 40 01.9**	**+2.0**
SJCC				*i*		04 40 05.1	
	comp=E,26nm,0.5s						
PTBC	**PUERTO BERRIO,**	**2.92**	**214**	*e*P	**Pn**	**04 39 35.4**	**-0.3**
CURV	**Curarigua**	**2.99**	**70**	*e*P	**Pn**	**04 39 38.5**	**+1.7**
CURV				*e*S	**Sn**	**04 40 11.3**	**-0.6**
RUSC	**La Rusia**	**3.07**	**185**	*e*P	**Pb**	**04 39 43.5**	**-1.9**
SIQV	**Siquisique**	**3.40**	**60**	*e*P	**Pn**	**04 39 44.2**	**+1.9**
SIQV				*e*S	**Sn**	**04 40 20.4**	**-1.4**
TEPV	**Terepaima**	**3.70**	**74**	*e*P	**Pn**	**04 39 48.4**	**+1.8**
TEPV				*e*S	**Sn**	**04 40 28.0**	**-1.3**
BAUV	**El Baul**	**4.71**	**90**	*e*P	**Pn**	**04 40 01.7**	**+1.3**
BAUV				*e*S	**Sn**	**04 40 50.9**	**-3.3**
BENV	**Beln**	**5.23**	**79**	*e*S	**Sn**	**04 41 03.9**	**-3.3**

*NOU **21** 05:01:47.2, 37°.64S×175°.01E, h160km, MLv3.6/7, North Island, New Zealand*
*WEL **21** 05:01:54.2±1.1, 38°.3±7°.×17°.6E±°, h175km±10km, M2.8/21, MLv2.8/21, Error ellipse: s-maj=0.0km s-min=0.0km az=154.1, confirmed*
ISC 21 05:01:47.9±2.1, 38°.17S±0°.09×175°.89E±0°.07, h219km±12km, n75, σ1°84/79, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.32**	**240**	P	**Pn**	**05 02 19.1**	**+2.3**
TOZ	**Tahuroa Road**	**0.54**	**325**	P	**Pn**	**05 02 19.7**	**+2.3**
MRHZ	**Matea Rd**	**0.78**	**148**	P	**Pn**	**05 02 20.0**	**+1.5**
HIZ	**Hauiti**	**0.88**	**247**	P	**Pn**	**05 02 21.7**	**+2.7**
TWVZ	**Taurewa**	**0.96**	**201**	P	**Pn**	**05 02 21.8**	**+2.2**
RTZ	**Ruatahuna**	**0.97**	**118**	P	**Pn**	**05 02 18.4**	**-1.2**
URZ	**Urewera**	**0.97**	**95**	P	**Pn**	**05 02 20.4**	**+0.9**
URZ	**Urewera**	**0.97**	**95**	P	**Pn**	**05 02 20.4**	**+0.9**
URZ				S	**S**	**05 02 41.3**	**-2.7**
WTVZ	**West Tongariro**	**0.97**	**194**	P	**Pn**	**05 02 21.9**	**+2.3**
NNVZ	**North Ngauruho**	**0.98**	**192**	P	**Pn**	**05 02 22.1**	**+2.4**
MTHZ	**Maungataniwha**	**1.01**	**132**	P	**Pn**	**05 02 21.5**	**+1.7**
MTHZ				S	**S**	**05 02 42.5**	**-2.2**
NGZ	**Ngauruhoe**	**1.03**	**192**	P	**Pn**	**05 02 22.2**	**+2.1**
BKZ	**Black Stump Fm**	**1.10**	**155**	P	**Pn**	**05 02 21.9**	**+1.5**
BKZ	**Black Stump Fm**	**1.10**	**155**	P	**Pn**	**05 02 22.0**	**+1.6**
BKZ				S	**S**	**05 02 43.3**	**-2.5**
NMHZ	**Naumai**	**1.17**	**142**	P	**Pn**	**05 02 23.5**	**+2.6**
WNVZ	**Wahianoa**	**1.17**	**191**	P	**Pn**	**05 02 23.1**	**+2.1**
PKVZ	**Pokaka**	**1.19**	**201**	P	**Pn**	**05 02 23.3**	**+2.2**
RAHZ	**Arahi**	**1.20**	**129**	P	**Pn**	**05 02 23.2**	**+2.2**
RAHZ				S	**S**	**05 02 45.7**	**-1.2**
MKAZ	**Moumakai**	**1.21**	**331**	P	Pn	05 02 23.9	+2.8
MOVZ	**Moawhango**	**1.24**	**185**	P	**Pn**	**05 02 23.1**	**+1.8**
MWZ	**Matawai**	**1.30**	**98**	P	**Pn**	**05 02 23.3**	**+1.5**
MWZ				S	**S**	**05 02 45.5**	**-2.6**
BHHZ	**Black Hill Sta**	**1.32**	**174**	P	**Pn**	**05 02 23.9**	**+1.9**
ARHZ	**Aropaoanui**	**1.39**	**142**	P	**Pn**	**05 02 24.9**	**+2.4**
RUGZ	**Raukumara Rang**	**1.43**	**82**	P	**Pn**	**05 02 23.5**	**+0.6**
KRHZ	**Kereru**	**1.52**	**166**	P	**Pn**	**05 02 25.7**	**+2.2**
HAZ	**Te Kaha**	**1.56**	**75**	P	**Pn**	**05 02 24.6**	**+0.8**
RIGZ	**Rimuhau**	**1.57**	**110**	P	**Pn**	**05 02 26.0**	**+2.1**
KNZ	**Kokohu**	**1.64**	**122**	P	**Pn**	**05 02 26.4**	**+2.0**
DREZ	**Durham Road**	**1.66**	**232**	P	**Pn**	**05 02 26.0**	**+1.3**
PRGZ	**Paritu Road**	**1.74**	**116**	P	**Pn**	**05 02 27.5**	**+2.1**
CKHZ	**Cape Kidnapper**	**1.75**	**148**	P	**Pn**	**05 02 28.0**	**+2.5**
PNHZ	**Pukenui**	**1.75**	**172**	P	**Pn**	**05 02 24.9**	**-0.7**
KAHZ	**Kahuranaki**	**1.79**	**155**	P	**Pn**	**05 02 28.5**	**+2.5**
MHGZ	**Mahia Peninsul**	**1.86**	**122**	P	**Pn**	**05 02 28.8**	**+2.3**
PUZ	**Puketiti**	**1.87**	**88**	P	**Pn**	**05 02 28.3**	**+1.6**
TSZ	**Takapari Road**	**1.88**	**178**	P	**Pn**	**05 02 28.9**	**+2.1**
MXZ	**Matakaoa Point**	**2.01**	**73**	P	**Pn**	**05 02 30.2**	**+2.2**
MXZ	**Matakaoa Point**	**2.01**	**73**	P	**Pn**	**05 02 30.1**	**+2.2**
WMGZ	**Waiomatatini S**	**2.03**	**81**	P	**Pn**	**05 02 29.8**	**+1.6**
POWZ	**Post Office Ro**	**2.22**	**182**	P	**Pn**	**05 02 31.9**	**+1.9**
PRWZ	**Pori Road**	**2.38**	**178**	P	**Pn**	**05 02 33.8**	**+2.1**
MRZ	**Mangatainoka R**	**2.50**	**185**	P	**Pn**	**05 02 34.6**	**+1.7**
OGWZ	**Otaki Gorge**	**2.70**	**192**	P	**Pn**	**05 02 37.0**	**+1.9**
HOWZ	**Holdsworth Sta**	**2.74**	**186**	P	**Pn**	**05 02 36.2**	**+0.6**
KIW	**Kapiti Island**	**2.79**	**195**	P	**Pn**	**05 02 37.7**	**+1.5**
TMWZ	**Te Maipa**	**2.93**	**180**	P	**Pn**	**05 02 39.4**	**+1.6**
MTW	**Mount Morrison**	**3.00**	**186**	P	**Pn**	**05 02 39.6**	**+1.2**
CAW	**Cannon Point**	**3.00**	**192**	P	**Pn**	**05 02 40.1**	**+1.6**
DUWZ	**D'Urville Isla**	**3.03**	**209**	P	**Pn**	**05 02 40.6**	**+1.7**
WEL	**Wellington**	**3.22**	**195**	P	**Pn**	**05 02 42.6**	**+1.5**
TRWZ	**Traveller**	**3.23**	**183**	P	**Pn**	**05 02 42.6**	**+1.5**
SNZO	**South Karori**	**3.26**	**196**	P	**Pn**	**05 02 43.5**	**+2.0**
TCW	**Tory Channel**	**3.28**	**202**	P	**Pn**	**05 02 43.3**	**+1.6**
PLWZ	**Palliser**	**3.43**	**188**	P	**Pn**	**05 02 44.6**	**+1.0**
TUWZ	**Tuamarina**	**3.58**	**204**	P	**Pn**	**05 02 46.6**	**+1.3**
NNZ	**Nelson**	**3.60**	**212**	P	**Pn**	**05 02 47.0**	**+1.4**
QRZ	**Quartz Range**	**3.71**	**223**	P	**Pn**	**05 02 44.0**	**-2.8**
QRZ	**Quartz Range**	**3.71**	**223**	P	**Pn**	**05 02 47.8**	**+0.9**
BSWZ	**Blackbirch Sta**	**3.86**	**203**	P	**Pn**	**05 02 50.6**	**+1.9**
MRNZ	**Matariki Terra**	**4.02**	**216**	P	**Pn**	**05 02 52.4**	**+1.7**
THZ	**Tophouse**	**4.25**	**212**	P	**Pn**	**05 02 55.3**	**+1.8**
KHZ	**Kahutara**	**4.60**	**202**	P	**Pn**	**05 02 59.3**	**+1.6**
KHZ	**Kahutara**	**4.60**	**202**	P	**Pn**	**05 02 59.4**	**+1.7**
DSZ	**Denniston Nort**	**4.75**	**220**	P	**Pn**	**05 03 00.4**	**+0.8**
GVZ	**Greta Valley S**	**5.26**	**203**	P	**Pn**	**05 03 07.2**	**+1.2**
LTZ	**Lake Taylor**	**5.37**	**210**	P	**Pn**	**05 03 08.4**	**+1.1**
AMCZ	**Amberley**	**5.57**	**205**	P	**Pn**	**05 03 10.9**	**+1.0**
INZ	**Inchbonnie**	**5.67**	**215**	P	**Pn**	**05 03 12.6**	**+1.4**
MQZ	**McQueen's Vall**	**6.04**	**203**	P	**Pn**	**05 03 16.3**	**+0.4**
AKCZ	**Akaroa Harbour**	**6.12**	**201**	P	**Pn**	**05 03 17.8**	**+0.9**
WACZ	**Wakanui South**	**6.52**	**207**	P	**Pn**	**05 03 22.7**	**+0.6**
ARCZ	**Arundel**	**6.78**	**210**	P	**Pn**	**05 03 26.3**	**+0.9**
TMZ	**Timaru**	**7.21**	**209**	P	**Pn**	**05 03 31.8**	**+0.9**
ODZ	**Otahua Downs**	**7.91**	**208**	P	**Pn**	**05 03 41.7**	**+1.9**
ODZ	**Otahua Downs**	**7.91**	**208**	P	**Pn**	**05 03 41.4**	**+1.6**

*IDC **21** 05:17:52.3±1.3, 17°.02N×147°.40E, h0km, mb3.9/10, mbtmp3.9/10, Error ellipse: s-maj=40.8km s-min=20.2km az=91.0*
ISC 21 05:17:58.3±1.3, 17°.0N±0°.1×147°.4E±0°.3, h41km, n10, σ0°78/10, mb3.8/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**21.07**	**339**	P	**P**	**05 22 37.6**	**-1.5**
	2.1nm,0.7s,baz=175,slow=11,SNR=6.9						
	2.1nm,0.7s						
WRA	**Warramunga Arr**	**38.90**	**200**	P	**P**	**05 25 19.4**	**-0.7**
	1.1nm,0.7s,baz=22,slow=9.1,SNR=6.0						
	1.

KURILE ISLANDS REGION
*IDC **21** 06:11:21.7±2.7, 45°.30N×149°.80E, h78km±24km, mb3.5/12, mbtmp3.8/16, MS3.1/4, Error ellipse: s-maj=22.2km s-min=16.6km az=134.0*
ISC 21 06:11:17.9±0.6, 45°.09N±0°.08×150°.14E±0°.07, h51km, n70, σ1§47/66, mb3.8/14, 3C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.61**	**276**	*e*P	**Pn**	**06 11 43.2**	**-0.7**
KUR				AMB	AMB	06 11 44.5	
	760nm,0.3s						
KUR				*e*S	**Sn**	**06 12 01.9**	**-1.7**
KUR				A	A	06 12 04.8	
	1μm,0.4s						
KUR				A	A	06 12 04.8	
	1μm,0.4s						
KUR	**Kuril'sk**	**1.61**	**276**	*d i*PN	**Pn**	**06 11 43.2**	**-0.7**
KUR				*i* S	**Sn**	**06 12 01.9**	**-1.7**
KUR				pmax	pmax		
	comp=E,244nm,0.3s						
KUR				pmax	pmax		
	comp=Z,756nm,0.3s						
KUR				pmax	pmax		
	comp=N,442nm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.3s						
KUR				smax	smax		
	comp=E,742nm,0.4s						
SHO	**Shikotan**	**2.66**	**244**	*e*P	**Pn**	**06 11 58.2**	**-0.1**
SHO				AMB	AMB	06 12 00.4	
	comp=E,50nm,0.3s						
SHO				*e*S	**Sn**	**06 12 28.0**	**-1.3**
SHO				A	A	06 12 33.3	
	comp=E,290nm,0.4s						
SHO				A	A	06 12 33.3	
	comp=E,350nm,0.4s						
SHO	**Shikotan**	**2.66**	**244**	*d i*PN	**Pn**	**06 11 58.1**	**-0.2**
SHO				*i* S	**Sn**	**06 12 27.5**	**-1.8**
SHO				pmax	pmax		
	comp=N,38nm,0.3s						
SHO				pmax	pmax		
	comp=E,37nm,0.3s						
SHO				pmax	pmax		
	comp=Z,69nm,0.3s						
SHO				smax	smax		
	comp=N,152nm,0.6s						
SHO				smax	smax		
	comp=E,323nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.23**	**252**	*e*P	**Pn**	**06 12 07.1**	**+1.0**
YUK				AMB	AMB	06 12 07.4	
	comp=E,270nm,0.2s						
YUK				*e*S	**Sn**	**06 12 44.8**	**+1.5**
YUK				A	A	06 12 47.4	
	comp=E,430nm,0.5s						
YUK				A	A	06 12 47.4	
	comp=E,910nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.23**	**252**	PN	**Pn**	**06 12 07.1**	**+1.0**
YUK				*e*S	**Sn**	**06 12 44.8**	**+1.5**
YUK				pmax	pmax		
	comp=Z,269nm,0.2s						
YUK				smax	smax		
	comp=N,425nm,0.5s						
YUK				smax	smax		
	comp=E,913nm,0.4s						
NEM2	**Nemuro 2**	**3.60**	**243**	*e*P	**Pn**	**06 12 10.3**	**-0.8**
NEM2				*e*S	**Sn**	**06 12 48.0**	**-4.3**
NMR	**Nemuro--Hokkai**	**3.61**	**243**	*i* P	**Pn**	**06 12 10.7**	**-0.5**
NMR				*e*S	**Sn**	**06 12 50.6**	**-1.9**
NMR	**Nemuro--Hokkai**	**3.61**	**243**	⇓*i*PN	**Pn**	**06 12 10.7**	**-0.5**
NMR				*e*S	**Sn**	**06 12 50.6**	**-1.9**
RUSJ	**Misakicho**	**3.63**	**256**	*e*PN	**Pn**	**06 12 13.3**	**+1.8**
RUSJ				*e*S	**Sn**	**06 12 56.7**	**+3.6**
JRA	**Rausu**	**3.77**	**254**	*e*P	**Pn**	**06 12 14.8**	**+1.4**
JNK	**Nakash**	**4.17**	**251**	*e*P	**Pn**	**06 12 20.0**	**+1.0**
JAK	**Akkeshi**	**4.45**	**244**	*e*P	**Pn**	**06 12 22.5**	**-0.2**
JTKR	**Abashiri--Toko**	**4.59**	**258**	*e*P	**Pn**	**06 12 27.1**	**+2.4**
JAR	**Ashorobuto**	**4.92**	**251**	*e*P	**Pn**	**06 12 31.1**	**+1.9**
JAR				*e*S	**Sn**	**06 13 25.1**	**+0.3**
JOB	**Onbets**	**5.04**	**247**	*e*P	**Pn**	**06 12 31.6**	**+0.7**
JKK2	**Kamakawa 2**	**5.43**	**260**	*e*P	**Pn**	**06 12 38.8**	**+2.6**
JKA	**Kamikawa-asahi**	**5.47**	**262**	*e*P	**Pn**	**06 12 38.3**	**+1.5**
YSS	**Yuzh-Sakhalins**	**5.47**	**293**	*e*P	**Pn**	**06 12 37.3**	**+0.5**
YSS	**Yuzh-Sakhalins**	**5.47**	**293**	*e*PN	**Pn**	**06 12 37.0**	**+0.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,400nm,11.0s						
ASAJ	**Asahikawa**	**5.47**	**262**	P	**Pn**	**06 12 38.3**	**+1.5**
	comp=Z,14nm,0.5s,baz=81,slow=11,SNR=12						
JCH	**Churui**	**5.49**	**246**	*e*P	**Pn**	**06 12 37.7**	**+0.6**
ERM	**Erimo**	**5.93**	**241**	*d i*PN	**Pn**	**06 12 45.1**	**+2.0**
JNBK	**Urakawa-nobuka**	**6.05**	**245**	*e*P	**Pn**	**06 12 44.7**	**0.0**
SKR	**Severo-Kuril's**	**6.89**	**34**	*e*P	**Pn**	**06 12 56.4**	**+0.2**
SKR	**Severo-Kuril's**	**6.89**	**34**	*e*PN	**Pn**	**06 12 56.4**	**+0.2**
SKR				pmax	pmax		
	comp=Z,78nm,0.9s						
SKR				MLR	MLR		
	comp=Z,400nm,15.0s						
JANG	**Nango**	**7.90**	**236**	*e*P	**Pn**	**06 13 09.0**	**-1.2**
PEA0B	**Petropavlovsk-**	**9.43**	**29**	⇑*e*PN	**Pn**	**06 13 30.3**	**-0.7**
PETK	**Petropavlovsk-**	**9.43**	**29**	P	**Pn**	**06 13 33.1**	**+2.1**
	comp=Z,3.5nm,0.7s,baz=207,slow=12,SNR=8.9						
USRK	**Ussuriysk Ar.**	**12.96**	**272**	P	**Pn**	**06 14 20.2**	**+1.0**
	comp=Z,2.5nm,0.6s,baz=75,slow=14,SNR=2.6						
KLR	**Kul'dur**	**13.18**	**295**	*e*P	P	06 14 24.0	-6.7
KLR	**Kul'dur**	**13.18**	**295**	⇑*e*PN	P	06 14 24.0	-6.7
KLR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KLR	**Kul'dur**	**13.18**	**295**	LR	LR	06 19 12.2	
	comp=Z,84nm,18.2s,baz=267,slow=36						
MA2	**Magadan**	**14.52**	**1**	LR	LR	06 19 29.2	
	comp=Z,36nm,19.2s,baz=146,slow=34						
KSRS	**Korea Array**	**18.32**	**253**	P	**Pn**	**06 15 28.3**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=58,slow=12,SNR=2.2						
KSRS				LR	LR	06 22 26.9	
	comp=Z,36nm,18.5s,baz=105,slow=37						
YAK	**Yakutsk**	**20.71**	**332**	*e*P	Pn	06 15 58.0	+1.6
YAK				pmax	pmax		
	comp=Z,18nm,1.0s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,1.1s						
H11N2	**WAKE ISLAND Hy**	**28.86**	**146**	T	T	06 47 54.0	
	baz=336,slow=76,SNR=1430						
H11N1	**WAKE ISLAND Hy**	**28.87**	**146**	T	T	06 47 58.8	
	baz=336,slow=76,SNR=1151						
H11N3	**WAKE ISLAND Hy**	**28.87**	**146**	T	T	06 47 59.1	
	baz=336,slow=76,SNR=1184						
ULN	**Ulaanbaatar**	**29.52**	**291**	*e*P	**P**	**06 17 16.4**	**-1.0**
ULN	**Ulaanbaatar**	**29.52**	**291**	⇑*e*P	**P**	**06 17 16.4**	**-1.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.2s						
H11S1	**WAKE ISLAND Hy**	**29.89**	**147**	T	T	06 49 11.8	
	baz=336,slow=76,SNR=2013						
H11S3	**WAKE ISLAND Hy**	**29.89**	**147**	T	T	06 49 15.2	
	baz=336,slow=76,SNR=1410						
H11S2	**WAKE ISLAND Hy**	**29.90**	**147**	T	T	06 49 14.8	
	baz=336,slow=76,SNR=1158						
ILAR	**Eielson Array**	**39.13**	**37**	P	**P**	**06 18 40.6**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=262,slow=7.1,SNR=6.2						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**45.86**	**298**	P	**P**	**06 19 32.0**	**-2.9**
	comp=Z,0.9nm,0.9s,baz=89,slow=7.8,SNR=2.3						
MKAR				PcP	**PcP**	**06 21 11.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=80,slow=3.5,SNR=1.9						
	comp=Z,0.9nm,0.9s						
BVAR	**Borovoye Array**	**50.31**	**309**	P	**P**	**06 20 08.4**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=90,slow=10,SNR=1.7						
	comp=Z,0.4nm,0.4s						
KSH	**Kashi**	**53.36**	**292**	P	P	06 20 38.1	+6.0
KSH				sP	sP	06 20 49.3	-2.4
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA	**Yellowknife Ar**	**53.49**	**35**	P	**P**	**06 20 33.6**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=294,slow=6.7,SNR=4.5						
	comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**64.64**	**334**	P	**P**	**06 21 48.1**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=29,slow=8.7,SNR=5.4						
	comp=Z,1.4nm,0.8s						
WRA	**Warramunga Arr**	**66.30**	**196**	P	**P**	**06 22 01.5**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=15,slow=6.3,SNR=3.7						
	comp=Z,0.5nm,0.6s						
NOA	**NORSAR Array B**	**69.10**	**340**	P	**P**	**06 22 16.8**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=35,slow=8.7,SNR=3.6						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**70.01**	**196**	P	**P**	**06 22 26.0**	**+1.9**
ASAR	**Alice Springs**	**70.01**	**196**	P	**P**	**06 22 25.9**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=6.7,slow=5.7,SNR=7.0						
	comp=Z,0.4nm,0.7s						
KBZ	**Khabaz**	**70.49**	**313**	*e*P	**P**	**06 22 27.8**	**+0.9**
KBZ	**Khabaz**	**70.49**	**313**	*e*P	**P**	**06 22 27.8**	**+0.9**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**70.49**	**313**	P	**P**	**06 22 26.1**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=346,slow=3.4,SNR=7.1						
	comp=Z,2.3nm,0.7s						
AKASG	**Malin Array Be**	**71.74**	**325**	P	**P**	**06 22 33.0**	**-1.4**
AKASG	**Malin Array Be**	**71.74**	**325**	P	**P**	**06 22 33.0**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=37,slow=5.8,SNR=2.8						
	comp=Z,0.3nm,0.3s						
GNI	**Garni**	**71.99**	**309**	LR	LR	06 57 35.8	
	comp=Z,24nm,20.7s,baz=332,slow=39						
CLL	**Collm**	**77.08**	**334**	*i* P	**P**	**06 23 04.8**	**-0.6**
CLL	**Collm**	**77.08**	**334**	*i* P	**P**	**06 23 04.8**	**-0.6**
GERES	**GERESS Array B**	**79.00**	**332**	*e*P	**P**	**06 23 16.4**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**79.00**	**332**	P	**P**	**06 23 15.5**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=354,slow=4.0,SNR=4.1						
	comp=Z,1.1nm,0.7s						
TXAR	**Lajitas Array**	**80.12**	**58**	P	**P**	**06 23 24.0**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=289,slow=4.5,SNR=3.7						
	comp=Z,0.7nm,0.6s						
H03N2	**Juan Fernandez**	**140.82**	**90**	T	T	09 07 53.8	
	baz=306,slow=77,SNR=10						
H03N3	**Juan Fernandez**	**140.84**	**90**	T	T	09 07 55.5	
	baz=306,slow=77,SNR=9.5						
H03N1	**Juan Fernandez**	**140.84**	**90**	T	T	09 07 54.9	
	baz=306,slow=77,SNR=28						
BDFB	**Brasilia**	**146.89**	**33**	PKPbc	**PKiKP**	**06 30 55.3**	**-2.2**
	comp=Z,2.2nm,0.7s,baz=205,slow=6.0,SNR=3.8						
PLCA	**Paso Flores**	**150.11**	**96**	PKPbc	**PKiKP**	**06 31 03.4**	**0.0**
	comp=Z,1.4nm,1.0s,baz=301,slow=4.0,SNR=3.3						

*IDC **21** 06:16:56.6±5.1, 21°.46N×106°.01W, h0km, mb3.6/3, mbtmp3.6/5, ML4.0/1, MS3.1/1, Error ellipse: s-maj=92.9km s-min=36.5km az=122.0*
*MEX **21** 06:16:56.6±1.6, 21°.37N×106°.33W, h5km±17km, MD4.3*
ISC 21 06:16:55.5±3.3, 21°.34N±0°.04×106°.26W±0°.06, h10km±22km, n31, σ2§05/46, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUVA	**Puert Vallarta**	**1.20**	**126**	*e*P	**Pb**	**06 17 18.1**	**-0.3**
PUVA				*e*S	**Sb**	**06 17 33.1**	**-1.0**
TEPI	**Tepic**	**1.26**	**81**	*e*P	**Pb**	**06 17 18.7**	**-0.8**
TEPI				*e*S	**Sn**	**06 17 36.5**	**0.0**
ANIG	**Ahuacatlan**	**1.65**	**100**	*e*P	**Pn**	**06 17 23.2**	**-1.5**
ANIG				*e*S	**Sn**	**06 17 43.0**	**-2.9**
MAIG	**Mazatlaan**	**1.84**	**355**	*e*P	**Pn**	**06 17 25.3**	**-2.0**
MAIG				*e*S	**Sn**	**06 17 46.5**	**-4.1**
CJM	**Chamela**	**2.16**	**148**	*e*P	**Pn**	**06 17 31.0**	**-0.6**
CJM				*e*S	**Sn**	**06 17 57.6**	**-0.8**
CIHU	**Emiliano Zapat**	**2.51**	**145**	*e*P	**Pn**	**06 17 37.3**	**+0.8**
CIHU				*i* S	**Sn**	**06 18 09.5**	**+2.3**
CEGR	**Campo Tres**	**2.97**	**130**	*e*P	**Pn**	**06 17 44.2**	**+1.3**
CEGR				*e*S	**Sn**	**06 18 12.7**	**-6.0**
R15V		**3.04**	**135**	*e*P	Pn	06 17 36.0	-7.7
R15V				*e*S	**Sn**	**06 18 13.9**	**-6.3**
SOMAC	**Volcano de Col**	**3.06**	**126**	*e*P	**Pn**	**06 17 46.2**	**+1.9**
SOMAC				*e*S	**Sn**	**06 18 18.9**	**-2.2**
INCO	**Volcan de Coli**	**3.08**	**126**	*e*P	**Pn**	**06 17 45.5**	**+0.9**
INCO				*e*S	**Sn**	**06 18 20.9**	**-0.7**
MNGA	**Volcan de Coli**	**3.10**	**127**	*e*P	**Pn**	**06 17 46.6**	**+1.9**
MNGA				*e*S	**Sn**	**06 18 23.2**	**+1.2**
EZ5V		**3.10**	**126**	*e*P	**Pn**	**06 17 46.4**	**+1.5**
EZ5V				*e*S	**Sn**	**06 18 21.9**	**-0.3**
JUBC	**Volcan de Coli**	**3.11**	**125**	*e*P	**Pn**	**06 17 46.4**	**+1.5**
JUBC				*e*S	**Sn**	**06 18 22.6**	**+0.3**
CDAR	**Ciudad de Arme**	**3.19**	**138**	*e*P	**Pn**	**06 17 47.8**	**+2.1**
CDAR				*e*S	**Sn**	**06 18 25.1**	**+1.3**
COIG	**Colima**	**3.23**	**131**	*e*P	**Pn**	**06 17 47.8**	**+1.4**
COIG				*e*S	**Sn**	**06 18 24.4**	**-0.6**
SSIG	**Sanalona**	**3.56**	**347**	*e*P	**Pn**	**06 17 49.7**	**-1.2**
SSIG				*e*S	**Sn**	**06 18 30.3**	**-2.6**
AAIG	**Aguscalientes**	**3.66**	**79**	*e*P	**Pn**	**06 17 53.1**	**+0.6**
AAIG				*e*S	**Sn**	**06 18 35.4**	**-0.5**
ZAIG	**Zacatecas**	**3.71**	**67**	*e*P	**Pn**	**06 17 52.1**	**-1.1**
ZAIG				*e*S	**Sn**	**06 18 36.8**	**-0.3**
PDIG	**Papasquiaro**	**3.77**	**12**	*e*P	**Pn**	**06 17 54.7**	**+0.8**
PDIG				*e*S	**Sn**	**06 18 38.2**	**-0.2**
MMIG	**Aquila**	**4.09**	**137**	*e*P	**Pn**	**06 17 58.5**	**+0.3**
MMIG				*e*S	**Sb**	**06 18 54.5**	**-2.7**
H06E1	**SOCORRO T-PHAS**	**5.07**	**241**	T	T	06 23 17.6	
	SNR=534						
H06N1	**SOCORRO T-PHAS**	**5.08**	**242**	T	T	06 23 20.4	
	SNR=146						
H06S1	**SOCORRO T**	**5.12**	**240**	T	T	06 23 25.0	
	SNR=20						
ARIG	**Puente Sto Nin**	**6.34**	**118**	*e*	**Pn**	**06 18 27.9**	**-1.3**
ARIG				*e*		06 19 53.3	
GTIG	**Gomez Farias**	**6.79**	**74**	*e*P	**Pn**	**06 18 34.8**	**-0.5**
GTIG				*e*S	**Sn**	**06 19 53.1**	**+0.4**
TXAR	**Lajitas Array**	**8.30**	**16**	Pn	**Pn**	**06 18 57.4**	**+1.3**
	0.5nm,0.3s,baz=195,slow=14,SNR=41						
TXAR				Lg	Lg	06 21 11.5	
	0.3nm,0.3s,baz=196,slow=27,SNR=5.7						
	1.3nm,0.5s						
ANMO	**Albuquerque**	**13.55**	**359**	LR	LR	06 25 11.9	
	comp=Z,71nm,18.1s,baz=241,slow=37						
NVAR	**Mina Array Bea**	**19.95**	**331**	P	**Pn**	**06 21 31.1**	**+1.5**
	1.0nm,0.8s,baz=156,slow=12,SNR=4.9						
ELK	**Elko**	**20.79**	**340**	P	Pn	06 21 40.0	+0.4
	2.7nm,0.8s,baz=128,slow=12,SNR=11						
	2.7nm,0.8s						
PDAR	**Pinedale Array**	**21.54**	**353**	P	**P**	**06 21 47.4**	**+2.1**
	2.1nm,0.8s,baz=169,slow=9.9,SNR=18						
	2.1nm,0.8s						
ILAR	**Eielson Array**	**50.94**	**339**	P	**P**	**06 25 58.4**	**+1.5**
	0.9nm,0.8s,baz=119,slow=7.0,SNR=9.4						
	0.9nm,0.8s						

IDC 21 06:48:59.4±7.7, 15°.37N×95°.90W, h0km, mb4.0/2, mbtmp3.8/3, ML3.9/1, MS3.3/4, Error ellipse: s-maj=224.1km s-min=65.4km az=29.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**15.64**	**334**	Pn	P	06 52 43.7	-2.0
	0.1nm,0.3s,baz=154,slow=10,SNR=13						
	1.1nm,0.8s						
TKL	**Tuckaleechee C**	**22.94**	**26**	LR	LR	07 04 56.4	
	comp=Z,39nm,18.4s,baz=184,slow=42						
SDV	**Santo Domingo**	**25.51**	**102**	LR	LR	07 04 41.9	
	comp=Z,41nm,18.9s,baz=263,slow=37						
NVAR	**Mina Array Bea**	**30.29**	**324**	P	P	06 55 12.7	0.0
	0.5nm,0.7s,baz=131,slow=8.3,SNR=3.7						
	0.5nm,0.7s						
SIV	**San Ignacio**	**46.40**	**131**	LR	LR	07 13 45.9	
	comp=Z,28nm,20.3s,baz=90,slow=32						
ARCES	**ARCESS Array B**	**86.00**	**18**	P	P	07 01 41.4	0.0
	2.1nm,0.8s,baz=308,slow=4.1,SNR=4.7						
	2.1nm,0.8s						
HFS	**Hagfors**	**86.21**	**28**	LR	LR	07 40 21.5	
	comp=Z,62nm,18.8s,baz=244,slow=36						

*IDC **21** 07:43:49.0±1.4, 36°.39N×68°.35E, h0km, mb3.7/4, mbtmp3.7/10, ML3.3/6, MS3.6/1, Error ellipse: s-maj=27.0km s-min=20.9km az=92.0*
*NNC **21** 07:43:55.5±3.2, 36°.64N×68°.56E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=34.1km s-min=22.9km az=117.0*
ISC 21 07:43:50.7±0.8, 36°.48N±0°.08×68°.18E±0°.07, h10km, n25, σ1§71/29, mb3.8/3, 4C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.85**	**14**	⇑Pn	**Pn**	**07 45 34.4**	**+3.2**
	1.0nm,0.3s,baz=196,slow=13,SNR=18						
KK31				⇓Sn	**Sn**	**07 46 50.8**	**+1.5**
	10nm,0.7s						
KK31				⇑Lg	Lg	07 47 28.5	
	22nm,0.7s,baz=187,slow=27,SNR=7.8						
AML	**Almayashu**	**7.08**	**35**	⇑Pn	**Pn**	**07 45 36.8**	**+2.1**
	0.9nm,0.8s						
AML				⇓Sn	**Sn**	**07 46 57.3**	**+2.0**
	1.9nm,0.7s						
AML				⇑Lg	Lg	07 47 32.0	
	2.2nm,0.6s						
AAK	**Ala-Archa**	**7.85**	**37**	Pn	**Pn**	**07 45 45.3**	**+0.3**
	1.4nm,0.3s,baz=169,slow=2.9,SNR=9.3						
	3.1nm,0.4s						
GEYT	**Alibeck**	**8.15**	**283**	Pn	**Pn**	**07 45 49.2**	**+0.1**
	1.6nm,0.3s,baz=108,slow=14,SNR=8.0						
GEYT				Sn	**Sn**	**07 47 21.9**	**+0.5**
	1.3nm,0.3s,baz=165,slow=6.2,SNR=1.5						
	3.6nm,0.4s						
CHMS	**Chumysh**	**8.24**	**36**	⇓Pn	**Pn**	**07 45 51.9**	**+1.6**
	3.1nm,0.5s						
CHMS				⇓Sn	**Sn**	**07 47 24.7**	**+1.2**
	5.6nm,0.8s						
TKM2	**Tokmak 2**	**8.60**	**39**	⇓Pn	**Pn**	**07 45 57.0**	**+1.6**
	1.9nm,0.5s						
TKM2				⇓Sn	**Sn**	**07 47 29.9**	**-2.7**
	4.2nm,0.8s						
MKAR	**Makanchi Array**	**14.72**	**41**	Pn	**Pn**	**07 47 15.3**	**-3.6**
	0.1nm,0.3s,baz=233,slow=14,SNR=9.0						
	1.9nm,0.7s						
PYUN	**Piuthan**	**15.05**	**120**	*e*P	**Pn**	**07 47 23.0**	**-0.6**
	13nm,0.5s						
DANN	**Dangsing**	**15.45**	**117**	*e*P	**Pn**	**07 47 29.6**	**+0.7**
	9.9nm,0.5s						
AKTO	**Aktyubinsk**	**15.75**	**335**	Pn	**Pn**	**07 47 30.6**	**-1.9**
	0.1nm,0.3s,baz=157,slow=10.0,SNR=2.5						
	1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**15.98**	**25**	Pn	**Pn**	**07 47 32.8**	**-2.6**
	baz=215,slow=13,SNR=2.7						
	0.4nm,0.8s						
GKN	**Gorkha**	**16.28**	**117**	*e*P	**Pn**	**07 47 40.7**	**+1.2**
	22nm,0.5s						
BVAR	**Borovoye Array**	**16.61**	**5**	Pn	**Pn**	**07 47 41.5**	**-2.0**
	0.1nm,0.3s,baz=169,slow=17,SNR=4.6						
	0.5nm,0.4s						
DMN	**Daman**	**16.84**	**117**	*e*P	**Pn**	**07 47 47.1**	**+0.3**
	18nm,0.8s						
PKIN	**Phulchoki**	**17.07**	**116**	*e*P	**Pn**	**07 47 50.1**	**+0.4**
	16nm,0.7s						
PKI	**Pulchoki**	**17.08**	**116**	*e*P	**Pn**	**07 47 50.9**	**+1.0**
	11nm,0.5s						
GUN	**Gumba**	**17.23**	**115**	*e*P	**P**	**07 47 53.9**	**+0.5**
	18nm,0.5s						
JIRN	**Jiri**	**17.60**	**115**	*e*P	**P**	**07 47 58.3**	**+0.8**
	15nm,0.4s						
RAMN	**Ramite**	**18.30**	**116**	*e*P	**P**	**07 48 05.7**	**+0.6**
	12nm,0.5s						
TAPN	**Taplejung**	**18.89**	**113**	*e*P	**Pn**	**07 48 14.5**	**+2.3**
	18nm,0.6s						
ZALV	**Zalesovo Beam**	**20.94**	**28**	P	**P**	**07 48 32.1**	**-1.3**
	1.3nm,0.5s,baz=222,slow=9.4,SNR=5.4						
	1.3nm,0.5s						
SONM	**Songino Array**	**30.22**	**56**	P	**P**	**07 50 01.1**	**-0.3**
	0.4nm,0.4s,baz=246,slow=6.1,SNR=2.4						
	0.4nm,0.4s						
AKASG	**Malin Array Be**	**31.19**	**309**	LR	LR	08 04 35.3	
	comp=Z,108nm,18.3s,baz=345,slow=40						
WRA	**Warramunga Arr**	**83.93**	**120**	P	**P**	**07 56 20.5**	**-0.6**
	0.3nm,0.5s,baz=325,slow=4.9,SNR=7.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**86.13**	**123**	P	**P**	**07 56 31.6**	**-0.6**
	0.5nm,0.7s,baz=312,slow=4.7,SNR=9.4						
	0.5nm,0.7s						

IDC 21 07:55:23.1±2.2, 7°.35S×135°.00E, h0km, mb3.7/2, mbtmp3.7/4, ML3.7/2, MS3.2/1, Error ellipse: s-maj=98.6km s-min=30.0km az=74.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.53**	**183**	Pn	Pn	07 58 22.5	-0.5
	0.4nm,0.3s,baz=3.0,slow=12,SNR=20						
WRA				Sn	Sn	08 00 36.4	-7.0
	0.7nm,0.3s,baz=356,slow=24,SNR=9.1						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**16.26**	**184**	Pn	Pn	07 59 11.8	-1.2
	0.3nm,0.3s,baz=7.5,slow=10.0,SNR=17						
ASAR				Sn	Sn	08 02 05.7	-8.5
	0.2nm,0.3s,baz=0.2,slow=28,SNR=6.0						
	1.3nm,0.7s						
STKA	**Stephens Creek**	**25.16**	**167**	P	P	08 00 51.0	+0.7
	1.9nm,0.9s,baz=350,slow=9.2,SNR=2.3						
	1.9nm,0.9s						
KSRS	**Korea Array**	**45.06**	**352**	LR	LR	08 25 04.7	
	comp=Z,27nm,18.0s,baz=170,slow=40						
MKAR	**Makanchi Array**	**71.31**	**325**	P	P	08 06 44.6	-0.1
	0.2nm,0.4s,baz=112,slow=6.9,SNR=1.9						
	0.2nm,0.4s						

NNC 21 08:08:51.3±2.4, 38°.20N×69°.85E, h0km, mb3.9, mpv3.5, 6C-3D, Error ellipse: s-maj=24.5km s-min=16.6km az=144.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.91**	**36**	⇑Pn	Pn	08 10 06.2	-0.6
	0.4nm,0.5s						
AML				⇑Pg	Pg	08 10 22.9	-2.6
	1.3nm,0.6s						
AML				⇓Lg	Lg	08 11 27.1	
	4.0nm,0.7s						
KK31	**Karatay Array**	**4.93**	**6**	⇑Pn	Pn	08 10 06.0	-0.7
	0.9nm,0.4s,baz=179,slow=12,SNR

TAMC			*e*S	Sn	08 36 29.2	+0.6
TAMC			*i*		08 36 30.1	
	comp=Z,509nm,0.3s					
PTBC	**PUERTO BERRIO,**	**1.38 257**⇑	*e*P	Pn	08 36 05.7	-1.1
PTBC			*e*S	Sn	08 36 27.2	-1.6
PTBC			*i*		08 36 32.1	
	comp=Z,546nm,0.3s					
SPBC	**San Pablo de B**	**1.54 219**⇓	*e*P	Pn	08 36 08.1	-0.4
SPBC			*e*S	Sn	08 36 31.2	-0.7
SPBC			*i*		08 36 36.2	
	comp=Z,987nm,0.4s					
ZARC	**Zaragoza, Cauc**	**1.85 290**⇑	*e*P	Pn	08 36 11.3	-0.4
ZARC			*e*S	Sn	08 36 37.2	-0.4
ZARC			*i*		08 36 42.2	
	comp=Z,759nm,0.2s					
NORC	**Norcasia**	**2.18 234**	*e*P	Pn	08 36 15.0	-0.6
NORC			*e*S	Sn	08 36 43.7	-0.9
NORC			*i*		08 36 48.5	
	comp=Z,475nm,0.3s					
CHIC	**Chingaza**	**2.31 196**⇓	*e*P	Pn	08 36 17.1	-0.4
CHIC			*e*S	Sn	08 36 46.8	-1.1
CHIC			*i*		08 36 52.0	
	comp=Z,347nm,0.4s					
ROSC	**El Rosal**	**2.35 211**⇓	*e*P	Pn	08 36 18.9	+1.0
ROSC			*e*S	Sn	08 36 49.5	+0.8
ROSC	**El Rosal**	**2.35 211** P		Pn	08 36 19.0	+1.0
	comp=Z,222nm,0.3s,baz=308,slow=17,SNR=410					
ROSC		S		Sn	08 36 48.6	-0.1
	comp=Z,930nm,0.3s,baz=82,slow=20,SNR=7.8					
MEDEC	**Medelln, Ant**	**2.54 257**	*e*P	Pn	08 36 20.2	+0.2
MEDEC			*e*S	Sn	08 36 53.9	+1.5
UREC	**San Jos de Ur**	**2.57 290**	*e*P	Pn	08 36 18.9	-1.3
UREC			*e*S	Sn	08 36 49.9	-2.9
UREC			*i*		08 37 01.4	
	comp=Z,431nm,0.2s					
GUY2C	**Guyana, Caldas**	**2.78 234**	*e*P	Pn	08 36 23.3	0.0
GUY2C			*e*S	Sn	08 36 59.0	+0.8
GUY2C			*i*		08 37 05.7	
	comp=Z,450nm,0.7s					
VILC	**Villavicencio,**	**2.80 192**	*e*P	Pn	08 36 22.6	-0.6
VILC			*e*S	Sn	08 36 57.3	-0.9
VILC			*i*		08 37 06.8	
	comp=Z,529nm,0.4s					
PTGC	**Puerto Gaitan,**	**2.82 160**⇓	*i*P	Pn	08 36 22.4	-0.9
PTGC			*e*S	Sn	08 36 55.9	-2.5
PTGC			*i*		08 36 58.8	
	comp=Z,250nm,0.2s					
LL6C	**La Loma 6 Bece**	**2.86 357**	*e*P	Pn	08 36 23.9	+0.1
LL6C			*e*S	Sn	08 36 59.3	0.0
LL6C			*i*		08 37 02.3	
	comp=Z,101nm,0.3s					
NIZA	**Niza - Manizal**	**2.96 233**	*e*P	Pn	08 36 27.7	+2.3
NIZA			*e*S	Sn	08 37 05.0	+3.0
DBBC	**Dabeiba**	**3.09 273**⇑	*i*P	Pn	08 36 26.7	-0.1
DBBC			*e*S	Sn	08 37 03.2	-1.3
DBBC			*i*		08 37 07.8	
	comp=Z,117nm,0.2s					
SDV	**Santo Domingo**	**3.17 50**⇑	*e*P	Pn	08 36 28.9	+1.0
SDV			*e*S	Sn	08 37 05.6	-0.8
SDV			*i*		08 37 09.5	
	comp=Z,68nm,0.3s					
SDV	**Santo Domingo**	**3.17 50** P		Pn	08 36 28.9	+1.0
	comp=Z,134nm,0.3s,baz=145,slow=2.6,SNR=62					
SDV		S		Sn	08 37 05.4	-1.1
	comp=Z,78nm,0.4s,baz=94,slow=19,SNR=9.3					
ARGC	**Ariguani, Magd**	**3.18 339**⇑	*i*P	Pn	08 36 29.4	+1.5
ARGC			*e*S	Sn	08 37 08.0	+1.4
ARGC			*i*		08 37 15.4	
	comp=Z,86nm,0.3s					
ARMEC	**Armenia, Quind**	**3.43 228**	*e*P	Pn	08 36 32.3	+1.1
ARMEC			*e*S	Sn	08 37 17.7	+5.3
APAC	**Apartado, Choc**	**3.60 287**⇑	*i*P	Pn	08 36 33.1	-0.1
APAC			*e*S	Sn	08 37 14.5	-1.6
APAC			*i*		08 37 22.0	
	comp=Z,102nm,0.4s					
PRAC	**Prado**	**3.60 210**	*e*P	Pn	08 36 32.4	-0.9
PRAC			*e*S	Sn	08 37 14.5	-1.7
PRAC			*i*		08 37 19.6	
	comp=Z,311nm,0.3s					
ORTC	**Ortega, Tolima**	**3.63 216**	*e*P	Pn	08 36 33.4	-0.2
ORTC			*i*		08 37 23.2	
	comp=Z,148nm,0.3s					
SJCC	**San Jacinto, C**	**3.65 326**⇑	*e*P	Pn	08 36 33.0	-0.9
SJCC			*e*S	Sn	08 37 14.3	-3.1
SJCC			*i*		08 37 18.6	
	comp=Z,102nm,0.3s					
PLMC	**San Jos del P**	**3.71 239**⇑	*e*P	Pn	08 36 34.8	0.0
PLMC			*e*S	Sn	08 37 21.2	+2.3
PLMC			*i*		08 37 24.7	
	comp=Z,86nm,0.2s					
CRJC	**Cerrejon, Guaj**	**4.13 3**	*e*P	Pn	08 36 39.6	-0.7
CRJC			*e*S	Sn	08 37 27.5	-1.3
CRJC			*i*		08 37 34.4	
	comp=Z,152nm,0.1s					
YOTC	**Yotoco, Valle**	**4.31 229**	*e*P	Pn	08 36 41.8	-0.9
YOTC			*i*		08 37 40.8	
	comp=Z,20nm,0.4s					
GUVC	**San Jose del G**	**4.32 174**	*e*P	Pn	08 36 41.5	-1.1
GUVC			*e*S	Sn	08 37 30.5	-2.4
GUVC			*i*		08 37 34.6	
	comp=Z,75nm,0.2s					
SMRC	**Santa Marta, M**	**4.41 346**	*e*P	Pn	08 36 44.7	+0.9
SMRC			*e*S	Sn	08 37 33.0	-2.2
SMRC			*i*		08 37 36.6	
	comp=Z,68nm,0.3s					
MACC	**Macarena, Meta**	**4.75 189**⇓	*i*P	Pn	08 36 46.2	-2.0
MACC			*e*S	Sn	08 37 37.7	-5.4
MACC			*i*		08 37 44.0	
	comp=Z,57nm,0.3s					
BETC	**Betania**	**4.76 209**	*e*P	Pn	08 36 47.7	-0.9
URIC	**Uribia, Colomb**	**4.93 13**	*e*P	Pn	08 36 50.1	-0.6
URIC			*e*S	Sn	08 37 45.9	-1.4
URIC			*i*		08 37 52.4	
	comp=Z,26nm,0.5s					
MALC	**Bahia Malaga**	**5.08 236**	*e*P	Pn	08 36 53.8	+1.2
JAMC	**Jamundi, Valle**	**5.08 225**	*e*P	Pn	08 36 52.4	-0.4
UPD2	**Meteti**	**5.15 289**	*e*P	Pn	08 36 52.1	-1.4
UPD2			*e*S	Sn	08 37 49.9	-2.6
UPD2			*i*		08 37 55.7	
	comp=Z,66nm,0.7s					
GARC	**Garzon, Huila**	**5.22 207**⇑	*e*P	Pn	08 36 53.4	-1.3
GARC			*e*S	Sn	08 37 50.1	-4.6
GARC			*i*		08 37 55.3	
	comp=Z,68nm,0.3s					
POPC	**Popayan, Colom**	**5.58 220**	*e*P	Pn	08 36 58.9	-0.5
FLOC	**Florencia**	**5.83 206**	*e*P	Pn	08 37 01.8	-0.8
FLOC			*i*		08 38 12.2	
	comp=Z,12nm,0.4s					
BBAC	**Balboa, Cauca**	**6.34 221**	*e*P	Pn	08 37 10.0	+0.4
BBAC			*e*S	Sn	08 38 18.0	-3.2
BBAC			*i*		08 38 26.1	
	comp=Z,6.3nm,0.4s					
CRUC	**La Cruz**	**6.51 216**	*e*P	Pn	08 37 14.3	+2.3
GCUF	**Volcan Galeras**	**7.02 217**	*e*P	Pn	08 37 19.9	+1.0
GCUF			*i*		08 38 42.4	
	comp=Z,5.3nm,0.7s					
BCIP	**Isla Barro Col**	**7.05 289**	*e*P	Pn	08 37 16.0	-2.8
PCRV	**Puerto La Cruz**	**9.00 68** P		Pn	08 37 42.8	-2.0
	comp=Z,4.2nm,0.5s,baz=235,slow=1.6,SNR=14					
TEIG	**Tepich**	**19.82 314** P		**P**	**08 39 59.5**	**+2.6**
	comp=Z,32nm,0.4s,baz=185,slow=2.8,SNR=7.5					
TXAR	**Lajitas Array**	**36.45 312** P		**P**	**08 42 29.1**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=130,slow=8.6,SNR=8.8					
	comp=Z,0.5nm,0.6s					
ULM	**Lac du Bonnet**	**47.25 340** P		**P**	**08 43 55.4**	**-0.1**
	comp=Z,3.0nm,0.4s,baz=156,slow=6.5,SNR=5.2					
	comp=Z,3.0nm,0.4s					
PDAR	**Pinedale Array**	**48.05 324** P		**P**	**08 44 02.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=113,slow=8.7,SNR=4.7					
	comp=Z,0.3nm,0.5s					
NVAR	**Mina Array Bea**	**51.47 315** P		**P**	**08 44 28.6**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=110,slow=7.8,SNR=2.9					
	comp=Z,0.4nm,0.8s					
YKA	**Yellowknife Ar**	**63.23 340** P		**P**	**08 45 50.0**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=130,slow=6.2,SNR=5.6					
	comp=Z,0.9nm,0.6s					
ASAR	**Alice Springs**	**149.15 234** PKPbc		**PKPbc**	**08 55 07.8**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=114,slow=3.8,SNR=8.3					
WRA	**Warramunga Arr**	**150.37 241** PKPbc		**PKPbc**	**08 55 11.1**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=109,slow=2.5,SNR=13					

*BUT **21** 08:38:42.7±0.8, 46°.87N±0°.03×112°.54W±0°.03, h12km±4km, Error ellipse: s-maj=5.3km s-min=1.2km az=211.0*

NEIC 21 08:38:42.5±0.8, 46°.86N±0°.01×112°.55W±0°.01, h11km±3km, ML2.4/6, ML2.8/15(BUT), Error ellipse: s-maj=2.0km s-min=1.2km az=184.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEMT	**Mount Belmont**	**0.19**	**126**		Pg	08 38 46.9	+0.2
LYMT	**Lyon Mountain**	**0.21**	**58**		Pg	08 38 47.2	+0.1
ELMT	**Elliston**	**0.34**	**174**		Pg	08 38 49.6	+0.3
OVMT	**Ovando**	**0.37**	**304**		Pg	08 38 50.0	+0.1
CHMT	**Chamberlain Mo**	**0.49**	**277**		Pg	08 38 52.4	+0.3
BPMT	**Black Pine Rid**	**0.75**	**236**		Pg	08 38 56.9	-0.2
MSO	**Missoula**	**0.96**	**269**		Pg	08 39 00.8	-0.2
MSO	**Missoula**	**0.96**	**269**	Sg	Sg	08 39 13.3	-0.1
MSO				IAML		08 39 17.1	
	133nm,0.6s						
MSO				IAML		08 39 18.8	
	92nm,0.5s						
BOZ	**Bozeman (W)**	**1.41**	**153**		Pn	08 39 08.4	+0.1
BOZ	**Bozeman (W)**	**1.41**	**153**		Sb	08 39 27.3	+0.2
BOZ				IAML		08 39 29.2	
	117nm,0.3s						
DLMT	**Dillon**	**1.50**	**181**		Pn	08 39 09.6	+0.1
DLMT	**Dillon**	**1.50**	**181**	IAML		08 39 33.6	
	40nm,0.2s						
BCYI	**Bear Canyon**	**2.62**	**194**		Pn	08 39 24.7	-0.3

*IDC **21** 08:40:59.5±2.2, 54°.25N×169°.23E, h0km, mb3.6/5, mbtmp3.6/6, ML2.7/1, Error ellipse: s-maj=66.7km s-min=22.4km az=175.0*
*KRSC **21** 08:41:03.4±1.8, 53°.77N×168°.47E, h17km±40km, Ml4.1*

ISC 21 08:41:02.0±1.2, 54°.0N±0°.1×169°.12E±0°.08, h25km, n27, σ1§88/27, mb3.7/5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.23**	**306**	*e*S	**Sn**	**08 42 02.7**	**-1.2**
MKZ	**Mys Kozlova**	**4.38**	**281**	*e*P	**Pn**	**08 42 07.4**	**+0.6**
MKZ				*e*S	**Sn**	**08 42 54.4**	**-2.6**
TUMD	**Tumrok D**	**5.23**	**287**	*e*S	**Sn**	**08 43 18.7**	**+0.6**
KII	**Karymskiy**	**5.71**	**275**	*e*P	**Pn**	**08 42 26.7**	**+1.5**
NLC	**Nalytchevo**	**5.88**	**266**	*e*P	**Pn**	**08 42 29.8**	**+2.3**
NLC				*e*S	**Sn**	**08 43 31.2**	**-2.7**
SMAR	**Somma**	**6.18**	**268**	*e*P	**Pn**	**08 42 33.2**	**+1.4**
AVH	**Avacha**	**6.22**	**268**	*e*P	**Pn**	**08 42 33.9**	**+1.7**
KRX	**Arik**	**6.26**	**269**	*e*P	**Pn**	**08 42 34.2**	**+1.4**
DALK	**Dalny**	**6.26**	**266**	*e*P	**Pn**	**08 42 32.7**	**0.0**
DALK				*e*S	**Sn**	**08 43 41.5**	**-1.8**
GNL	**Ganaly**	**6.63**	**272**	*e*P	**Pn**	**08 42 40.7**	**+2.9**
KRMR	**Karymshinskiy**	**6.67**	**265**	*e*S	**Sn**	**08 43 52.4**	**-1.0**
MTVR	**Mutnovka**	**6.73**	**262**	*e*P	**Pn**	**08 42 41.0**	**+1.7**
MTVR				*e*S	**Sn**	**08 43 53.0**	**-2.2**
GRL	**Gorelyy**	**6.78**	**263**	*e*P	**Pn**	**08 42 42.1**	**+2.2**
PETK	**Petropavlovsk-**	**6.87**	**268**	Pn	**Pn**	**08 42 43.8**	**+2.8**
	0.8nm,0.3s,baz=89,slow=19,SNR=5.1						
PETK				Sn	**Sn**	**08 44 00.7**	**+2.5**
	0.7nm,0.3s,baz=243,slow=28,SNR=6.3						
	1.5nm,0.4s						
ASAK	**Asacha**	**6.93**	**261**	*e*P	**Pn**	**08 42 44.2**	**+2.3**
KDTR	**Khodutka, Kamc**	**7.02**	**257**	*e*P	**Pn**	**08 42 43.6**	**+0.5**
KDTR				*e*S	**Sn**	**08 43 59.7**	**-2.4**
ILAR	**Eielson Array**	**24.35**	**46**	P	**P**	**08 46 15.6**	**-2.0**
	0.3nm,0.6s,baz=252,slow=7.2,SNR=7.4						
	0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**34.20**	**184**	T	T	09 24 07.1	
	baz=2.3,slow=76,SNR=137						
H11N3	**WAKE ISLAND Hy**	**34.21**	**184**	T	T	09 24 11.1	
	baz=2.3,slow=76,SNR=74						
H11N1	**WAKE ISLAND Hy**	**34.22**	**184**	T	T	09 24 08.4	
	baz=2.3,slow=76,SNR=93						
H11S1	**WAKE ISLAND Hy**	**35.42**	**184**	T	T	09 25 41.6	
	baz=2.4,slow=76,SNR=48						
H11S3	**WAKE ISLAND Hy**	**35.43**	**184**	T	T	09 25 41.7	
	baz=2.4,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy**	**35.44**	**184**	T	T	09 25 43.3	
	baz=2.4,slow=76,SNR=44						
KURBB	**Kurchatov Arra**	**51.84**	**306**	P	**P**	**08 50 07.7**	**+0.1**
	0.4nm,0.4s,baz=53,slow=7.7,SNR=2.3						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**53.94**	**312**	P	**P**	**08 50 22.9**	**-0.2**
	1.6nm,0.8s,baz=47,slow=8.7,SNR=4.2						
	1.6nm,0.8s						
NOA	**NORSAR Array B**	**64.02**	**348**	P	**P**	**08 51 32.9**	**0.0**
	0.3nm,0.6s,baz=0.3,slow=5.0,SNR=2.1						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**65.28**	**74**	P	**P**	**08 51 42.3**	**+0.6**
	0.5nm,0.6s,baz=300,slow=4.3,SNR=6.3						
	0.5nm,0.6s						

*MOS **21** 08:43:01.5±0.8, 54°.99N×112°.87E, h10km, mb3.6/2, Error ellipse: s-maj=14.0km s-min=8.1km az=87.6*
*BYKL **21** 08:43:02.9±0.1, 55°.07N×112°.84E*

ISC 21 08:43:02.9±0.5, 55°.07N±0°.02×112°.84E±0°.02, h10km, n52, σ2§67/120, 12C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.61**	**47**⇑	*i*Pg	**Pg**	**08 43 14.4**	**-0.4**
UKT				*e*Sg	**Sg**	**08 43 22.8**	**-0.1**
UKT				Pmax			
	102nm,0.1s						
UKT				Smax			
	950nm,0.4s						
YLYR	**Ulyunkhan**	**0.99**	**259**⇑	*i*Pg	**Pg**	**08 43 20.9**	**-1.0**
YLYR				*e*Sg	**Sg**	**08 43 34.1**	**-0.6**
YLYR				Pmax			
	160nm,0.3s						
YLYR				Smax			
	2μm,0.2s						
YLYR	**Ulyunkhan**	**0.99**	**259**⇑	*i*PG	**Pg**	**08 43 20.9**	**-1.0**
YLYR				*e*		08 43 34.2	
YLYR				pmax	pmax		
	comp=Z,247nm,0.5s						
YLYR				smax	smax		
	comp=N,2μm,0.5s						
SVKR	**Severomuysk**	**1.12**	**21**	*e*Pg	**Pg**	**08 43 24.4**	**-0.1**
SVKR				*e*Pb	**Pn**	**08 43 26.0**	**+1.3**
SVKR				*e*Sg	**Sn**	**08 43 40.3**	**0.0**
SVKR				*e*Sb	**Sb**	**08 43 43.8**	**+4.7**
SVKR				max			
	comp=N,756nm,0.3s						
SVKR				max			
	comp=N,5μm,0.6s						
SVKR	**Severomuysk**	**1.12**	**21**	*e*PG	**Pb**	**08 43 24.6**	**+0.2**
SVKR				*e*		08 43 40.4	
SVKR				pmax	pmax		
	comp=Z,943nm,0.5s						
SVKR				smax	smax		
	comp=E,6μm,0.5s						
YOA	**Uoyan**	**1.24**	**330**	*e*Pg	**Pn**	**08 43 25.4**	**-0.8**
YOA				*e*Sg	**Sb**	**08 43 41.5**	**-0.9**
YOA				*e*Sb	**Sn**	**08 43 45.2**	**+2.2**
YOA	**Uoyan**	**1.24**	**330**⇑	*i*PG	**Pn**	**08 43 25.5**	**-0.8**
YOA				*e*		08 43 41.6	
YOA				pmax	pmax		
	comp=Z,2μm,0.5s						
YOA				smax	smax		
	comp=N,11μm,0.5s						
KMO	**Kumora**	**1.24**	**312**⇑	*i*Pg	**Pn**	**08 43 25.1**	**-1.3**
KMO				*e*Pb	**Pb**	**08 43 26.4**	**0.0**
KMO				*e*Sg	**Sb**	**08 43 41.3**	**-1.1**
KMO				*e*Sb	**Sn**	**08 43 44.0**	**+0.9**
KMO				Pmax			
	comp=N,841nm,0.3s						
KMO				max			
	comp=N,2μm,0.6s						
KMO	**Kumora**	**1.24**	**312**⇑	*i*PG	**Pn**	**08 43 25.0**	**-1.3**
KMO				*e*		08 43 41.4	
KMO				pmax	pmax		
	comp=Z,810nm,0.5s						
KMO				smax	smax		
	comp=E,2μm,0.6s						
NIZB	**Nizh Angarsk**	**2.00**	**292**	*e*Pn	**Pn**	**08 43 37.8**	**+1.0**
NIZB				*e*Pg	**Pb**	**08 43 38.9**	**-0.5**
NIZB				*e*Sn	**Sn**	**08 44 02.8**	**+0.9**
NIZB				*e*Sg	**Sg**	**08 44 07.6**	**+0.3**
NIZB				Pmax			
	comp=E,270nm,0.5s						
NIZB				Smax			
	comp=E,493nm,0.3s						
NIZB	**Nizh Angarsk**	**2.00**	**292**	*e*PN	**Pn**	**08 43 37.8**	**+1.0**
NIZB				*e*		08 43 39.1	
NIZB				*e*		08 44 06.6	
NIZB				pmax	pmax		
	comp=Z,2μm,0.5s						
NIZB				smax	smax		
	comp=E,2μm,0.5s						
NLYR	**Nelyaty**	**2.15**	**47**	*e*Pn	**Pn**	**08 43 39.2**	**+0.3**
NLYR				*e*Pg	**Pb**	**08 43 41.7**	**-0.3**
NLYR				*e*Sn	**Sn**	**08 44 06.2**	**+0.6**
NLYR				*e*Sg	**Sg**	**08 44 10.6**	**-1.4**
NLYR				Pmax			
	comp=E,154nm,0.2s						
NLYR				Smax			
	comp=E,707nm,0.8s						
NLYR	**Nelyaty**	**2.15**	**47**	*e*PN	**Pn**	**08 43 39.1**	**+0.2**
NLYR				*e*		08 43 41.6	
NLYR				*e*		08 44 10.3	
NLYR				pmax	pmax		
	comp=Z,168nm,0.6s						
NLYR				smax	smax		
	comp=N,707nm,0.9s						
SYVR	**Suvo**	**2.19**	**231**	*e*Pn	**Pn**	**08 43 39.7**	**+0.4**
SYVR				*e*Pg	**Pb**	**08 43 41.8**	**-0.7**
SYVR				*e*		08 43 45.0	
SYVR				*e*		08 43 47.6	
SYVR				*e*Sn	**Sn**	**08 44 06.5**	**+0.1**
SYVR				*e*Sg	**Sb**	**08 44 11.1**	**+1.5**
SYVR				max			
	comp=N,76nm,0.5s						
SYVR				Smax			
	comp=N,294nm,0.7s						
SYVR	**Suvo**	**2.19**	**231**	*e*PN	**Pn**	**08 43 39.7**	**+0.4**
SYVR				*e*		08 43 41.7	
SYVR				*e*		08 44 10.2	
SYVR				pmax	pmax		
	comp=Z,78nm,0.5s						
SYVR				smax	smax		
	comp=E,257nm,0.3s						
BOD	**Bodaibo**	**2.83**	**13**	*e*Pn	**Pn**	**08 43 47.5**	**-0.6**
BOD				*e*Pg	**Pb**	**08 43 53.4**	**0.0**
BOD				*e*PgPg	**PbPb**	**08 43 56.7**	**+0.1**
BOD				*e*Sn	**Sn**	**08 44 21.3**	**-0.9**
BOD				*e*Sg	**Sb**	**08 44 28.9**	**+0.8**
BOD				max			
	comp=E,79nm,0.7s						
BOD				Smax			
	comp=E,637nm,0.7s						
BOD	**Bodaibo**	**2.83**	**13**	*e*PN	**Pn**	**08 43 47.7**	**-0.4**
BOD				*e*		08 43 53.5	
BOD				*e*		08 44 29.2	
BOD				pmax	pmax		
	comp=Z,79nm,0.5s						
BOD				smax	smax		
	comp=E,635nm,0.5s						
MXMB	**Maximikha**	**3.01**	**235**	*e*Pn	**Pn**	**08 43 51.4**	**+0.7**
MXMB				*e*Pg	**Pb**	**08 43 57.0**	**+0.4**
MXMB				*e*		08 44 29.6	
MXMB				*e*Sg	**Sb**	**08 44 36.3**	**+2.9**
CIT	**Chita**	**3.09**	**172**	*e*Pn	**Pn**	**08 43 53.2**	**+1.5**
CIT				*e*Pg	**Pb**	**08 43 58.6**	**+0.7**
CIT				*e*PgPg	**Pg**	**08 44 01.8**	**-0.2**
CIT				*e*		08 44 24.2	
CIT				*e*Sn	**Sn**	**08 44 29.2**	**+0.5**
CIT				*e*Sg	**Sb**	**08 44 38.9**	**+3.3**
CIT				max			
	comp=E,102nm,0.3s						
CIT				Smax			
	comp=E,744nm,0.2s						
OGRR	**Ongureny**	**3.39**	**247**	*e*Pn	**Pn**	**08 43 55.8**	**0.0**
OGRR				*e*Pg	**Pb**	**08 44 02.8**	**-0.2**
OGRR				*e*PgPg	**PbPb**	**08 44 05.6**	**-0.5**
OGRR				*e*		08 44 38.2	
OGRR				*e*Sg	**Sb**	**08 44 46.7**	**+2.5**
OGRR				max			
	comp=E,35nm,0.9s						
OGRR				Smax			
	comp=E,118nm,0.5s						
CRS	**Chara**	**3.56**	**57**	*e*Pn	**Pn**	**08 43 58.6**	**+0.5**
CRS				*e*		08 44 03.0	
CRS				*e*Pg	**Pb**	**08 44 06.7**	**+0.8**
CRS				*e*		08 44 11.9	
CRS				*e*		08 44 34.9	
CRS				*e*Sg	**Sg**	**08 44 53.2**	**-3.8**
CRS				max			
	comp=E,100nm,1.1s						
CRS				Smax			
	comp=E,309nm,0.7s						
KELR	**Kotokel**	**3.65**	**232**	*e*Sn	**Sn**	**08 44 40.4**	**-2.0**
KELR				*e*Sg	**Sb**	**08 44 55.4**	**+3.8**
TUP	**Tupik**	**4.17**	**96**	*e*Pn	**Pn**	**08 44 07.0**	**+0.4**
TUP				*e*		08 44 15.9	
TUP				*e*Pg	**Pb**	**08 44 17.0**	**+0.6**
TUP				*e*Sn	**Sn**	**08 44 53.8**	**-1.6**
TUP				*e*Sg	**Sb**	**08 45 11.8**	**+5.0**
TUP				*e*		08 45 24.0	
TUP				*e*Pg	Pg		
	comp=E,41nm,0.5s						
TUP				max	Pg		
	comp=E,438nm,0.7s						
TUP	**Tupik**	**4.17**	**96**	*e*PN	**Pn**	**08 44 07.0**	**+0.4**
TUP				*e*		08 44 17.5	
TUP				*e*S	**Sn**	**08 44 52.1**	**-3.3**
TUP				*e*		08 45 12.4	
TUP				pmax	pmax		
	comp=Z,38nm,0.6s						
TUP				smax	smax		
	comp=N,440nm,0.7s						
ZRHB	**Zarechye**	**4.21**	**236**	*e*Sg	**Sb**	**08 45 12.5**	**+4.6**
ZRHB				Smax			
	comp=N,466nm,0.9s						
VTMR	**Vitim**	**4.38**	**358**	*e*Pg	**Pb**	**08 44 21.0**	**+1.1**
VTMR				*e*		08 44 54.5	
VTMR				*e*Sg	**Sb**	**08 45 17.6**	**+4.9**
KHNR	**Khani**	**4.42**	**62**	*e*Pn	**Pn**	**08 44 10.9**	**+1.0**
KHNR				*e*Pg	**Pb**	**08 44 22.0**	**+1.5**
KHNR				*e*		08 44 26.5	
KHNR				*e*Sn	**Sn**	**08 45 01.2**	**-0.2**
KHNR				*e*Sg	**Sg**	**08 45 19.4**	**-5.1**
UUDB	**Ulan-Yde**	**4.46**	**226**	*e*Pn	**Pn**	**08 44 11.9**	**+1.4**
UUDB				*e*Pg	**Pb**	**08 44 22.9**	**+1.7**
UUDB				*e*		08 44 24.7	
UUDB				*e*Sn	**Sn**	**08 45 00.1**	**-2.3**
UUDB				*e*Sg	**Sb**	**08 45 21.0**	**+6.0**
UUDB				max			
	comp=N,26nm,0.6s						
UUDB				Smax			
	comp=N,96nm,0.7s						
TRG	**Tyrgan**	**4.48**	**242**	*e*Pn	**Pn**	**08 44 11.7**	**+0.8**
TRG				*e*Pg	**Pb**	**08 44 23.3**	**+1.6**
TRG				*e*Sn	**Sn**	**08 45 02.0**	**-1.1**
TRG				*e*Sg	**Sg**	**08 45 21.9**	**-4.8**
TRG				Pmax			
	comp=N,10.0nm,0.4s						
TRG				Smax			
	comp=N,76nm,0.4s						
FFNB	**Fofonovo**	**4.72**	**233**	*e*Pn	**Pn**	**08 44 13.8**	**-0.3**
FFNB				*e

KPC			*e*			08 45 32.5	
KPC			*e*Sg		**Sg**	**08 45 49.9**	**-5.8**
KPC			max				
	comp=N,15nm,0.4s						
KPC			Smax				
	comp=N,190nm,1.0s						
KPC	**Khapcheranga**	**5.38**	**183**	*e*PN	**Pn**	**08 44 22.2**	**-1.1**
KPC				*e*		08 44 38.1	
KPC				*e*		08 45 49.9	
KPC				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KPC				smax	smax		
	comp=E,190nm,1.1s						
LSTR	**Listvyanka**	**5.76**	**239**	*e*Sg	**Sb**	**08 46 00.3**	**+7.9**
LSTR				*e*		08 46 17.6	
LSTR				Smax			
	comp=E,48nm,1.4s						
IVK	**Ivanovka**	**6.01**	**240**	*e*Pn	**Pn**	**08 44 32.8**	**+1.0**
IVK				*e*Pg	**Pb**	**08 44 49.5**	**+1.9**
IVK				*e*Sg	**Sb**	**08 46 08.2**	**+8.7**
IVK				*e*		08 46 12.1	
IVK				Pmax			
	comp=E,6.0nm,0.5s						
IVK				max			
	comp=E,39nm,0.7s						
TLY	**Talaya**	**6.47**	**242**	*e*Pg	**Pb**	**08 44 58.6**	**+3.2**
TLY				*e*Sn	**Sn**	**08 45 49.3**	**-2.6**
TLY				*e*Sg	**Sg**	**08 46 23.6**	**-6.7**
TLY				Pmax			
	comp=E,8.0nm,0.5s						
TLY				Smax			
	comp=E,30nm,0.7s						
ARS	**Arshan**	**6.97**	**247**	*e*Pn	**Pn**	**08 44 46.9**	**+1.9**
ARS				*e*Pg	**Pb**	**08 45 07.5**	**+3.5**
ARS				*e*		08 45 20.3	
ARS				*e*Sg	Sg	08 46 37.9	-8.5
ARS				*e*		08 46 45.5	
ARS				max			
	comp=E,15nm,0.5s						
ARS				max			
	comp=E,140nm,1.3s						
HIA	**Hailar**	**7.20**	**141⇑**	*e*PN	**Pn**	**08 44 48.8**	**+0.7**
ZAK	**Zakamensk**	**7.46**	**235**	*e*Sg	**Sg**	**08 46 55.0**	**-7.3**
ZAK				Smax			
	comp=E,38nm,1.3s						
MOY	**Mondy**	**7.86**	**249**	*e*Pg	Pb	08 45 25.0	+5.8
MOY				*e*		08 46 11.5	
MOY				*e*Sg	Sg	08 47 06.2	-8.9
MOY				Pmax			
	comp=E,20nm,1.6s						
MOY				Smax			
	comp=E,71nm,1.4s						
ULN	**Ulaanbaatar**	**8.07**	**209⇑**	*e*PN	**Pn**	**08 44 59.2**	**-1.0**
ORL	**Orlik**	**8.12**	**257**	*e*Pn	**Pn**	**08 45 01.2**	**+0.3**
ORL				*e*		08 45 06.3	
ORL				*e*Pg	Pb	08 45 29.4	+5.8
ORL				*e*Sn	**Sn**	**08 46 28.4**	**-4.3**
ORL				*e*Sg	Sg	08 47 13.8	-9.5
ORL				Pmax			
	comp=E,7.0nm,0.6s						
ORL				Smax			
	comp=E,61nm,1.3s						
YAK	**Yakutsk**	**11.20**	**45⇑**	*e*P	**Pn**	**08 45 45.6**	**+2.8**
YAK				pmax	pmax		
	comp=Z,19nm,0.3s						
KLR	**Kul'dur**	**12.98**	**109⇓**	*e*P	**Pn**	**08 46 07.6**	**+0.4**
KLR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**18.00**	**16⇑**	*e*P	**P**	**08 47 14.4**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,14nm,4.7s						
KURK	**Kurchatov**	**20.96**	**272⇑**	*e*P	**P**	**08 47 45.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
BRVK	**Borovoye**	**24.78**	**283⇑**	*e*P	**P**	**08 48 25.7**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BORG	**Borgarnes**	**55.45**	**338**	*i* P	**P**	**08 52 35.4**	**-1.6**
ABPO	**Ambohimpanom**	**92.31**	**240**	*i* P	**P**	**08 56 14.6**	**+1.3**

IDC 21 08:55:21.5±2.2, 6°.47S×130°.46E, h0km, mb3.8/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=92.4km s-min=32.8km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.91**	**165**	Pn	Pn	08 58 39.9	-0.2
	0.1nm,0.3s,baz=344,slow=14,SNR=8.4						
WRA				Sn	Sn	09 01 01.3	-14
	0.5nm,0.3s,baz=333,slow=25,SNR=12						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**17.41**	**169**	P	Pn	08 59 26.2	+0.1
	0.1nm,0.3s,baz=351,slow=11,SNR=5.9						
ASAR				S	Sn	09 02 23.8	-17
	0.3nm,0.5s,baz=346,slow=26,SNR=2.4						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**68.04**	**326**	P	P	09 06 22.9	0.0
	0.5nm,0.5s,baz=127,slow=8.4,SNR=4.2						
	0.5nm,0.5s						

*IDC **21** 09:12:48.9±9.0, 19°.35N×108°.95W, h0km, mb3.5/3, mbtmp3.6/4, ML3.2/1, MS3.6/3, Error ellipse: s-maj=149.2km s-min=65.7km az=152.0*

ISC 21 09:12:53.6±3.1, 19°.7N±0°.4×109°.5W±0°.4, h10km, n13, σ0s63/9, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.62**	**236**	Pn	**Pn**	**09 13 22.9**	**+0.7**
H06E1				Sn	**Sn**	**09 13 42.6**	**-0.6**
H06E1				T	T	09 15 18.7	
	SNR=10.0						
H06N1	**SOCORRO T-PHAS**	**1.62**	**240**	Pn	**Pn**	**09 13 22.2**	**0.0**
H06N1				Sn	**Sn**	**09 13 42.9**	**-0.3**
H06N1				T	T	09 15 17.0	
	SNR=14						
H06S1	**SOCORRO T**	**1.67**	**235**	Pn	**Pn**	**09 13 23.3**	**+0.4**
H06S1				Sn	**Sn**	**09 13 43.7**	**-0.7**
H06S1				T	T	09 15 18.3	
	SNR=7.3						
TXAR	**Lajitas Array**	**10.97**	**28**	Pn	**Pn**	**09 15 30.1**	**-0.6**
	baz=199,slow=15,SNR=17						
	1.5nm,0.9s						
TEIG	**Tepich**	**19.97**	**85**	LR	LR	09 25 55.2	
	comp=Z,575nm,18.0s,baz=352,slow=40						
NVAR	**Mina Array Bea**	**20.17**	**340**	P	Pn	09 17 30.9	+0.5
	2.1nm,0.9s,baz=170,slow=15,SNR=13						
	2.1nm,0.9s						
PDAR	**Pinedale Array**	**23.00**	**360**	P	**P**	**09 17 58.8**	**-0.1**
	0.7nm,0.8s,baz=158,slow=7.8,SNR=5.2						
	0.7nm,0.8s						
TKL	**Tuckaleechee C**	**27.67**	**50**	LR	LR	09 31 17.3	
	comp=Z,39nm,19.3s,baz=207,slow=40						
PCRV	**Puerto La Cruz**	**44.26**	**96**	LR	LR	09 40 01.7	
	comp=Z,43nm,18.3s,slow=37						
ILAR	**Eielson Array**	**51.42**	**341**	P	**P**	**09 21 59.2**	**+0.7**
	0.9nm,0.7s,baz=142,slow=7.2,SNR=14						
	0.9nm,0.7s						
H03N2	**Juan Fernandez**	**60.36**	**151**	T	T	10 28 34.3	
	baz=329,slow=78,SNR=28						
H03N1	**Juan Fernandez**	**60.37**	**151**	T	T	10 28 33.4	
	baz=329,slow=78,SNR=28						
H03N3	**Juan Fernandez**	**60.38**	**151**	T	T	10 28 27.5	
	baz=329,slow=78,SNR=26						

*IDC **21** 09:27:37.4±6.2, 22°.34N×143°.96E, h169km±53km, mb3.5/8, mbtmp4.0/9, Error ellipse: s-maj=88.5km s-min=19.8km az=79.0*

ISC 21 09:27:35.0±2.3, 22°.4N±0°.2×144°.1E±0°.6, h150km, n12, σ0s67/9, mb3.9/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.03**	**341**	P	**Pn**	**09 30 59.2**	**-0.5**
	1.4nm,0.5s,baz=164,slow=8.8,SNR=7.1						
KSRS	**Korea Array**	**20.52**	**321**	P	**P**	**09 32 02.5**	**+1.0**
	2.3nm,0.5s,baz=147,slow=8.7,SNR=20						
	2.3nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**21.49**	**96**	T	T	09 55 04.6	
	baz=283,slow=74,SNR=3.7						
H11S1	**WAKE ISLAND Hy**	**21.50**	**96**	T	T	09 55 05.5	
	baz=283,slow=74,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**21.51**	**96**	T	T	09 55 07.6	
	baz=283,slow=74,SNR=2.7						
USRK	**Ussuriysk Ar.**	**23.96**	**338**	P	**P**	**09 32 36.4**	**+0.9**
	4.2nm,0.8s,baz=188,slow=12,SNR=4.8						
	4.2nm,0.8s						
SONM	**Songino Array**	**39.38**	**319**	P	**P**	**09 34 50.0**	**0.0**
	0.3nm,0.3s,baz=107,slow=9.7,SNR=2.7						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**43.12**	**194**	P	**P**	**09 35 20.7**	**0.0**
	0.6nm,1.1s,baz=12,slow=8.7,SNR=7.4						
	0.6nm,1.1s						
MKAR	**Makanchi Array**	**54.89**	**312**	P	**P**	**09 36 49.3**	**-0.7**
	0.5nm,0.5s,baz=90,slow=9.9,SNR=7.2						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**57.63**	**317**	P	**P**	**09 37 09.0**	**-0.3**
	2.6nm,0.7s,baz=94,slow=7.7,SNR=17						
	2.6nm,0.7s						
BVAR	**Borovoye Array**	**62.73**	**319**	P	**P**	**09 37 44.0**	**0.0**
	3.0nm,0.4s,baz=84,slow=7.4,SNR=11						
	3.0nm,0.4s						
FINES	**FINESS Array B**	**82.95**	**335**	P	**P**	**09 39 43.0**	**+0.1**
	1.9nm,0.9s,baz=72,slow=6.2,SNR=4.1						
	1.9nm,0.9s						

IDC 21 09:46:54.7±3.2, 19°.35S×177°.38W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=348.6km s-min=35.6km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.35**	**261**	P	P	09 55 15.2	+0.2
	0.2nm,0.4s,baz=96,slow=8.4,SNR=7.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**45.36**	**256**	P	P	09 55 14.5	-0.6
	0.3nm,0.7s,baz=90,slow=8.5,SNR=2.6						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**85.94**	**57**	P	P	09 59 37.1	0.0
	0.3nm,0.8s,baz=209,slow=7.2,SNR=3.9						
	0.3nm,0.8s						

*IDC **21** 09:47:13.1±1.2, 30°.90N×87°.89E, h0km, mb3.4/5, mbtmp3.5/7, ML3.7/2, MS3.4/1, Error ellipse: s-maj=59.1km s-min=21.7km az=61.0*

ISC 21 09:47:18.1±1.1, 31°.0N±0°.2×88°.0E±0°.3, h35km, n8, σ0s71/7, mb3.5/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.93**	**139**	Pn	**Pn**	**09 50 58.8**	**-0.8**
	0.5nm,0.3s,baz=318,slow=13,SNR=1.8						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**16.38**	**346**	Pn	**Pn**	**09 51 04.8**	**-0.4**
	baz=172,slow=12,SNR=2.1						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**20.84**	**343**	P	**P**	**09 51 56.3**	**-0.3**
	0.7nm,0.7s,baz=162,slow=10.0,SNR=4.8						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**23.05**	**355**	P	**P**	**09 52 20.6**	**+0.5**
	1.0nm,0.5s,baz=179,slow=7.3,SNR=4.7						
	1.0nm,0.5s						
MMAI	**Mount Meron Ar**	**44.29**	**287**	LR	LR	10 17 58.5	
	comp=Z,49nm,19.4s,baz=312,slow=42						
WRA	**Warramunga Arr**	**67.40**	**133**	P	**P**	**09 58 10.4**	**+0.2**
	0.2nm,0.6s,baz=325,slow=6.8,SNR=4.7						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**69.90**	**136**	P	**P**	**09 58 26.6**	**+0.9**
	0.4nm,0.7s,baz=317,slow=5.0,SNR=4.2						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**80.26**	**279**	P	**P**	**09 59 25.7**	**0.0**
	0.3nm,0.6s,baz=57,slow=4.7,SNR=1.8						
	0.3nm,0.6s						

*CNRM **21** 09:51:28.0, 36°.33N×2°.78W, h8km, ml2.8*
*SFS **21** 09:51:27.4, 36°.42N×2°.72W, h19km, ML3.4/18, ML3.5/17, MLv3.4/18*
*LDG **21** 09:51:28.3±0.1, 36°.43N×2°.70W, h2km, Ml3.3/4, Error ellipse: s-maj=3.2km s-min=1.8km az=160.0*
*MDD **21** 09:51:28.0±0.2, 36°.41N×2°.71W, h12km, mb_Lg3.3/40, Error ellipse: s-maj=1.8km s-min=1.3km az=140.0*
*INMG **21** 09:51:28.9±1.3, 36°.44N×2°.71W, h16km±2km, ML2.9, Error ellipse: s-maj=1.8km s-min=1.6km az=129.0*

ISC 21 09:51:26.6±0.7, 36°.43N±0°.02×2°.71W±0°.02, h9km, n104, σ1s89/204, 2C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.49**	**343**	⇓Pg	**Pb**	**09 51 38.7**	**+1.2**
EBER				Sg	**Sb**	**09 51 45.0**	**+0.1**
EBER	**Berja**	**0.49**	**343**	S	**Sb**	**09 51 47.1**	**+2.2**
EBER				P	**Pb**	**09 51 38.6**	**+1.2**
EALB	**Alboran**	**0.56**	**208**	⇑Pg	**Pb**	**09 51 39.6**	**+1.1**
EALB				Sg	**Sg**	**09 51 45.2**	**+0.6**
EALB				*i* Vmb_Lg		09 51 50.5	
EALB	**Alboran**	**0.56**	**208**	S	**Sb**	**09 51 47.1**	**+0.6**
EALB				P	**Pb**	**09 51 39.5**	**+1.1**
ENIJ	**Nijar**	**0.68**	**37**	⇑Pg	**Pb**	**09 51 41.2**	**+0.6**
ENIJ				Sg	**Sb**	**09 51 50.4**	**+0.3**
ENIJ	**Nijar**	**0.68**	**37**	P	**Pb**	**09 51 40.9**	**+0.3**
ENIJ				S	**Sb**	**09 51 50.2**	**+0.2**
ELGU	**Los Guajares,**	**0.86**	**301**	Pg	**Pg**	**09 51 43.7**	**+0.6**
ELGU				Sg	**Sg**	**09 51 54.5**	**+0.2**
ELGU	**Los Guajares,**	**0.86**	**301**	P	**Pb**	**09 51 44.0**	**+0.3**
ELGU				S	**Sg**	**09 51 54.7**	**+0.4**
EQUE	**Quentar**	**0.97**	**323**	Pg	**Pn**	**09 51 46.9**	**+0.4**
EQUE				Sg	**Sg**	**09 51 58.5**	**+0.5**
EQUE				*i* Vmb_Lg		09 52 03.8	
EQTA	**Presa de Quent**	**0.97**	**323**	P	**Pn**	**09 51 47.1**	**+0.6**
EQTA				S	**Sg**	**09 51 58.0**	**0.0**
WMELI	**Melilla**	**1.13**	**190**	P	**Pn**	**09 51 48.8**	**+0.3**
GOG	**Mont Gurugu**	**1.23**	**191**	P	**Pb**	**09 51 49.5**	**-0.5**
GOG	**Mont Gurugu**	**1.23**	**191**	P	**Pb**	**09 51 49.6**	**-0.4**
GOG				S	**Sn**	**09 52 08.9**	**+2.2**
CHAS	**Isla Isabel II**	**1.26**	**170**	P	**Pn**	**09 51 49.9**	**-0.5**
EGOR	**Sierra Gorda,**	**1.31**	**302**	Pn	**Pn**	**09 51 51.2**	**-0.1**
EGOR				Pg	**Pg**	**09 51 52.2**	**+0.4**
EGOR				Sg	**Sb**	**09 52 07.8**	**-0.7**
EGOR				*i* Vmb_Lg		09 52 16.3	
EGOR	**Sierra Gorda,**	**1.31**	**302**	P	**Pg**	**09 51 52.4**	**+0.6**
EQES	**Quesada**	**1.40**	**348**	Pg	**Pb**	**09 51 53.8**	**+0.8**
EQES				Sg	**Sb**	**09 52 11.6**	**+0.6**
EQES				*i* Vmb_Lg		09 52 15.9	
EMAL	**Malaga-Limoner**	**1.42**	**284**	P	**Pn**	**09 51 50.5**	**-2.1**
ELOR	**Lorca, Murcia**	**1.43**	**32**	Pn	**Pn**	**09 51 52.8**	**0.0**
ELOR				Sn	**Sn**	**09 52 10.1**	**-1.7**
ELOR				*i* Vmb_Lg		09 52 10.9	
TLOR	**Lorca, Murcia**	**1.47**	**33**	Pn	**Pn**	**09 51 53.2**	**-0.1**
TLOR				Sn	**Sn**	**09 52 11.6**	**-1.1**
PALE	**Palemas**	**1.57**	**220**	P	**Pn**	**09 51 55.0**	**+0.3**
PALE	**Palemas**	**1.57**	**220**	P	**Pn**	**09 51 54.9**	**+0.2**
PALE				S	**Sn**	**09 52 13.0**	**-2.2**
TAF	**Taforalt**	**1.63**	**171**	P	**Pn**	**09 51 56.0**	**+0.4**
EZAR	**Zarzadilla de**	**1.66**	**29**	Pn	**Pn**	**09 51 56.0**	**+0.1**
EZAR				Sn	**Sn**	**09 52 16.0**	**-1.3**
EZAR				*i* Vmb_Lg		09 52 27.4	
CART	**Cartagena**	**1.79**	**49**	P	**Pn**	**09 51 55.6**	**-2.1**
PVLZ	**Peæn de**	**1.80**	**226**	P	**Pn**	**09 51 56.5**	**-1.3**
EMUR	**La Murta**	**1.83**	**39**	Pn	**Pn**	**09 51 57.7**	**-0.6**
EMUR				Sn	**Sn**	**09 52 19.1**	**-2.6**
EMUR				Sg	**Sg**	**09 52 25.5**	**-0.1**
EMUR				*i* Vmb_Lg		09 52 30.5	
EMUR	**La Murta**	**1.83**	**39**	P	**Pn**	**09 51 57.8**	**-0.6**
JBK	**JBK**	**2.09**	**177**	P	**Pn**	**09 52 02.3**	**+0.3**
JBK	**JBK**	**2.09**	**177**	P	**Pn**	**09 52 02.5**	**+0.5**
JBK				S	**Sn**	**09 52 27.4**	**-0.8**
CEU	**Ceuta**	**2.22**	**257**	P	**Pn**	**09 52 01.5**	**-2.1**
ECEU	**Ceuta**	**2.22**	**257**	Pn	**Pn**	**09 52 03.4**	**-0.2**
ECEU				Sn	**Sn**	**09 52 28.8**	**-2.4**
ECEU				Sg	**Sb**	**09 52 35.2**	**+0.6**
ECEU	**Ceuta**	**2.22**	**257**	P	**Pn**	**09 52 02.6**	**-1.0**
EJIM	**Jimena Fronter**	**2.23**	**271**	*e*Sn	**Sn**	**09 52 30.4**	**-0.9**
EJIM	**Jimena Fronter**	**2.23**	**271**	Pn	**Pn**	**09 52 03.2**	**-0.5**
EJIM				Pg	**Pb**	**09 52 07.4**	**+0.5**
EJIM				Sn	**Sn**	**09 52 29.8**	**-1.5**
EADA	**Adamuz**	**2.29**	**320**	Pn	**Pn**	**09 52 04.5**	**0.0**
EADA				Pg	**Pb**	**09 52 09.2**	**+1.2**
EADA				Sn	**Sn**	**09 52 32.8**	**-0.1**
EADA				Sg	**Sb**	**09 52 38.5**	**+2.0**
EADA				*i* Vmb_Lg		09 52 44.6	
EADA	**Adamuz**	**2.29**	**320**	P	**Pn**	**09 52 05.8**	**+1.3**
EADA				S	**Sn**	**09 52 32.1**	**-0.7**
SMIR	**Smir Dam**	**2.29**	**252**	P	**Pn**	**09 52 04.9**	**+0.4**
SMIR				S	**Sn**	**09 52 31.5**	**-1.4**
ETOB	**Tobarra**	**2.40**	**22**	Pn	**Pn**	**09 52 06.7**	**+0.6**
ETOB				Sn	**Sn**	**09 52 35.2**	**-0.4**
ETOB				*i* Vmb_Lg		09 52 38.3	
ETOB	**Tobarra**	**2.40**	**22**	P	**Pn**	**09 52 07.2**	**+1.1**
ETOB				S	**Sn**	**09 52 34.8**	**-0.8**
CHEFC	**Chefchaouen**	**2.51**	**239**	P	**Pn**	**09 52 08.1**	**+0.4**
CHEFC				S	**Sn**	**09 52 35.1**	**-3.4**
PSIM	**Granatula de C**	**2.53**	**341**	Pn	**Pn**	**09 52 08.0**	**+0.2**
PSIM				Pg	**Pb**	**09 52 12.0**	**-0.1**
PSIM				Sn	**Sn**	**09 52 37.4**	**-1.4**
PSIM				Sg	**Sb**	**09 52 46.1**	**+2.8**
ESPR	**Espera**	**2.57**	**281**	Pn	**Pn**	**09 52 08.0**	**-0.3**
ESPR				Pg	**Pb**	**09 52 12.7**	**-0.1**
ESPR				Sn	**Sn**	**09 52 37.5**	**-2.2**
ESPR				Sg	**Sb**	**09 52 45.3**	**+0.8**
ESPR				*i* Vmb_Lg		09 52 52.6	
ECAB	**El Cabril**	**2.71**	**308**	Pn	**Pn**	**09 52 10.8**	**+0.4**
ECAB				Pg	**Pb**	**09 52 16.1**	**+0.7**
ECAB				Sn	**Sn**	**09 52 42.1**	**-1.3**
ECAB				Sg	**Sg**	**09 52 51.8**	**-2.0**
ECAB				*i* Vmb_Lg		09 52 57.0	
ECAB	**El Cabril**	**2.71**	**308**	P	**Pn**	**09 52 10.5**	**+0.1**
AFON	**Font Roja**	**2.82**	**37**	Pn	**Pn**	**09 52 12.1**	**+0.1**
AFON				Pg	**Pb**	**09 52 18.1**	**+0.9**
AFON				Sn	**Sn**	**09 52 44.8**	**-1.2**
AFON				*i* Vmb_Lg		09 53 19.3	
EBEN2	**Beniarda presa**	**3.01**	**41**	Pn	**Pn**	**09 52 14.8**	**+0.3**
EBEN2				Pg	**Pb**	**09 52 20.8**	**+0.5**
EBEN2				Sn	**Sn**	**09 52 49.2**	**-1.4**
EBEN2				*i* Vmb_Lg		09 53 11.0	
PAB	**San Pablo**	**3.37**	**338**	P	**Pn**	**09 52 22.0**	**+2.5**
PAB	**San Pablo**	**3.37**	**338**	Pn	**Pn**	**09 52 20.0**	**+0.6**
PAB				Sn	**Sn**	**09 52 57.7**	**-2.0**
PAB				Sg	**Sb**	**09 53 11.6**	**+4.0**
PAB				*i* Vmb_Lg		09 53 23.1	
ESDC	**Sonseca Array**	**3.39**	**343**	Pn	**Pn**	**09 52 19.7**	**0.0**
ESDC				Pg	**Pb**	**09 52 28.3**	**+1.5**
ESDC				Sn	**Sn**	**09 52 58.4**	**-1.6**
ESDC				Sg	**Sg**	**09 53 13.0**	**-2.4**
ESDC				*i* Vmb_Lg		09 53 24.5	
EMIN	**Mina Concepcio**	**3.44**	**294**	Pn	**Pn**	**09 52 20.3**	**0.0**
EMIN				Sn	**Sn**	**09 52 59.4**	**-1.8**
EMIN				*i* Vmb_Lg		09 53 24.2	
EMIN	**Mina Concepcio**	**3.44**	**294**	P	**Pn**	**09 52 19.6**	**-0.7**
ECHE	**Chera**	**3.44**	**23**	Pn	**Pn**	**09 52 20.7**	**+0.3**
ECHE				Sn	**Sn**	**09 53 00.0**	**-1.4**
ECHE				*i* Vmb_Lg		09 53 30.9	
ECHE	**Chera**	**3.44**	**23**	P	**Pn**	**09 52 21.9**	**+1.4**
PBAR	**Barrancos**	**3.87**	**298**	*e*Pn	**Pn**	**09 52 27.4**	**+1.2**
PBAR				*e*Sn	**Sn**	**09 53 09.6**	**-2.2**
PBAR				A	A	09 53 41.4	
	18nm,0.6s						
PBAR	**Barrancos**	**3.87**	**298**	P	**Pn**	**09 52 27.0**	**+0.8**
CZD	**Col de Zad**	**3.90**	**210**	P	**Pn**	**09 52 28.2**	**+1.4**
CZD				S	**Sn**	**09 53 12.5**	**-0.4**
MDT	**Midelt**	**3.93**	**204**	P	**Pn**	**09 52 27.8**	**+0.6**
MDT				S	**Sn**	**09 53 14.5**	**+1.0**
MD31	**MD31**	**3.94**	**206**	P	**Pn**	**09 52 28.6**	**+1.4**
MD31				S	**Sn**	**09 53 12.1**	**-1.5**
EGRO	**El Granado**	**3.98**	**288**	Pn	**Pn**	**09 52 28.0**	**+0.2**
EGRO				Sn	**Sn**	**09 53 12.3**	**-2.1**
EGRO				*i* Vmb_Lg		09 53 16.1	
EIBI	**Ibiza**	**4.13**	**50**	Pn	**Pn**	**09 52 29.8**	**0.0**
EIBI				Sn	**Sn**	**09 53 15.1**	**-3.1**
EIBI				*i* Vmb_Lg		09 53 18.2	
PVAQ	**Vaqueiros**	**4.13**	**285**	*e*Pn	**Pn**	**09 52 30.4**	**+0.6**
PVAQ				*e*Sn	**Sn**	**09 53 15.2**	**-3.0**
PVAQ				A	A	09 53 20.3	
	20nm,0.3s						
PVAQ	**Vaqueiros**	**4.13**	**285**	P	**Pn**	**09 52 30.3**	**+0.6**
PVAQ	**Vaqueiros**	**4.13**	**285**	P	**Pn**	**09 52 30.7**	**+0.8**
PVAQ				S	**Sn**	**09 53 15.7**	**-2.5**
EBAD	**Badajoz**	**4.13**	**305**	Pn	**Pn**	**09 52 30.0**	**+0.2**
EBAD				Sn	**Sn**	**09 53 16.1**	**-2.2**
EBAD				*i* Vmb_Lg		09 53 18.7	
EBAD	**Badajoz**	**4.13**	**305**	P	**Pn**	**09 52 29.4**	**-0.4**
PBDV	**Barranco-do-Ve**	**4.27**	**283**	*e*Pn	**Pn**	**09 52 32.5**	**+0.8**
PBDV				*e*Sn	**Sn**	**09 53 19.8**	**-1.9**
PBDV				A	A	09 53 29.2	
	11nm,0.5s						
EMOS	**Mosqueruela**	**4.30**	**23**	Pn	**Pn**	**09 52 32.9**	**+0.5**
EMOS				Sn	**Sn**	**09 53 21.1**	**-1.7**
EMOS				Sg	**Sb**	**09 53 39.0**	**+4.4**
EMOS				*i* Vmb_Lg		09 53 50.4	
GUD	**Guadarrama**	**4.36**	**345**	Pn	**Pn**	**09 52 34.1**	**+1.0**
GUD				Pg	**Pb**	**09 52 44.3**	**+1.0**
GUD				Sn	**Sn**	**09 53 23.6**	**-0.4**
GUD				Sg	**Sg**	**09 53 42.1**	**-4.4**
GUD				*i* Vmb_Lg		09 53 58.8	
ECOL	**Islas Columbre**	**4.38**	**37**	Pn	**Pn**	**09 52 33.9**	**+0.7**
ZHG	**ZHG**	**4.39**	**228**	P	**Pn**	**09 52 34.3**	**+0.8**
ZHG				S	**Sn**	**09 53 26.1**	**+1.3**
ETOR	**Torete**	**4.41**	**6**	Pn	**Pn**	**09 52 34.2**	**+0.4**
ETOR				Pg	**Pb**	**09 52 46.0**	**+1.7**
ETOR				Sn	**Sn**	**09 53 24.6**	**-0.8**
ETOR				Sg	**Sb**	**09 53 42.9**	**+5.2**
ETOR				*i* Vmb_Lg		09 53 57.6	
PBEJ	**Beja**	**4.41**	**293**	*e*Pn	**Pn**	**09 52 34.8**	**+1.1**
PBEJ				*e*Sn	**Sn**	**09 53 22.7**	**-2.6**
PBEJ				A	A	09 53 24.5	
	10.0nm,0.5s						
PCVE	**Castro Verde**	**4.43**	**287**	*e*Pn	**Pn**	**09 52 34.8**	**+0.8**
PCVE				*e*Sn	**Sn**	**09 53 23.5**	**-2.2**
PCVE				A	A	09 53 26.3	
	9.7nm,0.3s						
EPLA	**Plasencia**	**4.50**	**325**	Pn	**Pn**

PCAS				A	A	09 54 46.3	
	13nm,0.6s						
PVIS	**Viseu**	**5.90**	**318**	*e*Pn	**Pn**	**09 52 55.7**	**+1.5**
PVIS				*e*Sn	**Sn**	**09 53 59.2**	**-2.8**
PBRG	**Braganca**	**6.21**	**331**	*e*Pn	**Pn**	**09 53 01.1**	**+2.6**
PVRL	**Vila Real**	**6.22**	**323**	*e*Pn	**Pn**	**09 52 59.6**	**+1.0**
PVRL				*e*Sn	**Sn**	**09 54 07.6**	**-2.2**
POLO	**Lamas de Olo**	**6.33**	**323**	*e*Pn	**Pn**	**09 53 02.1**	**+1.9**
POLO				*e*Sn	**Sn**	**09 54 09.0**	**-3.6**
POLO				A	A	09 55 07.6	
	4.7nm,0.5s						
ETSF	**Etsaut**	**6.67**	**14**	*e*Pn	**Pn**	**09 53 06.4**	**+1.6**
ETSF				*e*Sn	**Sn**	**09 54 16.0**	**-5.0**
	6.3nm,0.8s						
SJPF	**Ste Jean**	**6.77**	**9**	*e*Pn	**Pn**	**09 53 07.7**	**+1.6**
SJPF				*e*Sn	**Sn**	**09 54 18.1**	**-5.3**
	4.7nm,0.5s						
ELOB	**Lobios**	**6.84**	**324**	Pn	**Pn**	**09 53 06.6**	**-0.6**
ELOB				Sn	**Sn**	**09 54 19.8**	**-5.3**
ELOB				*i* Vmb_Lg		09 54 23.6	
EALK	**Alkurruntz**	**6.84**	**7**	Pn	**Pn**	**09 53 08.1**	**+0.9**
EALK				Sn	**Sn**	**09 54 22.0**	**-3.3**
EPF	**Esparros**	**7.00**	**19**	*e*Pn	**Pn**	**09 53 10.2**	**+0.9**
EPF				*e*Sn	**Sn**	**09 54 23.7**	**-5.3**
	5.9nm,0.6s						
PGAV	**Gavieira, Arco**	**7.01**	**324**	*e*Pn	**Pn**	**09 53 11.3**	**+1.8**
PGAV				*e*Sn	**Sn**	**09 54 25.9**	**-3.5**
MTLF	**Montolieu**	**7.87**	**27**	*e*Pn	**Pn**	**09 53 22.5**	**+1.3**
LASF	**Ste Croix**	**9.14**	**31**	*e*Pn	**Pn**	**09 53 37.9**	**-0.7**
PGF	**Pioggiola**	**10.91**	**52**	*e*Sn	**Sn**	**09 55 57.5**	**-7.7**
	0.8nm,0.3s						

*IDC **21** 09:57:12.3±1.0, 35°.39N×77°.59E, h0km, mb3.6/7, mbtmp3.7/11, ML3.6/4, Error ellipse: s-maj=29.9km s-min=20.4km az=59.0*
*NNC **21** 09:57:30.3±4.2, 36°.28N×79°.18E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=104.0km s-min=32.2km az=94.0*
ISC 21 09:57:25.1±1.1, 35°.87N±0°.09×77°.8E±0°.1, h100km, n14, σ1§71/18, mb3.4/6, 4C-2D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.24**	**340**	Pn	**Pn**	**09 59 10.1**	**+1.8**
	2.4nm,0.3s,baz=140,slow=8.6,SNR=11						
	4.8nm,0.3s						
PDGK	**Podgornoye**	**7.56**	**9**	⇑P	**Pn**	**09 59 14.5**	**+1.8**
	3.8nm,0.3s						
PDGK				⇑S	**Sn**	**10 00 37.6**	**+0.8**
	23nm,0.8s						
MAKZ	**Makanchi**	**11.36**	**15**	⇑P	**Pn**	**10 00 05.3**	**+1.1**
	6.8nm,0.6s						
MAKZ				⇑S	**Sn**	**10 02 05.6**	**-3.4**
	2.4nm,0.5s						
MK31	**Makanchi Array**	**11.41**	**16**	⇓P	**Pn**	**10 00 05.8**	**+0.9**
	2.2nm,0.4s,baz=198,slow=12,SNR=50						
MK31				⇓S	**Sn**	**10 02 08.0**	**-2.4**
	3.6nm,0.6s,baz=201,slow=25,SNR=11						
MKAR	**Makanchi Array**	**11.41**	**16**	Pn	**Pn**	**10 00 05.6**	**+0.7**
	1.8nm,0.3s,baz=201,slow=12,SNR=56						
MKAR				Sn	**Sn**	**10 02 07.8**	**-2.5**
	1.3nm,0.3s,baz=199,slow=26,SNR=9.9						
	3.3nm,0.4s						
BVAR	**Borovoye Array**	**17.94**	**345**	P	**Pn**	**10 01 28.6**	**+0.7**
	0.1nm,0.3s,baz=141,slow=12,SNR=6.7						
	0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**18.73**	**13**	P	**Pn**	**10 01 38.8**	**+1.6**
	0.2nm,0.3s,baz=206,slow=13,SNR=3.8						
	0.5nm,0.4s						
AKTO	**Aktyubinsk**	**20.42**	**322**	P	**P**	**10 01 54.1**	**-0.1**
	1.0nm,0.4s,baz=108,slow=13,SNR=2.4						
	1.0nm,0.4s						
BRTR	**Keskin Array B**	**34.87**	**290**	P	**P**	**10 04 06.2**	**-0.7**
	0.5nm,0.4s,baz=82,slow=10,SNR=2.6						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**41.13**	**325**	P	**P**	**10 04 59.6**	**+0.6**
	1.0nm,0.5s,baz=114,slow=8.0,SNR=12						
	1.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**71.25**	**273**	P	**P**	**10 08 32.0**	**-1.9**
	0.5nm,0.8s,baz=47,slow=7.3,SNR=4.0						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**73.76**	**18**	P	**P**	**10 08 49.6**	**+1.6**
	0.3nm,0.7s,baz=332,slow=6.3,SNR=4.4						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**77.06**	**126**	P	**P**	**10 09 07.1**	**-0.5**
	0.6nm,1.1s,baz=311,slow=4.0,SNR=2.3						
	0.6nm,1.1s						
ASAR	**Alice Springs**	**79.47**	**129**	P	**P**	**10 09 20.8**	**0.0**
	0.4nm,0.8s,baz=323,slow=5.5,SNR=4.9						
	0.4nm,0.8s						

*NEIC **21** 10:01:15.4±0.8, 19°.364N±0°.008×155°.256W±0°.005, h2km±2km, Error ellipse: s-maj=1.2km s-min=0.5km az=199.0*
HVO 21 10:01:14.6±0.6, 19°.381N±0°.007×155°.240W±0°.009, h2km±2km, ML3.1/27, ML2.9/48(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=92.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.02**	**106**	Pg	Pg	10 01 15.8	+0.4
PUH				IAML		10 01 16.2	
	comp=N,16μm,0.1s						
PUH				Sg	Sg	10 01 16.8	+0.9
KKO	**Keanakako`i**	**0.03**	**305**	Pg	Pg	10 01 16.1	+0.6
KKO				Sg	Sg	10 01 17.0	+1.0
RIM	**Rim**	**0.04**	**294**	Pg	Pg	10 01 16.1	+0.6
RIM				Sg	Sg	10 01 17.0	+0.9
BYL	**Byron's Ledge**	**0.04**	**329**	Pg	Pg	10 01 16.0	+0.5
BYL					Sg	10 01 16.2	+0.1
BYL				IAML		10 01 16.5	
	comp=E,14μm,0.1s						
BYL				IAML		10 01 16.8	
	comp=N,12μm,0.1s						
HATHI	**Halema'uma'u T**	**0.05**	**335**		Pg	10 01 16.4	+0.7
HATHI				IAML		10 01 16.9	
	comp=E,16μm,0.1s						
NPH	**North Pit**	**0.05**	**309**		Pg	10 01 16.4	+0.7
NPH				IAML		10 01 16.6	
	comp=E,11μm,0.1s						
SDHHI	**Sand Hill**	**0.05**	**280**	Pg	Pg	10 01 16.6	+0.8
SBLHI	**Steaming Bluff**	**0.05**	**330**		Pg	10 01 16.5	+0.7
SBLHI				IAML		10 01 16.8	
	comp=N,12μm,1.1s						
SBLHI				IAML		10 01 17.2	
	comp=E,12μm,0.5s						
OBL	**Observatory Le**	**0.06**	**311**		Pg	10 01 16.7	+0.9
OBL				IAML		10 01 17.4	
	comp=N,17μm,0.2s						
OBL				IAML		10 01 17.6	
	comp=E,18μm,0.5s						
UWB	**Uwekahuna B**	**0.06**	**321**		Pg	10 01 16.5	+0.6
WRMHI	**West Rim**	**0.06**	**294**	Pg	Pg	10 01 16.6	+0.7
WRMHI					Sg	10 01 16.8	0.0
UWE	**Uwekahuna**	**0.06**	**309**	Pg	Pg	10 01 16.8	+0.8
UWE				IAML		10 01 18.1	
	comp=E,9μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.07**	**91**		Pg	10 01 16.8	+0.7
RSD	**Rainshed**	**0.09**	**336**		Pg	10 01 17.1	+0.6
RSD					Sg	10 01 17.3	-0.4
RSD				IAML		10 01 19.1	
	comp=N,8μm,0.7s						
HLP	**Hilina Pali**	**0.11**	**217**		Pg	10 01 17.6	+0.9
HLP					Sg	10 01 18.2	+0.1
HLP				IAML		10 01 20.2	
	comp=N,7μm,0.3s						
STCH	**Steam Cracks**	**0.11**	**88**		Pg	10 01 17.7	+0.9
STCH				IAML		10 01 20.3	
	comp=N,4μm,0.4s						
STCH				IAML		10 01 20.7	
	comp=E,5μm,0.3s						
JCUZ	**Jacuzzi**	**0.13**	**89**		Pg	10 01 18.0	+0.8
JCUZ				IAML		10 01 20.8	
	comp=N,3μm,0.4s						
JCUZ				IAML		10 01 20.9	
	comp=E,4μm,0.8s						
MLH	**Mauna Loa**	**0.18**	**309**		Pg	10 01 19.0	+0.9
MLH				IAML		10 01 22.5	
	comp=E,3μm,0.7s						
MLH				IAML		10 01 23.3	
	comp=N,3μm,0.9s						
AIN	**Ainahou**	**0.21**	**268**		Pg	10 01 19.6	+1.0
AIN				IAML		10 01 23.9	
	comp=N,4μm,0.4s						
HTC	**Hot Caves**	**0.21**	**226**		Pg	10 01 19.4	+0.8
JOKA	**Jonika Flow**	**0.23**	**77**		Pg	10 01 19.3	+0.3
HMH	**Humu`ula Sheep**	**0.32**	**314**		Pg	10 01 21.4	+0.6
HMH				IAML		10 01 30.3	
	comp=E,1μm,0.6s						
MWH	**Moku`aweowe**	**0.35**	**287**		Pg	10 01 22.2	+0.7
KHU	**Kahuku**	**0.38**	**249**		Pg	10 01 22.2	+0.2
KHU				IAML		10 01 31.7	
	comp=E,1μm,1.1s						
ALEP	**Alea Permanent**	**0.41**	**293**		Pg	10 01 22.8	+0.2
POHA	**Pohakuloa**	**0.47**	**324**	Pg	Pg	10 01 24.1	+0.5
POHA				IAML		10 01 39.2	
	comp=E,1μm,0.5s						
HUH	**Hualalai**	**0.64**	**298**		Pg	10 01 27.5	+0.6
KHLU	**Kahalu`u**	**0.65**	**289**		Pg	10 01 26.6	-0.5
KHLU				IAML		10 01 50.2	
	comp=N,639nm,0.8s						
KHLU				IAML		10 01 50.5	
	comp=E,646nm,0.6s						
HPAH	**Hawaii Prepara**	**0.78**	**326**		Pg	10 01 29.6	+0.1

*WEL **21** 10:04:54.8±0.4, 43°.5±3°×17°.3E±°, h5km, M3.3/28, ML3.5/8, MLv3.3/28, Error ellipse: s-maj=0.0km s-min=0.0km az=120.5, confirmed*
*NOU **21** 10:04:54.2, 42°.86S×173°.06E, h7km, MLv3.9/12, South Island, New Zealand*
ISC 21 10:04:55.1±1.0, 42°.70S±0°.03×172°.89E±0°.03, h26km±10km, n78, σ2§15/85, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVZ	**Greta Valley S**	**0.29**	**158**	P	**Pb**	**10 05 01.8**	**-0.3**
GVZ				S	**Sb**	**10 05 07.7**	**+0.8**
LTZ	**Lake Taylor**	**0.46**	**260**	P	**Pb**	**10 05 03.2**	**-1.5**
LTZ				S	**Sb**	**10 05 09.7**	**-1.6**
AMCZ	**Amberley**	**0.51**	**200**	P	**Pb**	**10 05 05.8**	**+0.4**
AMCZ				S	**Sn**	**10 05 14.2**	**-0.4**
KHZ	**Kahutara**	**0.56**	**60**	P	**Pb**	**10 05 05.8**	**-0.5**
KHZ	**Kahutara**	**0.56**	**60**	P	**Pb**	**10 05 05.9**	**-0.5**
KHZ				S	**Sb**	**10 05 14.3**	**+0.4**
OXZ	**Oxford**	**0.88**	**225**	P	**Pn**	**10 05 11.8**	**0.0**
OXZ				S	**Sn**	**10 05 24.7**	**+0.9**
THZ	**Tophouse**	**0.94**	**1**	P	**Pb**	**10 05 11.3**	**-1.4**
THZ				S	**Sb**	**10 05 24.3**	**-0.4**
MQZ	**McQueen's Vall**	**1.02**	**190**	P	**Pb**	**10 05 13.4**	**-0.6**
OKCZ	**Okains Bay**	**1.03**	**173**	P	**Pn**	**10 05 14.1**	**+0.2**
INZ	**Inchbonnie**	**1.06**	**268**	P	**Pb**	**10 05 13.9**	**-0.9**
RACZ	**Rakaia**	**1.16**	**208**	P	**Pn**	**10 05 15.9**	**+0.2**
AKCZ	**Akaroa Harbour**	**1.17**	**179**	P	**Pn**	**10 05 15.8**	**0.0**
BSWZ	**Blackbirch Sta**	**1.23**	**37**	P	**Pb**	**10 05 17.6**	**0.0**
DSZ	**Denniston Nort**	**1.25**	**320**	P	**Pn**	**10 05 17.2**	**+0.3**
MHCZ	**Mount Hutt**	**1.27**	**229**	P	**Pn**	**10 05 17.5**	**+0.3**
MRNZ	**Matariki Terra**	**1.30**	**356**	P	**Pn**	**10 05 18.0**	**+0.4**
CMWZ	**Cape Campbell**	**1.37**	**46**	P	**Pb**	**10 05 20.3**	**+0.3**
WACZ	**Wakanui South**	**1.46**	**211**	P	**Pn**	**10 05 19.9**	**+0.2**
TUWZ	**Tuamarina**	**1.49**	**32**	P	**Pb**	**10 05 21.7**	**-0.4**
NNZ	**Nelson**	**1.53**	**14**	P	**Pn**	**10 05 21.6**	**+0.9**
WVZ	**Waitaha Valley**	**1.62**	**256**	P	**Pb**	**10 05 23.1**	**-1.2**
TKNZ	**Takaka Hill**	**1.67**	**2**	P	**Pb**	**10 05 23.8**	**-1.3**
RPZ	**Rata Peaks**	**1.68**	**232**	P	**Pn**	**10 05 23.4**	**+0.6**
RPZ	**Rata Peaks**	**1.68**	**232**	P	**Pn**	**10 05 23.1**	**+0.2**
ARCZ	**Arundel**	**1.76**	**224**	P	**Pn**	**10 05 24.4**	**+0.5**
TCW	**Tory Channel**	**1.81**	**35**	P	**Pn**	**10 05 25.7**	**+1.1**
QRZ	**Quartz Range**	**1.89**	**352**	P	**Pb**	**10 05 27.7**	**-1.2**
QRZ	**Quartz Range**	**1.89**	**352**	P	**Pb**	**10 05 27.4**	**-1.6**
SNZO	**South Karori**	**1.94**	**45**	P	**Pn**	**10 05 27.2**	**+0.9**
BHW	**Baring Head**	**1.96**	**50**	P	**Pn**	**10 05 27.1**	**+0.5**
GCSZ	**Gaunt Creek Bo**	**1.98**	**251**	P	**Pn**	**10 05 28.2**	**+1.4**
WEL	**Wellington**	**1.99**	**45**	P	**Pn**	**10 05 27.9**	**+0.8**
DUWZ	**D'Urville Isla**	**2.05**	**23**	P	**Pb**	**10 05 30.7**	**-1.0**
PLWZ	**Palliser**	**2.09**	**58**	P	**Pn**	**10 05 28.5**	**0.0**
TMZ	**Timaru**	**2.17**	**218**	P	**Pn**	**10 05 29.6**	**0.0**
CAW	**Cannon Point**	**2.28**	**46**	P	**Pn**	**10 05 31.4**	**+0.5**
PAWZ	**Paruwai Farm**	**2.31**	**56**	P	**Pn**	**10 05 31.3**	**-0.1**
KIW	**Kapiti Island**	**2.38**	**40**	P	**Pn**	**10 05 32.5**	**0.0**
FOZ	**Fox Glacier**	**2.40**	**249**	P	**Pn**	**10 05 34.6**	**+1.9**
MTW	**Mount Morrison**	**2.49**	**53**	P	**Pn**	**10 05 33.7**	**-0.2**
OGWZ	**Otaki Gorge**	**2.54**	**43**	P	**Pn**	**10 05 35.1**	**+0.5**
LBZ	**Lake Benmore**	**2.59**	**228**	P	**Pn**	**10 05 36.2**	**+0.9**
TMWZ	**Te Maipa**	**2.75**	**56**	P	**Pn**	**10 05 37.1**	**-0.5**
ODZ	**Otahua Downs**	**2.85**	**214**	P	**Pn**	**10 05 38.7**	**-0.2**
ODZ	**Otahua Downs**	**2.85**	**214**	P	**Pn**	**10 05 38.7**	**-0.2**
MRZ	**Mangatainoka R**	**2.87**	**46**	P	**Pn**	**10 05 39.1**	**0.0**
JCZ	**Jackson Bay**	**3.29**	**244**	P	**Pn**	**10 05 47.8**	**+2.8**
JCZ	**Jackson Bay**	**3.29**	**244**	P	**Pn**	**10 05 46.2**	**+1.2**
WAZ	**Wanganui**	**3.34**	**29**	P	**Pb**	**10 05 49.8**	**-3.8**
PREZ	**Palmer Road**	**3.49**	**16**	P	**Pb**	**10 05 52.8**	**-3.4**
KHEZ	**Kahui Hut**	**3.51**	**14**	P	**Pb**	**10 05 52.4**	**-4.1**
KHEZ	**Kahui Hut**	**3.51**	**14**	P	**Pb**	**10 05 52.8**	**-3.7**
NBEZ	**Newall Road No**	**3.51**	**13**	P	**Pn**	**10 05 51.9**	**+4.0**
TSZ	**Takapari Road**	**3.51**	**42**	P	**Pn**	**10 05 48.3**	**+0.3**
PKE	**Pukeiti**	**3.60**	**14**	P	**Pn**	**10 05 53.5**	**+4.3**
EAZ	**Earnscleugh**	**3.62**	**224**	P	**Pn**	**10 05 50.0**	**+0.6**
VRZ	**Vera Road**	**3.84**	**22**	P	**Pb**	**10 05 57.4**	**-4.8**
WNVZ	**Wahianoa**	**3.94**	**32**	P	**Pn**	**10 05 58.1**	**+4.0**
FWVZ	**Far West T-bar**	**3.99**	**31**	P	**Pn**	**10 05 59.4**	**+4.7**
BHHZ	**Black Hill Sta**	**4.01**	**38**	P	**Pn**	**10 05 53.7**	**-1.1**
NGZ	**Ngauruhoe**	**4.08**	**31**	P	**Pn**	**10 05 59.5**	**+3.6**
NNVZ	**North Ngauruho**	**4.12**	**31**	P	**Pn**	**10 06 00.6**	**+4.1**
WTVZ	**West Tongariro**	**4.12**	**31**	P	**Pb**	**10 06 03.5**	**-3.6**
ETVZ	**East Tongariro**	**4.15**	**32**	P	**Pn**	**10 05 59.9**	**+3.0**
TMVZ	**Te Maari**	**4.17**	**32**	P	**Pn**	**10 05 58.8**	**+1.7**
KWHZ	**Kaweka Forest**	**4.22**	**40**	P	**Pn**	**10 06 01.8**	**+4.0**
HIZ	**Hauiti**	**4.44**	**20**	P	**Pn**	**10 06 04.4**	**+3.6**
HIZ	**Hauiti**	**4.44**	**20**	P	**Pn**	**10 06 03.8**	**+3.0**
BKZ	**Black Stump Fm**	**4.46**	**39**	P	**Pn**	**10 06 03.0**	**+1.9**
BKZ	**Black Stump Fm**	**4.46**	**39**	P	**Pn**	**10 06 02.2**	**+1.1**
BKZ				P	**Pn**	**10 06 02.8**	**+1.7**
SYZ	**Scrubby Hill**	**4.68**	**214**	P	**Pn**	**10 06 04.4**	**+0.4**
SYZ	**Scrubby Hill**	**4.68**	**214**	P	**Pn**	**10 06 04.4**	**+0.4**
TOZ	**Tahuroa Road**	**5.35**	**23**	P	**Pn**	**10 06 17.5**	**+4.2**
URZ	**Urewera**	**5.48**	**37**	P	**Pn**	**10 06 16.9**	**+1.9**
AWAZ	**Awhitu Peninsu**	**5.79**	**14**	P	**Pn**	**10 06 23.9**	**+4.6**
MKAZ	**Moumakai**	**5.86**	**18**	P	**Pn**	**10 06 23.5**	**+3.3**
ETAZ	**East Tamaki Re**	**5.95**	**16**	P	**Pn**	**10 06 25.5**	**+4.1**
OUZ	**Omahuta**	**7.49**	**4**	P	**Pn**	**10 06 45.9**	**+3.3**

ANF 21 10:08:35.7±0.2, 61°.30N×140°.95W, h15km±2km, ML1.7/7, ML1.3/2, Error ellipse: s-maj=2.0km s-min=1.3km az=118.0, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTG	**Chitna Glacier**	**0.38**	**210**	P	Pg	10 08 43.9	+0.4
	baz=29,SNR=31						
CTG				S	Sg	10 08 49.3	+0.5
	baz=29						
YUK3	**Moose Creek**	**0.53**	**26**	P	Pb	10 08 46.7	-0.2
	baz=206,SNR=30						
YUK3				S	Sb	10 08 54.3	-0.2
	baz=206						
YUK8	**Steele Glacier**	**0.57**	**91**	P	Pg	10 08 47.3	+0.2
	baz=272,SNR=29						
YUK8				S	Sb	10 08 55.3	-0.4
	baz=272						
O28M	**Mount Upton**	**0.65**	**145**	P	Pg	10 08 48.4	0.0
	baz=325,SNR=17						
O28M				S	Sb	10 08 57.4	-0.3
	baz=325						
MCARA	**McCarthy VSAT**	**1.00**	**276**	P	Pb	10 08 54.6	-0.1
	baz=94						
MCARA				S	Sg	10 09 08.3	+0.2
	baz=94						
BVCY	**Beaver Creek**	**1.12**	**2**	S	Sg	10 09 11.9	0.0
	baz=182						
M27K	**Edge Creek, AK**	**1.15**	**338**	P	Pn	10 08 57.6	+0.2
	baz=157,SNR=18						
M27K				S	Sn	10 09 13.2	+0.2
	baz=157						
CRQE	**Cirque**	**1.18**	**243**	P	Pn	10 08 57.7	-0.1
	baz=61						
CRQE				S	Sg	10 09 14.1	+0.4
	baz=61						
PINM	**Pinnacle**	**1.25**	**164**	P	Pb	10 08 59.4	+0.3
	baz=344,SNR=15						
YUK6	**Outpost Mounta**	**1.31**	**105**	P	Pb	10 09 00.1	+0.1
	baz=287,SNR=11						

*ANF **21** 10:09:09.5±0.1, 60°.57N×137°.27W, h13km±2km, Error ellipse: s-maj=1.5km s-min=1.2km az=87.0*
PGC 21 10:09:10.8±0.0, 60°.56N×137°.25W, h3km, ML1.4, ML2.0/22, 26km southeast of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYT	**Haines Junctio**	**0.29**	**335**	P	Pg	10 09 15.8	-0.7
	baz=156,SNR=143						
HYT				S	Sg	10 09 19.9	-0.4
	baz=156						
HYT	**Haines Junctio**	**0.29**	**335**	P	Pg	10 09 15.8	-0.7
HYT				S	Sg	10 09 19.7	-0.7
YUK7	**Dusty Glacier**	**0.44**	**267**	P	Pg	10 09 18.8	-0.5
YUK7				S	Sg	10 09 25.1	+0.1
P30M	**Million Dollar**	**0.46**	**162**	P	Pg	10 09 19.0	-0.6
	baz=341,SNR=227						
P30M				S	Sg	10 09 25.8	+0.2
	baz=341						
P30M	**Million Dollar**	**0.46**	**162**	P	Pg	10 09 19.1	-0.6
P30M				S	Sg	10 09 25.8	+0.1
O30N	**Mendenhall**	**0.61**	**69**	P	Pg	10 09 21.7	-0.7
	baz=251,SNR=37						
O30N				S	Sg	10 09 30.1	-0.2
	baz=251						
YUK5	**Granite Creek**	**0.65**	**333**	P	Pg	10 09 22.1	-1.1
YUK6	**Outpost Mounta**	**0.67**	**306**	P	Pg	10 09 22.3	-1.3
	baz=125,SNR=8.6						
YUK6				S	Sg	10 09 32.0	-0.3
	baz=125						
YUK6	**Outpost Mounta**	**0.67**	**306**	P	Pg	10 09 22.3	-1.3
YUK6				S	Sg	10 09 31.9	-0.3
O29M	**Mount Kennedy**	**0.71**	**249**	P	Pg	10 09 23.3	-1.0
	baz=68,SNR=18						
O29M				S	Sg	10 09 33.1	-0.4
	baz=68						
O29M	**Mount Kennedy**	**0.71**	**249**	P	Pg	10 09 23.4	-1.0
O29M				S	Sg	10 09 32.6	-0.9
N30M	**Aishikik Lake**	**0.91**	**5**	P	Pg	10 09 27.1	-1.0
	baz=186,SNR=26						
N30M				S	Sg	10 09 38.7	-1.2
	baz=186						
N30M	**Aishikik Lake**	**0.91**	**5**	P	Pg	10 09 27.1	-1.0
N30M				S	Sg	10 09 38.7	-1.2
P29M	**Windy Craggy**	**0.96**	**195**	P	Pg	10 09 27.8	-1.4
	baz=14,SNR=11						
P29M				S	Sg	10 09 40.7	-1.0
	baz=14						
P29M	**Windy Craggy**	**0.96**	**195**	P	Pg	10 09 27.9	-1.3
P29M				S	Sg	10 09 40.4	-1.3
YUK4	**Talbot Arm**	**1.04**	**320**	P	Pg	10 09 30.3	-0.4
N31M	**Braeburn, Yuko**	**1.17**	**37**	Pg	Pg	10 09 32.2	-1.0
	baz=219,SNR=88						
N31M				S	Sg	10 09 48.1	-0.3
	baz=219						
N31M	**Braeburn, Yuko**	**1.17**	**37**	P	Pg	10 09 32.5	-0.7
N31M				S	Sg	10 09 48.2	-0.2
WHY	**Whitehorse**	**1.17**	**84**	P	Pg	10 09 31.8	-1.4
	baz=266,SNR=78						
WHY				S	Sg	10 09 47.4	-1.0
	baz=266						
WHY	**Whitehorse**	**1.17**	**84**	P	Pg	10 09 31.8	-1.4
WHY				S	Sg	10 09 47.4	-1.0
PLBC	**Pleasant Camp**	**1.19**	**158**	P	Pg	10 09 31.9	-1.7
	baz=338,SNR=20						
PLBC				S	Sg	10 09 48.5	-0.6
	baz=338						
PLBC	**Pleasant Camp**	**1.19**	**158**	P	Pg	10 09 31.5	-2.1
PLBC				S	Sg	10 09 47.5	-1.5
PNL	**Peninsula**	**1.40**	**231**	Pg	Pn	10 09 36.4	-0.7
	baz=49,SNR=16						
PNL	**Peninsula**	**1.40**	**231**	Pn	Pn	10 09 36.0	-1.1
PNL				Sg	Sg	10 09 54.9	-0.8
YUK8	**Steele Glacier**	**1.43**	**302**	Pn	Pn	10 09 36.1	-1.7
YUK8				Sg	Sg	10 09 54.5	-2.1
O28M	**Mount Upton**	**1.46**	**280**	Sb	Sg	10 09 56.4	-1.4
	baz=97						
O28M	**Mount Upton**	**1.46**	**280**	Pn	Pn	10 09 36.7	-1.6
O28M				Sg	Sg	10 09 56.6	-1.1
SKAG	**Skagway**	**1.47**	**138**	Pg	Pn	10 09 37.7	-0.3
	baz=320,SNR=14						
SKAG				S	Sb	10 09 55.3	-2.3
	baz=320						
LOGN	**Logan Glacier**	**1.87**	**280**	Pn	Pn	10 09 43.8	+0.1
LOGN				Sg	Sb	10 10 08.8	-0.5
M29M	**Somme Creek**	**1.98**	**343**	Pg	Pb	10 09 46.8	-0.6
	baz=163,SNR=12						
M29M				S	Sn	10 10 08.4	-2.1
	baz=163						
M29M	**Somme Creek**	**1.98**	**343**	Pg	Pb	10 09 46.9	-0.5
M29M				Sn	Sn	10 10 09.3	-1.2
P32M	**Atlin**	**2.02**	**117**	Sb	Sb	10 10 13.3	-0.4
	baz=300						
P32M	**Atlin**	**2.02**	**117**	Pg	Pb	10 09 47.4	-0.7
P32M				Sg	Sb	10 10 13.9	+0.2
M30M	**Minto, Yukon**	**2.04**	**6**	Pg	Pb	10 09 47.9	-0.5
	baz=187,SNR=15						
M30M				Sb	Sb	10 10 14.2	+0.2
	baz=187						
M30M	**Minto, Yukon**	**2.04**	**6**	Pg	Pb	10 09 48.0	-0.3
M30M				Sg	Sb	10 10 14.3	+0.2
CTGM	**Chitina Glacie**	**2.05**	**283**	Sg	Sb	10 10 14.4

comp=Z,49nm,20.4s,baz=77,slow=38
8.9nm,0.3s

SOEI	**Soe**	**9.18 197**	P	Pn	10 32 56.3	+5.4
EDFI	**Ende, Flores**	**9.40 214**	P	**Pn**	**10 32 55.3**	**+1.5**
WRA	**Warramunga Arr**	**20.22 160**	P	**P**	**10 35 11.1**	**-1.8**
	0.7nm,0.4s,baz=340,slow=11,SNR=23					
	0.7nm,0.4s					
ASAR	**Alice Springs**	**23.58 164**	P	**P**	**10 35 47.2**	**-1.1**
	1.5nm,0.5s,baz=346,slow=12,SNR=20					
	1.5nm,0.5s					
STKA	**Stephens Creek**	**33.73 157**	P	**P**	**10 37 18.2**	**-0.7**
	1.3nm,0.5s,baz=341,slow=7.9,SNR=5.0					
	1.3nm,0.5s					
PETK	**Petropavlovsk-**	**59.64 21**	P	**P**	**10 40 41.8**	**+0.5**
	0.6nm,0.6s,baz=175,slow=3.3,SNR=5.6					
	0.6nm,0.6s					
MKAR	**Makanchi Array**	**61.54 327**	P	**P**	**10 40 53.6**	**-0.8**
	0.3nm,0.4s,baz=117,slow=7.5,SNR=6.0					
	0.3nm,0.4s					

TRN 21 10:35:58.0, 11°.27N×58°.68W, h10km, MD4.1, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**2.75**	**257**	*eP*	Pn	10 36 44.6	+2.4
TRN				*eS*	Sn	10 37 16.8	+1.3
GCMP	**Grenada, Carri**	**2.95**	**294**	*eP*	Pn	10 36 46.3	+1.4
GCMP				*eS*	Sn	10 37 23.2	+2.8
GRGR	**Grenville**	**3.04**	**287**	*eP*	Pn	10 36 47.3	+1.0
GRGR				*eS*	Sn	10 37 24.7	+2.1
GRHS	**Sauteurs**	**3.05**	**288**	*eP*	Pn	10 36 48.2	+1.8
SVB	**Belmont**	**3.20**	**309**	*eP*	Pn	10 36 51.0	+2.4
SVB				*eS*	Sn	10 37 27.7	+0.8
MCLT	**Moule a Chique**	**3.28**	**318**	*eP*	Pn	10 36 51.9	+2.3
MCLT				*eS*	Sn	10 37 31.1	+2.4
SLBI	**Saint Lucia, B**	**3.53**	**321**	*eP*	Pn	10 36 54.8	+1.7
SLBI				*eS*	Sn	10 37 36.3	+1.3
BIM	**Bigot**	**3.98**	**324**	*eP*	Pn	10 37 01.2	+2.0
BIM				*eS*	Sn	10 37 45.4	-0.7
BAUV	**El Baul**	**9.50**	**257**	*eP*	Pn	10 38 17.8	+2.7
BAUV	**El Baul**	**9.50**	**257**	*eS*	Sn	10 39 58.6	-3.5

IDC ***21*** *10:35:53.9±0.8, 22°.45N×123°.07E, h0km, mb4.1/14, mbtmp4.2/16, ML3.8/2, MS3.6/18, Error ellipse: s-maj=23.1km s-min=16.2km az=72.0*
JMA ***21*** *10:35:56.0±0.4, 22°.N-2°.×12°.3E±°, h50km, MD4.4/19, MV4.7/19, FAR S OFF ISHIGAKIJIMA*
NIED ***21*** *10:35:56.0, 22°.50N×122°.97E, h50km, MW4.4, Moment Tensor Solution. s2 Moment tensor: Scale 10^15Nm; Mrr=3.26; Mθθ=4.43; Mφφ=-1.17; Mrθ=0.49; Mθφ=-0.59; Mφr=-0.51; Fault plane solution: M0=3.96000×10^15 NP1: φs=287.00000°, δ=50.00000°, λ=-75.00000°. NP2: φs=84.00000°, δ=42.00000°, λ=-108.00000°.*
TAP ***21*** *10:35:57.8, 22°.47N×122°.83E, h53km±1km, ML5.0, D*
ASIES ***21*** *10:35:57.8, 22°.47N×122°.83E, h53km, ML5.0, Mw4.4, Moment Tensor Solution. Moment tensor: Scale 10^22Nm; Mrr=0.40; Mθθ=5.34; Mφφ=-2.05; Mrθ=0.76; Mθφ=-1.50; Mφr=-2.94; Fault plane solution: M0=5.28532×10^22 NP1: φs=321.23000°, δ=75.54000°, λ=-36.76000°. NP2: φs=61.80000°, δ=54.59000°, λ=-162.15000°. Principal axes: T Plg=13.4770°, Azm=15.5990°; N Plg=50.8770°, Azm=122.7360°; P Plg=35.9000°, Azm=275.6080°;*
NEIC ***21*** *10:35:57.8±1.9, 22°.53N±0°.07×122°.92E±0°.07, h26km±5km, mb4.4/36, Mwr4.3/20 Error ellipse: s-maj=11.3km s-min=8.0km az=144.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=1.12; Mθθ=3.20; Mφφ=-2.08; Mrθ=1.01; Mθφ=-0.45; Mφr=1.37; Fault plane solution: M0=3.32000×10^15 NP1: φs=54.00000°, δ=53.68000°, λ=-162.63000°. NP2: φs=313.51000°, δ=76.08000°, λ=-37.60000°. Principal axes: T 3.5281, Plg=14.0000°, Azm=8.0000°; N -0.4712, Plg=50.0000°, Azm=116.0000°; P -3.0569, Plg=36.0000°, Azm=267.0000°;*
NEIC ***21*** *10:35:58.2, 22°.57N×122°.92E, h26km*
ISC 21 10:35:58.7±0.9, 22°.43N±0°.04×123°.03E±0°.03, h34km±2km, n243, σ2°98/311, mb4.4/32, MS3.6/16, 3C-6D, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYUB	**Lan-yu**	**1.40**	**253**	⇓*iP*	**Pn**	**10 36 19.1**	**-2.8**
	baz=248						
LYUB				*i* S	**Sn**	**10 36 34.7**	**-4.5**
	baz=248						
LAY	**Lan-yu**	**1.42**	**254**	*i* P	**Pn**	**10 36 18.7**	**-3.5**
	baz=250						
LAY				*i* S	**Sn**	**10 36 34.2**	**-5.6**
	baz=250						
LDUT	**Ludao**	**1.46**	**280**	*i* P	**Pn**	**10 36 19.0**	**-3.7**
	baz=271						
LDUT				*i* S	**Sn**	**10 36 34.4**	**-6.2**
	baz=271						
CHKT	**Chengkung**	**1.67**	**294**	⇓*iP*	**Pn**	**10 36 21.9**	**-3.7**
	baz=295						
CHKT				*i* S	**Sn**	**10 36 39.1**	**-6.8**
	baz=295						
EDH	**Donghe**	**1.68**	**289**	P	**Pn**	**10 36 22.3**	**-3.4**
	baz=297						
EDH				S	**Sn**	**10 36 40.4**	**-5.7**
	baz=297						
ECBN	**Changbin**	**1.70**	**302**	*i* P	**Pn**	**10 36 22.6**	**-3.5**
	baz=312						
ECBN				*i* S	**Sn**	**10 36 40.7**	**-5.9**
	baz=312						
TTN	**Taitung**	**1.77**	**281**	P	**Pn**	**10 36 23.4**	**-3.5**
	baz=275						
TTN				*eS*	**Sn**	**10 36 42.7**	**-5.5**
	baz=275						
FULB	**Fuli**	**1.77**	**296**	*i* P	**Pn**	**10 36 23.4**	**-3.6**
	baz=302						
FULB				S	**Sn**	**10 36 42.7**	**-5.8**
	baz=302						
HATJ	**Hateruma jima**	**1.77**	**24**	*i* P	**Pn**	**10 36 24.6**	**-2.4**
HATJ				S	**Sn**	**10 36 44.8**	**-3.6**
ECS	**Chishang**	**1.79**	**292**	*i* P	**Pn**	**10 36 24.3**	**-3.0**
	baz=293						
ECS				*i* S	**Sn**	**10 36 44.0**	**-4.9**
	baz=293						
EOS4	**EOS4**	**1.81**	**339**	*eP*	**Pn**	**10 36 24.6**	**-2.5**
	baz=344						
LONT	**Longtian**	**1.81**	**286**	P	**Pn**	**10 36 25.1**	**-2.5**
	baz=292						
LONT				S	**Sn**	**10 36 45.6**	**-3.9**
	baz=292						
HGSD	**Ruisui**	**1.82**	**306**	*i* P	**Pn**	**10 36 23.8**	**-3.9**
	baz=308						
HGSD				*i* S	**Sn**	**10 36 42.9**	**-6.6**
	baz=308						
EYUL	**Yuli**	**1.82**	**301**	*i* P	**Pn**	**10 36 24.3**	**-3.4**
	baz=311						
EYUL				S	**Sn**	**10 36 44.0**	**-5.6**
	baz=311						
EHD	**Haiduan**	**1.83**	**293**	*i* P	**Pn**	**10 36 24.3**	**-3.5**
	baz=294						
EHD				S	**Sn**	**10 36 43.0**	**-6.7**
	baz=294						
TWGBT	**Beinan**	**1.84**	**283**	*i* P	**Pn**	**10 36 24.6**	**-3.3**
	baz=282						
TWGBT				S	**Sn**	**10 36 45.3**	**-4.8**
	baz=282						
TWF1	**Yuli**	**1.84**	**300**	*i* P	**Pn**	**10 36 24.5**	**-3.4**
	baz=311						
TWF1				*i* S	**Sn**	**10 36 43.3**	**-6.8**
	baz=311						
TWG	**Pinlang**	**1.85**	**283**		**Pn**	**10 36 25.4**	**-2.7**
TWG				Sn	**Sn**	**10 36 45.9**	**-4.4**
TWG	**Pinlang**	**1.85**	**283**	*i* P	**Pn**	**10 36 24.8**	**-3.3**
	baz=282						
TWG				S	**Sn**	**10 36 45.0**	**-5.3**
	baz=282						
YULB	**Yu-li**	**1.86**	**301**		**Pn**	**10 36 24.9**	**-3.4**
YULB				Sn	**Sn**	**10 36 46.0**	**-4.6**
YULB	**Yu-li**	**1.86**	**301**	⇓*iP*	**Pn**	**10 36 24.9**	**-3.4**
	baz=311						
YULB				S	**Sn**	**10 36 45.6**	**-5.0**
	baz=311						
TEGC	**Jichi Village**	**1.87**	**313**	*eS*	**Sn**	**10 36 46.4**	**-4.4**
	baz=316						
EHY	**Hungye**	**1.90**	**305**	*i* P	**Pn**	**10 36 25.9**	**-3.0**
	baz=314						
EHY				S	**Sn**	**10 36 46.5**	**-5.2**
	baz=314						
EGFH	**Guangfu**	**1.92**	**310**	*eP*	**Pn**	**10 36 26.0**	**-3.0**
	baz=313						
EGFH				*eS*	**Sn**	**10 36 46.4**	**-5.7**
	baz=313						
ECL	**Taimali**	**1.92**	**275**	⇓*iP*	**Pn**	**10 36 26.1**	**-3.0**
	baz=274						
ECL				S	**Sn**	**10 36 46.9**	**-5.2**
	baz=274						
EOS3	**EOS3**	**1.96**	**341**	P	**Pn**	**10 36 27.4**	**-2.1**
	baz=343						
TAW	**Tawu**	**1.97**	**268**	P	**Pn**	**10 36 27.4**	**-2.4**
	baz=256						
TAW				*eS*	**Sn**	**10 36 49.0**	**-4.3**
	baz=256						
TAWH	**Dawu Township**	**1.98**	**268**	P	**Pn**	**10 36 27.6**	**-2.2**
	baz=266						
TAWH				*eS*	**Sn**	**10 36 49.1**	**-4.5**
	baz=266						
WARBT	**Fenglin Townsh**	**1.98**	**311**	*i* P	**Pn**	**10 36 26.5**	**-3.4**
	baz=322						
WARBT				S	**Sn**	**10 36 47.3**	**-6.3**
	baz=322						
ELDTW	**Lidau**	**2.00**	**293**	⇓*iP*	**Pn**	**10 36 27.0**	**-3.3**
	baz=293						
ELDTW				*i* S	**Sn**	**10 36 48.2**	**-6.1**
	baz=293						
IRIF	**Iriomote-Funau**	**2.01**	**19**	*i* P	**Pn**	**10 36 28.1**	**-2.1**
IRIF				S	**Sn**	**10 36 50.6**	**-3.6**
IRIF	**Iriomote-Funau**	**2.01**	**19**	A	A	10 36 28.1	
	comp=E,7.0nm,4.0s,comp=N,7.0nm,1.2s						
ESL	**Shilin**	**2.01**	**314**	*i* P	**Pn**	**10 36 26.6**	**-3.8**
	baz=316						
ESL				*i* S	**Sn**	**10 36 48.3**	**-6.0**
	baz=316						
JKRS	**Kuro-shima**	**2.02**	**26**	P	**Pn**	**10 36 28.4**	**-1.9**
JKRS				S	**Sn**	**10 36 50.9**	**-3.5**
EAST	**Anshuo**	**2.02**	**269**	P	**Pn**	**10 36 28.1**	**-2.3**
	baz=258						
EAST				S	**Sn**	**10 36 49.4**	**-5.1**
	baz=258						
JYNG	**Yonagunijimaku**	**2.02**	**358**	P	**Pn**	**10 36 28.5**	**-1.8**
JYNG				S	**Sn**	**10 36 50.5**	**-3.8**
HWA	**Hwalien**	**2.02**	**320**	*eS*	**Sn**	**10 36 48.6**	**-5.9**
	baz=332						
YOJ	**Yonaguni jima**	**2.02**	**360**		**Pn**	**10 36 28.3**	**-2.2**
YOJ	**Yonaguni jima**	**2.02**	**360**	P	**Pn**	**10 36 28.2**	**-2.2**
YOJ				S	**Sn**	**10 36 51.7**	**-2.9**
YOJ	**Yonaguni jima**	**2.02**	**360**	P	**Pn**	**10 36 28.9**	**-1.5**
	baz=4.0						
YOJ				S	**Sn**	**10 36 52.8**	**-1.8**
	baz=4.0						
SMST	**Manzhou Townsh**	**2.07**	**259**	*eP*	**Pn**	**10 36 28.6**	**-2.4**
	baz=265						
ETM	**Tongmen**	**2.08**	**318**	*eP*	**Pn**	**10 36 28.1**	**-3.2**
	baz=320						
ETM				S	**Sn**	**10 36 48.7**	**-7.3**
	baz=320						
TWD	**Chiawan**	**2.11**	**322**	*i* P	**Pn**	**10 36 28.5**	**-3.1**
	baz=334						
TWD				S	**Sn**	**10 36 51.7**	**-4.9**
	baz=334						
TWKBT	**Hengchun**	**2.11**	**257**	P	**Pn**	**10 36 29.7**	**-2.0**
	baz=254						
EOS2	**EOS2**	**2.11**	**340**	P	**Pn**	**10 36 30.0**	**-1.6**
	baz=341						
TWK1	**Hengchun**	**2.11**	**257**	P	**Pn**	**10 36 29.7**	**-2.0**
	baz=254						
ETL	**Fush Village**	**2.15**	**323**	P	**Pn**	**10 36 29.0**	**-3.3**
	baz=327						
ETL				S	**Sn**	**10 36 52.1**	**-5.7**
	baz=327						
HEN	**Hengchun**	**2.16**	**259**	*eP*	**Pn**	**10 36 30.6**	**-1.7**
	baz=264						
LXIB	**Xiulin Townshi**	**2.17**	**317**	P	**Pn**	**10 36 29.5**	**-3.1**
	baz=329						
LXIB				S	**Sn**	**10 36 53.1**	**-5.4**
	baz=329						
NACB	**Ninganchiao**	**2.18**	**323**		**Pn**	**10 36 29.2**	**-3.4**
NACB	**Ninganchiao**	**2.18**	**323**	P	**Pn**	**10 36 29.4**	**-3.2**
	baz=326						
NACB				S	**Sn**	**10 36 52.7**	**-5.8**
	baz=326						
VWDT	**VWDT**	**2.18**	**308**	P	**Pn**	**10 36 30.4**	**-2.2**
	baz=310						
VWDT				S	**Sn**	**10 36 54.0**	**-4.4**
	baz=310						
JIJ	**Ishigaki jima**	**2.18**	**28**	*i* P	**Pn**	**10 36 30.1**	**-2.6**
JIJ				S	**Sn**	**10 36 54.2**	**-4.3**
STYH	**Taoyuan**	**2.20**	**290**	P	**Pn**	**10 36 30.8**	**-2.1**
	baz=294						
STYH				S	**Sn**	**10 36 54.8**	**-4.2**
	baz=294						
TSMG	**Majia**	**2.22**	**278**	P	**Pn**	**10 36 30.6**	**-2.5**
	baz=283						
MASBT	**Mashbuluo**	**2.22**	**275**	P	**Pn**	**10 36 30.6**	**-2.6**
	baz=283						
SCZT	**Fangliau**	**2.23**	**269**	P	**Pn**	**10 36 31.4**	**-1.9**
	baz=261						
SSD	**Sandimen**	**2.23**	**279**	P	**Pn**	**10 36 30.6**	**-2.8**
	baz=284						
SLGT	**Liugui**	**2.27**	**285**	P	**Pn**	**10 36 32.2**	**-1.6**
	baz=285						
ETLH	**Xiulin Townshi**	**2.27**	**322**	P	**Pn**	**10 36 30.7**	**-3.3**
	baz=331						
ETLH				S	**Sn**	**10 36 55.0**	**-5.8**
	baz=331						
OWD	**Renai**	**2.28**	**312**	P	**Pn**	**10 36 31.4**	**-2.7**
	baz=314						
EWUT	**Wuta**	**2.31**	**331**	P	**Pn**	**10 36 32.5**	**-2.0**
	baz=326						
EWUT				S	**Sn**	**10 36 58.4**	**-3.3**
	baz=326						
ALS	**Alishan**	**2.31**	**298**	P	**Pn**	**10 36 33.1**	**-1.6**
	baz=308						
ALS				S	**Sn**	**10 36 59.3**	**-2.9**
	baz=308						
ENA	**Nanau**	**2.31**	**330**	*eP*	**Pn**	**10 36 32.0**	**-2.4**
	baz=325						
SSLB	**Suanglung**	**2.34**	**306**		**Pn**	**10 36 32.0**	**-2.8**
SSLB	**Suanglung**	**2.34**	**306**	P	**Pn**	**10 36 32.8**	**-2.0**
	baz=307						
SSLB				S	**Sn**	**10 36 57.3**	**-5.2**
	baz=307						
WUSB	**Renai**	**2.35**	**312**	P	**Pn**	**10 36 32.5**	**-2.5**
	baz=314						
WUSB				*eS*	**Sn**	**10 36 56.6**	**-6.1**
	baz=314						
CHGB	**Renai**	**2.35**	**314**	P	**Pn**	**10 36 32.3**	**-2.9**
	baz=325						
CHGB				S	**Sn**	**10 36 58.0**	**-5.1**
	baz=325						
WHF	**Hehuan Shan**	**2.35**	**317**	P	**Pn**	**10 36 32.8**	**-2.6**
	baz=328						
WHF				S	**Sn**	**10 36 58.0**	**-5.4**
	baz=328						
SGLT	**Jiouru**	**2.36**	**278**	P	**Pn**	**10 36 35.2**	**+0.1**
	baz=277						
WHYT	**Xinyi Township**	**2.37**	**303**	P	**Pn**	**10 36 33.4**	**-1.8**
	baz=310						
WHYT				S	**Sn**	**10 36 59.5**	**-3.6**
	baz=310						
WTP	**Ta-pu**	**2.37**	**291**	*i* P	**Pn**	**10 36 34.1**	**-1.2**
	baz=291						
WTP				S	**Sn**	**10 37 01.1**	**-2.1**
	baz=291						
TPUB	**Ta-pu**	**2.38**	**292**		**Pn**	**10 36 34.0**	**-1.3**
TPUB	**Ta-pu**	**2.38**	**292**	*i* P	**Pn**	**10 36 33.8**	**-1.5**
	baz=292						
TPUB				*i* S	**Sn**	**10 37 01.8**	**-1.5**
	baz=292						
SCST	**Cishan**	**2.38**	**282**	*eP*	**Pn**	**10 36 35.2**	**-0.2**
	baz=281						
CHN1	**Nanshi**	**2.42**	**289**	*i* P	**Pn**	**10 36 35.3**	**-0.7**
	baz=295						
CHN1				*i* S	**Sn**	**10 37 04.0**	**-0.6**
	baz=295						
CHN4	**Tsaushan**	**2.42**	**293**	*i* P	**Pn**	**10 36 35.1**	**-0.8**
	baz=293						
CHN4				S	**Sn**	**10 37 03.7**	**-0.8**
	baz=293						
TWC	**Suao**	**2.42**	**334**	*eP*	**Pn**	**10 36 33.3**	**-2.7**
	baz=337						
SMLT	**Sun Moon Lake**	**2.44**	**307**	P	**Pn**	**10 36 34.2**	**-2.0**
	baz=316						
TWM1	**Shoushan**	**2.44**	**280**	P	**Pn**	**10 36 35.9**	**-0.2**
	baz=279						
WCKO	**Fanlu**	**2.45**	**295**	P	**Pn**	**10 36 35.9**	**-0.4**
	baz=290						
WCKO				S	**Sn**	**10 37 03.9**	**-1.2**
	baz=290						
JISG	**Ishigakijimahi**	**2.45**	**28**	*i* P	**Pn**	**10 36 33.6**	**-2.7**
JISG				S	**Sn**	**10 37 01.0**	**-4.1**
JISG	**Ishigakijimahi**	**2.45**	**28**	A	A	10 36 33.6	
	comp=E,7.0nm,0.5s,comp=N,5.0nm,4.6s						
CHN5	**Tsauling**	**2.46**	**299**	P	**Pn**	**10 36 35.9**	**-0.6**
	baz=308						
SNST	**Tainan City**	**2.46**	**289**	P	**Pn**	**10 36 35.7**	**-0.8**
	baz=295						
SNST				S	**Sn**	**10 37 05.1**	**-0.3**
	baz=295						
TWK	**Hsinying**	**2.49**	**290**	*i* P	**Pn**	**10 36 36.0**	**-0.8**
	baz=301						
TWK				S	**Sn**	**10 37 06.0**	**-0.1**
	baz=301						
TWT	**Tachien**	**2.49**	**317**	P	**Pn**	**10 36 35.5**	**-1.6**
	baz=327						
TWT				S	**Sn**	**10 37 02.2**	**-4.2**
	baz=327						
NNSB	**Datong**	**2.50**	**323**	*eP*	**Pn**	**10 36 34.6**	**-2.5**
	baz=333						
TDCB	**Techi**	**2.50**	**317**	P	**Pn**	**10 36 35.1**	**-2.1**
	baz=327						
TDCB				S	**Sn**	**10 37 02.4**	**-4.2**
	baz=327						
NDS	**Dongshan**	**2.50**	**332**	P	**Pn**	**10 36 35.5**	**-1.6**
	baz=335						
SNJT	**Kaohsiung City**	**2.51**	**278**	*eP*	**Pn**	**10 36 37.4**	**+0.3**
	baz=277						
LATG	**Datong**	**2.51**	**327**	*eP*	**Pn**	**10 36 34.5**	**-2.8**
	baz=330						
LATG				*eS*	**Sn**	**10 37 02.4**	**-4.3**
	baz=330						
NNS	**Nan Shan**	**2.51**	**323**	*eP*	**Pn**	**10 36 35.4**	**-1.9**
	baz=333						
NNS				*eS*	**Sn**	**10 37 02.6**	**-4.3**
	baz=333						
KAU	**Kaohsiung**	**2.52**	**274**	*eP*	**Pn**	**10 36 38.3**	**+1.1**
	baz=272						
WJS	**Zhushan**	**2.53**	**304**	*i* P	**Pn**	**10 36 36.7**	**-0.7**
	baz=311						
WJS				*i* S	**Sn**	**10 37 05.9**	**-1.2**
	baz=311						
WCS	**Beigang Elemen**	**2.53**	**310**	P	**Pn**	**10 36 35.8**	**-1.7**
	baz=318						
CHN3	**Shinhua**	**2.54**	**285**	P	**Pn**	**10 36 38.7**	**+1.1**
	baz=285						
SHHT	**Tainan City**	**2.54**	**284**	*eP*	**Pn**	**10 36 38.2**	**+0.6**
	baz=273						
WSSB	**Gushan**	**2.56**	**275**	*eP*	**Pn**	**10 36 38.0**	**0.0**
	baz=274						
NDT	**Datong Townshi**	**2.57**	**328**	*eP*	**Pn**	**10 36 36.2**	**-1.8**
	baz=330						
ENTT	**Nioudou**	**2.58**	**329**	P	**Pn**	**10 36 35.9**	**-2.2**
	baz=332						
WNT	**Mingjian**	**2.59**	**304**	*i* P	**Pn**	**10 36 37.6**	**-0.7**
	baz=306						
WNT				*i* S	**Sn**	**10 37 07.5**	**-1.2**
	baz=306						
CHN2	**Minshiung**	**2.59**	**296**	*i* P	**Pn**	**10 36 38.4**	**+0.1**
	baz=296						
CHN2				*i* S	**Sn**	**10 37 08.1**	**-0.6**
	baz=296						
TWE	**Neicheng**	**2.60**	**332**	P	**Pn**	**10 36 36.4**	**-2.0**
	baz=326						
WDLH	**Douliu**	**2.61**	**299**	*i* P	**Pn**	**10 36 38.6**	**0.0**
	baz=310						
CHY	**Chiayi**	**2.62**	**294**	P	**Pn**	**10 36 38.9**	**+0.2**
	baz=295						
CHY				*eS*	**Sn**	**10 37 07.7**	**-1.7**
	baz=295						
WHP	**Taichung City**	**2.65**	**314**	*eP*	**Pn**	**10 36 39.4**	**+0.1**
	baz=323						
FUSB	**Fushanzhiwuyua**	**2.67**	**331**	*eP*	**Pn**	**10 36 37.7**	**-1.8**
	baz=327						
JTJ	**Tarama**	**2.69**	**35**	P	**Pn**	**10 36 36.8**	**-2.7**
JTJ				S	**Sn**	**10 37 07.4**	**-3.6**
YHNB	**Yeheng**	**2.70**	**326**		**Pn**	**10 36 38.2**	**-1.6**
YHNB	**Yeheng**	**2.70**	**326**	P	**Pn**	**10 36 37.9**	**-1.9**
	baz=329						
ICHU	**Yijhu**	**2.70**	**291**	*eP*	**Pn**	**10 36 39.2**	**-0.5**
	baz=291						
ICHU				*eS*	**Sn**	**10 37 11.2**	**0.0**
	baz=291						
NSK	**Sanguang**	**2.71**	**326**	P	**Pn**	**10 36 38.1**	**-1.9**
	baz=329						
SCLT	**Jiali**	**2.72**	**286**	*eP*	**Pn**	**10 36 39.8**	**-0.2**
	baz=286						
NWLT	**Wulai**	**2.73**	**329**	*eP*	**Pn**	**10 36 38.2**	**-2.0**
	baz=332						
WTK	**Tuku**	**2.73**	**298**	*eP*	**Pn**	**10 36 39.3**	**-0.9**
	baz=298						
WTK				*eS*	**Sn**	**10 37 11.2**	**-0.9**
	baz=298						
TWB1	**Santiao Chiao**	**2.74**	**340**	*eP*	**Pn**	**10 36 38.2**	**-2.1**
	baz=353						
CHN8	**Yiju**	**2.75**	**290**	P	**Pn**	**10 36 40.1**	**-0.4**
	baz=290						
CHN8				S	**Sn**	**10 37 12.5**	**0.0**
	baz=290						
TCU	**Taichung**	**2.76**	**309**	*eP*	**Pn**	**10 36 40.3**	**-0.3**
	baz=310						
TCU				*eS*	**Sn**	**10 37 11.7**	**-1.0**
	baz=310						
WCHH	**Zhanghua**	**2.80**	**306**	*eP*	**Pn**	**10 36 42.0**	**+0.8**
	baz=316						
TSCK	**Chigu Township**	**2.81**	**285**	*eP*	**Pn**	**10 36 40.0**	**-1.2**
	baz=285						
TSCK				*eS*	**Sn**	**10 37 13.1**	**-0.8**
	baz=285						
TWQ1	**Liyutan**	**2.82**	**313**	*eP*	**Pn**	**10 36 40.9**	**-0.5**
	baz=321						
WRL	**Guolierlin Hig**	**2.84**	**302**	*eP*	**Pn**	**10 36 40.9**	**-0.9**
	baz=311						
WRL				*eS*	**Sn**	**10 37 13.4**	**-1.4**
	baz=311						
WSF	**Szhu**	**2.85**	**296**	*eP*	**Pn**	**10 36 40.3**	**-1.5**
	baz=296						
WSF				*eS*	**Sn**	**10 37 13.3**	**-1.7**
	baz=296						
SXI1	**Grass Mountain**	**2.86**	**339**	*eP*	**Pn**	**10 36 39.5**	**-2.5**
	baz=352						
NWF	**Wu-fen Shan**	**2.87**	**337**	*eP*	**Pn**	**10 36 41.1**	**-1.0**
	baz=351						
WFSB	**Wu-fen Shan**	**2.87**	**337**	*eP*	**Pn**	**10 36 39.9**	**-2.2**
	baz=351						
NSY	**Sanyi**	**2.87**	**314**	P	**Pn**	**10 36 42.2**	**0.0**
	baz=324						
NSY				S	**Sn**	**10 37 14.7**	**-0.8**
	baz=324						
NSTT	**Nanjuang**	**2.88**	**320**	P	**Pn**	**10 36 41.4**	**-0.8**
	baz=330						
LIOB	**Emei**	**2.88**	**321**	P	**Pn**	**10 36 41.8**	**-0.4**
	baz=330						
TATO	**Taipei**	**2.90**	**331**		**Pn**	**10 36 41.7**	**-0.8**
WTCT	**Ta-ch'eng**	**2.90**	**300**	*eP*	**Pn**	**10 36 42.8**	**+0.3**
	baz=301						
WTCT				*eS*	**Sn**	**10 37 14.9**	**-1.4**
	baz=301						
WDJ	**Dajia District**	**2.91**	**312**	*eP*	**Pn**	**10 36 42.1**	**-0.6**
	baz=324						
WDJ				*eS*	**Sn**	**10 37 16.4**	**0.0**
	baz=324						
NMLH	**Miaoli**	**2.94**	**316**	*eP*	**Pn**	**10 36 41.5**	**-1.6**
	baz=318						
YM01	**YM01**	**3.02**	**334**	*eP*	**Pn**	**10 36 43.3**	**-0.9**
	baz=337						
NCUH	**Zhongli**	**3.04**	**327**	*eP*	**Pn**	**10 36 43.5**	**-0.9**
	baz=329						
NCU	**National Centr**	**3.04**	**327**	*eP*	**Pn**	**10 36 43.9**	**-0.6**
	baz=329						
TWS1	**Kuangyinshan**	**3.04**	**331**	*eP*	**Pn**	**10 36 43.8**	**-0.7**
	baz=334						
YM08	**YM

WDGT Dungji 3.21 286 *e*P Pn 10 36 45.7 -1.1
baz=285
PHUB P'eng-hu 3.36 289 *e*P Pn 10 36 47.6 -1.2
baz=289
PNG Penghu 3.39 290 *e*P Pn 10 36 47.7 -1.6
baz=290
VCHM Qimei 3.41 284 *e*P Pn 10 36 47.9 -1.6
baz=273
VWUC VWUC 4.15 309 *e*P Pn 10 36 57.6 -2.1
baz=309
PTMZ Houxiangcun 4.42 307 *e*P Pn 10 37 01.1 -2.3
baz=307
KNM Kinmen 4.66 296 *e*P Pn 10 37 05.8 -0.9
baz=295
KNMB Chin-men Tao 4.72 296 Pn Pn 10 37 05.3 -2.2
KNMB Chin-men Tao 4.72 296 *e*P Pn 10 37 05.1 -2.4
baz=296
QZH Quanzhou 4.77 303⇑*i*Pn Pn 10 37 06.5 -1.8
QZH Sn **Sn** 10 37 57.8 -4.6
QZH smax smax
comp=N,200nm,0.5s
QZH smax smax
comp=E,140nm,0.7s
LYJJ Jianjiangzhen 5.07 325 *e*P Pn 10 37 10.2 -2.2
baz=336
ZPLA Ao Xicun 5.08 288 *e*P Pn 10 37 09.6 -2.9
baz=287
MHZQ Yeshan 5.16 316 *e*P Pn 10 37 11.0 -2.6
baz=317
XPSS Dashiqiu 5.17 331 *e*P Pn 10 37 10.7 -3.1
baz=332
AXDP Jialang 5.25 299 *e*P Pn 10 37 12.5 -2.3
baz=298
DSXP Dongshan 5.31 285 *e*P Pn 10 37 14.4 -1.3
baz=284
SXFK Yanhouchang 6.30 310 *e*P Pn 10 37 26.7 -2.6
baz=310
HKPS Hong Kong Po S 8.22 271 Pn Pn 10 37 54.2 -1.5
JNU Nakatsue 12.71 31 LR LR 10 43 29.8
comp=E,195nm,19.0s,baz=204,slow=36
INCN Inchon 15.32 11 Pn Pn 10 39 30.4 -2.2
DAV Davao City (W) 15.47 170 LR LR 10 45 16.3
comp=E,147nm,18.4s,baz=302,slow=36
KSAR Wonju Array Be 15.54 15 Pn Pn 10 39 32.5 -2.8
KSRS Korea Array 15.56 15 Pn Pn 10 39 34.1 -1.4
comp=E,0.6nm,0.3s,baz=192,slow=12,SNR=33
KSRS LR LR 10 45 53.6
comp=E,81nm,18.4s,baz=200,slow=39
comp=E,14nm,0.8s
KS19 Wonju Array Si 15.59 14 Pn Pn 10 39 33.7 -2.3
KS19 IAmb IAmb 10 39 34.9
comp=Z,30nm,1.1s
HNS HongShan 16.56 336 ⇓P Pn 10 39 48.9 +0.6
HNS *e*S **Sn** 10 42 48.0 -3.1
HNS pmax pmax
comp=Z,14nm,1.4s
HNS LR LR
comp=E,580nm,11.4s
KMI Kunming 18.76 282 ⇑P Pn 10 40 16.8 +1.0
KMI pmax pmax
comp=Z,8.0nm,1.1s
KMI LR LR
comp=Z,250nm,12.1s
MAJO Matsushiro 19.26 40 P P 10 40 18.1 -2.4
MAJO IAmb IAmb 10 40 22.1
comp=Z,28nm,0.9s
MJAR Matsushiro Arr 19.26 40 P P 10 40 20.5 0.0
comp=Z,0.2nm,0.3s,baz=231,slow=9.9,SNR=61
comp=Z,20nm,0.7s
MJB9 Matsu-Tunnel 19.26 40 P P 10 40 18.9 -1.6
MJB9 IAmb IAmb 10 40 23.1
comp=Z,26nm,0.9s
PZH PanZhiHua 19.79 286 P Pn 10 40 28.1 0.0
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,300nm,6.1s
HHC Hu-ho-hao-te 20.76 335 *e*P P 10 40 35.9 -0.9
HHC pmax pmax
comp=Z,17nm,0.5s
HHC pmax pmax
comp=Z,570nm,5.5s
BTO Baotou 21.20 332 *e*P P 10 40 45.8 +4.3
BTO pP **sP** 10 40 52.8 +0.3
BTO sP **pwP** 10 40 56.1 +1.9
BTO PP **PnPn** 10 41 10.0 +8.5
BTO S **S** 10 44 37.5 +2.0
BTO sS Sn 10 44 48.3 +5.0
BTO SS **SnSn** 10 45 12.1 +13
BTO pmax pmax
comp=Z,13nm,0.8s
BTO pmax pmax
comp=Z,270nm,5.6s
BTO LR LR
comp=N,920nm,14.4s
BTO LR LR
comp=E,940nm,10.1s
BTO LR LR
comp=Z,700nm,13.0s
CRAI Chiangrai 21.21 268 P P 10 40 40.3 -1.5
LZH Lanzhou 21.52 313 *e*P P 10 40 48.1 +3.1
LZH pP sP 10 40 55.1 -1.1
LZH sP pwP 10 40 58.4 -0.1
LZH pmax pmax
comp=Z,21nm,1.2s
XLT XiLinHaoTe 22.17 347⇑*i*P P 10 40 50.6 -1.3
XLT pP pP 10 40 57.1 -2.7
XLT pmax pmax
comp=Z,14nm,0.8s
XLT pmax pmax
comp=Z,190nm,8.1s
SBUM Sibu 22.46 209 P P 10 40 55.0 -0.1
GUMO Guam 22.53 109 LR LR 10 50 35.6
comp=Z,83nm,18.7s,baz=3.0,slow=39
CHTO Chiang Mai 22.82 265 P P 10 40 57.6 -1.3
CM31 Chiang Mai Arr 22.90 264 P P 10 40 57.7 -2.1
CM31 IAmb IAmb 10 41 02.4
comp=Z,14nm,1.4s
CMAR Chiang Mai Arr 22.90 264 P P 10 40 58.0 -1.8
CMAR Chiang Mai Arr 22.90 264 P P 10 41 00.9 +1.1
comp=Z,3.5nm,0.8s,baz=71,slow=7.6,SNR=20
CMAR LR LR 10 51 22.1
comp=Z,81nm,18.6s,baz=70,slow=40
comp=Z,3.5nm,0.8s
USRK Ussuriysk Ar. 22.94 17 P P 10 40 58.8 -1.1
comp=Z,2.4nm,0.7s,baz=173,slow=7.1,SNR=5.1
comp=Z,2.4nm,0.7s
KLR Kul'dur 27.63 12 LR LR 10 52 38.5
comp=Z,90nm,20.5s,baz=214,slow=36
ULN Ulaanbaatar 28.43 337 P P 10 41 48.0 -2.4
SONM Songino Array 28.64 336 P P 10 41 49.6 -2.7
SONM IAmb IAmb 10 42 07.5
comp=Z,8.2nm,1.4s
SONM Songino Array 28.64 336 P P 10 41 51.8 -0.5
comp=Z,0.9nm,0.6s,baz=168,slow=8.8,SNR=3.3
comp=Z,0.9nm,0.6s
BATI Baumata 32.44 179 LR LR 10 55 05.8
comp=Z,80nm,19.7s,baz=318,slow=36
MTN Manton Dam 35.94 166 P P 10 42 55.5 -0.8
WMQ Urumqi 36.09 315 *e*P P 10 42 57.3 -0.1
WMQ pP pP 10 43 03.3 -2.8
WMQ pmax pmax
comp=Z,13nm,0.7s
KNRA Kununurra 38.28 171 P P 10 43 15.3 -0.8
PETK Petropavlovsk- 40.41 32 LR LR 11 00 45.0
comp=Z,47nm,20.0s,baz=248,slow=37
MK31 Makanchi Array 40.77 317 P P 10 43 36.5 -0.1
MK31 IAmb IAmb 10 43 38.0
comp=Z,8.9nm,0.8s
MKAR Makanchi Array 40.77 317 P P 10 43 36.0 -0.7
MKAR Makanchi Array 40.77 317 P P 10 43 37.0 +0.3
comp=Z,8.2nm,0.7s,baz=110,slow=9.7,SNR=41
comp=Z,8.2nm,0.7s
PET Petropavlovsk 40.83 33 P P 10 43 36.3 -0.7
MAKZ Makanchi 40.98 317 P P 10 43 37.5 -0.8
MAKZ IAmb IAmb 10 43 40.2
comp=Z,10nm,0.8s
COEN Coen 41.20 149 P P 10 43 40.9 +0.4
MA2 Magadan 41.99 21 LR LR 11 01 08.7
comp=Z,50nm,19.0s,baz=212,slow=36
ZAA0 Zalesovo Array 42.63 327 P P 10 43 50.4 -1.3
ZAA0 IAmb IAmb 10 43 56.2
comp=Z,4.6nm,0.8s
ZALV Zalesovo Beam 42.63 327 P P 10 43 50.9 -0.8
ZALV Zalesovo Beam 42.63 327 P P 10 43 51.1 -0.6
comp=Z,3.4nm,0.7s,baz=111,slow=7.8,SNR=9.2
comp=Z,3.4nm,0.7s
KSH Kashi 43.28 304 P P 10 44 01.3 +4.0
KSH pmax pmax
comp=Z,5.0nm,0.5s
WB0 Warramunga Arr 43.38 164 P P 10 43 58.0 -0.1
WB0 IAmb IAmb 10 43 58.8
comp=Z,6.4nm,1.1s
PALK Pallekele 43.42 256 LR LR 11 04 08.5
comp=Z,52nm,18.2s,baz=194,slow=39
WRAB Tennant Creek 43.53 164 P P 10 43 59.4 0.0
WRAB IAmb IAmb 10 44 01.4
comp=Z,10.0nm,1.2s
WRA Warramunga Arr 43.54 164 P P 10 43 59.6 +0.3
WRA Warramunga Arr 43.54 164 P P 10 43 58.8 -0.6
comp=Z,4.1nm,0.8s,baz=346,slow=8.7,SNR=21
comp=Z,4.1nm,0.8s
WB2 Warramunga Arr 43.54 164 P P 10 43 59.4 0.0
WB2 IAmb IAmb 10 44 00.2
comp=Z,6.0nm,0.9s
NRN Naryn 43.59 307 IAmb IAmb 10 44 02.0
comp=Z,9.5nm,0.8s
WR0 Warramunga Arr 43.60 164 P P 10 43 59.9 0.0
WR0 IAmb IAmb 10 44 00.7
comp=Z,6.3nm,0.8s
KURK Kurchatov 44.52 321 P P 10 44 06.4 -0.5
KURK IAmb IAmb 10 44 08.0
comp=Z,7.0nm,0.9s
KURBB Kurchatov Arra 44.53 320 P P 10 44 07.5 +0.4
comp=Z,4.6nm,0.7s,baz=113,slow=8.1,SNR=12
comp=Z,4.6nm,0.7s
AAK Ala-Archa 44.92 308 P P 10 44 08.3 -2.2
AAK IAmb IAmb 10 44 12.2
comp=Z,3.0nm,0.7s
AAK Ala-Archa 44.92 308 LR LR 11 03 07.4
comp=Z,83nm,19.0s,baz=85,slow=36
AS31 Alice Springs 47.02 166 P P 10 44 26.4 -0.6
ASAR Alice Springs 47.02 166 P P 10 44 27.2 +0.2
ASAR Alice Springs 47.02 166 P P 10 44 27.6 +0.6
comp=Z,2.2nm,0.8s,baz=349,slow=6.8,SNR=20
comp=Z,2.2nm,0.8s
BTK Batken 47.29 304 P P 10 44 28.1 -1.0
BTK IAmb IAmb 10 44 30.2
comp=Z,11nm,1.5s
KK31 Karatay Array 47.88 308 P P 10 44 33.5 -0.1
KK31 IAmb IAmb 10 44 34.9
comp=Z,3.3nm,0.6s
KKAR Karatay Array 47.88 308 P P 10 44 31.9 -1.7
BVAR Borovoye Array 50.10 321 P P 10 44 51.0 +0.6
comp=Z,3.0nm,0.6s,baz=106,slow=9.7,SNR=12
comp=Z,3.0nm,0.6s
BRVK Borovoye 50.17 321 P P 10 44 49.9 -1.0
ADK Adak 54.41 41 P P 10 45 22.2 -0.2
ABKAR Akbulak array 55.87 315 P P 10 45 32.9 -0.1
GEYT Alibeck 57.15 302 P P 10 45 43.1 +0.8
comp=Z,1.9nm,0.5s,baz=78,slow=2.9,SNR=5.7
comp=Z,1.9nm,0.5s
MSVF Nonsavu 67.00 122 LR LR 11 10 41.4
comp=Z,40nm,21.4s,baz=146,slow=31
KBZ Khabaz 67.90 310 P P 10 46 53.3 -0.6
comp=Z,2.3nm,0.7s,baz=63,slow=2.7,SNR=5.3
comp=Z,2.3nm,0.7s
I23K Minto, Yukon-K 68.89 27 P P 10 47 00.0 +0.2
KNK Knik Glacier 69.87 31 P P 10 47 05.1 -0.9
ILAR Eielson Array 69.99 27 P P 10 47 07.5 +0.9
comp=Z,0.4nm,0.7s,baz=291,slow=6.6,SNR=2.9
comp=Z,0.4nm,0.7s
BMAR Burnt Mountain 70.43 24 P P 10 47 10.5 +1.2
SPITS Spitsbergen Ar 71.55 348 LR LR 11 22 39.7
comp=Z,52nm,18.2s,baz=10,slow=39
FINES FINESS Array B 73.81 330 P P 10 47 31.3 +1.8
comp=Z,0.9nm,0.7s,baz=100,slow=4.3,SNR=3.7
FINES LR LR 11 23 44.7
comp=Z,107nm,18.6s,baz=236,slow=39
comp=Z,0.9nm,0.7s
INK Inuvik 74.21 22 LR LR 11 23 00.6
comp=Z,42nm,18.4s,baz=234,slow=38
BRTR Keskin Array B 75.58 307 P P 10 47 40.4 0.0
comp=Z,0.4nm,0.4s,baz=157,slow=6.7,SNR=4.0
comp=Z,0.4nm,0.4s
HFS Hagfors 79.92 331 LR LR 11 24 45.2
comp=Z,82nm,18.5s,baz=242,slow=37
NOA NORSAR Array B 80.56 333 LR LR 11 25 51.5
comp=Z,55nm,19.3s,baz=235,slow=37
YKA Yellowknife Ar 83.92 23 LR LR 11 29 07.5
comp=Z,36nm,18.4s,baz=348,slow=38

*IDC **21** 10:46:16.6±1.1, 17°.19S×174°.27W, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=41.4km s-min=23.2km az=133.0*
ISC 21 10:46:37.2±1.1, 17°.2S±0°.2×174°.5W±0°.2, h172km, n8, σ0°.24/8, mb3.7/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.24**	**241**	P	**P**	**10 54 13.4**	**-0.2**
	0.9nm,0.4s,baz=77,slow=8.1,SNR=4.3						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**48.43**	**258**	P	**P**	**10 55 02.8**	**+0.3**
	0.7nm,0.3s,baz=93,slow=7.1,SNR=49						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**48.57**	**253**	P	**P**	**10 55 03.8**	**+0.1**
	3.7nm,0.6s,baz=90,slow=8.2,SNR=75						
	3.7nm,0.6s						
QSPA	**South Pole Qui**	**72.84**	**180**	P	**P**	**10 57 47.0**	**0.0**
	1.3nm,0.8s,baz=112,slow=0.9,SNR=5.2						
	1.3nm,0.8s						
PETK	**Petropavlovsk-**	**74.04**	**343**	P	**P**	**10 57 53.6**	**-0.3**
	2.4nm,1.0s,baz=113,slow=11,SNR=5.3						
	2.4nm,1.0s						
NVAR	**Mina Array Bea**	**76.37**	**42**	P	**P**	**10 58 07.9**	**0.0**
	0.3nm,0.6s,baz=203,slow=5.9,SNR=3.7						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**84.42**	**12**	P	**P**	**10 58 50.0**	**+0.1**
	0.3nm,0.6s,baz=230,slow=5.8,SNR=9.0						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**146.86**	**318**	PKPbc	**PKPab**	**11 06 01.6**	**+0.2**
	0.5nm,0.4s,baz=116,slow=3.4,SNR=4.8						

*JSN **21** 10:50:24.4±0.4, 17°.19N×78°.22W, h46km±177km, MD3.6*
SSNC 21 10:50:22.9±1.1, 19°.45N×77°.81W, h9km±6km, MD2.6, ML2.4, MW2.6, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.98**	**51**	*e*P	Pg	10 50 39.3	-2.5
LMGC				*e*S	Sg	10 50 51.8	-2.7
LMGC				IAML		10 50 52.9	
	comp=N,256nm,0.1s						
LMGC				IAML		10 50 52.9	
	comp=E,167nm,0.1s						
MTDJ	**Mount Denham**	**1.24**	**168**	*e*P	Pn	10 50 44.4	-2.2
MTDJ				*e*S	Sb	10 50 58.7	-4.0
MTDJ	**Mount Denham**	**1.24**	**168**	*i* P	Pn	10 50 44.7	-1.9
MTDJ				*i* S	Sb	10 50 59.9	-2.9
STH	**Stony Hill**	**1.66**	**145**	*i* P	Pn	10 50 50.2	-2.1
GWJ	**Greenwich**	**1.71**	**143**	*i* P	Pn	10 50 50.8	-2.2
CCCC	**Cccc**	**1.75**	**1**	*e*P	Pn	10 50 49.6	-3.7
CCCC				*e*S	Sn	10 51 12.0	-3.7
RCC	**Rio Carpintero**	**2.07**	**74**	*e*P	Pn	10 50 55.1	-2.7
RCC				*e*S	Sn	10 51 19.6	-4.1
MASC	**Masc**	**3.45**	**77**	*e*S	Pn	10 51 16.1	-0.7

ROM 21 10:51:53.7±0.1, 42°.843N±0°.004×12°.956E±0°.005, h10km, ML0.6/16, Error ellipse: s-maj=0.4km s-min=0.3km az=83.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1221	**Campello sul C**	**0.08**	**282**	P	Pg	10 51 56.6	+0.4
T1221				S	Sg	10 51 58.4	+0.4
T1221				AML	AML		
	comp=N,78μm,1.1s						
T1221				AML	AML		
	comp=E,73μm,1.1s						
T1221				AML	AML		
	comp=E,16μm,0.1s						
T1221				AML	AML		
	comp=N,27μm,0.4s						
NRCA	**Norcia**	**0.12**	**95**	P	Pg	10 51 57.1	+0.5
NRCA				S	Sg	10 51 59.3	+0.6
FEMA	**Monte Fema**	**0.14**	**30**	P	Pg	10 51 57.1	+0.2
FEMA				S	Sg	10 51 59.9	+0.6
GAVE	**Gavelli**	**0.16**	**197**	P	Pg	10 51 57.8	+0.6
GAVE				S	Sg	10 52 00.7	+1.0
GAVE				AML	AML		
	comp=E,45μm,1.1s						
GAVE				AML	AML		
	comp=N,31μm,0.3s						
GAVE				AML	AML		
	comp=E,64μm,1.3s						
GAVE				AML	AML		
	comp=N,120μm,0.8s						
GAVE				AML	AML		
	comp=N,29μm,0.1s						
GAVE				AML	AML		
	comp=E,64μm,0.7s						
GAVE				AML	AML		
	comp=E,44μm,0.2s						
CESI	**CESI - Serrava**	**0.17**	**347**	P	Pg	10 51 58.0	+0.6
CESI				S	Sg	10 52 01.0	+1.1
CESI				AML	AML		
	comp=E,17μm,0.4s						
CESI				AML	AML		
	comp=N,23μm,0.9s						
CESI				AML	AML		
	comp=E,17μm,1.6s						
MC2	**Monte Cornacci**	**0.19**	**68**	P	Pg	10 51 58.5	+0.7
MC2				S	Sg	10 52 01.9	+1.3
T1214	**Arquata del Tr**	**0.20**	**114**	P	Pg	10 51 58.4	+0.4
T1214				S	Sg	10 52 02.0	+1.0
FDMO	**Fiordimonte**	**0.22**	**26**	P	Pg	10 51 58.9	+0.7
FDMO				S	Sg	10 52 02.4	+1.1
FDMO				AML	AML		
	comp=E,15μm,0.2s						
FDMO				AML	AML		
	comp=N,14μm,0.1s						
LNSS	**Leonessa**	**0.25**	**165**	P	Pg	10 51 59.3	+0.5
LNSS				S	Sg	10 52 03.2	+1.0
CSP1	**Cessapalombo**	**0.31**	**36**	AML	AML		
	comp=N,19μm,0.5s						
CSP1				AML	AML		
	comp=E,20μm,0.7s						
CSP1				AML	AML		
	comp=N,19μm,1.5s						
CSP1				AML	AML		
	comp=E,20μm,1.3s						

*STR **21** 10:53:03.8±0.3, 46°.N±2°.×°.±°., h2km, MLv1.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=21.5, preliminary*
*LDG **21** 10:53:03.9±0.1, 46°.02N×6°.90E, h2km, Md1.4/2, Ml1.5/3, Error ellipse: s-maj=1.1km s-min=1.0km az=116.0*
ZUR 21 10:53:03.9, 46°.03N×6°.89E, h5km±1km, MLh0.9/13, 5C-6D, Error ellipse: s-maj=2652.5km s-min=942.3km az=120.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEMOS	**Emosson Stauma**	**0.05**	**44**	⇑Pg	Pg	10 53 05.5	+0.2
SEMOS				Sg	Sg	10 53 06.5	+0.2
OGSI	**Sixt**	**0.10**	**289**	⇓Pg	Pg	10 53 06.0	+0.1
OGSI				Sg	Sg	10 53 07.5	+0.1
OGSI	**Sixt**	**0.10**	**289**	Pg	Pg	10 53 06.0	+0.1
OGSI				Sg	Sg	10 53 07.4	0.0
SALAN	**Lac Salanfe**	**0.12**	**28**	⇑Pg	Pg	10 53 06.7	+0.2
SALAN				Sg	Sg	10 53 08.6	+0.3
GRYON	**Gryon**	**0.27**	**36**	⇑Pg	Pg	10 53 09.2	+0.1
GRYON				Sg	Sg	10 53 12.8	+0.2
REMY	**Saint-Rhmy-en**	**0.27**	**136**	⇓P	Pg	10 53 09.6	+0.4
REMY				AML	AML		
	comp=N,43μm,2.0s						
REMY				AML	AML		
	comp=E,52μm,2.6s						
REMY				AML	AML		
	comp=N,43μm,0.0s						
REMY				AML	AML		
	comp=E,52μm,1.4s						
REMY	**Saint-Rhmy-en**	**0.27**	**136**	⇓Pg	Pg	10 53 09.6	+0.4
REMY	**Saint-Rhmy-en**	**0.27**	**136**	Sg	Sg	10 53 13.2	+0.4
MRGE	**Morge**	**0.29**	**155**	⇓Pg	Pg	10 53 09.7	+0.2
MRGE	**Morge**	**0.29**	**155**	⇓P	Pg	10 53 09.8	+0.2
MRGE				AML	AML		
	comp=N,30μm,2.2s						
MRGE				AML	AML		
	comp=E,34μm,1.8s						
MRGE				AML	AML		
	comp=E,34μm,0.2s						
MRGE				AML	AML		
	comp=N,30μm,0.2s						
AIGLE	**Aigle**	**0.31**	**8**	⇓Pg	Pg	10 53 10.0	0.0
AIGLE	**Aigle**	**0.31**	**8**	Pg	Pg	10 53 10.0	0.0
AIGLE	**Aigle**	**0.31**	**8**	Sg	Sg	10 53 14.0	0.0
DIX	**Grande Dixence**	**0.36**	**83**	Pg	Pg	10 53 11.2	+0.2
DIX	**Grande Dixence**	**0.36**	**83**	Pg	Pg	10 53 11.2	+0.1
DIX	**Grande Dixence**	**0.36**	**83**	Sg	Sg	10 53 16.1	+0.3
RSL	**Roselend**	**0.39**	**208**	⇑Pg	Pg	10 53 11.3	-0.2
RSL	**Roselend**	**0.39**	**208**	Pg	Pg	10 53 11.3	-0.2
RSL				Sg	Sg	10 53 16.4	-0.2
SENIN	**Lac Senin/Sane**	**0.44**	**41**	⇑Pg	Pg	10 53 12.3	0.0
LPL	**La Plagne**	**0.53**	**192**	*e*Pg	Pg	10 53 14.1	+0.1
LPL				*e*Sg	Sg	10 53 20.9	0.0
	comp=N,2.1nm,0.3s						
LPG	**La Plagne**	**0.55**	**190**	*e*Pg	Pg	10 53 14.4	0.0
LPG				*e*Sg	Sg	10 53 21.6	+0.2
	comp=N,2.6nm,0.2s						
LSD	**Lago del Serru**	**0.60**	**163**	Pg	Pg	10 53 15.3	-0.1
LSD	**Lago del Serru**	**0.60**	**163**	Sg	Sg	10 53 22.8	-0.4
CIRO	**Champorcher**	**0.64**	**132**	Pg	Pg	10 53 16.0	-0.3
CIRO	**Champorcher**	**0.64**	**132**	Sg	Sg	10 53 24.3	-0.3
GIMEL	**St. Georges /**	**0.66**	**320**	Pg	Pg	10 53 16.9	+0.3
GIMEL	**St. Georges /**	**0.66**	**320**	Sg	Sg	10 53 25.9	+0.7
EMBD	**Embd, Matterta**	**0.68**	**74**	Sg	Sg	10 53 26.2	+0.4
EMBD	**Embd, Matterta**	**0.68**	**74**	Pg	Pg	10 53 17.1	+0.1
SATI	**Passo dei Sala**	**0.70**	**103**	Pg	Pg	10 53 17.3	0.0
SATI	**Passo dei Sala**	**0.70**	**103**	Sg	Sg	10 53 26.0	-0.5
CABF	**La Chapelle**	**0.80**	**316**	*e*Pg	Pb	10 53 19.9	-0.4
CABF	**La Chapelle**	**0.80**	**316**	*e*P	Pn	10 53 21.6	-0.3
CABF				*e*Sg	Sg	10 53 29.3	-0.3
	comp=N,0.6nm,0.2s						
OG35	**Corcelles**	**0.92**	**271**	Pg	Pg	10 53 21.5	+0.1
OG35				Sg	Sg	10 53 34.0	+0.7
RSP	**Reno Superiore**	**0.93**	**163**	Pg	Pg	10 53 21.2	-0.3
RSP	**Reno Superiore**	**0.93**	**163**	Sg	Sg	10 53 33.4	-0.1
OGSM	**Saint Maurice**	**0.93**	**243**	Pg	Pg	10 53 21.8	0.0
OGSM				Sg	Sb	10 53 34.8	-0.5
ORIF	**Oris-en-Rattie**	**1.32**	**213**	*e*Pg	Pn	10 53 27.9	-1.2
ORIF				*e*Sg	Sg	10 53 44.8	-1.5
	comp=N,0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**1.95**	**234**	*e*Pg	Pb	10 53 40.1	+0.1
VIVF				*e*Sg	Sb	10 54 04.8	+0.2
	comp=N,0.9nm,0.3s						

*TAP **21** 11:14:24.7, 24°.73N×122°.47E, h12km, ML3.1, C*
*JMA **21** 11:14:24.4±0.2, 25°.N±2°.×122°.5E±0°.7, h17km, MV2.4/9, NW OFF ISHIGAKIJIMA IS*
ISC 21 11:14:22.6±1.2, 24°.73N±0°.02×122°.50E±0°.02, h5km±10km, n93, σ0°.65/145, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.39**	**218**	*i* P	**Pb**	**11 14 32.0**	**0.0**
	baz=214						
EOS2				*e*S	**Sb**	**11 14 38.2**	**0.0**
	baz=214						
EOS3	**EOS3**	**0.47**	**201**	P	**Pb**	**11 14 33.5**	**+0.2**
	baz=197						
EOS3				S	**Sb**	**11 14 40.2**	**-0.2**
	baz=197						
YOJ	**Yonaguni jima**	**0.54**	**120**	P	**Pb**	**11 14 35.1**	**+0.6**
YOJ				S	**Sb**	**11 14 42.1**	**-0.4**
YOJ	**Yonaguni jima**	**0.54**	**120**	*e*P	**Pn**	**11 14 35.5**	**-1.3**
	baz=118						
YOJ				*e*S	**Sb**	**11 14 43.0**	**+0.5**
	baz=118						
TWB1	**Santiao Chiao**	**0.54**	**301**	*i* P	**Pb**	**11 14 34.6**	**0.0**
	baz=302						
TWB1				S	**Sb**	**11 14 42.1**	**-0.5**
	baz=302						
TWC	**Suao**	**0.60**	**259**	*e*P	**Pg**	**11 14 34.6**	**+0.4**
	baz=257						
EOS4	**EOS4**	**0.63**	**195**	P	**Pb**	**11 14 36.2**	**+0.4**
	baz=192						
EOS4				S	**Sb**	**11 14 46.3**	**+1.5**
	baz=192						
SXI1	**Grass Mountain**	**0.67**	**303**	P	**Pb**	**11 14 37.2**	**+0.4**
	baz=303						
SXI1				*e*S	**Sb**	**11 14 45.6**	**-0.9**

	baz=303						
EWUT	**Wuta**	**0.72 247**	*e*P		**Pb**	**11 14 36.8**	**-0.8**
	baz=245						
EWUT			*e*S		**Sb**	**11 14 46.9**	**-0.8**
	baz=245						
NDS	**Dongshan**	**0.72 263**	P		**Pb**	**11 14 37.9**	**+0.2**
	baz=262						
NDS			S		**Sb**	**11 14 47.5**	**-0.3**
	baz=262						
NWF	**Wu-fen Shan**	**0.74 298**	P		**Pb**	**11 14 38.3**	**+0.3**
	baz=298						
NWF			S		**Sb**	**11 14 48.2**	**-0.2**
	baz=298						
WFSB	**Wu-fen Shan**	**0.74 298**	P		**Pb**	**11 14 38.3**	**+0.4**
	baz=298						
WFSB			S		**Sb**	**11 14 48.2**	**-0.1**
	baz=298						
ENA	**Nanau**	**0.75 247**	P		**Pb**	**11 14 38.4**	**+0.2**
	baz=245						
ENA			*e*S		**Sg**	**11 14 47.7**	**+0.8**
	baz=245						
TWE	**Neicheng**	**0.76 270**	P		**Pb**	**11 14 37.7**	**-0.6**
	baz=268						
TWE			S		**Sb**	**11 14 48.4**	**-0.5**
	baz=268						
TNOU	**National Taiwa**	**0.78 303**	P		**Pb**	**11 14 38.9**	**+0.2**
	baz=303						
TNOU			*e*S		**Sb**	**11 14 48.9**	**-0.6**
	baz=303						
FUSB	**Fushanzhiwuyua**	**0.83 272**	P		**Pb**	**11 14 39.2**	**-0.3**
	baz=272						
FUSB			*e*S		**Sb**	**11 14 50.5**	**-0.6**
	baz=272						
ENTT	**Nioudou**	**0.85 264**	*e*P		**Pb**	**11 14 39.8**	**-0.2**
	baz=263						
ENTT			*e*S		**Sg**	**11 14 50.6**	**+0.4**
	baz=263						
TWA	**Mucha**	**0.87 287**	P		**Pb**	**11 14 40.6**	**+0.4**
	baz=287						
TWA			S		**Sb**	**11 14 51.6**	**-0.5**
	baz=287						
NWRT	**Kuosheng**	**0.90 302**	P		**Pb**	**11 14 41.0**	**+0.3**
	baz=302						
NWRT			S		**Sb**	**11 14 52.2**	**-0.6**
	baz=302						
LATG	**Datong**	**0.91 258**	*e*P		**Pb**	**11 14 40.5**	**-0.4**
	baz=257						
NDT	**Datong Townshi**	**0.91 262**	*e*P		**Pn**	**11 14 41.4**	**-0.6**
	baz=261						
NDT			*e*S		**Sb**	**11 14 52.5**	**-0.7**
	baz=261						
NWLT	**Wulai**	**0.91 273**	P		**Pb**	**11 14 41.1**	**+0.3**
	baz=273						
NWLT			*e*S		**Sg**	**11 14 52.0**	**+0.2**
	baz=273						
NHDH	**Xindian Distri**	**0.92 285**	P		**Pn**	**11 14 41.4**	**-0.7**
	baz=285						
NHDH			S		**Sb**	**11 14 53.1**	**-0.4**
	baz=285						
YM01	**YM01**	**0.94 296**	P		**Pb**	**11 14 41.5**	**+0.1**
	baz=296						
YM01			S		**Sb**	**11 14 53.7**	**-0.5**
	baz=296						
YM08	**YM08**	**0.94 299**	*e*P		**Pb**	**11 14 41.3**	**-0.2**
	baz=299						
YM08			*e*S		**Sg**	**11 14 53.3**	**+0.2**
	baz=299						
TATO	**Taipei**	**0.95 285**	P		**Pn**	**11 14 42.2**	**-0.4**
TATO	**Taipei**	**0.95 285**	P		**Pb**	**11 14 41.9**	**+0.3**
	baz=285						
TATO			S		**Sb**	**11 14 53.9**	**-0.6**
	baz=285						
ETL	**Fush Village**	**0.98 235**	*e*P		**Pb**	**11 14 42.4**	**+0.3**
	baz=233						
TWY	**Chenhua**	**0.98 304**	*e*P		**Pb**	**11 14 41.9**	**-0.2**
	baz=304						
TWY			*e*S		**Sb**	**11 14 55.3**	**-0.1**
	baz=304						
NACB	**Ninganchiao**	**0.99 236**	P		**Pb**	**11 14 42.0**	**-0.3**
NACB	**Ninganchiao**	**0.99 236**	*e*P		**Pb**	**11 14 42.2**	**-0.1**
	baz=235						
NACB			*e*S		**Sg**	**11 14 54.1**	**-0.5**
	baz=235						
ANP	**Anpu**	**1.00 297**	*e*P		**Pb**	**11 14 42.4**	**0.0**
	baz=297						
YHNB	**Yeheng**	**1.02 267**	P		**Pn**	**11 14 43.2**	**-0.5**
YHNB	**Yeheng**	**1.02 267**	*e*P		**Pb**	**11 14 43.0**	**+0.2**
	baz=266						
YHNB			S		**Sg**	**11 14 55.7**	**+0.1**
	baz=266						
NSK	**Sanguang**	**1.04 267**	*e*P		**Pb**	**11 14 43.3**	**+0.2**
	baz=266						
NSK			*e*S		**Sg**	**11 14 55.9**	**-0.2**
	baz=266						
NTST	**Danshui**	**1.05 295**	*e*P		**Pb**	**11 14 42.9**	**-0.3**
	baz=294						
NTST			*e*S		**Sb**	**11 14 57.2**	**-0.1**
	baz=294						
TWD	**Chiawan**	**1.05 232**	*e*P		**Pb**	**11 14 43.2**	**0.0**
	baz=230						
TWD			*e*S		**Sb**	**11 14 57.1**	**-0.1**
	baz=230						
TWS1	**Kuangyinshan**	**1.05 291**	P		**Pg**	**11 14 42.5**	**-0.3**
	baz=291						
TWS1			S		**Sb**	**11 14 57.1**	**-0.2**
	baz=291						
NNSB	**Datong**	**1.06 254**	*e*P		**Pb**	**11 14 43.0**	**-0.5**
	baz=253						
NNSB			*e*S		**Sb**	**11 14 57.9**	**+0.2**
	baz=253						
NNSH	**Datong**	**1.06 254**	*e*P		**Pn**	**11 14 43.8**	**-0.4**
	baz=253						
NNSH			*e*S		**Sb**	**11 14 57.9**	**+0.2**
	baz=253						
ETLH	**Xiulin Townshi**	**1.06 241**	*e*P		**Pb**	**11 14 43.6**	**+0.1**
	baz=239						
ETLH			*e*S		**Sg**	**11 14 57.1**	**+0.3**
	baz=239						
NNS	**Nan Shan**	**1.07 255**	*e*P		**Pn**	**11 14 44.1**	**-0.2**
	baz=253						
IRIF	**Iriomote-Funau**	**1.19 109**	P		**Pn**	**11 14 46.5**	**+0.7**
IRIF			*e*S		**Sn**	**11 15 02.6**	**+0.3**
ETM	**Tongmen**	**1.19 231**	*e*P		**Pn**	**11 14 46.1**	**+0.2**
	baz=229						
ETM			*e*S		**Sb**	**11 15 01.8**	**+0.4**
	baz=229						
LXIB	**Xiulin Townshi**	**1.22 235**	*e*P		**Pn**	**11 14 46.3**	**-0.1**
	baz=233						
LXIB			*e*S		**Sb**	**11 15 02.1**	**-0.2**
	baz=233						
FUSS	**Fushou**	**1.24 248**	P		**Pn**	**11 14 47.1**	**+0.2**
	baz=246						
FUSS			*e*S		**Sb**	**11 15 02.8**	**-0.2**
	baz=246						
NFF	**Wufeng Townshi**	**1.26 266**	*e*P		**Pn**	**11 14 46.9**	**0.0**
	baz=265						
NFF			*e*S		**Sn**	**11 15 04.4**	**+0.1**
	baz=265						
WHF	**Hehuan Shan**	**1.27 243**	*e*P		**Pn**	**11 14 47.5**	**+0.2**
	baz=241						
WHF			*e*S		**Sb**	**11 15 04.0**	**0.0**
	baz=241						
TWT	**Tachien**	**1.30 249**	*e*P		**Pn**	**11 14 48.0**	**+0.4**
	baz=248						
TDCB	**Techi**	**1.31 249**	*e*P		**Pb**	**11 14 48.1**	**+0.3**
	baz=248						
ESL	**Shilin**	**1.33 227**	*e*P		**Pg**	**11 14 47.9**	**-0.3**
	baz=225						
ESL			*e*S		**Sn**	**11 15 06.5**	**+0.5**
	baz=225						
LIOB	**Emei**	**1.35 267**	*e*P		**Pb**	**11 14 48.8**	**+0.3**
	baz=266						
NSTT	**Nanjuang**	**1.37 266**	*e*P		**Pb**	**11 14 49.9**	**+1.2**
	baz=265						
NSTT			*e*S		**Sn**	**11 15 07.6**	**+0.8**
	baz=265						
SBCB	**Hsinchu**	**1.38 273**	*e*P		**Pn**	**11 14 48.4**	**-0.1**
	baz=272						
CHGB	**Renai**	**1.38 241**	*e*P		**Pb**	**11 14 49.6**	**+0.6**
	baz=240						
CHGB			*e*S		**Sn**	**11 15 08.5**	**+1.0**
	baz=240						
WARBT	**Fenglin Townsh**	**1.43 225**	*e*P		**Pn**	**11 14 49.3**	**0.0**
	baz=224						
WARBT			*e*S		**Sb**	**11 15 07.9**	**-0.4**
	baz=224						
OWD	**Renai**	**1.43 238**	*e*P		**Pb**	**11 14 49.8**	**-0.1**
	baz=236						
EGFH	**Guangfu**	**1.44 223**	*e*P		**Pn**	**11 14 49.2**	**-0.1**
	baz=222						
EGFH			*e*S		**Sb**	**11 15 08.6**	**0.0**
	baz=222						
WUSB	**Renai**	**1.46 240**	*e*P		**Pg**	**11 14 50.9**	**+0.3**
	baz=239						
WUSB			*e*S		**Sn**	**11 15 10.2**	**+0.9**
	baz=239						
WHP	**Taichung City**	**1.49 253**	*e*P		**Pg**	**11 14 52.0**	**+0.8**
	baz=252						
WHP			*e*S		**Sg**	**11 15 10.5**	**+0.1**
	baz=252						
JIJ	**Ishigaki jima**	**1.54 103**	S		**Sn**	**11 15 10.6**	**-0.5**
NMLH	**Miaoli**	**1.57 263**	*e*P		**Pg**	**11 14 53.1**	**+0.4**
	baz=262						
VWDT	**VWDT**	**1.58 232**	*e*P		**Pg**	**11 14 52.4**	**-0.4**
	baz=231						
HGSD	**Ruisui**	**1.58 219**	*e*P		**Pn**	**11 14 50.7**	**-0.5**
	baz=217						
DPDB	**Guoxing**	**1.59 245**	*e*P		**Pg**	**11 14 53.1**	**-0.1**
	baz=243						
WCS	**Beigang Elemen**	**1.60 246**	*e*P		**Pg**	**11 14 53.1**	**-0.1**
	baz=244						
TWQ1	**Liyutan**	**1.62 257**	*e*P		**Pg**	**11 14 54.1**	**+0.4**
	baz=256						
EHY	**Hungye**	**1.63 222**	*e*P		**Pn**	**11 14 51.4**	**-0.5**
	baz=220						
SMLT	**Sun Moon Lake**	**1.69 240**	*e*P		**Pg**	**11 14 54.4**	**-0.6**
	baz=239						
SSLB	**Suanglung**	**1.69 237**	*e*P		**Pn**	**11 14 53.5**	**+0.7**
	baz=235						
TYC	**Yuchr**	**1.71 242**	*e*P		**Pb**	**11 14 54.6**	**+0.1**
	baz=240						
YULB	**Yu-li**	**1.73 220**	P		**Pn**	**11 14 53.5**	**+0.2**
YULB	**Yu-li**	**1.73 220**	*e*P		**Pn**	**11 14 52.9**	**-0.4**
	baz=218						
YULB			*e*S		**Sn**	**11 15 15.2**	**-0.6**
	baz=218						
EYUL	**Yuli**	**1.75 218**	*e*P		**Pn**	**11 14 53.6**	**0.0**
	baz=217						
EYUL			*e*S		**Sn**	**11 15 16.8**	**+0.6**
	baz=217						
TWF1	**Yuli**	**1.76 219**	*e*P		**Pn**	**11 14 53.3**	**-0.4**
	baz=217						
WHYT	**Xinyi Township**	**1.82 236**	*e*P		**Pb**	**11 14 56.4**	**0.0**
	baz=235						
FULB	**Fuli**	**1.88 216**	*e*P		**Pn**	**11 14 55.5**	**+0.1**
	baz=215						
FULB			*e*S		**Sn**	**11 15 18.5**	**-1.0**
	baz=215						
ALS	**Alishan**	**1.97 232**	*e*P		**Pb**	**11 14 58.3**	**-0.8**
	baz=231						
EHD	**Haiduan**	**1.97 217**	*e*P		**Pn**	**11 14 55.7**	**-0.9**
	baz=216						
CHN5	**Tsauling**	**2.01 236**	*e*P		**Pb**	**11 14 59.0**	**-0.7**
	baz=235						
ELDTW	**Lidau**	**2.05 222**	*e*P		**Pn**	**11 14 58.1**	**+0.3**
	baz=220						
ELDTW			*e*S		**Sn**	**11 15 22.5**	**-1.3**
	baz=220						
WCKO	**Fanlu**	**2.16 234**	*e*P		**Pb**	**11 15 01.3**	**-0.8**
	baz=232						
LONT	**Longtian**	**2.21 215**	*e*P		**Pn**	**11 14 59.4**	**-0.5**
	baz=214						
STYH	**Taoyuan**	**2.21 226**	*e*P		**Pn**	**11 15 01.2**	**+1.3**
	baz=225						
CHN4	**Tsaushan**	**2.22 232**	*e*P		**Pb**	**11 15 02.0**	**-1.2**
	baz=231						
TPUB	**Ta-pu**	**2.23 231**	P		**Pb**	**11 15 02.2**	**-1.1**
TPUB	**Ta-pu**	**2.23 231**	*e*P		**Pb**	**11 15 02.0**	**-1.3**
	baz=229						
WTP	**Ta-pu**	**2.27 230**	*e*P		**Pn**	**11 15 02.1**	**+1.3**
	baz=228						
CHN1	**Nanshi**	**2.37 230**	*e*P		**Pb**	**11 15 04.4**	**-1.4**
	baz=229						
SLGT	**Liugui**	**2.42 225**	*e*P		**Pn**	**11 15 04.5**	**+1.7**
	baz=223						
SSD	**Sandimen**	**2.61 221**	*e*P		**Pb**	**11 15 07.8**	**-2.1**
	baz=220						
MASBT	**Mashibuluo**	**2.72 219**	P		**Pn**	**11 15 08.8**	**+1.9**
	baz=218						
MASBT			*e*S		**Sn**	**11 15 42.2**	**+2.1**
	baz=218						
EAST	**Anshuo**	**2.79 213**	*e*P		**Pb**	**11 15 10.9**	**-1.9**
	baz=212						

IDC ***21*** *11:18:04.0±1.1, 37.°31N×144.°15E, h0km, mb3.8/5, mbtmp3.8/8, ML3.5/3, MS3.1/3, Error ellipse: s-maj=32.0km s-min=20.5km az=84.0*
JMA ***21*** *11:18:09.0±0.3, 37.°5N±0.°8×14.°4E±.°, h62km, MV3.7/31, FAR E OFF FUKUSHIMA PREF*
NIED ***21*** *11:18:09.0, 37.°45N×143.°75E, h62km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.82; $M_{\theta\theta}$3.04; $M_{\phi\phi}$0.79; $M_{r\theta}$3.06; $M_{\theta\phi}$0.65; $M_{\phi r}$-0.07; Fault plane solution: $M_0$4.65000×10^{14} NP1: ϕ_s265.00000°, δ66.00000°, λ-83.00000°. NP2:ϕ_s69.00000°, δ25.00000°, λ-104.00000°.*

ISC 21 11:18:08.9±1.1, 37.°50N±0.°06×143.°95E±0.°07, h35km, n33, σ1$83/42, mb3.9/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.13**	**293**	P	**Pn**	**11 18 41.4**	**-0.5**
JIO	**Ouri**	**2.27**	**296**	P	**Pn**	**11 18 43.5**	**-0.3**
JIO				S	**Sn**	**11 19 09.2**	**-1.3**
JKMT	**Kesennumamotoy**	**2.35**	**305**	P	**Pn**	**11 18 44.7**	**-0.3**
JKMT				S	**Sn**	**11 19 11.1**	**-1.5**
OFUJ	**Ofunato**	**2.39**	**312**	P	**Pn**	**11 18 45.3**	**-0.3**
OFUJ				*e*S	**Sn**	**11 19 12.2**	**-1.5**
JMST	**Minamisoumatoc**	**2.44**	**276**	P	**Pn**	**11 18 45.0**	**-1.2**
JMST				S	**Sn**	**11 19 12.2**	**-2.7**
JFK	**Kawauchi**	**2.45**	**268**	P	**Pn**	**11 18 45.4**	**-1.0**
JFK				*e*S	**Sn**	**11 19 12.2**	**-2.9**
JMK	**Ichinoseki**	**2.60**	**305**	P	**Pn**	**11 18 48.4**	**+0.1**
JMK				*e*S	**Sn**	**11 19 18.0**	**-0.7**
JOM	**Ohasama**	**2.87**	**314**	P	**Pn**	**11 18 52.4**	**+0.3**
JOM				S	**Sn**	**11 19 25.0**	**-0.5**
JOTO	**OTAMA OYAMA**	**2.88**	**272**	P	**Pn**	**11 18 52.2**	**0.0**
JOTO				S	**Sn**	**11 19 24.6**	**-1.0**
JYK	**Kaneyama**	**3.17**	**298**	P	**Pn**	**11 18 56.6**	**+0.4**
JYK				*e*S	**Sn**	**11 19 32.7**	**0.0**
JANG	**Nango**	**3.44**	**327**	P	**Pn**	**11 19 00.3**	**+0.3**
JANG				*e*S	**Sn**	**11 19 38.0**	**-1.6**
BSO1	**Boso 1**	**3.72**	**221**	*e*P	**Pn**	**11 19 01.5**	**-1.8**
BSO1				*e*S	**Sn**	**11 19 43.3**	**-2.3**
JRY	**Ryogami san**	**4.32**	**252**	*e*S	**Sn**	**11 19 56.7**	**-4.4**
JOT	**Ohata**	**4.49**	**331**	P	**Pn**	**11 19 15.5**	**+1.2**
JOT				*e*S	**Sn**	**11 20 03.1**	**-2.1**
JOD2	**Odawara 2**	**4.51**	**242**	*e*P	**Pn**	**11 19 14.8**	**+0.1**
MJAR	**Matsushiro Arr**	**4.69**	**260**	Pn	**Pn**	**11 19 16.9**	**-0.2**
	0.4nm,0.3s,baz=91,slow=15,SNR=29						
	2.3nm,0.4s						
JCH	**Churui**	**5.13**	**355**	P	**Pn**	**11 19 22.9**	**-0.3**
JCH				*e*S	**Sn**	**11 20 18.5**	**-2.7**
NEM2	**Nemuro 2**	**6.02**	**13**	P	**Pn**	**11 19 33.6**	**-1.7**
NEM2				S	**Sn**	**11 20 38.0**	**-5.0**
JHR	**Hokuryu**	**6.47**	**346**	*e*P	**Pn**	**11 19 43.1**	**+1.6**
JTKR	**Abashiri--Toko**	**6.47**	**360**	P	**Pn**	**11 19 41.2**	**-0.3**
JTKR				*e*S	**Sn**	**11 20 50.9**	**-3.2**
ASAJ	**Asahikawa**	**6.69**	**352**	Pn	**Pn**	**11 19 45.5**	**+0.9**
	3.1nm,0.3s,baz=194,slow=9.4,SNR=27						
	8.5nm,0.3s						
USRK	**Ussuriysk Ar.**	**11.26**	**310**	Pn	**Pn**	**11 20 49.3**	**+2.1**
	0.1nm,0.3s,baz=114,slow=14,SNR=2.1						
	1.9nm,0.7s						
KLR	**Kul'dur**	**14.68**	**327**	LR	LR	11 26 44.4	
	comp=Z,58nm,18.7s,baz=156,slow=35						
H11N2	**WAKE ISLAND Hy**	**26.70**	**125**	T	T	11 51 25.9	
	baz=317,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**26.71**	**125**	T	T	11 51 29.9	
	baz=317,slow=76,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**26.72**	**125**	T	T	11 51 36.6	
	baz=317,slow=76,SNR=7.4						
ZALV	**Zalesovo Beam**	**43.10**	**312**	P	**P**	**11 26 08.6**	**+3.2**
	0.2nm,0.3s,baz=90,slow=8.6,SNR=2.3						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**47.31**	**308**	P	**P**	**11 26 40.5**	**+1.7**
	0.3nm,0.3s,baz=79,slow=8.1,SNR=3.9						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**48.02**	**33**	P	**P**	**11 26 44.9**	**+0.7**
	1.5nm,1.1s,baz=266,slow=5.1,SNR=6.2						
	1.5nm,1.1s						
ARU	**Arti**	**57.35**	**319**	LR	LR	11 52 27.7	
	comp=Z,7.8nm,19.8s,baz=302,slow=36						
WRA	**Warramunga Arr**	**57.84**	**191**	P	**P**	**11 27 56.2**	**-0.8**
	2.1nm,0.6s,baz=11,slow=7.4,SNR=30						
	2.1nm,0.6s						
ASAR	**Alice Springs**	**61.57**	**190**	P	**P**	**11 28 22.1**	**-0.5**
	0.5nm,0.6s,baz=6.8,slow=7.4,SNR=8.0						
	0.5nm,0.6s						
NOA	**NORSAR Array B**	**74.53**	**338**	LR	LR	12 08 18.5	
	comp=Z,28nm,18.2s,baz=245,slow=40						

IDC ***21*** *11:26:24.1±3.4, 20.°02N×146.°99E, h0km, mb4.0/9, mbtmp4.0/9, Error ellipse: s-maj=133.2km s-min=19.8km az=80.0*
NEIC ***21*** *11:26:26.1±2.4, 20.°07N±0.°06×146.°8E±0.°2, h10km±1km, mb4.2/9, Error ellipse: s-maj=26.9km s-min=8.0km az=106.0*

ISC 21 11:26:25.8±1.0, 20.°1N±0.°1×146.°8E±0.°2, h10km, n25, σ1$71/24, mb4.2/13, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**8.19**	**330**	Pn	**Pn**	**11 28 22.5**	**-2.3**
KSRS	**Korea Array**	**23.89**	**320**	P	**P**	**11 31 40.6**	**+1.0**
	1.7nm,0.7s,baz=149,slow=9.1,SNR=8.5						
	1.7nm,0.7s						
MTN	**Manton Dam**	**36.16**	**207**	P	**P**	**11 33 27.3**	**-1.2**
KNRA	**Kununurra**	**39.70**	**208**	P	**P**	**11 33 57.3**	**-1.2**
KNRA				IAmb	IAmb	11 34 09.8	
	comp=Z,17nm,1.2s						
WB0	**Warramunga Arr**	**41.41**	**198**	P	**P**	**11 34 12.9**	**+0.3**
WB0				IAmb	IAmb	11 34 17.2	
	comp=Z,13nm,1.5s						
WR0	**Warramunga Arr**	**41.55**	**198**	P	**P**	**11 34 13.2**	**-0.6**
WR0				IAmb	IAmb	11 34 55.4	
	comp=Z,5.5nm,1.2s						
WB2	**Warramunga Arr**	**41.59**	**198**	P	**P**	**11 34 14.1**	**0.0**
WB2				IAmb	IAmb	11 34 38.8	
	comp=Z,8.8nm,1.4s						
WRA	**Warramunga Arr**	**41.59**	**198**	P	**P**	**11 34 14.2**	**0.0**
WRA	**Warramunga Arr**	**41.59**	**198**	P	**P**	**11 34 14.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=19,slow=8.5,SNR=13						
	comp=Z,0.8nm,0.6s						
SONM	**Songino Array**	**42.76**	**320**	P	**P**	**11 34 24.8**	**+1.2**
SONM				IAmb	IAmb	11 34 31.7	
	comp=Z,1.6nm,1.3s						
SONM	**Songino Array**	**42.76**	**320**	P	**P**	**11 34 24.7**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=132,slow=6.1,SNR=5.1						
	comp=Z,0.5nm,0.4s						
AS31	**Alice Springs**	**45.25**	**197**	P	**P**	**11 34 42.3**	**-1.3**
ASAR	**Alice Springs**	**45.25**	**197**	P	**P**	**11 34 43.0**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=18,slow=6.3,SNR=6.8						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**57.59**	**322**	P	**P**	**11 36 16.8**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=108,slow=8.5,SNR=6.8						
	comp=Z,1.3nm,0.4s						
MKAR	**Makanchi Array**	**58.29**	**313**	P	**P**	**11 36 22.3**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=92,slow=8.8,SNR=4.0						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**61.03**	**317**	P	**P**	**11 36 39.9**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=94,slow=7.7,SNR=23						
	comp=Z,2.6nm,0.7s						
ILAR	**Eielson Array**	**61.96**	**26**	P	P	11 36 39.2	-6.5
BMAR	**Burnt Mountain**	**63.45**	**24**	P	**P**	**11 36 59.9**	**+4.3**
BCAR	**Beaver Creek A**	**63.89**	**29**	P	**P**	**11 36 54.2**	**-4.4**
BVAR	**Borovoye Array**	**66.11**	**320**	P	**P**	**11 37 14.2**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=91,slow=7.8,SNR=10						
	comp=Z,2.5nm,0.6s						
KKAR	**Karatay Array**	**66.72**	**309**	P	**P**	**11 37 17.3**	**0.0**
R32K	**Eaglecrest**	**67.22**	**34**	P	**P**	**11 37 22.1**	**+1.9**
ABKAR	**Akbulak array**	**73.07**	**317**	P	**P**	**11 37 55.7**	**-0.5**
FINES	**FINESS Array B**	**86.09**	**336**	P	**P**	**11 39 05.7**	**-1.1**
FINES	**FINESS Array B**	**86.09**	**336**	P	**P**	**11 39 07.2**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=33,slow=4.5,SNR=3.9						
	comp=Z,1.6nm,0.8s						

IDC ***21*** *12:15:02.5±3.6, 26.°50S×132.°69E, h0km, mbtmp3.6/3, ML3.7/3, Error ellipse: s-maj=34.2km s-min=21.8km az=74.0*
NOU ***21*** *12:15:02.8, 26.°48S×132.°63E, h0km, MLv4.4/13, South Australia*
AUST ***21*** *12:15:03.6±0.8, 26.°49S×132.°69E, h10km, Error ellipse: s-maj=10.8km s-min=7.7km az=56.0*

ISC 21 12:15:02.3±0.8, 26.°50S±0.°05×132.°62E±0.°06, h10km, n31, σ2$09/45, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OOD	**Oodnadatta**	**3.02**	**116**	P	**Pn**	**12 15 52.8**	**+2.6**
	baz=3.0,SNR=50						
OOD				S	**Sn**	**12 16 27.7**	**+1.2**
	baz=3.0						
OOD	**Oodnadatta**	**3.02**	**116**	P	**Pn**	**12 15 52.8**	**+2.6**
ASAR	**Alice Springs**	**3.05**	**23**	Pn	**Pn**	**12 15 53.0**	**+2.4**
	1.9nm,0.3s,baz=200,slow=13,SNR=161						
ASAR				Pg	**Pb**	**12 15 58.8**	**+2.1**
	3.0nm,0.3s,baz=199,slow=15,SNR=15						
ASAR				Sn	**Sn**	**12 16 31.0**	**+3.8**
	3.5nm,0.3s,baz=198,slow=20,SNR=6.5						
ASAR				Lg	Lg	12 16 38.2	
	12nm,0.3s,baz=201,slow=26,SNR=12						
	4.0nm,0.3s						
MULG	**Mulgathing**	**3.98**	**162**	P	**Pn**	**12 16 04.9**	**+1.6**
	baz=4.0,SNR=3.4						
MULG				S	**Sn**	**12 16 52.2**	**+2.2**
	baz=4.0						
MULG	**Mulgathing**	**3.98**	**162**	P	**Pn**	**12 16 05.2**	**+1.9**
WRKA	**Warakurna**	**4.16**	**290**	P	**Pn**	**12 16 09.2**	**+3.3**
	baz=4.2,SNR=7.0						
WRKA	**Warakurna**	**4.16**	**290**	P	**Pn**	**12 16 07.3**	**+1.4**
FORT	**Forrest**	**5.85**	**222**	P	**Pn**	**12 16 30.6**	**+1.5**
	baz=5.9,SNR=14						
FORT				S	**Sn**	**12 17 35.5**	**-0.8**
	baz=5.9						
FORT	**Forrest**	**5.85**	**222**	P	**Pn**	**12 16 32.0**	**+2.9**
LCRK	**Leigh Creek**	**6.30**	**130**	P	**Pn**	**12 16 36.6**	**+1.3**
	baz=6.3,SNR=3.9						
LCRK				S	**Sn**	**12 17 48.2**	**+0.8**
	baz=6.3						
LCRK	**Leigh Creek**	**6.30**	**130**	P	**Pn**	**12 16 37.3**	**+2.0**
WB1	**Warramunga Ar.**	**6.70**	**14**	P	**Pn**	**12 16 42.3**	**+1.5**
WRA	**Warramunga Arr**	**6.71**	**14**	Pn	**Pn**	**12 16 42.5**	**+1.5**
	1.6nm,0.3s,baz=195,slow=14,SNR=157						
WRA				Sn	**Sn**	**12 17 56.0**	**-1.6**
	3.0nm,0.3s,baz=195,slow=21,SNR=16						
WRA				Lg	Lg	12 18 31.9	
	1.5nm,0.3s,baz=197,slow=28,SNR=7.1						
	3.0nm,0.4s						
**W

	baz=11,SNR=3.4						
KNRA				S		Sn	12 19 46.9 -4.7
	baz=11						
KNRA	**Kununurra**	**11.35**	**341**	P		**Pn**	**12 17 45.3 +0.8**
CMSA	**Cobar Meteorol**	**12.49**	**117**	P		**Pn**	**12 17 59.1 -1.0**
	baz=12						
MTSU	**Mount Surprise**	**13.65**	**55**	P		**Pn**	**12 18 15.4 -0.5**
	baz=14,SNR=6.8						

*JMA **21** 12:39:00.3±0.2,23°.3N±0°.8×122°.1E±0°.7,h39km,MV3.4/14, TAIWAN REGION*
*TAP **21** 12:39:01.8,23°.37N×122°.01E,h29km,ML3.8,C*
ISC 21 12:38:58.9±1.0,23°.33N±0°.02×122°.07E±0°.02,h15km±8km, n167,σ0°86/263,14C-32D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.57**	**269**	⇓*i*	P		**Pb**	**12 39 11.9**	**+1.3**
	baz=254								
ECBN				S			**Sb**	**12 39 19.5**	**+0.9**
	baz=254								
HGSD	**Ruisui**	**0.61**	**286**	⇓*i*	P		**Pb**	**12 39 12.0**	**+0.6**
	baz=283								
HGSD				*i* S			**Sb**	**12 39 19.8**	**-0.1**
	baz=283								
TEGC	**Jichi Village**	**0.62**	**308**	P			**Pb**	**12 39 12.3**	**+0.8**
	baz=309								
TEGC				*i* S			**Sb**	**12 39 20.7**	**+0.7**
	baz=309								
EGFH	**Guangfu**	**0.68**	**300**	⇓*e*P			**Pb**	**12 39 13.1**	**+0.5**
	baz=310								
CHKT	**Chengkung**	**0.69**	**251**	⇑P			**Pb**	**12 39 13.1**	**+0.5**
	baz=238								
CHKT				*e*S			**Sg**	**12 39 21.4**	**+0.1**
	baz=238								
EYUL	**Yuli**	**0.69**	**272**	⇓P			**Pb**	**12 39 13.7**	**+1.0**
	baz=261								
EYUL				*e*S			**Sb**	**12 39 22.5**	**+0.5**
	baz=261								
EHY	**Hungye**	**0.71**	**285**	⇓*i*P			**Pb**	**12 39 13.7**	**+0.7**
	baz=275								
EHY				S			**Sb**	**12 39 23.1**	**+0.5**
	baz=275								
TWF1	**Yuli**	**0.71**	**272**	⇓*i*P			**Pb**	**12 39 13.8**	**+0.7**
	baz=262								
TWF1				*e*S			**Sb**	**12 39 22.5**	**-0.1**
	baz=262								
YULB	**Yu-li**	**0.71**	**275**	P			**Pb**	**12 39 13.9**	**+0.8**
YULB	**Yu-li**	**0.71**	**275**	⇓*i*P			**Pb**	**12 39 13.8**	**+0.7**
	baz=272								
YULB				*e*S			**Sb**	**12 39 22.8**	**+0.1**
	baz=272								
FULB	**Fuli**	**0.72**	**260**	⇑*i*P			**Pb**	**12 39 13.6**	**+0.3**
	baz=247								
FULB				*e*S			**Sb**	**12 39 22.8**	**-0.2**
	baz=247								
WARBT	**Fenglin Townsh**	**0.74**	**302**	⇓*i*P			**Pb**	**12 39 13.8**	**+0.3**
	baz=309								
WARBT				*e*S			**Sg**	**12 39 23.1**	**0.0**
	baz=309								
ESL	**Shilin**	**0.76**	**310**	⇓*i*P			**Pg**	**12 39 14.0**	**+0.3**
	baz=310								
ESL				*e*S			**Sg**	**12 39 23.2**	**-0.6**
	baz=310								
HWA	**Hwalien**	**0.78**	**327**	*e*P			**Pb**	**12 39 14.6**	**+0.5**
	baz=329								
HWA				*e*S			**Sb**	**12 39 25.7**	**+1.2**
	baz=329								
EDH	**Donghe**	**0.79**	**244**	⇑P			**Pg**	**12 39 14.7**	**+0.5**
	baz=233								
EDH				S			**Sg**	**12 39 24.5**	**-0.1**
	baz=233								
EHD	**Haiduan**	**0.81**	**258**	⇑P			**Pg**	**12 39 14.7**	**0.0**
	baz=246								
EHD				*e*S			**Sg**	**12 39 24.9**	**-0.5**
	baz=246								
ECS	**Chishang**	**0.81**	**254**	*e*P			**Pb**	**12 39 15.6**	**+0.8**
	baz=242								
EOS4	**EOS4**	**0.82**	**16**	⇑*i*P			**Pg**	**12 39 15.9**	**+1.1**
	baz=20								
EOS4				*e*S			**Sg**	**12 39 26.2**	**+0.6**
	baz=20								
ETM	**Tongmen**	**0.83**	**320**	⇓P			**Pg**	**12 39 15.0**	**0.0**
	baz=321								
LDUT	**Ludao**	**0.85**	**220**	*e*P			**Pg**	**12 39 15.6**	**+0.2**
	baz=216								
TWD	**Chiawan**	**0.87**	**330**	P			**Pg**	**12 39 15.8**	**0.0**
	baz=332								
TWD				*e*S			**Sg**	**12 39 25.8**	**-1.4**
	baz=332								
LXIB	**Xiulin Townshi**	**0.92**	**319**	⇓*i*P			**Pg**	**12 39 16.6**	**-0.1**
	baz=320								
LXIB				*i* S			**Sg**	**12 39 27.9**	**-0.8**
	baz=320								
ETL	**Fush Village**	**0.92**	**334**	P			**Pg**	**12 39 16.6**	**-0.2**
	baz=335								
NACB	**Ninganchiao**	**0.95**	**333**	P			**Pg**	**12 39 16.8**	**-0.5**
NACB	**Ninganchiao**	**0.95**	**333**	⇓*i*P			**Pg**	**12 39 16.9**	**-0.4**
	baz=342								
NACB				S			**Sg**	**12 39 28.4**	**-1.4**
	baz=342								
VWDT	**VWDT**	**0.95**	**297**	⇓*i*P			**Pb**	**12 39 17.8**	**+0.6**
	baz=296								
VWDT				S			**Sg**	**12 39 29.3**	**-0.5**
	baz=296								
LONT	**Longtian**	**0.96**	**244**	*e*P			**Pg**	**12 39 17.8**	**+0.3**
	baz=236								
LONT				*e*S			**Sg**	**12 39 30.0**	**-0.1**
	baz=236								
ELDTW	**Lidau**	**0.98**	**262**	⇑*i*P			**Pg**	**12 39 17.5**	**-0.3**
	baz=259								
EOS3	**EOS3**	**0.98**	**13**	⇑*i*P			**Pb**	**12 39 18.8**	**+1.2**
	baz=12								
EOS3				*e*S			**Sb**	**12 39 31.2**	**+0.9**
	baz=12								
TTN	**Taitung**	**1.02**	**236**	*e*P			**Pn**	**12 39 19.9**	**+1.1**
	baz=232								
TTN				*e*S			**Sg**	**12 39 31.1**	**-1.0**
	baz=232								
ETLH	**Xiulin Townshi**	**1.03**	**329**	⇓*i*P			**Pg**	**12 39 18.4**	**-0.4**
	baz=329								
ETLH				*e*S			**Sg**	**12 39 30.8**	**-1.5**
	baz=329								
OWD	**Renai**	**1.03**	**308**	⇓P			**Pg**	**12 39 18.7**	**-0.2**
	baz=307								
OWD				*e*S			**Sg**	**12 39 30.6**	**-1.8**
	baz=307								
TWGBT	**Beinan**	**1.04**	**241**	P			**Pb**	**12 39 18.8**	**+0.1**
TWGBT	**Beinan**	**1.04**	**241**	⇑P			**Pb**	**12 39 18.7**	**0.0**
	baz=231								
TWGBT				*e*S			**Sg**	**12 39 31.1**	**-1.6**
	baz=231								
TWG	**Pinlang**	**1.05**	**241**	⇑*i*P			**Pb**	**12 39 18.7**	**-0.1**
	baz=231								
TWG				*e*S			**Sb**	**12 39 31.1**	**-1.2**
	baz=231								
WUSB	**Renai**	**1.09**	**307**	⇓*i*P			**Pb**	**12 39 19.9**	**+0.2**
	baz=314								
CHGB	**Renai**	**1.10**	**312**	⇓*i*P			**Pb**	**12 39 19.9**	**+0.1**
	baz=312								
CHGB				S			**Sg**	**12 39 33.2**	**-1.4**
	baz=312								
EOS2	**EOS2**	**1.10**	**8**	*e*P			**Pb**	**12 39 20.7**	**+1.1**
	baz=5.0								
WHF	**Hehuan Shan**	**1.10**	**318**	⇓*i*P			**Pg**	**12 39 19.7**	**-0.5**
	baz=318								
WHF				*e*S			**Sg**	**12 39 32.9**	**-1.7**
	baz=318								
SSLB	**Suanglung**	**1.12**	**294**	P			**Pb**	**12 39 20.0**	**-0.1**
SSLB	**Suanglung**	**1.12**	**294**	⇓P			**Pb**	**12 39 20.0**	**-0.1**
	baz=285								
SSLB				*e*S			**Sb**	**12 39 33.1**	**-1.5**
	baz=285								
ENA	**Nanau**	**1.14**	**345**	P			**Pb**	**12 39 20.2**	**-0.1**
	baz=347								
ENA				*e*S			**Sb**	**12 39 34.0**	**-1.0**
	baz=347								
EWUT	**Wuta**	**1.15**	**347**	*e*P			**Pb**	**12 39 20.4**	**-0.1**
	baz=348								
EWUT				*e*S			**Sb**	**12 39 34.5**	**-0.7**
	baz=348								
ALS	**Alishan**	**1.18**	**279**	⇓*i*P			**Pg**	**12 39 21.8**	**+0.2**
	baz=277								
ALS				*e*S			**Sb**	**12 39 35.9**	**-0.4**
	baz=277								
WHYT	**Xinyi Township**	**1.18**	**288**	⇓P			**Pn**	**12 39 21.6**	**+0.7**
	baz=280								
WHYT				*e*S			**Sb**	**12 39 35.7**	**-0.4**
	baz=280								
FUSS	**Fushou**	**1.19**	**321**	⇓*e*P			**Pb**	**12 39 21.4**	**0.0**
	baz=321								
FUSS				*e*S			**Sb**	**12 39 35.8**	**-0.9**
	baz=321								
STYH	**Taoyuan**	**1.20**	**263**	*e*P			**Pb**	**12 39 21.5**	**+0.1**
	baz=255								
STYH				*e*S			**Sb**	**12 39 35.7**	**-1.1**
	baz=255								
SMLT	**Sun Moon Lake**	**1.21**	**298**	⇓*i*P			**Pb**	**12 39 21.7**	**+0.1**
	baz=303								
SMLT				*e*S			**Sg**	**12 39 37.4**	**-0.5**
	baz=303								
WPL	**Puli Township**	**1.23**	**304**	*e*P			**Pn**	**12 39 21.9**	**+0.3**
	baz=303								
TWT	**Tachien**	**1.23**	**319**	P			**Pb**	**12 39 22.2**	**+0.1**
	baz=318								
TWT				S			**Sb**	**12 39 37.0**	**-0.9**
	baz=318								
TDCB	**Techi**	**1.24**	**318**	⇓P			**Pn**	**12 39 22.2**	**+0.3**
	baz=318								
TDCB				*e*S			**Sb**	**12 39 36.9**	**-1.3**
	baz=318								
TYC	**Yuchr**	**1.25**	**298**	⇓P			**Pn**	**12 39 22.4**	**+0.4**
	baz=297								
TYC				*e*S			**Sb**	**12 39 37.7**	**-0.5**
	baz=297								
ECL	**Taimali**	**1.26**	**235**	⇑P			**Pn**	**12 39 21.4**	**-0.6**
	baz=232								
ECL				*e*S			**Sb**	**12 39 35.5**	**-2.9**
	baz=232								
DPDB	**Guoxing**	**1.26**	**304**	⇓*e*P			**Pn**	**12 39 22.7**	**+0.5**
	baz=303								
NNSB	**Datong**	**1.26**	**330**	⇓P			**Pn**	**12 39 22.3**	**+0.1**
	baz=331								
NNSB				*e*S			**Sb**	**12 39 37.0**	**-1.7**
	baz=331								
NNSH	**Datong**	**1.26**	**330**	*e*P			**Pn**	**12 39 22.2**	**0.0**
	baz=331								
NNSH				*e*S			**Sb**	**12 39 37.2**	**-1.6**
	baz=331								
NNS	**Nan Shan**	**1.28**	**330**	P			**Pn**	**12 39 22.5**	**+0.1**
	baz=331								
NNS				S			**Sb**	**12 39 37.5**	**-1.7**
	baz=331								
WCS	**Beigang Elemen**	**1.29**	**305**	P			**Pn**	**12 39 23.0**	**+0.5**
	baz=304								
TWC	**Suao**	**1.29**	**351**	*e*P			**Pn**	**12 39 23.1**	**+0.6**
	baz=353								
TWC				*e*S			**Sb**	**12 39 38.9**	**-0.6**
	baz=353								
LATG	**Datong**	**1.30**	**338**	P			**Pn**	**12 39 22.8**	**0.0**
	baz=338								
LATG				*e*S			**Sb**	**12 39 37.7**	**-2.2**
	baz=338								
TPUB	**Ta-pu**	**1.32**	**269**	P			**Pg**	**12 39 24.4**	**0.0**
TPUB	**Ta-pu**	**1.32**	**269**	P			**Pb**	**12 39 24.2**	**+0.7**
	baz=267								
TPUB				*e*S			**Sb**	**12 39 40.6**	**+0.2**
	baz=267								
WJS	**Zhushan**	**1.32**	**292**	*e*P			**Pb**	**12 39 24.1**	**+0.5**
	baz=284								
WJS				*e*S			**Sg**	**12 39 41.1**	**-0.6**
	baz=284								
WTP	**Ta-pu**	**1.34**	**267**	⇑*i*P			**Pb**	**12 39 24.5**	**+0.7**
	baz=258								
WTP				*e*S			**Sn**	**12 39 41.2**	**+0.4**
	baz=258								
NDS	**Dongshan**	**1.34**	**346**	*e*P			**Pn**	**12 39 24.1**	**+0.9**
	baz=347								
SLGT	**Liugui**	**1.35**	**256**	*e*P			**Pb**	**12 39 24.3**	**+0.4**
	baz=246								
WCKO	**Fanlu**	**1.35**	**275**	*e*P			**Pg**	**12 39 25.4**	**+0.5**
	baz=273								
WCKO				*e*S			**Sg**	**12 39 42.1**	**-0.4**
	baz=273								
CHN4	**Tsaushan**	**1.36**	**271**	⇓P			**Pg**	**12 39 25.0**	**0.0**
	baz=269								
CHN4				*e*S			**Sg**	**12 39 42.6**	**-0.2**
	baz=269								
LAY	**Lan-yu**	**1.37**	**201**	*e*P			**Pn**	**12 39 22.1**	**-1.4**
	baz=196								
NDT	**Datong Townshi**	**1.37**	**338**	*e*P			**Pn**	**12 39 23.9**	**+0.4**
	baz=339								
NDT				*e*S			**Sb**	**12 39 40.1**	**-1.6**
	baz=339								
WNT	**Mingjian**	**1.38**	**294**	*e*P			**Pg**	**12 39 25.5**	**0.0**
	baz=293								
WNT				*e*S			**Sn**	**12 39 42.6**	**+0.8**
	baz=293								
ENTT	**Nioudou**	**1.39**	**341**	*e*P			**Pn**	**12 39 24.3**	**+0.5**
	baz=342								
ENTT				*e*S			**Sb**	**12 39 41.2**	**-1.0**
	baz=342								
LYUB	**Lan-yu**	**1.39**	**199**	*e*P			**Pn**	**12 39 22.5**	**-1.4**
	baz=196								
WHP	**Taichung City**	**1.40**	**313**	*e*P			**Pn**	**12 39 24.8**	**+0.8**
	baz=312								
WNT1	**Nantou City**	**1.40**	**295**	*e*P			**Pg**	**12 39 25.8**	**0.0**
	baz=294								
WNT1				*e*S			**Sg**	**12 39 43.4**	**-0.7**
	baz=294								
YOJ	**Yonaguni jima**	**1.42**	**37**	P			**Pn**	**12 39 25.0**	**+0.8**
YOJ				*e*S			**Sn**	**12 39 42.4**	**-0.3**
YOJ	**Yonaguni jima**	**1.42**	**37**	*e*P			**Pn**	**12 39 26.0**	**+1.7**
	baz=39								
CHN1	**Nanshi**	**1.42**	**265**	⇑*i*P			**Pb**	**12 39 26.1**	**+0.8**
	baz=256								
CHN1				S			**Sg**	**12 39 44.6**	**-0.3**
	baz=256								
WGK	**Gukeng**	**1.43**	**285**	P			**Pb**	**12 39 26.0**	**+0.7**
	baz=283								
WGK				*e*S			**Sg**	**12 39 44.0**	**-1.1**
	baz=283								
TWE	**Neicheng**	**1.44**	**345**	*e*P			**Pn**	**12 39 25.0**	**+0.6**
	baz=347								
SSD	**Sandimen**	**1.44**	**247**	⇓*e*P			**Pn**	**12 39 24.9**	**+0.3**
	baz=237								
SNST	**Tainan City**	**1.45**	**266**	*e*P			**Pb**	**12 39 26.4**	**+0.7**
	baz=264								
SNST				*e*S			**Sg**	**12 39 45.1**	**-0.5**
	baz=264								
TSMG	**Majia**	**1.45**	**245**	*e*P			**Pn**	**12 39 24.9**	**+0.3**
	baz=236								
WDLH	**Douliu**	**1.45**	**285**	*e*P			**Pg**	**12 39 27.3**	**+0.5**
	baz=283								
WDLH				*e*S			**Sg**	**12 39 45.6**	**-0.1**
	baz=283								
TWK	**Hsinying**	**1.45**	**268**	*e*P			**Pb**	**12 39 26.5**	**+0.7**
	baz=266								
TWK				S			**Sb**	**12 39 44.7**	**+0.5**
	baz=266								
EAST	**Anshuo**	**1.47**	**230**	⇑*e*P			**Pn**	**12 39 24.5**	**-0.4**
	baz=236								
TAWH	**Dawu Township**	**1.47**	**228**	*e*P			**Pn**	**12 39 25.0**	**+0.1**
	baz=234								
CHN2	**Minshiung**	**1.48**	**278**	*e*P			**Pg**	**12 39 27.6**	**+0.3**
	baz=276								
YHNB	**Yeheng**	**1.48**	**335**	P			**Pn**	**12 39 25.7**	**+0.5**
YHNB	**Yeheng**	**1.48**	**335**	⇓P			**Pn**	**12 39 25.7**	**+0.5**
	baz=335								
YHNB				*e*S			**Sn**	**12 39 42.5**	**-1.9**
	baz=335								
NSK	**Sanguang**	**1.49**	**334**	*e*P			**Pn**	**12 39 25.7**	**+0.4**
	baz=345								
FUSB	**Fushanzhiwuyua**	**1.49**	**343**	⇓P			**Pn**	**12 39 25.9**	**+0.6**
	baz=344								
MASBT	**Mashibuluo**	**1.50**	**242**	⇑P			**Pn**	**12 39 25.8**	**+0.4**
	baz=233								
WYL	**Yuanlin Townsh**	**1.50**	**295**	*e*P			**Pg**	**12 39 27.8**	**-0.1**
	baz=294								
SCST	**Cishan**	**1.52**	**253**	*e*P			**Pb**	**12 39 27.8**	**+1.0**
	baz=243								
TCU	**Taichung**	**1.52**	**303**	*e*P			**Pb**	**12 39 27.5**	**+0.8**
	baz=302								
TCU				*e*S			**Sg**	**12 39 48.2**	**+0.4**
	baz=302								
CHY	**Chiayi**	**1.52**	**277**	*e*P			**Pg**	**12 39 27.9**	**-0.2**
	baz=286								
CHY				*e*S			**Sg**	**12 39 47.2**	**-0.7**
	baz=286								
NWLT	**Wulai**	**1.53**	**340**	*e*P			**Pn**	**12 39 26.7**	**+0.8**
	baz=341								
TWQ1	**Liyutan**	**1.56**	**311**	⇓*e*P			**Pb**	**12 39 28.2**	**+0.6**
	baz=311								
TWQ1				*e*S			**Sb**	**12 39 47.3**	**+0.1**
	baz=311								
SGLT	**Jiouru**	**1.57**	**248**	*e*P			**Pb**	**12 39 28.9**	**+1.2**
	baz=241								
WCHH	**Zhanghua**	**1.57**	**299**	*e*P			**Pb**	**12 39 28.5**	**+0.7**
	baz=298								
WCHH				*e*S			**Sg**	**12 39 48.6**	**-1.1**
	baz=298								
WTK	**Tuku**	**1.58**	**283**	*e*P			**Pb**	**12 39 28.4**	**+0.4**
	baz=282								
WTK				*e*S			**Sb**	**12 39 48.2**	**+0.4**
	baz=282								
CHN3	**Shinhua**	**1.59**	**261**	*e*P			**Pg**	**12 39 30.0**	**+0.5**
	baz=259								
CHN3				S			**Sg**	**12 39 50.7**	**+0.6**
	baz=259								
TSPT	**Pingtung City**	**1.59**	**246**	*e*P			**Pg**	**12 39 30.0**	**+0.6**
	baz=239								
TWM1	**Shoushan**	**1.60**	**252**	P			**Pg**	**12 39 30.2**	**+0.6**
	baz=250								
TWM1				*e*S			**Sg**	**12 39 52.2**	**+1.8**
	baz=250								
SLIU	**Shizi**	**1.61**	**227**	*e*P			**Pn**	**12 39 27.0**	**+0.1**
	baz=233								
SHHT	**Tainan City**	**1.61**	**259**	*e*P			**Pg**	**12 39 30.2**	**+0.2**
	baz=257								
NSY	**Sanyi**	**1.61**	**312**	*e*P			**Pb**	**12 39 29.0**	**+0.5**
	baz=312								
NSY				*e*S			**Sb**	**12 39 49.4**	**+0.6**
	baz=312								
NSTT	**Nanjuang**	**1.62**	**323**	*e*P			**Pb**	**12 39 28.8**	**+0.2**
	baz=323								
NSTT				*e*S			**Sn**	**12 39 47.2**	**-0.5**
	baz=323								
LIOB	**Emei**	**1.63**	**324**	*e*P			**Pb**	**12 39 29.2**	**+0.4**
	baz=307								
SCZT	**Fangliau**	**1.64**	**235**	*e*P			**Pn**	**12 39 28.1**	**+0.9**
	baz=225								
ICHU	**Yijhu**	**1.65**	**272**	*e*P			**Pb**	**12 39 29.6**	**+0.6**
	baz=270								
ICHU				*e*S			**Sb**	**12 39 50.5**	**+0.9**
	baz=270								
WRL	**Guolierlin Hig**	**1.65**	**291**	*e*P			**Pb**	**12 39 29.4**	**+0.2**
	baz=289								
WDJ	**Dajia District**	**1.66**	**308**	*e*P			**Pb**	**12 39 29.8**	**+0.6**
	baz=320								
WDJ				*e*S			**Sb**	**12 39 50.9**	**+1.0**
	baz=320								
NJD	**Zhudong**	**1.67**	**328**	*e*P			**Pb**	**12 39 30.1**	**+0.7**
	baz=328								
RLNB	**Erlin**	**1.67**	**290**	P			**Pb**	**12 39 29.5**	**+0.2**
	baz=289								
RLNB				*e*S			**Sb**	**12 39 50.8**	**+0.6**
	baz=289								
NMLH	**Miaoli**	**1.68**	**316**	*e*P			**Pb**	**12 39 29.7**	**+0.1**
	baz=316								
SNJT	**Kaohsiung City**	**1.69**	**251**	*e*P			**Pg**	**12 39 31.1**	**-0.4**
	baz=248								
SNJT				*e*S			**Sg**	**12 39 53.1**	**-0.4**
	baz=248								
WSL	**Shuilin Townsh**	**1.70**	**277**	*e*P			**Pb**	**12 39 30.2**	**+0.2**
	baz=275								
WSL				*e*S			**Sb**	**12 39 50.7**	**-0.5**
	baz=275								
NHDH	**Xindian Distri**	**1.70**	**343**	*e*P			**Pn**	**12 39 29.5**	**+1.4**
	baz=344								
TWA	**Mucha**	**1.71**	**345**	*e*P			**Pn**	**12 39 29.8**	**+1.6**
	baz=346								
CHN8	**Yiju**	**1.71**	**271**	*e*P			**Pb**	**12 39 30.3**	**+0.2**
	baz=269								
CHN8				S			**Sb**	**12 39 51.6**	**+0.2**
	baz=269								
WSF	**Szhu**	**1.72**	**281**	*e*P			**Pn**	**12 39 29.6**	**+1.2**
	baz=279								
WSF				*e*S			**Sb**	**12 39 51.7**	**-0.2**
	baz=279								
TATO	**Taipei**	**1.73**	**342**	P			**Pn**	**12 39 29.4**	**+0.9**
WTCT	**Ta-ch'eng**	**1.73**	**288**	*e*P			**Pb**	**12 39 30.6**	**+0.3**
	baz=274								
WTCT				*e*S			**Sb**	**12 39 52.0**	**+0.2**
	baz=274								
SMST	**Manzhou Townsh**	**1.73**	**221**	*e*P			**Pn**	**12 39 28.6**	**+0.2**
	baz=219								
SCLT	**Jiali**	**1.73**	**265**	*e*P			**Pb**	**12 39 30.6**	**+0.1**
	baz=263								
SCLT				S			**Sb**	**12 39 52.8**	**+0.8**
	baz=263								
HSN1	**Hsinchu**	**1.73**	**327**	*e*P			**Pb**	**12 39 31.3**	**+0.8**
	baz=326								
HSN1				*e*S			**Sb**	**12 39 52.6**	**+0.4**
	baz=326								
NJN	**Zhunan**	**1.74**	**321**	*e*P			**Pn**	**12 39 30.0**	**+1.3**
	baz=321								
HATJ	**Hateruma jima**	**1.75**	**65**	S			**Sn**	**12 39 50.1**	**-0.7**
NWF	**Wu-fen Shan**	**1.76**	**351**	*e*P			**Pb**	**12 39 31.1**	**+0.2**
	baz=352								
WFSB	**Wu-fen Shan**	**1.76**	**351**	*e*P			**Pb**	**12 39 31.1**	**+0.2**
	baz=5.0								
SBCB	**Hsinchu**	**1.76**	**326**	*e*P			**Pb**	**12 39 31.1**	**+0.1**
	baz=325								
SBCB				*e*S			**Sb**	**12 39 52.9**	**-0.1**
	baz=325								
SXI1	**Grass Mountain**	**1.77**	**354**	*e*P			**Pn**	**12 39 30.4**	**+1.2**
	baz=9.0								
SXI1				*e*S			**Sn**	**12 39 50.8**	**-0.6**
	baz=9.0								
HSN	**Hsinchu**	**1.78**	**326**	*e*P			**Pb**	**12 39 31.4**	**+0.1**
	baz=327								
HSN				*e*S			**Sb**	**12 39 54.0**	**+0.5**
	baz=327								
KAU	**Kaohsiung**	**1.79**	**245**	*e*P			**Pb**	**12 39 32.8**	**+1.4**
	baz=259								
HEN	**Hengchun**	**1.80**	**223**	*e*P			**Pb**	**12 39 32.3**	**+0.6**
	baz=221								
TWKBT	**Hengchun**	**1.80**	**220**	*e*P			**Pn**	**12 39 30.2**	**+0.7**
	baz=218								
TWK1	**Hengchun**	**1.81**	**221**	*e*P			**Pn**	**12 39 30.5**	**+1.0**
	baz=218								
NTY	**Taoyuan**	**1.81**	**337**	*e*P			**Pn**	**12 39 31.2**	**+1.6**
	baz=337								
NTY				*e*S			**Sn**	**12 39 53.3**	**+1.0**
	baz=337								
IRIF	**Iriomote-Funau**	**1.82**	**56**	*e*P			**Pn**	**12 39 30.7**	**+0.9**
NCUH	**Zhongli**	**1.82**	**334**	*e*P			**Pn**	**12 39 31.4**	**+1.6**
	baz=333								
NCUH				*e*S			**Sn**	**12 39 53.9**	**+1.3**
	baz=333								
NCU	**National Centr**	**1.82**	**334**	*e*P			**Pn**	**12 39 31.1**	**+1.3**
	baz=334								
NCU				*e*S			**Sn**	**12 39 53.2**	**+0.5**
	baz=334								
TSCK	**Chigu Township**	**1.83**	**265**	*e*P			**Pb**	**12 39 31.9**	**-0.3**
	baz=263								
TWS1	**Kuangyinshan**	**1.86**	**342**	*e*P			**Pn**	**12

PTMZ				eS	Sn	12 40 23.6	-2.7
	baz=301						
JMJ	**Miyako jima 2**	**3.30**	**63**	eP	**Pn**	**12 39 51.0**	**+0.9**
	baz=64						
MATB	**Ma-tsu**	**3.41**	**326**	eP	**Pn**	**12 39 51.6**	**0.0**
	baz=314						
KNM	**Kinmen**	**3.50**	**289**	eP	**Pn**	**12 39 54.8**	**+1.9**
	baz=287						
KNMB	**Chin-men Tao**	**3.55**	**289**	eP	**Pn**	**12 39 54.3**	**+0.7**
	baz=288						
LYJJ	**Jianjiangzhen**	**3.83**	**327**	eP	**Pn**	**12 39 58.2**	**+0.7**
	baz=316						
MHZQ	**Yeshan**	**3.91**	**316**	eP	**Pn**	**12 39 59.3**	**+0.8**
	baz=315						
XPSS	**Dashiqiu**	**3.97**	**335**	eP	**Pn**	**12 39 59.3**	**0.0**
	baz=335						
AXDP	**Jialang**	**4.06**	**294**	eP	**Pn**	**12 40 01.6**	**+1.1**
	baz=292						
DSXP	**Dongshan**	**4.28**	**276**	eP	**Pn**	**12 40 04.9**	**+1.3**
	baz=275						
SXFK	**Yanhouchang**	**5.05**	**308**	eP	**Pn**	**12 40 14.7**	**+0.5**
	baz=307						

*SOME **21** 12:39:25.5, 44°.22N×79°.73E, h25km*
*NNC **21** 12:39:26.2±0.6, 44°.15N×79°.65E, h0km, mb4.0, mpv3.2,*
Error ellipse: s-maj=4.7km s-min=3.5km az=78.0
ISC 21 12:39:26.0±0.9, 44°.17N±0°.03×79°.71E±0°.03, h15km±8km, n24, σ0§54/44, 1C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**0.18**	**19**	P	**Pb**	**12 39 30.9**	**-0.2**
	163nm,0.1s						
DJR				S	**Sg**	**12 39 34.4**	**+1.0**
	60nm,0.1s						
DJR	**Jarkent**	**0.18**	**19**	eP	**Pb**	**12 39 30.9**	**-0.2**
	163nm,0.1s						
DJR				eS	**Sg**	**12 39 34.4**	**+1.0**
	60nm,0.1s						
KNOS	**Konyrlen**	**0.43**	**297**	P	**Pb**	**12 39 35.0**	**-0.4**
	59nm,0.1s						
KNOS				S	**Sb**	**12 39 41.0**	**-0.7**
	48nm,0.1s						
PDGK	**Podgornoye**	**0.85**	**191**	⇓P	**Pg**	**12 39 41.7**	**-0.8**
	3.2nm,1.2s						
PDGK				⇓S	**Sb**	**12 39 54.8**	**+1.0**
	7.1nm,0.5s						
KTMS	**Ketmen**	**0.85**	**147**	P	**Pg**	**12 39 41.7**	**-0.9**
	0.4nm,0.1s						
KTMS				S	**Sg**	**12 39 53.4**	**-0.5**
	8.0nm,0.2s						
KTMS	**Ketmen**	**0.85**	**147**	eP	**Pg**	**12 39 41.7**	**-0.9**
	0.4nm,0.1s						
KTMS				eS	**Sg**	**12 39 53.4**	**-0.5**
	8.0nm,0.2s						
BLB	**Baldybastay**	**0.89**	**266**	P	**Pg**	**12 39 42.9**	**-0.4**
	26nm,0.1s						
BLB				S	**Sb**	**12 39 55.5**	**+0.5**
	11nm,0.2s						
KPKS	**Kokpek**	**1.02**	**227**	P	**Pb**	**12 39 45.4**	**0.0**
	5.5nm,0.1s						
KPKS				S	**Sg**	**12 39 59.5**	**+0.4**
	46nm,0.3s						
KPKS	**Kokpek**	**1.02**	**227**	eP	**Pb**	**12 39 45.4**	**0.0**
	5.5nm,0.1s						
KPKS				eS	**Sg**	**12 39 59.5**	**+0.4**
	46nm,0.3s						
UZB	**Uzynbulak**	**1.13**	**206**	P	**Pb**	**12 39 47.6**	**+0.3**
	5.2nm,0.1s						
UZB				S	**Sn**	**12 40 03.3**	**+0.5**
	26nm,0.2s						
UZB	**Uzynbulak**	**1.13**	**206**	eP	**Pb**	**12 39 47.6**	**+0.3**
	5.2nm,0.1s						
UZB				eS	**Sn**	**12 40 03.3**	**+0.5**
	26nm,0.2s						
KURS	**Kuram**	**1.30**	**239**	P	**Pn**	**12 39 50.1**	**+0.3**
KURS				S	**Sg**	**12 40 07.6**	**-0.6**
KURS	**Kuram**	**1.30**	**239**	eP	**Pn**	**12 39 50.1**	**+0.3**
KURS				eS	**Sg**	**12 40 07.6**	**-0.6**
ARXS	**Arharly**	**1.36**	**273**	P	**Pn**	**12 39 50.3**	**-0.1**
	1.6nm,0.1s						
ARXS				S	**Sn**	**12 40 08.4**	**+0.2**
	21nm,0.2s						
ARXS	**Arharly**	**1.36**	**273**	eP	**Pn**	**12 39 50.3**	**-0.1**
	1.6nm,0.1s						
ARXS				eS	**Sn**	**12 40 08.4**	**+0.2**
	21nm,0.2s						
ZHN	**Zhinishke**	**1.36**	**223**	P	**Pb**	**12 39 51.3**	**+0.1**
ZHN				S	**Sg**	**12 40 09.7**	**-0.3**
ZHN	**Zhinishke**	**1.36**	**223**	eP	**Pb**	**12 39 51.3**	**+0.1**
ZHN				eS	**Sg**	**12 40 09.7**	**-0.3**
SATY	**Saty**	**1.46**	**221**	P	**Pb**	**12 39 53.1**	**+0.3**
	4.2nm,0.1s						
SATY				S	**Sg**	**12 40 13.0**	**0.0**
	56nm,0.2s						
SATY	**Saty**	**1.46**	**221**	eP	**Pb**	**12 39 53.1**	**+0.3**
	4.2nm,0.1s						
SATY				eS	**Sg**	**12 40 13.0**	**0.0**
	56nm,0.2s						
CHKK	**Chushkaly**	**1.99**	**262**	Pg	**Pb**	**12 40 01.5**	**-0.4**
	1.0nm,0.1s						
CHKK				Lg	Lg	12 40 27.3	
	19nm,0.2s						
CHKK	**Chushkaly**	**1.99**	**262**	ePg	**Pb**	**12 40 01.5**	**-0.4**
	1.0nm,0.1s						
CHKK				eLg	Lg	12 40 27.3	
	19nm,0.2s						
KNDC	**Almaty**	**2.21**	**246**	⇑Pg	**Pn**	**12 40 02.9**	**+0.8**
	9.3nm,0.2s						
KNDC				⇓Lg	Lg	12 40 31.0	
	10nm,0.2s						
KTBS	**Karatobe**	**2.23**	**259**	Pg	**Pb**	**12 40 05.6**	**-0.4**
KTBS				Lg	Lg	12 40 34.5	
KTBS	**Karatobe**	**2.23**	**259**	eP	**Pb**	**12 40 05.6**	**-0.4**
KTBS				eS	**Sb**	**12 40 34.5**	**+1.0**

*FUNV **21** 12:54:41.0, 8°.48N×71°.45W, h5km, MW4.0*
ISC 21 12:54:39.5±1.2, 8°.55N±0°.03×71°.43W±0°.02, h6km±9km, n43, σ1§62/85, 2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.63**	**115**	eP	**Pg**	**12 54 51.8**	**+0.2**
SOCV				eS	**Sg**	**12 55 00.2**	**+0.4**
SDV	**Santo Domingo**	**0.85**	**67**	⇓iP	**Pg**	**12 54 56.1**	**+0.1**
SDV				eS	**Sg**	**12 55 07.5**	**+0.4**
SDV				i		12 55 09.1	
	comp=Z,418nm,0.2s						
CAPV	**Capacho**	**1.11**	**232**	eP	**Pg**	**12 54 59.1**	**-1.8**
CAPV				eS	**Sg**	**12 55 13.5**	**-1.9**
PAMC	**Pamplona, Colo**	**1.74**	**226**	eP	**Pn**	**12 55 10.7**	**-0.1**
PAMC				eS	**Sn**	**12 55 34.3**	**+0.7**
PAMC				i		12 55 39.5	
	comp=Z,593nm,0.5s						
MCQV	**Machiques**	**1.84**	**324**	eP	**Pn**	**12 55 12.6**	**+0.8**
MCQV				eS	**Sg**	**12 55 37.9**	**-1.0**
CURV	**Curarigua**	**2.05**	**45**	eP	**Pb**	**12 55 16.8**	**-0.5**
CURV				eS	**Sn**	**12 55 43.0**	**+2.3**
SANV	**Sanarito**	**2.09**	**63**	eP	**Pn**	**12 55 17.4**	**+2.1**
SANV				eS	**Sn**	**12 55 43.8**	**+2.0**
TAMC	**Tame, Arauca**	**2.13**	**190**	eP	**Pn**	**12 55 16.0**	**+0.2**
TAMC				eS	**Sb**	**12 55 45.1**	**-0.4**
TAMC				i		12 55 51.8	
	comp=Z,237nm,0.3s						
BARC	**Barichara**	**2.61**	**222**	eP	**Pn**	**12 55 23.9**	**+1.4**
BARC				eS	**Sb**	**12 56 00.6**	**+1.2**
BARC				i		12 56 02.2	
	comp=Z,452nm,0.4s						
TEPV	**Terepaima**	**2.62**	**57**	eP	**Pn**	**12 55 24.4**	**+1.9**
TEPV				eS	**Sn**	**12 55 55.9**	**+1.4**
SIQV	**Siquisique**	**2.62**	**37**	eP	**Pn**	**12 55 24.4**	**+1.9**
SIQV				eS	**Sn**	**12 55 56.4**	**+1.6**
BRRC	**Barranca, Sant**	**2.68**	**238**	eP	**Pb**	**12 55 27.7**	**-0.3**
BRRC				eS	**Sb**	**12 56 02.8**	**+1.7**
BRRC				i		12 56 06.2	
	comp=Z,70nm,0.3s						
CRJC	**Cerrejon, Guaj**	**2.84**	**330**	eP	**Pn**	**12 55 25.7**	**+0.2**
CRJC				eS	**Sn**	**12 56 00.3**	**+0.2**
CRJC				i		12 56 03.3	
	comp=Z,162nm,0.2s						
ARGC	**Ariguani, Magd**	**3.07**	**295**	eP	**Pn**	**12 55 29.6**	**+1.0**
ARGC				eS	**Sb**	**12 56 14.5**	**+2.1**
ARGC				i		12 56 16.8	
	comp=Z,41nm,0.2s						
RUSC	**La Rusia**	**3.11**	**212**	eP	**Pn**	**12 55 29.9**	**+0.3**
RUSC				eS	**Sb**	**12 56 14.4**	**+0.4**
RUSC				i		12 56 21.8	
	comp=Z,75nm,0.3s						
URIC	**Uribia, Colomb**	**3.18**	**350**	eP	**Pn**	**12 55 29.5**	**-0.6**
URIC				eS	**Sn**	**12 56 06.6**	**-1.8**
URIC				i		12 56 18.5	
	comp=Z,64nm,0.4s						
BAUV	**El Baul**	**3.37**	**83**	eP	**Pn**	**12 55 33.7**	**+0.9**
BAUV				eS	**Sn**	**12 56 13.0**	**-0.2**
ZARC	**Zaragoza, Cauc**	**3.56**	**253**	eP	**Pn**	**12 55 35.5**	**+0.1**
ZARC				eS	**Sb**	**12 56 25.8**	**-0.6**
ZARC				i		12 56 33.6	
	comp=Z,54nm,0.2s						
JACV	**Jacura**	**3.59**	**45**	eP	**Pn**	**12 55 37.3**	**+1.4**
JACV				eS	**Sn**	**12 56 18.8**	**+0.1**
PTBC	**PUERTO BERRIO,**	**3.61**	**237**	eP	**Pb**	**12 55 43.5**	**-0.3**
PTBC				eS	**Sb**	**12 56 28.9**	**+1.0**
PTBC				i		12 56 31.6	
	comp=Z,51nm,0.5s						
SMRC	**Santa Marta, M**	**3.78**	**314**	eP	**Pn**	**12 55 37.4**	**-1.0**
SMRC				eS	**Sn**	**12 56 21.1**	**-2.3**
SMRC				i		12 56 38.7	
	comp=Z,38nm,0.4s						
SPBC	**San Pablo de B**	**3.90**	**222**	eP	**Pb**	**12 55 49.8**	**+1.0**
SPBC				eS	**Sn**	**12 56 26.7**	**+0.4**
SPBC				i		12 56 48.1	
	comp=Z,46nm,0.4s						
SJCC	**San Jacinto, C**	**3.94**	**290**	eP	**Pn**	**12 55 42.0**	**+1.4**
SJCC				eS	**Sn**	**12 56 28.9**	**+1.7**
SJCC				i		12 56 31.6	
	comp=Z,34nm,0.5s						
TURV	**Turiamo**	**4.01**	**62**	eP	**Pn**	**12 55 42.8**	**+1.2**
TURV				eS	**Sn**	**12 56 28.4**	**-0.5**
BENV	**Beln**	**4.03**	**69**	eP	**Pn**	**12 55 43.3**	**+1.3**
BENV				eS	**Sn**	**12 56 28.7**	**-0.8**
UREC	**San Jos de Ur**	**4.14**	**259**	eP	**Pn**	**12 55 44.2**	**+0.8**
UREC				eS	**Sn**	**12 56 33.0**	**+0.8**
UREC				i		12 56 55.3	
	comp=Z,21nm,0.2s						
PTGC	**Puerto Gaitan,**	**4.38**	**189**	eP	**Pg**	**12 56 05.3**	**+1.8**
PTGC				eS	**Sb**	**12 56 52.4**	**+2.2**
PTGC				i		12 57 09.2	
	comp=Z,88nm,0.3s						
CHIC	**Chingaza**	**4.52**	**211**	⇓iP	**Pn**	**12 55 49.3**	**+0.4**
CHIC				eS	**Sn**	**12 56 38.0**	**-4.1**
CHIC				i		12 56 42.7	
	comp=Z,24nm,0.3s						
NORC	**Norcasia**	**4.53**	**229**	eP	**Pn**	**12 55 51.4**	**+2.6**
NORC				eS	**Sn**	**12 56 42.7**	**+0.9**
NORC				i		12 56 53.6	
	comp=Z,17nm,0.4s						
TACV	**Tcata**	**4.62**	**70**	eP	**Pn**	**12 55 51.0**	**+1.0**
TACV				eS	**Sn**	**12 56 42.5**	**-1.6**
ROSC	**El Rosal**	**4.67**	**218**	eP	**Pn**	**12 55 52.5**	**+1.4**
ROSC				eS	**Sn**	**12 56 48.4**	**+2.5**
ROSC				i		12 56 56.7	
	comp=Z,22nm,0.5s						
FUNV	**FUNVISIS**	**4.94**	**67**	eP	**Pn**	**12 55 55.4**	**+0.9**
FUNV				eS	**Sn**	**12 56 50.1**	**-1.9**
CACV	**CAICARA DEL OR**	**4.94**	**101**	eP	Pb	12 56 02.1	-4.5
CACV				eS	**Sb**	**12 57 01.9**	**-4.3**
VILC	**Villavicencio,**	**4.95**	**207**	eP	**Pn**	**12 55 54.5**	**-0.2**
VILC				eS	**Sn**	**12 56 50.7**	**-1.7**
VILC				i		12 56 57.3	
	comp=Z,82nm,0.4s						
MERV	**Las Mercedes**	**5.12**	**82**	eP	**Pn**	**12 55 57.3**	**+0.5**
MERV				eS	**Sn**	**12 56 54.0**	**-2.3**
GUY2C	**Guyana, Caldas**	**5.12**	**230**	eP	**Pn**	**12 55 58.9**	**+1.6**
GUY2C				eS	**Sn**	**12 56 56.8**	**-0.1**
GUY2C				i		12 57 07.0	
	comp=Z,20nm,0.7s						
APAC	**Apartado, Choc**	**5.14**	**263**	eP	**Pn**	**12 55 55.0**	**-2.2**
APAC				eS	**Sn**	**12 56 58.8**	**+2.0**
ANIL	**Santa Ana**	**5.64**	**225**	eP	**Pn**	**12 56 03.0**	**-1.4**
ANIL				eS	**Sn**	**12 57 09.6**	**-0.1**
ANIL				i		12 57 17.9	
	comp=Z,36nm,0.3s						
PRAC	**Prado**	**5.91**	**216**	eP	**Pn**	**12 56 06.6**	**-1.2**
PRAC				eS	**Sn**	**12 57 13.0**	**-2.9**
PRAC				i		12 57 24.7	
	comp=Z,22nm,0.4s						
ORTC	**Ortega, Tolima**	**5.97**	**220**	eP	**Pn**	**12 56 08.3**	**-0.4**
ORTC				eS	**Sn**	**12 57 16.2**	**-1.3**
ORTC				i		12 57 28.2	
	comp=Z,11nm,0.4s						
PLMC	**San Jos del P**	**6.03**	**233**	eP	**Pn**	**12 56 10.8**	**+1.3**
PLMC				eS	**Sn**	**12 57 19.5**	**+0.6**
PLMC				i		12 57 40.4	
	comp=Z,5.8nm,0.4s						
PRGV	**PARIAGUAN**	**6.71**	**88**	eP	**Pn**	**12 56 18.7**	**0.0**
PRGV				eS	**Sn**	**12 57 31.0**	**-4.6**
PCRV	**Puerto La Cruz**	**6.89**	**76**	eP	**Pn**	**12 56 21.9**	**+0.6**
PCRV				eS	**Sn**	**12 57 36.3**	**-3.9**

*IDC **21** 12:56:40.4±0.4, 70°.87N×6°.52W, h0km, mb4.5/27,*
mbtmp4.5/33, ML4.2/6, MS4.7/89, Error ellipse:
s-maj=11.7km s-min=9.7km az=28.0
*NAO **21** 12:56:40.1±1.7, 70°.79N×6°.55W, h13km±20km, ML5.1*
*MOS **21** 12:56:41.9±1.0, 70°.91N×5°.83W, h10km, mb5.1/75,*
MS4.7/26, Error ellipse: s-maj=10.5km s-min=4.2km
az=101.4
*BJI **21** 12:56:41.0±0.0, 70°.90N×5°.80W, h10km, mb4.9/70,*
mB5.4/42, Ms5.2/55, Ms7 5.0/56
*GCMT **21** 12:56:42.7±0.1, 70°.90N±0°.01×6°.55W±0°.02, h12km,*
MW5.4/147, Moment Tensor Solution. s101,c155;
s147,c287; Duration: 1§2 Moment tensor: Scale 10^{17}
Nm; M_{rr}-0.58±.02; $M_{\theta\theta}$ 1.40±.02; $M_{\phi\phi}$-0.82±.01;
$M_{r\theta}$-0.29±.04; $M_{\theta\phi}$0.94±.01; $M_{\phi r}$0.29±.04; Best double
couple: $M_0$1.55400×10^{17} NP1:ϕ_s112.00000°, δ75.00000°,
λ-22.00000°. NP2:ϕ_s207.00000°, δ69.00000°,
λ-164.00000°. Principal axes: T 1.7570, Plg4.0000°,
Azm160.0000°; N -0.4110, Plg64.0000°, Azm259.0000°;
P -1.3500, Plg26.0000°, Azm68.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
*IEPN **21** 12:56:42.0, 70°.79N×7°.41W, h10km*
*INMG **21** 12:56:42.0, 71°.07N×6°.59W, h10km, MW5.3*
*BER **21** 12:56:43.5±3.0, 70°.89N×6°.79W, h9km±12km, mb(Pn)5.5,*
ML5.3, ML5.1(NAO), Confirmed Earthquake
*NEIC **21** 12:56:43.7±2.2, 70°.83N±0°.06×6°.0W±0°.2, h10km±1km,*
mb5.0/172, Mww5.3/18, Error ellipse: s-maj=11.0km
s-min=10.6km az=330.0
*REY **21** 12:56:45.3, 70°.58N×7°.78W, h10km*
*BGR **21** 12:56:47.1, 70°.39N×6°.49W, h10km, mb4.4, Ms4.3*
ISC 21 12:56:42.2±0.2, 70°.91N±0°.03×6°.26W±0°.03, h9km, n1191, σ1§99/1221, mb5.0/220, MS4.8/138, 48C-35D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**0.74**	**277**	Pg	**Pg**	**12 56 53.4**	**-3.1**
JMIC				Lg	Lg	12 57 02.1	
JMIC	**Jan Mayen**	**0.74**	**277**	eP	**Pg**	**12 56 53.3**	**-3.2**
JMIC				eS	**Sg**	**12 57 02.2**	**-3.9**
JMIC	**Jan Mayen**	**0.74**	**277**	Pn	**Pg**	**12 56 53.2**	**-3.2**
	6μm,0.3s,baz=72,slow=3.1,SNR=1566						
JMIC				LR	LR	12 57 16.4	
	comp=Z,183μm,19.5s,baz=290,slow=54						
JMI	**Jan Mayen**	**0.81**	**273**	Pg	**Pg**	**12 56 54.6**	**-3.2**
JMI				Lg	Lg	12 57 04.8	
JMI	**Jan Mayen**	**0.81**	**273**	⇑iP	**Pg**	**12 56 54.7**	**-3.2**
JMI				eS	**Sg**	**12 57 04.6**	**-3.8**
JMI				IAML		12 57 09.0	
	comp=Z,176μm,0.5s						
SCO	**Scoresbysund**	**5.22**	**273**	Pn	**Pn**	**12 58 01.7**	**+1.4**
SCO	**Scoresbysund**	**5.22**	**273**	P	**Pn**	**12 58 01.7**	**+1.4**
DBG	**Daneborg**	**5.39**	**316**	Pn	Pn	12 57 58.5	-4.2
DBG				Sn	Sn	12 58 55.1	-10
DBG	**Daneborg**	**5.39**	**316**	eP	**Pn**	**12 57 59.1**	**-3.5**
DBG				eS	Sn	12 58 55.4	-9.4
DBG	**Daneborg**	**5.39**	**316**	i P	Pn	12 57 58.5	-4.2
DBG				IAML		12 58 58.4	
	comp=Z,580nm,0.8s						
ILEI	**Leirhofn**	**5.86**	**224**	P	**Pn**	**12 58 05.1**	**-3.9**
	baz=222						
ILEI				S	**Sn**	**12 59 09.2**	**-6.9**
	baz=222						
IGIL	**Gilhagi**	**6.10**	**222**	P	**Pn**	**12 58 08.7**	**-3.7**
	baz=219						
IGIL				S	**Sn**	**12 59 15.5**	**-6.6**
	baz=219						
IGRI	**Grimsey**	**6.11**	**230**	P	**Pn**	**12 58 09.4**	**-3.1**
	baz=228						
IGRI				S	**Sn**	**12 59 14.6**	**-7.9**
	baz=228						
IHED	**Heoinshofoi**	**6.31**	**225**	P	**Pn**	**12 58 11.6**	**-3.7**
	baz=223						
IHED				S	**Sn**	**12 59 20.0**	**-7.4**
	baz=223						
IDIM	**Dimmadalss**	**6.33**	**224**	P	**Pn**	**12 58 11.8**	**-3.7**
	baz=221						
IDIM				S	**Sn**	**12 59 21.5**	**-6.2**
	baz=221						
IGHA	**Grjothals**	**6.37**	**222**	P	**Pn**	**12 58 12.6**	**-3.5**
	baz=219						
IGHA				S	**Sn**	**12 59 23.0**	**-5.7**
	baz=219						
IBRE	**Brettingsstaoi**	**6.42**	**227**	P	**Pn**	**12 58 13.9**	**-2.9**
	baz=225						
IBRE				S	**Sn**	**12 59 23.6**	**-6.4**
	baz=225						
ISKI	**Skildingahlsh**	**6.42**	**223**	P	**Pn**	**12 58 13.9**	**-2.9**
	baz=220						
ISKI				S	**Sn**	**12 59 23.1**	**-7.1**
	baz=220						
IGRS	**Grimsstaoir**	**6.42**	**219**	P	**Pn**	**12 58 13.7**	**-3.1**
	baz=216						
IGRS				S	**Sn**	**12 59 24.8**	**-5.4**
	baz=216						
IGRA	**Granastaoir**	**6.51**	**225**	P	**Pn**	**12 58 15.4**	**-2.6**
	baz=223						
IGRA				S	**Sn**	**12 59 25.4**	**-6.9**
	baz=223						
IKVO	**Krokottuvotn**	**6.52**	**222**	P	**Pn**	**12 58 14.9**	**-3.3**
	baz=219						
IMEL	**Melhnausar**	**6.60**	**221**	P	**Pn**	**12 58 15.9**	**-3.3**
	baz=218						
IMEL				S	**Sn**	**12 59 29.4**	**-5.0**
	baz=218						
ISIG	**Siglufjorour**	**6.66**	**230**	P	**Pn**	**12 58 15.8**	**-4.3**
	baz=228						
DAG	**Danmarks Havn**	**6.81**	**335**	⇑iP	**Pn**	**12 58 19.4**	**-2.7**
DAG				eS	Sn	12 59 30.1	-10
DAG	**Danmarks Havn**	**6.81**	**335**	i P	**Pn**	**12 58 19.2**	**-2.9**
DAG				IAML		12 59 34.1	
	comp=Z,504nm,0.7s						
IADA	**Aoalbol**	**6.86**	**215**	P	**Pn**	**12 58 19.9**	**-3.0**
	baz=212						
IADA				S	**Sn**	**12 59 35.2**	**-5.8**
	baz=212						
ISVA	**Svartarkot**	**6.93**	**222**	P	**Pn**	**12 58 20.6**	**-3.1**
	baz=219						
IHRN	**Hraun**	**6.99**	**233**	P	**Pn**	**12 58 21.7**	**-2.9**
	baz=231						
IHRN				S	**Sn**	**12 59 37.5**	**-6.6**
	baz=231						
IASK	**Askja**	**7.05**	**219**	P	**Pn**	**12 58 22.9**	**-2.6**
	baz=215						
IMKO	**Mokollar**	**7.05**	**217**	P	**Pn**	**12 58 22.1**	**-3.4**
	baz=214						
IVSH	**V-Sauoahnukur**	**7.08**	**215**	P	**Pn**	**12 58 22.6**	**-3.3**
	baz=211						
THOR	**Thorvaldshraun**	**7.16**	**218**	P	**Pn**	**12 58 23.8**	**-3.1**
	baz=215						
IKRE	**Kreppuhraun**	**7.23**	**217**	P	**Pn**	**12 58 24.9**	**-3.1**
	baz=214						
IURH	**Urdarhals**	**7.35**	**219**	P	**Pn**	**12 58 27.1**	**-2.5**
	baz=216						
IDYN	**Dyngjuhals**	**7.42**	**220**	P	**Pn**	**12 58 27.9**	**-2.7**
	baz=217						
LOF	**Lofoten**	**7.46**	**102**	Pn	**Pn**	**12 58 28.7**	**-2.3**
LOF				Sn	**Sn**	**12 59 52.8**	**-2.9**
LOF	**Lofoten**	**7.46**	**102**	eP	**Pn**	**12 58 29.0**	**-2.1**
LOF				eS	**Sn**	**12 59 49.6**	**-6.1**
LOF				IAML		13 00 00.9	
	comp=Z,122nm,0.5s						
IKIS	**Kista**	**7.57**	**220**	P	**Pn**	**12 58 30.2**	**-2.4**
	baz=217						
IBJK	**Bruarjokull**	**7.58**	**217**	P	**Pn**	**12 58 30.2**	**-2.7**
	baz=214						
IGRF	**Grimsfjall**	**7.74**	**218**	P	**Pn**	**12 58 32.7**	**-2.4**
	baz=215						
IKSK	**Karasker**	**7.81**	**215**	P	**Pn**	**12 58 33.0**	**-2.9**
	baz=212						
STEI	**Steigen**	**8.12**	**101**	eP	**Pn**	**12 58 38.3**	**-1.7**
STEI				eS	**Sn**	**13 00 05.7**	**-6.0**
STEI				IAML		13 00 13.1	
	comp=Z,112nm,0.6s						
KONS	**Konsvik**	**8.29**	**113**	Pn	**Pn**	**12 58 41.0**	**-1.5**
KONS				Sn	**Sn**	**13 00 09.6**	**-6.5**
KONS	**Konsvik**	**8.29**	**113**	eP	**Pn**	**12 58 40.7**	**-1.8**
KONS				eS	**Sn**	**13 00 09.1**	**-7.0**
KONS				IAML		13 00 18.8	
	comp=Z,152nm,0.5s						
STOK	**Stokkvaagen**	**8.38**	**114**	Pn	**Pn**	**12 58 42.0**	**-1.5**
STOK				Sn	**Sn**	**13 00 10.5**	**-7.5**
STOK	**Stokkvaagen**	**8.38**	**114**	eP	**Pn**	**12 58 42.5**	**-1.1**
STOK				eS	**Sn**	**13 00 10.8**	**-7.2**
BORG	**Borgarnes**	**8.38**	**230**	Pn	**Pn**	**12 58 46.8**	**+3.1**
BORG	**Borgarnes**	**8.38**	**230**	Pn	**Pn**	**12 58 42.2**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=116,slow=4.4,SNR=2.0						
BORG				Sn	**Sn**	**13 00 16.5**	**-1.7**
	comp=Z,3.1nm,0.3s,baz=336,slow=23,SNR=8.0						
BORG				LR	LR	13 01 09.6	
	comp=Z,7μm,20.0s,baz=29,slow=32						
	comp=Z,8.3nm,0.9s						
FAUS	**Fauske**	**8.43**	**104**	eP	**Pn**	**12 58 42.8**	**-1.5**
FAUS				eS	**Sn**	**13 00 14.1**	**-5.3**
FAUS				IAML		13 00 21.4	
	comp=Z,93nm,0.4s						
HSPB	**Hornsund (broa**	**8.52**	**35**	Pn	**Pn**	**12 58 46.4**	**+0.8**
HSPB	**Hornsund (broa**	**8.52**	**35**	eP	**Pn**	**12 58 46.2**	**+0.6**
HSPB	**Hornsund (broa**	**8.52**	**35**	eP	**Pn**	**12 58 46.2**	**+0.6**
HSPB				S	**Sn**	**13 00 19.4**	**-2.2**
HSPB	**Hornsund (broa**	**8.52**	**35**	eP	**Pn**	**12 58 46.4**	**+0.8**
TRO	**Tromso**	**8.59**	**87**	Pn	**Pn**	**12 58 43.9**	**-2.5**
TRO	**Tromso**	**8.59**	**87**	eP	**Pn**	**12 58 44.0**	**-2.4**
TRO				eS	**Sn**	**13 00 16.2**	**-7.0**
TRO				IAML		13 00 25.4	
	comp=Z,118nm,0.5s						
SOFL	**Sornfelli, Far**	**8.88**	**182**	eP	**Pn**	**12 58 51.5**	**+0.9**
MOR8	**Moi Rana**	**8.91**	**112**	eP	**Pn**	**12 58 50.5**	**-0.4**
MOR8				eS	**Sn**	**13 00 25.7**	**-5.6**
MOR8				IAML		13 00 33.6	
	comp=Z,142nm,0.3s						
BRBA	**Barentsburg A**	**8.96**	**28**	Pn	**Pn**	**12 58 52.0**	**+0.4**
BRBA	**Bar

HAMF Hammerfest 9.82 77 eP Pn 12 59 00.9 -2.5
MOL Molde 9.96 140 Pn Pn 12 59 02.4 -2.8
MOL Molde 9.96 140 eP Pn 12 59 02.4 -2.8
TBLU Trondheim 9.98 132 eP Pn 12 59 03.4 -2.2
TBLU eS Sn 13 00 46.0 -12
TBLU IAML 13 00 54.8
comp=Z,69nm,0.9s
SUMG Summit 10.16 294 Pn 12 59 10.9 +2.6
SUMG Summit 10.16 294 P Pn 12 59 10.9 +2.6
SUMG Summit 10.16 294 i P Pn 12 59 07.0 -1.3
AKN Aaknes 10.20 143 Pn Pn 12 59 05.9 -2.6
AKN Sn Sn 13 00 55.5 -7.3
AKN Aaknes 10.20 143 Pn Pn 12 59 05.9 -2.6
AKN Sn Sn 13 00 55.5 -7.3
KTK1 Kautokeino 10.24 86 Pn Pn 12 59 07.5 -1.5
KTK1 Kautokeino 10.24 86 eP Pn 12 59 07.6 -1.5
HOPEN Hopen 10.28 43 Pn Pn 12 59 11.0 +1.4
HOPEN Hopen 10.28 43 eP Pn 12 59 10.8 +1.2
HOPEN Hopen 10.28 43 eP Pn 12 59 11.4 +1.9
FOO Floro 10.37 149 Pn Pn 12 59 08.1 -2.7
FOO Floro 10.37 149 eP Pn 12 59 08.6 -2.3
FOO eS Sn 13 00 55.8 -11
FOO IAML 13 01 02.4
comp=Z,78nm,0.1s
HEF Hetta 10.64 89 Pn Pn 12 59 12.4 -2.1
HEF Hetta 10.64 89 eP Pn 12 59 13.1 -1.5
DOMB Dombas 10.76 138 eP Pn 12 59 15.2 -1.0
ARA0 ARCESS Array S 10.77 82 Pn Pn 12 59 15.7 -0.7
baz=290,slow=11
ARA0 Sn Sn 13 01 12.3 -4.5
baz=301,slow=16
ARA0 ARCESS Array S 10.77 82 eP Pn 12 59 16.0 -0.4
ARCES ARCESS Array B 10.77 82 Pn Pn 12 59 15.7 -0.7
comp=Z,2.4nm,0.3s,baz=288,slow=12,SNR=119
ARCES Sn Sn 13 01 18.2 +1.3
comp=Z,2.0nm,0.3s,baz=278,slow=20,SNR=2.7
ARCES LR LR 13 02 55.4
comp=Z,4µm,20.0s,baz=292,slow=34
comp=Z,5.4nm,0.3s
SUE Sulen 10.83 150 eP Pn 12 59 14.2 -3.0
SUE eS Sn 13 01 07.7 -11
SUE IAML 13 01 12.3
comp=Z,43nm,0.4s
HYA Hoyanger 10.98 147 eP Pn 12 59 17.3 -1.8
HYA eS Sn 13 01 13.8 -8.0
HYA IAML 13 01 22.9
comp=Z,47nm,0.3s
NOR Nord 11.00 352 Pn Pn 12 59 17.4 -2.0
NOR Sn Sn 13 01 14.5 -7.8
NOR Nord 11.00 352 eP Pn 12 59 17.1 -2.3
NOR eS Sn 13 01 14.8 -7.5
NOR Nord 11.00 352 i P Pn 12 59 16.0 -3.4
NOR IAML 13 01 23.8
comp=Z,132nm,0.5s
LRW Lerwick 11.01 167 eP Pn 12 59 19.6 -0.1
NOD Norderasen 11.03 122 eP Pn 12 59 18.8 -1.2
KEV Kevo 11.18 80 Pn Pn 12 59 20.3 -1.6
KEV Kevo 11.18 80 Pn Pn 12 59 20.7 -1.2
KEV Kevo 11.18 80 eP Pn 12 59 21.8 -0.1
KEV Kevo 11.18 80 P Pn 12 59 20.7 -1.2
ASK Askoy 11.45 150 eP Pn 12 59 23.3 -2.3
ASK eS Sn 13 01 23.6 -10
ICESG Greenland Ices 11.48 277 i P Pn 12 59 26.1 -0.3
BER Bergen 11.56 157 eP Pn 12 59 24.8 -2.4
VADS Vadso 11.81 77 eP Pn 12 59 30.1 -0.4
NC204 NORSAR Array S 11.81 136 Pn Pn 12 59 30.3 -0.4
SKAR Skarslia 11.83 143 eP Pn 12 59 27.8 -3.0
NC303 NORSAR Array S 12.00 135 Pn Pn 12 59 32.3 -0.8
NBO00 NORSAR Array S 12.04 137 Pn 12 59 32.4 -1.3
NB2 NORSAR Subarra 12.13 136 Pn Pn 12 59 32.8 -2.2
baz=333,slow=18
NOA NORSAR Array B 12.13 136 Pn Pn 12 59 33.0 -1.9
comp=Z,0.3nm,0.3s,baz=327,slow=12,SNR=15
NOA LR LR 13 03 49.1
comp=Z,5µm,21.8s,baz=330,slow=35
comp=Z,6.7nm,0.8s
NB201 NORSAR Array S 12.14 136 Pn 12 59 33.5 -1.6
NC405 NORSAR Array S 12.18 135 Pn 12 59 34.2 -1.4
NAO01 NORSAR Array S 12.23 137 Pn 12 59 34.6 -1.7
NAO01 NORSAR Array S 12.23 137 eP Pn 12 59 35.1 -1.1
ODD1 Odda 12.23 148 eP Pn 12 59 34.8 -1.6
NC602 NORSAR Array S 12.47 136 Pn 12 59 38.9 -0.7
NRA0 NORESS Array S 12.47 136 Pn Pn 12 59 37.2 -2.4
baz=336,slow=14
NRA0 NORESS Array S 12.47 136 Pn Pn 12 59 37.2 -2.4
baz=336,slow=14
BIGH Upper Bighouse 12.50 174 eP Pn 12 59 37.9 -2.1
BLS5 Blasjo 12.66 149 eP Pn 12 59 39.2 -3.0
KMY Karmoy 12.67 152 eP Pn 12 59 40.0 -2.2
KONO Kongsberg 13.03 142 Pn Pn 12 59 47.4 +0.1
KONO Kongsberg 13.03 142 P Pn 12 59 47.4 +0.1
HFS Hagfors 13.51 133 Pn Pn 12 59 51.8 -2.0
baz=340,slow=12
HFS Hagfors 13.51 133 Pn Pn 12 59 51.8 -2.0
baz=340,slow=12
HFS Hagfors 13.51 133 LR LR 13 04 43.3
comp=Z,6µm,21.6s,baz=330,slow=36
KPL Plockton 13.62 179 eP Pn 12 59 54.3 -1.0
SNART Snartemo 13.82 149 eP Pn 12 59 55.9 -2.0
APA0 Apatity Array 14.10 84 P Pn 12 59 59.4 -2.3
baz=310,slow=14
APA0 Apatity Array 14.10 84 P Pn 12 59 59.4 -2.3
baz=310,slow=14
DRUM Mains of Drumt 14.14 172 eP Pn 13 00 00.6 -1.7
APA Apatity 14.25 84⇓ i P Pn 13 00 02.3 -1.6
APA i 13 02 38.0
APA pmax pmax
comp=Z,27nm,0.8s
LVZ Lovozero 14.49 82 Pn Pn 13 00 05.0 -2.2
LVZ Lovozero 14.49 82 P Pn 13 00 05.0 -2.2
RAF Rauma 14.93 117 eP Pn 13 00 11.4 -1.7
DY2G Dye2 14.97 272 i P Pn 13 00 14.2 +0.4
EDI Edinburgh 15.10 173 eP Pn 13 00 15.9 +0.5
AAL Aland 15.12 122 eP Pn 13 00 13.2 -2.3
ILULI Ilulissat 15.12 285 i P Pn 13 00 15.2 -0.4
ZFI2 Zemlya Franca- 15.60 29 eP Pn 13 00 23.7 +1.9
ZFI2 S Sn 13 03 10.0 -4.4
OMEGA Omega 15.61 29 eP Pn 13 00 23.8 +1.9
OMEGA S Sn 13 03 10.3 -4.3
EKA Eskdalemuir Ar 15.69 173 P Pn 13 00 20.9 -2.2
EKA Eskdalemuir Ar 15.69 173 P Pn 13 00 20.9 -2.2
EKA Eskdalemuir Ar 15.69 173 Pn Pn 13 00 21.1 -2.0
baz=357,slow=13
EKA Sn Sn 13 03 06.1 -11
baz=355,slow=26
comp=Z,3.3nm,0.3s
ESK Eskdalemuir 15.71 174 Pn 13 00 22.4 -0.9
ESK IAmb IAmb 13 00 31.0
comp=Z,90nm,1.1s
ESK Eskdalemuir 15.71 174 P Pn 13 00 22.4 -0.9
ESK pmax pmax
comp=Z,90nm,1.2s
FIA0 FINESS Array S 15.90 110 P Pn 13 00 24.2 -1.6
baz=322,slow=14
FIA0 FINESS Array S 15.90 110 Pn Pn 13 00 23.8 -2.0
FIA0 FINESS Array S 15.90 110 P Pn 13 00 24.2 -1.6
baz=322,slow=14
FIA0 FINESS Array S 15.90 110 P Pn 13 00 23.8 -2.0
FIA1 FINESS Array S 15.90 110 Pn Pn 13 00 24.0 -1.8
FIA1 IAmb IAmb 13 00 31.4
comp=Z,93nm,0.8s
FINES FINESS Array B 15.90 110 Pn Pn 13 00 24.1 -1.6
comp=Z,1.9nm,0.3s,baz=322,slow=11,SNR=41
FINES Sn Sn 13 03 15.9 -6.0
comp=Z,1.9nm,0.3s,baz=326,slow=22,SNR=3.6
FINES LR LR 13 05 32.3
comp=Z,2µm,18.5s,baz=322,slow=33
comp=Z,33nm,0.7s
SFJD Kangerlussuaq 16.10 278 P 13 00 31.1 -0.6
SFJD Kangerlussuaq 16.10 278 P P 13 00 31.1 -0.6
SFJD pmax pmax
comp=Z,82nm,1.1s
SFJD Kangerlussuaq 16.10 278 Pn Pn 13 00 26.0 -2.3
comp=Z,0.4nm,0.3s,baz=105,slow=22,SNR=1.9
SFJD LR LR 13 05 36.1
comp=Z,3µm,21.6s,baz=52,slow=33
comp=Z,8.6nm,0.8s
MEF Metsahovi 16.36 115 eP Pn 13 00 30.0 -1.6
MTSE Matsula 17.42 119 eP Pn 13 00 45.2 +0.2
TULEG Thule 17.53 316 i P Pn 13 00 41.0 -5.4
SLIT Slitere, Latvi 17.91 123 eP Pn 13 00 50.5 -0.7
ADZR Andozero 18.06 90 eP Pn 13 00 49.2 -3.7
ADZR pmax pmax
comp=Z,37nm,0.9s
VSU Vasula 18.48 115 eP P 13 00 57.0 -1.0
VSU Vasula 18.48 115 deP P 13 00 57.1 -1.0
VSU pmax pmax
comp=Z,135nm,0.9s
PUL Pulkovo 18.52 108⇑ eP P 13 00 57.3 -1.1
PUL pmax pmax
comp=Z,30nm,0.6s
BSEG Bad Segeberg 18.55 148 eP Pn 13 00 59.6 +0.6
comp=Z,29nm,0.9s,baz=344,slow=11
IVI Ivigtut 19.12 261 P Pn 13 01 06.0 +0.1
IVI IAmb IAmb 13 01 12.5
comp=Z,234nm,1.7s
PBUR Paburge 19.22 126 eP Pn 13 01 07.9 +0.8
CLNZ Clenze 19.61 148 eP Pn 13 01 12.1 +0.3
comp=Z,53nm,0.9s,baz=344,slow=11
NRDL Niedersach Rie 19.90 150 eP P 13 01 14.2 +0.7
comp=Z,15nm,1.0s,baz=344,slow=11
EUNU Eureka 20.00 330 P P 13 01 13.4 -1.1
KLNR Kaliningrad 20.05 131⇑ eP P 13 01 15.7 +0.6
KLNR pmax pmax
comp=Z,168nm,1.0s
PABE Paberze 20.22 124 P P 13 01 16.8 -0.3
PABE Paberze 20.22 124 eP P 13 01 17.5 +0.4
FLTG Flechtingen 20.25 148 eP P 13 01 17.6 +0.2
comp=Z,22nm,0.9s,baz=344,slow=11
ASSE Asse, Remlinge 20.34 149 eP P 13 01 18.7 +0.3
comp=Z,16nm,1.0s,baz=344,slow=11
BUG Bochum--Univer 20.49 155 eP Pn 13 01 21.3 -0.9
comp=Z,13nm,0.8s,baz=344,slow=11
GKP Gorka Klasztor 20.57 137 eP Pn 13 01 22.2 -0.8
GKP Gorka Klasztor 20.57 137 eP Pn 13 01 22.1 -0.9
CLZ Clausthal 20.57 150 eP P 13 01 21.9 +0.9
comp=Z,61nm,1.4s,baz=344,slow=11
RUE Ruedersdorf 20.58 143 eP Pn 13 01 24.9 +1.8
RUE Ruedersdorf 20.58 143 eP Pn 13 01 25.0 +1.8
comp=Z,19nm,0.7s,baz=344,slow=11
IZAR Zarasai 20.64 120 eP Pn 13 01 23.4 -0.5
ISAL Salakas 20.76 121 eP Pn 13 01 24.6 -0.7
GTTG Gottingen 20.79 151 eP Pn 13 01 25.3 -0.4
comp=Z,16nm,0.9s,baz=344,slow=11
KASTN Kahler Asten 20.89 153 eP P 13 01 24.9 +0.5
comp=Z,11nm,0.9s,baz=344,slow=11
IIGN Ignalina 20.98 121 eP Pn 13 01 27.4 -0.5
MEM Membach 21.14 158 dP P 13 01 26.7 -0.4
comp=Z,44nm,0.9s
IDID Didziasalis 21.16 120 eP P 13 01 29.6 +2.4
BTNL Ternell 21.18 158 dP P 13 01 27.3 -0.2
BCLA Clavier 21.24 159 dP P 13 01 29.1 +1.0
BGES Gesves 21.25 160 dP P 13 01 30.5 +2.3
BGES dPP PnPn 13 01 45.3 -2.2
BMRD Maredsous 21.30 160 dP P 13 01 32.8 +4.0
comp=Z,32nm,0.9s
SUW Suwalki 21.34 127 eP P 13 01 31.9 +2.7
SUW Suwalki 21.34 127 P P 13 01 29.0 -0.1
SUW Suwalki 21.34 127 eP P 13 01 31.8 +2.7
SUW Suwalki 21.34 127 P P 13 01 29.0 -0.1
SUW pmax pmax
comp=Z,143nm,1.1s
AHRW Bad Neuenahr-A 21.34 156 eP P 13 01 30.2 +1.0
baz=344,slow=11
BHOU Houvegnez 21.39 158 dP P 13 01 30.8 +1.0
NEUB Neuenburg 21.42 148 eP P 13 01 31.7 +1.7
comp=Z,23nm,0.8s,baz=344,slow=11
DOU Dourbes 21.48 161 dP P 13 01 31.9 +1.2
RCHB Rochefort 21.49 160 dPP PnPn 13 01 49.6 -1.2
NACGM Naroch 21.53 121⇑ i P P 13 01 31.9 +0.7
comp=Z,88nm,1.0s,baz=332
CLL Collm 21.55 146 P P 13 01 31.7 +0.2
CLL IAmb IAmb 13 01 46.0
comp=Z,157nm,1.8s
CLL Collm 21.55 146 i P P 13 01 31.6 +0.2
CLL i 13 01 40.2
CLL eS S 13 05 28.0 -2.0
CLL pmax pmax
comp=Z,51nm,1.3s
CLL Collm 21.55 146 eP P 13 01 33.3 +1.8
comp=Z,11nm,0.8s,baz=344,slow=11
CLL Collm 21.55 146 i P P 13 01 31.6 +0.2
comp=Z,51nm,1.3s
CLL ePlp 13 01 36.0
comp=Z,600nm,22.7s
CLL i x x 13 01 40.2
CLL i x x 13 01 44.0
comp=Z,149nm,1.8s
CLL ePP PnPn 13 01 58.0 +6.5
CLL ex x 13 03 18.0
CLL ex x 13 03 48.0
CLL eS S 13 05 28.0 -2.0
comp=N,900nm,22.0s
CLL eS S 13 05 28.0 -2.0
comp=E,2µm,25.6s
CLL eS S 13 05 28.0 -2.0
comp=Z,400nm,22.8s
CLL AMS AMS 13 12 00.0
TNS Taunus Mts 21.85 154 eP P 13 01 35.5 +0.8
comp=Z,23nm,0.9s,baz=344,slow=11
MOX Moxa 21.94 148 eP P 13 01 36.2 +0.6
comp=Z,13nm,0.8s,baz=344,slow=11
MOX eL L 13 09 54.5
comp=Z,1µm,20.0s
FBE Freiberg 21.98 145 eP P 13 01 38.1 +2.0
comp=Z,15nm,0.8s,baz=344,slow=11
PRGR Permogore 22.08 88 eP P 13 01 34.6 -2.4
PRGR pmax pmax
comp=Z,141nm,1.4s
WLF Walferdange 22.09 158 P P 13 01 37.5 +0.3
WLF IAmb IAmb 13 01 48.7
comp=Z,164nm,1.8s
WLF Walferdange 22.09 158 dP P 13 01 38.2 +1.0
WLF Walferdange 22.09 158 P P 13 01 37.5 +0.3
WLF pmax pmax
comp=Z,165nm,1.8s
BRG Berggiesshubel 22.14 145 eP P 13 01 37.7 -0.1
BRG Amp 13 01 46.3
comp=Z,83nm,1.6s
BRG PP PnPn 13 02 02.7 +3.0
BRG Amp 13 02 04.6
comp=Z,48nm,1.5s
BRG Berggiesshubel 22.14 145 S S 13 05 44.0 +2.5
BRG Amp 13 12 15.0
comp=Z,2.3nm,15.0s
BRG Amp 13 12 19.0
comp=N,1.5nm,15.5s
BRG Amp 13 12 21.0
comp=E,0.9nm,13.7s
BRG Berggiesshubel 22.14 145 eP P 13 01 37.7 -0.1
BRG 13 02 02.6
BRG S S 13 05 44.0 +2.5
BRG pmax pmax
comp=Z,83nm,1.6s
BRG pmax pmax
comp=Z,48nm,1.5s
BRG smax smax
comp=Z,2µm,15.0s
BRG MLR MLR
comp=N,2µm,15.5s
BRG MLR MLR
comp=E,887nm,13.7s
BRG Berggiesshubel 22.14 145 eP P 13 01 39.4 +1.7
comp=E,20nm,1.2s,baz=344,slow=11
MNK Minsk 22.20 120 i P P 13 01 37.6 -0.7
comp=E,12nm,0.8s
MNK i P P 13 01 37.6 -0.7
comp=N,45nm,0.8s
MNK i P P 13 01 37.6 -0.7
comp=Z,66nm,0.8s,baz=331
MNK i PP PnPn 13 01 58.9 -1.4
MNK i S S 13 05 42.0 -0.5
MNK i LQ LQ 13 08 11.5
MNK i LR LR 13 08 52.2
MNK i LRM MLR 13 11 10.9
comp=E,351nm,14.1s
MNK i LRM MLR 13 11 30.5
comp=N,793nm,13.9s
MNK i LRM MLR 13 11 32.7
comp=Z,879nm,13.9s
MNK Minsk 22.20 120 i P P 13 01 37.6 -0.7
MNK i 13 01 58.8
MNK i S S 13 05 41.9 -0.5
MNK pmax pmax
comp=E,12nm,0.8s
MNK pmax pmax
comp=N,45nm,0.8s
MNK pmax pmax
comp=Z,66nm,0.8s
MNK MLR MLR
comp=E,351nm,14.0s
MNK MLR MLR
comp=N,793nm,14.0s
MNK MLR MLR
comp=Z,879nm,14.0s
WERD Werda 22.25 147 eP P 13 01 39.1 +0.2
comp=Z,19nm,0.9s,baz=344,slow=11
HSKC Hora Svate Kat 22.30 146 eP P 13 01 39.1 -0.4
HSKC AMS AMS 13 12 30.0
comp=Z,3µm,11.2s
TANN Tannenbergstha 22.31 147 eP P 13 01 40.7 +1.1
comp=Z,52nm,1.2s,baz=344,slow=11
GUNZ Gunzen 22.33 147 eP P 13 01 41.0 +1.1
comp=Z,16nm,0.8s,baz=344,slow=11
WERN Wernitzgruen 22.41 147 eP P 13 01 41.9 +1.2
comp=Z,27nm,0.8s,baz=344,slow=11
NKC Novy Kostel 22.48 147 eP P 13 01 42.3 +0.8
NKC AMS AMS 13 12 40.0
comp=Z,3µm,13.0s
NKC Novy Kostel 22.48 147 eP P 13 01 42.3 +0.8
NKC MLR MLR
comp=Z,3µm,13.0s
RICC Richard 22.49 145 eP P 13 01 41.7 +0.2
RICC AMS AMS 13 12 20.0
comp=Z,2µm,13.1s
PVCC Panska Ves 22.59 144 eP P 13 01 43.1 +0.5
PVCC eS S 13 05 51.2 +1.3
PVCC AMS AMS 13 11 30.0
comp=Z,2µm,14.9s
PVCC Panska Ves 22.59 144 eP P 13 01 43.1 +0.5
PVCC eS S 13 05 51.2 +1.3
PVCC MLR MLR
comp=Z,2µm,14.9s
KSP Ksiaz 22.64 141 eP P 13 01 42.9 -0.2
MANZ Manzenberg 22.66 148 eP P 13 01 44.0 +0.6
comp=Z,4.0nm,1.1s,baz=344,slow=11
BEL Belsk 22.72 133 eP P 13 01 45.7 +1.8
GRA1 Grafenberg Arr 22.79 150 P P 13 01 44.3 -0.5
GRA1 IAmb IAmb 13 01 54.6
comp=Z,115nm,1.5s
GRF Grafenberg Arr 22.79 150 P P 13 01 44.3 -0.5
GRF pmax pmax
comp=Z,115nm,1.5s
GRF Grafenberg Arr 22.79 150 eP P 13 01 44.9 +0.1
comp=Z,28nm,1.0s,baz=344,slow=11
GRF eL L 13 12 01.2
comp=Z,1µm,18.1s
GRFO Grafenberg 22.79 150 P P 13 01 44.7 0.0
GRFO IAmb IAmb 13 01 54.6
comp=Z,116nm,1.5s
GRFO Grafenberg 22.79 150 P P 13 01 44.7 0.0
GRFO pmax pmax
comp=Z,116nm,1.5s
CHVC Chvalec 22.83 141 eP P 13 01 46.2 +1.0
CHVC AMS AMS 13 13 00.0
comp=Z,3µm,11.2s
CHVC Chvalec 22.83 141 eP P 13 01 46.2 +1.0
CHVC MLR MLR
comp=Z,3µm,11.2s
ROTZ Rotzenmuhle 22.89 148 eP P 13 01 46.3 +0.6
comp=Z,6.5nm,1.0s,baz=344,slow=11
OSTC Ostas 22.89 141 eP P 13 01 46.4 +0.6
OSTC eS S 13 05 56.3 +0.9
OSTC AMS AMS 13 13 00.0
comp=Z,3µm,9.8s
OSTC Ostas 22.89 141 eP P 13 01 46.4 +0.6
OSTC eS S 13 05 56.3 +0.9
OSTC MLR MLR
comp=Z,3µm,9.8s
UPC Upice 22.90 142 eP P 13 01 46.5 +0.6
UPC eS S 13 05 56.5 +1.0
UPC AMS AMS 13 13 10.0
comp=Z,3µm,12.5s
UPC Upice 22.90 142 eP P 13 01 46.5 +0.6
UPC eS S 13 05 56.5 +1.0
UPC MLR MLR
comp=Z,3µm,12.5s
PRA Prague 23.00 144 AMS AMS 13 12 00.0
comp=Z,2µm,14.0s
PRU Pruhonice 23.10 144 eP P 13 01 48.0 +0.1
PRU eS S 13 05 59.8 +0.9
PRU AMS AMS 13 11 50.0
comp=Z,2µm,13.0s
PRU Pruhonice 23.10 144 eP P 13 01 48.0 +0.1
PRU eS S 13 05 59.8 +0.9
PRU MLR MLR
comp=Z,2µm,13.0s
DPC Dobruska-Polom 23.11 141 eP P 13 01 48.3 +0.2
DPC AMS AMS 13 13 10.0
comp=Z,2µm,12.3s
GOPC GO Pecny, Ondr 23.22 144 eP P 13 01 50.0 +0.8
GOPC eS S 13 06 00.5 -0.4
GOPC AMS AMS 13 12 00.0
comp=Z,2µm,12.9s
GOPC GO Pecny, Ondr 23.22 144 eP P 13 01 50.0 +0.8
GOPC eS S 13 06 00.5 -0.4
GOPC MLR MLR
comp=Z,2µm,12.9s
STU Stuttgart 23.37 154 P P 13 01 51.5 +0.8
STU IAmb IAmb 13 02 01.7
comp=Z,66nm,1.4s
STU Stuttgart 23.37 154 P P 13 01 51.5 +0.8
STU pmax pmax
comp=Z,66nm,1.4s
STU Stuttgart 23.37 154 eP P 13 01 52.2 +1.6
comp=Z,54nm,1.0s,baz=344,slow=11
KRLC Kraliky 23.47 141 eP P 13 01 51.0 -0.7
KRLC AMS AMS 13 13 00.0
comp=Z,2µm,14.0s
KRLC Kraliky 23.47 141 eP P 13 01 51.0 -0.7
KRLC MLR MLR
comp=Z,2µm,14.0s
ZVC Zvikov 23.56 145 eP P 13 01 53.4 +0.8
ZVC AMS AMS 13 13 00.0
comp=Z,2µm,11.4s
WET Wettzell 23.61 147 eP P 13 01 54.8 +1.8
comp=Z,13nm,0.9s,baz=344,slow=11
ECH Echery 23.64 157 P P 13 01 53.9 +0.5
ECH Echery 23.64 157 P P 13 01 53.9 +0.5
ECH pmax pmax
comp=Z,26nm,1.1s
BFO Black Forest 23.68 155 P P 13 01 54.0 +0.3
BFO Black Forest 23.68 155 P P 13 01 54.0 +0.3
BFO pmax pmax
comp=Z,32nm,1.2s
BFO Black Forest 23.68 155 eP P 13 01 55.0 +1.2
comp=Z,10nm,0.9s,baz=344,slow=11
KHC Kasperske Hory 23.74 146 P P 13 01 55.5 +1.1
KHC IAmb IAmb 13 01 58.4
comp=Z,53nm,1.5s
KHC Kasperske Hory 23.74 146 eP P 13 01 55.8 +1.4
KHC AMS AMS 13 13 50.0
comp=Z,2µm,12.4s
KHC Kasperske Hory 23.74 146 d i P P 13 01 55.8 +1.4
KHC pmax pmax
comp=Z,34nm,1.2s
MORC Moravsky Berou 23.91 140 ⇑P P 13 01 56.2 +0.1
MORC Moravsky Berou 23.91 140 P P 13 01 55.5 -0.5
MORC Moravsky Berou 23.91 140 eP P 13 01 56.0 0.0
MORC Moravsky Berou 23.91 140 P P 13 01 56.1 +0.1
FRB Frobisher Bay 23.96 284 LR LR 13 10 34.3
comp=Z,3µm,21.2s,baz=46,slow=35
OKC Ostrava-Krasne 23.98 139 eP P 13 01 53.8 -2.8
OKC AMS AMS 13 13 20.0
comp=Z,4µm,13.3s
OKC Ostrava-Krasne 23.98 139 eP P 13 01 53.8 -2.8
OKC MLR MLR
comp=Z,4µm,13.3s
OJC Ojcow 23.99 136 eP P 13 01 57.3 +0.6
OJC Ojcow 23.99 136 P P 13 01 56.6 -0.1
OJC IAmb IAmb 13 02 13.0
comp=Z,48nm,1.2s
OJC Ojcow 23.99 136 P P 13 01 56.6 -0.1
OJC pmax pmax
comp=Z,48nm,1.2s
GEC2 GERESS Array S 24.04 146 P P 13 01 58.0 +0.7
GEC2 IAmb IAmb 13 01 59.6
comp=Z,42nm,1.3s
GEC2 GERESS Array S 24.04 146 eP P 13 01 58.4 +1.1
comp=Z,14nm,0.9s,baz=344,slow=11
GERES GERESS Array B 24.04 146 P P 13 01 58.0 +0.7
GERES GERESS Array B 24.04 146 P P 13 01 58.0 +0.7
GERES GERESS Array B 24.04 146 P P 13 01 57.0 -0.3
comp=Z,9.6nm,0.8s,baz=352,slow=8.2,SNR=14

GERES LR LR 13 11 37.4
comp=Z,996nm,18.8s,baz=345,slow=37
comp=Z,9.6nm,0.8s
MOS Moscow 24.09 106 *e*P **P 13 01 55.2 -2.3**
MOS *e*S **S 13 06 11.7 -3.0**
MOS pmax pmax
comp=Z,113nm,1.4s
MOS MLR MLR
comp=Z,2μm,13.0s
VRAC Vranov 24.16 142 ⇑P **P 13 01 59.3 +1.0**
VRAC Vranov 24.16 142 *e*P **P 13 01 58.3 0.0**
VRAC Vranov 24.16 142 P **P 13 01 59.3 +1.0**
VRAC Vranov 24.16 142 LR LR 13 11 27.0
comp=Z,1μm,18.1s,baz=340,slow=37
RES Resolute Bay 24.16 320 P **P 13 02 02.4 +4.4**
RES IAmb IAmb 13 02 11.1
comp=Z,18nm,0.7s
RES Resolute Bay 24.16 320 P **P 13 02 02.4 +4.4**
RES pmax pmax
comp=Z,18nm,0.7s
RES Resolute Bay 24.16 320 LR LR 13 10 59.0
comp=Z,3μm,19.3s,baz=48,slow=36
CKRC Cesky Krumlov 24.18 145 *e*P **P 13 01 59.5 +1.0**
CKRC *e*S **S 13 06 24.1 +7.8**
CKRC AMS AMS 13 16 50.0
comp=Z,2μm,10.6s
CKRC Cesky Krumlov 24.18 145 *e*P **P 13 01 59.5 +1.0**
CKRC MLR MLR
comp=Z,2μm,10.6s
OBN Obninsk 24.28 108 ⇑P **P 13 01 58.5 -0.8**
OBN Obninsk 24.28 108 P **P 13 01 58.5 -0.8**
OBN Obninsk 24.28 108 *de*P **P 13 01 58.3 -1.0**
OBN *e* 13 02 06.8
OBN *e* 13 02 30.5
OBN *i*S **S 13 06 18.2 +0.5**
OBN pmax pmax
comp=Z,86nm,0.9s
OBN MLR MLR
comp=Z,1μm,15.0s
OBN Obninsk 24.28 108 LR LR 13 10 16.7
comp=Z,799nm,19.6s,baz=328,slow=34
KRUC Moravsky 24.35 142 *e*P **P 13 02 00.1 +0.1**
MAUC Maruska 24.36 140 *e*P **P 13 02 02.1 +1.9**
UBR Ueberruh 24.57 153 *e*P **P 13 02 04.0 +1.9**
comp=Z,14nm,1.1s,baz=344,slow=11
NIE Niedzica 24.86 136 *e*P **P 13 02 06.0 +1.4**
RETA Reutte 24.86 152 *e*P **P 13 02 05.5 +0.7**
comp=Z,12nm,1.2s
LANS Liptovska Anna 24.92 137 *e*P **P 13 02 06.2 +1.0**
LANS Liptovska Anna 24.92 137 *e*P **P 13 02 06.2 +1.0**
LANS pmax pmax
comp=Z,6.0nm,0.8s
DAVA Damuels 24.92 153 *e*P **P 13 02 05.6 +0.2**
comp=Z,20nm,1.0s
RJOB Jochberg 24.95 149 *e*P **P 13 02 07.0 +1.4**
comp=Z,21nm,0.8s,baz=344,slow=11
MOTA Moosalm 25.05 151 *e*P **P 13 02 06.7 +0.1**
comp=Z,28nm,1.2s,SNR=6.7
STHS Stebnicka Huta 25.08 135 *e*P **P 13 02 06.2 -0.4**
STHS Stebnicka Huta 25.08 135 *e*P **P 13 02 06.2 -0.4**
MOA Molln 25.10 146 P **P 13 02 06.5 -0.3**
comp=Z,16nm,1.3s
WATA Walderalm 25.14 151 *e*P **P 13 02 08.1 +0.8**
comp=Z,30nm,1.1s,SNR=8.7
BIOA Bad Ischl, Aus 25.14 147 *e*P **P 13 02 07.7 +0.5**
comp=Z,9.7nm,0.7s
MODS Modra-Piesok 25.19 141 *e*P **P 13 02 08.8 +1.2**
MODS Modra-Piesok 25.19 141 *e*P **P 13 02 08.8 +1.2**
MODS pmax pmax
comp=Z,46nm,1.3s
SQTA Sankt Quirin 25.19 151 *e*P **P 13 02 08.4 +0.6**
comp=Z,25nm,1.2s,SNR=6.2
WTTA Wattenberg 25.21 151 *e*P **P 13 02 08.3 +0.3**
comp=Z,40nm,1.3s
KWP Kalwaria Pacla 25.23 132 *e*P P 13 02 21.8 +14
LESA Schwarzleotal 25.23 149 *e*P **P 13 02 08.2 +0.1**
comp=Z,20nm,1.3s
FETA Feichten 25.31 152 *e*P **P 13 02 09.5 +0.6**
comp=Z,23nm,2.0s
CONA Conrad Observa 25.33 144 *e*P **P 13 02 08.6 -0.4**
comp=Z,28nm,2.1s,SNR=7.2
LVV L'vov 25.38 130 *e*P **P 13 02 08.6 -0.7**
LVV *e*S **S 13 06 29.3 -6.2**
LVV MLR MLR
comp=Z,4μm,13.0s
VYHS Vyhne 25.40 139 *e*P **P 13 02 09.7 +0.2**
VYHS Vyhne 25.40 139 *e*P **P 13 02 09.7 +0.2**
DAVOX Davos/Dischmat 25.41 154 LR LR 13 12 35.2
comp=Z,1μm,20.2s,baz=326,slow=38
SENIN Lac Senin/Sane 25.48 158 P **P 13 02 09.8 -0.6**
FUORN Ofenpass-Fuorn 25.63 153 P **P 13 02 13.0 +1.1**
KIRV Kirov 25.63 90 *ce*P **P 13 02 11.2 -0.3**
KIRV Kirov 25.63 90 LR LR 13 11 43.4
comp=Z,1μm,20.3s,baz=325,slow=35
RONA Rosalia, Austr 25.63 143 *i*P **P 13 02 12.2 +0.5**
comp=Z,13nm,1.0s
TUE Stuetta 25.64 155 P **P 13 02 12.6 +0.6**
KBA Koelnbreinsper 25.68 148 *e*P **P 13 02 13.0 +0.7**
comp=Z,31nm,1.1s
KOLS Kolonicke sedl 25.77 134 *e*P **P 13 02 14.2 +1.3**
KOLS Kolonicke sedl 25.77 134 *e*P **P 13 02 14.2 +1.3**
KOLS pmax pmax
comp=Z,13nm,1.0s
KECS Kecovo 25.78 136 *e*P **P 13 02 13.7 +0.8**
KECS Kecovo 25.78 136 *e*P **P 13 02 13.7 +0.8**
KECS pmax pmax
comp=Z,29nm,1.0s
ABTA Abfaltersbach 25.86 150 *e*P **P 13 02 14.8 +0.9**
comp=Z,5.1nm,1.2s
ARSA Arzberg 25.91 145 *e*P **P 13 02 14.8 +0.6**
comp=Z,14nm,1.5s
SRO Srobarova 25.93 140 *e*P **P 13 02 17.6 +3.2**
SRO Srobarova 25.93 140 *e*P **P 13 02 17.6 +3.2**
AKASG Malin Array Be 25.95 122 P **P 13 02 12.6 -1.9**
AKASG Malin Array Be 25.95 122 P **P 13 02 13.8 -0.7**
comp=Z,14nm,0.7s,baz=330,slow=9.6,SNR=36
AKASG LR LR 13 12 00.4
comp=Z,2μm,18.4s,baz=334,slow=35
comp=Z,14nm,0.7s
AKBB Malin Array Si 25.95 122 P **P 13 02 13.6 -0.8**
AKBB IAmb IAmb 13 02 15.2
comp=Z,69nm,1.3s
AKBB Malin Array Si 25.95 122 *c i*P **P 13 02 13.8 -0.7**
MYKA Terra Mystica 26.17 148 *e*P **P 13 02 17.3 +0.7**
comp=Z,13nm,1.2s
PSZ Piszkesteto 26.18 138 P **P 13 02 16.5 -0.1**
PSZ IAmb IAmb 13 02 20.6
comp=Z,57nm,1.6s
PSZ Piszkesteto 26.18 138 P **P 13 02 16.5 -0.1**
PSZ pmax pmax
comp=Z,57nm,1.6s
CLUD Cludinico 26.20 149 P **P 13 02 17.2 +0.3**
CLUD IAmb IAmb 13 02 30.1
comp=Z,28nm,1.0s
CIMO Cimolais 26.27 150 P **P 13 02 17.2 -0.3**
CIMO IAmb IAmb 13 02 33.7
comp=Z,11nm,0.9s
STAL STALIGIAL 26.37 149 P **P 13 02 18.5 +0.1**
STAL IAmb IAmb 13 02 54.1
comp=Z,67nm,1.8s
SOKA Soboth 26.37 146 P **P 13 02 19.0 +0.5**
comp=Z,22nm,1.4s,SNR=11
CTI Castel Tesino 26.40 151 P **P 13 02 19.4 +0.7**
CTI IAmb IAmb 13 02 33.6
comp=Z,32nm,0.9s
CTI Castel Tesino 26.40 151 P **P 13 02 19.4 +0.7**
CTI pmax pmax
comp=Z,32nm,0.9s
OBKA Obir 26.45 147 *e*P **P 13 02 18.9 -0.2**
comp=Z,11nm,0.9s
MOZS Mozjanca 26.63 147 *e*P **P 13 02 21.6 +0.9**
SABO M.te Sabotino 26.79 148 P **P 13 02 21.8 -0.3**
SABO IAmb IAmb 13 02 54.0
comp=Z,25nm,1.3s
PDKS Podkum 26.96 146 *i*P **P 13 02 24.1 +0.4**
TEOL Teolo 27.07 152 P **P 13 02 24.6 -0.1**
TEOL IAmb IAmb 13 02 39.7
comp=Z,35nm,0.9s
LPSR Galich'ya Gora 27.16 109 *e*P **P 13 02 24.3 -1.0**
LPSR pmax pmax
comp=Z,150nm,1.5s
LPSR MLR MLR
comp=Z,1μm,14.0s
BOJS Bojanci 27.54 146 *i*P **P 13 02 29.1 +0.2**
BUR08 Bucovina Ar. S 27.69 131 P **P 13 02 30.6 +0.3**

BURAR Bucovina Array 27.72 131 ⇑P **P 13 02 31.4 +0.9**
BURAR Bucovina Array 27.72 131 P **P 13 02 31.1 +0.6**
BURAR Bucovina Array 27.72 131 P **P 13 02 31.4 +0.9**
VORR Voronezh 28.05 109 *e*P **P 13 02 33.8 +0.5**
VORR pmax pmax
comp=Z,95nm,1.3s
SORM Soroca 28.05 126 ⇑P **P 13 02 33.2 -0.2**
SORM Soroca 28.05 126 P **P 13 02 33.1 -0.2**
MARR Marisel-Cluj 28.09 134 ⇑P **P 13 02 35.3 +1.4**
VSR Storozhevoye 28.43 110 *e*P **P 13 02 36.0 -0.7**
VSR pmax pmax
comp=Z,120nm,1.1s
VSR MLR MLR
comp=Z,2μm,12.0s
SURR Surduc 28.72 136 ⇑P **P 13 02 40.3 +0.9**
BZS Buzias 28.74 137 ⇓P **P 13 02 40.4 +0.8**
BZS Buzias 28.74 137 P **P 13 02 40.3 +0.8**
PGAV Gavieira, Arco 29.03 183 *e*P **P 13 02 44.4 +2.1**
comp=Z,125nm,1.7s
PGAV *e*LR LR 13 10 54.2
comp=Z,3μm,20.0s
TESR Tescani 29.11 130 ⇑P **P 13 02 42.7 -0.1**
GZR Gura Zlata 29.21 136 ⇑P **P 13 02 44.7 +0.9**
GZR Gura Zlata 29.21 136 P **P 13 02 44.7 +0.9**
KIS Kishinev 29.22 126 *e*P **P 13 02 44.0 +0.2**
KIS Kishinev 29.22 126 *e*P **P 13 02 44.0 +0.2**
KIS *e*S **S 13 07 34.0 -2.0**
KIS MLR MLR
comp=Z,900nm,18.0s
VRH Novokhopyorsk 29.24 107 *e*P **P 13 02 43.8 -0.1**
VRH pmax pmax
comp=Z,71nm,1.2s
MURB Monte Urbino 29.25 151 P **P 13 02 44.9 +0.7**
MURB IAmb IAmb 13 03 33.3
comp=Z,44nm,1.4s
DOPR Dopca 29.30 132 ⇓P **P 13 02 44.6 +0.1**
LOT Lotru 29.39 134 ⇑P **P 13 02 46.3 +0.8**
MDVR Moldovita 29.55 137 ⇓P **P 13 02 48.7 +1.9**
FDMO Fiordimonte 29.57 151 P **P 13 02 47.5 +0.6**
COVR Voineasa-Covas 29.61 131 ⇑P **P 13 02 48.4 +1.1**
ARR Arges 29.68 133 ⇓P **P 13 02 48.8 +0.9**
VOIR 29.71 132 ⇑P **P 13 02 49.2 +0.9**
VOIR 29.71 132 P **P 13 02 49.1 +0.9**
PLOR Plostina 29.72 130 ⇑P **P 13 02 49.3 +1.0**
PLOR Plostina 29.72 130 P **P 13 02 49.3 +1.0**
VRI Vrincioaia 29.73 130 ⇑P **P 13 02 49.0 +0.6**
VRI Vrincioaia 29.73 130 P **P 13 02 48.9 +0.6**
NRCA Norcia 29.77 151 P **P 13 02 49.1 +0.3**
MVO Moncorvo 29.82 181 *e*P P 13 02 54.7 +5.5
comp=Z,82nm,1.9s
MVO *e*LQ LQ 13 11 29.5
MVO *e*LR LR 13 12 23.6
comp=Z,2μm,22.0s
DIVS Divibare 29.83 140 P **P 13 02 49.8 +0.5**
DJES Djerdap 29.84 136 ⇑P **P 13 02 51.0 +1.6**
DJES Djerdap 29.84 136 P **P 13 02 50.1 +0.8**
MLR Muntele Rosu 29.88 131 ⇑P **P 13 02 50.9 +1.1**
MLR Muntele Rosu 29.88 131 P **P 13 02 50.7 +0.9**
MLR Muntele Rosu 29.88 131 P **P 13 02 50.9 +1.1**
MLR Muntele Rosu 29.88 131 LR LR 13 15 19.9
comp=Z,8μm,20.1s,baz=342,slow=37
NEHR Nehoiu 30.03 131 ⇑P **P 13 02 51.6 +0.6**
CAMP Campotosto 30.11 150 P **P 13 02 51.6 -0.2**
CAMP IAmb IAmb 13 03 07.1
comp=Z,17nm,1.0s
BELG Belogornoye 30.11 99 *de*P **P 13 02 50.7 -0.9**
BELG pmax pmax
comp=Z,7.0nm,1.1s
SCHQ Schefferville 30.26 270 P **P 13 02 50.8 -2.2**
comp=Z,6.3nm,0.8s,baz=78,slow=12,SNR=2.6
SCHQ LR LR 13 13 41.0
comp=Z,3μm,20.8s,baz=38,slow=34
comp=Z,6.3nm,0.8s
ARU Arti 30.35 84 P **P 13 02 54.1 +0.4**
ARU Arti 30.35 84 *d i*P **P 13 02 54.1 +0.4**
ARU 13 03 49.0
ARU S **S 13 07 57.9 +4.2**
ARU SS **ScP 13 09 35.5 +0.2**
ARU pmax pmax
comp=Z,60nm,1.2s
ARU MLR MLR
comp=Z,2μm,18.0s
ARU Arti 30.35 84 LR LR 13 14 53.0
comp=Z,2μm,18.3s,baz=319,slow=36
MTE Manteigas 30.58 182 *e*LQ LQ 13 09 54.1
MTE *e*LR LR 13 11 16.9
comp=Z,3μm,20.0s
BOVS Bovan 30.64 138 ⇓P **P 13 02 57.1 +0.7**
INTR Introdacqua 30.70 150 P **P 13 02 56.4 -0.6**
SVE Sverdlovsk 30.71 82 *e*P **P 13 02 57.9 +1.1**
SVE pmax pmax
comp=Z,56nm,1.4s
SVE MLR MLR
comp=Z,1μm,19.0s
CFR Carcaliu 30.73 129 ⇑P **P 13 02 57.2 0.0**
CFR Carcaliu 30.73 129 P **P 13 02 57.1 0.0**
TPGR Topolog 31.10 128 ⇑P **P 13 03 00.6 +0.1**
HARR Harsova 31.13 129 ⇑P **P 13 03 00.5 -0.2**
HARR Harsova 31.13 129 P **P 13 03 00.4 -0.2**
PCBR Castelo Branco 31.14 182 *e*P P 13 03 08.6 +7.8
SGRT San Giovanni R 31.26 147 P **P 13 03 01.4 -0.6**
SGRT IAmb IAmb 13 03 02.8
comp=Z,28nm,1.4s
JURR Jurilovca 31.30 128 P **P 13 03 02.3 +0.1**
ESDC Sonseca Array 31.32 177 P **P 13 03 01.7 -0.8**
comp=Z,0.9nm,0.5s,baz=359,slow=8.7,SNR=11
ESDC LR LR 13 15 55.0
comp=Z,531nm,18.8s,baz=358,slow=37
comp=Z,0.9nm,0.5s
TIRR Tirgusor 31.47 129 ⇑P **P 13 03 03.7 0.0**
TIRR Tirgusor 31.47 129 P **P 13 03 03.7 0.0**
TIRR Tirgusor 31.47 129 P **P 13 03 03.7 0.0**
TIRR pmax pmax
comp=Z,122nm,1.4s
PMRV Marv??o 31.55 182 *e*P **P 13 03 05.0 +0.5**
comp=Z,44nm,1.7s
PMRV *e*LR LR 13 12 27.4
comp=Z,3μm,22.0s
PAOL Paolisi 31.76 149 P **P 13 03 05.4 -1.0**
PAOL IAmb IAmb 13 03 21.8
comp=Z,20nm,1.3s
PMTG Montargil 31.92 183 *e*P **P 13 03 10.8 +3.1**
VTS Vitosha 31.95 137 ⇑P **P 13 03 08.8 +0.6**
VTS Vitosha 31.95 137 P **P 13 03 08.7 +0.6**
A36M Sachs Harbour 32.02 329 P **P 13 03 09.1 +0.8**
baz=33
PESTR Estremoz 32.11 182 *e*P **P 13 03 12.4 +3.0**
comp=Z,35nm,1.2s
PEHC Pehcevo 32.68 138 *i*P **P 13 03 14.2 -0.2**
OHR Ohrid 32.86 141 *i*P **P 13 03 16.7 +0.7**
PBEJ Beja 32.96 182 *e*P P 13 03 24.0 +7.2
comp=Z,35nm,1.7s
CUC Castrocucco 32.99 148 P **P 13 03 17.0 -0.1**
VAY Valandovo 33.04 138 *i*P **P 13 03 17.3 -0.1**
KNT Kendrikon 33.27 138 P **P 13 03 19.3 -0.2**
FNA Florina 33.30 140 P **P 13 03 19.5 -0.2**
FNA Florina 33.30 140 P **P 13 03 19.6 -0.2**
FNA IAmb IAmb 13 03 22.8
comp=Z,15nm,1.0s
FNA Florina 33.30 140 P **P 13 03 19.6 -0.2**
FNA pmax pmax
comp=Z,15nm,1.0s
NVR Nevrokopi 33.30 137 P **P 13 03 21.0 +1.2**
KBN Korca 33.33 141 P **P 13 03 20.4 +0.3**
KBN IAmb IAmb 13 03 23.2
comp=Z,19nm,0.9s
KBN Korca 33.33 141 P **P 13 03 20.4 +0.3**
KBN pmax pmax
comp=Z,19nm,0.9s
GRG Griva 33.35 139 P **P 13 03 20.4 +0.2**
PCVE Castro Verde 33.35 183 *e*P **P 13 03 20.0 -0.2**
comp=Z,58nm,1.9s
SRS Serrai 33.46 137 P **P 13 03 21.1 -0.1**
PVAQ Vaqueiros 33.58 182 *e*LQ LQ 13 11 34.2
PVAQ *e*LR LR 13 12 34.4
comp=Z,2μm,20.0s
NEST Nestorio 33.58 141 P **P 13 03 21.5 -0.8**
ANN Anapa 33.64 117 *e*P **P 13 03 22.4 -0.2**
ANN *e**PP **sP 13 03 25.9 0.0**
ANN *e* 13 04 31.2
ANN *e*S **S 13 08 45.0 -0.1**
ANN *e*SS **SnSn 13 10 44.4 -3.6**
ANN pmax pmax
comp=Z,88nm,1.2s

ANN MLR MLR
comp=E,1μm,12.0s
ANN MLR MLR
comp=N,1μm,13.0s
ANN MLR MLR
comp=Z,2μm,14.0s
SOH Sokhos 33.69 137 P **P 13 03 22.1 -1.1**
KAVA Kavala 33.79 136 P **P 13 03 23.8 -0.2**
HORT Hortiatis 33.85 138 P **P 13 03 25.2 +0.6**
RDO Rodhopi 33.88 134 P **P 13 03 24.9 +0.1**
RDO Rodhopi 33.88 134 P **P 13 03 24.6 -0.2**
THAS Thassos island 34.20 136 P **P 13 03 27.6 0.0**
ALN Alexandroupoli 34.24 134 P **P 13 03 28.1 +0.2**
ALN Alexandroupoli 34.24 134 P **P 13 03 27.9 0.0**
ALN IAmb IAmb 13 03 29.5
comp=Z,17nm,1.2s
ALN Alexandroupoli 34.24 134 P **P 13 03 27.9 0.0**
ALN pmax pmax
comp=Z,17nm,1.2s
IGT Igoumenitsa 34.29 142 P **P 13 03 28.1 -0.2**
OUR Ouranopolis 34.30 137 P **P 13 03 26.7 -1.7**
TIXI Tiksi 34.73 23 P **P 13 03 33.7 +1.8**
TIXI IAmb IAmb 13 03 35.0
comp=Z,37nm,1.1s
TIXI Tiksi 34.73 23 P **P 13 03 34.2 +2.3**
GOF Gofitskoye 35.09 111 *ce*P **P 13 03 36.2 +1.0**
NYDR Nydri-Lefkada 35.15 142 P **P 13 03 35.9 +0.1**
MAKR Makrakomi, Fth 35.16 140 P **P 13 03 36.1 +0.2**
EVR Evrytania 35.18 140 P **P 13 03 36.6 +0.4**
AKTO Aktyubinsk 35.18 91 LR LR 13 17 26.6
comp=Z,1μm,18.0s,baz=294,slow=35
AGG Agios Georgios 35.19 140 P **P 13 03 35.5 -0.7**
AGG Agios Georgios 35.19 140 P **P 13 03 35.5 -0.7**
AGG pmax pmax
comp=Z,15nm,1.2s
VAE Valguarnera 35.20 151 LR LR 13 19 24.5
comp=Z,766nm,18.4s,baz=12,slow=39
EVGI Lefkada island 35.23 142 P **P 13 03 36.7 +0.2**
SOC Sochi 35.42 116 *e*P P 13 03 24.2 -14
SOC MLR MLR
comp=Z,2μm,19.0s
VLS Valsamata 35.65 142 P **P 13 03 38.8 -1.3**
DIKM Dikmen 35.92 122 ⇑P **P 13 03 42.1 -0.3**
KIV Kislovodsk 35.98 112 ⇑P **P 13 03 42.5 -0.5**
KIV Kislovodsk 35.98 112 P **P 13 03 44.0 +1.0**
KIV Kislovodsk 35.98 112 P **P 13 03 43.8 +0.9**
KIV Kislovodsk 35.98 112 *e*P **P 13 03 43.7 +0.7**
KIV *e*S **S 13 09 22.4 +1.1**
KIV pmax pmax
comp=Z,63nm,1.1s
KIV pmax pmax
comp=Z,16nm,4.4s
KIV MLR MLR
comp=Z,603nm,16.0s
KVAR Kislovodsk Arr 35.98 112 LR LR 13 19 13.8
comp=Z,852nm,19.4s,baz=222,slow=38
KEST Kesra 36.20 158 P **P 13 03 44.2 -0.8**
comp=Z,6.0nm,0.8s,baz=11,slow=4.5,SNR=5.3
KEST LR LR 13 18 07.3
comp=Z,2μm,21.9s,baz=329,slow=36
comp=Z,6.0nm,0.8s
KBZ Khabaz 36.25 112 *ce*P **P 13 03 47.1 +2.0**
KBZ pmax pmax
comp=Z,40nm,1.1s
KBZ Khabaz 36.25 112 P **P 13 03 45.4 +0.3**
comp=Z,24nm,0.9s,baz=320,slow=6.5,SNR=37
KBZ LR LR 13 17 41.0
comp=Z,1μm,19.5s,baz=326,slow=35
comp=Z,24nm,0.9s
INK Inuvik 36.63 330 P **P 13 03 48.1 0.0**
INK IAmb IAmb 13 04 08.9
comp=Z,23nm,1.4s
INK Inuvik 36.63 330 P **P 13 03 48.6 +0.5**
baz=26
INK Inuvik 36.63 330 P **P 13 03 48.1 0.0**
INK pmax pmax
comp=Z,23nm,1.4s
INK Inuvik 36.63 330 LR LR 13 19 33.5
comp=Z,2μm,21.1s,baz=9.5,slow=38
NCK Nalchik 36.67 111 ⇑*e*P **P 13 03 50.4 +1.6**
NCK pmax pmax
comp=Z,93nm,1.1s
C26K Camden Bay 36.79 338 P **P 13 03 49.5 0.0**
baz=21
ABKAR Akbulak array 36.83 90 P **P 13 03 50.3 +0.1**
ABKAR IAmb IAmb 13 03 51.6
comp=Z,38nm,1.1s
D27M Malcolm River 36.90 335 P **P 13 03 50.5 0.0**
baz=23
BRVK Borovoye 36.95 78 P **P 13 03 52.0 +0.9**
BRVK IAmb IAmb 13 03 53.4
comp=Z,27nm,1.1s
BRVK Borovoye 36.95 78 P **P 13 03 51.8 +0.7**
BRVK Borovoye 36.95 78 P **P 13 03 52.0 +0.9**
BRVK pmax pmax
comp=Z,27nm,1.2s
BVAR Borovoye Array 37.02 77 P **P 13 03 52.6 +1.0**
comp=Z,18nm,0.8s,baz=324,slow=7.3,SNR=65
BVAR LR LR 13 19 26.1
comp=Z,646nm,20.4s,baz=319,slow=37
comp=Z,18nm,0.8s
E29M Blow River 37.24 333 P **P 13 03 54.0 +0.6**
baz=24,SNR=7.1
BR131 Keskin Array S 37.27 125 P **P 13 03 55.1 +1.0**
SNR=8.8
BR131 Keskin Array S 37.27 125 *ce*P **P 13 03 55.1 +1.0**
BRTR Keskin Array B 37.27 125 P **P 13 03 54.6 +0.5**
BRTR Keskin Array B 37.27 125 P **P 13 03 55.0 +1.0**
comp=Z,5.0nm,0.8s,baz=327,slow=6.6,SNR=22
BRTR LR LR 13 20 35.7
comp=Z,2μm,18.5s,baz=337,slow=38
comp=Z,5.0nm,0.8s
E28M Babbage River 37.28 334 P **P 13 03 54.0 +0.2**
baz=23
B22K Teshekpuk Lake 37.35 342 P **P 13 03 54.6 +0.4**
baz=17
ZEI Tsey 37.41 111 *e*P **P 13 03 55.4 +0.1**
ZEI pmax pmax
comp=Z,23nm,1.4s
C24K Franklin Bluff 37.43 340 P **P 13 03 55.1 +0.2**
baz=19
F31M Tsiigehtchic 37.45 330 P **P 13 03 55.0 -0.1**
F31M Tsiigehtchic 37.45 330 P **P 13 03 55.3 +0.2**
baz=25
D25K Kavik River 37.53 338 P **P 13 03 55.8 -0.1**
baz=20
C23K Itkillik River 37.53 341 P **P 13 03 55.8 -0.1**
baz=18
GROC Groznyy 37.62 109 *e*P **P 13 03 58.2 +1.4**
GROC *e*S **S 13 09 48.9 +2.8**
GROC pmax pmax
comp=Z,170nm,1.1s
F30M Barrier River 37.62 331 P **P 13 03 57.0 +0.4**
baz=24
E27K Coleen River 37.97 335 P **P 13 03 59.2 -0.4**
E27K Coleen River 37.97 335 P **P 13 03 59.4 -0.2**
baz=22
YKA Yellowknife Ar 37.98 314 *i*P **P 13 04 01.7 +2.1**
YKA pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 37.98 314 P **P 13 03 59.5 -0.1**
comp=Z,3.6nm,0.8s,baz=28,slow=8.7,SNR=5.3
YKA LR LR 13 19 09.9
comp=Z,2μm,18.0s,baz=24,slow=36
comp=Z,3.6nm,0.8s
G31M Satah River 38.01 330 P **P 13 03 59.8 0.0**
baz=25,SNR=6.7
B21K Ikpikpuk River 38.16 343 P **P 13 04 00.8 -0.3**
baz=16
MDT Midelt 38.16 178 LR LR 13 20 25.1
comp=Z,553nm,18.7s,baz=4.0,slow=37
F28M Old Crow 38.25 333 P **P 13 04 01.9 0.0**
F28M Old Crow 38.25 333 P **P 13 04 01.5 -0.4**
baz=22,SNR=11
G30M tAoh Zraii Nji 38.27 331 P **P 13 04 03.6 +1.4**
G30M tAoh Zraii Nji 38.27 331 P **P 13 04 02.6 +0.4**
baz=24
MAK Makhachkala 38.37 107 *e*P **P 13 03 58.5 -4.6**
MAK *e* 13 05 28.0
MAK *e*S **S 13 09 50.1 -7.4**
MAK *e*SS **SnSn 13 12 39.5 -2.9**
MAK pmax pmax
comp=Z,80nm,0.7s
MAK MLR MLR
comp=Z,859nm,11.0s
D23K Nanushuk River 38.37 340 P **P 13 04 02.9 0.0**

	baz=18				
TOLK	Toolik Lake Re	38.56 339	P	P	13 04 04.5 -0.1
	baz=18				
E25K	Arctic Village	38.56 337	P	P	13 04 05.3 +0.7
	baz=20				
G29M	Pine Creek	38.62 332	P	P	13 04 05.0 0.0
G29M			IAmb	IAmb	13 04 06.2
	comp=Z,23nm,0.9s				
G29M	Pine Creek	38.62 332	P	P	13 04 05.0 0.0
	baz=23,SNR=11				
C21K	Knifeblade Rid	38.62 343	P	P	13 04 04.8 -0.2
	baz=16				
D22K	Ayikyak River	38.67 341	P	P	13 04 05.8 +0.3
	baz=17				
BNN	Bunyan	38.69 123	P	P	13 04 07.7 +1.7
F26K	Sheenjek River	38.78 336	P	P	13 04 06.3 -0.1
	baz=20				
EPYK	Eagle Plains	38.91 331	P	P	13 04 08.0 +0.4
EPYK			IAmb	IAmb	13 04 33.9
	comp=Z,40nm,1.6s				
EPYK	Eagle Plains	38.91 331	P	P	13 04 07.7 +0.2
	baz=23				
E24K	Your Creek	38.97 339	P	P	13 04 09.7 +1.7
E24K	Your Creek	38.97 339	P	P	13 04 08.3 +0.3
	baz=19				
IMMV	Iera Moni Meta	38.97 139	P	P	13 04 07.9 -0.4
H31M	Peel River	39.04 329	P	P	13 04 09.7 +1.1
H31M	Peel River	39.04 329	P	P	13 04 08.4 -0.2
	baz=24				
F25K	Christian Rive	39.07 337	P	P	13 04 08.7 -0.1
	baz=20				
BMAR	Burnt Mountain	39.08 336	P	P	13 04 10.2 +1.3
E23K	Chandalar	39.12 339	P	P	13 04 09.6 +0.3
	baz=18				
D20K	Etivluk River	39.23 343	P	P	13 04 10.2 +0.1
	baz=15				
E21K	Killik River	39.23 342	P	P	13 04 10.3 +0.1
	baz=16				
G27K	Doyon Strip	39.26 334	P	P	13 04 11.7 +1.3
G27K	Doyon Strip	39.26 334	P	P	13 04 10.8 +0.3
	baz=21,SNR=6.2				
PKME	Peaks-Kenny Pk	39.29 264	P	P	13 04 12.3 +1.5
	baz=28				
E22K	Anaktuvuk Pass	39.30 340	P	P	13 04 12.4 +1.6
E22K	Anaktuvuk Pass	39.30 340	P	P	13 04 11.1 +0.3
	baz=17				
WRGLY	Wrigley	39.30 321	P	P	13 04 11.5 +0.8
	baz=27				
H29M	Whitestone	39.31 332	P	P	13 04 10.6 -0.3
	baz=23,SNR=5.8				
IDI	Anoyia	39.33 138	LR	LR	13 22 19.9
	comp=Z,933nm,19.2s,baz=331,slow=39				
F24K	Squaw Lake	39.43 338	P	P	13 04 12.7 +0.9
	baz=19				
G26K	Porcupine Rive	39.43 335	P	P	13 04 12.7 +0.9
	baz=20,SNR=8.7				
E20K	Nigu River	39.63 343	P	P	13 04 13.2 -0.3
	baz=15				
C18K	Utukok River	39.69 346	P	P	13 04 14.1 +0.1
	baz=12				
H27K	Steamboat Moun	39.78 334	P	P	13 04 15.3 +0.5
	baz=21,SNR=7.3				
G25K	Bearman Lake	39.91 336	P	P	13 04 16.4 +0.6
	baz=19				
I30M	Mount Dempster	39.92 330	P	P	13 04 15.3 -0.7
I30M	Mount Dempster	39.92 330	P	P	13 04 15.9 -0.1
	baz=23,SNR=13				
F22K	John River	39.94 340	P	P	13 04 16.1 0.0
	baz=17				
COLD	Coldfoot	39.98 339	P	P	13 04 16.5 +0.1
	baz=17				
C17K	DeLong Mountai	40.01 347	P	P	13 04 16.4 -0.3
	baz=11				
GNI	Garni	40.07 112	P	P	13 04 18.4 +0.8
GNI	Garni	40.07 112	P	P	13 04 19.3 +1.7
GNI	Garni	40.07 112*d i*	P	P	13 04 19.1 +1.5
GNI			pmax	pmax	
	comp=Z,54nm,1.4s				
GNI	Garni	40.07 112	LR	LR	13 21 18.5
	comp=Z,886nm,19.5s,baz=335,slow=37				
I29M	Ogilvie Camp,	40.10 331	P	P	13 04 17.0 -0.5
I29M	Ogilvie Camp,	40.10 331	P	P	13 04 17.6 +0.1
	baz=22,SNR=6.8				
G24K	Hadweenzic Riv	40.15 337	P	P	13 04 19.1 +1.3
G24K			IAmb	IAmb	13 04 28.4
	comp=Z,48nm,1.6s				
G24K	Hadweenzic Riv	40.15 337	P	P	13 04 17.8 0.0
	baz=18				
I28M	Miner Creek	40.27 332	P	P	13 04 18.9 -0.1
	baz=22				
H25L	Birch Creek	40.35 336	P	P	13 04 19.4 0.0
	baz=19				
F21K	Alatna River	40.36 341	P	P	13 04 19.9 +0.3
	baz=16				
BRZS	Berezniki	40.37 78⇓*i*	P	P	13 04 20.3 +0.5
	baz=78				
BRZS	Berezniki	40.37 78*d i*	P	P	13 04 20.3 +0.5
I27K	Kandik River	40.38 333	P	P	13 04 19.7 -0.1
	baz=21,SNR=16				
G22K	Bettles	40.43 340	P	P	13 04 20.0 0.0
	baz=17				
G23K	Bananza Creek	40.46 339	P	P	13 04 19.9 -0.5
	baz=17				
E19K	Redstone River	40.51 343	P	P	13 04 20.7 0.0
	baz=14				
J30M	Hart River	40.51 329	P	P	13 04 20.8 -0.1
	baz=23,SNR=12				
ZAA0	Zalesovo Array	40.71 65	P	P	13 04 22.7 +0.2
ZALV	Zalesovo Beam	40.71 65	P	P	13 04 22.6 0.0
ZALV	Zalesovo Beam	40.71 65 *i*	P	P	13 04 23.3 +0.8
ZALV			pmax	pmax	
	comp=Z,7.0nm,1.0s				
ZALV	Zalesovo Beam	40.71 65	P	P	13 04 23.1 +0.6
	comp=Z,7.0nm,1.0s,baz=331,slow=9.0,SNR=20				
ZALV			PP	PP	13 05 57.8 +1.8
	comp=Z,8.3nm,1.1s,baz=318,slow=11,SNR=7.1				
ZALV			LR	LR	13 24 04.8
	comp=Z,544nm,21.1s,baz=324,slow=40				
	comp=Z,7.0nm,1.0s				
F20K	Avaraart Lake	40.76 342	P	P	13 04 23.2 +0.5
	baz=15				
D17K	Noatak River	40.77 347	P	P	13 04 22.5 -0.4
	baz=11				
E18K	Tukpahlearik C	40.84 345	P	P	13 04 22.7 -0.8
	baz=12				
I26K	Coal Creek Min	40.89 334	P	P	13 04 25.1 +1.2
I26K			IAmb	IAmb	13 04 34.9
	comp=Z,42nm,1.2s				
I26K	Coal Creek Min	40.89 334	P	P	13 04 24.3 +0.5
	baz=20,SNR=12				
J29N	Klondike Camp	40.93 331	P	P	13 04 24.5 +0.2
	baz=22				
PRP	Porcupine Dome	41.02 336	P	P	13 04 26.8 +1.7
PRP			IAmb	IAmb	13 04 36.4
	comp=Z,32nm,1.0s				
PRP	Porcupine Dome	41.02 336	P	P	13 04 25.2 0.0
	baz=19,SNR=13				
H24K	Noodor Dome	41.03 337	P	P	13 04 25.7 +0.6
	baz=18				
G21K	Allakaket	41.04 341	P	P	13 04 25.0 -0.1
	baz=16				
LBNH	Lisbon	41.06 266	P	P	13 04 26.6 +1.0
	baz=27				
F19K	Shaleruckik Mo	41.17 343	P	P	13 04 26.4 +0.2
	baz=14				
H23K	Yukon River	41.25 338	P	P	13 04 27.5 +0.6
	baz=17				
E17K	Hotham Inlet	41.28 346	P	P	13 04 27.5 +0.4
	baz=12				
MAYO	Mayo, Yukon	41.34 329	P	P	13 04 28.9 +1.3
	baz=22				
K29M	Barlow Dome	41.38 330	P	P	13 04 28.9 +0.7
K29M			IAmb	IAmb	13 04 38.0
	comp=Z,26nm,1.2s				
K29M	Barlow Dome	41.38 330	P	P	13 04 28.7 +0.6
	baz=22,SNR=11				
FFC	Flin Flon	41.40 299	P	P	13 04 30.6 +2.4
FFC			IAmb	IAmb	13 04 34.2
	comp=Z,78nm,1.5s				
FFC	Flin Flon	41.40 299	P	P	13 04 30.6 +2.4
FFC			pmax	pmax	
	comp=Z,78nm,1.5s				
H22K	Ishtalitna Cre	41.40 339	P	P	13 04 28.7 +0.6
	baz=16				
DAWY	Dawson	41.48 331	P	P	13 04 29.6 +0.8
	baz=21				
IMAR	Indian Mountai	41.58 341	P	P	13 04 30.2 +0.6

LONY	Lake Ozonia	41.60 268	P	P	13 04 31.4 +1.4
	baz=28				
KURK	Kurchatov	41.62 72	P	P	13 04 30.6 +0.5
KURK	Kurchatov	41.62 72	P	P	13 04 30.6 +0.5
KURK	Kurchatov	41.62 72	P	P	13 04 30.9 +0.9
POKR	Poker Plat Res	41.66 336	P	P	13 04 30.5 +0.3
	baz=18				
KURBB	Kurchatov Arra	41.67 73	P	P	13 04 30.9 +0.4
	comp=Z,11nm,1.1s,baz=328,slow=7.5,SNR=30				
KURBB			PP	PP	13 06 07.2 +0.8
	comp=Z,5.7nm,0.9s,baz=330,slow=10,SNR=7.9				
KURBB			LR	LR	13 25 30.5
	comp=Z,995nm,18.6s,baz=345,slow=41				
	comp=Z,11nm,1.1s				
CSS	Mathiatis	41.67 128	P	P	13 04 31.5 +0.9
J26L	Joseph Creek	41.71 334	P	P	13 04 31.3 +0.6
J26L	Joseph Creek	41.71 334	P	P	13 04 31.3 +0.6
	baz=20,SNR=8.2				
G19K	Purcell Mounta	41.77 343	P	P	13 04 31.8 +0.6
	baz=14				
H21K	Melozitna Rive	41.79 340	P	P	13 04 32.0 +0.7
	baz=16				
TGTN	Hyland Airport	41.82 322	P	P	13 04 32.0 +0.3
	baz=25				
J25K	Salcha River,	41.86 335	P	P	13 04 33.1 +1.1
J25K	Salcha River,	41.86 335	P	P	13 04 32.4 +0.4
	baz=19,SNR=8.1				
IL31		41.91 336	P	P	13 04 33.6 +1.4
IL31			IAmb	IAmb	13 04 42.5
	comp=Z,26nm,1.1s				
ILAR	Eielson Array	41.91 336	P	P	13 04 33.2 +0.9
ILAR	Eielson Array	41.91 336	P	P	13 04 33.2 +0.9
ILAR	Eielson Array	41.91 336	P	P	13 04 32.0 -0.3
	comp=Z,5.4nm,0.9s,baz=12,slow=7.2,SNR=44				
ILAR			LR	LR	13 22 58.4
	comp=Z,1μm,21.0s,baz=20,slow=38				
	comp=Z,5.4nm,0.9s				
K27K	Chicken	41.93 333	P	P	13 04 33.1 +0.7
	baz=20				
COLA	College	41.94 337	P	P	13 04 33.2 +0.7
	baz=18				
FARO	Faro, Yukon	42.15 326	P	P	13 04 34.9 +0.6
	baz=23				
CCB	Clear Creek Bu	42.16 336	P	P	13 04 35.2 +0.9
CCB			IAmb	IAmb	13 04 44.8
	comp=Z,31nm,1.3s				
I21K	Tanana	42.16 339	P	P	13 04 34.3 0.0
	baz=16				
L29M	L29M	42.17 330	P	P	13 04 35.0 +0.5
	baz=21				
H20K	Anotleneega Mo	42.18 341	P	P	13 04 34.7 +0.2
	baz=15				
KOTAN	Kotaneelee Air	42.21 319	P	P	13 04 35.4 +0.6
	baz=26				
SCRK	Sand Creek	42.27 334	P	P	13 04 35.5 +0.2
	baz=19				
HDA	Harding Lake	42.27 336	P	P	13 04 35.6 +0.4
	baz=18,SNR=11				
M31M	Drury Creek, Y	42.37 327	P	P	13 04 36.8 +0.7
	baz=22				
NEA2	Nenana	42.37 337	P	P	13 04 37.7 +1.6
NEA2			IAmb	IAmb	13 04 46.6
	comp=Z,30nm,1.3s				
NEA2	Nenana	42.37 337	P	P	13 04 36.4 +0.4
	baz=17				
M30M	Minto, Yukon	42.44 329	P	P	13 04 37.6 +0.9
M30M			IAmb	IAmb	13 04 47.5
	comp=Z,34nm,1.3s				
M30M	Minto, Yukon	42.44 329	P	P	13 04 36.9 +0.2
	baz=22,SNR=6.8				
HRV	Adam Dziewonsk	42.49 264	P	P	13 04 37.8 +0.6
	baz=26				
RIDG	Independent Ri	42.61 334	P	P	13 04 37.7 -0.4
	baz=19				
K24K	Donnelly Dome	42.69 335	P	P	13 04 38.8 +0.1
	baz=18				
G17K	Kiwalik Mounta	42.73 345	P	P	13 04 38.6 -0.3
	baz=12				
BCAR	Beaver Creek A	42.80 332	P	P	13 04 40.7 +1.1
L27K	Beaver Creek,	42.81 332	P	P	13 04 40.7 +1.0
L27K	Beaver Creek,	42.81 332	P	P	13 04 39.8 +0.1
	baz=20,SNR=11				
I20K	Naaghedeneel	42.81 341	P	P	13 04 39.0 -0.6
	baz=15				
M29M	Somme Creek	42.85 330	P	P	13 04 40.4 +0.3
	baz=21				
F15K	North Star Dit	42.85 347	P	P	13 04 40.2 +0.3
	baz=10				
H18K	Honhosa River	42.86 343	P	P	13 04 40.2 +0.1
	baz=13				
L61B	Northampton	42.91 265	P	P	13 04 41.8 +1.1
	baz=26				
SADO	Sadowa	42.97 273	LR	LR	13 21 17.0
	comp=Z,2μm,20.1s,baz=13,slow=34				
L26K	Log Cabin Wild	43.07 333	P	P	13 04 42.2 +0.4
	baz=19				
BPAW	Bear Paw Mtn.	43.08 338	P	P	13 04 44.3 +2.4
BPAW	Bear Paw Mtn.	43.08 338	P	P	13 04 42.3 +0.4
	baz=16				
MCK	McKinley	43.18 337	P	P	13 04 43.2 +0.6
	baz=17				
E46A	Sault Ste Mari	43.24 279	P	P	13 04 46.2 +2.9
E46A	Sault Ste Mari	43.24 279	P	P	13 04 43.8 +0.5
	baz=28,SNR=12				
N31M	Braeburn, Yuko	43.28 327	P	P	13 04 43.6 +0.1
	baz=22				
J20K	Nowinta River	43.38 340	P	P	13 04 44.6 +0.4
	baz=15				
PAX	Paxson	43.44 334	P	P	13 04 44.6 -0.2
	baz=18,SNR=8.0				
CHUM	Lake Minchumin	43.45 339	P	P	13 04 45.1 +0.3
	baz=15				
M27K	Edge Creek, AK	43.48 332	P	P	13 04 45.5 +0.2
	baz=19				
ULM	Lac du Bonnet	43.49 291	P	P	13 04 48.1 +2.9
ULM			IAmb	IAmb	13 04 50.0
	comp=Z,35nm,1.4s				
ULM	Lac du Bonnet	43.49 291	P	P	13 04 48.2 +2.9
ULM			pmax	pmax	
	comp=Z,35nm,1.4s				
ULM	Lac du Bonnet	43.49 291	P	P	13 04 44.9 -0.4
	comp=Z,9.5nm,1.0s,baz=50,slow=5.3,SNR=3.6				
ULM			LR	LR	13 23 19.6
	comp=Z,1μm,18.8s,baz=25,slow=37				
	comp=Z,9.5nm,1.0s				
N30M	Aishikik Lake	43.54 328	P	P	13 04 46.0 +0.4
	baz=21				
DHY	Denali Highway	43.60 336	P	P	13 04 46.8 +0.6
DHY			IAmb	IAmb	13 04 56.8
	comp=Z,20nm,1.0s				
DHY	Denali Highway	43.60 336	P	P	13 04 46.6 +0.4
	baz=17				
M26K	Nabesna, AK	43.61 332	P	P	13 04 47.7 +1.5
M26K			IAmb	IAmb	13 04 57.4
	comp=Z,24nm,1.2s				
M26K	Nabesna, AK	43.61 332	P	P	13 04 46.9 +0.7
	baz=19				
TRF	Thorofare Moun	43.62 338	P	P	13 04 46.3 -0.1
	baz=16				
J19K	Poorman	43.72 341	P	P	13 04 46.9 -0.1
	baz=14				
YUK3	Moose Creek	43.80 331	P	P	13 04 48.0 0.0
	baz=20				
YAK	Yakutsk	43.84 28	P	P	13 04 47.3 -0.6
YAK			IAmb	IAmb	13 04 48.5
	comp=Z,38nm,1.2s				
YAK	Yakutsk	43.84 28	*e*P	P	13 04 48.1 +0.2
YAK			*e**PP	pwP	13 04 53.3 -0.1
YAK			*e*		13 06 36.1
YAK			*e*S	S	13 11 18.5 +0.2
YAK			*e*SS	SS	13 14 30.8 -2.8
YAK			*e*		13 14 46.2
YAK			*e*SSS	SSS	13 15 12.3
YAK			pmax	pmax	
	comp=Z,32nm,1.3s				
YAK			pmax	pmax	
	comp=N,13nm,1.5s				
YAK			pmax	pmax	
	comp=E,10.0nm,1.6s				
YAK			pmax	pmax	
	comp=Z,402nm,6.2s				
YAK			pmax	pmax	
	comp=N,287nm,5.6s				
YAK			pmax	pmax	
	comp=E,105nm,3.4s				
YAK			smax	smax	
	comp=E,247nm,3.5s				

YAK			smax	smax	
	comp=N,243nm,3.5s				
YAK			MLR	MLR	
	comp=Z,624nm,21.0s				
YAK			MLR	MLR	
	comp=N,548nm,18.0s				
YAK			MLR	MLR	
	comp=E,180nm,17.0s				
CAST	Castle Rocks	43.87 339	P	P	13 04 49.6 +1.4
CAST	Castle Rocks	43.87 339	P	P	13 04 48.5 +0.3
	baz=15				
WHY	Whitehorse	43.89 326	P	P	13 04 48.4 -0.1
	baz=22				
YUK4	Talbot Arm	43.91 329	P	P	13 04 48.3 -0.5
	baz=20				
P33M	Teslin, Yukon	43.92 325	P	P	13 04 48.4 -0.3
	baz=22				
HARP	HAARP	43.94 334	P	P	13 04 48.3 -0.5
	baz=18				
WAT1	Susitna Watana	44.00 336	P	P	13 04 49.2 -0.1
	baz=17				
O30N	Mendenhall	44.01 327	P	P	13 04 49.6 +0.3
	baz=21				
MMAI	Mount Meron Ar	44.06 127	P	P	13 04 50.2 +0.1
	comp=E,8.4nm,0.8s,baz=344,slow=12,SNR=14				
MMAI			LR	LR	13 25 16.6
	comp=E,786nm,21.1s,baz=327,slow=39				
	comp=E,8.4nm,0.8s				
E43A	Lone Tree Farm	44.11 281	P	P	13 04 53.5 +3.2
E43A	Lone Tree Farm	44.11 281	P	P	13 04 51.0 +0.8
	baz=28,SNR=8.3				
WAT6	Susitna Watana	44.12 336	P	P	13 04 50.6 +0.1
	baz=17				
YUK8	Steele Glacier	44.16 330	P	P	13 04 50.6 -0.2
	baz=20				
EYMN	Ely	44.16 286	P	P	13 04 51.3 +0.6
	baz=28				
K20K	Telida	44.17 340	P	P	13 04 50.3 -0.3
	baz=14				
HYT	Haines Junctio	44.20 328	P	P	13 04 50.6 -0.4
	baz=21				
BINY	Binghamton	44.22 268	P	P	13 04 52.4 +1.2
	baz=26				
R33M	Jennings River	44.32 323	P	P	13 04 52.2 +0.2
	baz=23				
J18K	Innoko River	44.35 342	P	P	13 04 51.9 -0.1
	baz=13				
M24K	Tolsona, Glenn	44.36 334	P	P	13 04 52.7 +0.5
	baz=18				
B35A	Bob, Littlefor	44.49 288	P	P	13 04 56.4 +3.1
B35A			IAmb	IAmb	13 04 58.4
	comp=Z,33nm,1.2s				
B35A	Bob, Littlefor	44.49 288	P	P	13 04 53.4 +0.1
	baz=28,SNR=5.6				
N25K	Chitina, Valde	44.61 333	P	P	13 04 54.6 +0.3
	baz=18				
CUT	Chulitna	44.63 337	P	P	13 04 53.6 -0.6
	baz=16				
GLMI	Grayling	44.71 278	P	P	13 04 57.7 +2.6
GLMI	Grayling	44.71 278	P	P	13 04 56.4 +1.3
	baz=27				
GLMI	Grayling	44.71 278	P	P	13 04 55.8 +0.7
	baz=27				
P30M	Million Dollar	44.77 327	P	P	13 04 55.6 +0.1
	baz=21				
SCM	Sheep Creek Mo	44.79 335	P	P	13 04 55.7 +0.1
	baz=17				
TTA	Tatalina	44.80 341	P	P	13 04 55.6 -0.1
	baz=14				
BOD	Bodaibo	44.85 41 *e*P		P	13 04 55.2 -0.9
BOD			pmax	pmax	
	comp=Z,31nm,1.8s				
M23K	Glacier View	44.88 335	P	P	13 04 56.4 +0.1
	baz=17				
J16K	Anvik River	44.91 344	P	P	13 04 56.5 +0.1
	baz=12				
KLU	Klutina	44.91 334	P	P	13 04 56.8 +0.1
	baz=17				
SML	Sawmill	44.95 336	P	P	13 04 57.4 +0.5
	baz=16				
Q32M	Nakina River	44.98 324	P	P	13 04 57.5 +0.1
	baz=22				
DLBC	Dease Lake	45.02 322	P	P	13 04 58.2 +0.8
	baz=23				
DLBC	Dease Lake	45.02 322	LR	LR	13 25 35.0
	comp=Z,1μm,18.1s,baz=16,slow=39				
F42A	Maple Grove Fa	45.02 282	P	P	13 05 00.4 +2.8
F42A			IAmb	IAmb	13 05 02.8
	comp=Z,21nm,0.8s				
COWI	Conover	45.04 283	P	P	13 05 00.8 +3.0
COWI			IAmb	IAmb	13 05 03.4
	comp=Z,34nm,1.2s				
SKAG	Skagway	45.09 326	P	P	13 04 58.5 +0.6
	baz=21				
BTLS	Baital	45.15 80⇓*i*	P	P	13 04 59.6 +1.0
	comp=Z,27nm,2.1s,baz=81				
BTLS	Baital	45.15 80*d i*	P	P	13 04 59.6 +1.0
BTLS			pmax	pmax	
	comp=Z,27nm,2.1s				
CRQE	Cirque	45.19 332	P	P	13 04 58.8 -0.1
	baz=18				
SKT	Skwentna	45.20 338	P	P	13 04 59.0 +0.1
	baz=15				
GAMB	Gambell	45.21 351	P	P	13 04 59.5 +0.6
	baz=6.6				
DGZ	Jazzator, Alta	45.22 66*d i*	P	P	13 05 00.6 +1.3
DGZ			pmax	pmax	
	comp=Z,12nm,1.1s				
BMRM	Bremner River	45.22 333	P	P	13 04 58.6 -0.4
	baz=18				
M22K	Willow	45.24 337	P	P	13 04 58.4 -0.7
	baz=16				
K17K	Iditarod	45.24 342	P	P	13 04 57.8 -1.3
	baz=12				
ASF	Jabal al Asfar	45.25 125	LR	LR	13 25 52.9
	comp=Z,544nm,18.3s,baz=334,slow=39				
PMR	Palmer	45.26 336	P	P	13 04 58.9 -0.3
	baz=16				
PLBC	Pleasant Camp	45.28 327	P	P	13 04 59.4 -0.1
	baz=21				
KNK	Knik Glacier	45.34 336	P	P	13 05 00.2 +0.2
	baz=16				
PINM	Pinnacle	45.36 330	P	P	13 04 60.0 -0.2
	baz=19				
P29M	Windy Craggy	45.37 328	P	P	13 04 59.7 -0.5
	baz=20				
L19K	White Mountain	45.40 340	P	P	13 05 00.9 +0.5
	baz=14				
M20K	Styx River	45.49 339	P	P	13 05 02.7 +1.4
	baz=14				
MESA	MESA	45.56 331	P	P	13 05 02.7 +0.8
	baz=19				
L18K	Granite Mounta	45.56 341	P	P	13 05 03.2 +1.5
	baz=13				
SUA	Susitna One	45.60 337	P	P	13 05 03.2 +1.0
	baz=15				
M19K	Big River Lodg	45.62 340	P	P	13 05 02.9 +0.8
	baz=14				
PNL	Peninsula	45.62 329	P	P	13 05 03.3 +1.1
	baz=20				
KK31	Karatay Array	45.73 85	P	P	13 05 04.5 +1.3
KK31			IAmb	IAmb	13 05 05.8
	comp=Z,32nm,1.4s				
KK31	Karatay Array	45.73 85	P	P	13 05 04.5 +1.3
KK31			pmax	pmax	
	comp=Z,32nm,1.4s				
KKAR	Karatay Array	45.73 85	P	P	13 05 04.7 +1.5
KKAR			IAmb	IAmb	13 05 05.8
	comp=Z,32nm,1.4s				
KKAR	Karatay Array	45.73 85	P	P	13 05 04.1 +0.9
KKAR	Karatay Array	45.73 85	P	P	13 05 04.7 +1.5
KKAR			pmax	pmax	
	comp=Z,32nm,1.4s				
S34M	Telegraph Cree	45.73 322	P	P	13 05 04.0 +1.0
	baz=22				
EDM	Edmonton	45.86 307	P	P	13 05 08.0 +3.8
EDM	Edmonton	45.86 307	P	P	13 05 08.0 +3.8
EDM			pmax	pmax	
	comp=Z,114nm,1.8s				
H43A	Windswept, Lux	46.05 280	P	P	13 05 09.4 +3.7
MAKZ	Makanchi	46.11 72	P	P	13 05 06.5 +0.3
MAKZ			IAmb	IAmb	13 05 36.8
	comp=Z,23nm,1.4s				
MAKZ	Makanchi	46.11 72	P	P	13 05 06.5 +0.3
MAKZ			pmax	pmax	
	comp=Z,23nm,1.5s				
G40A	Rib Lake	46.12 283	P	P	13 05 09.9 +3.6

G40A	Rib Lake	46.12	283	P	P	13 05 07.3 +1.0
	baz=27,SNR=14					
CHM	Chimkent	46.13	86	eP	P	13 05 07.3 +0.8
	baz=86					
CHM	Chimkent	46.13	86	eP	P	13 05 07.2 +0.8
R31K	City Hall, Gus	46.15	326	P	P	13 05 08.0 +1.8
	baz=20					
M18K	Stony River	46.18	340	P	P	13 05 07.9 +1.3
	baz=13					
DZA	Taraz	46.18	84	eP	P	13 05 08.0 +1.2
	baz=84					
DZA	Taraz	46.18	84	eP	P	13 05 08.0 +1.2
MK31	Makanchi Array	46.22	72	P	P	13 05 07.6 +0.5
MK31				IAmb	IAmb	13 05 09.1
	comp=Z,15nm,1.3s					
MK31	Makanchi Array	46.22	72	P	P	13 05 07.6 +0.5
MK31				pmax	pmax	
	comp=Z,15nm,1.3s					
MKAR	Makanchi Array	46.22	72	P	P	13 05 07.6 +0.5
MKAR	Makanchi Array	46.22	72	P	P	13 05 08.1 +1.0
	comp=Z,7.3nm,1.0s,baz=335,slow=5.4,SNR=22					
MKAR				LR	LR	13 28 24.6
	comp=Z,1µm,18.3s,baz=334,slow=41					
	comp=Z,7.3nm,1.0s					
SSPA	Standing Stone	46.25	269	P	P	13 05 09.3 +2.0
	baz=26					
SSPA	Standing Stone	46.25	269	P	P	13 05 09.1 +1.8
	baz=26					
GEYT	Alibeck	46.33	100	P	P	13 05 09.4 +1.5
GEYT				IAmb	IAmb	13 05 12.2
	comp=Z,29nm,1.2s					
GEYT	Alibeck	46.33	100	P	P	13 05 09.5 +1.5
GEYT				pmax	pmax	
	comp=Z,29nm,1.2s					
GEYT	Alibeck	46.33	100	P	P	13 05 09.5 +1.5
	comp=Z,7.1nm,0.9s,baz=322,slow=8.3,SNR=14					
GEYT				PP	PP	13 07 01.9 +5.4
	comp=Z,6.3nm,0.8s,baz=337,slow=9.7,SNR=5.3					
GEYT				LR	LR	13 24 14.4
	comp=Z,1µm,19.0s,baz=348,slow=36					
	comp=Z,7.1nm,0.9s					
GYA0B	ALIBECK ARRAY	46.33	100	P	P	13 05 09.6 +1.6
GYA0B				IAmb	IAmb	13 05 12.1
	comp=Z,22nm,1.1s					
L16K	Owhat River	46.35	343	P	P	13 05 09.1 +1.2
	baz=12					
T35M	Bob Quinn	46.41	321	P	P	13 05 09.0 +0.6
	baz=22					
O22K	Cooper Landing	46.41	336	P	P	13 05 09.4 +1.0
	baz=16					
IUG	Iuzhnay	46.42	86	eP	P	13 05 09.5 +0.7
	comp=Z,26nm,1.4s,baz=86					
IUG	Iuzhnay	46.42	86	eP	P	13 05 09.5 +0.7
IUG				pmax	pmax	
	comp=Z,26nm,1.4s					
ZSN	Zaisan	46.44	69	eP	P	13 05 09.3 +0.4
	baz=70					
ZSN	Zaisan	46.44	69	eP	P	13 05 09.2 +0.4
M17K	Holitna River	46.44	341	P	P	13 05 10.3 +1.7
	baz=12					
M53A	WI Miller and	46.44	272	P	P	13 05 10.6 +1.7
	baz=26					
P23K	Montague Islan	46.56	334	P	P	13 05 09.8 +0.2
	baz=16					
L15K	Ungalak Mounta	46.57	344	P	P	13 05 10.3 +0.8
	baz=11					
AAM	Ann Arbor	46.65	275	P	P	13 05 11.9 +1.5
	baz=26					
N19K	Bonanza Creek	46.69	339	P	P	13 05 11.7 +1.0
	baz=14					
PAMR	Moraine State	46.70	271	P	P	13 05 11.5 +0.6
	baz=26					
SEW	Seward	46.74	336	P	P	13 05 12.2 +1.3
	baz=16					
SGDS	Sogindy	46.76	81	eP	P	13 05 12.3 +0.8
	comp=Z,18nm,1.9s,baz=81					
SGDS	Sogindy	46.76	81	eP	P	13 05 12.2 +0.8
SGDS				pmax	pmax	
	comp=Z,18nm,1.9s					
MDND	Maddock	46.76	293	P	P	13 05 14.5 +3.2
MDND	Maddock	46.76	293	P	P	13 05 12.8 +1.5
	baz=27					
USP	Ospenovka	46.88	81	P	P	13 05 13.4 +1.1
	SNR=10					
KUU	Kurty	46.92	79	eP	P	13 05 13.2 +0.6
	comp=Z,18nm,1.4s,baz=79					
KUU	Kurty	46.92	79	eP	P	13 05 13.2 +0.6
KUU				pmax	pmax	
	comp=Z,18nm,1.4s					
I42A	Draeger Farm,	46.94	281	P	P	13 05 16.4 +3.7
I42A	Draeger Farm,	46.94	281	P	P	13 05 14.0 +1.3
	baz=26,SNR=9.2					
M16K	Timber Creek	46.97	342	P	P	13 05 14.0 +1.2
	baz=12					
N18K	Kilae Creek	46.98	340	P	P	13 05 14.5 +1.7
	baz=13					
SPMN	Marine on St.	46.99	285	P	P	13 05 17.3 +4.2
SPMN	Marine on St.	46.99	285	P	P	13 05 15.4 +2.3
	baz=27					
L14K	Kuka Creek	47.01	345	P	P	13 05 14.8 +1.8
	baz=10					
T33K	Petersburg	47.11	323	P	P	13 05 15.8 +1.9
	baz=21					
EIL	Elat	47.12	129	LR	LR	13 26 57.9
	comp=Z,667nm,20.6s,baz=322,slow=38					
CHKK	Chushkaly	47.16	78	eP	P	13 05 15.1 +0.6
	baz=79					
CHKK	Chushkaly	47.16	78	eP	P	13 05 15.1 +0.6
O19K	Port Alsworth	47.27	339	P	P	13 05 16.6 +1.5
	baz=14					
MOY	Mondy	47.31	54	eP	P	13 05 17.8 +2.1
MOY				pmax	pmax	
	comp=Z,120nm,1.8s					
SIT	Sitka	47.35	325	P	P	13 05 18.1 +2.4
	baz=20					
AAK	Ala-Archa	47.44	81	P	P	13 05 19.0 +2.1
	SNR=6.2					
AAK	Ala-Archa	47.44	81	P	P	13 05 17.3 +0.5
AAK				IAmb	IAmb	13 05 19.7
	comp=Z,20nm,1.2s					
AAK	Ala-Archa	47.44	81	P	P	13 05 18.5 +1.6
AAK	Ala-Archa	47.44	81	deP	P	13 05 18.4 +1.6
AAK				pmax	pmax	
	comp=Z,28nm,1.7s					
AAK	Ala-Archa	47.44	81	LR	LR	13 25 24.6
	comp=Z,988nm,18.5s,baz=332,slow=36					
M15K	Kasigluk River	47.46	343	P	P	13 05 18.6 +2.1
	baz=11					
N51A	Ashland	47.47	273	P	P	13 05 18.9 +2.1
O54A	Avella	47.48	271	P	P	13 05 17.8 +0.8
	baz=25					
O54A				P	P	13 05 17.8 +0.8
	baz=25					
M14K	Bethel	47.52	344	P	P	13 05 19.2 +2.2
	baz=10					
F33A	5 Mile Ranch,	47.54	289	P	P	13 05 19.4 +2.1
TKM2	Tokmak 2	47.55	80	P	P	13 05 19.1 +1.4
	SNR=13					
DGMT	Dagmar	47.58	297	P	P	13 05 20.1 +2.5
	baz=26					
AML	Almayashu	47.64	82	P	P	13 05 20.7 +2.1
	SNR=19					
IRK	Irkutsk	47.65	51	eP	P	13 05 18.0 -0.1
IRK				pmax	pmax	
	comp=Z,99nm,1.3s					
O53A	New Philadelph	47.69	272	P	P	13 05 21.8 +3.2
	baz=26					
AAA	Alma-Ata	47.72	79	eP	P	13 05 20.3 +1.5
	baz=79					
AAA	Alma-Ata	47.72	79	eP	P	13 05 20.3 +1.5
MDOK	Medeo	47.80	79	eP	P	13 05 20.5 +0.9
	baz=79					
MDOK	Medeo	47.80	79	eP	P	13 05 20.5 +0.9
TNSS	Tian-Shan	47.88	79	eP	P	13 05 21.3 +0.8
	baz=79					
TNSS	Tian-Shan	47.88	79	eP	P	13 05 21.3 +0.8
M13K	Dall Lake	47.98	345	P	P	13 05 22.2 +1.7
	baz=9.8					
O17K	Koliganek Bris	48.00	341	P	P	13 05 22.5 +1.7
	baz=12					
O52A	Adamsville	48.02	272	P	P	13 05 21.8 +0.7
	baz=25					
O52A				P	P	13 05 21.8 +0.7
	baz=25					
BOOM	Boomskoye usch	48.05	80	P	P	13 05 23.1 +1.5
BOOM	Boomskoye usch	48.05	80	P	P	13 05 23.1 +1.5
BOOM				pmax	pmax	
	comp=Z,31nm,1.2s					
KPKS	Kokpek	48.05	77	⇓iP	P	13 05 22.7 +1.1
	comp=Z,19nm,1.5s,baz=78					
KPKS	Kokpek	48.05	77	diP	P	13 05 22.6 +1.1
KPKS				pmax	pmax	
	comp=Z,19nm,1.5s					
L44A	Lake County Fo	48.15	279	P	P	13 05 24.8 +2.7
	baz=26					
JFWS	Jewell Farm	48.24	282	P	P	13 05 25.4 +2.6
	baz=26					
ZHN	Zhinishke	48.24	78	eP	P	13 05 24.0 +1.0
	baz=78					
ZHN	Zhinishke	48.24	78	eP	P	13 05 24.0 +1.0
SATY	Saty	48.33	78	eP	P	13 05 24.5 +0.8
	comp=Z,26nm,1.8s,baz=78					
SATY	Saty	48.33	78	eP	P	13 05 24.5 +0.8
SATY				pmax	pmax	
	comp=Z,26nm,1.8s					
ULHL	Ulahol	48.36	80	P	P	13 05 25.5 +1.4
	SNR=6.7					
UZB	Uzynbulak	48.45	77	eP	P	13 05 25.4 +0.7
	comp=Z,26nm,2.0s,baz=77					
UZB	Uzynbulak	48.45	77	eP	P	13 05 25.3 +0.7
UZB				pmax	pmax	
	comp=Z,26nm,2.0s					
P17K	Kvichak River	48.49	340	P	P	13 05 26.3 +1.7
	baz=12					
P52A	Corning	48.55	272	P	P	13 05 27.6 +2.3
	baz=25					
BTK	Batken	48.56	86	P	P	13 05 26.4 +1.0
BTK				IAmb	IAmb	13 05 34.7
	comp=Z,32nm,1.4s					
BTK	Batken	48.56	86	P	P	13 05 26.4 +1.0
BTK				pmax	pmax	
	comp=Z,32nm,1.4s					
Q54A	Coxs Mills	48.71	271	P	P	13 05 27.2 +0.7
	baz=25					
Q54A				P	P	13 05 27.2 +0.7
	baz=25					
O49A	Covington	48.77	275	P	P	13 05 30.0 +3.1
O49A	Covington	48.77	275	P	P	13 05 30.9 +4.0
	baz=25					
O49A				P	P	13 05 30.9 +4.0
	baz=25					
MA2	Magadan	48.80	15	LR	LR	13 26 17.8
	comp=Z,435nm,18.0s,baz=349,slow=36					
PRZ	Przheval'sk	48.85	78	P	P	13 05 28.6 +0.8
PRZ				IAmb	IAmb	13 05 41.8
	comp=Z,12nm,1.0s					
PRZ	Przheval'sk	48.85	78	P	P	13 05 28.6 +0.8
PRZ				pmax	pmax	
	comp=Z,13nm,1.0s					
O14K	Tigyukauivet M	48.94	343	P	P	13 05 30.2 +2.3
	baz=10					
O48B	Farmland	48.98	276	P	P	13 05 31.3 +2.7
	baz=25					
NRN	Naryn	49.02	81	P	P	13 05 31.0 +1.8
NRN				IAmb	IAmb	13 05 51.1
	comp=Z,16nm,1.1s					
NRN	Naryn	49.02	81	P	P	13 05 31.0 +1.8
NRN				pmax	pmax	
	comp=Z,16nm,1.1s					
Q16K	King Salmon	49.03	340	P	P	13 05 30.7 +2.1
	baz=12					
ZAK	Zakamensk	49.09	53	eP	P	13 05 29.9 +0.5
ZAK				pmax	pmax	
	comp=Z,19nm,1.3s					
L40A	Anamosa	49.32	282	P	P	13 05 35.4 +4.3
	baz=26					
Q17K	Contact Creek	49.34	339	P	P	13 05 33.1 +1.9
	baz=13					
KDAK	Kodiak Island	49.41	337	P	P	13 05 33.6 +2.0
	baz=14					
KDAK	Kodiak Island	49.41	337	LR	LR	13 27 35.3
	comp=Z,1µm,20.0s,baz=48,slow=38					
P49A	Miami Univ. Ec	49.49	275	P	P	13 05 35.2 +2.8
	baz=25					
P49A	Miami Univ. Ec	49.49	275	P	P	13 05 36.1 +3.7
	baz=25					
Q51A	Peebles	49.50	273	P	P	13 05 34.7 +2.2
	baz=25					
Q51A				P	P	13 05 34.7 +2.2
	baz=25					
SFIN	Lafayette	49.50	277	P	P	13 05 34.5 +2.0
	baz=25					
ECSD	EROS Data Cent	49.53	288	P	P	13 05 35.6 +2.9
ECSD				IAmb	IAmb	13 05 37.8
	comp=Z,17nm,1.1s					
ECSD	EROS Data Cent	49.53	288	P	P	13 05 34.9 +2.1
	baz=26,SNR=5.9					
ECSD	EROS Data Cent	49.53	288	P	P	13 05 35.7 +2.9
	baz=26					
EGMT	Eagleton	49.58	301	P	P	13 05 34.9 +1.8
	baz=25,SNR=12					
HDIL	Hopedale	50.06	279	P	P	13 05 38.3 +1.5
	baz=25					
BBB	Bella Bella	50.42	317	LR	LR	13 27 01.5
	comp=Z,950nm,19.7s,baz=24,slow=36					
R50A	Paris	50.49	274	P	P	13 05 43.7 +3.6
R50A	Paris	50.49	274	P	P	13 05 40.2 +0.1
	baz=25,SNR=7.1					
R50A				P	P	13 05 40.2 +0.1
	baz=25,SNR=7.1					
WMQ	Urumqi	50.57	69	eP	P	13 05 41.6 +0.9
WMQ				pP	sP	13 05 45.0 +0.8
WMQ				sP	pP	13 05 51.8 +9.0
WMQ				PP	PP	13 07 39.6 +3.5
WMQ				pmax	pmax	
	comp=Z,20nm,0.9s					
WMQ				LR	LR	
	comp=Z,940nm,13.1s					
WMQ				LR	LR	
	comp=Z,1µm,15.9s					
WMQ				LR	LR	
	comp=Z,960nm,19.7s					
KSH	Kashi	50.74	82	P	P	13 05 45.4 +3.3
KSH				sP	sP	13 05 57.3 +12
KSH				PP	PP	13 07 42.4 +4.6
KSH				S	S	13 12 53.9 -3.4
KSH				pmax	pmax	
	comp=Z,7.0nm,1.2s					
KSH				LR	LR	
	comp=Z,1µm,13.9s					
KSH				LR	LR	
	comp=Z,980nm,14.5s					
KSH				LR	LR	
	comp=Z,900nm,16.4s					
R49A	Shelbyville	50.76	274	P	P	13 05 43.8 +1.7
	baz=25,SNR=7.8					
R49A				P	P	13 05 43.8 +1.7
	baz=25,SNR=7.8					
S51A	Beattyville	50.84	273	P	P	13 05 42.7 +0.1
	baz=24					
S51A				P	P	13 05 42.7 +0.1
	baz=24					
V58A	Windy Hill, Pi	51.04	267	P	P	13 05 45.0 +0.8
	baz=24					
V58A				P	P	13 05 45.0 +0.8
	baz=24					
WCI	Wyandotte Cave	51.19	275	P	P	13 05 48.5 +3.2
WCI				IAmb	IAmb	13 05 50.5
	comp=Z,30nm,1.0s					
WCI	Wyandotte Cave	51.19	275	P	P	13 05 48.1 +2.8
	baz=25					
WCI	Wyandotte Cave	51.19	275	P	P	13 05 46.4 +1.1
	baz=25,SNR=5.9					
WCI	Wyandotte Cave	51.19	275	P	P	13 05 48.5 +3.2
WCI				pmax	pmax	
	comp=Z,30nm,1.0s					
ZEA	Zeya	51.32	33	eP	P	13 05 47.2 +1.1
ZEA				pmax	pmax	
	comp=Z,20nm,1.5s					
ZEA				MLR	MLR	
	comp=N,300nm,14.0s					
ZEA				MLR	MLR	
	comp=Z,500nm,17.0s					
NEW	Newport	51.37	307	P	P	13 05 49.0 +2.3
	baz=23					
NEW	Newport	51.37	307	LR	LR	13 27 41.1
	comp=Z,1µm,18.5s,baz=22,slow=36					
K30B	Basset	51.42	290	P	P	13 05 50.7 +3.6
RSSD	Black Hills	51.46	294	P	P	13 05 50.5 +2.9
RSSD				IAmb	IAmb	13 05 56.6
	comp=Z,30nm,1.5s					
RSSD	Black Hills	51.46	294	P	P	13 05 47.9 +0.3
	baz=25					
RSSD	Black Hills	51.46	294	P	P	13 05 46.9 -0.7
	baz=25,SNR=5.9					
RSSD	Black Hills	51.46	294	P	P	13 05 50.5 +2.9
RSSD				pmax	pmax	
	comp=Z,30nm,1.5s					
Q44A	Meyer Farm, Va	51.47	278	P	P	13 05 50.7 +3.4
Q44A	Meyer Farm, Va	51.47	278	P	P	13 05 51.5 +4.2
	baz=25,SNR=5.7					
T50A	Nancy	51.81	273	P	P	13 05 50.7 +0.7
	baz=24					
T50A				P	P	13 05 50.7 +0.7
	baz=24					
TZTN	Tazewell	51.82	272	P	P	13 05 51.6 +1.5
	baz=24					
MSO	Missoula	51.84	304	P	P	13 05 51.1 +0.9
	baz=23,SNR=12					
RLMT	Red Lodge	52.09	299	P	P	13 05 52.8 +0.6
	baz=24					
SONM	Songino Array	52.24	52	P	P	13 05 53.8 +0.6
SONM	Songino Array	52.24	52	P	P	13 05 53.8 +0.6
SONM				pmax	pmax	
	comp=Z,12nm,1.1s					
SONM	Songino Array	52.24	52	P	P	13 05 53.8 +0.6
	comp=Z,6.1nm,1.0s,baz=330,slow=7.0,SNR=22					
	comp=Z,6.1nm,1.0s					
BOZ	Bozeman (W)	52.33	301	P	P	13 05 56.9 +3.0
BOZ	Bozeman (W)	52.33	301	P	P	13 05 55.0 +1.1
	baz=24,SNR=6.5					
BOZ	Bozeman (W)	52.33	301	P	P	13 05 56.9 +3.0
BOZ				pmax	pmax	
	comp=Z,11nm,1.2s					
KMSC	Kings Mountain	52.37	269	P	P	13 05 56.6 +2.4
	baz=24					
ULN	Ulaanbaatar	52.38	51	P	P	13 05 54.7 +0.4
ULN				IAmb	IAmb	13 05 56.6
	comp=Z,19nm,1.2s					
ULN	Ulaanbaatar	52.38	51	P	P	13 05 55.4 +1.1
ULN	Ulaanbaatar	52.38	51	diP	P	13 05 55.2 +0.9
ULN				pmax	pmax	
	comp=Z,11nm,1.1s					
T47A	Sharon Grove	52.58	276	P	P	13 05 56.3 +0.6
	baz=24					
SIUC	Southern Illin	52.61	278	P	P	13 05 59.4 +3.5
S44A	Carbondale	52.64	278	P	P	13 05 59.9 +3.8
S44A	Carbondale	52.64	278	P	P	13 05 59.8 +3.6
	baz=24,SNR=12					
TKL	Tuckaleechee C	52.70	272	LR	LR	13 27 02.4
	comp=Z,1µm,20.3s,baz=26,slow=35					
CCM	Cathedral Cave	52.96	280	P	P	13 06 01.3 +2.8
CCM				IAmb	IAmb	13 06 03.1
	comp=Z,38nm,1.4s					
CCM	Cathedral Cave	52.96	280	P	P	13 06 01.2 +2.7
	baz=24					
CCM	Cathedral Cave	52.96	280	P	P	13 06 01.7 +3.2
	baz=24,SNR=6.2					
CCM	Cathedral Cave	52.96	280	P	P	13 06 01.3 +2.8
CCM				pmax	pmax	
	comp=Z,38nm,1.4s					
BG3	Lake Jocassee	53.03	271	P	P	13 06 00.8 +1.8
BG3				IAmb	IAmb	13 06 11.0
	comp=Z,28nm,1.1s					
CASEE	Lake Jocassee	53.03	271	P	P	13 06 00.1 +1.0
	baz=24					
R40A	Maddies Statio	53.08	281	P	P	13 06 01.8 +2.5
R40A				IAmb	IAmb	13 06 03.5
	comp=Z,26nm,1.2s					
R40A	Maddies Statio	53.08	281	P	P	13 05 58.3 -1.1
	baz=24,SNR=8.8					
H17A	Grant Village	53.13	300	P	P	13 06 01.6 +1.6
	baz=23,SNR=8.7					
JSC	Jenkinsville	53.13	269	P	P	13 05 56.3 -3.5
	baz=23					
CGM3	Cape Girardeau	53.13	278	P	P	13 06 02.6 +2.8
CGM3				IAmb	IAmb	13 06 05.0
	comp=Z,42nm,1.4s					
K22A	Casper	53.54	296	P	P	13 06 02.0 -0.9
	baz=24,SNR=18					
K22A	Casper	53.54	296	P	P	13 06 02.2 -0.8
	baz=24,SNR=18					
W50A	Signal Mountai	53.62	273	P	P	13 06 05.8 +2.3
V48A	Smith Brothers	53.63	275	P	P	13 06 06.2 +2.8
V48A				IAmb	IAmb	13 06 12.1
	comp=Z,25nm,1.2s					
E07A	Sunnyside	53.66	308	P	P	13 06 06.8 +3.2
E07A				IAmb	IAmb	13 06 09.1
	comp=Z,17nm,0.9s					
IMW	Indian Meadow	53.69	300	P	P	13 06 05.1 +0.9
IMW				IAmb	IAmb	13 06 10.2
	comp=Z,11nm,0.9s					
OGNE	Ogallala	53.74	291	P	P	13 06 05.9 +1.6
	baz=24					
T42A	Van Buren	53.84	279	P	P	13 06 05.1 +0.1
	baz=24,SNR=9.1					
PBMO	Poplar Bluff	53.86	278	P	P	13 06 05.3 +0.2
	baz=24,SNR=10.0					
FXWY	Fox Creek	53.95	300	P	P	13 06 09.9 +3.9
FXWY				IAmb	IAmb	13 06 15.2
	comp=Z,15nm,1.2s					
S39A	Bolivar	53.96	282	P	P	13 06 07.4 +1.5
	baz=24,SNR=10					
X51A	Calhoun	54.05	272	P	P	13 06 07.5 +1.0
	baz=24					
X51A				P	P	13 06 07.5 +1.0
	baz=24					
BW06	Boulder Array	54.33	298	P	P	13 06 10.1 +1.3
	baz=23,SNR=9.7					
PDAR	Pinedale Array	54.33	298	P	P	13 06 07.8 -0.9
	comp=Z,5.8nm,1.0s,baz=46,slow=6.4,SNR=24					
	comp=Z,5.8nm,1.0s					
GOGA	Godfrey	54.66	270	P	P	13 06 13.3 +2.3
	baz=23					
HEH	HeiHe	54.68	35	eP	P	13 06 11.1 +0.2
HEH				pmax	pmax	
	comp=Z,15nm,1.0s					
HEH				pmax	pmax	
	comp=Z,430nm,6.4s					
HEH				LR	LR	
	comp=Z,600nm,18.6s					
HEH				LR	LR	
	comp=Z,750nm,18.8s					
HEH				LR	LR	
	comp=Z,900nm,18.0s					
X48A	Hartselle	54.88	274	P	P	13 06 15.0 +2.4
	baz=23					
HLID	Hailey	54.98	302	P	P	13 06 13.6 +0.2
	baz=22,SNR=8.2					
CBKS	Cedar Bluff	54.98	288	P	P	13 06 14.2 +0.9
	baz=24					
N23A	Red Feather La	54.98	294	P	P	13 06 14.0 +0.4
	baz=23,SNR=15					
U40A	Yellville	55.03	280	P	P	13 06 16.9 +3.2
	baz=24,SNR=9.7					
U40A				P	P	13 06 16.9 +3.2
	baz=24,SNR=9.7					
NIL	Nilore	55.20	87	P	P	13 06 15.5 +0.6
NIL	Nilore	55.20	87	P	P	13 06 15.5 +0.6
NIL				pmax	pmax	
	comp=Z,37nm,1.3s					
FCAR	Ozark Folk Cen	55.22	280	P	P	13 06 18.2 +3.2
U38A	Gravette	55.45	282	P	P	13 06 18.0 +1.3
	baz=24,SNR=7.0					
T35B	Sooner Cattle	55.70	284	P	P	13 06 19.8 +1.4
	baz=23					
PETK	Petropavlovsk-	55.76	12	P	P	13 06 18.0 -0.7
PETK	Petropavlovsk-	55.76	12	P	P	13 06 17.9 -0.7
	comp=Z,2.6nm,0.8s,baz=58,slow=5.6,SNR=5.4					
PETK				LR	LR	13 28 24.3
	comp=Z,482nm,20.4s,baz=353,slow=34					
	comp=Z,2.6nm,0.8s					
ISCO	Idaho Springs	55.88	293	P	P	13 06 21.9 +1.7
	baz=23					
ISCO	Idaho Springs	55.88	293	P	P	13 06 20.2 +0.1
	baz=23					
LRAL	Lakeview Retre	56.16	274	P	P	13 06 23.7 +1.9
	baz=23					
Y45A	Yeager Farm, C	56.23	276	P	P	13 06 25.7 +3.4
O20A	White River Ci	56.36	296	P	P	13 06 24.5 +1.1
	baz=23,SNR=31					
KOWA	Kowa	56.40	177	LR	LR	13 30 31.2
	comp=Z,921nm,18.5s,baz=340,slow=36					
KLR	Kul'dur	56.44	32	LR	LR	13 31 33.4
	comp=Z,663nm,18.5s,baz=343,slow=37					
Q24A	Divide	56.51	293	P	P	13 06 26.2 +1.6
Q24A				IAmb	IAmb	13 06 42.5
	comp=Z,14nm,1.2s					
Q24A	Divide	56.51	293	P	P	13 06 26.2 +1.6
	baz=23					
SHEM	Shemya Is, Ala	56.67	360	LR	LR	13 30 45.8

comp=Z,402nm,19.1s,baz=42,slow=36
MIAR Mount Ida 56.92 280 P P 13 06 30.6 +3.4
MIAR IAmb IAmb 13 06 36.0
comp=Z,34nm,1.4s
MIAR Mount Ida 56.92 280 P P 13 06 29.2 +2.0
baz=23,SNR=6.1
MIAR Mount Ida 56.92 280 P P 13 06 30.0 +2.8
baz=23,SNR=6.1
MIAR Mount Ida 56.92 280 P P 13 06 30.6 +3.4
MIAR pmax pmax
comp=Z,33nm,1.4s
MASF Masafi 57.30 108 P P 13 06 30.9 +0.9
SNR=13
JASK Jask - Hormozg 57.38 106 P P 13 06 32.2 +1.7
MDH Madha 57.41 108 P P 13 06 30.7 0.0
NAZ Nazwa, Dubai 57.50 108 P P 13 06 31.4 0.0
DUG Dugway, Tooele 57.64 300 P P 13 06 33.7 +1.3
baz=22,SNR=16
NLU North Lily Min 57.65 299 P P 13 06 35.8 +3.3
UOSS Minazif 57.71 108 P P 13 06 32.4 -0.5
UOSS IAmb IAmb 13 06 43.9
comp=Z,9.7nm,0.8s
UOSS Minazif 57.71 108 P P 13 06 32.3 -0.5
SDCO Great Sand Dun 57.74 292 P P 13 06 35.4 +2.1
SDCO Great Sand Dun 57.74 292 P P 13 06 33.9 +0.5
baz=22,SNR=8.2
SDCO Great Sand Dun 57.74 292 P P 13 06 33.6 +0.3
baz=22,SNR=8.2
HATD Hatta, Dubai 57.80 108 P P 13 06 33.8 +0.3
SNR=8.0
ELK Elko 57.82 302 LR LR 13 30 20.0
comp=Z,549nm,19.9s,baz=29,slow=35
BRAL Brewton 57.90 273 P P 13 06 35.5 +1.5
baz=22
ASHO Ashiyiah 57.91 108 P P 13 06 33.7 -0.7
TOA0 Torodi Ar. Sit 57.93 171 P P 13 06 34.4 -0.1
TOA0 IAmb IAmb 13 06 35.7
comp=Z,17nm,1.0s
TORD Torodi Ar. Bea 57.93 171 P P 13 06 34.4 0.0
TORD IAmb IAmb 13 08 33.3
comp=Z,12nm,0.8s
TORD Torodi Ar. Bea 57.93 171 P P 13 06 33.8 -0.7
comp=Z,9.3nm,0.8s,baz=359,slow=8.6,SNR=44
TORD LR LR 13 31 49.6
comp=Z,1μm,19.6s,baz=353,slow=36
comp=Z,9.3nm,0.8s
T25A Trinidad 57.97 291 P P 13 06 35.8 +1.0
baz=23
S22A 4UR Ranch, Cre 58.14 293 P P 13 06 36.6 +0.4
baz=22,SNR=12
GTA Gaotai 58.23 61 *e*P **P 13 06 37.0 +0.5**
GTA sP sP 13 06 45.1 +5.9
GTA pmax pmax
comp=Z,14nm,1.4s
GTA LR LR
comp=Z,400nm,18.5s
GTA LR LR
comp=Z,780nm,17.5s
GTA LR LR
comp=Z,620nm,18.5s
XLT XiLinHaoTe 58.32 46 *e*P **P 13 06 37.1 +0.1**
XLT pP sP 13 06 41.4 +1.6
XLT sP pP 13 06 44.0 +5.0
XLT pmax pmax
comp=Z,19nm,1.0s
XLT pmax pmax
comp=Z,320nm,5.7s
XLT LR LR
comp=Z,1μm,22.1s
XLT LR LR
comp=Z,680nm,26.4s
L04D Klamath Falls 58.34 308 P P 13 06 40.1 +2.8
ALNE Al Ain 58.40 109 P P 13 06 38.3 +0.6
WMOK Wichita Mounta 58.42 285 P 13 06 40.8 +3.0
WMOK IAmb IAmb 13 06 46.7
comp=Z,16nm,1.1s
WMOK Wichita Mounta 58.42 285 P P 13 06 38.9 +1.1
baz=23,SNR=6.7
WMOK Wichita Mounta 58.42 285 P P 13 06 38.6 +0.9
baz=23,SNR=6.7
WMOK Wichita Mounta 58.42 285 P P 13 06 40.8 +3.0
WMOK pmax pmax
comp=Z,16nm,1.2s
SOHO SOHO 58.57 108 P P 13 06 38.6 -0.3
MZR Muzera 58.69 111 P P 13 06 39.6 -0.2
YBH Yreka Blue Hor 58.90 308 LR LR 13 30 15.6
comp=Z,846nm,18.8s,baz=8.0,slow=34
BNX BinXian 59.01 36 ⇓P **P 13 06 41.6 -0.1**
BNX pmax pmax
comp=Z,19nm,1.1s
BNX pmax pmax
comp=Z,330nm,5.0s
MVCO Mesa Verde 59.14 295 P P 13 06 43.9 +0.9
baz=22,SNR=12
ARQ Araqi 59.32 108 P P 13 06 44.4 +0.3
HOQ Hoqain 59.33 107 P P 13 06 44.8 +0.6
BIDO Bidbid 59.65 106 P P 13 06 46.5 +0.1
SNR=6.9
GOMU GeErMu 59.73 67 P P 13 06 48.5 +1.3
GOMU pP sP 13 06 58.1 +7.3
GOMU pmax pmax
comp=Z,15nm,1.2s
GOMU LR LR
comp=Z,370nm,15.7s
GOMU LR LR
comp=Z,530nm,17.4s
GOMU LR LR
comp=Z,330nm,16.1s
NATX Nacogdoches 59.84 280 P P 13 06 50.9 +3.3
baz=22
BTO Baotou 59.92 52 *e*P **P 13 06 45.1 -3.0**
BTO PP **PP 13 08 58.8 -1.0**
BTO S **S 13 14 52.3 -7.6**
BTO pmax pmax
comp=Z,26nm,0.5s
BTO pmax pmax
comp=Z,1μm,6.0s
BTO LR LR
comp=Z,2μm,11.9s
BTO LR LR
comp=Z,2μm,14.3s
BTO LR LR
comp=Z,2μm,16.2s
SMDO Samad 60.06 107 P P 13 06 48.9 -0.4
SNR=7.0
WSAR Wadi Sarin 60.07 106 P P 13 06 49.0 -0.3
WSAR Wadi Sarin 60.07 106 LR LR 13 33 47.8
comp=Z,427nm,19.9s,baz=349,slow=37
BSY Bisya 60.08 108 P P 13 06 49.1 -0.3
SNR=12
HHC Hu-ho-hao-te 60.08 51 *e*P **P 13 06 48.6 -0.7**
HHC pmax pmax
comp=Z,39nm,0.6s
HHC pmax pmax
comp=Z,530nm,5.5s
HHC LR LR
comp=Z,2μm,17.9s
HHC LR LR
comp=Z,860nm,17.9s
HHC LR LR
comp=Z,3μm,17.8s
Q09A Carvers 60.14 303 P P 13 06 52.5 +2.7
R11B Troy Canyon, C 60.14 301 P P 13 06 50.8 +0.9
baz=21,SNR=13
YSS Yuzh-Sakhalins 60.35 24 *e*P **P 13 06 51.8 +0.9**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,800nm,17.0s
MSTX Muleshoe 60.38 288 P P 13 06 53.8 +2.4
baz=22
CN2 Changchun 60.48 38 *e*P **P 13 06 52.3 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,700nm,11.0s
CN2 LR LR
comp=Z,600nm,11.0s
CN2 LR LR
comp=Z,700nm,14.0s
MDJ Mudanjiang 60.51 35 P P 13 06 52.4 +0.4
MDJ pP sP 13 06 55.8 +1.0
MDJ sP pP 13 06 58.8 +4.8
MDJ PcP **PcP 13 07 37.8 +1.3**
MDJ PcS **PcS 13 11 38.4 -0.5**
MDJ S **S 13 15 06.6 -0.5**
MDJ pmax pmax
comp=Z,21nm,1.3s
MDJ pmax pmax
comp=Z,410nm,5.8s
MDJ LR LR
comp=Z,740nm,17.2s
MDJ LR LR
comp=Z,580nm,11.7s
MDJ LR LR
comp=Z,920nm,19.1s
WHTX Lake Whitney, 60.53 283 P P 13 06 53.8 +1.5
baz=22
ANMO Albuquerque 60.62 292 P P 13 06 53.3 +0.2
baz=22
ANMO Albuquerque 60.62 292 P P 13 06 53.7 +0.6
baz=22,SNR=6.4
ANMO Albuquerque 60.62 292⇓*e*P **P 13 06 53.0 -0.2**
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO Albuquerque 60.62 292 LR LR 13 32 51.8
comp=Z,1μm,18.5s,baz=120,slow=36
ABTX Abilene, Hawle 60.64 285 P P 13 06 55.0 +1.8
baz=22
JMDO Jabal Madar 60.72 107 P P 13 06 53.3 -0.4
SNR=7.6
NVAR Mina Array Bea 60.82 304 P P 13 06 58.0 +3.5
NVAR Mina Array Bea 60.82 304 P P 13 06 54.5 0.0
comp=Z,3.3nm,1.0s,baz=32,slow=7.5,SNR=14
NVAR LR LR 13 33 14.2
comp=Z,882nm,18.2s,baz=16,slow=36
comp=Z,3.3nm,1.0s
AFDM Forest Hills D 61.06 306 P P 13 06 59.3 +3.4
AFDM IAmb IAmb 13 07 01.1
comp=Z,12nm,1.0s
MZP Montezuma Peak 61.25 302 P P 13 07 01.0 +3.5
MZP IAmb IAmb 13 07 06.5
comp=Z,18nm,1.6s
JLN Jalan Bani Buh 61.34 106 P P 13 06 58.2 +0.3
USA0B Ussuriysk Arra 61.35 33⇑*e*P **P 13 06 58.1 +0.4**
USRK Ussuriysk Ar. 61.35 33 P P 13 06 57.9 +0.1
comp=Z,6.2nm,0.8s,baz=315,slow=7.2,SNR=8.7
USRK LR LR 13 33 56.2
comp=Z,590nm,20.5s,baz=347,slow=36
comp=Z,6.2nm,0.8s
W18A Petrified Fore 61.45 295 P P 13 06 59.1 +0.4
baz=21,SNR=8.5
WUAZ Wupatki 61.57 296 P P 13 06 59.3 -0.2
baz=21,SNR=7.3
TPNV Topopah Spring 61.64 301 P P 13 07 00.5 +0.5
baz=20,SNR=8.5
Y22A Socorro 61.71 292 P P 13 06 59.9 -0.6
baz=22,SNR=9.0
DSP Deep Springs 61.72 303 P P 13 07 03.4 +3.1
DSP IAmb IAmb 13 07 10.6
comp=Z,18nm,1.5s
CMB Columbia Colle 61.76 305 P P 13 07 04.0 +3.4
CMB IAmb IAmb 13 07 11.0
comp=Z,8.8nm,1.0s
CMB Columbia Colle 61.76 305 P P 13 07 04.1 +3.4
CMB pmax pmax
comp=Z,9.0nm,1.0s
SGCY Sterling City 61.77 286 P P 13 07 03.5 +2.7
SGCY IAmb IAmb 13 07 09.5
comp=Z,30nm,1.0s
WCT Wildcat Mounta 61.89 301 P P 13 07 05.1 +3.5
WCT IAmb IAmb 13 07 06.7
comp=Z,9.0nm,1.2s
MHTO MHTO 61.97 108 P P 13 07 01.5 -0.6
SNR=5.1
SNY Shenyang 61.98 41 ⇑P **P 13 07 02.3 +0.3**
SNY S **S 13 15 30.1 +4.2**
SNY pmax pmax
comp=Z,24nm,0.9s
SNY pmax pmax
comp=Z,450nm,6.5s
SNY LR LR
comp=Z,500nm,14.9s
SNY LR LR
comp=Z,750nm,15.7s
BJI Beijing 61.99 47 P P 13 07 02.6 +0.5
BJI pmax pmax
comp=Z,6.0nm,1.2s
BJI pmax pmax
comp=Z,240nm,9.4s
BJI LR LR
comp=Z,580nm,22.1s
BJI LR LR
comp=Z,190nm,19.8s
BJI LR LR
comp=Z,640nm,20.2s
GWY Greenwater Val 62.47 301 P P 13 07 09.3 +3.8
CWC Cottonwood Cre 62.62 303 P P 13 07 08.0 +1.4
baz=20
JCT Junction City 62.67 284 P P 13 07 08.8 +1.9
baz=22
MPMC Manual Prospec 62.82 302 P P 13 07 09.0 +1.1
baz=20,SNR=8.5
DOK Doka 63.01 112 P P 13 07 08.7 -0.4
ASAJ Asahikawa 63.12 25 LR LR 13 34 50.3
comp=Z,456nm,20.0s,baz=356,slow=36
PECS Pecos 63.13 288 P P 13 07 12.1 +2.1
PECS IAmb IAmb 13 07 21.7
comp=Z,29nm,1.4s
121A Cookes Peak, D 63.27 292 P P 13 07 12.2 +1.3
baz=21,SNR=6.6
MNTX Cornudas Mount 63.30 290 P P 13 07 12.0 +1.0
baz=21,SNR=6.2
MNTX Cornudas Mount 63.30 290 P P 13 07 10.3 -0.7
baz=21,SNR=6.2
GSC Goldstone, Bar 63.33 301 P P 13 07 13.5 +2.2
baz=20
LRMC Laurel Mtn Rad 63.41 302 P P 13 07 13.9 +2.1
baz=20
ISA Isabella, Lake 63.46 303 P P 13 07 13.4 +1.3
baz=20,SNR=8.1
GMRC Granite Mounta 63.49 300 P P 13 07 14.2 +1.9
baz=20,SNR=8.7
PYUN Piuthan 63.50 81 *e*P **P 13 07 13.0 +0.4**
comp=Z,139nm,1.1s
PDMCI Parker Dam,Lak 63.51 298 P P 13 07 13.9 +1.6
baz=20
DANN Dangsing 63.52 80 *e*P **P 13 07 13.5 +0.7**
comp=Z,150nm,1.5s
HEC Hector,Ludlow 63.64 300 P P 13 07 15.0 +1.7
baz=20
RRX Edison Barstow 63.79 301 P P 13 07 16.1 +1.9
baz=20
SAND Sanderson 63.90 286 P P 13 07 17.6 +2.6
SAND IAmb IAmb 13 07 33.6
comp=Z,7.5nm,1.0s
IRM Iron Mountain 63.93 299 P P 13 07 17.3 +2.1
baz=20
ABTO Aybut 63.95 114 P P 13 07 15.3 -0.1
KOLN Koldanda 64.00 80 *e*P **P 13 07 16.3 +0.4**
comp=Z,126nm,1.7s
EDW2 Edwards Air Fo 64.06 302 P P 13 07 17.7 +1.7
baz=20
ARVC Arvin 64.06 303 P P 13 07 17.8 +1.9
baz=20
GKN Gorkha 64.12 79 *e*P **P 13 07 16.7 +0.1**
comp=Z,83nm,1.3s
HNS HongShan 64.14 49 ⇓P **P 13 07 17.4 +1.0**
HNS *e*S **S 13 15 50.8 -2.2**
HNS pmax pmax
comp=Z,19nm,1.2s
HNS LR LR
comp=Z,2μm,17.7s
HNS LR LR
comp=Z,1μm,17.2s
DBIC Dimbokro 64.17 178 P P 13 07 15.7 -1.1
comp=Z,2.6nm,0.8s,baz=330,slow=5.9,SNR=3.3
DBIC LR LR 13 34 16.0
comp=Z,1μm,20.5s,baz=354,slow=35
comp=Z,2.6nm,0.8s
TIC Toumodi 64.19 179⇑*e*P **P 13 07 16.1 -0.9**
comp=Z,4.1nm,0.7s
BELC Belle Mtn. Jos 64.32 300 P P 13 07 19.3 +1.4
baz=20
TUC Tucson 64.38 295 P P 13 07 19.3 +1.1
baz=21
KIC Kosan Boka 64.47 178⇑*e*P **P 13 07 18.0 -0.8**
comp=Z,19nm,0.9s
BC3 Big Chuckawall 64.49 299 P P 13 07 21.5 +2.6
baz=20
KKN Kakani 64.53 79 *e*P **P 13 07 19.7 +0.4**
comp=Z,100nm,1.4s
833A Chaparral WMA, 64.54 283 P P 13 07 21.9 +2.7
baz=21
PKM Mcpherson Peak 64.56 303 P P 13 07 21.8 +2.3
baz=19
BFSC Mount Baldy Ra 64.57 301 P P 13 07 20.8 +1.3
baz=20
GUN Gumba 64.61 78 *e*P **P 13 07 20.5 +0.5**
comp=Z,117nm,1.1s
LIC Lamto 64.61 179⇑*e*P **P 13 07 18.8 -0.9**
comp=Z,18nm,0.9s
LSA Lhasa 64.62 73 P P 13 07 22.3 +2.0
LSA pmax pmax
comp=Z,17nm,1.1s
DMN Daman 64.64 79 *e*P **P 13 07 20.2 +0.1**
comp=Z,44nm,1.0s
PKIN Phulchoki 64.76 79 *e*P **P 13 07 21.4 +0.5**
comp=Z,23nm,0.9s
PKI Pulchoki 64.77 79 *e*P **P 13 07 21.1 0.0**
comp=Z,31nm,1.0s
PFO Pinyon Flats O 64.82 300 P P 13 07 23.0 +1.9
baz=20
PFO Pinyon Flats O 64.82 300 LR LR 13 35 21.4
comp=Z,507nm,21.3s,baz=10.0,slow=36
TPFO Pinon Flats 64.82 300 P P 13 07 22.3 +1.2
baz=20
JIRN Jiri 64.94 78 *e*P **P 13 07 22.8 +0.6**
comp=Z,67nm,1.0s
SBC Santa Barbara 64.95 303 P P 13 07 23.2 +1.5
baz=19
TX31 Lajitas Ar. Si 64.96 287 P P 13 07 24.1 +2.1
TX31 IAmb IAmb 13 07 30.7
comp=Z,16nm,0.8s
TX31 Lajitas Ar. Si 64.96 287 P P 13 07 21.2 -0.8
baz=21,SNR=8.1
TX32 Lajitas Array 64.96 287 P P 13 07 24.0 +2.0
TXAR Lajitas Array 64.96 287 P P 13 07 24.9 +2.9
TXAR Lajitas Array 64.96 287 P P 13 07 24.9 +2.9
TXAR Lajitas Array 64.96 287 P P 13 07 20.8 -1.3
comp=Z,3.5nm,0.9s,baz=47,slow=5.2,SNR=21
TXAR LR LR 13 34 10.9
comp=Z,756nm,20.6s,baz=18,slow=35
comp=Z,3.5nm,0.9s
SWSC Sam W. Stewart 65.26 299 P P 13 07 25.8 +2.1
baz=20
214A Organ Pipe Nat 65.31 296 P P 13 07 24.5 +0.3
baz=20
CIS Catalina Islan 65.57 302 P P 13 07 27.2 +1.3
baz=20
IKP In-Ko-Pah, Jac 65.62 299 P P 13 07 28.2 +2.0
baz=20
TAPN Taplejung 65.72 77 *e*P **P 13 07 27.5 +0.3**
comp=Z,61nm,1.2s
RAMN Ramite 65.73 78 *e*P **P 13 07 27.7 +0.5**
comp=Z,50nm,0.9s
XAN Xi'an 65.80 55 ⇑P **P 13 07 27.8 +0.4**
XAN pP sP 13 07 34.3 +4.2
XAN pmax pmax
comp=Z,29nm,1.2s
XAN pmax pmax
comp=Z,430nm,5.1s
XAN LR LR
comp=Z,1μm,15.1s
XAN LR LR
comp=Z,1μm,12.4s
XAN LR LR
comp=Z,1μm,12.8s
TIA Tai'an 65.86 48 P P 13 07 28.4 +0.8
TIA pmax pmax
comp=Z,19nm,1.1s
TIA LR LR
comp=Z,460nm,9.7s
TIA LR LR
comp=Z,1μm,20.1s
TIA LR LR
comp=Z,480nm,5.4s
SNCC San Nicolas Is 66.02 303 P P 13 07 30.3 +1.6
baz=19
ODAN Odare 66.07 77 *e*P **P 13 07 29.3 -0.1**
comp=Z,46nm,1.3s
LYN LuoYang 66.26 52 ⇑P **P 13 07 32.4 +2.2**
LYN sP sP 13 07 40.3 +7.3
LYN S **S 13 16 18.1 -1.1**
LYN pmax pmax
comp=Z,18nm,1.1s
LYN pmax pmax
comp=Z,430nm,6.4s
LYN LR LR
comp=Z,1μm,17.6s
LYN LR LR
comp=Z,990nm,14.2s
LYN LR LR
comp=Z,2μm,21.8s
ATD Arta Tunnel 66.50 126 LR LR 13 37 43.6
comp=Z,10.0nm,18.6s,baz=1.5,slow=37
KSRS Korea Array 67.09 38 P P 13 07 34.5 -0.9
comp=Z,1.9nm,0.8s,baz=4.7,slow=7.4,SNR=3.6
KSRS LR LR 13 37 51.7
comp=Z,437nm,21.2s,baz=310,slow=37
comp=Z,1.9nm,0.8s
CD2 Chengdu 67.30 61 P P 13 07 36.1 -0.9
CD2 pP pP 13 07 39.0 0.0
CD2 S **S 13 16 30.3 -1.7**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,1μm,20.0s
CD2 LR LR
comp=Z,650nm,16.7s
CD2 LR LR
comp=Z,1μm,17.5s
TJN Taejon 68.01 39*c*e*P **P 13 07 41.4 +0.1**
TEIG Tepich 68.44 269 LR LR 13 36 30.1
comp=Z,7μm,20.5s,baz=168,slow=35
MAJO Matsushiro 69.87 30⇑*e*P **P 13 07 53.2 +0.3**
MAJO pmax pmax
comp=Z,25nm,1.3s
MJAR Matsushiro Arr 69.87 30 P P 13 07 51.7 -1.2
comp=Z,11nm,1.0s,baz=340,slow=6.0,SNR=18
MJAR LR LR 13 38 22.6
comp=Z,287nm,19.7s,baz=348,slow=36
comp=Z,11nm,1.0s
NJ2 Nanjing 70.25 48 *e*P **P 13 07 54.6 -0.6**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,960nm,4.1s
PCRV Puerto La Cruz 70.39 243 LR LR 13 32 54.9
comp=Z,282nm,21.8s,slow=31
WHN Wuhan 70.55 52 P P 13 07 57.0 -0.1
PZH PanZhiHua 70.85 64 P P 13 07 59.5 +0.3
PZH S **S 13 17 14.1 -0.1**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,250nm,5.5s
PZH LR LR
comp=Z,680nm,20.6s
PZH LR LR
comp=Z,490nm,20.6s
PZH LR LR
comp=Z,850nm,20.6s
TNCH TengChong 71.27 68 *e*P **P 13 08 02.8 +1.0**
TNCH pP sP 13 08 05.8 +0.5
TNCH pmax pmax
comp=Z,39nm,1.1s
JNU Nakatsue 71.87 37 LR LR 13 42 19.1
comp=Z,553nm,18.7s,baz=342,slow=38
MDP Montagnes des 71.97 229 LR LR 13 33 07.1
comp=Z,448nm,18.7s,baz=79,slow=30
HYB Hyderabad 71.98 89 *e*P **P 13 08 07.1 +1.1**
HYB *es*P **pwP 13 08 11.6 +3.1**
HYB *e*PP **PP 13 10 46.6 +1.1**
GYA Guiyang 72.33 60 ⇑P **P 13 08 08.6 +0.6**
GYA pmax pmax
comp=Z,27nm,1.0s
GYA LR LR
comp=Z,1μm,22.4s
KMI Kunming 72.45 64 ⇑P **P 13 08 08.8 -0.1**
KMI S **S 13 17 34.6 +1.8**
KMI pmax pmax
comp=Z,11nm,1.4s
KMI LR LR
comp=Z,550nm,18.8s
KMI LR LR
comp=Z,520nm,16.9s
KMI LR LR

comp=Z,570nm,20.0s
LODK Lodwar 72.45 136 P **P 13 08 09.5 +0.7**
LODK IAmb IAmb 13 08 11.4
comp=Z,16nm,1.2s
LODK Lodwar 72.45 136 P **P 13 08 08.7 0.0**
SDV Santo Domingo 73.41 248 *e*P **P 13 08 17.4 +2.7**
SDV Santo Domingo 73.41 248 LR LR 13 35 26.0
comp=Z,597nm,21.8s,baz=24,slow=32
JHJ Hachijo jima 2 73.47 29 LR LR 13 42 43.8
comp=Z,280nm,18.5s,baz=332,slow=38
CMIG Matias Romero 73.54 274 LR LR 13 42 05.7
comp=Z,539nm,19.7s,baz=34,slow=37
GULI GuiLin 74.47 57 P **P 13 08 22.8 +2.3**
MBAR Mbarara 75.35 142 P **P 13 08 26.1 +0.3**
MBAR Mbarara 75.35 142 *ce*P **P 13 08 27.0 +1.2**
MBAR pmax pmax
comp=Z,8.0nm,0.8s
MBAR Mbarara 75.35 142 LR LR 13 44 43.0
comp=Z,367nm,19.4s,baz=336,slow=38
CRAI Chiangrai 76.34 68 P **P 13 08 31.6 +0.3**
CRAI IAmb IAmb 13 08 41.6
comp=Z,24nm,1.6s
BOAV Boa Vista 76.63 236 *e*P **P 13 08 37.0 +4.1**
JTS Las Juntas de 76.64 263 LR LR 13 43 40.5
comp=Z,290nm,18.4s,baz=3.0,slow=37
MCPB Macapa, AP 77.08 227 *e*P **P 13 08 39.8 +4.3**
CHTO Chiang Mai 77.23 70 P **P 13 08 36.7 +0.3**
CHTO pmax pmax
comp=Z,1.0nm,1.1s
JOW Kunigami 77.42 41 LR LR 13 44 33.5
comp=Z,375nm,21.8s,baz=14,slow=37
CMAR Chiang Mai Arr 77.57 70 *i* P **P 13 08 38.7 +0.4**
CMAR pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 77.57 70 P **P 13 08 38.4 +0.1**
comp=Z,4.0nm,1.0s,baz=318,slow=6.5,SNR=30
CMAR LR LR 13 46 42.9
comp=Z,194nm,19.9s,baz=305,slow=39
comp=Z,4.0nm,1.0s
ROSB Rosrio 77.76 219 *e*P **P 13 08 43.3 +4.1**
ROSC El Rosal 78.36 251 LR LR 13 39 28.9
comp=Z,443nm,20.6s,baz=53,slow=33
MALB Monte Alegre 79.06 229 *e*P **P 13 08 50.9 +4.4**
RCBR Riachuelo 79.09 210 LR LR 13 35 19.1
comp=Z,415nm,21.8s,baz=27,slow=29
JCJ Chichijima 79.76 28 LR LR 13 44 45.9
comp=Z,209nm,18.8s,baz=122,slow=36
QIZ Qiongzhong 80.27 60 P **P 13 08 53.0 -0.1**
QIZ S **S 13 19 00.4 +2.1**
QIZ pmax pmax
comp=Z,570nm,5.9s
QIZ LR LR
comp=Z,470nm,15.2s
QIZ LR LR
comp=Z,960nm,15.7s
QIZ LR LR
comp=Z,820nm,16.8s
SGCB São Gabriel d 80.87 242 *e*P **P 13 09 00.6 +4.3**
ITTB Itaituba 81.85 230 *e*P **P 13 09 05.2 +3.8**
PRPB Parauapebas 82.17 224 *e*P **P 13 09 05.7 +2.6**
PALK Pallekele 82.18 90 LR LR 13 49 36.5
comp=Z,329nm,18.4s,baz=85,slow=39
OTAV Otavalo 84.00 253 P **P 13 09 14.9 +1.7**
OTAV Otavalo 84.00 253 P **P 13 09 14.9 +1.7**
OTAV pmax pmax
comp=Z,24nm,1.3s
OTAV Otavalo 84.00 253 *e*P **P 13 09 16.7 +3.5**
TBTG Tabatinga, AM 85.57 244 *e*P **P 13 09 23.2 +2.7**
TGY Tagaytay City 87.96 51 LR LR 13 51 59.2
comp=Z,382nm,20.4s,baz=334,slow=38
CLDB Colider 88.12 228 *e*P P 13 09 38.5 +5.6
SAML Samuel 88.19 236 *e*P **P 13 09 36.5 +3.2**
LSZ Lusaka 89.16 147 LR LR 13 52 59.7
comp=Z,363nm,19.9s,baz=342,slow=38
CZSB Cruzeiro do Su 89.76 245 *e*P **P 13 09 43.8 +3.2**
ETMB Extrema 89.86 239 *e*P **P 13 09 45.7 +4.7**
ATAH Atahualpa 90.94 251 LR LR 13 49 56.3
comp=Z,127nm,19.2s,baz=9.1,slow=35
BDFB Brasilia 90.94 220 LR LR 13 45 10.1
comp=Z,353nm,18.1s,baz=357,slow=32
VILB Vilhena 91.23 232 *e*P **P 13 09 51.2 +3.8**
TSUM Tsumeb 91.39 158 LR LR 13 53 54.7
comp=Z,354nm,18.3s,baz=332,slow=38
PTLB Pontes e Lacer 93.35 230 *e*P P 13 10 01.9 +4.8
GUMO Guam 93.43 28 LR LR 13 52 48.9
comp=Z,84nm,18.6s,baz=7.0,slow=36
SIV San Ignacio 94.37 232 LR LR 13 46 53.4
comp=Z,405nm,19.7s,baz=25,slow=32
NNA Nana 95.04 248 LR LR 13 50 36.9
comp=Z,162nm,21.1s,baz=348,slow=34
DAV Davao City (W) 95.88 48 LR LR 13 59 11.1
comp=Z,188nm,18.9s,baz=347,slow=39
OPO Ambohidratompo 96.49 130 LR LR 13 55 38.1
comp=Z,161nm,20.9s,baz=172,slow=37
BDQN Bodoquena, MS 97.56 227 *e*P Pdif 13 10 19.5 +3.2
TAOE Nuku Hiva Isla 111.71 310 *e*LR LR 13 48 28.1
comp=Z,401nm,34.7s
PPT2 Papeete2 122.37 318 *e*SS SS 13 33 58.2 +5.2
comp=Z,164nm,26.8s
PPT2 Papeete2 122.37 318 *e*LR LR 13 53 21.7
comp=Z,438nm,25.5s
PPT2 *e*LR LR 13 53 26.1
comp=Z,396nm,35.2s
WRA Warramunga Arr 124.02 46 PKIKP **PKPdf 13 15 39.0 -1.3**
WRA Warramunga Arr 124.02 46 PKP **PKPdf 13 15 39.0 -1.3**
comp=Z,1.2nm,0.8s,baz=339,slow=2.7,SNR=8.7
ASAR Alice Springs 127.49 48 PKP **PKPdf 13 15 44.8 -2.1**
comp=Z,1.4nm,0.8s,baz=341,slow=2.3,SNR=13
DZM Mont Dzumac 130.96 9 *e*LR LR 13 57 38.3
comp=Z,345nm,24.3s
SNAA Sanae 142.36 178 PKP **PKPdf 13 16 10.9 -2.2**
comp=Z,0.8nm,0.8s,baz=62,slow=22,SNR=2.6
ELIB Princess Elisa 143.90 165 *d*PKPdf PKPab 13 16 13.4 +0.2
MAW Mawson 145.82 140 PKPbc **PKPbc 13 16 19.7 0.0**
comp=Z,8.2nm,0.9s,baz=332,slow=2.0,SNR=24
TOZ Tahuroa Road 146.75 357 **PKiKP 13 16 26.5 +0.4**
QSPA South Pole Qui 160.85 180 PKPdf **PKPdf 13 16 41.2 +0.5**
QSPA **PKPab 13 17 24.2 +0.7**
QSPA South Pole Qui 160.85 180 PKPab **PKPab 13 17 23.6 +0.2**
comp=Z,7.8nm,0.9s,baz=233,slow=2.9,SNR=16

NOU 21 13:09:21.3, 17°40S×168°72E, h134km, MLv3.7/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	0.48	216	P	Pn	13 09 41.9	+1.2
LIFNC	LIFOU	3.64	202	P	Pn	13 10 16.5	+0.1
DZM	Mont Dzumac	5.12	204	P	Pn	13 10 36.0	-0.1
KOUNC	Koumac, New Ca	5.24	233	P	Pn	13 10 37.7	+0.1
OUENC	Ouen Island, N	5.30	199	P	Pn	13 10 38.2	-0.2

*IDC **21** 13:52:23.7±6.0, 24°14N×142°40E, h86km±56km, mb3.7/10, mbtmp4.0/11, ML2.4/1, Error ellipse: s-maj=31.6km s-min=15.0km az=83.0*

ISC 21 13:52:25.1±1.0, 24°2N±0°1×142°4E±0°2, h100km, n20, σ1°34/17, mb4.0/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	12.85	345	P	Pn	13 55 22.6	-1.4
	baz=146,slow=13,SNR=4.1						
	0.7nm,0.6s						
H11S3	WAKE ISLAND Hy	23.30	99	T	T	14 21 02.2	
	baz=290,slow=74,SNR=7.3						
H11S1	WAKE ISLAND Hy	23.30	99	T	T	14 21 02.4	
	baz=290,slow=74,SNR=6.1						
H11S2	WAKE ISLAND Hy	23.31	99	T	T	14 21 03.0	
	baz=290,slow=74,SNR=4.7						
CMAR	Chiang Mai Arr	40.77	271	P	P	13 59 58.1	+1.4
	1.1nm,0.5s,baz=60,slow=7.7,SNR=8.8						
	1.1nm,0.5s						
WRA	Warramunga Arr	44.55	191	P	P	14 00 26.6	-0.5
	2.6nm,0.7s,baz=7.3,slow=8.0,SNR=44						
	2.6nm,0.7s						
ASAR	Alice Springs	48.26	190	P	P	14 00 55.5	-0.7
	0.3nm,0.4s,baz=11,slow=7.5,SNR=12						
	0.3nm,0.4s						
TAPN	Taplejung	49.04	286	*e*P	P	14 01 03.3	+0.7
	16nm,0.8s						
JIRN	Jiri	50.32	287	*e*P	P	14 01 12.6	+0.2
	12nm,0.6s						
GUN	Gumba	50.55	287	*e*P	P	14 01 15.7	+1.6
	61nm,1.5s						
DMN	Daman	51.28	287	*e*P	P	14 01 17.2	-2.2
	93nm,2.0s						
DANN	Dangsing	52.32	288	*e*P	P	14 01 29.4	+2.2
	16nm,0.6s						
MKAR	Makanchi Array	52.52	311	P	P	14 01 28.3	+0.2
	0.5nm,0.6s,baz=92,slow=9.1,SNR=5.1						
	0.5nm,0.6s						
PYUN	Piuthan	53.04	288	*e*P	P	14 01 30.2	-2.2
	13nm,0.9s						
KURBB	Kurchatov Arra	55.25	316	P	P	14 01 47.3	-0.5
	2.4nm,0.2s,baz=94,slow=7.6,SNR=8.1						
	2.4nm,0.2s						
STKA	Stephens Creek	55.74	181	P	P	14 01 51.0	-0.4
	1.4nm,0.6s,baz=335,slow=16,SNR=3.6						
	1.4nm,0.6s						
ILAR	Eielson Array	60.18	28	P	P	14 02 23.6	+1.4
	0.3nm,0.7s,baz=253,slow=5.5,SNR=5.3						
	0.3nm,0.7s						
BVAR	Borovoye Array	60.34	319	P	P	14 02 22.9	-0.5
	2.8nm,0.5s,baz=87,slow=7.5,SNR=17						
	2.8nm,0.5s						
ARCES	ARCESS Array B	76.36	341	P	P	14 04 03.5	+0.5
	5.0nm,0.9s,baz=66,slow=6.8,SNR=4.9						
	5.0nm,0.9s						
FINES	FINESS Array B	80.65	334	P	P	14 04 26.8	+0.2
	1.8nm,0.8s,baz=84,slow=4.7,SNR=11						
	1.8nm,0.8s						

IDC 21 13:56:22.4±2.7, 22°70N×11°57W, h0km, mbtmp3.8/2, ML3.6/2, Error ellipse: s-maj=119.8km s-min=47.9km az=56.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	15.79	125	Pn	Pn	14 00 07.5	+1.2
	0.1nm,0.3s,baz=314,slow=13,SNR=4.0						
TORD				Sn	Sn	14 03 00.7	-1.4
	0.1nm,0.3s,baz=307,slow=22,SNR=2.4						
	0.4nm,0.6s						
DBIC	Dimbokro	17.20	157	P	Pn	14 00 24.2	0.0
	0.7nm,0.3s,baz=329,slow=9.6,SNR=6.6						
	4.1nm,0.6s						
WRA	Warramunga Arr	148.17	92	PKPbc	PKPbc	14 16 10.4	-0.7
	0.3nm,0.6s,baz=293,slow=2.4,SNR=2.2						
ASAR	Alice Springs	148.29	99	PKPbc	PKPbc	14 16 10.6	-0.7
	0.2nm,0.6s,baz=306,slow=2.1,SNR=5.8						

*IDC **21** 13:58:10.3±1.2, 30°26N×103°27E, h0km, mb3.8/4, mbtmp3.7/6, ML3.2/2, Error ellipse: s-maj=46.2km s-min=20.8km az=56.0*

ISC 21 13:58:15.3±1.2, 30°3N±0°1×103°2E±0°2, h35km, n6, σ0°51/6, mb3.9/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.38	199	Pn	Pn	14 01 09.1	-0.1
	0.2nm,0.3s,baz=12,slow=13,SNR=5.7						
	0.5nm,0.3s						
SONM	Songino Array	17.71	7	P	P	14 02 20.0	+0.2
	baz=188,slow=9.9,SNR=2.3						
	0.5nm,0.8s						
MKAR	Makanchi Array	23.14	321	P	P	14 03 17.7	-0.7
	1.1nm,0.6s,baz=117,slow=9.8,SNR=6.3						
	1.1nm,0.6s						
GEYT	Alibeck	37.83	294	P	P	14 05 29.1	+0.5
	2.4nm,0.8s,baz=106,slow=11,SNR=4.5						
	2.4nm,0.8s						
WRA	Warramunga Arr	58.21	145	P	P	14 08 06.0	-0.2
	1.6nm,0.8s,baz=336,slow=7.5,SNR=19						
	1.6nm,0.8s						
ASAR	Alice Springs	61.18	148	P	P	14 08 26.7	+0.1
	0.5nm,0.9s,baz=337,slow=6.7,SNR=6.2						
	0.5nm,0.9s						

*IDC **21** 14:30:47.5±1.9, 0°05S×124°14E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=198.4km s-min=28.0km az=63.0*

*DJA **21** 14:30:53.1±1.0, 1°N±5°×12°7E±°, h40km±49km, M3.4/6, MLv3.4/6*

ISC 21 14:30:51.7±1.3, 1°46N±0°09×127°1E±0°1, h50km, n8, σ1°87/8, mb3.3/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.75	155	P	Pn	14 31 07.9	+1.7
LBMI	Labuha	2.13	168	P	Pn	14 31 26.5	+1.5
SGSI	Sangihe	2.68	325	P	Pn	14 31 33.5	+1.0
KMSI	Cibinong	3.20	254	P	Pn	14 31 40.7	+1.2
SANI	Sanana	3.65	197	P	Pn	14 31 46.5	+0.8
WRA	Warramunga Arr	22.44	162	P	P	14 35 44.3	-2.3
	0.6nm,0.4s,baz=330,slow=11,SNR=17						
	0.6nm,0.4s						
ASAR	Alice Springs	25.85	165	P	P	14 36 16.9	-2.0
	0.3nm,0.3s,baz=340,slow=7.6,SNR=5.9						
	0.3nm,0.3s						
MKAR	Makanchi Array	59.60	326	P	P	14 40 50.7	+0.2
	0.2nm,0.4s,baz=116,slow=7.8,SNR=1.9						
	0.2nm,0.4s						

*IDC **21** 14:31:48.8±1.2, 3°24S×148°81E, h0km, mb3.8/6, mbtmp3.9/8, ML0.9/1, MS3.7/9, Error ellipse: s-maj=33.9km s-min=23.6km az=91.0*

ISC 21 14:31:53.6±0.9, 3°1S±0°1×149°0E±0°1, h35km, n31, σ1°55/14, mb3.9/7, MS3.7/6, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVG	Kavieng	1.93	74	P	Pn	14 32 22.6	-1.3
KRVT	Keravat (AS076	3.29	111	Pn	Pn	14 32 42.3	-0.4
	61nm,0.6s,baz=282,slow=2.6,SNR=5.7						
PMG	Port Moresby	6.50	196	Pn	Pn	14 33 25.6	-1.3
	0.2nm,0.3s,baz=335,slow=19,SNR=2.1						
	7.0nm,0.8s						
TABU	Tabubil	8.00	254	P	Pn	14 33 56.9	+9.4
GENI	Genyem	8.79	273	P	Pn	14 34 05.8	+7.5
HNR	Honiara	12.60	120	LR	LR	14 39 43.2	
	comp=Z,1μm,19.7s,baz=305,slow=38						
CTA	Charters Tower	17.08	189	LR	LR	14 42 48.9	
	comp=Z,152nm,18.7s,baz=354,slow=39						
GUMO	Guam	17.08	346	LR	LR	14 40 22.1	
	comp=Z,113nm,21.3s,baz=198,slow=30						
QIS	Mount Isa	19.59	207	P	Pn	14 36 21.3	+0.9
	8.2nm,1.4s						
RK1H	Rockhampton Ha	20.21	176	P	P	14 36 27.3	+1.7
	12nm,0.9s						
WRAB	Tennant Creek	21.97	219	P	P	14 36 46.3	+1.7
WRA	Warramunga Arr	21.98	219	P	P	14 36 41.6	-3.2
	1.6nm,0.6s,baz=44,slow=10,SNR=17						
	1.6nm,0.6s						
QLP	Quilpie	23.77	191	P	P	14 37 03.7	+0.7
	16nm,2.1s						
ASAR	Alice Springs	25.09	214	P	P	14 37 13.6	-1.6
	3.8nm,0.8s,baz=45,slow=7.9,SNR=27						
	3.8nm,0.8s						
DZM	Mont Dzumac	25.37	139	LR	LR	14 44 54.0	
	comp=Z,174nm,21.8s,baz=240,slow=31						
BATI	Baumata	26.07	253	LR	LR	14 48 15.8	
	comp=Z,194nm,20.3s,baz=48,slow=38						
H11S3	WAKE ISLAND Hy	27.68	38	T	T	15 06 51.7	
	baz=220,slow=76,SNR=248						
H11S2	WAKE ISLAND Hy	27.69	39	T	T	15 06 52.4	
	baz=220,slow=76,SNR=347						
H11S1	WAKE ISLAND Hy	27.70	38	T	T	15 06 53.2	
	baz=220,slow=76,SNR=365						
H11N1	WAKE ISLAND Hy	28.73	37	T	T	15 08 09.5	
	baz=218,slow=76,SNR=123						
H11N3	WAKE ISLAND Hy	28.74	37	T	T	15 08 10.6	
	baz=218,slow=76,SNR=89						
H11N2	WAKE ISLAND Hy	28.74	37	T	T	15 08 10.7	
	baz=218,slow=76,SNR=248						
STKA	Stephens Creek	29.44	193	LR	LR	14 50 15.5	
	comp=Z,172nm,18.9s,baz=203,slow=38						
MJAR	Matsushiro Arr	40.70	347	LR	LR	14 55 51.0	
	comp=Z,109nm,18.9s,baz=176,slow=35						
CMAR	Chiang Mai Arr	53.69	296	P	P	14 41 12.1	-0.4
	0.5nm,0.4s,baz=101,slow=4.7,SNR=2.3						
	0.5nm,0.4s						
MA2	Magadan	62.52	1	LR	LR	15 09 14.2	
	comp=Z,23nm,19.0s,baz=168,slow=36						
MKAR	Makanchi Array	76.55	320	P	P	14 43 40.8	+0.3
	0.4nm,0.8s,baz=101,slow=7.6,SNR=2.3						
	0.4nm,0.8s						
ZALV	Zalesovo Beam	77.64	327	P	P	14 43 46.8	+0.4
	0.5nm,0.5s,baz=106,slow=14,SNR=1.8						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	80.12	322	P	P	14 44 01.6	+1.6
	0.6nm,0.3s,baz=111,slow=5.1,SNR=1.8						
	0.6nm,0.3s						
ARU	Arti	92.79	326	LR	LR	15 26 04.6	
	comp=Z,51nm,21.0s,baz=133,slow=35						
TORD	Torodi Ar. Bea	146.13	289	PKPbc	PKPab	14 51 32.1	+0.2
	0.6nm,0.7s,baz=54,slow=4.3,SNR=3.6						

*AFAD **21** 14:33:13.2±0.0, 39°81N×39°03E, h19km±2km, MW3.6*
*ISK **21** 14:33:13.3, 39°86N×39°01E, h5km, ML3.5/35*

ISC 21 14:33:13.3±1.1, 39°87N±0°02×39°05E±0°02, h6km±10km, n51, σ0°99/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	Kelkit	0.32	29	P	Pb	14 33 21.1	-0.6
KELT				S	Sb	14 33 26.0	-1.2
KELT				*i* AML	AML	14 33 26.0	
	comp=E,8μm,0.4s						
KELT				*i* AML	AML	14 33 27.0	
	comp=N,8μm,0.5s						
ALUC	Giresun/Alucra	0.52	336	P	Pb	14 33 24.8	-0.2
ALUC				S	Sb	14 33 32.6	-0.3
ALUC				*i* AML	AML	14 33 33.0	
	comp=E,5μm,0.4s						
ALUC				*i* AML	AML	14 33 33.0	
	comp=N,3μm,0.3s						
EUZM	Uzumlu	0.52	108	P	Pg	14 33 24.1	+0.7
EUZM				S	Sb	14 33 34.3	+1.4
EUZM				*i* AML	AML	14 33 39.0	
	comp=N,1μm,0.6s						
EUZM				*i* AML	AML	14 33 41.0	
	comp=E,1μm,1.0s						
ILIC	ilic-Erzincan	0.56	222	Pg	Pg	14 33 23.8	-0.3
ILIC				Sg	Sg	14 33 31.5	+0.1
ERZN	Erzincan	0.59	118	Pg	Pb	14 33 25.6	-0.5
ERZN				Sg	Sb	14 33 34.9	+0.1
GUMT	Gumushane	0.68	29	Pg	Pb	14 33 27.2	-0.4
GUMT				Sg	Sb	14 33 36.9	-0.4
SUSE	Susehri	0.73	298	P	Pg	14 33 28.0	+0.5
SUSE				S	Sb	14 33 38.8	-0.2
SUSE				*i* AML	AML	14 33 39.0	
	comp=N,3μm,0.8s						
SUSE				*i* AML	AML	14 33 40.0	
	comp=E,1μm,0.3s						
KEMA	Kemaliye	0.74	216	P	Pg	14 33 26.9	-0.6
KEMA				S	Sg	14 33 36.6	-0.5
KEMA				*i* AML	AML	14 33 37.0	
	comp=N,2μm,0.5s						
KEMA				*i* AML	AML	14 33 37.0	
	comp=E,2μm,0.4s						
TNCL	Tunceli-Merkez	0.84	153	P	Pg	14 33 29.8	+0.3
TNCL				S	Sg	14 33 40.2	-0.3
TNCL				*i* AML	AML	14 33 44.0	
	comp=N,694nm,0.4s						
TNCL				*i* AML	AML	14 33 46.0	
	comp=E,993nm,0.5s						
ARPR	Arapgir-MALATY	0.95	216	Pg	Pg	14 33 31.2	-0.4
CUZAR	Zara_SIVAS	0.98	272	P	Pg	14 33 31.5	-0.8
CUZAR				S	Sg	14 33 45.4	+0.4
CUZAR				*i* AML	AML	14 33 51.0	
	comp=E,833nm,0.5s						
CUZAR				*i* AML	AML	14 33 52.0	
	comp=N,891nm,0.5s						
BAYT	Aydıntepe-Bayb	0.99	58	Pg	Pb	14 33 32.9	-0.1
BAYT				Sg	Sn	14 33 47.6	-0.7
BAYB	BAYBURT	1.00	67	P	Pb	14 33 32.9	-0.4
BAYB				S	Sn	14 33 48.0	-0.8
BAYB				*i* AML	AML	14 33 50.0	
	comp=E,785nm,0.4s						
BAYB				*i* AML	AML	14 33 51.0	
	comp=N,1μm,0.6s						
PTK	Pertek	1.01	165	Pg	Pg	14 33 33.1	+0.4
PTK				Sg	Sb	14 33 47.3	+0.3
ESPY	Espiye-Giresun	1.08	347	Pg	Pb	14 33 34.4	0.0
ESPY				Sg	Sb	14 33 49.2	+0.5
YEDI	Yedisu-Bingol	1.23	110	Pn	Pn	14 33 37.5	+0.2
KTUT	Trabzon	1.24	26	Pn	Pn	14 33 37.9	+0.6
KOVA	Elazig, Kovanc	1.30	153	P	Pg	14 33 37.3	-1.0
KOVA				S	Sg	14 33 54.3	-0.9
CUKAN	kangal_SIVAS	1.34	246	P	Pn	14 33 37.2	-1.6
CUKAN				S	Sg	14 33 54.8	-1.6
CUKAN				*i* AML	AML	14 34 05.0	
	comp=E,290nm,0.5s						
CUKAN				*i* AML	AML	14 34 05.0	
	comp=N,315nm,0.8s						
RSDY	Resadiye-TOKAT	1.42	292	Pn	Pn	14 33 39.8	0.0
IZDR	Rize	1.48	51	P	Pn	14 33 40.5	0.0
IZDR				S	Sb	14 33 59.7	-0.5
IZDR				*i* AML	AML	14 34 02.0	
	comp=E,266nm,0.4s						
IZDR				*i* AML	AML	14 34 07.0	
	comp=N,221nm,0.5s						
SCER	sogukcermik	1.48	270	P	Pn	14 33 40.8	+0.2
SCER				S	Sg	14 34 01.3	+0.5
SCER				*i* AML	AML	14 34 05.0	
	comp=E,785nm,0.7s						
SCER				*i* AML	AML	14 34 05.0	
	comp=N,766nm,0.7s						
SVRC	Sivrice-ELAZID	1.50	172	Pn	Pn	14 33 41.7	+0.7
KRIK	Erzurum-spir	1.51	71	P	Pn	14 33 38.3	-2.9
KRIK				S	Sb	14 34 00.4	-1.1
BNGB	Bingl	1.54	124	Pn	Pg	14 33 42.6	-0.2
SVSK	Karacayir	1.58	272	Pn	Pn	14 33 42.3	+0.4
MAYA	Malatya/Merkez	1.62	198	P	Pn	14 33 41.4	-1.1
MAYA				S	Sn	14 34 02.8	-0.9
MAYA				*i* AML	AML	14 34 05.0	
	comp=E,448nm,0.5s						
MAYA				*i* AML	AML	14 34 09.0	
	comp=N,340nm,0.6s						
KARO	Karliova-Bingo	1.64	109	Pn	Pg	14 33 44.5	-0.3
DARE	Darende-Malaty	1.78	224	Pn	Pn	14 33 45.2	+0.5
CHOM	Cayeli-Rize	1.79	46	Pn	Pb	14 33 46.5	-0.1
AKCD	Akcadag	1.80	210	P	Pn	14 33 45.5	+0.5
AKCD				S	Sb	14 34 10.0	+0.4
AKCD				*i* AML	AML	14 34 16.0	
	comp=E,544nm,0.5s						
AKCD				*i* AML	AML	14 34 18.0	
	comp=N,615nm,0.6s						
CUAYA	Sivas-Altinyay	1.88	252	P	Pb	14 33 47.8	-0.4
CUAYA				S	Sg	14 34 15.1	+1.4
CUAYA				*i* AML	AML	14 34 22.0	
	comp=E,204nm,0.7s						
CUAYA				*i* AML	AML	14 34 31.0	
	comp=N,185nm,1.1s						
TOKT	Tokat	1.97	284	Pn	Pn	14 33 48.0	+0.6
VRTB	Varto-Mus	1.99	110	Pn	Pn	14 33 48.7	+1.0
DYBB	Diyarbakir	2.09	156	Pn	Pn	14 33 50.2	+1.2
KOPR	Koprukoy-ERZUR	2.16	86	Pn	Pn	14 33 51.4	+1.4
SVAN	Silvan-Diyarba	2.40	135	Pn	Pn	14 33 55.0	+1.8
URFA	Urfa	2.43	184	Pn	Pn	14 33 54.9	+1.2
BCA	Borcka	2.51	50	Pn	Pn	14 33 56.4	+1.7
SARI	SarD1z-Kayseri	2.51	235	Pn	Pn	14 33 56.1	+1.2
KVT	Kavak	2.59	299	Pn	Pn	14 33 56.9	+1.1
MAZI	Mazidag	2.64	155	Pn	Pn	14 33 58.1	+1.5
BATM	Batumi	2.65	48	Pn	Pn	14 33 58.6	+1.9
BNN	Bunyan	2.68	249	Pn	Pn	14 33 58.4	+1.2
YOZ	Yozgat	2.88	267	Pn	Pn	14 34 00.8	+0.8
KMRS	Kahramanmaras	2.90	216	Pn	Pn	14 34 00.9	+0.8
AGRB	Hanur-Agry	3.05	94	Pn	Pn	14 34 04.2	+1.8
GAZ	Gaziantep	3.05	209	Pn	Pn	14 34 03.5	+1.3
DIKM	Dikmen	3.38	303	Pn	Pn	14 34 08.5	+1.8
CORM	Corum	3.41	277	Pn	Pn	14 34 08.1	+1.0
CMRD	Camardi-Nigde	3.86	237	Pn	Pn	14 34 15.0	+1.6

IDC 21 14:47:51.0±10.0, 5°46S×150°45E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=161.2km s-min=90.4km az=20.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.28	226	P	P	14 52 39.3	0.0
	0.2nm,0.4s,baz=52,slow=9.8,SNR=7.3						
	0.2nm,0.4s						
ASAR	Alice Springs	24.11	220	P	P	14 53 07.8

ISK 21 15:13:57.0, 38.12N×25.79E, h12km, ML1.9/4, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.67**	**69**	Pg	Pb	15 14 11.0	+0.3
URLA				Sg	Sb	15 14 20.5	+0.5
RFT5	**Foca**	**0.92**	**54**	Pg	Pb	15 14 14.9	0.0
RFT5				Sg	Sn	15 14 28.3	-0.6
SIGR	**SIGRI**	**1.09**	**3**	Pn	Pn	15 14 18.4	+0.4
SIGR				Sn	Sn	15 14 33.8	+0.8
EZN	**Ezine**	**1.75**	**14**	Pn	Pn	15 14 27.8	+0.7
EZN				Sn	Sb	15 14 50.6	-0.3

AFAD 21 15:14:30.2±0.0, 37.65N×28.22E, h7km±4km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.27**	**273**	P	Pb	15 14 38.4	+1.0
AYDN				S	Sb	15 14 40.8	-1.4
MULA	**Mugla, Merkez-**	**0.40**	**168**	P	Pg	15 14 38.8	+0.8
MULA				S	Sg	15 14 41.8	-1.4
MULA				*i* AML	AML	15 14 45.0	
	comp=E,35nm,0.2s						
IZMR	**zmir-demi**	**0.53**	**337**	P	Pg	15 14 40.7	+0.2
IZMR				*i* AML	AML	15 14 59.0	
	comp=N,36nm,1.2s						
GCAM	**G?zelcaml?**	**0.78**	**274**	P	Pg	15 14 41.8	-3.5
GCAM				S	Sg	15 14 46.8	-8.6
DDIM	**Aydin, Didim**	**0.80**	**257**	P	Pg	15 14 45.8	+0.3
BDRM	**Kayabasi**	**0.84**	**227**	P	Pg	15 14 45.9	-0.5
BDRM				*i* AML	AML	15 14 58.0	
	comp=E,10nm,0.2s						

*SFS **21** 15:16:48.3, 35.45N×3.76W, h21km, ML2.4/6, ML2.5/6, MLv2.3/6*
*CNRM **21** 15:16:48.8, 35.48N×3.73W, h21km, ml1.8*
*MDD **21** 15:16:49.8±0.6, 35.34N×3.77W, h44km, mb_Lg2.3/6, Error ellipse: s-maj=5.8km s-min=4.5km az=162.0*

ISC 21 15:16:49.1±1.0, 35.46N±0.03×3.76W±0.02, h25km±10km, n25, σ0.80/40, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.28**	**211**	P	**Pb**	**15 16 55.9**	**+0.1**
PALE				S	**Sb**	**15 17 00.1**	**-0.3**
PVLZ	**Peæn de**	**0.53**	**238**	P	**Pb**	**15 16 59.8**	**+0.1**
GOG	**Mont Gurugu**	**0.67**	**110**	P	**Pb**	**15 17 02.1**	**-0.1**
GOG				S	**Sb**	**15 17 09.8**	**-1.3**
WMELI	**Melilla**	**0.68**	**102**	S	**Sb**	**15 17 11.5**	**+0.3**
WMELI				P	**Pb**	**15 17 02.1**	**-0.2**
EALB	**Alboran**	**0.76**	**51**	P	**Pn**	**15 17 04.2**	**-0.1**
EALB				S	**Sb**	**15 17 14.2**	**+0.5**
EALB				*i* Vmb_Lg		15 17 16.1	
EALB	**Alboran**	**0.76**	**51**	S	**Sb**	**15 17 14.2**	**+0.5**
EALB				P	**Pb**	**15 17 03.8**	**+0.1**
CHAS	**Isla Isabel II**	**1.12**	**104**	P	**Pn**	**15 17 08.4**	**-0.8**
TAF	**Taforalt**	**1.28**	**120**	P	**Pn**	**15 17 11.6**	**+0.2**
TAF				S	**Sb**	**15 17 28.2**	**-0.3**
CHEFC	**Chefchaouen**	**1.34**	**255**	P	**Pb**	**15 17 13.2**	**-0.4**
SMIR	**Smir Dam**	**1.34**	**280**	P	**Pn**	**15 17 12.5**	**+0.3**
SMIR				S	**Sb**	**15 17 30.9**	**+0.6**
CEU	**Ceuta**	**1.39**	**289**	P	**Pn**	**15 17 11.5**	**-1.3**
ECEU	**Ceuta**	**1.39**	**289**	P	**Pn**	**15 17 12.8**	**-0.1**
ECEU				S	**Sn**	**15 17 28.7**	**-1.7**
ECEU				*i* Vmb_Lg		15 17 31.5	
ECEU	**Ceuta**	**1.39**	**289**	P	**Pn**	**15 17 12.5**	**-0.4**
ELGU	**Los Guajares,**	**1.41**	**4**	P	**Pn**	**15 17 13.4**	**+0.1**
ELGU				S	**Sn**	**15 17 30.1**	**-1.1**
ELGU				*i* Vmb_Lg		15 17 34.5	
JBK	**JBK**	**1.49**	**138**	P	**Pn**	**15 17 14.4**	**-0.1**
JBK				S	**Sn**	**15 17 33.2**	**0.0**
EBER	**Berja**	**1.60**	**26**	P	**Pn**	**15 17 16.4**	**+0.3**
EBER				S	**Sn**	**15 17 36.9**	**+0.9**
EBER				*i* Vmb_Lg		15 17 41.1	
EBER	**Berja**	**1.60**	**26**	P	**Pn**	**15 17 16.1**	**+0.1**
EGOR	**Sierra Gorda,**	**1.67**	**350**	P	**Pn**	**15 17 17.8**	**+0.8**
EGOR				S	**Sb**	**15 17 39.6**	**-0.4**
EGOR				*i* Vmb_Lg		15 17 49.8	
EQUE	**Quentar**	**1.76**	**8**	P	**Pb**	**15 17 19.8**	**-1.0**
EQUE				S	**Sn**	**15 17 41.2**	**+1.3**
EQUE				*i* Vmb_Lg		15 17 44.4	
MD31	**MD31**	**2.71**	**198**	P	**Pn**	**15 17 32.5**	**+1.2**
MDT	**Midelt**	**2.73**	**195**	P	**Pn**	**15 17 32.4**	**+1.0**
PVAQ	**Vaqueiros**	**3.74**	**302**	*eP*	**Pn**	**15 17 45.9**	**+0.7**
PVAQ				*eS*	**Sn**	**15 18 27.2**	**-1.2**
PVAQ				A	A	15 18 32.6	
	3.6nm,0.7s						
PBAR	**Barrancos**	**3.78**	**317**	*eP*	**Pn**	**15 17 47.3**	**+1.5**
PBAR				*eS*	**Sn**	**15 18 29.2**	**-0.2**
PCVE	**Castro Verde**	**4.07**	**303**	*eS*	**Sn**	**15 18 36.1**	**-0.6**
PCVE				A	A	15 18 52.1	
	2.6nm,0.8s						
PESTR	**Estremoz**	**4.58**	**319**	*eS*	**Sn**	**15 18 50.4**	**+1.3**

*KRSC **21** 15:27:15.4±1.0, 55.57N×165.98E, h36km±12km, Ml3.7*
*IDC **21** 15:27:17.7±1.9, 55.19N×166.11E, h0km, mb3.3/3, mbtmp3.3/4, ML2.4/1, MS2.5/1, Error ellipse: s-maj=88.8km s-min=22.6km az=163.0*

ISC 21 15:27:19.2±1.1, 55.61N±0.06×165.77E±0.08, h10km, n36, σ1.30/43, mb3.4/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.42**	**164**	*eS*	**Sg**	**15 27 30.9**	**-2.1**
KBTR	**Krutoberegovo**	**1.76**	**291**	*eP*	**Pn**	**15 27 46.3**	**-3.4**
KBTR				*eS*	**Sn**	**15 28 09.5**	**-2.7**
MKZ	**Mys Kozlova**	**2.55**	**247**	*eP*	**Pn**	**15 27 58.9**	**-1.6**
MKZ				*eS*	**Sn**	**15 28 30.2**	**-1.3**
SMKR	**Semkarok**	**2.60**	**294**	*eP*	**Pn**	**15 27 59.9**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**2.88**	**279**	*eP*	**Pn**	**15 28 04.2**	**-1.0**
KLY	**Klyuchi**	**2.96**	**286**	*eP*	**Pn**	**15 28 03.2**	**-2.9**
BZWR	**Bezymyannyi-We**	**3.00**	**279**	*eP*	**Pn**	**15 28 06.0**	**-0.8**
KIRR	**Kirishev**	**3.08**	**279**	*eP*	**Pn**	**15 28 07.1**	**-0.9**
TUMD	**Tumrok D**	**3.09**	**265**	*eP*	**Pn**	**15 28 06.9**	**-1.1**
TUMD				*eS*	**Sn**	**15 28 46.2**	**+1.3**
KMNR	**Kamenistaya**	**3.13**	**275**	*eP*	**Pn**	**15 28 08.5**	**-0.1**
KPT	**Kopyto**	**3.15**	**279**	*eP*	**Pn**	**15 28 08.3**	**-0.6**
KZV	**Kizimen**	**3.16**	**263**	*eP*	**Pn**	**15 28 08.2**	**-0.9**
TUMR	**Tumrok**	**3.22**	**266**	*eP*	**Pn**	**15 28 09.4**	**-0.4**
KOZ	**Kozyrevsk**	**3.35**	**280**	*eP*	**Pn**	**15 28 11.4**	**-0.2**
SRDR	**Sredinnyy**	**3.47**	**284**	*eP*	**Pn**	**15 28 12.8**	**-0.5**
SRDR				*eS*	**Sn**	**15 28 55.5**	**+1.0**
KII	**Karymskiy**	**3.98**	**249**	*eP*	**Pn**	**15 28 19.6**	**-0.7**
SDLR	**Sedlovina**	**4.65**	**243**	*eP*	**Pn**	**15 28 28.9**	**-0.6**
SMAR	**Somma**	**4.70**	**243**	*eP*	**Pn**	**15 28 29.7**	**-0.5**
KRER	**Koryakskii**	**4.70**	**243**	*eP*	**Pn**	**15 28 30.1**	**-0.2**
UGLR	**Uglovaya**	**4.72**	**242**	*eP*	**Pn**	**15 28 29.7**	**-0.6**
KRX	**Arik**	**4.72**	**244**	*eP*	**Pn**	**15 28 30.3**	**-0.2**
AVH	**Avacha**	**4.73**	**243**	*eP*	**Pn**	**15 28 30.3**	**-0.2**
AVH				*eS*	**Sn**	**15 29 25.7**	**+0.3**
KOK	**Koryaka**	**4.77**	**244**	*eP*	**Pn**	**15 28 30.9**	**-0.2**
PET	**Petropavlovsk**	**4.91**	**241**	*eP*	**Pn**	**15 28 31.8**	**-1.1**
PET				*eS*	**Sn**	**15 29 28.0**	**-1.6**
GNL	**Ganaly**	**4.93**	**250**	*eP*	**Pn**	**15 28 33.5**	**+0.2**
KRMR	**Karymshinskiy**	**5.28**	**241**	*eP*	**Pn**	**15 28 37.6**	**-0.4**
KRMR				*eS*	**Sn**	**15 29 37.9**	**-0.8**
PETK	**Petropavlovsk-**	**5.34**	**245**	Pn	**Pn**	**15 28 38.2**	**-0.7**
	0.6nm,0.3s,baz=67,slow=17,SNR=26						
PETK				Sn	**Sn**	**15 29 42.2**	**+1.7**
	0.5nm,0.3s,baz=78,slow=40,SNR=2.2						
PETK				LR	LR	15 31 00.3	
	comp=Z,47nm,20.4s,baz=144,slow=42						
	0.9nm,0.3s						
MTVR	**Mutnovka**	**5.46**	**238**	*eP*	**Pn**	**15 28 40.0**	**-0.6**
MTVR				*eS*	**Sn**	**15 29 41.6**	**-1.8**
GRL	**Gorelyy**	**5.47**	**239**	*eP*	**Pn**	**15 28 40.7**	**0.0**
ASAK	**Asacha**	**5.66**	**238**	*eP*	**Pn**	**15 28 43.2**	**0.0**
ASAK				*eS*	**Sn**	**15 29 48.0**	**-0.2**
ILAR	**Eielson Array**	**24.67**	**49**	P	**P**	**15 32 40.2**	**+0.6**
	0.8nm,1.0s,baz=259,slow=8.6,SNR=4.9						
	0.8nm,1.0s						
H11N2	**WAKE ISLAND Hy 35.83**	**178**		T	T	16 12 06.1	
	baz=359,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy 35.85**	**178**		T	T	16 12 08.0	
	baz=359,slow=76,SNR=4.5						
H11N1	**WAKE ISLAND Hy 35.85**	**178**		T	T	16 12 08.9	
	baz=359,slow=76,SNR=4.3						
SONM	**Songino Array**	**36.56**	**283**	P	**P**	**15 34 27.7**	**+2.8**
	0.3nm,0.7s,baz=47,slow=11,SNR=2.0						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**66.64**	**72**	P	**P**	**15 38 10.1**	**+0.2**
	0.3nm,0.6s,baz=307,slow=3.3,SNR=4.2						
	0.3nm,0.6s						

IDC 21 15:40:25.4±3.4, 33.82S×178.93W, h0km, mb3.5/2, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=75.6km s-min=37.3km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.47**	**215**	Pn	Pn	15 41 48.4	+0.2
	3.3nm,0.3s,baz=352,slow=3.2,SNR=14						
URZ				Sn	Sn	15 42 51.7	0.0
	3.4nm,0.3s,baz=90,slow=19,SNR=9.4						
	7.6nm,0.3s						
ASAR	**Alice Springs**	**42.26**	**271**	P	P	15 48 20.8	0.0
	0.5nm,0.7s,baz=109,slow=7.6,SNR=8.3						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**43.56**	**276**	P	P	15 48 31.1	-0.2
	0.5nm,0.6s,baz=117,slow=8.0,SNR=8.7						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**148.03**	**337**	PKPbc	PKPbc	16 00 11.3	-0.8
	2.7nm,1.0s,baz=46,slow=6.0,SNR=2.1						

*IDC **21** 15:50:51.9±0.5, 35.92N×142.44E, h0km, mb4.5/23, mbtmp4.5/30, ML3.8/7, MS4.1/56, Error ellipse: s-maj=13.5km s-min=13.3km az=155.0*
*BJI **21** 15:50:53.7±0.0, 36.05N×142.14E, h12km, mb4.8/79, mB5.2/50, Ms4.9/72, Ms7 4.7/70*
*MOS **21** 15:50:53.9±1.1, 36.11N×142.38E, h20km, mb5.0/50, MS4.5/11, Error ellipse: s-maj=7.4km s-min=4.5km az=110.2*
*NEIC **21** 15:50:53.7±2.2, 36.03N±0.06×142.42E±0.10, h10km±1km, mb4.9/128, Mww4.7/12, Error ellipse: s-maj=13.6km s-min=9.6km az=106.0*
*NIED **21** 15:50:54.3, 35.97N×142.44E, h74km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.38; $M_{\theta\theta}$-0.28; $M_{\phi\phi}$-1.10; $M_{r\theta}$-0.95; $M_{\theta\phi}$-0.23; $M_{\phi r}$0.16; Fault plane solution: $M_0$1.50000×10^{16} NP1: ϕ_s220.00000°, δ53.00000°, λ122.00000°. NP2: ϕ_s354.00000°, δ47.00000°, λ55.00000°.*
*NEIC **21** 15:50:54.5, 36.06N×142.45E, h12km*
*JMA **21** 15:50:54.3±0.3, 36.0N±0.7×14.2E±, h74km, MD4.8/37, MV4.2/37, FAR E OFF KANTO*
*NEIC **21** 15:50:54.5, 35.86N×142.70E, h12km, Moment Tensor Solution. Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.13; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-0.79; $M_{r\theta}$0.19; $M_{\theta\phi}$-0.32; $M_{\phi r}$1.08; Fault plane solution: $M_0$1.51000×10^{16} NP1: ϕ_s213.83000°, δ22.75000°, λ107.05000°. NP2: ϕ_s15.43000°, δ68.30000°, λ82.99000°. Principal axes: T 1.6156, Plg66.0000°, Azm273.0000°; N -0.2129, Plg7.0000°, Azm18.0000°; P -1.4027, Plg23.0000°, Azm111.0000°;*
*GCMT **21** 15:50:55.7±0.6, 35.84N±0.05×142.64E±0.05, h18km±1km, MW4.8/65, Moment Tensor Solution. s13,c13; s65,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.74±.17; $M_{\theta\theta}$-0.60±.11; $M_{\phi\phi}$-1.14±.10; $M_{r\theta}$0.50±.30; $M_{\theta\phi}$-0.53±.06; $M_{\phi r}$0.59±.24; Best double couple: $M_0$1.78100×10^{16} NP1:ϕ_s35.00000°, δ58.00000°, λ93.00000°. NP2: ϕ_s209.00000°, δ32.00000°, λ85.00000°. Principal axes: T 1.9210, Plg77.0000°, Azm315.0000°; N -0.2770, Plg3.0000°, Azm213.0000°; P -1.6410, Plg13.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 15:50:57.3±0.4, 35.99N±0.04×142.42E±0.04, h38km±1km, h39km:pP-P, n624, σ1.972/553, mb4.8/145, MS4.4/80, 16C-13D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.53**	**284**	P	**Pn**	**15 51 20.3**	**-1.7**
JHYU				*eS*	**Sn**	**15 51 40.5**	**-0.2**
JHYU	**Hitachinakayam**	**1.53**	**284**	A	A	15 51 20.3	
	comp=E,27nm,3.0s,comp=N,34nm,6.8s						
JIHU	**Itakohorinouch**	**1.54**	**270**	*eP*	**Pn**	**15 51 20.9**	**-1.3**
JIHU	**Itakohorinouch**	**1.54**	**270**	A	A	15 51 20.9	
	comp=E,103nm,4.1s,comp=N,114nm,4.6s						
JHO	**Hitachi**	**1.62**	**293**	*eP*	**Pn**	**15 51 21.1**	**-2.2**
JHO	**Hitachi**	**1.62**	**293**	A	A	15 51 21.1	
	comp=Z,21nm,4.7s,comp=E,20nm,4.9s,comp=N,17nm,7.4s						
JSMT	**Sammumatsuo**	**1.64**	**259**	*eP*	**Pn**	**15 51 22.4**	**-1.2**
JSMT	**Sammumatsuo**	**1.64**	**259**	A	A	15 51 22.4	
	comp=E,78nm,4.2s,comp=N,104nm,8.4s						
ONAJ	**Iwakimizuishiy**	**1.72**	**311**	A	A	15 51 23.0	
	comp=E,12nm,4.7s,comp=N,14nm,4.8s						
BSO1	**Boso 1**	**1.78**	**222**	*eP*	**Pn**	**15 51 23.7**	**-1.3**
BSO1				*i* S	**Sn**	**15 51 47.1**	**+1.1**
JYT	**Yasato**	**1.82**	**278**	A	A	15 51 24.4	
	comp=E,9.0nm,2.9s,comp=N,14nm,3.9s						
JFK	**Kawauchi**	**1.86**	**318**	P	**Pn**	**15 51 24.6**	**-2.0**
JFK				*eS*	**Sn**	**15 51 48.0**	**-0.9**
JFK	**Kawauchi**	**1.86**	**318**	A	A	15 51 24.6	
	comp=E,13nm,5.2s,comp=N,12nm,3.1s						
JFFD	**Fukushimafurud**	**1.86**	**307**	A	A	15 51 24.9	
	comp=E,9.0nm,5.6s,comp=N,10.0nm,6.8s						
JCN	**Nagara**	**1.90**	**253**	A	A	15 51 25.3	
	comp=E,88nm,5.9s,comp=N,90nm,7.0s						
BSO3	**Boso 3**	**1.96**	**233**	P	**Pn**	**15 51 26.3**	**-1.4**
JKUC	**kamogawauchiur**	**1.99**	**246**	A	A	15 51 26.6	
	comp=E,20nm,4.1s,comp=N,30nm,6.9s						
JMST	**Minamisoumatoc**	**2.13**	**325**	A	A	15 51 28.6	
	comp=E,9.0nm,3.9s,comp=N,8.0nm,1.5s						
TOK	**Tokyo**	**2.19**	**263**	A	A	15 51 29.3	
	comp=E,64nm,4.1s,comp=N,80nm,6.7s						
JSB	**Shiboa**	**2.24**	**297**	A	A	15 51 30.2	
	comp=E,50nm,4.6s,comp=N,36nm,5.4s						
TATJ	**Tateyama 2**	**2.28**	**246**	A	A	15 51 30.5	
	comp=E,40nm,2.6s,comp=N,40nm,10.6s						
JMM	**Marumori**	**2.29**	**326**	Pn	**Pn**	**15 51 30.5**	**-2.0**
JMM	**Marumori**	**2.29**	**326**	P	**Pn**	**15 51 30.7**	**-1.8**
JMM	**Marumori**	**2.29**	**326**	A	A	15 51 30.9	
	comp=E,8.0nm,5.2s,comp=N,10.0nm,6.0s						
JOTO	**OTAMA OYAMA**	**2.30**	**314**	P	**Pn**	**15 51 31.9**	**-0.7**
JOTO	**OTAMA OYAMA**	**2.30**	**314**	A	A	15 51 31.9	
	comp=E,18nm,1.4s,comp=N,23nm,3.9s						
JYO	**Yokosk**	**2.37**	**252**	A	A	15 51 31.9	
	comp=E,66nm,6.7s,comp=N,52nm,5.6s						
JAG	**Ashikaga**	**2.44**	**281**	P	**Pn**	**15 51 32.8**	**-1.8**
JAG				*eS*	**Sn**	**15 52 02.9**	**-0.3**
JAG	**Ashikaga**	**2.44**	**281**	A	A	15 51 32.8	
	comp=E,11nm,7.6s,comp=N,7.0nm,3.0s						
JHU	**Hanno**	**2.55**	**268**	A	A	15 51 34.5	
	comp=E,8.0nm,5.2s,comp=N,10.0nm,4.3s						
JFY	**Yanaizu**	**2.61**	**304**	A	A	15 51 35.3	
	comp=E,10.0nm,4.7s,comp=N,10.0nm,6.0s						
JYAR	**Yonezawaarcadi**	**2.65**	**317**	A	A	15 51 35.9	
	comp=E,17nm,1.2s,comp=N,17nm,3.8s						
JIM2	**Oshima 3**	**2.75**	**244**	A	A	15 51 37.2	
	comp=E,18nm,6.0s,comp=N,21nm,8.0s						
JOU	**Okura**	**2.76**	**330**	A	A	15 51 37.5	
	comp=E,13nm,2.0s,comp=N,16nm,2.1s						
JOD2	**Odawara 2**	**2.81**	**256**	*eP*	**Pn**	**15 51 38.0**	**-1.7**
JOD2				*eS*	**Sn**	**15 52 11.4**	**-0.9**
JOD2	**Odawara 2**	**2.81**	**256**	A	A	15 51 38.0	
	comp=E,18nm,4.0s,comp=N,17nm,4.1s						
JRY	**Ryogami san**	**2.86**	**272**	P	**Pn**	**15 51 38.7**	**-1.6**
JOFO	**Osakifurukawao**	**2.88**	**336**	A	A	15 51 39.0	
	comp=E,57nm,2.7s,comp=N,57nm,3.5s						
JYS	**Shirataka**	**2.92**	**321**	A	A	15 51 39.7	
	comp=E,11nm,1.7s,comp=N,12nm,4.0s						
JNS	**Sasagawa**	**3.09**	**307**	*eP*	**Pn**	**15 51 43.7**	**+0.2**
JGK	**Kuni**	**3.11**	**282**	A	A	15 51 42.3	
	comp=E,10.0nm,7.1s,comp=N,16nm,4.3s						
JMK	**Ichinoseki**	**3.11**	**342**	*eP*	**Pn**	**15 51 42.2**	**-1.6**
JMK				*eS*	**Sn**	**15 52 19.2**	**-0.5**
JMK	**Ichinoseki**	**3.11**	**342**	A	A	15 51 42.2	
	comp=E,9.0nm,3.5s,comp=N,6.0nm,4.0s						
JFNN	**Fujinakano**	**3.15**	**257**	*eP*	**Pn**	**15 51 43.1**	**-1.2**
JYN	**Shimob**	**3.19**	**262**	*eP*	**Pn**	**15 51 43.9**	**-1.1**
JYK	**Kaneyama**	**3.36**	**331**	*eP*	**Pn**	**15 51 45.9**	**-1.3**
MJAR	**Matsushiro Arr**	**3.45**	**280**	Pn	**Pn**	**15 51 46.5**	**-2.0**
	comp=N,1.3nm,0.3s,baz=86,slow=26,SNR=166						
MJAR				LR	LR	15 53 29.2	
	comp=N,3μm,18.9s,baz=122,slow=45						
	comp=N,33nm,0.7s						
MAJO	**Matsushiro**	**3.45**	**281**	Pn	**Pn**	**15 51 48.3**	**-0.2**
MAJO	**Matsushiro**	**3.45**	**281**	P	**Pn**	**15 51 48.3**	**-0.2**
MAJO	**Matsushiro**	**3.45**	**281**	*eP*	**Pn**	**15 51 48.3**	**-0.2**
MAT	**Matsushiro**	**3.45**	**281**	*eP*	**Pn**	**15 51 48.2**	**-0.3**
MJB9	**Matsu-Tunnel**	**3.46**	**281**		**Pn**	**15 51 49.1**	**+0.6**
JHJ2	**Mitsune**	**3.58**	**218**	Pn	**Pn**	**15 51 50.2**	**-0.1**
JHJ2	**Mitsune**	**3.58**	**218**	P	**Pn**	**15 51 52.2**	**+1.9**
JHJ	**Hachijo jima 2**	**3.59**	**218**	Pn	**Pn**	**15 51 47.9**	**-2.6**
	comp=N,27nm,0.3s,baz=82,slow=22,SNR=1.9						
JHJ				Sn	**Sn**	**15 52 28.5**	**-3.1**
	comp=N,174nm,0.3s,baz=80,slow=23,SNR=3.9						
JHJ				LR	LR	15 53 01.9	
	comp=N,959nm,20.3s,baz=43,slow=37						
	comp=N,84nm,0.3s						
JOM	**Ohasama**	**3.60**	**346**	*eP*	**Pn**	**15 51 49.2**	**-1.2**
JOM				*eS*	**Sn**	**15 52 31.9**	**+0.3**
JSG	**Sagara**	**3.70**	**251**		**Pn**	**15 51 49.7**	**-2.3**
JSD	**Sado**	**3.91**	**303**	Pn	**Pn**	**15 51 53.8**	**-1.0**
JSD	**Sado**	**3.91**	**303**	P	**Pn**	**15 51 54.0**	**-0.8**
INU	**Inuyama**	**4.45**	**263**	Pn	**Pn**	**15 52 00.7**	**-1.5**
INU	**Inuyama**	**4.45**	**263**	P	**Pn**	**15 52 02.3**	**+0.1**
JTM	**Tenmabayashi**	**4.91**	**348**		**Pn**	**15 52 07.3**	**-1.2**
ERM	**Erimo**	**6.05**	**5**	Pn	**Pn**	**15 52 20.9**	**-3.2**
ERM	**Erimo**	**6.05**	**5**	P	**Pn**	**15 52 21.5**	**-2.6**
ERM	**Erimo**	**6.05**	**5**	*d iP*	**Pn**	**15 52 21.2**	**-2.9**
JEM	**Erimo**	**6.05**	**5**	P	**Pn**	**15 52 21.5**	**-2.6**
JMN	**Monobe**	**7.38**	**255**	Pn	**Pn**	**15 52 40.0**	**-2.4**
NMR	**Nemuro--Hokkai**	**7.80**	**18**	*eP*	Pn	15 52 43.6	-4.6
NMR				*eS*	Sn	15 54 06.8	-8.3
JKA	**Kamikawa-asahi**	**8.12**	**1**	Pn	**Pn**	**15 52 50.0**	**-2.6**
ASAJ	**Asahikawa**	**8.12**	**1**	Pn	**Pn**	**15 52 50.2**	**-2.3**
	comp=N,7.6nm,0.3s,baz=223,slow=11,SNR=55						
ASAJ				Sn	**Sn**	**15 54 21.9**	**-1.2**
	comp=N,4.1nm,0.3s,baz=64,slow=26,SNR=6.5						
	comp=N,68nm,0.7s						
RUSJ	**Misakicho**	**8.39**	**14**	*eP*	**Pn**	**15 52 54.3**	**-2.0**
RUSJ				*eS*	**Sn**	**15 54 24.2**	**-5.5**
YUK	**Yuzh-Kuril'sk**	**8.46**	**17**	P	**Pn**	**15 52 54.8**	**-2.4**
YUK				*eS*	Sn	15 54 23.9	-7.4
YUK				pmax	pmax		
	comp=Z,46nm,0.2s						
YUK				MLR	MLR		
	comp=Z,3μm,17.0s						
SHO	**Shikotan**	**8.57**	**22**	P	**Pn**	**15 52 56.8**	**-1.9**
SHO				*eS*	Sn	15 54 25.5	-8.5
SHO				pmax	pmax		
	comp=Z,33nm,0.4s						
JCJ	**Chichijima**	**8.87**	**181**	LR	LR	15 57 15.8	
	comp=Z,185nm,21.1s,baz=136,slow=44						
JNU	**Nakatsue**	**9.94**	**257**	Pn	**Pn**	**15 53 14.8**	**-2.8**
JNU	**Nakatsue**	**9.94**	**257**	Pn	**Pn**	**15 53 16.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=100,slow=5.9,SNR=7.0						
JNU				LR	LR	15 57 39.9	
	comp=Z,3μm,18.4s,baz=83,slow=41						
	comp=Z,13nm,0.7s						
KUR	**Kuril'sk**	**10.12**	**22**	P	**Pn**	**15 53 22.5**	**+2.6**
KUR				S	**Sn**	**15 55 04.9**	**-7.1**
YSS	**Yuzh-Sakhalins**	**10.96**	**1**	Pn	**Pn**	**15 53 28.8**	**-2.6**
YSS	**Yuzh-Sakhalins**	**10.96**	**1**	*eP*	**Pn**	**15 53 29.3**	**-2.1**
YSS				*eS*	**Sn**	**15 55 26.7**	**-6.0**
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				pmax	pmax		
	comp=Z,400nm,3.2s						
YSS				smax	smax		
	comp=N,80nm,1.0s						
USA0B	**Ussuriysk Arra**	**11.45**	**319**		**Pn**	**15 53 36.4**	**-1.7**
USA0B	**Ussuriysk Arra**	**11.45**	**319**	⇑*eP*	**Pn**	**15 53 36.6**	**-1.5**
USRK	**Ussuriysk Ar.**	**11.45**	**319**	Pn	**Pn**	**15 53 36.2**	**-1.8**
USRK	**Ussuriysk Ar.**	**11.45**	**319**	Pn	**Pn**	**15 53 36.9**	**-1.2**
	comp=N,0.4nm,0.3s,baz=141,slow=12,SNR=12						
USRK				LR	LR	15 57 58.2	
	comp=N,2μm,18.5s,baz=138,slow=37						
	comp=N,7.9nm,0.7s						
KSRS	**Korea Array**	**11.73**	**281**	Pn	**Pn**	**15 53 42.6**	**+0.6**
	comp=N,0.4nm,0.3s,baz=98,slow=14,SNR=30						
KSRS				LR	LR	15 58 03.6	
	comp=N,617nm,19.7s,baz=90,slow=37						
	comp=N,13nm,0.9s						
KSAR	**Wonju Array Be**	**11.76**	**281**		**Pn**

DL2 LR LR
comp=Z,2μm,10.8s
OKH Okha 17.57 1 *de*P Pn 15 54 49.1 -10
OKH MLR MLR
comp=N,1μm,14.0s
OKH MLR MLR
comp=Z,800nm,15.0s
HEH HeiHe 17.93 327 *e*P **Pn 15 54 59.8 -3.7**
HEH pP **P 15 55 03.8 0.0**
HEH S **Sn 15 58 20.3 -2.0**
HEH pmax pmax
comp=Z,13nm,0.9s
HEH pmax pmax
comp=Z,360nm,5.9s
HEH LR LR
comp=Z,2μm,12.9s
HEH LR LR
comp=Z,2μm,11.3s
HEH LR LR
comp=Z,3μm,13.1s
SSE Sheshan 18.35 261 P **P 15 55 06.9 -1.6**
SSE S **Sn 15 58 33.3 +0.6**
SSE pmax pmax
comp=Z,12nm,1.3s
SSE pmax pmax
comp=Z,290nm,5.7s
SSE LR LR
comp=Z,1μm,16.2s
SSE LR LR
comp=Z,1μm,16.3s
NJ2 Nanjing 19.91 265 *e*P **P 15 55 25.5 -0.1**
NJ2 pP **Pn 15 55 30.0 +2.5**
NJ2 sP **pP 15 55 32.0 -2.6**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,860nm,6.0s
NJ2 LR LR
comp=Z,1μm,10.4s
NJ2 LR LR
comp=Z,2μm,12.0s
NJ2 LR LR
comp=Z,2μm,11.2s
PEA0B Petropavlovsk- 20.21 27 P **P 15 55 29.3 +0.6**
PEA0B Petropavlovsk- 20.21 27 P **P 15 55 29.3 +0.6**
PEA0B pmax pmax
comp=Z,38nm,1.1s
PETK Petropavlovsk- 20.21 27 P **P 15 55 27.8 -1.0**
PETK Petropavlovsk- 20.21 27 P **P 15 55 28.5 -0.2**
comp=Z,11nm,1.1s,baz=248,slow=7.2,SNR=7.2
PETK LR LR 16 04 59.4
comp=Z,294nm,18.1s,baz=209,slow=42
comp=Z,11nm,1.1s
TIA Tai'an 20.43 278 P **P 15 55 29.0 -2.3**
TIA pmax pmax
comp=Z,10.0nm,1.0s
TIA LR LR
comp=Z,1μm,14.5s
TIA LR LR
comp=Z,2μm,13.4s
TIA LR LR
comp=Z,2μm,14.3s
PET Petropavlovsk 20.51 29 *e*P **P 15 55 33.1 +1.2**
PET *e*S **S 15 59 16.3 -2.8**
PET pmax pmax
comp=Z,43nm,1.2s
PET MLR MLR
comp=Z,600nm,12.0s
PET MLR MLR
comp=Z,800nm,15.0s
ZEA Zeya 20.68 334 *e*P **P 15 55 32.9 -0.8**
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,40nm,0.8s
ZEA MLR MLR
comp=E,1μm,10.0s
ZEA MLR MLR
comp=N,1μm,16.0s
ZEA MLR MLR
comp=Z,1μm,13.0s
BJI Beijing 21.05 289 P **P 15 55 36.4 -1.4**
BJI pP **pP 15 55 40.6 -6.2**
BJI sP pwP 15 55 42.8 -7.7
BJI S **S 15 59 25.3 -4.6**
BJI pmax pmax
comp=Z,7.0nm,1.0s
BJI LR LR
comp=Z,500nm,10.8s
BJI LR LR
comp=Z,710nm,11.1s
BJI LR LR
comp=Z,630nm,11.9s
BJT Baijiatuau 21.05 289 P **P 15 55 36.4 -1.4**
BJT Baijiatuau 21.05 289 P **P 15 55 36.4 -1.4**
BJT pmax pmax
comp=Z,13nm,0.9s
HIA Hailar 21.22 316 P **P 15 55 37.6 -2.1**
HIA Hailar 21.22 316 P **P 15 55 37.6 -2.1**
HIA pmax pmax
comp=Z,12nm,0.8s
XLT XiLinHaoTe 21.63 299⇑ *i*P **P 15 55 41.8 -2.3**
XLT PcS **PcS 16 03 25.3 +2.3**
XLT pmax pmax
comp=Z,33nm,1.0s
XLT pmax pmax
comp=Z,310nm,6.4s
XLT LR LR
comp=Z,2μm,11.5s
XLT LR LR
comp=Z,2μm,12.3s
HNS HongShan 22.24 282 ⇓P **P 15 55 47.3 -3.4**
HNS S **S 15 59 47.4 -5.8**
HNS pmax pmax
comp=Z,23nm,0.8s
HNS LR LR
comp=Z,1μm,12.2s
HNS LR LR
comp=Z,2μm,11.8s
HNS LR LR
comp=Z,2μm,11.4s
WHN Wuhan 24.05 265⇑P **P 15 56 07.8 -1.0**
WHN pP **pP 15 56 12.4 -5.8**
WHN sP **sP 15 56 16.8 -6.4**
WHN pmax pmax
comp=Z,46nm,0.7s
WHN LR LR
comp=Z,8μm,13.7s
MA2 Magadan 24.22 10 P **P 15 56 08.3 -1.9**
MA2 IAmb IAmb 15 56 13.3
comp=Z,40nm,1.1s
MA2 Magadan 24.22 10⇑ *e*P **P 15 56 10.9 +0.8**
MA2 pmax pmax
comp=Z,29nm,1.1s
MA2 Magadan 24.22 10 LR LR 16 06 37.2
comp=Z,458nm,18.5s,baz=203,slow=39
LYN LuoYang 24.46 275 ⇓P **P 15 56 12.8 +0.2**
LYN pP pP 15 56 17.8 -4.4
LYN sP sP 15 56 19.8 -7.2
LYN S **S 16 00 30.4 +0.3**
LYN sS sS 16 00 36.3 -8.5
LYN pmax pmax
comp=Z,34nm,1.8s
LYN pmax pmax
comp=Z,670nm,5.5s
LYN LR LR
comp=Z,2μm,16.1s
LYN LR LR
comp=Z,2μm,13.4s
LYN LR LR
comp=Z,4μm,14.8s
HHC Hu-ho-hao-te 24.59 291 *e*P **P 15 56 14.8 +1.0**
HHC sP pP 15 56 21.0 -2.4
HHC S **S 16 00 35.3 +2.9**
HHC sS sS 16 00 43.0 -4.1
HHC pmax pmax
comp=Z,120nm,1.1s
HHC pmax pmax
comp=Z,390nm,4.9s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,2μm,14.2s
HHC LR LR
comp=Z,3μm,14.9s
BTO Baotou 25.76 290 *e*P **P 15 56 26.8 +2.4**
BTO pP **pP 15 56 31.3 -2.6**
BTO sP **sP 15 56 33.6 -5.3**
BTO PP **PnPn 15 57 07.3 +5.2**
BTO S **S 16 00 58.1 +7.1**
BTO sS **sS 16 01 03.3 -2.5**
BTO pmax pmax
comp=Z,160nm,0.8s
BTO pmax pmax
comp=Z,730nm,5.3s
BTO LR LR
comp=Z,2μm,14.3s
BTO LR LR
comp=Z,2μm,12.8s
BTO LR LR
comp=Z,2μm,12.8s
CNSH ChangSha 26.10 261⇑P **P 15 56 28.6 +1.1**
CNSH pmax pmax
comp=Z,24nm,1.1s
CNSH LR LR
comp=Z,2μm,14.1s
CNSH LR LR
comp=Z,2μm,14.4s
H11N2 WAKE ISLAND Hy 26.91 120 T T 16 24 44.0
baz=312,slow=75,SNR=108
H11N1 WAKE ISLAND Hy 26.92 120 T T 16 24 33.6
baz=312,slow=75,SNR=115
H11N3 WAKE ISLAND Hy 26.93 120 T T 16 24 38.0
baz=312,slow=75,SNR=123
YAK Yakutsk 27.27 347 P **P 15 56 36.8 -0.9**
YAK Yakutsk 27.27 347 **P 15 56 37.0 -0.7**
YAK Yakutsk 27.27 347 *e*P **P 15 56 38.5 +0.8**
YAK *e**PP **pP 15 56 43.0 -3.8**
YAK *e*PPP PPP 15 57 29.6
YAK *e*S **S 16 01 19.6 +5.5**
YAK *e**SS **sS 16 01 33.2 +4.3**
YAK *e*SS **SnSn 16 02 28.9 +4.5**
YAK *e*SSS SSS 16 02 51.7
YAK pmax pmax
comp=Z,40nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=Z,488nm,4.3s
YAK pmax pmax
comp=E,207nm,3.4s
YAK pmax pmax
comp=N,305nm,4.7s
YAK smax smax
comp=E,171nm,3.8s
YAK smax smax
comp=N,63nm,3.5s
YAK MLR MLR
comp=Z,540nm,15.0s
YAK MLR MLR
comp=N,435nm,16.0s
YAK MLR MLR
comp=E,413nm,15.0s
XAN Xi'an 27.43 276 P **P 15 56 39.3 -0.2**
XAN pP pP 15 56 45.8 -3.4
XAN pmax pmax
comp=E,54nm,1.6s
XAN pmax pmax
comp=E,220nm,9.4s
XAN LR LR
comp=E,2μm,12.5s
XAN LR LR
comp=E,2μm,14.8s
XAN LR LR
comp=E,2μm,14.2s
H11S1 WAKE ISLAND Hy 27.61 123 T T 16 25 30.8
baz=314,slow=75,SNR=185
H11S3 WAKE ISLAND Hy 27.61 123 T T 16 25 21.4
baz=314,slow=75,SNR=165
H11S2 WAKE ISLAND Hy 27.62 123 T T 16 25 27.5
baz=314,slow=75,SNR=132
SEY Seymchan 27.67 10⇑ *e*P **P 15 56 42.1 +0.9**
SEY pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 28.62 306 P **P 15 56 51.9 +1.8**
ULN IAmb IAmb 15 57 12.3
comp=Z,24nm,1.0s
ULN Ulaanbaatar 28.62 306 P **P 15 56 51.6 +1.5**
ULN Ulaanbaatar 28.62 306 P **P 15 56 51.9 +1.8**
ULN pmax pmax
comp=Z,24nm,1.0s
BOD Bodaibo 28.85 328 *e*P **P 15 56 52.3 +0.5**
BOD pmax pmax
comp=Z,55nm,1.6s
SONM Songino Array 29.05 305 P **P 15 56 54.4 +0.5**
SONM IAmb IAmb 15 56 58.8
comp=Z,26nm,1.0s
SONM Songino Array 29.05 305 P **P 15 56 55.1 +1.2**
comp=Z,20nm,1.0s,baz=108,slow=8.0,SNR=40
comp=Z,20nm,1.0s
LZH Lanzhou 31.06 282 ⇓P **P 15 57 12.5 +0.7**
LZH pP pP 15 57 16.6 -4.9
LZH sP sP 15 57 20.0 -6.3
LZH pmax pmax
comp=Z,37nm,1.3s
LZH LR LR
comp=Z,1μm,13.1s
LZH LR LR
comp=Z,2μm,13.7s
LZH LR LR
comp=Z,2μm,14.4s
ZAK Zakamensk 31.56 309 *e*P **P 15 57 16.4 +0.4**
ZAK pmax pmax
comp=Z,13nm,1.6s
GYA Guiyang 31.87 263 ⇓P **P 15 57 18.6 -0.4**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA LR LR
comp=Z,1μm,12.7s
GYA LR LR
comp=Z,1μm,14.4s
GYA LR LR
comp=Z,1μm,13.4s
CD2 Chengdu 32.51 272 P **P 15 57 24.0 -0.5**
CD2 S **S 16 02 40.0 +2.9**
CD2 pmax pmax
comp=Z,20nm,1.1s
CD2 LR LR
comp=Z,2μm,14.2s
CD2 LR LR
comp=Z,1μm,9.2s
CD2 LR LR
comp=Z,1μm,11.0s
DAV Davao City (W) 32.65 212 LR LR 16 08 55.5
comp=Z,152nm,19.9s,baz=54,slow=33
MOY Mondy 33.24 311 *e*P **P 15 57 32.4 +1.7**
MOY pmax pmax
comp=Z,44nm,3.3s
QIZ Qiongzhong 33.27 248 P **P 15 57 32.5 +1.4**
QIZ S **S 16 02 54.6 +5.7**
QIZ LR LR
comp=Z,830nm,16.0s
QIZ LR LR
comp=Z,600nm,15.1s
QIZ LR LR
comp=Z,460nm,14.3s
GTA Gaotai 33.66 289⇑P **P 15 57 35.3 +0.8**
GTA sP pP 15 57 42.9 -1.3
GTA sS S 16 03 03.5 +8.6
GTA pmax pmax
comp=Z,31nm,1.2s
GTA LR LR
comp=Z,1μm,13.1s
GTA LR LR
comp=Z,690nm,13.1s
GTA LR LR
comp=Z,550nm,14.2s
KMI Kunming 35.63 264⇑P **P 15 57 51.1 -0.7**
KMI sP pP 15 58 00.4 -1.1
KMI S **S 16 03 28.0 +2.3**
KMI pmax pmax
comp=Z,19nm,1.6s
KMI pmax pmax
comp=Z,160nm,5.4s
KMI LR LR
comp=Z,610nm,13.8s
KMI LR LR
comp=Z,1μm,13.2s
KMI LR LR
comp=Z,990nm,14.5s
PZH PanZhiHua 35.83 266 P **P 15 57 53.1 -0.2**
PZH S **S 16 03 33.4 +4.9**
PZH pmax pmax
comp=Z,30nm,0.7s
PZH pmax pmax
comp=Z,330nm,5.3s
PZH LR LR
comp=Z,730nm,12.7s
PZH LR LR
comp=Z,820nm,12.0s
PZH LR LR
comp=Z,1μm,12.6s
TIXI Tiksi 36.43 353 P **P 15 57 58.2 +0.5**
TIXI Tiksi 36.43 353 P **P 15 57 58.3 +0.5**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
SLVN Son La 36.56 257 P **P 15 58 01.1 +1.4**
SLVN IAmb IAmb 15 58 01.2
comp=Z,20nm,1.1s
SWI Sorong 38.11 198 P P 15 58 18.4 +5.8
GOMU GeErMu 38.16 285 P **P 15 58 14.3 +0.9**
GOMU pP pP 15 58 18.4 -4.9
GOMU sP sP 15 58 19.9 -8.1
GOMU pmax pmax
comp=Z,14nm,1.3s
GOMU LR LR
comp=Z,600nm,14.1s
GOMU LR LR
comp=Z,200nm,14.0s
GOMU LR LR
comp=Z,430nm,14.1s
LBMI Labuha 39.00 204 P P 15 58 24.8 +4.7
TNCH TengChong 39.08 266 P **P 15 58 21.5 +0.5**
TNCH pP pP 15 58 24.5 -6.3
TNCH pmax pmax
comp=Z,40nm,0.9s
KMSI Cibinong 39.18 210 P P 15 58 26.7 +5.1
UNV Unalaska Valle 39.36 47 P **P 15 58 22.3 -0.4**
baz=264
GTOI Gorontalo 39.53 211 P **P 15 58 24.2 -0.3**
comp=Z,23nm,1.2s
CRAI Chiangrai 39.95 258 **P 15 58 28.5 +0.5**
CRAI IAmb IAmb 15 58 30.0
comp=Z,31nm,0.9s
TOLI2 Tolitoli 40.09 215 P **P 15 58 26.8 -2.4**
TOLI2 IAmb IAmb 15 58 39.3
comp=Z,20nm,0.8s
MRSI Marisa 40.13 213 P **P 15 58 29.9 +0.4**
comp=Z,72nm,1.1s
M11K Mekoryuk 40.61 37 P **P 15 58 33.7 +0.7**
baz=257
SANI Sanana 40.83 206 P **P 15 58 33.7 -1.6**
comp=Z,62nm,1.0s
TNA Tin City 41.37 29 P **P 15 58 39.7 +0.5**
baz=249
NLAI Namlea 41.57 203 P P 15 58 45.4 +4.0
comp=Z,11nm,1.0s,comp=Z,3μm
DGZ Jazzator, Alta 41.67 307 *c i*P **P 15 58 43.7 +1.6**
DGZ pmax pmax
comp=Z,36nm,0.9s
CHTO Chiang Mai 41.84 258 P **P 15 58 42.6 -1.1**
CHTO IAmb IAmb 15 58 45.1
comp=Z,20nm,0.9s
CHTO Chiang Mai 41.84 258 P **P 15 58 42.6 -1.1**
CHTO pmax pmax
comp=Z,20nm,1.0s
CMAR Chiang Mai Arr 42.04 257 *i* P **P 15 58 46.0 +0.7**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 42.04 257 P **P 15 58 45.5 +0.3**
comp=Z,5.2nm,0.8s,baz=46,slow=6.4,SNR=46
CMAR LR LR 16 17 51.3
comp=Z,288nm,18.3s,baz=50,slow=38
comp=Z,5.2nm,0.8s
WMQ Urumqi 42.05 298 *e*P **P 15 58 46.3 +1.2**
WMQ pP pP 15 58 49.4 -5.6
WMQ sP sP 15 58 56.3 -3.5
WMQ pmax pmax
comp=Z,30nm,1.9s
WMQ LR LR
comp=Z,850nm,14.1s
WMQ LR LR
comp=Z,350nm,11.9s
WMQ LR LR
comp=Z,220nm,16.3s
F15K North Star Dit 42.71 29 P **P 15 58 51.3 +1.2**
baz=253
LSA Lhasa 43.13 277 P **P 15 58 55.4 +0.8**
LSA pmax pmax
comp=Z,8.0nm,0.9s
LSA Lhasa 43.13 277 P **P 15 58 53.8 -0.8**
LSA Lhasa 43.13 277 P **P 15 58 53.8 -0.8**
LSA pmax pmax
comp=Z,12nm,0.9s
ZAA0 Zalesovo Array 43.22 313 P **P 15 58 54.4 0.0**
ZALV Zalesovo Beam 43.22 313 P **P 15 58 54.3 -0.2**
ZALV Zalesovo Beam 43.22 313 *i* P **P 15 58 55.4 +1.0**
ZALV pmax pmax
comp=Z,7.0nm,0.6s
ZALV Zalesovo Beam 43.22 313 P **P 15 58 54.8 +0.4**
comp=Z,7.3nm,0.6s,baz=94,slow=7.0,SNR=34
ZALV LR LR 16 17 06.6
comp=Z,163nm,20.4s,baz=89,slow=36
comp=Z,7.3nm,0.6s
M15K Kasigluk River 43.34 37 P **P 15 58 56.4 +1.1**
baz=262
SBUM Sibu 43.52 227 P **P 15 58 56.5 -0.7**
O15K Ungalikthiuk R 43.59 39 P **P 15 58 59.1 +1.8**
baz=264
D17K Noatak River 43.91 27 P **P 15 59 01.2 +1.5**
baz=252
E17K Hotham Inlet 44.19 28 P **P 15 59 02.1 +0.1**
baz=254
F17K Baldwin Pennin 44.24 29 P **P 15 59 01.9 -0.5**
baz=255
G17K Kiwalik Mounta 44.25 30 P **P 15 59 02.9 +0.3**
baz=257
N16K Nishlik Lake 44.25 37 P **P 15 59 02.9 +0.2**
baz=264
O16K Kokwok River B 44.51 39 P **P 15 59 04.4 -0.3**
O16K Kokwok River B 44.51 39 P **P 15 59 04.2 -0.4**
baz=265
L17K Donlin 44.68 35 P **P 15 59 06.6 +0.6**
baz=263
K17K Iditarod 44.75 34 P **P 15 59 07.0 +0.4**
baz=262
C18K Utukok River 44.86 26 P **P 15 59 06.1 -1.4**
baz=253
M17K Holitna River 45.00 36 P **P 15 59 09.4 +0.8**
baz=264
G18K Tagagawik 45.14 30 P **P 15 59 10.3 +0.6**
baz=258
Q16K King Salmon 45.19 40 P **P 15 59 10.7 +0.6**
baz=268
PMG Port Moresby 45.37 173 P **P 15 59 14.5 +2.6**
PMG Port Moresby 45.37 173 P **P 15 59 14.5 +2.6**
PMG pmax pmax
comp=Z,31nm,1.1s
MK31 Makanchi Array 45.37 303 P **P 15 59 10.5 -1.3**
MK31 IAmb IAmb 15 59 27.7
comp=Z,19nm,0.9s
MK31 Makanchi Array 45.37 303 *c i*P **P 15 59 12.0 +0.2**
MKAR Makanchi Array 45.37 303 P **P 15 59 12.4 +0.6**
comp=Z,14nm,0.7s,baz=87,slow=7.5,SNR=34
MKAR LR LR 16 18 22.1
comp=Z,292nm,20.1s,baz=49,slow=36
comp=Z,14nm,0.7s
L18K Granite Mounta 45.44 35 P **P 15 59 11.9 -0.2**
baz=264
KSM Kuching 45.44 228 P **P 15 59 13.2 +0.6**
KSM IAmb IAmb 15 59 29.0
comp=Z,12nm,0.8s
C19K Lookout Ridge 45.55 25 P **P 15 59 14.0 +1.1**
baz=254
J18K Innoko River 45.57 33 P **P 15 59 12.2 -0.9**
baz=263
MAKZ Makanchi 45.58 303 P **P 15 59 14.5 +1.1**
MAKZ Makanchi 45.58 303 P **P 15 59 14.5 +1.1**
MAKZ pmax pmax
comp=Z,25nm,1.0s
Q17K Contact Creek 45.58 41 P **P 15 59 13.2 -0.1**
baz=269
M18K Stony River 45.78 36 P **P 15 59 15.3 +0.6**
baz=266

G19K **Purcell Mounta** 45.82 30 P P 15 59 15.9 +0.9
baz=260
STKI **Sintang** 45.87 226 P P 15 59 17.3 +1.3
comp=Z,36nm,1.0s
P18K **Big Mountain,** 45.95 39 P P 15 59 16.9 +0.7
baz=268
H19K **Roundabout Mou** 45.98 30 P P 15 59 16.2 0.0
H19K IAmb IAmb 15 59 26.8
comp=Z,16nm,1.1s
H19K **Roundabout Mou** 45.98 30 P P 15 59 16.4 +0.2
baz=261
KAPI **Kappang** 45.99 212 P P 15 59 21.6 +4.7
KAPI **Kappang** 45.99 212 LR LR 16 16 24.0
comp=Z,43nm,19.8s,baz=17,slow=33
E19K **Redstone River** 46.01 28 P P 15 59 18.0 +1.5
E19K IAmb IAmb 15 59 22.3
comp=Z,14nm,0.8s
E19K **Redstone River** 46.01 28 P P 15 59 17.4 +0.9
baz=258
J19K **Poorman** 46.12 33 P P 15 59 17.0 -0.4
baz=263
L19K **White Mountain** 46.29 35 P P 15 59 19.3 +0.5
baz=266
D20K **Etivluk River** 46.50 26 P P 15 59 21.5 +1.1
baz=258
E20K **Nigu River** 46.56 27 P P 15 59 21.0 +0.1
baz=259
H20K **Anotleneega Mo** 46.62 31 P P 15 59 20.9 -0.4
baz=263
K20K **Telida** 46.74 34 P P 15 59 22.6 +0.3
baz=265
J20K **Nowinta River** 46.78 33 P P 15 59 23.2 +0.6
baz=264
TAPN **Taplejung** 46.84 276 *e*P P 15 59 24.7 +0.8
comp=Z,24nm,0.7s
KURK **Kurchatov** 47.22 309 P P 15 59 26.6 +0.4
KURK **Kurchatov** 47.22 309 P P 15 59 26.6 +0.4
KURK **Kurchatov** 47.22 309 P P 15 59 27.1 +0.9
O20K **Slope Mountain** 47.29 38 P P 15 59 25.4 -1.3
baz=270
KURBB **Kurchatov Arra** 47.29 309 P P 15 59 27.1 +0.4
comp=Z,11nm,0.7s,baz=84,slow=7.9,SNR=79
KURBB LR LR 16 19 59.7
comp=Z,302nm,19.4s,baz=165,slow=37
comp=Z,11nm,0.7s
ODAN **Odare** 47.30 275 *e*P P 15 59 28.0 +0.5
comp=Z,87nm,1.5s
KDAK **Kodiak Island** 47.34 41 P P 15 59 28.2 +1.2
KDAK **Kodiak Island** 47.34 41 P P 15 59 27.3 +0.3
baz=272
KDAK **Kodiak Island** 47.34 41 P P 15 59 28.2 +1.2
KDAK pmax pmax
comp=Z,15nm,0.8s
B21K **Ikpikpuk River** 47.38 25 P P 15 59 25.9 -1.3
baz=259
E21K **Killik River** 47.40 27 P P 15 59 26.5 -0.9
baz=261
F21K **Alatna River** 47.41 28 P P 15 59 27.8 +0.3
baz=262
Q20K **Shuyak Island** 47.42 40 P P 15 59 27.6 0.0
baz=271
H21K **Melozitna Rive** 47.49 31 P P 15 59 28.0 -0.2
baz=264
SPCR **Spurr Chakacha** 47.51 37 P P 15 59 28.3 -0.1
baz=269
A22K **Sinclair Lake** 47.55 23 P P 15 59 27.9 -0.5
baz=257
CAST **Castle Rocks** 47.64 34 P P 15 59 29.8 +0.5
baz=267
RAMN **Ramite** 47.90 276 *e*P P 15 59 32.6 +0.5
comp=Z,110nm,0.8s
B22K **Teshekpuk Lake** 47.92 24 P P 15 59 29.5 -1.8
baz=260
JIRN **Jiri** 47.94 277 *e*P P 15 59 33.4 +0.9
comp=Z,34nm,0.7s
D22K **Ayikyak River** 47.94 26 P P 15 59 29.9 -1.6
baz=262
F22K **John River** 47.94 28 P P 15 59 30.9 -0.7
baz=263
SHLS **Shalkode** 48.05 299 *e*P P 15 59 33.9 +1.0
GUN **Gumba** 48.08 277 *e*P P 15 59 34.5 +0.9
comp=Z,46nm,0.9s
HNR **Honiara** 48.10 156 LR LR 16 17 11.2
comp=Z,984nm,21.4s,baz=20,slow=33
G22K **Bettles** 48.14 29 P P 15 59 30.0 -3.1
baz=264
E22K **Anaktuvuk Pass** 48.16 27 P P 15 59 35.2 +1.9
E22K IAmb IAmb 15 59 44.1
comp=Z,8.5nm,0.8s
E22K **Anaktuvuk Pass** 48.16 27 P P 15 59 32.6 -0.7
baz=263
UZB **Uzynbulak** 48.36 299 *e*P P 15 59 35.0 -0.4
KPKS **Kokpek** 48.53 299 *e*P P 15 59 40.7 +4.1
EDFI **Ende, Flores** 48.59 208 P P 15 59 39.0 +1.7
comp=Z,25nm,0.8s
PKI **Pulchoki** 48.60 277 *e*P P 15 59 37.8 +0.2
comp=Z,16nm,0.8s
PKIN **Phulchoki** 48.61 277 *e*P P 15 59 38.2 +0.6
comp=Z,20nm,0.9s
SOEI **Soe** 48.61 204 P P 15 59 43.0 +5.6
KKN **Kakani** 48.61 277 *e*P P 15 59 38.3 +0.7
comp=Z,72nm,1.4s
DMN **Daman** 48.83 277 *e*P P 15 59 39.7 +0.4
comp=Z,16nm,0.8s
ARXS **Arharly** 48.95 301 *e*P P 15 59 39.9 +0.1
E23K **Chandalar** 48.97 28 P P 15 59 39.8 +0.2
baz=265
PRZ **Przheval'sk** 48.97 298 P P 15 59 39.9 -0.2
PRZ **Przheval'sk** 48.97 298 P P 15 59 39.9 -0.2
PRZ pmax pmax
comp=Z,21nm,1.0s
PMR **Palmer** 48.98 36 P P 15 59 37.4 -2.2
baz=271
NEA2 **Nenana** 49.01 32 P P 15 59 36.6 -3.2
baz=269
TOLK **Toolik Lake Re** 49.03 27 P P 15 59 35.3 -4.7
baz=265
GKN **Gorkha** 49.04 278 *e*P P 15 59 41.2 +0.4
comp=Z,74nm,1.0s
MCK **McKinley** 49.06 33 P P 15 59 39.5 -0.7
baz=270
BATI **Baumata** 49.23 205 P P 15 59 43.3 +1.2
comp=Z,39nm,1.1s
BATI **Baumata** 49.23 205 LR LR 16 19 04.6
comp=Z,93nm,21.8s,baz=16,slow=34
D24K **Happy Valley** 49.35 26 P P 15 59 41.5 -0.9
baz=265
SML **Sawmill** 49.36 36 P P 15 59 41.1 -1.6
baz=272
MDM **Murphy Dome** 49.37 32 P P 15 59 42.1 -0.5
MDM IAmb IAmb 16 00 02.6
comp=Z,9.9nm,0.9s
E24K **Your Creek** 49.39 28 P P 15 59 43.3 +0.5
baz=266
PWL **Port Wells** 49.40 37 P P 15 59 43.1 +0.2
baz=273
C24K **Franklin Bluff** 49.44 25 P P 15 59 43.7 +0.7
baz=265
H24K **Noodor Dome** 49.54 30 P P 15 59 44.4 +0.5
baz=269
F24K **Squaw Lake** 49.59 28 P P 15 59 44.3 0.0
baz=267
TARG **Taragay, Kyrgy** 49.60 297 P P 15 59 43.8 -1.4
TARG IAmb IAmb 16 00 08.4
comp=Z,19nm,1.0s
TARG **Taragay, Kyrgy** 49.60 297 P P 15 59 43.8 -1.4
TARG pmax pmax
comp=Z,19nm,1.0s
DANN **Dangsing** 49.60 279 *e*P P 15 59 46.1 +0.9
comp=Z,53nm,0.7s
M23K **Glacier View** 49.65 36 P P 15 59 43.5 -1.3
baz=272
COEN **Coen** 49.67 179 P P 15 59 46.1 +0.7
POKR **Poker Plat Res** 49.71 31 P P 15 59 46.2 +1.0
baz=270
G24K **Hadweenzic Riv** 49.72 29 P P 15 59 45.5 +0.3
baz=268
MTN **Manton Dam** 49.72 194 P P 15 59 45.5 -0.2
HDA **Harding Lake** 49.93 32 P P 15 59 46.6 -0.2
baz=271
IL31 49.95 32 P P 15 59 46.4 -0.5
ILAR **Eielson Array** 49.95 32 P P 15 59 46.7 -0.3
ILAR **Eielson Array** 49.95 32 P P 15 59 47.8 +0.8
comp=Z,2.8nm,0.9s,baz=267,slow=6.5,SNR=18
ILAR LR LR 16 21 41.1
comp=Z,66nm,20.4s,baz=239,slow=37
comp=Z,2.8nm,0.9s

KOLN **Koldanda** 49.97 278 *e*P P 15 59 48.6 +0.7
comp=Z,97nm,2.3s
D25K **Kavik River** 50.23 26 P P 15 59 50.8 +1.7
D25K **Kavik River** 50.23 26 P P 15 59 49.7 +0.5
baz=267
G25K **Bearman Lake** 50.27 29 P P 15 59 50.2 +0.9
baz=270
PYUN **Piuthan** 50.32 279 *e*P P 15 59 51.0 +0.4
comp=Z,44nm,0.8s
H25L **Birch Creek** 50.38 30 P P 15 59 50.8 +0.6
baz=270
F25K **Christian Rive** 50.45 28 P P 15 59 49.6 -1.2
baz=269
E25K **Arctic Village** 50.49 28 P P 15 59 52.7 +1.7
E25K **Arctic Village** 50.49 28 P P 15 59 51.8 +0.8
baz=269
PRP **Porcupine Dome** 50.51 31 P P 15 59 50.8 -0.6
baz=271
KLU **Klutina** 50.52 36 P P 15 59 50.6 -0.8
baz=274
EYAK **Cordova Ski Ar** 50.69 37 P P 15 59 53.3 +0.8
baz=275
BOOM **Boomskoye usch** 50.72 299 P P 15 59 54.9 +1.5
BOOM IAmb IAmb 16 00 00.4
comp=Z,15nm,1.4s
BOOM **Boomskoye usch** 50.72 299 P P 15 59 54.9 +1.5
BOOM pmax pmax
comp=Z,15nm,1.4s
TKM2 **Tokmak 2** 50.85 299 P P 15 59 55.9 +1.6
SNR=16
NRN **Naryn** 50.98 297 P P 15 59 56.4 +0.8
NRN IAmb IAmb 16 00 33.0
comp=Z,14nm,1.3s
NRN **Naryn** 50.98 297 P P 15 59 56.4 +0.8
NRN pmax pmax
comp=Z,14nm,1.3s
F26K **Sheenjek River** 51.02 28 P P 15 59 56.6 +1.5
baz=271
BRZS **Berezniki** 51.10 309 *e*P P 15 59 55.9 0.0
G26K **Porcupine Rive** 51.18 29 P P 15 59 57.3 +1.1
baz=272
BMRM **Bremner River** 51.20 37 P P 15 59 56.5 -0.1
baz=276
SCRK **Sand Creek** 51.24 33 P P 15 59 56.2 -0.6
baz=274
BTLS **Baital** 51.36 302 *e*P P 16 00 01.8 +3.9
KBK **Karagaybulak** 51.38 299 P P 15 59 59.7 +1.4
SNR=11
SGDS **Sogindy** 51.38 300 *e*P P 15 59 57.5 -0.7
J26L **Joseph Creek** 51.39 32 P P 15 59 56.4 -1.6
baz=274
KAIM **Kayak Island** 51.41 38 P P 15 59 57.8 -0.3
baz=277
USP **Ospenovka** 51.52 300 P P 16 00 00.2 +1.0
SNR=7.9
KSH **Kashi** 51.58 295 P P 16 00 04.6 +4.8
KSH sP pwP 16 00 16.5 +1.5
KSH pmax pmax
comp=Z,7.0nm,1.8s
KSH LR LR
comp=Z,570nm,12.4s
KSH LR LR
comp=Z,680nm,13.2s
KSH LR LR
comp=Z,820nm,12.9s
L26K **Log Cabin Wild** 51.60 34 P P 16 00 02.5 +3.0
L26K IAmb IAmb 16 00 10.3
comp=Z,8.8nm,0.8s
L26K **Log Cabin Wild** 51.60 34 P P 15 59 59.4 0.0
baz=275
AAK **Ala-Archa** 51.71 299 P P 16 00 01.8 +1.1
SNR=6.3
AAK **Ala-Archa** 51.71 299 P P 16 00 02.3 +1.5
AAK **Ala-Archa** 51.71 299 P P 16 00 00.9 +0.2
AAK **Ala-Archa** 51.71 299 P P 16 00 02.3 +1.5
AAK pmax pmax
comp=Z,6.0nm,0.9s
AAK **Ala-Archa** 51.71 299 LR LR 16 23 25.9
comp=Z,660nm,18.3s,baz=78,slow=38
M26K **Nabesna, AK** 51.82 35 P P 16 00 02.8 +1.7
baz=276
BVAR **Borovoye Array** 51.88 313 P P 16 00 02.1 +0.5
comp=Z,2.0nm,0.5s,baz=70,slow=7.2,SNR=13
BVAR LR LR 16 21 34.8
comp=Z,131nm,19.7s,baz=73,slow=36
comp=Z,2.0nm,0.5s
MCARA **McCarthy VSAT** 51.92 36 P P 16 00 01.3 -0.5
baz=277
BRVK **Borovoye** 51.94 313 P P 16 00 03.2 +1.1
BRVK **Borovoye** 51.94 313 P P 16 00 03.0 +0.9
BRVK **Borovoye** 51.94 313 *de*P P 16 00 03.5 +1.4
BRVK pmax pmax
comp=Z,19nm,2.5s
K27K **Chicken** 52.07 33 P P 16 00 03.7 +0.8
baz=276
H27K **Steamboat Moun** 52.12 30 P P 16 00 04.8 +1.5
baz=274
L27K **Beaver Creek,** 52.28 34 P P 16 00 05.1 +0.5
L27K **Beaver Creek,** 52.28 34 P P 16 00 01.3 -3.3
baz=276
AML **Almayashu** 52.42 299 P P 16 00 07.8 +1.5
SNR=18
F28M **Old Crow** 52.66 28 P P 16 00 08.1 +0.8
F28M **Old Crow** 52.66 28 P P 16 00 05.3 -2.0
baz=275
E28M **Babbage River** 52.71 27 P P 16 00 07.9 +0.3
baz=274
I28M **Miner Creek** 52.84 31 P P 16 00 10.6 +1.8
I28M **Miner Creek** 52.84 31 P P 16 00 08.9 +0.2
baz=276
E29M **Blow River** 53.33 27 P P 16 00 11.5 -0.7
baz=276
KPJI **Karang Pucung** 53.36 223 P P 16 00 24.1 +11
G29M **Pine Creek** 53.45 29 IAmb IAmb 16 00 25.8
comp=Z,23nm,1.1s
G29M **Pine Creek** 53.45 29 P P 16 00 13.8 +0.8
baz=277
I29M **Ogilvie Camp,** 53.53 31 P P 16 00 14.4 +0.7
baz=278
LEM **Lembang** 53.69 225 P P 16 00 17.0 +1.4
comp=Z,41nm,0.9s
M29M **Somme Creek** 53.91 34 IAmb IAmb 16 00 27.1
comp=Z,12nm,1.1s
M29M **Somme Creek** 53.91 34 P P 16 00 17.7 +1.1
baz=280
L29M **L29M** 53.95 34 P P 16 00 16.7 -0.1
baz=280
GSI **Gunungsitoli** 53.98 241 P P 16 00 18.1 +0.5
GSI **Gunungsitoli** 53.98 241 P P 16 00 18.7 +1.1
comp=Z,69nm,0.9s
EPYK **Eagle Plains** 54.03 29 P P 16 00 17.1 -0.3
baz=278
K29M **Barlow Dome** 54.09 33 P P 16 00 18.2 +0.2
K29M IAmb IAmb 16 00 31.2
comp=Z,12nm,1.1s
K29M **Barlow Dome** 54.09 33 P P 16 00 17.8 -0.2
baz=280
G30M **tAoh Zraii Nji** 54.14 29 P P 16 00 20.4 +2.3
G30M **tAoh Zraii Nji** 54.14 29 P P 16 00 19.1 +1.0
baz=278
F30M **Barrier River** 54.22 28 P P 16 00 17.4 -1.2
baz=278
O29M **Mount Kennedy** 54.24 37 P P 16 00 17.4 -1.7
baz=281
I30M **Mount Dempster** 54.35 31 IAmb IAmb 16 00 30.6
comp=Z,19nm,1.2s
I30M **Mount Dempster** 54.35 31 P P 16 00 21.2 +1.4
baz=280
KK31 **Karatay Array** 54.36 301 IAmb IAmb 16 00 38.6
comp=Z,18nm,1.1s
KKAR **Karatay Array** 54.36 301 IAmb IAmb 16 00 38.6
comp=Z,18nm,1.1s
J30M **Hart River** 54.48 32 P P 16 00 21.9 +1.1
baz=280
M30M **Minto, Yukon** 54.64 34 P P 16 00 22.3 +0.4
baz=281
HYT **Haines Junctio** 54.66 36 P P 16 00 24.9 +2.8
baz=282
P29M **Windy Craggy** 54.79 38 P P 16 00 24.1 +1.2
baz=282
G31M **Satah River** 54.91 29 P P 16 00 23.2 -0.4
baz=280
INK **Inuvik** 54.95 27 LR LR 16 27 54.6
comp=Z,158nm,19.1s,baz=184,slow=40
IUG **Iuzhnay** 55.00 300 *e*P P 16 00 25.7 +0.8
F31M **Tsiigehtchic** 55.02 28 P P 16 00 23.5 -0.9
baz=280

P30M **Million Dollar** 55.07 37 P P 16 00 24.6 -0.4
baz=283
H31M **Peel River** 55.08 30 P P 16 00 23.7 -1.3
baz=281
BTK **Batken** 55.15 297 P P 16 00 25.0 -0.9
BTK IAmb IAmb 16 00 56.7
comp=Z,16nm,1.2s
BTK **Batken** 55.15 297 P P 16 00 25.0 -0.9
BTK pmax pmax
comp=Z,17nm,1.2s
N31M **Braeburn, Yuko** 55.34 35 P P 16 00 26.6 -0.3
baz=283
NIL **Nilore** 55.72 289 P P 16 00 29.7 -0.4
NIL IAmb IAmb 16 00 32.3
comp=Z,13nm,0.8s
NIL **Nilore** 55.72 289 P P 16 00 31.8 +1.7
NIL **Nilore** 55.72 289 P P 16 00 29.7 -0.4
NIL pmax pmax
comp=Z,13nm,0.8s
M31M **Drury Creek, Y** 55.82 34 P P 16 00 28.3 -2.1
baz=283
CTA **Charters Tower** 55.88 176 LR LR 16 29 21.3
comp=Z,20nm,19.2s,baz=352,slow=41
WHY **Whitehorse** 55.95 36 P P 16 00 28.7 -2.7
baz=284
WB0 **Warramunga Arr** 55.97 189 P P 16 00 31.1 -0.7
WRAB **Tennant Creek** 56.14 189 P P 16 00 31.8 -1.2
WRAB **Tennant Creek** 56.14 189 P P 16 00 31.8 -1.2
WRAB pmax pmax
comp=Z,62nm,1.4s
WR0 **Warramunga Arr** 56.14 189 P P 16 00 32.2 -0.8
WB2 **Warramunga Arr** 56.15 189 P P 16 00 32.2 -0.8
WRA **Warramunga Arr** 56.15 189 P P 16 00 32.4 -0.7
WRA **Warramunga Arr** 56.15 189 P P 16 00 32.4 -0.7
WRA pmax pmax
comp=Z,4.0nm,1.3s
WRA **Warramunga Arr** 56.15 189 P P 16 00 31.9 -1.1
comp=Z,5.4nm,0.8s,baz=7.6,slow=7.5,SNR=23
comp=Z,5.4nm,0.8s
FARO **Faro, Yukon** 56.28 34 P P 16 00 34.1 +0.4
baz=284
SVE **Sverdlovsk** 56.47 319 *e*P P 16 00 36.2 +1.2
SVE pmax pmax
comp=Z,19nm,1.4s
SVE MLR MLR
comp=Z,949nm,17.0s
P33M **Teslin, Yukon** 57.05 36 P P 16 00 40.3 +1.1
baz=286
ARU **Arti** 57.68 319 P P 16 00 44.1 +0.5
ARU IAmb IAmb 16 00 55.0
comp=Z,12nm,0.8s
ARU **Arti** 57.68 319 *c i*P P 16 00 44.3 +0.7
ARU 16 01 32.8
ARU S S 16 08 44.8 +5.6
ARU SS SS 16 12 33.5 +4.2
ARU pmax pmax
comp=Z,527nm,14.7s
ARU MLR MLR
comp=Z,527nm,15.0s
ARU **Arti** 57.68 319 LR LR 16 27 40.4
comp=Z,228nm,21.8s,baz=81,slow=38
KBL **Kabul** 58.56 292 P P 16 00 51.3 +0.9
SNR=6.8
TGTN **Hyland Airport** 58.79 34 P P 16 00 52.2 +0.9
baz=289
DLBC **Dease Lake** 58.95 38 P P 16 00 53.6 +1.1
baz=289
ABKAR **Akbulak array** 59.24 311 P P 16 00 55.0 +0.4
ABKAR IAmb IAmb 16 01 05.2
comp=Z,8.3nm,1.0s
T35M **Bob Quinn** 59.32 39 P P 16 00 56.7 +1.6
baz=290
AS31 **Alice Springs** 59.87 189 P P 16 00 59.7 +0.5
ASAR **Alice Springs** 59.87 189 P P 16 00 59.5 +0.3
ASAR **Alice Springs** 59.87 189 P P 16 00 59.5 +0.3
ASAR **Alice Springs** 59.87 189 P P 16 00 59.1 0.0
comp=Z,1.6nm,0.8s,baz=16,slow=12,SNR=18
ASAR LR LR 16 25 07.4
comp=Z,65nm,21.3s,baz=18,slow=34
comp=Z,1.6nm,0.8s
AKTO **Aktyubinsk** 59.98 313 LR LR 16 28 06.6
comp=Z,273nm,19.0s,baz=72,slow=37
LIRD **Liard River Hi** 60.53 36 P P 16 01 03.9 +0.7
baz=291
KIRV **Kirov** 61.57 324 *c i*P P 16 01 11.3 +1.0
KIRV **Kirov** 61.57 324 LR LR 16 29 43.0
comp=Z,213nm,18.7s,baz=58,slow=38
SPITS **Spitsbergen Ar** 61.71 349 LR LR 16 31 18.2
comp=Z,279nm,18.2s,baz=2.0,slow=39
DZM **Mont Dzumac** 62.05 155 *e*LR LR 16 19 51.7
comp=Z,180nm,23.7s
PRGR **Permogore** 62.09 328 *e*P P 16 01 13.5 -0.2
PRGR pmax pmax
comp=Z,29nm,1.5s
NOR **Nord** 62.15 357 *i*P P 16 01 14.8 +0.9
NOR IAmb IAmb 16 01 22.7
comp=Z,1.9nm,1.2s
PALK **Pallekele** 62.95 259 LR LR 16 29 14.9
comp=Z,136nm,21.6s,baz=146,slow=37
RES **Resolute Bay** 63.41 14 P P 16 01 23.7 +1.4
RES **Resolute Bay** 63.41 14 P P 16 01 23.7 +1.4
RES pmax pmax
comp=Z,14nm,1.0s
RES **Resolute Bay** 63.41 14 LR LR 16 33 15.0
comp=Z,190nm,18.2s,baz=21,slow=40
HRA **Herat** 63.69 295 P P 16 01 25.5 +0.3
APA **Apatity** 63.98 336 ‖ *i*P P 16 01 21.8 -4.4
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,1μm,20.0s
YKA **Yellowknife Ar** 64.30 30 *i*P P 16 01 29.5 +1.1
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA **Yellowknife Ar** 64.30 30 P P 16 01 28.6 +0.2
comp=Z,3.0nm,0.9s,baz=294,slow=6.7,SNR=4.6
comp=Z,3.0nm,0.9s
GEYT **Alibeck** 65.06 300 P P 16 01 33.3 -0.6
GEYT IAmb IAmb 16 01 45.5
comp=Z,6.7nm,0.8s
GEYT **Alibeck** 65.06 300 P P 16 01 34.5 +0.7
comp=Z,2.9nm,0.7s,baz=106,slow=2.8,SNR=5.7
GEYT LR LR 16 30 12.8
comp=Z,110nm,21.6s,baz=54,slow=36
comp=Z,2.9nm,0.7s
GYA0B **ALIBECK ARRAY** 65.06 300 P P 16 01 33.4 -0.4
GYA0B IAmb IAmb 16 01 45.4
comp=Z,7.7nm,0.9s
BELG **Belogornoye** 65.12 318 LR LR 16 35 17.7
comp=Z,224nm,18.5s,baz=148,slow=41
ARCES **ARCESS Array B** 65.26 340 LR LR 16 33 38.2
comp=Z,135nm,18.8s,baz=31,slow=39
TULEG **Thule** 66.03 8 P P 16 01 36.5 -2.9
NEEM **North Greenlan** 66.53 3 *i*P P 16 01 43.3 +0.4
NEEM IAmb IAmb 16 01 56.5
comp=Z,12nm,0.8s
DAG **Danmarks Havn** 66.89 355 *i*P P 16 01 45.0 +0.2
DAG IAmb IAmb 16 01 55.9
comp=Z,5.4nm,0.8s
STKA **Stephens Creek** 67.51 181 P P 16 01 49.0 -0.3
STKA **Stephens Creek** 67.51 181 P P 16 01 49.0 -0.3
comp=Z,2.5nm,0.8s,baz=344,slow=10,SNR=3.9
comp=Z,2.5nm,0.8s
MOS **Moscow** 68.58 324 *e*P P 16 01 55.0 -0.8
VRH **Novokhopyorsk** 68.90 319 P P 16 01 57.4 -0.5
VRH pmax pmax
comp=Z,13nm,1.4s
OBN **Obninsk** 69.42 324 ↑ *e*P P 16 02 01.5 +0.5
OBN *e* 16 02 10.7
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,382nm,16.0s
OBN **Obninsk** 69.42 324 LR LR 16 38 05.8
comp=Z,209nm,18.3s,baz=2.5,slow=41
LPSR **Galich'ya Gora** 69.63 321 *e*P P 16 01 59.4 -3.0
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VORR **Voronezh** 69.99 320 P P 16 02 06.3 +1.7
VORR pmax pmax
comp=Z,17nm,1.7s
FINES **FINESS Array B** 70.12 333 *i*P P 16 02 06.3 +1.1
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES **FINESS Array B** 70.12 333 P P 16 02 05.7 +0.4
comp=Z,5.3nm,0.8s,baz=71,slow=8.3,SNR=11

FINES LR LR 16 35 00.2
comp=Z,234nm,18.2s,baz=45,slow=38
comp=Z,5.3nm,0.8s
VSR Storozhevoye 70.26 319 *e*P **P 16 02 03.1 -3.2**
VSR pmax pmax
comp=Z,10.0nm,1.2s
NEW Newport 70.31 44 P **P 16 02 08.2 +1.4**
NEW Newport 70.31 44 P **P 16 02 05.9 -0.9**
baz=302
NEW Newport 70.31 44 P **P 16 02 08.2 +1.4**
NEW pmax pmax
comp=Z,15nm,1.0s
GROC Groznyy 70.69 310 *e*P **P 16 02 09.9 +0.8**
GROC *e* 16 02 30.4
GROC pmax pmax
comp=Z,15nm,0.4s
SUMG Summit 71.73 0 P **P 16 02 14.8 -0.6**
SUMG Summit 71.73 0 P **P 16 02 14.8 -0.6**
SUMG pmax pmax
comp=Z,31nm,1.0s
SUMG Summit 71.73 0 *i* P **P 16 02 15.7 +0.3**
SUMG IAmb IAmb 16 02 27.5
comp=Z,16nm,0.9s
JLN Jalan Bani Buh 71.89 285 P **P 16 02 17.8 +1.1**
WSAR Wadi Sarin 71.93 286 P **P 16 02 18.7 +1.7**
WSAR Wadi Sarin 71.93 286 LR LR 16 37 01.1
comp=Z,99nm,18.7s,baz=46,slow=38
WBK Wadi Bani Khal 72.00 285 P **P 16 02 19.1 +1.8**
ZEI Tsey 72.09 310 *e*P **P 16 02 17.5 -0.4**
ZEI pmax pmax
comp=Z,4.0nm,0.9s
J08A Circle Bar Ran 72.14 49 IAmb IAmb 16 02 34.4
comp=Z,9.9nm,1.0s
BIDO Bidbid 72.17 286 P **P 16 02 20.2 +1.9**
KBZ Khabaz 72.20 311 *de*P **P 16 02 19.7 +1.5**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
KBZ Khabaz 72.20 311 P **P 16 02 19.2 +1.1**
comp=Z,8.7nm,0.9s,baz=46,slow=3.0,SNR=22
comp=Z,8.7nm,0.9s
KIV Kislovodsk 72.21 312 P **P 16 02 17.5 -0.9**
KIV Kislovodsk 72.21 312 P **P 16 02 17.5 -0.9**
KIV Kislovodsk 72.21 312 *e*P **P 16 02 20.0 +1.6**
KIV pmax pmax
comp=Z,21nm,1.1s
SHME Shamm 72.37 290 P **P 16 02 20.7 +1.2**
SMDO Samad 72.48 286 P **P 16 02 22.4 +2.0**
MDH Madha 72.65 289 P **P 16 02 21.8 +0.7**
MASF Masafi 72.72 289 P **P 16 02 23.2 +1.5**
HOQ Hoqain 72.78 287 P **P 16 02 23.3 +1.3**
JMDO Jabal Madar 72.80 285 P **P 16 02 23.3 +1.1**
MSO Missoula 72.90 44 P **P 16 02 21.0 -1.4**
baz=304
UOSS Minazif 72.91 289 P **P 16 02 22.0 -0.8**
UOSS IAmb IAmb 16 02 24.3
comp=Z,10nm,0.9s
UOSS Minazif 72.91 289 P **P 16 02 23.8 +1.0**
GNI Garni 72.99 307 P **P 16 02 23.3 +0.1**
GNI IAmb IAmb 16 02 38.9
comp=Z,9.5nm,0.9s
GNI Garni 72.99 307 P **P 16 02 23.2 +0.1**
GNI Garni 72.99 307 *e*P **P 16 02 24.6 +1.4**
GNI pmax pmax
comp=Z,12nm,1.3s
GNI Garni 72.99 307 LR LR 16 37 06.1
comp=Z,105nm,19.1s,baz=60,slow=38
UMQ Umm Al-Quwin 73.02 289 P **P 16 02 24.4 +1.1**
HATD Hatta, Dubai 73.03 289 P **P 16 02 24.8 +1.3**
SNR=6.1
SOHO SOHO 73.08 288 P **P 16 02 24.4 +0.7**
AKH Akhalkalaki 73.10 309 P **P 16 02 24.2 +0.4**
AKH Akhalkalaki 73.10 309 P **P 16 02 24.2 +0.4**
AKH pmax pmax
comp=Z,19nm,1.0s
ASHO Ashiyiah 73.16 288 P **P 16 02 25.4 +1.1**
SNR=6.7
BSY Bisya 73.31 286 P **P 16 02 26.4 +1.2**
SNR=6.0
FAQ Al Faqa, Dubai 73.48 289 P **P 16 02 27.1 +1.0**
ARQ Araqi 73.52 287 P **P 16 02 27.1 +0.7**
SNR=5.6
MHTO MHTO 73.65 284 P **P 16 02 29.0 +1.8**
SNR=6.6
MFID Camas Ranch 73.72 48 P **P 16 02 28.8 +1.4**
MFID IAmb IAmb 16 02 38.5
comp=Z,17nm,1.4s
ALNE Al Ain 73.73 288 P **P 16 02 28.8 +1.2**
SNR=5.6
ASUD Al Ashush, Dub 73.75 289 P **P 16 02 28.3 +0.7**
CMB Columbia Colle 73.81 55 IAmb IAmb 16 02 42.8
comp=Z,11nm,1.3s
YERR Yerington 74.04 53 IAmb IAmb 16 02 40.5
comp=Z,15nm,1.2s
NACGM Naroch 74.05 327 *e*P **P 16 02 30.7 +1.8**
HLID Hailey 74.49 47 P **P 16 02 32.2 +0.2**
baz=305
DLMT Dillon 74.51 45 IAmb IAmb 16 02 43.0
comp=Z,19nm,1.0s
EGMT Eagleton 74.52 42 P **P 16 02 31.5 -0.4**
baz=307
KVN Kaiserville 74.75 53 IAmb IAmb 16 02 44.7
comp=Z,9.6nm,1.0s
ANN Anapa 74.84 315 *e*P **P 16 02 35.3 +1.6**
ANN pmax pmax
comp=Z,21nm,1.0s
BOZ Bozeman (W) 74.92 44 IAmb IAmb 16 02 45.3
comp=Z,16nm,1.0s
BOZ Bozeman (W) 74.92 44 P **P 16 02 34.4 0.0**
baz=306
NVAR Mina Array Bea 74.96 53 P **P 16 02 36.5 +1.7**
comp=Z,2.6nm,0.8s,baz=286,slow=5.6,SNR=12
comp=Z,2.6nm,0.8s
ICESG Greenland Ices 75.22 1 *i* P **P 16 02 35.2 -0.7**
ICESG IAmb IAmb 16 02 49.2
comp=Z,15nm,0.8s
HFS Hagfors 75.38 336 LR LR 16 38 28.5
comp=Z,266nm,19.0s,baz=48,slow=38
NB2 NORSAR Subarra 75.47 338 P **P 16 02 38.0 +0.9**
comp=Z,2.8nm,0.7s,baz=39,slow=5.9
NOA NORSAR Array B 75.47 338 P **P 16 02 37.7 +0.7**
comp=Z,5.0nm,0.8s,baz=39,slow=5.7,SNR=19
NOA LR LR 16 39 05.3
comp=Z,234nm,19.1s,baz=25,slow=38
comp=Z,5.0nm,0.8s
ELK Elko 75.60 50 P **P 16 02 39.1 +0.7**
ELK IAmb IAmb 16 02 49.8
comp=Z,9.1nm,1.2s
ELK Elko 75.60 50 P **P 16 02 39.1 +0.7**
ELK pmax pmax
comp=Z,9.0nm,1.3s
AKASG Malin Array Be 75.62 323 P **P 16 02 38.5 +0.4**
comp=Z,3.1nm,0.8s,baz=47,slow=5.4,SNR=11
AKASG LR LR 16 37 42.8
comp=Z,276nm,18.2s,baz=18,slow=37
comp=Z,3.1nm,0.8s
AKBB Malin Array Si 75.62 323 P **P 16 02 38.1 0.0**
AKBB IAmb IAmb 16 02 48.6
comp=Z,8.7nm,0.9s
AKBB Malin Array Si 75.62 323 P **P 16 02 38.1 0.0**
AKBB pmax pmax
comp=Z,9.0nm,0.9s
DSP Deep Springs 75.78 54 IAmb IAmb 16 02 50.8
comp=Z,10nm,1.1s
MZR Muzera 76.05 288 P **P 16 02 41.3 +0.3**
H17A Grant Village 76.24 45 P **P 16 02 41.2 -0.9**
baz=307
IMW Indian Meadow 76.33 45 IAmb IAmb 16 02 54.4
comp=Z,8.4nm,0.8s
FLWY Flagg Ranch 76.36 45 P **P 16 02 43.0 +0.3**
HVU Hansel Valley 76.51 48 IAmb IAmb 16 02 54.8
comp=Z,9.0nm,0.9s
TPAW Teton Pass 76.57 46 IAmb IAmb 16 02 55.5
comp=Z,7.6nm,0.8s
SIM Simferopol' 76.64 316 *e*P **P 16 02 48.0 +4.0**
SIM pmax pmax
comp=Z,13nm,0.7s
SIM MLR MLR
comp=Z,180nm,16.0s
REDW Red Top Meadow 76.70 46 P **P 16 02 44.4 -0.3**
R11B Troy Canyon, C 76.76 52 P **P 16 02 45.5 +0.4**
R11B Troy Canyon, C 76.76 52 P **P 16 02 44.6 -0.5**
baz=306
ID05 Sulphur Canyon 76.78 47 P **P 16 02 45.5 +0.4**
ID05 IAmb IAmb 16 02 56.3
comp=Z,9.6nm,0.8s
MPMC Manual Prospec 76.84 55 P **P 16 02 45.6 0.0**
baz=305
SFJD Kangerlussuaq 76.86 5 LR LR 16 36 36.5
comp=Z,128nm,21.8s,baz=345,slow=36
SMRA Abu-Samra 77.12 291 P **P 16 02 47.0 0.0**
TPNV Topopah Spring 77.14 54 P **P 16 02 46.3 -0.9**
baz=306
EDW2 Edwards Air Fo 77.17 56 P **P 16 02 47.2 0.0**
baz=305
ID10 Lander Cutoff 77.19 47 IAmb IAmb 16 02 59.1
comp=Z,7.5nm,1.0s
GWY Greenwater Val 77.31 55 IAmb IAmb 16 02 58.9
comp=Z,10nm,1.2s
HWUT Hardware Ranch 77.34 48 IAmb IAmb 16 02 59.6
comp=Z,17nm,1.1s
DUG Dugway, Tooele 77.42 49 IAmb IAmb 16 02 60.0
comp=Z,14nm,1.1s
DUG Dugway, Tooele 77.42 49 P **P 16 02 49.2 +0.6**
baz=307
FRB Frobisher Bay 77.60 14 LR LR 16 41 54.7
comp=Z,223nm,18.2s,baz=360,slow=39
BFSC Mount Baldy Ra 77.77 57 P **P 16 02 49.1 -1.6**
baz=305
BW06 Boulder Array 77.82 46 IAmb IAmb 16 03 01.2
comp=Z,4.9nm,0.7s
PDAR Pinedale Array 77.82 46 P **P 16 02 51.4 +0.5**
comp=Z,1.8nm,0.7s,baz=205,slow=0.6,SNR=16
comp=Z,1.8nm,0.7s
DOK Doka 77.96 284 P **P 16 02 52.3 +0.5**
MPU Maple Canyon 78.25 49 IAmb IAmb 16 03 05.1
comp=Z,9.5nm,0.9s
WHFO Wadi Hawf 78.64 284 P **P 16 02 55.9 +0.3**
BORG Borgarnes 78.79 353 LR LR 16 39 44.5
comp=Z,110nm,18.4s,baz=352,slow=37
MSU Marysvale 78.83 50 P **P 16 02 54.9 -1.7**
MSU Marysvale 78.83 50 P **P 16 02 54.9 -1.7**
RAR Rarotonga 78.88 126 LR LR 16 29 34.0
comp=Z,119nm,20.4s,baz=348,slow=30
PFO Pinyon Flats O 78.94 57 LR LR 16 31 19.0
comp=Z,82nm,20.8s,baz=250,slow=31
LCMT Little Creek M 79.05 52 IAmb IAmb 16 03 09.6
comp=Z,8.9nm,1.2s
P17A Butcher Ranch, 79.13 49 IAmb IAmb 16 03 10.0
comp=Z,16nm,1.1s
Q16A Castle Valley 79.20 50 P **P 16 02 56.9 -1.8**
Q16A IAmb IAmb 16 03 10.8
comp=Z,12nm,1.2s
KNB Kanab 79.32 52 P **P 16 02 58.9 -0.3**
KNB IAmb IAmb 16 03 11.4
comp=Z,9.0nm,1.0s
KNB Kanab 79.32 52 P **P 16 02 58.9 -0.3**
KNB pmax pmax
comp=Z,9.0nm,1.0s
BNN Bunyan 79.35 310 P **P 16 02 56.5 -2.9**
U15A North Rim 80.01 52 P **P 16 03 03.4 +0.2**
KOLS Kolonicke sedl 80.15 325 *e*P **P 16 03 05.1 +1.8**
KOLS Kolonicke sedl 80.15 325 *e*P **P 16 03 05.1 +1.8**
BR131 Keskin Array S 80.16 312 P **P 16 03 01.8 -1.9**
BR131 Keskin Array S 80.16 312 P **P 16 03 04.9 +1.2**
SNR=5.1
BR131 Keskin Array S 80.16 312 P **P 16 03 01.8 -1.9**
BR131 pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 80.16 312 *i* P **P 16 03 04.9 +1.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 80.16 312 P **P 16 03 04.1 +0.4**
comp=Z,1.8nm,0.8s,baz=101,slow=3.9,SNR=12
BRTR LR LR 16 43 05.5
comp=Z,107nm,19.9s,baz=41,slow=39
comp=Z,1.8nm,0.8s
O20A White River Ci 80.23 47 P **P 16 03 03.6 -0.6**
O20A IAmb IAmb 16 03 14.8
comp=Z,9.6nm,0.9s
O20A White River Ci 80.23 47 P **P 16 03 03.4 -0.8**
baz=309
STHS Stebnicka Huta 80.28 325 *e*P **P 16 03 05.3 +1.3**
STHS Stebnicka Huta 80.28 325 *e*P **P 16 03 05.3 +1.3**
OJC Ojcow 80.36 327 IAmb IAmb 16 03 16.4
comp=Z,14nm,1.2s
MLR Muntele Rosu 80.71 320 LR LR 16 40 56.0
comp=Z,285nm,20.5s,baz=41,slow=37
N23A Red Feather La 81.09 46 IAmb IAmb 16 03 20.1
comp=Z,14nm,1.0s
N23A Red Feather La 81.09 46 P **P 16 03 08.2 -0.6**
baz=310
KRLC Kraliky 81.79 328 *e*P **P 16 03 12.2 +0.1**
KRLC Kraliky 81.79 328 *e*P **P 16 03 12.2 +0.1**
VYHS Vyhne 82.05 326 *e*P **P 16 03 17.4 +4.0**
VYHS Vyhne 82.05 326 *e*P **P 16 03 17.4 +4.0**
BRG Berggiesshubel 82.37 330 *e*P **P 16 03 16.9 +1.9**
BRG Amp 16 03 19.7
comp=Z,10nm,1.2s
BRG Berggiesshubel 82.37 330 *e*P **P 16 03 16.9 +1.9**
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG pmax pmax
comp=Z,26nm,1.8s
CLL Collm 82.41 331 *i* P **P 16 03 15.7 +0.5**
CLL *i* 16 03 24.5
CLL pmax pmax
comp=Z,13nm,1.2s
CLL Collm 82.41 331 *i* P **P 16 03 15.7 +0.5**
comp=Z,13nm,1.2s
CLL *i* x x 16 03 24.5
comp=Z,11nm,1.0s
CLL *e*S S 16 13 42.0 +14
VRAC Vranov 82.44 328 LR LR 16 41 53.5
comp=Z,221nm,18.3s,baz=12,slow=37
RICC Richard 82.56 330 *e*P **P 16 03 18.1 +2.1**
S22A 4UR Ranch, Cre 82.60 48 P **P 16 03 14.0 -2.9**
baz=310
PRU Pruhonice 82.80 329 *e*P **P 16 03 19.4 +2.1**
PRU Pruhonice 82.80 329 *e*P P 16 03 23.4 +6.1
PRU *e* 16 03 30.0
PRU MLR MLR
comp=Z,800nm,13.5s
MODS Modra-Piesok 82.84 327 *e*P **P 16 03 17.4 -0.1**
MODS Modra-Piesok 82.84 327 *e*P **P 16 03 17.4 -0.1**
PMOR Pomariorio Ree 83.01 114 *e*T T 17 34 29.0
comp=Z,3.2nm,0.2s
MMAI Mount Meron Ar 83.24 306 P **P 16 03 20.6 +0.6**
comp=Z,7.6nm,1.0s,baz=54,slow=7.6,SNR=6.3
MMAI LR LR 16 43 35.8
comp=Z,148nm,20.2s,baz=5.5,slow=38
comp=Z,7.6nm,1.0s
ZVC Zvikov 83.37 329 *e*P **P 16 03 22.3 +2.1**
ZVC *e*x x 16 03 30.0
SDCO Great Sand Dun 83.40 48 P **P 16 03 21.9 +0.9**
baz=311
PPT Papeete 83.44 117 LR LR 16 31 16.8
comp=Z,63nm,21.0s,baz=324,slow=29
PPT2 Papeete2 83.45 117 *e*LR LR 16 29 09.6
comp=Z,234nm,28.2s
PPT2 *e*LR LR 16 29 17.4
comp=Z,180nm,30.2s
EYMN Ely 83.57 33 P **P 16 03 21.8 +0.4**
baz=319
ALN Alexandroupoli 83.78 317 IAmb IAmb 16 03 33.3
comp=Z,6.0nm,1.1s
CKRC Cesky Krumlov 83.79 328 *e*P **P 16 03 23.2 +0.7**
CKRC *e*x x 16 03 30.0
CKRC Cesky Krumlov 83.79 328 *e*P **P 16 03 23.2 +0.7**
CKRC *e* 16 03 30.0
KHC Kasperske Hory 83.86 329 P **P 16 03 22.7 -0.1**
KHC IAmb IAmb 16 03 33.9
comp=Z,7.9nm,1.2s
KHC Kasperske Hory 83.86 329 *e*P **P 16 03 23.4 +0.6**
KHC *e*x x 16 03 30.0
KHC AMS AMS 16 46 00.0
comp=Z,800nm,13.5s
KHC Kasperske Hory 83.86 329 P **P 16 03 22.7 -0.1**
KHC pmax pmax
comp=Z,8.0nm,1.2s
RDO Rodhopi 83.89 317 P **P 16 03 22.6 -0.4**
RDO IAmb IAmb 16 03 34.3
comp=Z,9.0nm,1.0s
GERES GERESS Array B 84.03 329 LR LR 16 44 18.2
comp=Z,244nm,18.4s,baz=37,slow=38
ECSD EROS Data Cent 84.23 39 P **P 16 03 25.5 +0.7**
baz=316
ANMO Albuquerque 84.63 50 P **P 16 03 26.3 -0.9**
ANMO Albuquerque 84.63 50 P **P 16 03 27.0 -0.2**
baz=311
ANMO Albuquerque 84.63 50 P **P 16 03 27.9 +0.7**
comp=Z,0.8nm,0.5s,baz=32,slow=6.1,SNR=3.3
comp=Z,0.8nm,0.5s
DIVS Divibare 84.70 322 P **P 16 03 27.3 0.0**
DIVS IAmb IAmb 16 03 29.2
comp=Z,10nm,1.4s
TAOE Nuku Hiva Isla 85.12 105 *e*LR LR 16 30 33.7
comp=Z,216nm,26.1s
121A Cookes Peak, D 85.35 53 P **P 16 03 31.2 +0.3**
baz=310
MEM Membach 85.61 334 *d*P **P 16 03 32.2 +0.7**
EIL Elat 85.63 304 LR LR 16 45 23.6
comp=Z,75nm,18.1s,baz=63,slow=38
BCLA Clavier 86.02 334 *d*P **P 16 03 33.6 0.0**
DAVOX Davos/Dischmat 87.24 330 LR LR 16 46 11.3
comp=Z,320nm,20.1s,baz=38,slow=38
MSTX Muleshoe 87.56 49 P **P 16 03 39.7 -1.9**
baz=313
AMTX Amarillo 87.60 48 P **P 16 03 39.1 -2.6**
baz=313
IDI Anoyia 88.30 313 LR LR 16 48 53.8
comp=Z,74nm,18.6s,baz=51,slow=39
TX31 Lajitas Ar. Si 90.11 53 P **P 16 03 53.4 -0.3**
TX32 Lajitas Array 90.11 53 P **P 16 03 53.2 -0.4**
TXAR Lajitas Array 90.11 53 P **P 16 03 53.5 -0.1**
TXAR Lajitas Array 90.11 53 P **P 16 03 54.5 +0.9**
comp=Z,1.7nm,0.7s,baz=306,slow=2.9,SNR=11
comp=Z,1.7nm,0.7s
VAE Valguarnera 92.46 321 LR LR 16 48 15.6
comp=Z,47nm,19.4s,baz=52,slow=37
KEST Kesra 96.35 323 LR LR 16 51 18.6
comp=Z,121nm,20.6s,baz=270,slow=38
ESDC Sonseca Array 98.59 334 LR LR 16 53 29.6
comp=Z,282nm,18.7s,baz=18,slow=38
QSPA South Pole Qui 125.73 180 PKP **PKiKP 16 09 54.2 0.0**
comp=Z,0.9nm,0.3s,baz=324,slow=1.8,SNR=6.3
SNAA Sanae 139.98 196 PKPpre PKPpre 16 10 11.1
SNAA Sanae 139.98 196 PKHKP PKPpre 16 10 11.1
H03N2 Juan Fernandez 146.09 98 T T 18 53 40.4
baz=291,slow=76,SNR=21
H03N3 Juan Fernandez 146.10 98 T T 18 53 40.7
baz=291,slow=76,SNR=16
H03N1 Juan Fernandez 146.10 98 T T 18 53 41.7
baz=291,slow=76,SNR=17
LPAZ La Paz 146.49 62 PKPbc **PKPab 16 10 36.8 +0.2**
comp=Z,1.4nm,0.6s,baz=334,slow=4.3,SNR=4.4
PLCA Paso Flores 153.81 110 PKPbc **PKiKP 16 10 51.9 -0.3**
comp=Z,1.3nm,0.8s,baz=16,slow=9.2,SNR=3.4

---

*IDC **21** 16:03:46.5±1.1,37.°11N×97.°86W,h0km,mb3.4/1, mbtmp3.3/4,ML3.8/3,Error ellipse: s-maj=15.6km s-min=12.4km az=4.0*
*NEIC **21** 16:03:47.6±0.6,36.°95N±0.°01×97.°71W±0.°01,h6km±4km, Error ellipse: s-maj=1.9km s-min=1.0km az=139.0*
*ANF **21** 16:03:47.9±0.5,36.°85N×97.°82W,h5km,ML4.2/9,Error ellipse: s-maj=4.9km s-min=3.5km az=113.0*
*TUL **21** 16:03:47.5±0.5,36.°960N±0.°009×97.°71W±0.°01,h5km±4km, ML3.3,mb_Lg3.2/99(NEIC),ML3.3/20(NEIC), ML3.5/54(NEIC),Error ellipse: s-maj=1.7km s-min=1.0km az=124.0*
*NEIC **21** 16:03:48.2±0.5,36.°961N±0.°010×97.°71W±0.°01,h5km±1km, Error ellipse: s-maj=2.7km s-min=1.9km az=322.0*
ISC 21 16:03:47.6±0.8,36.°95N±0.°02×97.°71W±0.°02,h8km±6km, n132,$_{n0}$$_{s9}$94/117,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAN17	**Caldwell West**	**0.11**	**337**		Pg		**Pg**	**16 03 49.9**	**-0.1**
KAN17					Sg		**Sg**	**16 03 51.7**	**0.0**
KAN17					IAML			16 03 53.6	
comp=N,31μm,0.3s									
GC02	**Grant County #**	**0.15**	**231**		Pg		**Pg**	**16 03 50.8**	**0.0**
GC02					Sg		**Sg**	**16 03 53.5**	**+0.6**
KAN13	**South Haven SW**	**0.20**	**71**				**Pg**	**16 03 51.8**	**+0.2**
KAN13					IAML			16 03 57.9	
comp=E,11μm,0.3s									
KAN14	**Manchester OK**	**0.20**	**273**		Pg		**Pg**	**16 03 51.8**	**+0.2**
KAN14					Sg		**Sg**	**16 03 55.1**	**+0.7**
KAN14					IAML			16 03 57.9	
comp=E,8μm,0.6s									
KAN09	**Caldwell North**	**0.20**	**22**		Pg		**Pg**	**16 03 50.9**	**-0.8**
KAN09					IAML			16 03 55.7	
comp=E,17μm,0.2s									
KAN09					IAML			16 03 57.8	
comp=N,15μm,0.3s									
KAN05	**Bluff City Nor**	**0.21**	**322**				**Pg**	**16 03 51.8**	**+0.1**
KAN05					Sg		**Sg**	**16 03 53.8**	**-0.7**
KAN05					IAML			16 03 56.6	
comp=N,15μm,0.2s									
KAN01	**Argonia South**	**0.21**	**350**		Pg		**Pg**	**16 03 51.8**	**0.0**
KAN01					Sg		**Sg**	**16 03 55.0**	**+0.3**
KS20	**Mayfield South**	**0.31**	**24**		Pg		**Pg**	**16 03 53.7**	**0.0**
KS20					Sg		**Sg**	**16 03 56.9**	**-0.9**
KAN06	**Argonia West S**	**0.32**	**339**				**Pg**	**16 03 54.0**	**+0.1**
KS21	**Milan North St**	**0.34**	**7**		Pg		**Pg**	**16 03 54.3**	**0.0**
KS21	**Milan North St**	**0.34**	**7**		IAML			16 03 59.2	
comp=N,6μm,0.2s									
KS21					IAML			16 03 59.2	
comp=N,3μm,0.2s									
KAN08	**Anthony NE Sta**	**0.35**	**324**		Pg		**Pg**	**16 03 54.6**	**+0.2**
KAN08					IAML			16 04 01.1	
comp=N,7μm,0.4s									
KAN08					IAML			16 04 01.4	
comp=E,8μm,0.7s									
KAN10	**Anthony SW Sta**	**0.35**	**300**				**Pg**	**16 03 54.6**	**+0.1**
KAN10					Sg		**Sg**	**16 03 59.1**	**-0.1**
KAN10					IAML			16 04 02.8	
comp=N,4μm,0.4s									
KAN10					IAML			16 04 04.9	
comp=E,5μm,0.7s									
KAN12	**Harper NE Stat**	**0.42**	**327**		Pg		**Pg**	**16 03 55.8**	**+0.1**
KAN12					Sg		**Sg**	**16 04 01.4**	**+0.2**
OK032	**Salt Plains WL**	**0.42**	**250**				**Pg**	**16 03 56.0**	**+0.3**
OK032							**Sg**	**16 04 02.1**	**+0.8**
OK032					IAML			16 04 05.5	
comp=E,4μm,0.2s									
BLOK	**Blackwell**	**0.44**	**115**		Pg		**Pg**	**16 03 56.4**	**+0.2**
BLOK							**Sg**	**16 04 02.6**	**+0.7**
BLOK					IAML			16 04 04.2	
comp=N,4μm,0.2s									
BLOK					IAML			16 04 07.4	
comp=E,5μm,0.2s									
CROK	**Carrier**	**0.49**	**206**		Pg		**Pg**	**16 03 57.5**	**+0.4**
CROK							**Sg**	**16 04 04.6**	**+1.1**
CROK					IAML			16 04 08.3	
comp=N,5μm,0.3s									
CROK					IAML			16 04 09.7	
comp=E,5μm,0.3s									
OK048	**Pawnee Station**	**0.81**	**130**		Pg		**Pg**	**16 04 03.2**	**0.0**
OK048					IAML			16 04 14.5	
comp=E,2μm,0.4s									
OK051	**E0350 and S346**	**0.83**	**122**				**Pg**	**16 04 03.5**	**0.0**
OK051					IAML			16 04 25.7	
comp=E,2μm,0.2s									
OK035	**E0210 Rd and N**	**0.83**	**254**		Pg		**Pg**	**16 04 03.5**	**-0.1**
OK035					IAML			16 04 26.7	
comp=E,2μm,0.4s									
T35A	**Sooner Cattle**	**0.96**	**91**		Pg		**Pg**	**16 04 05.8**	**-0.3**
T35A							**Sg**	**16 04 18.4**	**-0.1**
T35A					IAML			16 04 18.9	
comp=E,2μm,0.3s									
T35B	**Sooner Cattle**	**0.96**	**91**		P		**Pg**	**16 04 05.7**	**-0.3**
baz=273,SNR=54									
T35B					S		**Sg**	**16 04 18.4**	**-0.2**
baz=273									
NOKA	**Waynoka**	**1.03**	**253**				**Pg**	**16 04 06.9**	**-0.3**
NOKA					IAML			16 04 30.4	
comp=N,2μm,0.3s									
NOKA					IAML			16 04 31.5	
comp=E,1μm,0.2s									
OK033	**Mehan**	**1.10**	**145**				**Pg**	**16 04 08.5**	**-0.1**
OK033					IAML			16 04 27.8	
comp=E,1μm,0.2s									
OK033					IAML			16 04 30.2	
comp=E,1μm,0.2s									
QUOK	**Quay**	**1.12**	**133**				**Pg**	**16 04 08.8**	**-0.3**
QUOK							**Sg**	**16 04 23.7**	**+0.2**
OK029	**Liberty Lake**	**1.17**	**170**				**Pg**	**16 04 09.7**	**-0.3**
OK029					IAML			16 04 27.5	
comp=E,772nm,0.4s									
U32A	**Winter Ranch,**	**1.18**	**242**				**Pg**	**16 04 09.7**	**-0.5**
U32A					IAML			16 04 30.5	
comp=E,1μm,0.5s									
U32A					IAML			16 04 30.5	
comp=N,1μm,0.4s									
U32A	**Winter Ranch,**	**1.18**	**242**		P		**Pg**	**16 04 09.7**	**-0.5**

baz=60
U32A S **Sg** **16 04 25.8 +0.3**
baz=60
OK052 Battle Ridge R 1.20 142 Pg 16 04 10.2 -0.4
OK031 S. Brethren Rd 1.22 144 Pg 16 04 10.5 -0.4
DEOK Depew 1.48 138 Pn 16 04 14.7 +0.2
CSTR Hydro, Custer 1.52 212 Pn 16 04 15.8 +0.7
OKCSW OKLAHOMA CITY 1.55 172 Pn 16 04 16.3 +0.8
ELIS Ellis County 1.63 238 Pb 16 04 18.1 +0.2
R32A Long Quarter, 1.67 332 Pb 16 04 18.4 -0.2
R32A Long Quarter, 1.67 332 P **Pb 16 04 18.4 -0.2**
baz=151,SNR=44
R32A S **Sb** **16 04 40.2 +0.3**
baz=151
TUL3 Leonard 1.86 123 Pn 16 04 20.9 +1.1
TUL3 Leonard 1.86 123 P **Pn 16 04 20.9 +1.1**
baz=305
TUL3 S **Sb** **16 04 46.1 +0.8**
baz=305
TUL3 Leonard 1.86 123 P **Pn 16 04 20.8 +1.0**
baz=305,SNR=49
TUL3 S **Sb** **16 04 46.3 +0.9**
baz=305
RLO Rose Lookout 2.30 109 Pn 16 04 27.1 +1.2
KSU1 Kansas State U 2.32 22 Pn 16 04 27.1 +1.0
KSU1 IAmb_Lg 16 05 06.1
comp=Z,146nm,0.9s
X34A Smith Ranch, M 2.34 182 Pn 16 04 28.2 +1.8
X34A IAmb_Lg 16 05 06.0
comp=Z,137nm,0.8s
WMOK Wichita Mounta 2.37 202 Pn 16 04 27.5 +0.8
WMOK IAmb_Lg 16 05 05.1
comp=Z,76nm,0.9s
WMOK Wichita Mounta 2.37 202 P **Pn 16 04 26.4 -0.4**
baz=21
WMOK S **Sn** **16 04 55.2 -0.8**
baz=21
WMOK Wichita Mounta 2.37 202 P **Pn 16 04 27.7 +1.0**
baz=21,SNR=59
CBKS Cedar Bluff 2.46 320 Pn 16 04 29.1 +1.1
CBKS Cedar Bluff 2.46 320 P **Pn 16 04 29.4 +1.4**
baz=138
CBKS S **Sn** **16 04 59.8 +1.5**
baz=138
CBKS Cedar Bluff 2.46 320 P **Pn 16 04 29.1 +1.1**
baz=138,SNR=11
CBKS S **Sb** **16 05 03.5 +1.0**
baz=138
U38A Gravette 2.72 100 Pn 16 04 32.8 +1.2
U38A IAmb_Lg 16 05 12.7
comp=Z,55nm,0.8s
U38A Gravette 2.72 100 P **Pn 16 04 32.8 +1.2**
baz=282
SMWD Samnorwood 2.75 229 IAmb_Lg 16 05 16.4
comp=Z,34nm,0.9s
LOOK Love County 2.98 171 Pn 16 04 36.2 +1.0
X37A Clayton 3.03 140 Pn 16 04 37.0 +1.2
X37A IAmb_Lg 16 05 28.5
comp=Z,86nm,0.8s
X37A Clayton 3.03 140 P **Pn 16 04 37.1 +1.2**
baz=322,SNR=30
X37A Sb **Sg** **16 05 22.7 -2.1**
baz=322
WTFS Witchita Falls 3.23 191 Pn 16 04 39.5 +0.9
S39A Bolivar 3.58 77 Pn 16 04 44.5 +1.1
S39A Bolivar 3.58 77 P **Pn 16 04 44.3 +0.9**
baz=260,SNR=11
Z35A Perchaven, San 3.63 174 P **Pn 16 04 45.4 +1.3**
baz=354,SNR=8.5
Z35A S **Sn** **16 05 29.3 +2.2**
baz=354
N33B J Bar K, Exete 3.79 3 P **Pn 16 04 47.0 +0.7**
baz=183
N33B S **Sn** **16 05 32.3 +1.2**
baz=183
N33A J Bar K, Exete 3.79 3 Pn 16 04 47.2 +0.9
AMTX Amarillo 3.82 239 IAmb_Lg 16 05 55.3
comp=Z,73nm,0.9s
AMTX Amarillo 3.82 239 P **Pn 16 04 46.4 -0.5**
baz=56
AMTX S **Sn** **16 05 30.6 -1.4**
baz=56
AMTX Amarillo 3.82 239 S **Sn 16 05 34.9 +2.8**
baz=56
FW03 Perrin-Whitt E 3.91 184 IAmb_Lg 16 05 56.1
comp=Z,36nm,0.7s
U40A Yellville 3.95 97 S **Sn** **16 05 37.0 +1.9**
baz=280
U40A S **Sn** **16 05 37.0 +1.9**
baz=280
FW06 Azle 3.97 178 IAmb_Lg 16 05 57.8
comp=Z,43nm,0.8s
APMT Aspermont 4.12 209 IAmb_Lg 16 06 09.1
comp=Z,24nm,1.0s
MIAR Mount Ida 4.13 124 Pn 16 04 51.2 +0.2
MIAR IAmb_Lg 16 05 59.3
comp=Z,50nm,0.8s
MIAR Mount Ida 4.13 124 P **Pn 16 04 51.2 +0.2**
baz=307
MIAR S **Sn** **16 05 40.5 +1.0**
baz=307
MIAR Mount Ida 4.13 124 P **Pn 16 04 52.3 +1.4**
baz=307,SNR=12
MIAR S **Sn** **16 05 40.6 +1.1**
baz=307
PLPT Palo Pinto 4.15 187 IAmb_Lg 16 05 60.0
comp=Z,18nm,0.8s
DKNS Dickens 4.20 220 IAmb_Lg 16 05 58.1
comp=Z,43nm,0.8s
FW07 Weatherford 4.23 181 IAmb_Lg 16 06 09.5
comp=Z,39nm,0.8s
P38A Dawn 4.24 50 IAmb_Lg 16 06 13.5
comp=Z,70nm,0.7s
P38A Dawn 4.24 50 P **Pn 16 04 53.3 +0.9**
baz=232
MGMO Mountain Grove 4.36 86 Pn 16 04 55.4 +1.2
MGMO IAmb_Lg 16 06 07.7
comp=Z,67nm,0.7s
KSCO Kaye Shedlock' 4.39 299 Pn **Pn 16 04 54.8 +0.1**
KSCO IAmb_Lg 16 06 12.2
comp=Z,35nm,0.7s
KSCO Kaye Shedlock' 4.39 299 P **Pn 16 04 55.6 +0.9**
baz=116
KSCO S **Sn** **16 05 48.4 +2.2**
baz=116
TREL Terrell 4.41 162 IAmb_Lg 16 06 17.5
comp=Z,39nm,0.8s
BGNE Belgrade 4.47 356 Pn **Pn 16 04 55.4 -0.3**
BGNE Belgrade 4.47 356 P **Pn 16 04 55.7 0.0**
baz=175
BGNE S **Sn** **16 05 48.3 +0.4**
baz=175
FW16 Waxahatchie 4.50 171 IAmb_Lg 16 06 17.5
comp=Z,41nm,0.8s
R40A Maddies Statio 4.53 71 IAmb_Lg 16 06 15.5
comp=Z,61nm,1.0s
FW14 Alvarado 4.56 174 IAmb_Lg 16 06 16.8
comp=Z,32nm,0.8s
FW13 Cleburne 4.59 177 IAmb_Lg 16 06 17.2
comp=Z,29nm,0.9s
ABTX Abilene, Hawle 4.59 201 P **Pn 16 04 57.1 -0.3**
baz=20
ABTX S **Sn** **16 05 50.1 -0.9**
baz=20
FCAR Ozark Folk Cen 4.63 102 IAmb_Lg 16 06 13.8
comp=Z,56nm,0.7s
X40A Basin Creek Fa 4.67 120 Pn 16 04 59.2 +0.9
WHAR Wooly Hollow 4.69 109 IAmb_Lg 16 06 20.9
comp=Z,76nm,0.8s
SN01 Snyder 1 4.84 214 IAmb_Lg 16 06 31.5
comp=Z,45nm,0.8s
UALR University of 4.87 115 IAmb_Lg 16 06 29.5
comp=Z,40nm,0.7s
WHTX Lake Whitney, 4.95 177 Pn 16 05 02.0 -0.2
WHTX IAmb_Lg 16 06 37.4
comp=Z,38nm,1.0s
WHTX Lake Whitney, 4.95 177 P **Pn 16 05 02.8 +0.6**
baz=358
WHTX S **Sn** **16 05 59.0 -0.7**
baz=358
WLAR White Oak Lake 4.97 129 IAmb_Lg 16 06 29.6
comp=Z,34nm,0.8s
MSTX Muleshoe 5.09 236 IAmb_Lg 16 06 41.9
comp=Z,32nm,0.9s
L34A Svendsen Farm, 5.12 11 IAmb_Lg 16 06 37.0
comp=Z,61nm,0.7s
N38A Joes South For 5.19 41 IAmb_Lg 16 06 44.6
comp=Z,49nm,0.8s
OGNE Ogallala 5.22 321 IAmb_Lg 16 06 44.6
comp=Z,62nm,0.7s
CCM Cathedral Cave 5.26 76 Pn 16 05 08.1 +1.5
CCM IAmb_Lg 16 06 41.5
comp=Z,48nm,0.9s
T42A Van Buren 5.30 87 P **Pn 16 05 08.3 +1.2**
baz=271
LCAR Lake Charles 5.36 97 Pn 16 05 09.1 +1.3
LCAR IAmb_Lg 16 06 43.6
comp=Z,29nm,0.7s
T25A Trinidad 5.36 274 Pn 16 05 08.1 0.0
CCAR Cane Creek 5.71 120 IAmb_Lg 16 06 54.1
comp=Z,50nm,0.7s
BRDY Brady 5.75 191 Pn 16 05 13.1 -0.1
BRDY IAmb_Lg 16 06 54.8
comp=Z,17nm,0.7s
NATX Nacogdoches 5.76 153 IAmb_Lg 16 07 02.4
comp=Z,30nm,0.9s
SGCY Sterling City 5.76 210 IAmb_Lg 16 07 05.2
comp=Z,46nm,0.9s
FVM French Village 5.89 78 IAmb_Lg 16 06 58.3
comp=Z,29nm,0.9s
435B Jarrell 6.15 179 IAmb_Lg 16 07 11.8
comp=Z,34nm,0.8s
SLM Saint Louis 6.16 72 IAmb_Lg 16 07 09.6
comp=Z,32nm,0.7s
SDCO Great Sand Dun 6.25 280 Pn **Pn 16 05 22.0 +1.6**
CGM3 Cape Girardeau 6.45 84 IAmb_Lg 16 07 14.3
comp=Z,39nm,0.7s
OZNA Ozona 6.64 206 IAmb_Lg 16 07 29.9
comp=Z,28nm,1.0s
JCT Junction City 6.68 196 IAmb_Lg 16 07 20.8
comp=Z,29nm,0.8s
SIUC Southern Illin 6.81 81 IAmb_Lg 16 07 42.9
comp=Z,35nm,0.7s
ECSD EROS Data Cent 6.83 7 P **Pn 16 05 28.1 0.0**
baz=187
MNHN Monahans 6.98 218 IAmb_Lg 16 07 44.4
comp=Z,14nm,0.7s
L40A Anamosa 7.16 42 IAmb_Lg 16 07 34.3
comp=Z,33nm,0.8s
ANMO Albuquerque 7.37 257 Pg Pb 16 06 01.4 +5.6
comp=Z,0.2nm,0.3s,baz=14,slow=18,SNR=1.7
ANMO Lg Lg 16 07 36.5
comp=Z,1.6nm,0.3s,baz=167,slow=1.3,SNR=7.6
PHWY Pilot Hill 7.42 308 IAmb_Lg 16 07 45.2
comp=Z,22nm,0.8s
HNDO Hondo 7.51 191 IAmb_Lg 16 07 55.4
comp=Z,27nm,1.1s
SUSD Miller 7.55 353 IAmb_Lg 16 07 56.4
comp=Z,29nm,0.8s
SAND Sanderson 7.88 209 IAmb_Lg 16 08 03.6
comp=Z,18nm,0.8s
DRIO Del Rio 7.89 199 IAmb_Lg 16 08 11.3
comp=Z,13nm,0.8s
ALPN Alpine 8.21 219 IAmb_Lg 16 08 24.9
comp=Z,17nm,0.9s
RSSD Black Hills 8.63 328 IAmb_Lg 16 08 27.5
comp=Z,15nm,0.8s
I40A Norwalk 8.79 36 IAmb_Lg 16 08 32.1
comp=Z,14nm,0.7s
K22A Casper 8.85 313 IAmb_Lg 16 08 43.9
comp=Z,33nm,1.1s
SPMN Marine on St. 9.06 23 IAmb_Lg 16 08 33.9
comp=Z,14nm,0.9s
TXAR Lajitas Array 9.08 215 Pn **Pn 16 05 57.7 -1.4**
comp=Z,0.1nm,0.3s,baz=38,slow=11,SNR=6.9
TXAR Lg Lg 16 08 32.8
comp=Z,0.7nm,0.3s,baz=40,slow=34,SNR=3.8
comp=Z,0.2nm,0.4s
PDAR Pinedale Array 10.80 306 Pn **Pn 16 06 20.1 -2.5**
comp=Z,0.2nm,0.3s,baz=124,slow=15,SNR=7.0
PDAR Lg Lg 16 09 19.8
comp=Z,0.3nm,0.3s,baz=96,slow=34,SNR=4.8
comp=Z,0.3nm,0.3s
TKL Tuckaleechee C 11.32 92 Pn **Pn 16 06 29.9 +0.2**
comp=Z,0.3nm,0.3s,baz=264,slow=19,SNR=4.2
TKL Lg Lg 16 09 42.2
comp=Z,0.8nm,0.3s,baz=22,slow=19,SNR=7.6
comp=Z,1.6nm,0.6s
ILAR Eielson Array 40.07 330 P **P 16 11 22.9 -0.2**
comp=Z,0.3nm,0.6s,baz=112,slow=8.1,SNR=4.9
comp=Z,0.3nm,0.6s

---

*SJA **21** 16:19:01.5±0.6, 20°.75S×69°.73W, h60km±3km, ML4.0, MW3.9*
*GUC **21** 16:19:03.8±0.6, 20°.76S×69°.69W, h55km±2km, ML4.0*
*NEIC **21** 16:19:03.0±1.4, 20°.77S±0°.04×69°.82W±0°.08, h61km±8km, ML4.0(GUC), Error ellipse: s-maj=11.4km s-min=5.7km az=103.0*
ISC 21 16:19:03.3±1.1,**20°.76S**±0°.03×**69°.75W**±0°.04,**h51**km±9km,
n56,σ1§**38**/77,**1C-9D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.37 139**			**Pn**	**16 19 12.4**	**-0.9**
PB01	**IPOC Station P**	**0.37 139**		⇓*iP*	**Pn**	**16 19 13.2**	**-0.1**
PB01				*i* S	**Sn**	**16 19 20.6**	**+0.1**
PB01				IAML		16 19 21.0	
comp=N,19μm,0.3s							
PB01	**IPOC Station P**	**0.37 139**		*eP*	**Pn**	**16 19 13.0**	**-0.3**
PB01				IAML		16 19 21.6	
comp=Z,5μm,0.2s							
PATCX	**Punta Patache**	**0.38 261**		Pn	**Pn**	**16 19 13.4**	**0.0**
PATCX	**Punta Patache**	**0.38 261**		⇑*iP*	**Pn**	**16 19 14.0**	**+0.6**
PATCX				*i* S	**Sn**	**16 19 22.2**	**+1.6**
PATCX				IAML		16 19 22.8	
comp=E,15μm,0.2s							
PATCX	**Punta Patache**	**0.38 261**		*eP*	**Pn**	**16 19 13.3**	**-0.2**
PATCX				IAML		16 19 24.9	
comp=Z,4μm,0.5s							
TA01	**Diego Aracena**	**0.45 296**		Pn	**Pn**	**16 19 14.5**	**+0.5**
TA01	**Diego Aracena**	**0.45 296**		⇓*iP*	**Pn**	**16 19 14.5**	**+0.5**
TA01				*i* S	**Sn**	**16 19 23.3**	**+1.6**
TA01				IAML		16 19 24.5	
comp=E,20μm,0.3s							
TA01	**Diego Aracena**	**0.45 296**		*eP*	**Pn**	**16 19 13.8**	**-0.2**
TA01				*eS*	**Sn**	**16 19 23.1**	**+1.4**
TA01				IAML		16 19 26.4	
comp=Z,8μm,0.4s							
PB02	**IPOC Station P**	**0.57 194**			**Pn**	**16 19 15.4**	**-0.3**
PB02	**IPOC Station P**	**0.57 194**		⇓*iP*	**Pn**	**16 19 16.0**	**+0.4**
PB02				*i* S	**Sn**	**16 19 25.2**	**+0.8**
PB02				IAML		16 19 26.6	
comp=N,26μm,0.3s							
PB02	**IPOC Station P**	**0.57 194**		*eP*	Pn	16 19 10.2	-5.4
PB02				*eP*	**Pn**	**16 19 15.4**	**-0.3**
PB02				*eS*	**Sn**	**16 19 25.6**	**+1.2**
PB02				IAML		16 19 27.5	
comp=Z,15μm,0.2s							
PB08	**IPOC Station P**	**0.83 42**			**Pn**	**16 19 19.0**	**-0.3**
PB08	**IPOC Station P**	**0.83 42**		⇓*iP*	**Pn**	**16 19 19.0**	**-0.3**
PB08				*i* S	**Sn**	**16 19 30.8**	**0.0**
PB08				IAML		16 19 31.9	
comp=E,5μm,0.1s							
PB08	**IPOC Station P**	**0.83 42**		*eP*	**Pn**	**16 19 18.7**	**-0.5**
PB08				IAML		16 19 32.5	
comp=Z,3μm,0.3s							
PB07	**IPOC Station P**	**0.97 187**			**Pn**	**16 19 20.9**	**0.0**
PB07	**IPOC Station P**	**0.97 187**		⇓*iP*	**Pn**	**16 19 21.1**	**+0.3**
PB07				*i* S	**Sn**	**16 19 34.3**	**+0.6**
PB07				IAML		16 19 35.2	
comp=E,9μm,0.3s							
PB07	**IPOC Station P**	**0.97 187**		*eP*	**Pn**	**16 19 21.1**	**+0.3**
PB07				*eS*	**Sn**	**16 19 34.7**	**+1.0**
PB07				IAML		16 19 35.5	
comp=Z,8μm,0.2s							
PB09	**IPOC Station P**	**1.13 155**			**Pn**	**16 19 22.8**	**-0.3**
PB09	**IPOC Station P**	**1.13 155**		⇓*iP*	**Pn**	**16 19 23.4**	**+0.3**
PB09				*i* S	**Sn**	**16 19 38.5**	**+0.8**
PB09				IAML		16 19 40.7	
comp=E,3μm,0.5s							
PB09	**IPOC Station P**	**1.13 155**		*eP*	**Pn**	**16 19 22.7**	**-0.4**
PB09				*eS*	**Sn**	**16 19 39.5**	**+1.8**
PB09				IAML		16 19 42.7	
comp=Z,2μm,0.6s							
GO01	**Chusmiza**	**1.21 26**		Pn	**Pn**	**16 19 24.2**	**-0.1**
GO01	**Chusmiza**	**1.21 26**		*iP*	**Pn**	**16 19 24.3**	**-0.1**
GO01				*i* S	**Sn**	**16 19 40.4**	**+0.5**
GO01	**Chusmiza**	**1.21 26**		*eP*	Pn	16 19 18.7	-5.6
GO01				*eP*	**Pn**	**16 19 23.6**	**-0.8**
GO01				IAML		16 19 41.0	
comp=Z,7μm,0.3s							
PB04	**IPOC Station P**	**1.61 193**		Pn	**Pn**	**16 19 29.4**	**-0.1**
PB04	**IPOC Station P**	**1.61 193**		⇓*iP*	**Pn**	**16 19 29.8**	**+0.3**
PB04				*i* S	**Sn**	**16 19 49.9**	**+0.7**
PB04				IAML		16 19 55.3	
comp=E,3μm,0.3s							
PB04	**IPOC Station P**	**1.61 193**		*eP*	**Pn**	**16 19 29.8**	**+0.3**
PB04				*eS*	**Sn**	**16 19 50.2**	**+1.0**
PB04				IAML		16 19 54.0	
comp=Z,2μm,0.4s							
PB06	**IPOC Station P**	**1.94 175**		Pn	**Pn**	**16 19 34.1**	**0.0**
PB06	**IPOC Station P**	**1.94 175**		*iP*	**Pn**	**16 19 34.1**	**0.0**
PB06				*i* S	**Sn**	**16 19 58.0**	**+0.6**
PB06				IAML		16 20 08.9	
comp=E,1μm,0.5s							
PB06	**IPOC Station P**	**1.94 175**		*eP*	**Pn**	**16 19 34.3**	**+0.2**
PB06				*eS*	**Sn**	**16 19 59.7**	**+2.4**
PB06				IAML		16 20 03.6	
comp=Z,762nm,0.3s							
LVC	**Limon Verde**	**2.00 157**		Pn	**Pn**	**16 19 36.3**	**+1.2**
LVC	**Limon Verde**	**2.00 157**		⇓*iP*	**Pn**	**16 19 36.2**	**+1.2**
LVC				*i* S	**Sn**	**16 20 00.4**	**+1.4**
LVC	**Limon Verde**	**2.00 157**		*eP*	**Pn**	**16 19 35.5**	**+0.5**
LVC				*eS*	**Sn**	**16 20 03.7**	**+4.7**
PB12	**IPOC Station P**	**2.21 346**		Pn	**Pn**	**16 19 37.3**	**-0.4**
PB12	**IPOC Station P**	**2.21 346**		⇓*iP*	**Pn**	**16 19 37.3**	**-0.4**
PB12	**IPOC Station P**	**2.21 346**		*eP*	**Pn**	**16 19 37.4**	**-0.2**
PB12				IAML		16 20 10.4	
comp=Z,462nm,0.4s							
PB16	**IPOC Station P**	**2.43 5**		Pn	**Pn**	**16 19 42.1**	**+1.0**
PB16	**IPOC Station P**	**2.43 5**		*eP*	**Pn**	**16 19 42.0**	**+0.9**
PB16	**IPOC Station P**	**2.43 5**		*eP*	**Pn**	**16 19 41.5**	**+0.4**
PB16				*eS*	**Sn**	**16 20 10.2**	**+0.4**
AP01	**Chacalluta 2.44 347**				**Pn**	**16 19 39.9**	**-0.9**
AP01	**Chacalluta 2.44 347**			*eP*	**Pn**	**16 19 40.8**	**0.0**
AP01				*eP*	**Pn**	**16 19 41.5**	**+0.7**
AP01				IAML		16 20 32.3	
comp=Z,592nm,0.4s							
PB15	**IPOC Station P**	**2.45 174**			**Pn**	**16 19 40.8**	**-0.2**
PB15	**IPOC Station P**	**2.45 174**		*iP*	**Pn**	**16 19 41.4**	**+0.3**
PB15	**IPOC Station P**	**2.45 174**		*eP*	**Pn**	**16 19 41.5**	**+0.5**
PB15				*eS*	**Sn**	**16 20 09.2**	**-0.6**
PB15				IAML		16 20 22.4	
comp=Z,2μm,0.2s							
AF01	**San Pedro de A 2.62 146**				**Pn**	**16 19 45.6**	**+2.1**
PB18	**Visviri 3.17 5**			Pn	**Pn**	**16 19 55.3**	**+4.1**
PB18	**Visviri 3.17 5**			*eP*	**Pn**	**16 19 55.1**	**+3.9**
PB14	**IPOC Station P 3.89 189**			Pn	**Pn**	**16 19 57.6**	**-3.3**
PB14	**IPOC Station P 3.89 189**			*eP*	**Pn**	**16 19 59.5**	**-1.5**
PB14				*eS*	Sn	16 20 57.2	+12
PB14				IAML		16 21 02.7	
comp=Z,134nm,0.7s							
GO02	**Mina Guanaco 4.38 178**			Pn	**Pn**	**16 20 07.0**	**-0.7**
GO02	**Mina Guanaco 4.38 178**			*eP*	**Pn**	**16 20 07.2**	**-0.5**
GO02				*eS*	Sn	16 21 09.7	+12
GO02				IAML		16 21 26.2	
comp=Z,140nm,0.7s							
LPAZ	**La Paz 4.71 19**				**Pn**	**16 20 15.9**	**+3.5**
AC01	**Pan de Azucar 5.42 188**			Pn	**Pn**	**16 20 19.1**	**-2.4**
AC02	**Maricunga 6.07 175**				**Pn**	**16 20 30.6**	**-0.4**
LCO	**Las Campanas 8.26 186**			Pn	**Pn**	**16 20 57.4**	**-3.4**
VILB	**Vilhena 11.99 51**			Pn	**Pn**	**16 21 50.7**	**-1.0**

---

*MOS **21** 16:25:49.7±1.0, 37°.41N×141°.86E, h33km, mb5.0/24, Error ellipse: s-maj=7.8km s-min=4.8km az=98.6*
*BJI **21** 16:25:49.2±0.0, 37°.33N×141°.82E, h33km, mb4.6/51, mB5.2/25, Ms4.3/8, Ms7 4.2/9*
*JMA **21** 16:25:50.2±0.2, 37°.4N±0°.5×141°.8E±0°.9, h40km±2km, MD4.6/40, MW4.6/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **21** 16:25:50.2, 37°.37N×141°.83E, h40km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}6.28; $M_{\theta\theta}$-5.16; $M_{\phi\phi}$-1.12; $M_{r\theta}$5.80; $M_{\theta\phi}$-3.73; $M_{r\phi}$0.95; Fault plane solution: $M_0$9.04000×10^{15} NP1:ϕ_s74.00000°, δ66.00000°, λ104.00000°. NP2:ϕ_s223.00000°, δ28.00000°, λ62.00000°.*
*BGR **21** 16:25:51.6, 37°.09N×141°.99E, h33km, mb4.5*
*IDC **21** 16:25:51.5±3.3, 37°.35N×141°.86E, h34km±25km, mb4.2/30, mbtmp4.4/38, ML3.3/7, MS3.8/37, Error ellipse: s-maj=14.0km s-min=11.7km az=95.0*
*NEIC **21** 16:25:52.2±2.0, 37°.38N±0°.07×141°.88E±0°.10, h35km±7km, mb4.9/77, Error ellipse: s-maj=11.8km s-min=8.8km az=122.0*
ISC 21 16:25:51.0±0.5,**37°.35N**±0°.04×**141°.96E**±0°.04,**h31**km±2km,
h31km:**pP-P**,**n626**,σ1§**45**/**588**,**mb4.8**/134,**MS4.0**/34,
11C-21D,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.86 271**		*i* P	**Pn**	**16 26 04.7**	**-2.2**
JFK				S	**Sn**	**16 26 14.4**	**-4.1**
JFK	**Kawauchi**	**0.86 271**		A	A	16 26 04.7	
comp=E,45nm,0.6s,comp=N,38nm,1.0s							
JMST	**Minamisoumatoc**	**0.93 294**		⇓*iP*	**Pn**	**16 26 05.6**	**-2.2**
JMST				⇓S	**Sn**	**16 26 16.1**	**-3.9**
JMST	**Minamisoumatoc**	**0.93 294**		A	A	16 26 05.6	
comp=E,25nm,0.8s,comp=N,33nm,1.7s							
ONAJ	**Iwakimizuishiy**	**0.96 255**		*i* P	**Pn**	**16 26 06.0**	**-2.2**
ONAJ				S	**Sn**	**16 26 17.0**	**-3.8**
ONAJ	**Iwakimizuishiy**	**0.96 255**		A	A	16 26 06.0	
comp=E,67nm,0.3s,comp=N,41nm,0.3s							
JIKH	**Ishinomakibobu**	**1.03 338**		⇓*iP*	**Pn**	**16 26 07.7**	**-1.6**
JIKH				⇓S	**Sn**	**16 26 20.2**	**-2.5**
JMM	**Marumori**	**1.06 300**			**Pn**	**16 26 07.4**	**-2.2**
JMM	**Marumori**	**1.06 300**		P	**Pn**	**16 26 07.7**	**-1.9**
JMM	**Marumori**	**1.06 300**		⇓*iP*	**Pn**	**16 26 07.6**	**-1.9**
JMM				⇓S	**Sn**	**16 26 19.6**	**-3.6**
JMM	**Marumori**	**1.06 300**		A	A	16 26 07.6	
comp=E,16nm,0.8s,comp=N,28nm,0.6s							
JFFD	**Fukushimafurud**	**1.14 257**		A	A	16 26 08.8	
comp=E,12nm,2.2s,comp=N,15nm,1.8s							
JIO	**Ouri**	**1.20 337**		⇓*iP*	**Pn**	**16 26 10.2**	**-1.4**
JIO				⇓S	**Sn**	**16 26 24.2**	**-2.6**
JIO	**Ouri**	**1.20 337**		A	A	16 26 10.2	
comp=E,8.0nm,2.4s,comp=N,7.0nm,3.1s							
JOTO	**OTAMA OYAMA**	**1.31 280**		*i* P	**Pn**	**16 26 11.9**	**-1.2**
JOTO				S	**Sn**	**16 26 27.2**	**-2.2**
JOTO	**OTAMA OYAMA**	**1.31 280**		A	A	16 26 11.9	
comp=E,34nm,0.8s,comp=N,47nm,1.0s							
JHO	**Hitachi**	**1.33 237**		*i* P	**Pn**	**16 26 11.0**	**-2.4**
JHO				S	**Sn**	**16 26 26.0**	**-4.1**
JOU	**Okura**	**1.44 315**		⇓*iP*	**Pn**	**16 26 13.7**	**-1.2**
JOU				⇓*eS*	**Sn**	**16 26 31.1**	**-1.6**
JOU	**Okura**	**1.44 315**		A	A	16 26 13.7	
comp=E,25nm,2.1s,comp=N,29nm,2.4s							
JOFO	**Osakifurukawao**	**1.50 327**		A	A	16 26 14.4	
comp=E,53nm,1.4s,comp=N,49nm,1.9s							
JKMT	**Kesennumamotoy**	**1.51 346**		A	A	16 26 14.9	
comp=E,10.0nm,1.8s,comp=N,6.0nm,0.8s							
JYAR	**Yonezawaarcadi**	**1.54 292**		A	A	16 26 14.6	
comp=E,58nm,1.2s,comp=N,36nm,1.4s							
JSB	**Shiboa**	**1.67 257**		A	A	16 26 16.6	
comp=E,28nm,0.8s,comp=N,28nm,2.5s							
JMK	**Ichinoseki**	**1.70 340**		⇓*iP*	**Pn**	**16 26 17.8**	**-0.7**
JMK	**Ichinoseki**	**1.70 340**		A	A	16 26 17.8	
comp=E,9.0nm,3.3s,comp=N,7.0nm,2.2s							
JYS	**Shirataka**	**1.73 301**		⇓*iP*	**Pn**	**16 26 17.9**	**-1.0**
JYS				⇓*eS*	**Sn**	**16 26 39.4**	**-0.5**
JYS	**Shirataka**	**1.73 301**		A	A	16 26 17.9	
comp=E,40nm,1.3s,comp=N,34nm,1.4s							
OFUJ	**Ofunato**	**1.74 353**		A	A	16 26 18.5	
comp=E,8.0nm,5.7s,comp=N,8.0nm,1.0s							
JFY	**Yanaizu**	**1.79 272**		*i* P	**Pn**	**16 26 18.9**	**-0.8**
JFY				S	**Sn**	**16 26 40.7**	**-0.8**
JFY	**Yanaizu**	**1.79 272**		A	A	16 26 18.9	
comp=E,6.0nm,1.8s,comp=N,9.0nm,3.1s							
JYT	**Yasato**	**1.80 232**		A	A	16 26 18.8	
comp=E,7.0nm,2.6s,comp=N,6.0nm,1.9s							
JYK	**Kaneyama**	**2.01 322**		A	A	16 26 21.7	
comp=E,6.0nm,2.0s,comp=N,6.0nm,2.0s							
JNS	**Sasagawa**	**2.15 283**		A	A	16 26 23.3	
comp=E,5.0nm,2.2s,comp=N,7.0nm,3.3s							
JYA	**Atsumi**	**2.16 306**		A	A	16 26 23.7	
comp=E,11nm,0.9s,comp=N,8.0nm,1.2s							
JOM	**Ohasama**	**2.18 346**		A	A	16 26 24.7	
comp=E,10.0nm,3.2s,comp=N,6.0nm,3.0s							
JRG	**Rokugo**	**2.29 333**		A	A	16 26 26.0	
comp=E,9.0nm,2.0s,comp=N,13nm,1.4s							
JYYZ	**Yamagatayuza**	**2.31 317**		A	A	16 26 25.8	
comp=E,18nm,2.0s,comp=N,16nm,2.1s							
JAW	**Awa shima**	**2.41 298**		A	A	16 26 27.2	

comp=E,8.0nm,3.3s,comp=N,9.0nm,2.5s
JSZI Iwateshizukuis 2.51 342 A A 16 26 29.3
comp=E,16nm,1.9s,comp=N,13nm,1.9s
JYW Yuwa 2.58 328 A A 16 26 30.0
comp=E,16nm,1.2s,comp=N,14nm,1.9s
JTH Tanohata 2.59 358 A A 16 26 30.8
comp=E,8.0nm,2.1s,comp=N,5.0nm,2.1s
JIZZ Izumozaki 2.59 275 A A 16 26 29.7
comp=E,13nm,3.0s,comp=N,18nm,3.8s
JKEN Kujiedanarisaw 2.86 356 A A 16 26 34.5
comp=E,12nm,0.8s,comp=N,15nm,0.9s
JSD Sado 3.01 284 Pn **Pn 16 26 35.0 -1.5**
JSD Sado 3.01 284 P **Pn 16 26 36.2 -0.3**
JANG Nango 3.04 354 A A 16 26 37.1
comp=E,4.0nm,1.3s,comp=N,3.0nm,1.0s
MJAR Matsushiro Arr 3.11 256 P **Pn 16 26 36.0 -1.9**
MJAR Matsushiro Arr 3.11 256 Pn **Pn 16 26 36.0 -1.9**
comp=N,1.4nm,0.3s,baz=81,slow=15,SNR=107
MJAR Sn **Sn 16 27 16.9 +3.0**
comp=N,4.1nm,0.3s,baz=277,slow=26,SNR=3.6
comp=N,11nm,0.4s
MAJO Matsushiro 3.11 256 Pn **Pn 16 26 38.0 +0.2**
MAJO Matsushiro 3.11 256 P **Pn 16 26 38.4 +0.6**
MAJO Matsushiro 3.11 256*c i*P **Pn 16 26 37.4 -0.4**
JNTW Noshirotokiwa 3.24 335 A A 16 26 39.4
comp=E,16nm,2.4s,comp=N,16nm,2.5s
JOG3 Oga3 3.41 320 A A 16 26 36.9
comp=E,6.0nm,2.6s,comp=N,7.0nm,2.9s
JTM Tenmabayashi 3.50 349 **Pn 16 26 43.7 +0.5**
JTM Tenmabayashi 3.50 349 P **Pn 16 26 44.0 +0.8**
JTM Tenmabayashi 3.50 349 A A 16 26 43.5
comp=E,4.0nm,4.6s,comp=N,4.0nm,5.7s
JIW Iwasaki 3.58 335 A A 16 26 44.3
comp=E,3.0nm,1.6s,comp=N,3.0nm,1.4s
JNY Yasuok 3.85 240 A A 16 26 47.9
comp=E,4.0nm,5.8s,comp=N,4.0nm,5.4s
JSI2 Shiura 2 3.89 343 A A 16 26 48.9
comp=E,4.0nm,2.7s,comp=N,4.0nm,2.4s
JAHD Aomorihigashid 3.94 353 A A 16 26 49.7
comp=E,10.0nm,1.2s,comp=N,9.0nm,1.3s
JSG Sagara 4.06 230 Pn **Pn 16 26 51.3 +0.4**
JSR Shiriuchi 4.34 345 A A 16 26 55.2
comp=E,4.0nm,1.9s,comp=N,6.0nm,2.4s
INU Inuyama 4.46 245 Pn **Pn 16 26 56.6 +0.2**
INU Inuyama 4.46 245 P **Pn 16 26 57.5 +1.1**
JHJ2 Mitsune 4.58 203 Pn **Pn 16 26 57.5 -0.4**
JHJ Hachijo jima 2 4.58 203 Pn **Pn 16 26 57.7 -0.4**
comp=N,152nm,0.3s,baz=314,slow=23,SNR=6.3
JHJ Sn **Sn 16 27 51.3 +1.1**
comp=N,146nm,0.3s,baz=85,slow=22,SNR=6.0
JHJ LR LR 16 29 04.9
comp=N,2μm,18.8s,baz=30,slow=42
ERM Erimo 4.75 11 **Pn 16 27 00.7 +0.4**
ERM Erimo 4.75 11 P **Pn 16 27 00.9 +0.5**
ERM Erimo 4.75 11 P **Pn 16 27 00.7 +0.4**
JEM Erimo 4.75 11 P **Pn 16 27 00.9 +0.5**
NMR Nemuro--Hokkai 6.67 24 *e*P **Pn 16 27 25.0 -1.7**
NMR *e*S **Sn 16 28 34.7 -6.8**
ASAJ Asahikawa 6.78 4 Pn **Pn 16 27 28.0 -0.2**
comp=N,2.5nm,0.3s,baz=211,slow=14,SNR=33
comp=N,19nm,0.6s
JKA Kamikawa-asahi 6.78 4 Pn **Pn 16 27 27.5 -0.7**
RUSJ Misakicho 7.20 19 *e*P **Pn 16 27 32.7 -1.2**
RUSJ *e*S **Sn 16 28 52.3 -2.2**
YUK Yuzh-Kuril'sk 7.31 23 *e*P **Pn 16 27 37.4 +2.0**
YUK *i* S **Sn 16 28 52.0 -5.3**
YUK pmax pmax
comp=N,44nm,0.2s
YUK pmax pmax
comp=Z,105nm,0.2s
SHO Shikotan 7.49 28 P **Pn 16 27 36.7 -1.3**
SHO pmax pmax
comp=Z,8.0nm,0.2s
JMN Monobe 7.51 244 P **Pn 16 27 40.5 +2.2**
KUR Kuril'sk 9.04 28 *e*P **Pn 16 27 58.7 -0.5**
KUR *e*S **Sn 16 29 36.0 -3.9**
KUR pmax pmax
comp=Z,72nm,0.6s
YSS Yuzh-Sakhalins 9.62 3 Pn **Pn 16 28 07.3 +0.3**
YSS Yuzh-Sakhalins 9.62 3 P **Pn 16 28 08.3 +1.2**
YSS Yuzh-Sakhalins 9.62 3 *e*P **Pn 16 28 08.1 +1.0**
YSS pmax pmax
comp=Z,30nm,0.8s
YSS MLR MLR
comp=Z,600nm,15.0s
JNU Nakatsue 9.99 248 Pn **Pn 16 28 12.7 +0.3**
comp=Z,0.1nm,0.3s,baz=61,slow=13,SNR=2.6
JNU LR LR 16 32 52.1
comp=Z,84nm,20.0s,baz=64,slow=42
comp=Z,16nm,1.0s
USA0B Ussuriysk Arra 10.19 315 Pn **Pn 16 28 13.6 -1.4**
USA0B Ussuriysk Arra 10.19 315 P **Pn 16 28 13.6 -1.4**
USRK Ussuriysk Ar. 10.19 315 Pn **Pn 16 28 14.8 -0.2**
comp=Z,0.6nm,0.3s,baz=130,slow=13,SNR=37
USRK LR LR 16 31 52.3
comp=Z,638nm,19.3s,baz=169,slow=36
comp=Z,8.6nm,0.9s
KSRS Korea Array 11.16 275 Pn **Pn 16 28 30.0 +1.7**
comp=Z,0.3nm,0.3s,baz=86,slow=14,SNR=19
KSRS LR LR 16 32 23.0
comp=Z,307nm,19.5s,baz=75,slow=35
comp=Z,10nm,0.9s
MDJ Mudanjiang 11.82 312 P **Pn 16 28 37.9 +0.6**
MDJ pP 16 28 45.3
MDJ sP 16 28 49.8
MDJ S **Sn 16 30 48.4 +0.3**
MDJ ScP **ScP 16 37 57.0 +2.6**
MDJ pmax pmax
comp=Z,23nm,2.0s
MDJ pmax pmax
comp=Z,230nm,3.8s
MDJ LR LR
comp=Z,500nm,10.4s
MDJ LR LR
comp=Z,450nm,9.8s
MDJ LR LR
comp=Z,820nm,16.8s
KLR Kul'dur 13.99 331 Pn **Pn 16 29 07.5 +0.6**
comp=Z,0.1nm,0.3s,baz=204,slow=19,SNR=1.8
KLR LR LR 16 34 16.6
comp=Z,518nm,19.6s,baz=142,slow=36
comp=Z,0.5nm,0.3s
CN2 Changchun 14.09 302 *e*P **Pn 16 29 09.6 +1.3**
CN2 *e*S **Sn 16 31 47.5 +3.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,10.0s
CN2 LR LR
comp=Z,500nm,10.0s
CN2 LR LR
comp=Z,500nm,10.0s
JOW Kunigami 15.61 232 LR LR 16 34 38.4
comp=Z,540nm,21.1s,baz=120,slow=34
HEH HeiHe 16.59 326 *e*P **Pn 16 29 39.6 -1.5**
HEH pmax pmax
comp=Z,11nm,1.3s
HEH pmax pmax
comp=Z,270nm,7.2s
SKR Severo-Kuril's 16.73 33⇑*e*P **P 16 29 45.5 +0.6**
PEA0B Petropavlovsk- 19.20 30 P **P 16 30 11.2 -0.8**
PEA0B Petropavlovsk- 19.20 30⇓*e*P **Pn 16 30 13.1 0.0**
PETK Petropavlovsk- 19.20 30 **P 16 30 10.4 -1.7**
PETK Petropavlovsk- 19.20 30 P **Pn 16 30 13.3 +0.2**
comp=Z,0.2nm,0.3s,baz=205,slow=8.2,SNR=13
PETK LR LR 16 37 32.8
comp=Z,124nm,20.4s,baz=199,slow=36
comp=Z,13nm,0.9s
ZEA Zeya 19.29 333 *e*P **Pn 16 30 14.2 0.0**
ZEA pmax pmax
comp=Z,20nm,0.8s
PET Petropavlovsk 19.52 31⇑*e*P **Pn 16 30 17.9 +1.0**
NJ2 Nanjing 19.70 261 *e*P **P 16 30 17.4 -0.2**
NJ2 pP **pP 16 30 23.8 -2.0**
NJ2 sP **sP 16 30 29.0 -0.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,920nm,5.6s
XLT XiLinHaoTe 20.65 297 *e*P **P 16 30 25.6 -2.4**
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,260nm,8.1s

HNS HongShan 21.63 278 ⇓P **P 16 30 35.3 -3.2**
HNS pP **pP 16 30 45.4 -1.4**
HNS pmax pmax
comp=Z,21nm,1.0s
MA2 Magadan 22.96 12 P **P 16 30 51.6 -0.8**
MA2 IAmb IAmb 16 31 06.9
comp=Z,36nm,1.1s
MA2 Magadan 22.96 12 P **P 16 30 51.6 -0.8**
MA2 pmax pmax
comp=Z,36nm,1.1s
MA2 Magadan 22.96 12 LR LR 16 39 19.5
comp=Z,167nm,18.9s,baz=208,slow=35
TPUB Ta-pu 23.06 239 P **P 16 30 52.5 -1.3**
HHC Hu-ho-hao-te 23.78 288 *e*P **P 16 30 59.3 -1.6**
HHC pmax pmax
comp=Z,35nm,0.8s
HHC pmax pmax
comp=Z,780nm,5.6s
GUMO Guam 23.80 173 LR LR 16 40 34.6
comp=Z,81nm,21.6s,baz=17,slow=37
LYN LuoYang 23.99 272 ⇑P **P 16 31 01.0 -1.7**
LYN pP pP 16 31 10.9 -0.7
LYN sP sP 16 31 14.5 -0.8
LYN sS sS 16 35 27.1 -5.2
LYN SS **SnSn 16 36 05.5 +6.5**
LYN pmax pmax
comp=Z,20nm,0.7s
LYN pmax pmax
comp=Z,670nm,7.3s
LYN LR LR
comp=Z,980nm,6.1s
LYN LR LR
comp=Z,470nm,7.2s
LYN LR LR
comp=Z,620nm,5.9s
BTO Baotou 24.96 287 *e*P **P 16 31 11.3 -0.4**
BTO pP **pP 16 31 20.8 +0.3**
BTO sP **sP 16 31 24.5 +0.2**
BTO PP **PnPn 16 31 48.4 +3.1**
BTO pmax pmax
comp=Z,20nm,0.4s
BTO pmax pmax
comp=Z,850nm,6.9s
YAK Yakutsk 25.86 347 P **P 16 31 18.6 -0.8**
YAK IAmb IAmb 16 31 33.9
comp=Z,44nm,0.8s
YAK Yakutsk 25.86 347 *e*P **P 16 31 19.6 +0.2**
YAK *e**PP **pP 16 31 28.9 +0.6**
YAK *e*PPP PPP 16 32 03.6
YAK *e* 16 34 48.9
YAK *e*S **S 16 35 48.0 +1.1**
YAK *e**SS **sS 16 36 03.2 +1.6**
YAK *e*SS **SnSn 16 36 43.8 -0.4**
YAK *e*SSS SSS 16 37 04.8
YAK pmax pmax
comp=Z,45nm,1.4s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,16nm,1.9s
YAK pmax pmax
comp=Z,213nm,5.1s
YAK pmax pmax
comp=E,264nm,4.7s
YAK pmax pmax
comp=N,193nm,2.9s
YAK smax smax
comp=N,476nm,4.3s
YAK smax smax
comp=E,217nm,5.1s
YAK MLR MLR
comp=Z,423nm,22.0s
YAK MLR MLR
comp=N,341nm,19.0s
YAK MLR MLR
comp=E,58nm,12.0s
SEY Seymchan 26.40 11⇑*e*P **P 16 31 26.4 +2.1**
SEY pmax pmax
comp=Z,30nm,1.3s
SEY Seymchan 26.40 11 LR LR 16 41 43.3
comp=Z,214nm,20.2s,baz=172,slow=36
SHEM Shemya Is, Ala 27.14 45 LR LR 16 40 52.6
comp=Z,66nm,21.0s,baz=318,slow=33
ULN Ulaanbaatar 27.54 304⇑*e*P **P 16 31 34.1 -0.8**
ULN pmax pmax
comp=Z,4.0nm,1.1s
H11N2 WAKE ISLAND Hy 27.94 122 T T 17 01 14.4
baz=315,slow=75,SNR=411
H11N1 WAKE ISLAND Hy 27.95 122 T T 17 01 03.0
baz=315,slow=75,SNR=397
H11N3 WAKE ISLAND Hy 27.96 122 T T 17 01 15.7
baz=315,slow=75,SNR=417
SONM Songino Array 27.97 303 P **P 16 31 37.1 -1.7**
SONM Songino Array 27.97 303 P **P 16 31 37.8 -0.9**
comp=Z,3.7nm,0.6s,baz=106,slow=9.5,SNR=16
comp=Z,3.7nm,0.6s
H11S1 WAKE ISLAND Hy 28.67 124 T T 17 02 01.0
baz=316,slow=76,SNR=466
H11S3 WAKE ISLAND Hy 28.67 124 T T 17 01 51.2
baz=316,slow=76,SNR=460
H11S2 WAKE ISLAND Hy 28.69 124 T T 17 02 02.2
baz=316,slow=76,SNR=387
ZAK Zakamensk 30.41 308 *e*P **P 16 31 59.4 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
GYA Guiyang 31.70 260 ⇑P **P 16 32 11.1 -0.9**
GYA pmax pmax
comp=Z,19nm,1.1s
MOY Mondy 32.07 310 *e*P **P 16 32 14.3 -0.6**
CD2 Chengdu 32.10 270 P **P 16 32 14.0 -1.4**
DAV Davao City (W) 33.62 210 LR LR 16 44 00.9
comp=Z,142nm,20.8s,baz=54,slow=32
TIXI Tiksi 35.03 353 P **P 16 32 39.7 -0.6**
TIXI Tiksi 35.03 353 P **P 16 32 39.7 -0.6**
TIXI pmax pmax
comp=Z,10.0nm,1.5s
KMI Kunming 35.44 261 ⇑P **P 16 32 44.4 -0.2**
KMI pP pP 16 32 53.0 -0.6
KMI sP sP 16 32 56.8 -0.5
KMI pmax pmax
comp=Z,14nm,1.0s
PZH PanZhiHua 35.56 264 P **P 16 32 46.1 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,350nm,6.1s
NIKH Nikolski High 37.24 49 P **P 16 32 58.9 -0.5**
baz=265
GOMU GeErMu 37.47 283 P **P 16 33 02.3 +0.2**
GOMU pmax pmax
comp=Z,6.0nm,0.7s
CRAI Chiangrai 39.88 256 P **P 16 33 22.2 +0.3**
DGZ Jazzator, Alta 40.56 306*ce*P **P 16 33 27.8 +0.3**
DGZ pmax pmax
comp=Z,24nm,1.1s
K13K Kusilvak Mount 40.80 36 P **P 16 33 28.9 -0.2**
baz=258
WMQ Urumqi 41.08 297 *e*P **P 16 33 34.0 +2.2**
WMQ pP pP 16 33 42.5 +1.6
WMQ pmax pmax
comp=Z,14nm,0.9s
J14K Nanvaranak Lak 41.47 34 P **P 16 33 36.0 +1.5**
L14K Kuka Creek 41.62 37 P **P 16 33 35.6 -0.2**
baz=261
M14K Bethel 41.88 38 P **P 16 33 37.2 -0.7**
M14K IAmb IAmb 16 33 41.7
comp=Z,47nm,1.3s
M14K Bethel 41.88 38 P **P 16 33 39.1 +1.2**
baz=262
CMAR Chiang Mai Arr 41.99 255 P **P 16 33 39.1 -0.3**
comp=Z,0.7nm,0.8s,baz=42,slow=5.5,SNR=6.7
CMAR PcP **PcP 16 35 35.5 +1.2**
comp=Z,0.4nm,0.4s,baz=21,slow=4.6,SNR=4.5
CMAR LR LR 16 52 48.3
comp=Z,95nm,19.0s,baz=75,slow=39
comp=Z,0.7nm,0.8s
ZAA0 Zalesovo Array 42.02 312 P **P 16 33 37.4 -1.8**
ZALV Zalesovo Beam 42.02 312 P **P 16 33 38.2 -1.0**
ZALV Zalesovo Beam 42.02 312 P **P 16 33 38.9 -0.3**
comp=Z,5.2nm,0.8s,baz=87,slow=6.6,SNR=22
ZALV LR LR 16 51 52.3
comp=Z,226nm,18.1s,baz=102,slow=37
comp=Z,5.2nm,0.8s
C16K Lisburne Hills 42.23 26 P **P 16 33 41.1 +0.4**
C16K Lisburne Hills 42.23 26 P **P 16 33 41.7 +1.0**
baz=251

M15K Kasigluk River 42.49 38 P **P 16 33 43.3 +0.3**
baz=264
G16K Koyuk River 42.55 31 P **P 16 33 44.1 +0.7**
baz=257
N15K Kwethluk River 42.73 39 P **P 16 33 45.8 +0.9**
N15K IAmb IAmb 16 33 48.4
comp=Z,33nm,1.2s
N15K Kwethluk River 42.73 39 P **P 16 33 45.4 +0.5**
baz=265
O15K Ungalikthiuk R 42.78 40 P **P 16 33 45.3 0.0**
baz=266
S14K Fog Glacier 42.80 44 P **P 16 33 47.0 +1.3**
baz=269
D17K Noatak River 42.86 27 P **P 16 33 46.6 +0.8**
baz=254
C17K DeLong Mountai 43.05 26 P **P 16 33 48.4 +1.0**
baz=253
E17K Hotham Inlet 43.17 28 P **P 16 33 49.5 +1.2**
baz=256
L16K Owhat River 43.19 36 P **P 16 33 49.6 +1.0**
L16K IAmb IAmb 16 34 35.1
comp=Z,36nm,1.6s
L16K Owhat River 43.19 36 P **P 16 33 49.2 +0.7**
baz=264
F17K Baldwin Pennin 43.23 29 P **P 16 33 50.8 +2.0**
baz=257
G17K Kiwalik Mounta 43.27 31 P **P 16 33 50.1 +0.9**
baz=258
M16K Timber Creek 43.36 37 P **P 16 33 51.4 +1.4**
baz=265
N16K Nishlik Lake 43.41 38 P **P 16 33 52.1 +1.6**
baz=266
O16K Kokwok River B 43.69 40 P **P 16 33 54.4 +1.7**
O16K Kokwok River B 43.69 40 P **P 16 33 53.8 +1.2**
baz=267
E18K Tukpahlearik C 43.71 28 P **P 16 33 54.9 +2.2**
E18K IAmb IAmb 16 34 21.1
comp=Z,55nm,1.6s
E18K Tukpahlearik C 43.71 28 P **P 16 33 53.6 +0.9**
baz=256
P16K Nushagak River 43.72 40 P **P 16 33 54.5 +1.7**
baz=268
L17K Donlin 43.79 36 P **P 16 33 54.9 +1.5**
baz=264
B18K Kokolik River 43.79 25 P **P 16 33 54.9 +1.6**
baz=253
C18K Utukok River 43.80 26 P **P 16 33 54.8 +1.2**
C18K IAmb IAmb 16 33 55.7
comp=Z,21nm,0.9s
C18K Utukok River 43.80 26 P **P 16 33 55.1 +1.6**
baz=255
K17K Iditarod 43.85 35 P **P 16 33 54.9 +1.0**
K17K IAmb IAmb 16 34 53.5
comp=Z,39nm,1.4s
K17K Iditarod 43.85 35 P **P 16 33 55.2 +1.3**
baz=264
M17K Holitna River 44.13 37 P **P 16 33 57.5 +1.3**
baz=266
G18K Tagagawik 44.16 30 P **P 16 33 57.5 +1.1**
baz=260
N17K Nushagak Hills 44.20 38 P **P 16 33 57.4 +0.7**
N17K Nushagak Hills 44.20 38 P **P 16 33 58.6 +1.9**
baz=267
O17K Koliganek Bris 44.20 39 P **P 16 33 58.0 +1.2**
baz=268
MK31 Makanchi Array 44.32 302 P **P 16 33 55.8 -2.2**
MK31 Makanchi Array 44.32 302*d i*P **P 16 33 57.3 -0.6**
MKAR Makanchi Array 44.32 302 P **P 16 33 57.0 -0.9**
MKAR Makanchi Array 44.32 302 P **P 16 33 57.5 -0.4**
comp=Z,6.5nm,0.8s,baz=87,slow=8.8,SNR=31
MKAR LR LR 16 51 09.7
comp=Z,107nm,19.4s,baz=110,slow=34
comp=Z,6.5nm,0.8s
Q16K King Salmon 44.40 41 P **P 16 33 59.8 +1.5**
baz=269
C19K Lookout Ridge 44.48 26 P **P 16 33 59.5 +0.5**
C19K Lookout Ridge 44.48 26 P **P 16 34 00.3 +1.3**
baz=256
MAKZ Makanchi 44.53 302 P **P 16 33 59.2 -0.4**
MAKZ pP **pP 16 34 09.4 +0.7**
R17K Ugashik Creek 44.54 42 P **P 16 34 00.7 +1.2**
baz=271
L18K Granite Mounta 44.55 36 P **P 16 34 00.7 +1.2**
baz=266
Q17K Contact Creek 44.80 42 P **P 16 34 02.7 +1.0**
baz=270
G19K Purcell Mounta 44.83 30 P **P 16 34 02.6 +0.9**
baz=261
N18K Kilae Creek 44.84 38 P **P 16 34 03.6 +1.7**
N18K IAmb IAmb 16 34 05.3
comp=Z,11nm,0.8s
N18K Kilae Creek 44.84 38 P **P 16 34 03.5 +1.6**
baz=268
D19K Kuna River 44.87 27 P **P 16 34 03.2 +1.2**
D19K Kuna River 44.87 27 P **P 16 34 03.3 +1.3**
baz=258
M18K Stony River 44.91 37 P **P 16 34 03.2 +0.8**
baz=267
TTA Tatalina 44.92 35 P **P 16 34 03.3 +0.8**
baz=266
E19K Redstone River 44.99 28 P **P 16 34 04.1 +1.1**
baz=260
H19K Roundabout Mou 45.00 31 P **P 16 34 03.6 +0.6**
H19K IAmb IAmb 16 34 05.9
comp=Z,18nm,1.1s
H19K Roundabout Mou 45.00 31 P **P 16 34 04.7 +1.7**
baz=263
SVW2 Sparrevohn 45.01 38 P **P 16 34 03.4 +0.2**
SVW2 IAmb IAmb 16 34 06.6
comp=Z,13nm,0.9s
P18K Big Mountain, 45.15 40 P **P 16 34 05.8 +1.4**
baz=270
O18K Koktuh Hills 45.16 39 P **P 16 34 05.2 +0.7**
O18K IAmb IAmb 16 34 09.9
comp=Z,11nm,0.8s
O18K Koktuh Hills 45.16 39 P **P 16 34 06.1 +1.7**
baz=269
J19K Poorman 45.18 33 P **P 16 34 05.9 +1.4**
baz=265
Q18K Katmai Hardscr 45.26 41 P **P 16 34 06.6 +1.2**
baz=271
L19K White Mountain 45.40 36 P **P 16 34 08.2 +1.9**
baz=267
D20K Etivluk River 45.45 27 P **P 16 34 08.4 +1.8**
baz=259
F20K Avaraart Lake 45.50 29 P **P 16 34 08.1 +1.2**
baz=262
E20K Nigu River 45.52 27 P **P 16 34 08.5 +1.3**
baz=260
B20K Meade River 45.52 25 P **P 16 34 07.4 +0.3**
B20K Meade River 45.52 25 P **P 16 34 08.8 +1.6**
baz=257
N19K Bonanza Creek 45.53 38 P **P 16 34 08.7 +1.2**
baz=269
M19K Big River Lodg 45.61 36 P **P 16 34 09.8 +1.8**
baz=268
O19K Port Alsworth 45.61 39 P **P 16 34 09.3 +1.4**
baz=270
H20K Anotleneega Mo 45.65 31 P **P 16 34 09.4 +1.2**
baz=264
K20K Telida 45.82 34 P **P 16 34 11.0 +1.3**
baz=267
J20K Nowinta River 45.84 33 P **P 16 34 10.7 +1.0**
J20K Nowinta River 45.84 33 P **P 16 34 11.1 +1.4**
baz=266
L20K Farewell, AK 45.87 36 P **P 16 34 11.8 +1.8**
baz=268
KURK Kurchatov 46.08 308 P **P 16 34 11.6 -0.2**
KURK Kurchatov 46.08 308 P **P 16 34 11.6 -0.2**
KURK pmax pmax
comp=Z,29nm,0.9s
KURK Kurchatov 46.08 308 P **P 16 34 11.1 -0.7**
KURK pP **pP 16 34 21.3 +0.3**
KURBB Kurchatov Arra 46.15 308 P **P 16 34 11.5 -0.8**
comp=Z,15nm,0.9s,baz=84,slow=8.4,SNR=47
comp=Z,15nm,0.9s
P19K Oil Pt 46.16 40 P **P 16 34 13.7 +1.3**
baz=271
C21K Knifeblade Rid 46.18 26 P **P 16 34 14.2 +1.8**
baz=261
M20K Styx River 46.20 36 P **P 16 34 14.4 +1.7**
baz=269
G21K Allakaket 46.31 30 P **P 16 34 15.0 +1.6**
baz=264
B21K Ikpikpuk River 46.32 26 P **P 16 34 15.2 +1.8**
baz=260
TAPN Taplejung 46.35 274 *e*P **P 16 34 14.3 -0.3**

comp=Z,16nm,0.8s
E21K Killik River 46.36 27 P P 16 34 15.1 +1.3
baz=262
H21K Melozitna Rive 46.52 31 P P 16 34 15.8 +0.7
H21K Melozitna Rive 46.52 31 P P 16 34 16.6 +1.6
baz=266
KDAK Kodiak Island 46.58 42 P P 16 34 16.4 +0.9
baz=274
KDAK Kodiak Island 46.58 42 LR LR 16 55 09.1
comp=Z,50nm,20.7s,baz=275,slow=38
KDAK Kodiak Island 46.58 42 P P 16 34 16.3 +0.7
Q20K Shuyak Island 46.63 41 P P 16 34 17.3 +1.4
baz=273
CHUM Lake Minchumin 46.63 34 P P 16 34 17.3 +1.4
baz=268
N20K Mount Spurr 46.65 37 P P 16 34 18.0 +1.8
baz=271,SNR=7.4
SPCR Spurr Chakacha 46.65 37 P P 16 34 17.7 +1.5
baz=271,SNR=5.6
PPLA Purkeypile 46.66 35 P P 16 34 17.3 +0.9
baz=269
CAST Castle Rocks 46.72 34 P P 16 34 18.5 +1.8
baz=269
ODAN Odare 46.83 274 eP P 16 34 17.8 -0.4
comp=Z,95nm,2.5s
I21K Tanana 46.83 32 P P 16 34 18.7 +1.2
baz=267
B22K Teshekpuk Lake 46.84 25 P P 16 34 18.6 +1.2
B22K Teshekpuk Lake 46.84 25 P P 16 34 19.1 +1.6
baz=261
D22K Ayikyak River 46.89 27 P P 16 34 19.1 +1.2
baz=263
F22K John River 46.92 29 P P 16 34 18.9 +0.7
baz=265
KAPI Kappang 46.95 211 LR LR 16 54 29.0
comp=Z,52nm,19.5s,baz=62,slow=37
SKT Skwentna 46.96 36 P P 16 34 19.4 +0.8
baz=270
SHLS Shalkode 47.07 298 eP P 16 34 15.8 -4.1
E22K Anaktuvuk Pass 47.12 28 P P 16 34 20.5 +0.7
E22K IAmb IAmb 16 34 22.2
comp=Z,12nm,1.0s
E22K Anaktuvuk Pass 47.12 28 P P 16 34 20.8 +1.0
baz=264,SNR=5.2
G22K Bettles 47.14 30 P P 16 34 20.7 +0.8
baz=266
BPAW Bear Paw Mtn. 47.22 33 P P 16 34 21.9 +1.3
baz=269
SUA Susitna One 47.34 37 P P 16 34 22.1 +0.4
baz=272
RAMN Ramite 47.41 274 eP P 16 34 22.1 -0.7
comp=Z,44nm,0.9s
JIRN Jiri 47.42 275 eP P 16 34 22.6 -0.4
comp=Z,26nm,1.0s
BRSE Bradley Lake S 47.42 39 P P 16 34 22.9 +0.7
baz=273
TRF Thorofare Moun 47.53 34 P P 16 34 24.3 +1.1
baz=270
KPKS Kokpek 47.54 298 eP P 16 34 21.3 -2.2
CUT Chulitna 47.55 36 P P 16 34 24.1 +1.0
baz=271
GUN Gumba 47.55 276 eP P 16 34 23.4 -0.7
comp=Z,44nm,0.9s
D23K Nanushuk River 47.62 27 P P 16 34 24.4 +0.8
baz=265
COLD Coldfoot 47.67 29 P P 16 34 24.5 +0.6
baz=267
G23K Bananza Creek 47.71 30 P P 16 34 25.4 +1.0
baz=268
C23K Itkillik River 47.73 26 P P 16 34 25.3 +0.9
C23K Itkillik River 47.73 26 P P 16 34 25.7 +1.3
baz=264,SNR=5.3
H23K Yukon River 47.87 31 IAmb IAmb 16 34 29.0
comp=Z,9.7nm,0.9s
H23K Yukon River 47.87 31 P P 16 34 27.0 +1.4
baz=269,SNR=5.5
O22K Cooper Landing 47.89 38 P P 16 34 26.5 +0.8
baz=274
E23K Chandalar 47.94 28 P P 16 34 27.6 +1.4
baz=267,SNR=5.3
ARXS Arharly 47.94 299 eP P 16 34 25.4 -1.2
TOLK Toolik Lake Re 47.99 27 P P 16 34 28.0 +1.5
baz=266
SEW Seward 48.05 39 P P 16 34 28.0 +1.1
baz=274
NEA2 Nenana 48.06 33 P P 16 34 28.1 +1.1
baz=270
PKI Pulchoki 48.08 275 eP P 16 34 27.4 -0.7
comp=Z,14nm,0.9s
KKN Kakani 48.08 276 eP P 16 34 27.0 -1.0
comp=Z,36nm,0.9s
PKIN Phulchoki 48.09 276 eP P 16 34 27.2 -0.9
comp=Z,49nm,1.5s
PMR Palmer 48.11 37 IAmb IAmb 16 34 29.2
comp=Z,15nm,1.0s
PMR Palmer 48.11 37 P P 16 34 28.2 +0.8
baz=273,SNR=5.5
MCK McKinley 48.13 34 P P 16 34 28.9 +1.2
baz=271
RND Reindeer 48.17 34 IAmb IAmb 16 34 29.9
comp=Z,10nm,0.9s
GHO Glory Hole Cre 48.20 37 IAmb IAmb 16 34 30.4
comp=Z,17nm,0.9s
D24K Happy Valley 48.30 27 P P 16 34 30.1 +1.3
baz=266
DMN Daman 48.30 276 eP P 16 34 28.7 -1.0
comp=Z,37nm,1.4s
WAT1 Susitna Watana 48.33 35 P P 16 34 29.7 +0.5
baz=272
E24K Your Creek 48.36 28 P P 16 34 30.9 +1.4
baz=268
C24K Franklin Bluff 48.38 26 P P 16 34 30.7 +1.3
baz=266
MDM Murphy Dome 48.42 32 IAmb IAmb 16 34 32.7
comp=Z,16nm,0.9s
KNK Knik Glacier 48.45 37 P P 16 34 31.4 +1.3
KNK Knik Glacier 48.45 37 P P 16 34 30.9 +0.8
baz=274
SML Sawmill 48.48 37 P P 16 34 30.4 0.0
SML IAmb IAmb 16 34 32.6
comp=Z,15nm,0.8s
SML Sawmill 48.48 37 P P 16 34 31.6 +1.2
baz=274
GKN Gorkha 48.50 276 eP P 16 34 29.7 -1.4
comp=Z,57nm,1.1s
PWL Port Wells 48.54 38 P P 16 34 32.1 +1.3
baz=274
H24K Noodor Dome 48.56 31 P P 16 34 32.5 +1.5
H24K IAmb IAmb 16 34 34.1
comp=Z,7.9nm,1.1s
H24K Noodor Dome 48.56 31 P P 16 34 32.4 +1.5
baz=270
COLA College 48.58 32 P P 16 34 32.4 +1.4
WAT6 Susitna Watana 48.72 35 P P 16 34 33.1 +0.7
baz=273
G24K Hadweenzic Riv 48.72 30 P P 16 34 33.9 +1.7
baz=270
POKR Poker Plat Res 48.75 32 P P 16 34 33.6 +1.2
POKR Poker Plat Res 48.75 32 P P 16 34 34.0 +1.6
baz=271,SNR=8.5
M23K Glacier View 48.77 37 P P 16 34 33.6 +1.0
baz=274
DHY Denali Highway 48.85 35 P P 16 34 34.5 +1.1
baz=273
SCM Sheep Creek Mo 48.96 36 P P 16 34 34.2 +0.2
SCM IAmb IAmb 16 34 36.4
comp=Z,16nm,0.9s
SCM Sheep Creek Mo 48.96 36 P P 16 34 35.4 +1.3
baz=274
SCM Sheep Creek Mo 48.96 36 P P 16 34 34.3 +0.2
SCM pmax pmax
comp=Z,16nm,0.9s
HDA Harding Lake 48.98 33 P P 16 34 35.2 +1.0
baz=272,SNR=7.3
IL31 49.00 33 P P 16 34 35.0 +0.9
IL31 IAmb IAmb 16 34 36.0
comp=Z,10nm,0.8s
ILAR Eielson Array 49.00 33 P P 16 34 35.1 +0.8
ILAR Eielson Array 49.00 33 P P 16 34 35.1 +0.8
ILAR Eielson Array 49.00 33 P P 16 34 35.0 +0.7
comp=Z,8.2nm,0.8s,baz=268,slow=6.4,SNR=84
comp=Z,8.2nm,0.8s
DANN Dangsing 49.04 277 eP P 16 34 33.9 -1.5
comp=Z,74nm,0.8s
P23K Montague Islan 49.08 39 P P 16 34 35.8 +0.8
baz=276
D25K Kavik River 49.18 26 IAmb IAmb 16 34 37.8
comp=Z,8.3nm,0.8s
D25K Kavik River 49.18 26 P P 16 34 36.6 +0.9
baz=269
G25K Bearman Lake 49.27 30 P P 16 34 38.0 +1.8
baz=271
H25L Birch Creek 49.39 31 P P 16 34 38.8 +1.5
baz=272
KOLN Koldanda 49.42 277 eP P 16 34 37.1 -1.2
comp=Z,90nm,1.9s
F25K Christian Rive 49.44 29 P P 16 34 39.2 +1.5
baz=271
E25K Arctic Village 49.46 28 P P 16 34 39.5 +1.7
baz=270
M24K Tolsona, Glenn 49.48 36 P P 16 34 39.7 +1.6
baz=275
HNR Honiara 49.50 156 LR LR 16 54 22.1
comp=Z,2µm,20.0s,baz=2.5,slow=34
K24K Donnelly Dome 49.53 34 P P 16 34 38.8 +0.5
baz=274
PRP Porcupine Dome 49.54 31 IAmb IAmb 16 34 41.2
comp=Z,9.9nm,0.9s
PRP Porcupine Dome 49.54 31 P P 16 34 39.8 +1.2
baz=273,SNR=7.4
KLU Klutina 49.65 37 P P 16 34 41.1 +1.6
baz=276
J25K Salcha River, 49.66 33 P P 16 34 39.5 +0.2
baz=274
Q23K Middleton Isla 49.67 40 P P 16 34 41.4 +1.9
baz=277
C26K Camden Bay 49.70 26 P P 16 34 41.5 +2.0
baz=270
PAX Paxson 49.73 35 P P 16 34 41.9 +1.9
baz=275
PYUN Piuthan 49.76 277 eP P 16 34 39.1 -1.7
comp=Z,84nm,1.0s
EYAK Cordova Ski Ar 49.84 38 P P 16 34 42.7 +2.0
baz=277
HARP HAARP 49.92 36 P P 16 34 43.5 +2.1
baz=276
BRZS Berezniki 49.95 308 eP P 16 34 40.1 -1.7
F26K Sheenjek River 50.01 29 P P 16 34 44.2 +2.2
baz=272,SNR=13
G26K Porcupine Rive 50.18 30 P P 16 34 45.7 +2.5
baz=273
N25K Chitina, Valde 50.27 37 P P 16 34 45.4 +1.3
baz=277
SCRK Sand Creek 50.30 33 IAmb IAmb 16 34 46.3
comp=Z,12nm,0.9s
SCRK Sand Creek 50.30 33 P P 16 34 45.7 +1.3
baz=275,SNR=8.1
BTLS Baital 50.32 301 eP P 16 34 42.8 -1.8
BATI Baumata 50.32 204 P P 16 34 45.3 +0.5
comp=Z,7.0nm,0.3s,baz=82,slow=4.0,SNR=6.2
BATI LR LR 16 56 48.8
comp=Z,55nm,20.7s,baz=329,slow=37
comp=Z,7.0nm,0.3s
BMRM Brenner River 50.35 37 P P 16 34 46.0 +1.4
baz=277
J26L Joseph Creek 50.44 33 P P 16 34 46.2 +0.9
baz=275
I26K Coal Creek Min 50.55 32 P P 16 34 47.0 +1.0
baz=275
KSH Kashi 50.67 294 P P 16 34 50.8 +3.3
KSH pP sP 16 35 00.5 +0.1
KSH pmax pmax
comp=Z,3.0nm,1.5s
BVAR Borovoye Array 50.68 312 P P 16 34 46.8 -0.4
comp=Z,1.8nm,0.6s
BVAR LR LR 16 56 40.1
comp=Z,134nm,18.7s,baz=93,slow=36
comp=Z,1.8nm,0.6s
L26K Log Cabin Wild 50.69 35 P P 16 34 49.3 +2.1
baz=277,SNR=8.3
AAK Ala-Archa 50.72 298 P P 16 34 46.3 -1.6
AAK Ala-Archa 50.72 298 P P 16 34 46.3 -1.6
AAK pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 50.72 298 LR LR 16 57 15.8
comp=Z,182nm,19.9s,baz=68,slow=37
AAK Ala-Archa 50.72 298 P P 16 34 47.2 -0.6
AAK pP pP 16 34 57.0 -0.1
BRVK Borovoye 50.73 312 deP P 16 34 47.4 -0.2
BRVK pmax pmax
comp=Z,14nm,2.5s
BRVK Borovoye 50.73 312 P P 16 34 47.0 -0.6
BRVK pP pP 16 34 56.9 0.0
BRVK sP sP 16 35 00.9 +0.4
M26K Nabesna, AK 50.92 35 P P 16 34 51.4 +2.4
baz=278,SNR=5.9
E27K Coleen River 50.94 28 P P 16 34 51.0 +2.0
baz=274
G27K Doyon Strip 51.03 30 P P 16 34 51.3 +1.7
baz=275
MCARA McCarthy VSAT 51.05 37 P P 16 34 51.2 +1.3
MCARA IAmb IAmb 16 35 41.4
comp=Z,25nm,1.2s
MCARA McCarthy VSAT 51.05 37 P P 16 34 51.8 +1.9
baz=278
D27M Malcolm River 51.10 27 P P 16 34 52.1 +1.9
baz=274
CRQE Cirque 51.11 38 P P 16 34 52.3 +1.9
baz=279
H27K Steamboat Moun 51.13 30 P P 16 34 52.4 +2.0
baz=276,SNR=6.9
K27K Chicken 51.14 33 P P 16 34 52.4 +1.9
baz=277,SNR=8.3
I27K Kandik River 51.16 31 P P 16 34 52.6 +1.9
baz=276
L27K Beaver Creek, 51.37 34 P P 16 34 53.3 +1.0
L27K IAmb IAmb 16 34 55.4
comp=Z,13nm,1.1s
L27K Beaver Creek, 51.37 34 P P 16 34 54.2 +1.8
baz=278,SNR=8.4
BCAR Beaver Creek A 51.39 34 P P 16 34 54.2 +1.7
M27K Edge Creek, AK 51.45 35 P P 16 34 53.6 +0.6
M27K IAmb IAmb 16 34 57.2
comp=Z,17nm,1.2s
M27K Edge Creek, AK 51.45 35 P P 16 34 55.0 +2.0
baz=278
F28M Old Crow 51.64 29 P P 16 34 55.3 +1.1
F28M IAmb IAmb 16 34 57.6
comp=Z,19nm,1.4s
F28M Old Crow 51.64 29 P P 16 34 56.1 +1.9
baz=276
E28M Babbage River 51.67 27 P P 16 34 56.3 +1.9
baz=276
MESA MESA 51.76 38 P P 16 34 56.4 +1.0
baz=280
I28M Miner Creek 51.87 31 IAmb IAmb 16 34 59.0
comp=Z,6.8nm,0.7s
I28M Miner Creek 51.87 31 P P 16 34 57.6 +1.5
baz=278,SNR=6.2
BVCY Beaver Creek 51.91 35 P P 16 34 58.7 +2.4
baz=279
CTG Chitna Glacier 51.92 37 P P 16 34 57.6 +1.0
baz=280
YUK3 Moose Creek 52.20 36 P P 16 34 59.9 +1.2
baz=280
E29M Blow River 52.29 27 P P 16 35 01.0 +2.0
baz=277,SNR=6.5
DAWY Dawson 52.30 33 P P 16 35 00.4 +1.1
baz=279
H29M Whitestone 52.40 30 P P 16 35 02.0 +2.1
baz=278
G29M Pine Creek 52.44 29 P P 16 35 02.5 +2.3
baz=278,SNR=7.6
O28M Mount Upton 52.51 37 P P 16 35 02.2 +1.1
baz=281
I29M Ogilvie Camp, 52.56 31 P P 16 35 02.5 +1.4
baz=279
PINM Pinnacle 52.61 38 P P 16 35 02.2 +0.6
baz=282
M29M Somme Creek 53.00 35 P P 16 35 06.5 +1.9
baz=281,SNR=5.6
L29M L29M 53.02 34 P P 16 35 06.8 +2.2
baz=281,SNR=12
EPYK Eagle Plains 53.04 30 P P 16 35 06.9 +2.2
baz=280,SNR=14
PNL Peninsula 53.12 38 P P 16 35 07.6 +2.3
baz=282
G30M tAoh Zraii Nji 53.13 29 P P 16 35 06.9 +1.6
baz=280,SNR=8.0
YUK4 Talbot Arm 53.13 36 P P 16 35 07.7 +2.1
baz=282
K29M Barlow Dome 53.15 33 IAmb IAmb 16 35 08.8
comp=Z,14nm,0.9s
K29M Barlow Dome 53.15 33 P P 16 35 08.0 +2.3
baz=281,SNR=9.1
F30M Barrier River 53.19 28 P P 16 35 08.5 +2.8
baz=280,SNR=5.6
YUK6 Outpost Mounta 53.35 37 P P 16 35 09.1 +1.8
baz=282
I30M Mount Dempster 53.38 31 P P 16 35 09.5 +2.2
baz=281,SNR=26
O29M Mount Kennedy 53.39 38 P P 16 35 09.6 +2.2
baz=283
J30M Hart River 53.52 32 P P 16 35 10.3 +2.0
baz=281
M30M Minto, Yukon 53.73 35 P P 16 35 12.6 +2.8
baz=282
HYT Haines Junctio 53.79 37 P P 16 35 13.5 +3.2
baz=283,SNR=7.1
N30M Aishikik Lake 53.84 36 P P 16 35 12.7 +2.0
baz=283
G31M Satah River 53.90 29 P P 16 35 12.0 +1.2
baz=281
INK Inuvik 53.91 27 P P 16 35 11.6 +0.7
baz=281
INK Inuvik 53.91 27 LR LR 16 58 59.5
comp=Z,40nm,19.4s,baz=176,slow=37
P29M Windy Craggy 53.95 38 P P 16 35 13.5 +2.1
baz=284
F31M Tsiigehtchic 54.00 28 P P 16 35 13.5 +1.9
baz=282
IUG Iuzhnay 54.00 299 eP P 16 35 11.1 -1.1
H31M Peel River 54.09 30 P P 16 35 14.5 +2.1
baz=282,SNR=16
P30M Million Dollar 54.21 38 P P 16 35 15.7 +2.3
baz=284
GSI Gunungsitoli 54.33 239 P P 16 35 15.1 +0.4
N31M Braeburn, Yuko 54.45 36 P P 16 35 15.7 +0.6
N31M IAmb IAmb 16 35 18.0
comp=Z,17nm,1.1s
N31M Braeburn, Yuko 54.45 36 P P 16 35 17.1 +2.1
baz=284
O30N Mendenhall 54.47 37 P P 16 35 17.0 +1.8
baz=284
PLBC Pleasant Camp 54.67 38 P P 16 35 18.8 +2.2
baz=285
M31M Drury Creek, Y 54.91 35 P P 16 35 20.2 +1.8
baz=285
WHY Whitehorse 55.08 37 P P 16 35 21.4 +1.7
baz=285
SKAG Skagway 55.18 38 P P 16 35 22.7 +2.4
baz=286
SVE Sverdlovsk 55.20 319 eP P 16 35 20.5 +0.1
SVE pmax pmax
comp=Z,19nm,0.9s
FARO Faro, Yukon 55.37 35 P P 16 35 23.8 +2.1
baz=286
N32M Quiet Lake 55.79 36 P P 16 35 26.3 +1.5
baz=286
A36M Sachs Harbour 55.80 22 P P 16 35 26.0 +1.5
baz=286
P32M Atlin 55.93 38 P P 16 35 27.8 +2.0
baz=287
P33M Teslin, Yukon 56.19 37 P P 16 35 29.8 +2.2
baz=287,SNR=6.2
ARU Arti 56.41 319 P P 16 35 28.2 -1.0
ARU IAmb IAmb 16 35 29.6
comp=Z,14nm,0.9s
ARU Arti 56.41 319 c iP P 16 35 28.4 -0.7
ARU S S 16 43 16.3 -1.3
ARU pmax pmax
comp=Z,15nm,0.9s
ARU Arti 56.41 319 P P 16 35 28.0 -1.2
comp=Z,9.1nm,0.7s,baz=58,slow=5.0,SNR=16
ARU LR LR 17 00 59.0
comp=Z,122nm,19.6s,baz=72,slow=37
comp=Z,9.1nm,0.7s
ARU Arti 56.41 319 P P 16 35 28.5 -0.7
ARU pP pP 16 35 38.9 +0.3
Q32M Nakina River 56.83 38 P P 16 35 33.7 +1.3
baz=288
C36M Paulatuk 56.96 25 P P 16 35 33.7 +0.9
baz=289
WB0 Warramunga Arr 57.26 188 P P 16 35 35.1 -0.4
WB0 IAmb IAmb 16 35 46.1
comp=Z,7.2nm,0.7s
CTA Charters Tower 57.27 175 P P 16 35 35.0 -0.6
comp=Z,1.4nm,0.7s,baz=18,slow=6.4,SNR=1.8
comp=Z,1.4nm,0.7s
U33K Whale Pass 57.32 42 P P 16 35 37.4 +1.9
baz=290
R33M Jennings River 57.33 37 P P 16 35 37.8 +2.0
baz=289
WR0 Warramunga Arr 57.43 188 P P 16 35 36.0 -0.7
WR0 IAmb IAmb 16 35 48.4
comp=Z,28nm,1.6s
WB2 Warramunga Arr 57.43 188 P P 16 35 35.5 -1.2
WB2 IAmb IAmb 16 35 48.2
comp=Z,28nm,1.6s
WRA Warramunga Arr 57.44 189 P P 16 35 36.1 -0.6
WRA Warramunga Arr 57.44 189 P P 16 35 36.4 -0.4
comp=Z,2.4nm,0.6s,baz=6.2,slow=7.0,SNR=37
comp=Z,2.4nm,0.6s
S34M Telegraph Cree 57.74 39 P P 16 35 40.9 +2.3
baz=290
TGTN Hyland Airport 57.88 34 P P 16 35 42.0 +2.5
baz=290
ABKAR Akbulak array 58.07 310 P P 16 35 39.8 -1.2
DLBC Dease Lake 58.11 38 P P 16 35 43.4 +2.2
baz=290
T35M Bob Quinn 58.51 40 P P 16 35 46.0 +2.0
baz=291
AKTO Aktyubinsk 58.78 312 P P 16 35 45.8 -0.2
comp=Z,3.0nm,0.9s,baz=74,slow=8.3,SNR=7.6
AKTO LR LR 17 02 09.5
comp=Z,142nm,19.3s,baz=35,slow=37
comp=Z,3.0nm,0.9s
WRGLY Wrigley 59.35 32 P P 16 35 51.0 +1.3
baz=293
LIRD Liard River Hi 59.65 36 P P 16 35 53.8 +2.0
baz=293
ALE Alert 59.77 4 P P 16 35 53.0 +0.7
ALE pP pP 16 36 03.5 +1.8
KIRV Kirov 60.26 323 P P 16 35 55.7 -0.2
comp=Z,14nm,0.7s,baz=126,slow=1.7,SNR=8.4
KIRV LR LR 17 03 28.0
comp=Z,91nm,18.8s,baz=24,slow=38
comp=Z,14nm,0.7s
NOR Nord 60.76 356 i P P 16 35 58.4 -0.7
NOR IAmb IAmb 16 36 00.4
comp=Z,5.6nm,0.9s
AS31 Alice Springs 61.16 188 P P 16 36 02.2 -0.3
ASAR Alice Springs 61.16 188 P P 16 36 02.5 0.0
comp=Z,1.2nm,0.7s,baz=13,slow=6.6,SNR=14
comp=Z,1.2nm,0.7s
YKA Yellowknife Ar 63.32 30 P P 16 36 17.4 +0.9
comp=Z,2.8nm,0.8s,baz=303,slow=6.5,SNR=5.5
comp=Z,2.8nm,0.8s
DZM Mont Dzumac 63.45 155 eLR LR 16 55 09.0
comp=Z,154nm,21.4s
DZM Mont Dzumac 63.45 155 LR LR 17 01 46.3
comp=Z,106nm,20.7s,baz=296,slow=34
ARCES ARCESS Array B 63.85 339 P P 16 36 19.8 -0.1
comp=Z,2.9nm,0.8s,baz=52,slow=8.0,SNR=4.7
ARCES LR LR 17 06 42.7
comp=Z,122nm,20.3s,baz=54,slow=38
comp=Z,2.9nm,0.8s
BELG Belogornoye 63.86 317 LR LR 17 06 01.8
comp=Z,93nm,18.2s,baz=240,slow=38
GEYT Alibeck 64.06 299 P P 16 36 21.5 -0.4
GEYT Alibeck 64.06 299 P P 16 36 21.5 -0.4
GEYT pmax pmax
comp=Z,5.0nm,0.9s
GEYT Alibeck 64.06 299 P P 16 36 21.3 -0.5
comp=Z,2.5nm,0.7s,baz=63,slow=6.8,SNR=9.1
comp=Z,2.5nm,0.7s
NEEM North Greenlan 65.19 3 i P P 16 36 27.8 -1.1
NEEM IAmb IAmb 16 36 30.3
comp=Z,7.5nm,0.9s
DAG Danmarks Havn 65.50 355 i P P 16 36 29.2 -1.3
DAG IAmb IAmb 16 36 31.6
comp=Z,12nm,1.0s
VRH Novokhopyorsk 67.64 318 eP P 16 36 39.7 -4.9
VRH pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 68.34 320 eP P 16 36 44.4 -4.5
LPSR pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 68.74 332 P P 16 36 51.1 -0.2
comp=Z,5.0nm,0.7s,baz=70,slow=6.3,SNR=16
FINES LR LR 17 11 06.4
comp=Z,105nm,19.4s,baz=20,slow=40
comp=Z,5.0nm,0.7s
VSR Storozhevoye 68.98 319 eP P 16 36 46.2 -6.8

VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 69.05 319 *e*P P 16 36 46.7 -6.7
VORD pmax pmax
comp=Z,10.0nm,1.6s
AKT Akhty 69.24 307 *e*P **P 16 36 57.6 +2.7**
AKT *e*S **sP 16 37 07.3 -0.8**
AKT *i* S **sP 16 37 07.6 -0.5**
AKT pmax pmax
comp=Z,8.0nm,0.5s
NEW Newport 69.60 44 P **P 16 36 56.7 -0.3**
baz=304
SUMG Summit 70.37 0 *i* P **P 16 37 01.0 -0.7**
ZEI Tsey 70.93 310 *e*P **P 16 37 02.7 -2.7**
ZEI pmax pmax
comp=Z,3.0nm,1.0s
KBZ Khabaz 71.02 311 P **P 16 37 06.0 +0.3**
KBZ Khabaz 71.02 311 P **P 16 37 06.0 +0.3**
comp=Z,5.0nm,0.9s,baz=64,slow=3.6,SNR=17
comp=Z,5.0nm,0.9s
KIV Kislovodsk 71.03 311 *e*P **P 16 37 06.2 +0.4**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 71.03 311 P **P 16 37 06.8 +1.0**
KIV pP **sP 16 37 17.8 -1.3**
GNI Garni 71.86 307 LR LR 17 10 57.4
comp=Z,52nm,19.4s,baz=34,slow=38
MSO Missoula 72.19 44 P **P 16 37 12.4 -0.4**
baz=306
NACGM Naroch 72.70 327 *e*P **P 16 37 15.9 +0.4**
comp=Z,16nm,1.1s,baz=49
EGMT Eagleton 73.75 42 P **P 16 37 23.1 +1.1**
baz=308
HLID Hailey 73.84 47 P **P 16 37 23.8 +1.0**
baz=306
ICESG Greenland Ices 73.87 1 *i* P **P 16 37 23.0 +0.4**
HFS Hagfors 73.98 336 P **P 16 37 22.8 -0.2**
comp=Z,7.4nm,1.0s,baz=90,slow=2.9,SNR=6.3
HFS LR LR 17 12 31.2
comp=Z,266nm,18.7s,baz=30,slow=38
comp=Z,7.4nm,1.0s
NB2 NORSAR Subarra 74.06 337 P **P 16 37 23.3 -0.2**
comp=Z,2.0nm,0.7s,baz=37,slow=6.2
NOA NORSAR Array B 74.06 337 P **P 16 37 23.6 +0.1**
comp=Z,4.7nm,0.9s,baz=38,slow=5.9,SNR=11
NOA LR LR 17 12 23.1
comp=Z,158nm,21.2s,baz=45,slow=38
comp=Z,4.7nm,0.9s
BOZ Bozeman (W) 74.21 44 P **P 16 37 26.4 +1.5**
baz=308
AKASG Malin Array Be 74.31 322 P **P 16 37 24.8 -0.3**
comp=Z,0.6nm,0.3s,baz=47,slow=5.3,SNR=11
AKASG LR LR 17 13 13.2
comp=Z,107nm,18.0s,baz=14,slow=38
comp=Z,0.6nm,0.3s
AKBB Malin Array Si 74.31 322 P **P 16 37 23.3 -1.8**
AKBB Malin Array Si 74.31 322 *de*P **P 16 37 24.5 -0.6**
NVAR Mina Array Bea 74.45 53 P **P 16 37 26.8 +0.3**
comp=Z,3.8nm,0.8s,baz=286,slow=6.0,SNR=26
comp=Z,3.8nm,0.8s
DSP Deep Springs 75.28 54 P **P 16 37 29.8 -1.2**
DSP IAmb IAmb 16 37 34.0
comp=Z,9.0nm,1.1s
H17A Grant Village 75.54 45 P **P 16 37 35.8 +3.1**
baz=308
CWC Cottonwood Cre 75.75 55 P **P 16 37 35.3 +1.4**
baz=306
RLMT Red Lodge 75.82 44 P **P 16 37 34.9 +0.7**
baz=309
ISA Isabella, Lake 75.95 56 P **P 16 37 35.9 +0.9**
baz=306
ARVC Arvin 76.03 56 P **P 16 37 36.8 +1.5**
baz=306
SCZ2 Santa Cruz Isl 76.15 58 P **P 16 37 38.2 +2.2**
baz=306
R11B Troy Canyon, C 76.23 52 P **P 16 37 37.7 +1.1**
baz=307
DGMT Dagmar 76.32 39 P **P 16 37 37.4 +0.6**
baz=312
MPMC Manual Prospec 76.37 55 P **P 16 37 38.3 +0.9**
baz=306
LRMC Laurel Mtn Rad 76.58 56 P **P 16 37 39.3 +0.7**
baz=306
TPNV Topopah Spring 76.64 54 P **P 16 37 40.3 +1.4**
baz=307
EDW2 Edwards Air Fo 76.73 56 P **P 16 37 40.9 +1.5**
baz=306
DUG Dugway, Tooele 76.82 49 P **P 16 37 41.2 +1.3**
baz=308
BW06 Boulder Array 77.14 46 P **P 16 37 42.2 +0.4**
baz=309
PDAR Pinedale Array 77.14 46 P **P 16 37 42.1 +0.4**
comp=Z,2.5nm,0.8s,baz=283,slow=2.6,SNR=7.8
comp=Z,2.5nm,0.8s
PSUT Pine Spring 77.20 51 P **P 16 37 41.8 -0.3**
CIS Catalina Islan 77.32 58 P **P 16 37 43.5 +0.9**
baz=307
BORG Borgarnes 77.39 353 *i* P **P 16 37 43.0 +0.6**
TUQ Turquoise Moun 77.76 55 P **P 16 37 46.4 +1.2**
baz=307
HEC Hector,Ludlow 77.85 55 P **P 16 37 46.9 +1.2**
baz=307
PFO Pinyon Flats O 78.50 57 P **P 16 37 50.5 +1.1**
baz=307
TPFO Pinon Flats 78.51 57 P **P 16 37 51.1 +1.7**
baz=307
KOLS Kolonicke sedl 78.82 324 *e*P **P 16 37 51.2 +0.5**
KOLS Kolonicke sedl 78.82 324 *e*P **P 16 37 51.2 +0.5**
STHS Stebnicka Huta 78.95 325 *e*P **P 16 37 54.3 +2.9**
STHS Stebnicka Huta 78.95 325 *e*P **P 16 37 54.3 +2.9**
STHS pmax pmax
comp=Z,8.0nm,1.1s
BRTR Keskin Array B 78.97 312 P **P 16 37 51.9 +0.1**
comp=Z,1.6nm,0.8s,baz=110,slow=3.3,SNR=11
comp=Z,1.6nm,0.8s
ULM Lac du Bonnet 79.00 34 P **P 16 37 52.0 +0.4**
comp=Z,5.7nm,0.9s,baz=335,slow=7.9,SNR=3.7
comp=Z,5.7nm,0.9s
IRM Iron Mountain 79.04 55 P **P 16 37 52.8 +0.6**
baz=308
RSSD Black Hills 79.31 42 P **P 16 37 54.6 +0.9**
baz=312
IKP In-Ko-Pah, Jac 79.32 57 P **P 16 37 55.6 +1.8**
baz=308
SWSC Sam W. Stewart 79.35 57 P **P 16 37 54.0 +0.2**
baz=308
MLR Muntele Rosu 79.42 320 LR LR 17 14 25.3
comp=Z,150nm,19.4s,baz=48,slow=37
O20A White River Ci 79.58 47 P **P 16 37 56.0 +0.7**
baz=310
RUE Ruedersdorf 79.82 331 *e*P **P 16 37 57.1 +1.1**
comp=Z,9.2nm,0.7s,baz=38,slow=5.2
BSEG Bad Segeberg 79.97 333 *e*P **P 16 37 57.9 +1.1**
comp=Z,7.8nm,0.9s,baz=38,slow=5.2
OKC Ostrava-Krasne 80.02 327 *e*P **P 16 37 59.8 +2.6**
MORC Moravsky Berou 80.33 327 *e*P **P 16 37 59.1 +0.2**
CHVC Chvalec 80.35 328 *e*P **P 16 37 58.7 -0.3**
CHVC Chvalec 80.35 328 *e*P **P 16 37 58.7 -0.3**
N23A Red Feather La 80.41 45 P **P 16 38 00.1 +0.4**
baz=312
DPC Dobruska-Polom 80.42 328 *e*P **P 16 37 59.8 +0.4**
KRLC Kraliky 80.43 328 *e*P **P 16 37 59.6 +0.2**
KRLC Kraliky 80.43 328 *e*P **P 16 37 59.6 +0.2**
WUAZ Wupatki 80.63 52 P **P 16 38 02.0 +1.1**
baz=310
VYHS Vyhne 80.71 326 *e*P **P 16 38 01.5 +0.6**
VYHS Vyhne 80.71 326 *e*P **P 16 38 01.5 +0.6**
VYHS pmax pmax
comp=Z,11nm,1.4s
FLTG Flechtingen 80.91 332 *e*P **P 16 38 02.1 +0.3**
comp=Z,6.2nm,0.8s,baz=38,slow=5.2
BRG Berggiesshubel 81.00 330 *e*P **P 16 38 03.4 +0.9**
BRG Amp 16 38 04.8
comp=Z,13nm,1.3s
BRG Amp 16 44 07.0
comp=Z,0.8nm,10.2s
BRG Amp 16 44 11.0
comp=E,0.4nm,13.9s
BRG Amp 16 44 11.0
comp=N,0.5nm,12.0s
BRG Berggiesshubel 81.00 330 *e*P **P 16 38 03.3 +0.9**
BRG pmax pmax
comp=Z,13nm,1.3s
BRG MLR MLR
comp=Z,809nm,10.2s
BRG MLR MLR
comp=E,421nm,13.9s
BRG MLR MLR
comp=N,511nm,12.0s
BRG Berggiesshubel 81.00 330 *e*P **P 16 38 03.3 +0.9**
comp=N,6.4nm,1.1s,baz=38,slow=5.2
CLL Collm 81.04 330 ||*i*P **P 16 38 02.5 -0.1**
CLL pmax pmax
comp=Z,17nm,1.1s
CLL Collm 81.04 330 *e*P **P 16 38 02.9 +0.4**
comp=Z,10nm,1.0s,baz=38,slow=5.2
CLL Collm 81.04 330 ||*i*P **P 16 38 02.5 -0.1**
comp=Z,17nm,1.1s
VRAC Vranov 81.09 327 *e*P **P 16 38 03.3 +0.4**
VRAC Vranov 81.09 327 P **P 16 38 03.1 +0.1**
comp=Z,4.8nm,0.9s,baz=53,slow=5.1,SNR=3.9
VRAC LR LR 17 20 06.3
comp=Z,64nm,18.0s,baz=13,slow=40
comp=Z,4.8nm,0.9s
FBE Freiberg 81.20 330 *e*P **P 16 38 03.3 -0.1**
comp=Z,7.8nm,0.9s,baz=38,slow=5.2
MVCO Mesa Verde 81.32 50 P **P 16 38 05.4 +0.8**
baz=311
ISCO Idaho Springs 81.32 46 P **P 16 38 05.6 +0.9**
baz=312
KRUC Moravsky 81.36 327 *e*P **P 16 38 04.6 +0.2**
GOPC GO Pecny, Ondr 81.39 329 *e*P **P 16 38 05.2 +0.7**
GOPC GO Pecny, Ondr 81.39 329 *e*P **P 16 38 05.2 +0.7**
PRU Pruhonice 81.44 329 *e*P **P 16 38 05.1 +0.4**
PRU Pruhonice 81.44 329 *e*P P 16 38 10.5 +5.8
SRO Srobarova 81.45 325 *e*P **P 16 38 05.8 +1.0**
SRO Srobarova 81.45 325 *e*P **P 16 38 05.8 +1.0**
MODS Modra-Piesok 81.49 326 *e*P **P 16 38 06.6 +1.5**
MODS Modra-Piesok 81.49 326 *e*P **P 16 38 06.6 +1.5**
NEUB Neuenburg 81.59 331 *e*P **P 16 38 06.0 +0.5**
comp=Z,7.3nm,0.8s,baz=38,slow=5.2
CLZ Clausthal 81.62 332 *e*P **P 16 38 06.6 +0.9**
comp=Z,6.1nm,0.9s,baz=38,slow=5.2
S22A 4UR Ranch, Cre 81.97 48 P **P 16 38 09.8 +1.6**
baz=312
WERD Werda 81.98 330 *e*P **P 16 38 08.0 +0.3**
comp=Z,1.9nm,0.9s,baz=38,slow=5.2
ZVC Zvikov 82.01 329 *e*P **P 16 38 08.1 +0.3**
GTTG Gottingen 82.01 332 *e*P **P 16 38 08.1 +0.4**
comp=Z,4.6nm,1.0s,baz=38,slow=5.2
WERN Wernitzgruen 82.08 330 *e*P **P 16 38 08.6 +0.4**
comp=Z,2.4nm,0.8s,baz=38,slow=5.2
MOX Moxa 82.10 331 *e*P **P 16 38 07.0 -1.2**
comp=Z,1.5nm,0.8s,baz=38,slow=5.2
MMAI Mount Meron Ar 82.13 306 P **P 16 38 09.4 +0.6**
comp=Z,4.1nm,0.7s,baz=62,slow=5.9,SNR=7.1
MMAI LR LR 17 18 40.1
comp=Z,72nm,18.1s,baz=22,slow=39
comp=Z,4.1nm,0.7s
MANZ Manzenberg 82.43 330 *e*P **P 16 38 10.8 +0.8**
comp=Z,0.6nm,0.9s,baz=38,slow=5.2
CKRC Cesky Krumlov 82.44 328 *e*P **P 16 38 10.2 +0.2**
CKRC Cesky Krumlov 82.44 328 *e*P **P 16 38 10.2 +0.2**
RONA Rosalia, Austr 82.44 326 *e*P **P 16 38 10.9 +0.8**
comp=Z,13nm,1.4s,SNR=4.8
CONA Conrad Observa 82.45 327 *e*P **P 16 38 10.9 +0.6**
comp=Z,5.5nm,1.0s,SNR=4.2
KHC Kasperske Hory 82.50 329 P **P 16 38 09.2 -1.2**
KHC Kasperske Hory 82.50 329 *e*P **P 16 38 10.5 +0.1**
KHC Kasperske Hory 82.50 329 ||*e*P **P 16 38 10.7 +0.3**
KHC pmax pmax
comp=Z,16nm,1.0s
ROTZ Rotzenmuhle 82.56 330 *e*P **P 16 38 11.1 +0.4**
comp=Z,0.7nm,0.9s,baz=38,slow=5.2
EYMN Ely 82.64 33 P **P 16 38 11.9 +0.8**
baz=320
GEC2 GERESS Array S 82.67 328 *e*P **P 16 38 10.9 -0.5**
comp=Z,2.9nm,0.9s,baz=38,slow=5.2
GERES GERESS Array B 82.67 328 P **P 16 38 11.3 0.0**
comp=Z,2.9nm,0.9s,baz=36,slow=5.3,SNR=11
comp=Z,2.9nm,0.9s
SDCO Great Sand Dun 82.76 48 P **P 16 38 13.1 +0.8**
baz=312
WET Wettzell 82.78 329 *e*P **P 16 38 12.2 +0.4**
comp=Z,3.5nm,1.0s,baz=38,slow=5.2
GRF Grafenberg Arr 83.01 330 *e*P **P 16 38 14.2 +1.2**
comp=Z,5.2nm,0.8s,baz=38,slow=5.2
TUC Tucson 83.04 55 P **P 16 38 14.5 +1.0**
baz=310
MOA Molln 83.20 328 *i* P **P 16 38 13.7 -0.4**
comp=Z,6.8nm,1.4s
ECSD EROS Data Cent 83.40 39 P **P 16 38 15.0 -0.1**
baz=317
BIOA Bad Ischl, Aus 83.59 328 *i* P **P 16 38 16.2 +0.1**
comp=Z,6.1nm,0.9s
PERS Pernice 83.77 326 *i* P **P 16 38 16.8 -0.2**
SOKA Soboth 83.77 326 *i* P **P 16 38 16.2 -0.9**
comp=Z,12nm,1.3s
T25A Trinidad 83.81 47 P **P 16 38 19.0 +1.4**
baz=313
PMOR Pomariorio Ree 83.91 114 *e*T T 18 10 42.6
comp=Z,12nm,0.2s
RJOB Jochberg 83.91 328 *e*P **P 16 38 18.6 +0.9**
comp=Z,5.1nm,0.9s,baz=38,slow=5.2
ANMO Albuquerque 84.05 50 P **P 16 38 20.8 +1.9**
baz=312
ANMO Albuquerque 84.05 50 ||*e*P **P 16 38 20.1 +1.2**
ANMO pmax pmax
comp=Z,7.0nm,1.1s
OBKA Obir 84.11 327 *i* P **P 16 38 16.3 -2.6**
comp=Z,6.6nm,1.6s
LESA Schwarzleotal 84.21 328 *i* P **P 16 38 18.2 -1.1**
comp=Z,7.5nm,1.5s
PDKS Podkum 84.26 326 *i* P **P 16 38 18.9 -0.6**
PPT2 Papeete2 84.40 117 *e*LR LR 17 04 51.0
comp=Z,58nm,24.5s
EIL Elat 84.57 303 LR LR 17 18 36.6
comp=Z,35nm,18.4s,baz=61,slow=38
PRED Cave del Predi 84.60 327 P **P 16 38 19.1 -2.1**
PRED IAmb IAmb 16 40 49.5
comp=Z,16nm,1.9s
WATA Walderalm 84.74 329 *i* P **P 16 38 21.6 -0.4**
comp=Z,7.9nm,1.4s
WTTA Wattenberg 84.77 329 *i* P **P 16 38 21.7 -0.5**
comp=Z,3.7nm,0.9s
121A Cookes Peak, D 84.82 53 P **P 16 38 24.3 +1.5**
baz=312
RPZ Rata Peaks 84.90 159 LR LR 17 11 52.4
comp=Z,65nm,20.4s,baz=250,slow=32
MOTA Moosalm 84.93 329 *i* PcP **P 16 38 23.4 +0.4**
comp=Z,8.8nm,1.1s
RETA Reutte 84.95 329 *i* PcP **P 16 38 23.7 +0.7**
comp=Z,14nm,1.2s
SQTA Sankt Quirin 84.98 329 *i* P **P 16 38 22.5 -0.8**
comp=Z,2.7nm,0.8s
UBR Ueberruh 85.06 330 *e*P **P 16 38 23.6 0.0**
comp=Z,4.2nm,1.0s,baz=38,slow=5.2
BFO Black Forest 85.24 331 *e*P **P 16 38 24.5 +0.2**
comp=Z,6.4nm,0.8s,baz=38,slow=5.2
FETA Feichten 85.34 329 *e*P **P 16 38 24.5 -0.6**
comp=Z,4.8nm,0.9s,SNR=4.8
DAVA Damuels 85.47 330 *i* P **P 16 38 24.7 -1.0**
comp=Z,9.0nm,1.0s
FUORN Ofenpass-Fuorn 85.85 329 P **P 16 38 27.1 -0.6**
FUORN IAmb IAmb 16 38 28.7
comp=Z,5.2nm,0.8s
MNTX Cornudas Mount 86.90 52 P **P 16 38 34.1 +1.2**
baz=313
AMTX Amarillo 86.96 48 P **P 16 38 34.5 +1.3**
baz=315
WMOK Wichita Mounta 88.75 46 P **P 16 38 42.8 +1.1**
baz=316
TXAR Lajitas Array 89.59 53 P **P 16 38 46.3 +0.5**
comp=Z,1.6nm,0.7s,baz=304,slow=3.1,SNR=16
comp=Z,1.6nm,0.7s
CCM Cathedral Cave 90.34 39 P **P 16 38 49.8 +0.8**
baz=320
WHTX Lake Whitney, 91.50 47 P **P 16 38 55.9 +1.4**
baz=317
MIAR Mount Ida 91.79 43 P **P 16 38 56.6 +0.8**
baz=319
LONY Lake Ozonia 91.97 25 P **P 16 38 56.6 +0.1**
baz=332
ERPA Erie 92.14 30 P **P 16 38 57.7 +0.4**
baz=328
WCI Wyandotte Cave 92.62 36 P **P 16 38 59.7 +0.1**
baz=324
PKME Peaks-Kenny Pk 93.06 22 P **P 16 39 01.5 0.0**
baz=336
O53A New Philadelph 93.21 32 P **P 16 39 01.6 -0.7**
baz=327
P52A Corning 93.34 33 P **P 16 39 02.1 -0.7**
baz=326
H03N2 Juan Fernandez 146.63 96 T T 19 29 38.3
baz=291,slow=76,SNR=38
H03N3 Juan Fernandez 146.64 96 T T 19 29 35.1
baz=291,slow=76,SNR=34
H03N1 Juan Fernandez 146.64 96 T T 19 29 41.5
baz=291,slow=76,SNR=44

HEL 21 16:25:58.9±0.1, 67°.59N×33°.91E, h0km, ML1.3, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero** baz=225	**0.42**	**42**	PG	Pg	16 26 06.5	-0.4
LVZ				SG	Sg	16 26 12.0	-0.3
VRF	**Varrio**	**1.65**	**277**	PG	Pn	16 26 28.5	-0.6
VRF				MSG		16 26 48.1	
	comp=Z,2.6nm,0.2s						
VRF				SG	Sn	16 26 49.1	-1.9
OLKF	**Oulanka, Finla**	**2.19**	**236**	PG	Pb	16 26 38.4	-0.9
OLKF				MSG		16 27 03.7	
	comp=Z,1.3nm,0.2s						
OLKF				SG	Sb	16 27 07.2	+0.4
KU6	**Riekki**	**2.24**	**227**	PG	Pb	16 26 38.8	-1.3
KU6				MSG		16 27 05.2	
	comp=Z,1.1nm,0.2s						
KU6				SG	Sb	16 27 08.0	-0.4
MSF	**Maaselka**	**2.56**	**231**	PG	Pb	16 26 44.6	-1.1
SGF	**Sodankyl**	**2.84**	**270**	PG	Pb	16 26 49.0	-1.4
RNF	**Rovaniemi** baz=70	**3.24**	**256**	PN	Pn	16 26 50.8	-0.1
RNF				SG	Sb	16 27 36.6	-0.6
KEV	**Kevo**	**3.33**	**314**	PN	Pn	16 26 51.8	-0.2
KEV				SN	Sn	16 27 30.9	-1.3
ARA0	**ARCESS Array S** baz=123	**3.65**	**306**	PN	Pn	16 26 55.6	-0.9
KLF	**Kolari**	**3.85**	**269**	SG	Sg	16 27 58.9	-3.6
HEF	**Hetta**	**3.94**	**287**	PG	Pb	16 27 07.5	-1.7
HEF				SG	Sb	16 27 59.8	+2.5
ERTU	**Ertsjaerv**	**4.70**	**263**	SN	Sn	16 28 05.5	-0.5

---

*HEL **21** 16:26:15.6±0.4, 67°.17N×20°.56E, h0km, ML0.9, Suspected explosion*

UPP 21 16:26:15.1±0.1, 67°.19N×20°.66E, h0km, ML2.5, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**208**	P	Pg	16 26 16.8	+0.3
DUNU				S	Sg	16 26 18.0	+0.6
MASU	**Masugnsbyn**	**0.59**	**62**	P	Pg	16 26 26.4	+0.1
RATU	**Laukkuluspa**	**0.76**	**328**	P	Pg	16 26 29.4	-0.2
SALU	**Saltoluokta**	**0.86**	**284**	P	Pg	16 26 31.2	-0.3
ERTU	**Ertsjaerv**	**0.88**	**136**	P	Pg	16 26 31.3	-0.6
ERTU	**Ertsjaerv**	**0.88**	**136**	PG	Pg	16 26 31.3	-0.5
ERTU				SB	Sg	16 26 43.5	+0.3
PAJU	**Pajala**	**0.97**	**98**	P	Pg	16 26 33.2	-0.6
LANU	**Lannavaara**	**1.01**	**30**	P	Pg	16 26 33.8	-0.6
LANU	**Lannavaara**	**1.01**	**30**	PG	Pg	16 26 33.7	-0.6
HARU	**Harads**	**1.03**	**173**	P	Pg	16 26 34.5	-0.4
KOVU	**Salmi**	**1.06**	**350**	P	Pg	16 26 34.6	-0.7
KLF	**Kolari**	**1.29**	**86**	PG	Pg	16 26 39.2	-0.5
KLF				MSG		16 26 55.8	
	comp=Z,0.6nm,0.2s						
KLF				SG	Sg	16 26 56.6	+0.1
HEF	**Hetta**	**1.68**	**42**	*e*P	Pb	16 26 46.1	+0.4
HEF	**Hetta**	**1.68**	**42**	PG	Pb	16 26 46.3	-0.5
HEF				MSG		16 27 06.9	
	comp=Z,0.6nm,0.2s						
KALU	**Kalix**	**1.71**	**140**	SN	Sg	16 27 11.2	+1.1
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	16 26 46.4	+0.1
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pb	16 26 49.2	-0.1
KIF	**Kilpisjarvi** baz=180	**1.83**	**2**	PG	Pb	16 26 49.2	-0.2
KIF				MSG		16 27 11.8	
	comp=Z,1.0nm,0.2s						
KIF				SG	Sg	16 27 14.4	+0.6
TOF	**Tornio**	**1.84**	**125**	PG	Pb	16 26 49.1	-0.4
TOF				MSG		16 27 11.1	
	comp=Z,0.7nm,0.2s						
TOF				SG	Sg	16 27 13.8	-0.2
KTK1	**Kautokeino**	**2.08**	**27**	PG	Pb	16 26 54.1	+0.5
KTK1				SG	Sb	16 27 20.1	+0.3
SGF	**Sodankyl**	**2.29**	**81**	SB	Sb	16 27 24.9	-1.2
ARA0	**ARCESS Array S**	**2.97**	**35**	PN	Pn	16 27 04.8	+1.4
ARA0				SN	Sn	16 27 38.3	-1.3
MSF	**Maaselka**	**3.59**	**107**	PB	Pb	16 27 17.8	-1.5

---

*DJA **21** 16:28:08.4±0.5, 10°.S±6°.×11°.5E±°, h10km, M4.0/15, mb4.0/3, MLv4.1/15*

ISC 21 16:28:06.6±1.0, 9°.79S±0°.08×115°.15E±0°.07, h10km, n23, σ1§05/22, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**0.96**	**360**	P	**Pg**	**16 28 25.2**	**0.0**
DNP	**Denpasar**	**1.11**	**3**	P	**Pg**	**16 28 27.5**	**-0.4**
JAGI	**Jajag, Banyuwa**	**1.64**	**323**	P	**Pn**	**16 28 34.7**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.64**	**323**	P	**Pn**	**16 28 34.8**	**-0.8**
SRBI	**Singaraja**	**1.69**	**2**	P	**Pn**	**16 28 36.5**	**+0.2**
TWSI	**Taliwang, Sumb**	**2.00**	**59**	P	**Pn**	**16 28 41.2**	**+0.6**
ABJI	**Asem Bagus**	**2.18**	**335**	P	**Pn**	**16 28 43.6**	**+0.7**
GMJI	**Gumukmas**	**2.26**	**312**	P	**Pn**	**16 28 43.9**	**-0.2**
BLJI	**Banyuglugur**	**2.55**	**323**	P	**Pn**	**16 28 48.8**	**+0.8**
PLAI	**Plampang**	**2.76**	**70**	P	**Pn**	**16 28 52.6**	**+1.6**
PLAI	**Plampang**	**2.76**	**70**	P	**Pn**	**16 28 52.6**	**+1.6**
GRJI	**Gresik**	**3.89**	**317**	P	**Pn**	**16 29 07.3**	**+0.8**
WOJI	**Wonogiri, Jawa**	**4.61**	**295**	P	**Pn**	**16 29 17.2**	**+0.8**
UGM	**Wanagama**	**4.94**	**292**	P	**Pn**	**16 29 22.7**	**+1.7**
UGM	**Wanagama**	**4.94**	**292**	P	**Pn**	**16 29 21.6**	**+0.6**
EDFI	**Ende, Flores** 8.8nm,0.9s,0.1nm	**6.54**	**81**	P	**Pn**	**16 29 44.6**	**+1.5**
KPJI	**Karang Pucung**	**6.62**	**291**	P	**Pn**	**16 29 44.9**	**+0.9**
BKSI	**Bulukumba** 7.0nm,0.6s,0.1nm	**6.63**	**48**	P	**Pn**	**16 29 45.0**	**+0.7**
BBJI	**Bungbulang**	**7.77**	**287**	P	**Pn**	**16 30 00.9**	**+1.0**
SOEI	**Soe**	**8.99**	**91**	P	**Pn**	**16 30 16.8**	**+0.1**
MBWA	**Marble Bar**	**12.13**	**159**	P	Pn	16 30 57.3	-2.4
GIRL	**Giralia**	**12.81**	**184**	P	**Pn**	**16 31 09.1**	**+0.2**
KNRA	**Kununurra**	**14.51**	**115**	P	**Pn**	**16 31 30.3**	**-1.9**

LDG 21 16:35:24.6±0.1, 44°.52N×6°.90E, h2km, Md1.8/3, Error ellipse: s-maj=2.7km s-min=0.8km az=78.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.23**	**336**	*e*Pg	Pg	16 35 29.3	+0.2
MBDF				*e*Sg	Sg	16 35 32.4	+0.3
	2.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.83**	**299**	*e*Pg	Pg	16 35 40.3	-0.3
ORIF				*e*Sg	Sg	16 35 51.4	0.0
	0.2nm,0.2s						
LMR	**La Mourre**	**1.22**	**194**	*e*Pg	Pg	16 35 47.3	-0.6
LMR				*e*Sg	Sg	16 36 02.9	-0.7

---

*BJI **21** 16:35:36.1±0.0, 15°.74S×168°.26E, h129km, mb4.9/53, mB5.3/27*
*IDC **21** 16:35:38.5±2.6, 15°.56S×167°.66E, h115km±21km, mb4.2/21, mbtmp4.5/23, MS3.5/9, Error ellipse: s-maj=18.0km s-min=13.5km az=93.0*
*NEIC **21** 16:35:38.2±2.5, 15°.66S±0°.08×167°.85E±0°.09, h118km±6km, mb5.0/39, Error ellipse: s-maj=16.0km s-min=6.7km az=46.0*
*NOU **21** 16:35:40.0, 15°.54S×167°.64E, h116km, mb4.9/62, Vanuatu Islands*
*GCMT **21** 16:35:45.2±0.4, 15°.57S±0°.03×167°.34E±0°.03, h152km±5km, MW4.9/73, Moment Tensor Solution. s8, c8; s73, c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.11±.14; $M_{\theta\theta}$-1.19±.25; $M_{\phi\phi}$-0.91±.20; $M_{r\theta}$1.38±.13; $M_{\theta\phi}$1.53±.14; $M_{\phi r}$0.59±.13; Best double couple: $M_0$2.81100×10^{16} NP1:ϕ_s106.00000°, δ59.00000°, λ57.00000°. NP2: ϕ_s338.00000°, δ44.00000°, λ133.00000°. Principal axes: T 2.9410, Plg60.0000°, Azm324.0000°; N -0.2580, Plg28.0000°, Azm124.0000°; P -2.6820, Plg8.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s.*

nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 21 16:35:39.3±0.6, 15°58S±0°05×167°74E±0°08, h124km±5km, n264, σ1§56/263, mb4.9/67, 25C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RTV	**Rentapao**	**2.30**	**163**	P	**Pn**	**16 36 17.8**	**+1.2**
LIFNC	**LIFOU**	**5.19**	**185**	Pn	**Pn**	**16 36 53.5**	**-1.4**
LIFNC	**LIFOU**	**5.19**	**185**	P	**Pn**	**16 36 53.7**	**-1.1**
MARNC	**Mare, Loyalty**	**5.88**	**177**	Pn	**Pn**	**16 37 02.2**	**-1.8**
MARNC	**Mare, Loyalty**	**5.88**	**177**	P	**Pn**	**16 37 03.7**	**-0.4**
KOUNC	**Koumac, New Ca**	**5.94**	**213**	Pn	**Pn**	**16 37 05.3**	**+0.5**
KOUNC	**Koumac, New Ca**	**5.94**	**213**	P	**Pn**	**16 37 06.0**	**+1.1**
YATNC	**Mamie plateau,**	**6.50**	**187**	P	**Pn**	**16 37 12.3**	**-0.1**
DZM	**Mont Dzumac**	**6.57**	**191**	*e*Pn	**Pn**	**16 37 13.6**	**+0.1**
	539nm,1.1s						
DZM				*e*Sn	**Sn**	**16 38 28.6**	**+1.4**
	434nm,1.1s						
DZM	**Mont Dzumac**	**6.57**	**191**		**Pn**	**16 37 14.3**	**+0.8**
DZM	**Mont Dzumac**	**6.57**	**191**	P	**Pn**	**16 37 15.1**	**+1.6**
DZM	**Mont Dzumac**	**6.57**	**191**	P	**Pn**	**16 37 13.7**	**+0.2**
	98nm,0.3s,baz=96,slow=9.2,SNR=613						
NOUC	**Port Laguerre**	**6.63**	**192**	P	**Pn**	**16 37 15.6**	**+1.4**
ONTNC	**Ouen Toro**	**6.80**	**190**		**Pn**	**16 37 17.8**	**+1.3**
ONTNC	**Ouen Toro**	**6.80**	**190**	P	**Pn**	**16 37 18.2**	**+1.7**
OUENC	**Ouen Island, N**	**6.86**	**187**		**Pn**	**16 37 18.1**	**+0.9**
OUENC	**Ouen Island, N**	**6.86**	**187**	P	**Pn**	**16 37 19.0**	**+1.7**
PINNC	**Pines Island,**	**7.00**	**182**		**Pn**	**16 37 20.9**	**+1.6**
PINNC	**Pines Island,**	**7.00**	**182**	P	**Pn**	**16 37 20.9**	**+1.6**
HNR	**Honiara**	**9.76**	**308**	P	Pn	16 37 45.6	-11
	2μm,0.3s,baz=159,slow=4.7,SNR=10						
EIDS	**Eidsvold**	**18.38**	**235**	P	**Pn**	**16 39 46.3**	**+0.1**
	baz=18,SNR=5.7						
EIDS	**Eidsvold**	**18.38**	**235**		**P**	**16 39 41.1**	**-3.5**
EIDS	**Eidsvold**	**18.38**	**235**	P	**Pn**	**16 39 46.8**	**+0.6**
KRVT	**Keravat (AS076**	**19.09**	**304**	P	**P**	**16 39 51.1**	**-1.4**
	35nm,0.8s,baz=145,slow=23,SNR=2.6						
KRVT				LR	LR	16 46 04.0	
	comp=Z,54nm,18.8s,baz=6.1,slow=33						
TV1H	**Townsville Har**	**20.31**	**257**	P	Pn	16 40 08.3	-0.6
RMQ	**Roma**	**20.75**	**235**	P	Pn	16 40 11.7	-2.3
	baz=21						
ARMA	**Armidale**	**20.89**	**222**	P	Pn	16 40 14.2	-1.5
	baz=21,SNR=7.9						
ARMA	**Armidale**	**20.89**	**222**	P	Pn	16 40 13.8	-1.9
CTA	**Charters Tower**	**20.93**	**254**	P	**P**	**16 40 11.9**	**-0.4**
	3.3nm,0.7s,baz=83,slow=9.4,SNR=6.9						
CTA				LR	LR	16 48 00.8	
	comp=Z,114nm,19.6s,baz=96,slow=36						
	3.3nm,0.7s						
CTAO	**Charters Tower**	**20.93**	**254**	P	**P**	**16 40 12.8**	**+0.5**
CTAO	**Charters Tower**	**20.93**	**254**	P	Pn	16 40 13.3	-2.9
PMG	**Port Moresby**	**21.00**	**285**	P	**P**	**16 40 10.7**	**-2.4**
PMG	**Port Moresby**	**21.00**	**285**	P	**P**	**16 40 11.6**	**-1.5**
	6.4nm,0.9s,baz=220,slow=3.3,SNR=3.8						
PMG				LR	LR	16 47 14.1	
	comp=Z,134nm,18.6s,baz=106,slow=33						
	6.4nm,0.9s						
KAVG	**Kavieng**	**21.10**	**306**	P	**P**	**16 40 15.1**	**+1.0**
MTSU	**Mount Surprise**	**22.56**	**260**	P	**P**	**16 40 29.9**	**+0.5**
	baz=23,SNR=10						
MTSU	**Mount Surprise**	**22.56**	**260**	P	**P**	**16 40 29.9**	**+0.5**
MGCD	**Mangrove Creek**	**23.13**	**218**	P	P	16 40 41.6	+7.0
	baz=23,SNR=5.2						
MGCD	**Mangrove Creek**	**23.13**	**218**	P	**P**	**16 40 36.3**	**+1.7**
COEN	**Coen**	**23.81**	**271**	P	**P**	**16 40 39.9**	**-1.1**
COEN	**Coen**	**23.81**	**271**	P	**P**	**16 40 41.6**	**+0.6**
URZ	**Urewera**	**24.06**	**162**	P	**P**	**16 40 45.2**	**+2.2**
MANU	**Manus Island**	**24.17**	**302**	P	**P**	**16 40 44.9**	**+0.6**
QLP	**Quilpie**	**24.47**	**240**	P	**P**	**16 40 47.1**	**+0.2**
	baz=25,SNR=22						
QLP	**Quilpie**	**24.47**	**240**	P	**P**	**16 40 47.4**	**+0.5**
BKZ	**Black Stump Fm**	**24.72**	**164**	P	**P**	**16 40 46.8**	**-2.3**
BKZ				IAmb	IAmb	16 41 24.9	
	comp=Z,63nm,1.6s						
CMSA	**Cobar Meteorol**	**25.63**	**228**	P	**P**	**16 40 59.8**	**+2.4**
	baz=26,SNR=10.0						
CMSA	**Cobar Meteorol**	**25.63**	**228**	P	**P**	**16 41 00.3**	**+3.0**
CNB	**Canberra Magne**	**25.64**	**217**	P	**P**	**16 40 57.9**	**+0.5**
	baz=26,SNR=8.4						
CNB	**Canberra Magne**	**25.64**	**217**	P	**P**	**16 40 58.7**	**+1.2**
QIS	**Mount Isa**	**27.18**	**255**	P	**P**	**16 41 12.7**	**+1.3**
	baz=27,SNR=8.3						
QIS	**Mount Isa**	**27.18**	**255**	P	**P**	**16 41 13.5**	**+2.0**
KHZ	**Kahutara**	**27.20**	**171**	P	**P**	**16 41 15.7**	**+4.4**
OXZ	**Oxford**	**27.90**	**173**	P	**P**	**16 41 13.9**	**-3.6**
OXZ				IAmb	IAmb	16 42 00.2	
	comp=Z,85nm,1.9s						
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**16 41 26.3**	**+0.6**
	baz=29,SNR=5.4						
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**16 41 26.3**	**+0.6**
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**16 41 26.1**	**+0.4**
STKA	**Stephens Creek**	**28.80**	**231**	P	**P**	**16 41 24.9**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=63,slow=11,SNR=7.2						
STKA				PcP	**PcP**	**16 44 33.0**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=109,slow=2.6,SNR=3.1						
	comp=Z,1.8nm,0.6s						
TOO	**Toolangi**	**29.45**	**218**	P	**P**	**16 41 35.4**	**+4.0**
LCRK	**Leigh Creek**	**30.82**	**236**	P	**P**	**16 41 43.6**	**0.0**
	comp=Z,24nm,0.7s						
ARPS	**Mount Arapiles**	**31.22**	**223**	P	**P**	**16 41 48.0**	**+1.0**
HTT	**Hallett**	**31.52**	**230**	P	**P**	**16 41 50.3**	**+0.5**
	baz=32,SNR=9.0						
HTT	**Hallett**	**31.52**	**230**	P	**P**	**16 41 50.3**	**+0.5**
WB0	**Warramunga Arr**	**32.01**	**258**	P	**P**	**16 41 53.0**	**-1.2**
WC3	**Warramunga Arr**	**32.04**	**257**	P	**P**	**16 41 53.5**	**-1.0**
	baz=32						
WB2	**Warramunga Arr**	**32.06**	**257**	P	**P**	**16 41 53.1**	**-1.5**
WRAB	**Tennant Creek**	**32.06**	**257**	P	**P**	**16 41 53.7**	**-0.9**
WRAB	**Tennant Creek**	**32.06**	**257**	P	**P**	**16 41 53.3**	**-1.3**
OOD	**Oodnadatta**	**32.07**	**242**	P	**P**	**16 41 56.2**	**+1.7**
WRA	**Warramunga Arr**	**32.07**	**257**	P	**P**	**16 41 52.7**	**-2.0**
WRA	**Warramunga Arr**	**32.07**	**257**	P	**P**	**16 41 53.5**	**-1.2**
	comp=Z,2.6nm,0.7s,baz=85,slow=8.6,SNR=27						
WRA				PcP	**PcP**	**16 44 40.8**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=79,slow=2.7,SNR=5.6						
WRA				PKiKP	**PKiKP**	**16 52 07.8**	**-1.8**
	comp=Z,0.2nm,0.7s,baz=16,slow=0.2,SNR=1.3						
	comp=Z,2.6nm,0.7s						
AS31	**Alice Springs**	**32.80**	**250**	P	**P**	**16 42 00.2**	**-0.9**
ASAR	**Alice Springs**	**32.81**	**250**	P	**P**	**16 42 00.1**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=76,slow=8.9,SNR=61						
ASAR				PcP	**PcP**	**16 44 43.5**	**0.0**
	comp=Z,1.4nm,0.9s,baz=56,slow=5.0,SNR=2.9						
ASAR				ScP	**ScP**	**16 48 17.1**	**+0.8**
	comp=Z,0.6nm,0.9s,baz=45,slow=2.8,SNR=3.2						
ASAR				PKiKP	**PKiKP**	**16 52 08.2**	**-1.9**
	comp=Z,0.2nm,0.7s,baz=64,slow=2.2,SNR=1.3						
ASAR				LR	LR	16 55 16.9	
	comp=Z,119nm,18.3s,baz=36,slow=36						
	comp=Z,4.5nm,0.7s						
BBOO	**Buckleboo**	**33.43**	**233**	P	**P**	**16 42 07.1**	**+0.8**
	baz=34,SNR=7.1						
BBOO	**Buckleboo**	**33.43**	**233**	P	**P**	**16 42 04.5**	**-1.9**
BBOO				IAmb	IAmb	16 42 13.6	
	comp=Z,16nm,0.6s						
BBOO	**Buckleboo**	**33.43**	**233**	P	**P**	**16 42 07.3**	**+0.9**
MULG	**Mulgathing**	**34.15**	**239**	P	**P**	**16 42 12.3**	**-0.3**
KDU	**Kakadu**	**34.30**	**270**	P	**P**	**16 42 12.9**	**-1.2**
	baz=34,SNR=6.6						
KMPI	**Kaimana, Papua**	**35.52**	**286**	P	**P**	**16 42 26.5**	**+2.0**
	comp=Z,74nm,0.8s						
MTN	**Manton Dam**	**35.56**	**270**	P	**P**	**16 42 24.5**	**-0.4**
	baz=36,SNR=8.8						
MTN	**Manton Dam**	**35.56**	**270**	P	**P**	**16 42 24.2**	**-0.8**
MTN				IAmb	IAmb	16 42 29.5	
	comp=Z,23nm,1.4s						
RKPI	**Ransiki, Papua**	**35.93**	**290**	P	**P**	**16 42 29.7**	**+1.6**
	comp=Z,132nm,1.1s						
FAKI	**Fak Fak**	**37.14**	**286**	P	**P**	**16 42 38.6**	**+0.3**
FAKI	**Fak Fak**	**37.14**	**286**	P	**P**	**16 42 38.3**	**-0.1**
FAKI	**Fak Fak**	**37.14**	**286**	P	P	16 42 42.9	+4.5
KNRA	**Kununurra**	**37.50**	**264**	P	**P**	**16 42 40.4**	**-0.9**
	baz=38,SNR=36						
KNRA	**Kununurra**	**37.50**	**264**	P	**P**	**16 42 40.5**	**-0.9**
KNRA				IAmb	IAmb	16 42 47.9	
	comp=Z,28nm,0.7s						
KNRA	**Kununurra**	**37.50**	**264**	P	**P**	**16 42 40.4**	**-0.9**
WRKA	**Warakurna**	**38.05**	**249**	P	**P**	**16 42 45.4**	**-0.6**
	baz=38,SNR=17						
WRKA	**Warakurna**	**38.05**	**249**	P	**P**	**16 42 45.7**	**-0.3**
SWI	**Sorong**	**38.85**	**289**	P	**P**	**16 42 52.9**	**+0.2**
	comp=Z,82nm,0.9s						
FORT	**Forrest**	**39.26**	**240**	P	**P**	**16 42 56.6**	**+0.6**
	baz=39,SNR=7.2						
FORT	**Forrest**	**39.26**	**240**	P	**P**	**16 42 55.7**	**-0.3**
FORT				IAmb	IAmb	16 43 03.8	
	comp=Z,32nm,0.8s						
FORT	**Forrest**	**39.26**	**240**	P	**P**	**16 42 56.1**	**+0.1**
PPT2	**Papeete2**	**40.90**	**99**	*e*LR	LR	16 54 34.3	
	comp=Z,146nm,28.5s						
PPT2				*e*LR	LR	16 54 36.9	
	comp=Z,132nm,31.8s						
PPT	**Papeete**	**40.90**	**99**	LR	LR	16 58 18.9	
	comp=Z,62nm,20.6s,baz=302,slow=33						
NLAI	**Namlea**	**41.83**	**283**	P	**P**	**16 43 19.3**	**+2.0**
	comp=Z,21nm,1.2s,comp=Z,1μm						
LBMI	**Labuha**	**42.39**	**287**	P	**P**	**16 43 23.9**	**+2.1**
	comp=Z,49nm,1.0s						
BATI	**Baumata**	**43.24**	**272**	P	**P**	**16 43 30.3**	**+1.6**
	comp=Z,45nm,1.4s						
BATI	**Baumata**	**43.24**	**272**	P	**P**	**16 43 28.1**	**-0.6**
	comp=Z,22nm,0.7s,baz=109,slow=6.5,SNR=5.7						
	comp=Z,22nm,0.7s						
SANI	**Sanana**	**43.28**	**284**	P	**P**	**16 43 28.7**	**-0.3**
	comp=Z,37nm,0.8s						
KMBL	**Kambalda**	**44.57**	**241**	P	**P**	**16 43 39.7**	**+0.5**
PSA00	**Pilbara Seismi**	**45.65**	**255**	P	**P**	**16 43 46.1**	**-1.7**
PSA00	**Pilbara Seismi**	**45.65**	**255**	P	**P**	**16 43 48.8**	**+1.0**
MBWA	**Marble Bar**	**45.77**	**256**	P	**P**	**16 43 48.0**	**-0.7**
MBWA				IAmb	IAmb	16 44 29.2	
	comp=Z,23nm,1.2s						
MBWA	**Marble Bar**	**45.77**	**256**	P	**P**	**16 43 48.5**	**-0.2**
MEEK	**Meekatharra**	**46.88**	**248**	P	**P**	**16 43 57.4**	**0.0**
	baz=47,SNR=3.3						
MEEK	**Meekatharra**	**46.88**	**248**	P	**P**	**16 43 57.5**	**0.0**
KLBR	**Kellerberrin**	**48.09**	**241**	P	**P**	**16 44 06.2**	**-0.4**
	baz=48,SNR=5.8						
KLBR	**Kellerberrin**	**48.09**	**241**	P	**P**	**16 44 06.5**	**-0.2**
BLDU	**Ballidu**	**48.87**	**243**	P	**P**	**16 44 12.4**	**-0.3**
TOLI2	**Tolitoli**	**49.27**	**285**	P	**P**	**16 44 13.4**	**-2.4**
TOLI2				IAmb	IAmb	16 44 26.2	
	comp=Z,13nm,0.8s						
MORW	**Morawa**	**49.31**	**245**	P	**P**	**16 44 15.6**	**-0.5**
	baz=49,SNR=6.2						
MORW	**Morawa**	**49.31**	**245**	P	**P**	**16 44 15.2**	**-0.8**
MORW				IAmb	IAmb	16 44 23.6	
	comp=Z,14nm,0.8s						
MORW	**Morawa**	**49.31**	**245**	P	**P**	**16 44 16.1**	**0.0**
MPSI	**Mapaga**	**49.81**	**284**	P	**P**	**16 44 19.8**	**-0.2**
	comp=Z,58nm,0.8s						
UGM	**Wanagama**	**56.40**	**271**	P	**P**	**16 45 09.2**	**+0.9**
MJAR	**Matsushiro Arr**	**58.87**	**332**	P	**P**	**16 45 24.4**	**-0.7**
	comp=Z,5.9nm,1.0s,baz=172,slow=8.2,SNR=12						
	comp=Z,5.9nm,1.0s						
MAJO	**Matsushiro**	**58.87**	**332**	P	**P**	**16 45 24.1**	**-1.0**
MAJO				IAmb	IAmb	16 45 31.9	
	comp=Z,26nm,1.1s						
MAJO	**Matsushiro**	**58.87**	**332**	P	**P**	**16 45 25.2**	**+0.1**
MAJO	**Matsushiro**	**58.87**	**332**	P	**P**	**16 45 24.7**	**-0.4**
JMM	**Marumori**	**58.88**	**335**	P	**P**	**16 45 23.7**	**-1.5**
BBJI	**Bungbulang**	**59.27**	**271**	P	**P**	**16 45 27.1**	**-1.4**
LEM	**Lembang**	**59.45**	**271**	P	**P**	**16 45 30.3**	**+0.5**
	comp=Z,65nm,0.8s						
LEM	**Lembang**	**59.45**	**271**	P	**P**	**16 45 29.1**	**-0.8**
	comp=Z,26nm,0.6s,baz=131,slow=18,SNR=7.3						
	comp=Z,26nm,0.6s						
YULB	**Yu-li**	**59.68**	**310**	P	**P**	**16 45 32.8**	**+1.8**
JNU	**Nakatsue**	**59.87**	**324**	P	**P**	**16 45 32.0**	**-0.1**
JNU	**Nakatsue**	**59.87**	**324**	P	**P**	**16 45 32.2**	**0.0**
JNU	**Nakatsue**	**59.87**	**324**	LR	LR	17 09 55.8	
	comp=Z,52nm,18.4s,baz=174,slow=34						
JSD	**Sado**	**60.09**	**333**	P	**P**	**16 45 32.7**	**-0.7**
JSD	**Sado**	**60.09**	**333**	P	**P**	**16 45 34.4**	**+1.0**
TPUB	**Ta-pu**	**60.13**	**309**	P	**P**	**16 45 33.2**	**-0.9**
SSLB	**Suanglung**	**60.17**	**310**	P	**P**	**16 45 33.6**	**-0.8**
SSLB				IAmb	IAmb	16 45 41.0	
	comp=Z,28nm,0.9s						
YHNB	**Yeheng**	**60.38**	**311**	P	**P**	**16 45 34.5**	**-1.3**
CGJI	**Cibinong**	**61.36**	**271**	P	**P**	**16 45 42.5**	**-0.1**
	comp=Z,163nm,0.6s,comp=Z,2μm						
VNDA	**Vanda**	**62.03**	**181**	P	**P**	**16 45 44.3**	**-1.7**
SBA	**Scott Base**	**62.29**	**180**	P	**P**	**16 45 49.9**	**+2.1**
SBA				pP	**pP**	**16 46 20.5**	**+2.8**
CASY	**Casey**	**62.92**	**202**	P	**P**	**16 45 48.4**	**-3.6**
CASY				IAmb	IAmb	16 46 31.2	
	comp=Z,21nm,1.6s						
JKA	**Kamikawa-asahi**	**63.69**	**340**	P	**P**	**16 45 57.9**	**+0.5**
ASAJ	**Asahikawa**	**63.69**	**340**	LR	LR	17 08 38.3	
	comp=Z,41nm,20.7s,baz=174,slow=31						
CCD	**Concordia, Ant**	**64.16**	**192**	P	**P**	**16 46 01.2**	**+0.5**
CCD				pP	**PcP**	**16 46 32.5**	**-2.1**
KSRS	**Korea Array**	**64.69**	**326**	P	**P**	**16 46 04.6**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=147,slow=8.4,SNR=6.7						
	comp=Z,2.7nm,0.8s						
QIZ	**Qiongzhong**	**66.55**	**299**	P	**P**	**16 46 17.3**	**+0.9**
NJ2	**Nanjing**	**66.60**	**316**	*e*P	**P**	**16 46 18.8**	**+2.3**
NJ2				sP	**sP**	**16 47 01.8**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
USA0B	**Ussuriysk Arra**	**67.85**	**333**	P	**P**	**16 46 25.1**	**+1.0**
USA0B				IAmb	IAmb	16 46 33.0	
	comp=Z,30nm,0.9s						
USRK	**Ussuriysk Ar.**	**67.85**	**333**	P	**P**	**16 46 25.1**	**+1.1**
USRK	**Ussuriysk Ar.**	**67.85**	**333**	P	**P**	**16 46 24.6**	**+0.5**
	comp=Z,10nm,0.8s,baz=146,slow=5.3,SNR=20						
	comp=Z,10nm,0.8s						
PDSI	**Padang**	**67.89**	**275**	P	**P**	**16 46 27.5**	**+2.4**
	comp=Z,15nm,0.5s						
PET	**Petropavlovsk**	**68.77**	**354**	P	**P**	**16 46 30.8**	**+1.2**
WHN	**Wuhan**	**68.85**	**312**	⇑P	P	16 46 36.8	+6.2
WHN				pmax	pmax		
	comp=Z,66nm,0.6s						
PETK	**Petropavlovsk-**	**68.95**	**354**	P	**P**	**16 46 30.4**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=134,slow=7.7,SNR=6.6						
PETK				LR	LR	17 12 09.9	
	comp=Z,31nm,21.1s,baz=177,slow=32						
	comp=Z,3.5nm,0.9s						
MDJ	**Mudanjiang**	**69.24**	**332**	P	**P**	**16 46 33.3**	**+0.6**
MDJ				PcP	**PcP**	**16 46 54.3**	**-1.3**
MDJ				S	**S**	**16 55 32.0**	**+3.0**
MDJ				SS	**SS**	**16 59 59.3**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,33nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,280nm,4.3s						
MDJ	**Mudanjiang**	**69.24**	**332**	P	**P**	**16 46 33.4**	**+0.6**
MDJ				IAmb	IAmb	16 46 40.9	
	comp=Z,39nm,0.9s						
MDJ	**Mudanjiang**	**69.24**	**332**	P	**P**	**16 46 33.9**	**+1.1**
SNY	**Shenyang**	**70.16**	**326**	⇑P	P	16 46 44.8	+6.4
SNY				pmax	pmax		
	comp=Z,14nm,0.7s						
RPSI	**Rantau Prapat**	**70.40**	**279**	P	**P**	**16 46 39.6**	**-0.9**
CN2	**Changchun**	**70.61**	**329**	*e*P	P	16 46 47.3	+6.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.1s						
BNX	**BinXian**	**71.10**	**331**	⇓P	**P**	**16 46 44.3**	**+0.2**
BNX				pmax	pmax		
	comp=Z,17nm,0.8s						
BNX				pmax	pmax		
	comp=Z,210nm,4.1s						
GSI	**Gunungsitoli**	**71.28**	**277**	P	**P**	**16 46 44.1**	**-1.8**
GSI				IAmb	IAmb	16 46 52.9	
	comp=Z,29nm,0.8s						
GSI	**Gunungsitoli**	**71.28**	**277**	P	**P**	**16 46 45.8**	**-0.1**
	comp=Z,40nm,0.8s						
LYN	**LuoYang**	**72.39**	**315**	⇑P	**P**	**16 46 52.5**	**+0.4**
HNS	**HongShan**	**72.54**	**318**	⇑P	**P**	**16 46 53.6**	**+0.8**
HNS				pmax	pmax		
	comp=Z,19nm,0.8s						
GYA	**Guiyang**	**72.57**	**305**	*e*P	**P**	**16 46 54.1**	**+0.7**
GYA				pmax	pmax		
	comp=Z,14nm,0.6s						
LHMI	**Lhok Sumawe**	**73.05**	**281**	P	P	16 47 01.4	+5.0
	comp=Z,142nm,1.0s						
BJI	**Beijing**	**73.21**	**321**	P	**P**	**16 46 57.4**	**+0.7**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
QSPA	**South Pole Qui**	**74.45**	**180**	P	**P**	**16 47 04.8**	**+1.0**
QSPA				IAmb	IAmb	16 47 11.7	
	comp=Z,17nm,1.0s						
QSPA	**South Pole Qui**	**74.45**	**180**	P	**P**	**16 47 04.6**	**+0.8**
	comp=Z,6.6nm,0.8s,baz=16,slow=1.5,SNR=16						
	comp=Z,6.6nm,0.8s						
HEH	**HeiHe**	**74.52**	**334**	*e*P	**P**	**16 47 04.3**	**+0.2**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,330nm,6.3s						
XAN	**Xi'an**	**74.60**	**313**	⇑P	**P**	**16 47 05.4**	**+0.3**
XAN				pmax	pmax		
	comp=Z,25nm,0.9s						
CRAI	**Chiangrai**	**75.14**	**296**	P	**P**	**16 47 08.7**	**+0.3**
CRAI				IAmb	IAmb	16 47 16.5	
	comp=Z,19nm,0.9s						
KMI	**Kunming**	**75.14**	**302**	⇑P	**P**	**16 47 09.8**	**+1.2**
KMI				pmax	pmax		
	comp=Z,12nm,0.8s						
XLT	**XiLinHaoTe**	**75.66**	**324**	⇑*i*P	**P**	**16 47 09.6**	**-1.4**
XLT				pmax	pmax		
	comp=Z,18nm,0.8s						
XLT				pmax	pmax		
	comp=Z,330nm,5.5s						
CMAR	**Chiang Mai Arr**	**75.71**	**294**	P	**P**	**16 47 12.8**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=132,slow=4.7,SNR=39						
	comp=Z,3.9nm,0.8s						
CHTO	**Chiang Mai**	**75.84**	**294**	P	**P**	**16 47 12.8**	**+0.4**
HHC	**Hu-ho-hao-te**	**76.52**	**320**	*e*P	**P**	**16 47 16.9**	**+0.9**
HHC				pmax	pmax		
	comp=Z,35nm,0.8s						
PZH	**PanZhiHua**	**76.54**	**303**	P	**P**	**16 47 17.1**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,480nm,5.9s						
CD2	**Chengdu**	**76.89**	**308**	P	**P**	**16 47 18.8**	**+0.6**
BTO	**Baotou**	**77.36**	**319**	*e*P	**P**	**16 47 23.8**	**+3.1**
BTO				pP	**sP**	**16 47 59.6**	**-4.2**
BTO				pmax	pmax		
	comp=Z,24nm,0.9s						
BTO				pmax	pmax		
	comp=Z,920nm,5.3s						
LZH	**Lanzhou**	**79.22**	**312**	*e*P	**P**	**16 47 32.8**	**+1.7**
LZH				pP	pP	16 48 00.1	-1.9
LZH				pmax	pmax		
	comp=Z,25nm,1.4s						
MAW	**Mawson**	**81.27**	**202**	P	**P**	**16 47 42.3**	**+1.0**
	baz=81						
MAW	**Mawson**	**81.27**	**202**	P	**P**	**16 47 42.4**	**+1.0**
	comp=Z,3.1nm,1.1s,baz=112,slow=8.6,SNR=4.7						
MAW				LR	LR	17 21 00.5	
	comp=Z,19nm,19.5s,baz=98,slow=34						
	comp=Z,3.1nm,1.1s						
YAK	**Yakutsk**	**82.97**	**343**	P	**P**	**16 47 49.6**	**-0.5**
ULN	**Ulaanbaatar**	**83.09**	**324**	P	**P**	**16 47 51.2**	**-0.1**
SONM	**Songino Array**	**83.45**	**323**	IAmb	IAmb	16 48 00.8	
	comp=Z,21nm,0.7s						
SONM	**Songino Array**	**83.45**	**323**	P	**P**	**16 47 53.3**	**+0.2**
	comp=Z,8.3nm,0.8s,baz=154,slow=9.2,SNR=39						
	comp=Z,8.3nm,0.8s						
GTA	**Gaotai**	**83.58**	**314**	*e*P	**P**	**16 47 54.6**	**+0.6**
GTA				pmax	pmax		
	comp=Z,12nm,1.2s						
BELA	**Belgrano 2**	**85.84**	**175**	P	**P**	**16 48 03.7**	**-0.9**
BELA				IAmb	IAmb	16 48 11.2	
	comp=Z,15nm,0.9s						
IL31		**87.19**	**18**	P	**P**	**16 48 11.5**	**+0.4**
ILAR	**Eielson Array**	**87.19**	**18**	P	**P**	**16 48 09.8**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=233,slow=4.9,SNR=12						
	comp=Z,0.9nm,0.7s						
NVAR	**Mina Array Bea**	**87.48**	**49**	P	**P**	**16 48 14.8**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=237,slow=8.3,SNR=1.9						
	comp=Z,0.3nm,0.6s						
TAPN	**Taplejung**	**88.49**	**299**	*e*P	**P**	**16 48 22.5**	**+4.0**
	comp=Z,16nm,0.8s						
RAMN	**Ramite**	**89.30**	**298**	*e*P	P	16 48 16.8	-5.5
	comp=Z,5.1nm,0.5s						
ELIB	**Princess Elisa**	**89.47**	**190**	*d*PcP	P	**16 48 21.6**	**-0.5**
	comp=Z,5.9nm,1.0s						
JIRN	**Jiri**	**89.86**	**299**	*e*P	**P**	**16 48 25.5**	**+0.4**
	comp=Z,7.2nm,0.3s						
GUN	**Gumba**	**90.20**	**299**	*e*P	**P**	**16 48 28.6**	**+2.0**
	comp=Z,52nm,1.6s						
PKI	**Pulchoki**	**90.50**	**298**	*e*P	**P**	**16 48 24.4**	**-3.6**
	comp=Z,15nm,1.0s						
PKIN	**Phulchoki**	**90.51**	**298**	*e*P	**P**	**16 48 24.5**	**-3.5**
	comp=Z,7.8nm,0.6s						
DMN

RONA	Rosalia, Austr	140.23	330	*i* PKP	PKPdf	16 54 51.9	-1.6
	comp=Z,2.2nm,0.6s						
RONA				*i* PKiKP	PKiKP	16 54 56.7	+0.6
	comp=Z,2.2nm,0.6s						
CONA	Conrad Observa	140.28	330	PKP	PKPdf	16 54 52.6	-1.1
	comp=Z,1.9nm,0.8s						
CONA				*i* PKiKP	PKiKP	16 54 56.6	+0.4
	comp=Z,1.9nm,0.8s						
KHC	Kasperske Hory	140.44	333	*e*PKPDF	PKPdf	16 54 54.1	+0.2
KHC				*ex*	x	16 54 59.9	
GERES	GERESS Array B	140.60	333	PKP	PKPdf	16 54 54.1	-0.2
	comp=Z,1.2nm,0.6s,baz=48,slow=2.0,SNR=7.1						
SOKA	Soboth	141.56	329	*i* PKP	PKPdf	16 54 53.1	-2.9
	comp=Z,2.9nm,1.7s						
SOKA				*i* PKiKP	PKiKP	16 54 58.9	0.0
	comp=Z,2.4nm,0.6s						
LESA	Schwarzleotal	142.12	332	*e*PKP	PKPdf	16 54 53.2	-3.8
	comp=Z,3.4nm,0.9s						
LESA				*i* PKiKP	PKiKP	16 54 59.6	-0.4
	comp=Z,11nm,1.0s						
ABTA	Abfaltersbach	142.70	332	*e*PKP	PKPdf	16 54 54.3	-3.8
	comp=Z,8.8nm,0.9s						
ABTA				*i* PKiKP	PKiKP	16 55 00.8	-0.4
	comp=Z,8.8nm,0.9s						
WTTA	Wattenberg	142.71	333	*e*PKP	PKPdf	16 54 55.3	-2.9
	comp=Z,9.2nm,1.1s						
MOTA	Moosalm	142.88	333	*i* PKP	PKPdf	16 54 55.9	-2.6
	comp=Z,13nm,0.9s,SNR=4.6						
MOTA				*i* PKiKP	PKiKP	16 55 01.6	-0.1
	comp=Z,13nm,0.9s						
SQTA	Sankt Quirin	142.93	333	*e*PKP	PKPdf	16 54 56.1	-2.4
	comp=Z,10nm,0.7s						
SQTA				*i* PKiKP	PKiKP	16 55 01.8	+0.1
	comp=Z,10nm,0.7s						
FETA	Feichten	143.29	333	*i* PKP	PKPbc	16 54 56.8	+0.3
	comp=Z,21nm,0.8s,SNR=9.3						
FETA				*i* PKiKP	PKiKP	16 55 03.3	+0.7
	comp=Z,21nm,0.8s						
DAVA	Damuels	143.44	334	*e*PKP	PKPbc	16 54 58.1	+1.1
	comp=Z,13nm,1.2s						
DAVA				*i* PKiKP	PKiKP	16 55 03.7	+0.9
	comp=Z,6.5nm,0.5s						
FUORN	Ofenpass-Fuorn	143.80	333	PKPdf	PKPdf	16 54 59.2	-1.0
TUE	Stuetta	144.31	334	PKPdf	PKPdf	16 55 00.8	-0.3
MATE	Matera	144.56	321	⇑P	PKPbc	16 55 00.3	0.0
SENIN	Lac Senin/Sane	145.23	336	PKPdf	PKPdf	16 55 03.4	+0.7
KEST	Kesra	152.15	320	PKPbc	PKPbc	16 55 20.7	-0.1
	comp=Z,14nm,0.8s,baz=229,slow=1.4,SNR=15						
ESDC	Sonseca Array	154.92	345	PKPab	PKPab	16 55 41.8	-0.5
	comp=Z,1.8nm,0.8s,baz=13,slow=3.3,SNR=7.1						
TORD	Torodi Ar. Bea	166.26	262	PKP	PKPdf	16 55 30.7	0.0
	comp=Z,1.8nm,0.9s,baz=14,slow=3.1,SNR=4.0						
TORD				PKPab	PKPab	16 56 31.6	-0.9
	comp=Z,1.2nm,0.8s,baz=76,slow=4.9,SNR=5.0						

*IDC **21** 16:58:51.6±0.8, 15°.98N×97°.96W, h0km, mb4.4/13, mbtmp4.4/15, ML3.6/2, MS4.1/48, Error ellipse: s-maj=26.8km s-min=15.5km az=57.0*

*MEX **21** 16:58:54.4±0.5, 15°.93N×98°.11W, h5km, MD5.0*

*NEIC **21** 16:58:54.0±2.6, 16°.00N±0°.04×98°.07W±0°.04, h17km±5km, mb4.9/297, Md5.0/80(MEX), Error ellipse: s-maj=6.8km s-min=5.1km az=208.0*

*GCMT **21** 16:58:59.0±0.3, 16°.05N±0°.02×97°.81W±0°.04, h20km±1km, MW5.0/94, Moment Tensor Solution. s25,c29; s94,c131; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.14±.22; Mθθ-2.73±.13; Mφφ-0.41±.13; Mrθ2.17±.21; Mrφ0.83±.09; Mθφ-0.09±.27; Best double couple: M=3.75600×10^16^ NP1:φ=99.00000°, δ63.00000°, λ82.00000°. NP2: φ=295.00000°, δ28.00000°, λ104.00000°. Principal axes: T 3.8630, Plg71.0000°, Azm352.0000°; N -0.2150, Plg7.0000°, Azm103.0000°; P -3.6500, Plg17.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 16:58:51.4±1.3, 15°.87N±0°.04×98°.13W±0°.03, h4km±8km, n753, σ1°80/661, mb5.0/123, MS4.1/49, 11C-2D, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.52	360		Pg	16 59 02.5	+1.1
PNIG					Sg	16 59 09.4	+1.4
PNIG	Pinotepa	0.52	360	⇓*e*P	Pg	16 59 02.4	+1.1
PNIG				*e*S	Sg	16 59 09.4	+1.4
PEIG	Puerto Escondi	0.95	82		Pg	16 59 09.9	+0.2
PEIG	Puerto Escondi	0.95	82	⇑*i*P	Pg	16 59 08.8	+0.2
PEIG				*i* S	Sg	16 59 22.6	+0.6
YOIG	Yosondua	1.12	30		Pg	16 59 12.4	-0.5
YOIG	Yosondua	1.12	30	⇑*e*P	Pg	16 59 12.4	-0.5
TXIG	Tlaxiaco	1.41	14		Pn	16 59 16.4	-1.8
TXIG	Tlaxiaco	1.41	14	*e*P	Pn	16 59 16.4	-1.8
TXIG				*i* S	Sb	16 59 35.3	-1.8
TLIG	Tlapa	1.73	346	*e*P	Pn	16 59 21.0	-1.4
VHO	Vista Hermosa	1.79	48	*e*P	Pn	16 59 22.5	-0.9
VHO				*e*S	Sn	16 59 47.2	+0.6
OXIG	Oaxaca	1.79	48		Pn	16 59 22.5	-0.9
OXBJ	Oaxaca	1.79	48		Pn	16 59 22.7	-0.7
OXBJ	Oaxaca	1.79	48	*e*P	Pn	16 59 22.7	-0.7
OXLC	Oaxaca	1.81	49	*e*P	Pn	16 59 23.7	+0.2
DAIG	Los Arroyos	1.85	308		Pn	16 59 21.8	-2.3
DAIG	Los Arroyos	1.85	308	⇑*e*P	Pn	16 59 21.3	-2.7
DAIG				⇑*i*S	Sn	16 59 41.5	-6.5
HUIG	Huatulco	1.95	93		Pn	16 59 24.0	-1.2
HUIG	Huatulco	1.95	93	⇑*e*P	Pn	16 59 24.0	-1.2
HUIG				*i* S	Sn	16 59 45.8	-4.4
HMTT	Tlapaneco	1.96	348	*e*P	Pb	16 59 28.4	+0.6
ACP2	Acapulco	1.96	301		Pg	16 59 30.7	+1.7
ACP2	Acapulco	1.96	301	*e*P	Pg	16 59 29.4	+0.5
HLIG	Huajuapan de L	1.97	9		Pn	16 59 25.0	-0.8
HLIG	Huajuapan de L	1.97	9	⇑*e*P	Pn	16 59 25.0	-0.8
HLIG				*e*S	Sb	16 59 54.2	+1.2
FTIG	Fresnillo de T	2.02	360		Pn	16 59 25.6	-0.8
FTIG	Fresnillo de T	2.02	360	*e*P	Pn	16 59 25.6	-0.8
FTIG				*i* S	Sn	16 59 53.3	+1.0
CAIG	El Cayaco	2.36	300		Pn	16 59 28.8	-2.2
CAIG	El Cayaco	2.36	300	*e*P	Pn	16 59 28.8	-2.2
CAIG				*e*S	Sn	16 59 59.5	-1.0
TOIG	Toxpalan	2.43	25		Pn	16 59 31.2	-0.8
TOIG	Toxpalan	2.43	25	⇑*e*P	Pn	16 59 31.2	-0.8
TOIG				*e*S	Sn	17 00 02.3	-0.1
MEIG	Mezcala	2.49	325		Pn	16 59 32.1	-0.8
MEIG	Mezcala	2.49	325	⇑*e*P	Pn	16 59 32.0	-0.8
MEIG				*e*S	Sn	16 59 58.8	-5.0
TPIG	Tehuac#an	2.63	16		Pb	16 59 40.0	+0.7
TPIG	Tehuac#an	2.63	16	*e*P	Pn	16 59 35.1	+0.2
PLIG	Platanillo	2.83	332		Pn	16 59 37.4	-0.1
PLIG	Platanillo	2.83	332	⇑*e*P	Pn	16 59 37.2	-0.3
PLIG				*i* S	Sb	17 00 18.0	+0.3
NEUV	Arroyo Zacate	2.88	50	⇑*e*P	Pn	16 59 37.8	-0.4
NEUV				*e*S	Sb	17 00 17.6	-1.5
YAIG	Yautepec	3.10	343		Pn	16 59 41.4	+0.1
YAIG	Yautepec	3.10	343	*e*P	Pn	16 59 41.4	+0.1
YAIG				*e*S	Sn	17 00 20.0	+1.0
OZST	Orizaba	3.13	18	*e*P	Pb	16 59 49.7	+2.0
PHPU	Puebla	3.15	359		Pg	16 59 51.0	-0.9
PHPU	Puebla	3.15	359	*e*P	Pg	16 59 51.0	-0.9
ARIG	Puente Sto Nin	3.20	319		Pn	16 59 43.3	+0.8
ARIG	Puente Sto Nin	3.20	319	*e*P	Pn	16 59 43.3	+0.8
ARIG				*e*S	Sn	17 00 18.8	-2.4
PPM	Popocatepetl	3.21	352	*e*P	Pn	16 59 43.0	-0.2
PPM				*e*S	Sb	17 00 27.2	-1.9
AMVM	AMECAMECA	3.30	349		Pb	16 59 49.8	-0.9
AMVM	AMECAMECA	3.30	349	*e*P	Pb	16 59 49.8	-0.9
AMVM				*e*S	Sn	17 00 22.7	-1.4
CMIG	Matias Romero	3.34	68	Pn	Pn	16 59 43.4	-1.0
	29nm,0.3s,baz=254,slow=11,SNR=251						
CMIG				Sn	Sn	17 00 23.2	-1.4
	48nm,0.3s,baz=249,slow=16,SNR=6.2						
	71nm,0.2s						
CMIG	Matias Romero	3.34	68	*e*P	Pn	16 59 43.4	-1.0
CMIG				*e*S	Sn	17 00 24.6	0.0
MPVM	San Francisco	3.42	346	*e*P	Pn	16 59 46.0	+0.3
MPVM				*e*S	Sn	17 00 27.2	+0.4
NILT	Santiago Nilte	3.44	78	*e*P	Pn	16 59 46.1	+0.3
TLVM	San Miguel Top	3.46	344	*e*P	Pb	16 59 52.1	-1.4
TLVM				*e*S	Sn	17 00 27.8	-0.3
THVM	De Xico	3.51	347	*e*P	Pn	16 59 49.1	+2.0
THVM				*e*S	Sn	17 00 25.0	-4.2
AOVM	Tlapan	3.56	342	*e*P	Pn	16 59 47.8	-0.1
AOVM				*e*S	Sn	17 00 34.4	+3.6
CNCY	Coyoacan	3.56	344	*e*P	Pb	16 59 57.0	+1.8
CNCY				*e*S	Sb	17 00 37.4	-1.6
UNM	Universidad Na	3.58	344		Pn	16 59 47.4	-0.6
UNM	Universidad Na	3.58	344	*e*P	Pb	16 59 54.7	-0.8
UNM				*e*S	Sb	17 00 37.9	-1.6
CUP5	Mexico City	3.58	344	*e*P	Pg	16 59 58.7	-1.4
TEJU	Tejupilco	3.58	328	*e*P	Pb	16 59 54.8	-0.7
INVM	La Marquesa	3.60	341	*e*P	Pb	16 59 54.7	-1.2
INVM				*e*S	Sn	17 00 34.0	+2.3
BJVM	Benito Juarez	3.62	344	*e*P	Pb	16 59 54.5	-1.7
BJVM				*e*S	Sn	17 00 28.8	-3.1
ZIIG	Zihuatanejo	3.63	299		Pn	16 59 47.4	-1.1
ZIIG	Zihuatanejo	3.63	299	*e*P	Pn	16 59 47.4	-1.1
ZIIG				*i* S	Sn	17 00 28.4	-3.5
CJVM	Cuajimalpa	3.64	343	*e*P	Pb	16 59 56.8	+0.3
CJVM				*e*S	Sb	17 00 39.0	-2.2
PBVM	Pinon	3.66	346		Pn	16 59 53.0	+4.1
PBVM	Pinon	3.66	346	*e*P	Pn	16 59 51.3	+2.4
PBVM				*e*S	Sn	17 00 29.5	-3.1
JAUV	Jalcomulco	3.70	20	*e*P	Pn	16 59 47.3	-2.1
TOVM	TOLUCA	3.70	337		Pn	16 59 51.1	+1.4
TOVM	TOLUCA	3.70	337	*e*P	Pn	16 59 51.1	+1.4
TOVM				*e*S	Sn	17 00 32.8	-1.1
PTVM	Pico Tres Padr	3.82	346		Pb	16 59 58.1	-1.4
PTVM	Pico Tres Padr	3.82	346	*e*P	Pn	16 59 53.2	+2.0
PTVM				*e*S	Sn	17 00 28.9	-7.8
XALA	Xalapa	3.82	18	*e*P	Pb	16 59 59.8	+0.3
AZVM	Cuida Lopez Ma	3.85	344		Pb	16 59 58.7	-1.4
AZVM	Cuida Lopez Ma	3.85	344	*e*P	Pb	16 59 57.0	-3.2
AZVM				*e*S	Sn	17 00 39.6	+1.9
PMUV	Sontecomapan	3.91	47	*e*P	Pn	16 59 48.8	-3.6
PMUV				*e*S	Sn	17 00 34.3	-4.5
VTVM	Tizayuca	3.92	351		Pb	17 00 00.4	-0.9
VTVM	Tizayuca	3.92	351	*e*P	Pb	16 59 57.6	-3.8
VTVM				*e*S	Sn	17 00 39.0	-0.5
ZUVM	ZUMPANGO	4.03	347		Pb	17 00 00.8	-2.5
ZUVM	ZUMPANGO	4.03	347	*e*P	Pb	17 00 00.8	-2.5
ZUVM				*e*S	Sn	17 00 44.0	+1.8
CARR	Arriaga	4.07	84	*e*P	Pn	16 59 53.7	-0.8
UXUV	UXUV	4.08	69	⇑*e*P	Pn	16 59 53.9	-0.7
UXUV				*e*S	Sn	17 00 45.0	+2.1
UON	La Union	4.10	301	*e*P	Pn	16 59 56.6	+1.7
TUIG	Tuzandepetl	4.14	58	*e*P	Pn	16 59 54.0	-1.5
LVIG	Laguna Verde	4.16	23	*e*P	Pn	16 59 53.1	-2.6
ATVM	ATLACOMULCO	4.20	337		Pg	17 00 09.4	-2.4
ATVM	ATLACOMULCO	4.20	337	*e*P	Pb	17 00 05.1	-0.9
ATVM				*e*S	Sb	17 00 52.7	-4.6
CXUV	Coxquihui	4.31	7	*e*P	Pn	16 59 56.8	-1.0
ACIG	Acambay	4.41	338		Pn	17 00 03.9	+4.5
ACIG	Acambay	4.41	338	*e*P	Pn	17 00 03.9	+4.5
ACIG				*e*S	Sn	17 00 51.4	+0.1
DEIG	Demacu	4.49	349	*e*P	Pb	17 00 07.9	-3.0
DHIG	Demacu	4.49	349		Pb	17 00 07.9	-3.0
PCIG		4.73	91	*e*P	Pn	17 00 03.1	-0.5
PCIG				*e*S	Sn	17 00 54.1	-4.8
TGIG		4.89	79		Pn	17 00 06.4	+0.5
TGIG		4.89	79	*e*P	Pn	17 00 06.4	+0.5
TGIG				*e*S	Sb	17 01 11.5	-5.4
JRQG	Juriquilla Cam	5.29	336	*e*P	Pb	17 00 19.1	-5.5
JRQG				*e*S	Sn	17 01 14.1	+1.1
MMIG	Aquila	5.54	296	*e*P	Pn	17 00 07.3	-7.4
MMIG				*e*S	Sn	17 01 13.9	-5.0
CTUV	Llano Grande	5.57	358	*e*P	Pn	17 00 14.9	-0.2
PATR	El Naranjo	5.73	97	*e*P	Pn	17 00 17.6	0.0
PATR				*e*S	Sn	17 01 18.8	-5.2
CCIG	Comitan	5.77	85	*e*P	Pn	17 00 20.6	+2.5
CCIG				*e*S	Sn	17 01 26.5	+1.6
PAVE	Pavencul	5.78	96	*e*P	Pn	17 00 18.6	+0.4
PAVE				*i* S	Sn	17 01 21.8	-3.3
CHUJ	Union Juarez	5.85	97	*e*P	Pn	17 00 19.7	+0.4
CHUJ				*e*S	Sn	17 01 22.6	-4.5
RPIG	Rio Verde	6.23	344		Pg	17 00 47.8	-3.1
RPIG	Rio Verde	6.23	344	*e*P	Pb	17 00 41.2	+0.6
RPIG				*e*S	Sn	17 01 37.2	+1.1
COIG	Colima	6.24	303	*e*P	Pn	17 00 25.1	+0.7
COIG				*e*S	Sn	17 01 29.4	-7.0
JUBC	Volcan de Coli	6.33	306	*e*P	Pn	17 00 28.0	+2.2
JUBC				*e*S	Sn	17 01 44.4	+5.6
EZ5V		6.33	305		Pn	17 00 28.3	+2.5
EZ5V		6.33	305	*e*P	Pn	17 00 28.3	+2.5
EZ5V				*e*S	Sn	17 01 42.3	+3.5
MNGA	Volcan de Coli	6.34	305	*e*P	Pn	17 00 27.5	+1.6
MNGA				*e*S	Sn	17 01 39.3	+0.3
INCO	Volcan de Coli	6.36	306	*e*P	Pn	17 00 28.7	+2.3
INCO				*e*S	Sn	17 01 38.3	-1.4
SOMAC	Volcano de Col	6.38	305	*e*P	Pn	17 00 28.7	+2.1
SOMAC				*e*S	Sn	17 01 34.0	-6.2
CDAR	Ciudad de Arme	6.39	299	*e*P	Pn	17 00 25.4	-1.0
CDAR				*e*S	Sn	17 01 35.8	-4.1
R15V		6.48	301		Pn	17 00 21.2	-6.4
R15V		6.48	301	*e*P	Pn	17 00 20.1	-7.5
R15V				*e*S	Sn	17 01 34.0	-8.1
CEGR	Campo Tres	6.49	303	*e*P	Pn	17 00 26.7	-1.2
CEGR				*e*S	Sn	17 01 43.6	+1.1
CIHU	Emiliano Zapat	7.15	299	*e*P	Pn	17 00 37.7	+0.8
CIHU				*e*S	Sn	17 01 53.0	-5.6
GTIG	Gomez Farias	7.22	352		Pn	17 00 38.2	+0.3
GTIG	Gomez Farias	7.22	352	*e*P	Pn	17 00 38.2	+0.3
AAIG	Aguscalientes	7.28	327		Pn	17 00 42.6	+3.8
AAIG	Aguscalientes	7.28	327	*e*P	Pn	17 00 42.6	+3.8
AAIG				*e*S	Sn	17 02 05.5	+3.4
CJM	Chamela	7.51	300	*e*P	Pn	17 00 42.3	+0.5
ANIG	Ahuacatlan	7.96	311	*e*P	Pn	17 00 58.3	+10
PETF	Flores	8.00	81	Pn	Pn	17 00 48.0	-0.5
ESQI	Esquipulas	8.58	98	Pn	Pn	17 00 55.2	-1.4
MTO3	Montecristo	8.59	99	Pn	Pn	17 00 55.4	-1.4
TEIG	Tepich	10.32	64	Pn	Pn	17 01 17.4	-2.9
TEIG	Tepich	10.32	64	Pn	Pn	17 01 18.1	-2.2
	88nm,0.3s,baz=11,slow=0.8,SNR=52						
TEIG				Sn	Sn	17 03 09.0	-7.5
	77nm,0.3s,baz=155,slow=21,SNR=7.2						
TEIG				LR	LR	17 05 26.6	
	comp=Z,9μm,21.4s,baz=28,slow=39						
MATN	Matagalpa	12.18	102	Pn	Pn	17 01 44.3	-1.6
833A	Chaparral WMA,	12.45	355	Pn	Pn	17 01 45.4	-4.0
833A	Chaparral WMA,	12.45	355	P	Pn	17 01 50.3	+0.9
	baz=172,SNR=12						
ACON	Acoyapa	13.16	106	Pn	Pn	17 01 59.0	-0.2
HZTE	Horizontes, Gu	13.23	111		Pn	17 02 05.5	+5.3
ORTG	Ortega, Santa	13.50	112		Pn	17 02 08.9	+5.0
SLBS	Sierra La Lagu	13.56	307	Pn	Pn	17 02 01.2	-3.5
DUNO	Dulce Nombre,	13.59	114	Pn	Pn	17 02 09.2	+4.1
HNDO	Hondo	13.63	356	Pn	Pn	17 02 00.9	-4.8
DRIO	Del Rio	13.68	351	Pn	Pn	17 02 00.8	-5.5
JTS	Las Juntas de	13.98	112	Pn	Pn	17 02 09.0	-1.4
JTS	Las Juntas de	13.98	112	Pn	Pn	17 02 14.1	+3.7
	1.4nm,0.3s,baz=308,slow=7.4,SNR=14						
HKT	Hockley	14.17	8	Pn	Pn	17 02 13.2	+0.3
COVE	Coope Vega, Sa	14.30	109	Pn	Pn	17 02 15.8	+1.0
TXAR	Lajitas Array	14.34	340		Pn	17 02 13.8	-1.6
TXAR	Lajitas Array	14.34	340	Pn	Pn	17 02 16.3	+0.9
	baz=164,slow=16,SNR=16						
TXAR				LR	LR	17 08 23.5	
	comp=Z,1μm,18.3s,baz=148,slow=40						
	2.1nm,0.9s						
TX31	Lajitas Ar. Si	14.34	340	Pn	Pn	17 02 14.2	-1.1
TX32	Lajitas Array	14.34	340		Pn	17 02 11.1	-4.3
SAND	Sanderson	14.49	346	Pn	Pn	17 02 16.7	-0.7
JCT	Junction City	14.62	354	Pn	Pn	17 02 17.4	-1.8
435B	Jarrell	14.85	2	Pn	Pn	17 02 22.3	+0.1
435B	Jarrell	14.85	2	P	Pn	17 02 22.1	-0.1
	baz=181						
LCR2	La Lucha 2	15.05	112	Pn	Pn	17 02 24.7	-0.6
LCR2				IAmb	IAmb	17 02 31.0	
	comp=Z,48nm,1.1s						
RIMA	Rio Macho	15.17	112	Pn	Pn	17 02 26.2	-0.7
RIMA				IAmb	IAmb	17 02 32.5	
	comp=Z,52nm,1.0s						
OZNA	Ozona	15.23	350		Pn	17 02 25.4	-2.1
OZNA				IAmb	IAmb	17 02 30.9	
	comp=Z,4.0nm,0.8s						
ALPN	Alpine	15.29	342	Pn	Pn	17 02 27.8	-0.6
ALPN				IAmb	IAmb	17 02 35.6	
	comp=Z,6.8nm,0.9s						
BRDY	Brady	15.36	357	Pn	Pn	17 02 27.6	-1.5
BRDY				IAmb	IAmb	17 02 35.4	
	comp=Z,27nm,0.9s						
545A	Edgard	15.75	25		Pn	17 02 31.8	-2.4
MNHN	Monahans	15.97	345	Pn	Pn	17 02 37.1	+0.1
MNHN				IAmb	IAmb	17 02 42.9	
	comp=Z,25nm,0.8s						
WHTX	Lake Whitney,	16.06	2	P	Pn	17 02 38.0	-0.2
	baz=181,SNR=5.4						
425A	Indio Mountain	16.12	338	Pn	Pn	17 02 39.8	+0.8
NATX	Nacogdoches	16.13	11	P	Pn	17 02 38.5	-0.5
	baz=191						
237A	Washetta, Mont	16.19	7	Pn	Pn	17 02 39.7	-0.2
237A				IAmb	IAmb	17 02 44.3	
	comp=Z,88nm,1.0s						
SGCY	Sterling City	16.20	351	Pn	Pn	17 02 40.4	+0.3
SGCY				IAmb	IAmb	17 02 46.0	
	comp=Z,183nm,0.9s						
PECS	Pecos	16.29	342		Pn	17 02 42.8	+1.5
PECS				IAmb	IAmb	17 02 48.6	
	comp=Z,35nm,1.0s						
FW13	Cleburne	16.42	2	Pn	Pn	17 02 39.5	-3.3
FW13				IAmb	IAmb	17 02 46.8	
	comp=Z,56nm,0.9s						
ODSA	Odessa	16.67	347	Pn	Pn	17 02 44.7	-1.3
ODSA				IAmb	IAmb	17 02 52.7	
	comp=Z,27nm,1.0s						
ABTX	Abilene, Hawle	16.73	356		Pn	17 02 46.1	-0.8
ABTX				IAmb	IAmb	17 02 51.2	
	comp=Z,122nm,0.9s						
ABTX	Abilene, Hawle	16.73	356	P	Pn	17 02 46.9	0.0
	baz=174,SNR=22						
FW07	Weatherford	16.76	1	Pn	Pn	17 02 45.1	-2.0
FW07				IAmb	IAmb	17 02 50.9	
	comp=Z,58nm,1.1s						
PLPT	Palo Pinto	16.87	359	Pn	Pn	17 02 47.2	-1.3
PLPT				IAmb	IAmb	17 02 52.4	
	comp=Z,98nm,0.9s						
TREL	Terrell	16.88	6	Pn	Pn	17 02 47.9	-0.8
TREL				IAmb	IAmb	17 02 52.0	
	comp=Z,61nm,0.9s						
FW06	Azle	17.03	2	Pn	Pn	17 02 49.1	-1.4
FW06				IAmb	IAmb	17 02 58.1	
	comp=Z,57nm,0.8s						
MNTX	Cornudas Mount	17.09	339	Pn	Pn	17 02 50.6	-0.7
MNTX	Cornudas Mount	17.09	339	P	P	17 02 52.3	-0.7
	baz=154,SNR=9.7						
FW03	Perrin-Whitt E	17.09	0	Pn	Pn	17 02 49.6	-1.7
FW03				IAmb	IAmb	17 02 59.0	
	comp=Z,173nm,1.5s						
SN01	Snyder 1	17.10	352		Pn	17 02 51.0	-0.4
SN01				IAmb	IAmb	17 02 55.3	
	comp=Z,67nm,0.8s						
POST	Post	17.39	350		Pn	17 02 52.4	-2.7
POST				IAmb	IAmb	17 02 59.2	
	comp=Z,108nm,1.0s						
Z35A	Perchaven, San	17.40	2	Pn	Pn	17 02 53.8	-1.4
APMT	Aspermont	17.47	354		Pn	17 02 54.4	-1.7
APMT				IAmb	IAmb	17 03 03.4	
	comp=Z,169nm,1.9s						
Z38A	Mt. Pleasant	17.54	9	Pn	Pn	17 02 54.5	-2.4
VBMS	Vicksburg	17.68	22	P	Pn	17 02 56.8	-1.9
	baz=204						
WTFS	Witchita Falls	17.82	359		Pn	17 02 59.0	-1.4
WTFS				IAmb	IAmb	17 03 08.6	
	comp=Z,100nm,1.6s						
DKNS	Dickens	17.90	352		Pn	17 02 59.6	-1.8
DKNS				IAmb	IAmb	17 03 04.5	
	comp=Z,67nm,0.9s						
Z41A	Richland Creek	17.97	15		Pn	17 03 01.0	-1.2
LOOK	Love County	18.06	3		Pn	17 03 02.6	-0.7
BRAL	Brewton	18.28	32	P	Pn	17 03 04.1	-1.9
	baz=216						
319A	Douglas	18.49	329	P	Pn	17 03 10.1	+1.4
MSTX	Muleshoe	18.50	348	P	P	17 03 07.4	-1.4
MSTX	Muleshoe	18.50	348	P	P	17 03 08.7	-0.1
	baz=164,SNR=8.8						
146A	Union	18.61	25	P	P	17 03 09.4	-0.4
146A				IAmb	IAmb	17 03 14.4	
	comp=Z,236nm,1.8s						
X34A	Smith Ranch, M	18.65	1	P	P	17 03 09.2	-1.2
X34A				IAmb	IAmb	17 03 19.8	
	comp=Z,108nm,1.4s						
121A	Cookes Peak, D	18.76	334	P	Pn	17 03 14.0	+1.9
121A				IAmb	IAmb	17 03 21.6	
	comp=Z,

comp=Z,341nm,1.8s
PIX **Pinacate** 20.96 321 P P 17 03 35.5 0.0
PIX IAmb IAmb 17 03 44.6
comp=Z,70nm,1.5s
T35A **Sooner Cattle** 21.01 4 P P 17 03 34.0 -2.0
X48A **Hartselle** 21.01 26 P P 17 03 34.8 -1.3
LCAR **Lake Charles** 21.05 16 P P 17 03 35.9 -0.6
PLAL **Pickwick Lake** 21.06 24 P P 17 03 35.8 -0.8
PLAL IAmb IAmb 17 03 46.4
comp=Z,87nm,1.7s
X18A **Snowflake** 21.40 332 P P 17 03 41.3 +0.8
X18A IAmb IAmb 17 03 49.0
comp=Z,76nm,1.1s
W18A **Petrified Fore** 21.81 334 P P 17 03 46.4 +1.5
baz=147
MGMO **Mountain Grove** 21.82 13 P P 17 03 43.6 -1.2
MGMO IAmb IAmb 17 03 55.3
comp=Z,82nm,1.2s
T25A **Trinidad** 21.90 346 P P 17 03 46.2 +0.3
baz=162,SNR=44
GOGA **Godfrey** 21.92 35 P P 17 03 44.2 -1.7
baz=220,SNR=7.8
Y52A **Lilburn** 21.95 33 IAmb IAmb 17 03 51.2
comp=Z,39nm,0.9s
T42A **Van Buren** 21.98 15 IAmb IAmb 17 03 49.4
comp=Z,38nm,0.8s
113A **Mohawk Valley,** 22.00 323 IAmb IAmb 17 03 54.9
comp=Z,76nm,1.5s
X16A **Lo Mia Camp, P** 22.01 329 IAmb IAmb 17 03 56.0
comp=Z,48nm,1.0s
X51A **Calhoun** 22.11 30 IAmb IAmb 17 03 52.4
comp=Z,66nm,1.4s
SWET **Sewanee** 22.14 27 IAmb IAmb 17 03 55.0
comp=Z,44nm,1.1s
V48A **Smith Brothers** 22.21 25 IAmb IAmb 17 03 55.9
comp=Z,79nm,1.4s
W50A **Signal Mountai** 22.41 28 IAmb IAmb 17 03 55.7
comp=Z,37nm,1.1s
R32A **Long Quarter,** 22.47 359 IAmb IAmb 17 04 00.3
comp=Z,40nm,0.9s
CGM3 **Cape Girardeau** 22.62 18 IAmb IAmb 17 03 55.2
comp=Z,43nm,1.1s
CLTN **Cedars of Leba** 22.72 25 IAmb IAmb 17 04 03.4
comp=Z,86nm,1.8s
SDCO **Great Sand Dun** 22.74 345 P P 17 03 55.5 +0.6
SDCO IAmb IAmb 17 04 05.9
comp=Z,54nm,1.5s
SDCO **Great Sand Dun** 22.74 345 P P 17 03 55.1 +0.2
baz=160,SNR=30
WUAZ **Wupatki** 22.87 331 P P 17 03 58.0 +1.8
baz=144,SNR=38
CBKS **Cedar Bluff** 22.90 357 P P 17 03 55.4 -0.9
baz=175
CCM **Cathedral Cave** 22.92 14 P P 17 03 56.0 -0.4
CCM IAmb IAmb 17 03 58.0
comp=Z,45nm,1.0s
CCM **Cathedral Cave** 22.92 14 P P 17 03 54.9 -1.5
baz=196
W52A **Murphy** 22.98 31 IAmb IAmb 17 04 01.9
comp=Z,52nm,1.0s
FVM **French Village** 23.05 16 IAmb IAmb 17 03 59.1
comp=Z,52nm,1.1s
S22A **4UR Ranch, Cre** 23.11 342 P P 17 03 59.5 +0.7
baz=157,SNR=29
S44A **Carbondale** 23.11 18 IAmb IAmb 17 03 59.9
comp=Z,61nm,1.1s
SIUC **Southern Illin** 23.14 18 IAmb IAmb 17 04 00.1
comp=Z,61nm,1.1s
MVCO **Mesa Verde** 23.16 339 P P 17 04 00.1 +0.9
baz=153,SNR=20
KSU1 **Kansas State U** 23.18 3 IAmb IAmb 17 04 00.7
comp=Z,28nm,0.7s
T47A **Sharon Grove** 23.19 23 P P 17 03 57.6 -1.7
T47A IAmb IAmb 17 04 20.6
comp=Z,26nm,0.9s
HODGE **Hodges** 23.20 35 IAmb IAmb 17 04 05.6
comp=Z,25nm,0.9s
U49A **Red Boiling Sp** 23.31 26 IAmb IAmb 17 04 00.9
comp=Z,29nm,0.9s
PDMCI **Parker Dam,Lak** 23.33 325 P P 17 04 02.3 +1.6
baz=137
IKP **In-Ko-Pah, Jac** 23.34 319 P P 17 04 02.9 +1.9
baz=130
SWSC **Sam W. Stewart** 23.35 320 P P 17 04 02.9 +2.0
baz=131
KSCO **Kaye Shedlock'** 23.39 351 IAmb IAmb 17 04 03.1
comp=Z,53nm,0.9s
KSCO **Kaye Shedlock'** 23.39 351 P P 17 04 01.2 -0.2
baz=168
TKL **Tuckaleechee C** 23.51 30 IAmb IAmb 17 04 07.1
comp=Z,92nm,1.8s
UREC **San Jos de Ur** 23.52 107 eP P 17 04 04.0 +1.2
BC3 **Big Chuckawall** 23.62 322 P P 17 04 05.3 +1.5
baz=133
NHSC **New Hope** 23.63 40 P P 17 04 01.9 -1.7
NHSC **New Hope** 23.63 40 P P 17 04 01.2 -2.5
baz=226
MONP2 **Monument Peak** 23.70 319 P P 17 04 05.7 +1.1
baz=130
SLM **Saint Louis** 23.71 16 IAmb IAmb 17 04 05.8
comp=Z,38nm,0.8s
W13A **Hualapai Mount** 23.79 326 IAmb IAmb 17 04 14.0
comp=Z,68nm,1.7s
IRM **Iron Mountain** 23.80 323 P P 17 04 07.7 +2.3
baz=134,SNR=11
JSC **Jenkinsville** 23.80 37 IAmb IAmb 17 04 06.6
comp=Z,30nm,1.1s
PAULI **Pauline** 23.88 35 IAmb IAmb 17 04 09.6
comp=Z,49nm,1.4s
V53A **Saluda** 24.00 32 IAmb IAmb 17 04 13.0
comp=Z,35nm,1.3s
P38A **Dawn** 24.00 9 IAmb IAmb 17 04 08.1
comp=Z,62nm,1.1s
PLMC **San Jos del P** 24.06 115 eP P 17 04 07.5 -0.6
PMD **Palm Desert** 24.18 320 P P 17 04 10.9 +2.0
PMD IAmb IAmb 17 04 17.3
comp=Z,35nm,1.4s
BELC **Belle Mtn. Jos** 24.19 322 P P 17 04 11.0 +1.8
baz=133
TPFO **Pinon Flats** 24.20 320 P P 17 04 11.0 +1.7
baz=131
PFO **Pinyon Flats O** 24.20 320 P P 17 04 11.2 +1.9
baz=131
PFO **Pinyon Flats O** 24.20 320 LR LR 17 14 37.1
comp=Z,745nm,19.3s,baz=129,slow=39
ZARC **Zaragoza, Cauc** 24.24 107 eP P 17 04 11.6 +1.8
Q44A **Meyer Farm, Va** 24.30 17 IAmb IAmb 17 04 31.3
comp=Z,49nm,1.0s
TZTN **Tazewell** 24.33 29 IAmb IAmb 17 04 11.5
comp=Z,32nm,1.1s
TZTN **Tazewell** 24.33 29 P P 17 04 08.7 -1.7
baz=216,SNR=5.9
KMSC **Kings Mountain** 24.38 35 IAmb IAmb 17 04 12.3
comp=Z,35nm,0.9s
KMSC **Kings Mountain** 24.38 35 P P 17 04 09.1 -1.7
baz=222,SNR=10
OLIL **Olney** 24.42 19 IAmb IAmb 17 04 11.7
comp=Z,34nm,0.9s
BIRD **Birdtown, Kers** 24.52 37 IAmb IAmb 17 04 13.4
comp=Z,53nm,1.1s
GMRC **Granite Mounta** 24.54 323 P P 17 04 14.6 +2.1
baz=135
JAMC **Jamundi, Valle** 24.57 119 eP P 17 04 16.0 +3.0
WCI **Wyandotte Cave** 24.59 23 P P 17 04 10.6 -2.1
WCI IAmb IAmb 17 04 13.3
comp=Z,35nm,0.8s
WCI **Wyandotte Cave** 24.59 23 P P 17 04 11.6 -1.1
baz=208
MURC **Murrieta** 24.65 319 P P 17 04 15.3 +1.9
baz=130
ISCO **Idaho Springs** 24.72 346 IAmb IAmb 17 04 21.7
comp=Z,37nm,0.9s
ISCO **Idaho Springs** 24.72 346 P P 17 04 14.9 +0.7
baz=162,SNR=32
GUY2C **Guyana, Caldas** 24.72 113 eP P 17 04 18.5 +3.9
BBAC **Balboa, Cauca** 24.75 122 eP P 17 04 17.8 +3.1
KNB **Kanab** 24.77 331 IAmb IAmb 17 04 40.1
comp=Z,47nm,1.3s
OTAV **Otavalo** 24.87 127 P P 17 04 17.6 +1.7
OTAV **Otavalo** 24.87 127 eP P 17 04 19.1 +3.2
PKCU **Pink Cliffs** 24.88 332 IAmb IAmb 17 04 26.9
comp=Z,31nm,1.1s
HEC **Hector,Ludlow** 24.96 322 P P 17 04 17.3 +1.1
baz=133,SNR=6.9
V55A **Taylorsville** 24.97 34 IAmb IAmb 17 04 22.0
comp=Z,59nm,1.4s
PTBC **PUERTO BERRIO,** 24.98 109 eP P 17 04 18.3 +1.9

NORC **Norcasia** 25.01 112 eP P 17 04 20.4 +3.6
R49A **Shelbyville** 25.08 25 IAmb IAmb 17 04 18.1
comp=Z,30nm,1.2s
TUQ **Turquoise Moun** 25.16 324 P P 17 04 19.9 +1.9
baz=135,SNR=13
S51A **Beattyville** 25.20 28 IAmb IAmb 17 04 19.6
comp=Z,25nm,0.8s
OGNE **Ogallala** 25.21 353 P P 17 04 16.8 -1.6
baz=170,SNR=5.6
CIS **Catalina Islan** 25.31 317 P P 17 04 21.4 +2.1
baz=128
MTPU **Mount Pierson** 25.33 333 IAmb IAmb 17 04 29.8
comp=Z,37nm,0.8s
BLO **Bloomington** 25.34 21 IAmb IAmb 17 04 20.8
comp=Z,41nm,1.1s
SZCU **Shurtz Canyon** 25.36 331 IAmb IAmb 17 04 30.7
comp=Z,34nm,1.3s
BFSC **Mount Baldy Ra** 25.36 320 P P 17 04 21.4 +1.5
baz=130
R50A **Paris** 25.42 26 IAmb IAmb 17 04 20.9
comp=Z,18nm,0.9s
ORTC **Ortega, Tolima** 25.45 115 eP P 17 04 23.1 +2.4
GSC **Goldstone, Bar** 25.57 323 P P 17 04 23.7 +2.0
baz=133
O20A **White River Ci** 25.73 342 IAmb IAmb 17 04 32.5
comp=Z,41nm,1.0s
O20A **White River Ci** 25.73 342 P P 17 04 24.7 +1.5
baz=156,SNR=26
HDIL **Hopedale** 25.76 16 P P 17 04 22.5 -0.8
baz=199
U56A **King** 25.79 34 IAmb IAmb 17 04 25.4
comp=Z,28nm,1.1s
DECC **Green Verdugo** 25.80 319 P P 17 04 26.5 +2.8
baz=129
ROSC **El Rosal** 25.82 113⇓ eP P 17 04 20.4 -4.1
N23A **Red Feather La** 25.84 346 IAmb IAmb 17 04 33.3
comp=Z,33nm,1.1s
N23A **Red Feather La** 25.84 346 P P 17 04 25.0 +0.8
baz=162,SNR=16
SNCC **San Nicolas Is** 25.95 316 P P 17 04 27.3 +2.2
baz=126
EDW2 **Edwards Air Fo** 25.99 320 P P 17 04 27.8 +2.3
baz=131
GWY **Greenwater Val** 26.12 324 IAmb IAmb 17 04 36.5
comp=Z,64nm,1.9s
BARC **Barichara** 26.12 108 eP P 17 04 30.0 +3.0
LRMC **Laurel Mtn Rad** 26.21 322 P P 17 04 29.9 +2.4
baz=132
SFIN **Lafayette** 26.24 19 IAmb IAmb 17 04 29.4
comp=Z,38nm,1.1s
SFIN **Lafayette** 26.24 19 P P 17 04 26.4 -1.1
baz=204,SNR=5.9
PAMC **Pamplona, Colo** 26.29 106 eP P 17 04 31.5 +2.7
SCIA **State Center** 26.29 8 P P 17 04 27.9 -0.1
baz=190
P49A **Miami Univ. Ec** 26.33 24 P P 17 04 27.4 -1.0
baz=210,SNR=11
BLA **Blacksburg** 26.42 33 P P 17 04 28.2 -1.1
baz=221
CHIC **Chingaza** 26.44 112 eP P 17 04 37.8 +7.7
TPNV **Topopah Spring** 26.44 326 P P 17 04 31.4 +1.7
baz=137,SNR=8.0
Q51A **Peebles** 26.46 26 IAmb IAmb 17 04 31.7
comp=Z,34nm,0.9s
SCZ2 **Santa Cruz Isl** 26.47 317 P P 17 04 33.2 +3.4
baz=127
RUSC **La Rusia** 26.48 109 eP P 17 04 33.0 +2.4
MPMC **Manual Prospec** 26.49 323 P P 17 04 32.8 +2.5
baz=133
R53A **Hurricane** 26.52 29 IAmb IAmb 17 04 34.9
comp=Z,62nm,1.4s
ARVC **Arvin** 26.67 320 P P 17 04 34.0 +2.4
baz=130
L40A **Anamosa** 26.77 11 IAmb IAmb 17 04 34.7
comp=Z,22nm,0.8s
O48B **Farmland** 26.79 22 IAmb IAmb 17 04 32.9
comp=Z,32nm,0.8s
O48B **Farmland** 26.79 22 P P 17 04 31.3 -1.3
baz=208,SNR=6.8
SBC **Santa Barbara** 26.80 318 P P 17 04 35.9 +3.1
baz=127
ISA **Isabella, Lake** 26.81 321 P P 17 04 35.5 +2.6
baz=131
Q52A **Bidwell** 26.88 28 IAmb IAmb 17 04 41.2
comp=Z,34nm,0.9s
T57A **Hurt** 26.89 35 IAmb IAmb 17 04 36.5
comp=Z,28nm,0.9s
NLU **North Lily Min** 26.90 336 IAmb IAmb 17 04 43.7
comp=Z,61nm,1.6s
P51A **Williamsport** 26.96 26 IAmb IAmb 17 04 43.4
comp=Z,42nm,1.2s
L42A **Oliver, Polo** 27.04 14 IAmb IAmb 17 04 37.3
comp=Z,41nm,1.1s
O49A **Covington** 27.04 24 IAmb IAmb 17 04 44.9
comp=Z,25nm,0.9s
SPR3 **Spring Creek 3** 27.07 331 IAmb IAmb 17 04 43.8
comp=Z,53nm,1.7s
GRAC **Grapevine Rang** 27.09 325 P P 17 04 37.0 +1.6
baz=135
CWC **Cottonwood Cre** 27.10 323 P P 17 04 37.5 +1.9
baz=133
PKM **Mcpherson Peak** 27.14 318 P P 17 04 37.7 +1.7
baz=128
N47A **Urbana** 27.15 21 IAmb IAmb 17 04 37.9
comp=Z,42nm,0.9s
R11B **Troy Canyon, C** 27.16 329 P P 17 04 37.6 +1.5
baz=140
VES **Vestal, Richgr** 27.30 321 P P 17 04 39.1 +1.9
baz=130
R55A **Marlinton** 27.38 32 IAmb IAmb 17 04 46.3
comp=Z,32nm,1.1s
DUG **Dugway, Tooele** 27.40 335 P P 17 04 39.2 +0.9
baz=147,SNR=7.9
TAMC **Tame, Arauca** 27.45 107 eP P 17 04 41.8 +3.0
P52A **Corning** 27.49 27 IAmb IAmb 17 04 46.9
comp=Z,20nm,1.1s
P52A **Corning** 27.49 27 P P 17 04 38.0 -0.9
baz=215
Q54A **Coxs Mills** 27.57 30 IAmb IAmb 17 04 47.7
comp=Z,41nm,1.4s
S57A **Dark Hollow, R** 27.61 34 IAmb IAmb 17 04 41.5
comp=Z,25nm,0.9s
K22A **Casper** 27.64 347 P P 17 04 40.9 +0.5
baz=161
L44A **Lake County Fo** 27.65 17 P P 17 04 38.2 -2.1
baz=201
TCUT **Toone Canyon** 27.66 338 IAmb IAmb 17 04 50.8
comp=Z,58nm,1.5s
SDV **Santo Domingo** 27.72 101 LR LR 17 16 40.8
comp=Z,299nm,18.3s,baz=322,slow=39
JFWS **Jewell Farm** 27.78 12 IAmb IAmb 17 04 46.7
comp=Z,19nm,0.9s
JFWS **Jewell Farm** 27.78 12 P P 17 04 40.2 -1.2
baz=196
ECSD **EROS Data Cent** 27.80 2 P P 17 04 41.8 +0.2
baz=182
T59A **Double "B" Far** 27.83 37 IAmb IAmb 17 04 43.3
comp=Z,21nm,0.9s
HWUT **Hardware Ranch** 28.15 338 IAmb IAmb 17 04 53.8
comp=Z,25nm,1.4s
O53A **New Philadelph** 28.40 28 P P 17 04 45.8 -1.3
baz=216
OMMB **Old Mammoth Mi** 28.45 324 IAmb IAmb 17 04 57.1
comp=Z,26nm,1.5s
L48A **N Adams** 28.53 22 IAmb IAmb 17 04 48.4
comp=Z,14nm,0.8s
BW06 **Boulder Array** 28.54 342 IAmb IAmb 17 05 03.2
comp=Z,20nm,1.2s
BW06 **Boulder Array** 28.54 342 P P 17 04 49.0 +0.5
baz=156
PDAR **Pinedale Array** 28.54 342 P P 17 04 48.6 +0.2
comp=Z,2.4nm,0.8s,baz=141,slow=9.6,SNR=14
PDAR LR LR 17 16 31.0
comp=Z,683nm,18.2s,baz=166,slow=37
comp=Z,2.4nm,0.8s
NV11 **Mina Array Sit** 28.55 326 IAmb IAmb 17 04 58.2
comp=Z,31nm,1.4s
MCWV **Mont Chateau** 28.57 30 P P 17 04 46.4 -2.2
baz=219
RSSD **Black Hills** 28.60 351 P P 17 04 49.0 0.0
baz=167
NVAR **Mina Array Bea** 28.63 326 P P 17 04 51.9 +2.5
comp=Z,5.7nm,0.9s,baz=155,slow=10,SNR=32
NVAR PcP PcP 17 08 01.9 +1.5
comp=Z,0.7nm,0.6s,baz=150,slow=4.2,SNR=3.9
NVAR LR LR 17 17 33.6
comp=Z,562nm,20.3s,baz=138,slow=39
comp=Z,5.7nm,0.9s

ID10 **Lander Cutoff** 28.73 340 IAmb IAmb 17 04 58.5
comp=Z,50nm,2.0s
ELK **Elko** 28.89 332 IAmb IAmb 17 05 00.9
comp=Z,39nm,1.7s
KVN **Kaiserville** 28.98 327 IAmb IAmb 17 05 01.7
comp=Z,33nm,1.8s
AHID **Auburn Hatcher** 29.02 340 IAmb IAmb 17 05 01.0
comp=Z,47nm,1.9s
ID05 **Sulphur Canyon** 29.03 339 IAmb IAmb 17 05 57.9
comp=Z,11nm,0.6s
ID07 **Smith Canyon R** 29.14 339 IAmb IAmb 17 05 02.7
comp=Z,46nm,1.7s
SNOW **Snow King Moun** 29.53 341 IAmb IAmb 17 05 18.3
comp=Z,30nm,1.3s
SPMN **Marine on St.** 29.60 8 P P 17 04 57.1 -0.5
baz=190
TPAW **Teton Pass** 29.62 341 IAmb IAmb 17 05 11.6
comp=Z,61nm,1.9s
EMB **Emerald Bay** 30.01 324 IAmb IAmb 17 05 11.3
comp=Z,33nm,1.3s
ATAH **Atahualpa** 30.07 138 LR LR 17 14 48.3
comp=Z,241nm,18.7s,baz=316,slow=32
PAHR **Pah Rah Range** 30.14 326 IAmb IAmb 17 05 10.9
comp=Z,36nm,1.9s
MPK **Martis Peak** 30.20 325 IAmb IAmb 17 05 13.0
comp=Z,18nm,1.0s
SSPA **Standing Stone** 30.29 31 P P 17 05 01.7 -2.1
baz=221
ERPA **Erie** 30.45 27 P P 17 05 03.5 -1.7
baz=216
RLMT **Red Lodge** 30.63 344 IAmb IAmb 17 05 16.5
comp=Z,20nm,1.2s
RLMT **Red Lodge** 30.63 344 P P 17 05 08.0 +0.9
baz=158
HLID **Hailey** 30.89 337 IAmb IAmb 17 05 18.1
comp=Z,22nm,1.7s
HLID **Hailey** 30.89 337 P P 17 05 10.6 +1.3
baz=147
BOZ **Bozeman (W)** 31.73 342 IAmb IAmb 17 05 26.6
comp=Z,34nm,1.8s
BOZ **Bozeman (W)** 31.73 342 P P 17 05 17.8 +1.1
baz=154
BINY **Binghamton** 32.41 32 P P 17 05 21.2 -1.2
baz=222
J08A **Circle Bar Ran** 32.43 332 IAmb IAmb 17 05 25.9
comp=Z,22nm,0.9s
EYMN **Ely** 32.45 8 P P 17 05 22.2 -0.6
baz=191
PAL **Palisades** 32.66 35 P P 17 05 22.9 -1.7
baz=227
SADO **Sadowa** 32.97 25 LR LR 17 21 37.9
comp=Z,212nm,19.5s,baz=188,slow=42
PCRV **Puerto La Cruz** 33.09 96 LR LR 17 21 03.1
comp=Z,220nm,18.0s,slow=40
BMO **Blue Mountains** 33.12 335 IAmb IAmb 17 05 36.7
comp=Z,26nm,1.5s
CHMT **Chamberlain Mo** 33.41 341 P P 17 05 30.4 -0.9
EGMT **Eagleton** 33.46 346 P P 17 05 32.3 +0.6
baz=159
MSO **Missoula** 33.55 340 IAmb IAmb 17 05 34.3
comp=Z,11nm,1.1s
MSO **Missoula** 33.55 340 P P 17 05 33.4 +0.9
baz=151
F10A **Beach Ranch, E** 34.00 336 P P 17 05 36.6 +0.2
F10A IAmb IAmb 17 05 43.6
comp=Z,22nm,1.1s
L61B **Northampton** 34.31 34 P P 17 05 37.2 -1.9
baz=227
ULM **Lac du Bonnet** 34.34 3 P P 17 05 39.0 -0.1
comp=Z,5.7nm,0.8s,baz=178,slow=12,SNR=2.8
ULM LR LR 17 20 12.2
comp=Z,232nm,18.8s,baz=110,slow=37
comp=Z,5.7nm,0.8s
CZSB **Cruzeiro do Su** 34.41 131 P P 17 05 40.6 +0.4
NNA **Nana** 34.78 141 LR LR 17 17 11.0
comp=Z,232nm,20.1s,baz=334,slow=32
LONY **Lake Ozonia** 34.88 30 P P 17 05 42.7 -1.3
baz=222
HRV **Adam Dziewonsk** 34.97 35 P P 17 05 43.1 -1.6
baz=228
HOOD **Mount Hood Mea** 35.40 331 P P 17 05 49.0 +0.5
NEW **Newport** 35.88 338 P P 17 05 53.2 +0.7
NEW **Newport** 35.88 338 P P 17 05 53.8 +1.3
baz=147
C09A **Chrisman Ranch** 35.92 337 P P 17 05 53.9 +1.1
LBNH **Lisbon** 35.94 33 P P 17 05 51.2 -1.9
baz=226
LTY **Liberty** 36.44 334 P P 17 05 57.5 0.0
ETMB **Extrema** 40.62 127 P P 17 06 33.2 +0.4
ETMB IAmb IAmb 17 06 40.7
comp=Z,22nm,1.1s
SAML **Samuel** 42.49 123 P P 17 06 47.0 -1.2
LPAZ **La Paz** 43.56 136 P P 17 06 57.7 +0.2
LPAZ **La Paz** 43.56 136 P P 17 06 58.8 +1.3
comp=Z,2.4nm,0.8s,baz=335,slow=6.3,SNR=5.4
comp=Z,2.4nm,0.8s
RPN **Rapa Nui** 44.11 194 LR LR 17 19 28.5
comp=Z,32nm,18.1s,baz=9.5,slow=28
PB16 **IPOC Station P** 44.16 139 P P 17 07 04.5 +2.2
SCHQ **Schefferville** 45.77 25 P P 17 07 13.3 -0.8
comp=Z,11nm,0.9s,baz=339,slow=2.9,SNR=4.5
SCHQ LR LR 17 31 50.1
comp=Z,244nm,18.1s,baz=244,slow=43
comp=Z,11nm,0.9s
MDP **Montagnes des** 45.89 98 LR LR 17 26 58.9
comp=Z,110nm,18.6s,baz=260,slow=37
T35M **Bob Quinn** 47.65 337 P P 17 07 30.1 +1.4
baz=136
LVC **Limon Verde** 47.76 142 LR LR 17 23 21.6
comp=Z,105nm,20.7s,baz=336,slow=31
YKA **Yellowknife Ar** 47.99 350 P P 17 07 30.5 -0.8
comp=Z,5.8nm,0.9s,baz=158,slow=7.5,SNR=11
comp=Z,5.8nm,0.9s
KOTAN **Kotaneelee Air** 48.05 343 P P 17 07 33.0 +1.3
baz=145
TAOE **Nuku Hiva Isla** 48.32 242 eLR LR 17 21 23.1
comp=Z,112nm,19.5s
TAOE **Nuku Hiva Isla** 48.32 242 eT T 17 59 11.4
comp=Z,58nm,0.2s
SIV **San Ignacio** 48.38 129 LR LR 17 26 51.9
comp=Z,125nm,18.5s,baz=301,slow=35
DLBC **Dease Lake** 48.63 338 P P 17 07 36.1 -0.2
DLBC **Dease Lake** 48.63 338 P P 17 07 38.3 +2.0
baz=137,SNR=5.3
DLBC **Dease Lake** 48.63 338 LR LR 17 27 38.6
comp=Z,1μm,19.2s,baz=126,slow=36
R33M **Jennings River** 49.67 339 P P 17 07 46.8 +2.5
baz=136,SNR=5.9
S32K **Killisnoo** 49.69 335 P P 17 07 45.5 +1.2
baz=131
Q32M **Nakina River** 49.82 338 P P 17 07 46.0 +0.4
baz=134
TGTN **Hyland Airport** 50.40 342 P P 17 07 51.9 +2.1
baz=141,SNR=6.9
WRGLY **Wrigley** 50.49 345 P P 17 07 51.1 +0.8
baz=147
S31K **Pelican** 50.68 335 P P 17 07 54.2 +2.3
baz=129
P32M **Atlin** 50.79 338 P P 17 07 54.6 +1.9
baz=133
P33M **Teslin, Yukon** 50.91 339 P P 17 07 54.4 +0.8
P33M **Teslin, Yukon** 50.91 339 P P 17 07 55.7 +2.1
baz=134
SKAG **Skagway** 51.31 337 P P 17 07 57.3 +0.7
baz=131
N32M **Quiet Lake** 51.67 339 P P 17 08 01.1 +1.8
baz=135
PLBC **Pleasant Camp** 51.70 336 P P 17 08 01.1 +1.6
baz=130
WHY **Whitehorse** 51.95 338 P P 17 08 02.7 +1.2
baz=132
FRB **Frobisher Bay** 52.00 16 LR LR 17 31 27.4
comp=Z,80nm,18.9s,baz=206,slow=38
MMPY **Sheldon Lake,** 52.15 341 IAmb IAmb 17 08 06.0
comp=Z,23nm,1.0s
MMPY **Sheldon Lake,** 52.15 341 P P 17 08 05.2 +2.3
baz=138,SNR=10
H03N2 **Juan Fernandez** 52.35 160 T T 18 04 28.3
baz=338,slow=77,SNR=2544
P29M **Windy Craggy** 52.35 336 P P 17 08 06.8 +2.4
baz=129
H03N1 **Juan Fernandez** 52.36 160 T T 18 04 29.4
baz=338,slow=77,SNR=3041
P30M **Million Dollar** 52.37 337 P P 17 08 06.8 +2.3
baz=130
H03N3 **Juan Fernandez** 52.37 160 T T 18 04 28.4
baz=338,slow=77,SNR=2719
O30N **Mendenhall** 52.47 338 P P 17 08 07.2 +1.9

	baz=131					
FARO	Faro, Yukon	52.53 340	P	P	17 08 07.4	+1.7
	baz=135					
N31M	Braeburn, Yuko	52.84 338	P	P	17 08 09.8	+1.8
	baz=132,SNR=6.1					
M31M	Drury Creek, Y	52.85 340	P	P	17 08 09.7	+1.6
	baz=134					
HYT	Haines Junctio	53.03 337	P	P	17 08 10.8	+1.3
	baz=130					
PNL	Peninsula	53.04 335	P	P	17 08 11.4	+2.0
	baz=127					
O29M	Mount Kennedy	53.10 336	P	P	17 08 12.1	+2.0
	baz=128					
N30M	Aishikik Lake	53.29 338	P	P	17 08 13.3	+2.0
	baz=130					
YUK6	Outpost Mounta	53.42 337	P	P	17 08 14.3	+1.7
	baz=129					
PINM	Pinnacle	53.64 335	P	P	17 08 15.6	+1.6
	baz=126					
YUK4	Talbot Arm	53.79 337	P	P	17 08 16.3	+1.1
	baz=129					
M30M	Minto, Yukon	53.93 339	P	P	17 08 15.5	-0.5
M30M			IAmb	IAmb	17 08 18.3	
	comp=Z,9.2nm,1.0s					
M30M	Minto, Yukon	53.93 339	P	P	17 08 17.6	+1.6
	baz=131					
O28M	Mount Upton	54.02 336	P	P	17 08 18.3	+1.3
	baz=127					
YUK8	Steele Glacier	54.17 337	P	P	17 08 19.7	+1.7
	baz=127,SNR=6.5					
MAYO	Mayo, Yukon	54.32 340	P	P	17 08 20.5	+1.7
	baz=133					
MESA	MESA	54.38 335	P	P	17 08 20.6	+1.2
	baz=124					
M29M	Somme Creek	54.42 338	P	P	17 08 20.9	+1.2
M29M			IAmb	IAmb	17 08 23.1	
	comp=Z,14nm,0.9s					
M29M	Somme Creek	54.42 338	P	P	17 08 21.1	+1.4
	baz=129,SNR=9.4					
CTG	Chitna Glacier	54.59 336	P	P	17 08 22.9	+2.0
	baz=126					
YUK3	Moose Creek	54.74 337	P	P	17 08 23.7	+1.6
	baz=127					
L29M	L29M	54.74 339	P	P	17 08 23.8	+1.9
	baz=130,SNR=13					
K29M	Barlow Dome	55.02 340	P	P	17 08 25.4	+1.3
	baz=131					
J30M	Hart River	55.13 341	P	P	17 08 26.1	+1.3
	baz=133					
CRQE	Cirque	55.17 335	P	P	17 08 26.8	+1.7
	baz=124					
BVCY	Beaver Creek	55.27 337	P	P	17 08 27.0	+1.2
	baz=127					
H31M	Peel River	55.41 343	P	P	17 08 28.1	+1.4
	baz=136					
MCARA	McCarthy VSAT	55.50 336	P	P	17 08 27.6	+0.2
MCARA	McCarthy VSAT	55.50 336	P	P	17 08 29.5	+2.1
	baz=124					
I30M	Mount Dempster	55.60 342	P	P	17 08 29.4	+1.3
	baz=133					
M27K	Edge Creek, AK	55.62 337	P	P	17 08 30.2	+1.8
	baz=126					
J29N	Klondike Camp	55.65 340	P	P	17 08 29.4	+0.9
	baz=131					
DAWY	Dawson	55.79 339	P	P	17 08 30.1	+0.7
DAWY	Dawson	55.79 339	P	P	17 08 30.9	+1.4
	baz=129					
GLB	Gilahina Butte	55.84 335	IAmb	IAmb	17 08 32.6	
	comp=Z,17nm,1.0s					
BMRM	Bremner River	55.91 335	P	P	17 08 31.9	+1.5
	baz=122					
BCAR	Beaver Creek A	56.01 338	P	P	17 08 32.8	+1.8
L27K	Beaver Creek,	56.02 338	P	P	17 08 32.7	+1.5
	baz=126,SNR=6.5					
M26K	Nabesna, AK	56.07 337	IAmb	IAmb	17 08 40.6	
	comp=Z,21nm,1.3s					
M26K	Nabesna, AK	56.07 337	P	P	17 08 33.6	+2.1
	baz=124,SNR=6.9					
EYAK	Cordova Ski Ar	56.16 334	P	P	17 08 33.7	+1.7
	baz=121					
G31M	Satah River	56.21 344	P	P	17 08 33.4	+1.1
	baz=136					
N25K	Chitina, Valde	56.25 335	P	P	17 08 34.4	+1.6
	baz=122					
I29M	Ogilvie Camp,	56.29 341	P	P	17 08 34.3	+1.3
	baz=131					
F31M	Tsiigehtchic	56.45 344	P	P	17 08 34.3	+0.3
	baz=137					
EPYK	Eagle Plains	56.50 342	P	P	17 08 34.5	+0.1
	baz=133					
L26K	Log Cabin Wild	56.56 337	P	P	17 08 35.8	+0.9
	baz=124					
P23K	Montague Islan	56.60 333	P	P	17 08 36.8	+1.6
	baz=118					
MENT	Mentasta	56.65 337	P	P	17 08 36.7	+1.1
K27K	Chicken	56.69 339	P	P	17 08 37.7	+1.9
	baz=126					
KLU	Klutina	56.73 335	P	P	17 08 37.6	+1.4
	baz=121					
I28M	Miner Creek	56.86 341	P	P	17 08 37.8	+0.6
	baz=129					
H29M	Whitestone	56.88 342	P	P	17 08 37.9	+0.7
	baz=132					
GLI	Glacier Island	56.90 334	P	P	17 08 38.5	+1.1
	baz=119					
HARP	HAARP	56.90 336	P	P	17 08 38.5	+1.1
	baz=122					
INK	Inuvik	57.04 345	IAmb	IAmb	17 08 40.0	
	comp=Z,20nm,1.1s					
INK	Inuvik	57.04 345	P	P	17 08 38.7	+0.5
	baz=138,SNR=8.0					
INK	Inuvik	57.04 345	LR	LR	17 36 26.5	
	comp=Z,402nm,19.0s,baz=178,slow=40					
F30M	Barrier River	57.12 344	P	P	17 08 39.4	+0.6
	baz=135					
M24K	Tolsona, Glenn	57.15 335	P	P	17 08 40.2	+1.0
	baz=121					
G29M	Pine Creek	57.25 342	P	P	17 08 40.8	+1.0
	baz=132					
PAX	Paxson	57.34 336	P	P	17 08 41.8	+1.3
	baz=122,SNR=6.2					
SCRK	Sand Creek	57.34 338	P	P	17 08 41.9	+1.3
	baz=124,SNR=6.8					
SCM	Sheep Creek Mo	57.48 335	P	P	17 08 43.4	+1.9
	baz=120					
J26L	Joseph Creek	57.50 339	P	P	17 08 42.9	+1.3
	baz=125,SNR=14					
I27K	Kandik River	57.50 340	P	P	17 08 42.3	+0.7
	baz=128					
RIDG	Independent Ri	57.52 337	P	P	17 08 43.3	+1.5
	baz=123					
SEW	Seward	57.55 332	P	P	17 08 43.8	+1.8
	baz=116					
M23K	Glacier View	57.62 335	P	P	17 08 43.9	+1.4
	baz=119					
CPUP	Villa Florida	57.73 136	LR	LR	17 32 51.0	
	comp=Z,98nm,19.2s,baz=9.5,slow=35					
KNK	Knik Glacier	57.74 334	P	P	17 08 45.2	+1.9
	baz=118					
I26K	Coal Creek Min	57.83 339	P	P	17 08 44.7	+0.8
	baz=126					
H27K	Steamboat Moun	57.87 341	P	P	17 08 44.8	+0.7
	baz=128					
SML	Sawmill	57.88 334	P	P	17 08 45.7	+1.4
	baz=119					
K24K	Donnelly Dome	57.91 337	P	P	17 08 45.4	+0.9
	baz=122					
BRSE	Bradley Lake S	57.97 332	P	P	17 08 46.5	+1.5
	baz=115					
WAT6	Susitna Watana	58.02 335	P	P	17 08 46.7	+1.2
	baz=120,SNR=6.2					
KDAK	Kodiak Island	58.05 329	P	P	17 08 47.2	+1.7
	baz=112					
KDAK	Kodiak Island	58.05 329	LR	LR	17 34 06.3	
	comp=Z,123nm,18.4s,baz=140,slow=36					
PMR	Palmer	58.11 334	P	P	17 08 46.9	+1.1
	baz=118					
DHY	Denali Highway	58.13 336	P	P	17 08 47.3	+1.1
	baz=120					
RC01	Rabbit Creek A	58.13 333	P	P	17 08 47.2	+1.2
	baz=117					
J25K	Salcha River,	58.20 338	IAmb	IAmb	17 08 55.4	
	comp=Z,15nm,1.3s					
J25K	Salcha River,	58.20 338	P	P	17 08 47.2	+0.6
	baz=123					
E29M	Blow River	58.23 344	P	P	17 08 47.4	+0.8
	baz=133,SNR=5.8					
F28M	Old Crow	58.26 343	IAmb	IAmb	17 08 48.6	
	comp=Z,16nm,1.0s					
F28M	Old Crow	58.26 343	P	P	17 08 47.7	+0.8
	baz=131,SNR=8.4					
G27K	Doyon Strip	58.27 341	P	P	17 08 47.6	+0.6
	baz=128					
HOM	Homer	58.35 331	P	P	17 08 48.4	+0.8
	baz=114					
WAT1	Susitna Watana	58.47 335	P	P	17 08 49.1	+0.7
	baz=119					
BDFB	Brasilia	58.55 120	P	P	17 08 50.2	+0.4
	comp=Z,3.3nm,0.7s,baz=313,slow=8.6,SNR=4.1					
	comp=Z,3.3nm,0.7s					
M22K	Willow	58.60 334	P	P	17 08 50.2	+0.9
	baz=117					
HDA	Harding Lake	58.67 337	P	P	17 08 49.8	0.0
	baz=122					
SUA	Susitna One	58.74 333	P	P	17 08 51.5	+1.1
	baz=116					
PRP	Porcupine Dome	58.76 339	P	P	17 08 51.5	+0.9
	baz=124,SNR=8.2					
E28M	Babbage River	58.82 344	P	P	17 08 51.3	+0.6
	baz=131					
ILAR	Eielson Array	58.84 338	P	P	17 08 51.5	+0.6
	comp=Z,6.4nm,1.0s,baz=141,slow=4.3,SNR=36					
ILAR			LR	LR	17 34 14.7	
	comp=Z,300nm,18.5s,baz=112,slow=36					
	comp=Z,6.4nm,1.0s					
RES	Resolute Bay	58.84 1	LR	LR	17 36 21.6	
	comp=Z,343nm,18.3s,baz=201,slow=38					
R18K	Karluk	58.90 328	P	P	17 08 52.9	+1.5
	baz=110					
CUT	Chulitna	58.96 335	P	P	17 08 53.0	+1.2
	baz=117					
G26K	Porcupine Rive	59.02 341	P	P	17 08 53.2	+1.1
	baz=126					
MCK	McKinley	59.07 336	P	P	17 08 53.8	+1.2
	baz=119,SNR=6.4					
CCB	Clear Creek Bu	59.11 338	IAmb	IAmb	17 08 59.6	
	comp=Z,10nm,1.3s					
E27K	Coleen River	59.12 343	P	P	17 08 53.8	+0.9
	baz=129,SNR=5.5					
POKR	Poker Plat Res	59.22 338	P	P	17 08 54.7	+1.1
	baz=121					
COLA	College	59.24 338	P	P	17 08 54.5	+0.8
	baz=121					
N20K	Mount Spurr	59.26 333	P	P	17 08 54.6	+0.6
	baz=114					
SPCR	Spurr Chakacha	59.26 333	P	P	17 08 54.9	+0.9
	baz=114					
H25L	Birch Creek	59.29 340	P	P	17 08 54.6	+0.7
	baz=124					
SKT	Skwentna	59.30 334	IAmb	IAmb	17 09 00.6	
	comp=Z,15nm,1.1s					
SKT	Skwentna	59.30 334	P	P	17 08 55.2	+1.0
	baz=116,SNR=7.1					
TRF	Thorofare Moun	59.46 336	P	P	17 08 56.4	+0.9
	baz=118,SNR=12					
NEA2	Nenana	59.55 337	P	P	17 08 56.8	+1.0
	baz=119					
Q18K	Katmai Hardscr	59.56 329	P	P	17 08 56.9	+0.7
	baz=110					
F26K	Sheenjek River	59.58 341	P	P	17 08 56.7	+0.6
	baz=126					
D27M	Malcolm River	59.63 344	P	P	17 08 56.9	+0.5
	baz=130					
SFJD	Kangerlussuaq	59.64 20	LR	LR	17 39 08.4	
	comp=Z,106nm,19.0s,baz=233,slow=41					
G25K	Bearman Lake	59.66 340	P	P	17 08 57.0	+0.4
	baz=124					
H24K	Noodor Dome	59.76 339	IAmb	IAmb	17 08 59.0	
	comp=Z,15nm,1.0s					
H24K	Noodor Dome	59.76 339	P	P	17 08 58.0	+0.7
	baz=121,SNR=7.4					
O19K	Port Alsworth	59.80 331	P	P	17 08 59.0	+1.4
	baz=112					
Q17K	Contact Creek	59.86 329	P	P	17 08 59.5	+1.3
	baz=109					
R17K	Ugashik Creek	59.91 328	P	P	17 08 59.6	+1.2
	baz=108					
I23K	Minto, Yukon-K	59.93 338	P	P	17 08 59.6	+1.2
	baz=119					
P18K	Big Mountain,	59.93 330	P	P	17 08 59.7	+1.1
	baz=110					
M20K	Styx River	59.94 333	P	P	17 08 59.8	+1.0
	baz=114,SNR=5.9					
PPLA	Purkeypile	59.98 335	P	P	17 08 59.9	+0.9
	baz=115					
F25K	Christian Rive	59.98 341	P	P	17 08 59.8	+0.9
	baz=124,SNR=5.5					
BPAW	Bear Paw Mtn.	60.04 336	P	P	17 09 00.2	+1.0
	baz=117					
G24K	Hadweenzic Riv	60.08 340	P	P	17 09 00.3	+0.8
	baz=122,SNR=5.4					
O18K	Koktuh Hills	60.09 331	P	P	17 09 00.8	+1.1
	baz=111					
N19K	Bonanza Creek	60.12 332	P	P	17 09 00.5	+0.6
	baz=112					
CAST	Castle Rocks	60.17 335	P	P	17 09 00.1	0.0
	baz=116					
E25K	Arctic Village	60.27 341	P	P	17 09 01.2	+0.4
	baz=125					
H23K	Yukon River	60.34 338	P	P	17 09 02.3	+1.0
	baz=120					
Q16K	King Salmon	60.38 329	P	P	17 09 02.4	+0.8
	baz=109					
P17K	Kvichak River	60.45 330	P	P	17 09 03.0	+1.0
	baz=109					
CHUM	Lake Minchumin	60.46 336	P	P	17 09 03.0	+0.9
	baz=116					
M19K	Big River Lodg	60.50 333	P	P	17 09 03.3	+0.9
	baz=113					
L20K	Farewell, AK	60.51 334	P	P	17 09 03.4	+0.9
	baz=113					
PPT	Papeete	60.62 239	LR	LR	17 27 49.0	
	comp=Z,146nm,21.5s,baz=14,slow=29					
PPT2	Papeete2	60.63 239	eLR	LR	17 26 47.5	
	comp=Z,187nm,26.0s					
PPT2			eLR	LR	17 27 05.8	
	comp=Z,119nm,21.2s					
F24K	Squaw Lake	60.66 340	P	P	17 09 04.5	+1.0
	baz=122					
N18K	Kilae Creek	60.71 331	P	P	17 09 04.8	+0.9
	baz=110					
L19K	White Mountain	60.81 333	P	P	17 09 02.1	-2.4
L19K			IAmb	IAmb	17 09 13.4	
	comp=Z,17nm,1.1s					
L19K	White Mountain	60.81 333	P	P	17 09 05.4	+0.8
	baz=112					
CHNA	Chernabura Isl	60.81 324	P	P	17 09 05.6	+0.9
	baz=104					
I21K	Tanana	60.92 337	P	P	17 09 06.1	+0.8
	baz=117					
K20K	Telida	60.95 335	P	P	17 09 04.7	-0.8
K20K	Telida	60.95 335	P	P	17 09 06.4	+0.9
	baz=114					
G23K	Bananza Creek	60.95 339	P	P	17 09 06.5	+1.0
	baz=119					
O17K	Koliganek Bris	60.96 330	P	P	17 09 06.6	+1.0
	baz=109					
M18K	Stony River	60.97 332	P	P	17 09 06.7	+1.0
	baz=111					
H22K	Ishtalitna Cre	61.03 338	P	P	17 09 07.1	+1.1
	baz=118					
C26K	Camden Bay	61.14 343	P	P	17 09 07.5	+0.9
	baz=126					
E24K	Your Creek	61.15 341	P	P	17 09 08.0	+1.2
	baz=122					
P16K	Nushagak River	61.15 329	P	P	17 09 07.8	+1.0
	baz=108					
S14K	Fog Glacier	61.16 326	P	P	17 09 07.1	-0.1
	baz=105					
D25K	Kavik River	61.20 342	P	P	17 09 08.2	+1.1
	baz=124,SNR=6.0					
N17K	Nushagak Hills	61.25 331	P	P	17 09 07.5	-0.1
	baz=109					
COLD	Coldfoot	61.27 340	P	P	17 09 08.4	+0.8
	baz=120					
J20K	Nowinta River	61.32 336	P	P	17 09 08.0	+0.1
	baz=114					
O16K	Kokwok River B	61.38 330	P	P	17 09 08.9	+0.5
	baz=108					
H21K	Melozitna Rive	61.45 337	P	P	17 09 09.3	+0.4
	baz=116					
E23K	Chandalar	61.50 340	P	P	17 09 09.9	+0.7
	baz=120					
G22K	Bettles	61.57 339	P	P	17 09 10.7	+1.1
	baz=118					
TTA	Tatalina	61.59 334	P	P	17 09 10.2	+0.3
	baz=112					
L18K	Granite Mounta	61.62 333	P	P	17 09 10.9	+0.9
	baz=110					
M17K	Holitna River	61.66 332	P	P	17 09 11.4	+1.0
	baz=109					
TOLK	Toolik Lake Re	61.79 341	IAmb	IAmb	17 09 12.8	
	comp=Z,13nm,0.9s					
TOLK	Toolik Lake Re	61.79 341	P	P	17 09 11.7	+0.6
	baz=121					
D24K	Happy Valley	61.84 342	P	P	17 09 12.2	+0.9
	baz=122					
J19K	Poorman	61.84 335	P	P	17 09 11.9	+0.4
	baz=112,SNR=7.0					
PLCA	Paso Flores	61.87 156	P	P	17 09 13.3	+1.3
	comp=Z,2.2nm,0.9s,baz=295,slow=3.4,SNR=3.2					
PLCA			LR	LR	17 30 55.5	
	comp=Z,152nm,19.4s,baz=337,slow=31					
	comp=Z,2.2nm,0.9s					
N16K	Nishlik Lake	61.98 331	P	P	17 09 13.3	+0.8
	baz=108					
F22K	John River	62.08 339	P	P	17 09 14.2	+1.1
	baz=118					
G21K	Allakaket	62.09 338	P	P	17 09 13.6	+0.5
	baz=116					
J18K	Innoko River	62.09 334	P	P	17 09 14.1	+0.9
	baz=111					
O15K	Ungalikthiuk R	62.10 329	P	P	17 09 14.9	+1.6
	baz=106					
C24K	Franklin Bluff	62.10 342	P	P	17 09 13.8	+0.6
	baz=122					
H20K	Anotleneega Mo	62.15 337	P	P	17 09 14.0	+0.5
	baz=114					
M16K	Timber Creek	62.24 331	P	P	17 09 15.1	+0.9
	baz=108					
E22K	Anaktuvuk Pass	62.26 340	P	P	17 09 14.8	+0.5
	baz=118					
L17K	Donlin	62.30 333	P	P	17 09 15.6	+1.0
	baz=109					
D23K	Nanushuk River	62.31 341	P	P	17 09 15.4	+0.9
	baz=120					
F21K	Alatna River	62.39 339	P	P	17 09 16.4	+1.3
	baz=116,SNR=8.0					
K17K	Iditarod	62.50 333	P	P	17 09 17.2	+1.3
	baz=109					
L16K	Owhat River	62.69 332	P	P	17 09 18.0	+0.8
	baz=108					
C23K	Itkillik River	62.73 342	P	P	17 09 18.3	+1.0
	baz=120					
H19K	Roundabout Mou	62.77 337	P	P	17 09 18.9	+1.3
	baz=112					
O14K	Tigyukauivet M	62.83 329	P	P	17 09 19.9	+1.7
	baz=105					
D22K	Ayikyak River	62.90 341	P	P	17 09 19.2	+0.7
	baz=118,SNR=5.4					
M15K	Kasigluk River	62.95 331	P	P	17 09 20.2	+1.3
	baz=106					
FALS	False Pass	62.98 324	P	P	17 09 20.3	+1.2
	baz=100					
F20K	Avaraart Lake	63.11 338	P	P	17 09 20.9	+1.0
	baz=114					
E21K	Killik River	63.11 340	P	P	17 09 20.5	+0.5
	baz=116					
N14K	Kuskokwak Cree	63.21 330	P	P	17 09 21.9	+1.3
	baz=105					
G19K	Purcell Mounta	63.25 337	P	P	17 09 21.2	+0.3
	baz=112,SNR=5.5					
M14K	Bethel	63.56 331	P	P	17 09 24.3	+1.3
	baz=105					
L15K	Ungalak Mounta	63.60 332	P	P	17 09 24.2	+1.0
	baz=106					
J16K	Anvik River	63.67 333	P	P	17 09 24.5	+0.8
	baz=107					
C21K	Knifeblade Rid	63.70 341	P	P	17 09 24.7	+1.0
	baz=116					
G18K	Tagagawik	63.75 337	P	P	17 09 24.9	+0.7
	baz=110					
F19K	Shaleruckik Mo	63.77 338	P	P	17 09 25.1	+0.9
	baz=112					
E20K	Nigu River	63.77 339	P	P	17 09 25.3	+0.9
	baz=114					
K15K	Wolf Creek Mou	63.79 332	P	P	17 09 25.5	+1.0
	baz=106					
E19K	Redstone River	63.81 338	P	P	17 09 24.9	+0.4
	baz=112					
B22K	Teshekpuk Lake	63.82 342	P	P	17 09 24.9	+0.4
	baz=118					
B21K	Ikpikpuk River	63.85 341	P	P	17 09 25.3	+0.5
	baz=116					
H17K	Granite Mounta	63.91 335	P	P	17 09 26.1	+0.8
	baz=109					
L14K	Kuka Creek	64.06 331	P	P	17 09 26.7	+0.5
	baz=104					
D20K	Etivluk River	64.10 340	P	P	17 09 27.2	+0.7
	baz=114					
M13K	Dall Lake	64.14 330	P	P	17 09 27.8	+1.0
	baz=103					
G17K	Kiwalik Mounta	64.39 336	P	P	17 09 29.3	+0.9
	baz=108					
EUNU	Eureka	64.44 2	P	P	17 09 29.0	+0.5
EUNU			IAmb	IAmb	17 09 29.7	
	comp=Z,11nm,0.9s					
D19K	Kuna River	64.52 339	P	P	17 09 30.1	+0.8
	baz=112					
A22K	Sinclair Lake	64.58 342	P	P	17 09 30.2	+0.7
	baz=116					
H16K	Elim	64.77 335	P	P	17 09 31.3	+0.4
	baz=106					
B20K	Meade River	64.81 341	P	P	17 09 31.8	+0.8
	baz=114					
J14K	Nanvaranak Lak	64.82 332	P	P	17 09 31.9	+0.8
	baz=104					
F17K	Baldwin Pennin	64.93 337	P	P	17 09 32.5	+0.7
	baz=108					
E18K	Tukpahlearik C	65.01 338	P	P	17 09 33.4	+1.0
E18K	Tukpahlearik C	65.01 338	P	P	17 09 33.2	+0.8
	baz=109					
G16K	Koyuk River	65.04 335	P	P	17 09 33.2	+0.6
	baz=106					
C19K	Lookout Ridge	65.25 340	P	P	17 09 34.2	+0.2
	baz=111					
E17K	Hotham Inlet	65.35 337	P	P	17 09 35.0	+0.4
	baz=108					
G15K	Niukluk	65.61 335	P	P	17 09 36.9	+0.6
	baz=105					
C18K	Utukok River	65.63 339	P	P	17 09 36.9	+0.4
	baz=109					
NIKH	Nikolski High	65.89 321	P	P	17 09 39.2	+0.9
	baz=95					
D17K	Noatak River	66.00 338	P	P	17 09 39.3	+0.5
	baz=107					
F15K	North Star Dit	66.04 335	P	P	17 09 39.3	+0.2
	baz=104					
ANM	Nome	66.05 334	P	P	17 09 39.4	+0.2
	baz=103					
B18K	Kokolik River	66.08 340	P	P	17 09 40.2	+0.9
	baz=109					
A19K	Wainwright	66.13 341	P	P	17 09 39.8	+0.3
	baz=110					
C17K	DeLong Mountai	66.27 339	P	P	17 09 40.7	+0.2
	baz=107					
F14K	Arctic Creek	66.66 335	P	P	17 09 42.9	-0.2
	baz=103					
C16K	Lisburne Hills	66.98 338	P	P	17 09 45.2	+0.1
	baz=105					
BORG	Borgarnes	70.14 26	LR	LR	17 41 50.0	
	comp=Z,98nm,18.9s,baz=283,slow=37					
RAR	Rarotonga	70.81 240	LR	LR	17 36 14.1	
	comp=Z,108nm,18.1s,baz=22,slow=32					
JMIC	Jan Mayen	75.00 20	LR	LR	17 45 39.4	
	comp=Z,138nm,20.3s,baz=102,slow=38					
SPITS	Spitsbergen Ar	79.42 11	LR	LR	17 49 01.7	
	comp=Z,176nm,18.1s,baz=274,slow=38					
ESDC	Sonseca Array	83.17 51	P	P	17 11 18.3	-0.9
	comp=Z,1.8nm,0.9s,baz=286,slow=5.5,SNR=7.1					
ESDC			LR	LR	17 48 51.8	
	comp=Z,86nm,18.6s,baz=298,slow=36					
	comp=Z,1.8nm,0.9s					
MDT	Midelt	84.44 58	LR	LR	17 48 08.7	
	comp=Z,77nm,18.4s,baz=336,slow=35					
PMSA	Palmer Station	84.49 166	LR	LR	17 40 43.2	
	comp=Z,90nm,20.4s,baz=322,slow=30					
NB2	NORSAR Subarra	85.28 27	P	P	17 11 30.7	+1.3
	comp=Z,0.8nm,0.7s,baz=297,slow=4.8					
NOA	NORSAR Array B	85.28 27	P	P	17 11 29.7	+0.3
	comp=Z,1.4nm,0.8s,baz=298,slow=4.9,SNR=4.5					
NOA			LR	LR	17 51 02.4	
	comp=Z,41nm,20.1s,baz=290,slow=37					
	comp=Z,1.4nm,0.8s					
ARCES	ARCESS Array B	86.16 17	LR	LR	17 52 53.9	
	comp=Z,88nm,18.4s,baz=296,slow=38					

MA2	Magadan	86.70	332	LR	LR	17 50 07.2
	comp=Z,95nm,21.6s,baz=68,slow=36					
HFS	Hagfors	86.77	28	LR	LR	17 52 47.2
	comp=Z,62nm,18.6s,baz=276,slow=37					
KOWA	Kowa	89.95	75	LR	LR	17 48 32.1
	comp=Z,101nm,19.2s,baz=294,slow=33					
CLL	Collm	90.35	36	*eP*	**P**	**17 11 52.0 -1.9**
CLL				*ex*	x	17 12 05.0
DAVOX	Davos/Dischmat	90.40	41	LR	LR	17 55 27.2
	comp=Z,112nm,18.1s,baz=285,slow=38					
FINES	FINESS Array B	91.23	23	P	**P**	**17 11 56.9 -0.9**
	comp=Z,3.5nm,1.0s,baz=303,slow=8.1,SNR=3.8					
FINES				LR	LR	17 54 10.1
	comp=Z,71nm,20.1s,baz=304,slow=36					
	comp=Z,3.5nm,1.0s					
GERES	GERESS Array B	91.85	38	LR	LR	17 55 48.7
	comp=Z,76nm,18.3s,baz=260,slow=37					
VRAC	Vranov	93.32	37	LR	LR	17 57 53.5
	comp=Z,67nm,18.1s,baz=298,slow=38					
KEST	Kesra	94.42	51	LR	LR	17 54 22.7
	comp=Z,59nm,20.2s,baz=279,slow=35					
TORD	Torodi Ar. Bea	95.65	75	LR	LR	17 52 43.1
	comp=Z,99nm,18.6s,baz=322,slow=34					
URZ	Urewera	95.65	232	LR	LR	17 45 12.8
	comp=Z,94nm,20.2s,baz=31,slow=29					
AKASG	Malin Array Be	99.29	31	LR	LR	17 58 32.1
	comp=Z,77nm,20.2s,baz=354,slow=36					
OBN	Obninsk	99.58	24	LR	LR	17 59 01.7
	comp=Z,51nm,20.2s,baz=0.0,slow=36					
DZM	Mont Dzumac	100.72	250	*e*LR	LR	17 46 03.6
	comp=Z,116nm,24.1s					
WMQ	Urumqi	120.36	355	*eP*	**PKiKP**	**17 17 45.1 +0.6**
NJ2	Nanjing	120.61	324	*eP*	**PKiKP**	**17 17 46.9 +1.7**
NJ2				pmax	pmax	
	comp=Z,6.0nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,600nm,5.7s					
BOSA	Boshof	126.52	114	PKP	**PKPdf**	**17 17 56.9 +0.2**
	comp=Z,3.4nm,0.9s,baz=82,slow=1.8,SNR=3.2					
WRA	Warramunga Arr	130.07	257	PKP	**PKPdf**	**17 18 03.2 -0.3**
	comp=Z,1.0nm,1.0s,baz=88,slow=2.1,SNR=6.0					
ASAR	Alice Springs	130.64	252	PKP	**PKPdf**	**17 18 03.8 -0.8**
	comp=Z,1.3nm,1.1s,baz=71,slow=1.7,SNR=5.0					
PZH	PanZhiHua	133.66	335	PKP	**PKPdf**	**17 18 11.0 +0.6**
CMAR	Chiang Mai Arr	141.97	333	PKP	**PKPdf**	**17 18 26.6 +0.9**
	comp=Z,1.9nm,1.1s,baz=336,slow=2.9,SNR=4.1					
HYB	Hyderabad	146.76	6	*e*PKPdf	**PKPdf**	**17 18 32.5 -1.6**

ATH 21 17:06:23.5, 38.86N×26.02E, h20km±5km, ML1.1/3, Manual Solution by G.Panopoulou This location: 2019/12/28 19:13:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG1	Polichnitos, L	0.28	35	P	Pb	17 06 29.9	0.0
EAG1				S	Sb	17 06 34.5	+0.3
SIGR	SIGRI	0.38	340	P	Pb	17 06 31.6	+0.1
SIGR				S	Sb	17 06 37.0	+0.1
PRK	Paraskevi	0.44	27	P	Pb	17 06 32.7	+0.2
CHOS	Chios island	0.47	176	P	Pb	17 06 33.3	+0.2
PSRA	Psara	0.47	229	P	Pb	17 06 33.8	+0.6
PSRA				S	Sb	17 06 40.0	+0.3

ATH 21 17:06:32.2, 38.08N×25.92E, h13km±2km, ML1.5/2, Error ellipse: s-maj=4.3km s-min=1.4km az=88.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	Chios island	0.33	19	P	Pg	17 06 39.1	+0.2
CHOS				S	Sg	17 06 42.9	-0.5
CHOS				AML	AML	17 06 46.3	
	comp=E,269μm,0.2s						
CHOS				AML	AML	17 06 46.8	
	comp=N,183μm,0.2s						
SMG	Samos	0.81	117	P	Pb	17 06 48.2	0.0
SMG				S	Sg	17 06 58.0	-0.6
APE	Apeiranthos	1.05	197	P	Pb	17 06 51.6	-0.7
APE				S	Sb	17 07 05.4	-0.6
SIGR	SIGRI	1.13	357	P	Pb	17 06 53.0	-0.7
SIGR				S	Sb	17 07 08.0	-0.3
SIGR				AML	AML	17 07 11.2	
	comp=N,57μm,0.6s						
SIGR				AML	AML	17 07 13.0	
	comp=E,40μm,0.5s						

*NEIC **21** 17:20:14.1±1.6, 20.30S±0.05×173.39W±0.10, h10km±1km, mb4.4/14, Error ellipse: s-maj=15.8km s-min=8.0km az=72.0*
*IDC **21** 17:20:17.5±1.7, 20.47S×174.06W, h0km, mb3.9/7, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=69.8km s-min=24.3km az=150.0*
ISC 21 17:20:13.6±0.7, 20.35S±0.10×173.40W±0.07, h10km, n27, σ1.48/27, mb4.0/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	3.51	69	Pn	Pn	17 21 08.8	+0.6
NIUE				Sn	Sn	17 21 47.5	-2.3
AFI	Afiamalu	6.59	14	Pn	Pn	17 21 50.5	-0.1
AFI				Sn	Sn	17 23 05.7	-0.2
MSVF	Nonsavu	8.49	286		Pn	17 22 27.4	+11
RAR	Rarotonga	12.78	96	Pn	Pn	17 23 15.8	+0.3
OUENC	Ouen Island, N	18.52	260		P	17 24 28.2	-2.0
OUENC				IAmb	IAmb	17 24 34.5	
	comp=Z,33nm,1.2s						
DZM	Mont Dzumac	18.87	261	P	Pn	17 24 35.4	+0.6
DZM				IAmb	IAmb	17 25 16.7	
	comp=Z,21nm,1.3s						
DZM	Mont Dzumac	18.87	261	P	P	17 24 33.4	-0.9
	comp=Z,0.2nm,0.3s,baz=107,slow=20,SNR=1.9						
	comp=Z,3.4nm,0.9s						
CTA	Charters Tower	37.80	263	P	P	17 27 31.0	+0.5
	comp=Z,2.5nm,0.8s,baz=85,slow=11,SNR=6.1						
	comp=Z,2.5nm,0.8s						
CTAO	Charters Tower	37.80	263	P	P	17 27 30.1	-0.3
TOO	Toolangi	39.50	235	P	P	17 27 44.8	+0.2
TOO				IAmb	IAmb	17 27 58.2	
	comp=Z,14nm,1.1s						
STKA	Stephens Creek	41.75	245	P	P	17 28 00.9	-2.3
STKA	Stephens Creek	41.75	245	P	P	17 28 04.0	+0.8
	comp=Z,1.5nm,0.6s,baz=81,slow=14,SNR=3.4						
	comp=Z,1.5nm,0.6s						
COEN	Coen	41.89	272	P	P	17 28 02.9	-1.6
COEN				IAmb	IAmb	17 28 20.3	
	comp=Z,6.2nm,1.1s						
BBOO	Buckleboo	46.48	244	P	P	17 28 40.9	-0.3
MIDW	Midway	48.43	355	P	P	17 28 55.1	-1.0
AS31	Alice Springs	48.75	256	P	P	17 28 58.4	-0.6
ASAR	Alice Springs	48.75	256	P	P	17 28 57.4	-1.5
ASAR	Alice Springs	48.75	256	P	P	17 28 59.1	+0.1
	comp=Z,1.7nm,0.8s,baz=98,slow=8.1,SNR=17						
ASAR				PcP	PcP	17 30 27.8	+3.8
	comp=Z,0.7nm,0.7s,baz=105,slow=4.2,SNR=5.9						
	comp=Z,1.7nm,0.8s						
WB0	Warramunga Arr	48.87	261	P	P	17 28 58.5	-1.4
WB0				IAmb	IAmb	17 29 00.7	
	comp=Z,5.7nm,1.4s						
WB2	Warramunga Arr	48.88	261	P	P	17 28 59.7	-0.3
WB2				IAmb	IAmb	17 29 04.1	
	comp=Z,4.2nm,0.9s						
WRA	Warramunga Arr	48.89	261	P	P	17 28 58.9	-1.2
WRA	Warramunga Arr	48.89	261	P	P	17 28 59.2	-0.9
	comp=Z,1.4nm,0.8s,baz=100,slow=8.3,SNR=8.7						
	comp=Z,1.4nm,0.8s						
KNRA	Kununurra	54.97	265	P	P	17 29 45.2	-0.3
MORW	Morawa	63.87	247	P	P	17 30 46.8	0.0
MJAR	Matsushiro Arr	72.73	321	P	P	17 31 45.3	+3.2
	comp=Z,0.8nm,0.7s,baz=112,slow=10,SNR=4.8						
	comp=Z,0.8nm,0.7s						
TXAR	Lajitas Array	83.37	56	P	P	17 32 49.2	+7.8
	comp=Z,0.4nm,0.8s,baz=213,slow=6.5,SNR=4.1						
	comp=Z,0.4nm,0.8s						
ILAR	Eielson Array	87.27	11	P	P	17 33 07.8	+7.8
	comp=Z,0.7nm,0.8s,baz=210,slow=6.4,SNR=5.0						
	comp=Z,0.7nm,0.8s						

*RSPR **21** 17:26:31.2, 18.06N×68.38W, h80km±2km*
*SDD **21** 17:26:31.0±1.0, 18.21N×68.26W, h90km±7km, MD3.2, ML2.7*
ISC 21 17:26:29.6±1.4, 18.2N±0.1×68.35W±0.06, h100km, n16, σ0.64/21, 6C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.29	354	*e*P	Pn	17 26 44.2	0.0
PCDR	Punta Cana, DR	0.29	354	*e*S	Sn	17 26 53.9	-1.1
PCDR	Punta Cana, DR	0.29	354	⇓*e*Pg	Pn	17 26 44.2	0.0
PCDR				⇓*e*Sg	Sn	17 26 53.9	-1.1
PCDR				IAML		17 26 54.2	
	comp=E,184nm,0.2s						
PCDR				IAML		17 26 55.7	
	comp=N,338nm,0.7s						
SADR	Isla Saona	0.41	266	*e*Pg	Pn	17 26 44.7	0.0
SADR				⇑*e*Sg	Sn	17 26 55.5	-0.6
SADR				IAML		17 26 56.9	
	comp=N,275nm,0.3s						
SADR				IAML		17 26 58.4	
	comp=E,232nm,0.2s						
HIDR	Higuey Centro	0.51	317	⇓*e*Pg	Pn	17 26 45.4	0.0
HIDR				⇑*e*Sg	Sn	17 26 56.2	-1.1
HIDR				IAML		17 26 56.7	
	comp=N,577nm,0.2s						
HIDR				IAML		17 26 56.9	
	comp=E,619nm,0.2s						
IDE	Isla Desecheo	0.85	79	⇓*i*P	Pn	17 26 48.6	+0.2
IDE	Isla Desecheo	0.85	79	*e*S	Sn	17 27 02.4	-0.2
MIDR	Miches	1.01	319	⇓*e*Pg	Pn	17 26 51.0	+0.9
MIDR				⇑*e*Sg	Sn	17 27 05.0	-0.5
MIDR				IAML		17 27 08.0	
	comp=N,53nm,0.3s						
MIDR				IAML		17 27 10.5	
	comp=E,38nm,0.1s						
HATOM	Hato Mayor del	1.13	300	⇓*e*Pg	Pn	17 26 52.1	+0.6
HATOM				⇓*e*Sg	Sn	17 27 07.7	-0.3
HATOM				IAML		17 27 08.4	
	comp=E,81nm,0.4s						
HATOM				IAML		17 27 08.8	
	comp=N,85nm,0.3s						
LSP	Las Mesas	1.20	92	⇓*e*P	Pn	17 26 52.5	+0.3
LSP	Las Mesas	1.20	92	*e*S	Sn	17 27 10.0	+0.6
GBPR	Guanica, Bosqu	1.42	100	⇑*e*P	Pn	17 26 55.2	+0.4
GBPR	Guanica, Bosqu	1.42	100	*e*S	Sn	17 27 13.6	-0.4
DR08	Loma La Naviza	1.75	295	*e*Sg	Sn	17 27 22.3	+0.9
SJG	San Juan	2.09	93	⇓*e*P	Pn	17 27 03.7	+0.4
SJG	San Juan	2.09	93	*e*S	Sn	17 27 28.8	-0.3

*IDC **21** 17:32:11.8±3.6, 26.50S×132.72E, h0km, mbtmp3.3/3, ML3.4/3, Error ellipse: s-maj=33.9km s-min=21.9km az=73.0*
*AUST **21** 17:32:11.5±0.8, 26.48S×132.58E, h10km, Error ellipse: s-maj=13.7km s-min=9.8km az=73.0*
*NOU **21** 17:32:12.9, 26.54S×132.69E, h0km, MLv4.2/9, South Australia*
ISC 21 17:32:12.3±0.9, 26.44S±0.05×132.73E±0.06, h10km, n29, σ2.00/35, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OOD	Oodnadatta	2.96	118	P	Pn	17 33 01.7	+2.4
	baz=3.1,SNR=23						
OOD				S	Sn	17 33 39.3	+4.3
	baz=3.1,SNR=8.3						
OOD	Oodnadatta	2.96	118	P	Pn	17 33 01.8	+2.4
ASAR	Alice Springs	2.96	21	Pn	Pn	17 33 01.9	+2.4
	0.9nm,0.3s,baz=200,slow=12,SNR=80						
ASAR				Pg	Pb	17 33 08.6	+3.3
	2.3nm,0.3s,baz=199,slow=15,SNR=23						
ASAR				Sn	Sb	17 33 40.4	-1.2
	2.5nm,0.3s,baz=198,slow=22,SNR=8.6						
ASAR				Lg	Lg	17 33 47.4	
	6.7nm,0.3s,baz=198,slow=25,SNR=11						
	1.9nm,0.3s						
MULG	Mulgathing	4.00	163	P	Pn	17 33 13.7	0.0
	baz=4.0,SNR=5.2						
MULG	Mulgathing	4.00	163	P	Pn	17 33 13.7	0.0
WRKA	Warakurna	4.24	288	P	Pn	17 33 18.1	+1.1
	baz=4.1,SNR=3.7						
WRKA				S	Sn	17 34 09.5	+2.9
	baz=4.1,SNR=4.6						
WRKA	Warakurna	4.24	288	P	Pn	17 33 18.8	+1.8
FORT	Forrest	5.96	222	P	Pn	17 33 38.6	-2.0
	baz=5.8,SNR=13						
FORT	Forrest	5.96	222	P	Pn	17 33 40.9	+0.3
LCRK	Leigh Creek	6.26	131	P	Pn	17 33 45.4	+0.6
	baz=6.3						
LCRK	Leigh Creek	6.26	131	P	Pn	17 33 46.3	+1.5
WC3	Warramunga Arr	6.63	14	P	Pn	17 33 51.3	+1.4
	baz=6.7						
WRA	Warramunga Arr	6.64	13	Pn	Pn	17 33 50.7	+0.7
	1.0nm,0.3s,baz=194,slow=14,SNR=105						
WRA				Sn	Sn	17 35 03.9	-1.9
	2.0nm,0.3s,baz=190,slow=24,SNR=16						
WRA				Lg	Lg	17 35 41.0	
	0.9nm,0.3s,baz=197,slow=28,SNR=8.0						
	1.3nm,0.3s						
BBOO	Buckleboo	6.97	156	P	Pn	17 33 54.0	-0.6
	baz=7.0						
BBOO	Buckleboo	6.97	156	P	Pn	17 33 55.7	+1.1
INKA	Innaminka	7.26	102	P	Pn	17 33 59.7	+1.1
	baz=7.4,SNR=3.6						
INKA	Innaminka	7.26	102	P	Pn	17 33 59.5	+1.0
QIS	Mount Isa	8.61	49	P	Pn	17 34 19.1	+2.1
	baz=8.8,SNR=3.4						
QIS				S	Sn	17 35 53.6	-0.7
	baz=8.8						
QIS	Mount Isa	8.61	49	P	Pn	17 34 19.9	+2.8
HTT	Hallett	8.79	144	P	Pn	17 34 19.9	+0.3
	baz=8.9						
HTT	Hallett	8.79	144	P	Pn	17 34 20.3	+0.7
STKA	Stephens Creek	9.45	127	P	Pn	17 34 28.3	-0.3
	baz=9.5,SNR=5.8						
STKA	Stephens Creek	9.45	127	Pn	Pn	17 34 28.1	-0.5
	0.4nm,0.3s,baz=301,slow=13,SNR=7.0						
STKA				Sn	Sn	17 36 09.4	-5.5
	0.4nm,0.3s,baz=44,slow=18,SNR=4.3						
	0.8nm,0.3s						
KNRA	Kununurra	11.33	340	P	Pn	17 34 54.0	-0.4
	baz=11						
CMSA	Cobar Meteorol	12.43	117	P	Pn	17 35 08.3	-1.1
	baz=12						
MEEK	Meekatharra	12.64	266	P	Pn	17 35 09.2	-3.1
	baz=12						
MTSU	Mount Surprise	13.54	55	P	Pn	17 35 24.4	-0.2
	baz=14						
MTN	Manton Dam	13.61	353	P	Pn	17 35 23.6	-2.0
	baz=14						
KDU	Kakadu	13.69	359	P	Pn	17 35 25.4	-1.2
	baz=14						

*IDC **21** 17:56:08.9±1.4, 22.76S±0.3×171.0E±0.1, h10km, n30, σ0.87/29, mb3.8/5, Southeast of Loyalty Islands*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.24	277	Pn	Pn	17 57 15.6	+0.8
	1.5nm,0.3s,baz=82,slow=19,SNR=4.8						
DZM				Sn	Sn	17 58 02.7	-1.7
	1.8nm,0.3s,baz=157,slow=20,SNR=4.2						
	17nm,0.5s						
URZ	Urewera	16.45	163	LR	LR	18 04 50.9	
	comp=Z,103nm,18.4s,baz=31,slow=32						
CTA	Charters Tower	23.16	272	P	P	18 01 18.2	+1.4
	1.3nm,0.7s,baz=111,slow=13,SNR=1.7						
	1.3nm,0.7s						
ASAR	Alice Springs	34.05	261	P	P	18 02 54.6	0.0
	0.8nm,0.6s,baz=84,slow=9.6,SNR=21						
ASAR				LR	LR	18 16 10.7	
	comp=Z,55nm,19.4s,baz=102,slow=35						
	0.8nm,0.6s						
WRA	Warramunga Arr	34.20	267	P	P	18 02 55.2	-0.7
	0.2nm,0.5s,baz=99,slow=7.9,SNR=6.0						
	0.2nm,0.5s						
CMAR	Chiang Mai Arr	81.37	294	P	P	18 08 29.1	+1.6
	0.6nm,0.6s,baz=142,slow=3.2,SNR=5.0						
	0.6nm,0.6s						
SNAA	Sanae	85.86	182	P	P	18 08 49.4	-0.3
	1.5nm,1.0s,baz=204,slow=9.8,SNR=6.5						
	1.5nm,1.0s						
OSTC	Ostas	145.87	331	*e*PKP	PKPab	18 15 49.6	-0.3
KRLC	Kraliky	145.95	330	*e*PKP	PKPab	18 15 50.6	+0.3
DPC	Dobruska-Polom	145.96	331	*e*PKP	PKPab	18 15 50.6	+0.3
PRU	Pruhonice	147.02	332	*e*PKP	PKPbc	18 15 52.4	-0.5
HSKC	Hora Svate Kat	147.03	333	*e*PKP	PKPab	18 15 53.7	-0.7
EKA	Eskdalemuir Ar	147.05	354	PKPbc	PKPbc	18 15 52.5	-0.2
	1.5nm,0.5s,baz=4.1,slow=3.1,SNR=14						
ZVC	Zvikov	147.58	331	*e*PKP	PKPbc	18 15 54.2	-0.2
RONA	Rosalia, Austr	147.81	327	*i* P	PKiKP	18 15 55.9	-1.3
	2.5nm,0.7s						
CONA	Conrad Observa	147.87	328	*e*P	PKiKP	18 15 55.9	-1.4
	2.2nm,0.6s						
CKRC	Cesky Krumlov	147.98	330	*e*PKP	PKPdf	18 15 52.8	+0.3
KHC	Kasperske Hory	148.08	331	*e*PKP	PKiKP	18 15 56.7	-1.0
GERES	GERESS Array B	148.23	331	PKPbc	PKiKP	18 15 57.1	-0.9
	1.5nm,0.6s,baz=46,slow=3.9,SNR=7.5						
GERES	GERESS Array B	148.23	331	P	PKiKP	18 15 56.8	-1.3
	2.0nm,0.8s,baz=72,slow=3.2,SNR=5.9						
GERES	GERESS Array B	148.23	331				
	2.0nm,0.8s						
SOKA	Soboth	149.13	327	*i* P	PKiKP	18 15 59.2	-0.8
	3.0nm,1.2s						
KBA	Koelnbreinsper	149.68	329	*i* P	PKiKP	18 16 00.4	-0.8
	7.1nm,1.2s						
LESA	Schwarzleotal	149.74	330	*i* P	PKiKP	18 16 00.9	-0.3
	6.2nm,1.0s						
MYKA	Terra Mystica	149.86	328	*e*P	PKiKP	18 16 00.8	-0.7
	2.8nm,0.6s						
WATA	Walderalm	150.31	331	*i* P	PKiKP	18 16 02.2	-0.2
	9.9nm,1.4s						
ABTA	Abfaltersbach	150.31	329	*i* P	PKiKP	18 16 01.7	-0.7
	3.0nm,0.6s						
WTTA	Wattenberg	150.34	331	*e*P	PKiKP	18 16 02.6	0.0
	7.0nm,0.9s						
SQTA	Sankt Quirin	150.56	331	*i* P	PKiKP	18 16 02.6	-0.3
	3.5nm,0.6s						
FETA	Feichten	150.92	332	*e*P	PKiKP	18 16 03.1	-0.6
	5.3nm,1.0s						

*IDC **21** 18:02:50.1±2.8, 15.55N×123.77E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=268.0km s-min=32.7km az=66.0*
*NEIC **21** 18:02:55.9±0.5, 15.8N±0.1×124.4E±0.2, h39km±5km, mb4.4/5, Error ellipse: s-maj=28.6km s-min=13.8km az=80.0*
ISC 21 18:02:54.9±1.1, 15.8N±0.1×124.4E±0.2, h35km, n11, σ0.30/11, mb4.4/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YULB	Yu-li	8.15	339	Pn	Pn	18 04 51.0	+0.2
TPUB	Ta-pu	8.31	335	Pn	Pn	18 04 52.7	-0.3
JMZ	Minamidaito 2	11.87	31	Pn	Pn	18 05 41.5	-0.2
WB0	Warramunga Arr	36.64	164	P	P	18 09 58.3	0.0
WB0				IAmb	IAmb	18 09 59.2	
	comp=Z,7.8nm,1.4s						
WRA	Warramunga Arr	36.79	164	P	P	18 09 59.8	+0.2
	comp=Z,0.5nm,0.5s,baz=343,slow=9.0,SNR=10						
	comp=Z,0.5nm,0.5s						
WB2	Warramunga Arr	36.79	164	P	P	18 09 59.8	+0.2
WB2				IAmb	IAmb	18 10 39.1	
	comp=Z,7.6nm,1.4s						
WR0	Warramunga Arr	36.86	164	P	P	18 10 00.2	+0.1
WR0				IAmb	IAmb	18 10 02.2	
	comp=Z,7.4nm,1.4s						
AS31	Alice Springs	40.26	166	P	P	18 10 28.3	-0.4
ASAR	Alice Springs	40.26	166	P	P	18 10 28.3	-0.4
	comp=Z,0.7nm,0.7s,baz=352,slow=7.0,SNR=18						
	comp=Z,0.7nm,0.7s						
IMAR	Indian Mountai	72.42	25	P	P	18 14 17.7	+0.3
ARCES	ARCESS Array B	78.45	339	P	P	18 14 52.1	+0.1

NOU 21 18:08:14.0, 15.65S×167.69E, h100km, MLv4.2/15, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	2.24	162	P	Pn	18 08 50.3	+0.5
LIFNC	LIFOU	5.12	185	P	Pn	18 09 26.7	-1.6
KOUNC	Koumac, New Ca	5.85	213	P	Pn	18 09 38.2	-0.1
YATNC	Mamie plateau,	6.42	187	P	Pn	18 09 44.8	-1.2
DZM	Mont Dzumac	6.50	190	P	Pn	18 09 46.7	-0.4
NOUC	Port Laguerre	6.55	191	P	Pn	18 09 47.8	0.0
ONTNC	Ouen Toro	6.72	190	P	Pn	18 09 50.8	+0.6
OUENC	Ouen Island, N	6.78	187	P	Pn	18 09 52.0	+1.1
PINNC	Pines Island,	6.93	182	P	Pn	18 09 53.8	+0.9

*IDC **21** 18:30:59.0±3.8, 9.50S×113.93E, h0km, mb3.6/3, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=83.1km s-min=39.7km az=22.0*
*DJA **21** 18:31:10.7±0.4, 9°S±8°×11°4E±°, h98km±5km, M3.9/17, mb4.0/4, MLv3.9/17*
ISC 21 18:31:10.0±0.9, 8.74S±0.09×114.56E±0.06, h100km, n27, σ1.67/29, mb3.6/3, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	0.48	303	P	Pn	18 31 26.8	+1.1
JAGI	Jajag, Banyuwa	0.48	303	P	Pn	18 31 26.5	+0.8
JAGI				S	Sn	18 31 38.6	+1.2
IGBI	Denpasar	0.59	98	P	Pn	18 31 29.2	+2.7
DNP	Denpasar	0.65	85	P	Pn	18 31 30.2	+3.2
SRBI	Singaraja	0.92	45	P	Pn	18 31 31.2	+1.6
ABJI	Asem Bagus	0.99	341	P	Pn	18 31 30.9	+0.6
GMJI	Gumukmas	1.19	293	P	Pn	18 31 32.3	-0.3
BLJI	Banyuglugur	1.37	316	P	Pn	18 31 34.2	-0.5
TWSI	Taliwang, Sumb	2.30	90	P	Pn	18 31 48.4	+1.9
GRJI	Gresik	2.74	311	P	Pn	18 31 52.3	-0.1
PLAI	Plampang	3.18	92	P	Pn	18 32 01.1	+2.8
PLAI	Plampang	3.18	92	P	Pn	18 32 00.8	+2.5
BWJI	Bawean	3.43	327	P	Pn	18 32 01.3	-0.3
WOJI	Wonogiri, Jawa	3.71	284	P	Pn	18 32 04.8	-0.5
UGM	Wanagama	4.08	281	P	Pn	18 32 10.0	-0.3
UGM	Wanagama	4.08	281	P	Pn	18 32 09.9	-0.3
KPJI	Karang Pucung	5.74	284	P	Pn	18 32 33.1	+0.2
	21nm,0.6s,0.2nm						
BKSI	Bulukumba	6.48	59	P	Pn	18 32 44.6	+1.7
	21nm,0.9s,0.1nm						
BBJI	Bungbulang	6.96	280	P	Pn	18 32 49.2	-0.2
EDFI	Ende, Flores	7.05	91	P	Pn	18 32 50.0	-0.8
BATI	Baumata	9.10	100	Pn	Pn	18 33 18.4	-0.2
	0.9nm,0.3s,baz=304,slow=11,SNR=2.6						
BATI				Sn	Sn	18 34 54.7	-4.7
	1.9nm,0.3s,baz=269,slow=11,SNR=1.7						
	13nm,0.8s						
MBWA	Marble Bar	13.32	159	P	Pn	18 34 14.0	-1.2
GIRL	Giralia	13.83	181	P	Pn	18 34 21.8	0.0
KNRA	Kununurra	15.50	118	P	P	18 34 46.9	+1.5
WRA	Warramunga Arr	22.14	122	P	P	18 35 57.0	-0.7
	0.4nm,0.4s,baz=296,slow=12,SNR=7.0						

FIGC Figueroa Mtn. 0.33 2 Pg 18 33 56.1 -0.6
FIGC Sg 18 34 01.5 0.0
GATR Gnd/Air Tx Cnt 0.44 291 Pg 18 33 58.7 +0.1
GATR Sb 18 34 05.8 +0.6
BSM San Miguel Isl 0.46 219 Pb 18 33 59.3 +0.1
BSM Sb 18 34 07.2 +1.5
SCZ2 Santa Cruz Isl 0.50 143 Pg 18 33 59.6 -0.1
SCZ2 Sb 18 34 07.5 +0.4
SCZ2 Santa Cruz Isl 0.50 143 P **Pg 18 33 59.7 -0.1**
baz=324,SNR=16
SCZ2 S **Sg 18 34 07.1 +0.6**
baz=324
PKM Mcpherson Peak 0.51 18 Pg 18 33 59.3 -0.7
PKM Sb 18 34 07.6 0.0
PKM Mcpherson Peak 0.51 18 P **Pg 18 33 59.3 -0.7**
baz=198,SNR=142
PKM S **Sg 18 34 06.2 -0.9**
baz=198
RYS Reyes Peak 0.59 65 Pb 18 34 03.2 +1.6
STCC Santa Clara 0.68 98 Pb 18 34 03.8 +0.7
STCC Sb 18 34 13.9 +1.8
PMLM Mount Lospe 0.70 315 Pg 18 34 03.4 0.0
BCW Bitter Crk WRg 0.73 42 Pg 18 34 03.5 -0.4
BCW Sg **Sb 18 34 14.1 +0.5**
BCW IAML 18 34 24.7
comp=N,618nm,0.6s
MPI Mount Pinos, F 0.82 59 Pg 18 34 05.5 -0.2
MPI Sb 18 34 16.7 +0.3
CRGC Crocker Grade 0.87 15 Pg 18 34 06.0 -0.6
CRGC Sb 18 34 18.5 +0.7
SMMC Simmler 0.92 0 Pg 18 34 06.6 -0.9
SMMC Sg 18 34 19.4 0.0
SMMC Simmler 0.92 0 P **Pg 18 34 06.5 -0.9**
baz=180,SNR=21
SMMC S **Sg 18 34 18.9 -0.6**
baz=180
CARC Carrizo Plain 0.92 8 Pg 18 34 06.5 -1.0
CARC Sb 18 34 19.7 +0.7
OSI Osito Audit: C 1.08 78 P **Pg 18 34 09.2 -1.3**
baz=260,SNR=16
OSI S **Sg 18 34 23.6 -1.1**
baz=260
ARVC Arvin 1.21 53 P **Pg 18 34 11.1 -1.9**
baz=234,SNR=9.6
ARVC S **Sg 18 34 27.0 -1.8**
baz=234
SNCC San Nicolas Is 1.21 161 Pg **Pg 18 34 11.1 -2.0**
SNCC Sg **Sg 18 34 27.4 -1.6**
SNCC IAML 18 34 30.2
comp=N,228nm,0.4s
SNCC IAML 18 34 30.3
comp=E,245nm,0.2s
SNCC San Nicolas Is 1.21 161 P **Pg 18 34 11.0 -2.0**
baz=341
SNCC S **Sg 18 34 27.7 -1.3**
baz=341
DECC Green Verdugo 1.39 95 P **Pn 18 34 13.8 -0.3**
baz=277,SNR=25
DECC S **Sb 18 34 32.4 -0.2**
baz=277
PASC Pasadena Art C 1.52 98 Pn 18 34 15.3 -0.7
PASC **Sn 18 34 35.0 -0.4**
PASC IAML 18 34 36.2
comp=N,79nm,1.1s
PASC IAML 18 34 37.0
comp=E,196nm,0.4s
VES Vestal, Richgr 1.62 27 P **Pn 18 34 16.9 -0.5**
baz=208,SNR=8.4
VES S **Sn 18 34 36.6 -1.3**
baz=208
CIS Catalina Islan 1.65 126 P **Pn 18 34 17.5 -0.3**
baz=308
CIS S **Sn 18 34 39.5 +0.9**
baz=308
EDW2 Edwards Air Fo 1.73 73 P **Pn 18 34 18.7 -0.2**
baz=255,SNR=27
EDW2 S **Sn 18 34 40.8 +0.3**
baz=255
ISA Isabella, Lake 1.78 44 Pn 18 34 19.3 -0.3
ISA **Sn 18 34 41.7 -0.2**
ISA IAML 18 34 43.5
comp=E,79nm,0.3s
ISA Isabella, Lake 1.78 44 P **Pn 18 34 19.4 -0.2**
baz=226,SNR=14
ISA S **Sn 18 34 42.0 +0.1**
baz=226
CCAC Calif City Air 1.80 65 Pn 18 34 20.3 +0.4
CCAC **Sb 18 34 45.2 +0.8**
CCAC IAML 18 34 51.4
comp=N,127nm,0.9s
CCAC IAML 18 34 57.6
comp=E,85nm,1.3s
SCI2 San Clemente I 1.86 139 P **Pn 18 34 21.0 +0.3**
baz=320
SCI2 S **Sn 18 34 45.1 +1.3**
baz=320
PMPB Monarch Peak 1.93 340 Pn 18 34 20.9 -0.8
PMPB IAML 18 35 02.3
comp=E,99nm,1.3s
PMPB IAML 18 35 07.3
comp=N,114nm,0.9s
BFSC Mount Baldy Ra 1.95 94 P **Pn 18 34 21.9 0.0**
baz=276,SNR=20
BFSC S **Sn 18 34 46.6 +0.5**
baz=276
SPG2 Springville 2 2.06 29 Pn 18 34 23.5 0.0
LRMC Laurel Mtn Rad 2.19 60 Pb **Pb 18 34 28.2 -0.7**
baz=242
SRTC Snort 2.26 54 Pn 18 34 28.8 +2.7
ELS Elsinore Mount 2.27 109 Pn 18 34 25.5 -0.8
ELS **Sn 18 34 52.9 -0.9**
BBGB Big Mountain B 2.33 339 Pn 18 34 26.7 -0.6
MURC Murrieta 2.46 108 P **Pn 18 34 28.7 -0.3**
baz=290
BBRC Big Bear Solar 2.56 92 P **Pn 18 34 29.9 -0.5**
baz=274
BACC Bachelor Mtn. 2.58 107 Pn 18 34 30.9 +0.3
HMTC Hemet 2.58 105 Pn 18 34 30.4 -0.2
SAO San Andreas Ge 2.64 334 Pn 18 34 30.0 -1.4
MPMC Manual Prospec 2.64 50 P **Pn 18 34 31.5 -0.1**
baz=232,SNR=16
GSC Goldstone, Bar 2.78 70 Pn 18 34 32.7 -0.7
GSC IAML 18 35 27.1
comp=N,37nm,1.5s
GSC IAML 18 35 28.9
comp=E,50nm,0.8s
GSC Goldstone, Bar 2.78 70 P **Pn 18 34 33.2 -0.2**
baz=252
109C Camp Elliot, M 2.85 121 Pn **Pn 18 34 34.0 -0.2**
109C IAML 18 35 20.7
comp=E,33nm,1.1s
109C IAML 18 35 20.8
comp=N,31nm,0.6s
109C Camp Elliot, M 2.85 121 P **Pn 18 34 33.8 -0.4**
baz=303
QSM Queen of Sheba 3.01 58 Pn 18 34 35.6 -0.8
QSM IAML 18 36 16.2
comp=N,31nm,4.6s
QSM IAML 18 36 29.8
comp=E,28nm,3.7s
PFO Pinyon Flats O 3.05 104 Pn 18 34 37.6 +0.5
PFO Pinyon Flats O 3.05 104 P **Pn 18 34 37.0 -0.1**
baz=286
TPFO Pinon Flats 3.05 104 P **Pn 18 34 37.2 0.0**
baz=286
HEC Hector,Ludlow 3.06 81 P **Pn 18 34 37.1 -0.1**
baz=263
TJX Tijuana 3.10 127 Pn **Pn 18 34 40.0 +2.2**
PMD Palm Desert 3.10 103 Pn 18 34 38.1 +0.4
GWY Greenwater Val 3.26 56 Pn 18 34 39.4 -0.7
GWY IAML 18 35 50.5
comp=E,18nm,4.2s
BAR Barrett 3.27 121 Pn **Pn 18 34 39.9 -0.1**
BAR IAML 18 35 23.6
comp=N,18nm,3.2s
BAR IAML 18 35 26.6
comp=E,24nm,3.3s
OMMB Old Mammoth Mi 3.31 14 Pn 18 34 41.3 +0.5
OMMB IAML 18 35 39.2
comp=N,23nm,0.5s
BELC Belle Mtn. Jos 3.34 96 P **Pn 18 34 41.0 -0.1**
baz=278,SNR=7.0
MONP2 Monument Peak 3.34 116 P **Pn 18 34 40.9 -0.3**
baz=298
MLAC Mammoth, Mammo 3.36 16 P **Pn 18 34 41.6 +0.1**
baz=197

GRAC Grapevine Rang 3.37 39 Pn 18 34 42.0 +0.6
GRAC IAML 18 35 39.9
comp=N,26nm,1.1s
GRAC IAML 18 35 48.8
comp=E,30nm,1.0s
DSP Deep Springs 3.40 29 Pn 18 34 42.9 +1.2
DSP IAML 18 35 36.5
comp=N,14nm,0.7s
CBX Cerro Bola 3.48 126 Pn **Pn 18 34 44.1 +1.1**
CBX IAML 18 35 54.2
comp=N,22nm,2.4s
CBX IAML 18 35 57.2
comp=E,22nm,1.9s
TUQ Turquoise Moun 3.51 72 P **Pn 18 34 42.8 -0.7**
baz=254
GMRC Granite Mounta 3.60 83 P **Pn 18 34 44.3 -0.5**
baz=265
CMB Columbia Colle 3.64 355 Pn **Pn 18 34 45.5 +0.3**
WCT Wildcat Mounta 3.65 48 Pn 18 34 45.6 +0.3
WCT IAML 18 35 49.0
comp=E,13nm,4.7s
GMN Gold Mountain 3.66 37 Pn 18 34 45.7 +0.2
IKP In-Ko-Pah, Jac 3.69 117 P **Pn 18 34 45.8 -0.1**
baz=300
RMX La Rumorosa 3.74 118 Pn **Pn 18 34 48.8 +2.2**
RMX IAML 18 35 29.6
comp=N,19nm,4.2s
YUH Yuha Desert 3.83 116 Pn **Pn 18 34 48.8 +1.1**
YUH IAML 18 35 57.9
comp=N,24nm,4.7s
YUH IAML 18 36 35.0
comp=E,16nm,4.2s
MZP Montezuma Peak 3.92 32 Pn 18 34 49.2 0.0
TPNV Topopah Spring 3.98 49 Pn 18 34 50.6 +0.7
TPNV IAML 18 36 05.6
comp=E,16nm,3.8s
IRM Iron Mountain 4.03 92 P **Pn 18 34 49.7 -0.8**
baz=275
LHV Little Huntoon 4.03 17 Pn 18 34 51.9 +1.5
LHV IAML 18 36 15.8
comp=E,20nm,5.0s
LHV IAML 18 37 21.1
comp=N,18nm,3.8s
ESJX Sierra Juarez 4.15 124 Pn **Pn 18 34 52.8 +0.4**
NVAR Mina Array Bea 4.25 18 Pn **Pn 18 34 53.8 0.0**
NV11 Mina Array Sit 4.29 20 Pn **Pn 18 34 54.1 -0.1**
NV11 IAML 18 35 55.4
comp=E,14nm,5.0s
NV11 IAML 18 36 10.1
comp=N,11nm,4.9s
V12A Nelson 4.43 71 Pn **Pn 18 34 55.8 -0.3**
V12A IAML 18 36 45.9
comp=E,11nm,5.0s
V12A IAML 18 37 37.5
comp=N,9.3nm,3.6s
NEE2 Needles Airpor 4.46 84 P **Pn 18 34 56.1 -0.3**
baz=267
SHPR Sheep Range 4.48 61 Pn **Pn 18 34 58.1 +1.3**
EMB Emerald Bay 4.57 359 Pn **Pn 18 34 58.7 +0.6**
BLYC Blythe 4.59 97 Pn **Pn 18 34 57.2 -1.0**
BLYC IAML 18 36 32.7
comp=N,11nm,3.7s
YERR Yerington 4.62 7 Pn **Pn 18 35 00.6 +1.8**
YERR IAML 18 36 13.8
comp=N,10nm,3.6s
PNTR Pine Nut 4.69 4 Pn **Pn 18 35 01.0 +1.2**
S11A Rachel 4.73 46 Pn **Pn 18 35 03.4 +3.1**
MPK Martis Peak 4.89 360 Pn **Pn 18 35 03.8 +1.2**
KVN Kaiserville 4.89 18 Pn **Pn 18 35 03.7 +1.2**
KVN IAML 18 36 22.2
comp=E,8.2nm,5.0s
KVN IAML 18 37 38.0
comp=N,9.5nm,4.7s
U15A North Rim 6.62 70 Pn **Pn 18 35 27.9 +1.7**
X16A Lo Mia Camp, P 7.08 87 Pn **Pn 18 35 33.0 +0.5**

*IDC **21** 18:38:32.6±0.5, 44.°04N×140.°81E, h0km, mb4.2/27, mbtmp4.2/32, ML2.9/4, MS3.7/39, Error ellipse: s-maj=13.3km s-min=10.6km az=174.0*
*NIED **21** 18:38:34.7, 44.°03N×140.°80E, h10km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}4.14; $M_{\theta\theta}$-1.96; $M_{\phi\phi}$-2.18; $M_{r\theta}$1.55; $M_{\theta\phi}$-2.41; $M_{\phi r}$0.41; Fault plane solution: $M_0$4.61000×10^{15} NP1:ϕ_s55.00000°, δ55.00000°, λ103.00000°. NP2:ϕ_s212.00000°, δ37.00000°, λ72.00000°.*
*JMA **21** 18:38:34.7±0.1, 44.°0N±0.°2×140.°8E±0.°4, h10km±1km, MD4.6/40, MW4.5/40, NW OFF HOKKAIDO*
JMA Felt II J1 at NW OFF HOKKAIDO .
*NEIC **21** 18:38:34.2±1.4, 44.°03N±0.°05×140.°86E±0.°07, h10km±1km, mb4.6/12, Error ellipse: s-maj=8.1km s-min=7.7km az=277.0*
*MOS **21** 18:38:36.2±1.9, 44.°03N×140.°76E, h26km, mb4.6/17, MS4.0/4, Error ellipse: s-maj=7.8km s-min=6.0km az=104.3*
*SKHL **21** 18:38:38.3±0.1, 44.°10N×140.°80E, h45km±5km, mb4.6/5*
ISC 21 18:38:36.8±0.6, **44.°02N**±0.°03×**140.°91E**±0.°03, **h25**km±4km, **n306**, σ1§**90**/259, **mb4.6**/98, **MS4.0**/39, **8C-17D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.55**	**42**	P	**Pb**	**18 38 46.0**	**-1.8**
JYG				*e*S	**Sb**	**18 38 54.0**	**-1.3**
JYG	**Yagishiri**	**0.55**	**42**	A	A	18 38 46.0	
comp=E,79nm,0.3s,comp=N,85nm,0.2s							
JHR	**Hokuryu**	**0.65**	**115**	⇓P	**Pb**	**18 38 48.6**	**-0.9**
JHR	**Hokuryu**	**0.65**	**115**	A	A	18 38 48.6	
comp=E,84nm,1.0s,comp=N,139nm,0.5s							
JSK	**Shakotan**	**0.74**	**206**	P	**Pb**	**18 38 48.6**	**-2.4**
JSK	**Shakotan**	**0.74**	**206**	A	A	18 38 48.6	
comp=E,20nm,4.8s,comp=N,18nm,6.0s							
JSS	**Shosan**	**0.78**	**60**	P	**Pb**	**18 38 50.8**	**-0.9**
JSS				*e*S	**Sn**	**18 39 02.7**	**-0.3**
JSS	**Shosan**	**0.78**	**60**	A	A	18 38 50.8	
comp=E,93nm,0.6s,comp=N,58nm,0.3s							
JISS	**Ishikarishitsu**	**0.83**	**154**	⇓P	**Pb**	**18 38 51.7**	**-0.8**
JISS				⇓*e*S	**Sn**	**18 39 04.2**	**-0.2**
JISS	**Ishikarishitsu**	**0.83**	**154**	A	A	18 38 51.7	
comp=E,98nm,0.8s,comp=N,142nm,0.9s							
JAB	**Ashibetsu**	**1.08**	**118**	*e*P	**Pn**	**18 38 56.1**	**-0.2**
JAB	**Ashibetsu**	**1.08**	**118**	A	A	18 38 56.1	
comp=E,90nm,1.1s,comp=N,41nm,1.2s							
JRR	**Rishiri**	**1.15**	**14**	*e*P	**Pn**	**18 38 56.8**	**-0.6**
JRR	**Rishiri**	**1.15**	**14**	A	A	18 38 56.8	
comp=E,95nm,0.8s,comp=N,111nm,2.2s							
ASAJ	**Asahikawa**	**1.22**	**85**	P	**Pn**	**18 38 58.1**	**-0.1**
ASAJ	**Asahikawa**	**1.22**	**85**	A	A	18 38 58.1	
comp=E,53nm,0.5s,comp=N,18nm,1.2s							
ASAJ	**Asahikawa**	**1.22**	**85**	Pn	**Pn**	**18 38 58.2**	**-0.1**
comp=N,394nm,0.3s,baz=276,slow=14,SNR=3021							
ASAJ				Sn	**Sb**	**18 39 16.0**	**+1.6**
comp=N,3μm,0.3s,baz=105,slow=33,SNR=30							
JKA	**Kamikawa-asahi**	**1.22**	**85**	Pn	**Pn**	**18 38 58.0**	**-0.3**
JKA				Sn	**Sb**	**18 39 16.2**	**+1.7**
JKA	**Kamikawa-asahi**	**1.22**	**85**	*e*P	**Pn**	**18 38 58.2**	**-0.1**
JEW	**Eniwo**	**1.24**	**161**	⇓P	**Pn**	**18 38 58.3**	**-0.3**
JEW	**Eniwo**	**1.24**	**161**	A	A	18 38 58.3	
comp=E,19nm,2.9s,comp=N,21nm,2.3s							
JKK2	**Kamakawa 2**	**1.33**	**96**	P	**Pn**	**18 39 00.1**	**+0.2**
JKK2	**Kamakawa 2**	**1.33**	**96**	A	A	18 39 00.1	
comp=E,45nm,1.3s,comp=N,19nm,1.4s							
JRBN	**Rebuntou**	**1.41**	**4**	*e*P	**Pn**	**18 38 59.3**	**-1.6**
JRBN				*e*S	**Sn**	**18 39 17.2**	**-1.5**
JRBN	**Rebuntou**	**1.41**	**4**	A	A	18 38 59.3	
comp=E,48nm,0.6s,comp=N,27nm,0.6s							
JWK2	**Keihoku**	**1.48**	**28**	A	A	18 39 01.8	
comp=E,27nm,1.3s,comp=N,26nm,1.8s							
JFR	**Furan**	**1.49**	**124**	A	A	18 39 02.6	
comp=E,13nm,1.6s,comp=N,14nm,1.8s							
JSH	**Shimam**	**1.51**	**205**	A	A	18 39 01.6	
comp=E,6.0nm,3.5s,comp=N,5.0nm,2.2s							
JSE	**Soyaes**	**1.52**	**51**	A	A	18 39 02.9	
comp=E,14nm,1.8s,comp=N,12nm,1.1s							
JIAM	**Iburiatsuma**	**1.58**	**152**	A	A	18 39 03.6	
comp=E,31nm,2.2s,comp=N,35nm,1.2s							
JBT2	**Biratori 2**	**1.63**	**139**	A	A	18 39 04.6	
comp=E,12nm,2.9s,comp=N,16nm,3.9s							
JHST	**Hiyamasetana**	**1.77**	**206**	A	A	18 39 05.4	
comp=E,10.0nm,4.3s,comp=N,7.0nm,3.1s							
JMP	**Maruseppu**	**1.77**	**90**	A	A	18 39 06.9	
comp=E,8.0nm,1.4s,comp=N,9.0nm,0.5s							
JYM2	**Yakumo 2**	**1.94**	**192**	A	A	18 39 08.2	
comp=E,5.0nm,6.0s,comp=N,5.0nm,4.3s							
JSHD	**Hidakashinhida**	**1.97**	**144**	A	A	18 39 09.5	
comp=E,18nm,5.7s,comp=N,23nm,2.2s							
JTKR	**Abashiri--Toko**	**2.16**	**90**	A	A	18 39 12.6	
comp=E,4.0nm,3.0s,comp=N,4.0nm,2.1s							
JNBK	**Urakawa-nobuka**	**2.20**	**142**	A	A	18 39 12.9	
comp=E,9.0nm,2.8s,comp=N,8.0nm,3.6s							
JCH	**Churui**	**2.27**	**127**	A	A	18 39 14.1	
comp=E,6.0nm,1.5s,comp=N,4.0nm,3.5s							
JOB	**Onbets**	**2.40**	**117**	A	A	18 39 16.0	
comp=E,7.0nm,1.5s,comp=N,5.0nm,3.5s							
ERM	**Erimo**	**2.59**	**140**	Pn	**Pn**	**18 39 18.0**	**+0.9**
ERM	**Erimo**	**2.59**	**140**	*ce*PN	**Pb**	**18 39 20.0**	**-2.6**
ERM				pmax	pmax		
comp=Z,316nm,1.0s							
JNSB	**Nemuroshibetsu**	**2.97**	**93**	A	A	18 39 24.2	
comp=E,8.0nm,1.9s,comp=N,13nm,2.8s							
AKK	**Akkeshi**	**3.03**	**108**	*e*P	**Pn**	**18 39 24.9**	**+1.8**
AKK				AMB	AMB	18 39 30.8	
comp=N,140nm,0.9s							
AKK				*e*S	**Sn**	**18 40 00.3**	**+1.7**
YSS	**Yuzh-Sakhalins**	**3.21**	**23**		**Pn**	**18 39 26.1**	**+0.5**
YSS	**Yuzh-Sakhalins**	**3.21**	**23**	*e*P	**Pn**	**18 39 26.2**	**+0.6**
YSS				AMB	AMB	18 39 32.2	
comp=N,180nm,0.6s							
YSS				*e*S	**Sn**	**18 40 01.9**	**-1.1**
YSS				A	A	18 40 06.5	
comp=N,170nm,0.7s							
YSS				A	A	18 40 06.5	
comp=N,130nm,0.7s							
YSS	**Yuzh-Sakhalins**	**3.21**	**23**	*e*PN	**Pn**	**18 39 27.3**	**+1.7**
YSS				*e*S	**Sn**	**18 40 05.0**	**+2.0**
YSS				pmax	pmax		
comp=Z,160nm,0.6s							
YSS				smax	smax		
comp=N,210nm,0.6s							
YSS				MLR	MLR		
comp=Z,2μm,11.0s							
JTM	**Tenmabayashi**	**3.23**	**178**	Pn	**Pn**	**18 39 26.5**	**+0.5**
TEY	**Ternei**	**3.24**	**290**	*e*P	**Pn**	**18 39 21.7**	**-4.4**
TEY				AMB	AMB	18 39 22.8	
comp=Z,40nm,0.8s							
TEY	**Ternei**	**3.24**	**290⇑**	*e*PN	**Pn**	**18 39 21.7**	**-4.4**
TEY				pmax	pmax		
comp=N,20nm,0.8s							
TEY				pmax	pmax		
comp=E,40nm,0.8s							
TEY				pmax	pmax		
comp=Z,40nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**3.57**	**88**	*e*P	**Pn**	**18 39 32.3**	**+1.7**
YUK				AMB	AMB	18 39 39.0	
comp=Z,370nm,0.7s							
YUK				*e*S	**Sn**	**18 40 13.1**	**+1.2**
YUK				A	A	18 40 15.4	
comp=Z,500nm,0.7s							
YUK				A	A	18 40 15.4	
comp=Z,400nm,0.7s							
SHO	**Shikotan**	**4.28**	**90**	*e*P	**Pn**	**18 39 43.1**	**+2.8**
KUR	**Kuril'sk**	**5.11**	**74**	*e*P	**Pn**	**18 39 54.0**	**+2.3**
KUR				AMB	AMB	18 40 01.2	
comp=Z,50nm,0.6s							
KUR				*e*S	**Sn**	**18 40 50.8**	**+0.9**
KUR				A	A	18 40 58.9	
comp=Z,70nm,0.7s							
KUR				A	A	18 40 58.9	
comp=Z,50nm,0.7s							
KUR	**Kuril'sk**	**5.11**	**74**	*e*PN	**Pn**	**18 39 54.3**	**+2.6**
JMM	**Marumori**	**6.15**	**181**	Pn	**Pn**	**18 40 06.7**	**+0.6**
JSD	**Sado**	**6.30**	**199**	Pn	**Pn**	**18 40 12.4**	**+4.3**
USA0B	**Ussuriysk Arra**	**6.43**	**275**	Pn	**Pn**	**18 40 07.7**	**-2.2**
USA0B	**Ussuriysk Arra**	**6.43**	**275⇑**	*e*PN	**Pn**	**18 40 09.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**6.43**	**275**	Pn	**Pn**	**18 40 07.4**	**-2.4**
USRK	**Ussuriysk Ar.**	**6.43**	**275**	Pn	**Pn**	**18 40 07.5**	**-2.3**
comp=Z,1.1nm,0.3s,baz=78,slow=14,SNR=15							
USRK				Sn	**Sn**	**18 41 27.2**	**+4.9**
comp=Z,0.3nm,0.3s,baz=82,slow=20,SNR=5.8							
comp=Z,2.7nm,0.4s							
GRNR	**Gornyy**	**7.41**	**337**	*e*P	**Pn**	**18 40 24.6**	**+1.3**
GRNR	**Gornyy**	**7.41**	**337**	⇓*i*PN	**Pn**	**18 40 24.6**	**+1.3**
GRNR				pmax	pmax		
comp=N,10.0nm,1.0s							
GRNR				pmax	pmax		
comp=E,5.0nm,1.0s							
GRNR				pmax	pmax		
comp=Z,9.0nm,0.6s							
GRNR				MLR	MLR		
comp=E,780nm,15.0s							
GRNR				MLR	MLR		
comp=N,770nm,13.0s							
GRNR				MLR	MLR		
comp=Z,1μm,14.0s							
MJB9	**Matsu-Tunnel**	**7.75**	**196**		**Pn**	**18 40 25.1**	**-2.9**
MAJO	**Matsushiro**	**7.75**	**196**	Pn	**Pn**	**18 40 23.7**	**-4.3**
MAJO	**Matsushiro**	**7.75**	**196⇑**	*e*PN	**Pn**	**18 40 31.2**	**+3.2**
MAJO				pmax	pmax		
comp=Z,45nm,2.4s							
MJAR	**Matsushiro Arr**	**7.75**	**196**	Pn	**Pn**	**18 40 28.5**	**+0.4**
baz=12,slow=12,SNR=7.9							
MJAR				LR	LR	18 44 00.2	
comp=Z,390nm,18.3s,baz=18,slow=42							
comp=Z,4.8nm,0.9s							
MDJ	**Mudanjiang**	**8.14**	**278**	P	**Pn**	**18 40 30.6**	**-2.7**
MDJ				sP	Pn	18 40 34.3	+1.0
MDJ				S	**Sn**	**18 42 04.8**	**+0.3**
MDJ				sS	Sn	18 42 09.6	+5.1
MDJ				SS	**SnSn**	**18 42 19.0**	**+3.3**
MDJ				pmax	pmax		
comp=Z,10.0nm,2.3s							
MDJ				pmax	pmax		
comp=Z,280nm,6.3s							
MDJ				LR	LR		
comp=N,2μm,12.1s							
MDJ				LR	LR		
comp=E,720nm,9.9s							
MDJ				LR	LR		
comp=Z,750nm,13.4s							
KLR	**Kul'dur**	**8.18**	**313**	Pn	**Pn**	**18 40 32.3**	**-1.5**
comp=Z,0.3nm,0.3s,baz=116,slow=16,SNR=10							
KLR				Sn	**Sn**	**18 42 07.1**	**+1.7**
baz=38,slow=19							
KLR				LR	LR	18 43 53.5	
comp=Z,679nm,19.7s,baz=154,slow=40							
comp=Z,2.6nm,0.4s							
HEH	**HeiHe**	**11.10**	**309**	*e*P	**Pn**	**18 41 12.4**	**-1.5**
HEH				S	**Sn**	**18 43 15.3**	**-1.8**
HEH				smax	smax		
comp=N,25nm,1.4s							
HEH				smax	smax		
comp=E,21nm,1.5s							
HEH				LR	LR		
comp=N,810nm,10.5s							
HEH				LR	LR		
comp=E,920nm,10.0s							
HEH				LR	LR		
comp=Z,2μm,11.2s							
KSRS	**Korea Array**	**11.83**	**241**	Pn	**Pn**	**18 41 25.3**	**+1.5**
comp=Z,0.2nm,0.3s,baz=56,slow=13,SNR=4.8							
KSRS				LR	LR	18 44 56.8	
comp=Z,64nm,19.7s,baz=70,slow=32							
ZEA	**Zeya**	**13.22**	**322**	*e*PN	**P**	**18 41 50.2**	**-2.3**
ZEA				pmax	pmax		
comp=Z,20nm,1.1s							
ZEA				MLR	MLR		
comp=E,400nm,15.0s							
ZEA				MLR	MLR		
comp=N,500nm,13.0s							
ZEA				MLR	MLR		
comp=Z,500nm,8.0s							
PEA0B	**Petropavlovsk-**	**14.33**	**45**		**P**	**18 42 02.0**	**-2.8**
PEA0B	**Petropavlovsk-**	**14.33**	**45**	P	**P**	**18 42 02.0**	**-2.8**
PETK	**Petropavlovsk-**	**14.33**	**45**		**P**	**18 42 02.4**	**-2.4**
PETK	**Petropavlovsk-**	**14.33**	**45**	P	**P**	**18 42 02.4**	**-2.4**
PETK	**Petropavlovsk-**	**14.33**	**45**	Pn	**Pn**	**18 41 57.5**	**-0.4**
comp=Z,0.1nm,0.3s,baz=242,slow=11,SNR=6.3							
PETK				LR	LR	18 47 11.2	
comp=Z,70nm,20.3s,baz=217,slow=36							
comp=Z,7.8nm,1.0s							
HIA	**Hailar**	**15.44**	**297**	P	**P**	**18 42 15.1**	**-2.1**
HIA	**Hailar**	**15.44**	**297**	P	**P**	**18 42 15.1**	**-2.1**
HIA				pmax	pmax		
comp=Z,17nm,1.1s							
MA2	**Magadan**	**16.70**	**18**	Pn	**Pn**	**18 42 29.3**	**+0.4**
comp=Z,3.2nm,0.3s,baz=177,slow=19,SNR=1.5							
MA2				LR	LR	18 49 01.9	
comp=Z,54nm,19.2s,baz=175,slow=38							
JCJ	**Chichijima**	**16.92**	**176**	LR	LR	18 49 46.1	

comp=Z,72nm,18.1s,baz=95,slow=40
XLT XiLinHaoTe 17.86 278 *e*P **P 18 42 48.1 +4.0**
XLT sP sP 18 42 59.1 +5.3
XLT pmax pmax
comp=Z,8.0nm,1.2s
XLT pmax pmax
comp=Z,320nm,6.1s
YAK Yakutsk 19.21 344 P **P 18 42 57.8 -0.9**
YAK IAmb IAmb 18 43 03.3
comp=Z,47nm,1.0s
YAK Yakutsk 19.21 344 *e*P **Pn 18 42 59.6 -0.1**
YAK Yakutsk 19.21 344 *e*P **P 18 42 58.8 +0.1**
YAK *e*S **Sn 18 46 34.5 +0.4**
YAK pmax pmax
comp=Z,55nm,1.3s
YAK pmax pmax
comp=N,25nm,1.6s
YAK pmax pmax
comp=E,6.0nm,1.6s
YAK pmax pmax
comp=Z,311nm,5.3s
YAK pmax pmax
comp=N,414nm,4.0s
YAK pmax pmax
comp=E,223nm,4.6s
YAK smax smax
comp=E,516nm,3.6s
YAK smax smax
comp=N,496nm,3.7s
SEY Seymchan 20.08 15 *e*P Pn 18 43 10.8 +0.8
SEY Seymchan 20.08 15⇓*e*P Pn 18 43 10.8 +0.8
SEY pmax pmax
comp=Z,34nm,1.3s
SEY Seymchan 20.08 15 P **P 18 43 08.8 +0.7**
comp=Z,14nm,0.9s,baz=209,slow=8.1,SNR=22
SEY LR LR 18 50 35.8
comp=Z,94nm,22.0s,baz=201,slow=36
comp=Z,14nm,0.9s
HNS HongShan 20.89 261 ⇓P Pn 18 43 21.1 +1.5
HNS PP **PnPn 18 43 42.0 +6.3**
HNS pmax pmax
comp=Z,13nm,0.9s
NJ2 Nanjing 21.01 243 *e*P **P 18 43 15.9 -2.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
HHC Hu-ho-hao-te 21.84 272 *e*P **P 18 43 25.3 -2.1**
HHC pmax pmax
comp=Z,38nm,0.7s
HHC LR LR
comp=N,1μm,10.6s
HHC LR LR
comp=E,820nm,11.5s
HHC LR LR
comp=Z,850nm,12.8s
BTO Baotou 23.03 272 *e*P **P 18 43 42.1 +2.0**
BTO pP **sP 18 43 51.3 +1.5**
BTO sP pP 18 43 55.3 +8.5
BTO PP **PnPn 18 44 12.6 +7.5**
BTO S **S 18 47 47.5 -1.8**
BTO sS **sS 18 48 00.5 -0.4**
BTO SS **SnSn 18 48 32.1 +10**
BTO pmax pmax
comp=Z,32nm,1.0s
BTO pmax pmax
comp=Z,500nm,6.3s
BTO LR LR
comp=N,2μm,12.3s
BTO LR LR
comp=E,940nm,11.7s
BTO LR LR
comp=Z,620nm,8.3s
ULN Ulaanbaatar 23.74 291 P **P 18 43 46.6 -0.5**
ULN Ulaanbaatar 23.74 291 *e*P **P 18 43 48.5 +1.4**
ULN Ulaanbaatar 23.74 291⇓*e*P **P 18 43 48.5 +1.4**
ULN pmax pmax
comp=Z,6.0nm,1.4s
SONM Songino Array 24.19 291 P **P 18 43 50.5 -0.8**
SONM Songino Array 24.19 291 *e*P **P 18 43 53.1 +1.9**
SONM pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 24.19 291 P **P 18 43 50.3 -0.9**
comp=Z,2.7nm,0.8s,baz=89,slow=7.9,SNR=12
comp=Z,2.7nm,0.8s
TIXI Tiksi 28.32 352 *ce*P **P 18 44 31.9 +3.8**
TIXI pmax pmax
comp=Z,8.0nm,2.5s
GUMO Guam 30.52 172 LR LR 19 03 55.8
comp=Z,33nm,18.8s,baz=18,slow=50
GOMU GeErMu 35.73 274 P **P 18 45 36.9 +3.1**
GOMU pP pP 18 45 40.3 -0.8
GOMU sP sP 18 45 42.3 -1.7
GOMU pmax pmax
comp=Z,3.0nm,0.9s
PZH PanZhiHua 36.04 254 P **P 18 45 35.9 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,480nm,6.1s
DGZ Jazzator, Alta 36.35 298⇓*e*P **P 18 45 39.4 +0.6**
DGZ pmax pmax
comp=Z,11nm,1.4s
ZAA0 Zalesovo Array 37.21 306 P **P 18 45 45.3 -0.5**
ZALV Zalesovo Beam 37.21 306 P **P 18 45 44.7 -1.1**
ZALV **PcP 18 48 05.7 +0.5**
ZALV Zalesovo Beam 37.21 306 P **P 18 45 44.7 -1.1**
ZALV 18 48 05.7
ZALV Zalesovo Beam 37.21 306 P **P 18 45 44.2 -1.5**
comp=Z,0.8nm,0.4s,baz=73,slow=7.7,SNR=5.5
ZALV PcP **PcP 18 48 04.1 -1.1**
comp=Z,1.9nm,0.7s,baz=73,slow=5.0,SNR=6.8
comp=Z,0.8nm,0.4s
WMQ Urumqi 37.77 289 *e*P **P 18 45 48.8 -2.0**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ LR LR
comp=N,1μm,12.3s
WMQ LR LR
comp=E,400nm,14.7s
WMQ LR LR
comp=Z,25nm,15.9s
C18K Utukok River 38.30 30 P **P 18 45 55.0 +0.1**
C18K IAmb IAmb 18 46 22.2
comp=Z,29nm,1.4s
G18K Tagagawik 38.96 35 P **P 18 45 59.3 -1.2**
G18K IAmb IAmb 18 46 00.5
comp=Z,9.1nm,0.8s
H18K Honhosa River 39.04 36 P **P 18 46 01.0 -0.1**
H18K IAmb IAmb 18 46 32.4
comp=Z,19nm,1.4s
F19K Shaleruckik Mo 39.38 33 P **P 18 46 03.1 -0.7**
F19K IAmb IAmb 18 46 04.2
comp=Z,11nm,0.9s
D19K Kuna River 39.40 31 P **P 18 46 03.9 -0.2**
D19K IAmb IAmb 18 46 05.6
comp=Z,29nm,1.4s
G19K Purcell Mounta 39.61 34 P **P 18 46 04.6 -1.3**
G19K IAmb IAmb 18 46 06.0
comp=Z,9.8nm,0.9s
E19K Redstone River 39.63 32 P **P 18 46 05.0 -1.0**
H19K Roundabout Mou 39.86 35 P **P 18 46 06.8 -1.1**
H19K IAmb IAmb 18 46 09.6
comp=Z,24nm,1.1s
B20K Meade River 39.91 28 P **P 18 46 07.1 -1.2**
MK31 Makanchi Array 40.42 295 P **P 18 46 12.7 -0.2**
MK31 Makanchi Array 40.42 295 P **P 18 46 12.7 -0.2**
MK31 pmax pmax
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 40.42 295 P **P 18 46 11.1 -1.9**
MKAR Makanchi Array 40.42 295 P **P 18 46 11.7 -1.2**
comp=Z,0.6nm,0.6s,baz=79,slow=9.4,SNR=5.5
MKAR PcP **PcP 18 48 14.8 -0.7**
comp=Z,1.1nm,0.9s,baz=58,slow=4.1,SNR=2.3
comp=Z,0.6nm,0.6s
MAKZ Makanchi 40.62 295 P **P 18 46 13.2 -1.4**
MAKZ Makanchi 40.62 295 P **P 18 46 13.2 -1.4**
MAKZ pmax pmax
comp=Z,9.0nm,1.4s
B21K Ikpikpuk River 40.76 29 P **P 18 46 13.4 -1.9**
B21K IAmb IAmb 18 46 15.2
comp=Z,20nm,1.1s
K20K Telida 40.93 39 P **P 18 46 16.1 -0.7**
N19K Bonanza Creek 40.95 42 P **P 18 46 16.2 -1.0**
N19K IAmb IAmb 18 46 51.0
comp=Z,22nm,1.4s
IMAR Indian Mountai 40.97 35 P **P 18 46 16.2 -0.9**
G21K Allakaket 41.07 34 P **P 18 46 16.1 -1.8**
G21K IAmb IAmb 18 46 18.3
comp=Z,11nm,0.9s
H21K Melozitna River 41.37 35 P **P 18 46 19.9 -0.5**
KURK Kurchatov 41.60 302 P **P 18 46 21.6 -0.9**
KURK Kurchatov 41.60 302 *e*P **P 18 46 21.7 -0.8**
KURK Kurchatov 41.60 302 P **P 18 46 21.7 -0.8**
KURK 18 48 18.7
KURBB Kurchatov Arra 41.68 302 P **P 18 46 21.7 -1.4**
KURBB PcP **PcP 18 48 18.7 -0.7**
comp=Z,1.1nm,1.0s,baz=72,slow=3.1,SNR=4.2
KURBB LR LR 19 03 31.1
comp=Z,65nm,20.9s,baz=178,slow=36
comp=Z,2.3nm,0.8s
E22K Anaktuvuk Pass 41.72 31 P **P 18 46 22.1 -1.1**
E22K IAmb IAmb 18 46 23.3
comp=Z,9.5nm,0.9s
CAST Castle Rocks 41.82 38 P **P 18 46 23.8 -0.4**
C23K Itkillik River 42.16 29 P **P 18 46 24.9 -1.9**
C23K IAmb IAmb 18 46 49.6
comp=Z,11nm,1.1s
KDAK Kodiak Island 42.37 47 P **P 18 46 28.3 -0.3**
KDAK IAmb IAmb 18 46 29.9
comp=Z,14nm,0.9s
KDAK Kodiak Island 42.37 47 P **P 18 46 28.3 -0.3**
KDAK pmax pmax
comp=Z,14nm,0.9s
KDAK Kodiak Island 42.37 47 P **P 18 46 28.2 -0.3**
comp=Z,11nm,0.9s,baz=288,slow=9.6,SNR=4.3
comp=Z,11nm,0.9s
G23K Bananza Creek 42.45 33 P **P 18 46 28.2 -1.1**
TOLK Toolik Lake Re 42.54 31 P **P 18 46 27.0 -3.0**
E24K Your Creek 42.96 31 P **P 18 46 32.1 -1.3**
E24K IAmb IAmb 18 46 33.1
comp=Z,15nm,1.4s
NEA2 Nenana 43.02 36 P **P 18 46 33.1 -0.8**
F24K Squaw Lake 43.23 32 P **P 18 46 34.9 -0.7**
MDM Murphy Dome 43.34 36 P **P 18 46 36.1 -0.4**
CMAR Chiang Mai Arr 43.36 248 *e*P **P 18 46 40.2 +3.1**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 43.36 248 P **P 18 46 37.0 -0.1**
comp=Z,0.2nm,0.3s,baz=50,slow=6.6,SNR=6.0
CMAR LR LR 19 06 58.7
comp=Z,21nm,18.3s,baz=255,slow=39
comp=Z,0.2nm,0.3s
H24K Noodor Dome 43.39 35 P **P 18 46 36.7 -0.2**
H24K IAmb IAmb 18 46 37.7
comp=Z,8.7nm,1.1s
MYLDM Lahad Datu 43.42 214 **P 18 46 36.0 -1.5**
WRH Wood River Hil 43.46 37 P **P 18 46 36.8 -0.6**
G24K Hadweenzic Riv 43.46 33 P **P 18 46 37.2 -0.2**
GHO Glory Hole Cre 43.48 41 P **P 18 46 36.8 -0.9**
GHO IAmb IAmb 18 46 38.9
comp=Z,12nm,1.0s
D25K Kavik River 43.66 29 P **P 18 46 38.3 -0.7**
IL31 43.93 36 P **P 18 46 39.7 -1.4**
ILAR Eielson Array 43.93 36 P **P 18 46 39.8 -1.4**
ILAR Eielson Array 43.93 36 P **P 18 46 39.8 -1.4**
ILAR Eielson Array 43.93 36 P **P 18 46 39.6 -1.6**
comp=Z,3.4nm,0.8s,baz=281,slow=7.5,SNR=22
ILAR LR LR 19 04 45.0
comp=Z,28nm,18.6s,baz=284,slow=36
comp=Z,3.4nm,0.8s
DHY Denali Highway 43.98 38 P **P 18 46 40.6 -1.2**
FYU Fort Yukon 44.36 33 P **P 18 46 44.4 -0.2**
FYU IAmb IAmb 18 46 45.1
comp=Z,10nm,1.1s
PRP Porcupine Dome 44.39 35 P **P 18 46 44.5 -0.6**
PRP IAmb IAmb 18 46 45.8
comp=Z,7.7nm,0.9s
BMAR Burnt Mountain 44.51 32 P **P 18 46 45.6 -0.3**
BMAR **PP 18 48 30.3 +0.8**
TAPN Taplejung 45.51 267 *e*P **P 18 46 58.0 +3.4**
comp=Z,8.6nm,0.8s
BVAR Borovoye Array 45.80 307 P **P 18 46 54.7 -1.5**
comp=Z,1.9nm,0.5s,baz=72,slow=9.5,SNR=13
BVAR PcP **PcP 18 48 33.8 +0.4**
comp=Z,1.0nm,0.5s,baz=101,slow=3.1,SNR=4.6
BVAR LR LR 19 07 10.7
comp=Z,100nm,21.9s,baz=74,slow=38
comp=Z,1.9nm,0.5s
BRVK Borovoye 45.85 307 P **P 18 46 54.7 -1.9**
BRVK IAmb IAmb 18 47 00.5
comp=Z,7.9nm,1.1s
BRVK Borovoye 45.85 307 *e*P **P 18 46 57.5 +0.9**
BRVK Borovoye 45.85 307⇓*e*P **P 18 46 57.5 +0.9**
BRVK pmax pmax
comp=Z,12nm,1.7s
ODAN Odare 46.02 267 *e*P **P 18 47 02.5 +3.9**
F28M Old Crow 46.26 31 P **P 18 46 60.0 +0.3**
F28M IAmb IAmb 18 47 11.3
comp=Z,5.5nm,1.1s
MCARA McCarthy VSAT 46.32 40 P **P 18 46 59.2 -1.0**
JIRN Jiri 46.42 268 *e*P **P 18 47 04.0 +2.1**
comp=Z,20nm,1.1s
L27K Beaver Creek, 46.45 38 P **P 18 47 01.1 -0.2**
L27K IAmb IAmb 18 47 02.9
comp=Z,4.9nm,0.9s
BCAR Beaver Creek A 46.47 38 P **P 18 47 00.0 -1.4**
GUN Gumba 46.50 269 *e*P **P 18 47 03.3 +0.8**
comp=Z,12nm,0.7s
RAMN Ramite 46.54 267 *e*P **P 18 47 05.8 +3.1**
I28M Miner Creek 46.70 34 P **P 18 47 03.2 -0.1**
I28M IAmb IAmb 18 47 04.2
comp=Z,7.2nm,0.9s
KKN Kakani 47.00 269 *e*P **P 18 47 07.5 +1.3**
PKI Pulchoki 47.04 269 *e*P **P 18 47 07.9 +1.3**
comp=Z,30nm,1.5s
PKIN Phulchoki 47.04 269 *e*P **P 18 47 07.7 +1.1**
comp=Z,24nm,1.3s
AAK Ala-Archa 47.13 293 *e*P **P 18 47 10.5 +3.5**
AAK Ala-Archa 47.13 293⇓*e*P **P 18 47 10.5 +3.5**
AAK pmax pmax
comp=Z,4.0nm,1.1s
AAK Ala-Archa 47.13 293 LR LR 19 10 27.4
comp=Z,45nm,19.9s,baz=84,slow=41
GKN Gorkha 47.34 270 *e*P **P 18 47 08.9 +0.1**
comp=Z,43nm,1.4s
DANN Dangsing 47.78 271 *e*P **P 18 47 11.7 -0.7**
comp=Z,31nm,0.8s
I30M Mount Dempster 48.20 34 P **P 18 47 13.7 -1.2**
I30M IAmb IAmb 18 47 15.8
comp=Z,7.6nm,1.1s
KOLN Koldanda 48.23 270 *e*P **P 18 47 15.6 -0.1**
PYUN Piuthan 48.48 271 *e*P **P 18 47 16.8 -0.9**
comp=Z,73nm,1.1s
HYT Haines Junctio 49.05 40 P **P 18 47 20.9 -0.7**
KK31 Karatay Array 49.55 295 P **P 18 47 24.1 -1.4**
KK31 IAmb IAmb 18 47 29.2
comp=Z,4.7nm,0.9s
KK31 Karatay Array 49.55 295 P **P 18 47 24.1 -1.4**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 49.55 295 P **P 18 47 24.6 -0.9**
KKAR Karatay Array 49.55 295 P **P 18 47 23.9 -1.6**
KKAR IAmb IAmb 18 47 29.1
comp=Z,4.7nm,0.9s
KKAR Karatay Array 49.55 295 P **P 18 47 23.9 -1.6**
KKAR pmax pmax
comp=Z,5.0nm,0.9s
SVE Sverdlovsk 49.80 315 *e*P **P 18 47 29.9 +2.8**
SVE pmax pmax
comp=Z,11nm,1.2s
ARU Arti 51.01 315 P **P 18 47 35.0 -1.3**
ARU IAmb IAmb 18 47 40.0
comp=Z,12nm,1.3s
ARU Arti 51.01 315 *e*P **P 18 47 38.5 +2.2**
ARU Arti 51.01 315*c i*P **P 18 47 38.5 +2.2**
ARU 18 48 55.2
ARU 18 49 32.5
ARU S **S 18 54 55.6 +3.9**
ARU SS **SS 18 58 22.3 -4.0**
ARU pmax pmax
comp=Z,9.0nm,1.1s
ARU MLR MLR
comp=Z,206nm,13.0s
ARU Arti 51.01 315 LR LR 19 10 39.1
comp=Z,157nm,18.7s,baz=70,slow=38
ABKAR Akbulak array 53.32 306 P **P 18 47 52.6 -0.9**
SPITS Spitsbergen Ar 53.61 348 LR LR 19 13 24.0
comp=Z,54nm,18.2s,baz=5.5,slow=39
AKTO Aktyubinsk 53.88 308 LR LR 19 12 36.3
comp=Z,94nm,19.4s,baz=99,slow=38
KIRV Kirov 54.55 320 LR LR 19 13 45.2
comp=Z,136nm,20.4s,baz=97,slow=39
HNR Honiara 55.93 157 LR LR 19 11 19.5
comp=Z,374nm,20.2s,baz=52,slow=35
ARCES ARCESS Array B 57.36 338 LR LR 19 17 46.4
comp=Z,128nm,18.3s,baz=37,slow=41
YKA Yellowknife Ar 58.02 32 P **P 18 48 25.6 -1.5**
comp=Z,2.3nm,0.8s,baz=302,slow=7.0,SNR=4.3
comp=Z,2.3nm,0.8s
BELG Belogornoye 58.54 314 LR LR 19 16 20.7
comp=Z,214nm,18.4s,baz=130,slow=39
GEYT Alibeck 60.30 295 P **P 18 48 42.3 -1.1**
GEYT Alibeck 60.30 295 P **P 18 48 43.5 +0.1**
comp=Z,3.2nm,0.5s,baz=104,slow=4.6,SNR=11
GEYT LR LR 19 16 45.9
comp=Z,109nm,19.3s,baz=86,slow=38
comp=Z,3.2nm,0.5s
GYA0B ALIBECK ARRAY 60.30 295 P **P 18 48 43.0 -0.4**
FINES FINESS Array B 62.50 331 *e*P **P 18 49 00.7 +3.0**
FINES pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 62.50 331 P **P 18 48 55.3 -2.4**
comp=Z,5.9nm,1.0s,baz=48,slow=2.1,SNR=2.6
FINES LR LR 19 18 22.4
comp=Z,246nm,19.0s,baz=50,slow=38
comp=Z,5.9nm,1.0s
WB2 Warramunga Arr 63.93 187 P **P 18 49 06.5 -1.1**
WRA Warramunga Arr 63.93 187 P **P 18 49 06.8 -0.8**
comp=Z,3.5nm,0.7s,baz=4.5,slow=7.1,SNR=19
comp=Z,3.5nm,0.7s
EDM Edmonton 64.17 40 P **P 18 49 08.8 -0.3**
EDM Edmonton 64.17 40 P **P 18 49 08.8 -0.3**
EDM pmax pmax
comp=Z,34nm,1.3s
KIV Kislovodsk 66.14 309 P **P 18 49 21.4 -0.6**
KIV Kislovodsk 66.14 309 *e*P **P 18 49 23.4 +1.4**
KIV Kislovodsk 66.14 309 *e*P **P 18 49 23.4 +1.4**
KIV pmax pmax
comp=Z,14nm,1.1s
KIV MLR MLR
comp=Z,116nm,17.0s
KBZ Khabaz 66.17 308 *e*P **P 18 49 23.0 +1.0**
KBZ Khabaz 66.17 308⇑*e*P **P 18 49 23.0 +1.0**
KBZ pmax pmax
comp=Z,4.0nm,1.1s
KBZ Khabaz 66.17 308 P **P 18 49 21.9 -0.1**
comp=Z,2.0nm,0.9s,baz=70,slow=3.8,SNR=4.2
comp=Z,2.0nm,0.9s
ZEI Tsey 66.18 307 *e*P **P 18 49 21.6 -0.8**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
PINE Pine Mountain 66.20 52 P **P 18 49 21.8 -0.7**
GNI Garni 67.34 304⇓*e*P **P 18 49 33.2 +3.4**
GNI pmax pmax
comp=Z,10.0nm,1.4s
HFS Hagfors 67.60 334 LR LR 19 21 27.5
comp=Z,70nm,19.4s,baz=40,slow=38
NOA NORSAR Array B 67.62 336 *e*P **P 18 49 34.1 +3.0**
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA NORSAR Array B 67.62 336 P **P 18 49 28.9 -2.2**
comp=Z,1.2nm,0.9s,baz=34,slow=6.0,SNR=1.8
NOA LR LR 19 22 13.4
comp=Z,70nm,20.5s,baz=35,slow=39
comp=Z,1.2nm,0.9s
ASAR Alice Springs 67.66 187 P **P 18 49 31.1 -0.5**
ASAR Alice Springs 67.66 187 P **P 18 49 31.2 -0.5**
ASAR Alice Springs 67.66 187 P **P 18 49 30.2 -1.4**
comp=Z,3.2nm,0.8s,baz=3.3,slow=5.2,SNR=17
comp=Z,3.2nm,0.8s
MSO Missoula 68.04 46 P **P 18 49 33.8 -0.2**
PLID Pearl Lake 68.10 48 P **P 18 49 34.1 -0.5**
PLID IAmb IAmb 18 49 36.6
comp=Z,6.2nm,1.1s
AKASG Malin Array Be 68.60 321 P **P 18 49 35.6 -1.7**
comp=Z,1.2nm,0.7s,baz=42,slow=7.0,SNR=7.2
AKASG LR LR 19 22 13.7
comp=Z,104nm,19.8s,baz=2.5,slow=38
comp=Z,1.2nm,0.7s
AKBB Malin Array Si 68.60 321⇑*e*P **P 18 49 40.5 +3.2**
MFID Camas Ranch 69.29 49 P **P 18 49 42.1 +0.2**
MFID IAmb IAmb 18 49 44.5
comp=Z,5.3nm,0.8s
PAHR Pah Rah Range 69.71 54 IAmb IAmb 18 49 46.9
comp=Z,8.8nm,1.1s
DZM Mont Dzumac 69.81 155 *e*LR LR 19 10 41.8
comp=Z,97nm,22.8s
DZM Mont Dzumac 69.81 155 LR LR 19 16 30.5
comp=Z,48nm,21.8s,baz=36,slow=33
HLID Hailey 69.96 48 IAmb IAmb 18 49 54.7
comp=Z,3.8nm,1.0s
FRB Frobisher Bay 70.07 13 LR LR 19 22 20.2
comp=Z,38nm,19.2s,baz=222,slow=38
YHL Hebgen Lake 70.79 46 P **P 18 49 51.1 -0.3**
YHL IAmb IAmb 18 49 53.9
comp=Z,9.8nm,1.1s
KVN Kaiserville 70.89 54 IAmb IAmb 18 49 54.4
comp=Z,8.4nm,1.1s
NVAR Mina Array Bea 71.18 55 P **P 18 49 54.2 +0.6**
comp=Z,2.6nm,0.9s,baz=295,slow=6.5,SNR=13
comp=Z,2.6nm,0.9s
FXWY Fox Creek 71.71 47 IAmb IAmb 18 50 03.2
comp=Z,6.4nm,1.0s
MOOW Moose Ponds 71.78 46 IAmb IAmb 18 50 00.2
comp=Z,8.6nm,1.1s
TPAW Teton Pass 71.85 47 P **P 18 49 57.7 0.0**
ID07 Smith Canyon R 71.91 48 IAmb IAmb 18 50 01.0
comp=Z,4.7nm,0.8s
HVU Hansel Valley 72.06 49 IAmb IAmb 18 50 01.4
comp=Z,5.8nm,1.1s
ID05 Sulphur Canyon 72.17 48 IAmb IAmb 18 50 02.2
comp=Z,6.1nm,1.0s
BUR08 Bucovina Ar. S 72.63 320 P **P 18 50 01.9 -0.2**
BUR08 IAmb IAmb 18 50 09.4
comp=Z,6.8nm,1.3s
HWUT Hardware Ranch 72.83 48 IAmb IAmb 18 50 06.1
comp=Z,8.3nm,0.9s
PD31 Pinedale Array 73.09 47 IAmb IAmb 18 50 07.0
comp=Z,8.4nm,0.9s
PDAR Pinedale Array 73.09 47 P **P 18 50 05.3 +0.3**
PDAR Pinedale Array 73.09 47 P **P 18 50 06.0 +0.9**
comp=Z,5.9nm,0.8s,baz=299,slow=1.8,SNR=41
comp=Z,5.9nm,0.8s
SPR3 Spring Creek 3 73.09 52 P **P 18 50 05.3 0.0**
SPR3 IAmb IAmb 18 50 11.8
comp=Z,7.5nm,1.2s
DUG Dugway, Tooele 73.12 50 IAmb IAmb 18 50 07.8
comp=Z,7.7nm,1.1s
TPNV Topopah Spring 73.38 55 IAmb IAmb 18 50 09.0
comp=Z,6.4nm,1.1s
NLU North Lily Min 73.70 50 IAmb IAmb 18 50 15.6
comp=Z,4.7nm,0.8s
MLR Muntele Rosu 73.86 318 LR LR 19 28 10.5
comp=Z,74nm,18.9s,baz=174,slow=40
ULM Lac du Bonnet 73.90 34 P **P 18 50 09.7 +0.3**
comp=Z,4.9nm,0.8s,baz=315,slow=4.3,SNR=3.6
comp=Z,4.9nm,0.8s
BRTR Keskin Array B 74.00 310 P **P 18 50 09.3 -1.1**
BRTR Keskin Array B 74.00 310 *e*P **P 18 50 13.8 +3.4**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 74.00 310 P **P 18 50 10.6 +0.2**
comp=Z,0.9nm,0.8s,baz=72,slow=4.3,SNR=6.9
comp=Z,0.9nm,0.8s
BSUT Blindstream Ca 74.01 49 IAmb IAmb 18 50 15.3
comp=Z,6.9nm,0.9s
P17A Butcher Ranch, 74.77 50 IAmb IAmb 18 50 17.5
comp=Z,10nm,1.2s
CLL Collm 74.88 329 *e*P **P 18 50 13.0 -2.1**
CLL Collm 74.88 329 *e*P **P 18 50 13.0 -2.1**
CLL *e*PP **PP 18 52 57.0 -5.0**
LCMT Little Creek M 75.08 53 P **P 18 50 16.0 -0.7**
VRAC Vranov 75.09 326 LR LR 19 26 45.9
comp=Z,126nm,20.9s,baz=42,slow=39
SRU San Rafael Swe 75.14 50 IAmb IAmb 18 50 19.3
comp=Z,7.6nm,1.0s
STKA Stephens Creek 75.53 179 P **P 18 50 19.6 +0.8**
comp=Z,3.1nm,0.8s,baz=338,slow=5.7,SNR=4.0
comp=Z,3.1nm,0.8s
HMU Henry Mountain 75.85 51 IAmb IAmb 18 50 23.0
comp=Z,7.0nm,0.9s
U15A North Rim 76.04 53 IAmb IAmb 18 50 25.1
comp=Z,5.1nm,0.8s
GERES GERESS Array B 76.61 327 *e*P **P 18 50 29.2 +4.1**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES GERESS Array B 76.61 327 P **P 18 50 24.4 -0.7**
comp=Z,0.4nm,0.6s,baz=15,slow=8.1,SNR=2.4

GERES LR LR 19 27 48.5
comp=Z,61nm,18.1s,baz=24,slow=39
comp=Z,0.4nm,0.6s
SMCO Snowmass 77.02 48 IAmb IAmb 18 50 30.2
comp=Z,9.0nm,1.3s
MMAI Mount Meron Ar 77.67 304 P **P 18 50 30.8 -0.6**
comp=Z,2.6nm,0.7s,baz=67,slow=6.7,SNR=7.7
MMAI LR LR 19 29 11.9
comp=Z,50nm,18.3s,baz=12,slow=39
comp=Z,2.6nm,0.7s
DAVOX Davos/Dischmat 79.77 328 LR LR 19 28 49.4
comp=Z,110nm,18.9s,baz=54,slow=38
TUC Tucson 79.83 55 P **P 18 50 42.7 -0.6**
TUC Tucson 79.83 55 P **P 18 50 42.7 -0.6**
TUC pmax pmax
comp=Z,4.0nm,1.0s
EIL Elat 80.31 302 LR LR 19 29 34.0
comp=Z,31nm,20.4s,baz=58,slow=38
ANMO Albuquerque 80.40 50 P **P 18 50 45.9 -0.5**
ANMO Albuquerque 80.40 50⇓*e*P **P 18 50 48.5 +2.1**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 80.40 50 P **P 18 50 46.7 +0.3**
comp=Z,1.1nm,0.7s,baz=21,slow=9.9,SNR=4.1
comp=Z,1.1nm,0.7s
121A Cookes Peak, D 81.42 53 IAmb IAmb 18 50 54.6
comp=Z,5.0nm,0.9s
NRCA Norcia 81.73 324 P **P 18 50 52.7 -0.5**
NRCA IAmb IAmb 18 50 57.8
comp=Z,7.9nm,0.9s
IDI Anoyia 81.99 312 LR LR 19 30 49.8
comp=Z,43nm,19.0s,baz=4.5,slow=38
MNTX Cornudas Mount 83.41 52 IAmb IAmb 18 51 04.5
comp=Z,3.1nm,1.0s
425A Indio Mountain 84.31 52 IAmb IAmb 18 51 09.3
comp=Z,8.1nm,1.1s
PECS Pecos 84.50 51 IAmb IAmb 18 51 10.1
comp=Z,8.1nm,1.1s
ALPN Alpine 85.38 52 P **P 18 51 11.3 -0.9**
ALPN IAmb IAmb 18 51 14.3
comp=Z,10nm,1.3s
HHAR Hobbs 85.85 41 P **P 18 51 13.6 -0.7**
TX32 Lajitas Array 86.15 52 IAmb IAmb 18 51 22.0
comp=Z,4.0nm,1.0s
TXAR Lajitas Array 86.15 52 P **P 18 51 16.8 +0.8**
comp=Z,2.9nm,0.9s,baz=285,slow=4.1,SNR=21
comp=Z,2.9nm,0.9s
T42A Van Buren 86.57 39 P **P 18 51 17.1 -0.7**
T42A IAmb IAmb 18 51 19.5
comp=Z,8.6nm,1.3s
FCAR Ozark Folk Cen 87.03 41 IAmb IAmb 18 51 21.2
comp=Z,6.4nm,1.0s
WHAR Wooly Hollow 87.44 41 P **P 18 51 22.2 +0.1**
PPT Papeete 88.10 117 LR LR 19 22 39.9
comp=Z,14nm,20.8s,baz=358,slow=30
PPT2 Papeete2 88.12 117 *e*LR LR 19 19 18.3
comp=Z,118nm,30.8s
URZ Urewera 88.21 152 LR LR 19 23 52.3
comp=Z,18nm,20.6s,baz=31,slow=31
TAOE Nuku Hiva Isla 88.23 104 *e*LR LR 19 19 20.3
comp=Z,231nm,27.4s
KEST Kesra 89.25 322 LR LR 19 35 28.6
comp=Z,119nm,18.2s,baz=282,slow=38
ESDC Sonseca Array 90.86 334 P **P 18 51 38.0 -0.3**
comp=Z,1.2nm,0.9s,baz=35,slow=4.7,SNR=4.9
ESDC LR LR 19 37 35.4
comp=Z,110nm,19.2s,baz=6.0,slow=39
comp=Z,1.2nm,0.9s
MDT Midelt 97.31 331 LR LR 19 43 07.4
comp=Z,47nm,18.5s,baz=2.0,slow=40
TROLL Troll, Antarti 145.67 201 ⇓PKPbc **PKPab 18 58 12.8 +0.2**
comp=Z,208nm,1.1s
SNAA Sanae 147.24 200 ⇓PKPbc **PKPbc 18 58 16.7 0.0**
comp=Z,50nm,0.9s
SNAA Sanae 147.24 200 PKPbc **PKPbc 18 58 15.7 -1.0**
comp=Z,3.2nm,1.1s,baz=201,slow=3.7,SNR=9.0
VNA2 Neumayer--Watz 148.85 200 ⇓PKPbc **PKPbc 18 58 21.0 +0.1**
comp=Z,5.5nm,0.7s,baz=118,slow=2.0
VNA1 Neumayer--Stat 149.25 200 ⇓PKPbc **PKPbc 18 58 22.2 +0.4**
comp=Z,5.9nm,1.1s

*NEIC **21** 18:43:06.2±2.3,5°.70N±0°.06×125°.7E±0°.1,h206km±7km, mb4.5/49, Error ellipse: s-maj=14.8km s-min=9.1km az=78.0*
*IDC **21** 18:43:07.4±0.6,5°.72N×125°.70E,h226km±4km,mb3.6/16, mbtmp4.3/18, Error ellipse: s-maj=18.7km s-min=8.8km az=80.0*
*DJA **21** 18:43:08.8±0.3,6°.N±3°×12°.6E±°,h205km±3km,M4.5/16, mB5.0/4,mb4.3/16,MLv4.6/11,Mw(mB)4.4/4*
ISC 21 18:43:05.3±0.4,5°.69N±0°.04×125°.66E±0°.07,h200km,n117, σ1§79/122,**mb4.2**/36,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.37**	**357**		**Pn**	**18 43 39.4**	**+1.5**
DAV	**Davao City (W)**	**1.37**	**357**	P	**Pn**	**18 43 42.6**	**+4.7**
DAV	**Davao City (W)**	**1.37**	**357**	P	Pn	18 43 43.0	+5.1
	184nm,0.4s,baz=73,slow=6.8,SNR=8.6						
DAV				S	**Sn**	**18 44 09.7**	**+6.3**
	739nm,0.4s,baz=131,slow=23,SNR=17						
SGSI	**Sangihe**	**2.00**	**184**	P	**Pn**	**18 43 47.1**	**+3.3**
SGSI				S	**Sn**	**18 44 16.2**	**+2.3**
TNTI	**Ternate**	**5.18**	**161**	Pn	**Pn**	**18 44 23.0**	**+1.0**
TNTI					**Sn**	**18 45 20.1**	**-2.5**
TNTI	**Ternate**	**5.18**	**161**	P	**Pn**	**18 44 24.6**	**+2.6**
GTOI	**Gorontalo**	**5.67**	**208**	P	**Pn**	**18 44 30.9**	**+2.5**
	24nm,1.1s,0.1nm						
MRSI	**Marisa**	**6.37**	**216**	P	**Pn**	**18 44 41.5**	**+4.1**
	30nm,0.9s,0.1nm						
LBMI	**Labuha**	**6.55**	**164**	P	**Pn**	**18 44 42.6**	**+2.8**
	35nm,0.6s,0.8nm						
TOLI2	**Tolitoli**	**6.66**	**227**		**Pn**	**18 44 43.7**	**+2.5**
TOLI2	**Tolitoli**	**6.66**	**227**	P	**Pn**	**18 44 44.5**	**+3.3**
MYLDM	**Lahad Datu**	**7.14**	**266**	Pn	**Pn**	**18 44 48.0**	**+0.6**
LUWI	**Luwuk**	**7.28**	**203**	Pn	**Pn**	**18 44 49.2**	**0.0**
SANI	**Sanana**	**7.70**	**178**	P	**Pn**	**18 44 53.6**	**-1.1**
	50nm,0.6s,0.7nm						
NLAI	**Namlea**	**8.99**	**171**	P	**Pn**	**18 45 11.8**	**+0.3**
TTSI	**Tana Toraja**	**10.45**	**214**	P	**Pn**	**18 45 34.1**	**+3.6**
	33nm,0.8s						
FAKI	**Fak Fak**	**10.79**	**142**	P	**Pn**	**18 45 37.8**	**+2.9**
	40nm,1.2s						
KAPI	**Kappang**	**12.16**	**209**		**Pn**	**18 45 53.4**	**+1.1**
KAPI	**Kappang**	**12.16**	**209**	P	**Pn**	**18 45 53.7**	**+1.4**
	4.8nm,0.4s,baz=48,slow=12,SNR=1.3						
SBUM	**Sibu**	**13.78**	**257**	P	**Pn**	**18 46 13.7**	**+1.1**
BBKI	**Banjar Baru**	**14.12**	**230**	P	**P**	**18 46 20.6**	**+2.0**
	46nm,1.0s,4μm						
MMRI	**Maumere**	**14.63**	**193**	P	**Pn**	**18 46 23.8**	**+0.6**
EDFI	**Ende, Flores**	**14.88**	**195**	P	**P**	**18 46 28.5**	**+1.4**
	21nm,0.9s						
STKI	**Sintang**	**15.22**	**249**	P	**P**	**18 46 33.4**	**+2.7**
	21nm,1.0s						
SOEI	**Soe**	**15.41**	**185**	P	**P**	**18 46 32.9**	**0.0**
SOEI				IAmb	IAmb	18 46 58.5	
	comp=Z,17nm,0.8s						
SOEI	**Soe**	**15.41**	**185**	P	**P**	**18 46 35.8**	**+2.8**
SOEI	**Soe**	**15.41**	**185**	P	**P**	**18 46 35.7**	**+2.8**
	comp=Z,21nm,1.1s						
KSM	**Kuching**	**15.88**	**255**	P	**Pn**	**18 46 38.5**	**+0.2**
KSM				IAmb	IAmb	18 46 42.9	
	comp=Z,14nm,0.7s						
BATI	**Baumata**	**15.92**	**187**	P	**Pn**	**18 46 41.2**	**+2.4**
	comp=Z,42nm,0.7s						
BATI	**Baumata**	**15.92**	**187**	P	**Pn**	**18 46 39.8**	**+1.0**
	comp=Z,33nm,0.5s,baz=5.7,slow=2.7,SNR=17						
BATI				S	**S**	**18 49 36.0**	**+0.6**
	comp=Z,14nm,0.7s,baz=291,slow=21,SNR=3.3						
PLAI	**Plampang**	**16.42**	**209**	P	**Pn**	**18 46 46.6**	**+1.8**
GENI	**Genyem**	**16.67**	**119**	P	**Pn**	**18 46 49.3**	**+1.5**
	comp=Z,278nm,0.8s,comp=Z,3μm						
TWSI	**Taliwang, Sumb**	**16.79**	**211**	P	**Pn**	**18 46 49.3**	**+0.1**
	comp=Z,51nm,0.9s						
JAY	**Jayapura**	**17.10**	**118**	P	**Pn**	**18 46 53.9**	**+1.0**
TWGBT	**Beinan**	**17.59**	**346**	P	**Pn**	**18 47 00.3**	**+1.7**
TWG	**Pinlang**	**17.60**	**346**	P	**P**	**18 46 56.8**	**0.0**
DLV	**T Lat**	**18.06**	**291**	P	**P**	**18 47 02.3**	**+0.1**
DLV				IAmb	IAmb	18 47 12.2	
	comp=Z,48nm,1.4s						
JAGI	**Jajag, Banyuwa**	**18.15**	**219**	P	**P**	**18 47 03.9**	**+0.9**
JAGI				IAmb	IAmb	18 47 14.3	
	comp=Z,21nm,0.9s						
TPUB	**Ta-pu**	**18.17**	**345**	P	**P**	**18 47 02.4**	**-0.7**
TPUB	**Ta-pu**	**18.17**	**345**	P	**P**	**18 47 03.9**	**+0.9**
MTN	**Manton Dam**	**19.20**	**164**	P	**P**	**18 47 15.2**	**+1.0**
MTN				IAmb	IAmb	18 47 35.3	
	comp=Z,27nm,1.4s						
MTN	**Manton Dam**	**19.20**	**164**	P	**P**	**18 47 15.8**	**+1.5**
KDU	**Kakadu**	**19.47**	**160**	P	**P**	**18 47 18.6**	**+1.4**
UGM	**Wanagama**	**20.26**	**228**	P	**P**	**18 47 26.9**	**+1.3**
KNRA	**Kununurra**	**21.45**	**172**	P	**P**	**18 47 38.0**	**-0.1**
LEM	**Lembang**	**21.88**	**236**	P	**P**	**18 47 43.8**	**+1.1**
	comp=Z,29nm,0.8s,baz=128,slow=19,SNR=6.0						
	comp=Z,29nm,0.8s						
MYKOM	**Kota Tinggi**	**22.10**	**261**	P	**P**	**18 47 45.1**	**+0.4**
MYKOM				IAmb	IAmb	18 47 47.5	
	comp=Z,28nm,1.3s						
MNAI	**Manna**	**24.77**	**247**	P	**P**	**18 48 09.8**	**+0.8**
SDSI	**Sungai Dareh**	**25.07**	**256**	P	**P**	**18 48 15.2**	**+3.5**
WB0	**Warramunga Arr**	**26.72**	**161**	P	**P**	**18 48 25.8**	**-0.6**
WB0				IAmb	IAmb	18 49 06.8	
	comp=Z,5.2nm,0.8s						
WRAB	**Tennant Creek**	**26.86**	**162**		**P**	**18 48 25.0**	**-2.7**
WRAB				IAmb	IAmb	18 49 07.9	
	comp=Z,7.2nm,0.9s						
WRA	**Warramunga Arr**	**26.87**	**162**	P	**P**	**18 48 25.9**	**-1.8**
WRA	**Warramunga Arr**	**26.87**	**162**	P	**P**	**18 48 27.5**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=331,slow=11,SNR=21						
WRA				ScP	**ScP**	**18 55 03.9**	**-2.4**
	comp=Z,0.5nm,0.7s,baz=337,slow=2.5,SNR=4.5						
	comp=Z,0.5nm,0.3s						
WB2	**Warramunga Arr**	**26.87**	**162**	P	**P**	**18 48 27.4**	**-0.3**
WB2				IAmb	IAmb	18 49 08.1	
	comp=Z,7.2nm,0.9s						
WR0	**Warramunga Arr**	**26.95**	**161**	P	**P**	**18 48 28.1**	**-0.3**
WR0				IAmb	IAmb	18 49 08.1	
	comp=Z,4.7nm,0.9s						
MBWA	**Marble Bar**	**27.31**	**192**	P	**P**	**18 48 30.8**	**-0.8**
MBWA				IAmb	IAmb	18 49 09.8	
	comp=Z,20nm,1.2s						
PSA00	**Pilbara Seismi**	**27.69**	**192**	P	**P**	**18 48 34.8**	**-0.1**
GSI	**Gunungsitoli**	**28.36**	**262**	P	**P**	**18 48 40.2**	**-0.8**
GSI				IAmb	IAmb	18 48 40.8	
	comp=Z,18nm,1.0s						
CRAI	**Chiangrai**	**28.50**	**303**	P	**P**	**18 48 43.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**28.98**	**298**	P	**P**	**18 48 46.9**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=122,slow=6.7,SNR=4.8						
CMAR				ScP	**ScP**	**18 55 10.5**	**-2.4**
	comp=Z,0.8nm,0.9s,baz=145,slow=0.6,SNR=6.6						
	comp=Z,0.4nm,0.6s						
AS31	**Alice Springs**	**30.27**	**165**	P	**P**	**18 48 57.5**	**-0.4**
ASAR	**Alice Springs**	**30.27**	**165**	P	**P**	**18 48 58.2**	**+0.4**
ASAR	**Alice Springs**	**30.27**	**165**	P	**P**	**18 48 58.1**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=341,slow=7.2,SNR=58						
ASAR				PcP	**PcP**	**18 51 53.4**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=343,slow=2.3,SNR=8.5						
ASAR				S	**S**	**18 53 39.2**	**-3.7**
	comp=Z,0.3nm,0.6s,baz=341,slow=11,SNR=4.6						
ASAR				ScP	**ScP**	**18 55 14.5**	**-2.4**
	comp=Z,0.7nm,0.6s,baz=339,slow=3.1,SNR=9.3						
	comp=Z,1.3nm,0.5s						
INU	**Inuyama**	**31.32**	**18**	P	**P**	**18 49 05.2**	**-1.7**
KSAR	**Wonju Array Be**	**31.67**	**3**	P	**P**	**18 49 09.2**	**-0.7**
KS19	**Wonju Array Si**	**31.73**	**3**	P	**P**	**18 49 10.1**	**-0.3**
KS19				IAmb	IAmb	18 49 15.7	
	comp=Z,16nm,0.9s						
CTAO	**Charters Tower**	**32.66**	**142**	P	**P**	**18 49 18.6**	**-0.2**
CTAO				IAmb	IAmb	18 50 00.5	
	comp=Z,8.8nm,1.3s						
MAJO	**Matsushiro**	**32.79**	**19**	P	**P**	**18 49 18.7**	**-1.0**
MJAR	**Matsushiro Arr**	**32.79**	**19**	P	**P**	**18 49 19.5**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=196,slow=9.5,SNR=9.5						
	comp=Z,1.7nm,0.6s						
MJB9	**Matsu-Tunnel**	**32.79**	**19**	P	**P**	**18 49 18.7**	**-1.0**
JMM	**Marumori**	**34.87**	**21**	P	**P**	**18 49 36.9**	**-0.6**
MORW	**Morawa**	**35.77**	**194**	P	**P**	**18 49 44.3**	**-1.1**
MORW				IAmb	IAmb	18 49 46.9	
	comp=Z,17nm,1.2s						
FORT	**Forrest**	**36.34**	**177**	P	**P**	**18 49 50.7**	**+0.6**
FORT				IAmb	IAmb	18 50 25.2	
	comp=Z,23nm,1.0s						
NWAO	**Narrogin (SRO)**	**39.23**	**191**	P	**P**	**18 50 14.8**	**+0.5**
NWAO	**Narrogin (SRO)**	**39.23**	**191**	P	**P**	**18 50 14.7**	**+0.3**
NWAO				IAmb	IAmb	18 50 53.7	
	comp=Z,198nm,1.4s						
BBOO	**Buckleboo**	**39.55**	**166**	P	**P**	**18 50 18.1**	**+1.1**
EIDS	**Eidsvold**	**39.55**	**142**	P	**P**	**18 50 16.5**	**-0.6**
EIDS				IAmb	IAmb	18 50 29.4	
	comp=Z,22nm,1.5s						
STKA	**Stephens Creek**	**40.33**	**159**	P	**P**	**18 50 24.6**	**+1.2**
JKA	**Kamikawa-asahi**	**41.06**	**19**	P	**P**	**18 50 31.6**	**+2.4**
JKA				IAmb	IAmb	18 50 32.3	
	comp=Z,42nm,1.4s						
TAPN	**Taplejung**	**42.01**	**305**	*e*P	P	18 50 28.0	-10
	comp=Z,7.2nm,0.4s						
RAMN	**Ramite**	**42.76**	**304**	*e*P	P	18 50 28.7	-15
	comp=Z,12nm,0.8s						
JIRN	**Jiri**	**43.37**	**305**	*e*P	P	18 50 39.9	-8.7
	comp=Z,12nm,0.7s						
GUN	**Gumba**	**43.72**	**305**	*e*P	P	18 50 44.9	-6.5
	comp=Z,9.3nm,0.5s						
PKI	**Pulchoki**	**43.98**	**304**	*e*P	P	18 50 44.4	-9.0
	comp=Z,30nm,1.8s						
PKIN	**Phulchoki**	**43.99**	**304**	*e*P	P	18 50 44.0	-9.4
	comp=Z,7.4nm,0.8s						
DMN	**Daman**	**44.24**	**304**	*e*P	P	18 50 46.6	-8.8
	comp=Z,4.5nm,0.4s						
GKN	**Gorkha**	**44.77**	**305**	*e*P	**P**	**18 50 55.2**	**-4.3**
	comp=Z,4.0nm,0.4s						
SONM	**Songino Array**	**45.11**	**342**	P	**P**	**18 51 00.7**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=159,slow=8.3,SNR=2.7						
SONM				PcP	**PcP**	**18 52 39.0**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=169,slow=3.5,SNR=4.4						
	comp=Z,0.4nm,0.5s						
DANN	**Dangsing**	**45.62**	**305**	*e*P	**P**	**18 51 05.4**	**-0.9**
	comp=Z,17nm,0.5s						
TOO	**Toolangi**	**46.84**	**158**	P	**P**	**18 51 17.6**	**+2.3**
TOO				IAmb	IAmb	18 51 33.9	
	comp=Z,19nm,1.3s						
PEA0B	**Petropavlovsk-**	**54.05**	**23**	P	**P**	**18 52 11.2**	**+2.3**
PETK	**Petropavlovsk-**	**54.05**	**23**	P	**P**	**18 52 11.0**	**+2.0**
PETK	**Petropavlovsk-**	**54.05**	**23**	P	**P**	**18 52 08.2**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=190,slow=4.9,SNR=8.5						
	comp=Z,3.2nm,0.8s						
MK31	**Makanchi Array**	**55.34**	**325**	P	**P**	**18 52 18.4**	**-0.1**
MK31				IAmb	IAmb	18 52 20.1	
	comp=Z,7.7nm,1.4s						
MKAR	**Makanchi Array**	**55.34**	**325**	P	**P**	**18 52 18.1**	**-0.4**
MKAR				PcP	**PcP**	**18 53 14.4**	**-2.1**
MKAR	**Makanchi Array**	**55.34**	**325**	P	**P**	**18 52 18.2**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=119,slow=7.8,SNR=26						
MKAR				ScP	**ScP**	**18 56 52.8**	**-3.5**
	comp=Z,0.8nm,0.7s,baz=131,slow=3.7,SNR=5.5						
	comp=Z,2.0nm,0.5s						
MAKZ	**Makanchi**	**55.53**	**325**	P	**P**	**18 52 19.3**	**-0.5**
MAKZ				IAmb	IAmb	18 52 21.4	
	comp=Z,6.7nm,1.3s						
MAKZ					**PcP**	**18 53 16.1**	**-1.1**
ZAA0	**Zalesovo Array**	**58.37**	**333**	P	**P**	**18 52 39.0**	**-0.5**
ZALV	**Zalesovo Beam**	**58.37**	**333**	P	**P**	**18 52 37.7**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=123,slow=6.9,SNR=5.8						
	comp=Z,0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**59.52**	**327**	P	**P**	**18 52 46.5**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=124,slow=6.4,SNR=30						
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**59.52**	**327**	P	**P**	**18 52 46.9**	**-0.6**
KURK				IAmb	IAmb	18 52 48.4	
	comp=Z,3.7nm,0.6s						
KKAR	**Karatay Array**	**61.08**	**317**	P	**P**	**18 52 57.4**	**-0.8**
BVAR	**Borovoye Array**	**65.10**	**327**	P	**P**	**18 53 23.6**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=145,slow=8.0,SNR=6.4						
	comp=Z,1.4nm,0.7s						
BRVK	**Borovoye**	**65.17**	**327**	P	**P**	**18 53 23.9**	**-1.1**
TIXI	**Tiksi**	**65.91**	**1**	P	**P**	**18 53 29.8**	**+0.5**
TIXI				IAmb	IAmb	18 53 38.1	
	comp=Z,5.9nm,1.4s						
GEYT	**Alibeck**	**68.84**	**308**	P	**P**	**18 53 47.4**	**-1.0**
GYA0B	**ALIBECK ARRAY**	**68.84**	**308**	P	**P**	**18 53 47.1**	**-1.3**
ABKAR	**Akbulak array**	**69.97**	**321**	P	**P**	**18 53 53.9**	**-1.1**
ABKAR	**Akbulak array**	**69.97**	**321**	P	**P**	**18 53 53.2**	**-1.8**
ABKAR				IAmb	IAmb	18 54 28.0	
	comp=Z,1.9nm,1.2s						
CASY	**Casey**	**72.63**	**186**	P	**P**	**18 54 09.9**	**-0.7**
CASY				IAmb	IAmb	18 54 11.4	
	comp=Z,3.7nm,0.5s						
D19K	**Kuna River**	**79.69**	**21**	P	**P**	**18 54 51.9**	**+1.5**
D19K				IAmb	IAmb	18 55 23.2	
	comp=Z,27nm,1.5s						
MAW	**Mawson**	**85.22**	**200**	P	**P**	**18 55 18.5**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=88,slow=7.0,SNR=8.1						
	comp=Z,1.3nm,0.6s						
BRTR	**Keskin Array B**	**87.95**	**310**	P	**P**	**18 55 31.3**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=141,slow=3.9,SNR=4.4						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**88.25**	**340**	P	**P**	**18 55 32.3**	**-1.3**
	comp=Z,2.5nm,0.7s,baz=68,slow=4.5,SNR=4.1						
	comp=Z,2.5nm,0.7s						
SPITS	**Spitsbergen Ar**	**88.36**	**349**	P	**P**	**18 55 33.2**	**-0.8**
	comp=Z,6.6nm,0.9s,baz=83,slow=13,SNR=6.1						
	comp=Z,6.6nm,0.9s						
FINES	**FINESS Array B**	**89.61**	**332**	P	**P**	**18 55 38.7**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=42,slow=6.5,SNR=9.4						
	comp=Z,2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**121.28**	**289**	PKP	**PKPdf**	**19 01 34.5**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=64,slow=1.9,SNR=12						

*KRNET **21** 18:50:28.4±0.1,39°.22N×78°.04E,mb2.9*
*SOME **21** 18:50:30.9,39°.52N×78°.07E,h5km*
*NNC **21** 18:50:32.0±1.3,39°.52N×78°.15E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=10.1km s-min=8.6km az=107.0*
ISC 21 18:50:32.0±2.3,39°.3N±0°.1×78°.07E±0°.07,h15km,n47, σ1§19/54,**13C-9D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**2.48**	**355**	⇑*e*P	**Pn**	**18 51 12.6**	**+0.4**
	baz=56						
TARG				⇑*e*S	**Sb**	**18 51 44.9**	**-2.1**
	baz=56						
NRN	**Naryn**	**2.69**	**325**	⇑*e*P	**Pn**	**18 51 15.3**	**+0.3**
	baz=25						
NRN				⇑*e*S	**Sn**	**18 51 49.6**	**+2.1**
	baz=25						
ULHL	**Ulahol**	**3.29**	**336**	⇑*e*P	**Pn**	**18 51 23.8**	**+0.5**
	baz=36						
ULHL				⇑*e*S	**Sn**	**18 52 04.1**	**+1.8**
	baz=36						
ANVS	**Anan'yevo**	**3.54**	**355**	⇓*e*P	**Pn**	**18 51 27.1**	**+0.5**
	baz=56						
ANVS				⇓*e*S	**Sn**	**18 52 10.1**	**+1.9**
	baz=56						
SFK	**Sufi-Kurgan**	**3.61**	**284**	⇓*e*P	**Pn**	**18 51 27.7**	**+0.1**
	baz=84						
SFK				⇓*e*S	**Sn**	**18 52 10.9**	**+0.9**
	baz=84						
BOOM	**Boomskoye usch**	**3.61**	**334**	⇓*e*P	**Pn**	**18 51 28.1**	**+0.5**
	baz=35						
BOOM				⇓*e*S	**Sn**	**18 52 11.7**	**+1.7**
	baz=35						
SATY	**Saty**	**3.81**	**4**	Pg	**Pb**	**18 51 37.9**	**-1.1**
	2.6nm,0.5s						
SATY				Lg	Lg	18 52 25.8	
	14nm,0.5s						
SATY	**Saty**	**3.81**	**4**	*e*Pg	**Pb**	**18 51 37.9**	**-1.1**
	2.6nm,0.5s						
SATY				*e*Lg	Lg	18 52 25.8	
	14nm,0.5s						
ARLS	**Aral**	**3.86**	**314**	⇓*e*P	**Pn**	**18 51 31.4**	**+0.4**
	baz=14						
ARLS				⇓*e*S	**Sn**	**18 52 17.4**	**+1.2**
	baz=14						
TNSS	**Tian-Shan**	**3.87**	**348**	Pg	**Pb**	**18 51 38.7**	**-1.5**
	5.8nm,0.4s						
TNSS				Lg	Lg	18 52 27.1	
	5.4nm,0.8s						
TNSS	**Tian-Shan**	**3.87**	**348**	*e*Pg	**Pb**	**18 51 38.7**	**-1.5**
	5.8nm,0.4s						
TNSS				*e*Lg	Lg	18 52 27.1	
	5.4nm,0.8s						
ZHN	**Zhinishke**	**3.92**	**4**	*e*Pg	**Pb**	**18 51 39.5**	**-1.4**
	1.8nm,0.1s						
ZHN				*e*Lg	Lg	18 52 28.4	
	32nm,0.4s						
IZV	**Izvestkoviy**	**3.93**	**344**	Pg	**Pb**	**18 51 39.9**	**-1.3**
	3.2nm,0.5s						
IZV				Lg	Lg	18 52 29.5	
	23nm,0.6s						
IZV	**Izvestkoviy**	**3.93**	**344**	*e*Pg	**Pb**	**18 51 39.9**	**-1.3**
	3.2nm,0.5s						
IZV				*e*Lg	Lg	18 52 29.5	
	23nm,0.6s						
UZB	**Uzynbulak**	**3.95**	**10**	*e*Pg	**Pb**	**18 51 37.8**	**-3.7**
	2.5nm,5.5s						
UZB				*e*Lg	Lg	18 52 25.6	
	5.8nm,0.3s						
MDOK	**Medeo**	**3.98**	**349**	Pg	**Pb**	**18 51 40.6**	**-1.3**
	2.7nm,0.4s						
MDOK				Lg	Lg	18 52 30.6	
	15nm,0.6s						
MDOK	**Medeo**	**3.98**	**349**	*e*Pg	**Pb**	**18 51 40.6**	**-1.3**
	2.7nm,0.4s						
MDOK				*e*Lg	Lg	18 52 30.6	
	15nm,0.6s						
SHLS	**Shalkode**	**4.04**	**15**	*e*Pg	**Pb**	**18 51 43.1**	**+0.2**
	3.1nm,0.2s						
SHLS				*e*Lg	Lg	18 52 35.1	
	9.2nm,0.2s						
KOTS	**Kotyrbulak**	**4.04**	**350**	Pg	**Pb**	**18 51 42.3**	**-0.7**
	2.6nm,0.3s						
KOTS				Lg	Lg	18 52 33.3	
	25nm,0.4s						
KOTS	**Kotyrbulak**	**4.04**	**350**	*e*Pg	**Pb**	**18 51 42.3**	**-0.7**
	2.6nm,0.3s						
KOTS				*e*Lg	Lg	18 52 33.3	
	25nm,0.4s						
MTBS	**Maitube**	**4.06**	**343**	Pg	**Pb**	**18 51 42.8**	**-0.5**
	3.3nm,0.2s						
MTBS				Lg	Lg	18 52 34.5	
	8.3nm,0.3s						
MTBS	**Maitube**	**4.06**	**343**	*e*Pg	**Pb**	**18 51 42.8**	**-0.5**
	3.3nm,0.2s						
MTBS				*e*Lg	Lg	18 52 34.5	
	8.3nm,0.3s						

```
CHKK                                  Lg    Lg    18 52 52.4
      11nm,0.6s
CHKK  Chushkaly      4.67 350  ePg   Pb    18 51 53.2 -0.3
      1.1nm,0.2s
CHKK                                  eLg   Lg    18 52 52.4
      11nm,0.6s
KRBS  Karabastau     4.79 339  Pg    Pb    18 51 54.9 -0.7
      1.4nm,0.4s
KRBS                                  Lg    Lg    18 52 55.3
      7.2nm,0.8s
KRBS  Karabastau     4.79 339  ePg   Pb    18 51 54.9 -0.7
      1.4nm,0.4s
KRBS                                  eLg   Lg    18 52 55.4
      7.2nm,0.8s
KUU   Kurty          4.81 345  Pg    Pb    18 51 55.1 -0.9
      1.1nm,0.6s
KUU                                   Lg    Lg    18 52 55.7
      10nm,0.9s
KUU   Kurty          4.81 345  ePg   Pb    18 51 55.1 -0.9
      1.1nm,0.6s
KUU                                   eLg   Lg    18 52 55.7
      10nm,0.9s
BLB   Baldybastay    4.85   3  Pg    Pb    18 51 55.7 -1.0
      2.7nm,0.4s
BLB                                   Lg    Lg    18 52 56.6
      5.1nm,0.6s
ARXS  Arharly        4.96 358  Pg    Pb    18 51 57.9 -0.6
      1.4nm,0.7s
ARXS                                  Lg    Lg    18 53 00.9
      13nm,0.6s
ARXS  Arharly        4.96 358  ePg   Pb    18 51 57.9 -0.6
      1.4nm,0.7s
ARXS                                  eLg   Lg    18 53 00.9
      13nm,0.6s
KNOS  Konyrlen       5.17   9  Pg    Pb    18 52 01.7 -0.4
      0.8nm,0.4s
KNOS                                  Lg    Lg    18 53 07.2
      2.5nm,0.6s
DJR   Jarkent        5.23  14  ePg   Pb    18 52 03.0 -0.2
      0.4nm,0.0s
DJR                                   eLg   Lg    18 53 09.2
      3.6nm,0.1s
WMQ   Urumqi         8.54  55  eP    Pn    18 52 35.3 +0.2
```

*IDC **21** 19:04:17.7±2.5, 43°.51N×105°.13W, h0km, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=56.8km s-min=10.6km az=153.0*
*NEIC **21** 19:04:20.8±0.8, 43°.66N±0°.05×105°.18W±0°.06, h0km±1km, ML3.1/36, Error ellipse: s-maj=10.5km s-min=5.1km az=318.0*
ISC 21 19:04:19.2±1.0, **43°.68N**±0°.06×**105°.17W**±0°.06, **h0**km, **n25**, σ1§**32**/23, **Wyoming**

```
Code  Station Name        Δ°   AZ°  Phase ID      Time      Res
                                    Op    ISC     h m s     ISC
RSSD  Black Hills        0.93  61  Pg    Pb    19 04 39.0 +0.7
K22A  Casper             1.43 224  Pn    Pg    19 04 45.2 -1.3
K22A                                IAML        19 05 11.4
      comp=N,244nm,0.3s
K22A                                IAML        19 05 16.0
      comp=E,251nm,0.8s
PHWY  Pilot Hill         2.39 185  Pn    Pn    19 05 00.7 +0.9
PHWY                                IAML        19 05 40.8
      comp=E,177nm,0.6s
PHWY                                IAML        19 05 41.4
      comp=E,85nm,0.5s
RWWY  Rawlins            2.50 218  Pn    Pn    19 05 02.1 +0.8
RWWY                                IAML        19 05 48.6
      comp=E,135nm,0.9s
N23A  Red Feather La     2.84 192  Pn    Pn    19 05 07.4 +1.3
N23A                                IAML        19 05 54.9
      comp=E,110nm,0.7s
BRIGG Briggsdale         3.16 168              Pn    19 05 11.2 +0.9
RLMT  Red Lodge          3.27 298  Pn    Pn    19 05 13.4 +1.4
RLMT                                IAML        19 06 16.6
      comp=E,45nm,0.8s
RLMT                                IAML        19 06 25.0
      comp=E,52nm,1.2s
PD31  Pinedale Array     3.34 256  Pn    Pn    19 05 13.7 +0.9
PDAR  Pinedale Array     3.34 256  Pn    Pn    19 05 13.9 +1.1
PDAR  Pinedale Array     3.34 256  Pn    Pn    19 05 14.0 +1.1
      comp=E,1.9nm,0.3s,baz=74,slow=17,SNR=27
PDAR                                Lg    Lg    19 06 01.6
      comp=E,7.1nm,0.3s,baz=76,slow=34,SNR=9.8
      comp=E,1.9nm,0.3s
OGNE  Ogallala           3.59 139              Pn    19 05 17.5 +1.3
ISCO  Idaho Springs      3.89 185  Pn    Pn    19 05 21.8 +1.3
ISCO                                IAML        19 07 31.1
      comp=E,20nm,4.4s
LOHW  Long Hollow        3.95 271              Pn    19 05 22.8 +1.6
LOHW                                IAML        19 06 34.7
      comp=E,21nm,0.8s
LOHW                                IAML        19 06 51.0
      comp=E,20nm,1.2s
H17A  Grant Village      3.96 282              Pn    19 05 21.8 +0.3
H17A                                IAML        19 05 51.8
      comp=E,29nm,1.7s
H17A                                IAML        19 06 37.2
      comp=N,27nm,1.9s
MOOW  Moose Ponds        4.04 273              Pn    19 05 24.0 +1.5
O20A  White River Ci     4.22 214  Pn    Pn    19 05 26.5 +1.6
FXWY  Fox Creek          4.25 271              Pn    19 05 27.4 +2.0
ID09  Alton              4.65 254              Pn    19 05 32.2 +1.4
ID09                                IAML        19 06 56.0
      comp=N,21nm,4.2s
ID09                                IAML        19 07 01.7
      comp=N,29nm,1.0s
HWUT  Hardware Ranch     5.15 248              Pn    19 05 38.6 +0.9
BSUT  Blindstream Ca     5.21 235              Pn    19 05 39.5 +0.8
BSUT                                IAML        19 07 24.6
      comp=E,16nm,3.0s
SDCO  Great Sand Dun     5.93 183  Pn    Pn    19 05 49.6 +1.0
T25A  Trinidad           6.56 175              Pn    19 05 58.3 +1.2
I10CA LAC DU BONNET      9.03  41  I     I     19 57 10.0
      comp=E,0.1nm,1.1s,baz=221,slow=315,SNR=5.6
ULM   Lac du Bonnet      9.13  41  Pn    Pn    19 06 30.6 -1.6
      comp=E,0.7nm,0.3s,baz=243,slow=12,SNR=1.6
ULM                                 Lg    Lg    19 09 00.6
      comp=E,0.3nm,0.3s,baz=132,slow=14,SNR=2.3
      comp=E,1.6nm,0.4s
NVAR  Mina Array Bea    11.22 247  Pn    Pn    19 07 06.2 +5.3
      baz=51,slow=13,SNR=4.1
```

*IDC **21** 19:45:59.9±2.3, 36°.86N×22°.58E, h0km, mb3.8/8, mbtmp3.7/9, ML2.7/1, Error ellipse: s-maj=51.2km s-min=19.6km az=45.0*
*ATH **21** 19:46:02.3, 36°.40N×22°.18E, h12km±1km, ML3.0/6, Error ellipse: s-maj=2.6km s-min=1.0km az=37.0*
*NEIC **21** 19:46:02.4±1.3, 36°.40N±0°.03×22°.14E±0°.08, h42km±12km, mb4.1/5, Error ellipse: s-maj=9.8km s-min=4.9km az=85.0*
*THE **21** 19:46:02.0, 36°.39N×22°.15E, h7km±1km, ML3.2/11, Error ellipse: s-maj=1.3km s-min=0.6km az=216.0*
ISC 21 19:45:59.2±1.3, **36°.38N**±0°.03×**22°.06E**±0°.03, **h17**km±8km, **n131**, σ1§**37**/151, **mb3.9**/9, **Southern Greece**

```
Code  Station Name        Δ°   AZ°  Phase ID      Time      Res
                                    Op    ISC     h m s     ISC
PYL   PYLOS              0.57 334  P     Pn    19 46 13.5 +0.8
PYL                                 S     Sn    19 46 22.6 +0.8
      2μm,0.3s
PYL   PYLOS              0.57 334  P     Pn    19 46 13.5 +0.8
PYL                                 S     Sn    19 46 22.4 +0.6
PYL                                 AML   AML   19 46 24.2
      comp=N,4424μm,0.3s
PYL                                 AML   AML   19 46 24.6
      comp=E,4607μm,0.3s
KLMT  Kalamata           0.68 360  P     Pn    19 46 14.8 +0.7
KLMT                                S     Sn    19 46 24.7 +0.3
VLI   Veliai             0.78  64  P     Pb    19 46 15.5 +1.1
VLI                                 S     Sb    19 46 26.1 +1.3
      comp=E,2μm,0.5s
VLI   Veliai             0.78  64  P     Pb    19 46 15.5 +1.1
VLI                                 S     Sb    19 46 25.0 +0.2
KTHA  Kythira Island     0.82  98  P     Pn    19 46 16.4 +0.4
KTHA                                S     Sb    19 46 27.4 +1.6
      comp=E,2μm,0.6s
KTHA  Kythira Island     0.82  98  P     Pb    19 46 16.1 +1.1
KTHA                                S     Sb    19 46 26.1 +0.3
KTHA                                AML   AML   19 46 27.4
      comp=N,3072μm,0.3s
KTHA                                AML   AML   19 46 32.7
      comp=E,4716μm,0.6s
MNVA  Monemvasia         0.84  68  P     Pn    19 46 17.0 +0.6
MNVA                                S     Sb    19 46 26.5  0.0
MNVA                                AML   AML   19 46 34.9
      comp=E,1303μm,0.5s
MNVA                                AML   AML   19 46 35.0
      comp=N,1466μm,0.4s
ANKY  Antikythira Is     1.13 117  P     Pn    19 46 22.2 +1.9
ANKY                                S     Sn    19 46 37.7 +2.3
      comp=N,980nm,0.6s
ANKY  Antikythira Is     1.13 117  P     Pn    19 46 22.1 +1.9
ANKY                                S     Sn    19 46 36.5 +1.1
ANKY                                AML   AML   19 46 40.3
      comp=N,1614μm,0.5s
ANKY                                AML   AML   19 46 43.5
      comp=E,1738μm,0.6s
KRND  KRANIDI            1.33  41  P     Pg    19 46 24.9  0.0
KRND                                S     Sn    19 46 43.9 +3.5
      comp=E,858nm,0.5s
KRND  KRANIDI            1.33  41  P     Pg    19 46 24.8  0.0
EPID  Epidavros          1.50  34  P     Pb    19 46 27.1 +0.5
EPID  Epidavros          1.50  34  P     Pg    19 46 27.4 -0.6
GUR   Goura              1.57   8  P     Pg    19 46 29.1 -0.4
GUR                                 S     Sg    19 46 51.1 +1.2
      comp=E,778nm,0.5s
GUR   Goura              1.57   8  P     Pg    19 46 29.1 -0.4
GUR                                 AML   AML   19 46 57.5
      comp=E,1139μm,0.5s
GUR                                 AML   AML   19 46 59.7
      comp=N,1858μm,0.5s
RODP  Rodopos            1.60 120  P     Pg    19 46 29.8 -0.2
LTHK  Lithakia           1.65 324  P     Pb    19 46 29.6 +0.5
LTHK  Lithakia           1.65 324  P     Pb    19 46 29.7 +0.5
KLV   Kalavryta, Ach     1.66   2  P     Pg    19 46 30.8 -0.4
KLV                                 S     Sg    19 46 53.9 +1.1
      comp=N,310nm,0.6s
KLV   Kalavryta, Ach     1.66   2  P     Pb    19 46 30.5 +1.0
KLV                                 S     Sb    19 46 50.9 +0.7
KLV                                 AML   AML   19 47 03.5
      comp=N,662μm,0.5s
KLV                                 AML   AML   19 47 04.0
      comp=E,577μm,0.6s
THAL  Thalero            1.72  16  P     Pg    19 46 32.1 -0.2
THAL                                S     Sb    19 46 53.0 +1.2
      comp=E,1μm,0.6s
THAL  Thalero            1.72  16  P     Pb    19 46 31.1 +0.6
RLS   Riolos of Patr     1.74 344  P     Pg    19 46 32.4 -0.3
RLS   Riolos of Patr     1.74 344  P     Pg    19 46 32.9 +0.2
LOUT  Loutraki           1.76  24  P     Pb    19 46 31.9 +0.7
LOUT  Loutraki           1.76  24  P     Pb    19 46 31.1  0.0
IMMV  Iera Moni Meta     1.81 120  P     Pb    19 46 32.0 +0.1
IMMV  Iera Moni Meta     1.81 120  P     Pb    19 46 32.0 +0.1
LAKA  Lakka              1.86 358  P     Pg    19 46 34.1 -0.8
LAKA  Lakka              1.86 358  P     Pg    19 46 34.4 -0.5
MHLO  Agia Marina, M     1.91  80  P     Pb    19 46 33.0 -0.7
MHLO                                S     Sn    19 46 55.1 +0.4
      comp=E,960nm,1.1s
MHLO  Agia Marina, M     1.91  80  P     Pb    19 46 32.9 -0.7
TRIZ  Trizonia           1.98   0  P     Pg    19 46 36.9 -0.4
TRIZ  Trizonia           1.98   0  P     Pg    19 46 36.9 -0.4
KALE  Kalithea           2.01   2  P     Pb    19 46 35.3 -0.1
KALE  Kalithea           2.01   2  P     Pb    19 46 35.2 -0.2
VLY   Voula,Athens       2.02  43  P     Pn    19 46 33.6 +1.0
VLY                                 S     Sb    19 47 00.9 +0.5
      comp=E,182nm,0.8s
VLY   Voula,Athens       2.02  43  P     Pn    19 46 33.8 +1.2
VILL  Villia             2.04  29  P     Pn    19 46 34.0 +1.1
VILL                                S     Sb    19 47 01.9 +0.8
      comp=E,300nm,0.6s
EFP   Efpalio            2.05 357  P     Pb    19 46 37.1 +1.1
EFP   Efpalio            2.05 357  P     Pg    19 46 37.8 -0.7
VIL2  Platees            2.07  27  P     Pn    19 46 34.0 +0.8
PSDA  Pessada-Kefalo     2.09 326  P     Pb    19 46 36.7 -0.1
PSDA  Pessada-Kefalo     2.09 326  P     Pb    19 46 36.4 -0.3
ATHU  Athens Univers     2.10  40  P     Pn    19 46 34.7 +1.0
ATHU  Athens Univers     2.10  40  P     Pn    19 46 35.0 +1.3
VLS   Valsamata          2.14 327  P     Pb    19 46 37.3 -0.3
VLS   Valsamata          2.14 327  P     Pb    19 46 37.3 -0.3
PTL   Penteli            2.20  40  P     Pn    19 46 37.3 +2.2
ANX   Ano Chora          2.21 357  P     Pb    19 46 39.6 +0.7
ANX   Ano Chora          2.21 357  P     Pb    19 46 39.6 +0.7
DION  Dionisos Attik     2.26  41  P     Pn    19 46 38.0 +2.1
DION  Dionisos Attik     2.26  41  P     Pn    19 46 38.2 +2.3
PVO   Paravola           2.27 349  P     Pb    19 46 39.5 -0.3
KEF3  Kipouria, Keph     2.27 324  P     Pn    19 46 38.7 +2.7
KEF3  Kipouria, Keph     2.27 324  P     Pn    19 46 38.8 +2.7
DMLN  Damoulianata-K     2.29 325  P     Pn    19 46 39.3 +3.0
DMLN  Damoulianata-K     2.29 325  P     Pn    19 46 39.3 +3.0
LKR   Lokris             2.39  18  P     Pn    19 46 39.2 +1.6
FSK   Fiskardo           2.39 331  P     Pn    19 46 40.8 +3.1
AXAR  Agios Charalam     2.43  11  P     Pb    19 46 41.8 -0.7
AXAR  Agios Charalam     2.43  11  P     Pb    19 46 41.8 -0.7
ATAL  Atalanti           2.43  18  P     Pn    19 46 39.5 +1.3
ATAL  Atalanti           2.43  18  P     Pn    19 46 39.6 +1.4
EVGI  Lefkada island     2.50 334  P     Pb    19 46 43.0 -0.7
EVGI  Lefkada island     2.50 334  P     Pb    19 46 42.8 -0.9
EVR   Evrytania          2.54 356  P     Pb    19 46 45.9 +1.4
IDI   Anoyia             2.54 115  P     Pn    19 46 41.3 +1.5
IDI   Anoyia             2.54 115              Pn    19 46 41.0 +1.1
IDI                                 Sn    Sn    19 47 10.4 -0.1
IDI   Anoyia             2.54 115  Pn    Pn    19 46 41.3 +1.5
      comp=E,1.6nm,0.3s,baz=305,slow=18,SNR=20
IDI                                 Sn    Sn    19 47 13.5 +3.0
      comp=E,9.9nm,0.3s,baz=309,slow=18,SNR=13
      comp=E,4.7nm,0.4s
IDI   Anoyia             2.54 115  P     Pn    19 46 40.7 +0.9
NYDR  Nydri-Lefkada      2.57 335  P     Pb    19 46 44.0 -0.9
NYDR  Nydri-Lefkada      2.57 335  P     Pb    19 46 44.2 -0.6
DRAG  Dragano-Lefkad     2.58 333  P     Pb    19 46 44.5 -0.7
MAKR  Makrakomi, Fth     2.63   1  P     Pb    19 46 45.2 -0.7
MAKR  Makrakomi, Fth     2.63   1  P     Pb    19 46 45.9 -0.1
AGG   Agios Georgios     2.65   5              Pn    19 46 41.6 +0.3
LKD2  Lefkada island     2.65 336  P     Pb    19 46 45.1 -1.2
SNT5  Nea Kammeni, S     2.69  89  P     Pn    19 46 43.0 +1.2
SANT  Santorini          2.74  89  P     Pn    19 46 43.7 +1.2
SANT  Santorini          2.74  89  Pn    Pn    19 46 43.0 +0.5
KYMI  Kymi, Euboea I     2.77  35  P     Pn    19 46 43.9 +1.0
KYMI  Kymi, Euboea I     2.77  35  P     Pn    19 46 43.9 +1.0
APE   Apeiranthos        2.87  75  P     Pn    19 46 45.1 +0.8
APE   Apeiranthos        2.87  75  P     Pn    19 46 45.0 +0.6
NEO   Neokhori           3.06  17  P     Pn    19 46 48.0 +1.1
THL   Klokotos Trika     3.18 359  P     Pn    19 46 50.9 +2.4
SKY   Skiros Island      3.18  38  P     Pn    19 46 48.8 +0.3
TYRN  Tyrnavos           3.33   2  P     Pn    19 46 53.6 +3.1
IGT   Igoumenitsa        3.43 337  P     Pn    19 46 54.2 +2.2
IGT   Igoumenitsa        3.43 337  P     Pn    19 46 54.4 +2.5
KEK   Kerkira            3.78 332  P     Pn    19 46 58.8 +2.1
KEK   Kerkira            3.78 332  Pn    Pn    19 46 58.4 +1.7
LSK   Leskovik           3.94 343  P     Pn    19 47 01.7 +2.7
NEST  Nestorio           4.11 349  P     Pn    19 47 05.1 +3.8
KARP  Karpathos          4.22 100  Pn    Pn    19 47 02.8 -0.1
OUR   Ouranopolis        4.23  20  P     Pn    19 47 04.3 +1.4
HORT  Hortiatis          4.29  11  P     Pn    19 47 06.1 +2.3
KBN   Korca              4.35 347  Pn    Pn    19 47 06.3 +1.6
FNA   Florina            4.43 353              Pn    19 47 06.8 +1.0
GRG   Griva              4.58   3  P     Pn    19 47 09.3 +1.5
SCTE  Santa Cesarea      4.65 324  Pn    Pn    19 47 09.9 +1.3
KNT   Kendrikon          4.82   8  P     Pn    19 47 13.3 +2.2
ARG   Arkhangelos        4.90  90  Pn    Pn    19 47 12.2  0.0
RDO   Rodhopi            5.48  29  Pn    Pn    19 47 20.8 +0.7
ALN   Alexandroupoli     5.48  33  Pn    Pn    19 47 21.1 +1.0
CUC   Castrocucco        6.10 308              Pn    19 47 30.2 +1.5
RAFF  Raffo Rosso        6.23 280  Pn    Pn    19 47 31.9 +1.4
PDG   Podgorica          6.42 341  Pn    Pn    19 47 34.5 +1.5
SGRT  San Giovanni R     7.28 319              Pn    19 47 45.4 +0.5
DIVS  Divibare           7.87 349  Pn    Pn    19 47 53.6 +0.6
INTR  Introdacqua        8.47 314  Pn    Pn    19 48 03.2 +2.0
NRCA  Norcia             9.44 316  Pn    Pn    19 48 17.1 +2.5
FDMO  Fiordimonte        9.59 317  Pn    Pn    19 48 18.0 +1.6
CIMO  Cimolais          12.26 327  Pn    Pn    19 48 53.0 -0.1
CTI   Castel Tesino     12.43 324  Pn    Pn    19 48 57.1 +1.7
GRFO  Grafenberg        15.46 333  Pn    Pn    19 49 37.2 +0.8
GRFO                                IAmb  IAmb  19 49 56.0
      comp=Z,8.3nm,0.7s
PABE  Paberze           19.17   3  P     P     19 50 21.8 +0.1
PABE                                IAmb  IAmb  19 50 36.2
      comp=Z,9.7nm,0.9s
HFS   Hagfors           24.37 350  P     P     19 51 15.4 -0.9
      comp=Z,1.0nm,0.6s,baz=152,slow=13,SNR=1.2
      comp=Z,1.0nm,0.6s
FINES FINESS Array B    25.21   5  P     P     19 51 22.5 -1.3
FINES FINESS Array B    25.21   5  P     P     19 51 22.8 -1.1
      comp=Z,1.4nm,0.5s,baz=158,slow=11,SNR=9.8
      comp=Z,1.4nm,0.5s
EKA   Eskdalemuir Ar    25.60 326  P     P     19 51 28.7 +1.2
      comp=Z,1.3nm,0.7s,baz=127,slow=9.0,SNR=1.4
      comp=Z,1.3nm,0.7s
NOA   NORSAR Array B    25.63 348  P     P     19 51 28.3 +0.7
      comp=Z,0.8nm,0.9s,baz=150,slow=11,SNR=1.8
      comp=Z,0.8nm,0.9s
ARCES ARCESS Array B    33.27   2  P     P     19 52 34.2 -1.1
      comp=Z,1.3nm,0.6s,baz=186,slow=8.5,SNR=5.8
      comp=Z,1.3nm,0.6s
KKAR  Karatay Array     37.43  64  P     P     19 53 10.7 -0.8
KURBB Kurchatov Arra    42.34  52  P     P     19 53 50.1 -2.0
      comp=Z,0.4nm,0.5s,baz=276,slow=8.7,SNR=5.6
      comp=Z,0.4nm,0.5s
MK31  Makanchi Array    45.22  57  P     P     19 54 13.7 -1.8
MK31                                IAmb  IAmb  19 54 27.0
      comp=Z,3.4nm,1.2s
MKAR  Makanchi Array    45.22  57  P     P     19 54 13.8 -1.7
      comp=Z,0.7nm,0.3s,baz=272,slow=7.8,SNR=19
      comp=Z,0.7nm,0.3s
ZALV  Zalesovo Beam     46.00  47  P     P     19 54 19.4 -2.1
      comp=Z,0.8nm,0.3s,baz=264,slow=9.7,SNR=4.1
      comp=Z,0.8nm,0.3s
E29M  Blow River        74.47 352  P     P     19 57 35.7 -0.5
```

*NOU **21** 20:01:16.6, 40°.04S×175°.01E, h86km, MLv3.8/10, North Island, New Zealand*
*WEL **21** 20:01:17.8±0.4, 40°.3S±3°×17°.5E±°, h50km±6km, M3.4/62, ML3.6/26, MLv3.4/62, Error ellipse: s-maj=0.0km s-min=0.0km az=95.3, confirmed*
ISC 21 20:01:17.5±1.3, **40°.01S**±0°.03×**175°.00E**±0°.03, **h67**km±9km, **n112**, σ1§**05**/121, **North Island**

```
Code  Station Name        Δ°   AZ°  Phase ID      Time      Res
                                    Op    ISC     h m s     ISC
WAZ   Wanganui           0.26 357  P     Pn    20 01 27.8 -0.3
WAZ                                 S     Sn    20 01 35.7 -0.1
OHWZ  Ohakea             0.31 129  P     Pn    20 01 28.2 -0.2
OHWZ                                S     Sn    20 01 36.9 +0.6
POWZ  Post Office Ro     0.70 123  P     Pn    20 01 32.0 -0.2
POWZ                                S     Sn    20 01 43.8 +0.7
LREZ  Lake Rotokare      0.72 320  P     Pn    20 01 32.6 +0.2
LREZ                                S     Sn    20 01 44.7 +1.4
MTVZ  Mangateitei        0.72  30  P     Pn    20 01 32.4 -0.2
MTVZ                                S     Sn    20 01 43.3 -0.2
TSZ   Takapari Road      0.74  94  P     Pn    20 01 32.5 -0.2
TSZ                                 S     Sn    20 01 44.1 +0.2
PKVZ  Pokaka             0.77  20  P     Pn    20 01 32.5 -0.6
MRZ   Mangatainoka R     0.79 146  P     Pn    20 01 32.7 -0.5
MRZ                                 S     Sn    20 01 45.3 +0.5
OGWZ  Otaki Gorge        0.82 171  P     Pn    20 01 33.7 +0.1
OGWZ                                S     Sn    20 01 46.2 +0.8
WNVZ  Wahianoa           0.82  34  P     Pn    20 01 33.6 -0.2
MOVZ  Moawhango          0.84  44  P     Pn    20 01 33.3 -0.6
MOVZ                                S     Sn    20 01 45.5 -0.5
KIW   Kapiti Island      0.85 185  P     Pn    20 01 34.0  0.0
KIW                                 S     Sn    20 01 46.0 -0.2
FWVZ  Far West T-bar     0.87  30  P     Pn    20 01 34.0 -0.4
VRZ   Vera Road          0.90 348  P     Pn    20 01 34.4 -0.2
PRWZ  Pori Road          0.92 127  P     Pn    20 01 34.6 -0.2
PNHZ  Pukenui            0.93  84  P     Pn    20 01 34.7 -0.2
PREZ  Palmer Road        0.93 315  P     Pn    20 01 35.7 +0.7
DVHZ  Dannevirke         0.94 108  P     Pn    20 01 35.8 +0.8
NGZ   Ngauruhoe          0.95  29  P     Pn    20 01 35.0 -0.4
SNVZ  South Ngauruho     0.96  31  P     Pn    20 01 35.7 +0.2
HOWZ  Holdsworth Sta     0.97 156  P     Pn    20 01 35.6 +0.1
BHHZ  Black Hill Sta     0.97  58  P     Pn    20 01 34.9 -0.6
OTVZ  Oturere            0.99  31  P     Pn    20 01 35.0 -0.8
TWVZ  Taurewa            1.00  20  P     Pn    20 01 35.1 -0.9
WTVZ  West Tongariro     1.00  27  P     Pn    20 01 35.6 -0.4
NEZ   North Egmont       1.02 316  P     Pn    20 01 36.8 +0.7
DREZ  Durham Road        1.03 323  P     Pn    20 01 37.0 +0.8
ETVZ  East Tongariro     1.03  32  P     Pn    20 01 36.5 +0.2
KRVZ  Karewarewa         1.04  29  P     Pn    20 01 32.4 -4.1
KHEZ  Kahui Hut          1.04 313  P     Pn    20 01 37.1 +0.6
KHEZ  Kahui Hut          1.04 313  P     Pn    20 01 37.1 +0.6
TMVZ  Te Maari           1.05  32  P     Pn    20 01 36.5 -0.1
NTVZ  North Tongarir     1.05  30  P     Pn    20 01 36.8 +0.2
NMEZ  Namu Road          1.05 304  P     Pn    20 01 37.1 +0.6
CAW   Cannon Point       1.10 177  P     Pn    20 01 37.3 +0.2
WPHZ  Waipukurau         1.11  93  P     Pn    20 01 37.6 +0.4
KRHZ  Kereru             1.12  71  P     Pn    20 01 37.4  0.0
PKE   Pukeiti            1.13 316  P     Pn    20 01 38.2 +0.6
DUWZ  D'Urville Isla     1.14 226  P     Pn    20 01 37.7  0.0
NBEZ  Newall Road No     1.15 310  P     Pn    20 01 38.4 +0.7
BFZ   Birch Farm         1.16 126  P     Pn    20 01 37.9  0.0
KATZ  Kakaramea          1.17  28  P     Pn    20 01 38.5 +0.4
MTW   Mount Morrison     1.21 162  P     Pn    20 01 38.5  0.0
ANWZ  Angora Road        1.22 112  P     Pn    20 01 38.8 +0.2
RITZ  Rihia Road         1.23  33  P     Pn    20 01 39.5 +0.7
KWHZ  Kaweka Forest      1.24  62  P     Pn    20 01 39.3 +0.3
PRHZ  Porangahau         1.28 102  P     Pn    20 01 38.9 -0.6
CPWZ  Castlepoint        1.28 135  P     Pn    20 01 40.5 +1.0
WEL   Wellington         1.28 188  P     Pn    20 01 39.4 -0.1
TMWZ  Te Maipa           1.29 149  P     Pn    20 01 39.2 -0.4
RATZ  Rangitukua         1.29  28  P     Pn    20 01 40.1 +0.4
SNZO  South Karori       1.32 190  P     Pn    20 01 39.8 -0.1
TCW   Tory Channel       1.32 204  P     Pn    20 01 40.1 +0.1
BHW   Baring Head        1.40 184  P     Pn    20 01 40.5 -0.5
PAWZ  Paruwai Farm       1.41 167  P     Pn    20 01 43.0 +1.9
WATZ  Wairara            1.42  24  P     Pn    20 01 41.5 +0.1
MCHZ  McNeill Hill       1.43  67  P     Pn    20 01 41.4  0.0
BKZ   Black Stump Fm     1.43  54  P     Pn    20 01 42.0 +0.5
BKZ   Black Stump Fm     1.43  54  P     Pn    20 01 42.9 +1.4
PXZ   Pawanui            1.43  91  P     Pn    20 01 44.5 +3.1
KAHZ  Kahuranaki         1.46  82  P     Pn    20 01 41.5 -0.3
TRWZ  Traveller          1.48 160  P     Pn    20 01 43.6 +1.5
HIZ   Hauiti             1.50 356  P     Pn    20 01 42.3  0.0
HIZ   Hauiti             1.50 356  P     Pn    20 01 42.4  0.0
PLWZ  Palliser           1.57 173  P     Pn    20 01 42.4 -1.0
MRHZ  Matea Rd           1.61  43  P     Pn    20 01 43.6 -0.2
TUWZ  Tuamarina          1.63 209  P     Pn    20 01 44.0 -0.1
KUTZ  Kaahu Road         1.65  23  P     Pn    20 01 45.4 +1.1
NMHZ  Naumai             1.67  57  P     Pn    20 01 47.0 +2.3
ARHZ  Aropaoanui         1.71  65  P     Pn    20 01 47.9 +2.7
NNZ   Nelson             1.73 225  P     Pn    20 01 45.2 -0.1
TLZ   Tolley Road        1.73  14  P     Pn    20 01 45.6 +0.1
ALRZ  Allen Road         1.78  36  P     Pn    20 01 46.3 +0.1
MTHZ  Maungataniwha      1.83  52  P     Pn    20 01 47.4 +0.5
CMWZ  Cape Campbell      1.84 199  P     Pn    20 01 47.2 +0.3
TKNZ  Takaka Hill        1.86 236  P     Pn    20 01 47.1 -0.1
BSWZ  Blackbirch Sta     1.91 206  P     Pn    20 01 47.3 -0.5
RAHZ  Arahi              1.95  57  P     Pn    20 01 51.2 +2.8
QRZ   Quartz Range       2.06 246  P     Pn    20 01 49.3 -0.5
QRZ   Quartz Range       2.06 246  P     Pn    20 01 49.4 -0.4
MUGZ  Murupara           2.06  42  P     Pn    20 01 49.5 -0.4
RTZ   Ruatahuna          2.07  48  P     Pn    20 01 51.8 +1.7
SNGZ  Shannon Statio     2.19  57  P     Pn    20 01 54.9 +3.2
MRNZ  Matariki Terra     2.20 230  P     Pn    20 01 51.8 +0.1
KNZ   Kokohu             2.29  65  P     Pn    20 01 51.6 -1.4
TOZ   Tahuroa Road       2.31  10  P     Pn    20 01 53.2  0.0
THZ   Tophouse           2.36 222  P     Pn    20 01 54.0  0.0
URZ   Urewera            2.40  44  P     Pn    20 01 53.5 -0.9
URZ   Urewera            2.40  44  P     Pn    20 01 53.0 -1.4
MHGZ  Mahia Peninsul     2.40  70  P     Pn    20 01 53.2 -1.3
MWZ   Matawai            2.58  50  P     Pn    20 01 55.4 -1.5
MKAZ  Moumakai           2.90   3  P     Pn    20 02 01.5 +0.1
RUGZ  Raukumara Rang     2.92  46  P     Pn    20 02 01.3 -0.4
AWAZ  Awhitu Peninsu     2.96 354  P     Pn    20 02 02.5 +0.4
DSZ   Denniston Nort     2.98 233  P     Pn    20 02 01.9 -0.5
ETAZ  East Tamaki Re     3.05 359  P     Pn    20 02 03.8 +0.5
HAZ   Te Kaha            3.13  45  P     Pn    20 02 03.2 -1.1
PKGZ  Pakihiroa          3.20  50  P     Pn    20 02 03.9 -1.6
MBAZ  Motutapu North     3.24 359  P     Pn    20 02 06.2 +0.4
RVAZ  Riverhead Bore     3.25 354  P     Pn    20 02 06.0 +0.6
LTZ   Lake Taylor        3.45 216  P     Pn    20 02 07.2 -1.5
INZ   Inchbonnie         3.81 223  P     Pn    20 02 12.2 -1.5
WVZ   Waitaha Valley     4.43 225  P     Pn    20 02 25.2 +3.1
RPZ   Rata Peaks         4.73 217  P     Pn    20 02 33.3 +7.0
GCSZ  Gaunt Creek Bo     4.81 225  P     Pn    20 02 28.3 +0.9
OUZ   Omahuta            4.91 346  P     Pn    20 02 29.0 +0.3
TMZ   Timaru             5.28 213  P     Pn    20 02 31.6 -2.2
ODZ   Otahua Downs       5.97 211  P     Pn    20 02 41.6 -1.6
JCZ   Jackson Bay        6.16 227  P     Pn    20 02 44.9 -0.9
JCZ   Jackson Bay        6.16 227  P     Pn    20 02 47.1 +1.3
CTZ   Chatham Island     7.28 123  P     Pn    20 03 00.0 -1.1
CTZ   Chatham Island     7.28 123  P     Pn    20 02 59.3 -1.8
```

*MOS **21** 20:25:25.3±0.8, 8°.03S×129°.78E, h16km, mb5.1/31, Error ellipse: s-maj=11.3km s-min=5.4km az=120.6*
*IDC **21** 20:25:26.1±2.5, 8°.00S×129°.81E, h10km±14km, mb4.7/20, mbtmp4.8/23, ML4.1/3, MS4.0/41, Error ellipse: s-maj=15.8km s-min=9.1km az=65.0*
*NEIC **21** 20:25:26.5±1.5, 8°.13S±0°.05×129°.74E±0°.04, h10km±1km, mb5.1/90, Error ellipse: s-maj=9.1km s-min=6.4km az=185.0*
*BJI **21** 20:25:28.0±0.0, 8°.32S×130°.10E, h54km, mb4.6/50, mB5.5/28, Ms5.0/5, Ms7 4.5/8*
*GCMT **21** 20:25:31.5±0.3, 8°.16S±0°.02×129°.85E±0°.03, h34km±2km, MW5.0/76, Moment Tensor Solution. s31,c36; s76,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.07±.19; Mθθ-1.53±.12; Mφφ1.60±.17; Mrθ2.33±.27; Mθφ2.00±.10; Mφr1.87±.25; Best double couple: M0 3.82200×10^16 NP1:φs67.00000°, δ89.00000°, λ49.00000°. NP2: φs336.00000°, δ41.00000°, λ179.00000°. Principal axes: T 4.3280, Plg33.0000°, Azm303.0000°; N -1.0150, Plg41.0000°, Azm67.0000°; P -3.3170, Plg31.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **21** 20:25:31.9±0.2, 8°.S±2°.×13°.0E±°, h51km±3km, M5.1/48, mb5.3/48, mB5.5/28, MLv5.6/15, Mw(mB)5.0/28, MwMwp4.7/1, Mwp5.0/1*
*KLM **21** 20:25:32, 8°.52S×129°.90E, h90km, mb5.4*

ISC 21 20:25:27.9±0.2, 8°.17S±0°.03×129°.78E±0°.03, h22km, n452, σ1§63/428, mb4.9/96, MS3.9/43, 7C-17D, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.52**	**83**		Pn		**Pb**	**20 25 55.8**	**+0.5**
SAUI					Sn		**Sb**	**20 26 14.4**	**+0.3**
SAUI	**Saumlaki**	**1.52**	**83**		P		**Pb**	**20 25 56.4**	**+1.1**
SAUI	**Saumlaki**	**1.52**	**83**		P		**Pb**	**20 25 56.0**	**+0.7**
BNDI	**Bandanaira**	**3.63**	**2**		P		**Pb**	**20 26 27.1**	**-4.3**
BNDI	**Bandanaira**	**3.63**	**2**		P		**Pn**	**20 26 26.2**	**+3.4**
MTN	**Manton Dam**	**4.83**	**164**		P		**Pn**	**20 26 39.6**	**+0.2**
	baz=4.7,SNR=182								
MTN	**Manton Dam**	**4.83**	**164**		Pn		**Pn**	**20 26 40.0**	**+0.7**
MTN					Sn		**Sn**	**20 27 35.0**	**+0.5**
MTN	**Manton Dam**	**4.83**	**164**		P		**Pn**	**20 26 39.9**	**+0.6**
KDU	**Kakadu**	**5.21**	**150**		P		**Pn**	**20 26 44.2**	**-0.4**
	baz=5.1,SNR=286								
KDU					S		**Sn**	**20 27 41.6**	**-2.3**
	baz=5.1								
KDU	**Kakadu**	**5.21**	**150**		P		**Pn**	**20 26 44.9**	**+0.4**
NLAI	**Namlea**	**5.58**	**331**		P		Pn	20 26 55.2	+5.5
	380nm,0.6s,4μm1.3nm								
SOEI	**Soe**	**5.67**	**253**		Pn		**Pn**	**20 26 52.5**	**+1.5**
SOEI					Sn		**Sn**	**20 27 57.2**	**+1.7**
SOEI	**Soe**	**5.67**	**253**		P		**Pn**	**20 26 54.0**	**+3.0**
SOEI	**Soe**	**5.67**	**253**		P		**Pn**	**20 26 54.9**	**+3.9**
	547nm,1.0s,6μm3μm9.5nm								
FAKI	**Fak Fak**	**5.77**	**25**		Pn		**Pn**	**20 26 52.1**	**-0.1**
FAKI	**Fak Fak**	**5.77**	**25**		P		**Pn**	**20 26 54.2**	**+1.9**
FAKI	**Fak Fak**	**5.77**	**25**		P		**Pn**	**20 26 51.3**	**-1.0**
KMPI	**Kaimana, Papua**	**5.94**	**41**		P		**Pn**	**20 26 55.6**	**+1.0**
	415nm,0.8s,7μm4.3nm								
BATI	**Baumata**	**6.37**	**251**		P		**Pn**	**20 27 04.5**	**+4.0**
	377nm,0.8s,4μm3.3nm								
BATI	**Baumata**	**6.37**	**251**		Pn		**Pn**	**20 27 02.5**	**+2.0**
	11nm,0.3s,baz=194,slow=2.7,SNR=30								
BATI					Sn		**Sn**	**20 28 14.0**	**+1.3**
	34nm,0.3s,baz=353,slow=21,SNR=3.3								
	37nm,0.4s								
SANI	**Sanana**	**7.16**	**328**		P		Pn	20 27 17.3	+5.9
SANI	**Sanana**	**7.16**	**328**		P		Pn	20 27 17.0	+5.6
	194nm,0.8s,2μm0.7nm								
SWI	**Sorong**	**7.41**	**12**		P		**Pn**	**20 27 14.8**	**0.0**
MMRI	**Maumere**	**7.48**	**266**		Pn		**Pn**	**20 27 17.2**	**+1.4**
MMRI	**Maumere**	**7.48**	**266**		P		**Pn**	**20 27 19.0**	**+3.3**
MMRI	**Maumere**	**7.48**	**266**		P		**Pn**	**20 27 19.1**	**+3.3**
	181nm,1.1s,2μm0.9nm								
KNRA	**Kununurra**	**7.52**	**188**		P		**Pn**	**20 27 16.0**	**-0.3**
	baz=7.4,SNR=421								
KNRA	**Kununurra**	**7.52**	**188**		Pn		**Pn**	**20 27 15.6**	**-0.7**
KNRA	**Kununurra**	**7.52**	**188**		P		**Pn**	**20 27 16.6**	**+0.2**
BBSI	**Bau Bau**	**7.64**	**290**		P		Pn	20 27 23.8	+5.8
	196nm,1.2s,3μm0.8nm								
LBMI	**Labuha**	**7.82**	**343**		P		Pn	20 27 25.7	+5.2
	613nm,1.4s,7μm2.4nm								
RKPI	**Ransiki, Papua**	**7.94**	**34**		P		**Pn**	**20 27 23.9**	**+1.9**
	574nm,0.7s,5μm3.7nm								
EDFI	**Ende, Flores**	**8.02**	**265**		P		Pn	20 27 28.6	+5.2
	93nm,0.7s,1μm								
TNTI	**Ternate**	**9.21**	**345**		P		Pn	20 27 44.6	+5.1
TNTI	**Ternate**	**9.21**	**345**		P		Pn	20 27 44.0	+4.5
	112nm,0.8s,1μm								
BASI	**Baing, Sumba**	**9.31**	**257**		P		**Pn**	**20 27 42.9**	**+2.0**
	350nm,0.9s,4μm								
LUWI	**Luwuk**	**9.95**	**315**		P		Pn	20 27 56.0	+6.4
LUWI	**Luwuk**	**9.95**	**315**		P		Pn	20 27 55.3	+5.7
	286nm,1.2s,3μm								
BKSI	**Bulukumba**	**10.00**	**286**		P		**Pn**	**20 27 54.7**	**+4.3**
	151nm,1.4s,2μm								
KMSI	**Cibinong**	**10.44**	**326**		P		Pn	20 28 02.3	+5.9
	247nm,1.1s,2μm								
KAPI	**Kappang**	**10.45**	**287**		Pn		**Pn**	**20 27 56.6**	**+0.1**
KAPI	**Kappang**	**10.45**	**287**		P		**Pn**	**20 27 58.6**	**+2.1**
KAPI	**Kappang**	**10.45**	**287**		P		**Pn**	**20 27 56.6**	**+0.1**
KAPI	**Kappang**	**10.45**	**287**		Pn		**Pn**	**20 28 01.1**	**+4.7**
	0.9nm,0.3s,baz=120,slow=7.3,SNR=4.8								
KAPI					LR		LR	20 32 37.2	
	comp=Z,874nm,18.2s,baz=102,slow=41								
TTSI	**Tana Toraja**	**11.14**	**297**		P		Pn	20 28 12.9	+6.8
MRSI	**Marisa**	**11.62**	**317**		P		Pn	20 28 17.7	+5.2
	61nm,1.0s,1μm								
TABU	**Tabubil**	**11.72**	**76**		P		**Pn**	**20 28 14.8**	**+0.8**
GENI	**Genyem**	**11.73**	**62**		P		**Pn**	**20 28 16.6**	**+2.5**
PLAI	**Plampang**	**11.89**	**266**		P		**Pn**	**20 28 18.7**	**+2.5**
PLAI	**Plampang**	**11.89**	**266**		P		**Pn**	**20 28 18.8**	**+2.5**
	189nm,0.6s,2μm								
JAY	**Jayapura**	**12.24**	**63**		P		Pn	20 28 25.7	+4.6
WB0	**Warramunga Arr**	**12.36**	**159**				**Pn**	**20 28 19.0**	**-3.7**
WRAB	**Tennant Creek**	**12.50**	**160**				**Pn**	**20 28 21.2**	**-3.4**
WRAB	**Tennant Creek**	**12.50**	**160**	*c*	*i*P		**Pn**	**20 28 21.0**	**-3.6**
WRAB					pmax		pmax		
	comp=Z,326nm,1.0s								
WRA	**Warramunga Arr**	**12.50**	**160**				**Pn**	**20 28 21.5**	**-3.2**
WRA	**Warramunga Arr**	**12.50**	**160**		P		**Pn**	**20 28 21.5**	**-3.2**
WRA	**Warramunga Arr**	**12.50**	**160**		Pn		**Pn**	**20 28 20.7**	**-3.9**
	comp=Z,23nm,0.3s,baz=339,slow=12,SNR=260								
WRA					Sn		Sn	20 30 31.6	-12
	comp=Z,13nm,0.3s,baz=337,slow=22,SNR=8.2								
WRA					Lg		Lg	20 32 00.3	
	baz=320,slow=28								
WRA					LR		LR	20 33 49.7	
	comp=Z,3μm,19.0s,baz=336,slow=40								
WB2	**Warramunga Arr**	**12.51**	**160**		P		**Pn**	**20 28 21.0**	**-3.7**
	baz=12								
SGSI	**Sangihe**	**12.52**	**340**		P		**Pn**	**20 28 26.8**	**+1.9**
	comp=Z,128nm,0.8s								
TWSI	**Taliwang, Sumb**	**12.77**	**267**		P		**Pn**	**20 28 30.6**	**+2.3**
	comp=Z,58nm,1.2s								
TOLI2	**Tolitoli**	**12.87**	**315**		Pn		**Pn**	**20 28 31.2**	**+1.5**
TOLI2	**Tolitoli**	**12.87**	**315**		P		**P**	**20 28 35.7**	**-4.6**
MPSI	**Mapaga**	**12.98**	**310**		P		**P**	**20 28 38.3**	**-3.2**
COEN	**Coen**	**14.34**	**115**				**Pn**	**20 28 46.4**	**-3.5**
COEN	**Coen**	**14.34**	**115**		P		**Pn**	**20 28 47.2**	**-2.6**
JAGI	**Jajag, Banyuwa**	**15.47**	**268**				**Pn**	**20 29 03.7**	**-1.2**
QIS	**Mount Isa**	**15.55**	**143**		P		**Pn**	**20 29 01.8**	**-4.2**
	baz=16,SNR=86								
QIS	**Mount Isa**	**15.55**	**143**		P		**Pn**	**20 29 02.5**	**-3.5**
BBKI	**Banjar Baru**	**15.58**	**287**		P		**P**	**20 29 09.5**	**-1.0**
	comp=Z,114nm,1.1s								
AS31	**Alice Springs**	**15.90**	**166**				**Pn**	**20 29 07.0**	**-3.6**
AS31					IAmb		IAmb	20 29 16.5	
	comp=Z,106nm,0.8s								
ASAR	**Alice Springs**	**15.90**	**166**				**Pn**	**20 29 07.0**	**-3.5**
ASAR	**Alice Springs**	**15.90**	**166**		P		**Pn**	**20 29 07.0**	**-3.5**
ASAR	**Alice Springs**	**15.90**	**166**		Pn		**Pn**	**20 29 07.5**	**-3.0**
	comp=Z,6.2nm,0.3s,baz=343,slow=8.3,SNR=248								
ASAR					Sn		**Sn**	**20 31 56.2**	**-10**
	comp=Z,4.7nm,0.3s,baz=350,slow=25,SNR=4.9								
ASAR					Lg		Lg	20 33 44.8	
	baz=13,slow=12								
ASAR					LR		LR	20 35 43.8	
	comp=Z,2μm,18.4s,baz=344,slow=38								
BLJI	**Banyuglugur**	**16.04**	**270**		P		**P**	**20 29 16.3**	**+0.8**
	comp=Z,96nm,0.5s								
MBWA	**Marble Bar**	**16.15**	**216**				**Pn**	**20 29 10.7**	**-3.0**
MBWA					IAmb		IAmb	20 29 12.7	
	comp=Z,228nm,1.2s								
MBWA	**Marble Bar**	**16.15**	**216**		P		**Pn**	**20 29 11.1**	**-2.5**
PSA00	**Pilbara Seismi**	**16.41**	**215**				**Pn**	**20 29 13.9**	**-3.1**
PSA00					IAmb		IAmb	20 29 22.8	
	comp=Z,133nm,1.3s								
PSA00	**Pilbara Seismi**	**16.41**	**215**		P		**Pn**	**20 29 15.1**	**-1.9**
WRKA	**Warakurna**	**16.83**	**185**		P		**Pn**	**20 29 18.6**	**-3.7**
	baz=17,SNR=219								
WRKA	**Warakurna**	**16.83**	**185**		P		**Pn**	**20 29 19.3**	**-3.0**
PMG	**Port Moresby**	**17.22**	**95**				**Pn**	**20 29 26.2**	**-1.0**
PMG	**Port Moresby**	**17.22**	**95**		P		**P**	**20 29 28.1**	**-0.5**
PMG	**Port Moresby**	**17.22**	**95**		P		**P**	**20 29 28.3**	**-0.3**
PMG	**Port Moresby**	**17.22**	**95**	*de*	P		**Pn**	**20 29 27.2**	**0.0**
PMG					pmax		pmax		
	comp=Z,60nm,1.3s								
PMG	**Port Moresby**	**17.22**	**95**		P		**Pn**	**20 29 26.2**	**-1.0**
	comp=Z,2.9nm,0.3s,baz=278,slow=9.6,SNR=18								
PMG					S		Sn	20 32 24.7	-14
	comp=Z,22nm,0.9s,baz=308,slow=21,SNR=2.8								
PMG					LR		LR	20 37 45.8	
	comp=Z,902nm,19.6s,baz=258,slow=43								
	comp=Z,35nm,0.9s								
MTSU	**Mount Surprise**	**17.26**	**126**		P		**Pn**	**20 29 25.2**	**-2.5**
	baz=17,SNR=102								
MTSU	**Mount Surprise**	**17.26**	**126**		P		**Pn**	**20 29 25.4**	**-2.3**
MYLDM	**Lahad Datu**	**17.39**	**319**		P		**P**	**20 29 30.7**	**+0.1**
SPMM	**Sapulut**	**18.44**	**313**		P		**Pn**	**20 29 45.0**	**+2.6**
MANU	**Manus Island**	**18.54**	**72**		P		**P**	**20 29 42.6**	**-0.6**
UGM	**Wanagama**	**19.07**	**269**				**P**	**20 29 48.5**	**-0.6**
SMRI	**Semarang**	**19.20**	**272**		P		**P**	**20 29 50.0**	**-0.5**
KKM	**Kota Kinabalu**	**19.56**	**316**		P		**P**	**20 29 51.4**	**-3.1**
KKM	**Kota Kinabalu**	**19.56**	**316**		P		**Pn**	**20 29 58.9**	**+3.0**
TV1H	**Townsville Har**	**19.84**	**125**		P		**Pn**	**20 29 58.8**	**-0.3**
CTA	**Charters Tower**	**19.86**	**128**		P		**P**	**20 29 58.3**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=307,slow=11,SNR=65								
CTA					S		**Sn**	**20 33 44.0**	**+1.8**
	comp=Z,10.0nm,0.7s,baz=48,slow=23,SNR=5.6								
CTA					Lg		Lg	20 35 57.2	
	comp=Z,1.1nm,0.3s,baz=198,slow=21,SNR=1.6								
CTA					LR		LR	20 38 26.1	
	comp=Z,1μm,18.1s,baz=305,slow=39								
	comp=Z,69nm,0.8s								
CTAO	**Charters Tower**	**19.86**	**128**		P		**Pn**	**20 29 58.8**	**-0.6**
CTAO					IAmb		IAmb	20 30 03.0	
	comp=Z,84nm,0.8s								
CTAO	**Charters Tower**	**19.86**	**128**		P		**Pn**	**20 29 59.4**	**0.0**
CTAO	**Charters Tower**	**19.86**	**128**		P		**Pn**	**20 29 58.8**	**-0.6**
CTAO					pmax		pmax		
	comp=Z,83nm,0.9s								
STKI	**Sintang**	**20.00**	**293**		P		**Pn**	**20 30 01.3**	**+0.3**
	comp=Z,88nm,1.3s,comp=Z,11μm								
OOD	**Oodnadatta**	**20.30**	**165**		P		**P**	**20 30 02.8**	**+0.4**
SBUM	**Sibu**	**20.45**	**300**		P		**P**	**20 30 04.7**	**+0.6**
SBUM					IAmb		IAmb	20 30 08.4	
	comp=Z,53nm,1.0s								
SBUM	**Sibu**	**20.45**	**300**		P		Pn	20 30 06.0	-0.3
AUAYR	**Ayr State High**	**20.50**	**125**		P		Pn	20 30 06.5	-0.4
KPJI	**Karang Pucung**	**20.68**	**271**		P		Pn	20 30 08.2	-0.8
	comp=Z,34nm,0.9s								
GIRL	**Giralia**	**20.74**	**224**		P		**P**	**20 30 06.8**	**-0.4**
MEEK	**Meekatharra**	**21.20**	**209**		P		**P**	**20 30 13.1**	**+0.9**
	baz=21,SNR=19								
MEEK	**Meekatharra**	**21.20**	**209**		P		**P**	**20 30 13.3**	**+1.1**
KAVG	**Kavieng**	**21.65**	**76**		P		**P**	**20 30 18.3**	**+1.2**
KSM	**Kuching**	**21.65**	**295**		P		**P**	**20 30 16.0**	**-1.1**
KSM					IAmb		IAmb	20 30 28.7	
	comp=Z,107nm,1.1s								
KSM	**Kuching**	**21.65**	**295**		P		**P**	**20 30 17.5**	**+0.4**
KSM	**Kuching**	**21.65**	**295**		P		**P**	**20 30 17.0**	**-0.1**
BBJI	**Bungbulang**	**21.94**	**270**		P		**P**	**20 30 24.5**	**+4.2**
LEM	**Lembang**	**22.02**	**272**		LR		LR	20 40 09.1	
	comp=Z,534nm,21.6s,baz=73,slow=40								
INKA	**Innaminka**	**22.05**	**153**		P		**P**	**20 30 22.6**	**+1.3**
MULG	**Mulgathing**	**22.36**	**170**		P		**P**	**20 30 25.7**	**+1.2**
KRVT	**Keravat (AS076**	**22.44**	**81**		LR		LR	20 39 58.2	
	comp=Z,352nm,19.6s,baz=201,slow=39								
FORT	**Forrest**	**22.55**	**184**		P		**P**	**20 30 27.0**	**+0.4**
	baz=22,SNR=51								
FORT	**Forrest**	**22.55**	**184**		P		**P**	**20 30 26.2**	**-0.3**
FORT	**Forrest**	**22.55**	**184**		P		**P**	**20 30 27.1**	**+0.5**
CBJI	**Citeko**	**22.81**	**273**		P		**P**	**20 30 28.2**	**-1.3**
	comp=Z,129nm,0.9s								
QLP	**Quilpie**	**22.88**	**145**		P		**P**	**20 30 31.2**	**+1.1**
	baz=23,SNR=26								
QLP	**Quilpie**	**22.88**	**145**		P		**P**	**20 30 31.9**	**+1.8**
LCRK	**Leigh Creek**	**23.52**	**161**		P		**P**	**20 30 37.1**	**+0.5**
TGY	**Tagaytay City**	**23.81**	**338**		LR		LR	20 42 25.5	
	comp=Z,129nm,18.4s,baz=150,slow=43								
XMIS	**Christmas Isla**	**23.92**	**263**		P		**P**	**20 30 40.3**	**-0.3**
XMIS					IAmb		IAmb	20 30 49.8	
	comp=Z,124nm,1.1s								
KMBL	**Kambalda**	**24.22**	**197**		P		**P**	**20 30 44.0**	**+0.9**
	baz=24,SNR=43								
KMBL	**Kambalda**	**24.22**	**197**		P		**P**	**20 30 44.1**	**+0.9**
MORW	**Morawa**	**24.48**	**210**		P		**P**	**20 30 46.2**	**+0.7**
	baz=24,SNR=17								
MORW	**Morawa**	**24.48**	**210**		P		**P**	**20 30 45.9**	**+0.3**
MORW					IAmb		IAmb	20 30 47.7	
	comp=Z,78nm,0.9s								
MORW	**Morawa**	**24.48**	**210**		P		**P**	**20 30 46.8**	**+1.2**
RK1H	**Rockhampton Ha**	**24.97**	**130**		P		**P**	**20 30 51.0**	**+1.0**
BBOO	**Buckleboo**	**25.20**	**168**		P		**P**	**20 30 52.2**	**+0.2**
	baz=25,SNR=48								
BBOO	**Buckleboo**	**25.20**	**168**		P		**P**	**20 30 51.5**	**-0.5**
BBOO	**Buckleboo**	**25.20**	**168**		P		**P**	**20 30 52.4**	**+0.4**
PMBI	**Palembang**	**25.42**	**280**		P		**P**	**20 30 54.6**	**+0.3**
BLDU	**Balliduu**	**25.46**	**207**		P		**P**	**20 30 55.2**	**+0.8**
	baz=25,SNR=28								
BLDU	**Balliduu**	**25.46**	**207**		P		**P**	**20 30 55.5**	**+1.1**
GD1S	**Gladstone Soft**	**25.73**	**130**		P		**P**	**20 30 58.0**	**+1.0**
KLBR	**Kellerberrin**	**25.86**	**204**		P		**P**	**20 30 59.1**	**+1.2**
	baz=26,SNR=40								
KLBR	**Kellerberrin**	**25.86**	**204**		P		**P**	**20 30 59.2**	**+1.2**
STKA	**Stephens Creek**	**26.02**	**157**		P		**P**	**20 31 00.0**	**+0.5**
	baz=26,SNR=82								
STKA	**Stephens Creek**	**26.02**	**157**		P		**P**	**20 30 59.5**	**0.0**
STKA	**Stephens Creek**	**26.02**	**157**		P		**P**	**20 31 00.2**	**+0.7**
STKA	**Stephens Creek**	**26.02**	**157**	*d*	*i*P		**P**	**20 30 59.8**	**+0.3**
STKA	**Stephens Creek**	**26.02**	**157**		P		**P**	**20 30 59.5**	**0.0**
	comp=Z,61nm,0.9s,baz=327,slow=9.2,SNR=84								
STKA					S		**S**	**20 35 35.5**	**+6.2**
	comp=Z,9.7nm,0.9s,baz=203,slow=24,SNR=2.0								
STKA					Lg		Lg	20 39 11.5	
	comp=Z,0.2nm,0.3s,baz=177,slow=18,SNR=1.4								
STKA					LR		LR	20 42 16.9	
	comp=Z,2μm,20.1s,baz=327,slow=39								
	comp=Z,61nm,0.9s								
HTT	**Hallett**	**26.52**	**163**		P		**P**	**20 31 04.2**	**+0.2**
	baz=26,SNR=9.9								
HTT	**Hallett**	**26.52**	**163**		P		**P**	**20 31 05.2**	**+1.2**
EIDS	**Eidsvold**	**26.54**	**133**		P		**P**	**20 31 03.6**	**-0.7**
	baz=26,SNR=3.0								
EIDS	**Eidsvold**	**26.54**	**133**		P		**P**	**20 31 04.6**	**+0.3**
EIDS					IAmb		IAmb	20 31 39.9	
	comp=Z,23nm,0.8s								
MUN	**Mundaring**	**26.84**	**206**		P		**P**	**20 31 07.8**	**+0.8**
	baz=27,SNR=6.3								
MUN	**Mundaring**	**26.84**	**206**		P		**P**	**20 31 08.0**	**+1.1**
AULRC	**Lightning Ridg**	**27.19**	**143**		P		**P**	**20 31 10.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**27.24**	**204**		P		**P**	**20 31 11.0**	**+0.6**
	baz=27,SNR=16								
NWAO					P		**P**	**20 31 11.0**	**+0.6**
	baz=27,SNR=16								
NWAO	**Narrogin (SRO)**	**27.24**	**204**		P		**P**	**20 31 10.4**	**0.0**
NWAO					IAmb		IAmb	20 31 12.6	
	comp=Z,83nm,1.1s								
NWAO	**Narrogin (SRO)**	**27.24**	**204**		P		**P**	**20 31 11.4**	**+0.9**
NWAO	**Narrogin (SRO)**	**27.24**	**204**		P		**P**	**20 31 11.2**	**+0.8**
	comp=Z,55nm,0.9s,baz=36,slow=6.6,SNR=20								
NWAO					LR		LR	20 43 31.3	
	comp=Z,995nm,19.3s,baz=3.5,slow=40								
	comp=Z,55nm,0.9s								
CMSA	**Cobar Meteorol**	**27.57**	**150**		P		**P**	**20 31 14.2**	**+0.7**
	baz=28,SNR=76								
CMSA	**Cobar Meteorol**	**27.57**	**150**		P		**P**	**20 31 14.2**	**+0.7**
MYKOM	**Kota Tinggi**	**27.69**	**290**		P		**P**	**20 31 14.4**	**-0.3**
MYKOM					IAmb		IAmb	20 31 55.4	
	comp=Z,24nm,1.1s								
SDSI	**Sungai Dareh**	**29.15**	**283**		P		**P**	**20 31 26.5**	**-1.2**
AUDCS	**Dubbo College**	**29.66**	**146**		P		**P**	**20 31 33.4**	**+1.3**
HNR	**Honiara**	**29.83**	**95**		LR		LR	20 44 06.1	
	comp=Z,3μm,21.1s,baz=256,slow=38								
ARMA	**Armidale**	**30.13**	**140**		P		**P**	**20 31 36.8**	**+0.4**
AUPHS	**Peel High Scho**	**30.14**	**142**		P		**P**	**20 31 37.4**	**+1.0**
ARPS	**Mount Arapiles**	**30.51**	**161**		P		**P**	**20 31 40.8**	**+1.3**
	baz=30,SNR=30								
ARPS	**Mount Arapiles**	**30.51**	**161**		P		**P**	**20 31 41.1**	**+1.6**
YNG	**Young**	**31.14**	**149**		P		**P**	**20 31 46.2**	**+1.1**
	baz=31								
YNG	**Young**	**31.14**	**149**		P		**P**	**20 31 46.7**	**+1.6**
MGCD	**Mangrove Creek**	**31.78**	**145**		P		**P**	**20 31 52.6**	**+1.9**
	baz=32,SNR=4.9								
BRAT	**Ballarat**	**31.93**	**158**		P		**P**	**20 31 53.7**	**+1.7**
SYDH	**Sydney Hard Ro**	**31.98**	**146**		P		**P**	**20 31 53.5**	**+1.0**
KULM	**Kulim**	**31.99**	**294**		P		**P**	**20 31 52.0**	**-0.9**
CAN	**Canberra**	**32.25**	**150**		P		**P**	**20 31 55.8**	**+0.9**
CAN	**Canberra**	**32.25**	**150**		P		**P**	**20 31 56.7**	**+1.8**
CAN	**Canberra**	**32.25**	**150**		P		**P**	**20 31 55.8**	**+0.9**
CAN					pmax		pmax		
	comp=Z,75nm,0.9s								
CNB	**Canberra Magne**	**32.43**	**149**		P		**P**	**20 31 58.1**	**+1.6**
	baz=32,SNR=12								
CNB	**Canberra Magne**	**32.43**	**149**		P		**P**	**20 31 58.3**	**+1.8**
TOO	**Toolangi**	**32.54**	**156**		P		**P**	**20 31 59.7**	**+2.3**
	baz=32,SNR=11								
TOO	**Toolangi**	**32.54**	**156**		P		**P**	**20 31 58.8**	**+1.3**
TOO					IAmb		IAmb	20 32 00.8	
	comp=Z,56nm,1.1s								
TOO	**Toolangi**	**32.54**	**156**		P		**P**	**20 31 59.3**	**+1.8**
TOO	**Toolangi**	**32.54**	**156**		P		**P**	**20 31 58.8**	**+1.3**
TOO					pmax		pmax		
	comp=Z,56nm,1.2s								
RPSI	**Rantau Prapat**	**32.62**	**288**		P		**P**	**20 31 56.8**	**-1.6**
RPSI					IAmb		IAmb	20 32 26.9	
	comp=Z,22nm,1.0s								
PSI	**Prapat**	**32.65**	**288**		P		**P**	**20 31 59.6**	**+0.8**
PSI	**Prapat**	**32.65**	**288**		P		**P**	**20 31 56.8**	**-2.0**
PSI					pmax		pmax		
	comp=Z,22nm,1.0s								
QIZ	**Qiongzhong**	**33.42**	**324**		P		**P**	**20 32 06.0**	**+0.7**
QIZ					S		**S**	**20 37 29.4**	**+3.8**
QIZ					pmax		pmax		
	comp=Z,520nm,7.6s								
QIZ					LR		LR		
	comp=Z,410nm,7.6s								
QIZ					LR		LR		
	comp=Z,400nm,16.0s								
QIZ					LR		LR		
	comp=Z,340nm,21.0s								
GSI	**Gunungsitoli**	**33.46**	**285**		P		**P**	**20 32 04.3**	**-1.5**
GSI					IAmb		IAmb	20 32 17.6	
	comp=Z,23nm,1.0s								
GSI	**Gunungsitoli**	**33.46**	**285**		P		**P**	**20 32 08.6**	**+2.8**
GSI	**Gunungsitoli**	**33.46**	**285**		P		**P**	**20 32 07.4**	**+1.6**
	comp=Z,28nm,2.7s								
MILA	**Mila**	**33.71**	**151**		P		**P**	**20 32 07.5**	**-0.2**
	baz=34,SNR=5.4								
MILA	**Mila**	**33.71**	**151**		P		**P**	**20 32 08.9**	**+1.2**
SRIT	**Nakonsritamara**	**34.38**	**298**		P		**P**	**20 32 13.9**	**+0.2**
SRIT					IA

USRK **Ussuriysk Ar.** 52.17 2 P P 20 34 36.0 -0.8
USRK **Ussuriysk Ar.** 52.17 2 P P 20 34 35.5 -1.2
comp=Z,7.6nm,0.7s,baz=182,slow=5.7,SNR=6.9
USRK LR LR 20 56 13.0
comp=Z,92nm,21.5s,baz=194,slow=36
comp=Z,7.6nm,0.7s
MDJ Mudanjiang 52.54 360 P P 20 34 42.6 +3.0
MDJ S S 20 42 09.4 +4.2
MDJ pmax pmax
comp=Z,17nm,2.1s
MDJ pmax pmax
comp=Z,240nm,5.2s
MDJ LR LR
comp=Z,420nm,10.2s
MDJ LR LR
comp=Z,610nm,10.6s
MDJ LR LR
comp=Z,440nm,11.1s
LSA Lhasa 52.90 317 P P 20 34 42.6 -0.5
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 52.90 317 P P 20 34 42.2 -0.9
LSA IAmb IAmb 20 35 13.7
comp=Z,11nm,0.8s
LSA Lhasa 52.90 317 P P 20 34 42.5 -0.6
LSA Lhasa 52.90 317 P P 20 34 42.2 -0.9
LSA pmax pmax
comp=Z,11nm,0.8s
XLT XiLinHaoTe 53.30 348⇑ *i*P P 20 34 44.6 -0.7
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,320nm,5.7s
ASAJ Asahikawa 53.32 11 P P 20 34 44.5 -0.8
ASAJ pmax pmax
comp=Z,33nm,1.1s
ASAJ Asahikawa 53.32 11 P P 20 34 44.2 -1.1
comp=Z,20nm,1.1s,baz=214,slow=11,SNR=4.3
ASAJ LR LR 20 58 05.0
comp=Z,72nm,21.1s,baz=200,slow=37
comp=Z,20nm,1.1s
JKA Kamikawa-asahi 53.32 11 P P 20 34 44.5 -0.9
JKA IAmb IAmb 20 35 10.8
comp=Z,33nm,1.1s
ODAN Odare 53.87 312 *e*P P 20 34 49.0 -1.0
comp=Z,150nm,2.1s
TAPN Taplejung 53.91 312 *e*P P 20 34 48.7 -1.6
comp=Z,71nm,1.0s
RAMN Ramite 54.50 311 *e*P P 20 34 54.2 -0.4
comp=Z,44nm,0.7s
GTA Gaotai 54.89 332 *e*P P 20 34 57.3 +0.2
GTA PcP PcP 20 36 00.6 +1.6
GTA pmax pmax
comp=Z,5.0nm,1.3s
GOMU GeErMu 55.03 326 P P 20 34 59.5 +1.1
GOMU pmax pmax
comp=Z,2.0nm,0.5s
JIRN Jiri 55.20 312 *e*P P 20 34 58.3 -1.5
comp=Z,46nm,0.9s
GUN Gumba 55.56 312 *e*P P 20 35 01.1 -1.3
comp=Z,52nm,0.8s
PKI Pulchoki 55.73 311 *e*P P 20 35 02.1 -1.5
comp=Z,13nm,0.6s
PKIN Phulchoki 55.74 311 *e*P P 20 35 02.1 -1.5
comp=Z,9.4nm,0.4s
KKN Kakani 55.94 311 *e*P P 20 35 03.9 -1.1
comp=Z,126nm,2.2s
DMN Daman 55.97 311 *e*P P 20 35 04.5 -0.7
comp=Z,48nm,1.1s
GKN Gorkha 56.53 311 *e*P P 20 35 08.0 -1.1
comp=Z,18nm,0.5s
HYB Hyderabad 56.64 297 *e*P P 20 35 09.3 -0.6
KLR Kul'dur 57.19 2⇓ *e*P P 20 35 12.2 -0.9
KLR pmax pmax
comp=Z,27nm,2.5s
KLR Kul'dur 57.19 2 P P 20 35 12.1 -1.1
comp=Z,4.4nm,0.8s,baz=201,slow=3.3,SNR=9.5
KLR LR LR 20 59 52.4
comp=Z,73nm,19.9s,baz=208,slow=36
comp=Z,4.4nm,0.8s
KOLN Koldanda 57.19 310 *e*P P 20 35 12.9 -0.9
comp=Z,99nm,1.6s
DANN Dangsing 57.37 311 *e*P P 20 35 14.1 -1.1
comp=Z,42nm,1.0s
PYUN Piuthan 57.82 310 *e*P P 20 35 17.3 -1.0
comp=Z,55nm,0.9s
HEH HeiHe 58.22 358 *e*P P 20 35 19.6 -0.8
HEH pmax pmax
comp=Z,22nm,0.9s
HEH pmax pmax
comp=Z,460nm,5.3s
ULN Ulaanbaatar 59.31 342 P P 20 35 27.6 -0.6
ULN IAmb IAmb 20 35 45.8
comp=Z,16nm,1.2s
ULN Ulaanbaatar 59.31 342 *de*P P 20 35 27.9 -0.3
ULN pmax pmax
comp=Z,9.0nm,1.0s
SONM Songino Array 59.48 342 P P 20 35 28.9 -0.4
SONM Songino Array 59.48 342 P P 20 35 29.0 -0.4
SONM pmax pmax
comp=Z,9.0nm,1.2s
SONM Songino Array 59.48 342 P P 20 35 29.0 -0.4
comp=Z,3.0nm,0.7s,baz=163,slow=6.4,SNR=17
SONM ScP ScP 20 40 15.4 -1.2
comp=Z,1.3nm,0.7s,baz=168,slow=6.2,SNR=5.2
comp=Z,3.0nm,0.7s
CASY Casey 59.52 189 P P 20 35 29.8 +0.6
ZEA Zeya 61.71 358 *e*P P 20 35 44.3 0.0
ZEA pmax pmax
comp=Z,20nm,0.9s
ZAK Zakamensk 62.70 341 *e*P P 20 35 50.3 -0.8
ZAK pmax pmax
comp=Z,7.0nm,1.4s
WMQ Urumqi 64.26 327 *e*P P 20 36 03.9 +2.4
WMQ LR LR
comp=Z,130nm,26.3s
MOY Mondy 64.54 341 *e*P P 20 36 03.2 -0.1
MOY pmax pmax
comp=Z,4.0nm,1.4s
PEA0B Petropavlovsk- 65.50 18 P P 20 36 09.8 +0.5
PEA0B Petropavlovsk- 65.50 18 P P 20 36 09.8 +0.5
PEA0B pmax pmax
comp=Z,31nm,1.2s
PETK Petropavlovsk- 65.50 18 P P 20 36 09.4 0.0
PETK Petropavlovsk- 65.50 18 P P 20 36 09.4 0.0
PETK Petropavlovsk- 65.50 18 P P 20 36 08.9 -0.4
comp=Z,6.6nm,0.8s,baz=178,slow=4.2,SNR=9.8
PETK LR LR 21 04 06.8
comp=Z,16nm,20.9s,baz=189,slow=36
comp=Z,6.6nm,0.8s
NIL Nilore 67.82 311 P P 20 36 23.4 -1.2
NIL IAmb IAmb 20 36 45.2
comp=Z,13nm,0.8s
NIL Nilore 67.82 311 P P 20 36 23.4 -1.2
NIL pmax pmax
comp=Z,13nm,0.9s
ZSN Zaisan 68.16 329 *e*P P 20 36 27.0 +0.6
baz=329
ZSN Zaisan 68.16 329 *e*P P 20 36 27.0 +0.6
DGZ Jazzator, Alta 68.43 332 *de*P P 20 36 28.1 -0.2
DGZ pmax pmax
comp=Z,11nm,1.0s
SHLS Shalkode 68.51 323 *e*P P 20 36 26.7 -2.3
comp=Z,9.5nm,1.0s,baz=323
SHLS Shalkode 68.51 323 *e*P P 20 36 26.6 -2.3
SHLS pmax pmax
comp=Z,9.0nm,1.0s
TARG Taragay, Kyrgy 68.73 321 P P 20 36 30.2 -0.4
TARG IAmb IAmb 20 37 10.3
comp=Z,7.5nm,0.8s
TARG Taragay, Kyrgy 68.73 321 P P 20 36 30.2 -0.4
TARG pmax pmax
comp=Z,8.0nm,0.8s
KSH Kashi 68.74 318 P P 20 36 33.3 +2.9
KSH pmax pmax
comp=Z,7.0nm,0.8s
UZB Uzynbulak 68.77 323 *e*P P 20 36 30.2 -0.3
comp=Z,9.3nm,1.2s,baz=323
UZB Uzynbulak 68.77 323 *e*P P 20 36 30.2 -0.3
UZB pmax pmax
comp=Z,9.0nm,1.2s
RAR Rarotonga 68.90 110 LR LR 21 05 43.1
comp=Z,39nm,19.0s,baz=298,slow=35
MK31 Makanchi Array 69.09 327 P P 20 36 32.1 -0.1
MK31 IAmb IAmb 20 36 33.9
comp=Z,13nm,0.8s

MK31 Makanchi Array 69.09 327 *c i*P P 20 36 32.6 +0.4
MKAR Makanchi Array 69.09 327 P P 20 36 32.0 -0.3
MKAR Makanchi Array 69.09 327 P P 20 36 32.0 -0.3
MKAR Makanchi Array 69.09 327 P P 20 36 31.9 -0.3
comp=Z,11nm,0.4s,baz=118,slow=8.0,SNR=134
comp=Z,11nm,0.4s
SATY Saty 69.09 322 *e*P P 20 36 32.3 -0.2
comp=Z,8.7nm,1.1s,baz=322
SATY Saty 69.09 322 *e*P P 20 36 32.3 -0.2
SATY pmax pmax
comp=Z,9.0nm,1.1s
KPKS Kokpek 69.16 323 *e*P P 20 36 32.8 0.0
comp=Z,10nm,1.0s,baz=323
KPKS Kokpek 69.16 323 *e*P P 20 36 32.8 0.0
KPKS pmax pmax
comp=Z,11nm,1.0s
MAKZ Makanchi 69.26 327 P P 20 36 32.0 -1.4
MAKZ IAmb IAmb 20 36 34.8
comp=Z,12nm,0.6s
MAKZ Makanchi 69.26 327 P P 20 36 32.0 -1.4
MAKZ pmax pmax
comp=Z,12nm,0.6s
MA2 Magadan 69.58 11 LR LR 21 06 09.0
comp=Z,34nm,20.6s,baz=166,slow=35
NRN Naryn 69.71 320 P P 20 36 36.1 -0.5
NRN Naryn 69.71 320 P P 20 36 36.1 -0.5
NRN pmax pmax
comp=Z,6.0nm,1.1s
TNSS Tian-Shan 69.97 322 *e*P P 20 36 38.1 -0.2
baz=322
TNSS Tian-Shan 69.97 322 *e*P P 20 36 38.1 -0.2
MDOK Medeo 69.98 322 *e*P P 20 36 37.3 -0.8
baz=322
MDOK Medeo 69.98 322 *e*P P 20 36 37.2 -0.8
YAK Yakutsk 69.99 360 P P 20 36 36.5 -1.0
YAK Yakutsk 69.99 360 *e*P P 20 36 37.7 +0.3
YAK *e* 20 36 59.2
YAK *e* 20 39 12.6
YAK *e*PPP PPP 20 40 59.4
YAK *e*S S 20 45 44.4 -1.9
YAK *e**SS sS 20 46 07.7 +10
YAK *e* 20 46 26.9
YAK pmax pmax
comp=Z,34nm,0.6s
YAK pmax pmax
comp=N,17nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.7s
YAK pmax pmax
comp=Z,369nm,5.3s
YAK pmax pmax
comp=N,726nm,4.5s
YAK pmax pmax
comp=E,599nm,4.3s
YAK smax smax
comp=N,562nm,5.3s
YAK smax smax
comp=E,256nm,4.6s
TDK Taldyqorghan 70.19 324 *e*P P 20 36 39.1 -0.1
comp=E,6.9nm,0.6s,baz=324
TDK Taldyqorghan 70.19 324 *e*P P 20 36 39.0 -0.1
TDK pmax pmax
comp=Z,7.0nm,0.6s
BOOM Boomskoye usch 70.31 321 P P 20 36 39.6 -0.5
BOOM IAmb IAmb 20 37 06.1
comp=Z,42nm,1.6s
BOOM Boomskoye usch 70.31 321 P P 20 36 39.6 -0.5
BOOM pmax pmax
comp=Z,42nm,1.6s
CHKK Chushkaly 70.39 322 *e*P P 20 36 40.6 +0.2
baz=322
CHKK Chushkaly 70.39 322 *e*P P 20 36 40.6 +0.2
TKM2 Tokmak 2 70.75 321 P P 20 36 44.3 +1.5
SNR=9.2
KUU Kurty 70.81 322 *e*P P 20 36 43.0 0.0
comp=Z,13nm,0.6s,baz=322
KUU Kurty 70.81 322 *e*P P 20 36 42.9 0.0
KUU pmax pmax
comp=Z,13nm,0.6s
AAK Ala-Archa 71.30 320 P P 20 36 46.7 +0.6
SNR=8.9
AAK Ala-Archa 71.30 320 P P 20 36 44.9 -1.1
AAK IAmb IAmb 20 37 17.9
comp=Z,11nm,0.9s
AAK Ala-Archa 71.30 320 P P 20 36 46.5 +0.5
AAK Ala-Archa 71.30 320 *de*P P 20 36 46.7 +0.6
AAK pmax pmax
comp=Z,12nm,1.3s
AAK Ala-Archa 71.30 320 LR LR 21 11 05.1
comp=Z,71nm,21.9s,baz=106,slow=38
VNDA Vanda 71.32 173 P P 20 36 46.1 +0.7
VNDA Vanda 71.32 173 P P 20 36 46.1 +0.7
KBL Kabul 71.35 311 P P 20 36 45.9 -0.7
KBL IAmb IAmb 20 37 14.4
comp=Z,11nm,1.0s
KBL Kabul 71.35 311 P P 20 36 45.9 -0.7
KBL pmax pmax
comp=Z,11nm,1.0s
SHEM Shemya Is, Ala 71.42 27 LR LR 21 04 54.9
comp=Z,50nm,20.9s,baz=310,slow=33
AML Almayashu 71.55 319 P P 20 36 48.7 +0.8
SNR=5.2
USP Ospenovka 71.61 321 P P 20 36 48.1 +0.3
SNR=16
SGDS Sogindy 71.63 321 *e*P P 20 36 47.8 -0.1
baz=321
SGDS Sogindy 71.63 321 *e*P P 20 36 47.8 -0.1
EKS2 Erkin-Say 71.76 320 P P 20 36 49.7 +0.9
SNR=11
SBA Scott Base 72.21 172 P P 20 36 51.8 +1.0
SBA IAmb IAmb 20 37 08.3
comp=Z,8.6nm,0.9s
SBA Scott Base 72.21 172 P P 20 36 51.8 +1.0
SBA pmax pmax
comp=Z,9.0nm,1.0s
SEM Semipalatinsk 72.39 329 *e*P P 20 36 51.9 -0.6
baz=329
SEM Semipalatinsk 72.39 329 *e*P P 20 36 51.9 -0.6
BTK Batken 72.47 316 P P 20 36 53.5 +0.4
BTK Batken 72.47 316 P P 20 36 53.5 +0.4
ZAA0 Zalesovo Array 72.53 334 P P 20 36 51.1 -1.9
ZAA0 IAmb IAmb 20 36 58.8
comp=Z,7.9nm,0.8s
ZALV Zalesovo Beam 72.53 334 P P 20 36 51.7 -1.3
ZALV Zalesovo Beam 72.53 334 P P 20 36 51.7 -1.3
ZALV Zalesovo Beam 72.53 334 P P 20 36 51.6 -1.4
comp=Z,6.1nm,0.5s,baz=124,slow=4.7,SNR=33
ZALV LR LR 21 11 10.9
comp=Z,46nm,20.4s,baz=111,slow=38
comp=Z,6.1nm,0.5s
SEY Seymchan 72.99 11⇓ *e*P P 20 36 56.4 +0.9
SEY pmax pmax
comp=Z,34nm,1.7s
SEY Seymchan 72.99 11 LR LR 21 07 26.2
comp=Z,28nm,21.4s,baz=202,slow=35
KURBB Kurchatov Arra 73.39 329 P P 20 36 57.4 -0.8
comp=Z,4.7nm,0.6s,baz=129,slow=4.8,SNR=38
comp=Z,4.7nm,0.6s
KURK Kurchatov 73.40 329 P P 20 36 56.9 -1.3
KURK IAmb IAmb 20 37 21.8
comp=Z,17nm,1.1s
KURK Kurchatov 73.40 329 P P 20 36 57.4 -0.8
MAW Mawson 73.78 202 P P 20 37 02.2 +2.0
baz=74,SNR=20
MAW Mawson 73.78 202 P 20 37 01.2 +1.0
MAW Mawson 73.78 202 P P 20 37 01.6 +1.4
comp=Z,19nm,0.9s,baz=72,slow=6.2,SNR=37
MAW LR LR 21 07 04.5
comp=Z,286nm,19.8s,baz=56,slow=34
comp=Z,19nm,0.9s
IUG Iuzhnay 73.95 318 *e*P P 20 37 01.7 -0.1
baz=318
IUG Iuzhnay 73.95 318 *e*P P 20 37 01.7 -0.1
KK31 Karatay Array 74.08 319 P P 20 37 01.8 -0.6
KK31 Karatay Array 74.08 319 P P 20 37 01.8 -0.6
KK31 pmax pmax
comp=Z,6.0nm,1.1s
KKAR Karatay Array 74.08 319 P P 20 37 01.9 -0.5
KKAR Karatay Array 74.08 319 P P 20 37 01.9 -0.5
CHM Chimkent 74.31 318 *e*P P 20 37 03.9 0.0
baz=318
CHM Chimkent 74.31 318 *e*P P 20 37 03.8 0.0
BRZS Berezniki 76.16 326 *e*P P 20 37 14.0 -0.2
baz=326
BRZS Berezniki 76.16 326 *e*P P 20 37 14.0 -0.2
WSAR Wadi Sarin 76.19 296 LR LR 21 11 46.0

comp=Z,42nm,21.5s,baz=66,slow=36
HRA Herat 76.50 308 P P 20 37 16.0 -0.8
HRA IAmb IAmb 20 37 25.4
comp=Z,14nm,1.4s
SOHO SOHO 78.27 297 P P 20 37 27.3 +0.7
PPT2 Papeete2 78.70 106 *e*LR LR 21 01 45.6
comp=Z,109nm,24.5s
PPT2 *e*LR LR 21 01 47.8
comp=Z,159nm,27.5s
PPT Papeete 78.70 106 LR LR 21 10 23.2
comp=Z,23nm,18.3s,baz=268,slow=34
UOSS Minazif 78.77 297 P P 20 37 29.4 +0.1
HATD Hatta, Dubai 78.80 297 P P 20 37 30.7 +1.1
ASHO Ashiyiah 78.83 297 P P 20 37 31.0 +1.3
MSFE Esma-Masafi 78.91 298 P P 20 37 31.6 +1.4
BVAR Borovoye Array 78.94 328 P P 20 37 29.3 -0.4
comp=Z,5.1nm,0.7s,baz=121,slow=5.7,SNR=15
comp=Z,5.1nm,0.7s
BRVK Borovoye 79.01 328 P P 20 37 29.4 -0.6
BRVK Borovoye 79.01 328 *de*P P 20 37 30.0 -0.1
BRVK pmax pmax
comp=Z,11nm,1.0s
SHME Shamm 79.10 298 P P 20 37 31.9 +0.8
ASUD Al Ashush, Dub 79.46 297 P P 20 37 34.2 +1.0
TIXI Tiksi 79.66 360 P P 20 37 32.6 -0.6
TIXI IAmb IAmb 20 37 48.1
comp=Z,9.7nm,0.8s
TIXI Tiksi 79.66 360 *ce*P P 20 37 33.5 +0.3
TIXI pmax pmax
comp=Z,9.0nm,0.8s
MZR Muzera 80.73 295 P P 20 37 40.9 +0.8
GEYT Alibeck 80.80 311 P P 20 37 39.8 -0.4
GEYT Alibeck 80.80 311 P P 20 37 39.8 -0.4
GEYT pmax pmax
comp=Z,8.0nm,1.1s
GEYT Alibeck 80.80 311 P P 20 37 40.5 +0.3
comp=Z,2.4nm,0.5s,baz=113,slow=9.4,SNR=9.2
comp=Z,2.4nm,0.5s
GYA0B ALIBECK ARRAY 80.80 311 P P 20 37 40.0 -0.2
QSPA South Pole Qui 81.81 180 P P 20 37 45.0 -0.2
QSPA IAmb IAmb 20 37 46.9
comp=Z,21nm,1.0s
QSPA South Pole Qui 81.81 180 P P 20 37 45.5 +0.4
comp=Z,14nm,0.9s,baz=327,slow=1.7,SNR=32
QSPA LR LR 21 13 51.9
comp=Z,181nm,20.0s,baz=16,slow=35
comp=Z,14nm,0.9s
ABKAR Akbulak array 83.29 322 P P 20 37 52.4 -0.5
ABKAR Akbulak array 83.29 322 P P 20 37 52.4 -0.5
ABKAR IAmb IAmb 20 37 55.0
comp=Z,9.6nm,0.9s
AKTO Aktyubinsk 84.86 322 LR LR 21 19 48.0
comp=Z,99nm,21.3s,baz=54,slow=38
SVE Sverdlovsk 85.66 329 *e*P P 20 38 05.1 +0.4
SVE pmax pmax
comp=Z,15nm,0.9s
ARU Arti 86.58 328 P P 20 38 08.1 -1.2
ARU IAmb IAmb 20 38 24.7
comp=Z,25nm,1.5s
ARU Arti 86.58 328 *c i*P P 20 38 08.7 -0.6
ARU 20 41 27.7
ARU S SKSac 20 48 34.6 0.0
ARU SS SS 20 54 21.2 -4.7
ARU pmax pmax
comp=Z,12nm,1.2s
ELIB Princess Elisa 87.31 197 *d*PcP PcP 20 38 15.0 0.0
comp=Z,28nm,0.8s
K15K Wolf Creek Mou 87.52 26 P P 20 38 13.7 -0.1
MAK Makhachkala 89.90 313 *e*P P 20 38 21.8 -3.6
MAK *e* 20 48 49.0
MAK *e*SS SS 20 55 13.6 -1.3
MAK pmax pmax
comp=Z,273nm,1.2s
BELG Belogornoye 91.65 323 LR LR 21 23 54.8
comp=Z,60nm,20.0s,baz=112,slow=38
KMBO Kilima Mbogo 92.34 269 P P 20 38 38.9 +1.2
ZEI Tsey 92.48 313 *e*P P 20 38 37.5 -0.2
ZEI pmax pmax
comp=Z,6.0nm,1.3s
AKH Akhalkalaki 92.57 311 P P 20 38 37.4 -0.7
AKH Akhalkalaki 92.57 311 P P 20 38 37.4 -0.7
AKH pmax pmax
comp=Z,85nm,1.8s
SIRT Sirnak 92.81 307 P P 20 38 38.5 -0.8
TROLL Troll, Antarti 92.98 194 ⇓P P 20 38 41.2 +1.8
comp=Z,639nm,1.2s
GURO Guroymak-BITLI 93.28 308 P P 20 38 41.1 -0.4
GURO IAmb IAmb 20 38 43.5
comp=Z,6.8nm,1.0s
KBZ Khabaz 93.34 314 LR LR 21 28 12.2
comp=Z,19nm,18.4s,baz=97,slow=40
RND Reindeer 93.40 26 P P 20 38 40.8 -0.5
RND IAmb IAmb 20 38 53.0
comp=Z,7.3nm,1.0s
RND Reindeer 93.40 26 P P 20 38 40.8 -0.5
RND pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 93.52 314 *e*P P 20 38 40.6 -1.8
KIV pmax pmax
comp=Z,2.0nm,1.1s
BELA Belgrano 2 93.64 183 P P 20 38 42.0 -0.2
BELA IAmb IAmb 20 38 43.6
comp=Z,10.0nm,0.9s
WRH Wood River Hil 93.93 25 P P 20 38 42.0 -1.6
WRH IAmb IAmb 20 38 58.2
comp=Z,9.8nm,1.2s
SNAA Sanae 94.48 194 P P 20 38 46.7 +0.5
SNAA IAmb IAmb 20 38 48.6
comp=Z,9.1nm,0.9s
SNAA Sanae 94.48 194 ⇓P P 20 38 47.4 +1.2
comp=Z,140nm,0.7s
SNAA Sanae 94.48 194 *ce*P P 20 38 47.8 +1.6
SNAA pmax pmax
comp=Z,8.0nm,1.0s
SNAA Sanae 94.48 194 P P 20 38 47.1 +0.9
comp=Z,7.1nm,0.8s,baz=144,slow=3.9,SNR=45
SNAA LR LR 21 21 04.7
comp=Z,350nm,19.2s,baz=128,slow=35
comp=Z,7.1nm,0.8s
ILAR Eielson Array 94.49 25 P P 20 38 44.4 -1.8
comp=Z,1.1nm,0.7s,baz=280,slow=3.9,SNR=6.8
comp=Z,1.1nm,0.7s
J26L Joseph Creek 95.87 26 P P 20 38 52.1 -0.5
J26L IAmb IAmb 20 39 05.3
comp=Z,6.0nm,0.8s
VNA2 Neumayer--Watz 96.05 193 ⇓P P 20 38 54.6 +1.3
comp=Z,2.9nm,0.7s,baz=142,slow=4.0
VNA3 Neumayer Olymp 96.30 192 ⇓P P 20 38 55.1 +0.6
comp=Z,3.1nm,0.7s
VNA1 Neumayer--Stat 96.44 193 ⇓P P 20 38 56.3 +1.3
comp=Z,4.2nm,0.8s
ANN Anapa 97.36 314 *e*P Pdif 20 39 07.0 +7.3
ANN pmax pmax
comp=Z,28nm,0.8s
MMAI Mount Meron Ar 98.05 302 LR LR 21 30 33.9
comp=Z,33nm,19.3s,baz=66,slow=40
BOSA Boshof 98.69 239 LR LR 21 19 25.3
comp=Z,48nm,19.9s,baz=132,slow=33
MBAR Mbarara 98.87 268 LR LR 21 20 37.8
comp=Z,41nm,18.2s,baz=86,slow=34
BRTR Keskin Array B 99.88 309 P Pdif 20 39 09.5 -1.8
comp=Z,0.4nm,0.9s,baz=86,slow=7.4,SNR=2.7
BRTR LR LR 21 31 52.0
comp=Z,34nm,18.8s,baz=118,slow=40
comp=Z,0.4nm,0.9s
APA Apatity 99.94 337 ⇓ *i*P Pdif 20 39 06.3 -4.4
APA pmax pmax
comp=Z,14nm,1.1s
APA MLR MLR
comp=Z,800nm,20.0s
INK Inuvik 100.02 22 LR LR 21 23 54.3
comp=Z,21nm,19.1s,baz=157,slow=35
TXAR Lajitas Array 125.71 60 PKP PKiKP 20 44 29.1 +0.2
comp=Z,0.2nm,0.7s,baz=300,slow=2.0,SNR=1.9
PLCA Paso Flores 127.85 160 PKP PKiKP 20 44 33.3 +0.3
comp=Z,2.6nm,0.8s,baz=228,slow=5.4,SNR=6.6
TOA0 Torodi Ar. Sit 128.81 280 PKiKP 20 44 35.2 -0.2
TORD Torodi Ar. Bea 128.81 280 PKPdf PKiKP 20 44 35.3 -0.1
TORD Torodi Ar. Bea 128.81 280 PKP PKiKP 20 44 35.2 -0.2
comp=Z,1.1nm,0.5s,baz=70,slow=4.0,SNR=5.9
TORD SKPbc SKPbc 20 47 51.8
comp=Z,3.5nm,0.9s,baz=68,slow=4.3,SNR=9.6
POLO Lamas de Olo 130.01 318 *e*SKP SKPbc 20 47 56.5 -1.5
MTE Manteigas 130.32 317 *e*SKP SKPbc 20 47 58.9 -0.2
PVIS Viseu 130.40 318 *e*SKP SKPbc 20 47 58.9 -0.5
PCBR Castelo Branco 130.54 317 *e*SKP SKPbc 20 47 58.9 -0.9

PMRV	Marv??o	130.67	316	eSKP	SKPbc	20 47 59.0 -1.3
PBEJ	Beja	131.64	315	eSKP	SKPbc	20 48 03.0 -0.9
PB06	IPOC Station P	143.93	149	PKPdf	PKPdf	20 45 01.9 -0.9
MATN	Matagalpa	144.60	79	PKPdf	PKPab	20 45 01.4 -1.2
ITAB	Concordia	144.75	177	PKPdf	PKPbc	20 45 03.0 +0.3
CPUP	Villa Florida	145.01	169	PKPbc	PKPdf	20 45 04.2 -0.1
	comp=Z,22nm,0.9s,baz=188,slow=3.2,SNR=32					
PB12	IPOC Station P	146.80	143	PKPbc	PKPbc	20 45 09.1 -0.3
MCRA	Macar, Loja	147.83	112		PKPbc	20 45 11.3 -1.1
COHC	Cochancay	149.17	109		PKPbc	20 45 14.1 -1.8
BOSC	San Juan Bosco	149.64	111		PKPdf	20 45 13.9 +1.3
LPAZ	La Paz	149.92	144	PKPbc	PKiKP	20 45 19.8 +0.5
	comp=Z,15nm,1.0s,baz=188,slow=1.3,SNR=13					
AQDB	Aquidauana	151.02	169	PKPbc	PKPbc	20 45 19.9 -0.2

*IDC **21** 21:03:24.6±2.0, 43.°61N×105.°43W, h0km, mbtmp3.3/4, ML2.6/3, Error ellipse: s-maj=59.4km s-min=10.2km az=151.0*
*NEIC **21** 21:03:26.2±0.8, 43.°70N±0.°04×105.°36W±0.°07, h0km±2km, ML3.5/52, Error ellipse: s-maj=8.3km s-min=6.2km az=89.0*
ISC 21 21:03:25.1±1.1, **43.°72N**±0.°05×**105.°35W**±0.°05, **h0**km, **n41**, σ1§**00**/40, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.03	67		Pg	21 03 44.4	-0.4
K22A	Casper	1.37	219		Pg	21 03 50.4	-1.0
K22A				IAML		21 04 12.7	
	comp=E,998nm,0.4s						
K22A				IAML		21 04 14.9	
	comp=N,762nm,0.4s						
PHWY	Pilot Hill	2.42	182	Pn	Pn	21 04 07.2	+1.1
PHWY				IAML		21 04 41.9	
	comp=N,156nm,0.4s						
PHWY				IAML		21 04 42.7	
	comp=N,259nm,0.4s						
RWWY	Rawlins	2.45	215		Pn	21 04 07.3	+0.8
N23A	Red Feather La	2.86	189		Pn	21 04 13.4	+1.3
N23A				IAML		21 04 55.4	
	comp=N,168nm,0.4s						
N23A				IAML		21 04 59.8	
	comp=E,159nm,0.7s						
LAO	LASA Array	3.03	349	Pn	Pn	21 04 16.1	+1.7
RLMT	Red Lodge	3.14	298		Pn	21 04 16.8	+0.8
RLMT				IAML		21 05 13.9	
	comp=E,112nm,0.8s						
RLMT				IAML		21 05 21.1	
	comp=E,109nm,0.9s						
BW06	Boulder Array	3.22	254		Pn	21 04 18.0	+0.9
BW06				IAML		21 05 08.9	
	comp=E,78nm,0.9s						
PD31	Pinedale Array	3.22	254		Pn	21 04 17.4	+0.3
PDAR	Pinedale Array	3.22	254	Pn	Pn	21 04 17.8	+0.7
PDAR	Pinedale Array	3.22	254	Pn	Pn	21 04 18.1	+1.0
	comp=E,4.9nm,0.3s,baz=71,slow=16,SNR=44						
PDAR				Lg	Lg	21 05 02.0	
	comp=E,15nm,0.3s,baz=67,slow=30,SNR=9.0						
OGNE	Ogallala	3.71	137		Pn	21 04 24.5	+0.8
LOHW	Long Hollow	3.81	270		Pn	21 04 25.6	+0.3
H17A	Grant Village	3.83	282		Pn	21 04 26.8	+1.2
H17A				IAML		21 05 28.6	
	comp=E,51nm,1.1s						
H17A				IAML		21 05 32.2	
	comp=N,52nm,1.1s						
FLWY	Flagg Ranch	3.88	277		Pn	21 04 27.1	+0.8
FLWY				IAML		21 05 37.0	
	comp=N,75nm,1.9s						
MOOW	Moose Ponds	3.91	272		Pn	21 04 27.5	+0.9
ISCO	Idaho Springs	3.92	183		Pn	21 04 27.1	+0.2
SNOW	Snow King Moun	3.94	268		Pn	21 04 28.0	+1.0
SNOW				IAML		21 05 40.7	
	comp=N,88nm,1.3s						
SNOW				IAML		21 06 09.3	
	comp=N,82nm,1.1s						
REDW	Red Top Meadow	4.02	267		Pn	21 04 28.8	+0.7
IMW	Indian Meadow	4.05	274		Pn	21 04 29.9	+1.3
IMW				IAML		21 05 39.7	
	comp=N,52nm,0.8s						
IMW				IAML		21 05 41.0	
	comp=N,60nm,0.9s						
O20A	White River Ci	4.18	212		Pn	21 04 30.7	+0.4
AHID	Auburn Hatcher	4.31	259		Pn	21 04 32.3	+0.2
K30B	Basset	4.32	102	Pn	Pn	21 04 33.6	+1.5
DGMT	Dagmar	4.82	9		Pn	21 04 40.0	+1.1
BOZ	Bozeman (W)	4.86	295		Pn	21 04 39.1	-0.4
BOZ				IAML		21 05 58.4	
	comp=N,28nm,1.4s						
BOZ				IAML		21 06 26.3	
	comp=N,30nm,2.2s						
BSUT	Blindstream Ca	5.13	234		Pn	21 04 44.1	+0.6
BSUT				IAML		21 06 14.3	
	comp=E,32nm,1.1s						
BSUT				IAML		21 06 16.9	
	comp=N,26nm,1.0s						
KSCO	Kaye Shedlock'	5.13	156	Pn	Pn	21 04 43.2	-0.1
SDCO	Great Sand Dun	5.97	181	Pn	Pn	21 04 56.2	+1.2
SRU	San Rafael Swe	6.03	222		Pn	21 04 56.0	+0.3
PV11	David Mesa, Pa	6.04	207	Pn	Pn	21 04 57.2	+1.4
S22A	4UR Ranch, Cre	6.07	191	Pn	Pn	21 04 57.3	+0.9
TMUT	Trail Mountain	6.23	227		Pn	21 04 59.9	+1.2
ECSD	EROS Data Cent	6.33	87		Pn	21 05 00.1	+0.5
DUG	Dugway, Tooele	6.58	240	Pn	Pn	21 05 04.2	+0.9
T25A	Trinidad	6.61	173	Pn	Pn	21 05 03.5	-0.2
MTPU	Mount Pierson	7.68	225		Pn	21 05 19.3	+0.8
ELK	Elko	7.92	251	Pn	Pn	21 05 22.8	+1.1
	comp=N,0.2nm,0.3s,baz=81,slow=13,SNR=4.7						
	comp=N,1.0nm,0.5s						
PSUT	Pine Spring	8.25	234	Pn	Pn	21 05 26.9	+0.8
I10CA	LAC DU BONNET	9.09	41	I	I	21 59 00.0	
	baz=222,slow=315,SNR=2.2						
ULM	Lac du Bonnet	9.19	41	Pn	Pn	21 05 37.2	-1.6
	comp=N,0.5nm,0.3s,baz=238,slow=14,SNR=2.2						
ULM				Lg	Lg	21 08 13.5	
	comp=N,0.4nm,0.3s,baz=135,slow=20,SNR=3.4						
	comp=N,2.6nm,0.6s						
NVAR	Mina Array Bea	11.11	246	Pn	Pn	21 06 07.3	+1.9
	comp=N,0.1nm,0.3s,baz=50,slow=12,SNR=3.7						
	comp=N,0.3nm,0.5s						

*BUT **21** 21:10:01.6±2.1, 46.°91N±0.°04×112.°56W±0.°05, h12km±4km, Error ellipse: s-maj=7.0km s-min=4.0km az=216.0*
NEIC 21 21:10:00.9±0.9, **46.°92N**±0.°06×**112.°54W**±0.°05, **h16**km±3km, **ML3.1**/24, **ML3.3**/19(BUT), **Error ellipse: s-maj=9.4km s-min=2.2km az=208.0, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	Lyon Mountain	0.18	75	Pg	Pb	21 10 06.1	+0.1
BEMT	Mount Belmont	0.23	140	Pg	Pg	21 10 06.4	+0.1
OVMT	Ovando	0.34	294	Pg	Pb	21 10 08.4	-0.3
ELMT	Elliston	0.40	175	Pg	Pg	21 10 09.3	+0.1
CHMT	Chamberlain Mo	0.49	269	Pg	Pb	21 10 11.0	-0.2
BPMT	Black Pine Rid	0.79	232	Pg	Pg	21 10 16.1	-0.2
MSO	Missoula	0.96	265		Pg	21 10 19.6	0.0
MSO				Sg	Sb	21 10 31.9	0.0
MSO				IAML		21 10 35.8	
	704nm,0.2s						
MSO				IAML		21 10 37.8	
	548nm,0.5s						
BOZ	Bozeman (W)	1.47	154		Pb	21 10 27.8	-0.2
BOZ					Sb	21 10 46.6	+0.1
DLMT	Dillon	1.56	181		Pb	21 10 29.0	-0.6
YHL	Hebgen Lake	2.28	155	Pn	Pn	21 10 39.6	+1.4
YHL				IAML		21 11 13.5	
	comp=E,94nm,0.6s						
YHL				IAML		21 11 14.3	
	comp=N,97nm,0.8s						
YHH	Holmes Hill	2.44	150	Pn	Pn	21 10 41.9	+1.5
RLMT	Red Lodge	2.91	127	Pn	Pn	21 10 47.2	+0.4
RLMT				IAML		21 11 36.2	
	comp=N,50nm,0.3s						
PLID	Pearl Lake	3.03	234	Pn	Pn	21 10 49.3	+0.8
PLID				IAML		21 11 37.6	
	comp=N,61nm,0.2s						
PLID				IAML		21 11 44.2	
	comp=N,46nm,0.3s						
F10A	Beach Ranch, E	3.38	255		Pn	21 10 54.4	+1.3
NEW	Newport	3.38	295	Pn	Pn	21 10 53.7	+0.7
NEW				IAML		21 11 51.4	
	comp=N,38nm,0.7s						
HLID	Hailey	3.61	202	Pn	Pn	21 10 57.2	+0.8
HLID				IAML		21 11 54.7	
	comp=N,41nm,0.5s						
HLID				IAML		21 11 58.9	
	comp=N,33nm,0.3s						
BMO	Blue Mountains	3.92	240	Pn	Pn	21 11 01.2	+0.7
BMO				IAML		21 12 07.5	
	comp=N,20nm,0.4s						
BMO				IAML		21 12 08.8	
	comp=N,20nm,1.0s						
C09A	Chrisman Ranch	3.99	285	Pn	Pn	21 11 02.0	+0.5
MFID	Camas Ranch	4.21	215	Pn	Pn	21 11 05.1	+0.6

*IDC **21** 21:15:47.1±1.6, 1.°55N×126.°17E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=165.9km s-min=24.2km az=65.0*
*DJA **21** 21:15:51.6±0.3, 2.°N±4.°×12.°7E±.°, h10km, M3.5/8, MLv3.5/8*
ISC 21 21:15:53.5±1.1, **1.°68N**±0.°08×**126.°65E**±0.°08, **h47**km, **n9**, σ0§**74**/12, **mb3.8**/3, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.15	141	P	Pn	21 16 13.0	-0.2
SGSI	Sangihe	2.29	331	P	Pn	21 16 29.3	+0.5
LBMI	Labuha	2.45	160	P	Pn	21 16 32.5	+1.5
KMSI	Cibinong	2.88	248	P	Pn	21 16 36.7	-0.2
KMSI				S	Sn	21 17 10.9	+0.6
SANI	Sanana	3.76	190	P	Pn	21 16 48.6	-0.4
GTOI	Gorontalo	3.78	254	P	Pn	21 16 49.8	+0.6
WRA	Warramunga Arr	22.77	161	P	P	21 20 51.2	-0.9
	3.1nm,0.7s,baz=338,slow=11,SNR=25						
WRA				PcP	PcP	21 24 42.7	0.0
	0.2nm,0.8s,baz=343,slow=2.2,SNR=1.5						
	3.1nm,0.7s						
ASAR	Alice Springs	26.16	165	P	P	21 21 24.1	+0.4
	0.4nm,0.3s,baz=347,slow=13,SNR=18						
ASAR				PcP	PcP	21 24 50.3	+0.2
	0.2nm,0.7s,baz=347,slow=2.9,SNR=1.4						
	0.4nm,0.3s						
MKAR	Makanchi Array	59.19	326	P	P	21 25 49.0	-0.7
	0.3nm,0.4s,baz=119,slow=8.4,SNR=7.5						
	0.3nm,0.4s						

*NEIC **21** 21:38:30.2±1.2, 16.°62S±0.°07×73.°52W±0.°10, h42km±9km, mb4.1/7, Error ellipse: s-maj=14.2km s-min=10.0km az=69.0*
*IDC **21** 21:38:35.9±4.7, 16.°53S×73.°47W, h94km±41km, mb3.5/3, mbtmp3.9/4, MS3.2/5, Error ellipse: s-maj=42.6km s-min=30.3km az=87.0*
ISC 21 21:38:29.3±0.7, **16.°68S**±0.°07×**73.°52W**±0.°08, **h39**km, **n54**, σ1§**52**/48, **mb4.0**/7, **MS3.4**/3, **1D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	3.47	119	Pn	Pn	21 39 21.8	+1.0
AP01				Sn	Sn	21 40 02.2	+1.5
PB12	IPOC Station P	3.60	123	Pn	Pn	21 39 23.3	+0.5
PB12	IPOC Station P	3.60	123	eP	Pn	21 39 22.9	+0.1
PB18	Visviri	3.97	104		Pn	21 39 30.1	+1.9
PB16	IPOC Station P	4.17	114	Pn	Pn	21 39 32.3	+1.3
TA02	Huaiquique	4.81	139	Pn	Pn	21 39 40.2	+0.9
HMBC	Humberstone	4.97	137	i/P	Pn	21 39 42.7	+1.1
HMBC				i S	Sn	21 40 34.9	-3.0
TA01	Diego Aracena	5.00	141	Pn	Pn	21 39 42.8	+0.9
TA01	Diego Aracena	5.00	141	eP	Pn	21 39 42.7	+0.8
TA01				i S	Sn	21 40 33.6	-4.8
GO01	Chusmiza	5.08	127	Pn	Pn	21 39 44.7	+1.3
GO01	Chusmiza	5.08	127	eP	Pn	21 39 45.4	+2.0
GO01				eP	Pn	21 39 45.5	+2.1
GO01				i S	Sn	21 40 39.3	-1.8
LPAZ	La Paz	5.19	86	Pn	Pn	21 39 50.5	+5.4
LPAZ	La Paz	5.19	86	P	Pn	21 39 51.5	+6.4
	21nm,0.4s,baz=271,slow=10,SNR=62						
PATCX	Punta Patache	5.21	143	Pn	Pn	21 39 45.8	+0.9
PB08	IPOC Station P	5.39	130		Pn	21 39 49.3	+1.7
PB08	IPOC Station P	5.39	130	eP	Pn	21 39 49.0	+1.3
PB08				i S	Sn	21 40 47.6	-1.0
NNA	Nana	5.66	325		Pn	21 39 52.5	+1.5
PB02	IPOC Station P	5.75	144		Pn	21 39 53.6	+1.3
PB01	IPOC Station P	5.78	139		Pn	21 39 54.0	+1.2
PB07	IPOC Station P	6.09	146		Pn	21 39 57.8	+0.8
PB09	IPOC Station P	6.50	142		Pn	21 40 04.4	+1.7
PB06	IPOC Station P	7.06	149	Pn	Pn	21 40 10.8	+0.5
LVC	Limon Verde	7.33	144	Pn	Pn	21 40 16.0	+1.8
LVC	Limon Verde	7.33	144	LR	LR	21 42 14.0	
	comp=Z,40nm,19.2s,baz=284,slow=29						
PB15	IPOC Station P	7.53	150		Pn	21 40 17.8	+1.0
PB14	IPOC Station P	8.43	160	Pn	Pn	21 40 28.9	-0.4
CZSB	Cruzeiro do Su	8.93	5	Pn	Pn	21 40 35.1	-0.8
GO02	Mina Guanaco	9.21	157	Pn	Pn	21 40 40.9	+0.9
AC01	Pan de Azucar	9.81	164	Pn	Pn	21 40 47.0	-0.8
ETMB	Extrema	9.85	47		Pn	21 40 48.7	+0.2
SAML	Samuel	12.67	54	Pn	Pn	21 41 26.1	-1.0
MCRA	Macar, Loja	13.76	332	Pn	Pn	21 41 42.4	+0.3
BOSC	San Juan Bosco	14.30	339		Pn	21 41 48.1	-1.4
COHC	Cochancay	15.21	338		Pn	21 42 00.8	-0.6
CFA	Coronel Fontan	15.62	163	LR	LR	21 47 47.4	
	comp=Z,130nm,19.2s,baz=239,slow=35						
H03N1	Juan Fernandez	17.39	195	T	T	22 00 57.1	
	baz=17,slow=74,SNR=1380						
H03N2	Juan Fernandez	17.39	195	T	T	22 00 56.5	
	baz=17,slow=74,SNR=1008						
H03N3	Juan Fernandez	17.40	195	T	T	22 00 54.1	
	baz=17,slow=74,SNR=835						
ROSC	El Rosal	21.39	358	LR	LR	21 52 29.8	
	comp=Z,134nm,19.5s,baz=245,slow=39						
BOAV	Boa Vista	22.89	35	P	P	21 43 29.2	-0.7
BOAV				IAmb	IAmb	21 43 37.7	
	comp=Z,6.3nm,1.1s						
PLCA	Paso Flores	24.11	174	P	P	21 43 44.0	+2.5
	comp=Z,3.5nm,0.9s,baz=344,slow=13,SNR=7.0						
PLCA				LR	LR	21 51 08.7	
	comp=Z,60nm,21.8s,baz=14,slow=31						
	comp=Z,3.5nm,0.9s						
RPN	Rapa Nui	34.71	246	LR	LR	21 56 09.9	
	comp=Z,63nm,19.0s,baz=76,slow=30						
TXAR	Lajitas Array	54.22	327	P	P	21 47 50.6	-0.8
	comp=Z,0.2nm,0.6s,baz=159,slow=10,SNR=2.3						
	comp=Z,0.2nm,0.6s						
SNAA	Sanae	68.23	161	P	P	21 49 27.2	+1.5
QSPA	South Pole Qui	73.48	180	P	P	21 49 59.8	+2.0
QSPA				IAmb	IAmb	21 50 01.0	
	comp=Z,3.5nm,1.1s						
KOWA	Kowa	75.28	70	P	P	21 50 08.0	-1.0
KOWA				IAmb	IAmb	21 50 34.6	
	comp=Z,2.0nm,1.0s						
TOA0	Torodi Ar. Sit	79.99	73	P	P	21 50 34.3	-0.9
TOA0				IAmb	IAmb	21 50 38.5	
	comp=Z,3.3nm,1.2s						
TORD	Torodi Ar. Bea	79.99	73	P	P	21 50 34.6	-0.6
TORD				IAmb	IAmb	21 50 52.1	
	comp=Z,3.0nm,1.4s						
TORD	Torodi Ar. Bea	79.99	73	P	P	21 50 34.4	-0.9
	comp=Z,1.4nm,0.7s,baz=270,slow=5.1,SNR=7.2						
	comp=Z,1.4nm,0.7s						
H11S2	WAKE ISLAND Hyl	22.79	282	T	T	00 12 21.1	
	baz=98,SNR=14						
H11S1	WAKE ISLAND Hyl	22.80	282	T	T	00 12 00.7	
	baz=98,slow=74,SNR=6.9						
H11S3	WAKE ISLAND Hyl	22.81	282	T	T	00 11 45.4	
	baz=98,slow=74,SNR=9.5						
SONM	Songino Array	148.93	0	PKPbc	PKPbc	21 58 13.7	+0.5
	comp=Z,0.3nm,0.6s,baz=350,slow=1.8,SNR=6.2						
PZH	PanZhiHua	169.28	23	PKP	PKPdf	21 58 31.4	-1.9

*ANF **21** 21:50:34.7±0.8, 31.°14N×103.°30W, h5km, ML3.9/9, Error ellipse: s-maj=10.5km s-min=6.1km az=5.0*
*NEIC **21** 21:50:34.7±0.4, 31.°15N±0.°03×103.°30W±0.°03, h1km±4km, mb_Lg3.1/47, ML3.0/52, Error ellipse: s-maj=4.9km s-min=2.4km az=137.0*
ISC 21 21:50:34.5±0.8, **31.°15N**±0.°03×**103.°31W**±0.°03, **h10**km, **n53**, σ1§**05**/49, **Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNHN	Monahans	0.51	67	Pg	Pg	21 50 43.3	-1.1
MNHN				Sg	Sg	21 50 50.5	-0.6
MNHN				IAML		21 50 56.6	
	943nm,0.4s						
MNHN				IAML		21 50 57.7	
	1μm,0.4s						
PECS	Pecos	0.53	295		Pg	21 50 44.1	-0.7
PECS				IAML		21 50 56.5	
	958nm,0.4s						
PECS				IAML		21 51 00.5	
	988nm,0.7s						
ALPN	Alpine	0.82	200		Pg	21 50 49.4	-1.0
ALPN				Sg	Sg	21 51 00.8	-0.3
ALPN				IAML		21 51 06.2	
	575nm,0.4s						
ALPN				IAML		21 51 06.3	
	334nm,0.6s						
ODSA	Odessa	1.17	34	Pg	Pb	21 50 55.1	-1.7
ODSA				IAmb_Lg		21 51 10.7	
	comp=Z,48nm,0.8s						
ODSA				Sg	Sb	21 51 11.1	-0.9
ODSA				IAML		21 51 17.7	
	comp=Z,418nm,0.8s						
ODSA				IAML		21 51 24.8	
	comp=Z,396nm,0.8s						
425A	Indio Mountain	1.49	256	Pg	Pn	21 51 01.3	-0.1
425A				Sg	Sn	21 51 21.4	+0.4
425A				IAML		21 51 28.0	
	comp=Z,162nm,0.6s						
SAND	Sanderson	1.57	139		Pn	21 51 02.8	+0.3
SAND				IAmb_Lg		21 51 25.2	
	comp=Z,20nm,1.0s						
SAND				IAML		21 51 28.3	
	comp=Z,251nm,0.6s						
SAND				IAML		21 51 29.7	
	comp=Z,262nm,0.3s						
TX31	Lajitas Ar. Si	1.83	190		Pn	21 51 07.2	+1.0
TX32	Lajitas Array	1.83	190		Pn	21 51 07.2	+1.0
TXAR	Lajitas Array	1.83	190		Pn	21 51 07.0	+0.8
MNTX	Cornudas Mount	1.86	288		Pn	21 51 07.3	+0.9
MNTX	Cornudas Mount	1.86	288	P	Pn	21 51 06.9	+0.5
	baz=107						
MNTX				S	Sb	21 51 32.5	+0.6
	baz=107						
OZNA	Ozona	1.89	96		Pn	21 51 07.9	+1.1
OZNA				IAML		21 51 34.7	
	comp=Z,274nm,0.4s						
OZNA				IAmb_Lg		21 51 36.9	
	comp=Z,60nm,0.8s						
OZNA				IAML		21 51 41.1	
	comp=Z,212nm,0.6s						
SGCY	Sterling City	2.01	67		Pn	21 51 09.4	+0.8
SGCY				IAML		21 51 42.1	
	comp=Z,332nm,0.5s						
SGCY				IAML		21 51 42.7	
	comp=Z,262nm,0.6s						
SGCY				IAmb_Lg		21 51 42.7	
	comp=Z,94nm,0.8s						
POST	Post	2.45	38		Pn	21 51 15.3	+0.7
POST				IAmb_Lg		21 51 54.8	
	comp=Z,85nm,0.8s						
POST				IAML		21 51 59.5	
	comp=Z,230nm,0.6s						
POST				IAML		21 51 59.9	
	comp=Z,213nm,0.7s						
SN01	Snyder 1	2.67	50		Pn	21 51 18.6	+0.9
SN01				IAML		21 51 58.0	
	comp=Z,256nm,0.5s						
SN01				IAML		21 52 03.1	
	comp=Z,289nm,0.4s						
SN01				IAmb_Lg		21 52 05.5	
	comp=Z,95nm,0.8s						
MSTX	Muleshoe	2.85	9		Pn	21 51 21.0	+0.9
MSTX				IAmb_Lg		21 52 05.6	
	comp=Z,49nm,1.1s						
MSTX	Muleshoe	2.85	9	P	Pn	21 51 21.1	+0.9
	baz=189						
MSTX				S	Sn	21 51 57.2	+2.5
	baz=189						
DRIO	Del Rio	2.89	126		Pn	21 51 20.9	+0.3
DRIO				IAML		21 52 03.9	
	comp=Z,175nm,0.3s						
DRIO				IAmb_Lg		21 52 08.3	
	comp=Z,99nm,0.7s						
DRIO				IAML		21 52 11.5	
	comp=Z,176nm,0.5s						
JCT	Junction City	3.09	102		Pn	21 51 24.0	+0.7
JCT	Junction City	3.09	102	P	Pn	21 51 23.9	+0.5
	baz=284						
JCT				S	Sn	21 52 02.8	+2.4
	baz=284						
DKNS	Dickens	3.22	38		Pn	21 51 25.6	+0.4
DKNS				IAML		21 52 22.8	
	comp=Z,202nm,0.7s						
DKNS				IAmb_Lg		21 52 23.2	
	comp=Z,57nm,0.8s						
DKNS				IAML		21 52 25.7	
	comp=Z,149nm,0.7s						
ABTX	Abilene, Hawle	3.45	64		Pn	21 51 29.1	+0.8
ABTX				IAmb_Lg		21 52 23.2	
	comp=Z,57nm,0.8s						
ABTX	Abilene, Hawle	3.45	64	P	Pn	21 51 29.2	+0.9
	baz=246						
ABTX				S	Sn	21 52 11.2	+1.9
	baz=246						
APMT	Aspermont	3.46	50		Pn	21 51 28.9	+0.3
APMT				IAmb_Lg		21 52 25.9	
	comp=Z,83nm,1.2s						
APMT				IAML		21 52 28.6	
	comp=Z,182nm,0.6s						
APMT				IAML		21 52 29.5	
	comp=Z,138nm,0.3s						
BRDY	Brady	3.69	87		Pn	21 51 32.5	+0.9
BRDY				IAmb_Lg		21 52 36.4	
	comp=Z,51nm,0.9s						
BRDY				IAML		21 52 40.9	
	comp=Z,66nm,0.5s						
BRDY				IAML		21 52 41.8	
	comp=Z,48nm,0.6s						
HNDO	Hondo	3.84	114		Pn	21 51 34.6	+1.0
HNDO				IAML		21 52 40.9	
	comp=Z,70nm,0.6s						
HNDO				IAML		21 52 43.4	
	comp=Z,83nm,1.0s						
AMTX	Amarillo	3.97	20		Pn	21 51 35.9	+0.4
AMTX				IAmb_Lg		21 52 46.2	
	comp=Z,43nm,0.8s						
AMTX	Amarillo	3.97	20	P	Pn	21 51 36.8	+1.3
	baz=200						
AMTX				S	Sn	21 52 24.7	+2.5
	baz=200						
121A	Cookes Peak, D	4.05	291	P	Pn	21 51 38.1	+1.3
	baz=109						
121A				S	Sn	21 52 26.1	+1.7
	baz=109						
833A	Chaparral WMA,	4.42	129	P	Pn	21 51 41.6	0.0
	baz=311						
PLPT	Palo Pinto	4.55	67	Pn	Pn	21 51 43.5	0.0
PLPT				IAML		21 53 06.2	
	comp=Z,93nm,0.6s						
PLPT				IAML		21 53 06.7	
	comp=Z,84nm,0.7s						
PLPT				IAmb_Lg		21 53 09.5	
	comp=Z,25nm,0.8s						
ANMO	Albuquerque	4.62	326	P	Pn	21 51 44.5	-0.1
	baz=144						
SMWD	Samnorwood	4.71	32	IAmb_Lg		21 53 10.8	
	comp=Z,43nm,0.9s						
FW03	Perrin-Whitt E	4.83	66	IAmb_Lg		21 53 14.1	
	comp=Z,50nm,0.9s						
WTFS	Witchita Falls	4.86	56		Pn	21 51 48.0	+0.3
WTFS				IAML		21 53 13.3	
	comp=Z,91nm,0.8s		

WMOK Wichita Mounta 5.22 46 Pn 21 51 52.7 0.0
WMOK IAmb_Lg 21 53 31.7
comp=Z,22nm,0.8s
RTBA Rita Blanca 5.30 5 IAmb_Lg 21 53 35.1
comp=Z,21nm,0.8s
FW14 Alvarado 5.36 75 IAmb_Lg 21 53 30.0
comp=Z,48nm,1.0s
Z35A Perchaven, San 5.57 65 IAmb_Lg 21 53 43.9
comp=Z,30nm,0.9s
X34A Smith Ranch, M 5.75 52 IAmb_Lg 21 53 51.3
comp=Z,23nm,0.8s
ELIS Ellis County 5.88 32 IAmb_Lg 21 53 54.3
comp=Z,18nm,0.7s
LOOK Love County 5.90 60 Pn 21 52 02.0 0.0
LOOK IAmb_Lg 21 53 54.9
comp=Z,34nm,0.8s
T25A Trinidad 6.05 352 Pn 21 52 03.2 -1.0
U32A Winter Ranch, 6.33 33 IAmb_Lg 21 54 10.9
comp=Z,21nm,0.8s
W18A Petrified Fore 6.69 308 IAmb_Lg 21 54 22.6
comp=Z,22nm,1.0s
OK031 S. Brethren Rd 7.22 47 IAmb_Lg 21 54 31.3
comp=Z,16nm,0.7s
X37A Clayton 7.51 61 IAmb_Lg 21 54 52.2
comp=Z,21nm,0.8s

*AZER **21** 22:08:03.5±3.6, 39°.78N×53°.67E, h25km, Error ellipse: s-maj=25.4km s-min=15.7km az=120.0*
ISC 21 22:07:59.0±2.7, 40°.0N±0°.1×54°.1E±0°.1, h35km, n15, σ2s42/20, 2C-1D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIZA	**Siyzn**	**4.08**	**287**	P	**Pn**	**22 09 01.9**	**+3.1**
SIZA				S	**Sn**	**22 09 46.7**	**+1.3**
ASTR	**Astara**	**4.32**	**253**	S	**Sn**	**22 09 49.4**	**-1.9**
GLBA	**Ciilabad**	**4.43**	**262**	S	**Sn**	**22 09 52.8**	**-1.2**
YRD	**Yardimli**	**4.62**	**259**	S	**Sn**	**22 09 57.4**	**-1.6**
LRK	**Lerik**	**4.62**	**255**	S	**Sn**	**22 09 56.8**	**-2.2**
XNQ	**Khinaliq**	**4.66**	**287**	P	**Pn**	**22 09 08.8**	**+1.8**
XNQ				S	**Sn**	**22 10 00.9**	**+1.0**
QBL	**Gabala**	**4.84**	**284**	P	**Pn**	**22 09 10.9**	**+1.6**
QBL				S	**Sn**	**22 10 00.2**	**-3.9**
BLQ	**Beylaqan**	**5.00**	**269**	S	**Sn**	**22 10 08.2**	**+0.1**
QRD	**Qoradiz**	**5.21**	**266**	S	**Sn**	**22 10 12.5**	**-0.8**
GANJ	**Ganja**	**5.94**	**279**	S	**Sn**	**22 10 25.8**	**-5.5**
ORD	**Ordubad**	**6.32**	**263**	P	**Pn**	**22 09 31.4**	**+1.6**
ORD				S	**Sn**	**22 10 38.1**	**-2.7**
GDB	**GEDABAY**	**6.38**	**279**	P	**Pn**	**22 09 32.0**	**+1.4**
GDB				S	Sn	22 10 34.1	-8.2
SBZ	**Shahbuz**	**6.58**	**268**	P	**Pn**	**22 09 35.3**	**+2.0**
SBZ				S	**Sn**	**22 10 47.9**	**+0.8**
AB31	**Akbulak array**	**10.18**	**22**	⇓P	Pn	22 10 33.2	+11
	0.8nm,0.8s,baz=205,slow=13,SNR=2.9						
AB31				⇑S	**Sn**	**22 12 12.7**	**-2.5**
	0.2nm,0.4s,baz=208,slow=25,SNR=4.5						
AKTO	**Aktyubinsk**	**10.82**	**14**	⇑S	**Sn**	**22 12 31.1**	**+0.1**
	1.5nm,1.1s						

*IDC **21** 22:15:13.3±1.3, 34°.48N×25°.70E, h0km, mb3.8/5, mbtmp3.6/9, ML3.6/4, Error ellipse: s-maj=24.9km s-min=23.8km az=146.0*
*ATH **21** 22:15:16.6, 34°.21N×25°.75E, h14km±6km, ML2.8/4, Error ellipse: s-maj=10.3km s-min=3.9km az=329.0*
*ISK **21** 22:15:18.9, 34°.44N×25°.81E, h7km, ML2.7/24*
*AFAD **21** 22:15:25.0±0.0, 34°.93N×26°.60E, h4km±1km, ML2.6*
ISC 21 22:15:17.7±1.0, 34°.32N±0°.06×25°.88E±0°.05, h32km, n54, σ2s07/63, mb3.7/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.70**	**350**	P	**Pb**	**22 15 32.1**	**+0.5**
FRMA				AML	AML	22 15 48.3	
	comp=N,2563μm,0.6s						
FRMA				AML	AML	22 15 51.0	
	comp=E,1637μm,0.3s						
ZKR	**Zakros**	**0.84**	**19**	Pg	**Pb**	**22 15 35.4**	**+1.5**
ZKR				Sg	**Sn**	**22 15 48.5**	**+3.9**
ZKR	**Zakros**	**0.84**	**19**	P	**Pb**	**22 15 35.4**	**+1.5**
ZKR				S	**Sn**	**22 15 49.0**	**+4.4**
ZKR				AML	AML	22 15 51.7	
	comp=E,3737μm,0.7s						
ZKR				AML	AML	22 15 52.7	
	comp=N,868μm,0.8s						
HRKL	**Herakleio**	**1.18**	**327**	Pg	**Pn**	**22 15 39.2**	**+1.2**
HRKL				Sg	**Sb**	**22 15 54.3**	**-0.1**
TMBK	**Timbaki Herakl**	**1.19**	**310**	P	**Pn**	**22 15 39.0**	**+1.0**
IDI	**Anoyia**	**1.26**	**320**	Pn	**Pn**	**22 15 40.6**	**+1.4**
IDI				Sn	**Sb**	**22 15 55.9**	**-1.1**
IDI	**Anoyia**	**1.26**	**320**	P	**Pn**	**22 15 40.0**	**+0.8**
IDI				AML	AML	22 15 59.2	
	comp=N,294μm,0.5s						
IDI				AML	AML	22 16 04.0	
	comp=E,269μm,0.5s						
GVDS	**Gavdos**	**1.56**	**290**	Pn	**Pn**	**22 15 45.6**	**+2.3**
GVD	**Gavdhos**	**1.57**	**290**	Pn	**Pn**	**22 15 44.0**	**+0.7**
KARP	**Karpathos**	**1.62**	**40**	Pn	**Pn**	**22 15 46.2**	**+2.2**
KARP	**Karpathos**	**1.62**	**40**	P	**Pn**	**22 15 47.0**	**+2.9**
KARP				AML	AML	22 16 28.4	
	comp=N,340μm,0.7s						
KARP				AML	AML	22 16 29.9	
	comp=E,384μm,0.9s						
IMMV	**Iera Moni Meta**	**1.93**	**307**	Pn	**Pn**	**22 15 49.5**	**+1.1**
IMMV	**Iera Moni Meta**	**1.93**	**307**	P	**Pn**	**22 15 49.4**	**+1.1**
SANT	**Santorini**	**2.08**	**351**	Pn	**Pn**	**22 15 51.0**	**+0.7**
SANT	**Santorini**	**2.08**	**351**	P	**Pn**	**22 15 50.9**	**+0.5**
THR8	**Santorini-Mono**	**2.11**	**351**	P	**Pn**	**22 15 51.3**	**+0.6**
STAX	**Taxiarchis Har**	**2.11**	**350**	P	**Pn**	**22 15 51.3**	**+0.5**
SNT5	**Nea Kammeni, S**	**2.12**	**349**	P	**Pn**	**22 15 51.4**	**+0.6**
RODP	**Rodopos**	**2.14**	**306**	Pn	**Pn**	**22 15 52.4**	**+1.2**
ARG	**Arkhangelos**	**2.64**	**44**	Pn	**Pn**	**22 16 00.3**	**+2.3**
RFTD	**Palamutbuku-Ka**	**2.70**	**29**	Pn	**Pn**	**22 16 00.3**	**+1.4**
APE	**Apeiranthos**	**2.76**	**354**	Pn	**Pn**	**22 16 00.8**	**+1.1**
APE	**Apeiranthos**	**2.76**	**354**	P	**Pn**	**22 16 00.5**	**+0.7**
DAT	**Datca**	**2.78**	**29**	Pn	**Pn**	**22 16 01.7**	**+1.7**
DAT	**Datca**	**2.78**	**29**	P	**Pn**	**22 16 01.6**	**+1.5**
DAT				S	Sn	22 16 22.2	-10
RFTC	**Emecik-Datca**	**2.92**	**32**	Pn	**Pn**	**22 16 03.8**	**+1.9**
KTHA	**Kythira Island**	**3.01**	**311**	Pn	**Pn**	**22 16 04.2**	**+1.1**
KTHA	**Kythira Island**	**3.01**	**311**	P	**Pn**	**22 16 03.2**	**+0.1**
RFTAA	**Mazikoy-Bodrum**	**3.08**	**29**	Pn	**Pn**	**22 16 05.9**	**+1.9**
TURN	**Turunc**	**3.12**	**38**	Pn	**Pn**	**22 16 06.5**	**+1.9**
TURN	**Turunc**	**3.12**	**38**	P	**Pn**	**22 16 06.1**	**+1.5**
TURN				S	**Sn**	**22 16 36.7**	**-4.1**
MLSB	**Milas**	**3.35**	**27**	Pn	**Pn**	**22 16 10.2**	**+2.4**
DALY	**Dalyan (Mula)**	**3.37**	**41**	Pn	**Pn**	**22 16 10.2**	**+2.2**
YER	**Yerkesik**	**3.42**	**34**	Pn	**Pn**	**22 16 11.2**	**+2.3**
IZZE	**Mula-Seydike**	**3.46**	**51**	P	**Pn**	**22 16 10.4**	**+1.1**
IZZE				S	**Sn**	**22 16 45.6**	**-3.6**
IZZE				*i* AML	AML	22 17 01.0	
	comp=E,22nm,0.4s						
FETY	**Fethiye**	**3.49**	**48**	Pn	**Pn**	**22 16 12.5**	**+2.7**
AKAS	**Kas**	**3.60**	**57**	Pn	**Pn**	**22 16 14.1**	**+2.8**
AKAS	**Kas**	**3.60**	**57**	P	**Pn**	**22 16 13.4**	**+2.1**
AKAS				S	**Sn**	**22 16 48.5**	**-4.3**
AKAS				*i* AML	AML	22 17 00.0	
	comp=E,33nm,0.6s						
AKAS				*i* AML	AML	22 17 03.0	
	comp=E,27nm,0.5s						
CAME	**Cameli-Denizli**	**3.83**	**46**	Pn	**Pn**	**22 16 16.9**	**+2.4**
CAEL	**Denizli, Camel**	**3.96**	**44**	P	**Pn**	**22 16 19.1**	**+2.8**
CAEL				S	Sn	22 16 53.2	-8.5
CAEL				*i* AML	AML	22 17 48.0	
	comp=E,26nm,1.2s						
TAVA	**DENIZLI_Tavas**	**3.99**	**37**	P	**Pn**	**22 16 20.3**	**+3.6**
TAVA				S	**Sn**	**22 16 59.5**	**-3.0**
ELL	**Elmali**	**4.08**	**52**	Pn	**Pn**	**22 16 20.6**	**+2.6**
AKUM	**Antalya-Kumluc**	**4.16**	**60**	P	**Pn**	**22 16 21.0**	**+2.0**
AKUM				S	Sn	22 16 56.5	-10
AKUM				*i* AML	AML	22 17 14.0	
	comp=E,15nm,0.8s						
AKUM				*i* AML	AML	22 17 30.0	
	comp=E,15nm,1.4s						
GOLH	**Golhisar**	**4.18**	**45**	P	**Pn**	**22 16 20.5**	**+1.2**
GOLH				*i* AML	AML	22 17 47.0	
	comp=E,13nm,1.2s						
APMY	**Acipayam-Deniz**	**4.20**	**40**	Pn	**Pn**	**22 16 21.9**	**+2.3**
MMAI	**Mount Meron Ar**	**8.05**	**97**	Pn	**Pn**	**22 17 13.0**	**+0.6**
	comp=E,1.3nm,0.3s,baz=296,slow=14,SNR=4.4						
MMAI				Sn	**Sn**	**22 18 41.4**	**-1.0**
	comp=E,1.3nm,0.3s,baz=318,slow=24,SNR=5.7						
	comp=E,0.4nm,0.3s						
EIL	**Elat**	**8.99**	**119**	Pn	**Pn**	**22 17 26.2**	**+1.0**
	comp=E,0.5nm,0.3s,baz=324,slow=19,SNR=5.7						
EIL				Sn	Sn	22 18 59.8	-5.6
	comp=E,0.9nm,0.3s,baz=34,slow=10.0,SNR=5.4						
	comp=E,1.2nm,0.4s						
ASF	**Jabal al Asfar**	**9.47**	**100**	Pn	**Pn**	**22 17 32.7**	**+0.7**
	comp=E,0.2nm,0.3s,baz=356,slow=7.6,SNR=3.0						
ASF				Sn	Sn	22 19 11.9	-5.5
	comp=E,0.1nm,0.3s,baz=351,slow=18,SNR=1.5						
	comp=E,1.1nm,0.6s						
AKASG	**Malin Array Be**	**16.55**	**7**	Pn	**Pn**	**22 19 04.3**	**-2.9**
	comp=E,0.6nm,0.3s,baz=200,slow=11,SNR=6.3						
	comp=E,0.2nm,0.4s						
FINES	**FINESS Array B**	**27.14**	**0**	P	**P**	**22 20 56.0**	**-1.7**
	comp=E,0.6nm,0.6s,baz=160,slow=12,SNR=5.5						
	comp=E,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**30.42**	**232**	P	**P**	**22 21 27.6**	**+0.3**
	comp=E,0.6nm,0.5s,baz=32,slow=9.2,SNR=8.2						
	comp=E,0.6nm,0.5s						
ARCES	**ARCESS Array B**	**35.27**	**360**	P	**P**	**22 22 07.2**	**-1.9**
	comp=E,4.0nm,1.0s,baz=165,slow=7.5,SNR=4.9						
	comp=E,4.0nm,1.0s						
MKAR	**Makanchi Array**	**43.75**	**56**	P	**P**	**22 23 21.9**	**+1.9**
	comp=E,1.1nm,0.5s,baz=266,slow=8.5,SNR=15						
	comp=E,1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**45.16**	**46**	P	**P**	**22 23 31.1**	**0.0**
	comp=E,0.5nm,0.5s,baz=256,slow=9.7,SNR=2.1						
	comp=E,0.5nm,0.5s						

IDC 21 22:20:20.5±1.8, 29°.09N×94°.57E, h0km, mb3.1/5, mbtmp3.2/5, Error ellipse: s-maj=61.0km s-min=27.9km az=60.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**20.11**	**335**	P	P	22 24 55.2	-0.6
	0.2nm,0.4s,baz=148,slow=8.5,SNR=3.1						
	0.2nm,0.4s						
SONM	**Songino Array**	**20.84**	**23**	P	P	22 25 04.0	+0.2
	0.5nm,0.6s,baz=210,slow=8.1,SNR=3.4						
	0.5nm,0.6s						
AAK	**Ala-Archa**	**21.09**	**315**	P	P	22 25 06.9	+0.3
	0.4nm,0.3s,baz=84,slow=10,SNR=1.6						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**25.84**	**347**	P	P	22 25 53.5	+0.1
	0.3nm,0.4s,baz=168,slow=7.4,SNR=1.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**64.68**	**140**	P	P	22 31 00.4	0.0
	0.3nm,0.8s,baz=330,slow=6.4,SNR=2.2						
	0.3nm,0.8s						

*IDC **21** 22:22:53.8±1.4, 29°.27N×94°.46E, h0km, mb3.4/6, mbtmp3.4/7, ML2.9/1, MS3.6/40, Error ellipse: s-maj=59.2km s-min=21.5km az=60.0*
ISC 21 22:22:54.8±1.3, 29°.2N±0°.2×94°.2E±0°.1, h10km, n52, σ0s94/9, mb3.5/4, MS3.6/38, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**6.06**	**253**	*e*P	**Pg**	**22 24 51.9**	**+1.0**
	12nm,0.3s						
RAMN	**Ramite**	**7.12**	**253**	*e*P	Pb	22 24 52.9	-5.9
	17nm,0.4s						
JIRN	**Jiri**	**7.26**	**259**	*e*P	**Pb**	**22 25 00.7**	**-0.5**
	10nm,0.4s						
GUN	**Gumba**	**7.47**	**262**	*e*P	**Pb**	**22 25 03.2**	**-1.6**
	13nm,0.5s						
PKI	**Pulchoki**	**7.96**	**260**	*e*P	Pn	22 25 02.7	+12
	20nm,0.6s						
PKIN	**Phulchoki**	**7.96**	**260**	*e*P	Pn	22 25 03.1	+12
	20nm,0.4s						
DMN	**Daman**	**8.21**	**261**	*e*P	Pn	22 25 04.9	+11
	7.3nm,0.4s						
GKN	**Gorkha**	**8.53**	**264**	*e*P	Pn	22 25 09.2	+11
	5.7nm,0.4s						
DANN	**Dangsing**	**9.24**	**267**	*e*P	Pn	22 25 15.8	+7.4
	32nm,1.7s						
PYUN	**Piuthan**	**9.95**	**266**	*e*P	**Pn**	**22 25 18.3**	**+0.2**
	60nm,2.0s						
CMAR	**Chiang Mai Arr**	**11.56**	**157**	LR	LR	22 30 28.3	
	comp=Z,76nm,22.0s,baz=335,slow=40						
MKAR	**Makanchi Array**	**19.86**	**335**	P	**Pn**	**22 27 27.1**	**-0.5**
	baz=140,slow=9.1,SNR=2.4						
MKAR				LR	LR	22 36 29.1	
	comp=Z,245nm,20.8s,baz=152,slow=41						
	0.3nm,0.6s						
AAK	**Ala-Archa**	**20.78**	**315**	P	Pn	22 27 38.1	-0.4
	0.3nm,0.3s,baz=121,slow=10,SNR=1.4						
AAK				LR	LR	22 37 30.3	
	comp=Z,259nm,21.8s,baz=120,slow=42						
	0.3nm,0.3s						
SONM	**Songino Array**	**20.81**	**24**	P	Pn	22 27 36.1	-2.8
	0.7nm,0.6s,baz=209,slow=12,SNR=4.0						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**24.42**	**335**	P	**P**	**22 28 14.2**	**+0.8**
	1.1nm,0.2s,baz=147,slow=9.4,SNR=1.4						
KURBB				LR	LR	22 39 47.5	
	comp=Z,61nm,20.7s,baz=152,slow=41						
	1.1nm,0.2s						
PALK	**Pallekele**	**25.30**	**213**	LR	LR	22 41 09.4	
	comp=Z,84nm,18.4s,baz=133,slow=43						
ZALV	**Zalesovo Beam**	**25.63**	**347**	P	**P**	**22 28 24.8**	**+0.5**
	0.5nm,0.6s,baz=176,slow=9.4,SNR=2.3						
ZALV				LR	LR	22 40 07.8	
	comp=Z,47nm,21.9s,baz=153,slow=40						
	0.5nm,0.6s						
KSRS	**Korea Array**	**29.18**	**65**	LR	LR	22 41 30.8	
	comp=Z,70nm,21.5s,baz=255,slow=39						
GEYT	**Alibeck**	**31.16**	**296**	LR	LR	22 43 11.0	
	comp=Z,67nm,19.2s,baz=118,slow=39						
JNU	**Nakatsue**	**31.48**	**74**	LR	LR	22 42 32.3	
	comp=Z,216nm,18.9s,baz=238,slow=38						
WSAR	**Wadi Sarin**	**32.41**	**268**	LR	LR	22 44 10.1	
	comp=Z,104nm,21.5s,baz=56,slow=39						
USRK	**Ussuriysk Ar.**	**33.42**	**53**	LR	LR	22 43 42.2	
	comp=Z,188nm,21.7s,baz=231,slow=38						
AKTO	**Aktyubinsk**	**34.47**	**318**	LR	LR	22 46 33.8	
	comp=Z,136nm,18.8s,baz=6.0,slow=41						
KLR	**Kul'dur**	**34.77**	**44**	LR	LR	22 47 01.9	
	comp=Z,22nm,19.6s,baz=239,slow=42						
DAV	**Davao City (W)**	**36.84**	**121**	LR	LR	22 44 32.2	
	comp=Z,93nm,19.6s,baz=20,slow=35						
ARU	**Arti**	**37.02**	**327**	LR	LR	22 47 12.7	
	comp=Z,179nm,19.4s,baz=118,slow=39						
LEM	**Lembang**	**38.10**	**158**	LR	LR	22 48 05.1	
	comp=Z,122nm,20.2s,baz=9.0,slow=40						
ASAJ	**Asahikawa**	**40.94**	**55**	LR	LR	22 47 49.5	
	comp=Z,83nm,19.3s,baz=262,slow=37						
BELG	**Belogornoye**	**41.25**	**318**	LR	LR	22 50 23.1	
	comp=Z,130nm,18.6s,baz=110,slow=40						
GNI	**Garni**	**41.66**	**299**	LR	LR	22 52 18.5	
	comp=Z,43nm,19.9s,baz=74,slow=42						
KAPI	**Kappang**	**41.96**	**140**	LR	LR	22 51 22.3	
	comp=Z,62nm,18.7s,baz=320,slow=41						
KIRV	**Kirov**	**42.38**	**327**	LR	LR	22 50 17.8	
	comp=Z,126nm,21.3s,baz=104,slow=39						
KBZ	**Khabaz**	**43.07**	**304**	LR	LR	22 51 57.6	
	comp=Z,81nm,18.9s,baz=90,slow=40						
BATI	**Baumata**	**48.41**	**140**	LR	LR	22 55 22.9	
	comp=Z,59nm,20.0s,baz=304,slow=40						
MA2	**Magadan**	**48.42**	**35**	LR	LR	22 52 50.6	
	comp=Z,74nm,20.1s,baz=226,slow=37						
MMAI	**Mount Meron Ar**	**49.95**	**290**	LR	LR	22 55 03.2	
	comp=Z,28nm,20.6s,baz=48,slow=38						
SEY	**Seymchan**	**49.97**	**30**	LR	LR	22 54 48.7	
	comp=Z,85nm,18.4s,baz=288,slow=38						
EIL	**Elat**	**51.12**	**286**	LR	LR	22 58 18.6	
	comp=Z,58nm,19.8s,baz=62,slow=41						
PETK	**Petropavlovsk-**	**51.45**	**44**	LR	LR	22 53 56.9	
	comp=Z,83nm,21.7s,baz=263,slow=36						
AKASG	**Malin Array Be**	**52.43**	**313**	LR	LR	22 56 06.9	
	comp=Z,144nm,19.6s,baz=141,slow=38						
FINES	**FINESS Array B**	**54.38**	**327**	LR	LR	22 55 05.3	
	comp=Z,106nm,18.4s,baz=82,slow=36						
MLR	**Muntele Rosu**	**55.06**	**307**	LR	LR	23 02 07.6	
	comp=Z,48nm,21.7s,baz=259,slow=43						
ARCES	**ARCESS Array B**	**55.50**	**337**	LR	LR	22 59 07.3	
	comp=Z,97nm,19.2s,baz=92,slow=39						
IDI	**Anoyia**	**57.89**	**295**	LR	LR	23 00 04.7	
	comp=Z,40nm,21.2s,baz=84,slow=38						
HFS	**Hagfors**	**60.49**	**325**	LR	LR	23 01 18.6	
	comp=Z,69nm,21.5s,baz=68,slow=38						
VRAC	**Vranov**	**60.68**	**313**	LR	LR	23 02 01.0	
	comp=Z,117nm,20.8s,baz=62,slow=39						
SHEM	**Shemya Is, Ala**	**61.36**	**43**	LR	LR	23 00 10.8	
	comp=Z,46nm,21.2s,baz=304,slow=36						
NOA	**NORSAR Array B**	**61.57**	**327**	LR	LR	22 59 17.9	
	comp=Z,91nm,20.4s,baz=80,slow=35						
WRA	**Warramunga Arr**	**62.34**	**137**	P	**P**	**22 33 17.2**	**-0.5**
	0.3nm,0.8s,baz=330,slow=6.8,SNR=1.6						
	0.3nm,0.8s						
GERES	**GERESS Array B**	**62.63**	**313**	LR	LR	23 01 54.4	
	comp=Z,86nm,18.2s,baz=64,slow=37						
ASAR	**Alice Springs**	**64.98**	**140**	P	**P**	**22 33 35.4**	**+0.3**
	0.2nm,0.6s,baz=324,slow=6.1,SNR=1.8						
ASAR				LR	LR	23 06 05.1	
	comp=Z,18nm,21.5s,baz=344,slow=40						
	0.2nm,0.6s						
DAVOX	**Davos/Dischmat**	**65.67**	**311**	LR	LR	23 05 04.5	
	comp=Z,169nm,18.1s,baz=82,slow=38						

*EAF **21** 22:29:17.9, 24°.84S×32°.62E, h10km, MC3.8*
*BUL **21** 22:29:19.2±2.1, 24°.98S×32°.62E, h10km, MD4.0*
*PRE **21** 22:29:19.8±1.2, 24°.58S×32°.45E, h10km, ML2.4*
ISC 21 22:29:15.9±1.8, 24°.62S±0°.03×32°.58E±0°.08, h14km±10km, n24, σ2s43/44, 1C, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOED	**Hoedspruit, Li**	**1.52**	**278**	*e*P	**Pg**	**22 29 46.0**	**+0.9**
HOED				*e*S	**Sg**	**22 30 04.9**	**0.0**
HOED				IAML		22 30 07.1	
	comp=Z,59nm,0.1s						
MOPA	**Mopani**	**1.54**	**315**	*i* P	**Pb**	**22 29 43.9**	**-0.5**
MOPA				*i* S	**Sn**	**22 30 01.5**	**-1.4**
MOPA	**Mopani**	**1.54**	**315**	⇑*i* P	**Pg**	**22 29 45.7**	**+0.1**
MOPA				*e*S	**Sg**	**22 30 05.7**	**0.0**
MOPA	**Mopani**	**1.54**	**315**	*i* P	**Pb**	**22 29 43.9**	**-0.5**
	baz=325						
MOPA				*i* S	**Sn**	**22 30 01.5**	**-1.4**
	baz=325						
PILG	**Pilgrimsrest,**	**1.73**	**259**	*e*P	**Pg**	**22 29 49.2**	**0.0**
PILG				*e*S	**Sb**	**22 30 10.4**	**+1.1**
PILG				IAML		22 30 12.4	
	comp=Z,49nm,0.2s						
MMAL	**MMAL**	**1.89**	**221**	*e*P	**Pg**	**22 29 52.5**	**+0.2**
MMAL				*e*S	**Sg**	**22 30 16.6**	**-0.2**
MMAL				IAML		22 30 18.0	
	comp=Z,93nm,0.4s						
DULL	**Dullstroom, Mp**	**2.31**	**251**	*e*P	**Pb**	**22 29 57.4**	**-0.1**
DULL				*e*S	**Sb**	**22 30 25.4**	**-0.5**
DULL				IAML		22 30 36.6	
	comp=Z,20nm,0.4s						
CRLN	**Carolina, Mapu**	**2.69**	**239**	*e*P	**Pb**	**22 30 03.6**	**-0.4**
CRLN				*e*S	**Sn**	**22 30 34.5**	**+3.0**
CRLN				IAML		22 30 49.7	
	comp=Z,14nm,0.8s						
MPHEP	**Siloam, Limpop**	**2.79**	**307**	*e*P	**Pb**	**22 30 04.6**	**-1.0**
MPHEP				*e*S	**Sn**	**22 30 34.9**	**+1.1**
MPHEP				IAML		22 30 44.7	
	comp=Z,76nm,0.4s						
POGA	**Pongola**	**2.83**	**196**	*e*P	**Pb**	**22 30 05.5**	**-0.7**
POGA				*e*S	**Sb**	**22 30 40.0**	**-0.7**
POGA				IAML		22 30 51.9	
	comp=Z,4.0nm,0.3s						
MUSN	**Musina, Limpop**	**3.41**	**312**	*i* P	**Pb**	**22 30 12.9**	**-3.3**
MUSN				*i* S	**Sb**	**22 30 58.0**	**+0.3**
MUSN	**Musina, Limpop**	**3.41**	**312**	*e*P	**Pb**	**22 30 13.0**	**-3.3**
MUSN				*e*S	**Sn**	**22 30 51.4**	**+2.3**
MUSN				IAML		22 31 10.8	
	comp=Z,39nm,0.4s						
MUSN	**Musina, Limpop**	**3.41**	**312**	*i* P	**Pb**	**22 30 12.9**	**-3.3**
	baz=316						
MUSN				*i* S	**Sb**	**22 30 58.0**	**+0.3**
	baz=316						
NWCL	**Newcastle**	**3.93**	**217**	*e*P	**Pb**	**22 30 21.6**	**-3.6**
NWCL				*e*S	**Sn**	**22 31 04.8**	**+2.8**
NWCL				IAML		22 31 21.7	
	comp=Z,16nm,0.6s						
LEPH	**Lephalale, Lim**	**4.43**	**279**	*e*P	**Pn**	**22 30 26.1**	**+3.2**
LEPH				*e*S	**Sn**	**22 31 15.4**	**+1.0**
LEPH				IAML		22 31 34.2	
	comp=Z,12nm,0.4s						
LBTB	**Lobatse**	**6.36**	**265**	*i* P	**Pn**	**22 30 52.5**	**+3.1**
LBTB				*i* S	**Sn**	**22 32 00.3**	**-1.6**
LBTB	**Lobatse**	**6.36**	**265**	*e*P	**Pn**	**22 30 53.3**	**+3.9**
LBTB				*e*S	**Sn**	**22 32 01.8**	**-0.1**
LBTB				IAML		22 32 39.6	
	comp=Z,5.5nm,0.6s						
LBTB	**Lobatse**	**6.36**	**265**	*i* P	**Pn**	**22 30 52.5**	**+3.1**
	baz=266						
LBTB				*i* S	**Sn**	**22 32 00.3**	**-1.6**
	baz=266						
KSTD	**Kokstad**	**6.64**	**205**	*e*P	Pn	22 30 58.7	+5.4
KSTD				*e*S	**Sn**	**22 32 10.5**	**+1.6**
KSTD				IAML		22 32 12.0	
	comp=Z,6.8nm,0.7s						
BOSA	**Boshof**	**7.67**	**237**	*i* P	**Pn**	**22 31 08.1**	**+0.7**
BOSA				*i* S	**Sn**	**22 32 27.0**	**-7.1**
BOSA	**Boshof**	**7.67**	**237**	*e*S	**Sn**	**22 32 33.1**	**-1.0**
BOSA				IAML		22 33 19.3	
	comp=Z,2.4nm,0.6s						
BOSA	**Boshof**	**7.67**	**237**	*i* P	**Pn**	**22 31 08.1**	**+0.7**
	baz=237						
BOSA				*i* S	**Sn**	**22 32 27.0**	**-7.1**
	baz=237						
KRI	**Karoi**	**8.23**	**340**	*i* P	**Pn**	**22

LVC	**Limon Verde**	**2.66 232**			**Pn**	**22 37 50.0**	**-0.4**
LVC	**Limon Verde**	**2.66 232**	Pg		**Pn**	**22 37 50.5**	**+0.1**
LVC	**Limon Verde**	**2.66 232**	*e*P		**Pn**	**22 37 50.8**	**+0.3**
LVC	**Limon Verde**	**2.66 232**	P		**Pn**	**22 37 50.6**	**+0.2**
	comp=Z,35nm,0.3s,baz=52,slow=10,SNR=212						
LVC			S		**S**	**22 38 27.1**	**-1.3**
	comp=Z,66nm,0.3s,baz=207,slow=20,SNR=28						
LVC	**Limon Verde**	**2.66 232**	⇑*i*P		**Pn**	**22 37 50.7**	**+0.3**
LVC	**Limon Verde**	**2.66 232**	*e*P		**Pn**	**22 37 50.5**	**+0.1**
LVC			*e*S		**S**	**22 38 28.9**	**+0.4**
LVC			IAML			22 38 31.4	
	comp=Z,97nm,0.8s						
PB01	**IPOC Station P**	**2.66 268**			**Pn**	**22 37 49.5**	**-0.7**
PB01	**IPOC Station P**	**2.66 268**	Pg		**Pn**	**22 37 50.2**	**0.0**
PB01	**IPOC Station P**	**2.66 268**	⇑*i*P		**Pn**	**22 37 49.6**	**-0.7**
PB01			*i*S		**S**	**22 38 25.4**	**-2.6**
PB01			IAML			22 38 27.8	
	comp=N,1μm,0.3s						
PB01	**IPOC Station P**	**2.66 268**	*e*P		**Pn**	**22 37 49.8**	**-0.4**
PB01			*e*S		**S**	**22 38 26.8**	**-1.3**
PB01			IAML			22 38 27.9	
	comp=Z,598nm,0.2s						
SOEO	**Opoqueri**	**2.68 334**	Pg		**Pn**	**22 37 52.1**	**+1.2**
GO01	**Chusmiza**	**2.73 298**			**Pn**	**22 37 51.2**	**-0.3**
GO01	**Chusmiza**	**2.73 298**	Pg		**Pn**	**22 37 51.7**	**+0.3**
GO01	**Chusmiza**	**2.73 298**	⇑*i*P		**Pn**	**22 37 51.5**	**0.0**
GO01			*i*S		**S**	**22 38 29.1**	**-1.0**
GO01			IAML			22 38 37.8	
	comp=N,1μm,0.1s						
GO01	**Chusmiza**	**2.73 298**	*e*P		**Pn**	**22 37 50.9**	**-0.5**
GO01			*e*S		**S**	**22 38 37.5**	**+7.4**
GO01			IAML			22 38 39.0	
	comp=Z,261nm,0.1s						
SOET	**ToroToro**	**2.96 15**	Pg		**Pn**	**22 37 54.4**	**+0.6**
SOTI	**Planta Incahua**	**3.03 68**	Pg		**Pn**	**22 37 55.3**	**+1.1**
PB02	**IPOC Station P**	**3.06 263**			**Pn**	**22 37 54.2**	**-0.4**
PB02	**IPOC Station P**	**3.06 263**	Pg		**Pn**	**22 37 54.5**	**0.0**
PB02	**IPOC Station P**	**3.06 263**	⇑*i*P		**Pn**	**22 37 54.4**	**-0.2**
PB02	**IPOC Station P**	**3.06 263**	*e*P		**Pn**	**22 37 54.0**	**-0.6**
PB02			*e*S		**S**	**22 38 33.7**	**-2.1**
PB02			IAML			22 38 40.0	
	comp=Z,1μm,0.3s						
PB07	**IPOC Station P**	**3.11 256**			**Pn**	**22 37 54.9**	**-0.4**
PB07	**IPOC Station P**	**3.11 256**	Pg		**Pn**	**22 37 55.2**	**0.0**
PB07	**IPOC Station P**	**3.11 256**	*e*P		**Pn**	**22 37 54.7**	**-0.6**
PB07	**IPOC Station P**	**3.11 256**	*e*P		Pn	22 37 49.8	-5.5
PB07			*e*P		**Pn**	**22 37 54.6**	**-0.6**
PB07			*e*S		**S**	**22 38 34.5**	**-2.6**
PB07			IAML			22 38 36.4	
	comp=Z,884nm,0.4s						
HMBC	**Humberstone**	**3.12 282**	⇑*i*P		**Pn**	**22 37 54.3**	**-1.0**
HMBC	**Humberstone**	**3.12 282**	*e*P		**Pn**	**22 37 54.3**	**-1.0**
HMBC			*e*S		**S**	**22 38 35.2**	**-2.0**
HMBC			IAML			22 38 38.8	
	comp=Z,483nm,0.2s						
PB06	**IPOC Station P**	**3.22 237**			**Pn**	**22 37 56.2**	**-0.2**
PB06	**IPOC Station P**	**3.22 237**	Pg		**Pn**	**22 37 56.9**	**+0.5**
PB06	**IPOC Station P**	**3.22 237**	*e*P		**Pn**	**22 37 56.0**	**-0.3**
PB06	**IPOC Station P**	**3.22 237**	*e*P		**Pn**	**22 37 56.0**	**-0.3**
PB06			*e*S		**S**	**22 38 37.8**	**-1.3**
PB06			IAML			22 38 40.6	
	comp=Z,429nm,0.1s						
PATCX	**Punta Patache**	**3.29 272**			**Pn**	**22 37 56.2**	**-0.9**
PATCX	**Punta Patache**	**3.29 272**	⇑*i*P		**Pn**	**22 37 56.4**	**-0.7**
PATCX	**Punta Patache**	**3.29 272**	*e*P		**Pn**	**22 37 56.5**	**-0.7**
PATCX			*e*S		**S**	**22 38 37.7**	**-2.8**
PATCX			*e*S		S	22 38 38.0	-2.5
PATCX			IAML			22 38 39.6	
	comp=Z,390nm,0.3s						
TA01	**Diego Aracena**	**3.34 277**			**Pn**	**22 37 56.3**	**-1.3**
TA01	**Diego Aracena**	**3.34 277**	⇑*i*P		**Pn**	**22 37 56.6**	**-1.0**
TA01	**Diego Aracena**	**3.34 277**	*e*P		**Pn**	**22 37 55.9**	**-1.7**
TA01			*e*S		**S**	**22 38 37.7**	**-3.7**
TA01			IAML			22 38 41.1	
	comp=Z,218nm,0.3s						
TA02	**Huaiquique**	**3.35 282**			**Pn**	**22 37 56.6**	**-1.1**
TA02	**Huaiquique**	**3.35 282**	Pg		**Pn**	**22 37 57.2**	**-0.5**
TA02	**Huaiquique**	**3.35 282**	*e*P		**Pn**	**22 37 56.9**	**-0.8**
TA02	**Huaiquique**	**3.35 282**	*e*P		**Pn**	**22 37 56.5**	**-1.2**
TA02			*e*P		**Pn**	**22 37 57.1**	**-0.6**
TA02			*e*S		**S**	**22 38 38.0**	**-3.5**
TA02			IAML			22 38 38.9	
	comp=Z,1μm,0.1s						
PB15	**IPOC Station P**	**3.43 229**			**Pn**	**22 37 58.9**	**0.0**
PB15	**IPOC Station P**	**3.43 229**	Pg		**Pn**	**22 37 59.1**	**+0.2**
PB15	**IPOC Station P**	**3.43 229**	*e*P		**Pn**	**22 37 59.7**	**+0.8**
PB15			*e*S		**S**	**22 38 42.5**	**-1.2**
PB15	**IPOC Station P**	**3.43 229**	*e*P		**Pn**	**22 37 58.6**	**-0.2**
PB15			*e*S		**S**	**22 38 42.8**	**-0.9**
PB15			IAML			22 38 46.0	
	comp=Z,2μm,0.2s						
PB04	**IPOC Station P**	**3.53 247**			**Pn**	**22 37 59.1**	**-0.9**
PB04	**IPOC Station P**	**3.53 247**	Pg		**Pn**	**22 37 59.7**	**-0.2**
PB04	**IPOC Station P**	**3.53 247**	⇑*i*P		**Pn**	**22 37 59.6**	**-0.4**
PB04	**IPOC Station P**	**3.53 247**	*e*P		**Pn**	**22 37 59.4**	**-0.5**
PB04			*e*S		**S**	**22 38 42.5**	**-3.1**
PB04			IAML			22 38 46.4	
	comp=Z,541nm,0.2s						
AZAP	**Zapla**	**3.53 156**	*e*P		**Pn**	**22 38 00.9**	**+0.8**
AZAP			*e*S		**S**	**22 38 45.9**	**0.0**
AZAP			IAML			22 38 49.1	
	comp=Z,138nm,0.5s						
ASTB	**Santa Barbara**	**3.57 146**	*e*P		**Pn**	**22 38 01.3**	**+0.9**
ASTB			*e*S		**S**	**22 38 47.1**	**+0.5**
ASTB			IAML			22 39 02.6	
	comp=Z,0.9nm,3.2s						
ALOL	**LOMAS DE OLMED**	**3.74 139**	*e*P		**Pn**	**22 38 02.7**	**+0.5**
ALOL			*e*S		**S**	**22 38 43.3**	**-6.5**
PB16	**IPOC Station P**	**3.78 314**	Pn		**Pn**	**22 38 03.7**	**+0.4**
PB16	**IPOC Station P**	**3.78 314**	Pg		**Pn**	**22 38 04.3**	**+1.0**
PB16	**IPOC Station P**	**3.78 314**	⇑*i*P		**Pn**	**22 38 03.8**	**+0.5**
PB16	**IPOC Station P**	**3.78 314**	*e*P		**Pn**	**22 38 03.5**	**+0.2**
PB16			*e*S		**S**	**22 38 53.2**	**+1.6**
PB16			IAML			22 38 59.5	
	comp=Z,69nm,0.4s						
SLA	**San Lorenzo**	**3.86 164**	Pg		**Pn**	**22 38 05.3**	**+1.5**
PB12	**IPOC Station P**	**4.20 304**	Pn		**Pn**	**22 38 06.1**	**-1.7**
PB12	**IPOC Station P**	**4.20 304**	⇑*i*P		**Pn**	**22 38 06.0**	**-1.8**
SOEJ	**Jacaque**	**4.25 340**	Pg		**Pn**	**22 38 10.8**	**+1.9**
PB18	**Visviri**	**4.32 321**	Pn		**Pn**	**22 38 10.6**	**+0.9**
BBOE	**La Paz, Chanca**	**4.34 343**	Pg		**Pn**	**22 38 11.7**	**+1.6**
AP01	**Chacalluta**	**4.35 306**	*e*P		**Pn**	**22 38 08.7**	**-0.8**
AP01			IAML			22 39 06.4	
	comp=Z,501nm,0.2s						
BBOD	**La Paz, Gloria**	**4.71 336**	Pg		**Pn**	**22 38 16.0**	**+1.5**
LPAZ	**La Paz**	**4.88 343**	Pn		**Pn**	**22 38 16.9**	**+0.2**
LPAZ	**La Paz**	**4.88 343**	*e*P		**Pn**	**22 38 17.4**	**+0.7**
LPAZ	**La Paz**	**4.88 343**	P		**Pn**	**22 38 16.6**	**-0.2**
	comp=Z,2.7nm,0.4s,baz=151,slow=7.5,SNR=12						
LPAZ			S		**S**	**22 39 14.1**	**-1.8**
	comp=Z,12nm,0.9s,baz=296,slow=18,SNR=4.3						
GO02	**Mina Guanaco**	**4.96 213**			**Pn**	**22 38 17.0**	**-0.4**
GO02	**Mina Guanaco**	**4.96 213**	Pg		**Pn**	**22 38 17.5**	**+0.2**
PB14	**IPOC Station P**	**5.02 223**	Pn		**Pn**	**22 38 17.2**	**-0.7**
PB14	**IPOC Station P**	**5.02 223**	*e*P		**Pn**	**22 38 17.3**	**-0.7**
PB14			IAML			22 39 21.7	
	comp=Z,133nm,0.4s						
AC02	**Maricunga**	**6.25 201**			**Pn**	**22 38 33.0**	**-0.5**
AC01	**Pan de Azucar**	**6.29 215**			**Pn**	**22 38 32.0**	**-1.6**
BBSD	**Serra de San D**	**6.84 57**	*e*P		**Pn**	**22 38 39.8**	**-0.9**
BBRB	**Robore, Bolivi**	**6.98 68**	*e*P		**Pn**	**22 38 40.0**	**-2.4**
AC06	**Mina Casimiro**	**7.19 207**			**Pn**	**22 38 42.8**	**-2.2**
SIV	**San Ignacio**	**7.25 48**	P		**Pn**	**22 38 45.3**	**-0.6**
	comp=Z,50nm,0.7s,baz=231,slow=10,SNR=226						
SIV			S		**S**	**22 40 03.2**	**-5.9**
	comp=Z,1.7nm,0.5s,baz=290,slow=15,SNR=1.1						
GO03	**Copiap**	**7.35 206**			**Pn**	**22 38 45.2**	**-1.9**
MURT	**Porto Murtinho**	**8.44 96**	*e*P		**Pn**	**22 39 00.5**	**-0.5**
PTLB	**Pontes e Lacer**	**9.01 54**			**Pn**	**22 39 07.4**	**-0.9**
PTLB	**Pontes e Lacer**	**9.01 54**	*e*P		**Pn**	**22 39 07.7**	**-0.6**
CPUP	**Villa Florida**	**10.05 124**	P		**Pn**	**22 39 21.6**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=318,slow=12,SNR=3.2						
VILB	**Vilhena**	**10.09 39**			**Pn**	**22 39 21.7**	**-0.3**
VILB	**Vilhena**	**10.09 39**	*e*P		**Pn**	**22 39 21.4**	**-0.7**
AQDB	**Aquidauana**	**10.25 89**	Pn		**Pn**	**22 39 24.5**	**+0.5**
AQDB	**Aquidauana**	**10.25 89**	*e*P		**Pn**	**22 39 25.4**	**+1.3**
CFA	**Coronel Fontan**	**10.67 187**	P		**Pn**	**22 39 29.9**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=360,slow=14,SNR=9.6						
CFA			S		**S**	**22 41 21.8**	**-7.1**
	comp=Z,3.2nm,0.3s,baz=288,slow=21,SNR=7.5						
AMBA	**Amambai (Brazi**	**10.98 102**	*e*P		**Pn**	**22 39 35.0**	**+1.7**
PP1B	**Ponte de Pedra**	**11.60 75**	*e*P		**Pn**	**22 39 40.5**	**-0.6**
MCR1	**Marechal Candi**	**12.13 109**	*e*P		**P**	**22 39 50.5**	**-0.4**
SAML	**Samuel**	**12.43 16**	*e*P		**Pn**	**22 39 51.2**	**-0.2**
CRSM	**Crissiumal (Br**	**13.19 122**	*e*P		**P**	**22 40 04.7**	**+2.1**
PDRB	**Porto dos Gac**	**13.31 47**	*e*P		**Pn**	**22 40 01.5**	**-0.9**
FRBT	**Francisco Belt**	**13.41 114**	*e*P		**P**	**22 40 07.5**	**+2.4**
RODS	**Rosario do Sul**	**13.89 134**	*e*P		**P**	**22 40 12.6**	**+2.2**
PTGB	**Pitanga**	**13.94 108**	*e*P		**P**	**22 40 13.5**	**+2.5**
PCMB	**Pacaembu**	**14.35 95**	*e*P		**P**	**22 40 15.6**	**+0.1**
CLDB	**Colider**	**14.48 48**	*e*P		**Pn**	**22 40 16.4**	**-0.2**
LDASE	**Londrina, Braz**	**14.58 102**	*e*P		**P**	**22 40 19.7**	**+1.6**
ALGR	**Alto Alegre (B**	**14.59 125**	*e*P		**P**	**22 40 19.9**	**+1.7**
ITAB	**Concordia**	**14.63 118**			**P**	**22 40 19.2**	**+0.6**
ITAB	**Concordia**	**14.63 118**	*e*P		**P**	**22 40 20.8**	**+2.3**
ARAG	**Araguaiana, MT**	**15.02 72**	*e*P		**Pn**	**22 40 23.7**	**+0.6**
CPSB	**Cacapava Do Su**	**15.14 131**	*e*P		**Pn**	**22 40 25.9**	**+1.5**
PLTB	**Pedras Altas**	**15.85 135**	P		**Pn**	**22 40 32.6**	**-0.3**
PLTB			IAmb		IAmb	22 40 41.2	
	comp=Z,19nm,1.4s						
FRTB	**Fartura**	**15.99 102**	*e*P		**Pn**	**22 40 35.7**	**+0.9**
BB19B	**Bebedouro**	**16.91 94**	*e*P		**Pn**	**22 40 45.0**	**-0.6**
SNDB	**Serra Nova Dou**	**17.22 61**	*e*P		**P**	**22 40 47.5**	**+0.4**
TEFE	**Tefe**	**17.48 7**	*e*P		**P**	**22 40 50.2**	**+0.2**
NPGB	**Novo Progresso**	**17.64 40**	*e*P		**P**	**22 40 51.0**	**-0.8**
RCLB	**Rio Claro- Sao**	**17.82 98**	*e*P		**P**	**22 40 54.7**	**+1.1**
PET01	**Itanhaem-SP**	**18.17 104**	*e*P		**P**	**22 40 58.7**	**+1.3**
BDFB	**Brasilia**	**18.46 76**	P		**P**	**22 41 00.0**	**-0.7**
BDFB			IAmb		IAmb	22 41 04.9	
	comp=Z,6.9nm,0.5s						
BDFB	**Brasilia**	**18.46 76**	P		**P**	**22 41 01.2**	**+0.5**
	comp=Z,6.1nm,0.5s,baz=272,slow=7.7,SNR=12						
GO06	**Curarrehue**	**18.99 192**	P		**P**	**22 41 05.0**	**-1.2**
GO06			IAmb		IAmb	22 41 08.7	
	comp=Z,12nm,1.3s						
PMNB	**Patos De Minas**	**19.17 86**	*e*P		**P**	**22 41 08.5**	**+0.2**
PARB	**Paraibuna**	**19.61 101**	*e*P		**P**	**22 41 12.7**	**-0.2**
ITTB	**Itaituba**	**19.63 34**	*e*P		**P**	**22 41 12.8**	**-0.3**
PLCA	**Paso Flores**	**19.96 189**	P		**P**	**22 41 16.5**	**0.0**
PLCA			IAmb		IAmb	22 41 20.4	
	comp=Z,3.8nm,0.7s						
PLCA	**Paso Flores**	**19.96 189**	*e*P		**Pn**	**22 41 19.7**	**-1.7**
PLCA	**Paso Flores**	**19.96 189**	P		**P**	**22 41 17.1**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=16,slow=11,SNR=8.7						
	comp=Z,3.6nm,0.7s						
BSCB	**Bom Sucesso**	**20.42 94**	*e*P		**P**	**22 41 23.2**	**+1.6**
SGCB	**SÊo Gabriel d**	**20.74 359**	*e*P		**P**	**22 41 25.4**	**+0.4**
BOSC	**San Juan Bosco**	**21.16 325**	P		**P**	**22 41 30.7**	**+1.3**
BOSC			IAmb		IAmb	22 41 35.0	
	comp=Z,3.3nm,0.5s						
DIAM	**Diamantina, MG**	**21.79 87**	*e*P		**P**	**22 41 36.0**	**+0.5**
LL01	**San Ignacio de**	**21.88 192**	P		**P**	**22 41 36.0**	**+0.2**
PRPB	**Parauapebas**	**21.97 50**	*e*P		**P**	**22 41 36.2**	**-0.9**
JANB	**Januaria**	**22.02 78**	*e*P		**P**	**22 41 37.4**	**-0.3**
COHC	**Cochancay**	**22.14 325**	P		**P**	**22 41 40.5**	**+1.9**
SDBA	**SAO DESIDERIO**	**22.48 71**	*e*P		**P**	**22 41 41.6**	**-0.2**
MALB	**Monte Alegre**	**22.52 34**	*e*P		**P**	**22 41 41.5**	**-0.6**
LL02	**Futaleuf**	**22.57 190**	P		**P**	**22 41 42.4**	**+0.3**
LL02			IAmb		IAmb	22 41 53.9	
	comp=Z,12nm,1.5s						
DUB01	**Friburgo-RJ**	**22.59 97**	*e*P		**P**	**22 41 44.6**	**+1.8**
ALF01	**Guarapari-ES**	**24.22 94**	*e*P		**P**	**22 41 58.5**	**+1.0**
GUA01	**Guaratinga, BA**	**25.77 85**	*e*P		**P**	**22 42 11.7**	**+0.3**
BAUV	**El Baul**	**29.77 357**	P		**P**	**22 42 47.0**	**+0.1**
TXAR	**Lajitas Array**	**61.45 323**	P		**P**	**22 46 54.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=153,slow=7.4,SNR=9.1						
	comp=Z,0.3nm,0.3s						
TX31	**Lajitas Ar. Si**	**61.45 323**	P		**P**	**22 46 54.5**	**+0.6**
TX31			IAmb		IAmb	22 47 12.6	
	comp=Z,3.6nm,0.8s						
SNAA	**Sanae**	**62.08 161**	P		**P**	**22 46 58.2**	**+0.9**
SNAA	**Sanae**	**62.08 161**	P		**P**	**22 46 58.7**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=330,slow=6.5,SNR=2.5						
	comp=Z,1.0nm,0.9s						
MSTX	**Muleshoe**	**64.58 327**	P		**P**	**22 47 14.9**	**+0.5**
DBIC	**Dimbokro**	**66.56 73**	P		**P**	**22 47 27.8**	**+0.5**
DBIC	**Dimbokro**	**66.56 73**	P		**P**	**22 47 28.1**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=255,slow=16,SNR=2.1						
	comp=Z,2.4nm,0.6s						
QSPA	**South Pole Qui**	**69.20 180**	P		**P**	**22 47 44.0**	**+1.0**
QSPA	**South Pole Qui**	**69.20 180**	P		**P**	**22 47 41.7**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=320,slow=1.0,SNR=4.3						
	comp=Z,1.6nm,0.5s						
KOWA	**Kowa**	**70.88 66**	P		**P**	**22 47 54.3**	**+0.5**
PDAR	**Pinedale Array**	**74.75 329**	P		**P**	**22 48 17.6**	**+1.4**
PDAR	**Pinedale Array**	**74.75 329**	P		**P**	**22 48 15.2**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=113,slow=8.9,SNR=3.2						
	comp=Z,0.3nm,0.5s						
TOA0	**Torodi Ar. Sit**	**75.19 69**	P		**P**	**22 48 18.8**	**-0.3**
TOA0			IAmb		IAmb	22 48 21.1	
	comp=Z,3.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.19 69**	P		**P**	**22 48 18.9**	**-0.2**
TORD			IAmb		IAmb	22 48 21.3	
	comp=Z,2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.19 69**	P		**P**	**22 48 18.3**	**-0.8**
	comp=Z,3.0nm,0.5s,baz=256,slow=5.5,SNR=31						
	comp=Z,3.0nm,0.5s						
NVAR	**Mina Array Bea**	**76.42 321**	P		**P**	**22 48 26.2**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=156,slow=6.9,SNR=5.8						
	comp=Z,0.9nm,0.9s						
MAW	**Mawson**	**84.20 163**	P		**P**	**22 49 06.4**	**0.0**
	comp=Z,1.8nm,0.8s,baz=225,slow=7.1,SNR=3.8						
	comp=Z,1.8nm,0.8s						
YKA	**Yellowknife Ar**	**91.42 340**	P		**P**	**22 49 39.2**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=124,slow=4.1,SNR=7.4						
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**131.31 205**	PKP		**PKPdf**	**22 55 46.7**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=137,slow=2.0,SNR=6.6						
WRA	**Warramunga Arr**	**134.44 208**	PKP		**PKPdf**	**22 55 53.4**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=168,slow=1.7,SNR=5.3						
MKAR	**Makanchi Array**	**143.96 37**	PKP		**PKPdf**	**22 56 09.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=323,slow=1.7,SNR=6.6						
PZH	**PanZhiHua**	**168.03 60**	PKP		**PKPdf**	**22 56 39.8**	**-1.0**

*AZER **21** 23:00:49.4±1.8, 34°.99N×53°.25E, h10km, Error ellipse: s-maj=24.4km s-min=13.5km az=43.0*
*TEH **21** 23:00:52.9, 35°.18N×53°.13E, h8km±24km, ML3.9*
ISC 21 23:00:54.0±1.0, 35°.19N±0°.04×53°.11E±0°.04, h6km, n84, σ1§31/106, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAS	**Lasjerd**	**0.23**	**328**	Pg	**Pg**	**23 00 58.0**	**-0.5**
IFIR	**Firoozkooh**	**0.53**	**327**	Pg	**Pg**	**23 01 04.0**	**-0.4**
IFIR				Sg	**Sg**	**23 01 12.5**	**+1.1**
ISHM	**Shahmirzad**	**0.63**	**14**	Pg	**Pg**	**23 01 06.0**	**-0.3**
ISFB	**Sefidab**	**1.10**	**221**	Pg	**Pg**	**23 01 14.8**	**-0.3**
IKIA	**Kiasar**	**1.12**	**25**	Pg	**Pg**	**23 01 14.4**	**-1.1**
IVRN	**Varamin**	**1.15**	**261**	Pg	**Pg**	**23 01 14.9**	**-1.1**
IPRN	**Peran**	**1.22**	**329**	Pg	**Pg**	**23 01 16.7**	**-0.7**
IGLO	**Ghaloghah**	**1.44**	**24**	Pg	**Pg**	**23 01 20.8**	**-0.7**
KRSH	**Karshahi**	**1.46**	**214**	Pg	**Pn**	**23 01 20.6**	**-0.5**
TEH	**Tehran**	**1.51**	**292**	Pg	**Pn**	**23 01 22.0**	**+0.3**
IHSB	**Hasanabad**	**1.52**	**280**	Pg	**Pn**	**23 01 21.4**	**-0.4**
IQOM	**Qom**	**1.71**	**259**	Pg	**Pn**	**23 01 24.2**	**-0.4**
MZPU	**Pul - Mazandar**	**1.76**	**315**	Pg	**Pb**	**23 01 26.8**	**-0.1**
QAMS	**Qamsar**	**2.02**	**225**	Pn	**Pn**	**23 01 29.3**	**+0.4**
IMHD	**Mahdasht**	**2.05**	**285**	Pn	**Pn**	**23 01 30.1**	**+0.9**
ANAR	**Anarak**	**2.06**	**165**	Pn	**Pn**	**23 01 29.4**	**+0.1**
KLST	**Kelardasht - M**	**2.12**	**309**	Pn	**Pb**	**23 01 31.8**	**-1.4**
IKLH	**Kolahrood**	**2.25**	**215**	Pn	**Pn**	**23 01 32.9**	**+0.8**
IZEF	**Zefreh**	**2.38**	**196**	Pn	**Pn**	**23 01 33.8**	**0.0**
IRAZ	**Razeghan**	**2.61**	**276**	Pn	**Pn**	**23 01 37.2**	**+0.3**
IGZV	**Ghazvin**	**2.63**	**298**	Pn	**Pn**	**23 01 38.5**	**+1.2**
IMND	**Minoodasht**	**2.78**	**41**	Pn	**Pn**	**23 01 39.7**	**+0.7**
IKAR	**Charneh**	**2.92**	**198**	Pn	**Pn**	**23 01 41.6**	**+0.4**
JIR1	**Jirandeh**	**3.08**	**300**	Pn	**Pn**	**23 01 44.7**	**+1.3**
ICHK	**Chekchek**	**3.13**	**159**	Pn	**Pn**	**23 01 44.7**	**+0.6**
TNSJ	**Nastanj**	**3.14**	**112**	Pn	**Pn**	**23 01 43.9**	**-0.3**
HAGD	**Aghdareh**	**3.28**	**265**	Pn	**Pn**	**23 01 47.1**	**+1.0**
ISAD	**Sadrabad**	**3.30**	**171**	Pn	**Pn**	**23 01 46.8**	**+0.2**
IRAM	**Ramesheh**	**3.43**	**190**	Pn	**Pn**	**23 01 49.0**	**+0.8**
MRVT	**Maraveh tapeh**	**3.44**	**43**	Pn	**Pn**	**23 01 49.2**	**+0.9**
QSDN	**Sirdan**	**3.45**	**293**	Pn	**Pn**	**23 01 49.7**	**+1.2**
JHBN	**Jahan bin**	**3.58**	**215**	Pn	**Pn**	**23 01 52.0**	**+1.6**
IBRJ	**Brojen**	**3.62**	**206**	Pn	**Pn**	**23 01 51.9**	**+1.1**
TPRV	**Parvadeh(Tabas**	**3.67**	**125**	Pn	**Pn**	**23 01 52.5**	**+1.1**
TKDS	**Koohdasht(Taba**	**3.67**	**114**	Pn	**Pn**	**23 01 51.8**	**+0.3**
HSAM	**Samen**	**3.84**	**257**	Pn	**Pn**	**23 01 55.6**	**+1.7**
SBZV	**Sabzevar**	**3.85**	**71**	Pn	**Pn**	**23 01 54.5**	**+0.5**
IMEH	**Mehriz**	**4.00**	**161**	Pn	**Pn**	**23 01 56.6**	**+0.6**
IBAF	**Bafgh**	**4.14**	**149**	Pn	**Pn**	**23 01 58.6**	**+0.7**
KLNJ	**Kolanjah**	**4.36**	**197**	Pn	**Pn**	**23 02 02.3**	**+1.1**
IBZA	**Bozab**	**4.37**	**262**	Pn	**Pn**	**23 02 04.3**	**+3.1**
ISFR	**Sfrayin**	**4.38**	**63**	Pn	**Pn**	**23 02 02.2**	**+1.0**
IKFM	**Kafar-mosalman**	**4.66**	**251**	Pn	**Pn**	**23 02 06.5**	**+1.6**
IKOM	**Komasi**	**4.72**	**259**	Pn	**Pn**	**23 02 07.4**	**+1.5**
AMIS	**Naft Sefid**	**4.75**	**223**	Pn	**Pn**	**23 02 07.5**	**+1.4**
IAKL	**Akhelmad**	**4.80**	**71**	Pn	**Pn**	**23 02 07.6**	**+0.5**
ASTR	**Astara**	**4.82**	**315**	S	**Sn**	**23 03 04.6**	**+1.3**
LKRN	**Lenkeran, Azer**	**4.93**	**317**	P	**Pn**	**23 02 07.1**	**-1.6**
LKRN				S	**Sn**	**23 03 07.7**	**+1.7**
IEMG	**Emamgholi**	**5.00**	**62**	Pn	**Pn**	**23 02 10.9**	**+1.1**
ZRDN	**Zarand Kerman**	**5.10**	**145**	Pn	**Pn**	**23 02 12.0**	**+0.8**
ISRB	**Sarab**	**5.11**	**303**	Pn	**Pn**	**23 02 12.7**	**+1.4**
LRK	**Lerik**	**5.14**	**313**	P	**Pn**	**23 02 09.9**	**-1.8**
LRK				S	**Sn**	**23 03 12.6**	**+1.2**
IMOG	**Moghan**	**5.16**	**78**	Pn	**Pn**	**23 02 12.4**	**+0.3**
AFRZ	**Afriz**	**5.20**	**108**	Pn	**Pn**	**23 02 13.0**	**+0.5**
ITEG	**Tejag**	**5.21**	**114**	Pn	**Pn**	**23 02 13.5**	**+0.8**
YRD	**Yardimli**	**5.38**	**315**	P	**Pn**	**23 02 13.2**	**-1.8**
YRD				S	**Sn**	**23 03 18.4**	**+1.0**
IKRD	**Kardeh**	**5.43**	**71**	Pn	**Pn**	**23 02 16.5**	**+0.7**
GLBA	**Clilabad**	**5.52**	**318**	P	**Pn**	**23 02 14.9**	**-1.8**
GLBA				S	**Sn**	**23 03 22.1**	**+1.6**
IDHR	**Dehrash**	**5.54**	**267**	Pn	**Pn**	**23 02 17.7**	**+0.4**
KHGB	**Koh Gabri**	**5.58**	**148**	Pn	**Pn**	**23 02 19.5**	**+1.7**
IKOO	**Kooshah**	**5.63**	**118**	Pn	**Pn**	**23 02 18.7**	**+0.2**
GALA	**Gala**	**5.71**	**337**	P	**Pn**	**23 02 17.5**	**-1.8**
GALA

KHC	Kasperske Hory	148.30	349	ePKP	PKPbc	23 24 09.1	+0.6
CKRC	Cesky Krumlov	148.47	348	ePKP	PKPbc	23 24 09.5	+0.6
GERES	GERESS Array B	148.56	349	PKPbc	PKPbc	23 24 09.3	+0.1
	comp=Z,1.4nm,0.6s,baz=31,slow=2.3,SNR=4.0						
MMAI	Mount Meron Ar	148.94	304	PKPbc	PKiKP	23 24 11.4	-0.4
	comp=Z,1.7nm,0.6s,baz=68,slow=4.8,SNR=6.5						
RONA	Rosalia, Austr	149.09	345	ePKP	PKiKP	23 24 11.4	-0.3
	comp=Z,1.6nm,0.6s						
BIOA	Bad Ischl, Aus	149.68	348	iPKP	PKiKP	23 24 12.6	-0.2
	comp=Z,4.8nm,1.3s						
LESA	Schwarzleotal	150.11	349	iPKP	PKPbc	23 24 13.4	+0.4
	comp=Z,5.3nm,1.3s						
KBA	Koelnbreinsper	150.32	348	iPKP	PKPbc	23 24 14.1	+0.4
	comp=Z,2.4nm,0.5s						
WATA	Walderalm	150.37	351	iPKP	PKPbc	23 24 13.9	+0.1
	comp=Z,2.7nm,0.5s						
WTTA	Wattenberg	150.44	351	iPKP	PKPbc	23 24 14.3	+0.4
	comp=Z,7.1nm,0.4s						
SQTA	Sankt Quirin	150.54	351	iPKP	PKPbc	23 24 14.5	+0.3
	comp=Z,4.8nm,1.0s						
DAVA	Damuels	150.65	353	iPKP	PKiKP	23 24 15.0	0.0
	comp=Z,7.9nm,1.1s						
MYKA	Terra Mystica	150.69	348	iPKP	PKPbc	23 24 14.0	-0.4
	comp=Z,4.1nm,0.8s						
ABTA	Abfaltersbach	150.79	349	iPKP	PKPbc	23 24 14.5	-0.2
	comp=Z,4.4nm,0.5s						
TORD	Torodi Ar. Bea	174.12	147	PKP	PKPdf	23 24 30.9	-1.4
	comp=Z,0.5nm,0.8s,baz=202,slow=1.6,SNR=2.5						

NOU 21 23:27:40.2, 15.93S×167.95E, h0km, MLv4.0/5, Vanuatu Islands, Vanuatu Islands

*IDC **21** 23:33:52.2±1.1, 27.50N×129.51E, h0km, mb3.5/7, mbtmp3.6/8, ML3.8/1, MS3.4/2, Error ellipse: s-maj=26.9km s-min=18.3km az=94.0*
*JMA **21** 23:33:55.8±0.2, 27.3N±0.5×129.6E±0.8, h44km, MV3.1/14, NEAR AMAMI-OSHIMA ISLAND*
ISC 21 23:33:55.5±1.7, 27.37N±0.05×129.65E±0.05, h27km±12km, n21, σ0.94/24, mb3.4/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.75	304	P	Pb	23 34 09.8	-0.1
JTK				eS	Sb	23 34 20.4	+0.6
JOKE	Okinoerabujima	0.96	270	eP	Pn	23 34 12.9	-0.3
JAMN	Amaminishikomi	0.97	335	P	Pn	23 34 13.3	-0.1
JAMN				eS	Sn	23 34 25.8	-0.4
JAM	Amami Oshima	1.04	358	P	Pn	23 34 14.6	+0.2
JYRO	Yoronjima	1.12	253	P	Pn	23 34 15.1	-0.3
JYRO				eS	Sn	23 34 28.6	-1.3
JOW	Kunigami	1.33	247	eP	Pn	23 34 18.3	-0.1
JOW	Kunigami	1.33	247	Pn	Pn	23 34 18.3	-0.1
	45nm,0.3s,baz=289,slow=30,SNR=15						
JOW				Sn	Sn	23 34 35.4	+0.1
	85nm,0.3s,baz=116,slow=23,SNR=4.6						
JIH	Iheya	1.53	258	eP	Pn	23 34 20.8	-0.3
JIH				eS	Sn	23 34 39.8	-0.3
JNTH	Nagotoyohara	1.68	240	P	Pn	23 34 22.8	-0.3
JKDJ	Kitadaitoujima	2.04	133	eS	Sn	23 34 52.2	-0.5
JMZ	Minamidaito 2	2.09	137	eS	Sn	23 34 52.2	-1.6
JNU	Nakatsue	5.84	10	Pn	Pn	23 35 19.9	-0.4
	2.8nm,0.3s,baz=19,slow=1.4,SNR=8.7						
	8.0nm,0.4s						
MKAR	Makanchi Array	41.74	311	P	P	23 41 41.3	-1.0
	0.2nm,0.6s,baz=93,slow=8.7,SNR=2.5						
	0.2nm,0.6s						
ZALV	Zalesovo Beam	42.13	322	P	P	23 41 43.7	-1.6
	0.4nm,0.5s,baz=111,slow=11,SNR=1.5						
	0.4nm,0.5s						
KURBB	Kurchatov Arra	44.92	315	P	P	23 42 06.6	-1.2
	0.2nm,0.5s,baz=102,slow=9.0,SNR=4.7						
	0.2nm,0.5s						
WRA	Warramunga Arr	47.25	174	P	P	23 42 27.4	+1.0
	0.4nm,0.6s,baz=353,slow=8.2,SNR=6.0						
	0.4nm,0.6s						
ASAR	Alice Springs	50.90	175	P	P	23 42 56.7	+2.3
	0.1nm,0.4s,baz=3.3,slow=16,SNR=7.5						
	0.1nm,0.4s						
ARU	Arti	57.29	321	LR	LR	00 10 40.4	
	comp=Z,69nm,19.6s,baz=242,slow=39						
FINES	FINESS Array B	72.50	331	P	P	23 45 19.5	0.0
	1.5nm,0.8s,baz=92,slow=4.2,SNR=4.1						
	1.5nm,0.8s						
BBB	Bella Bella	75.86	38	LR	LR	00 20 30.2	
	comp=Z,13nm,18.9s,baz=2.0,slow=37						
BRTR	Keskin Array B	77.33	308	P	P	23 45 48.8	+0.7
	0.5nm,0.7s,baz=103,slow=7.7,SNR=4.5						
	0.5nm,0.7s						

*PRE **21** 23:47:55.4±4.5, 26.86S×26.72E, h10km, ML2.5*
*EAF **21** 23:47:55.6, 27.02S×26.81E, h7km, MC3.9*
ISC 21 23:47:52.3±1.1, 26.92S±0.02×26.75E±0.03, h9km±8km, n53, σ1.92/101, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.54	90	eP	Pg	23 48 02.7	-0.2
PRYS				eS	Sg	23 48 09.9	-0.2
PRYS				IAML		23 48 12.8	
	comp=Z,313nm,0.2s						
WDLM	Western Deep L	0.78	51	eP	Pg	23 48 07.3	-0.1
WDLM				eS	Sg	23 48 16.9	-0.7
WDLM				IAML		23 48 24.0	
	comp=Z,341nm,0.1s						
WDLM	Western Deep L	0.78	51	eP	Pn	23 48 09.2	-0.5
WDLM				eS	Sb	23 48 18.6	-0.3
KSR	Koster	1.07	7	eP	Pg	23 48 12.4	-0.6
KSR				eS	Sg	23 48 27.0	0.0
KSR				IAML		23 48 33.2	
	comp=Z,2μm,0.1s						
SWZ	Schweizer	1.29	258	eP	Pn	23 48 16.3	-0.4
SWZ				eS	Sb	23 48 33.3	-0.4
SWZ				IAML		23 48 39.6	
	comp=Z,896nm,0.3s						
SNKL	Senekal, Frees	1.62	146	eP	Pb	23 48 22.5	-0.1
SNKL				eS	Sg	23 48 44.8	+0.2
SNKL				IAML		23 48 49.5	
	comp=Z,423nm,0.6s						
SLR	Silverton	1.81	50	eP	Pb	23 48 25.1	-0.7
SLR				eS	Sb	23 48 49.0	+0.3
SLR				IAML		23 48 52.6	
	comp=Z,310nm,0.3s						
BOSA	Boshof	2.14	218	iP	Pb	23 48 31.8	+0.3
BOSA				iS	Sn	23 48 56.3	+1.0
BOSA	Boshof	2.14	218	eP	Pn	23 48 29.2	+0.8
BOSA				eS	Sn	23 48 56.3	+1.0
BOSA				IAML		23 49 02.7	
	comp=Z,136nm,0.4s						
BOSA	Boshof	2.14	218	eP	Pb	23 48 31.6	+0.2
BOSA				eS	Sb	23 48 58.8	+0.6
BOSA				IAML		23 49 02.7	
	comp=Z,58nm,0.4s						
BOSA	Boshof	2.14	218	iP	Pb	23 48 31.8	+0.3
	baz=221						
BOSA				iS	Sn	23 48 56.3	+1.0
	baz=221						
LBTB	Lobatse	2.17	331	iP	Pb	23 48 32.8	+1.0
LBTB				iS	Sb	23 49 00.3	+1.5
LBTB	Lobatse	2.17	331	eP	Pn	23 48 29.5	+0.8
LBTB				eS	Sn	23 48 56.2	+0.4
LBTB				IAML		23 49 01.5	
	comp=Z,367nm,0.5s						
LBTB	Lobatse	2.17	331	eP	Pb	23 48 32.8	+1.0
LBTB				eS	Sb	23 49 00.0	+1.2
LBTB				IAML		23 49 01.5	
	comp=Z,165nm,0.4s						
LBTB	Lobatse	2.17	331	iP	Pb	23 48 32.8	+1.0
	baz=331						
LBTB				iS	Sb	23 49 00.3	+1.5
	baz=331						
NWCL	Newcastle	2.91	107	eP	Pn	23 48 41.0	+2.0
NWCL				eS	Sn	23 49 15.3	+1.1
NWCL				IAML		23 49 33.1	
	comp=Z,76nm,0.4s						
CRLN	Carolina, Mapu	3.08	73	eP	Pn	23 48 42.4	+1.1
CRLN				eS	Sn	23 49 19.6	+1.3
CRLN				IAML		23 49 33.8	
	comp=Z,22nm,0.2s						
CRLN	Carolina, Mapu	3.08	73	eP	Pb	23 48 49.4	+2.0
CRLN				eS	Sb	23 49 25.1	0.0
CRLN				IAML		23 49 33.8	
	comp=Z,12nm,0.8s						
LEPH	Lephalale, Lim	3.19	17	eP	Pn	23 48 43.6	+0.7
LEPH				eS	Sn	23 49 21.5	+0.4
LEPH				IAML		23 49 40.8	
	comp=Z,66nm,0.3s						
LEPH	Lephalale, Lim	3.19	17	eP	Pn	23 48 45.8	+3.0
LEPH				eS	Sn	23 49 23.6	+2.4
LEPH				IAML		23 49 40.6	
	comp=Z,27nm,0.3s						
PILG	Pilgrimsrest,	4.08	62	eP	Pn	23 48 56.6	+1.5
PILG				eS	Sn	23 49 43.9	+0.8
PILG				IAML		23 50 05.1	
	comp=Z,63nm,0.6s						
MMAL	MMAL	4.08	79	eP	Pn	23 48 55.3	+0.2
MMAL				eS	Sn	23 49 42.7	-0.4
MMAL				IAML		23 50 04.3	
	comp=Z,21nm,0.5s						
KSTD	Kokstad	4.31	149	eP	Pn	23 48 59.4	+1.1
KSTD				eS	Sn	23 49 49.2	+0.4
KSTD				IAML		23 50 14.9	
	comp=Z,36nm,0.4s						
KSTD	Kokstad	4.31	149	eP	Pb	23 49 03.5	-4.9
KSTD				eS	Sn	23 49 54.4	+5.5
KSTD				IAML		23 50 14.4	
	comp=Z,15nm,0.6s						
POGA	Pongola	4.44	97	eP	Pn	23 49 01.2	+1.3
POGA				eS	Sn	23 49 51.6	-0.1
POGA				IAML		23 50 16.9	
	comp=Z,3.0nm,0.4s						
PKA	Prieska	4.46	231	eP	Pn	23 49 00.8	+0.5
PKA				eS	Sn	23 49 51.2	-1.2
PKA				IAML		23 50 20.3	
	comp=Z,12nm,0.2s						
UPI	Upington	5.08	252	eP	Pn	23 49 09.9	+1.1
UPI				eS	Sn	23 50 05.5	-2.2
UPI				IAML		23 50 34.1	
	comp=Z,49nm,0.4s						
MOPA	Mopani	5.40	52	iP	Pn	23 49 14.9	+1.7
MOPA				iS	Sn	23 50 13.8	-1.8
MOPA	Mopani	5.40	52	eP	Pn	23 49 15.4	+2.2
MOPA				eS	Sn	23 50 12.7	-2.9
MOPA	Mopani	5.40	52	iP	Pn	23 49 14.9	+1.7
	baz=51						
MOPA				iS	Sn	23 50 13.8	-1.8
	baz=51						
MUSN	Musina, Limpop	5.41	32	iP	Pn	23 49 17.1	+3.8
MUSN				iS	Sn	23 50 17.1	+1.2
MUSN	Musina, Limpop	5.41	32	eP	Pn	23 49 14.7	+1.3
MUSN				eS	Sn	23 50 14.8	-1.0
MUSN				IAML		23 50 45.3	
	comp=Z,20nm,0.6s						
MUSN	Musina, Limpop	5.41	32	eP	Pn	23 49 17.1	+3.8
MUSN				eS	Sn	23 50 13.5	-2.3
MUSN				IAML		23 50 39.6	
	comp=Z,8.1nm,0.4s						
MUSN	Musina, Limpop	5.41	32	iP	Pn	23 49 17.1	+3.8
	baz=31						
MUSN				iS	Sn	23 50 17.1	+1.2
	baz=31						
BFON	Badsfontein, M	5.55	208	eP	Pn	23 49 16.4	+1.2
BFON				eS	Sn	23 50 17.0	-2.2
BFON				IAML		23 50 48.5	
	comp=Z,56nm,0.5s						
GRAF	Camdeboo Natio	5.69	200	eP	Pn	23 49 18.1	+1.0
GRAF				eS	Sn	23 50 21.9	-0.7
GRAF				IAML		23 50 53.6	
	comp=Z,15nm,0.3s						
BRAK	Brakfontein	5.90	214	eP	Pn	23 49 21.6	+1.6
BRAK				eS	Sn	23 50 26.1	-1.7
BRAK				IAML		23 51 01.8	
	comp=Z,25nm,0.6s						
ROOI	Rooidraai Farm	6.21	206	eP	Pn	23 49 26.0	+1.7
ROOI				eS	Sn	23 50 33.5	-2.0
ROOI				IAML		23 51 09.9	
	comp=Z,22nm,0.6s						
GRHM	Grahamstown, E	6.34	183	eP	Pn	23 49 27.5	+1.4
GRHM				eS	Sn	23 50 37.2	-1.5
GRHM				IAML		23 51 18.4	
	comp=Z,13nm,0.4s						
GRAN	Grantham	6.68	216	eP	Pn	23 49 31.5	+0.8
GRAN				eS	Sn	23 50 45.3	-1.8
GRAN				IAML		23 51 33.2	
	comp=Z,26nm,0.5s						
FRAZ	Fraserburg	6.83	222	eP	Pn	23 49 34.6	+1.8
FRAZ				eS	Sn	23 50 48.2	-2.5
FRAZ				IAML		23 51 26.9	
	comp=Z,23nm,0.5s						
MERW	Merweville	7.31	217	eP	Pn	23 49 40.6	+1.2
MERW				eS	Sn	23 51 00.9	-1.8
MERW				IAML		23 51 50.1	
	comp=Z,20nm,0.5s						
SUR	Sutherland	7.50	222	eP	Pn	23 49 43.0	+0.9
SUR				eS	Sn	23 51 04.1	-3.4
SUR				IAML		23 51 52.5	
	comp=Z,9.1nm,0.7s						
SUR	Sutherland	7.50	222	eP	Pn	23 49 42.5	+0.4
SUR				eS	Sn	23 51 08.8	+1.3
CVNA	Calvinia	7.61	232	eP	Pn	23 49 44.8	+1.3
CVNA				eS	Sn	23 51 07.1	-3.0
CVNA				IAML		23 51 56.9	
	comp=Z,20nm,0.6s						
KOMG	Komaggas	8.65	249	eP	Pn	23 49 58.3	+0.6
KOMG				eS	Sn	23 51 31.2	-4.3
KOMG				IAML		23 52 34.9	
	comp=Z,16nm,0.4s						
PRTV	Porterville,We	9.03	225	eP	Pn	23 50 04.4	+1.4
PRTV				eS	Sn	23 51 41.0	-3.9
PRTV				IAML		23 52 40.9	
	comp=Z,15nm,1.0s						
CER	Ceres	9.10	223	eP	Pn	23 50 05.1	+1.2
CER				eS	Sn	23 51 43.0	-3.6
CER				IAML		23 52 45.7	
	comp=Z,76nm,0.5s						
CER	Ceres	9.10	223	eP	Pn	23 50 06.2	+2.2
CER				eS	Sn	23 51 44.2	-2.3
CER				IAML		23 52 45.4	
	comp=Z,1.6nm,0.6s						
KRI	Karoi	10.39	15	iP	Pn	23 50 17.9	-3.8
KRI				iS	Sn	23 52 02.4	-16
KRI	Karoi	10.39	15	iP	Pn	23 50 17.9	-3.8
	baz=18						
KRI				iS	Sn	23 52 02.4	-16
	baz=18						
MBAR	Mbarara	26.45	9	eS	S	23 58 04.9	+0.8
NAKD	Nakauka	27.48	12	eS	S	23 58 26.1	+5.7

IDC 21 23:49:15.7±11.0, 15.46S×163.98E, h0km, mb3.6/3, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=204.5km s-min=33.7km az=44.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.98	161	Pn	Pn	23 50 58.8	-0.5
	0.7nm,0.3s,baz=154,slow=16,SNR=8.5						
DZM				Sn	Sn	23 52 22.3	+2.8
	0.1nm,0.3s,baz=187,slow=17,SNR=1.6						
	1.6nm,0.3s						
STKA	Stephens Creek	26.13	227	P	P	23 54 51.5	0.0
	1.1nm,0.4s,baz=50,slow=11,SNR=5.5						
	1.1nm,0.4s						
WRA	Warramunga Arr	28.56	257	P	P	23 55 13.5	-0.1
	0.1nm,0.6s,baz=94,slow=15,SNR=1.8						
	0.1nm,0.6s						
ASAR	Alice Springs	29.44	249	P	P	23 55 21.5	+0.1
	0.3nm,0.3s,baz=76,slow=9.1,SNR=11						
	0.3nm,0.3s						

*IDC **21** 23:50:34.8±1.1, 0.97N×125.80E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=202.8km s-min=16.5km az=66.0*
*DJA **21** 23:50:40.6±0.3, 1.1N±4.2×126.6E±.1, h10km, M4.2/11, mb4.7/1, MLv3.9/11*
*NEIC **21** 23:50:41.0±1.2, 1.09N±0.06×126.14E±0.05, h42km±9km, mb4.2/13, Error ellipse: s-maj=10.3km s-min=4.4km az=143.0*
ISC 21 23:50:37.7±0.7, 1.12N±0.07×126.30E±0.05, h10km, n36, σ1.90/31, mb4.0/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.12	108	Pn	Pb	23 51 01.5	+2.2
TNTI				Sn	Sg	23 51 17.8	+3.8
TNTI	Ternate	1.12	108	P	Pb	23 51 00.9	+1.6
LBMI	Labuha	2.12	145	P	Pn	23 51 15.7	+2.4
KMSI	Cibinong	2.38	257	P	Pn	23 51 18.1	+1.3
SGSI	Sangihe	2.66	343	P	Pb	23 51 28.1	+2.5
SANI	Sanana	3.16	186	P	Pn	23 51 29.5	+1.9
GTOI	Gorontalo	3.32	262	P	Pn	23 51 32.4	+2.6
LUWI	Luwuk	4.13	239	Pn	Pn	23 51 39.3	-1.6
LUWI	Luwuk	4.13	239	P	Pn	23 51 44.2	+3.3
NLAI	Namlea	4.40	170	P	Pn	23 51 45.8	+1.1
MRSI	Marisa	4.40	262	P	Pb	23 51 59.1	+3.9
TOLI2	Tolitoli	5.51	270	Pn	Pn	23 51 58.6	-1.3
MYLDM	Lahad Datu	8.77	298	Pn	Pn	23 52 44.3	-0.4
KNRA	Kununurra	16.86	172	Pn	Pn	23 54 33.2	-0.9
KNRA				IAmb	IAmb	23 54 47.5	
	comp=Z,26nm,1.4s						
WB0	Warramunga Arr	22.22	159	P	P	23 55 33.7	-1.0
WB0				IAmb	IAmb	23 55 35.9	
	comp=Z,7.7nm,0.4s						
WRA	Warramunga Arr	22.37	160	P	P	23 55 34.6	-1.6
WRA	Warramunga Arr	22.37	160	P	P	23 55 35.1	-1.1
	comp=Z,3.1nm,0.6s,baz=341,slow=9.2,SNR=33						
WRA				PcP	PcP	23 59 30.2	-1.5
	comp=Z,0.2nm,0.6s,baz=314,slow=1.6,SNR=1.1						
	comp=Z,3.1nm,0.6s						
COEN	Coen	22.45	132	P	P	23 55 36.8	-0.4
COEN				IAmb	IAmb	23 55 41.0	
	comp=Z,3.6nm,0.9s						
PSA00	Pilbara Seismi	23.42	195	P	P	23 55 45.0	-2.2
PSA00				IAmb	IAmb	23 56 03.2	
	comp=Z,12nm,1.2s						
AS31	Alice Springs	25.72	164		P	23 56 07.1	-1.4
ASAR	Alice Springs	25.72	164	P	P	23 56 07.0	-1.5
ASAR	Alice Springs	25.72	164	P	P	23 56 08.0	-0.6
	comp=Z,1.0nm,0.4s,baz=347,slow=11,SNR=26						
ASAR				PcP	PcP	23 59 37.4	-1.5
	comp=Z,0.3nm,0.5s,baz=346,slow=2.6,SNR=5.3						
	comp=Z,1.0nm,0.4s						
BBOO	Buckleboo	34.98	166	P	P	23 57 29.0	-1.3
STKA	Stephens Creek	35.88	157	P	P	23 57 37.3	-0.8
STKA	Stephens Creek	35.88	157	P	P	23 57 35.8	-2.3
	comp=Z,1.0nm,0.5s,baz=337,slow=8.2,SNR=3.2						
	comp=Z,1.0nm,0.5s						
SONM	Songino Array	49.63	342	P	P	23 59 29.1	-0.5
	comp=Z,0.3nm,0.3s,baz=134,slow=6.2,SNR=3.0						
	comp=Z,0.3nm,0.3s						
MK31	Makanchi Array	59.46	326	P	P	00 00 38.1	-2.8
MK31				IAmb	IAmb	00 00 39.8	
	comp=Z,2.5nm,1.2s						
MKAR	Makanchi Array	59.46	326	P	P	00 00 38.5	-2.4
MKAR	Makanchi Array	59.46	326	P	P	00 00 38.8	-2.1
	comp=Z,0.5nm,0.4s,baz=124,slow=7.9,SNR=12						
	comp=Z,0.5nm,0.4s						
ZALV	Zalesovo Beam	62.72	334	P	P	00 01 00.2	-2.6
	comp=Z,0.4nm,0.5s,baz=121,slow=6.9,SNR=2.2						
	comp=Z,0.4nm,0.5s						
KURBB	Kurchatov Arra	63.70	328	P	P	00 01 06.8	-2.6
	comp=Z,0.9nm,0.5s,baz=127,slow=6.1,SNR=8.7						
	comp=Z,0.9nm,0.5s						
KURK	Kurchatov	63.71	328	P	P	00 01 07.3	-2.2
KURK				IAmb	IAmb	00 01 10.2	
	comp=Z,2.9nm,1.1s						
ABKAR	Akbulak array	73.90	321	P	P	00 02 10.3	-2.7
ABKAR				IAmb	IAmb	00 02 12.9	
	comp=Z,1.4nm,0.9s						
L18K	Granite Mounta	82.97	27	P	P	00 03 03.0	+0.1
G19K	Purcell Mounta	83.58	23	P	P	00 03 05.6	-0.4
BMAR	Burnt Mountain	88.64	23	P	P	00 03 30.4	-0.5

*NOU **21** 23:58:37.2, 38.93S×179.60E, h92km, MLv4.2/8, Off E. Coast of N. Island, N.Z.*
*WEL **21** 23:58:46.9±1.0, 39.3S±4.×17.9E±., h28km±7km, M3.6/48, ML3.9/16, MLv3.6/48, Error ellipse: s-maj=0.0km s-min=0.0km az=111.8, confirmed*
ISC 21 23:58:43.5±1.8, 38.73S±0.04×178.90E±0.08, h29km±14km, n87, σ1.57/95, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	Carnagh Statio	0.60	294	P	Pn	23 58 57.3	+1.3
PRGZ	Paritu Road	0.82	256	P	Pn	23 59 00.8	+1.7
PUZ	Puketiti	0.83	322	P	Pb	23 58 59.6	+0.2
PUZ				S	Sn	23 59 09.2	-1.3
TKGZ	Te Karaka	0.87	289	P	Pn	23 59 00.7	+0.8
TKGZ				S	Sn	23 59 10.9	-0.7
MHGZ	Mahia Peninsul	0.88	241	P	Pn	23 59 02.1	+2.1
RIGZ	Rimuhau	0.89	271	P	Pn	23 59 01.5	+1.4
RIGZ				S	Sn	23 59 12.3	+0.3
TWGZ	Tauwhareparae	0.91	307	P	Pn	23 59 01.1	+0.8
TWGZ				S	Sn	23 59 12.1	-0.4
WMGZ	Waiomatatini S	0.98	337	P	Pb	23 59 02.4	+0.5
WMGZ				S	Sn	23 59 14.4	+0.1
KNZ	Kokohu	1.00	253	P	Pn	23 59 03.0	+1.5
PKGZ	Pakihiroa	1.06	322	P	Pb	23 59 03.3	0.0
PKGZ				S	Sn	23 59 15.5	-0.7
MWZ	Matawai	1.15	290	P	Pn	23 59 04.2	+0.6
MWZ				S	Sn	23 59 16.2	-1.6
RAGZ	Rawiri	1.19	281	P	Pb	23 59 05.7	+0.3
RAGZ				S	Sn	23 59 18.3	-1.1
SNGZ	Shannon Statio	1.22	267	P	Pn	23 59 05.9	+1.2
SNGZ				S	Sb	23 59 20.4	-0.9
RUGZ	Raukumara Rang	1.23	308	P	Pn	23 59 05.1	+0.3
MXZ	Matakaoa Point	1.25	338	P	Pn	23 59 06.1	+1.0
MXZ	Matakaoa Point	1.25	338	P	Pn	23 59 06.2	+1.2
HAZ	Te Kaha	1.31	317	P	Pn	23 59 06.2	+0.4
WHHZ	Waihua	1.35	255	P	Pn	23 59 07.9	+1.6
RAHZ	Arahi	1.43	262	P	Pn	23 59 09.0	+1.5
URZ	Urewera	1.48	288	P	Pn	23 59 09.4	+1.2
URZ	Urewera	1.48	288	P	Pn	23 59 08.9	+0.8
RTZ	Ruatahuna	1.51	274	P	Pn	23 59 09.8	+1.2
ARHZ	Aropaoanui	1.58	250	P	Pn	23 59 11.2	+1.7
MTHZ	Maungataniwha	1.61	265	P	Pn	23 59 11.2	+1.2
NMHZ	Naumai	1.67	257	P	Pn	23 59 12.4	+1.5
MUGZ	Murupara	1.69	278	P	Pn	23 59 12.2	+1.2
CKHZ	Cape Kidnapper	1.69	236	P	Pn	23 59 12.6	+1.5
WHRZ	Whale Island	1.75	299	P	Pb	23 59 13.6	-1.3
EDRZ	Edgecumbe	1.81	289	P	Pn	23 59 13.6	+0.9
MCHZ	McNeill Hill	1.86	247	P	Pn	23 59 15.2	+1.8
KAHZ	Kahuranaki	1.90	235	P	Pn	23 59 15.4	+1.4
BKZ	Black Stump Fm	1.93	256	P	Pn	23 59 15.8	+1.4
BKZ	Black Stump Fm	1.93	256	P	Pn	23 59 15.8	+1.4
TARZ	Mount Tarawera	1.94	284	P	Pn	23 59 16.2	+1.6
MRHZ	Matea Rd	1.94	266	P	Pn	23 59 16.0	+1.4
ALRZ	Allen Road	2.01	274	P	Pn	23 59 17.0	+1.5
OPRZ	Ohinepanea	2.05	295	P	Pn	23 59 16.1	+0.2
PXZ	Pawanui	2.05	230	P	Pn	23 59 16.7	+0.8
KWHZ	Kaweka Forest	2.05	249	P	Pn	23 59 17.3	+1.2
KRHZ	Kereru	2.17	244	P	Pn	23 59 18.7	+1.0
WPHZ	Wa

KHEZ	Kahui Hut	3.85	260	P	Pn	23 59 42.1	+1.3
TCW	Tory Channel	4.33	234	P	Pn	23 59 47.1	-0.3
DUWZ	D'Urville Isla	4.36	240	P	Pn	23 59 48.8	+1.0
TUWZ	Tuamarina	4.66	233	P	Pn	23 59 51.2	-0.7
NNZ	Nelson	4.92	238	P	Pn	23 59 55.6	+0.2
QRZ	Quartz Range	5.34	245	P	Pn	23 59 59.2	-2.0
QRZ	Quartz Range	5.34	245	P	Pn	00 00 00.4	-0.8
MRNZ	Matariki Terra	5.42	239	P	Pn	00 00 02.8	+0.5
THZ	Tophouse	5.50	235	P	Pn	00 00 03.7	+0.2
OUZ	Omahuta	5.50	308	P	Pn	00 00 04.9	+1.4
CTZ	Chatham Island	6.04	147	P	Pn	00 00 15.2	+4.4
LTZ	Lake Taylor	6.46	229	P	Pn	00 00 16.5	-0.2

IDC 22 00:04:50.4±16.0, 30°.18N×142°.99E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=412.3km s-min=42.3km az=174.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	33.07	313	P	P	00 11 28.5	+0.7
	0.7nm,1.1s,baz=100,slow=7.6,SNR=3.8						
	0.7nm,1.1s						
MKAR	Makanchi Array	49.11	308	P	P	00 13 39.7	0.0
	0.3nm,0.7s,baz=100,slow=6.4,SNR=3.6						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	51.44	313	P	P	00 13 56.2	-1.0
	0.3nm,0.8s,baz=96,slow=8.7,SNR=2.4						
	0.3nm,0.8s						
ILAR	Eielson Array	54.69	30	P	P	00 14 20.9	0.0
	0.6nm,0.8s,baz=258,slow=8.6,SNR=5.8						
	0.6nm,0.8s						

KRSC 22 00:08:59.1±1.9, 54°.72N×165°.81E, h33km±14km, Ml4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.49	11	eP	Pb	00 09 07.9	-1.6
BKI				eS	Sb	00 09 14.4	-2.3
MKZ	Mys Kozlova	2.38	268	eP	Pb	00 09 39.8	-1.4
MKZ				eS	Sb	00 10 08.4	-1.7
BZGR	Bezymyannyi-Gr	3.17	295	eP	Pn	00 09 49.7	+3.0
KII	Karymskiy	3.78	262	eP	Pb	00 10 00.5	-4.7
KII				eS	Sn	00 10 42.3	+3.8
SPN	Mys Shipunski	3.79	247	eP	Pn	00 09 58.8	+3.7
SPN				eS	Sn	00 10 41.5	+2.9
NLC	Nalytchevo	4.12	250	eP	Pn	00 10 05.2	+5.5
NLC				eS	Sn	00 10 51.9	+5.1
SDLR	Sedlovina	4.34	253	eP	Pn	00 10 07.8	+5.0
SDLR				eS	Sn	00 10 57.6	+5.4
SMAR	Somma	4.39	253	eP	Pn	00 10 08.7	+5.1
SMAR				eS	Sn	00 10 58.1	+4.5
UGLR	Uglovaya	4.40	253	eP	Pn	00 10 08.8	+5.2
UGLR				eS	Sn	00 10 58.4	+4.8
KRER	Koryakskii	4.40	254	eP	Pn	00 10 09.3	+5.5
KRER				eS	Sn	00 10 58.1	+4.2
AVH	Avacha	4.42	254	eP	Pn	00 10 09.5	+5.6
AVH				eS	Sn	00 10 59.0	+4.8
KRX	Arik	4.44	255	eP	Pn	00 10 09.1	+4.9
KRX				eS	Sn	00 10 59.4	+4.7
KOK	Koryaka	4.47	254	eP	Pn	00 10 10.0	+5.5
KOK				eS	Sn	00 11 00.4	+4.9
DALK	Dalny	4.51	251	eP	Pn	00 10 09.6	+4.6
DALK				eS	Sn	00 11 01.5	+5.3
PET	Petropavlovsk	4.56	251	eP	Pn	00 10 10.8	+5.0
PET				eS	Sn	00 11 02.0	+4.3
GNL	Ganaly	4.73	261	eP	Pn	00 10 14.0	+5.8
GNL				eS	Sn	00 11 07.4	+5.4
KRMR	Karymshinskiy	4.93	251	eP	Pn	00 10 16.5	+5.6
KRMR				eS	Sn	00 11 12.7	+5.9
MTVR	Mutnovka	5.07	247	eP	Pn	00 10 17.6	+4.8
MTVR				eS	Sn	00 11 13.9	+3.7
GRL	Gorelyy	5.09	248	eP	Pn	00 10 18.3	+5.2
GRL				eS	Sn	00 11 15.2	+4.4
ASAK	Asacha	5.27	247	eP	Pn	00 10 20.9	+5.3
ASAK				eS	Sn	00 11 20.4	+5.4
KDTR	Khodutka, Kamc	5.48	241	eP	Pn	00 10 22.9	+4.6
KDTR				eS	Sn	00 11 21.7	+1.5

IDC 22 00:09:20.9±2.6, 9°.16S×79°.17W, h69km±24km, mb3.2/4, mbtmp3.6/7, MS2.7/4, Error ellipse: s-maj=35.1km s-min=9.1km az=77.0

ISC 22 00:09:20.3±0.9, 9°.13S±0°.07×79°.17W±0°.09, h64km, n25, σ1§93/22, mb3.6/4, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.12	21	P	Pn	00 09 55.3	+1.4
	105nm,0.3s,baz=191,slow=3.7,SNR=624						
ATAH				S	Sn	00 10 21.6	+2.1
	382nm,0.3s,baz=338,slow=19,SNR=20						
NNA	Nana	3.65	141	P	Pn	00 10 14.8	+0.3
	40nm,0.3s,baz=338,slow=10,SNR=20						
NNA				S	Sn	00 10 56.7	+0.3
	99nm,0.3s,baz=309,slow=13,SNR=4.0						
NNA				LR	LR	00 11 31.0	
	comp=Z,43nm,21.6s,baz=319,slow=36						
MCRA	Macar, Loja	4.79	351	eP	Pn	00 10 29.1	-0.9
CZSB	Cruzeiro do Su	6.55	78	eP	Pn	00 10 54.2	+0.2
CZSB				eS	Sn	00 12 03.4	-4.0
COHC	Cochancay	6.62	359	eP	Pn	00 10 56.6	+1.6
PPLP	Puerto Lpez	7.70	348	eP	Pn	00 11 09.8	0.0
PPLP				eS	Sn	00 12 29.7	-5.9
PIAT	Ana Tenorio	8.12	6	eP	Pn	00 11 16.8	+0.8
PAC1	Pacto, Paraso	9.34	2	eP	Pn	00 11 33.5	+1.1
PTLC	Puerto Leguiza	10.21	25	eP	Pn	00 11 39.0	-5.2
ROSC	El Rosal	14.69	19	LR	LR	00 19 08.1	
	comp=Z,84nm,19.2s,baz=200,slow=40						
GUY2C	Guyana, Caldas	14.75	15	eP	P	00 12 52.7	+2.2
RUSC	La Rusia	16.11	22	eP	P	00 13 06.6	+1.1
LVC	Limon Verde	16.64	145	LR	LR	00 18 39.1	
	comp=Z,22nm,19.9s,baz=288,slow=34						
SIV	San Ignacio	18.93	113	P	P	00 13 36.0	-0.2
	0.4nm,0.5s,baz=318,slow=14,SNR=2.1						
SDV	Santo Domingo	19.81	26	LR	LR	00 21 33.2	
	comp=Z,33nm,21.0s,baz=258,slow=37						
H03N2	Juan Fernandez	24.20	180	T	T	00 39 19.6	
	baz=359,slow=76,SNR=26						
H03N1	Juan Fernandez	24.20	179	T	T	00 39 19.8	
	baz=359,slow=76,SNR=27						
H03N3	Juan Fernandez	24.21	179	T	T	00 39 18.6	
	baz=359,slow=76,SNR=26						
TXAR	Lajitas Array	44.94	329	P	P	00 17 29.9	+0.7
	0.1nm,0.4s,baz=133,slow=10,SNR=3.8						
	0.1nm,0.4s						
PDAR	Pinedale Array	58.62	334	P	P	00 19 11.4	+0.3
	0.3nm,0.8s,baz=119,slow=7.3,SNR=2.8						
	0.3nm,0.8s						
NVAR	Mina Array Bea	59.73	325	P	P	00 19 18.1	-0.7
	0.7nm,0.8s,baz=141,slow=7.5,SNR=5.9						
	0.7nm,0.8s						
TORD	Torodi Ar. Bea	83.28	76	P	P	00 21 40.7	0.0
	0.8nm,0.8s,baz=252,slow=3.8,SNR=5.6						
	0.8nm,0.8s						
ASAR	Alice Springs	134.09	224	PKP	PKPdf	00 28 31.5	0.0
	0.2nm,0.7s,baz=129,slow=2.5,SNR=2.7						
WRA	Warramunga Arr	136.15	229	PKP	PKPdf	00 28 35.8	+0.4
	0.5nm,0.5s,baz=120,slow=1.9,SNR=7.6						
MKAR	Makanchi Array	139.27	20	PKP	PKPdf	00 28 40.7	+0.3
	0.2nm,0.6s,baz=12,slow=1.2,SNR=2.2						

IDC 22 00:13:05.9±2.8, 26°.54N×54°.98E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=65.1km s-min=26.5km az=159.0

DSN 22 00:13:07.0±1.4, 26°.89N×55°.03E, h10km, ML3.3/9, Error ellipse: s-maj=17.7km s-min=5.3km az=8.0

OMAN 22 00:13:08.1±0.3, 26°.73N×54°.96E, h10km, mb4.4/5, ml3.3/20, Error ellipse: s-maj=6.1km s-min=2.6km az=10.0

TEH 22 00:13:09.3, 26°.63N×54°.99E, h18km±24km, ML3.4

ISC 22 00:13:09.7±1.6, 26°.68N±0°.03×54°.96E±0°.03, h15km±11km, n86, σ1§05/108, mb3.4/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHME	Shamm	1.23	120	eP	Pn	00 13 31.5	-0.8
	SNR=17						
SHME				S	Sb	00 13 49.7	+1.4
SHME	Shamm	1.23	120	P	Pn	00 13 31.6	-0.6
	SNR=17						
SHME				S	Sb	00 13 49.3	+1.0

SHME	Shamm	1.23	120	Pg	Pn	00 13 31.7	-0.6
GENO	Geno	1.30	56	Pg	Pn	00 13 33.8	+0.4
GENO				Sg	Sg	00 13 53.1	+1.3
UMQ	Umm Al-Quwin	1.31	151	eP	Pb	00 13 34.2	+0.2
	SNR=8.5						
UMQ	Umm Al-Quwin	1.31	151	P	Pb	00 13 34.3	+0.4
	SNR=8.5						
UMQ				S	Sn	00 13 53.0	+2.5
	SNR=8.9						
UMQ	Umm Al-Quwin	1.31	151	Pg	Pb	00 13 34.3	+0.4
BANOM	Banah	1.42	122	Pg	Pn	00 13 35.0	+0.1
ESRB	Sir Abu	1.59	204	Pg	Pn	00 13 37.4	+0.1
IBND	Bandar-abas	1.61	61	Pg	Pn	00 13 38.8	+1.3
MASF	Masafi	1.69	140	P	Pn	00 13 39.0	+0.3
	SNR=17						
MASF				S	Sn	00 14 00.8	+0.7
	SNR=8.6						
MSFE	Esma-Masafi	1.70	140	eP	Pn	00 13 38.8	0.0
	SNR=17						
MSFE	Esma-Masafi	1.70	140	Pg	Pn	00 13 39.0	+0.2
LMD1	Lamerd	1.73	293	Pg	Pb	00 13 41.0	-0.2
NAZ	Nazwa, Dubai	1.80	159	P	Pn	00 13 40.8	+0.7
NAZ	Nazwa, Dubai	1.80	159	P	Pn	00 13 41.0	+0.9
NAZ				S	Sg	00 14 07.8	+0.2
NAZ	Nazwa, Dubai	1.80	159	Pg	Pn	00 13 41.2	+1.1
MDH	Madha	1.83	138	eP	Pn	00 13 40.6	+0.1
	SNR=20						
MDH	Madha	1.83	138	P	Pn	00 13 40.4	-0.1
	SNR=20						
MDH				S	Sn	00 14 04.9	+1.5
MDH	Madha	1.83	138	Pg	Pn	00 13 40.4	-0.1
FAQ	Al Faqa, Dubai	2.01	163	P	Pn	00 13 43.5	+0.5
FAQ				S	Sn	00 14 09.3	+1.5
FAQ	Al Faqa, Dubai	2.01	163	Pn	Pn	00 13 43.8	+0.8
UOSS	Minazif	2.06	147	eP	Pn	00 13 43.5	-0.2
	SNR=12						
UOSS	Minazif	2.06	147	P	Pn	00 13 43.6	-0.1
UOSS				S	Sb	00 14 13.9	+1.8
UOSS	Minazif	2.06	147	Pn	Pn	00 13 44.5	+0.8
ASUD	Al Ashush, Dub	2.07	171	P	Pn	00 13 44.9	+1.0
ASUD	Al Ashush, Dub	2.07	171	P	Pn	00 13 45.1	+1.3
ASUD				S	Sb	00 14 13.3	+0.9
ASUD	Al Ashush, Dub	2.07	171	Pn	Pn	00 13 45.3	+1.5
AJN	Ajban	2.10	179	P	Pb	00 13 45.9	-1.6
AJN				S	Sg	00 14 16.5	-1.0
AJN	Ajban	2.10	179	Pn	Pb	00 13 46.0	-1.6
HATD	Hatta, Dubai	2.12	150	eP	Pn	00 13 44.8	+0.2
	SNR=17						
HATD	Hatta, Dubai	2.12	150	P	Pn	00 13 46.1	+1.4
	SNR=18						
HATD				S	Sn	00 14 12.6	+1.9
HATD	Hatta, Dubai	2.12	150	Pn	Pn	00 13 45.4	+0.7
JHRM	Jahrom	2.20	326	Pn	Pb	00 13 47.7	-1.5
ASHO	Ashiyiah	2.22	153	eP	Pn	00 13 45.8	-0.1
	SNR=8.6						
ASHO	Ashiyiah	2.22	153	P	Pn	00 13 46.2	+0.3
	SNR=12						
ASHO				S	Sn	00 14 13.8	+0.7
ASHO	Ashiyiah	2.22	153	Pn	Pn	00 13 45.9	-0.1
QIR1	Qir	2.47	317	Pn	Pn	00 13 51.3	+1.8
JRN	Qarnain Island	2.57	228	Pn	Pn	00 13 51.0	+0.3
ALNE	Al Ain	2.71	164	P	Pn	00 13 53.1	+0.5
ALNE				S	Sn	00 14 25.1	0.0
ALNE	Al Ain	2.71	164	Pn	Pn	00 13 53.7	+1.1
JASK	Jask - Hormozg	2.73	107	P	Pn	00 13 52.8	-0.2
JASK				S	Sn	00 14 25.9	+0.2
JASK	Jask - Hormozg	2.73	107	Pn	Pn	00 13 53.0	0.0
KHNJ	Kahnooj	2.75	62	Pn	Pn	00 13 53.4	+0.1
SOHO	SOHO	2.91	150	P	Pn	00 13 54.9	-0.5
SOHO	SOHO	2.91	150	P	Pn	00 13 54.9	-0.5
SOHO	SOHO	2.91	150	Pn	Pn	00 13 55.0	-0.3
NGRK	Negar Kerman	3.34	27	Pn	Pn	00 14 03.1	+1.3
ARQ	Araqi	3.62	157	P	Pn	00 14 06.0	+0.8
	SNR=18						
TVBK	TV Kerman	3.66	25	Pn	Pn	00 14 07.5	+1.4
DSBU	Dashti - Bushe	3.69	298	Pn	Pn	00 14 08.2	+2.0
HOQ	Hoqain	3.75	145	P	Pn	00 14 07.6	+0.6
HOQ				S	Sn	00 14 50.7	-0.1
MZR	Muzera	3.90	200	P	Pn	00 14 08.7	-0.3
MZR				S	Sn	00 14 56.1	+1.6
MZR	Muzera	3.90	200	Pn	Pn	00 14 09.1	+0.1
CHMN	Cheshme madani	3.90	35	Pn	Pn	00 14 11.2	+1.8
KHGB	Koh Gabri	3.92	20	Pn	Pn	00 14 11.4	+1.8
KBAM	BAM	3.94	51	Pn	Pn	00 14 11.1	+1.4
SMRA	Abu-Samra	4.20	244	P	Pn	00 14 13.3	+0.2
SMRA				S	Sn	00 15 03.1	+1.3
BIDO	Bidbid	4.26	137	P	Pn	00 14 12.6	-1.4
BIDO				S	Sn	00 15 02.3	-1.1
BSY	Bisya	4.41	152	P	Pn	00 14 16.4	+0.3
ZRDN	Zarand Kerman	4.49	18	Pn	Pn	00 14 18.9	+1.5
SMDO	Samad	4.57	141	P	Pn	00 14 18.4	+0.1
	SNR=11						
SMDO				S	Sn	00 15 11.3	+0.2
	SNR=6.5						
IMEH	Mehriz	4.71	356	Pn	Pn	00 14 22.1	+1.8
WSAR	Wadi Sarin	4.78	135	P	Pn	00 14 20.1	-1.0
	SNR=21						
WSAR				S	Sn	00 15 14.9	-1.3
IBAF	Bafgh	4.92	6	Pn	Pn	00 14 24.5	+1.2
CHBR	Chabahar	5.08	101	Pn	Pn	00 14 25.1	-0.1
JMDO	Jabal Madar	5.16	146	P	Pn	00 14 26.4	0.0
	SNR=7.7						
JMDO				S	Sn	00 15 27.5	+2.0
KLNJ	Kolanjah	5.23	326	Pn	Pn	00 14 29.0	+1.4
ISAD	Sadrabad	5.34	348	Pn	Pn	00 14 31.1	+2.1
WBK	Wadi Bani Khal	5.45	137	P	Pn	00 14 29.6	-0.7
	SNR=28						
IRAM	Ramesheh	5.59	337	Pn	Pn	00 14 34.2	+1.8
JLN	Jalan Bani Buh	6.06	137	P	Pn	00 14 37.4	-1.4
MHTO	MHTO	6.30	153	P	Pn	00 14 41.3	-0.7
	SNR=6.9						
TPRV	Parvadeh(Tabas	6.50	13	Pn	Pn	00 14 46.4	+1.5
SRVN	Saravan	6.67	82	Pn	Pn	00 14 48.4	+1.1
TKDS	Koohdasht(Taba	7.16	15	Pn	Pn	00 14 54.9	+0.9
DOK	Doka	8.06	186	P	Pn	00 15 05.1	-1.1
WHFO	Wadi Hawf	8.79	187	P	Pn	00 15 15.9	-0.4
	SNR=13						
DMTO	DMTO	8.92	180	P	Pn	00 15 18.0	0.0
	SNR=6.5						
ABTO	Aybut	9.40	190	P	Pn	00 15 23.3	-1.4
	SNR=21						
BRTR	Keskin Array B	22.01	312	P	P	00 18 03.5	-0.1
	0.9nm,0.8s,baz=132,slow=12,SNR=7.9						
	0.9nm,0.8s						
MKAR	Makanchi Array	29.47	40	P	P	00 19 13.2	+0.2
	0.3nm,0.7s,baz=228,slow=8.9,SNR=2.7						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	29.93	31	P	P	00 19 16.1	-0.8
	0.1nm,0.7s,baz=230,slow=9.7,SNR=1.9						
	0.1nm,0.7s						
ZALV	Zalesovo Beam	35.03	31	P	P	00 20 00.7	-0.8
	0.9nm,0.5s,baz=238,slow=8.3,SNR=6.8						
	0.9nm,0.5s						
FINES	FINESS Array B	39.82	339	P	P	00 20 41.5	-0.5
	2.4nm,1.0s,baz=134,slow=9.9,SNR=4.3						
	2.4nm,1.0s						
TORD	Torodi Ar. Bea	51.52	266	P	P	00 22 13.8	-1.3
	0.4nm,0.7s,baz=63,slow=7.7,SNR=4.9						
	0.4nm,0.7s						

IDC 22 00:34:51.0±1.4, 3°.57N×126°.91E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=168.8km s-min=18.0km az=66.0

DJA 22 00:34:56.3±0.4, 4°.N±4°.×12°.7E±°, h10km, M4.1/11, mb4.4/6, mB5.2/1, MLv4.0/11, Mw(mB)4.5/1, MwMwp4.8/1, Mwp5.2/1

NEIC 22 00:35:00.1±2.1, 3°.37N±0°.10×126°.7E±0°.1, h60km±7km, mb4.3/9, Error ellipse: s-maj=20.2km s-min=10.8km az=58.0

ISC 22 00:34:57.9±1.0, 3°.53N±0°.10×126°.70E±0°.09, h53km, n26, σ1§28/30, mb4.2/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	1.18	278	P	Pn	00 35 17.8	-0.4
SGSI				S	Sn	00 35 33.3	0.0
TNTI	Ternate	2.81	166	Pn	Pn	00 35 40.0	-0.5
TNTI				Sn	Sn	00 36 14.8	+1.6
LBMI	Labuha	4.21	169	P	Pn	00 35 59.5	-0.2
GTOI	Gorontalo	4.67	232	P	Pn	00 36 07.8	+1.8
SANI	Sanana	5.58	187	P	Pn	00 36 18.7	+0.2
	8.3nm,0.7s,0.1nm						
MRSI	Marisa	5.64	238	P	Pn	00 36 20.8	+1.6

	32nm,0.5s,2μm0.1nm						
SWI	Sorong	6.30	134	P	Pn	00 36 30.1	+1.7
	24nm,0.5s,5μm0.1nm						
TOLI2	Tolitoli	6.38	248	Pn	Pn	00 36 30.0	+0.6
FAKI	Fak Fak	8.47	139	Pn	Pn	00 36 59.1	+1.1
MTN	Manton Dam	16.85	165	Pn	Pn	00 38 47.3	-3.0
MTN				IAmb	IAmb	00 38 52.4	
	comp=Z,16nm,1.1s						
KNRA	Kununurra	19.19	174	P	P	00 39 17.3	-0.1
KNRA				IAmb	IAmb	00 39 43.8	
	comp=Z,34nm,1.5s						
WB0	Warramunga Arr	24.35	162	P	P	00 40 10.6	-0.5
WRA	Warramunga Arr	24.50	162	P	P	00 40 10.7	-1.7
WRA	Warramunga Arr	24.50	162	P	P	00 40 11.9	-0.5
	comp=Z,7.5nm,0.8s,baz=342,slow=10,SNR=41						
WRA				PcP	PcP	00 43 49.5	-0.6
	comp=Z,0.3nm,0.8s,baz=332,slow=2.5,SNR=2.0						
	comp=Z,7.5nm,0.8s						
PSA00	Pilbara Seismi	25.83	195	P	P	00 40 22.4	-2.1
PSA00				IAmb	IAmb	00 40 49.9	
	comp=Z,16nm,1.3s						
AS31	Alice Springs	27.92	166	P	P	00 40 43.5	+0.2
ASAR	Alice Springs	27.92	166	P	P	00 40 42.4	-1.0
ASAR	Alice Springs	27.92	166	P	P	00 40 43.5	+0.2
	comp=Z,0.4nm,0.3s,baz=338,slow=7.1,SNR=13						
ASAR				PcP	PcP	00 43 59.3	+1.3
	comp=Z,0.2nm,0.4s,baz=350,slow=2.0,SNR=4.6						
	comp=Z,0.4nm,0.3s						
BBOO	Buckleboo	37.21	167	P	P	00 42 04.0	-0.3
STKA	Stephens Creek	37.95	159	P	P	00 42 10.2	-0.3
	comp=Z,2.8nm,0.7s,baz=319,slow=11,SNR=4.8						
	comp=Z,2.8nm,0.7s						
MK31	Makanchi Array	57.71	325	P	P	00 44 45.5	+2.3
MK31				IAmb	IAmb	00 45 13.3	
	comp=Z,2.4nm,1.2s						
MKAR	Makanchi Array	57.71	325	P	P	00 44 44.1	+0.8
MKAR	Makanchi Array	57.71	325	P	P	00 44 44.4	+1.2
	comp=Z,0.4nm,0.6s,baz=137,slow=6.1,SNR=5.0						
	comp=Z,0.4nm,0.6s						
KURBB	Kurchatov Arra	61.90	327	P	P	00 45 12.6	+0.7
	comp=Z,0.7nm,0.8s,baz=132,slow=6.3,SNR=8.0						
	comp=Z,0.7nm,0.8s						
KURK	Kurchatov	61.90	328	P	P	00 45 13.2	+1.3
KURK				IAmb	IAmb	00 45 13.9	
	comp=Z,2.7nm,1.1s						
BVAR	Borovoye Array	67.47	327	P	P	00 45 49.3	+1.1
	comp=Z,0.4nm,0.6s,baz=124,slow=7.8,SNR=2.8						
	comp=Z,0.4nm,0.6s						

JMA 22 00:45:52.2±0.2, 25°.N±2°.×123°.5E±0°.6, h88km±4km, MV1.9/8, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.66	164	P	Pn	00 46 08.3	+0.2
IRIF				eS	Sn	00 46 20.4	+0.5
JISG	Ishigakijimahi	0.80	118	P	Pn	00 46 09.7	+0.2
JISG				S	Sn	00 46 23.0	+0.5
JIJ	Ishigaki jima	0.82	138	P	Pn	00 46 09.7	0.0
JIJ				S	Sn	00 46 22.6	-0.3
JKRS	Kuro-shima	0.85	149	P	Pn	00 46 10.2	+0.2
JKRS				S	Sn	00 46 24.0	+0.7
HATJ	Hateruma jima	0.94	165	eS	Sn	00 46 25.1	-0.1
JTJ	Tarama	1.11	107	P	Pn	00 46 13.4	+0.4
JTJ				S	Sn	00 46 29.0	+0.4

TAP 22 00:46:38.6, 25°.08N×121°.75E, h134km, ML2.8, 2C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WFSB	Wu-fen Shan	0.03	111	eP	Pn	00 46 57.1	+0.5
	baz=110						
TNOU	National Taiwa	0.07	15	eP	Pn	00 46 57.6	+1.0
	baz=15						
SXI1	Grass Mountain	0.11	83	P	Pn	00 46 57.2	+0.4
	baz=83						
YM01	YM01	0.18	292	P	Pn	00 46 57.1	+0.2
	baz=291						
YM01				S	Sn	00 47 09.7	-1.0
	baz=291						
TWA	Mucha	0.18	237	i P	Pn	00 46 56.8	0.0
	baz=234						
TWA				i S	Sn	00 47 10.3	-0.3
	baz=234						
TWB1	Santiao Chiao	0.23	109	eP	Pn	00 46 56.8	-0.1
	baz=108						
ANP	Anpu	0.23	297	eP	Pn	00 46 57.1	0.0
	baz=296						
NHDH	Xindian Distri	0.24	240	P	Pn	00 46 56.7	-0.3
	baz=240						
NHDH				eS	Sn	00 47 10.2	-0.6
	baz=240						
NSM	Shimen	0.25	324	eP	Pn	00 46 58.2	+1.2
	baz=324						
TATO	Taipei	0.26	246	eP	Pn	00 46 57.0	0.0
	baz=245						
TATO				eS	Sn	00 47 10.3	-0.6
	baz=245						
TWS1	Kuangyinshan	0.30	274	P	Pn	00 46 58.0	+0.9
	baz=273						
TWS1				eS	Sn	00 47 11.4	+0.2
	baz=273						
FUSB	Fushanzhiwuyua	0.35	205	P	Pn	00 46 57.2	-0.2
	baz=205						
FUSB				S	Sn	00 47 11.1	-0.6
	baz=205						
TWE	Neicheng	0.37	192	P	Pn	00 46 57.4	0.0
	baz=189						
TWE				eS	Sn	00 47 12.1	+0.4
	baz=189						
NWLT	Wulai	0.38	217	P	Pn	00 46 57.2	-0.3
	baz=216						
NWLT				S	Sn	00 47 11.2	-0.6
	baz=216						
ENTT	Nioudou	0.47	201	P	Pn	00 46 57.9	-0.1
	baz=200						
ENTT				S	Sn	00 47 12.0	-0.6
	baz=200						
TWC	Suao	0.48	169	P

EOS2 EOS2 0.79 146 *e*P Pn 00 46 59.8 -0.1
baz=146
EOS2 *e*S Sn 00 47 15.7 -0.3
baz=146
LIOB Emei 0.80 237 P Pn 00 47 00.4 +0.3
baz=237
LIOB S Sn 00 47 16.0 -0.4
baz=237
NSTT Nanjuang 0.82 237 ⇑P Pn 00 47 00.4 +0.2
baz=236
NSTT *e*S Sn 00 47 16.1 -0.5
baz=236
ETLH Xiulin Townshi 0.90 196 *e*P Pn 00 47 00.6 -0.5
baz=195
ETLH *e*S Sn 00 47 18.2 +0.1
baz=195
NACB Ninganchiao 0.91 189 *e*P Pn 00 47 00.3 -0.8
baz=189
NACB *e*S Sn 00 47 16.7 -1.4
baz=189
EOS3 EOS3 0.94 147 *e*P Pn 00 47 01.6 +0.4
baz=146
EOS3 *e*S Sn 00 47 18.4 +0.1
baz=146
FUSS Fushou 0.95 209 *e*P Pn 00 47 02.1 +0.4
baz=209
FUSS *e*S Sn 00 47 19.1 -0.1
baz=209
TDCB Techi 0.98 213 P Pn 00 47 02.3 +0.4
baz=213
TDCB S Sn 00 47 19.3 -0.2
baz=213
TWD Chiawan 1.01 188 *e*P Pn 00 47 01.1 -0.8
baz=187
TWD *e*S Sn 00 47 18.3 -1.3
baz=187
WHF Hehuan Shan 1.03 206 *e*P Pn 00 47 02.8 +0.2
baz=205
WHF *e*S Sn 00 47 20.2 -0.6
baz=205
WHP Taichung City 1.08 223 *i* P Pn 00 47 02.8 +0.1
baz=222
EOS4 EOS4 1.09 152 *e*P Pn 00 47 02.6 +0.4
baz=151
EOS4 *e*S Sn 00 47 18.1 -2.0
baz=151
LXIB Xiulin Townshi 1.10 196 *e*P Pn 00 47 02.1 -0.8
baz=196
LXIB *e*S Sn 00 47 21.1 -0.3
baz=196
CHGB Renai 1.14 207 P Pn 00 47 03.8 +0.4
baz=207
CHGB S Sn 00 47 22.2 -0.1
baz=207
WUSB Renai 1.23 208 P Pn 00 47 04.5 +0.3
baz=208
WUSB S Sn 00 47 23.5 -0.1
baz=208
OWD Renai 1.24 205 *e*P Pn 00 47 04.5 +0.1
baz=205
OWD *e*S Sn 00 47 23.5 -0.4
baz=205
WCS Beigang Elemen 1.27 217 ⇑*i*P Pn 00 47 04.8 +0.2
baz=216
WCS S Sn 00 47 23.9 -0.3
baz=216
WARBT Fenglin Townsh 1.40 194 *e*P Pn 00 47 04.3 -1.5
baz=193
WARBT *e*S Sn 00 47 24.5 -2.1
baz=193
SMLT Sun Moon Lake 1.42 213 *e*P Pn 00 47 06.2 -0.1
baz=212
SMLT S Sn 00 47 27.5 +0.2
baz=212
TYC Yuchr 1.43 215 P Pn 00 47 06.3 +0.1
baz=214
TYC S Sn 00 47 26.1 -1.0
baz=214
VWDT VWDT 1.43 203 P Pn 00 47 06.4 +0.2
baz=202
VWDT S Sn 00 47 27.4 +0.2
baz=202
SSLB Suanglung 1.48 210 P Pn 00 47 06.7 0.0
baz=209
SSLB S Sn 00 47 27.4 -0.9
baz=209
WHYT Xinyi Township 1.60 211 P Pn 00 47 08.3 +0.1
baz=210
WHYT S Sn 00 47 30.9 +0.1
baz=210
HGSD Ruisui 1.61 191 P Pn 00 47 08.4 +0.2
baz=190
HGSD S Sn 00 47 30.0 -0.8
baz=190
EHY Hungye 1.62 194 *e*P Pn 00 47 08.8 +0.5
baz=193
EHY *e*S Sn 00 47 29.2 -1.7
baz=193
YULB Yu-li 1.73 194 *e*P Pn 00 47 09.7 +0.1
baz=193
YULB *e*S Sn 00 47 32.0 -1.3
baz=193
TWF1 Yuli 1.77 194 *e*P Pn 00 47 10.8 +0.7
baz=193
TWF1 S Sn 00 47 33.3 -0.8
baz=193
CHN5 Tsauling 1.77 214 P Pn 00 47 10.6 +0.4
baz=213
CHN5 *e*S Sn 00 47 34.2 0.0
baz=213

*DJA **22** 00:53:18.6±0.6, 6°N±4°×12°6E±°, h141km±8km, M4.5/10, mb4.4/8, mB5.2/5, MLv4.6/10, Mw(mB)4.5/5*
*NEIC **22** 00:53:20.9±1.7, 5°.91N±0°.07×126°.5E±0°.1, h97km±7km, mb4.4/27, Error ellipse: s-maj=17.5km s-min=8.7km az=65.0*
*IDC **22** 00:53:21.4±1.3, 5°.91N×126°.32E, h108km±9km, mb3.8/12, mbtmp4.2/14, Error ellipse: s-maj=42.8km s-min=10.6km az=71.0*
ISC 22 00:53:20.4±0.5, **5°.95N**±0°.05×**126°.49E**±0°.09, **h100**km, **n76,**
σ1§**03**/73, **mb4.3**/24, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.43**	**321**	Pn	**Pn**	**00 53 46.4**	**+0.5**
DAV				Sn	**Sn**	**00 54 06.7**	**+1.5**
DAV	**Davao City (W)**	**1.43**	**321**	P	**Pn**	**00 53 46.3**	**+0.5**
	672nm,0.3s,baz=235,slow=5.0,SNR=13						
DAV				S	**Sn**	**00 54 05.7**	**+0.6**
	1μm,0.4s,baz=205,slow=20,SNR=11						
SGSI	**Sangihe**	**2.45**	**203**	P	**Pn**	**00 53 59.4**	**+0.6**
SGSI				S	**Sn**	**00 54 31.2**	**+2.9**
TNTI	**Ternate**	**5.22**	**170**	Pn	**Pn**	**00 54 35.7**	**-0.5**
TNTI	**Ternate**	**5.22**	**170**	P	**Pn**	**00 54 36.0**	**-0.1**
	75nm,0.7s,2μm0.4nm						
GTOI	**Gorontalo**	**6.32**	**213**	P	**Pn**	**00 54 50.4**	**-0.7**
	35nm,0.7s,0.1nm						
LBMI	**Labuha**	**6.62**	**171**	P	**Pn**	**00 54 55.0**	**-0.2**
	55nm,0.8s,4μm0.5nm						
MRSI	**Marisa**	**7.08**	**220**	P	**Pn**	**00 55 03.5**	**+2.0**
TOLI2	**Tolitoli**	**7.46**	**230**		**Pn**	**00 55 04.9**	**-1.7**
LUWI	**Luwuk**	**7.88**	**208**	Pn	**Pn**	**00 55 13.4**	**+1.1**
SANI	**Sanana**	**7.96**	**184**	P	**Pn**	**00 55 11.1**	**-2.4**
	37nm,0.5s,2μm						
MPSI	**Mapaga**	**8.63**	**230**	P	**Pn**	**00 55 20.3**	**-2.2**
	7.7nm,0.8s						
NLAI	**Namlea**	**9.15**	**176**	P	**Pn**	**00 55 28.8**	**-0.8**
FAKI	**Fak Fak**	**10.52**	**147**	Pn	**Pn**	**00 55 46.0**	**-2.3**
KAPI	**Kappang**	**12.80**	**212**	P	**Pn**	**00 56 17.8**	**-1.0**
	3.0nm,0.3s,baz=37,slow=7.9,SNR=5.2						
SBUM	**Sibu**	**14.65**	**257**	P	**P**	**00 56 46.0**	**-0.4**
BATI	**Baumata**	**16.30**	**190**	P	**P**	**00 57 04.9**	**+0.2**
	14nm,0.4s,baz=257,slow=4.7,SNR=5.1						
DLV	**T Lat**	**18.75**	**290**	P	**P**	**00 57 33.2**	**+1.4**
DLV				IAmb	IAmb	00 57 34.8	
	comp=Z,23nm,0.7s						
MTN	**Manton Dam**	**19.23**	**166**	P	**P**	**00 57 36.5**	**-0.4**
MTN				IAmb	IAmb	00 57 46.6	
	comp=Z,12nm,0.7s						
KNRA	**Kununurra**	**21.61**	**174**	P	**P**	**00 58 02.4**	**-0.1**
KNRA				IAmb	IAmb	00 58 06.3	
	comp=Z,25nm,0.9s						
WB0	**Warramunga Arr**	**26.71**	**163**	P	**P**	**00 58 50.5**	**-0.1**
WB0				IAmb	IAmb	00 58 53.6	
	comp=Z,6.2nm,0.6s						
WRA	**Warramunga Arr**	**26.86**	**163**	P	**P**	**00 58 52.0**	**+0.1**
WRA	**Warramunga Arr**	**26.86**	**163**	P	**P**	**00 58 51.5**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=340,slow=10,SNR=37						
	comp=Z,1.9nm,0.6s						
PSA00	**Pilbara Seismi**	**28.12**	**193**	P	**P**	**00 59 03.6**	**+0.5**
PSA00				IAmb	IAmb	00 59 08.3	
	comp=Z,26nm,1.5s						
AS31	**Alice Springs**	**30.31**	**166**	P	**P**	**00 59 22.5**	**0.0**
ASAR	**Alice Springs**	**30.31**	**166**	P	**P**	**00 59 21.7**	**-0.8**
ASAR	**Alice Springs**	**30.31**	**166**	P	**P**	**00 59 22.5**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=343,slow=7.2,SNR=26						
	comp=Z,1.1nm,0.3s						
FORT	**Forrest**	**36.55**	**178**	P	**P**	**01 00 16.8**	**+0.3**
BBOO	**Buckleboo**	**39.61**	**167**	P	**P**	**01 00 42.3**	**+0.1**
BBOO				IAmb	IAmb	01 00 43.8	
	comp=Z,8.9nm,0.9s						
NWAO	**Narrogin (SRO)**	**39.65**	**192**	P	**P**	**01 00 42.3**	**-0.3**
STKA	**Stephens Creek**	**40.28**	**160**	P	**P**	**01 00 48.0**	**+0.2**
STKA	**Stephens Creek**	**40.28**	**160**	P	**P**	**01 00 48.6**	**+0.8**
	comp=Z,5.8nm,0.5s,baz=333,slow=9.2,SNR=18						
	comp=Z,5.8nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**41.11**	**69**	T	T	01 44 59.9	
	baz=258,slow=75,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**41.12**	**69**	T	T	01 45 01.1	
	baz=258,slow=75,SNR=9.3						
H11S2	**WAKE ISLAND Hy**	**41.12**	**69**	T	T	01 45 05.7	
	baz=258,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**41.57**	**67**	T	T	01 45 42.7	
	baz=255,slow=74,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**41.58**	**67**	T	T	01 45 42.3	
	baz=255,slow=74,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**41.59**	**67**	T	T	01 45 44.5	
	baz=255,slow=74,SNR=4.0						
TAPN	**Taplejung**	**42.54**	**305**	*e*P	**P**	**01 01 07.2**	**+0.4**
	comp=Z,54nm,1.6s						
RAMN	**Ramite**	**43.31**	**303**	*e*P	**P**	**01 01 12.8**	**-0.1**
	comp=Z,10.0nm,0.6s						
ARMA	**Armidale**	**43.45**	**148**	P	**P**	**01 01 13.3**	**-0.5**
JIRN	**Jiri**	**43.91**	**304**	*e*P	**P**	**01 01 17.8**	**-0.1**
	comp=Z,13nm,0.7s						
GUN	**Gumba**	**44.26**	**304**	*e*P	**P**	**01 01 19.9**	**-0.7**
	comp=Z,9.4nm,0.5s						
PKI	**Pulchoki**	**44.52**	**304**	*e*P	**P**	**01 01 21.7**	**-1.0**
	comp=Z,22nm,1.4s						
PKIN	**Phulchoki**	**44.53**	**304**	*e*P	**P**	**01 01 22.0**	**-0.8**
DMN	**Daman**	**44.79**	**304**	*e*P	**P**	**01 01 24.0**	**-0.7**
SONM	**Songino Array**	**45.13**	**341**	P	**P**	**01 01 28.1**	**+1.1**
SONM	**Songino Array**	**45.13**	**341**	P	**P**	**01 01 26.8**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=163,slow=9.9,SNR=3.9						
	comp=Z,0.4nm,0.5s						
DANN	**Dangsing**	**46.16**	**304**	*e*P	**P**	**01 01 33.0**	**-2.6**
	comp=Z,13nm,0.6s						
PYUN	**Piuthan**	**46.71**	**303**	*e*P	**P**	**01 01 37.5**	**-2.4**
	comp=Z,24nm,1.3s						
TOO	**Toolangi**	**46.78**	**159**	P	**P**	**01 01 40.2**	**+0.2**
MK31	**Makanchi Array**	**55.61**	**325**	P	**P**	**01 02 45.5**	**-0.4**
MK31				IAmb	IAmb	01 02 47.1	
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**55.61**	**325**	P	**P**	**01 02 45.2**	**-0.7**
MKAR	**Makanchi Array**	**55.61**	**325**	P	**P**	**01 02 45.8**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=116,slow=7.3,SNR=16						
	comp=Z,0.6nm,0.3s						
NIL	**Nilore**	**56.40**	**307**	P	**P**	**01 02 51.5**	**-0.2**
ZALV	**Zalesovo Beam**	**58.52**	**333**	P	**P**	**01 03 06.1**	**0.0**
ZALV	**Zalesovo Beam**	**58.52**	**333**	P	**P**	**01 03 05.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=124,slow=7.3,SNR=3.2						
	comp=Z,0.7nm,0.4s						
KURK	**Kurchatov**	**59.76**	**327**	P	**P**	**01 03 14.7**	**-0.1**
KURK				IAmb	IAmb	01 03 17.0	
	comp=Z,2.3nm,0.7s						
KURBB	**Kurchatov Arra**	**59.76**	**327**	P	**P**	**01 03 14.7**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=127,slow=6.2,SNR=19						
	comp=Z,1.3nm,0.6s						
KK31	**Karatay Array**	**61.46**	**316**	P	**P**	**01 03 25.7**	**-0.9**
KK31				IAmb	IAmb	01 03 26.9	
	comp=Z,1.6nm,0.7s						
KKAR	**Karatay Array**	**61.46**	**316**	P	**P**	**01 03 25.6**	**-1.0**
BVAR	**Borovoye Array**	**65.34**	**327**	P	**P**	**01 03 52.1**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=142,slow=7.5,SNR=6.4						
	comp=Z,1.1nm,0.5s						
TIXI	**Tiksi**	**65.64**	**1**	P	**P**	**01 03 54.5**	**+1.0**
TIXI				IAmb	IAmb	01 03 56.6	
	comp=Z,7.8nm,1.5s						
ABKAR	**Akbulak array**	**70.30**	**320**	P	**P**	**01 04 22.4**	**-0.6**
ABKAR	**Akbulak array**	**70.30**	**320**	P	**P**	**01 04 22.5**	**-0.5**
ABKAR				IAmb	IAmb	01 04 23.4	
	comp=Z,1.3nm,0.7s						
ARU	**Arti**	**72.95**	**327**	P	**P**	**01 04 38.0**	**-0.9**
ARU				IAmb	IAmb	01 04 41.2	
	comp=Z,11nm,1.5s						
CAST	**Castle Rocks**	**80.87**	**27**	P	**P**	**01 05 24.7**	**+1.5**
SIRT	**Sirnak**	**81.70**	**307**	P	**P**	**01 05 29.1**	**+0.9**
C23K	**Itkillik River**	**82.00**	**20**	P	**P**	**01 05 30.4**	**+1.5**
C23K				IAmb	IAmb	01 05 48.6	
	comp=Z,8.7nm,1.3s						
GURO	**Guroymak-BITLI**	**82.00**	**308**	P	**P**	**01 05 30.7**	**+0.9**
GURO				IAmb	IAmb	01 05 32.6	
	comp=Z,3.2nm,0.7s						
ILAR	**Eielson Array**	**83.21**	**26**	P	**P**	**01 05 36.4**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=244,slow=5.6,SNR=5.7						
	comp=Z,0.4nm,0.6s						
F28M	**Old Crow**	**85.93**	**23**	P	**P**	**01 05 49.8**	**+0.7**
F28M				IAmb	IAmb	01 06 00.6	
	comp=Z,7.4nm,1.5s						
ARCES	**ARCESS Array B**	**88.30**	**340**	P	**P**	**01 05 59.8**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=74,slow=6.7,SNR=13						
	comp=Z,1.3nm,0.4s						
BRTR	**Keskin Array B**	**88.43**	**310**	P	**P**	**01 06 00.5**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=95,slow=4.3,SNR=5.9						
	comp=Z,0.6nm,0.7s						
FINES	**FINESS Array B**	**89.78**	**332**	P	**P**	**01 06 07.5**	**0.0**
	comp=Z,1.1nm,0.5s,baz=55,slow=4.7,SNR=14						
	comp=Z,1.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**121.98**	**289**	PKP	**PKPdf**	**01 12 04.3**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=37,slow=2.7,SNR=9.3						

*NEIC **22** 00:59:30.9±0.6, 5°.26S±0°.04×152°.6E±0°.1, h49km±9km, mb4.3/15, Error ellipse: s-maj=17.5km s-min=4.3km az=102.0*
*IDC **22** 00:59:33.2±2.3, 5°.06S×152°.23E, h64km±11km, mb3.7/9, mbtmp4.0/10, Error ellipse: s-maj=43.3km s-min=12.9km az=114.0*
ISC 22 00:59:31.5±1.1, **5°.21S**±0°.07×**152°.5E**±0°.2, **h55**km, **n34,**
σ0§**83**/37, **mb4.1**/17, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.99**	**334**	P	**Pn**	**00 59 50.1**	**+0.9**
	722nm,0.3s,baz=67,slow=0.3,SNR=166						
KRVT				S	**Sn**	**01 00 01.1**	**-1.4**
	1μm,0.3s,baz=175,slow=0.4,SNR=11						
RABL	**Rabaul**	**1.05**	**344**		**Pn**	**00 59 50.6**	**+0.6**
RABL				Sn	**Sn**	**01 00 05.6**	**+1.8**
PMG	**Port Moresby**	**6.71**	**231**		**Pn**	**01 01 07.6**	**+0.1**
PMG	**Port Moresby**	**6.71**	**231**	P	**Pn**	**01 01 10.0**	**+2.6**
	19nm,0.5s,baz=33,slow=9.9,SNR=11						
PMG				S	**Sn**	**01 02 21.7**	**-0.9**
	15nm,0.6s,baz=40,slow=15,SNR=3.1						
WB0	**Warramunga Arr**	**22.78**	**229**	P	**P**	**01 04 29.3**	**-0.3**
WRA	**Warramunga Arr**	**22.92**	**229**	P	**P**	**01 04 30.7**	**-0.5**
WRA	**Warramunga Arr**	**22.92**	**229**	P	**P**	**01 04 30.6**	**-0.5**
	0.6nm,0.4s,baz=52,slow=11,SNR=11						
	0.6nm,0.4s						
KNRA	**Kununurra**	**25.49**	**244**	P	**P**	**01 04 54.9**	**+0.1**
AS31	**Alice Springs**	**25.62**	**222**	P	**P**	**01 04 55.7**	**-0.4**
ASAR	**Alice Springs**	**25.62**	**222**	P	**P**	**01 04 56.2**	**+0.2**
ASAR	**Alice Springs**	**25.62**	**222**	P	**P**	**01 04 56.4**	**+0.3**
	0.4nm,0.4s,baz=57,slow=8.8,SNR=11						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**57.74**	**296**	P	**P**	**01 09 17.4**	**+0.1**
	1.6nm,0.3s,baz=97,slow=4.8,SNR=5.6						
	1.6nm,0.3s						
SONM	**Songino Array**	**66.49**	**328**	P	**P**	**01 10 15.8**	**+0.3**
SONM				IAmb	IAmb	01 10 31.7	
	comp=Z,2.0nm,1.4s						
SONM	**Songino Array**	**66.49**	**328**	P	**P**	**01 10 14.0**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=155,slow=4.6,SNR=3.7						
	comp=Z,0.6nm,0.6s						
M16K	**Timber Creek**	**75.99**	**22**	P	**P**	**01 11 13.0**	**+0.5**
CAST	**Castle Rocks**	**80.01**	**22**	P	**P**	**01 11 34.5**	**-0.2**
CAST				IAmb	IAmb	01 11 59.8	
	comp=Z,7.1nm,1.4s						
MK31	**Makanchi Array**	**80.41**	**319**	P	**P**	**01 11 37.5**	**+0.2**
MK31				IAmb	IAmb	01 12 06.1	
	comp=Z,1.2nm,1.1s						
MKAR	**Makanchi Array**	**80.41**	**319**	P	**P**	**01 11 37.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=103,slow=4.6,SNR=4.5						
	comp=Z,0.5nm,0.7s						
KTH	**Kantishna Hill**	**80.52**	**22**	P	**P**	**01 11 37.4**	**-0.1**
KTH				IAmb	IAmb	01 11 39.7	
	comp=Z,11nm,1.4s						
MAKZ	**Makanchi**	**80.62**	**319**	P	**P**	**01 11 38.3**	**-0.1**
MAKZ				IAmb	IAmb	01 12 05.2	
	comp=Z,3.7nm,1.4s						
IMAR	**Indian Mountai**	**80.88**	**20**	P	**P**	**01 11 39.8**	**+0.5**
RND	**Reindeer**	**81.23**	**23**	P	**P**	**01 11 41.2**	**-0.1**
RND				IAmb	IAmb	01 11 42.2	
	comp=Z,2.5nm,0.6s						
ZALV	**Zalesovo Beam**	**81.30**	**326**	P	**P**	**01 11 40.9**	**-0.9**
ZALV	**Zalesovo Beam**	**81.30**	**326**	P	**P**	**01 11 41.4**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=130,slow=6.3,SNR=5.0						
	comp=Z,0.6nm,0.4s						
ILAR	**Eielson Array**	**82.66**	**22**	P	**P**	**01 11 48.7**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=247,slow=5.4,SNR=16						
	comp=Z,1.2nm,0.6s						
BOOM	**Boomskoye usch**	**83.62**	**314**	P	**P**	**01 11 55.5**	**+1.0**
BOOM				IAmb	IAmb	01 12 20.1	
	comp=Z,5.2nm,1.0s						
KURK	**Kurchatov**	**83.88**	**322**	P	**P**	**01 11 54.8**	**-0.5**
KURK				IAmb	IAmb	01 11 57.4	
	comp=Z,1.7nm,1.0s						
KURBB	**Kurchatov Arra**	**83.91**	**322**	P	**P**	**01 11 54.4**	**-1.1**
	comp=Z,0.6nm,0.2s,baz=103,slow=4.2,SNR=2.4						
	comp=Z,0.6nm,0.2s						
BCAR	**Beaver Creek A**	**83.92**	**25**	P	**P**	**01 11 55.0**	**-0.3**
I26K	**Coal Creek Min**	**84.32**	**22**	P	**P**	**01 11 57.7**	**+0.5**
I26K				IAmb	IAmb	01 12 17.4	
	comp=Z,6.2nm,1.4s						
BMAR	**Burnt Mountain**	**84.74**	**20**	P	**P**	**01 12 00.2**	**+0.8**
I28M	**Miner Creek**	**85.61**	**23**	P	**P**	**01 12 04.5**	**+0.6**
BVAR	**Borovoye Array**	**89.36**	**323**	P	**P**	**01 12 21.1**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=113,slow=7.2,SNR=7.5						
	comp=Z,1.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**150.11**	**287**	PKPbc	**PKPbc**	**01 19 16.8**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=78,slow=2.5,SNR=29						

*IDC **22** 01:09:06.7±1.5, 0°.66N×126°.35E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=167.2km s-min=19.8km az=65.0*
*DJA **22** 01:09:10.9±0.3, 0°N±4°×12°6E±°, h10km, M3.3/9, MLv3.3/9*
ISC 22 01:09:13.2±1.0, **0°.44N**±0°.07×**126°.13E**±0°.06, **h44**km, **n11,**
σ0§**98**/11, **mb3.8**/5, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**75**	P	**Pn**	**01 09 35.5**	**+0.9**
LBMI	**Labuha**	**1.74**	**128**	P	**Pn**	**01 09 40.3**	**-0.6**
KMSI	**Cibinong**	**2.15**	**274**	P	**Pn**	**01 09 45.6**	**-1.0**
SANI	**Sanana**	**2.48**	**183**	P	**Pn**	**01 09 51.4**	**+0.3**
GTOI	**Gorontalo**	**3.13**	**274**	P	**Pn**	**01 10 01.7**	**+1.7**
SGSI	**Sangihe**	**3.28**	**349**	P	**Pn**	**01 10 02.0**	**-0.1**
WRA	**Warramunga Arr**	**21.80**	**159**	P	**P**	**01 14 01.4**	**-0.2**
	1.0nm,0.6s,baz=338,slow=11,SNR=24						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**25.13**	**163**	P	**P**	**01 14 35.3**	**+1.1**
	0.5nm,0.4s,baz=342,slow=7.8,SNR=17						
	0.5nm,0.4s						
STKA	**Stephens Creek**	**35.32**	**157**	P	**P**	**01 16 04.3**	**+0.1**
	0.8nm,0.3s,baz=350,slow=11,SNR=2.0						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**59.93**	**327**	P	**P**	**01 19 13.9**	**-1.0**
	0.3nm,0.4s,baz=117,slow=8.0,SNR=5.4						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.19**	**328**	P	**P**	**01 19 43.0**	**-0.3**
	0.5nm,0.6s,baz=126,slow=6.2,SNR=5.9						
	0.5nm,0.6s						

*JMA **22** 01:10:55.9±0.3, 29°N±1°×14°0E±°, h403km, NEAR TORISHIMA IS*
*IDC **22** 01:10:59.9±5.0, 29°.36N×139°.32E, h458km±58km, mb3.0/9, mbtmp3.8/10, Error ellipse: s-maj=26.4km s-min=22.7km az=51.0*
ISC 22 01:10:54.7±0.9, **29°.01N**±0°.08×**139°.6E**±0°.1, **h423**km, **n18,**
σ1§**69**/20, **mb3.3**/9, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.00**	**129**	P	**P**	**01 11 60.0**	**+0.3**
CBIJ				*e*S	**S**	**01 12 50.4**	**-2.1**
JHH2	**Haha-jima-NKT2**	**3.31**	**135**	*e*P	**P**	**01 12 02.6**	**+0.3**
JHH2				S	**S**	**01 12 55.1**	**-1.9**
BSO1	**Boso 1**	**5.76**	**12**	*e*S	**S**	**01 13 37.9**	**-0.7**
BSO3	**Boso 3**	**5.83**	**8**	*e*S	**S**	**01 13 38.9**	**-1.6**
BSO4	**Boso 4**	**6.00**	**6**	*e*S	**S**	**01 13 41.1**	**-2.9**
JHO	**Hitachi**	**7.63**	**6**	*e*P	**P**	**01 12 46.5**	**+0.6**
JHO				S	**S**	**01 14 12.9**	**-3.7**
JFK	**Kawauchi**	**8.41**	**7**	P	**P**	**01 12 55.9**	**+1.6**
JMK	**Ichinoseki**	**10.02**	**7**	*e*P	**P**	**01 13 14.2**	**+2.2**
USRK	**Ussuriysk Ar.**	**16.32**	**340**	P	**P**	**01 14 21.0**	**+0.5**
	2.1nm,0.5s,baz=166,slow=10,SNR=2.5						
ZALV	**Zalesovo Beam**	**46.52**	**318**	P	**P**	**01 18 41.3**	**-0.8**
	0.3nm,0.4s,baz=90,slow=9.9,SNR=2.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**47.47**	**308**	P	**P**	**01 18 48.9**	**-0.5**
	0.5nm,0.3s,baz=85,slow=8.3,SNR=13						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**48.92**	**187**	P	P	01 19 05.2	+4.6
	0.4nm,0.9s,baz=2.6,slow=7.7,SNR=2.5						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**50.05**	**313**	P	**P**	**01 19 08.1**	**-0.4**
	1.6nm,0.4s,baz=92,slow=7.5,SNR=22						
	1.6nm,0.4s						
BVAR	**Borovoye Array**	**55.07**	**316**	P	**P**	**01 19 43.7**	**-1.1**
	1.0nm,0.4s,baz=92,slow=6.7,SNR=4.4						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**57.17**	**29**	P	**P**	**01 19 59.4**	**+0.2**
	0.1nm,0.3s,baz=265,slow=6.4,SNR=4.7						
	0.1nm,0.3s						
KBZ	**Khabaz**	**75.01**	**312**	P	**P**	**01 21 51.2**	**-0.2**
	1.3nm,0.7s,baz=84,slow=6.6,SNR=4.7						
	1.3nm,0.7s						
FINES	**FINESS Array B**	**75.20**	**333**	P	**P**	**01 21 52.2**	**0.0**
	1.7nm,1.0s,baz=74,slow=6.9,SNR=7.1						
	1.7nm,1.0s						
NVAR	**Mina Array Bea**	**81.14**	**51**	P	**P**	**01 22 27.2**	**+2.1**
	0.3nm,0.5s,baz=281,slow=5.5,SNR=4.4						
	0.3nm,0.5s						

*IDC **22** 01:22:42.8±3.7, 21°.27S×176°.95W, h259km±32km, mb3.6/5, mbtmp4.2/7, Error ellipse: s-maj=29.1km s-min=25.6km az=120.0*
ISC 22 01:22:41.4±1.2, **21°.5S**±0°.1×**176°.9W**±0°.2, **h250**km, **n10,**
σ1§**24**/11, **mb3.8**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.03**	**307**	P	**Pn**	**01 24 09.6**	**-0.4**
	9.2nm,0.7s,baz=134,slow=19,SNR=5.5						
DZM	**Mont Dzumac**	**15.48**	**265**	P	**P**	**01 26 06.8**	**0.0**
	6.7nm,0.7s,baz=194,slow=14,SNR=1.6						
URZ	**Urewera**	**17.53**	**196**	P	**P**	**01 26 26.2**	**-2.6**
	4.5nm,0.3s,baz=14,slow=1.7,SNR=9.9						
URZ				S	S	01 29 28.3	-10
	4.5nm,0.3s,baz=110,slow=22,SNR=9

mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=79.8km s-min=30.1km az=89.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.56**	**156**	P	P	01 29 08.8	+0.2
	0.1nm,0.3s,baz=313,slow=12,SNR=11						
	0.8nm,0.5s						
QSPA	**South Pole Qui**	**34.93**	**180**	P	P	01 31 32.3	-0.5
	0.4nm,0.5s,baz=48,slow=1.6,SNR=5.7						
	0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**72.61**	**30**	P	P	01 36 08.1	-0.6
	0.3nm,0.6s,baz=202,slow=6.1,SNR=1.6						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**149.35**	**313**	PKPbc	PKPbc	01 44 28.6	-0.3
	0.4nm,0.6s,baz=123,slow=3.3,SNR=4.1						
SONM	**Songino Array**	**151.06**	**86**	PKPbc	PKiKP	01 44 34.3	+0.1
	0.2nm,0.5s,baz=238,slow=1.9,SNR=1.9						

*TIF **22** 01:27:10.6, 41.36N×43.92E, h12km*
*ISK **22** 01:27:10.7, 41.30N×43.92E, h5km, ML2.1/7*
*NORS **22** 01:27:11.7±0.0, 41.49N×44.07E, h4km, MPVA2.9*
*AFAD **22** 01:27:13.2±0.0, 41.23N×43.72E, h7km±3km, ML1.7*

ISC 22 01:27:11.1±0.9, 41.31N±0.02×43.91E±0.02, h9km±8km, n34, σ1§13/64, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMNI	**Dmanisi**	**0.21**	**86**	P	**Pg**	**01 27 15.4**	**-0.1**
DMNI				S	**Sg**	**01 27 18.5**	**+0.1**
TRLG	**Trialeti**	**0.27**	**33**	P	**Pg**	**01 27 16.0**	**-0.5**
TRLG				S	**Sg**	**01 27 19.6**	**-0.5**
AKH	**Akhalkalaki**	**0.33**	**287**	Pg	**Pg**	**01 27 17.9**	**+0.3**
AKH				Sg	**Sg**	**01 27 22.8**	**+0.8**
AKH	**Akhalkalaki**	**0.33**	**287**	P	**Pg**	**01 27 17.8**	**+0.1**
AKH				S	**Sg**	**01 27 22.7**	**+0.8**
AZMN	**Azmana**	**0.47**	**271**	P	**Pg**	**01 27 20.5**	**+0.3**
AZMN				S	**Sg**	**01 27 27.3**	**+0.9**
EAK	**Akyaka**	**0.67**	**200**	P	**Pg**	**01 27 23.7**	**-0.3**
EAK				S	**Sg**	**01 27 30.4**	**-2.3**
EAK				*i* AML	AML	01 27 34.0	
	comp=E,54nm,0.6s						
ALIG	**Mtskhetisjvari**	**0.81**	**346**	P	**Pg**	**01 27 26.1**	**-0.6**
ALIG				S	**Sg**	**01 27 36.9**	**-0.4**
EPOS	**Posof**	**0.91**	**282**	P	**Pg**	**01 27 28.1**	**-0.4**
EPOS				S	**Sg**	**01 27 37.6**	**-2.8**
EPOS				*i* AML	AML	01 27 44.0	
	comp=N,26nm,0.4s						
KARS	**Kars**	**0.93**	**223**	Pg	**Pg**	**01 27 29.2**	**+0.2**
ABS	**Abastumani**	**0.93**	**299**	P	**Pg**	**01 27 28.6**	**-0.5**
ABS				S	**Sg**	**01 27 41.8**	**+0.6**
AHAN	**Ardahan-Merkez**	**0.98**	**262**	P	**Pg**	**01 27 29.9**	**0.0**
AHAN				S	**Sg**	**01 27 41.5**	**-1.2**
AHAN				*i* AML	AML	01 27 45.0	
	comp=N,28nm,0.6s						
AHAN				*i* AML	AML	01 27 55.0	
	comp=E,20nm,0.9s						
DIGO	**Kars**	**0.99**	**205**	P	**Pg**	**01 27 29.7**	**-0.3**
DIGO				S	**Sg**	**01 27 40.0**	**-2.9**
DIGO				*i* AML	AML	01 27 48.0	
	comp=N,47nm,0.3s						
DGRG	**David-gareji**	**1.11**	**82**	P	**Pg**	**01 27 31.8**	**-0.6**
DGRG				S	**Sg**	**01 27 47.2**	**+0.4**
TKB	**Tkibuli**	**1.24**	**327**	P	**Pg**	**01 27 34.1**	**-0.8**
TKB				S	**Sb**	**01 27 51.0**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.35**	**169**	Pn	**Pn**	**01 27 36.3**	**0.0**
TASB				Sn	**Sb**	**01 27 55.3**	**+1.2**
SENK	**Senkaya-Erzuru**	**1.40**	**238**	Pn	**Pn**	**01 27 37.6**	**+0.6**
SENK				Sn	**Sb**	**01 27 56.9**	**+1.3**
MTEO	**Meteo**	**1.44**	**19**	P	**Pn**	**01 27 37.6**	**-0.3**
MTEO				S	**Sn**	**01 27 57.8**	**+0.6**
IGDI	**IGDIR**	**1.45**	**175**	P	**Pn**	**01 27 37.5**	**-0.1**
IGDI				S	**Sn**	**01 27 55.3**	**-1.5**
ZEI	**Tsey**	**1.47**	**360**	*e*Pg	**Pn**	**01 27 38.3**	**+0.2**
ZEI				*e*Sg	**Sg**	**01 27 58.3**	**-0.2**
DAGI	**Agillar**	**1.52**	**262**	P	**Pn**	**01 27 39.1**	**+0.4**
DAGI				S	**Sn**	**01 27 57.5**	**-1.3**
LACR	**Lac**	**1.54**	**11**	*e*Pg	**Pn**	**01 27 39.3**	**+0.4**
LACR				*e*Sg	**Sg**	**01 28 00.1**	**-0.5**
KOTA	**Agri, Merkez-K**	**1.60**	**200**	P	**Pb**	**01 27 42.0**	**+1.0**
SHTL	**Shatili**	**1.63**	**34**	P	**Pn**	**01 27 40.4**	**+0.2**
SHTL				S	**Sb**	**01 28 01.7**	**-0.5**
DDFL	**Dedoflistskaro**	**1.67**	**85**	P	**Pg**	**01 27 43.1**	**+0.1**
DDFL				S	**Sg**	**01 28 09.2**	**+4.6**
BATM	**Batumi**	**1.69**	**281**	Pn	**Pn**	**01 27 42.2**	**+1.4**
BATM				Sn	**Sb**	**01 28 04.5**	**+0.7**
BATM	**Batumi**	**1.69**	**281**	P	**Pn**	**01 27 42.0**	**+1.1**
BATM				S	**Sb**	**01 28 04.6**	**+0.9**
DBAD	**Bademkaya**	**1.70**	**261**	P	**Pn**	**01 27 41.8**	**+0.7**
DBAD				S	**Sn**	**01 28 01.7**	**-1.3**
DBAD				*i* AML	AML	01 28 06.0	
	comp=N,18nm,0.6s						
DBAD				*i* AML	AML	01 28 07.0	
	comp=E,17nm,0.3s						
BCA	**Borcka**	**1.73**	**275**	Pn	**Pn**	**01 27 42.4**	**+1.0**
KORR	**Kora**	**1.77**	**4**	*e*Pg	**Pg**	**01 27 44.6**	**-0.5**
KORR				*e*Sg	**Sg**	**01 28 08.6**	**+0.5**
LGD	**Lagodekhi**	**1.82**	**73**	P	**Pn**	**01 27 43.9**	**+1.2**
LGD				S	**Sb**	**01 28 08.1**	**+0.4**
LSNR	**Lesken**	**1.96**	**358**	*e*Pg	**Pb**	**01 27 47.5**	**+0.5**
LSNR				*e*Sg	**Sg**	**01 28 14.2**	**+0.1**
BTLR	**Botlikh**	**2.19**	**51**	*e*Pg	**Pb**	**01 27 50.0**	**-0.9**
BTLR				*e*Sg	**Sb**	**01 28 18.7**	**+0.5**
DVE	**Vedeno**	**2.33**	**44**	*e*Pg	**Pb**	**01 27 52.2**	**-1.0**
DVE				*e*Sg	**Sg**	**01 28 23.8**	**-2.0**
CHOM	**Cayeli-Rize**	**2.39**	**266**	Pn	**Pn**	**01 27 51.8**	**+1.4**

*ISK **22** 01:34:36.5, 39.08N×23.36E, h5km, ML3.7/30*
*ATH **22** 01:34:38.6, 39.08N×23.29E, h4km±1km, ML3.7/41, Error ellipse: s-maj=1.4km s-min=0.7km az=223.0*
*IDC **22** 01:34:38.0±0.9, 39.10N×23.30E, h0km, mb3.7/10, mbtmp3.7/18, ML3.4/7, MS3.1/12, Error ellipse: s-maj=16.1km s-min=13.6km az=167.0*
*THE **22** 01:34:38.5, 39.08N×23.30E, h2km±1km, ML3.8/16, Error ellipse: s-maj=1.2km s-min=0.4km az=220.0*
*BEO **22** 01:34:38.2±0.7, 39.13N×23.46E, h0km, ML3.5/12*
*TIR **22** 01:34:40.5, 39.25N×23.33E, h15km±5km, Md4.5, Ml4.2*
*NAO **22** 01:34:41.2, 39.18N×23.16E, h10km, mb3.8*
*AFAD **22** 01:34:42.6±0.0, 39.36N×23.76E, h6km±3km, MW3.9*

ISC 22 01:34:38.7±1.0, 39.09N±0.02×23.33E±0.02, h7km±7km, n333, σ1§28/376, mb3.9/12, MS3.4/6, 13C-12D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.23**	**339**	P	**Pg**	**01 34 43.4**	**+0.1**
NEO				S	**Sg**	**01 34 46.7**	**+0.2**
	46μm,0.3s						
NEO	**Neokhori**	**0.23**	**339**	P	**Pg**	**01 34 43.5**	**+0.1**
NEO				S	**Sg**	**01 34 46.8**	**+0.4**
NEO				AML	AML	01 34 47.5	
	comp=E,86844μm,0.3s						
NEO				AML	AML	01 34 48.0	
	comp=N,96394μm,0.3s						
XOR	**Xorichti**	**0.30**	**338**	P	**Pg**	**01 34 44.8**	**+0.2**
XOR				S	**Sg**	**01 34 48.9**	**+0.4**
	comp=N,21μm,0.3s						
XOR	**Xorichti**	**0.30**	**338**	P	**Pg**	**01 34 44.7**	**+0.2**
XOR				S	**Sg**	**01 34 48.8**	**+0.4**
XOR				AML	AML	01 34 49.5	
	comp=N,51108μm,0.3s						
XOR				AML	AML	01 34 50.8	
	comp=E,30831μm,0.4s						
ALNA	**Alonissos**	**0.42**	**82**	P	**Pg**	**01 34 47.4**	**+0.6**
ALNA				S	**Sb**	**01 34 53.8**	**-1.2**
ALNA				AML	AML	01 34 55.2	
	comp=E,20957μm,0.5s						
ALNA				AML	AML	01 34 59.9	
	comp=N,24249μm,0.6s						
ATAL	**Atalanti**	**0.47**	**212**	P	**Pg**	**01 34 47.1**	**-0.6**
ATAL				S	**Sg**	**01 34 53.2**	**-0.6**
	comp=N,10μm,0.8s						
ATAL	**Atalanti**	**0.47**	**212**	P	**Pg**	**01 34 47.1**	**-0.6**
ATAL				S	**Sg**	**01 34 53.1**	**-0.7**
ATAL				AML	AML	01 34 53.7	
	comp=E,23256μm,0.5s						
ATAL				AML	AML	01 34 55.2	
	comp=N,12959μm,0.5s						
LKR	**Lokris**	**0.51**	**211**	P	**Pg**	**01 34 48.0**	**-0.6**
LKR				S	**Sg**	**01 34 54.4**	**-0.8**
LKR				AML	AML	01 34 55.7	
	comp=E,11989μm,0.4s						
LKR				AML	AML	01 34 56.2	
	comp=N,16178μm,0.4s						
AXAR	**Agios Charalam**	**0.62**	**239**	P	**Pg**	**01 34 49.8**	**-0.8**
AXAR				S	**Sg**	**01 34 57.7**	**-0.9**
	comp=N,14μm,1.0s						
AXAR	**Agios Charalam**	**0.62**	**239**	P	**Pg**	**01 34 49.7**	**-0.8**
AXAR				S	**Sg**	**01 34 57.9**	**-0.7**
AXAR				AML	AML	01 34 59.7	
	comp=N,21463μm,0.4s						
AXAR				AML	AML	01 35 02.2	
	comp=E,24967μm,0.3s						
KYMI	**Kymi, Euboea I**	**0.75**	**127**	P	**Pg**	**01 34 53.6**	**+0.4**
KYMI				S	**Sg**	**01 35 04.0**	**+1.0**
	comp=E,5μm,0.8s						
KYMI	**Kymi, Euboea I**	**0.75**	**127**	P	**Pg**	**01 34 53.4**	**+0.2**
KYMI				S	**Sg**	**01 35 03.9**	**+1.0**
KYMI				AML	AML	01 35 06.3	
	comp=E,11141μm,0.5s						
KYMI				AML	AML	01 35 12.4	
	comp=N,7494μm,0.7s						
AGG	**Agios Georgios**	**0.78**	**265**	Pg	**Pg**	**01 34 52.1**	**-1.7**
AGG				Sg	**Sg**	**01 35 04.1**	**+0.2**
AGG	**Agios Georgios**	**0.78**	**265**	P	**Pg**	**01 34 52.3**	**-1.5**
AGG				S	**Sg**	**01 35 04.4**	**+0.5**
	comp=N,7μm,0.6s						
AGG	**Agios Georgios**	**0.78**	**265**	P	**Pg**	**01 34 52.3**	**-1.5**
VIL2	**Platees**	**0.88**	**183**	P	**Pg**	**01 34 55.4**	**-0.2**
VIL2				AML	AML	01 35 14.6	
	comp=N,12802μm,0.5s						
VIL2				AML	AML	01 35 16.5	
	comp=E,20755μm,0.7s						
DLFA	**Delphi**	**0.90**	**227**	P	**Pg**	**01 34 54.4**	**-1.5**
DLFA				AML	AML	01 35 08.0	
	comp=N,13844μm,0.8s						
DLFA				AML	AML	01 35 09.2	
	comp=E,11929μm,0.5s						
VILL	**Villia**	**0.93**	**181**	P	**Pg**	**01 34 55.4**	**-1.1**
VILL				S	**Sg**	**01 35 08.3**	**-0.2**
	comp=E,9μm,0.6s						
LRSO	**Larissa Observ**	**0.93**	**309**	P	**Pg**	**01 34 55.7**	**-0.9**
LRSO	**Larissa Observ**	**0.93**	**309**	P	**Pg**	**01 34 55.8**	**-0.9**
LRSO				AML	AML	01 35 13.5	
	comp=N,17413μm,0.7s						
LRSO				AML	AML	01 35 14.1	
	comp=E,17871μm,0.9s						
MAKR	**Makrakomi, Fth**	**0.94**	**266**	P	**Pg**	**01 34 55.3**	**-1.5**
MAKR				S	**Sg**	**01 35 08.8**	**-0.1**
	comp=E,8μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.94**	**266**	P	**Pg**	**01 34 55.2**	**-1.5**
MAKR				AML	AML	01 35 11.2	
	comp=E,14779μm,0.4s						
MAKR				AML	AML	01 35 11.4	
	comp=N,18814μm,0.4s						
SKY	**Skiros Island**	**0.97**	**102**	P	**Pb**	**01 34 57.8**	**-0.1**
SKY				S	**Sb**	**01 35 11.3**	**+0.3**
	comp=N,9μm,0.5s						
SKY	**Skiros Island**	**0.97**	**102**	P	**Pb**	**01 34 57.7**	**-0.1**
SKY				AML	AML	01 35 14.6	
	comp=E,17152μm,0.2s						
SKY				AML	AML	01 35 14.8	
	comp=N,14613μm,0.5s						
TYRN	**Tyrnavos**	**1.05**	**306**	P	**Pg**	**01 34 57.6**	**-1.3**
TYRN				S	**Sg**	**01 35 12.2**	**-0.4**
	comp=N,3μm,0.6s						
TYRN	**Tyrnavos**	**1.05**	**306**	P	**Pg**	**01 34 57.8**	**-1.1**
DION	**Dionisos Attik**	**1.11**	**155**	P	**Pb**	**01 35 00.6**	**+0.2**
DION	**Dionisos Attik**	**1.11**	**155**	P	**Pg**	**01 34 59.7**	**-0.3**
DION				AML	AML	01 35 18.5	
	comp=N,17388μm,0.8s						
DION				AML	AML	01 35 18.6	
	comp=E,19206μm,0.6s						
PTL	**Penteli**	**1.12**	**158**	P	**Pb**	**01 35 00.7**	**+0.3**
PTL				S	**Sb**	**01 35 16.0**	**+0.7**
	comp=E,5μm,0.6s						
PTL	**Penteli**	**1.12**	**158**	P	**Pg**	**01 35 00.2**	**0.0**
PTL				AML	AML	01 35 19.2	
	comp=E,8880μm,0.5s						
PTL				AML	AML	01 35 19.7	
	comp=N,11025μm,0.6s						
THL	**Klokotos Trika**	**1.13**	**295**	P	**Pg**	**01 34 58.4**	**-1.9**
THL				S	**Sg**	**01 35 14.3**	**-0.7**
	comp=N,3μm,0.8s						
THL	**Klokotos Trika**	**1.13**	**295**	P	**Pg**	**01 34 58.6**	**-1.7**
THL				AML	AML	01 35 16.3	
	comp=N,4896μm,1.0s						
THL				AML	AML	01 35 17.6	
	comp=E,6688μm,0.7s						
LOUT	**Loutraki**	**1.14**	**194**	P	**Pg**	**01 34 59.3**	**-1.2**
LOUT	**Loutraki**	**1.14**	**194**	P	**Pg**	**01 34 59.3**	**-1.2**
ATH	**Athens Observa**	**1.16**	**165**	P	**Pg**	**01 35 00.3**	**-0.5**
ATH				S	**Sg**	**01 35 15.6**	**-0.3**
	comp=E,5μm,0.4s						
ATH	**Athens Observa**	**1.16**	**165**	P	**Pg**	**01 35 00.4**	**-0.5**
ATH				AML	AML	01 35 17.2	
	comp=E,14103μm,0.3s						
ATH				AML	AML	01 35 19.8	
	comp=N,5884μm,0.4s						
KALE	**Kalithea**	**1.17**	**234**	P	**Pg**	**01 34 59.4**	**-1.7**
KALE	**Kalithea**	**1.17**	**234**	P	**Pg**	**01 34 59.4**	**-1.7**
KALE				AML	AML	01 35 15.4	
	comp=E,5374μm,0.5s						
KALE				AML	AML	01 35 16.5	
	comp=N,7395μm,0.5s						
THAL	**Thalero**	**1.18**	**207**	P	**Pg**	**01 34 59.8**	**-1.4**
THAL				S	**Sg**	**01 35 16.5**	**0.0**
	comp=N,7μm,0.6s						
THAL	**Thalero**	**1.18**	**207**	P	**Pg**	**01 34 60.0**	**-1.3**
THAL				AML	AML	01 35 19.4	
	comp=E,14286μm,0.5s						
THAL				AML	AML	01 35 21.5	
	comp=N,10423μm,0.4s						
ATHU	**Athens Univers**	**1.18**	**162**	P	**Pg**	**01 35 00.5**	**-0.7**
ATHU	**Athens Univers**	**1.18**	**162**	P	**Pg**	**01 35 00.6**	**-0.7**
EVR	**Evrytania**	**1.20**	**262**	P	**Pg**	**01 35 00.4**	**-1.3**
EVR	**Evrytania**	**1.20**	**262**	P	**Pg**	**01 35 00.4**	**-1.3**
EVR				AML	AML	01 35 24.7	
	comp=E,2920μm,0.9s						
EVR				AML	AML	01 35 26.6	
	comp=N,3138μm,0.6s						
ANX	**Ano Chora**	**1.21**	**246**	P	**Pg**	**01 34 59.7**	**-2.2**
ANX	**Ano Chora**	**1.21**	**246**	P	**Pg**	**01 34 59.8**	**-2.1**
ANX				AML	AML	01 35 24.0	
	comp=N,4424μm,0.6s						
ANX				AML	AML	01 35 24.3	
	comp=E,5238μm,0.8s						
TRIZ	**Trizonia**	**1.22**	**234**	P	**Pg**	**01 35 00.1**	**-2.1**
TRIZ	**Trizonia**	**1.22**	**234**	P	**Pg**	**01 35 00.2**	**-1.9**
ALIK	**Aliki, Aigiali**	**1.27**	**229**	P	**Pg**	**01 35 02.4**	**-0.6**
VLY	**Voula,Athens**	**1.29**	**164**	P	**Pg**	**01 35 02.8**	**-0.6**
VLY				S	**Sg**	**01 35 19.9**	**-0.2**
	comp=E,5μm,0.6s						
VLY	**Voula,Athens**	**1.29**	**164**	P	**Pg**	**01 35 02.8**	**-0.6**
VLY				AML	AML	01 35 22.0	
	comp=E,11381μm,0.7s						
VLY				AML	AML	01 35 22.9	
	comp=N,8786μm,0.5s						
EFP	**Efpalio**	**1.30**	**240**	P	**Pg**	**01 35 01.6**	**-2.0**
EFP	**Efpalio**	**1.30**	**240**	P	**Pg**	**01 35 01.6**	**-2.0**
EFP				AML	AML	01 35 23.0	
	comp=E,2600μm,0.4s						
EFP				AML	AML	01 35 26.1	
	comp=N,5455μm,1.2s						
OUR	**Ouranopolis**	**1.34**	**22**	Pn	**Pn**	**01 35 02.9**	**-0.9**
OUR				Sn	**Sb**	**01 35 21.6**	**+0.1**
OUR	**Ouranopolis**	**1.34**	**22**	P	**Pn**	**01 35 03.0**	**-0.9**
OUR	**Ouranopolis**	**1.34**	**22**	P	**Pn**	**01 35 03.1**	**-0.8**
OUR				AML	AML	01 35 24.6	
	comp=E,4979μm,0.5s						
OUR				AML	AML	01 35 25.5	
	comp=N,5798μm,0.3s						
LAKA	**Lakka**	**1.36**	**232**	P	**Pn**	**01 35 03.4**	**-0.8**
LAKA	**Lakka**	**1.36**	**232**	P	**Pn**	**01 35 03.3**	**-0.8**
LAKA				AML	AML	01 35 26.4	
	comp=N,5457μm,0.8s						
LAKA				AML	AML	01 35 28.5	
	comp=E,5134μm,0.5s						
EFSA	**Agios Efstrati**	**1.36**	**70**	P	**Pn**	**01 35 03.3**	**-0.8**
GUR	**Goura**	**1.39**	**214**	P	**Pn**	**01 35 03.6**	**-1.0**
GUR	**Goura**	**1.39**	**214**	P	**Pn**	**01 35 03.7**	**-1.0**
GUR				AML	AML	01 35 26.7	
	comp=N,9080μm,0.4s						
GUR				AML	AML	01 35 28.8	
	comp=E,4884μm,0.5s						
KLV	**Kalavryta, Ach**	**1.40**	**222**	P	**Pn**	**01 35 03.9**	**-0.8**
KLV	**Kalavryta, Ach**	**1.40**	**222**	P	**Pn**	**01 35 03.7**	**-1.0**
KLV				AML	AML	01 35 26.2	
	comp=N,1716μm,0.8s						
KLV				AML	AML	01 35 29.2	
	comp=E,2000μm,0.6s						
UPR	**University Cam**	**1.45**	**237**	P	**Pn**	**01 35 05.4**	**0.0**
EPID	**Epidavros**	**1.48**	**187**	P	**Pn**	**01 35 05.0**	**-0.9**
PVO	**Paravola**	**1.49**	**252**	P	**Pn**	**01 35 04.4**	**-1.5**
PVO	**Paravola**	**1.49**	**252**	P	**Pn**	**01 35 04.6**	**-1.3**
HORT	**Hortiatis**	**1.52**	**353**	Pn	**Pn**	**01 35 05.5**	**-0.9**
HORT				Sn	**Sn**	**01 35 25.5**	**-1.0**
HORT	**Hortiatis**	**1.52**	**353**	P	**Pn**	**01 35 05.4**	**-0.9**
HORT	**Hortiatis**	**1.52**	**353**	P	**Pn**	**01 35 05.5**	**-0.9**
HORT				AML	AML	01 35 26.9	
	comp=N,2516μm,0.4s						
HORT				AML	AML	01 35 30.7	
	comp=E,3200μm,0.6s						
THE	**Thessaloniki**	**1.57**	**350**	P	**Pn**	**01 35 05.8**	**-1.1**
THE	**Thessaloniki**	**1.57**	**350**	P	**Pn**	**01 35 05.9**	**-1.1**
	baz=349						
THE				S	**Sn**	**01 35 24.9**	**-2.6**
	baz=349						
THE	**Thessaloniki**	**1.57**	**350**	P	**Pn**	**01 35 05.9**	**-1.1**
LIA	**Limnos Island**	**1.64**	**60**	P	**Pn**	**01 35 07.1**	**-0.9**
LIA				S	**Sg**	**01 35 31.6**	**+0.1**
	comp=E,3μm,1.2s						
LIA	**Limnos Island**	**1.64**	**60**	P	**Pn**	**01 35 07.1**	**-0.9**
LIA				AML	AML	01 35 35.0	
	comp=N,5843μm,1.0s						
LIA				AML	AML	01 35 35.9	
	comp=E,4118μm,0.8s						
KRND	**KRANIDI**	**1.71**	**185**	P	**Pn**	**01 35 08.3**	**-0.7**
KRND	**KRANIDI**	**1.71**	**185**	P	**Pn**	**01 35 08.3**	**-0.7**
KRND				AML	AML	01 35 36.7	
	comp=N,2433μm,0.6s						
KRND				AML	AML	01 35 39.4	
	comp=E,3785μm,0.7s						
SOH	**Sokhos**	**1.73**	**1**	P	**Pn**	**01 35 08.9**	**-0.4**
SOH	**Sokhos**	**1.73**	**1**	P	**Pn**	**01 35 08.9**	**-0.4**
SOH				AML	AML	01 35 34.4	
	comp=N,2750μm,0.5s						
SOH				AML	AML	01 35 37.3	
	comp=E,3418μm,0.7s						
YDRA	**Hydra**	**1.74**	**177**	P	**Pn**	**01 35 08.8**	**-0.6**
KPRO	**Kipourio**	**1.75**	**300**	P	**Pn**	**01 35 09.1**	**-0.5**
KPRO	**Kipourio**	**1.75**	**300**	P	**Pn**	**01 35 09.2**	**-0.5**
KPRO				AML	AML	01 35 41.4	
	comp=E,2446μm,1.3s						
KPRO				AML	AML	01 35 46.0	
	comp=N,3720μm,0.8s						
RLS	**Riolos of Patr**	**1.79**	**235**	P	**Pn**	**01 35 09.3**	**-0.7**
RLS	**Riolos of Patr**	**1.79**	**235**	P	**Pn**	**01 35 09.0**	**-1.1**
RLS				AML	AML	01 35 40.9	
	comp=E,1027μm,0.7s						
RLS				AML	AML	01 35 42.8	
	comp=N,1242μm,0.7s						
KOKK	**Kokkinochori,**	**1.80**	**16**	P	**Pn**	**01 35 09.3**	**-0.9**
KOKK	**Kokkinochori,**	**1.80**	**16**	P	**Pn**	**01 35 09.4**	**-0.8**
AST1	**Astakos**	**1.84**	**253**	P	**Pn**	**01 35 11.0**	**+0.3**
THAS	**Thassos island**	**1.85**	**35**	P	**Pn**	**01 35 09.7**	**-1.2**
THAS	**Thassos island**	**1.85**	**35**	P	**Pn**	**01 35 09.9**	**-1.1**
SIGR	**SIGRI**	**1.96**	**86**	Pn	**Pn**	**01 35 11.1**	**-1.4**
SIGR	**SIGRI**	**1.96**	**86**	P	**Pn**	**01 35 11.9**	**-0.6**
SIGR	**SIGRI**	**1.96**	**86**	P	**Pn**	**01 35 12.1**	**-0.4**
SIGR				AML	AML	01 35 49.0	
	comp=N,1542μm,0.8s						
SIGR				AML	AML	01 35 51.7	
	comp=E,939μm,0.7s						
GRG	**Griva**	**2.00**	**339**	Pn	**Pn**	**01 35 12.1**	**-0.9**
GRG	**Griva**	**2.00**	**339**	P	**Pn**	**01 35 12.0**	**-0.9**
JAN	**Janina**	**2.00**	**287**	P	**Pn**	**01 35 13.3**	**+0.2**
JAN	**Janina**	**2.00**	**287**	P	**Pn**	**01 35 13.2**	**+0.2**
JAN				AML	AML	01 35 47.3	
	comp=N,1852μm,0.5s						
JAN				AML	AML	01 35 47.9	
	comp=E,1615μm,0.5s						
PENT	**Pentalofos**	**2.02**	**304**	P	**Pn**	**01 35 13.2**	**-0.2**
PENT	**Pentalofos**	**2.02**	**304**	P	**Pn**	**01 35 13.2**	**-0.2**
SRS	**Serrai**	**2.03**	**6**	P	**Pn**	**01 35 12.4**	**-1.1**
SRS	**Serrai**	**2.03**	**6**	*e*Pn	**Pn**	**01 35 12.4**	**-1.1**
SRS				*e*Sn	**Sn**	**01 35 37.3**	**-1.8**
SRS	**Serrai**	**2.03**	**6**	P	**Pn**	**01 35 12.9**	**-0.5**
SRS				AML	AML	01 35 42.0	
	comp=E,767μm,0.6s						
SRS				AML	AML	01 35 46.0	
	comp=N,664μm,1.1s						
NYDR	**Nydri-Lefkada**	**2.09**	**260**	P	**Pn**	**01 35 15.5**	**+1.3**
KNT	**Kendrikon**	**2.10**	**351**	Pn	**Pn**	**01 35 13.3**	**-1.0**
KNT	**Kendrikon**	**2.10**	**351**	P	**Pn**	**01 35 14.2**	**-0.1**
KNT	**Kendrikon**	**2.10**	**351**	P	**Pn**	**01 35 14.4**	**+0.1**
LKD2	**Lefkada island**	**2.11**	**263**	P	**Pb**	**01 35 16.4**	**-0.9**
LKD2	**Lefkada island**	**2.11**	**263**	P	**Pb**	**01 35 16.3**	**-1.0**
	baz=259						
LKD2				S	**Sb**	**01 35 43.3**	**-0.4**
	baz=259						
KAVA	**Kavala**	**2.11**	**25**	P	**Pn**	**01 35 13.2**	**-1.2**
EVGI	**Lefkada island**	**2.14**	**258**	P	**Pn**	**01 35 15.8**	**+0.9**
SMTH	**Samothraki Isl**	**2.18**	**50**	P	**Pn**	**01 35 13.6**	**-1.9**
SMTH	**Samothraki Isl**	**2.18**	**50**	P	**Pn**	**01 35 14.1**	**-1.4**
DRAG	**Dragano-Lefkad**	**2.19**	**260**	P	**Pb**	**01 35 17.4**	**-1.3**
NEST	**Nestorio**	**2.20**	**308**	P	**Pn**	**01 35 16.6**	**+0.8**
NEST	**Nestorio**	**2.20**	**308**	P	**Pn**	**01 35 16.1**	**+0.2**
NEST				AML	AML	01 36 03.4	
	comp=N,1341μm,0.7s						
NEST				AML	AML	01 36 05.8	
	comp=E,1025μm,1.0s						
GPNR	**Gulpinar-Canak**	**2.20**	**80**	Pn	**Pn**	**01 35 14.4**	**-1.3**
KOCA	**Canakkale, Ayv**	**2.21**	**78**	P	**Pn**	**01 35 14.5**

LTHK	Lithakia	2.40 236	P	Pn	01 35 19.7	+1.3
LTHK	Lithakia	2.40 236	P	Pn	01 35 18.9	+0.5
KEF4	Livadi, Kephal	2.42 251	P	Pn	01 35 19.6	+0.8
EZN	Ezine	2.43 71	Pn	Pn	01 35 17.6	-1.2
EZN	Ezine	2.43 71	P	Pn	01 35 17.9	-0.9
KARB	zmir-Karabur	2.44 99	P	Pn	01 35 18.3	-0.7
RFT1	Sazli	2.45 79	Pn	Pn	01 35 17.2	-2.0
DMLN	Damoulianata-K	2.47 251	P	Pn	01 35 19.5	+0.1
KBN	Korca	2.49 309	P	Pn	01 35 20.4	+0.7
KBN	Korca	2.49 309	P	Pn	01 35 20.6	+0.8
	baz=306					
KBN			S	Sn	01 35 50.2	-0.2
	baz=306					
KBN			AMP			
	comp=N,3.2nm,1.1s,baz=306					
KEF3	Kipouria, Keph	2.50 250	P	Pn	01 35 20.4	+0.6
PYL	PYLOS	2.53 210	P	Pn	01 35 21.2	+1.0
PYL	PYLOS	2.53 210	P	Pn	01 35 20.4	+0.2
PYL			AML	AML	01 36 04.5	
	comp=E,506µm,1.4s					
PYL			AML	AML	01 36 07.4	
	comp=N,565µm,0.9s					
MHLO	Agia Marina, M	2.54 160	P	Pn	01 35 20.5	+0.1
CNKL	anakkale-Mer	2.55 67	P	Pn	01 35 18.7	-1.8
CNKL			S	Sn	01 35 45.1	-6.8
BAYC	CANAKKALE_Bayr	2.57 74	P	Pn	01 35 20.1	-0.7
BAYC			S	Sn	01 35 47.5	-4.9
AYVA	Ayvalik	2.62 84	P	Pb	01 35 26.3	+0.4
URLA	Izmir	2.65 105	Pn	Pn	01 35 20.9	-1.1
RDO	Rodhopi	2.66 39	Pn	Pn	01 35 21.2	-0.9
RDO	Rodhopi	2.66 39	P	Pn	01 35 21.0	-1.0
RDO	Rodhopi	2.66 39	P	Pn	01 35 21.1	-0.9
APE	Apeiranthos	2.66 139	⇓S	Sb	01 36 01.9	+2.3
APE	Apeiranthos	2.66 139	Pn	Pn	01 35 21.2	-0.9
APE	Apeiranthos	2.66 139	P	Pn	01 35 21.6	-0.5
APE	Apeiranthos	2.66 139	P	Pn	01 35 21.8	-0.3
APE			AML	AML	01 36 09.9	
	comp=N,1145µm,0.9s					
APE			AML	AML	01 36 09.9	
	comp=E,1206µm,1.1s					
SRN	Sarande	2.70 288	P	Pn	01 35 24.0	+1.5
SRN	Sarande	2.70 288	P	Pn	01 35 24.3	+1.8
	baz=285					
SRN			S	Sn	01 35 57.5	+2.0
	baz=285					
SRN			AMP			
	comp=N,0.8nm,0.6s,baz=285					
RFT5	Foca	2.70 98	Pn	Pn	01 35 21.6	-1.0
CAVK	Edirne/Enez-Ca	2.70 53	P	Pn	01 35 23.2	+0.6
PEHC	Pehcevo	2.71 353	*i* Pn	Pn	01 35 22.8	0.0
PEHC			*i* Sn	Sn	01 35 54.1	-1.7
ENEZ	Enez	2.72 52	Pn	Pn	01 35 21.8	-1.1
ENEZ	Enez	2.72 52	P	Pn	01 35 21.8	-1.1
GELI	Tayfur-Gelibol	2.75 61	Pn	Pn	01 35 22.2	-1.1
ALN	Alexandroupoli	2.76 48	Pn	Pn	01 35 22.3	-1.1
ALN	Alexandroupoli	2.76 48	P	Pn	01 35 22.2	-1.1
ALN	Alexandroupoli	2.76 48	P	Pn	01 35 23.3	-0.1
RFT2	Karaagac	2.76 82	Pn	Pn	01 35 22.3	-1.1
DKL	Dikili	2.78 89	Pn	Pn	01 35 22.8	-0.9
RFT7	Candarli	2.80 92	Pn	Pn	01 35 22.5	-1.4
OHR	Ohrid	2.80 317	*e*Pn	Pn	01 35 24.9	+0.9
OHR			*e*Sn	Sn	01 35 59.8	+1.7
OHR	Ohrid	2.80 317	*i* Pn	Pn	01 35 26.3	+2.3
OHR			*i* Sn	Sg	01 36 16.0	+7.3
KEK	Kerkira	2.81 284	P	Pn	01 35 25.1	+1.0
KTHA	Kythira Island	2.84 184	Pn	Pn	01 35 23.8	-0.7
KTHA	Kythira Island	2.84 184	P	Pn	01 35 24.1	-0.4
KTHA	Kythira Island	2.84 184	P	Pn	01 35 23.9	-0.5
ERIK	Erikli-Kesan	2.91 56	Pn	Pn	01 35 24.5	-1.0
LPK	Lapseki	2.94 63	Pn	Pn	01 35 24.8	-1.0
KDZ	Kurdzhali	2.96 31	Pn	Pn	01 35 25.6	-0.6
SMG	Samos	3.08 116	P	Pn	01 35 27.9	0.0
SMG	Samos	3.08 116	P	Pn	01 35 27.8	0.0
THR5	Thira Island,	3.11 148	P	Pn	01 35 28.7	+0.5
THR2	Thira island,	3.12 147	P	Pn	01 35 28.4	0.0
THR3	Thira Island,	3.14 148	P	Pn	01 35 29.4	+0.8
SNT5	Nea Kammeni, S	3.14 148	P	Pn	01 35 29.4	+0.8
THR8	Santorini-Mono	3.17 147	P	Pn	01 35 29.2	+0.1
THR6	Thira Island,	3.18 148	P	Pn	01 35 29.6	+0.4
SANT	Santorini	3.19 148	Pn	Pn	01 35 29.3	-0.1
SANT	Santorini	3.19 148	P	Pn	01 35 29.4	0.0
ANKY	Antikythira Is	3.22 180	P	Pn	01 35 29.6	-0.1
ANKY	Antikythira Is	3.22 180	P	Pn	01 35 29.2	-0.5
PLD	Plovdiv	3.24 19	Pn	Pn	01 35 28.7	-1.3
PLD	Plovdiv	3.24 19	*e*Pn	Pn	01 35 29.8	-0.2
PLD			*e*Sn	Sn	01 36 06.8	-2.0
UKOP	Uzunkopru-Edir	3.25 50	Pn	Pn	01 35 28.9	-1.2
VLO	Vlora	3.26 296	P	Pn	01 35 33.0	+2.7
VLO	Vlora	3.26 296	P	Pn	01 35 33.0	+2.7
	baz=294					
VLO			S	Sn	01 36 10.8	+1.5
	baz=294					
VLO			AMP			
	comp=N,1.8nm,0.7s,baz=294					
KRBG	Karabiga-Canak	3.32 66	Pn	Pn	01 35 30.0	-1.1
SART	Tekirdag	3.36 60	P	Pn	01 35 31.0	-0.8
GCAM	G?zelcaml?	3.36 113	Pn	Pn	01 35 30.6	-1.1
BALY	Balya	3.38 78	P	Pn	01 35 34.1	+2.0
STEP	BALIKESIR_Sava	3.42 84	P	Pn	01 35 33.0	+0.5
BOSS	Bosilegrad	3.46 349	*e*Pn	Pn	01 35 32.9	-0.2
TIR	Tirane	3.48 311	P	Pb	01 35 37.1	-3.6
	baz=310					
TIR	Tirane	3.48 311	*e*Pn	Pn	01 35 35.0	+1.7
VTS	Vitosha	3.52 359	⇓P	Pn	01 35 35.0	+1.0
VTS	Vitosha	3.52 359	*e*Pn	Pn	01 35 33.6	-0.5
VTS			*e*Sn	Sn	01 36 14.9	-1.2
RODP	Rodopos	3.54 174	P	Pn	01 35 35.1	+1.0
PRVS	Prvonek	3.54 345	*e*Pn	Pn	01 35 34.2	0.0
BKES	Balkesir-Mer	3.62 78	P	Pn	01 35 35.7	+0.5
IMMV	Iera Moni Meta	3.66 172	P	Pn	01 35 35.8	0.0
IMMV	Iera Moni Meta	3.66 172	P	Pn	01 35 35.7	0.0
EDRB	Edirne	3.79 42	P	Pn	01 35 37.7	+0.2
BARS	Barje	3.90 343	*e*Pn	Pn	01 35 39.0	0.0
IDI	Anoyia	3.99 161	P	Pn	01 35 40.6	+0.2
IDI	Anoyia	3.99 161	Pn	Pn	01 35 40.8	+0.4
	comp=N,2.3nm,0.3s,baz=274,slow=4.4,SNR=24					
IDI			Sn	Sn	01 36 25.1	-2.5
	comp=N,2.7nm,0.3s,baz=346,slow=12,SNR=3.7					
	comp=N,6.3nm,0.3s					
BCI	Bajram Curri	4.11 324	P	Pn	01 35 42.9	+1.0
	baz=323					
BCI			AMP			
	comp=N,0.8nm,1.2s,baz=323					
KULA	Kula-Manisa	4.20 96	P	Pn	01 35 43.2	-0.1
ZAPS	Zavoj	4.21 353	*e*Pn	Pn	01 35 43.8	+0.4
DRME	Dracevica, Mon	4.42 316	*e*Pn	Pn	01 35 47.4	+1.2
SELS	Selova	4.45 339	*e*Pn	Pn	01 35 45.9	-0.8
PDG	Podgorica	4.55 318	⇓P	Pn	01 35 48.5	+0.5
PDG	Podgorica	4.55 318	*e*Pn	Pn	01 35 49.1	+1.1
PDG			*e*Sn	Sn	01 36 41.3	+0.1
PDG	Podgorica	4.55 318	*e*Pn	Pn	01 35 49.1	+1.1
KARP	Karpathos	4.67 138	P	Pn	01 35 50.6	+0.9
BOVS	Bovan	4.70 345	⇑P	Pn	01 35 49.6	-0.4
BOVS	Bovan	4.70 345	*e*Pn	Pn	01 35 49.0	-1.1
ZAGS	Zajecar	4.79 350	*e*Pn	Pn	01 35 50.9	-0.4
SJES	Sjenica	4.88 330	*e*Pn	Pn	01 35 53.1	+0.5
SJES	Sjenica	4.88 330	*e*Pn	Pn	01 35 52.5	-0.1
LOZB	Loznitsa	4.93 29	⇑P	Pn	01 35 53.3	+0.1
HCY	Herceg Novi	4.97 314	*e*Pn	Pn	01 35 54.1	+0.3
GRUS	Gruza	5.18 339	*e*Pn	Pn	01 35 56.5	-0.2
TREB	Trebinje	5.23 315	*e*Pn	Pn	01 35 57.5	+0.1
TREB	Trebinje	5.23 315	*e*Pn	Pn	01 35 57.7	+0.3
BRY	Bratogost	5.26 318	*e*Pn	Pn	01 35 58.2	+0.3
UPM	Unac-Piva	5.30 322	*e*Pn	Pn	01 35 59.4	+1.0
MATE	Matera	5.33 289	⇑P	Pn	01 35 58.9	+0.2
RUDO	Rudo	5.42 328	*e*Pn	Pn	01 35 59.4	-0.5
KUBS	Kucevo	5.46 347	*e*Pn	Pn	01 35 58.9	-1.6
TRUS	Trudelj	5.58 338	*e*Pn	Pn	01 36 01.3	-0.8
DIVS	Divibare	5.59 334	*e*Pn	Pn	01 36 02.1	-0.4
DIVS	Divibare	5.59 334	*e*Pn	Pn	01 36 02.0	-0.4
BBLS	Lazići	5.61 330	*e*Pn	Pn	01 36 02.7	+0.1
BBLS	Lazići	5.61 330	*e*Pn	Pn	01 36 02.0	-0.6
STON	Ston	5.70 313	*e*Pn	Pn	01 36 03.0	-0.7
STON	Ston	5.70 313	*e*Pn	Pn	01 36 02.6	-1.1
NEVS	Nevesinje	5.76 319	*e*Pn	Pn	01 36 06.4	+1.6
MDVR	Moldovita	5.81 349	⇑P	Pn	01 36 04.7	-0.7
HERR	Herculane	5.83 354	⇓P	Pn	01 36 06.5	+1.0
TEKS	Tekeris	6.15 334	*e*Pn	Pn	01 36 10.0	0.0
TEKS	Tekeris	6.15 334	*e*Pn	Pn	01 36 08.5	-1.5
ARR	Arges	6.35 8	⇑P	Pn	01 36 13.9	+1.1
LOT	Lotru	6.36 3	⇑P	Pn	01 36 13.9	+0.9
VOIR		6.47 11	⇑P	Pn	01 36 14.9	+0.5
FRGS	Fruska Gora	6.60 338	⇓P	Pn	01 36 16.2	0.0
FRGS	Fruska Gora	6.60 338	*e*Pn	Pn	01 36 16.0	-0.2
FRGS	Fruska Gora	6.60 338	*e*Pn	Pn	01 36 16.0	-0.2
BZS	Buzias	6.64 350	⇑P	Pn	01 36 16.0	-0.7
MLR	Muntele Rosu	6.68 16	⇓P	Pn	01 36 19.4	+2.0
MLR	Muntele Rosu	6.68 16	Pn	Pn	01 36 18.0	+0.6
	comp=N,2.8nm,0.3s,baz=294,slow=16,SNR=14					
MLR			Sn	Sn	01 37 31.3	-2.6
	baz=349,slow=21					
MLR			Lg	Lg	01 38 08.2	
	baz=17,slow=22					
MLR			LR	LR	01 39 16.9	
	comp=N,108nm,18.2s,baz=269,slow=42					
	comp=N,7.6nm,0.4s					
SURR	Surduc	6.72 353	⇑P	Pn	01 36 17.4	-0.4
SRKY	Kupres RS	6.79 319	*e*Pn	Pn	01 36 19.4	+0.5
DEV	Deva	6.80 357	⇓P	Pn	01 36 18.8	-0.1
DOPR	Dopca	7.04 12	⇓P	Pn	01 36 23.1	+1.0
CFR	Carcaliu	7.05 29	⇓P	Pn	01 36 23.8	+1.5
COVR	Voineasa-Covas	7.08 17	⇑P	Pn	01 36 24.4	+1.7
MGRS	Mrkonjic Grad	7.08 321	*e*Pn	Pn	01 36 24.6	+1.8
PLOR	Plostina	7.19 19	⇑P	Pn	01 36 25.5	+1.2
VAE	Valguarnera	7.20 260	Pn	Pn	01 36 24.9	+0.5
	comp=N,0.4nm,0.3s,baz=82,slow=15,SNR=2.2					
VAE			Sn	Sn	01 37 45.9	-0.6
	comp=N,0.6nm,0.3s,baz=214,slow=8.2,SNR=2.3					
	comp=N,2.2nm,0.4s					
VRI	Vrincioaia	7.22 19	⇑P	Pn	01 36 26.4	+1.7
BLY	Banja Luka	7.28 323	*e*Pn	Pn	01 36 25.2	-0.2
BLY	Banja Luka	7.28 323	*e*Pn	Pn	01 36 24.4	-1.0
A051A	Mrakovica	7.61 323	*e*Pn	Pn	01 36 29.8	-0.2
CJR	Cluj-Napoca	7.62 1	⇓P	Pn	01 36 30.4	+0.2
TESR	Tescani	7.81 17	⇑P	Pn	01 36 34.4	+1.7
MORH	Mrgy, Hungar	7.91 336	⇓P	Pn	01 36 34.2	+0.1
BRTR	Keskin Array B	8.01 82	Pn	Pn	01 36 37.2	+1.6
	comp=N,0.3nm,0.3s,baz=263,slow=12,SNR=22					
BRTR			Lg	Lg	01 38 53.2	
	baz=257,slow=26,SNR=1.8					
BRTR			LR	LR	01 40 14.4	
	comp=N,87nm,19.0s,baz=294,slow=42					
	comp=N,1.2nm,0.5s					
BURAR	Bucovina Array	8.63 9	⇓P	Pn	01 36 44.6	+0.5
BOJS	Bojanci	8.77 320	*e*Pn	Pn	01 36 45.2	-0.7
CRES	Cresnjev	8.89 322	*e*Pn	Pn	01 36 47.0	-0.7
CEY	Cerknica	9.35 318	*e*Pn	Pn	01 36 53.1	-0.8
SKDS	Skadanscina	9.44 316	*e*Pn	Pn	01 36 54.1	-1.1
OBKA	Obir	9.82 322	*e*Pn	Pn	01 37 00.4	-0.1
	comp=N,0.7nm,0.4s					
OBKA	Obir	9.82 322	*e*Pn	Pn	01 36 59.5	-1.0
KOLS	Kolonicke sedl	9.87 356	*e*PN	Pn	01 37 02.6	+1.6
VYHS	Vyhne	9.94 342	*e*PN	Pn	01 37 03.5	+1.5
ARSA	Arzberg	9.95 328	*e*Pn	Pn	01 37 01.7	-0.4
	comp=N,2.0nm,0.4s					
RONA	Rosalia, Austr	10.01 332	*e*Pn	Pn	01 37 02.4	-0.6
	comp=N,0.5nm,0.3s					
CONA	Conrad Observa	10.36 331	*e*Pn	Pn	01 37 06.8	-1.0
	comp=N,0.5nm,0.4s					
MOA	Molln	10.95 326	*e*Pn	Pn	01 37 15.3	-0.5
	comp=N,0.7nm,0.4s					
ABTA	Abfaltersbach	11.02 317	*e*Pn	Pn	01 37 15.7	-1.1
	comp=N,0.6nm,0.3s					
MMAI	Mount Meron Ar	11.49 118	Pn	Pn	01 37 25.0	+1.7
	comp=N,0.3nm,0.3s,baz=296,slow=17,SNR=1.6					
	comp=N,0.4nm,0.4s					
KEST	Kesra	11.62 258	Pn	Pn	01 37 25.4	+0.3
	comp=N,0.1nm,0.3s,baz=72,slow=18,SNR=2.4					
KEST			LR	LR	01 43 14.3	
	comp=N,63nm,19.0s,baz=208,slow=44					
	comp=N,2.4nm,0.9s					
CKRC	Cesky Krumlov	11.69 329	*e*P	Pn	01 37 25.8	-0.1
WTTA	Wattenberg	11.81 318	*e*Pn	Pn	01 37 27.0	-0.7
	comp=N,0.4nm,0.2s					
WATA	Walderalm	11.88 318	*e*Pn	Pn	01 37 27.9	-0.8
	comp=N,1.1nm,0.3s					
GERES	GERESS Array B	11.96 328	Pn	Pn	01 37 31.4	+1.8
	comp=N,1.0nm,0.7s,baz=126,slow=13,SNR=1.3					
SQTA	Sankt Quirin	12.01 317	*e*Pn	Pn	01 37 29.4	-0.9
	comp=N,1.4nm,0.4s					
KHC	Kasperske Hory	12.23 328	*e*P	Pn	01 37 35.0	+1.7
DPC	Dobruska-Polom	12.30 338	*e*P	Pn	01 37 42.5	+8.2
AKASG	Malin Array Be	12.33 18	LR	LR	01 42 10.5	
	comp=N,60nm,18.2s,baz=326,slow=37					
DAVOX	Davos/Dischmat	12.49 312	LR	LR	01 42 56.4	
	comp=N,108nm,21.9s,baz=93,slow=40					
KBZ	Khabaz	15.39 66	Pn	P	01 38 19.5	-1.4
	baz=287,slow=17,SNR=3.2					
	comp=N,1.2nm,0.8s					
GNI	Garni	16.53 80	LR	LR	01 45 02.9	
	comp=N,51nm,18.4s,baz=292,slow=38					
ESDC	Sonseca Array	21.08 280	P	P	01 39 23.3	-0.3
	comp=N,1.3nm,0.8s,baz=78,slow=11,SNR=8.6					
	comp=N,1.3nm,0.8s					
HFS	Hagfors	21.92 347	P	P	01 39 33.3	+0.8
	comp=N,1.8nm,0.7s,baz=123,slow=10,SNR=2.0					
	comp=N,1.8nm,0.7s					
FINES	FINESS Array B	22.44 3	P	P	01 39 37.9	-0.1
	comp=N,1.8nm,0.5s,baz=180,slow=12,SNR=15					
FINES			LR	LR	01 49 35.8	
	comp=N,45nm,20.8s,baz=248,slow=40					
	comp=N,1.8nm,0.5s					
NB2	NORSAR Subarra	23.23 345	P	P	01 39 46.3	0.0
	comp=Z,4.7nm,1.0s,baz=156,slow=11					
NOA	NORSAR Array B	23.23 345	P	P	01 39 46.3	0.0
	comp=Z,1.4nm,0.8s,baz=151,slow=11,SNR=8.6					
NOA			LR	LR	01 49 16.8	
	comp=Z,22nm,20.6s,baz=305,slow=38					
	comp=Z,1.4nm,0.8s					
EKA	Eskdalemuir Ar	24.03 321	P	P	01 39 53.1	-0.9
	comp=Z,2.9nm,0.8s,baz=116,slow=9.3,SNR=4.9					
	comp=Z,2.9nm,0.8s					
ARCES	ARCESS Array B	30.53 2	P	P	01 40 51.7	-0.6
	comp=Z,3.2nm,1.1s,baz=205,slow=9.9,SNR=1.2					
ARCES			LR	LR	01 55 30.1	
	comp=Z,54nm,18.6s,baz=98,slow=41					
	comp=Z,3.2nm,1.1s					
TORD	Torodi Ar. Bea	32.16 222	P	P	01 41 07.4	+0.3
	comp=Z,0.7nm,0.5s,baz=30,slow=9.6,SNR=14					
	comp=Z,0.7nm,0.5s					
KURBB	Kurchatov Arra	39.91 55	P	P	01 42 13.4	+0.2
	comp=Z,0.3nm,0.5s,baz=280,slow=8.6,SNR=4.9					
	comp=Z,0.3nm,0.5s					
MKAR	Makanchi Array	42.94 60	P	P	01 42 38.9	+0.7
	comp=Z,1.4nm,0.6s,baz=276,slow=7.4,SNR=13					
	comp=Z,1.4nm,0.6s					
ZALV	Zalesovo Beam	43.44 49	P	P	01 42 42.3	+0.3
	comp=Z,1.5nm,0.6s,baz=276,slow=7.6,SNR=6.9					
	comp=Z,1.5nm,0.6s					
HHC	Hu-ho-hao-te	64.70 57	*e*P	P	01 45 18.1	+0.5
HHC			pmax	pmax		
	comp=Z,28nm,0.6s					
HHC			pmax	pmax		
	comp=Z,930nm,4.9s					
XLT	XiLinHaoTe	65.99 52	*e*P	P	01 45 30.3	+4.5
XLT			sP	sP	01 45 37.6	+8.8
XLT			pmax	pmax		
	comp=Z,11nm,0.9s					
XLT			pmax	pmax		
	comp=Z,360nm,7.1s					
SUR	Sutherland	71.15 182	LR	LR	02 20 07.7	
	comp=Z,32nm,21.4s,baz=287,slow=38					
NEW	Newport	86.20 335	LR	LR	02 30 10.4	
	comp=Z,21nm,21.6s,baz=108,slow=39					
SIV	San Ignacio	95.68 254	LR	LR	02 32 03.6	
	comp=Z,21nm,18.4s,baz=322,slow=36					

NEIC ***22*** *01:37:07.1, 15°.17S×73°.99W, h90km*

NEIC ***22*** *01:37:07.1, 15°.17S×73°.99W, h90km, Moment Tensor Solution. Duration: 19s Moment tensor: Scale 10^{16}Nm; M_{rr}=0.29; $M_{\theta\theta}$=-3.78; $M_{\phi\phi}$=3.49; $M_{r\theta}$=0.12; $M_{\theta\phi}$=-0.70; $M_{\phi r}$=-0.41; Fault plane solution: M_o=3.73000×10^{16} NP1: ϕ_s=129.34000°, δ=85.77000°, λ=174.11000°. NP2: ϕ_s=219.78000°, δ=84.13000°, λ=4.25000°. Principal axes: T 3.6053, Plg7.0000°, Azm84.0000°; N 0.2405, Plg83.0000°, Azm274.0000°; P -3.8458, Plg1.0000°, Azm175.0000°;*

NEIC ***22*** *01:37:08.3±1.8, 15°.16S±0°.07×73°.97W±0°.09, h84km±4km, mb5.2/427, Mww5.0/12 Error ellipse: s-maj=13.5km s-min=8.4km az=56.0*

BJI ***22*** *01:37:09.0±0.0, 15°.20S×73°.90W, h80km, mB5.9/8*

IDC ***22*** *01:37:09.4±0.4, 15°.13S×74°.00W, h96km±3km, mb4.4/15, mbtmp4.8/21, MS3.7/24, Error ellipse: s-maj=15.8km s-min=7.8km az=56.0*

VAO ***22*** *01:37:09.5±0.3, 15°.08S×73°.80W, h90km, mb5.2*

GCMT ***22*** *01:37:13.3±0.4, 15°.15S±0°.02×74°.00W±0°.02, h135km±3km, MW5.1/74, Moment Tensor Solution. s29,c30; s74,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.59±.20; $M_{\theta\theta}$=-3.37±.16; $M_{\phi\phi}$=5.96±.19; $M_{r\theta}$=0.72±.13; $M_{\theta\phi}$=-1.78±.20; $M_{\phi r}$=1.57±.19; Best double couple: M_o=5.42100×10^{16} NP1: ϕ_s=28.00000°, δ=74.00000°, λ=-31.00000°. NP2: ϕ_s=128.00000°, δ=61.00000°, λ=-162.00000°. Principal axes: T 6.5100, Plg9.0000°, Azm80.0000°; N -2.1780, Plg56.0000°, Azm184.0000°; P -4.3320, Plg32.0000°, Azm345.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 01:37:08.3±0.3, 15°.18S±0°.04×73°.84W±0°.05, h91km±2km, h92km:pP-P, n893, σ1s09/768, mb5.2/220, 5C-6D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.31 317			Pn	01 38 09.3	-2.3
NNA	Nana	4.31 317		P	Pn	01 38 10.3	-1.4
	488nm,0.3s,baz=109,slow=9.4,SNR=48						
NNA				S	Sn	01 38 57.8	-3.0
	835nm,0.3s,baz=47,slow=15,SNR=7.3						
NNA				LR	LR	01 39 52.1	
	comp=Z,641nm,18.8s,baz=168,slow=39						
AP01	Chacalluta	4.62 134			Pn	01 38 16.9	+1.1
AP01	Chacalluta	4.62 134		*e*P	Pn	01 38 16.4	+0.6
AP01				*e*S	Sn	01 39 01.4	-6.9
PB12	IPOC Station P	4.80 136		Pn	Pn	01 38 18.1	-0.2
PB12	IPOC Station P	4.80 136		*e*P	Pn	01 38 18.0	-0.3
PB12				*e*S	Sn	01 39 06.4	-6.3
PB18	Visviri	4.83 120		Pn	Pn	01 38 22.1	+3.0
PB16	IPOC Station P	5.21 128		Pn	Pn	01 38 25.5	+1.2
PB16	IPOC Station P	5.21 128		*e*P	Pn	01 38 25.7	+1.3
PB16				*e*S	Sn	01 39 18.1	-5.3
LPAZ	La Paz	5.61 102		P	Pn	01 38 34.4	+4.5
	161nm,0.4s,baz=284,slow=7.9,SNR=508						
TA02	Huaiquique	6.18 146			Pn	01 38 36.5	-0.6
GO01	Chusmiza	6.30 136		Pn	Pn	01 38 39.2	+0.1
TA01	Diego Aracena	6.40 147		Pn	Pn	01 38 39.2	-0.8
PATCX	Punta Patache	6.62 149		Pn	Pn	01 38 42.3	-0.8
PB08	IPOC Station P	6.66 139			Pn	01 38 43.6	-0.3
PB01	IPOC Station P	7.16 145			Pn	01 38 49.6	-0.8
PB02	IPOC Station P	7.17 149			Pn	01 38 49.8	-0.8
CZSB	Cruzeiro do Su	7.48 9		Pn	Pn	01 38 53.8	-1.1
CZSB	Cruzeiro do Su	7.48 9		*e*P	Pn	01 38 54.1	-0.7
CZSB				*e*S	Sn	01 40 15.0	-3.2
CZSB	Cruzeiro do Su	7.48 9		*e*P	Pn	01 38 54.5	-0.4
PB07	IPOC Station P	7.52 151			Pn	01 38 54.4	-1.1
PB09	IPOC Station P	7.90 147			Pn	01 39 00.6	-0.1
PB04	IPOC Station P	7.93 154		Pn	Pn	01 38 59.8	-1.4
PB06	IPOC Station P	8.51 152		Pn	Pn	01 39 07.7	-1.2
LVC	Limon Verde	8.74 148		Pn	Pn	01 39 12.3	0.0
LVC	Limon Verde	8.74 148		*e*P	Pn	01 39 12.4	0.0
LVC	Limon Verde	8.74 148		P	Pn	01 39 12.9	+0.6
	35nm,0.3s,baz=329,slow=9.9,SNR=143						
LVC				S	Sn	01 40 44.9	-4.6
	156nm,0.4s,baz=47,slow=23,SNR=17						
LVC				LR	LR	01 42 37.4	
	comp=Z,243nm,18.5s,baz=314,slow=37						
ATAH	Atahualpa	9.15 330		P	Pn	01 39 16.7	-1.3
	7.7nm,0.6s,baz=175,slow=6.0,SNR=24						
ATAH				S	Sn	01 41 00.4	+0.9
	78nm,0.8s,baz=86,slow=7.6,SNR=2.0						
ETMB	Extrema	9.16 55		Pn	Pn	01 39 18.2	+0.6
ETMB	Extrema	9.16 55		*e*P	Pn	01 39 18.3	+0.6
PB14	IPOC Station P	9.94 162		Pn	Pn	01 39 26.7	-1.9
GO02	Mina Guanaco	10.71 159		Pn	Pn	01 39 38.5	-0.5
AC01	Pan de Azucar	11.33 165		Pn	Pn	01 39 45.2	-2.0
TBTG	Tabatinga, AM	11.59 20			Pn	01 39 49.9	-0.8
TBTG	Tabatinga, AM	11.59 20		*e*P	Pn	01 39 49.7	-1.0
TBTG	Tabatinga, AM	11.59 20		*e*P	Pn	01 39 49.9	-0.8
SAML	Samuel	12.12 61			Pn	01 39 56.3	-1.6
SAML	Samuel	12.12 61	⇑	*e*P	Pn	01 39 56.4	-1.6
SAML	Samuel	12.12 61		*e*P	Pn	01 39 56.3	-1.6
AZAP	Zapla	12.22 139		IAML		01 42 11.2	
	comp=Z,22nm,0.7s						
AZAP	Zapla	12.22 139		*i* P	Pn	01 39 55.1	-4.2
MCRA	Macar, Loja	12.31 330		*e*P	Pn	01 40 00.2	-0.2
SLA	San Lorenzo	12.31 142

ROSC IAmb IAmb 01 41 44.6
comp=Z,126nm,0.8s
ROSC El Rosal 19.89 359 *eP* **Pn 01 41 38.0 +2.6**
ROSC El Rosal 19.89 359 P **P 01 41 32.7 -0.3**
comp=Z,4.8nm,0.6s,baz=218,slow=14,SNR=1.7
PLMC San Jos del P 20.10 353 *eP* **P 01 41 35.6 +0.7**
MECA Mercedes 20.16 137 *eP* Pn 01 41 37.5 -0.6
GUY2C Guyana, Caldas 20.32 356 *eP* **P 01 41 38.8 +1.0**
C2SB Chapadao do Su 20.40 103 *eP* Pn 01 41 40.0 -1.1
ML02 Panimavida 20.62 174 P Pn 01 41 42.0 -1.4
ML02 IAmb IAmb 01 41 42.8
comp=Z,99nm,0.9s
NORC Norcasia 20.63 357 *eP* **P 01 41 41.9 +1.3**
SPBC San Pablo de B 20.69 359 *eP* **P 01 41 42.7 +1.3**
MCR1 Marechal Candi 20.78 119 *eP* **P 01 41 43.3 +1.1**
ITTB Itaituba 20.81 61 *eP* **P 01 41 43.5 +0.9**
RUSC La Rusia 20.95 2 *eP* **P 01 41 46.3 +1.8**
ITQB Itaqui 21.44 135 **P 01 41 50.3 +1.2**
ITQB IAmb IAmb 01 41 53.4
comp=Z,103nm,1.1s
ITQB Itaqui 21.44 135 *eP* **P 01 41 50.9 +1.7**
PTBC PUERTO BERRIO, 21.58 358 *eP* **P 01 41 50.3 -0.5**
BARC Barichara 21.64 2 *eP* **P 01 41 51.9 +0.2**
BOAV Boa Vista 21.88 38 P **P 01 41 54.1 +0.1**
BOAV Boa Vista 21.88 38 *eP* **P 01 41 55.0 +1.0**
BOAV Boa Vista 21.88 38 *eP* **P 01 41 55.4 +1.4**
CRSM Crissiumal (Br 22.11 127 *eP* **P 01 41 56.8 +0.5**
SNDB Serra Nova Dou 22.15 85 *eP* **P 01 41 56.6 -0.3**
DBBC Dabeiba 22.17 354 *eP* **P 01 42 00.3 +3.2**
FRBT Francisco Belt 22.19 122 *eP* **P 01 41 57.8 +0.5**
PCMB Pacaembu 22.35 110 *eP* **P 01 41 59.5 +0.5**
PAMC Pamplona, Colo 22.40 3 *eP* **P 01 42 00.1 +0.1**
PTGB Pitanga 22.54 118 *eP* **P 01 42 01.1 +0.1**
ZARC Zaragoza, Cauc 22.54 357 *eP* **P 01 42 00.6 -0.4**
RODS Rosario do Sul 22.83 135 *eP* **P 01 42 04.4 +0.5**
UREC San Jos de Ur 22.84 356 *eP* **P 01 42 02.9 -1.1**
ITRB Iturama 22.85 105 *eP* **P 01 42 04.8 +0.7**
LDASE Londrina, Braz 22.93 114 *eP* **P 01 42 05.4 +0.4**
APAC Apartado, Choc 23.09 353 *eP* **P 01 42 08.4 +1.9**
MALB Monte Alegre 23.42 57 *eP* **P 01 42 09.9 +0.4**
ITAB Concordia 23.49 124 P **P 01 42 10.4 +0.3**
ITAB Concordia 23.49 124 *eP* **P 01 42 11.0 +0.9**
ALGR Alto Alegre (B 23.54 129 *eP* **P 01 42 11.2 +0.6**
CPSB Cacapava Do Su 24.10 132 *eP* **P 01 42 16.5 +1.0**
SDV Santo Domingo 24.12 8 P **P 01 42 16.4 +0.4**
SDV IAmb IAmb 01 42 17.8
comp=Z,61nm,0.9s
SDV Santo Domingo 24.12 8 *eP* **P 01 42 17.2 +1.2**
SDV Santo Domingo 24.12 8 *eP* **P 01 42 17.1 +1.1**
SDV Santo Domingo 24.12 8 LR LR 01 51 25.2
comp=Z,85nm,20.2s,baz=232,slow=36
FRTB Fartura 24.29 113 *eP* **P 01 42 18.5 +1.1**
GO06 Curarrehue 24.41 176 P **P 01 42 19.1 +0.7**
BAUV El Baul 24.64 14 P **P 01 42 20.9 +0.3**
BB19B Bebedouro 24.75 107 *eP* **P 01 42 23.1 +1.5**
PLTB Pedras Altas 24.77 135 P **P 01 42 22.6 +0.9**
PLTB Pedras Altas 24.77 135 *eP* **P 01 42 22.4 +0.7**
BDFB Brasilia 24.90 95 P **P 01 42 22.9 -0.2**
BDFB IAmb IAmb 01 42 25.6
comp=Z,93nm,1.2s
BDFB Brasilia 24.90 95 P **P 01 42 24.4 +1.2**
comp=Z,34nm,0.9s,baz=261,slow=12,SNR=36
BDFB LR LR 01 53 12.2
comp=Z,237nm,20.1s,baz=254,slow=38
comp=Z,34nm,0.9s
BCIP Isla Barro Col 24.90 346 *eP* **P 01 42 24.1 +1.2**
SJCC San Jacinto, C 24.95 357 *eP* **P 01 42 23.9 +0.5**
TRQA Tornquist 25.09 157 P **P 01 42 25.4 +0.9**
PRPB Parauapebas 25.23 72 *eP* **P 01 42 26.5 +0.6**
CNLB Canela 25.44 127 *eP* **P 01 42 28.8 +0.9**
PLCA Paso Flores 25.62 174 P **P 01 42 29.9 +0.5**
PLCA Paso Flores 25.62 174 *eP* **P 01 42 31.2 +1.9**
PLCA Paso Flores 25.62 174 P **P 01 42 30.2 +0.8**
comp=Z,5.8nm,0.9s,baz=344,slow=11,SNR=8.5
PLCA pP **pP 01 42 50.6 0.0**
comp=Z,20nm,0.9s,baz=352,slow=12,SNR=15
PLCA LR LR 01 51 31.0
comp=Z,43nm,19.2s,baz=344,slow=34
comp=Z,5.8nm,0.9s
RCLB Rio Claro- Sao 25.90 110 *eP* **P 01 42 33.1 +1.0**
CRJC Cerrejon, Guaj 26.04 2 *eP* **P 01 42 32.6 -0.8**
MCPB Macapa, AP 26.08 58 *eP* **P 01 42 35.1 +1.5**
SMTB Santa Maria do 26.42 79 *eP* **P 01 42 37.8 +1.1**
PMNB Patos De Minas 26.43 101 *eP* **P 01 42 38.0 +1.1**
PET01 Itanhaem-SP 26.56 114 *eP* **P 01 42 39.7 +1.7**
RIMA Rio Macho 26.70 338 P **P 01 42 39.8 +0.4**
RIMA IAmb IAmb 01 42 42.6
comp=Z,74nm,1.5s
LL01 San Ignacio de 27.14 178 P **P 01 42 42.2 -0.6**
JTS Las Juntas de 27.59 336 LR LR 01 53 42.3
comp=Z,135nm,21.9s,baz=158,slow=36
COVE Coope Vega, Sa 27.77 337 IAmb IAmb 01 42 51.7
comp=Z,51nm,0.9s
PARB Paraibuna 27.81 111 *eP* **P 01 42 50.5 +1.3**
BSCB Bom Sucesso 28.21 106 *eP* **P 01 42 54.0 +1.2**
SDBA SAO DESIDERIO 28.23 88 *eP* **P 01 42 53.6 +0.6**
JANB Januaria 28.50 94 *eP* **P 01 42 56.3 +0.8**
ESAR Angra dos Reis 28.82 110 *eP* **P 01 42 59.8 +1.7**
DIAM Diamantina, MG 29.04 100 *eP* **P 01 43 01.4 +1.1**
MDP Montagnes des 29.11 48 LR LR 01 55 45.0
comp=Z,262nm,18.4s,baz=84,slow=38
VAS01 Vassouras-RJ 29.61 108 *eP* **P 01 43 07.1 +2.0**
MATN Matagalpa 30.38 336 P **P 01 43 10.6 -1.4**
DUB01 Friburgo-RJ 30.56 108 *eP* **P 01 43 15.9 +2.4**
SJMB Sao Joao De Ma 31.41 101 *eP* **P 01 43 22.9 +1.8**
ROSB Rosrio 31.73 70 *eP* **P 01 43 25.0 +1.1**
TGUH Tegucigalpa,Un 31.94 335 IAmb IAmb 01 43 27.5
comp=Z,34nm,0.8s
ALF01 Guarapari-ES 31.94 105 *eP* **P 01 43 28.0 +2.4**
RIB01 Linhares ES 32.18 102 *eP* **P 01 43 29.1 +1.3**
GUA01 Guaratinga, BA 32.75 97 *eP* **P 01 43 34.2 +1.4**
MTO3 Montecristo 33.15 332 IAmb IAmb 01 43 38.7
comp=Z,37nm,1.1s
ESQI Esquipulas 33.28 332 P **P 01 43 38.2 +0.7**
ESQI IAmb IAmb 01 43 45.8
comp=Z,55nm,1.2s
MTDJ Mount Denham 33.39 354 P **P 01 43 37.7 -0.7**
SJG San Juan 33.93 13 P **P 01 43 42.5 -0.5**
PETF Flores 35.59 333 IAmb IAmb 01 43 59.5
comp=Z,38nm,1.4s
TEIG Tepich 37.93 338 P **P 01 44 17.9 +0.8**
TEIG Tepich 37.93 338 LR LR 02 00 29.6
comp=Z,525nm,21.1s,baz=300,slow=37
TEIG Tepich 37.93 338 P **P 01 44 17.6 +0.5**
CMIG Matias Romero 38.20 326 LR LR 01 57 04.6
comp=Z,93nm,18.1s,baz=154,slow=31
RCBR Riachuelo 38.39 80 LR LR 01 59 53.3
comp=Z,108nm,21.1s,baz=237,slow=35
553A Crawfordville 46.24 347 P **P 01 45 25.1 +0.6**
baz=166
352A Blakely 47.59 347 IAmb IAmb 01 45 35.8
comp=Z,39nm,0.8s
BRAL Brewton 47.79 345 P **P 01 45 36.5 -0.1**
baz=163
BRAL Brewton 47.79 345 P **P 01 45 37.0 +0.4**
baz=163
154A Montrose 48.34 350 P **P 01 45 40.9 +0.2**
baz=168,SNR=11
250A Grady 48.37 346 IAmb IAmb 01 45 41.7
comp=Z,54nm,1.1s
250A Grady 48.37 346 P **P 01 45 40.3 -0.7**
baz=164,SNR=5.3
NHSC New Hope 48.39 353 P **P 01 45 40.6 -0.5**
baz=172,SNR=9.0
NHSC New Hope 48.39 353 P **P 01 45 41.9 +0.8**
baz=172,SNR=9.0
HBVL Hebbronville 48.42 330 IAmb IAmb 01 45 43.5
comp=Z,41nm,0.8s
HOPE Hope Point 48.64 152 P **P 01 45 41.8 -1.1**
346A Big Creek Wild 48.67 342 P **P 01 45 43.4 +0.1**
baz=160
152A Waverly Hall 48.70 348 IAmb IAmb 01 45 44.1
comp=Z,38nm,0.8s
152A Waverly Hall 48.70 348 P **P 01 45 43.1 -0.4**
baz=166
HAW Hawthorne Fire 48.83 351 P **P 01 45 44.8 +0.3**
baz=170,SNR=9.5
344A Westbrook Farm 49.12 341 P **P 01 45 47.2 +0.4**
baz=158,SNR=5.3
Y58A Scranton 49.12 354 P **P 01 45 47.0 +0.3**
baz=173,SNR=11
Y58A P **P 01 45 47.0 +0.3**
baz=173,SNR=11
GOGA Godfrey 49.18 349 P **P 01 45 46.4 -0.8**
GOGA IAmb IAmb 01 45 47.9
comp=Z,33nm,1.1s
GOGA Godfrey 49.18 349 P **P 01 45 46.5 -0.8**
baz=168,SNR=10.0
GOGA Godfrey 49.18 349 P **P 01 45 46.4 -0.8**
baz=168,SNR=10.0
441A DeRidder 49.31 338 P **P 01 45 49.9 +1.7**
baz=155
Y57A Sumter 49.31 353 P **P 01 45 48.9 +0.7**
baz=172,SNR=12
Y57A P **P 01 45 48.9 +0.7**
baz=172,SNR=12
Z51A Franklin 49.42 347 IAmb IAmb 01 45 49.2
comp=Z,28nm,0.8s
Z51A Franklin 49.42 347 P **P 01 45 48.8 -0.2**
baz=166
LRAL Lakeview Retre 49.56 345 IAmb IAmb 01 45 50.5
comp=Z,34nm,1.0s
LRAL Lakeview Retre 49.56 345 P **P 01 45 49.3 -0.8**
baz=163,SNR=11
LRAL Lakeview Retre 49.56 345 P **P 01 45 49.5 -0.5**
baz=163,SNR=11
HKT Hockley 49.62 335 P **P 01 45 50.7 +0.2**
HKT Hockley 49.62 335 P **P 01 45 51.0 +0.4**
JSC Jenkinsville 49.69 352 IAmb IAmb 01 45 52.2
comp=Z,26nm,0.8s
JSC Jenkinsville 49.69 352 P **P 01 45 51.1 +0.1**
baz=171,SNR=7.4
146A Union 49.72 343 P **P 01 45 51.2 -0.1**
baz=161,SNR=8.4
Y52A Lilburn 49.73 349 IAmb IAmb 01 45 51.5
comp=Z,24nm,0.8s
Y52A Lilburn 49.73 349 P **P 01 45 51.0 -0.4**
baz=167,SNR=8.5
Y52A P **P 01 45 51.0 -0.4**
baz=167,SNR=8.5
HODGE Hodges 49.78 351 IAmb IAmb 01 45 52.2
comp=Z,21nm,0.6s
HODGE Hodges 49.78 351 P **P 01 45 51.6 -0.2**
baz=170,SNR=12
833A Chaparral WMA, 49.82 330 P **P 01 45 52.4 +0.3**
baz=147,SNR=9.1
833A Chaparral WMA, 49.82 330 P **P 01 45 52.8 +0.7**
baz=147,SNR=9.1
BIRD Birdtown, Kers 49.94 353 P **P 01 45 53.3 +0.3**
baz=172,SNR=14
Z47A Carrollton 49.98 344 P **P 01 45 53.0 -0.3**
baz=162,SNR=18
Y49A Blount Mountai 50.21 346 P **P 01 45 54.3 -0.8**
Y49A IAmb IAmb 01 45 55.1
comp=Z,30nm,0.7s
Y49A Blount Mountai 50.21 346 P **P 01 45 54.1 -1.0**
baz=164,SNR=16
W59A Clinton 50.25 355 IAmb IAmb 01 45 56.7
comp=Z,20nm,0.8s
W59A Clinton 50.25 355 P **P 01 45 55.8 +0.5**
baz=174
CNNC Cliffs of the 50.28 356 IAmb IAmb 01 45 57.1
comp=Z,36nm,1.1s
CNNC Cliffs of the 50.28 356 P **P 01 45 56.0 +0.5**
baz=175
PAULI Pauline 50.29 351 P **P 01 45 55.1 -0.5**
baz=170,SNR=16
W57A Gilead 50.39 353 P **P 01 45 56.5 +0.2**
baz=172,SNR=12
W57A P **P 01 45 56.5 +0.2**
baz=172,SNR=12
KMSC Kings Mountain 50.54 352 P **P 01 45 57.5 0.0**
baz=171,SNR=17
KMSC Kings Mountain 50.54 352 P **P 01 45 57.7 +0.2**
baz=171,SNR=17
X51A Calhoun 50.56 348 IAmb IAmb 01 45 58.2
comp=Z,38nm,0.8s
X51A Calhoun 50.56 348 P **P 01 45 57.2 -0.4**
baz=166,SNR=8.7
X51A P **P 01 45 57.2 -0.4**
baz=166,SNR=8.7
BG3 Lake Jocassee 50.63 350 IAmb IAmb 01 45 58.8
comp=Z,18nm,0.8s
CASEE Lake Jocassee 50.63 350 P **P 01 45 58.3 +0.1**
baz=169,SNR=6.7
V61A Roper 50.75 357 P **P 01 46 00.0 +1.0**
baz=177
V61A P **P 01 46 00.0 +1.0**
baz=177
NATX Nacogdoches 50.76 337 IAmb IAmb 01 46 01.1
comp=Z,40nm,1.0s
NATX Nacogdoches 50.76 337 P **P 01 45 59.6 +0.4**
baz=154,SNR=6.4
NATX Nacogdoches 50.76 337 P **P 01 45 59.4 +0.2**
baz=154,SNR=6.4
HNDO Hondo 50.77 331 P **P 01 46 00.0 +0.6**
HNDO IAmb IAmb 01 46 00.9
comp=Z,134nm,0.9s
W52A Murphy 50.90 349 IAmb IAmb 01 46 01.0
comp=Z,26nm,0.9s
W52A Murphy 50.90 349 P **P 01 45 59.9 -0.3**
baz=168,SNR=8.5
X48A Hartselle 50.92 346 IAmb IAmb 01 46 00.6
comp=Z,30nm,0.7s
X48A Hartselle 50.92 346 P **P 01 45 59.6 -0.8**
baz=164,SNR=18
V58A Windy Hill, Pi 50.94 354 IAmb IAmb 01 46 01.6
comp=Z,27nm,1.0s
V58A Windy Hill, Pi 50.94 354 P **P 01 46 00.6 +0.2**
baz=174,SNR=8.0
V58A P **P 01 46 00.6 +0.2**
baz=174,SNR=8.0
Y45A Yeager Farm, C 51.01 343 P **P 01 46 01.1 +0.1**
baz=161,SNR=6.4
435B Jarrell 51.08 334 IAmb IAmb 01 46 02.8
comp=Z,28nm,0.8s
435B Jarrell 51.08 334 P **P 01 46 01.7 +0.1**
baz=150
435B Jarrell 51.08 334 P **P 01 46 02.0 +0.4**
baz=150,SNR=5.5
V55A Taylorsville 51.23 352 IAmb IAmb 01 46 04.1
comp=Z,38nm,1.0s
V55A Taylorsville 51.23 352 P **P 01 46 02.8 +0.2**
baz=171,SNR=8.3
V55A P **P 01 46 02.8 +0.2**
baz=171,SNR=8.3
W50A Signal Mountai 51.27 348 P **P 01 46 02.4 -0.6**
baz=166,SNR=8.5
V53A Saluda 51.27 351 IAmb IAmb 01 46 03.9
comp=Z,23nm,1.1s
V53A Saluda 51.27 351 P **P 01 46 02.7 -0.3**
baz=169,SNR=6.2
V53A P **P 01 46 02.7 -0.3**
baz=169,SNR=6.2
DRIO Del Rio 51.32 330 IAmb IAmb 01 46 04.3
comp=Z,34nm,0.9s
CPCT Cooper Cave 51.35 349 IAmb IAmb 01 46 04.2
comp=Z,23nm,0.8s
U59A Littleton 51.38 356 IAmb IAmb 01 46 05.4
comp=Z,33nm,1.2s
U59A Littleton 51.38 356 P **P 01 46 04.3 +0.5**
baz=175,SNR=6.6
U59A P **P 01 46 04.3 +0.5**
baz=175,SNR=6.6
SWET Sewanee 51.41 347 P **P 01 46 03.5 -0.6**
237A Washetta, Mont 51.42 336 P **P 01 46 04.0 -0.1**
baz=153,SNR=6.4
TKL Tuckaleechee C 51.42 350 IAmb IAmb 01 46 04.7
comp=Z,35nm,1.1s
TKL Tuckaleechee C 51.42 350 P **P 01 46 03.6 -0.5**
baz=168,SNR=7.1
TKL Tuckaleechee C 51.42 350 LR LR 02 09 42.5
comp=Z,45nm,18.6s,baz=145,slow=38
Z41A Richland Creek 51.45 340 P **P 01 46 04.1 -0.2**
baz=157,SNR=12
Z41A P **P 01 46 04.1 -0.2**
baz=157,SNR=12
V52A Sevierville 51.57 350 P **P 01 46 04.8 -0.4**
baz=168,SNR=17
U56A King 51.61 353 P **P 01 46 06.0 +0.5**
baz=172,SNR=13
U56A P **P 01 46 06.0 +0.5**
baz=172,SNR=13
V51A Loudon 51.67 349 IAmb IAmb 01 46 06.4
comp=Z,34nm,0.9s
V51A Loudon 51.67 349 P **P 01 46 05.5 -0.4**
baz=167,SNR=9.0
PLAL Pickwick Lake 51.68 345 IAmb IAmb 01 46 05.8
comp=Z,26nm,1.1s
JCT Junction City 51.82 331 IAmb IAmb 01 46 08.2
comp=Z,29nm,1.1s
JCT Junction City 51.82 331 P **P 01 46 06.8 -0.4**
baz=148,SNR=9.0
JCT Junction City 51.82 331 P **P 01 46 07.4 +0.2**
baz=148,SNR=9.0
U54A Nelsons Funny 51.97 352 P **P 01 46 08.3 +0.1**
U54A IAmb IAmb 01 46 09.2
comp=Z,49nm,1.1s
U54A Nelsons Funny 51.97 352 P **P 01 46 08.0 -0.2**
baz=170,SNR=10
U54A P **P 01 46 08.0 -0.2**
baz=170,SNR=10
T59A Double "B" Far 51.98 356 P **P 01 46 08.7 +0.5**
baz=176,SNR=14
T59A P **P 01 46 08.7 +0.5**
baz=176,SNR=14
WHTX Lake Whitney, 52.08 334 P **P 01 46 09.0 0.0**
baz=151,SNR=23
WHTX Lake Whitney, 52.08 334 P **P 01 46 08.0 -1.0**
baz=151,SNR=23
T60A Surry 52.10 357 P **P 01 46 10.2 +1.1**
baz=177,SNR=5.2
T60A P **P 01 46 10.2 +1.1**
baz=177,SNR=5.2
V48A Smith Brothers 52.11 347 IAmb IAmb 01 46 09.3
comp=Z,34nm,0.8s
V48A Smith Brothers 52.11 347 P **P 01 46 08.1 -1.1**
baz=164,SNR=18
BRDY Brady 52.13 333 IAmb IAmb 01 46 10.1
comp=Z,22nm,1.0s
T57A Hurt 52.14 355 P **P 01 46 09.6 +0.2**
baz=174,SNR=18
T57A P **P 01 46 09.6 +0.2**
baz=174,SNR=18
TREL Terrell 52.17 336 IAmb IAmb 01 46 11.4
comp=Z,63nm,0.9s
Z38A Mt. Pleasant 52.22 338 P **P 01 46 11.0 +0.9**
baz=154,SNR=13
TZTN Tazewell 52.25 350 IAmb IAmb 01 46 11.0
comp=Z,52nm,1.3s
TZTN Tazewell 52.25 350 P **P 01 46 09.5 -0.7**
baz=168,SNR=5.9
TZTN Tazewell 52.25 350 P **P 01 46 09.9 -0.4**
baz=168,SNR=5.9
FW14 Alvarado 52.32 335 IAmb IAmb 01 46 11.9
comp=Z,36nm,0.9s
CLTN Cedars of Leba 52.34 347 IAmb IAmb 01 46 11.0
comp=Z,12nm,0.8s
FW13 Cleburne 52.38 335 IAmb IAmb 01 46 12.3
comp=Z,41nm,0.9s
BLA Blacksburg 52.47 353 IAmb IAmb 01 46 13.4
comp=Z,20nm,0.8s
BLA Blacksburg 52.47 353 P **P 01 46 12.1 +0.2**
baz=172
BLA Blacksburg 52.47 353 P **P 01 46 12.1 +0.2**
baz=172
SAND Sanderson 52.50 329 P **P 01 46 11.6 -0.7**
SAND IAmb IAmb 01 46 13.6
comp=Z,23nm,1.0s
U49A Red Boiling Sp 52.63 348 IAmb IAmb 01 46 13.0
comp=Z,26nm,0.6s
U49A Red Boiling Sp 52.63 348 P **P 01 46 12.1 -0.9**
baz=166,SNR=18
TX32 Lajitas Array 52.80 327 IAmb IAmb 01 46 15.6
comp=Z,26nm,0.9s
TXAR Lajitas Array 52.80 327 P **P 01 46 14.5 0.0**
comp=Z,18nm,0.8s,baz=148,slow=8.9,SNR=169
TXAR pP **pP 01 46 37.5 -0.2**
comp=Z,2.4nm,0.6s,baz=154,slow=9.3,SNR=2.9
comp=Z,18nm,0.8s
TX31 Lajitas Ar. Si 52.80 327 P **P 01 46 14.3 -0.2**
baz=143,SNR=48
OZNA Ozona 52.81 330 IAmb IAmb 01 46 15.4
comp=Z,69nm,1.4s
FW07 Weatherford 52.83 335 IAmb IAmb 01 46 15.6
comp=Z,82nm,0.6s
S57A Dark Hollow, R 52.87 355 IAmb IAmb 01 46 16.3
comp=Z,39nm,1.0s
S57A Dark Hollow, R 52.87 355 P **P 01 46 15.3 +0.6**
baz=174,SNR=14
S57A P **P 01 46 15.3 +0.6**
baz=174,SNR=14
MIAR Mount Ida 52.89 340 IAmb IAmb 01 46 15.9
comp=Z,38nm,0.8s
MIAR Mount Ida 52.89 340 P **P 01 46 14.5 -0.5**
baz=156,SNR=21
MIAR Mount Ida 52.89 340 P **P 01 46 15.2 +0.3**
baz=156,SNR=21
T50A Nancy 52.94 349 IAmb IAmb 01 46 15.6
comp=Z,22nm,0.8s
T50A Nancy 52.94 349 P **P 01 46 14.6 -0.7**
baz=167
T50A P **P 01 46 14.6 -0.7**
baz=167
FW06 Azle 52.97 335 P **P 01 46 15.5 -0.1**
FW06 IAmb IAmb 01 46 17.4
comp=Z,43nm,0.7s
R58B Mineral 52.99 356 P **P 01 46 16.6 +0.9**
baz=175,SNR=18
R58B P **P 01 46 16.6 +0.9**
baz=175,SNR=18
WHAR Wooly Hollow 53.15 341 IAmb IAmb 01 46 17.6
comp=Z,45nm,1.0s
S54A Dingess, Beckl 53.16 353 IAmb IAmb 01 46 17.9
comp=Z,36nm,0.8s
S54A Dingess, Beckl 53.16 353 P **P 01 46 16.6 -0.3**
baz=171,SNR=9.4
S54A P **P 01 46 16.6 -0.3**
baz=171,SNR=9.4
Z35A Perchaven, San 53.16 335 P **P 01 46 17.4 +0.4**
baz=152,SNR=13
CBN Corbin Frederi 53.20 357 P **P 01 46 17.4 +0.2**
baz=176
FW03 Perrin-Whitt E 53.24 335 IAmb IAmb 01 46 20.1
comp=Z,27nm,1.1s
S51A Beattyville 53.33 350 IAmb IAmb 01 46 18.6
comp=Z,20nm,0.9s
S51A Beattyville 53.33 350 P **P 01 46 17.5 -0.7**
baz=168,SNR=7.3
S51A P **P 01 46 17.5 -0.7**
baz=168,SNR=7.3
T47A Sharon Grove 53.37 347 IAmb IAmb 01 46 18.4
comp=Z,22nm,0.8s
T47A Sharon Grove 53.37 347 P **P 01 46 17.4 -1.0**
baz=164,SNR=11
R55A Marlinton 53.50 354 IAmb IAmb 01 46 21.1
comp=Z,19nm,0.8s
R55A Marlinton 53.50 354 P **P 01 46 20.0 +0.6**
baz=173,SNR=6.1
R55A P **P 01 46 20.0 +0.6**
baz=173,SNR=6.1
LCAR Lake Charles 53.53 343 IAmb IAmb 01 46 19.8
comp=Z,21nm,0.8s
LCAR Lake Charles 53.53 343 P **P 01 46 19.0 -0.7**
baz=159,SNR=15
X37A Clayton 53.56 338 **P 01 46 20.1 +0.2**
X37A Clayton 53.56 338 P **P 01 46 20.3 +0.4**
baz=154,SNR=28
ABTX Abilene, Hawle 53.56 333 P **P 01 46 19.9 0.0**
baz=149,SNR=32
ABTX Abilene, Hawle 53.56 333 P **P 01 46 20.1 +0.1**
baz=149,SNR=32
ALPN Alpine 53.61 328 IAmb IAmb 01 46 21.7
comp=Z,54nm,1.6s
SGCY Sterling City 53.63 331 IAmb IAmb 01 46 22.1
comp=Z,24nm,0.9s
FCAR Ozark Folk Cen 53.65 342 IAmb IAmb 01 46 20.8
comp=Z,21nm,0.8s
T45B Paducah 53.75 345 P **P 01 46 20.4 -0.9**
baz=162,SNR=6.0
R53A Hurricane 53.76 352 P **P 01 46 20.4 -0.9**
baz=170
R53A P **P 01 46 20.4 -0.9**
baz=170
PBMO Poplar Bluff 53.99 344 IAmb IAmb 01 46 23.1
comp=Z,34nm,0.8s
PBMO Poplar Bluff 53.99 344 P **P 01 46 22.1 -0.9**
baz=160,SNR=11
WTFS Witchita Falls 54.03 335 **P 01 46 23.2 -0.2**
WTFS IAmb IAmb 01 46 24.3
comp=Z,42nm,0.8s
R50A Paris 54.08 350 IAmb IAmb 01 46 24.1
comp=Z,48nm,1.1s
R50A Paris 54.08 350 P **P 01 46 22.3 -1.3**
baz=168,SNR=15
R50A P **P 01 46 22.3 -1.3**
baz=168,SNR=15
Q56A Snyder Ridge, 54.16 355 P **P 01 46 24.6 +0.3**
baz=174
Q56A P **P 01 46 24.6 +0.3**

	baz=174					
R49A	Shelbyville	54.23	349	IAmb	IAmb	01 46 25.0
	comp=Z,61nm,1.4s					
R49A	Shelbyville	54.23	349	P	P	01 46 24.3 -0.4
	baz=167,SNR=7.2					
R49A				P	P	01 46 24.3 -0.4
	baz=167,SNR=7.2					
Q54A	Coxs Mills	54.27	353	IAmb	IAmb	01 46 25.7
	comp=Z,72nm,1.5s					
Q54A	Coxs Mills	54.27	353	P	P	01 46 24.6 -0.3
	baz=172,SNR=6.5					
Q54A				P	P	01 46 24.6 -0.3
	baz=172,SNR=6.5					
CGM3	Cape Girardeau	54.27	344	IAmb	IAmb	01 46 25.2
	comp=Z,27nm,0.9s					
U40A	Yellville	54.31	341	P	P	01 46 24.8 -0.5
	baz=157,SNR=29					
U40A				P	P	01 46 24.8 -0.5
	baz=157,SNR=29					
SN01	Snyder 1	54.32	332	IAmb	IAmb	01 46 26.5
	comp=Z,36nm,1.0s					
APMT	Aspermont	54.36	333	IAmb	IAmb	01 46 26.9
	comp=Z,83nm,0.7s					
WCI	Wyandotte Cave	54.39	348	P	P	01 46 25.1 -0.8
WCI	Wyandotte Cave	54.39	348	P	P	01 46 24.9 -1.0
	baz=165					
WCI	Wyandotte Cave	54.39	348	P	P	01 46 25.3 -0.6
	baz=165,SNR=18					
WCI	Wyandotte Cave	54.39	348	P	P	01 46 25.1 -0.8
WCI				pP	pP	01 46 49.3 -0.3
WCI				sP	sP	01 46 59.3 -1.0
T42A	Van Buren	54.41	343	IAmb	IAmb	01 46 25.9
	comp=Z,17nm,0.8s					
T42A	Van Buren	54.41	343	P	P	01 46 24.7 -1.3
	baz=160,SNR=12					
Q52A	Bidwell	54.43	352	IAmb	IAmb	01 46 26.2
	comp=Z,21nm,1.0s					
Q52A	Bidwell	54.43	352	P	P	01 46 25.7 -0.4
	baz=170					
Q52A				P	P	01 46 25.7 -0.4
	baz=170					
ODSA	Odessa	54.48	330	IAmb	IAmb	01 46 27.4
	comp=Z,50nm,0.8s					
P57A	Homestead Farm	54.51	356	IAmb	IAmb	01 46 29.9
	comp=Z,34nm,1.4s					
PECS	Pecos	54.52	328	IAmb	IAmb	01 46 28.4
	comp=Z,61nm,1.5s					
S44A	Carbondale	54.55	345	P	P	01 46 26.5 -0.5
	baz=162,SNR=19					
425A	Indio Mountain	54.64	327	IAmb	IAmb	01 46 29.0
	comp=Z,26nm,0.9s					
Q51A	Peebles	54.64	351	IAmb	IAmb	01 46 28.0
	comp=Z,39nm,1.2s					
Q51A	Peebles	54.64	351	P	P	01 46 26.9 -0.8
	baz=169,SNR=5.8					
Q51A				P	P	01 46 26.9 -0.8
	baz=169,SNR=5.8					
GEDE	Greenville	54.73	358	P	P	01 46 28.8 +0.5
	baz=178					
POST	Post	54.77	331	IAmb	IAmb	01 46 29.6
	comp=Z,59nm,0.9s					
P53A	Whipple	54.83	353	IAmb	IAmb	01 46 29.9
	comp=Z,37nm,1.1s					
P53A	Whipple	54.83	353	P	P	01 46 28.9 -0.1
	baz=171,SNR=7.1					
P53A				P	P	01 46 28.9 -0.1
	baz=171,SNR=7.1					
MCWV	Mont Chateau	54.83	354	P	P	01 46 29.8 +0.7
MCWV				IAmb	IAmb	01 46 30.5
	comp=Z,21nm,0.9s					
MCWV	Mont Chateau	54.83	354	P	P	01 46 29.2 +0.1
	baz=173					
PSUB	Penn St. - Bra	54.84	358	P	P	01 46 29.9 +0.9
	baz=178					
RLO	Rose Lookout	54.85	339	IAmb	IAmb	01 46 30.3
	comp=Z,26nm,0.8s					
U38A	Gravette	54.88	340	IAmb	IAmb	01 46 30.7
	comp=Z,24nm,0.8s					
U38A	Gravette	54.88	340	P	P	01 46 29.5 0.0
	baz=156,SNR=7.9					
TUL3	Leonard	54.89	338	P	P	01 46 29.1 -0.4
	baz=154,SNR=28					
TUL3	Leonard	54.89	338	P	P	01 46 29.1 -0.4
	baz=154,SNR=28					
MVL	Millersville	54.94	358	IAmb	IAmb	01 46 31.9
	comp=Z,31nm,0.9s					
WMOK	Wichita Mounta	55.01	335	IAmb	IAmb	01 46 31.6
	comp=Z,12nm,0.8s					
WMOK	Wichita Mounta	55.01	335	P	P	01 46 29.5 -0.9
	baz=150					
DKNS	Dickens	55.01	332	IAmb	IAmb	01 46 31.2
	comp=Z,56nm,0.8s					
P51A	Williamsport	55.05	351	IAmb	IAmb	01 46 30.8
	comp=Z,47nm,1.2s					
P52A	Corning	55.07	352	IAmb	IAmb	01 46 31.0
	comp=Z,24nm,0.9s					
P52A	Corning	55.07	352	P	P	01 46 29.9 -0.9
	baz=170,SNR=6.3					
DEOK	Depew	55.09	338	IAmb	IAmb	01 46 32.3
	comp=Z,39nm,1.0s					
FVM	French Village	55.12	344	IAmb	IAmb	01 46 31.6
	comp=Z,24nm,0.9s					
FVM	French Village	55.12	344	P	P	01 46 30.6 -0.6
	baz=161,SNR=5.4					
OLIL	Olney	55.26	346	P	P	01 46 31.2 -1.0
PABK	Blue Knob Stat	55.33	356	P	P	01 46 33.5 +0.9
	baz=175					
OK052	Battle Ridge R	55.33	337	IAmb	IAmb	01 46 33.3
	comp=Z,52nm,1.1s					
BLO	Bloomington	55.35	348	IAmb	IAmb	01 46 33.1
	comp=Z,23nm,0.7s					
P49A	Miami Univ. Ec	55.36	350	IAmb	IAmb	01 46 32.7
	comp=Z,53nm,1.2s					
P49A	Miami Univ. Ec	55.36	350	P	P	01 46 31.4 -1.5
	baz=167,SNR=9.3					
P49A	Miami Univ. Ec	55.36	350	P	P	01 46 31.9 -1.0
	baz=167,SNR=9.3					
CCM	Cathedral Cave	55.41	343	P	P	01 46 32.2 -1.1
CCM	Cathedral Cave	55.41	343	P	P	01 46 32.2 -1.1
	baz=160					
CCM	Cathedral Cave	55.41	343	P	P	01 46 32.1 -1.2
	baz=160,SNR=6.9					
CCM	Cathedral Cave	55.41	343	P	P	01 46 32.0 -1.2
CCM				pP	pP	01 46 56.8 -0.4
CCM				sP	sP	01 47 07.4 -0.4
CCM				PcP	PcP	01 47 32.8 +0.2
P48A	Milroy	55.42	349	IAmb	IAmb	01 46 32.4
	comp=Z,17nm,0.7s					
P48A	Milroy	55.42	349	P	P	01 46 31.9 -1.3
	baz=167,SNR=7.0					
P48A				P	P	01 46 31.9 -1.3
	baz=167,SNR=7.0					
O53A	New Philadelph	55.56	353	P	P	01 46 34.3 0.0
	baz=172					
MNTX	Cornudas Mount	55.57	327	IAmb	IAmb	01 46 35.0
	comp=Z,21nm,0.9s					
MNTX	Cornudas Mount	55.57	327	P	P	01 46 33.8 -0.7
	baz=142,SNR=33					
MNTX	Cornudas Mount	55.57	327	P	P	01 46 34.1 -0.4
	baz=142,SNR=33					
Q44A	Meyer Farm, Va	55.64	346	P	P	01 46 33.9 -0.9
	baz=162,SNR=16					
SSPA	Standing Stone	55.65	356	P	P	01 46 35.6 +0.7
SSPA				IAmb	IAmb	01 46 36.3
	comp=Z,22nm,0.9s					
SSPA	Standing Stone	55.65	356	P	P	01 46 35.5 +0.7
	baz=175					
SSPA	Standing Stone	55.65	356	P	P	01 46 35.8 +0.9
	baz=175,SNR=11					
SSPA	Standing Stone	55.65	356	P	P	01 46 35.6 +0.7
SSPA				pP	pP	01 46 59.6 +0.7
UPAO	U. Pittsburgh	55.67	354	P	P	01 46 35.4 +0.4
	baz=173					
S39A	Bolivar	55.68	341	IAmb	IAmb	01 46 35.7
	comp=Z,30nm,0.8s					
S39A	Bolivar	55.68	341	P	P	01 46 34.1 -1.1
	baz=157,SNR=22					
ACSO	Alum Creek Sta	55.77	352	P	P	01 46 35.2 -0.6
	baz=170,SNR=7.5					
N58A	Sunbury	55.79	357	IAmb	IAmb	01 46 37.9
	comp=Z,43nm,0.9s					
N58A	Sunbury	55.79	357	P	P	01 46 37.0 +1.1
	baz=177,SNR=10					
N58A				P	P	01 46 37.0 +1.1
	baz=177,SNR=10					
PAL	Palisades	55.89	360	P	P	01 46 36.1 -0.5
	baz=180					
P46A	Rosedale	55.92	348	IAmb	IAmb	01 46 36.6
	comp=Z,36nm,1.0s					
P46A	Rosedale	55.92	348	P	P	01 46 35.5 -1.3
	baz=165					
R40A	Maddies Statio	55.92	343	IAmb	IAmb	01 46 37.9
	comp=Z,30nm,1.1s					
R40A	Maddies Statio	55.92	343	P	P	01 46 35.6 -1.3
	baz=159,SNR=10					
O49A	Covington	55.94	350	IAmb	IAmb	01 46 37.0
	comp=Z,50nm,1.2s					
O49A	Covington	55.94	350	P	P	01 46 36.2 -0.8
	baz=168,SNR=8.5					
O49A				P	P	01 46 36.2 -0.8
	baz=168,SNR=8.5					
WSPT	Westport, CT	56.06	0	P	P	01 46 37.4 -0.4
WSPT				IAmb	IAmb	01 46 39.3
	comp=Z,33nm,1.2s					
N53A	Lisbon	56.07	354	IAmb	IAmb	01 46 38.6
	comp=Z,22nm,0.9s					
MSTX	Muleshoe	56.11	331	IAmb	IAmb	01 46 39.0
	comp=Z,44nm,1.1s					
MSTX	Muleshoe	56.11	331	P	P	01 46 37.8 -0.6
	baz=146,SNR=14					
MSTX	Muleshoe	56.11	331	P	P	01 46 37.9 -0.6
	baz=146,SNR=14					
PAMR	Moraine State	56.13	354	P	P	01 46 38.4 +0.1
	baz=173					
O48B	Farmland	56.14	350	P	P	01 46 37.1 -1.3
	baz=167,SNR=9.4					
O48B	Farmland	56.14	350	P	P	01 46 37.3 -1.1
	baz=167,SNR=9.4					
PSDB	Penn State Uni	56.20	356	P	P	01 46 39.5 +0.6
	baz=174					
YLE	Yale	56.21	1	IAmb	IAmb	01 46 40.8
	comp=Z,61nm,1.3s					
M57A	Sunshine Farm,	56.31	357	P	P	01 46 39.5 -0.1
	baz=176,SNR=12					
M57A				P	P	01 46 39.5 -0.1
	baz=176,SNR=12					
N51A	Ashland	56.37	352	IAmb	IAmb	01 46 40.0
	comp=Z,22nm,0.8s					
N51A	Ashland	56.37	352	P	P	01 46 39.2 -0.8
	baz=170					
N51A				P	P	01 46 39.2 -0.8
	baz=170					
AMTX	Amarillo	56.37	333	IAmb	IAmb	01 46 41.4
	comp=Z,16nm,0.9s					
AMTX	Amarillo	56.37	333	P	P	01 46 39.2 -1.0
	baz=148					
ELIS	Ellis County	56.41	335	IAmb	IAmb	01 46 41.6
	comp=Z,53nm,1.3s					
P43A	Skaggs, Pawnee	56.46	346	IAmb	IAmb	01 46 40.6
	comp=Z,39nm,0.8s					
P43A	Skaggs, Pawnee	56.46	346	P	P	01 46 39.3 -1.4
	baz=162,SNR=7.3					
KSPA	Keystone Colle	56.47	358	IAmb	IAmb	01 46 42.1
	comp=Z,25nm,1.2s					
KSPA	Keystone Colle	56.47	358	P	P	01 46 41.6 +0.9
	baz=178,SNR=5.7					
U32A	Winter Ranch,	56.52	336		P	01 46 40.8 -0.4
OK032	Salt Plains WL	56.58	337	IAmb	IAmb	01 46 42.2
	comp=Z,36nm,0.8s					
KAN14	Manchester OK	56.62	337	IAmb	IAmb	01 46 42.4
	comp=Z,23nm,0.9s					
KAN17	Caldwell West	56.62	337	IAmb	IAmb	01 46 42.6
	comp=Z,20nm,0.6s					
SFIN	Lafayette	56.63	348	IAmb	IAmb	01 46 40.7
	comp=Z,16nm,0.7s					
SFIN	Lafayette	56.63	348	P	P	01 46 40.0 -1.9
	baz=165					
SFIN	Lafayette	56.63	348	P	P	01 46 40.2 -1.6
	baz=165					
N49A	Columbus Grove	56.63	351	P	P	01 46 40.8 -1.0
	baz=168,SNR=10					
N49A				P	P	01 46 40.8 -1.0
	baz=168,SNR=10					
M53A	WI Miller and	56.68	354	IAmb	IAmb	01 46 43.0
	comp=Z,24nm,0.9s					
M53A	WI Miller and	56.68	354	P	P	01 46 41.3 -0.9
	baz=172					
ALLY	Alegheny Colle	56.84	354	IAmb	IAmb	01 46 44.1
	comp=Z,32nm,0.9s					
ALLY	Alegheny Colle	56.84	354	P	P	01 46 42.5 -0.8
	baz=173,SNR=5.4					
KAN06	Argonia West S	56.84	337	IAmb	IAmb	01 46 43.9
	comp=Z,22nm,0.8s					
N47A	Urbana	56.84	349	P	P	01 46 42.0 -1.4
N47A	Urbana	56.84	349	P	P	01 46 41.8 -1.6
	baz=166,SNR=7.8					
N47A				P	P	01 46 41.8 -1.6
	baz=166,SNR=7.8					
BRYW	Bryant College	56.84	2	P	P	01 46 43.2 -0.2
M52A	Chesterland	56.85	353	IAmb	IAmb	01 46 43.9
	comp=Z,20nm,0.7s					
M52A	Chesterland	56.85	353	P	P	01 46 43.1 -0.4
	baz=172					
M52A				P	P	01 46 43.1 -0.4
	baz=172					
M50A	Fremont	56.93	352	P	P	01 46 43.6 -0.4
	baz=170,SNR=6.2					
M50A				P	P	01 46 43.6 -0.4
	baz=170,SNR=6.2					
P40A	Paris	57.01	343	IAmb	IAmb	01 46 45.6
	comp=Z,13nm,0.8s					
P40A	Paris	57.01	343	P	P	01 46 43.6 -1.0
	baz=159,SNR=8.7					
L59A	Walton	57.09	359	IAmb	IAmb	01 46 47.2
	comp=Z,48nm,1.2s					
L59A	Walton	57.09	359	P	P	01 46 46.2 +1.0
	baz=179,SNR=6.8					
L59A				P	P	01 46 46.2 +1.0
	baz=179,SNR=6.8					
BINY	Binghamton	57.12	358	P	P	01 46 46.4 +1.0
BINY				IAmb	IAmb	01 46 47.4
	comp=Z,35nm,0.8s					
BINY	Binghamton	57.12	358	P	P	01 46 45.8 +0.5
	baz=178,SNR=9.6					
BINY	Binghamton	57.12	358	P	P	01 46 46.4 +1.0
	baz=178,SNR=9.6					
L56A	Greenwood	57.13	357	P	P	01 46 46.0 +0.5
	baz=176,SNR=9.9					
L56A				P	P	01 46 46.0 +0.5
	baz=176,SNR=9.9					
HDIL	Hopedale	57.27	346	IAmb	IAmb	01 46 45.8
	comp=Z,24nm,0.7s					
HDIL	Hopedale	57.27	346	P	P	01 46 45.2 -1.2
	baz=162					
HDIL	Hopedale	57.27	346	P	P	01 46 45.2 -1.2
	baz=162					
ERPA	Erie	57.29	355	P	P	01 46 46.4 -0.1
	baz=173,SNR=7.4					
ERPA	Erie	57.29	355	P	P	01 46 46.2 -0.2
	baz=173,SNR=7.4					
L61B	Northampton	57.35	1	P	P	01 46 46.8 -0.1
	baz=182					
HRV	Adam Dziewonsk	57.43	2	P	P	01 46 48.2 +0.7
	baz=183					
HRV	Adam Dziewonsk	57.43	2	P	P	01 46 48.5 +1.0
HRV				sP	sP	01 47 22.7 +0.4
121A	Cookes Peak, D	57.49	326	P	P	01 46 48.8 +0.4
	baz=140,SNR=27					
121A	Cookes Peak, D	57.49	326	P	P	01 46 48.7 +0.4
	baz=140,SNR=27					
P38A	Dawn	57.53	342	IAmb	IAmb	01 46 48.7
	comp=Z,48nm,1.6s					
P38A	Dawn	57.53	342	P	P	01 46 47.7 -0.5
	baz=158,SNR=5.9					
TRY	Troy	57.62	0	P	P	01 46 49.4 +0.6
TRY				IAmb	IAmb	01 46 50.3
	comp=Z,14nm,0.9s					
L48A	N Adams	57.67	351	P	P	01 46 47.6 -1.5
	baz=168,SNR=6.7					
L48A				P	P	01 46 47.6 -1.5
	baz=168,SNR=6.7					
K57A	Scipio Center	57.67	358	P	P	01 46 49.4 +0.2
	baz=177,SNR=8.7					
MMNY	Mt. Morris Dam	57.74	356	IAmb	IAmb	01 46 51.0
	comp=Z,30nm,0.7s					
N41A	Harden Midland	57.80	345	IAmb	IAmb	01 46 49.8
	comp=Z,25nm,0.9s					
AAM	Ann Arbor	57.90	351	IAmb	IAmb	01 46 50.8
	comp=Z,24nm,0.9s					
L46A	Eue Claire	58.05	349	IAmb	IAmb	01 46 51.1
	comp=Z,31nm,0.8s					
Y22A	Socorro	58.15	328	P	P	01 46 52.9 -0.1
	baz=142,SNR=16					
R32A	Long Quarter,	58.19	337	IAmb	IAmb	01 46 53.9
	comp=Z,48nm,1.1s					
R32A	Long Quarter,	58.19	337	P	P	01 46 52.9 -0.1
	baz=152,SNR=7.7					
J56A	Wolcott	58.23	357	P	P	01 46 53.0 0.0
	baz=177,SNR=14					
J56A				P	P	01 46 53.0 0.0
	baz=177,SNR=14					
Y22D	IRIS PASSCAL I	58.23	328	P	P	01 46 53.6 +0.1
	baz=142					
Y22F	Passcal Instru	58.23	328	P	P	01 46 54.0 +0.6
	baz=142					
J55A	Hilton	58.27	357	P	P	01 46 53.7 +0.4
	baz=176,SNR=14					
J55A				P	P	01 46 53.7 +0.4
	baz=176,SNR=14					
J57A	Williamstown	58.33	358	IAmb	IAmb	01 46 55.2
	comp=Z,31nm,0.9s					
J57A	Williamstown	58.33	358	P	P	01 46 53.7 -0.1
	baz=178,SNR=12					
J57A				P	P	01 46 53.7 -0.1
	baz=178,SNR=12					
J59A	Piesco	58.35	359	IAmb	IAmb	01 46 55.9
	comp=Z,20nm,1.1s					
L44A	Lake County Fo	58.52	348	P	P	01 46 54.6 -0.5
	baz=164					
ANMO	Albuquerque	58.68	329	P	P	01 46 56.2 -0.5
ANMO				IAmb	IAmb	01 46 57.9
	comp=Z,17nm,0.8s					
ANMO	Albuquerque	58.68	329	P	P	01 46 56.9 +0.2
	baz=143					
ANMO	Albuquerque	58.68	329	P	P	01 46 56.8 +0.2
	baz=143,SNR=33					
ANMO	Albuquerque	58.68	329	P	P	01 46 56.8 +0.2
ANMO				pP	pP	01 47 21.0 +0.4
ANMO				sP	sP	01 47 30.9 -0.3
WCNY	West Carthage	58.89	358	P	P	01 46 57.2 -0.4
	baz=178,SNR=5.1					
CBKS	Cedar Bluff	58.92	337	IAmb	IAmb	01 46 59.0
	comp=Z,39nm,1.1s					
CBKS	Cedar Bluff	58.92	337	P	P	01 46 57.5 -0.5
	baz=151					
J47A	Sunmer	58.99	351	P	P	01 46 57.2 -1.2
	baz=168,SNR=15					
J47A				P	P	01 46 57.2 -1.2
	baz=168,SNR=15					
TUC	Tucson	58.99	324	P	P	01 46 58.0 -0.8
TUC				IAmb	IAmb	01 47 00.0
	comp=Z,14nm,0.9s					
TUC	Tucson	58.99	324	P	P	01 46 58.5 -0.2
	baz=138					
TUC	Tucson	58.99	324	P	P	01 46 58.7 0.0
TUC				pP	pP	01 47 23.1 +0.7
TUC				sP	sP	01 47 33.5 +0.7
LBNH	Lisbon	59.15	2	P	P	01 47 01.2 +1.8
	baz=182					
L40A	Anamosa	59.17	345	IAmb	IAmb	01 46 59.4
	comp=Z,33nm,1.1s					
L40A	Anamosa	59.17	345	P	P	01 46 58.2 -1.4
	baz=161					
T25A	Trinidad	59.47	332	IAmb	IAmb	01 47 03.4
	comp=Z,29nm,0.8s					
T25A	Trinidad	59.47	332	P	P	01 47 02.5 +0.5
	baz=146,SNR=17					
DELO	Deloro Mine	59.50	357	IAmb	IAmb	01 47 03.0
	comp=Z,28nm,0.8s					
SADO	Sadowa	59.85	356	IAmb	IAmb	01 47 04.8
	comp=Z,30nm,0.8s					
SADO	Sadowa	59.85	356	LR	LR	02 16 47.0
	comp=Z,27nm,18.3s,baz=211,slow=40					
214A	Organ Pipe Nat	59.92	322	P	P	01 47 04.9 -0.2
214A				IAmb	IAmb	01 47 06.9
	comp=Z,22nm,0.9s					
214A	Organ Pipe Nat	59.92	322	P	P	01 47 05.5 +0.4
	baz=136,SNR=9.3					
KSCO	Kaye Shedlock'	60.25	334	P	P	01 47 07.1 -0.2
	baz=148					
PKME	Peaks-Kenny Pk	60.29	4	P	P	01 47 08.1 +0.9
	baz=185					
G65A	Princeton	60.36	5	P	P	01 47 08.0 +0.4
G65A				IAmb	IAmb	01 47 09.8
	comp=Z,25nm,0.8s					
G65A	Princeton	60.36	5	P	P	01 47 08.5 +0.9
	baz=187,SNR=6.4					
G65A				P	P	01 47 08.5 +0.9
	baz=187,SNR=6.4					
SDCO	Great Sand Dun	60.47	331	P	P	01 47 09.4 +0.5
	baz=145,SNR=56					
SDCO	Great Sand Dun	60.47	331	P	P	01 47 09.3 +0.4
	baz=145,SNR=56					
W18A	Petrified Fore	60.51	326	P	P	01 47 09.7 +0.5
	baz=140,SNR=6.2					
GLMI	Grayling	60.51	351	P	P	01 47 09.1 +0.4
	baz=168					
BGNE	Belgrade	60.62	339	P	P	01 47 09.5 -0.2
	baz=153					
X16A	Lo Mia Camp, P	60.91	325	IAmb	IAmb	01 47 13.9
	comp=Z,30nm,1.0s					
F64A	Sherman	60.95	4	P	P	01 47 11.6 -0.1
F64A				IAmb	IAmb	01 47 27.3
	comp=Z,26nm,1.4s					
113A	Mohawk Valley,	61.07	322	IAmb	IAmb	01 47 14.4
	comp=Z,12nm,0.9s					
S22A	4UR Ranch, Cre	61.09	330	IAmb	IAmb	01 47 14.6
	comp=Z,14nm,0.8s					
S22A	4UR Ranch, Cre	61.09	330	P	P	01 47 13.6 +0.4
	baz=143,SNR=22					
Q24A	Divide	61.30	332	IAmb	IAmb	01 47 15.9
	comp=Z,22nm,1.1s					
Q24A	Divide	61.30	332	P	P	01 47 14.7 0.0
	baz=145					
MVCO	Mesa Verde	61.48	329	IAmb	IAmb	01 47 17.1
	comp=Z,20nm,1.0s					
MVCO	Mesa Verde	61.48	329	P	P	01 47 16.1 +0.3
	baz=142,SNR=17					
OGNE	Ogallala	61.65	336	P	P	01 47 16.5 -0.2
	baz=149					
WUAZ	Wupatki	61.69	326	IAmb	IAmb	01 47 19.2
	comp=Z,34nm,0.9s					
WUAZ	Wupatki	61.69	326	P	P	01 47 18.1 +1.0
	baz=138,SNR=26					
GLA	Glamis	61.90	321	P	P	01 47 18.8 +0.4
	baz=134					
E46A	Sault Ste Mari	61.98	352	IAmb	IAmb	01 47 18.5
	comp=Z,25nm,0.9s					
D62A	Allapoint, All	62.12	4	P	P	01 47 19.6 +0.1
D62A				IAmb	IAmb	01 47 25.0
	comp=Z,19nm,1.2s					
D62A	Allapoint, All	62.12	4	P	P	01 47 19.8 +0.2
	baz=185,SNR=6.5					
D62A				P	P	01 47 19.8 +0.2
	baz=185,SNR=6.5					
ISCO	Idaho Springs	62.19	333	P	P	01 47 20.8 +0.2
	baz=145,SNR=6.7					
ISCO	Idaho Springs	62.19	333	P	P	01 47 20.4 -0.2
	baz=145,SNR=6.7					
BLYC	Blythe	62.21	322	IAmb	IAmb	01 47 22.4
	comp=Z,18nm,1.0s					
ECSD	EROS Data Cent	62.21	342	IAmb	IAmb	01 47 21.0
	comp=Z,23nm,1.2s					
ECSD	EROS Data Cent	62.21	342	P	P	01 47 19.7 -0.6
	baz=155					
ECSD	EROS Data Cent	62.21	342	P	P	01 47 19.7 -0.6
	baz=155					
K30B	Basset	62.25	339	P	P	01 47 20.8 +0.2
	baz=152					
SMCO	Snowmass	62.30	331	IAmb	IAmb	01 47 23.1
	comp=Z,15nm,1.0s					
PDMCI	Parker Dam,Lak	62.37	323	P	P	01 47 21.9 +0.4
	baz=135					
IKP	In-Ko-Pah, Jac	62.41	320	P	P	01 47 22.7 +0.7
	baz=133					
SWSC	Sam W. Stewart	62.42	321	P	P	01 47 22.7 +0.8
	baz=134					
SPMN	Marine on St.	62.53	345	P	P	01 47 21.7 -0.6
SPMN				IAmb	IAmb	01 47 22.7
	comp=Z,19nm,0.9s					
SPMN	Marine on St.	62.53	345	P	P	01 47 21.7 -0.6
	baz=160					
SPMN	Marine on St.	62.53	345	P	P	01 47 21.7 -0.6
	baz=160					
TKX	Tecate	62.66	320	P	P	01 47 23.1 -0.4
TKX				IAmb	IAmb	01 47 25.5
	comp=Z,26nm,1.2s					
BC3	Big Chuckawall	62.70	321	P	P	01 47 24.1 +0.3
	baz=134,SNR=12					
MONP2	Monument Peak	62.77	320	P	P	01 47 25.3 +0.9
	baz=133					
IRM	Iron Mountain	62.86	322	P	P	01 47 25.8 +1.0
	baz=134,SNR=15					
U15A	North Rim	62.87	326	IAmb	IAmb	01 47 27.2

comp=Z,15nm,0.9s
HMU Henry Mountain 63.17 328 IAmb IAmb 01 47 29.0
comp=Z,21nm,1.2s
109C Camp Elliot, M 63.19 320 P P 01 47 28.0 +1.0
baz=132
N23A Red Feather La 63.23 333 P P 01 47 27.8 +0.4
baz=145
BELC Belle Mtn. Jos 63.26 321 P P 01 47 28.6 +1.0
baz=134
TPFO Pinon Flats 63.27 321 P P 01 47 28.7 +1.0
baz=133,SNR=7.2
PFO Pinyon Flats O 63.28 321 P P 01 47 27.5 -0.3
PFO IAmb IAmb 01 47 29.8
comp=Z,27nm,1.1s
PFO Pinyon Flats O 63.28 321 P P 01 47 28.8 +1.1
baz=133,SNR=7.4
PFO Pinyon Flats O 63.28 321 P P 01 47 28.8 +1.1
PFO pP pP 01 47 52.8 +1.1
PFO sP PcP 01 48 03.2 -1.0
F36A Milaca 63.30 345 IAmb IAmb 01 47 28.1
comp=Z,33nm,1.2s
F36A Milaca 63.30 345 P P 01 47 27.3 -0.1
baz=159,SNR=7.5
D41A Chassel 63.34 349 P P 01 47 27.6 -0.1
baz=164
KNB Kanab 63.59 326 IAmb IAmb 01 47 32.0
comp=Z,30nm,0.8s
GMRC Granite Mounta 63.60 322 P P 01 47 30.7 +0.9
baz=134,SNR=5.5
PKCU Pink Cliffs 63.63 326 IAmb IAmb 01 47 32.3
comp=Z,14nm,0.8s
O20A White River Ci 63.65 331 P P 01 47 30.7 +0.5
baz=143,SNR=9.3
MURC Murrieta 63.72 320 P P 01 47 31.2 +0.7
baz=133
F33A 5 Mile Ranch, 64.03 343 IAmb IAmb 01 47 33.8
comp=Z,14nm,0.7s
F33A 5 Mile Ranch, 64.03 343 P P 01 47 31.7 -0.6
baz=156
HEC Hector,Ludlow 64.03 322 P P 01 47 33.5 +0.9
baz=134,SNR=9.1
Q16A Castle Valley 64.14 328 IAmb IAmb 01 47 35.4
comp=Z,68nm,1.8s
TUQ Turquoise Moun 64.21 323 P P 01 47 34.1 +0.3
baz=134
CCUT Cedar City 64.27 326 IAmb IAmb 01 47 36.8
comp=Z,20nm,0.9s
P17A Butcher Ranch, 64.34 329 P P 01 47 35.3 +0.6
P17A IAmb IAmb 01 47 36.1
comp=Z,22nm,0.9s
CIS Catalina Islan 64.35 319 P P 01 47 34.3 -0.3
baz=132
BFSC Mount Baldy Ra 64.44 321 P P 01 47 35.1 -0.2
baz=132
TCRU Three Creeks R 64.56 327 IAmb IAmb 01 47 38.2
comp=Z,24nm,1.0s
GSC Goldstone, Bar 64.64 322 P P 01 47 37.9 +1.4
baz=134,SNR=5.5
EYMN Ely 64.78 347 IAmb IAmb 01 47 37.7
comp=Z,37nm,1.4s
K22A Casper 64.91 334 P P 01 47 38.5 +0.2
baz=145
TAOE Nuku Hiva Isla 64.96 267 eLR LR 02 06 56.2
comp=Z,216nm,27.7s
EDW2 Edwards Air Fo 65.07 321 P P 01 47 39.7 +0.3
baz=132,SNR=6.7
RSSD Black Hills 65.13 336 P P 01 47 39.7 0.0
RSSD Black Hills 65.13 336 P P 01 47 40.2 +0.5
baz=148
RSSD Black Hills 65.13 336 P P 01 47 39.6 -0.1
baz=148
RSSD Black Hills 65.13 336 P P 01 47 40.7 +1.0
PSUT Pine Spring 65.25 326 IAmb IAmb 01 47 42.7
comp=Z,18nm,0.9s
CCAC Calif City Air 65.27 321 IAmb IAmb 01 47 42.3
comp=Z,16nm,0.8s
LRMC Laurel Mtn Rad 65.28 322 P P 01 47 41.9 +1.1
baz=133,SNR=6.0
TPNV Topopah Spring 65.45 324 P P 01 47 43.2 +1.3
baz=134,SNR=13
FURC Furnace Creek, 65.47 323 P P 01 47 41.8 0.0
baz=134,SNR=8.0
WCT Wildcat Mounta 65.56 323 IAmb IAmb 01 47 44.8
comp=Z,22nm,1.0s
MPMC Manual Prospec 65.56 322 P P 01 47 42.6 -0.1
baz=133,SNR=7.2
BELA Belgrano 2 65.64 172 P P 01 47 43.4 +1.1
B35A Bob, Littlefor 65.69 346 IAmb IAmb 01 47 43.4
comp=Z,110nm,1.9s
B35A Bob, Littlefor 65.69 346 P P 01 47 42.0 -0.9
baz=159
SBC Santa Barbara 65.84 319 P P 01 47 44.3 0.0
baz=131
SPR3 Spring Creek 3 65.85 326 P P 01 47 44.4 -0.2
SPR3 IAmb IAmb 01 47 46.2
comp=Z,20nm,0.9s
ISA Isabella, Lake 65.89 321 P P 01 47 45.6 +1.0
baz=132,SNR=6.6
TCUT Toone Canyon 65.93 330 IAmb IAmb 01 47 47.6
comp=Z,20nm,0.8s
DUG Dugway, Tooele 65.93 328 IAmb IAmb 01 47 47.0
comp=Z,30nm,1.1s
DUG Dugway, Tooele 65.93 328 P P 01 47 45.9 +1.0
baz=138,SNR=26
E28A Huff 66.05 340 P P 01 47 46.1 +0.8
baz=152
R11B Troy Canyon, C 66.06 325 P P 01 47 47.0 +1.2
baz=136,SNR=21
GRAC Grapevine Rang 66.13 323 P P 01 47 47.1 +1.0
baz=134
CWC Cottonwood Cre 66.17 322 P P 01 47 47.3 +0.8
baz=133
PKM Mcpherson Peak 66.20 320 P P 01 47 46.8 +0.1
baz=131
BW06 Boulder Array 66.34 332 P P 01 47 47.9 +0.3
baz=142
PD31 Pinedale Array 66.34 332 P P 01 47 47.0 -0.6
PDAR Pinedale Array 66.34 332 P P 01 47 47.0 -0.6
comp=Z,0.8nm,0.6s,baz=142,slow=7.5,SNR=9.0
PDAR pP pP 01 48 10.8 -1.0
comp=Z,0.9nm,0.7s,baz=144,slow=5.1,SNR=3.0
PDAR LR LR 02 18 05.1
comp=Z,28nm,19.4s,baz=126,slow=37
comp=Z,0.8nm,0.6s
VES Vestal, Richgr 66.37 321 P P 01 47 48.5 +0.8
baz=132
HWUT Hardware Ranch 66.38 330 IAmb IAmb 01 47 49.0
comp=Z,31nm,1.6s
SMMC Simmler 66.59 320 P P 01 47 50.4 +1.3
baz=131
DSP Deep Springs 66.74 323 P P 01 47 49.9 0.0
MDND Maddock 66.83 341 P P 01 47 50.8 +0.5
baz=153,SNR=5.9
MDND Maddock 66.83 341 P P 01 47 51.1 +0.8
baz=153,SNR=5.9
MLAC Mammoth, Mammo 67.42 323 P P 01 47 54.9 +0.3
baz=133
VNA3 Neumayer Olymp 67.53 162 ⇓P P 01 47 55.7 +1.3
comp=Z,4.6nm,0.8s
VNA3 ⇑sP sP 01 48 30.7 +1.7
comp=Z,1.9nm,0.3s
NVAR Mina Array Bea 67.65 324 P P 01 47 56.1 +0.2
NVAR Mina Array Bea 67.65 324 P P 01 47 56.4 +0.5
comp=Z,2.5nm,0.8s,baz=146,slow=6.8,SNR=7.2
NVAR pP pP 01 48 20.6 +0.2
comp=Z,2.2nm,0.8s,baz=146,slow=6.3,SNR=6.0
comp=Z,2.5nm,0.8s
VNA1 Neumayer--Stat 67.77 161 ⇓P P 01 47 57.8 +1.9
comp=Z,7.9nm,0.8s
VNA1 ⇑sP sP 01 48 32.3 +1.8
comp=Z,16nm,1.2s
IMW Indian Meadow 67.85 332 IAmb IAmb 01 47 59.3
comp=Z,35nm,1.9s
ULM Lac du Bonnet 67.97 345 IAmb IAmb 01 47 58.0
comp=Z,44nm,1.3s
ULM Lac du Bonnet 67.97 345 P P 01 47 56.8 -0.6
comp=Z,9.5nm,0.5s,baz=162,slow=6.0,SNR=24
ULM pP pP 01 48 22.4 +0.5
comp=Z,4.0nm,0.5s,baz=135,slow=3.0,SNR=2.4
ULM LR LR 02 20 36.5
comp=Z,37nm,18.5s,baz=310,slow=38
comp=Z,9.5nm,0.5s
H17A Grant Village 68.08 332 P P 01 47 59.5 +1.0
baz=142
RLMT Red Lodge 68.08 334 P P 01 47 58.8 +0.3
baz=143
LAO LASA Array 68.12 337 P P 01 47 59.1 +0.6
baz=146

VNA2 Neumayer--Watz 68.13 161 ⇓P P 01 47 59.3 +1.1
comp=Z,3.9nm,0.8s,baz=288,slow=7.0
VNA2 ⇑sP sP 01 48 34.2 +1.3
comp=Z,6.2nm,0.7s,baz=288,slow=8.0
DGMT Dagmar 68.88 339 IAmb IAmb 01 48 04.9
comp=Z,44nm,1.3s
DGMT Dagmar 68.88 339 P P 01 48 04.0 +0.9
baz=149,SNR=5.6
DGMT Dagmar 68.88 339 P P 01 48 03.9 +0.7
baz=149,SNR=5.6
HLID Hailey 69.23 330 P P 01 48 06.7 +1.0
baz=138,SNR=6.9
SNAA Sanae 69.75 161 P P 01 48 08.8 +0.5
SNAA Sanae 69.75 161 ⇓P P 01 48 09.5 +1.2
comp=Z,139nm,0.7s
SNAA Sanae 69.75 161 P P 01 48 09.3 +1.1
comp=Z,7.1nm,0.8s,baz=274,slow=6.1,SNR=51
SNAA pP pP 01 48 32.9 +0.3
comp=Z,4.6nm,0.7s,baz=279,slow=7.5,SNR=5.3
comp=Z,7.1nm,0.8s
SCHQ Schefferville 69.98 4 P P 01 48 09.9 +0.1
comp=Z,11nm,0.9s,baz=203,slow=2.7,SNR=6.5
comp=Z,11nm,0.9s
ORV Oroville 70.25 323 IAmb IAmb 01 48 14.1
comp=Z,43nm,1.4s
EGMT Eagleton 70.60 335 P P 01 48 14.4 +0.6
baz=143
TROLL Troll, Antarti 71.46 161 ⇓P P 01 48 20.2 +1.4
comp=Z,188nm,0.8s
TROLL ⇑sP sP 01 48 55.0 +1.4
comp=Z,264nm,0.7s
DBIC Dimbokro 71.71 78 P P 01 48 21.6 +0.5
comp=Z,6.3nm,0.7s,baz=242,slow=5.2,SNR=9.0
DBIC pP pP 01 48 46.7 +0.8
comp=Z,7.7nm,0.9s,baz=258,slow=4.8,SNR=4.4
DBIC LR LR 02 19 12.5
comp=Z,73nm,18.5s,baz=260,slow=35
comp=Z,6.3nm,0.7s
DBIC Dimbokro 71.71 78 P P 01 48 21.5 +0.5
DBIC pP pP 01 48 46.9 +1.0
DBIC sP sP 01 48 56.6 +0.3
PPT2 Papeete2 72.23 256 eS S 01 57 41.5 +1.1
comp=Z,70nm,28.8s
PPT2 Papeete2 72.23 256 eLR LR 02 10 39.7
comp=Z,71nm,26.0s
NEW Newport 73.97 332 P P 01 48 35.2 +1.4
baz=137
NEW Newport 73.97 332 LR LR 02 21 42.5
comp=Z,29nm,21.6s,baz=106,slow=36
QSPA South Pole Qui 74.98 180 P P 01 48 40.2 +0.6
QSPA IAmb IAmb 01 48 42.0
comp=Z,16nm,0.8s
QSPA South Pole Qui 74.98 180 P P 01 48 41.1 +1.5
comp=Z,20nm,0.8s,baz=164,slow=0.9,SNR=133
comp=Z,20nm,0.8s
KOWA Kowa 75.06 70 P P 01 48 41.7 +0.9
KOWA Kowa 75.06 70 LR LR 02 20 10.9
comp=Z,75nm,19.4s,baz=196,slow=34
EDM Edmonton 76.11 337 IAmb IAmb 01 48 46.7
comp=Z,55nm,1.0s
ELIB Princess Elisa 77.91 162 dP P 01 48 57.3 +1.2
comp=Z,4.7nm,1.0s
IVI Ivigtut 78.83 12 iP P 01 49 00.8 0.0
TOA0 Torodi Ar. Sit 79.86 73 P P 01 49 08.3 +0.8
TORD Torodi Ar. Bea 79.86 73 P P 01 49 08.4 +0.8
comp=Z,8.2nm,0.7s,baz=268,slow=5.5,SNR=76
TORD pP pP 01 49 33.6 +0.9
comp=Z,7.7nm,0.8s,baz=265,slow=4.6,SNR=7.4
TORD LR LR 02 22 23.8
comp=Z,46nm,20.4s,baz=326,slow=34
comp=Z,8.2nm,0.7s
NUUK Nuuk 80.92 10 iP P 01 49 09.8 -2.3
NUUK IAmb IAmb 01 49 12.1
comp=Z,98nm,1.4s
SFJD Kangerlussuaq 83.71 9 LR LR 02 26 58.2
comp=Z,25nm,20.7s,baz=192,slow=36
YKA Yellowknife Ar 83.73 342 P P 01 49 26.7 -0.1
comp=Z,12nm,0.8s,baz=140,slow=5.6,SNR=56
comp=Z,12nm,0.8s
DY2G Dye2 83.95 11 iP P 01 49 27.3 -0.9
DY2G IAmb IAmb 01 49 29.2
comp=Z,14nm,0.8s
ESDC Sonseca Array 84.78 47 P P 01 49 33.7 +0.9
ESDC Sonseca Array 84.78 47 P P 01 49 34.3 +1.5
comp=Z,4.6nm,1.0s,baz=265,slow=4.9,SNR=14
ESDC pP pP 01 50 00.4 +2.1
comp=Z,2.5nm,0.9s,baz=250,slow=5.3,SNR=5.7
comp=Z,4.6nm,1.0s
FLDN Fort Liard 85.03 338 P P 01 49 34.9 +1.5
baz=133
KOTAN Kotaneelee Air 85.17 337 P P 01 49 34.9 +0.7
baz=132
T35M Bob Quinn 85.71 333 P P 01 49 38.3 +1.3
baz=126
TSUM Tsumeb 86.43 109 P P 01 49 42.6 +1.1
TSUM Tsumeb 86.43 109 LR LR 02 26 35.1
comp=Z,35nm,18.1s,baz=250,slow=34
DLBC Dease Lake 86.48 334 P P 01 49 41.7 +1.0
baz=127
U33K Whale Pass 86.51 331 P P 01 49 41.5 +0.7
baz=124
S34M Telegraph Cree 86.64 333 P P 01 49 42.5 +1.0
baz=126
WRGLY Wrigley 87.06 340 P P 01 49 44.0 +0.7
baz=133
R33M Jennings River 87.44 335 IAmb IAmb 01 49 47.5
comp=Z,20nm,1.1s
R33M Jennings River 87.44 335 P P 01 49 46.8 +1.3
baz=126,SNR=7.1
ICESG Greenland Ices 87.48 12 iP P 01 49 44.8 -1.0
ICESG IAmb IAmb 01 49 46.8
comp=Z,7.2nm,0.7s
Q32M Nakina River 87.74 334 P P 01 49 48.0 +1.1
baz=125
R32K Eaglecrest 88.34 333 P P 01 49 50.5 +0.9
baz=123
P33M Teslin, Yukon 88.67 335 IAmb IAmb 01 49 53.0
comp=Z,18nm,0.8s
P33M Teslin, Yukon 88.67 335 P P 01 49 52.0 +0.8
baz=124,SNR=8.3
P32M Atlin 88.70 334 IAmb IAmb 01 49 53.2
comp=Z,27nm,0.9s
P32M Atlin 88.70 334 P P 01 49 52.0 +0.7
baz=124
N32M Quiet Lake 89.31 335 P P 01 49 54.9 +0.8
baz=124
SKAG Skagway 89.33 333 P P 01 49 54.7 +0.5
baz=122
MMPY Sheldon Lake, 89.44 337 IAmb IAmb 01 49 56.9
comp=Z,14nm,1.4s
MMPY Sheldon Lake, 89.44 337 P P 01 49 55.3 +0.5
baz=126
PLBC Pleasant Camp 89.78 333 P P 01 49 56.9 +0.6
baz=121
WHY Whitehorse 89.78 334 P P 01 49 56.2 -0.3
baz=122
FARO Faro, Yukon 90.02 336 P P 01 49 57.8 +0.4
baz=124,SNR=14
O30N Mendenhall 90.34 334 P P 01 49 58.9 -0.1
O30N Mendenhall 90.34 334 P P 01 49 59.4 +0.5
baz=121,SNR=6.0
P30M Million Dollar 90.38 333 P P 01 49 59.6 +0.4
baz=121
M31M Drury Creek, Y 90.41 336 IAmb IAmb 01 50 06.2
comp=Z,19nm,1.4s
M31M Drury Creek, Y 90.41 336 P P 01 49 59.6 +0.3
baz=123
P29M Windy Craggy 90.47 333 IAmb IAmb 01 50 01.6
comp=Z,23nm,1.1s
P29M Windy Craggy 90.47 333 P P 01 49 59.9 +0.4
baz=120
N31M Braeburn, Yuko 90.59 335 IAmb IAmb 01 50 01.3
comp=Z,14nm,0.8s
N31M Braeburn, Yuko 90.59 335 P P 01 50 00.6 +0.6
baz=122
SUMG Summit 90.62 10 P P 01 50 01.2 +0.8
SUMG Summit 90.62 10 iP P 01 50 01.0 +0.5
SUMG IAmb IAmb 01 50 02.6
comp=Z,35nm,1.0s
HYT Haines Junctio 90.97 334 P P 01 50 02.1 +0.1
baz=120
N30M Aishikik Lake 91.11 335 P P 01 50 02.9 +0.4
baz=121
YUK6 Outpost Mounta 91.39 334 P P 01 50 04.8 +0.7
baz=120
M30M Minto, Yukon 91.56 336 P P 01 50 05.0 +0.4
baz=121
MAW Mawson 91.67 165 P P 01 50 05.3 +0.2

MAW Mawson 91.67 165 P P 01 50 06.3 +1.3
comp=Z,1.8nm,0.5s,baz=212,slow=5.6,SNR=13
MAW LR LR 02 31 11.4
comp=Z,21nm,20.4s,baz=220,slow=35
comp=Z,1.8nm,0.5s
YUK4 Talbot Arm 91.71 334 P P 01 50 06.1 +0.6
baz=119
MAYO Mayo, Yukon 91.74 337 P P 01 50 06.3 +0.9
baz=122
O28M Mount Upton 92.09 333 P P 01 50 08.2 +0.8
baz=118
M29M Somme Creek 92.17 335 IAmb IAmb 01 50 09.1
comp=Z,11nm,0.8s
M29M Somme Creek 92.17 335 P P 01 50 08.2 +0.7
baz=119,SNR=12
H31M Peel River 92.35 339 IAmb IAmb 01 50 09.3
comp=Z,13nm,0.9s
H31M Peel River 92.35 339 P P 01 50 08.1 -0.1
baz=123
L29M L29M 92.36 336 P P 01 50 08.5 +0.2
baz=120,SNR=16
J30M Hart River 92.41 337 IAmb IAmb 01 50 10.0
comp=Z,5.7nm,0.8s
J30M Hart River 92.41 337 P P 01 50 09.5 +0.9
baz=121
K29M Barlow Dome 92.49 337 IAmb IAmb 01 50 10.1
comp=Z,9.1nm,0.8s
K29M Barlow Dome 92.49 337 P P 01 50 09.3 +0.3
baz=120,SNR=5.9
YUK3 Moose Creek 92.67 334 P P 01 50 09.9 -0.1
baz=118
CTG Chitna Glacier 92.68 333 P P 01 50 10.5 +0.5
baz=117
I30M Mount Dempster 92.76 338 IAmb IAmb 01 50 11.5
comp=Z,12nm,0.9s
I30M Mount Dempster 92.76 338 P P 01 50 11.0 +0.8
baz=121
G31M Satah River 92.94 340 P P 01 50 11.0 +0.3
baz=123
F31M Tsiigehtchic 93.05 340 P P 01 50 11.3 +0.1
baz=123
J29N Klondike Camp 93.06 337 P P 01 50 11.9 +0.4
baz=120
DAWY Dawson 93.32 336 P P 01 50 11.8 -0.8
DAWY IAmb IAmb 01 50 13.4
comp=Z,14nm,1.1s
DAWY Dawson 93.32 336 P P 01 50 12.7 0.0
baz=118,SNR=5.9
NEEM North Greenlan 93.39 5 iP P 01 50 13.9 +0.8
INK Inuvik 93.45 341 IAmb IAmb 01 50 14.1
comp=Z,11nm,1.0s
INK Inuvik 93.45 341 P P 01 50 13.0 -0.1
baz=124
INK Inuvik 93.45 341 LR LR 02 35 27.0
comp=Z,50nm,18.9s,baz=162,slow=38
EPYK Eagle Plains 93.47 339 P P 01 50 12.9 -0.4
baz=121
M27K Edge Creek, AK 93.53 334 IAmb IAmb 01 50 14.8
comp=Z,7.0nm,0.9s
M27K Edge Creek, AK 93.53 334 P P 01 50 13.7 -0.2
baz=116
I29M Ogilvie Camp, 93.54 338 IAmb IAmb 01 50 14.5
comp=Z,10nm,0.9s
I29M Ogilvie Camp, 93.54 338 P P 01 50 14.1 +0.4
baz=119
MCARA McCarthy VSAT 93.60 333 P P 01 50 14.1 +0.1
baz=115
F30M Barrier River 93.80 340 P P 01 50 14.3 -0.5
baz=122
L27K Beaver Creek, 93.83 335 IAmb IAmb 01 50 16.3
comp=Z,5.1nm,0.8s
L27K Beaver Creek, 93.83 335 P P 01 50 15.0 0.0
baz=116,SNR=6.1
H29M Whitestone 93.98 338 P P 01 50 15.3 -0.3
baz=119
I28M Miner Creek 94.18 337 P P 01 50 16.3 -0.4
baz=118
G29M Pine Creek 94.20 339 P P 01 50 16.5 -0.1
baz=120
K27K Chicken 94.35 336 IAmb IAmb 01 50 20.2
comp=Z,17nm,1.2s
K27K Chicken 94.35 336 P P 01 50 17.5 +0.1
baz=116
N25K Chitina, Valde 94.38 333 P P 01 50 17.0 -0.6
baz=114
L26K Log Cabin Wild 94.44 335 P P 01 50 17.2 -0.7
baz=115
I27K Kandik River 94.87 337 P P 01 50 19.2 -0.6
baz=116
E29M Blow River 94.88 340 P P 01 50 19.2 -0.5
baz=120
KLU Klutina 94.92 333 P P 01 50 19.2 -0.9
baz=113
P23K Montague Islan 95.02 331 P P 01 50 20.2 -0.3
baz=112
SCRK Sand Creek 95.09 335 P P 01 50 20.2 -0.7
baz=114
H27K Steamboat Moun 95.12 338 P P 01 50 20.1 -0.8
baz=116
J26L Joseph Creek 95.14 336 P P 01 50 20.1 -1.0
J26L IAmb IAmb 01 50 21.9
comp=Z,5.7nm,0.8s
J26L Joseph Creek 95.14 336 P P 01 50 20.3 -0.8
baz=115,SNR=6.6
F28M Old Crow 95.17 339 P P 01 50 20.2 -0.8
baz=118
M24K Tolsona, Glenn 95.26 333 P P 01 50 21.1 -0.6
baz=113
PAX Paxson 95.30 334 P P 01 50 21.1 -0.8
baz=113
I26K Coal Creek Min 95.32 337 P P 01 50 21.6 -0.2
baz=115
D28M Stokes Point 95.61 341 P P 01 50 21.6 -1.4
baz=119
PWL Port Wells 95.77 332 P P 01 50 22.2 -1.7
baz=111
J25K Salcha River, 95.90 336 IAmb IAmb 01 50 25.2
comp=Z,5.9nm,1.0s
J25K Salcha River, 95.90 336 P P 01 50 24.1 -0.5
baz=113
E27K Coleen River 96.01 340 P P 01 50 23.9 -1.0
baz=116
SEW Seward 96.02 331 P P 01 50 24.3 -0.7
baz=110
SML Sawmill 96.10 333 P P 01 50 24.4 -1.1
baz=111
WAT6 Susitna Watana 96.12 333 P P 01 50 24.7 -1.0
baz=111
DHY Denali Highway 96.14 334 P P 01 50 24.6 -1.2
baz=112
G26K Porcupine Rive 96.24 338 P P 01 50 25.3 -0.6
baz=114
D27M Malcolm River 96.27 341 P P 01 50 24.4 -1.7
baz=117
PRP Porcupine Dome 96.31 337 P P 01 50 25.6 -0.8
baz=113
PMR Palmer 96.38 332 P P 01 50 26.0 -0.7
baz=110
HDA Harding Lake 96.46 335 P P 01 50 26.3 -0.7
baz=112
RC01 Rabbit Creek A 96.49 332 P P 01 50 26.1 -1.1
baz=110
BRSE Bradley Lake S 96.52 330 P P 01 50 26.1 -1.3
baz=109
WAT1 Susitna Watana 96.56 334 P P 01 50 26.6 -0.9
baz=110
ILAR Eielson Array 96.56 336 P P 01 50 26.8 -0.7
comp=Z,1.1nm,0.8s,baz=156,slow=3.4,SNR=13
comp=Z,1.1nm,0.8s
F26K Sheenjek River 96.67 339 P P 01 50 27.6 -0.3
baz=114
H25L Birch Creek 96.72 337 P P 01 50 27.7 -0.4
baz=112
KDAK Kodiak Island 96.81 328 LR LR 02 33 18.1
comp=Z,56nm,18.4s,baz=163,slow=35
RND Reindeer 96.89 334 IAmb IAmb 01 50 29.9
comp=Z,7.5nm,1.2s
POKR Poker Plat Res 96.91 336 P P 01 50 28.9 -0.1
baz=111
COLA College 96.99 336 P P 01 50 28.9 -0.4
baz=111
G25K Bearman Lake 97.01 338 P Pdif 01 50 29.4 0.0
baz=112
MCK McKinley 97.03 334 P P 01 50 29.4 -0.2
baz=110
SUA Susitna One 97.07 332 P P 01 50 29.8 -0.2
baz=109
F25K Christian Rive 97.16 338 P P 01 50 29.9 -0.3

	baz=112					
MDM	**Murphy Dome**	**97.17 336**	IAmb	IAmb	01 50 30.6	
	comp=Z,15nm,1.2s					
LSZ	**Lusaka**	**97.25 108**	LR	LR	02 31 03.4	
	comp=Z,38nm,21.5s,baz=170,slow=33					
E25K	**Arctic Village**	**97.34 339**	P	**P**	**01 50 30.6**	**-0.3**
	baz=112					
H24K	**Noodoor Dome**	**97.34 336**	P	**P**	**01 50 30.9**	**-0.1**
	baz=111					
NEA2	**Nenana**	**97.38 335**	IAmb	IAmb	01 50 31.0	
	comp=Z,4.2nm,0.7s					
NEA2	**Nenana**	**97.38 335**	P	**P**	**01 50 30.6**	**-0.6**
	baz=110					
G24K	**Hadweenzic Riv**	**97.49 337**	IAmb	IAmb	01 50 32.4	
	comp=Z,5.7nm,0.8s					
G24K	**Hadweenzic Riv**	**97.49 337**	P	**P**	**01 50 31.4**	**-0.2**
	baz=111					
TRF	**Thorofare Moun**	**97.51 334**	P	**P**	**01 50 31.2**	**-0.7**
	baz=109					
SKT	**Skwentna**	**97.59 332**	P	**P**	**01 50 31.1**	**-1.0**
	baz=108					
R18K	**Karluk**	**97.71 328**	P	**P**	**01 50 32.3**	**-0.5**
	baz=106					
F24K	**Squaw Lake**	**97.94 338**	P	**P**	**01 50 33.3**	**-0.3**
	baz=110					
H23K	**Yukon River**	**97.98 336**	P	**P**	**01 50 33.1**	**-0.7**
	baz=109					
BPAW	**Bear Paw Mtn.**	**98.01 334**	IAmb	IAmb	01 50 34.6	
	comp=Z,6.0nm,1.0s					
BPAW	**Bear Paw Mtn.**	**98.01 334**	P	**P**	**01 50 33.6**	**-0.5**
	baz=108					
D25K	**Kavik River**	**98.06 340**	P	**P**	**01 50 33.8**	**-0.3**
	baz=112					
MLY	**Manley**	**98.20 335**	P	**P**	**01 50 34.2**	**-0.7**
	baz=108					
CAST	**Castle Rocks**	**98.27 334**	P	**P**	**01 50 34.5**	**-0.7**
CAST			IAmb	IAmb	01 50 35.1	
	comp=Z,7.9nm,1.0s					
CAST	**Castle Rocks**	**98.27 334**	P	**P**	**01 50 34.2**	**-0.9**
	baz=107					
E24K	**Your Creek**	**98.34 339**	P	**P**	**01 50 35.1**	**-0.3**
	baz=110					
G23K	**Bananza Creek**	**98.45 337**	P	Pdif	01 50 36.4	+0.5
	baz=109					
CHUM	**Lake Minchumin**	**98.50 334**	P	Pdif	01 50 36.5	+0.3
	baz=107					
Q17K	**Contact Creek**	**98.64 328**	P	**P**	**01 50 36.8**	**-0.2**
	baz=105					
COLD	**Coldfoot**	**98.68 338**	P	Pdif	01 50 36.9	0.0
	baz=108					
O18K	**Koktuh Hills**	**98.71 330**	P	**P**	**01 50 36.8**	**-0.4**
	baz=105					
L20K	**Farewell, AK**	**98.79 332**	P	**P**	**01 50 37.0**	**-0.6**
	baz=106					
C24K	**Franklin Bluff**	**98.97 340**	P	**P**	**01 50 37.2**	**-1.0**
	baz=110					
K20K	**Telida**	**99.11 333**	P	**Pdif**	**01 50 38.7**	**-0.2**
	baz=106					
Q16K	**King Salmon**	**99.13 328**	P	**Pdif**	**01 50 37.6**	**-1.5**
	baz=104					
P17K	**Kvichak River**	**99.15 329**	P	**Pdif**	**01 50 37.9**	**-1.2**
	baz=104					
C23K	**Itkillik River**	**99.63 340**	P	**Pdif**	**01 50 40.5**	**-0.6**
	baz=108					
G18K	**Tagagawik**	**101.61 335**	P	**Pdif**	**01 50 50.6**	**+0.6**
	baz=101					
B20K	**Meade River**	**101.86 340**	P	**Pdif**	**01 50 52.0**	**+1.0**
	baz=102					
E18K	**Tukpahlearik C**	**102.64 337**	P	**Pdif**	**01 50 54.8**	**+0.2**
	baz=99					
J14K	**Nanvaranak Lak**	**103.22 332**	P	**Pdif**	**01 50 57.8**	**+0.6**
	baz=97					
DZM	**Mont Dzumac**	**110.29 239**	*e*LR	LR	02 28 05.6	
	comp=Z,95nm,29.1s					
KBZ	**Khabaz**	**119.61 48**	PKP	**PKiKP**	**01 55 48.6**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=192,slow=3.9,SNR=9.3					
KBZ			pPKP	**pPKPdf**	**01 56 15.8**	**+1.8**
	comp=Z,1.8nm,0.9s,baz=189,slow=9.6,SNR=3.2					
STKA	**Stephens Creek**	**122.18 216**	PKP	**PKPdf**	**01 55 53.0**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=31,slow=3.0,SNR=6.4					
PETK	**Petropavlovsk-**	**124.72 325**	PKP	**PKiKP**	**01 55 57.7**	**+0.1**
	comp=Z,4.4nm,1.0s,baz=102,slow=7.2,SNR=2.6					
ABKAR	**Akbulak array**	**129.37 38**	PKPdf	**PKPdf**	**01 56 06.4**	**+0.2**
ASAR	**Alice Springs**	**132.82 216**		**PKPdf**	**01 56 12.7**	**-1.0**
ASAR	**Alice Springs**	**132.82 216**	PKhKP	PKPpre	01 56 05.3	
	comp=Z,0.4nm,0.9s,baz=110,slow=2.1,SNR=4.2					
ASAR			PKP	**PKPdf**	**01 56 13.4**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=129,slow=2.1,SNR=43					
ASAR			pPKP	pPKPdf	01 56 40.6	+0.3
	comp=Z,0.8nm,0.7s,baz=128,slow=3.9,SNR=3.0					
WB2	**Warramunga Arr**	**135.43 219**	PKPdf	**PKPdf**	**01 56 17.3**	**-1.3**
WRA	**Warramunga Arr**	**135.44 219**	PKP	**PKPdf**	**01 56 18.7**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=151,slow=1.5,SNR=24					
WRA			pPKP	**pPKPdf**	**01 56 44.8**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=139,slow=1.8,SNR=4.0					
WB0	**Warramunga Arr**	**135.54 220**	PKPdf	**PKPdf**	**01 56 17.5**	**-1.3**
ZAA0	**Zalesovo Array**	**137.85 19**	PKPdf	**PKPdf**	**01 56 21.7**	**-0.3**
ZALV	**Zalesovo Beam**	**137.85 19**	PKhKP	PKPpre	01 56 17.5	
	comp=Z,1.5nm,0.7s,baz=334,slow=1.7,SNR=5.0					
ZALV			PKP	**PKiKP**	**01 56 23.1**	**-0.9**
	comp=Z,6.6nm,0.9s,baz=308,slow=2.2,SNR=17					
ZALV			pPKP	pPKPdf	01 56 49.6	+1.1
	comp=Z,3.0nm,0.8s,baz=316,slow=4.1,SNR=3.4					
KURBB	**Kurchatov Arra**	**138.20 26**	PKP	**PKPdf**	**01 56 21.6**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=312,slow=2.5,SNR=9.0					
MK31	**Makanchi Array**	**142.72 27**		**PKPdf**	**01 56 28.7**	**-2.5**
MKAR	**Makanchi Array**	**142.72 27**		**PKPdf**	**01 56 29.4**	**-1.7**
MKAR	**Makanchi Array**	**142.72 27**	PKP	**PKPdf**	**01 56 28.7**	**-2.4**
	comp=Z,1.2nm,0.6s,baz=341,slow=3.5,SNR=10					
NRN	**Naryn**	**143.06 39**	PKPdf	**PKPdf**	**01 56 31.1**	**-1.1**
USRK	**Ussuriysk Ar.**	**143.69 328**	PKPdf	PKPbc	01 56 31.4	+0.9
USRK	**Ussuriysk Ar.**	**143.69 328**	PKP	PKPbc	01 56 30.7	+0.2
	comp=Z,3.9nm,0.7s,baz=52,slow=3.9,SNR=6.8					
KSH	**Kashi**	**144.15 42**	PKP	**PKPdf**	**01 56 33.6**	**-0.4**
HIA	**Hailar**	**144.23 345**	PKPdf	PKPbc	01 56 32.4	+0.4
MJAR	**Matsushiro Arr**	**144.42 313**	PKP	**PKPab**	**01 56 31.9**	**-0.9**
	comp=Z,2.7nm,0.5s,baz=81,slow=3.6,SNR=10					
MAJO	**Matsushiro**	**144.42 313**	PKPdf	**PKPab**	**01 56 32.5**	**-0.3**
MJB9	**Matsu-Tunnel**	**144.42 313**		PKPbc	01 56 33.2	+0.1
MDJ	**Mudanjiang**	**144.57 331**	PKP	**PKPab**	**01 56 33.0**	**0.0**
MDJ			SS	SS	02 18 31.6	+1.1
BNX	**BinXian**	**144.68 334**	PKP	**PKPab**	**01 56 33.3**	**-0.1**
BNX			AMB	AMB		
	comp=Z,700nm,6.9s					
NIL	**Nilore**	**145.06 52**		**PKPdf**	**01 56 35.5**	**-0.1**
ULN	**Ulaanbaatar**	**147.40 359**	PKPbc	**PKPbc**	**01 56 42.1**	**+0.3**
WMQ	**Urumqi**	**147.40 25**	*e*PKPbc	**PKPdf**	**01 56 39.6**	**+0.3**
SONM	**Songino Array**	**147.43 360**		**PKPbc**	**01 56 41.7**	**-0.2**
SONM	**Songino Array**	**147.43 360**	PKPbc	**PKPbc**	**01 56 42.4**	**+0.5**
	comp=Z,8.0nm,0.6s,baz=337,slow=1.9,SNR=44					
SONM			pPKPbc	**pPKPbc**	**01 57 08.3**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=311,slow=2.0,SNR=2.9					
SOEI	**Soe**	**149.41 217**	PKPbc	**PKPdf**	**01 56 45.4**	**+1.9**
XLT	**XiLinHaoTe**	**150.15 346**	*e*PKPbc	**PKPbc**	**01 56 47.4**	**-1.5**
XLT			AMB	AMB		
	comp=Z,380nm,7.7s					
KSRS	**Korea Array**	**150.59 323**	PKPbc	**PKiKP**	**01 56 50.9**	**+0.3**
	comp=Z,17nm,0.8s,baz=348,slow=2.1,SNR=9.3					
HYB	**Hyderabad**	**153.42 81**	*e*PKPdf	**PKPdf**	**01 56 48.7**	**-0.7**
HHC	**Hu-ho-hao-te**	**153.99 351**	*e*PKPbc	**PKPdf**	**01 56 46.3**	**-3.3**
BTO	**Baotou**	**154.44 353**	*e*PKPbc	**PKPdf**	**01 56 48.1**	**-2.2**
BTO			PKPab	**PKPab**	**01 57 13.0**	**-0.1**
BTO			pPKP	**pPKPdf**	**01 57 14.9**	**-1.7**
BTO			sPKP		01 57 25.5	
BTO			SKS	**SKSdf**	**02 03 44.0**	**-5.0**
BTO			AMB	AMB		
	comp=Z,740nm,6.1s					
NJ2	**Nanjing**	**159.60 328**	*e*PKP	**PKPdf**	**01 56 58.1**	**+1.2**
CD2	**Chengdu**	**164.18 8**	PKP	PKPdf	01 57 12.8	+11
PZH	**PanZhiHua**	**168.00 19**	PKP	**PKPdf**	**01 57 03.4**	**-1.6**
CMAR	**Chiang Mai Arr**	**172.36 64**	PKP	**PKPdf**	**01 57 08.3**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=279,slow=2.8,SNR=4.6					

JMA 22 02:15:49.6±0.5, 31°N±3°×14°0E±°, h326km, MV3.7/29, NEAR TORISHIMA IS, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.95**	**8**	*e*P	Pn	02 16 38.7	+0.4
JHJ2				*e*S	S	02 17 17.0	-0.3
BSO1	**Boso 1**	**3.69**	**19**	P	Pn	02 16 54.6	+1.3
BSO1				S	S	02 17 45.0	+0.4
BSO3	**Boso 3**	**3.72**	**13**	P	Pn	02 16 54.6	+0.7
BSO3				S	S	02 17 45.5	-0.1
BSO4	**Boso 4**	**3.87**	**10**	P	Pn	02 16 56.3	+0.6
BSO4				*e*S	S	02 17 49.5	+0.7
JKN2	**Miekihoku**	**4.10**	**319**	P	Pn	02 16 57.4	-0.8
JHU	**Hanno**	**4.67**	**358**	P	Pn	02 17 04.9	+0.5
JAG	**Ashikaga**	**5.24**	**360**	P	Pn	02 17 10.8	-0.1
JHO	**Hitachi**	**5.50**	**9**	P	Pn	02 17 14.1	+0.3
JHO				*e*S	S	02 18 19.3	-2.4

IDC ***22*** *02:17:16.6±1.2, 38.°95N×17.°96E, h0km, mb3.4/7, mbtmp3.4/10, ML3.3/2, Error ellipse: s-maj=26.4km s-min=21.3km az=127.0*
ROM ***22*** *02:17:18.0±0.2, 38.°76N±0.°01×17.°92E±0.°01, h23km±1km, ML2.8/84, Error ellipse: s-maj=1.6km s-min=0.6km az=321.0*
THE ***22*** *02:17:19.1, 38.°82N×17.°69E, h32km±31km, ML3.0/8, Error ellipse: s-maj=31.6km s-min=1.5km az=0.0*
BEO ***22*** *02:17:19.6±0.7, 39.°07N×17.°86E, h0km, ML3.1/8*
PDG ***22*** *02:17:20.4±0.1, 39.°22N×17.°68E, h10km±1km, ML3.3/12, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0*
ISC 22 02:17:18.3±1.5, 38.°89N±0.°04×17.°83E±0.°02, h13km±10km, n178, σ1§21/214, mb3.5/7, 21C-8D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LADO	**San Nicola del**	**0.77**	**301**	P	**Pn**	**02 17 35.4**	**+0.5**
LADO				S	**Sn**	**02 17 47.2**	**+0.8**
TIP	**Timpagrande**	**0.89**	**289**	⇑P	**Pb**	**02 17 36.5**	**+0.9**
TIP				AML	AML		
	comp=N,232μm,1.3s						
TIP				AML	AML		
	comp=E,208μm,0.6s						
TIP				AML	AML		
	comp=N,196μm,1.0s						
TIP				AML	AML		
	comp=E,252μm,0.5s						
TIP				AML	AML		
	comp=E,252μm,1.5s						
TIP				AML	AML		
	comp=E,251μm,0.6s						
TIP				AML	AML		
	comp=N,173μm,0.7s						
TIP				AML	AML		
	comp=N,151μm,1.0s						
TIP				AML	AML		
	comp=N,232μm,0.7s						
TIP				AML	AML		
	comp=N,196μm,1.0s						
SERS	**Sersale**	**0.90**	**279**	P	**Pb**	**02 17 36.4**	**+0.5**
SERS				S	**Sn**	**02 17 51.0**	**+1.2**
SERS				AML	AML		
	comp=E,283μm,0.8s						
SERS				AML	AML		
	comp=N,358μm,0.7s						
SERS				AML	AML		
	comp=E,282μm,0.8s						
SERS				AML	AML		
	comp=E,343μm,0.6s						
SERS				AML	AML		
	comp=N,279μm,0.8s						
SERS				AML	AML		
	comp=E,213μm,0.4s						
SERS				AML	AML		
	comp=N,275μm,0.4s						
SERS				AML	AML		
	comp=N,358μm,0.7s						
SERS				AML	AML		
	comp=E,282μm,1.2s						
SERS				AML	AML		
	comp=N,279μm,1.2s						
PIPA	**Pietrapaola**	**0.99**	**307**	P	**Pb**	**02 17 37.9**	**+0.6**
PIPA				S	**Sn**	**02 17 54.1**	**+2.3**
PIPA				AML	AML		
	comp=E,453μm,0.6s						
PIPA				AML	AML		
	comp=N,560μm,0.6s						
PIPA				AML	AML		
	comp=N,508μm,0.6s						
PIPA				AML	AML		
	comp=E,312μm,0.6s						
PIPA				AML	AML		
	comp=N,267μm,2.6s						
PIPA				AML	AML		
	comp=N,380μm,2.6s						
PIPA				AML	AML		
	comp=E,313μm,0.9s						
PIPA				AML	AML		
	comp=E,454μm,0.6s						
PIPA				AML	AML		
	comp=E,436μm,0.8s						
GRI	**Girifalco**	**1.11**	**267**	P	**Pn**	**02 17 40.1**	**+0.6**
CELI	**Celico**	**1.15**	**297**	⇑P	**Pb**	**02 17 40.6**	**+0.5**
CELI				S	**Sn**	**02 17 58.3**	**+2.4**
CELI				AML	AML		
	comp=E,476μm,0.7s						
CELI				AML	AML		
	comp=N,496μm,1.6s						
CELI				AML	AML		
	comp=N,309μm,0.7s						
CELI				AML	AML		
	comp=N,230μm,1.9s						
CELI				AML	AML		
	comp=E,206μm,1.0s						
CELI				AML	AML		
	comp=E,428μm,0.8s						
CELI				AML	AML		
	comp=N,496μm,0.4s						
PLAC	**Placanica**	**1.18**	**248**	⇑P	**Pg**	**02 17 40.4**	**-0.5**
PLAC				AML	AML		
	comp=E,247μm,0.6s						
PLAC				AML	AML		
	comp=N,216μm,0.7s						
PLAC				AML	AML		
	comp=E,228μm,1.0s						
PLAC				AML	AML		
	comp=N,220μm,0.6s						
PLAC				AML	AML		
	comp=E,247μm,1.4s						
PLAC				AML	AML		
	comp=N,216μm,1.3s						
PLAC				AML	AML		
	comp=E,129μm,4.6s						
PLAC				AML	AML		
	comp=N,171μm,0.7s						
PLAC				AML	AML		
	comp=N,118μm,0.7s						
SPS2	**Spezzano della**	**1.23**	**289**	P	**Pb**	**02 17 41.9**	**+0.4**
SPS2				AML	AML		
	comp=E,117μm,0.6s						
SPS2				AML	AML		
	comp=E,117μm,1.4s						
SPS2				AML	AML		
	comp=N,102μm,0.8s						
SPS2				AML	AML		
	comp=N,76μm,1.0s						
SPS2				AML	AML		
	comp=E,80μm,0.5s						
SCTE	**Santa Cesarea**	**1.28**	**22**	⇓P	**Pn**	**02 17 42.5**	**+0.7**
SCTE				S	**Sn**	**02 18 02.0**	**+3.1**
SCTE				AML	AML		
	comp=N,953μm,0.3s						
SCTE				AML	AML		
	comp=E,1026μm,0.5s						
SCTE				AML	AML		
	comp=N,666μm,0.5s						
CAR1	**CAROLEI**	**1.31**	**286**	P	**Pn**	**02 17 43.1**	**+0.7**
CAR1				AML	AML		
	comp=E,484μm,0.7s						
CAR1				AML	AML		
	comp=N,550μm,0.9s						
CAR1				AML	AML		
	comp=N,551μm,0.9s						
CAR1				AML	AML		
	comp=E,414μm,0.8s						
CAR1				AML	AML		
	comp=N,572μm,1.2s						
CAR1				AML	AML		
	comp=N,551μm,1.1s						
CAR1				AML	AML		
	comp=N,441μm,0.8s						
CAR1				AML	AML		
	comp=N,330μm,2.2s						
TDS	**Terranova Siba**	**1.39**	**304**	P	**Pn**	**02 17 44.0**	**+0.6**
TDS				AML	AML		
	comp=N,136μm,0.8s						
TDS				AML	AML		
	comp=E,92μm,0.9s						
TDS				AML	AML		
	comp=N,136μm,0.8s						
TDS				AML	AML		
	comp=E,92μm,1.1s						
TDS				AML	AML		
	comp=N,136μm,1.2s						
SALB	**San Lorenzo Be**	**1.52**	**311**	P	**Pn**	**02 17 45.6**	**+0.4**
SALB				AML	AML		
	comp=N,116μm,1.0s						
SALB				AML	AML		
	comp=E,189μm,0.3s						
SALB				AML	AML		
	comp=N,116μm,1.0s						
JOPP	**Joppolo**	**1.55**	**260**	P	**Pn**	**02 17 46.0**	**+0.4**
JOPP				S	**Sn**	**02 18 07.0**	**+1.4**
JOPP				AML	AML		
	comp=E,144μm,1.2s						
JOPP				AML	AML		
	comp=N,188μm,0.8s						
JOPP				AML	AML		
	comp=E,132μm,0.7s						
JOPP				AML	AML		
	comp=E,144μm,0.8s						
ORI	**Oriolo Calabro**	**1.59**	**318**	⇑P	**Pn**	**02 17 47.1**	**+1.0**
ORI				AML	AML		
	comp=E,566μm,0.4s						
ORI				AML	AML		
	comp=N,680μm,0.4s						
ORI				AML	AML		
	comp=E,567μm,0.4s						
CET2	**Cetraro**	**1.59**	**294**	P	**Pb**	**02 17 47.6**	**0.0**
CET2				S	**Sg**	**02 18 09.4**	**-0.1**
CET2				AML	AML		
	comp=N,516μm,0.7s						
CET2				AML	AML		
	comp=N,516μm,1.3s						
CET2				AML	AML		
	comp=E,344μm,0.8s						
SOI	**Samo**	**1.62**	**240**	⇑P	**Pn**	**02 17 46.4**	**-0.1**
SOI				AML	AML		
	comp=E,108μm,1.0s						
SOI				AML	AML		
	comp=E,108μm,1.0s						
SOI				AML	AML		
	comp=N,111μm,0.8s						
SOI				AML	AML		
	comp=E,91μm,0.9s						
SOI				AML	AML		
	comp=N,76μm,0.7s						
TAR1	**Taranto**	**1.69**	**346**	P	**Pn**	**02 17 48.1**	**+0.6**
TAR1				AML	AML		
	comp=E,479μm,0.4s						
TAR1				AML	AML		
	comp=N,428μm,0.9s						
TAR1				AML	AML		
	comp=E,479μm,1.6s						
TAR1				AML	AML		
	comp=E,296μm,2.9s						
TAR1				AML	AML		
	comp=N,377μm,0.2s						
KEK	**Kerkira**	**1.73**	**61**	P	**Pn**	**02 17 48.4**	**+0.3**
KEK				S	**Sn**	**02 18 11.6**	**+1.5**
	comp=N,368nm,0.3s						
KEK	**Kerkira**	**1.73**	**61**	P	**Pn**	**02 17 48.4**	**+0.3**
LTRZ	**Laterza**	**1.88**	**336**	P	**Pn**	**02 17 50.6**	**+0.5**
MSRU	**Castanea**	**1.93**	**252**	P	**Pn**	**02 17 50.5**	**-0.3**
MSRU				AML	AML		
	comp=E,162μm,1.1s						
MSRU				AML	AML		
	comp=N,121μm,0.7s						
MSRU				AML	AML		
	comp=E,162μm,0.9s						
MSRU				AML	AML		
	comp=N,102μm,1.0s						
MSRU				AML	AML		
	comp=E,146μm,0.6s						
SRN	**Sarande**	**1.95**	**59**	P	**Pn**	**02 17 51.5**	**+0.4**
SRN				S	**Sn**	**02 18 15.9**	**+0.5**
	comp=E,148nm,0.6s						
SRN	**Sarande**	**1.95**	**59**	P	**Pn**	**02 17 51.2**	**+0.1**
NOCI	**Noci**	**1.98**	**343**	P	**Pn**	**02 17 52.2**	**+0.6**
NOCI				AML	AML		
	comp=E,333μm,0.4s						
NOCI				AML	AML		
	comp=N,501μm,1.3s						
NOCI				AML	AML		
	comp=N,501μm,0.7s						
SIRI	**Monte Sirino -**	**1.99**	**311**	P	**Pn**	**02 17 53.3**	**+1.5**
SIRI				AML	AML		
	comp=E,122μm,0.8s						
SIRI				AML	AML		
	comp=N,104μm,0.9s						
SIRI				AML	AML		
	comp=N,105μm,0.6s						
SIRI				AML	AML		
	comp=E,110μm,0.4s						
SIRI				AML	AML		
	comp=E,122μm,1.2s						
SIRI				AML	AML		
	comp=N,104μm,1.1s						
MIGL	**Miglionico**	**2.02**	**328**	P	**Pn**	**02 17 53.2**	**+1.1**
VLO	**Vlora**	**2.03**	**39**	P	**Pn**	**02 17 53.1**	**+0.9**
VLO				S	**Sn**	**02 18 19.5**	**+2.1**
	comp=N,628nm,0.7s						
VLO	**Vlora**	**2.03**	**39**	P	**Pn**	**02 17 53.4**	**+1.1**
IGT	**Igoumenitsa**	**2.04**	**71**	P	**Pn**	**02 17 52.5**	**+0.1**
IGT				S	**Sb**	**02 18 20.2**	**-0.4**
	comp=N,175nm,0.6s						
KEF3	**Kipouria, Keph**	**2.09**	**108**	P	**Pn**	**02 17 52.6**	**-0.4**
KEF3				S	**Sn**	**02 18 20.1**	**+1.2**
DMLN	**Damoulianata-K**	**2.10**	**107**	P	**Pn**	**02 17 52.5**	**-0.6**
DMLN				S	**Sn**	**02 18 19.4**	**+0.3**
MTSN	**Montesano sull**	**2.11**	**311**	⇓P	**Pn**	**02 17 55.0**	**+1.6**
MTSN				AML	AML		
	comp=N,140μm,0.6s						
MTSN				AML	AML		
	comp=E,105μm,0.9s						
MCEL	**Monticello**	**2.12**	**313**	⇑P	**Pn**	**02 17 54.8**	**+1.2**
MCEL				AML	AML		
	comp=E,121μm,0.7s						
MCEL				AML	AML		
	comp=N,136μm,0.8s						
MCEL				AML	AML		
	comp=N,136μm,1.2s						
MCEL				AML	AML		
	comp=E,121μm,1.3s						
KEF4	**Livadi, Kephal**	**2.13**	**107**	P	**Pn**	**02 17 53.4**	**-0.1**
MILZ	**Milazzo**	**2.13**	**254**	P	**Pn**	**02 17 52.5**	**-1.0**
MILZ				S	**Sn**	**02 18 19.2**	**-0.7**
DRAG	**Dragano-Lefkad**	**2.15**	**95**	P	**Pn**	**02 17 54.6**	**+0.7**
MGR	**Morigerati**	**2.16**	**306**	P	**Pn**	**02 17 54.6**	**+0.6**
MGR				AML	AML		
	comp=N,77μm,0.5s						
MGR				AML	AML		
	comp=E,91μm,0.7s						
TSLK	**Tsoukalades, L**	**2.20**	**91**	P	**Pn**	**02 17 54.8**	**+0.2**
LKD2	**Lefkada island**	**2.21**	**92**	P	**Pn**	**02 17 55.1**	**+0.4**
AMUR	**Altamura**	**2.22**	**335**	P	**Pn**	**02 17 55.3**	**+0.4**
AMUR				AML	AML		
	comp=E,283μm,0.5s						
AMUR				AML	AML		
	comp=N,188μm,1.2s						
BULG	**Bulgheria - Ca**	**2.24**	**303**	P	**Pn**	**02 17 55.8**	**+0.6**
BULG				AML	AML		
	comp=E,107μm,0.8s						
BULG				AML	AML		
	comp=N,194μm,1.3s						
BULG				AML	AML		
	comp=N,194μm,1.3s						
BULG				AML	AML		
	comp=E,107μm,0.2s						
BULG				AML	AML		
	comp=N,194μm,0.7s						
BULG				AML	AML		
	comp=N,194μm,0.7s						
BULG				AML	AML		
	comp=E,107μm,1.2s						
NYDR	**Nydri-Lefkada**	**2.25**	**94**	P	**Pn**	**02 17 55.4**	**+0.2**
NYDR				S	**Sn**	**02 18 23.5**	**+0.8**
	comp=E,108nm,0.5s						
SLCN	**Sala Consilina**	**2.26**	**312**	P	**Pn**	**02 17 57.1**	**+1.6**
SLCN				AML	AML		
	comp=N,153μm,1.3s						
SLCN				AML	AML		
	comp=N,153μm,0.7s						

SLCN				AML	AML		
	comp=E,240μm,0.5s						
VLS	**Valsamata**	**2.28**	**107**	P	**Pn**	**02 17 55.0**	**-0.6**
VPL	**Vulcano Piano**	**2.29**	**258**	P	**Pn**	**02 17 55.3**	**-0.5**
VPL				AML	AML		
	comp=E,512μm,0.8s						
VPL				AML	AML		
	comp=E,512μm,1.2s						
VPL				AML	AML		
	comp=N,426μm,0.5s						
LLI	**Lipari**	**2.30**	**260**	P	**Pn**	**02 17 55.9**	**0.0**
LLI				AML	AML		
	comp=E,453μm,1.4s						
LLI				AML	AML		
	comp=N,782μm,0.7s						
LLI				AML	AML		
	comp=N,782μm,1.3s						
LLI				AML	AML		
	comp=E,453μm,0.6s						
JAN	**Janina**	**2.46**	**71**	P	**Pn**	**02 17 58.8**	**+0.6**
JAN				S	**Sn**	**02 18 29.1**	**+0.9**
	comp=E,168nm,0.9s						
MUCR	**Ucria**	**2.47**	**251**	P	**Pn**	**02 17 57.9**	**-0.5**
MUCR				AML	AML		
	comp=N,113μm,0.7s						
MUCR				AML	AML		
	comp=E,65μm,0.6s						
LSK	**Leskovik**	**2.48**	**59**	P	**Pn**	**02 17 59.1**	**+0.6**
LSK				S	**Sn**	**02 18 30.4**	**+1.7**
	comp=E,180nm,0.6s						
MRVN	**Minervino Murg**	**2.50**	**330**	P	**Pn**	**02 17 59.5**	**+0.7**
MRVN				AML	AML		
	comp=N,90μm,1.6s						
MRVN				AML	AML		
	comp=E,121μm,1.2s						
MRVN				AML	AML		
	comp=N,90μm,0.4s						
PALZ	**Palazzo San Ge**	**2.50**	**325**	P	**Pn**	**02 17 59.4**	**+0.6**
PALZ				AML	AML		
	comp=E,370μm,1.4s						
PALZ				AML	AML		
	comp=N,468μm,1.3s						
PALZ				AML	AML		
	comp=E,370μm,0.6s						
PALZ				AML	AML		
	comp=N,468μm,0.7s						
LTHK	**Lithakia**	**2.64**	**116**	P	**Pn**	**02 17 59.3**	**-1.3**
HAGA	**Augusta**	**2.65**	**234**	P	**Pn**	**02 17 59.1**	**-1.7**
HAGA				S	**Sn**	**02 18 29.3**	**-3.5**
MSFR	**San Fratello**	**2.69**	**252**	P	**Pn**	**02 18 00.8**	**-0.5**
IACL	**Alicudi**	**2.74**	**264**	P	**Pn**	**02 18 01.4**	**-0.6**
IACL				AML	AML		
	comp=E,96μm,0.8s						
IACL				AML	AML		
	comp=N,80μm,0.8s						
SSY	**Sortino**	**2.79**	**232**	P	**Pn**	**02 18 00.6**	**-2.1**
SSY				AML	AML		
	comp=E,133μm,0.4s						
SSY				AML	AML		
	comp=N,248μm,0.3s						
HLNI	**Lentini**	**2.80**	**237**	P	**Pn**	**02 18 00.6**	**-2.2**
HLNI				AML	AML		
	comp=E,58μm,0.8s						
HLNI				AML	AML		
	comp=E,58μm,1.2s						
HLNI				AML	AML		
	comp=N,55μm,1.5s						
KBN	**Korca**	**2.86**	**52**	P	**Pn**	**02 18 04.7**	**+1.0**
SNAL	**S. Angelo Dei**	**2.86**	**316**	P	**Pn**	**02 18 05.3**	**+1.5**
SNAL				AML	AML		
	comp=E,92μm,0.9s						
SNAL				AML	AML		
	comp=N,82μm,1.6s						
SNAL				AML	AML		
	comp=N,82μm,0.4s						
PVO	**Paravola**	**2.90**	**94**	P	**Pn**	**02 18 04.0**	**-0.2**
TIR	**Tirane**	**2.91**	**32**	*e*Pn	**Pn**	**02 18 05.4**	**+1.1**
NEST	**Nestorio**	**2.91**	**58**	P	**Pn**	**02 18 06.3**	**+1.9**
NEST				S	**Sn**	**02 18 39.8**	**+0.5**
	comp=N,65nm,1.0s						
KPRO	**Kipourio**	**2.93**	**68**	P	**Pn**	**02 18 06.2**	**+1.5**
RLS	**Riolos of Patr**	**2.97**	**105**	P	**Pn**	**02 18 05.1**	**0.0**
VAE	**Valguarnera**	**3.04**	**243**	Pn	**Pn**	**02 18 08.6**	**+2.4**
	comp=N,5.0nm,0.8s,baz=180,slow=8.2,SNR=3.3						
EVR	**Evrytania**	**3.10**	**88**	P	**Pn**	**02 18 09.5**	**+2.5**
OHR	**Ohrid**	**3.18**	**45**	*e*Pn	**Pn**	**02 18 08.9**	**+0.8**
OHR				*e*Sn	**Sn**	**02 18 47.4**	**+1.5**
OHR	**Ohrid**	**3.18**	**45**	*i* Pn	**Pn**	**02 18 09.5**	**+1.5**
ANX	**Ano Chora**	**3.21**	**94**	P	**Pn**	**02 18 09.3**	**+0.8**
EFP	**Efpalio**	**3.22**	**97**	P	**Pn**	**02 18 09.8**	**+1.2**
ULC	**Ulcinj**	**3.25**	**19**	*e*Pn	**Pn**	**02 18 09.0**	**0.0**
ULC				*i* Sn	**Sn**	**02 18 46.5**	**-1.1**
LAKA	**Lakka**	**3.31**	**100**	P	**Pn**	**02 18 10.3**	**+0.4**
THL	**Klokotos Trika**	**3.32**	**77**	P	**Pn**	**02 18 11.2**	**+1.3**
FNA	**Florina**	**3.32**	**54**	P	**Pn**	**02 18 11.1**	**+1.1**
FNA	**Florina**	**3.32**	**54**	*e*Pn	**Pn**	**02 18 11.3**	**+1.3**
FNA				*e*Sn	**Sn**	**02 18 49.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**3.35**	**87**	P	**Pn**	**02 18 12.3**	**+1.9**
KALE	**Kalithea**	**3.41**	**97**	P	**Pn**	**02 18 13.0**	**+1.8**
DRME	**Dracevica, Mon**	**3.45**	**17**	⇑*i*Pn	**Pn**	**02 18 11.1**	**-0.6**
DRME	**Dracevica, Mon**	**3.45**	**17**	⇓*i*Pn	**Pn**	**02 18 11.6**	**-0.1**
DRME				*i* Sn	**Sn**	**02 18 51.0**	**-1.4**
KLV	**Kalavryta, Ach**	**3.49**	**103**	P	**Pn**	**02 18 12.9**	**+0.5**
BUM	**Brajici-Budva**	**3.50**	**13**	⇓*i*Pn	**Pn**	**02 18 12.1**	**-0.4**
BUM				*i* Sn	**Sn**	**02 18 51.9**	**-1.9**
AGG	**Agios Georgios**	**3.51**	**86**	P	**Pn**	**02 18 14.2**	**+1.6**
TYRN	**Tyrnavos**	**3.51**	**75**	P	**Pn**	**02 18 13.7**	**+1.2**
HCY	**Herceg Novi**	**3.59**	**8**	*e*Pn	**Pn**	**02 18 12.5**	**-1.1**
HCY	**Herceg Novi**	**3.59**	**8**	⇓*i*Pn	**Pn**	**02 18 13.1**	**-0.5**
HCY				*i* Sn	**Sn**	**02 18 53.6**	**-2.3**
GUR	**Goura**	**3.67**	**104**	P	**Pn**	**02 18 16.4**	**+1.6**
PYL	**PYLOS**	**3.68**	**122**	P	**Pn**	**02 18 13.9**	**-1.0**
PDG	**Podgorica**	**3.70**	**17**	⇑P	**Pn**	**02 18 15.2**	**+0.1**
PDG	**Podgorica**	**3.70**	**17**	*e*Pn	**Pn**	**02 18 14.9**	**-0.2**
PDG				*e*Sn	**Sn**	**02 18 57.3**	**-1.2**
PDG	**Podgorica**	**3.70**	**17**	⇑*i*Pn	**Pn**	**02 18 14.5**	**-0.6**
PDG	**Podgorica**	**3.70**	**17**	⇓*i*Pn	**Pn**	**02 18 15.1**	**0.0**
PDG				*i* Sn	**Sn**	**02 18 57.0**	**-1.5**
CEME	**Cevo**	**3.74**	**12**	⇑*i*Pn	**Pn**	**02 18 15.4**	**-0.4**
CEME				*i* Sn	**Sn**	**02 18 57.6**	**-2.2**
AXAR	**Agios Charalam**	**3.77**	**90**	P	**Pn**	**02 18 17.6**	**+1.4**
TREB	**Trebinje**	**3.84**	**6**	*e*Pn	**Pn**	**02 18 16.6**	**-0.6**
TREB				*e*Sn	**Sn**	**02 19 00.5**	**-1.6**
TREB	**Trebinje**	**3.84**	**6**	*e*Pn	**Pn**	**02 18 16.5**	**-0.6**
NKME	**Niksic**	**3.96**	**12**	*e*Pn	**Pn**	**02 18 18.6**	**-0.2**
NKME				*i* Sn	**Sn**	**02 19 03.0**	**-2.2**
STON	**Ston**	**3.98**	**359**	*e*Pn	**Pn**	**02 18 18.9**	**0.0**
STON				*e*Sn	**Sn**	**02 19 03.2**	**-2.2**
STON	**Ston**	**3.98**	**359**	⇑*i*Pn	**Pn**	**02 18 18.2**	**-0.7**
STON	**Ston**	**3.98**	**359**	AML	AML		
	comp=N,31μm,1.4s						
STON				AML	AML		
	comp=E,34μm,0.5s						
STON				AML	AML		
	comp=N,31μm,0.6s						
PVY	**Plav**	**4.04**	**23**	*e*Pn	**Pn**	**02 18 20.2**	**+0.3**
PVY				*i* Sn	**Sn**	**02 19 05.7**	**-1.4**
BRY	**Bratogost**	**4.04**	**7**	*e*Pn	**Pn**	**02 18 19.5**	**-0.5**
BRY	**Bratogost**	**4.04**	**7**	⇓*i*Pn	**Pn**	**02 18 19.4**	**-0.5**
BRY				*i* Sn	**Sn**	**02 19 04.4**	**-2.9**
ATAL	**Atalanti**	**4.06**	**91**	P	**Pn**	**02 18 20.2**	**+0.1**
GRG	**Griva**	**4.07**	**58**	P	**Pn**	**02 18 20.4**	**+0.1**
NEO	**Neokhori**	**4.21**	**83**	P	**Pn**	**02 18 22.8**	**+0.5**
IVA	**Berane**	**4.27**	**21**	*e*Pn	**Pn**	**02 18 23.3**	**+0.2**
IVA				*i* Sn	**Sn**	**02 19 11.2**	**-1.7**
VILL	**Villia**	**4.36**	**98**	P	**Pn**	**02 18 24.0**	**-0.3**
UPM	**Unac-Piva**	**4.38**	**10**	*e*Pn	**Pn**	**02 18 24.5**	**-0.2**
UPM	**Unac-Piva**	**4.38**	**10**	*e*Pn	**Pn**	**02 18 24.2**	**-0.5**
UPM				*i* Sn	**Sn**	**02 19 12.8**	**-2.9**
HORT	**Hortiatis**	**4.40**	**66**	P	**Pn**	**02 18 25.5**	**+0.6**
NEVS	**Nevesinje**	**4.41**	**3**	*e*Pn	**Pn**	**02 18 24.6**	**-0.4**
KRND	**KRANIDI**	**4.45**	**108**	P	**Pn**	**02 18 26.3**	**+0.8**
KNT	**Kendrikon**	**4.50**	**58**	P	**Pn**	**02 18 25.5**	**-0.7**
PLE	**Pljevlja**	**4.59**	**14**	*e*Pn	**Pn**	**02 18 27.3**	**-0.2**
PLE				*i* Sn	**Sn**	**02 19 18.1**	**-2.6**
VLI	**Veliai**	**4.59**	**117**	P	**Pn**	**02 18 28.1**	**+0.7**
SJES	**Sjenica**	**4.66**	**20**	*e*Pn	**Pn**	**02 18 29.4**	**+1.0**
SJES	**Sjenica**	**4.66**	**20**	⇓*i*Pn	**Pn**	**02 18 29.4**	**+1.0**
SOH	**Sokhos**	**4.67**	**64**	P	**Pn**	**02 18 29.1**	**+0.6**
PRVS	**Prvonek**	**4.84**	**40**	*e*Pn	**Pn**	**02 18 30.4**	**-0.5**
DION	**Dionisos Attik**	**4.86**	**98**	P	**Pn**	**02 18 33.5**	**+2.4**
RUDO	**Rudo**	**4.86**	**13**	*e*Pn	**Pn**	**02 18 30.9**	**-0.2**
RUDO	**Rudo**	**4.86**	**13**	⇑*i*Pn	**Pn**	**02 18 30.8**	**-0.3**
KTHA	**Kythira Island**	**4.92**	**121**	P	**Pn**	**02 18 32.2**	**+0.3**
BARS	**Barje**	**4.95**	**36**	*e*Pn	**Pn**	**02 18 32.4**	**+0.1**
SRS	**Serrai**	**4.95**	**62**	P	**Pn**	**02 18 33.9**	**+1.5**
SRS	**Serrai**	**4.95**	**62**	*e*Pn	**Pn**	**02 18 32.9**	**+0.5**
OUR	**Ouranopolis**	**4.96**	**71**	P	**Pn**	**02 18 33.0**	**+0.5**
SELS	**Selova**	**4.99**	**29**	*e*Pn	**Pn**	**02 18 33.9**	**+1.0**
BBLS	**Lazići**	**5.11**	**13**	*e*Pn	**Pn**	**02 18 34.9**	**+0.3**
BBLS	**Lazići**	**5.11**	**13**	*e*Pn	**Pn**	**02 18 34.1**	**-0.5**
KOKK	**Kokkinochori,**	**5.12**	**66**	P	**Pn**	**02 18 34.9**	**+0.2**
SRKY	**Kupres RS**	**5.20**	**355**	*e*Pn	**Pn**	**02 18 36.9**	**+1.1**
NVR	**Nevrokopi**	**5.23**	**60**	P	**Pn**	**02 18 38.0**	**+1.7**
GRUS	**Gruza**	**5.44**	**23**	*e*Pn	**Pn**	**02 18 37.9**	**-1.2**
DIVS	**Divibare**	**5.45**	**17**	*e*Pn	**Pn**	**02 18 36.8**	**-2.5**
DIVS	**Divibare**	**5.45**	**17**	*e*Pn	**Pn**	**02 18 37.3**	**-2.0**
VTS	**Vitosha**	**5.54**	**46**	*e*Pn	**Pn**	**02 18 41.5**	**+0.9**
MGRS	**Mrkonjic Grad**	**5.55**	**354**	*e*Pn	**Pn**	**02 18 38.0**	**-2.6**
TRUS	**Trudelj**	**5.67**	**19**	*e*Pn	**Pn**	**02 18 42.8**	**+0.6**
LIA	**Limnos Island**	**5.78**	**78**	P	**Pn**	**02 18 44.2**	**+0.5**
BLY	**Banja Luka**	**5.87**	**355**	*e*Pn	**Pn**	**02 18 45.6**	**+0.5**
BLY	**Banja Luka**	**5.87**	**355**	⇑*i*Pn	**Pn**	**02 18 45.5**	**+0.5**
ZAGS	**Zajecar**	**5.93**	**33**	*e*Pn	**Pn**	**02 18 44.9**	**-0.8**
A051A	**Mrakovica**	**6.15**	**354**	⇑*i*Pn	**Pn**	**02 18 49.6**	**+0.6**
FRGS	**Fruska Gora**	**6.43**	**13**	*e*Pn	**Pn**	**02 18 51.3**	**-1.4**
MDVR	**Moldovita**	**6.56**	**25**	⇑P	**Pn**	**02 18 53.9**	**-0.6**
IDI	**Anoyia**	**6.69**	**120**	P	**Pn**	**02 18 55.6**	**-0.7**
IDI	**Anoyia**	**6.69**	**120**	Pn	**Pn**	**02 18 55.2**	**-1.1**
	comp=N,0.5nm,0.3s,baz=267,slow=6.2,SNR=13						
IDI				Sn	**Sn**	**02 20 06.8**	**-5.7**
	comp=N,0.2nm,0.3s,baz=194,slow=23,SNR=1.7						
	comp=N,1.0nm,0.3s						
BOJS	**Bojanci**	**6.88**	**345**	*e*Pn	**Pn**	**02 18 59.9**	**+1.1**
BOJS	**Bojanci**	**6.88**	**345**	*e*Pn	**Pn**	**02 18 59.2**	**+0.4**
HERR	**Herculane**	**6.89**	**28**	⇑P	**Pn**	**02 18 58.1**	**-0.9**
CRES	**Cresnjev**	**7.15**	**347**	*e*Pn	**Pn**	**02 19 02.9**	**+0.4**
SKDS	**Skadanscina**	**7.23**	**338**	*e*Pn	**Pn**	**02 19 03.4**	**-0.2**
BZS	**Buzias**	**7.28**	**21**	⇑P	**Pn**	**02 19 03.6**	**-0.8**
BZS	**Buzias**	**7.28**	**21**	*e*Pn	**Pn**	**02 19 02.6**	**-1.7**
CEY	**Cerknica**	**7.29**	**341**	*e*Pn	**Pn**	**02 19 05.1**	**+0.6**
CEY	**Cerknica**	**7.29**	**341**	*e*Pn	**Pn**	**02 19 03.6**	**-0.9**
MORH	**Mrgy, Hungar**	**7.34**	**4**	⇑P	**Pn**	**02 19 04.0**	**-1.2**
GZR	**Gura Zlata**	**7.46**	**28**	⇑P	**Pn**	**02 19 08.6**	**+1.7**
SURR	**Surduc**	**7.56**	**23**	⇑P	**Pn**	**02 19 06.2**	**-2.0**
SIRR	**Siria**	**7.89**	**20**	⇑P	**Pn**	**02 19 13.2**	**+0.4**
OBKA	**Obir**	**7.99**	**343**	*e*Pn	**Pn**	**02 19 13.8**	**-0.2**
	comp=N,1.3nm,0.4s						
OBKA	**Obir**	**7.99**	**343**	*e*Pn	**Pn**	**02 19 13.9**	**-0.2**
ARSA	**Arzberg**	**8.52**	**349**	*e*Pn	**Pn**	**02 19 21.0**	**-0.4**
	comp=N,4.9nm,0.6s,SNR=13						
ARSA	**Arzberg**	**8.52**	**349**	*e*Pn	**Pn**	**02 19 21.7**	**+0.3**
ABTA	**Abfaltersbach**	**8.77**	**335**	*e*Pn	**Pn**	**02 19 24.2**	**-0.7**
	comp=N,1.8nm,0.7s						
RONA	**Rosalia, Austr**	**8.87**	**353**	*e*Pn	**Pn**	**02 19 26.2**	**-0.1**
	comp=N,0.3nm,0.2s						
LESA	**Schwarzleotal**	**9.32**	**338**	*e*Pn	**Pn**	**02 19 32.8**	**+0.4**
	comp=N,0.8nm,0.3s						
MOA	**Molln**	**9.32**	**345**	*e*Pn	**Pn**	**02 19 31.8**	**-0.5**
	comp=N,0.7nm,0.3s						
FETA	**Feichten**	**9.64**	**330**	*e*Pn	**Pn**	**02 19 37.3**	**+0.4**
	comp=N,0.8nm,0.6s						
ESDC	**Sonseca Array**	**16.89**	**280**	Pn	**Pn**	**02 21 15.1**	**+0.6**
	baz=73,slow=11,SNR=2.0						
	comp=N,0.7nm,1.0s						
HFS	**Hagfors**	**21.42**	**354**	P	**P**	**02 22 06.4**	**+0.6**
	comp=N,2.2nm,0.7s,baz=170,slow=8.8,SNR=2.8						
	comp=N,2.2nm,0.7s						
NOA	**NORSAR Array B**	**22.55**	**352**	P	**P**	**02 22 17.7**	**-0.3**
	comp=N,0.3nm,0.5s,baz=164,slow=9.7,SNR=3.4						
	comp=N,0.3nm,0.5s						
FINES	**FINESS Array B**	**23.15**	**10**	P	**P**	**02 22 22.3**	**-1.7**
	comp=N,0.6nm,0.5s,baz=169,slow=13,SNR=7.4						
	comp=N,0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.36**	**214**	P	**P**	**02 23 22.0**	**+1.0**
	comp=N,0.3nm,0.9s,baz=21,slow=8.8,SNR=1.6						
	comp=N,0.3nm,0.9s						
MKAR	**Makanchi Array**	**46.72**	**58**	P	**P**	**02 25 46.7**	**-0.3**
	comp=N,0.2nm,0.4s,baz=274,slow=6.0,SNR=4.2						
	comp=N,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.79**	**48**	P	**P**	**02 25 46.7**	**-0.6**
	comp=N,0.9nm,0.4s,baz=292,slow=7.6,SNR=2.3						
	comp=N,0.9nm,0.4s						
YKA	**Yellowknife Ar**	**71.98**	**339**	P	**P**	**02 28 41.5**	**+0.3**
	comp=N,0.6nm,0.8s,baz=51,slow=4.9,SNR=2.9						
	comp=N,0.6nm,0.8s						

KRSC 22 02:32:44.4±2.2, 49°.58N×157°.14E, h15km±44km, MI4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.28**	**329**	*e*P	Pn	02 33 06.0	-1.8
SKR				*e*S	Sb	02 33 21.6	-2.9
PAU	**Pauzhetka**	**1.90**	**354**	*e*P	Pn	02 33 16.9	+0.7
PAU				*e*S	Sb	02 33 42.5	+0.3
KDTR	**Khodutka, Kamc**	**2.31**	**15**	*e*P	Pb	02 33 24.1	-1.6
KDTR				*e*S	Sb	02 33 53.4	-0.6
ASAK	**Asacha**	**2.84**	**9**	*e*P	Pb	02 33 32.4	-2.5
MTVR	**Mutnovka**	**2.98**	**12**	*e*P	Pn	02 33 34.0	+2.8
MTVR				*e*S	Sb	02 34 10.8	-2.6
RUS	**Russkaya**	**2.98**	**16**	*e*P	Pn	02 33 33.5	+2.3
RUS				*e*S	Sn	02 34 09.8	+3.2
GRL	**Gorelyy**	**3.03**	**11**	*e*P	Pn	02 33 35.0	+3.1
GRL				*e*S	Sb	02 34 12.3	-2.7
UGLR	**Uglovaya**	**3.78**	**16**	*e*P	Pb	02 33 46.7	-4.2
AVH	**Avacha**	**3.82**	**15**	*e*P	Pn	02 33 46.8	+4.1
SMAR	**Somma**	**3.83**	**15**	*e*P	Pn	02 33 46.7	+3.7
KOK	**Koryaka**	**3.83**	**14**	*e*P	Pn	02 33 47.1	+4.2
SDLR	**Sedlovina**	**3.86**	**16**	*e*P	Pn	02 33 46.2	+2.9
KRX	**Arik**	**3.90**	**13**	*e*P	Pn	02 33 47.8	+3.9
SPN	**Mys Shipunski**	**3.96**	**26**	*e*P	Pn	02 33 47.4	+2.9
SPN				*e*S	Sn	02 34 34.6	+4.0
GNL	**Ganaly**	**4.15**	**7**	*e*P	Pb	02 33 52.3	-4.9
MKZ	**Mys Kozlova**	**5.73**	**28**	*e*P	Pn	02 34 11.0	+2.2
KZV	**Kizimen**	**5.87**	**18**	*e*P	Pn	02 34 15.6	+4.7

*SEA **22** 02:39:59.4±1.2, 48°.22N±0°.02×122°.86W±0°.03, h51km±3km, ML2.7/31, ML2.5(OTT), ML2.7/28(NEIC), Error ellipse: s-maj=3.3km s-min=2.2km az=57.0*
*NEIC **22** 02:39:59.3±0.9, 48°.23N±0°.02×122°.90W±0°.03, h50km±3km, Error ellipse: s-maj=3.0km s-min=2.8km az=90.0*

PGC 22 02:39:58.8±0.6, 48°.23N×122°.91W, h57km, ML2.7, ML2.5/21, 40km Ese of Victoria, Bc Washington, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SQM	**Sequim**	**0.18**	**211**		Pn	02 40 07.5	-0.3
SQM					Sn	02 40 14.0	-0.2
SVOH	**Skagit Valley**	**0.19**	**73**		Sn	02 40 13.5	-0.8
SVOH	**Skagit Valley**	**0.19**	**73**	P	Pn	02 40 07.3	-0.5
BLN	**Blyn Mountain**	**0.23**	**191**		Pn	02 40 07.5	-0.6
BLN					Sn	02 40 14.3	-0.6
ERW	**Mount Erie**	**0.29**	**40**		Pn	02 40 08.1	-0.4
ERW					Sn	02 40 14.9	-0.6
UWFH	**University of**	**0.32**	**347**		Pn	02 40 08.5	-0.2
UWFH					Sn	02 40 15.5	-0.4
VGZ	**Gonzales**	**0.33**	**303**		Pn	02 40 08.2	-0.6
VGZ					Sn	02 40 15.5	-0.6
VGZ	**Gonzales**	**0.33**	**303**	P	Pn	02 40 08.2	-0.6
VGZ				S	Sn	02 40 15.5	-0.6
SWID	**South Whidbey**	**0.40**	**124**		Pn	02 40 09.2	-0.2
B013	**Quilcene**	**0.42**	**180**		Pn	02 40 09.2	-0.4
B013	**Quilcene**	**0.42**	**180**		Pn	02 40 09.2	-0.4
B013					Sn	02 40 17.1	-0.4
B04A	**Port Angeles**	**0.44**	**246**		Pn	02 40 09.6	-0.2
B04A	**Port Angeles**	**0.44**	**246**		Pn	02 40 09.5	-0.3
B04A	**Port Angeles**	**0.44**	**246**		Sn	02 40 18.1	+0.3
MCW	**Mount Constitu**	**0.45**	**6**		Pn	02 40 10.0	-0.1
MCW	**Mount Constitu**	**0.45**	**6**	P	Pn	02 40 10.0	0.0
MCW				S	Sn	02 40 17.4	-0.8
C04A	**Brinnon**	**0.52**	**185**		Pn	02 40 10.4	-0.2
C04A					Sn	02 40 19.4	+0.1
STW	**Striped Peak**	**0.52**	**261**		Pn	02 40 10.7	0.0
STW	**Striped Peak**	**0.52**	**261**	P	Pn	02 40 10.7	0.0
STW				S	Sn	02 40 18.8	-0.6
EVCC	**Everett Colleg**	**0.52**	**115**		Pn	02 40 10.9	+0.2
EVCC					Sn	02 40 20.3	+0.9
B011	**North Saanich**	**0.55**	**319**		Pn	02 40 10.9	-0.2
B011					Sn	02 40 19.7	-0.3
B011	**North Saanich**	**0.55**	**319**	P	Pn	02 40 10.9	-0.1
B011				S	Sn	02 40 19.5	-0.5
B009	**North Saanich**	**0.55**	**319**	P	Pn	02 40 10.9	-0.1
B009				S	Sn	02 40 19.7	-0.3
B010	**North Saanich**	**0.55**	**319**	P	Pn	02 40 10.9	-0.2
B010				S	Sn	02 40 19.9	-0.1
PA01	**PA01 North**	**0.55**	**320**	P	Pn	02 40 11.0	-0.1
PA01				S	Sn	02 40 19.8	-0.2
PGC	**Sidney**	**0.55**	**319**		Pn	02 40 10.9	-0.2
PGC				IAML		02 40 20.3	
	comp=N,446nm,0.3s						
PGC	**Sidney**	**0.55**	**319**	P	Pn	02 40 11.0	-0.1
PGC				S	Sn	02 40 19.7	-0.3
CMW	**Cultus Mountai**	**0.56**	**70**		Pn	02 40 11.1	-0.2
CMW	**Cultus Mountai**	**0.56**	**70**	P	Pn	02 40 11.1	-0.2
SNB	**Saturna Island**	**0.57**	**342**		Pn	02 40 11.8	+0.5
SNB					Sn	02 40 21.2	+0.8
SNB	**Saturna Island**	**0.57**	**342**	P	Pn	02 40 11.7	+0.4
SNB				S	Sn	02 40 21.1	+0.6
LYNC	**Lynnwood City**	**0.58**	**135**		Pn	02 40 11.4	0.0
HDW	**Hoodsport**	**0.59**	**190**		Pn	02 40 11.7	0.0
HDW	**Hoodsport**	**0.59**	**190**	P	Pn	02 40 11.7	0.0
HDW				S	Sn	02 40 21.2	+0.2
EVGW	**Everett Gatewa**	**0.63**	**127**		Pn	02 40 11.9	-0.1
EVGW					Sn	02 40 21.7	+0.1
BRKS	**Brookside Elem**	**0.63**	**139**		Pn	02 40 12.3	+0.3
JCW	**Jim Creek**	**0.65**	**93**		Pn	02 40 12.0	-0.3
JCW	**Jim Creek**	**0.65**	**93**	P	Pn	02 40 12.0	-0.3
GNW	**Green Mountain**	**0.67**	**175**		Pn	02 40 12.4	-0.1
GNW	**Green Mountain**	**0.67**	**175**		Sn	02 40 23.2	+0.7
GNW	**Green Mountain**	**0.67**	**175**	IAML		02 40 23.5	
	comp=E,102nm,0.2s						
GNW				IAML		02 40 27.7	
	comp=N,79nm,0.4s						
GNW	**Green Mountain**	**0.67**	**175**	P	Pn	02 40 12.4	-0.1
GNW				S	Sn	02 40 22.4	-0.1
OSD	**Olympics--Snow**	**0.68**	**233**		Pn	02 40 13.2	+0.4
OSD	**Olympics--Snow**	**0.68**	**233**	P	Pn	02 40 13.2	+0.4
SYMB	**Survey Mountai**	**0.68**	**299**		Pn	02 40 12.4	-0.3
SYMB	**Survey Mountai**	**0.68**	**299**	P	Pn	02 40 12.4	-0.3
SYMB				S	Sn	02 40 22.5	-0.3
GMW	**Gold Mountain**	**0.69**	**173**		Pn	02 40 12.7	0.0
MBPA	**Monroe Substat**	**0.76**	**116**		Pn	02 40 13.2	-0.4
EARN	**East Ridge Ele**	**0.76**	**130**		Pn	02 40 13.8	+0.2
SP2	**Seward Park 2**	**0.81**	**147**		Pn	02 40 15.2	+1.0
OBC	**Olympics--Boni**	**0.81**	**256**		Pn	02 40 14.9	+0.6
OBC	**Olympics--Boni**	**0.81**	**256**	P	Pn	02 40 14.9	+0.6
GOBB	**Galiano Island**	**0.82**	**331**	P	Pn	02 40 14.9	+0.6
GOBB				S	Sn	02 40 25.8	0.0
P403	**Sandy Floe Qua**	**0.84**	**259**		Pn	02 40 14.9	+0.2
MBW	**Mount Baker**	**0.87**	**50**		Pn	02 40 15.4	+0.2
MBW	**Mount Baker**	**0.87**	**50**	P	Pn	02 40 15.4	+0.3
MBW				S	Sn	02 40 26.8	-0.3
OLQ	**Olympics--Lake**	**0.94**	**221**		Pn	02 40 16.2	+0.3
RPW	**Rockport**	**0.95**	**76**		Pn	02 40 16.2	+0.1
RPW	**Rockport**	**0.95**	**76**	P	Pn	02 40 16.2	+0.1
SMW	**South Mountain**	**0.96**	**198**	P	Pn	02 40 16.8	+0.5
C05A	**Tolt Reservoir**	**0.98**	**123**		Pn	02 40 16.2	-0.3
C05A					Sn	02 40 29.0	-0.5
C05A	**Tolt Reservoir**	**0.98**	**123**	P	Pn	02 40 16.2	-0.2
C05A				S	Sn	02 40 28.8	-0.6
B06A	**

HOLB Holberg 4.17 307 P Pn 02 41 02.2 +2.3

*DJA **22** 02:52:03.3±1.2, 3˚N±4˚×9˚6E±1˚2, h14km±8km, M4.5/9, mb4.9/3, MLv4.4/9*
*NEIC **22** 02:52:05.4±1.8, 3˚.06N±0˚.02×96˚.0E±0˚.1, h43km±9km, mb4.2/18, Error ellipse: s-maj=17.0km s-min=2.6km az=84.0*
*IDC **22** 02:52:11.1±6.4, 3˚.12N×95˚.95E, h97km±56km, mb3.8/18, mbtmp4.1/19, MS3.2/3, Error ellipse: s-maj=34.4km s-min=11.3km az=53.0*

ISC 22 02:52:03.4±0.5, 3˚.04N±0˚.06×95˚.89E±0˚.08, h31km, n87, σ1§60/76, mb4.3/28, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.76**	**146**	P	**Pb**	**02 52 19.0**	**+0.8**
MLSI	**Meulaboh, Aceh**	**1.32**	**23**	P	**Pn**	**02 52 25.7**	**0.0**
KCSI	**Kotacane, Aceh**	**1.93**	**76**	P	**Pn**	**02 52 34.7**	**+0.6**
GSI	**Gunungsitoli**	**2.41**	**136**	Pn	**Pn**	**02 52 41.9**	**+1.2**
GSI	**Gunungsitoli**	**2.41**	**136**	P	**Pn**	**02 52 42.4**	**+1.7**
LHMI	**Lhok Sumawe**	**2.41**	**26**		**Pn**	**02 52 41.9**	**+1.2**
LHMI	**Lhok Sumawe**	**2.41**	**26**	P	**Pn**	**02 52 42.2**	**+1.5**
RPSI	**Rantau Prapat**	**3.04**	**96**	Pn	**Pn**	**02 52 50.7**	**+1.2**
PBSI	**Pulau Batu**	**3.89**	**142**	P	**Pn**	**02 53 02.8**	**+1.7**
KULM	**Kulim**	**5.24**	**65**	Pn	**Pn**	**02 53 20.1**	**+0.5**
SISI	**Saibi**	**5.39**	**144**	P	**Pn**	**02 53 24.0**	**+2.3**
	45nm,0.7s,0.3nm						
BKNI	**Bangkinang**	**5.81**	**118**	Pn	**Pn**	**02 53 28.2**	**+0.8**
MNAI	**Manna**	**10.19**	**136**	P	**Pn**	**02 54 28.4**	**+0.8**
KSM	**Kuching**	**14.49**	**96**	Pn	**Pn**	**02 55 25.1**	**-1.2**
COCO	**West Island**	**15.16**	**176**	Pn	**Pn**	**02 55 34.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**15.61**	**11**	P	**P**	**02 55 44.8**	**-0.4**
	1.1nm,0.3s,baz=202,slow=11,SNR=5.2						
PALK	**Pallekele**	**15.70**	**286**	LR	LR	03 01 41.2	
	comp=Z,73nm,18.1s,baz=204,slow=36						
CHTO	**Chiang Mai**	**15.96**	**11**	Pn	**Pn**	**02 55 44.5**	**-1.2**
SLVN	**Son La**	**19.78**	**23**	P	**P**	**02 56 29.3**	**-1.9**
MYLDM	**Lahad Datu**	**22.65**	**84**	P	**P**	**02 57 01.2**	**-1.0**
PZH	**PanZhiHua**	**23.99**	**13**	P	**P**	**02 57 17.6**	**+2.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
PZH				pmax	pmax		
	comp=Z,380nm,6.7s						
KAPI	**Kappang**	**25.14**	**108**	LR	LR	03 07 05.7	
	comp=Z,70nm,19.8s,baz=288,slow=36						
RAMN	**Ramite**	**25.39**	**340**	*eP*	**P**	**02 57 30.8**	**+2.5**
	comp=Z,15nm,0.6s						
TAPN	**Taplejung**	**25.41**	**343**	*eP*	**P**	**02 57 30.8**	**+2.2**
	comp=Z,5.7nm,0.5s						
H08S2	**Diego Garcia H**	**25.65**	**245**	T	T	03 23 42.1	
	baz=67,slow=76,SNR=75						
H08S3	**Diego Garcia H**	**25.65**	**245**	T	T	03 23 51.8	
	baz=67,slow=76,SNR=137						
H08S1	**Diego Carcia H**	**25.67**	**245**	T	T	03 23 43.4	
	baz=67,slow=76,SNR=27						
JIRN	**Jiri**	**26.18**	**340**	*eP*	**P**	**02 57 36.8**	**+1.1**
	comp=Z,16nm,0.6s						
PKI	**Pulchoki**	**26.37**	**339**	*eP*	**P**	**02 57 37.6**	**+0.2**
	comp=Z,6.0nm,0.5s						
PKIN	**Phulchoki**	**26.38**	**339**	*eP*	**P**	**02 57 37.6**	**+0.2**
	comp=Z,6.2nm,0.5s						
GUN	**Gumba**	**26.51**	**340**	*eP*	**P**	**02 57 38.9**	**+0.2**
	comp=Z,18nm,0.7s						
GKN	**Gorkha**	**27.05**	**338**	*eP*	**P**	**02 57 41.6**	**-1.7**
	comp=Z,24nm,0.9s						
DANN	**Dangsing**	**27.70**	**337**	*eP*	**P**	**02 57 45.8**	**-3.5**
	comp=Z,25nm,0.7s						
PYUN	**Piuthan**	**27.79**	**335**	*eP*	**P**	**02 57 46.4**	**-3.6**
	comp=Z,10nm,0.7s						
HHC	**Hu-ho-hao-te**	**40.20**	**19**	*eP*	**P**	**02 59 38.8**	**+1.6**
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,970nm,6.7s						
WMQ	**Urumqi**	**41.25**	**351**	*eP*	**P**	**02 59 47.1**	**+1.4**
H01W3	**Cape Leeuwin H**	**41.44**	**157**	T	T	03 43 28.4	
	baz=333,slow=76,SNR=21						
H01W2	**Cape Leeuwin H**	**41.45**	**157**	T	T	03 43 33.0	
	baz=333,slow=76,SNR=22						
H01W1	**Cape Leeuwin H**	**41.45**	**157**	T	T	03 43 33.5	
	baz=333,slow=76,SNR=21						
AAK	**Ala-Archa**	**43.81**	**337**	P	**P**	**03 00 08.6**	**+1.9**
AAK				IAmb	IAmb	03 00 26.5	
	comp=Z,2.0nm,0.9s						
WB0	**Warramunga Arr**	**44.08**	**123**	P	**P**	**03 00 07.2**	**-1.8**
WB0				IAmb	IAmb	03 00 10.0	
	comp=Z,6.0nm,0.7s						
WRA	**Warramunga Arr**	**44.12**	**123**	P	**P**	**03 00 09.6**	**+0.3**
WRA	**Warramunga Arr**	**44.12**	**123**	P	**P**	**03 00 09.6**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=300,slow=9.3,SNR=43						
WRA				PcP	**PcP**	**03 01 55.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=304,slow=3.3,SNR=4.7						
	comp=Z,2.3nm,0.5s						
WR0	**Warramunga Arr**	**44.29**	**123**	P	**P**	**03 00 09.7**	**-1.0**
XLT	**XiLinHaoTe**	**44.44**	**21**	*eP*	P	03 00 16.6	+5.0
XLT				pP	sP	03 00 29.4	+5.0
XLT				PP	**PP**	**03 02 02.5**	**+6.8**
XLT				pmax	pmax		
	comp=Z,11nm,0.7s						
XLT				pmax	pmax		
	comp=Z,290nm,4.7s						
MK31	**Makanchi Array**	**45.16**	**347**	P	**P**	**03 00 16.6**	**-0.6**
MK31				IAmb	IAmb	03 00 18.5	
	comp=Z,3.0nm,1.1s						
MKAR	**Makanchi Array**	**45.16**	**347**	P	**P**	**03 00 16.3**	**-0.9**
MKAR	**Makanchi Array**	**45.16**	**347**	P	**P**	**03 00 17.5**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=164,slow=8.2,SNR=25						
	comp=Z,2.3nm,0.6s						
MAKZ	**Makanchi**	**45.24**	**347**	P	**P**	**03 00 17.2**	**-0.6**
FORT	**Forrest**	**45.52**	**140**	P	**P**	**03 00 20.1**	**-0.1**
SONM	**Songino Array**	**45.53**	**10**	P	**P**	**03 00 20.1**	**-0.2**
SONM				IAmb	IAmb	03 00 20.9	
	comp=Z,1.8nm,0.8s						
SONM	**Songino Array**	**45.53**	**10**	P	**P**	**03 00 20.1**	**-0.2**
	comp=Z,2.1nm,0.6s,baz=194,slow=8.4,SNR=13						
SONM				PcP	**PcP**	**03 01 59.6**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=183,slow=3.5,SNR=4.8						
	comp=Z,2.1nm,0.6s						
AS31	**Alice Springs**	**45.54**	**128**	P	**P**	**03 00 21.0**	**+0.4**
ASAR	**Alice Springs**	**45.54**	**128**	P	**P**	**03 00 21.2**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=298,slow=8.0,SNR=38						
ASAR				PcP	**PcP**	**03 02 00.1**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=301,slow=3.4,SNR=6.1						
ASAR				LR	LR	03 20 46.1	
	comp=Z,30nm,18.9s,baz=332,slow=38						
	comp=Z,2.4nm,0.7s						
KK31	**Karatay Array**	**45.84**	**334**	P	**P**	**03 00 23.4**	**+0.8**
KK31				IAmb	IAmb	03 00 41.0	
	comp=Z,5.7nm,1.4s						
KKAR	**Karatay Array**	**45.84**	**334**	P	**P**	**03 00 24.2**	**+1.6**
KKAR				IAmb	IAmb	03 00 41.0	
	comp=Z,5.7nm,1.4s						
GEYT	**Alibeck**	**48.97**	**320**	P	**P**	**03 00 47.4**	**+0.2**
GEYT				IAmb	IAmb	03 00 59.9	
	comp=Z,5.0nm,1.2s						
GEYT	**Alibeck**	**48.97**	**320**	P	**P**	**03 00 47.3**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=136,slow=9.2,SNR=3.3						
	comp=Z,1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**49.63**	**346**	P	**P**	**03 00 52.2**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=163,slow=6.9,SNR=25						
	comp=Z,2.6nm,0.6s						
BNX	**BinXian**	**50.66**	**28**	⇑P	**P**	**03 00 59.4**	**-0.4**
BNX				pmax	pmax		
	comp=Z,11nm,0.6s						
BNX				pmax	pmax		
	comp=Z,970nm,7.0s						
ZALV	**Zalesovo Beam**	**51.55**	**352**	P	**P**	**03 01 06.1**	**-0.2**
ZALV	**Zalesovo Beam**	**51.55**	**352**	P	**P**	**03 01 06.5**	**+0.2**
	comp=Z,2.9nm,0.4s,baz=175,slow=7.2,SNR=9.6						
	comp=Z,2.9nm,0.4s						
USRK	**Ussuriysk Ar.**	**51.90**	**33**	P	**P**	**03 01 08.1**	**-1.0**
BVAR	**Borovoye Array**	**54.10**	**341**	P	**P**	**03 01 25.4**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=137,slow=9.3,SNR=11						
	comp=Z,1.7nm,0.7s						
BRVK	**Borovoye**	**54.16**	**341**	P	**P**	**03 01 25.9**	**+0.3**
BRVK				IAmb	IAmb	03 01 35.7	
	comp=Z,3.0nm,0.8s						
CTA	**Charters Tower**	**54.49**	**117**	P	**P**	**03 01 29.5**	**+0.8**
	comp=Z,4.2nm,0.7s,baz=262,slow=7.8,SNR=9.4						
	comp=Z,4.2nm,0.7s						
CTAO	**Charters Tower**	**54.49**	**117**	P	**P**	**03 01 27.0**	**-1.6**
KLR	**Kul'dur**	**55.22**	**28**	P	**P**	**03 01 33.4**	**0.0**
	comp=Z,6.8nm,0.9s,baz=253,slow=8.2,SNR=12						
	comp=Z,6.8nm,0.9s						
ABKAR	**Akbulak array**	**55.29**	**332**	P	**P**	**03 01 33.7**	**-0.2**
STKA	**Stephens Creek**	**55.55**	**132**	P	**P**	**03 01 36.9**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=263,slow=6.0,SNR=4.3						
	comp=Z,2.0nm,0.7s						
AKTO	**Aktyubinsk**	**57.00**	**332**	P	**P**	**03 01 46.5**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=125,slow=10,SNR=4.6						
	comp=Z,1.2nm,0.7s						
H04N2	**CROZET ISLANDS**	**62.58**	**213**	T	T	04 10 08.5	
	baz=52,slow=75,SNR=186						
H04N1	**CROZET ISLANDS**	**62.59**	**213**	T	T	04 10 09.3	
	baz=52,slow=75,SNR=133						
H04N3	**CROZET ISLANDS**	**62.59**	**213**	T	T	04 10 08.0	
	baz=52,slow=75,SNR=158						
H04S1	**CROZET ISLANDS**	**62.94**	**212**	T	T	04 10 30.8	
	baz=49,slow=76,SNR=8.1						
H04S3	**CROZET ISLANDS**	**62.95**	**212**	T	T	04 10 30.8	
	baz=49,slow=76,SNR=19						
H04S2	**CROZET ISLANDS**	**62.96**	**212**	T	T	04 10 34.1	
	baz=49,slow=76,SNR=10						
BRTR	**Keskin Array B**	**66.92**	**312**	P	**P**	**03 02 54.1**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=129,slow=6.3,SNR=2.2						
	comp=Z,0.2nm,0.5s						
AKASG	**Malin Array Be**	**73.01**	**322**	P	**P**	**03 03 29.9**	**-0.3**
	comp=Z,0.1nm,0.2s,baz=80,slow=1.2,SNR=1.4						
	comp=Z,0.1nm,0.2s						
FINES	**FINESS Array B**	**77.77**	**333**	P	**P**	**03 03 57.4**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=90,slow=3.8,SNR=5.8						
	comp=Z,1.6nm,0.7s						
ARCES	**ARCESS Array B**	**80.37**	**340**	P	**P**	**03 04 11.7**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=98,slow=5.5,SNR=4.8						
	comp=Z,2.5nm,0.8s						
GERES	**GERESS Array B**	**82.58**	**319**	P	**P**	**03 04 23.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=72,slow=6.4,SNR=2.0						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**98.52**	**23**	P	**P**	**03 05 36.7**	**-2.0**
	comp=Z,0.2nm,0.9s,baz=295,slow=4.6,SNR=1.2						
	comp=Z,0.2nm,0.9s						
NVAR	**Mina Array Bea**	**128.03**	**34**	PKP	**PKPdf**	**03 11 04.2**	**-2.9**
	comp=Z,0.2nm,0.6s,baz=342,slow=0.3,SNR=1.8						
PDAR	**Pinedale Array**	**128.93**	**24**	PKP	**PKPdf**	**03 11 05.3**	**-3.4**
	comp=Z,0.1nm,0.2s,baz=265,slow=3.2,SNR=6.0						
TXAR	**Lajitas Array**	**142.75**	**29**	PKP	**PKPdf**	**03 11 30.9**	**-3.6**
	comp=Z,0.1nm,0.5s,baz=29,slow=2.1,SNR=1.7						
CPUP	**Villa Florida**	**145.42**	**225**	PKPbc	**PKPbc**	**03 11 37.5**	**-1.6**
	comp=Z,1.5nm,0.8s,baz=58,slow=3.8,SNR=3.4						

*NEIC **22** 02:53:14.7±1.3, 31˚.18N±0˚.03×103˚.34W±0˚.04, h5km±2km, mb_Lg3.3/51, ML3.2/62, Error ellipse: s-maj=7.2km s-min=3.5km az=122.0*
*ANF **22** 02:53:14.8±0.6, 31˚.18N×103˚.32W, h5km, ML4.1/11, Error ellipse: s-maj=8.5km s-min=4.9km az=10.0*

ISC 22 02:53:14.8±0.8, 31˚.17N±0˚.03×103˚.32W±0˚.03, h10km, n62, σ1§06/60, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.51**	**294**		**Pg**	**02 53 24.2**	**-0.5**
PECS				Sg	**Sb**	**02 53 33.7**	**+0.4**
PECS				IAML		02 53 36.4	
	1μm,0.3s						
PECS				IAML		02 53 40.8	
	680nm,0.4s						
MNHN	**Monahans**	**0.51**	**70**	Pg	**Pg**	**02 53 23.6**	**-1.2**
MNHN				IAML		02 53 35.0	
	1μm,0.7s						
MNHN				IAML		02 53 38.0	
	1μm,0.5s						
ALPN	**Alpine**	**0.83**	**199**	Pg	**Pg**	**02 53 29.5**	**-1.4**
ALPN				Sg	**Sg**	**02 53 41.3**	**-0.5**
ALPN				IAML		02 53 46.6	
	431nm,0.5s						
ALPN				IAML		02 53 46.8	
	540nm,0.6s						
ODSA	**Odessa**	**1.16**	**35**		**Pb**	**02 53 35.3**	**-1.7**
ODSA				Sg	**Sb**	**02 53 51.2**	**-0.9**
ODSA				IAmb_Lg		02 53 53.5	
	comp=Z,56nm,1.0s						
ODSA				IAML		02 54 02.1	
	comp=Z,390nm,1.1s						
ODSA				IAML		02 54 14.6	
	comp=Z,687nm,1.5s						
425A	**Indio Mountain**	**1.48**	**256**		**Pn**	**02 53 41.5**	**-0.1**
425A				IAML		02 54 13.9	
	comp=Z,258nm,0.7s						
SAND	**Sanderson**	**1.59**	**139**		**Pn**	**02 53 43.2**	**+0.1**
SAND				IAmb_Lg		02 54 04.3	
	comp=Z,20nm,0.7s						
SAND				IAML		02 54 08.5	
	comp=Z,329nm,0.6s						
SAND				IAML		02 54 09.1	
	comp=Z,444nm,0.8s						
MNTX	**Cornudas Mount**	**1.84**	**287**		**Pb**	**02 53 47.2**	**-1.3**
MNTX	**Cornudas Mount**	**1.84**	**287**	P	**Pn**	**02 53 47.1**	**+0.6**
	baz=106						
MNTX				S	**Sb**	**02 54 11.6**	**0.0**
	baz=106						
TX31	**Lajitas Ar. Si**	**1.85**	**189**		**Pn**	**02 53 47.2**	**+0.5**
TX32	**Lajitas Array**	**1.85**	**189**		**Pn**	**02 53 47.4**	**+0.7**
TXAR	**Lajitas Array**	**1.85**	**189**		**Pn**	**02 53 47.2**	**+0.5**
OZNA	**Ozona**	**1.90**	**97**		**Pn**	**02 53 48.1**	**+0.7**
OZNA				IAmb_Lg		02 54 16.6	
	comp=Z,129nm,1.0s						
OZNA				IAML		02 54 20.4	
	comp=Z,270nm,0.6s						
OZNA				IAML		02 54 21.4	
	comp=Z,282nm,0.6s						
SGCY	**Sterling City**	**2.02**	**68**		**Pn**	**02 53 49.6**	**+0.7**
SGCY				IAmb_Lg		02 54 21.0	
	comp=Z,99nm,1.0s						
SGCY				IAML		02 54 24.0	
	comp=Z,285nm,1.0s						
SGCY				IAML		02 54 24.4	
	comp=Z,508nm,0.6s						
POST	**Post**	**2.44**	**39**		**Pn**	**02 53 55.3**	**+0.4**
POST				IAmb_Lg		02 54 34.6	
	comp=Z,127nm,0.9s						
POST				IAML		02 54 40.1	
	comp=Z,365nm,0.7s						
POST				IAML		02 54 40.2	
	comp=Z,268nm,0.8s						
SN01	**Snyder 1**	**2.67**	**50**		**Pn**	**02 53 57.7**	**-0.2**
SN01				IAML		02 54 38.5	
	comp=Z,250nm,0.4s						
SN01				IAmb_Lg		02 54 45.3	
	comp=Z,133nm,0.8s						
SN01				IAML		02 54 45.7	
	comp=Z,276nm,0.6s						
MSTX	**Muleshoe**	**2.83**	**9**		**Pn**	**02 54 01.2**	**+0.9**
MSTX	**Muleshoe**	**2.83**	**9**	P	**Pn**	**02 53 59.7**	**-0.5**
	baz=190						
MSTX				S	**Sn**	**02 54 36.6**	**+2.1**
	baz=190						
DRIO	**Del Rio**	**2.91**	**126**		**Pn**	**02 54 01.9**	**+0.7**
DRIO				IAML		02 54 49.1	
	comp=Z,267nm,0.5s						
DRIO				IAmb_Lg		02 54 49.8	
	comp=Z,165nm,0.7s						
DRIO				IAML		02 54 51.8	
	comp=Z,206nm,0.6s						
JCT	**Junction City**	**3.11**	**102**		**Pn**	**02 54 05.1**	**+1.2**
JCT	**Junction City**	**3.11**	**102**	P	**Pn**	**02 54 04.5**	**+0.6**
	baz=284						
JCT				S	**Sn**	**02 54 43.5**	**+2.4**
	baz=284						
DKNS	**Dickens**	**3.21**	**39**		**Pn**	**02 54 06.0**	**+0.6**
DKNS				IAML		02 55 03.1	
	comp=Z,222nm,0.7s						
DKNS				IAmb_Lg		02 55 03.5	
	comp=Z,71nm,0.9s						
DKNS				IAML		02 55 06.0	
	comp=Z,171nm,0.6s						
ABTX	**Abilene, Hawle**	**3.45**	**64**		**Pn**	**02 54 09.0**	**+0.4**
ABTX				IAmb_Lg		02 55 03.8	
	comp=Z,74nm,0.7s						
ABTX	**Abilene, Hawle**	**3.45**	**64**	P	**Pn**	**02 54 09.1**	**+0.4**
	baz=246						
ABTX				S	**Sn**	**02 54 51.5**	**+1.9**
	baz=246						
APMT	**Aspermont**	**3.46**	**51**		**Pn**	**02 54 09.2**	**+0.4**
APMT				IAML		02 55 09.5	
	comp=Z,149nm,0.6s						
APMT				IAmb_Lg		02 55 10.4	
	comp=Z,111nm,1.2s						
APMT				IAML		02 55 11.9	
	comp=Z,217nm,0.7s						
BRDY	**Brady**	**3.71**	**87**		**Pn**	**02 54 13.1**	**+0.9**
BRDY				IAmb_Lg		02 55 17.1	
	comp=Z,98nm,1.0s						
BRDY				IAML		02 55 17.4	
	comp=Z,99nm,0.7s						
BRDY				IAML		02 55 22.2	
	comp=Z,60nm,0.8s						
HNDO	**Hondo**	**3.86**	**114**		**Pn**	**02 54 16.1**	**+1.9**
HNDO				IAML		02 55 23.7	
	comp=Z,115nm,0.9s						
HNDO				IAmb_Lg		02 55 27.1	
	comp=Z,72nm,0.9s						
HNDO				IAML		02 55 28.6	
	comp=Z,81nm,0.9s						
AMTX	**Amarillo**	**3.96**	**20**	Pn	**Pn**	**02 54 16.9**	**+1.3**
AMTX	**Amarillo**	**3.96**	**20**	P	**Pn**	**02 54 16.0**	**+0.4**
	baz=201						
AMTX				S	**Sn**	**02 55 04.8**	**+2.6**
	baz=201						
121A	**Cookes Peak, D**	**4.03**	**291**	Pn	**Pn**	**02 54 17.9**	**+1.2**
121A				IAML		02 55 27.1	
	comp=N,38nm,1.6s						
121A				IAML		02 55 48.9	
	comp=E,33nm,0.7s						
121A	**Cookes Peak, D**	**4.03**	**291**	P	**Pn**	**02 54 17.5**	**+0.7**
	baz=108						
121A				S	**Sn**	**02 55 06.4**	**+2.2**
	baz=108						
Y22D	**IRIS PASSCAL I**	**4.20**	**315**	Pn	**Pn**	**02 54 20.0**	**+1.0**
833A	**Chaparral WMA,**	**4.44**	**129**	Pn	**Pn**	**02 54 22.7**	**+0.5**
833A	**Chaparral WMA,**	**4.44**	**129**	P	**Pn**	**02 54 23.1**	**+0.9**
	baz=311						
833A				S	**Sn**	**02 55 16.6**	**+2.7**
	baz=311						
PLPT	**Palo Pinto**	**4.56**	**68**	IAmb_Lg		02 55 46.9	
	comp=Z,43nm,0.9s						
ANMO	**Albuquerque**	**4.60**	**326**	Pn	**Pn**	**02 54 25.0**	**+0.5**
ANMO				IAML		02 55 50.0	
	comp=Z,21nm,3.8s						
ANMO				IAML		02 56 52.0	
	comp=Z,16nm,4.7s						
ANMO	**Albuquerque**	**4.60**	**326**	P	**Pn**	**02 54 24.8**	**+0.3**
	baz=144						
SMWD	**Samnorwood**	**4.70**	**33**	IAmb_Lg		02 55 56.5	
	comp=Z,58nm,1.0s						
FW03	**Perrin-Whitt E**	**4.84**	**66**	IAmb_Lg		02 55 55.9	
	comp=Z,78nm,1.0s						
WTFS	**Witchita Falls**	**4.86**	**56**	Pn	**Pn**	**02 54 28.8**	**+0.8**
WTFS				IAmb_Lg		02 55 53.1	
	comp=Z,19nm,0.7s						
435B	**Jarrell**	**4.94**	**93**		**Pn**	**02 54 29.4**	**+0.3**
435B				IAmb_Lg		02 56 01.9	
	comp=Z,47nm,0.8s						
435B	**Jarrell**	**4.94**	**93**	P	**Pn**	**02 54 29.7**	**+0.6**
	baz=276						
435B				S	**Sn**	**02 55 26.7**	**+0.3**
	baz=276						
FW07	**Weatherford**	**4.95**	**71**		**Pn**	**02 54 28.5**	**-0.8**
FW07				IAML		02 55 53.6	
	comp=Z,192nm,0.7s						
FW07				IAML		02 55 54.8	
	comp=Z,127nm,0.6s						
FW07				IAmb_Lg		02 55 57.4	
	comp=Z,62nm,0.8s						
WHTX	**Lake Whitney,**	**5.08**	**79**		**Pn**	**02 54 30.7**	**-0.2**
WHTX				IAmb_Lg		02 56 09.7	
	comp=Z,36nm,0.7s						
WHTX	**Lake Whitney,**	**5.08**	**79**	P	**Pn**	**02 54 30.6**	**-0.2**
	baz=262						
319A	**Douglas**	**5.10**	**274**	Pn	**Pn**	**02 54 30.6**	**-0.9**
319A				IAML		02 56 06.5	
	comp=E,25nm,0.7s						
FW13	**Cleburne**	**5.16**	**75**	IAmb_Lg		02 56 06.6	
	comp=Z,49nm,0.8s						
FW06	**Azle**	**5.22**	**68**	IAmb_Lg		02 56 11.1	
	comp=Z,89nm,1.1s						
WMOK	**Wichita Mounta**	**5.22**	**46**	IAML		02 56 08.1	
	comp=Z,31nm,0.9s						
WMOK	**Wichita Mounta**	**5.22**	**46**		**Pn**	**02 54 33.6**	**+0.6**
WMOK				IAmb_Lg		02 56 04.5	
	comp=Z,51nm,1.2s						
WMOK	**Wichita Mounta**	**5.22**	**46**	P	**Pn**	**02 54 33.1**	**+0.1**
	baz=228						
RTBA	**Rita Blanca**	**5.28**	**5**	IAmb_Lg		02 56 14.6	
	comp=Z,29nm,0.8s						
735A	**Kenedy**	**5.31**	**114**	Pn	**Pn**	**02 54 35.0**	**+0.8**
735A				IAmb_Lg		02 56 17.3	
	comp=Z,48nm,0.8s						
FW14	**Alvarado**	**5.36**	**75**	IAmb_Lg		02 56 16.6	
	comp=Z,104nm,1.2s						
Z35A	**Perchaven, San**	**5.58**	**66**	Pn	**Pn**	**02 54 37.9**	**0.0**
Z35A				IAmb_Lg		02 56 25.1	
	comp=Z,49nm,0.9s						
FW16	**Waxahatchie**	**5.62**	**75**	Pn	**Pn**	**02 54 38.5**	**+0.1**
FW16				IAmb_Lg		02 56 20.1	
	comp=Z,116nm,1.3s						
LOOK	**Love County**	**5.90**	**60**		**Pn**	**02 54 41.5**	**-0.8**
T25A	**Trinidad**	**6.03**	**352**	P	**Pn**	**02 54 43.9**	**-0.2**
	baz=171						
TREL	**Terrell**	**6.34**	**74**	IAmb_Lg		02 56 41.8	
	comp=Z,44nm,1.0s						
OKCSW	**OKLAHOMA CITY**	**6.49**	**48**	IAmb_Lg		02 56 52.1	
	comp=Z,45nm,0.9s						
Z38A	**Mt. Pleasant**	**7.37**	**71**	IAmb_Lg		02 57 22.2	
	comp=Z,29nm,0.8s						
KSCO	**Kaye Shedlock'**	**7.85**	**4**	IAmb_Lg		02 57 35.5	
	comp=Z,24nm,1.1s						
HHAR	**Hobbs**	**9.33**	**54**	IAmb_Lg		02 58 26.6	
	comp=Z,14nm,1.0s						

*IDC **22** 03:01:09.9±4.6, 5˚.87S×154˚.84E, h179km±33km, mb3.3/6, mbtmp3.9/9, Error ellipse: s-maj=52.7km s-min=17.1km az=106.0*

ISC 22 03:01:12.3±1.1, 5˚.9S±0˚.1×154˚.6E±0˚.1, h200km, n10, σ0§85/11, mb3.5/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.02**	**300**	P	**Pn**	**03 02 02.1**	**-0.2**
	45nm,0.6s,baz

0.3nm,0.3s
WSAR Wadi Sarin 34.43 274 LR LR 03 34 23.4
comp=Z,37nm,18.8s,baz=52,slow=42
GEYT Alibeck 34.62 300 LR LR 03 33 45.2
comp=Z,46nm,21.6s,baz=304,slow=41
ARU Arti 41.19 329 LR LR 03 37 51.9
comp=Z,50nm,19.5s,baz=125,slow=40
BELG Belogornoye 45.31 320 LR LR 03 40 21.1
comp=Z,42nm,19.3s,baz=178,slow=40
KIRV Kirov 46.56 328 LR LR 03 38 12.2
comp=Z,58nm,19.7s,baz=65,slow=36
PETK Petropavlovsk- 52.87 42 LR LR 03 42 49.0
comp=Z,33nm,18.6s,baz=199,slow=37
NOA NORSAR Array B 65.74 328 LR LR 03 49 53.8
comp=Z,54nm,18.2s,baz=200,slow=36

PRU 22 03:48:05.6, 50.04N×18.39E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.26**	**218**	*e*P		Pg	03 48 10.2	-0.3
OKC				*e*SG		Sg	03 48 13.4	-0.4
2.1nm,0.3s								
OKC	**Ostrava-Krasne**	**0.26**	**218**	*e*P		Pg	03 48 10.2	-0.3
OKC				*e*SG		Sg	03 48 13.5	-0.3
2.9nm,0.4s								
MORC	**Moravsky Berou**	**0.61**	**245**	*e*PG		Pg	03 48 16.8	-0.4
MORC				*e*SG		Sg	03 48 25.9	+0.8
MAUC	**Maruska**	**0.77**	**209**	*e*PG		Pg	03 48 19.5	-0.8
MAUC				*e*SG		Sg	03 48 30.4	+0.2
MAUC	**Maruska**	**0.77**	**209**	*e*PG		Pg	03 48 19.7	-0.6
MAUC				*e*SG		Sg	03 48 29.8	-0.4
KRLC	**Kraliky**	**1.04**	**273**	*e*PG		Pg	03 48 24.2	-1.3
KRLC				*e*SG		Sg	03 48 38.7	-0.2
KRLC	**Kraliky**	**1.04**	**273**	*e*PG		Pg	03 48 24.2	-1.3
KRLC				*e*SG		Sb	03 48 39.9	-0.7
LANS	**Liptovska Anna**	**1.13**	**141**	*e*PG		Pg	03 48 26.1	-1.2
LANS				*e*SG		Sb	03 48 42.8	-0.6
DPC	**Dobruska-Polom**	**1.36**	**284**	*e*PG		Pg	03 48 30.2	-1.5
DPC				*e*SG		Sg	03 48 49.1	-0.3
DPC	**Dobruska-Polom**	**1.36**	**284**	*e*PG		Pg	03 48 30.1	-1.6
DPC				*e*SG		Sb	03 48 49.9	-0.1
comp=Z,2.1nm,0.7s								
VRAC	**Vranov**	**1.38**	**239**	*e*PG		Pg	03 48 29.8	-2.2
VRAC				*e*SG		Sg	03 48 49.6	-0.2
OSTC	**Ostas**	**1.49**	**291**	*e*PG		Pn	03 48 31.9	-1.7
OSTC				*e*SG		Sg	03 48 52.7	-0.7
CHVC	**Chvalec**	**1.59**	**291**	*e*PG		Pn	03 48 33.9	-1.2
CHVC				*e*SG		Sg	03 48 57.7	+0.9

IDC 22 03:53:37.7±2.1, 17.53S×167.77E, h0km, mb3.5/3, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=59.8km s-min=34.1km az=127.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.69**	**195**	Pn		Pn	03 54 49.4	-0.5
1.8nm,0.3s,baz=72,slow=12,SNR=75								
DZM					Sn	Sn	03 55 37.4	-7.8
9.4nm,0.3s,baz=174,slow=21,SNR=22								
4.4nm,0.3s								
WRA	**Warramunga Arr**	**31.73**	**260**	P		P	04 00 03.6	0.0
0.4nm,0.7s,baz=89,slow=9.5,SNR=2.1								
0.4nm,0.7s								
ASAR	**Alice Springs**	**32.24**	**253**	P		P	04 00 08.2	+0.1
0.4nm,0.5s,baz=81,slow=9.0,SNR=8.6								
0.4nm,0.5s								
ILAR	**Eielson Array**	**89.03**	**18**	P		P	04 06 34.1	0.0
0.2nm,0.6s,baz=221,slow=6.5,SNR=5.1								
0.2nm,0.6s								

*IDC **22** 03:54:08.6±1.1, 27.50N×142.87E, h0km, mb3.9/8, mbtmp3.9/9, ML3.0/1, Error ellipse: s-maj=44.6km s-min=20.6km az=75.0*
*NEIC **22** 03:54:10.3±1.6, 27.5N±0.1×142.97E±0.07, h13km±7km, mb4.4/8, Error ellipse: s-maj=18.5km s-min=3.0km az=152.0*

ISC 22 03:54:12.7±1.0, 27.5N±0.1×142.8E±0.1, h27km, n24, σ0.67/24, mb4.4/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.69**	**234**	Pg		**Pb**	**03 54 25.9**	**-0.4**
MJAR	**Matsushiro Arr**	**9.82**	**338**	Pn		**Pn**	**03 56 31.6**	**-0.6**
0.1nm,0.3s,baz=185,slow=12,SNR=7.9								
1.5nm,0.6s								
MAJO	**Matsushiro**	**9.82**	**338**	Pn		**Pn**	**03 56 31.1**	**-1.1**
MJB9	**Matsu-Tunnel**	**9.83**	**338**	Pn		**Pn**	**03 56 31.7**	**-0.6**
JMM	**Marumori**	**10.47**	**351**	Pn		**Pn**	**03 56 40.0**	**-1.1**
JMZ	**Minamidaito 2**	**10.51**	**263**	Pn		**Pn**	**03 56 41.2**	**-0.4**
HIA	**Hailar**	**28.07**	**327**	P		**P**	**04 00 02.5**	**+0.6**
CRAI	**Chiangrai**	**39.34**	**269**	P		**P**	**04 01 41.1**	**+1.1**
WB0	**Warramunga Arr**	**47.70**	**191**	P		**P**	**04 02 45.9**	**-1.2**
WRA	**Warramunga Arr**	**47.88**	**191**	P		**P**	**04 02 48.2**	**-0.4**
WRA	**Warramunga Arr**	**47.88**	**191**	P		**P**	**04 02 48.1**	**-0.4**
4.4nm,1.1s,baz=9.1,slow=8.2,SNR=12								
4.4nm,1.1s								
ZALV	**Zalesovo Beam**	**49.55**	**319**	P		**P**	**04 03 01.1**	**0.0**
ZALV	**Zalesovo Beam**	**49.55**	**319**	P		**P**	**04 03 01.2**	**+0.1**
3.2nm,0.8s,baz=101,slow=8.0,SNR=5.8								
3.2nm,0.8s								
MKAR	**Makanchi Array**	**50.65**	**309**	P		**P**	**04 03 09.1**	**-0.5**
0.3nm,0.4s,baz=78,slow=8.5,SNR=4.6								
0.3nm,0.4s								
MAKZ	**Makanchi**	**50.87**	**309**	P		**P**	**04 03 10.7**	**-0.5**
MAKZ					IAmb	IAmb	04 03 12.7	
comp=Z,2.5nm,1.3s								
ASAR	**Alice Springs**	**51.59**	**190**	P		**P**	**04 03 17.3**	**+0.4**
comp=Z,0.3nm,0.6s,baz=7.6,slow=7.5,SNR=2.7								
comp=Z,0.3nm,0.6s								
KURK	**Kurchatov**	**53.10**	**314**	P		**P**	**04 03 27.5**	**-0.2**
KURK					IAmb	IAmb	04 03 29.5	
comp=Z,6.2nm,0.9s								
KURBB	**Kurchatov Arra**	**53.16**	**314**	P		**P**	**04 03 28.0**	**-0.2**
comp=Z,3.8nm,0.9s,baz=92,slow=7.0,SNR=24								
comp=Z,3.8nm,0.9s								
BVAR	**Borovoye Array**	**58.12**	**317**	P		**P**	**04 04 04.7**	**+0.9**
comp=Z,1.9nm,0.4s,baz=91,slow=7.8,SNR=12								
comp=Z,1.9nm,0.4s								
KK31	**Karatay Array**	**59.30**	**306**	P		**P**	**04 04 12.9**	**+0.7**
KK31					IAmb	IAmb	04 04 14.1	
comp=Z,5.4nm,1.4s								
KKAR	**Karatay Array**	**59.30**	**306**	P		**P**	**04 04 12.4**	**+0.2**
ABKAR	**Akbulak array**	**65.21**	**314**	P		**P**	**04 04 52.3**	**+0.6**
ABKAR					IAmb	IAmb	04 04 53.0	
comp=Z,4.3nm,1.2s								
FINES	**FINESS Array B**	**77.83**	**334**	P		**P**	**04 06 07.6**	**+0.2**
comp=Z,1.4nm,0.8s,baz=79,slow=7.2,SNR=9.1								
comp=Z,1.4nm,0.8s								
NVAR	**Mina Array Bea**	**79.83**	**52**	P		**P**	**04 06 19.1**	**-0.1**
comp=Z,0.1nm,0.4s,baz=285,slow=4.6,SNR=1.7								
comp=Z,0.1nm,0.4s								

*WEL **22** 04:10:00, 42.39S×173.50E, h11km, ML5.4, Mw5.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{16}Nm; M_{rr}1.69; $M_{\theta\theta}$1.47; $M_{\phi\phi}$-3.16; $M_{r\theta}$-0.48; $M_{r\phi}$-2.98; $M_{\theta\phi}$1.67; Fault plane solution: $M_0$4.29000×10^{16} NP1: ϕ_s248.00000°, δ58.00000°, λ163.00000°. NP2: ϕ_s347.00000°, δ76.00000°, λ33.00000°. Principal axes: T -4881.4100, Plg33.0000°, Azm213.0000°; N 3691.3700, Plg54.0000°, Azm7.0000°; P 1190.0400, Plg12.0000°, Azm114.0000°;*
*IDC **22** 04:10:55.9±0.5, 42.24S×173.60E, h0km, mb4.8/15, mbtmp4.8/17, ML4.9/2, MS4.2/37 Error ellipse: s-maj=18.0km s-min=14.2km az=58.0*
*MOS **22** 04:10:57.5±1.1, 42.43S×173.26E, h10km, mb5.2/9, Error ellipse: s-maj=21.7km s-min=12.1km az=134.8*
*NEIC **22** 04:10:58.8, 42.31S×173.43E, h16km, Moment Tensor Solution. Duration: 19.7 Moment tensor: Scale 10^{16}Nm; M_{rr}0.80; $M_{\theta\theta}$2.68; $M_{\phi\phi}$-3.48; $M_{r\theta}$-1.27; $M_{\theta\phi}$-2.37; $M_{r\phi}$2.27; Fault plane solution: $M_0$4.72000×10^{16} NP1: ϕ_s336.73000°, δ82.93000°, λ34.94000°. NP2: ϕ_s241.81000°, δ55.36000°, λ171.40000°. Principal axes: T 4.5710, Plg29.0000°, Azm205.0000°; N 0.2921, Plg54.0000°, Azm347.0000°; P -4.8632, Plg18.0000°, Azm104.0000°;*
*NEIC **22** 04:10:58.9±1.4, 42.40S±0.05×173.41E±0.07, h10km±1km, mb5.0/38, Mww5.0/18 Error ellipse: s-maj=10.5km s-min=5.6km az=131.0*
*NEIC **22** 04:10:58.8, 42.41S×173.43E, h16km*
*WEL **22** 04:10:59.7±0.5, 42.3°S×17.3°E±°, h8km±5km, M5.6/120, ML5.6/12, MLv5.6/120, Error ellipse: s-maj=0.0km s-min=0.0km az=115.8, confirmed*
*NOU **22** 04:11:00.5, 42.56S×173.68E, h30km, mb5.1/68, South Island, New Zealand*
*GCMT **22** 04:11:01.9±0.2, 42.32S±0.01×173.43E±0.02, h19km±1km, MW5.1/101, Moment Tensor Solution. s38,c51; s101,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.91±.17; $M_{\theta\theta}$2.46±.12; $M_{\phi\phi}$-3.37±.13; $M_{r\theta}$-0.67±.30; $M_{\theta\phi}$-2.69±.11; $M_{r\phi}$2.69±.35; Best double couple: $M_0$4.84300×10^{16} NP1:ϕ_s340.00000°, δ85.00000°, λ36.00000°. NP2:ϕ_s246.00000°, δ54.00000°, λ174.00000°. Principal axes: T 4.3990, Plg29.0000°, Azm209.0000°; N 0.8900, Plg53.0000°, Azm347.0000°; P -5.2870, Plg21.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 04:10:58.9±0.6, 42.44S±0.03×173.62E±0.03, h17km±3km, n467, σ1.30/441, mb5.1/49, MS4.3/40, 17C, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.07**	**293**	Sg		**Sg**	**04 11 04.4**	**+0.2**
KHZ	**Kahutara**	**0.07**	**293**	P		**Pg**	**04 11 02.0**	**-0.1**
KHZ				S		**Sg**	**04 11 04.3**	**+0.1**
GVZ	**Greta Valley S**	**0.68**	**219**			**Pn**	**04 11 13.7**	**0.0**
GVZ	**Greta Valley S**	**0.68**	**219**	P		**Pn**	**04 11 13.5**	**-0.2**
GVZ				S		**Sn**	**04 11 24.8**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.75**	**15**	P		**Pg**	**04 11 13.3**	**-0.2**
BSWZ				S		**Sb**	**04 11 24.2**	**+0.8**
CMWZ	**Cape Campbell**	**0.82**	**33**	P		**Pn**	**04 11 16.4**	**+0.7**
THZ	**Tophouse**	**0.86**	**322**	P		**Pn**	**04 11 13.7**	**-1.7**
THZ				S		**Sb**	**04 11 23.6**	**-3.1**
AMCZ	**Amberley**	**1.02**	**224**	P		**Pb**	**04 11 18.5**	**+0.4**
TUWZ	**Tuamarina**	**1.04**	**13**			**Pb**	**04 11 18.5**	**+0.1**
TUWZ	**Tuamarina**	**1.04**	**13**	P		**Pb**	**04 11 18.5**	**+0.1**
TUWZ				S		**Sn**	**04 11 32.8**	**0.0**
LTZ	**Lake Taylor**	**1.05**	**251**	P		**Pb**	**04 11 17.6**	**-1.1**
MRNZ	**Matariki Terra**	**1.23**	**328**	P		**Pn**	**04 11 20.4**	**-0.8**
MRNZ				S		**Sb**	**04 11 36.1**	**-0.9**
NNZ	**Nelson**	**1.24**	**352**	P		**Pn**	**04 11 20.9**	**-0.4**
NNZ				S		**Sb**	**04 11 36.7**	**-0.7**
TCW	**Tory Channel**	**1.32**	**22**	P		**Pn**	**04 11 22.8**	**+0.2**
SNZO	**South Karori**	**1.39**	**36**	P		**Pb**	**04 11 24.4**	**+0.1**
BHW	**Baring Head**	**1.39**	**42**	P		**Pn**	**04 11 23.9**	**+0.5**
WEL	**Wellington**	**1.44**	**37**	P		**Pb**	**04 11 25.0**	**-0.2**
MQZ	**McQueen's Vall**	**1.45**	**209**	P		**Pn**	**04 11 23.4**	**-0.8**
OXZ	**Oxford**	**1.46**	**232**			**Pn**	**04 11 23.7**	**-0.8**
OXZ	**Oxford**	**1.46**	**232**	P		**Pn**	**04 11 23.7**	**-0.8**
TKNZ	**Takaka Hill**	**1.49**	**340**			**Pn**	**04 11 25.0**	**+0.1**
TKNZ	**Takaka Hill**	**1.49**	**340**	P		**Pn**	**04 11 25.0**	**+0.1**
PLWZ	**Palliser**	**1.50**	**55**	P		**Pn**	**04 11 25.4**	**+0.4**
AKCZ	**Akaroa Harbour**	**1.52**	**200**	P		**Pn**	**04 11 25.3**	**0.0**
DSZ	**Denniston Nort**	**1.52**	**297**	P		**Pn**	**04 11 25.1**	**-0.2**
MSWZ	**Moikau Station**	**1.59**	**50**	P		**Pb**	**04 11 27.3**	**-0.5**
INZ	**Inchbonnie**	**1.63**	**259**	P		**Pn**	**04 11 26.4**	**-0.4**
DUWZ	**D'Urville Isla**	**1.65**	**8**	P		**Pn**	**04 11 27.5**	**+0.4**
RACZ	**Rakaia**	**1.68**	**220**	P		**Pn**	**04 11 26.9**	**-0.6**
PAWZ	**Paruwai Farm**	**1.71**	**52**	P		**Pn**	**04 11 28.0**	**+0.1**
CAW	**Cannon Point**	**1.72**	**40**	P		**Pn**	**04 11 28.3**	**+0.3**
QRZ	**Quartz Range**	**1.81**	**333**			**Pn**	**04 11 30.2**	**+0.9**
QRZ	**Quartz Range**	**1.81**	**333**	P		**Pn**	**04 11 30.3**	**+1.0**
QRZ	**Quartz Range**	**1.81**	**333**	P		**Pn**	**04 11 30.1**	**+0.9**
KIW	**Kapiti Island**	**1.85**	**32**	P		**Pn**	**04 11 30.4**	**+0.6**
MHCZ	**Mount Hutt**	**1.86**	**233**	P		**Pn**	**04 11 29.0**	**-0.9**
TRWZ	**Traveller**	**1.86**	**57**	P		**Pn**	**04 11 30.0**	**+0.1**
MTW	**Mount Morrison**	**1.90**	**48**	P		**Pn**	**04 11 30.5**	**0.0**
WACZ	**Wakanui South**	**1.99**	**220**	P		**Pn**	**04 11 30.9**	**-0.7**
OGWZ	**Otaki Gorge**	**2.00**	**36**	P		**Pn**	**04 11 32.1**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.10**	**43**	P		**Pn**	**04 11 33.1**	**-0.1**
HOWZ				P		**Pb**	**04 11 33.4**	**-3.0**
TMWZ	**Te Maipa**	**2.16**	**53**	P		**Pn**	**04 11 33.8**	**-0.3**
WVZ	**Waitaha Valley**	**2.22**	**252**	P		**Pn**	**04 11 34.9**	**+0.1**
RPZ	**Rata Peaks**	**2.27**	**235**	P		**Pn**	**04 11 35.1**	**-0.5**
RPZ	**Rata Peaks**	**2.27**	**235**	P		**Pn**	**04 11 34.8**	**-0.8**
RPZ	**Rata Peaks**	**2.27**	**235**	Pn		**Pn**	**04 11 34.6**	**-1.0**
1μm,0.3s,baz=106,slow=1.0,SNR=650								
RPZ					Sn	**Sn**	**04 12 00.1**	**-3.1**
823nm,0.3s,baz=159,slow=23,SNR=23								
3μm,0.4s								
MRZ	**Mangatainoka R**	**2.31**	**40**	P		**Pn**	**04 11 35.9**	**-0.2**
ARCZ	**Arundel**	**2.34**	**229**	P		**Pn**	**04 11 35.5**	**-1.0**
CPXZ	**Castlepoint**	**2.46**	**52**	P		**Pn**	**04 11 38.5**	**+0.3**
OHWZ	**Ohakea**	**2.57**	**30**	P		**Pn**	**04 11 41.4**	**+1.7**
GCSZ	**Gaunt Creek Bo**	**2.58**	**249**	P		**Pn**	**04 11 39.7**	**0.0**
PRWZ	**Pori Road**	**2.58**	**44**	P		**Pn**	**04 11 39.9**	**0.0**
POWZ	**Post Office Ro**	**2.61**	**39**	P		**Pn**	**04 11 40.4**	**+0.2**
BFZ	**Birch Farm**	**2.64**	**49**	P		**Pn**	**04 11 41.0**	**+0.3**
BFZ	**Birch Farm**	**2.64**	**49**	P		**Pn**	**04 11 40.0**	**-0.6**
TMZ	**Timaru**	**2.72**	**224**	P		**Pn**	**04 11 40.9**	**-0.9**
DVHZ	**Dannevirke**	**2.87**	**43**	P		**Pn**	**04 11 43.4**	**-0.5**
WAZ	**Wanganui**	**2.88**	**21**	P		**Pn**	**04 11 45.9**	**+2.0**
ANWZ	**Angora Road**	**2.92**	**48**	P		**Pn**	**04 11 44.7**	**+0.2**
TSZ	**Takapari Road**	**2.96**	**37**	P		**Pn**	**04 11 44.8**	**-0.3**
FOZ	**Fox Glacier**	**3.00**	**247**	P		**Pn**	**04 11 45.5**	**-0.1**
NMEZ	**Namu Road**	**3.03**	**4**	P		**Pn**	**04 11 48.5**	**+2.5**
LREZ	**Lake Rotokare**	**3.04**	**11**	P		**Pn**	**04 11 48.9**	**+2.8**
PREZ	**Palmer Road**	**3.12**	**8**	P		**Pn**	**04 11 50.6**	**+3.2**
PRHZ	**Porangahau**	**3.14**	**47**	P		**Pn**	**04 11 48.2**	**+0.6**
KHEZ	**Kahui Hut**	**3.16**	**6**	P		**Pn**	**04 11 50.0**	**+2.1**
KHEZ	**Kahui Hut**	**3.16**	**6**	P		**Pn**	**04 11 49.9**	**+2.0**
LBZ	**Lake Benmore**	**3.17**	**231**	P		**Pn**	**04 11 47.2**	**-0.7**
NBEZ	**Newall Road No**	**3.18**	**3**	P		**Pn**	**04 11 50.1**	**+2.1**
WPHZ	**Waipukurau**	**3.19**	**43**	P		**Pn**	**04 11 47.7**	**-0.5**
NEZ	**North Egmont**	**3.19**	**7**	P		**Pn**	**04 11 50.4**	**+2.1**
PNHZ	**Pukenui**	**3.19**	**38**	P		**Pn**	**04 11 47.4**	**-0.8**
PKE	**Pukeiti**	**3.26**	**5**	P		**Pn**	**04 11 51.2**	**+2.0**
DREZ	**Durham Road**	**3.28**	**8**	P		**Pn**	**04 11 52.1**	**+2.6**
MTVZ	**Mangateitei**	**3.36**	**25**	P		**Pn**	**04 11 52.3**	**+1.7**
ODZ	**Otahua Downs**	**3.38**	**219**	P		**Pn**	**04 11 49.8**	**-1.0**
ODZ	**Otahua Downs**	**3.38**	**219**	P		**Pn**	**04 11 49.9**	**-1.0**
PKVZ	**Pokaka**	**3.41**	**23**	P		**Pn**	**04 11 52.6**	**+1.3**
VRZ	**Vera Road**	**3.42**	**15**	P		**Pn**	**04 11 53.3**	**+1.9**
PXZ	**Pawanui**	**3.43**	**46**	P		**Pn**	**04 11 50.5**	**-1.0**
MOVZ	**Moawhango**	**3.44**	**29**	P		**Pn**	**04 11 52.0**	**+0.3**
WNVZ	**Wahianoa**	**3.45**	**26**	P		**Pn**	**04 11 53.1**	**+1.1**
TRVZ	**Turoa**	**3.46**	**26**	P		**Pn**	**04 11 53.3**	**+1.1**
BHHZ	**Black Hill Sta**	**3.48**	**33**	P		**Pn**	**04 11 52.2**	**-0.1**
KRHZ	**Kereru**	**3.48**	**38**	P		**Pn**	**04 11 51.3**	**-1.0**
WHVZ	**Whangaehu Hut**	**3.49**	**26**	P		**Pn**	**04 11 53.8**	**+1.2**
FWVZ	**Far West T-bar**	**3.50**	**25**	P		**Pn**	**04 11 54.0**	**+1.2**
TUVZ	**Tukino**	**3.53**	**27**	P		**Pn**	**04 11 53.8**	**+0.9**
COVZ	**Chateau Observ**	**3.55**	**25**	P		**Pn**	**04 11 54.4**	**+1.1**
NGZ	**Ngauruhoe**	**3.59**	**25**	P		**Pn**	**04 11 54.9**	**+1.0**
SNVZ	**South Ngauruho**	**3.59**	**26**	P		**Pn**	**04 11 55.2**	**+1.2**
KAHZ	**Kahuranaki**	**3.61**	**44**	P		**Pn**	**04 11 53.0**	**-1.1**
OTVZ	**Oturere**	**3.62**	**26**	P		**Pn**	**04 11 55.6**	**+1.2**
NNVZ	**North Ngauruho**	**3.64**	**25**	P		**Pn**	**04 11 55.5**	**+0.9**
TWVZ	**Taurewa**	**3.64**	**23**	P		**Pn**	**04 11 55.3**	**+0.8**
WTVZ	**West Tongariro**	**3.64**	**25**	P		**Pn**	**04 11 55.3**	**+0.8**
ETVZ	**East Tongariro**	**3.66**	**26**	P		**Pn**	**04 11 55.7**	**+0.8**
KRVZ	**Karewarewa**	**3.68**	**25**	P		**Pn**	**04 11 55.9**	**+0.9**
TMVZ	**Te Maari**	**3.68**	**26**	P		**Pn**	**04 11 55.8**	**+0.7**
KWHZ	**Kaweka Forest**	**3.69**	**36**	P		**Pn**	**04 11 54.3**	**-0.8**
NTVZ	**North Tongarir**	**3.69**	**26**	P		**Pn**	**04 11 56.4**	**+1.3**
MCHZ	**McNeill Hill**	**3.79**	**39**	P		**Pn**	**04 11 55.6**	**-0.9**
KATZ	**Kakaramea**	**3.81**	**25**	P		**Pb**	**04 12 03.4**	**-2.2**
RITZ	**Rihia Road**	**3.86**	**27**	P		**Pn**	**04 11 58.0**	**+0.6**
JCZ	**Jackson Bay**	**3.89**	**244**	P		**Pn**	**04 11 57.5**	**-0.4**
JCZ	**Jackson Bay**	**3.89**	**244**	P		**Pn**	**04 11 57.3**	**-0.6**
RATZ	**Rangitukua**	**3.93**	**25**	P		**Pn**	**04 12 00.2**	**+1.8**
BKZ	**Black Stump Fm**	**3.93**	**35**	P		**Pn**	**04 12 01.0**	**+2.5**
BKZ	**Black Stump Fm**	**3.93**	**35**	P		**Pn**	**04 11 57.5**	**-0.9**
HIZ	**Hauiti**	**4.04**	**14**			**Pn**	**04 12 01.3**	**+1.4**
HIZ	**Hauiti**	**4.04**	**14**	P		**Pn**	**04 12 02.5**	**+2.6**
HIZ	**Hauiti**	**4.04**	**14**	P		**Pn**	**04 12 01.6**	**+1.7**
WATZ	**Wairara**	**4.06**	**24**	P		**Pn**	**04 12 01.2**	**+1.0**
HHSZ	**Highcliff Hill**	**4.07**	**211**	P		**Pn**	**04 11 59.9**	**-0.4**
ARHZ	**Aropaoanui**	**4.08**	**40**	P		**Pn**	**04 12 01.4**	**+1.0**
WKZ	**Wanaka**	**4.11**	**233**			**Pn**	**04 11 59.6**	**-1.2**
WKZ	**Wanaka**	**4.11**	**233**	P		**Pn**	**04 11 59.9**	**-0.9**
NMHZ	**Naumai**	**4.12**	**37**	P		**Pn**	**04 12 00.1**	**-1.1**
EAZ	**Earnscleugh**	**4.18**	**227**	P		**Pn**	**04 12 00.7**	**-1.2**
MRHZ	**Matea Rd**	**4.18**	**31**	P		**Pn**	**04 12 01.0**	**-0.9**
KUTZ	**Kaahu Road**	**4.29**	**24**	P		**Pn**	**04 12 04.8**	**+1.4**
WHHZ	**Waihua**	**4.34**	**40**	P		**Pn**	**04 12 03.5**	**-0.5**
MTHZ	**Maungataniwha**	**4.34**	**35**	P		**Pn**	**04 12 03.5**	**-0.6**
TLZ	**Tolley Road**	**4.36**	**20**	P		**Pn**	**04 12 05.2**	**+0.8**
WPRZ	**Whakapapatarin**	**4.37**	**27**	P		**Pn**	**04 12 04.4**	**0.0**
ALRZ	**Allen Road**	**4.40**	**29**	P		**Pn**	**04 12 03.9**	**-0.9**
RAHZ	**Arahi**	**4.40**	**38**	P		**Pn**	**04 12 07.2**	**+2.3**
PRRZ	**Plateau Road**	**4.47**	**29**	P		**Pn**	**04 12 05.4**	**-0.4**
GRRZ	**Galatos Road**	**4.51**	**26**	P		**Pn**	**04 12 06.7**	**+0.3**
HRRZ	**Handcock Road**	**4.53**	**28**	P		**Pn**	**04 12 07.5**	**+0.9**
TUZ	**Tuapeka**	**4.53**	**218**	P		**Pn**	**04 12 06.0**	**-0.6**
HSRZ	**Hossack Road**	**4.59**	**27**	P		**Pn**	**04 12 11.3**	**+3.8**
KNZ	**Kokohu**	**4.60**	**43**	P		**Pn**	**04 12 06.5**	**-1.1**
MHGZ	**Mahia Peninsul**	**4.62**	**46**	P		**Pn**	**04 12 07.4**	**-0.5**
SNGZ	**Shannon Statio**	**4.62**	**39**	P		**Pn**	**04 12 07.2**	**-0.8**
MUGZ	**Murupara**	**4.63**	**32**	P		**Pn**	**04 12 07.1**	**-0.9**
RRRZ	**Republican Roa**	**4.66**	**29**	P		**Pn**	**04 12 08.1**	**-0.3**
HLRZ	**Highlands Stat**	**4.68**	**27**	P		Pb	04 12 15.3	-5.1
UTU	**Utuhina**	**4.69**	**26**	P		**Pn**	**04 12 10.0**	**+1.1**
MSZ	**Milford Sound**	**4.70**	**240**	P		**Pn**	**04 12 07.3**	**-1.7**
TARZ	**Mount Tarawera**	**4.74**	**29**	P		**Pn**	**04 12 09.6**	**-0.1**
PRGZ	**Paritu Road**	**4.78**	**44**	P		**Pn**	**04 12 09.2**	**-1.0**
OMRZ	**Omania**	**4.81**	**27**	P		**Pn**	**04 12 14.9**	**+4.3**
RIGZ	**Rimuhau**	**4.88**	**42**	P		**Pn**	**04 12 14.2**	**+2.6**
RAGZ	**Rawiri**	**4.89**	**38**	P		**Pn**	**04 12 11.2**	**-0.5**
TOZ	**Tahuroa Road**	**4.92**	**18**	P		**Pn**	**04 12 12.5**	**+0.5**
MLZ	**Mavora Lakes**	**4.94**	**232**	P		**Pn**	**04 12 10.8**	**-1.4**
EDRZ	**Edgecumbe**	**4.94**	**30**	P		**Pn**	**04 12 13.7**	**+1.3**
URZ	**Urewera**	**4.96**	**34**	P		**Pn**	**04 12 10.4**	**-2.0**
URZ	**Urewera**	**4.96**	**34**	Pn		**Pn**	**04 12 09.6**	**-2.8**
16nm,0.3s,baz=305,slow=5.9,SNR=66								
URZ					Sn	**Sn**	**04 13 03.3**	**-6.0**
30nm,0.3s,baz=247,slow=20,SNR=5.6								
38nm,0.3s								
OPRZ	**Ohinepanea**	**5.11**	**27**	P		**Pn**	**04 12 13.8**	**-0.8**
TGRZ	**Tauranga**	**5.12**	**24**	P		**Pn**	**04 12 15.2**	**+0.4**
TKGZ	**Te Karaka**	**5.14**	**40**	P		**Pn**	**04 12 13.2**	**-1.7**
SYZ	**Scrubby Hill**	**5.20**	**217**	P		**Pn**	**04 12 15.9**	**+0.1**
SYZ	**Scrubby Hill**	**5.20**	**217**	P		**Pn**	**04 12 15.7**	**-0.1**
WHZ	**Wether Hill Ro**	**5.34**	**228**	P		**Pn**	**04 12 15.5**	**-2.3**
TWGZ	**Tauwhareparae**	**5.41**	**39**	P		**Pn**	**04 12 17.5**	**-1.2**
AWAZ	**Awhitu Peninsu**	**5.43**	**9**	P		**Pn**	**04 12 20.3**	**+1.4**
RUGZ	**Raukumara Rang**	**5.44**	**36**	P		**Pn**	**04 12 18.0**	**-1.3**
MKAZ	**Moumak

MTSU Mount Surprise 34.73 305 P P 04 17 48.4 +0.3
HNR Honiara 35.01 336 LR LR 04 30 49.8
comp=Z,6μm,18.2s,baz=146,slow=34
QIS Mount Isa 35.94 297 P **P 04 17 58.4 -0.1**
baz=36,SNR=7.5
QIS Mount Isa 35.94 297 P **P 04 17 58.4 -0.1**
AS31 Alice Springs 37.77 287 P **P 04 18 13.1 -1.1**
ASAR Alice Springs 37.77 287 P **P 04 18 12.8 -1.3**
ASAR Alice Springs 37.77 287 P **P 04 18 12.9 -1.2**
comp=Z,5.3nm,0.6s,baz=128,slow=7.1,SNR=71
ASAR PcP **PcP 04 20 28.9 -1.9**
comp=Z,3.0nm,0.8s,baz=120,slow=4.2,SNR=5.0
ASAR LR LR 04 33 44.7
comp=Z,512nm,18.1s,baz=135,slow=36
comp=Z,5.3nm,0.6s
FORT Forrest 37.96 273 P **P 04 18 16.9 +1.3**
FORT IAmb IAmb 04 18 41.4
comp=Z,26nm,0.8s
COEN Coen 38.68 308 P **P 04 18 21.4 -0.3**
WR0 Warramunga Arr 39.77 292 P **P 04 18 30.2 -0.6**
PAE Paea 39.84 63 *e*T T 05 00 24.8
comp=Z,13nm,0.2s
PPT2 Papeete2 39.89 63 *e*S **S 04 24 30.7 -5.4**
comp=Z,133nm,25.8s
PPT2 *e*LR LR 04 29 19.7
comp=Z,801nm,26.0s
PPT2 *e*LR LR 04 29 28.8
comp=Z,551nm,27.0s
PPT2 Papeete2 39.89 63 *e*T T 05 00 27.0
comp=Z,10nm,0.3s
PPT Papeete 39.91 63 LR LR 04 31 29.0
comp=Z,432nm,19.7s,baz=234,slow=31
WB2 Warramunga Arr 39.91 292 IAmb IAmb 04 18 32.2
comp=Z,38nm,1.4s
WRAB Tennant Creek 39.91 292 P **P 04 18 31.5 -0.6**
WRAB Tennant Creek 39.91 292 P **P 04 18 31.0 -1.1**
WRAB Tennant Creek 39.91 292 P **P 04 18 31.5 -0.6**
WRAB pmax pmax
comp=Z,13nm,0.9s
WRA Warramunga Arr 39.92 292 P **P 04 18 31.1 -1.0**
comp=Z,12nm,0.9s,baz=133,slow=7.8,SNR=35
WRA PcP **PcP 04 20 36.3 -1.2**
comp=Z,4.4nm,0.9s,baz=131,slow=3.1,SNR=6.7
comp=Z,12nm,0.9s
TVO Taravao 39.97 64 *e*T T 05 00 32.3
comp=Z,7.2nm,0.3s
PMG Port Moresby 40.27 317 P **P 04 18 35.1 +0.1**
PMG IAmb IAmb 04 18 43.7
comp=Z,56nm,1.0s
PMG Port Moresby 40.27 317 P **P 04 18 36.4 +1.4**
PMG Port Moresby 40.27 317 P **P 04 18 36.0 +1.0**
PMG Port Moresby 40.27 317 P **P 04 18 35.1 +0.1**
PMG pmax pmax
comp=Z,56nm,1.0s
PMG Port Moresby 40.27 317 P **P 04 18 34.0 -0.9**
comp=Z,24nm,1.0s,baz=103,slow=3.4,SNR=9.0
PMG LR LR 04 33 44.1
comp=Z,771nm,19.5s,baz=147,slow=34
comp=Z,24nm,1.0s
WRKA Warakurna 40.97 280 P **P 04 18 39.2 -1.6**
baz=41,SNR=43
WRKA Warakurna 40.97 280 P **P 04 18 39.3 -1.5**
CASY Casey 41.37 213 P **P 04 18 44.3 +0.8**
CASY IAmb IAmb 04 18 46.3
comp=Z,25nm,0.9s
KRVT Keravat (AS076 42.57 327 LR LR 04 35 48.6
comp=Z,370nm,18.3s,baz=196,slow=35
VAH Vaihoa 42.88 63 *e*T T 05 04 46.9
comp=Z,12nm,0.4s
NWAO Narrogin (SRO) 44.90 263 LR LR 04 35 09.0
comp=Z,439nm,19.2s,baz=104,slow=32
KDU Kakadu 46.32 297 P **P 04 19 23.6 -0.3**
baz=46,SNR=5.6
KDU Kakadu 46.32 297 P **P 04 19 23.0 -0.8**
MANU Manus Island 46.59 323 P **P 04 19 27.0 +1.0**
KNRA Kununurra 46.69 291 P **P 04 19 26.7 -0.1**
baz=47,SNR=3.7
KNRA Kununurra 46.69 291 P **P 04 19 26.9 +0.1**
KNRA IAmb IAmb 04 19 43.2
comp=Z,20nm,0.9s
TABU Tabubil 46.87 313 P **P 04 19 29.2 +1.0**
MEEK Meekatharra 47.17 271 P **P 04 19 29.7 -0.9**
baz=47,SNR=9.2
MEEK Meekatharra 47.17 271 P **P 04 19 29.7 -0.9**
QSPA South Pole Qui 47.69 180 P **P 04 19 37.4 +3.2**
QSPA South Pole Qui 47.69 180 P **P 04 19 36.8 +2.6**
comp=Z,16nm,1.0s,baz=20,slow=3.5,SNR=31
QSPA LR LR 04 37 24.7
comp=Z,328nm,21.6s,baz=41,slow=33
comp=Z,16nm,1.0s
MORW Morawa 47.75 267 P **P 04 19 35.3 +0.3**
baz=48,SNR=3.8
MORW Morawa 47.75 267 P **P 04 19 33.5 -1.4**
MORW Morawa 47.75 267 P **P 04 19 34.6 -0.4**
PSA00 Pilbara Seismi 49.24 278 P **P 04 19 46.2 -0.3**
PSA00 IAmb IAmb 04 19 59.0
comp=Z,6.7nm,0.9s
PSA00 Pilbara Seismi 49.24 278 P **P 04 19 45.6 -0.9**
JAY Jayapura 49.45 314 P **P 04 19 47.5 -0.7**
comp=Z,15nm,1.1s
TAOE Nuku Hiva Isla 52.49 64 *e*LR LR 04 35 12.5
comp=Z,574nm,22.2s
FAKI Fak Fak 53.93 305 P **P 04 20 19.6 -2.1**
FAKI IAmb IAmb 04 20 22.1
comp=Z,21nm,0.8s
FAKI Fak Fak 53.93 305 P **P 04 20 19.9 -1.7**
comp=Z,29nm,0.8s
SOEI Soe 53.95 292 P **P 04 20 23.0 +1.0**
SOEI Soe 53.95 292 P **P 04 20 23.3 +1.3**
comp=Z,69nm,1.2s
BATI Baumata 54.05 291 LR LR 04 43 21.7
comp=Z,724nm,21.0s,baz=156,slow=36
SWI Sorong 56.16 306 P **P 04 20 37.0 -0.7**
comp=Z,41nm,0.8s
EDFI Ende, Flores 56.44 291 P **P 04 20 39.1 -0.8**
comp=Z,22nm,1.0s
SANI Sanana 58.51 300 P **P 04 20 53.5 -0.8**
SANI Sanana 58.51 300 P **P 04 20 54.3 0.0**
comp=Z,32nm,0.8s
MAW Mawson 58.63 205 P **P 04 20 56.5 +2.1**
baz=58,SNR=9.3
MAW Mawson 58.63 205 P **P 04 20 55.2 +0.8**
MAW Mawson 58.63 205 P **P 04 20 55.2 +0.8**
MAW pmax pmax
comp=Z,10.0nm,1.7s
MAW Mawson 58.63 205 P **P 04 20 55.0 +0.5**
comp=Z,7.9nm,0.9s,baz=114,slow=11,SNR=12
MAW LR LR 04 45 02.0
comp=Z,908nm,19.4s,baz=108,slow=35
comp=Z,7.9nm,0.9s
BELA Belgrano 2 58.71 173 P **P 04 20 56.5 +1.6**
BELA IAmb IAmb 04 20 58.0
comp=Z,14nm,0.8s
KAPI Kappang 60.45 292 P **P 04 21 07.6 -0.2**
KAPI Kappang 60.45 292 P **P 04 21 08.2 +0.4**
KAPI Kappang 60.45 292 P **P 04 21 07.6 -0.2**
KAPI pmax pmax
comp=Z,33nm,1.2s
KAPI Kappang 60.45 292 P **P 04 21 07.4 -0.3**
comp=Z,23nm,1.1s,baz=47,slow=3.9,SNR=6.2
KAPI LR LR 04 47 17.0
comp=Z,200nm,20.1s,baz=132,slow=36
comp=Z,23nm,1.1s
LUWI Luwuk 61.35 298 P **P 04 21 14.9 +1.0**
LUWI Luwuk 61.35 298 P **P 04 21 13.5 -0.4**
comp=Z,65nm,0.6s,comp=Z,7μm
GUMO Guam 61.70 328 LR LR 04 49 38.9
comp=Z,77nm,18.0s,baz=113,slow=38
TTSI Tana Toraja 61.84 294 P **P 04 21 16.6 -0.5**
comp=Z,20nm,0.9s
GMJI Gumukmas 62.58 285 P **P 04 21 21.3 -0.9**
comp=Z,38nm,1.0s
RPN Rapa Nui 63.07 103 LR LR 04 44 37.7
comp=Z,89nm,18.1s,baz=218,slow=32
PMSA Palmer Station 64.03 156 LR LR 04 46 28.1
comp=Z,210nm,18.1s,baz=216,slow=33
TOLI2 Tolitoli 64.27 298 P **P 04 21 32.8 -0.5**
TOLI2 IAmb IAmb 04 21 41.2
comp=Z,14nm,0.9s
TOLI2 Tolitoli 64.27 298 P **P 04 21 32.6 -0.7**
MPSI Mapaga 64.28 297 P **P 04 21 32.8 -0.5**
comp=Z,15nm,1.0s
TROLL Troll, Antarti 65.68 183 ⇑P **P 04 21 43.7 +1.8**
comp=Z,1μm,0.8s
DAV Davao City (W) 65.86 306 LR LR 04 51 35.7
comp=Z,154nm,18.1s,baz=169,slow=37
SNAA Sanae 66.17 181 P **P 04 21 46.5 +1.6**

SNAA Sanae 66.17 181 ⇑P **P 04 21 46.5 +1.6**
comp=Z,235nm,0.7s
SNAA Sanae 66.17 181 P **P 04 21 46.6 +1.6**
SNAA pmax pmax
comp=Z,33nm,1.2s
SNAA Sanae 66.17 181 P **P 04 21 46.5 +1.6**
comp=Z,17nm,1.0s,baz=184,slow=6.1,SNR=50
SNAA LR LR 04 49 47.3
comp=Z,206nm,19.5s,baz=176,slow=35
comp=Z,17nm,1.0s
NVL N'lazarevskaya 66.34 186 *e*P **P 04 21 43.4 -2.5**
NVL pmax pmax
comp=Z,58nm,1.1s
KPJI Karang Pucung 66.47 282 P **P 04 21 47.6 0.0**
comp=Z,44nm,1.2s
VNA3 Neumayer Olymp 66.60 179 ⇑P **P 04 21 49.5 +1.9**
comp=Z,29nm,0.8s
VNA2 Neumayer--Watz 66.94 180 ⇑P **P 04 21 51.7 +1.9**
comp=Z,48nm,0.7s,baz=179,slow=6.0
VNA1 Neumayer--Stat 67.21 179 ⇑P **P 04 21 53.5 +2.0**
comp=Z,38nm,0.9s
LEM Lembang 67.77 281 P **P 04 21 55.8 -0.3**
comp=Z,20nm,0.5s,baz=165,slow=20,SNR=5.2
LEM LR LR 04 53 21.2
comp=Z,231nm,18.2s,baz=64,slow=38
comp=Z,20nm,0.5s
SBUM Sibu 71.01 292 P **P 04 22 14.8 -1.1**
SBUM IAmb IAmb 04 22 16.8
comp=Z,7.8nm,0.9s
KSM Kuching 71.63 290 P **P 04 22 18.5 -1.1**
KSM Kuching 71.63 290 P **P 04 22 19.4 -0.2**
MYKOM Kota Tinggi 76.41 285 P **P 04 22 47.8 +0.2**
LL02 Futaleuf 76.48 137 P **P 04 22 49.1 +1.4**
LL02 IAmb IAmb 04 22 51.5
comp=Z,10nm,0.8s
PLCA Paso Flores 78.93 136 P **P 04 23 02.7 +1.2**
comp=Z,4.5nm,0.7s,baz=236,slow=5.1,SNR=15
PLCA LR LR 04 50 24.4
comp=Z,95nm,19.2s,baz=214,slow=30
comp=Z,4.5nm,0.7s
H03S2 Juan Fernandez 79.17 126 T T 05 48 21.5
baz=225,slow=74,SNR=12
H03S1 Juan Fernandez 79.18 126 T T 05 48 23.3
baz=225,slow=74,SNR=12
H03S3 Juan Fernandez 79.19 126 T T 05 48 20.9
baz=225,slow=74,SNR=12
H03N3 Juan Fernandez 79.44 126 T T 05 48 37.7
baz=228,slow=71,SNR=14
H03N2 Juan Fernandez 79.44 126 T T 05 48 53.5
baz=228,slow=71,SNR=11
H03N1 Juan Fernandez 79.45 126 T T 05 48 49.2
baz=228,slow=71,SNR=15
RPSI Rantau Prapat 80.58 282 P **P 04 23 08.9 -1.7**
RPSI IAmb IAmb 04 23 10.8
comp=Z,11nm,1.0s
GSI Gunungsitoli 80.60 280 P **P 04 23 11.3 +0.5**
GSI Gunungsitoli 80.60 280 P **P 04 23 10.9 +0.1**
PSI Prapat 80.65 282 P **P 04 23 09.4 -1.7**
PSI Prapat 80.65 282 P **P 04 23 08.9 -2.2**
PSI pmax pmax
comp=Z,11nm,1.0s
KULM Kulim 81.12 285 IAmb IAmb 04 23 13.9
comp=Z,20nm,0.9s
JHJ Hachijo jima 2 81.35 332 LR LR 05 00 01.6
comp=Z,243nm,18.2s,baz=102,slow=36
MT01 Popeta 83.61 131 P **P 04 23 27.3 +1.0**
SURA Surathani 84.54 288 P **P 04 23 32.0 +0.8**
MJAR Matsushiro Arr 85.00 332 LR LR 05 00 21.2
comp=Z,170nm,19.3s,baz=160,slow=35
CFA Coronel Fontan 86.98 131 LR LR 04 56 02.8
comp=Z,52nm,18.3s,baz=210,slow=31
NONG Nongkai 88.39 296 P **P 04 23 50.2 +0.3**
NJ2 Nanjing 89.57 316 *e*P **P 04 23 57.0 +1.8**
NJ2 pP **pP 04 23 59.8 -1.1**
NJ2 sP **sP 04 24 02.3 -0.3**
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,1μm,6.6s
KSRS Korea Array 89.75 325 P **P 04 23 55.3 -0.6**
comp=Z,5.8nm,0.8s,baz=148,slow=5.0,SNR=9.9
KSRS LR LR 05 01 04.2
comp=Z,76nm,20.0s,baz=155,slow=34
comp=Z,5.8nm,0.8s
ASAJ Asahikawa 90.55 338 LR LR 04 58 30.7
comp=Z,136nm,21.8s,baz=172,slow=32
WHN Wuhan 90.78 312 P **P 04 24 01.5 +0.6**
CMAR Chiang Mai Arr 91.49 294 *i* P **P 04 24 05.1 +0.6**
CMAR pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 91.49 294 P **P 04 24 04.6 +0.1**
comp=Z,6.2nm,0.8s,baz=152,slow=3.1,SNR=37
CMAR LR LR 05 08 56.7
comp=Z,55nm,19.0s,baz=140,slow=38
comp=Z,6.2nm,0.8s
CHTO Chiang Mai 91.73 294 P **P 04 24 05.0 -0.6**
CHTO IAmb IAmb 04 24 06.8
comp=Z,7.1nm,0.9s
CHTO Chiang Mai 91.73 294 P **P 04 24 05.0 -0.6**
CHTO pmax pmax
comp=Z,7.0nm,1.0s
CRAI Chiangrai 91.76 296 P **P 04 24 05.6 -0.1**
CRAI IAmb IAmb 04 24 08.0
comp=Z,15nm,1.6s
LVC Limon Verde 93.35 125 LR LR 04 58 32.2
comp=Z,57nm,19.9s,baz=220,slow=31
USA0B Ussuriysk Arra 93.97 331⇑*e*P **P 04 24 17.0 +1.8**
SHEM Shemya Is, Ala 94.80 0 LR LR 05 01 44.8
comp=Z,212nm,21.8s,baz=304,slow=32
PZH PanZhiHua 95.29 301 P **P 04 24 24.3 +2.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,350nm,6.7s
NNA Nana 95.94 112 LR LR 04 58 23.7
comp=Z,98nm,20.6s,baz=228,slow=30
PETK Petropavlovsk- 96.16 350 LR LR 05 01 55.8
comp=Z,146nm,20.9s,baz=155,slow=32
CPUP Villa Florida 97.00 135 P Pdif 04 24 30.4 +0.5
comp=Z,2.1nm,0.9s,baz=192,slow=8.8,SNR=3.6
CPUP LR LR 05 02 15.7
comp=Z,31nm,21.7s,baz=216,slow=32
comp=Z,2.1nm,0.9s
PALK Pallekele 97.00 273 LR LR 05 05 23.7
comp=Z,160nm,18.3s,baz=234,slow=34
ATAH Atahualpa 98.27 107 LR LR 04 59 14.5
comp=Z,49nm,20.0s,baz=236,slow=30
KLR Kul'dur 98.42 334 LR LR 05 05 49.5
comp=Z,79nm,19.7s,baz=131,slow=34
LPAZ La Paz 98.57 121 LR LR 05 01 45.4
comp=Z,18nm,19.5s,baz=216,slow=31
PFO Pinyon Flats O 99.11 53 LR LR 05 01 27.5
comp=Z,189nm,20.7s,baz=234,slow=31
HHC Hu-ho-hao-te 100.08 317 *e*P **Pdif 04 24 45.3 +2.2**
HHC pmax pmax
comp=Z,25nm,0.6s
HHC pmax pmax
comp=Z,2μm,6.7s
XLT XiLinHaoTe 100.22 322 *e*P **Pdif 04 24 47.8 +4.1**
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,950nm,6.3s
BTO Baotou 100.68 316 *e*P **Pdif 04 24 49.6 +3.8**
BTO pP sP 04 24 54.3 +1.0
BTO pmax pmax
comp=Z,18nm,0.7s
BTO pmax pmax
comp=Z,840nm,8.3s
NVAR Mina Array Bea 101.48 48 P **Pdif 04 24 49.5 -0.1**
comp=Z,0.1nm,0.5s,baz=225,slow=11,SNR=1.5
PDAR Pinedale Array 109.31 49 PP **PP 04 29 57.7 -0.2**
comp=Z,0.2nm,0.7s,baz=257,slow=8.0,SNR=2.0
PDAR PKKPbc **PKKPbc 04 40 32.5 -1.1**
comp=Z,0.7nm,1.0s,baz=84,slow=7.7,SNR=4.6
ILAR Eielson Array 111.26 17 PKIKP **PKiKP 04 29 30.1 -0.4**
comp=Z,0.5nm,0.8s,baz=222,slow=1.2,SNR=3.5
ILAR PKKPab **PKKPab 04 40 34.0 +1.1**
comp=Z,1.0nm,1.0s,baz=355,slow=2.9,SNR=7.0
WMQ Urumqi 115.21 307 *e*P **PKiKP 04 29 39.6 +0.8**
PLAL Pickwick Lake 118.13 67 **PKPdf 04 29 44.8 +0.2**
YKA Yellowknife Ar 119.21 30 PKPdf **PKPdf 04 29 45.9 +0.1**
YKA Yellowknife Ar 119.21 30 PKIKP **PKPdf 04 29 45.9 +0.1**
YKA Yellowknife Ar 119.21 30 PKP **PKPdf 04 29 45.2 -0.6**
comp=Z,1.9nm,0.7s,baz=267,slow=1.8,SNR=16
YKA PKKPbc **PKKPbc 04 39 59.6 0.0**
comp=Z,2.4nm,0.9s,baz=49,slow=3.9,SNR=7.8

MK31 Makanchi Array 120.02 308 PKPdf **PKPdf 04 29 48.2 +0.3**
MK31 Makanchi Array 120.02 308⇑*i*PKIKP **PKiKP 04 29 48.9 +0.9**
MKAR Makanchi Array 120.02 308 PKPdf **PKPdf 04 29 47.9 0.0**
MKAR Makanchi Array 120.02 308 PKIKP **PKPdf 04 29 47.9 0.0**
MKAR Makanchi Array 120.02 308 PKP **PKPdf 04 29 46.6 -1.3**
comp=Z,0.7nm,0.6s,baz=161,slow=0.6,SNR=6.8
WCI Wyandotte Cave 121.09 65 **PKiKP 04 29 50.7 +0.4**
WCI Wyandotte Cave 121.09 65 PKIKP **PKiKP 04 29 50.7 +0.4**
ULM Lac du Bonnet 121.31 49 PKP **PKPdf 04 29 49.4 -0.8**
comp=Z,7.9nm,0.8s,baz=286,slow=5.1,SNR=7.3
KURK Kurchatov 124.06 310 PKPdf **PKPdf 04 29 54.6 -0.9**
KURK Kurchatov 124.06 310 PKIKP **PKPdf 04 29 54.6 -0.9**
KURBB Kurchatov Arra 124.07 310 PKP **PKPdf 04 29 54.2 -1.3**
comp=Z,1.5nm,0.6s,baz=112,slow=1.8,SNR=14
T57A Hurt 125.27 70 **PKPdf 04 29 58.5 +0.2**
KK31 Karatay Array 125.50 299 PKPdf **PKPdf 04 29 58.7 +0.1**
KK31 Karatay Array 125.50 299 PKIKP **PKPdf 04 29 58.7 +0.1**
KKAR Karatay Array 125.50 299 **PKPdf 04 29 58.2 -0.4**
KKAR Karatay Array 125.50 299 PKIKP **PKPdf 04 29 58.2 -0.4**
N53A Lisbon 126.03 65 PKPdf **PKiKP 04 30 00.5 +0.4**
BVAR Borovoye Array 129.66 310 PKP **PKPdf 04 30 05.2 -0.9**
comp=Z,1.3nm,0.6s,baz=194,slow=1.0,SNR=6.3
BRVK Borovoye 129.73 310⇑*e*PKIKP **PKPdf 04 30 06.2 -0.1**
GEYT Alibeck 131.58 287 PKPdf **PKPdf 04 30 11.0 +0.7**
GEYT Alibeck 131.58 287 PKIKP **PKPdf 04 30 11.0 +0.7**
ARU Arti 137.16 312 *i* PKIKP **PKPdf 04 30 20.6 +0.5**
ARU 04 33 00.9
SPITS Spitsbergen Ar 143.00 352 PKP **PKPdf 04 30 27.5 -2.7**
comp=Z,4.9nm,0.7s,baz=20,slow=4.6,SNR=2.4
AKH Akhalkalaki 143.31 286 PKPdf **PKPdf 04 30 31.9 -0.1**
AKH Akhalkalaki 143.31 286 PKIKP **PKPdf 04 30 31.9 -0.1**
GURO Guroymak-BITLI 143.38 281 PKPdf PKPbc 04 30 30.4 +1.0
ZEI Tsey 143.45 288 *i* PKHKP PKPpre 04 30 27.4
ZEI pmax pmax
comp=Z,3.0nm,0.8s
LIC Lamto 143.91 182⇑*e*P PKPbc 04 30 31.6 +0.2
comp=Z,17nm,0.7s
KIC Kosan Boka 144.04 183⇑*e*P PKPbc 04 30 32.7 +0.9
comp=Z,22nm,0.8s
TIC Toumodi 144.33 182⇑*e*P PKPbc 04 30 33.6 +0.9
comp=Z,9.8nm,0.8s
DBIC Dimbokro 144.35 183 PKPbc 04 30 33.1 +0.4
DBIC Dimbokro 144.35 183 PKIKP PKPbc 04 30 33.1 +0.4
DBIC Dimbokro 144.35 183 PKP **PKPab 04 30 32.9 +0.5**
comp=Z,6.5nm,0.8s,baz=171,slow=0.6,SNR=6.6
KBZ Khabaz 144.41 289*ce*PKIKP **PKPab 04 30 31.6 -0.2**
KBZ Khabaz 144.41 289 PKP **PKPab 04 30 31.1 -0.8**
comp=Z,16nm,0.9s,baz=127,slow=1.3,SNR=41
KIV Kislovodsk 144.62 290 PKPdf **PKPdf 04 30 33.9 -0.2**
KIV Kislovodsk 144.62 290 *i* PKIKP **PKPdf 04 30 34.5 +0.4**
KIV pmax pmax
comp=Z,8.0nm,1.0s
GOF Gofitskoye 144.65 292*ce*PKIKP **PKPab 04 30 32.2 -0.5**
DAG Danmarks Havn 145.17 5 *i* P **PKPbc 04 30 31.0 -2.6**
MMAI Mount Meron Ar 145.93 268 PKPbc **PKPdf 04 30 36.0 -0.7**
comp=Z,1.2nm,0.3s,baz=153,slow=2.6,SNR=11
SUMG Summit 146.11 17 PKPbc **PKPab 04 30 38.0 +0.2**
SUMG Summit 146.11 17 PKP2 **PKPab 04 30 38.0 +0.2**
SUMG Summit 146.11 17 *i* P **PKPbc 04 30 37.0 -0.2**
GAZ Gaziantep 146.38 276 PKPbc **PKPdf 04 30 38.2 +0.9**
VRH Novokhopyorsk 146.47 302 *e*PKIKP **PKPdf 04 30 36.4 -0.5**
VRH pmax pmax
comp=Z,40nm,0.8s
DY2G Dye2 147.55 29 *i* P **PKPbc 04 30 40.7 -0.5**
VORD Divnogorie 147.99 301 *e*PKP2 **PKPdf 04 30 41.1 +1.7**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 148.07 303 *e*PKIKP **PKPdf 04 30 41.1 +1.6**
VORR pmax pmax
comp=Z,20nm,0.9s
VSR Storozhevoye 148.08 302 *e*PKIKP **PKPdf 04 30 40.9 +1.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
ICESG Greenland Ices 148.18 22 *i* P **PKPbc 04 30 42.0 -0.9**
LPSR Galich'ya Gora 148.25 305 *e*PKIKP **PKPdf 04 30 41.4 +1.6**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
ARCES ARCESS Array B 148.26 339 PKPbc **PKPdf 04 30 40.8 +1.4**
comp=Z,7.1nm,0.7s,baz=58,slow=2.1,SNR=18
IVI Ivigtut 148.82 39 PKPbc **PKPbc 04 30 44.5 +0.2**
IVI Ivigtut 148.82 39 *i* P **PKPbc 04 30 44.0 -0.3**
OBN Obninsk 149.50 310⇑*i*PKP2 **PKiKP 04 30 48.7 +1.4**
OBN pmax pmax
comp=Z,45nm,1.7s
BRTR Keskin Array B 149.91 278 PKPbc **PKPbc 04 30 47.7 -0.3**
BRTR Keskin Array B 149.91 278 PKP2 **PKPbc 04 30 47.7 -0.3**
BRTR Keskin Array B 149.91 278 PKPbc **PKPbc 04 30 47.5 -0.5**
comp=Z,8.5nm,0.8s,baz=137,slow=4.4,SNR=14
BR131 Keskin Array S 149.91 278⇑*e*PKIKP **PKPdf 04 30 42.2 -0.9**
TOA0 Torodi Ar. Sit 149.98 196 PKPbc **PKPbc 04 30 48.1 -0.6**
TORD Torodi Ar. Bea 149.98 196 PKPbc **PKPbc 04 30 48.1 -0.6**
TORD Torodi Ar. Bea 149.98 196 PKP **PKPdf 04 30 44.5 +0.8**
comp=Z,13nm,1.1s,baz=5.9,slow=1.1,SNR=12
TORD PKPbc **PKPbc 04 30 49.0 +0.3**
comp=Z,27nm,1.0s,baz=62,slow=1.4,SNR=62
NRS Narsarsuaq 150.09 38 *i* P **PKPbc 04 30 47.3 -0.2**
ISOG Isortoq, Green 150.57 27 *i* P **PKPbc 04 30 48.4 -0.1**
SIM Simferopol' 150.83 289 *i* PKIKP **PKPbc 04 30 49.9 +0.1**
SIM pmax pmax
comp=Z,21nm,0.8s
FINES FINESS Array B 152.85 326 PKPbc **PKPbc 04 30 52.4 -1.4**
comp=Z,2.7nm,0.6s,baz=46,slow=5.5,SNR=16
AKASG Malin Array Be 154.37 301 PKPbc **PKPbc 04 30 56.8 -0.7**
comp=Z,0.4nm,0.4s,baz=71,slow=2.9,SNR=1.8
AKASG PKPab **PKPab 04 31 09.2 -2.6**
comp=Z,3.8nm,0.8s,baz=74,slow=3.4,SNR=9.6
NACGM Naroch 155.06 311 *e*PKP **PKPdf 04 30 52.9 +2.9**
NB2 NORSAR Subarra158.56 336 PKP **PKPab 04 31 27.5 -2.0**
comp=Z,2.8nm,0.9s,baz=40,slow=4.3
NOA NORSAR Array B158.56 336 PKPab **PKPab 04 31 27.6 -2.0**
comp=Z,0.7nm,0.7s,baz=40,slow=4.4,SNR=4.6
OKC Ostrava-Krasne 161.52 302 *e*PKP2 **PKPab 04 31 47.4 +4.6**
DPC Dobruska-Polom 162.51 305 *e*PKPAB **PKPab 04 31 47.4 +0.2**
CHVC Chvalec 162.59 306 *e*PKPAB **PKPab 04 31 44.5 -3.0**
CHVC Chvalec 162.59 306 *e*PKP2 **PKPab 04 31 44.5 -3.0**
UPC Upice 162.64 305 *e*PKPAB **PKPab 04 31 47.9 +0.2**
UPC Upice 162.64 305 *e*PKP2 **PKPab 04 31 47.9 +0.2**
PRU Pruhonice 163.71 305 *e*PKPAB **PKPab 04 31 51.6 -0.8**
PRU Pruhonice 163.71 305 *e*PKP2 **PKPab 04 31 54.8 +2.4**
BRG Berggiesshubel 163.74 308 *e*PKP2 **PKPab 04 31 53.2 +0.7**
BRG pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 164.09 311 *e*PKP2 **PKPab 04 31 54.0 0.0**
CLL Collm 164.09 311 *e*PKPab **PKPab 04 31 54.0 0.0**
CLL *e*SSS SSS 05 02 30.0
CKRC Cesky Krumlov 164.21 301 *e*PKPAB **PKPab 04 31 54.9 +0.2**
CKRC Cesky Krumlov 164.21 301 *e*PKP2 **PKPab 04 31 54.9 +0.2**
KHC Kasperske Hory 164.58 303 *e*PKPAB **PKPab 04 31 54.8 -1.5**
KEST Kesra 166.08 246 PKPab **PKPab 04 32 04.4 +1.1**
comp=Z,5.0nm,0.9s,baz=282,slow=4.0,SNR=6.2
ESDC Sonseca Array 176.69 214 PKPab **PKPab 04 32 49.5 -0.6**
comp=Z,1.6nm,1.0s,baz=116,slow=3.4,SNR=4.6

IDC 22 04:26:19.8±8.4, 20°.95S×177°.35W, h361km±76km,
mb3.0/4, mbtmp3.7/5, Error ellipse: s-maj=127.6km
s-min=28.5km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.40**	**306**	P	Pn	04 27 43.2	-1.2
	8.9nm,0.9s,baz=135,slow=17,SNR=2.5						
MSVF				S	S	04 28 54.1	+1.1
	6.8nm,0.9s,baz=156,slow=21,SNR=1.8						
CTA	**Charters Tower**	**34.06**	**265**	P	P	04 32 32.8	+1.2
	0.8nm,0.4s,baz=92,slow=10.0,SNR=1.9						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**45.01**	**257**	P	P	04 34 00.9	-0.1
	0.5nm,0.8s,baz=97,slow=6.9,SNR=7.8						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**45.15**	**262**	P	P	04 34 01.3	-0.8
	0.6nm,0.7s,baz=92,slow=8.5,SNR=12						
	0.6nm,0.7s						
TXAR	**Lajitas Array**	**86.79**	**57**	P	P	04 38 24.5	+0.1
	0.5nm,0.8s,baz=218,slow=5.7,SNR=4.5						
	0.5nm,0.8s						

SJA ***22*** *05:01:25.1±0.7, 30°.64S×71°.97W, h3km±2km, ML3.5, MW3.2*
GUC ***22*** *05:01:31.3±0.8, 30°.67S×71°.65W, h37km±2km, ML3.5*
ISC 22 05:01:28.4±1.4, 30°.57S±0°.02×71°.79W±0°.05, h18km±4km,
n38, σ1°.75/70, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.17**	**129**	⇑*iP*	Pg	05 01 36.7	+3.6
CO06				*i* S	Sg	**05 01 40.2**	**+4.1**
CO06				IAML		05 01 40.6	
	comp=N,16μm,0.3s						
CO05	**La Serena**	**0.80**	**37**	*eP*	Pn	**05 01 46.2**	**+1.3**
CO05				*i* S	Sn	**05 01 57.5**	**+1.2**
CO05				IAML		05 02 00.6	
	comp=E,1μm,0.3s						
CO02	**Combarbal**	**0.93**	**133**	*eP*	Pb	**05 01 46.0**	**-0.1**
CO02				*i* S	Sg	**05 01 56.4**	**-2.5**
CO02				IAML		05 02 01.7	
	comp=E,6μm,0.2s						
CO02	**Combarbal**	**0.93**	**133**	*eP*	Pg	**05 01 45.2**	**-1.4**
CO02				*eS*	Sg	**05 01 56.8**	**-2.1**
CO02				IAML		05 02 01.4	
	comp=Z,1μm,0.3s						
GO04	**Tololo Observa**	**0.94**	**66**	⇓*iP*	Pn	**05 01 47.7**	**+0.7**
GO04				*i* S	Sn	**05 02 00.3**	**+0.2**
GO04	**Tololo Observa**	**0.94**	**66**	*eP*	Pn	**05 01 47.2**	**+0.1**
GO04				*eS*	Sn	**05 02 01.1**	**+0.9**
CO03	**El Pedregal**	**0.99**	**106**	*eP*	Pb	**05 01 46.8**	**-0.3**
CO03				*i* S	Sg	**05 01 58.5**	**-2.2**
CO03				IAML		05 02 00.6	
	comp=N,2μm,0.4s						
CO03	**El Pedregal**	**0.99**	**106**	*eP*	Pb	**05 01 46.8**	**-0.3**
CO03				*eS*	Sg	**05 01 58.9**	**-1.9**
CO03				IAML		05 02 00.4	
	comp=Z,811nm,0.4s						
CO01	**Juntas del Tor**	**1.58**	**69**	*eP*	Pg	**05 01 57.8**	**-1.2**
CO01				*i* S	Sb	**05 02 17.4**	**+0.4**
CO01				IAML		05 02 20.9	
	comp=N,262nm,0.2s						
CO01	**Juntas del Tor**	**1.58**	**69**	*eP*	Pg	**05 01 57.7**	**-1.2**
CO01				*eS*	Sg	**05 02 18.4**	**-1.2**
CO01				IAML		05 02 19.3	
	comp=Z,300nm,0.6s						
LCO	**Las Campanas**	**1.82**	**32**	*eP*	Pn	**05 01 56.8**	**-2.2**
LCO				*eP*	Pb	**05 02 01.8**	**+0.5**
LCO				*eS*	Sg	**05 02 29.0**	**+1.9**
LCO				IAML		05 02 30.7	
	comp=Z,915nm,0.7s						
AROD	**Rodeo**	**2.04**	**79**	*eP*	Pb	**05 02 05.7**	**+0.5**
AROD				*eS*	Sg	**05 02 33.2**	**-1.1**
AC05	**El Transito**	**2.17**	**38**	*eP*	Pb	**05 02 07.3**	**0.0**
AC05				*eS*	Sg	**05 02 37.8**	**-0.6**
AC05				IAML		05 02 44.9	
	comp=Z,162nm,0.9s						
ACCO	**Cerro Coronel**	**2.35**	**91**	*eP*	Pb	**05 02 10.4**	**-0.1**
ACCO				*eS*	Sg	**05 02 43.8**	**-0.4**
DOCA	**Reserva Natura**	**2.36**	**100**	*eP*	Pb	**05 02 09.8**	**-0.9**
DOCA				*eS*	Sg	**05 02 45.0**	**+0.4**
DOCA				IAML		05 02 46.9	
	comp=Z,89nm,0.9s						
VA03	**San Esteban**	**2.43**	**155**	*eP*	Pn	**05 02 09.0**	**+1.5**
VA03				*eS*	Sn	**05 02 38.5**	**+1.7**
VA03				IAML		05 02 42.6	
	comp=E,631nm,0.2s						
VA03	**San Esteban**	**2.43**	**155**	*eP*	Pn	**05 02 08.9**	**+1.5**
VA03				*eS*	Sb	**05 02 40.1**	**-1.4**
VA03				IAML		05 02 46.3	
	comp=Z,303nm,0.5s						
AC04	**Llanos de Chal**	**2.44**	**15**	*eP*	Pb	**05 02 10.0**	**-1.7**
AC04				*eS*	Sb	**05 02 40.8**	**-0.6**
AC04				IAML		05 02 53.9	
	comp=Z,111nm,0.9s						
VA01	**Torpederas**	**2.45**	**177**	*eP*	Pn	**05 02 09.4**	**+1.9**
RTLS	**Leoncito**	**2.47**	**121**	*eP*	Pb	**05 02 11.8**	**-0.6**
RTLS				*eS*	Sn	**05 02 37.8**	**0.0**
RTLS				*eS*	Sg	**05 02 45.9**	**-1.9**
RTLS				IAML		05 02 46.5	
	comp=Z,477nm,1.0s						
ROCH	**El Roble**	**2.49**	**165**	*eP*	Pn	**05 02 09.1**	**+0.8**
ROCH				*eS*	Sn	**05 02 38.2**	**-0.1**
ROC1	**El Roble**	**2.49**	**165**	*eP*	Pn	**05 02 08.9**	**+0.6**
ROC1				*eS*	Sn	**05 02 38.7**	**+0.3**
PEL	**Peldehue**	**2.74**	**160**	*eP*	Pn	**05 02 12.8**	**+1.2**
MT02	**Curacav**	**2.74**	**168**	*eP*	Pn	**05 02 12.2**	**+0.6**
MT02				*eS*	Sb	**05 02 50.8**	**+0.5**
MT02				IAML		05 02 53.9	
	comp=Z,148nm,0.7s						
MT05	**Renca**	**2.96**	**163**	*eP*	Pn	**05 02 15.9**	**+1.4**
MT05				*eS*	Sn	**05 02 51.9**	**+2.3**
MT05				IAML		05 03 07.5	
	comp=Z,144nm,0.6s						
AGUA	**GUANDACOL**	**3.06**	**70**	*eP*	Pb	**05 02 21.9**	**-0.5**
AGUA				*eS*	Sb	**05 02 58.8**	**-0.6**
AGUA				IAML		05 03 10.2	
	comp=Z,202nm,0.8s						
MT03	**Universidad Ad**	**3.12**	**160**	*eP*	Pn	**05 02 18.1**	**+1.3**
MT03				IAML		05 03 05.5	
	comp=Z,254nm,0.3s						
CFA	**Coronel Fontan**	**3.22**	**110**	*eP*	Pn	**05 02 21.3**	**+3.1**
CFA				*eS*	Sn	**05 02 57.8**	**+1.7**
MT08	**Bocatoma Ro**	**3.24**	**153**	*eP*	Pn	**05 02 22.0**	**+3.3**
MT08				IAML		05 03 09.8	
	comp=E,237nm,0.3s						
MT01	**Popeta**	**3.32**	**172**	*eP*	Pn	**05 02 20.3**	**+0.8**
MT01				*eS*	Sn	**05 03 02.8**	**+4.3**
MT01				IAML		05 03 10.2	
	comp=Z,148nm,0.4s						
MT13	**San Alfonso**	**3.42**	**158**	IAML		05 03 13.9	
	comp=E,226nm,0.2s						
BO01	**Tunca**	**3.86**	**171**	*eP*	Pn	**05 02 27.9**	**+1.0**
BO01				*eS*	Sn	**05 03 14.3**	**+2.5**
BO01				IAML		05 03 30.2	
	comp=Z,50nm,0.4s						
BO02	**Sierra Bellavi**	**4.30**	**169**	*eP*	Pn	**05 02 34.3**	**+1.3**
BO02				*eS*	Sn	**05 03 22.9**	**+0.1**
BO02				IAML		05 03 40.8	
	comp=Z,97nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.35**	**76**	*eP*	Pn	**05 02 37.5**	**+3.7**
ACLC				*eS*	Sn	**05 03 25.3**	**+1.2**
ACLC				IAML		05 03 38.4	
	comp=Z,122nm,0.5s						
AC02	**Maricunga**	**4.39**	**33**	*eP*	Pn	**05 02 38.1**	**+3.4**
AC02				*eS*	Sg	**05 03 48.6**	**-1.0**
AC02				IAML		05 03 51.5	
	comp=Z,33nm,0.8s						
GO05	**Huala**	**4.43**	**181**	*eP*	Pn	**05 02 34.3**	**-0.5**
GO05				*eS*	Sn	**05 03 22.7**	**-3.3**
GO05				IAML		05 03 49.5	
	comp=Z,37nm,0.6s						
APLL	**PUNTA DE LOS L**	**4.55**	**89**	*eP*	Pn	**05 02 39.5**	**+3.1**
APLL				*eS*	Sn	**05 03 25.8**	**-3.0**
RFA	**San Rafael**	**5.04**	**147**	*eP*	Pn	**05 02 45.0**	**+1.7**
RFA				IAML		05 04 13.1	
	comp=Z,14nm,0.5s						

NEIC ***22*** *05:08:41.3±1.7,24°.19S±0°.04×174°.8W±0°.1,h10km±1km, mb4.3/11, Error ellipse: s-maj=18.1km s-min=5.0km az=106.0*

IDC ***22*** *05:08:43.3±1.4,23°.87S×175°.52W,h0km,mb3.8/3, mbtmp4.1/5,ML4.2/2,MS3.8/4, Error ellipse: s-maj=63.7km s-min=28.1km az=169.0*

ISC 22 05:08:43.5±0.8,24°.0S±0°.1×174°.96W±0°.09,h24km,n32, σ1°15/21,mb4.2/10,MS3.6/3,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.80**	**44**	Pn	**Pn**	**05 10 21.4**	**-0.5**
MSVF	**Nonsavu**	**9.06**	**313**		**Pn**	**05 10 54.9**	**+1.9**
MSVF	**Nonsavu**	**9.06**	**313**	Pn	**Pn**	**05 10 50.8**	**-2.2**
	0.2nm,0.3s,baz=118,slow=20,SNR=2.1						
MSVF				LR	LR	05 13 51.4	
	comp=Z,519nm,18.7s,baz=131,slow=36						
	13nm,0.7s						
AFI	**Afiamalu**	**10.51**	**17**	Pn	**Pn**	**05 11 12.9**	**0.0**
RAR	**Rarotonga**	**14.30**	**82**	Pn	**P**	**05 12 11.9**	**+0.4**
	1.9nm,0.3s,baz=84,slow=16,SNR=2.7						
	20nm,0.7s						
URZ	**Urewera**	**15.71**	**204**	Sn	Sn	05 15 04.1	-12
	0.2nm,0.3s,baz=166,slow=12,SNR=2.3						
DZM	**Mont Dzumac**	**17.23**	**273**	P	**Pn**	**05 12 43.6**	**+0.8**
DZM				IAmb	IAmb	05 13 03.4	
	comp=Z,9.5nm,0.8s						
PPT	**Papeete**	**24.56**	**80**	LR	LR	05 23 14.1	
	comp=Z,39nm,19.1s,baz=260,slow=35						
HNR	**Honiara**	**28.01**	**297**	LR	LR	05 24 29.6	
	comp=Z,1μm,18.5s,baz=176,slow=34						
EIDS	**Eidsvold**	**30.84**	**260**	P	**P**	**05 14 58.6**	**+0.7**
EIDS				IAmb	IAmb	05 15 01.5	
	comp=Z,3.9nm,1.0s						
CTAO	**Charters Tower**	**36.09**	**268**	P	**P**	**05 15 43.5**	**-0.2**
CTAO				IAmb	IAmb	05 15 54.9	
	comp=Z,3.5nm,0.5s						
PMG	**Port Moresby**	**38.94**	**285**	P	**P**	**05 16 07.5**	**-0.4**
BBOO	**Bookleboo**	**43.64**	**247**	P	**P**	**05 16 46.5**	**+0.2**
BBOO				IAmb	IAmb	05 16 55.9	
	comp=Z,7.0nm,1.1s						
AS31	**Alice Springs**	**46.55**	**260**	P	**P**	**05 17 09.5**	**-0.2**
ASAR	**Alice Springs**	**46.56**	**260**	P	**P**	**05 17 10.1**	**+0.4**
ASAR	**Alice Springs**	**46.56**	**260**	P	**P**	**05 17 09.3**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=93,slow=7.8,SNR=9.5						
ASAR				LR	LR	05 35 15.4	
	comp=Z,70nm,19.1s,baz=90,slow=35						
	comp=Z,1.0nm,0.8s						
WR0	**Warramunga Arr**	**46.81**	**265**	P	**P**	**05 17 11.0**	**-0.7**
WR0				IAmb	IAmb	05 17 15.4	
	comp=Z,3.3nm,0.9s						
WB2	**Warramunga Arr**	**46.98**	**265**	P	**P**	**05 17 11.9**	**-1.1**
WB0	**Warramunga Arr**	**46.99**	**265**	P	**P**	**05 17 11.8**	**-1.3**
WB0				IAmb	IAmb	05 17 23.0	
	comp=Z,3.1nm,0.8s						
WRA	**Warramunga Arr**	**46.99**	**265**	P	**P**	**05 17 11.5**	**-1.6**
WRA	**Warramunga Arr**	**46.99**	**265**	P	**P**	**05 17 11.6**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=92,slow=8.3,SNR=16						
	comp=Z,0.7nm,0.4s						
QSPA	**South Pole Qui**	**66.05**	**180**	P	P	05 19 37.1	+8.9
	comp=Z,1.7nm,0.7s,baz=67,slow=0.5,SNR=9.6						
BELA	**Belgrano 2**	**75.69**	**172**	P	**P**	**05 20 25.7**	**-0.8**
BELA				IAmb	IAmb	05 20 35.9	
	comp=Z,1.2nm,0.7s						
H03S2	**Juan Fernandez**	**81.69**	**123**	T	T	06 52 38.0	
	baz=245,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**81.70**	**123**	T	T	06 52 48.8	
	baz=245,slow=74,SNR=18						
H03S3	**Juan Fernandez**	**81.70**	**123**	T	T	06 52 36.4	
	baz=245,slow=74,SNR=19						
H03N2	**Juan Fernandez**	**81.84**	**123**	T	T	06 52 30.1	
	baz=250,slow=72,SNR=5.7						
H03N3	**Juan Fernandez**	**81.84**	**123**	T	T	06 52 33.3	
	baz=250,slow=72,SNR=5.4						
H03N1	**Juan Fernandez**	**81.85**	**123**	T	T	06 52 57.3	
	baz=250,slow=72,SNR=5.0						
TXAR	**Lajitas Array**	**86.64**	**56**	P	P	05 21 30.9	+5.4
	comp=Z,0.4nm,0.8s,baz=215,slow=7.7,SNR=2.6						
	comp=Z,0.4nm,0.8s						
AKASG	**Malin Array Be**	**147.46**	**331**	PKPbc	**PKiKP**	**05 28 27.8**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=46,slow=2.9,SNR=4.4						
BRTR	**Keskin Array B**	**151.28**	**310**	PKPbc	**PKiKP**	**05 28 38.0**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=112,slow=1.6,SNR=3.3						

IDC 22 05:13:48.1±1.3,24°.54N×127°.40E,h0km,mb3.5/4, mbtmp3.6/5,ML3.3/1,MS3.4/2,Error ellipse: s-maj=54.8km s-min=21.8km az=75.0,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**2.42**	**19**	Pn	Pn	05 14 28.9	0.0
	11nm,0.3s,baz=137,slow=28,SNR=1.6						
JOW				Sn	Sn	05 14 55.8	-3.5
	14nm,0.3s,baz=206,slow=30,SNR=2.0						
	38nm,0.4s						
MKAR	**Makanchi Array**	**42.12**	**313**	P	P	05 21 42.1	0.0
	0.3nm,0.5s,baz=106,slow=8.6,SNR=2.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.73**	**171**	P	P	05 22 03.1	-0.2
	1.8nm,0.7s,baz=352,slow=8.7,SNR=15						
	1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**45.58**	**318**	P	P	05 22 09.5	-0.2
	0.2nm,0.5s,baz=103,slow=8.2,SNR=1.8						
	0.2nm,0.5s						
PALK	**Pallekele**	**47.80**	**257**	LR	LR	05 43 15.2	
	2.29nm,19.2s,baz=152,slow=37						
ASAR	**Alice Springs**	**48.33**	**172**	P	P	05 22 31.5	-0.1
	0.6nm,0.8s,baz=359,slow=9.3,SNR=7.5						
	0.6nm,0.8s						
JMIC	**Jan Mayen**	**79.88**	**347**	LR	LR	06 07 48.4	
	comp=Z,29nm,18.0s,baz=60,slow=41						

RHSSO 22 05:16:11.6±0.2,43°.95N×18°.22E,h4km±3km,ML1.6/9,1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVS	**Nevesinje**	**0.65**	**188**	*eP*g	Pg	05 16 22.8	-1.3
SRKY	**Kupres RS**	**0.77**	**279**	*eP*g	Pg	05 16 25.8	-0.6
SRKY				*eS*g	Sg	05 16 36.5	0.0
BBLS	**Lazići**	**0.86**	**95**	⇑*iP*g	Pg	05 16 26.8	-1.3
BBLS				*eS*g	Sg	05 16 39.4	+0.2
RUDO	**Rudo**	**0.89**	**111**	*eP*g	Pg	05 16 28.4	-0.3
RUDO				*eS*g	Sg	05 16 40.3	0.0
MGRS	**Mrkonjic Grad**	**0.94**	**300**	*eP*g	Pg	05 16 28.4	-1.3
MGRS				*eS*g	Sg	05 16 41.6	-0.4
BLY	**Banja Luka**	**1.09**	**317**	*eP*g	Pg	05 16 31.1	-1.5
BLY				*eS*g	Sg	05 16 47.1	+0.3
TEKS	**Tekeris**	**1.11**	**57**	*eP*g	Pg	05 16 31.7	-1.3
TEKS				*eS*g	Sg	05 16 46.3	-1.1
STON	**Ston**	**1.14**	**200**	*eP*g	Pg	05 16 32.3	-1.1
STON				*eS*g	Sg	05 16 47.7	-0.5
DIVS	**Divibare**	**1.28**	**83**	*eP*g	Pg	05 16 34.5	-1.7
DIVS				*eS*g	Sb	05 16 53.1	-0.2
A051A	**Mrakovica**	**1.42**	**319**	*eP*g	Pn	05 16 37.5	-0.8
A051A				*eS*g	Sb	05 16 56.5	-0.8
SJES	**Sjenica**	**1.44**	**118**	*eS*g	Sb	05 16 57.6	-0.3
FRGS	**Fruska Gora**	**1.66**	**43**	*eP*n	Pn	05 16 40.6	-0.9
FRGS				*eS*n	Sn	05 17 03.6	+0.3

PDG 22 05:17:04.8±0.0,42°.39N×19°.44E,h17km,ML1.6/11,3D, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.14**	**287**	*eP*g	Pg	05 17 08.7	-0.1
PDG				*i* Sg	Sb	05 17 11.9	0.0
DRME	**Dracevica, Mon**	**0.28**	**224**	*eP*g	Pg	05 17 10.7	-0.2
DRME				*i* Sg	Sb	05 17 15.5	-0.3
BUM	**Brajici-Budva**	**0.42**	**258**	⇓*iP*g	Pg	05 17 12.9	-0.4
BUM				*i* Sg	Sb	05 17 19.8	0.0
CEME	**Cevo**	**0.42**	**292**	⇓*iP*g	Pg	05 17 13.0	-0.4
CEME				*i* Sg	Sb	05 17 19.9	0.0
PVY	**Plav**	**0.43**	**61**	*eP*g	Pg	05 17 13.3	-0.4
PVY				*i* Sg	Sb	05 17 20.5	+0.1
ULC	**Ulcinj**	**0.45**	**199**	*eP*g	Pg	05 17 13.5	-0.4
ULC				*i* Sg	Sb	05 17 20.7	0.0
NKME	**Niksic**	**0.52**	**317**	*eP*g	Pg	05 17 14.8	-0.5
NKME				*i* Sg	Sb	05 17 23.3	+0.4
IVA	**Berane**	**0.59**	**34**	*eP*g	Pg	05 17 15.9	-0.6
IVA				*i* Sg	Sb	05 17 25.4	+0.6
HCY	**Herceg Novi**	**0.70**	**275**	⇓*iP*g	Pg	05 17 18.1	-0.5
HCY				*i* Sg	Sb	05 17 29.3	+1.2
BRY	**Bratogost**	**0.84**	**308**	*eP*g	Pb	05 17 20.6	-0.5
BRY				*i* Sg	Sn	05 17 33.9	-0.2
UPM	**Unac-Piva**	**0.91**	**334**	*eP*g	Pb	05 17 21.7	-0.5
UPM				*i* Sg	Sn	05 17 36.1	+0.3
DBRK	**Dubrovnik**	**1.00**	**287**	*eP*g	Pg	05 17 24.1	0.0
DBRK				Sg	Sn	05 17 40.2	+2.4
STON	**Ston**	**1.37**	**291**	*eP*g	Pb	05 17 30.3	+0.3
STON				Sg	Sg	05 17 50.8	+1.7

IDC ***22*** *05:36:02.5±1.2,36°.98N×27°.66E,h0km,mb3.8/3, mbtmp3.8/7,ML4.0/4, Error ellipse: s-maj=22.8km s-min=14.6km az=148.0*

AFAD ***22*** *05:36:03.2±0.0,37°.00N×27°.64E,h13km±1km,MW3.5*

THE ***22*** *05:36:03.4,37°.00N×27°.67E,h1km±1km,ML3.4/7, Error ellipse: s-maj=1.3km s-min=0.6km az=114.0*

ISK ***22*** *05:36:03.4,37°.01N×27°.66E,h5km,ML3.6/21*

ATH ***22*** *05:36:05.0,37°.08N×27°.55E,h1km±5km,ML3.2/7, Manual Solution by D.Makaris First location: 2019/04/22 05:45:32, This location: 2020/01/02 17:32:25 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km*

ISC 22 05:36:03.7±0.8,37°.00N±0°.01×27°.66E±0°.01,h12km±5km, n80,σ0°94/124,mb3.7/3,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.07**	**93**	Pg	**Pg**	**05 36 05.7**	**-0.4**
RFTAA				Sg	**Sg**	**05 36 07.2**	**-0.7**
BDRM	**Kayabasi**	**0.18**	**290**	P	**Pg**	**05 36 07.7**	**-0.1**
BDRM				S	**Sg**	**05 36 10.5**	**-0.2**
RFTC	**Emecik-Datca**	**0.26**	**151**	Pg	**Pg**	**05 36 08.9**	**-0.1**
RFTC				Sg	**Sg**	**05 36 13.3**	**+0.8**
DAT	**Datca**	**0.28**	**194**	Pg	**Pg**	**05 36 09.6**	**0.0**
DAT				Sg	**Sb**	**05 36 14.4**	**-1.1**
DAT	**Datca**	**0.28**	**194**	P	**Pg**	**05 36 09.5**	**0.0**
DAT				S	**Sg**	**05 36 13.9**	**+0.5**
DAT	**Datca**	**0.28**	**194**	P	**Pg**	**05 36 09.5**	**0.0**
DAT				S	**Sg**	**05 36 12.7**	**-0.7**
BODT	**Bodrum**	**0.29**	**282**	Pg	**Pg**	**05 36 09.5**	**-0.1**
BODT				Sg	**Sg**	**05 36 14.2**	**+0.7**
BODT	**Bodrum**	**0.29**	**282**	P	**Pg**	**05 36 09.5**	**-0.1**
BODT				S	**Sg**	**05 36 13.9**	**+0.4**
MLSB	**Milas**	**0.31**	**18**	Pg	**Pg**	**05 36 09.8**	**-0.2**
MLSB				Sg	**Sg**	**05 36 14.3**	**+0.1**
RFTB	**Kemer-Bodrum**	**0.31**	**263**	Pg	**Pg**	**05 36 09.9**	**-0.1**
RFTB				Sg	**Sb**	**05 36 15.4**	**-0.9**
RFTD	**Palamutbuku-Ka**	**0.34**	**202**	Pg	**Pg**	**05 36 10.7**	**+0.1**
RFTD				Sg	**Sb**	**05 36 16.6**	**-0.6**
YER	**Yerkesik**	**0.52**	**75**	Pg	**Pg**	**05 36 13.7**	**-0.1**
YER				Sg	**Sg**	**05 36 21.6**	**+0.9**
YER	**Yerkesik**	**0.52**	**75**	P	**Pg**	**05 36 13.7**	**-0.1**
YER				S	**Sg**	**05 36 20.8**	**+0.1**
TURN	**Turunc**	**0.52**	**116**	Pg	**Pg**	**05 36 13.5**	**-0.3**
TURN	**Turunc**	**0.52**	**116**	P	**Pg**	**05 36 13.4**	**-0.4**
TURN				S	**Sg**	**05 36 18.9**	**-1.8**
KLNA	**Kalymnos**	**0.55**	**266**	P	**Pg**	**05 36 14.4**	**0.0**
KLNA				S	**Sg**	**05 36 20.3**	**-1.4**
NIS1	**Nisyros Isl.**	**0.56**	**224**	Pg	**Pg**	**05 36 14.6**	**+0.1**
NIS1	**Nisyros Isl.**	**0.56**	**224**	P	**Pg**	**05 36 14.6**	**+0.1**
NIS1				S	**Sb**	**05 36 23.5**	**+0.2**
	7μm,0.3s						
DDIM	**Aydin, Didim**	**0.56**	**324**	P	**Pg**	**05 36 14.3**	**-0.4**
DDIM				S	**Sg**	**05 36 21.8**	**-0.4**
NISR	**Nisiros**	**0.58**	**228**	P	**Pb**	**05 36 15.4**	**-0.3**
NISR				S	**Sb**	**05 36 23.6**	**-0.3**
	3μm,0.5s						
MULA	**Mugla, Merkez-**	**0.59**	**64**	P	**Pg**	**05 36 15.2**	**0.0**
MULA				S	**Sg**	**05 36 20.9**	**-2.0**
KOSK	**Kos Island**	**0.60**	**246**	Pg	**Pg**	**05 36 15.4**	**0.0**
KOSK	**Kos Island**	**0.60**	**246**	P	**Pg**	**05 36 14.7**	**-0.7**
KOSK				S	**Sb**	**05 36 23.6**	**-0.9**
AYDN	**Tasoluk**	**0.68**	**15**	P	**Pg**	**05 36 16.8**	**-0.1**
AYDN				S	**Sg**	**05 36 25.1**	**-0.8**
RODB	**Rodos**	**0.71**	**141**	P	**Pn**	**05 36 21.1**	**+1.5**
RODB				S	**Sn**	**05 36 30.9**	**+0.4**
GCAM	**G?zelcaml?**	**0.78**	**334**	Pg	**Pg**	**05 36 18.4**	**-0.3**
GCAM				Sg	**Sb**	**05 36 30.1**	**+0.5**
GCAM	**G?zelcaml?**	**0.78**	**334**	P	**Pg**	**05 36 17.9**	**-0.8**
GCAM				S	**Sg**	**05 36 28.0**	**-0.9**
DALY	**Dalyan (Mula)**	**0.82**	**103**	Pg	**Pg**	**05 36 19.4**	**-0.1**
ARG	**Arkhangelos**	**0.87**	**154**	Pg	**Pb**	**05 36 20.7**	**0.0**
ARG	**Arkhangelos**	**0.87**	**154**	P	**Pg**	**05 36 20.1**	**-0.4**
ARG				S	**Sn**	**05 36 34.1**	**-0.2**
	4μm,0.4s						
ARG	**Arkhangelos**	**0.87**	**154**	P	**Pg**	**05 36 20.3**	**-0.1**
SMG	**Samos**	**0.96**	**317**	P	**Pb**	**05 36 21.4**	**-1.0**
SMG				S	**Sn**	**05 36 36.4**	**-0.4**
	2μm,0.5s						
SMG	**Samos**	**0.96**	**317**	P	**Pb**	**05 36 21.4**	**-1.0**
TAVA	**DENIZLI_Tavas**	**1.10**	**65**	P	**Pb**	**05 36 24.4**	**-0.3**
TAVA				S	**Sb**	**05 36 37.5**	**-1.6**
IZMR	**zmir-demi**	**1.16**	**11**	P	**Pb**	**05 36 25.2**	**-0.4**
IZMR				S	**Sb**	**05 36 39.6**	**-1.0**
FETY	**Fethiye**	**1.20**	**107**	Pn	**Pg**	**05 36 26.8**	**+0.1**
DGB	**zmir**	**1.22**	**330**	P	**Pn**	**05 36 26.3**	**-0.3**
DGB				S	**Sb**	**05 36 40.7**	**-1.6**
DNIZ	**Denizli-Tavas-**	**1.26**	**60**	P	**Pn**	**05 36 27.3**	**0.0**
DNIZ				S	**Sb**	**05 36 43.0**	**-0.8**
CAME	**Cameli-Denizli**	**1.32**	**92**	Pn	**Pg**	**05 36 28.8**	**-0.2**
CAEL	**Denizli, Camel**	**1.33**	**84**	P	**Pg**	**05 36 29.5**	**+0.1**
IZZE	**Mula-Seydike**	**1.38**	**114**	P	**Pb**	**05 36 29.7**	**+0.3**
IZZE				S	**Sg**	**05 36 49.0**	**+0.9**
APMY	**Acipayam-Deniz**	**1.39**	**70**	Pn	**Pg**	**05 36 30.2**	**-0.2**
KARP	**Karpathos**	**1.51**	**196**	Pn	**Pb**	**05 36 31.8**	**+0.2**
KARP	**Karpathos**	**1.51**	**196**	P	**Pn**	**05 36 30.4**	**-0.2**
KARP				S	**Sb**	**05 36 50.2**	**-0.5**
	975nm,0.5s						
GOLH	**Golhisar**	**1.54**	**81**	P	**Pg**	**05 36 33.3**	**+0.1**
GOLH				S	**Sn**	**05 36 50.3**	**-0.8**
ZEYE	**Izmir, Urla-Ze**	**1.54**	**324**	P	**Pn**	**05 36 30.2**	**-0.8**
ZEYE				S	**Sn**	**05 36 50.1**	**-0.9**
URLA	**Izmir**	**1.60**	**328**	Pn	**Pb**	**05 36 32.7**	**-0.5**
URLA	**Izmir**	**1.60**	**328**	P	**Pb**	**05 36 33.1**	**-0.1**
URLA				S	**Sb**	**05 36 54.1**	**+0.8**
MANT	**Manisa**	**1.65**	**25**	P	**Pn**	**05 36 32.0**	**-0.7**
MANT				S	**Sn**	**05 36 52.8**	**-1.1**
APE	**Apeiranthos**	**1.71**	**273**	P	**Pn**	**05 36 33.1**	**-0.2**
APE	**Apeiranthos**	**1.71**	**273**	P	**Pn**	**05 36 33.0**	**-0.2**
KULA	**Kula-Manisa**	**1.71**	**27**

s-maj=52.8km s-min=14.4km az=50.0, Greenland sea, Arctic Ocean

IEPN ***22*** *06:01:36.0, 79°.96N×0°.01E, h10km*

ISC 22 06:01:30.8±0.9, **80°.10N**±0°.06×**0°.88W**±0°.04, **h10km, n38,** σ2=52/66, **4C, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.62**	**110**	Pn	**Pn**	**06 02 13.5**	**+0.4**
KBS				Sn	**Sn**	**06 02 41.3**	**-3.6**
KBS	**Kingsbay**	**2.62**	**110**	⇑*i*P	**Pn**	**06 02 13.5**	**+0.4**
KBS				*e*S	**Sn**	**06 02 40.9**	**-4.0**
KBS	**Kingsbay**	**2.62**	**110**	P	**Pn**	**06 02 13.3**	**+0.3**
KBS				S	**Sn**	**06 02 41.3**	**-3.6**
KBS	**Kingsbay**	**2.62**	**110**	⇑*i*P	**Pn**	**06 02 13.5**	**+0.4**
KBS				*e*S	**Sn**	**06 02 41.7**	**-3.1**
KBS				IAML		06 02 48.9	
	comp=Z,44nm,0.5s						
KBS	**Kingsbay**	**2.62**	**110**	⇑*i*P	**Pn**	**06 02 13.5**	**+0.4**
KBS				*e*S	**Sn**	**06 02 40.2**	**-4.7**
NOR	**Nord**	**2.93**	**308**	Pn	**Pn**	**06 02 17.9**	**+0.5**
NOR				Sn	**Sn**	**06 02 49.3**	**-3.2**
NOR	**Nord**	**2.93**	**308**	*e*P	**Pn**	**06 02 18.0**	**+0.7**
NOR				*e*S	**Sn**	**06 02 49.5**	**-3.0**
NOR	**Nord**	**2.93**	**308**	*i*P	**Pn**	**06 02 18.1**	**+0.8**
NOR				IAML		06 02 25.5	
	comp=Z,2.3nm,0.3s						
NOR				*e*S	**Sn**	**06 02 50.2**	**-2.3**
BRBB	**Barentsburg B**	**3.49**	**118**	Pn	**Pn**	**06 02 27.3**	**+2.3**
BRBB				Sn	**Sn**	**06 03 07.0**	**+0.6**
BRBB	**Barentsburg B**	**3.49**	**118**	P	**Pn**	**06 02 27.5**	**+2.5**
BRBB				S	**Sn**	**06 03 05.5**	**-0.9**
BRBB	**Barentsburg B**	**3.49**	**118**	*e*P	**Pn**	**06 02 27.6**	**+2.5**
BRBB				*e*S	**Sn**	**06 03 06.3**	**0.0**
BRBA	**Barentsburg A**	**3.52**	**118**	Pn	**Pn**	**06 02 27.4**	**+2.1**
BRBA				Sn	**Sn**	**06 03 07.5**	**+0.6**
BRBA	**Barentsburg A**	**3.52**	**118**	*e*P	**Pn**	**06 02 28.3**	**+2.9**
BRBA				*e*S	**Sn**	**06 03 05.7**	**-1.2**
BRBA				IAML		06 03 10.1	
	comp=Z,29nm,0.4s						
SPA0	**Spitsbergen Ar**	**3.78**	**112**	Pn	**Pn**	**06 02 30.3**	**+1.3**
	baz=315,slow=7.9						
SPA0				Sn	**Sn**	**06 03 10.6**	**-2.8**
	baz=336,slow=16						
SPA0	**Spitsbergen Ar**	**3.78**	**112**	⇑*i*P	**Pn**	**06 02 30.1**	**+1.1**
SPA0				*i*S	**Sn**	**06 03 10.4**	**-3.0**
SPA0	**Spitsbergen Ar**	**3.78**	**112**	Pn	**Pn**	**06 02 30.3**	**+1.3**
	baz=315,slow=7.9						
SPA0				Sn	**Sn**	**06 03 10.6**	**-2.8**
	baz=336,slow=16						
SPITS	**Spitsbergen Ar**	**3.78**	**112**	P	**Pn**	**06 02 27.2**	**-1.8**
SPITS				S	Sn	06 03 07.5	-5.9
HSPB	**Hornsund (broa**	**4.49**	**125**	Pn	**Pn**	**06 02 40.9**	**+2.1**
HSPB				Sn	**Sn**	**06 03 31.2**	**+0.2**
HSPB	**Hornsund (broa**	**4.49**	**125**	*e*P	**Pn**	**06 02 40.4**	**+1.6**
HSPB				*e*S	**Sn**	**06 03 27.8**	**-3.1**
HSPB	**Hornsund (broa**	**4.49**	**125**	P	**Pn**	**06 02 40.6**	**+1.9**
HSPB				S	**Sn**	**06 03 30.1**	**-0.9**
HSPB	**Hornsund (broa**	**4.49**	**125**	*e*P	**Pn**	**06 02 40.7**	**+2.0**
HSPB				*e*S	**Sn**	**06 03 29.5**	**-1.5**
HSPB				IAML		06 03 35.6	
	comp=Z,30nm,0.6s						
DAG	**Danmarks Havn**	**4.87**	**236**	*e*P	**Pn**	**06 02 45.4**	**+1.6**
DAG				*e*S	**Sn**	**06 03 36.5**	**-3.7**
DAG	**Danmarks Havn**	**4.87**	**236**	*e*	**Pn**	**06 02 45.1**	**+1.2**
	baz=53,slow=12						
DAG				*i*P	**Pn**	**06 02 45.5**	**+1.6**
DAG				*i*S	**Sn**	**06 03 36.9**	**-3.3**
DAG				IAML		06 03 42.8	
	comp=Z,33nm,0.4s						
HOPEN	**Hopen**	**6.31**	**111**	Pn	**Pn**	**06 03 04.3**	**+0.6**
HOPEN				Sn	**Sn**	**06 04 11.1**	**-4.7**
HOPEN	**Hopen**	**6.31**	**111**	*e*P	**Pn**	**06 03 04.1**	**+0.4**
HOPEN				*e*S	Sn	06 04 09.2	-6.5
HOPEN	**Hopen**	**6.31**	**111**	*e*P	**Pn**	**06 03 04.4**	**+0.7**
HOPEN				*e*S	**Sn**	**06 04 11.0**	**-4.7**
HOPEN				IAML		06 04 14.7	
	comp=Z,17nm,0.6s						
DBG	**Daneborg**	**7.17**	**226**	Pn	**Pn**	**06 03 18.0**	**+2.5**
DBG				Sn	**Sn**	**06 04 31.9**	**-4.9**
DBG	**Daneborg**	**7.17**	**226**	*e*P	**Pn**	**06 03 18.0**	**+2.5**
DBG				*e*S	Sn	06 04 30.5	-6.3
DBG	**Daneborg**	**7.17**	**226**	*i*P	**Pn**	**06 03 17.0**	**+1.6**
DBG				*i*S	**Sn**	**06 04 32.5**	**-4.3**
DBG				IAML		06 04 37.2	
	comp=Z,18nm,0.3s						
ZFI2	**Zemlya Franca-**	**7.89**	**61**	*e*P	**Pn**	**06 03 25.4**	**0.0**
ZFI2				S	Sn	06 04 46.8	-7.7
	comp=Z,23nm,2.6s						
OMEGA	**Omega**	**7.92**	**61**	*e*P	**Pn**	**06 03 25.7**	**+0.1**
OMEGA				*e*S	Sn	06 04 46.6	-8.4
	comp=Z,23nm,2.1s						
NEEM	**North Greenlan**	**9.84**	**280**	*e*P	**Pn**	**06 03 51.3**	**-0.9**
NEEM				*i*S	Sn	06 05 35.0	-7.7
NEEM				IAML		06 05 43.5	
	comp=Z,6.3nm,0.4s						
SUMG	**Summit**	**11.34**	**249**	*i*P	**Pn**	**06 04 13.0**	**+0.1**
SUMG				*e*S	Sn	06 06 12.8	-6.8
SUMG				IAML		06 06 22.5	
	comp=Z,2.8nm,0.3s						
ARA0	**ARCESS Array S**	**12.44**	**133**	Pn	**Pn**	**06 04 30.2**	**+2.6**
	baz=345,slow=14						
ARA0				Sn	**Sn**	**06 06 41.7**	**-4.3**
	baz=357,slow=22						
ARA0	**ARCESS Array S**	**12.44**	**133**	Pn	**Pn**	**06 04 30.2**	**+2.6**
	baz=345,slow=14						
ARA0				Sn	**Sn**	**06 06 41.7**	**-4.3**
	baz=357,slow=22						
ARCES	**ARCESS Array B**	**12.44**	**133**	Pn	**Pn**	**06 04 30.2**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=340,slow=13,SNR=7.1						
	comp=Z,3.8nm,1.0s						
FINES	**FINESS Array B**	**20.30**	**141**	P	Pn	06 06 10.5	+2.3
	comp=Z,1.2nm,0.9s,baz=354,slow=10,SNR=4.5						
	comp=Z,1.2nm,0.9s						
MKAR	**Makanchi Array**	**43.13**	**86**	P	**P**	**06 09 34.9**	**+4.1**
	comp=Z,0.6nm,0.7s,baz=337,slow=6.8,SNR=5.3						
	comp=Z,0.6nm,0.7s						

IDC ***22*** *06:05:11.0±0.4, 6°.03S×30°.66E, h0km, mb4.4/28, mbtmp4.5/30, ML2.9/1, MS4.5/64, Error ellipse: s-maj=16.5km s-min=10.8km az=95.0*

MOS ***22*** *06:05:11.5±1.1, 6°.12S×30°.71E, h17km, mb5.1/45, MS4.5/8, Error ellipse: s-maj=10.9km s-min=4.7km az=81.2*

BJI ***22*** *06:05:12.8±0.0, 6°.64S×30°.56E, h30km, mb4.8/40, mB5.7/15, Ms5.3/11, Ms7 4.7/11*

LSZ ***22*** *06:05:12.1±0.3, 5°.86S×31°.06E, h26km, MD4.8*

NEIC ***22*** *06:05:13.0±1.0, 6°.09S±0°.06×30°.74E±0°.09, h10km±1km, mb5.2/74, Ms_20 4.7/44, Mww5.1/12, Error ellipse: s-maj=15.6km s-min=10.5km az=285.0*

NEIC ***22*** *06:05:13, 6°.09S×30°.75E, h22km*

NEIC ***22*** *06:05:13, 6°.29S×30°.65E, h22km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^16^Nm; Mrr=2.94; Mθθ=2.95; Mφφ=5.89; Mrθ=2.32; Mφθ=-1.52; Mφr=3.11; Fault plane solution: M0=6.56000×10^16^ NP1: φs=204.71000°, δ=72.05000°, λ=-48.07000°. NP2: φs=313.65000°, δ=44.95000°, λ=-154.14000°. Principal axes: T 6.9380, Plg=16.0000°, Azm=265.0000°; N -0.7636, Plg=39.0000°, Azm=9.0000°; P -6.1744, Plg=46.0000°, Azm=157.0000°;*

GCMT ***22*** *06:05:16.0±0.2, 6°.05S±0°.01×30°.55E±0°.01, h27km, MW5.2/121, Moment Tensor Solution. s71,c99; s121,c196; Duration: 1s0 Moment tensor: Scale 10^17^ Nm; Mrr=0.35±.02; Mθθ=0.49±.01; Mφφ=0.83±.02; Mrθ=0.22±.03; Mφφ=-0.17±.01; Mφr=0.48±.04; Best double couple: M0=0.89300×10^17^ NP1:φs=207.00000°, δ=76.00000°, λ=-47.00000°. NP2:φs=312.00000°, δ=45.00000°, λ=-160.00000°. Principal axes: T 1.0140, Plg=19.0000°, Azm=266.0000°; N -0.2410, Plg=42.0000°, Azm=14.0000°; P -0.7720, Plg=42.0000°, Azm=158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

EAF ***22*** *06:05:18.2, 7°.05S×31°.84E, h0km*

BGR ***22*** *06:05:23.2, 4°.84S×31°.56E, h10km, mb5.3, Ms4.3*

ISC 22 06:05:12.4±0.2, **6°.18S**±0°.03×**30°.74E**±0°.04, **h10km, n558,** σ2=53/464, **mb5.2**/162, **MS4.6**/90, **38C-37D, Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMZ	**Kasama**	**4.00**	**173**	*i*P	**Pn**	**06 06 15.8**	**+1.9**
KSMZ				*i*		06 06 15.9	
	baz=358,slow=10						
KSMZ				*i*S	**Sn**	**06 07 02.3**	**+1.3**
KSMZ				*i*Sg	**Sg**	**06 07 19.4**	**-1.6**
DODT	**Dodoma, Tanzan**	**4.99**	**90**	*i*P	**Pn**	**06 06 26.8**	**-0.7**
DODT				*i*S	**Sn**	**06 07 23.6**	**-1.8**
MBAR	**Mbarara**	**5.54**	**0**	*e*P	**Pn**	**06 06 35.0**	**-0.2**
MBAR	**Mbarara**	**5.54**	**0**	P	**Pn**	**06 06 35.3**	**+0.1**
MBAR	**Mbarara**	**5.54**	**0**	*e*P	**Pn**	**06 06 34.2**	**-0.9**
MBAR				*e*S	**Sn**	**06 07 39.7**	**+0.6**
MBAR	**Mbarara**	**5.54**	**0**	Pn	**Pn**	**06 06 34.9**	**-0.2**
	683nm,0.3s,baz=183,slow=22,SNR=539						
MBAR				Sn	**Sn**	**06 07 35.8**	**-3.3**
	2μm,0.3s,baz=145,slow=18,SNR=3.8						
MBAR				Lg	Lg	06 07 57.4	
	2μm,0.3s,baz=150,slow=23,SNR=9.7						
MBAR				LR	LR	06 08 49.0	
	comp=Z,5μm,18.9s,baz=166,slow=40						
MBAR	**Mbarara**	**5.54**	**0**	*e*P	**Pn**	**06 06 35.1**	**-0.1**
MBAR	**Mbarara**	**5.54**	**0**	*e*S	**Sb**	**06 07 58.0**	**+1.9**
MBAR	**Mbarara**	**5.54**	**0**	*e*S	**Pg**	**06 07 00.9**	**+2.2**
NAKD	**Nakauka**	**6.53**	**15**	*e*P	**Pn**	**06 06 47.5**	**-1.2**
NAKD	**Nakauka**	**6.53**	**15**	*e*S	**Sn**	**06 07 58.1**	**-5.4**
I32KE	**NAIROBI INFRAS**	**7.81**	**51**	Pn	**Pn**	**06 07 09.2**	**+2.8**
	baz=239,slow=42						
I32KE				I	I	06 52 20.0	
	baz=241,slow=345,SNR=0.7						
KMBO	**Kilima Mbogo**	**8.21**	**53**		**Pn**	**06 07 10.9**	**-1.1**
KMBO	**Kilima Mbogo**	**8.21**	**53**	*e*P	**Pn**	**06 07 15.7**	**+3.7**
KMBO				*e*S	**Sn**	**06 08 39.2**	**-5.9**
KMBO	**Kilima Mbogo**	**8.21**	**53**	*e*P	**Pn**	**06 07 12.8**	**+0.8**
KMBO				*e*S	**Sn**	**06 08 37.5**	**-7.6**
KMBO	**Kilima Mbogo**	**8.21**	**53**	P	**Pn**	**06 07 10.9**	**-1.1**
KMBO	**Kilima Mbogo**	**8.21**	**53**	*e*P	**Pn**	**06 07 15.7**	**+3.7**
	baz=67						
KMBO				*e*S	**Sn**	**06 08 39.2**	**-5.9**
	baz=67						
KIBK	**Kibwezi**	**8.23**	**63**	Pn	**Pn**	**06 07 11.1**	**-0.9**
KIBK	**Kibwezi**	**8.23**	**63**	P	**Pn**	**06 07 13.6**	**+1.6**
	SNR=35						
LSZ	**Lusaka**	**9.38**	**195**	Pn	**Pn**	**06 07 28.5**	**+0.5**
LSZ	**Lusaka**	**9.38**	**195**	Pn	**Pn**	**06 07 28.9**	**+1.0**
	25nm,0.3s,baz=20,slow=14,SNR=31						
LSZ				Sn	**Sn**	**06 09 05.1**	**-8.6**
	16nm,0.3s,baz=94,slow=14,SNR=1.7						
LSZ				Lg	Lg	06 10 01.5	
	67nm,0.3s,baz=119,slow=23,SNR=14						
LSZ				LR	LR	06 11 23.1	
	comp=Z,2μm,19.7s,baz=24,slow=39						
LODK	**Lodwar**	**10.60**	**26**	Pn	**Pn**	**06 07 40.9**	**-3.6**
MUSN	**Musina, Limpop**	**16.04**	**183**	*i*P	**Pn**	**06 08 54.1**	**-4.2**
MUSN				*i*S	**Sn**	**06 11 46.4**	**-10**
MUSN	**Musina, Limpop**	**16.04**	**183**	*e*P	**Pn**	**06 08 54.3**	**-4.0**
MUSN				IAML		06 09 04.2	
	comp=Z,63nm,0.7s						
MUSN	**Musina, Limpop**	**16.04**	**183**	*i*P	**Pn**	**06 08 54.1**	**-4.2**
	baz=187						
MUSN				*i*S	**Sn**	**06 11 46.4**	**-10**
	baz=187						
MPHEP	**Siloam, Limpop**	**16.64**	**182**	*e*P	**Pn**	**06 09 02.0**	**-4.0**
FURI	**Furi**	**16.94**	**28**		**Pn**	**06 09 10.3**	**+0.2**
FURI	**Furi**	**16.94**	**28**	*e*P	Pn	06 08 58.2	-12
FURI				IAMs_20	IAMs_20	06 14 54.9	
	comp=Z,10μm,11.1s						
FURI	**Furi**	**16.94**	**28**	*e*P	Pn	06 08 58.2	-12
	baz=34						
FURI				IAMs_20	IAMs_20	06 14 54.9	
	comp=Z,10μm,11.1s,baz=34						
MOPA	**Mopani**	**17.25**	**178**	*i*P	**Pn**	**06 09 10.0**	**-3.6**
MOPA	**Mopani**	**17.25**	**178**	*e*P	**Pn**	**06 09 10.0**	**-3.6**
MOPA	**Mopani**	**17.25**	**178**	*i*P	**Pn**	**06 09 10.0**	**-3.6**
	baz=181						
LEPH	**Lephalale, Lim**	**17.80**	**189**	*e*P	**Pn**	**06 09 17.4**	**-3.1**
LEPH				IAmb	IAmb	06 09 23.0	
	comp=Z,550nm,1.7s						
WTBG	**Waterberg Wild**	**18.02**	**185**	*e*P	**P**	**06 09 23.7**	**-0.1**
HOED	**Hoedspruit, Li**	**18.13**	**179**	*e*P	**Pn**	**06 09 23.7**	**-0.9**
TSUM	**Tsumeb**	**18.21**	**223**		**Pn**	**06 09 22.6**	**-3.0**
TSUM	**Tsumeb**	**18.21**	**223**	P	**Pn**	**06 09 24.1**	**-1.5**
	comp=Z,2.0nm,0.3s,baz=33,slow=13,SNR=16						
TSUM				S	Sn	06 12 32.4	-17
	comp=Z,90nm,0.9s,baz=316,slow=17,SNR=3.6						
TSUM				Lg	Lg	06 14 31.0	
	baz=291,slow=22						
	comp=Z,28nm,0.8s						
PILG	**Pilgrimsrest,**	**18.65**	**180**	*e*P	**Pn**	**06 09 34.5**	**+3.4**
DULL	**Dullstroom, Mp**	**19.09**	**182**	*e*P	**Pn**	**06 09 36.3**	**-0.1**
LBTB	**Lobatse**	**19.37**	**194**	P	**P**	**06 09 38.7**	**+0.2**
LBTB	**Lobatse**	**19.37**	**194**	*i*P	**Pn**	**06 09 40.3**	**+0.7**
LBTB	**Lobatse**	**19.37**	**194**	⇓*i*P	**P**	**06 09 38.8**	**+0.3**
LBTB				IAmb	IAmb	06 10 03.4	
	comp=Z,45nm,0.8s						
LBTB	**Lobatse**	**19.37**	**194**	P	**P**	**06 09 38.7**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,60nm,1.0s						
LBTB	**Lobatse**	**19.37**	**194**	*i*P	**Pn**	**06 09 40.3**	**+0.7**
	baz=198						
CRLN	**Carolina, Mapu**	**19.72**	**182**	*e*P	**Pn**	**06 09 43.2**	**-0.7**
CRLN				IAmb	IAmb	06 09 46.8	
	comp=Z,74nm,1.1s						
MMAL	**MMAL**	**19.77**	**179**	*e*P	**Pn**	**06 09 45.4**	**+1.1**
OPO	**Ambohidratompo**	**20.22**	**129**	P	Pn	06 09 50.9	+1.0
	comp=Z,41nm,1.2s,baz=301,slow=12,SNR=13						
OPO				S	Sn	06 13 43.2	+5.4
	comp=Z,7.5nm,0.8s,baz=245,slow=11,SNR=1.8						
OPO				LR	LR	06 16 30.9	
	comp=Z,2μm,20.2s,baz=180,slow=33						
	comp=Z,41nm,1.2s						
SBV	**Sambava**	**20.23**	**112**	P	Pn	06 09 56.7	+6.8
WDLM	**Western Deep L**	**20.38**	**189**	*e*P	**P**	**06 09 50.5**	**+0.9**
ABPO	**Ambohimpanom**	**20.51**	**130**		**P**	**06 09 51.6**	**+0.5**
ABPO	**Ambohimpanom**	**20.51**	**130**	IAMs_20	IAMs_20	06 17 29.9	
	comp=Z,2μm,18.0s						
ABPO	**Ambohimpanom**	**20.51**	**130**	P	**P**	**06 09 51.6**	**+0.5**
ABPO				pmax	pmax		
	comp=Z,119nm,1.3s						
ABPO				MLR	MLR		
	comp=Z,2μm,18.0s						
TEND	**Ethiopian Broa**	**20.57**	**30**	*e*P	**P**	**06 09 47.3**	**-4.3**
	baz=34						
PRYS	**Parys**	**20.88**	**188**	*e*P	Pn	06 09 57.9	+0.3
WIN	**Windhoek**	**20.94**	**218**	P	**P**	**06 09 55.6**	**-0.3**
WIN				IAMs_20	IAMs_20	06 17 42.0	
	comp=Z,5μm,18.0s						
WIN	**Windhoek**	**20.94**	**218**	*i*P	**S**	**06 13 57.9**	**+8.4**
WIN	**Windhoek**	**20.94**	**218**	P	**P**	**06 09 55.6**	**-0.3**
WIN				pmax	pmax		
	comp=Z,42nm,0.8s						
WIN				MLR	MLR		
	comp=Z,4μm,18.0s						
POGA	**Pongola**	**21.07**	**178**	P	**P**	**06 09 56.8**	**-0.2**
ATD	**Arta Tunnel**	**21.32**	**34**	P	**P**	**06 09 59.1**	**-0.7**
ATD				IAmb	IAmb	06 10 12.3	
	comp=Z,166nm,1.9s						
ATD	**Arta Tunnel**	**21.32**	**34**	*e*P	**P**	**06 10 00.4**	**+0.6**
ATD	**Arta Tunnel**	**21.32**	**34**	P	**P**	**06 10 04.1**	**+4.3**
	SNR=6.1						
ATD	**Arta Tunnel**	**21.32**	**34**	P	**P**	**06 09 59.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=272,slow=23,SNR=1.8						
ATD				Lg	Lg	06 16 13.8	
	baz=258,slow=22,SNR=1.7						
ATD				LR	LR	06 18 46.5	
	comp=Z,19nm,18.0s,baz=204,slow=38						
ATD	**Arta Tunnel**	**21.32**	**34**	*e*P	**P**	**06 10 00.4**	**+0.6**
	baz=39						
VOI	**Vohitsoka**	**22.03**	**137**	P	**P**	**06 10 07.1**	**-0.4**
VOI				IAMs_20	IAMs_20	06 18 51.4	
	comp=Z,4μm,20.0s						
VOI	**Vohitsoka**	**22.03**	**137**	P	**P**	**06 10 10.0**	**+2.6**
VOI	**Vohitsoka**	**22.03**	**137**	P	**P**	**06 10 08.4**	**+0.9**
	SNR=14						
BOSA	**Boshof**	**22.91**	**192**	P	**P**	**06 10 16.0**	**-0.7**
BOSA				IAmb	IAmb	06 10 18.8	
	comp=Z,98nm,1.1s						
BOSA	**Boshof**	**22.91**	**192**	*i*P	**P**	**06 10 17.8**	**+1.0**
BOSA	**Boshof**	**22.91**	**192**	*e*P	**P**	**06 10 16.6**	**-0.2**
BOSA				IAmb	IAmb	06 10 18.5	
	comp=Z,101nm,1.1s						
BOSA	**Boshof**	**22.91**	**192**	P	**P**	**06 10 16.8**	**+0.1**
	comp=Z,78nm,1.0s,baz=15,slow=11,SNR=43						
BOSA				S	**S**	**06 14 26.3**	**-0.6**
	comp=Z,23nm,0.9s,baz=42,slow=11,SNR=2.3						
BOSA				Lg	Lg	06 17 06.0	
	comp=Z,0.5nm,0.3s,baz=344,slow=4.4,SNR=1.0						
BOSA				LR	LR	06 19 20.5	
	comp=Z,2μm,18.6s,baz=18,slow=37						
	comp=Z,78nm,1.0s						
BOSA	**Boshof**	**22.91**	**192**	*i*P	**P**	**06 10 17.8**	**+1.0**
	baz=195						
ARMS	**Ukamas**	**24.12**	**204**	*i*P	S	06 15 09.9	+23
FOMA	**Nahampoana Res**	**24.32**	**142**	P	**P**	**06 10 30.1**	**-0.3**
FOMA				IAMs_20	IAMs_20	06 19 59.2	
	comp=Z,4μm,20.0s						
AUSN	**Aus**	**24.61**	**212**	*i*P	**S**	**06 14 57.6**	**+3.0**
SUR	**Sutherland**	**27.66**	**198**	P	**P**	**06 11 00.3**	**-0.6**
SUR				IAmb	IAmb	06 11 07.8	
	comp=Z,86nm,1.4s						
SUR	**Sutherland**	**27.66**	**198**	*e*P	**P**	**06 11 05.2**	**+4.3**
SUR	**Sutherland**	**27.66**	**198**	LR	LR	06 22 13.9	
	comp=Z,947nm,20.4s,baz=26,slow=37						
TOA0	**Torodi Ar. Sit**	**34.65**	**304**	P	**P**	**06 12 01.8**	**-0.5**
TOA0				IAmb	IAmb	06 12 20.0	
	comp=Z,33nm,0.9s						
TOA0	**Torodi Ar. Sit**	**34.65**	**304**	P	**P**	**06 12 01.9**	**-0.5**
	SNR=13						
TORD	**Torodi Ar. Bea**	**34.65**	**304**	P	**P**	**06 12 01.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**34.65**	**304**	P	**P**	**06 12 01.5**	**-0.9**
	comp=Z,12nm,0.8s,baz=105,slow=7.7,SNR=66						
TORD				LR	LR	06 27 04.6	
	comp=Z,5μm,18.6s,baz=119,slow=38						
	comp=Z,12nm,0.8s						
EIL	**Elat**	**35.87**	**6**	LR	LR	06 26 06.6	
	comp=Z,313nm,19.0s,baz=244,slow=35						
KIC	**Kosan Boka**	**37.53**	**289**	⇑*e*P	**P**	**06 12 26.0**	**-1.1**
	comp=Z,54nm,0.9s						
GHAJ	**Ghor Haditha**	**37.55**	**7**	IAMs_20	IAMs_20	06 26 56.9	
	comp=Z,1μm,18.0s						
DBIC	**Dimbokro**	**37.74**	**289**	P	**P**	**06 12 28.2**	**-0.6**
DBIC				IAmb	IAmb	06 12 33.6	
	comp=Z,41nm,1.1s						
DBIC	**Dimbokro**	**37.74**	**289**	P	**P**	**06 12 28.3**	**-0.6**
DBIC				pmax	pmax		
	comp=Z,41nm,1.2s						
DBIC	**Dimbokro**	**37.74**	**289**	P	**P**	**06 12 27.9**	**-1.0**
	comp=Z,17nm,0.9s,baz=105,slow=8.8,SNR=8.0						
DBIC				LR	LR	06 28 10.0	
	comp=Z,2μm,18.7s,baz=97,slow=37						
	comp=Z,17nm,0.9s						
LIC	**Lamto**	**37.76**	**288**	⇑*e*P	**P**	**06 12 27.9**	**-1.2**
	comp=Z,56nm,0.8s						
TIC	**Toumodi**	**37.89**	**289**	⇑*e*P	**P**	**06 12 29.1**	**-1.0**
	comp=Z,54nm,0.8s						
ARQ	**Araqi**	**38.67**	**40**	P	**P**	**06 12 38.4**	**+1.8**
	SNR=5.3						
BSY	**Bisya**	**38.69**	**41**	P	**P**	**06 12 38.2**	**+1.4**
	SNR=5.1						
ASUD	**Al Ashush, Dub**	**38.88**	**37**	P	**P**	**06 12 41.7**	**+3.5**
JMDO	**Jabal Madar**	**39.02**	**43**	P	**P**	**06 12 40.1**	**+0.6**
FAQ	**Al Faqa, Dubai**	**39.12**	**37**	P	**P**	**06 12 44.4**	**+4.1**
MMAI	**Mount Meron Ar**	**39.23**	**6**	LR	LR	06 28 22.2	
	comp=Z,711nm,19.3s,baz=158,slow=36						
SOHO	**SOHO**	**39.25**	**39**	P	**P**	**06 12 45.0**	**+3.6**
HOQ	**Hoqain**	**39.35**	**40**	P	P	06 12 47.8	+5.5
	SNR=7.1						
ASHO	**Ashiyiah**	**39.36**	**38**	P	**P**	**06 12 43.4**	**+1.0**
	SNR=10						
SMDO	**Samad**	**39.46**	**42**	P	**P**	**06 12 44.6**	**+1.3**
	SNR=7.3						
HATD	**Hatta, Dubai**	**39.51**	**38**	P	**P**	**06 12 45.6**	**+2.0**
	SNR=12						
UOSS	**Minazif**	**39.64**	**38**	P	**P**	**06 12 43.4**	**-1.3**
UOSS	**Minazif**	**39.64**	**38**	IAMs_20	IAMs_20	06 30 24.7	
	comp=Z,1μm,21.0s						
UOSS	**Minazif**	**39.64**	**38**	P	**P**	**06 12 46.4**	**+1.7**
JLN	**Jalan Bani Buh**	**39.77**	**44**	P	**P**	**06 12 47.0**	**+1.3**
JLN				P	**P**	**06 12 47.0**	**+1.3**
WBK	**Wadi Bani Khal**	**39.77**	**43**	P	**P**	**06 12 48.8**	**+3.0**
BIDO	**Bidbid**	**39.84**	**41**	P	**P**	**06 12 47.8**	**+1.4**
	SNR=12						
BIDO				P	**P**	**06 12 47.8**	**+1.4**
	SNR=12						
MASF	**Masafi**	**39.93**	**37**	P	**P**	**06 12 51.1**	**+4.0**
	SNR=5.0						
MDH	**Madha**	**39.96**	**37**	P	**P**	**06 12 49.1**	**+1.8**
	SNR=13						
WSAR	**Wadi Sarin**	**39.97**	**42**	LR	LR	06 29 01.7	
	comp=Z,926nm,20.5s,baz=234,slow=36						
SHME	**Shamm**	**40.43**	**37**	P	**P**	**06 12 53.7**	**+2.5**
IDI	**Anoyia**	**41.61**	**353**	⇓P	**P**	**06 12 59.1**	**-1.8**
IDI	**Anoyia**	**41.61**	**353**	P	**P**	**06 12 58.3**	**-2.6**
IDI	**Anoyia**	**41.61**	**353**	P	**P**	**06 12 60.0**	**-0.9**
IDI				IAmb	IAmb	06 13 07.0	
	comp=Z,43nm,1.0s						
KARP	**Karpathos**	**41.64**	**356**	P	**P**	**06 12 58.6**	**-2.4**
KARP

CUC	Castrocucco	47.96	345	IAmb	IAmb	06 13 55.9
	comp=Z,18nm,0.9s					
TIR	Tirane	48.33	349	⇑P	P	06 13 54.3 +0.1
TIR	Tirane	48.33	349	P	P	06 13 54.3 +0.1
MATE	Matera	48.35	346	⇓P	P	06 13 55.0 +0.7
PLD	Plovdiv	48.40	354	P	P	06 13 59.7 +5.0
SKO	Skopje	48.67	351	*i* P	P	06 14 02.0 +5.2
FIGM	Figuig	48.79	323	P	P	06 14 04.0 +5.9
DRME	Dracevica, Mon	49.27	349	⇑*i*P	P	06 14 06.3 +4.9
PDG	Podgorica	49.49	349	⇓P	P	06 14 03.5 +0.4
PDG	Podgorica	49.49	349	⇑*i*P	P	06 14 07.4 +4.3
HCY	Herceg Novi	49.66	348	*e*P	P	06 14 09.8 +5.4
MPEP	Malo Peshtene	49.71	353	P	P	06 14 08.7 +4.0
BRY	Bratogost	50.09	348	*e*P	P	06 14 11.6 +3.8
ARF	Arif	50.13	320	P	P	06 14 14.0 +5.7
HRA	Herat	50.14	34	P	P	06 14 07.7 -0.7
SJES	Sjenica	50.17	350	⇑*i*P	P	06 14 12.4 +4.0
ZGR	Zagora	50.18	318	P	P	06 14 14.0 +5.3
ZEI	Tsey	50.18	13	*e*P	P	06 14 08.3 -0.3
ZEI				pmax	pmax	
	comp=Z,20nm,1.2s					
SOC	Sochi	50.19	8	*e*P	P	06 14 06.4 -2.0
SOC				*e*		06 15 59.4
SOC				*e*PPP	PPP	06 16 54.5
SOC				*e*S	S	06 21 18.4 -2.0
SOC				*e*SS	SS	06 24 53.0 -1.1
SOC				*e*SSS	SSS	06 26 15.7
SOC				MLR	MLR	
	comp=Z,201nm,16.0s					
BOVS	Bovan	50.25	351	⇑P	P	06 14 08.3 -0.6
UPM	Unac-Piva	50.31	349	*e*P	P	06 14 15.2 +5.7
INTR	Introdacqua	50.36	344	IAmb	IAmb	06 14 17.5
	comp=Z,72nm,1.6s					
RUDO	Rudo	50.62	349	*e*P	P	06 14 15.0 +3.3
GEYT	Alibeck	50.75	28	P	P	06 14 12.3 -0.5
GEYT	Alibeck	50.75	28	P	P	06 14 12.9 +0.1
	comp=Z,1.0nm,0.5s,baz=243,slow=9.4,SNR=1.9					
GEYT				LR	LR	06 35 08.3
	comp=Z,1μm,19.8s,baz=234,slow=36					
	comp=Z,1.0nm,0.5s					
AQU	L'Aquila	50.82	343	IAMs_20	IAMs_20	06 38 12.1
	comp=Z,558nm,18.0s					
BBLS	Lazići	50.85	349	⇑*i*P	P	06 14 18.2 +4.7
KBZ	Khabaz	50.88	11	⇓*e*P	P	06 14 13.1 -0.4
KBZ				pmax	pmax	
	comp=Z,10.0nm,1.1s					
KBZ	Khabaz	50.88	11	P	P	06 14 12.0 -1.5
	comp=Z,1.6nm,0.7s,baz=204,slow=10,SNR=4.5					
KBZ				LR	LR	06 35 57.3
	comp=Z,318nm,18.7s,baz=180,slow=36					
	comp=Z,1.6nm,0.7s					
DIVS	Divibare	50.98	350	⇑*i*P	P	06 14 19.4 +5.0
SIM	Simferopol'	50.98	3	⇓*e*P	P	06 14 20.0 +5.6
SIM				pmax	pmax	
	comp=Z,20nm,1.1s					
SIM				pmax	pmax	
	comp=Z,158nm,0.9s					
KIV	Kislovodsk	51.06	11	*e*P	P	06 14 15.3 +0.3
KIV				pmax	pmax	
	comp=Z,14nm,1.1s					
KIV				MLR	MLR	
	comp=Z,235nm,17.0s					
KVAR	Kislovodsk Arr	51.06	11	LR	LR	06 36 08.3
	comp=Z,267nm,19.1s,baz=81,slow=36					
JBK	JBK	51.12	324	P	P	06 14 22.0 +6.1
MAK	Makhachkala	51.23	16	*e*P	P	06 14 10.9 -5.3
MAK				*e*S	S	06 21 26.4 -8.3
MAK				pmax	pmax	
	comp=Z,254nm,1.4s					
MAK				MLR	MLR	
	comp=Z,326nm,11.0s					
MDT	Midelt	51.30	321	P	P	06 14 23.1 +6.0
MDT	Midelt	51.30	321	LR	LR	06 35 07.2
	comp=Z,745nm,18.8s,baz=142,slow=35					
MDVR	Moldovita	51.37	352	⇑P	P	06 14 18.1 +0.7
HERR	Herculane	51.37	352	⇑P	P	06 14 16.9 -0.4
TAF	Taforalt	51.38	325	P	P	06 14 24.0 +6.3
OUZM	OUZ	51.44	318	P	P	06 14 25.0 +6.8
SRKY	Kupres RS	51.49	348	*e*P	P	06 14 22.2 +3.9
TEKS	Tekeris	51.49	350	⇑*i*P	P	06 14 23.0 +4.8
ARR	Arges	51.60	355	⇓P	P	06 14 18.3 -0.8
PALK	Pallekele	51.61	76	IAMs_20	IAMs_20	06 32 51.2
	comp=Z,888nm,20.0s					
PALK	Pallekele	51.61	76	P	P	06 14 21.9 +2.2
PALK				P	P	06 14 21.9 +2.2
PALK	Pallekele	51.61	76	P	P	06 14 21.9 +2.2
PALK	Pallekele	51.61	76	LR	LR	06 33 40.3
	comp=Z,914nm,19.0s,baz=24,slow=33					
MLR	Muntele Rosu	51.62	356	⇓P	P	06 14 19.0 -0.2
MLR	Muntele Rosu	51.62	356	P	P	06 14 19.0 -0.2
MLR	Muntele Rosu	51.62	356	LR	LR	06 39 21.4
	comp=Z,333nm,18.6s,baz=157,slow=40					
VOIR		51.63	355	⇓P	P	06 14 18.9 -0.4
VOIR		51.63	355	P	P	06 14 18.9 -0.4
LOT	Lotru	51.77	354	⇓P	P	06 14 20.7 +0.3
GZR	Gura Zlata	51.83	353	⇓P	P	06 14 20.3 -0.5
GZR	Gura Zlata	51.83	353	P	P	06 14 20.3 -0.5
MGRS	Mrkonjic Grad	51.84	348	*e*P	P	06 14 25.3 +4.4
PLOR	Plostina	51.92	356	⇑P	P	06 14 21.2 -0.3
PLOR	Plostina	51.92	356	P	P	06 14 21.1 -0.3
VRI	Vrincioaia	51.94	356	⇓P	P	06 14 21.5 -0.1
VRI	Vrincioaia	51.94	356	P	P	06 14 21.4 -0.1
MAHO	Mahon	51.94	334	IAMs_20	IAMs_20	06 38 56.2
	comp=Z,1μm,20.0s					
GOG	Mont Gurugu	52.00	325	P	P	06 14 29.0 +6.7
FRGS	Fruska Gora	52.04	350	⇓P	P	06 14 23.2 +0.9
FRGS	Fruska Gora	52.04	350	⇑*i*P	P	06 14 27.5 +5.2
BLY	Banja Luka	52.14	348	⇑*i*P	P	06 14 26.3 +3.3
BZS	Buzias	52.20	352	⇓P	P	06 14 23.8 +0.4
BZS	Buzias	52.20	352	P	P	06 14 23.8 +0.4
OZUR		52.23	356	⇓P	P	06 14 24.1 +0.4
SURR	Surduc	52.27	352	⇑P	P	06 14 23.7 -0.2
OUK	Oukaimeden	52.36	318	P	P	06 14 32.0 +6.7
A051A	Mrakovica	52.45	348	⇑*i*P	P	06 14 29.3 +3.9
CART	Cartagena	52.64	328	IAMs_20	IAMs_20	06 38 19.8
	comp=Z,1μm,22.0s					
HYB	Hyderabad	52.73	63	*e*P	P	06 14 27.6 -0.3
HYB				*e*PP	PP	06 16 26.7 -0.7
HYB				*e*S	S	06 21 55.9 -0.5
SIRR	Siria	52.84	352	⇑P	P	06 14 28.3 +0.1
CJR	Cluj-Napoca	53.04	354	⇑P	P	06 14 30.3 +0.6
CJR	Cluj-Napoca	53.04	354	P	P	06 14 30.3 +0.6
MARR	Marisel-Cluj	53.06	353	⇓P	P	06 14 30.0 +0.1
MORH	Mrgy, Hungar	53.26	350	⇓P	P	06 14 31.9 +0.6
BOJS	Bojanci	53.28	346	*e*P	P	06 14 34.6 +3.1
BOJS	Bojanci	53.28	346	*i* P	P	06 14 36.0 +4.5
CRES	Cresnjev	53.54	347	*e*P	P	06 14 36.7 +3.3
CRES	Cresnjev	53.54	347	*i* P	P	06 14 38.1 +4.8
SKDS	Skadancina	53.62	345	*e*P	P	06 14 37.2 +3.2
CEY	Cerknica	53.70	346	*e*P	P	06 14 34.4 -0.2
BURAR	Bucovina Array	53.78	355	⇓P	P	06 14 35.9 +0.7
BURAR	Bucovina Array	53.78	355	P	P	06 14 34.6 -0.7
BURAR				IAmb	IAmb	06 14 42.1
	comp=Z,32nm,1.5s					
BURAR	Bucovina Array	53.78	355	P	P	06 14 35.9 +0.7
BUR08	Bucovina Ar. S	53.81	355	P	P	06 14 34.1 -1.3
BUR08				IAmb	IAmb	06 14 43.6
	comp=Z,48nm,1.6s					
TEOL	Teolo	54.08	343	P	P	06 14 36.3 -1.0
TEOL				IAmb	IAmb	06 14 45.4
	comp=Z,27nm,0.9s					
SORM	Soroca	54.12	358	⇓P	P	06 14 37.3 -0.3
SORM	Soroca	54.12	358	P	P	06 14 37.2 -0.3
SABO	M.te Sabotino	54.13	345	P	P	06 14 37.3 -0.4
SABO				IAmb	IAmb	06 14 42.6
	comp=Z,12nm,0.9s					
PERS	Pernice	54.38	347	*i* P	P	06 14 44.5 +5.0
OBKA	Obir	54.40	346	*ep*P	P	06 14 44.5 +4.8
	comp=Z,13nm,1.0s					
OBKA	Obir	54.40	346	*e*P	P	06 14 44.5 +4.8
SOKA	Soboth	54.44	347	*ep*P	P	06 14 44.9 +4.8
	comp=Z,20nm,1.1s,SNR=9.4					
TRPA	Tarpa	54.56	353	⇑P	P	06 14 41.1 +0.4
PRED	Cave del Predi	54.57	345	P	P	06 14 40.7 -0.3
PRED				IAmb	IAmb	06 14 46.9
	comp=Z,22nm,1.0s					
PSZ	Piszkesteto	54.71	351	⇓P	P	06 14 42.7 +0.8
PSZ	Piszkesteto	54.71	351	P	P	06 14 42.7 +0.8
CTI	Castel Tesino	54.71	344	IAmb	IAmb	06 14 50.0
	comp=Z,28nm,1.0s					
MYKA	Terra Mystica	54.73	346	*ep*P	P	06 14 46.6 +4.5
	comp=Z,11nm,1.0s,SNR=6.7					
CIMO	Cimolais	54.74	345	IAmb	IAmb	06 14 50.0
	comp=Z,36nm,0.9s					
CLUD	Cludinico	54.76	345	P	P	06 14 41.0 -1.3
CLUD				IAmb	IAmb	06 14 48.1
	comp=Z,40nm,1.1s					
SRO	Srobarova	54.87	350	*e*P	P	06 14 48.1 +5.1
SRO	Srobarova	54.87	350	*e*P	P	06 14 48.2 +5.2
SRO				pmax	pmax	
	comp=Z,28nm,1.2s					
ARSA	Arzberg	54.88	347	*ep*P	P	06 14 48.1 +5.0
	comp=Z,17nm,1.0s,SNR=9.2					
ABTA	Abfaltersbach	55.12	345	*ep*P	P	06 14 49.9 +5.0
	comp=Z,13nm,0.9s,SNR=6.7					
RONA	Rosalia, Austr	55.14	348	*ep*P	P	06 14 49.8 +4.7
	comp=Z,17nm,1.2s,SNR=8.5					
KECS	Kecovo	55.17	352	*e*P	P	06 14 50.0 +4.8
KECS	Kecovo	55.17	352	*e*P	P	06 14 50.0 +4.8
KBA	Koelnbreinsper	55.22	346	*ep*P	P	06 14 50.4 +4.6
	comp=Z,35nm,1.0s					
KOLS	Kolonicke sedl	55.38	353	*e*P	P	06 14 51.1 +4.4
KOLS	Kolonicke sedl	55.38	353	*e*P	P	06 14 51.1 +4.4
KOLS				pmax	pmax	
	comp=Z,8.0nm,1.0s					
VYHS	Vyhne	55.44	350	*e*P	P	06 14 51.4 +4.3
VYHS	Vyhne	55.44	350	*e*P	P	06 14 51.4 +4.3
VYHS				pmax	pmax	
	comp=Z,23nm,1.3s					
CONA	Conrad Observa	55.45	348	*ep*P	P	06 14 51.7 +4.4
	comp=Z,48nm,2.0s,SNR=12					
CONA				*e*PP	PP	06 17 03.7 +12
	comp=Z,12nm,1.9s					
CRVS	Cervenica-Dubn	55.45	353	*e*P	P	06 14 51.7 +4.5
CRVS	Cervenica-Dubn	55.45	353	*e*P	P	06 14 51.7 +4.5
CRVS				pmax	pmax	
	comp=Z,55nm,1.2s					
ZST	Bratislava	55.46	349	*e*P	P	06 14 52.1 +4.9
ZST	Bratislava	55.46	349	*e*P	P	06 14 52.1 +4.9
MODS	Modra-Piesok	55.59	349	*e*P	P	06 14 52.4 +4.1
MODS	Modra-Piesok	55.59	349	*e*P	P	06 14 52.4 +4.1
MODS				pmax	pmax	
	comp=Z,89nm,1.7s					
LESA	Schwarzleotal	55.71	345	*ep*P	P	06 14 53.0 +3.8
	comp=Z,19nm,1.0s					
LESA				*e*PP	PP	06 17 07.2 +13
	comp=Z,4.9nm,1.0s					
BIOA	Bad Ischl, Aus	55.72	346	*ep*P	P	06 14 53.1 +3.9
	comp=Z,9.4nm,0.8s					
MOA	Molln	55.72	347	*ep*P	P	06 14 53.1 +3.9
	comp=Z,34nm,0.9s,SNR=16					
MOA				*e*PP	PP	06 17 07.1 +13
	comp=Z,12nm,1.1s					
ESDC	Sonseca Array	55.74	328	P	P	06 14 49.0 -0.5
	comp=Z,2.4nm,1.1s,baz=143,slow=6.9,SNR=4.1					
ESDC				LR	LR	06 40 41.7
	comp=Z,947nm,18.2s,baz=138,slow=38					
	comp=Z,2.4nm,1.1s					
TUE	Stuetta	55.77	342	P	P	06 14 49.3 -0.5
WTTA	Wattenberg	55.83	344	*ep*P	P	06 14 54.6 +4.4
	comp=Z,28nm,1.0s					
FETA	Feichten	55.86	344	*ep*P	P	06 14 54.8 +4.4
	comp=Z,15nm,1.0s					
FETA				*e*PP	PP	06 16 56.9 +1.7
	comp=Z,12nm,1.5s					
DAVOX	Davos/Dischmat	55.88	343	LR	LR	06 39 53.3
	comp=Z,500nm,20.0s,baz=162,slow=37					
SQTA	Sankt Quirin	55.91	344	*ep*P	P	06 14 54.9 +4.3
	comp=Z,19nm,0.8s,SNR=7.8					
WATA	Walderalm	55.91	344	*ep*P	P	06 14 55.1 +4.3
	comp=Z,17nm,1.1s,SNR=8.9					
WATA				*e*PP	PP	06 16 59.5 +3.9
	comp=Z,7.9nm,1.1s					
RJOB	Jochberg	55.97	345	*e*P	P	06 14 55.4 +4.4
	comp=Z,13nm,0.8s,baz=156,slow=7.1					
STHS	Stebnicka Huta	55.98	353	*e*P	P	06 14 54.2 +3.2
STHS	Stebnicka Huta	55.98	353	*e*P	P	06 14 54.3 +3.2
STHS				pmax	pmax	
	comp=Z,7.0nm,1.0s					
MOTA	Moosalm	56.05	344	*ep*P	P	06 14 55.6 +3.9
	comp=Z,24nm,1.0s,SNR=8.8					
MOTA				*e*PP	PP	06 17 01.1 +4.3
	comp=Z,5.3nm,1.0s					
NIE	Niedzica	56.11	352	*e*P	P	06 14 56.9 +5.0
RETA	Reutte	56.27	344	*ep*P	P	06 14 57.2 +4.0
	comp=Z,28nm,1.0s,SNR=9.8					
RETA				*e*PP	PP	06 17 02.8 +4.0
	comp=Z,8.0nm,1.4s					
DAVA	Damuels	56.34	343	*ep*P	P	06 14 57.4 +3.6
	comp=Z,33nm,0.8s,SNR=9.5					
PBAR	Barrancos	56.39	325	*e*P	P	06 14 59.0 +4.9
	comp=Z,36nm,1.6s					
KRUC	Moravsky	56.42	349	*e*P	P	06 14 57.4 +3.3
MAUC	Maruska	56.45	350	*e*P	P	06 14 58.4 +4.0
NIL	Nilore	56.47	43	P	P	06 14 53.6 -1.3
NIL	Nilore	56.47	43	IAMs_20	IAMs_20	06 38 41.8
	comp=Z,631nm,21.0s					
NIL	Nilore	56.47	43	P	P	06 14 53.6 -1.3
NIL				pmax	pmax	
	comp=Z,43nm,1.0s					
NIL				MLR	MLR	
	comp=Z,600nm,21.0s					
VRAC	Vranov	56.62	349	⇓P	P	06 14 56.8 +1.2
VRAC	Vranov	56.62	349	*e*P	P	06 14 59.1 +3.5
VRAC	Vranov	56.62	349	P	P	06 14 56.7 +1.2
VRAC	Vranov	56.62	349	LR	LR	06 42 32.1
	comp=Z,236nm,18.2s,baz=197,slow=40					
CKRC	Cesky Krumlov	56.63	347	*e*P	P	06 14 54.6 -1.0
CKRC				*ex*	x	06 14 58.8
CKRC	Cesky Krumlov	56.63	347	*e*P	P	06 14 54.6 -1.0
CKRC				*e*		06 14 58.8
AKASG	Malin Array Be	56.66	359	*i* P	P	06 14 55.9 +0.1
AKASG				pmax	pmax	
	comp=Z,1.0nm,0.4s					
AKASG	Malin Array Be	56.66	359	P	P	06 14 53.8 -2.0
	comp=Z,0.8nm,0.5s,baz=184,slow=6.5,SNR=7.8					
AKASG				LR	LR	06 41 34.7
	comp=Z,191nm,19.5s,baz=196,slow=39					
	comp=Z,0.8nm,0.5s					
AKBB	Malin Array Si	56.66	359	⇑*e*P	P	06 14 55.1 -0.7
PFVI	Vila Bisbo	56.75	323	*e*P	P	06 15 02.1 +5.4
	comp=Z,199nm,1.7s					
FUR	Furstenfeldbru	56.76	345	*e*P	P	06 15 01.3 +4.7
	comp=Z,43nm,1.0s,baz=156,slow=7.1					
GEC2	GERESS Array S	56.79	347	P	P	06 14 56.5 -0.4
GEC2				IAmb	IAmb	06 15 02.6
	comp=Z,33nm,1.1s					
GEC2	GERESS Array S	56.79	347	*e*P	P	06 15 01.7 +4.9
	comp=Z,35nm,1.1s,baz=156,slow=7.1					
GERES	GERESS Array B	56.79	347	P	P	06 14 56.2 -0.7
GERES	GERESS Array B	56.79	347	P	P	06 14 56.2 -0.7
GERES	GERESS Array B	56.79	347	P	P	06 14 55.7 -1.2
	comp=Z,4.4nm,1.0s,baz=161,slow=8.5,SNR=9.9					
GERES				LR	LR	06 41 40.7
	comp=Z,222nm,18.1s,baz=196,slow=39					
	comp=Z,4.4nm,1.0s					
OKC	Ostrava-Krasne	56.85	350	*e*P	P	06 15 00.4 +3.2
OKC				*ex*	x	06 15 17.4
OKC	Ostrava-Krasne	56.85	350	*e*P	P	06 14 57.2 0.0
OKC				*e*		06 15 06.8
MORC	Moravsky Berou	56.90	350	⇑P	P	06 14 58.4 +0.8
MORC	Moravsky Berou	56.90	350	*e*P	P	06 15 01.2 +3.6
MORC	Moravsky Berou	56.90	350	P	P	06 14 58.4 +0.8
OJC	Ojcow	56.96	352	*e*P	P	06 15 02.5 +4.5
KHC	Kasperske Hory	57.09	347	IAmb	IAmb	06 15 04.4
	comp=Z,32nm,1.0s					
KHC	Kasperske Hory	57.09	347	*e*P	P	06 14 57.8 -1.1
KHC				*ep*P	pP	06 15 01.7 -0.9
KHC	Kasperske Hory	57.09	347	⇑*e*P	P	06 14 58.2 -0.7
KHC				pmax	pmax	
	comp=Z,74nm,4.5s					
PESTR	Estremoz	57.17	325	*e*P	P	06 15 04.7 +5.0
ZVC	Zvikov	57.24	347	*e*P	P	06 14 58.7 -1.2
ZVC				*ex*	x	06 15 02.4
ZVC				*ex*	x	06 15 25.3
WET	Wettzell	57.26	346	*e*P	P	06 15 04.7 +4.6
	comp=Z,24nm,1.1s,baz=156,slow=7.1					
KRLC	Kraliky	57.32	349	*e*P	P	06 15 04.4 +3.8
KRLC				*ex*	x	06 15 26.1
KRLC	Kraliky	57.32	349	*e*P	P	06 15 04.4 +3.8
VORD	Divnogorie	57.39	6	*e*P	P	06 15 03.3 +2.3
VORD				pmax	pmax	
	comp=Z,10.0nm,1.1s					
VSR	Storozhevoye	57.62	6	*e*P	P	06 15 03.3 +0.7
VSR				pmax	pmax	
	comp=Z,8.0nm,0.8s					
DPC	Dobruska-Polom	57.67	349	*e*P	P	06 14 57.2 -5.8
DPC				*ep*P	pP	06 15 06.8 0.0
PRU	Pruhonice	57.68	348	*e*P	P	06 14 57.8 -5.2
PRU				*e*		06 15 01.7
BFO	Black Forest	57.74	342	*e*P	P	06 15 08.3 +4.8
	comp=Z,63nm,1.5s,baz=156,slow=7.1					
UPC	Upice	57.88	349	*e*P	P	06 15 03.1 -1.3
UPC				*ex*	x	06 15 08.8
UPC	Upice	57.88	349	*e*P	P	06 15 03.1 -1.3
UPC				*e*		06 15 08.8
STU	Stuttgart	57.88	343	*e*P	P	06 15 09.7 +5.2
	comp=Z,79nm,1.0s,baz=156,slow=7.1					
OSTC	Ostas	57.89	349	*e*P	P	06 15 03.2 -1.3
OSTC				*ex*	x	06 15 08.8
OSTC	Ostas	57.89	349	*e*P	P	06 15 03.2 -1.3
OSTC				*e*		06 15 08.8
VRH	Novokhopyorsk	57.93	8	*e*P	P	06 15 06.8 +2.1
VRH				pmax	pmax	
	comp=Z,10.0nm,0.8s					
ROTZ	Rotzenmuhle	58.00	346	*e*P	P	06 15 09.9 +4.5
	comp=Z,7.0nm,1.3s,baz=156,slow=7.1					
VORR	Voronezh	58.08	6	*e*P	P	06 15 06.0 +0.2
VORR				pmax	pmax	
	comp=Z,40nm,0.4s					
KSP	Ksiaz	58.15	349	*e*P	P	06 15 11.4 +5.1
GRF	Grafenberg Arr	58.18	345	*e*P	P	06 15 11.4 +4.8
	comp=Z,73nm,1.1s,baz=156,slow=7.1					
GRF				*e*L	L	06 48 46.9
	comp=Z,245nm,18.2s					
PVCC	Panska Ves	58.19	348	*e*P	P	06 14 54.6 -12
MANZ	Manzenberg	58.23	346	*e*P	P	06 15 11.8 +4.8
	comp=Z,7.7nm,1.2s,baz=156,slow=7.1					
MANZ				*ep*P	sP	06 15 14.5 +2.4
RICC	Richard	58.30	348	*e*P	P	06 15 06.8 -0.6
RICC				*ex*	x	06 15 21.2
NKC	Novy Kostel	58.38	346	*e*P	P	06 15 04.4 -3.6
NKC				*ep*P	sP	06 15 12.9 -0.2
NKC	Novy Kostel	58.38	346	*e*P	P	06 15 04.4 -3.6
NKC				*e*		06 15 12.9
MVO	Moncorvo	58.44	327	*e*P	P	06 15 13.8 +5.1
WERN	Wernitzgruen	58.45	346	*e*P	P	06 15 13.3 +4.9
	comp=Z,34nm,1.5s,baz=156,slow=7.1					
HSKC	Hora Svate Kat	58.50	347	*e*P	P	06 14 53.5 -15
GUNZ	Gunzen	58.53	346	*e*P	P	06 15 14.3 +5.3
	comp=Z,28nm,1.2s,baz=156,slow=7.1					
TANN	Tannenbergstha	58.54	346	*e*P	P	06 15 13.9 +4.7
	comp=Z,37nm,1.5s,baz=156,slow=7.1					
WERD	Werda	58.61	346	*e*P	P	06 15 14.4 +4.8
	comp=Z,45nm,1.5s,baz=156,slow=7.1					
BRG	Berggiesshubel	58.64	348	*e*P	P	06 15 14.3 +4.5
BRG				Amp		06 15 17.1
	comp=Z,8.7nm,1.1s					
BRG	Berggiesshubel	58.64	348	*e*P	P	06 15 14.2 +4.5
BRG				pmax	pmax	
	comp=Z,9.0nm,1.1s					
PLN	Plauen	58.68	346	*e*P	P	06 15 14.7 +4.7
	comp=Z,64nm,1.8s,baz=156,slow=7.1					
PVRL	Vila Real	58.89	327	*e*P	P	06 15 19.2 +7.4
	comp=Z,62nm,2.0s					
MOX	Moxa	58.96	346	*e*P	P	06 15 16.5 +4.5
	comp=Z,33nm,1.5s,baz=156,slow=7.1					
MOX				*e*L	L	06 41 08.5
	comp=Z,191nm,21.8s					
LPSR	Galich'ya Gora	58.97	6	*e*P	P	06 15 11.8 -0.2
LPSR				pmax	pmax	
	comp=Z,10.0nm,0.9s					
POLO	Lamas de Olo	59.00	327	*e*P	P	06 15 18.5 +5.9
	comp=Z,31nm,1.7s					
CLL	Collm	59.26	347	*i* P	P	06 15 18.3 +4.3
CLL				*e*S	S	06 23 23.0 +1.0
CLL				pmax	pmax	
	comp=Z,19nm,1.5s					
CLL	Collm	59.26	347	*i* P(2)	P	06 15 18.3 +4.3
	comp=Z,19nm,1.5s					
CLL				*i* x	x	06 16 10.1
CLL				*e*PP	PP	06 17 22.0 -3.1
CLL				*e*S	S	06 23 23.0 +1.0
CLL				*e*PS		06 23 38.0
TNS	Taunus Mts	59.40	344	*e*P	P	06 15 20.2 +5.1
	comp=Z,58nm,1.0s,baz=156,slow=7.1					
WLF	Walferdange	59.59	342	*d*P	P	06 15 16.8 +0.4
AHRW	Bad Neuenahr-A	60.08	343	*e*P	P	06 15 25.4 +5.7
	comp=Z,28nm,1.0s,baz=156,slow=7.1					
BELG	Belogornoye	60.10	12	⇑*e*P	P	06 15 21.0 +1.3
BELG				pmax	pmax	
	comp=Z,4.0nm,1.0s					
BELG	Belogornoye	60.10	12	LR	LR	06 44 00.7
	comp=Z,138nm,20.2s,baz=188,slow=39					
GTTG	Gottingen	60.20	345	*e*P	P	06 15 26.0 +5.5
	comp=Z,70nm,1.3s,baz=156,slow=7.1					
BHOU	Houvegnez	60.24	342	*d*P	P	06 15 26.4 +5.6
KASTN	Kahler Asten	60.29	344	*e*P	P	06 15 26.8 +5.6
	comp=Z,49nm,1.4s,baz=156,slow=7.1					
SUW	Suwalki	60.30	355	*e*P	P	06 15 25.8 +4.6
SUW	Suwalki	60.30	355	*e*P	P	06 15 23.5 +2.4
RCHB	Rochefort	60.31	341	*d*P	P	06 15 25.7 +4.4
CLZ	Clausthal	60.37	346	*e*P	P	06 15 26.8 +5.1
	comp=Z,25nm,1.4s,baz=156,slow=7.1					
DOU	Dourbes	60.46	341	*d*P	P	06 15 26.8 +4.5
MNK	Minsk	60.51	358	*i* P	P	06 15 20.3 -2.2
	comp=E,3.0nm,0.5s					
MNK				*i* P	P	06 15 20.3 -2.2
	comp=N,26nm,0.7s					
MNK				*i* P	P	06 15 20.3 -2.2
	comp=Z,8.0nm,0.5s,baz=177					
MNK				*i* PcP	PcP	06 16 05.2 -1.9
MNK				*i* PP	PP	06 17 33.4 -2.7
MNK				*i* PPP	PPP	06 19 01.1
MNK				*i* S	S	06 23 35.7 -2.3
MNK				*i* ScS	SKKSac	06 25 11.1 -2.1
MNK

OBN 06 17 42.0
OBN S **S** **06 23 50.0 +2.4**
OBN *i* PS **PnS** **06 23 56.7 -4.8**
OBN pmax pmax
comp=Z,15nm,1.1s
IDID Didziasalis 61.36 357 *e*P **P** **06 15 31.4 +3.0**
IIGN Ignalina 61.42 357 *e*P **P** **06 15 31.7 +2.9**
RETH Rethem/Aller, 61.44 345 *e*P P 06 15 34.0 +5.2
comp=Z,79nm,1.7s,baz=156,slow=7.1
ISAL Salakas 61.65 357 *e*P **P** **06 15 33.3 +3.0**
KSH Kashi 61.72 39 P **P** **06 15 34.4 +3.1**
KSH PcP **PcP** **06 16 12.3 -0.3**
KSH pmax pmax
comp=Z,6.0nm,1.3s
KSH LR LR
comp=Z,390nm,15.3s
KSH LR LR
comp=Z,390nm,17.1s
KSH LR LR
comp=Z,550nm,19.7s
PABE Paberze 61.72 356 *e*P **P** **06 15 33.4 +2.7**
MOS Moscow 61.96 4 *e*P **P** **06 15 30.9 -1.4**
MOS *e* 06 15 39.5
VSVD Vaisvydziai 62.20 356 *e*P **P** **06 15 36.9 +3.0**
BSEG Bad Segeberg 62.31 347 *e*P P 06 15 39.7 +5.0
comp=Z,92nm,1.7s,baz=156,slow=7.1
AAK Ala-Archa 62.76 35 P **P** **06 15 37.8 -0.4**
AAK IAmb IAmb 06 15 52.5
comp=Z,53nm,2.0s
AAK Ala-Archa 62.76 35 IAMs_20 IAMs_20 06 43 40.6
comp=Z,578nm,20.0s
AAK Ala-Archa 62.76 35 P **P** **06 15 41.0 +2.8**
AAK P **P** **06 15 41.0 +2.8**
AAK Ala-Archa 62.76 35⇓*e*P **P** **06 15 38.3 +0.1**
AAK pmax pmax
comp=Z,19nm,1.7s
AAK Ala-Archa 62.76 35 LR LR 06 45 42.8
comp=Z,519nm,18.3s,baz=242,slow=39
BOOM Boomskoye usch 63.50 36 P **P** **06 15 42.9 -0.3**
BOOM IAmb IAmb 06 15 52.2
comp=Z,19nm,1.1s
BOOM Boomskoye usch 63.50 36 P **P** **06 15 42.9 -0.3**
BOOM pmax pmax
comp=Z,19nm,1.1s
VSU Vasula 64.51 358 *e*P **P** **06 15 53.8 +4.6**
MAW Mawson 65.08 167 P **P** **06 15 54.5 +1.7**
MAW Mawson 65.08 167 P **P** **06 15 54.7 +1.8**
comp=Z,8.3nm,0.9s,baz=320,slow=6.7,SNR=15
MAW LR LR 06 42 46.5
comp=Z,298nm,18.3s,baz=323,slow=35
comp=Z,8.3nm,0.9s
NVL N'lazarevskaya 65.63 187 *e*P **P** **06 15 55.0 -1.4**
NVL pmax pmax
comp=Z,36nm,1.6s
ELIB Princess Elisa 65.86 183 *d*P **P** **06 16 00.1 +2.1**
comp=Z,14nm,0.9s
BRDH Bariadhala 66.08 62 LR LR 06 46 37.4
comp=Z,353nm,18.1s,baz=222,slow=38
RCBR Riachuelo 66.23 266 LR LR 06 40 16.8
comp=Z,371nm,21.4s,baz=72,slow=32
KIRV Kirov 66.28 11*de*P **P** **06 16 00.3 -0.4**
KIRV Kirov 66.28 11 LR LR 06 49 23.3
comp=Z,122nm,18.1s,baz=174,slow=40
MEF Metsahovi 66.38 357 *e*P **P** **06 16 03.8 +2.5**
ARU Arti 66.45 16 P **P** **06 16 01.0 -0.8**
ARU IAmb IAmb 06 16 07.5
comp=Z,20nm,0.7s
ARU Arti 66.45 16*d i*P **P** **06 16 00.8 -1.0**
ARU 06 16 29.9
ARU 06 18 29.7
ARU S **S** **06 24 51.6 -0.4**
ARU pmax pmax
comp=Z,10.0nm,0.8s
ARU Arti 66.45 16 LR LR 06 48 01.2
comp=Z,282nm,19.1s,baz=210,slow=39
GSI Gunungsitoli 67.14 86 P **P** **06 16 09.3 +2.2**
comp=Z,45nm,1.8s,comp=Z,6μm
SHL Shillong 67.20 59 P **P** **06 16 06.8 -0.7**
SHL IAmb IAmb 06 16 15.9
comp=Z,20nm,0.8s
SHL Shillong 67.20 59 P **P** **06 16 06.8 -0.7**
SHL pmax pmax
comp=Z,20nm,0.8s
RAF Rauma 67.36 355 *e*P **P** **06 16 11.4 +3.9**
SVE Sverdlovsk 67.39 17 *e*P **P** **06 16 11.9 +4.1**
SVE pmax pmax
comp=Z,20nm,1.1s
EKA Eskdalemuir Ar 67.43 340 P **P** **06 16 07.5 -0.6**
comp=Z,2.0nm,0.8s,baz=139,slow=6.0,SNR=4.5
comp=Z,2.0nm,0.8s
HFS Hagfors 67.47 351 P **P** **06 16 07.2 -1.0**
comp=Z,1.5nm,0.5s,baz=157,slow=7.8,SNR=2.3
HFS LR LR 06 48 15.5
comp=Z,238nm,18.9s,baz=160,slow=38
comp=Z,1.5nm,0.5s
FINES FINESS Array B 67.52 358 P **P** **06 16 07.5 -1.0**
FINES FINESS Array B 67.52 358 P **P** **06 16 07.8 -0.7**
comp=Z,1.5nm,0.5s,baz=166,slow=6.2,SNR=17
FINES LR LR 06 49 14.0
comp=Z,149nm,18.6s,baz=184,slow=39
comp=Z,1.5nm,0.5s
KCSI Kotacane, Aceh 67.62 84 P **P** **06 16 11.5 +1.3**
comp=Z,38nm,1.0s
BRVK Borovoye 67.82 25 P **P** **06 16 09.5 -1.2**
BRVK Borovoye 67.82 25⇓*e*P **P** **06 16 10.6 0.0**
BRVK pmax pmax
comp=Z,11nm,1.8s
BVAR Borovoye Array 67.84 25 P **P** **06 16 09.6 -1.2**
comp=Z,0.9nm,0.5s,baz=220,slow=5.6,SNR=5.2
BVAR LR LR 06 46 17.9
comp=Z,326nm,20.3s,baz=220,slow=36
comp=Z,0.9nm,0.5s
TROLL Troll, Antarti 68.04 189 ⇑P **P** **06 16 14.9 +2.9**
comp=Z,313nm,0.9s
PRGR Permogore 68.60 8 *e*P **P** **06 16 15.8 +0.5**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
SNAA Sanae 68.68 191 P **P** **06 16 16.8 +1.0**
SNAA IAmb IAmb 06 16 27.1
comp=Z,19nm,1.3s
SNAA Sanae 68.68 191 ⇑P **P** **06 16 18.4 +2.5**
comp=Z,112nm,1.0s
SNAA Sanae 68.68 191⇓*e*P **P** **06 16 17.6 +1.7**
SNAA pmax pmax
comp=Z,12nm,1.4s
SNAA Sanae 68.68 191 P **P** **06 16 17.4 +1.6**
comp=Z,5.1nm,1.1s,baz=40,slow=6.3,SNR=11
SNAA LR LR 06 43 52.5
comp=Z,559nm,19.8s,baz=120,slow=34
comp=Z,5.1nm,1.1s
NB2 NORSAR Subarra 68.73 350 P **P** **06 16 15.7 -0.5**
comp=Z,34nm,1.2s,baz=159,slow=6.5
NB2 NORSAR Subarra 68.73 350 P **P** **06 16 15.7 -0.5**
baz=159,slow=6.5
NOA NORSAR Array B 68.73 350 P **P** **06 16 15.3 -0.9**
comp=Z,3.2nm,0.9s,baz=162,slow=5.8,SNR=4.1
NOA LR LR 06 50 06.3
comp=Z,119nm,20.2s,baz=180,slow=39
comp=Z,3.2nm,0.9s
VNA1 Neumayer--Stat 69.00 193 ⇑P **P** **06 16 20.9 +3.2**
comp=Z,25nm,1.0s
VNA2 Neumayer--Watz 69.02 193 ⇑P **P** **06 16 20.0 +2.1**
comp=Z,7.0nm,0.8s,baz=36,slow=5.0
MAKZ Makanchi 69.52 35 P **P** **06 16 21.0 -0.4**
MAKZ IAMs_20 IAMs_20 06 48 47.6
comp=Z,503nm,21.0s
MAKZ Makanchi 69.52 35 P **P** **06 16 21.0 -0.4**
MAKZ pmax pmax
comp=Z,55nm,1.6s
MAKZ MLR MLR
comp=Z,500nm,21.0s
MK31 Makanchi Array 69.69 35 P **P** **06 16 22.2 -0.3**
MK31 IAmb IAmb 06 16 30.7
comp=Z,24nm,1.2s
MK31 Makanchi Array 69.69 35 P **P** **06 16 22.2 -0.3**
MK31 pmax pmax
comp=Z,25nm,1.2s
MKAR Makanchi Array 69.69 35 P **P** **06 16 22.3 -0.2**
comp=Z,4.1nm,0.5s,baz=243,slow=6.5,SNR=41
MKAR LR LR 06 49 12.4
comp=Z,364nm,19.9s,baz=298,slow=38
comp=Z,4.1nm,0.5s
PDSI Padang 69.75 89 P **P** **06 16 24.9 +1.4**
comp=Z,15nm,0.5s
VNA3 Neumayer Olymp 69.75 193 ⇑P **P** **06 16 24.5 +2.1**
comp=Z,11nm,1.0s

KURBB Kurchatov Arra 69.94 30 P **P** **06 16 23.7 -0.1**
comp=Z,1.2nm,0.3s,baz=237,slow=6.6,SNR=25
KURBB LR LR 06 50 51.6
comp=Z,321nm,18.3s,baz=200,slow=39
comp=Z,1.2nm,0.3s
KURK Kurchatov 70.04 30 P **P** **06 16 24.4 -0.1**
KURK IAmb IAmb 06 16 33.1
comp=Z,25nm,1.3s
KURK Kurchatov 70.04 30*d i*P **P** **06 16 24.4 -0.1**
KURK pmax pmax
comp=Z,30nm,2.5s
KRJI Kerinci 70.62 90 P **P** **06 16 28.8 -0.1**
comp=Z,93nm,0.5s
SDSI Sungai Dareh 70.70 89 P **P** **06 16 30.0 +0.7**
comp=Z,40nm,1.0s,comp=Z,2μm
KULM Kulim 70.72 82 IAMs_20 IAMs_20 06 49 27.9
comp=Z,330nm,18.0s
WMQ Urumqi 71.42 40 *e*P **P** **06 16 33.8 +0.6**
WMQ PcP **PcP** **06 16 52.1 -0.6**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR
comp=Z,850nm,17.7s
WMQ LR LR
comp=Z,700nm,16.7s
WMQ LR LR
comp=Z,430nm,22.7s
CM31 Chiang Mai Arr 71.53 68 P **P** **06 16 36.1 +1.8**
SNR=5.5
CMAR Chiang Mai Arr 71.53 68*ce*P **P** **06 16 35.7 +1.4**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 71.53 68 P **P** **06 16 34.4 +0.1**
comp=Z,1.9nm,0.3s,baz=256,slow=7.5,SNR=13
CMAR LR LR 06 45 10.5
comp=Z,155nm,21.9s,baz=265,slow=34
comp=Z,1.9nm,0.3s
CHTO Chiang Mai 71.62 68 P **P** **06 16 33.9 -0.9**
CHTO pmax pmax
comp=Z,24nm,1.0s
GOMU GeErMu 73.22 49 P **P** **06 16 46.0 +1.5**
GOMU pmax pmax
comp=Z,5.0nm,0.5s
MYKOM Kota Tinggi 73.42 86 IAMs_20 IAMs_20 06 46 47.6
comp=Z,572nm,19.0s
DGZ Jazzator, Alta 74.15 34⇑*e*P **P** **06 16 49.4 +0.1**
DGZ pmax pmax
comp=Z,10.0nm,1.1s
ZAA0 Zalesovo Array 75.02 30 P **P** **06 16 53.3 -0.8**
ZALV Zalesovo Beam 75.02 30 P **P** **06 16 52.7 -1.4**
ZALV Zalesovo Beam 75.02 30 P **P** **06 16 53.1 -1.0**
comp=Z,1.6nm,0.5s,baz=246,slow=5.6,SNR=9.1
ZALV PP **PP** **06 19 42.2 +0.1**
comp=Z,1.2nm,0.7s,baz=236,slow=6.8,SNR=2.4
ZALV LR LR 06 53 05.8
comp=Z,410nm,18.4s,baz=220,slow=38
comp=Z,1.6nm,0.5s
ARCES ARCESS Array B 75.63 358 P **P** **06 16 57.0 -0.3**
ARCES ARCESS Array B 75.63 358 P **P** **06 16 57.0 -0.3**
ARCES pmax pmax
comp=Z,140nm,2.0s
ARCES ARCESS Array B 75.63 358 P **P** **06 16 56.5 -0.8**
comp=Z,0.9nm,0.5s,baz=169,slow=6.4,SNR=14
comp=Z,0.9nm,0.5s
KEV Kevo 75.81 359 P **P** **06 16 57.0 -1.3**
KEV Kevo 75.81 359 P **P** **06 16 57.0 -1.3**
KEV pmax pmax
comp=Z,127nm,1.8s
PZH PanZhiHua 75.97 61 P **P** **06 17 01.0 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,460nm,6.1s
LEM Lembang 76.31 96 LR LR 06 47 46.8
comp=Z,308nm,18.4s,baz=226,slow=34
KMI Kunming 76.51 62⇓P **P** **06 17 03.9 +0.4**
KMI S **S** **06 26 48.0 -2.0**
KMI SS **SS** **06 31 52.5 +7.3**
KMI pmax pmax
comp=Z,12nm,2.0s
KMI LR LR
comp=Z,200nm,31.4s
BDFB Brasilia 77.55 255 P **P** **06 17 10.3 +0.8**
comp=Z,6.3nm,1.0s,baz=58,slow=6.1,SNR=5.8
BDFB LR LR 06 47 59.8
comp=Z,390nm,18.8s,baz=105,slow=33
comp=Z,6.3nm,1.0s
GTA Gaotai 78.03 48 *e*P **P** **06 17 12.9 +1.2**
GTA pmax pmax
comp=Z,8.0nm,1.3s
BELA Belgrano 2 78.92 191 P **P** **06 17 17.1 +1.3**
LZH Lanzhou 80.14 52 *e*P P 06 17 31.5 +8.2
LZH pP PcP 06 17 36.0 +5.4
LZH sP sP 06 17 38.8 +10
LZH pmax pmax
comp=Z,36nm,1.5s
GYA Guiyang 80.25 62 *e*P **P** **06 17 27.5 +3.4**
GYA pmax pmax
comp=Z,27nm,1.0s
CASY Casey 80.27 156 P **P** **06 17 24.0 +0.8**
CASY IAmb IAmb 06 17 34.1
comp=Z,29nm,1.3s
BORG Borgarnes 80.47 340 LR LR 06 56 58.5
comp=Z,239nm,18.0s,baz=140,slow=39
JMIC Jan Mayen 81.29 348 LR LR 06 56 17.3
comp=Z,74nm,18.9s,baz=209,slow=38
MOY Mondy 82.79 36 *e*P **P** **06 17 37.8 +0.8**
MOY pmax pmax
comp=Z,39nm,1.7s
NWAO Narrogin (SRO) 83.75 122 LR LR 06 50 53.3
comp=Z,388nm,18.0s,baz=250,slow=33
ZAK Zakamensk 83.75 38 *e*P **P** **06 17 42.3 +0.3**
ZAK pmax pmax
comp=Z,10.0nm,1.5s
QSPA South Pole Qui 83.89 180 IAMs_20 IAMs_20 06 50 28.7
comp=Z,287nm,18.0s
QSPA South Pole Qui 83.89 180 P **P** **06 17 43.7 +1.3**
comp=Z,11nm,1.1s,baz=240,slow=3.5
comp=Z,11nm,1.1s
MDP Montagnes des 83.99 276 LR LR 06 51 39.2
comp=Z,221nm,19.5s,baz=68,slow=33
SPITS Spitsbergen Ar 84.61 357 P **P** **06 17 44.8 -0.8**
comp=Z,7.3nm,0.9s,baz=184,slow=8.7,SNR=2.1
comp=Z,7.3nm,0.9s
SONM Songino Array 85.01 41 P **P** **06 17 48.3 -0.1**
SONM IAmb IAmb 06 17 58.3
comp=Z,15nm,1.1s
SONM Songino Array 85.01 41 P **P** **06 17 48.9 +0.4**
comp=Z,5.8nm,1.0s,baz=235,slow=5.4,SNR=25
comp=Z,5.8nm,1.0s
ULN Ulaanbaatar 85.45 41 P **P** **06 17 50.7 0.0**
ULN IAmb IAmb 06 18 00.2
comp=Z,16nm,1.1s
ULN Ulaanbaatar 85.45 41⇑*e*P **P** **06 17 51.7 +1.0**
ULN pmax pmax
comp=Z,15nm,1.2s
CPUP Villa Florida 85.57 244 LR LR 06 51 53.5
comp=Z,377nm,20.2s,baz=99,slow=33
BTO Baotou 85.90 49 *e*P **P** **06 17 54.6 +1.6**
BTO S **S** **06 28 27.9 +1.0**
BTO pmax pmax
comp=Z,23nm,0.5s
BTO pmax pmax
comp=Z,990nm,5.5s
BTO LR LR
comp=Z,1μm,6.6s
BTO LR LR
comp=Z,760nm,5.4s
PMSA Palmer Station 86.50 205 LR LR 06 55 18.9
comp=Z,336nm,18.2s,baz=88,slow=35
LYN LuoYang 86.69 55 ⇑P P 06 18 05.3 +8.4
LYN pP sP 06 18 08.4 +6.4
LYN pmax pmax
comp=Z,33nm,1.3s
LYN pmax pmax
comp=Z,1μm,5.9s
MBWA Marble Bar 86.87 111 P **P** **06 17 58.3 +0.3**
PSA00 Pilbara Seismi 86.94 111 P **P** **06 17 58.0 -0.5**
HHC Hu-ho-hao-te 87.10 49 *e*P **P** **06 18 00.6 +1.7**
HHC pmax pmax
comp=Z,37nm,0.8s
HHC pmax pmax
comp=Z,980nm,7.1s
WHN Wuhan 87.63 59 P P 06 18 10.0 +8.5
PTLB Pontes e Lacer 88.26 255 P **P** **06 18 04.5 -0.3**
KAPI Kappang 88.49 95 LR LR 06 53 48.7
comp=Z,271nm,19.2s,baz=247,slow=33

SUMG Summit 89.74 344 P **P** **06 18 10.6 -0.5**
SUMG IAmb IAmb 06 18 33.9
comp=Z,37nm,1.7s
SUMG Summit 89.74 344 P **P** **06 18 10.6 -0.5**
SUMG pmax pmax
comp=Z,37nm,1.7s
SIV San Ignacio 90.05 254 LR LR 06 57 18.5
comp=Z,232nm,18.1s,baz=104,slow=35
TOLI2 Tolitoli 90.16 89 IAMs_20 IAMs_20 06 56 39.5
comp=Z,292nm,20.0s
XLT XiLinHaoTe 90.89 46 *e*P P 06 18 21.6 +4.9
XLT pmax pmax
comp=Z,26nm,1.0s
XLT pmax pmax
comp=Z,560nm,6.0s
BOAV Boa Vista 91.50 272 P **P** **06 18 19.1 -1.1**
BOAV IAmb IAmb 06 18 28.2
comp=Z,32nm,1.7s
NJ2 Nanjing 91.65 58 *e*P **P** **06 18 19.9 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
BATI Baumata 91.79 100 LR LR 06 54 18.1
comp=Z,318nm,20.8s,baz=305,slow=32
SFJD Kangerlussuaq 92.27 337 LR LR 07 00 02.0
comp=Z,274nm,21.0s,baz=111,slow=36
SAML Samuel 92.90 261 P **P** **06 18 25.9 -0.7**
SAML IAmb IAmb 06 18 33.2
comp=Z,8.9nm,1.1s
SAML Samuel 92.90 261 P **P** **06 18 25.9 -0.7**
SAML pmax pmax
comp=Z,9.0nm,1.1s
CFA Coronel Fontan 94.39 238 LR LR 06 55 49.5
comp=Z,228nm,21.1s,baz=110,slow=32
PLCA Paso Flores 94.50 228 LR LR 06 58 13.9
comp=Z,406nm,18.0s,baz=101,slow=34
DAV Davao City (W) 95.53 84 LR LR 06 59 54.2
comp=Z,245nm,18.0s,baz=300,slow=34
PCRV Puerto La Cruz 96.34 280 LR LR 07 00 18.4
comp=Z,218nm,18.0s,slow=34
LVC Limon Verde 96.49 246 LR LR 06 59 39.0
comp=Z,168nm,20.3s,baz=115,slow=34
LPAZ La Paz 96.74 253 LR LR 06 58 51.2
comp=Z,190nm,20.1s,baz=62,slow=33
TIXI Tiksi 98.39 18⇑*e*P Pdif 06 18 50.4 +0.1
TIXI pmax pmax
comp=Z,2.0nm,1.1s
SCHQ Schefferville 99.38 324 LR LR 07 03 09.9
comp=Z,354nm,19.3s,baz=140,slow=35
KSRS Korea Array 99.42 53 LR LR 07 07 30.4
comp=Z,91nm,18.2s,baz=175,slow=38
ASAR Alice Springs 99.50 115 P **Pdif** **06 18 55.5 -0.9**
comp=Z,1.1nm,1.0s,baz=261,slow=4.0,SNR=6.7
ASAR PP **PP** **06 22 59.2 -0.8**
comp=Z,0.2nm,0.4s,baz=266,slow=6.4,SNR=1.6
ASAR LR LR 06 58 34.5
comp=Z,408nm,21.2s,baz=273,slow=32
comp=Z,1.1nm,1.0s
FRB Frobisher Bay 99.62 334 LR LR 07 05 30.4
comp=Z,202nm,18.1s,baz=69,slow=36
WRA Warramunga Arr 100.59 112 P **Pdif** **06 19 01.0 -0.3**
comp=Z,1.1nm,1.1s,baz=257,slow=4.1,SNR=6.1
WRA PP **PP** **06 23 09.6 +1.3**
comp=Z,1.8nm,1.0s,baz=261,slow=6.4,SNR=4.9
MDJ Mudanjiang 100.61 46 P **Pdif** **06 19 01.3 +0.5**
MDJ pmax pmax
comp=Z,8.0nm,0.8s
YKA Yellowknife Ar 118.32 343 PKP **PKPdf** **06 23 58.6 -1.3**
comp=Z,0.3nm,0.5s,baz=133,slow=12,SNR=4.8
CRIN San Cristobal 118.40 281 **PKPdf** **06 23 59.3 -2.1**
ILAR Eielson Array 121.49 359 PKP **PKPdf** **06 24 05.2 -0.8**
comp=Z,0.8nm,0.7s,baz=331,slow=3.3,SNR=8.7
RIDG Independent Ri 122.46 358 IAMs_20 IAMs_20 07 25 55.4
comp=Z,157nm,18.0s
N30M Aishikik Lake 124.09 353 PKPdf **PKPdf** **06 24 09.4 -1.7**
WMOK Wichita Mounta 125.57 309 **PKiKP** **06 24 15.3 +0.3**
WMOK Wichita Mounta 125.57 309 PKIKP **PKiKP** **06 24 15.3 +0.3**
DZM Mont Dzumac 128.33 124 *e*LR LR 07 04 40.7
comp=Z,306nm,21.8s
BW06 Boulder Array 129.47 322 **PKiKP** **06 24 23.2 +0.3**
PDAR Pinedale Array 129.47 322 PKP **PKPdf** **06 24 21.9 -0.3**
comp=Z,2.4nm,1.0s,baz=63,slow=4.2,SNR=6.1
FXWY Fox Creek 129.83 324 **PKPdf** **06 24 23.0 +0.1**
REDW Red Top Meadow 129.89 324 **PKiKP** **06 24 24.4 +0.7**
TXAR Lajitas Array 131.27 304 PKP **PKPdf** **06 24 25.6 -0.1**
comp=Z,0.4nm,0.5s,baz=127,slow=3.1,SNR=6.4
PINE Pine Mountain 135.04 331 PKPdf **PKPdf** **06 24 30.6 -2.0**
NVAR Mina Array Bea 137.38 323 PKhKP PKPpre 06 24 30.7
comp=Z,0.6nm,0.8s,baz=47,slow=4.5,SNR=3.8
PPT2 Papeete2 156.38 179 *e*LR LR 07 17 38.3
comp=Z,208nm,23.0s
PPT2 *e*LR LR 07 17 45.7
comp=Z,194nm,23.5s
TAOE Nuku Hiva Isla 162.52 211 *e*LR LR 07 20 42.0
comp=Z,182nm,24.5s

ROM 22 06:13:37.7±0.1, 43°.014N±0°.004×13°.130E±0°.005,
h9km, ML1.4/18, 1C, Error ellipse: s-maj=0.4km
s-min=0.2km az=270.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.04**	**306**	P	Pg	06 13 39.4	-0.1
FDMO				S	Sg	06 13 40.4	-0.4
FDMO				AML	AML		
	comp=N,960μm,0.8s						
FDMO				AML	AML		
	comp=E,939μm,0.2s						
FEMA	**Monte Fema**	**0.08**	**229**	P	Pg	06 13 40.3	+0.3
FEMA				S	Sg	06 13 42.4	+0.7
CSP1	**Cessapalombo**	**0.10**	**35**	P	Pg	06 13 40.5	+0.2
CSP1				S	Sg	06 13 42.2	+0.2
GUMA	**Gualdo di Mace**	**0.16**	**72**	P	Pg	06 13 42.0	+0.9
GUMA				S	Sg	06 13 45.1	+1.6
CESI	**CESI - Serrava**	**0.17**	**267**	P	Pg	06 13 42.1	+0.8
CESI				S	Sg	06 13 45.3	+1.5
CESI				AML	AML		
	comp=E,233μm,0.2s						
CESI				AML	AML		
	comp=N,315μm,1.3s						
CESI				AML	AML		
	comp=N,315μm,0.7s						
NRCA	**Norcia**	**0.18**	**184**	P	Pg	06 13 42.0	+0.4
NRCA				S	Sg	06 13 45.4	+1.3
NRCA				AML	AML		
	comp=E,381μm,1.2s						
NRCA				AML	AML		
	comp=E,340μm,1.1s						
NRCA				AML	AML		
	comp=N,292μm,0.4s						
NRCA				AML	AML		
	comp=N,350μm,1.3s						
NRCA				AML	AML		
	comp=E,340μm,0.9s						
NRCA				AML	AML		
	comp=E,381μm,0.8s						
MMO1	**Montemonaco**	**0.18**	**128**	P	Pg	06 13 41.9	+0.3
MMO1				S	Sg	06 13 45.0	+0.8
MF5	**Montefalcone A**	**0.24**	**96**	P	Pg	06 13 43.6	+1.0
MF5				S	Sg	06 13 48.3	+2.3
MF5				AML	AML		
	comp=N,154μm,0.5s						
MF5				AML	AML		
	comp=E,161μm,0.5s						
MF5				AML	AML		
	comp=E,161μm,1.5s						
T1221	**Campello sul C**	**0.26**	**234**	⇑P	Pg	06 13 43.7	+0.7
T1221				S	Sb	06 13 48.4	-0.9
T1214	**Arquata del Tr**	**0.26**	**167**	P	Pg	06 13 43.6	+0.6
SNTG	**Esanatoglia**	**0.28**	**330**	P	Pg	06 13 44.0	+0.6
SNTG				S	Sb	06 13 49.0	-0.8
SNTG				AML	AML		
	comp=N,48μm,1.3s						
SNTG				AML	AML		
	comp=E,57μm,0.6s						
SNTG				AML	AML		
	comp=N,48μm,0.7s						
EL6	**Elcito**	**0.32**	**356**	P	Pg	06 13 44.7	+0.6
EL6				S	Sb	06 13 50.2	-0.7
MTRA	**Matera**	**0.32**	**143**	P	Pb	06 13 45.1	-0.6
MTRA				AML	AML		
	comp=E,56μm,0.4s						
MTRA				AML	AML		
	comp=N,61μm,0.4s						
ASSB	**Assisi San Ben**	**0.35**	**275**	P	Pg	06 13 45.2	+0.6
ASSB				S	Sb	06 13 51.1	-0.7

ASSB				AML	AML		
	comp=E,164μm,0.3s						
ASSB				AML	AML		
	comp=N,146μm,0.4s						
CING	**Cingoli**	**0.36**	**7**	P	Pg	06 13 45.4	+0.5
CING				S	Sb	06 13 51.6	-0.7
CING				AML	AML		
	comp=E,74μm,0.7s						
CING				AML	AML		
	comp=N,65μm,1.5s						
CING				AML	AML		
	comp=N,65μm,0.5s						
SMA1	**SAN MARTINO**	**0.41**	**158**	P	Pg	06 13 46.2	+0.4
SMA1				AML	AML		
	comp=E,42μm,0.9s						
SMA1				AML	AML		
	comp=N,43μm,1.6s						
SMA1				AML	AML		
	comp=E,42μm,1.1s						
SMA1				AML	AML		
	comp=N,43μm,0.4s						
ARVD	**Arcevia**	**0.50**	**344**	AML	AML		
	comp=N,32μm,0.5s						
ARVD				AML	AML		
	comp=N,32μm,1.5s						
ARVD				AML	AML		
	comp=E,44μm,0.2s						

*AUST **22** 06:30:10.2±1.0, 31°.42S×119°.25E, h0km, Error ellipse: s-maj=18.6km s-min=8.4km az=177.0, Mining explosion.*
*NOU **22** 06:30:11.3, 31°.34S×119°.24E, h0km, MLv3.6/8, Western Australia*

ISC 22 06:30:09.5±0.8, 31°.38S±0°.06×119°.29E±0°.04, h0km, n22, σ1§54/24, 1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**1.33**	**260**	S	**Sg**	**06 30 52.0**	**-0.2**
	baz=1.3,SNR=22						
KLBR	**Kellerberrin**	**1.33**	**260**	P	**Pg**	**06 30 36.1**	**+1.1**
KLBR	**Kellerberrin**	**1.33**	**260**	⇓P	**Pg**	**06 30 35.9**	**+0.9**
	baz=1.3,SNR=69						
KMBL	**Kambalda**	**2.22**	**90**	P	**Pb**	**06 30 49.9**	**-0.6**
	baz=2.2						
KMBL				S	**Sn**	**06 31 16.4**	**+0.7**
	baz=2.2,SNR=9.3						
KMBL	**Kambalda**	**2.22**	**90**	P	**Pb**	**06 30 50.0**	**-0.6**
NWAO	**Narrogin (SRO)**	**2.33**	**228**	P	**Pn**	**06 30 49.8**	**+0.7**
	baz=2.3,SNR=5.7						
NWAO				P	**Pn**	**06 30 49.8**	**+0.7**
	baz=2.3,SNR=5.7						
NWAO	**Narrogin (SRO)**	**2.33**	**228**	P	**Pn**	**06 30 50.1**	**+1.0**
BLDU	**Ballidu**	**2.34**	**288**	S	**Sn**	**06 31 19.1**	**+0.4**
	baz=2.3,SNR=6.8						
BLDU	**Ballidu**	**2.34**	**288**	P	**Pn**	**06 30 49.5**	**+0.2**
BLDU	**Ballidu**	**2.34**	**288**	P	**Pn**	**06 30 49.1**	**-0.2**
	baz=2.3,SNR=31						
MUN	**Mundaring**	**2.69**	**256**	S	**Sn**	**06 31 25.2**	**-2.2**
	baz=2.6						
MUN	**Mundaring**	**2.69**	**256**	P	**Pn**	**06 30 55.4**	**+1.3**
MUN	**Mundaring**	**2.69**	**256**	P	**Pn**	**06 30 54.2**	**+0.1**
	baz=2.6,SNR=6.6						
MORW	**Morawa**	**3.63**	**308**	P	**Pn**	**06 31 08.4**	**+1.3**
	baz=3.6,SNR=6.0						
MORW	**Morawa**	**3.63**	**308**	P	**Pn**	**06 31 07.9**	**+0.8**
RKGY	**Rocky Gully**	**3.76**	**210**	P	**Pn**	**06 31 08.4**	**-0.4**
	baz=3.7						
MEEK	**Meekatharra**	**4.76**	**353**	S	**Sn**	**06 32 15.1**	**-3.5**
	baz=4.9						
MEEK	**Meekatharra**	**4.76**	**353**	P	**Pn**	**06 31 23.7**	**+1.1**
MEEK	**Meekatharra**	**4.76**	**353**	P	**Pn**	**06 31 24.4**	**+1.8**
	baz=4.9,SNR=4.1						
FORT	**Forrest**	**7.55**	**88**	S	**Sn**	**06 33 23.4**	**-3.7**
	baz=7.6						
FORT	**Forrest**	**7.55**	**88**	P	**Pn**	**06 32 02.8**	**+2.0**
FORT	**Forrest**	**7.55**	**88**	P	**Pn**	**06 32 01.7**	**+0.9**
	baz=7.6						

*PDG **22** 06:31:38.4±0.0, 42°.36N×19°.45E, h24km, MD2.5/2, ML2.4/12, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*RHSSO **22** 06:31:39.5±0.5, 42°.37N×19°.51E, h7km±2km, ML2.1/10*
*BEO **22** 06:31:39.9±0.4, 42°.40N×19°.50E, h10km±5km, ML1.9/6*

ISC 22 06:31:39.7±0.9, 42°.37N±0°.03×19°.49E±0°.02, h16km±6km, n43, σ1§12/83, 12C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.19**	**288**	*e*Pg	**Pg**	**06 31 43.7**	**-0.5**
PDG				*e*Sg	**Sg**	**06 31 47.7**	**+0.5**
PDG	**Podgorica**	**0.19**	**288**	*e*Pg	**Pg**	**06 31 43.7**	**-0.5**
PDG				*e*Sg	**Sg**	**06 31 47.3**	**+0.1**
PDG	**Podgorica**	**0.19**	**288**	*e*Pg	**Pg**	**06 31 43.4**	**-0.8**
PDG				*i* Sg	**Sg**	**06 31 47.6**	**+0.4**
DRME	**Dracevica, Mon**	**0.30**	**231**	⇑*i*Pg	**Pg**	**06 31 45.2**	**-0.8**
DRME				*e*Sg	**Sg**	**06 31 50.5**	**+0.3**
DRME	**Dracevica, Mon**	**0.30**	**231**	*e*Pg	**Pg**	**06 31 44.8**	**-1.2**
DRME				*i* Sg	**Sg**	**06 31 50.1**	**-0.1**
PVY	**Plav**	**0.41**	**57**	*e*Pg	**Pg**	**06 31 47.5**	**-0.5**
PVY				*i* Sg	**Sb**	**06 31 55.2**	**+0.4**
ULC	**Ulcinj**	**0.45**	**204**	*e*Pg	**Pg**	**06 31 47.2**	**-1.5**
ULC				*i* Sg	**Sg**	**06 31 54.7**	**-0.1**
BUM	**Brajici-Budva**	**0.45**	**261**	*e*Pg	**Pg**	**06 31 47.1**	**-1.7**
BUM				*i* Sg	**Sg**	**06 31 54.4**	**-0.5**
CEME	**Cevo**	**0.46**	**292**	*e*Pg	**Pg**	**06 31 47.4**	**-1.5**
CEME				*i* Sg	**Sg**	**06 31 55.0**	**-0.2**
NKME	**Niksic**	**0.56**	**315**	⇑*i*Pg	**Pg**	**06 31 49.2**	**-1.6**
NKME				*i* Sg	**Sg**	**06 31 58.5**	**+0.2**
IVA	**Berane**	**0.58**	**30**	⇑*i*Pg	**Pg**	**06 31 50.3**	**-0.9**
IVA				*i* Sg	**Sb**	**06 32 00.3**	**+0.7**
HCY	**Herceg Novi**	**0.74**	**276**	⇑*i*Pg	**Pg**	**06 31 52.5**	**-1.7**
HCY				*e*Sg	**Sg**	**06 32 03.7**	**-0.4**
HCY	**Herceg Novi**	**0.74**	**276**	*e*Pg	**Pg**	**06 31 52.2**	**-2.0**
HCY				*i* Sg	**Sg**	**06 32 03.9**	**-0.2**
BRY	**Bratogost**	**0.88**	**307**	⇑*i*Pg	**Pg**	**06 31 54.8**	**-2.0**
BRY				*e*Sg	**Sg**	**06 32 08.4**	**0.0**
BRY	**Bratogost**	**0.88**	**307**	⇓*i*Pg	**Pg**	**06 31 54.8**	**-2.0**
BRY				*i* Sg	**Sb**	**06 32 08.8**	**+0.4**
TREB	**Trebinje**	**0.91**	**293**	*e*Pg	**Pg**	**06 31 55.6**	**-1.8**
TREB				*e*Sg	**Sb**	**06 32 09.9**	**+0.8**
TREB	**Trebinje**	**0.91**	**293**	*e*Pg	**Pg**	**06 31 55.6**	**-1.8**
TREB				*e*Sg	**Sb**	**06 32 09.4**	**+0.3**
UPM	**Unac-Piva**	**0.94**	**333**	*e*Pg	**Pg**	**06 31 56.2**	**-1.7**
UPM				*e*Sg	**Sg**	**06 32 09.3**	**-0.9**
UPM	**Unac-Piva**	**0.94**	**333**	⇓*i*Pg	**Pg**	**06 31 56.1**	**-1.8**
UPM				*i* Sg	**Sb**	**06 32 11.1**	**+1.1**
SJES	**Sjenica**	**0.95**	**22**	*e*Pg	**Pg**	**06 31 56.7**	**-1.5**
SJES				*e*Sg	**Sg**	**06 32 10.0**	**-0.8**
SJES	**Sjenica**	**0.95**	**22**	⇑*i*Pg	**Pg**	**06 31 56.6**	**-1.6**
SJES				*e*Sg	**Sg**	**06 32 10.0**	**-0.8**
PLE	**Pljevlja**	**0.96**	**355**	⇑*i*Pg	**Pg**	**06 31 56.7**	**-1.6**
PLE				*i* Sg	**Sn**	**06 32 12.3**	**+0.2**
DBRK	**Dubrovnik**	**1.04**	**287**	*e*Pg	**Pg**	**06 31 58.2**	**-1.6**
DBRK				Sg	**Sn**	**06 32 14.8**	**+0.9**
TIR	**Tirane**	**1.06**	**165**	*e*Sg	**Sn**	**06 32 15.0**	**+0.6**
RUDO	**Rudo**	**1.25**	**356**	⇑*i*Pg	**Pn**	**06 32 02.0**	**-0.6**
RUDO				*e*Sg	**Sb**	**06 32 18.9**	**+0.1**
NEVS	**Nevesinje**	**1.38**	**313**	*e*Pg	**Pn**	**06 32 04.9**	**+0.5**
NEVS				*e*Sg	**Sn**	**06 32 23.5**	**+1.1**
STON	**Ston**	**1.42**	**291**	*e*Pn	**Pn**	**06 32 03.8**	**-1.0**
STON				Sn	**Sg**	**06 32 24.6**	**-0.7**
STON	**Ston**	**1.42**	**291**	*e*Pg	**Pn**	**06 32 04.3**	**-0.5**
STON				*e*Sg	**Sg**	**06 32 24.6**	**-0.7**
STON	**Ston**	**1.42**	**291**	⇑*i*Pg	**Pn**	**06 32 04.3**	**-0.5**
STON				*e*Sg	**Sg**	**06 32 24.6**	**-0.7**
SELS	**Selova**	**1.47**	**54**	*e*Pg	**Pn**	**06 32 05.0**	**-0.6**
BBLS	**Lazići**	**1.49**	**358**	*e*Pg	**Pn**	**06 32 06.7**	**+0.7**
BBLS				*e*Sg	**Sb**	**06 32 26.7**	**+0.8**
BBLS	**Lazići**	**1.49**	**358**	⇑*i*Pg	**Pn**	**06 32 06.4**	**+0.4**
BBLS				*e*Sg	**Sb**	**06 32 26.9**	**+1.0**
DIVS	**Divibare**	**1.76**	**12**	⇑*i*Pn	**Pn**	**06 32 09.6**	**-0.1**
DIVS				*e*Sn	**Sn**	**06 32 33.2**	**+1.3**
MAKA	**Makarska**	**2.04**	**298**	Sn	**Sb**	**06 32 40.7**	**-0.8**
RICI	**Ricice**	**2.06**	**304**	*e*Pn	**Pn**	**06 32 14.9**	**+1.1**
RICI				Sn	**Sb**	**06 32 42.3**	**0.0**
HVAR	**Hvar**	**2.38**	**291**	*e*Pn	**Pn**	**06 32 18.3**	**+0.2**
HVAR				Sn	**Sn**	**06 32 47.4**	**+0.4**
SRKY	**Kupres RS**	**2.40**	**316**	*e*Pn	**Pn**	**06 32 19.5**	**+1.0**
SRKY				*e*Sn	**Sn**	**06 32 49.4**	**+1.7**
KIJV	**Kijevo**	**2.79**	**307**	*e*Pn	**Pn**	**06 32 23.9**	**+0.2**
KIJV				Sn	**Sn**	**06 33 00.1**	**+3.1**
ZIRJ	**Zirje**	**3.10**	**296**	*e*Pn	**Pn**	**06 32 28.5**	**+0.5**
ZIRJ				Sn	**Sn**	**06 33 06.1**	**+1.3**
MORI	**Morici**	**3.15**	**300**	*e*Pn	**Pn**	**06 32 30.1**	**+1.4**
MORI				Sn	**Sn**	**06 33 08.3**	**+2.4**
A051A	**Mrakovica**	**3.24**	**325**	⇑*i*Pn	**Pn**	**06 32 31.5**	**+1.5**
A051A				*e*Sn	**Sn**	**06 33 08.6**	**+0.4**
DUGI	**Dugi Otok**	**3.62**	**298**	*e*Pn	**Pn**	**06 32 35.7**	**+0.5**
DUGI				Sn	**Sn**	**06 33 18.5**	**+0.8**
VIRC	**Vir**	**3.76**	**302**	*e*Pn	**Pn**	**06 32 37.7**	**+0.6**
VIRC				Sn	**Sn**	**06 33 22.1**	**+1.0**

IDC 22 06:47:47.3±1.8, 2°.35S×141°.74E, h0km, mb3.1/2, mbtmp3.1/3, ML3.1/1, MS3.9/1, Error ellipse: s-maj=238.1km s-min=30.8km az=112.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.92**	**202**	P	P	06 52 08.8	-0.9
	0.1nm,0.3s,baz=29,slow=12,SNR=5.6						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**22.50**	**199**	P	P	06 52 49.5	+0.8
	0.1nm,0.4s,baz=26,slow=11,SNR=3.4						
	0.1nm,0.4s						
H11S3	**WAKE ISLAND Hy**	**32.13**	**49**	T	T	07 27 33.8	
	baz=229						
H11S2	**WAKE ISLAND Hy**	**32.14**	**49**	T	T	07 27 34.8	
	baz=229						
H11S1	**WAKE ISLAND Hy**	**32.15**	**49**	T	T	07 27 33.0	
	baz=229						
JNU	**Nakatsue**	**36.75**	**345**	LR	LR	07 07 54.8	
	comp=Z,181nm,20.9s,baz=230,slow=33						
ILAR	**Eielson Array**	**84.27**	**24**	P	P	07 00 20.6	0.0
	0.3nm,0.6s,baz=261,slow=4.7,SNR=5.2						
	0.3nm,0.6s						

*NNC **22** 07:19:18.8±0.4, 50°.03N×78°.82E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=10.2km s-min=2.2km az=71.0, Suspected Mining explosion.*
*IDC **22** 07:19:19.1±0.8, 50°.02N×78°.68E, h0km, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=11.6km s-min=5.9km az=62.0*

ISC 22 07:19:19.5±0.8, 50°.05N±0°.03×78°.64E±0°.05, h0km, n28, σ1§43/41, 7C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.54**	**352**	P	**Pg**	**07 19 30.3**	**+0.4**
KUR07				S	**Sb**	**07 19 39.2**	**-1.0**
KUR06	**Kurchatov Arra**	**0.56**	**353**	P	**Pg**	**07 19 30.6**	**+0.3**
KUR06				S	**Sb**	**07 19 40.2**	**-0.6**
KUR14	**Kurchatov Arra**	**0.57**	**357**	P	**Pg**	**07 19 30.5**	**+0.2**
KUR14				S	**Sg**	**07 19 39.4**	**+1.7**
KUR15	**Kurchatov Arra**	**0.57**	**355**	P	**Pg**	**07 19 30.7**	**+0.2**
KUR15				S	**Sb**	**07 19 39.8**	**-1.3**
KURBB	**Kurchatov Arra**	**0.58**	**353**	⇓P	**Pg**	**07 19 30.9**	**+0.3**
	17nm,0.3s						
KURBB				⇑S	**Sb**	**07 19 40.5**	**-0.8**
	57nm,0.3s						
KURBB	**Kurchatov Arra**	**0.58**	**353**	Pg	**Pg**	**07 19 30.7**	**+0.1**
	4.2nm,0.3s,baz=167,slow=18,SNR=296						
KURBB				Lg	Lg	07 19 40.6	
	4.5nm,0.3s,baz=171,slow=33,SNR=17						
KUR16	**Kurchatov Arra**	**0.59**	**351**	P	**Pg**	**07 19 31.1**	**+0.4**
KUR16				S	**Sb**	**07 19 40.6**	**-0.9**
KUR17	**Kurchatov Arra**	**0.59**	**350**	⇑P	**Pg**	**07 19 30.9**	**+0.1**
KUR17				⇑S	**Sb**	**07 19 40.8**	**-0.9**
KUR05	**Kurchatov Arra**	**0.60**	**354**	P	**Pg**	**07 19 31.1**	**+0.2**
KUR05				S	**Sg**	**07 19 40.1**	**+1.3**
KUR04	**Kurchatov Arra**	**0.62**	**354**	P	**Pg**	**07 19 31.6**	**+0.3**
KUR04				S	**Sg**	**07 19 40.4**	**+1.1**
KURK	**Kurchatov**	**0.67**	**359**	⇑P	**Pg**	**07 19 32.0**	**-0.3**
	11nm,0.4s						
KURK				⇓S	**Sg**	**07 19 42.4**	**+1.4**
	43nm,0.8s						
SEM	**Semipalatinsk**	**1.10**	**70**	P	Pn	07 19 48.8	+6.5
	6.7nm,0.1s						
SEM				S	**Sn**	**07 20 03.7**	**+5.4**
	60nm,0.2s						
BRZS	**Berezniki**	**3.84**	**271**	Pg	**Pg**	**07 20 37.2**	**+4.1**
	2.1nm,0.3s						
BRZS				Lg	Lg	07 21 24.7	
	12nm,0.4s						
MAKZ	**Makanchi**	**3.93**	**144**	⇓Pn	**Pn**	**07 20 21.0**	**0.0**
	0.3nm,0.3s						
MAKZ				⇑Pg	**Pb**	**07 20 30.0**	**+0.4**
	4.3nm,1.1s						
MAKZ				⇑Lg	Lg	07 21 19.9	
	12nm,0.7s						
MK31	**Makanchi Array**	**4.06**	**142**	Pn	**Pn**	**07 20 22.7**	**-0.2**
	1.0nm,0.1s,baz=324,slow=10,SNR=36						
MK31				⇑Pg	**Pb**	**07 20 31.9**	**+0.1**
	0.4nm,0.2s,baz=319,slow=13,SNR=20						
MK31				Lg	Lg	07 21 23.4	
	6.7nm,0.4s,baz=326,slow=26,SNR=22						
MKAR	**Makanchi Array**	**4.06**	**142**	Pn	**Pn**	**07 20 22.1**	**-0.8**
	0.5nm,0.3s,baz=320,slow=10,SNR=47						
MKAR				Pg	**Pb**	**07 20 30.1**	**-1.8**
	1.4nm,0.3s,baz=327,slow=14,SNR=24						
MKAR				Sn	**Sn**	**07 21 10.3**	**-0.9**
	0.5nm,0.3s,baz=312,slow=13,SNR=1.8						
MKAR				Lg	Lg	07 21 24.4	
	3.2nm,0.3s,baz=328,slow=28,SNR=20						
	0.5nm,0.3s						
ZSN	**Zaisan**	**4.87**	**120**	Pg	**Pg**	**07 20 53.0**	**+0.2**
	4.0nm,0.2s						
ZSN				Lg	Lg	07 21 52.2	
	7.0nm,0.4s						
ZALV	**Zalesovo Beam**	**5.46**	**42**	Pn	**Pn**	**07 20 42.2**	**+0.2**
	1.3nm,0.3s,baz=232,slow=15,SNR=7.6						
ZALV				Lg	Lg	07 22 12.1	
	0.1nm,0.3s,baz=222,slow=25,SNR=2.9						
	2.4nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.46**	**42**	I	I	07 50 50.0	
	baz=224,slow=295,SNR=2.4						
KNOS	**Konyrlen**	**5.70**	**176**	Pg	**Pg**	**07 21 10.2**	**+1.5**
	1.3nm,0.2s						
KNOS				Lg	Lg	07 22 20.2	
	4.5nm,0.5s						
ARXS	**Arharly**	**5.86**	**186**	Pg	**Pg**	**07 21 12.4**	**+0.7**
	0.9nm,0.3s						
ARXS				Lg	Lg	07 22 25.0	
	12nm,0.5s						
BVAR	**Borovoye Array**	**5.95**	**303**	Pn	**Pn**	**07 20 46.9**	**-1.9**
	0.1nm,0.3s,baz=105,slow=14,SNR=2.2						
BVAR				Sn	**Sn**	**07 21 56.4**	**-1.1**
	baz=119,slow=26,SNR=1.5						
	0.5nm,0.4s						
BLB	**Baldybastay**	**5.95**	**181**	Pg	**Pg**	**07 21 14.6**	**+1.1**
	2.4nm,0.2s						
BLB				Lg	Lg	07 22 27.9	
	18nm,0.5s						
CHKK	**Chushkaly**	**6.30**	**191**	Pg	**Pg**	**07 21 20.6**	**+0.5**
	1.8nm,0.4s						
CHKK				Lg	Lg	07 22 37.9	
	10nm,0.5s						
KUU	**Kurty**	**6.35**	**195**	Pg	**Pg**	**07 21 22.5**	**+1.4**
	1.3nm,0.1s						
KUU				Lg	Lg	07 22 41.2	
	11nm,0.4s						
KTBS	**Karatobe**	**6.48**	**193**	Pg	**Pg**	**07 21 23.9**	**+0.4**
	0.9nm,0.3s						
KTBS				Lg	Lg	07 22 43.7	
	9.5nm,0.6s						
KPKS	**Kokpek**	**6.58**	**180**	Pg	**Pg**	**07 21 26.6**	**+1.1**
	1.7nm,0.2s						
KPKS				Lg	Lg	07 22 48.3	
	13nm,0.4s						
AAK	**Ala-Archa**	**7.95**	**203**	Lg	Lg	07 23 31.0	
	0.2nm,0.3s,baz=82,slow=23,SNR=4.8						

IDC 22 07:19:45.3±2.4, 2°.45N×127°.08E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=190.2km s-min=28.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.37**	**163**	P	P	07 24 55.1	-0.6
	0.7nm,0.6s,baz=342,slow=11,SNR=9.2						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**26.80**	**166**	P	P	07 25 27.9	+0.6
	0.2nm,0.5s,baz=342,slow=7.6,SNR=2.5						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.80**	**326**	P	P	07 29 45.4	-0.1
	0.1nm,0.5s,baz=123,slow=7.2,SNR=2.0						
	0.1nm,0.5s						

*IDC **22** 07:29:55.8±1.0, 24°.83S×177°.56W, h0km, mb3.8/5, mbtmp3.9/6, ML5.8/1, Error ellipse: s-maj=31.4km s-min=28.2km az=153.0*

ISC 22 07:29:57.2±1.0, 24°.8S±0°.2×177°.6W±0°.2, h10km, n13, σ0§86/7, mb3.9/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.12**	**329**	Pn	**Pn**	**07 31 55.4**	**+0.2**
	3.7nm,0.3s,baz=272,slow=23,SNR=15						
	23nm,0.8s						
ASAR	**Alice Springs**	**44.06**	**261**	P	**P**	**07 38 06.3**	**+0.6**
	0.3nm,0.3s,baz=91,slow=7.4,SNR=8.3						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**44.54**	**266**	P	**P**	**07 38 09.2**	**-0.2**
	0.2nm,0.3s,baz=98,slow=8.3,SNR=1.6						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**65.29**	**180**	P	**P**	**07 40 39.0**	**-0.1**
	1.3nm,0.7s,baz=40,slow=3.0,SNR=8.6						
	1.3nm,0.7s						
H03S2	**Juan Fernandez**	**83.27**	**124**	T	T	09 13 57.4	
	baz=245,slow=74,SNR=133						
H03S1	**Juan Fernandez**	**83.28**	**124**	T	T	09 14 01.8	
	baz=245,slow=74,SNR=157						
H03S3	**Juan Fernandez**	**83.28**	**124**	T	T	09 14 04.7	
	baz=245,slow=74,SNR=162						
H03N2	**Juan Fernandez**	**83.43**	**124**	T	T	09 13 57.9	
	baz=250,slow=72,SNR=48						
H03N3	**Juan Fernandez**	**83.43**	**124**	T	T	09 14 06.4	
	baz=250,slow=72,SNR=63						
H03N1	**Juan Fernandez**	**83.45**	**124**	T	T	09 13 56.7	
	baz=250,slow=72,SNR=48						
NVAR	**Mina Array Bea**	**83.89**	**43**	P	**P**	**07 42 27.1**	**-0.4**
	0.6nm,0.8s,baz=225,slow=8.9,SNR=4.4						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**89.06**	**57**	P	**P**	**07 42 53.7**	**+0.8**
	0.8nm,0.9s,baz=211,slow=8.6,SNR=8.8						
	0.8nm,0.9s						
AKASG	**Malin Array Be**	**146.90**	**328**	PKPbc	**PKPab**	**07 49 39.7**	**-1.3**
	0.4nm,0.5s,baz=43,slow=4.1,SNR=2.3						

*DJA **22** 07:38:48.3±0.3, 7°.S±2°.×13°.0E±°, h196km±7km, M4.4/12, mb4.2/8, mB5.1/4, MLv4.5/12, Mw(mB)4.4/4*
*IDC **22** 07:38:52.0±9.4, 6°.86S×129°.71E, h180km±98km, mb3.8/2, mbtmp4.3/5, Error ellipse: s-maj=90.1km s-min=25.9km az=39.0*

ISC 22 07:38:49.0±0.9, 6°.61S±0°.07×129°.85E±0°.07, h146km, n14, σ1§81/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.98**	**134**	P	**Pn**	**07 39 25.4**	**+1.7**
SAUI				S	**Sn**	**07 39 54.2**	**+3.9**
BNDI	**Bandanaira**	**2.08**	**1**	P	**Pn**	**07 39 26.5**	**+1.7**
FAKI	**Fak Fak**	**4.38**	**33**	P	**Pn**	**07 39 52.5**	**-1.7**
SWI	**Sorong**	**5.88**	**14**	P	**Pn**	**07 40 13.0**	**-1.1**
	27nm,0.7s,0.2nm						
SOEI	**Soe**	**6.35**	**240**	P	**Pn**	**07 40 21.9**	**+1.4**
	66nm,0.8s,0.2nm						
LBMI	**Labuha**	**6.38**	**338**	P	**Pn**	**07 40 21.9**	**+1.1**
	97nm,0.7s,0.5nm						
RKPI	**Ransiki, Papua**	**6.65**	**41**	P	**Pn**	**07 40 23.6**	**-0.9**
BATI	**Baumata**	**7.09**	**239**	P	**Pn**	**07 40 31.0**	**+0.7**
	75nm,0.7s,0.3nm						
BATI	**Baumata**	**7.09**	**239**	P	**Pn**	**07 40 30.7**	**+0.4**
	36nm,0.3s,baz=82,slow=2.1,SNR=8.9						
BATI				S	**Sn**	**07 41 48.0**	**-1.7**
	43nm,0.4s,baz=73,slow=9.9,SNR=8.9						
EDFI	**Ende, Flores**	**8.36**	**255**	P	**Pn**	**07 40 49.3**	**+1.9**
	5.8nm,0.9s						
WRA	**Warramunga Arr**	**13.95**	**162**	P	**Pn**	**07 41 58.0**	**-2.5**
	2.2nm,0.4s,baz=331,slow=13,SNR=34						
WRA				S	Sn	07 44 19.3	-16
	2.0nm,0.6s,baz=338,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**17.40**	**167**	P	**P**	**07 42 41.8**	**-0.3**
	2.3nm,0.5s,baz=340,slow=9.4,SNR=28						
ASAR				S	S	07 45 46.1	-10
	1.7nm,0.6s,baz=356,slow=27,SNR=6.7						
MKAR	**Makanchi Array**	**67.82**	**327**	P	**P**	**07 49 31.6**	**+0.3**
	2.5nm,0.6s,baz=122,slow=7.8,SNR=23						
	2.5nm,0.6s						
KURBB	**Kurchatov Arra**	**72.10**	**328**	P	**P**	**07 49 57.3**	**0.0**
	0.8nm,0.5s,baz=127,slow=5.0,SNR=9.1						
	0.8nm,0.5s						

*IDC **22** 07:48:02.3±1.0, 5°.28S×75°.53W, h0km, mb3.9/7, mbtmp3.9/8, ML4.0/1, MS3.2/8, Error ellipse: s-maj=41.1km s-min=19.1km az=54.0*
*NEIC **22** 07:48:07.5±2.0, 5°.24S±0°.07×75°.72W±0°.07, h35km±10km, mb4.4/13, Error ellipse: s-maj=11.2km s-min=9.2km az=219.0*
*VAO **22** 07:48:31.9±0.7, 5°.65S×73°.77W, h105km±8km, mbR3.9*

ISC 22 07:48:07.0±0.5, 5°.23S±0°.07×75°.65W±0°.07, h35km, n60, σ1§16/53, mb4.2/9, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.32**	**235**	LR	LR	07 50 36.2	
	comp=Z,384nm,19.3s,baz=55,slow=45						
BOSC	**San Juan Bosco**	**3.50**	**306**		**Pn**	**07 48 58.2**	**-0.9**
BOSC				Sn	**Sn**	**07 49 36.4**	**-3.2**
CZSB	**Cruzeiro do Su**	**3.84**	**130**	Pn	**Pn**	**07 49 05.1**	**+1.4**
MCRA	**Macar, Loja**	**4.37**	**281**		**Pn**	**07 49 11.7**	**+0.7**
COHC	**Cochancay**	**4.52**	**307**		**Pn**	**07 49 15.8**	**+2.8**

comp=Z,61nm,21.7s,baz=254,slow=38
ARAG Araguaiana, MT 25.62 116 *e*P **P 07 53 34.6 +1.2**
CPUP Villa Florida 27.33 142 P **P 07 53 47.7 -1.2**
CPUP IAmb IAmb 07 53 58.8
comp=Z,7.0nm,1.4s
CPUP Villa Florida 27.33 142 P **P 07 53 47.6 -1.2**
comp=Z,1.6nm,0.5s,baz=339,slow=11,SNR=5.6
comp=Z,1.1nm,0.5s
ITQB Itaqui 30.24 146 P **P 07 54 13.9 -0.7**
TRQA Tornquist 34.97 161 P **P 07 54 56.4 +0.5**
TRQA IAmb IAmb 07 55 12.6
comp=Z,8.4nm,1.1s
PLCA Paso Flores 35.65 173 P **P 07 55 02.2 +0.4**
PLCA IAmb IAmb 07 55 19.3
comp=Z,4.7nm,1.4s
TXAR Lajitas Array 43.65 324 P **P 07 56 09.7 +1.2**
comp=Z,0.2nm,0.7s,baz=157,slow=7.8,SNR=1.6
comp=Z,0.2nm,0.7s
NVAR Mina Array Bea 58.72 321 P **P 07 58 03.6 +1.9**
comp=Z,0.3nm,0.6s,baz=141,slow=5.8,SNR=3.5
comp=Z,0.3nm,0.6s
DBIC Dimbokro 71.64 81 P **P 07 59 25.9 +0.2**
DBIC Dimbokro 71.64 81 P **P 07 59 26.0 +0.2**
comp=Z,3.0nm,0.6s,baz=256,slow=4.2,SNR=8.8
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 73.77 342 P **P 07 59 38.6 +1.2**
comp=Z,0.6nm,0.6s,baz=142,slow=6.1,SNR=2.9
comp=Z,0.6nm,0.6s
TOA0 Torodi Ar. Sit 78.93 76 P **P 08 00 08.1 +0.4**
TORD Torodi Ar. Bea 78.93 76 P **P 08 00 08.3 +0.6**
TORD IAmb IAmb 08 00 08.8
comp=Z,5.3nm,0.8s
TORD Torodi Ar. Bea 78.93 76 P **P 08 00 07.9 +0.2**
comp=Z,5.1nm,0.7s,baz=282,slow=4.5,SNR=31
comp=Z,5.1nm,0.7s
SNAA Sanae 79.69 162 P **P 08 00 11.7 +0.8**
SNAA IAmb IAmb 08 00 35.6
comp=Z,7.1nm,1.5s
SNAA Sanae 79.69 162 P **P 08 00 11.5 +0.7**
comp=Z,0.8nm,0.6s,baz=279,slow=7.6,SNR=12
comp=Z,0.8nm,0.6s
ASAR Alice Springs 139.30 224 PKP **PKPdf 08 07 29.7 -1.7**
comp=Z,0.3nm,0.9s,baz=106,slow=1.6,SNR=2.0
WRA Warramunga Arr 141.33 229 PKP **PKPdf 08 07 35.0 -0.2**
comp=Z,0.3nm,0.8s,baz=109,slow=2.3,SNR=2.4

NEIC ***22*** *08:07:54.6±1.5,5°.16S±0°.06×129°.4E±0°.1,h243km±8km, mb4.1/20,Error ellipse: s-maj=16.4km s-min=8.5km az=92.0*
DJA ***22*** *08:07:54.3±0.3,5°.S±3°.×12°.9E±°,h244km±6km,M4.4/13, mb4.1/7,mB5.2/2,MLv4.5/13,Mw(mB)5.0/2*
IDC ***22*** *08:07:55.7±1.8,5°.20S×129°.31E,h263km±19km,mb3.4/11, mbtmp4.1/15,Error ellipse: s-maj=18.7km s-min=9.2km az=75.0*
ISC 22 08:07:54.4±0.5,5°.18S±0°.05×129°.43E±0°.06,h250km,n62, σ1§14/67,mb3.7/16,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.81**	**36**	P	**Pn**	**08 08 28.0**	**-0.5**
NLAI	**Namlea**	**3.02**	**310**	P	**Pn**	**08 08 48.1**	**+1.0**
SAUI	**Saumlaki**	**3.35**	**146**	Pn	**Pn**	**08 08 50.8**	**0.0**
FAKI	**Fak Fak**	**3.60**	**51**		**Pn**	**08 08 52.9**	**-0.7**
FAKI	**Fak Fak**	**3.60**	**51**	P	**Pn**	**08 08 52.9**	**-0.7**
KMPI	**Kaimana, Papua**	**4.52**	**71**	P	**Pn**	**08 09 04.5**	**+0.1**
SANI	**Sanana**	**4.63**	**312**	P	**Pn**	**08 09 05.6**	**-0.2**
SWI	**Sorong**	**4.66**	**23**	P	**Pn**	**08 09 04.3**	**-1.8**
LBMI	**Labuha**	**4.91**	**337**	P	**Pn**	**08 09 07.8**	**-1.3**
RKPI	**Ransiki, Papua**	**5.98**	**53**	P	**Pn**	**08 09 22.8**	**+0.5**
SOEI	**Soe**	**6.84**	**228**	Pn	**Pn**	**08 09 34.6**	**+1.3**
SOEI	**Soe**	**6.84**	**228**	P	**Pn**	**08 09 34.4**	**+1.1**
	16nm,0.6s,0.3nm						
BATI	**Baumata**	**7.59**	**229**	P	**Pn**	**08 09 43.8**	**+1.2**
	63nm,0.6s,0.3nm						
BATI	**Baumata**	**7.59**	**229**	P	**Pn**	**08 09 42.6**	**0.0**
	46nm,0.4s,baz=18,slow=1.4,SNR=7.7						
BATI				S	**S**	**08 11 09.1**	**-0.5**
	87nm,0.8s,baz=116,slow=22,SNR=13						
MTN	**Manton Dam**	**7.80**	**168**		**Pn**	**08 09 45.8**	**+0.6**
EDFI	**Ende, Flores**	**8.46**	**245**	P	**Pn**	**08 09 55.0**	**+1.3**
	19nm,0.8s						
GTOI	**Gorontalo**	**8.63**	**312**	P	**Pn**	**08 09 58.3**	**+2.5**
	8.2nm,1.0s						
KNRA	**Kununurra**	**10.45**	**184**		**Pn**	**08 10 18.3**	**-0.4**
KNRA					**S**	**08 12 11.0**	**-5.0**
TOLI2	**Tolitoli**	**10.66**	**306**	Pn	**Pn**	**08 10 20.1**	**-1.3**
WB0	**Warramunga Arr**	**15.28**	**162**	P	**P**	**08 11 18.4**	**+0.9**
WB0				IAmb	IAmb	08 11 36.7	
	comp=Z,3.9nm,0.8s						
WRA	**Warramunga Arr**	**15.43**	**162**	P	**P**	**08 11 18.4**	**-0.7**
WRA	**Warramunga Arr**	**15.43**	**162**	P	**P**	**08 11 19.8**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=347,slow=13,SNR=48						
WRA				S	**S**	**08 14 09.0**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=344,slow=22,SNR=6.2						
WB2	**Warramunga Arr**	**15.44**	**162**	P	**P**	**08 11 20.0**	**+0.9**
WB2				IAmb	IAmb	08 11 20.6	
	comp=Z,4.6nm,0.7s						
WR0	**Warramunga Arr**	**15.51**	**162**	P	**P**	**08 11 21.0**	**+1.1**
WR0				IAmb	IAmb	08 11 50.3	
	comp=Z,6.0nm,1.1s						
COEN	**Coen**	**16.11**	**124**	P	**Pn**	**08 11 29.4**	**+1.5**
KKM	**Kota Kinabalu**	**17.27**	**310**	P	**P**	**08 11 39.1**	**-0.3**
PMG	**Port Moresby**	**18.08**	**104**	P	**Pn**	**08 11 51.1**	**+0.1**
	comp=Z,11nm,0.8s,baz=342,slow=7.3,SNR=4.8						
PSA00	**Pilbara Seismi**	**18.76**	**209**	P	**P**	**08 11 55.2**	**-0.1**
PSA00				IAmb	IAmb	08 11 56.3	
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**18.88**	**167**	P	**P**	**08 11 58.4**	**+1.8**
AS31				IAmb	IAmb	08 11 59.2	
	comp=Z,3.4nm,0.7s						
ASAR	**Alice Springs**	**18.88**	**167**	P	**P**	**08 11 58.3**	**+1.7**
ASAR	**Alice Springs**	**18.88**	**167**	P	**P**	**08 11 58.1**	**+1.6**
	comp=Z,3.8nm,0.3s,baz=347,slow=10,SNR=96						
ASAR				S	**S**	**08 15 17.1**	**-0.7**
	comp=Z,4.9nm,0.9s,baz=348,slow=22,SNR=19						
ASAR				ScP	**ScP**	**08 19 23.4**	**0.0**
	comp=Z,0.5nm,0.6s,baz=358,slow=2.2,SNR=1.7						
GIRL	**Giralia**	**22.74**	**219**	P	**P**	**08 12 36.3**	**+1.1**
MORW	**Morawa**	**26.93**	**207**	P	**P**	**08 13 12.7**	**-0.3**
MORW				IAmb	IAmb	08 13 34.1	
	comp=Z,4.2nm,0.9s						
BBOO	**Buckleboo**	**28.18**	**168**	P	**P**	**08 13 25.1**	**+1.1**
BBOO				IAmb	IAmb	08 13 45.4	
	comp=Z,6.4nm,1.1s						
STKA	**Stephens Creek**	**28.90**	**158**	P	**P**	**08 13 31.7**	**+1.3**
STKA	**Stephens Creek**	**28.90**	**158**	P	**P**	**08 13 31.4**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=334,slow=6.6,SNR=4.6						
	comp=Z,0.6nm,0.4s						
NWAO	**Narrogin (SRO)**	**29.86**	**201**	P	**P**	**08 13 38.8**	**0.0**
NWAO				IAmb	IAmb	08 13 59.4	
	comp=Z,7.8nm,1.1s						
NWAO	**Narrogin (SRO)**	**29.86**	**201**	P	**P**	**08 13 39.0**	**+0.1**
NWAO				IAmb	IAmb	08 13 59.4	
	comp=Z,26nm,1.1s						
CMAR	**Chiang Mai Arr**	**38.15**	**309**	P	**P**	**08 14 50.1**	**0.0**
	comp=Z,1.7nm,0.3s,baz=144,slow=8.1,SNR=9.1						
	comp=Z,1.7nm,0.3s						
MJAR	**Matsushiro Arr**	**42.31**	**11**	P	**P**	**08 15 22.3**	**-1.6**
	comp=Z,1.8nm,0.8s,baz=190,slow=10,SNR=2.6						
	comp=Z,1.8nm,0.8s						
KSRS	**Korea Array**	**42.44**	**358**	P	**P**	**08 15 24.5**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=179,slow=8.6,SNR=3.7						
	comp=Z,2.4nm,0.7s						
USRK	**Ussuriysk Ar.**	**49.21**	**2**	P	**P**	**08 16 17.1**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=210,slow=6.8,SNR=2.5						
	comp=Z,1.9nm,0.6s						
TAPN	**Taplejung**	**51.67**	**311**	*e*P	**P**	**08 16 35.3**	**-1.3**
	comp=Z,14nm,0.7s						
RAMN	**Ramite**	**52.30**	**310**	*e*P	**P**	**08 16 40.7**	**-0.5**
	comp=Z,14nm,0.4s						
GUN	**Gumba**	**53.34**	**311**	*e*P	**P**	**08 16 47.2**	**-1.7**
	comp=Z,9.7nm,0.5s						
GKN	**Gorkha**	**54.33**	**310**	*e*P	**P**	**08 16 54.7**	**-1.1**
	comp=Z,9.1nm,0.3s						
DANN	**Dangsing**	**55.18**	**310**	*e*P	**P**	**08 17 00.6**	**-1.4**
	comp=Z,32nm,1.4s						
PYUN	**Piuthan**	**55.65**	**309**	*e*P	**P**	**08 17 04.7**	**-0.5**
	comp=Z,9.1nm,0.8s						
CASY	**Casey**	**62.40**	**188**	P	**P**	**08 17 50.7**	**+0.2**
CASY				IAmb	IAmb	08 17 59.0	
	comp=Z,6.0nm,1.1s						
PEA0B	**Petropavlovsk-**	**62.79**	**19**	P	**P**	**08 17 53.5**	**+0.2**
PETK	**Petropavlovsk-**	**62.79**	**19**	P	**P**	**08 17 53.7**	**+0.4**
PETK	**Petropavlovsk-**	**62.79**	**19**	P	**P**	**08 17 53.4**	**+0.1**
	comp=Z,4.1nm,0.9s,baz=201,slow=6.0,SNR=4.1						
	comp=Z,4.1nm,0.9s						
MKAR	**Makanchi Array**	**66.40**	**327**	P	**P**	**08 18 16.5**	**-0.3**
MKAR	**Makanchi Array**	**66.40**	**327**	P	**P**	**08 18 16.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=116,slow=7.4,SNR=5.5						
	comp=Z,0.4nm,0.4s						
MAKZ	**Makanchi**	**66.58**	**327**	P	**P**	**08 18 17.5**	**-0.5**
YAK	**Yakutsk**	**67.02**	**0**	P	**P**	**08 18 20.9**	**+0.7**
ZALV	**Zalesovo Beam**	**69.71**	**334**	P	**P**	**08 18 36.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=69,slow=9.4,SNR=1.8						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**70.67**	**328**	P	**P**	**08 18 42.6**	**-0.4**
	comp=Z,0.3nm,0.2s,baz=127,slow=5.1,SNR=4.1						
	comp=Z,0.3nm,0.2s						
QSPA	**South Pole Qui**	**84.78**	**180**	P	**P**	**08 20 00.5**	**-0.1**
QSPA	**South Pole Qui**	**84.78**	**180**	P	**P**	**08 20 00.1**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=310,slow=6.7,SNR=1.1						
	comp=Z,0.3nm,0.5s						
L16K	**Owhat River**	**85.71**	**27**	P	**P**	**08 20 05.8**	**+0.9**
L16K				IAmb	IAmb	08 20 15.5	
	comp=Z,3.8nm,1.1s						
ILAR	**Eielson Array**	**91.95**	**25**	P	**P**	**08 20 35.3**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=244,slow=4.8,SNR=4.3						
	comp=Z,0.1nm,0.4s						

VAO ***22*** *08:20:07.3±0.7,20°.81S×69°.04W,h10km,mb4.2*
SJA ***22*** *08:20:10.8±0.7,21°.12S×68°.96W,h99km±4km,ML4.1, MW4.0*
IDC ***22*** *08:20:11.6±1.4,21°.06S×68°.74W,h92km±12km,mb3.6/9, mbtmp4.0/11,Error ellipse: s-maj=23.7km s-min=14.1km az=101.0*
GUC ***22*** *08:20:12.9±0.8,21°.17S×68°.97W,h90km±4km,ML3.9*
ISC 22 08:20:11.4±0.6,21°.11S±0°.03×68°.92W±0°.05,h91km±6km, n58,σ2§39/89,mb4.0/8,4C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.53**	**277**	*e*P	**Pn**	**08 20 26.9**	**+0.4**
PB01				*e*S	**Sn**	**08 20 38.5**	**+0.7**
PB01				IAML		08 20 39.4	
	comp=N,7μm,0.4s						
PB01	**IPOC Station P**	**0.53**	**277**	*e*P	**Pn**	**08 20 26.9**	**+0.4**
PB01				*e*S	**Sn**	**08 20 39.1**	**+1.3**
PB01				IAML		08 20 39.6	
	comp=Z,3μm,0.5s						
PB09	**IPOC Station P**	**0.74**	**204**	⇑*i*P	**Pn**	**08 20 29.1**	**+0.5**
PB09				*e*S	**Sn**	**08 20 42.0**	**+0.7**
PB09				IAML		08 20 44.6	
	comp=N,3μm,0.3s						
PB09	**IPOC Station P**	**0.74**	**204**	*e*P	**Pn**	**08 20 29.1**	**+0.5**
PB09				*e*S	**Sn**	**08 20 43.1**	**+1.8**
PB09				IAML		08 20 45.0	
	comp=Z,3μm,0.3s						
PB02	**IPOC Station P**	**0.93**	**257**	⇑*i*P	**Pn**	**08 20 30.7**	**+0.3**
PB02				*e*S	**Sn**	**08 20 45.0**	**+0.3**
PB02	**IPOC Station P**	**0.93**	**257**	*e*P	**Pn**	**08 20 30.5**	**+0.1**
PB02				*e*S	**Sn**	**08 20 45.8**	**+1.0**
PB02				IAML		08 20 48.7	
	comp=Z,8μm,0.3s						
PB08	**IPOC Station P**	**0.99**	**347**	⇓*i*P	**Pn**	**08 20 33.1**	**+1.7**
PB08				*e*S	**Sn**	**08 20 49.0**	**+2.6**
PB08				IAML		08 20 50.6	
	comp=E,2μm,0.7s						
PB08	**IPOC Station P**	**0.99**	**347**	*e*P	**Pn**	**08 20 32.4**	**+1.0**
PB08				*e*S	**Sn**	**08 20 49.8**	**+3.4**
PB07	**IPOC Station P**	**1.09**	**236**	⇑*i*P	**Pn**	**08 20 32.3**	**0.0**
PB07				*e*S	**Sn**	**08 20 47.4**	**-0.6**
PB07				IAML		08 20 50.8	
	comp=N,3μm,0.2s						
PB07	**IPOC Station P**	**1.09**	**236**	*e*P	**Pn**	**08 20 31.6**	**-0.7**
PB07				*e*S	**Sn**	**08 20 49.3**	**+1.4**
PB07				IAML		08 20 56.7	
	comp=Z,3μm,0.4s						
PATCX	**Punta Patache**	**1.19**	**284**	⇑*i*P	**Pn**	**08 20 33.9**	**+0.6**
PATCX				⇓*e*S	**Sn**	**08 20 50.6**	**+0.7**
PATCX				IAML		08 20 56.5	
	comp=E,5μm,0.5s						
PATCX	**Punta Patache**	**1.19**	**284**	*e*P	**Pn**	**08 20 34.0**	**+0.6**
PATCX				*e*S	**Sn**	**08 20 51.4**	**+1.5**
HMBC	**Humberstone**	**1.23**	**312**	*e*P	**Pn**	**08 20 34.5**	**+0.6**
HMBC				*e*S	**Sn**	**08 20 52.1**	**+1.2**
HMBC	**Humberstone**	**1.23**	**312**	*e*P	**Pn**	**08 20 34.5**	**+0.6**
HMBC				*e*S	**Sn**	**08 20 52.5**	**+1.6**
TA01	**Diego Aracena**	**1.30**	**295**	*e*P	**Pn**	**08 20 35.0**	**+0.4**
TA01				*e*S	**Sn**	**08 20 52.3**	**+0.1**
TA01				IAML		08 20 56.9	
	comp=E,3μm,0.3s						
TA01	**Diego Aracena**	**1.30**	**295**	*e*P	**Pn**	**08 20 35.0**	**+0.4**
TA01				*e*S	**Sn**	**08 20 53.7**	**+1.5**
TA02	**Huaiquique**	**1.41**	**306**	*e*P	**Pn**	**08 20 36.5**	**+0.5**
TA02				*e*S	**Pn**	**08 20 36.9**	**+0.9**
TA02				IAML		08 21 01.8	
	comp=Z,2μm,0.3s						
GO01	**Chusmiza**	**1.46**	**350**	*e*P	**Pn**	**08 20 38.9**	**+1.8**
GO01				*e*S	**Sn**	**08 20 59.5**	**+3.0**
GO01				IAML		08 21 01.0	
	comp=N,2μm,0.3s						
GO01	**Chusmiza**	**1.46**	**350**	*e*P	**Pn**	**08 20 39.0**	**+1.8**
GO01				*e*S	**Sn**	**08 21 00.6**	**+4.1**
LVC	**Limon Verde**	**1.49**	**180**	*e*P	**Pn**	**08 20 38.6**	**+1.2**
LVC	**Limon Verde**	**1.49**	**180**	P	**Pn**	**08 20 38.8**	**+1.4**
	comp=N,147nm,0.3s,baz=6.1,slow=9.7,SNR=544						
LVC				S	**Sn**	**08 20 58.7**	**+1.7**
	comp=N,847nm,0.3s,baz=120,slow=22,SNR=120						
LVC	**Limon Verde**	**1.49**	**180**	*e*P	**Pn**	**08 20 38.6**	**+1.2**
LVC				*e*S	**Sn**	**08 20 58.2**	**+1.2**
LVC	**Limon Verde**	**1.49**	**180**	*e*P	**Pn**	**08 20 38.7**	**+1.2**
LVC				*e*S	**Sn**	**08 20 59.7**	**+2.7**
LVC				IAML		08 21 01.9	
	comp=Z,928nm,0.3s						
PB04	**IPOC Station P**	**1.67**	**223**	*e*P	**Pn**	**08 20 39.4**	**0.0**
PB04				*e*S	**Sn**	**08 21 00.2**	**-0.5**
PB04				IAML		08 21 04.5	
	comp=N,4μm,0.3s						
PB04	**IPOC Station P**	**1.67**	**223**	*e*P	**Pn**	**08 20 39.4**	**0.0**
PB04				*e*S	**Sn**	**08 21 03.2**	**+2.5**
PB04				IAML		08 21 07.2	
	comp=Z,3μm,0.2s						
PB06	**IPOC Station P**	**1.70**	**201**	*e*P	**Pn**	**08 20 40.4**	**+0.6**
PB06				*e*S	**Sn**	**08 21 01.9**	**+0.5**
PB06	**IPOC Station P**	**1.70**	**201**	*e*P	**Pn**	**08 20 40.5**	**+0.6**
PB06				*e*S	**Sn**	**08 21 03.3**	**+2.0**
PB06				IAML		08 21 03.7	
	comp=Z,2μm,0.3s						
PB15	**IPOC Station P**	**2.15**	**194**	*e*P	**Pn**	**08 20 46.6**	**+0.8**
PB15				*e*S	**Sn**	**08 21 15.5**	**+3.5**
PB12	**IPOC Station P**	**2.82**	**332**	*e*P	**Pn**	**08 20 54.5**	**-0.1**
PB12				*e*S	**Sn**	**08 21 36.0**	**+8.2**
PB12				IAML		08 21 49.3	
	comp=Z,274nm,0.8s						
PB16	**IPOC Station P**	**2.82**	**349**	*e*P	**Pn**	**08 20 57.6**	**+2.6**
PB16				*e*S	**Sn**	**08 21 36.5**	**+8.0**
YJA	**Yavi**	**3.34**	**109**	*e*P	**Pn**	**08 21 05.4**	**+3.5**
PB14	**IPOC Station P**	**3.75**	**201**	*e*P	**Pn**	**08 21 07.6**	**+0.2**
PB14				*e*S	**Sn**	**08 21 58.4**	**+7.7**
PB14				IAML		08 22 02.9	
	comp=Z,702nm,0.4s						
SLA	**San Lorenzo**	**4.78**	**139**	*e*P	**Pn**	**08 21 24.1**	**+3.0**
LPAZ	**La Paz**	**4.86**	**9**	P	**Pn**	**08 21 25.4**	**+2.7**
	comp=Z,6.3nm,0.3s,baz=202,slow=6.2,SNR=40						
LPAZ				S	**Sn**	**08 22 10.4**	**-7.6**
	comp=Z,10.0nm,0.7s,baz=116,slow=3.0,SNR=3.9						
LPAZ	**La Paz**	**4.86**	**9**	*e*P	**Pn**	**08 21 26.7**	**+4.0**
ALOL	**LOMAS DE OLMED**	**5.30**	**121**	*e*P	**Pn**	**08 21 29.9**	**+1.7**
BBSD	**Serra de San D**	**8.77**	**65**	*e*P	**Pn**	**08 22 13.2**	**-2.2**
SIV	**San Ignacio**	**9.02**	**57**	P	**Pn**	**08 22 17.3**	**-1.5**
	comp=Z,6.1nm,0.3s,baz=233,slow=11,SNR=85						
SIV				S	Sn	08 23 43.6	-15
	comp=Z,0.9nm,0.6s,baz=319,slow=17,SNR=1.3						
CFA	**Coronel Fontan**	**10.47**	**177**	P	**Pn**	**08 22 35.7**	**-2.8**
	comp=Z,1.1nm,0.3s,baz=22,slow=14,SNR=5.2						
CFA				S	Sn	08 24 24.1	-10
	comp=Z,1.7nm,0.3s,baz=314,slow=16,SNR=1.2						
PTLB	**Pontes e Lacer**	**10.87**	**60**	*e*P	**Pn**	**08 22 42.3**	**-1.7**
ETMB	**Extrema**	**11.53**	**13**	*e*P	**Pn**	**08 22 49.1**	**-3.9**
VILB	**Vilhena**	**11.63**	**47**	*e*P	**Pn**	**08 22 52.1**	**-2.3**
ANTJ	**Antonio Joao (**	**12.05**	**97**	*e*P	**Pn**	**08 23 01.9**	**+1.8**
SALV	**Santo Antonio**	**13.57**	**70**	*e*P	**Pn**	**08 23 21.4**	**+1.3**
PDRB	**Porto dos Gac**	**15.03**	**53**	*e*P	**Pn**	**08 23 38.1**	**-0.9**
LDASE	**Londrina, Braz**	**16.64**	**101**	*e*P	**P**	**08 24 01.3**	**+1.2**
PLCA	**Paso Flores**	**19.61**	**184**	P	**P**	**08 24 32.1**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=10,slow=11,SNR=4.0						
BDFB	**Brasilia**	**20.57**	**78**	P	**P**	**08 24 40.0**	**-3.1**
	comp=Z,1.3nm,0.7s,baz=47,slow=18,SNR=1.6						
	comp=Z,1.3nm,0.7s						
SGCB	**São Gabriel d**	**20.95**	**5**	*e*P	**P**	**08 24 46.5**	**-0.6**
ROSC	**El Rosal**	**26.33**	**348**	P	**P**	**08 25 37.9**	**-1.5**
	comp=Z,5.1nm,0.4s,baz=134,slow=18,SNR=3.2						
	comp=Z,5.1nm,0.4s						
TXAR	**Lajitas Array**	**60.31**	**325**	P	**P**	**08 30 10.3**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=160,slow=9.4,SNR=4.2						
	comp=Z,0.3nm,0.7s						
SNAA	**Sanae**	**62.65**	**161**	P	**P**	**08 30 26.0**	**0.0**
	comp=Z,1.5nm,0.6s,baz=279,slow=7.5,SNR=20						
	comp=Z,1.5nm,0.6s						
DBIC	**Dimbokro**	**68.64**	**74**	P	**P**	**08 31 04.5**	**-0.9**
	comp=Z,3.2nm,0.8s,baz=242,slow=5.2,SNR=3.1						
	comp=Z,3.2nm,0.8s						
QSPA	**South Pole Qui**	**69.08**	**180**	P	**P**	**08 31 07.9**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=87,slow=0.9,SNR=11						
	comp=Z,1.2nm,0.5s						
PDAR	**Pinedale Array**	**73.77**	**330**	P	**P**	**08 31 38.3**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=141,slow=5.8,SNR=1.8						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.24**	**70**	P	**P**	**08 31 55.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=254,slow=5.4,SNR=9.9						
	comp=Z,0.4nm,0.3s						
MAW	**Mawson**	**84.70**	**163**	P	**P**	**08 32 35.1**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=21,slow=15,SNR=1.9						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**145.33**	**36**	PKPbc	**PKPbc**	**08 39 38.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=320,slow=3.6,SNR=6.4						

IDC ***22*** *08:20:34.5±0.9,25°.15S×179°.60E,h502km±10km, mb3.4/13,mbtmp4.2/17,Error ellipse: s-maj=12.3km s-min=11.7km az=119.0*
NEIC ***22*** *08:20:36.1±2.1,25°.3S±0°.1×179°.7E±0°.2,h513km±8km, mb4.1/23,Error ellipse: s-maj=20.2km s-min=14.8km az=83.0*
NOU ***22*** *08:21:25.3,21°.00S×179°.06E,h329km,MLv4.5/4,South of Fiji Islands*
ISC 22 08:20:35.0±0.5,25°.17S±0°.05×179°.62E±0°.08,h507km,n80, σ1§22/84,mb4.0/27,5C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.62**	**152**	P	**P**	**08 21 58.6**	**-0.2**
RAO	**Raoul Island**	**4.62**	**152**	P	**P**	**08 21 58.2**	**-0.6**
	332nm,0.4s,baz=77,slow=12,SNR=7.1						
RAO				S	**S**	**08 23 07.6**	**+0.1**
	144nm,0.4s,baz=107,slow=22,SNR=1.0						
GLKZ	**Green Lake**	**4.63**	**152**	P	**P**	**08 21 58.5**	**-0.4**
GLKZ				S	**S**	**08 23 09.4**	**+1.9**
MSVF	**Nonsavu**	**7.54**	**349**	P	**P**	**08 22 27.1**	**0.0**
MSVF	**Nonsavu**	**7.54**	**349**	P	**P**	**08 22 26.8**	**-0.3**
MSVF	**Nonsavu**	**7.54**	**349**	P	**P**	**08 22 26.3**	**-0.8**
	20nm,0.4s,baz=180,slow=8.2,SNR=39						
MSVF				S	**S**	**08 23 56.4**	**-2.5**
	1.3nm,0.3s,baz=158,slow=22,SNR=1.3						
TAVE	**Taveuni**	**8.43**	**3**	P	**P**	**08 22 37.3**	**+1.2**
YSA	**Yasawairara**	**8.64**	**347**	P	**P**	**08 22 38.6**	**+0.3**
DGTI	**Dogotuki**	**8.83**	**1**	P	**P**	**08 22 41.0**	**+0.7**
WCZ	**Waipu Caves**	**11.65**	**202**	P	**P**	**08 23 11.1**	**+1.4**
KUZ	**Kuaotunu**	**12.01**	**195**	P	**P**	**08 23 13.4**	**0.0**
OUENC	**Ouen Island, N**	**12.01**	**281**	P	P	08 23 24.6	+11
WIAZ	**Waiheke Island**	**12.20**	**197**	P	**P**	**08 23 15.9**	**+0.4**
DZM	**Mont Dzumac**	**12.46**	**282**	P	**P**	**08 23 18.2**	**-0.4**
	7.3nm,0.9s,baz=56,slow=19,SNR=2.9						
MKAZ	**Moumakai**	**12.49**	**197**	P	**P**	**08 23 18.6**	**+0.1**
AWAZ	**Awhitu Peninsu**	**12.59**	**199**	P	**P**	**08 23 19.8**	**+0.2**
HAZ	**Te Kaha**	**12.64**	**187**	P	**P**	**08 23 18.9**	**-1.2**
HAZ				S	**S**	**08 25 37.4**	**+1.2**
WMGZ	**Waiomatatini S**	**12.65**	**184**	P	**P**	**08 23 19.9**	**-0.3**
PKGZ	**Pakihiroa**	**12.74**	**186**	P	**P**	**08 23 21.9**	**+0.6**
RUGZ	**Raukumara Rang**	**12.86**	**187**	P	**P**	**08 23 24.8**	**+2.3**
PUZ	**Puketiti**	**12.91**	**185**	P	**P**	**08 23 22.4**	**-0.6**
PUZ				S	**S**	**08 25 38.8**	**-2.7**
TOZ	**Tahuroa Road**	**13.00**	**195**	P	**P**	**08 23 27.0**	**+3.1**
TOZ	**Tahuroa Road**	**13.00**	**195**	P	**P**	**08 23 26.6**	**+2.8**
TWGZ	**Tauwhareparae**	**13.04**	**186**	P	**P**	**08 23 23.4**	**-0.9**
URZ	**Urewera**	**13.22**

comp=Z,1.8nm,1.1s,baz=219,slow=7.7,SNR=2.7
comp=Z,1.8nm,1.1s
VNA3 Neumayer Olymp 83.63 177 ⇑P **P 08 32 08.6 -0.7**
comp=Z,4.3nm,0.8s
VNA2 Neumayer--Watz 84.04 178 ⇑P **P 08 32 10.5 -0.8**
comp=Z,0.6nm,0.4s,baz=183,slow=5.0
VNA1 Neumayer--Stat 84.28 177 ⇑P **P 08 32 12.6 +0.1**
comp=Z,2.7nm,0.8s
NVAR Mina Array Bea 85.91 44 P **P 08 32 21.9 +0.8**
comp=Z,1.2nm,0.6s,baz=226,slow=9.2,SNR=11
comp=Z,1.2nm,0.8s
TPH Tonopah 86.38 45 P **P 08 32 24.8 +1.4**
U15A North Rim 88.70 48 P **P 08 32 36.5 +2.0**
U15A IAmb IAmb 08 32 36.8
comp=Z,3.1nm,1.0s
MTPU Mount Pierson 89.65 47 P **P 08 32 41.0 +2.1**
TMUT Trail Mountain 90.97 46 IAmb IAmb 08 32 47.0
comp=Z,3.4nm,0.7s
TXAR Lajitas Array 91.40 58 P **P 08 32 48.1 +1.2**
comp=Z,1.1nm,0.8s,baz=212,slow=6.2,SNR=15
comp=Z,1.1nm,0.8s
ILAR Eielson Array 93.34 14 P **P 08 32 54.1 -0.7**
comp=Z,0.5nm,1.0s,baz=213,slow=6.5,SNR=2.7
comp=Z,0.5nm,1.0s
PDAR Pinedale Array 93.84 44 P **P 08 32 56.6 -1.3**
comp=Z,0.2nm,0.7s,baz=210,slow=5.2,SNR=2.1
comp=Z,0.2nm,0.7s
KURBB Kurchatov Arra 115.92 316 PKP **PKPdf 08 38 17.8 -1.7**
comp=Z,0.2nm,0.3s,baz=106,slow=2.0,SNR=2.3
KBZ Khabaz 140.32 309 PKP **PKPdf 08 39 06.5 +0.7**
comp=Z,1.6nm,0.3s,baz=79,slow=3.7,SNR=5.1
NB2 NORSAR Subarra143.28 351 PKP PKPab 08 39 08.4 -0.1
comp=Z,1.0nm,0.6s,baz=15,slow=3.2
NOA NORSAR Array B143.28 351 PKP PKPab 08 39 08.0 -0.5
comp=Z,1.3nm,0.7s,baz=21,slow=3.9,SNR=6.3
HFS Hagfors 143.72 348 PKP PKPab 08 39 09.6 -0.5
comp=Z,4.5nm,0.6s,baz=82,slow=3.1,SNR=5.9
AKASG Malin Array Be 145.84 326 PKPbc **PKPdf 08 39 15.6 +0.3**
comp=Z,0.3nm,0.3s,baz=55,slow=4.2,SNR=1.4
MMAI Mount Meron Ar 147.88 292 PKPbc **PKPbc 08 39 23.1 0.0**
comp=Z,0.7nm,0.3s,baz=94,slow=2.0,SNR=2.4
BRTR Keskin Array B 148.05 305 PKPbc **PKPbc 08 39 23.2 -0.2**
comp=Z,0.5nm,0.6s,baz=150,slow=3.2,SNR=2.0
TORD Torodi Ar. Bea 167.88 190 PKPab **PKPab 08 40 53.1 -0.8**
comp=Z,0.2nm,0.3s,baz=154,slow=4.2,SNR=3.1

DJA 22 08:32:14.4±0.3, 8°S±3°×10°E±°, h10km, M4.0/11, mb4.7/2, MLv3.7/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.81**	**24**	P	Pg	08 32 29.8	-0.2
LEM	**Lembang**	**1.46**	**34**	P	Pn	08 32 41.1	+0.1
CMJI	**Cimerak**	**1.65**	**81**	P	Pn	08 32 42.7	-0.8
CGJI	**Cibinong**	**1.80**	**322**	P	Pn	08 32 44.8	-0.7
KPJI	**Karang Pucung**	**2.23**	**72**	P	Pn	08 32 52.3	+0.9
KASI	**Kota Agung**	**3.40**	**318**	P	Pn	08 33 08.1	+0.6
UGM	**Wanagama**	**3.69**	**88**	P	Pn	08 33 11.6	0.0
JAGI	**Jajag, Banyuwa**	**7.29**	**94**	P	Pn	08 34 00.8	-0.2

TAP 22 09:07:24.9, 24°.03N×121°.62E, h10km, ML1.8, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.05**	**337**	*i* P	Pg	09 07 27.2	+0.4
	baz=347						
TWD				*i* S	Sg	09 07 28.7	+0.3
	baz=347						
HWA	**Hwalien**	**0.06**	**192**	*i* P	Pg	09 07 27.4	+0.5
	baz=182						
HWA				S	Sg	09 07 28.9	+0.6
	baz=182						
ETL	**Fush Village**	**0.13**	**2**	P	Pg	09 07 28.2	+0.4
	baz=2.0						
ETL				S	Sg	09 07 29.8	-0.2
	baz=2.0						
ETM	**Tongmen**	**0.13**	**240**	P	Pg	09 07 28.3	+0.4
	baz=240						
ETM				*e*S	Sg	09 07 30.1	0.0
	baz=240						
NACB	**Ninganchiao**	**0.14**	**351**	*i* P	Pg	09 07 28.4	+0.4
	baz=360						
LXIB	**Xiulin Townshi**	**0.19**	**266**	*e*P	Pg	09 07 29.6	+0.7
	baz=267						
ETLH	**Xiulin Townshi**	**0.21**	**324**	*e*P	Pg	09 07 30.0	+0.6
	baz=323						
ESL	**Shilin**	**0.28**	**218**	*e*P	Pg	09 07 30.6	+0.2
	baz=227						
WHF	**Hehuan Shan**	**0.34**	**289**	*e*P	Pg	09 07 32.4	+0.6
	baz=290						
WARBT	**Fenglin Townsh**	**0.38**	**214**	*e*P	Pg	09 07 32.6	+0.2
	baz=223						
EGFH	**Guangfu**	**0.40**	**206**	*e*P	Pb	09 07 34.0	-0.1
	baz=214						
CHGB	**Renai**	**0.41**	**274**	*e*P	Pb	09 07 33.9	-0.4
	baz=268						
ENA	**Nanau**	**0.41**	**16**	*e*P	Pg	09 07 33.5	+0.5
	baz=16						
SSLB	**Suanglung**	**0.66**	**248**	P	Pn	09 07 40.0	-0.3
YHNB	**Yeheng**	**0.67**	**341**	P	Pn	09 07 40.8	+0.3

*IDC **22** 09:22:32.3±6.0, 11°.65N×125°.20E, h127km±54km, mb3.6/17, mbtmp4.0/17, MS3.6/1, Error ellipse: s-maj=28.1km s-min=13.9km az=68.0*
ISC 22 09:22:34.6±0.7, 11°.6N±0°.1×125°.2E±0°.2, h150km, n25, σ0=71/21, mb3.9/17, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.22**	**288**	P	**P**	**09 27 55.9**	**+0.2**
	1.0nm,0.4s,baz=102,slow=7.6,SNR=1.2						
	1.0nm,0.4s						
MJAR	**Matsushiro Arr**	**27.44**	**23**	LR	LR	09 37 52.6	
	comp=Z,112nm,18.7s,baz=208,slow=34						
WRA	**Warramunga Arr**	**32.64**	**164**	P	**P**	**09 28 51.2**	**-1.3**
	0.2nm,0.4s,baz=343,slow=9.0,SNR=2.1						
WRA				PcP	**PcP**	**09 31 36.1**	**+1.0**
	0.4nm,0.7s,baz=336,slow=2.9,SNR=5.0						
	0.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**32.98**	**9**	P	**P**	**09 28 54.9**	**-0.3**
	1.6nm,0.6s,baz=232,slow=48,SNR=2.3						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**36.10**	**166**	P	**P**	**09 29 22.7**	**+0.4**
	0.5nm,0.6s,baz=345,slow=7.0,SNR=12						
ASAR				PcP	**PcP**	**09 31 46.0**	**+0.9**
	0.3nm,0.6s,baz=352,slow=2.9,SNR=4.6						
	0.5nm,0.6s						
SONM	**Songino Array**	**39.38**	**340**	P	**P**	**09 29 48.9**	**-0.7**
	0.6nm,0.5s,baz=160,slow=11,SNR=3.6						
	0.6nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**40.58**	**75**	T	T	10 13 16.3	
	baz=264,slow=78,SNR=10						
H11S1	**WAKE ISLAND Hy**	**40.59**	**75**	T	T	10 13 10.9	
	baz=264,slow=78,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**40.60**	**75**	T	T	10 13 06.8	
	baz=264,slow=78,SNR=7.5						
H11N1	**WAKE ISLAND Hy**	**40.86**	**73**	T	T	10 13 26.5	
	baz=265,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**40.87**	**73**	T	T	10 13 24.0	
	baz=265,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**40.88**	**73**	T	T	10 13 28.7	
	baz=265,slow=75,SNR=35						
PETK	**Petropavlovsk-**	**48.86**	**25**	P	**P**	**09 31 05.6**	**+0.7**
	2.9nm,0.9s,baz=172,slow=3.0,SNR=1.4						
	2.9nm,0.9s						
MKAR	**Makanchi Array**	**50.31**	**323**	P	**P**	**09 31 16.6**	**+0.6**
	1.7nm,0.7s,baz=124,slow=8.2,SNR=14						
MKAR				PcP	**PcP**	**09 32 32.3**	**-0.2**
	0.6nm,0.7s,baz=98,slow=4.3,SNR=4.1						
	1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**52.93**	**331**	P	**P**	**09 31 35.2**	**-0.1**
	2.0nm,0.9s,baz=106,slow=6.0,SNR=6.6						
	2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**54.35**	**325**	P	**P**	**09 31 46.0**	**+0.4**
	2.5nm,0.6s,baz=127,slow=7.1,SNR=25						
	2.5nm,0.6s						
BVAR	**Borovoye Array**	**59.95**	**325**	P	**P**	**09 32 24.8**	**-0.1**
	0.6nm,0.4s,baz=35,slow=5.3,SNR=2.9						
	0.6nm,0.4s						
GEYT	**Alibeck**	**64.88**	**306**	P	**P**	**09 32 57.3**	**-0.8**
	0.9nm,0.3s,baz=76,slow=6.4,SNR=4.2						
	0.9nm,0.3s						
ILAR	**Eielson Array**	**78.69**	**26**	P	**P**	**09 34 19.8**	**-0.1**
	0.6nm,0.9s,baz=237,slow=5.0,SNR=4.1						
	0.6nm,0.9s						
ARCES	**ARCESS Array B**	**82.56**	**340**	P	**P**	**09 34 39.4**	**-1.1**
	4.0nm,0.8s,baz=40,slow=7.9,SNR=7.6						
	4.0nm,0.8s						
BRTR	**Keskin Array B**	**83.85**	**309**	P	**P**	**09 34 48.6**	**+0.7**
	0.4nm,0.4s,baz=93,slow=5.6,SNR=3.0						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**84.19**	**332**	P	**P**	**09 34 49.8**	**+0.9**
	1.9nm,0.9s,baz=90,slow=3.8,SNR=7.8						
	1.9nm,0.9s						
AKASG	**Malin Array Be**	**84.84**	**321**	P	**P**	**09 34 52.5**	**+0.2**
	1.0nm,0.6s,baz=65,slow=4.4,SNR=4.3						
	1.0nm,0.6s						
HFS	**Hagfors**	**90.36**	**332**	P	**P**	**09 35 18.5**	**-0.1**
	1.0nm,0.7s,baz=353,slow=7.3,SNR=1.3						
	1.0nm,0.7s						
TXAR	**Lajitas Array**	**117.73**	**48**	PKP	**PKiKP**	**09 41 03.3**	**-0.6**
	0.1nm,0.5s,baz=102,slow=0.6,SNR=2.0						

IDC 22 09:46:20.0±3.4, 16°.12S×169°.82W, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=417.5km s-min=31.7km az=156.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**53.03**	**257**	P	P	09 55 38.9	-0.4
	0.2nm,0.8s,baz=96,slow=6.8,SNR=1.1						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**53.17**	**252**	P	P	09 55 40.4	+0.1
	0.7nm,0.6s,baz=87,slow=8.1,SNR=12						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**78.19**	**55**	P	P	09 58 21.9	0.0
	0.3nm,0.8s,baz=216,slow=7.8,SNR=5.0						
	0.3nm,0.8s						

*NORS **22** 10:24:02.7±0.0, 43°.18N×47°.15E, h11km, MPVA3.8*
*DRS **22** 10:24:04.7±0.0, 43°.23N×47°.09E, h16km*
*MOS **22** 10:24:04.3±0.0, 43°.14N×47°.06E, h17km, MPVA3.5*
ISC 22 10:24:04.0±2.0, 43°.22N±0°.08×47°.09E±0°.05, h14km±9km, n14, σ0=57/28, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.28**	**224**	*i* Pg	**Pg**	**10 24 09.9**	**0.0**
	246nm,0.3s						
DBC				*e*Sg	**Sg**	**10 24 14.1**	**+0.2**
	97nm,0.3s						
DLMR	**Dylym**	**0.37**	**246**	*e*Pg	**Pb**	**10 24 12.3**	**0.0**
	226nm,0.3s						
DLMR				*e*Sg	**Sb**	**10 24 17.9**	**-0.1**
	156nm,0.2s						
BUJR	**Buynaksk**	**0.39**	**178**	*e*Pg	**Pb**	**10 24 12.7**	**-0.1**
	101nm,0.3s						
BUJR				*e*Sg	**Sb**	**10 24 18.4**	**-0.3**
	25nm,0.2s						
KRNR	**Karanay**	**0.41**	**199**	*e*Pg	**Pg**	**10 24 12.4**	**0.0**
	54nm,0.4s						
KRNR				*e*Sg	**Sg**	**10 24 18.0**	**-0.1**
	18nm,0.2s						
UNCR	**Uncukul**	**0.55**	**204**	*e*Pg	**Pg**	**10 24 14.7**	**-0.2**
	97nm,0.3s						
UNCR				*e*Sg	**Sg**	**10 24 21.9**	**-0.3**
	96nm,0.3s						
ARKR	**Arakani**	**0.62**	**187**	*e*Pg	**Pg**	**10 24 16.4**	**+0.2**
	52nm,0.3s						
ARKR				*e*Sg	**Sb**	**10 24 24.8**	**-0.5**
	34nm,0.4s						
XNZR	**Khunzakh**	**0.73**	**203**	*e*Pg	**Pg**	**10 24 18.1**	**-0.3**
	18nm,0.2s						
XNZR				*e*Sg	**Sg**	**10 24 27.7**	**-0.4**
	75nm,0.6s						
GNBR	**Gunib**	**0.84**	**187**	*e*Pg	**Pn**	**10 24 21.1**	**-0.3**
GNBR				*e*Sg	**Sn**	**10 24 33.7**	**+0.2**
BTLR	**Botlikh**	**0.85**	**229**	*e*Pg	**Pg**	**10 24 19.6**	**-0.9**
	25nm,0.2s						
BTLR				*e*Sg	**Sg**	**10 24 30.9**	**-0.6**
	75nm,0.6s						
DRN	**Derbent**	**1.50**	**142**	*e*Pg	**Pn**	**10 24 30.8**	**+0.3**
DRN				*e*Sg	**Sg**	**10 24 51.9**	**-0.4**
LGD	**Lagodekhi**	**1.52**	**205**	P	**Pg**	**10 24 33.2**	**0.0**
LGD				S	**Sg**	**10 24 54.5**	**+1.5**
SHTL	**Shatili**	**1.53**	**249**	P	**Pb**	**10 24 33.1**	**+0.9**
SHTL				S	**Sg**	**10 24 54.6**	**+1.2**
MTEO	**Meteo**	**1.96**	**255**	P	**Pb**	**10 24 39.8**	**+0.2**
MTEO				S	**Sg**	**10 25 06.6**	**-0.3**
LACR	**Lac**	**2.09**	**260**	*e*Pg	**Pb**	**10 24 42.0**	**+0.2**
LACR				*e*Sg	**Sg**	**10 25 10.3**	**-0.8**

*SOME **22** 10:34:45.5, 40°.63N×73°.58E, h5km*
*NNC **22** 10:34:46.3±0.6, 40°.61N×73°.64E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=4.3km s-min=3.1km az=0.0*
*KRNET **22** 10:34:46.6±0.1, 40°.59N×73°.66E, h19km, mb3.3*
*KNET **22** 10:34:47.4±0.5, 40°.66N×73°.62E, h14km±6km, ml3.0, Error ellipse: s-maj=11.7km s-min=4.5km az=76.0*
ISC 22 10:34:47.3±1.3, 40°.60N±0°.03×73°.63E±0°.02, h3km±11km, n82, σ0=96/114, 32C-38D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.59**	**189**	⇑*i*P	**Pg**	**10 34 57.9**	**-0.8**
	baz=92						
SFK				⇑*e*S	**Sg**	**10 35 06.0**	**-0.4**
	baz=92						
OHH	**Osh**	**0.65**	**263**	⇑*e*P	**Pg**	**10 34 59.3**	**-0.3**
	baz=65						
OHH				⇑*e*S	**Sg**	**10 35 08.7**	**+0.7**
	baz=65						
ARSB	**Arslanbob**	**0.87**	**326**	⇑*e*P	**Pg**	**10 35 03.5**	**-0.5**
	baz=25						
ARSB				⇑*e*S	**Sg**	**10 35 15.7**	**+0.4**
	baz=25						
ARLS	**Aral**	**1.36**	**22**	⇑*e*P	**Pn**	**10 35 11.6**	**-1.8**
	baz=22						
ARLS				⇑*e*S	**Sb**	**10 35 29.9**	**-1.6**
	baz=22						
AML	**Almayashu**	**1.53**	**2**	⇓P	**Pn**	**10 35 15.3**	**-0.6**
	46nm,0.1s,SNR=229						
AML				⇓S	**Sn**	**10 35 35.7**	**-0.8**
	284nm,0.3s						
AML	**Almayashu**	**1.53**	**2**	⇑P	**Pn**	**10 35 15.5**	**-0.4**
	0.5nm,0.2s						
AML				⇓S	**Sn**	**10 35 35.8**	**-0.8**
	7.2nm,0.3s						
AML	**Almayashu**	**1.53**	**2**	⇑*e*P	**Pn**	**10 35 15.0**	**-0.9**
	baz=1.0						
AML				⇑*e*S	**Sn**	**10 35 35.8**	**-0.8**
	baz=1.0						
ARK	**Arkit**	**1.73**	**314**	⇑*e*P	**Pn**	**10 35 18.8**	**+0.4**
	baz=14						
ARK				⇑*e*S	**Sb**	**10 35 42.2**	**+0.1**
	baz=14						
DRK	**Karamyk**	**1.79**	**232**	⇓*e*P	**Pn**	**10 35 19.5**	**+0.1**
	baz=33						
DRK				⇓*e*S	**Sb**	**10 35 43.9**	**-0.1**
	baz=33						
NRN	**Naryn**	**1.98**	**64**	⇓*e*P	**Pn**	**10 35 21.5**	**-0.5**
	baz=64						
NRN				⇓*e*S	**Sn**	**10 35 46.9**	**-0.6**
	baz=64						
EKS2	**Erkin-Say**	**2.06**	**3**	⇑P	**Pn**	**10 35 23.9**	**+0.9**
	6.4nm,0.2s,SNR=17						
EKS2				⇓S	**Sb**	**10 35 52.2**	**+0.7**
	23nm,0.2s						
EKS2	**Erkin-Say**	**2.06**	**3**	⇑*e*P	**Pn**	**10 35 23.2**	**+0.2**
	baz=2.0						
EKS2				⇑*e*S	**Sn**	**10 35 49.9**	**+0.6**
	baz=2.0						
MNAS	**Manas**	**2.06**	**336**	⇑*e*P	**Pn**	**10 35 23.4**	**+0.4**
	baz=36						
MNAS				⇑*e*S	**Sn**	**10 35 50.3**	**+0.9**
	baz=36						
TRKS	**Terek-Say**	**2.10**	**297**	⇓*e*P	**Pn**	**10 35 23.4**	**-0.1**
	baz=96						
TRKS				⇓*e*S	**Sn**	**10 35 49.9**	**-0.3**
	baz=96						
AAK	**Ala-Archa**	**2.14**	**17**	⇑P	**Pn**	**10 35 25.2**	**+1.2**
	21nm,0.2s,SNR=18						
AAK				⇓S	**Sb**	**10 35 54.0**	**+0.3**
	60nm,0.3s						
AAK	**Ala-Archa**	**2.14**	**17**	⇓*e*P	**Pn**	**10 35 24.2**	**+0.2**
	baz=17						
AAK				⇓*e*S	**Sn**	**10 35 51.7**	**+0.5**
	baz=17						
MRKS	**Merke**	**2.16**	**352**	Pg	**Pn**	**10 35 24.9**	**+0.6**
	36nm,0.3s						
MRKS				Lg	Lg	10 35 53.7	
	234nm,0.4s						
MRKS	**Merke**	**2.16**	**352**	*e*Pg	**Pn**	**10 35 24.9**	**+0.6**
	36nm,0.3s						
MRKS				*e*Lg	Lg	10 35 53.7	
	234nm,0.4s						
BTK	**Batken**	**2.21**	**257**	⇑*e*P	**Pn**	**10 35 25.4**	**+0.4**
	baz=57						
BTK				⇑*e*S	**Sn**	**10 35 53.8**	**+0.8**
	baz=57						
KBK	**Karagaybulak**	**2.28**	**25**	⇓P	**Pn**	**10 35 27.2**	**+1.2**
	14nm,0.2s						
KBK				⇑S	**Sb**	**10 35 58.2**	**+0.3**
	91nm,0.3s						
KBK	**Karagaybulak**	**2.28**	**25**	⇓*e*P	**Pn**	**10 35 26.1**	**+0.1**
	baz=25						
KBK				⇓*e*S	**Sn**	**10 35 55.0**	**+0.3**
	baz=25						
FRU1	**Bishkek**	**2.33**	**18**	⇑*e*P	**Pn**	**10 35 27.0**	**+0.4**
	baz=18						
FRU1				⇑*e*S	**Sn**	**10 35 56.6**	**+0.7**
	baz=18						
CHMS	**Chumysh**	**2.54**	**19**	⇑P	**Pn**	**10 35 30.7**	**+1.3**
	8.8nm,0.3s,SNR=5.2						
CHMS				⇑S	**Sb**	**10 36 04.8**	**-0.4**
	38nm,0.7s						
CHMS	**Chumysh**	**2.54**	**19**	⇓Pg	**Pb**	**10 35 33.3**	**-0.3**
	4.9nm,0.5s						
CHMS				⇑Lg	Lg	10 36 06.9	
	29nm,0.7s						
CHMS	**Chumysh**	**2.54**	**19**	⇓*e*P	**Pn**	**10 35 29.6**	**+0.1**
	baz=18						
CHMS				⇓*e*S	**Sn**	**10 36 01.0**	**+0.1**
	baz=18						
ULHL	**Ulahol**	**2.56**	**49**	⇓P	**Pn**	**10 35 30.3**	**+0.4**
	21nm,0.2s,SNR=21						
ULHL				⇓S	**Sb**	**10 36 04.2**	**-1.9**
	56nm,0.3s						
ULHL	**Ulahol**	**2.56**	**49**	⇓*e*P	**Pn**	**10 35 30.0**	**+0.1**
	baz=49						
ULHL				⇓*e*S	**Sn**	**10 36 01.7**	**-0.1**
	baz=49						
BOOM	**Boomskoye usch**	**2.56**	**42**	⇓*e*P	**Pn**	**10 35 30.0**	**+0.1**
	baz=41						
BOOM				⇓*e*S	**Sn**	**10 36 01.7**	**-0.1**
	baz=41						
USP	**Ospenovka**	**2.74**	**13**	⇓P	**Pn**	**10 35 33.0**	**+0.7**
	6.8nm,0.3s,SNR=5.4						
USP				⇓S	**Sb**	**10 36 09.0**	**-2.0**
	18nm,0.2s						
TKM2	**Tokmak 2**	**2.75**	**32**	⇑Pn	**Pn**	**10 35 31.7**	**-0.8**
	3.0nm,0.4s						
TKM2				⇓Lg	Lg	10 36 13.9	
	35nm,0.6s						
TKM2	**Tokmak 2**	**2.75**	**32**	⇓*e*P	**Pn**	**10 35 32.7**	**+0.2**
	baz=31						
TKM2				⇓*e*S	**Sn**	**10 36 06.3**	**0.0**
	baz=31						
DZA	**Taraz**	**2.86**	**324**	Pg	**Pb**	**10 35 37.8**	**-1.2**
	68nm,0.1s						
DZA				Lg	Lg	10 36 15.8	
	224nm,0.2s						
DZA	**Taraz**	**2.86**	**324**	*e*Pg	**Pb**	**10 35 37.8**	**-1.2**
	68nm,0.1s						
DZA				*e*Lg	Lg	10 36 15.8	
	224nm,0.2s						
SGDS	**Sogindy**	**2.94**	**14**	Pg	**Pb**	**10 35 39.8**	**-0.6**
	2.8nm,0.1s						
SGDS				Lg	Lg	10 36 19.4	
	20nm,0.3s						
KST	**Kastek**	**3.00**	**35**	Pg	**Pb**	**10 35 41.5**	**0.0**
	3.1nm,0.3s						
KST				Lg	Lg	10 36 22.1	
	20nm,0.4s						
KST	**Kastek**	**3.00**	**35**	*e*Pg	**Pb**	**10 35 41.5**	**0.0**
	3.1nm,0.3s						
KST				*e*Lg	Lg	10 36 22.1	
	20nm,0.4s						
DGS	**Degeres**	**3.09**	**31**	Pg	**Pb**	**10 35 42.6**	**-0.3**
	23nm,0.3s						
DGS				Lg	Lg	10 36 24.1	
	36nm,0.6s						
DGS	**Degeres**	**3.09**	**31**	*e*Pg	**Pb**	**10 35 42.6**	**-0.3**
	23nm,0.3s						
DGS				*e*Lg	Lg	10 36 24.1	
	36nm,0.6s						
IUG	**Iuzhnay**	**3.11**	**301**	Pg	**Pb**	**10 35 42.7**	**-0.7**
	19nm,0.2s						
IUG				Lg	Lg	10 36 24.2	
	65nm,0.3s						
IUG	**Iuzhnay**	**3.11**	**301**	*e*Pg	**Pb**	**10 35 42.7**	**-0.7**
	19nm,0.2s						
IUG				*e*Lg	Lg	10 36 24.2	
	65nm,0.3s						
MTBS	**Maitube**	**3.28**	**39**	Pg	**Pb**	**10 35 45.4**	**-0.8**
	6.0nm,0.1s						
MTBS				Lg	Lg	10 36 28.7	
	23nm,0.2s						
MTBS	**Maitube**	**3.28**	**39**	*e*Pg	**Pb**	**10 35 45.4**	**-0.8**
	6.0nm,0.1s						
MTBS				*e*Lg	Lg	10 36 28.7	
	23nm,0.2s						
TARG	**Taragay, Kyrgy**	**3.35**	**69**	⇓*e*P	**Pn**	**10 35 40.8**	**-0.1**
	baz=69						
TARG				⇓*e*S	**Sn**	**10 36 20.4**	**-1.1**
	baz=69						
KK31	**Karatay Array**	**3.41**	**318**	Pn	**Pn**	**10 35 41.0**	**-0.4**
	0.4nm,0.3s,baz=126,slow=13,SNR=3.6						
KK31				⇑Pg	**Pb**	**10 35 49.7**	**+1.2**
	1.0nm,0.3s,baz=148,slow=16,SNR=13						
KK31				⇑Lg	Lg	10 36 35.0	
	6.8nm,0.3s,baz=138,slow=27,SNR=11						
KKAR	**Karatay Array**	**3.41**	**318**	⇓*e*P	**Pn**	**10 35 42.1**	**+0.6**
	baz=18						
KKAR				⇓*e*S	**Sn**	**10 36 22.7**	**+0.2**
	baz=18						
KRBS	**Karabastau**	**3.45**	**26**	Pg	**Pb**	**10 35 48.8**	**-0.3**
	4.4nm,0.3s						
KRBS				Lg	Lg	10 36 34.8	
	12nm,0.4s						
KRBS	**Karabastau**	**3.45**	**26**	*e*Pg	**Pb**	**10 35 48.8**	**-0.3**
	4.4nm,0.3s						
KRBS				*e*Lg	Lg	10 36 34.8	
	12nm,0.4s						
TNSS	**Tian-Shan**	**3.48**	**44**	Pg	**Pb**	**10 35 49.4**	**-0.3**
	13nm,0.2s						
TNSS				Lg	Lg	10 36 35.9	
	29nm,0.2s						
TNSS	**Tian-Shan**	**3.48**	**44**	*e*Pg	**Pb**	**10 35 49.4**	**-0.3**
	13nm,0.2s						
TNSS				*e*Lg	Lg	10 36 35.9	
	29nm,0.2s						
AAA	**Alma-Ata**	**3.58**	**42**	Pg	**Pb**	**10 35 51.3**	**0.0**
	28nm,0.1s						
AAA				Lg	Lg	10 36 38.6	
	65nm,0.2s						
AAA	**Alma-Ata**	**3.58**	**42**	*e*Pg	**Pb**	**10 35 51.3**	**0.0**
	28nm,0.1s						
AAA				*e*Lg	Lg	10 36 38.6	
	65nm,0.2s						
MDOK	**Medeo**	**3.62**	**44**	Pg	**Pb**	**10 35 51.6**	**-0.3**
	8.0nm,0.4s						
MDOK				Lg	Lg	10 36 39.5	
	49nm,0.3s						
MDOK

KUU Lg Lg 10 36 47.0
15nm,0.3s
KUU Kurty 3.86 31 *e*Pg **Pb 10 35 56.1 +0.2**
3.0nm,0.1s
KUU *e*Lg Lg 10 36 47.0
15nm,0.3s
PRZ Przheval'sk 4.05 61⇓*e*P **Pn 10 35 50.6 +0.3**
baz=60
PRZ ⇓*e*S **Sn 10 36 37.3 -1.0**
baz=60
CHKK Chushkaly 4.10 36 Pg **Pb 10 36 00.9 +0.8**
2.3nm,0.2s
CHKK Lg Lg 10 36 55.1
18nm,0.3s
CHKK Chushkaly 4.10 36 *e*Pg **Pb 10 36 00.9 +0.8**
2.3nm,0.2s
CHKK *e*Lg Lg 10 36 55.1
18nm,0.3s
SATY Saty 4.33 54 Pg **Pb 10 36 05.1 +0.9**
8.2nm,0.3s
SATY Lg Lg 10 37 02.4
38nm,0.2s
SATY Saty 4.33 54 *e*Pg **Pb 10 36 05.1 +0.9**
8.2nm,0.3s
SATY *e*Lg Lg 10 37 02.4
38nm,0.2s
KURS Kuram 4.45 48 Pg **Pb 10 36 07.0 +1.0**
4.4nm,0.4s
KURS Lg Lg 10 37 05.7
6.7nm,0.4s
KURS Kuram 4.45 48 *e*Pg **Pb 10 36 07.0 +1.0**
4.4nm,0.4s
KURS *e*Lg Lg 10 37 05.7
6.7nm,0.4s
BTLS Baital 4.45 4 Pg **Pb 10 36 07.3 +1.3**
1.3nm,0.3s
BTLS Lg Lg 10 37 06.3
1.4nm,0.2s
BTLS Baital 4.45 4 *e*Pg **Pb 10 36 07.3 +1.3**
1.3nm,0.3s
BTLS *e*Lg Lg 10 37 06.3
1.4nm,0.2s
KPKS Kokpek 4.73 51 Pg **Pb 10 36 11.8 +0.9**
5.6nm,0.2s
KPKS Lg Lg 10 37 14.1
15nm,0.3s
KPKS Kokpek 4.73 51 *e*Pg **Pb 10 36 11.8 +0.9**
5.6nm,0.2s
KPKS *e*Lg Lg 10 37 14.1
15nm,0.3s
ARXS Arharly 4.76 39 Pg **Pb 10 36 12.7 +1.2**
3.2nm,0.3s
ARXS Lg Lg 10 37 15.1
13nm,0.3s
ARXS Arharly 4.76 39 *e*Pg **Pb 10 36 12.7 +1.2**
3.2nm,0.3s
ARXS *e*Lg Lg 10 37 15.1
13nm,0.3s
UZB Uzynbulak 4.76 56 Pg **Pb 10 36 12.7 +1.2**
4.0nm,0.2s
UZB Lg Lg 10 37 15.5
9.7nm,0.3s
UZB Uzynbulak 4.76 56 *e*Pg **Pb 10 36 12.7 +1.2**
4.0nm,0.2s
UZB *e*Lg Lg 10 37 15.5
9.7nm,0.3s
BLB Baldybastay 5.01 44 Pg **Pb 10 36 17.2 +1.5**
5.0nm,0.2s
BLB Lg Lg 10 37 23.1
19nm,0.3s
PDGK Podgornoye 5.15 56 ⇓Pg **Pb 10 36 19.4 +1.3**
4.9nm,0.8s
PDGK ⇓Lg Lg 10 37 28.9
11nm,0.7s
KNOS Konyrlen 5.56 46 Pg **Pb 10 36 27.7 +2.6**
4.1nm,0.2s
KNOS Lg Lg 10 37 40.9
7.9nm,0.4s
KTMS Ketmen 5.76 58 Pg **Pb 10 36 31.6 +3.1**
1.7nm,0.5s
KTMS Lg Lg 10 37 47.5
3.9nm,0.2s
KTMS Ketmen 5.76 58 *e*Pg **Pb 10 36 31.6 +3.1**
1.7nm,0.5s
KTMS *e*Lg Lg 10 37 47.5
3.9nm,0.2s
DJR Jarkent 5.89 49 Pg **Pb 10 36 33.1 +2.5**
2.2nm,0.3s
DJR Lg Lg 10 37 50.4
8.9nm,0.4s
DJR Jarkent 5.89 49 *e*Pg **Pb 10 36 33.1 +2.5**
2.2nm,0.3s
DJR *e*Lg Lg 10 37 50.4
8.9nm,0.4s

SOME ***22*** *11:02:47.3, 40.°75N×70.°37E, h5km*
ISU ***22*** *11:02:48.3, 41.°00N×69.°75E, h20km*
NNC ***22*** *11:02:50.9±2.1, 40.°93N×70.°33E, h0km, mb3.2, mpv3.5, Error ellipse: s-maj=16.5km s-min=8.4km az=38.0*
KRNET ***22*** *11:02:52.5±0.1, 41.°12N×70.°40E, h13km, mb2.5*
ISC 22 11:02:52.4±0.9, 41.°11N±0.°03×70.°40E±0.°03, h10km, n25, σ2°25/39, 12C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMG	**Chimgan**	**0.53**	**326**	P	**Pg**	**11 02 59.0**	**-3.8**
CHMG				S	**Sg**	**11 03 07.5**	**-2.2**
CHRV	**Charvak**	**0.63**	**327**	P	**Pg**	**11 03 00.7**	**-3.9**
CHRV				S	**Sg**	**11 03 09.7**	**-3.2**
TRKS	**Terek-Say**	**0.69**	**53**	⇓*e*P	**Pg**	**11 03 05.6**	**-0.3**
TRKS	baz=60			⇓*e*S	**Sg**	**11 03 15.3**	**+0.3**
IUG	**Iuzhnay**	**1.07**	**345**	P	**Pn**	**11 03 13.9**	**+0.3**
IUG	24nm,0.2s			S	**Sn**	**11 03 32.5**	**+3.9**
IUG	**Iuzhnay**	**1.07**	**345**	*e*P	**Pn**	**11 03 13.9**	**+0.3**
IUG	24nm,0.2s			*e*S	**Sn**	**11 03 32.5**	**+3.9**
BTK	**Batken**	**1.10**	**163**	⇑*e*P	**Pg**	**11 03 13.8**	**+0.2**
BTK	baz=63			⇑*i*S	**Sn**	**11 03 29.4**	**+0.1**
BTK	**Batken**	**1.10**	**163**	P	**Pg**	**11 03 13.8**	**+0.2**
BTK				S	**Sn**	**11 03 30.2**	**+0.9**
CHM	**Chimkent**	**1.35**	**334**	*e*P	**Pg**	**11 03 19.1**	**+0.8**
CHM	92nm,0.1s			*e*S	**Sg**	**11 03 41.2**	**+5.5**
DZA	**Taraz**	**1.91**	**21**	Pg	**Pg**	**11 03 28.9**	**-0.2**
DZA	78nm,0.1s			Lg	Lg	11 03 57.6	
DZA	**Taraz**	**1.91**	**21**	*e*Pg	**Pg**	**11 03 28.9**	**-0.2**
DZA	78nm,0.1s			*e*Lg	Lg	11 03 57.6	
ARSB	**Arslanbob**	**1.96**	**83**	⇓*e*P	**Pb**	**11 03 29.1**	**+0.8**
ARSB	baz=83			⇓*e*S	**Sg**	**11 03 55.9**	**+0.5**
KK31	**Karatay Array**	**1.99**	**2**	⇑P	**Pb**	**11 03 27.9**	**-0.9**
KK31	5.0nm,0.6s,baz=198,slow=23,SNR=20			⇑S	**Sg**	**11 03 56.7**	**+0.3**
KKAR	**Karatay Array**	**1.99**	**2**	⇑*e*P	**Pb**	**11 03 29.3**	**+0.5**
KKAR	3.9nm,0.5s,baz=187,slow=25,SNR=7.9 baz=2.0			⇑*i*S	**Sg**	**11 03 56.8**	**+0.4**
MNAS	**Manas**	**2.09**	**48**	⇑*i*P	**Pb**	**11 03 30.9**	**+0.4**
MNAS	baz=48			⇑*i*S	**Sg**	**11 03 58.9**	**-0.6**
SFK	**Sufi-Kurgan**	**2.60**	**114**	⇓*e*P	**Pb**	**11 03 38.4**	**-1.0**
SFK	baz=14			⇓*e*S	**Sb**	**11 04 11.9**	**+0.4**
MRKS	**Merke**	**2.67**	**51**	Pg	**Pb**	**11 03 41.7**	**+1.4**
MRKS	3.9nm,0.4s			Lg	Lg	11 04 20.4	
MRKS	**Merke**	**2.67**	**51**	*e*Pg	**Pb**	**11 03 41.7**	**+1.4**
MRKS	12nm,1.0s 3.9nm,0.4s			*e*Lg	Lg	11 04 20.4	
AML	**Almayashu**	**2.67**	**67**	⇓Pn	**Pb**	**11 03 39.1**	**-1.5**
AML	12nm,0.3s 0.4nm,0.8s			⇑Lg	Lg	11 04 21.2	
AML	**Almayashu**	**2.67**	**67**	⇑*i*P	**Pb**	**11 03 39.0**	**-1.5**
AML	4.8nm,1.1s baz=67			⇑*i*S	**Sb**	**11 04 13.2**	**-0.3**
ARLS	**Aral**	**3.04**	**74**	⇓*e*P	**Pb**	**11 03 44.0**	**-2.7**
ARLS	baz=75			⇓*e*S	**Sb**	**11 04 21.9**	**-2.0**
TKM2	**Tokmak 2**	**4.27**	**63**	⇑Lg	Lg	11 05 11.9	
KST	**Kastek**	**4.57**	**63**	Pg	**Pb**	**11 04 15.7**	**+3.0**
KST	5.6nm,0.8s 1.4nm,0.4s			Lg	Lg	11 05 18.4	
KST	**Kastek**	**4.57**	**63**	*e*Pg	**Pb**	**11 04 15.7**	**+3.0**
KST	4.3nm,0.6s 0.8nm,0.2s			*e*Lg	Lg	11 05 18.4	
KTBS	**Karatobe**	**5.33**	**59**	Pg	**Pg**	**11 04 30.4**	**-4.0**
KTBS	4.3nm,0.6s 0.7nm,0.3s			Lg	Lg	11 05 43.7	
KTBS	**Karatobe**	**5.33**	**59**	*e*Pg	**Pg**	**11 04 30.4**	**-4.0**
KTBS	2.2nm,0.6s 0.7nm,0.3s			*e*Lg	Lg	11 05 43.7	
	2.2nm,0.6s						

NOU ***22*** *11:03:53.2, 20.°78S×172.°91W, h0km, mb4.6/17, Tonga Islands Region*
NEIC ***22*** *11:04:48.2±1.9, 23.°1S±0.°1×177.°3W±0.°2, h175km±11km, mb4.6/33, Error ellipse: s-maj=24.4km s-min=14.7km az=102.0*
IDC ***22*** *11:04:50.6±2.0, 23.°30S×177.°48W, h185km±15km, mb4.0/6, mbtmp4.6/9, Error ellipse: s-maj=25.2km s-min=13.8km az=72.0*
ISC 22 11:04:49.9±0.6, 23.°19S±0.°06×177.°17W±0.°07, h200km, n111, σ2°12/106, mb4.5/21, 5C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.07**	**186**	P	**Pn**	**11 06 16.4**	**-1.6**
RAO	299nm,0.3s,baz=108,slow=23,SNR=5.0			S	**Sn**	**11 07 25.4**	**-2.4**
GLKZ	**Green Lake**	**6.08**	**186**	P	**Pn**	**11 06 18.9**	**+0.7**
GLKZ	392nm,0.3s,baz=292,slow=23,SNR=5.1			S	**Sn**	**11 07 28.1**	**0.0**
MSVF	**Nonsavu**	**7.04**	**320**	Pn	Pn	11 06 34.1	+3.4
MSVF	**Nonsavu**	**7.04**	**320**	P	**Pn**	**11 06 31.8**	**+1.1**
NIUE	**Niue**	**7.90**	**60**	Pn	**Pn**	**11 06 42.6**	**+0.7**
AFI	**Afiamalu**	**10.55**	**30**	Pn	**Pn**	**11 07 13.6**	**-2.8**
PINNC	**Pines Island,**	**14.19**	**269**	P	P	11 08 05.8	+2.1
OUZ	**Omahuta**	**14.43**	**212**	P	P	11 08 11.6	+5.2
OUZ	**Omahuta**	**14.43**	**212**	P	**P**	**11 08 09.1**	**+2.7**
GRZ	**Great Barrier**	**14.49**	**204**	P	**P**	**11 08 09.3**	**+2.2**
RTV	**Rentapao**	**14.52**	**289**	P	**Pn**	**11 08 02.0**	**-4.3**
WCZ	**Waipu Caves**	**14.68**	**208**	P	**P**	**11 08 11.9**	**+2.8**
YATNC	**Mamie plateau,**	**14.76**	**271**	P	P	11 08 15.0	+4.8
OUENC	**Ouen Island, N**	**14.76**	**270**	P	P	11 08 13.9	+3.7
OUENC	**Ouen Island, N**	**14.76**	**270**	P	P	11 08 15.2	+5.0
KUZ	**Kuaotunu**	**14.84**	**203**	P	**P**	**11 08 12.1**	**+1.2**
KUZ	**Kuaotunu**	**14.84**	**203**	P	**P**	**11 08 11.7**	**+0.8**
ONTNC	**Ouen Toro**	**15.13**	**270**	P	**P**	**11 08 17.7**	**+3.5**
HAZ	**Te Kaha**	**15.15**	**195**	P	**Pn**	**11 08 11.3**	**-2.5**
DZM	**Mont Dzumac**	**15.17**	**271**	P	**P**	**11 08 17.9**	**+3.1**
DZM	comp=Z,21nm,0.8s			IAmb	IAmb	11 08 20.9	
DZM	**Mont Dzumac**	**15.17**	**271**	P	**P**	**11 08 18.9**	**+4.1**
DZM	**Mont Dzumac**	**15.17**	**271**	P	**P**	**11 08 18.3**	**+3.5**
NOUC	**Port Laguerre**	**15.30**	**271**	P	P	11 08 21.6	+5.5
PUZ	**Puketiti**	**15.34**	**194**	P	**Pn**	**11 08 14.4**	**-1.7**
RUGZ	**Raukumara Rang**	**15.37**	**196**	P	**Pn**	**11 08 14.3**	**-2.4**
TWGZ	**Tauwhareparae**	**15.50**	**194**	P	**P**	**11 08 17.0**	**-1.3**
CNGZ	**Carnagh Statio**	**15.75**	**193**	P	**P**	**11 08 19.1**	**-1.8**
MWZ	**Matawai**	**15.76**	**196**	P	**P**	**11 08 19.3**	**-1.8**
URZ	**Urewera**	**15.80**	**197**	P	**Pn**	**11 08 21.4**	**-0.2**
URZ	**Urewera**	**15.80**	**197**	P	**P**	**11 08 18.2**	**-3.3**
URZ	**Urewera**	**15.80**	**197**	P	**P**	**11 08 19.2**	**-2.2**
TOZ	**Tahuroa Road**	**15.80**	**202**	P	**Pn**	**11 08 22.1**	**+0.4**
TOZ	comp=Z,12nm,0.3s,baz=120,slow=23,SNR=36 comp=Z,20nm,1.0s			IAmb	IAmb	11 08 25.6	
TOZ	**Tahuroa Road**	**15.80**	**202**	P	**Pn**	**11 08 22.1**	**+0.4**
RAGZ	**Rawiri**	**15.94**	**196**	P	**P**	**11 08 21.7**	**-1.4**
MUGZ	**Murupara**	**16.09**	**197**	P	**P**	**11 08 21.8**	**-2.9**
SNGZ	**Shannon Statio**	**16.23**	**196**	P	**P**	**11 08 24.8**	**-1.5**
RAR	**Rarotonga**	**16.23**	**86**	S	**Sn**	**11 11 29.6**	**0.0**
KNZ	**Kokohu**	**16.38**	**194**	P	**P**	**11 08 25.2**	**-2.7**
MTHZ	**Maungataniwha**	**16.43**	**197**	P	**Pn**	**11 08 28.2**	**-1.1**
NMHZ	**Naumai**	**16.66**	**197**	P	**Pn**	**11 08 30.5**	**-1.7**
HIZ	**Hauiti**	**16.72**	**202**	P	**Pn**	**11 08 33.4**	**+0.6**
HIZ	**Hauiti**	**16.72**	**202**	P	**Pn**	**11 08 34.4**	**+1.6**
HIZ	**Hauiti**	**16.72**	**202**	P	**Pn**	**11 08 34.3**	**+1.5**
ARHZ	**Aropaoanui**	**16.77**	**196**	P	**P**	**11 08 27.7**	**-4.4**
BKZ	**Black Stump Fm**	**16.81**	**197**	P	**P**	**11 08 29.2**	**-3.5**
BKZ	comp=Z,25nm,1.2s			IAmb	IAmb	11 08 37.6	
BKZ	**Black Stump Fm**	**16.81**	**197**	P	**P**	**11 08 30.9**	**-1.8**
BKZ	**Black Stump Fm**	**16.81**	**197**	P	**P**	**11 08 29.6**	**-3.1**
TMVZ	**Te Maari**	**16.99**	**199**	P	**P**	**11 08 33.1**	**-1.6**
ETVZ	**East Tongariro**	**17.01**	**199**	P	P	11 08 27.2	-7.8
KWHZ	**Kaweka Forest**	**17.07**	**197**	P	P	**11 08 33.0**	**-2.6**
NGZ	**Ngauruhoe**	**17.08**	**199**	P	P	**11 08 34.8**	**-0.9**
WNVZ	**Wahianoa**	**17.22**	**199**	P	P	**11 08 34.2**	**-3.1**
MOVZ	**Moawhango**	**17.25**	**199**	P	P	**11 08 35.7**	**-1.8**
KAHZ	**Kahuranaki**	**17.30**	**196**	P	P	**11 08 36.5**	**-1.6**
VRZ	**Vera Road**	**17.31**	**202**	P	**Pn**	**11 08 38.1**	**-1.5**
PXZ	**Pawanui**	**17.53**	**195**	P	P	**11 08 37.8**	**-2.7**
PNHZ	**Pukenui**	**17.59**	**197**	P	P	**11 08 38.7**	**-2.4**
NEZ	**North Egmont**	**17.67**	**203**	P	**Pn**	**11 08 44.5**	**+0.6**
TSZ	**Takapari Road**	**17.79**	**197**	P	**P**	**11 08 40.9**	**-2.5**
SNZO	**South Karori**	**19.31**	**199**	P	**P**	**11 08 56.7**	**-3.0**
SNZO	**South Karori**	**19.31**	**199**	P	**P**	**11 08 59.2**	**-0.5**
TCW	**Tory Channel**	**19.35**	**200**	P	**P**	**11 08 55.9**	**-4.2**
PLWZ	**Palliser**	**19.39**	**197**	P	**P**	**11 08 58.4**	**-2.3**
QRZ	**Quartz Range**	**19.61**	**204**	P	**Pn**	**11 09 05.0**	**-1.7**
NNZ	**Nelson**	**19.65**	**202**	P	**P**	**11 08 59.9**	**-3.5**
TUWZ	**Tuamarina**	**19.65**	**200**	P	**P**	**11 08 59.1**	**-4.3**
MRNZ	**Matariki Terra**	**20.02**	**203**	P	**P**	**11 09 04.2**	**-3.2**
KHZ	**Kahutara**	**20.68**	**200**	P	**P**	**11 09 11.7**	**-2.5**
KHZ	comp=Z,45nm,1.3s			IAmb	IAmb	11 09 28.3	
GVZ	**Greta Valley S**	**21.33**	**200**	P	**P**	**11 09 17.0**	**-4.2**
INZ	**Inchbonnie**	**21.66**	**203**	P	**P**	**11 09 23.9**	**-0.7**
RPZ	**Rata Peaks**	**22.66**	**203**	P	**P**	**11 09 32.4**	**-1.6**
RPZ	**Rata Peaks**	**22.66**	**203**	P	**P**	**11 09 32.3**	**-1.7**
RPZ	comp=Z,9.1nm,0.4s,baz=32,slow=2.3,SNR=14 comp=Z,9.1nm,0.4s			S	**S**	**11 13 28.1**	**+1.4**
FOZ	**Fox Glacier**	**22.96**	**205**	P	**P**	**11 09 36.3**	**-0.3**
LBZ	**Lake Benmore**	**23.55**	**203**	P	**P**	**11 09 40.6**	**-1.4**
JCZ	**Jackson Bay**	**23.82**	**206**	P	**P**	**11 09 44.8**	**+0.2**
ODZ	**Otahua Downs**	**23.96**	**202**	P	**P**	**11 09 44.1**	**-1.7**
WKZ	**Wanaka**	**24.36**	**204**	P	**P**	**11 09 47.6**	**-1.9**
CTAO	**Charters Tower**	**34.08**	**268**	P	**P**	**11 11 16.6**	**+1.0**
CTAO	comp=Z,10nm,0.5s			IAmb	IAmb	11 11 17.5	
TOO	**Toolangi**	**35.01**	**237**	P	**P**	**11 11 24.6**	**+1.2**
TOO	comp=Z,13nm,1.2s			IAmb	IAmb	11 11 50.3	
STKA	**Stephens Creek**	**37.39**	**247**	P	**P**	**11 11 44.4**	**+0.7**
STKA	**Stephens Creek**	**37.39**	**247**	P	**P**	**11 11 43.3**	**-0.3**
	comp=Z,1.7nm,0.4s,baz=81,slow=10,SNR=10 comp=Z,1.7nm,0.4s						
BBOO	**Buckleboo**	**42.10**	**246**	P	**P**	**11 12 20.9**	**-1.6**
BBOO	comp=Z,10nm,1.1s			IAmb	IAmb	11 12 22.0	
AS31	**Alice Springs**	**44.71**	**259**	P	**P**	**11 12 42.8**	**-0.7**
ASAR	**Alice Springs**	**44.71**	**259**	P	**P**	**11 12 43.0**	**-0.4**
ASAR	**Alice Springs**	**44.71**	**259**	P	**P**	**11 12 43.1**	**-0.3**
ASAR	comp=Z,1.3nm,0.6s,baz=98,slow=6.4,SNR=32 comp=Z,0.5nm,0.7s,baz=102,slow=5.0,SNR=2.0 comp=Z,1.3nm,0.6s			PcP	**PcP**	**11 14 22.7**	**+0.4**
WR0	**Warramunga Arr**	**44.86**	**265**	P	**P**	**11 12 43.9**	**-0.7**
WB2	**Warramunga Arr**	**45.04**	**265**	P	**P**	**11 12 45.6**	**-0.5**
WB0	**Warramunga Arr**	**45.04**	**265**	P	**P**	**11 12 45.7**	**-0.4**
WB0				IAmb	IAmb	11 12 46.2	
WRAB	**Tennant Creek**	**45.04**	**265**	P	**P**	**11 12 45.0**	**-1.0**
WRA	**Warramunga Arr**	**45.05**	**264**	P	**P**	**11 12 44.5**	**-1.6**
WRA	**Warramunga Arr**	**45.05**	**264**	P	**P**	**11 12 45.6**	**-0.5**
	comp=Z,6.9nm,0.7s,baz=92,slow=8.5,SNR=158 comp=Z,6.9nm,0.7s						
FORT	**Forrest**	**48.99**	**249**	P	**P**	**11 13 15.6**	**-0.8**
FORT	comp=Z,26nm,0.8s			IAmb	IAmb	11 13 16.8	
MTN	**Manton Dam**	**50.00**	**273**	P	**P**	**11 13 21.9**	**-2.4**
MTN	comp=Z,25nm,1.4s			IAmb	IAmb	11 13 22.7	
KNRA	**Kununurra**	**51.29**	**268**		**P**	**11 13 33.7**	**-0.2**
KNRA	comp=Z,36nm,1.5s			IAmb	IAmb	11 13 36.7	
SBA	**Scott Base**	**55.25**	**184**	P	P	11 14 06.2	+4.4
SBA	comp=Z,5.2nm,0.8s			IAmb	IAmb	11 14 06.8	
PSA00	**Pilbara Seismi**	**57.84**	**258**	P	**P**	**11 14 20.0**	**-1.0**
PSA00	comp=Z,21nm,1.4s			IAmb	IAmb	11 14 38.2	
MBWA	**Marble Bar**	**58.05**	**259**	P	**P**	**11 14 20.7**	**-1.7**
MBWA	comp=Z,14nm,1.1s			IAmb	IAmb	11 14 23.8	
MORW	**Morawa**	**59.55**	**249**	P	**P**	**11 14 31.1**	**-1.5**
MORW	comp=Z,14nm,1.3s			IAmb	IAmb	11 14 41.8	
CASY	**Casey**	**61.88**	**206**	P	**P**	**11 14 48.5**	**+0.9**
CASY	comp=Z,6.8nm,0.8s			IAmb	IAmb	11 14 49.7	
QSPA	**South Pole Qui**	**66.89**	**180**	P	**P**	**11 15 23.1**	**+2.8**
QSPA	comp=Z,11nm,0.7s			IAmb	IAmb	11 15 23.7	
QSPA	**South Pole Qui**	**66.89**	**180**	P	**P**	**11 15 23.0**	**+2.6**
	comp=Z,10nm,0.6s,baz=34,slow=2.8,SNR=108 comp=Z,10nm,0.6s						
MAW	**Mawson**	**79.30**	**200**	P	**P**	**11 16 34.6**	**+1.8**
	comp=Z,4.6nm,0.9s,baz=126,slow=3.1,SNR=6.7 comp=Z,4.6nm,0.9s						
TROLL	**Troll, Antarti**	**85.05**	**180**	⇑P	**P**	**11 17 04.8**	**+2.0**
	comp=Z,541nm,0.7s						
SNAA	**Sanae**	**85.31**	**178**	P	**P**	**11 17 05.2**	**+1.3**
SNAA	**Sanae**	**85.31**	**178**	⇑P	**P**	**11 17 05.7**	**+1.7**
	comp=Z,57nm,0.8s						
VNA3	**Neumayer Olymp**	**85.42**	**176**	⇑P	**P**	**11 17 06.2**	**+1.7**
	comp=Z,10nm,0.7s						
VNA2	**Neumayer--Watz**	**85.87**	**177**	⇑P	**P**	**11 17 08.7**	**+2.1**
	comp=Z,4.3nm,0.7s,baz=197,slow=3.0						
VNA1	**Neumayer--Stat**	**86.09**	**176**	⇑P	**P**	**11 17 09.6**	**+2.0**
	comp=Z,8.0nm,1.0s						
HFS	**Hagfors**	**142.30**	**351**	PKhKP	PKPpre	11 23 54.6	
	comp=Z,0.8nm,0.5s,baz=64,slow=3.4,SNR=1.3						
AKASG	**Malin Array Be**	**145.72**	**330**	PKPbc	**PKiKP**	**11 24 05.3**	**-3.0**
	comp=Z,0.7nm,0.4s,baz=43,slow=3.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**169.95**	**174**	PKP	**PKPdf**	**11 24 34.8**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=87,slow=3.0,SNR=3.0						
TORD				PKPab	**PKPab**	**11 25 52.0**	**+1.9**
	comp=Z,0.8nm,0.8s,baz=161,slow=3.7,SNR=6.3						

IDC ***22*** *11:07:24.7±0.8, 12.°98N×146.°25E, h0km, mb3.9/11, mbtmp3.9/11, MS4.4/1, Error ellipse: s-maj=24.4km s-min=20.7km az=67.0*
NEIC ***22*** *11:07:28.2±1.2, 13.°2N±0.°1×146.°20E±0.°08, h10km±1km, mb4.4/10, Error ellipse: s-maj=23.9km s-min=11.1km az=198.0*
ISC 22 11:07:27.1±0.7, 13.°1N±0.°1×146.°19E±0.°09, h10km, n34, σ1°04/32, mb4.3/17, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.38**	**291**	Pn	**Pn**	**11 07 52.4**	**0.0**
GUMO				Sn	**Sb**	**11 08 10.6**	**-0.1**
GUMO	**Guam**	**1.38**	**291**	Pn	**Pn**	**11 07 52.7**	**+0.3**
GUMO	301nm,0.3s,baz=131,slow=8.5,SNR=24			Sn	**Sb**	**11 08 10.8**	**+0.1**
PATS	**Pohnpei**	**13.46**	**116**	Pn	Pn	11 10 34.7	-3.6
H11S3	**WAKE ISLAND Hy**	**20.43**	**72**	T	T	11 33 28.7	
H11S1	baz=253,slow=74 **WAKE ISLAND Hy**	**20.45**	**72**	T	T	11 33 33.4	
H11S2	baz=259 **WAKE ISLAND Hy**	**20.45**	**72**	T	T	11 33 28.7	
FAKI	baz=253,slow=74 **Fak Fak**	**21.09**	**222**	P	**P**	**11 12 13.7**	**+1.7**
HNR	**Honiara**	**26.22**	**148**	LR	LR	11 22 51.6	
USA0B	comp=Z,884nm,19.1s,baz=303,slow=36 **Ussuriysk Arra**	**33.30**	**341**	P	**P**	**11 14 05.0**	**0.0**
USA0B				IAmb	IAmb	11 14 19.4	
USRK	comp=Z,5.6nm,0.8s **Ussuriysk Ar.**	**33.30**	**341**	P	**P**	**11 14 04.7**	**-0.2**
WRAB	**Tennant Creek**	**34.83**	**200**	P	**P**	**11 14 18.5**	**0.0**
WRAB				IAmb	IAmb	11 14 46.9	
WB2	comp=Z,5.0nm,1.2s **Warramunga Arr**	**34.84**	**200**	P	**P**	**11 14 20.8**	**+2.3**
WRA	**Warramunga Arr**	**34.84**	**200**	P	**P**	**11 14 16.3**	**-2.3**
WRA	comp=Z,0.6nm,0.7s,baz=26,slow=10.0,SNR=4.3			PcP	**PcP**	**11 16 51.5**	**-0.4**
ASAR	**Alice Springs**	**38.46**	**198**	P	**P**	**11 14 47.0**	**-2.5**
	comp=Z,0.5nm,1.0s,baz=23,slow=9.8,SNR=1.1 comp=Z,0.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**45.68**	**283**	P	**P**	**11 15 48.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**45.68**	**283**	P	**P**	**11 15 48.3**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=81,slow=6.0,SNR=9.7 comp=Z,1.6nm,0.7s						
SONM	**Songino Array**	**47.88**	**324**	P	**P**	**11 16 05.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=134,slow=8.3,SNR=2.1 comp=Z,0.3nm,0.3s						
MK31	**Makanchi Array**	**62.74**	**316**		**P**	**11 17 52.6**	**0.0**
MK31	comp=Z,1.9nm,0.8s			IAmb	IAmb	11 18 09.5	
MKAR	**Makanchi Array**	**62.74**	**316**	P	**P**	**11 17 52.4**	**-0.2**
MKAR	**Makanchi Array**	**62.74**	**316**	P	**P**	**11 17 53.1**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=94,slow=9.4,SNR=13 comp=Z,1.4nm,0.7s						
ZALV	**Zalesovo Beam**	**62.77**	**324**	P	**P**	**11 17 53.9**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=99,slow=8.9,SNR=2.4 comp=Z,0.6nm,0.5s						
MAKZ	**Makanchi**	**62.95**	**316**		**P**	**11 17 53.7**	**-0.3**
KURK	**Kurchatov**	**65.79**	**320**	P	**P**	**11 18 12.6**	**+0.1**
KURBB	**Kurchatov Arra**	**65.83**	**320**	P	**P**	**11 18 12.5**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=102,slow=6.7,SNR=15 comp=Z,2.3nm,0.8s						
IL31		**68.46**	**25**	P	**P**	**11 18 28.6**	**-0.5**
IL31	comp=Z,6.3nm,1.4s			IAmb	IAmb	11 18 52.4	
ILAR	**Eielson Array**	**68.46**	**25**	P	**P**	**11 18 27.9**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=252,slow=5.7,SNR=10 comp=Z,0.3nm,0.5s						
J26L	**Joseph Creek**	**69.79**	**26**	P	**P**	**11 18 38.2**	**+0.6**
J26L	comp=Z,3.6nm,1.2s			IAmb	IAmb	11 18 41.2	
L27K	**Beaver Creek,**	**70.26**	**27**	P	**P**	**11 18 41.2**	**+0.7**
L27K	comp=Z,5.2nm,1.2s			IAmb	IAmb	11 19 02.0	
BCAR	**Beaver Creek A**	**70.28**	**27**	P	**P**	**11 18 42.2**	**+1.6**
KKAR	**Karatay Array**	**70.74**	**311**	P	**P**	**11 18 44.0**	**+0.2**
BVAR	**Borovoye Array**	**71.11**	**322**	P	**P**	**11 18 45.3**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=109,slow=6.8,SNR=8.7 comp=Z,1.3nm,0.4s						
NVAR	**Mina Array Bea**	**86.22**	**52**	P	**P**	**11 20 09.7**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=279,slow=5.2,SNR=4.4 comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**92.14**	**335**	P	**P**	**11 20 35.5**	**-1.3**
	comp=Z,1.6nm,0.9s,baz=45,slow=2.4,SNR=4.2 comp=Z,1.6nm,0.9s						
LPAZ	**La Paz**	**146.67**	**100**	PKPbc	**PKPdf**	**11 27 10.7**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=7.0,slow=1.7,SNR=2.6						

IDC ***22*** *11:28:46.0±0.9, 17.°43S×69.°16W, h161km±8km, mb3.6/11, mbtmp4.1/14, MS3.4/1, Error ellipse: s-maj=17.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.20**	**240**		**Pn**	**11 29 07.1**	**+1.4**
PB16	**IPOC Station P**	**0.87**	**194**	Pn	**Pn**	**11 29 10.7**	**+1.6**
LPAZ	**La Paz**	**1.63**	**43**		**Pn**	**11 29 17.5**	**+1.2**
LPAZ	**La Paz**	**1.63**	**43**	P	**Pn**	**11 29 17.9**	**+1.6**
	16nm,0.3s,baz=215,slow=6.2,SNR=64						
LPAZ				S	**Sn**	**11 29 41.0**	**+0.5**
	119nm,0.6s,baz=95,slow=18,SNR=16						
GO01	**Chusmiza**	**2.17**	**178**	Pn	**Pn**	**11 29 23.5**	**+1.2**
PB08	**IPOC Station P**	**2.64**	**177**		**Pn**	**11 29 29.0**	**+1.2**
TA01	**Diego Aracena**	**3.17**	**195**		**Pn**	**11 29 32.3**	**-1.8**
PATCX	**Punta Patache**	**3.41**	**194**		**Pn**	**11 29 34.5**	**-2.7**
LVC	**Limon Verde**	**5.11**	**176**	Pn	**Pn**	**11 30 00.9**	**+1.2**
LVC	**Limon Verde**	**5.11**	**176**	P	**Pn**	**11 30 01.0**	**+1.3**
	1.6nm,0.3s,baz=31,slow=11,SNR=12						
LVC				S	**Sn**	**11 30 55.7**	**-2.7**
	6.7nm,0.3s,baz=221,slow=18,SNR=13						
SIV	**San Ignacio**	**8.02**	**80**	P	**Pn**	**11 30 36.2**	**-1.9**
	41nm,0.4s,baz=272,slow=8.7,SNR=160						
ETMB	**Extrema**	**8.19**	**22**		**Pn**	**11 30 39.7**	**-0.8**
NNA	**Nana**	**9.12**	**306**	P	**Pn**	**11 30 54.3**	**+1.4**
	5.2nm,0.6s,baz=243,slow=15,SNR=3.7						
AC02	**Maricunga**	**9.30**	**179**	Pn	**Pn**	**11 30 54.0**	**-1.7**
VILB	**Vilhena**	**9.87**	**64**		**Pn**	**11 31 01.4**	**-1.4**
SAML	**Samuel**	**10.36**	**36**		**Pn**	**11 31 07.0**	**-2.3**
CFA	**Coronel Fontan**	**14.09**	**176**	P	**Pn**	**11 31 59.1**	**+1.7**
	2.8nm,0.9s,baz=163,slow=23,SNR=6.7						
ITAB	**Concordia**	**18.58**	**124**	P	**P**	**11 32 50.6**	**+0.6**
BDFB	**Brasilia**	**20.48**	**88**	P	**P**	**11 33 10.9**	**+0.3**
BDFB				IAmb	IAmb	11 33 53.2	
	comp=Z,16nm,1.5s						
BDFB	**Brasilia**	**20.48**	**88**	P	**P**	**11 33 11.4**	**+0.8**
	comp=Z,2.6nm,0.5s,baz=269,slow=10,SNR=5.5						
	comp=Z,2.6nm,0.5s						
TRQA	**Tornquist**	**21.47**	**164**	P	**P**	**11 33 22.0**	**+1.0**
BOAV	**Boa Vista**	**21.57**	**24**	P	**P**	**11 33 22.3**	**+0.1**
GO06	**Curarrehue**	**22.10**	**184**	P	**P**	**11 33 28.3**	**+0.7**
ROSC	**El Rosal**	**22.73**	**347**	LR	LR	11 42 38.3	
	comp=Z,91nm,20.8s,baz=232,slow=37						
PLCA	**Paso Flores**	**23.19**	**182**	P	**P**	**11 33 35.2**	**-2.6**
PLCA	**Paso Flores**	**23.19**	**182**	P	**P**	**11 33 39.0**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=154,slow=21,SNR=5.8						
	comp=Z,1.5nm,0.6s						
BAUV	**El Baul**	**26.29**	**3**	P	**P**	**11 34 04.5**	**-1.5**
TEIG	**Tepich**	**41.85**	**333**	P	**P**	**11 36 17.8**	**-1.8**
HNDO	**Hondo**	**54.97**	**328**	P	**P**	**11 37 59.4**	**-0.6**
HNDO				IAmb	IAmb	11 38 02.1	
	comp=Z,3.9nm,1.0s						
LCAR	**Lake Charles**	**57.14**	**339**	P	**P**	**11 38 14.8**	**-0.5**
LCAR				IAmb	IAmb	11 38 25.4	
	comp=Z,4.0nm,1.3s						
TXAR	**Lajitas Array**	**57.16**	**324**	P	**P**	**11 38 17.8**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=152,slow=8.2,SNR=2.0						
	comp=Z,0.2nm,0.5s						
T42A	**Van Buren**	**57.99**	**339**	P	**P**	**11 38 20.0**	**-1.2**
T42A				IAmb	IAmb	11 38 21.1	
	comp=Z,2.0nm,0.5s						
SNAA	**Sanae**	**66.17**	**162**	P	**P**	**11 39 16.2**	**+0.8**
SNAA				IAmb	IAmb	11 39 53.3	
	comp=Z,5.0nm,1.4s						
SNAA	**Sanae**	**66.17**	**162**	P	**P**	**11 39 16.2**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=275,slow=6.7,SNR=5.9						
	comp=Z,1.1nm,0.6s						
PDAR	**Pinedale Array**	**70.48**	**330**	P	**P**	**11 39 43.6**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=105,slow=6.6,SNR=2.9						
	comp=Z,0.4nm,0.8s						
ULM	**Lac du Bonnet**	**71.40**	**342**	P	**P**	**11 39 47.5**	**-0.3**
	comp=Z,5.6nm,0.4s,baz=156,slow=6.2,SNR=13						
	comp=Z,5.6nm,0.4s						
NVAR	**Mina Array Bea**	**72.14**	**321**	P	**P**	**11 39 53.8**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=95,slow=10,SNR=4.0						
	comp=Z,0.4nm,0.8s						
QSPA	**South Pole Qui**	**72.68**	**180**	P	**P**	**11 39 56.1**	**+0.6**
QSPA				IAmb	IAmb	11 39 57.8	
	comp=Z,7.6nm,1.5s						
QSPA	**South Pole Qui**	**72.68**	**180**	P	**P**	**11 39 56.7**	**+1.2**
	comp=Z,2.2nm,1.1s,baz=146,slow=1.8,SNR=6.7						
	comp=Z,2.2nm,1.1s						
TOA0	**Torodi Ar. Sit**	**76.39**	**71**	P	**P**	**11 40 16.7**	**-0.9**
TOA0				IAmb	IAmb	11 40 18.1	
	comp=Z,7.6nm,1.3s						
TORD	**Torodi Ar. Bea**	**76.39**	**71**	P	**P**	**11 40 16.9**	**-0.7**
TORD				IAmb	IAmb	11 40 18.0	
	comp=Z,4.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**76.39**	**71**	P	**P**	**11 40 17.0**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=254,slow=5.7,SNR=18						
	comp=Z,2.4nm,0.6s						
YKA	**Yellowknife Ar**	**87.30**	**341**	P	**P**	**11 41 13.8**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=15,slow=12,SNR=6.9						
	comp=Z,2.2nm,0.8s						
MAW	**Mawson**	**88.26**	**163**	P	**P**	**11 41 18.9**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=190,slow=7.3,SNR=11						
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**133.24**	**210**	PKP	**PKPdf**	**11 47 43.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=134,slow=1.7,SNR=5.6						
WRA	**Warramunga Arr**	**136.16**	**213**	PKP	**PKPdf**	**11 47 49.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=152,slow=2.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**138.14**	**31**	PKP	**PKPdf**	**11 47 50.3**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=327,slow=2.4,SNR=2.0						
ZALV	**Zalesovo Beam**	**138.45**	**23**	PKP	**PKPdf**	**11 47 51.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=158,slow=1.6,SNR=4.1						
SONM	**Songino Array**	**149.53**	**6**	PKPbc	**PKPbc**	**11 48 16.5**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=183,slow=2.5,SNR=2.5						

*IDC **22** 11:42:26.9±0.9, 48°.23N×157°.16E, h0km, mb3.6/9, mbtmp3.6/11, ML3.2/2, MS2.7/1, Error ellipse: s-maj=25.5km s-min=19.9km az=133.0*
*MOS **22** 11:42:28.1±0.5, 48°.26N×157°.36E, h23km, mb4.0/1, Error ellipse: s-maj=23.5km s-min=4.4km az=85.5*
*KRSC **22** 11:42:29.7±1.2, 48°.51N×157°.85E, h23km±26km, Ml4.4*
*SKHL **22** 11:42:31.1±0.5, 48°.30N×157°.60E, h40km±6km, mb4.4/2*
ISC 22 11:42:29.7±0.8, 48°.34N±0°.07×157°.38E±0°.08, h16km, n68, σ1§18/84, mb3.6/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.49**	**341**	*e*P	**Pn**	**11 43 09.2**	**-0.2**
SKR				*e*S	**Sn**	**11 43 38.0**	**-1.5**
SKR	**Severo-Kuril's**	**2.49**	**341**	*e*P	**Pn**	**11 43 09.3**	**-0.2**
SKR				*e*S	**Sn**	**11 43 38.0**	**-1.5**
SKR	**Severo-Kuril's**	**2.49**	**341**	PN	**Pn**	**11 43 09.3**	**-0.2**
SKR				S	**Sn**	**11 43 38.0**	**-1.5**
PAU	**Pauzhetka**	**3.15**	**354**	*e*P	**Pn**	**11 43 20.0**	**+1.3**
PAU				*e*S	**Sn**	**11 43 56.2**	**+0.3**
PAU	**Pauzhetka**	**3.15**	**354**	*e*P	**Pn**	**11 43 20.0**	**+1.3**
PAU				*e*S	**Sn**	**11 43 56.2**	**+0.3**
PAU	**Pauzhetka**	**3.15**	**354**	PN	**Pn**	**11 43 20.0**	**+1.3**
PAU				S	**Sn**	**11 43 56.2**	**+0.3**
KDTR	**Khodutka, Kamc**	**3.50**	**7**	*e*P	**Pn**	**11 43 23.1**	**-0.3**
KDTR				*e*S	**Sn**	**11 44 03.1**	**-1.5**
KDTR	**Khodutka, Kamc**	**3.50**	**7**	PN	**Pn**	**11 43 23.1**	**-0.3**
ASAK	**Asacha**	**4.06**	**5**	*e*P	**Pn**	**11 43 31.7**	**+0.4**
ASAK				*e*S	**Sn**	**11 44 18.0**	**-0.5**
ASAK	**Asacha**	**4.06**	**5**	PN	**Pn**	**11 43 31.7**	**+0.4**
RUS	**Russkaya**	**4.16**	**10**	*e*P	**Pn**	**11 43 32.4**	**-0.1**
RUS				*e*S	**Sn**	**11 44 19.6**	**-1.2**
RUS	**Russkaya**	**4.16**	**10**	*e*P	**Pn**	**11 43 32.4**	**-0.1**
RUS	**Russkaya**	**4.16**	**10**	PN	**Pn**	**11 43 32.4**	**-0.1**
MTVR	**Mutnovka**	**4.18**	**7**	*e*P	**Pn**	**11 43 33.3**	**+0.4**
MTVR				*e*S	**Sn**	**11 44 20.3**	**-1.2**
MTVR	**Mutnovka**	**4.18**	**7**	PN	**Pn**	**11 43 33.3**	**+0.4**
GRL	**Gorelyy**	**4.24**	**6**	*e*P	**Pn**	**11 43 34.3**	**+0.6**
GRL				*e*S	**Sn**	**11 44 22.0**	**-1.0**
GRL	**Gorelyy**	**4.24**	**6**	PN	**Pn**	**11 43 34.3**	**+0.6**
KRMR	**Karymshinskiy**	**4.52**	**6**	*e*P	**Pn**	**11 43 38.2**	**+0.7**
KRMR				*e*S	**Sn**	**11 44 29.5**	**-0.2**
KRMR	**Karymshinskiy**	**4.52**	**6**	PN	**Pn**	**11 43 38.2**	**+0.7**
APC	**Apacha**	**4.59**	**358**	*e*P	**Pn**	**11 43 39.9**	**+1.5**
APC	**Apacha**	**4.59**	**358**	PN	**Pn**	**11 43 39.9**	**+1.5**
PET	**Petropavlovsk**	**4.76**	**9**	*e*P	**Pn**	**11 43 41.2**	**+0.5**
PET				*e*S	**Sn**	**11 44 34.7**	**-0.8**
PET	**Petropavlovsk**	**4.76**	**9**	*e*P	**Pn**	**11 43 41.0**	**+0.3**
PET				AMB	AMB	11 43 41.9	
	20nm,0.4s						
PET				*e*S	**Sn**	**11 44 33.9**	**-1.6**
PET				A	A	11 44 36.6	
	90nm,0.5s						
PET				A	A	11 44 36.6	
	40nm,0.5s						
PET	**Petropavlovsk**	**4.76**	**9**	*e*PN	**Pn**	**11 43 41.0**	**+0.3**
PET				pmax	pmax		
	comp=Z,19nm,0.4s						
DALK	**Dalny**	**4.78**	**10**	*e*P	**Pn**	**11 43 41.4**	**+0.5**
DALK				*e*S	**Sn**	**11 44 35.0**	**-0.9**
DALK	**Dalny**	**4.78**	**10**	PN	**Pn**	**11 43 41.4**	**+0.5**
PETK	**Petropavlovsk-**	**4.78**	**2**	Pn	**Pn**	**11 43 41.2**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=219,slow=16,SNR=34						
PETK				Sn	**Sn**	**11 44 39.8**	**+3.7**
	comp=Z,1.0nm,0.3s,baz=204,slow=21,SNR=4.0						
PETK				LR	LR	11 45 33.8	
	comp=Z,85nm,19.9s,baz=200,slow=38						
	comp=Z,7.6nm,0.5s						
UGLR	**Uglovaya**	**4.96**	**10**	*e*P	**Pn**	**11 43 44.5**	**+0.9**
UGLR	**Uglovaya**	**4.96**	**10**	PN	**Pn**	**11 43 44.5**	**+0.9**
AVH	**Avacha**	**5.01**	**9**	*e*P	**Pn**	**11 43 45.5**	**+1.3**
AVH	**Avacha**	**5.01**	**9**	*e*P	**Pn**	**11 43 45.5**	**+1.3**
AVH	**Avacha**	**5.01**	**9**	PN	**Pn**	**11 43 45.5**	**+1.3**
SMAR	**Somma**	**5.01**	**10**	*e*P	**Pn**	**11 43 44.8**	**+0.4**
SMAR	**Somma**	**5.01**	**10**	PN	**Pn**	**11 43 44.8**	**+0.4**
KOK	**Koryaka**	**5.03**	**9**	*e*P	**Pn**	**11 43 45.6**	**+1.2**
KOK	**Koryaka**	**5.03**	**9**	*e*P	**Pn**	**11 43 45.6**	**+1.2**
KOK	**Koryaka**	**5.03**	**9**	PN	**Pn**	**11 43 45.6**	**+1.2**
SDLR	**Sedlovina**	**5.04**	**10**	*e*P	**Pn**	**11 43 45.0**	**+0.3**
SDLR				*e*S	**Sn**	**11 44 41.1**	**-1.4**
SDLR	**Sedlovina**	**5.04**	**10**	PN	**Pn**	**11 43 45.0**	**+0.3**
KRER	**Koryakskii**	**5.05**	**9**	*e*P	**Pn**	**11 43 45.9**	**+1.0**
KRER	**Koryakskii**	**5.05**	**9**	PN	**Pn**	**11 43 45.9**	**+1.0**
KRX	**Arik**	**5.09**	**9**	*e*P	**Pn**	**11 43 46.5**	**+1.1**
KRX	**Arik**	**5.09**	**9**	PN	**Pn**	**11 43 46.5**	**+1.1**
GNL	**Ganaly**	**5.38**	**4**	*e*P	**Pn**	**11 43 50.9**	**+1.6**
GNL	**Ganaly**	**5.38**	**4**	PN	**Pn**	**11 43 50.9**	**+1.6**
KII	**Karymskiy**	**5.85**	**12**	*e*P	**Pn**	**11 43 56.9**	**+1.1**
KII	**Karymskiy**	**5.85**	**12**	PN	**Pn**	**11 43 56.9**	**+1.1**
MKZ	**Mys Kozlova**	**6.79**	**22**	*e*P	**Pn**	**11 44 08.8**	**+0.2**
MKZ				*e*S	**Sn**	**11 45 22.4**	**-3.1**
MKZ	**Mys Kozlova**	**6.79**	**22**	PN	**Pn**	**11 44 08.8**	**+0.2**
KZV	**Kizimen**	**7.02**	**14**	*e*P	**Pn**	**11 44 12.8**	**+0.9**
KZV				*e*S	**Sn**	**11 45 29.0**	**-2.4**
KZV	**Kizimen**	**7.02**	**14**	PN	**Pn**	**11 44 12.8**	**+0.9**
KUR	**Kuril'sk**	**7.23**	**248**	*e*P	**Pn**	**11 44 17.8**	**+3.2**
YSS	**Yuzh-Sakhalins**	**9.97**	**267**	*e*PN	Pn	**11 45 00.4**	**+8.3**
KLR	**Kul'dur**	**16.89**	**283**	Pn	**Pn**	**11 46 24.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=76,slow=6.3,SNR=5.5						
	comp=Z,2.4nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**30.70**	**162**	T	T	12 20 56.4	
	baz=348						
H11S3	**WAKE ISLAND Hy**	**30.72**	**163**	T	T	12 20 58.9	
	baz=348						
H11S2	**WAKE ISLAND Hy**	**30.72**	**162**	T	T	12 20 59.1	
	baz=348						
ILAR	**Eielson Array**	**33.49**	**40**	P	**P**	**11 49 08.7**	**+0.9**
	comp=Z,0.5nm,1.0s,baz=240,slow=6.5,SNR=4.5						
	comp=Z,0.5nm,1.0s						
MKAR	**Makanchi Array**	**48.76**	**298**	P	**P**	**11 51 11.8**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=62,slow=8.4,SNR=4.9						
MKAR				PcP	**PcP**	**11 52 38.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=54,slow=2.5,SNR=1.5						
	comp=Z,0.4nm,0.6s						
KURK	**Kurchatov**	**48.88**	**304**	*e*P	**P**	**11 51 13.9**	**-0.4**
KURK	**Kurchatov**	**48.88**	**304**	P	**P**	**11 51 13.9**	**-0.4**
KURBB	**Kurchatov Arra**	**48.97**	**304**	P	**P**	**11 51 13.9**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=65,slow=8.0,SNR=4.5						
	comp=Z,0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**55.53**	**259**	P	**P**	**11 52 03.4**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=34,slow=6.7,SNR=1.8						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	**61.47**	**57**	P	**P**	**11 52 47.4**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=312,slow=4.2,SNR=2.2						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**63.79**	**336**	P	**P**	**11 53 00.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=24,slow=14,SNR=3.3						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**71.03**	**203**	P	**P**	**11 53 44.8**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=19,slow=6.3,SNR=3.0						
	comp=Z,0.5nm,0.9s						
TXAR	**Lajitas Array**	**74.20**	**64**	P	**P**	**11 54 06.6**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=294,slow=3.1,SNR=5.5						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**74.70**	**202**	P	**P**	**11 54 07.3**	**-1.2**
	comp=Z,0.2nm,0.8s,baz=14,slow=5.8,SNR=5.2						
	comp=Z,0.2nm,0.8s						

*SKO **22** 12:07:16.8, 40°.47N×19°.41E, h0km*
*TIR **22** 12:07:18.3, 40°.83N×19°.62E, h0km±1km, Md3.1, Ml3.1*
*THE **22** 12:07:18.1, 40°.84N×19°.30E, h4km±2km, ML2.8/7, Error ellipse: s-maj=3.4km s-min=1.4km az=262.0*
*PDG **22** 12:07:29.0±0.3, 41°.28N×19°.61E, h10km±1km, ML2.6/8, Error ellipse: s-maj=2.5km s-min=1.0km az=90.0*
ISC 22 12:07:20.5±1.1, 40°.82N±0°.02×19°.58E±0°.03, h4km±10km, n48, σ1§29/77, 1C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.36**	**191**	P	**Pg**	**12 07 27.5**	**+0.2**
	baz=196						
VLO				S	**Sg**	**12 07 33.5**	**+1.5**
	baz=196						
VLO				AMP			
	comp=N,14nm,0.2s,baz=196						
VLO	**Vlora**	**0.36**	**191**	P	**Pg**	**12 07 27.5**	**+0.2**
	baz=196						
VLO				S	**Sg**	**12 07 33.5**	**+1.5**
	baz=196						
VLO				AMP			
	comp=E,18nm,0.4s,baz=196						
KBN	**Korca**	**0.94**	**102**	P	**Pg**	**12 07 37.2**	**-1.3**
	baz=102						
KBN				S	**Sg**	**12 07 50.8**	**+0.2**
	baz=102						
KBN				AMP			
	comp=E,1.1nm,0.6s,baz=102						
KBN	**Korca**	**0.94**	**102**	S	**Sg**	**12 07 51.2**	**+0.6**
	baz=101						
OHR	**Ohrid**	**0.97**	**72**	*i* Pg	**Pg**	**12 07 38.6**	**-0.4**
OHR				*i* Sg	**Sn**	**12 07 56.0**	**+1.0**
SRN	**Sarande**	**0.99**	**161**	P	**Pg**	**12 07 38.9**	**-0.6**
SRN				S	**Sb**	**12 07 54.1**	**+0.5**
SRN	**Sarande**	**0.99**	**161**	P	**Pg**	**12 07 37.9**	**-1.6**
	baz=162						
SRN				S	**Sb**	**12 07 54.1**	**+0.5**
	baz=162						
SRN				AMP			
	comp=E,2.3nm,0.4s,baz=162						
SRN	**Sarande**	**0.99**	**161**	P	**Pg**	**12 07 38.6**	**-0.9**
	baz=162						
SRN				S	**Sb**	**12 07 54.1**	**+0.5**
	baz=162						
SRN				AMP			
	comp=N,1.9nm,0.4s,baz=162						
LSK	**Leskovik**	**1.03**	**130**	P	**Pg**	**12 07 37.8**	**-2.3**
LSK	**Leskovik**	**1.03**	**130**	P	**Pg**	**12 07 39.1**	**-1.0**
	baz=131						
LSK				AMP			
	comp=E,1.6nm,0.7s,baz=131						
KEK	**Kerkira**	**1.12**	**171**	P	**Pg**	**12 07 41.0**	**-0.9**
KEK				S	**Sg**	**12 07 57.4**	**+1.0**
	comp=E,395nm,0.5s						
SCTE	**Santa Cesarea**	**1.13**	**229**	P	**Pg**	**12 07 41.8**	**-0.3**
	baz=231						
SCTE				S	**Sb**	**12 07 58.6**	**+0.9**
	baz=231						
ULC	**Ulcinj**	**1.17**	**348**	*i* Pg	**Pn**	**12 07 43.8**	**+0.1**
ULC	**Ulcinj**	**1.17**	**348**	*e*Pg	**Pg**	**12 07 42.5**	**-0.4**
ULC				*i* Sg	**Sg**	**12 07 56.4**	**-1.6**
NEST	**Nestorio**	**1.19**	**110**	P	**Pg**	**12 07 40.9**	**-2.3**
NEST				S	**Sn**	**12 08 02.8**	**+2.2**
	comp=E,198nm,0.7s						
PENT	**Pentalofos**	**1.34**	**117**	P	**Pn**	**12 07 45.2**	**-0.9**
PENT				S	**Sn**	**12 08 06.9**	**+2.5**
FNA	**Florina**	**1.36**	**91**	P	**Pn**	**12 07 44.5**	**-1.8**
FNA				S	**Sn**	**12 08 08.0**	**+3.1**
	comp=E,118nm,0.6s						
FNA	**Florina**	**1.36**	**91**	P	**Pn**	**12 07 44.6**	**-1.7**
	baz=90						
FNA				S	**Sn**	**12 08 05.6**	**+0.7**
	baz=90						
FNA	**Florina**	**1.36**	**91**	*i* Pg	**Pn**	**12 07 44.5**	**-1.8**
DRME	**Dracevica, Mon**	**1.40**	**348**	*e*Pg	**Pn**	**12 07 46.7**	**0.0**
DRME				*i* Sg	**Sb**	**12 08 04.1**	**-1.2**
IGT	**Igoumenitsa**	**1.41**	**156**	P	**Pn**	**12 07 46.0**	**-0.9**
IGT				S	**Sg**	**12 08 07.1**	**+1.3**
	comp=E,282nm,0.6s						
IGT	**Igoumenitsa**	**1.41**	**156**	P	**Pn**	**12 07 46.3**	**-0.6**
	baz=156						
IGT				S	**Sg**	**12 08 07.3**	**+1.6**
	baz=156						
JAN	**Janina**	**1.52**	**140**	P	**Pn**	**12 07 47.1**	**-1.3**
JAN				S	**Sb**	**12 08 09.6**	**+0.9**
	comp=E,335nm,0.4s						
BUM	**Brajici-Budva**	**1.56**	**341**	⇓*i* Pg	**Pb**	**12 07 50.1**	**+0.1**
BUM				*i* Sg	**Sg**	**12 08 10.5**	**-0.3**
BCI	**Bajram Curri**	**1.59**	**13**	P	**Pn**	**12 07 48.9**	**-0.4**
	baz=12						
BCI				S	**Sg**	**12 08 12.7**	**+1.3**
	baz=12						
BCI	**Bajram Curri**	**1.59**	**13**	P	**Pg**	**12 07 50.7**	**-0.1**
	baz=11						
BCI				S	**Sg**	**12 08 13.7**	**+2.2**
	baz=11						
BCI				AMP			
	comp=N,0.5nm,0.7s,baz=11						
KPRO	**Kipourio**	**1.61**	**122**	P	**Pn**	**12 07 50.0**	**+0.2**
KPRO				S	**Sg**	**12 08 14.6**	**+2.3**
	comp=N,222nm,0.7s						
PDG	**Podgorica**	**1.63**	**351**	*e*Pg	**Pb**	**12 07 50.9**	**-0.1**
PDG				*i* Sg	**Sb**	**12 08 11.7**	**-0.2**
CEME	**Cevo**	**1.79**	**344**	*e*Pg	**Pb**	**12 07 54.1**	**+0.2**
CEME				*i* Sg	**Sg**	**12 08 17.9**	**-0.2**
HCY	**Herceg Novi**	**1.82**	**334**	*e*Pg	**Pg**	**12 07 55.2**	**-0.1**
HCY				*i* Sg	**Sg**	**12 08 19.8**	**+0.9**
NOCI	**Noci**	**1.91**	**270**	P	**Pb**	**12 07 56.1**	**+0.2**
	baz=271						
NKME	**Niksic**	**2.00**	**347**	⇓*i* Pg	**Pb**	**12 07 57.5**	**+0.1**
NKME				*i* Sg	**Sg**	**12 08 24.1**	**-0.6**
IVA	**Berane**	**2.06**	**6**	*e*Pn	**Pb**	**12 07 58.5**	**0.0**
IVA				*i* Sn	**Sb**	**12 08 24.7**	**+0.2**
GRG	**Griva**	**2.14**	**85**	P	**Pn**	**12 07 57.5**	**+0.5**
TSLK	**Tsoukalades, L**	**2.16**	**157**	P	**Pn**	**12 07 56.1**	**-1.1**
LKD2	**Lefkada island**	**2.19**	**157**	P	**Pn**	**12 07 56.6**	**-1.1**
LKD2				S	**Sn**	**12 08 24.7**	**-0.6**
	comp=N,135nm,0.9s						
LKD2	**Lefkada island**	**2.19**	**157**	S	**Sg**	**12 08 31.3**	**+0.4**
	baz=158						
BRY	**Bratogost**	**2.22**	**340**	⇑*i* Pn	**Pb**	**12 08 01.5**	**+0.3**
THL	**Klokotos Trika**	**2.25**	**123**	P	**Pn**	**12 07 59.9**	**+1.5**
NYDR	**Nydri-Lefkada**	**2.27**	**157**	P	**Pn**	**12 07 56.7**	**-2.1**
TYRN	**Tyrnavos**	**2.31**	**118**	P	**Pn**	**12 07 59.7**	**+0.4**
EVGI	**Lefkada island**	**2.35**	**159**	P	**Pn**	**12 07 57.2**	**-2.6**
FSK	**Fiskardo**	**2.48**	**162**	P	**Pn**	**12 07 59.9**	**-1.7**
FSK				S	**Sn**	**12 08 30.2**	**-2.1**
PLE	**Pljevlja**	**2.51**	**357**	*e*Pn	**Pb**	**12 08 05.2**	**-1.0**
KNT	**Kendrikon**	**2.53**	**81**	P	**Pn**	**12 08 02.2**	**-0.2**
HORT	**Hortiatis**	**2.68**	**94**	P	**Pn**	**12 08 03.9**	**-0.6**
VLS	**Valsamata**	**2.75**	**163**	P	**Pn**	**12 08 02.9**	**-2.5**
PSDA	**Pessada-Kefalo**	**2.81**	**164**	P	**Pn**	**12 08 03.8**	**-2.4**

*KRNET **22** 12:16:36.5±0.1, 40°.26N×76°.94E, mb2.8*
*SOME **22** 12:16:37.4, 40°.43N×77°.00E, h5km*
*NNC **22** 12:16:39.9±0.8, 40°.50N×77°.00E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=5.7km s-min=4.1km az=156.0*
ISC 22 12:16:37.8±1.6, 40°.32N±0°.08×76°.99E±0°.05, h10km, n45, σ1§38/57, 18C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.34**	**326**	⇓*i* P	**Pn**	**12 17 02.0**	**-0.8**
	baz=28						
NRN				⇓*i* S	**Sg**	**12 17 21.0**	**+0.1**
	baz=28						
ULHL	**Ulahol**	**2.00**	**344**	⇓*i* P	**Pb**	**12 17 13.5**	**-0.9**
	baz=45						
ULHL				⇓*i* S	**Sb**	**12 17 40.4**	**+0.9**
	baz=45						
BOOM	**Boomskoye usch**	**2.30**	**340**	⇑*i* P	**Pb**	**12 17 17.8**	**-1.7**
	baz=42						
BOOM				⇑*i* S	**Sb**	**12 17 47.7**	**-0.4**
	baz=42						
PRZ	**Prz

ARSB ⇑eS **Sn** **12 18 07.8 +1.3**
baz=91
UZB Uzynbulak 3.21 28 Pg **Pb** **12 17 35.0 +0.1**
5.7nm,0.2s
UZB Lg Lg 12 18 16.3
14nm,0.5s
UZB Uzynbulak 3.21 28 ePg **Pb** **12 17 35.0 +0.1**
5.7nm,0.2s
UZB eLg Lg 12 18 16.3
14nm,0.5s
KURS Kuram 3.28 15 Pg **Pb** **12 17 35.9 -0.2**
3.6nm,0.5s
KURS Lg Lg 12 18 17.7
5.1nm,0.3s
KURS Kuram 3.28 15 ePg **Pb** **12 17 36.0 -0.2**
3.6nm,0.5s
KURS eLg Lg 12 18 17.7
5.1nm,0.3s
KPKS Kokpek 3.39 21 Pg **Pb** **12 17 38.6 +0.7**
5.7nm,0.2s
KPKS Lg Lg 12 18 22.4
14nm,0.4s
KPKS Kokpek 3.39 21 ePg **Pb** **12 17 38.6 +0.7**
5.7nm,0.2s
KPKS eLg Lg 12 18 22.4
14nm,0.4s
KTBS Karatobe 3.39 356 Pg **Pb** **12 17 37.8 -0.2**
KTBS Lg Lg 12 18 21.3
9.7nm,0.3s
KTBS Karatobe 3.39 356 eP **Pb** **12 17 37.8 -0.2**
KTBS eS **Sb** **12 18 21.2 +1.9**
9.7nm,0.3s
KRBS Karabastau 3.51 344 Pg **Pb** **12 17 40.7 +0.7**
6.2nm,0.4s
KRBS Lg Lg 12 18 26.1
7.5nm,0.4s
KRBS Karabastau 3.51 344 ePg **Pb** **12 17 40.7 +0.7**
6.2nm,0.4s
KRBS eLg Lg 12 18 26.1
7.5nm,0.4s
CHKK Chushkaly 3.53 0 Pg **Pb** **12 17 40.7 +0.4**
6.2nm,0.2s
CHKK Lg Lg 12 18 26.0
7.7nm,0.2s
CHKK Chushkaly 3.53 0 ePg **Pb** **12 17 40.7 +0.4**
6.2nm,0.2s
CHKK eLg Lg 12 18 26.0
7.7nm,0.2s
PDGK Podgornoye 3.54 31 ⇑Pg **Pb** **12 17 40.3 -0.3**
7.4nm,0.8s
PDGK ⇑Lg Lg 12 18 27.6
16nm,0.8s
SGDS Sogindy 3.59 331 Pg **Pb** **12 17 42.3 +0.9**
1.6nm,0.2s
SGDS Lg Lg 12 18 28.8
6.2nm,0.4s
MRKS Merke 3.72 312 Pg **Pb** **12 17 45.5 +1.9**
2.7nm,0.4s
MRKS Lg Lg 12 18 34.3
6.5nm,0.5s
MRKS Merke 3.72 312 ePg **Pb** **12 17 45.5 +1.9**
2.7nm,0.4s
MRKS eLg Lg 12 18 34.3
6.5nm,0.5s
ARXS Arharly 3.94 9 ePg **Pb** **12 17 48.3 +1.0**
4.7nm,0.3s
ARXS eLg Lg 12 18 39.1
5.2nm,0.2s
KK31 Karatay Array 5.59 302 ⇓Pg **Pg** **12 18 21.1 -3.6**
0.6nm,0.5s,baz=132,slow=16,SNR=5.5
KK31 ⇑Lg Lg 12 19 35.8
1.0nm,0.6s,baz=114,slow=25,SNR=4.0

*IDC **22** 12:20:09.8±1.1, 83°.21N×115°.66E, h0km, mb3.8/12, mbtmp3.8/12, MS3.4/29, Error ellipse: s-maj=30.8km s-min=20.6km az=155.0*
*MOS **22** 12:20:09.4±0.8, 83°.23N×115°.01E, h10km, mb4.2/4, Error ellipse: s-maj=99.9km s-min=18.1km az=86.1*
*NEIC **22** 12:20:10.1±1.3, 83°.4N±0°.1×114°.4E±1°.0, h10km±1km, mb4.3/18, Error ellipse: s-maj=26.4km s-min=5.9km az=315.0*
*IEPN **22** 12:20:11.0, 82°.81N×116°.25E, h10km*
ISC 22 12:20:10.6±0.6, 83°.26N±0°.07×114°.42E±1°.0, h10km, n65, σ1§90/46, mb4.1/22, MS3.4/29, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVZ	**Severnaya Zeml**	**4.44**	**212**	**eP**	**Pn**	**12 21 16.9**	**-0.9**
SVZ				**eS**	**Sn**	**12 22 03.4**	**-5.9**
25nm,0.4s							
SVZ				*i* tx	tx	12 25 06.9	
ZFI2	**Zemlya Franca-**	**9.04**	**290**	**eP**	**Pn**	**12 22 21.7**	**+0.8**
ZFI2				**eS**	**Sn**	**12 23 58.3**	**-4.3**
OMEGA	**Omega**	**9.05**	**290**	**eP**	**Pn**	**12 22 21.9**	**+0.9**
OMEGA				**eS**	**Sn**	**12 23 58.5**	**-4.3**
SPB5	**Spitsbergen Ar**	**14.47**	**305**	Pn	**Pn**	**12 23 34.1**	**-0.9**
SPA0	**Spitsbergen Ar**	**14.48**	**305**		**Pn**	**12 23 31.7**	**-3.5**
EUNU	**Eureka**	**16.53**	**13**	Pn	**Pn**	**12 23 59.7**	**-2.4**
ARCES	**ARCESS Array B**	**21.51**	**286**	P	**P**	**12 25 00.1**	**+1.0**
ARCES				IAmb	IAmb	12 25 10.2	
comp=Z,8.8nm,1.1s							
ARCES	**ARCESS Array B**	**21.51**	**286**	P	**P**	**12 25 01.1**	**+2.0**
comp=Z,5.1nm,1.0s,baz=7.8,slow=9.8,SNR=5.9							
ARCES				LR	LR	12 34 51.6	
comp=Z,59nm,18.5s,baz=78,slow=41							
comp=Z,5.1nm,1.0s							
RES	**Resolute Bay**	**21.58**	**21**	LR	LR	12 33 21.8	
comp=Z,68nm,20.4s,baz=50,slow=37							
C18K	**Utukok River**	**21.84**	**78**	P	**P**	**12 25 01.6**	**-1.0**
C18K				IAmb	IAmb	12 25 02.8	
comp=Z,19nm,1.1s							
D19K	**Kuna River**	**22.34**	**76**	P	**P**	**12 25 06.8**	**-1.2**
D19K				IAmb	IAmb	12 25 31.8	
comp=Z,8.5nm,1.1s							
D22K	**Ayikyak River**	**22.58**	**70**	P	**P**	**12 25 09.5**	**-1.1**
D22K				IAmb	IAmb	12 25 15.1	
comp=Z,12nm,1.2s							
F17K	**Baldwin Pennin**	**23.94**	**80**	P	**P**	**12 25 24.0**	**-0.3**
F17K				IAmb	IAmb	12 25 26.1	
comp=Z,12nm,0.9s							
E29M	**Blow River**	**24.62**	**58**	P	**P**	**12 25 30.7**	**+0.2**
E29M				IAmb	IAmb	12 25 41.0	
comp=Z,8.9nm,1.3s							
INK	**Inuvik**	**25.13**	**54**	P	**P**	**12 25 35.6**	**+0.5**
INK				IAmb	IAmb	12 25 45.5	
comp=Z,12nm,1.3s							
INK	**Inuvik**	**25.13**	**54**	P	**P**	**12 25 35.6**	**+0.5**
INK				pmax	pmax		
comp=Z,12nm,1.3s							
INK	**Inuvik**	**25.13**	**54**	LR	LR	12 35 11.9	
comp=Z,40nm,20.0s,baz=17,slow=36							
H21K	**Melozitna Rive**	**25.67**	**73**	P	**P**	**12 25 39.1**	**-0.9**
H21K				IAmb	IAmb	12 25 45.6	
comp=Z,8.3nm,1.5s							
G30M	**tAoh Zraii Nji**	**26.16**	**57**	P	**P**	**12 25 44.0**	**-0.5**
EPYK	**Eagle Plains**	**26.70**	**58**	P	**P**	**12 25 50.2**	**+0.8**
ILAR	**Eielson Array**	**27.19**	**68**	P	**P**	**12 25 53.5**	**-0.3**
comp=Z,0.5nm,1.0s,baz=353,slow=6.4,SNR=3.4							
ILAR				LR	LR	12 35 56.6	
comp=Z,61nm,21.7s,baz=286,slow=35							
comp=Z,0.5nm,1.0s							
I30M	**Mount Dempster**	**27.85**	**58**	P	**P**	**12 25 59.3**	**-0.6**
I30M				IAmb	IAmb	12 26 33.2	
comp=Z,11nm,1.4s							
FINES	**FINESS Array B**	**29.25**	**281**	P	**P**	**12 26 13.4**	**+1.3**
comp=Z,2.4nm,1.0s,baz=27,slow=9.2,SNR=1.7							
comp=Z,2.4nm,1.0s							
KIRV	**Kirov**	**29.30**	**256**	LR	LR	12 38 20.7	
comp=Z,79nm,18.5s,baz=0.9,slow=37							
BCAR	**Beaver Creek A**	**29.40**	**64**	P	**P**	**12 26 12.3**	**-1.2**
ARU	**Arti**	**30.40**	**245**	LR	LR	12 40 00.7	
comp=Z,132nm,19.3s,baz=344,slow=39							
ZALV	**Zalesovo Beam**	**30.50**	**215**	LR	LR	12 39 37.9	
comp=Z,80nm,18.5s,baz=15,slow=38							
NOA	**NORSAR Array B**	**31.32**	**294**	P	**P**	**12 26 32.4**	**+2.0**
comp=Z,0.9nm,0.9s,baz=12,slow=9.0,SNR=2.7							
comp=Z,0.9nm,0.9s							
KAIM	**Kayak Island**	**32.18**	**68**	P	**P**	**12 26 36.5**	**-1.5**
YKA	**Yellowknife Ar**	**32.49**	**41**	LR	LR	12 40 07.3	
comp=Z,80nm,19.2s,baz=334,slow=37							
BVAR	**Borovoye Array**	**32.58**	**231**	P	**P**	**12 26 43.5**	**+1.9**
comp=Z,0.4nm,0.5s,baz=11,slow=11,SNR=1.8							
BVAR				LR	LR	12 41 09.5	
comp=Z,94nm,21.3s,baz=29,slow=39							
comp=Z,0.4nm,0.5s							
KDAK Kodiak Island 33.36 77 LR LR 12 40 26.4							
comp=Z,77nm,18.0s,baz=24,slow=37							
KURK Kurchatov 34.17 221 P **P** **12 26 57.6** **+2.3**							
KURBB Kurchatov Arra 34.27 222 P **P** **12 26 57.6** **+1.4**							
comp=Z,0.3nm,0.4s,baz=20,slow=7.6,SNR=2.1							
comp=Z,0.3nm,0.4s							
DLBC Dease Lake 35.14 56 LR LR 12 44 44.1							
comp=Z,60nm,18.0s,baz=272,slow=42							
BELG Belogornoye 35.59 255 LR LR 12 42 05.2							
comp=Z,74nm,20.2s,baz=146,slow=37							
SONM Songino Array 35.65 189 P **P** **12 27 09.1** **+0.7**							
SONM Songino Array 35.65 189 P **P** **12 27 09.1** **+0.7**							
SONM pmax pmax							
comp=Z,2.0nm,1.3s							
AKTO Aktyubinsk 36.37 244 LR LR 12 44 24.8							
comp=Z,56nm,18.0s,baz=286,slow=40							
ABKAR Akbulak array 37.33 242 P **P** **12 27 22.2** **-0.3**							
MK31 Makanchi Array 37.79 217 P **P** **12 27 26.8** **+0.3**							
MK31 Makanchi Array 37.79 217 P **P** **12 27 26.8** **+0.3**							
MK31 pmax pmax							
comp=Z,1.0nm,0.9s							
MKAR Makanchi Array 37.79 217 P **P** **12 27 26.6** **+0.1**							
MKAR Makanchi Array 37.79 217 P **P** **12 27 26.6** **+0.1**							
MKAR Makanchi Array 37.79 217 P **P** **12 27 26.8** **+0.3**							
comp=Z,0.5nm,0.6s,baz=351,slow=6.5,SNR=5.9							
MKAR LR LR 12 44 01.2							
comp=Z,67nm,18.1s,baz=50,slow=38							
comp=Z,0.5nm,0.6s							
AKASG Malin Array Be 39.41 273 P **P** **12 27 41.4** **+1.5**							
comp=Z,0.7nm,0.4s,baz=11,slow=8.7,SNR=4.1							
AKASG LR LR 12 46 18.8							
comp=Z,38nm,21.2s,baz=358,slow=40							
comp=Z,0.7nm,0.4s							
HG4B Hotspring 41.09 58 P **P** **12 27 50.5** **-3.4**							
VRAC Vranov 42.25 285 LR LR 12 48 32.9							
comp=Z,42nm,19.9s,baz=23,slow=40							
AAK Ala-Archa 42.52 224 LR LR 12 47 36.5							
comp=Z,44nm,18.3s,baz=62,slow=39							
BOOM Boomskoye usch 42.55 223 P **P** **12 28 06.9** **+0.7**							
BOOM IAmb IAmb 12 28 25.8							
comp=Z,5.5nm,1.2s							
BOOM Boomskoye usch 42.55 223 P **P** **12 28 06.9** **+0.7**							
BOOM pmax pmax							
comp=Z,6.0nm,1.2s							
MLR Muntele Rosu 44.93 275 LR LR 12 50 05.3							
comp=Z,38nm,18.6s,baz=63,slow=40							
NEW Newport 46.39 46 LR LR 12 51 25.2							
comp=Z,38nm,18.0s,baz=306,slow=40							
GNI Garni 47.99 255 LR LR 12 51 30.5							
comp=Z,41nm,19.0s,baz=356,slow=39							
BRTR Keskin Array B 49.71 266 P **P** **12 29 04.8** **+2.4**							
comp=Z,1.2nm,0.6s,baz=356,slow=5.6,SNR=5.3							
BRTR LR LR 12 53 49.3							
comp=Z,25nm,18.7s,baz=48,slow=40							
comp=Z,1.2nm,0.6s							
SADO Sadowa 52.04 12 LR LR 12 51 43.6							
comp=Z,100nm,18.1s,baz=334,slow=36							
YBH Yreka Blue Hor 52.37 53 LR LR 12 55 19.6							
comp=Z,37nm,18.2s,baz=346,slow=40							
PDAR Pinedale Array 52.47 40 LR LR 12 51 49.3							
comp=Z,29nm,19.7s,baz=346,slow=36							
MMAI Mount Meron Ar 56.12 263 LR LR 12 56 59.1							
comp=Z,24nm,19.2s,baz=358,slow=39							
KEST Kesra 56.47 290 P **P** **12 29 54.9** **+2.7**							
comp=Z,3.6nm,0.7s,baz=292,slow=5.6,SNR=5.6							
comp=Z,3.6nm,0.7s							
EIL Elat 59.48 263 LR LR 12 59 05.3							
comp=Z,16nm,18.8s,baz=6.0,slow=39							
ANMO Albuquerque 60.47 38 LR LR 12 56 45.8							
comp=Z,48nm,19.6s,baz=73,slow=36							
TXAR Lajitas Array 66.25 36 P **P** **12 30 58.9** **+0.4**							
comp=Z,0.3nm,0.6s,baz=0.0,slow=5.5,SNR=3.6							
TXAR LR LR 13 00 20.0							
comp=Z,52nm,19.2s,baz=3.5,slow=36							
comp=Z,0.3nm,0.6s							
PALK Pallekele 77.15 214 LR LR 13 07 26.7							
comp=Z,29nm,18.6s,baz=141,slow=37							
TORD Torodi Ar. Bea 79.63 294 P **P** **12 32 18.9** **+1.2**							
comp=Z,1.7nm,0.8s,baz=7.2,slow=7.4,SNR=10							
comp=Z,1.7nm,0.8s							

IDC 22 12:32:01.5±2.7, 16°.55S×168°.73E, h0km, mb3.1/2, mbtmp3.2/3, ML2.5/1, Error ellipse: s-maj=66.1km s-min=37.5km az=113.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.90**	**201**	Pn	Pn	12 33 32.1	+1.7
0.1nm,0.3s,baz=122,slow=19,SNR=2.0							
DZM				Sn	Sn	12 34 38.0	-0.7
0.2nm,0.3s,baz=288,slow=20,SNR=2.1							
5.8nm,1.0s							
WRA	**Warramunga Arr**	**32.81**	**259**	P	P	12 38 37.6	+0.7
0.2nm,0.9s,baz=90,slow=8.7,SNR=1.1							
0.2nm,0.9s							
ASAR	**Alice Springs**	**33.40**	**252**	P	P	12 38 41.4	-0.8
0.2nm,0.5s,baz=82,slow=8.7,SNR=10.0							
0.2nm,0.5s							
FINES	**FINESS Array B**	**127.93**	**338**	PKP	PKPdf	12 51 08.5	-0.4
1.4nm,0.8s,baz=48,slow=2.1,SNR=5.0							

*IDC **22** 12:34:15.3±3.1, 36°.18N×70°.69E, h176km±28km, mb3.3/9, mbtmp3.8/15, Error ellipse: s-maj=22.1km s-min=16.0km az=19.0*
*NEIC **22** 12:34:21.1±1.2, 36°.64N±0°.02×70°.9E±0°.1, h218km±6km, mb4.1/2, Error ellipse: s-maj=15.6km s-min=3.2km az=85.0*
*NNC **22** 12:34:27.0±2.4, 37°.15N×70°.84E, h232km±34km, mb2.7, mpv3.7, Error ellipse: s-maj=25.2km s-min=16.2km az=19.0*
ISC 22 12:34:20.0±0.7, 36°.63N±0°.05×70°.93E±0°.07, h200km, n42, σ1§62/46, mb3.5/8, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.59**	**217**	Pn	**Pn**	**12 35 07.3**	**+2.1**
KBL				Sn	**Sn**	**12 35 40.9**	**+0.5**
BTK	**Batken**	**3.42**	**359**	Pn	**Pn**	**12 35 18.2**	**+3.5**
BTK				Sn	**Sn**	**12 35 59.9**	**+2.2**
NIL	**Nilore**	**3.53**	**147**		**Pn**	**12 35 17.8**	**+1.7**
AML	**Almayashu**	**5.89**	**20**	⇓P	**Pn**	**12 35 47.9**	**+1.7**
2.0nm,0.5s							
AML				⇑S	**Sn**	**12 36 53.6**	**-0.7**
17nm,0.6s							
KK31	**Karatay Array**	**6.47**	**357**	⇓P	**Pn**	**12 35 54.6**	**+1.3**
5.6nm,0.5s,baz=177,slow=12,SNR=60							
KK31				⇑S	**Sn**	**12 37 03.5**	**-3.8**
13nm,0.6s,baz=185,slow=20,SNR=7.8							
KK31	**Karatay Array**	**6.47**	**357**		**Pn**	**12 35 54.1**	**+0.8**
KKAR	**Karatay Array**	**6.47**	**357**		**Pn**	**12 35 53.9**	**+0.6**
KKAR	**Karatay Array**	**6.47**	**357**		**Pn**	**12 35 54.3**	**+1.0**
AAK	**Ala-Archa**	**6.60**	**24**	P	**Pn**	**12 35 57.0**	**+1.9**
9.3nm,0.6s,baz=208,slow=6.1,SNR=29							
AAK				S	**Sn**	**12 37 11.2**	**+0.7**
5.5nm,0.7s,baz=214,slow=7.5,SNR=6.1							
BOOM	**Boomskoye usch**	**7.01**	**32**		**Pn**	**12 36 01.9**	**+1.4**
TKM2	**Tokmak 2**	**7.23**	**28**	⇑P	**Pn**	**12 36 04.7**	**+1.3**
7.1nm,0.9s							
TKM2				⇑S	**Sn**	**12 37 24.1**	**-1.4**
9.6nm,0.9s							
GEYT	**Alibeck**	**10.30**	**281**	Pn	**Pn**	**12 36 42.8**	**-0.3**
GEYT	**Alibeck**	**10.30**	**281**	P	Pn	12 36 37.7	-5.3
0.8nm,0.6s,baz=95,slow=18,SNR=1.6							
GYA0B	**ALIBECK ARRAY**	**10.30**	**281**	Pn	**Pn**	**12 36 42.8**	**-0.3**
MAKZ	**Makanchi**	**13.08**	**36**	P	**Pn**	**12 37 20.4**	**+2.1**
MK31	**Makanchi Array**	**13.22**	**36**	P	**Pn**	**12 37 21.0**	**+1.0**
MKAR	**Makanchi Array**	**13.22**	**36**	P	**P**	**12 37 23.4**	**+0.4**
MKAR	**Makanchi Array**	**13.22**	**36**	P	**Pn**	**12 37 22.9**	**+2.9**
0.9nm,0.7s,baz=214,slow=8.5,SNR=9.4							
AB31	**Akbulak array**	**14.94**	**331**	P	**Pn**	**12 37 41.0**	**-0.4**
1.9nm,0.5s,baz=142,slow=12,SNR=29							
ABKAR	**Akbulak array**	**14.94**	**331**	P	**Pn**	**12 37 41.5**	**+0.2**
ABKAR	**Akbulak array**	**14.94**	**331**	P	**Pn**	**12 37 40.6**	**-0.7**
KURBB	**Kurchatov Arra**	**15.02**	**19**	P	**P**	**12 37 44.4**	**+1.6**
0.5nm,0.4s,baz=202,slow=11,SNR=2.6							
PKIN	**Phulchoki**	**15.21**	**122**	*e*P	**Pn**	**12 37 45.9**	**+0.9**
15nm,0.6s							
PKI	**Pulchoki**	**15.22**	**122**	*e*P	**Pn**	**12 37 45.5**	**+0.2**
12nm,0.6s							
GUN	**Gumba**	**15.33**	**120**	*e*P	**Pn**	**12 37 41.6**	**-5.0**
JIRN	**Jiri**	**15.70**	**120**	*e*P	P	12 37 40.9	-10
30nm,0.2s							
BVAR	**Borovoye Array**	**16.40**	**359**	P	**Pn**	**12 37 59.6**	**+0.7**
0.9nm,0.5s,baz=161,slow=10,SNR=6.3							
AKTO	**Aktyubinsk**	**16.64**	**330**	⇓P	**P**	**12 38 01.0**	**+0.3**
3.4nm,0.9s							
AKTO	**Aktyubinsk**	**16.64**	**330**	P	**P**	**12 38 00.2**	**-0.5**
2.6nm,0.6s,baz=137,slow=9.1,SNR=10							
AKTO				S	**S**	**12 41 02.6**	**-1.7**
0.5nm,0.4s,baz=76,slow=17,SNR=1.5							
ZAA0	**Zalesovo Array**	**19.82**	**25**	P	**P**	**12 38 35.1**	**0.0**
ZAA0				IAmb	IAmb	12 38 36.6	
comp=Z,2.1nm,0.6s							
ZALV	**Zalesovo Beam**	**19.82**	**25**	P	**P**	**12 38 35.1**	**0.0**
ZALV	**Zalesovo Beam**	**19.82**	**25**	P	**P**	**12 38 35.7**	**+0.6**
comp=Z,2.1nm,0.6s,baz=217,slow=11,SNR=9.9							
comp=Z,2.1nm,0.6s							
FINES	**FINESS Array B**	**37.34**	**326**	P	**P**	**12 41 13.3**	**+0.4**
FINES	**FINESS Array B**	**37.34**	**326**	P	**P**	**12 41 12.6**	**-0.2**
comp=Z,1.0nm,0.4s,baz=122,slow=10,SNR=12							
comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**41.00**	**338**	P	**P**	**12 41 42.9**	**-0.1**
ARCES				IAmb	IAmb	12 42 11.5	
comp=Z,13nm,1.2s							
ARCES	**ARCESS Array B**	**41.00**	**338**	P	**P**	**12 41 43.8**	**+0.8**
comp=Z,1.1nm,0.4s,baz=119,slow=8.0,SNR=16							
comp=Z,1.1nm,0.4s							
HFS	**Hagfors**	**42.93**	**322**	P	**P**	**12 41 58.5**	**-0.2**
comp=Z,1.3nm,0.6s,baz=91,slow=7.9,SNR=1.7							
comp=Z,1.3nm,0.6s							
NOA	**NORSAR Array B**	**44.24**	**323**	P	**P**	**12 42 09.2**	**0.0**
comp=Z,0.7nm,0.8s,baz=96,slow=7.7,SNR=2.2							
comp=Z,0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P	P	12 44 39.1	-4.1
comp=Z,0.8nm,0.4s,baz=51,slow=5.3,SNR=21							
comp=Z,0.8nm,0.4s							
ILAR	**Eielson Array**	**74.67**	**16**	P	**P**	**12 45 37.3**	**+0.3**
comp=Z,0.1nm,0.4s,baz=322,slow=5.7,SNR=1.8							
comp=Z,0.1nm,0.4s							
WRA	**Warramunga Arr**	**82.11**	**122**	P	**P**	**12 46 16.1**	**-2.2**
comp=Z,0.3nm,0.5s,baz=321,slow=5.0,SNR=11							
comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	**84.37**	**125**	P	**P**	**12 46 27.9**	**-2.1**
comp=Z,0.3nm,0.5s,baz=312,slow=4.9,SNR=15							
comp=Z,0.3nm,0.5s							

*NNC **22** 12:45:17.8±2.7, 37°.55N×72°.45E, h99km±49km, mb3.3, mpv3.6, Error ellipse: s-maj=23.0km s-min=22.0km az=173.0*
*IDC **22** 12:45:21.8±3.0, 37°.88N×72°.89E, h47km±27km, mb3.5/11, mbtmp3.8/17, ML3.4/6, Error ellipse: s-maj=23.8km s-min=17.9km az=5.0*
ISC 22 12:45:20.4±0.7, 37°.79N±0°.07×72°.90E±0°.06, h50km, n37, σ3§15/40, mb3.7/10, 3C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.96**	**53**	P	**Pn**	**12 46 02.0**	**-3.0**
KSH				pP		12 46 06.8	
KSH				sP		12 46 08.8	
KSH				S	**Sn**	**12 46 32.0**	**-7.4**
KSH				pmax	pmax		
comp=Z,70nm,0.6s							
KSH				smax	smax		
comp=N,490nm,0.6s							
KSH				smax	smax		
comp=E,600nm,0.8s							
CEP	**Cherat**	**4.04**	**192**	P	Pn	12 46 28.3	+8.4
CHCP	**Chirah Chowk**	**4.13**	**176**	P	Pn	12 46 29.3	+8.2
AML	**Almayashu**	**4.38**	**8**	⇓P	**Pn**	**12 46 25.6**	**+0.8**
comp=E,1.9nm,0.6s							
AML				⇑S	**Sn**	**12 47 21.0**	**+6.4**
comp=E,9.0nm,0.8s							
AAK	**Ala-Archa**	**4.99**	**14**	P	**Pn**	**12 46 34.4**	**+1.5**
comp=E,1.2nm,0.3s,baz=208,slow=11,SNR=18							
AAK				S	**Sn**	**12 47 30.0**	**+0.6**
comp=E,6.6nm,0.5s,baz=224,slow=15,SNR=4.1							
comp=E,6.6nm,0.6s							
THW	**Thamme Wali**	**5.07**	**191**	P	Pn	12 46 40.5	+6.5
TKM2	**Tokmak 2**	**5.52**	**21**	⇑P	**Pn**	**12 46 43.2**	**+2.9**
comp=E,5.2nm,0.6s							
TKM2				⇓S	**Sn**	**12 47 49.6**	**+7.0**
comp=E,21nm,0.9s							
KK31	**Karatay Array**	**5.61**	**342**	⇓P	**Pn**	**12 46 41.5**	**+0.2**
comp=E,3.3nm,0.3s,baz=151,slow=11,SNR=99							
KK31				S	**Sn**	**12 47 44.7**	**+0.3**
comp=E,13nm,0.5s,baz=167,slow=24,SNR=4.2							
PDGK	**Podgornoye**	**7.47**	**40**	⇑P	**Pn**	**12 47 08.9**	**+2.1**
comp=E,6.6nm,0.7s							
MKAR	**Makanchi Array**	**11.36**	**35**	P	**Pn**	**12 48 00.8**	**+0.8**
comp=E,0.1nm,0.3s,baz=220,slow=12,SNR=7.3							
comp=E,0.6nm,0.7s							
GEYT	**Alibeck**	**11.69**	**275**	P	**Pn**	**12 48 05.2**	**+0.7**
comp=E,0.6nm,0.3s,baz=101,slow=14,SNR=5.0							
GEYT				S	**Sn**	**12 50 09.7**	**-3.8**
comp=E,2.2nm,0.6s,baz=77,slow=13,SNR=3.5							
comp=E,1.9nm,0.5s							
PYUN	**Piuthan**	**12.84**	**136**	*e*P	Pn	12 48 16.1	-4.4
comp=E,12nm,0.4s							
DANN	**Dangsing**	**13.09**	**133**	*e*P	Pn	12 48 20.8	-3.1
comp=E,13nm,0.4s							
KURBB	**Kurchatov Arra**	**13.44**	**16**	P	**Pn**	**12 48 26.8**	**-1.5**
comp=E,0.1nm,0.3s,baz=208,slow=12,SNR=2.5							
comp=E,0.4nm,0.4s							
PKIN	**Phulchoki**	**14.63**	**130**	*e*P	**Pn**	**12 48 43.0**	**-1.7**
comp=E,14nm,0.3s							
PKI	**Pulchoki**	**14.64**	**130**	*e*P	**Pn**	**12 48 42.7**	**-2.2**
comp=E,11nm,0.3s							
GUN	**Gumba**	**14.68**	**128**	*e*P	**Pn**	**12 48 44.9**	**-0.6**
comp=E,55nm,1.4s							
AB31	**Akbulak array**	**14.79**	**325**	P	**Pn**	**12 48 42.8**	**-3.6**
comp=E,1.5nm,0.6s,baz=129,slow=16,SNR=24							
AB31				⇓S	**Sn**	**12 51 21.9**	**-7.1**
comp=E,1.5nm,0.7s,baz=136,slow=25,SNR=3.3							
JIRN	**Jiri**	**15.05**	**128**	*e*P	**Pn**	**12 48 49.4**	**-0.9**
comp=E,7.2nm,0.4s							
BVA0	**Borovoye Array**	**15.34**	**354**	⇓P	**Pn**	**12 48 49.8**	**-3.6**
comp=E,3.9nm,0.9s,baz=160,slow=13,SNR=6.8							
BVAR	**Borovoye Array**	**15.34**	**354**	P	**Pn**	**12 48 51.2**	**-2.2**
comp=E,1.2nm,0.5s,baz=159,slow=13,SNR=9.5							
RAMN	**Ramite**	**15.82**	**129**	*e*P	**Pn**	**12 48 59.4**	**-0.6**
comp=E,21nm,0.5s							
AKTO	**Aktyubinsk**	**16.51**	**325**	⇓P	**Pn**	**12 49 05.0**	**-3.4**
comp=E,7.8nm,1.0s							
AKTO	**Aktyubinsk**	**16.51**	**325**	P	**Pn**	**12 49 09.0**	**+0.6**
comp=E,0.6nm,0.3s,baz=132,slow=8.0,SNR=14							

Islands, Vanuatu Islands

*IDC **22** 13:36:21.7±2.6, 18°.69S×179°.56W, h549km±25km, mb3.0/4, mbtmp3.9/6, Error ellipse: s-maj=82.4km s-min=38.4km az=12.0*
*NEIC **22** 13:36:21.1±1.7, 18°.6S±0°.1×179°.5W±0°.1, h549km±7km, mb4.3/10, Error ellipse: s-maj=24.0km s-min=16.0km az=140.0*
ISC 22 13:36:20.6±0.7, 18°.5S±0°.1×179°.5W±0°.1, h550km, n24, σ1°23/24, mb4.1/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.44**	**289**	P	**P**	**13 37 34.1**	**+1.6**
MSVF	**Nonsavu**	**2.44**	**289**	P	**P**	**13 37 33.5**	**+1.0**
	14nm,0.9s,baz=123,slow=23,SNR=6.1						
AFI	**Afiamalu**	**8.75**	**59**	P	**P**	**13 38 24.2**	**-1.8**
FUNA	**Funafuti**	**10.02**	**353**	P	**P**	**13 38 39.7**	**+0.8**
MARNC	**Mare, Loyalty**	**12.06**	**254**	P	**P**	**13 38 58.9**	**-0.8**
DZM	**Mont Dzumac**	**13.62**	**253**	P	**P**	**13 39 17.8**	**+1.8**
	5.5nm,1.0s,baz=270,slow=20,SNR=2.4						
PLWZ	**Palliser**	**23.39**	**190**	P	**P**	**13 40 47.7**	**+0.8**
LBZ	**Lake Benmore**	**27.18**	**196**	P	**P**	**13 41 18.8**	**-1.5**
LBZ				IAmb	IAmb	13 41 45.2	
	comp=Z,45nm,1.4s						
COEN	**Coen**	**36.05**	**272**	P	**P**	**13 42 34.5**	**-1.8**
COEN				IAmb	IAmb	13 43 17.8	
	comp=Z,6.9nm,1.2s						
STKA	**Stephens Creek**	**37.40**	**242**	P	**P**	**13 42 47.7**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=74,slow=7.4,SNR=3.9						
	comp=Z,1.1nm,0.5s						
BBOO	**Buckleboo**	**42.17**	**241**	P	**P**	**13 43 26.9**	**+1.4**
BBOO				IAmb	IAmb	13 44 03.3	
	comp=Z,27nm,1.4s						
WR0	**Warramunga Arr**	**43.28**	**260**	P	**P**	**13 43 34.8**	**+0.5**
WR0				IAmb	IAmb	13 44 15.2	
	comp=Z,7.7nm,1.3s						
WB0	**Warramunga Arr**	**43.44**	**261**	P	**P**	**13 43 35.4**	**-0.2**
WB0				IAmb	IAmb	13 43 54.0	
	comp=Z,8.0nm,1.4s						
WB2	**Warramunga Arr**	**43.46**	**260**	P	**P**	**13 43 35.5**	**-0.2**
WRA	**Warramunga Arr**	**43.48**	**260**	P	**P**	**13 43 35.8**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=94,slow=8.3,SNR=9.7						
	comp=Z,0.4nm,0.7s						
AS31	**Alice Springs**	**43.60**	**255**	P	**P**	**13 43 37.1**	**+0.3**
ASAR	**Alice Springs**	**43.60**	**255**	P	**P**	**13 43 36.9**	**+0.2**
ASAR	**Alice Springs**	**43.60**	**255**	P	**P**	**13 43 37.6**	**+0.8**
	comp=Z,3.0nm,0.6s,baz=89,slow=8.1,SNR=117						
	comp=Z,3.0nm,0.6s						
UWB	**Uwekahuna B**	**44.60**	**34**	P	**P**	**13 43 44.6**	**+0.1**
FAKI	**Fak Fak**	**49.66**	**282**	P	**P**	**13 44 20.1**	**-2.5**
SMRI	**Semarang**	**68.89**	**269**	P	**P**	**13 46 30.5**	**-0.7**
K20K	**Telida**	**84.02**	**11**	P	**P**	**13 47 54.9**	**+2.0**
K20K				IAmb	IAmb	13 48 09.7	
	comp=Z,8.0nm,1.4s						
SNAA	**Sanae**	**90.00**	**179**	P	**P**	**13 48 21.8**	**+0.5**
SNAA	**Sanae**	**90.00**	**179**	P	**P**	**13 48 21.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=276,slow=7.0,SNR=6.5						
	comp=Z,0.6nm,0.6s						

IDC 22 13:37:39.4±1.4, 55°.00S×28°.81W, h0km, mb3.7/3, mbtmp3.7/3, MS2.8/2, Error ellipse: s-maj=54.8km s-min=35.7km az=83.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**20.07**	**156**	LR	LR	13 48 42.2	
	comp=Z,20nm,21.5s,baz=159,slow=33						
QSPA	**South Pole Qui**	**35.25**	**180**	P	P	13 44 35.5	+0.2
	0.3nm,0.6s,baz=231,slow=2.1,SNR=1.5						
	0.3nm,0.6s						
LVC	**Limon Verde**	**43.97**	**301**	LR	LR	14 04 00.9	
	comp=Z,18nm,22.0s,baz=211,slow=36						
H10N1	**ASCENSION HYDR**	**48.41**	**19**	T	T	14 39 08.9	
	baz=190						
H10N3	**ASCENSION HYDR**	**48.41**	**19**	T	T	14 39 08.5	
	baz=190,slow=74						
H10N2	**ASCENSION HYDR**	**48.42**	**19**	T	T	14 39 06.8	
	baz=190,slow=74						
LPAZ	**La Paz**	**49.02**	**306**	P	P	13 46 28.9	+0.3
	1.2nm,0.7s,baz=80,slow=6.0,SNR=4.2						
	1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.62**	**31**	P	P	13 49 08.7	+0.3
	0.6nm,0.7s,baz=196,slow=5.1,SNR=3.6						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**148.73**	**313**	PKPbc	PKPbc	13 57 25.8	-1.3
	1.1nm,0.8s,baz=113,slow=2.3,SNR=9.0						

*SJA **22** 13:54:51.7±0.7, 30°.36S×72°.39W, h13km±3km, ML4.4, MW4.5*
*NEIC **22** 13:54:54.5, 30°.34S×72°.28W, h8km*
*IDC **22** 13:54:54.8±0.7, 30°.41S×71°.95W, h0km, mb4.2/7, mbtmp4.1/12, ML3.9/5, MS3.4/7, Error ellipse: s-maj=29.9km s-min=17.2km az=96.0*
*NEIC **22** 13:54:54.4±1.6, 30°.35S±0°.01×72°.29W±0°.07, h8km±5km, mb4.6/10, Mwr4.3/74, ML4.4(GUC), Error ellipse: s-maj=8.8km s-min=1.3km az=98.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.22; $M_{\theta\theta}$0.37; $M_{\phi\phi}$-3.58; $M_{r\theta}$0.21; $M_{\theta\phi}$-0.46; $M_{\phi r}$-1.06; Fault plane solution: $M_0$3.61000×10^{15} NP1:ϕ_s180.51000°, δ53.65000°, λ82.53000°. NP2:ϕ_s12.99000°, δ37.00000°, λ100.02000°. Principal axes: T 3.4030, Plg80.0000°, Azm60.0000°; N 0.3827, Plg6.0000°, Azm185.0000°; P -3.7857, Plg8.0000°, Azm276.0000°;*
*GUC **22** 13:54:56.0±0.6, 30°.36S×72°.23W, h30km±5km, ML4.4*
ISC 22 13:54:53.7±1.5, 30°.37S±0°.03×72°.30W±0°.05, h4km±9km, n129, σ1°38/150, mb4.4/12, MS3.5/5, 15C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.65**	**118**		**Pg**	**13 55 07.1**	**+1.0**
CO06	**Fray Jorge**	**0.65**	**118**	‖*i*P	**Pg**	**13 55 07.2**	**+1.0**
CO05	**La Serena**	**1.02**	**64**		**Pg**	**13 55 13.6**	**+0.2**
CO05	**La Serena**	**1.02**	**64**	‖*i*P	**Pg**	**13 55 13.7**	**+0.3**
CO05				*i* S	**Sb**	**13 55 27.1**	**-0.8**
GO04	**Tololo Observa**	**1.31**	**82**		**Pn**	**13 55 18.2**	**-0.9**
GO04	**Tololo Observa**	**1.31**	**82**	‖*i*P	**Pn**	**13 55 18.2**	**-0.9**
GO04				*i* S	**Sb**	**13 55 34.6**	**-1.8**
GO04				IAML		13 55 43.3	
	comp=N,16μm,0.6s						
GO04	**Tololo Observa**	**1.31**	**82**	*e*P	**Pn**	**13 55 18.3**	**-0.9**
GO04				*e*S	**Sn**	**13 55 37.6**	**+0.3**
GO04				IAML		13 55 46.1	
	comp=Z,5μm,0.6s						
CO02	**Combarbal**	**1.39**	**127**	Pn	**Pn**	**13 55 19.6**	**-0.5**
CO02	**Combarbal**	**1.39**	**127**	‖*i*P	**Pn**	**13 55 19.6**	**-0.5**
CO02				*i* S	**Sb**	**13 55 37.7**	**-0.9**
CO02				IAML		13 55 38.6	
	comp=N,14μm,0.3s						
CO02	**Combarbal**	**1.39**	**127**	*e*P	**Pn**	**13 55 19.2**	**-0.9**
CO02				*e*S	**Sb**	**13 55 38.4**	**-0.1**
CO02				IAML		13 55 41.0	
	comp=Z,6μm,0.6s						
CO03	**El Pedregal**	**1.46**	**109**		**Pn**	**13 55 20.4**	**-0.8**
CO03	**El Pedregal**	**1.46**	**109**	‖*i*P	**Pn**	**13 55 20.3**	**-0.8**
CO03				*i* S	**Sn**	**13 55 39.4**	**-1.4**
CO03				IAML		13 55 43.2	
	comp=E,8μm,0.4s						
CO03	**El Pedregal**	**1.46**	**109**	*e*P	**Pn**	**13 55 20.6**	**-0.5**
CO03				IAML		13 55 44.5	
	comp=Z,3μm,0.5s						
LCO	**Las Campanas**	**1.94**	**46**	Pn	**Pn**	**13 55 27.5**	**-0.3**
LCO	**Las Campanas**	**1.94**	**46**	*i* P	**Pn**	**13 55 27.4**	**-0.4**
LCO				*i* S	**Sn**	**13 55 52.7**	**-0.2**
LCO	**Las Campanas**	**1.94**	**46**	*e*P	**Pn**	**13 55 27.9**	**0.0**
LCO				*e*S	**Sg**	**13 55 59.1**	**+2.9**
LCO				IAML		13 56 02.0	
	comp=Z,3μm,0.7s						
CO01	**Juntas del Tor**	**1.95**	**79**	Pn	**Pn**	**13 55 28.3**	**+0.3**
CO01	**Juntas del Tor**	**1.95**	**79**	⇑*i*P	**Pn**	**13 55 28.6**	**+0.7**
CO01				*i* S	**Sn**	**13 55 52.3**	**-0.7**
CO01	**Juntas del Tor**	**1.95**	**79**	*e*P	**Pn**	**13 55 28.2**	**+0.3**
CO01				*e*S	**Sn**	**13 55 53.3**	**+0.3**
CO01				IAML		13 55 58.8	
	comp=Z,2μm,1.1s						
AC05	**El Transito**	**2.33**	**50**		**Pn**	**13 55 33.5**	**+0.4**
AC05	**El Transito**	**2.33**	**50**	⇑*i*P	**Pn**	**13 55 33.8**	**+0.7**
AC05	**El Transito**	**2.33**	**50**	*e*P	**Pn**	**13 55 33.2**	**+0.1**
AC05				*e*S	**Sb**	**13 56 05.1**	**-0.7**
AC05				IAML		13 56 26.8	
	comp=Z,1μm,0.8s						
AC04	**Llanos de Chal**	**2.41**	**27**	Pn	**Pn**	**13 55 33.1**	**-0.9**
AC04	**Llanos de Chal**	**2.41**	**27**	⇑*i*P	**Pn**	**13 55 33.2**	**-0.8**
AC04	**Llanos de Chal**	**2.41**	**27**	*e*P	**Pn**	**13 55 33.4**	**-0.6**
AC04				*e*S	**Sg**	**13 56 10.6**	**-0.6**
AC04				IAML		13 56 22.1	
	comp=Z,931nm,0.8s						
VA01	**Torpederas**	**2.70**	**168**		**Pn**	**13 55 37.6**	**-0.4**
VA03	**San Esteban**	**2.81**	**148**		**Pn**	**13 55 40.5**	**+0.9**
VA03	**San Esteban**	**2.81**	**148**	⇑*i*P	**Pn**	**13 55 40.9**	**+1.3**
VA03				*i* S	**Sn**	**13 56 13.0**	**-1.0**
VA03				IAML		13 56 33.7	
	comp=E,2μm,0.7s						
VA03	**San Esteban**	**2.81**	**148**	*e*P	**Pn**	**13 55 40.3**	**+0.7**
VA03				*e*S	**Sn**	**13 56 10.6**	**-3.5**
VA03				*e*S	**Sb**	**13 56 15.3**	**-4.2**
VA03				IAML		13 56 28.8	
	comp=Z,1μm,1.2s						
ROCH	**El Roble**	**2.81**	**157**	⇑*i*P	**Pn**	**13 55 40.3**	**+0.5**
ROCH				IAML		13 56 32.2	
	comp=N,1μm,0.4s						
ROC1	**El Roble**	**2.81**	**157**		**Pn**	**13 55 40.1**	**+0.3**
DOCA	**Reserva Natura**	**2.83**	**103**	*e*P	**Pn**	**13 55 42.7**	**+2.6**
DOCA				*e*S	**Sb**	**13 56 20.6**	**+0.3**
DOCA				IAML		13 56 26.0	
	comp=Z,1μm,1.3s						
RTLS	**Leoncito**	**2.94**	**120**	*e*P	**Pb**	**13 55 45.3**	**-1.6**
RTLS				IAML		13 56 34.8	
	comp=Z,3μm,1.0s						
MT02	**Curacav**	**3.04**	**161**		**Pn**	**13 55 42.7**	**0.0**
MT02	**Curacav**	**3.04**	**161**	*e*P	**Pn**	**13 55 42.8**	**0.0**
MT02	**Curacav**	**3.04**	**161**	*e*P	**Pn**	**13 55 42.4**	**-0.3**
MT02				*e*S	**Sb**	**13 56 25.6**	**-0.5**
MT02				IAML		13 56 49.9	
	comp=Z,514nm,1.2s						
PEL	**Peldehue**	**3.08**	**154**		**Pn**	**13 55 43.3**	**0.0**
PEL	**Peldehue**	**3.08**	**154**	⇑*i*P	**Pn**	**13 55 44.4**	**+1.0**
PEL				IAML		13 56 40.1	
	comp=E,850nm,0.8s						
MT05	**Renca**	**3.29**	**157**		**Pn**	**13 55 46.4**	**+0.3**
MT05	**Renca**	**3.29**	**157**	*e*P	**Pn**	**13 55 47.3**	**+1.2**
MT05				IAML		13 56 50.5	
	comp=E,1μm,0.5s						
MT05	**Renca**	**3.29**	**157**	*e*P	**Pn**	**13 55 46.8**	**+0.6**
MT05				*e*S	**Sn**	**13 56 29.4**	**+3.6**
MT05				IAML		13 56 46.4	
	comp=Z,927nm,1.5s						
GO03	**Copiap**	**3.31**	**34**		**Pn**	**13 55 45.3**	**-1.1**
GO03	**Copiap**	**3.31**	**34**	*e*P	**Pn**	**13 55 46.7**	**+0.3**
GO03				*e*S	**Sb**	**13 56 34.6**	**+0.8**
GO03				IAML		13 56 50.6	
	comp=Z,529nm,1.1s						
ZON	**Zonda**	**3.32**	**112**		**Pn**	**13 55 46.7**	**+0.1**
VA05	**Santo Domingo**	**3.33**	**170**		**Pn**	**13 55 46.1**	**-0.5**
MT14	**Cerro Calı¡n**	**3.37**	**154**	⇑*i*P	**Pn**	**13 55 48.3**	**+1.1**
FCH	**Farellones**	**3.40**	**150**	⇑*i*P	**Pn**	**13 55 49.2**	**+1.2**
AGUA	**GUANDACOL**	**3.42**	**76**	*e*P	**Pn**	**13 55 46.6**	**-1.4**
AGUA				*e*S	**Sg**	**13 56 47.6**	**+3.9**
AGUA				IAML		13 56 52.7	
	comp=Z,1μm,0.7s						
AC06	**Mina Casimiro**	**3.46**	**30**	Pn	**Pn**	**13 55 47.9**	**-0.5**
MT03	**Universidad Ad**	**3.46**	**154**		**Pn**	**13 55 49.1**	**+0.6**
MT03	**Universidad Ad**	**3.46**	**154**	⇑*i*P	**Pn**	**13 55 49.7**	**+1.1**
MT03				*i* S	**Sn**	**13 56 28.7**	**-1.5**
MT03				IAML		13 56 49.7	
	comp=E,970nm,0.5s						
MT03	**Universidad Ad**	**3.46**	**154**	*e*P	**Pn**	**13 55 49.4**	**+0.8**
MT03				*e*S	**Sn**	**13 56 31.6**	**+1.4**
MT03				IAML		13 56 55.3	
	comp=Z,594nm,1.5s						
MT04	**Ro Olivares**	**3.54**	**149**	*e*P	**Pn**	**13 55 51.7**	**+2.0**
MT04				IAML		13 56 54.4	
	comp=E,402nm,0.6s						
MT09	**Talagante**	**3.57**	**162**		**Pn**	**13 55 50.9**	**+0.7**
MT09	**Talagante**	**3.57**	**162**	*i* P	**Pn**	**13 55 50.8**	**+0.7**
MT09				IAML		13 56 53.3	
	comp=N,509nm,0.7s						
MT01	**Popeta**	**3.59**	**166**		**Pn**	**13 55 50.3**	**0.0**
MT01	**Popeta**	**3.59**	**166**	⇑*i*P	**Pn**	**13 55 50.5**	**+0.2**
MT01	**Popeta**	**3.59**	**166**	*e*P	**Pn**	**13 55 50.1**	**-0.2**
MT01				*e*S	**Sn**	**13 56 31.6**	**-1.6**
MT01				*e*S	**Sg**	**13 56 48.1**	**-1.1**
MT01				IAML		13 56 53.3	
	comp=Z,357nm,0.9s						
MT08	**Bocatoma Ro**	**3.62**	**148**	Pn	**Pn**	**13 55 52.1**	**+1.1**
MT08	**Bocatoma Ro**	**3.62**	**148**	*e*P	**Pn**	**13 55 53.6**	**+2.7**
MT08				*e*S	**Sn**	**13 56 35.8**	**+1.5**
MT12	**Pirque**	**3.66**	**157**	⇑*e*P	**Pn**	**13 55 52.1**	**+0.8**
MT13	**San Alfonso**	**3.77**	**154**	Pn	**Pn**	**13 55 53.5**	**+0.6**
MT13	**San Alfonso**	**3.77**	**154**	*e*P	**Pn**	**13 55 54.2**	**+1.4**
BO04	**La Punta**	**3.88**	**159**		**Pn**	**13 55 55.0**	**+0.7**
BO04	**La Punta**	**3.88**	**159**	*e*P	**Pn**	**13 55 55.2**	**+0.9**
LMEL	**Las Melosas**	**3.89**	**153**		**Pn**	**13 55 55.4**	**+0.9**
LMEL	**Las Melosas**	**3.89**	**153**	*i* P	**Pn**	**13 55 55.9**	**+1.4**
BO01	**Tunca**	**4.14**	**166**	Pn	**Pn**	**13 55 57.9**	**+0.2**
BO01	**Tunca**	**4.14**	**166**	*e*P	**Pn**	**13 55 57.9**	**+0.2**
BO01				*e*S	**Sn**	**13 56 46.6**	**0.0**
AC01	**Pan de Azucar**	**4.47**	**20**		**Pn**	**13 56 00.5**	**-1.8**
BO02	**Sierra Bellavi**	**4.59**	**164**		**Pn**	**13 56 04.4**	**+0.4**
BO02	**Sierra Bellavi**	**4.59**	**164**	*e*P	**Pn**	**13 56 05.1**	**+1.0**
BO02				*e*S	**Sn**	**13 56 58.8**	**+1.0**
BO02				IAML		13 57 31.8	
	comp=Z,406nm,0.8s						
GO05	**Huala**	**4.63**	**176**		**Pn**	**13 56 03.9**	**-0.7**
ACLC	**CERRO LA CRUZ**	**4.74**	**80**	*e*P	**Pn**	**13 56 09.2**	**+3.0**
ACLC				IAML		13 57 29.1	
	comp=Z,497nm,1.0s						
ML02	**Panimavida**	**5.42**	**172**		**Pn**	**13 56 14.7**	**-0.8**
GO02	**Mina Guanaco**	**5.72**	**25**		**Pn**	**13 56 18.1**	**-1.7**
PB14	**IPOC Station P**	**5.97**	**17**		**Pn**	**13 56 20.9**	**-2.3**
BI05	**Punta Hualpn**	**6.40**	**186**		**Pn**	**13 56 28.0**	**-0.9**
H03N1	**Juan Fernandez**	**6.40**	**240**	T	T	14 03 37.7	
	baz=72,slow=72						
H03N2	**Juan Fernandez**	**6.42**	**240**	T	T	14 03 37.6	
	baz=72,slow=72						
H03N3	**Juan Fernandez**	**6.42**	**240**	T	T	14 03 34.6	
	baz=72,slow=72						
VA04	**Juan Fernndez**	**6.43**	**238**		**Pn**	**13 56 28.0**	**-1.3**
PB15	**IPOC Station P**	**7.57**	**20**	Pn	**Pn**	**13 56 43.4**	**-1.8**
PB06	**IPOC Station P**	**8.02**	**18**	Pn	**Pn**	**13 56 49.4**	**-1.8**
LVC	**Limon Verde**	**8.30**	**22**	Pn	**Pn**	**13 56 53.9**	**-1.5**
LVC	**Limon Verde**	**8.30**	**22**	Pn	**Pn**	**13 56 53.7**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=180,slow=7.1,SNR=1.4						
LVC				Sn	**Sn**	**13 58 25.7**	**-4.2**
	comp=Z,0.3nm,0.3s,baz=263,slow=12,SNR=1.8						
	comp=Z,1.2nm,0.4s						
PB07	**IPOC Station P**	**8.88**	**15**	Pn	**Pn**	**13 57 01.6**	**-1.5**
GO06	**Curarrehue**	**9.21**	**176**		**Pn**	**13 57 07.0**	**-0.6**
PB02	**IPOC Station P**	**9.27**	**14**	Pn	**Pn**	**13 57 07.5**	**-0.9**
PLCA	**Paso Flores**	**10.43**	**173**		**Pn**	**13 57 24.9**	**+0.6**
PLCA	**Paso Flores**	**10.43**	**173**	Pn	**Pn**	**13 57 24.4**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=339,slow=12,SNR=20						
PLCA				LR	LR	14 02 12.7	
	comp=Z,161nm,18.6s,baz=352,slow=42						
	comp=Z,2.5nm,0.5s						
TRQA	**Tornquist**	**11.47**	**135**		**Pn**	**13 57 38.2**	**-0.1**
PB16	**IPOC Station P**	**12.25**	**13**		**Pn**	**13 57 49.4**	**-0.2**
CPUP	**Villa Florida**	**13.78**	**77**	Pn	**Pn**	**13 58 06.8**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=220,slow=17,SNR=2.7						
	comp=Z,2.5nm,1.0s						
LPAZ	**La Paz**	**14.53**	**16**	P	**P**	**13 58 25.4**	**-2.3**
LPAZ	**La Paz**	**14.53**	**16**	Pn	**Pn**	**13 58 22.7**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=178,slow=10.0,SNR=5.1						
LPAZ				LR	LR	14 03 55.2	
	comp=Z,129nm,18.5s,baz=122,slow=37						
	comp=Z,1.1nm,0.5s						
SIV	**San Ignacio**	**17.63**	**38**	P	**P**	**13 59 01.0**	**-0.5**
	baz=222,slow=11,SNR=19						
	comp=Z,14nm,1.0s						
PTLB	**Pontes e Lacer**	**19.15**	**42**	P	**P**	**13 59 16.5**	**-1.7**
SAML	**Samuel**	**22.95**	**24**	P	**P**	**13 59 57.4**	**-1.9**
SAML				IAmb	IAmb	14 00 10.3	
	comp=Z,8.6nm,1.0s						
BDFB	**Brasilia**	**26.65**	**62**	P	**P**	**14 00 32.9**	**-1.0**
BDFB				IAmb	IAmb	14 00 34.4	
	comp=Z,7.8nm,0.9s						
BDFB	**Brasilia**	**26.65**	**62**	P	**P**	**14 00 32.7**	**-1.2**
	comp=Z,5.5nm,0.8s,baz=244,slow=10,SNR=4.9						
BDFB				LR	LR	14 10 43.5	
	comp=Z,39nm,19.1s,baz=179,slow=36						
	comp=Z,5.5nm,0.8s						
RPN	**Rapa Nui**	**32.54**	**266**	LR	LR	14 10 42.1	
	comp=Z,106nm,20.6s,baz=342,slow=29						
PMSA	**Palmer Station**	**34.81**	**174**	LR	LR	14 16 15.3	
	comp=Z,114nm,18.8s,baz=320,slow=37						
HOPE	**Hope Point**	**35.06**	**143**	P	**P**	**14 01 46.5**	**-1.1**
ROSC	**El Rosal**	**35.07**	**356**	LR	LR	14 16 04.2	
	comp=Z,98nm,21.9s,baz=254,slow=36						
MDP	**Montagnes des**	**39.98**	**31**	LR	LR	14 21 07.6	
	comp=Z,51nm,19.6s,baz=176,slow=40						
VNA3	**Neumayer Olymp**	**52.80**	**159**	⇑P	**P**	**14 04 11.4**	**+1.5**
	comp=Z,0.6nm,0.3s						
VNA2	**Neumayer--Watz**	**53.44**	**158**	⇑P	**P**	**14 04 16.0**	**+1.5**
	comp=Z,2.8nm,0.5s,baz=288,slow=9.0						
SNAA	**Sanae**	**55.03**	**159**	P	**P**	**14 04 27.1**	**+1.0**
SNAA	**Sanae**	**55.03**	**159**	⇑P	**P**	**14 04 27.5**	**+1.3**
	comp=Z,149nm,0.9s						
SNAA	**Sanae**	**55.03**	**159**	P	**P**	**14 04 27.0**	**+0.8**
	comp=Z,7.3nm,0.9s,baz=278,slow=7.8,SNR=40						
	comp=Z,7.3nm,0.9s						
TROLL	**Troll, Antarti**	**56.74**	**159**	⇑P	**P**	**14 04 39.8**	**+1.3**
	comp=Z,168nm,0.7s						
QSPA	**South Pole Qui**	**59.85**	**180**	P	**P**	**14 05 01.6**	**+1.3**
QSPA				IAmb	IAmb	14 05 36.1	
	comp=Z,10nm,1.4s						
QSPA	**South Pole Qui**	**59.85**	**180**	P	**P**	**14 05 01.9**	**+1.6**
	comp=Z,3.4nm,1.0s,baz=159,slow=2.4,SNR=7.8						
	comp=Z,3.4nm,1.0s						
TXAR	**Lajitas Array**	**66.48**	**330**	P	**P**	**14 05 47.7**	**+3.0**
	comp=Z,0.8nm,0.9s,baz=157,slow=6.8,SNR=5.2						
	comp=Z,0.8nm,0.9s						
MAW	**Mawson**	**76.71**	**164**	P	**P**	**14 06 46.9**	**+1.1**
MAW	**Mawson**	**76.71**	**164**	P	**P**	**14 06 46.8**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=183,slow=6.9,SNR=6.6						
	comp=Z,1.2nm,0.6s						
PDAR	**Pinedale Array**	**80.44**	**333**	P	**P**	**14 07 09.7**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=100,slow=5.0,SNR=2.8						
	comp=Z,0.3nm,0.7s						
TOA0	**Torodi Ar. Sit**	**83.20**	**71**	P	**P**	**14 07 19.6**	**-2.1**
TOA0				IAmb	IAmb	14 07 23.6	
	comp=Z,5.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.20**	**71**	P	**P**	**14 07 21.8**	**+0.1**
TORD				IAmb	IAmb	14 07 23.6	
	comp=Z,4.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.20**	**71**	P	**P**	**14 07 22.4**	**+0.7**
	comp=Z,4.1nm,0.9s,baz=277,slow=3.8,SNR=20						
	comp=Z,4.1nm,0.9s						
CASY	**Casey**	**83.63**	**181**	P	**P**	**14 07 23.2**	**+0.1**
CASY				IAmb	IAmb	14 07 45.9	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**123.79**	**210**	PKP	**PKPdf**	**14 13 53.4**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=152,slow=1.7,SNR=4.8						
BVAR	**Borovoye Array**	**144.70**	**39**	PKP	**PKPdf**	**14 14 32.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=298,slow=3.1,SNR=4.5						
KURBB	**Kurchatov Arra**	**150.28**	**39**	PKPbc	**PKiKP**	**14 14 47.1**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=304,slow=3.1,SNR=14						
ZALV	**Zalesovo Beam**	**151.22**	**29**	PKPbc	**PKiKP**	**14 14 49.5**	**+1.0**
	comp=Z,5.3nm,0.8s,baz=270,slow=3.0,SNR=22						
KSH	**Kashi**	**152.55**	**62**	PKPbc	**PKiKP**	**14 14 52.9**	**+1.0**
MKAR	**Makanchi Array**	**154.41**	**43**	PKPbc	**PKiKP**	**14 14 55.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=2.9,slow=2.4,SNR=4.3						
PZH	**PanZhiHua**	**173.49**	**125**	PKP	**PKPdf**	**14 15 02.6**	**-2.5**

*EAF **22** 14:06:56.8, 28°.51S×27°.21E, h10km, MC3.6*
*PRE **22** 14:06:57.0±1.0, 28°.12S×26°.74E, h2km, ML2.3*
ISC 22 14:06:59.0±1.4, 28°.24S±0°.04×26°.96E±0°.03, h25km±15km, n27, σ2°29/54, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNKL	**Senekal, Frees**	**0.72**	**93**	*e*P	**Pn**	**14 07 14.7**	**+1.0**
SNKL				*e*S	**Sn**	**14 07 28.0**	**+4.0**
SNKL				IAML		14 07 31.4	
	comp=Z,75nm,0.2s						
PRYS	**Parys**	**1.36**	**15**	*e*P	**Pn**	**14 07 21.7**	**-0.9**
PRYS				*e*S	**Sn**	**14 07 40.6**	**+0.8**
PRYS				IAML		14 07 42.6	
	comp=Z,225nm,0.2s						
BOSA	**Boshof**	**1.55**	**256**	*i* P	**Pb**	**14 07 28.1**	**+1.1**
BOSA				*i* S	**Sb**	**14 07 47.6**	**+1.4**
BOSA	**Boshof

SUR eS **Sn** **14 09 50.5 -1.7**
SUR IAML 14 10 12.2
comp=Z,1.1nm,0.3s

NEIC ***22*** *14:21:00.4, 13.°99N×120.°74E, h210km*
NEIC ***22*** *14:21:00.4, 14.°09N×120.°74E, h210km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17^Nm; Mrr1.72; Mθθ-1.51; Mφφ-0.20; Mrθ0.26; Mθφ-0.35; Mθr-0.25; Fault plane solution: M0 1.70000×1017 NP1:φs85.19000°, δ49.07000°, λ102.07000°. NP2:φs247.11000°, δ42.37000°, λ76.44000°. Principal axes: T 1.7797, Plg80.0000°, Azm56.0000°; N -0.1660, Plg9.0000°, Azm257.0000°; P -1.6137, Plg3.0000°, Azm167.0000°;*
IDC ***22*** *14:21:00.7±0.3, 13.°99N×120.°77E, h211km±2km, mb4.9/37, mbtmp5.4/39 Error ellipse: s-maj=9.8km s-min=5.9km az=72.0*
GCMT ***22*** *14:21:00.5±0.1, 14.°03N±0.°01×120.°64E±0.°01, h208km, MW5.5/156, Moment Tensor Solution. s126,c207; s156,c289; Duration: 1s3 Moment tensor: Scale 10^17^Nm; Mrr1.98±.02; Mθθ-1.73±.02; Mφφ-0.25±.02; Mrθ0.44±.02; Mθφ-0.46±.03; Mφr-0.36±.02; Best double couple: M0 1.99900×1017 NP1:φs86.00000°, δ51.00000°, λ105.00000°. NP2:φs243.00000°, δ41.00000°, λ72.00000°. Principal axes: T 2.1070, Plg77.0000°, Azm53.0000°; N -0.2180, Plg12.0000°, Azm256.0000°; P -1.8920, Plg5.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***22*** *14:21:00.3±0.8, 13.°98N×120.°72E, h220km, mb5.4/63 Error ellipse: s-maj=7.0km s-min=3.7km az=117.5*
BJI ***22*** *14:21:01.5±0.0, 14.°03N×120.°87E, h233km, mb5.4/98, mB5.5/60*
NEIC ***22*** *14:21:01.4±1.6, 14.°00N±0.°06×120.°73E±0.°07, h209km±2km, mb5.4/323, Mww5.4/45, Error ellipse: s-maj=10.5km s-min=7.0km az=54.0*
DJA ***22*** *14:21:01.1±0.3, 14.°N±2.°×12.°1E±.°, h208km±4km, M5.1/85, mB5.6/65, mb5.2/85, Mw(mB)5.1/65, MwMwp5.1/25, Mwp5.4/25*
KLM ***22*** *14:21:03, 13.°94N×120.°78E, h228km, mb5.8*
BGR ***22*** *14:21:09.2, 15.°46N×120.°47E, h220km, mb5.6*
ISC 22 14:21:01.4±0.2, 13.°95N±0.°03×120.°70E±0.°03, h217km±1km, h217km:pP-P, n1733, σ1s25/1838, mb5.4/354, 109C-32D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.28**	**56**	P	**Pn**	**14 21 29.2**	**-0.8**
	110µm,0.6s,baz=259,slow=2.6,SNR=976						
TGY				S	**S**	**14 21 50.5**	**-1.8**
	35µm,0.5s,baz=151,slow=20,SNR=5.9						
DAV	**Davao City (W)**	**8.35**	**144**	Pn	**Pn**	**14 23 01.2**	**+1.9**
DAV	**Davao City (W)**	**8.35**	**144**	P	**Pn**	**14 23 01.9**	**+2.7**
DAV	**Davao City (W)**	**8.35**	**144**	P	**Pn**	**14 23 02.2**	**+2.9**
	338nm,0.8s,baz=32,slow=2.2,SNR=36						
DAV				S	**S**	**14 24 38.4**	**+4.7**
	70nm,0.3s,baz=0.7,slow=17,SNR=1.1						
TWGBT	**Beinan**	**8.83**	**2**	P	**Pn**	**14 23 04.1**	**-1.3**
TWG	**Pinlang**	**8.83**	**2**		**Pn**	**14 23 02.6**	**-2.8**
MYLDM	**Lahad Datu**	**8.98**	**194**	Pn	**Pn**	**14 23 10.0**	**+2.7**
KKM	**Kota Kinabalu**	**9.01**	**210**		**Pn**	**14 23 08.8**	**+1.0**
KKM	**Kota Kinabalu**	**9.01**	**210**	P	**Pn**	**14 23 09.8**	**+1.9**
TPUB	**Ta-pu**	**9.30**	**360**	Pn	**Pn**	**14 23 10.5**	**-1.0**
TPUB	**Ta-pu**	**9.30**	**360**	P	**Pn**	**14 23 11.2**	**-0.3**
YULB	**Yu-li**	**9.41**	**3**		**Pn**	**14 23 11.3**	**-1.6**
YULB	**Yu-li**	**9.41**	**3**	P	**Pn**	**14 23 11.9**	**-1.0**
SSLB	**Suanglung**	**9.79**	**1**	Pn	**Pn**	**14 23 16.0**	**-1.8**
SSLB	**Suanglung**	**9.79**	**1**	P	**Pn**	**14 23 17.5**	**-0.3**
SPMM	**Sapulut**	**10.09**	**205**	P	**Pn**	**14 23 24.0**	**+2.3**
NACB	**Ninganchiao**	**10.21**	**5**		**Pn**	**14 23 20.8**	**-2.2**
NACB	**Ninganchiao**	**10.21**	**5**	P	**Pn**	**14 23 21.7**	**-1.4**
HKPS	**Hong Kong Po S**	**10.37**	**324**	Pn	**Pn**	**14 23 23.8**	**-1.3**
HKPS	**Hong Kong Po S**	**10.37**	**324**	P	**Pn**	**14 23 25.0**	**-0.1**
MCO	**Taipa Grande**	**10.59**	**321**	P	**Pn**	**14 23 28.0**	**0.0**
YHNB	**Yeheng**	**10.69**	**3**	Pn	**Pn**	**14 23 28.1**	**-1.2**
YHNB	**Yeheng**	**10.69**	**3**	P	**Pn**	**14 23 29.5**	**+0.2**
KNMB	**Chin-men Tao**	**10.69**	**349**	Pn	**Pn**	**14 23 26.5**	**-2.7**
TATO	**Taipei**	**10.99**	**4**		**Pn**	**14 23 29.7**	**-3.4**
TATO	**Taipei**	**10.99**	**4**	P	**Pn**	**14 23 33.4**	**+0.3**
QZH	**Quanzhou**	**11.12**	**350**	⇓*i*P	**Pn**	**14 23 34.1**	**-0.6**
QZH				pmax	pmax		
	comp=Z,780nm,1.0s						
SGSI	**Sangihe**	**11.26**	**155**	P	**Pn**	**14 23 36.5**	**0.0**
	914nm,1.1s,11µm3µm						
GZH	**Guangzhou**	**11.46**	**324**	P	**P**	**14 23 42.0**	**-1.9**
GZH				S	**S**	**14 25 53.0**	**+7.4**
GZH				pmax	pmax		
	comp=Z,240nm,1.3s						
QIZ	**Qiongzhong**	**11.57**	**297**	P	**Pn**	**14 23 40.9**	**+0.4**
QIZ				S	**S**	**14 25 46.6**	**-1.9**
QIZ				pmax	pmax		
	comp=Z,170nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,640nm,9.3s						
QIZ	**Qiongzhong**	**11.57**	**297**		**Pn**	**14 23 40.0**	**-0.6**
TOLI2	**Tolitoli**	**12.75**	**180**	Pn	**Pn**	**14 23 56.0**	**+0.6**
TOLI2	**Tolitoli**	**12.75**	**180**	P	**Pn**	**14 23 56.0**	**+0.6**
GTOI	**Gorontalo**	**13.42**	**170**	P	**Pn**	**14 24 01.7**	**-2.0**
	209nm,1.3s,3µm2µm						
MRSI	**Marisa**	**13.44**	**175**	P	**Pn**	**14 24 04.8**	**+0.9**
	692nm,1.1s,7µm6µm						
MPSI	**Mapaga**	**13.55**	**183**	P	**Pn**	**14 24 06.1**	**+0.9**
	539nm,1.0s,5µm6µm						
KMSI	**Cibinong**	**13.68**	**166**	P	**P**	**14 24 08.0**	**-0.7**
	1µm,1.2s,14µm3µm						
SBUM	**Sibu**	**14.17**	**217**		**Pn**	**14 24 13.5**	**+0.5**
SBUM	**Sibu**	**14.17**	**217**	P	**P**	**14 24 14.0**	**-0.2**
JOW	**Kunigami**	**14.65**	**28**	Pn	**Pn**	**14 24 16.9**	**-1.7**
JOW	**Kunigami**	**14.65**	**28**	P	**Pn**	**14 24 18.7**	**0.0**
	195nm,0.8s,baz=202,slow=9.0,SNR=5.3						
TNTI	**Ternate**	**14.66**	**153**	Pn	**Pn**	**14 24 16.2**	**-2.7**
TNTI	**Ternate**	**14.66**	**153**	P	**Pn**	**14 24 18.5**	**-0.4**
TNTI	**Ternate**	**14.66**	**153**	P	**Pn**	**14 24 16.6**	**-2.3**
	237nm,1.3s,4µm						
GULI	**GuiLin**	**14.89**	**321**	⇓P	**P**	**14 24 24.5**	**+2.4**
GULI				S	**S**	**14 27 08.9**	**+2.4**
GULI				pmax	pmax		
	comp=Z,170nm,1.3s						
GULI				pmax	pmax		
	comp=Z,720nm,5.4s						
GULI				LR	LR		
	comp=N,2µm,16.8s						
GULI				LR	LR		
	comp=E,3µm,17.4s						
GULI				LR	LR		
	comp=Z,2µm,14.6s						
LUWI	**Luwuk**	**15.03**	**172**	P	**P**	**14 24 24.1**	**+0.4**
LUWI	**Luwuk**	**15.03**	**172**	P	**P**	**14 24 24.6**	**+0.9**
	1µm,1.1s,10µm6µm						
BKB	**Balikpapan**	**15.57**	**194**	P	**Pn**	**14 24 30.6**	**+0.6**
BKB	**Balikpapan**	**15.57**	**194**	P	**Pn**	**14 24 31.0**	**+1.0**
	558nm,1.0s,12µm7µm						
MTKI	**Muara Teweh, K**	**15.87**	**202**	P	**Pn**	**14 24 34.5**	**+0.9**
	380nm,1.6s,8µm3µm						
CNSH	**ChangSha**	**15.90**	**334**	⇓P	**Pn**	**14 24 34.3**	**+0.5**
CNSH				S	**S**	**14 27 26.5**	**-2.7**
CNSH				pmax	pmax		
	comp=Z,130nm,1.1s						
CNSH				LR	LR		
	comp=N,1µm,10.5s						
CNSH				LR	LR		
	comp=E,2µm,6.4s						
LBMI	**Labuha**	**15.98**	**155**	P	**P**	**14 24 32.8**	**-1.4**
	575nm,0.9s,5µm						
KSM	**Kuching**	**16.10**	**221**	P	**Pn**	**14 24 36.3**	**-0.1**
KSM	**Kuching**	**16.10**	**221**	P	**Pn**	**14 24 37.0**	**+0.7**
STKI	**Sintang**	**16.54**	**214**	P	**Pn**	**14 24 42.5**	**+0.9**
	360nm,1.3s,3µm						
SANI	**Sanana**	**16.74**	**161**	P	**P**	**14 24 40.8**	**-1.7**
SANI	**Sanana**	**16.74**	**161**	P	**P**	**14 24 40.1**	**-2.4**
	454nm,0.9s,5µm4µm						
TTSI	**Tana Toraja**	**16.91**	**183**	P	**Pn**	**14 24 45.3**	**-0.6**
	413nm,1.2s,5µm						
WHN	**Wuhan**	**17.52**	**342**	⇑P	**Pn**	**14 24 52.8**	**-0.2**
WHN				sP	**sP**	**14 25 55.4**	**+2.2**
WHN				S	**S**	**14 28 03.8**	**+2.1**
WHN				pmax	pmax		
	comp=Z,1µm,1.3s						
SLVN	**Son La**	**17.60**	**297**	Pn	**Pn**	**14 24 53.7**	**-0.4**
SWI	**Sorong**	**18.05**	**144**	P	**Pn**	**14 24 58.2**	**-1.2**
	126nm,1.3s,2µm4µm						
NJ2	**Nanjing**	**18.10**	**355**	⇑*i*P	**Pn**	**14 24 58.8**	**-0.9**
NJ2				sP	**sP**	**14 25 57.6**	**-2.4**
NJ2				pmax	pmax		
	comp=Z,93nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,2µm,6.2s						
GYA	**Guiyang**	**18.10**	**316**	⇑*i*P	**Pn**	**14 24 59.3**	**-0.7**
GYA				sP	sP	14 26 01.1	+2.4
GYA				S	**S**	**14 28 16.8**	**+3.2**
GYA				pmax	pmax		
	comp=Z,67nm,1.1s						
GYA				LR	LR		
	comp=N,2µm,12.6s						
GYA				LR	LR		
	comp=E,1µm,11.3s						
GYA				LR	LR		
	comp=Z,2µm,12.4s						
NLAI	**Namlea**	**18.22**	**159**	P	**Pn**	**14 25 00.6**	**-0.7**
	147nm,1.0s,3µm						
BBKI	**Banjar Baru**	**18.25**	**199**	P	**Pn**	**14 25 00.3**	**-1.3**
	1µm,1.0s,12µm						
NAYO	**Nakonayok**	**18.80**	**273**	P	**Pn**	**14 25 07.0**	**-1.1**
KAPI	**Kappang**	**18.86**	**183**	P	**P**	**14 25 06.6**	**+1.0**
KAPI	**Kappang**	**18.86**	**183**	P	**P**	**14 25 06.9**	**+1.3**
KAPI	**Kappang**	**18.86**	**183**	P	**P**	**14 25 06.9**	**+1.3**
KAPI				S	**S**	**14 28 29.2**	**+0.6**
KAPI	**Kappang**	**18.86**	**183**	P	**P**	**14 25 07.0**	**+1.3**
KAPI	**Kappang**	**18.86**	**183**	P	**P**	**14 25 07.0**	**+1.3**
	164nm,0.9s,baz=1.7,slow=7.4,SNR=62						
KAPI				S	**S**	**14 28 30.1**	**+1.6**
	42nm,1.2s,baz=300,slow=23,SNR=9.3						
BKSI	**Bulukumba**	**19.15**	**182**	P	**P**	**14 25 09.0**	**+0.3**
	181nm,1.4s,2µm3µm						
BBSI	**Bau Bau**	**19.40**	**174**	P	**P**	**14 25 12.3**	**+0.9**
	270nm,1.1s,3µm3µm						
KMI	**Kunming**	**20.23**	**306**	⇑P	**P**	**14 25 22.3**	**+1.9**
KMI				S	**S**	**14 28 52.1**	**-3.3**
KMI				pmax	pmax		
	comp=Z,260nm,1.3s						
KMI				pmax	pmax		
	comp=Z,940nm,4.3s						
KMI				LR	LR		
	comp=N,1µm,13.8s						
KMI				LR	LR		
	comp=E,760nm,14.6s						
KMI				LR	LR		
	comp=Z,700nm,16.7s						
FAKI	**Fak Fak**	**20.30**	**145**	P	**P**	**14 25 20.9**	**-0.1**
FAKI	**Fak Fak**	**20.30**	**145**	P	**P**	**14 25 21.3**	**+0.3**
FAKI	**Fak Fak**	**20.30**	**145**	P	**P**	**14 25 20.3**	**-0.7**
	136nm,1.2s,1µm3µm						
RKPI	**Ransiki, Papua**	**20.35**	**138**	P	**P**	**14 25 23.1**	**+1.5**
	380nm,1.4s,8µm3µm						
CRAI	**Chiangrai**	**20.40**	**291**	P	**P**	**14 25 22.9**	**+0.8**
BNDI	**Bandanaira**	**20.50**	**153**	P	**P**	**14 25 23.3**	**+0.2**
	260nm,1.3s,6µm5µm						
JRMM	**Jerantut**	**20.57**	**243**	P	**P**	**14 25 25.0**	**+1.0**
MYKOM	**Kota Tinggi**	**20.58**	**236**	P	**P**	**14 25 23.8**	**-0.2**
MYKOM	**Kota Tinggi**	**20.58**	**236**	P	**P**	**14 25 25.0**	**+1.0**
CM31	**Chiang Mai Arr**	**21.36**	**285**	P	**P**	**14 25 32.6**	**+0.5**
CM31	**Chiang Mai Arr**	**21.36**	**285**	P	**P**	**14 25 33.3**	**+1.1**
	SNR=119						
CM31				S	**S**	**14 29 15.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**21.36**	**285**	P	**P**	**14 25 32.9**	**+0.7**
	171nm,1.1s,baz=96,slow=7.5,SNR=431						
CMAR				S	**S**	**14 29 15.1**	**-0.2**
	2.3nm,0.9s,baz=96,slow=16,SNR=2.1						
CMAR				ScP	**ScP**	**14 32 43.6**	**+0.1**
	1.9nm,0.7s,baz=91,slow=1.3,SNR=6.0						
	171nm,1.1s						
CHTO	**Chiang Mai**	**21.42**	**286**	P	**P**	**14 25 32.0**	**-0.8**
CHTO	**Chiang Mai**	**21.42**	**286**	P	**P**	**14 25 32.0**	**-0.8**
DSRI	**Dabo**	**21.46**	**229**	P	**P**	**14 25 33.2**	**+0.1**
	84nm,0.9s,2µm						
KULM	**Kulim**	**21.54**	**248**	P	**P**	**14 25 33.6**	**-0.4**
KULM	**Kulim**	**21.54**	**248**	P	**P**	**14 25 36.0**	**+2.0**
PZH	**PanZhiHua**	**21.70**	**308**	P	**P**	**14 25 36.1**	**+0.5**
PZH				S	**S**	**14 29 16.3**	**-4.5**
PZH				PcP	**PcP**	**14 29 30.4**	**+2.6**
PZH				pmax	pmax		
	comp=Z,210nm,1.5s						
PZH				pmax	pmax		
	comp=Z,510nm,6.0s						
KMPI	**Kaimana, Papua**	**21.74**	**143**	P	**P**	**14 25 39.4**	**+3.6**
LYN	**LuoYang**	**21.82**	**341**	⇑*i*P	**P**	**14 25 37.1**	**+0.6**
LYN				PP	**pP**	**14 26 18.3**	**+5.1**
LYN				S	**S**	**14 29 16.0**	**-6.3**
LYN				PcP	**PcP**	**14 29 28.0**	**+0.3**
LYN				SS		14 30 33.0	
LYN				pmax	pmax		
	comp=Z,830nm,0.8s						
LYN				pmax	pmax		
	comp=Z,960nm,6.9s						
JTU	**Tsushima**	**21.95**	**20**	P	**P**	**14 25 38.7**	**+1.0**
GRJI	**Gresik**	**22.28**	**202**	P	**P**	**14 25 43.5**	**+2.6**
	577nm,1.1s,5µm						
TIA	**Tai'an**	**22.40**	**352**	P	**P**	**14 25 41.5**	**-0.4**
TIA				S	**S**	**14 29 29.4**	**-2.1**
TIA				pmax	pmax		
	comp=Z,190nm,0.8s						
TIA				pmax	pmax		
	comp=Z,2µm,5.9s						
MMRI	**Maumere**	**22.49**	**176**	P	**P**	**14 25 43.2**	**+0.3**
MMRI	**Maumere**	**22.49**	**176**	P	**P**	**14 25 44.5**	**+1.6**
MMRI	**Maumere**	**22.49**	**176**	P	**P**	**14 25 44.8**	**+1.9**
	274nm,1.5s,4µm						
ABJI	**Asem Bagus**	**22.54**	**197**	P	**P**	**14 25 46.1**	**+2.8**
	536nm,1.1s,5µm						
SRBI	**Singaraja**	**22.56**	**194**	P	**P**	**14 25 44.3**	**+0.8**
	373nm,1.1s,3µm						
EDFI	**Ende, Flores**	**22.57**	**177**	P	**P**	**14 25 44.2**	**+0.5**
	314nm,0.7s,3µm3µm						
BLJI	**Banyuglugur**	**22.68**	**199**	P	**P**	**14 25 47.1**	**+2.6**
	135nm,1.1s,2µm						
XAN	**Xi'an**	**22.68**	**334**	⇑P	**P**	**14 25 44.1**	**-0.4**
XAN				pP	pP	14 26 26.8	+4.6
XAN				S	**S**	**14 29 39.3**	**+3.2**
XAN				pmax	pmax		
	comp=Z,270nm,0.6s						
XAN				pmax	pmax		
	comp=Z,400nm,9.2s						
PLAI	**Plampang**	**22.81**	**187**	P	**P**	**14 25 47.3**	**+1.5**
	230nm,0.9s,4µm						
TWSI	**Taliwang, Sumb**	**22.86**	**190**	P	**P**	**14 25 47.3**	**+1.1**
	142nm,1.0s,2µm						
CD2	**Chengdu**	**22.97**	**320**	P	**P**	**14 25 47.3**	**+0.1**
CD2				pP	pP	14 26 22.5	-2.5
CD2				S	**S**	**14 29 41.0**	**-0.1**
CD2				pmax	pmax		
	comp=Z,280nm,0.9s						
CD2				LR	LR		
	comp=N,2µm,11.4s						
CD2				LR	LR		
	comp=E,2µm,14.4s						
CD2				LR	LR		
	comp=Z,2µm,11.2s						
JMN	**Monobe**	**23.04**	**29**	P	**P**	**14 25 47.5**	**-0.3**
NGJI	**Ngawi**	**23.08**	**204**	P	**P**	**14 25 49.6**	**+1.4**
	119nm,1.0s						
TJN	**Taejon**	**23.12**	**14**	P	**P**	**14 25 48.8**	**+0.5**
TJN	**Taejon**	**23.12**	**14**	*ce*P	**P**	**14 25 47.3**	**-1.0**
DNP	**Denpasar**	**23.13**	**194**	P	**P**	**14 25 51.7**	**+3.1**
	483nm,0.8s,19µm						
JAGI	**Jajag, Banyuwa**	**23.20**	**197**	P	**P**	**14 25 49.5**	**+0.3**
JAGI	**Jajag, Banyuwa**	**23.20**	**197**	P	**P**	**14 25 50.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**23.20**	**197**	P	**P**	**14 25 51.1**	**+1.8**
	148nm,0.8s,3µm						
SMRI	**Semarang**	**23.21**	**207**	P	**P**	**14 25 50.2**	**+0.8**
GMJI	**Gumukmas**	**23.22**	**198**	P	**P**	**14 25 52.1**	**+2.6**
	134nm,1.2s,2µm						
IGBI	**Denpasar**	**23.28**	**194**	P	**P**	**14 25 51.4**	**+1.4**
	289nm,1.0s,2µm						
GUMO	**Guam**	**23.47**	**88**	P	**P**	**14 25 51.5**	**-0.3**
GUMO	**Guam**	**23.47**	**88**	P	**P**	**14 25 51.5**	**-0.3**
TNCH	**TengChong**	**23.60**	**301**	P	**P**	**14 25 54.0**	**+0.9**
TNCH				pmax	pmax		
	comp=Z,130nm,1.3s						
WOJI	**Wonogiri, Jawa**	**23.72**	**205**	P	**P**	**14 25 56.3**	**+2.3**
SOEI	**Soe**	**23.81**	**171**	P	**P**	**14 25 52.0**	**-3.0**
SOEI	**Soe**	**23.81**	**171**	P	**P**	**14 25 54.5**	**-0.5**
	128nm,1.0s,2µm						
UGM	**Wanagama**	**23.95**	**206**	P	**P**	**14 25 57.1**	**+0.9**
HNS	**HongShan**	**23.96**	**348**	⇑P	**P**	**14 25 56.1**	**+0.1**
HNS				PP	**PnPn**	**14 26 44.5**	**+4.0**
HNS				S	**S**	**14 29 56.1**	**-0.4**
HNS				pmax	pmax		
	comp=Z,67nm,1.1s						
HNS				pmax	pmax		
	comp=Z,980nm,6.6s						
BASI	**Baing, Sumba**	**24.01**	**180**	P	**P**	**14 25 58.1**	**+1.5**
	259nm,1.1s,4µm						
SDSI	**Sungai Dareh**	**24.15**	**234**	P	**P**	**14 25 59.1**	**+1.2**
KPJI	**Karang Pucung**	**24.16**	**210**	P	**P**	**14 26 00.7**	**+2.7**
	148nm,0.9s						
BATI	**Baumata**	**24.18**	**173**	P	**P**	**14 25 57.6**	**-0.6**
	182nm,1.0s,2µm2µm						
BATI	**Baumata**	**24.18**	**173**	P	**P**	**14 25 57.8**	**-0.4**
	131nm,0.4s,baz=13,slow=0.4,SNR=33						
	131nm,0.4s						
PSI	**Prapat**	**24.19**	**245**	P	**P**	**14 25 58.4**	**-0.1**
SAUI	**Saumlaki**	**24.19**	**154**	P	**P**	**14 26 04.0**	**+5.7**
RPSI	**Rantau Prapat**	**24.24**	**244**	P	**P**	**14 25 58.4**	**-0.4**
KSRS	**Korea Array**	**24.28**	**14**	P	**P**	**14 25 58.5**	**-0.3**
	72nm,1.0s,baz=192,slow=9.2,SNR=49						
KSRS				pP	**pP**	**14 26 38.9**	**-1.2**
	29nm,1.1s,baz=193,slow=11,SNR=3.2						
	72nm,1.0s						
LEM	**Lembang**	**24.39**	**213**	P	**P**	**14 26 01.5**	**+1.2**
	82nm,0.8s,baz=79,slow=8.9,SNR=16						
	82nm,0.8s						
KLI	**Kotabumi**	**24.42**	**221**	P	**P**	**14 26 01.8**	**+1.4**
	172nm,1.0s						
MND	**Mandalay**	**24.70**	**292**	P	**P**	**14 26 03.2**	**+0.3**
TIY	**Taiyuan**	**24.79**	**344**	*e*P	**P**	**14 26 03.8**	**+0.2**
TIY				pP	**pP**	**14 26 52.9**	**+7.5**
TIY				pmax	pmax		
	comp=Z,53nm,1.0s						
DL2	**Dalian**	**24.87**	**2**	P	**P**	**14 26 04.4**	**+0.2**
DL2				*e*S	**S**	**14 30 11.4**	**+0.5**
DL2				sS	**sS**	**14 31 25.3**	**-2.6**
DL2				pmax	pmax		
	comp=Z,130nm,0.9s						
DL2				pmax	pmax		
	comp=Z,880nm,5.7s						
KCSI	**Kotacane, Aceh**	**24.89**	**248**	P	**P**	**14 26 05.0**	**+0.3**
	33nm,1.3s,2µm						
PDSI	**Padang**	**24.90**	**235**	P	**P**	**14 26 07.4**	**+2.6**
	43nm,0.8s,2µm						
BBJI	**Bungbulang**	**24.91**	**212**	P	**P**	**14 26 05.0**	**+0.1**
LWLI	**Liwa**	**25.06**	**222**	P	**P**	**14 26 10.9**	**+4.6**
MNAI	**Manna**	**25.32**	**225**	P	**P**	**14 26 09.4**	**+0.9**
GENI	**Genyem**	**25.35**	**129**	P	**P**	**14 26 09.1**	**+0.3**
	213nm,1.4s,3µm						
JAY	**Jayapura**	**25.71**	**128**	P	**P**	**14 26 12.6**	**+0.5**
	25nm,1.1s						
GSI	**Gunungsitoli**	**26.10**	**243**	P	**P**	**14 26 15.2**	**-0.3**
GSI	**Gunungsitoli**	**26.10**	**243**	P	**P**	**14 26 15.1**	**-0.4**
BJT	**Baijiatuau**	**26.27**	**352**	IAmb	IAmb	14 27 09.2	
	comp=Z,99nm,1.1s						
BJT	**Baijiatuau**	**26.27**	**352**	P	**P**	**14 26 17.5**	**+0.7**
BJI	**Beijing**	**26.30**	**352**	P	**P**	**14 26 17.0**	**0.0**
BJI				pP	**pP**	**14 26 57.4**	**-2.9**
BJI				PcP	**PcP**	**14 29 40.8**	**+3.5**
BJI				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH	**Lanzhou**	**26.74**	**329**	⇑P	**P**	**14 26 22.4**	**+1.2**
LZH				PcP	**PcP**	**14 29 39.8**	**+1.1**
LZH				S	**S**	**14 30 41.8**	**+1.0**
LZH				SS	SS	14 32 16.1	-27
LZH				pmax	pmax		
	comp=Z,610nm,1.3s						
LZH				pmax	pmax		
	comp=Z,820nm,4.8s						
LZH				LR	LR		
	comp=Z,2µm,14.1s						
LZH				LR	LR		
	comp=Z,2µm,13.7s						
LZH				LR	LR		
	comp=Z,1µm,14.1s						
MAJO	**Matsushiro**	**27.42**	**32**	*i*P	**P**	**14 26 28.1**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MJAR	**Matsushiro Arr**	**27.42**	**32**	P	**P**	**14 26 25.0**	**-2.1**
	comp=Z,15nm,1.0s,baz=215,slow=9.3,SNR=13						
MJAR				PcP	**PcP**	**14 29 39.9**	**-0.2**
	comp=Z,12nm,1.0s,baz=196,slow=3.0,SNR=5.9						
	comp=Z,15nm,1.0s						
SNY	**Shenyang**	**27.89**	**5**	⇑P	**P**	**14 26 30.6**	**-0.6**
SNY				S	**S**	**14 30 57.1**	**-1.3**
SNY				pmax	pmax		
	comp=Z,91nm,1.2s						
SNY				pmax	pmax		
	comp=Z,1µm,6.0s						
TABU	**Tabubil**	**27.91**	**132**	P	**P**	**14 26 32.6**	**+0.8**
HHC	**Hu-ho-hao-te**	**27.96**	**345**	⇑*i*P	**P**	**14 26 32.5**	**+0.5**
HHC				S	**S**	**14 31 01.8**	**+1.9**
HHC				pmax	pmax		
	comp=Z,90nm,0.7s						
HHC				pmax	pmax		
	comp=Z,630nm,5.5s						
BTO	**Baotou**	**28.15**	**343**	*e*P	**P**	**14 26 35.4**	**+1.7**
BTO				pP	**pP**	**14 27 20.1**	**+2.7**
BTO				PP	**PP**	**14 27 37.5**	**-4.4**
BTO				sP	**sP**	**14 27 45.9**	**+3.1**
BTO				PcP	**PcP**	**14 29 42.5**	**+0.6**
BTO				S	**S**	**14 31 08.1**	**+5.3**
BTO				sS	**sS**	**14 32 22.8**	**+1.9**
BTO				SS	**ScP**	**14 32 52.1**	**-10**
BTO				pmax	pmax		
	comp=Z,71nm,0.8s						
BTO				pmax	pmax		
	comp=Z,1µm,4.6s						
BTO				LR	LR		
	comp=Z,950nm,6.8s						
BTO				LR	LR		
	comp=Z,1µm,6.2s						
BTO				LR	LR		
	comp=Z,1µm,8.7s						
KDU	**Kakadu**	**28.92**	**156**	P	**P**	**14 26 39.5**	**-1.0**
SHL	**Shillong**	**29.41**	**298**	P	**P**	**14 26 45.0**	**0.0**
	SNR=54						
MSHR	**Mys Shultsa**	**29.93**	**16**	*i*P	**P**	**14 26 49.5**	**+0.4**
MSHR				pmax	pmax		
	comp=Z,72nm,1.3s						
CN2	**Changchun**	**30.03**	**7**	*e*P	**P**	**14 26 48.8**	**-1.2**
CN2				pmax	pmax		
	comp=Z,30nm,0.9s						
XLT	**XiLinHaoTe**	**30.

MDJ ScS **ScS** **14 37 11.3 +0.3**
MDJ pmax pmax
comp=Z,21nm,1.6s
MDJ pmax pmax
comp=Z,760nm,6.0s
MDJ Mudanjiang 31.49 12 IAmb IAmb 14 27 05.9
comp=Z,88nm,1.0s
MDJ Mudanjiang 31.49 12 P **P** **14 27 03.2 +0.4**
USA0B Ussuriysk Arra 31.66 16 IAmb IAmb 14 27 06.0
comp=Z,76nm,0.9s
USA0B Ussuriysk Arra 31.66 16*c iP* **P** **14 27 04.8 +0.5**
USRK Ussuriysk Ar. 31.66 16 P **P** **14 27 04.2 -0.1**
USRK Ussuriysk Ar. 31.66 16 P **P** **14 27 04.8 +0.5**
comp=Z,52nm,0.8s,baz=204,slow=8.1,SNR=54
comp=Z,52nm,0.8s
GOMU GeErMu 32.08 318 P **P** **14 27 09.9 +1.4**
GOMU PcP **PcP** **14 29 53.8 +1.1**
GOMU S **S** **14 32 07.8 +3.1**
GOMU SS SS 14 34 15.0 -15
GOMU pmax pmax
comp=Z,91nm,1.1s
GOMU LR LR
comp=Z,790nm,13.1s
GOMU LR LR
comp=Z,930nm,13.7s
GOMU LR LR
comp=Z,1μm,14.0s
BNX BinXian 32.19 9 ⇑P **P** **14 27 08.3 -0.7**
BNX pP **pP** **14 27 53.9 +0.9**
BNX pmax pmax
comp=Z,280nm,1.0s
BNX pmax pmax
comp=Z,650nm,5.2s
TAPN Taplejung 33.51 299 *eP* **P** **14 27 21.2 +0.2**
comp=Z,451nm,1.2s
ODAN Odare 33.65 298 *eP* **P** **14 27 22.7 +0.5**
comp=Z,415nm,0.7s
TEY Ternei 33.80 20⇑*eP* **P** **14 27 22.4 -0.5**
TEY pmax pmax
comp=N,40nm,1.1s
TEY pmax pmax
comp=E,20nm,1.1s
TEY pmax pmax
comp=Z,70nm,1.0s
RAMN Ramite 34.35 298 *eP* **P** **14 27 28.9 +0.7**
comp=Z,926nm,1.3s
JIRN Jiri 34.89 299 *eP* **P** **14 27 33.3 +0.3**
comp=Z,284nm,0.5s
MBWA Marble Bar 34.90 182 P **P** **14 27 32.0 -0.6**
MBWA Marble Bar 34.90 182 P **P** **14 27 32.8 +0.2**
MBWA Marble Bar 34.90 182 P **P** **14 27 32.0 -0.6**
PMG Port Moresby 35.04 130 P **P** **14 27 33.5 -0.4**
PMG Port Moresby 35.04 130 P **P** **14 27 34.0 +0.1**
PMG Port Moresby 35.04 130 P **P** **14 27 34.2 +0.3**
PMG Port Moresby 35.04 130 P **P** **14 27 33.6 -0.2**
comp=Z,21nm,0.6s,baz=335,slow=8.5,SNR=26
comp=Z,21nm,0.6s
PMG Port Moresby 35.04 130 P **P** **14 27 33.7 -0.1**
PMG pP **pP** **14 28 17.6 -0.7**
PMG PcP **PcP** **14 30 02.2 +1.3**
GUN Gumba 35.23 299 *eP* **P** **14 27 36.1 +0.3**
comp=Z,518nm,0.9s
HIA Hailar 35.23 359 P **P** **14 27 34.6 -0.5**
HIA PcP **PcP** **14 30 01.3 +0.4**
PSA00 Pilbara Seismi 35.31 181 **PcP** **14 30 01.2 -0.3**
PSA00 Pilbara Seismi 35.31 181 P **P** **14 27 36.2 +0.1**
PKI Pulchoki 35.54 298 *eP* **P** **14 27 38.1 -0.3**
comp=Z,126nm,0.5s
PKIN Phulchoki 35.55 298 *eP* **P** **14 27 38.0 -0.5**
comp=Z,136nm,0.5s
COEN Coen 35.55 140 P **P** **14 27 37.9 -0.3**
ULN Ulaanbaatar 35.67 344 P **P** **14 27 38.7 -0.4**
ULN IAmb IAmb 14 27 40.7
comp=Z,131nm,1.2s
ULN Ulaanbaatar 35.67 344*c iP* **P** **14 27 39.8 +0.7**
ULN pmax pmax
comp=Z,129nm,1.2s
ULN Ulaanbaatar 35.67 344 P **P** **14 27 39.5 +0.4**
ULN pP **pP** **14 28 25.4 +1.5**
ULN PcP **PcP** **14 30 02.3 -0.2**
KKN Kakani 35.70 298 *eP* **P** **14 27 39.7 0.0**
DMN Daman 35.81 298 *eP* **P** **14 27 40.4 -0.2**
comp=Z,335nm,1.0s
SONM Songino Array 35.82 343 P **P** **14 27 40.0 -0.3**
SONM IAmb IAmb 14 27 41.7
comp=Z,67nm,0.8s
SONM Songino Array 35.82 343 P **P** **14 27 40.5 +0.2**
comp=Z,52nm,0.7s,baz=161,slow=9.7,SNR=211
SONM PcP **PcP** **14 30 02.6 -0.2**
comp=Z,7.9nm,0.9s,baz=171,slow=3.8,SNR=8.6
SONM ScP **ScP** **14 33 28.5 +0.1**
comp=Z,1.4nm,0.8s,baz=132,slow=2.1,SNR=2.4
comp=Z,52nm,0.7s
RABL Rabaul 36.04 118 P **P** **14 27 42.3 -0.2**
RABL Rabaul 36.04 118 P **P** **14 27 44.6 +2.1**
WB0 Warramunga Arr 36.11 158 P **P** **14 27 41.2 -1.8**
WB0 IAmb IAmb 14 27 43.1
comp=Z,45nm,0.6s
WRAB Tennant Creek 36.25 158 P **P** **14 27 42.6 -1.5**
WRAB IAmb IAmb 14 27 44.4
comp=Z,44nm,0.6s
WRAB Tennant Creek 36.25 158 P **P** **14 27 43.1 -1.0**
WRAB Tennant Creek 36.25 158*ce*P **P** **14 27 43.2 -0.9**
WRAB pmax pmax
comp=Z,64nm,1.3s
WRAB Tennant Creek 36.25 158 P **P** **14 27 43.0 -1.1**
WRAB pP **pP** **14 28 26.7 -2.3**
WRA Warramunga Arr 36.25 158 P **P** **14 27 43.4 -0.7**
comp=Z,22nm,0.4s,baz=340,slow=8.8,SNR=377
WRA pP **pP** **14 28 26.6 -2.4**
comp=Z,19nm,0.7s,baz=335,slow=9.4,SNR=4.1
WRA PcP **PcP** **14 30 04.2 -0.2**
comp=Z,3.1nm,0.6s,baz=332,slow=3.2,SNR=2.9
WRA S **S** **14 33 02.4 -6.0**
comp=Z,45nm,1.3s,baz=334,slow=16,SNR=17
WRA ScP **ScP** **14 33 29.0 -1.2**
comp=Z,4.9nm,1.0s,baz=337,slow=4.6,SNR=4.6
comp=Z,22nm,0.4s
WB2 Warramunga Arr 36.26 158 IAmb IAmb 14 27 44.5
comp=Z,54nm,0.6s
GKN Gorkha 36.31 298 *eP* **P** **14 27 44.3 -0.5**
comp=Z,62nm,0.5s
KLR Kul'dur 36.34 12*c iP* **P** **14 27 44.5 0.0**
KLR *i* *PP **pP** **14 28 29.9 +0.6**
KLR pmax pmax
comp=Z,208nm,0.9s
HEH HeiHe 36.62 7 ⇑P **P** **14 27 47.0 +0.2**
HEH PcP **PcP** **14 30 03.8 -1.2**
HEH pmax pmax
comp=Z,320nm,1.0s
HEH pmax pmax
comp=Z,710nm,6.2s
GIRL Giralia 36.91 190 P **P** **14 27 49.9 +0.3**
KOLN Koldanda 37.14 298 *eP* **P** **14 27 52.0 +0.2**
comp=Z,717nm,1.9s
DANN Dangsing 37.15 299 *eP* **P** **14 27 51.6 -0.4**
comp=Z,404nm,1.0s
PATS Pohnpei 37.62 97 P **P** **14 27 56.7 +0.9**
PATS Pohnpei 37.62 97 P **P** **14 27 57.9 +2.1**
YSS Yuzh-Sakhalins 37.73 25 P **P** **14 27 55.6 -0.6**
YSS IAmb IAmb 14 27 57.6
comp=Z,135nm,1.2s
YSS Yuzh-Sakhalins 37.73 25 *eP* **P** **14 27 56.8 +0.6**
YSS *e* 14 30 08.7
YSS *eS* **S** **14 33 27.7 -2.4**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS Yuzh-Sakhalins 37.73 25 P **P** **14 27 56.5 +0.3**
YSS pP **pP** **14 28 42.0 +0.6**
YSS PcP **PcP** **14 30 09.2 +0.8**
PYUN Piuthan 37.74 298 *eP* **P** **14 27 56.9 0.0**
comp=Z,686nm,1.1s
CIT Chita 38.41 353 *eP* **P** **14 28 02.2 +0.3**
CIT *e* 14 28 50.7
CIT pmax pmax
comp=Z,275nm,1.8s
GRNR Gornyy 38.88 16⇑*iP* **P** **14 28 06.3 +0.5**
GRNR *eS* **S** **14 33 51.2 +3.9**
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=N,60nm,1.1s
GRNR pmax pmax
comp=Z,100nm,1.0s
GRNR smax smax
comp=E,4.0nm,0.9s
GRNR MLR MLR
comp=E,340nm,20.0s
GRNR MLR MLR
comp=N,410nm,11.0s
GRNR MLR MLR
comp=Z,370nm,11.0s
QIS Mount Isa 39.00 151 P **P** **14 28 07.3 +0.1**
ZAK Zakamensk 39.01 342 *eP* **P** **14 28 06.2 -0.8**
ZAK *e* 14 33 48.6
ZAK pmax pmax
comp=Z,39nm,1.1s
WRKA Warakurna 39.45 169 P **P** **14 28 10.3 -0.5**
MTSU Mount Surprise 39.48 143 P **P** **14 28 11.6 +0.4**
ASAR Alice Springs 39.55 161 P **P** **14 28 11.3 -0.3**
comp=Z,27nm,0.4s,baz=337,slow=7.0,SNR=829
ASAR PcP **PcP** **14 30 14.6 -0.1**
comp=Z,3.7nm,0.8s,baz=343,slow=5.6,SNR=5.8
ASAR ScP **ScP** **14 33 42.3 -0.4**
comp=Z,5.8nm,1.1s,baz=355,slow=3.9,SNR=7.1
ASAR S **S** **14 33 51.7 -6.3**
comp=Z,1.1nm,0.7s,baz=353,slow=21,SNR=3.6
comp=Z,27nm,0.4s
PALK Pallekele 39.83 265 P **P** **14 28 14.6 +0.4**
PALK Pallekele 39.83 265 P **P** **14 28 14.6 +0.4**
PALK pmax pmax
comp=Z,63nm,1.4s
ZEA Zeya 40.03 6 *eP* **P** **14 28 15.2 0.0**
ZEA pmax pmax
comp=N,30nm,1.1s
ZEA pmax pmax
comp=Z,60nm,0.9s
MEEK Meekatharra 40.39 183 P **P** **14 28 17.6 -0.9**
IRK Irkutsk 40.40 344 *eP* **P** **14 28 17.9 -0.4**
IRK *eS* **S** **14 34 10.6 +0.7**
IRK pmax pmax
comp=Z,156nm,1.4s
HYB Hyderabad 40.67 281 *eP* **P** **14 28 21.4 +0.4**
HYB IVmB_BB 14 28 22.1
comp=Z,932nm,1.6s
HYB *ep*P **pP** **14 29 06.1 +0.9**
HYB *es*P **sP** **14 29 29.8 +0.6**
HYB *e*PcP **PcP** **14 30 18.5 0.0**
HYB *eS* **S** **14 34 16.0 +1.2**
MOY Mondy 40.83 341 *eP* **P** **14 28 22.3 +0.4**
MOY pmax pmax
comp=Z,117nm,2.2s
TYV Tymovskoe 40.89 21 *eP* **P** **14 28 22.2 -0.1**
TYV *eS* **S** **14 34 18.3 +1.2**
TYV pmax pmax
comp=Z,63nm,1.6s
TYV pmax pmax
comp=Z,700nm,3.2s
TYV smax smax
comp=E,43nm,1.9s
TYV smax smax
comp=N,1μm,4.0s
TYV smax smax
comp=E,1μm,4.0s
WMQ Urumqi 41.01 323 ⇑P **P** **14 28 24.8 +1.3**
WMQ PcS **PcS** **14 34 10.1 -0.3**
WMQ S **S** **14 34 16.8 -2.5**
WMQ pmax pmax
comp=E,97nm,0.9s
WMQ pmax pmax
comp=E,640nm,4.1s
WMQ LR LR
comp=E,2μm,16.1s
WMQ LR LR
comp=E,550nm,14.9s
WMQ LR LR
comp=E,650nm,22.9s
TV1H Townsville Har 41.83 141 P **P** **14 28 31.8 +1.6**
CTA Charters Tower 42.14 143 P **P** **14 28 33.5 +0.7**
comp=E,24nm,0.9s,baz=323,slow=8.2,SNR=28
comp=E,24nm,0.9s
CTAO Charters Tower 42.14 143 P **P** **14 28 33.0 +0.2**
CTAO Charters Tower 42.14 143 P **P** **14 28 34.1 +1.3**
CTAO Charters Tower 42.14 143 P **P** **14 28 33.0 +0.2**
CTAO pmax pmax
comp=Z,88nm,1.4s
CTAO Charters Tower 42.14 143 P **P** **14 28 33.5 +0.7**
MORW Morawa 43.00 186 P **P** **14 28 38.6 -1.0**
OOD Oodnadatta 43.97 161 P **P** **14 28 46.9 -0.4**
BOD Bodaibo 44.08 355 *eP* **P** **14 28 48.0 +0.2**
BOD pmax pmax
comp=Z,89nm,1.7s
BLDU Ballidu 44.47 185 P **P** **14 28 49.9 -1.4**
ZSN Zaisan 44.76 326⇑*iP* **P** **14 28 53.9 +0.5**
baz=326
ZSN *i* S **S** **14 35 14.6 +0.9**
baz=326
ZSN *i* S S 14 35 14.7 +1.0
baz=326
ZSN Zaisan 44.76 326*c iP* **P** **14 28 53.9 +0.5**
ZSN *i* S **S** **14 35 14.5 +0.9**
DGZ Jazzator, Alta 44.83 330*c iP* **P** **14 28 54.9 +0.8**
DGZ *i* *PP **pP** **14 29 41.9 +1.5**
DGZ pmax pmax
comp=Z,103nm,1.1s
FORT Forrest 45.03 171 P **P** **14 28 54.7 -0.9**
FORT Forrest 45.03 171 P **P** **14 28 54.9 -0.7**
KMBL Kambalda 45.07 179 P **P** **14 28 54.8 -1.2**
WUS Wushi 45.09 315 P **P** **14 28 57.4 +1.2**
KLBR Kellerberrin 45.37 184 P **P** **14 28 57.2 -1.1**
INKA Innaminka 45.77 155 P **P** **14 29 02.1 +0.6**
SHLS Shalkode 45.77 318⇑*iP* **P** **14 28 59.9 -1.8**
baz=318
SHLS Shalkode 45.77 318*c iP* **P** **14 28 59.8 -1.8**
MULG Mulgathing 45.82 164 P **P** **14 29 01.0 -0.8**
PDGK Podgornoye 45.83 318 P **P** **14 29 02.3 +0.2**
MK31 Makanchi Array 45.84 323 IAmb IAmb 14 29 03.8
comp=Z,111nm,0.9s
MK31 Makanchi Array 45.84 323 *i* P **P** **14 29 02.0 +0.1**
MKAR Makanchi Array 45.84 323 P **P** **14 29 02.1 +0.3**
MKAR Makanchi Array 45.84 323 P **P** **14 29 02.4 +0.5**
comp=Z,131nm,1.0s,baz=127,slow=8.2,SNR=597
MKAR PcP **PcP** **14 30 35.2 -0.2**
comp=Z,15nm,0.9s,baz=120,slow=5.2,SNR=2.3
MKAR S **S** **14 35 26.9 -2.2**
comp=Z,1.0nm,0.8s,baz=115,slow=10,SNR=2.3
comp=Z,131nm,1.0s
MUN Mundaring 45.87 185 P **P** **14 29 01.5 -0.7**
MAKZ Makanchi 46.02 323 P **P** **14 29 03.4 0.0**
MAKZ IAmb IAmb 14 29 05.2
comp=Z,244nm,1.4s
MAKZ Makanchi 46.02 323 P **P** **14 29 04.1 +0.8**
MAKZ Makanchi 46.02 323 P **P** **14 29 03.9 +0.6**
MAKZ PcP **PcP** **14 30 36.1 0.0**
UZB Uzynbulak 46.06 317 *eP* **P** **14 29 04.5 +0.6**
baz=318
UZB *eS* **S** **14 35 33.6 +0.9**
baz=318
UZB Uzynbulak 46.06 317 *eP* **P** **14 29 04.4 +0.6**
UZB *eS* **S** **14 35 33.5 +0.9**
KWJN Gagan, Kwajale 46.06 91 P **P** **14 29 06.5 +2.4**
PRZ Przheval'sk 46.18 316 IAmb IAmb 14 29 08.0
comp=Z,139nm,1.0s
QLP Quilpie 46.33 150 P **P** **14 29 06.0 +0.1**
KPKS Kokpek 46.42 318 *eP* **P** **14 29 06.8 +0.2**
baz=318
KPKS Kokpek 46.42 318 *eP* **P** **14 29 06.7 +0.2**
SATY Saty 46.42 317 *eP* **P** **14 29 07.4 +0.7**
baz=317
SATY *eS* **S** **14 35 39.1 +1.2**
baz=317
SATY Saty 46.42 317 *eP* **P** **14 29 07.3 +0.7**
SATY *eS* **S** **14 35 39.0 +1.2**
ZHN Zhinishke 46.45 317 *eP* **P** **14 29 07.3 +0.5**
baz=317
ZHN Zhinishke 46.45 317 *eP* **P** **14 29 07.3 +0.5**
SKR Severo-Kuril's 46.52 31*ceP* **P** **14 29 06.3 -0.7**
NWAO Narrogin (SRO) 46.73 184 P **P** **14 29 08.3 -0.6**
NWAO Narrogin (SRO) 46.73 184 P **P** **14 29 08.8 -0.1**
NWAO Narrogin (SRO) 46.73 184 P **P** **14 29 08.7 -0.1**
NWAO Narrogin (SRO) 46.73 184 P **P** **14 29 08.3 -0.6**
NWAO pmax pmax
comp=Z,39nm,1.0s
NWAO Narrogin (SRO) 46.73 184 P **P** **14 29 08.5 -0.3**
NWAO pP **pP** **14 29 54.8 -0.8**
KSH Kashi 46.74 312 P **P** **14 29 11.0 +1.9**
KSH PcS **PcS** **14 34 34.6 +0.4**
KSH S **S** **14 35 46.4 +4.0**
KSH sS sS 14 37 08.5 +3.7
KSH pmax pmax
comp=Z,89nm,1.0s
KSH LR LR
comp=Z,440nm,13.1s
KSH LR LR
comp=Z,490nm,11.0s
KSH LR LR
comp=Z,770nm,13.4s
NIL Nilore 47.17 303 P **P** **14 29 12.2 -0.3**
NIL Nilore 47.17 303 P **P** **14 29 12.2 -0.3**
NIL pmax pmax
comp=Z,214nm,0.9s
NIL Nilore 47.17 303 P **P** **14 29 12.6 +0.1**
NIL pP **pP** **14 29 59.4 +0.8**
RK1H Rockhampton Ha 47.19 142 P **P** **14 29 13.2 +0.6**
LCRK Leigh Creek 47.25 159 P **P** **14 29 12.7 -0.2**
TDK Taldyqorghan 47.29 319 *eP* **P** **14 29 14.0 +0.8**
comp=Z,216nm,0.9s,baz=320
TDK Taldyqorghan 47.29 319 *eP* **P** **14 29 13.9 +0.8**
TDK pmax pmax
comp=Z,216nm,0.9s
ARXS Arharly 47.31 318 *eP* **P** **14 29 13.6 +0.2**
MDOK Medeo 47.37 317 *eP* **P** **14 29 14.8 +0.7**
baz=317
MDOK *eS* **S** **14 35 52.2 +0.9**
baz=317
MDOK Medeo 47.37 317 *eP* **P** **14 29 14.7 +0.7**
MDOK *eS* **S** **14 35 52.2 +0.9**
TNSS Tian-Shan 47.39 316 *eP* **P** **14 29 15.4 +1.0**
baz=316
TNSS Tian-Shan 47.39 316 *eP* **P** **14 29 15.4 +1.0**
AAA Alma-Ata 47.48 317 *eP* **P** **14 29 15.7 +0.9**
baz=317
AAA Alma-Ata 47.48 317 *eP* **P** **14 29 15.6 +0.9**
ULHL Ulahol 47.55 315 P **P** **14 29 16.8 +1.4**
SNR=16
CHKK Chushkaly 47.70 317 *eP* **P** **14 29 16.4 +0.1**
baz=318
CHKK Chushkaly 47.70 317 *eP* **P** **14 29 16.4 +0.1**
KUU Kurty 48.14 317⇑*iP* **P** **14 29 20.4 +0.6**
comp=Z,280nm,0.9s,baz=317
KUU *eS* **S** **14 36 02.4 +0.6**
baz=317
KUU Kurty 48.14 317*c iP* **P** **14 29 20.3 +0.6**
KUU *eS* **S** **14 36 02.4 +0.6**
KUU pmax pmax
comp=Z,280nm,0.9s
TKM2 Tokmak 2 48.25 316 P **P** **14 29 21.7 +0.9**
SNR=5.8
TKM2 Tokmak 2 48.25 316 P **P** **14 29 20.5 -0.3**
RKGY Rocky Gully 48.42 184 P **P** **14 29 22.0 +0.2**
YAK Yakutsk 48.44 6 P **P** **14 29 21.0 -0.7**
YAK Yakutsk 48.44 6*c iP* **P** **14 29 21.2 -0.5**
YAK *e**PP **pP** **14 30 09.0 +0.2**
YAK *e* 14 30 43.9
YAK *e* 14 31 15.0
YAK *e*PPP PPP 14 32 11.9
YAK *eS* **S** **14 36 04.6 -0.8**
YAK *e**SS **sS** **14 37 33.3 +5.0**
YAK *e* 14 38 49.8
YAK *e*SS **SS** **14 39 33.0 -5.1**
YAK pmax pmax
comp=Z,412nm,0.9s
YAK pmax pmax
comp=N,184nm,1.2s
YAK pmax pmax
comp=E,75nm,1.1s
YAK pmax pmax
comp=Z,873nm,4.7s
YAK pmax pmax
comp=N,380nm,3.2s
YAK pmax pmax
comp=E,739nm,4.0s
YAK smax smax
comp=E,501nm,3.6s
YAK smax smax
comp=N,432nm,3.0s
YAK Yakutsk 48.44 6 P **P** **14 29 21.4 -0.3**
YAK pP **pP** **14 30 08.4 -0.5**
KBK Karagaybulak 48.59 315 P **P** **14 29 24.9 +1.5**
SNR=16
BBOO Buckleboo 48.76 163 P **P** **14 29 23.0 -1.5**
BBOO Buckleboo 48.76 163 P **P** **14 29 23.8 -0.7**
PEA0B Petropavlovsk- 48.81 29 IAmb IAmb 14 29 26.4
comp=Z,174nm,1.2s
PEA0B Petropavlovsk- 48.81 29*ce*P **P** **14 29 26.1 +1.5**
PETK Petropavlovsk- 48.81 29 P **P** **14 29 24.9 +0.2**
comp=Z,61nm,0.9s,baz=196,slow=4.7,SNR=24
PETK PcP **PcP** **14 30 45.0 -0.9**
comp=Z,19nm,1.0s,baz=219,slow=1.9,SNR=9.3
comp=Z,61nm,0.9s
ZALV Zalesovo Beam 48.84 333 P **P** **14 29 24.6 -0.2**
comp=Z,27nm,0.3s,baz=121,slow=7.1,SNR=226
ZALV PcP **PcP** **14 30 45.0 -0.9**
comp=Z,7.0nm,0.8s,baz=151,slow=3.3,SNR=1.7
ZALV S **S** **14 36 09.2 -2.0**
comp=Z,8.1nm,1.1s,baz=116,slow=16,SNR=9.1
comp=Z,27nm,0.3s
CHMS Chumysh 48.85 316 P **P** **14 29 25.8 +0.6**
SNR=38
AAK Ala-Archa 48.89 315 P **P** **14 29 26.4 +0.8**
SNR=40
AAK Ala-Archa 48.89 315 P **P** **14 29 26.2 +0.6**
AAK Ala-Archa 48.89 315 *i* P **P** **14 29 26.5 +0.8**
SNR=48
AAK Ala-Archa 48.89 315 P **P** **14 29 26.3 +0.6**
AAK S **S** **14 36 14.3 +1.6**
AAK Ala-Archa 48.89 315*ce*P **P** **14 29 26.5 +0.9**
AAK pmax pmax
comp=Z,107nm,1.7s
AAK Ala-Archa 48.89 315 P **P** **14 29 26.6 +0.9**
AAK pP **pP** **14 30 13.3 +1.2**
AAK PcP **PcP** **14 30 47.1 +0.5**
SEM Semipalatinsk 48.94 327 *i* P **P** **14 29 25.8 -0.2**
baz=327
SEM Semipalatinsk 48.94 327 *i* P **P** **14 29 25.8 -0.2**
EIDS Eidsvold 49.03 143 P **P** **14 29 26.0 -0.6**
EIDS Eidsvold 49.03 143 P **P** **14 29 26.7 0.0**
SGDS Sogindy 49.10 316 *eP* **P** **14 29 27.1 0.0**
baz=316
SGDS Sogindy 49.10 316 *eP* **P** **14 29 27.1 0.0**
USP Ospenovka 49.12 316 P **P** **14 29 27.8 +0.6**
SNR=46
PET Petropavlovsk 49.21 29 P **P** **14 29 27.6 0.0**
PET IAmb IAmb 14 29 29.5
comp=Z,237nm,1.5s
PET Petropavlovsk 49.21 29 P **P** **14 29 28.4 +0.8**
PET Petropavlovsk 49.21 29 *eP* **P** **14 29 27.4 -0.2**
PET *eS* **S** **14 36 15.6 -0.7**
PET pmax pmax
comp=Z,132nm,1.4s
PET pmax pmax
comp=Z,400nm,11.7s
PET MLR MLR
comp=Z,500nm,16.0s
PET Petropavlovsk 49.21 29 P **P** **14 29 27.7 +0.1**
AML Almayashu 49.27 314 P **P** **14 29 29.8 +1.1**
SNR=142
AML Almayashu 49.27 314 P **P** **14 29 29.0 +0.2**
EKS2 Erkin-Say 49.40 315 P **P** **14 29 30.3 +0.8**
SNR=64
STKA Stephens Creek 49.77 157 P **P** **14 29 31.3 -0.8**
STKA Stephens Creek 49.77 157 P **P** **14 29 31.9 -0.3**
STKA Stephens Creek 49.77 157 P **P** **14 29 31.8 -0.4**
comp=Z,4.4nm,0.4s,baz=330,slow=7.6,SNR=25
comp=Z,4.4nm,0.4s
KURBB Kurchatov Arra 49.98 326 P **P** **14 29 33.9 +0.4**
comp=Z,185nm,0.9s,baz=119,slow=8.6,SNR=950
KURBB pP **pP** **14 30 20.8 -0.1**
comp=Z,34nm,1.0s,baz=120,slow=8.0,SNR=2.8
KURBB PcP **PcP** **14 30 50.1 -0.1**
comp=Z,4.6nm,0.6s,baz=198,slow=3.2,SNR=4.4
KURBB S **S** **14 36 26.3 -0.9**
comp=Z,14nm,1.4s,baz=127,slow=12,SNR=16
comp=Z,185nm,0.9s
KURK Kurchatov 49.99 326 P **P** **14 29 33.8 +0.3**
KURK Kurchatov 49.99 326 P **P** **14 29 34.4 +0.8**
KURK S **S** **14 36 27.3 +0.1**
KURK Kurchatov 49.99 326 P **P** **14 29 33.9 +0.4**
KURK *PP **pP** **14 30 20.8 -0.1**
KURK 14 30 50.1
KURK Kurchatov 49.99 326 P **P** **14 29 34.4 +0.8**
KURK pP **pP** **14 30 21.6 +0.6**
BTLS Baital 50.10 318⇑*iP* **P** **14 29 34.7 +0.1**
baz=318
BTLS Baital 50.10 318*c iP* **P** **14 29 34.6 +0.1**

HTT	Hallett	50.22 160	P	P	14 29 35.7	+0.2
MA2	Magadan	50.67 19	P	P	14 29 38.9	+0.4
MA2	Magadan	50.67 19	P	P	14 29 39.6	+1.1
MA2	Magadan	50.67 19	P	P	14 29 38.9	+0.4
MA2			pmax	pmax		
	comp=Z,273nm,1.1s					
MA2	Magadan	50.67 19	P	P	14 29 39.1	+0.6
BTK	Batken	50.68 311	IAmb	IAmb	14 29 40.9	
	comp=Z,176nm,1.4s					
KBL	Kabul	50.77 303	P	P	14 29 39.8	-0.2
KBL			IAmb	IAmb	14 29 41.5	
	comp=Z,137nm,0.9s					
KBL	Kabul	50.77 303	P	P	14 29 40.4	+0.4
	SNR=58					
KBL			S	S	14 36 38.0	-1.0
KBL	Kabul	50.77 303	P	P	14 29 39.8	-0.2
KBL			pmax	pmax		
	comp=Z,137nm,1.0s					
DZA	Taraz	51.17 314	*e*P	P	14 29 43.0	+0.4
	comp=Z,111nm,1.0s,baz=314					
DZA	Taraz	51.17 314	*e*P	P	14 29 43.0	+0.4
DZA			pmax	pmax		
	comp=Z,111nm,1.0s					
CMSA	Cobar Meteorol	51.19 152	P	P	14 29 43.6	+0.8
KK31	Karatay Array	51.80 314	P	P	14 29 47.2	-0.1
KK31			IAmb	IAmb	14 29 48.7	
	comp=Z,83nm,0.9s					
KK31	Karatay Array	51.80 314	P	P	14 29 47.2	-0.1
KK31			pmax	pmax		
	comp=Z,83nm,1.0s					
KKAR	Karatay Array	51.80 314	IAmb	IAmb	14 29 48.7	
	comp=Z,83nm,0.9s					
IUG	Iuzhnay	51.85 313⇑	*i*P	P	14 29 48.3	+0.5
	baz=313					
IUG	Iuzhnay	51.85 313	*c i*P	P	14 29 48.2	+0.5
CHM	Chimkent	52.20 313	*e*P	P	14 29 50.7	+0.4
	baz=313					
CHM	Chimkent	52.20 313	*e*P	P	14 29 50.6	+0.4
OTUK	Ortayu	52.46 321	P	P	14 29 52.0	0.0
BRZS	Berezniki	52.98 323	*i* P	P	14 29 55.9	+0.2
	baz=323					
BRZS	Berezniki	52.98 323	*i* P	P	14 29 55.9	+0.2
ARMA	Armidale	53.22 146	P	P	14 29 59.1	+1.3
SEY	Seymchan	53.78 17	*ce*P	P	14 30 01.9	+0.6
SEY			pmax	pmax		
	comp=Z,141nm,0.8s					
ARPS	Mount Arapiles	54.24 159	P	P	14 30 04.7	-0.3
YNG	Young	54.74 152	P	P	14 30 09.4	+0.8
KOUNC	Koumac, New Ca	54.87 128	P	P	14 30 11.1	+1.3
BVA0	Borovoye Array	55.57 326	*i* P	P	14 30 14.3	0.0
BVAR	Borovoye Array	55.57 326	P	P	14 30 14.6	+0.2
	comp=Z,44nm,0.8s,baz=116,slow=10,SNR=199					
BVAR			S	S	14 37 43.0	+0.3
	comp=Z,6.4nm,1.1s,baz=87,slow=6.2,SNR=8.3					
	comp=Z,44nm,0.8s					
BRVK	Borovoye	55.64 326	P	P	14 30 14.8	0.0
BRVK	Borovoye	55.64 326	P	P	14 30 15.2	+0.3
BRVK			S	S	14 37 45.4	+1.8
BRVK	Borovoye	55.64 326	*ce*P	P	14 30 15.0	+0.2
BRVK			pmax	pmax		
	comp=Z,278nm,1.2s					
BRVK	Borovoye	55.64 326	P	P	14 30 15.1	+0.3
BRVK			pP	pP	14 31 03.8	+0.7
CAN	Canberra	55.86 152	P	P	14 30 17.5	+0.8
CAN	Canberra	55.86 152	P	P	14 30 17.8	+1.2
CAN			pP	pP	14 31 05.9	+0.5
CNB	Canberra Magne	56.02 152	P	P	14 30 18.8	+1.0
TOO	Toolangi	56.29 156	P	P	14 30 20.8	+1.1
NGCH	Negor - Chabah	56.84 291	P	P	14 30 25.0	+1.2
NGCH			S	S	14 38 00.1	-0.1
LIFNC	LIFOU	57.28 126	P	P	14 30 27.6	+0.7
NOUC	Port Laguerre	57.29 128	P	P	14 30 27.2	+0.3
MILA	Mila	57.37 153	P	P	14 30 28.8	+1.5
	comp=Z,29nm,2.0s					
DZM	Mont Dzumac	57.38 128	*e*P	P	14 30 24.0	-3.7
	comp=Z,174nm,1.4s					
DZM			*e*S	S	14 38 15.4	+7.9
	comp=Z,203nm,31.0s					
DZM			*e*SS	SS	14 42 04.3	+3.3
	comp=Z,282nm,27.8s					
DZM	Mont Dzumac	57.38 128	IAmb	IAmb	14 30 29.6	
	comp=Z,50nm,0.6s					
DZM	Mont Dzumac	57.38 128	P	P	14 30 28.4	+0.8
DZM	Mont Dzumac	57.38 128	P	P	14 30 28.5	+0.8
DZM			pP	pP	14 31 16.9	+0.6
DZM			PcP	PcP	14 31 21.3	+2.2
YATNC	Mamie plateau,	57.72 128	P	P	14 30 31.5	+1.6
OUENC	Ouen Island, N	57.88 128	IAmb	IAmb	14 30 33.3	
	comp=Z,68nm,1.0s					
LHI	Lord Howe Isla	58.30 141	P	P	14 30 34.7	+1.0
PINNC	Pines Island,	58.45 128	P	P	14 30 36.5	+1.6
JLN	Jalan Bani Buh	58.52 288	P	P	14 30 35.8	+0.3
WBK	Wadi Bani Khal	58.91 288	P	P	14 30 37.7	-0.5
	SNR=8.9					
WSAR	Wadi Sarin	59.19 289	P	P	14 30 39.7	-0.4
	SNR=12					
BIDO	Bidbid	59.63 289	P	P	14 30 42.9	-0.3
	SNR=17					
JMDO	Jabal Madar	59.72 288	P	P	14 30 42.8	-1.0
	SNR=5.5					
SMDO	Samad	59.73 289	P	P	14 30 43.1	-0.9
	SNR=5.9					
JASK	Jask - Hormozg	59.78 292	P	P	14 30 45.0	+0.9
	SNR=5.8					
JASK			S	S	14 38 39.8	+1.5
MHTO	MHTO	59.94 286	P	P	14 30 44.1	-1.2
	SNR=16					
GEYT	Alibeck	59.99 306		PcP	14 31 29.4	+0.1
GEYT	Alibeck	59.99 306	P	P	14 30 46.2	+0.8
	comp=Z,85nm,0.9s,baz=107,slow=5.0,SNR=154					
	comp=Z,85nm,0.9s					
GYA0	ALIBECK ARRAY	59.99 306	P	P	14 30 45.5	+0.1
GYA0B	ALIBECK ARRAY	59.99 306		PcP	14 31 29.5	+0.3
HOQ	Hoqain	60.38 289	P	P	14 30 47.6	-0.6
	SNR=12					
BSY	Bisya	60.53 288	P	P	14 30 48.6	-0.7
	SNR=8.6					
AB31	Akbulak array	60.55 319	P	P	14 30 48.5	-0.4
ABKAR	Akbulak array	60.55 319	P	P	14 30 48.5	-0.4
SOHO	SOHO	61.06 290	*i* P	P	14 30 51.7	-1.1
	SNR=7.0					
SOHO	SOHO	61.06 290	P	P	14 30 52.6	-0.2
ARQ	Araqi	61.12 289	P	P	14 30 52.6	-0.6
	SNR=9.3					
UOSS	Minazif	61.32 291	P	P	14 30 55.4	+0.8
SHME	Shamm	61.33 292	*i* P	P	14 30 54.3	-0.2
	SNR=6.7					
SHME	Shamm	61.33 292	P	P	14 30 54.9	+0.3
	SNR=6.9					
MSFE	Esma-Masafi	61.34 291	*i* P	P	14 30 54.5	-0.2
	SNR=7.9					
HATD	Hatta, Dubai	61.39 291	*i* P	P	14 30 54.5	-0.6
	SNR=6.1					
HATD	Hatta, Dubai	61.39 291	P	P	14 30 55.0	0.0
	SNR=5.4					
ASHO	Ashiyiah	61.46 291	*i* P	P	14 30 55.0	-0.6
	SNR=13					
ASHO	Ashiyiah	61.46 291	P	P	14 30 55.2	-0.4
	SNR=7.9					
TAU	Tasmania Unive	61.63 158	P	P	14 30 57.6	+1.5
ALNE	Al Ain	61.78 290	*i* P	P	14 30 57.0	-0.6
	SNR=8.4					
ALNE	Al Ain	61.78 290	P	P	14 30 57.4	-0.2
	SNR=16					
NAZ	Nazwa, Dubai	61.81 291	P	P	14 30 57.6	-0.2
FAQ	Al Faqa, Dubai	61.88 291	P	P	14 30 58.1	-0.2
AKTO	Aktyubinsk	62.03 320	P	P	14 30 57.6	-1.2
ASUD	Al Ashush, Dub	62.13 291	*i* P	P	14 31 00.2	+0.2
	SNR=9.4					
SVE	Sverdlovsk	62.20 327	*d i*P	P	14 30 59.7	-0.1
SVE			*e*S	S	14 39 07.8	0.0
SVE			pmax	pmax		
	comp=Z,244nm,1.2s					
SHAO	Shalim	62.42 283	*i* P	P	14 31 02.5	+0.5
	SNR=6.1					
SHAO	Shalim	62.42 283	P	P	14 31 02.2	+0.3
	SNR=6.2					
DMTO	DMTO	63.10 283	P	P	14 31 06.4	0.0
DMTO			S	S	14 39 20.8	+0.6
ARU	Arti	63.18 327	P	P	14 31 05.1	-1.2
ARU	Arti	63.18 327	*c i*P	P	14 31 05.5	-0.8
ARU					14 31 37.2	
ARU			*PP	pP	14 31 54.9	-1.0
ARU					14 33 22.8	
ARU			S	S	14 39 22.4	+2.4
ARU			SS	SS	14 43 28.4	-1.6
ARU			pmax	pmax		
	comp=Z,130nm,1.0s					
ARU	Arti	63.18 327	⇑P	P	14 31 05.7	-0.6
ARU			pP	pP	14 31 55.7	-0.2
DOK	Doka	63.76 284	P	P	14 31 10.5	-0.3
	SNR=11					
RBK	Rabkut	63.83 283	P	P	14 31 11.2	-0.1
	SNR=11					
ATKA	Atka Island	63.88 38	P	P	14 31 11.2	+0.3
MZR	Muzera	63.93 289	*i* P	P	14 31 11.7	-0.1
	SNR=8.4					
MZR	Muzera	63.93 289	P	P	14 31 11.5	-0.4
	SNR=14					
WHFO	Wadi Hawf	64.19 283	P	P	14 31 13.0	-0.6
	SNR=6.4					
ABTO	Aybut	64.71 283	P	P	14 31 16.7	-0.3
	SNR=6.5					
MSVF	Nonsavu	64.74 117	P	P	14 31 16.7	-0.5
MSVF	Nonsavu	64.74 117	P	P	14 31 19.3	+2.1
MSVF	Nonsavu	64.74 117	P	P	14 31 16.7	-0.5
MSVF			pmax	pmax		
	comp=Z,52nm,1.1s					
MSVF	Nonsavu	64.74 117	P	P	14 31 19.5	+2.3
SHMA	Al-Shehemyia	65.99 292	P	P	14 31 25.3	+0.3
	SNR=6.5					
SMRA	Abu-Samra	66.21 291	P	P	14 31 26.6	+0.2
	SNR=15					
SAKB	Bahrain	66.37 292	P	P	14 31 27.5	+0.1
SAKB			S	S	14 39 56.3	-3.6
SPIA	Saint Paul Isl	67.05 34	P	P	14 31 31.5	+0.4
	baz=260					
NIKH	Nikolski High	67.21 38	P	P	14 31 32.6	+0.4
NIKH	Nikolski High	67.21 38	P	P	14 31 32.1	-0.1
	baz=263,SNR=5.5					
GAMB	Gambell	67.73 26	P	P	14 31 36.3	+1.1
	baz=256					
MAK	Makhachkala	68.36 311	*de*P	P	14 31 37.9	-1.7
MAK			*e**PP	pP	14 32 29.1	-0.2
MAK			*e**SP	sP	14 32 52.9	+0.3
MAK			*e*		14 34 11.7	
MAK			*e*PPP	PPP	14 35 56.4	
MAK			*e*S	S	14 40 22.0	-1.1
MAK			*e*SS	SS	14 44 50.4	-0.5
MAK			pmax	pmax		
	comp=Z,160nm,1.1s					
KIRV	Kirov	68.46 328⇑	*i*P	P	14 31 39.3	-0.5
UNV	Unalaska Valle	68.71 37	P	P	14 31 43.7	+2.2
UNV	Unalaska Valle	68.71 37	P	P	14 31 42.4	+0.9
	baz=264					
BELG	Belogornoye	68.75 321	*c i*P	P	14 31 40.8	-1.0
BELG			pmax	pmax		
	comp=Z,59nm,0.9s					
M11K	Mekoryuk	69.63 30	P	P	14 31 48.7	+1.7
	baz=262					
TNA	Tin City	69.71 25	P	P	14 31 49.1	+1.7
	baz=259					
F14K	Arctic Creek	70.35 25	P	P	14 31 53.0	+1.6
	baz=260,SNR=8.7					
GNI	Garni	70.47 308	P	P	14 31 53.1	+0.4
GNI			IAmb	IAmb	14 31 55.1	
	comp=Z,134nm,1.3s					
GNI	Garni	70.47 308	P	P	14 31 53.7	+1.0
GNI	Garni	70.47 308	*c i*P	P	14 31 53.4	+0.6
GNI			pmax	pmax		
	comp=Z,126nm,1.3s					
GNI	Garni	70.47 308	P	P	14 31 53.8	+1.0
K13K	Kusilvak Mount	70.57 29	IAmb	IAmb	14 31 55.1	
	comp=Z,116nm,1.2s					
K13K	Kusilvak Mount	70.57 29	P	P	14 31 53.7	+1.0
	baz=263,SNR=8.6					
FALS	False Pass	70.59 36	P	P	14 31 53.3	+0.4
	baz=267					
ANM	Nome	70.60 26	P	P	14 31 53.6	+0.7
	baz=262					
PRGR	Permogore	70.74 331	*e*P	P	14 31 51.7	-2.0
PRGR			pmax	pmax		
	comp=Z,71nm,0.8s					
TASB	TASBURUN-IGDIR	70.86 308	*e*P	P	14 31 55.8	+0.8
WCZ	Waipu Caves	70.91 136	P	P	14 31 56.9	+1.8
ZEI	Tsey	71.02 311	*e*P	P	14 31 51.9	-4.2
ZEI			pmax	pmax		
	comp=Z,79nm,1.4s					
M13K	Dall Lake	71.04 31	P	P	14 31 56.8	+1.2
	baz=265					
F15K	North Star Dit	71.07 25	P	P	14 31 56.5	+0.8
F15K			IAmb	IAmb	14 31 58.1	
	comp=Z,140nm,1.2s					
F15K	North Star Dit	71.07 25	P	P	14 31 56.9	+1.2
	baz=262,SNR=12					
CLDR	Caldiran	71.14 307	*i* P	P	14 31 58.1	+1.1
J14K	Nanvaranak Lak	71.17 28	P	P	14 31 56.5	+0.2
J14K			IAmb	IAmb	14 31 58.6	
	comp=Z,157nm,1.6s					
J14K	Nanvaranak Lak	71.17 28	P	P	14 31 57.2	+0.9
	baz=264,SNR=5.1					
C16K	Lisburne Hills	71.20 22	IAmb	IAmb	14 31 58.5	
	comp=Z,85nm,1.0s					
C16K	Lisburne Hills	71.20 22	P	P	14 31 57.4	+1.0
	baz=260,SNR=5.4					
G15K	Niukluk	71.23 26	P	P	14 31 57.5	+0.9
	baz=263					
AKH	Akhalkalaki	71.37 309	*e*P	P	14 31 59.2	+1.0
L14K	Kuka Creek	71.45 30	P	P	14 31 59.2	+1.2
	baz=265,SNR=29					
CUKT	Cukurca	71.49 305	*e*P	P	14 31 59.2	+0.2
GOF	Gofitskoye	71.58 313	*ce*P	P	14 31 58.8	-0.3
VANB	Van	71.58 306	*e*P	P	14 31 59.9	+0.4
KBZ	Khabaz	71.72 312	P	P	14 31 59.9	0.0
	comp=Z,42nm,1.0s,baz=96,slow=5.1,SNR=49					
	comp=Z,42nm,1.0s					
M14K	Bethel	71.75 30	IAmb	IAmb	14 32 02.0	
	comp=Z,100nm,0.9s					
M14K	Bethel	71.75 30	P	P	14 32 00.9	+1.2
	baz=266,SNR=15					
N14K	Kuskokwak Cree	71.83 31	P	P	14 32 01.1	+0.9
	baz=266,SNR=9.9					
AGRB	Hanur-Agry	71.84 307	*e*P	P	14 32 02.2	+1.2
KIV	Kislovodsk	71.86 312	⇑P	P	14 32 00.9	0.0
KIV	Kislovodsk	71.86 312	P	P	14 32 00.6	-0.3
KIV			IAmb	IAmb	14 32 02.3	
	comp=Z,94nm,0.9s					
KIV	Kislovodsk	71.86 312	*i* P	P	14 32 01.2	+0.2
	SNR=14					
KIV	Kislovodsk	71.86 312	P	P	14 32 01.0	0.0
KIV			S	S	14 41 03.6	-0.3
KIV	Kislovodsk	71.86 312	P	P	14 32 00.9	0.0
KIV	Kislovodsk	71.86 312	P	P	14 32 01.1	+0.1
KIV			pP	pP	14 32 52.5	+1.3
AKDM	Akdamar-Van	71.92 306	*e*P	P	14 32 02.5	+0.9
H16K	Elim	71.95 26	P	P	14 32 01.8	+0.9
	baz=264					
D17K	Noatak River	71.96 23	P	P	14 32 02.4	+1.4
	baz=263,SNR=17					
G16K	Koyuk River	71.98 25	P	P	14 32 02.2	+1.1
	baz=264,SNR=8.2					
O14K	Tigyukauivet M	72.01 32	IAmb	IAmb	14 32 03.2	
	comp=Z,84nm,1.1s					
O14K	Tigyukauivet M	72.01 32	P	P	14 32 01.9	+0.5
	baz=267					
C17K	DeLong Mountai	72.03 22	P	P	14 32 02.0	+0.6
	baz=262,SNR=5.3					
L15K	Ungalak Mounta	72.04 29	P	P	14 32 02.0	+0.4
	baz=266,SNR=6.6					
K15K	Wolf Creek Mou	72.07 29	IAmb	IAmb	14 32 04.3	
	comp=Z,98nm,1.1s					
K15K	Wolf Creek Mou	72.07 29	P	P	14 32 02.9	+1.2
	baz=266,SNR=15					
MLAZ	Malazgirt-MUS	72.21 307	*i* P	P	14 32 04.5	+1.3
KUZ	Kuaotunu	72.28 136	P	P	14 32 04.5	+1.2
KUZ	Kuaotunu	72.28 136	P	P	14 32 05.5	+2.2
SDPT	Sand Point	72.30 36	P	P	14 32 03.1	-0.1
SDPT	Sand Point	72.30 36	P	P	14 32 03.0	-0.1
	baz=269					
VRH	Novokhopyorsk	72.37 320	*e*P	P	14 32 02.4	-1.2
VRH			*e**PP	pP	14 32 55.3	+0.9
VRH			*e*S	S	14 41 07.5	-1.6
VRH			pmax	pmax		
	comp=Z,187nm,1.5s					
E17K	Hotham Inlet	72.37 24	P	P	14 32 04.6	+1.2
	baz=264,SNR=20					
M15K	Kasigluk River	72.37 30	P	P	14 32 04.2	+0.7
	baz=267,SNR=16					
MSZ	Milford Sound	72.39 147	P	P	14 32 04.5	+0.7
SIRT	Sirnak	72.41 305	*i* P	P	14 32 04.9	+0.6
JCZ	Jackson Bay	72.45 146	P	P	14 32 05.6	+1.3
JCZ	Jackson Bay	72.45 146	P	P	14 32 05.5	+1.1
F17K	Baldwin Pennin	72.53 24	P	P	14 32 05.6	+1.3
	baz=265,SNR=13					
I17K	Unalakleet	72.56 27	P	P	14 32 05.6	+1.0
	baz=266,SNR=9.4					
J16K	Anvik River	72.56 28	P	P	14 32 05.6	+1.0
	baz=266,SNR=13					
QRZ	Quartz Range	72.58 141	P	P	14 32 05.9	+0.8
QRZ	Quartz Range	72.58 141	P	P	14 32 05.8	+0.8
B18K	Kokolik River	72.63 21	P	P	14 32 06.1	+1.2
	baz=263,SNR=11					
NEZ	North Egmont	72.64 139	P	P	14 32 07.4	+1.8
N15K	Kwethluk River	72.64 31	P	P	14 32 06.1	+1.0
	baz=268,SNR=15					
GURO	Guroymak-BITLI	72.65 306	*e*P	P	14 32 06.5	+0.7
FOZ	Fox Glacier	72.67 145	P	P	14 32 05.9	+0.5
TOZ	Tahuroa Road	72.68 137	P	P	14 32 06.7	+1.0
TOZ	Tahuroa Road	72.68 137	P	P	14 32 07.4	+1.8
KOPR	Koprukoy-ERZUR	72.69 308	*e*P	P	14 32 07.2	+1.2
HIZ	Hauiti	72.69 138	P	P	14 32 07.6	+1.9
HIZ	Hauiti	72.69 138	P	P	14 32 07.4	+1.7
G17K	Kiwalik Mounta	72.70 25	P	P	14 32 06.4	+1.0
	baz=266,SNR=41					
DSZ	Denniston Nort	72.70 142	P	P	14 32 07.6	+1.8
O15K	Ungalikthiuk R	72.74 32	P	P	14 32 06.3	+0.6
	baz=268,SNR=6.2					
BCA	Borcka	72.77 309	⇑P	P	14 32 06.4	+0.1
C18K	Utukok River	72.77 22	IAmb	IAmb	14 32 07.7	
	comp=Z,88nm,1.1s					
C18K	Utukok River	72.77 22	P	P	14 32 06.4	+0.6
	baz=264,SNR=9.7					
CHNA	Chernabura Isl	72.80 37	P	P	14 32 05.6	-0.6
	baz=270					
S14K	Fog Glacier	72.83 35	P	P	14 32 06.3	-0.2
	baz=269					
E18K	Tukpahlearik C	72.88 23	IAmb	IAmb	14 32 08.8	
	comp=Z,87nm,1.2s					
E18K	Tukpahlearik C	72.88 23	P	P	14 32 07.5	+1.1
	baz=265,SNR=16					
WVZ	Waitaha Valley	72.90 144	P	P	14 32 06.9	0.0
LREZ	Lake Rotokare	72.94 139	P	P	14 32 06.9	-0.3
H17K	Granite Mounta	72.97 26	P	P	14 32 08.3	+1.3
	baz=266,SNR=19					
VRZ	Vera Road	72.98 139	P	P	14 32 08.8	+1.4
A19K	Wainwright	72.98 20	P	P	14 32 08.3	+1.4
	baz=264					
L16K	Owhat River	73.00 29	IAmb	IAmb	14 32 09.4	
	comp=Z,126nm,1.1s					
L16K	Owhat River	73.00 29	P	P	14 32 08.2	+1.0
	baz=268,SNR=26					
TLZ	Tolley Road	73.03 138	P	P	14 32 10.1	+2.3
VRTB	Varto-Mus	73.05 307	*e*P	P	14 32 09.8	+1.6
M16K	Timber Creek	73.23 30	IAmb	IAmb	14 32 10.8	
	comp=Z,115nm,1.0s					
M16K	Timber Creek	73.23 30	P	P	14 32 09.5	+1.0
	baz=268,SNR=31					
N16K	Nishlik Lake	73.31 31	P	P	14 32 09.8	+0.8
	baz=269,SNR=24					
KARZ	Kaharoa	73.33 137	P	P	14 32 11.2	+1.7
NNZ	Nelson	73.33 141	P	P	14 32 09.2	-0.2
SVAN	Silvan-Diyarba	73.33 306	*e*P	P	14 32 10.4	+0.7
THZ	Tophouse	73.37 142	P	P	14 32 09.3	-0.4
TWVZ	Taurewa	73.38 138	P	P	14 32 11.8	+1.9
C19K	Lookout Ridge	73.39 22	P	P	14 32 10.7	+1.3
	baz=265,SNR=11					
LBZ	Lake Benmore	73.42 145	P	P	14 32 10.0	+0.1
LBZ			IAmb	IAmb	14 32 11.4	
	comp=Z,98nm,1.3s					
CHOM	Cayeli-Rize	73.44 309	*e*P	P	14 32 10.6	+0.4
CHGN	Chignik	73.47 35	IAmb	IAmb	14 32 10.1	
	comp=Z,93nm,1.2s					
CHGN	Chignik	73.47 35	P	P	14 32 09.8	-0.2
	baz=270					
WAZ	Wanganui	73.48 139	P	P	14 32 10.7	+0.3
RATZ	Rangitukua	73.48 138	P	P	14 32 12.3	+1.8
RPZ	Rata Peaks	73.49 144	P	P	14 32 10.1	-0.2
RPZ			IAmb	IAmb	14 32 11.4	
	comp=Z,81nm,1.3s					
RPZ	Rata Peaks	73.49 144	P	P	14 32 10.6	+0.3
RPZ	Rata Peaks	73.49 144	P	P	14 32 10.7	+0.5
EAZ	Earnscleugh	73.49 146	P	P	14 32 10.8	+0.5
WTVZ	West Tongariro	73.50 138	P	P	14 32 11.7	+1.1
COVZ	Chateau Observ	73.52 139	P	P	14 32 11.7	+1.0
KRVZ	Karewarewa	73.53 138	P	P	14 32 12.0	+1.2
NNVZ	North Ngauruho	73.53 138	P	P	14 32 12.0	+1.2
NGZ	Ngauruhoe	73.55 138	P	P	14 32 12.0	+1.1
WPRZ	Whakapapatarin	73.55 138	P	P	14 32 12.9	+2.1
G18K	Tagagawik	73.55 25	IAmb	IAmb	14 32 12.1	
	comp=Z,99nm,1.1s					
G18K	Tagagawik	73.55 25	P	P	14 32 11.1	+0.7
	baz=267,SNR=28					
L17K	Donlin	73.57 29	P	P	14 32 12.0	+1.5
	baz=269,SNR=34					
TMVZ	Te Maari	73.58 138	P	P	14 32 12.4	+1.3
TRVZ	Turoa	73.58 139	P	P	14 32 12.3	+1.1
K17K	Iditarod	73.59 28	P	P	14 32 11.9	+1.4
	baz=268,SNR=43					
ETVZ	East Tongariro	73.59 138	P	P	14 32 12.3	+1.2
RITZ	Rihia Road	73.60 138	P	P	14 32 12.7	+1.7
LTZ	Lake Taylor	73.61 143	P	P	14 32 11.1	0.0
WNIVZ	Wahianoa	73.63 139	P	P	14 32 12.4	+1.0
TUVZ	Tukino	73.63 139	P	P	14 32 12.4	+1.0
H18K	Honhosa River	73.64 26	IAmb	IAmb	14 32 12.9	
	comp=Z,90nm,1.1s					
H18K	Honhosa River	73.64 26	P	P	14 32 11.8	+0.9
	baz=268,SNR=12					
O16K	Kokwok River B	73.64 32	IAmb	IAmb	14 32 12.9	
	comp=Z,110nm,1.1s					
O16K	Kokwok River B	73.64 32	P	P	14 32 11.6	+0.7
	baz=270,SNR=17					
KLMR	Klimovskoe	73.64 330	*e*P	P	14 32 07.2	-3.7
KLMR			epP	pP	14 33 00.0	-2.3
KLMR	Klimovskoe	73.64 330	*e*P	P	14 32 07.2	-3.7
KLMR			*e**PP	pP	14 32 59.9	-2.3
BNGB	Bingl	73.67 307	*e*P	P	14 32 12.8	+1.1
PRRZ	Plateau Road	73.69 138	P	P	14 32 13.0	+1.4
P16K	Nushagak River	73.69 32	P	P	14 32 11.9	+0.7
	baz=270					
MOVZ	Moawhango	73.77 139	P	P	14 32 12.3	+0.2
TMZ	Timaru	73.88 145	P	P	14 32 13.4	+0.8
MRHZ	Matea Rd	73.89 138	P	P	14 32 13.1	+0.3
D19K	Kuna River	73.89 22	P	P	14 32 12.9	+0.6
	baz=267,SNR=34					
VORD	Divnogorie	73.90 319	*e*P	P	14 32 10.5	-2.1
VORD			*e*		14 32 24.1	
VORD			*e**PP	pP	14 33 02.1	-1.2
VORD			pmax	pmax		
	comp=Z,70nm,0.8s					
VORR	Voronezh	73.93 320	*e*P	P	14 32 10.6	-2.2
VORR			*e**PP	pP	14 33 03.9	0.0
VORR			*e*S	S	14 41 24.1	-2.6
VORR			pmax	pmax		
	comp=Z,152nm,1.4s					
F19K	Shaleruckik Mo	73.94 24	IAmb	IAmb	14 32 14.4	
	comp=Z,122nm,1.6s					
F19K	Shaleruckik Mo	73.94 24	P	P	14 32 13.0	+0.4
	baz=268,SNR=9.6					
M17K	Holitna River	73.97 30	P	P	14 32 14.3	+1.5
	baz=270,SNR=33					
VSR	Storozhevoye	73.97 320	*e*P	P	14 32 10.8	-2.3
VSR			*e*		14 32 25.4	
VSR			*e**PP	pP	14 33 01.3	-2.4
VSR			pmax	pmax		
	comp=Z,120n

N17K	Nushagak Hills	74.09	31	P		P	14 32 15.0 +1.4
	baz=270,SNR=23						
ODZ	Otahua Downs	74.10	146	P		P	14 32 14.9 +1.1
ODZ	Otahua Downs	74.10	146	P		P	14 32 14.6 +0.9
BKZ	Black Stump Fm	74.12	138	P		P	14 32 14.5 +0.4
BKZ	Black Stump Fm	74.12	138	P		P	14 32 14.3 +0.2
RTZ	Ruatahuna	74.14	137	P		P	14 32 14.6 +0.4
O17K	Koliganek Bris	74.14	31	P		P	14 32 14.6 +0.7
	baz=270,SNR=14						
GVZ	Greta Valley S	74.17	143	P		P	14 32 14.8 +0.5
MTHZ	Maungataniwha	74.17	138	P		P	14 32 14.8 +0.4
E19K	Redstone River	74.18	23	IAmb		IAmb	14 32 16.1
	comp=Z,97nm,1.1s						
E19K	Redstone River	74.18	23	P		P	14 32 14.7 +0.7
	baz=268,SNR=25						
DYBB	Diyarbakir	74.18	306	*i* P		P	14 32 15.8 +1.1
SNZO	South Karori	74.19	141	P		P	14 32 14.2 -0.2
G19K	Purcell Mounta	74.20	25	IAmb		IAmb	14 32 16.1
	comp=Z,83nm,1.1s						
G19K	Purcell Mounta	74.20	25	P		P	14 32 14.9 +0.8
	baz=269,SNR=22						
KTUT	Trabzon	74.20	309	⇓P		P	14 32 14.9 +0.3
HAZ	Te Kaha	74.21	136	P		P	14 32 14.8 +0.2
KWHZ	Kaweka Forest	74.21	138	P		P	14 32 14.9 +0.2
ADZR	Andozero	74.25	333	*e*P		P	14 32 15.3 +0.9
ADZR				*e**PP		pP	14 33 03.5 -2.2
ADZR				pmax		pmax	
	comp=Z,91nm,0.8s						
RUGZ	Raukumara Rang	74.25	136	P		P	14 32 14.4 -0.6
GCSA	Galena City Sc	74.26	26	P		P	14 32 15.1 +0.7
	baz=269,SNR=30						
TSZ	Takapari Road	74.27	139	P		P	14 32 15.5 +0.6
NMHZ	Naumai	74.28	138	P		P	14 32 16.3 +1.2
B20K	Meade River	74.30	21	P		P	14 32 15.3 +0.7
	baz=269						
KRHZ	Kereru	74.30	139	P		P	14 32 15.2 +0.1
J18K	Innoko River	74.32	28	P		P	14 32 15.6 +0.8
	baz=270,SNR=33						
L18K	Granite Mounta	74.33	29	IAmb		IAmb	14 32 17.4
	comp=Z,87nm,1.1s						
L18K	Granite Mounta	74.33	29	P		P	14 32 16.1 +1.1
	baz=270,SNR=30						
PNHZ	Pukenui	74.34	139	P		P	14 32 15.5 +0.2
MWZ	Matawai	74.34	137	P		P	14 32 15.7 +0.3
MRZ	Mangatainoka R	74.37	140	P		P	14 32 15.8 +0.4
Q16K	King Salmon	74.38	33	P		P	14 32 15.6 +0.3
	baz=271						
MQZ	McQueen's Vall	74.39	144	P		P	14 32 16.8 +1.3
MCHZ	McNeill Hill	74.40	138	P		P	14 32 16.7 +1.1
D20K	Etivluk River	74.45	22	P		P	14 32 16.1 +0.6
	baz=268,SNR=35						
H19K	Roundabout Mou	74.45	25	P		P	14 32 16.9 +1.3
	baz=269,SNR=39						
MXZ	Matakaoa Point	74.46	136	P		P	14 32 17.0 +1.0
MXZ	Matakaoa Point	74.46	136	P		P	14 32 16.7 +0.7
SNGZ	Shannon Statio	74.46	137	P		P	14 32 16.7 +0.6
P17K	Kvichak River	74.49	32	P		P	14 32 16.7 +0.9
	baz=271						
R17K	Ugashik Creek	74.55	34	P		P	14 32 15.8 -0.5
	baz=272						
TWGZ	Tauwhareparae	74.56	137	P		P	14 32 17.8 +1.1
E20K	Nigu River	74.59	23	P		P	14 32 17.1 +0.7
	baz=269,SNR=19						
TKGZ	Te Karaka	74.61	137	P		P	14 32 17.3 +0.4
TTA	Tatalina	74.64	28	P		P	14 32 16.9 +0.2
TTA				IAmb		IAmb	14 32 18.9
	comp=Z,84nm,1.2s						
TTA	Tatalina	74.64	28	P		P	14 32 17.9 +1.1
TTA	Tatalina	74.64	28	P		P	14 32 17.3 +0.5
	baz=270,SNR=35						
TTA	Tatalina	74.64	28	P		P	14 32 17.0 +0.2
TTA				pmax		pmax	
	comp=Z,84nm,1.2s						
PTK	Pertek	74.68	307	*e*P		P	14 32 18.7 +1.0
PUZ	Puketiti	74.69	136	P		P	14 32 17.2 -0.2
MOS	Moscow	74.71	324	*e*P		P	14 32 14.0 -3.2
MOS				*e**PP		pP	14 33 04.4 -4.1
MOS				*e*			14 35 06.2
MOS				*e*S		S	14 41 29.1 -6.1
MOS				pmax		pmax	
	comp=Z,159nm,1.5s						
MOS				pmax		pmax	
	comp=Z,400nm,2.0s						
KAHZ	Kahuranaki	74.71	138	P		P	14 32 17.8 +0.3
N18K	Kilae Creek	74.73	30	IAmb		IAmb	14 32 19.6
	comp=Z,104nm,1.4s						
N18K	Kilae Creek	74.73	30	P		P	14 32 18.4 +1.1
	baz=271,SNR=15						
M18K	Stony River	74.75	30	P		P	14 32 18.6 +1.2
	baz=271,SNR=33						
F20K	Avaraart Lake	74.75	24	IAmb		IAmb	14 32 19.4
	comp=Z,74nm,1.0s						
F20K	Avaraart Lake	74.75	24	P		P	14 32 18.3 +1.0
	baz=270,SNR=28						
BFZ	Birch Farm	74.80	139	P		P	14 32 17.8 -0.1
BFZ	Birch Farm	74.80	139	P		P	14 32 17.8 -0.1
Q17K	Contact Creek	74.80	33	P		P	14 32 16.9 -1.0
	baz=272,SNR=16						
J19K	Poorman	74.80	27	IAmb		IAmb	14 32 19.9
	comp=Z,107nm,1.4s						
J19K	Poorman	74.80	27	P		P	14 32 18.7 +1.1
	baz=271,SNR=26						
PXZ	Pawanui	74.83	139	P		P	14 32 18.4 +0.3
SVW2	Sparrevohn	74.87	30	IAmb		IAmb	14 32 20.4
	comp=Z,82nm,1.3s						
SVW2	Sparrevohn	74.87	30	P		P	14 32 18.6 +0.5
ESPY	Espiye-Giresun	74.99	309	*e*P		P	14 32 18.8 -0.4
CHIR	Chirikof Islan	75.04	35	P		P	14 32 20.1 +1.0
	baz=273						
A22K	Sinclair Lake	75.06	20	P		P	14 32 19.9 +1.0
	baz=269						
O18K	Koktuh Hills	75.09	31	P		P	14 32 20.4 +1.0
	baz=272,SNR=23						
P18K	Big Mountain,	75.10	32	P		P	14 32 19.4 0.0
	baz=272						
H20K	Anotleneega Mo	75.10	25	P		P	14 32 20.5 +1.2
	baz=271,SNR=60						
C21K	Knifeblade Rid	75.12	22	P		P	14 32 20.2 +0.9
	baz=270,SNR=11						
B21K	Ikpikpuk River	75.18	21	IAmb		IAmb	14 32 21.7
	comp=Z,95nm,0.9s						
B21K	Ikpikpuk River	75.18	21	P		P	14 32 20.6 +1.0
	baz=270,SNR=15						
L19K	White Mountain	75.19	29	IAmb		IAmb	14 32 22.2
	comp=Z,124nm,1.1s						
L19K	White Mountain	75.19	29	P		P	14 32 21.0 +1.1
	baz=272,SNR=34						
Q18K	Katmai Hardscr	75.25	33	P		P	14 32 19.4 -1.0
	baz=273,SNR=9.0						
URFA	Urfa	75.28	305	*e*P		P	14 32 21.9 +0.9
I20K	Naaghedeneel	75.29	26	P		P	14 32 21.6 +1.3
	baz=271,SNR=12						
OBN	Obninsk	75.34	324	⇑P		P	14 32 20.3 -0.5
OBN	Obninsk	75.34	324	P		P	14 32 19.6 -1.2
OBN	Obninsk	75.34	324	*c i* P		P	14 32 19.9 -0.9
OBN				*e**PP		pP	14 33 09.3 -2.9
OBN				*i*			14 35 10.0
OBN				*i* S		S	14 41 45.3 +3.1
OBN				*e*SS		SS	14 46 42.6 +5.9
OBN				pmax		pmax	
	comp=Z,162nm,1.3s						
OBN				MLR		MLR	
	comp=Z,186nm,16.0s						
E21K	Killik River	75.42	22	IAmb		IAmb	14 32 22.9
	comp=Z,164nm,1.4s						
E21K	Killik River	75.42	22	P		P	14 32 21.5 +0.4
	baz=271,SNR=20						
M19K	Big River Lodg	75.42	29	P		P	14 32 22.1 +0.9
	baz=272						
N19K	Bonanza Creek	75.42	30	IAmb		IAmb	14 32 23.6
	comp=Z,135nm,1.1s						
N19K	Bonanza Creek	75.42	30	P		P	14 32 22.4 +1.1
	baz=272,SNR=28						
J20K	Nowinta River	75.45	27	IAmb		IAmb	14 32 23.8
	comp=Z,112nm,1.1s						
J20K	Nowinta River	75.45	27	P		P	14 32 22.5 +1.2
	baz=272,SNR=32						
K20K	Telida	75.51	28	P		P	14 32 22.8 +1.1
	baz=272						
O19K	Port Alsworth	75.53	31	IAmb		IAmb	14 32 23.6
	comp=Z,80nm,1.1s						
O19K	Port Alsworth	75.53	31	P		P	14 32 22.5 +0.7
	baz=273,SNR=11						
ANN	Anapa	75.57	313	*e*P		P	14 32 21.1 -1.2
ANN				*e**PP		pP	14 33 13.6 +0.3
ANN				*e*S		S	14 41 40.1 -5.0
ANN				pmax		pmax	
	comp=Z,181nm,1.4s						
B22K	Teshekpuk Lake	75.58	20	P		P	14 32 22.4 +0.5
	baz=271,SNR=11						
R18K	Karluk	75.60	34	P		P	14 32 21.5 -0.6
	baz=273						
F21K	Alatna River	75.63	24	P		P	14 32 22.6 +0.3
	baz=272,SNR=5.5						
L20K	Farewell, AK	75.63	29	P		P	14 32 23.3 +0.9
	baz=272,SNR=18						
G21K	Allakaket	75.64	24	P		P	14 32 23.4 +1.0
	baz=272,SNR=60						
ATD	Arta Tunnel	75.65	279	P		P	14 32 23.7 +0.3
SII	Sitkinak Islan	75.80	35	P		P	14 32 23.5 0.0
	baz=274						
D22K	Ayikyak River	75.88	22	P		P	14 32 24.8 +1.1
	baz=272,SNR=14						
Q19K	Cape Douglas,	75.94	32	IAmb		IAmb	14 32 24.7
	comp=Z,111nm,1.1s						
Q19K	Cape Douglas,	75.94	32	P		P	14 32 23.4 -0.8
	baz=274						
H21K	Melozitna Rive	75.96	25	P		P	14 32 25.3 +1.1
	baz=273,SNR=70						
M20K	Styx River	76.01	29	IAmb		IAmb	14 32 27.0
	comp=Z,105nm,1.1s						
M20K	Styx River	76.01	29	P		P	14 32 25.8 +1.1
	baz=273,SNR=38						
RSDY	Resadiye-TOKAT	76.10	309	*e*P		P	14 32 25.8 +0.3
P19K	Oil Pt	76.10	31	IAmb		IAmb	14 32 25.9
	comp=Z,62nm,1.0s						
P19K	Oil Pt	76.10	31	P		P	14 32 24.9 -0.2
	baz=274,SNR=6.0						
F22K	John River	76.12	23	P		P	14 32 25.7 +0.6
	baz=273,SNR=20						
APA	Apatity	76.19	337	⇓*i* P		P	14 32 20.3 -5.1
APA				*i* *PP		pP	14 33 14.4 -2.6
APA				pmax		pmax	
	comp=Z,66nm,0.9s						
APA				MLR		MLR	
	comp=Z,500nm,16.0s						
DARE	Darende-Malaty	76.20	307	*e*P		P	14 32 27.5 +1.3
E22K	Anaktuvuk Pass	76.23	23	P		P	14 32 26.2 +0.5
	baz=273,SNR=20						
CHUM	Lake Minchumin	76.27	27	P		P	14 32 26.7 +0.8
	baz=274,SNR=17						
I21K	Tanana	76.33	26	P		P	14 32 27.4 +1.2
	baz=274,SNR=50						
O20K	Slope Mountain	76.38	31	P		P	14 32 25.8 -0.9
	baz=274						
PPLA	Purkeypile	76.39	28	P		P	14 32 27.5 +0.7
	baz=274,SNR=22						
CAST	Castle Rocks	76.40	28	P		P	14 32 27.3 +0.6
	baz=274,SNR=136						
SVSK	Karacayir	76.41	308	*i* P		P	14 32 28.3 +1.1
G22K	Bettles	76.42	24	P		P	14 32 27.2 +0.5
	baz=274,SNR=37						
N20K	Mount Spurr	76.50	30	P		P	14 32 27.4 0.0
	baz=274,SNR=23						
SPCR	Spurr Chakacha	76.50	30	P		P	14 32 27.3 0.0
	baz=274,SNR=17						
H22K	Ishtalitna Cre	76.53	25	P		P	14 32 28.8 +1.4
	baz=274,SNR=75						
C23K	Itkillik River	76.56	21	IAmb		IAmb	14 32 29.3
	comp=Z,119nm,1.1s						
C23K	Itkillik River	76.56	21	P		P	14 32 27.9 +0.5
	baz=274,SNR=22						
KDAK	Kodiak Island	76.58	33	P		P	14 32 27.8 0.0
KDAK				IAmb		IAmb	14 32 29.2
	comp=Z,137nm,1.3s						
KDAK	Kodiak Island	76.58	33	P		P	14 32 27.6 -0.2
	baz=275						
KDAK	Kodiak Island	76.58	33	P		P	14 32 27.8 0.0
KDAK				pmax		pmax	
	comp=Z,137nm,1.3s						
KDAK	Kodiak Island	76.58	33	P		P	14 32 27.1 -0.6
	comp=Z,33nm,0.9s,baz=303,slow=1.1,SNR=47						
	comp=Z,33nm,0.9s						
GAZ	Gaziantep	76.58	305	*e*P		P	14 32 29.3 +1.0
GAZ	Gaziantep	76.58	305	IAmb		IAmb	14 32 30.3
	comp=Z,111nm,1.0s						
D23K	Nanushuk River	76.60	22	P		P	14 32 28.7 +1.0
	baz=274,SNR=29						
Q20K	Shuyak Island	76.61	32	P		P	14 32 27.4 -0.6
	baz=275,SNR=5.5						
SYI	Shuyak Island	76.61	32	IAmb		IAmb	14 32 29.0
	comp=Z,166nm,1.4s						
TOKT	Tokat	76.71	309	*e*P		P	14 32 29.3 +0.4
SKT	Skwentna	76.76	29	IAmb		IAmb	14 32 29.6
	comp=Z,100nm,1.1s						
SKT	Skwentna	76.76	29	P		P	14 32 28.4 -0.4
	baz=275,SNR=29						
KMRS	Kahramanmaras	76.79	306	*e*P		P	14 32 30.1 +0.7
BPAW	Bear Paw Mtn.	76.84	27	P		P	14 32 29.8 +0.7
	baz=275,SNR=80						
MLY	Manley	76.87	26	P		P	14 32 30.1 +0.7
	baz=275						
COLD	Coldfoot	76.90	24	P		P	14 32 30.1 +0.7
	baz=275,SNR=24						
HOM	Homer	76.91	31	P		P	14 32 30.9 +1.3
	baz=275						
KTH	Kantishna Hill	76.91	27	IAmb		IAmb	14 32 32.7
	comp=Z,84nm,1.2s						
KVT	Kavak	76.99	309	*i* P		P	14 32 31.2 +0.7
G23K	Bananza Creek	77.02	24	IAmb		IAmb	14 32 32.6
	comp=Z,153nm,1.4s						
G23K	Bananza Creek	77.02	24	P		P	14 32 31.2 +1.1
	baz=275,SNR=30						
TOLK	Toolik Lake Re	77.02	22	IAmb		IAmb	14 32 32.1
	comp=Z,65nm,1.1s						
TOLK	Toolik Lake Re	77.02	22	P		P	14 32 30.6 +0.5
	baz=275,SNR=12						
SARI	SarD1z-Kayseri	77.05	307	*e*P		P	14 32 31.8 +0.8
CAPN	Captain Cook N	77.05	30	P		P	14 32 31.0 +0.7
	baz=275						
E23K	Chandalar	77.06	23	P		P	14 32 31.4 +1.0
	baz=275,SNR=37						
SUA	Susitna One	77.18	29	IAmb		IAmb	14 32 32.0
	comp=Z,114nm,1.0s						
SUA	Susitna One	77.18	29	P		P	14 32 30.7 -0.5
	baz=276,SNR=35						
TRF	Thorofare Moun	77.20	27	IAmb		IAmb	14 32 34.5
	comp=Z,100nm,1.2s						
TRF	Thorofare Moun	77.20	27	P		P	14 32 31.1 -0.3
	baz=276,SNR=26						
C24K	Franklin Bluff	77.23	21	P		P	14 32 31.5 +0.3
	baz=276						
D24K	Happy Valley	77.25	22	P		P	14 32 31.9 +0.7
	baz=276						
BRLK	Bradley Lake	77.28	31	IAmb		IAmb	14 32 34.3
	comp=Z,72nm,1.0s						
H23K	Yukon River	77.29	25	P		P	14 32 32.9 +1.2
	baz=276						
CUT	Chulitna	77.31	29	P		P	14 32 31.6 -0.2
	baz=276,SNR=21						
BRSE	Bradley Lake S	77.36	31	P		P	14 32 31.5 -0.6
	baz=276,SNR=15						
BNN	Bunyan	77.43	307	*e*P		P	14 32 33.3 +0.2
I23K	Minto, Yukon-K	77.44	26	IAmb		IAmb	14 32 34.5
	comp=Z,86nm,1.1s						
I23K	Minto, Yukon-K	77.44	26	P		P	14 32 33.1 +0.7
	baz=276,SNR=58						
M22K	Willow	77.45	29	P		P	14 32 31.9 -0.6
	baz=276,SNR=46						
VADS	Vadso	77.45	339	*e*P		P	14 32 31.1 -1.3
E24K	Your Creek	77.48	23	IAmb		IAmb	14 32 34.7
	comp=Z,71nm,1.0s						
E24K	Your Creek	77.48	23	P		P	14 32 33.5 +0.8
	baz=276,SNR=34						
BWN	Browne	77.49	27	IAmb		IAmb	14 32 35.8
	comp=Z,128nm,1.2s						
DIKM	Dikmen	77.50	310	⇑P		P	14 32 33.2 -0.1
NEA2	Nenana	77.62	26	IAmb		IAmb	14 32 35.1
	comp=Z,78nm,1.1s						
NEA2	Nenana	77.62	26	P		P	14 32 33.6 +0.2
	baz=276,SNR=54						
RC01	Rabbit Creek A	77.70	30	IAmb		IAmb	14 32 34.7
	comp=Z,60nm,1.0s						
RC01	Rabbit Creek A	77.70	30	P		P	14 32 33.2 -0.8
	baz=276,SNR=12						
YOZ	Yozgat	77.73	308	*e*P		P	14 32 34.8 +0.1
F24K	Squaw Lake	77.77	23	IAmb		IAmb	14 32 36.4
	comp=Z,56nm,0.8s						
F24K	Squaw Lake	77.77	23	P		P	14 32 35.0 +0.7
	baz=277,SNR=34						
MCK	McKinley	77.78	27	P		P	14 32 34.2 -0.1
	baz=277,SNR=52						
O22K	Cooper Landing	77.78	30	P		P	14 32 34.1 -0.3
	baz=277						
MDM	Murphy Dome	77.93	26	IAmb		IAmb	14 32 37.7
	comp=Z,95nm,1.1s						
PMR	Palmer	77.94	29	IAmb		IAmb	14 32 36.0
	comp=Z,78nm,1.0s						
PMR	Palmer	77.94	29	P		P	14 32 34.9 -0.3
PMR	Palmer	77.94	29	P		P	14 32 34.8 -0.4
	baz=277,SNR=32						
SEW	Seward	77.96	31	P		P	14 32 35.0 -0.4
	baz=277,SNR=12						
H24K	Noodor Dome	77.97	25	IAmb		IAmb	14 32 37.8
	comp=Z,93nm,1.1s						
H24K	Noodor Dome	77.97	25	P		P	14 32 36.5 +1.1
	baz=277,SNR=42						
GHO	Glory Hole Cre	78.01	29	IAmb		IAmb	14 32 36.8
	comp=Z,85nm,1.4s						
G24K	Hadweenzic Riv	78.03	24	IAmb		IAmb	14 32 37.9
	comp=Z,88nm,0.9s						
G24K	Hadweenzic Riv	78.03	24	P		P	14 32 36.7 +1.1
	baz=277,SNR=36						
WRH	Wood River Hil	78.05	26	IAmb		IAmb	14 32 37.9
	comp=Z,130nm,1.6s						
WAT1	Susitna Watana	78.06	28	P		P	14 32 35.5 -0.5
	baz=277						
D25K	Kavik River	78.09	21	IAmb		IAmb	14 32 37.8
	comp=Z,118nm,1.1s						
D25K	Kavik River	78.09	21	P		P	14 32 36.2 +0.2
	baz=278,SNR=30						
COLA	College	78.11	26	P		P	14 32 35.2 -0.8
COLA				IAmb		IAmb	14 32 38.7
	comp=Z,56nm,0.9s						
COLA	College	78.11	26	P		P	14 32 36.2 +0.1
COLA	College	78.11	26	P		P	14 32 35.7 -0.3
	baz=277						
COLA	College	78.11	26	P		P	14 32 35.8 -0.3
CORM	Corum	78.18	309	*i* P		P	14 32 37.7 +0.5
POKR	Poker Plat Res	78.25	26	P		P	14 32 36.6 -0.3
	baz=278,SNR=8.9						
CMRD	Camardi-Nigde	78.27	306	*e*P		P	14 32 38.9 +1.2
KARA	Karaisali	78.28	306	*i* P		P	14 32 38.3 +0.7
KNK	Knik Glacier	78.28	29	IAmb		IAmb	14 32 38.5
	comp=Z,93nm,1.0s						
KNK	Knik Glacier	78.28	29	P		P	14 32 37.3 +0.2
	baz=278,SNR=27						
SML	Sawmill	78.29	29	P		P	14 32 37.3 0.0
	baz=278,SNR=32						
KEV	Kevo	78.30	339	P		P	14 32 36.6 -0.5
KEV	Kevo	78.30	339	P		P	14 32 36.6 -0.5
KEV				pmax		pmax	
	comp=Z,59nm,1.0s						
PWL	Port Wells	78.41	30	P		P	14 32 37.7 -0.2
	baz=278,SNR=22						
WAT6	Susitna Watana	78.46	28	P		P	14 32 38.3 0.0
	baz=278,SNR=51						
C26K	Camden Bay	78.51	21	P		P	14 32 39.3 +1.1
	baz=279,SNR=14						
ILAR	Eielson Array	78.53	26	P		P	14 32 37.1 -1.3
	comp=Z,18nm,1.1s,baz=267,slow=3.4,SNR=53						
	comp=Z,18nm,1.1s						
HDA	Harding Lake	78.55	26	P		P	14 32 37.6 -1.0
	baz=278,SNR=38						
DHY	Denali Highway	78.56	28	P		P	14 32 38.2 -0.6
	baz=278,SNR=15						
E25K	Arctic Village	78.56	22	IAmb		IAmb	14 32 40.8
	comp=Z,84nm,1.4s						
E25K	Arctic Village	78.56	22	P		P	14 32 39.2 +0.6
	baz=279,SNR=12						
G25K	Bearman Lake	78.56	24	P		P	14 32 39.6 +1.1
	baz=278,SNR=32						
M23K	Glacier View	78.57	29	P		P	14 32 38.5 -0.3
	baz=278,SNR=24						
F25K	Christian Rive	78.61	23	P		P	14 32 39.9 +1.0
	baz=279,SNR=53						
MMAI	Mount Meron Ar	78.65	301	P		P	14 32 40.7 +0.8
	comp=Z,29nm,0.9s,baz=76,slow=7.0,SNR=41						
	comp=Z,29nm,0.9s						
H25L	Birch Creek	78.75	24	P		P	14 32 40.7 +1.1
	baz=279						
GULA	Gulagac	78.75	307	*e*P		P	14 32 40.6 +0.3
SCM	Sheep Creek Mo	78.76	29	IAmb		IAmb	14 32 41.3
	comp=Z,120nm,1.1s						
SCM	Sheep Creek Mo	78.76	29	P		P	14 32 39.8 0.0
	baz=278,SNR=22						
ARA0	ARCESS Array S	78.86	339	*e*P		P	14 32 40.1 -0.1
ARCES	ARCESS Array B	78.86	339	IAmb		IAmb	14 32 41.2
	comp=Z,70nm,0.9s						
ARCES	ARCESS Array B	78.86	339	P		P	14 32 40.0 -0.2
	comp=Z,47nm,0.8s,baz=85,slow=6.8,SNR=60						
ARCES				pP		pP	14 33 28.8 -3.3
	comp=Z,12nm,0.7s,baz=67,slow=9.3,SNR=3.6						
	comp=Z,47nm,0.8s						
FYU	Fort Yukon	78.93	24	IAmb		IAmb	14 32 42.9
	comp=Z,90nm,1.1s						
PRP	Porcupine Dome	78.98	25	P		P	14 32 40.4 -0.6
	baz=279,SNR=24						
YAYX	Yaylak	78.99	308	*e*P		P	14 32 41.5 -0.1
P23K	Montague Islan	78.99	31	P		P	14 32 41.3 +0.2
	baz=279,SNR=7.2						
BR131	Keskin Array S	79.00	308	P		P	14 32 41.4 -0.3
	SNR=11						
BR131	Keskin Array S	79.00	308	*c i* P		P	14 32 40.9 -0.8
BRTR	Keskin Array B	79.00	308	P		P	14 32 41.1 -0.6
	comp=Z,11nm,0.8s,baz=116,slow=5.6,SNR=51						
	comp=Z,11nm,0.8s						
GLI	Glacier Island	79.01	30	IAmb		IAmb	14 32 42.4
	comp=Z,95nm,1.0s						
GLI	Glacier Island	79.01	30	P		P	14 32 41.2 +0.1
	baz=279,SNR=8.3						
KIZK	Mersin	79.12	305	*e*P		P	14 32 42.4 +0.2
K24K	Donnelly Dome	79.15	27	P		P	14 32 41.6 -0.3
	baz=279,SNR=27						
F26K	Sheenjek River	79.16	23	P		P	14 32 42.7 +0.8
	baz=280,SNR=32						
SERE	Serefikochisa	79.18	308	*e*P		P	14 32 42.9 +0.2
J25K	Salcha River,	79.20	26	P		P	14 32 41.1 -1.0
	baz=280,SNR=17						
M24K	Tolsona, Glenn	79.25	29	IAmb		IAmb	14 32 44.5
	comp=Z,109nm,1.0s						
M24K	Tolsona, Glenn	79.25	29	P		P	14 32 43.5 +1.0
	baz=279,SNR=17						
HAMF	Hammerfest	79.27	340	*e*P		P	14 32 42.2 -0.1
FID	Port Fidalgo	79.33	30	IAmb		IAmb	14 32 44.3
	comp=Z,106nm,1.2s						
SULT	Sultanhani-AKS	79.34	307	*e*P		P	14 32 44.1 +0.6
KURC	Kurucasile-Bar	79.34	311	*e*P		P	14 32 42.9 -0.4
SPA0	Spitsbergen Ar	79.35	348	*e*P		P	14 32 42.9 +0.2
SPITS	Spitsbergen Ar	79.35	348	P		P	14 32 42.3 -0.4
	comp=Z,61nm,0.7s,baz=99,slow=8.0,SNR=37						
	comp=Z,61nm,0.7s						
HIN	Hinchinbrook I	79.37	30	IAmb		IAmb	14 32 44.6
	comp=Z,62

comp=Z,102nm,1.5s
SCRK Sand Creek 79.90 26 P **P** 14 32 46.1 +0.1
baz=281,SNR=23
RIM Rim 79.95 72 P **P** 14 32 46.8 -0.4
J26L Joseph Creek 79.98 26 P **P** 14 32 46.2 -0.2
baz=281,SNR=25
TEKE Tekeli-Mersin 80.00 305 *e*P **P** 14 32 46.9 0.0
I26K Coal Creek Min 80.00 25 P **P** 14 32 46.7 +0.4
baz=281
D27M Malcolm River 80.00 21 IAmb IAmb 14 32 48.5
comp=Z,87nm,0.9s
D27M Malcolm River 80.00 21 P **P** 14 32 47.5 +1.1
baz=283,SNR=17
E27K Coleen River 80.01 22 IAmb IAmb 14 32 48.5
comp=Z,107nm,1.1s
E27K Coleen River 80.01 22 P **P** 14 32 47.4 +1.0
baz=282,SNR=36
CSS Mathiatis 80.03 304 P **P** 14 32 47.5 +0.3
FINES FINESS Array B 80.07 331 P **P** 14 32 46.1 -0.7
comp=Z,56nm,1.1s,baz=72,slow=6.2,SNR=41
comp=Z,56nm,1.1s
N25K Chitina, Valde 80.08 29 P **P** 14 32 47.7 +0.7
baz=281,SNR=14
BMRM Bremner River 80.19 30 P **P** 14 32 47.9 +0.3
baz=281,SNR=8.3
LADK Ladik-KONYA 80.23 307 P **P** 14 32 47.3 -1.0
RAGM Ragged Mountai 80.27 30 IAmb IAmb 14 32 49.9
comp=Z,154nm,1.6s
AKASG Malin Array Be 80.27 320 P **P** 14 32 46.9 -1.3
comp=Z,14nm,0.8s,baz=66,slow=5.2,SNR=58
comp=Z,14nm,0.8s
AKBB Malin Array Si 80.27 320*c* *i*P **P** 14 32 46.7 -1.4
AKBB pmax pmax
comp=Z,65nm,1.3s
KONT Konya--Tatoy 80.28 307 P **P** 14 32 47.9 -0.6
G27K Doyon Strip 80.28 23 P **P** 14 32 49.0 +1.0
baz=282,SNR=43
VSU Vasula 80.30 328 *e*P **P** 14 32 48.0 0.0
VSU Vasula 80.30 328*c* *i*P **P** 14 32 47.5 -0.6
HDMB Hadim 80.35 306 *e*P **P** 14 32 49.1 0.0
CASY Casey 80.35 184 P **P** 14 32 47.0 -1.0
LEF Lefka 80.35 304 *e*P **P** 14 32 49.3 +0.4
YUVA Yuva-Kibriscik 80.37 309 *e*P **P** 14 32 49.1 +0.1
L26K Log Cabin Wild 80.37 27 P **P** 14 32 49.0 +0.6
baz=282,SNR=9.4
MNK Minsk 80.40 324 *i*P **P** 14 32 48.9 +0.2
comp=E,27nm,0.9s
MNK *i*P **P** 14 32 48.9 +0.2
comp=N,35nm,0.7s
MNK *i*P **P** 14 32 48.9 +0.2
comp=Z,73nm,0.8s,baz=260
MNK *i*pP **pP** 14 33 41.6 +0.8
MNK *i*PP **PP** 14 35 54.9 +0.3
MNK *i*PPP PPP 14 37 45.5
MNK *i*S **S** 14 42 36.8 +0.4
MNK *i*sS **sS** 14 44 09.7 +4.5
MNK *i*SS **SS** 14 47 54.6 +1.9
MNK *i*SSS SSS 14 51 24.6
MNK *i*LQ LQ 15 03 41.2
MNK *i*LR LR 15 07 42.5
MNK *i*LRM MLR 15 09 43.7
comp=N,144nm,16.9s
MNK *i*LRM MLR 15 10 27.0
comp=E,76nm,17.8s
MNK *i*LRM MLR 15 10 44.7
comp=Z,185nm,15.3s
MNK Minsk 80.40 324 *i*P **P** 14 32 48.9 +0.2
MNK *i* *PP **pP** 14 33 41.6 +0.8
MNK *i* 14 35 54.9
MNK *i*PPP PPP 14 37 45.5
MNK *i*S **S** 14 42 36.7 +0.4
MNK *i*SS **SS** 14 47 54.5 +1.9
MNK *i*SSS SSS 14 51 24.6
MNK pmax pmax
comp=Z,73nm,0.8s
MNK pmax pmax
comp=E,27nm,0.9s
MNK pmax pmax
comp=N,35nm,0.7s
MNK MLR MLR
comp=N,144nm,17.0s
MNK MLR MLR
comp=E,76nm,18.0s
MNK MLR MLR
comp=Z,185nm,15.0s
H27K Steamboat Moun 80.46 24 P **P** 14 32 50.1 +1.2
baz=283,SNR=31
GLB Gilahina Butte 80.48 29 IAmb IAmb 14 32 50.9
comp=Z,81nm,1.2s
KAIM Kayak Island 80.48 31 IAmb IAmb 14 32 51.1
comp=Z,94nm,1.0s
KAIM Kayak Island 80.48 31 P **P** 14 32 49.6 +0.6
baz=281
KIZT Kizilcal 80.48 308 *e*P **P** 14 32 49.6 -0.1
I27K Kandik River 80.56 25 P **P** 14 32 50.5 +1.0
baz=283,SNR=56
JETT Jettan, Norway 80.60 339 *e*P **P** 14 32 49.8 +0.3
GAZI Gazipasa 80.61 305 *e*P **P** 14 32 49.9 -0.4
E28M Babbage River 80.65 21 P **P** 14 32 50.5 +0.7
baz=284,SNR=30
SVRH Sivrihisar-ESK 80.66 308 P **P** 14 32 50.2 -0.3
M26K Nabesna, AK 80.66 28 P **P** 14 32 50.6 +0.6
baz=282,SNR=29
K27K Chicken 80.72 26 P **P** 14 32 51.2 +1.0
baz=283
MDUB Mudurnu 80.72 309 P **P** 14 32 50.7 -0.2
BERG Berg Lake 80.74 30 IAmb IAmb 14 32 52.2
comp=Z,70nm,1.0s
D28M Stokes Point 80.75 21 P **P** 14 32 50.1 -0.1
baz=285
F28M Old Crow 80.77 23 IAmb IAmb 14 32 52.5
comp=Z,102nm,0.9s
F28M Old Crow 80.77 23 P **P** 14 32 51.1 +0.6
baz=284,SNR=58
SEYD Seydisehir-KON 80.78 306 *e*P **P** 14 32 51.4 +0.1
MCARA McCarthy VSAT 80.86 29 IAmb IAmb 14 32 53.1
comp=Z,105nm,1.5s
MCARA McCarthy VSAT 80.86 29 P **P** 14 32 51.7 +0.7
baz=282,SNR=12
NACGM Naroch 80.95 324 *e*P **P** 14 32 50.9 -0.7
comp=E,4μm,1.1s
CRQE Cirque 80.96 30 P **P** 14 32 52.2 +0.4
baz=282,SNR=11
BGLC Bering Glacier 81.00 30 P **P** 14 32 50.9 -0.8
baz=282
L27K Beaver Creek, 81.04 27 P **P** 14 32 53.1 +1.1
baz=283,SNR=30
TRO Tromso 81.08 340 *e*P **P** 14 32 51.5 -0.5
IZAR Zarasai 81.09 325 *e*P **P** 14 32 53.1 +0.8
MEF Metsahovi 81.12 330 *e*P **P** 14 32 52.0 -0.4
WAX Waxell Ridge 81.14 30 IAmb IAmb 14 32 54.6
comp=Z,73nm,1.0s
M27K Edge Creek, AK 81.18 28 P **P** 14 32 53.5 +0.7
baz=283,SNR=12
IIGN Ignalina 81.18 325 *e*P **P** 14 32 53.8 +0.9
ISAL Salakas 81.19 325 *e*P **P** 14 32 53.6 +0.7
SRCK Saricakaya, Es 81.23 309 *e*P **P** 14 32 52.8 -0.6
GULT Gulveren 81.24 309 *e*P **P** 14 32 53.4 -0.2
I28M Miner Creek 81.28 25 IAmb IAmb 14 32 55.7
comp=Z,123nm,1.1s
I28M Miner Creek 81.28 25 P **P** 14 32 54.4 +1.1
baz=284,SNR=59
E29M Blow River 81.29 22 P **P** 14 32 53.5 +0.4
baz=286,SNR=41
SAUV Serdivan-Sakar 81.32 310 *e*P **P** 14 32 53.4 -0.5
ISLE Juniper Island 81.36 30 IAmb IAmb 14 32 55.6
comp=Z,138nm,1.6s
SUTC Sutluce-Ispart 81.42 306 *e*P **P** 14 32 54.0 -0.7
TLCR 81.56 314 ⇑P **P** 14 32 55.0 0.0
TLCR 81.56 314 P **P** 14 32 55.0 0.0
BARN Barnard Glacie 81.58 29 IAmb IAmb 14 32 57.3
comp=Z,56nm,0.9s
JURR Jurilovca 81.60 314 ⇑P **P** 14 32 54.6 -0.6
GRNC Granite Creek 81.61 30 IAmb IAmb 14 32 57.4
comp=Z,138nm,1.5s
MESA MESA 81.64 30 IAmb IAmb 14 35 58.3
comp=Z,96nm,1.0s
MESA MESA 81.64 30 P **P** 14 32 56.2 +0.8
baz=283,SNR=6.9
G29M Pine Creek 81.65 23 P **P** 14 32 55.8 +0.7
baz=286,SNR=52
H29M Whitestone 81.70 24 P **P** 14 32 56.1 +0.7
baz=286,SNR=49
MTSE Matsula 81.75 328 *e*P **P** 14 32 55.3 -0.3
CTG Chitna Glacier 81.75 29 P **P** 14 32 56.7 +0.8
baz=284,SNR=40

SILT Sile 81.75 310 *e*P **P** 14 32 54.9 -1.2
CAVI Cavuskoy 81.79 309 *e*P **P** 14 32 56.1 -0.3
HRT Hereke 81.80 310 *e*P **P** 14 32 56.0 -0.4
ADVT Abdulvahap 81.82 310 *e*P **P** 14 32 56.3 -0.2
DAWY Dawson 81.86 26 IAmb IAmb 14 32 58.2
comp=Z,70nm,1.1s
DAWY Dawson 81.86 26 P **P** 14 32 56.9 +0.7
baz=285,SNR=51
TPGR Topolog 81.90 314 ⇑P **P** 14 32 56.2 -0.6
VLDR Vladesti 81.94 315 ⇑P **P** 14 32 56.6 -0.4
LOGN Logan Glacier 81.94 29 IAmb IAmb 14 32 59.3
comp=Z,78nm,1.0s
I29M Ogilvie Camp, 81.96 25 IAmb IAmb 14 32 58.5
comp=Z,71nm,1.0s
I29M Ogilvie Camp, 81.96 25 P **P** 14 32 57.4 +0.6
baz=286,SNR=42
YUK3 Moose Creek 81.96 28 P **P** 14 32 57.9 +0.9
baz=284,SNR=14
TABL Table Mountain 81.97 30 IAmb IAmb 14 32 59.4
comp=Z,101nm,1.0s
TIRR Tirgusor 81.99 314 ⇑P **P** 14 32 57.0 -0.3
TIRR Tirgusor 81.99 314 *e*P **P** 14 32 57.2 0.0
TIRR Tirgusor 81.99 314 IAmb IAmb 14 32 58.1
comp=Z,135nm,1.2s
TIRR Tirgusor 81.99 314 P **P** 14 32 56.9 -0.3
KORT Korkueli 82.02 306 *e*P **P** 14 32 57.3 -0.5
SCTR Scanteiesti 82.03 315 ⇑P **P** 14 32 57.7 +0.2
CFR Carcaliu 82.03 314 ⇑P **P** 14 32 56.9 -0.6
CFR Carcaliu 82.03 314 P **P** 14 32 56.8 -0.6
YLV Yalova 82.07 310 *e*P **P** 14 32 57.3 -0.6
KLYT Kilyos 82.18 310 *e*P **P** 14 32 58.0 -0.3
RAF Rauma 82.20 331 *e*P **P** 14 32 57.6 -0.4
ISK Istanbul-Kandi 82.20 310 *e*P **P** 14 32 58.1 -0.3
KAVV Kandilli-Istan 82.20 310 *e*P **P** 14 32 58.1 -0.3
TVSB Tavsanli 82.22 309 *e*P **P** 14 32 58.4 -0.4
J29N Klonke Camp 82.25 25 P **P** 14 32 59.6 +1.3
baz=286,SNR=16
HARR Harsova 82.28 314 ⇓P **P** 14 32 59.0 +0.3
HARR Harsova 82.28 314 P **P** 14 32 59.0 +0.3
F30M Barrier River 82.28 22 P **P** 14 32 58.8 +0.5
baz=288,SNR=34
EPYK Eagle Plains 82.30 23 IAmb IAmb 14 32 59.8
comp=Z,119nm,1.0s
EPYK Eagle Plains 82.30 23 P **P** 14 32 58.7 +0.1
baz=287,SNR=44
G30M tAoh Zrail Nji 82.31 23 P **P** 14 32 58.4 -0.2
baz=287,SNR=60
VSVD Vaisvydziai 82.31 326 *e*P **P** 14 32 58.8 +0.1
O28M Mount Upton 82.34 29 P **P** 14 33 00.6 +1.4
baz=285,SNR=13
GEDZ Gediz 82.34 308 *e*P **P** 14 32 59.2 -0.2
PSN Preselentsi 82.35 313 *i*P **P** 14 32 58.2 -1.0
BGKT Bogazkoy 82.39 310 *e*P **P** 14 32 58.7 -0.7
PABE Paberze 82.40 325 *e*P **P** 14 32 58.9 -0.3
YUK8 Steele Glacier 82.41 29 P **P** 14 33 00.5 +1.0
baz=285,SNR=11
NOR Nord 82.42 354 *i*P **P** 14 32 56.9 -2.0
NOR IAmb IAmb 14 32 59.9
comp=Z,18nm,1.0s
ARMT Armutlu 82.45 310 *e*P **P** 14 32 59.2 -0.6
PINM Pinnacle 82.48 30 P **P** 14 33 00.8 +1.2
baz=285,SNR=8.8
ICOR Ion Corvin 82.49 313 ⇑P **P** 14 32 59.1 -0.7
PANC Panciu 82.57 315 ⇓P **P** 14 33 00.9 +0.7
CTKS Kestanelik-??a 82.57 311 *e*P **P** 14 33 00.4 0.0
L29M L29M 82.66 27 P **P** 14 33 01.9 +1.4
baz=286,SNR=30
M29M Somme Creek 82.69 27 P **P** 14 33 02.2 +1.5
baz=286,SNR=26
K29M Barlow Dome 82.71 26 P **P** 14 33 01.6 +0.9
baz=287,SNR=27
AKAS Kas 82.77 305 *e*P **P** 14 33 00.4 -1.3
TESR Tescani 82.77 316 ⇓P **P** 14 33 00.8 -0.5
I30M Mount Dempster 82.78 24 IAmb IAmb 14 33 02.9
comp=Z,82nm,1.0s
I30M Mount Dempster 82.78 24 P **P** 14 33 01.7 +0.6
baz=288,SNR=63
SLIT Slitere, Latvi 82.79 328 *e*P **P** 14 33 00.2 -0.9
BCPM Bancas Point 82.82 30 IAmb IAmb 14 33 03.8
comp=Z,182nm,1.7s
VRI Vrincioaia 82.86 315 ⇑P **P** 14 33 02.2 +0.4
VRI Vrincioaia 82.86 315 P **P** 14 33 02.2 +0.4
VRI Vrincioaia 82.86 315 P **P** 14 33 02.1 +0.4
INK Inuvik 82.86 21 IAmb IAmb 14 33 02.6
comp=Z,104nm,1.1s
INK Inuvik 82.86 21 P **P** 14 33 01.4 +0.1
baz=290,SNR=41
INK Inuvik 82.86 21 P **P** 14 33 01.2 -0.1
comp=Z,74nm,1.0s,baz=288,slow=6.0,SNR=58
comp=Z,74nm,1.0s
STEI Steigen 82.88 338 *e*P **P** 14 33 01.0 -0.4
KCTX Karacabey (Bur 82.89 310 *e*P **P** 14 33 01.3 -0.8
PLOR Plostina 82.91 315 ⇑P **P** 14 33 01.7 -0.4
PLOR Plostina 82.91 315 P **P** 14 33 02.1 0.0
YUK4 Talbot Arm 82.92 29 P **P** 14 33 02.8 +0.8
baz=286,SNR=6.0
J30M Hart River 82.99 25 IAmb IAmb 14 33 04.5
comp=Z,165nm,1.9s
J30M Hart River 82.99 25 P **P** 14 33 03.0 +0.8
baz=288,SNR=17
PNL Peninsula 83.01 30 P **P** 14 33 03.4 +1.1
baz=286,SNR=5.8
KULA Kula-Manisa 83.03 308 P **P** 14 33 02.1 -0.8
KULA Kula-Manisa 83.03 308 P **P** 14 33 02.7 -0.2
FAUS Fauske 83.05 338 *e*P **P** 14 33 01.8 -0.4
G31M Satah River 83.06 23 P **P** 14 33 02.2 -0.1
baz=289,SNR=22
F31M Tsiigehtchic 83.08 22 IAmb IAmb 14 33 03.6
comp=Z,100nm,0.9s
F31M Tsiigehtchic 83.08 22 P **P** 14 33 02.3 -0.1
baz=290,SNR=24
FETY Fethiye 83.09 306 P **P** 14 33 02.7 -0.5
ISR Istrita 83.15 315 ⇑P **P** 14 33 02.1 -1.2
ISR Istrita 83.15 315 P **P** 14 33 02.1 -1.2
YUK6 Outpost Mounta 83.16 29 P **P** 14 33 04.6 +1.3
baz=286,SNR=9.0
SUW Suwalki 83.20 324 *e*P **P** 14 33 02.5 -0.8
SUW Suwalki 83.20 324 *e*P **P** 14 33 02.7 -0.7
COVR Voineasa-Covas 83.22 315 ⇓P **P** 14 33 03.4 -0.2
O29M Mount Kennedy 83.24 30 IAmb IAmb 14 33 06.2
comp=Z,98nm,1.5s
O29M Mount Kennedy 83.24 30 P **P** 14 33 04.5 +1.0
baz=286,SNR=9.1
EDC Edinik 83.24 310 *e*P **P** 14 33 03.3 -0.5
NEHR Nehoiu 83.25 315 ⇑P **P** 14 33 03.9 +0.1
AAL Aland 83.26 330 *e*P **P** 14 33 02.4 -1.0
DALY Dalyan (Mula) 83.39 306 *e*P **P** 14 33 04.5 -0.1
PBUR Paburge 83.39 326 *e*P **P** 14 33 04.2 0.0
H31M Peel River 83.40 24 IAmb IAmb 14 33 05.7
comp=Z,114nm,1.1s
H31M Peel River 83.40 24 P **P** 14 33 04.5 +0.3
baz=289,SNR=38
M30M Minto, Yukon 83.40 27 IAmb IAmb 14 33 07.0
comp=Z,146nm,1.3s
M30M Minto, Yukon 83.40 27 P **P** 14 33 05.5 +1.2
baz=287,SNR=44
KIBK Kibwezi 83.44 266 IAmb IAmb 14 34 03.1
comp=Z,112nm,1.8s
SULR 83.45 314 ⇑P **P** 14 33 05.3 +0.5
MLR Muntele Rosu 83.48 315 ⇑P **P** 14 33 04.7 -0.4
MLR ⇑P **P** 14 33 04.8 -0.3
MLR Muntele Rosu 83.48 315 *e*P **P** 14 33 05.1 0.0
MLR Muntele Rosu 83.48 315 IAmb IAmb 14 33 06.3
comp=Z,76nm,1.0s
MLR Muntele Rosu 83.48 315 P **P** 14 33 04.9 -0.2
MAYO Mayo, Yukon 83.48 26 IAmb IAmb 14 33 06.8
comp=Z,135nm,1.3s
MAYO Mayo, Yukon 83.48 26 P **P** 14 33 05.3 +0.8
baz=288,SNR=13
BURAR Bucovina Array 83.48 317 ⇑P **P** 14 33 05.1 0.0
BURAR Bucovina Array 83.48 317 IAmb IAmb 14 33 06.6
comp=Z,54nm,0.9s
BURAR Bucovina Array 83.48 317 P **P** 14 33 05.0 0.0
BUR08 Bucovina Ar. S 83.48 317 IAmb IAmb 14 33 06.3
comp=Z,65nm,1.0s
RAZG Razgrad 83.52 313 ⇑P **P** 14 33 05.0 -0.2
HYT Haines Junctio 83.59 29 IAmb IAmb 14 33 07.9
comp=Z,91nm,1.1s
HYT Haines Junctio 83.59 29 P **P** 14 33 06.6 +1.2
baz=287,SNR=24
N30M Aishikik Lake 83.60 28 IAmb IAmb 14 33 08.0
comp=Z,78nm,0.9s
N30M Aishikik Lake 83.60 28 P **P** 14 33 06.8 +1.5
baz=287,SNR=33
YER Yerkesik 83.61 307 *e*P **P** 14 33 05.9 0.0

LVV L'vov 83.72 320 *e*P **P** 14 33 05.1 -1.0
LVV *e* 14 36 25.2
LVV *e*S **S** 14 43 11.3 +1.0
TURN Turunc 83.72 306 *e*P **P** 14 33 06.5 +0.2
EDRB Edirne 83.73 311 P **P** 14 33 05.3 -1.0
EDRB Edirne 83.73 311 *e*P **P** 14 33 06.2 -0.1
JMB Yambol 83.75 312 *i*P **P** 14 33 05.9 -0.4
SGRR Singureni 83.75 314 ⇑P **P** 14 33 06.2 -0.1
DOPR Dopca 83.75 316 ⇓P **P** 14 33 06.1 -0.2
MOR8 Moi Rana 83.78 337 *e*P **P** 14 33 04.6 -1.5
P29M Windy Craggy 83.83 30 IAmb IAmb 14 33 09.2
comp=Z,106nm,1.1s
P29M Windy Craggy 83.83 30 P **P** 14 33 07.4 +0.9
baz=287,SNR=15
KMBO Kilima Mbogo 83.91 267 P **P** 14 33 08.6 +0.6
KMBO Kilima Mbogo 83.91 267 *i*P **P** 14 33 09.3 +1.3
SNR=19
KMBO Kilima Mbogo 83.91 267 P **P** 14 33 09.4 +1.3
KMBO Kilima Mbogo 83.91 267 P **P** 14 33 08.6 +0.6
KMBO pmax pmax
comp=Z,77nm,1.5s
SZH Strazhitsa 83.96 313 *i*P **P** 14 33 07.2 -0.3
MLSB Milas 83.97 307 *i*P **P** 14 33 07.8 +0.1
A36M Sachs Harbour 84.00 17 P **P** 14 33 06.8 -0.2
baz=297
LPK Lapseki 84.06 310 *i*P **P** 14 33 07.9 -0.1
P30M Million Dollar 84.06 29 P **P** 14 33 08.8 +1.2
baz=288
VOIR 84.10 315 ⇑P **P** 14 33 07.1 -1.1
VOIR 84.10 315 P **P** 14 33 07.9 -0.3
KONS Konsvik 84.16 337 *e*P **P** 14 33 07.6 -0.2
ERIK Erikli-Kesan 84.17 310 *i*P **P** 14 33 08.2 -0.3
ARCR ARCALIA 84.17 317 ⇑P **P** 14 33 09.0 +0.6
N31M Braeburn, Yuko 84.19 28 IAmb IAmb 14 33 10.8
comp=Z,101nm,1.0s
N31M Braeburn, Yuko 84.19 28 P **P** 14 33 09.7 +1.4
baz=288,SNR=23
DKL Dikili 84.24 309 *i*P **P** 14 33 08.6 -0.3
RFT7 Candarli 84.26 309 *i*P **P** 14 33 08.6 -0.4
O30N Mendenhall 84.27 29 IAmb IAmb 14 33 11.2
comp=Z,68nm,1.0s
O30N Mendenhall 84.27 29 P **P** 14 33 09.8 +1.1
baz=288,SNR=24
GCAM G?zelcaml? 84.30 307 *e*P **P** 14 33 09.4 +0.2
RFTD Palamutbuku-Ka 84.33 306 *i*P **P** 14 33 08.6 -0.8
BODT Bodrum 84.39 307 P **P** 14 33 08.6 -1.1
BODT Bodrum 84.39 307 *e*P **P** 14 33 09.5 -0.2
ARR Arges 84.40 315 ⇑P **P** 14 33 09.5 -0.2
ENEZ Enez 84.42 310 P **P** 14 33 09.0 -0.8
ENEZ Enez 84.42 310 *e*P **P** 14 33 09.4 -0.4
RFT5 Foca 84.46 308 *e*P **P** 14 33 09.4 -0.6
ALN Alexandroupoli 84.46 311 P **P** 14 33 08.6 -1.4
ALN Alexandroupoli 84.46 311 *e*P **P** 14 33 09.4 -0.6
ALN Alexandroupoli 84.46 311 IAmb IAmb 14 33 10.4
comp=Z,67nm,1.0s
UPP Uppsala 84.50 330 *e*P **P** 14 33 09.1 -0.6
EZN Ezine 84.51 310 *e*P **P** 14 33 09.7 -0.5
EZN Ezine 84.51 310 P **P** 14 33 09.8 -0.5
PLBC Pleasant Camp 84.55 30 P **P** 14 33 10.9 +0.8
baz=288,SNR=7.0
M31M Drury Creek, Y 84.58 27 IAmb IAmb 14 33 12.2
comp=Z,65nm,0.9s
M31M Drury Creek, Y 84.58 27 P **P** 14 33 10.8 +0.6
baz=290,SNR=27
BMR Baia Mare 84.59 318 ⇓P **P** 14 33 10.8 +0.3
BMR Baia Mare 84.59 318 P **P** 14 33 11.0 +0.5
KWP Kalwaria Pacla 84.60 320 *e*P **P** 14 33 10.3 -0.2
NIS1 Nisyros Isl. 84.60 306 P **P** 14 33 09.9 -0.8
NIS1 Nisyros Isl. 84.60 306 *e*P **P** 14 33 10.0 -0.8
SMG Samos 84.61 307 P **P** 14 33 10.2 -0.6
URLA Izmir 84.64 308 *e*P **P** 14 33 10.6 -0.4
LODK Lodwar 84.67 272 P **P** 14 33 12.3 +0.7
SNR=18
PRK Paraskevi 84.68 309 P **P** 14 33 10.1 -1.0
KLNR Kaliningrad 84.72 325*c* *i*P **P** 14 33 09.9 -1.1
KLNR pmax pmax
comp=Z,300nm,1.3s
CJR Cluj-Napoca 84.77 317 ⇑P **P** 14 33 12.2 +0.7
CJR Cluj-Napoca 84.77 317 P **P** 14 33 12.2 +0.7
RDO Rodhopi 84.78 311 P **P** 14 33 09.7 -1.8
RDO Rodhopi 84.78 311 *e*P **P** 14 33 10.8 -0.7
RDO Rodhopi 84.78 311 IAmb IAmb 14 33 11.8
comp=Z,59nm,1.0s
KDZ Kurdzhali 84.81 311 *e*P **P** 14 33 11.1 -0.6
KARP Karpathos 84.85 305 P **P** 14 33 12.0 -0.1
KARP Karpathos 84.85 305 *i*P **P** 14 33 12.2 +0.1
WHY Whitehorse 84.87 29 IAmb IAmb 14 33 14.2
comp=Z,100nm,1.0s
WHY Whitehorse 84.87 29 P **P** 14 33 13.1 +1.3
baz=289,SNR=30
VLAD Vladila 84.90 314 ⇑P **P** 14 33 11.7 -0.4
SMTH Samothraki Isl 84.95 310 P **P** 14 33 10.8 -1.6
LOT Lotru 84.97 315 ⇓P **P** 14 33 12.5 -0.1
LOT Lotru 84.97 315 *i*P **P** 14 33 12.9 +0.3
SIGR SIGRI 85.00 309 P **P** 14 33 11.7 -1.0
SIGR SIGRI 85.00 309 *i*P **P** 14 33 12.0 -0.7
FARO Faro, Yukon 85.03 27 P **P** 14 33 13.4 +0.9
baz=290,SNR=86
CHOS Chios island 85.05 308 P **P** 14 33 11.6 -1.5
SKAG Skagway 85.05 30 IAmb IAmb 14 33 15.1
comp=Z,81nm,1.0s
SKAG Skagway 85.05 30 P **P** 14 33 14.0 +1.5
SKAG Skagway 85.05 30 P **P** 14 33 14.1 +1.5
baz=289,SNR=14
KOLS Kolonicke sedl 85.05 319 *e*P **P** 14 33 13.0 +0.2
KOLS Kolonicke sedl 85.05 319 *e*P **P** 14 33 13.0 +0.2
KOLS pmax pmax
comp=Z,36nm,0.9s
S31K Pelican 85.09 31 P **P** 14 33 13.5 +0.8
baz=288
EUNU Eureka 85.09 5 IAmb IAmb 14 33 13.8
comp=Z,139nm,1.5s
MARR Marisel-Cluj 85.10 317 ⇑P **P** 14 33 13.2 +0.1
TRPA Tarpa 85.10 318 ⇑P **P** 14 33 12.8 -0.2
PLD Plovdiv 85.11 312 *e*P **P** 14 33 13.2 0.0
BEL Belsk 85.17 322 *e*P **P** 14 33 13.4 +0.1
R31K City Hall, Gus 85.19 31 P **P** 14 33 15.1 +1.9
baz=289
LIA Limnos Island 85.34 310 P **P** 14 33 13.0 -1.4
NSS Namsos 85.35 336 *e*P **P** 14 33 12.7 -1.1
VIKU Vikbolandet 85.38 329 *e*P **P** 14 33 13.8 -0.4
PGB Panagyurishte 85.43 313 *i*P **P** 14 33 15.0 +0.2
DEV Deva 85.45 316 ⇓P **P** 14 33 15.1 +0.3
DEV Deva 85.45 316 P **P** 14 33 15.1 +0.3
THAS Thassos island 85.51 311 P **P** 14 33 13.9 -1.3
MPEP Malo Peshtene 85.53 313 P **P** 14 33 15.0 -0.2
N32M Quiet Lake 85.53 28 P **P** 14 33 15.7 +0.8
baz=291
KAVA Kavala 85.57 311 P **P** 14 33 14.6 -0.9
STHS Stebnicka Huta 85.57 320 *e*P **P** 14 33 14.5 -0.9
STHS Stebnicka Huta 85.57 320 *e*P **P** 14 33 14.5 -0.9
STHS pmax pmax
comp=Z,52nm,1.2s
CRVS Cervenica-Dubn 85.58 319 *e*P **P** 14 33 16.1 +0.7
CRVS Cervenica-Dubn 85.58 319 *e*P **P** 14 33 16.1 +0.7
CRVS pmax pmax
comp=Z,379nm,1.3s
ZKR Zakros 85.70 305 P **P** 14 33 16.0 -0.3
ZKR Zakros 85.70 305 *e*P **P** 14 33 16.2 -0.1
APE Apeiranthos 85.77 307 ⇑P **P** 14 33 15.0 -1.7
APE Apeiranthos 85.77 307 *e*P **P** 14 33 14.9 -1.7
APE Apeiranthos 85.77 307 P **P** 14 33 14.9 -1.7
P32M Atlin 85.78 29 P **P** 14 33 17.2 +1.0
baz=290,SNR=6.6
MMPY Sheldon Lake, 85.79 26 IAmb IAmb 14 33 18.5
comp=Z,119nm,1.3s
MMPY Sheldon Lake, 85.79 26 P **P** 14 33 17.3 +1.1
baz=292,SNR=22
SIT Sitka 85.84 32 P **P** 14 33 17.4 +0.9
baz=289
R32K Eaglecrest 85.84 31 P **P** 14 33 17.6 +1.1
baz=290
PUNG Punghina 85.85 314 ⇓P **P** 14 33 16.2 -0.6
NVR Nevrokopi 85.95 311 P **P** 14 33 17.2 -0.2
MMB Musomishta 85.98 312 *i*P **P** 14 33 15.9 -1.7
P33M Teslin, Yukon 85.99 29 IAmb IAmb 14 33 19.4
comp=Z,88nm,1.4s
P33M Teslin, Yukon 85.99 29 P **P** 14 33 18.2 +0.9
baz=291,SNR=12
KOKK Kokkinochori, 85.99 311 P **P** 14 33 16.1 -1.5
SANT Santorini 86.00 306 ⇓P **P** 14 33 16.2 -1.5
SANT Santorini 86.00 306 P **P** 14 33 15.8 -1.9
SURR Surduc 86.01 316 ⇓P **P** 14 33 17.3 -0.2

DJES Djerdap 86.03 315 ⇑P P P 14 33 17.9 +0.2
THR3 Thira Island, 86.03 306 P P P 14 33 16.5 -1.3
HERR Herculane 86.05 315 ⇓P P P 14 33 17.7 -0.1
THR6 Thira Island, 86.05 306 P P P 14 33 16.8 -1.1
THR5 Thira Island, 86.07 306 P P P 14 33 16.8 -1.3
VTS Vitosha 86.07 313 ⇑P P P 14 33 17.8 -0.4
VTS Vitosha 86.07 313 *i* P **P P 14 33 18.4 +0.3**
VTS Vitosha 86.07 313 P P P 14 33 17.7 -0.4
S32K Killisnoo 86.09 32 P P P 14 33 18.1 +0.5
baz=290
OUR Ouranopolis 86.12 310 P P P 14 33 16.9 -1.3
OUR Ouranopolis 86.12 310 *eP* **P P 14 33 16.7 -1.5**
NIE Niedzica 86.16 320 *eP* **P P 14 33 19.4 +1.1**
SIRR Siria 86.18 317 ⇑P P P 14 33 18.1 -0.3
OJC Ojcow 86.24 321 *eP* **P P 14 33 18.4 -0.2**
HFS Hagfors 86.26 331 P P P 14 33 17.6 -0.8
comp=Z,40nm,0.8s,baz=102,slow=4.7,SNR=37
comp=Z,40nm,0.8s
KECS Kecovo 86.32 319 *eP* **P P 14 33 19.4 +0.4**
KECS Kecovo 86.32 319 *eP* **P P 14 33 19.4 +0.4**
KECS pmax pmax
comp=Z,49nm,0.8s
DAG Danmarks Havn 86.36 351 *i P* **P P 14 33 17.0 -1.7**
DAG IAmb IAmb 14 33 20.2
comp=Z,14nm,0.7s
BZS Buzias 86.39 316 ⇓P P P 14 33 18.6 -0.9
BZS Buzias 86.39 316 P P P 14 33 18.5 -0.9
KYMI Kymi, Euboea I 86.47 309 P P P 14 33 18.0 -2.0
MDVR Moldovita 86.55 315 ⇑P P P 14 33 19.9 -0.4
KNT Kendrikon 86.70 311 P P P 14 33 19.5 -1.6
KNT Kendrikon 86.70 311 *eP* **P P 14 33 19.9 -1.2**
Q32M Nakina River 86.70 30 IAmb IAmb 14 33 23.6
comp=Z,111nm,1.6s
Q32M Nakina River 86.70 30 P P P 14 33 21.5 +0.6
baz=292,SNR=5.2
HORT Hortiatis 86.71 311 P P P 14 33 19.2 -2.0
HORT Hortiatis 86.71 311 *eP* **P P 14 33 19.0 -2.2**
IDI Anoyia 86.71 305 ⇓P P P 14 33 20.8 -0.5
IDI Anoyia 86.71 305 P P P 14 33 19.9 -1.4
IDI Anoyia 86.71 305 *eP* **P P 14 33 19.9 -1.4**
MHLO Agia Marina, M 86.74 307 P P P 14 33 18.7 -2.6
LANS Liptovska Anna 86.76 320 *eP* **P P 14 33 21.9 +0.7**
LANS Liptovska Anna 86.76 320 *eP* **P P 14 33 21.9 +0.7**
LANS pmax pmax
comp=Z,43nm,1.7s
GKP Gorka Klasztor 86.81 324 *eP* **P P 14 33 20.6 -0.7**
PSZ Piszkesteto 86.86 319 ⇓P P P 14 33 21.8 +0.1
PSZ Piszkesteto 86.86 319 IAmb IAmb 14 33 22.8
comp=Z,66nm,1.4s
PSZ Piszkesteto 86.86 319 P P P 14 33 21.8 +0.1
BOVS Bovan 86.88 314 ⇑P P P 14 33 20.6 -1.2
VLY Voula,Athens 86.91 308 P P P 14 33 19.7 -2.4
NEO Neokhori 86.96 310 P P P 14 33 19.8 -2.5
NB201 NORSAR Array S 87.00 333 IAmb IAmb 14 33 22.1
comp=Z,81nm,1.1s
NC602 NORSAR Array S 87.02 332 IAmb IAmb 14 33 21.9
comp=Z,142nm,1.5s
NC602 NORSAR Array S 87.02 332 *eP* **P P 14 33 20.7 -1.4**
NB2 NORSAR Subarra 87.04 333 P P P 14 33 20.8 -1.5
comp=Z,85nm,1.0s,baz=68,slow=4.6
NB2 PP **PP 14 36 41.6 -6.8**
comp=Z,15nm,1.4s,baz=65,slow=7.9
NB2 NORSAR Subarra 87.04 333 P P P 14 33 20.8 -1.5
baz=68,slow=4.6
NOA NORSAR Array B 87.04 333 P P P 14 33 20.7 -1.5
comp=Z,35nm,0.9s,baz=67,slow=4.6,SNR=88
comp=Z,35nm,0.9s
GRG Griva 87.12 311 P P P 14 33 21.3 -1.8
GRG Griva 87.12 311 *eP* **P P 14 33 21.6 -1.5**
NC204 NORSAR Array S 87.15 333 IAmb IAmb 14 33 22.9
comp=Z,61nm,0.9s
T33K Petersburg 87.15 32 P P P 14 33 23.3 +0.5
baz=291
R33M Jennings River 87.16 29 P P P 14 33 24.2 +1.2
baz=293,SNR=8.1
NAO01 NORSAR Array S 87.27 333 IAmb IAmb 14 33 23.1
comp=Z,47nm,0.9s
U33K Whale Pass 87.31 33 P P P 14 33 24.2 +0.7
baz=291
VYHS Vyhne 87.36 319 *eP* **P P 14 33 23.6 -0.4**
VYHS Vyhne 87.36 319 *eP* **P P 14 33 23.6 -0.4**
VYHS pmax pmax
comp=Z,42nm,1.5s
OKC Ostrava-Krasne 87.37 321 *eP* **P P 14 33 23.6 -0.4**
OKC Ostrava-Krasne 87.37 321 *eP* **P P 14 33 28.2 +4.2**
IMMV Iera Moni Meta 87.39 306 P P P 14 33 23.8 -0.6
IMMV Iera Moni Meta 87.39 306 *eP* **P P 14 33 24.3 -0.1**
BSD Bornholm Skovb 87.46 326 *eP* **P P 14 33 23.4 -0.9**
BSD Bornholm Skovb 87.46 326 *i P* **P P 14 33 22.2 -2.1**
BSD IAmb IAmb 14 33 24.1
comp=Z,121nm,1.4s
GVDS Gavdos 87.46 305 *eP* **P P 14 33 24.6 -0.2**
GVD Gavdhos 87.47 305 P P P 14 33 24.0 -0.9
GVD Gavdhos 87.47 305 *eP* **P P 14 33 23.9 -0.9**
TGTN Hyland Airport 87.52 27 P P P 14 33 25.2 +0.7
baz=295,SNR=12
DEL Delary 87.52 328 *eP* **P P 14 33 23.5 -1.0**
DEL Delary 87.52 328 *i P* **P P 14 33 22.4 -2.2**
KRND KRANIDI 87.53 308 P P P 14 33 22.0 -3.0
CRAG Craig 87.54 33 P P P 14 33 25.1 +0.4
baz=291
DOMB Dombas 87.56 334 *eP* **P P 14 33 23.9 -0.8**
BORU Boraas 87.64 329 *i P* **P P 14 33 22.8 -2.4**
S34M Telegraph Cree 87.65 31 P P P 14 33 26.1 +0.9
baz=293
AGG Agios Georgios 87.70 310 P P P 14 33 23.0 -2.9
AGG Agios Georgios 87.70 310 *eP* **P P 14 33 23.4 -2.5**
OSL Oslo 87.71 332 *eP* **P P 14 33 24.8 -0.6**
MAUC Maruska 87.72 320 *eP* **P P 14 33 25.6 -0.1**
FRGS Fruska Gora 87.74 316 ⇑P P P 14 33 25.5 -0.4
FRGS Fruska Gora 87.74 316 *i P* **P P 14 33 24.9 -1.0**
MORC Moravsky Berou 87.76 321 ⇑P P P 14 33 25.8 -0.2
MORC ⇑P **P 14 33 25.9 0.0**
MORC Moravsky Berou 87.76 321 IAmb IAmb 14 33 27.4
comp=Z,71nm,1.5s
MORC Moravsky Berou 87.76 321 *eP* **P P 14 33 25.8 -0.2**
MORC Moravsky Berou 87.76 321 P P P 14 33 26.3 +0.3
ANKY Antikythira Is 87.81 306 P P P 14 33 25.1 -1.3
WTLY Watson Lake, Y 87.88 28 P P P 14 33 27.2 +0.9
baz=294
KTHA Kythira Island 87.90 307 P P P 14 33 24.4 -2.4
KTHA Kythira Island 87.90 307 *eP* **P P 14 33 26.0 -0.8**
SRO Srobarova 87.91 319 *eP* **P P 14 33 26.5 -0.1**
SRO Srobarova 87.91 319 *eP* **P P 14 33 26.5 -0.1**
SRO pmax pmax
comp=Z,28nm,1.3s
FABU Falkenberg 87.91 329 *i P* **P P 14 33 24.1 -2.3**
FNA Florina 87.92 311 P P P 14 33 24.5 -2.4
DIVS Divibare 87.93 315 ⇑ *i P* **P P 14 33 26.0 -0.9**
MOL Molde 87.97 335 *eP* **P P 14 33 26.5 -0.1**
JAVC Velka Javorina 87.98 320 *eP* **P P 14 33 27.9 +0.9**
DLBC Dease Lake 87.98 30 IAmb IAmb 14 33 29.6
comp=Z,142nm,2.0s
DLBC Dease Lake 87.98 30 P P P 14 33 27.9 +1.1
baz=294,SNR=5.1
DLBC Dease Lake 87.98 30 P P P 14 33 24.9 -2.0
comp=Z,8.6nm,1.0s,baz=317,slow=4.4,SNR=8.0
comp=Z,8.6nm,1.0s
GUR Goura 87.99 308 P P P 14 33 24.9 -2.5
TJOU Tjoern 88.05 330 *i P* **P P 14 33 25.4 -1.6**
LUNU Lund 88.05 327 *i P* **P P 14 33 25.6 -1.5**
KLV Kalavryta, Ach 88.11 309 P P P 14 33 25.6 -2.3
TEKS Tekeris 88.11 315 ⇑ *i P* **P P 14 33 26.4 -1.3**
ONAU Onsala 88.16 329 *i P* **P P 14 33 25.0 -2.5**
KSP Ksiaz 88.16 322 *eP* **P P 14 33 27.8 +0.1**
MORH Mrgy, Hungar 88.19 317 ⇑P P P 14 33 27.3 -0.7
SJES Sjenica 88.19 314 ⇑ *i P* **P P 14 33 28.1 -0.1**
OSTC Ostas 88.31 322 *eP* **P P 14 33 28.3 -0.2**
OSTC Ostas 88.31 322 *eP* **P P 14 33 28.3 -0.2**
DPC Dobruska-Polom 88.31 322 *eP* **P P 14 33 28.2 -0.3**
KONO Kongsberg 88.35 332 *eP* **P P 14 33 27.3 -1.1**
AKN Aaknes 88.37 335 *eP* **P P 14 33 28.0 -0.5**
MODS Modra-Piesok 88.38 320 *eP* **P P 14 33 28.8 -0.1**
MODS Modra-Piesok 88.38 320 *eP* **P P 14 33 28.8 -0.1**
MODS pmax pmax
comp=Z,52nm,1.6s
CHVC Chvalec 88.39 322 *eP* **P P 14 33 28.6 -0.3**
CHVC Chvalec 88.39 322 *eP* **P P 14 33 28.6 -0.3**
V35K Ketchikan 88.39 33 P P P 14 33 29.4 +0.7
baz=292
BBLS Lazići 88.41 315 ⇑ *i P* **P P 14 33 28.8 -0.3**
UPC Upice 88.44 322 *eP* **P P 14 33 29.0 -0.1**
UPC Upice 88.44 322 *eP* **P P 14 33 29.0 -0.1**

T35M Bob Quinn 88.46 31 P P P 14 33 30.1 +1.0
baz=293
DRO Drossia 88.47 309 P P P 14 33 28.2 -1.3
SKAR Skarslia 88.49 333 *eP* **P P 14 33 28.8 -0.4**
VRAC Vranov 88.50 321 ⇑P P P 14 33 29.6 +0.1
VRAC Vranov 88.50 321 *eP* **P P 14 33 29.3 -0.1**
VRAC Vranov 88.50 321 P P P 14 33 29.5 +0.1
RUDO Rudo 88.50 315 *eP* **P P 14 33 28.8 -0.7**
NEEM North Greenlan 88.65 358 *i P* **P P 14 33 28.6 -1.4**
NEEM IAmb IAmb 14 33 31.2
comp=Z,28nm,0.7s
LSK Leskovik 88.66 311 P P P 14 33 28.6 -1.9
KRUC Moravsky 88.70 320 *eP* **P P 14 33 30.3 0.0**
WRGLY Wrigley 88.74 24 P P P 14 33 30.7 +0.5
baz=299,SNR=6.2
RES Resolute Bay 88.79 9 IAmb IAmb 14 33 31.4
comp=Z,69nm,1.1s
RES Resolute Bay 88.79 9 P P P 14 33 29.7 -0.5
comp=Z,37nm,0.9s,baz=328,slow=5.3,SNR=28
comp=Z,37nm,0.9s
PDG Podgorica 88.95 313 ⇑P P P 14 33 30.4 -1.2
PDG Podgorica 88.95 313 IAmb IAmb 14 33 31.9
comp=Z,62nm,1.0s
PDG Podgorica 88.95 313 ⇑ *i P* **P P 14 33 30.4 -1.2**
IGT Igoumenitsa 89.04 310 P P P 14 33 29.9 -2.2
RUE Ruedersdorf 89.05 324 *eP* **P P 14 33 32.2 +0.4**
RUE Ruedersdorf 89.05 324 *eP* **P P 14 33 31.9 +0.1**
comp=Z,95nm,1.1s,baz=66,slow=4.6
DRME Dracevica, Mon 89.07 313 ⇑ *i P* **P P 14 33 31.3 -0.9**
RONA Rosalia, Austr 89.23 319 *i P* **P P 14 33 32.3 -0.6**
comp=Z,9.3nm,1.2s
RONA *e*PP **PP 14 37 08.7 +2.5**
comp=Z,7.6nm,1.0s
PVCC Panska Ves 89.30 322 *eP* **P P 14 33 33.3 +0.2**
PVCC Panska Ves 89.30 322 *eP* **P P 14 33 33.3 +0.2**
BRY Bratogost 89.30 314 ⇑ *i P* **P P 14 33 32.2 -1.3**
LIRD Liard River Hi 89.42 28 P P P 14 33 33.9 +0.5
baz=297,SNR=5.6
CONA Conrad Observa 89.43 319 *eP* **P P 14 33 33.4 -0.4**
comp=Z,9.9nm,1.2s
CONA *e*PP **PP 14 37 10.8 +2.9**
comp=Z,12nm,1.2s
HCY Herceg Novi 89.48 314 *eP* **P P 14 33 32.5 -1.6**
NEVS Nevesinje 89.48 315 *eP* **P P 14 33 32.9 -1.3**
TREB Trebinje 89.49 314 *eP* **P P 14 33 33.3 -0.9**
PRU Pruhonice 89.51 322 *eP* **P P 14 33 33.8 -0.3**
PRU Pruhonice 89.51 322 *eP* **P P 14 33 37.9 +3.8**
PRU *e* 14 34 35.5
BRG Berggiesshubel 89.55 323 *i P* **P P 14 33 34.9 +0.6**
BRG Amp 14 33 36.0
comp=Z,62nm,1.3s
BRG pP **pP 14 34 31.3 +3.9**
BRG Amp 14 34 32.6
comp=Z,9.3nm,1.0s
BRG Berggiesshubel 89.55 323 S **S 14 44 12.0 +5.7**
BRG Amp 15 16 34.0
comp=Z,0.3nm,20.5s
BRG Berggiesshubel 89.55 323 *i P* **P P 14 33 34.8 +0.6**
BRG 14 34 31.2
BRG 14 37 13.5
BRG S **S 14 44 12.0 +5.7**
BRG pmax pmax
comp=Z,62nm,1.3s
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,3.0nm,1.1s
BRG pmax pmax
comp=Z,10.0nm,1.3s
BRG smax smax
comp=Z,278nm,20.5s
BRG Berggiesshubel 89.55 323 *eP* **P P 14 33 34.7 +0.4**
comp=Z,47nm,1.1s,baz=66,slow=4.6
PRA Prague 89.55 322 *eP* **P P 14 33 34.8 +0.6**
PRA Prague 89.55 322 *eP* **P P 14 33 34.8 +0.6**
RICC Richard 89.58 322 *eP* **P P 14 33 34.2 -0.2**
BLY Banja Luka 89.64 316 ⇑ *i P* **P P 14 33 34.5 -0.3**
A051A Mrakovica 89.73 316 ⇑ *i P* **P P 14 33 34.6 -0.7**
MGRS Mrkonjic Grad 89.81 316 *eP* **P P 14 33 35.5 -0.2**
FBE Freiberg 89.87 323 *eP* **P P 14 33 35.8 +0.1**
comp=Z,58nm,1.2s,baz=66,slow=4.6
SRKY Kupres RS 89.87 316 *eP* **P P 14 33 34.6 -1.5**
ARSA Arzberg 89.88 319 *i P* **P P 14 33 35.4 -0.5**
comp=Z,17nm,1.1s
BLS5 Blasjo 89.88 332 *eP* **P P 14 33 34.6 -1.0**
STON Ston 89.90 314 ⇑ *i P* **P P 14 33 34.4 -1.6**
MUD Monsted U'grnd 89.92 329 *i P* **P P 14 33 33.5 -2.3**
MUD *i* P **PcP 14 33 34.0 -2.9**
MUD IAmb IAmb 14 33 35.9
comp=Z,15nm,0.8s
ZVC Zvikov 89.92 321 *eP* **P P 14 33 35.4 -0.6**
CLL Collm 89.93 323 *i P* **P P 14 33 35.0 -1.0**
CLL *e*PP **pP 14 34 27.0 -2.2**
CLL *e*S **S 14 44 11.0 +1.2**
CLL pmax pmax
comp=Z,43nm,1.3s
CLL Collm 89.93 323 *eP* **P P 14 33 35.5 -0.5**
comp=Z,37nm,1.2s,baz=66,slow=4.6
CLL Collm 89.93 323 *i P* **P P 14 33 35.0 -1.0**
comp=Z,43nm,1.3s
CLL *e*pP **pP 14 34 27.0 -2.2**
CLL *e*sP **sP 14 34 45.0 -6.9**
CLL *e*x x 14 37 04.0
CLL *e*PP **PP 14 37 11.0 -0.6**
CLL *e*x x 14 38 07.0
CLL *e*PPPP 14 40 48.0
CLL *e*x x 14 42 48.0
CLL *e*S **S 14 44 11.0 +1.2**
CLL *e*SP **SP 14 45 11.0 -5.4**
CLL *e*PS **PS 14 45 43.0 -1.6**
CLL *e*PPS PPS 14 46 18.0
CLL *e*sSP 14 46 41.0
CLL *e*SS **SS 14 50 20.0 +7.8**
CLL *e*sSS 14 51 37.0
CLL *e*SSS SSS 14 53 54.0
CLL *e*(SSSS) 14 57 06.0
CLL *e*PKPPKPd**P'P'df 14 59 16.0 -1.3**
HSKC Hora Svate Kat 89.95 323 *eP* **P P 14 33 35.5 -0.6**
KOTAN Kotaneelee Air 90.00 27 P P P 14 33 36.8 +0.7
baz=299
CKRC Cesky Krumlov 90.08 321 *eP* **P P 14 33 36.6 -0.2**
CKRC Cesky Krumlov 90.08 321 *eP* **P P 14 33 36.6 -0.2**
SSRD Sdr. Stenderup 90.10 328 *i P* P 14 33 28.9 -7.8
GORT1 Trebel 90.23 325 *eP* **P P 14 33 37.3 0.0**
comp=Z,74nm,1.4s,baz=66,slow=4.6
BSEG Bad Segeberg 90.39 326 *eP* **P P 14 33 37.8 -0.2**
comp=Z,40nm,1.0s,baz=66,slow=4.6
SOKA Soboth 90.39 318 *eP* **P P 14 33 37.7 -0.7**
comp=Z,16nm,1.0s,SNR=5.3
SOKA *e*PP **PP 14 37 18.3 +2.8**
comp=Z,10nm,1.2s
KHC Kasperske Hory 90.41 321 *eP* **P P 14 33 37.9 -0.5**
KHC *e*x x 14 33 56.5
KHC *e*x x 14 34 35.5
CRES Cresnjev 90.42 318 ⇑ *i P* **P P 14 33 37.9 -0.5**
CRES Cresnjev 90.42 318 *i P* **P P 14 33 38.0 -0.5**
GEC2 GERESS Array S 90.44 321 IAmb IAmb 14 33 39.6
comp=Z,48nm,1.3s
GEC2 GERESS Array S 90.44 321 *eP* **P P 14 33 38.1 -0.5**
comp=Z,59nm,1.4s,baz=66,slow=4.6
GERES GERESS Array B 90.44 321 P P P 14 33 38.0 -0.6
GERES GERESS Array B 90.44 321 P P P 14 33 38.0 -0.6
comp=Z,12nm,0.9s,baz=56,slow=5.0,SNR=22
comp=Z,12nm,0.9s
MOA Molln 90.46 320 *eP* **P P 14 33 38.5 -0.1**
comp=Z,38nm,1.0s,SNR=15
FLTG Flechtingen 90.54 325 *eP* **P P 14 33 37.8 -1.0**
comp=Z,58nm,1.6s,baz=66,slow=4.6
TANN Tannenbergstha 90.59 323 *eP* **P P 14 33 38.9 -0.3**
comp=Z,36nm,1.3s,baz=66,slow=4.6
BOJS Bojanci 90.67 317 ⇑ *i P* P 14 33 30.3 -9.3
NKC Novy Kostel 90.67 322 *eP* **P P 14 33 39.0 -0.5**
NKC Novy Kostel 90.67 322 *eP* **P P 14 33 39.0 -0.5**
WERD Werda 90.67 323 *eP* **P P 14 33 39.3 -0.3**
comp=Z,36nm,1.2s,baz=66,slow=4.6
NEUB Neuenburg 90.68 323 *eP* **P P 14 33 39.5 0.0**
comp=Z,139nm,1.7s,baz=66,slow=4.6
GUNZ Gunzen 90.69 323 *eP* **P P 14 33 39.4 -0.2**
comp=Z,47nm,1.2s,baz=66,slow=4.6
WERN Wernitzgruen 90.69 322 *eP* **P P 14 33 39.5 -0.1**
comp=Z,38nm,1.2s,baz=66,slow=4.6
PLN Plauen 90.74 323 *eP* **P P 14 33 39.4 -0.4**
comp=Z,45nm,1.4s,baz=66,slow=4.6
OBKA Obir 90.76 318 *eP* **P P 14 33 39.2 -0.9**

comp=Z,24nm,1.1s
OBKA *e*PP **PP 14 37 19.4 +1.0**
comp=Z,21nm,1.6s
OBKA Obir 90.76 318 ⇑ *i P* **P P 14 33 39.2 -0.9**
WET Wettzell 90.83 321 *eP* **P P 14 33 40.2 -0.1**
comp=Z,40nm,1.3s,baz=66,slow=4.6
BIOA Bad Ischl, Aus 90.91 320 *eP* **P P 14 33 39.9 -0.8**
comp=Z,25nm,1.2s,SNR=9.3
LJU Ljubljana 90.95 318 *i P* **P P 14 33 40.2 -0.7**
MANZ Manzenberg 90.97 322 *eP* **P P 14 33 40.8 -0.1**
comp=Z,18nm,1.7s,baz=66,slow=4.6
ROTZ Rotzenmuhle 91.00 322 *eP* **P P 14 33 41.0 0.0**
comp=Z,13nm,1.3s,baz=66,slow=4.6
MOX Moxa 91.00 323 *eP* **P P 14 33 40.7 -0.3**
comp=Z,60nm,1.5s,baz=66,slow=4.6
NRDL Niedersach Rie 91.10 325 *eP* **P P 14 33 41.4 +0.1**
comp=Z,30nm,1.1s,baz=66,slow=4.6
CEY Cerknica 91.12 318 ⇑ *i P* **P P 14 33 40.9 -0.8**
CEY Cerknica 91.12 318 *i P* **P P 14 33 41.1 -0.6**
CLZ Clausthal 91.23 324 *eP* **P P 14 33 42.0 0.0**
comp=Z,96nm,1.5s,baz=66,slow=4.6
MYKA Terra Mystica 91.30 319 *eP* **P P 14 33 42.0 -0.6**
comp=Z,6.7nm,1.0s
MAW Mawson 91.33 199 P P P 14 33 41.6 -0.3
MAW Mawson 91.33 199 P P P 14 33 41.8 -0.2
comp=Z,9.4nm,1.1s,baz=46,slow=6.2,SNR=14
MAW pP **pP 14 34 32.2 -2.9**
comp=Z,9.7nm,1.0s,baz=38,slow=4.7,SNR=8.3
comp=Z,9.4nm,1.1s
RETH Rethem/Aller, 91.41 325 *eP* **P P 14 33 42.6 -0.2**
comp=Z,208nm,2.7s,baz=66,slow=4.6
RJOB Jochberg 91.42 320 *eP* **P P 14 33 42.7 -0.4**
comp=Z,28nm,1.1s,baz=66,slow=4.6
GTTG Gottingen 91.58 324 *eP* **P P 14 33 43.5 -0.1**
comp=Z,77nm,1.5s,baz=66,slow=4.6
GRF Grafenberg Arr 91.61 322 *eP* **P P 14 33 44.2 +0.3**
comp=Z,60nm,1.6s,baz=66,slow=4.6
LESA Schwarzleotal 91.61 320 *eP* **P P 14 33 43.1 -0.9**
comp=Z,27nm,1.1s
LESA *e*pP **pP 14 34 35.0 -2.1**
comp=Z,10nm,1.5s
KULLO Kullorsuaq 91.65 359 *i P* **P P 14 33 41.9 -1.6**
KULLO IAmb IAmb 14 33 44.5
comp=Z,10nm,0.8s
ABTA Abfaltersbach 91.98 319 *eP* **P P 14 33 44.5 -1.2**
comp=Z,22nm,1.0s,SNR=9.0
ABTA *e*pP **pP 14 34 35.5 -3.3**
comp=Z,10nm,1.1s
STAL STALIGIAL 92.04 319 IAmb IAmb 14 33 45.9
comp=Z,64nm,1.1s
FUR Furstenfeldbru 92.19 321 *eP* **P P 14 33 47.0 +0.4**
comp=Z,183nm,1.7s,baz=66,slow=4.6
WTTA Wattenberg 92.33 320 *i P* **P P 14 33 46.7 -0.8**
comp=Z,51nm,1.0s,SNR=11
WATA Walderalm 92.34 320 *eP* **P P 14 33 46.5 -0.9**
comp=Z,39nm,1.1s,SNR=8.4
WATA *e*pP **pP 14 34 39.1 -1.4**
comp=Z,6.1nm,0.9s
WATA *e*PP **PP 14 37 29.7 -1.1**
comp=Z,7.2nm,1.0s
IBBN Ibbenburen 92.48 326 *eP* **P P 14 33 47.3 -0.5**
comp=Z,42nm,1.1s,baz=66,slow=4.6
YKA Yellowknife Ar 92.55 22 P P P 14 33 48.1 +0.2
comp=Z,21nm,0.9s,baz=310,slow=4.7,SNR=34
comp=Z,21nm,0.9s
SUMG Summit 92.58 354 IAmb IAmb 14 33 49.7
comp=Z,75nm,1.4s
SUMG Summit 92.58 354 *i P* **P P 14 33 48.0 -0.3**
SUMG IAmb IAmb 14 33 50.0
comp=Z,9.0nm,0.9s
KASTN Kahler Asten 92.61 324 *eP* **P P 14 33 48.3 -0.2**
comp=Z,41nm,1.4s,baz=66,slow=4.6
SQTA Sankt Quirin 92.61 320 *i P* **P P 14 33 47.8 -0.9**
comp=Z,45nm,1.0s,SNR=17
MOTA Moosalm 92.63 320 *i P* **P P 14 33 47.8 -1.0**
comp=Z,38nm,1.0s,SNR=10
MOTA *e*PP **PP 14 37 31.7 -1.4**
comp=Z,6.9nm,1.1s
RETA Reutte 92.78 320 *i P* **P P 14 33 48.6 -0.8**
comp=Z,9.5nm,1.1s
FETA Feichten 92.99 320 *i P* **P P 14 33 49.9 -0.6**
comp=Z,51nm,1.1s,SNR=12
FETA *e*pP **pP 14 34 41.0 -2.5**
comp=Z,8.7nm,1.1s
FETA *e*PP **PP 14 37 37.3 +1.3**
comp=Z,14nm,1.2s
FDMO Fiordimonte 93.01 316 IAmb IAmb 14 33 51.5
comp=Z,59nm,1.4s
TNS Taunus Mts 93.02 323 *eP* **P P 14 33 50.4 0.0**
comp=Z,26nm,1.1s,baz=66,slow=4.6
NRCA Norcia 93.07 315 IAmb IAmb 14 33 51.6
comp=Z,52nm,1.2s
UBR Ueberruh 93.11 321 *eP* **P P 14 33 50.3 -0.6**
comp=Z,56nm,1.2s,baz=66,slow=4.6
BUG Bochum--Univer 93.14 325 *eP* **P P 14 33 50.5 -0.3**
comp=Z,35nm,1.1s,baz=66,slow=4.6
DAVA Damuels 93.41 320 *eP* **P P 14 33 51.8 -0.6**
comp=Z,21nm,1.1s,SNR=5.2
FUORN Ofenpass-Fuorn 93.45 320 IAmb IAmb 14 33 53.8
comp=Z,52nm,1.1s
SALO Salr 93.69 319 IAmb IAmb 14 33 54.5
comp=Z,42nm,1.0s
TUE Stuetta 94.08 320 IAmb IAmb 14 33 56.5
comp=Z,40nm,1.4s
BTNL Ternell 94.18 324 *dP* **P P 14 33 55.5 -0.2**
comp=Z,13nm,1.2s
MEM Membach 94.23 325 *dP* **P P 14 33 55.8 -0.1**
comp=Z,14nm,1.1s
VNDA Vanda 94.29 172 P P P 14 33 54.8 -0.6
VNDA Vanda 94.29 172 P P P 14 33 54.8 -0.6
BSTI Sart Tilman 94.49 325 *dP* **P P 14 33 56.8 -0.3**
comp=Z,5.9nm,1.1s
WLF Walferdange 94.59 324 *dP* **P P 14 33 56.8 -0.7**
comp=Z,23nm,1.2s
WLF Walferdange 94.59 324 *eP* **P P 14 33 57.8 +0.2**
comp=Z,58nm,1.2s,baz=66,slow=4.6
BCLA Clavier 94.72 325 *dP* **P P 14 33 57.9 -0.2**
comp=Z,13nm,1.3s
RCHB Rochefort 94.89 324 *dP* **P P 14 33 58.5 -0.4**
comp=Z,15nm,1.2s
BMRD Maredsous 95.08 325 *dP* **P P 14 33 59.7 -0.1**
comp=Z,11nm,1.1s
DOU Dourbes 95.27 324 *dP* **P P 14 34 00.4 -0.2**
comp=Z,12nm,1.1s
SOEG Soedalen 95.64 350 *i P* **P P 14 34 01.0 -0.9**
SOEG IAmb IAmb 14 34 03.4
comp=Z,17nm,0.7s
LLLB Lillooet 95.75 35 IAmb IAmb 14 34 05.0
comp=Z,19nm,1.0s
LSZ Lusaka 95.96 256 P P P 14 34 03.9 -0.7
LSZ Lusaka 95.96 256 P P P 14 34 03.9 -0.7
LSZ pmax pmax
comp=Z,33nm,1.0s
ICESG Greenland Ices 96.01 353 *i P* **P P 14 34 02.9 -1.1**
ICESG IAmb IAmb 14 34 04.8
comp=Z,9.6nm,1.3s
EKA Eskdalemuir Ar 96.46 331 P P P 14 34 04.5 -1.4
comp=Z,7.8nm,1.0s,baz=81,slow=5.1,SNR=4.6
comp=Z,7.8nm,1.0s
SFJD Kangerlussuaq 99.03 357 *i P* **Pdif Pdif 14 34 15.9 -1.2**
SFJD IAmb IAmb 14 34 17.8
comp=Z,8.9nm,0.8s
SFJD Kangerlussuaq 99.03 357 P Pdif Pdif 14 34 16.2 -1.0
comp=Z,25nm,1.1s,baz=359,slow=3.1,SNR=3.5
comp=Z,25nm,1.1s
DY2G Dye2 99.23 355 *i P* **Pdif Pdif 14 34 16.7 -1.7**
DY2G IAmb IAmb 14 34 18.8
comp=Z,8.6nm,0.7s
NEW Newport 99.63 35 P Pdif Pdif 14 34 20.8 +0.4
baz=304
MSO Missoula 102.22 35 P Pdif Pdif 14 34 31.7 -0.2
baz=306
EGMT Eagleton 103.73 32 P Pdif Pdif 14 34 38.7 +0.1
baz=310
QSPA South Pole Qui 103.79 180 Pdiff Pdif Pdif 14 34 40.0 +1.6
comp=Z,0.5nm,0.6s,baz=9.7,slow=1.3,SNR=5.9
HLID Hailey 103.84 38 P Pdif Pdif 14 34 39.1 -0.3
baz=305
NVAR Mina Array Bea 104.15 44 Pdiff Pdif Pdif 14 34 41.5 +0.6
comp=Z,1.9nm,1.0s,baz=269,slow=5.0,SNR=8.5
NVAR PP **PP 14 38 57.8 -3.2**
comp=Z,0.8nm,0.8s,baz=268,slow=7.9,SNR=3.8
ESDC Sonseca Array 105.90 319 PP PP 14 39 14.2 +0.6
comp=Z,7.8nm,1.3s,baz=54,slow=7.1,SNR=10
LAO LASA Array 106.42 32 P PKiKP 14 39 01.8 +1.2
baz=312
DUG Dugway, Tooele 106.75 40 P PKiKP 14 39 02.4 +0.9
baz=306

GSC	Goldstone, Bar	106.79	46	P	PKiKP	14 39 02.5	+0.9
	baz=301						
BW06	Boulder Array	107.16	36	P	PKiKP	14 39 02.4	+0.1
	baz=309						
PDAR	Pinedale Array	107.16	36	PKiKP	PKiKP	14 39 01.6	-0.7
	comp=Z,0.3nm,0.3s,baz=46,slow=2.6,SNR=8.7						
PDAR				PP	PP	14 39 20.7	-2.2
	comp=Z,3.1nm,1.2s,baz=293,slow=4.2,SNR=5.2						
PDAR				PKKPbc	PKKPbc	14 50 19.0	-1.6
	comp=Z,0.3nm,0.5s,baz=98,slow=6.1,SNR=3.9						
PDAR				PKKP	PKKPdf	14 50 33.5	+1.4
	comp=Z,2.9nm,1.1s,baz=130,slow=4.6,SNR=10						
RSSD	Black Hills	109.30	32	P	PKiKP	14 39 05.9	-0.3
	baz=314						
RSSD	Black Hills	109.30	32	P	PKiKP	14 39 06.0	-0.3
	baz=314						
GLA	Glamis	109.36	47	P	PKiKP	14 39 06.0	-0.4
	baz=302						
O20A	White River Ci	109.58	38	P	PKiKP	14 39 06.5	-0.4
	baz=309						
WUAZ	Wupatki	110.38	43	P	PKiKP	14 39 09.0	+0.6
	baz=305						
MVCO	Mesa Verde	111.24	40	P	PKiKP	14 39 10.4	+0.3
	baz=308						
W18A	Petrified Fore	111.70	43	P	PKiKP	14 39 10.7	-0.3
	baz=306						
TROLL	Troll, Antarti	111.72	197	⇓PKiKP	PKiKP	14 39 09.8	0.0
	comp=Z,169nm,0.3s						
TROLL				⇑pP	PKKPab	14 50 13.2	+0.1
	comp=Z,380nm,0.9s						
EYMN	Ely	112.03	23	P	PKiKP	14 39 10.9	-0.1
	baz=326						
OGNE	Ogallala	112.57	34	P	PKiKP	14 39 12.5	+0.2
	baz=315						
TUC	Tucson	112.61	46	P	PKiKP	14 39 13.1	+0.4
	baz=305						
SDCO	Great Sand Dun	112.75	38	P	PKiKP	14 39 13.0	0.0
	baz=311						
F36A	Milaca	112.93	25	P	PKiKP	14 39 12.1	-0.7
	baz=324						
ECSD	EROS Data Cent	113.25	29	P	PKiKP	14 39 13.3	-0.2
	baz=320						
ECSD	EROS Data Cent	113.25	29	P	PKiKP	14 39 13.0	-0.4
	baz=320						
SNAA	Sanae	113.39	197	PKiKP	PKiKP	14 39 12.3	-0.6
	comp=Z,1.3nm,0.7s,baz=202,slow=4.1,SNR=15						
SNAA				PKKPbc	PKKPbc	14 49 57.3	-3.8
	comp=Z,2.5nm,1.1s,baz=334,slow=4.1,SNR=6.2						
SNAA				PKKPab	PKKPab	14 50 05.1	-0.5
	comp=Z,6.6nm,1.1s,baz=306,slow=4.1,SNR=12						
SPMN	Marine on St.	113.75	25	P	PKiKP	14 39 14.5	+0.1
	baz=324						
T25A	Trinidad	113.80	38	P	PKiKP	14 39 15.2	+0.2
	baz=311						
TORD	Torodi Ar. Bea	113.86	291	PKiKP	PKiKP	14 39 14.4	-0.9
	comp=Z,1.0nm,0.3s,baz=48,slow=2.2,SNR=28						
TORD				PKKPbc	PKKPbc	14 49 56.3	-1.4
	comp=Z,1.5nm,0.9s,baz=312,slow=1.2,SNR=7.8						
TORD				PKKPab	PKKPab	14 50 05.9	-0.2
	comp=Z,5.3nm,0.9s,baz=272,slow=3.4,SNR=14						
ANMO	Albuquerque	113.94	41	P	PKiKP	14 39 15.7	+0.4
	baz=309						
ANMO	Albuquerque	113.94	41	P	PKiKP	14 39 16.0	+0.7
	baz=309,SNR=5.0						
BGNE	Belgrade	114.26	31	P	PKiKP	14 39 15.6	+0.1
	baz=318						
121A	Cookes Peak, D	114.54	44	P	PKPdf	14 39 16.8	+0.3
	baz=307						
CBKS	Cedar Bluff	115.33	34	P	PKiKP	14 39 17.4	-0.2
	baz=316						
SCIA	State Center	116.23	28	P	PKPdf	14 39 18.6	-0.6
	baz=323						
MNTX	Cornudas Mount	116.67	43		PKPdf	14 39 19.6	-0.8
MNTX	Cornudas Mount	116.67	43	P	PKPdf	14 39 20.0	-0.3
	baz=309						
JFWS	Jewell Farm	116.69	25	P	PKPdf	14 39 19.6	-0.5
	baz=326						
MSTX	Muleshoe	116.89	40	P	PKiKP	14 39 21.0	+0.1
	baz=312						
AMTX	Amarillo	116.95	38	P	PKiKP	14 39 21.4	+0.5
	baz=313						
L40A	Anamosa	116.98	26		PKPdf	14 39 19.5	-1.2
GLMI	Grayling	117.15	20	P	PKPdf	14 39 20.4	-0.5
	baz=332						
L42A	Oliver, Polo	117.69	25	P	PKPdf	14 39 21.0	-1.0
	baz=326						
P38A	Dawn	117.89	29	P	PKPdf	14 39 22.1	-0.4
	baz=322						
T35B	Sooner Cattle	118.45	33	P	PKPdf	14 39 23.6	-0.1
	baz=318,SNR=5.7						
P40A	Paris	118.66	28	P	PKPdf	14 39 23.4	-0.5
	baz=323						
WMOK	Wichita Mounta	118.77	37	P	PKPdf	14 39 23.5	-0.8
	baz=315						
WMOK	Wichita Mounta	118.77	37	P	PKPdf	14 39 23.8	-0.5
	baz=315,SNR=7.9						
HDIL	Hopedale	119.05	26	P	PKPdf	14 39 23.8	-0.8
	baz=326						
SGCY	Sterling City	119.29	41		PKPdf	14 39 24.6	-0.9
TX31	Lajitas Ar. Si	119.29	44	P	PKPdf	14 39 25.4	-0.2
	baz=309						
TXAR	Lajitas Array	119.29	44	PKiKP	PKiKP	14 39 26.0	+0.3
TXAR	Lajitas Array	119.29	44	PKP	PKiKP	14 39 25.9	+0.3
	comp=Z,3.4nm,0.3s,baz=133,slow=0.2,SNR=97						
TXAR				PKKPbc	PKKPbc	14 49 38.9	-0.5
	comp=Z,1.6nm,1.1s,baz=126,slow=1.6,SNR=4.9						
S39A	Bolivar	119.51	31	P	PKPdf	14 39 24.9	-0.8
	baz=322,SNR=22						
R40A	Maddies Statio	119.55	29	P	PKPdf	14 39 25.2	-0.5
	baz=323,SNR=11						
TUL3	Leonard	119.59	34	P	PKPdf	14 39 25.2	-0.6
	baz=319						
AAM	Ann Arbor	119.71	21	P	PKPdf	14 39 25.4	-0.4
	baz=333						
ABTX	Abilene, Hawle	119.73	39	P	PKPdf	14 39 25.9	-0.4
	baz=314						
ABTX	Abilene, Hawle	119.73	39	P	PKPdf	14 39 26.3	0.0
	baz=314						
L48A	N Adams	119.75	21	P	PKPdf	14 39 25.8	-0.3
	baz=332						
L48A				P	PKPdf	14 39 25.8	-0.3
	baz=332						
BMNY	Brushton-Moira	119.88	12	P	PKPdf	14 39 25.8	-0.4
	baz=343						
U38A	Gravette	119.93	32	P	PKPdf	14 39 25.9	-0.7
	baz=320,SNR=10						
SAND	Sanderson	119.93	43		PKPdf	14 39 26.2	-0.6
LONY	Lake Ozonia	120.08	13	P	PKPdf	14 39 26.1	-0.5
	baz=343						
SFIN	Lafayette	120.10	24	P	PKPdf	14 39 26.2	-0.5
	baz=328						
CCM	Cathedral Cave	120.22	29		PKPdf	14 39 26.2	-0.8
CCM	Cathedral Cave	120.22	29	P	PKPdf	14 39 26.0	-1.0
	baz=324						
CCM	Cathedral Cave	120.22	29	P	PKPdf	14 39 26.4	-0.6
	baz=324						
CCM	Cathedral Cave	120.22	29	PKiKP	PKPdf	14 39 26.2	-0.8
PKME	Peaks-Kenny Pk	120.38	8	P	PKPdf	14 39 26.5	-0.6
	baz=349						
WCNY	West Carthage	120.45	14	P	PKPdf	14 39 26.9	-0.4
	baz=342						
J55A	Hilton	120.59	16	P	PKPdf	14 39 27.2	-0.4
	baz=339						
J55A				P	PKPdf	14 39 27.2	-0.4
	baz=339						
G65A	Princeton	120.66	7	P	PKPdf	14 39 27.5	-0.1
	baz=351						
G65A				P	PKPdf	14 39 27.5	-0.1
	baz=351						
P46A	Rosedale	120.70	25	P	PKPdf	14 39 27.7	-0.2
	baz=328						
NCB	Newcomb	120.77	12	P	PKPdf	14 39 27.9	-0.1
	baz=343						
U40A	Yellville	120.78	31	P	PKPdf	14 39 27.7	-0.5
	baz=322,SNR=18						
U40A				P	PKPdf	14 39 27.7	-0.5
	baz=322,SNR=18						
X37A	Clayton	120.80	34	P	PKPdf	14 39 28.1	-0.1
	baz=318,SNR=5.6						
LBNH	Lisbon	120.96	11	P	PKPdf	14 39 27.4	-0.8
	baz=346						
O48B	Farmland	120.96	23	P	PKPdf	14 39 27.5	-0.9
	baz=330						
ERPA	Erie	121.05	18	P	PKPdf	14 39 27.9	-0.6
	baz=336						
JCT	Junction City	121.09	41	P	PKPdf	14 39 28.5	-0.4
	baz=313						
JCT	Junction City	121.09	41	P	PKPdf	14 39 28.3	-0.7
	baz=313						
T42A	Van Buren	121.11	30	P	PKPdf	14 39 28.4	-0.3
	baz=323,SNR=7.2						
J58A	Remsen	121.12	14	P	PKPdf	14 39 28.6	0.0
	baz=342,SNR=7.3						
J58A				P	PKPdf	14 39 28.6	0.0
	baz=342,SNR=7.3						
J59A	Piesco	121.20	13	P	PKPdf	14 39 28.3	-0.5
	baz=343						
J59A				P	PKPdf	14 39 28.3	-0.5
	baz=343						
O49A	Covington	121.33	22	P	PKPdf	14 39 28.7	-0.4
	baz=331,SNR=7.5						
O49A				P	PKPdf	14 39 28.7	-0.4
	baz=331,SNR=7.5						
ACCN	Adirondack Com	121.45	12	P	PKPdf	14 39 29.3	0.0
	baz=344						
M53A	Wi Miller and	121.45	19	P	PKPdf	14 39 28.8	-0.5
	baz=336						
WHTX	Lake Whitney,	121.50	38	P	PKPdf	14 39 29.3	-0.4
	baz=315						
P48A	Milroy	121.55	24	P	PKPdf	14 39 29.0	-0.5
	baz=330						
P48A				P	PKPdf	14 39 29.0	-0.5
	baz=330						
PBMO	Poplar Bluff	121.63	29	P	PKPdf	14 39 28.9	-0.8
	baz=324,SNR=5.4						
L56A	Greenwood	121.71	16	P	PKPdf	14 39 29.6	-0.3
	baz=339						
L56A				P	PKPdf	14 39 29.6	-0.3
	baz=339						
P49A	Miami Univ. Ec	121.76	23	P	PKPdf	14 39 29.3	-0.6
	baz=331						
P49A	Miami Univ. Ec	121.76	23	P	PKPdf	14 39 29.3	-0.6
	baz=331						
ACSO	Alum Creek Sta	121.78	21	P	PKPdf	14 39 29.5	-0.5
	baz=333						
ACSO	Alum Creek Sta	121.78	21	P	PKPdf	14 39 29.5	-0.5
	baz=333						
MIAR	Mount Ida	121.81	33	P	PKPdf	14 39 29.8	-0.3
	baz=320						
MIAR	Mount Ida	121.81	33	P	PKPdf	14 39 29.6	-0.6
	baz=320,SNR=9.6						
LCAR	Lake Charles	121.85	30	P	PKPdf	14 39 29.8	-0.4
	baz=323,SNR=7.5						
N53A	Lisbon	121.98	19	P	PKPdf	14 39 30.1	-0.2
	baz=335,SNR=6.8						
N53A				P	PKPdf	14 39 30.1	-0.2
	baz=335,SNR=6.8						
M55A	Ridgway	122.00	17	P	PKPdf	14 39 30.0	-0.3
	baz=338						
M55A				P	PKPdf	14 39 30.0	-0.3
	baz=338						
BINY	Binghamton	122.06	15	P	PKPdf	14 39 30.0	-0.4
	baz=341						
BINY	Binghamton	122.06	15	P	PKPdf	14 39 30.5	0.0
	baz=341,SNR=5.5						
PAMR	Moraine State	122.09	19	P	PKPdf	14 39 30.4	-0.1
	baz=336						
DBIC	Dimbokro	122.22	287	PKP	PKPdf	14 39 31.3	-0.1
	comp=Z,1.4nm,0.3s,baz=114,slow=2.6,SNR=5.3						
KIC	Kosan Boka	122.22	287	⇑ePKiKP	PKPdf	14 39 30.6	-0.9
	comp=Z,6.0nm,0.8s						
WCI	Wyandotte Cave	122.26	25		PKPdf	14 39 30.4	-0.5
WCI	Wyandotte Cave	122.26	25	P	PKPdf	14 39 30.2	-0.7
	baz=329						
WCI	Wyandotte Cave	122.26	25	P	PKPdf	14 39 30.8	-0.1
	baz=329,SNR=6.0						
WCI	Wyandotte Cave	122.26	25	PKiKP	PKPdf	14 39 30.4	-0.5
435B	Jarrell	122.27	39	P	PKPdf	14 39 30.6	-0.6
	baz=315						
O52A	Adamsville	122.27	20	P	PKPdf	14 39 30.6	-0.3
	baz=334,SNR=6.4						
O52A				P	PKPdf	14 39 30.6	-0.3
	baz=334,SNR=6.4						
O53A	New Philadelph	122.36	20	P	PKPdf	14 39 30.6	-0.4
	baz=335						
TIC	Toumodi	122.38	287	⇓ePKiKP	PKPdf	14 39 31.3	-0.5
	comp=Z,4.5nm,0.4s						
P51A	Williamsport	122.41	22	P	PKPdf	14 39 30.5	-0.7
	baz=332,SNR=5.1						
P51A				P	PKPdf	14 39 30.5	-0.7
	baz=332,SNR=5.1						
K62A	Royalston	122.43	11	P	PKiKP	14 39 31.2	-0.1
	baz=345						
K62A				P	PKiKP	14 39 31.2	-0.1
	baz=345						
UPAO	U. Pittsburgh	122.53	19	P	PKiKP	14 39 31.5	-0.1
	baz=336						
LIC	Lamto	122.54	287	⇑ePKiKP	PKPdf	14 39 30.9	-1.2
	comp=Z,23nm,0.9s						
L61B	Northampton	122.55	12	P	PKPdf	14 39 31.0	-0.4
	baz=345						
M57A	Sunshine Farm,	122.58	16	P	PKiKP	14 39 31.6	-0.1
	baz=339,SNR=5.3						
M57A				P	PKiKP	14 39 31.6	-0.1
	baz=339,SNR=5.3						
P52A	Corning	122.60	21	P	PKPdf	14 39 30.7	-0.8
	baz=334						
R49A	Shelbyville	122.66	24	P	PKPdf	14 39 31.7	0.0
	baz=330						
R49A				P	PKPdf	14 39 31.7	0.0
	baz=330						
O54A	Avella	122.69	19	P	PKiKP	14 39 31.9	0.0
	baz=336,SNR=7.2						
O54A				P	PKiKP	14 39 31.9	0.0
	baz=336,SNR=7.2						
HRV	Adam Dziewonsk	122.70	11		PKPdf	14 39 31.4	-0.3
HRV	Adam Dziewonsk	122.70	11	P	PKPdf	14 39 31.4	-0.3
	baz=346						
HRV	Adam Dziewonsk	122.70	11	PKiKP	PKPdf	14 39 31.4	-0.3
Q51A	Peebles	122.71	22	P	PKPdf	14 39 31.3	-0.5
	baz=332						
Q51A				P	PKPdf	14 39 31.3	-0.5
	baz=332						
KSPA	Keystone Colle	122.72	15	P	PKPdf	14 39 31.2	-0.5
	baz=341						
833A	Chaparral WMA,	122.80	42	P	PKPdf	14 39 31.9	-0.3
	baz=312						
NPNY	Mohonk Preserv	122.91	13	P	PKPdf	14 39 31.5	-0.5
	baz=343						
P53A	Whipple	122.99	20	P	PKPdf	14 39 32.4	+0.1
	baz=334,SNR=6.9						
P53A				P	PKPdf	14 39 32.4	+0.1
	baz=334,SNR=6.9						
SSPA	Standing Stone	123.02	17		PKPdf	14 39 31.9	-0.4
SSPA	Standing Stone	123.02	17	P	PKPdf	14 39 31.9	-0.4
	baz=338						
SSPA	Standing Stone	123.02	17	P	PKPdf	14 39 32.3	0.0
	baz=338,SNR=8.1						
N58A	Sunbury	123.15	16	P	PKPdf	14 39 32.4	-0.1
	baz=340,SNR=5.2						
N58A				P	PKPdf	14 39 32.4	-0.1
	baz=340,SNR=5.2						
BRNY	Black Rk. Fore	123.26	13	P	PKPdf	14 39 32.8	+0.1
	baz=343,SNR=6.6						
NATX	Nacogdoches	123.30	36	P	PKPdf	14 39 32.5	-0.6
	baz=318						
MCWV	Mont Chateau	123.34	19	P	PKPdf	14 39 32.3	-0.7
	baz=336						
ODNJ	Ogdensburg	123.44	14	P	PKPdf	14 39 33.0	-0.1
	baz=342,SNR=6.5						
Q54A	Coxs Mills	123.63	20	P	PKPdf	14 39 33.4	-0.1
	baz=335,SNR=5.7						
Q54A				P	PKPdf	14 39 33.4	-0.1
	baz=335,SNR=5.7						
PAL	Palisades	123.67	13	P	PKPdf	14 39 33.1	-0.4
	baz=343						
R53A	Hurricane	123.83	21	P	PKPdf	14 39 33.9	-0.1
	baz=333,SNR=6.7						
R53A				P	PKPdf	14 39 33.9	-0.1
	baz=333,SNR=6.7						
S51A	Beattyville	123.84	23	P	PKPdf	14 39 33.6	-0.4
	baz=331,SNR=9.4						
S51A				P	PKPdf	14 39 33.6	-0.4
	baz=331,SNR=9.4						
U49A	Red Boiling Sp	123.93	26	P	PKPdf	14 39 33.9	-0.3
	baz=329,SNR=11						
P57A	Homestead Farm	124.05	17	P	PKPdf	14 39 34.1	-0.2
	baz=338						
P57A				P	PKPdf	14 39 34.1	-0.2
	baz=338						
V48A	Smith Brothers	124.14	27	P	PKPdf	14 39 33.8	-0.8
	baz=327						
S54A	Dingess, Beckl	124.53	21	P	PKPdf	14 39 35.1	-0.3
	baz=334,SNR=5.3						
S54A				P	PKPdf	14 39 35.1	-0.3
	baz=334,SNR=5.3						
TZTN	Tazewell	124.81	24	P	PKPdf	14 39 35.5	-0.4
	baz=331						
TZTN	Tazewell	124.81	24	P	PKPdf	14 39 35.7	-0.2
	baz=331						
X48A	Hartselle	125.11	28	P	PKPdf	14 39 35.3	-1.2
	baz=327						
V51A	Loudon	125.13	25	P	PKPdf	14 39 36.3	-0.2
	baz=330						
BLA	Blacksburg	125.37	21	P	PKPdf	14 39 36.7	-0.2
	baz=335						
V52A	Sevierville	125.40	24	P	PKiKP	14 39 37.3	-0.1
	baz=331						
CBN	Corbin Frederi	125.42	17	P	PKPdf	14 39 37.0	0.0
	baz=338						
TKL	Tuckaleechee C	125.49	24	P	PKPdf	14 39 37.4	+0.1
	baz=330						
TKL	Tuckaleechee C	125.49	24	PKP	PKPdf	14 39 36.8	-0.4
	comp=Z,5.9nm,0.3s,baz=142,slow=3.6,SNR=22						
V53A	Saluda	125.86	24	P	PKPdf	14 39 37.3	-0.7
	baz=332						
V53A				P	PKPdf	14 39 37.3	-0.7
	baz=332						
Y49A	Blount Mountai	125.90	28	P	PKPdf	14 39 37.6	-0.5
	baz=327						
T57A	Hurt	125.95	20	P	PKPdf	14 39 37.9	-0.2
	baz=336						
T57A				P	PKPdf	14 39 37.9	-0.2
	baz=336						
V55A	Taylorsville	126.31	22	P	PKPdf	14 39 38.6	-0.2
	baz=333						
V55A				P	PKPdf	14 39 38.6	-0.2
	baz=333						
LRAL	Lakeview Retre	126.31	29	P	PKPdf	14 39 38.7	-0.1
	baz=326						
T59A	Double "B" Far	126.51	18	P	PKiKP	14 39 39.5	-0.1
	baz=338						
T59A				P	PKiKP	14 39 39.5	-0.1
	baz=338						
T60A	Surry	126.60	17	P	PKiKP	14 39 39.9	+0.1
	baz=339						
T60A				P	PKiKP	14 39 39.9	+0.1
	baz=339						
KMSC	Kings Mountain	126.89	23	P	PKPdf	14 39 40.1	+0.2
	baz=333						
Z51A	Franklin	126.91	27	P	PKPdf	14 39 40.2	+0.2
	baz=328						
Y52A	Lilburn	126.92	26	P	PKPdf	14 39 39.9	-0.1
	baz=330						
Y52A				P	PKPdf	14 39 39.9	-0.1
	baz=330						
PAULI	Pauline	127.00	23	P	PKPdf	14 39 40.1	0.0
	baz=332						
U59A	Littleton	127.01	19	P	PKPdf	14 39 40.2	+0.2
	baz=337						
U59A				P	PKPdf	14 39 40.2	+0.2
	baz=337						
V58A	Windy Hill, Pi	127.09	20	P	PKiKP	14 39 40.6	-0.2
	baz=336						
V58A				P	PKiKP	14 39 40.6	-0.2
	baz=336						
W57A	Gilead	127.37	21	P	PKiKP	14 39 41.2	-0.1
	baz=334						
W57A				P	PKiKP	14 39 41.2	-0.1
	baz=334						
250A	Grady	127.53	29	P	PKPdf	14 39 40.2	-0.9
	baz=326						
GOGA	Godfrey	127.56	26	P	PKPdf	14 39 41.5	+0.3
	baz=330						
BRAL	Brewton	127.82	30	P	PKPdf	14 39 42.0	+0.2
	baz=325						
PMSA	Palmer Station	129.13	177	eP	PKiKP	14 39 43.5	-0.3
NHSC	New Hope	129.14	23	P	PKPdf	14 39 44.3	+0.1
	baz=334						
TIGA	Tifton	129.20	27	P	PKPdf	14 39 44.3	-0.1
	baz=329						
ORTG	Ortega, Santa	144.55	48		PKPab	14 40 11.7	-0.5
JTS	Las Juntas de	144.96	48		PKPbc	14 40 12.0	-1.5
JTS	Las Juntas de	144.96	48	eP	PKPbc	14 40 12.5	-1.0
JTS	Las Juntas de	144.96	48	PKP	PKPbc	14 40 12.7	-0.8
	comp=Z,28nm,0.9s,baz=312,slow=2.7,SNR=7.3						
PRVC	Isla de Provid	145.15	40	eP	PKPab	14 40 14.8	+0.6
SDDR	Presa de Saban	145.21	20	eP	PKPdf	14 40 13.7	-0.5
COYC	Coyhaique	146.67	164	PKPbc	PKPbc	14 40 17.9	+0.2
AY01	Puyuhuapi	147.56	162	PKPdf	PKPdf	14 40 17.8	+0.6
BCIP	Isla Barro Col	149.29	43		PKPbc	14 40 24.6	-0.9
BCIP	Isla Barro Col	149.29	43	eP	PKPbc	14 40 24.9	-0.6
BCIP	Isla Barro Col	149.29	43	PKP2	PKPbc	14 40 24.6	-0.9
UPA	Univ. de Panam	149.63	43	eP	PKPdf	14 40 21.4	-0.1
FDF	Fort de France	151.44	4		PKPbc	14 40 30.0	-0.6
FDF	Fort de France	151.44	4	PKIKP	PKPbc	14 40 30.0	-0.6
SJCC	San Jacinto, C	151.55	34	eP	PKiKP	14 40 31.5	+0.2
PLCA	Paso Flores	151.56	162		PKPdf	14 40 23.1	-0.7
PLCA	Paso Flores	151.56	162	eP	PKPdf	14 40 23.6	-0.2
PLCA	Paso Flores	151.56	162	PKP	PKPdf	14 40 22.7	-1.2
	comp=Z,2.7nm,1.1s,baz=206,slow=4.5,SNR=3.4						
PLCA				PKPbc	PKiKP	14 40 30.6	0.0
	comp=Z,24nm,1.0s,baz=144,slow=3.0,SNR=42						
CRJC	Cerrejon, Guaj	151.77	29	eP	PKiKP	14 40 31.9	+0.1
APAC	Apartado, Choc	152.34	39	eP	PKiKP	14 40 33.8	+0.9
URIC	San Jos de Ur	153.09	38	eP	PKPdf	14 40 27.2	+0.5
ZARC	Zaragoza, Cauc	153.69	37	eP	PKPbc	14 40 35.4	-0.2
BRRC	Barranca, Sant	154.66	35	eP	PKPbc	14 40 37.3	-0.4
SDV	Santo Domingo	154.68	27	PKPdf	PKPdf	14 40 28.6	-0.7
SDV					PKPbc	14 40 37.1	-0.8
SDV	Santo Domingo	154.68	27	eP	PKPdf	14 40 29.4	+0.2
SDV	Santo Domingo	154.68	27	PKP	PKPdf	14 40 29.1	-0.2
	comp=Z,8.6nm,0.3s,baz=260,slow=0.9,SNR=13						
SDV				PKPbc	PKPbc	14 40 37.6	-0.3
	comp=Z,15nm,0.4s,baz=182,slow=0.7,SNR=10						
BARC	Barichara	155.38	35	eP	PKPdf	14 40 39.6	+9.4
YOTC	Yotoco, Valle	155.44	45	eP	PKPdf	14 40 30.7	+0.5
TRQA	Tornquist	155.87	175		PKPab	14 40 57.4	-0.3
TRQA	Tornquist	155.87	175	PKP2	PKPab	14 40 57.4	-0.3
ORTC	Ortega, Tolima	156.23	43	eP	PKPab	14 40 59.7	-0.3
OTAV	Otavalo	156.37	55	eP	PKPdf	14 40 31.5	-0.4
BO02	Sierra Bellavi	156.80	155		PKPab	14 41 02.1	+0.2
ABR01	Abrolhos, BA	159.80	256	eP	PKPdf	14 40 36.0	+0.8
GUA01	Guaratinga, BA	161.01	260	eP	PKPdf	14 40 36.9	+0.2
ALF01	Guarapari-ES	161.07	247	eP	PKPdf	14 40 36.5	-0.1
RIB01	Linhares ES	161.12	251	eP	PKPdf	14 40 36.9	+0.2
PLTB	Pedras Altas	161.51	195	eP	PKPdf	14 40 37.3	+0.5
SJMB	Sao Joao De Ma	161.99	252	eP	PKPdf	14 40 38.2	+0.6
RODS	Rosario do Sul	163.25	192	eP	PKPdf	14 40 38.6	+0.1
BOAV	Boa Vista	163.72	4	PKPab	PKPab	14 41 30.9	-1.4
BOAV	Boa Vista	163.72	4	eP	PKPdf	14 40 39.2	-0.2
BOAV	Boa Vista	163.72	4	eP	PKPdf	14 40 39.6	+0.2
TMAB	Tom-Au,PA,Br	164.03	315	eP	PKPdf	14 40

SAML	**Samuel**	**173.74**	**38**		**PKPdf**	**14 40 44.8**	**-1.0**
SAML				PKPab	**PKPab**	**14 42 15.0**	**-1.8**
SAML	**Samuel**	**173.74**	**38**	PKIKP	**PKPdf**	**14 40 44.8**	**-1.0**
SAML						14 42 15.0	
SAML	**Samuel**	**173.74**	**38**	*e*P	**PKPdf**	**14 40 46.1**	**+0.2**
PP1B	**Ponte de Pedra**	**174.41**	**229**	*e*P	**PKPdf**	**14 40 46.3**	**+0.3**
CLDB	**Colider**	**175.41**	**311**	*e*P	**PKPdf**	**14 40 46.9**	**+0.5**
BBRB	**Robore, Bolivi**	**175.67**	**174**	*e*P	**PKPdf**	**14 40 46.9**	**+0.6**
SALV	**Santo Antonio**	**176.01**	**240**	*e*P	**PKPdf**	**14 40 46.9**	**+0.5**
BBSD	**Serra de San D**	**176.54**	**159**	*e*P	**PKPdf**	**14 40 46.7**	**+0.2**
PDRB	**Porto dos Gac**	**176.58**	**313**	*e*P	**PKPdf**	**14 40 46.9**	**+0.3**
PTLB	**Pontes e Lacer**	**178.50**	**186**	*e*P	**PKPdf**	**14 40 46.9**	**+0.1**
VILB	**Vilhena**	**178.68**	**42**	*e*P	**PKPdf**	**14 40 47.3**	**+0.4**

JMA 22 14:24:44.5±0.0, 31°.7N±0°.1×130°.1E±0°.1, h6km±1km, MV3.5/36, 6D, SW OFF KYUSHU, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.34**	**263**	⇓P	Pg	14 24 50.9	-0.1
JSJ				⇓S	Sg	14 24 55.7	+0.3
JSU	**Suzuyama**	**0.37**	**126**	P	Pg	14 24 51.6	0.0
JSU				S	Sg	14 24 56.7	+0.3
JZO	**Okuchi**	**0.59**	**45**	⇓*i*P	Pg	14 24 56.1	+0.2
JZO				⇓S	Sg	14 25 04.1	+0.5
JHD	**Hondo**	**0.74**	**2**	*i* P	Pg	14 24 58.7	0.0
JHD				*e*S	Sg	14 25 08.7	+0.2
JTZ	**Takazaki**	**0.85**	**78**	⇓*i*P	Pg	14 25 00.8	0.0
JTZ				⇓S	Sg	14 25 12.2	+0.3
JIU3	**Izumi3**	**1.02**	**36**	*i* P	Pg	14 25 03.7	-0.4
JIU3				S	Sg	14 25 17.4	+0.1

*SNET **22** 14:34:58.6±0.8, 13°.05N×89°.19W, h47km, ML4.3*
*GCG **22** 14:35:01.8±3.4, 13°.47N×89°.12W, h100km±323km, MD4.0*
ISC 22 14:35:00.5±1.7, 13°.14N±0°.10×89°.13W±0°.04, h50km, n37, σ0°93/45, 4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.39**	**332**	*e*P	**Pn**	**14 35 09.3**	**-1.2**
SJTE	**Alcalda de S**	**0.49**	**15**	*e*P	**Pn**	**14 35 10.7**	**-1.0**
LOMA	**Loma Larga**	**0.50**	**356**	⇓*e*P	**Pn**	**14 35 11.0**	**-1.0**
TECO	**Alcaldia de Te**	**0.52**	**41**	*e*P	**Pn**	**14 35 11.0**	**-1.1**
COEG	**Centro de Oper**	**0.54**	**27**	⇓*e*P	**Pn**	**14 35 11.3**	**-1.0**
COEG				*e*S	**Sn**	**14 35 21.1**	**+0.3**
ITCA	**Escuela Especi**	**0.55**	**345**	*e*P	**Pn**	**14 35 11.6**	**-0.9**
SNET	**Serv Nac Est T**	**0.55**	**350**	*e*P	**Pn**	**14 35 11.6**	**-1.0**
AEIL	**Aeropuerto Ilo**	**0.55**	**2**	*e*P	**Pn**	**14 35 11.9**	**-0.6**
MAGS	**Ministerio de**	**0.56**	**345**	*e*P	**Pn**	**14 35 11.7**	**-1.0**
IGN	**Direccin Gen**	**0.57**	**356**	*e*P	**Pn**	**14 35 12.1**	**-0.7**
IGN				*e*P	**Pn**	**14 35 12.1**	**-0.7**
IGN				*e*S	**Sn**	**14 35 22.3**	**+0.8**
ALJI	**Alcalda de J**	**0.58**	**71**	*e*P	**Pn**	**14 35 11.9**	**-0.8**
PMON	**Piamonte**	**0.59**	**343**	*e*P	**Pn**	**14 35 12.1**	**-1.0**
JAYA	**Jayaque - finc**	**0.59**	**329**	*e*P	**Pn**	**14 35 11.8**	**-1.3**
LBRS	**Las Brisas**	**0.60**	**8**	*e*P	**Pn**	**14 35 12.7**	**-0.5**
PAVA	**Las Pavas**	**0.60**	**19**	*e*P	**Pn**	**14 35 12.5**	**-0.7**
LFU	**La Fuente**	**0.60**	**2**	*e*P	**Pn**	**14 35 12.6**	**-0.6**
BOQS	**Boqueron**	**0.61**	**346**	⇓*i*P	**Pn**	**14 35 12.5**	**-0.8**
SCLA	**Alcaldia de Sa**	**0.68**	**35**	*e*P	**Pn**	**14 35 13.7**	**-0.4**
CEDA	**San Andres**	**0.70**	**339**	*e*P	**Pn**	**14 35 13.4**	**-1.0**
CEDA				*e*S	**Sn**	**14 35 24.9**	**+0.4**
PQSS	**Presa 15 de Se**	**0.74**	**49**	*e*P	**Pn**	**14 35 14.3**	**-0.5**
SBLS	**San Blas**	**0.84**	**326**	*e*P	**Pn**	**14 35 15.3**	**-1.1**
LCY	**Lacayo**	**0.86**	**71**	*e*P	**Pn**	**14 35 16.1**	**-0.5**
JUCU	**Jucuar¡n**	**0.87**	**83**	*e*P	**Pn**	**14 35 15.2**	**-1.4**
RTR	**El Retiro**	**0.90**	**327**	*e*P	**Pn**	**14 35 16.2**	**-0.9**
UNIC	**Universidad Ca**	**0.93**	**334**	*e*P	**Pn**	**14 35 16.6**	**-0.8**
NUBE	**Las Nubes**	**0.98**	**320**	*e*P	**Pn**	**14 35 16.6**	**-1.6**
NUBE				*e*S	**Sn**	**14 35 30.4**	**-0.8**
CNRM	**Centro Naciona**	**0.99**	**70**	*e*P	**Pn**	**14 35 17.7**	**-0.5**
CNRM				*e*S	**Sn**	**14 35 33.3**	**+2.1**
SLOZ	**Alcaldia de Sa**	**1.08**	**324**	*e*P	**Pn**	**14 35 18.5**	**-1.0**
LCND	**La Caada**	**1.22**	**82**	*e*P	**Pn**	**14 35 20.5**	**-0.7**
LCND				*e*S	**Sn**	**14 35 37.5**	**+0.8**
MTO3	**Montecristo**	**1.27**	**350**	⇓*e*P	**Pn**	**14 35 21.3**	**-0.8**
CNCH	**Conchagua**	**1.27**	**84**	*e*P	**Pn**	**14 35 21.1**	**-1.0**
ESQI	**Esquipulas**	**1.43**	**352**	*e*P	**Pn**	**14 35 23.8**	**-0.3**
NBG	**Las Nubes**	**1.86**	**321**	*e*P	**Pn**	**14 35 30.3**	**+0.1**
PCG	**Pacaya**	**1.90**	**311**	*e*P	**Pn**	**14 35 31.2**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.02**	**63**	*e*P	**Pn**	**14 35 31.7**	**-0.6**
FUG	**Fuego 3**	**2.11**	**308**	*e*P	**Pn**	**14 35 34.0**	**+0.5**
FUG				*e*S	**Sn**	**14 36 00.1**	**+1.4**
STG3	**Santiaguito 3,**	**2.83**	**304**	*e*P	**Pn**	**14 35 43.6**	**+0.1**

*TEH **22** 14:40:02.4, 27°.84N×53°.35E, h5km, ML3.1*
*DSN **22** 14:40:05.9±2.1, 27°.12N×52°.79E, h10km, ML2.9/5, Error ellipse: s-maj=42.9km s-min=17.3km az=48.0*
ISC 22 14:40:05.0±1.1, 27°.82N±0°.04×53°.30E±0°.06, h23km, n15, σ2°05/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.49**	**195**	Pg	**Pb**	**14 40 12.8**	**-2.2**
QIR1	**Qir**	**0.70**	**341**	Pg	**Pb**	**14 40 16.0**	**-2.5**
JHRM	**Jahrom**	**0.73**	**19**	Pg	**Pb**	**14 40 16.3**	**-2.8**
LAR1	**LAR**	**0.96**	**98**	Pg	**Pb**	**14 40 21.9**	**-1.1**
DSBU	**Dashti - Bushe**	**1.89**	**287**	Pn	**Pb**	**14 40 38.8**	**+0.1**
SHME	**Shamm**	**3.08**	**124**	P	**Pn**	**14 40 55.5**	**+3.2**
NAZ	**Nazwa, Dubai**	**3.52**	**143**	P	**Pn**	**14 40 56.6**	**-1.6**
MDH	**Madha**	**3.67**	**132**	P	**Pn**	**14 41 03.0**	**+2.6**
IMEH	**Mehriz**	**3.74**	**17**	Pn	**Pn**	**14 41 03.1**	**+1.6**
KHGB	**Koh Gabri**	**3.77**	**47**	Pn	**Pn**	**14 41 03.7**	**+1.8**
UOSS	**Minazif**	**3.86**	**137**	P	**Pn**	**14 41 05.3**	**+2.2**
ASHO	**Ashiyiah**	**3.98**	**141**	P	**Pn**	**14 41 04.8**	**+0.1**
ASHO				S	**Sn**	**14 41 50.7**	**+0.1**
IRAM	**Ramesheh**	**4.06**	**349**	Pn	**Pn**	**14 41 07.7**	**+1.8**
SOHO	**SOHO**	**4.68**	**141**	P	**Pn**	**14 41 14.4**	**+0.3**
ANAR	**Anarak**	**5.37**	**4**	Pn	**Pn**	**14 41 24.8**	**+1.0**

*NEIC **22** 14:41:16.4±1.7, 24°.01N±0°.05×122°.33E±0°.02, h10km±1km, mb4.7/37, Error ellipse: s-maj=8.0km s-min=3.2km az=166.0*
*NIED **22** 14:41:18.6, 23°.97N×122°.32E, h22km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}0.18; $M_{\theta\theta}$-0.81; $M_{\phi\phi}$0.63; $M_{r\theta}$1.03; $M_{\theta\phi}$0.33; $M_{\phi r}$0.69; Fault plane solution: $M_0$1.48000×10^{15} NP1:ϕ_s60.00000°, δ86.00000°, λ58.00000°. NP2:ϕ_s323.00000°, δ33.00000°, λ172.00000°.*
*JMA **22** 14:41:18.6±0.2, 24°.04N±1°.0×122°.3E±0°.4, h22km±3km, MD4.4/18, MV4.2/18, TAIWAN REGION*
*TAP **22** 14:41:19.1, 24°.04N×122°.32E, h24km, ML4.3, C*
*ASIES **22** 14:41:19.1, 24°.04N×122°.32E, h24km, ML4.3, Mw4.1, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}0.73; $M_{\theta\theta}$-0.87; $M_{\phi\phi}$0.14; $M_{r\theta}$1.40; $M_{\theta\phi}$0.09; $M_{\phi r}$0.61; Fault plane solution: $M_0$1.73069×10^{22} NP1:ϕ_s70.14000°, δ77.36000°, λ76.44000°. NP2:ϕ_s297.93000°, δ18.46000°, λ136.29000°. Principal axes: T Plg55.6330°, Azm323.0430°; N Plg13.2310°, Azm73.1530°; P Plg31.0650°, Azm171.2960°;*
*IDC **22** 14:41:23.1±4.6, 24°.15N×122°.42E, h65km±43km, mb3.9/15, mbtmp4.2/16, ML3.3/1, MS3.4/4 Error ellipse: s-maj=27.0km s-min=12.4km az=58.0*
ISC 22 14:41:18.7±0.8, 23°.99N±0°.02×122°.33E±0°.01, h27km±5km, n269, σ1°06/440, mb4.5/35, 17C-20D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.13**	**357**	⇓*i*P	**Pb**	**14 41 23.2**	**-0.2**
	baz=355						
EOS4				*i* S	**Sb**	**14 41 26.4**	**-0.2**
	baz=355						
EOS3	**EOS3**	**0.30**	**359**	⇓*i*P	**Pb**	**14 41 25.7**	**0.0**
	baz=341						
EOS3				S	**Sb**	**14 41 30.7**	**+0.2**
	baz=341						
EOS2	**EOS2**	**0.44**	**349**	⇓P	**Pb**	**14 41 28.2**	**+0.3**
	baz=334						
EOS2				*e*S	**Sn**	**14 41 35.9**	**-0.2**
	baz=334						
EHP	**Heping Village**	**0.62**	**301**	*e*P	**Pb**	**14 41 31.3**	**+0.3**
	baz=296						
HWA	**Hwalien**	**0.66**	**269**	P	**Pb**	**14 41 31.9**	**+0.3**
	baz=251						
HWA				S	**Sn**	**14 41 41.9**	**+0.2**
	baz=251						
ETL	**Fush Village**	**0.66**	**285**	*i* P	**Pb**	**14 41 32.1**	**+0.4**
	baz=265						
ETL				*i* S	**Sn**	**14 41 41.6**	**-0.3**
	baz=265						
TWD	**Chiawan**	**0.67**	**278**	⇑P	**Pb**	**14 41 31.7**	**-0.2**
	baz=273						
TWD				*i* S	**Sb**	**14 41 41.4**	**+0.6**
	baz=273						
EWUT	**Wuta**	**0.68**	**312**	⇓*i*P	**Pb**	**14 41 31.3**	**-0.6**
	baz=317						
EWUT				S	**Sb**	**14 41 41.2**	**+0.3**
	baz=317						
ENA	**Nanau**	**0.69**	**310**	⇓*i*P	**Pb**	**14 41 31.6**	**-0.6**
	baz=315						
ENA				S	**Sn**	**14 41 42.2**	**-0.3**
	baz=315						
NACB	**Ninganchiao**	**0.69**	**286**		**Pb**	**14 41 31.7**	**-0.5**
NACB				Sg	**Sb**	**14 41 40.2**	**-1.2**
NACB	**Ninganchiao**	**0.69**	**286**	P	**Pb**	**14 41 32.0**	**-0.2**
NACB	**Ninganchiao**	**0.69**	**286**	⇑P	**Pb**	**14 41 32.0**	**-0.2**
	baz=266						
NACB				S	**Sb**	**14 41 42.2**	**+0.8**
	baz=266						
JYNG	**Yonagunijimaku**	**0.73**	**51**	P	**Pb**	**14 41 32.8**	**0.0**
JYNG				S	**Sb**	**14 41 41.7**	**-0.7**
JYNG	**Yonagunijimaku**	**0.73**	**51**	A	A	14 41 32.8	
	comp=E,18nm,0.6s,comp=N,49nm,0.6s						
TWC	**Suao**	**0.76**	**325**	⇓*i*P	**Pb**	**14 41 32.3**	**-0.9**
	baz=322						
TWC				*e*S	**Sb**	**14 41 41.3**	**-1.9**
	baz=322						
ETM	**Tongmen**	**0.76**	**269**	⇑*i*P	**Pb**	**14 41 33.0**	**-0.4**
	baz=254						
ETM				S	**Sb**	**14 41 43.9**	**+0.5**
	baz=254						
TEGC	**Jichi Village**	**0.77**	**249**	S	**Sn**	**14 41 45.3**	**+0.9**
	baz=245						
YOJ	**Yonaguni jima**	**0.78**	**53**		**Pb**	**14 41 33.5**	**-0.1**
YOJ					**Sb**	**14 41 43.1**	**-0.8**
YOJ	**Yonaguni jima**	**0.78**	**53**	P	**Pn**	**14 41 34.3**	**+0.4**
YOJ	**Yonaguni jima**	**0.78**	**53**	P	**Pb**	**14 41 33.7**	**0.0**
YOJ				S	**Sb**	**14 41 43.4**	**-0.6**
YOJ	**Yonaguni jima**	**0.78**	**53**	A	A	14 41 33.7	
	comp=E,19nm,1.3s,comp=N,22nm,0.7s						
YOJ	**Yonaguni jima**	**0.78**	**53**	P	**Pn**	**14 41 34.4**	**+0.5**
	baz=63						
YOJ				*e*S	**Sb**	**14 41 43.5**	**-0.5**
	baz=63						
ETLH	**Xiulin Townshi**	**0.80**	**286**	⇑P	**Pb**	**14 41 33.9**	**-0.2**
	baz=270						
ETLH				S	**Sb**	**14 41 44.9**	**+0.4**
	baz=270						
ESL	**Shilin**	**0.83**	**258**	⇓*i*P	**Pb**	**14 41 33.9**	**-0.7**
	baz=246						
ESL				*e*S	**Sb**	**14 41 44.0**	**-1.4**
	baz=246						
LXIB	**Xiulin Townshi**	**0.83**	**272**	⇑P	**Pb**	**14 41 34.1**	**-0.5**
	baz=259						
LXIB				S	**Sb**	**14 41 45.8**	**+0.2**
	baz=259						
NDS	**Dongshan**	**0.85**	**319**	⇓P	**Pb**	**14 41 34.5**	**-0.4**
	baz=321						
NDS				S	**Sn**	**14 41 46.3**	**-0.1**
	baz=321						
EGFH	**Guangfu**	**0.88**	**249**	P	**Pb**	**14 41 35.6**	**+0.2**
	baz=246						
EGFH				S	**Sb**	**14 41 47.4**	**+0.7**
	baz=246						
WARBT	**Fenglin Townsh**	**0.90**	**253**	P	**Pb**	**14 41 34.9**	**-0.8**
	baz=240						
WARBT				S	**Sb**	**14 41 47.4**	**+0.1**
	baz=240						
LATG	**Datong**	**0.91**	**307**	⇑*i*P	**Pb**	**14 41 35.7**	**-0.2**
	baz=303						
LATG				*e*S	**Sn**	**14 41 49.8**	**+1.7**
	baz=303						
EGS		**0.93**	**337**	P	**Pn**	**14 41 36.0**	**+0.1**
	baz=325						
EGS				*e*S	**Sn**	**14 41 48.9**	**+0.6**
	baz=325						
ILA	**Ilan**	**0.94**	**326**	*i* P	**Pn**	**14 41 36.5**	**+0.4**
	baz=323						
TWE	**Neicheng**	**0.94**	**321**	⇓*i*P	**Pb**	**14 41 36.1**	**-0.3**
	baz=326						
TWE				*e*S	**Sn**	**14 41 49.6**	**+0.8**
	baz=326						
ENTT	**Nioudou**	**0.95**	**313**	*i* P	**Pn**	**14 41 36.7**	**+0.4**
	baz=320						
ENTT				S	**Sn**	**14 41 49.8**	**+0.9**
	baz=320						
NDT	**Datong Townshi**	**0.96**	**310**	*i* P	**Pn**	**14 41 36.7**	**+0.3**
	baz=318						
NDT				S	**Sn**	**14 41 50.2**	**+1.0**
	baz=318						
HGSD	**Ruisui**	**0.96**	**239**	⇓P	**Pn**	**14 41 36.0**	**-0.3**
	baz=237						
HGSD				*e*S	**Sb**	**14 41 48.7**	**-0.4**
	baz=237						
NNSB	**Datong**	**0.97**	**297**	*i* P	**Pb**	**14 41 36.8**	**0.0**
	baz=293						
NNSB				*e*S	**Sn**	**14 41 49.7**	**+0.2**
	baz=293						
NNSH	**Datong**	**0.97**	**297**	*i* P	**Pb**	**14 41 36.8**	**-0.1**
	baz=293						
NNSH				*e*S	**Sn**	**14 41 50.0**	**+0.5**
	baz=293						
NNS	**Nan Shan**	**0.98**	**298**	*i* P	**Pb**	**14 41 36.9**	**-0.2**
	baz=294						
NNS				S	**Sn**	**14 41 50.1**	**+0.3**
	baz=294						
WHF	**Hehuan Shan**	**0.98**	**279**	*i* P	**Pb**	**14 41 37.0**	**-0.3**
	baz=263						
WHF				S	**Sb**	**14 41 50.2**	**+0.2**
	baz=263						
FUSB	**Fushanzhiwuyua**	**1.02**	**319**	⇑P	**Pb**	**14 41 37.8**	**0.0**
	baz=315						
FUSB				S	**Sn**	**14 41 51.7**	**+0.9**
	baz=315						
FUSS	**Fushou**	**1.02**	**285**	*i* P	**Pn**	**14 41 37.9**	**+0.4**
	baz=281						
FUSS				S	**Sn**	**14 41 51.4**	**+0.4**
	baz=281						
EHY	**Hungye**	**1.04**	**243**	*i* P	**Pn**	**14 41 37.7**	**+0.3**
	baz=240						
EHY				*e*S	**Sb**	**14 41 51.2**	**0.0**
	baz=240						
ECBN	**Changbin**	**1.04**	**230**	⇑P	**Pn**	**14 41 37.5**	**0.0**
	baz=229						
ECBN				S	**Sb**	**14 41 50.8**	**-0.6**
	baz=229						
OWD	**Renai**	**1.05**	**268**	*i* P	**Pn**	**14 41 38.0**	**+0.2**
	baz=265						
OWD				S	**Sb**	**14 41 50.6**	**-1.2**
	baz=265						
CHGB	**Renai**	**1.05**	**274**	*i* P	**Pn**	**14 41 38.3**	**+0.4**
	baz=259						
CHGB				*e*S	**Sb**	**14 41 51.8**	**-0.1**
	baz=259						
TWB1	**Santiao Chiao**	**1.06**	**343**	P	**Pb**	**14 41 38.1**	**-0.3**
	baz=328						
TWB1				S	**Sn**	**14 41 51.7**	**0.0**
	baz=328						
TWT	**Tachien**	**1.08**	**284**	*i* P	**Pb**	**14 41 39.3**	**+0.5**
	baz=270						
TWT				S	**Sn**	**14 41 54.0**	**+1.6**
	baz=270						
NWLT	**Wulai**	**1.09**	**317**	*i* P	**Pb**	**14 41 39.1**	**+0.2**
	baz=322						
NWLT				S	**Sn**	**14 41 53.2**	**+0.8**
	baz=322						
TDCB	**Techi**	**1.10**	**284**	⇓P	**Pn**	**14 41 39.0**	**+0.5**
	baz=270						
TDCB				S	**Sn**	**14 41 53.6**	**+0.8**
	baz=270						
YHNB	**Yeheng**	**1.10**	**308**		**Pn**	**14 41 38.4**	**0.0**
YHNB	**Yeheng**	**1.10**	**308**	P	**Pn**	**14 41 38.8**	**+0.4**
YHNB	**Yeheng**	**1.10**	**308**	⇑P	**Pn**	**14 41 38.7**	**+0.4**
	baz=304						
YHNB				S	**Sn**	**14 41 52.8**	**+0.1**
	baz=304						
WUSB	**Renai**	**1.10**	**270**	*i* P	**Pn**	**14 41 38.9**	**+0.4**
	baz=267						
WUSB				*e*S	**Sb**	**14 41 53.4**	**+0.2**
	baz=267						
VWDT	**VWDT**	**1.11**	**258**	P	**Pn**	**14 41 39.1**	**+0.7**
	baz=255						
VWDT				S	**Sn**	**14 41 53.1**	**+0.3**
	baz=255						
YULB	**Yu-li**	**1.11**	**238**		**Pn**	**14 41 38.3**	**-0.2**
YULB	**Yu-li**	**1.11**	**238**	P	**Pn**	**14 41 38.8**	**+0.3**
YULB	**Yu-li**	**1.11**	**238**	⇓P	**Pn**	**14 41 38.4**	**-0.1**
	baz=252						
YULB				S	**Sn**	**14 41 53.1**	**+0.2**
	baz=252						
NSK	**Sanguang**	**1.12**	**308**	*i* P	**Pb**	**14 41 39.1**	**-0.3**
	baz=304						
NSK				S	**Sn**	**14 41 53.8**	**+0.6**
	baz=304						
EYUL	**Yuli**	**1.12**	**236**	*i* P	**Pn**	**14 41 39.1**	**+0.5**
	baz=234						
EYUL				S	**Sn**	**14 41 53.7**	**+0.5**
	baz=234						
TWF1	**Yuli**	**1.14**	**236**	*i* P	**Pn**	**14 41 39.1**	**+0.3**
	baz=223						
TWF1				S	**Sn**	**14 41 54.3**	**+0.8**
	baz=223						
SXI1	**Grass Mountain**	**1.18**	**340**	⇑P	**Pn**	**14 41 39.5**	**+0.1**
	baz=336						
SXI1				S	**Sb**	**14 41 55.8**	**+0.6**
	baz=336						
NWF	**Wu-fen Shan**	**1.19**	**335**	*i* P	**Pb**	**14 41 40.0**	**-0.6**
	baz=332						
NWF				S	**Sb**	**14 41 56.1**	**+0.5**
	baz=332						
WFSB	**Wu-fen Shan**	**1.19**	**335**	⇑P	**Pb**	**14 41 39.9**	**-0.6**
	baz=332						
WFSB				*e*S	**Sb**	**14 41 56.7**	**+1.2**
	baz=332						
TWA	**Mucha**	**1.20**	**326**	*e*P	**Pb**	**14 41 40.9**	**+0.2**
	baz=322						
TWA				*e*S	**Sb**	**14 41 57.4**	**+1.5**
	baz=322						
NHDH	**Xindian Distri**	**1.21**	**323**	*i* P	**Pb**	**14 41 41.4**	**+0.4**
	baz=320						
NHDH				*e*S	**Sb**	**14 41 57.5**	**+1.2**
	baz=320						
FULB	**Fuli**	**1.23**	**231**	*i* P	**Pn**	**14 41 39.9**	**-0.2**
	baz=216						
FULB				*e*S	**Sn**	**14 41 55.7**	**-0.2**
	baz=216						
TATO	**Taipei**	**1.25**	**322**		**Pn**	**14 41 40.5**	**+0.2**
TATO	**Taipei**	**1.25**	**322**	P	**Pb**	**14 41 41.4**	**-0.1**
TATO	**Taipei**	**1.25**	**322**	P	**Pb**	**14 41 41.5**	**-0.1**
	baz=318						
TATO				S	**Sb**	**14 41 58.5**	**+1.4**
	baz=318						
CHKT	**Chengkung**	**1.25**	**225**	*i* P	**Pn**	**14 41 39.8**	**-0.5**
	baz=213						
CHKT				*e*S	**Sn**	**14 41 54.7**	**-1.6**
	baz=213						
WPL	**Puli Township**	**1.25**	**271**	P	**Pn**	**14 41 41.5**	**+1.1**
	baz=259						
WPL				*e*S	**Sb**	**14 41 57.8**	**+0.4**
	baz=259						
TNOU	**National Taiwa**	**1.26**	**337**	P	**Pb**	**14 41 41.7**	**-0.1**
	baz=333						
TNOU				S	**Sb**	**14 41 57.8**	**+0.1**
	baz=333						
SSLB	**Suanglung**	**1.27**	**261**		**Pn**	**14 41 40.9**	**+0.3**
SSLB	**Suanglung**	**1.27**	**261**	P	**Pn**	**14 41 41.6**	**+0.9**
SSLB	**Suanglung**	**1.27**	**261**	P	**Pn**	**14 41 41.0**	**+0.3**
	baz=249						
SSLB				*e*S	**Sn**	**14 41 58.2**	**+1.4**
	baz=249						
NFF	**Wufeng Townshi**	**1.27**	**300**	P	**Pb**	**14 41 41.8**	**-0.3**
	baz=297						
NFF				S	**Sb**	**14 41 59.2**	**+1.2**
	baz=297						
DPDB	**Guoxing**	**1.28**	**272**	*i* P	**Pn**	**14 41 41.8**	**+1.0**
	baz=260						
DPDB				*e*S	**Sb**	**14 41 59.4**	**+1.2**
	baz=260						
TAP	**Taipei**	**1.29**	**325**	P	**Pb**	**14 41 42.8**	**+0.6**
	baz=321						
TAP				S	**Sb**	**14 41 58.0**	**-0.3**
	baz=321						
BACT	**New Taipei Cit**	**1.29**	**322**	P	**Pb**	**14 41 42.0**	**-0.3**
	baz=318						
BACT				S	**Sb**	**14 41 59.5**	**+1.2**
	baz=318						
WHP	**Taichung City**	**1.29**	**283**	*i* P	**Pn**	**14 41 42.1**	**+1.1**
	baz=269						
WHP				S	**Sb**	**14 41 59.3**	**+0.7**
	baz=269						
WCS	**Beigang Elemen**	**1.29**	**273**	P	**Pn**	**14 41 41.4**	**+0.4**
	baz=270						
SMLT	**Sun Moon Lake**	**1.31**	**266**	*i* P	**Pn**	**14 41 42.1**	**+0.9**
	baz=253						
SMLT				*e*S	**Sn**	**14 41 58.8**	**+0.8**
	baz=253						
EHD	**Haiduan**	**1.32**	**231**	P	**Pn**	**14 41 41.2**	**-0.2**
	baz=245						
EHD				*e*S	**Sn**	**14 41 57.9**	**-0.2**
	baz=245						
IRIF	**Iriomote-Funau**	**1.33**	**75**	P	**Pb**	**14 41 42.8**	**-0.1**
IRIF				S	**Sb**	**14 42 01.2**	**+1.6**
IRIF	**Iriomote-Funau**	**1.33**	**75**	A	A	14 41 42.8	
	comp=E,11nm,0.6s,comp=N,13nm,1.5s						
YM01	**YM01**	**1.34**	**329**	P	**Pn**	**14 41 42.3**	**+0.6**
	baz=342						
YM01				*e*S	**Sb**	**14 42 01.0**	**+1.0**
	baz=342						
TYC	**Yuchr**	**1.35**	**267**	P	**Pn**	**14 41 42.7**	**+1.0**
	baz=264						
ECS	**Chishang**	**1.35**	**229**	*i* P	**Pn**	**14 41 42.4**	**+0.6**
	baz=217						
ECS				S	**Sn**	**14 42 00.2**	**+1.5**
	baz=217						
NJD	**Zhudong**	**1.35**	**304**	P	**Pb**	**14 41 43.8**	**+0.4**
	baz=300						
NJD				*e*S	**Sb**	**14 42 02.4**	**+2.2**
	baz=300						
HATJ	**Hateruma jima**	**1.35**	**87**	P	**Pn**	**14 41 42.9**	**+1.1**
HATJ				*e*S	**Sb**	**14 42 01.4**	**+1.1**
LIOB	**Emei**	**1.36**	**299**	*i* P	**Pb**	**14 41 43.7**	**+0.2**
	baz=296						
LIOB				*e*S	**Sb**	**14 42 01.0**	**+0.5**
	baz=296						
NSTT	**Nanjuang**	**1.37**	**298**	*i* P	**Pb**	**14 41 43.6**	**0.0**
	baz=295						
NSTT				S	**Sb**	**14 42 01.0**	**+0.3**
	baz=295

baz=329
TWY eS Sb 14 42 04.3 +1.5
baz=329
SBCB Hsinchu 1.46 304 P Pb 14 41 44.9 -0.2
baz=300
SBCB eS Sb 14 42 05.4 +2.0
baz=300
TWQ1 Liyutan 1.46 285 i P Pb 14 41 45.4 +0.2
baz=281
TWQ1 S Sb 14 42 05.1 +1.7
baz=281
WJS Zhushan 1.47 264 P Pb 14 41 45.6 +0.3
baz=262
WJS S Sb 14 42 05.4 +1.7
baz=262
ALS Alishan 1.47 251 i P Pn 14 41 45.0 +1.4
baz=250
ALS S Sn 14 42 03.0 +0.8
baz=250
HSN Hsinchu 1.48 304 P Pn 14 41 44.5 +1.0
baz=301
HSN eS Sb 14 42 05.1 +1.3
baz=301
NSY Sanyi 1.49 287 i P Pb 14 41 46.2 +0.5
baz=283
NSY S Sb 14 42 05.6 +1.4
baz=283
NJN Zhunan 1.50 298 P Pb 14 41 45.8 +0.1
baz=294
NJN S Sb 14 42 05.8 +1.4
baz=294
NMLH Miaoli 1.50 292 P Pb 14 41 46.0 +0.1
baz=288
NMLH S Sb 14 42 06.2 +1.6
baz=288
WNT Mingjian 1.51 266 eP Pb 14 41 46.5 +0.6
baz=264
WNT eS Sb 14 42 05.8 +1.1
baz=264
WNT1 Nantou City 1.51 267 P Pb 14 41 46.5 +0.6
baz=265
WNT1 S Sb 14 42 06.1 +1.4
baz=265
TCU Taichung 1.52 276 ⇑P Pb 14 41 46.3 +0.2
baz=273
TCU S Sb 14 42 06.5 +1.6
baz=273
LDUT Ludao 1.53 211 P Pn 14 41 44.0 -0.2
baz=212
LDUT eS Sn 14 42 01.6 -1.5
baz=212
LONT Longtian 1.54 226 ⇓P Pn 14 41 44.3 0.0
baz=238
LONT S Sn 14 42 03.5 +0.1
baz=238
NHW Xinwu Township 1.54 311 P Pb 14 41 45.7 -0.9
baz=307
NHW S Sb 14 42 05.3 -0.5
baz=307
CHN5 Tsauling 1.56 256 P Pn 14 41 46.5 +1.8
baz=243
CHN5 eS Sb 14 42 07.4 +1.2
baz=243
JKRS Kuro-shima 1.56 80 P Pn 14 41 45.9 +1.3
JKRS eS Sb 14 42 06.9 +0.8
JKRS Kuro-shima 1.56 80 A A 14 41 45.9
comp=E,11nm,2.7s,comp=N,17nm,2.6s
WDJ Dajia District 1.58 283 eP Pb 14 41 47.4 +0.2
baz=280
WDJ eS Sb 14 42 07.8 +1.0
baz=280
WYL Yuanlin Townsh 1.60 269 P Pb 14 41 47.9 +0.4
baz=267
WYL S Sb 14 42 09.0 +1.7
baz=267
WCHH Zhanghua 1.62 274 eP Pb 14 41 48.1 +0.2
baz=271
WCHH eS Sb 14 42 09.6 +1.7
baz=271
TWGBT Beinan 1.63 225 P Pn 14 41 45.4 -0.2
TWGBT Beinan 1.63 225 ⇑P Pn 14 41 45.4 -0.2
baz=236
TWGBT eS Sn 14 42 05.3 -0.5
baz=236
TWG Pinlang 1.64 225 Pn 14 41 45.1 -0.6
TWG Pinlang 1.64 225 P Pn 14 41 45.5 -0.1
baz=236
TWG eS Sn 14 42 06.1 +0.2
baz=236
TTN Taitung 1.64 222 eP Pn 14 41 44.1 -1.5
baz=221
TTN S Sn 14 42 05.9 0.0
baz=221
STYH Taoyuan 1.64 241 P Pn 14 41 46.7 +1.0
baz=229
STYH S Sn 14 42 07.0 +1.1
baz=229
WGK Gukeng 1.64 260 eP Pb 14 41 49.4 +1.1
baz=258
WGK eS Sb 14 42 09.7 +1.1
baz=258
STYT Tauyuan 1.66 241 i P Pn 14 41 47.4 +1.4
baz=229
STYT S Sn 14 42 07.8 +1.3
baz=229
WDLH Douliu 1.66 260 eP Pb 14 41 48.5 -0.1
baz=258
WDLH S Sb 14 42 09.8 +0.6
baz=258
WCKO Fanlu 1.67 251 eP Pb 14 41 48.7 0.0
baz=239
WCKO eS Sb 14 42 10.1 +0.7
baz=239
TPUB Ta-pu 1.70 247 Pn 14 41 48.0 +1.5
TPUB Ta-pu 1.70 247 P Pn 14 41 48.8 +2.2
TPUB Ta-pu 1.70 247 eP Pn 14 41 48.3 +1.8
baz=245
TPUB eS Sb 14 42 11.3 +1.0
baz=245
JIJ Ishigaki jima 1.70 77 P Pn 14 41 47.0 +0.5
JIJ S Sn 14 42 07.8 +0.4
CHN4 Tsaushan 1.71 249 eP Pb 14 41 50.4 +0.9
baz=247
CHN4 eS Sb 14 42 12.5 +2.0
baz=247
WTP Ta-pu 1.73 245 eP Pb 14 41 50.3 +0.4
baz=244
WTP eS Sb 14 42 12.4 +1.2
baz=244
CHN2 Minshiung 1.75 255 eP Pb 14 41 50.6 +0.4
baz=254
CHN2 eS Sb 14 42 13.2 +1.4
baz=254
WRL Guolierlin Hig 1.78 268 P Pn 14 41 49.6 +1.9
baz=265
WRL eS Sb 14 42 12.6 -0.1
baz=265
WTK Tuku 1.80 261 P Pb 14 41 50.9 -0.1
baz=259
WTK eS Sb 14 42 13.0 0.0
baz=259
RLNB Erlin 1.80 267 ⇓P Pb 14 41 50.4 -0.6
baz=265
RLNB eS Sb 14 42 14.0 +0.9
baz=265
CHY Chiayi 1.81 255 P Pn 14 41 50.3 +2.3
baz=253
CHY eS Sb 14 42 15.1 +1.8
baz=253
CHN1 Nanshi 1.83 245 eP Pb 14 41 51.7 +0.1
baz=243
CHN1 eS Sb 14 42 15.2 +1.2
baz=243
SLGT Liugui 1.83 238 P Pn 14 41 50.6 +2.2
baz=227
SLGT S Sb 14 42 13.8 -0.2
baz=227
TWK Hsinying 1.83 247 eP Pb 14 41 51.1 -0.4
baz=246
TWK eS Sb 14 42 14.7 +0.7
baz=246
SGST Jiashian 1.84 241 eP Pn 14 41 50.4 +1.9
baz=230
SGST i S Sn 14 42 13.9 +3.1
baz=230
SNST Tainan City 1.84 246 eP Pb 14 41 52.0 +0.3
baz=245
SNST S Sb 14 42 14.0 -0.3
baz=245
ECL Taimali 1.87 223 eP Pn 14 41 48.7 -0.2
baz=223
ECL eS Sn 14 42 11.1 -0.6
baz=223
WTCT Ta-ch'eng 1.88 267 eP Pn 14 41 49.9 +1.0
baz=264
WTCT eS Sb 14 42 15.5 +0.3
baz=264
JISG Ishigakijimahi 1.91 71 P Pn 14 41 50.0 +0.6
JISG S Sn 14 42 14.0 +1.5
WMLT Mailiao 1.93 265 eP Pn 14 41 51.3 +1.6
baz=278
WMLT eS Sb 14 42 16.7 -0.2
baz=278
WSF Szhu 1.96 260 eP Pn 14 41 52.4 +2.3
baz=258
WSF eS Sb 14 42 18.5 +0.9
baz=258
ICHU Yijhu 1.98 252 eP Pb 14 41 54.1 +0.2
baz=251
ICHU eS Sb 14 42 18.3 +0.1
baz=251
WSL Shuilin Townsh 1.98 257 eP Pb 14 41 53.2 -0.8
baz=255
WSL eS Sb 14 42 18.2 0.0
baz=255
SSD Sandimen 1.99 232 eP Pn 14 41 52.8 +2.3
baz=225
SSD eS Sn 14 42 18.1 +3.5
baz=225
TSMG Majia 2.00 231 eP Pn 14 41 51.8 +1.1
baz=224
TSMG eS Sn 14 42 16.4 +1.5
baz=224
SCST Cishan 2.01 237 eP Pb 14 41 53.8 -0.7
baz=224
SCST eS Sb 14 42 20.4 +1.3
baz=224
CHN3 Shinhua 2.02 244 eP Pb 14 41 55.4 +0.8
baz=243
CHN3 eS Sb 14 42 20.8 +1.5
baz=243
CHN8 Yiju 2.04 252 P Pn 14 41 53.0 +1.8
baz=251
CHN8 eS Sb 14 42 19.6 -0.4
baz=251
SHHT Tainan City 2.05 242 eP Pb 14 41 54.9 -0.4
baz=242
SHHT eS Sb 14 42 22.3 +1.9
baz=242
LAY Lan-yu 2.07 200 eP Pn 14 41 51.0 -0.7
baz=201
MASBT Mashibuluo 2.07 229 eP Pn 14 41 52.6 +0.9
baz=223
MASBT S Sn 14 42 18.5 +1.9
baz=223
TAW Tawu 2.09 219 eP Pn 14 41 53.6 +1.7
baz=220
TAW eS Sn 14 42 17.0 0.0
baz=220
LYUB Lan-yu 2.09 199 eP Pn 14 41 50.8 -1.1
baz=200
EAST Anshuo 2.10 221 eP Pn 14 41 52.4 +0.4
baz=221
EAST eS Sn 14 42 19.2 +1.9
baz=221
TWM1 Shoushan 2.10 237 eP Pb 14 41 56.2 +0.2
baz=235
TWM1 eS Sb 14 42 24.5 +2.8
baz=235
SGLT Jiouru 2.10 234 eP Pb 14 41 56.4 +0.3
baz=224
SGLT eS Sb 14 42 23.7 +1.9
baz=224
TAWH Dawu Township 2.11 219 eP Pn 14 41 52.6 +0.4
baz=220
TAWH eS Sn 14 42 16.9 -0.5
baz=220
SCLT Jiali 2.12 248 eP Pn 14 41 53.6 +1.3
baz=247
SCLT eS Sb 14 42 21.8 -0.4
baz=247
TSPT Pingtung City 2.13 233 eP Pb 14 41 56.7 +0.1
baz=233
TSPT eS Sb 14 42 25.0 +2.4
baz=233
TAI1 Yung-k'ang 2.14 244 P Pn 14 41 54.4 +1.8
baz=243
TAI1 eS Sn 14 42 20.5 +2.2
baz=243
SNJT Kaohsiung City 2.20 237 P Pb 14 41 57.2 -0.7
baz=236
SNJT eS Sb 14 42 24.4 -0.3
baz=236
TSCK Chigu Township 2.22 248 P Pn 14 41 55.8 +2.1
baz=247
TSCK S Sn 14 42 23.2 +3.0
baz=247
SCZT Fangliau 2.25 225 eP Pn 14 41 56.9 +2.9
baz=218
SCZT eS Sb 14 42 25.4 -0.6
baz=218
SLIU Shizi 2.25 219 eP Pn 14 41 54.4 +0.2
baz=219
JTJ Tarama 2.26 73 P Pn 14 41 56.3 +2.0
JTJ eS Sn 14 42 24.1 +2.8
WSSB Gushan 2.32 235 P Pn 14 41 58.4 +3.2
baz=235
WSSB S Sb 14 42 28.3 +0.2
baz=235
SMST Manzhou Townsh 2.39 215 P Pn 14 41 56.4 +0.3
baz=217
SMST eS Sn 14 42 24.7 +0.2
baz=217
HEN Hengchun 2.46 217 P Pn 14 41 58.5 +1.5
baz=218
HEN S Sn 14 42 27.4 +1.4
baz=218
TWKBT Hengchun 2.47 215 eP Pn 14 41 57.2 0.0
baz=216
TWKBT S Sn 14 42 27.6 +1.2
baz=216
TWK1 Hengchun 2.47 215 P Pn 14 41 58.0 +0.9
baz=216
TWK1 S Sn 14 42 27.3 +0.9
baz=216
WDGT Dungji 2.55 254⇑eP Pn 14 42 00.6 +2.4
baz=241
WDGT S Sn 14 42 30.6 +2.2
baz=241
PHUB P'eng-hu 2.57 260 ⇓P Pn 14 41 59.8 +1.3
baz=258
PHUB S Sn 14 42 30.5 +1.7
baz=258
PNG Penghu 2.57 261 ⇓P Pn 14 41 59.9 +1.4
baz=259
PNG S Sn 14 42 31.1 +2.2
baz=259
JIRB Irabujima 2.73 72 P Pn 14 42 02.7 +2.0
JIRB S Sn 14 42 34.1 +1.3
VCHM Qimei 2.77 254 ⇓P Pn 14 42 02.8 +1.6
baz=253
VCHM S Sn 14 42 34.7 +0.9
baz=253
JIKM Ikemajima 2.82 70 P Pn 14 42 04.3 +2.3
JIKM eS Sn 14 42 36.0 +0.9
JMJ Miyako jima 2 2.83 72 P Pn 14 42 03.3 +1.2
baz=75
JMJ S Sn 14 42 36.4 +1.1
baz=75
JMJ2 Miyako jima3 2.84 74 P Pn 14 42 04.0 +1.8
JMJ2 S Sn 14 42 36.3 +0.7
MATB Ma-tsu 3.05 315 eP Pn 14 42 04.8 -0.3
baz=311
MATB eS Sn 14 42 41.1 +0.4
baz=311
MSUT Lienchiang 3.08 315 eP Pn 14 42 05.1 -0.4
baz=311
MSUT eS Sn 14 42 44.0 +2.6
baz=311
PTMZ Houxiangcun 3.10 290⇓eP Pn 14 42 06.2 +0.4
baz=288
LYJJ Jianjiangzhen 3.45 318 eP Pn 14 42 10.7 0.0
baz=314
LYJJ S Sn 14 42 52.2 +1.6
baz=314
XPSS Dashiqiu 3.51 327⇓eP Pn 14 42 11.5 +0.1
baz=311
XPSS S Sn 14 42 54.2 +2.2
baz=311
KNM Kinmen 3.58 278 eP Pn 14 42 14.2 +1.8
baz=274
KNM eS Sn 14 42 55.5 +1.7
baz=274
KNMB Chin-men Tao 3.62 278 Pn 14 42 13.0 0.0
KNMB Chin-men Tao 3.62 278 eP Pn 14 42 13.0 0.0
baz=274
KNMB eS Sn 14 42 53.6 -1.3
baz=274
MHZQ Yeshan 3.66 306 eP Pn 14 42 13.5 +0.1
baz=302
MHZQ eS Sn 14 42 57.1 +1.5
baz=302
AXDP Jialang 4.07 284⇑eP Pn 14 42 19.6 +0.5
baz=269
AXDP eS Sn 14 43 05.2 -0.8
baz=269
ZPLA Ao Xicun 4.19 270⇑eP Pn 14 42 20.1 -0.7
baz=268
DSXP Dongshan 4.49 267⇓eP Pn 14 42 25.8 +0.8
baz=264
DSXP eS Sn 14 43 15.2 -1.2
baz=264
SXFK Yanhouchang 4.87 300 eP Pn 14 42 30.2 0.0
baz=297
SXFK eS Sn 14 43 26.2 +0.4
baz=297
TGY Tagaytay City 9.92 188 LR LR 14 47 29.2
comp=N,144nm,19.1s,baz=16,slow=36
KSRS Korea Array 14.26 18 P Pn 14 44 40.5 +1.8
comp=N,0.1nm,0.3s,baz=195,slow=11,SNR=3.9
KSRS LR LR 14 49 21.9
comp=N,114nm,21.2s,baz=215,slow=34
comp=N,4.1nm,0.6s
JSG Sagara 17.43 49 P Pn 14 45 20.2 +0.3
CMAR Chiang Mai Arr 22.47 260 P P 14 46 18.5 +2.6
comp=N,0.2nm,0.4s,baz=68,slow=9.8,SNR=4.5
GUMO Guam 23.68 112 P P 14 46 27.7 -0.6
comp=N,66nm,0.3s,baz=194,slow=12,SNR=3.6
LBMI Labuha 24.99 168 P P 14 46 42.2 +1.9
comp=N,34nm,0.9s
ULN Ulaanbaatar 26.75 337 P P 14 46 55.3 -0.9
SONM Songino Array 26.96 336 P P 14 46 57.4 -0.7
SONM IAmb IAmb 14 46 58.5
comp=Z,12nm,0.9s
SONM Songino Array 26.96 336 P P 14 46 57.6 -0.4
comp=Z,12nm,0.8s,baz=148,slow=9.5,SNR=47
comp=Z,12nm,0.8s
MK31 Makanchi Array 39.20 316 P P 14 48 44.0 -0.5
MKAR Makanchi Array 39.20 316 P P 14 48 44.1 -0.4
MKAR Makanchi Array 39.20 316 P P 14 48 44.4 -0.1
comp=Z,3.2nm,0.8s,baz=103,slow=10,SNR=30
MKAR PcP PcP 14 50 52.4 -1.0
comp=Z,0.4nm,0.8s,baz=90,slow=2.9,SNR=2.9
MKAR LR LR 15 06 36.5
comp=Z,103nm,18.6s,baz=110,slow=39
comp=Z,3.2nm,0.8s
MAKZ Makanchi 39.41 316 P P 14 48 44.9 -1.3
KNRA Kununurra 39.92 170 P P 14 48 48.4 -2.2
KNRA IAmb IAmb 14 49 05.8
comp=Z,23nm,1.4s
ZAA0 Zalesovo Array 40.98 327 P P 14 48 56.9 -2.1
ZALV Zalesovo Beam 40.98 327 P P 14 48 57.0 -2.0
ZALV Zalesovo Beam 40.98 327 P P 14 48 57.8 -1.2
comp=Z,7.2nm,0.8s,baz=113,slow=8.1,SNR=27
comp=Z,7.2nm,0.8s
KURK Kurchatov 42.91 320 P P 14 49 14.4 -0.5
KURBB Kurchatov Arra 42.93 320 P P 14 49 14.3 -0.8
comp=Z,2.6nm,0.9s,baz=108,slow=7.6,SNR=13
comp=Z,2.6nm,0.9s
WB0 Warramunga Arr 45.05 164 P P 14 49 32.3 -0.1
WB0 IAmb IAmb 14 49 45.0
comp=Z,10nm,1.4s
WRAB Tennant Creek 45.20 164 P P 14 49 33.7 +0.2
WRA Warramunga Arr 45.21 164 P P 14 49 34.2 +0.7
WRA Warramunga Arr 45.21 164 P P 14 49 34.4 +0.8
comp=Z,2.8nm,0.8s,baz=345,slow=8.6,SNR=18
comp=Z,2.8nm,0.8s
WB2 Warramunga Arr 45.21 164 P P 14 49 33.9 +0.3
KK31 Karatay Array 46.42 307 P P 14 49 43.8 +0.7
KKAR Karatay Array 46.42 307 P P 14 49 43.8 +0.7
BVAR Borovoye Array 48.49 321 P P 14 49 58.5 -0.4
comp=Z,2.3nm,0.6s,baz=106,slow=8.5,SNR=17
BVAR PcP PcP 14 51 23.4 -1.3
comp=Z,1.1nm,0.8s,baz=90,slow=2.9,SNR=3.8
comp=Z,2.3nm,0.6s
BRVK Borovoye 48.56 321 P P 14 49 58.9 -0.5
BRVK IAmb IAmb 14 50 00.0
comp=Z,4.8nm,0.9s
ASAR Alice Springs 48.69 166 P P 14 50 02.1 +1.4
comp=Z,1.7nm,0.9s,baz=354,slow=14,SNR=13
comp=Z,1.7nm,0.9s
CTA Charters Tower 49.63 150 LR LR 15 10 52.6
comp=Z,47nm,19.8s,baz=281,slow=36
ABKAR Akbulak array 54.32 314 P P 14 50 42.6 -0.1
ABKAR IAmb IAmb 14 50 44.2
comp=Z,5.5nm,0.8s
GEYT Alibeck 55.80 301 P P 14 50 53.5 0.0
comp=Z,2.6nm,0.8s,baz=92,slow=17,SNR=5.7
comp=Z,2.6nm,0.8s
STKA Stephens Creek 58.53 161 P P 14 51 14.2 +1.5
comp=Z,1.2nm,0.7s,baz=348,slow=13,SNR=3.1
comp=Z,1.2nm,0.7s
K13K Kusilvak Mount 61.15 31 P P 14 51 30.5 +0.1
D19K Kuna River 64.09 24 P P 14 51 50.1 +0.1
B21K Ikpikpuk River 65.33 22 P P 14 51 59.5 +1.5
K20K Telida 66.00 29 P P 14 52 02.9 +0.5
K20K IAmb IAmb 14 52 33.0
comp=Z,6.0nm,1.2s
D22K Ayikyak River 66.06 23 P P 14 52 03.3 +0.5
D22K IAmb IAmb 14 52 07.7
comp=Z,10nm,1.2s
H21K Melozitna Rive 66.31 27 P P 14 52 04.1 -0.3
H21K IAmb IAmb 14 52 47.3
comp=Z,7.3nm,1.4s
KBZ Khabaz 66.41 309 P P 14 52 05.4 0.0
comp=Z,2.3nm,0.9s,baz=130,slow=6.8,SNR=4.4
comp=Z,2.3nm,0.9s
E22K Anaktuvuk Pass 66.45 24 P P 14 52 04.7 -0.6
E22K IAmb IAmb 14 52 26.2
comp=Z,12nm,1.5s
BMAR Burnt Mountain 69.28 24 P P 14 52 23.7 +0.6
SCM Sheep Creek Mo 69.31 30 P P 14 52 23.5 0.0
SCM IAmb IAmb 14 52 24.2
comp=Z,17nm,1.4s
SPB3 Spitsbergen Ar 69.90 348 P P 14 52 25.0 -1.7
ARCES ARCESS Array B 70.11 338 P P 14 52 26.4 -1.8
D27M Malcolm River 70.15 22 P P 14 52 26.2 -2.2
D27M IAmb IAmb 14 52 28.4
comp=Z,10nm,1.3s
E28M Babbage River 70.82 23 P P 14 52 32.7 +0.2
E28M IAmb IAmb 14 53 01.1
comp=Z,10nm,1.4s
I28M Miner Creek 71.59 26 P P 14 52 37.8 +0.5
I28M IAmb IAmb 14 53 11.3
comp=Z,7.0nm,1.4s
FINES FINESS Array B 72.14 330 P P 14 52 40.4 -0.2
FINES FINESS Array B 72.14 330 P P 14 52 40.7 +0.2
comp=Z,1.0nm,0.8s,baz=53,slow=7.1,SNR=7.6
comp=Z,1.0nm,0.8s
G30M tAoh Zraii Nji 72.53 24 P P 14 52 41.3 -1.6
G30M IAmb IAmb 14 52 49.5
comp=Z,12nm,1.4s
INK Inuvik 73.01 22 P P 14 52 44.7 -0.9
INK IAmb IAmb 14 52 57.2
comp=Z,14nm,1.4s
I30M Mount Dempster 73.08 26 P P 14 52 45.6 -0.7
I30M IAmb IAmb 14 53 08.7
comp=Z,7.2nm,1.4s
K29M Barlow Dome 73.09 27 P P 14 52 45.0 -1.4
K29M IAmb IAmb 14 52 59.7
comp=Z,6.9nm,1.3s
H31M Peel River 73.66 25 P P 14 52 48.1 -1.4
H31M IAmb IAmb 14 52 50.6
comp=Z,9.5nm,1.4s
AKASG Malin Array Be 73.71 319 P P 14 52 49.1 -1.0
comp=Z,1.0nm,0.6s,baz=58,slow=6.1,SNR=5.4
comp=Z,1.0nm,0.6s
BR131 Keskin Array S 74.13 307 P P 14 52 52.6 -0.3
BR131 IAmb IAmb 14 52 54.0
comp=Z,5.8nm,0.8s
BRTR Keskin Array B 74.13 307 P P 14 52 52.6 -0.3
BRTR Keskin Array B 74.13 307 P P 14 52 52.8 -0.2
comp=Z,3.1nm,0.8s,baz=107,slow=5.7,SNR=16

comp=Z,3.1nm,0.8s
NB2 NORSAR Subarra 78.88 332 P P 14 53 18.3 -1.0
comp=Z,0.5nm,0.6s,baz=55,slow=5.9
NOA NORSAR Array B 78.88 332 P P 14 53 17.4 -1.9
comp=Z,0.5nm,0.6s,baz=56,slow=5.8,SNR=4.8
comp=Z,0.5nm,0.6s
NBO00 NORSAR Array S 79.07 333 P P 14 53 19.2 -1.1
SCO Scoresbysund 82.46 349 P P 14 53 39.0 +0.8
NVAR Mina Array Bea 95.86 43 P P 14 54 43.2 -0.1
comp=Z,0.4nm,0.7s,baz=305,slow=5.2,SNR=4.1
comp=Z,0.4nm,0.7s

---

*IDC **22** 15:14:26.3±0.9, 48°.06S×31°.81E, h0km, mb3.8/6, mbtmp3.9/7, ML3.6/1, MS3.5/9, Error ellipse: s-maj=51.4km s-min=20.4km az=64.0*
*NEIC **22** 15:14:27.3±0.6, 47°.96S±0°.06×32°.1E±0°.3, h10km±2km, mb4.2/7, Error ellipse: s-maj=31.5km s-min=7.6km az=75.0*
ISC 22 15:14:27.6±0.7, 48°.0S±0°.1×32°.1E±0°.1, h12km, n26, σ1§12/17, mb4.0/7, MS3.5/8, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S3	**CROZET ISLANDS**	**13.48**	**92**	T	T	15 31 20.8	
	baz=262,slow=76,SNR=26						
H04S2	**CROZET ISLANDS**	**13.48**	**93**	T	T	15 31 17.8	
	baz=262,slow=76,SNR=25						
H04S1	**CROZET ISLANDS**	**13.50**	**93**	T	T	15 31 21.3	
	baz=262,slow=76,SNR=26						
CRZF	**Crozet Islands**	**13.56**	**91**	Pn	**Pn**	**15 17 38.8**	**-0.8**
GRHM	**Grahamstown, E**	**15.30**	**342**	Pn	**Pn**	**15 18 02.6**	**-0.8**
SUR	**Sutherland**	**17.77**	**327**	P	**P**	**15 18 36.1**	**+0.5**
SUR				IAmb	IAmb	15 19 02.1	
	comp=Z,21nm,1.2s						
SUR	**Sutherland**	**17.77**	**327**	P	**P**	**15 18 36.7**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=152,slow=15,SNR=1.7						
SUR				S	Sn	15 21 40.2	-13
	comp=Z,5.1nm,1.0s,baz=78,slow=2.1,SNR=1.7						
SUR				LR	LR	15 23 43.8	
	comp=Z,156nm,21.5s,baz=154,slow=31						
	comp=Z,5.2nm,0.9s						
BOSA	**Boshof**	**20.05**	**342**	P	**P**	**15 18 59.9**	**-0.7**
BOSA				IAmb	IAmb	15 19 43.3	
	comp=Z,22nm,1.5s						
BOSA	**Boshof**	**20.05**	**342**	P	**P**	**15 19 01.2**	**+0.6**
	comp=Z,4.2nm,0.8s,baz=167,slow=13,SNR=5.9						
BOSA				LR	LR	15 25 09.0	
	comp=Z,98nm,21.1s,baz=160,slow=32						
	comp=Z,4.2nm,0.8s						
LBTB	**Lobatse**	**23.49**	**345**	P	**P**	**15 19 36.9**	**-0.3**
LBTB				IAmb	IAmb	15 19 39.5	
	comp=Z,4.5nm,0.8s						
MAW	**Mawson**	**25.14**	**152**	P	**P**	**15 19 53.7**	**+1.6**
	comp=Z,4.2nm,0.9s,baz=324,slow=6.3,SNR=8.4						
MAW				LR	LR	15 27 56.1	
	comp=Z,39nm,21.4s,baz=302,slow=32						
	comp=Z,4.2nm,0.9s						
SNAA	**Sanae**	**28.71**	**202**	P	**P**	**15 20 23.1**	**-1.2**
SNAA	**Sanae**	**28.71**	**202**	LR	LR	15 28 52.5	
	comp=Z,96nm,21.0s,baz=52,slow=30						
TSUM	**Tsumeb**	**31.03**	**333**	LR	LR	15 32 26.1	
	comp=Z,115nm,19.6s,baz=154,slow=35						
LSZ	**Lusaka**	**32.77**	**353**	LR	LR	15 32 45.9	
	comp=Z,74nm,19.0s,baz=136,slow=34						
QSPA	**South Pole Qui**	**42.23**	**180**	P	**P**	**15 22 20.4**	**+0.1**
QSPA				IAmb	IAmb	15 22 32.8	
	comp=Z,8.6nm,1.4s						
QSPA	**South Pole Qui**	**42.23**	**180**	P	**P**	**15 22 20.4**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=265,slow=2.4,SNR=13						
	comp=Z,2.5nm,0.8s						
CASY	**Casey**	**42.97**	**144**	P	**P**	**15 22 25.8**	**-0.2**
CASY				IAmb	IAmb	15 22 48.7	
	comp=Z,3.2nm,1.1s						
MBAR	**Mbarara**	**47.21**	**358**	LR	LR	15 42 33.1	
	comp=Z,52nm,18.6s,baz=151,slow=36						
TORD	**Torodi Ar. Bea**	**66.59**	**328**	P	**P**	**15 25 19.0**	**+1.4**
	comp=Z,0.6nm,0.8s,baz=160,slow=5.3,SNR=2.8						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**80.26**	**114**	P	**P**	**15 26 40.0**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=224,slow=4.4,SNR=7.3						
	comp=Z,0.6nm,0.8s						
WRA	**Warramunga Arr**	**83.30**	**112**	P	**P**	**15 26 54.5**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=216,slow=4.2,SNR=2.2						
	comp=Z,0.3nm,0.8s						
VAE	**Valguarnera**	**86.53**	**346**	LR	LR	16 05 59.0	
	comp=Z,47nm,19.1s,baz=244,slow=36						
DAVOX	**Davos/Dischmat**	**96.35**	**345**	LR	LR	16 12 30.1	
	comp=Z,28nm,18.8s,baz=88,slow=36						
TXAR	**Lajitas Array**	**141.35**	**257**	PKP	**PKPdf**	**15 33 58.1**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=160,slow=2.9,SNR=2.6						
PDAR	**Pinedale Array**	**152.74**	**273**	PKPbc	**PKPbc**	**15 34 21.7**	**-2.2**
	comp=Z,0.2nm,0.6s,baz=111,slow=5.0,SNR=2.3						

---

*NEIC **22** 15:23:30.6±2.3, 30°.12S±0°.05×177°.4W±0°.2, h35km±2km, mb4.1/6, Error ellipse: s-maj=30.6km s-min=7.9km az=80.0*
*IDC **22** 15:23:33.4±3.4, 29°.99S×177°.66W, h51km±22km, mb3.4/3, mbtmp3.8/4, ML3.0/1, Error ellipse: s-maj=62.0km s-min=27.7km az=93.0*
ISC 22 15:23:30.9±1.6, 30°.22S±0°.07×177°.6W±0°.2, h35km, n16, σ1§05/17, mb4.0/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.99**	**345**	Pn	**Pn**	**15 23 47.0**	**-1.3**
RAO	**Raoul Island**	**0.99**	**345**	P	**Pn**	**15 23 48.7**	**+0.4**
	233nm,0.3s,baz=83,slow=16,SNR=2.8						
RAO				S	**Sn**	**15 24 00.0**	**-1.1**
	443nm,0.2s,baz=256,slow=23,SNR=7.3						
URZ	**Urewera**	**9.13**	**207**	P	Pn	15 25 44.8	+4.8
	0.2nm,0.3s,baz=3.8,slow=23,SNR=2.0						
URZ				S	**Sn**	**15 27 19.3**	**-2.2**
	4.8nm,0.6s,baz=301,slow=6.9,SNR=11						
	5.9nm,0.8s						
RTZ	**Ruatahuna**	**9.49**	**207**	Pn	**Pn**	**15 25 45.1**	**0.0**
BKZ	**Black Stump Fm**	**10.15**	**207**	Pn	**Pn**	**15 25 54.0**	**-0.1**
STKA	**Stephens Creek**	**34.83**	**257**	P	**P**	**15 30 19.9**	**+1.3**
	2.8nm,0.9s,baz=106,slow=18,SNR=3.0						
	2.8nm,0.9s						
AS31	**Alice Springs**	**43.44**	**267**	P	**P**	**15 31 30.3**	**-0.4**
AS31				IAmb	IAmb	15 31 44.2	
	comp=Z,1.4nm,1.4s						
ASAR	**Alice Springs**	**43.44**	**267**	P	**P**	**15 31 31.9**	**+1.3**
ASAR	**Alice Springs**	**43.44**	**267**	P	**P**	**15 31 31.8**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=104,slow=7.5,SNR=9.7						
	comp=Z,0.3nm,0.7s						
WR0	**Warramunga Arr**	**44.23**	**272**	P	**P**	**15 31 37.4**	**+0.4**
WR0				IAmb	IAmb	15 31 51.8	
	comp=Z,5.4nm,1.3s						
WB2	**Warramunga Arr**	**44.40**	**272**	P	**P**	**15 31 39.0**	**+0.6**
WB2				IAmb	IAmb	15 31 41.7	
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**15 31 39.7**	**+1.2**
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**15 31 38.6**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=111,slow=8.1,SNR=13						
	comp=Z,0.5nm,0.5s						
WB0	**Warramunga Arr**	**44.43**	**272**	P	**P**	**15 31 39.3**	**+0.7**
WB0				IAmb	IAmb	15 31 45.2	
	comp=Z,2.2nm,0.8s						
QSPA	**South Pole Qui**	**59.89**	**180**	P	**P**	**15 33 33.3**	**+0.3**
FINES	**FINESS Array B**	**145.08**	**340**	PKP	**PKPdf**	**15 43 03.3**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=66,slow=4.7,SNR=1.3						

---

*NEIC **22** 15:41:43.8±1.3, 41°.35S±0°.04×72°.26W±0°.08, h127km±5km, mb4.4/21, ML4.3(GUC), Error ellipse: s-maj=9.1km s-min=4.8km az=108.0*
*GUC **22** 15:41:44.4±0.7, 41°.36S×72°.35W, h129km±3km, ML4.3*
*IDC **22** 15:41:46.7±1.2, 41°.23S×71°.77W, h150km±7km, mb4.0/9, mbtmp4.3/11, Error ellipse: s-maj=23.8km s-min=14.4km az=85.0*
ISC 22 15:41:43.4±0.6, 41°.33S±0°.04×72°.28W±0°.05, h128km±5km, n96, σ1§43/107, mb4.5/17, 4C-8D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL03	**Petrohue**	**0.21**	**334**		**Pn**	**15 42 01.5**	**+0.5**
LL03	**Petrohue**	**0.21**	**334**	*i* P	**Pn**	**15 42 01.7**	**+0.6**
LL03				*e*S	**Sn**	**15 42 15.0**	**+0.6**
LL03				IAML		15 42 19.1	
	comp=N,12μm,0.6s						
LL05	**Los Muermos**	**0.90**	**265**		**Pn**	**15 42 05.4**	**+0.2**
LL05	**Los Muermos**	**0.90**	**265**	*i* P	**Pn**	**15 42 05.5**	**+0.2**
LL05				*e*S	**Sn**	**15 42 21.6**	**-0.1**
LL05				IAML		15 42 22.6	
	comp=N,20μm,0.2s						
LL01	**San Ignacio de**	**1.05**	**185**		**Pn**	**15 42 07.3**	**+0.6**
LL01	**San Ignacio de**	**1.05**	**185**	*e*P	**Pn**	**15 42 07.4**	**+0.8**
LL01				*e*S	**Sn**	**15 42 24.5**	**+0.2**
LL01				IAML		15 42 26.8	
	comp=N,2μm,0.5s						
LR05	**Currie**	**1.12**	**11**	↑*i*P	**Pn**	**15 42 08.4**	**+1.1**
LR05				*e*S	**Sn**	**15 42 27.2**	**+1.8**
LR05				IAML		15 42 28.3	
	comp=E,3μm,0.5s						
LL06	**Loncomilla**	**1.34**	**228**		**Pn**	**15 42 09.6**	**0.0**
LL06	**Loncomilla**	**1.34**	**228**	↓*i*P	**Pn**	**15 42 09.8**	**+0.2**
LL06				*e*S	**Sn**	**15 42 28.8**	**-0.7**
LL06				IAML		15 42 30.4	
	comp=N,12μm,0.2s						
PLCA	**Paso Flores**	**1.44**	**66**		**Pn**	**15 42 11.5**	**+0.8**
PLCA	**Paso Flores**	**1.44**	**66**	P	**Pn**	**15 42 11.3**	**+0.6**
	comp=N,860nm,0.3s,baz=251,slow=7.0,SNR=8104						
PLCA				S	**Sn**	**15 42 31.6**	**0.0**
	comp=N,437nm,0.7s,baz=126,slow=23,SNR=14						
PLCA	**Paso Flores**	**1.44**	**66**	↑*i*P	**Pn**	**15 42 11.6**	**+0.8**
PLCA				*e*S	**Sn**	**15 42 32.0**	**+0.5**
LR04	**Corral**	**1.69**	**329**		**Pn**	**15 42 14.8**	**+1.3**
LR04	**Corral**	**1.69**	**329**	*i* P	**Pn**	**15 42 14.9**	**+1.3**
LR04				*e*S	**Sn**	**15 42 36.1**	**-0.4**
LR02	**Universidad Au**	**1.69**	**334**	*e*P	**Pn**	**15 42 15.3**	**+1.7**
LR02				*e*S	**Sn**	**15 42 37.4**	**+0.9**
LR03	**Panguipulli**	**1.69**	**358**		**Pn**	**15 42 14.8**	**+1.1**
LR03	**Panguipulli**	**1.69**	**358**	*e*P	**Pn**	**15 42 15.0**	**+1.3**
LR03				*e*S	**Sn**	**15 42 37.9**	**+1.2**
LR03				IAML		15 42 41.7	
	comp=E,4μm,0.8s						
LL07	**Hotel Espejo d**	**1.75**	**210**		**Pn**	**15 42 14.2**	**0.0**
LL07	**Hotel Espejo d**	**1.75**	**210**	↓*i*P	**Pn**	**15 42 14.5**	**+0.3**
LL07				*e*S	**Sn**	**15 42 36.9**	**-0.8**
LL07				IAML		15 42 38.6	
	comp=N,2μm,0.2s						
GO06	**Curarrehue**	**1.85**	**20**		**Pn**	**15 42 16.5**	**+0.9**
GO06	**Curarrehue**	**1.85**	**20**	↑*i*P	**Pn**	**15 42 16.9**	**+1.3**
GO06				*e*S	**Sn**	**15 42 41.2**	**+1.1**
LL02	**Futaleuf**	**1.89**	**170**		**Pn**	**15 42 16.6**	**+0.6**
GO07	**Milladeo Hill,**	**2.06**	**209**		**Pn**	**15 42 18.1**	**+0.1**
GO07	**Milladeo Hill,**	**2.06**	**209**	↓*i*P	**Pn**	**15 42 18.2**	**+0.2**
GO07				*e*S	**Sn**	**15 42 42.8**	**-1.7**
GO07				IAML		15 42 45.2	
	comp=E,6μm,0.7s						
LC02	**Puerto Saavedr**	**2.67**	**341**	Pn	**Pn**	**15 42 26.9**	**+1.2**
LC02	**Puerto Saavedr**	**2.67**	**341**	↑*i*P	**Pn**	**15 42 26.9**	**+1.2**
LC02				*e*S	**Sn**	**15 42 56.5**	**-1.7**
AY01	**Puyuhuapi**	**3.10**	**185**		**Pn**	**15 42 31.5**	**+0.2**
BI04	**Isla Mocha**	**3.16**	**337**	*e*P	**Pn**	**15 42 33.2**	**+1.1**
COYC	**Coyhaique**	**4.25**	**178**		**Pn**	**15 42 46.7**	**+0.4**
BI05	**Punta Hualpn**	**4.63**	**351**	Pn	**Pn**	**15 42 51.2**	**-0.3**
AY02	**Valle Explorad**	**5.20**	**187**	Pn	**Pn**	**15 42 58.9**	**-0.1**
GO05	**Huala**	**6.31**	**3**		**Pn**	**15 43 13.7**	**-0.5**
BO02	**Sierra Bellavi**	**6.63**	**11**		**Pn**	**15 43 17.6**	**-0.9**
BO01	**Tunca**	**6.99**	**8**		**Pn**	**15 43 21.3**	**-1.9**
BO04	**La Punta**	**7.45**	**11**		**Pn**	**15 43 27.1**	**-2.4**
MT01	**Popeta**	**7.50**	**7**		**Pn**	**15 43 27.7**	**-2.4**
MT09	**Talagante**	**7.61**	**8**	Pn	**Pn**	**15 43 29.2**	**-2.5**
LMEL	**Las Melosas**	**7.65**	**13**	Pn	**Pn**	**15 43 29.8**	**-2.5**
VA05	**Santo Domingo**	**7.68**	**4**	Pn	**Pn**	**15 43 29.7**	**-2.8**
MT13	**San Alfonso**	**7.73**	**12**		**Pn**	**15 43 30.9**	**-2.6**
MT03	**Universidad Ad**	**7.95**	**11**	Pn	**Pn**	**15 43 35.3**	**-0.9**
MT02	**Curacav**	**8.11**	**7**	Pn	**Pn**	**15 43 35.7**	**-2.6**
PEL	**Peldehue**	**8.27**	**9**	Pn	**Pn**	**15 43 38.6**	**-1.9**
ROC1	**El Roble**	**8.40**	**7**	Pn	**Pn**	**15 43 39.5**	**-3.0**
TRQA	**Tornquist**	**8.59**	**71**		**Pn**	**15 43 45.2**	**+0.4**
VA03	**San Esteban**	**8.66**	**10**	Pn	Pn	15 43 39.7	-6.1
CO02	**Combarbal**	**10.16**	**6**	Pn	Pn	15 44 01.4	-4.6
CO03	**El Pedregal**	**10.55**	**8**	Pn	**Pn**	**15 44 06.9**	**-4.3**
CO06	**Fray Jorge**	**10.64**	**3**	Pn	**Pn**	**15 44 08.8**	**-3.6**
GO04	**Tololo Observa**	**11.20**	**7**	Pn	**Pn**	**15 44 16.7**	**-3.3**
CO01	**Juntas del Tor**	**11.46**	**10**	Pn	**Pn**	**15 44 23.0**	**-0.5**
LCO	**Las Campanas**	**12.36**	**6**	Pn	**Pn**	**15 44 34.9**	**-0.3**
AC06	**Mina Casimiro**	**14.03**	**7**		**P**	**15 45 01.0**	**+0.6**
AC01	**Pan de Azucar**	**15.21**	**6**	P	**P**	**15 45 13.6**	**+0.1**
AC01				IAmb	IAmb	15 45 42.8	
	comp=Z,39nm,1.4s						
PB14	**IPOC Station P**	**16.73**	**6**	P	**Pn**	**15 45 30.1**	**-0.4**
PB14				IAmb	IAmb	15 45 33.7	
	comp=Z,22nm,1.3s						
LVC	**Limon Verde**	**18.88**	**10**		**Pn**	**15 45 55.8**	**-0.4**
LVC	**Limon Verde**	**18.88**	**10**	P	**Pn**	**15 45 55.2**	**-1.0**
	comp=Z,3.8nm,0.5s,baz=200,slow=12,SNR=5.8						
CPUP	**Villa Florida**	**19.40**	**44**	P	**P**	**15 45 55.6**	**-3.8**
CPUP				IAmb	IAmb	15 46 36.3	
	comp=Z,20nm,1.5s						
CPUP	**Villa Florida**	**19.40**	**44**	P	**P**	**15 45 55.8**	**-3.6**
	comp=Z,1.6nm,0.5s,baz=216,slow=7.5,SNR=8.8						
GO01	**Chusmiza**	**21.75**	**8**	P	**P**	**15 46 24.8**	**-0.4**
GO01				IAmb	IAmb	15 46 28.0	
	comp=Z,17nm,1.4s						
AQDB	**Aquidauana**	**25.10**	**39**	P	**P**	**15 46 54.6**	**-1.7**
LPAZ	**La Paz**	**25.21**	**9**	P	**P**	**15 46 58.4**	**+0.4**
	comp=Z,3.1nm,0.6s,baz=188,slow=15,SNR=8.5						
	comp=Z,3.1nm,0.6s						
PTLB	**Pontes e Lacer**	**28.19**	**28**		**P**	**15 47 23.1**	**-0.9**
ETMB	**Extrema**	**31.84**	**11**	P	**P**	**15 47 56.0**	**-0.1**
BDFB	**Brasilia**	**33.10**	**46**		**P**	**15 48 05.0**	**-2.3**
BDFB				IAmb	IAmb	15 48 06.0	
	comp=Z,9.5nm,1.0s						
BDFB	**Brasilia**	**33.10**	**46**	P	**P**	**15 48 04.4**	**-2.9**
	comp=Z,8.1nm,0.8s,baz=183,slow=5.2,SNR=9.6						
	comp=Z,8.1nm,0.8s						
SALI	**Salinas**	**39.75**	**346**	P	**P**	**15 49 04.6**	**+1.0**
VNA3	**Neumayer Olymp**	**42.73**	**155**	⇓P	**P**	**15 49 28.0**	**+0.6**
	comp=Z,6.0nm,0.7s						
VNA1	**Neumayer--Stat**	**43.10**	**154**	⇓P	**P**	**15 49 31.3**	**+1.0**
	comp=Z,11nm,0.9s						
VNA2	**Neumayer--Watz**	**43.42**	**154**	⇓P	**P**	**15 49 33.5**	**+0.6**
	comp=Z,3.2nm,0.6s,baz=265,slow=10.0						
BOAV	**Boa Vista**	**44.81**	**17**	P	**P**	**15 49 44.0**	**-0.7**
SNAA	**Sanae**	**44.95**	**155**	P	**P**	**15 49 45.2**	**+0.1**
SNAA	**Sanae**	**44.95**	**155**	⇓P	**P**	**15 49 45.8**	**+0.7**
	comp=Z,84nm,0.4s						
SNAA	**Sanae**	**44.95**	**155**	P	**P**	**15 49 45.7**	**+0.5**
	comp=Z,13nm,1.0s,baz=278,slow=7.2,SNR=30						
	comp=Z,13nm,1.0s						
TROLL	**Troll, Antarti**	**46.64**	**156**	⇓P	**P**	**15 49 59.4**	**+0.9**
	comp=Z,353nm,0.8s						
QSPA	**South Pole Qui**	**48.92**	**180**	P	**P**	**15 50 18.2**	**+2.1**
	comp=Z,2.4nm,0.7s,baz=124,slow=1.8,SNR=6.8						
	comp=Z,2.4nm,0.7s						
SDV	**Santo Domingo**	**49.99**	**2**	P	**P**	**15 50 24.6**	**-0.3**
MAW	**Mawson**	**66.23**	**163**	P	**P**	**15 52 18.5**	**+1.5**
TXAR	**Lajitas Array**	**76.07**	**332**	P	**P**	**15 53 17.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=158,slow=7.4,SNR=8.7						
	comp=Z,0.8nm,0.7s						
BOSA	**Boshof**	**76.91**	**117**	P	**P**	**15 53 21.4**	**-0.5**
BOSA				IAmb	IAmb	15 53 22.3	
	comp=Z,8.6nm,0.8s						
BOSA	**Boshof**	**76.91**	**117**	P	**P**	**15 53 20.6**	**-1.2**
	comp=Z,6.9nm,0.7s,baz=214,slow=5.1,SNR=14						
	comp=Z,6.9nm,0.7s						
DBIC	**Dimbokro**	**77.80**	**70**	P	**P**	**15 53 26.2**	**-0.5**
DBIC				IAmb	IAmb	15 53 27.6	
	comp=Z,8.9nm,0.8s						
DBIC	**Dimbokro**	**77.80**	**70**	P	**P**	**15 53 26.4**	**-0.4**
	comp=Z,7.3nm,0.6s,baz=200,slow=5.2,SNR=9.3						
	comp=Z,7.3nm,0.6s						
LBTB	**Lobatse**	**79.46**	**114**	P	**P**	**15 53 35.1**	**-0.8**
LBTB				IAmb	IAmb	15 53 36.3	
	comp=Z,6.0nm,0.7s						
CCM	**Cathedral Cave**	**80.88**	**345**	P	**P**	**15 53 43.6**	**+0.7**
CCM				IAmb	IAmb	15 54 27.7	
	comp=Z,6.7nm,1.4s						
P43A	**Skaggs, Pawnee**	**82.10**	**347**	P	**P**	**15 53 50.7**	**+1.5**
KOWA	**Kowa**	**83.89**	**65**	P	**P**	**15 53 59.0**	**0.0**
KOWA				IAmb	IAmb	15 54 00.1	
	comp=Z,5.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**86.91**	**70**	P	**P**	**15 54 14.0**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=233,slow=6.0,SNR=4.6						
	comp=Z,0.7nm,0.6s						
MTPU	**Mount Pierson**	**86.99**	**330**	P	**P**	**15 54 15.0**	**+0.6**
ECSD	**EROS Data Cent**	**87.46**	**343**	P	**P**	**15 54 17.0**	**+0.9**
ECSD				IAmb	IAmb	15 54 55.2	
	comp=Z,6.3nm,1.3s						
PDAR	**Pinedale Array**	**90.22**	**334**	P	**P**	**15 54 30.6**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=142,slow=7.5,SNR=7.0						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**114.23**	**208**	PKP	PKPdf	16 00 07.8	-0.3
	comp=Z,0.3nm,0.8s,baz=168,slow=1.5,SNR=5.1						
PETK	**Petropavlovsk-**	**144.77**	**307**	PKPbc	**PKPdf**	**16 01 04.9**	**+0.6**
	comp=Z,6.2nm,0.9s,baz=98,slow=10,SNR=5.2						
BVAR	**Borovoye Array**	**152.38**	**52**	PKPbc	**PKiKP**	**16 01 24.3**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=288,slow=1.3,SNR=2.1						
KURBB	**Kurchatov Arra**	**157.81**	**55**	PKPab	**PKPab**	**16 01 56.6**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=286,slow=4.4,SNR=6.4						
PZH	**PanZhiHua**	**164.41**	**160**	PKP	**PKPdf**	**16 01 31.8**	**-0.2**

---

*SNET **22** 15:44:37.2±0.9, 13°.42N×89°.98W, h53km, ML3.7*
*GCG **22** 15:44:38.7±0.6, 13°.36N×90°.18W, h30km±134km, MD3.5*
ISC 22 15:44:37.1±2.0, 13°.32N±0°.10×89°.96W±0°.05, h32km±13km, n21, σ0§49/28, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.60**	**56**	*e*P	**Pb**	**15 44 49.1**	**-0.2**
NUBE	**Las Nubes**	**0.60**	**17**	↓*i*P	**Pb**	**15 44 49.1**	**-0.4**
NUBE				*e*S	**Sb**	**15 44 58.2**	**+0.3**
SBLS	**San Blas**	**0.61**	**33**	*e*P	**Pb**	**15 44 49.6**	**0.0**
SNJE	**San Jose**	**0.64**	**32**	*e*P	**Pb**	**15 44 49.9**	**-0.2**
RTR	**El Retiro**	**0.65**	**28**	*e*P	**Pb**	**15 44 50.1**	**-0.1**
SLOZ	**Alcaldia de Sa**	**0.72**	**14**	*e*P	**Pn**	**15 44 50.8**	**-0.3**
SLOZ				*e*S	**Sb**	**15 45 01.3**	**+0.3**
CEDA	**San Andres**	**0.73**	**49**	*e*P	**Pn**	**15 44 51.0**	**-0.2**
CEDA				*e*S	**Sn**	**15 45 02.3**	**+1.0**
BOQS	**Boqueron**	**0.78**	**58**	*e*P	**Pn**	**15 44 52.1**	**+0.1**
LOMA	**Loma Larga**	**0.83**	**67**	*e*P	**Pn**	**15 44 52.5**	**-0.2**
LOMA				*e*S	**Sb**	**15 45 04.8**	**+0.6**
LFRS	**El Faro**	**0.93**	**71**	*e*P	**Pn**	**15 44 53.7**	**-0.2**
PAVA	**Las Pavas**	**1.07**	**69**	*e*P	**Pb**	**15 44 56.7**	**-0.5**
COEG	**Centro de Oper**	**1.09**	**74**	*e*P	**Pn**	**15 44 56.3**	**+0.1**
MTO3	**Montecristo**	**1.22**	**29**	*e*P	**Pn**	**15 44 57.4**	**-0.7**
PCG	**Pacaya**	**1.23**	**330**	*e*P	**Pn**	**15 44 59.0**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.26**	**72**	*e*P	**Pn**	**15 44 58.6**	**+0.2**
SCLA				*e*S	**Sb**	**15 45 15.9**	**-0.3**
NBG	**Las Nubes**	**1.31**	**343**	*e*P	**Pn**	**15 45 00.4**	**+1.0**
NBG				*e*S	**Sb**	**15 45 18.1**	**+0.1**
ESQI	**Esquipulas**	**1.37**	**26**	*e*P	**Pn**	**15 44 59.7**	**-0.4**
FUG	**Fuego 3**	**1.41**	**323**	*e*P	**Pn**	**15 45 00.7**	**+0.1**
LCND	**La Caada**	**2.02**	**90**	*e*P	**Pn**	**15 45 09.2**	**+0.3**
CNCH	**Conchagua**	**2.07**	**91**	*e*P	**Pn**	**15 45 10.0**	**+0.3**
STG3	**Santiaguito 3,**	**2.08**	**312**	*e*P	**Pn**	**15 45 10.1**	**+0.1**
STG3				*e*S	**Sn**	**15 45 33.9**	**-1.0**

---

*IDC **22** 15:45:40.0±1.6, 2°.72N×125°.56E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=180.9km s-min=19.9km az=65.0*
*DJA **22** 15:45:41.7±0.8, 4°N±28°×12°7E±1°6, h13km±26km, M3.3/4, MLv3.3/4*
ISC 22 15:45:39.9±1.4, 3°.5N±0°.2×127°.1E±0°.1, h10km, n6, σ0§72/7, mb3.6/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.60**	**278**	P	**Pn**	**15 46 08.5**	**+0.3**
SGSI				S	**Sn**	**15 46 28.7**	**-0.2**
WRA	**Warramunga Arr**	**24.32**	**163**	P	**P**	**15 50 57.4**	**-0.6**
	1.1nm,0.7s,baz=337,slow=11,SNR=14						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**27.77**	**167**	P	**P**	**15 51 28.8**	**-0.3**
	0.3nm,0.6s,baz=348,slow=7.0,SNR=11						
	0.3nm,0.6s						
STKA	**Stephens Creek**	**37.75**	**160**	P	**P**	**15 52 56.5**	**+0.4**
	2.8nm,0.7s,baz=350,slow=11,SNR=6.2						
	2.8nm,0.7s						
MKAR	**Makanchi Array**	**57.99**	**325**	P	**P**	**15 55 31.9**	**-0.9**
	0.2nm,0.4s,baz=124,slow=9.0,SNR=4.4						
	0.2nm,0.4s						
KURBB	**Kurchat

MSVF	**Nonsavu**	**4.74**	**291**	P		**P**	**16 56 49.9**	**+2.9**
MSVF	**Nonsavu**	**4.74**	**291**	P		**P**	**16 56 49.4**	**+2.5**
	9.2nm,0.4s,baz=32,slow=23,SNR=22							
NIUE	**Niue**	**6.99**	**88**	P		**P**	**16 57 10.1**	**+3.2**
DZM	**Mont Dzumac**	**15.40**	**258**	P		**P**	**16 58 34.8**	**+1.9**
DZM				IAmb		IAmb	16 59 03.9	
	comp=Z,32nm,1.4s							
DZM	**Mont Dzumac**	**15.40**	**258**	P		**P**	**16 58 34.7**	**+1.9**
	comp=Z,2.9nm,0.5s,baz=107,slow=19,SNR=7.2							
KOUNC	**Koumac, New Ca**	**17.32**	**263**	P		**P**	**16 58 52.8**	**+2.0**
KOUNC				IAmb		IAmb	16 59 17.8	
	comp=Z,20nm,1.1s							
URZ	**Urewera**	**19.30**	**193**	P		**P**	**16 59 07.5**	**-1.1**
	comp=Z,15nm,1.2s,baz=337,slow=2.2,SNR=9.3							
RTZ	**Ruatahuna**	**19.67**	**193**	P		**P**	**16 59 11.8**	**-0.2**
BKZ	**Black Stump Fm**	**20.30**	**194**	P		**P**	**16 59 18.2**	**+0.4**
THZ	**Tophouse**	**23.69**	**198**	P		**P**	**16 59 48.0**	**-0.1**
FOZ	**Fox Glacier**	**26.27**	**201**	P		**P**	**17 00 10.6**	**-0.2**
CTAO	**Charters Tower**	**34.24**	**263**	P		**P**	**17 01 19.6**	**-0.2**
CTAO				IAmb		IAmb	17 01 20.6	
	comp=Z,6.8nm,1.1s							
TOO	**Toolangi**	**37.00**	**233**	P		**P**	**17 01 43.2**	**+0.8**
TOO				IAmb		IAmb	17 01 54.8	
	comp=Z,6.3nm,1.0s							
COEN	**Coen**	**38.18**	**272**	P		**P**	**17 01 52.8**	**+0.5**
COEN				IAmb		IAmb	17 01 54.8	
	comp=Z,4.2nm,0.8s							
STKA	**Stephens Creek**	**38.80**	**243**	P		**P**	**17 01 57.6**	**+0.5**
STKA	**Stephens Creek**	**38.80**	**243**	P		**P**	**17 01 57.0**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=73,slow=11,SNR=5.2							
	comp=Z,1.6nm,0.6s							
BBOO	**Buckleboo**	**43.57**	**243**	P		**P**	**17 02 34.9**	**0.0**
BBOO				IAmb		IAmb	17 03 15.5	
	comp=Z,21nm,1.4s							
WR0	**Warramunga Arr**	**45.20**	**261**	P		**P**	**17 02 46.6**	**-1.0**
WB0	**Warramunga Arr**	**45.36**	**261**	P		**P**	**17 02 47.7**	**-1.2**
WB2	**Warramunga Arr**	**45.38**	**261**	P		**P**	**17 02 48.0**	**-0.9**
WRAB	**Tennant Creek**	**45.38**	**261**	P		**P**	**17 02 47.9**	**-1.1**
AS31	**Alice Springs**	**45.38**	**256**	P		**P**	**17 02 48.5**	**-0.5**
ASAR	**Alice Springs**	**45.38**	**256**	P		**P**	**17 02 48.1**	**-0.8**
ASAR	**Alice Springs**	**45.38**	**256**	P		**P**	**17 02 48.6**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=87,slow=8.1,SNR=81							
ASAR				PcP		**PcP**	**17 04 16.4**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=93,slow=4.4,SNR=4.8							
	comp=Z,3.1nm,0.7s							
WRA	**Warramunga Arr**	**45.39**	**261**	P		**P**	**17 02 48.1**	**-1.0**
	comp=Z,1.4nm,0.3s,baz=98,slow=7.5,SNR=94							
WRA				PcP		**PcP**	**17 04 16.2**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=96,slow=3.7,SNR=1.6							
	comp=Z,1.4nm,0.3s							
MTN	**Manton Dam**	**49.81**	**269**	P		**P**	**17 03 21.3**	**-0.9**
MTN				IAmb		IAmb	17 03 57.2	
	comp=Z,13nm,1.1s							
KNRA	**Kununurra**	**51.38**	**265**	P		**P**	**17 03 32.9**	**-0.7**
KNRA				IAmb		IAmb	17 03 45.1	
	comp=Z,28nm,1.4s							
PSA00	**Pilbara Seismi**	**58.52**	**256**	P		**P**	**17 04 22.7**	**-0.7**
PSA00				IAmb		IAmb	17 04 24.1	
	comp=Z,14nm,1.1s							
MBWA	**Marble Bar**	**58.70**	**257**	P		**P**	**17 04 23.7**	**-1.0**
MBWA				IAmb		IAmb	17 04 33.9	
	comp=Z,19nm,1.1s							
MMRI	**Maumere**	**59.37**	**271**	P		**P**	**17 04 28.3**	**-0.9**
MMRI				IAmb		IAmb	17 04 43.5	
	comp=Z,37nm,1.3s							
MORW	**Morawa**	**60.80**	**247**	P		**P**	**17 04 38.1**	**-0.3**
MORW				IAmb		IAmb	17 04 54.4	
	comp=Z,19nm,1.4s							
TOLI2	**Tolitoli**	**64.04**	**281**	P		**P**	**17 04 59.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**67.04**	**269**	P		**P**	**17 05 16.9**	**-1.5**
K15K	**Wolf Creek Mou**	**82.49**	**7**	P		**P**	**17 06 44.7**	**+0.9**
K15K				IAmb		IAmb	17 07 01.2	
	comp=Z,28nm,1.4s							
FID	**Port Fidalgo**	**83.77**	**15**	P		**P**	**17 06 49.4**	**-0.9**
GHO	**Glory Hole Cre**	**84.12**	**13**	P		**P**	**17 06 51.9**	**-0.2**
GHO				IAmb		IAmb	17 07 04.1	
	comp=Z,15nm,1.5s							
H18K	**Honhosa River**	**85.64**	**8**	P		**P**	**17 06 59.8**	**+0.5**
UNM	**Universidad Na**	**85.76**	**68**	P		**P**	**17 06 59.1**	**-2.1**
TCUT	**Toone Canyon**	**85.79**	**44**	P		**P**	**17 06 58.5**	**-2.4**
Q32M	**Nakina River**	**86.48**	**22**	P		**P**	**17 07 02.7**	**-0.9**
Q32M				IAmb		IAmb	17 07 34.7	
	comp=Z,6.4nm,1.1s							
G19K	**Purcell Mounta**	**86.75**	**8**	P		**P**	**17 07 02.8**	**-1.7**
G19K				IAmb		IAmb	17 07 29.3	
	comp=Z,18nm,1.5s							
CCB	**Clear Creek Bu**	**86.92**	**12**	P		**P**	**17 07 04.6**	**-0.7**
ILAR	**Eielson Array**	**87.22**	**13**	P		**P**	**17 07 06.1**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=218,slow=5.1,SNR=5.2							
	comp=Z,0.3nm,0.9s							
BPMT	**Black Pine Rid**	**87.28**	**38**	P		**P**	**17 07 07.7**	**-0.1**
LHMI	**Lhok Sumawe**	**87.72**	**276**	P		**P**	**17 07 08.9**	**-1.4**
MMAI	**Mount Meron Ar**	**147.87**	**301**	PKPbc		**PKPdf**	**17 14 03.1**	**+3.8**
	comp=Z,1.0nm,0.5s,baz=48,slow=2.1,SNR=4.3							

*MDD **22** 17:14:56.4±0.3, 38°.88N×0°.67W, h12km, mb_Lg2.1/21, Error ellipse: s-maj=2.8km s-min=2.1km az=91.0*
*SFS **22** 17:14:56.5, 38°.90N×0°.70W, h21km, ML2.7/6, ML2.6/6, MLv2.7/6*

ISC 22 17:14:55.0±0.9, 38°.89N±0°.03×0°.70W±0°.03, h15km±8km, n19, σ0°.99/41, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFON	**Font Roja**	**0.25**	**151**	Pg	**Pg**	**17 15 00.1**	**-0.5**
AFON				Sg	**Sg**	**17 15 04.5**	**+0.1**
AFON				*i* Vmb_Lg		17 15 06.2	
EBEN2	**Beniarda presa**	**0.45**	**118**	Pg	**Pb**	**17 15 04.4**	**-0.2**
EBEN2				Sg	**Sg**	**17 15 10.4**	**+0.3**
EBEN2				*i* Vmb_Lg		17 15 12.9	
ETOB	**Tobarra**	**0.71**	**250**	Pg	**Pg**	**17 15 09.4**	**+0.5**
ETOB				Sg	**Sn**	**17 15 20.0**	**-1.1**
ETOB				*i* Vmb_Lg		17 15 23.0	
ETOB	**Tobarra**	**0.71**	**250**	Pg	**Pg**	**17 15 09.3**	**+0.5**
ETOB				Sn	**Sn**	**17 15 20.5**	**-0.7**
ECHE	**Chera**	**0.73**	**343**	Pg	**Pb**	**17 15 09.3**	**-0.2**
ECHE				Sg	**Sg**	**17 15 19.9**	**+0.9**
ECHE				*i* Vmb_Lg		17 15 21.7	
EMUR	**La Murta**	**1.13**	**202**	Pg	**Pg**	**17 15 16.9**	**+0.2**
EMUR				Sg	**Sn**	**17 15 30.9**	**-0.5**
EMUR				*i* Vmb_Lg		17 15 33.1	
EMUR	**La Murta**	**1.13**	**202**	Sn	**Sb**	**17 15 30.4**	**-0.2**
EMUR				Pn	**Pg**	**17 15 16.7**	**-0.1**
EZAR	**Zarzadilla de**	**1.28**	**218**	Pg	**Pb**	**17 15 18.9**	**+0.1**
EZAR				Sg	**Sg**	**17 15 36.1**	**-0.2**
EZAR				*i* Vmb_Lg		17 15 40.2	
EMOS	**Mosqueruela**	**1.48**	**7**	Pn	**Pn**	**17 15 21.6**	**+0.3**
EMOS				Sn	**Sn**	**17 15 40.3**	**-0.2**
EMOS				*i* Vmb_Lg		17 15 46.8	
EIBI	**Ibiza**	**1.60**	**84**	Pn	**Pn**	**17 15 22.6**	**0.0**
EQES	**Quesada**	**2.16**	**241**	Pn	**Pn**	**17 15 31.3**	**+0.8**
EQES				Pg	**Pb**	**17 15 35.0**	**+1.2**
EQES				Sn	**Sn**	**17 15 58.1**	**+1.1**
EQES				Sg	**Sg**	**17 16 05.3**	**+0.9**
EQES				*i* Vmb_Lg		17 16 07.1	
ETOR	**Torete**	**2.19**	**332**	Pg	**Pg**	**17 15 36.1**	**-1.0**
ETOR				Sn	**Sn**	**17 15 58.8**	**+0.9**
ETOR				Sg	**Sg**	**17 16 06.0**	**+0.5**
PSIM	**Granatula de C**	**2.39**	**269**	Pn	**Pn**	**17 15 34.9**	**+1.3**
PSIM				Pg	**Pg**	**17 15 40.2**	**-0.6**
PSIM				Sn	**Sn**	**17 16 02.2**	**-0.4**
PSIM				Sg	**Sg**	**17 16 09.9**	**-1.9**
UCM	**Universidad Co**	**2.42**	**307**	Sg	**Sb**	**17 16 10.4**	**+2.4**
ESDC	**Sonseca Array**	**2.65**	**288**	Sg	**Sg**	**17 16 18.2**	**-2.0**
ESDC				*i* Vmb_Lg		17 16 21.1	
ETOS	**Mallorca**	**2.86**	**71**	Pn	**Pn**	**17 15 39.7**	**-0.4**
PAB	**San Pablo**	**2.91**	**284**	Pn	**Pn**	**17 15 40.9**	**+0.1**
PAB				Sn	**Sn**	**17 16 16.1**	**+0.6**
PAB				Sg	**Sg**	**17 16 27.2**	**-1.3**
PAB				*i* Vmb_Lg		17 16 28.3	
EADA	**Adamuz**	**3.13**	**258**	Pn	**Pn**	**17 15 44.0**	**+0.3**
EADA				Pg	**Pg**	**17 15 52.9**	**-2.0**
EADA				Sn	**Sn**	**17 16 19.6**	**-1.2**
EADA				Sg	**Sg**	**17 16 34.0**	**-1.4**
EADA				*i* Vmb_Lg		17 16 38.0	
EADA	**Adamuz**	**3.13**	**258**	Pn	**Pn**	**17 15 43.2**	**-0.5**

IDC 22 17:16:08.6±8.4, 20°.89S×177°.70E, h0km, mb3.4/3, mbtmp3.4/3, MS4.1/1, Error ellipse: s-maj=366.1km s-min=41.9km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**40.50**	**258**	P	P	17 23 49.8	+0.2
	0.4nm,0.7s,baz=95,slow=7.4,SNR=8.0						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**40.55**	**263**	P	P	17 23 49.6	-0.4
	0.1nm,0.2s,baz=98,slow=8.8,SNR=9.9						
	0.1nm,0.2s						
BATI	**Baumata**	**52.91**	**273**	LR	LR	17 46 35.2	
	comp=Z,176nm,20.3s,baz=82,slow=34						
ILAR	**Eielson Array**	**89.64**	**14**	P	P	17 29 07.8	0.0
	0.3nm,0.9s,baz=221,slow=4.8,SNR=1.7						
	0.3nm,0.9s						

IDC 22 17:26:38.8±2.0, 2°.46N×125°.12E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=211.4km s-min=27.4km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**158**	P	P	17 31 55.7	0.0
	0.3nm,0.5s,baz=337,slow=11,SNR=5.1						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**27.34**	**162**	P	P	17 32 26.6	+0.9
	0.2nm,0.8s,baz=350,slow=8.1,SNR=4.4						
	0.2nm,0.8s						
STKA	**Stephens Creek**	**37.56**	**157**	P	P	17 33 54.6	-0.4
	1.2nm,0.7s,baz=328,slow=10.0,SNR=3.0						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**57.70**	**326**	P	P	17 36 30.7	-0.7
	0.1nm,0.5s,baz=109,slow=8.3,SNR=1.7						
	0.1nm,0.5s						

*IDC **22** 17:29:24.6±1.0, 3°.35S×145°.75E, h0km, mb4.0/11, mbtmp4.2/14, ML4.7/2, MS3.9/39, Error ellipse: s-maj=41.9km s-min=15.2km az=87.0*
*DJA **22** 17:29:25.7±0.5, 3°.5±4°.4×14°.6E±°, h21km±4km, M4.4/18, mB5.2/4, mb4.4/18, MLv4.3/4, Mw(mB)4.5/4*
*NEIC **22** 17:29:25.4±2.0, 3°.14S±0°.06×145°.92E±0°.06, h42km±10km, mb4.7/21, Error ellipse: s-maj=11.8km s-min=5.3km az=225.0*
*GCMT **22** 17:29:29.4±0.3, 3°.31S±0°.02×146°.02E±0°.02, h26km±1km, MW5.0/77, Moment Tensor Solution. s9,c9; s77,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.26±.24; $M_{\theta\theta}$-2.28±.17; $M_{\phi\phi}$2.54±.18; $M_{r\theta}$-1.05±.34; $M_{\theta\phi}$2.11±.11; $M_{\phi r}$-0.01±.27; Best double couple: $M_0$3.37800×10^{16} NP1:ϕ_s64.00000°, δ82.00000°, λ-17.00000°. NP2: ϕ_s157.00000°, δ73.00000°, λ-172.00000°. Principal axes: T 3.3730, Plg6.0000°, Azm112.0000°; N 0.0100, Plg71.0000°, Azm220.0000°; P -3.3830, Plg18.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 17:29:26.3±0.5, 3°.38S±0°.06×146°.06E±0°.06, h25km, n96, σ2°.10/63, mb4.3/20, MS4.0/37, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.87**	**44**	P	**Pn**	**17 29 54.1**	**-2.5**
MANU	**Manus Island**	**1.87**	**44**	P	**Pn**	**17 29 55.7**	**-1.0**
TABU	**Tabubil**	**5.17**	**249**	P	**Pn**	**17 30 44.1**	**+1.9**
JAY	**Jayapura**	**5.42**	**279**	P	**Pn**	**17 30 47.2**	**+1.6**
	10nm,1.4s,0.1nm						
GENI	**Genyem**	**5.93**	**277**	P	**Pn**	**17 30 54.4**	**+1.7**
	33nm,0.7s,0.3nm						
KRVT	**Keravat (AS076**	**6.03**	**99**	LR	LR	17 32 52.5	
	comp=Z,3μm,18.2s,baz=51,slow=33						
PMG	**Port Moresby**	**6.08**	**170**	P	**Pn**	**17 30 55.7**	**+1.0**
PMG	**Port Moresby**	**6.08**	**170**	P	**Pn**	**17 30 55.8**	**+1.0**
PMG	**Port Moresby**	**6.08**	**170**	Pn	**Pn**	**17 30 55.6**	**+0.9**
	34nm,0.7s,baz=4.0,slow=6.4,SNR=37						
PMG				Sn	**Sn**	**17 32 03.5**	**-0.1**
	baz=82,slow=15						
COEN	**Coen**	**10.88**	**195**	Pn	**Pn**	**17 32 01.7**	**+1.1**
COEN	**Coen**	**10.88**	**195**	P	**Pn**	**17 32 02.3**	**+1.7**
MTSU	**Mount Surprise**	**14.76**	**187**	P	**Pn**	**17 32 55.6**	**+2.0**
SWI	**Sorong**	**15.00**	**279**	P	**P**	**17 33 00.3**	**-1.7**
	12nm,1.1s						
HNR	**Honiara**	**15.05**	**114**	Pn	**Pn**	**17 32 57.3**	**-0.2**
HNR	**Honiara**	**15.05**	**114**	LR	LR	17 38 53.7	
	comp=Z,5μm,18.3s,baz=240,slow=37						
TV1H	**Townsville Har**	**15.80**	**177**	P	**Pn**	**17 33 08.3**	**+1.1**
CTA	**Charters Tower**	**16.60**	**179**	Pn	**P**	**17 33 20.6**	**+0.8**
	1.8nm,0.3s,baz=358,slow=11,SNR=13						
CTA				LR	LR	17 39 49.9	
	comp=Z,384nm,18.2s,baz=3.5,slow=38						
	4.2nm,0.3s						
MTN	**Manton Dam**	**17.50**	**237**		**Pn**	**17 33 26.4**	**-2.4**
MTN	**Manton Dam**	**17.50**	**237**	P	**Pn**	**17 33 27.4**	**-1.4**
QIS	**Mount Isa**	**18.19**	**200**	P	**Pn**	**17 33 37.7**	**+0.4**
NLAI	**Namlea**	**18.93**	**270**	P	**Pn**	**17 33 46.8**	**+0.5**
	9.0nm,0.9s,3μm						
NLAI				pP	**pP**	**17 33 52.1**	**+0.3**
	9.0nm,0.9s,3μm						
WB0	**Warramunga Arr**	**19.87**	**214**		**P**	**17 33 55.2**	**-0.7**
WB0				IAmb	IAmb	17 33 57.2	
	comp=Z,70nm,1.2s						
WR0	**Warramunga Arr**	**19.94**	**213**	P	**P**	**17 33 55.9**	**-0.8**
WR0				IAmb	IAmb	17 33 58.0	
	comp=Z,42nm,0.8s						
WRAB	**Tennant Creek**	**20.03**	**214**	P	**P**	**17 33 56.6**	**-1.0**
WRAB				IAmb	IAmb	17 33 59.1	
	comp=Z,50nm,0.9s						
WRAB	**Tennant Creek**	**20.03**	**214**	P	**P**	**17 33 57.1**	**-0.5**
WB2	**Warramunga Arr**	**20.03**	**214**	P	**P**	**17 33 56.8**	**-0.8**
WB2				IAmb	IAmb	17 33 59.2	
	comp=Z,45nm,0.8s						
WRA	**Warramunga Arr**	**20.04**	**214**	P	**P**	**17 33 55.9**	**-1.8**
WRA	**Warramunga Arr**	**20.04**	**214**	P	**P**	**17 33 57.3**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=36,slow=12,SNR=126						
WRA				PcP	**PcP**	**17 38 16.9**	**+3.6**
	comp=Z,0.5nm,0.7s,baz=16,slow=2.0,SNR=2.9						
	comp=Z,30nm,0.9s						
KNRA	**Kununurra**	**20.95**	**233**	P	**P**	**17 34 03.9**	**-3.7**
KNRA				IAmb	IAmb	17 34 10.6	
	comp=Z,47nm,0.9s						
KNRA	**Kununurra**	**20.95**	**233**	P	**P**	**17 34 06.0**	**-1.6**
EIDS	**Eidsvold**	**22.39**	**168**	P	**P**	**17 34 25.1**	**+2.1**
EIDS				IAmb	IAmb	17 34 27.4	
	comp=Z,9.5nm,0.8s						
SOEI	**Soe**	**22.54**	**253**	P	**P**	**17 34 20.6**	**-4.2**
SOEI				IAmb	IAmb	17 34 49.2	
	comp=Z,44nm,0.9s						
SOEI	**Soe**	**22.54**	**253**	P	**P**	**17 34 24.5**	**-0.4**
	comp=Z,57nm,0.9s						
DAV	**Davao City (W)**	**22.93**	**297**	LR	LR	17 42 39.3	
	comp=Z,152nm,19.1s,baz=100,slow=35						
BATI	**Baumata**	**23.23**	**252**	P	**P**	**17 34 33.8**	**+1.9**
	comp=Z,53nm,1.0s						
AS31	**Alice Springs**	**23.34**	**209**	P	**P**	**17 34 32.4**	**-0.4**
ASAR	**Alice Springs**	**23.34**	**209**	P	**P**	**17 34 32.4**	**-0.5**
ASAR	**Alice Springs**	**23.34**	**209**	P	**P**	**17 34 32.2**	**-0.7**
	comp=Z,7.5nm,0.7s,baz=46,slow=7.2,SNR=136						
ASAR				PcP	**PcP**	**17 38 23.7**	**+4.0**
	comp=Z,0.6nm,0.8s,baz=35,slow=3.4,SNR=4.2						
ASAR				LR	LR	17 44 40.5	
	comp=Z,371nm,19.4s,baz=36,slow=40						
	comp=Z,7.5nm,0.7s						
LUWI	**Luwuk**	**23.38**	**275**	P	**P**	**17 34 26.7**	**-6.7**
BBSI	**Bau Bau**	**23.51**	**264**	P	**P**	**17 34 37.0**	**+2.4**
	comp=Z,23nm,1.4s						
INKA	**Innaminka**	**24.75**	**191**	P	**P**	**17 34 46.4**	**+0.4**
TOLI2	**Tolitoli**	**25.66**	**280**	P	P	17 34 47.5	-6.9
TOLI2				IAmb	IAmb	17 35 19.3	
	comp=Z,14nm,1.2s						
BKSI	**Bulukumba**	**25.93**	**265**	P	**P**	**17 34 57.5**	**+0.6**
	comp=Z,17nm,1.3s						
TTSI	**Tana Toraja**	**26.20**	**270**	P	**P**	**17 35 01.3**	**+2.0**
OOD	**Oodnadatta**	**26.21**	**201**	P	**P**	**17 34 59.3**	**0.0**
KAPI	**Kappang**	**26.28**	**266**	P	**P**	**17 34 54.6**	**-5.5**
KAPI				IAmb	IAmb	17 35 08.4	
	comp=Z,26nm,1.2s						
KAPI	**Kappang**	**26.28**	**266**	LR	LR	17 46 54.7	
	comp=Z,110nm,20.4s,baz=86,slow=40						
DZM	**Mont Dzumac**	**27.14**	**135**	LR	LR	17 44 19.4	
	comp=Z,402nm,21.6s,baz=338,slow=33						
WRKA	**Warakurna**	**27.49**	**217**	P	**P**	**17 35 10.2**	**-0.7**
LCRK	**Leigh Creek**	**27.92**	**195**	P	**P**	**17 35 14.6**	**0.0**
CMSA	**Cobar Meteorol**	**28.01**	**181**	P	**P**	**17 35 16.5**	**+1.1**
STKA	**Stephens Creek**	**28.65**	**188**	P	**P**	**17 35 19.0**	**-2.1**
STKA	**Stephens Creek**	**28.65**	**188**	P	**P**	**17 35 23.6**	**+2.5**
	comp=Z,3.9nm,0.6s,baz=350,slow=8.7,SNR=12						
STKA				LR	LR	17 47 13.1	
	comp=Z,306nm,19.3s,baz=9.7,slow=37						
	comp=Z,3.9nm,0.6s						
TGY	**Tagaytay City**	**30.37**	**305**	LR	LR	17 45 55.8	
	comp=Z,115nm,21.9s,baz=112,slow=33						
BBOO	**Buckleboo**	**30.74**	**197**	P	**P**	**17 35 36.9**	**-2.7**
BBOO				IAmb	IAmb	17 35 49.7	
	comp=Z,18nm,1.3s						
FORT	**Forrest**	**32.12**	**210**	P	P	17 35 47.4	-4.3
MSVF	**Nonsavu**	**34.44**	**117**	P	**P**	**17 36 10.0**	**-2.3**
MSVF	**Nonsavu**	**34.44**	**117**	LR	LR	17 50 29.4	
	comp=Z,88nm,18.1s,baz=51,slow=36						
JOW	**Kunigami**	**34.61**	**331**	LR	LR	17 46 52.2	
	comp=Z,520nm,20.3s,baz=342,slow=30						
YULB	**Yu-li**	**35.93**	**319**	P	P	17 36 18.0	-7.0
KSM	**Kuching**	**36.06**	**277**	P	**P**	**17 36 21.9**	**-4.3**
KSM				IAmb	IAmb	17 36 34.2	
	comp=Z,14nm,1.2s						
LEM	**Lembang**	**38.43**	**263**	LR	LR	17 54 17.2	
	comp=Z,92nm,18.2s,baz=22,slow=39						
NWAO	**Narrogin (SRO)**	**39.89**	**219**	LR	LR	17 54 07.9	
	comp=Z,398nm,19.0s,baz=76,slow=37						
KSRS	**Korea Array**	**43.99**	**339**	P	**P**	**17 37 32.5**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=150,slow=8.9,SNR=5.6						
KSRS				LR	LR	17 53 20.7	
	comp=Z,181nm,19.3s,baz=160,slow=33						
	comp=Z,2.8nm,0.8s						
URZ	**Urewera**	**44.81**	**145**	LR	LR	17 54 25.9	
	comp=Z,188nm,21.4s,baz=31,slow=33						
RPZ	**Rata Peaks**	**45.86**	**155**	LR	LR	17 54 55.7	
	comp=Z,130nm,20.0s,baz=316,slow=33						
USRK	**Ussuriysk Ar.**	**49.02**	**347**	P	**P**	**17 38 14.0**	**+2.9**
	comp=Z,3.6nm,0.7s,baz=96,slow=3.8,SNR=4.7						
	comp=Z,3.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**51.22**	**297**	P	**P**	**17 38 28.5**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=122,slow=5.6,SNR=7.2						
CMAR				LR	LR	17 57 54.9	
	comp=Z,34nm,21.5s,baz=100,slow=34						
	comp=Z,0.9nm,0.7s						
RAR	**Rarotonga**	**55.50**	**113**	LR	LR	18 00 40.1	
	comp=Z,19nm,21.1s,baz=184,slow=34						
PETK	**Petropavlovsk-**	**57.13**	**8**	LR	LR	17 59 52.7	
	comp=Z,118nm,21.5s,baz=199,slow=32						
SHEM	**Shemya Is, Ala**	**60.71**	**19**	LR	LR	17 59 36.2	
	comp=Z,98nm,20.0s,baz=305,slow=30						
SONM	**Songino Array**	**61.68**	**331**	P	**P**	**17 39 42.7**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=147,slow=8.1,SNR=4.1						
	comp=Z,0.6nm,0.7s						
MA2	**Magadan**	**62.88**	**3**	LR	LR	18 08 20.6	
	comp=Z,53nm,19.0s,baz=129,slow=37						
PPT	**Papeete**	**64.56**	**108**	LR	LR	18 04 25.6	
	comp=Z,40nm,20.4s,baz=292,slow=32						
MK31	**Makanchi Array**	**74.90**	**320**	P	P	17 40 59.6	-5.5
MKAR	**Makanchi Array**	**74.90**	**320**	P	P	17 40 59.9	-5.2
MKAR	**Makanchi Array**	**74.90**	**320**	P	**P**	**17 41 07.2**	**+2.1**
	comp=Z,1.0nm,1.0s,baz=109,slow=7.1,SNR=4.9						
MKAR				LR	LR	18 12 12.7	
	comp=Z,55nm,21.4s,baz=129,slow=34						
	comp=Z,1.0nm,1.0s						
ZALV	**Zalesovo Beam**	**76.31**	**328**	P	**P**	**17 41 13.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=92,slow=8.7,SNR=2.6						
ZALV				LR	LR	18 13 38.9	
	comp=Z,106nm,20.6s,baz=83,slow=35						
	comp=Z,0.3nm,0.3s						
KDAK	**Kodiak Island**	**78.06**	**29**	LR	LR	18 17 06.2	
	comp=Z,55nm,18.0s,baz=267,slow=37						
KURBB	**Kurchatov Arra**	**78.59**	**323**	P	**P**	**17 41 26.4**	**+0.6**
	comp=Z,0.6nm,0.2s,baz=111,slow=5.1,SNR=5.0						
	comp=Z,0.6nm,0.2s						
AAK	**Ala-Archa**	**78.85**	**314**	LR	LR	18 16 17.3	
	comp=Z,86nm,19.9s,baz=88,slow=36						
ILAR	**Eielson Array**	**83.47**	**23**	P	**P**	**17 41 52.9**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=250,slow=5.3,SNR=4.3						
ILAR				LR	LR	18 19 33.2	
	comp=Z,50nm,19.6s,baz=269,slow=36						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**84.11**	**324**	P	**P**	**17 41 55.2**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=108,slow=8.0,SNR=6.0						
	comp=Z,0.6nm,0.5s						
MAW	**Mawson**	**84.29**	**202**	LR	LR	18 16 26.1	
	comp=Z,62nm,20.3s,baz=68,slow=34						
QSPA	**South Pole Qui**	**86.57**	**180**	LR

PTBC	**PUERTO BERRIO,**	**2.67**	**34**	*eP*	Pn	17 32 24.4	-1.5
PTBC				*eS*	Sn	17 32 56.7	-3.0
PTBC				*i*		17 32 59.1	
	comp=Z,18nm,0.4s						
DBBC	**Dabeiba**	**2.71**	**354**	*eP*	Pn	17 32 26.5	+0.1
DBBC				*eS*	Sn	17 33 01.4	+0.7
DBBC				*i*		17 33 03.5	
	comp=Z,47nm,0.3s						
FLOC	**Florencia**	**2.72**	**174** ⇓	*iP*	Pn	17 32 26.1	-0.4
CRUC	**La Cruz**	**2.90**	**200**	*eP*	Pn	17 32 29.2	+0.2
CRUC				*eS*	Sn	17 33 04.5	-0.7
RUSC	**La Rusia**	**3.26**	**61**	*eP*	Pn	17 32 33.1	-0.6
RUSC				*eS*	Sn	17 33 12.5	-1.0
RUSC				*i*		17 33 14.7	
	comp=Z,17nm,0.6s						
ZARC	**Zaragoza, Cauc**	**3.35**	**19** ⇓	*eP*	Pn	17 32 33.2	-1.2
ZARC				*eS*	Sn	17 33 12.4	-2.5
ZARC				*i*		17 33 13.6	
	comp=Z,111nm,0.7s						
GCUF	**Volcan Galeras**	**3.36**	**205**	*eP*	Pn	17 32 34.4	-0.6
GCUF				*eS*	Sn	17 33 13.9	-2.0
GCUF				*i*		17 33 18.9	
	comp=Z,39nm,0.6s						
UREC	**San Jos de Ur**	**3.45**	**7**	*eP*	Pn	17 32 34.8	-0.9
UREC				*eS*	Sn	17 33 14.2	-3.0
UREC				*i*		17 33 18.2	
	comp=Z,29nm,0.6s						
BRRC	**Barranca, Sant**	**3.56**	**39**	*eP*	Pn	17 32 35.5	-1.5
BRRC				*eS*	Sn	17 33 15.7	-4.1
BRRC				*i*		17 33 20.9	
	comp=Z,30nm,0.2s						
BARC	**Barichara**	**3.57**	**50**	*eP*	Pn	17 32 36.6	-0.8
BARC				*eS*	Sn	17 33 18.2	-2.0
BARC				*i*		17 33 21.7	
	comp=Z,57nm,0.5s						
APAC	**Apartado, Choc**	**3.63**	**350**	*eP*	Pn	17 32 39.6	+1.7
APAC				*eS*	Sn	17 33 24.0	+2.7
APAC				*i*		17 33 38.5	
	comp=Z,24nm,0.5s						
PAMC	**Pamplona, Colo**	**4.42**	**47**	*eP*	Pn	17 32 49.2	+0.6
PAMC				*eS*	Sn	17 33 37.1	-3.2
PAMC				*i*		17 33 42.1	
	comp=Z,20nm,0.4s						
OTAV	**Otavalo**	**4.75**	**212**	*eP*	Pn	17 32 54.5	+1.6
OTAV				*eS*	Sn	17 33 47.3	-0.9
SJCC	**San Jacinto, C**	**5.61**	**8**	*eP*	Pn	17 33 02.8	-1.1
SJCC				*eS*	Sn	17 34 02.4	-5.5
SJCC				*i*		17 34 08.3	
	comp=Z,3.9nm,0.3s						
BCIP	**Isla Barro Col**	**6.18**	**322**	*eP*	Pn	17 33 12.8	+1.3
BCIP				*eS*	Sn	17 34 23.0	+1.5
BCIP				*i*		17 34 25.4	
	comp=Z,9.8nm,0.3s						
CRJC	**Cerrejon, Guaj**	**7.33**	**24**	*eP*	Pn	17 33 24.4	-2.4
CRJC				*eS*	Sn	17 34 41.3	-7.7

PRE ***22*** *17:38:20.0±1.1, 18°.09S×27°.07E, h10km, ML2.1*
BUL ***22*** *17:38:33.2±1.3, 17°.85S×28°.08E, h10km, MD3.5*
EAF ***22*** *17:38:36.0, 17°.88S×28°.23E, h10km, MC3.4*
ISC 22 17:38:18.6±2.4, 18°.03S±0°.08×27°.1E±0°.1, h10km, n11, σ2.99/20, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI	**Karoi**	**2.67**	**64**	*i* P	**Pn**	**17 39 04.8**	**+2.9**
KRI				*i* S	**Sn**	**17 39 29.9**	**-4.4**
KRI	**Karoi**	**2.67**	**64**	*eP*	**Pn**	**17 39 04.4**	**+2.5**
KRI				*eS*	**Sn**	**17 39 37.8**	**+3.5**
KRI	**Karoi**	**2.67**	**64**	*i* P	**Pn**	**17 39 04.8**	**+2.9**
	baz=74						
KRI				*i* S	**Sn**	**17 39 29.9**	**-4.4**
	baz=74						
MUSN	**Musina, Limpop**	**4.96**	**149**	*i* P	**Pb**	**17 39 44.8**	**-0.9**
MUSN				*i* S	**Sn**	**17 40 35.0**	**+4.2**
MUSN	**Musina, Limpop**	**4.96**	**149**	*eP*	**Pn**	**17 39 35.2**	**+1.9**
MUSN				*eS*	**Sn**	**17 40 29.4**	**-1.4**
MUSN				IAML		17 40 52.9	
	comp=Z,3.5nm,0.6s						
MUSN	**Musina, Limpop**	**4.96**	**149**	*i* P	**Pb**	**17 39 44.8**	**-0.9**
	baz=161						
MUSN				*i* S	**Sn**	**17 40 35.0**	**+4.2**
	baz=161						
MTLB	**Matlabas, Limp**	**5.76**	**181**	*eP*	**Pn**	**17 39 45.6**	**+1.3**
MTLB				*eS*	**Sn**	**17 40 49.1**	**-1.4**
MTLB				IAML		17 41 17.0	
	comp=Z,4.4nm,0.6s						
LEPH	**Lephalale, Lim**	**5.84**	**174**	*eP*	**Pn**	**17 39 47.9**	**+2.5**
LEPH				*eS*	**Sn**	**17 40 50.3**	**-2.1**
LEPH				IAML		17 41 20.5	
	comp=Z,2.8nm,0.6s						
MOPA	**Mopani**	**6.77**	**144**	*i* P	**Pb**	**17 40 13.5**	**-3.1**
MOPA	**Mopani**	**6.77**	**144**	*eP*	**Pn**	**17 39 59.4**	**+1.2**
MOPA				*eS*	**Sn**	**17 41 14.3**	**-1.1**
MOPA	**Mopani**	**6.77**	**144**	*i* P	**Pb**	**17 40 13.5**	**-3.1**
	baz=153						

IDC ***22*** *17:41:01.0±1.8, 1°.51N×125°.52E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=164.5km s-min=24.4km az=65.0*
DJA ***22*** *17:41:06.0±1.7, 2°.N±4°×12°.7E±°, h27km±18km, M3.4/9, MLv3.4/9*
ISC 22 17:41:05.7±1.2, 2°.04N±0°.08×126°.7E±0°.1, h35km, n9, σ1.28/10, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.41**	**153**	P	**Pn**	**17 41 29.1**	**+0.2**
TNTI				S	**Sn**	**17 41 48.5**	**+2.2**
SGSI	**Sangihe**	**2.03**	**324**	P	**Pn**	**17 41 38.6**	**+1.1**
LBMI	**Labuha**	**2.77**	**164**	P	**Pn**	**17 41 48.6**	**+1.0**
KMSI	**Cibinong**	**3.10**	**242**	P	**Pn**	**17 41 52.6**	**+0.4**
GTOI	**Gorontalo**	**3.96**	**250**	P	**Pn**	**17 42 04.9**	**+0.8**
SANI	**Sanana**	**4.12**	**190**	P	**Pn**	**17 42 06.3**	**0.0**
WRA	**Warramunga Arr**	**23.09**	**161**	P	**P**	**17 46 07.3**	**-1.3**
	1.0nm,0.6s,baz=336,slow=10,SNR=18						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**26.48**	**165**	P	**P**	**17 46 39.0**	**-1.0**
	0.1nm,0.4s,baz=342,slow=7.7,SNR=9.0						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**58.94**	**326**	P	**P**	**17 51 00.6**	**-1.0**
	0.2nm,0.3s,baz=117,slow=7.8,SNR=7.6						
	0.2nm,0.3s						

NEIC ***22*** *17:47:21.6±2.8, 47°.80S±0°.09×32°.4E±0°.3, h10km±1km, mb4.3/12, Error ellipse: s-maj=35.0km s-min=8.6km az=69.0*
IDC ***22*** *17:47:22.5±0.8, 48°.05S×31°.84E, h0km, mb4.1/8, mbtmp4.2/9, ML3.8/1, MS3.5/10, Error ellipse: s-maj=35.4km s-min=17.2km az=63.0*
ISC 22 17:47:22.9±0.7, 47°.88S±0°.10×32°.1E±0°.2, h12km, n38, σ1.53/25, mb4.1/8, MS3.5/8, 4C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**13.49**	**93**	T	T	18 04 21.9	
	baz=258,slow=76,SNR=32						
H04S3	**CROZET ISLANDS**	**13.49**	**93**	T	T	18 04 19.3	
	baz=258,slow=76,SNR=38						
H04S1	**CROZET ISLANDS**	**13.51**	**93**	T	T	18 04 18.2	
	baz=258,slow=76,SNR=43						
GRHM	**Grahamstown, E**	**15.20**	**342**	Pn	**Pn**	**17 50 54.5**	**-2.8**
GRHM				IAmb	IAmb	17 51 08.5	
	comp=Z,18nm,0.8s						
SUR	**Sutherland**	**17.67**	**327**	P	**P**	**17 51 30.8**	**+0.8**
SUR				IAmb	IAmb	17 51 58.6	
	comp=Z,39nm,1.4s						
SUR	**Sutherland**	**17.67**	**327**	P	**P**	**17 51 30.5**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=142,slow=15,SNR=2.7						
SUR				S	Sn	17 54 35.0	-11
	comp=Z,4.3nm,0.8s,baz=353,slow=15,SNR=1.5						
SUR				LR	LR	17 56 34.1	
	comp=Z,143nm,21.7s,baz=162,slow=31						
	comp=Z,8.4nm,0.9s						
BOSA	**Boshof**	**19.94**	**342**	P	**P**	**17 51 56.5**	**+1.7**
	comp=Z,2.9nm,0.9s,baz=166,slow=4.2,SNR=1.6						
BOSA				S	S	17 55 29.9	-9.1
	comp=Z,1.5nm,0.9s,baz=144,slow=16,SNR=1.3						
BOSA				LR	LR	17 59 08.2	
	comp=Z,77nm,18.4s,baz=195,slow=35						
	comp=Z,2.9nm,0.9s						
LBTB	**Lobatse**	**23.38**	**345**	P	**P**	**17 52 30.9**	**-0.7**
LBTB				IAmb	IAmb	17 52 36.0	
	comp=Z,5.0nm,0.9s						
MAW	**Mawson**	**25.24**	**153**	P	**P**	**17 52 46.6**	**-1.6**
MAW	**Mawson**	**25.24**	**153**	P	**P**	**17 52 50.2**	**+1.9**
	comp=Z,5.1nm,1.0s,baz=305,slow=11,SNR=9.0						
	comp=Z,5.1nm,1.0s						
TROLL	**Troll, Antarti**	**27.76**	**199** ⇑	P	**P**	**17 53 11.4**	**+0.1**
	comp=Z,261nm,0.8s						
SNAA	**Sanae**	**28.82**	**202**	P	**P**	**17 53 19.8**	**-0.7**
SNAA				IAmb	IAmb	17 53 50.9	
	comp=Z,3.7nm,1.0s						
SNAA	**Sanae**	**28.82**	**202** ⇑	P	P	17 53 27.0	+6.5
SNAA	**Sanae**	**28.82**	**202**	P	**P**	**17 53 19.7**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=61,slow=7.1,SNR=4.1						
SNAA				LR	LR	18 02 13.7	
	comp=Z,96nm,21.8s,baz=28,slow=31						
	comp=Z,1.0nm,0.8s						
VNA2	**Neumayer--Watz**	**29.63**	**205** ⇑	P	**P**	**17 53 27.8**	**+0.1**
	baz=55,slow=9.0						
VNA3	**Neumayer Olymp**	**30.43**	**205** ⇑	P	P	17 53 23.3	-11
TSUM	**Tsumeb**	**30.93**	**333**	LR	LR	18 05 27.2	
	comp=Z,88nm,18.8s,baz=151,slow=35						
LSZ	**Lusaka**	**32.66**	**353**	LR	LR	18 05 38.3	
	comp=Z,69nm,18.7s,baz=172,slow=33						
BELA	**Belgrano 2**	**38.82**	**198**	P	**P**	**17 54 46.0**	**-1.2**
QSPA	**South Pole Qui**	**42.34**	**180**	P	**P**	**17 55 16.6**	**+0.1**
QSPA				IAmb	IAmb	17 55 20.4	
	comp=Z,8.3nm,1.1s						
QSPA	**South Pole Qui**	**42.34**	**180**	P	**P**	**17 55 16.5**	**-0.1**
	comp=Z,6.4nm,0.8s,baz=261,slow=1.6,SNR=27						
	comp=Z,6.4nm,0.8s						
MBAR	**Mbarara**	**47.10**	**358**	LR	LR	18 14 54.9	
	comp=Z,52nm,18.4s,baz=148,slow=35						
PMSA	**Palmer Station**	**50.40**	**214**	P	**P**	**17 56 20.2**	**+0.7**
PMSA	**Palmer Station**	**50.40**	**214**	LR	LR	18 12 56.5	
	comp=Z,35nm,20.2s,baz=151,slow=31						
DBIC	**Dimbokro**	**63.29**	**318**	P	**P**	**17 57 50.1**	**-1.5**
DBIC	**Dimbokro**	**63.29**	**318**	P	**P**	**17 57 53.8**	**+2.2**
	comp=Z,2.8nm,0.6s,baz=156,slow=7.7,SNR=6.5						
	comp=Z,2.8nm,0.6s						
TOA0	**Torodi Ar. Sit**	**66.50**	**328**	P	**P**	**17 58 12.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**66.50**	**328**	P	**P**	**17 58 11.9**	**-0.5**
TORD				IAmb	IAmb	17 58 22.2	
	comp=Z,4.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.50**	**328**	P	**P**	**17 58 15.5**	**+3.1**
	comp=Z,1.3nm,0.6s,baz=156,slow=6.7,SNR=6.9						
	comp=Z,1.3nm,0.6s						
PALK	**Pallekele**	**69.62**	**53**	LR	LR	18 23 15.9	
	comp=Z,54nm,20.5s,baz=147,slow=31						
ASAR	**Alice Springs**	**80.31**	**114**	P	P	17 59 29.6	-4.4
ASAR	**Alice Springs**	**80.31**	**114**	P	**P**	**17 59 35.8**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=223,slow=4.7,SNR=18						
	comp=Z,1.7nm,0.8s						
AS31	**Alice Springs**	**80.31**	**114**	P	**P**	**17 59 31.1**	**-2.9**
WRA	**Warramunga Arr**	**83.34**	**112**	P	**P**	**17 59 51.0**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=219,slow=4.1,SNR=5.9						
	comp=Z,1.0nm,0.9s						
NNA	**Nana**	**93.48**	**248**	LR	LR	18 35 14.1	
	comp=Z,29nm,21.3s,baz=236,slow=31						
RAO	**Raoul Island**	**98.64**	**154**	LR	LR	18 42 25.8	
	comp=Z,63nm,20.9s,baz=322,slow=34						
TXAR	**Lajitas Array**	**141.37**	**258**	PKhKP	PKPpre	18 06 50.8	
	comp=Z,0.5nm,0.9s,baz=29,slow=2.9,SNR=3.5						
PDAR	**Pinedale Array**	**152.73**	**274**	PKPbc	**PKiKP**	**18 07 20.1**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=114,slow=3.6,SNR=6.3						
PDAR				PKPab	**PKPab**	**18 07 30.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=134,slow=4.3,SNR=4.0						

TRN 22 18:08:34.1, 13°.40N×61°.29W, h147km, MD3.7, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVV	**Soufriere Volc**	**0.11**	**139**	*eP*	Pn	18 08 55.3	+1.5
SVV				*eS*	Sn	18 09 10.6	+1.8
SSV	**Crater Summit**	**0.12**	**128**	*eP*	Pn	18 08 55.0	+1.0
SSV				*eS*	Sn	18 09 10.1	+1.1
SVB	**Belmont**	**0.13**	**164**	*eP*	Pn	18 08 54.7	+0.8
SVB				*eS*	Sn	18 09 09.3	+0.3
SVOC	**Richmond Hill,**	**0.25**	**165**	*eP*	Pn	18 08 54.1	0.0
SVOC				*eS*	Sn	18 09 09.6	+0.2
SLDE	**Delcer**	**0.46**	**29**	*eS*	Sn	18 09 11.6	+0.9
SLCP	**Castries, St.**	**0.67**	**26**	*eS*	Sn	18 09 13.5	+0.7
SLBI	**Saint Lucia, B**	**0.69**	**26**	*eP*	Pn	18 08 57.0	+0.9
SLBI				*eS*	Sn	18 09 14.3	+1.3
GCMP	**Grenada, Carri**	**0.92**	**188**	*eP*	Pn	18 08 58.7	+0.8
GCMP				*eS*	Sn	18 09 16.4	+0.4
MPOM	**Morne Pois Mar**	**1.12**	**22**	*eP*	Pn	18 09 00.2	+0.6
BIM	**Bigot**	**1.13**	**11**	*eP*	Pn	18 09 00.6	+0.8
LPMF	**Morne Lapointe**	**1.21**	**15**	*eP*	Pn	18 09 01.4	+0.9
MVM	**Montagne Vaucl**	**1.21**	**18**	*eP*	Pn	18 09 01.4	+0.9
GRHS	**Sauteurs**	**1.22**	**196**	*eP*	Pn	18 09 01.2	+0.6
GRHS				*eS*	Sn	18 09 21.4	+0.7
GRW	**Mount Saint Ca**	**1.28**	**196**	*eP*	Pn	18 09 02.2	+0.9
GRW				*eS*	Sn	18 09 23.4	+1.3
GRGR	**Grenville**	**1.31**	**196**	*eP*	Pn	18 09 02.3	+0.8
GRGR				*eS*	Sn	18 09 23.3	+0.9
FDF	**Fort de France**	**1.33**	**6**	*eP*	Pn	18 09 02.5	+0.8
PCM	**Pelee Case Pet**	**1.41**	**3**	*eP*	Pn	18 09 03.5	+1.0
BAMF	**Morne Balai**	**1.41**	**6**	*eP*	Pn	18 09 03.8	+1.1
SVN	**Savane Anatole**	**1.44**	**5**	*eP*	Pn	18 09 03.7	+0.8
BBGH	**Gun Hill**	**1.71**	**98**	*eP*	Pn	18 09 07.3	+1.6
BBGH				*eS*	Sn	18 09 29.8	0.0
MAGL	**Barre de l'ile**	**2.54**	**0**	*eP*	Pn	18 09 16.6	+1.1
MAGL				*eS*	Sn	18 09 47.8	+0.3
TRN	**Trinidad (W)**	**2.74**	**182**	*eP*	Pn	18 09 19.6	+1.5
TRN				*eS*	Sn	18 09 51.5	-0.5
ANBD	**Bethesda, Anti**	**3.66**	**353**	*eP*	Pn	18 09 31.1	+1.4
ANBD				*eS*	Sn	18 10 12.5	-0.6
BAUV	**El Baul**	**7.97**	**237**	*eS*	Sn	18 11 50.0	-5.9

IDC 22 18:30:12.5±61.0, 16°.34S×177°.28W, h394km±125km, mb3.6/3, mbtmp4.4/3, Error ellipse: s-maj=904.0km s-min=116.9km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.68**	**252**	P	Pn	18 31 31.0	0.0
	2.0nm,0.5s,baz=69,slow=11,SNR=1.7						
STKA	**Stephens Creek**	**40.34**	**240**	P	P	18 37 13.6	-0.2
	2.5nm,0.6s,baz=77,slow=10,SNR=6.5						
	2.5nm,0.6s						
WRA	**Warramunga Arr**	**46.00**	**258**	P	P	18 37 58.8	0.0
	0.7nm,0.3s,baz=92,slow=7.4,SNR=46						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**46.27**	**253**	P	P	18 38 00.6	-0.2
	7.7nm,0.5s,baz=90,slow=7.6,SNR=239						
	7.7nm,0.5s						

PDG ***22*** *18:46:18.7±0.1, 41°.14N×19°.75E, h23km, ML2.4/11, Error ellipse: s-maj=0.2km s-min=0.2km az=90.0*
SKO ***22*** *18:46:19.8, 41°.16N×19°.76E, h28km*
BEO ***22*** *18:46:20.0±0.6, 41°.20N×19°.81E, h17km±2km, ML1.9/8*
TIR ***22*** *18:46:21.0, 41°.29N×19°.97E, h18km±1km, Md2.8, Ml2.0*
ISC 22 18:46:21.6±1.0, 41°.28N±0°.03×19°.88E±0°.03, h19km±1km, n31, σ1.13/57, 4C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.06**	**352**	P	**Pb**	**18 46 24.8**	**-0.3**
	baz=306						
TIR				S	**Sb**	**18 46 27.5**	**+0.1**
	baz=306						
TIR				AMP			
	comp=E,9.7nm,0.2s,baz=306						
TIR	**Tirane**	**0.06**	**352**	*eP*g	**Pb**	**18 46 24.6**	**-0.6**
TIR				*eS*g	**Sb**	**18 46 28.9**	**+1.5**
OHR	**Ohrid**	**0.72**	**104**	*eP*g	**Pb**	**18 46 34.8**	**-0.7**
OHR				*eS*g	**Sb**	**18 46 44.1**	**-0.9**
OHR	**Ohrid**	**0.72**	**104** ⇑	*i*Pg	**Pb**	**18 46 35.0**	**-0.6**
OHR				*i* Sg	**Sn**	**18 46 46.6**	**-0.8**
ULC	**Ulcinj**	**0.83**	**325** ⇓	*i*Pg	**Pb**	**18 46 36.4**	**-1.0**
ULC	**Ulcinj**	**0.83**	**325** ⇓	*i*Pg	**Pb**	**18 46 35.9**	**-1.6**
ULC				*i* Sg	**Sn**	**18 46 50.4**	**+0.3**
KBN	**Korca**	**0.95**	**133**	P	**Pb**	**18 46 38.8**	**-0.8**
	baz=136						
KBN				S	**Sn**	**18 46 53.7**	**+0.5**
	baz=136						
KBN				AMP			
	comp=N,0.1nm,0.5s,baz=136						
DRME	**Dracevica, Mon**	**1.04**	**330** ⇑	*i*Pg	**Pb**	**18 46 39.9**	**-1.2**
DRME				*i* Sg	**Sn**	**18 46 57.3**	**+2.0**
BCI	**Bajram Curri**	**1.09**	**7**	P	**Pb**	**18 46 41.7**	**-0.2**
	baz=3.0						
BCI				S	**Sn**	**18 46 57.5**	**+0.9**
	baz=3.0						
BCI				AMP			
	comp=E,0.2nm,0.4s,baz=3.0						
PDG	**Podgorica**	**1.24**	**338**	*eP*g	**Pn**	**18 46 42.7**	**-1.2**
PDG				*eS*g	**Sn**	**18 47 00.8**	**+0.7**
PDG	**Podgorica**	**1.24**	**338**	*eP*g	**Pn**	**18 46 43.1**	**-0.8**
PDG				*i Sg*	**Sn**	**18 47 02.4**	**+2.3**
FNA	**Florina**	**1.24**	**113**	P	**Pn**	**18 46 43.0**	**-1.0**
	baz=114						
FNA				S	**Sn**	**18 47 00.8**	**+0.5**
	baz=114						
FNA	**Florina**	**1.24**	**113**	*eP*g	**Pn**	**18 46 43.0**	**-1.0**
FNA				*eS*g	**Sn**	**18 47 00.6**	**+0.4**
FNA	**Florina**	**1.24**	**113**	*i* Pg	**Pn**	**18 46 43.2**	**-0.8**
FNA				*i Sg*	**Sn**	**18 47 00.8**	**+0.5**
BUM	**Brajici-Budva**	**1.25**	**324**	*eP*g	**Pn**	**18 46 42.9**	**-1.3**
BUM				*i Sg*	**Sn**	**18 47 01.8**	**+1.2**
LSK	**Leskovik**	**1.26**	**154**	P	**Pb**	**18 46 45.1**	**+0.3**
	baz=157						
LSK				S	**Sn**	**18 47 00.3**	**-0.4**
	baz=157						
PVY	**Plav**	**1.31**	**3** ⇑	*i*Pg	**Pn**	**18 46 44.9**	**-0.2**
PVY				*i Sg*	**Sb**	**18 47 05.3**	**+3.1**
SRN	**Sarande**	**1.41**	**176**	P	**Pb**	**18 46 48.0**	**+0.8**
	baz=179						
SRN				S	**Sb**	**18 47 07.3**	**+2.5**
	baz=179						
SRN				AMP			
	comp=N,0.0nm,0.2s,baz=179						
CEME	**Cevo**	**1.45**	**331** ⇓	*i*Pg	**Pn**	**18 46 45.9**	**-1.0**
CEME				*i Sg*	**Sb**	**18 47 07.0**	**+0.8**
HCY	**Herceg Novi**	**1.56**	**319** ⇓	*i*Pn	**Pn**	**18 46 46.8**	**-1.5**
HCY				*i* Sn	**Sb**	**18 47 08.8**	**-0.3**
IVA	**Berane**	**1.59**	**0**	*e*Pn	**Pn**	**18 46 48.6**	**-0.2**
IVA				*i* Sn	**Sb**	**18 47 11.9**	**+1.8**
NKME	**Niksic**	**1.63**	**335** ⇓	*i*Pn	**Pn**	**18 46 48.5**	**-0.9**
NKME				*i* Sn	**Sb**	**18 47 11.8**	**+0.3**
TREB	**Trebinje**	**1.83**	**322**	*e*Pn	**Pn**	**18 46 50.4**	**-1.7**
BRY	**Bratogost**	**1.90**	**329**	*e*Pn	**Pn**	**18 46 51.9**	**-1.3**
BRY				*i* Sn	**Sn**	**18 47 17.7**	**+1.1**
SJES	**Sjenica**	**1.98**	**2**	*e*Pn	**Pn**	**18 46 54.8**	**+0.6**
SJES				*e*Sn	**Sb**	**18 47 20.2**	**-1.2**
PRVS	**Prvonek**	**2.05**	**53**	*e*Pn	**Pn**	**18 46 54.0**	**-1.1**
PRVS				*e*Sn	**Sn**	**18 47 21.1**	**+0.9**
PLE	**Pljevlja**	**2.08**	**350** ⇑	*i*Pn	**Pn**	**18 46 55.1**	**-0.5**
PLE				*i* Sn	**Sb**	**18 47 23.3**	**-1.0**
BARS	**Barje**	**2.10**	**43**	*e*Pn	**Pn**	**18 46 55.8**	**-0.1**
BARS				*e*Sn	**Sn**	**18 47 22.3**	**+0.8**
SELS	**Selova**	**2.14**	**25**	*e*Pn	**Pn**	**18 46 56.4**	**0.0**
VTS	**Vitosha**	**2.84**	**61**	*e*Pn	**Pn**	**18 47 04.9**	**-1.2**
ZAPS	**Zavoj**	**2.85**	**45**	*e*Pn	**Pn**	**18 47 06.5**	**+0.3**

IDC ***22*** *19:08:37.5±0.5, 52°.24S×17°.04E, h0km, mb4.5/14, mbtmp4.5/14, MS4.0/36, Error ellipse: s-maj=24.1km s-min=15.0km az=77.0*
NEIC ***22*** *19:08:38.9±1.6, 52°.24S±0°.10×16°.9E±0°.1, h10km±1km, mb4.9/26, Error ellipse: s-maj=18.8km s-min=10.2km az=144.0*
ISC 22 19:08:38.7±0.4, 52°.23S±0°.07×17°.0E±0°.1, h10km, n94, σ1.30/55, mb4.8/26, MS4.1/39, 5C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.03**	**9**	P	**P**	**19 13 09.3**	**-2.6**
SUR				IAmb	IAmb	19 13 22.9	
	comp=Z,60nm,1.2s						
SUR	**Sutherland**	**20.03**	**9**	P	**P**	**19 13 11.3**	**-0.6**
	comp=Z,16nm,1.1s,baz=204,slow=15,SNR=2.6						
SUR				LR	LR	19 19 08.1	
	comp=Z,852nm,21.1s,baz=202,slow=32						
	comp=Z,16nm,1.1s						
GRHM	**Grahamstown, E**	**20.12**	**23**	P	**P**	**19 13 11.3**	**-1.5**
GRHM				IAmb	IAmb	19 13 28.8	
	comp=Z,64nm,1.4s						
TROLL	**Troll, Antarti**	**20.85**	**193** ⇑	P	**P**	**19 13 20.5**	**0.0**
	comp=Z,2μm,0.9s						
SNAA	**Sanae**	**21.40**	**197**	P	**P**	**19 13 25.9**	**-0.4**
SNAA	**Sanae**	**21.40**	**197** ⇑	P	**P**	**19 13 26.2**	**-0.1**
	comp=Z,2μm,1.0s						
SNAA	**Sanae**	**21.40**	**197**	P	**P**	**19 13 25.7**	**-0.6**
	comp=Z,82nm,0.9s,baz=32,slow=9.7,SNR=250						
SNAA				LR	LR	19 19 41.3	
	comp=Z,471nm,21.0s,baz=10,slow=31						
	comp=Z,82nm,0.9s						
VNA2	**Neumayer--Watz**	**21.75**	**201** ⇑	P	**P**	**19 13 29.2**	**-0.7**
	comp=Z,50nm,0.8s,baz=29,slow=11						
VNA1	**Neumayer--Stat**	**21.75**	**203** ⇑	P	**P**	**19 13 29.8**	**-0.2**
	comp=Z,77nm,1.1s						
VNA3	**Neumayer Olymp**	**22.50**	**202** ⇑	P	**P**	**19 13 36.8**	**-1.2**
	comp=Z,45nm,0.9s						
H04S2	**CROZET ISLANDS**	**23.12**	**91**	T	T	19 37 51.1	
	baz=244,slow=75,SNR=41						
H04S3	**CROZET ISLANDS**	**23.12**	**90**	T	T	19 37 50.7	
	baz=244,slow

TORD Torodi Ar. Bea 66.44 344 P **P 19 19 27.3 -0.8**
TORD IAmb IAmb 19 19 29.7
comp=Z,11nm,1.1s
TORD Torodi Ar. Bea 66.44 344 P **P 19 19 27.9 -0.2**
comp=Z,5.8nm,1.0s,baz=168,slow=6.8,SNR=21
TORD LR LR 19 45 23.1
comp=Z,45nm,19.0s,baz=150,slow=33
comp=Z,5.8nm,1.0s
H01W2 Cape Leeuwin H 67.28 118 T T 20 33 28.8
baz=220,slow=75,SNR=36
H01W3 Cape Leeuwin H 67.29 118 T T 20 33 29.8
baz=220,slow=75,SNR=41
H01W1 Cape Leeuwin H 67.29 118 T T 20 33 31.3
baz=220,slow=75,SNR=43
KOWA Kowa 68.90 338 P **P 19 19 44.2 +0.6**
KOWA IAmb IAmb 19 19 45.7
comp=Z,13nm,1.1s
KOWA Kowa 68.90 338 LR LR 19 45 16.3
comp=Z,196nm,19.7s,baz=162,slow=32
PTLB Pontes e Lacer 69.46 271 P **P 19 19 46.1 -1.1**
PTLB IAmb IAmb 19 19 50.2
comp=Z,11nm,1.2s
LVC Limon Verde 70.00 259 LR LR 19 47 31.1
comp=Z,47nm,20.4s,baz=146,slow=33
NWAO Narrogin (SRO) 70.45 119 LR LR 19 44 21.0
comp=Z,55nm,21.3s,baz=212,slow=30
LPAZ La Paz 74.34 264 P **P 19 20 16.8 -0.5**
comp=Z,3.4nm,1.1s,baz=79,slow=4.1
comp=Z,3.4nm,1.1s
TAM Tamanrasset 75.37 349 P **P 19 20 22.6 +0.2**
TAM IAmb IAmb 19 20 25.7
comp=Z,11nm,1.2s
SAML Samuel 76.97 272 P **P 19 20 32.3 +0.6**
SAML IAmb IAmb 19 20 34.7
comp=Z,10nm,1.1s
PALK Pallekele 80.15 65 LR LR 19 48 11.6
comp=Z,118nm,20.0s,baz=327,slow=30
MDP Montagnes des 81.75 289 LR LR 19 52 13.5
comp=Z,67nm,20.6s,baz=170,slow=32
RPZ Rata Peaks 81.84 161 LR LR 19 54 19.4
comp=Z,188nm,22.0s,baz=210,slow=34
NNA Nana 82.97 260 LR LR 19 55 49.5
comp=Z,24nm,19.3s,baz=194,slow=34
EIL Elat 83.06 16 LR LR 19 57 41.6
comp=Z,81nm,18.1s,baz=243,slow=35
STKA Stephens Creek 83.27 135 P **P 19 21 05.8 +0.3**
comp=Z,2.1nm,0.9s,baz=138,slow=5.0,SNR=2.9
comp=Z,2.1nm,0.9s
WSAR Wadi Sarin 83.48 38 LR LR 19 52 16.7
comp=Z,131nm,20.1s,baz=230,slow=31
BOAV Boa Vista 84.26 281 P **P 19 21 12.2 +1.5**
BOAV IAmb IAmb 19 21 14.7
comp=Z,9.1nm,1.0s
MMAI Mount Meron Ar 86.40 15 LR LR 19 59 49.4
comp=Z,158nm,18.8s,baz=170,slow=36
ASAR Alice Springs 86.59 125 P **P 19 21 22.6 +0.3**
ASAR Alice Springs 86.59 125 P **P 19 21 22.9 +0.6**
comp=Z,2.9nm,1.0s,baz=212,slow=5.1,SNR=15
comp=Z,2.9nm,1.0s
AS31 Alice Springs 86.59 125 P **P 19 21 19.9 -2.4**
MDT Midelt 86.77 342 LR LR 19 56 16.1
comp=Z,66nm,19.8s,baz=160,slow=33
KEST Kesra 87.85 354 P **P 19 21 27.2 -0.7**
URZ Urewera 88.23 164 LR LR 19 58 48.8
comp=Z,159nm,20.0s,baz=211,slow=34
VAE Valguarnera 89.37 358 LR LR 20 02 37.9
comp=Z,120nm,19.1s,baz=154,slow=36
WRA Warramunga Arr 89.91 123 P **P 19 21 35.7 -2.5**
WRA Warramunga Arr 89.91 123 P **P 19 21 38.1 0.0**
comp=Z,1.3nm,1.0s,baz=203,slow=3.3,SNR=7.4
comp=Z,1.3nm,1.0s
WB2 Warramunga Arr 89.92 123 P **P 19 21 38.4 +0.2**
WB2 IAmb IAmb 19 21 47.1
comp=Z,14nm,1.5s
WRAB Tennant Creek 89.92 123 P **P 19 21 38.4 +0.2**
WRAB IAmb IAmb 19 21 47.3
comp=Z,10nm,1.3s
BRTR Keskin Array B 92.72 13 P **P 19 21 49.8 -0.9**
comp=Z,0.5nm,0.7s,baz=190,slow=7.3,SNR=4.2
BRTR LR LR 20 05 46.4
comp=Z,90nm,18.0s,baz=184,slow=37
comp=Z,0.5nm,0.7s
PCRV Puerto La Cruz 92.88 283 LR LR 20 00 16.6
comp=Z,53nm,21.4s,slow=33
ESDC Sonseca Array 93.33 344 P **P 19 21 54.0 +0.7**
comp=Z,0.8nm,0.9s,baz=167,slow=6.1,SNR=4.1
comp=Z,0.8nm,0.9s
KAPI Kappang 93.83 103 LR LR 19 57 00.8
comp=Z,22nm,20.1s,baz=260,slow=31
GNI Garni 95.12 21 LR LR 20 06 32.8
comp=Z,128nm,18.1s,baz=192,slow=36
MLR Muntele Rosu 97.65 6 LR LR 20 08 34.6
comp=Z,136nm,20.1s,baz=202,slow=37
KBZ Khabaz 98.17 18 LR LR 20 08 49.2
comp=Z,94nm,18.5s,baz=192,slow=37
DAVOX Davos/Dischmat 98.82 355 LR LR 20 07 18.4
comp=Z,66nm,19.2s,baz=88,slow=36
CMAR Chiang Mai Arr 99.58 72 LR LR 20 00 52.7
comp=Z,33nm,18.6s,baz=75,slow=32
DZM Mont Dzumac 101.34 151 *e*LR LR 19 55 30.3
comp=Z,112nm,30.9s
CLL Collm 103.22 357 *e*Pdif **Pdif 19 22 37.0 -0.5**
PPT2 Papeete2 109.50 194 *e*LR LR 19 59 28.9
comp=Z,128nm,27.5s
PPT2 *e*LR LR 19 59 42.9
comp=Z,165nm,27.0s
BVAR Borovoye Array 114.01 32 PKP PKPdf 19 27 16.8 -0.1
comp=Z,0.9nm,0.8s,baz=5.7,slow=1.4,SNR=4.7
TAOE Nuku Hiva Isla 116.07 205 *e*LR LR 20 02 35.9
comp=Z,153nm,24.4s
BTO Baotou 122.41 64 *e*PKP **PKPdf 19 27 31.3 -2.3**
BTO sPKP 19 27 45.6
BTO PP PP 19 29 18.6 +8.0
BTO SKS **SKSac 19 34 39.8 +6.1**
BTO SKKS SKKSac 19 35 49.8 -19
BTO Baotou 122.41 64 SS SS 19 46 06.5 +15
BTO pmax pmax
comp=Z,7.0nm,0.8s
BTO pmax pmax
comp=Z,760nm,4.9s
BTO LR LR
comp=N,970nm,6.1s
BTO LR LR
comp=E,1μm,5.9s
BTO LR LR
comp=Z,520nm,5.9s
SONM Songino Array 125.33 56 PKP **PKPdf 19 27 38.6 -0.4**
comp=Z,0.7nm,0.8s,baz=242,slow=3.1,SNR=3.3
TXAR Lajitas Array 131.16 266 PKP **PKiKP 19 27 52.2 +0.6**
comp=Z,1.2nm,1.1s,baz=132,slow=1.9,SNR=5.0
PDAR Pinedale Array 143.44 277 PKhKP PKPpre 19 28 09.6
comp=Z,0.6nm,0.8s,baz=98,slow=3.0,SNR=4.8
PDAR PKP pPKPdf 19 28 15.1 -0.5
comp=Z,4.1nm,1.2s,baz=122,slow=1.9,SNR=8.0
NVAR Mina Array Bea 146.25 264 PKPbc **PKPab 19 28 20.3 +0.4**
comp=Z,7.2nm,0.8s,baz=137,slow=4.5,SNR=31
YKA Yellowknife Ar 152.62 311 PKPbc **PKPbc 19 28 33.9 -0.2**
comp=Z,1.5nm,0.8s,baz=90,slow=1.9,SNR=4.9
ILAR Eielson Array 164.94 333 PKP **PKPdf 19 28 42.4 +0.9**
comp=Z,0.3nm,0.8s,baz=14,slow=1.9,SNR=2.6
ILAR PKPab **pPKPab 19 29 40.2 -0.3**
comp=Z,1.3nm,1.1s,baz=5.0,slow=2.7,SNR=5.4

IDC 22 20:45:49.6±57.0, 20°.13S×178°.91W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=1041.0km s-min=161.6km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.18**	**244**	P	P	20 53 02.1	-0.4
	1.5nm,0.8s,baz=95,slow=11,SNR=2.8						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**43.77**	**256**	P	P	20 53 57.0	-0.3
	1.6nm,0.5s,baz=95,slow=8.1,SNR=8.1						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**43.80**	**262**	P	P	20 53 57.8	+0.2
	0.6nm,0.3s,baz=96,slow=7.8,SNR=27						
	0.6nm,0.3s						

IDC 22 21:19:04.3±1.2, 12°.75N×120°.69E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=47.2km s-min=17.9km az=81.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.37**	**10**	Pn	Pb	21 19 31.7	+0.9
	222nm,0.3s,baz=190,slow=5.5,SNR=10						
TGY				Sn	Sb	21 19 48.9	0.0
	62nm,0.3s,baz=3.2,slow=13,SNR=3.8						
WRA	**Warramunga Arr**	**35.16**	**157**	P	P	21 25 59.2	-0.8
	0.7nm,0.8s,baz=339,slow=9.2,SNR=6.8						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**38.43**	**160**	P	P	21 26 28.6	+0.7
	0.3nm,0.7s,baz=341,slow=6.9,SNR=2.3						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**46.79**	**324**	P	P	21 27 35.3	-0.4
	0.5nm,0.7s,baz=106,slow=9.3,SNR=4.8						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**56.55**	**326**	P	P	21 28 48.3	-0.2
	0.2nm,0.4s,baz=133,slow=8.5,SNR=2.0						
	0.2nm,0.4s						

*PRE **22** 21:21:00.7±0.9, 26°.98S×26°.60E, h2km, ML2.1*
*EAF **22** 21:21:04.9, 27°.42S×27°.18E, h10km, MC3.6*

ISC 22 21:21:01.6±1.3, 26°.98S±0°.04×26°.62E±0°.04, h12km±10km, n21, σ1°.88/38, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.67**	**85**	*e*P	**Pg**	**21 21 14.3**	**-0.3**
PRYS				*e*S	**Sg**	**21 21 22.8**	**-0.5**
PRYS				IAML		21 21 27.2	
	comp=Z,63nm,0.6s						
KSR	**Koster**	**1.15**	**13**	*e*P	**Pg**	**21 21 22.7**	**-1.1**
KSR				*e*S	**Sb**	**21 21 38.6**	**-0.1**
KSR				IAML		21 21 44.9	
	comp=Z,204nm,0.2s						
SNKL	**Senekal, Frees**	**1.65**	**142**	*e*P	**Pb**	**21 21 32.0**	**-0.1**
SNKL				*e*S	**Sg**	**21 21 54.5**	**-0.1**
SNKL				IAML		21 21 56.8	
	comp=Z,43nm,0.3s						
SLR	**Silverton**	**1.94**	**51**	*e*P	**Pb**	**21 21 36.0**	**-1.1**
SLR				*e*S	**Sb**	**21 22 01.6**	**+0.2**
SLR				IAML		21 22 04.9	
	comp=Z,34nm,0.1s						
BOSA	**Boshof**	**2.02**	**216**	*i* P	**Pg**	**21 21 40.0**	**-0.4**
BOSA				*i* S	**Sb**	**21 22 04.3**	**+0.7**
BOSA	**Boshof**	**2.02**	**216**	*e*P	**Pn**	**21 21 36.1**	**+0.3**
BOSA				*e*S	**Sb**	**21 22 03.0**	**-0.6**
BOSA				IAML		21 22 10.2	
	comp=Z,13nm,0.5s						
BOSA	**Boshof**	**2.02**	**216**	*i* P	**Pg**	**21 21 40.0**	**-0.4**
	baz=234						
BOSA				*i* S	**Sb**	**21 22 04.3**	**+0.7**
	baz=234						
LBTB	**Lobatse**	**2.16**	**335**	*i* P	Pg	21 21 49.5	+6.4
LBTB	**Lobatse**	**2.16**	**335**	*i* P	Pg	21 21 49.5	+6.4
	baz=329						
LEPH	**Lephalale, Lim**	**3.29**	**19**	*e*P	**Pn**	**21 21 54.0**	**+0.9**
LEPH				*e*S	**Sn**	**21 22 33.7**	**+1.5**
LEPH				IAML		21 22 48.2	
	comp=Z,12nm,0.8s						
PILG	**Pilgrimsrest,**	**4.21**	**62**	*e*P	**Pn**	**21 22 06.7**	**+0.8**
PILG				*e*S	**Sn**	**21 22 55.0**	**-0.2**
PILG				IAML		21 23 16.6	
	comp=Z,7.7nm,0.3s						
KSTD	**Kokstad**	**4.32**	**148**	*e*P	**Pn**	**21 22 09.2**	**+1.8**
KSTD				*e*S	**Sn**	**21 22 57.9**	**0.0**
KSTD				IAML		21 23 19.4	
	comp=Z,3.8nm,0.5s						
BFON	**Badsfontein, M**	**5.44**	**207**	*e*P	**Pn**	**21 22 24.4**	**+1.8**
BFON				*e*S	**Sn**	**21 23 24.9**	**-0.3**
BFON				IAML		21 23 60.0	
	comp=Z,4.0nm,0.7s						
MUSN	**Musina, Limpop**	**5.53**	**33**	*i* P	**Pn**	**21 22 28.3**	**+4.5**
MUSN				*i* S	**Sn**	**21 23 28.8**	**+1.4**
MUSN	**Musina, Limpop**	**5.53**	**33**	*i* P	**Pn**	**21 22 28.3**	**+4.5**
	baz=26						
MUSN				*i* S	**Sn**	**21 23 28.8**	**+1.4**
	baz=26						
MOPA	**Mopani**	**5.54**	**52**	*i* P	**Pn**	**21 22 26.2**	**+2.2**
MOPA				*i* S	**Sn**	**21 23 23.7**	**-3.9**
MOPA	**Mopani**	**5.54**	**52**	*i* P	**Pn**	**21 22 26.2**	**+2.2**
	baz=46						
MOPA				*i* S	**Sn**	**21 23 23.7**	**-3.9**
	baz=46						
BRAK	**Brakfontein**	**5.78**	**213**	*e*P	**Pn**	**21 22 28.9**	**+1.6**
BRAK				*e*S	**Sn**	**21 23 32.2**	**-1.5**
BRAK				IAML		21 24 12.7	
	comp=Z,3.1nm,0.5s						
GRAN	**Grantham**	**6.56**	**215**	*e*P	**Pn**	**21 22 39.4**	**+1.3**
GRAN				*e*S	**Sn**	**21 23 51.5**	**-1.4**
GRAN				IAML		21 24 35.0	
	comp=Z,3.1nm,0.5s						
FRAZ	**Fraserburg**	**6.70**	**221**	*e*P	**Pn**	**21 22 41.1**	**+1.1**
FRAZ				*e*S	**Sn**	**21 23 54.2**	**-2.2**
FRAZ				IAML		21 24 06.0	
	comp=Z,1.6nm,0.9s						
MERW	**Merweville**	**7.19**	**217**	*e*P	**Pn**	**21 22 48.0**	**+1.2**
MERW				*e*S	**Sn**	**21 24 06.0**	**-2.5**
MERW				IAML		21 24 44.3	
	comp=Z,1.6nm,0.5s						

*IDC **22** 21:30:27.2±2.4, 7°.48S×128°.38E, h186km±26km, mb3.6/7, mbtmp4.2/10, Error ellipse: s-maj=23.7km s-min=17.6km az=23.0*

ISC 22 21:30:23.6±0.8, 7°.5S±0°.1×128°.60E±0°.10, h151km, n12, σ1°.43/13, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.59**	**240**	P	**Pn**	**21 31 46.8**	**+1.7**
	159nm,0.4s,baz=89,slow=4.1,SNR=56						
BATI				S	**Sn**	**21 32 48.4**	**-0.3**
	84nm,0.6s,baz=132,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**13.60**	**156**	P	**Pn**	**21 33 28.2**	**-2.3**
	0.7nm,0.5s,baz=339,slow=13,SNR=14						
WRA				S	Sn	21 35 48.6	-13
	4.2nm,0.6s,baz=338,slow=21,SNR=12						
ASAR	**Alice Springs**	**16.90**	**163**	P	**Pn**	**21 34 12.8**	**+1.4**
	1.1nm,0.4s,baz=340,slow=10,SNR=22						
ASAR				S		21 37 08.5	-11
	0.7nm,0.6s,baz=321,slow=16,SNR=2.9						
PMG	**Port Moresby**	**18.46**	**97**	P	**Pn**	**21 34 31.6**	**+1.7**
	14nm,0.7s,baz=286,slow=5.6,SNR=9.0						
GUMO	**Guam**	**26.42**	**38**	P	**P**	**21 35 47.9**	**+1.5**
	157nm,0.5s,baz=181,slow=24,SNR=2.3						
CMAR	**Chiang Mai Arr**	**38.98**	**312**	P	**P**	**21 37 35.2**	**-0.3**
	0.4nm,0.4s,baz=146,slow=6.6,SNR=4.7						
	0.4nm,0.4s						
SONM	**Songino Array**	**58.45**	**343**	P	**P**	**21 40 03.6**	**-0.1**
	0.9nm,0.7s,baz=166,slow=6.8,SNR=7.8						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**67.86**	**328**	P	**P**	**21 41 05.0**	**-0.6**
	2.0nm,0.7s,baz=126,slow=7.7,SNR=23						
	2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**71.39**	**334**	P	**P**	**21 41 25.6**	**-1.5**
	1.3nm,0.5s,baz=122,slow=5.7,SNR=8.0						
	1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**72.18**	**329**	P	**P**	**21 41 30.9**	**-0.9**
	1.2nm,0.4s,baz=130,slow=5.0,SNR=15						
	1.2nm,0.4s						
BVAR	**Borovoye Array**	**77.72**	**328**	P	**P**	**21 42 02.4**	**-1.3**
	0.6nm,0.4s,baz=117,slow=9.2,SNR=4.7						
	0.6nm,0.4s						
QSPA	**South Pole Qui**	**82.52**	**180**	P	**P**	**21 42 29.1**	**-0.3**
	0.9nm,0.4s,baz=229,slow=4.1,SNR=3.8						
	0.9nm,0.4s						

*IDC **22** 21:37:53.5±3.8, 17°.03N×147°.43E, h41km±33km, mb3.9/19, mbtmp4.2/20, ML4.3/1, Error ellipse: s-maj=24.7km s-min=13.9km az=82.0*
*NEIC **22** 21:37:53.8±1.0, 17°.0N±0°.1×147°.4E±0°.1, h36km±6km, mb4.7/58, Error ellipse: s-maj=17.5km s-min=13.6km az=126.0*

ISC 22 21:37:53.0±0.5, 17°.04N±0°.07×147°.4E±0°.1, h35km, n90, σ0°.70/90, mb4.6/47, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.19**	**215**	**Pn**	**21 38 52.9**	**-1.6**	
GUMO	**Guam**	**4.19**	**215**	P	**Pn**	**21 38 56.2**	**+1.8**
	18nm,0.3s,baz=31,slow=22,SNR=1.7						
GUMO				S	**Sn**	**21 39 43.4**	**+1.2**
	107nm,0.4s,baz=211,slow=23,SNR=2.0						
	87nm,0.5s						
PATS	**Pohnpei**	**14.74**	**132**	Pn	Pn	21 41 11.0	-8.0
H11N1	**WAKE ISLAND Hy**	**18.72**	**79**	T	T	22 01 10.7	
	baz=262						
H11N2	**WAKE ISLAND Hy**	**18.73**	**79**	T	T	22 01 11.5	
	baz=262						
H11N3	**WAKE ISLAND Hy**	**18.74**	**79**	T	T	22 01 11.5	
	baz=262						
MJAR	**Matsushiro Arr**	**21.05**	**339**	P	**P**	**21 42 34.8**	**+0.8**
	5.4nm,0.7s,baz=170,slow=9.6,SNR=3.8						
	5.4nm,0.7s						
YHNB	**Yeheng**	**25.42**	**292**	P	**P**	**21 43 16.6**	**-1.0**
KSRS	**Korea Array**	**26.59**	**324**	P	**P**	**21 43 27.5**	**-0.4**
	1.6nm,0.7s,baz=143,slow=9.3,SNR=2.3						
	1.6nm,0.7s						
USA0B	**Ussuriysk Arra**	**30.03**	**338**	P	**P**	**21 43 58.2**	**-0.3**
USA0B				IAmb	IAmb	21 44 37.8	
	comp=Z,32nm,1.4s						
MTN	**Manton Dam**	**33.75**	**209**	P	**P**	**21 44 31.0**	**-0.4**
MTN				IAmb	IAmb	21 44 34.6	
	comp=Z,11nm,1.1s						
KNRA	**Kununurra**	**37.33**	**210**	P	**P**	**21 45 01.9**	**-0.3**
KNRA				IAmb	IAmb	21 45 13.0	
	comp=Z,9.9nm,0.9s						
WB0	**Warramunga Arr**	**38.73**	**200**	P	**P**	**21 45 13.4**	**-0.6**
WR0	**Warramunga Arr**	**38.87**	**199**	P	**P**	**21 45 14.6**	**-0.5**
WB2	**Warramunga Arr**	**38.91**	**200**	P	**P**	**21 45 15.0**	**-0.5**
WB2				IAmb	IAmb	21 45 27.6	
	comp=Z,6.7nm,0.6s						
WRA	**Warramunga Arr**	**38.91**	**200**	P	**P**	**21 45 14.7**	**-0.8**
WRA	**Warramunga Arr**	**38.91**	**200**	P	**P**	**21 45 14.7**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=34,slow=9.1,SNR=34						
WRA				PcP	**PcP**	**21 47 26.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=17,slow=3.4,SNR=2.3						
	comp=Z,2.8nm,0.7s						
AS31	**Alice Springs**	**42.54**	**198**	P	**P**	**21 45 45.5**	**+0.1**
ASAR	**Alice Springs**	**42.54**	**198**	P	**P**	**21 45 44.8**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=5.0,slow=11,SNR=5.1						
ASAR				PcP	**PcP**	**21 47 37.3**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=24,slow=3.4,SNR=4.6						
	comp=Z,0.5nm,0.5s						
SONM	**Songino Array**	**45.43**	**322**	P	**P**	**21 46 08.6**	**+0.1**
SONM	**Songino Array**	**45.43**	**322**	P	**P**	**21 46 08.5**	**0.0**
	comp=Z,1.5nm,0.7s,baz=135,slow=7.9,SNR=8.3						
	comp=Z,1.5nm,0.7s						
CM31	**Chiang Mai Arr**	**46.03**	**279**	P	**P**	**21 46 13.3**	**-0.2**
CM31				IAmb	IAmb	21 46 15.8	
	comp=Z,8.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.03**	**279**	P	**P**	**21 46 13.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**46.03**	**279**	P	**P**	**21 46 15.2**	**+1.6**
	comp=Z,6.0nm,0.8s,baz=71,slow=6.6,SNR=43						
	comp=Z,6.0nm,0.8s						
MBWA	**Marble Bar**	**46.64**	**217**	P	**P**	**21 46 17.9**	**-0.3**
PSA00	**Pilbara Seismi**	**46.90**	**216**	P	**P**	**21 46 19.6**	**-0.6**
PSA00				IAmb	IAmb	21 46 58.7	
	comp=Z,13nm,1.1s						
KULM	**Kulim**	**47.17**	**261**	P	**P**	**21 46 22.6**	**+0.1**
STKA	**Stephens Creek**	**48.95**	**187**	P	**P**	**21 46 37.0**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=0.4,slow=13,SNR=2.3						
	comp=Z,0.9nm,0.4s						
BBOO	**Buckleboo**	**50.73**	**192**	P	**P**	**21 46 49.4**	**0.0**
BBOO				IAmb	IAmb	21 47 00.9	
	comp=Z,11nm,0.8s						
GSI	**Gunungsitoli**	**51.39**	**258**	P	**P**	**21 46 54.5**	**-0.3**
PBA	**Port Blair**	**53.06**	**272**	P	**P**	**21 47 06.5**	**-0.7**
MORW	**Morawa**	**54.93**	**214**	P	**P**	**21 47 19.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**57.43**	**210**	P	**P**	**21 47 38.4**	**+0.1**
NWAO	**Narrogin (SRO)**	**57.43**	**210**	P	**P**	**21 47 38.6**	**+0.2**
NWAO				IAmb	IAmb	21 47 50.0	
	comp=Z,12nm,0.7s						
ZAA0	**Zalesovo Array**	**60.29**	**323**	P	**P**	**21 47 58.6**	**+0.7**
ZAA0				IAmb	IAmb	21 48 08.6	
	comp=Z,5.2nm,1.1s						
ZALV	**Zalesovo Beam**	**60.29**	**323**	P	**P**	**21 47 58.1**	**+0.2**
ZALV	**Zalesovo Beam**	**60.29**	**323**	P	**P**	**21 47 57.5**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=106,slow=8.0,SNR=9.6						
ZALV				PcP	**PcP**	**21 48 43.0**	**0.0**
	comp=Z,2.0nm,0.9s,baz=119,slow=5.1,SNR=1.7						
	comp=Z,1.6nm,0.5s						
MK31	**Makanchi Array**	**60.75**	**314**	P	**P**	**21 48 01.2**	**-0.1**
MKAR	**Makanchi Array**	**60.75**	**314**	P	**P**	**21 48 01.3**	**0.0**
MKAR	**Makanchi Array**	**60.75**	**314**	P	**P**	**21 48 01.5**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=92,slow=7.8,SNR=18						
	comp=Z,0.9nm,0.5s						
G19K	**Purcell Mounta**	**60.91**	**23**	P	**P**	**21 48 02.6**	**+0.6**
MAKZ	**Makanchi**	**60.97**	**314**	P	**P**	**21 48 03.1**	**+0.3**
MAKZ				IAmb	IAmb	21 48 07.7	
	comp=Z,3.9nm,1.1s						
CAST	**Castle Rocks**	**61.86**	**26**	P	**P**	**21 48 09.0**	**+0.6**
CAST				IAmb	IAmb	21 48 37.3	
	comp=Z,4.3nm,1.1s						
BPAW	**Bear Paw Mtn.**	**62.54**	**26**	P	**P**	**21 48 13.5**	**+0.5**
BPAW				IAmb	IAmb	21 48 46.5	
	comp=Z,12nm,1.5s						
RND	**Reindeer**	**63.24**	**27**	P	**P**	**21 48 19.0**	**+1.2**
RND				IAmb	IAmb	21 48 58.0	
	comp=Z,3.9nm,1.0s						
NEA2	**Nenana**	**63.48**	**26**	P	**P**	**21 48 19.7**	**+0.4**
KURK	**Kurchatov**	**63.56**	**319**	P	**P**	**21 48 20.1**	**+0.1**
KURK				IAmb	IAmb	21 48 21.7	
	comp=Z,10nm,1.1s						
KURBB	**Kurchatov Arra**	**63.61**	**318**	P	**P**	**21 48 20.0**	**-0.3**
	comp=Z,5.1nm,0.7s,baz=92,slow=7.4,SNR=40						
	comp=Z,5.1nm,0.7s						
B22K	**Teshekpuk Lake**	**63.91**	**19**	P	**P**	**21 48 22.7**	**+0.7**
H24K	**Noodor Dome**	**64.32**	**24**	P	**P**	**21 48 25.4**	**+0.5**
H24K				IAmb	IAmb	21 48 40.3	
	comp=Z,9.7nm,1.4s						
ILAR	**Eielson Array**	**64.44**	**26**	P	**P**	**21 48 24.9**	**-0.7**
	comp=Z,1.1nm,1.1s,baz=271,slow=5.9,SNR=5.1						
	comp=Z,1.1nm,1.1s						
BOOM	**Boomskoye usch**	**65.08**	**309**	P	**P**	**21 48 30.8**	**+0.5**
BOOM				IAmb	IAmb	21 48 48.8	
	comp=Z,4.5nm,1.0s						
J26L	**Joseph Creek**	**65.77**	**26**	P	**P**	**21 48 34.3**	**0.0**
J26L				IAmb	IAmb	21 49 13.2	
	comp=Z,8.2nm,1.4s						
BMAR	**Burnt Mountain**	**66.00**	**23**	P	**P**	**21 48 36.3**	**+0.6**
LOGN	**Logan Glacier**	**66.32**	**31**	P	**P**	**21 48 37.3**	**-0.7**
LOGN				IAmb	IAmb	21 49 10.8	
	comp=Z,14nm,1.4s						
BCPM	**Bancas Point**	**66.89**	**32**	P	**P**	**21 48 40.9**	**-0.6**
NIL	**Nilore**	**67.73**	**300**	P	**P**	**21 48 48.0**	**+0.7**
HYT	**Haines Junctio**	**68.03**	**31**	P	**P**	**21 48 48.8**	**0.0**
HYT				IAmb	IAmb	21 49 08.8	
	comp=Z,6.6nm,1.2s						
BVAR	**Borovoye Array**	**68.76**	**321**	P	**P**	**21 48 53.4**	**0.0**
	comp=Z,3.4nm,0.6s,baz=97,slow=7.4,SNR=14						
	comp=Z,3.4nm,0.6s						
BRVK	**Borovoye**	**68.82**	**321**	P	**P**	**21 48 53.7**	**0.0**
BRVK				IAmb	IAmb	21 48 55.9	
	comp=Z,5.9nm,1.0s						
KKAR	**Karatay Array**	**69.05**	**310**	P	**P**	**21 48 55.9**	**+0.5**
P33M	**Teslin, Yukon**	**70.32**	**31**	P	**P**	**21 49 03.5**	**+0.6**
P33M				IAmb	IAmb	21 49 22.6	
	comp=Z,6.8nm,1.4s						
KBL	**Kabul**	**71.08**	**301**	P	**P**	**21 49 08.0**	**-0.2**
KBL				IAmb	IAmb	21 49 09.2	
	comp=Z,7.0nm,0.9s						
ABKAR	**Akbulak array**	**75.63**	**317**	P	**P**	**21 49 33.9**	**-0.5**
ABKAR	**Akbulak array**	**75.63**	**317**	P	**P**	**21 49 33.9**	**-0.5**
PGC	**Sidney**	**76.88**	**43**	P	**P**	**21 49 42.3**	**+0.8**
LON	**Longmire**	**78.35**	**45**	P	**P**	**21 49 49.9**	**0.0**
LON				IAmb	IAmb

```
DUG                                     IAmb    IAmb    21 50 41.6
      comp=Z,4.5nm,1.4s
TCUT  Toone Canyon      87.13  48  P       P       21 50 35.9  0.0
RLMT  Red Lodge         87.19  44  P       P       21 50 34.5 -1.5
RLMT                                    IAmb    IAmb    21 51 09.8
      comp=Z,6.7nm,0.8s
PDAR  Pinedale Array    87.84  46  P       P       21 50 38.8 -0.4
      comp=Z,0.2nm,0.6s,baz=195,slow=2.8,SNR=2.4
      comp=Z,0.2nm,0.6s
U15A  North Rim         88.07  53  P       P       21 50 41.1 +0.6
U15A                                    IAmb    IAmb    21 50 44.3
      comp=Z,3.7nm,1.0s
KBZ   Khabaz            88.44 315   P       P       21 50 40.4 -1.3
      comp=Z,3.3nm,1.1s,baz=121,slow=5.9,SNR=3.3
      comp=Z,3.3nm,1.1s
FINES FINESS Array B    89.05 336   P       P       21 50 44.0 -0.3
FINES FINESS Array B    89.05 336   P       P       21 50 43.3 -0.9
      comp=Z,2.1nm,0.8s,baz=66,slow=4.5,SNR=7.5
      comp=Z,2.1nm,0.8s
BRTR  Keskin Array B    96.40 315   P       P       21 51 19.5 +0.6
      comp=Z,0.5nm,0.8s,baz=87,slow=6.3,SNR=2.8
      comp=Z,0.5nm,0.8s
CFA   Coronel Fontan   144.64 121   PKP     PKPab   21 57 25.5 +0.3
      comp=Z,2.6nm,0.7s,baz=164,slow=5.9,SNR=6.9
SIV   San Ignacio       152.72  92  PKPbc   PKPbc   21 57 44.8 -2.2
      comp=Z,0.6nm,0.5s,baz=207,slow=17,SNR=2.5
```

*CNRM **22** 21:41:10.7, 35°.12N×4°.45W, h35km, ml2.3*
*MDD **22** 21:41:10.1±0.5, 35°.15N×4°.61W, h0km, mb_Lg1.9/8, Error ellipse: s-maj=4.4km s-min=3.7km az=28.0*
*SFS **22** 21:41:11.2, 35°.17N×4°.46W, h18km, ML2.6/10, ML2.7/10, MLv2.6/10*

ISC 22 21:41:10.5±0.9, 35°.16N±0°.02×4°.47W±0°.03, h24km±7km, n39, σ1°.44/67, Strait of Gibraltar

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                 Op      ISC             h m s     ISC
PVLZ  Peæn de           0.14  83 Sg      Sb              21 41 18.4 -0.3
PVLZ                             Pg      Pb              21 41 15.4  0.0
PALE  Palemas           0.44  82 P       Pb              21 41 20.1 +0.4
PALE                             S       Sb              21 41 26.4 +0.4
CHEFC Chefchaouen       0.72 266 P       Pn              21 41 25.3 +0.1
CHEFC                            S       Sb              21 41 34.9 +1.1
SMIR  Smir Dam          0.91 305 P       Pb              21 41 27.5 -0.2
SMIR                             S       Sn              21 41 40.8 +0.6
CEU   Ceuta             1.05 315 Pg      Pn              21 41 26.9 -2.8
ECEU  Ceuta             1.05 315 P       Pn              21 41 27.8 -1.9
ECEU                             S       Sb              21 41 39.2 -4.1
ECEU                             i Vmb_Lg                21 41 45.9
RSA   Sarsar            1.14 257 P       Pn              21 41 31.0  0.0
RSA                              S       Sb              21 41 45.4 -0.6
GOG   Mont Gurugu       1.21  86 P       Pn              21 41 31.5 -0.5
GOG                              S       Sn              21 41 45.4 -2.3
SICH  Sidi Chahed       1.26 214 P       Pn              21 41 32.1 -0.6
SICH                             S       Sn              21 41 47.1 -1.8
EMIJ  Mijas             1.43 350 P       Pn              21 41 34.0 -1.0
EMIJ                             S       Sn              21 41 50.6 -2.4
EMIJ                             i Vmb_Lg                21 41 53.6
EMIJ  Mijas             1.43 350 Pn      Pn              21 41 33.7 -1.3
LCRM  LCR               1.50 192 P       Pn              21 41 36.6 +0.5
LCRM                             S       Sn              21 41 55.6 +0.6
CHAS  Isla Isabel II    1.67  88 Sn      Sn              21 41 56.9 -2.0
CHAS                             Pn      Pn              21 41 37.0 -1.2
TAF   Taforalt          1.72 101 P       Pn              21 41 38.5 -0.5
IFR   Ifrane            1.72 199 Sn      Sn              21 42 00.5  0.0
IFR                              Pn      Pn              21 41 39.5 +0.4
JBK   JBK               1.77 117 P       Pn              21 41 38.1 -1.7
ELGU  Los Guajares,     1.84  22 P       Pn              21 41 40.7  0.0
ELGU                             S       Sn              21 42 03.1 -0.2
ELGU                             i Vmb_Lg                21 42 06.3
ELGU  Los Guajares,     1.84  22 Sn      Sn              21 42 02.9 -0.3
ELGU                             Pn      Pn              21 41 40.8  0.0
EGOR  Sierra Gorda,     1.97   8 P       Pn              21 41 43.4 +0.8
EGOR                             S       Sn              21 42 08.2 +1.6
EGOR                             i Vmb_Lg                21 42 17.3
EBER  Berja             2.16  36 P       Pn              21 41 45.6 +0.4
EBER                             S       Sn              21 42 10.7 -0.6
EBER                             i Vmb_Lg                21 42 16.3
EBER  Berja             2.16  36 Pn      Pn              21 41 44.5 -0.7
CZD   Col de Zad        2.17 193 P       Pn              21 41 45.1 -0.3
EQUE  Quentar           2.21  22 P       Pn              21 41 47.0 +1.2
EQUE                             S       Sn              21 42 13.1 +0.8
EQUE                             i Vmb_Lg                21 42 15.7
EQTA  Presa de Quent    2.21  22 Pn      Pn              21 41 47.1 +1.3
MD31  MD31              2.29 186 P       Pn              21 41 47.4 +0.4
MD31                             S       Sn              21 42 12.5 -2.0
MDT   Midelt            2.34 183 P       Pn              21 41 48.2 +0.7
MDT                              S       Sn              21 42 15.6  0.0
ZHG   ZHG               2.48 227 P       Pn              21 41 50.6 +1.1
ZHG                              S       Sn              21 42 21.4 +2.4
EQES  Quesada           2.87  23 P       Pn              21 41 57.3 +2.3
EQES                             S       Sn              21 42 32.3 +3.5
EQES                             i Vmb_Lg                21 42 36.5
EADA  Adamuz            3.01 358 P       Pn              21 41 58.6 +1.9
EADA                             S       Sn              21 42 34.0 +2.0
EADA                             i Vmb_Lg                21 42 49.9
EADA  Adamuz            3.01 358 Pn      Pn              21 41 58.4 +1.7
ECAB  El Cabril         3.01 346 P       Pn              21 41 57.9 +1.1
ECAB                             S       Sn              21 42 32.9 +0.8
ECAB  El Cabril         3.01 346 Pn      Pn              21 41 57.8 +1.1
PVAQ  Vaqueiros         3.45 311 eP      Pn              21 42 03.6 +0.8
PVAQ                             eS      Sn              21 42 41.4 -1.5
PVAQ                             A       A               21 42 51.0
      1.6nm,1.1s
PBAR  Barrancos         3.65 326 eP      Pn              21 42 06.9 +1.4
PBAR                             eS      Sn              21 42 47.6 -0.3
EBAD  Badajoz           4.13 331 P       Pn              21 42 12.1  0.0
EBAD                             S       Sn              21 42 58.3 -1.4
ETOB  Tobarra           4.20  33 P       Pn              21 42 15.7 +2.6
ETOB  Tobarra           4.20  33 Pn      Pn              21 42 14.0 +0.9
OUZM  OUZ               4.65 205 P       Pn              21 42 20.6 +1.2
OUZM                             S       Sn              21 43 14.7 +2.0
TIO   Tiouine           4.83 210 Pn      Pn              21 42 22.5 +0.7
TIO                              Sn      Sn              21 43 15.3 -1.7
```

*SJA **22** 21:57:53.2±0.8, 23°.11S×68°.99W, h102km±3km, ML4.0, MW3.9*
*IDC **22** 21:57:54.9±0.5, 22°.96S×68°.77W, h93km±4km, mb3.7/8, mbtmp4.0/10, MS3.8/1, Error ellipse: s-maj=20.8km s-min=13.8km az=56.0*
*GUC **22** 21:57:54.9±0.9, 23°.03S×69°.00W, h96km±4km, ML3.9*
*NEIC **22** 21:57:54.7±1.2, 23°.10S±0°.04×69°.03W±0°.04, h100km±2km, mb4.1/3, ML4.0(GUC), Error ellipse: s-maj=6.4km s-min=5.8km az=169.0*

ISC 22 21:57:54.4±0.5, 23°.09S±0°.03×68°.97W±0°.04, h95km±4km, n78, σ1°.37/114, mb4.1/12, 8C-4D, Northern Chile

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                 Op      ISC             h m s     ISC
LVC   Limon Verde       0.48   6 LR      LR              21 57 58.8
      comp=Z,20nm,21.9s,baz=256,slow=11
LVC                              P       Pn              21 58 10.7 +0.8
      1μm,0.3s,baz=125,slow=6.2,SNR=3288
LVC                              S       Sn              21 58 22.1 +0.5
      4μm,0.4s,baz=63,slow=22,SNR=63
LVC   Limon Verde       0.48   6 ⇓iP     Pn              21 58 10.8 +0.8
LVC                              eS      Sn              21 58 21.9 +0.4
LVC   Limon Verde       0.48   6 eP      Pn              21 58 10.7 +0.8
LVC                              eS      Sn              21 58 22.5 +0.9
LVC                              IAML                    21 58 22.8
      comp=Z,3μm,0.4s
PB15  IPOC Station P    0.48 255 Pn      Pn              21 58 10.7 +0.9
PB15                             Sn      Sn              21 58 22.2 +0.9
PB15  IPOC Station P    0.48 255 i P     Pn              21 58 10.9 +1.1
PB15                             eS      Sn              21 58 22.6 +1.3
PB15                             IAML                    21 58 29.0
      comp=E,15μm,0.3s
PB15  IPOC Station P    0.48 255 eP      Pn              21 58 10.1 +0.3
PB15                             eP      Pn              21 58 10.7 +0.9
PB15                             eS      Sn              21 58 22.7 +1.4
PB15                             IAML                    21 58 23.4
      comp=Z,14μm,0.1s
PB06  IPOC Station P    0.68 304 Pn      Pn              21 58 11.7 +0.3
PB06                             Sn      Sn              21 58 24.5 +0.5
PB06  IPOC Station P    0.68 304 ⇓iP     Pn              21 58 12.1 +0.7
PB06                             eS      Sn              21 58 24.7 +0.7
PB06                             IAML                    21 58 25.4
      comp=E,10μm,0.3s
PB06  IPOC Station P    0.68 304 eP      Pn              21 58 11.3  0.0
PB06                             eS      Sn              21 58 25.1 +1.1
PB06                             IAML                    21 58 25.4
      comp=Z,4μm,0.4s
AF01  San Pedro de A    0.74  80         Pn              21 58 13.5 +1.5
AF01                             Sn      Sn              21 58 26.5 +1.3
AF01  San Pedro de A    0.74  80⇑eP      Pn              21 58 13.5 +1.5
AF01                             eS      Sn              21 58 27.1 +1.9
AF01                             IAML                    21 58 28.2
      comp=E,19μm,0.3s
PB09  IPOC Station P    1.31 349         Pn              21 58 19.0 +0.7
PB09                             Sn      Sn              21 58 37.1 +0.9
PB09  IPOC Station P    1.31 349 ⇓iP     Pn              21 58 19.7 +1.4
PB09                             eS      Sn              21 58 37.2 +0.9
PB09                             IAML                    21 58 40.3
      comp=N,2μm,0.4s
PB09  IPOC Station P    1.31 349 eP      Pn              21 58 19.0 +0.7
PB09                             eS      Sn              21 58 37.8 +1.5
PB09                             IAML                    21 58 40.1
      comp=Z,1μm,0.4s
PB04  IPOC Station P    1.33 304         Pn              21 58 18.4  0.0
PB04                             Sn      Sn              21 58 36.3 -0.3
PB04  IPOC Station P    1.33 304⇑iP      Pn              21 58 18.9 +0.4
PB04                             eS      Sn              21 58 37.3 +0.7
PB04                             IAML                    21 58 42.6
      comp=N,3μm,0.5s
PB04  IPOC Station P    1.33 304 eP      Pn              21 58 18.3 -0.1
PB04                             eS      Sn              21 58 37.3 +0.7
PB04                             IAML                    21 58 43.4
      comp=Z,2μm,0.4s
PB07  IPOC Station P    1.60 328         Pn              21 58 22.3 +0.5
PB07                             Sn      Sn              21 58 41.8 -0.8
PB07  IPOC Station P    1.60 328⇑iP      Pn              21 58 22.4 +0.5
PB07                             eS      Sn              21 58 42.2 -0.4
PB07                             IAML                    21 58 44.8
      comp=E,2μm,0.1s
PB07  IPOC Station P    1.60 328 eP      Pn              21 58 22.3 +0.5
PB07                             eS      Sn              21 58 43.7 +1.1
PB07                             IAML                    21 58 47.7
      comp=Z,1μm,0.4s
PB02  IPOC Station P    1.96 334 Pn      Pn              21 58 25.9 -0.5
PB02                             Sn      Sn              21 58 50.5 -0.3
PB02  IPOC Station P    1.96 334 eP      Pn              21 58 26.9 +0.4
PB02                             eS      Sn              21 58 51.0 +0.2
PB02                             IAML                    21 58 57.0
      comp=E,2μm,0.3s
PB02  IPOC Station P    1.96 334 eP      Pn              21 58 26.8 +0.4
PB02                             eS      Sn              21 58 51.3 +0.5
PB02                             IAML                    21 58 59.6
      comp=Z,2μm,0.4s
PB14  IPOC Station P    2.02 220 Pn      Pn              21 58 27.2 -0.1
PB14                             Sn      Sn              21 58 51.4 -1.0
PB14  IPOC Station P    2.02 220 eP      Pn              21 58 28.0 +0.6
PB14                             eS      Sn              21 58 53.0 +0.6
PB14                             IAML                    21 58 58.7
      comp=E,190nm,0.6s
PB14  IPOC Station P    2.02 220 eP      Pn              21 58 27.6 +0.2
PB14                             eS      Sn              21 58 51.5 -1.0
PB01  IPOC Station P    2.09 346         Pn              21 58 28.4 +0.3
PB01  IPOC Station P    2.09 346 ⇓iP     Pn              21 58 28.6 +0.5
PB01                             eS      Sn              21 58 53.9 +0.1
PB01                             IAML                    21 58 58.2
      comp=E,879nm,0.2s
PB01  IPOC Station P    2.09 346 eP      Pn              21 58 28.0 -0.1
PB01                             eS      Sn              21 58 55.1 +1.3
PB01                             IAML                    21 58 59.4
      comp=Z,456nm,0.5s
GO02  Mina Guanaco      2.14 195 Pn      Pn              21 58 30.0 +1.0
GO02  Mina Guanaco      2.14 195⇑iP      Pn              21 58 30.3 +1.3
GO02                             eS      Sn              21 58 57.0 +1.6
GO02                             IAML                    21 59 01.3
      comp=N,825nm,0.4s
GO02  Mina Guanaco      2.14 195 eP      Pn              21 58 29.6 +0.6
GO02                             eS      Sn              21 58 58.4 +3.1
GO02                             IAML                    21 59 01.4
      comp=Z,376nm,0.1s
PATCX Punta Patache     2.51 334         Pn              21 58 33.0 -0.6
PATCX Punta Patache     2.51 334 eS      Sn              21 59 03.3 -0.4
PATCX                            IAML                    21 59 28.5
      comp=E,442nm,0.3s
TA01  Diego Aracena     2.75 336         Pn              21 58 35.9 -0.9
TA01  Diego Aracena     2.75 336 eP      Pn              21 58 35.8 -0.9
TA01  Diego Aracena     2.75 336 eP      Pn              21 58 36.1 -0.6
TA01                             eS      Sn              21 59 10.0 +0.7
TA01                             IAML                    21 59 31.5
      comp=Z,252nm,1.1s
PB08  IPOC Station P    2.94 357         Pn              21 58 40.0 +0.4
PB08  IPOC Station P    2.94 357 eP      Pn              21 58 40.3 +0.7
PB08                             eS      Sn              21 59 07.5 -6.8
TA02  Huaiquique        3.01 339         Pn              21 58 38.9 -1.2
AC01  Pan de Azucar     3.39 206 Pn      Pn              21 58 45.1 -0.2
AC01  Pan de Azucar     3.39 206 eP      Pn              21 58 44.9 -0.4
AC01                             eS      Sn              21 59 23.6 -1.0
AC01                             IAML                    21 59 48.9
      comp=Z,220nm,0.9s
GO01  Chusmiza          3.41 356 Pn      Pn              21 58 45.6 -0.4
AC02  Maricunga         3.73 182         Pn              21 58 50.5 +0.2
ASTB  Santa Barbara     4.23 103 eP      Pn              21 58 57.6 +0.8
AC06  Mina Casimiro     4.43 196 Pn      Pn              21 58 58.9 -0.5
PB12  IPOC Station P    4.63 344 eP      Pn              21 58 59.9 -2.3
GO03  Copiap            4.63 194         Pn              21 59 00.9 -1.2
GO03  Copiap            4.63 194 eP      Pn              21 59 01.7 -0.4
GO03                             eS      Sn              21 59 54.4 -0.4
GO03                             IAML                    22 00 43.2
      comp=Z,83nm,0.7s
ALOL  LOMAS DE OLMED    4.63 100 eP      Pn              21 59 01.6 -0.5
PB16  IPOC Station P    4.76 354 Pn      Pn              21 59 03.2 -1.1
LCO   Las Campanas      6.10 194 Pn      Pn              21 59 20.0 -2.2
LPAZ  La Paz            6.81   7 LR      LR              22 03 03.9
      comp=Z,811nm,22.0s,baz=44,slow=46
CFA   Coronel Fontan    8.51 176 P       Pn              21 59 53.7 -1.1
      comp=Z,1.5nm,0.3s,baz=10,slow=18,SNR=10
CFA                              S       Sn              22 01 23.4 -5.8
      comp=Z,1.2nm,0.3s,baz=311,slow=7.8,SNR=0.9
SIV   San Ignacio      10.25  48 P       Pn              22 00 15.8 -2.9
      comp=Z,3.2nm,0.3s,baz=242,slow=9.2,SNR=17
SIV                              S       Sn              22 02 02.2 -10
      comp=Z,1.0nm,0.3s,baz=313,slow=22,SNR=1.6
CPUP  Villa Florida    11.06 109 P       Pn              22 00 30.1 +0.6
      comp=Z,1.8nm,0.6s,baz=290,slow=11,SNR=5.1
H03N1 Juan Fernandez   13.53 218 T       T               22 13 22.7
      baz=42,slow=72,SNR=5.6
H03N2 Juan Fernandez   13.54 218 T       T               22 13 22.7
      baz=42,slow=72,SNR=4.3
H03N3 Juan Fernandez   13.54 218 T       T               22 13 20.9
      baz=42,slow=72,SNR=5.0
BDFB  Brasilia         21.09  73 P       P               22 02 29.2 -2.2
      comp=Z,3.5nm,0.5s,baz=238,slow=13,SNR=7.2
      comp=Z,3.5nm,0.5s
BOAV  Boa Vista        26.63  19 P       P               22 03 25.2 +1.0
BOAV                             IAmb    IAmb            22 03 53.5
      comp=Z,7.2nm,1.4s
BELA  Belgrano 2       57.19 172 P       P               22 07 31.1 +0.1
BELA                             IAmb    IAmb            22 08 08.2
      comp=Z,2.5nm,1.2s
VNA3  Neumayer Olymp   58.60 161 ⇑P      P               22 07 42.3 +1.4
      comp=Z,2.5nm,0.7s
VNA2  Neumayer--Watz   59.18 160 ⇑P      P               22 07 46.1 +1.1
      comp=Z,2.0nm,0.6s,baz=285,slow=9.0
SNAA  Sanae            60.80 161 P       P               22 07 56.7 +0.6
SNAA                             IAmb    IAmb            22 07 57.8
      comp=Z,1.8nm,0.7s
SNAA  Sanae            60.80 161 ⇑P      P               22 07 57.1 +1.0
      comp=Z,37nm,0.7s
SNAA  Sanae            60.80 161 P       P               22 07 57.1 +1.0
      comp=Z,1.2nm,0.6s,baz=273,slow=6.7,SNR=15
      comp=Z,1.2nm,0.6s
TXAR  Lajitas Array    61.90 326 P       P               22 08 03.9 -0.2
      comp=Z,0.2nm,0.7s,baz=144,slow=9.7,SNR=2.0
      comp=Z,0.2nm,0.7s
TROLL Troll, Antarti   62.52 161 ⇑P      P               22 08 09.0 +1.3
      comp=Z,67nm,0.6s
QSPA  South Pole Qui   67.11 180 P       P               22 08 38.4 +0.8
      comp=Z,1.6nm,0.5s,baz=96,slow=0.3,SNR=5.3
      comp=Z,1.6nm,0.5s
PDAR  Pinedale Array   75.46 330 P       P               22 09 29.7 +1.4
      comp=Z,0.1nm,0.4s,baz=173,slow=7.8,SNR=1.6
PDAR                             pP      pP              22 09 53.5 -0.1
      comp=Z,0.2nm,0.6s,baz=140,slow=5.7,SNR=2.3
      comp=Z,0.1nm,0.4s
TORD  Torodi Ar. Bea   77.94  70 P       P               22 09 42.5  0.0
      comp=Z,4.2nm,0.5s,baz=258,slow=4.7,SNR=62
TORD                             pP      pP              22 10 05.2 -3.0
      comp=Z,0.6nm,0.4s,baz=254,slow=3.6,SNR=1.9
TORD                             sP      sP              22 10 15.6 -3.2
      comp=Z,1.3nm,0.7s,baz=235,slow=5.1,SNR=3.0
      comp=Z,4.2nm,0.5s
BOSA  Boshof           82.75 118 P       P               22 10 08.9 +0.6
      comp=Z,2.6nm,1.1s,baz=186,slow=12,SNR=1.7
      comp=Z,2.6nm,1.1s
MAW   Mawson           82.83 163 P       P               22 10 09.3 +1.5
      comp=Z,1.2nm,0.5s,baz=193,slow=9.0,SNR=8.1
MAW                              pP      pP              22 10 33.3 -0.3
      comp=Z,2.1nm,1.0s,baz=252,slow=6.4,SNR=3.6
      comp=Z,1.2nm,0.5s
ASAR  Alice Springs    128.49 207 PKP     PKiKP           22 16 51.9 +0.3
      comp=Z,0.4nm,0.7s,baz=178,slow=2.8,SNR=2.2
WRA   Warramunga Arr   131.56 210 PKP     PKiKP           22 16 57.6 -0.2
      comp=Z,0.5nm,0.9s,baz=185,slow=1.5,SNR=3.2
ZALV  Zalesovo Beam    143.40  26 PKP     PKPdf           22 17 16.5 -0.9
      comp=Z,0.8nm,0.4s,baz=318,slow=2.0,SNR=4.6
MKAR  Makanchi Array   146.93  37 PKPbc   PKPbc           22 17 24.9 -1.0
      comp=Z,1.2nm,0.7s,baz=321,slow=3.0,SNR=11
MKAR                             pPKPbc  pPKPbc          22 17 52.1 -0.7
      comp=Z,0.6nm,0.8s,baz=336,slow=2.7,SNR=3.3
```

IDC 22 22:07:43.0±6.5, 20°.01S×177°.24W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=334.2km s-min=63.3km az=150.0, Fiji Islands region

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                 Op      ISC             h m s     ISC
ASAR  Alice Springs    45.33 256 P       P               22 16 02.5 -0.6
      0.4nm,0.5s,baz=101,slow=8.8,SNR=5.5
      0.4nm,0.5s
WRA   Warramunga Arr   45.38 261 P       P               22 16 03.8 +0.3
      0.2nm,0.3s,baz=95,slow=8.3,SNR=7.8
      0.2nm,0.3s
AKASG Malin Array Be   142.93 332 PKP     PKPdf           22 27 16.1 -2.4
      0.1nm,0.3s,baz=42,slow=4.1,SNR=4.6
BRTR  Keskin Array B   147.03 313 PKPbc   PKPbc           22 27 27.9 -0.2
      0.4nm,0.7s,baz=100,slow=4.4,SNR=2.5
```

*NEIC **22** 23:16:01.6±1.6, 7°.44S±0°.05×124°.7E±0°.2, h543km±14km, mb4.1/8, Error ellipse: s-maj=22.3km s-min=7.6km az=94.0*
*IDC **22** 23:16:03.3±2.0, 7°.70S×124°.32E, h557km±19km, mb2.8/3, mbtmp3.9/6, Error ellipse: s-maj=83.0km s-min=23.3km az=56.0*

ISC 22 23:16:01.5±0.7, 7°.45S±0°.09×124°.7E±0°.1, h550km, n22, σ1°.29/24, mb3.1/3, Banda Sea

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                 Op      ISC             h m s     ISC
SOEI  Soe               2.32 190 P       P               23 17 13.4 +0.5
SOEI                             S       S               23 18 09.1 -1.8
BATI  Baumata           2.91 200 P       P               23 17 18.3 +2.2
      44nm,0.3s,baz=88,slow=2.6,SNR=14
BATI                             S       S               23 18 15.2 -1.5
      40nm,0.4s,baz=3.2,slow=2.8,SNR=5.9
KAPI  Kappang           5.46 296 P       P               23 17 34.0 -1.3
FAKI  Fak Fak           8.79  60 P       P               23 18 06.1 -1.1
TOLI2 Tolitoli          9.35 335 P       P               23 18 15.8 +3.0
BKB   Balikpapan        9.89 308 P       P               23 18 18.2 -0.3
JAGI  Jajag, Banyuwa   10.46 264 P       P               23 18 24.4 +0.1
MYLDM Lahad Datu       13.98 334 P       P               23 18 58.6 -2.0
MBWA  Marble Bar       14.44 199 P       P               23 19 05.5 +0.3
WB0   Warramunga Arr   15.46 143 P       P               23 19 15.3 -0.4
WB0                              IAmb    IAmb            23 19 16.0
      comp=Z,3.1nm,0.6s
WRA   Warramunga Arr   15.56 144         P               23 19 15.7 -1.1
WRA   Warramunga Arr   15.56 144 P       P               23 19 16.6 -0.2
      comp=Z,1.0nm,0.4s,baz=333,slow=8.5,SNR=47
WB2   Warramunga Arr   15.57 144 P       P               23 19 16.5 -0.4
WB2                              IAmb    IAmb            23 19 18.1
      comp=Z,4.4nm,0.9s
WR0   Warramunga Arr   15.69 143 P       P               23 19 18.1  0.0
WR0                              IAmb    IAmb            23 19 18.6
      comp=Z,5.5nm,0.8s
AS31  Alice Springs    18.40 152 P       P               23 19 44.0 +0.9
AS31                             IAmb    IAmb            23 19 48.1
      comp=Z,1.9nm,0.3s
ASAR  Alice Springs    18.40 152 P       P               23 19 44.6 +1.5
      comp=Z,2.1nm,0.3s,baz=323,slow=8.4,SNR=32
BBOO  Buckleboo        27.36 159 P       P               23 21 03.4 +0.4
STKA  Stephens Creek   28.97 149 P       P               23 21 18.2 +1.1
      comp=Z,1.1nm,0.3s,baz=320,slow=11,SNR=4.4
      comp=Z,1.1nm,0.3s
RPZ   Rata Peaks       54.22 140 P       P               23 24 35.5 -0.4
MKAR  Makanchi Array   65.81 329 P       P               23 25 53.5 +0.8
      comp=Z,0.1nm,0.4s,baz=125,slow=7.2,SNR=1.8
      comp=Z,0.1nm,0.4s
QSPA  South Pole Qui   82.53 180 P       P               23 27 27.4 +0.6
QSPA  South Pole Qui   82.53 180 P       P               23 27 27.8 +1.0
      comp=Z,0.4nm,0.6s,baz=336,slow=2.8,SNR=1.2
      comp=Z,0.4nm,0.6s
```

MEX 23 00:07:53.9±1.3, 16°.35N×95°.11W, h64km±40km, MD3.6, Oaxaca

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                 Op      ISC             h m s     ISC
CMIG  Matias Romero     0.77  16 eP      Pn              00 08 03.4 -5.9
CMIG                             eS      Sn              00 08 12.7 -7.9
HUIG  Huatulco          1.12 239 eP      Pn              00 08 11.9 -1.8
HUIG                             eS      Sn              00 08 26.3 -2.2
UXUV  UXUV              1.33  44 eP      Pn              00 08 14.4 -2.1
UXUV                             eS      Sn              00 08 32.1 -1.4
NEUV  Arroyo Zacate     1.51 334 eP      Pn              00 08 15.8 -3.0
NEUV                             eS      Sn              00 08 34.5 -3.1
VHO   Vista Hermosa     1.71 295 eP      Pn              00 08 20.2 -1.6
VHO                              eS      Sn              00 08 41.3 -1.5
TGIG                    1.95  77 eP      Pn              00 08 24.0 -0.9
PEIG  Puerto Escondi    1.99 260 eP      Pn              00 08 24.3 -1.0
YOIG  Yosondua          2.39 282 eP      Pn              00 08 31.5 +0.6
YOIG                             eS      Sn              00 08 58.7 -0.6
TOIG  Toxpalan          2.55 313 eP      Pn              00 08 32.6 -0.4
TOIG                             eS      Sn              00 09 01.6 -1.4
PNIG  Pinotepa          2.90 271 eP      Pn              00 08 35.4 -2.2
HLIG  Huajuapan de L    2.96 300 eP      Pn              00 08 37.6 -1.2
HLIG                             eS      Sn              00 09 10.7 -2.7
TPIG  Tehuac#an         2.97 314 eP      Pn              00 08 38.5 -0.4
TPIG                             eS      Sn              00 09 13.1 -0.4
FTIG  Fresnillo de T    3.28 299 eP      Pn              00 08 46.4 +3.4
FTIG                             eS      Sn              00 09 21.6 +0.7
JAUV  Jalcomulco        3.40 332 eP      Pn              00 08 41.7 -2.9
JAUV                             eS      Sn              00 09 19.1 -4.7
```

*NEIC **23** 00:08:01.1±2.8, 14°.79N±0°.06×94°.21W±0°.05, h10km±1km, mb4.3/92, Md4.3/50(MEX), Error ellipse: s-maj=10.8km s-min=7.8km az=196.0*
*MEX **23** 00:08:04.3±0.4, 14°.78N×94°.11W, h15km, MD4.3*
*GCG **23** 00:08:05.0±0.3, 15°.96N×93°.40W, h0km±210km, MD4.4*
*IDC **23** 00:08:08.3±2.6, 15°.21N×93°.95W, h62km±18km, mb3.6/10, mbtmp3.9/13, MS3.4/7, Error ellipse: s-maj=28.8km s-min=12.5km az=34.0*

ISC 23 00:08:01.6±1.5, 14°.84N±0°.05×94°.22W±0°.03, h23km±11km, n183, σ2°.02/220, mb4.2/37, MS3.0/5, Off coast of Chiapas

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                 Op      ISC             h m s     ISC
PCIG                    1.30  48         Pn              00 08 23.4 -0.9
PCIG                                     Sn              00 08 39.0 -1.9
PCIG                    1.30  48 i P     Pn              00 08 23.4 -0.9
PCIG                             eS      Sn              00 08 39.0 -1.9
CARR  Arriaga           1.44  12 eP      Pn              00 08 25.9 -0.4
CARR                             i S     Sn              00 08 43.2 -1.2
NILT  Santiago Nilte    1.76 348 eP      Pn              00 08 32.3 +1.6
NILT                             eS      Sn              00 08 52.0 -0.4
THIG                    1.89  88         Pn              00 08 31.8 -0.7
THIG                                     Sn              00 08 53.1 -2.6
THIG                    1.89  88 eP      Pn              00 08 30.9 -1.6
THIG                             eS      Sn              00 08 51.2 -4.4
PATR  El Naranjo        1.94  81 eP      Pn              00 08 32.0 -1.4
PATR                             eS      Sn              00 08 52.8 -4.5
PAVE  Pavencul          2.01  80 eP      Pn              00 08 33.4 -0.9
PAVE                             eS      Sn              00 08 53.5 -5.4
CHUJ  Union Juarez      2.06  83 eP      Pn              00 08 33.7 -1.3
CHUJ                             eS      Sn              00 08 53.9 -6.3
TGIG                    2.20  29         Pn              00 08 39.0 +2.2
TGIG                                     Sn              00 09 03.6 +0.2
TGIG                    2.20  29 eP      Pn              00 08 38.0 +1.1
TGIG                             eS      Sn              00 09 03.6 +0.2
TGBT  Tuxtla Gutierr    2.22  29         Pn              00 08 39.1 +2.1
TGBT                                     Sn              00 09 05.1 +1.4
```

TGBT	Tuxtla Gutierr	2.22	29	eP		Pn	00 08 39.1	+2.1
TGBT				eS		Sn	00 09 04.5	+0.8
CMIG	Matias Romero	2.33	344			Pn	00 08 39.3	+0.7
CMIG						Sn	00 09 07.5	+1.0
CMIG	Matias Romero	2.33	344	P		Pn	00 08 39.3	+0.7
226nm,0.3s,baz=163,slow=11,SNR=31								
CMIG				S		Sn	00 09 06.1	-0.4
1μm,0.7s,baz=90,slow=13,SNR=21								
CMIG				LR		LR	00 09 41.4	
comp=Z,377nm,18.9s,baz=162,slow=45								
CMIG	Matias Romero	2.33	344	eP		Pn	00 08 39.3	+0.7
CMIG				eS		Sn	00 09 07.5	+1.0
RTAL	Retalhuleu	2.47	97	Pn		Pn	00 08 40.3	-0.2
UXUV	UXUV	2.47	2	eP		Pn	00 08 42.5	+2.0
UXUV				eS		Sn	00 09 11.6	+1.7
CCIG	Comitan	2.47	54	Pn		Pn	00 08 41.9	+1.2
CCIG	Comitan	2.47	54	eP		Pn	00 08 42.4	+1.8
CCIG				eS		Sn	00 09 12.1	+1.9
STG3	Santiaguito 3,	2.57	92	eP		Pn	00 08 42.7	+0.7
STG3				eS		Sn	00 09 12.2	-0.4
SULM	Suchitepequez,	2.63	101	eP		Pn	00 08 45.8	+3.1
HUEH	Huehuetenango	2.67	79			Pn	00 08 44.4	+0.9
PEIG	Puerto Escondi	3.05	293			Pn	00 08 47.8	-0.6
PEIG						Sn	00 09 19.9	-4.4
PEIG	Puerto Escondi	3.05	293	eP		Pn	00 08 49.2	+0.7
PEIG				eS		Sn	00 09 19.6	-4.7
PEIG	Puerto Escondi	3.05	293	eS		Pn	00 08 49.4	+0.9
TUIG	Tuzandepetl	3.19	357	eP		Pn	00 08 46.1	-4.3
TUIG				eS		Sn	00 09 23.7	-3.9
NEUV	Arroyo Zacate	3.24	332	eP		Pn	00 08 54.2	+3.2
NEUV				eS		Sn	00 09 31.4	+2.5
OXIG	Oaxaca	3.28	313			Sn	00 09 26.2	-4.1
VHO	Vista Hermosa	3.28	313	e		Pn	00 08 53.8	+2.0
VHO				eS		Sn	00 09 26.2	-4.1
FUG	Fuego 3	3.29	96	eP		Pn	00 08 53.0	+1.0
FUG				eS		Sn	00 09 30.3	-0.3
YOIG	Yosondua	3.78	303			Pn	00 09 01.8	+3.1
YOIG						Sn	00 09 39.7	-2.9
YOIG	Yosondua	3.78	303	eP		Pn	00 09 01.8	+3.1
YOIG				eS		Sn	00 09 39.7	-2.9
PMUV	Sontecomapan	3.79	347	eP		Pn	00 08 58.4	-0.3
PMUV				eS		Sn	00 09 42.1	-0.5
PNIG	Pinotepa	4.07	293			Pn	00 09 03.7	+1.2
PNIG	Pinotepa	4.07	293	eP		Pn	00 09 03.7	+1.2
PNIG				eS		Sn	00 09 44.9	-4.5
PNIG	Pinotepa	4.07	293	eS		Pn	00 09 03.3	+0.8
TXIG	Tlaxiaco	4.17	306	eP		Pn	00 09 08.6	+4.4
TXIG				eS		Sn	00 09 52.6	+0.3
TOIG	Toxpalan	4.24	320			Pn	00 09 04.0	-0.9
TOIG						Sn	00 09 56.0	+2.3
TOIG	Toxpalan	4.24	320	eP		Pn	00 09 04.0	-0.9
TOIG				eS		Sn	00 09 56.0	+2.3
HLIG	Huajuapan de L	4.55	311			Pb	00 09 19.3	-1.6
HLIG						Sn	00 10 05.4	+3.9
HLIG	Huajuapan de L	4.55	311	eP		Pb	00 09 19.3	-1.6
HLIG				eS		Sn	00 10 04.0	+2.4
TPIG	Tehuac#an	4.66	320			Pn	00 09 17.3	+6.4
TPIG						Sb	00 10 16.1	-2.6
TPIG	Tehuac#an	4.66	320	eP		Pn	00 09 17.3	+6.4
TPIG				eS		Sb	00 10 16.1	-2.6
PETF	Flores	4.67	63	Pn		Pn	00 09 11.6	+0.8
MTO3	Montecristo	4.73	95	Pn		Pn	00 09 11.8	0.0
ESQI	Esquipulas	4.73	93	Pn		Pn	00 09 12.5	+0.8
FTIG	Fresnillo de T	4.84	310			Pb	00 09 24.4	-1.4
FTIG						Sn	00 10 08.9	+0.3
FTIG	Fresnillo de T	4.84	310	eP		Pb	00 09 23.0	-2.8
FTIG				eS		Sn	00 10 08.9	+0.3
SNET	Serv Nac Est T	4.97	103	Pn		Pn	00 09 15.2	+0.2
TLIG	Tlapa	4.98	304	Pn		Pn	00 09 15.8	+0.8
TLIG	Tlapa	4.98	304	eP		Pn	00 09 17.1	+2.1
TLIG				eS		Sn	00 10 12.3	+0.3
SCIG	Sabancuy	5.03	35	eP		Pn	00 09 16.6	+0.9
SCIG				eS		Sn	00 10 02.3	-11
JAUV	Jalcomulco	5.14	332	eP		Pn	00 09 16.7	-0.5
JAUV				eS		Sn	00 10 13.6	-2.2
LVIG	Laguna Verde	5.29	337	eP		Pn	00 09 17.5	-1.8
LVIG				eS		Sn	00 10 17.9	-1.7
DAIG	Los Arroyos	5.66	293	eP		Pn	00 09 26.2	+1.9
DAIG				eS		Sn	00 10 25.9	-2.7
PPM	Popocatepetl	5.96	316	eP		Pn	00 09 34.1	+5.2
PPM				eS		Sn	00 10 36.9	+0.2
MEIG	Mezcala	6.02	301	eP		Pn	00 09 33.2	+3.8
MEIG				eS		Sn	00 10 32.4	-5.3
YAIG	Yautepec	6.13	311	eP		Pn	00 09 33.8	+2.9
YAIG				eS		Sn	00 10 37.6	-2.8
CRIN	San Cristobal	7.29	106	Pn		Pn	00 09 44.0	-2.8
CNGN	Cerro Negro	7.67	107	Pn		Pn	00 09 53.1	+1.1
TEIG	Tepich	7.80	46	Pn		Pn	00 09 54.1	+0.3
TEIG	Tepich	7.80	46	eP		Pn	00 09 54.6	+0.9
TEIG	Tepich	7.80	46	P		Pn	00 09 53.8	0.0
234nm,0.3s,baz=189,slow=4.5,SNR=30								
TEIG				S		Sn	00 11 15.4	-6.1
191nm,0.4s,baz=306,slow=20,SNR=1.3								
TEIG				LR		LR	00 13 20.5	
comp=Z,2μm,18.4s,baz=13,slow=42								
MATN	Matagalpa	8.28	102			Pn	00 10 00.8	+0.4
BOAB	BOACO BROADBAN	8.65	105	Pn		Pn	00 10 07.5	+2.1
HZTE	Horizontes, Gu	9.36	115	Pn		Pn	00 10 16.5	+1.4
ORTG	Ortega, Santa	9.64	116	Pn		Pn	00 10 19.6	+0.5
DUNO	Dulce Nombre,	9.75	118	Pn		Pn	00 10 20.9	+0.4
JTS	Las Juntas de	10.11	115	P		Pn	00 10 30.0	+4.5
1.4nm,0.3s,baz=315,slow=21,SNR=1.7								
JTS				S		Sn	00 12 24.0	+5.6
0.8nm,0.3s,baz=310,slow=20,SNR=1.6								
DRK0	Durika	12.08	116	Pn		Pn	00 10 53.2	+0.6
HBVL	Hebbronville	12.86	342	Pn		Pn	00 11 04.7	+1.7
SOR	Soroa	13.24	52	Pn		Pn	00 11 07.3	-0.9
833A	Chaparral WMA,	14.25	341	Pn		Pn	00 11 23.4	+1.3
HNDO	Hondo	15.35	343			Pn	00 11 37.8	+0.9
HNDO					IAmb	IAmb	00 11 40.6	
comp=Z,10nm,0.8s								
DRIO	Del Rio	15.67	339	Pn		Pn	00 11 41.7	+0.7
DRIO					IAmb	IAmb	00 11 47.8	
comp=Z,11nm,1.3s								
435B	Jarrell	16.17	350	P		P	00 11 51.8	+1.3
435B					IAmb	IAmb	00 11 57.7	
comp=Z,17nm,0.8s								
SAND	Sanderson	16.72	335			P	00 11 57.8	+1.2
SAND					IAmb	IAmb	00 12 09.4	
comp=Z,5.8nm,1.1s								
TXAR	Lajitas Array	16.86	330	P		P	00 12 01.9	+3.6
TXAR	Lajitas Array	16.86	330	P		P	00 11 58.8	+0.6
comp=Z,2.7nm,0.8s,baz=154,slow=12,SNR=13								
TX31	Lajitas Ar. Si	16.86	330	P		P	00 12 00.6	+2.3
TX31					IAmb	IAmb	00 12 17.2	
comp=Z,20nm,1.1s								
TX32	Lajitas Array	16.86	330	P		P	00 11 59.7	+1.4
BRDY	Brady	16.95	346	P		P	00 12 01.5	+2.4
BRDY					IAmb	IAmb	00 12 15.3	
comp=Z,9.7nm,1.0s								
OZNA	Ozona	17.22	340			P	00 12 03.5	+1.4
OZNA					IAmb	IAmb	00 12 05.4	
comp=Z,18nm,1.1s								
ALPN	Alpine	17.73	332			P	00 12 10.7	+2.8
ALPN					IAmb	IAmb	00 12 13.3	
comp=Z,20nm,1.3s								
TREL	Terrell	17.90	355			Pn	00 12 09.3	+0.3
TREL					IAmb	IAmb	00 12 30.2	
comp=Z,40nm,0.9s								
SGCY	Sterling City	18.13	341			P	00 12 14.1	+1.8
SGCY					IAmb	IAmb	00 12 15.7	
comp=Z,16nm,1.0s								
PECS	Pecos	18.68	333	P		Pn	00 12 21.6	+2.8
PECS					IAmb	IAmb	00 12 23.5	
comp=Z,18nm,1.5s								
425A	Indio Mountain	18.70	330	P		Pn	00 12 22.0	+2.9
ODSA	Odessa	18.81	338	P		Pn	00 12 22.6	+2.3
ODSA					IAmb	IAmb	00 12 24.7	
comp=Z,26nm,1.1s								
SN01	Snyder 1	18.94	342	P		Pn	00 12 22.6	+0.7
SN01					IAmb	IAmb	00 12 27.1	
comp=Z,26nm,1.5s								
CCAR	Cane Creek	19.13	6	Pn		Pn	00 12 26.0	+2.0
APMT	Aspermont	19.17	345	P		Pn	00 12 25.9	+1.3
APMT					IAmb	IAmb	00 12 27.9	
comp=Z,8.3nm,0.8s								
WTFS	Witchita Falls	19.23	349	P		Pn	00 12 28.1	+2.8
WTFS					IAmb	IAmb	00 12 37.4	
comp=Z,10.0nm,0.6s								
POST	Post	19.32	341	P		Pn	00 12 27.2	+0.8
POST					IAmb	IAmb	00 12 31.5	
comp=Z,10nm,0.9s								
MIAR	Mount Ida	19.63	2	P		P	00 12 28.8	+0.1
MNTX	Cornudas Mount	19.64	331	P		Pn	00 12 31.5	+1.3
DKNS	Dickens	19.71	343	P		Pn	00 12 31.5	+0.4
DKNS					IAmb	IAmb	00 12 34.1	
comp=Z,17nm,1.1s								
WMOK	Wichita Mounta	20.24	349	P		P	00 12 37.1	+1.8
W35A	Tecumseh	20.37	354	P		P	00 12 37.9	+1.2
W35A					IAmb	IAmb	00 12 38.8	
comp=Z,9.2nm,0.7s								
WHAR	Wooly Hollow	20.44	5	Pn		Pn	00 12 40.2	+0.6
MSTX	Muleshoe	20.56	339	P		P	00 12 40.0	+1.1
MSTX					IAmb	IAmb	00 12 45.0	
comp=Z,19nm,0.9s								
X48A	Hartselle	20.58	17	P		P	00 12 39.5	+0.6
X48A					IAmb	IAmb	00 12 48.5	
comp=Z,9.7nm,1.1s								
YOTC	Yotoco, Valle	20.65	120	eP		Pn	00 12 46.6	+4.2
FCAR	Ozark Folk Cen	21.05	5	P		P	00 12 44.6	+0.6
AMTX	Amarillo	21.06	343	P		P	00 12 46.2	+1.9
POPC	Popayan, Colom	21.19	124	eP		P	00 12 47.2	+1.3
OK052	Battle Ridge R	21.20	354	P		P	00 12 46.2	+0.7
OK052					IAmb	IAmb	00 12 50.5	
comp=Z,8.8nm,0.6s								
LCAR	Lake Charles	21.32	7	P		P	00 12 45.7	-1.2
QUOK	Quay	21.36	354	P		P	00 12 50.4	+3.0
QUOK					IAmb	IAmb	00 12 51.7	
comp=Z,7.9nm,0.6s								
HALT	Halls	21.44	11	P		P	00 12 50.7	+2.5
319A	Douglas	21.47	323	P		P	00 12 51.5	+2.7
319A					IAmb	IAmb	00 12 53.6	
comp=Z,13nm,1.1s								
121A	Cookes Peak, D	21.52	327	P		P	00 12 52.5	+3.3
U38A	Gravette	21.52	360	P		P	00 12 50.2	+1.2
SWET	Sewanee	21.62	19	P		P	00 12 51.1	+0.9
OK048	Pawnee Station	21.63	354	P		P	00 12 51.2	+1.0
OK048					IAmb	IAmb	00 12 55.6	
comp=Z,6.9nm,0.7s								
ELIS	Ellis County	21.65	349	P		P	00 12 49.9	-0.6
OK051	E0350 and S346	21.71	354	P		P	00 12 52.5	+1.4
OK051					IAmb	IAmb	00 12 54.0	
comp=Z,20nm,1.3s								
NOKA	Waynoka	22.11	350	P		P	00 12 57.8	+2.4
DUN6	Lazy B Ranch	22.23	325	P		P	00 13 00.5	+3.6
DUN6					IAmb	IAmb	00 13 01.9	
comp=Z,15nm,1.0s								
KAN09	Caldwell North	22.41	353	P		P	00 12 58.9	+0.2
KAN09					IAmb	IAmb	00 13 00.7	
comp=Z,14nm,1.1s								
TKL	Tuckaleechee C	22.75	22	LR		LR	00 22 23.2	
comp=Z,31nm,19.1s,baz=153,slow=38								
S39A	Bolivar	22.78	2	P		P	00 13 03.5	+1.0
S39A					IAmb	IAmb	00 13 04.0	
comp=Z,8.9nm,0.8s								
ANMO	Albuquerque	22.85	333	P		P	00 13 05.9	+2.3
ANMO	Albuquerque	22.85	333	LR		LR	00 22 06.4	
comp=Z,32nm,20.0s,baz=162,slow=37								
U49A	Red Boiling Sp	22.87	18	P		P	00 13 03.4	-0.1
U49A					IAmb	IAmb	00 13 17.1	
comp=Z,14nm,1.3s								
CCM	Cathedral Cave	23.28	6	P		P	00 13 07.8	+0.2
R40A	Maddies Statio	23.43	4	P		P	00 13 09.5	+0.4
R40A					IAmb	IAmb	00 13 31.5	
comp=Z,5.4nm,0.8s								
W57A	Gilead	23.94	30	P		P	00 13 13.6	-0.4
T25A	Trinidad	23.99	340	P		P	00 13 18.0	+3.2
PTGC	Puerto Gaitan,	24.18	114	eP		P	00 13 17.9	+1.4
X18A	Snowflake	24.20	327	P		P	00 13 18.9	+2.2
X18A					IAmb	IAmb	00 13 21.8	
comp=Z,4.6nm,0.8s								
CBKS	Cedar Bluff	24.38	350	P		P	00 13 19.3	+1.2
P40A	Paris	24.67	4	P		P	00 13 19.5	-1.3
P38A	Dawn	24.70	1	P		P	00 13 20.3	-0.7
P38A					IAmb	IAmb	00 13 23.1	
comp=Z,4.8nm,0.6s								
V58A	Windy Hill, Pi	24.88	30	P		P	00 13 21.8	-0.8
SDCO	Great Sand Dun	24.91	338	P		P	00 13 24.8	+1.5
X16A	Lo Mia Camp, P	24.93	325	P		P	00 13 26.2	+2.8
X16A					IAmb	IAmb	00 13 29.2	
comp=Z,6.4nm,1.1s								
MVCO	Mesa Verde	25.65	333	P		P	00 13 32.1	+2.2
MVCO					IAmb	IAmb	00 13 35.0	
comp=Z,9.6nm,1.4s								
N38A	Joes South For	25.88	2	P		P	00 13 31.0	-0.7
HMU	Henry Mountain	27.27	331	P		P	00 13 47.1	+2.5
HMU					IAmb	IAmb	00 13 54.4	
comp=Z,8.1nm,1.3s								
Q16A	Castle Valley	28.25	331	P		P	00 13 54.5	+1.2
Q16A					IAmb	IAmb	00 13 57.2	
comp=Z,4.5nm,0.9s								
P18A	Preston Nutter	28.42	333	P		P	00 13 53.7	-1.2
P18A					IAmb	IAmb	00 14 22.4	
comp=Z,6.3nm,1.5s								
MVU	Marysvale	28.43	329	P		P	00 13 54.4	-0.5
P17A	Butcher Ranch,	28.51	333	P		P	00 13 55.8	+0.3
SHPR	Sheep Range	28.54	323	P		P	00 13 56.8	+0.9
TMUT	Trail Mountain	28.58	332	P		P	00 13 55.9	-0.4
TMUT					IAmb	IAmb	00 14 01.4	
comp=Z,3.6nm,1.0s								
ECSD	EROS Data Cent	28.87	356	P		P	00 13 58.4	-0.1
ECSD					IAmb	IAmb	00 13 59.0	
comp=Z,3.3nm,0.7s								
I37A	Lemond, Waseca	29.09	1	P		P	00 13 59.1	-1.3
GWY	Greenwater Val	29.23	321	P		P	00 14 03.2	+1.2
GWY					IAmb	IAmb	00 14 07.1	
comp=Z,6.4nm,1.5s								
PSUT	Pine Spring	29.28	327	P		P	00 14 03.5	+1.1
PSUT					IAmb	IAmb	00 14 06.7	
comp=Z,3.3nm,1.0s								
TPNV	Topopah Spring	29.48	322	P		P	00 14 04.5	+0.3
TPNV					IAmb	IAmb	00 14 14.0	
comp=Z,6.5nm,1.5s								
NLU	North Lily Min	29.50	331	P		P	00 14 06.8	+2.4
SPR3	Spring Creek 3	29.88	327	P		P	00 14 08.6	+0.7
SPR3					IAmb	IAmb	00 14 11.5	
comp=Z,4.5nm,1.0s								
SPMN	Marine on St.	30.32	2	P		P	00 14 10.0	-1.3
G40A	Rib Lake	30.52	6	P		P	00 14 13.6	+0.5
PDAR	Pinedale Array	30.80	338	P		P	00 14 16.6	+0.7
comp=Z,0.3nm,0.7s,baz=151,slow=7.7,SNR=2.3								
comp=Z,0.3nm,0.7s								
GLMI	Grayling	30.98	13	P		P	00 14 17.7	+0.5
HVU	Hansel Valley	31.28	333	P		P	00 14 21.3	+1.3
HVU					IAmb	IAmb	00 14 23.9	
comp=Z,4.1nm,0.8s								
NV11	Mina Array Sit	31.60	323	P		P	00 14 22.6	-0.3
NV11					IAmb	IAmb	00 14 27.7	
comp=Z,5.3nm,1.1s								
ELK	Elko	31.64	329	P		P	00 14 22.4	-1.0
ELK					IAmb	IAmb	00 14 27.6	
comp=Z,2.0nm,0.8s								
NVAR	Mina Array Bea	31.68	322	P		P	00 14 25.7	+2.0
NVAR	Mina Array Bea	31.68	322	P		P	00 14 26.7	+3.0
comp=Z,2.5nm,0.9s,baz=138,slow=8.7,SNR=17								
NVAR				LR		LR	00 28 42.9	
comp=Z,156nm,19.9s,baz=96,slow=39								
comp=Z,2.5nm,0.9s								
NNA	Nana	31.73	146	LR		LR	00 24 45.2	
comp=Z,37nm,21.7s,baz=284,slow=31								
FDF	Fort de France	31.96	86	P		P	00 14 26.4	+0.2
E43A	Lone Tree Farm	32.02	9	P		P	00 14 27.9	+1.7
J08A	Circle Bar Ran	35.20	329	P		P	00 14 54.8	+0.7
PLID	Pearl Lake	35.34	333	P		P	00 14 55.1	-0.3
PLID					IAmb	IAmb	00 14 58.5	
comp=Z,3.8nm,0.9s								
ULM	Lac du Bonnet	35.34	358	P		P	00 14 53.9	-1.3
comp=Z,3.3nm,0.7s,baz=172,slow=13,SNR=3.3								
comp=Z,3.3nm,0.7s								
EGMT	Eagleton	35.50	342	P		P	00 14 56.0	-0.7
YBH	Yreka Blue Hor	36.40	323	LR		LR	00 31 07.5	
comp=Z,153nm,18.2s,baz=160,slow=38								
ILAR	Eielson Array	61.23	337	P		P	00 18 14.7	+0.2
comp=Z,1.6nm,0.9s,baz=108,slow=5.8,SNR=9.2								
comp=Z,1.6nm,0.9s								
EKA	Eskdalemuir Ar	78.55	36	P		P	00 20 01.1	0.0
comp=Z,0.5nm,0.5s,baz=291,slow=4.5,SNR=3.4								
comp=Z,0.5nm,0.5s								
ESDC	Sonseca Array	80.89	51	P		P	00 20 13.3	-0.9
comp=Z,0.3nm,0.7s,baz=301,slow=6.5,SNR=4.4								
comp=Z,0.3nm,0.7s								
NB2	NORSAR Subarra	84.43	28	P		P	00 20 33.5	+1.3
comp=Z,1.5nm,0.8s,baz=293,slow=4.8								
NOA	NORSAR Array B	84.43	28	P		P	00 20 32.1	-0.1
comp=Z,1.5nm,0.9s,baz=292,slow=4.7,SNR=5.0								
comp=Z,1.5nm,0.9s								
ARCES	ARCESS Array B	86.01	18	P		P	00 20 39.2	-0.7
comp=Z,1.2nm,0.7s,baz=318,slow=3.3,SNR=4.2								
comp=Z,1.2nm,0.7s								
GERES	GERESS Array B	90.32	39	P		P	00 21 00.2	-0.8
comp=Z,0.4nm,0.5s,baz=321,slow=2.5,SNR=1.8								
comp=Z,0.4nm,0.5s								
TORD	Torodi Ar. Bea	92.27	76	P		P	00 21 10.0	-0.6
comp=Z,0.5nm,1.0s,baz=289,slow=4.9,SNR=1.4								
comp=Z,0.5nm,1.0s								
WRA	Warramunga Arr	133.50	256	PKP		PKPdf	00 27 17.7	+0.7
comp=Z,0.5nm,0.7s,baz=87,slow=2.4,SNR=8.2								
ASAR	Alice Springs	133.90	251	PKP		PKiKP	00 27 19.2	+0.2
comp=Z,0.2nm,0.3s,baz=33,slow=5.5,SNR=3.1								
PZH	PanZhiHua	136.07	339	PKP		PKPdf	00 27 21.4	-0.5
CMAR	Chiang Mai Arr	144.46	338	PKP		PKPab	00 27 35.6	+0.4
comp=Z,0.8nm,0.4s,baz=329,slow=4.4,SNR=5.5								

*IDC **23** 00:09:07.5±0.7, 12°.38S×77°.54W, h0km, mb3.9/10, mbtmp3.8/13, ML3.5/3, MS3.1/8, Error ellipse: s-maj=16.1km s-min=9.7km az=146.0*
*NEIC **23** 00:09:14.3±2.6, 12°.36S±0°.07×77°.20W±0°.09, h40km±8km, mb4.3/19, Error ellipse: s-maj=13.1km s-min=9.8km az=72.0*

ISC 23 00:09:13.0±0.5, **12°.37S**±0°.06×**77°.19W**±0°.08, **h35**km, **n82**, σ1§**42**/70, **mb4.1**/18, **MS3.0**/4, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NNA	Nana	0.51	42	Pg		Pn	00 09 24.5	+0.6
949nm,0.3s,baz=236,slow=12,SNR=1644								
NNA				Lg		Lg	00 09 32.6	
7μm,0.3s,baz=79,slow=23,SNR=76								
ATAH	Atahualpa	5.34	347	Pn		Pn	00 10 33.5	+2.9
11nm,0.3s,baz=145,slow=3.3,SNR=47								
ATAH				Sn		Sn	00 11 31.9	+0.7
baz=290,slow=23								
CZSB	Cruzeiro do Su	6.39	44	Pn		Pn	00 10 46.2	+1.5
CZSB	Cruzeiro do Su	6.39	44	eP		Pn	00 10 46.3	+1.6
MCRA	Macar, Loja	8.41	341	Pn		Pn	00 11 10.6	-1.9
MCRA	Macar, Loja	8.41	341	eP		Pn	00 11 11.3	-1.2
PB12	IPOC Station P	9.07	134	Pn		Pn	00 11 20.4	-1.1
BOSC	San Juan Bosco	9.25	352	Pn		Pn	00 11 23.1	-1.1
PB16	IPOC Station P	9.49	130	Pn		Pn	00 11 28.3	+0.6
LPAZ	La Paz	9.60	115	Pn		Pn	00 11 32.4	+3.1
LPAZ	La Paz	9.60	115	eP		Pn	00 11 35.7	+6.3
LPAZ	La Paz	9.60	115	Pn		Pn	00 11 31.8	+2.4
0.2nm,0.3s,baz=305,slow=8.3,SNR=3.0								
LPAZ				Lg		Lg	00 14 15.4	
0.1nm,0.3s,baz=217,slow=10,SNR=1.9								
LPAZ				LR		LR	00 15 50.2	
comp=Z,121nm,20.7s,baz=297,slow=41								
0.7nm,0.4s								
COHC	Cochancay	10.05	348	Pn		Pn	00 11 36.5	+1.5
COHC	Cochancay	10.05	348	eP		Pn	00 11 42.1	+7.1
TA01	Diego Aracena	10.56	141	Pn		Pn	00 11 42.7	+0.8
GO01	Chusmiza	10.57	134	Pn		Pn	00 11 48.5	+6.1
SALI	Salinas	10.80	339	Pn		Pn	00 11 46.8	+1.6
TBTG	Tabatinga, AM	10.86	42	Pn		Pn	00 11 47.5	+1.3
PB08	IPOC Station P	10.91	136	Pn		Pn	00 11 48.6	+1.5
CHSH	Refugio Sur-Vo	10.94	351	Pn		Pn	00 11 49.3	+1.7
ETMB	Extrema	11.07	78	Pn		Pn	00 11 49.3	+0.4
PB02	IPOC Station P	11.30	143	Pn		Pn	00 11 51.2	-1.0
PPLP	Puerto Lpez	11.33	341	eP		Pn	00 12 00.7	+8.2
PB01	IPOC Station P	11.34	140	Pn		Pn	00 11 53.0	+0.3
PIAT	Ana Tenorio	11.35	355	eP		Pn	00 11 55.6	+2.4
SLOR	San Lorenzo -	11.64	354	Pn		Pn	00 11 57.0	-0.2
OTAV	Otavalo	12.59	354	Pn		Pn	00 12 11.7	+1.5
PAC1	Pacto, Paraso	12.66	353	eP		Pn	00 12 13.4	+2.6
LVC	Limon Verde	12.88	143	Pn		Pn	00 12 16.1	+2.1
0.3nm,0.3s,baz=306,slow=23,SNR=1.8								
LVC				Sn		Sn	00 14 36.7	+0.4
0.2nm,0.3s,baz=229,slow=17,SNR=2.1								
LVC				LR		LR	00 16 48.6	
comp=Z,33nm,21.0s,baz=296,slow=35								
0.6nm,0.3s								
GCUF	Volcan Galeras	13.51	359	eP		P	00 12 35.4	+3.8
FLOC	Florencia	13.95	6	eP		Pn	00 12 28.3	-0.1
SAML	Samuel	14.18

SNAA	Sanae	73.42	161	P		P	00 20 41.5 +0.1
	comp=Z,1.4nm,0.8s,baz=267,slow=7.5,SNR=13						
	comp=Z,1.4nm,0.8s						
QSPA	South Pole Qui	77.76	180	P		P	00 21 05.6 -0.8
	comp=Z,0.8nm,0.2s,baz=99,slow=13,SNR=4.0						
	comp=Z,0.8nm,0.2s						
TOA0	Torodi Ar. Sit	82.22	75	P		P	00 21 31.9 +0.7
TOA0				IAmb		IAmb	00 21 47.2
	comp=Z,2.2nm,1.0s						
TORD	Torodi Ar. Bea	82.22	75	P		P	00 21 30.9 -0.4
TORD	Torodi Ar. Bea	82.22	75	P		P	00 21 31.7 +0.4
	comp=Z,0.7nm,0.5s,baz=261,slow=4.6,SNR=5.3						
	comp=Z,0.7nm,0.5s						
ESDC	Sonseca Array	85.28	48	P		P	00 21 46.8 +0.3
	comp=Z,0.3nm,0.7s,baz=263,slow=11,SNR=1.7						
	comp=Z,0.3nm,0.7s						
H11S2	WAKE ISLAND Hyl	18.37	284	T		T	02 36 47.1
	baz=94,slow=75,SNR=73						
H11S1	WAKE ISLAND Hyl	18.37	284	T		T	02 36 47.5
	baz=94,slow=75,SNR=113						
H11S3	WAKE ISLAND Hyl	18.38	284	T		T	02 36 48.4
	baz=94,slow=75,SNR=93						
WRA	Warramunga Arr	135.34	224	PKP		PKPdf	00 28 29.5 -0.6
	comp=Z,0.4nm,0.5s,baz=131,slow=1.9,SNR=6.2						
ZALV	Zalesovo Beam	136.14	15	PKP		PKPdf	00 28 30.3 -0.2
	comp=Z,1.2nm,0.7s,baz=338,slow=1.6,SNR=5.9						
SONM	Songino Array	144.52	356	PKP		PKPbc	00 28 44.6 -0.1
	comp=Z,1.3nm,0.7s,baz=347,slow=2.0,SNR=7.4						
PZH	PanZhiHua	165.91	4	PKP		PKPdf	00 29 13.8 -1.3

IDC ***23*** *00:24:11.8±0.4,27°.91N×57°.12E,h0km,mb4.8/33, mbtmp4.8/38,ML5.0/5,MS4.8/74,Error ellipse: s-maj=11.8km s-min=8.6km az=180.0*
DSN ***23*** *00:24:12.9±1.0,27°.87N×57°.61E,h10km,mb5.7/3, ML5.3/13,Error ellipse: s-maj=17.5km s-min=5.4km az=92.0*
MOS ***23*** *00:24:12.9±1.1,27°.90N×57°.07E,h15km,mb5.4/80, MS4.6/31,Error ellipse: s-maj=4.0km s-min=3.0km az=99.7*
NEIC ***23*** *00:24:13.8,27°.83N×57°.51E,h22km,Moment Tensor Solution. Duration: 1ŝ9 Moment tensor: Scale 10^{16}Nm; M_{rr}8.44; $M_{\theta\theta}$-8.97; $M_{\phi\phi}$0.54; $M_{r\theta}$-2.34; $M_{\theta\phi}$-2.58; $M_{\phi r}$-1.53; Fault plane solution: $M_0$9.46000×10^{16} NP1: ϕ_s249.33000°,δ53.52000°,λ81.94000°. NP2:ϕ_s82.73000°, δ37.24000°,λ100.74000°. Principal axes: T 8.9201, Plg80.0000°, Azm126.0000°; N 1.0890, Plg6.0000°, Azm254.0000°; P -10.0091, Plg8.0000°, Azm345.0000°;*
NEIC ***23*** *00:24:13.8,27°.93N×57°.05E,h22km*
NEIC ***23*** *00:24:13.8±2.5,27°.93N±0°.06×57°.05E±0°.08,h10km±1km, mb5.2/263,Mww5.3/10,Error ellipse: s-maj=12.8km s-min=10.0km az=285.0*
BJI ***23*** *00:24:14.7±0.0,28°.15N×56°.82E,h32km,mb5.1/69, mB5.4/41,Ms5.1/55,Ms7 4.8/53*
TEH ***23*** *00:24:14.9,27°.84N×57°.13E,h18km±18km,ML5.5*
THR ***23*** *00:24:15.1±0.8,27°.86N×57°.22E,h18km±7km,ML5.2*
OMAN ***23*** *00:24:17.0±0.1,27°.77N×57°.09E,h20km,mb5.3/22, ml5.3/19,ms4.5/5,Mwp5.5/18,Error ellipse: s-maj=2.1km s-min=2.0km az=38.0*
GCMT ***23*** *00:24:17.8±0.1,27°.76N±0°.01×56°.93E±0°.01,h25km, MW5.5/118,Moment Tensor Solution. s96,c145; s118,c212; Duration: 1ŝ3 Moment tensor: Scale 10^{17} Nm; M_{rr}0.61±.03; $M_{\theta\theta}$-1.18±.02; $M_{\phi\phi}$0.57±.02; $M_{r\theta}$0.12±.04; $M_{\theta\phi}$-0.61±.02; $M_{\phi r}$-1.56±.07; Best double couple: $M_0$1.85700×10^{17} NP1:ϕ_s210.00000°,δ74.00000°, λ47.00000°. NP2:ϕ_s103.00000°,δ45.00000°,λ157.00000°. Principal axes: T 2.2290, Plg44.0000°, Azm78.0000°; N -0.7410, Plg41.0000°, Azm224.0000°; P -1.4850, Plg18.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***23*** *00:24:19.8,27°.36N×55°.43E,h10km,mb4.9,Ms4.6*
ISC 23 00:24:16.2±0.3,27°.92N±0°.02×57°.10E±0°.02,h25km±2km, h25km:pP-P,n1382,σ1ŝ50/1472,mb5.2/329,MS4.8/125, 52C-33D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.53	86	Pg	Pb	00 24 25.1	-2.0
KHNJ				Sg	Sb	00 24 32.7	-1.6
GENO	Geno	0.97	238	Pg	Pn	00 24 33.4	-1.1
GENO				Sg	Sn	00 24 48.0	+0.5
BNDS	Bandar-Abbas	0.97	238	*e*Pg	Pn	00 24 34.6	+0.2
BNDS				IAML		00 24 52.0	
	comp=E,64μm,0.3s						
BNDS				IAML		00 24 52.0	
	comp=N,35μm,0.4s						
KBAM	BAM	1.70	44	Pg	Pb	00 24 45.9	-1.0
NGRK	Negar Kerman	1.75	349	Pn	Pb	00 24 47.5	-0.5
CHMN	Cheshme madani	1.98	11	Pn	Pn	00 24 50.0	+1.6
SHME	Shamm	2.05	205	*e*P	Pn	00 24 49.6	+0.5
	SNR=148						
SHME				S	Sb	00 25 19.2	+1.5
SHME	Shamm	2.05	205	P	Pn	00 24 50.0	+0.9
	SNR=821						
SHME				P	Pn	00 24 50.0	+0.9
	SNR=821						
SHME	Shamm	2.05	205	Pn	Pn	00 24 49.5	+0.4
KRBR	Kerman	2.08	352	*e*Pn	Pb	00 24 52.7	-0.8
KRBR				*e*Sg	Sb	00 25 23.1	+4.0
KRBR				IAML		00 25 25.9	
	comp=E,24μm,0.5s						
KRBR				IAML		00 25 27.8	
	comp=N,29μm,0.4s						
TVBK	TV Kerman	2.08	352	Pn	Pb	00 24 51.9	-1.7
JASK	Jask - Hormozg	2.15	161	P	Pn	00 24 51.6	+1.0
	SNR=406						
JASK	Jask - Hormozg	2.15	161	Pn	Pn	00 24 51.0	+0.5
LAR1	LAR	2.43	265	Pn	Pn	00 24 55.4	+0.9
KHGB	Koh Gabri	2.51	348	Pn	Pb	00 24 59.1	-1.7
MASF	Masafi	2.67	199	P	Pn	00 24 58.6	+0.8
	SNR=197						
MASF				P	Pn	00 24 58.6	+0.8
	SNR=197						
MSFE	Esma-Masafi	2.68	199	*e*P	Pn	00 24 57.9	+0.1
	SNR=46						
MDH	Madha	2.70	196	*e*P	Pn	00 24 57.3	-0.8
	SNR=127						
MDH	Madha	2.70	196	P	Pn	00 24 58.8	+0.7
	SNR=106						
MDH				P	Pn	00 24 58.8	+0.7
	SNR=106						
MDH	Madha	2.70	196	Pn	Pn	00 24 58.3	+0.2
UMQ	Umm Al-Quwin	2.71	209	*e*P	Pn	00 25 00.4	+2.2
	SNR=50						
UMQ	Umm Al-Quwin	2.71	209	P	Pn	00 24 59.1	+1.0
	SNR=50						
UMQ				P	Pn	00 24 59.1	+1.0
	SNR=50						
UMQ	Umm Al-Quwin	2.71	209	Pn	Pn	00 25 00.1	+2.0
UOSS	Minazif	3.06	195		Pn	00 25 03.1	0.0
UOSS	Minazif	3.06	195	*i* P	Pn	00 25 02.8	-0.4
	SNR=123						
UOSS	Minazif	3.06	195	P	Pn	00 25 04.4	+1.3
UOSS	Minazif	3.06	195	Pn	Pn	00 25 03.1	0.0
ZRDN	Zarand Kerman	3.08	351	Pn	Pn	00 25 06.5	+3.0
JHRM	Jahrom	3.17	282	Pn	Pn	00 25 06.1	+1.5
NAZ	Nazwa, Dubai	3.19	204	*i* P	Pn	00 25 06.4	+1.6
	SNR=31						
NAZ	Nazwa, Dubai	3.19	204	P	Pn	00 25 06.0	+1.2
	SNR=31						
NAZ				P	Pn	00 25 06.0	+1.2
	SNR=31						
NAZ	Nazwa, Dubai	3.19	204	Pn	Pn	00 25 06.4	+1.6
HATD	Hatta, Dubai	3.20	196	*i* P	Pn	00 25 05.0	0.0
	SNR=157						
HATD	Hatta, Dubai	3.20	196	P	Pn	00 25 05.7	+0.7
	SNR=26						
HATD				P	Pn	00 25 05.7	+0.7
	SNR=26						
ASHO	Ashiyiah	3.35	196	*i* P	Pn	00 25 08.0	+0.9
	SNR=106						
ASHO	Ashiyiah	3.35	196	P	Pn	00 25 07.9	+0.9
	SNR=349						
ASHO				P	Pn	00 25 07.9	+0.9
	SNR=349						
FAQ	Al Faqa, Dubai	3.44	204	*i* P	Pn	00 25 08.6	+0.5
	SNR=66						
FAQ	Al Faqa, Dubai	3.44	204	P	Pn	00 25 09.1	+0.9
	SNR=59						
FAQ				P	Pn	00 25 09.1	+0.9
	SNR=59						
LMD1	Lamerd	3.54	262	Pn	Pn	00 25 10.9	+1.2
ZHDN	Zahedan	3.58	65	Pn	Pn	00 25 12.6	+2.3
QIR1	Qir	3.63	280	Pn	Pn	00 25 12.4	+1.5
ZHSF	Zahedan	3.64	61	*e*Pn	Pn	00 25 11.3	+0.2
ASUD	Al Ashush, Dub	3.64	206	*i* P	Pn	00 25 12.5	+1.5
	SNR=204						
ASUD	Al Ashush, Dub	3.64	206	P	Pn	00 25 12.0	+1.0
	SNR=204						
ASUD				P	Pn	00 25 12.0	+1.0
	SNR=204						
GHIR	Ghir-Karzin	3.66	277	*e*Pn	Pn	00 25 12.7	+1.4
GHIR				IAML		00 26 26.4	
	comp=E,2μm,0.5s						
GHIR				IAML		00 26 47.0	
	comp=N,2μm,0.5s						
ESRB	Sir Abu	3.72	224	Pn	Pn	00 25 12.9	+0.8
SOHO	SOHO	3.80	188	*i* P	Pn	00 25 12.5	-0.7
	SNR=241						
SOHO	SOHO	3.80	188	P	Pn	00 25 13.5	+0.3
SOHO				P	Pn	00 25 13.5	+0.3
SOHO	SOHO	3.80	188	Pn	Pn	00 25 12.6	-0.7
CHBR	Chabahar	3.80	127	*e*Pn	Pn	00 25 13.6	+0.4
CHBR	Chabahar	3.80	127	Pn	Pn	00 25 13.8	+0.5
AJN	Ajban	3.84	210	*i* P	Pn	00 25 14.9	+1.1
	SNR=58						
AJN	Ajban	3.84	210	P	Pn	00 25 15.2	+1.5
	SNR=259						
AJN				P	Pn	00 25 15.2	+1.5
	SNR=259						
IBAF	Bafgh	3.90	340	Pn	Pn	00 25 16.9	+2.2
ALNE	Al Ain	4.03	198	*i* P	Pn	00 25 16.9	+0.5
	SNR=33						
ALNE	Al Ain	4.03	198	P	Pn	00 25 17.6	+1.2
	SNR=33						
IMEH	Mehriz	4.09	329	Pn	Pn	00 25 19.6	+2.2
NHDN	Nehbandan	4.31	36	Pn	Pn	00 25 23.5	+3.2
HOQ	Hoqain	4.32	177	P	Pn	00 25 20.0	-0.4
	SNR=179						
HOQ				P	Pn	00 25 20.0	-0.4
	SNR=179						
HOQ	Hoqain	4.32	177	Pn	Pn	00 25 20.1	-0.3
SHI	Shiraz	4.38	294	Pn	Pn	00 25 23.1	+1.8
BSRN	Basiran	4.40	23	*e*Pn	Pn	00 25 23.7	+2.1
BSRN				IAML		00 26 48.1	
	comp=E,2μm,0.7s						
BSRN				IAML		00 26 51.3	
	comp=N,2μm,0.6s						
BSRN	Basiran	4.40	23	Pn	Pn	00 25 24.7	+3.1
NGCH	Negor - Chabah	4.42	124	P	Pn	00 25 22.6	+1.0
	SNR=27						
NGCH	Negor - Chabah	4.42	124	Pn	Pn	00 25 22.4	+0.7
BIDO	Bidbid	4.47	168	P	Pn	00 25 21.9	-0.5
	SNR=202						
BIDO				S	Sn	00 26 12.1	-1.6
ARQ	Araqi	4.59	187	P	Pn	00 25 24.9	+0.8
	SNR=87						
ARQ				P	Pn	00 25 24.9	+0.8
	SNR=87						
SRVN	Saravan	4.72	95	Pn	Pn	00 25 27.9	+1.9
IKOO	Kooshah	4.79	20	Pn	Pn	00 25 30.3	+3.3
JRN	Qarnain Island	4.83	233	P	Pn	00 25 28.7	+1.4
	SNR=36						
JRN				S	Sn	00 26 22.7	+0.2
JRN	Qarnain Island	4.83	233	Pn	Pn	00 25 28.4	+1.0
WSAR	Wadi Sarin	4.86	163	P	Pn	00 25 28.0	+0.3
	SNR=717						
WSAR				S	Sn	00 26 21.4	-1.8
WSAR	Wadi Sarin	4.86	163	Pn	Pn	00 25 27.8	0.0
	comp=N,252nm,0.3s,baz=130,slow=8.6,SNR=1293						
WSAR				Sn	Sn	00 26 19.1	-4.2
	comp=N,380nm,0.3s,baz=288,slow=6.2,SNR=12						
ICHK	Chekchek	4.91	332	Pn	Pn	00 25 30.7	+2.1
SMDO	Samad	4.91	170	P	Pn	00 25 28.7	+0.1
	SNR=160						
SMDO				P	Pn	00 25 28.7	+0.1
	SNR=160						
YZKH	Yazd	4.96	335	*e*Pn	Pn	00 25 32.0	+2.7
YZKH				IAML		00 27 12.8	
	comp=N,810nm,0.6s						
YZKH				IAML		00 27 21.1	
	comp=E,739nm,0.7s						
ISAD	Sadrabad	4.97	324	Pn	Pn	00 25 31.8	+2.3
TPRV	Parvadeh(Tabas	5.11	356	Pn	Pn	00 25 34.3	+3.0
BSY	Bisya	5.15	179	P	Pn	00 25 32.3	+0.5
	SNR=312						
BSY				P	Pn	00 25 32.3	+0.5
	SNR=312						
ITEG	Tejag	5.16	16	Pn	Pn	00 25 34.2	+2.1
DSBU	Dashti - Bushe	5.18	276	Pn	Pn	00 25 34.2	+2.0
AHBU	AHRAM	5.20	282	Pn	Pn	00 25 34.0	+1.5
IDAH	Dahanechah	5.37	26	Pn	Pn	00 25 37.4	+2.4
WBK	Wadi Bani Khal	5.55	162	P	Pn	00 25 37.0	-0.2
	SNR=535						
WBK				S	Sn	00 26 38.8	-1.5
JMDO	Jabal Madar	5.59	170	P	Pn	00 25 39.0	+1.1
	SNR=89						
IRAM	Ramesheh	5.65	315	Pn	Pn	00 25 40.7	+1.9
TKDS	Koohdasht(Taba	5.68	0	Pn	Pn	00 25 42.1	+3.0
KLNJ	Kolanjah	5.71	304	Pn	Pn	00 25 41.5	+1.7
TABS	Tabas	5.72	0	*e*Pn	Pn	00 25 42.8	+3.2
AFRZ	Afriz	5.73	16	Pn	Pn	00 25 43.6	+3.7
SHMA	Al-Shehemyia	5.85	251	P	Pn	00 25 43.3	+1.9
	SNR=48						
SHMA				S	Sn	00 26 48.4	+0.7
MZR	Muzera	5.89	215	*i* P	Pn	00 25 41.2	-0.7
	SNR=111						
MZR	Muzera	5.89	215	P	Pn	00 25 43.0	+1.1
	SNR=112						
ANAR	Anarak	6.01	332	Pn	Pn	00 25 45.9	+2.2
TNSJ	Nastanj	6.04	356	Pn	Pn	00 25 47.2	+3.0
JLN	Jalan Bani Buh	6.11	159	P	Pn	00 25 44.6	-0.3
	SNR=159						
JLN				P	Pn	00 25 44.6	-0.3
	SNR=159						
JLN				S	Sn	00 26 52.6	-1.4
JLN				S	Sn	00 26 52.6	-1.4
SAKB	Bahrain	6.17	253	P	Pn	00 25 47.5	+1.7
SAKB				S	Sn	00 26 55.6	0.0
SAKB	Bahrain	6.17	253	Pn	Pn	00 25 46.9	+1.2
IGAR	Gharneh	6.26	317	Pn	Pn	00 25 49.1	+1.8
SHRT	Shahrakht	6.34	25	Pn	Pn	00 25 51.6	+3.5
IBRJ	Brojen	6.45	310	Pn	Pn	00 25 51.9	+2.1
IZEF	Zefreh	6.45	321	Pn	Pn	00 25 51.1	+1.2
SMRA	Abu-Samra	6.46	242	P	Pn	00 25 50.1	+0.4
	SNR=96						
SMRA				S	Sn	00 27 02.0	-0.6
	SNR=8.1						
ABEH	Behbahan	6.55	296	Pn	Pn	00 25 52.3	+1.2
ZNGN	Zangian	6.85	309	Pn	Pn	00 25 57.2	+1.8
MHTO	MHTO	6.94	173	P	Pn	00 25 57.4	+1.0
	SNR=67						
MHTO				P	Pn	00 25 57.5	+1.1
	SNR=292						
MHTO				S	Sn	00 27 14.4	-0.2
JHBN	Jahan bin	7.04	309	Pn	Pn	00 25 59.6	+1.5
IKLH	Kolahrood	7.19	320	Pn	Pn	00 26 02.0	+2.0
KRSH	Karshahi	7.39	326	Pn	Pn	00 26 06.0	+3.3
QAMS	Qamsar	7.60	321	Pn	Pn	00 26 07.8	+2.2
ISFB	Sefidab	7.65	328	Pn	Pn	00 26 08.8	+2.6
TBHD	Torbat heydari	7.69	13	Pn	Pn	00 26 10.9	+4.0
AMIS	Naft Sefid	7.75	301	Pn	Pn	00 26 07.2	-0.3
HRA	Herat	7.81	33	Pn	Pn	00 26 10.5	+2.0
TBJM	Torbat-e-JAM	7.83	20	Pn	Pn	00 26 12.1	+3.4
GHVR	GHOM	8.22	324	*e*Pn	Pn	00 26 18.2	+4.2
ILAS	Lasjerd	8.24	336	Pn	Pn	00 26 16.1	+1.7
IVRN	Varamin	8.42	328	Pn	Pn	00 26 19.5	+2.8
JRKH	Jarkhoshk	8.43	18	Pn	Pn	00 26 21.3	+4.4
SBZV	Sabzevar	8.46	3	Pn	Pn	00 26 21.1	+3.7
ISHM	Shahmirzad	8.51	339	Pn	Pn	00 26 20.7	+2.5
IFIR	Firoozkooh	8.54	335	Pn	Pn	00 26 25.5	+6.9
IQOM	Qom	8.62	325	Pn	Pn	00 26 21.3	+1.7
IPAY	Payeh	8.66	10	Pn	Pn	00 26 23.8	+3.6
IKIA	Kiasar	8.76	342	Pn	Pn	00 26 24.0	+2.4
IAKL	Akhelmad	8.77	9	Pn	Pn	00 26 26.8	+5.1
IMYA	Miami	8.78	16	Pn	Pn	00 26 25.6	+3.9
DAMV	Damavand	8.84	332	*e*Pn	Pn	00 26 26.1	+3.4
ASAO	Ashtian	8.97	319	*e*Pn	Pn	00 26 26.4	+2.1
IHSB	Hasanabad	8.99	328	Pn	Pn	00 26 27.3	+2.7
IGLO	Ghaloghah	9.00	343	Pn	Pn	00 26 29.1	+4.3
IKRD	Kardeh	9.07	12	Pn	Pn	00 26 31.4	+5.7
ISFR	Sfrayin	9.14	5	Pn	Pn	00 26 30.1	+3.3
IPRN	Peran	9.23	335	Pn	Pn	00 26 30.8	+2.9
IMND	Minoodasht	9.43	352	Pn	Pn	00 26 36.5	+6.1
CHTH	Charan	9.45	329	*e*Pn	Pn	00 26 34.7	+3.7
IEMG	Emamgholi	9.56	7	Pn	Pn	00 26 36.5	+3.9
THKV	Tehran--Karaj	9.57	328	*e*Pn	Pn	00 26 36.2	+3.7
HSAM	Samen	9.62	313	Pn	Pn	00 26 32.8	-0.5
IRAZ	Razeghan	9.65	322	Pn	Pn	00 26 36.1	+2.4
DOK	Doka	9.65	197	P	Pn	00 26 34.2	+0.7
	SNR=62						
DOK				S	Sn	00 28 18.0	-3.2
HAGD	Aghdareh	9.68	317	Pn	Pn	00 26 34.5	+0.3
MZPU	Pul - Mazandar	9.71	333	Pn	Pn	00 26 37.4	+2.9
IKFM	Kafar-mosalman	9.73	307	Pn	Pn	00 26 34.4	-0.2
MRVT	Maraveh tapeh	9.76	355	Pn	Pn	00 26 38.4	+3.4
BJRD	Bojnurd	9.76	1	*e*Pn	Pn	00 26 39.5	+4.4
SHAO	Shalim	9.94	188	*i* P	Pn	00 26 36.1	-1.4
	SNR=103						
SHAO	Shalim	9.94	188	P	Pn	00 26 36.7	-0.9
	SNR=12						
SHAO				P	Pn	00 26 36.7	-0.9
	SNR=12						
SHAO				S	Sn	00 28 26.2	-2.2
SHAO				S	Sn	00 28 26.2	-2.2
KLST	Kelardasht - M	9.99	331	Pn	Pn	00 26 41.7	+3.3
GEYT	Alibeck	10.02	5		Pn	00 26 38.9	+0.2
GEYT	Alibeck	10.02	5	P	Pn	00 26 38.9	+0.2
GEYT	Alibeck	10.02	5	Pn	Pn	00 26 43.3	+4.6
	comp=E,5.2nm,0.3s,baz=190,slow=16,SNR=48						
GEYT				Lg	Lg	00 29 33.5	
	baz=180,slow=25						
GEYT				LR	LR	00 31 07.0	
	comp=E,14μm,19.8s,baz=198,slow=41						
GYA0	ALIBECK ARRAY	10.02	5	P	Pn	00 26 46.1	+7.5
GYA0B	ALIBECK ARRAY	10.02	5		Pn	00 26 38.9	+0.3
IBZA	Bozab	10.26	312	Pn	Pn	00 26 42.1	0.0
IGZV	Ghazvin	10.26	327	Pn	Pn	00 26 45.2	+3.1
IKOM	Komasi	10.32	310	Pn	Pn	00 26 42.1	-0.8
DMTO	DMTO	10.34	192	P	Pn	00 26 42.1	-1.0
	SNR=69						
DMTO				S	Sn	00 28 35.4	-2.8
	SNR=5.8						
WHFO	Wadi Hawf	10.41	198	P	Pn	00 26 43.5	-0.6
	SNR=39						
WHFO				S	Sn	00 28 35.6	-4.3
KCHF	Cheshme Sefid,	10.70	309	Pn	Pn	00 26 48.0	-0.1
RBK	Rabkut	10.70	195	P	Pn	00 26 47.9	-0.1
	SNR=13						
RBK				P	Pn	00 26 47.9	-0.1
	SNR=13						
RBK				P	Pn	00 26 47.9	-0.1
	SNR=13						
RBK				S	Sn	00 28 46.0	-1.1
	SNR=7.8						
RBK				S	Sn	00 28 46.0	-1.1
	SNR=7.8						
RBK				S	Sn	00 28 46.0	-1.1
	SNR=7.8						
JIR1	Jirandeh	10.72	327	Pn	Pn	00 26 51.8	+3.4
GIDE	GILAN DEYLAMAN	10.84	328	*e*Pn	Pn	00 26 54.1	+4.1
QSDN	Sirdan	10.88	324	Pn	Pn	00 26 53.2	+2.7
SNGE	Sanandaj	10.97	313	*e*Pn	Pn	00 26 51.9	+0.1
IGHG	Ghaleghazi	11.06	308	Pn	Pn	00 26 51.9	-1.2
ABTO	Aybut	11.08	199	P	Pn	00 26 53.5	+0.2
	SNR=29						
ABTO				S	Sn	00 28 51.5	-5.0
ILIN	Lien	11.12	311	Pn	Pn	00 26 53.4	-0.4
ZNJK	Zanjan	11.26	323	*e*Pn	Pn	00 27 00.0	+4.2
IDHR	Dehrash	11.38	309	Pn	Pn	00 26 56.2	-1.2
KBL	Kabul	12.16	54	Pn	Pn	00 27 09.3	+1.3
KBL	Kabul	12.16	54	P	Pn	00 27 11.9	+3.8
	SNR=80						
KBL	Kabul	12.16	54	P	Pn	00 27 09.4	+1.3
GAS1	Astara - Iran	12.52	329	Pn	Pn	00 27 16.5	+3.7
ISRB	Sarab	12.66	324	Pn	Pn	00 27 15.9	+1.0
MAHB	Mahabad	13.06	315	Pn	Pn	00 27 21.9	+1.7
GRMI	Germi	13.30	327	*e*Pn	Pn	00 27 28.1	+4.5
GRMI	Germi	13.30	327	Pn	Pn	00 27 26.6	+3.0
IHRS	Heris	13.36	324	Pn	Pn	00 27 26.8	+2.4
THW	Thamme Wali	13.54	65	P	Pn	00 27 28.5	+1.7
ITBZ	Tabriz	13.78	321	Pn	Pn	00 27 33.1	+3.0
CEP	Cherat	14.01	62	⇑P	Pn	00 27 35.2	+1.9
SARP	Sargodha	14.08	70	P	Pn	00 27 34.5	+0.4
IMRD	Marand	14.37	321	Pn	P	00 27 42.3	-2.7
NIL	Nilore	15.01	64	Pn	Pn	00 27 46.9	+0.2
NIL				IAmb	IAmb	00 27 51.7	
	comp=Z,137nm,1.1s						
NIL	Nilore	15.01	64	P	Pn	00 27 46.9	+0.2
NIL				pmax	pmax		
	comp=Z,137nm,1.2s						
CHCP	Chirah Chowk	15.02	64	P	Pn	00 27 47.5	+0.6
MAKU	Maku	15.38	321	Pn	P	00 27 55.7	-0.5
SIRT	Sirnak	15.60	312	Pn	Pn	00 27 52.7	-1.8
GNI	Garni	15.91	323	P	P	00 28 02.8	+0.7
GNI	Garni	15.91	323	Pn	P	00 28 00.5	-1.7
GNI				IAmb	IAmb	00 28 04.9	
	comp=Z,15nm,0.6s						
GNI	Garni	15.91	323	P	P	00 28 02.2	+0.1
GNI	Garni	15.91	323	P	P	00 28 01.9	-0.2
GNI	Garni	15.91	323	P	P	00 28 02.8	+0.7
GNI	Garni	15.91	323	Pn	P	00 28 03.6	+1.5
	comp=Z,3.0nm,0.3s,baz=188,slow=1.5,SNR=20						
GNI				LR	LR	00 34 57.2	
	comp=Z,5μm,20.9s,baz=130,slow=40						
GURO	Guroymak-BITLI	16.45	314	P	P	00 28 09.1	+1.0
BTK	Batken	16.59	40	P	Pn	00 28 07.5	+0.3
BTK	Batken	16.59	40	P	Pn	00 28 07.5	+0.3
BTK				pmax	pmax		
	comp=Z,151nm,1.4s						
MAK	Makhachkala	16.91	335	*e*P	Pn	00 28 08.2	-2.9
MAK				*e*S	Sn	00 31 14.4

KSH	**Kashi**	**19.46**	**49**	P	**P**	**00 28 34.9**	**-6.3**
KSH				pP	Pn	00 28 43.3	+0.8
KSH				sP	pP	00 28 49.1	+0.9
KSH				PP	**PnPn**	**00 28 54.5**	**-1.4**
KSH				pmax	pmax		
	comp=Z,11nm,0.9s						
KSH				pmax	pmax		
	comp=Z,400nm,6.0s						
KSH				LR	LR		
	comp=Z,3μm,10.9s						
KSH				LR	LR		
	comp=Z,4μm,11.9s						
KSH				LR	LR		
	comp=Z,5μm,13.6s						
KBZ	**Khabaz**	**19.49**	**328**	*i* P	**Pn**	**00 28 43.4**	**+0.7**
KBZ				pmax	pmax		
	comp=Z,41nm,0.9s						
KBZ	**Khabaz**	**19.49**	**328**	P	**Pn**	**00 28 42.2**	**-0.5**
	comp=Z,4.7nm,0.8s,baz=133,slow=9.1,SNR=10						
KBZ				S	**S**	**00 32 17.8**	**-2.3**
	comp=Z,2.8nm,0.8s,baz=94,slow=17,SNR=1.0						
EIL	**Elat**	**19.49**	**280**	P	**P**	**00 28 42.0**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=45,slow=3.2,SNR=27						
EIL				S	**Sn**	**00 32 21.8**	**+0.8**
	comp=Z,14nm,0.8s,baz=99,slow=19,SNR=1.4						
EIL				LR	LR	00 37 11.3	
	comp=Z,1μm,18.2s,baz=93,slow=40						
	comp=Z,44nm,0.9s						
AML	**Almayashu**	**19.59**	**39**	P	**P**	**00 28 43.5**	**+0.5**
	SNR=90						
AML	**Almayashu**	**19.59**	**39**	*i* P	**P**	**00 28 43.0**	**+0.1**
AML				pmax	pmax		
	comp=Z,24nm,0.9s						
KVAR	**Kislovodsk Arr**	**19.76**	**328**	P	**Pn**	**00 28 45.3**	**-0.7**
	baz=84,slow=22						
KVAR				LR	LR	00 38 19.4	
	comp=Z,481nm,19.1s,baz=55,slow=43						
	comp=Z,4.4nm,0.7s						
KIV	**Kislovodsk**	**19.76**	**328**	⇓P	**Pn**	**00 28 47.9**	**+1.8**
KIV	**Kislovodsk**	**19.76**	**328**	P	**Pn**	**00 28 46.2**	**+0.2**
KIV				IAmb	IAmb	00 28 55.7	
	comp=Z,114nm,0.9s						
KIV	**Kislovodsk**	**19.76**	**328**	*i* P	**Pn**	**00 28 45.5**	**-0.5**
	SNR=25						
KIV	**Kislovodsk**	**19.76**	**328**	P	**Pn**	**00 28 46.3**	**+0.3**
KIV				P	**Pn**	**00 28 46.3**	**+0.3**
KIV	**Kislovodsk**	**19.76**	**328**	*e*P	**Pn**	**00 28 45.4**	**-0.6**
KIV				*e*S	**Sn**	**00 32 27.5**	**+0.1**
KIV				pmax	pmax		
	comp=Z,112nm,1.0s						
KIV				MLR	MLR		
	comp=Z,324nm,14.0s						
EKS2	**Erkin-Say**	**19.99**	**38**	P	**Pn**	**00 28 48.3**	**-0.4**
	SNR=167						
AAK	**Ala-Archa**	**20.37**	**39**	P	Pn	00 28 52.6	-0.7
	SNR=99						
AAK	**Ala-Archa**	**20.37**	**39**	P	Pn	00 28 52.2	-1.0
AAK				IAmb	IAmb	00 29 06.0	
	comp=Z,79nm,0.8s						
AAK	**Ala-Archa**	**20.37**	**39**	P	Pn	00 28 52.5	-0.8
AAK				P	Pn	00 28 52.5	-0.8
AAK	**Ala-Archa**	**20.37**	**39**	*ce*P	Pn	00 28 52.4	-0.9
AAK				pmax	pmax		
	comp=Z,82nm,0.8s						
AAK	**Ala-Archa**	**20.37**	**39**	P	**P**	**00 28 51.3**	**+0.2**
	comp=Z,78nm,0.9s,baz=219,slow=8.3,SNR=78						
AAK				S	**S**	**00 32 33.9**	**-4.4**
	comp=Z,2.6nm,0.8s,baz=237,slow=19,SNR=0.9						
AAK				LR	LR	00 37 44.3	
	comp=Z,5μm,18.4s,baz=244,slow=40						
	comp=Z,78nm,0.9s						
GOF	**Gofitskoye**	**20.45**	**330**	*ce*P	Pn	00 28 53.2	-0.9
NRN	**Naryn**	**20.52**	**44**	P	**P**	**00 28 53.5**	**+0.6**
NRN	**Naryn**	**20.52**	**44**	P	**P**	**00 28 53.5**	**+0.6**
NRN				pmax	pmax		
	comp=Z,253nm,0.8s						
FRU1	**Bishkek**	**20.56**	**39**	P	Pn	00 28 54.4	-1.0
FRU1				IAmb	IAmb	00 29 05.3	
	comp=Z,78nm,0.8s						
FRU1	**Bishkek**	**20.56**	**39**	P	Pn	00 28 54.4	-1.0
FRU1				pmax	pmax		
	comp=Z,78nm,0.8s						
KBK	**Karagaybulak**	**20.64**	**40**	P	Pn	00 28 56.0	-0.4
	SNR=26						
CHMS	**Chumysh**	**20.75**	**39**	P	Pn	00 28 59.3	+1.8
	SNR=17						
BNN	**Bunyan**	**20.79**	**307**	P	Pn	00 28 57.0	-1.2
USP	**Ospenovka**	**20.79**	**38**	P	**P**	**00 28 55.7**	**+0.1**
	SNR=19						
SGDS	**Sogindy**	**20.98**	**38**	*e*P	**P**	**00 28 57.8**	**+0.2**
	baz=38						
SGDS	**Sogindy**	**20.98**	**38**	*e*P	**P**	**00 28 57.8**	**+0.2**
SOC	**Sochi**	**21.00**	**323**	*e*P	**P**	**00 28 56.1**	**-1.6**
SOC				*e*S	**S**	**00 32 49.9**	**-0.4**
SOC				*e*SS	**SnSn**	**00 33 11.4**	**-0.5**
SOC				*e*SSS	SSS	00 33 37.1	
SOC				pmax	pmax		
	comp=Z,68nm,0.9s						
SOC				MLR	MLR		
	comp=Z,3μm,15.0s						
ATD	**Arta Tunnel**	**21.08**	**222**		**P**	**00 28 59.5**	**+0.6**
ATD	**Arta Tunnel**	**21.08**	**222**	*e*P	**P**	**00 28 58.8**	**-0.1**
ATD				*e*P	**S**	**00 32 55.8**	**+3.4**
ATD	**Arta Tunnel**	**21.08**	**222**	P	**P**	**00 28 58.3**	**-0.6**
	SNR=12						
ATD	**Arta Tunnel**	**21.08**	**222**	P	**P**	**00 28 59.0**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=26,slow=7.3,SNR=14						
ATD				S	**S**	**00 32 51.5**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=53,slow=23,SNR=1.2						
ATD				LR	LR	00 38 34.3	
	comp=Z,106nm,18.2s,baz=44,slow=41						
ATD	**Arta Tunnel**	**21.08**	**222**	*e*P	**P**	**00 28 58.8**	**-0.1**
	baz=217						
ATD				*e*P	**S**	**00 32 55.8**	**+3.4**
	baz=217						
BOOM	**Boomskoye usch**	**21.11**	**42**	P	**P**	**00 29 00.5**	**+1.4**
BOOM	**Boomskoye usch**	**21.11**	**42**	P	**P**	**00 29 00.5**	**+1.4**
BOOM				pmax	pmax		
	comp=Z,259nm,1.0s						
ULHL	**Ulahol**	**21.14**	**42**	P	**P**	**00 29 01.1**	**+1.6**
	SNR=29						
TKM2	**Tokmak 2**	**21.18**	**40**	P	**P**	**00 29 00.6**	**+0.7**
	SNR=24						
TKM2	**Tokmak 2**	**21.18**	**40**	*i* P	**P**	**00 29 00.0**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,70nm,0.8s						
AB31	**Akbulak array**	**21.42**	**5**	*e*P	**P**	**00 29 02.8**	**+0.6**
ABKAR	**Akbulak array**	**21.42**	**5**	P	**P**	**00 29 03.1**	**+0.9**
ABKAR	**Akbulak array**	**21.42**	**5**	P	**P**	**00 29 03.1**	**+0.9**
CSS	**Mathiatis**	**21.44**	**295**	P	**P**	**00 29 03.2**	**+0.6**
CSS				IAmb	IAmb	00 29 13.1	
	comp=Z,92nm,0.8s						
BTLS	**Baital**	**21.78**	**34**	*e*P	**P**	**00 29 06.5**	**+0.4**
	baz=34						
BTLS				*e*S	**S**	**00 33 07.9**	**+2.0**
	baz=34						
BTLS	**Baital**	**21.78**	**34**	*e*P	**P**	**00 29 06.5**	**+0.4**
BTLS				*e*S	**S**	**00 33 07.8**	**+2.0**
TARG	**Taragay, Kyrgy**	**21.81**	**45**	P	**P**	**00 29 08.1**	**+1.2**
TARG				IAmb	IAmb	00 29 19.7	
	comp=Z,192nm,1.0s						
TARG	**Taragay, Kyrgy**	**21.81**	**45**	P	**P**	**00 29 08.1**	**+1.2**
TARG				pmax	pmax		
	comp=Z,192nm,1.0s						
TEND	**Ethiopian Broa**	**22.02**	**226**	*e*P	**P**	**00 29 10.2**	**+1.3**
	baz=221						
TEND				*e*S	Sn	00 33 20.2	-1.6
	baz=221						
TNSS	**Tian-Shan**	**22.03**	**42**	*e*P	**P**	**00 29 10.3**	**+1.1**
	baz=42						
TNSS	**Tian-Shan**	**22.03**	**42**	*e*P	**P**	**00 29 10.3**	**+1.1**
AAA	**Alma-Ata**	**22.11**	**41**	*e*P	**P**	**00 29 10.9**	**+1.1**
	baz=41						
AAA	**Alma-Ata**	**22.11**	**41**	*e*P	**P**	**00 29 10.9**	**+1.1**
KNDC	**Almaty**	**22.15**	**41**	P	**P**	**00 29 12.0**	**+1.8**
MDOK	**Medeo**	**22.16**	**41**	*e*P	**P**	**00 29 10.8**	**+0.4**
	baz=42						
MDOK				*e*S	**S**	**00 33 15.0**	**+1.6**
	baz=42						
MDOK				LR	LR	00 38 10.0	
	comp=Z,1μm,10.6s,baz=42						
MDOK	**Medeo**	**22.16**	**41**	*e*P	**P**	**00 29 10.8**	**+0.4**
MDOK				*e*S	**S**	**00 33 15.0**	**+1.6**
MDOK				MLR	MLR		
	comp=Z,1μm,11.0s						
KUU	**Kurty**	**22.21**	**39**	*e*P	**P**	**00 29 11.9**	**+1.1**
	comp=Z,73nm,1.0s,baz=39						
KUU				*e*S	**S**	**00 33 16.1**	**+2.1**
	baz=39						
KUU				LR	LR	00 39 15.7	
	comp=Z,644nm,10.6s,baz=39						
KUU	**Kurty**	**22.21**	**39**	*e*P	**P**	**00 29 11.8**	**+1.1**
KUU				*e*S	**S**	**00 33 16.1**	**+2.1**
KUU				pmax	pmax		
	comp=Z,73nm,1.0s						
KUU				MLR	MLR		
	comp=Z,644nm,11.0s						
HYB	**Hyderabad**	**22.35**	**113**	*e*P	**P**	**00 29 13.1**	**+0.6**
HYB				*e*pP	**pP**	**00 29 16.9**	**-2.6**
HYB				IVmB_BB		00 29 17.4	
	comp=Z,406nm,0.8s						
HYB				*e*S	**S**	**00 33 19.7**	**+2.7**
HYB				IVMs_BB	IVMs_BB	00 40 25.0	
	comp=Z,750nm,14.6s						
AKTO	**Aktyubinsk**	**22.50**	**2**	P	**P**	**00 29 13.7**	**-0.1**
AKTO	**Aktyubinsk**	**22.50**	**2**	LR	LR	00 39 37.0	
	comp=Z,7μm,19.1s,baz=169,slow=41						
CHKK	**Chushkaly**	**22.55**	**40**	*e*P	**P**	**00 29 15.1**	**+0.6**
	baz=40						
CHKK	**Chushkaly**	**22.55**	**40**	*e*P	**P**	**00 29 15.0**	**+0.6**
PRZ	**Przheval'sk**	**22.59**	**44**	P	**P**	**00 29 16.1**	**+1.1**
PRZ				IAmb	IAmb	00 29 20.1	
	comp=Z,138nm,1.2s						
PRZ	**Przheval'sk**	**22.59**	**44**	P	**P**	**00 29 16.1**	**+1.1**
PRZ				pmax	pmax		
	comp=Z,138nm,1.2s						
BR131	**Keskin Array S**	**22.71**	**307**	P	**P**	**00 29 16.5**	**+0.2**
	SNR=46						
BR131				P	**P**	**00 29 16.5**	**+0.2**
	SNR=46						
BR131	**Keskin Array S**	**22.71**	**307**	*i* P	**P**	**00 29 16.3**	**0.0**
BRTR	**Keskin Array B**	**22.71**	**307**	P	**P**	**00 29 16.3**	**0.0**
	comp=Z,15nm,0.7s,baz=119,slow=11,SNR=48						
BRTR				ScP	**ScP**	**00 36 44.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=135,slow=5.1,SNR=3.1						
BRTR				LR	LR	00 39 45.3	
	comp=Z,9μm,18.8s,baz=122,slow=41						
	comp=Z,15nm,0.7s						
SATY	**Saty**	**22.91**	**43**	*e*P	**P**	**00 29 18.4**	**0.0**
	comp=Z,53nm,1.1s,baz=43						
SATY				*e*S	**S**	**00 33 28.7**	**+1.8**
	baz=43						
SATY	**Saty**	**22.91**	**43**	*e*P	**P**	**00 29 18.3**	**0.0**
SATY				*e*S	**S**	**00 33 28.6**	**+1.8**
SATY				pmax	pmax		
	comp=Z,53nm,1.1s						
ZHN	**Zhinishke**	**22.99**	**43**	*e*P	**P**	**00 29 19.3**	**+0.1**
	baz=43						
ZHN	**Zhinishke**	**22.99**	**43**	*e*P	**P**	**00 29 19.2**	**+0.1**
ANN	**Anapa**	**23.03**	**322**	*e*P	**P**	**00 29 18.1**	**-1.3**
ANN				*e**PP	**pP**	**00 29 24.3**	**-2.4**
ANN				*e*S	**S**	**00 33 28.9**	**+0.3**
ANN				pmax	pmax		
	comp=Z,31nm,0.8s						
ANN				MLR	MLR		
	comp=Z,2μm,18.0s						
ANN				MLR	MLR		
	comp=E,1μm,20.0s						
ANN				MLR	MLR		
	comp=N,3μm,15.0s						
ARXS	**Arharly**	**23.25**	**40**	*e*P	**P**	**00 29 22.2**	**+0.5**
KPKS	**Kokpek**	**23.31**	**43**	*e*P	**P**	**00 29 23.0**	**+0.6**
	comp=N,41nm,1.0s,baz=43						
KPKS	**Kokpek**	**23.31**	**43**	*e*P	**P**	**00 29 22.9**	**+0.6**
KPKS				pmax	pmax		
	comp=Z,41nm,1.0s						
UZB	**Uzynbulak**	**23.34**	**44**	*e*P	**P**	**00 29 22.8**	**+0.1**
	comp=Z,66nm,0.8s,baz=44						
UZB	**Uzynbulak**	**23.34**	**44**	*e*P	**P**	**00 29 22.7**	**+0.1**
UZB				pmax	pmax		
	comp=Z,66nm,0.8s						
ANTO	**Ankara**	**23.36**	**307**	⇑P	**P**	**00 29 23.7**	**+0.9**
ANTO	**Ankara**	**23.36**	**307**	P	**P**	**00 29 23.4**	**+0.5**
ANTO				IAmb	IAmb	00 29 45.7	
	comp=Z,90nm,0.9s						
ANTO	**Ankara**	**23.36**	**307**	P	**P**	**00 29 23.7**	**+0.9**
BR231	**Keskin MP Arra**	**23.36**	**307**	P	**P**	**00 29 23.4**	**+0.4**
BR231				IAmb	IAmb	00 29 37.4	
	comp=Z,67nm,0.8s						
OTUK	**Ortayu**	**23.49**	**26**	P	**P**	**00 29 24.7**	**+0.7**
SHLS	**Shalkode**	**23.61**	**44**	*e*P	**P**	**00 29 28.4**	**+3.1**
	comp=Z,51nm,0.9s,baz=44						
SHLS	**Shalkode**	**23.61**	**44**	*e*P	**P**	**00 29 28.4**	**+3.1**
SHLS				pmax	pmax		
	comp=Z,51nm,0.9s						
PDGK	**Podgornoye**	**23.72**	**44**	P	**P**	**00 29 25.9**	**-0.5**
TDK	**Taldyqorghan**	**24.06**	**39**	*e*P	**P**	**00 29 29.4**	**0.0**
	comp=Z,50nm,0.7s,baz=39						
TDK				LR	LR	00 40 25.5	
	comp=Z,1μm,12.1s,baz=39						
TDK	**Taldyqorghan**	**24.06**	**39**	*e*P	**P**	**00 29 29.4**	**0.0**
TDK				pmax	pmax		
	comp=Z,50nm,0.7s						
TDK				MLR	MLR		
	comp=Z,1μm,12.0s						
ELL	**Elmali**	**24.55**	**298**	P	**P**	**00 29 34.6**	**+0.5**
ELL	**Elmali**	**24.55**	**298**	P	**P**	**00 29 34.6**	**+0.5**
ELL				pmax	pmax		
	comp=Z,329nm,1.0s						
MDUB	**Mudurnu**	**24.72**	**307**	P	**P**	**00 29 36.2**	**+0.5**
BRZS	**Berezniki**	**25.05**	**24**	*e*P	**P**	**00 29 39.0**	**+0.7**
	comp=Z,62nm,1.5s,baz=24						
BRZS	**Berezniki**	**25.05**	**24**	*e*P	**P**	**00 29 39.0**	**+0.7**
BRZS				pmax	pmax		
	comp=Z,63nm,1.5s						
BELG	**Belogornoye**	**25.46**	**346**	*i* P	**P**	**00 29 41.0**	**-1.0**
BELG				pmax	pmax		
	comp=Z,19nm,0.9s						
BELG	**Belogornoye**	**25.46**	**346**	LR	LR	00 42 02.7	
	comp=Z,1μm,20.8s,baz=140,slow=42						
FURI	**Furi**	**25.69**	**226**	P	**P**	**00 29 47.5**	**+2.6**
FURI				IAmb	IAmb	00 29 56.9	
	comp=Z,39nm,0.8s						
FURI	**Furi**	**25.69**	**226**	*e*P	P	00 29 53.4	+8.5
FURI	**Furi**	**25.69**	**226**	*e*P	P	00 29 53.4	+8.5
	baz=221						
ARG	**Arkhangelos**	**25.84**	**296**	P	**P**	**00 29 48.3**	**+2.6**
ARG	**Arkhangelos**	**25.84**	**296**	P	**P**	**00 29 46.8**	**+1.1**
ARG				IAmb	IAmb	00 30 08.7	
	comp=Z,82nm,1.0s						
ARG	**Arkhangelos**	**25.84**	**296**	P	**P**	**00 29 46.8**	**+1.1**
ARG				pmax	pmax		
	comp=Z,82nm,1.0s						
HMDM	**Hanimaadhoo**	**25.97**	**141**	P	**P**	**00 29 46.8**	**-0.1**
HMDM				IAmb	IAmb	00 29 54.8	
	comp=Z,89nm,1.0s						
VRH	**Novokhopyorsk**	**26.00**	**338**	*e*P	**P**	**00 29 46.3**	**-0.7**
VRH				*e*S	**S**	**00 34 13.3**	**-2.8**
VRH				pmax	pmax		
	comp=Z,110nm,0.7s						
VRH				smax	smax		
	comp=N,500nm,9.0s						
VRH				MLR	MLR		
	comp=Z,2μm,14.0s						
KARP	**Karpathos**	**26.51**	**294**	P	**P**	**00 29 52.2**	**+0.4**
KARP	**Karpathos**	**26.51**	**294**	P	**P**	**00 29 52.0**	**+0.2**
GRD1	**Great Renaissa**	**26.58**	**235**	*e*P	**P**	**00 29 48.6**	**-4.0**
	baz=231						
GRD1				*e*S	**S**	**00 34 27.6**	**+1.6**
	baz=231						
VSR	**Storozhevoye**	**26.93**	**335**	*e*P	**P**	**00 29 54.0**	**-1.3**
VSR				*e*S	**S**	**00 34 28.6**	**-2.1**
VSR				pmax	pmax		
	comp=Z,40nm,0.8s						
VSR				smax	smax		
	comp=N,230nm,4.8s						
VSR				MLR	MLR		
	comp=Z,790nm,13.0s						
BVA0	**Borovoye Array**	**26.95**	**18**	*i* P	**P**	**00 29 54.6**	**-1.0**
BVAR	**Borovoye Array**	**26.95**	**18**	P	**P**	**00 29 55.5**	**-0.1**
	comp=Z,36nm,0.8s,baz=199,slow=8.2,SNR=79						
BVAR				PcP	**PcP**	**00 33 15.4**	**-1.5**
	comp=Z,3.5nm,0.8s,baz=186,slow=12,SNR=2.5						
BVAR				ScP	**ScP**	**00 36 57.3**	**+1.7**
	comp=Z,2.4nm,0.9s,baz=259,slow=1.5,SNR=4.3						
BVAR				LR	LR	00 41 11.0	
	comp=Z,3μm,19.6s,baz=206,slow=38						
	comp=Z,36nm,0.8s						
BRVK	**Borovoye**	**26.95**	**18**	P	**P**	**00 29 55.9**	**+0.3**
BRVK				IAmb	IAmb	00 30 08.8	
	comp=Z,108nm,1.6s						
BRVK	**Borovoye**	**26.95**	**18**	P	**P**	**00 29 56.1**	**+0.6**
BRVK	**Borovoye**	**26.95**	**18**	P	**P**	**00 29 55.9**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,108nm,1.6s						
MAKZ	**Makanchi**	**27.14**	**39**	P	**P**	**00 29 57.5**	**+0.2**
MAKZ				IAmb	IAmb	00 30 26.5	
	comp=Z,41nm,1.0s						
MAKZ	**Makanchi**	**27.14**	**39**	P	**P**	**00 29 57.5**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,41nm,1.0s						
SMG	**Samos**	**27.15**	**299**	P	**P**	**00 29 57.8**	**+0.3**
VORR	**Voronezh**	**27.28**	**335**	*e*P	**P**	**00 29 57.3**	**-1.2**
VORR				*e*S	**S**	**00 34 30.5**	**-5.7**
VORR				pmax	pmax		
	comp=Z,120nm,1.0s						
VORR				smax	smax		
	comp=E,100nm,5.3s						
MK31	**Makanchi Array**	**27.30**	**40**	P	**P**	**00 29 59.1**	**+0.3**
MK31	**Makanchi Array**	**27.30**	**40**	P	**P**	**00 29 59.1**	**+0.3**
MK31				pmax	pmax		
	comp=Z,19nm,0.7s						
MKAR	**Makanchi Array**	**27.30**	**40**	P	**P**	**00 29 59.1**	**+0.2**
	comp=Z,9.2nm,0.6s,baz=222,slow=8.3,SNR=65						
MKAR				PcP	**PcP**	**00 33 16.2**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=214,slow=6.9,SNR=2.0						
MKAR				ScP	**ScP**	**00 36 59.0**	**+2.2**
	comp=Z,0.8nm,1.0s,baz=251,slow=4.4,SNR=1.5						
MKAR				LR	LR	00 42 16.9	
	comp=Z,3μm,18.7s,baz=252,slow=40						
	comp=Z,9.2nm,0.6s						
DILA	**Dilla**	**27.84**	**223**	*e*P	**P**	**00 29 57.0**	**-7.0**
DILA				*e*S	S	00 35 01.1	+15
DILA	**Dilla**	**27.84**	**223**	*e*P	**P**	**00 29 57.0**	**-7.0**
	baz=219						
DILA				*e*S	S	00 35 01.1	+15
	baz=219						
CHOS	**Chios island**	**27.90**	**300**	P	**P**	**00 30 05.2**	**+0.9**
KURBB	**Kurchatov Arra**	**27.90**	**30**	P	**P**	**00 30 04.5**	**+0.4**
	comp=Z,14nm,0.7s,baz=228,slow=8.6,SNR=43						
KURBB				ScP	**ScP**	**00 36 59.5**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=222,slow=1.2,SNR=2.2						
KURBB				LR	LR	00 42 55.0	
	comp=Z,5μm,19.2s,baz=237,slow=40						
	comp=Z,14nm,0.7s						
SANT	**Santorini**	**27.99**	**296**	⇑P	**P**	**00 30 04.6**	**-0.5**
SANT	**Santorini**	**27.99**	**296**	P	**P**	**00 30 04.9**	**-0.3**
KURK	**Kurchatov**	**28.01**	**30**	P	**P**	**00 30 05.6**	**+0.5**
KURK	**Kurchatov**	**28.01**	**30**	P	**P**	**00 30 05.6**	**+0.5**
KURK	**Kurchatov**	**28.01**	**30**	P	**P**	**00 30 04.5**	**-0.5**
APE	**Apeiranthos**	**28.05**	**297**	⇓P	**P**	**00 30 05.9**	**+0.3**
APE	**Apeiranthos**	**28.05**	**297**	P	**P**	**00 30 05.9**	**+0.3**
LPSR	**Galich'ya Gora**	**28.13**	**336**	*e*P	**P**	**00 30 04.7**	**-1.4**
LPSR				*e*S	**S**	**00 34 44.8**	**-4.9**
LPSR				pmax	pmax		
	comp=Z,30nm,0.9s						
LPSR				smax	smax		
	comp=E,510nm,14.2s						
LPSR				MLR	MLR		
	comp=Z,810nm,14.0s						
TIRR	**Tirgusor**	**28.24**	**313**	P	**P**	**00 30 06.6**	**-0.6**
TIRR				IAmb	IAmb	00 30 54.1	
	comp=Z,82nm,1.2s						
TIRR	**Tirgusor**	**28.24**	**313**	P	**P**	**00 30 06.6**	**-0.6**
TIRR				pmax	pmax		
	comp=Z,82nm,1.2s						
IDI	**Anoyia**	**28.32**	**293**	⇓P	**P**	**00 30 08.2**	**+0.1**
IDI	**Anoyia**	**28.32**	**293**	P	**P**	**00 30 08.4**	**+0.3**
IDI	**Anoyia**	**28.32**	**293**	P	**P**	**00 30 07.7**	**-0.4**
IDI				IAmb	IAmb	00 30 11.6	
	comp=Z,36nm,0.8s						
IDI	**Anoyia**	**28.32**	**293**	LR	LR	00 46 40.2	
	comp=Z,911nm,18.3s,baz=96,slow=48						
TPGR	**Topolog**	**28.41**	**314**	⇓P	**P**	**00 30 09.5**	**+0.8**
ARU	**Arti**	**28.52**	**2**	P	**P**	**00 30 08.9**	**-0.6**
ARU				IAmb	IAmb	00 30 48.8	
	comp=Z,49nm,1.4s						
ARU	**Arti**	**28.52**	**2**	*c i*P	**P**	**00 30 10.5**	**+1.0**
ARU						00 30 59.4	
ARU				PPP	PPP	00 31 11.8	
ARU						00 33 17.0	
ARU				S	**S**	**00 34 59.0**	**+3.3**
ARU				SS	**SnSn**	**00 36 16.3**	**+0.8**
ARU				pmax	pmax		
	comp=Z,18nm,1.3s						
ARU				MLR	MLR		
	comp=Z,2μm,15.0s						
ARU	**Arti**	**28.52**	**2**	LR	LR	00 42 54.4	
	comp=Z,2μm,20.6s,baz=184,slow=39						
SEM	**Semipalatinsk**	**28.53**	**32**	*e*P	**P**	**00 30 10.6**	**+0.6**
	baz=32						
SEM				LR	LR	00 42 10.9	
	comp=Z,629nm,13.7s,baz=32						
SEM	**Semipalatinsk**	**28.53**	**32**	*e*P	**P**	**00 30 10.5**	**+0.6**
SEM				MLR	MLR		
	comp=Z,629nm,14.0s						
ALN	**Alexandroupoli**	**28.55**	**305**	P	**P**	**00 30 08.9**	**-1.1**
ALN				IAmb	IAmb	00 30 46.5	
	comp=Z,79nm,1.5s						
ALN	**Alexandroupoli**	**28.55**	**305**	P	**P**	**00 30 08.9**	**-1.1**
ALN				pmax	pmax		
	comp=Z,79nm,1.5s						
CFR	**Carcaliu**	**28.74**	**315**	⇑P	**P**	**00 30 13.1**	**+1.5**
CFR	**Carcaliu**	**28.74**	**315**	P	**P**	**00 30 13.0**	**+1.5**
RDO	**Rodhopi**	**28.99**	**305**	P	**P**	**00 30 14.9**	**+1.0**
LOZB	**Loznitsa**	**29.00**	**310**	⇑P	**P**	**00 30 14.6**	**+0.7**
SVE	**Sverdlovsk**	**29.00**	**4**	⇑*e*P	**P**	**00 30 14.4**	**+0.6**
SVE				pmax	pmax		
	comp=Z,25nm,1.2s						
SVE				MLR	MLR		
	comp=Z,3μm,15.0s						
SCTR	**Scanteiesti**	**29.05**	**315**	⇓P	**P**	**00 30 16.3**	**+1.9**
VLDR	**Vladesti**	**29.08**	**316**	⇑P	**P**	**00 30 15.6**	**+1.0**
RAZG	**Razgrad**	**29.13**	**311**	⇑P	**P**	**00 30 15.5**	**+0.3**
ZSN	**Zaisan**	**29.13**	**40**	*e*P	**P**	**00 30 15.4**	**+0.3**
	baz=40						
ZSN	**Zaisan**	**29.13**	**40**	*e*P	**P**	**00 30 15.4**	**+0.3**
KIS	**Kishinev**	**29.20**	**318**	⇓*i*P	**P**	**00 30 17.0**	**+1.3**
	comp=Z,60nm,0.9s						
KIS				LRM	MLR	00 40 27.0	
	comp=Z,300nm,15.3s						
KIS				*e*L	L	00 42 38.0	
KIS	**Kishinev**	**29.20**	**318**	*d i*P	**P**	**00 30 17.0**	**+1.3**
KIS				pmax	pmax		
	comp=Z,60nm,0.9s						
KIS				MLR	MLR

TESR Tescani 30.27 316 ⇑P **P 00 30 26.8 +1.6**
ATAL Atalanti 30.29 300 P **P 00 30 25.2 -0.2**
PALK Pallekele 30.34 128 LR LR 00 42 37.8
comp=Z,998nm,19.9s,baz=48,slow=36
SRS Serrai 30.39 304 P **P 00 30 26.4 0.0**
HUMR Humele 30.51 311 ⇑P **P 00 30 28.5 +1.2**
AXAR Agios Charalam 30.58 300 P **P 00 30 27.8 -0.2**
GUR Goura 30.69 298 P **P 00 30 28.6 -0.5**
VOIR 30.82 313 ⇑P **P 00 30 31.1 +0.9**
VOIR 30.82 313 P **P 00 30 31.0 +0.9**
DOPR Dopca 30.82 314 ⇑P **P 00 30 32.0 +2.0**
AGG Agios Georgios 30.88 300 P **P 00 30 28.2 -2.5**
AGG Agios Georgios 30.88 300 P **P 00 30 28.2 -2.5**
AGG pmax pmax
comp=Z,9.0nm,0.7s
OBN Obninsk 30.99 337 P **P 00 30 32.2 +0.9**
OBN IAmb IAmb 00 30 34.5
comp=Z,33nm,0.8s
OBN Obninsk 30.99 337 *i* P **P 00 30 31.3 0.0**
OBN *i* 00 31 39.7
OBN *i* S **S 00 35 32.8 -1.6**
OBN *i* SS **SS 00 37 33.6 -14**
OBN pmax pmax
comp=Z,46nm,0.9s
OBN MLR MLR
comp=Z,1μm,18.0s
OBN Obninsk 30.99 337 LR LR 00 45 10.1
comp=Z,2μm,18.4s,baz=182,slow=41
AKASG Malin Array Be 31.04 325 P **P 00 30 32.7 +0.8**
AKASG Malin Array Be 31.04 325 P **P 00 30 31.0 -0.8**
comp=Z,5.2nm,0.4s,baz=130,slow=8.0,SNR=35
AKASG PcP **PcP 00 33 25.7 -1.5**
comp=Z,4.4nm,0.8s,baz=102,slow=2.1,SNR=6.8
AKASG ScP **ScP 00 37 10.3 +1.8**
comp=Z,0.3nm,0.3s,baz=100,slow=1.6,SNR=1.4
AKASG LR LR 00 44 03.7
comp=Z,638nm,21.5s,baz=126,slow=38
comp=Z,5.2nm,0.4s
AKBB Malin Array Si 31.04 325 P **P 00 30 31.2 -0.6**
AKBB IAmb IAmb 00 30 46.0
comp=Z,29nm,0.6s
AKBB Malin Array Si 31.04 325 P **P 00 30 31.3 -0.6**
AKBB pmax pmax
comp=Z,29nm,0.6s
ARR Arges 31.06 313 ⇑P **P 00 30 32.8 +0.5**
VTS Vitosha 31.07 307 ⇑P **P 00 30 33.4 +0.9**
VTS Vitosha 31.07 307 P **P 00 30 33.3 +0.9**
PEHC Pehcevo 31.07 305 *i* P **P 00 30 33.0 +0.5**
SHL Shillong 31.09 86 P **P 00 30 32.2 -0.7**
SHL IAmb IAmb 00 30 34.5
comp=Z,23nm,0.8s
SHL Shillong 31.09 86 P **P 00 30 32.2 -0.7**
SHL pmax pmax
comp=Z,23nm,0.8s
KIRV Kirov 31.12 352 *ce*P **P 00 30 32.8 +0.3**
KIRV Kirov 31.12 352 LR LR 00 45 46.7
comp=Z,7μm,18.6s,baz=175,slow=42
MOS Moscow 31.14 339 *e*P **P 00 30 32.1 -0.6**
MOS *e* 00 31 39.4
MOS *e*S **S 00 35 35.8 -1.0**
MOS pmax pmax
comp=Z,30nm,0.9s
MOS MLR MLR
comp=Z,1μm,16.0s
MOS MLR MLR
comp=N,1μm,15.0s
VAY Valandovo 31.19 304 *i* P **P 00 30 36.2 +2.8**
PVO Paravola 31.43 299 P **P 00 30 34.4 -1.1**
BURAR Bucovina Array 31.65 317 ⇑P **P 00 30 38.1 +0.7**
BURAR Bucovina Array 31.65 317 P **P 00 30 37.3 -0.1**
BURAR Bucovina Array 31.65 317 P **P 00 30 38.1 +0.7**
LOT Lotru 31.65 313 ⇑P **P 00 30 39.3 +1.7**
BUR08 Bucovina Ar. S 31.67 317 P **P 00 30 36.6 -1.1**
BUR08 IAmb IAmb 00 30 41.3
comp=Z,34nm,1.2s
DGZ Jazzator, Alta 31.77 39 *i* P **P 00 30 39.2 +0.6**
DGZ pmax pmax
comp=Z,29nm,1.0s
ARCR ARCALIA 31.94 316 ⇑P **P 00 30 40.9 +1.0**
FNA Florina 31.95 303 P **P 00 30 39.8 -0.4**
FNA Florina 31.95 303 P **P 00 30 39.7 -0.4**
FNA Florina 31.95 303 P **P 00 30 39.7 -0.4**
FNA pmax pmax
comp=Z,13nm,0.7s
LODK Lodwar 31.99 224 P **P 00 30 41.0 +0.3**
LODK Lodwar 31.99 224 *e*P **P 00 30 41.2 +0.5**
LODK *e*S S 00 36 03.6 +13
LODK Lodwar 31.99 224 P **P 00 30 39.8 -0.9**
SNR=8.9
LODK Lodwar 31.99 224 *e*P **P 00 30 41.2 +0.5**
baz=221
LODK *e*S S 00 36 03.6 +13
baz=221
NYDR Nydri-Lefkada 32.08 299 P **P 00 30 40.0 -1.2**
VLS Valsamata 32.09 298 P **P 00 30 40.3 -1.1**
LKD2 Lefkada island 32.13 299 P **P 00 30 40.4 -1.3**
SKO Skopje 32.17 305 *i* P **P 00 30 43.5 +1.5**
DJES Djerdap 32.20 311 ⇓P **P 00 30 42.7 +0.4**
DJES Djerdap 32.20 311 P **P 00 30 42.5 +0.2**
CJR Cluj-Napoca 32.26 315 ⇓P **P 00 30 44.2 +1.4**
CJR Cluj-Napoca 32.26 315 P **P 00 30 44.1 +1.4**
GZR Gura Zlata 32.28 312 ⇑P **P 00 30 44.2 +1.1**
GZR Gura Zlata 32.28 312 P **P 00 30 44.1 +1.1**
KBN Korca 32.35 303 P **P 00 30 42.8 -0.9**
KBN Korca 32.35 303 P **P 00 30 42.8 -0.9**
KBN pmax pmax
comp=Z,111nm,0.8s
MSEY Mahe Island 32.44 183 P **P 00 30 44.4 -0.1**
MSEY IAmb IAmb 00 30 56.3
comp=Z,33nm,1.1s
MSEY Mahe Island 32.44 183 P **P 00 30 44.4 -0.1**
MSEY pmax pmax
comp=Z,33nm,1.1s
BOVS Bovan 32.44 308 ⇓P **P 00 30 45.0 +0.7**
OHR Ohrid 32.44 303 *i* P **P 00 30 45.0 +0.6**
IGT Igoumenitsa 32.49 300 P **P 00 30 43.6 -1.3**
MARR Marisel-Cluj 32.55 314 ⇓P **P 00 30 45.9 +0.6**
BMR Baia Mare 32.72 316 ⇑P **P 00 30 47.8 +1.1**
BMR Baia Mare 32.72 316 P **P 00 30 47.8 +1.1**
MDVR Moldovita 32.79 310 ⇑P **P 00 30 47.9 +0.5**
MESR Meseseni 32.84 315 ⇓P **P 00 30 49.9 +2.2**
SURR Surduc 32.84 312 ⇑P **P 00 30 49.1 +1.3**
GOMU GeErMu 32.85 66 P **P 00 30 49.8 +1.4**
GOMU pP pP 00 30 55.3 -0.7
GOMU S S 00 35 53.9 -11
GOMU pmax pmax
comp=Z,19nm,1.4s
GOMU LR LR
comp=Z,680nm,13.6s
GOMU LR LR
comp=Z,660nm,12.8s
GOMU LR LR
comp=Z,1μm,13.6s
KEK Kerkira 32.93 301 P **P 00 30 47.7 -1.0**
KEK IAmb IAmb 00 30 59.9
comp=Z,27nm,0.8s
ZAA0 Zalesovo Array 33.00 30 P **P 00 30 48.4 -0.7**
ZAA0 IAmb IAmb 00 31 04.3
comp=Z,43nm,0.8s
ZALV Zalesovo Beam 33.00 30 P **P 00 30 48.8 -0.2**
ZALV Zalesovo Beam 33.00 30 P **P 00 30 48.6 -0.4**
comp=Z,19nm,0.5s,baz=246,slow=9.5,SNR=86
ZALV PcP **PcP 00 33 30.6 -1.9**
comp=Z,2.0nm,0.6s,baz=235,slow=4.4,SNR=1.4
ZALV ScP **ScP 00 37 17.9 +2.8**
comp=Z,0.3nm,0.3s,baz=228,slow=5.6,SNR=1.1
ZALV LR LR 00 46 06.1
comp=Z,3μm,18.0s,baz=226,slow=40
comp=Z,19nm,0.5s
TIR Tirane 33.18 304 ⇑P **P 00 30 50.6 -0.2**
TIR Tirane 33.18 304 P **P 00 30 48.3 -2.5**
TIR IAmb IAmb 00 31 05.5
comp=Z,56nm,1.0s
TIR Tirane 33.18 304 P **P 00 30 50.6 -0.2**
SIRR Siria 33.33 313 ⇑P **P 00 30 52.5 +0.4**
LVV L'vov 33.37 320 *e*P **P 00 30 53.6 +1.2**
LVV *e* 00 31 58.4
LVV *e*S **S 00 36 10.9 -0.9**
LVV *e*SS SS 00 38 20.5 -16
TRPA Tarpa 33.49 316 ⇑P **P 00 30 54.3 +0.9**
SJES Sjenica 33.55 307 *e*P **P 00 30 53.5 -0.6**
DIVS Divibare 33.76 309 P **P 00 30 54.0 -1.9**
DIVS Divibare 33.76 309 *e*P **P 00 30 56.4 +0.5**
DRME Dracevica, Mon 33.86 305 *e*P **P 00 30 56.9 +0.2**

PDG Podgorica 33.86 305 *e*P **P 00 30 55.7 -1.0**
KOLS Kolonicke sedl 33.99 318 *e*P **P 00 30 59.2 +1.4**
KOLS Kolonicke sedl 33.99 318 *e*P **P 00 30 59.2 +1.4**
KOLS pmax pmax
comp=Z,232nm,0.8s
MNK Minsk 34.03 329 *i* P **P 00 30 56.8 -1.2**
comp=E,6.0nm,1.0s
MNK *i* P **P 00 30 56.8 -1.2**
comp=N,20nm,1.1s
MNK *i* P **P 00 30 56.8 -1.2**
comp=Z,30nm,1.0s,baz=129
MNK *i* PP **PP 00 32 09.8 -5.4**
MNK *i* PPP PPP 00 32 21.1
MNK *i* S **S 00 36 21.2 -0.6**
MNK *i* SS **SnSn 00 38 29.6 0.0**
MNK *i* SSS SSS 00 38 45.0
MNK *i* LQ LQ 00 42 01.9
MNK *i* LR LR 00 44 58.4
MNK *i* LRM MLR 00 46 46.6
comp=E,207nm,12.7s
MNK *i* LRM MLR 00 46 50.4
comp=Z,2μm,21.6s
MNK *i* LRM MLR 00 46 55.9
comp=N,834nm,18.2s
MNK Minsk 34.03 329 *i* P **P 00 30 56.8 -1.2**
MNK *i* 00 32 09.8
MNK *i* S **S 00 36 21.2 -0.6**
MNK *i* SS **SnSn 00 38 29.5 0.0**
MNK pmax pmax
comp=N,20nm,1.2s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=Z,30nm,1.0s
MNK MLR MLR
comp=E,207nm,13.0s
MNK MLR MLR
comp=Z,2μm,22.0s
MNK MLR MLR
comp=N,834nm,18.0s
KWP Kalwaria Pacla 34.04 319 *e*P **P 00 30 58.1 -0.2**
KWP Kalwaria Pacla 34.04 319 P **P 00 30 58.1 -0.2**
KWP Kalwaria Pacla 34.04 319 P **P 00 30 58.1 -0.2**
KWP pmax pmax
comp=Z,216nm,1.2s
RUDO Rudo 34.06 307 *e*P **P 00 30 57.4 -1.1**
BBLS Lazići 34.10 308 *e*P **P 00 30 59.0 +0.1**
FRGS Fruska Gora 34.19 310 ⇓P **P 00 30 59.8 +0.3**
FRGS Fruska Gora 34.19 310 *e*P **P 00 31 00.6 +1.0**
TEKS Tekeris 34.20 309 *e*P **P 00 31 00.8 +1.1**
CRVS Cervenica-Dubn 34.47 317 *e*P **P 00 31 02.6 +0.7**
CRVS Cervenica-Dubn 34.47 317 *e*P **P 00 31 02.6 +0.7**
CRVS pmax pmax
comp=Z,53nm,0.9s
TREB Trebinje 34.58 306 *e*P P 00 30 55.8 -7.1
PRGR Permogore 34.58 350 *e*P **P 00 31 02.4 -0.3**
PRGR pmax pmax
comp=Z,15nm,0.8s
KMBO Kilima Mbogo 34.60 217 P **P 00 31 04.1 +0.4**
KMBO Kilima Mbogo 34.60 217 *e*P **P 00 31 06.1 +2.4**
KMBO *e*S S 00 36 42.8 +11
KMBO Kilima Mbogo 34.60 217 P **P 00 31 04.1 +0.4**
KMBO pmax pmax
comp=Z,12nm,0.9s
KMBO Kilima Mbogo 34.60 217 *e*P **P 00 31 06.1 +2.4**
baz=214
KMBO *e*S S 00 36 42.8 +11
baz=214
NACGM Naroch 34.78 329 *e*P **P 00 31 05.8 +1.3**
comp=E,1μm,1.0s
STHS Stebnicka Huta 34.81 318 *e*P **P 00 31 06.2 +1.3**
STHS Stebnicka Huta 34.81 318 *e*P **P 00 31 06.2 +1.3**
STHS pmax pmax
comp=Z,8.0nm,0.9s
NEVS Nevesinje 34.88 307 *e*P **P 00 31 04.2 -1.5**
KECS Kecovo 34.89 316 *e*P **P 00 31 08.3 +2.7**
KECS Kecovo 34.89 316 *e*P **P 00 31 08.3 +2.7**
KECS pmax pmax
comp=Z,63nm,1.2s
KLMR Klimovskoe 35.01 345 *e*P **P 00 31 04.5 -2.0**
KLMR AMP 00 31 09.3
comp=Z,52nm,1.2s
KLMR *e*PPP PPP 00 32 31.0
KLMR LQ LQ 00 44 25.7
KLMR LQ LQ 00 44 25.7
KLMR LR LR 00 46 16.8
KLMR AMP 00 48 19.6
comp=Z,2μm,16.7s
KLMR Klimovskoe 35.01 345 *e*P **P 00 31 04.4 -2.0**
KLMR *e*PPP PPP 00 32 30.9
KLMR pmax pmax
comp=Z,52nm,1.2s
KLMR MLR MLR
comp=Z,2μm,17.0s
PSZ Piszkesteto 35.05 315 ⇓P **P 00 31 07.3 +0.3**
PSZ Piszkesteto 35.05 315 P **P 00 31 06.3 -0.8**
PSZ IAmb IAmb 00 31 10.2
comp=Z,26nm,0.9s
PSZ Piszkesteto 35.05 315 P **P 00 31 07.3 +0.3**
STON Ston 35.08 306 *e*P P 00 31 13.4 +6.2
KIBK Kibwezi 35.23 214 P **P 00 31 09.4 +0.5**
MORH Mrgy, Hungar 35.28 312 ⇑P **P 00 31 09.2 +0.2**
IIGN Ignalina 35.31 330 *e*P **P 00 31 10.2 +1.1**
NIE Niedzica 35.37 317 *e*P **P 00 31 12.5 +2.7**
ISAL Salakas 35.49 330 *e*P **P 00 31 12.0 +1.4**
IZAR Zarasai 35.55 330 *e*P **P 00 31 12.6 +1.5**
SRKY Kupres RS 35.72 308 *e*P **P 00 31 12.9 0.0**
MND Mandalay 35.74 91 P **P 00 31 13.5 +0.3**
LANS Liptovska Anna 35.77 317 *e*P **P 00 31 14.4 +1.2**
LANS Liptovska Anna 35.77 317 *e*P **P 00 31 14.4 +1.2**
LANS pmax pmax
comp=Z,30nm,0.9s
MGRS Mrkonjic Grad 35.86 308 *e*P **P 00 31 13.9 -0.1**
BLY Banja Luka 35.87 309 *e*P **P 00 31 12.2 -1.8**
VYHS Vyhne 35.91 315 *e*P **P 00 31 14.9 +0.5**
VYHS Vyhne 35.91 315 *e*P **P 00 31 14.9 +0.5**
VYHS pmax pmax
comp=Z,31nm,0.8s
SUW Suwalki 35.97 326 *e*P **P 00 31 15.0 +0.3**
SUW Suwalki 35.97 326 P **P 00 31 14.7 -0.1**
SUW Suwalki 35.97 326 *e*P **P 00 31 15.5 +0.7**
SUW Suwalki 35.97 326 P **P 00 31 14.7 -0.1**
SUW pmax pmax
comp=Z,77nm,0.9s
SUW Suwalki 35.97 326 *e*P **P 00 31 14.8 0.0**
comp=Z,637nm,1.0s,baz=107,slow=8.3
OJC Ojcow 35.99 319 *e*P **P 00 31 15.2 +0.2**
OJC Ojcow 35.99 319 P **P 00 31 14.9 -0.1**
OJC Ojcow 35.99 319 P **P 00 31 14.9 -0.1**
OJC pmax pmax
comp=Z,135nm,0.8s
OJC Ojcow 35.99 319 *e*P **P 00 31 15.1 0.0**
comp=Z,110nm,0.8s,baz=107,slow=8.3
CUC Castrocucco 36.01 300 P **P 00 31 16.0 +0.7**
CUC IAmb IAmb 00 31 29.4
comp=Z,61nm,0.9s
SRO Srobarova 36.01 314 *e*P **P 00 31 17.5 +2.3**
SRO Srobarova 36.01 314 *e*P **P 00 31 17.5 +2.3**
SRO pmax pmax
comp=Z,76nm,1.0s
A051A Mrakovica 36.12 309 *e*P **P 00 31 15.4 -0.9**
BEL Belsk 36.13 321 *e*P **P 00 31 18.6 +2.4**
PABE Paberze 36.43 328 P **P 00 31 18.5 -0.2**
PABE Paberze 36.43 328 *e*P **P 00 31 18.4 -0.2**
VSVD Vaisvydziai 36.73 329 *e*P **P 00 31 22.4 +1.3**
JAVC Velka Javorina 36.77 316 *e*P **P 00 31 22.3 +0.6**
JAVC *e* 00 31 25.3
SMOL Smolenice 36.80 315 *e*P **P 00 31 23.6 +1.6**
SMOL pmax pmax
comp=Z,18nm,1.0s
OKC Ostrava-Krasne 36.83 317 *e*P **P 00 31 21.8 -0.3**
OKC AMS AMS 00 49 30.0
comp=Z,1μm,15.7s
OKC Ostrava-Krasne 36.83 317 *e*P **P 00 31 21.8 -0.3**
OKC MLR MLR
comp=Z,1μm,15.7s
MAUC Maruska 36.85 316 *e*P **P 00 31 22.8 +0.4**
MAUC AMS AMS 00 49 30.0
comp=Z,2μm,20.6s
MODS Modra-Piesok 36.85 315 *e*P **P 00 31 22.9 +0.5**
MODS Modra-Piesok 36.85 315 *e*P **P 00 31 22.9 +0.5**
MODS pmax pmax
comp=Z,110nm,1.1s
KOGS Kog 36.94 311 *i* P **P 00 31 22.9 -0.3**

GTA Gaotai 37.04 61 *e*P **P 00 31 25.1 +0.8**
GTA pP pP 00 31 31.8 -0.1
GTA PP **PnPn 00 32 55.3 +6.2**
GTA pmax pmax
comp=Z,16nm,1.5s
GTA LR LR
comp=Z,1μm,17.4s
GTA LR LR
comp=Z,770nm,17.4s
GTA LR LR
comp=Z,1μm,17.5s
PBA Port Blair 37.06 109 P **P 00 31 24.2 -0.2**
TNCH TengChong 37.06 85 P **P 00 31 26.3 +1.6**
TNCH pP sP 00 31 35.1 -0.4
TNCH pmax pmax
comp=Z,67nm,0.8s
PAOL Paolisi 37.07 302 P **P 00 31 24.2 -0.2**
VSU Vasula 37.11 334 *e*P **P 00 31 25.5 +1.1**
VSU Vasula 37.11 334 *i* P **P 00 31 25.5 +1.1**
MORC Moravsky Berou 37.17 317 ⇑P **P 00 31 24.9 -0.3**
MORC Moravsky Berou 37.17 317 P **P 00 31 23.9 -1.2**
MORC IAmb IAmb 00 31 28.2
comp=Z,46nm,0.9s
MORC Moravsky Berou 37.17 317 *e*P **P 00 31 24.4 -0.7**
MORC *e* 00 31 27.1
MORC Moravsky Berou 37.17 317 P **P 00 31 24.8 -0.3**
GCIS Gornji Cirnik 37.21 310 *i* P **P 00 31 25.6 +0.2**
RONA Rosalia, Austr 37.26 313 *e*P **P 00 31 25.9 -0.1**
comp=Z,72nm,0.8s
BOJS Bojanci 37.38 309 *e*P **P 00 31 26.9 0.0**
VRAC Vranov 37.58 316 ⇑P **P 00 31 28.9 +0.3**
VRAC Vranov 37.58 316 *e*P **P 00 31 28.4 -0.2**
VRAC *e* 00 31 31.0
VRAC Vranov 37.58 316 P **P 00 31 28.9 +0.3**
VRAC Vranov 37.58 316 LR LR 00 51 30.6
comp=Z,998nm,19.1s,baz=116,slow=44
CONA Conrad Observa 37.61 313 *e*P **P 00 31 29.0 0.0**
comp=Z,41nm,1.0s,SNR=12
KRUC Moravsky 37.63 315 *e*P **P 00 31 28.7 -0.2**
KRUC *e* 00 31 31.7
ARSA Arzberg 37.64 312 *e*P **P 00 31 29.1 0.0**
comp=Z,69nm,1.1s,SNR=9.7
KRLC Kraliky 37.73 317 *e*P **P 00 31 29.5 -0.4**
KRLC AMS AMS 00 51 10.0
comp=Z,900nm,16.1s
KRLC Kraliky 37.73 317 *e*P **P 00 31 29.5 -0.4**
KRLC MLR MLR
comp=Z,900nm,16.1s
SOKA Soboth 37.81 311 *e*P **P 00 31 31.1 +0.4**
comp=Z,38nm,1.2s,SNR=5.4
CLTB Caltabellotta 37.86 296 P **P 00 31 29.6 -1.6**
CEY Cerknica 37.99 310 *e*P **P 00 31 31.5 -0.7**
CEY Cerknica 37.99 310 *i* P **P 00 31 32.8 +0.6**
MBAR Mbarara 38.00 226 P **P 00 31 32.6 -0.1**
MBAR Mbarara 38.00 226 *e*P **P 00 31 34.0 +1.3**
MBAR *e*S **S 00 37 30.8 +7.0**
MBAR Mbarara 38.00 226 *ce*P **P 00 31 35.9 +3.2**
MBAR pmax pmax
comp=Z,17nm,1.7s
MBAR Mbarara 38.00 226 LR LR 00 49 27.1
comp=Z,4μm,18.7s,baz=28,slow=40
MBAR Mbarara 38.00 226 *e*P **P 00 31 34.0 +1.3**
baz=223
MBAR *e*S **S 00 37 30.8 +7.0**
baz=223
ADZR Andozero 38.01 347 *e*P **P 00 31 34.2 +2.3**
ADZR pmax pmax
comp=Z,20nm,1.2s
OBKA Obir 38.09 311 *e*P **P 00 31 33.6 +0.5**
comp=Z,45nm,1.1s
OBKA Obir 38.09 311 *e*P **P 00 31 34.5 +1.5**
DPC Dobruska-Polom 38.11 317 *e*P **P 00 31 32.6 -0.5**
DPC AMS AMS 00 52 00.0
comp=Z,1μm,18.3s
DPC Dobruska-Polom 38.11 317 *e*P **P 00 31 32.6 -0.5**
DPC MLR MLR
comp=Z,1μm,18.3s
AQU L'Aquila 38.11 304 P **P 00 31 32.9 -0.3**
AQU L'Aquila 38.11 304 P **P 00 31 32.9 -0.3**
AQU pmax pmax
comp=Z,120nm,1.2s
CAMP Campotosto 38.13 304 P **P 00 31 33.3 -0.2**
CAMP IAmb IAmb 00 32 08.8
comp=Z,76nm,1.1s
SKDS Skadanscina 38.23 309 *e*P **P 00 31 33.0 -1.2**
OSTC Ostas 38.24 318 *e*P **P 00 31 34.1 -0.1**
OSTC AMS AMS 00 49 20.0
comp=Z,1μm,22.8s
OSTC Ostas 38.24 318 *e*P **P 00 31 34.1 -0.1**
OSTC MLR MLR
comp=Z,1μm,22.8s
TREC Trest 38.27 315 *e*P **P 00 31 34.6 +0.2**
TREC AMS AMS 00 51 00.0
comp=Z,2μm,17.7s
TREC Trest 38.27 315 *e*P **P 00 31 34.6 +0.2**
TREC MLR MLR
comp=Z,2μm,17.7s
KSP Ksiaz 38.30 318 *e*P **P 00 31 34.5 -0.2**
KSP Ksiaz 38.30 318 *e*P **P 00 31 34.6 0.0**
comp=Z,41nm,1.2s,baz=107,slow=8.3
UPC Upice 38.35 317 *e*P **P 00 31 34.9 -0.1**
UPC AMS AMS 00 49 10.0
comp=Z,1μm,21.2s
UPC Upice 38.35 317 *e*P **P 00 31 34.9 -0.1**
UPC MLR MLR
comp=Z,1μm,21.2s
CHVC Chvalec 38.35 318 *e*P **P 00 31 34.8 -0.3**
CHVC AMS AMS 00 51 10.0
comp=Z,800nm,15.3s
CHVC Chvalec 38.35 318 *e*P **P 00 31 34.8 -0.3**
CHVC MLR MLR
comp=Z,800nm,15.3s
NRCA Norcia 38.39 305 P **P 00 31 34.4 -1.2**
NRCA IAmb IAmb 00 31 51.1
comp=Z,28nm,0.7s
FDMO Fiordimonte 38.44 305 P **P 00 31 35.4 -0.5**
MTSE Matsula 38.44 333 *e*P **P 00 31 37.0 +1.5**
TRI Trieste 38.44 309 P **P 00 31 34.1 -1.8**
TRI IAmb IAmb 00 31 37.8
comp=Z,62nm,0.9s
TRI Trieste 38.44 309 P **P 00 31 34.1 -1.8**
TRI pmax pmax
comp=Z,62nm,0.9s
SABO M.te Sabotino 38.61 310 P **P 00 31 36.8 -0.6**
SABO IAmb IAmb 00 32 51.7
comp=Z,288nm,1.7s
MOA Molln 38.62 313 *e*P **P 00 31 37.2 -0.2**
comp=Z,60nm,0.9s,SNR=9.2
GKP Gorka Klasztor 38.71 322 *e*P **P 00 31 40.2 +2.2**
GKP Gorka Klasztor 38.71 322 *e*P **P 00 31 39.7 +1.7**
MYKA Terra Mystica 38.73 311 *e*P **P 00 31 38.3 -0.1**
comp=Z,16nm,0.8s
PRED Cave del Predi 38.74 310 P **P 00 31 36.7 -1.7**
PRED IAmb IAmb 00 31 41.0
comp=Z,45nm,1.0s
CESX Cesi 38.75 304 P **P 00 31 37.5 -1.0**
CESX IAmb IAmb 00 31 51.4
comp=Z,54nm,1.2s
CKRC Cesky Krumlov 38.86 314 *e*P **P 00 31 39.0 -0.4**
CKRC AMS AMS 00 51 50.0
comp=Z,1μm,17.2s
CKRC Cesky Krumlov 38.86 314 *e*P **P 00 31 39.0 -0.4**
CKRC MLR MLR
comp=Z,1μm,17.2s
MURB Monte Urbino 38.88 305 P **P 00 31 39.2 -0.5**
MURB IAmb IAmb 00 31 56.6
comp=Z,62nm,0.8s
GOPC GO Pecny, Ondr 38.89 316 *e*P **P 00 31 40.6 +1.0**
GOPC AMS AMS 00 51 50.0
comp=Z,1μm,19.2s
GOPC GO Pecny, Ondr 38.89 316 *e*P **P 00 31 40.6 +1.0**
GOPC MLR MLR
comp=Z,1μm,19.2s
BIOA Bad Ischl, Aus 38.99 312 *e*P **P 00 31 40.3 -0.2**
comp=Z,87nm,1.1s,SNR=14
KBA Koelnbreinsper 39.03 311 *e*P **P 00 31 41.6 +0.5**
comp=Z,66nm,0.9s
PRU Pruhonice 39.07 316 *e*P **P 00 31 40.5 -0.6**
PRU AMS AMS 00 51 40.0
comp=Z,1μm,12.1s
PRU Pruhonice 39.07 316 *e*P **P 00 31 40.5 -0.6**
PRU MLR MLR
comp=Z,1μm,12.1s
ZVC Zvikov 39.12 315 *e*P **P 00 31 41.5 0.0**
ZVC AMS AMS 00 49 20.0

comp=Z,1μm,25.8s
PRA Prague 39.16 316 *e*P **P 00 31 41.6 -0.2**
PRA AMS AMS 00 52 10.0
comp=Z,1μm,16.3s
PRA Prague 39.16 316 *e*P **P 00 31 41.6 -0.2**
PRA MLR MLR
comp=Z,1μm,16.3s
MEF Metsahovi 39.17 335 *e*P **P 00 31 43.1 +1.4**
CLUD Cludinico 39.20 310 P **P 00 31 41.8 -0.5**
CLUD IAmb IAmb 00 31 45.3
comp=Z,39nm,0.9s
PVCC Panska Ves 39.22 317 *e*P **P 00 31 41.3 -1.0**
PVCC AMS AMS 00 49 30.0
comp=Z,1μm,20.7s
PVCC Panska Ves 39.22 317 *e*P **P 00 31 41.3 -1.0**
PVCC MLR MLR
comp=Z,1μm,20.7s
GEC2 GERESS Array S 39.25 314 P **P 00 31 41.6 -1.1**
GEC2 IAmb IAmb 00 31 45.4
comp=Z,44nm,0.9s
GEC2 GERESS Array S 39.25 314 *e*P **P 00 31 42.1 -0.6**
comp=Z,24nm,0.8s,baz=107,slow=8.3
GERES GERESS Array B 39.25 314 P **P 00 31 41.8 -1.0**
comp=Z,25nm,0.9s,baz=107,slow=8.5,SNR=28
GERES PcP **PcP 00 33 50.6 -0.8**
comp=Z,6.8nm,0.8s,baz=127,slow=3.5,SNR=4.1
GERES ScP **S 00 37 40.4 -1.5**
comp=Z,0.2nm,0.3s,baz=132,slow=1.5,SNR=2.6
comp=Z,25nm,0.9s
STAL STALIGIAL 39.28 310 P **P 00 31 41.0 -1.9**
STAL IAmb IAmb 00 31 45.8
comp=Z,73nm,1.0s
CHTO Chiang Mai 39.30 94 P **P 00 31 42.2 -1.2**
CHTO pmax pmax
comp=Z,13nm,1.1s
FINES FINESS Array B 39.39 337 P **P 00 31 42.7 -0.9**
FINES FINESS Array B 39.39 337 P **P 00 31 43.4 -0.2**
comp=Z,11nm,0.5s,baz=137,slow=9.5,SNR=76
FINES LR LR 00 51 21.0
comp=Z,1μm,18.8s,baz=142,slow=41
comp=Z,11nm,0.5s
KHC Kasperske Hory 39.41 315 P **P 00 31 43.1 -0.9**
KHC IAmb IAmb 00 31 47.3
comp=Z,94nm,1.0s
KHC Kasperske Hory 39.41 315 *e*P **P 00 31 43.6 -0.4**
KHC x x 00 31 49.5
KHC AMS AMS 00 52 00.0
comp=Z,1μm,21.0s
KHC Kasperske Hory 39.41 315 *e*P **P 00 31 43.6 -0.4**
KHC *e* 00 31 49.5
KHC MLR MLR
comp=Z,1μm,21.0s
CM31 Chiang Mai Arr 39.43 95 P **P 00 31 42.2 -2.3**
CMAR Chiang Mai Arr 39.43 95 P **P 00 31 44.0 -0.6**
CMAR Chiang Mai Arr 39.43 95 P **P 00 31 44.5 0.0**
comp=Z,1.2nm,0.3s,baz=297,slow=8.4,SNR=8.6
CMAR PcP **PcP 00 33 52.3 -0.1**
comp=Z,5.9nm,0.9s,baz=288,slow=4.6,SNR=8.5
CMAR LR LR 00 51 20.6
comp=Z,820nm,20.4s,baz=280,slow=41
comp=Z,1.2nm,0.3s
RICC Richard 39.51 317 AMS AMS 00 49 30.0
comp=Z,1μm,19.7s
ABTA Abfaltersbach 39.51 311 *e*P **P 00 31 44.6 -0.4**
comp=Z,75nm,1.1s,SNR=11
RJOB Jochberg 39.55 312 *e*P **P 00 31 44.7 -0.5**
comp=Z,37nm,0.8s,baz=107,slow=8.3
LESA Schwarzleotal 39.55 312 *e*P **P 00 31 44.6 -0.7**
comp=Z,34nm,0.7s
PZH PanZhiHua 39.56 81 P **P 00 31 46.9 +1.3**
PZH pP **sP 00 31 57.1 +0.6**
PZH sP pP 00 32 04.3 +11
PZH PP **PP 00 33 18.0 +1.4**
PZH S **S 00 37 50.4 +3.3**
PZH pmax pmax
comp=Z,40nm,1.3s
PZH pmax pmax
comp=Z,320nm,6.3s
PZH LR LR
comp=Z,850nm,17.2s
PZH LR LR
comp=Z,540nm,16.2s
PZH LR LR
comp=Z,790nm,16.7s
BRG Berggiesshubel 39.71 317 *i* P **P 00 31 46.8 +0.4**
BRG Amp 00 31 50.3
comp=Z,29nm,1.0s
BRG ⇑PP **PcP 00 33 55.6 +2.9**
BRG Amp 00 33 56.4
comp=Z,12nm,1.1s
BRG Berggiesshubel 39.71 317 S **S 00 37 53.0 +4.5**
BRG Amp 00 50 32.0
comp=Z,1.3nm,20.3s
BRG Amp 00 50 37.0
comp=E,1.1nm,17.9s
BRG Amp 00 50 45.0
comp=N,1.1nm,18.8s
BRG Berggiesshubel 39.71 317 *i* P **P 00 31 46.8 +0.4**
BRG 00 33 55.5
BRG S **S 00 37 53.0 +4.5**
BRG pmax pmax
comp=Z,29nm,1.0s
BRG pmax pmax
comp=Z,12nm,1.1s
BRG smax smax
comp=Z,1μm,20.3s
BRG MLR MLR
comp=E,1μm,17.9s
BRG MLR MLR
comp=N,1μm,18.8s
BRG Berggiesshubel 39.71 317 *e*P **P 00 31 46.8 +0.4**
comp=N,20nm,0.9s,baz=107,slow=8.3
TEOL Teolo 39.82 308 P **P 00 31 46.2 -1.2**
TEOL IAmb IAmb 00 31 50.5
comp=Z,51nm,0.9s
WET Wettzell 39.86 314 *e*P **P 00 31 47.2 -0.6**
comp=Z,17nm,0.9s,baz=107,slow=8.3
HSKC Hora Svate Kat 39.94 317 *e*P **P 00 31 47.7 -0.6**
HSKC AMS AMS 00 52 30.0
comp=Z,1μm,16.5s
CTI Castel Tesino 39.96 309 P **P 00 31 47.0 -1.7**
CTI Castel Tesino 39.96 309 P **P 00 31 47.0 -1.7**
CTI pmax pmax
comp=Z,32nm,0.8s
CRAI Chiangrai 40.08 91 P **P 00 31 49.3 -0.6**
FBE Freiberg 40.08 317 *e*P **P 00 31 49.5 0.0**
comp=Z,17nm,1.0s,baz=107,slow=8.3
ZCCA Zocca 40.14 307 P **P 00 31 50.8 +0.6**
LZH Lanzhou 40.15 66 *e*P **P 00 31 51.6 +1.1**
LZH pP pP 00 31 59.4 +1.2
LZH sP sP 00 32 03.8 +2.5
LZH pmax pmax
comp=Z,41nm,1.2s
LZH LR LR
comp=Z,2μm,17.2s
LZH LR LR
comp=Z,480nm,17.2s
LZH LR LR
comp=Z,2μm,16.3s
WTTA Wattenberg 40.21 311 *e*P **P 00 31 50.4 -0.5**
comp=Z,95nm,0.8s,SNR=25
WATA Walderalm 40.27 311 *e*P **P 00 31 50.5 -0.7**
comp=Z,142nm,1.1s,SNR=33
RUE Ruedersdorf 40.34 320 *e*P **P 00 31 51.5 -0.1**
RUE Ruedersdorf 40.34 320 *e*P **P 00 31 51.5 -0.1**
comp=Z,32nm,0.9s,baz=107,slow=8.3
MOY Mondy 40.40 42 *e*P **P 00 31 53.2 +0.9**
MOY pmax pmax
comp=Z,50nm,2.0s
CLL Collm 40.41 318 P **P 00 31 51.1 -1.1**
CLL IAmb IAmb 00 31 55.8
comp=Z,76nm,1.1s
CLL Collm 40.41 318 *i* P **P 00 31 52.1 -0.1**
CLL *i* *PP **pP 00 31 59.8 -0.1**
CLL *e*S **S 00 38 02.0 +3.1**
CLL pmax pmax
comp=Z,78nm,1.1s
CLL Collm 40.41 318 *e*P **P 00 31 52.4 +0.2**
comp=Z,47nm,1.0s,baz=107,slow=8.3
CLL Collm 40.41 318 *i* P **P 00 31 52.1 -0.1**
comp=Z,22nm,1.1s
CLL *i* Pmax 00 31 54.4
comp=Z,78nm,1.1s
CLL *i* x x 00 31 59.8
CLL *i* x x 00 32 03.3
CLL *e*PP **PP 00 33 27.0 +1.7**

CLL *e*PPP PPP 00 33 56.0
CLL *e*PcS **PcS 00 37 44.0 -1.2**
CLL *e*S **S 00 38 02.0 +3.1**
CLL *e*SS **SS 00 41 01.0 +2.7**
CLL AMS AMS 00 51 00.0
comp=N,1μm,19.6s
CLL AMS AMS 00 51 00.0
comp=E,1μm,20.5s
NKC Novy Kostel 40.43 316 *e*P **P 00 31 49.9 -2.5**
NKC AMS AMS 00 52 40.0
comp=E,1μm,19.3s
NKC Novy Kostel 40.43 316 *e*P **P 00 31 49.9 -2.5**
NKC MLR MLR
comp=Z,1μm,19.3s
ROTZ Rotzenmuhle 40.45 315 *e*P **P 00 31 52.4 -0.1**
comp=Z,6.5nm,0.9s,baz=107,slow=8.3
ROTZ *e*pP **pP 00 31 55.2 -5.1**
TANN Tannenbergstha 40.47 316 *e*P **P 00 31 51.8 -1.0**
comp=Z,6.2nm,0.9s,baz=107,slow=8.3
SQTA Sankt Quirin 40.49 311 *e*P **P 00 31 52.2 -0.9**
comp=Z,75nm,0.8s,SNR=23
WERN Wernitzgruen 40.49 316 *e*P **P 00 31 52.8 -0.1**
comp=Z,7.6nm,0.8s,baz=107,slow=8.3
CD2 Chengdu 40.52 74 P **P 00 31 54.9 +1.4**
CD2 pP pP 00 32 02.4 +1.2
CD2 S **S 00 38 00.0 -1.3**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 LR LR
comp=Z,1μm,16.7s
CD2 LR LR
comp=Z,2μm,13.3s
CD2 LR LR
comp=Z,2μm,14.2s
GUNZ Gunzen 40.53 316 *e*P **P 00 31 53.0 -0.3**
comp=Z,6.8nm,0.8s,baz=107,slow=8.3
MANZ Manzenberg 40.57 315 *e*P **P 00 31 53.5 -0.1**
comp=Z,2.5nm,1.0s,baz=107,slow=8.3
MOTA Moosalm 40.58 311 *e*P **P 00 31 53.5 -0.4**
comp=Z,103nm,1.0s,SNR=23
FUR Furstenfeldbru 40.64 313 *e*P **P 00 31 53.5 -0.7**
comp=Z,28nm,0.7s,baz=107,slow=8.3
SALO Salr 40.66 309 P **P 00 31 53.0 -1.4**
SALO IAmb IAmb 00 31 57.8
comp=Z,78nm,1.0s
PRMA PARMA 40.67 307 P **P 00 31 52.9 -1.6**
RAF Rauma 40.69 334 *e*P **P 00 31 55.0 +0.7**
BSD Bornholm Skovb 40.72 324 *e*P **P 00 31 52.7 -2.0**
BSD Bornholm Skovb 40.72 324 *i* P **P 00 31 51.8 -2.9**
BSD IAmb IAmb 00 31 56.6
comp=Z,85nm,0.9s
KMI Kunming 40.75 83 ⇑P **P 00 31 56.8 +1.1**
KMI pP sP 00 32 05.3 -1.2
KMI sP pP 00 32 10.8 +7.4
KMI pmax pmax
comp=Z,84nm,1.1s
KMI LR LR
comp=Z,590nm,15.8s
KMI LR LR
comp=Z,750nm,19.9s
KMI LR LR
comp=Z,930nm,18.8s
FETA Feichten 40.77 311 *e*P **P 00 31 54.8 -0.7**
comp=Z,85nm,0.8s,SNR=37
RETA Reutte 40.84 311 *e*P **P 00 31 53.2 -2.7**
comp=Z,45nm,0.8s,SNR=9.3
AAL Aland 40.88 333 *e*P **P 00 31 57.1 +1.2**
KEST Kesra 40.99 293 P **P 00 31 55.6 -1.7**
KEST Kesra 40.99 293 P **P 00 31 56.6 -0.7**
SNR=6.8
KEST Kesra 40.99 293 P **P 00 31 58.0 +0.7**
comp=Z,24nm,0.9s,baz=92,slow=17,SNR=21
KEST LR LR 00 52 45.3
comp=Z,814nm,18.8s,baz=344,slow=42
comp=Z,24nm,0.9s
FUORN Ofenpass-Fuorn 41.01 310 P **P 00 31 56.2 -1.3**
FUORN IAmb IAmb 00 32 09.8
comp=Z,37nm,0.7s
GRA1 Grafenberg Arr 41.04 315 P **P 00 31 56.4 -1.1**
GRF Grafenberg Arr 41.04 315 P **P 00 31 56.4 -1.1**
GRF pmax pmax
comp=Z,87nm,0.9s
GRF Grafenberg Arr 41.04 315 *e*P **P 00 31 57.5 0.0**
comp=Z,66nm,0.9s,baz=107,slow=8.3
GRF *e*L L 00 51 49.2
comp=Z,808nm,20.9s
GRFO Grafenberg 41.05 315 P **P 00 31 56.8 -0.7**
GRFO IAmb IAmb 00 32 00.9
comp=Z,91nm,1.0s
GRFO Grafenberg 41.05 315 P **P 00 31 56.8 -0.7**
GRFO pmax pmax
comp=Z,91nm,1.0s
MOX Moxa 41.05 316 *e*P **P 00 31 57.4 -0.2**
comp=Z,11nm,0.9s,baz=107,slow=8.3
MOX *e*pP **pP 00 32 00.0 -5.3**
MOX *e*L L 00 52 23.3
comp=Z,767nm,18.4s
NEUB Neuenburg 41.12 317 *e*P **P 00 31 58.1 0.0**
comp=Z,34nm,0.9s,baz=107,slow=8.3
SRDT SRDT 41.24 100 P **P 00 32 02.2 +2.7**
DAVOX Davos/Dischmat 41.30 310 LR LR 00 52 23.1
comp=Z,1μm,20.5s,baz=84,slow=41
UBR Ueberruh 41.31 312 *e*P **P 00 31 58.9 -0.9**
comp=Z,76nm,0.9s,baz=107,slow=8.3
RGN Rugen 41.35 322 P **P 00 31 56.5 -3.3**
RGN Rugen 41.35 322 *e*P **P 00 32 00.3 +0.5**
DAVA Damuels 41.39 311 *e*P **P 00 31 59.6 -0.9**
comp=Z,119nm,0.7s,SNR=26
VIKU Vikbolandet 41.40 329 *e*P **P 00 32 01.5 +1.3**
ZAK Zakamensk 41.41 44 *e*P **P 00 32 00.2 -0.4**
ZAK pmax pmax
comp=Z,14nm,1.3s
TUE Stuetta 41.60 310 P **P 00 32 01.4 -1.0**
TUE IAmb IAmb 00 32 14.0
comp=Z,30nm,0.7s
UPP Uppsala 41.69 331 *e*P **P 00 32 03.5 +1.0**
LUNU Lund 41.70 324 *i* P **P 00 32 01.4 -1.3**
FLTG Flechtingen 41.77 319 *e*P **P 00 32 03.4 +0.1**
comp=Z,57nm,0.8s,baz=107,slow=8.3
DEL Delary 41.82 325 *e*P **P 00 32 06.3 +2.6**
DEL Delary 41.82 325 *i* P **P 00 32 02.8 -1.0**
ASSE Asse, Remlinge 42.04 318 *e*P **P 00 32 05.7 +0.2**
comp=Z,13nm,0.8s,baz=107,slow=8.3
BJUU Bjuv 42.09 324 *i* P **P 00 32 04.8 -1.2**
STU Stuttgart 42.13 313 P **P 00 32 05.2 -1.2**
STU Stuttgart 42.13 313 P **P 00 32 05.2 -1.2**
STU pmax pmax
comp=Z,43nm,1.3s
CLZ Clausthal 42.14 318 *e*P **P 00 32 06.9 +0.5**
comp=Z,56nm,1.0s,baz=107,slow=8.3
APA Apatity 42.18 347 ⇓*i*P **P 00 32 05.3 -1.2**
APA *i* 00 33 53.1
APA *i* 00 34 04.9
APA *i* S **S 00 38 28.0 +3.2**
APA pmax pmax
comp=Z,20nm,0.8s
APA MLR MLR
comp=Z,3μm,19.0s
COP Copenhagen 42.25 324 *i* P **P 00 32 06.8 -0.4**
COP IAmb IAmb 00 32 11.1
comp=Z,94nm,0.8s
GTTG Gottingen 42.30 317 *e*P **P 00 32 08.4 +0.6**
comp=Z,30nm,1.1s,baz=107,slow=8.3
NRDL Niedersach Rie 42.48 319 *e*P **P 00 32 09.8 +0.7**
comp=Z,32nm,0.9s,baz=107,slow=8.3
BFO Black Forest 42.61 312 P **P 00 32 09.6 -0.7**
BFO Black Forest 42.61 312 P **P 00 32 09.6 -0.7**
BFO pmax pmax
comp=Z,59nm,1.8s
BFO Black Forest 42.61 312 *e*P **P 00 32 10.7 +0.4**
comp=Z,8.6nm,0.8s,baz=107,slow=8.3
FABU Falkenberg 42.62 326 *i* P **P 00 32 09.0 -1.2**
BSEG Bad Segeberg 42.79 321 *e*P **P 00 32 11.8 +0.2**
comp=Z,18nm,0.8s,baz=107,slow=8.3
SLVN Son La 42.84 88 P **P 00 32 11.1 -1.6**
BORU Boraas 42.86 326 *i* P **P 00 32 11.5 -0.7**
SONM Songino Array 42.86 49 P **P 00 32 11.7 -0.9**
SONM Songino Array 42.86 49 P **P 00 32 12.1 -0.5**
comp=Z,15nm,1.0s,baz=259,slow=9.3,SNR=44
SONM PcP **PcP 00 34 01.5 -1.8**
comp=Z,5.7nm,0.9s,baz=255,slow=2.3,SNR=2.9
comp=Z,15nm,1.0s
TNS Taunus Mts 42.91 315 *e*P **P 00 32 13.1 +0.3**
comp=Z,58nm,1.1s,baz=107,slow=8.3
SENIN Lac Senin/Sane 42.99 309 P **P 00 32 12.5 -1.2**
KASTN Kahler Asten 43.15 316 *e*P **P 00 32 15.3 +0.6**

comp=Z,21nm,0.9s,baz=107,slow=8.3
NAYO Nakonayok 43.18 99 P **P 00 32 17.4 +2.1**
ONAU Onsala 43.18 326 *i* P **P 00 32 15.3 +0.6**
BNI Bardonecchia 43.27 307 P **P 00 32 15.0 -0.9**
BNI IAmb IAmb 00 32 27.0
comp=Z,51nm,0.9s
BNI Bardonecchia 43.27 307 P **P 00 32 15.0 -0.9**
BNI pmax pmax
comp=Z,51nm,0.9s
NONG Nongkai 43.29 93 P **P 00 32 17.4 +1.2**
ULN Ulaanbaatar 43.30 49 P **P 00 32 15.0 -1.1**
ULN Ulaanbaatar 43.30 49 *i* P **P 00 32 16.0 -0.1**
ULN pmax pmax
comp=Z,43nm,1.3s
ECH Echery 43.36 312 P **P 00 32 14.7 -1.7**
ECH IAmb IAmb 00 32 18.8
comp=Z,45nm,1.0s
ECH Echery 43.36 312 P **P 00 32 14.7 -1.7**
ECH pmax pmax
comp=Z,45nm,1.0s
HFS Hagfors 43.54 330 P **P 00 32 16.9 -0.7**
comp=Z,7.9nm,0.6s,baz=126,slow=7.5,SNR=9.6
HFS LR LR 00 53 36.8
comp=Z,1μm,20.5s,baz=126,slow=40
comp=Z,7.9nm,0.6s
SSRD Sdr. Stenderup 43.66 323 *i* P **P 00 32 18.6 0.0**
SSRD IAmb IAmb 00 32 27.9
comp=Z,62nm,0.7s
IBBN Ibbenburen 43.82 318 *e*P **P 00 32 20.4 +0.4**
comp=Z,47nm,1.0s,baz=107,slow=8.3
AHRW Bad Neuenahr-A 43.84 315 *e*P **P 00 32 20.8 +0.6**
comp=Z,13nm,0.7s,baz=107,slow=8.3
GYA Guiyang 43.87 80 P **P 00 32 22.4 +1.5**
GYA pP sP 00 32 32.4 +0.6
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,380nm,7.0s
GYA LR LR
comp=Z,950nm,18.5s
BUG Bochum-Univer 43.91 316 *e*P **P 00 32 21.1 +0.4**
comp=Z,49nm,1.0s,baz=107,slow=8.3
LHMI Lhok Sumawe 44.04 113 P **P 00 32 20.1 -2.2**
SURA Surathani 44.14 107 P **P 00 32 25.2 +2.2**
MUD Monsted U'grnd 44.23 324 *i* P **P 00 32 22.6 -0.6**
WLF Walferdange 44.26 314 P **P 00 32 23.4 -0.2**
WLF IAmb IAmb 00 32 36.2
comp=Z,33nm,0.9s
WLF Walferdange 44.26 314 *d*P **P 00 32 23.2 -0.3**
comp=Z,24nm,1.0s
WLF Walferdange 44.26 314 P **P 00 32 23.4 -0.2**
WLF pmax pmax
comp=Z,33nm,0.9s
WLF Walferdange 44.26 314 *e*P **P 00 32 23.2 -0.3**
comp=Z,19nm,0.7s,baz=107,slow=8.3
BTNL Ternell 44.44 315 *d*P **P 00 32 25.6 +0.6**
comp=Z,19nm,1.1s
XAN Xi'an 44.46 69 ⇓P **P 00 32 26.5 +1.0**
XAN pP sP 00 32 39.4 +3.0
XAN pmax pmax
comp=Z,27nm,0.9s
XAN LR LR
comp=Z,2μm,17.5s
XAN LR LR
comp=Z,2μm,12.6s
XAN LR LR
comp=Z,3μm,18.6s
BHOU Houvegnez 44.47 315 *d*P **P 00 32 25.4 +0.1**
comp=Z,19nm,1.1s
MEM Membach 44.52 315 *d*P **P 00 32 26.1 +0.5**
comp=Z,20nm,1.0s
NC602 NORSAR Array S 44.76 330 *e*P **P 00 32 27.1 -0.3**
OSL Oslo 44.79 329 *e*P **P 00 32 27.2 -0.4**
BSTI Sart Tilman 44.79 315 *d*P **P 00 32 28.7 +0.9**
SSB Saint Sauveur 44.80 307 P **P 00 32 26.8 -1.2**
SSB IAmb IAmb 00 32 30.6
comp=Z,49nm,1.1s
SSB Saint Sauveur 44.80 307 P **P 00 32 26.8 -1.2**
SSB pmax pmax
comp=Z,49nm,1.1s
NC405 NORSAR Array S 44.85 331 P **P 00 32 26.5 -1.7**
NC405 IAmb IAmb 00 32 40.8
comp=Z,23nm,0.6s
BTO Baotou 44.91 59 *e*P **P 00 32 28.8 -0.3**
BTO pP **sP 00 32 38.9 -1.0**
BTO sP **pP 00 32 42.5 +5.7**
BTO PP **PP 00 34 14.0 -0.1**
BTO S **S 00 39 03.4 -2.3**
BTO sS **sS 00 39 19.3 +0.6**
BTO SS **ScS 00 42 15.0 -10**
BTO pmax pmax
comp=Z,58nm,1.5s
BTO pmax pmax
comp=Z,750nm,4.8s
BTO LR LR
comp=Z,2μm,20.5s
BTO LR LR
comp=Z,3μm,17.9s
BTO LR LR
comp=Z,4μm,15.7s
BCLA Clavier 44.93 315 *d*P **P 00 32 28.6 -0.3**
comp=Z,25nm,1.0s
RCHB Rochefort 44.93 314 *d*P **P 00 32 29.0 +0.2**
comp=Z,32nm,1.1s
NB2 NORSAR Subarra 45.04 330 P **P 00 32 28.8 -0.9**
comp=Z,6.5nm,0.6s,baz=116,slow=8.6
NB2 NORSAR Subarra 45.04 330 P **P 00 32 28.8 -0.9**
baz=116,slow=8.6
NOA NORSAR Array B 45.04 330 P **P 00 32 28.2 -1.5**
comp=Z,2.9nm,0.8s,baz=131,slow=7.5,SNR=11
NOA LR LR 00 54 22.5
comp=Z,2μm,21.0s,baz=120,slow=40
comp=Z,2.9nm,0.8s
BGES Gesves 45.06 315 *d*P **P 00 32 29.0 -0.9**
comp=Z,29nm,1.0s
VADS Vadso 45.13 347 *e*P **P 00 32 30.1 0.0**
BMRD Maredsous 45.24 314 *d*P **P 00 32 31.7 +0.3**
comp=Z,26nm,0.8s
DOU Dourbes 45.32 314 *d*P **P 00 32 32.0 0.0**
comp=Z,29nm,1.1s
KEV Kevo 45.33 346 P **P 00 32 30.2 -1.5**
KEV IAmb IAmb 00 32 34.5
comp=Z,28nm,0.7s
KEV Kevo 45.33 346 P **P 00 32 30.3 -1.5**
KEV pmax pmax
comp=Z,28nm,0.7s
ARA0 ARCESS Array S 45.49 345 *e*P **P 00 32 33.9 +0.8**
ARCES ARCESS Array B 45.49 345 P **P 00 32 31.8 -1.3**
ARCES ARCESS Array B 45.49 345 P **P 00 32 32.2 -0.9**
comp=Z,5.5nm,0.7s,baz=126,slow=7.5,SNR=31
ARCES PcP **PcP 00 34 10.2 -1.4**
comp=Z,9.2nm,0.9s,baz=144,slow=4.0,SNR=4.3
ARCES LR LR 00 52 35.1
comp=Z,964nm,21.3s,baz=126,slow=37
comp=Z,5.5nm,0.7s
KTK1 Kautokeino 45.64 344 *e*P **P 00 32 33.5 -0.8**
HHC Hu-ho-hao-te 46.08 59 ⇑P **P 00 32 40.1 +1.8**
HHC pP sP 00 32 49.1 -0.1
HHC S **S 00 39 21.3 -1.3**
HHC sS sS 00 39 34.9 -0.7
HHC pmax pmax
comp=Z,42nm,0.9s
HHC pmax pmax
comp=Z,430nm,5.0s
HHC LR LR
comp=Z,790nm,10.6s
HHC LR LR
comp=Z,720nm,12.2s
HHC LR LR
comp=Z,910nm,15.3s
SKAR Skarslia 46.19 329 *e*P **P 00 32 39.4 +0.6**
MOR8 Moi Rana 46.38 338 *e*P **P 00 32 40.3 +0.1**
NSS Namsos 46.38 335 *e*P **P 00 32 42.2 +2.0**
DOMB Dombas 46.40 331 *e*P **P 00 32 40.2 -0.2**
TAM Tamanrasset 46.62 276 P **P 00 32 42.9 +0.1**
TAM IAmb IAmb 00 32 46.1
comp=Z,23nm,1.2s
TAM Tamanrasset 46.62 276 P **P 00 32 42.9 +0.1**
TAM pmax pmax
comp=Z,23nm,1.2s
ODD1 Odda 46.68 328 *e*P **P 00 32 44.4 +1.7**
HAMF Hammerfest 46.74 345 *e*P **P 00 32 42.8 -0.1**
JETT Jettan, Norway 46.74 343 *e*P **P 00 32 44.1 +1.2**
FAUS Fauske 46.80 339 *e*P **P 00 32 45.0 +1.7**
GSI Gunungsitoli 46.88 117 P **P 00 32 45.8 +1.1**
GSI IAmb IAmb 00 32 48.4

comp=Z,35nm,0.9s
GSI Gunungsitoli 46.88 117 P P 00 32 47.5 +2.8
GSI Gunungsitoli 46.88 117 P P 00 32 46.6 +1.9
comp=Z,42nm,1.0s,comp=Z,4μm
KONS Konsvik 47.00 338 *e*P **P 00 32 44.9 0.0**
KULM Kulim 47.05 110 P P 00 32 47.1 +1.1
KULM IAmb IAmb 00 32 50.0
comp=Z,34nm,1.3s
PSI Prapat 47.05 115 P P 00 32 47.5 +1.3
PSI Prapat 47.05 115 P P 00 32 45.8 -0.4
PSI pmax pmax
comp=Z,14nm,1.0s
RPSI Rantau Prapat 47.12 115 P P 00 32 45.8 -0.8
TRO Tromso 47.17 343 *e*P **P 00 32 45.9 -0.3**
OPO Ambohidratompo 47.20 193 LR LR 00 50 49.4
comp=Z,1μm,20.6s,baz=183,slow=34
LYN LuoYang 47.31 68 ⇓P **P 00 32 48.8 +0.9**
LYN pmax pmax
comp=Z,42nm,0.7s
LYN LR LR
comp=Z,1μm,17.7s
LYN LR LR
comp=Z,2μm,16.1s
LYN LR LR
comp=Z,2μm,17.7s
AKN Aaknes 47.35 331 *e*P **P 00 32 49.4 +1.6**
GULI GuiLin 47.39 80 ⇓P **P 00 32 50.4 +1.8**
BER Bergen 47.45 328 *e*P **P 00 32 49.6 +1.0**
HNS HongShan 48.76 63 ⇑P **P 00 33 01.3 +2.3**
HNS S **S 00 39 59.8 -0.7**
HNS pmax pmax
comp=Z,15nm,1.4s
HNS LR LR
comp=Z,880nm,16.5s
HNS LR LR
comp=Z,930nm,19.6s
QIZ Qiongzhong 48.87 88 P P 00 33 02.3 +2.2
QIZ S **S 00 40 01.1 -1.4**
QIZ pmax pmax
comp=Z,54nm,1.4s
QIZ LR LR
comp=Z,660nm,25.3s
QIZ LR LR
comp=Z,450nm,13.5s
QIZ LR LR
comp=Z,690nm,17.8s
QIZ Qiongzhong 48.87 88 P P 00 32 59.2 -0.9
QIZ Qiongzhong 48.87 88 P P 00 33 03.1 +3.0
CNSH ChangSha 48.88 76 ⇑P **P 00 33 01.8 +1.7**
CNSH S **S 00 40 04.0 +1.5**
CNSH pmax pmax
comp=Z,38nm,0.9s
BOD Bodaibo 49.30 36 *e*P **P 00 33 02.4 -0.5**
BOD pmax pmax
comp=Z,108nm,1.1s
XLT XiLinHaoTe 49.35 55 ⇓*i*P **P 00 33 04.5 +0.9**
XLT pP pP 00 33 12.5 +1.1
XLT sP sP 00 33 17.5 +3.0
XLT pmax pmax
comp=Z,41nm,1.1s
XLT pmax pmax
comp=Z,220nm,5.0s
XLT LR LR
comp=Z,1μm,16.2s
XLT LR LR
comp=Z,2μm,16.3s
WHN Wuhan 49.57 72 P P 00 33 07.1 +1.8
BJT Baijiatuau 49.63 60 P P 00 33 04.7 -1.0
BJT IAmb IAmb 00 33 08.3
comp=Z,16nm,0.7s
BJT Baijiatuau 49.63 60 P P 00 33 06.5 +0.8
BJT Baijiatuau 49.63 60 P P 00 33 04.7 -1.0
BJT pmax pmax
comp=Z,16nm,0.7s
BJI Beijing 49.64 60 P P 00 33 07.6 +1.9
BJI pP **pP 00 33 14.5 +0.9**
BJI LR LR
comp=Z,680nm,19.4s
BJI LR LR
comp=Z,540nm,21.0s
BJI LR LR
comp=Z,750nm,19.8s
FIGM Figuig 50.19 290 P P 00 33 10.0 -0.2
BKNI Bangkinang 50.22 115 P P 00 33 09.4 -1.1
BKNI Bangkinang 50.22 115 P P 00 33 11.8 +1.4
DLV T Lat 50.49 98 P P 00 33 10.6 -2.1
DLV IAmb IAmb 00 33 16.8
comp=Z,39nm,1.0s
DLV T Lat 50.49 98 P P 00 33 15.2 +2.5
VOI Vohitsoka 50.52 192 P P 00 33 13.3 +0.7
VOI IAmb IAmb 00 33 51.5
comp=Z,31nm,1.2s
VOI Vohitsoka 50.52 192 P P 00 33 36.2 +24
TAF Taforalt 50.65 294 P P 00 33 14.5 +0.9
EKA Eskdalemuir Ar 50.73 320 P P 00 33 12.4 -1.3
comp=Z,1.8nm,0.4s,baz=94,slow=7.4,SNR=15
EKA PcP **PcP 00 34 30.3 -0.3**
comp=Z,12nm,1.1s,baz=97,slow=5.8,SNR=4.1
comp=Z,1.8nm,0.4s
GOG Mont Gurugu 51.06 294 P P 00 33 17.1 +0.4
ESBB Sonseca Array 51.20 300 P P 00 33 17.3 -0.4
ESDC Sonseca Array 51.20 300 P P 00 33 15.9 -1.8
ESDC Sonseca Array 51.20 300 P P 00 33 16.9 -0.8
comp=Z,5.6nm,0.5s,baz=73,slow=6.8,SNR=61
ESDC PcP **PcP 00 34 33.0 +0.1**
comp=Z,2.6nm,0.9s,baz=73,slow=6.7,SNR=1.0
ESDC LR LR 00 58 39.1
comp=Z,772nm,19.6s,baz=80,slow=40
comp=Z,5.6nm,0.5s
LSZ Lusaka 51.27 217 P P 00 33 17.9 -0.5
LSZ Lusaka 51.27 217 P P 00 33 17.9 -0.5
LSZ pmax pmax
comp=Z,19nm,1.4s
LSZ Lusaka 51.27 217 LR LR 00 55 19.4
comp=Z,903nm,18.7s,baz=31,slow=36
SDSI Sungai Dareh 51.28 116 P P 00 33 18.7 +0.2
PAB San Pablo 51.51 300 P P 00 33 18.7 -1.3
PAB San Pablo 51.51 300 P P 00 33 19.8 -0.3
PAB San Pablo 51.51 300 P P 00 33 18.7 -1.3
PAB pmax pmax
comp=Z,13nm,0.9s
HIA Hailar 51.81 48 P P 00 33 22.7 +0.7
HIA IAmb IAmb 00 33 24.9
comp=Z,24nm,0.9s
HIA Hailar 51.81 48 P P 00 33 22.7 +0.7
HIA pmax pmax
comp=Z,24nm,0.9s
MDT Midelt 52.82 291 P P 00 33 30.3 +0.4
MDT Midelt 52.82 291 P P 00 33 28.9 -1.0
comp=Z,8.8nm,0.7s,baz=92,slow=10,SNR=20
comp=Z,8.8nm,0.7s
SMIR Smir Dam 52.90 295 P P 00 33 29.5 -0.7
NJ2 Nanjing 53.01 69 *e*P **P 00 33 31.6 +0.5**
NJ2 pP **pP 00 33 39.8 +0.7**
NJ2 sP **sP 00 33 44.4 +2.3**
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,810nm,4.3s
NJ2 LR LR
comp=Z,1μm,17.1s
NJ2 LR LR
comp=Z,1μm,16.1s
NJ2 LR LR
comp=Z,2μm,14.2s
PBRG Braganca 53.06 303 *e*P **P 00 33 31.4 -0.1**
comp=Z,39nm,1.6s
MVO Moncorvo 53.35 302 *e*P **P 00 33 34.0 +0.4**
comp=Z,46nm,1.8s
MVO *e*pP **sP 00 33 44.0 -0.7**
TOA0 Torodi Ar. Sit 53.51 266 P P 00 33 33.1 -1.9
TOA0 IAmb IAmb 00 33 36.7
comp=Z,28nm,0.9s
TOA0 Torodi Ar. Sit 53.51 266 P P 00 33 34.0 -1.0
SNR=24
TORD Torodi Ar. Bea 53.51 266 P P 00 33 33.8 -1.2
TORD IAmb IAmb 00 33 36.8
comp=Z,21nm,0.9s
TORD Torodi Ar. Bea 53.51 266 P P 00 33 33.7 -1.3
comp=Z,24nm,0.8s,baz=63,slow=7.9,SNR=78
TORD LR LR 00 59 04.8
comp=Z,1μm,18.8s,baz=60,slow=39
comp=Z,24nm,0.8s
DSRI Dabo 53.54 114 P P 00 33 37.0 +1.8
comp=Z,23nm,0.7s,comp=Z,6μm

SPA0 Spitsbergen Ar 53.56 350 P P 00 33 34.3 -0.3
SPITS Spitsbergen Ar 53.56 350 P P 00 33 35.0 +0.5
SPITS pmax pmax
comp=Z,142nm,1.6s
SPITS Spitsbergen Ar 53.56 350 P P 00 33 34.5 -0.1
comp=Z,10nm,0.7s,baz=123,slow=10,SNR=3.5
SPITS LR LR 01 00 24.9
comp=Z,3μm,18.1s,baz=106,slow=41
comp=Z,10nm,0.7s
PBAR Barrancos 53.78 298 *e*P **P 00 33 36.4 -0.3**
comp=Z,46nm,1.4s
PBAR *e*pP **sP 00 33 48.0 +0.2**
MTE Manteigas 53.84 301 *e*P **P 00 33 39.6 +2.4**
comp=Z,60nm,1.6s
MTE *e*pP **sP 00 33 50.6 +2.3**
MTE Manteigas 53.84 301 P P 00 33 37.8 +0.5
MTE IAmb IAmb 00 33 55.2
comp=Z,31nm,1.0s
PVRL Vila Real 53.85 302 *e*P **P 00 33 37.6 +0.3**
comp=Z,52nm,1.3s
PVRL *e*pP **sP 00 33 48.8 +0.5**
PMRV Marv??o 53.86 300 *e*P **P 00 33 37.1 -0.2**
comp=Z,40nm,1.3s
PCBR Castelo Branco 53.87 301 *e*P **P 00 33 38.0 +0.7**
comp=Z,54nm,1.3s
POLO Lamas de Olo 53.90 302 *e*P **P 00 33 38.0 +0.3**
comp=Z,24nm,1.4s
POLO *e*pP **sP 00 33 49.0 +0.3**
PVIS Viseu 54.06 302 *e*P **P 00 33 38.7 -0.1**
PESTR Estremoz 54.10 299 *e*P **P 00 33 38.5 -0.5**
comp=Z,23nm,1.5s
PESTR *e*pP **sP 00 33 50.4 +0.3**
PESTR Estremoz 54.10 299 P P 00 33 38.6 -0.5
PGAV Gavieira, Arco 54.18 303 *e*P **P 00 33 40.3 +0.6**
comp=Z,85nm,2.0s
PVAQ Vaqueiros 54.44 298 *e*P **P 00 33 43.0 +1.4**
comp=Z,38nm,1.5s
PBEJ Beja 54.45 298 *e*P **P 00 33 41.5 -0.1**
comp=Z,31nm,1.6s
COI Coimbra 54.53 301 *e*P **P 00 33 42.6 +0.5**
comp=Z,78nm,2.5s
COI *e*pP **sP 00 33 55.0 +1.8**
COI Coimbra 54.53 301 P P 00 33 40.9 -1.2
COI Coimbra 54.53 301 P P 00 33 40.9 -1.2
COI pmax pmax
comp=Z,46nm,0.9s
PMTG Montargil 54.56 300 *e*P **P 00 33 42.4 0.0**
comp=Z,33nm,1.5s
PMTG *e*pP **sP 00 33 54.2 +0.8**
MNAI Manna 54.59 119 P P 00 33 43.9 +1.0
PCAS Casmilo, Conde 54.61 301 *e*P **P 00 33 43.3 +0.5**
comp=Z,52nm,1.4s
PCVE Castro Verde 54.66 298 *e*P **P 00 33 44.7 +1.6**
PSBE So Bento 54.92 300 *e*P **P 00 33 45.6 +0.5**
comp=Z,87nm,1.6s
PNCL Nicolau / Gran 54.95 299 *e*P **P 00 33 45.2 0.0**
comp=Z,57nm,1.3s
PMAFR Mafra 55.39 300 *e*P **P 00 33 49.0 +0.6**
comp=Z,178nm,1.5s
PMAFR *e*pP **sP 00 33 59.8 +0.3**
JMIC Jan Mayen 55.96 339 LR LR 01 00 24.2
comp=Z,997nm,18.4s,baz=69,slow=39
ZEA Zeya 56.42 42 *e*P **P 00 33 56.1 +0.6**
ZEA *e* 00 34 04.7
ZEA pmax pmax
comp=E,10.0nm,1.2s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,1.0s
MUSN Musina, Limpop 56.42 211 *i*P **P 00 33 54.6 -1.3**
MUSN Musina, Limpop 56.42 211 *i*P **P 00 33 54.6 -1.3**
baz=204
HEH HeiHe 56.74 46 *e*P **P 00 33 57.3 -0.5**
HEH pmax pmax
comp=Z,25nm,0.9s
HEH pmax pmax
comp=Z,760nm,4.5s
HEH LR LR
comp=Z,1μm,16.1s
HEH LR LR
comp=Z,2μm,17.3s
HEH LR LR
comp=Z,3μm,16.7s
MOPA Mopani 56.83 208 *i*P **P 00 33 59.3 +0.6**
MOPA Mopani 56.83 208 *i*P **P 00 33 59.3 +0.6**
baz=201
KSM Kuching 57.20 108 P P 00 33 59.9 -1.6
KSM IAmb IAmb 00 34 04.1
comp=Z,32nm,1.1s
KSM Kuching 57.20 108 P P 00 34 03.2 +1.6
BNX BinXian 57.23 52 ⇓P **P 00 34 00.9 -0.5**
BNX pmax pmax
comp=Z,33nm,1.0s
BNX pmax pmax
comp=Z,690nm,4.4s
YAK Yakutsk 57.61 32 *e*P **P 00 34 00.8 -3.0**
YAK *e**PP **pP 00 34 10.8 -1.0**
YAK *e* 00 34 52.6
YAK *e* 00 36 12.6
YAK *e*S **S 00 41 58.0 -2.2**
YAK *e**SS **sS 00 42 15.0 +1.6**
YAK *e* 00 43 47.7
YAK *e*SS **SS 00 45 50.8 +0.8**
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK pmax pmax
comp=N,8.0nm,1.5s
YAK pmax pmax
comp=Z,522nm,3.5s
YAK pmax pmax
comp=N,249nm,3.5s
YAK pmax pmax
comp=E,371nm,3.0s
YAK smax smax
comp=E,731nm,4.3s
YAK smax smax
comp=N,430nm,3.5s
YAK MLR MLR
comp=Z,2μm,15.0s
YAK MLR MLR
comp=E,2μm,14.0s
KOWA Kowa 58.01 270 P P 00 34 06.7 -0.5
KOWA IAmb IAmb 00 34 09.5
comp=Z,27nm,0.9s
KOWA Kowa 58.01 270 P P 00 34 06.8 -0.5
KOWA Kowa 58.01 270 P P 00 34 06.3 -1.0
comp=Z,12nm,0.6s,baz=65,slow=7.3,SNR=32
KOWA LR LR 01 01 44.8
comp=Z,489nm,18.4s,baz=58,slow=39
comp=Z,12nm,0.6s
SBUM Sibu 58.30 106 P P 00 34 09.1 -0.3
KSAR Wonju Array Be 59.08 61 P P 00 34 13.9 -0.6
KSAR Wonju Array Be 59.08 61 P P 00 34 13.9 -0.6
KSRS Korea Array 59.11 61 P P 00 34 13.1 -1.6
comp=Z,21nm,0.9s,baz=278,slow=6.8,SNR=22
KSRS LR LR 01 03 16.1
comp=Z,739nm,19.0s,baz=290,slow=40
comp=Z,21nm,0.9s
KLR Kul'dur 59.65 47 *ce*P **P 00 34 17.7 -0.5**
KLR pmax pmax
comp=Z,29nm,1.3s
KLR Kul'dur 59.65 47 LR LR 01 02 32.5
comp=Z,958nm,21.1s,baz=281,slow=39
LEM Lembang 59.75 117 LR LR 01 02 25.8
comp=Z,552nm,19.4s,baz=330,slow=38
DAG Danmarks Havn 59.78 345 *i*P **P 00 34 18.0 -0.7**
DAG IAmb IAmb 00 34 21.2
comp=Z,6.6nm,0.7s
NOR Nord 60.20 351 *i*P **P 00 34 18.9 -2.6**
NOR IAmb IAmb 00 34 32.7
comp=Z,5.6nm,1.0s
BORG Borgarnes 60.21 331 LR LR 01 02 35.2
comp=Z,693nm,21.6s,baz=91,slow=38
TSUM Tsumeb 60.47 224 P P 00 34 24.0 -0.3
TSUM IAmb IAmb 00 34 34.2
comp=Z,25nm,1.1s
TSUM Tsumeb 60.47 224 LR LR 01 02 54.9
comp=Z,1μm,19.0s,baz=42,slow=38
TGY Tagaytay City 60.57 89 LR LR 01 02 40.5
comp=Z,693nm,21.7s,baz=301,slow=38
USA0B Ussuriysk Arra 60.69 53 P P 00 34 23.2 -2.2
USA0B Ussuriysk Arra 60.69 53 P P 00 34 23.2 -2.2
USA0B pmax pmax
comp=Z,80nm,2.0s
USRK Ussuriysk Ar. 60.69 53 P P 00 34 24.1 -1.4
USRK Ussuriysk Ar. 60.69 53 P P 00 34 24.1 -1.4
USRK Ussuriysk Ar. 60.69 53 P P 00 34 24.0 -1.4
comp=Z,7.6nm,0.7s,baz=274,slow=6.5,SNR=12
USRK LR LR 01 02 33.0
comp=Z,870nm,20.5s,baz=288,slow=38
comp=Z,7.6nm,0.7s
LBTB Lobatse 60.75 213 P P 00 34 25.9 -0.2
LBTB IAmb IAmb 00 34 40.3
comp=Z,14nm,0.8s
LBTB Lobatse 60.75 213 *i*P **P 00 34 25.1 -0.9**
LBTB Lobatse 60.75 213 P P 00 34 25.9 -0.2
LBTB pmax pmax
comp=Z,14nm,0.8s
LBTB Lobatse 60.75 213 *i*P **P 00 34 25.1 -0.9**
baz=207
SMRI Semarang 62.12 116 P P 00 34 34.3 -1.2
DBIC Dimbokro 62.16 263 P P 00 34 34.8 -1.0
DBIC IAmb IAmb 00 34 37.7
comp=Z,20nm,1.1s
DBIC Dimbokro 62.16 263 P P 00 34 35.3 -0.5
comp=Z,12nm,0.9s,baz=45,slow=6.6,SNR=6.9
DBIC LR LR 01 02 39.0
comp=Z,338nm,19.0s,baz=39,slow=37
comp=Z,12nm,0.9s
KIC Kosan Boka 62.21 262⇑*e*P **P 00 34 36.9 +0.8**
comp=Z,18nm,0.9s
TIC Toumodi 62.32 263⇓*e*P **P 00 34 38.0 +1.1**
comp=Z,2.5nm,0.4s
JOW Kunigami 62.34 73 LR LR 01 05 31.8
comp=Z,465nm,19.0s,baz=319,slow=40
MTKI Muara Teweh, K 62.35 107 P P 00 34 38.9 +1.8
MYLDM Lahad Datu 62.37 99 P P 00 34 37.8 +0.6
LIC Lamto 62.52 262⇑*e*P **P 00 34 38.9 +0.7**
comp=Z,30nm,1.0s
JNU Nakatsue 62.56 65 LR LR 01 07 41.4
comp=Z,667nm,18.9s,baz=288,slow=42
WIN Windhoek 63.33 222 P P 00 34 44.1 +0.5
WIN Windhoek 63.33 222 P P 00 34 44.1 +0.5
WIN pmax pmax
comp=Z,65nm,1.9s
BOSA Boshof 63.96 211 P P 00 34 47.0 -0.5
BOSA IAmb IAmb 00 34 58.6
comp=Z,16nm,0.8s
BOSA Boshof 63.96 211 *i*P **P 00 34 48.0 +0.5**
BOSA Boshof 63.96 211 P P 00 34 47.0 -0.5
BOSA pmax pmax
comp=Z,16nm,0.9s
BOSA Boshof 63.96 211 P P 00 34 46.6 -0.9
comp=Z,11nm,0.9s,baz=35,slow=6.9,SNR=14
BOSA LR LR 01 03 31.1
comp=Z,549nm,19.5s,baz=19,slow=37
comp=Z,11nm,0.9s
BOSA Boshof 63.96 211 *i*P **P 00 34 48.0 +0.5**
baz=205
SUMG Summit 65.28 341 P P 00 34 54.7 -1.2
SUMG IAmb IAmb 00 35 00.5
comp=Z,26nm,0.9s
SUMG Summit 65.28 341 P P 00 34 54.7 -1.2
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 65.28 341 *i*P **P 00 34 55.0 -0.9**
SUMG IAmb IAmb 00 35 00.8
comp=Z,17nm,0.9s
MPSI Mapaga 65.97 103 P P 00 35 02.5 +1.7
comp=Z,59nm,1.2s
TOLI2 Tolitoli 66.34 102 P P 00 35 02.6 -0.6
TOLI2 Tolitoli 66.34 102 P P 00 35 04.2 +1.0
ICESG Greenland Ices 66.59 337 *i*P **P 00 35 05.3 +0.9**
ICESG IAmb IAmb 00 35 17.6
comp=Z,8.2nm,0.8s
INU Inuyama 66.74 61 P P 00 35 02.6 -2.9
NEEM North Greenlan 66.79 347 *i*P **P 00 35 03.9 -1.6**
NEEM IAmb IAmb 00 35 09.0
comp=Z,12nm,0.6s
MJAR Matsushiro Arr 67.28 60 P P 00 35 08.5 -0.5
comp=Z,7.1nm,0.9s,baz=288,slow=9.1,SNR=5.2
MJAR LR LR 01 08 46.1
comp=Z,505nm,21.0s,baz=302,slow=40
comp=Z,7.1nm,0.9s
YSS Yuzh-Sakhalins 67.34 48 P P 00 35 08.6 -0.5
YSS Yuzh-Sakhalins 67.34 48 P P 00 35 09.8 +0.7
YSS Yuzh-Sakhalins 67.34 48 *ce*P **P 00 35 07.9 -1.2**
YSS pmax pmax
comp=Z,44nm,0.8s
MRSI Marisa 67.66 102 P P 00 35 14.5 +2.9
comp=Z,38nm,1.4s
DAV Davao City (W) 67.72 94 LR LR 01 07 27.9
comp=Z,362nm,21.6s,baz=282,slow=38
SEY Seymchan 67.86 29 *ce*P **P 00 35 11.9 -0.2**
SEY pmax pmax
comp=Z,23nm,0.8s
SEY Seymchan 67.86 29 LR LR 01 08 35.5
comp=Z,2μm,18.3s,baz=288,slow=39
ASAJ Asahikawa 68.09 51 LR LR 01 08 16.3
comp=Z,935nm,18.8s,baz=298,slow=39
MA2 Magadan 68.16 33 LR LR 01 08 05.8
comp=Z,817nm,19.8s,baz=290,slow=39
GTOI Gorontalo 68.51 101 P P 00 35 27.1 +10
KAPI Kappang 68.62 108 P P 00 35 15.6 -2.0
KAPI Kappang 68.62 108 P P 00 35 19.6 +2.0
KAPI Kappang 68.62 108 P P 00 35 15.6 -2.0
KAPI pmax pmax
comp=Z,47nm,1.4s
KAPI Kappang 68.62 108 LR LR 01 06 18.1
comp=Z,260nm,21.0s,baz=302,slow=37
ERM Erimo 69.15 53 P P 00 35 20.1 -0.4
ERM Erimo 69.15 53 P P 00 35 20.1 -0.4
ERM pmax pmax
comp=Z,974nm,2.0s
SUR Sutherland 69.19 212 LR LR 01 07 07.8
comp=Z,627nm,18.4s,baz=32,slow=37
DY2G Dye2 69.85 335 *i*P **P 00 35 25.3 +0.6**
DY2G IAmb IAmb 00 35 40.7
comp=Z,14nm,0.6s
SFJD Kangerlussuaq 71.19 337 LR LR 01 09 18.3
comp=Z,782nm,18.9s,baz=61,slow=38
EDFI Ende, Flores 72.24 110 P P 00 35 39.6 -0.2
comp=Z,16nm,1.0s
SANI Sanana 72.42 102 P P 00 35 42.6 +1.8
SANI Sanana 72.42 102 P P 00 35 42.7 +1.9
comp=Z,21nm,0.8s
MMRI Maumere 72.63 110 P P 00 35 39.4 -2.7
LBMI Labuha 73.04 100 P P 00 35 51.5 +7.0
JCJ Chichijima 73.82 68 LR LR 01 10 16.5
comp=Z,443nm,21.1s,baz=111,slow=38
PETK Petropavlovsk- 74.13 38 P P 00 35 48.1 -2.3
comp=Z,4.8nm,0.8s,baz=294,slow=1.4,SNR=2.3
PETK LR LR 01 11 04.5
comp=Z,472nm,19.4s,baz=296,slow=38
comp=Z,4.8nm,0.8s
BATI Baumata 74.66 111 P P 00 35 56.2 +2.2
comp=Z,63nm,0.8s
BATI Baumata 74.66 111 LR LR 01 11 15.3
comp=Z,701nm,21.1s,baz=318,slow=38
SOEI Soe 74.92 110 P P 00 35 54.5 -1.2
SOEI Soe 74.92 110 P P 00 35 57.3 +1.7
SOEI Soe 74.92 110 P P 00 35 57.3 +1.7
comp=Z,106nm,1.1s
RES Resolute Bay 76.04 353 LR LR 01 14 49.6
comp=Z,874nm,19.0s,baz=3.0,slow=40
SWI Sorong 76.43 98 P P 00 36 06.5 +2.3
comp=Z,22nm,0.8s
FAKI Fak Fak 78.29 100 P P 00 36 15.6 +1.0
FAKI Fak Fak 78.29 100 P P 00 36 16.9 +2.3
FAKI Fak Fak 78.29 100 P P 00 36 16.7 +2.1
comp=Z,82nm,1.3s,comp=Z,1μm
B18K Kokolik River 78.97 13 P P 00 36 18.2 +0.8
baz=326
C16K Lisburne Hills 79.10 15 P P 00 36 19.3 +1.2
baz=323
FRB Frobisher Bay 79.18 338 LR LR 01 13 53.7
comp=Z,585nm,18.7s,baz=56,slow=38
B20K Meade River 79.29 11 P P 00 36 19.6 +0.4
baz=330
C17K DeLong Mountai 79.42 14 P P 00 36 20.7 +0.8
baz=324
B22K Teshekpuk Lake 79.62 10 P P 00 36 21.6 +0.7
baz=333
C19K Lookout Ridge 79.62 13 P P 00 36 21.8 +0.8
baz=328
C18K Utukok River 79.69 13 P P 00 36 21.8 +0.3
baz=326
MORW Morawa 79.94 130 P P 00 36 20.9 -2.4
MORW Morawa 79.94 130 P P 00 36 25.5 +2.2

B21K	Ikpikpuk River	80.07	11	P	P	00 36 23.6	+0.3
	baz=332						
A36M	Sachs Harbour	80.36	1	P	P	00 36 24.4	-0.4
	baz=358						
D19K	Kuna River	80.43	12	P	P	00 36 25.3	-0.1
D19K				IAmb	IAmb	00 36 47.1	
	comp=Z,24nm,0.9s						
D19K	Kuna River	80.43	12	P	P	00 36 25.5	+0.1
	baz=329						
C21K	Knifeblade Rid	80.45	11	P	P	00 36 25.8	+0.3
	baz=332						
C23K	Itkillik River	80.49	9	P	P	00 36 25.2	-0.4
C23K				IAmb	IAmb	00 36 29.5	
	comp=Z,41nm,1.0s						
C23K	Itkillik River	80.49	9	P	P	00 36 26.0	+0.3
	baz=335						
D20K	Etivluk River	80.52	12	P	P	00 36 26.3	+0.5
	baz=330						
TNA	Tin City	80.60	17	P	P	00 36 26.6	+0.3
	baz=321						
E18K	Tukpahlearik C	80.84	14	P	P	00 36 24.5	-3.1
E18K	Tukpahlearik C	80.84	14	P	P	00 36 27.6	0.0
	baz=327						
E17K	Hotham Inlet	80.86	14	P	P	00 36 27.2	-0.4
	baz=326						
C24K	Franklin Bluff	80.87	9	P	P	00 36 27.4	-0.2
	baz=337						
GAMB	Gambell	80.89	20	P	P	00 36 27.9	+0.1
	baz=318						
E20K	Nigu River	80.99	12	P	P	00 36 28.5	+0.1
	baz=331						
D22K	Ayikyak River	81.04	11	P	P	00 36 28.7	0.0
	baz=334						
F14K	Arctic Creek	81.09	17	P	P	00 36 29.5	+0.6
	baz=322						
C26K	Camden Bay	81.16	8	P	P	00 36 28.9	-0.3
	baz=340						
E21K	Killik River	81.22	11	P	P	00 36 29.6	0.0
	baz=332						
D23K	Nanushuk River	81.28	10	P	P	00 36 29.8	-0.1
	baz=335						
F15K	North Star Dit	81.32	16	P	P	00 36 30.3	+0.1
	baz=324						
BLDU	Ballidu	81.37	131	P	P	00 36 32.4	+1.5
D24K	Happy Valley	81.38	9	P	P	00 36 28.5	-1.9
D24K	Happy Valley	81.38	9	P	P	00 36 30.6	+0.2
	baz=337						
E19K	Redstone River	81.49	13	P	P	00 36 30.7	-0.3
E19K				IAmb	IAmb	00 36 47.4	
	comp=Z,12nm,0.7s						
E19K	Redstone River	81.49	13	P	P	00 36 31.0	0.0
	baz=330						
F17K	Baldwin Pennin	81.52	15	P	P	00 36 31.5	+0.3
	baz=326						
D25K	Kavik River	81.55	8	P	P	00 36 29.9	-1.5
D25K				IAmb	IAmb	00 36 34.8	
	comp=Z,17nm,0.8s						
D25K	Kavik River	81.55	8	P	P	00 36 31.6	+0.3
	baz=339						
TOLK	Toolik Lake Re	81.74	10	P	P	00 36 32.5	+0.1
TOLK				IAmb	IAmb	00 36 43.9	
	comp=Z,26nm,0.9s						
TOLK	Toolik Lake Re	81.74	10	P	P	00 36 32.6	+0.2
	baz=336						
KNRA	Kununurra	81.77	113	P	P	00 36 33.5	+0.2
KNRA				IAmb	IAmb	00 36 36.6	
	comp=Z,31nm,0.9s						
KNRA	Kununurra	81.77	113	P	P	00 36 35.5	+2.2
GUMO	Guam	81.82	79	P	P	00 36 33.0	-0.7
GUMO	Guam	81.82	79	P	P	00 36 33.0	-0.7
GUMO				pmax	pmax		
	comp=Z,211nm,0.6s						
GUMO	Guam	81.82	79	LR	LR	01 16 56.9	
	comp=Z,115nm,20.4s,baz=251,slow=39						
E22K	Anaktuvuk Pass	81.86	11	P	P	00 36 33.0	0.0
	baz=334						
MUN	Mundaring	81.91	133	P	P	00 36 35.6	+1.9
F19K	Shaleruckik Mo	81.92	13	P	P	00 36 32.8	-0.5
F19K				IAmb	IAmb	00 36 35.6	
	comp=Z,18nm,1.1s						
F19K	Shaleruckik Mo	81.92	13	P	P	00 36 34.1	+0.8
	baz=329						
G15K	Niukluk	82.05	16	P	P	00 36 33.9	-0.1
	baz=324						
ANM	Nome	82.06	17	P	P	00 36 33.8	-0.2
	baz=323						
G16K	Koyuk River	82.14	16	P	P	00 36 34.4	0.0
	baz=326						
F20K	Avaraart Lake	82.14	12	P	P	00 36 32.8	-1.6
F20K	Avaraart Lake	82.14	12	P	P	00 36 34.3	-0.1
	baz=331						
D27M	Malcolm River	82.23	6	P	P	00 36 33.5	-1.5
D27M	Malcolm River	82.23	6	P	P	00 36 35.1	+0.1
	baz=344						
MTN	Manton Dam	82.26	109	P	P	00 36 34.0	-2.0
MTN				IAmb	IAmb	00 36 45.0	
	comp=Z,13nm,0.7s						
E23K	Chandalar	82.27	10	P	P	00 36 35.4	+0.1
	baz=336,SNR=6.0						
D28M	Stokes Point	82.35	6	P	P	00 36 35.9	+0.4
	baz=346						
F22K	John River	82.36	11	P	P	00 36 35.8	+0.1
	baz=334						
F21K	Alatna River	82.40	12	P	P	00 36 32.0	-3.8
F21K	Alatna River	82.40	12	P	P	00 36 36.1	+0.2
	baz=333						
E24K	Your Creek	82.42	9	P	P	00 36 36.6	+0.6
E24K				IAmb	IAmb	00 36 48.1	
	comp=Z,18nm,0.9s						
E24K	Your Creek	82.42	9	P	P	00 36 35.8	-0.2
	baz=337						
G17K	Kiwalik Mounta	82.44	15	P	P	00 36 36.0	0.0
	baz=327						
G18K	Tagagawik	82.55	14	P	P	00 36 36.4	-0.2
	baz=329						
G19K	Purcell Mounta	82.66	13	P	P	00 36 36.9	-0.3
G19K				IAmb	IAmb	00 36 48.5	
	comp=Z,15nm,0.8s						
G19K	Purcell Mounta	82.66	13	P	P	00 36 37.1	-0.1
	baz=330,SNR=7.9						
KLBR	Kellerberrin	82.68	131	P	P	00 36 39.0	+1.2
E25K	Arctic Village	82.78	8	P	P	00 36 37.8	-0.1
E25K				IAmb	IAmb	00 36 49.3	
	comp=Z,18nm,0.8s						
E25K	Arctic Village	82.78	8	P	P	00 36 38.2	+0.4
	baz=340,SNR=11						
H16K	Elim	82.79	16	P	P	00 36 37.5	-0.3
	baz=326						
SHEM	Shemya Is, Ala	82.80	33	LR	LR	01 16 53.2	
	comp=Z,523nm,19.5s,baz=293,slow=38						
COLD	Coldfoot	82.94	10	P	P	00 36 39.1	+0.5
	baz=336						
E28M	Babbage River	82.99	6	P	P	00 36 38.6	-0.3
E28M	Babbage River	82.99	6	P	P	00 36 39.0	+0.1
	baz=345						
G22K	Bettles	83.01	11	P	P	00 36 39.3	+0.3
	baz=335						
G21K	Allakaket	83.02	12	P	P	00 36 37.1	-1.9
G21K	Allakaket	83.02	12	P	P	00 36 39.2	+0.1
	baz=333						
F24K	Squaw Lake	83.03	9	P	P	00 36 39.0	-0.1
F24K	Squaw Lake	83.03	9	P	P	00 36 39.5	+0.4
	baz=338						
H17K	Granite Mounta	83.09	15	P	P	00 36 39.7	+0.2
	baz=328						
NWAO	Narrogin (SRO)	83.18	133	P	P	00 36 39.9	-0.4
NWAO	Narrogin (SRO)	83.18	133	P	P	00 36 40.6	+0.3
NWAO				IAmb	IAmb	00 36 48.9	
	comp=Z,123nm,0.9s						
NWAO	Narrogin (SRO)	83.18	133	P	P	00 36 42.0	+1.7
NWAO	Narrogin (SRO)	83.18	133	P	P	00 36 40.6	+0.3
NWAO				pmax	pmax		
	comp=Z,123nm,1.0s						
NWAO	Narrogin (SRO)	83.18	133	LR	LR	01 12 52.4	
	comp=Z,186nm,18.1s,baz=272,slow=35						
E27K	Coleen River	83.19	7	P	P	00 36 39.6	-0.3
E27K	Coleen River	83.19	7	P	P	00 36 40.0	+0.1
	baz=343						
H18K	Honhosa River	83.25	14	P	P	00 36 40.3	+0.1
	baz=329						
F25K	Christian Rive	83.27	9	P	P	00 36 40.3	-0.1
	baz=340						
KDU	Kakadu	83.31	108	P	P	00 36 44.3	+3.0
H19K	Roundabout Mou	83.33	13	P	P	00 36 39.4	-1.2
H19K				IAmb	IAmb	00 37 26.6	
	comp=Z,45nm,1.9s						
H19K	Roundabout Mou	83.33	13	P	P	00 36 41.1	+0.4
	baz=331						
E29M	Blow River	83.34	6	P	P	00 36 40.4	-0.3
E29M	Blow River	83.34	6	P	P	00 36 40.9	+0.2
	baz=347						
F26K	Sheenjek River	83.36	8	P	P	00 36 41.0	+0.2
	baz=341						
G23K	Bananza Creek	83.44	11	P	P	00 36 41.2	-0.1
G23K				IAmb	IAmb	00 36 52.9	
	comp=Z,14nm,1.0s						
G23K	Bananza Creek	83.44	11	P	P	00 36 41.3	0.0
	baz=336						
IMAR	Indian Mountai	83.45	12	P	P	00 36 41.0	-0.3
BMAR	Burnt Mountain	83.56	8	P	P	00 36 42.5	+0.6
DRLN	Deer Lake	83.66	323	P	P	00 36 42.5	-0.2
H20K	Anotleneega Mo	83.67	13	P	P	00 36 42.5	+0.1
	baz=332						
INK	Inuvik	83.75	4	P	P	00 36 41.8	-0.9
INK	Inuvik	83.75	4	P	P	00 36 42.9	+0.2
	baz=351						
INK	Inuvik	83.75	4	P	P	00 36 41.8	-0.9
INK				pmax	pmax		
	comp=Z,12nm,1.2s						
INK	Inuvik	83.75	4	LR	LR	01 19 06.6	
	comp=Z,372nm,20.1s,baz=1.0,slow=39						
I17K	Unalakleet	83.79	16	P	P	00 36 43.6	+0.6
	baz=327						
G24K	Hadweenzic Riv	83.85	10	P	P	00 36 43.3	-0.1
G24K	Hadweenzic Riv	83.85	10	P	P	00 36 43.4	+0.1
	baz=338,SNR=17						
F28M	Old Crow	83.92	6	P	P	00 36 42.2	-1.5
F28M				IAmb	IAmb	00 37 04.1	
	comp=Z,12nm,1.0s						
F28M	Old Crow	83.92	6	P	P	00 36 43.7	+0.1
	baz=345						
GCSA	Galena City Sc	83.92	14	P	P	00 36 43.2	-0.5
	baz=330						
H21K	Melozitna Rive	83.92	12	P	P	00 36 42.9	-0.8
H21K				IAmb	IAmb	00 37 00.8	
	comp=Z,35nm,1.6s						
H21K	Melozitna Rive	83.92	12	P	P	00 36 43.5	-0.2
	baz=334,SNR=5.2						
H22K	Ishtalitna Cre	83.97	11	P	P	00 36 44.0	0.0
	baz=335,SNR=13						
G25K	Bearman Lake	83.98	9	P	P	00 36 44.5	+0.6
	baz=340						
J14K	Nanvaranak Lak	84.01	18	P	P	00 36 44.7	+0.6
	baz=325						
G26K	Porcupine Rive	84.12	8	P	P	00 36 45.5	+0.9
	baz=342						
F30M	Barrier River	84.28	5	P	P	00 36 45.9	+0.4
	baz=349						
J16K	Anvik River	84.32	16	P	P	00 36 43.3	-2.4
J16K				IAmb	IAmb	00 37 15.4	
	comp=Z,16nm,0.8s						
J16K	Anvik River	84.32	16	P	P	00 36 46.1	+0.4
	baz=327						
H23K	Yukon River	84.34	11	P	P	00 36 45.3	-0.6
H23K				IAmb	IAmb	00 37 06.3	
	comp=Z,14nm,0.9s						
H23K	Yukon River	84.34	11	P	P	00 36 46.0	+0.1
	baz=337						
K13K	Kusilvak Mount	84.37	18	P	P	00 36 45.2	-0.8
K13K	Kusilvak Mount	84.37	18	P	P	00 36 46.1	+0.1
	baz=324						
I20K	Naaghedeneel	84.37	13	P	P	00 36 44.8	-1.2
I20K	Naaghedeneel	84.37	13	P	P	00 36 46.1	+0.1
	baz=332						
H25L	Birch Creek	84.49	9	P	P	00 36 47.1	+0.6
	baz=340						
G27K	Doyon Strip	84.50	7	P	P	00 36 46.4	-0.3
G27K				IAmb	IAmb	00 36 59.0	
	comp=Z,12nm,0.8s						
G27K	Doyon Strip	84.50	7	P	P	00 36 46.9	+0.3
	baz=343,SNR=12						
I21K	Tanana	84.50	12	P	P	00 36 45.2	-1.5
I21K	Tanana	84.50	12	P	P	00 36 46.9	+0.2
	baz=334						
F31M	Tsiigehtchic	84.59	4	P	P	00 36 45.4	-1.6
F31M	Tsiigehtchic	84.59	4	P	P	00 36 46.9	-0.2
	baz=350						
H24K	Noodor Dome	84.59	10	P	P	00 36 45.2	-2.0
H24K	Noodor Dome	84.59	10	P	P	00 36 47.3	+0.1
	baz=338						
SCHQ	Schefferville	84.61	331	P	P	00 36 46.2	-1.2
	comp=Z,12nm,0.8s,baz=72,slow=3.7,SNR=6.8						
SCHQ				LR	LR	01 17 28.2	
	comp=Z,247nm,18.4s,baz=63,slow=38						
	comp=Z,12nm,0.8s						
G29M	Pine Creek	84.78	6	P	P	00 36 47.6	-0.4
	baz=347						
J19K	Poorman	84.85	14	P	P	00 36 47.9	-0.6
J19K				IAmb	IAmb	00 36 50.7	
	comp=Z,22nm,1.1s						
J19K	Poorman	84.85	14	P	P	00 36 48.2	-0.3
	baz=331,SNR=6.8						
G30M	tAoh Zraii Nji	84.86	5	P	P	00 36 47.5	-1.0
G30M				IAmb	IAmb	00 36 59.4	
	comp=Z,20nm,1.0s						
G30M	tAoh Zraii Nji	84.86	5	P	P	00 36 48.5	0.0
	baz=348						
MLY	Manley	84.86	11	P	P	00 36 47.7	-0.9
MLY	Manley	84.86	11	P	P	00 36 48.4	-0.1
	baz=336						
J20K	Nowinta River	84.99	13	P	P	00 36 47.4	-1.7
J20K				IAmb	IAmb	00 37 23.1	
	comp=Z,16nm,1.1s						
J20K	Nowinta River	84.99	13	P	P	00 36 48.9	-0.2
	baz=333						
I23K	Minto, Yukon-K	84.99	11	P	P	00 36 47.9	-1.2
I23K				IAmb	IAmb	00 36 52.7	
	comp=Z,18nm,1.2s						
I23K	Minto, Yukon-K	84.99	11	P	P	00 36 48.9	-0.1
	baz=337,SNR=5.6						
G31M	Satah River	85.07	4	P	P	00 36 49.1	-0.3
	baz=350						
J18K	Innoko River	85.07	15	P	P	00 36 49.6	0.0
	baz=330						
GENI	Genyem	85.08	96	P	P	00 36 52.5	+2.1
GENI	Genyem	85.08	96	P	P	00 36 51.8	+1.4
	comp=Z,120nm,1.3s,comp=Z,6µm						
H27K	Steamboat Moun	85.08	7	P	P	00 36 49.5	-0.1
	baz=344,SNR=12						
M11K	Mekoryuk	85.16	20	P	P	00 36 50.0	0.0
	baz=323						
PRP	Porcupine Dome	85.24	9	P	P	00 36 50.3	-0.3
PRP	Porcupine Dome	85.24	9	P	P	00 36 50.4	-0.1
	baz=340						
POKR	Poker Plat Res	85.33	10	P	P	00 36 49.6	-1.3
POKR				IAmb	IAmb	00 37 10.2	
	comp=Z,11nm,0.9s						
POKR	Poker Plat Res	85.33	10	P	P	00 36 50.6	-0.2
	baz=338						
KMBL	Kambalda	85.33	129	P	P	00 36 53.3	+2.0
MDM	Murphy Dome	85.35	11	P	P	00 36 49.0	-2.0
MDM				IAmb	IAmb	00 36 54.0	
	comp=Z,26nm,1.2s						
K17K	Iditarod	85.36	16	P	P	00 36 51.3	+0.3
	baz=329						
L14K	Kuka Creek	85.40	18	P	P	00 36 50.4	-0.8
L14K				IAmb	IAmb	00 37 03.9	
	comp=Z,30nm,1.3s						
L14K	Kuka Creek	85.40	18	P	P	00 36 51.1	-0.1
	baz=326						
H29M	Whitestone	85.42	6	P	P	00 36 50.2	-1.0
H29M				IAmb	IAmb	00 37 18.3	
	comp=Z,20nm,1.1s						
H29M	Whitestone	85.42	6	P	P	00 36 51.0	-0.3
	baz=346						
EPYK	Eagle Plains	85.42	6	P	P	00 36 51.2	-0.1
EPYK				IAmb	IAmb	00 37 04.3	
	comp=Z,22nm,1.2s						
EPYK	Eagle Plains	85.42	6	P	P	00 36 51.3	0.0
	baz=348						
L15K	Ungalak Mounta	85.44	17	P	P	00 36 51.7	+0.3
	baz=326						
COLA	College	85.49	10	P	P	00 36 53.2	+1.6
JAY	Jayapura	85.51	95	P	P	00 36 53.9	+1.2
	comp=Z,26nm,1.3s						
NEA2	Nenana	85.55	11	P	P	00 36 49.8	-2.2
NEA2				IAmb	IAmb	00 37 11.0	
	comp=Z,12nm,1.0s						
NEA2	Nenana	85.55	11	P	P	00 36 51.9	-0.1
	baz=337						
CHUM	Lake Minchumin	85.62	13	P	P	00 36 52.5	+0.3
	baz=334,SNR=11						
BPAW	Bear Paw Mtn.	85.67	12	P	P	00 36 51.5	-1.1
BPAW				IAmb	IAmb	00 36 55.6	
	comp=Z,30nm,1.0s						
BPAW	Bear Paw Mtn.	85.67	12	P	P	00 36 52.5	-0.1
	baz=335,SNR=22						
I27K	Kandik River	85.67	8	P	P	00 36 52.9	+0.3
	baz=344,SNR=5.8						
TTA	Tatalina	85.70	15	P	P	00 36 55.3	+2.5
TTA	Tatalina	85.70	15	P	P	00 36 52.9	+0.1
	baz=331						
CCB	Clear Creek Bu	85.71	10	P	P	00 36 51.7	-1.0
K20K	Telida	85.74	14	P	P	00 36 52.5	-0.4
K20K				IAmb	IAmb	00 36 56.7	
	comp=Z,17nm,1.1s						
K20K	Telida	85.74	14	P	P	00 36 52.9	0.0
	baz=333						
IL31		85.74	10	P	P	00 36 51.6	-1.2
ILAR	Eielson Array	85.74	10	P	P	00 36 50.7	-2.2
ILAR	Eielson Array	85.74	10	P	P	00 36 51.5	-1.4
	comp=Z,2.1nm,0.8s,baz=333,slow=4.3,SNR=16						
ILAR				PP	PP	00 40 09.9	-1.5
	comp=Z,1.2nm,1.1s,baz=326,slow=7.0,SNR=4.3						
ILAR				PKKPbc	PKKPbc	00 54 54.1	-1.5
	comp=Z,0.9nm,0.9s,baz=190,slow=1.7,SNR=8.6						
ILAR				LR	LR	01 21 01.1	
	comp=Z,596nm,18.9s,baz=320,slow=40						
	comp=Z,2.1nm,0.8s						
I26K	Coal Creek Min	85.76	8	P	P	00 36 52.4	-0.5
I26K	Coal Creek Min	85.76	8	P	P	00 36 53.6	+0.6
	baz=342						
WRH	Wood River Hil	85.83	11	P	P	00 36 52.9	-0.4
L17K	Donlin	85.86	16	P	P	00 36 53.7	+0.2
	baz=329						
L16K	Owhat River	85.93	17	P	P	00 36 53.9	0.0
	baz=328						
M13K	Dall Lake	85.98	19	P	P	00 36 54.2	+0.1
	baz=325						
I28M	Miner Creek	86.01	7	P	P	00 36 53.2	-1.1
I28M				IAmb	IAmb	00 37 05.1	
	comp=Z,9.9nm,0.8s						
I28M	Miner Creek	86.01	7	P	P	00 36 54.4	+0.1
	baz=345						
HDA	Harding Lake	86.07	10	P	P	00 36 54.0	-0.6
HDA	Harding Lake	86.07	10	P	P	00 36 54.2	-0.3
	baz=339						
CAST	Castle Rocks	86.08	13	P	P	00 36 53.3	-1.3
CAST				IAmb	IAmb	00 37 14.1	
	comp=Z,26nm,0.8s						
CAST	Castle Rocks	86.08	13	P	P	00 36 54.6	0.0
	baz=334,SNR=24						
M14K	Bethel	86.09	18	P	P	00 36 54.5	-0.1
M14K	Bethel	86.09	18	P	P	00 36 54.9	+0.3
	baz=326						
J25K	Salcha River,	86.12	10	P	P	00 36 53.5	-1.4
J25K	Salcha River,	86.12	10	P	P	00 36 54.6	-0.3
	baz=340,SNR=6.9						
H31M	Peel River	86.17	5	P	P	00 36 54.9	-0.1
H31M				IAmb	IAmb	00 37 16.5	
	comp=Z,25nm,0.9s						
H31M	Peel River	86.17	5	P	P	00 36 55.5	+0.4
	baz=350						
L18K	Granite Mounta	86.17	15	P	P	00 36 54.4	-0.6
	baz=330						
KTH	Kantishna Hill	86.18	12	P	P	00 36 55.0	-0.2
KTH				IAmb	IAmb	00 37 07.5	
	comp=Z,12nm,0.8s						
I29M	Ogilvie Camp,	86.26	6	P	P	00 36 54.0	-1.5
I29M				IAmb	IAmb	00 37 29.3	
	comp=Z,13nm,0.7s						
I29M	Ogilvie Camp,	86.26	6	P	P	00 36 54.9	-0.6
	baz=346						
SPIA	Saint Paul Isl	86.33	24	P	P	00 36 54.8	-1.1
	baz=319						
MCK	McKinley	86.37	11	P	P	00 36 55.6	-0.4
	baz=337,SNR=9.5						
TRF	Thorofare Moun	86.39	12	P	P	00 36 54.1	-2.2
TRF				IAmb	IAmb	00 37 15.0	
	comp=Z,13nm,0.8s						
TRF	Thorofare Moun	86.39	12	P	P	00 36 55.4	-1.0
	baz=336						
WRKA	Warakurna	86.40	121	P	P	00 36 59.2	+2.4
J26L	Joseph Creek	86.48	9	P	P	00 36 55.2	-1.4
J26L				IAmb	IAmb	00 37 08.0	
	comp=Z,20nm,0.8s						
J26L	Joseph Creek	86.48	9	P	P	00 36 56.5	-0.1
	baz=342,SNR=20						
M15K	Kasigluk River	86.48	18	P	P	00 36 56.2	-0.4
	baz=327						
PPLA	Purkeypile	86.53	13	P	P	00 36 57.0	0.0
	baz=334						
L20K	Farewell, AK	86.56	14	P	P	00 36 56.9	-0.1
	baz=333						
I30M	Mount Dempster	86.58	6	P	P	00 36 55.7	-1.4
I30M				IAmb	IAmb	00 37 08.3	
	comp=Z,18nm,0.8s						
I30M	Mount Dempster	86.58	6	P	P	00 36 56.9	-0.3
	baz=348,SNR=14						
L19K	White Mountain	86.61	14	P	P	00 36 56.7	-0.5
	baz=332						
M16K	Timber Creek	86.65	17	P	P	00 36 57.6	+0.2
	baz=329						
RND	Reindeer	86.69	11	P	P	00 36 56.3	-1.4
RND				IAmb	IAmb	00 37 22.3	
	comp=Z,15nm,1.0s						
RND	Reindeer	86.69	11	P	P	00 36 56.3	-1.4
RND				pmax	pmax		
	comp=Z,15nm,1.0s						
M17K	Holitna River	86.70	16	P	P	00 36 58.0	+0.3
M17K				IAmb	IAmb	00 37 12.0	
	comp=Z,20nm,1.1s						
M17K	Holitna River	86.70	16	P	P	00 36 57.8	+0.1
	baz=330						
K24K	Donnelly Dome	86.82	10	P	P	00 36 58.3	0.0
	baz=340						
N14K	Kuskokwak Cree	86.85	18	P	P	00 36 58.3	-0.1
	baz=326						
SCRK	Sand Creek	86.92	9	P	P	00 36 58.1	-0.7
SCRK				IAmb	IAmb	00 37 18.8	
	comp=Z,20nm,1.0s						
SCRK	Sand Creek	86.92	9	P	P	00 36 59.1	+0.3
	baz=342,SNR=17						
M19K	Big River Lodg	86.96	14	P	P	00 36 59.4	+0.4
	baz=332						
M18K	Stony River	87.01	15	P	P	00 36 59.1	0.0
	baz=331						
RIDG	Independent Ri	87.02	10	P	P	00 36 58.9	-0.4
	baz=341						
N15K	Kwethluk River	87.08	18	P	P	00 36 59.2	-0.4
	baz=328						
K27K	Chicken	87.13	8	P	P	00 36 59.6	-0.1
K27K				IAmb	IAmb	00 37 11.8	
	comp=Z,26nm,0.9s						
K27K	Chicken	87.13	8	P	P	00 36 59.3	-0.4
	baz=343						
J29N	Klondike Camp	87.16	7	P	P	00 36 59.9	-0.1
	baz=346						
N16K	Nishlik Lake	87.17	17	P	P	00 36 59.6	-0.4
	baz=329						
J30M	Hart River	87.22	6	P	P	00 36 59.6	-0.7
J30M				IAmb	IAmb	00 37 11.5	
	comp=Z,14nm,0.8s						
J30M	Hart River	87.22	6	P	P	00 36 59.8	-0.5
	baz=348						
DHY	Denali Highway	87.25	11	P	P	00 36 59.0	-1.5
DHY	Denali Highway	87.25	11	P	P	00 36 60.0	-0.5
	baz=338						
M20K	Styx River	87.25	14	P	P	00 37 00.0	-0.4
	baz=334						
TABU	Tabubil	87.26	97	P	P	00 37 04.0	+2.7
WAT1	Susitna Watana	87.28	11	P	P	00 37 00.3	-0.2
	baz=338						
CUT	Chulitna	87.35	12	P	P	00 37 00.2	-0.6
	baz=336						
DAWY	Dawson	87.41	7	P	P	00 37 00.5	-0.6
DAWY				IAmb	IAmb	00 37 21.4	
	comp=Z,22nm,1.1s						
DAWY	Dawson	87.41	7	P	P	00 37 01.2	+0.1
	baz=346,SNR=11						
SKT	Skwentna	87.49	13	P	P	00 36 59.3	-2.3
SKT				IAmb	IAmb	00 37 04.1	
	comp=Z,14nm,1.0s						
SKT	Skwentna	87.49	13	P	P	00 37 01.3	-0.2
	baz=335						
N17K	N

PAX	Paxson	87.66	10	P	P	00 37 02.2	-0.1	
	baz=340							
N18K	Kilae Creek	87.70	16	P	P	00 37 02.6	0.0	
	baz=331							
K29M	Barlow Dome	87.83	6	P	P	00 37 01.8	-1.4	
K29M				IAmb	IAmb	00 37 15.0		
	comp=Z,20nm,0.8s							
K29M	Barlow Dome	87.83	6	P	P	00 37 03.4	+0.2	
	baz=347,SNR=12							
N19K	Bonanza Creek	87.91	15	P	P	00 37 04.2	+0.6	
	baz=332							
L26K	Log Cabin Wild	87.92	9	P	P	00 37 03.9	+0.4	
	baz=342							
MENT	Mentasta	87.95	9	P	P	00 37 01.9	-1.8	
MENT				IAmb	IAmb	00 37 27.7		
	comp=Z,12nm,1.0s							
MENT	Mentasta	87.95	9	P	P	00 37 06.1	+2.4	
M22K	Willow	87.98	13	P	P	00 37 02.0	-1.7	
M22K	Willow	87.98	13	P	P	00 37 03.5	-0.3	
	baz=336							
SPCR	Spurr Chakacha	88.06	14	P	P	00 37 04.3	0.0	
	baz=334							
N20K	Mount Spurr	88.06	14	P	P	00 37 04.3	0.0	
	baz=334							
L27K	Beaver Creek,	88.09	9	P	P	00 37 04.2	-0.2	
L27K				IAmb	IAmb	00 37 25.2		
	comp=Z,11nm,1.1s							
L27K	Beaver Creek,	88.09	9	P	P	00 37 03.6	-0.8	
	baz=343							
BCAR	Beaver Creek A	88.09	8	P	P	00 37 04.0	-0.4	
O16K	Kokwok River B	88.10	17	P	P	00 37 04.5	+0.1	
	baz=329							
SUA	Susitna One	88.12	13	P	P	00 37 03.7	-1.0	
SUA	Susitna One	88.12	13	P	P	00 37 04.3	-0.4	
	baz=336							
GHO	Glory Hole Cre	88.19	12	P	P	00 37 04.7	-0.2	
O17K	Koliganek Bris	88.20	17	P	P	00 37 05.0	+0.1	
	baz=330							
MAYO	Mayo, Yukon	88.22	6	P	P	00 37 05.4	+0.4	
	baz=349							
HARP	HAARP	88.24	10	P	P	00 37 05.2	+0.1	
	baz=340							
SML	Sawmill	88.26	12	P	P	00 37 05.6	+0.3	
	baz=338							
PMR	Palmer	88.31	12	P	P	00 37 03.9	-1.5	
PMR				IAmb	IAmb	00 37 18.3		
	comp=Z,14nm,1.0s							
PMR	Palmer	88.31	12	P	P	00 37 07.0	+1.6	
PMR	Palmer	88.31	12	P	P	00 37 06.2	+0.8	
	baz=337							
PMR	Palmer	88.31	12	P	P	00 37 03.9	-1.5	
PMR				pmax	pmax			
	comp=Z,14nm,1.0s							
M24K	Tolsona, Glenn	88.36	11	P	P	00 37 04.5	-1.2	
M24K	Tolsona, Glenn	88.36	11	P	P	00 37 06.0	+0.3	
	baz=340							
M23K	Glacier View	88.39	12	P	P	00 37 06.1	+0.4	
	baz=338							
SCM	Sheep Creek Mo	88.42	11	P	P	00 37 06.3	+0.3	
	baz=339							
WB0	Warramunga Arr	88.46	113	P	P	00 37 06.8	0.0	
L29M	L29M	88.48	7	P	P	00 37 06.4	+0.2	
	baz=347							
O19K	Port Alsworth	88.50	15	P	P	00 37 07.1	+0.9	
	baz=333							
WRA	Warramunga Arr	88.51	113	P	P	00 37 07.2	+0.2	
WRA	Warramunga Arr	88.51	113	P	P	00 37 07.2	+0.2	
WRA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
WRA	Warramunga Arr	88.51	113	P	P	00 37 07.0	0.0	
	comp=Z,7.7nm,0.9s,baz=310,slow=4.1,SNR=44							
WRA				PKKPbc	PKKPbc	00 54 48.1	-0.5	
	comp=Z,0.3nm,0.5s,baz=112,slow=2.6,SNR=5.2							
	comp=Z,7.7nm,0.9s							
WRAB	Tennant Creek	88.51	113	P	P	00 37 07.2	+0.1	
WRAB	Tennant Creek	88.51	113	P	P	00 37 08.7	+1.7	
WRAB	Tennant Creek	88.51	113	*ce*P	P	00 37 08.3	+1.3	
WRAB				pmax	pmax			
	comp=Z,36nm,1.7s							
WB2	Warramunga Arr	88.52	113	P	P	00 37 06.5	-0.5	
M26K	Nabesna, AK	88.56	9	P	P	00 37 07.4	+0.8	
	baz=342							
O18K	Koktuh Hills	88.59	16	P	P	00 37 07.4	+0.6	
	baz=332							
KNK	Knik Glacier	88.61	12	P	P	00 37 07.3	+0.5	
	baz=338							
RC01	Rabbit Creek A	88.66	13	P	P	00 37 06.6	-0.4	
RC01				IAmb	IAmb	00 37 20.5		
	comp=Z,14nm,0.8s							
RC01	Rabbit Creek A	88.66	13	P	P	00 37 07.6	+0.5	
	baz=336							
CAPN	Captain Cook N	88.67	13	P	P	00 37 07.7	+0.6	
	baz=335							
WR0	Warramunga Arr	88.68	113	P	P	00 37 08.6	+0.8	
WR0				IAmb	IAmb	00 37 16.9		
	comp=Z,17nm,1.0s							
M27K	Edge Creek, AK	88.76	9	P	P	00 37 07.6	0.0	
M27K				IAmb	IAmb	00 37 10.8		
	comp=Z,18nm,1.3s							
M27K	Edge Creek, AK	88.76	9	P	P	00 37 07.7	0.0	
	baz=343							
BVCY	Beaver Creek	88.84	8	P	P	00 37 08.0	+0.1	
	baz=344							
P17K	Kvichak River	88.87	17	P	P	00 37 08.7	+0.6	
	baz=331							
KLU	Klutina	88.97	11	P	P	00 37 06.0	-2.6	
KLU				IAmb	IAmb	00 37 29.5		
	comp=Z,12nm,1.0s							
KLU	Klutina	88.97	11	P	P	00 37 08.9	+0.3	
	baz=340							
O20K	Slope Mountain	88.98	14	P	P	00 37 08.8	+0.1	
	baz=334							
P18K	Big Mountain,	89.00	16	P	P	00 37 09.3	+0.6	
	baz=332							
N25K	Chitina, Valde	89.08	10	P	P	00 37 09.7	+0.6	
	baz=341							
M29M	Somme Creek	89.09	7	P	P	00 37 07.5	-1.7	
M29M				IAmb	IAmb	00 37 42.8		
	comp=Z,32nm,1.9s							
M29M	Somme Creek	89.09	7	P	P	00 37 09.5	+0.2	
	baz=346							
M30M	Minto, Yukon	89.14	6	P	P	00 37 10.3	+0.9	
	baz=348							
PWL	Port Wells	89.14	12	P	P	00 37 09.9	+0.5	
	baz=338							
WRGLY	Wrigley	89.17	0	P	P	00 37 10.6	+1.2	
WRGLY				IAmb	IAmb	00 37 21.6		
	comp=Z,15nm,0.8s							
WRGLY	Wrigley	89.17	0	P	P	00 37 10.6	+1.2	
	baz=360							
O22K	Cooper Landing	89.22	13	P	P	00 37 10.8	+1.2	
	baz=336							
P19K	Oil Pt	89.23	15	P	P	00 37 10.1	+0.3	
	baz=334							
GLI	Glacier Island	89.35	12	P	P	00 37 10.7	+0.4	
	baz=339							
YUK3	Moose Creek	89.51	8	P	P	00 37 10.9	-0.4	
	baz=345							
MCARA	McCarthy VSAT	89.53	10	P	P	00 37 10.8	-0.3	
	baz=342							
MMPY	Sheldon Lake,	89.53	4	P	P	00 37 11.6	+0.4	
	baz=353							
HOM	Homer	89.58	14	P	P	00 37 11.9	+0.5	
	baz=335							
YKA	Yellowknife Ar	89.66	356	P	P	00 37 11.6	-0.1	
	comp=Z,3.9nm,0.7s,baz=1.6,slow=5.4,SNR=7.3							
YKA				LR	LR	01 23 48.4		
	comp=Z,481nm,18.6s,baz=11,slow=40							
	comp=Z,3.9nm,0.7s							
Q18K	Katmai Hardscr	89.71	16	P	P	00 37 11.8	-0.4	
	baz=332							
M31M	Drury Creek, Y	89.72	5	P	P	00 37 13.1	+1.0	
M31M	Drury Creek, Y	89.72	5	P	P	00 37 13.3	+1.2	
	baz=350							
Q19K	Cape Douglas,	89.79	15	P	P	00 37 13.4	+1.0	
	baz=333							
Q17K	Contact Creek	89.83	17	P	P	00 37 14.1	+1.3	
	baz=331							
EYAK	Cordova Ski Ar	89.89	11	P	P	00 37 14.0	+1.2	
	baz=340							
AS31	Alice Springs	90.03	117	P	P	00 37 13.2	-1.0	
ASAR	Alice Springs	90.03	117	P	P	00 37 13.7	-0.5	
ASAR	Alice Springs	90.03	117	P	P	00 37 14.1	0.0	
	comp=Z,3.1nm,0.6s,baz=306,slow=4.5,SNR=19							
ASAR				PKKPbc	PKKPdf	00 54 42.3	+0.8	
	comp=Z,0.3nm,0.8s,baz=108,slow=3.0,SNR=1.5							
	comp=Z,3.1nm,0.6s							
YUK8	Steele Glacier	90.07	8	P	P	00 37 14.5	+0.5	
	baz=345							
CRQE	Cirque	90.12	10	P	P	00 37 15.0	+0.9	
	baz=342							
YUK4	Talbot Arm	90.14	8	P	P	00 37 14.8	+0.5	
	baz=346							
CTG	Chitna Glacier	90.17	9	P	P	00 37 14.9	+0.6	
	baz=344							
N30M	Aishikik Lake	90.20	7	P	P	00 37 15.0	+0.6	
	baz=348							
N31M	Braeburn, Yuko	90.31	6	P	P	00 37 15.5	+0.7	
	baz=349							
Q20K	Shuyak Island	90.36	15	P	P	00 37 16.1	+1.0	
	baz=334							
O28M	Mount Upton	90.51	8	P	P	00 37 16.7	+0.6	
	baz=345							
FALS	False Pass	90.52	22	P	P	00 37 17.3	+1.5	
	baz=325							
YUK6	Outpost Mounta	90.57	7	P	P	00 37 16.2	-0.1	
	baz=346							
TGTN	Hyland Airport	90.77	3	P	P	00 37 16.5	-0.5	
	baz=355							
HYT	Haines Junctio	90.78	7	P	P	00 37 17.1	-0.1	
HYT				IAmb	IAmb	00 37 29.3		
	comp=Z,11nm,0.9s							
HYT	Haines Junctio	90.78	7	P	P	00 37 16.5	-0.6	
	baz=347							
R18K	Karluk	90.81	16	P	P	00 37 17.7	+0.6	
	baz=332							
N32M	Quiet Lake	90.87	5	P	P	00 37 18.6	+1.1	
	baz=351							
O30N	Mendenhall	90.98	6	P	P	00 37 18.9	+0.9	
	baz=348							
KDAK	Kodiak Island	91.06	15	P	P	00 37 17.9	-0.4	
KDAK				IAmb	IAmb	00 37 29.0		
	comp=Z,22nm,1.0s							
KDAK	Kodiak Island	91.06	15	P	P	00 37 19.6	+1.2	
	baz=334							
KDAK	Kodiak Island	91.06	15	P	P	00 37 17.9	-0.4	
KDAK				pmax	pmax			
	comp=Z,22nm,1.0s							
KDAK	Kodiak Island	91.06	15	LR	LR	01 24 29.4		
	comp=Z,745nm,18.2s,baz=347,slow=40							
PNL	Peninsula	91.68	8	P	P	00 37 21.3	0.0	
	baz=346							
SII	Sitkinak Islan	91.77	17	P	P	00 37 22.2	+0.6	
	baz=333							
P33M	Teslin, Yukon	91.82	5	P	P	00 37 22.5	+0.6	
	baz=351							
PLBC	Pleasant Camp	92.24	7	P	P	00 37 24.6	+0.9	
	baz=348							
SKAG	Skagway	92.34	6	P	P	00 37 24.5	+0.3	
	baz=349							
PKME	Peaks-Kenny Pk	92.36	325	P	P	00 37 25.7	+1.1	
	baz=45							
P32M	Atlin	92.36	5	P	P	00 37 25.5	+1.1	
	baz=350							
R33M	Jennings River	92.76	4	P	P	00 37 27.2	+0.9	
	baz=353							
OOD	Oodnadatta	93.49	120	P	P	00 37 32.0	+2.0	
DLBC	Dease Lake	93.77	4	P	P	00 37 31.0	+0.1	
	baz=354							
DLBC	Dease Lake	93.77	4	LR	LR	01 24 45.0		
	comp=Z,235nm,19.8s,baz=342,slow=39							
TRQ	Mont Tremblant	94.20	329	P	P	00 37 31.1	-2.0	
TRQ				IAmb	IAmb	00 37 35.3		
	comp=Z,22nm,1.2s							
S34M	Telegraph Cree	94.22	4	P	P	00 37 32.6	-0.3	
	baz=353							
LBNH	Lisbon	94.40	326	P	P	00 37 35.1	+1.1	
	baz=44							
T35M	Bob Quinn	95.21	4	P	P	00 37 38.4	+0.9	
	baz=354							
MAW	Mawson	95.32	178	P	P	00 37 37.5	+0.1	
	comp=Z,2.2nm,0.8s,baz=343,slow=8.6,SNR=6.4							
	comp=Z,2.2nm,0.8s							
RCBR	Riachuelo	95.34	266	LR	LR	01 21 47.1		
	comp=Z,342nm,19.2s,baz=62,slow=36							
LONY	Lake Ozonia	95.41	328	P	P	00 37 38.1	-0.6	
LONY	Lake Ozonia	95.41	328	P	P	00 37 39.7	+1.0	
	baz=42							
M65A	Busby, Falmout	95.67	323	P	P	00 37 41.0	+1.1	
	baz=45							
L61B	Northampton	96.08	325	P	P	00 37 41.8	+0.1	
	baz=43							
J59A	Piesco	96.24	327	P	P	00 37 39.3	-3.2	
KRVT	Keravat (AS076	96.34	92	LR	LR	01 22 36.3		
	comp=Z,142nm,21.8s,baz=316,slow=36							
CRAG	Craig	96.49	6	P	P	00 37 44.1	+0.8	
	baz=351							
J58A	Remsen	96.69	327	P	P	00 37 41.8	-2.7	
J58A				IAmb	IAmb	00 37 46.9		
	comp=Z,9.8nm,0.8s							
SADO	Sadowa	97.38	330	LR	LR	01 25 13.3		
	comp=Z,314nm,18.8s,baz=34,slow=38							
BINY	Binghamton	97.91	327	P	Pdif	00 37 50.2	+0.1	
	baz=41							
CTA	Charters Tower	98.43	108	LR	LR	01 24 02.1		
	comp=Z,189nm,21.9s,baz=274,slow=36							
ULM	Lac du Bonnet	98.57	343	LR	LR	01 26 28.5		
	comp=Z,529nm,18.9s,baz=26,slow=38							
STKA	Stephens Creek	99.93	121	LR	LR	01 21 54.6		
	comp=Z,483nm,21.0s,baz=281,slow=35							
SNAA	Sanae	107.55	197	PKiKP	PKiKP	00 42 39.1	-0.9	
	comp=Z,1.7nm,1.1s,baz=104,slow=4.2,SNR=3.6							
SNAA				PKKPbc	PKKPbc	00 53 55.3	-1.8	
	comp=Z,1.8nm,1.2s,baz=333,slow=4.0,SNR=3.1							
PDAR	Pinedale Array	108.60	350	PKiKP	PKiKP	00 42 42.7	-0.6	
	comp=Z,0.2nm,0.6s,baz=47,slow=4.0,SNR=1.5							
PDAR				PKKPab	PKKPdf	00 54 04.7	-1.7	
	comp=Z,0.2nm,0.3s,baz=189,slow=5.1,SNR=1.3							
NVAR	Mina Array Bea	113.86	356	PKiKP	PKiKP	00 42 52.9	-0.5	
	comp=Z,0.8nm,0.8s,baz=90,slow=0.8,SNR=6.8							
NVAR				PKKPbc	PKKPbc	00 53 35.1	-0.8	
	comp=Z,0.2nm,0.5s,baz=188,slow=5.5,SNR=3.1							
BELA	Belgrano 2	117.44	194	PKPdf	PKPdf	00 42 58.1	-0.6	
QSPA	South Pole Qui	117.75	180		PKPdf	00 42 58.9	-0.7	
QSPA	South Pole Qui	117.75	180	PKP	PKPdf	00 42 58.6	-1.0	
	comp=Z,5.1nm,0.9s,baz=269,slow=2.5,SNR=14							
MNTX	Cornudas Mount	118.41	343	P	PKiKP	00 43 02.8	+0.7	
	baz=18							
ALPN	Alpine	119.19	341		PKiKP	00 43 04.5	+0.7	
TX31	Lajitas Ar. Si	120.17	341	PKPdf	PKPdf	00 43 01.2	-4.4	
TX32	Lajitas Array	120.17	341		PKPdf	00 43 00.3	-5.3	
TXAR	Lajitas Array	120.17	341	PKP	PKPdf	00 43 05.2	-0.4	
	comp=Z,0.7nm,0.7s,baz=174,slow=2.5,SNR=9.8							
CPUP	Villa Florida	122.27	255	PKP	PKiKP	00 43 09.8	+0.3	
	comp=Z,1.0nm,0.5s,baz=124,slow=1.4,SNR=3.0							
ESFA	Espinillo Form	122.85	257	*e*P	PKPdf	00 43 10.5	-0.1	
ROSC	El Rosal	122.98	297	PKP	PKiKP	00 43 12.3	+0.4	
	comp=Z,4.2nm,0.6s,baz=111,slow=20,SNR=1.3							
LPAZ	La Paz	128.32	271	*e*P	PKPdf	00 43 21.0	-1.1	
LPAZ	La Paz	128.32	271	PKP	PKPdf	00 43 22.4	+0.3	
	comp=Z,1.0nm,0.7s,baz=345,slow=8.2,SNR=4.5							
PLCA	Paso Flores	135.52	239	PKP	PKPdf	00 43 34.2	-0.1	
	comp=Z,2.8nm,0.9s,baz=184,slow=21,SNR=3.9							
RAR	Rarotonga	145.90	87	PKP2	PKPbc	00 43 54.0	-0.1	
RAR	Rarotonga	145.90	87	PKPbc	PKPbc	00 43 54.0	-0.1	
	comp=Z,8.2nm,0.6s,baz=293,slow=4.5,SNR=1.6							

SKHL ***23*** *00:46:20.3±0.0, 41.°90N×144.°50E, h34km±3km, mb4.2/2*
JMA ***23*** *00:46:20.6±0.1, 42.°2N±0.°3×144.°2E±0.°3, h59km±1km,*
MV3.7/31, SE OFF TOKACHI
IDC ***23*** *00:46:22.7±2.9, 42.°16N×144.°16E, h54km±22km, mb3.4/10,*
mbtmp3.6/13, ML3.3/3, Error ellipse: s-maj=26.9km
s-min=18.3km az=86.0
ISC 23 00:46:21.1±1.4, 42.°14N±0.°08×144.°20E±0.°05, h41km±13km,
n35, σ0.°75/41, mb3.5/10, 9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTHR	Tokachihiroo	0.69	283	⇓P	Pn	00 46 34.3	0.0
JTHR				⇓*e*S	Sn	00 46 44.0	+0.1
JCH	Churui	0.78	308	⇓P	Pn	00 46 35.5	-0.2
JCH				⇓*e*S	Sn	00 46 45.6	-0.6
JEM	Erimo	0.78	262	*e*P	Pn	00 46 35.8	+0.1
JOB	Onbets	0.81	341	⇓P	Pn	00 46 35.8	-0.3
JAK	Akkeshi	0.94	23	⇓P	Pn	00 46 37.5	-0.3
JAK				⇓*e*S	Sn	00 46 49.7	-0.2
JNBK	Urakawa-nobuka	1.08	278	*e*P	Pn	00 46 39.6	-0.2
JAR	Ashorobuto	1.20	345	⇓P	Pn	00 46 40.9	-0.6
JAR				⇓*e*S	Sn	00 46 56.1	-0.5
JNK	Nakash	1.50	15	*e*P	Pn	00 46 44.8	-0.7
JNK				*e*S	Sn	00 47 02.6	-1.2
JBT2	Biratori 2	1.50	296	*e*P	Pn	00 46 44.7	-0.8
JFR	Furan	1.57	312	*e*P	Pn	00 46 46.3	-0.1
NMR	Nemuro--Hokkai	1.67	42	*e*P	Pn	00 46 47.4	-0.5
NMR				*e*S	Sn	00 47 07.5	-0.5
NEM2	Nemuro 2	1.68	42	*e*P	Pn	00 46 48.0	+0.1
NEM2				*e*S	Sn	00 47 07.4	-0.7
JTKR	Abashiri--Toko	1.85	354	*e*P	Pn	00 46 50.7	+0.4
YUK	Yuzh-Kuril'sk	2.26	32	*e*P	Pn	00 46 57.4	+1.5
YUK				AMB	AMB	00 46 59.2	
	110nm,0.6s						
YUK				*e*S	Sn	00 47 23.3	+0.8
YUK				A	A	00 47 26.7	
	420nm,0.5s						
YUK				A	A	00 47 26.7	
	300nm,0.5s						
ASAJ	Asahikawa	2.30	330	P	Pn	00 46 57.2	+0.7
	6.9nm,0.3s,baz=206,slow=20,SNR=15						
ASAJ				S	Sn	00 47 25.3	+1.7
	36nm,0.4s,baz=216,slow=28,SNR=3.0						
	18nm,0.3s						
SHO	Shikotan	2.59	47	*e*P	Pn	00 47 00.9	+0.4
SHO				AMB	AMB	00 47 04.2	
	40nm,0.8s						
SHO				*e*S	Sn	00 47 30.6	-0.2
SHO				A	A	00 47 36.7	
	180nm,0.3s						
SHO				A	A	00 47 36.7	
	160nm,0.3s						
KUR	Kuril'sk	4.08	39	*e*P	Pn	00 47 22.1	+1.1
KUR				*e*S	Sn	00 48 08.6	+1.1
MJAR	Matsushiro Arr	7.26	222	P	Pn	00 48 06.1	+1.4
	0.1nm,0.3s,baz=45,slow=11,SNR=2.9						
	2.3nm,0.5s						
USRK	Ussurlysk Ar.	9.16	287	P	Pn	00 48 31.7	+1.1
	0.4nm,0.3s,baz=116,slow=11,SNR=4.7						
	1.4nm,0.6s						
SONM	Songino Array	27.14	295	P	P	00 51 59.9	-0.5
	0.8nm,0.7s,baz=81,slow=10,SNR=3.6						
	0.8nm,0.7s						
H11N2	WAKE ISLAND Hy	29.46	132	T	T	01 23 47.6	
	baz=325,slow=75,SNR=66						
H11N1	WAKE ISLAND Hy	29.47	132	T	T	01 23 48.4	
	baz=325,slow=75,SNR=67						
H11N3	WAKE ISLAND Hy	29.48	132	T	T	01 23 48.9	
	baz=325,slow=75,SNR=42						
H11S1	WAKE ISLAND Hy	30.35	134	T	T	01 25 01.7	
	baz=326,slow=76,SNR=46						
H11S3	WAKE ISLAND Hy	30.35	134	T	T	01 24 52.6	
	baz=326,slow=76,SNR=25						
H11S2	WAKE ISLAND Hy	30.37	134	T	T	01 25 02.7	
	baz=326,slow=76,SNR=27						
ZALV	Zalesovo Beam	40.26	308	P	P	00 53 54.1	+0.3
	0.6nm,0.4s,baz=91,slow=12,SNR=6.4						
	0.6nm,0.4s						
MKAR	Makanchi Array	43.42	298	P	P	00 54 19.9	+0.1
	0.4nm,0.5s,baz=81,slow=9.5,SNR=5.9						
	0.4nm,0.5s						
ILAR	Eielson Array	44.06	35	P	P	00 54 24.6	0.0
	0.5nm,1.0s,baz=270,slow=6.0,SNR=1.8						
	0.5nm,1.0s						
KURBB	Kurchatov Arra	44.73	304	P	P	00 54 29.9	-0.2
	0.9nm,0.5s,baz=74,slow=9.0,SNR=9.2						
	0.9nm,0.5s						
BVAR	Borovoye Array	48.85	310	P	P	00 55 02.7	+0.3
	0.8nm,0.5s,baz=71,slow=8.6,SNR=11						
BVAR				PcP	PcP	00 56 25.8	-0.5
	0.2nm,0.3s,baz=48,slow=6.4,SNR=1.5						
	0.8nm,0.5s						
WRA	Warramunga Arr	62.43	190	P	P	00 56 40.2	+0.2
	0.2nm,0.7s,baz=6.6,slow=7.0,SNR=1.7						
	0.2nm,0.7s						
FINES	FINESS Array B	65.31	332	P	P	00 56 57.7	-0.8
	1.4nm,0.7s,baz=44,slow=6.2,SNR=11						
	1.4nm,0.7s						
NOA	NORSAR Array B	70.30	338	P	P	00 57 29.0	-1.0
	0.4nm,0.8s,baz=33,slow=6.4,SNR=1.1						
	0.4nm,0.8s						
TXAR	Lajitas Array	85.35	54	P	P	00 58 55.2	+1.0
	0.2nm,0.7s,baz=306,slow=3.2,SNR=2.1						
	0.2nm,0.7s						

NOU ***23*** *01:14:04.5, 37.°05S×179.°73E, h0km, MLv4.1/9, Off E.*
Coast of N. Island, N.Z.
WEL ***23*** *01:14:12.2±1.1, 37.°S±4.°×17.°9E±.°, h12km, M3.4/39,*
ML3.6/21, MLv3.4/39, Error ellipse: s-maj=0.0km
s-min=0.0km az=95.6, confirmed
ISC 23 01:14:08.5±2.8, 37.°06S±0.°07×179.°4E±0.°1, h12km±12km,
n84, σ1.°26/89, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.01	240	P	Pg	01 14 27.4	-0.7
MXZ	Matakaoa Point	1.01	240	P	Pg	01 14 27.4	-0.7
WMGZ	Waiomatatini S	1.10	226	P	Pn	01 14 31.0	+1.3
WMGZ				S	Sg	01 14 44.4	+0.5
PKGZ	Pakihiroa	1.35	232	P	Pn	01 14 33.8	+0.6
PKGZ				S	Sb	01 14 50.1	-0.8
PUZ	Puketiti	1.36	222	P	Pn	01 14 34.5	+1.1
PUZ				S	Sb	01 14 50.6	-0.8
HAZ	Te Kaha	1.47	242	P	Pn	01 14 34.2	-0.7
HAZ				S	Sn	01 14 54.1	0.0
TWGZ	Tauwhareparae	1.59	225	P	Pb	01 14 38.3	+0.4
RUGZ	Raukumara Rang	1.65	236	P	Pn	01 14 38.6	+1.1
CNGZ	Carnagh Statio	1.71	214	P	Pb	01 14 40.5	+0.6
WIZ	White Island	1.83	255	P	Pn	01 14 40.3	+0.4
TKGZ	Te Karaka	1.85	222	P	Pn	01 14 41.6	+1.5
MWZ	Matawai	1.96	229	P	Pn	01 14 42.7	+1.0
RIGZ	Rimuhau	2.10	218	P	Pn	01 14 44.5	+0.9
WHRZ	Whale Island	2.10	247	P	Pn	01 14 45.0	+1.5
RAGZ	Rawiri	2.13	227	P	Pn	01 14 45.3	+1.2
URZ	Urewera	2.18	236	P	Pn	01 14 45.7	+1.0
URZ	Urewera	2.18	236	P	Pn	01 14 45.6	+1.0
URZ				S	Sn	01 15 09.8	-1.8
PRGZ	Paritu Road	2.22	213	P	Pn	01 14 46.2	+1.1
MARZ	Manawahe	2.37	246	P	Pn	01 14 48.1	+0.9
EDRZ	Edgecumbe	2.37	243	P	Pn	01 14 48.7	+1.4
SNGZ	Shannon Statio	2.37	223	P

AWAZ	Awhitu Peninsu	3.82	269	P	Pn	01 15 07.8	+0.7
PRHZ	Porangahau	3.87	213	P	Pn	01 15 08.6	+0.8
RVAZ	Riverhead Bore	3.89	273	P	Pn	01 15 08.7	+0.7
HIZ	Hauiti	3.89	247	P	Pn	01 15 10.3	+2.2
HIZ	Hauiti	3.89	247	P	Pn	01 15 10.6	+2.4
DVHZ	Dannevirke	4.11	217	P	Pn	01 15 11.4	+0.2
VRZ	Vera Road	4.21	239	P	Pn	01 15 14.9	+2.3
WCZ	Waipu Caves	4.24	284	P	Pn	01 15 13.6	+0.7
BFZ	Birch Farm	4.38	213	P	Pn	01 15 13.7	-1.1
WAZ	Wanganui	4.40	231	P	Pn	01 15 16.3	+1.2
NEZ	North Egmont	4.74	241	P	Pn	01 15 24.0	+4.1
KHEZ	Kahui Hut	4.80	241	P	Pn	01 15 21.6	+0.8
KHEZ	Kahui Hut	4.80	241	P	Pn	01 15 25.7	+5.0
OUZ	Omahuta	5.06	290	P	Pn	01 15 25.2	+1.1
OUZ	Omahuta	5.06	290	P	Pn	01 15 25.6	+1.5
QRZ	Quartz Range	6.55	233	P	Pn	01 15 46.0	+1.3
QRZ	Quartz Range	6.55	233	P	Pn	01 15 43.7	-1.0

*NAO **23** 01:17:22.9, 36˚.45N×21˚.49E, h33km, mb3.7*
*TIR **23** 01:17:28.5, 37˚.63N×19˚.57E, h12km±4km, Ml4.1*
*IDC **23** 01:17:32.2±0.8, 37˚.86N×19˚.94E, h0km, mb3.8/12, mbtmp3.7/25, ML3.5/12, MS3.5/1, Error ellipse: s-maj=14.7km s-min=12.7km az=14.0*
*THE **23** 01:17:32.0, 37˚.81N×19˚.71E, h0km±2km, ML3.7/7, Error ellipse: s-maj=2.6km s-min=0.8km az=263.0*
*ATH **23** 01:17:34.3±0.4, 37˚.80N×19˚.89E, h10km, ML3.6/18, Manual Solution by N.Liadopoulou This location: 2019/12/22 06:55:35 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*BEO **23** 01:17:35.2±0.7, 37˚.98N×19˚.69E, h0km, ML3.7/8*
*NEIC **23** 01:17:35.3±2.3, 37˚.80N±0˚.07×19˚.83E±0˚.08, h14km±2km, mb4.5/20, Error ellipse: s-maj=10.2km s-min=8.6km az=178.0*

ISC 23 01:17:33.9±0.9, 37˚.82N±0˚.03×19˚.82E±0˚.03, h9km±6km, n238, σ1$25/283, mb4.4/24, 6C-11D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.56**	**47**	P	**Pg**	**01 17 45.5**	**+0.7**
KEF3				S	**Sg**	**01 17 53.4**	**+1.2**
DMLN	**Damoulianata-K**	**0.60**	**46**	P	**Pg**	**01 17 45.6**	**0.0**
DMLN				S	**Sg**	**01 17 54.6**	**+1.1**
	12μm,0.6s						
DMLN	**Damoulianata-K**	**0.60**	**46**	P	**Pg**	**01 17 45.4**	**-0.2**
DMLN				S	**Sg**	**01 17 54.6**	**+1.1**
LXRA	**Lixouri, Kepha**	**0.61**	**52**	P	**Pg**	**01 17 45.8**	**0.0**
LXRA				S	**Sg**	**01 17 55.0**	**+1.1**
LXR1	**Lixouri, Cepha**	**0.61**	**52**	P	**Pg**	**01 17 44.7**	**-1.1**
LXR1				S	**Sg**	**01 17 55.3**	**+1.4**
ARGA	**Argostoli. Kep**	**0.63**	**55**	P	**Pg**	**01 17 46.5**	**+0.4**
ARGA				S	**Sg**	**01 17 55.5**	**+1.2**
KEF4	**Livadi, Kephal**	**0.64**	**47**	P	**Pg**	**01 17 46.2**	**-0.2**
KEF4				S	**Sb**	**01 17 56.7**	**+0.3**
KEF4	**Livadi, Kephal**	**0.64**	**47**	P	**Pg**	**01 17 46.0**	**-0.4**
KEF4				S	**Sg**	**01 17 55.9**	**+1.1**
VLS	**Valsamata**	**0.70**	**59**	P	**Pg**	**01 17 46.7**	**-0.8**
VLS				S	**Sb**	**01 17 58.5**	**+0.4**
	7μm,0.5s						
VLS	**Valsamata**	**0.70**	**59**	P	**Pg**	**01 17 46.7**	**-0.8**
VLS				S	**Sg**	**01 17 57.6**	**+1.0**
KRI1	**kERI**	**0.80**	**101**	P	**Pg**	**01 17 48.4**	**-1.0**
LTHK	**Lithakia**	**0.81**	**98**	P	**Pg**	**01 17 48.2**	**-1.3**
LTHK				S	**Sb**	**01 18 02.2**	**+1.0**
	8μm,0.7s						
LTHK	**Lithakia**	**0.81**	**98**	P	**Pg**	**01 17 48.1**	**-1.4**
LTHK				S	**Sg**	**01 17 59.8**	**-0.2**
VSK1	**VASILIKIADES**	**0.83**	**45**	P	**Pg**	**01 17 49.2**	**-0.7**
VSK1				S	**Sg**	**01 18 01.8**	**+1.2**
	5μm,0.6s						
FSK	**Fiskardo**	**0.86**	**42**	P	**Pg**	**01 17 49.5**	**-1.0**
FSK				S	**Sb**	**01 18 03.2**	**+0.5**
	3μm,0.6s						
FSK	**Fiskardo**	**0.86**	**42**	P	**Pg**	**01 17 49.8**	**-0.7**
FSK				S	**Sb**	**01 18 02.9**	**+0.2**
EVGI	**Lefkada island**	**1.03**	**39**	P	**Pg**	**01 17 52.7**	**-1.1**
EVGI				S	**Sn**	**01 18 09.4**	**+0.2**
	4μm,0.5s						
EVGI	**Lefkada island**	**1.03**	**39**	P	**Pg**	**01 17 53.6**	**-0.1**
EVGI				S	**Sb**	**01 18 08.6**	**+0.9**
DRAG	**Dragano-Lefkad**	**1.04**	**34**	P	**Pg**	**01 17 53.4**	**-0.6**
DRAG				S	**Sb**	**01 18 08.5**	**+0.5**
DRAG	**Dragano-Lefkad**	**1.04**	**34**	P	**Pg**	**01 17 54.3**	**+0.3**
DRAG				S	**Sb**	**01 18 08.9**	**+1.0**
NYDR	**Nydri-Lefkada**	**1.12**	**37**	P	**Pb**	**01 17 54.9**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.12**	**37**	P	**Pb**	**01 17 55.2**	**-0.3**
LKD2	**Lefkada island**	**1.17**	**34**	P	**Pb**	**01 17 55.1**	**-1.2**
LKD2				S	**Sn**	**01 18 12.8**	**+0.3**
	3μm,0.5s						
LKD2	**Lefkada island**	**1.17**	**34**	P	**Pb**	**01 17 56.6**	**+0.3**
TSLK	**Tsoukalades, L**	**1.20**	**33**	P	**Pn**	**01 17 55.2**	**-1.6**
TSLK	**Tsoukalades, L**	**1.20**	**33**	P	**Pn**	**01 17 57.1**	**+0.3**
RLS	**Riolos of Patr**	**1.32**	**79**	P	**Pn**	**01 17 57.8**	**-0.7**
RLS				S	**Sg**	**01 18 18.8**	**+2.4**
RLS	**Riolos of Patr**	**1.32**	**79**	P	**Pn**	**01 17 57.5**	**-1.0**
PVO	**Paravola**	**1.56**	**59**	P	**Pn**	**01 18 01.5**	**-0.3**
PVO				S	**Sg**	**01 18 24.3**	**+0.3**
PVO	**Paravola**	**1.56**	**59**	P	**Pn**	**01 18 01.4**	**-0.4**
EFP	**Efpalio**	**1.75**	**69**	P	**Pn**	**01 18 04.4**	**0.0**
LAKA	**Lakka**	**1.75**	**76**	P	**Pn**	**01 18 04.7**	**+0.2**
IGT	**Igoumenitsa**	**1.75**	**13**	*e*Pn	**Pn**	**01 18 05.0**	**+0.5**
PYL	**PYLOS**	**1.79**	**121**	P	**Pn**	**01 18 04.6**	**-0.3**
PYL	**PYLOS**	**1.79**	**121**	P	**Pn**	**01 18 04.3**	**-0.6**
ANX	**Ano Chora**	**1.82**	**64**	P	**Pn**	**01 18 06.1**	**+0.6**
KLV	**Kalavryta, Ach**	**1.85**	**82**	P	**Pn**	**01 18 05.7**	**-0.2**
KEK	**Kerkira**	**1.89**	**359**	Pn	**Pn**	**01 18 06.5**	**+0.2**
KALE	**Kalithea**	**1.91**	**72**	P	**Pn**	**01 18 06.9**	**+0.2**
KASA	**Kassiopi**	**1.92**	**3**	P	**Pn**	**01 18 07.3**	**+0.5**
GUR	**Goura**	**2.00**	**86**	P	**Pn**	**01 18 07.4**	**-0.5**
JAN	**Janina**	**2.00**	**23**	P	**Pn**	**01 18 07.9**	**-0.1**
SRN	**Saranda**	**2.06**	**4**	P	**Pn**	**01 18 09.2**	**+0.6**
	baz=8.0						
SRN				S	**Sg**	**01 18 40.9**	**+0.7**
	baz=8.0						
SRN				AMP			
	comp=E,3.0nm,0.5s,baz=8.0						
AGG	**Agios Georgios**	**2.31**	**58**	Pn	**Pn**	**01 18 13.8**	**+1.7**
AXAR	**Agios Charalam**	**2.42**	**66**	P	**Pn**	**01 18 14.0**	**+0.3**
THL	**Klokotos Trika**	**2.44**	**44**	P	**Pn**	**01 18 14.5**	**+0.5**
KPRO	**Kipourio**	**2.44**	**29**	P	**Pn**	**01 18 13.9**	**-0.2**
SCTE	**Santa Cesarea**	**2.48**	**335**	Pn	**Pn**	**01 18 14.7**	**+0.2**
SCTE	**Santa Cesarea**	**2.48**	**335**	P	**Pn**	**01 18 15.2**	**+0.7**
	baz=342						
SCTE	**Santa Cesarea**	**2.48**	**335**	P	**Pn**	**01 18 15.2**	**+0.7**
EPID	**Epidavros**	**2.62**	**94**	P	**Pn**	**01 18 16.2**	**-0.2**
EPID	**Epidavros**	**2.62**	**94**	P	**Pn**	**01 18 16.0**	**-0.4**
VLO	**Vlora**	**2.66**	**355**		**Pn**	**01 18 16.9**	**0.0**
VLO	**Vlora**	**2.66**	**355**	P	**Pn**	**01 18 18.4**	**+1.5**
	baz=359						
VLO				S	**Sb**	**01 18 55.1**	**+0.8**
	baz=359						
VLO				AMP			
	comp=E,2.9nm,0.9s,baz=359						
ATAL	**Atalanti**	**2.66**	**70**	P	**Pn**	**01 18 16.4**	**-0.6**
ATAL	**Atalanti**	**2.66**	**70**	P	**Pn**	**01 18 16.6**	**-0.4**
TYRN	**Tyrnavos**	**2.67**	**44**	P	**Pn**	**01 18 16.7**	**-0.3**
KRND	**KRANIDI**	**2.68**	**98**	P	**Pn**	**01 18 17.4**	**+0.2**
KRND	**KRANIDI**	**2.68**	**98**	P	**Pn**	**01 18 16.6**	**-0.5**
VLI	**Veliai**	**2.72**	**113**	P	**Pn**	**01 18 17.1**	**-0.6**
VIL2	**Platees**	**2.75**	**81**	P	**Pn**	**01 18 17.9**	**-0.2**
VILL	**Villia**	**2.78**	**82**	P	**Pn**	**01 18 18.8**	**+0.2**
KBN	**Korca**	**2.90**	**15**	Pn	**Pn**	**01 18 22.6**	**+2.3**
KBN	**Korca**	**2.90**	**15**	P	**Pn**	**01 18 22.8**	**+2.5**
	baz=17						
NEO	**Neokhori**	**3.05**	**60**	P	**Pn**	**01 18 22.8**	**+0.5**
NEO				S	**Sn**	**01 19 00.9**	**+1.9**
XOR	**Xorichti**	**3.06**	**59**	P	**Pn**	**01 18 23.2**	**+0.8**
VLY	**Voula,Athens**	**3.14**	**88**	P	**Pn**	**01 18 23.1**	**-0.5**
FNA	**Florina**	**3.19**	**22**	Pn	**Pn**	**01 18 26.0**	**+1.7**
FNA	**Florina**	**3.19**	**22**	*e*Pn	**Pn**	**01 18 25.6**	**+1.3**
DION	**Dionisos Attik**	**3.26**	**84**	P	**Pn**	**01 18 26.0**	**+0.8**
OHR	**Ohrid**	**3.37**	**13**	*e*Pn	**Pn**	**01 18 26.9**	**+0.1**
OHR				*e*Sn	**Sn**	**01 19 05.2**	**-1.7**
OHR	**Ohrid**	**3.37**	**13**	*i* Pn	**Pn**	**01 18 29.4**	**+2.6**
TIR	**Tirane**	**3.52**	**0**	⇓P	**Pn**	**01 18 28.9**	**+0.1**
TIR	**Tirane**	**3.52**	**0**		**Pn**	**01 18 30.1**	**+1.3**
TIR	**Tirane**	**3.52**	**0**	P	**Pn**	**01 18 30.7**	**+1.9**
	baz=3.0						
TIR				S	**Sb**	**01 19 17.5**	**-1.7**
	baz=3.0						
TIR				AMP			
	comp=N,0.5nm,0.8s,baz=3.0						
TIR	**Tirane**	**3.52**	**0**	*e*Pn	**Pn**	**01 18 30.1**	**+1.3**
GRG	**Griva**	**3.71**	**32**	P	**Pn**	**01 18 32.1**	**+0.6**
THE	**Thessaloniki**	**3.72**	**40**	P	**Pn**	**01 18 32.0**	**+0.5**
MATE	**Matera**	**3.72**	**320**	⇑P	**Pn**	**01 18 31.9**	**+0.4**
MATE				⇓S	**Sn**	**01 19 16.3**	**+0.8**
HORT	**Hortiatis**	**3.76**	**42**	P	**Pn**	**01 18 32.7**	**+0.5**
HORT				S	**Sn**	**01 19 18.9**	**+2.3**
CUC	**Castrocucco**	**3.81**	**306**	Pn	**Pn**	**01 18 35.1**	**+2.4**
VAY	**Valandovo**	**4.09**	**30**	*i* Pn	**Pn**	**01 18 37.8**	**+1.2**
IMMV	**Ierа Moni Meta**	**4.09**	**124**	P	**Pn**	**01 18 37.0**	**+0.4**
OUR	**Ouranopolis**	**4.09**	**51**	P	**Pn**	**01 18 37.5**	**+0.9**
VAE	**Valguarnera**	**4.31**	**267**	Pn	**Pn**	**01 18 41.6**	**+2.0**
	comp=N,8.1nm,0.8s,baz=152,slow=11,SNR=2.4						
VAE				Sn	**Sn**	**01 19 29.6**	**-0.5**
	comp=N,2.3nm,0.3s,baz=150,slow=20,SNR=3.5						
RAFF	**Raffo Rosso**	**4.38**	**264**	Pn	**Pn**	**01 18 40.0**	**-0.6**
DRME	**Dracevica, Mon**	**4.39**	**354**	*e*Pn	**Pn**	**01 18 40.0**	**-0.7**
SRS	**Serrai**	**4.40**	**40**	P	**Pn**	**01 18 41.6**	**+0.8**
SRS	**Serrai**	**4.40**	**40**	*e*Pn	**Pn**	**01 18 41.7**	**+0.9**
KOKK	**Kokkinochori,**	**4.41**	**46**	P	**Pn**	**01 18 41.9**	**+0.9**
BCI	**Bajram Curri**	**4.54**	**2**	P	**Pn**	**01 18 44.0**	**+1.2**
	baz=4.0						
APE	**Apeiranthos**	**4.60**	**98**	⇑P	**Pn**	**01 18 43.8**	**+0.1**
PEHC	**Pehcevo**	**4.61**	**30**	*i* Pn	**Pn**	**01 18 45.1**	**+1.3**
PDG	**Podgorica**	**4.62**	**355**	⇓P	**Pn**	**01 18 44.1**	**+0.2**
PDG				⇓S	**Sn**	**01 19 36.8**	**-0.9**
PDG	**Podgorica**	**4.62**	**355**	Pn	**Pn**	**01 18 43.2**	**-0.7**
PDG	**Podgorica**	**4.62**	**355**	*e*Pn	**Pn**	**01 18 43.3**	**-0.7**
PDG				*e*Sn	**Sn**	**01 19 36.2**	**-1.5**
PDG	**Podgorica**	**4.62**	**355**	*e*Pn	**Pn**	**01 18 42.9**	**-1.0**
LIA	**Limnos Island**	**4.67**	**62**	P	**Pn**	**01 18 44.6**	**+0.1**
WDD	**Wied Dalam**	**4.69**	**247**	Pn	**Pn**	**01 18 45.3**	**+0.5**
THAS	**Thassos island**	**4.71**	**52**	P	**Pn**	**01 18 45.7**	**+0.6**
IDI	**Anoyia**	**4.80**	**120**	⇑P	**Pn**	**01 18 46.8**	**+0.4**
IDI	**Anoyia**	**4.80**	**120**	P	**Pn**	**01 18 47.1**	**+0.7**
IDI	**Anoyia**	**4.80**	**120**	Pn	**Pn**	**01 18 46.3**	**-0.1**
IDI	**Anoyia**	**4.80**	**120**	Pn	**Pn**	**01 18 46.5**	**+0.1**
	comp=N,2.1nm,0.3s,baz=280,slow=20,SNR=19						
IDI				Sn	**Sn**	**01 19 40.7**	**-1.5**
	comp=N,4.5nm,0.3s,baz=313,slow=19,SNR=12						
	comp=N,3.7nm,0.3s						
KAVA	**Kavala**	**4.82**	**47**	P	**Pn**	**01 18 47.1**	**+0.5**
PRVS	**Prvonek**	**4.99**	**20**	*e*Pn	**Pn**	**01 18 48.5**	**-0.5**
TREB	**Trebinje**	**5.02**	**347**	*e*Pn	**Pn**	**01 18 48.5**	**-0.8**
TREB				*e*Sn	**Sn**	**01 19 43.7**	**-3.8**
TREB	**Trebinje**	**5.02**	**347**	*e*Pn	**Pn**	**01 18 48.6**	**-0.8**
SGRT	**San Giovanni R**	**5.03**	**323**	Pn	**Pn**	**01 18 49.7**	**+0.1**
SGRT	**San Giovanni R**	**5.03**	**323**	P	**Pn**	**01 18 50.6**	**+1.0**
	baz=326						
PAOL	**Paolisi**	**5.18**	**310**	Pn	**Pn**	**01 18 53.3**	**+1.7**
BARS	**Barje**	**5.22**	**16**	*e*Pn	**Pn**	**01 18 51.5**	**-0.6**
STON	**Ston**	**5.30**	**343**	*e*Pn	**Pn**	**01 18 52.8**	**-0.4**
STON				*e*Sn	**Sn**	**01 19 50.9**	**-3.4**
STON	**Ston**	**5.30**	**343**	*e*Pn	**Pn**	**01 18 52.3**	**-0.9**
SJES	**Sjenica**	**5.43**	**1**	*e*Pn	**Pn**	**01 18 55.2**	**0.0**
SJES				*e*Sn	**Sn**	**01 19 55.4**	**-2.5**
SJES	**Sjenica**	**5.43**	**1**	*e*Pn	**Pn**	**01 18 55.8**	**+0.6**
VTS	**Vitosha**	**5.46**	**28**	⇓P	**Pn**	**01 18 55.4**	**-0.1**
VTS				⇓S	**Sn**	**01 19 56.0**	**-2.5**
VTS	**Vitosha**	**5.46**	**28**	*e*Pn	**Pn**	**01 18 55.8**	**+0.3**
VTS				*e*Sn	**Sn**	**01 19 57.1**	**-1.4**
SELS	**Selova**	**5.48**	**10**	*e*Pn	**Pn**	**01 18 54.9**	**-0.9**
RDO	**Rodhopi**	**5.53**	**51**	P	**Pn**	**01 18 56.8**	**+0.5**
RDO	**Rodhopi**	**5.53**	**51**	Pn	**Pn**	**01 18 57.0**	**+0.7**
NEVS	**Nevesinje**	**5.63**	**347**	*e*Pn	**Pn**	**01 18 55.9**	**-1.9**
ALN	**Alexandroupoli**	**5.72**	**56**	P	**Pn**	**01 18 59.3**	**+0.4**
ALN	**Alexandroupoli**	**5.72**	**56**	Pn	**Pn**	**01 18 58.5**	**-0.5**
RUDO	**Rudo**	**5.80**	**357**	*e*Pn	**Pn**	**01 18 59.9**	**-0.2**
ZKR	**Zakros**	**5.82**	**116**	P	**Pn**	**01 19 02.0**	**+1.7**
ZAPS	**Zavoj**	**5.85**	**21**	*e*Pn	**Pn**	**01 19 01.8**	**+1.0**
BOVS	**Bovan**	**5.98**	**13**	⇓P	**Pn**	**01 19 01.5**	**-1.0**
BOVS	**Bovan**	**5.98**	**13**	*e*Pn	**Pn**	**01 19 01.6**	**-1.0**
BBLS	**Lazići**	**6.05**	**357**	*e*Pn	**Pn**	**01 19 06.1**	**+2.5**
GRUS	**Gruza**	**6.10**	**6**	*e*Pn	**Pn**	**01 19 04.1**	**-0.1**
GRUS				*e*Sn	**Sn**	**01 20 10.1**	**-4.0**
BLKB	**Belogradchik**	**6.19**	**20**	*e*Pn	**Pn**	**01 19 05.9**	**+0.5**
DIVS	**Divibare**	**6.27**	**1**	Pn	**Pn**	**01 19 07.0**	**+0.4**
DIVS	**Divibare**	**6.27**	**1**	*e*Pn	**Pn**	**01 19 06.2**	**-0.5**
DIVS				*e*Sn	**Sn**	**01 20 13.7**	**-4.8**
DIVS	**Divibare**	**6.27**	**1**	*e*Pn	**Pn**	**01 19 05.6**	**-1.1**
KARP	**Karpathos**	**6.32**	**109**	Pn	**Pn**	**01 19 06.9**	**-0.4**
TRUS	**Trudelj**	**6.41**	**4**	*e*Pn	**Pn**	**01 19 07.7**	**-0.8**
TRUS				*e*Sn	**Sn**	**01 20 17.2**	**-4.6**
SRKV	**Kupres RS**	**6.56**	**343**	*e*Pn	**Pn**	**01 19 10.9**	**+0.3**
AQU	**L'Aquila**	**6.69**	**315**	Pn	**Pn**	**01 19 14.2**	**+1.8**
CAMP	**Campotosto**	**6.80**	**316**	Pn	**Pn**	**01 19 14.1**	**+0.1**
MGRS	**Mrkonjic Grad**	**6.91**	**343**	*e*Pn	**Pn**	**01 19 15.3**	**0.0**
NRCA	**Norcia**	**7.16**	**316**	Pn	**Pn**	**01 19 20.5**	**+1.6**
BLY	**Banja Luka**	**7.20**	**345**	*e*Pn	**Pn**	**01 19 19.0**	**-0.3**
BLY	**Banja Luka**	**7.20**	**345**	*e*Pn	**Pn**	**01 19 19.2**	**-0.1**
GUMA	**Gualdo di Mace**	**7.20**	**319**	Pn	**Pn**	**01 19 20.2**	**+0.8**
FDMO	**Fiordimonte**	**7.32**	**318**	Pn	**Pn**	**01 19 22.2**	**+1.3**
CESX	**Cesi**	**7.32**	**313**	Pn	**Pn**	**01 19 21.9**	**+1.0**
FRGS	**Fruska Gora**	**7.33**	**360**	*e*Pn	Pn	01 19 15.3	-5.8
A051A	**Mrakovica**	**7.51**	**344**	*e*Pn	**Pn**	**01 19 22.5**	**-1.1**
MURB	**Monte Urbino**	**7.77**	**317**	Pn	**Pn**	**01 19 27.6**	**+0.4**
GZR	**Gura Zlata**	**7.88**	**15**	⇓P	**Pn**	**01 19 29.1**	**+0.3**
BZS	**Buzias**	**7.90**	**9**	⇑P	**Pn**	**01 19 28.8**	**-0.2**
ELL	**Elmali**	**8.11**	**95**	Pn	**Pn**	**01 19 32.6**	**+0.7**
BOJS	**Bojanci**	**8.40**	**337**	*e*Pn	**Pn**	**01 19 36.3**	**+0.5**
SIRR	**Siria**	**8.55**	**9**	⇑P	**Pn**	**01 19 38.0**	**+0.1**
VOIR		**8.55**	**26**	⇑P	**Pn**	**01 19 37.6**	**-0.4**
OSSC	**Osservatorio P**	**8.65**	**314**	Pn	**Pn**	**01 19 41.4**	**+2.1**
KEST	**Kesra**	**8.66**	**259**	Pn	**Pn**	**01 19 41.0**	**+1.5**
	comp=N,0.1nm,0.3s,baz=132,slow=11,SNR=2.1						
KEST				Sn	**Sn**	**01 21 16.1**	**-1.2**
	comp=N,0.1nm,0.3s,baz=232,slow=16,SNR=1.4						
	comp=N,4.4nm,0.8s						
SKDS	**Skadanscina**	**8.86**	**332**	*e*Pn	**Pn**	**01 19 42.6**	**+0.6**
CEY	**Cerknica**	**8.88**	**335**	*e*Pn	**Pn**	**01 19 43.1**	**+0.8**
MLR	**Muntele Rosu**	**8.93**	**29**	⇓P	**Pn**	**01 19 42.8**	**-0.3**
MLR	**Muntele Rosu**	**8.93**	**29**	Pn	**Pn**	**01 19 44.3**	**+1.3**
MLR	**Muntele Rosu**	**8.93**	**29**	Pn	**Pn**	**01 19 43.8**	**+0.8**
	comp=N,0.3nm,0.3s,baz=185,slow=8.3,SNR=5.8						
	comp=N,3.0nm,0.7s						
TIRR	**Tirgusor**	**9.27**	**42**	Pn	**Pn**	**01 19 48.6**	**+1.0**
SABO	**M.te Sabotino**	**9.38**	**332**	Pn	**Pn**	**01 19 48.7**	**-0.5**
PLOR	**Plostina**	**9.50**	**30**	⇓P	**Pn**	**01 19 50.5**	**-0.3**
OBKA	**Obir**	**9.52**	**337**	*i* Pn	**Pn**	**01 19 52.2**	**+1.0**
	comp=N,0.6nm,0.2s						
OBKA	**Obir**	**9.52**	**337**	*e*Pn	**Pn**	**01 19 51.8**	**+0.6**
SOKA	**Soboth**	**9.53**	**340**	*e*Pn	**Pn**	**01 19 51.3**	**-0.1**
	comp=N,9.7nm,0.5s						
VRI	**Vrincioaia**	**9.54**	**30**	⇓P	**Pn**	**01 19 51.6**	**+0.1**
PRED	**Cave del Predi**	**9.79**	**334**	Pn	**Pn**	**01 19 55.1**	**+0.2**
ARSA	**Arzberg**	**9.94**	**343**	*e*Pn	**Pn**	**01 19 57.3**	**+0.4**
	comp=N,2.2nm,0.4s						
STAL	**STALIGIAL**	**9.95**	**330**	Pn	**Pn**	**01 19 57.3**	**+0.3**
CLUD	**Cludinico**	**10.05**	**331**	Pn	**Pn**	**01 19 58.6**	**+0.3**
CTI	**Castel Tesino**	**10.22**	**326**	Pn	**Pn**	**01 20 01.2**	**+0.4**
MOA	**Molln**	**10.82**	**340**	*e*Pn	**Pn**	**01 20 09.2**	**+0.3**
	comp=N,2.9nm,0.3s						
BIOA	**Bad Ischl, Aus**	**10.86**	**337**	*e*Pn	**Pn**	**01 20 10.2**	**+0.7**
	comp=N,1.5nm,0.4s						
LESA	**Schwarzleotal**	**10.94**	**334**	*e*Pn	**Pn**	**01 20 12.7**	**+2.1**
	comp=N,1.8nm,0.4s						
BRTR	**Keskin Array B**	**10.95**	**76**	Pn	**Pn**	**01 20 11.3**	**+0.4**
	comp=N,0.1nm,0.3s,baz=261,slow=11,SNR=1.9						
	comp=N,0.4nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**11.29**	**324**	Pn	**Pn**	**01 20 16.3**	**+0.8**
KIS	**Kishinev**	**11.32**	**33**	*e*P	**Pn**	**01 20 16.0**	**+0.3**
	comp=N,10.0nm,0.3s						
DAVOX	**Davos/Dischmat**	**11.58**	**324**	Pn	**Pn**	**01 20 19.7**	**+0.2**
	comp=N,0.4nm,0.3s,baz=152,slow=14,SNR=7.2						
DAVOX				Sn	**Sn**	**01 22 28.9**	**-0.2**
	comp=N,0.3nm,0.3s,baz=292,slow=23,SNR=3.9						
	comp=N,2.6nm,0.6s						
TUE	**Stuetta**	**11.62**	**321**	Pn	**Pn**	**01 20 21.8**	**+1.8**
CKRC	**Cesky Krumlov**	**11.70**	**342**	*e*PN	**Pn**	**01 20 21.4**	**+0.4**
GEC2	**GERESS Array S**	**11.88**	**340**	Pn	**Pn**	**01 20 23.4**	**-0.1**
GERES	**GERESS Array B**	**11.88**	**340**	Pn	**Pn**	**01 20 23.5**	**0.0**
GERES	**GERESS Array B**	**11.88**	**340**	Pn	**Pn**	**01 20 22.8**	**-0.7**
	comp=N,0.2nm,0.3s,baz=156,slow=15,SNR=3.9						
GERES				Sn	**Sn**	**01 22 33.7**	**-2.5**
	comp=N,0.1nm,0.3s,baz=158,slow=29,SNR=1.5						
	comp=N,0.4nm,0.3s						
KHC	**Kasperske Hory**	**12.18**	**340**	Pn	**Pn**	**01 20 26.9**	**-0.6**
KHC	**Kasperske Hory**	**12.18**	**340**	*e*PN	**Pn**	**01 20 30.3**	**+2.8**
KHC				*e*SN	**Sn**	**01 22 38.6**	**-4.7**
SENIN	**Lac Senin/Sane**	**12.61**	**317**	Pn	**Pn**	**01 20 34.6**	**+1.0**
GRFO	**Grafenberg**	**13.38**	**335**	Pn	**Pn**	**01 20 43.7**	**-0.2**
MMAI	**Mount Meron Ar**	**13.58**	**106**	Pn	**Pn**	**01 20 43.2**	**-3.5**
	comp=N,0.4nm,0.3s,baz=309,slow=16,SNR=1.8						
	comp=N,0.2nm,0.3s						
AKASG	**Malin Array Be**	**14.51**	**24**	Pn	**Pn**	**01 20 57.1**	**-2.3**
	comp=N,0.3nm,0.3s,baz=211,slow=9.9,SNR=3.0						
	comp=N,0.4nm,0.5s						
EIL	**Elat**	**14.97**	**118**	Pn	**Pn**	**01 21 02.7**	**-2.9**
	comp=N,0.5nm,0.3s,baz=234,slow=5.5,SNR=4.5						
EIL				Sn	Sn	01 23 36.6	-15
	comp=N,0.2nm,0.3s,baz=44,slow=16,SNR=2.1						
	comp=N,1.2nm,0.3s						
ASF	**Jabal al Asfar**	**15.08**	**107**	Pn	**Pn**	**01 21 04.2**	**-3.0**
	comp=N,0.1nm,0.3s,baz=11,slow=16,SNR=2.0						
	comp=N,0.4nm,0.2s						
PABE	**Paberze**	**17.91**	**8**	Pn	**Pn**	**01 21 42.0**	**-1.0**
KBZ	**Khabaz**	**18.42**	**64**	P	**P**	**01 21 47.2**	**-2.1**
	comp=N,0.1nm,0.3s,baz=230,slow=4.2,SNR=1.8						
	comp=N,1.4nm,0.8s						
ESDC	**Sonseca Array**	**18.64**	**283**	P	**P**	**01 21 51.4**	**-0.5**
	baz=76,slow=10,SNR=1.7						
	comp=N,0.2nm,0.7s						
MDT	**Midelt**	**20.53**	**263**	P	**P**	**01 22 12.4**	**-0.2**
	comp=N,0.7nm,0.9s,baz=196,slow=16,SNR=1.6						
MDT				LR	LR	01 31 32.7	
	comp=N,110nm,18.0s,baz=8.5,slow=41						
	comp=N,0.7nm,0.9s						
HFS	**Hagfors**	**22.67**	**352**	P	**P**	**01 22 35.3**	**0.0**
	comp=N,2.6nm,0.7s,baz=167,slow=14,SNR=3.5						
	comp=N,2.6nm,0

H11N2	**WAKE ISLAND Hy**	**27.93**	**123**	T	T	01 55 38.1	
	baz=316,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**27.94**	**123**	T	T	01 55 37.8	
	baz=316,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**27.95**	**123**	T	T	01 55 47.1	
	baz=316,slow=75,SNR=14						
SONM	**Songino Array**	**27.98**	**303**	P	**P**	**01 26 20.3**	**-0.1**
	1.0nm,0.7s,baz=94,slow=8.1,SNR=6.0						
	1.0nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	01 56 36.1	
	baz=317,slow=76,SNR=9.0						
H11S3	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	01 56 33.4	
	baz=317,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	01 56 37.6	
	baz=317,slow=76,SNR=11						
ZALV	**Zalesovo Beam**	**41.94**	**312**	P	**P**	**01 28 19.1**	**-1.0**
	0.7nm,0.5s,baz=103,slow=11,SNR=3.2						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**44.34**	**302**	P	**P**	**01 28 39.5**	**-0.1**
	1.0nm,0.8s,baz=86,slow=10,SNR=7.5						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**46.11**	**308**	P	**P**	**01 28 53.5**	**0.0**
	1.0nm,0.5s,baz=81,slow=8.1,SNR=12						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**48.43**	**33**	P	**P**	**01 29 11.8**	**+0.3**
	0.3nm,0.6s,baz=261,slow=5.2,SNR=4.5						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**50.60**	**312**	P	**P**	**01 29 27.1**	**-1.0**
	0.3nm,0.5s,baz=54,slow=3.7,SNR=2.0						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**57.95**	**189**	P	**P**	**01 30 20.7**	**-1.1**
	1.2nm,0.6s,baz=5.4,slow=6.9,SNR=18						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**61.67**	**189**	P	**P**	**01 30 46.7**	**-0.7**
	0.5nm,0.7s,baz=15,slow=7.2,SNR=5.5						
	0.5nm,0.7s						
ARCES	**ARCESS Array B**	**63.52**	**339**	P	**P**	**01 30 59.6**	**+0.4**
	12nm,1.3s,baz=58,slow=8.6,SNR=2.8						
	12nm,1.3s						
FINES	**FINESS Array B**	**68.47**	**332**	P	**P**	**01 31 30.9**	**-0.2**
	2.4nm,1.0s,baz=43,slow=15,SNR=1.9						
	2.4nm,1.0s						

*IDC **23** 01:23:49.2±1.2, 30.°57N×138.°42E, h443km±13km, mb3.3/20, mbtmp4.1/26, Error ellipse: s-maj=15.7km s-min=9.3km az=79.0*

ISC 23 01:23:49.1±0.6, 30.°59N±0.°08×138.°4E±0.°1, h440km, n38, σ1°13/40, mb3.7/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.78**	**25**	S	**S**	**01 25 48.3**	**+2.2**
	330nm,0.6s,baz=256,slow=24,SNR=2.0						
MJAR	**Matsushiro Arr**	**5.94**	**358**	P	**P**	**01 25 22.9**	**+0.7**
	8.1nm,0.5s,baz=180,slow=11,SNR=6.0						
MJAR				S	**S**	**01 26 34.3**	**-4.2**
	1.6nm,0.4s,baz=150,slow=16,SNR=1.6						
JNU	**Nakatsue**	**6.88**	**293**	P	**P**	**01 25 34.5**	**+2.1**
	16nm,0.8s,baz=174,slow=1.2,SNR=7.0						
KSRS	**Korea Array**	**11.07**	**311**	P	**P**	**01 26 19.4**	**+1.7**
	9.1nm,0.9s,baz=122,slow=11,SNR=10						
ASAJ	**Asahikawa**	**13.90**	**13**	P	**P**	**01 26 50.0**	**+1.6**
	6.3nm,0.4s,baz=247,slow=12,SNR=4.6						
USRK	**Ussuriysk Ar.**	**14.51**	**341**	P	**P**	**01 26 56.3**	**+1.4**
	2.3nm,0.9s,baz=143,slow=5.6,SNR=1.6						
GUMO	**Guam**	**17.94**	**159**	P	**P**	**01 27 32.5**	**+0.9**
	96nm,0.5s,baz=332,slow=15,SNR=1.8						
KLR	**Kul'dur**	**19.29**	**347**	P	**P**	**01 27 45.4**	**+1.1**
	2.1nm,0.6s,baz=318,slow=13,SNR=6.3						
SONM	**Songino Array**	**29.91**	**314**	P	**P**	**01 29 19.7**	**+0.4**
	1.1nm,0.5s,baz=122,slow=8.0,SNR=8.1						
	1.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.70**	**261**	P	**P**	**01 30 25.4**	**-0.2**
	3.1nm,0.6s,baz=58,slow=6.7,SNR=17						
	3.1nm,0.6s						
ZALV	**Zalesovo Beam**	**44.69**	**317**	P	**P**	**01 31 20.8**	**-0.1**
	0.7nm,0.3s,baz=76,slow=9.3,SNR=3.8						
ZALV				PcP	**PcP**	**01 32 52.7**	**-1.6**
	1.0nm,0.4s,baz=104,slow=3.4,SNR=4.1						
	0.7nm,0.3s						
RAMN	**Ramite**	**45.24**	**279**	*e*P	**P**	**01 31 25.7**	**-0.2**
	14nm,0.5s						
JIRN	**Jiri**	**45.38**	**280**	*e*P	**P**	**01 31 27.2**	**+0.1**
	36nm,0.3s						
GUN	**Gumba**	**45.57**	**280**	*e*P	**P**	**01 31 28.3**	**-0.3**
	11nm,0.3s						
MKAR	**Makanchi Array**	**45.72**	**307**	P	**P**	**01 31 28.8**	**-0.3**
	1.4nm,0.5s,baz=85,slow=10,SNR=16						
	1.4nm,0.5s						
PKI	**Pulchoki**	**46.07**	**280**	*e*P	**P**	**01 31 31.7**	**-0.7**
	3.0nm,0.3s						
PKIN	**Phulchoki**	**46.08**	**280**	*e*P	**P**	**01 31 31.8**	**-0.6**
	3.8nm,0.4s						
DANN	**Dangsing**	**47.24**	**282**	*e*P	**P**	**01 31 41.2**	**0.0**
	6.0nm,0.3s						
PYUN	**Piuthan**	**47.96**	**282**	*e*P	**P**	**01 31 46.3**	**-0.3**
	34nm,0.4s						
KURBB	**Kurchatov Arra**	**48.24**	**312**	P	**P**	**01 31 47.7**	**-0.4**
	2.1nm,0.5s,baz=92,slow=9.7,SNR=30						
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**50.39**	**185**	P	**P**	**01 32 03.6**	**-0.8**
	1.1nm,0.4s,baz=0.8,slow=8.3,SNR=32						
	1.1nm,0.4s						
BVAR	**Borovoye Array**	**53.24**	**316**	P	**P**	**01 32 24.7**	**0.0**
	1.8nm,0.3s,baz=95,slow=8.2,SNR=31						
	1.8nm,0.3s						
ASAR	**Alice Springs**	**54.12**	**185**	P	**P**	**01 32 30.7**	**-0.7**
	0.7nm,0.5s,baz=2.7,slow=6.2,SNR=11						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**56.29**	**30**	P	**P**	**01 32 46.0**	**0.0**
	0.4nm,0.6s,baz=242,slow=5.0,SNR=5.6						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**62.20**	**177**	P	**P**	**01 33 26.0**	**-0.2**
	0.9nm,0.4s,baz=273,slow=13,SNR=3.3						
	0.9nm,0.4s						
ARCES	**ARCESS Array B**	**69.15**	**340**	P	**P**	**01 34 10.2**	**+0.7**
	1.3nm,0.5s,baz=68,slow=8.8,SNR=17						
	1.3nm,0.5s						
KBZ	**Khabaz**	**73.22**	**311**	P	**P**	**01 34 34.4**	**+0.4**
	3.2nm,0.8s,baz=86,slow=5.1,SNR=7.9						
	3.2nm,0.8s						
FINES	**FINESS Array B**	**73.34**	**332**	P	**P**	**01 34 34.2**	**-0.2**
	2.1nm,0.4s,baz=66,slow=5.3,SNR=27						
	2.1nm,0.4s						
AKASG	**Malin Array Be**	**77.84**	**322**	P	**P**	**01 34 59.4**	**-0.4**
	0.9nm,0.4s,baz=54,slow=5.0,SNR=6.6						
	0.9nm,0.4s						
HFS	**Hagfors**	**78.90**	**335**	P	**P**	**01 35 04.9**	**-0.3**
	1.4nm,0.4s,baz=82,slow=3.1,SNR=3.3						
	1.4nm,0.4s						
NB2	**NORSAR Subarra**	**79.13**	**337**	P	**P**	**01 35 06.2**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=45,slow=5.1						
NOA	**NORSAR Array B**	**79.13**	**337**	P	**P**	**01 35 06.3**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=45,slow=5.2,SNR=5.4						
	comp=Z,0.9nm,0.6s						
NVAR	**Mina Array Bea**	**80.92**	**51**	P	**P**	**01 35 17.7**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=279,slow=6.1,SNR=1.3						
	comp=Z,0.1nm,0.3s						
BRTR	**Keskin Array B**	**81.21**	**311**	P	**P**	**01 35 17.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=92,slow=4.2,SNR=8.8						
	comp=Z,1.2nm,0.7s						
MMAI	**Mount Meron Ar**	**83.60**	**305**	P	**P**	**01 35 30.4**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=45,slow=1.3,SNR=5.0						
	comp=Z,1.1nm,0.5s						
PDAR	**Pinedale Array**	**84.01**	**43**	P	**P**	**01 35 31.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=282,slow=1.8,SNR=2.1						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**119.80**	**310**	PKP	**PKPdf**	**01 41 47.7**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=12,slow=1.7,SNR=1.3						
QSPA	**South Pole Qui**	**120.35**	**180**	PKP	**PKPdf**	**01 41 47.8**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=27,slow=2.3,SNR=2.2						

ROM 23 01:36:55.8±0.1, 43.°019N±0.°005×13.°099E±0.°007, h10km, ML1.4/3, 3C-4D, Error ellipse: s-maj=0.6km s-min=0.6km az=10.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.02**	**333**	P	Pg	01 36 57.4	-0.2
FDMO				S	Sg	01 36 58.3	-0.6
FDMO				AML	AML		
	comp=N,639μm,0.1s						
FEMA	**Monte Fema**	**0.07**	**212**	P	Pg	01 36 58.3	+0.2
FEMA				S	Sg	01 36 59.9	+0.1
CSP1	**Cessapalombo**	**0.11**	**47**	⇑P	Pg	01 36 59.0	+0.4
CSP1				S	Sg	01 37 00.7	+0.2
CSP1				AML	AML		
	comp=E,2420μm,0.3s						
CSP1				AML	AML		
	comp=N,3990μm,0.6s						
CSP1				AML	AML		
	comp=E,2425μm,0.3s						
CSP1				AML	AML		
	comp=N,3985μm,0.6s						
CSP1				AML	AML		
	comp=N,620μm,0.3s						
CSP1				AML	AML		
	comp=E,468μm,0.3s						
CSP1				AML	AML		
	comp=N,584μm,0.1s						
MC2	**Monte Cornacci**	**0.13**	**148**	⇓P	Pg	01 36 59.2	+0.3
CESI	**CESI - Serrava**	**0.14**	**264**	⇑P	Pg	01 36 59.9	+0.9
CESI				AML	AML		
	comp=E,1700μm,0.4s						
CESI				AML	AML		
	comp=N,1710μm,0.3s						
CESI				AML	AML		
	comp=N,262μm,0.6s						
CESI				AML	AML		
	comp=E,313μm,2.0s						
GUMA	**Gualdo di Mace**	**0.18**	**76**	P	Pg	01 37 00.6	+0.9
NRCA	**Norcia**	**0.19**	**177**	P	Pg	01 37 00.3	+0.5
MMO1	**Montemonaco**	**0.21**	**126**	⇓P	Pg	01 37 00.5	+0.4
T1221	**Campello sul C**	**0.24**	**230**	⇑P	Pg	01 37 01.7	+0.9
T1221				AML	AML		
	comp=N,386μm,1.6s						
T1221				AML	AML		
	comp=E,536μm,0.4s						
T1221				AML	AML		
	comp=N,387μm,1.6s						
SNTG	**Esanatoglia**	**0.26**	**334**	P	Pb	01 37 02.0	-0.7
SNTG				AML	AML		
	comp=E,279μm,0.2s						
SNTG				AML	AML		
	comp=N,352μm,0.6s						
SNTG				AML	AML		
	comp=N,55μm,0.3s						
MF5	**Montefalcone A**	**0.27**	**96**	⇓P	Pb	01 37 02.4	-0.3
MF5				AML	AML		
	comp=N,703μm,0.5s						
MF5				AML	AML		
	comp=E,936μm,0.5s						
MF5				AML	AML		
	comp=N,704μm,0.5s						
T1214	**Arquata del Tr**	**0.27**	**163**	P	Pg	01 37 01.9	+0.6
EL6	**Elcito**	**0.31**	**0**	P	Pb	01 37 02.8	-0.7
EL6				AML	AML		
	comp=E,720μm,0.3s						
EL6				AML	AML		
	comp=N,986μm,0.3s						
ASSB	**Assisi San Ben**	**0.32**	**274**	⇓P	Pb	01 37 03.4	-0.4
ASSB				AML	AML		
	comp=E,986μm,0.3s						
ASSB				AML	AML		
	comp=N,1105μm,0.2s						
GAVE	**Gavelli**	**0.36**	**205**	P	Pg	01 37 03.6	+0.7
GAVE				AML	AML		
	comp=E,1310μm,0.3s						
GAVE				AML	AML		
	comp=N,467μm,0.6s						
GAVE				AML	AML		
	comp=E,1185μm,1.3s						
GAVE				AML	AML		
	comp=N,1490μm,0.6s						
FOSV	**Fossato di Vic**	**0.37**	**318**	P	Pb	01 37 04.1	-0.4
LNSS	**Leonessa**	**0.42**	**186**	P	Pg	01 37 04.4	+0.4
SMA1	**SAN MARTINO**	**0.43**	**156**	P	Pg	01 37 04.7	+0.6

ROM 23 01:36:59.3±0.1, 43.°009N±0.°003×13.°122E±0.°005, h8km, ML2.1/40, 1C, Error ellipse: s-maj=0.4km s-min=0.1km az=64.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.04**	**317**	P	Pg	01 37 00.8	-0.1
FDMO				S	Sg	01 37 01.8	-0.2
FEMA	**Monte Fema**	**0.07**	**228**	P	Pg	01 37 01.6	+0.3
FEMA				S	Sg	01 37 03.1	+0.3
FEMA				AML	AML		
	comp=E,3925μm,0.5s						
FEMA				AML	AML		
	comp=N,4580μm,0.4s						
FEMA				AML	AML		
	comp=E,3925μm,1.5s						
CSP1	**Cessapalombo**	**0.10**	**36**	P	Pg	01 37 01.3	-0.5
CSP1				S	Sg	01 37 04.4	+0.9
MC2	**Monte Cornacci**	**0.11**	**152**	P	Pg	01 37 02.3	+0.4
CESI	**CESI - Serrava**	**0.16**	**268**	P	Pg	01 37 03.1	+0.5
CESI				S	Sg	01 37 06.2	+1.2
GUMA	**Gualdo di Mace**	**0.17**	**71**	P	Pg	01 37 03.9	+1.2
GUMA				AML	AML		
	comp=E,3555μm,0.4s						
GUMA				AML	AML		
	comp=N,4055μm,0.4s						
GUMA				AML	AML		
	comp=E,3550μm,0.4s						
GUMA				AML	AML		
	comp=E,3550μm,1.6s						
NRCA	**Norcia**	**0.18**	**182**	P	Pg	01 37 03.6	+0.7
NRCA				S	Sg	01 37 07.0	+1.6
MMO1	**Montemonaco**	**0.19**	**126**	P	Pg	01 37 03.9	+0.8
MMO1				S	Sg	01 37 07.2	+1.5
SEF1	**Sefro**	**0.19**	**317**	P	Pg	01 37 03.8	+0.7
SEF1				S	Sg	01 37 07.3	+1.5
GAG1	**Gagliole**	**0.23**	**350**	P	Pg	01 37 04.9	+0.9
GAG1				S	Sg	01 37 09.1	+2.0
MF5	**Montefalcone A**	**0.25**	**95**	P	Pg	01 37 05.9	+1.6
T1221	**Campello sul C**	**0.25**	**234**	P	Pg	01 37 05.0	+0.7
T1221				S	Sb	01 37 09.5	-1.3
T1214	**Arquata del Tr**	**0.26**	**166**	P	Pg	01 37 05.3	+0.9
T1214				AML	AML		
	comp=E,598μm,1.1s						
T1214				AML	AML		
	comp=N,534μm,0.4s						
T1214				AML	AML		
	comp=E,604μm,1.1s						
T1214				AML	AML		
	comp=N,578μm,0.5s						
T1214				AML	AML		
	comp=E,598μm,1.1s						
T1214				AML	AML		
	comp=N,534μm,0.5s						
T1214				AML	AML		
	comp=E,603μm,1.1s						
T1214				AML	AML		
	comp=N,578μm,0.5s						
T1214				AML	AML		
	comp=E,598μm,0.9s						
T1214				AML	AML		
	comp=E,603μm,0.9s						
T1214				AML	AML		
	comp=N,534μm,1.5s						
T1214				AML	AML		
	comp=N,578μm,1.5s						
SNTG	**Esanatoglia**	**0.28**	**332**	P	Pg	01 37 05.3	+0.5
SNTG				S	Sb	01 37 10.2	-1.4
EL6	**Elcito**	**0.32**	**357**	P	Pg	01 37 06.3	+0.6
EL6				AML	AML		
	comp=N,986μm,0.3s						
EL6				AML	AML		
	comp=E,720μm,0.3s						
MTRA	**Matera**	**0.32**	**141**	P	Pg	01 37 06.4	+0.7
MTRA				S	Sb	01 37 11.8	-1.0
MTRA				AML	AML		
	comp=E,494μm,0.9s						
MTRA				AML	AML		
	comp=N,454μm,0.6s						
MTRA				AML	AML		
	comp=N,484μm,0.6s						
MTRA				AML	AML		
	comp=E,410μm,0.9s						
MTRA				AML	AML		
	comp=E,494μm,1.1s						
MTRA				AML	AML		
	comp=N,485μm,0.6s						
MTRA				AML	AML		
	comp=E,410μm,1.1s						
ASSB	**Assisi San Ben**	**0.34**	**276**	P	Pg	01 37 06.3	+0.3
ASSB				AML	AML		
	comp=E,986μm,0.3s						
ASSB				AML	AML		
	comp=N,1105μm,0.2s						
GAVE	**Gavelli**	**0.36**	**208**	AML	AML		
GAVE				AML	AML		
	comp=E,1310μm,0.3s						
GAVE				AML	AML		
	comp=N,467μm,0.6s						
GAVE				AML	AML		
	comp=E,1185μm,1.3s						
GAVE				AML	AML		
	comp=N,1490μm,0.6s						
CING	**Cingoli**	**0.37**	**8**	P	Pg	01 37 07.2	+0.6
CING				S	Sb	01 37 13.1	-1.1
CING				AML	AML		
	comp=E,384μm,0.5s						
CING				AML	AML		
	comp=N,306μm,1.5s						
CING				AML	AML		
	comp=N,306μm,0.5s						
FOSV	**Fossato di Vic**	**0.39**	**317**	P	Pg	01 37 07.4	+0.5
FOSV				S	Sb	01 37 13.8	-0.9
FOSV				AML	AML		
	comp=E,330μm,0.4s						
FOSV				AML	AML		
	comp=N,496μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.39**	**297**	P	Pg	01 37 07.5	+0.5
ATCC				S	Sb	01 37 14.3	-0.5
ATCC				AML	AML		
	comp=E,2645μm,0.2s						
ATCC				AML	AML		
	comp=N,1345μm,0.2s						
SMA1	**SAN MARTINO**	**0.41**	**157**	P	Pg	01 37 07.8	+0.5
SMA1				S	Sb	01 37 14.5	-0.8
SMA1				AML	AML		
	comp=E,294μm,0.4s						
SMA1				AML	AML		
	comp=N,272μm,0.7s						
MOMA	**Monte Martano**	**0.45**	**243**	P	Pg	01 37 08.5	+0.4
MOMA				S	Sb	01 37 16.5	-0.1
MOMA				AML	AML		
	comp=E,469μm,0.8s						
MOMA				AML	AML		
	comp=N,396μm,0.3s						
ARRO	**Arrone**	**0.50**	**212**	P	Pg	01 37 09.4	+0.4
ARRO				S	Sb	01 37 17.5	-0.4
ARRO				AML	AML		
	comp=N,206μm,0.7s						
ARRO				AML	AML		
	comp=E,224μm,0.2s						
MURB	**Monte Urbino**	**0.51**	**300**	P	Pg	01 37 09.6	+0.5
MURB				S	Sb	01 37 18.3	+0.2
MURB				AML	AML		
	comp=E,972μm,1.6s						
MURB				AML	AML		
	comp=E,972μm,0.4s						
MURB				AML	AML		
	comp=N,831μm,0.3s						
RM33	**Pellescritta (**	**0.51**	**172**	P	Pg	01 37 09.4	+0.4
RM33				S	Sb	01 37 18.0	0.0
ARVD	**Arcevia**	**0.51**	**345**	P	Pg	01 37 09.3	+0.2
ARVD				S	Sb	01 37 17.9	-0.2
CAMP	**Campotosto**	**0.52**	**156**	P	Pg	01 37 09.5	+0.1
CAMP				S	Sb	01 37 17.9	-0.6
TERO	**Teramo**	**0.52**	**137**	P	Pg	01 37 09.8	+0.4
TERO				S	Sb	01 37 18.5	-0.1
TERO				AML	AML		
	comp=E,134μm,0.7s						
TERO				AML	AML		
	comp=N,110μm,1.2s						
TERO				AML	AML		
	comp=E,134μm,1.3s						
TERO				AML	AML		
	comp=N,110μm,0.8s						
ATFO	**Monte Foce - G**	**0.54**	**312**	P	Pg	01 37 10.2	+0.4
ATFO				S	Sb	01 37 19.0	0.0
CESX	**Cesi**	**0.56**	**225**	P	Pg	01 37 10.4	+0.2
CESX				S	Sb	01 37 19.3	-0.4
CESX				AML	AML		
	comp=E,302μm,1.0s						
CESX				AML	AML		
	comp=N,298μm,0.3s						
FRON	**Frontone**	**0.58**	**330**	P	Pg	01 37 10.8	+0.2
FRON				S	Sb	01 37 20.6	+0.2
FRON				AML	AML		
	comp=E,158μm,1.6s						
FRON				AML	AML		
	comp=N,250μm,1.2s						
FRON				AML	AML		
	comp=N,250μm,0.8s						
FRON				AML	AML		
	comp=E,158μm,0.4s						
ATVO	**AVT- Monte Val**	**0.64**	**306**	P	Pg	01 37 11.9	+0.2
ATVO				S	Sb	01 37 22.2	+0.2
ATVO				AML	AML		
	comp=E,144μm,1.6s						
ATVO				AML	AML		
	comp=N,139μm,0.7s						
ATVO				AML	AML		
	comp=E,144μm,0.4s						
PIEI	**Pieia**	**0.68**	**321**	P	Pg	01 37 12.6	+0.2
PIEI				S	Sb	01 37 23.4	+0.4
PIEI				AML	AML		
	comp=N,117μm,1.6s						
PIEI				AML	AML		
	comp=E,120μm,0.6s						
PIEI				AML	AML		
	comp=N,117μm,0.4s						
ATMI	**Monte Miggiano**	**0.70**	**298**	P	Pn	01 37 15.4	-0.2
ATMI				S	Sb	01 37 24.5	+0.7
ATMI				AML	AML		
	comp=N,211μm,1.4s						
ATMI				AML	AML		
	comp=N,211μm,0.6s						
ATMI				AML	AML		
	comp=E,184μm,1.3s						
FAGN	**Fagnano**	**0.82**	**155**	P	Pg	01 37 15.3	+0.3
FAGN				AML	AML		
	comp=N,164μm,1.6s						
FAGN				AML	AML		
	comp=E,199μm,1.6s						
FAGN				AML	AML		
	comp=N,164μm,0.4s						
FAGN				AML	AML		
	comp=E,199μm,0.4s						
SRES	**S.Oreste - Sor**	**0.89**	**211**	P	Pg	01 37 16.8	+0.3
T0110	**Collepietro**	**0.92**	**148**	⇑P	Pg	01 37 17.1	+0.1

*GUC **23** 01:39:30.7±0.7, 20.°46S×68.°00W, h179km±6km, ML2.6*
*SCB **23** 01:39:31.1±1.1, 20.°52S×68.°06W, h165km±15km, ML2.6/2, MW4.1, Error ellipse: s-maj=6.4km s-min=4.7km az=1.0*

ISC 23 01:39:30.5±2.3, 20.°49S±0.°06×68.°08W±0.°08, h180km±19km, n24, σ0°54/36, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.07**	**289**	Pg	**Pn**	**01 39 59.6**	**+0.4**
PB08	**IPOC Station P**	**1.07**	**289**	*e*P	**Pn**	**01 39 59.4**	**+0.2**
PB08				*e*S	**Sn**	**01 40 21.6**	**+0.3**
PB08				IAML		01 40 23.9	
	comp=E,33nm,0.1s						
GO01	**Chusmiza**	**1.33**	**308**	Pg	**Pn**	**01 40 01.6**	**+0.1**
GO01	**Chusmiza**	**1.33**	**308**	*e*P	**Pn**	**01 40 01.3**	**-0.2**
GO01				*e*S	**Sn**	**01 40 25.2**	**-0.1**
GO01				IAML		01 40 32.3	
	comp=E,104nm,0.1s						
PB01	**IPOC Station P**	**1.43**	**247**	Pg	**Pn**	**01 40 02.1**	**+0.2**
PB01	**IPOC Station P**	**1.43**	**247**	*e*P	**Pn**	**01 40 02.0**	**+0.1**
PB01				*e*S	**Sn**	**01 40 26.2**	**0.0**
PB01				IAML		01 40 27.1	
	comp=N,68nm,0.2s						
PB09	**IPOC Station P**	**1.69**	**220**	Pg	**Pn**	**01 40 05.2**	**+0.7**
PB09	**IPOC Station P**	**1.69**	**220**	*e*P	**Pn**	**01 40 05.4**	**+0.8**
PB09				*e*S	**Sn**	**01 40 31.7**	**+0.7**
HMBC	**Humberstone**	**1.71**	**277**	Pg	**Pn**	**01 40 04.4**	**-0.3**
HMBC				Sg	**Sn**	**01 40 29.9**	**-1.2**
HMBC				IAML		01 40 36.1	
	comp=N,32nm,0.2s						
HMBC	**Humberstone**	**1.71**	**277**	*e*P	**Pn**	**01 40 04.4**	**-0.3**
HMBC				*e*S	**Sn**	**01 40 30.5**	**-0.7**
HMBC				IAML		01 40 33.8	
	comp=E,40nm,0.2s						
PB02	**IPOC Station P**	**1.89**	**244**	Pg	**Pn**	**01 40 06.9**	**+0.4**
PB02				Sg	**Sn**	**01 40 33.4**	**-1.0**
PB02				IAML		01 40 39.8	
	comp=E,30nm,0.2s						
PB02	**IPOC Station P**	**1.89**	**244**	*e*P	**Pn**	**01 40 06.6**	**+0.1**

PB02 eS Sn 01 40 34.5 0.0
PB02 IAML 01 40 39.8
comp=E,43nm,0.2s
PATCX Punta Patache 1.97 260 eP Pn 01 40 07.9 +0.6
PATCX eS Sn 01 40 35.8 -0.1
PATCX IAML 01 40 37.4
comp=N,40nm,0.2s
TA01 Diego Aracena 1.97 268 Pg Pn 01 40 07.3 0.0
TA01 Diego Aracena 1.97 268 eP Pn 01 40 07.3 0.0
TA01 eS Sn 01 40 34.8 -1.0
TA01 IAML 01 40 36.2
comp=E,27nm,0.3s
PB07 IPOC Station P 2.09 234 Pg Pn 01 40 09.3 +0.6
PB07 IPOC Station P 2.09 234 eP Pn 01 40 08.9 +0.1
PB07 eS Sn 01 40 38.0 -0.4
PB07 IAML 01 40 39.1
comp=N,23nm,0.2s
LVC Limon Verde 2.25 200 Pg Pn 01 40 11.0 +0.4
LVC Limon Verde 2.25 200 eP Pn 01 40 11.0 +0.4
LVC eS Sn 01 40 41.9 0.0
LVC IAML 01 40 44.7
comp=N,25nm,0.3s
MOCB Mochara 2.40 109 Pg Pn 01 40 12.2 -0.3
PB16 IPOC Station P 2.54 328 Pg Pn 01 40 15.5 +1.2
PB06 IPOC Station P 2.60 212 Pg Pn 01 40 14.8 +0.2
PB04 IPOC Station P 2.66 226 Pg Pn 01 40 15.8 +0.5
GO02 Mina Guanaco 4.85 196 Pg Pn 01 40 42.6 -0.3

---

*OMAN **23** 02:05:39.0±0.6, 27.°68N×57.°33E, h6km±13km, ml2.9/9, Error ellipse: s-maj=14.7km s-min=3.2km az=7.0*
*TEH **23** 02:05:38.6, 27.°84N×57.°15E, h26km±23km, ML2.9*
ISC 23 02:05:39.6±1.0, 27.°78N±0.°04×57.°22E±0.°04, h24km, n24, σ1°17/34, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.46**	**69**	**Pg**	**Pb**	**02 05 48.2**	**-1.0**
KHNJ				Sg	**Sb**	**02 05 56.4**	**+0.6**
GENO	**Geno**	**1.00**	**248**	Pg	**Pb**	**02 05 56.8**	**-1.6**
KBAM	**BAM**	**1.73**	**39**	Pg	**Pn**	**02 06 09.2**	**+0.8**
NGRK	**Negar Kerman**	**1.91**	**347**	Pn	**Pn**	**02 06 09.8**	**-1.3**
SHME	**Shamm**	**1.97**	**209**	P	**Pb**	**02 06 12.7**	**-2.2**
SHME				S	**Sb**	**02 06 38.2**	**-0.8**
JASK	**Jask - Hormozg** SNR=7.2	**1.99**	**163**	P	**Pn**	**02 06 11.6**	**-0.2**
JASK	**Jask - Hormozg**	**1.99**	**163**	Pn	**Pb**	**02 06 14.3**	**-0.9**
CHMN	**Cheshme madani**	**2.09**	**8**	Pn	**Pn**	**02 06 14.2**	**+0.6**
TVBK	**TV Kerman**	**2.24**	**350**	Pn	**Pn**	**02 06 15.5**	**-0.1**
MASF	**Masafi**	**2.58**	**202**	P	**Pn**	**02 06 20.4**	**+0.5**
MDH	**Madha**	**2.60**	**199**	P	**Pn**	**02 06 20.8**	**+0.5**
MDH				S	**Sn**	**02 06 53.1**	**+2.0**
UMQ	**Umm Al-Quwin**	**2.64**	**212**	P	**Pn**	**02 06 21.8**	**+1.0**
KHGB	**Koh Gabri**	**2.67**	**346**	Pn	**Pn**	**02 06 22.2**	**+0.8**
HATD	**Hatta, Dubai**	**3.10**	**199**	P	**Pn**	**02 06 27.5**	**+0.4**
HATD				S	**Sn**	**02 07 05.3**	**+1.9**
NAZ	**Nazwa, Dubai**	**3.11**	**207**	P	**Pn**	**02 06 27.8**	**+0.6**
NAZ				S	**Sn**	**02 07 06.5**	**+2.9**
FAQ	**Al Faqa, Dubai**	**3.35**	**206**	P	**Pn**	**02 06 31.3**	**+0.7**
SOHO	**SOHO**	**3.68**	**190**	P	**Pn**	**02 06 35.9**	**+0.8**
HOQ	**Hoqain** SNR=5.3	**4.18**	**179**	P	**Pn**	**02 06 42.1**	**+0.1**
HOQ				S	**Sn**	**02 07 28.3**	**-1.7**
ARQ	**Araqi**	**4.47**	**188**	P	**Pn**	**02 06 46.0**	**+0.1**
ARQ				S	**Sn**	**02 07 39.0**	**+1.9**
WSAR	**Wadi Sarin** SNR=26	**4.70**	**164**	P	**Pn**	**02 06 49.1**	**+0.1**
WSAR				S	**Sn**	**02 07 43.3**	**+0.5**
SMDO	**Samad**	**4.76**	**171**	P	**Pn**	**02 06 50.1**	**+0.1**
SMDO				S	**Sn**	**02 07 44.9**	**+0.4**
JRN	**Qarnain Island**	**4.83**	**235**	P	**Pn**	**02 06 52.2**	**+1.3**
BSY	**Bisya**	**5.01**	**180**	P	**Pn**	**02 06 53.5**	**+0.1**
WBK	**Wadi Bani Khal** SNR=6.8	**5.38**	**162**	P	**Pn**	**02 06 58.4**	**-0.2**
WBK				S	**Sn**	**02 08 00.9**	**+1.1**

---

*DSN **23** 02:19:50.7±3.3, 28.°29N×57.°95E, h10km, ML3.0/6, Error ellipse: s-maj=120.5km s-min=26.4km az=110.0*
*TEH **23** 02:19:57.7, 27.°90N×57.°27E, h28km±16km, ML3.3*
*OMAN **23** 02:19:59.4±1.1, 27.°65N×57.°16E, h10km, mb4.7/2, ml3.1/15, Error ellipse: s-maj=8.0km s-min=4.0km az=19.0*
ISC 23 02:19:57.9±1.4, 27.°88N±0.°05×57.°23E±0.°04, h17km±12km, n51, σ1°38/69, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.42**	**80**	Pg	**Pg**	**02 20 06.2**	**-0.3**
KHNJ				Sg	**Sb**	**02 20 12.4**	**-0.7**
GENO	**Geno**	**1.05**	**244**	Pg	**Pb**	**02 20 18.1**	**+0.4**
GENO				Sg	**Sb**	**02 20 32.9**	**+1.6**
KBAM	**BAM**	**1.65**	**40**	Pg	**Pn**	**02 20 27.1**	**+0.9**
NGRK	**Negar Kerman**	**1.82**	**346**	Pn	**Pn**	**02 20 29.0**	**+0.3**
CHMN	**Cheshme madani**	**2.00**	**8**	Pn	**Pn**	**02 20 32.1**	**+1.0**
SHME	**Shamm**	**2.06**	**208**	P	**Pb**	**02 20 34.2**	**-0.6**
SHME	**Shamm** SNR=16	**2.06**	**208**	P	**Pn**	**02 20 32.2**	**+0.5**
SHME				S	**Sn**	**02 20 56.1**	**-0.9**
SHME	**Shamm**	**2.06**	**208**	Pn	**Pn**	**02 20 33.1**	**+1.4**
JASK	**Jask - Hormozg** SNR=23	**2.08**	**164**	P	**Pn**	**02 20 33.5**	**+1.5**
JASK				S	**Sn**	**02 20 57.3**	**-0.1**
JASK	**Jask - Hormozg**	**2.08**	**164**	Pn	**Pn**	**02 20 33.4**	**+1.5**
TVBK	**TV Kerman**	**2.14**	**349**	Pn	**Pn**	**02 20 34.4**	**+1.3**
KHGB	**Koh Gabri**	**2.58**	**345**	Pn	**Pn**	**02 20 41.2**	**+2.2**
MASF	**Masafi**	**2.67**	**201**	P	**Pn**	**02 20 40.5**	**+0.4**
MASF				S	**Sn**	**02 21 10.9**	**-1.2**
MSFE	**Esma-Masafi**	**2.68**	**201**	P	**Pn**	**02 20 43.4**	**+3.1**
MDH	**Madha**	**2.70**	**198**	P	**Pn**	**02 20 40.4**	**-0.1**
MDH	**Madha**	**2.70**	**198**	P	**Pn**	**02 20 40.5**	**0.0**
MDH				S	**Sn**	**02 21 11.5**	**-1.2**
UOSS	**Minazif**	**3.06**	**198**	P	**Pn**	**02 20 45.5**	**0.0**
HATD	**Hatta, Dubai**	**3.19**	**198**	P	**Pn**	**02 20 51.0**	**+3.7**
HATD	**Hatta, Dubai**	**3.19**	**198**	P	**Pn**	**02 20 47.2**	**-0.1**
NAZ	**Nazwa, Dubai**	**3.20**	**206**	P	**Pb**	**02 20 52.2**	**-2.1**
ASHO	**Ashiyiah**	**3.35**	**199**	P	**Pn**	**02 20 52.3**	**+2.9**
ASHO				S	**Sb**	**02 21 39.8**	**+2.5**
ASHO	**Ashiyiah** SNR=9.1	**3.35**	**199**	P	**Pn**	**02 20 49.6**	**+0.1**
ASUD	**Al Ashush, Dub**	**3.66**	**208**	P	**Pn**	**02 20 53.5**	**-0.2**
CHBR	**Chabahar**	**3.69**	**127**	Pn	**Pn**	**02 20 55.9**	**+1.8**
SOHO	**SOHO**	**3.78**	**190**	P	**Pn**	**02 20 54.8**	**-0.5**
AJN	**Ajban**	**3.87**	**212**	P	**Pn**	**02 20 56.3**	**-0.2**
AJN				S	**Sn**	**02 21 40.6**	**-1.0**
AJN	**Ajban**	**3.87**	**212**	Pn	**Pn**	**02 20 57.1**	**+0.6**
IMEH	**Mehriz**	**4.18**	**328**	Pn	**Pn**	**02 21 01.8**	**+0.8**
HOQ	**Hoqain** SNR=9.2	**4.28**	**179**	P	**Pn**	**02 21 02.1**	**-0.1**
HOQ				S	**Sn**	**02 21 51.1**	**-0.5**
HOQ	**Hoqain**	**4.28**	**179**	Pn	**Pn**	**02 21 02.8**	**+0.6**
BSRN	**Basiran**	**4.39**	**21**	Pn	**Pn**	**02 21 05.9**	**+2.0**
BIDO	**Bidbid**	**4.41**	**169**	P	**Pn**	**02 21 03.9**	**-0.1**
ARQ	**Araqi**	**4.56**	**188**	P	**Pn**	**02 21 06.3**	**+0.2**
IKOO	**Kooshah**	**4.79**	**18**	Pn	**Pn**	**02 21 11.5**	**+2.1**
WSAR	**Wadi Sarin**	**4.79**	**164**	P	**Pn**	**02 21 10.2**	**+1.0**
WSAR				S	**Sn**	**02 22 03.5**	**-0.7**
SMDO	**Samad** SNR=7.8	**4.85**	**171**	P	**Pn**	**02 21 11.1**	**+0.9**
SMDO				S	**Sn**	**02 22 06.5**	**+0.4**
ISAD	**Sadrabad**	**5.07**	**323**	Pn	**Pn**	**02 21 14.1**	**+0.8**
BSY	**Bisya**	**5.11**	**180**	P	**Pn**	**02 21 14.4**	**+0.7**
BSY				S	**Sn**	**02 22 11.8**	**-0.5**
TPRV	**Parvadeh(Tabas**	**5.16**	**355**	Pn	**Pn**	**02 21 16.3**	**+1.9**
ITEG	**Tejag**	**5.17**	**14**	Pn	**Pn**	**02 21 16.9**	**+2.2**
WBK	**Wadi Bani Khal** SNR=16	**5.47**	**163**	P	**Pn**	**02 21 19.6**	**+1.0**
WBK				S	**Sn**	**02 22 18.8**	**-2.5**
JMDO	**Jabal Madar**	**5.54**	**172**	P	**Pn**	**02 21 20.5**	**+1.0**
JMDO				S	**Sn**	**02 22 22.7**	**-0.1**
IRAM	**Ramesheh**	**5.75**	**314**	Pn	**Pn**	**02 21 24.5**	**+1.8**
KLNJ	**Kolanjah**	**5.83**	**304**	Pn	**Pn**	**02 21 25.2**	**+1.4**
MZR	**Muzera**	**5.92**	**216**	S	**Sn**	**02 22 30.8**	**-1.5**
SHMA	**Al-Shehemyia** SNR=9.9	**5.95**	**252**	P	**Pn**	**02 21 26.2**	**+1.1**
SHMA				S	**Sn**	**02 22 31.6**	**-1.3**
JLN	**Jalan Bani Buh**	**6.03**	**160**	P	**Pn**	**02 21 26.8**	**+0.5**
JLN				S	**Sn**	**02 22 33.6**	**-1.4**
SMRA	**Abu-Samra**	**6.54**	**243**	P	**Pn**	**02 21 33.5**	**+0.2**
SMRA				S	**Sn**	**02 22 45.0**	**-2.5**
MHTO	**MHTO**	**6.89**	**174**	P	**Pn**	**02 21 39.7**	**+1.6**
MHTO				S	**Sn**	**02 22 55.0**	**-1.1**
DOK	**Doka**	**9.64**	**198**	P	**Pn**	**02 22 16.8**	**+0.9**
WHFO	**Wadi Hawf**	**10.41**	**199**	P	**Pn**	**02 22 26.7**	**+0.3**

NOU 23 02:34:49.3, 20.°50S×168.°43E, h0km, MLv3.3/9, Loyalty Islands, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**1.15**	**256**	P	Pb	02 35 11.8	-0.2
YATNC	**Mamie plateau,**	**2.11**	**223**	P	Pn	02 35 24.7	-1.2
OUENC	**Ouen Island, N**	**2.42**	**217**	P	Pn	02 35 29.7	-0.4
DZM	**Mont Dzumac**	**2.42**	**229**	P	Pn	02 35 29.5	-0.8
NOUC	**Port Laguerre**	**2.54**	**231**	P	Pn	02 35 32.3	+0.4
ONTNC	**Ouen Toro**	**2.57**	**225**	P	Pn	02 35 32.7	+0.4
RTV	**Rentapao**	**2.69**	**360**	P	Pn	02 35 32.7	-1.2

---

*SJA **23** 02:59:51.7±0.7, 33.°92S×72.°62W, h12km±2km, ML4.0, MW4.2*
*IDC **23** 02:59:54.6±0.8, 33.°92S×72.°26W, h0km, mb3.9/6, mbtmp3.9/9, ML3.6/3, MS3.6/9, Error ellipse: s-maj=26.3km s-min=17.3km az=110.0*
*NEIC **23** 02:59:55.1±1.8, 33.°91S±0.°03×72.°47W±0.°05, h14km±1km, mb4.4/9, Mwr4.2/64, ML3.9(GUC), Error ellipse: s-maj=5.5km s-min=4.8km az=113.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.01; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-1.95; $M_{r\theta}$0.55; $M_{\theta\phi}$-0.37; $M_{\phi r}$-1.32; Fault plane solution: $M_0$2.47000×10^{15} NP1:ϕ_s173.33000°, δ62.62000°, λ73.61000°. NP2:ϕ_s25.94000°, δ31.58000°, λ118.59000°. Principal axes: T 2.5676, Plg68.0000°, Azm51.0000°; N -0.2022, Plg15.0000°, Azm181.0000°; P -2.3655, Plg16.0000°, Azm275.0000°;*
*GUC **23** 02:59:55.8±0.7, 33.°92S×72.°47W, h36km±2km, ML3.9*
*NEIC **23** 02:59:55.2, 33.°89S×72.°48W, h15km*
ISC 23 02:59:55.6±1.3, 33.°94S±0.°02×72.°47W±0.°04, h13km±8km, n125, σ1°34/154, mb4.3/11, MS3.6/7, 5C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	**Pichilemu**	**0.70**	**143**	*e*P	**Pg**	**03 00 09.4**	**+0.1**
BO03				*i* S	**Sb**	**03 00 19.4**	**+0.2**
BO03				IAML		03 00 21.6
comp=N,6μm,0.1s						
VA05	**Santo Domingo**	**0.76**	**69**		**Pg**	**03 00 10.2**	**-0.2**
VA05				Sg	**Sg**	**03 00 20.4**	**0.0**
VA05	**Santo Domingo**	**0.76**	**69**	*e*P	**Pg**	**03 00 10.2**	**-0.2**
VA05				*i* S	**Sb**	**03 00 20.7**	**-0.3**
VA05				IAML		03 00 22.8
comp=E,14μm,0.2s						
MT01	**Popeta**	**1.01**	**86**		**Pb**	**03 00 13.9**	**-1.0**
MT01					**Sb**	**03 00 27.2**	**-1.0**
MT01	**Popeta**	**1.01**	**86**	*e*P	**Pb**	**03 00 14.1**	**-0.9**
MT01				*i* S	**Sb**	**03 00 27.2**	**-1.0**
MT01				IAML		03 00 31.3
comp=N,4μm,0.3s						
MT01	**Popeta**	**1.01**	**86**	*e*P	**Pb**	**03 00 14.0**	**-1.0**
MT01				*e*S	**Sg**	**03 00 28.6**	**+0.2**
MT01				IAML		03 00 29.6
comp=Z,5μm,0.8s						
VA01	**Torpederas**	**1.14**	**37**	Pn	**Pb**	**03 00 16.0**	**-1.1**
VA01				Sg	**Sb**	**03 00 30.2**	**-1.6**
VA01	**Torpederas**	**1.14**	**37**	*e*P	**Pb**	**03 00 16.1**	**-1.1**
VA01				*i* S	**Sb**	**03 00 30.6**	**-1.2**
VA01	**Torpederas**	**1.14**	**37**	*e*P	**Pb**	**03 00 16.0**	**-1.1**
VA01				*e*S	**Sb**	**03 00 31.7**	**-0.1**
VA01				IAML		03 00 37.2
comp=Z,1μm,0.8s						
GO05	**Huala**	**1.16**	**158**	Pn	**Pn**	**03 00 16.7**	**-0.9**
GO05					**Sb**	**03 00 32.7**	**+0.2**
GO05	**Huala**	**1.16**	**158**	*e*P	Pn	03 00 11.8	-5.8
GO05				*e*S	**Sg**	**03 00 33.6**	**+0.4**
GO05				IAML		03 00 45.1
comp=Z,3μm,1.1s						
BO01	**Tunca**	**1.23**	**112**	Pn	**Pn**	**03 00 16.8**	**-1.7**
BO01	**Tunca**	**1.23**	**112**	*e*P	**Pn**	**03 00 17.1**	**-1.4**
BO01				*e*S	**Sg**	**03 00 35.7**	**+0.3**
MT09	**Talagante**	**1.24**	**83**	Pn	**Pn**	**03 00 17.3**	**-1.4**
MT09				Sg	**Sb**	**03 00 33.7**	**-1.2**
MT09	**Talagante**	**1.24**	**83**	*e*P	**Pn**	**03 00 17.6**	**-1.2**
MT09				*i* S	**Sb**	**03 00 33.8**	**-1.0**
MT09				IAML		03 00 35.4
comp=N,4μm,0.2s						
MT02	**Curacav**	**1.30**	**59**	Pn	**Pn**	**03 00 18.2**	**-1.2**
MT02	**Curacav**	**1.30**	**59**	*e*P	**Pn**	**03 00 18.4**	**-1.1**
MT02				*i* S	**Sb**	**03 00 35.4**	**-1.0**
MT02	**Curacav**	**1.30**	**59**	*e*P	Pn	03 00 12.8	-6.6
MT02				*e*P	**Pn**	**03 00 18.4**	**-1.1**
MT02				*e*S	**Sn**	**03 00 36.7**	**+0.1**
MT02				IAML		03 00 40.9
comp=Z,2μm,0.5s						
MT05	**Renca**	**1.54**	**70**	Pn	**Pn**	**03 00 21.8**	**-1.0**
MT05	**Renca**	**1.54**	**70**	*e*P	**Pn**	**03 00 22.2**	**-0.6**
MT05				*i* S	**Sn**	**03 00 42.5**	**-0.1**
MT05				IAML		03 00 51.9
comp=N,2μm,0.6s						
MT05	**Renca**	**1.54**	**70**	*e*P	**Pn**	**03 00 22.4**	**-0.4**
MT05				*e*P	**Pb**	**03 00 22.5**	**-1.5**
MT05				*e*S	**Sg**	**03 00 45.8**	**+0.6**
MT05				IAML		03 01 02.6
comp=Z,1μm,1.2s						
BO04	**La Punta**	**1.54**	**93**	Pn	**Pn**	**03 00 22.4**	**-0.4**
BO04	**La Punta**	**1.54**	**93**	*e*P	**Pn**	**03 00 22.5**	**-0.4**
BO04				*i* S	**Sn**	**03 00 42.7**	**-0.1**
ROC1	**El Roble**	**1.54**	**52**	Pn	**Pn**	**03 00 21.9**	**-1.1**
ROC1	**El Roble**	**1.54**	**52**	*e*P	**Pn**	**03 00 22.4**	**-0.6**
ROC1				*e*S	**Sg**	**03 00 48.1**	**+2.7**
BO02	**Sierra Bellavi**	**1.64**	**122**	Pn	**Pn**	**03 00 23.9**	**-0.3**
BO02	**Sierra Bellavi**	**1.64**	**122**	*e*P	**Pn**	**03 00 23.9**	**-0.3**
BO02				*i* S	**Sn**	**03 00 45.4**	**+0.3**
BO02				IAML		03 00 50.4
comp=N,4μm,0.2s						
BO02	**Sierra Bellavi**	**1.64**	**122**	*e*P	**Pn**	**03 00 23.9**	**-0.3**
BO02				*e*S	**Sb**	**03 00 46.5**	**+0.3**
BO02				IAML		03 00 52.8
comp=Z,2μm,0.5s						
PEL	**Peldehue**	**1.68**	**63**	Pn	**Pn**	**03 00 24.3**	**-0.5**
PEL	**Peldehue**	**1.68**	**63**	*e*P	**Pn**	**03 00 24.6**	**-0.2**
PEL				*i* S	**Sn**	**03 00 46.6**	**+0.3**
PEL				IAML		03 00 54.7
comp=N,2μm,0.4s						
PEL	**Peldehue**	**1.68**	**63**	*e*P	**Pn**	**03 00 24.9**	**+0.1**
PEL				*e*S	**Sg**	**03 00 51.7**	**+1.9**
PEL				IAML		03 01 02.4
comp=Z,2μm,1.1s						
MT03	**Universidad Ad**	**1.69**	**75**	*e*P	**Pn**	**03 00 24.6**	**-0.4**
MT03				*i* S	**Sn**	**03 00 46.8**	**+0.4**
MT03				IAML		03 00 51.4
comp=N,3μm,0.3s						
MT03	**Universidad Ad**	**1.69**	**75**	*e*P	**Pn**	**03 00 24.6**	**-0.4**
MT03				*e*S	**Sg**	**03 00 49.6**	**-0.4**
MT03				IAML		03 00 57.7
comp=Z,1μm,0.3s						
MT14	**Cerro Calı¡n**	**1.70**	**72**	*e*P	**Pn**	**03 00 24.8**	**-0.2**
MT14				*i* S	**Sb**	**03 00 47.5**	**-0.5**
MT13	**San Alfonso**	**1.82**	**85**	Pn	**Pn**	**03 00 26.4**	**-0.4**
LMEL	**Las Melosas**	**1.88**	**88**	Pn	**Pn**	**03 00 27.2**	**-0.4**
LMEL	**Las Melosas**	**1.88**	**88**	*e*P	**Pn**	**03 00 27.6**	**0.0**
LMEL				*i* S	**Sn**	**03 00 52.0**	**+0.7**
LMEL				IAML		03 00 58.0
comp=N,3μm,0.2s						
FCH	**Farellones**	**1.91**	**72**	*e*P	**Pn**	**03 00 28.0**	**-0.2**
FCH				*i* S	**Sb**	**03 00 53.8**	**-0.7**
VA03	**San Esteban**	**1.98**	**54**	Pn	**Pn**	**03 00 28.0**	**-1.0**
VA03	**San Esteban**	**1.98**	**54**	*e*P	**Pn**	**03 00 28.7**	**-0.2**
VA03				*e*S	**Sb**	**03 00 54.8**	**-1.4**
VA03				IAML		03 01 04.9
comp=Z,2μm,1.1s						
MT04	**Ro Olivares**	**2.01**	**75**	*e*P	**Pn**	**03 00 29.2**	**-0.3**
MT04				*i* S	**Sn**	**03 00 55.2**	**+0.6**
ML02	**Panimavida**	**2.02**	**155**	Pn	**Pn**	**03 00 29.8**	**+0.4**
MT08	**Bocatoma Ro**	**2.10**	**77**	Pn	**Pn**	**03 00 30.6**	**-0.1**
BI05	**Punta Hualpn**	**2.87**	**192**	Pn	**Pn**	**03 00 40.7**	**-0.3**
CO02	**Combarbal**	**2.99**	**25**	Pn	**Pn**	**03 00 41.9**	**-0.9**
CO02	**Combarbal**	**2.99**	**25**	*e*P	**Pn**	**03 00 42.1**	**-0.8**
CO02				*e*S	**Sn**	**03 01 18.1**	**-0.5**
CO02				IAML		03 01 34.6
comp=Z,594nm,1.3s						
EDS3	**Malargue**	**3.12**	**127**	*e*P	**Pn**	**03 00 45.3**	**+0.7**
ARCO	**CERRO ARCO**	**3.15**	**71**	*e*P	**Pb**	**03 00 48.2**	**-3.4**
ARCO				*e*S	**Sg**	**03 01 41.2**	**+4.3**
ARCO				IAML		03 01 42.0
comp=Z,435nm,1.1s						
AAGR	**Agrelo**	**3.15**	**75**	*e*P	**Pn**	**03 00 45.3**	**+0.2**
AAGR				IAML		03 01 42.9
comp=Z,186nm,0.8s						
ASAL	**Salagasta**	**3.32**	**67**	*e*P	**Pn**	**03 00 46.8**	**-0.6**
ASAL				*e*S	**Sg**	**03 01 42.3**	**-0.1**
ASAL				IAML		03 01 51.5
comp=Z,215nm,1.5s						
AVIZ	**Vizcacheras**	**3.32**	**83**	*e*S	**Sg**	**03 01 43.7**	**+1.3**
CO06	**Fray Jorge**	**3.33**	**12**	Pn	**Pn**	**03 00 45.7**	**-1.7**
RFA	**San Rafael**	**3.41**	**105**	*e*P	**Pn**	**03 00 50.1**	**+1.5**
RFA				*e*S	**Sb**	**03 01 39.8**	**+2.4**
RFA				IAML		03 01 46.3
comp=Z,258nm,1.4s						
RTLS	**Leoncito**	**3.41**	**52**	*e*P	**Pn**	**03 00 51.0**	**+2.2**
RTLS				*e*S	**Sb**	**03 01 38.8**	**+1.2**
RTLS				IAML		03 01 47.3
comp=Z,907nm,1.2s						
CO03	**El Pedregal**	**3.43**	**26**	Pn	**Pn**	**03 00 48.4**	**-0.6**
CO03	**El Pedregal**	**3.43**	**26**	*e*P	**Pn**	**03 00 48.5**	**-0.4**
CO03				*e*S	**Sn**	**03 01 31.1**	**+1.6**
CO03				IAML		03 01 53.6
comp=Z,290nm,1.1s						
ZON	**Zonda**	**3.98**	**54**	Pn	**Pn**	**03 00 55.8**	**-0.6**
GO04	**Tololo Observa**	**4.01**	**21**	Pn	**Pn**	**03 00 55.7**	**-1.2**
GO04	**Tololo Observa**	**4.01**	**21**	*e*P	**Pn**	**03 00 56.2**	**-0.8**
GO04				*e*S	**Sn**	**03 01 45.0**	**+1.1**
GO04				IAML		03 02 07.1
comp=Z,177nm,0.6s						
DOCA	**Reserva Natura**	**4.13**	**45**	*e*P	**Pn**	**03 00 59.5**	**+0.8**
DOCA				*e*S	**Sb**	**03 01 58.8**	**+0.5**
DOCA				IAML		03 02 10.6
comp=Z,153nm,1.8s						
CO05	**La Serena**	**4.14**	**15**	Pn	**Pn**	**03 00 57.3**	**-1.2**
CFA	**Coronel Fontan**	**4.25**	**58**	Pn	**Pn**	**03 00 60.0**	**-0.1**
comp=Z,2.6nm,0.3s,baz=249,slow=14,SNR=52						
CFA				Lg	Lg	03 02 05.7
comp=Z,9.7nm,0.3s,baz=148,slow=2.6,SNR=6.7						
comp=Z,5.6nm,0.3s						
CFA	**Coronel Fontan**	**4.25**	**58**	*e*P	**Pn**	**03 01 01.1**	**+1.0**
CFA				*e*S	**Sb**	**03 02 04.8**	**+3.3**
ACCO	**Cerro Coronel**	**4.41**	**42**	*e*P	**Pn**	**03 01 04.1**	**+1.6**
ACCO				*e*S	**Sb**	**03 02 08.8**	**+2.5**
CO01	**Juntas del Tor**	**4.43**	**28**	Pn	**Pn**	**03 01 02.7**	**-0.1**
CO01	**Juntas del Tor**	**4.43**	**28**	*e*P	**Pn**	**03 01 03.0**	**+0.3**
CO01				*e*S	**Sb**	**03 02 09.3**	**+2.4**
CO01				IAML		03 02 27.9
comp=Z,149nm,1.6s						
AROD	**Rodeo**	**4.53**	**35**	*e*S	**Sb**	**03 02 12.8**	**+2.9**
ACDV	**Cuesta del Vie**	**4.71**	**38**	*e*S	**Sb**	**03 02 16.5**	**+1.8**
LC02	**Puerto Saavedr**	**4.90**	**188**	Pn	**Pn**	**03 01 08.2**	**-0.8**
LCO	**Las Campanas**	**5.13**	**18**	Pn	**Pn**	**03 01 11.4**	**-1.1**
VA04	**Juan Fernndez**	**5.31**	**271**	Pn	**Pn**	**03 01 14.5**	**-0.1**
H03S1	**Juan Fernandez** baz=96,slow=75,SNR=1007	**5.36**	**269**	T	T	03 07 26.7
H03S3	**Juan Fernandez** baz=96,slow=75,SNR=1280	**5.36**	**269**	T	T	03 07 28.1
H03S2	**Juan Fernandez** baz=96,slow=75,SNR=1036	**5.38**	**269**	T	T	03 07 25.8
H03N1	**Juan Fernandez** baz=98,slow=75,SNR=35	**5.40**	**273**	T	T	03 07 36.6
H03N3	**Juan Fernandez** baz=98,slow=75,SNR=8.1	**5.41**	**273**	T	T	03 07 23.2
H03N2	**Juan Fernandez** baz=98,slow=75,SNR=7.2	**5.41**	**273**	T	T	03 07 26.5
AC05	**El Transito**	**5.42**	**21**	Pn	**Pn**	**03 01 15.8**	**-0.5**
LR03	**Panguipulli**	**5.69**	**179**	Pn	**Pn**	**03 01 18.7**	**-1.1**
GO06	**Curarrehue**	**5.69**	**172**	Pn	**Pn**	**03 01 21.1**	**+1.1**
AC04	**Llanos de Chal**	**5.83**	**12**	Pn	**Pn**	**03 01 19.3**	**-2.6**
LR04	**Corral**	**5.98**	**187**	Pn	**Pn**	**03 01 21.4**	**-2.4**
GO03	**Copiap**	**6.61**	**17**	Pn	**Pn**	**03 01 30.6**	**-1.9**
AC06	**Mina Casimiro**	**6.80**	**16**	Pn	**Pn**	**03 01 32.2**	**-2.9**
PLCA	**Paso Flores**	**6.96**	**168**	Pn	**Pn**	**03 01 37.8**	**+0.5**
PLCA	**Paso Flores**	**6.96**	**168**	Pn	**Pn**	**03 01 38.3**	**+1.1**
comp=Z,0.2nm,0.3s,baz=327,slow=13,SNR=4.5						
PLCA				LR	LR	03 04 24.3
comp=Z,273nm,18.7s,baz=346,slow=39						
comp=Z,2.1nm,0.8s						
LL05	**Los Muermos**	**7.50**	**186**	Pn	**Pn**	**03 01 44.1**	**-0.6**
AC02	**Maricunga**	**7.64**	**23**	Pn	**Pn**	**03 01 45.7**	**-1.4**
AC01	**Pan de Azucar**	**7.93**	**12**	Pn	**Pn**	**03 01 46.6**	**-4.0**
TRQA	**Tornquist**	**9.44**	**119**	Pn	**Pn**	**03 02 12.0**	**+0.7**
PB07	**IPOC Station P**	**12.37**	**11**	Pn	**Pn**	**03 02 51.3**	**-0.3**
CPUP	**Villa Florida**	**15.12**	**64**	LR	LR	03 09 39.7
com

mbtmp3.5/3, **Error ellipse: s-maj=483.4km s-min=28.7km az=59.0, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.74**	**336**	P	P	03 06 40.5	0.0
	1.2nm,0.6s,baz=149,slow=9.2,SNR=8.0						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**57.71**	**137**	P	P	03 11 10.5	+0.3
	0.2nm,0.6s,baz=325,slow=7.4,SNR=2.1						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**60.27**	**140**	P	P	03 11 27.4	-0.5
	0.3nm,0.5s,baz=323,slow=5.9,SNR=1.8						
	0.3nm,0.5s						

*NEIC **23** 03:08:35.0±1.2, 6°.44S±0°.07×152°.0E±0°.1, h13km±3km, mb4.4/17, Error ellipse: s-maj=18.0km s-min=9.5km az=108.0*
*IDC **23** 03:08:40.5±2.8, 6°.22S×151°.72E, h59km±26km, mb3.9/6, mbtmp4.1/7, ML2.2/1, MS3.0/1, Error ellipse: s-maj=50.1km s-min=9.0km az=121.0*
ISC 23 03:08:37.9±0.7, 6°.39S±0°.07×152°.0E±0°.1, h37km, n32, σ1s09/34, mb4.2/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.07**	**1**	P	**Pn**	**03 09 09.9**	**-0.2**
	2μm,0.6s,baz=280,slow=23,SNR=45						
KRVT				S	**Sn**	**03 09 34.7**	**0.0**
	1μm,0.3s,baz=284,slow=0.7,SNR=12						
RABL	**Rabaul**	**2.19**	**4**		**Pn**	**03 09 11.0**	**-0.8**
PMG	**Port Moresby**	**5.64**	**238**	Pn	**Pn**	**03 09 58.2**	**-1.1**
PMG	**Port Moresby**	**5.64**	**238**	P	**Pn**	**03 10 00.7**	**+1.5**
	5.0nm,0.3s,baz=60,slow=4.8,SNR=6.8						
PMG				S	**Sn**	**03 11 03.8**	**+0.9**
	62nm,0.5s,baz=8.4,slow=12,SNR=17						
	11nm,0.3s						
MANU	**Manus Island**	**6.32**	**313**	Pn	**Pn**	**03 10 09.6**	**+1.0**
CTA	**Charters Tower**	**14.71**	**202**	LR	LR	03 17 00.8	
	comp=Z,54nm,19.7s,baz=76,slow=34						
KOUNC	**Koumac, New Ca**	**18.45**	**141**	P	**P**	**03 12 49.5**	**-0.8**
KOUNC				IAmb	IAmb	03 12 59.1	
	comp=Z,44nm,1.3s						
MTN	**Manton Dam**	**21.53**	**251**	P	**P**	**03 13 22.9**	**-1.1**
MTN				IAmb	IAmb	03 13 34.5	
	comp=Z,8.2nm,0.8s						
WB0	**Warramunga Arr**	**21.66**	**230**	P	**P**	**03 13 24.0**	**-1.3**
WR0	**Warramunga Arr**	**21.66**	**230**	P	**P**	**03 13 24.8**	**-0.5**
WB2	**Warramunga Arr**	**21.79**	**230**	P	**P**	**03 13 25.5**	**-1.3**
WRA	**Warramunga Arr**	**21.80**	**230**	P	**P**	**03 13 27.1**	**+0.2**
WRA	**Warramunga Arr**	**21.80**	**230**	P	**P**	**03 13 25.7**	**-1.2**
	comp=Z,5.2nm,0.7s,baz=54,slow=10.0,SNR=43						
WRA				PcP	**PcP**	**03 17 26.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=48,slow=2.0,SNR=6.4						
	comp=Z,5.2nm,0.7s						
ASAR	**Alice Springs**	**24.44**	**223**	P	**P**	**03 13 53.1**	**-0.3**
ASAR	**Alice Springs**	**24.44**	**223**	P	**P**	**03 13 52.6**	**-0.8**
	comp=Z,6.9nm,0.6s,baz=54,slow=9.1,SNR=71						
	comp=Z,6.9nm,0.6s						
KNRA	**Kununurra**	**24.57**	**246**	P	**P**	**03 13 53.9**	**-0.7**
KNRA				IAmb	IAmb	03 14 22.1	
	comp=Z,7.8nm,0.8s						
STKA	**Stephens Creek**	**27.15**	**200**	P	**P**	**03 14 18.8**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=35,slow=12,SNR=1.5						
	comp=Z,0.8nm,0.6s						
FORT	**Forrest**	**33.05**	**220**	P	**P**	**03 15 09.0**	**-1.0**
MBWA	**Marble Bar**	**34.50**	**242**	P	**P**	**03 15 20.8**	**-1.9**
PSA00	**Pilbara Seismi**	**34.54**	**241**	P	**P**	**03 15 21.6**	**-1.5**
PSA00				IAmb	IAmb	03 15 38.0	
	comp=Z,7.5nm,1.4s						
CASY	**Casey**	**66.27**	**197**	P	**P**	**03 19 21.7**	**-0.3**
CASY				IAmb	IAmb	03 19 23.2	
	comp=Z,1.7nm,0.8s						
J20K	**Nowinta River**	**80.95**	**21**	P	**P**	**03 20 49.9**	**+1.7**
J20K				IAmb	IAmb	03 21 01.2	
	comp=Z,5.3nm,1.5s						
MLY	**Manley**	**82.65**	**21**	P	**P**	**03 20 58.4**	**+1.2**
MLY				IAmb	IAmb	03 21 16.6	
	comp=Z,2.0nm,0.8s						
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**03 21 03.2**	**+1.1**
QSPA				IAmb	IAmb	03 21 11.6	
	comp=Z,3.7nm,1.1s						
QSPA	**South Pole Qui**	**83.58**	**180**	P	**P**	**03 21 03.6**	**+1.5**
	comp=Z,3.5nm,0.9s,baz=285,slow=1.2,SNR=15						
	comp=Z,3.5nm,0.9s						
ILAR	**Eielson Array**	**83.93**	**22**	P	**P**	**03 21 04.0**	**+0.3**
ILAR	**Eielson Array**	**83.93**	**22**	P	**P**	**03 21 02.5**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=248,slow=5.5,SNR=9.4						
	comp=Z,0.9nm,0.7s						
D22K	**Ayikyak River**	**84.16**	**17**	P	**P**	**03 21 06.0**	**+1.1**
J25K	**Salcha River,**	**84.43**	**23**	P	**P**	**03 21 06.8**	**+0.5**
F24K	**Squaw Lake**	**84.93**	**20**	P	**P**	**03 21 09.7**	**+0.9**
F24K				IAmb	IAmb	03 21 22.3	
	comp=Z,4.6nm,1.1s						
NVAR	**Mina Array Bea**	**93.69**	**52**	P	**P**	**03 21 52.5**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=270,slow=6.3,SNR=3.9						
	comp=Z,0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.99**	**285**	PKPbc	**PKPbc**	**03 28 24.4**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=65,slow=2.7,SNR=9.7						

*NEIC **23** 03:11:18.7±2.1, 16°.33N±0°.06×95°.19W±0°.04, h53km±18km, mb4.2/26, Md4.8/48(MEX), Error ellipse: s-maj=9.2km s-min=5.9km az=186.0*
*MEX **23** 03:11:19.3±1.4, 16°.42N×95°.12W, h62km±21km, MD4.8*
ISC 23 03:11:18.5±1.5, 16°.45N±0°.03×95°.11W±0°.02, h38km±2km, n101, σ2s31/152, mb4.1/4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.49**	**76**	*e*P	**Pn**	**03 11 24.8**	**-4.0**
NILT				*i* S	**Sn**	**03 11 32.4**	**-3.8**
CMIG	**Matias Romero**	**0.67**	**19**	*e*P	**Pn**	**03 11 27.7**	**-3.9**
CMIG				*e*S	**Sn**	**03 11 36.5**	**-4.4**
CARR	**Arriaga**	**1.17**	**100**	*i* P	**Pn**	**03 11 37.5**	**-0.8**
CARR				*i* S	**Sn**	**03 11 53.7**	**+0.8**
HUIG	**Huatulco**	**1.18**	**235**		**Pn**	**03 11 36.1**	**-2.3**
HUIG					**Sn**	**03 11 51.6**	**-1.6**
HUIG	**Huatulco**	**1.18**	**235**	*e*P	**Pn**	**03 11 36.1**	**-2.3**
HUIG				*e*S	**Sn**	**03 11 51.6**	**-1.6**
UXUV	**UXUV**	**1.26**	**47**	*e*P	**Pn**	**03 11 38.4**	**-1.2**
UXUV				*e*S	**Sn**	**03 11 55.7**	**+0.4**
NEUV	**Arroyo Zacate**	**1.42**	**332**	*i* P	**Pn**	**03 11 40.1**	**-1.6**
NEUV				*i* S	**Sn**	**03 11 58.6**	**-0.6**
OXBJ	**Oaxaca**	**1.67**	**292**		**Pn**	**03 11 44.7**	**-0.6**
OXBJ					**Sn**	**03 12 05.8**	**+0.2**
OXBJ	**Oaxaca**	**1.67**	**292**	*i* P	**Pn**	**03 11 44.7**	**-0.6**
OXBJ				*e*S	**Sn**	**03 12 05.8**	**+0.2**
OXIG	**Oaxaca**	**1.68**	**292**		**Pn**	**03 11 44.9**	**-0.5**
OXIG					**Sn**	**03 12 06.1**	**+0.3**
VHO	**Vista Hermosa**	**1.68**	**292**	*e*P	**Pn**	**03 11 44.5**	**-1.0**
VHO				*e*S	**Sn**	**03 12 05.8**	**+0.1**
TUIG	**Tuzandepetl**	**1.71**	**22**	*e*P	**Pn**	**03 11 45.8**	**0.0**
TUIG				*e*S	**Sn**	**03 12 06.7**	**+0.4**
TGIG		**1.93**	**80**		**Pn**	**03 11 50.0**	**+1.1**
TGIG					**Sn**	**03 12 16.9**	**+4.9**
TGIG		**1.93**	**80**	*e*P	**Pn**	**03 11 49.7**	**+0.9**
TGIG				*e*S	**Sn**	**03 12 13.2**	**+1.3**
PCIG		**1.96**	**112**		**Pn**	**03 11 49.2**	**0.0**
PCIG					**Sn**	**03 12 16.4**	**+3.9**
PCIG		**1.96**	**112**	*e*P	**Pn**	**03 11 49.2**	**0.0**
PCIG				*e*S	**Sn**	**03 12 12.5**	**-0.1**
PEIG	**Puerto Escondi**	**2.01**	**257**		**Pn**	**03 11 49.0**	**-0.9**
PEIG					**Sn**	**03 12 15.3**	**+1.5**
PEIG	**Puerto Escondi**	**2.01**	**257**	*e*P	**Pn**	**03 11 49.0**	**-0.9**
PEIG				*e*S	**Sn**	**03 12 15.3**	**+1.5**
PMUV	**Sontecomapan**	**2.08**	**360**	*e*P	**Pn**	**03 11 49.5**	**-1.5**
PMUV				*e*S	**Sn**	**03 12 16.0**	**+0.2**
YOIG	**Yosondua**	**2.37**	**280**		**Pn**	**03 11 55.3**	**+0.2**
YOIG					**Sn**	**03 12 26.3**	**+3.3**
YOIG	**Yosondua**	**2.37**	**280**	*e*P	**Pn**	**03 11 55.3**	**+0.2**
YOIG				*e*S	**Sn**	**03 12 24.1**	**+1.1**
TOIG	**Toxpalan**	**2.48**	**312**		**Pn**	**03 11 57.1**	**+0.6**
TOIG					**Sn**	**03 12 29.0**	**+3.4**
TOIG	**Toxpalan**	**2.48**	**312**	*e*P	**Pn**	**03 11 57.1**	**+0.6**
TOIG				*e*S	**Sn**	**03 12 27.3**	**+1.7**
TXIG	**Tlaxiaco**	**2.67**	**288**	*e*P	**Pn**	**03 12 00.1**	**+0.9**
TXIG				*e*S	**Sn**	**03 12 31.0**	**+0.5**
CCIG	**Comitan**	**2.86**	**93**	Pn	**Pn**	**03 12 03.3**	**+1.6**
CCIG	**Comitan**	**2.86**	**93**	*e*P	**Pn**	**03 12 03.9**	**+2.2**
CCIG				*e*S	**Sn**	**03 12 38.9**	**+4.0**
PNIG	**Pinotepa**	**2.90**	**269**		**Pn**	**03 12 00.5**	**-1.6**
PNIG					**Sn**	**03 12 34.8**	**-0.9**
PNIG	**Pinotepa**	**2.90**	**269**	*e*P	**Pn**	**03 12 00.5**	**-1.6**
PNIG				*e*S	**Sn**	**03 12 34.8**	**-0.9**
TPIG	**Tehuac#an**	**2.91**	**313**		**Pn**	**03 12 03.0**	**+0.6**
TPIG					**Sn**	**03 12 38.4**	**+2.2**
TPIG	**Tehuac#an**	**2.91**	**313**	*e*P	**Pn**	**03 12 03.0**	**+0.6**
TPIG				*e*S	**Sn**	**03 12 37.0**	**+0.8**
HLIG	**Huajuapan de L**	**2.92**	**298**		**Pn**	**03 12 04.1**	**+1.5**
HLIG					**Sn**	**03 12 44.0**	**+7.5**
HLIG	**Huajuapan de L**	**2.92**	**298**	*e*P	**Pn**	**03 12 04.1**	**+1.5**
HLIG				*e*S	**Sn**	**03 12 39.9**	**+3.4**
PATR	**El Naranjo**	**3.07**	**115**	*e*P	**Pn**	**03 12 05.0**	**+0.3**
PATR				*i* S	**Sn**	**03 12 44.8**	**+4.6**
PAVE	**Pavencul**	**3.09**	**113**	*e*P	**Pn**	**03 12 07.0**	**+2.1**
PAVE				*i* S	**Sn**	**03 12 45.0**	**+4.3**
THIG		**3.14**	**119**		**Pn**	**03 12 07.6**	**+2.2**
THIG					**Sn**	**03 12 43.1**	**+1.5**
THIG		**3.14**	**119**	*e*P	**Pn**	**03 12 07.6**	**+2.2**
THIG				*e*S	**Sn**	**03 12 43.1**	**+1.5**
CHUJ	**Union Juarez**	**3.19**	**115**	*e*P	**Pn**	**03 12 07.3**	**+1.0**
CHUJ				*i* S	**Sn**	**03 12 45.4**	**+2.2**
FTIG	**Fresnillo de T**	**3.23**	**297**		**Pn**	**03 12 07.3**	**+0.4**
FTIG					**Sn**	**03 12 51.7**	**+7.6**
FTIG	**Fresnillo de T**	**3.23**	**297**	*e*P	**Pn**	**03 12 07.3**	**+0.4**
FTIG				*e*S	**Sn**	**03 12 46.7**	**+2.5**
LVIG	**Laguna Verde**	**3.49**	**339**	*e*P	**Pn**	**03 12 08.2**	**-2.0**
LVIG				*e*S	**Sn**	**03 12 45.0**	**-5.2**
TLIG	**Tlapa**	**3.49**	**289**	Pn	**Pn**	**03 12 11.1**	**+0.7**
TLIG	**Tlapa**	**3.49**	**289**	*e*P	**Pn**	**03 12 10.7**	**+0.3**
TLIG				*e*S	**Sn**	**03 12 46.1**	**-4.4**
HUEH	**Huehuetenango**	**3.65**	**107**		**Pn**	**03 12 13.6**	**+1.0**
RTAL	**Retalhuleu**	**3.81**	**120**	Pn	**Pn**	**03 12 14.1**	**-0.5**
PPM	**Popocatepetl**	**4.24**	**308**	*e*P	**Pn**	**03 12 23.1**	**+2.0**
PPM				*i* S	**Sn**	**03 13 14.3**	**+4.7**
DAIG	**Los Arroyos**	**4.39**	**278**	*e*P	**Pn**	**03 12 21.6**	**-1.0**
DAIG				*e*S	**Sn**	**03 13 11.4**	**-1.1**
YAIG	**Yautepec**	**4.47**	**303**	*e*P	**Pn**	**03 12 25.1**	**+1.2**
YAIG				*e*S	**Sn**	**03 13 21.3**	**+6.5**
SCIG	**Sabancuy**	**4.50**	**56**	*e*P	**Pn**	**03 12 24.2**	**0.0**
SCIG				*i* S	**Sn**	**03 13 12.9**	**-2.4**
MEIG	**Mezcala**	**4.55**	**289**	*e*P	**Pn**	**03 12 25.3**	**+0.4**
MEIG				*e*S	**Sn**	**03 13 14.6**	**-2.1**
PLIG	**Platanillo**	**4.62**	**295**	*e*P	**Pn**	**03 12 27.6**	**+1.8**
PLIG				*i* S	**Sn**	**03 13 18.0**	**-0.3**
UNM	**Universidad Na**	**4.82**	**307**	Pn	**Pn**	**03 12 28.9**	**+0.2**
UNM	**Universidad Na**	**4.82**	**307**	*e*P	Pn	03 12 36.5	+7.7
UNM				*e*S	**Sn**	**03 13 27.6**	**+4.1**
CAIG	**El Cayaco**	**4.98**	**278**	*e*P	**Pn**	**03 12 29.4**	**-1.3**
CAIG				*e*S	**Sn**	**03 13 19.2**	**-7.9**
PETF	**Flores**	**5.04**	**84**	Pn	**Pn**	**03 12 32.4**	**+0.8**
ARIG	**Puente Sto Nin**	**5.32**	**291**	*e*P	**Pn**	**03 12 36.0**	**+0.5**
ARIG				*e*S	**Sn**	**03 13 37.4**	**+1.8**
DEIG	**Demacu**	**5.35**	**316**	*e*P	**Pn**	**03 12 40.3**	**+4.3**
DEIG				*e*S	**Sn**	**03 13 39.3**	**+2.9**
ESQI	**Esquipulas**	**5.87**	**108**	Pn	**Pn**	**03 12 42.0**	**-1.1**
MTO3	**Montecristo**	**5.91**	**109**	Pn	**Pn**	**03 12 42.5**	**-1.2**
ZIIG	**Zihuatanejo**	**6.19**	**282**	*i* S	**Sn**	**03 13 52.4**	**-4.4**
MYIG	**Mrida**	**6.78**	**48**	*e*P	**Pn**	**03 12 57.8**	**+2.4**
MYIG				*e*S	**Sn**	**03 14 06.0**	**-5.5**
RPIG	**Rio Verde**	**7.10**	**320**	*e*P	**Pn**	**03 12 56.8**	**-3.1**
RPIG				*e*S	**Sn**	**03 14 24.7**	**+5.2**
TEIG	**Tepich**	**7.50**	**59**	Pn	**Pn**	**03 13 04.2**	**-1.0**
CRIN	**San Cristobal**	**8.64**	**114**	Pn	**Pn**	**03 13 22.9**	**+1.8**
HZTE	**Horizontes, Gu**	**10.86**	**120**	Pn	**Pn**	**03 13 51.3**	**-0.2**
ORTG	**Ortega, Santa**	**11.17**	**122**	Pn	**Pn**	**03 13 57.4**	**+1.7**
DUNO	**Dulce Nombre,**	**11.30**	**123**	Pn	**Pn**	**03 13 57.1**	**-0.4**
JTS	**Las Juntas de**	**11.62**	**121**	Pn	**Pn**	**03 14 01.0**	**-0.9**
JACO	**JACO, Garabito**	**12.21**	**122**	Pn	**Pn**	**03 14 10.6**	**+0.7**
LCR2	**La Lucha 2**	**12.70**	**120**	Pn	**Pn**	**03 14 17.2**	**+0.4**
RIMA	**Rio Macho**	**12.80**	**120**	Pn	**Pn**	**03 14 20.2**	**+2.0**
SOR	**Soroa**	**13.03**	**59**	Pn	**Pn**	**03 14 19.4**	**-1.6**
435B	**Jarrell**	**14.45**	**351**	Pn	**Pn**	**03 14 39.8**	**-0.6**
JCT	**Junction City**	**14.61**	**344**	P	**P**	**03 14 49.3**	**+0.8**
TXAR	**Lajitas Array**	**15.04**	**330**	P	**P**	**03 14 52.5**	**-0.8**
TX32	**Lajitas Array**	**15.05**	**330**	P	**P**	**03 14 52.5**	**-0.9**
WHTX	**Lake Whitney,**	**15.62**	**353**	P	**Pn**	**03 14 57.5**	**+1.6**
WHTX				IAmb	IAmb	03 14 58.1	
	comp=Z,15nm,0.6s						
FW13	**Cleburne**	**15.97**	**353**	Pn	**Pn**	**03 15 01.1**	**+0.7**
FW13				IAmb	IAmb	03 15 02.8	
	comp=Z,18nm,0.5s						
FW14	**Alvarado**	**15.99**	**354**	Pn	**Pn**	**03 15 00.9**	**+0.2**
FW14				IAmb	IAmb	03 15 11.4	
	comp=Z,23nm,0.6s						
FW07	**Weatherford**	**16.36**	**352**		**P**	**03 15 07.3**	**-0.6**
FW07				IAmb	IAmb	03 15 24.6	
	comp=Z,17nm,0.7s						
MNHN	**Monahans**	**16.38**	**336**	P	**P**	**03 15 08.6**	**+0.4**
MNHN				IAmb	IAmb	03 15 10.9	
	comp=Z,17nm,0.9s						
FW06	**Azle**	**16.60**	**353**	Pn	**Pn**	**03 15 08.4**	**+0.1**
FW06				IAmb	IAmb	03 15 23.4	
	comp=Z,11nm,0.6s						
ABTX	**Abilene, Hawle**	**16.62**	**347**	Pn	**Pn**	**03 15 07.6**	**-1.0**
ABTX				IAmb	IAmb	03 15 24.8	
	comp=Z,18nm,1.3s						
FW03	**Perrin-Whitt E**	**16.73**	**351**	Pn	**Pn**	**03 15 10.0**	**-0.1**
FW03				IAmb	IAmb	03 15 25.4	
	comp=Z,12nm,0.9s						
Z41A	**Richland Creek**	**16.87**	**7**	P	**P**	**03 15 14.6**	**+1.2**
425A	**Indio Mountain**	**16.88**	**329**		**P**	**03 15 14.2**	**+0.3**
SN01	**Snyder 1**	**17.16**	**343**	Pn	**Pn**	**03 15 14.4**	**-1.1**
SN01				IAmb	IAmb	03 15 22.6	
	comp=Z,10.0nm,1.0s						
LOOK	**Love County**	**17.57**	**354**		**P**	**03 15 22.3**	**+1.1**
MNTX	**Cornudas Mount**	**17.83**	**330**	Pn	**P**	**03 15 25.3**	**+1.2**
OK052	**Battle Ridge R**	**19.52**	**356**	P	**P**	**03 15 43.2**	**+0.5**
OK052				IAmb	IAmb	03 15 43.7	
	comp=Z,16nm,1.3s						
FCAR	**Ozark Folk Cen**	**19.54**	**7**	P	**P**	**03 15 42.7**	**-0.1**
121A	**Cookes Peak, D**	**19.71**	**327**	P	**P**	**03 15 45.2**	**+0.3**
T35A	**Sooner Cattle**	**20.43**	**357**	P	**P**	**03 15 51.7**	**-0.8**
T35A				IAmb	IAmb	03 16 05.3	
	comp=Z,9.6nm,0.8s						
MGMO	**Mountain Grove**	**20.78**	**6**	P	**P**	**03 15 54.0**	**-2.3**
RTBA	**Rita Blanca**	**21.03**	**343**	P	**P**	**03 15 59.7**	**+0.5**
RTBA				IAmb	IAmb	03 16 05.2	
	comp=Z,15nm,1.4s						
U49A	**Red Boiling Sp**	**21.63**	**21**	P	**P**	**03 16 04.6**	**-0.8**
U49A				IAmb	IAmb	03 16 05.5	
	comp=Z,13nm,1.4s						
T50A	**Nancy**	**22.42**	**22**	P	**P**	**03 16 13.8**	**-0.2**
T50A				IAmb	IAmb	03 16 27.6	
	comp=Z,10nm,1.4s						
P40A	**Paris**	**23.15**	**6**	P	**P**	**03 16 20.7**	**-0.8**
P40A				IAmb	IAmb	03 16 26.1	
	comp=Z,8.2nm,1.1s						
O49A	**Covington**	**25.44**	**19**	P	**P**	**03 16 41.4**	**-1.4**
N47A	**Urbana**	**25.67**	**17**	P	**P**	**03 16 43.9**	**-1.0**
JFWS	**Jewell Farm**	**26.70**	**8**	P	**P**	**03 16 53.4**	**-0.8**
F36A	**Milaca**	**29.36**	**2**	P	**P**	**03 17 16.6**	**-1.2**

*SDD **23** 03:17:43.5±2.3, 18°.69N×71°.62W, h21km±16km, MD3.4, ML3.0*
*OSPL **23** 03:17:43.7±2.1, 18°.71N×71°.62W, h11km±13km, ML2.5*
ISC 23 03:17:42.8±0.9, 18°.70N±0°.03×71°.63W±0°.03, h15km±9km, n21, σ0s99/32, 13C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	**Jimani**	**0.29**	**225**	⇑*e*Pg	**Pg**	**03 17 48.6**	**-0.5**
JIDR				⇑*e*Sg	**Sg**	**03 17 54.3**	**+1.0**
JIDR				IAML		03 17 54.6	
	comp=Z,10μm,0.3s						
JIDR				IAML		03 17 54.7	
	comp=N,18μm,0.2s						
NEDR	**Neiba UASD**	**0.29**	**137**	⇓*e*Pg	**Pg**	**03 17 48.6**	**-0.5**
NEDR				⇑*e*Sg	**Sg**	**03 17 54.1**	**+0.8**
NEDR				IAML		03 17 55.0	
	comp=N,1μm,0.3s						
NEDR				IAML		03 18 03.2	
	comp=Z,947nm,3.4s						
SDDR	**Presa de Saban**	**0.43**	**49**	⇑*e*Pg	**Pg**	**03 17 51.3**	**-0.3**
SDDR				IAML		03 18 00.7	
	comp=E,263nm,1.0s						
SDDR				IAML		03 18 07.4	
	comp=N,386nm,0.6s						
SDDR	**Presa de Saban**	**0.43**	**49**	*i* P	**Pg**	**03 17 51.1**	**-0.5**
SDDR				*e*S	**Sg**	**03 17 57.9**	**+0.5**
SDDR				IAML		03 18 05.5	
	comp=Z,206nm,0.6s						
PODR	**Polo**	**0.62**	**148**	⇓*e*Pg	**Pg**	**03 17 54.1**	**-1.1**
PODR				⇑*e*Sg	**Sg**	**03 18 03.6**	**+0.1**
PODR				IAML		03 18 03.8	
	comp=N,533nm,0.2s						
PODR				IAML		03 18 06.6	
	comp=Z,251nm,0.3s						
PODR	**Polo**	**0.62**	**148**	*i* P	**Pg**	**03 17 54.1**	**-1.1**
PODR				*e*S	**Sg**	**03 18 03.6**	**+0.1**
PAPH	**Port-au-Prince**	**0.66**	**255**	⇓*e*Pg	**Pg**	**03 17 54.9**	**-0.9**
PAPH				⇑*e*Sg	**Sg**	**03 18 05.2**	**+0.7**
PAPH				IAML		03 18 07.9	
	comp=N,3μm,0.4s						
PAPH				IAML		03 18 09.6	
	comp=E,3μm,0.4s						
PAPH	**Port-au-Prince**	**0.66**	**255**	*i* P	**Pg**	**03 17 54.9**	**-0.9**
PAPH				*e*S	**Sg**	**03 18 05.2**	**+0.7**
LOPE2	**Hotel El Peder**	**0.67**	**189**	*i* P	**Pg**	**03 17 55.0**	**-1.1**
LOPE2				*e*S	**Sb**	**03 18 06.6**	**+1.2**
LOPE2				IAML		03 18 10.0	
	comp=Z,207nm,0.7s						
LODA1	**ITESIL, Dajabo**	**0.84**	**355**	*i* P	**Pb**	**03 17 58.1**	**-1.1**
LODA1				IAML		03 18 08.9	
	comp=Z,890nm,1.7s						
LODA1				*e*S	**Sb**	**03 18 09.5**	**-0.8**
ABDR	**Alto Bandera**	**0.96**	**83**	⇓*e*Pg	**Pb**	**03 17 60.0**	**-1.4**
ABDR				IAML		03 18 19.6	
	comp=N,201nm,0.5s						
MAO1	**Mao**	**0.99**	**31**	⇑⇑*e*Pg	**Pb**	**03 18 01.4**	**-0.3**
MADR	**Mao Valverde**	**1.00**	**30**	⇑⇑*e*Pg	**Pb**	**03 18 01.4**	**-0.4**
MADR				⇑*e*Sg	**Sb**	**03 18 15.2**	**+0.4**
MADR				IAML		03 18 16.0	
	comp=N,909nm,0.3s						
MADR				IAML		03 18 16.7	
	comp=E,741nm,0.3s						
SC01	**Santiago de Io**	**1.12**	**50**	*i* P	**Pb**	**03 18 03.7**	**-0.2**
SC01				*e*S	**Sb**	**03 18 17.5**	**-0.9**
SC01				IAML		03 18 26.5	
	comp=Z,211nm,0.5s						
BANI	**BANI**	**1.24**	**104**	⇓*e*Pg	**Pn**	**03 18 05.1**	**-0.7**
LUDR	**Luperon**	**1.35**	**28**	⇑*e*Pg	**Pn**	**03 18 07.8**	**+0.7**
LUDR				IAML		03 18 28.7	
	comp=N,1μm,0.4s						
SODR	**Sosua Marina B**	**1.45**	**43**	IAML		03 18 32.1	
	comp=N,397nm,0.8s						
NADR	**Nagua**	**1.80**	**68**	IAML		03 18 46.6	
	comp=N,309nm,0.4s						
NADR				IAML		03 18 46.8	
	comp=E,202nm,0.4s						
HATOM	**Hato Mayor del**	**2.13**	**87**	⇑*e*Pg	**Pn**	**03 18 19.8**	**+1.8**
HATOM				*e*Sg	**Sb**	**03 18 48.4**	**+0.9**
HATOM				IAML		03 18 50.9	
	comp=N,51nm,1.1s						
HATOM				IAML		03 18 52.7	
	comp=E,40nm,1.4s						
MIDR	**Miches**	**2.46**	**83**	⇑*e*Pg	**Pn**	**03 18 23.9**	**+1.5**
MIDR				⇑*e*Sg	**Sb**	**03 18 56.1**	**-0.8**
MIDR				IAML		03 18 60.0	
	comp=E,40nm,0.5s						
MIDR				IAML		03 19 00.4	
	comp=N,26nm,0.6s						
HIDR	**Higuey Centro**	**2.76**	**92**	*e*Pg	**Pn**	**03 18 28.7**	**+2.1**
HIDR				IAML		03 19 11.1	

*SJA **23** 03:18:14.9±0.8, 22°.17S×68°.60W, h110km±5km, ML3.4, MW3.5*
*GUC **23** 03:18:16.7±0.9, 22°.18S×68°.67W, h104km±4km, ML3.4*
ISC 23 03:18:16.7±1.5, 22°.17S±0°.03×68°.62W±0°.05, h101km±10km, n31, σ1s03/59, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.52**	**212**	*e*P	**Pn**	**03 18 32.6**	**-0.6**
LVC				*e*S	**Sn**	**03 18 44.8**	**-0.6**
LVC	**Limon Verde**	**0.52**	**212**	*e*P	**Pn**	**03 18 33.0**	**-0.2**
LVC				*e*S	**Sn**	**03 18 46.1**	**+0.7**
LVC				IAML		03 18 46.4	
	comp=Z,625nm,0.3s						
PB09	**IPOC Station P**	**0.69**	**303**	*e*P	**Pn**	**03 18 34.3**	**0.0**
PB09				*e*S	**Sn**

TA02	Huaiquique	2.36	323	*e*P		Pn	03 18 53.1	-1.0
TA02				*e*S		Sn	03 19 22.7	+0.1
TA02				IAML			03 19 32.0	
comp=Z,157nm,0.3s								
GO01	Chusmiza	2.55	348⇑	*e*P		Pn	03 18 57.8	+0.8
GO01				*e*S		Sn	03 19 28.9	+1.1
GO01				IAML			03 19 38.0	
comp=E,211nm,0.2s								
GO01	Chusmiza	2.55	348	*e*P		Pn	03 18 57.5	+0.5
GO01				*e*S		Sn	03 19 32.0	+4.3
YJA	Yavi	2.87	91	*e*P		Pn	03 18 59.0	-2.2
PB14	IPOC Station P	2.94	214	*e*P		Pn	03 19 03.7	+1.7
PB14				*e*S		Sn	03 19 24.0	-13
PB14				IAML			03 19 44.9	
comp=Z,87nm,0.3s								
GO02	Mina Guanaco	3.11	197	*e*P		Pn	03 19 04.0	-0.3
GO02				IAML			03 20 06.2	
comp=Z,94nm,0.5s								

*OSPL **23** 03:20:26.0±0.7, 18°.80N×71°.57W, h60km±8km, ML1.9*
*SDD **23** 03:20:27.2±1.1, 18°.76N×71°.59W, h12km±46km, MD3.2, ML2.5*

ISC 23 03:20:26.9±1.1, 18°.71N±0°.05×71°.60W±0°.05, h32km±10km, n8, σ0°83/14, 3C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	Jimani	0.32	228⇑	*e*Pg		Pb	03 20 33.8	-1.0
JIDR				IAML			03 20 39.8
comp=Z,683nm,0.3s							
JIDR				IAML			03 20 39.9
comp=N,1μm,0.3s							
SDDR	Presa de Saban	0.41	47	*i* P		Pb	03 20 35.9	-0.2
SDDR				*e*S		Sb	03 20 43.0	+0.6
SDDR				IAML			03 20 44.4
comp=Z,26nm,0.6s							
PODR	Polo	0.62	150⇓	*e*Pg		Pn	03 20 38.6	-1.0
PODR			⇑	*e*Sg		Sn	03 20 48.7	+0.2
PODR	Polo	0.62	150	*i* P		Pn	03 20 39.3	-0.3
PODR				*e*S		Sn	03 20 48.8	+0.2
LOPE2	Hotel El Peder	0.69	191	*i* P		Pn	03 20 40.2	-0.2
LOPE2				*e*S		Sb	03 20 51.5	+1.9
LOPE2				IAML			03 20 54.5
comp=Z,83nm,2.1s							
PAPH	Port-au-Prince	0.69	255⇓	*e*Pg		Pn	03 20 40.0	-0.3
PAPH			⇑	*e*Sg		Sn	03 20 50.3	+0.3
PAPH				IAML			03 20 53.0
comp=N,192nm,0.4s							
PAPH				IAML			03 20 53.5
comp=E,160nm,0.2s							
PAPH	Port-au-Prince	0.69	255	*i* P		Pn	03 20 40.1	-0.3
PAPH				*e*S		Sn	03 20 50.5	+0.5
PAPH				IAML			03 20 54.2
comp=Z,34nm,0.2s							
MADR	Mao Valverde	0.98	29	*e*Pg		Pn	03 20 44.1	-0.3
MADR				IAML			03 21 01.1
comp=N,111nm,0.1s							
MADR				IAML			03 21 03.2
comp=E,101nm,1.8s							

*IDC **23** 03:21:13.1±0.5, 33°.85S×72°.31W, h0km, mb4.5/12, mbtmp4.5/16, ML4.3/4, MS4.0/17, Error ellipse: s-maj=19.5km s-min=14.3km az=105.0*
*GUC **23** 03:21:15.3±0.8, 33°.93S×72°.39W, h13km±5km, ML4.3*
*NEIC **23** 03:21:15, 33°.93S×72°.43W, h10km*
*NEIC **23** 03:21:15.3±1.1, 33°.90S±0°.05×72°.44W±0°.04, h14km±2km, mb4.9/57, Mwr4.5/75, ML4.3(GUC), Error ellipse: s-maj=6.7km s-min=5.0km az=169.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}5.31; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-5.16; $M_{r\theta}$0.42; $M_{\theta\phi}$-0.64; $M_{\phi r}$-3.42; Fault plane solution: $M_0$6.30000×10^{15} NP1:ϕ_s179.5900°, δ61.5900°, λ82.8900°. NP2:ϕ_s14.28000°, δ29.22000°, λ102.88000°. Principal axes: T 6.3773, Plg72.0000°, Azm73.0000°; N -0.1643, Plg6.0000°, Azm183.0000°; P -6.2130, Plg16.0000°, Azm275.0000°;*

ISC 23 03:21:14.8±0.9, 33°.91S±0°.03×72°.42W±0°.04, h14km±5km, n167, σ1°35/182, mb4.9/38, MS4.0/15, 6C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO03	Pichilemu	0.70	147	*e*P		Pg	03 21 28.7	+0.2
BO03				*i* S		Sb	03 21 38.6	+0.2
BO03				IAML			03 21 40.7
comp=N,51μm,0.3s							
VA05	Santo Domingo	0.72	70			Pb	03 21 29.6	+0.4
VA05				Sg		Sb	03 21 39.1	+0.2
VA05	Santo Domingo	0.72	70	*e*P		Pb	03 21 29.6	+0.4
VA05				*i* S		Sb	03 21 39.1	+0.2
VA05				IAML			03 21 42.0
comp=N,31μm,0.5s							
MT01	Popeta	0.98	88			Pb	03 21 33.6	0.0
MT01				Sg		Sb	03 21 46.4	0.0
MT01	Popeta	0.98	88	*e*P		Pb	03 21 33.0	-0.5
MT01				*i* S		Sg	03 21 45.6	-0.9
MT01				IAML			03 21 49.1
comp=N,14μm,0.2s							
VA01	Torpederas	1.09	37	Pn		Pb	03 21 35.2	-0.3
VA01	Torpederas	1.09	37	*e*P		Pb	03 21 35.5	-0.1
VA01				*i* S		Sg	03 21 50.3	+0.1
GO05	Huala	1.17	160			Pb	03 21 36.1	-0.9
GO05	Huala	1.17	160	*e*P		Pb	03 21 36.1	-0.9
GO05				*i* S		Sb	03 21 51.8	-0.3
MT09	Talagante	1.20	84	Pn		Pb	03 21 36.9	-0.5
MT09	Talagante	1.20	84	*e*P		Pb	03 21 37.0	-0.5
MT09				*i* S		Sg	03 21 53.0	-0.6
BO01	Tunca	1.21	114	Pn		Pn	03 21 36.7	-0.7
BO01	Tunca	1.21	114	*e*P		Pn	03 21 36.3	-1.1
BO01				*i* S		Sb	03 21 53.2	+0.1
MT02	Curacav	1.25	59	*e*P		Pn	03 21 37.8	-0.2
MT02				*i* S		Sg	03 21 54.8	-0.5
MT05	Renca	1.50	70	*e*P		Pn	03 21 41.3	-0.1
MT05				*i* S		Sb	03 22 01.5	+0.1
MT05				IAML			03 22 12.2
comp=N,15μm,0.9s							
ROC1	El Roble	1.50	52	Pn		Pn	03 21 41.7	+0.1
BO04	La Punta	1.51	94	Pn		Pn	03 21 42.0	+0.4
BO04	La Punta	1.51	94	*e*P		Pn	03 21 41.8	+0.2
BO04				*i* S		Sb	03 22 01.8	+0.1
BO04				IAML			03 22 11.2
comp=E,6μm,0.5s							
MT12	Pirque	1.57	84	*e*P		Pn	03 21 42.5	+0.1
MT12				*i* S		Sb	03 22 03.5	0.0
BO02	Sierra Bellavi	1.62	123	*e*P		Pn	03 21 43.3	+0.2
BO02				*i* S		Sb	03 22 04.6	-0.3
BO02				IAML			03 22 08.7
comp=N,15μm,0.6s							
MT15	Las Vizcachas	1.63	80⇑	*i* P		Pn	03 21 43.2	+0.1
MT15				*e*S		Sb	03 22 05.4	+0.3
PEL	Peldehue	1.64	63	Pn		Pn	03 21 43.9	+0.5
PEL	Peldehue	1.64	63	*e*P		Pn	03 21 44.2	+0.9
PEL				*i* S		Sb	03 22 06.1	+0.6
PEL				IAML			03 22 14.4
comp=E,5μm,0.5s							
MT03	Universidad Ad	1.65	76	Pn		Pn	03 21 43.9	+0.4
MT03	Universidad Ad	1.65	76	*e*P		Pn	03 21 43.6	+0.1
MT03				*i* S		Sb	03 22 05.3	-0.4
MT03				IAML			03 22 19.5
comp=N,7μm,0.2s							
MT14	Cerro Calı¡n	1.66	73	*e*P		Pn	03 21 44.1	+0.6
MT14				*i* S		Sb	03 22 06.1	+0.1
MT13	San Alfonso	1.79	85	Pn		Pn	03 21 45.7	+0.2
MT13	San Alfonso	1.79	85	*e*P		Pn	03 21 46.0	+0.6
MT13				*i* S		Sb	03 22 09.3	-0.5
MT13				IAML			03 22 15.5
comp=E,8μm,0.4s							
LMEL	Las Melosas	1.85	89	*e*P		Pn	03 21 47.0	+0.7
LMEL				*i* S		Sb	03 22 11.1	-0.5
LMEL				IAML			03 22 20.1
comp=E,6μm,0.6s							
FCH	Farellones	1.87	73	*e*P		Pn	03 21 47.2	+0.4
FCH				*i* S		Sb	03 22 13.3	+0.8
FCH				IAML			03 22 20.3
comp=E,4μm,0.2s							
VA03	San Esteban	1.94	54	*e*P		Pn	03 21 48.1	+0.6
VA03				*i* S		Sb	03 22 14.4	+0.2
MT04	Ro Olivares	1.97	76	*e*P		Pn	03 21 48.5	+0.5
MT04				*i* S		Sb	03 22 14.6	-0.6
MT04				IAML			03 22 22.3
comp=E,2μm,0.6s							
ML02	Panimavida	2.03	156	*e*P		Pn	03 21 49.4	+0.8
ML02				*i* S		Sn	03 22 15.5	+1.7
MT08	Bocatoma Ro	2.06	78	Pn		Pn	03 21 49.7	+0.4
MT08	Bocatoma Ro	2.06	78	*e*P		Pn	03 21 50.1	+0.8
MT08				*i* S		Sb	03 22 17.7	-0.1
MT08				IAML			03 22 25.4
comp=N,2μm,0.5s							
CO02	Combarbal	2.95	24	Pn		Pn	03 22 01.6	+0.2
CO06	Fray Jorge	3.29	12	Pn		Pn	03 22 04.9	-1.1
CO03	El Pedregal	3.39	26	Pn		Pn	03 22 08.0	+0.5
GO04	Tololo Observa	3.97	21	Pn		Pn	03 22 15.6	0.0
CO05	La Serena	4.10	15	Pn		Pn	03 22 17.0	-0.1
CFA	Coronel Fontan	4.21	58	Pn		Pn	03 22 19.1	+0.4
comp=N,6.1nm,0.3s,baz=229,slow=10,SNR=50							
CFA				Lg		Lg	03 23 22.7
comp=N,15nm,0.3s,baz=111,slow=3.3,SNR=5.2							
comp=N,30nm,0.4s							
CO01	Juntas del Tor	4.39	27	Pn		Pn	03 22 22.5	+1.1
LC02	Puerto Saavedr	4.94	189	Pn		Pn	03 22 27.6	-1.0
LCO	Las Campanas	5.10	17	Pn		Pn	03 22 30.7	-0.4
VA04	Juan Fernndez	5.34	271	Pn		Pn	03 22 34.0	-0.2
AC05	El Transito	5.38	21	Pn		Pn	03 22 35.3	+0.5
H03S1	Juan Fernandez	5.39	269	T		T	03 28 44.7
baz=97,slow=75,SNR=2172							
H03S3	Juan Fernandez	5.40	269	T		T	03 28 46.3
baz=97,slow=75,SNR=2756							
H03S2	Juan Fernandez	5.41	269	T		T	03 28 45.1
baz=97,slow=75,SNR=3136							
H03N1	Juan Fernandez	5.43	273	T		T	03 28 56.2
baz=90,slow=73,SNR=64							
H03N3	Juan Fernandez	5.44	273	T		T	03 28 44.1
baz=90,slow=73,SNR=50							
H03N2	Juan Fernandez	5.45	273	T		T	03 29 00.6
baz=90,slow=73,SNR=75							
LR03	Panguipulli	5.71	179	Pn		Pn	03 22 39.5	+0.2
GO06	Curarrehue	5.72	173	Pn		Pn	03 22 39.4	-0.1
AC04	Llanos de Chal	5.80	12	Pn		Pn	03 22 39.1	-1.4
AC06	Mina Casimiro	6.77	16	Pn		Pn	03 22 52.4	-1.4
PLCA	Paso Flores	6.97	168	Pn		Pn	03 22 57.4	+0.8
PLCA	Paso Flores	6.97	168	Pn		Pn	03 22 57.2	+0.5
comp=N,1.8nm,0.3s,baz=325,slow=12,SNR=20							
PLCA				LR		LR	03 25 35.0
comp=N,383nm,18.3s,baz=349,slow=37							
comp=N,6.4nm,0.5s							
AC02	Maricunga	7.60	23	Pn		Pn	03 23 04.8	-0.9
AC01	Pan de Azucar	7.89	12	Pn		Pn	03 23 06.2	-3.0
GO02	Mina Guanaco	9.06	17	Pn		Pn	03 23 22.3	-3.2
GO07	Milladeo Hill,	9.24	186	Pn		Pn	03 23 27.1	-0.7
TRQA	Tornquist	9.42	119	Pn		Pn	03 23 30.6	+0.4
PB15	IPOC Station P	10.97	14	Pn		Pn	03 23 47.9	-3.7
PB06	IPOC Station P	11.44	13	Pn		Pn	03 23 53.4	-4.6
LVC	Limon Verde	11.67	16	Pn		Pn	03 23 56.9	-4.5
comp=N,0.8nm,0.3s,baz=186,slow=6.8,SNR=3.1							
LPA	La Plata	12.01	99	PN		Pn	03 24 06.0	+0.4
LPA				pP			03 24 10.0
LPA				sP			03 24 15.2
LPA				PPP		PPP	03 24 21.6
LPA				pPP			03 24 47.1
LPA				PP		PgPg	03 24 56.4	-8.5
LPA				S		Sn	03 26 15.8	-3.6
LPA	La Plata	12.01	99	SN		Sn	03 26 20.7	+1.3
LPA				sS			03 26 28.2
LPA				SS		SnSn	03 26 40.5	+9.2
LPA				SSS		SSS	03 27 59.9
LPA				PCP		PcP	03 29 50.0	-1.1
LPA				SCS		ScS	03 37 02.8	+3.4
LPA				PKIKP		PKiKP	03 37 47.8	-1.2
LPA				SKIKP			03 41 11.0
LPA				PKIKS			03 41 16.5
LPA				SKIKS			03 44 40.5
PB09	IPOC Station P	12.39	14	Pn		Pn	03 24 09.5	-1.5
PB08	IPOC Station P	14.02	13	Pn		Pn	03 24 34.8	+1.3
ITQB	Itaqui	14.08	77	Pn		Pn	03 24 34.4	+0.5
GO01	Chusmiza	14.47	12	Pn		Pn	03 24 39.3	-0.5
CPUP	Villa Florida	15.08	64	Pn		Pn	03 24 46.1	-1.4
CPUP	Villa Florida	15.08	64	Pn		Pn	03 24 46.6	-0.8
comp=N,0.1nm,0.3s,baz=234,slow=19,SNR=1.7							
CPUP				LR		LR	03 31 24.0
comp=N,498nm,18.5s,baz=237,slow=41							
comp=N,0.8nm,0.5s							
PB12	IPOC Station P	15.35	8	Pn		Pn	03 24 51.2	0.0
PB16	IPOC Station P	15.73	10	Pn		Pn	03 24 56.2	-0.3
PLTB	Pedras Altas	15.96	87	Pn		Pn	03 24 56.4	-2.7
PB18	Visviri	16.46	10	P		P	03 25 09.9	+1.2
PB18				IAmb		IAmb	03 25 36.9
comp=Z,61nm,1.0s							
LPAZ	La Paz	17.96	13	P		P	03 25 25.8	+0.3
LPAZ	La Paz	17.96	13	P		Pn	03 25 25.3	+0.4
comp=Z,1.1nm,0.3s,baz=196,slow=9.1,SNR=41							
comp=Z,18nm,0.7s							
ITAB	Concordia	18.68	75	P		Pn	03 25 33.3	+0.3
AQDB	Aquidauana	19.97	52	P		P	03 25 46.8	0.0
SIV	San Ignacio	20.57	33	P		P	03 25 52.4	-0.9
comp=Z,16nm,0.8s,baz=215,slow=9.7,SNR=52							
SIV				LR		LR	03 35 23.7
comp=Z,564nm,19.4s,baz=212,slow=42							
comp=Z,16nm,0.8s							
EFI	East Falkland	20.58	154	P		P	03 25 52.5	-0.7
VILB	Vilhena	23.64	31	P		P	03 26 25.1	-0.7
VILB				IAmb		IAmb	03 26 27.6
comp=Z,34nm,0.7s							
ETMB	Extrema	24.65	15	P		P	03 26 35.4	+0.2
ETMB				IAmb		IAmb	03 26 48.4
comp=Z,21nm,0.9s							
CZSB	Cruzeiro do Su	26.05	359	P		P	03 26 47.6	-0.3
CZSB				IAmb		IAmb	03 26 56.4
comp=Z,17nm,0.8s							
SAML	Samuel	26.26	21	P		P	03 26 49.4	-0.4
BDFB	Brasilia	28.55	56	P		P	03 27 08.6	-1.9
BDFB	Brasilia	28.55	56	P		P	03 27 09.2	-1.2
comp=Z,7.8nm,0.7s,baz=234,slow=8.8,SNR=15							
BDFB				LR		LR	03 39 36.4
comp=Z,520nm,19.1s,baz=195,slow=39							
comp=Z,7.8nm,0.7s							
TBTG	Tabatinga, AM	29.66	5	P		P	03 27 20.7	+0.5
PMSA	Palmer Station	31.32	173	LR		LR	03 40 09.2
comp=Z,213nm,18.6s,baz=6.0,slow=36							
RPN	Rapa Nui	32.38	272	LR		LR	03 37 10.2
comp=Z,248nm,19.1s,baz=100,slow=30							
BOAV	Boa Vista	37.81	20	P		P	03 28 30.9	-0.1
BAUV	El Baul	42.82	6	P		P	03 29 12.2	-0.2
BAUV				IAmb		IAmb	03 29 13.7
comp=Z,28nm,0.8s							
MDP	Montagnes des	43.07	30	LR		LR	03 49 01.1
comp=Z,289nm,21.2s,baz=190,slow=39							
RCBR	Riachuelo	43.87	59	LR		LR	03 48 38.8
comp=Z,250nm,18.7s,baz=230,slow=38							
GRGR	Grenville	46.92	14	P		P	03 29 45.1	0.0
VNA3	Neumayer Olymp	49.57	158	⇑P		P	03 30 06.1	+1.1
comp=Z,10nm,0.7s							
VNA1	Neumayer--Stat	49.88	157	⇑P		P	03 30 08.7	+1.3
comp=Z,5.6nm,0.8s							
VNA2	Neumayer--Watz	50.22	157	⇑P		P	03 30 10.9	+1.0
comp=Z,10nm,0.6s,baz=291,slow=10.0							
SNAA	Sanae	51.79	158	P		P	03 30 22.2	+0.3
SNAA				IAmb		IAmb	03 30 23.7
comp=Z,18nm,1.1s							
SNAA	Sanae	51.79	158	⇑P		P	03 30 22.8	+1.0
comp=Z,192nm,0.6s							
SNAA	Sanae	51.79	158	P		P	03 30 22.9	+1.0
comp=Z,7.0nm,0.6s,baz=275,slow=7.2,SNR=85							
comp=Z,7.0nm,0.6s							
TROLL	Troll, Antarti	53.50	158	⇑P		P	03 30 35.4	+0.9
comp=Z,479nm,0.7s							
TEIG	Tepich	55.91	342	P		P	03 30 53.3	+0.9
QSPA	South Pole Qui	56.33	180	P		P	03 30 55.7	+0.5
QSPA				IAmb		IAmb	03 31 08.5
comp=Z,9.6nm,1.0s							
QSPA	South Pole Qui	56.33	180	P		P	03 30 56.4	+1.3
comp=Z,6.1nm,1.0s,baz=169,slow=1.0,SNR=17							
comp=Z,6.1nm,1.0s							
SOR	Soroa	57.28	348	P		P	03 31 02.0	-0.1
656A	Willston	63.66	350	P		P	03 31 45.9	+0.4
GOGA	Godfrey	67.76	350	P		P	03 32 10.4	-1.6
HNDO	Hondo	68.02	335	P		P	03 32 13.7	+0.1
HNDO				IAmb		IAmb	03 32 24.3
comp=Z,12nm,0.7s							
Z47A	Carrollton	68.35	346	P		P	03 32 16.7	+1.0
X58A	Rowland	68.41	354	P		P	03 32 16.9	+0.9
X58A				IAmb		IAmb	03 32 18.7
comp=Z,12nm,0.9s							
W57A	Gilead	69.06	353	P		P	03 32 19.3	-0.7
BG3	Lake Jocassee	69.24	351	P		P	03 32 21.0	-0.2
Y45A	Yeager Farm, C	69.31	345	P		P	03 32 23.4	+1.8
X48A	Hartselle	69.37	347	P		P	03 32 22.3	+0.3
X48A				IAmb		IAmb	03 32 23.3
comp=Z,9.3nm,0.8s							
SAND	Sanderson	69.44	333	P		P	03 32 23.6	+1.0
SAND				IAmb		IAmb	03 32 33.1
comp=Z,7.2nm,0.8s							
TXAR	Lajitas Array	69.50	331	P		P	03 32 23.7	+0.6
TXAR	Lajitas Array	69.50	331	P		P	03 32 24.8	+1.7
comp=Z,2.2nm,0.6s,baz=155,slow=8.1,SNR=32							
TXAR				LR		LR	03 57 34.1
comp=Z,89nm,19.3s,baz=90,slow=31							
comp=Z,2.2nm,0.6s							
TX31	Lajitas Ar. Si	69.50	331	P		P	03 32 24.5	+1.5
TX31				IAmb		IAmb	03 32 26.9
comp=Z,10nm,0.7s							
TX32	Lajitas Array	69.50	331	P		P	03 32 24.2	+1.2
BRDY	Brady	69.52	336	P		P	03 32 23.0	-0.1
BRDY				IAmb		IAmb	03 32 33.0
comp=Z,6.5nm,0.7s							
V58A	Windy Hill, Pi	69.62	354	P		P	03 32 23.1	-0.4
V58A				IAmb		IAmb	03 32 23.1
comp=Z,21nm,1.4s							
W50A	Signal Mountai	69.80	349	P		P	03 32 23.9	-0.8
W50A				IAmb		IAmb	03 32 26.3
comp=Z,12nm,0.8s							
V55A	Taylorsville	69.88	352	P		P	03 32 25.4	+0.2
V55A				IAmb		IAmb	03 32 27.6
comp=Z,7.1nm,0.7s							
TZTN	Tazewell	70.85	351	P		P	03 32 30.7	-0.3
TZTN				IAmb		IAmb	03 32 41.8
comp=Z,16nm,1.3s							
ABTX	Abilene, Hawle	70.96	336	IAmb		IAmb	03 32 41.9
comp=Z,9.7nm,0.7s							
U49A	Red Boiling Sp	71.16	349	IAmb		IAmb	03 32 41.7
comp=Z,5.0nm,0.7s							
APMT	Aspermont	71.77	336	P		P	03 32 36.9	+0.2
APMT				IAmb		IAmb	03 32 48.7
comp=Z,8.5nm,0.6s							
LCAR	Lake Charles	71.78	344	IAmb		IAmb	03 32 47.4
comp=Z,15nm,0.9s							
T47A	Sharon Grove	71.85	348	IAmb		IAmb	03 32 38.2
comp=Z,9.9nm,0.8s							
MNTX	Cornudas Mount	72.27	331	P		P	03 32 39.8	0.0
MNTX				IAmb		IAmb	03 32 49.0
comp=Z,4.9nm,0.7s							
OK052	Battle Ridge R	73.18	340	P		P	03 32 45.1	+0.1
OK052				IAmb		IAmb	03 32 56.6
comp=Z,14nm,1.1s							
MAW	Mawson	73.36	164	P		P	03 32 46.4	+0.6
MAW	Mawson	73.36	164	P		P	03 32 46.7	+0.9
comp=Z,5.3nm,0.6s,baz=206,slow=6.7,SNR=17							
MAW				LR		LR	04 07 05.5
comp=Z,82nm,18.5s,baz=233,slow=38							
comp=Z,5.3nm,0.6s							
CCM	Cathedral Cave	73.70	345	P		P	03 32 48.2	+0.1
CCM				IAmb		IAmb	03 32 59.2
comp=Z,19nm,1.1s							
SSPA	Standing Stone	74.35	356	P		P	03 32 51.6	-0.2
SSPA				IAmb		IAmb	03 32 53.1
comp=Z,17nm,1.3s							
DBIC	Dimbokro	75.45	72	P		P	03 32 58.3	-0.5
DBIC				IAmb		IAmb	03 32 59.5
comp=Z,12nm,0.8s							
DBIC	Dimbokro	75.45	72	P		P	03 32 58.7	-0.1
comp=Z,8.9nm,0.6s,baz=236,slow=4.3,SNR=17							
DBIC				LR		LR	04 04 47.3
comp=Z,83nm,19.1s,baz=212,slow=35							
comp=Z,8.9nm,0.6s							
ANMO	Albuquerque	75.55	332	P		P	03 32 58.2	-0.9
RAR	Rarotonga	76.37	254	LR		LR	03 57 51.8
comp=Z,60nm,21.9s,baz=160,slow=29							
TSUM	Tsumeb	79.55	106	LR		LR	04 04 24.6
comp=Z,112nm,20.3s,baz=156,slow=33							
V12A	Nelson	79.82	326	P		P	03 33 23.1	+0.3
BOSA	Boshof	80.40	118	P		P	03 33 26.5	+0.1
comp=Z,5.7nm,0.9s,baz=237,slow=3.3,SNR=10.0							
comp=Z,5.7nm,0.9s							
LBTB	Lobatse	82.63	115	P		P	03 33 38.0	-0.2
LBTB				IAmb		IAmb	03 33 40.8
comp=Z,7.7nm,0.9s							
URZ	Urewera	83.48	228	LR		LR	04 01 49.5
comp=Z,86nm,20.7s,baz=212,slow=29							
PDAR	Pinedale Array	83.53	333	P		P	03 33 41.5	-0.9
comp=Z,0.5nm,0.8s,baz=159,slow=2.8,SNR=4.0							
PDAR				LR		LR	04 07 42.2
comp=Z,68nm,19.4s,baz=316,slow=33							
comp=Z,0.5nm,0.8s							
NVAR	Mina Array Bea	83.62	325	P		P	03 33 43.2	+0.2
comp=Z,0.4nm,0.6s,baz=133,slow=3.8,SNR=1.5							
comp=Z,0.4nm,0.6s							
TOA0	Torodi Ar. Sit	84.48	70	P		P	03 33 46.7	-0.9
TOA0				IAmb		IAmb	03 33 56.7
comp=Z,9.9nm,0.8s							
TORD	Torodi Ar. Bea	84.48	70	P		P	03 33 48.0	+0.4
comp=Z,7.1nm,0.7s,baz=298,slow=6.2,SNR=60							
TORD				LR		LR	04 08 45.2
comp=Z,28nm,20.3s,baz=192,slow=34							
comp=Z,7.1nm,0.7s							
ULM	Lac du Bonnet	86.33	345	P		P	03 33 56.4	+0.5
comp=Z,2.2nm,0.6s,baz=169,slow=7.9,SNR=2.6							
comp=Z,2.2nm,0.6s							
LSZ	Lusaka	90.14	108	LR		LR	04 10 26.0
comp=Z,108nm,18.7s,baz=198,slow=33							
TAM	Tamanrasset	93.07	65	P		P	03 34 28.3	-0.3
WRA	Warramunga Arr	120.69	210	PKP		PKPdf	03 40 06.8	-0.2
comp=Z,0.4nm,0.5s,baz=156,slow=1.7,SNR=10							
BRTR	Keskin Array B	122.07	61	PKP		PKPdf

KNHH	Kane Nui o Ham	0.51	16		Pg	04 38 26.8	-0.9
WRMHI	West Rim	0.52	2	Pg	Pg	04 38 26.8	-1.1
BYL	Byron's Ledge	0.53	6	Pg	Pg	04 38 26.7	-1.3
BYL				IAML		04 38 35.8	
	comp=E,652nm,2.0s						
STCH	Steam Cracks	0.53	20	Pg	Pg	04 38 26.8	-1.3
STCH				IAML		04 38 37.1	
	comp=N,280nm,1.6s						
UWE	Uwekahuna	0.54	2	Pg	Pg	04 38 26.9	-1.3
HATHI	Halema'uma'u T	0.54	6	Pg	Pg	04 38 27.1	-1.1
HATHI				IAML		04 38 38.1	
	comp=N,593nm,1.5s						
UWB	Uwekahuna B	0.54	4	Pg	Pg	04 38 26.9	-1.3
UWB				IAML		04 38 38.6	
	comp=E,278nm,3.8s						
UWB				IAML		04 38 41.6	
	comp=N,423nm,2.2s						
SBLHI	Steaming Bluff	0.54	5	Pg	Pg	04 38 27.0	-1.3
SBLHI				IAML		04 38 36.0	
	comp=E,539nm,2.0s						
SBLHI				IAML		04 38 38.1	
	comp=N,472nm,1.6s						
MLH	Mauna Loa	0.61	354	Pg	Pg	04 38 28.3	-1.3
JOKA	Jonika Flow	0.62	28		Pg	04 38 28.2	-1.5
MWH	Moku'aweowe	0.66	336	Pg	Pg	04 38 28.5	-1.9
MWH				IAML		04 38 37.9	
	comp=E,305nm,2.7s						
MWH				IAML		04 38 45.9	
	comp=N,309nm,4.5s						
MLOA	Mauna Loa Obse	0.69	339	Pg	Pg	04 38 29.3	-1.8
ALEP	Alea Permanent	0.72	335		Pg	04 38 29.7	-2.0
ALEP					Sg	04 38 39.6	-1.7
HMH	Humu'ula Sheep	0.73	348	Pg	Pg	04 38 30.0	-1.9
HMH				IAML		04 38 42.1	
	comp=N,313nm,5.0s						
HMH				IAML		04 38 55.2	
	comp=E,182nm,4.6s						
KHLU	Kahalu`u	0.89	322	Pg	Pg	04 38 32.5	-2.3
KHLU				IAML		04 38 45.5	
	comp=E,209nm,4.3s						
KHLU				IAML		04 38 57.7	
	comp=N,138nm,3.7s						
HUH	Hualalai	0.94	329	Pg	Pg	04 38 33.0	-2.7
HUH				IAML		04 38 48.7	
	comp=E,238nm,3.7s						

PLV 23 04:40:59.9±2.0, 20°.98N×101°.96E, h11km±12km, ML3.7, Laos

MEX 23 04:55:08.1±1.9, 16°.39N×95°.26W, h55km±50km, MD4.4
NEIC 23 04:55:08.4±2.5, 16°.32N±0°.05×95°.16W±0°.04, h51km±14km, mb4.1/39, Md4.3/58(MEX), Error ellipse: s-maj=7.4km s-min=4.2km az=151.0
ISC 23 04:55:08.2±1.0, 16°.48N±0°.03×95°.11W±0°.02, h39km±3km, n97, σ1§90/140, mb4.0/7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	Santiago Nilte	0.48	79	eP	Pn	04 55 15.2	-3.4
NILT				eS	Sn	04 55 22.6	-3.3
CMIG	Matias Romero	0.65	19	eP	Pn	04 55 17.8	-3.3
CMIG				eS	Sn	04 55 26.8	-3.3
CARR	Arriaga	1.17	101	eP	Pn	04 55 27.5	-0.5
CARR				eS	Sn	04 55 43.8	+1.0
HUIG	Huatulco	1.19	234		Pn	04 55 25.9	-2.4
HUIG					Sn	04 55 41.3	-2.0
HUIG	Huatulco	1.19	234	eP	Pn	04 55 25.9	-2.4
HUIG				eS	Sn	04 55 41.3	-2.0
UXUV	UXUV	1.25	48	eP	Pn	04 55 28.6	-0.5
UXUV				eS	Sn	04 55 45.8	+1.1
NEUV	Arroyo Zacate	1.40	332	eP	Pn	04 55 30.2	-1.0
NEUV				eS	Sn	04 55 49.6	+1.1
OXLC	Oaxaca	1.64	291	eP	Pn	04 55 34.1	-0.5
OXLC				eS	Sn	04 55 55.1	+0.5
OXBJ	Oaxaca	1.66	291		Pn	04 55 34.4	-0.5
OXBJ					Sn	04 55 55.7	+0.6
OXBJ	Oaxaca	1.66	291	eP	Pn	04 55 34.0	-0.9
OXBJ				eS	Sn	04 55 55.5	+0.5
OXIG	Oaxaca	1.67	291		Pn	04 55 34.5	-0.6
OXIG					Sn	04 55 56.0	+0.7
VHO	Vista Hermosa	1.67	291	eP	Pn	04 55 34.5	-0.6
VHO				eS	Sn	04 55 56.0	+0.7
TUIG	Tuzandepetl	1.68	23	eP	Pn	04 55 35.6	+0.5
TUIG				eS	Sn	04 55 57.6	+2.2
TGIG		1.93	81		Pn	04 55 40.0	+1.4
TGIG					Sn	04 56 07.0	+5.3
TGIG		1.93	81	eP	Pn	04 55 40.0	+1.4
TGIG				eS	Sn	04 56 03.4	+1.8
TGBT	Tuxtla Gutierr	1.96	81	eP	Pn	04 55 41.2	+2.3
TGBT				eS	Sn	04 56 07.5	+5.2
PCIG		1.97	113		Pn	04 55 39.0	-0.1
PCIG					Sn	04 56 04.8	+2.2
PCIG		1.97	113	eP	Pn	04 55 39.0	-0.1
PCIG				eS	Sn	04 56 02.0	-0.6
PEIG	Puerto Escondi	2.01	257		Pn	04 55 38.8	-0.9
PEIG					Sn	04 56 04.0	+0.3
PEIG	Puerto Escondi	2.01	257	eP	Pn	04 55 38.8	-0.9
PEIG				eS	Sn	04 56 04.0	+0.3
PMUV	Sontecomapan	2.06	360	eP	Pn	04 55 39.8	-0.6
PMUV				eS	Sn	04 56 04.6	-0.3
YOIG	Yosondua	2.37	280		Pn	04 55 46.0	+1.2
YOIG					Sn	04 56 16.8	+4.0
YOIG	Yosondua	2.37	280	eP	Pn	04 55 45.6	+0.9
YOIG				eS	Sn	04 56 13.8	+1.1
TOIG	Toxpalan	2.47	311		Pn	04 55 47.3	+1.3
TOIG					Sn	04 56 18.2	+3.2
TOIG	Toxpalan	2.47	311	eP	Pn	04 55 47.3	+1.3
TOIG				eS	Sn	04 56 18.2	+3.2
CCIG	Comitan	2.86	93	eP	Pn	04 55 52.9	+1.4
CCIG				eS	Sn	04 56 26.1	+1.3
TPIG	Tehuac#an	2.89	312		Pn	04 55 53.1	+1.2
TPIG					Sn	04 56 29.0	+3.4
TPIG	Tehuac#an	2.89	312	eP	Pn	04 55 53.1	+1.2
TPIG				eS	Sn	04 56 28.0	+2.4
PNIG	Pinotepa	2.90	269		Pn	04 55 50.6	-1.3
PNIG					Sn	04 56 26.1	+0.6
PNIG	Pinotepa	2.90	269	eP	Pn	04 55 50.6	-1.3
PNIG				eS	Sn	04 56 26.1	+0.6
HLIG	Huajuapan de L	2.91	298		Pn	04 55 54.1	+2.0
HLIG					Sn	04 56 32.8	+6.8
HLIG	Huajuapan de L	2.91	298	eP	Pn	04 55 54.1	+2.0
HLIG				eS	Sn	04 56 28.0	+2.0
PATR	El Naranjo	3.08	116	eP	Pn	04 55 54.8	+0.3
PATR				eS	Sn	04 56 30.1	-0.2
PAVE	Pavencul	3.10	114	eP	Pn	04 55 55.9	+1.1
PAVE				eS	Sn	04 56 31.1	+0.4
THIG		3.15	119		Pn	04 55 55.9	+0.6
THIG					Sn	04 56 33.0	+1.3
THIG		3.15	119	eP	Pn	04 55 55.9	+0.6
THIG				eS	Sn	04 56 30.5	-1.2
CHUJ	Union Juarez	3.20	115	eP	Pn	04 55 56.8	+0.6
CHUJ				eS	Sn	04 56 34.4	+1.1
FTIG	Fresnillo de T	3.22	297		Pn	04 55 59.2	+2.8
FTIG					Sn	04 56 42.9	+9.2
FTIG	Fresnillo de T	3.22	297	eP	Pn	04 55 57.6	+1.2
FTIG				eS	Sn	04 56 30.7	-2.9
JAUV	Jalcomulco	3.30	331	eP	Pn	04 55 55.4	-2.0
JAUV				eS	Sn	04 56 30.5	-4.9
LVIG	Laguna Verde	3.46	339	eP	Pn	04 55 55.2	-4.3
LVIG				eS	Sn	04 56 37.2	-2.2
HUEH	Huehuetenango	3.66	108		Pn	04 56 01.8	-0.7
RTAL	Retalhuleu	3.82	120	Pn	Pn	04 56 03.9	-0.6
PPM	Popocatepetl	4.23	308	eP	Pn	04 56 09.2	-1.3
PPM				eS	Sn	04 56 56.6	-2.4
CXUV	Coxquihui	4.37	328	eP	Pn	04 56 11.6	-0.5
CXUV				eS	Sn	04 57 02.9	+1.1
DAIG	Los Arroyos	4.38	278	eP	Pn	04 56 03.7	-8.6
DAIG				eS	Sn	04 57 04.4	+2.2
SCIG	Sabancuy	4.49	56	eP	Pn	04 56 14.2	+0.5
SCIG				eS	Sn	04 57 02.3	-2.3
MEIG	Mezcala	4.55	289	eP	Pn	04 56 14.8	+0.2
MEIG				eS	Sn	04 57 09.7	+3.5
UNM	Universidad Na	4.80	307	Pn	Pn	04 56 19.0	+0.7
PETF	Flores	5.04	84		Pn	04 56 23.3	+2.0
ARIG	Puente Sto Nin	5.31	291	eP	Pn	04 56 25.9	+0.8
ARIG				eS	Sn	04 57 29.5	+4.4
ESQI	Esquipulas	5.88	108	Pn	Pn	04 56 30.1	-2.8
MTO3	Montecristo	5.92	110		Pn	04 56 34.2	+0.6
ZIIG	Zihuatanejo	6.18	281	eP	Pn	04 56 29.0	-8.0
ZIIG				eS	Sn	04 57 34.6	-12
TEIG	Tepich	7.49	59	Pn	Pn	04 56 55.0	+0.1
ORTG	Ortega, Santa	11.18	122		Pn	04 57 47.5	+1.8
DUNO	Dulce Nombre,	11.31	123	Pn	Pn	04 57 47.6	+0.2
JCT	Junction City	14.59	344	P	P	04 58 39.9	+2.0
TXAR	Lajitas Array	15.02	330	P	P	04 58 42.0	-0.8
TX31	Lajitas Ar. Si	15.02	330	P	P	04 58 42.3	-0.5
TX31				IAmb	IAmb	04 58 49.0	
	comp=Z,10nm,1.2s						
TX32	Lajitas Array	15.02	330	P	P	04 58 43.3	+0.5
BRDY	Brady	15.16	347	P	P	04 58 42.9	-1.3
BRDY				IAmb	IAmb	04 58 50.0	
	comp=Z,8.4nm,1.4s						
OZNA	Ozona	15.39	340	P	P	04 58 48.9	+2.0
OZNA				IAmb	IAmb	04 58 52.9	
	comp=Z,24nm,1.5s						
WHTX	Lake Whitney,	15.60	353		P	04 58 46.6	-2.4
WHTX				IAmb	IAmb	04 58 50.2	
	comp=Z,8.4nm,0.6s						
ALPN	Alpine	15.88	332	P	P	04 58 54.5	+2.1
ALPN				IAmb	IAmb	04 58 58.3	
	comp=Z,5.8nm,0.8s						
MNHN	Monahans	16.36	336	P	P	04 58 59.4	+1.8
MNHN				IAmb	IAmb	04 59 03.8	
	comp=Z,7.8nm,0.8s						
PLPT	Palo Pinto	16.52	350	P	P	04 58 59.8	+0.5
PLPT				IAmb	IAmb	04 59 19.5	
	comp=Z,6.4nm,0.8s						
FW06	Azle	16.57	353	P	P	04 59 00.3	+0.4
FW06				IAmb	IAmb	04 59 01.9	
	comp=Z,7.6nm,0.7s						
ABTX	Abilene, Hawle	16.59	346	P	P	04 58 58.9	-1.2
ABTX				IAmb	IAmb	04 59 06.3	
	comp=Z,16nm,1.4s						
FW03	Perrin-Whitt E	16.71	351	P	P	04 59 00.9	-0.4
FW03				IAmb	IAmb	04 59 05.2	
	comp=Z,7.8nm,0.9s						
Z47A	Carrollton	17.82	20	P	P	04 59 15.1	+1.4
Z47A				IAmb	IAmb	04 59 17.6	
	comp=Z,24nm,1.4s						
X37A	Clayton	18.04	359	P	P	04 59 17.8	+1.7
X37A				IAmb	IAmb	04 59 25.9	
	comp=Z,7.3nm,0.8s						
MIAR	Mount Ida	18.05	4	P	P	04 59 16.6	+0.5
DEOK	Depew	19.33	357	P	P	04 59 28.8	-1.5
DEOK				IAmb	IAmb	04 59 31.5	
	comp=Z,7.3nm,0.8s						
OK031	S. Brethren Rd	19.46	356	P	Pn	04 59 32.4	-0.7
OK031				IAmb	IAmb	04 59 33.2	
	comp=Z,8.0nm,0.8s						
OK052	Battle Ridge R	19.50	356	P	Pn	04 59 32.1	-1.4
OK052				IAmb	IAmb	04 59 33.2	
	comp=Z,7.7nm,0.8s						
FCAR	Ozark Folk Cen	19.52	7	P	Pn	04 59 33.4	-0.4
Y52A	Lilburn	19.97	28	P	P	04 59 37.0	-0.2
Y52A				IAmb	IAmb	04 59 56.1	
	comp=Z,8.7nm,1.1s						
T35A	Sooner Cattle	20.40	357	P	P	04 59 41.9	+0.1
T35A				IAmb	IAmb	04 59 46.0	
	comp=Z,20nm,1.5s						
MGMO	Mountain Grove	20.75	6	P	Pn	04 59 49.1	+0.9
T42A	Van Buren	20.78	9	P	P	04 59 45.7	-0.2
T42A				IAmb	IAmb	04 59 49.8	
	comp=Z,6.6nm,0.8s						
S39A	Bolivar	21.19	4	P	P	04 59 52.2	+1.8
S39A				IAmb	IAmb	05 00 32.9	
	comp=Z,10nm,1.5s						
U49A	Red Boiling Sp	21.61	21	P	P	04 59 54.2	-0.7
U49A				IAmb	IAmb	05 00 12.7	
	comp=Z,8.9nm,1.3s						
R40A	Maddies Statio	21.88	6	P	P	04 59 58.9	+1.2
R40A				IAmb	IAmb	05 00 03.6	
	comp=Z,3.8nm,0.7s						
V55A	Taylorsville	22.93	30	P	P	05 00 07.8	-1.1
WCI	Wyandotte Cave	23.02	18	P	P	05 00 09.6	-0.3
WCI				IAmb	IAmb	05 00 14.6	
	comp=Z,14nm,1.5s						
P40A	Paris	23.13	6	P	P	05 00 09.4	-1.5
P40A				IAmb	IAmb	05 00 13.6	
	comp=Z,14nm,1.4s						
O49A	Covington	25.42	19	P	P	05 00 32.9	+0.7
N47A	Urbana	25.65	17	P	P	05 00 33.6	-0.7
JFWS	Jewell Farm	26.68	8	P	P	05 00 43.7	+0.1
F36A	Milaca	29.33	2	P	P	05 01 06.1	-1.1
F36A				IAmb	IAmb	05 01 35.4	
	comp=Z,7.7nm,1.3s						
E38A	The Farm, Brul	30.19	5	P	P	05 01 13.8	-1.1
EYMN	Ely	31.52	5	P	P	05 01 25.9	-0.7
WVOR	Wild Horse Val	32.78	327	P	P	05 01 35.7	-2.2
WVOR				IAmb	IAmb	05 01 54.3	
	comp=Z,2.5nm,1.2s						
L29M	L29M	55.25	338	P	P	05 04 39.1	+1.8
TRF	Thorofare Moun	60.13	335	P	P	05 05 13.5	+1.7
C23K	Itkillik River	63.08	341	P	P	05 05 33.4	+2.1

JMA 23 05:01:59.1±0.1, 34°.N×13°.6E±°, h418km, MV3.1/27, SOUTHERN NARA PREF
IDC 23 05:02:02.5±3.9, 33°.93N×135°.80E, h342km±190km, mb2.7/1, mbtmp3.4/3, Error ellipse: s-maj=267.2km s-min=38.6km az=13.0
ISC 23 05:02:01.4±1.6, 34°.4N±0°.2×136°.01E±0°.09, h400km, n9, σ0§90/10, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	Kouya	0.36	250	P	Pn	05 02 50.9	-0.2
JKG	Kaga	1.94	8	eP	Pn	05 02 56.8	0.0
MJAR	Matsushiro Arr	2.83	39	P	Pn	05 03 03.7	+0.6
	5.5nm,0.5s,baz=220,slow=10,SNR=7.6						
JAG	Ashikaga	3.50	53	eP	Pn	05 03 08.9	+0.2
BSO4	Boso 4	3.63	79	P	Pn	05 03 10.8	+1.0
BSO4				eS	S	05 04 05.6	+0.3
BSO3	Boso 3	3.74	82	eP	Pn	05 03 11.3	+0.7
BSO3				eS	S	05 04 05.0	-1.9
JYT	Yasato	3.91	60	P	Pn	05 03 12.2	-0.2
KSRS	Korea Array	7.25	298	P	P	05 03 48.5	+0.2
	1.8nm,0.5s,baz=115,slow=12,SNR=4.1						
WRA	Warramunga Arr	54.01	182	P	P	05 10 49.4	+3.2
	0.2nm,0.3s,baz=357,slow=7.4,SNR=4.8						
	0.2nm,0.3s						

IDC 23 05:17:14.9±2.9, 7°.08S×128°.64E, h0km, mb3.6/1, mbtmp3.7/3, ML4.0/2, Error ellipse: s-maj=299.6km s-min=32.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.93	157	Pn	Pn	05 20 33.2	-0.5
	0.7nm,0.3s,baz=335,slow=13,SNR=26						
WRA				Sn	Sn	05 22 58.2	-11
	0.7nm,0.3s,baz=330,slow=28,SNR=8.2						
	0.9nm,0.3s						
ASAR	Alice Springs	17.25	164	P	Pn	05 21 17.8	+0.4
	0.4nm,0.3s,baz=343,slow=9.9,SNR=18						
ASAR				S	Sn	05 24 19.9	-10
	0.3nm,0.5s,baz=343,slow=24,SNR=2.1						
	0.7nm,0.4s						
MKAR	Makanchi Array	67.56	327	P	P	05 28 13.2	0.0
	0.3nm,0.4s,baz=114,slow=8.2,SNR=3.7						
	0.3nm,0.4s						

IDC 23 05:38:32.4±6.1, 24°.85S×179°.20E, h552km±53km, mb3.0/4, mbtmp4.1/6, Error ellipse: s-maj=116.5km s-min=20.4km az=148.0
ISC 23 05:38:31.4±1.5, 25°.0S±0°.2×179°.3E±0°.2, h550km, n9, σ0§96/9, mb3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	7.29	350	P	P	05 40 21.6	-0.7
	4.8nm,0.4s,baz=244,slow=22,SNR=19						
DZM	Mont Dzumac	12.15	281	P	P	05 41 12.7	+1.0
	8.9nm,0.7s,baz=138,slow=23,SNR=12						
STKA	Stephens Creek	33.75	249	P	P	05 44 26.9	-0.9
	0.6nm,0.3s,baz=70,slow=10,SNR=4.0						
	0.6nm,0.3s						
ASAR	Alice Springs	41.25	262	P	P	05 45 29.4	+0.2
	1.0nm,0.4s,baz=92,slow=7.2,SNR=22						
	1.0nm,0.4s						
WRA	Warramunga Arr	41.72	268	P	P	05 45 33.0	+0.2
	1.6nm,0.6s,baz=102,slow=7.0,SNR=19						
	1.6nm,0.6s						
NVAR	Mina Array Bea	85.95	44	P	P	05 50 15.1	+1.2
	0.7nm,0.7s,baz=217,slow=7.8,SNR=7.8						
	0.7nm,0.7s						
NB2	NORSAR Subarra	143.02	350	PKP	PKPdf	05 57 01.3	-1.0
	comp=Z,1.0nm,0.8s,baz=20,slow=3.3						
NOA	NORSAR Array B	143.02	350	PKP	PKPdf	05 57 01.5	-0.8
	comp=Z,1.1nm,0.7s,baz=16,slow=4.9,SNR=4.8						
HFS	Hagfors	143.45	348	PKP	PKPdf	05 57 02.7	-0.3
	comp=Z,1.8nm,0.4s,baz=20,slow=3.8,SNR=2.9						

IDC 23 05:52:08.1±11.0, 2°.89S×144°.36E, h0km, mb3.8/2, mbtmp3.9/3, ML4.1/1, Error ellipse: s-maj=192.8km s-min=106.8km az=162.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.57	209	P	P	05 56 38.2	+0.3
	0.6nm,0.3s,baz=39,slow=9.3,SNR=51						
	2.8nm,0.7s						
ASAR	Alice Springs	23.00	205	P	P	05 57 14.5	-0.3
	1.5nm,0.6s,baz=34,slow=9.2,SNR=22						
	1.5nm,0.6s						
STKA	Stephens Creek	28.96	185	P	P	05 58 09.3	0.0
	1.3nm,0.6s,baz=350,slow=12,SNR=3.6						
	1.3nm,0.6s						

IDC 23 06:15:00.5±5.7, 24°.72S×177°.64W, h200km±46km, mb3.5/3, mbtmp4.1/5, Error ellipse: s-maj=49.7km s-min=28.2km az=140.0
ISC 23 06:15:00.3±1.1, 24°.7S±0°.2×177°.6W±0°.2, h200km, n10, σ0§84/10, mb3.6/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.02	329	P	Pn	06 16 54.0	+0.1
	7.3nm,0.8s,baz=300,slow=22,SNR=5.6						
DZM	Mont Dzumac	14.86	277	P	P	06 18 22.0	+0.2
	6.4nm,1.0s,baz=133,slow=19,SNR=2.8						
ASAR	Alice Springs	44.04	261	P	P	06 22 48.8	+0.2
	1.4nm,0.7s,baz=98,slow=8.8,SNR=17						
	1.4nm,0.7s						
WRA	Warramunga Arr	44.51	266	P	P	06 22 51.6	-0.7
	2.4nm,0.4s,baz=102,slow=7.9,SNR=53						
	2.4nm,0.4s						
SNAA	Sanae	83.83	178	P	P	06 27 07.0	+0.1
	0.5nm,0.6s,baz=192,slow=16,SNR=1.9						
	0.5nm,0.6s						
ARCES	ARCESS Array B	133.09	349	PKP	PKPdf	06 33 51.0	-0.2
	1.9nm,0.8s,baz=22,slow=3.9,SNR=6.6						
FINES	FINESS Array B	139.87	343	PKP	PKiKP	06 34 05.5	-0.9
	1.4nm,0.8s,baz=54,slow=5.7,SNR=3.9						
NOA	NORSAR Array B	143.17	353	PKP	PKPdf	06 34 11.7	+1.8
	0.3nm,0.4s,baz=340,slow=2.4,SNR=1.8						
AKASG	Malin Array Be	146.79	328	PKPbc	PKPbc	06 34 17.9	-0.7
	1.3nm,0.4s,baz=42,slow=4.2,SNR=10						
EKA	Eskdalemuir Ar	149.13	6	PKPbc	PKPbc	06 34 24.2	-0.3
	0.3nm,0.3s,baz=352,slow=2.9,SNR=1.9						

FUNV 23 06:34:22.4, 10°.41N×70°.33W, h2km, MW3.1
ISC 23 06:34:22.3±1.2, 10°.42N±0°.04×70°.34W±0°.03, h12km±10km, n25, σ0§98/41, 2C-1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	Curarigua	0.55	138	↑↓P	Pg	06 34 32.6	-0.4
CURV				eS	Sg	06 34 40.2	-0.1
SIQV	Siquisique	0.57	66	↑↓P	Pg	06 34 33.1	-0.3
SIQV				eS	Sg	06 34 41.1	+0.2
SANV	Sanarito	1.20	139	eP	Pn	06 34 44.8	-0.4
SANV				eS	Sg	06 35 01.8	+0.6
TEPV	Terepaima	1.21	112	↑↓P	Pg	06 34 45.8	+0.2
TEPV				eS	Sg	06 35 01.9	+0.5
SDV	Santo Domingo	1.55	191	eP	Pn	06 34 50.0	+0.1
SDV				eS	Sb	06 35 11.1	+0.3
SDV				i		06 35 15.0	
	comp=Z,68nm,0.5s						
URIC	Uribia, Colomb	2.07	308	eP	Pb	06 34 59.4	-0.4
URIC				eS	Sb	06 35 25.7	+0.1
URIC				i		06 35 27.5	
	comp=Z,40nm,0.7s						
SOCV	Socops	2.18	194	eP	Pn	06 34 59.6	+1.1
SOCV				eS	Sn	06 35 26.7	+1.1
MCQV	Machiques	2.20	261	eP	Pn	06 34 58.9	+0.2
MCQV				eS	Sn	06 35 26.9	+1.0
TURV	Turiamo	2.45	89	eP	Pn	06 35 01.8	-0.4
TURV				eS	Sn	06 35 31.6	-0.6
CRJC	Cerrejon, Guaj	2.57	284	eP	Pn	06 35 04.8	+0.8
CRJC				eS	Sn	06 35 35.6	+0.3
CRJC				i		06 35 46.0	
	comp=Z,30nm,0.6s						
BAUV	El Baul	2.69	123	eP	Pn	06 35 06.8	+1.3
BAUV				eS	Sn	06 35 37.5	-0.6
BENV	Beln	2.73	99	eP	Pn	06 35 07.3	+1.2
BENV				eS	Sn	06 35 39.2	0.0
CAPV	Capacho	3.20	218	eP	Pn	06 35 12.3	-0.5
CAPV				eS	Sn	06 35 49.8	-1.3
TACV	Tcata	3.27	95	eP	Pn	06 35 14.3	+0.8
TACV				eS	Sn	06 35 51.2	-1.2
PAMC	Pamplona, Colo	3.85	218	eP	Pn	06 35 20.5	-1.3
PAMC				eS	Sn	06 36 08.5	+1.2
PAMC				i		06 36 09.7	
	comp=Z,23nm,0.2s						
ARGC	Ariguani, Magd	3.89	262	eP	Pn	06 35 22.2	+0.2
ARGC				eS	Sb	06 36 15.9	-2.2
ARGC				i		06 36 31.6	
	comp=Z,6.4nm,0.5s						
BRRC	Barranca, Sant	4.69	226	eP	Pn	06 35 34.4	+1.4
CACV	CAICARA DEL OR	4.70	127	eP	Pb	06 35 39.9	-4.9
SJCC	San Jacinto, C	4.80	264	eP	Pn	06 35 36.9	+2.3
RUSC	La Rusia	5.26	211	eP	Pn	06 35 42.5	+1.2
RUSC				eS	Sn	06 36 41.3	-0.8
RUSC				i		06 37 08.5	
	comp=Z,8.6nm,0.8s						
PTBC	PUERTO BERRIO,	5.61	227	eP	Pn	06 35 45.5	-0.2
PCRV	Puerto La Cruz	5.61	92	eP	Pn	06 35 46.4	+0.6
SPBC	San Pablo de B	6.01	218	eP	Pn	06 35 52.3	+1.0
NORC	Norcasia	6.59	223	eP	Pn	06 35 59.9	+0.7
CHIC	Chingaza	6.66	211	eP	Pn	06 36 02.1	+1.5

IDC 23 07:19:21.9±1.3, 25°.08N×143°.52E, h0km, mb3.6/6, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=45.9km s-min=24.4km az=77.0
ISC 23 07:19:27.1±1.2, 25°.2N±0°.1×143°.4E±0°.3, h35km, n7, σ1§92/7, mb3.5/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	12.17	340	Pn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.59**	**355**	⇑P	**Pg**	**07 39 41.2**	**-0.6**
KUR07				⇑S	**Sg**	**07 39 50.1**	**+0.7**
KUR06	**Kurchatov Arra**	**0.61**	**356**	⇑P	**Pg**	**07 39 41.7**	**-0.5**
KUR06				⇑S	**Sg**	**07 39 50.9**	**+0.8**
KUR14	**Kurchatov Arra**	**0.62**	**360**	⇑P	**Pg**	**07 39 41.6**	**-0.7**
KUR14				⇑S	**Sg**	**07 39 50.2**	**-0.1**
KUR15	**Kurchatov Arra**	**0.62**	**358**	⇑P	**Pg**	**07 39 41.8**	**-0.6**
KUR15				⇑S	**Sg**	**07 39 50.7**	**+0.2**
KURBB	**Kurchatov Arra** 13nm,0.3s	**0.63**	**356**	⇑P	**Pg**	**07 39 41.9**	**-0.7**
KURBB				⇑S	**Sg**	**07 39 51.1**	**+0.5**
KURBB	**Kurchatov Arra** 21nm,0.4s 2.3nm,0.3s,baz=167,slow=18,SNR=57	**0.63**	**356**	Pg	**Pg**	**07 39 42.0**	**-0.5**
KUR16	**Kurchatov Arra**	**0.63**	**355**	⇓P	**Pg**	**07 39 42.2**	**-0.5**
KUR16				⇑S	**Sg**	**07 39 51.1**	**+0.3**
KUR17	**Kurchatov Arra**	**0.64**	**353**	⇑P	**Pg**	**07 39 42.4**	**-0.3**
KUR17				⇑S	**Sg**	**07 39 51.9**	**+0.8**
KUR05	**Kurchatov Arra**	**0.65**	**357**	⇑P	**Pg**	**07 39 42.1**	**-0.8**
KUR05				⇑S	**Sg**	**07 39 51.3**	**0.0**
KUR04	**Kurchatov Arra**	**0.67**	**357**	⇑P	**Pg**	**07 39 42.6**	**-0.7**
KUR04				⇓S	**Sg**	**07 39 52.1**	**+0.1**
KURK	**Kurchatov** 6.5nm,0.4s	**0.72**	**1**	⇑P	**Pg**	**07 39 43.3**	**-1.0**
KURK	8.0nm,0.4s			⇑S	**Sg**	**07 39 53.5**	**-0.1**
SEM	**Semipalatinsk** 6.9nm,0.1s	**1.14**	**68**	P	**Pg**	**07 39 51.5**	**-0.8**
SEM	23nm,0.1s			S	**Sg**	**07 40 05.9**	**-1.2**
BRZS	**Berezniki** 2.0nm,0.3s	**3.82**	**272**	Pg	**Pg**	**07 40 42.4**	**-1.2**
BRZS	3.6nm,0.2s			Lg	Lg	07 41 33.0	
MK31	**Makanchi Array** 0.1nm,0.1s,baz=133,slow=34,SNR=17	**4.04**	**141**	⇑Pn	**Pn**	**07 40 33.8**	**+0.2**
MK31	0.3nm,0.3s,baz=322,slow=14,SNR=12			⇓Pg	**Pb**	**07 40 41.7**	**-0.9**
MK31	3.9nm,0.5s,baz=325,slow=25,SNR=16			⇑Lg	Lg	07 41 34.5	
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=321,slow=10,SNR=20	**4.04**	**141**	Pn	**Pn**	**07 40 34.2**	**+0.6**
MKAR	0.6nm,0.3s,baz=331,slow=16,SNR=12			Pg	**Pb**	**07 40 42.1**	**-0.5**
MKAR	0.3nm,0.3s,baz=344,slow=13,SNR=1.9			Sn	**Sn**	**07 41 24.1**	**+2.4**
MKAR	1.3nm,0.3s,baz=328,slow=30,SNR=17 0.2nm,0.3s			Lg	Lg	07 41 36.6	
ZSN	**Zaisan** 4.2nm,0.2s	**4.87**	**119**	Pg	**Pn**	**07 40 46.1**	**+1.1**
ZSN	1.9nm,0.3s			Lg	Lg	07 41 39.3	
ZALV	**Zalesovo Beam** 1.3nm,0.3s,baz=227,slow=12,SNR=3.9 1.4nm,0.3s	**5.52**	**42**	Pn	**Pn**	**07 40 54.0**	**+0.2**
I46RU	**ZALESOVO INFRA** baz=226,slow=332,SNR=13	**5.52**	**42**	I	I	08 10 25.0	

PRE ***23*** *07:42:49.6±0.8, 26°.48S×27°.61E, h2km, ML2.7*
EAF ***23*** *07:42:51.7, 26°.57S×27°.59E, h10km, MC3.8*
BUL ***23*** *07:42:51.9±2.9, 26°.56S×27°.58E, h10km, MD4.0*
ISC 23 07:42:49.7±1.1, 26°.51S±0°.02×27°.60E±0°.04, h8km±9km, n25, σ1§85/50, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.47**	**208**	*e*P	**Pg**	**07 42 59.0**	**+0.3**
PRYS				*e*S	**Sg**	**07 43 06.1**	**+1.2**
PRYS	comp=Z,217nm,0.4s			IAML		07 43 13.4	
HRAO	**HartRAO**	**0.62**	**7**	*e*P	**Pg**	**07 43 00.6**	**-1.2**
HRAO				*e*S	**Sg**	**07 43 09.4**	**-0.5**
HRAO	comp=Z,221nm,0.2s			IAML		07 43 16.3	
KSR	**Koster**	**0.92**	**316**	*e*P	**Pg**	**07 43 06.4**	**-0.8**
KSR				*e*S	**Sg**	**07 43 19.0**	**-0.1**
KSR	comp=Z,778nm,0.2s			IAML		07 43 25.7	
SLR	**Silverton**	**0.98**	**38**	*e*P	**Pg**	**07 43 08.4**	**-0.2**
SLR				*e*S	**Sg**	**07 43 21.5**	**0.0**
SLR	comp=Z,176nm,0.2s			IAML		07 43 26.8	
SNKL	**Senekal, Frees**	**1.76**	**175**	*e*P	**Pb**	**07 43 22.2**	**-0.1**
SNKL				*e*S	**Sg**	**07 43 46.1**	**-0.2**
SNKL	comp=Z,283nm,0.4s			IAML		07 43 51.7	
CRLN	**Carolina, Mapu**	**2.23**	**77**	*e*P	**Pn**	**07 43 27.7**	**+0.6**
CRLN				*e*S	**Sb**	**07 43 57.1**	**-1.1**
CRLN	comp=Z,54nm,0.4s			IAML		07 44 03.4	
LBTB	**Lobatse**	**2.35**	**309**	*i* P	**Pb**	**07 43 31.4**	**-0.9**
LBTB				*i* S	**Sn**	**07 43 57.9**	**+0.2**
LBTB	**Lobatse**	**2.35**	**309**	*e*P	**Pn**	**07 43 30.1**	**+1.4**
LBTB				*e*S	**Sn**	**07 43 59.1**	**+1.4**
LBTB	comp=Z,161nm,0.8s			IAML		07 44 03.0	
LBTB	**Lobatse** baz=310	**2.35**	**309**	*i* P	**Pb**	**07 43 31.4**	**-0.9**
LBTB	baz=310			*i* S	**Sn**	**07 43 57.9**	**+0.2**
LEPH	**Lephalale, Lim**	**2.65**	**4**	*e*P	**Pn**	**07 43 33.9**	**+1.1**
LEPH				*e*S	**Sn**	**07 44 06.5**	**+1.3**
LEPH	comp=Z,67nm,0.5s			IAML		07 44 15.6	
BOSA	**Boshof**	**2.95**	**224**	*i* P	**Pb**	**07 43 40.4**	**-2.3**
BOSA				*i* S	**Sn**	**07 44 09.0**	**-3.8**
BOSA	**Boshof**	**2.95**	**224**	*e*P	**Pn**	**07 43 39.4**	**+2.3**
BOSA				*e*S	**Sn**	**07 44 15.4**	**+2.6**
BOSA	comp=Z,34nm,0.3s			IAML		07 44 28.6	
BOSA	**Boshof** baz=225	**2.95**	**224**	*i* P	**Pb**	**07 43 40.4**	**-2.3**
BOSA	baz=225			*i* S	**Sn**	**07 44 09.0**	**-3.8**
PILG	**Pilgrimsrest,**	**3.21**	**61**	*e*P	**Pn**	**07 43 41.5**	**+0.8**
PILG				*e*S	**Sn**	**07 44 19.5**	**+0.2**
PILG	comp=Z,93nm,0.7s			IAML		07 44 37.5	
MOPA	**Mopani**	**4.55**	**50**	*i* P	**Pn**	**07 44 01.3**	**+2.4**
MOPA				*i* S	**Sn**	**07 44 49.6**	**-2.5**
MOPA	**Mopani** baz=50	**4.55**	**50**	*i* P	**Pn**	**07 44 01.3**	**+2.4**
MOPA	baz=50			*i* S	**Sn**	**07 44 49.6**	**-2.5**
MUSN	**Musina, Limpop**	**4.68**	**27**	*i* P	**Pn**	**07 44 03.8**	**+3.1**
MUSN				*i* S	**Sn**	**07 44 53.8**	**-1.5**
MUSN	**Musina, Limpop**	**4.68**	**27**	*e*P	**Pn**	**07 44 02.3**	**+1.6**
MUSN				*e*S	**Sn**	**07 44 55.2**	**-0.1**
MUSN	comp=Z,24nm,0.6s			IAML		07 45 15.9	
MUSN	**Musina, Limpop** baz=26	**4.68**	**27**	*i* P	**Pn**	**07 44 03.8**	**+3.1**
MUSN	baz=26			*i* S	**Sn**	**07 44 53.8**	**-1.5**
UPI	**Upington**	**5.94**	**250**	*e*P	**Pn**	**07 44 20.5**	**+2.5**
UPI				*e*S	**Sn**	**07 45 25.5**	**-0.8**
UPI	comp=Z,17nm,0.4s			IAML		07 46 02.5	
ROOI	**Rooidraai Farm**	**6.93**	**210**	*e*P	**Pn**	**07 44 33.6**	**+2.0**
ROOI				*e*S	**Sn**	**07 45 50.1**	**-0.5**
ROOI	comp=Z,5.4nm,0.3s			IAML		07 46 08.8	
GRAN	**Grantham**	**7.46**	**218**	*e*P	**Pn**	**07 44 40.6**	**+1.7**
GRAN				*e*S	**Sn**	**07 46 02.4**	**-1.5**
GRAN	comp=Z,12nm,0.6s			IAML		07 46 48.5	
FRAZ	**Fraserburg**	**7.64**	**224**	*e*P	**Pn**	**07 44 43.8**	**+2.3**
FRAZ				*e*S	**Sn**	**07 46 06.7**	**-1.7**
FRAZ	comp=Z,4.6nm,0.3s			IAML		07 46 15.2	
MERW	**Merweville**	**8.10**	**219**	*e*P	**Pn**	**07 44 49.3**	**+1.5**
MERW				*e*S	**Sn**	**07 46 17.5**	**-2.2**
MERW	comp=Z,7.7nm,0.5s			IAML		07 46 37.1	
SUR	**Sutherland**	**8.32**	**224**	*e*P	**Pn**	**07 44 52.8**	**+2.0**
SUR				*e*S	**Sn**	**07 46 22.6**	**-2.5**
SUR	comp=Z,2.2nm,0.3s			IAML		07 46 40.5	

RSNC ***23*** *07:43:36.5±1.2, 6°.87N×73°.14W, h150km±4km, ML3.2, Mw3.6*
ISC 23 07:43:34.8±1.4, 6°.87N±0°.03×73°.08W±0°.04, h158km±8km, n32, σ1§60/63, 8C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**200**	⇑*i*P	**Pn**	**07 43 56.8**	**+0.2**
BARC				*e*S	**Sn**	**07 44 12.5**	**-0.7**
BARC	comp=Z,341nm,0.2s			*i*		07 44 14.1	
PAMC	**Pamplona, Colo**	**0.60**	**39**	*e*P	**Pn**	**07 43 59.4**	**+1.2**
PAMC				*e*S	**Sn**	**07 44 16.6**	**+0.6**
PAMC	comp=Z,311nm,0.5s			*i*		07 44 18.6	
BRRC	**Barranca, Sant**	**0.67**	**291**	⇑*i*P	**Pn**	**07 43 58.5**	**+0.5**
BRRC				*e*S	**Sn**	**07 44 15.7**	**0.0**
BRRC	comp=Z,180nm,0.1s			*i*		07 44 16.2	
RUSC	**La Rusia**	**0.97**	**180**	⇑*i*P	**Pn**	**07 44 00.8**	**+0.2**
RUSC				*e*S	**Sn**	**07 44 19.8**	**-0.7**
RUSC	comp=Z,450nm,0.3s			*i*		07 44 21.4	
TAMC	**Tame, Arauca**	**1.35**	**108**	⇓*i*P	**Pn**	**07 44 05.1**	**+1.6**
TAMC				*e*S	**Sn**	**07 44 26.6**	**+1.1**
TAMC	comp=Z,71nm,0.3s			*i*		07 44 27.4	
PTBC	**PUERTO BERRIO,**	**1.40**	**257**	*e*P	**Pn**	**07 44 03.2**	**-0.8**
PTBC				*e*S	**Sn**	**07 44 24.7**	**-1.7**
PTBC	comp=Z,171nm,0.1s			*i*		07 44 27.9	
SPBC	**San Pablo de B**	**1.56**	**219**	⇑*i*P	**Pn**	**07 44 05.7**	**0.0**
SPBC				*e*S	**Sn**	**07 44 28.8**	**-0.7**
SPBC	comp=Z,291nm,0.2s			*i*		07 44 34.5	
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	*e*P	**Pn**	**07 44 09.1**	**+0.2**
ZARC				*e*S	**Sn**	**07 44 34.1**	**-1.1**
ZARC	comp=Z,198nm,0.2s			*i*		07 44 40.4	
NORC	**Norcasia**	**2.20**	**234**	*e*P	**Pn**	**07 44 12.7**	**-0.1**
NORC				*e*S	**Sn**	**07 44 41.6**	**-0.5**
NORC	comp=Z,134nm,0.3s			*i*		07 44 48.5	
CHIC	**Chingaza**	**2.32**	**196**	⇑*i*P	**Pn**	**07 44 15.2**	**+0.7**
CHIC				*e*S	**Sn**	**07 44 44.7**	**-0.5**
CHIC	comp=Z,91nm,0.3s			*i*		07 44 47.9	
ROSC	**El Rosal**	**2.36**	**212**	⇑*i*P	**Pn**	**07 44 16.7**	**+1.6**
ROSC				*e*S	**Sn**	**07 44 50.5**	**+4.4**
ROSC	comp=Z,141nm,0.3s			*i*		07 44 53.4	
UREC	**San Jos de Ur**	**2.59**	**290**	*e*P	**Pn**	**07 44 16.6**	**-0.8**
UREC				*e*S	**Sn**	**07 44 47.7**	**-2.6**
UREC	comp=Z,79nm,0.4s			*i*		07 44 50.9	
GUY2C	**Guyana, Caldas**	**2.80**	**234**	*e*P	**Pn**	**07 44 22.3**	**+1.9**
GUY2C				*e*S	**Sn**	**07 44 57.9**	**+2.2**
GUY2C	comp=Z,114nm,0.7s			*i*		07 45 05.4	
PTGC	**Puerto Gaitan,**	**2.81**	**160**	⇑*i*P	**Pn**	**07 44 20.1**	**-0.1**
PTGC				*e*S	**Sn**	**07 44 53.2**	**-2.1**
PTGC	comp=Z,56nm,0.4s			*i*		07 44 53.5	
DBBC	**Dabeiba**	**3.11**	**273**	*e*P	**Pn**	**07 44 24.7**	**+0.8**
DBBC				*e*S	**Sn**	**07 45 00.2**	**-1.9**
DBBC	comp=Z,50nm,0.4s			*i*		07 45 04.1	
ARGC	**Ariguani, Magd**	**3.19**	**339**	*e*P	**Pn**	**07 44 27.5**	**+2.6**
ARGC				*e*S	**Sn**	**07 45 05.2**	**+1.4**
ARGC	comp=Z,26nm,0.2s			*i*		07 45 10.1	
ANIL	**Santa Ana**	**3.30**	**225**	*e*P	**Pn**	**07 44 28.1**	**+1.5**
ANIL				*e*S	**Sn**	**07 45 08.2**	**+1.4**
PRAC	**Prado**	**3.61**	**210**	*e*P	**Pn**	**07 44 30.0**	**-0.3**
PRAC				*e*S	**Sn**	**07 45 13.1**	**-0.4**
PRAC	comp=Z,89nm,0.3s			*i*		07 45 19.8	
APAC	**Apartado, Choc**	**3.62**	**287**	⇓*i*P	**Pn**	**07 44 30.6**	**+0.2**
APAC				*e*S	**Sn**	**07 45 13.7**	**+0.2**
APAC	comp=Z,36nm,0.4s			*i*		07 45 16.5	
ORTC	**Ortega, Tolima**	**3.64**	**216**	*e*P	**Pn**	**07 44 30.9**	**+0.1**
ORTC				*e*S	**Sn**	**07 45 15.6**	**+1.3**
ORTC	comp=Z,50nm,0.4s			*i*		07 45 21.2	
SJCC	**San Jacinto, C**	**3.66**	**326**	⇑*i*P	**Pn**	**07 44 30.8**	**-0.1**
SJCC				*e*S	**Sn**	**07 45 11.7**	**-2.9**
SJCC	comp=Z,28nm,0.3s			*i*		07 45 15.2	
PLMC	**San Jos del P**	**3.73**	**239**	*e*P	**Pn**	**07 44 32.8**	**+0.9**
PLMC				*e*S	**Sn**	**07 45 16.6**	**+0.3**
PLMC	comp=Z,31nm,0.3s			*i*		07 45 19.1	
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	*e*P	**Pn**	**07 44 36.9**	**-0.2**
CRJC				*e*S	**Sn**	**07 45 23.5**	**-2.2**
CRJC	comp=Z,47nm,0.2s			*i*		07 45 30.6	
GUVC	**San Jose del G**	**4.32**	**174**	*e*P	**Pn**	**07 44 39.6**	**+0.2**
GUVC				*e*S	**Sn**	**07 45 28.9**	**-1.0**
GUVC	comp=Z,32nm,0.2s			*i*		07 45 33.9	
YOTC	**Yotoco, Valle**	**4.33**	**229**	*e*P	**Pn**	**07 44 39.7**	**0.0**
YOTC				*e*S	**Sn**	**07 45 33.2**	**+2.8**
YOTC	comp=Z,8.0nm,0.7s			*i*		07 45 36.9	
SMRC	**Santa Marta, M**	**4.42**	**345**	*e*P	**Pn**	**07 44 40.7**	**0.0**
SMRC				*e*S	**Sn**	**07 45 29.5**	**-2.6**
SMRC	comp=Z,17nm,0.2s			*i*		07 45 33.8	
MACC	**Macarena, Meta**	**4.75**	**189**	*e*P	**Pn**	**07 44 44.0**	**-1.1**
MACC				*e*S	**Sn**	**07 45 35.5**	**-4.7**
MACC	comp=Z,15nm,0.4s			*i*		07 45 41.0	
JAMC	**Jamundi, Valle**	**5.10**	**225**	*e*P	**Pn**	**07 44 50.7**	**+0.8**
JAMC				*e*S	**Sn**	**07 45 49.5**	**+1.1**
JAMC	comp=Z,5.2nm,0.5s			*i*		07 45 54.1	
MALC	**Bahia Malaga**	**5.10**	**236**	*e*P	**Pn**	**07 44 51.8**	**+2.1**
MALC	comp=Z,18nm,0.8s			*i*		07 45 57.0	
GARC	**Garzon, Huila**	**5.23**	**207**	*e*P	**Pn**	**07 44 51.1**	**-0.6**
GARC				*e*S	**Sn**	**07 45 48.3**	**-3.6**
GARC	comp=Z,17nm,0.2s			*i*		07 45 52.6	
POPC	**Popayan, Colom**	**5.59**	**220**	*e*P	**Pn**	**07 44 57.2**	**+0.7**
POPC				*e*S	**Sn**	**07 46 01.4**	**+1.1**
FLOC	**Florencia**	**5.84**	**206**	*e*P	**Pn**	**07 44 59.7**	**+0.1**
FLOC				*e*S	**Sn**	**07 46 04.5**	**-1.5**
FLOC	comp=Z,3.6nm,0.4s			*i*		07 46 09.7	

IDC ***23*** *07:51:02.8±1.6, 15°.87S×174°.72W, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=122.3km s-min=23.2km az=146.0*
ISC 23 07:51:25.9±1.5, 16°.1S±0°.6×174°.8W±0°.4, h200km, n6, σ0§40/6, mb3.4/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.6nm,0.4s,baz=49,slow=11,SNR=3.7 0.6nm,0.4s	**42.50**	**240**	P	**P**	**07 59 01.5**	**-0.2**
ASAR	**Alice Springs** 0.9nm,0.7s,baz=88,slow=8.3,SNR=12 0.9nm,0.7s	**48.60**	**253**	P	**P**	**07 59 49.9**	**+0.2**
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=225,slow=10,SNR=8.9 0.8nm,0.7s	**75.77**	**43**	P	**P**	**08 02 50.3**	**+0.3**
TXAR	**Lajitas Array** 0.3nm,0.9s,baz=224,slow=6.3,SNR=3.2 0.3nm,0.9s	**82.14**	**57**	P	**P**	**08 03 24.9**	**+0.2**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=224,slow=7.0,SNR=5.4 0.2nm,0.8s	**83.41**	**12**	P	**P**	**08 03 30.2**	**-0.1**
PDAR	**Pinedale Array** 0.7nm,0.6s,baz=208,slow=3.5,SNR=7.7 0.7nm,0.6s	**83.70**	**42**	P	**P**	**08 03 32.1**	**-0.5**

PRE ***23*** *08:32:16.1±1.4, 26°.39S×27°.71E, h2km, ML1.9*
BUL ***23*** *08:32:21.3±1.3, 26°.59S×27°.23E, h10km, MD3.3*
EAF ***23*** *08:32:21.2, 26°.59S×27°.23E, h10km, MC3.3*
ISC 23 08:32:14.3±0.9, 26°.41S±0°.03×27°.69E±0°.04, h5km, n11, σ2§27/22, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**0.52**	**360**	*e*P	**Pb**	**08 32 26.6**	**+0.6**
HRAO				*e*S	**Sg**	**08 32 31.7**	**+0.6**
HRAO	comp=Z,33nm,0.1s			IAML		08 32 40.5	
SNKL	**Senekal, Frees**	**1.86**	**178**	*e*P	**Pb**	**08 32 50.7**	**+1.9**
SNKL				*e*S	**Sb**	**08 33 14.2**	**+1.8**
SNKL	comp=Z,20nm,0.5s			IAML		08 33 17.7	
LBTB	**Lobatse**	**2.34**	**306**	*i* P	**Pb**	**08 32 57.8**	**+0.7**
LBTB				*i* S	**Sn**	**08 33 22.3**	**-0.5**
LBTB	**Lobatse**	**2.34**	**306**	*e*P	**Pn**	**08 32 56.2**	**+2.7**
LBTB				*e*S	**Sb**	**08 33 25.9**	**-0.5**
LBTB	comp=Z,17nm,0.2s			IAML		08 33 28.9	
LBTB	**Lobatse** baz=316	**2.34**	**306**	*i* P	**Pb**	**08 32 57.8**	**+0.7**
LBTB	baz=316			*i* S	**Sn**	**08 33 22.3**	**-0.5**
BOSA	**Boshof**	**3.08**	**224**	*i* P	**Pn**	**08 33 05.0**	**+1.3**
BOSA				*i* S	**Sn**	**08 33 34.9**	**-6.1**
BOSA	**Boshof** baz=221	**3.08**	**224**	*i* P	**Pn**	**08 33 05.0**	**+1.3**
BOSA	baz=221			*i* S	**Sn**	**08 33 34.9**	**-6.1**
MOPA	**Mopani**	**4.43**	**50**	*i* P	**Pb**	**08 33 32.9**	**+0.3**
MOPA				*i* S	**Sb**	**08 34 26.7**	**+0.3**
MOPA	**Mopani** baz=52	**4.43**	**50**	*i* P	**Pb**	**08 33 32.9**	**+0.3**
MOPA	baz=52			*i* S	**Sb**	**08 34 26.7**	**+0.3**
MUSN	**Musina, Limpop**	**4.56**	**26**	*i* P	**Pb**	**08 33 34.1**	**-0.7**
MUSN				*i* S	**Sb**	**08 34 28.8**	**-1.3**
MUSN	**Musina, Limpop** baz=30	**4.56**	**26**	*i* P	**Pb**	**08 33 34.1**	**-0.7**
MUSN	baz=30			*i* S	**Sb**	**08 34 28.8**	**-1.3**

IDC ***23*** *08:32:31.1±0.4, 52°.35S×16°.89E, h0km, mb5.3/27, mbtmp5.3/27, MS5.5/55, Error ellipse: s-maj=15.7km s-min=12.7km az=93.0*
MOS ***23*** *08:32:31.5±1.2, 52°.36S×16°.70E, h10km, mb6.0/34, MS5.7/16, Error ellipse: s-maj=16.1km s-min=8.6km az=81.3*
NEIC ***23*** *08:32:32.5±1.7, 52°.34S±0°.09×16°.8E±0°.2, h10km±1km, mb6.0/147, Ms_20 5.6/467, Mwb5.8/38, Mww5.8/21, Error ellipse: s-maj=16.0km s-min=14.6km az=129.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.45; $M_{\theta\theta}$=2.92; $M_{\phi\phi}$=-0.47; $M_{r\theta}$=4.42; $M_{\theta\phi}$=-2.92; $M_{\phi r}$=3.57; Fault plane solution: M_0=6.94000×10^{17} NP1: ϕ_s=277.19000°, δ=18.15000°, λ=-122.32000°. NP2: ϕ_s=130.84000°, δ=74.74000°, λ=-80.06000°. Principal axes: T 7.7178, Plg=29.0000°, Azm=213.0000°; N -1.9956, Plg=10.0000°, Azm=308.0000°; P -5.7222, Plg=59.0000°, Azm=55.0000°;*
NEIC ***23*** *08:32:32.5, 52°.34S×16°.86E, h10km*
NEIC ***23*** *08:32:32.5, 52°.34S×16°.86E, h12km, Moment Tensor Solution. Duration: 4§1 Moment tensor: Scale 10^{17}Nm; M_{rr}=6.19; $M_{\theta\theta}$=5.22; $M_{\phi\phi}$=0.97; $M_{r\theta}$=2.61; $M_{\theta\phi}$=1.76; $M_{\phi r}$=0.83; Fault plane solution: M_0=6.60000×10^{17} NP1: ϕ_s=96.51000°, δ=56.36000°, λ=-104.49000°. NP2: ϕ_s=301.52000°, δ=36.29000°, λ=-69.39000°. Principal axes: T 6.2482, Plg=10.0000°, Azm=197.0000°; N 0.6942, Plg=12.0000°, Azm=105.0000°; P -6.9424, Plg=74.0000°, Azm=326.0000°;*
NEIC ***23*** *08:32:32.5, 52°.34S×16°.86E, h12km*
GCMT ***23*** *08:32:35.5±0.1, 52°.41S×17°.36E, h12km, MW5.8/161, Moment Tensor Solution. s121,c219; s161,c538; Duration: 2§0 Moment tensor: Scale 10^{17}Nm; M_{rr}=6.67±.04; $M_{\theta\theta}$=5.48±.04; $M_{\phi\phi}$=1.18±.04; $M_{r\theta}$=0.15±.13; $M_{\theta\phi}$=-2.26±.04; $M_{\phi r}$=0.29±.13; Best double couple: M_0=6.56700×10^{17} NP1: ϕ_s=111.00000°, δ=45.00000°, λ=-94.00000°. NP2: ϕ_s=296.00000°, δ=45.00000°, λ=-86.00000°. Principal axes: T 6.4490, Plg=0.0000°, Azm=203.0000°; N 0.2260, Plg=3.0000°, Azm=113.0000°; P -6.6850, Plg=87.0000°, Azm=296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 23 08:32:32.6±0.6, 52°.40S±0°.04×16°.90E±0°.05, h7km±3km, h7km:pP-P, n1458, σ1§93/1237, mb5.9/167, MS5.6/317, 33C-58D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	**18.58**	**185**	*e*P	**P**	**08 36 46.6**	**-3.2**
NVL				*e*S	**Sn**	**08 40 15.3**	**-2.2**
NVL	comp=Z,571nm,1.2s			pmax	pmax		
NVL	comp=E,5μm,9.8s			smax	smax		
BUFB	**Buffelsbos**	**19.09**	**20**	*e*P	**Pn**	**08 36 56.8**	**+0.5**
BUFB	comp=Z,288nm,1.2s			IAmb	IAmb	08 37 03.9	
CER	**Ceres**	**19.10**	**6**	*e*P	**Pn**	**08 36 56.3**	**-0.2**
CER	comp=Z,100nm,0.9s			IAmb	IAmb	08 37 01.6	
MATJ	**Matjiesfontein**	**19.31**	**9**	*e*P	**Pn**	**08 36 59.1**	**0.0**
MATJ	comp=Z,905nm,1.2s			IAmb	IAmb	08 37 11.0	
PRTV	**Porterville,We**	**19.38**	**6**	*e*P	**P**	**08 36 58.5**	**-0.4**
PRTV	comp=Z,344nm,1.0s			IAmb	IAmb	08 37 05.4	
NMMU	**Nelson Mandela**	**19.44**	**22**	*e*P	**Pn**	**08 37 01.2**	**+0.7**
ELIB	**Princess Elisa**	**19.83**	**174**	*d*P	**P**	**08 37 04.3**	**+0.7**
ELIB				*d*S	**S**	**08 40 45.5**	**-1.4**
MERW	**Merweville**	**19.99**	**11**	*e*P	**Pn**	**08 37 06.8**	**-0.6**
MERW	comp=Z,815nm,1.3s			IAmb	IAmb	08 37 13.8	
SUR	**Sutherland**	**20.20**	**10**		**P**	**08 37 07.5**	**-0.5**
SUR	comp=Z,776nm,1.4s			IAmb	IAmb	08 37 16.6	
SUR	**Sutherland** comp=Z,33μm,20.0s	**20.20**	**10**	IAMs_20	IAMs_20	08 42 53.7	
SUR	**Sutherland**	**20.20**	**10**	P	Pn	08 37 10.7	+0.9
SUR				P	Pn	08 37 10.7	+0.9
SUR	**Sutherland**	**20.20**	**10**	*e*P	**P**	**08 37 07.9**	**-0.1**
SUR	**Sutherland**	**20.20**	**10**	⇑P	**P**	**08 37 08.4**	**+0.4**
SUR	**Sutherland** comp=Z,122nm,1.1s,baz=189,slow=11,SNR=18	**20.20**	**10**	P	**P**	**08 37 07.4**	**-0.6**
SUR	comp=Z,36μm,21.1s,baz=186,slow=31			LR	LR	08 43 03.0	
GRHM	**Grahamstown, E** comp=Z,122nm,1.1s	**20.30**	**23**	P	**P**	**08 37 07.5**	**-1.4**
GRHM	**Grahamstown, E**	**20.30**	**23**	*e*P	**P**	**08 37 09.2**	**+0.3**
GRHM	comp=Z,428nm,1.5s			IAmb	IAmb	08 37 58.7	
GRHM	**Grahamstown, E**	**20.30**	**23**	⇓P	**P**	**08 37 09.8**	**+0.9**
GRAN	**Grantham**	**20.44**	**13**	*e*P	**P**	**08 37 10.0**	**-0.4**
GRAN	comp=Z,195nm,1.1s			IAmb	IAmb	08 37 21.4	
ROOI	**Rooidraai Farm**	**20.47**	**16**	*e*P	**P**	**08 37 10.4**	**-0.3**
ROOI	comp=Z,385nm,1.1s			IAmb	IAmb	08 37 19.5	
SOE	**Somerset East**	**20.65**	**21**	*e*P	**P**	**08 37 11.3**	**-1.4**
SOE	comp=Z,3μm,2.2s			IAmb	IAmb	08 37 27.0	
TROLL	**Troll, Antarti** comp=Z,12μm,0.9s	**20.68**	**193**	⇓P	**P**	**08 37 13.9**	**+1.1**
FRAZ	**Fraserburg**	**20.71**	**11**	*e*P	**P**	**08 37 13.0**	**-0.5**
FRAZ	comp=Z,367nm,1.0s			IAmb	IAmb	08 37 17.2	
GRAF	**Camdeboo Natio**	**20.85**	**18**	*e*P	**P**	**08 37 14.9**	**+0.1**
GRAF	comp=Z,429nm,1.2s			IAmb	IAmb	08 37 23.2	
CVNA	**Calvinia**	**21.00**	**7**	*e*P	**P**	**08 37 17.6**	**+

SNAA Sanae 21.23 197 ⇑P **P 08 37 19.0 +0.3**
SNAA Sanae 21.23 197 P **P 08 37 19.3 +0.6**
SNAA pmax pmax
comp=Z,1μm,1.2s
SNAA Sanae 21.23 197 P **P 08 37 19.2 +0.6**
comp=Z,613nm,0.9s,baz=35,slow=11,SNR=553
SNAA LR LR 08 43 25.2
comp=Z,16μm,21.8s,baz=28,slow=31
comp=Z,613nm,0.9s
VNA2 Neumayer--Watz 21.57 202 ⇓P **P 08 37 22.4 +0.1**
comp=Z,552nm,0.8s,baz=31,slow=11
VNA1 Neumayer--Stat 21.58 203 ⇓P **P 08 37 22.9 +0.7**
comp=Z,377nm,1.0s
VNA3 Neumayer Olymp 22.32 202 ⇓P **P 08 37 30.0 -0.3**
comp=Z,235nm,0.7s
KOMG Komaggas 22.58 1 *e*P **P 08 37 33.7 +0.3**
KOMG IAmb IAmb 08 37 43.3
comp=Z,543μm,5.0s
HVD Gariep Dam 22.67 20 *e*P **P 08 37 34.0 -0.5**
HVD IAmb IAmb 08 37 44.0
comp=Z,591nm,1.2s
PKA Prieska 23.11 13 *e*P **P 08 37 39.0 -0.1**
PKA IAmb IAmb 08 37 49.9
comp=Z,228nm,2.2s
H04S2 CROZET ISLANDS 23.18 90 T T 09 01 41.7
baz=244,slow=75,SNR=770
H04S3 CROZET ISLANDS 23.18 90 T T 09 01 43.0
baz=244,slow=75,SNR=640
H04S1 CROZET ISLANDS 23.20 90 T T 09 01 42.5
baz=244,slow=75,SNR=780
CRZF Crozet Islands 23.35 89 P **P 08 37 40.8 -0.5**
H04N3 CROZET ISLANDS 23.42 89 T T 09 02 09.3
baz=240,slow=75,SNR=59
H04N1 CROZET ISLANDS 23.43 89 T T 09 02 05.8
baz=240,slow=75,SNR=45
H04N2 CROZET ISLANDS 23.44 89 T T 09 02 05.2
baz=240,slow=75,SNR=53
KSTD Kokstad 23.59 28 *e*P **P 08 37 43.2 -0.8**
KSTD IAmb IAmb 08 38 03.2
comp=Z,2μm,2.5s
KEIM Keimoes 23.86 9 *e*P **P 08 37 45.1 -1.3**
KEIM IAmb IAmb 08 38 00.9
comp=Z,1μm,1.9s
UPI Upington 24.23 9 *e*P **P 08 37 48.2 -1.7**
UPI IAmb IAmb 08 38 13.4
comp=Z,646nm,1.6s
ARMS Ukamas 24.42 6 *i*P **P 08 37 50.5 -1.2**
BOSA Boshof 24.56 18 P **P 08 37 51.3 -1.7**
BOSA Boshof 24.56 18 *e*P **P 08 37 51.9 -1.1**
BOSA IAmb IAmb 08 38 01.6
comp=Z,190nm,1.1s
BOSA Boshof 24.56 18 ⇓P **P 08 37 51.5 -1.5**
BOSA Boshof 24.56 18 P **P 08 37 51.3 -1.7**
comp=Z,87nm,0.9s,baz=193,slow=9.4,SNR=32
BOSA LR LR 08 45 58.6
comp=Z,34μm,19.1s,baz=196,slow=33
comp=Z,87nm,0.9s
SNKL Senekal, Frees 25.42 23 *e*P **P 08 38 02.5 +1.6**
SNKL IAmb IAmb 08 38 11.1
comp=Z,466nm,1.4s
AUSN Aus 25.70 359 *i*P **P 08 38 09.8 +6.5**
SWZ Schweizer 25.97 17 *e*P **P 08 38 04.5 -1.3**
SWZ IAmb IAmb 08 38 22.7
comp=Z,2μm,2.5s
NWCL Newcastle 26.48 27 *e*P **P 08 38 11.0 +0.6**
NWCL IAmb IAmb 08 38 27.7
comp=Z,462nm,2.2s
PRYS Parys 26.63 21 *e*P **P 08 38 11.2 -0.5**
PRYS IAmb IAmb 08 38 26.3
comp=Z,176nm,1.2s
MAW Mawson 26.73 142 P **P 08 38 13.0 +0.9**
baz=27,SNR=63
MAW Mawson 26.73 142 P **P 08 38 12.0 -0.2**
MAW Mawson 26.73 142 ⇑P P 08 38 04.2 -7.9
MAW Mawson 26.73 142 P **P 08 38 12.0 -0.2**
MAW pmax pmax
comp=Z,69nm,1.3s
MAW Mawson 26.73 142 P **P 08 38 11.8 -0.4**
comp=Z,54nm,1.0s,baz=279,slow=8.3,SNR=45
MAW LR LR 08 46 42.3
comp=Z,8μm,21.5s,baz=293,slow=32
comp=Z,54nm,1.0s
WDLM Western Deep L 27.12 21 *e*P **P 08 38 18.2 +1.9**
WDLM IAmb IAmb 08 38 48.9
comp=Z,18nm,0.8s
KSR Koster 27.57 20 *e*P **P 08 38 19.1 -1.1**
KSR IAmb IAmb 08 38 46.4
comp=Z,154nm,1.4s
HRAO HartRAO 27.70 21 *e*P **P 08 38 20.0 -1.4**
HRAO IAmb IAmb 08 38 40.2
comp=Z,256nm,1.4s
MRCO Marico , North 27.83 19 *e*P **P 08 38 20.8 -1.8**
MRCO IAmb IAmb 08 38 30.0
comp=Z,147nm,1.1s
SLR Silverton 27.98 22 *e*P **P 08 38 22.3 -1.7**
SLR IAmb IAmb 08 38 42.3
comp=Z,263nm,1.6s
LBTB Lobatse 28.13 17 P **P 08 38 23.6 -1.5**
LBTB Lobatse 28.13 17 *e*P **P 08 38 24.1 -1.0**
LBTB IAmb IAmb 08 38 47.0
comp=Z,547nm,2.4s
LBTB Lobatse 28.13 17 ⇑P **P 08 38 24.2 -1.0**
LBTB Lobatse 28.13 17 P **P 08 38 23.7 -1.5**
LBTB pmax pmax
comp=Z,160nm,1.5s
LBTB MLR MLR
comp=Z,31μm,19.0s
CRLN Carolina, Mapu 28.17 26 *e*P **P 08 38 25.2 -0.4**
CRLN IAmb IAmb 08 38 38.8
comp=Z,72nm,1.4s
NYAT Nyati, Northwe 28.18 21 *e*P **P 08 38 24.1 -1.5**
NYAT IAmb IAmb 08 38 33.9
comp=Z,197nm,1.5s
MMAL MMAL 28.44 28 *e*P **P 08 38 27.9 -0.1**
MMAL IAmb IAmb 08 38 36.5
comp=Z,143nm,1.2s
RUST Rust De Winter 28.52 22 *e*P **P 08 38 26.6 -2.1**
RUST IAmb IAmb 08 38 42.8
comp=Z,88nm,1.1s
NHAM Northam, North 28.56 20 *e*P **P 08 38 28.7 -0.4**
NHAM IAmb IAmb 08 38 58.3
comp=Z,102nm,1.2s
DULL Dullstroom, Mp 28.81 26 *e*P **P 08 38 30.8 -0.6**
DULL IAmb IAmb 08 38 48.8
comp=Z,414nm,2.5s
PILG Pilgrimsrest, 29.36 26 *e*P **P 08 38 35.8 -0.5**
PILG IAmb IAmb 08 39 04.8
comp=Z,88nm,1.3s
MTLB Matlabas, Limp 29.57 19 *e*P **P 08 38 36.1 -1.9**
MTLB IAmb IAmb 08 38 45.4
comp=Z,91nm,1.3s
WTBG Waterberg Wild 29.59 23 *e*P **P 08 38 38.6 +0.4**
WTBG IAmb IAmb 08 39 43.3
comp=Z,15nm,0.9s
LEPH Lephalale, Lim 29.68 20 *e*P **P 08 38 37.5 -1.5**
LEPH IAmb IAmb 08 39 05.9
comp=Z,194nm,1.3s
WIN Windhoek 29.78 0 P **P 08 38 39.7 -0.3**
WIN IAMs_20 IAMs_20 08 48 56.6
comp=Z,17μm,18.0s
WIN Windhoek 29.78 0 *i*P P 08 38 45.3 +5.4
WIN Windhoek 29.78 0 P **P 08 38 39.7 -0.3**
WIN pmax pmax
comp=Z,63nm,1.2s
WIN MLR MLR
comp=Z,17μm,18.0s
HOED Hoedspruit, Li 29.92 26 *e*P **P 08 38 38.6 -2.4**
HOED IAML 08 39 06.2
comp=Z,7.1nm,0.8s
MOPA Mopani 30.89 27 *e*P **P 08 38 48.6 -1.0**
MPHEP Siloam, Limpop 31.16 24 *e*P **P 08 38 50.8 -1.2**
MPHEP IAmb IAmb 08 39 20.8
comp=Z,227nm,2.0s
HOPE Hope Point 31.30 245 P **P 08 38 49.6 -3.3**
HOPE Hope Point 31.30 245 P **P 08 38 49.6 -3.3**
HOPE pmax pmax
comp=Z,134nm,1.2s
BELA Belgrano 2 31.46 198 P **P 08 38 54.0 -0.1**
BELA IAmb IAmb 08 39 03.5
comp=Z,309nm,1.3s
MUSN Musina, Limpop 31.67 23 *e*P **P 08 38 55.0 -1.5**
MUSN IAmb IAmb 08 39 27.5
comp=Z,107nm,1.2s
TSUM Tsumeb 33.13 1 P **P 08 39 09.3 -0.1**
TSUM IAmb IAmb 08 39 26.1
comp=Z,173nm,1.4s

TSUM Tsumeb 33.13 1 IAMs_20 IAMs_20 08 51 03.5
comp=Z,18μm,19.0s
TSUM Tsumeb 33.13 1 *e*P **P 08 39 09.2 -0.2**
TSUM Tsumeb 33.13 1 ⇓P **P 08 39 09.3 -0.1**
TSUM Tsumeb 33.13 1 LR LR 08 51 14.8
comp=Z,16μm,18.6s,baz=178,slow=34
PAF Port-aux-Franc 33.15 106 P **P 08 39 08.4 -0.7**
PAF Port-aux-Franc 33.15 106 P **P 08 39 08.4 -0.7**
PAF pmax pmax
comp=Z,537nm,1.6s
ORCD Orcadas 33.77 231 P **P 08 39 12.6 -1.8**
FOMA Nahampoana Res 35.60 51 P **P 08 39 29.2 -1.4**
FOMA IAMs_20 IAMs_20 08 52 20.6
comp=Z,13μm,18.0s
FOMA Nahampoana Res 35.60 51 P **P 08 39 28.2 -2.4**
QSPA South Pole Qui 37.84 180 P **P 08 39 49.1 -0.4**
QSPA IAmb IAmb 08 39 54.7
comp=Z,249nm,0.9s
QSPA South Pole Qui 37.84 180 P **P 08 39 49.6 +0.1**
comp=Z,197nm,0.9s,baz=241,slow=2.5,SNR=142
QSPA LR LR 08 54 05.8
comp=Z,6μm,21.0s,baz=232,slow=34
comp=Z,197nm,0.9s
LSZ Lusaka 38.10 18 P **P 08 39 51.0 -1.1**
LSZ Lusaka 38.10 18 P **P 08 39 51.4 -0.7**
LSZ Lusaka 38.10 18 P **P 08 39 51.0 -1.1**
LSZ pmax pmax
comp=Z,112nm,1.7s
LSZ Lusaka 38.10 18 LR LR 08 54 14.9
comp=Z,23μm,19.5s,baz=200,slow=34
VOI Vohitsoka 38.14 49 P **P 08 39 50.8 -1.7**
VOI Vohitsoka 38.14 49 P **P 08 39 53.6 +1.2**
VOI Vohitsoka 38.14 49 P **P 08 39 52.9 +0.5**
SNR=10
VOI Vohitsoka 38.14 49 *e*P **P 08 39 52.2 -0.2**
VOI Vohitsoka 38.14 49 ⇑P **P 08 39 53.2 +0.8**
ESPZ Base Esperanza 38.54 224 IAMs_20 IAMs_20 08 52 34.0
comp=Z,8μm,18.0s
SHEL Horse Pasture 40.54 325 IAMs_20 IAMs_20 08 52 34.6
comp=Z,6μm,20.0s
ABPO Ambohimpanom 40.85 47 P **P 08 40 16.0 +0.9**
ABPO Ambohimpanom 40.85 47 IAMs_20 IAMs_20 08 54 12.7
comp=Z,8μm,20.0s
ABPO Ambohimpanom 40.85 47 *e*P **P 08 40 17.0 +1.9**
ABPO IAmb IAmb 08 40 24.2
comp=Z,199nm,1.5s
ABPO Ambohimpanom 40.85 47 P **P 08 40 16.0 +0.9**
ABPO pmax pmax
comp=Z,164nm,1.4s
PMSA Palmer Station 40.95 220 P **P 08 40 14.8 -0.4**
PMSA IAmb IAmb 08 40 25.6
comp=Z,297nm,1.2s
PMSA Palmer Station 40.95 220 IAMs_20 IAMs_20 08 53 48.7
comp=Z,10μm,20.0s
PMSA Palmer Station 40.95 220 *e*P **P 08 40 18.2 +3.0**
PMSA Palmer Station 40.95 220 LR LR 08 53 39.5
comp=Z,11μm,21.8s,baz=106,slow=31
OPO Ambohidratompo 41.23 47 LR LR 08 55 36.3
comp=Z,6μm,18.3s,baz=354,slow=34
RER Riviere de l'E 43.19 59 IAMs_20 IAMs_20 08 53 07.5
comp=Z,10μm,22.0s
RER Riviere de l'E 43.19 59 P **P 08 40 31.7 -2.4**
AIS Amsterdam Isla 43.94 96 P **P 08 40 37.7 -2.2**
EFI East Falkland 44.16 240 IAMs_20 IAMs_20 08 54 30.4
comp=Z,7μm,22.0s
CASY Casey 45.01 145 P **P 08 40 49.0 +0.9**
CASY IAmb IAmb 08 40 58.1
comp=Z,232nm,1.2s
CASY Casey 45.01 145 ⇓P **P 08 40 49.6 +1.6**
SBV Sambava 46.95 47 P P 08 41 14.9 +11
SBV Sambava 46.95 47 P **P 08 41 05.3 +1.4**
SBV Sambava 46.95 47 *e*P **P 08 41 04.0 +0.1**
MG01 Puerto William 47.23 232 P **P 08 41 05.9 +0.3**
MG01 IAMs_20 IAMs_20 08 55 47.5
comp=Z,7μm,20.0s
SBA Scott Base 48.70 172 P **P 08 41 18.7 +1.9**
SBA Scott Base 48.70 172 IAMs_20 IAMs_20 09 00 20.8
comp=Z,9μm,20.0s
SBA Scott Base 48.70 172 P **P 08 41 18.7 +1.9**
SBA pmax pmax
comp=Z,594nm,1.6s
GO10 Punta Arenas 49.90 232 IAMs_20 IAMs_20 08 57 10.3
comp=Z,6μm,18.0s
MG04 Isla Riesco 50.33 232 P **P 08 41 29.9 +0.4**
H10S2 ASCENSION HYDR 50.34 318 T T 09 35 54.1
baz=154,slow=74,SNR=372
H10S3 ASCENSION HYDR 50.35 318 T T 09 35 55.2
baz=66,slow=74,SNR=1902
MBAR Mbarara 52.90 17 P **P 08 41 49.5 +0.2**
MBAR Mbarara 52.90 17 *e*P **P 08 41 46.7 -2.6**
MBAR Mbarara 52.90 17 P **P 08 41 50.9 +1.6**
MBAR Mbarara 52.90 17 ⇑P **P 08 41 51.2 +1.9**
MBAR Mbarara 52.90 17 *d i*P **P 08 41 51.2 +1.9**
MBAR pmax pmax
comp=Z,93nm,2.0s
MBAR MLR MLR
comp=Z,9μm,15.0s
MBAR Mbarara 52.90 17 LR LR 09 03 22.8
comp=Z,38μm,18.9s,baz=168,slow=35
MBAR Mbarara 52.90 17 *e*P **P 08 41 46.7 -2.6**
baz=51
KIBK Kibwezi 52.91 27 P **P 08 41 49.9 +0.6**
KIBK IAmb IAmb 08 41 59.9
comp=Z,194nm,1.5s
KIBK Kibwezi 52.91 27 P **P 08 41 50.6 +1.3**
SNR=22
KMBO Kilima Mbogo 53.85 26 P **P 08 41 56.5 +0.1**
KMBO Kilima Mbogo 53.85 26 *i*P **P 08 41 58.2 +1.8**
SNR=10.0
KMBO Kilima Mbogo 53.85 26 *e*P **P 08 41 57.1 +0.7**
KMBO *e*S S 08 49 41.3 +9.5
KMBO Kilima Mbogo 53.85 26 P **P 08 41 57.7 +1.2**
KMBO Kilima Mbogo 53.85 26 *e*P **P 08 41 58.1 +1.6**
KMBO IAmb IAmb 08 42 08.8
comp=Z,360nm,1.8s
KMBO Kilima Mbogo 53.85 26 P **P 08 41 56.5 +0.1**
KMBO pmax pmax
comp=Z,123nm,1.9s
KMBO Kilima Mbogo 53.85 26 *e*P **P 08 41 57.1 +0.7**
baz=58
KMBO *e*S S 08 49 41.3 +9.5
baz=58
PLTB Pedras Altas 53.97 263 P **P 08 41 53.3 -3.6**
PLTB IAmb IAmb 08 42 02.2
comp=Z,157nm,1.6s
PLTB Pedras Altas 53.97 263 *e*P **P 08 42 00.1 +3.1**
CNLB Canela 54.02 267 *e*P **P 08 42 00.3 +3.0**
LPA La Plata 54.41 257 *i*P P 08 41 54.1 -5.9
LPA pP pwP 08 42 05.9 -0.1
LPA sP sP 08 42 12.3 +11
LPA PCP **PcP** **08 43 00.6 -3.1**
LPA PP PP 08 43 50.6 -11
LPA pPP 08 44 00.4
LPA PPP PPP 08 45 38.9
LPA PKIKP **PKiKP** **08 49 38.6 +0.9**
LPA S **S** **08 49 42.4 +3.8**
LPA PS **PnS** **08 49 49.8 +2.5**
LPA SCS **ScS** **08 51 43.8 -5.8**
LPA SKIKP 08 53 11.1
LPA PKIKS 08 53 17.8
LPA SS **SS** **08 53 23.0 +2.7**
LPA SSS SSS 08 56 09.6
LPA SKIKS 08 56 51.9
TRQA Tornquist 54.66 252 P **P 08 41 59.5 -2.4**
TRQA IAmb IAmb 08 42 06.6
comp=Z,216nm,1.4s
TRQA Tornquist 54.66 252 P **P 08 41 59.5 -2.4**
TRQA pmax pmax
comp=Z,216nm,1.4s
ESAR Angra dos Reis 54.69 278 *e*P **P 08 42 02.5 +0.4**
CPSB Cacapava Do Su 54.82 264 *e*P **P 08 42 06.0 +2.8**
ABR01 Abrolhos, BA 55.12 287 *e*P **P 08 42 06.6 +1.2**
PARB Paraibuna 55.17 277 *e*P **P 08 42 08.1 +2.4**
AY02 Valle Explorad 55.21 237 P **P 08 42 04.0 -1.7**
COYC Coyhaique 55.24 239 P **P 08 42 05.0 -0.9**
COYC Coyhaique 55.24 239 IAMs_20 IAMs_20 09 01 08.4
comp=Z,6μm,21.0s
COYC Coyhaique 55.24 239 ⇑P **P 08 42 09.5 +3.6**
ALGR Alto Alegre (B 55.72 266 *e*P **P 08 42 12.3 +2.6**
RODS Rosario do Sul 55.94 263 *e*P **P 08 42 13.7 +2.6**
SJMB Sao Joao De Ma 56.02 284 *e*P **P 08 42 12.5 +0.7**
SPB Sao Paulo 56.08 275 IAMs_20 IAMs_20 09 00 14.4
comp=Z,3μm,20.0s
ITAB Concordia 56.29 268 P **P 08 42 11.4 -2.3**

ITAB Concordia 56.29 268 *e*P **P 08 42 16.2 +2.5**
AY01 Puyuhuapi 56.31 239 P **P 08 42 11.8 -1.8**
AY01 IAmb IAmb 08 42 22.7
comp=Z,165nm,1.0s
AY01 IAMs_20 IAMs_20 09 01 31.8
comp=Z,6μm,22.0s
BSCB Bom Sucesso 56.41 279 *e*P **P 08 42 16.0 +1.2**
LL02 Futaleuf 56.72 241 P **P 08 42 14.5 -2.1**
LL02 IAmb IAmb 08 42 20.8
comp=Z,252nm,1.3s
LL02 IAMs_20 IAMs_20 09 03 54.6
comp=Z,3μm,19.0s
LL02 Futaleuf 56.72 241 ⇓P **P 08 42 15.9 -0.6**
RCLB Rio Claro- Sao 57.02 276 *e*P **P 08 42 21.8 +2.8**
MSEY Mahe Island 57.22 48 P **P 08 42 17.7 -2.7**
MSEY Mahe Island 57.22 48 *i*P **P 08 42 20.7 +0.3**
SNR=5.7
MSEY Mahe Island 57.22 48 P **P 08 42 20.8 +0.3**
MSEY Mahe Island 57.22 48 P **P 08 42 17.7 -2.7**
MSEY pmax pmax
comp=Z,152nm,1.6s
CRSM Crissiumal (Br 57.27 266 *e*P **P 08 42 23.5 +2.8**
ITQB Itaqui 57.28 263 P **P 08 42 19.6 -1.1**
ITQB IAmb IAmb 08 42 30.1
comp=Z,287nm,1.6s
ITQB Itaqui 57.28 263 *e*P **P 08 42 23.2 +2.5**
FRTB Fartura 57.57 273 *e*P **P 08 42 25.0 +2.1**
LL01 San Ignacio de 57.58 241 P **P 08 42 21.4 -1.2**
PLCA Paso Flores 57.70 244 P **P 08 42 21.6 -2.0**
PLCA IAmb IAmb 08 42 28.2
comp=Z,165nm,1.4s
PLCA IAMs_20 IAMs_20 09 03 39.5
comp=Z,4μm,20.0s
PLCA Paso Flores 57.70 244 ⇓P **P 08 42 23.3 -0.3**
PLCA Paso Flores 57.70 244 P **P 08 42 23.0 -0.6**
PLCA Paso Flores 57.70 244 *e*P **P 08 42 23.9 +0.3**
PLCA Paso Flores 57.70 244 P **P 08 42 23.0 -0.6**
comp=Z,40nm,1.1s,baz=139,slow=7.4,SNR=19
PLCA LR LR 09 03 50.5
comp=Z,3μm,20.1s,baz=138,slow=33
comp=Z,40nm,1.1s
GO07 Milladeo Hill, 57.74 240 P **P 08 42 22.1 -1.6**
GO07 IAmb IAmb 08 42 31.8
comp=Z,177nm,1.1s
GO07 IAMs_20 IAMs_20 09 02 58.6
comp=Z,6μm,21.0s
LODK Lodwar 57.77 22 P **P 08 42 22.3 -1.9**
LODK IAmb IAmb 08 42 36.7
comp=Z,190nm,1.9s
LODK Lodwar 57.77 22 *e*P **P 08 42 26.0 +1.8**
LODK *i*S S 08 50 33.1 +9.5
LODK Lodwar 57.77 22 P **P 08 42 25.9 +1.7**
SNR=36
LODK Lodwar 57.77 22 *e*P **P 08 42 26.0 +1.8**
baz=57
LODK *i*S S 08 50 33.1 +9.5
baz=57
FRBT Francisco Belt 57.78 268 *e*P **P 08 42 26.2 +1.9**
LL07 Hotel Espejo d 57.84 240 IAMs_20 IAMs_20 09 00 27.2
comp=Z,4μm,21.0s
PTGB Pitanga 58.09 270 *e*P **P 08 42 28.8 +2.3**
LL03 Petrohue 58.43 242 P **P 08 42 26.4 -2.3**
LL03 IAmb IAmb 08 42 32.5
comp=Z,144nm,0.9s
LDASE Londrina, Braz 58.48 272 *e*P **P 08 42 31.8 +2.5**
MECA Mercedes 58.49 262 *e*P **P 08 42 31.8 +2.6**
BB19B Bebedouro 58.64 276 *e*P **P 08 42 31.8 +1.4**
GO06 Curarrehue 59.00 244 P **P 08 42 31.6 -1.2**
GO06 IAmb IAmb 08 42 37.0
comp=Z,145nm,1.3s
GO06 IAMs_20 IAMs_20 09 04 41.1
comp=Z,4μm,20.0s
GO06 Curarrehue 59.00 244 ⇑P **P 08 42 32.6 -0.2**
PMNB Patos De Minas 59.30 280 *e*P **P 08 42 35.5 +0.5**
LR03 Panguipulli 59.45 244 P **P 08 42 34.7 -1.1**
MCR1 Marechal Candi 59.48 269 *e*P **P 08 42 37.4 +1.2**
LR04 Corral 59.87 243 P **P 08 42 37.7 -0.9**
LR04 IAMs_20 IAMs_20 09 04 41.9
comp=Z,3μm,20.0s
PCMB Pacaembu 59.90 273 *e*P **P 08 42 40.8 +1.7**
SCCA San Cayetano, 60.02 263 *e*P **P 08 42 41.9 +2.1**
CPUP Villa Florida 60.13 265 P **P 08 42 39.6 -0.9**
CPUP IAmb IAmb 08 42 55.0
comp=Z,103nm,1.3s
CPUP Villa Florida 60.13 265 ⇑P **P 08 42 40.5 -0.1**
CPUP Villa Florida 60.13 265 *e*P **P 08 42 41.3 +0.7**
CPUP Villa Florida 60.13 265 P **P 08 42 40.1 -0.5**
comp=Z,16nm,1.0s,baz=137,slow=6.9,SNR=13
CPUP LR LR 09 04 08.6
comp=Z,2μm,21.4s,baz=152,slow=32
comp=Z,16nm,1.0s
JANB Januaria 60.72 284 *e*P **P 08 42 44.3 -0.5**
AMBA Amambai (Brazi 61.20 269 *e*P **P 08 42 49.2 +1.2**
LIC Lamto 61.31 335 ⇑*i*PKP1 **P 08 42 48.4 -0.2**
comp=Z,111nm,0.8s
KIC Kosan Boka 61.37 335 ⇑*i*PKP2 **P 08 42 48.5 -0.5**
comp=Z,74nm,1.0s
DILA Dilla 61.38 24 *e*P **P 08 42 50.9 +1.6**
DILA *e*S S 08 51 29.7 +19
DILA Dilla 61.38 24 *e*P **P 08 42 50.9 +1.6**
baz=55
DILA *e*S S 08 51 29.7 +19
baz=55
ML02 Panimavida 61.68 247 P **P 08 42 50.1 -0.9**
ML02 IAmb IAmb 08 42 55.5
comp=Z,124nm,1.2s
ML02 IAMs_20 IAMs_20 09 07 50.9
comp=Z,3μm,18.0s
DBIC Dimbokro 61.70 335 P **P 08 42 49.4 -1.8**
DBIC IAMs_20 IAMs_20 09 02 51.7
comp=Z,6μm,22.0s
DBIC Dimbokro 61.70 335 ⇓P **P 08 42 50.0 -1.3**
DBIC Dimbokro 61.70 335 P **P 08 42 49.9 -1.3**
comp=Z,50nm,0.6s,baz=149,slow=7.6,SNR=39
DBIC LR LR 09 03 24.5
comp=Z,6μm,21.9s,baz=131,slow=30
comp=Z,50nm,0.6s
TIC Toumodi 61.71 335 ⇑*e*PKP2 **P 08 42 49.9 -1.5**
comp=Z,131nm,0.6s
ESFA Espinillo Form 61.84 265 *e*P **P 08 42 53.9 +1.7**
TICA Tres Isletas 61.94 263 *e*P **P 08 42 53.5 +0.6**
BI05 Punta Hualpn 61.97 246 P **P 08 42 51.0 -1.9**
BO02 Sierra Bellavi 62.01 249 P **P 08 42 51.7 -1.7**
BO02 IAmb IAmb 08 42 57.9
comp=Z,155nm,1.4s
BO02 Sierra Bellavi 62.01 249 ⇑P **P 08 42 53.4 0.0**
LMEL Las Melosas 62.36 250 P **P 08 42 52.8 -3.0**
LMEL IAmb IAmb 08 43 00.8
comp=Z,124nm,1.3s
BO01 Tunca 62.47 249 P **P 08 42 55.2 -1.2**
BO01 IAmb IAmb 08 43 01.5
comp=Z,209nm,1.7s
BDFB Brasilia 62.48 280 P **P 08 42 55.0 -1.8**
BDFB IAmb IAmb 08 43 06.6
comp=Z,166nm,1.1s
BDFB Brasilia 62.48 280 P **P 08 42 56.0 -0.7**
comp=Z,40nm,1.1s,baz=140,slow=5.0,SNR=17
BDFB LR LR 09 06 01.7
comp=Z,893nm,18.2s,baz=135,slow=32
comp=Z,40nm,1.1s
MT13 San Alfonso 62.48 250 P **P 08 42 54.6 -2.0**
MT13 IAmb IAmb 08 43 09.1
comp=Z,231nm,1.6s
BO04 La Punta 62.49 249 P **P 08 42 53.8 -2.7**
BO04 IAmb IAmb 08 43 05.5
comp=Z,200nm,1.3s
GO05 Huala 62.51 248 P **P 08 42 54.2 -2.4**
GO05 IAmb IAmb 08 43 05.6
comp=Z,216nm,1.8s
GO05 Huala 62.51 248 ⇑P **P 08 42 59.3 +2.7**
ANTJ Antonio Joao (62.52 269 *e*P **P 08 42 56.9 +0.1**
MT08 Bocatoma Ro 62.54 250 P **P 08 42 54.3 -2.8**
MT08 IAmb IAmb 08 43 03.3
comp=Z,182nm,1.3s
MT03 Universidad Ad 62.79 250 P **P 08 42 56.9 -1.7**
MT03 IAmb IAmb 08 43 03.3
comp=Z,192nm,1.4s
CFA Coronel Fontan 62.84 253 LR LR 09 05 54.5
comp=Z,2μm,21.3s,baz=129,slow=32
MT09 Talagante 62.86 249 P **P 08 42 57.7 -1.5**
MT09 IAmb IAmb 08 43 03.4
comp=Z,215nm,1.4s
MT01 Popeta 62.95 249 P **P 08 42 57.8 -1.7**
MT01 IAmb IAmb 08 43 07.6
comp=Z,98nm,1.1s

MT05	**Renca**	**63.00 250**	P	**P**	**08 42 58.7**	**-1.3**	
C2SB	**Chapadao do Su**	**63.01 274**	*e*P	**P**	**08 43 01.5**	**+1.4**	
ZON	**Zonda**	**63.14 253**	P	**P**	**08 43 00.0**	**-0.9**	
ZON	comp=Z,127nm,1.4s		IAmb	IAmb	08 43 05.6		
ZON	**Zonda**	**63.14 253**	⇓P	**P**	**08 43 01.9**	**+1.0**	
ZON	**Zonda**	**63.14 253**	P	**P**	**08 43 00.0**	**-0.9**	
ZON	comp=Z,127nm,1.4s		pmax	pmax			
PEL	**Peldehue**	**63.15 250**	P	**P**	**08 42 59.1**	**-1.8**	
PEL	**Peldehue**	**63.15 250**	⇓P	**P**	**08 43 02.4**	**+1.5**	
PEL	**Peldehue**	**63.15 250**	P	**P**	**08 42 59.1**	**-1.8**	
PEL	comp=Z,391nm,1.6s		pmax	pmax			
PEL			MLR	MLR			
	comp=Z,1μm,19.0s						
SDBA	**SAO DESIDERIO**	**63.15 285**	*e*P	**P**	**08 43 01.4**	**+0.2**	
VA05	**Santo Domingo**	**63.31 249**	P	**P**	**08 42 60.0**	**-1.9**	
MT02	**Curacav**	**63.32 250**	P	**P**	**08 43 00.2**	**-1.9**	
MT02	comp=Z,157nm,1.4s		IAmb	IAmb	08 43 06.5		
VA03	**San Esteban**	**63.35 250**	P	**P**	**08 43 00.5**	**-1.8**	
RCBR	**Riachuelo**	**63.37 298**	*e*P	**P**	**08 43 03.1**	**+0.5**	
RCBR	**Riachuelo**	**63.37 298**	LR	LR	09 03 45.8		
	comp=Z,2μm,21.8s,baz=133,slow=30						
ROC1	**El Roble**	**63.46 250**	P	**P**	**08 43 02.7**	**-0.5**	
AQDB	**Aquidauana**	**63.47 271**	P	**P**	**08 43 02.0**	**-1.1**	
AQDB	**Aquidauana**	**63.47 271**	*e*P	**P**	**08 43 03.7**	**+0.6**	
DGAR	**Diego Garcia**	**63.58 66**	IAms_20	IAms_20	09 03 43.0		
	comp=Z,6μm,21.0s						
MURT	**Porto Murtinho**	**63.75 268**	*e*P	**P**	**08 43 04.7**	**-0.3**	
VA01	**Torpederas**	**63.79 249**	P	**P**	**08 43 02.9**	**-2.1**	
VA01	comp=Z,129nm,1.3s		IAmb	IAmb	08 43 09.7		
FURI	**Furi**	**63.84 24**	*e*P	**P**	**08 43 07.0**	**+1.1**	
FURI			*e*S	S	08 51 59.3	+18	
FURI			IAms_20	IAms_20	09 07 16.9		
	comp=Z,12μm,22.7s						
FURI	**Furi**	**63.84 24**	*e*P	**P**	**08 43 07.0**	**+1.1**	
FURI	baz=54		*e*S	S	08 51 59.3	+18	
FURI	baz=54		IAms_20	IAms_20	09 07 16.9		
	comp=Z,12μm,22.7s,baz=54						
ARAG	**Araguaiana, MT**	**64.73 277**	*e*P	**P**	**08 43 12.7**	**+1.2**	
CO02	**Combarbal**	**64.75 251**	P	**P**	**08 43 09.9**	**-1.6**	
CO02	**Combarbal**	**64.75 251**	⇓P	**P**	**08 43 13.3**	**+1.7**	
CO03	**El Pedregal**	**64.83 252**	P	**P**	**08 43 10.2**	**-1.9**	
CO01	**Juntas del Tor**	**65.12 253**	P	**P**	**08 43 14.8**	**+0.6**	
CO01			IAms_20	IAms_20	09 08 09.1		
	comp=Z,3μm,19.0s						
PP1B	**Ponte de Pedra**	**65.15 273**	*e*P	**P**	**08 43 15.2**	**+1.0**	
GRD1	**Great Renaissa**	**65.18 20**	*e*P	**P**	**08 43 16.6**	**+2.3**	
GRD1	baz=50		*e*S	S	08 52 09.0	+11	
	baz=50						
GO04	**Tololo Observa**	**65.39 252**	P	**P**	**08 43 16.3**	**+0.4**	
GO04	**Tololo Observa**	**65.39 252**	⇑P	**P**	**08 43 18.8**	**+2.9**	
CO06	**Fray Jorge**	**65.50 251**	P	**P**	**08 43 15.7**	**-0.7**	
CO06			IAmb	IAmb	08 43 20.6		
	comp=Z,104nm,1.4s						
CO05	**La Serena**	**65.83 252**	P	**P**	**08 43 16.1**	**-2.3**	
CO05			IAmb	IAmb	08 43 27.2		
	comp=Z,126nm,1.1s						
AC05	**El Transito**	**66.06 253**	P	**P**	**08 43 17.6**	**-2.5**	
AC05			IAmb	IAmb	08 44 03.7		
	comp=Z,100nm,1.5s						
LCO	**Las Campanas**	**66.19 253**	P	**P**	**08 43 18.2**	**-2.9**	
LCO			IAmb	IAmb	08 43 30.3		
	comp=Z,157nm,1.4s						
LCO	**Las Campanas**	**66.19 253**	⇑P	**P**	**08 43 22.5**	**+1.4**	
LCO	**Las Campanas**	**66.19 253**	P	**P**	**08 43 18.2**	**-2.9**	
LCO			pmax	pmax			
	comp=Z,157nm,1.4s						
TOC4	**Torodi Ar. Sit**	**66.56 344**	IAms_20	IAms_20	09 10 55.8		
	comp=Z,3μm,18.0s						
TOC5	**Torodi Ar. Sit**	**66.57 344**	IAms_20	IAms_20	09 10 56.1		
	comp=Z,3μm,18.0s						
TOC3	**Torodi Ar. Sit**	**66.57 344**	IAms_20	IAms_20	09 10 56.1		
	comp=Z,3μm,19.0s						
TOB3	**Torodi Ar. Sit**	**66.57 344**	IAms_20	IAms_20	09 10 55.2		
	comp=Z,3μm,19.0s						
TOB4	**Torodi Ar. Sit**	**66.58 344**	IAms_20	IAms_20	09 10 56.4		
	comp=Z,3μm,19.0s						
TOA3	**Torodi Ar. Sit**	**66.58 344**	IAms_20	IAms_20	09 10 56.4		
	comp=Z,3μm,19.0s						
TOA2	**Torodi Ar. Sit**	**66.58 344**	IAms_20	IAms_20	09 10 55.5		
	comp=Z,3μm,19.0s						
TOA0	**Torodi Ar. Sit**	**66.58 344**	P	**P**	**08 43 21.8**	**-1.5**	
TOA0			IAmb	IAmb	08 43 32.0		
	comp=Z,195nm,1.4s						
TOA0			IAms_20	IAms_20	09 10 56.5		
	comp=Z,3μm,19.0s						
TOA0	**Torodi Ar. Sit**	**66.58 344**	P	**P**	**08 43 21.6**	**-1.7**	
	SNR=25						
TORD	**Torodi Ar. Bea**	**66.58 344**	P	**P**	**08 43 21.8**	**-1.5**	
TORD			IAmb	IAmb	08 43 31.9		
	comp=Z,204nm,1.6s						
TORD			IAms_20	IAms_20	09 10 55.5		
	comp=Z,2μm,19.0s						
TORD	**Torodi Ar. Bea**	**66.58 344**	P	**P**	**08 43 21.9**	**-1.3**	
	comp=Z,42nm,1.2s,baz=151,slow=3.7,SNR=76						
TORD			LR	LR	09 10 04.7		
	comp=Z,2μm,18.1s,baz=158,slow=34						
TORD			PKP2ab	**P'P'ab**	**09 11 59.0**	**+6.2**	
	comp=Z,3.9nm,1.3s,baz=12,slow=7.6,SNR=6.7						
	comp=Z,42nm,1.2s						
TOB2	**Torodi Ar. Sit**	**66.59 344**	IAms_20	IAms_20	09 10 56.6		
	comp=Z,3μm,18.0s						
TOC6	**Torodi Ar. Sit**	**66.59 344**	IAms_20	IAms_20	09 10 56.7		
	comp=Z,3μm,18.0s						
TOB5	**Torodi Ar. Sit**	**66.59 344**	IAms_20	IAms_20	09 10 56.8		
	comp=Z,3μm,18.0s						
TOB1	**Torodi Ar. Sit**	**66.60 344**	IAms_20	IAms_20	09 10 56.9		
	comp=Z,3μm,19.0s						
TOC7	**Torodi Ar. Sit**	**66.60 344**	IAms_20	IAms_20	09 10 57.0		
	comp=Z,3μm,19.0s						
AC02	**Maricunga**	**66.87 256**	P	**P**	**08 43 24.6**	**-1.2**	
AC02			IAms_20	IAms_20	09 08 58.6		
	comp=Z,3μm,20.0s						
SALV	**Santo Antonio**	**66.95 274**	*e*P	**P**	**08 43 26.6**	**+0.9**	
GO03	**Copiap**	**66.96 254**	P	**P**	**08 43 23.9**	**-1.9**	
GO03			IAmb	IAmb	08 43 34.8		
	comp=Z,127nm,1.4s						
AC04	**Llanos de Chal**	**67.00 253**	P	**P**	**08 43 24.3**	**-1.7**	
AC06	**Mina Casimiro**	**67.21 254**	P	**P**	**08 43 26.4**	**-0.9**	
TEND	**Ethiopian Broa**	**67.22 26**	*e*P	**P**	**08 43 28.6**	**+1.3**	
TEND	baz=55		*e*S	S	08 52 46.5	+24	
	baz=55						
H01W2	**Cape Leeuwin H**	**67.25 118**	T	T	09 57 27.9		
	baz=220,slow=75,SNR=1364						
H01W3	**Cape Leeuwin H**	**67.27 118**	T	T	09 57 23.4		
	baz=220,slow=75,SNR=1515						
H01W1	**Cape Leeuwin H**	**67.27 118**	T	T	09 57 23.6		
	baz=220,slow=75,SNR=1611						
SNDB	**Serra Nova Dou**	**67.32 280**	*e*P	**P**	**08 43 29.1**	**+1.0**	
VA04	**Juan Fernndez**	**67.37 244**	P	**P**	**08 43 26.8**	**-1.5**	
ATD	**Arta Tunnel**	**67.47 28**	P	**P**	**08 43 27.2**	**-1.8**	
ATD			IAms_20	IAms_20	09 14 59.9		
	comp=Z,4μm,18.0s						
ATD	**Arta Tunnel**	**67.47 28**	*e*P	**P**	**08 43 29.4**	**+0.4**	
ATD			*e*S	S	08 52 40.6	+15	
ATD	**Arta Tunnel**	**67.47 28**	P	**P**	**08 43 30.3**	**+1.3**	
	SNR=10						
ATD	**Arta Tunnel**	**67.47 28**	LR	LR	09 11 54.5		
	comp=Z,154nm,19.5s,baz=202,slow=35						
ATD	**Arta Tunnel**	**67.47 28**	*e*P	**P**	**08 43 29.4**	**+0.4**	
	baz=56						
ATD			*e*S	S	08 52 40.6	+15	
	baz=56						
SMTB	**Santa Maria do**	**67.56 285**	*e*P	**P**	**08 43 29.5**	**-0.1**	
BBRB	**Robore, Bolivi**	**67.65 269**	*e*P	**P**	**08 43 30.7**	**+0.4**	
GO02	**Mina Guanaco**	**68.40 257**	P	**P**	**08 43 33.5**	**-1.7**	
GO02			IAmb	IAmb	08 43 40.1		
	comp=Z,101nm,1.4s						
GO02			IAms_20	IAms_20	09 10 10.0		
	comp=Z,4μm,19.0s						
GO02	**Mina Guanaco**	**68.40 257**	⇓P	**P**	**08 43 36.9**	**+1.7**	
MCQ	**Macquarie Isla**	**68.90 157**	IAms_20	IAms_20	09 11 40.3		
	comp=Z,4μm,19.0s						
BBSD	**Serra de San D**	**68.97 269**	*e*P	**P**	**08 43 38.8**	**+0.2**	
KOWA	**Kowa**	**69.03 338**	LR	LR	09 10 45.9		
	comp=Z,7μm,18.4s,baz=168,slow=33						
AF01	**San Pedro de A**	**69.21 259**	IAms_20	IAms_20	09 09 07.7		
	comp=Z,3μm,21.0s						
PB14	**IPOC Station P**	**69.29 256**	P	**P**	**08 43 39.1**	**-1.6**	
PB14			IAms_20	IAms_20	09 10 46.5		
	comp=Z,4μm,20.0s						
PTLB	**Pontes e Lacer**	**69.40 271**	P	**P**	**08 43 39.7**	**-1.5**	
PTLB			IAmb	IAmb	08 43 47.8		
	comp=Z,144nm,1.4s						
PTLB	**Pontes e Lacer**	**69.40 271**	*e*P	**P**	**08 43 41.5**	**+0.4**	
PB15	**IPOC Station P**	**69.80 258**	P	**P**	**08 43 42.7**	**-1.1**	
PB15			IAmb	IAmb	08 43 49.1		
	comp=Z,214nm,1.4s						
PB15			IAms_20	IAms_20	09 09 57.1		
	comp=Z,3μm,21.0s						
LVC	**Limon Verde**	**69.91 259**	P	**P**	**08 43 44.6**	**-0.1**	
LVC			IAmb	IAmb	08 43 50.3		
	comp=Z,134nm,1.4s						
LVC	**Limon Verde**	**69.91 259**	⇑P	**P**	**08 43 46.7**	**+2.0**	
LVC	**Limon Verde**	**69.91 259**	P	**P**	**08 43 44.6**	**-0.1**	
LVC			pmax	pmax			
	comp=Z,134nm,1.4s						
LVC	**Limon Verde**	**69.91 259**	*e*P	**P**	**08 43 46.5**	**+1.8**	
LVC	**Limon Verde**	**69.91 259**	LR	LR	09 11 26.0		
	comp=Z,2μm,20.0s,baz=151,slow=33						
SIV	**San Ignacio**	**70.17 269**	LR	LR	09 10 20.8		
	comp=Z,3μm,19.3s,baz=154,slow=32						
ROSB	**Rosrio**	**70.36 292**	*e*P	**P**	**08 43 48.4**	**+1.4**	
NWAO	**Narrogin (SRO)**	**70.42 119**	P	**P**	**08 43 47.0**	**-0.3**	
NWAO	baz=70,SNR=5.7		P	**P**	**08 43 47.0**	**-0.3**	
	baz=70,SNR=5.7						
NWAO	**Narrogin (SRO)**	**70.42 119**	P	**P**	**08 43 47.0**	**-0.3**	
NWAO			IAmb	IAmb	08 43 55.7		
	comp=Z,121nm,1.2s						
NWAO	**Narrogin (SRO)**	**70.42 119**	IAms_20	IAms_20	09 07 21.8		
	comp=Z,2μm,21.0s						
NWAO	**Narrogin (SRO)**	**70.42 119**	P	**P**	**08 43 47.7**	**+0.4**	
NWAO	**Narrogin (SRO)**	**70.42 119**	P	**P**	**08 43 47.1**	**-0.2**	
NWAO			pmax	pmax			
	comp=Z,121nm,1.3s						
NWAO	**Narrogin (SRO)**	**70.42 119**	LR	LR	09 09 46.7		
	comp=Z,2μm,18.2s,baz=218,slow=32						
MUN	**Mundaring**	**70.59 117**	P	**P**	**08 43 48.9**	**+0.6**	
	baz=71,SNR=3.8						
MUN	**Mundaring**	**70.59 117**	P	**P**	**08 43 49.5**	**+1.2**	
PB09	**IPOC Station P**	**70.73 259**	IAms_20	IAms_20	09 10 20.8		
	comp=Z,3μm,22.0s						
PB04	**IPOC Station P**	**70.86 258**	P	**P**	**08 43 48.1**	**-2.2**	
PB04			IAmb	IAmb	08 43 55.4		
	comp=Z,254nm,1.6s						
PB04			IAms_20	IAms_20	09 10 30.4		
	comp=Z,3μm,22.0s						
PDRB	**Porto dos Gac**	**70.90 276**	*e*P	**P**	**08 43 50.8**	**+0.5**	
CLDB	**Colider**	**70.90 277**	*e*P	**P**	**08 43 50.8**	**+0.4**	
PRPB	**Paraupebas**	**71.02 285**	*e*P	**P**	**08 43 52.1**	**+1.0**	
PB07	**IPOC Station P**	**71.17 259**	IAms_20	IAms_20	09 10 10.4		
	comp=Z,3μm,22.0s						
PB01	**IPOC Station P**	**71.45 260**	P	**P**	**08 43 51.8**	**-1.9**	
PB01			IAmb	IAmb	08 44 02.7		
	comp=Z,201nm,1.8s						
PB01			IAms_20	IAms_20	09 11 23.8		
	comp=Z,2μm,20.0s						
PB02	**IPOC Station P**	**71.48 259**	P	**P**	**08 43 52.8**	**-1.1**	
PB02			IAmb	IAmb	08 43 59.2		
	comp=Z,162nm,1.6s						
PB02			IAms_20	IAms_20	09 10 54.8		
	comp=Z,3μm,22.0s						
KLBR	**Kellerberrin**	**71.73 118**	P	**P**	**08 43 54.9**	**-0.4**	
	baz=72,SNR=7.3						
KLBR	**Kellerberrin**	**71.73 118**	P	**P**	**08 43 55.1**	**-0.1**	
BLDU	**Ballidu**	**71.92 117**	P	**P**	**08 43 56.5**	**+0.2**	
	baz=72,SNR=4.7						
BLDU	**Ballidu**	**71.92 117**	P	**P**	**08 43 56.7**	**+0.4**	
PB08	**IPOC Station P**	**71.93 260**	P	**P**	**08 43 53.5**	**-3.5**	
VILB	**Vilhena**	**71.98 272**	P	**P**	**08 43 55.5**	**-1.4**	
VILB			IAmb	IAmb	08 44 02.3		
	comp=Z,382nm,2.0s						
VILB	**Vilhena**	**71.98 272**	*e*P	**P**	**08 43 58.1**	**+1.2**	
PATCX	**Punta Patache**	**72.02 259**	P	**P**	**08 43 55.6**	**-1.5**	
PATCX			IAms_20	IAms_20	09 11 20.9		
	comp=Z,3μm,21.0s						
TA01	**Diego Aracena**	**72.23 259**	P	**P**	**08 43 56.5**	**-1.8**	
TA01			IAmb	IAmb	08 44 08.1		
	comp=Z,142nm,1.4s						
TA01			IAms_20	IAms_20	09 11 27.5		
	comp=Z,3μm,21.0s						
GO01	**Chusmiza**	**72.32 261**	P	**P**	**08 43 57.6**	**-1.9**	
TA02	**Huaiquique**	**72.42 260**	P	**P**	**08 43 58.1**	**-1.4**	
TA02			IAmb	IAmb	08 44 04.6		
	comp=Z,162nm,1.6s						
TA02			IAms_20	IAms_20	09 12 22.7		
	comp=Z,3μm,20.0s						
MBO	**M'Bour**	**72.67 326**	P	**P**	**08 43 59.5**	**-1.2**	
MBO			IAms_20	IAms_20	09 14 27.2		
	comp=Z,4μm,18.0s						
MORW	**Morawa**	**72.74 115**	P	**P**	**08 44 01.6**	**+0.3**	
	baz=73,SNR=8.0						
MORW	**Morawa**	**72.74 115**	P	**P**	**08 44 01.2**	**-0.1**	
MORW			IAmb	IAmb	08 44 09.3		
	comp=Z,253nm,1.7s						
MORW	**Morawa**	**72.74 115**	P	**P**	**08 44 02.3**	**+1.0**	
TMAB	**Tom-Au,PA,Br**	**73.07 289**	*e*P	**P**	**08 44 04.3**	**+1.0**	
PB16	**IPOC Station P**	**73.53 261**	P	**P**	**08 44 05.4**	**-1.3**	
PB16			IAmb	IAmb	08 44 17.0		
	comp=Z,221nm,1.7s						
NPGB	**Novo Progresso**	**73.64 280**	*e*P	**P**	**08 44 07.1**	**+0.3**	
PB12	**IPOC Station P**	**73.81 261**	P	**P**	**08 44 07.9**	**+0.1**	
PB12			IAmb	IAmb	08 44 16.4		
	comp=Z,236nm,1.8s						
PB18	**Visviri**	**74.08 262**	P	**P**	**08 44 06.5**	**-3.5**	
PB18			IAmb	IAmb	08 44 16.6		
	comp=Z,262nm,1.8s						
KMBL	**Kambalda**	**74.11 121**	P	**P**	**08 44 09.6**	**+0.3**	
	baz=74,SNR=11						
KMBL	**Kambalda**	**74.11 121**	P	**P**	**08 44 09.7**	**+0.4**	
LPAZ	**La Paz**	**74.26 264**	P	**P**	**08 44 09.0**	**-2.1**	
LPAZ			IAmb	IAmb	08 44 24.1		
	comp=Z,296nm,1.6s						
LPAZ	**La Paz**	**74.26 264**	P	**P**	**08 44 11.2**	**+0.1**	
	comp=Z,43nm,1.1s,baz=108,slow=6.1,SNR=26						
LPAZ			LR	LR	09 15 13.2		
	comp=Z,1μm,18.7s,baz=125,slow=34						
	comp=Z,43nm,1.1s						
COCO	**West Island**	**74.31 90**	IAms_20	IAms_20	09 08 26.3		
	comp=Z,3μm,21.0s						
HMDM	**Hanimaadhoo**	**75.81 58**	IAms_20	IAms_20	09 09 29.1		
	comp=Z,4μm,21.0s						
HMDM	**Hanimaadhoo**	**75.81 58**	P	**P**	**08 44 18.3**	**-0.9**	
TAU	**Tasmania Unive**	**75.87 145**	P	**P**	**08 44 18.4**	**-0.9**	
TAU	**Tasmania Unive**	**75.87 145**	IAms_20	IAms_20	09 13 55.4		
	comp=Z,2μm,20.0s						
TAU	**Tasmania Unive**	**75.87 145**	P	**P**	**08 44 21.7**	**+2.4**	
TAU	**Tasmania Unive**	**75.87 145**	P	**P**	**08 44 18.4**	**-0.9**	
TAU			pmax	pmax			
	comp=Z,516nm,2.0s						
ITTB	**Itaituba**	**75.99 281**	*e*P	**P**	**08 44 21.0**	**+0.7**	
MEEK	**Meekatharra**	**76.05 115**	P	**P**	**08 44 20.1**	**-0.5**	
	baz=76,SNR=6.4						
MEEK	**Meekatharra**	**76.05 115**	P	**P**	**08 44 20.6**	**0.0**	
MOO	**Moorlands**	**76.23 144**	P	**P**	**08 44 23.4**	**+2.0**	
	baz=76,SNR=4.6						
MOO	**Moorlands**	**76.23 144**	P	**P**	**08 44 24.3**	**+2.9**	
ABTO	**Aybut**	**76.30 36**	P	**P**	**08 44 22.2**	**+0.2**	
	SNR=20						
GIRL	**Giralia**	**76.69 110**	IAms_20	IAms_20	09 11 02.9		
	comp=Z,2μm,20.0s						
RBK	**Rabkut**	**76.77 36**	P	**P**	**08 44 24.3**	**-0.3**	
	SNR=5.2						
SAML	**Samuel**	**76.92 272**	P	**P**	**08 44 22.6**	**-3.0**	
SAML			IAmb	IAmb	08 44 35.3		
	comp=Z,98nm,1.1s						
SAML	**Samuel**	**76.92 272**	IAms_20	IAms_20	09 13 52.9		
	comp=Z,3μm,20.0s						
SAML	**Samuel**	**76.92 272**	*e*P	**P**	**08 44 26.6**	**+1.0**	
SAML	**Samuel**	**76.92 272**	⇑P	**P**	**08 44 25.6**	**0.0**	
SAML	**Samuel**	**76.92 272**	P	**P**	**08 44 22.6**	**-3.0**	
SAML			pmax	pmax			
	comp=Z,98nm,1.1s						
SAML	**Samuel**	**76.92 272**	*e*P	**P**	**08 44 26.4**	**+0.8**	
WHFO	**Wadi Hawf**	**76.99 36**	P	**P**	**08 44 25.1**	**-0.7**	
	SNR=24						
MCPB	**Macapa, AP**	**77.00 287**	*e*P	**P**	**08 44 27.2**	**+1.2**	
MALB	**Monte Alegre**	**77.11 284**	*e*P	**P**	**08 44 27.0**	**+0.4**	
DMTO	**DMTO**	**77.23 37**	P	**P**	**08 44 27.3**	**+0.2**	
FORT	**Forrest**	**77.76 125**	P	**P**	**08 44 31.0**	**+0.9**	
	baz=78,SNR=7.0						
FORT	**Forrest**	**77.76 125**	P	**P**	**08 44 29.9**	**-0.3**	
FORT			IAmb	IAmb	08 44 39.5		
	comp=Z,122nm,1.1s						
FORT	**Forrest**	**77.76 125**	P	**P**	**08 44 31.5**	**+1.3**	
DOK	**Doka**	**77.77 36**	P	**P**	**08 44 32.0**	**+1.9**	
	SNR=17						
SHAO	**Shalim**	**77.77 38**	P	**P**	**08 44 30.1**	**-0.1**	
SHAO	**Shalim**	**77.77 38**	P	**P**	**08 44 29.4**	**-0.8**	
ETMB	**Extrema**	**78.10 269**	P	**P**	**08 44 29.9**	**-2.3**	
ETMB			IAmb	IAmb	08 44 37.8		
	comp=Z,148nm,1.5s						
ETMB	**Extrema**	**78.10 269**	*e*P	**P**	**08 44 32.6**	**+0.4**	
PYZ	**Puysegur Point**	**78.45 159**	IAms_20	IAms_20	09 16 47.0		
	comp=Z,4μm,20.0s						
ARPS	**Mount Arapiles**	**79.09 138**	P	**P**	**08 44 38.9**	**+1.5**	
	baz=79,SNR=12						
TRD	**Trivandrum**	**79.26 61**	*e*P	**P**	**08 44 38.7**	**+0.2**	
TRD			IAmb	IAmb	08 44 47.1		
	comp=Z,313nm,1.9s						
BRAT	**Ballarat**	**79.27 140**	P	**P**	**08 44 40.6**	**+2.3**	
MLZ	**Mavora Lakes**	**79.52 160**	IAms_20	IAms_20	09 16 51.3		
	comp=Z,5μm,21.0s						
TOO	**Toolangi**	**79.86 141**	P	**P**	**08 44 43.5**	**+1.9**	
	baz=80,SNR=10						
TOO	**Toolangi**	**79.86 141**	IAms_20	IAms_20	09 22 51.3		
	comp=Z,2μm,18.0s						
TOO	**Toolangi**	**79.86 141**	P	**P**	**08 44 43.5**	**+1.9**	
TOO	**Toolangi**	**79.86 141**	⇓P	**P**	**08 44 45.2**	**+3.6**	
BBOO	**Buckleboo**	**79.94 132**	P	**P**	**08 44 42.2**	**+0.1**	
	baz=80,SNR=19						
BBOO	**Buckleboo**	**79.94 132**	IAms_20	IAms_20	09 14 36.0		
	comp=Z,2μm,19.0s						
PALK	**Pallekele**	**80.27 65**	P	**P**	**08 44 42.3**	**-1.7**	
PALK	**Pallekele**	**80.27 65**	IAms_20	IAms_20	09 11 44.5		
	comp=Z,4μm,20.0s						
PALK	**Pallekele**	**80.27 65**	*d i*P	**P**	**08 44 44.4**	**+0.3**	
PALK			pmax	pmax			
	comp=Z,129nm,1.5s						
PALK			MLR	MLR			
	comp=Z,2μm,17.0s						
PALK	**Pallekele**	**80.27 65**	LR	LR	09 12 06.5		
	comp=Z,5μm,20.4s,baz=335,slow=30						
ODZ	**Otahua Downs**	**80.34 161**	P	**P**	**08 44 42.4**	**-1.6**	
ODZ			IAmb	IAmb	08 44 53.6		
	comp=Z,397nm,2.0s						
PSAD3	**Pilbara Seismi**	**80.64 113**	IAms_20	IAms_20	09 14 20.6		
	comp=Z,3μm,21.0s						
HTT	**Hallett**	**80.70 134**	P	**P**	**08 44 46.6**	**+0.3**	
	baz=81,SNR=12						
HTT	**Hallett**	**80.70 134**	⇓P	**P**	**08 44 46.5**	**+0.2**	
PSA00	**Pilbara Seismi**	**80.73 113**	P	**P**	**08 44 45.9**	**-0.6**	
PSA00			IAmb	IAmb	08 44 54.4		
	comp=Z,301nm,1.9s						
PSA00	**Pilbara Seismi**	**80.73 113**	P	**P**	**08 44 46.4**	**-0.1**	
PSAA3	**Pilbara Seismi**	**80.73 113**	IAms_20	IAms_20	09 14 33.1		
	comp=Z,2μm,19.0s						
PSAA2	**Pilbara Seismi**	**80.74 113**	IAms_20	IAms_20	09 14 08.3		
	comp=Z,2μm,20.0s						
PSAB2	**Pilbara Seismi**	**80.75 113**	IAms_20	IAms_20	09 14 33.6		
	comp=Z,2μm,21.0s						
MBWA	**Marble Bar**	**80.99 113**	P	**P**	**08 44 46.0**	**-2.0**	
MBWA	**Marble Bar**	**80.99 113**	IAms_20	IAms_20	09 19 49.0		
	comp=Z,2μm,18.0s						
MBWA	**Marble Bar**	**80.99 113**	P	**P**	**08 44 47.3**	**-0.6**	
MBWA	**Marble Bar**	**80.99 113**	⇓P	**P**	**08 44 47.4**	**-0.6**	
MULG	**Mulgathing**	**81.11 129**	P	**P**	**08 44 48.6**	**+0.2**	
MHTO	**MHTO**	**81.35 38**	P	**P**	**08 44 48.9**	**-0.7**	
	SNR=27						
MZR	**Muzera**	**81.58 34**	*i* P	**P**	**08 44 50.5**	**-0.3**	
	SNR=16						
MZR	**Muzera**	**81.58 34**	P	**P**	**08 44 50.8**	**0.0**	
	SNR=21						
MILA	**Mila**	**81.69 143**	P	**P**	**08 44 53.0**	**+1.5**	
RPZ	**Rata Peaks**	**81.70 161**	P	**P**	**08 44 50.3**	**-1.0**	
RPZ			IAmb	IAmb	08 45 00.5		
	comp=Z,200nm,1.5s						
RPZ	**Rata Peaks**	**81.70 161**	LR	LR	09 18 36.8		
	comp=Z,5μm,21.8s,baz=199,slow=34						
MDP	**Montagnes des**	**81.75 289**	LR	LR	09 17 05.1		
	comp=Z,3μm,18.2s,baz=148,slow=33						
TEFE	**Tefe**	**82.06 275**	*e*P	**P**	**08 44 54.2**	**+0.6**	
OXZ	**Oxford**	**82.27 162**	IAms_20	IAms_20	09 17 43.9		
	comp=Z,4μm,21.0s						
SMRA	**Abu-Samra**	**82.34 31**	P	**P**	**08 44 54.0**	**-0.6**	
	SNR=8.2						
WRKA	**Warakurna**	**82.54 122**	P	**P**	**08 44 56.0**	**-0.1**	
	baz=83,SNR=19						
WRKA	**Warakurna**	**82.54 122**	P	**P**	**08 44 56.0**	**-0.1**	
WRKA	**Warakurna**	**82.54 122**	⇓P	**P**	**08 44 56.0**	**-0.1**	
SALM	**Salem**	**82.55 60**	*e*P	**P**	**08 44 55.4**	**-0.6**	
JMDO	**Jabal Madar**	**82.66 38**

SNR=32
CGJI Cibinong 84.08 93 P P 08 45 10.7 +6.7
MNAI Manna 84.16 90 IAMs_20 IAMs_20 09 14 30.5
comp=Z,2μm,20.0s
BSWZ Blackbirch Sta 84.17 163 P **P** **08 45 04.0 -0.1**
NAZ Nazwa, Dubai 84.17 35 *i* P **P** **08 45 04.1 0.0**
SNR=9.8
NAZ Nazwa, Dubai 84.17 35 P **P** **08 45 03.5 -0.7**
SNR=16
SISI Saibi 84.18 85 P P 08 45 14.7 +10
HATD Hatta, Dubai 84.18 35 *i* P **P** **08 45 03.8 -0.4**
SNR=17
HATD Hatta, Dubai 84.18 35 P **P** **08 45 03.5 -0.7**
SNR=27
KASI Kota Agung 84.20 91 P P 08 45 14.3 +10
BOAV Boa Vista 84.23 281 P **P** **08 45 04.9 +0.1**
BOAV Boa Vista 84.23 281 *e*P **P** **08 45 04.4 -0.4**
BOAV Boa Vista 84.23 281 *e*P **P** **08 45 06.0 +1.2**
UOSS Minazif 84.32 35 P **P** **08 45 03.9 -1.0**
UOSS IAmb IAmb 08 45 13.7
comp=Z,166nm,1.2s
UOSS Minazif 84.32 35 *i* P **P** **08 45 04.1 -0.8**
SNR=16
UOSS Minazif 84.32 35 P **P** **08 45 04.0 -1.0**
UOSS Minazif 84.32 35 ⇓P **P** **08 45 03.9 -1.0**
CNJI Cibinong 84.41 95 P P 08 45 15.9 +10
UMQ Umm Al-Quwin 84.66 35 P **P** **08 45 06.6 0.0**
MDH Madha 84.68 35 P **P** **08 45 05.3 -1.4**
MSFE Esma-Masafi 84.68 35 *i* P **P** **08 45 05.9 -0.9**
SNR=6.3
PBSI Pulau Batu 84.69 83 P **P** **08 45 09.5 +2.4**
comp=Z,141nm,1.6s,comp=Z,4μm
MASF Masafi 84.69 35 P **P** **08 45 05.4 -1.5**
SNR=6.5
TBTG Tabatinga, AM 84.76 270 P **P** **08 45 06.0 -1.6**
TBTG Tabatinga, AM 84.76 270 *e*P **P** **08 45 06.4 -1.2**
TBTG Tabatinga, AM 84.76 270 *e*P **P** **08 45 07.5 0.0**
MDRS Chennai 84.82 61 *e*P **P** **08 45 08.1 +0.4**
MDRS IAmb IAmb 08 45 15.8
comp=Z,97nm,1.2s
KLI Kotabumi 84.93 91 P **P** **08 45 10.0 +1.6**
comp=Z,235nm,1.4s,comp=Z,4μm
LEM Lembang 85.08 95 P **P** **08 45 13.1 +3.7**
comp=Z,258nm,1.6s,comp=Z,5μmcomp=Z,3μm
LEM Lembang 85.08 95 LR LR 09 14 04.9
comp=Z,1μm,21.1s,baz=198,slow=29
CMSA Cobar Meteorol 85.21 138 P **P** **08 45 10.6 +1.0**
baz=85,SNR=32
CMSA Cobar Meteorol 85.21 138 P **P** **08 45 10.8 +1.2**
SYDH Sydney Hard Ro 85.21 143 P **P** **08 45 12.0 +2.5**
SHME Shamm 85.31 35 P **P** **08 45 08.3 -1.6**
GSI Gunungsitoli 85.33 82 IAMs_20 IAMs_20 09 19 53.6
comp=Z,2μm,19.0s
GSI Gunungsitoli 85.33 82 P **P** **08 45 14.2 +3.8**
comp=Z,108nm,1.7s,comp=Z,3μm
PDSI Padang 85.34 85 P **P** **08 45 12.5 +2.0**
comp=Z,95nm,1.6s,comp=Z,8μm
MACI Morro de la Ar 85.46 331 IAMs_20 IAMs_20 09 16 37.9
comp=Z,3μm,19.0s
KPJI Karang Pucung 85.49 96 P P 08 45 20.9 +10
MRZ Mangatainoka R 85.49 164 P **P** **08 45 10.3 -0.5**
BFZ Birch Farm 85.58 164 P **P** **08 45 11.3 +0.1**
SDSI Sungai Dareh 85.92 86 P **P** **08 45 11.3 -2.0**
comp=Z,76nm,1.5s,comp=Z,3μm
ASF Jabal al Asfar 86.01 17 P **P** **08 45 13.4 +0.1**
comp=Z,13nm,1.0s,baz=211,slow=1.8,SNR=23
comp=Z,13nm,1.0s
POO Poona 86.13 53 *e*P **P** **08 45 14.6 +0.4**
POO IAmb IAmb 08 45 23.8
comp=Z,133nm,1.2s
SGCB São Gabriel d 86.19 275 *e*P **P** **08 45 14.6 0.0**
WOJI Wonogiri, Jawa 86.31 98 P P 08 45 26.9 +12
INKA Innaminka 86.36 132 P **P** **08 45 16.4 +1.0**
PMBI Palembang 86.40 90 IAMs_20 IAMs_20 09 15 12.1
comp=Z,3μm,20.0s
ASAR Alice Springs 86.54 125 P **P** **08 45 16.1 -0.3**
ASAR Alice Springs 86.54 125 P **P** **08 45 16.2 -0.2**
comp=Z,21nm,0.9s,baz=207,slow=4.5,SNR=165
ASAR PKKPbc **PKKPbc** **09 03 11.3 +1.7**
comp=Z,1.0nm,0.9s,baz=38,slow=2.4,SNR=6.2
ASAR PKPPKP P'P'df 09 11 13.4 -10
comp=Z,1.1nm,1.1s,baz=18,slow=3.7,SNR=4.2
ASAR LR LR 09 16 53.8
comp=Z,2μm,21.7s,baz=218,slow=31
comp=Z,21nm,0.9s
AS31 Alice Springs 86.54 125 P **P** **08 45 16.2 -0.2**
MMAI Mount Meron Ar 86.58 15 P **P** **08 45 16.7 +0.6**
comp=Z,0.9nm,0.2s,baz=251,slow=2.6,SNR=4.7
MMAI LR LR 09 24 02.6
comp=Z,6μm,18.7s,baz=178,slow=36
comp=Z,0.9nm,0.2s
SMRI Semarang 86.63 97 P P 08 45 27.4 +11
BKNI Bangkinang 86.67 85 P **P** **08 45 18.0 +1.0**
BKNI IAMs_20 IAMs_20 09 15 50.0
comp=Z,3μm,20.0s
BKNI Bangkinang 86.67 85 P P 08 45 26.1 +9.1
MDT Midelt 86.91 342 LR LR 09 19 09.8
comp=Z,2μm,21.4s,baz=172,slow=32
NGJI Ngawi 87.00 98 P P 08 45 32.0 +13
BKZ Black Stump Fm 87.10 164 P **P** **08 45 21.1 +2.2**
KCSI Kotacane, Aceh 87.20 81 P **P** **08 45 20.6 +1.0**
comp=Z,108nm,1.6s,comp=Z,2μm
GMJI Gumukmas 87.49 100 P **P** **08 45 21.7 +0.7**
comp=Z,150nm,1.8s,comp=Z,3μm
HYB Hyderabad 87.55 57 *e*P **P** **08 45 21.1 0.0**
HYB IAmb IAmb 08 45 30.9
comp=Z,94nm,1.1s
HYB Hyderabad 87.55 57 *e*P **P** **08 45 21.0 -0.1**
HYB *e*PcP **pP** **08 45 22.6 +0.1**
HYB *e*pP **PcP** **08 45 24.3 +1.2**
HYB IVmB_BB 08 45 24.3
comp=Z,1μm,3.5s
HYB *e*PP **PP** **08 48 46.2 -0.2**
HYB *e*SKSac **SKSac** **08 55 48.3 -0.9**
HYB *e*SKKSac **SKKSac** **08 55 57.7 -1.0**
HYB IVMs_BB IVMs_BB 09 19 05.6
comp=Z,1μm,18.3s
IDI Anoyia 87.59 7 P **P** **08 45 20.7 -0.2**
comp=Z,5.4nm,0.8s,baz=166,slow=8.6,SNR=2.0
IDI LR LR 09 25 26.6
comp=Z,6μm,19.9s,baz=214,slow=36
comp=Z,5.4nm,0.8s
ATAH Atahualpa 87.63 261 LR LR 09 25 12.0
comp=Z,662nm,18.4s,baz=155,slow=36
RTZ Ruatahuna 87.72 165 IAMs_20 IAMs_20 09 21 19.0
comp=Z,3μm,22.0s
JAGI Jajag, Banyuwa 87.76 101 IAMs_20 IAMs_20 09 17 01.5
comp=Z,2μm,20.0s
JAGI Jajag, Banyuwa 87.76 101 P **P** **08 45 24.1 +1.8**
comp=Z,52nm,1.3s,comp=Z,2μm
PPBI Pangkal Pinang 87.84 91 P P 08 45 30.1 +7.4
RPN Rapa Nui 87.96 226 LR LR 09 17 15.3
comp=Z,783nm,21.9s,baz=144,slow=30
BLJI Banyuglugur 88.00 100 P P 08 45 33.4 +10
KEST Kesra 88.01 354 IAMs_20 IAMs_20 09 27 32.2
comp=Z,3μm,20.0s
KEST Kesra 88.01 354 P **P** **08 45 22.9 0.0**
comp=Z,14nm,0.9s,baz=308,slow=2.7,SNR=5.0
KEST LR LR 09 24 25.0
comp=Z,3μm,20.4s,baz=104,slow=35
comp=Z,14nm,0.9s
LHMI Lhok Sumawe 88.06 79 IAMs_20 IAMs_20 09 15 53.8
comp=Z,2μm,21.0s
IGBI Denpasar 88.08 102 P P 08 45 34.5 +11
URZ Urewera 88.09 165 ⇓P **P** **08 45 24.0 +0.5**
URZ Urewera 88.09 165 P **P** **08 45 23.4 -0.1**
comp=Z,53nm,0.9s,baz=49,slow=2.1,SNR=12
URZ LR LR 09 22 12.8
comp=Z,5μm,21.1s,baz=260,slow=34
comp=Z,53nm,0.9s
DSRI Dabo 88.20 88 P P 08 45 32.5 +8.1
TOZ Tahuroa Road 88.33 163 P **P** **08 45 23.7 -0.9**
TOZ IAmb IAmb 08 45 33.0
comp=Z,92nm,1.4s
ABJI Asem Bagus 88.34 101 P P 08 45 35.7 +11
ARMA Armidale 88.53 142 P **P** **08 45 27.4 +1.4**
baz=89,SNR=8.0
ARMA Armidale 88.53 142 P **P** **08 45 25.6 -0.3**
ARMA IAmb IAmb 08 45 34.8
comp=Z,125nm,1.6s
ARMA Armidale 88.53 142 P **P** **08 45 27.5 +1.5**
ARMA Armidale 88.53 142 ⇓P **P** **08 45 28.9 +3.0**
SRBI Singaraja 88.70 101 P **P** **08 45 26.5 -0.3**
comp=Z,206nm,1.7s,comp=Z,4μm
QLP Quilpie 88.92 135 P **P** **08 45 28.6 +0.9**
baz=89,SNR=7.2
QLP Quilpie 88.92 135 P **P** **08 45 28.3 +0.6**
QLP Quilpie 88.92 135 ⇑P **P** **08 45 28.5 +0.9**
TWSI Taliwang, Sumb 89.18 103 P **P** **08 45 31.0 +2.0**
comp=Z,86nm,1.1s,comp=Z,2μm
TPRI Tanjung Pinang 89.27 88 P P 08 45 38.5 +9.1
VAE Valguarnera 89.53 358 LR LR 09 27 02.3
comp=Z,4μm,18.8s,baz=180,slow=37
PLAI Plampang 89.64 104 P **P** **08 45 34.4 +3.2**
WC4 Warramunga Arr 89.85 123 IAMs_20 IAMs_20 09 19 50.1
comp=Z,2μm,20.0s
WB1 Warramunga Ar. 89.86 123 IAMs_20 IAMs_20 09 19 49.2
comp=Z,2μm,20.0s
WR1 Warramunga Arr 89.87 123 IAMs_20 IAMs_20 09 19 40.5
comp=Z,2μm,20.0s
WRA Warramunga Arr 89.87 123 P **P** **08 45 31.6 -0.6**
comp=Z,9.4nm,0.9s,baz=207,slow=3.4,SNR=34
WRA PP **PP** **08 49 08.2 +4.0**
comp=Z,3.0nm,1.1s,baz=217,slow=6.5,SNR=4.5
WRA PKKPbc **PKKPbc** **09 03 03.2 +1.6**
comp=Z,1.4nm,0.9s,baz=22,slow=2.5,SNR=11
WRA PKPPKP **P'P'df** **09 11 19.5 +2.1**
comp=Z,0.5nm,0.9s,baz=12,slow=1.8,SNR=5.1
WRA LR LR 09 20 21.0
comp=Z,1μm,19.4s,baz=214,slow=32
comp=Z,9.4nm,0.9s
WB2 Warramunga Arr 89.88 123 P **P** **08 45 32.3 0.0**
WB2 IAmb IAmb 08 45 41.3
comp=Z,137nm,1.4s
WB2 IAMs_20 IAMs_20 09 21 31.7
comp=Z,2μm,22.0s
WR2 Warramunga Arr 89.88 123 IAMs_20 IAMs_20 09 21 32.7
comp=Z,2μm,19.0s
WRAB Tennant Creek 89.88 123 P **P** **08 45 32.5 +0.3**
WRAB IAmb IAmb 08 45 41.3
comp=Z,110nm,1.3s
WRAB Tennant Creek 89.88 123 IAMs_20 IAMs_20 09 21 33.0
comp=Z,2μm,19.0s
WRAB Tennant Creek 89.88 123 ⇑P **P** **08 45 32.1 -0.2**
WRAB Tennant Creek 89.88 123 P **P** **08 45 32.6 +0.3**
WRAB pmax pmax
comp=Z,110nm,1.3s
WC1 Warramunga Arr 89.88 123 IAMs_20 IAMs_20 09 19 59.9
comp=Z,2μm,21.0s
WR3 Warramunga Arr 89.89 123 IAMs_20 IAMs_20 09 21 33.0
comp=Z,2μm,19.0s
WB3 Warramunga Arr 89.89 123 IAMs_20 IAMs_20 09 21 33.2
comp=Z,2μm,20.0s
WR4 Warramunga Arr 89.90 123 IAMs_20 IAMs_20 09 21 32.2
comp=Z,2μm,20.0s
WR5 Warramunga Arr 89.91 123 IAMs_20 IAMs_20 09 21 32.5
comp=Z,2μm,19.0s
WB4 Warramunga Arr 89.91 123 IAMs_20 IAMs_20 09 21 34.6
comp=Z,2μm,19.0s
WR6 Warramunga Arr 89.92 123 IAMs_20 IAMs_20 09 21 30.8
comp=Z,2μm,19.0s
WR7 Warramunga Arr 89.93 124 IAMs_20 IAMs_20 09 21 33.1
comp=Z,2μm,20.0s
WB5 Warramunga Arr 89.94 123 IAMs_20 IAMs_20 09 19 51.3
comp=Z,2μm,19.0s
WR8 Warramunga Arr 89.94 124 IAMs_20 IAMs_20 09 21 33.4
comp=Z,2μm,19.0s
PMOZ Porto Moniz, M 89.95 332 *e*P **P** **08 45 34.7 +2.6**
PMOZ Porto Moniz, M 89.95 332 *e*LR LR 09 14 38.7
comp=Z,2μm,20.0s
WR9 Warramunga Arr 89.95 124 IAMs_20 IAMs_20 09 21 33.5
comp=Z,2μm,19.0s
WR0 Warramunga Arr 89.96 124 P **P** **08 45 31.4 -1.3**
WR0 IAMs_20 IAMs_20 09 21 43.8
comp=Z,2μm,19.0s
WB8 Warramunga Arr 90.00 123 IAMs_20 IAMs_20 09 19 53.9
comp=Z,2μm,19.0s
WB9 Warramunga Arr 90.02 123 IAMs_20 IAMs_20 09 19 45.5
comp=Z,2μm,20.0s
WB0 Warramunga Arr 90.04 123 P **P** **08 45 32.0 -1.0**
WB0 IAmb IAmb 08 45 41.9
comp=Z,73nm,1.2s
WB0 IAMs_20 IAMs_20 09 19 55.1
comp=Z,2μm,20.0s
LHI Lord Howe Isla 90.12 148 IAMs_20 IAMs_20 09 23 40.8
comp=Z,2μm,21.0s
BASI Baing, Sumba 90.19 107 P P 08 45 42.0 +8.2
VIS Vishakhapatnam 90.32 61 ⇑*e*P **P** **08 45 32.7 -1.3**
VIS IAmb IAmb 08 45 43.2
comp=Z,39nm,1.2s
OUZ Omahuta 90.41 161 ⇓P **P** **08 45 38.2 +3.7**
KNRA Kununurra 90.44 117 P **P** **08 45 35.9 +1.0**
baz=90,SNR=6.2
KNRA Kununurra 90.44 117 P **P** **08 45 35.0 +0.1**
PBA Port Blair 90.68 72 IAMs_20 IAMs_20 09 18 57.3
comp=Z,3μm,20.0s
PBA Port Blair 90.68 72 P **P** **08 45 34.0 -1.9**
GAZ Gaziantep 90.94 16 ⇑P P 08 45 41.5 +4.8
CART Cartagena 90.96 346 IAMs_20 IAMs_20 09 33 23.1
comp=Z,2μm,19.0s
PTLC Puerto Leguiza 91.17 269 *e*P **P** **08 45 34.5 -3.8**
PBDV Barranco-do-Ve 91.86 340 *e*P **P** **08 45 44.5 +3.7**
PBDV Barranco-do-Ve 91.86 340 *e*SKSac SKSac 08 56 25.9 +12
BHPL Bhopal 91.88 53 *e*P **P** **08 45 40.9 -0.4**
BHPL IAmb IAmb 08 45 51.0
comp=Z,39nm,0.9s
PFVI Vila Bisbo 91.94 340 *e*P **P** **08 45 45.0 +3.8**
PFVI Vila Bisbo 91.94 340 *e*SKSac SKSac 08 56 25.8 +12
PVAQ Vaqueiros 91.97 341 *e*P **P** **08 45 45.9 +4.6**
PVAQ Vaqueiros 91.97 341 *e*SKSac SKSac 08 56 28.1 +14
PVAQ Vaqueiros 91.97 341 *e*LR LR 09 15 36.1
comp=Z,2μm,18.0s
QIS Mount Isa 91.97 128 P **P** **08 45 42.5 +0.5**
baz=92,SNR=5.7
QIS Mount Isa 91.97 128 P **P** **08 45 42.4 +0.4**
BATI Baumata 92.00 109 LR LR 09 20 27.8
comp=Z,2μm,21.0s,baz=235,slow=31
EDFI Ende, Flores 92.02 107 P P 08 45 47.8 +5.4
MORF Marmelete 92.07 340 *e*P P 08 45 50.3 +8.5
MACC Macarena, Meta 92.14 271 *e*P P 08 45 49.1 +6.3
SIRT Sirnak 92.25 20 P **P** **08 45 42.9 +0.2**
PCVE Castro Verde 92.25 340 *e*P **P** **08 45 47.1 +4.5**
CHSH Refugio Sur-Vo 92.36 265 IAMs_20 IAMs_20 09 24 37.0
comp=Z,2μm,20.0s
PBAR Barrancos 92.58 341 *e*P **P** **08 45 44.7 +0.6**
KBN Korca 92.70 3 P **P** **08 45 44.0 -0.7**
KBN IAmb IAmb 08 45 55.9
comp=Z,94nm,1.4s
KBN Korca 92.70 3 P **P** **08 45 44.0 -0.7**
KBN pmax pmax
comp=Z,94nm,1.4s
KBN MLR MLR
comp=Z,7μm,20.0s
SOEI Soe 92.71 110 IAMs_20 IAMs_20 09 25 01.5
comp=Z,2μm,19.0s
SOEI Soe 92.71 110 P P 08 45 57.5 +12
FLOC Florencia 92.81 269 *e*P **P** **08 45 44.2 -1.7**
PNCL Nicolau / Gran 92.82 340 *e*P P 08 45 54.4 +9.2
EIDS Eidsvold 92.84 139 P **P** **08 45 46.8 +0.9**
baz=93,SNR=4.1
EIDS Eidsvold 92.84 139 P **P** **08 45 45.4 -0.6**
EIDS IAmb IAmb 08 45 54.8
comp=Z,86nm,1.2s
EIDS Eidsvold 92.84 139 ⇓P **P** **08 45 46.9 +0.9**
PCRV Puerto La Cruz 92.86 283 LR LR 09 23 23.3
comp=Z,785nm,18.9s,slow=33
FNA Florina 92.88 3 P **P** **08 45 44.0 -1.5**
FNA IAMs_20 IAMs_20 09 31 45.7
comp=Z,2μm,18.0s
FNA Florina 92.88 3 ⇓P **P** **08 45 46.1 +0.5**
FNA Florina 92.88 3 P **P** **08 45 44.0 -1.5**
FNA pmax pmax
comp=Z,24nm,1.2s
BR131 Keskin Array S 92.89 13 ⇑*i*P **P** **08 45 45.9 +0.2**
BRTR Keskin Array B 92.89 13 P **P** **08 45 45.0 -0.7**
BRTR Keskin Array B 92.89 13 *i* P **P** **08 45 45.7 0.0**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 92.89 13 P **P** **08 45 45.2 -0.5**
comp=Z,4.4nm,1.0s,baz=179,slow=7.0,SNR=18
BRTR PP **PP** **08 49 29.3 +0.5**
comp=Z,3.3nm,1.1s,baz=186,slow=11,SNR=5.6
BRTR LR LR 09 29 41.2
comp=Z,3μm,18.3s,baz=202,slow=37
comp=Z,4.4nm,1.0s
ANTO Ankara 92.92 12 P **P** **08 45 45.4 -0.3**
ANTO IAmb IAmb 08 45 55.8
comp=Z,138nm,1.8s
ANTO Ankara 92.92 12 P **P** **08 45 45.2 -0.6**
ANTO Ankara 92.92 12 P **P** **08 45 45.4 -0.3**
ANTO pmax pmax
comp=Z,138nm,1.8s
ANTO MLR MLR
comp=Z,4μm,19.0s
SALI Salinas 93.10 262 IAMs_20 IAMs_20 09 25 53.8
comp=Z,2μm,20.0s
GARC Garzon, Huila 93.18 269 *e*P **P** **08 45 49.1 +1.2**
OHR Ohrid 93.19 3 *i* P **P** **08 45 49.7 +2.8**
AJM Ajmer 93.29 49 *e*P **P** **08 45 47.5 -0.3**
IMBA Imbabura, San 93.34 266 IAMs_20 IAMs_20 09 24 10.1
comp=Z,2μm,22.0s
PESTR Estremoz 93.36 341 *e*P P 08 45 54.8 +7.1
PESTR Estremoz 93.36 341 *e*SKSac SKSac 08 56 33.7 +12
PESTR Estremoz 93.36 341 IAMs_20 IAMs_20 09 27 38.4
comp=Z,3μm,19.0s
PAB San Pablo 93.41 344 P **P** **08 45 48.1 +0.1**
PAB San Pablo 93.41 344 IAMs_20 IAMs_20 09 29 48.9
comp=Z,2μm,20.0s
PAB San Pablo 93.41 344 P **P** **08 45 48.1 +0.1**
PAB pmax pmax
comp=Z,56nm,1.6s
PAB MLR MLR
comp=Z,2μm,20.0s
TULM Tulcn-Chalpat 93.43 267 IAMs_20 IAMs_20 09 24 35.6
comp=Z,2μm,20.0s
ES12 SONSECA Array 93.43 344 IAMs_20 IAMs_20 09 29 56.5
comp=Z,2μm,20.0s
ES11 SONSECA Array 93.44 344 IAMs_20 IAMs_20 09 29 27.7
comp=Z,2μm,19.0s
ES10 SONSECA Array 93.45 344 IAMs_20 IAMs_20 09 29 27.8
comp=Z,2μm,20.0s
ES13 SONSECA Array 93.45 344 IAMs_20 IAMs_20 09 30 12.9
comp=Z,2μm,20.0s
ES04 SONSECA Array 93.45 344 IAMs_20 IAMs_20 09 30 12.0
comp=Z,2μm,20.0s
ES14 SONSECA Array 93.45 344 IAMs_20 IAMs_20 09 29 56.1
comp=Z,2μm,20.0s
OTAV Otavalo 93.46 266 P **P** **08 45 47.5 -1.9**
OTAV Otavalo 93.46 266 *e*P **P** **08 45 50.1 +0.6**
OTAV Otavalo 93.46 266 P **P** **08 45 47.5 -1.9**
OTAV pmax pmax
comp=Z,56nm,1.7s
OTAV Otavalo 93.46 266 *e*P **P** **08 45 50.2 +0.8**
ES09 SONSECA Array 93.47 344 IAMs_20 IAMs_20 09 29 24.4
comp=Z,2μm,18.0s
ES15 SONSECA Array 93.47 344 IAMs_20 IAMs_20 09 30 09.4
comp=Z,2μm,19.0s
VAY Valandovo 93.47 4 *i* P **P** **08 45 49.4 +1.3**
ESBB Sonseca Array 93.47 344 P **P** **08 45 49.0 +0.8**
ESBB IAMs_20 IAMs_20 09 29 58.6
comp=Z,2μm,20.0s
ESDC Sonseca Array 93.47 344 P **P** **08 45 47.8 -0.5**
ESDC IAMs_20 IAMs_20 09 29 58.5
comp=Z,2μm,20.0s
ESDC Sonseca Array 93.47 344 P **P** **08 45 48.6 +0.4**
comp=Z,11nm,1.2s,baz=165,slow=3.9,SNR=20
ESDC LR LR 09 26 07.5
comp=Z,1μm,18.8s,baz=170,slow=34
comp=Z,11nm,1.2s
ES07 SONSECA Array 93.48 344 IAMs_20 IAMs_20 09 29 58.8
comp=Z,2μm,20.0s
ES08 SONSECA Array 93.48 344 IAMs_20 IAMs_20 09 29 26.8
comp=Z,2μm,19.0s
ES19 SONSECA Array 93.49 344 IAMs_20 IAMs_20 09 29 24.9
comp=Z,2μm,19.0s
ES16 SONSECA Array 93.49 344 IAMs_20 IAMs_20 09 29 58.0
comp=Z,2μm,20.0s
ES17 SONSECA Array 93.50 344 IAMs_20 IAMs_20 09 29 56.3
comp=Z,2μm,20.0s
ES18 SONSECA Array 93.50 344 IAMs_20 IAMs_20 09 29 28.4
comp=Z,2μm,20.0s
GCUF Volcan Galeras 93.56 267 ⇑*e*P **P** **08 45 52.0 +2.0**
PMTG Montargil 93.68 341 *e*P **P** **08 45 51.5 +2.4**
PMTG Montargil 93.68 341 *e*SKSac SKSac 08 56 35.3 +12
PAC1 Pacto, Paraso 93.69 266 *e*P **P** **08 45 52.0 +1.9**
PMAFR Mafra 93.79 340 *e*SKSac **SKSac** **08 56 32.4 +8.3**
STIP Stip 93.82 4 *i* P **P** **08 45 50.5 +0.8**
BKSI Bulukumba 93.83 104 P P 08 45 59.6 +9.0
KAPI Kappang 93.85 103 *c i* P **P** **08 45 52.3 +1.6**
KAPI pmax pmax
comp=Z,39nm,1.6s
KAPI Kappang 93.85 103 LR LR 09 22 33.4
comp=Z,838nm,20.1s,baz=207,slow=32
PMRV Marv??o 93.86 341 *e*P P 08 45 54.8 +4.8
PMRV Marv??o 93.86 341 *e*SKSac SKSac 08 56 37.6 +13
PMRV Marv??o 93.86 341 *e*LR LR 09 16 11.6
comp=Z,2μm,20.0s
PEHC Pehcevo 93.94 4 *i* P **P** **08 45 52.4 +1.9**
MTN Manton Dam 94.06 117 P **P** **08 45 51.0 -0.7**
MTN IAMs_20 IAMs_20 09 24 16.9
comp=Z,2μm,19.0s
SKO Skopje 94.07 3 *i* P **P** **08 45 54.0 +3.1**
POPC Popayan, Colom 94.18 269 *e*P **P** **08 45 53.9 +1.4**
PSBE So Bento 94.22 340 *e*SKSac **SKSac** **08 56 31.9 +5.4**
ROSC El Rosal 94.54 272 IAMs_20 IAMs_20 09 25 51.3
comp=Z,3μm,19.0s
ROSC El Rosal 94.54 272 P **P** **08 45 54.2 -0.1**
comp=Z,6.0nm,0.3s,baz=126,slow=9.9,SNR=8.2
ROSC LR LR 09 25 35.7
comp=Z,2μm,18.4s,baz=180,slow=34
comp=Z,6.0nm,0.3s
RUSC La Rusia 94.61 274 *e*P **P** **08 45 56.9 +2.1**
PCAS Casmilo, Conde 94.68 341 *e*P P 08 45 59.4 +5.7
PCAS Casmilo, Conde 94.68 341 *e*SKSac **SKSac** **08 56 37.4 +8.5**
JAMC Jamundi, Valle 94.71 269 *e*P **P** **08 45 53.9 -0.9**
COI Coimbra 94.81 341 *e*P **P** **08 45 58.0 +3.7**
MTE Manteigas 94.83 342 *e*P **P** **08 45 58.1 +3.6**
MTE Manteigas 94.83 342 *e*SKSac **SKSac** **08 56 38.9 +9.1**
MTE Manteigas 94.83 342 *e*LR LR 09 16 14.9
comp=Z,3μm,20.0s
HRA Herat 95.05 36 P **P** **08 45 55.7 -0.1**
HRA IAMs_20 IAMs_20 09 31 44.5
comp=Z,3μm,19.0s
BKB Balikpapan 95.11 99 IAMs_20 IAMs_20 09 21 23.8
comp=Z,2μm,20.0s
FDMO Fiordimonte 95.11 357 IAMs_20 IAMs_20 09 35 29.4
comp=Z,3μm,20.0s
YOTC Yotoco, Valle 95.11 270 *e*P **P** **08 45 57.8 +1.2**
GUMA Gualdo di Mace 95.13 357 IAMs_20 IAMs_20 09 32 35.9
comp=Z,3μm,19.0s
GNI Garni 95.29 21 *de*P **P** **08 45 55.9 -0.8**
GNI pmax pmax
comp=Z,28nm,1.6s
GNI MLR MLR
comp=Z,6μm,17.0s
GNI Garni 95.29 21 LR LR 09 30 09.8
comp=Z,3μm,18.1s,baz=204,slow=36
NORC Norcasia 95.45 272 *e*P **P** **08 45 55.9 -2.1**
SDV Santo Domingo 95.46 277 IAMs_20 IAMs_20 09 26 00.6
comp=Z,1μm,19.0s
SDV Santo Domingo 95.46 277 LR LR 09 26 02.6
comp=Z,1μm,18.0s,baz=156,slow=34
MVO Moncorvo 95.47 342 *e*P P 08 46 06.3 +8.9
MVO Moncorvo 95.47 342 *e*SKSac **SKSac** **08 56 43.7 +10**
MVO Moncorvo 95.47 342 *e*LR LR 09 16 58.5
comp=Z,2μm,20.0s
CTA Charters Tower 95.47 133 LR LR 09 25 54.9
comp=Z,1μm,18.3s,baz=208,slow=34
CTAO Charters Tower 95.47 133 P **P** **08 45 57.0 -1.1**
CTAO IAmb IAmb 08 46 06.7
comp=Z,58nm,1.4s
CTAO Charters Tower 95.47 133 IAMs_20 IAMs_20 09 22 46.7
comp=Z,1μm,21.0s
CTAO Charters Tower 95.47 133 ⇓P **P** **08 45 58.5 +0.4**
CTAO Charters Tower 95.47 133 P **P** **08 45 57.0 -1.1**
CTAO pmax pmax
comp=Z,58nm,1.4s
GUY2C Guyana, Caldas 95.48 271 *e*P **P** **08 45 56.9 -1.9**
OSSC Osservatorio P 95.67 356 IAMs_20 IAMs_20 09 31 18.0
comp=Z,3μm,20.0s
PLMC San Jos del P 95.80 270 *e*P **P** **08 45 54.9 -4.7**
POLO Lamas de Olo 95.82 342 *e*P P 08 46 05.0 +6.0
BRRC Barranca, Sant 95.95 274 *e*P **P** **08 46 02.7 +2.5**
PTBC PUERTO BERRIO, 95.96 273 *e*P **P** **08 45 58.8 -1.5**
PBRG Braganca 96.03 342 *e*P **P** **08 46 04.6 +4.7**
MTSU Mount Surprise 96.29 131 P **P** **08 46 02.9 +1.0**
baz=96,SNR=9.3
PGAV Gavieira, Arco 96.48 341 *e*P **P** **08 46 02.6 +0.6**
PGAV Gavieira, Arco 96.48 341 *e*LR LR 09 17 56.4
comp=Z,4μm,20.0s
MSSA Maissana 96.54 355 IAMs_20 IAMs_20 09 35 31.2
comp=Z,3μm,20.0s
BOK Bokaro 96.65 59 *e*P P 08 45 53.5 -10
BOK IAmb IAmb 08 45 55.2
comp=Z,42nm,0.3s
GEYT Alibeck 96.85 32 P **P** **08 46 03.4 -0.3**
GEYT Alibeck 96.85 32 P **P** **08 46 03.4 -0.3**

GEYT pmax pmax
comp=Z,47nm,1.8s
GEYT Alibeck 96.85 32 P P 08 46 03.1 -0.6
comp=Z,1.7nm,0.6s,baz=247,slow=10,SNR=4.9
comp=Z,1.7nm,0.6s
GYA0B ALIBECK ARRAY 96.85 32 P P 08 46 03.3 -0.4
GYA0B IAMs_20 IAMs_20 09 33 49.0
comp=Z,2μm,18.0s
BNI Bardonecchia 97.47 353 IAMs_20 IAMs_20 09 30 41.5
comp=Z,3μm,20.0s
TEOL Teolo 97.48 356 IAMs_20 IAMs_20 09 37 27.1
comp=Z,2μm,18.0s
SOC Sochi 97.61 17 *e*P **P 08 46 06.6 -0.3**
SOC *e* 08 50 06.4
SOC *e*PPP PPP 08 52 10.1
SOC *e*S **SKSac 08 56 44.0 -0.1**
SOC MLR MLR
comp=Z,2μm,18.0s
ZEI Tsey 97.64 20 *e*P Pdif 08 46 08.2 +0.7
ZEI pmax pmax
comp=Z,5.0nm,1.2s
RAO Raoul Island 97.67 167 IAMs_20 IAMs_20 09 26 52.6
comp=Z,2μm,20.0s
RAO Raoul Island 97.67 167 LR LR 09 30 23.6
comp=Z,2μm,18.1s,baz=171,slow=36
SALO Salr 97.79 355 IAMs_20 IAMs_20 09 38 23.2
comp=Z,3μm,18.0s
KBL Kabul 97.79 41 IAMs_20 IAMs_20 09 36 36.2
comp=Z,1μm,19.0s
MLR Muntele Rosu 97.82 6 P **P 08 46 08.0 0.0**
MLR Muntele Rosu 97.82 6 P **P 08 46 08.0 0.0**
comp=Z,1.6nm,0.4s,baz=264,slow=1.0,SNR=3.3
MLR PP **PP 08 50 05.7 -1.2**
comp=Z,5.5nm,1.0s,baz=160,slow=3.7,SNR=4.8
MLR LR LR 09 32 19.2
comp=Z,5μm,20.2s,baz=186,slow=37
comp=Z,1.6nm,0.4s
CRES Cresnjev 97.85 359 *e*PP **PP 08 50 05.6 -1.4**
CRES *e* 08 56 53.7
CRES *e*SS SS 09 04 12.9 -3.2
SSB Saint Sauveur 97.88 351 IAMs_20 IAMs_20 09 34 53.3
comp=Z,2μm,18.0s
SABO M.te Sabotino 98.04 358 IAMs_20 IAMs_20 09 33 29.0
comp=Z,2μm,20.0s
SAUI Saumlaki 98.15 114 IAMs_20 IAMs_20 09 26 46.3
comp=Z,2μm,19.0s
CTI Castel Tesino 98.17 356 IAMs_20 IAMs_20 09 33 29.2
comp=Z,2μm,20.0s
ROBS Robic 98.30 358 *i* PP **PP 08 50 09.4 -1.1**
ROBS *e*SS SS 09 04 17.9 -4.5
KBZ Khabaz 98.34 19 *c*e**P 08 46 09.5 -0.7**
KBZ pmax pmax
comp=Z,11nm,1.4s
KBZ MLR MLR
comp=Z,4μm,18.0s
KBZ Khabaz 98.34 19 LR LR 09 32 33.8
comp=Z,3μm,18.3s,baz=196,slow=37
STAL STALIGIAL 98.34 357 IAMs_20 IAMs_20 09 34 48.9
comp=Z,3μm,19.0s
ANN Anapa 98.42 15 *e*P **P 08 46 08.8 -1.7**
ANN *e**PP **sP 08 46 12.4 +0.1**
ANN *e* 08 50 12.2
ANN *e*PPP PPP 08 52 19.1
ANN *e*S **SKSac 08 56 46.5 -1.6**
ANN pmax pmax
comp=Z,29nm,0.9s
KOGS Kog 98.47 360 *i* PP **PP 08 50 11.1 -0.6**
PRED Cave del Predi 98.50 358 IAMs_20 IAMs_20 09 38 19.1
comp=Z,3μm,19.0s
KIV Kislovodsk 98.52 19 *e*P Pdif 08 46 12.0 +0.8
KIV *e* 08 50 13.5
KIV *e* 08 56 50.1
KIV *e*SS SS 09 04 29.9 +4.2
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV pmax pmax
comp=Z,27nm,2.5s
KIV MLR MLR
comp=Z,4μm,20.0s
KVAR Kislovodsk Arr 98.52 19 LR LR 09 30 53.9
comp=Z,3μm,19.6s,baz=116,slow=36
CLUD Cludinico 98.53 357 IAMs_20 IAMs_20 09 36 37.9
comp=Z,2μm,18.0s
OBKA Obir 98.55 358 *e*Pdiff Pdif 08 46 12.3 +1.1
comp=Z,30nm,1.4s
OBKA *e*PP **PP 08 50 13.3 +0.8**
comp=Z,30nm,1.6s
MAK Makhachkala 98.59 22 *e*P **P 08 46 11.1 -0.3**
MAK *e* 08 50 11.8
MAK *e* 08 56 47.0
MAK *e*SS SS 09 04 28.3 +1.8
MAK *e*SSS SSS 09 08 09.0
MAK pmax pmax
comp=Z,323nm,1.2s
MYKA Terra Mystica 98.69 358 *e*PP **PP 08 50 12.3 -1.2**
comp=Z,42nm,1.6s,SNR=6.5
TUE Stuetta 98.70 355 IAMs_20 IAMs_20 09 36 17.3
comp=Z,2μm,19.0s
SOKA Soboth 98.71 359 *e*PP **PP 08 50 12.7 -1.0**
comp=Z,20nm,1.5s
NIL Nilore 98.78 45 **P 08 46 11.6 -0.9**
NIL Nilore 98.78 45 IAMs_20 IAMs_20 09 28 09.6
comp=Z,2μm,19.0s
NIL Nilore 98.78 45 P **P 08 46 11.6 -0.9**
NIL pmax pmax
comp=Z,64nm,1.1s
FUORN Ofenpass-Fuorn 98.80 355 IAMs_20 IAMs_20 09 35 51.9
comp=Z,2μm,21.0s
ABTA Abfaltersbach 98.84 357 *e*Pdiff Pdif 08 46 13.0 +0.5
comp=Z,9.0nm,0.8s
ABTA *e*PP **PP 08 50 15.1 +0.4**
comp=Z,36nm,1.7s
BRDH Bariadhala 98.86 64 LR LR 09 24 48.0
comp=Z,5μm,20.1s,baz=266,slow=32
DHRM DHARAMSHALA 98.94 48 *e*P **P 08 46 13.3 -0.2**
FETA Feichten 99.18 356 *e*Pdiff **Pdif 08 46 14.2 +0.1**
comp=Z,11nm,1.0s
FETA *e*PP **PP 08 50 16.5 -0.9**
comp=Z,21nm,1.4s
ARSA Arzberg 99.27 359 *e*Pdiff **Pdif 08 46 16.4 +2.0**
comp=Z,0.1nm,0.3s
ARSA *e*PP **PP 08 50 16.3 -1.6**
comp=Z,34nm,1.4s,SNR=8.5
COEN Coen 99.36 128 IAMs_20 IAMs_20 09 26 15.0
comp=Z,2μm,20.0s
SQTA Sankt Quirin 99.36 356 *e*Pdiff **Pdif 08 46 14.9 +0.1**
comp=Z,9.9nm,1.1s
SQTA *e*PP **PP 08 50 17.3 -1.4**
comp=Z,31nm,1.9s
WTTA Wattenberg 99.38 356 *e*Pdiff **Pdif 08 46 15.1 0.0**
comp=Z,12nm,1.2s
WTTA *e*PP **PP 08 50 18.7 -0.3**
comp=Z,17nm,1.4s
WATA Walderalm 99.46 356 *e*Pdiff **Pdif 08 46 17.1 +1.8**
comp=Z,4.4nm,0.5s
DAVA Damuels 99.48 355 *e*PP **PP 08 50 21.5 +1.8**
comp=Z,34nm,1.2s
MOTA Moosalm 99.48 356 *e*Pdiff **Pdif 08 46 16.8 +1.3**
comp=Z,12nm,1.2s
MOTA *e*PP **PP 08 50 17.8 -1.9**
comp=Z,25nm,1.3s
LESA Schwarzleotal 99.51 357 *e*PP **PP 08 50 20.9 +1.1**
comp=Z,17nm,1.4s
KIS Kishinev 99.54 8 *e*P **Pdif 08 46 12.0 -3.5**
comp=Z,160nm,8.0s
KIS Kishinev 99.54 8 *e*PP **PP 08 50 19.0 -0.9**
comp=Z,320nm,7.8s
KIS *e*L L 09 29 26.0
KIS LRM MLR 09 35 40.0
comp=Z,1μm,17.0s
KIS Kishinev 99.54 8 *e*P **Pdif 08 46 12.0 -3.5**
KIS *e* 08 50 19.0
KIS pmax pmax
comp=Z,160nm,8.0s
KIS pmax pmax
comp=Z,320nm,7.8s
RETA Reutte 99.64 356 *e*Pdiff **Pdif 08 46 17.3 +1.2**
comp=Z,9.5nm,1.0s
RETA *e*PP **PP 08 50 19.3 -1.5**
comp=Z,55nm,1.4s,SNR=5.2
CMAR Chiang Mai Arr 99.68 72 *i* P **Pdif 08 46 17.5 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 99.68 72 P **Pdif 08 46 16.6 -0.2**
comp=Z,1.6nm,0.3s,baz=233,slow=4.4,SNR=6.4
CMAR PP **PP 08 50 18.5 -2.8**
comp=Z,0.8nm,0.3s,baz=229,slow=6.0,SNR=4.3
CMAR LR LR 09 23 16.5
comp=Z,1μm,21.7s,baz=225,slow=31
comp=Z,1.6nm,0.3s
RONA Rosalia, Austr 99.72 360 *e*PP **PP 08 50 19.8 -1.5**
comp=Z,84nm,1.6s,SNR=5.9
BIOA Bad Ischl, Aus 99.75 358 *e*Pdiff **Pdif 08 46 16.8 +0.3**
comp=Z,2.9nm,0.5s
BIOA *e*PP **PP 08 50 20.1 -1.4**
comp=Z,40nm,1.8s
MOA Molln 99.89 358 *e*PP **PP 08 50 21.5 -1.2**
comp=Z,65nm,1.4s
BUR08 Bucovina Ar. S 99.91 6 Pdif **Pdif 08 46 14.9 -2.4**
SANI Sanana 99.92 107 P **Pdif 08 46 26.0 +7.9**
CONA Conrad Observa 99.95 359 *e*PP **PP 08 50 23.2 0.0**
comp=Z,61nm,1.5s,SNR=16
CHTO Chiang Mai 99.96 72 Pdif **Pdif 08 46 18.8 +0.7**
MODS Modra-Piesok 100.39 0 *e*PP **PP 08 50 33.1 +6.7**
ECH Echery 100.58 353 IAMs_20 IAMs_20 09 31 28.9
comp=Z,2μm,21.0s
BFO Black Forest 100.61 354 IAMs_20 IAMs_20 09 33 30.9
comp=Z,3μm,21.0s
CKRC Cesky Krumlov 100.86 358 *e*PP **PP 08 50 29.8 -0.2**
CKRC *e*SS SS 09 04 54.1 -4.1
CKRC AMS AMS 09 35 20.0
comp=Z,3μm,20.2s
JAVC Velka Javorina 100.88 1 *e*PP **PP 08 50 28.9 -1.2**
JAVC *e* 08 50 37.6
GERES GERESS Array B 100.90 358 PP **PP 08 50 30.6 +0.3**
comp=Z,0.5nm,0.3s,baz=156,slow=10,SNR=6.9
STU Stuttgart 101.00 355 IAMs_20 IAMs_20 09 38 13.2
comp=Z,2μm,18.0s
PINNC Pines Island, 101.01 152 IAMs_20 IAMs_20 09 28 26.8
comp=Z,2μm,19.0s
OUENC Ouen Island, N 101.02 152 IAMs_20 IAMs_20 09 28 50.1
comp=Z,2μm,20.0s
KOLS Kolonicke sedl 101.06 4 *e*PP **PP 08 50 34.9 +3.5**
KRUC Moravsky 101.08 360 *e*PP **PP 08 50 29.1 -2.5**
KRUC *e* 08 50 38.0
KHC Kasperske Hory 101.19 358 *e*PP **PP 08 50 31.7 -0.8**
KHC x x 08 50 39.5
KHC *e*SS SS 09 04 55.5 -7.2
KHC AMS AMS 09 36 00.0
comp=Z,4μm,21.9s
DZM Mont Dzumac 101.23 151 *e*PP **PP 08 50 31.5 -0.5**
comp=Z,118nm,25.4s
DZM Mont Dzumac 101.23 151 *e*LR LR 09 19 20.3
comp=Z,3μm,33.0s
DZM Mont Dzumac 101.23 151 IAMs_20 IAMs_20 09 31 22.8
comp=Z,2μm,20.0s
DZM Mont Dzumac 101.23 151 PP **PP 08 50 36.5 +4.5**
comp=Z,8.8nm,1.2s,baz=206,slow=6.5,SNR=4.2
TREC Trest 101.32 359 *e*PP **PP 08 50 35.4 +2.0**
TREC *e*SS SS 09 05 05.9 +1.4
TREC AMS AMS 09 40 10.0
comp=Z,2μm,15.1s
VRAC Vranov 101.33 360 *e*PP **PP 08 50 30.7 -2.8**
VRAC *e* 08 50 39.8
MAUC Maruska 101.39 1 *e*PP **PP 08 50 36.3 +2.4**
MAUC *e*SS SS 09 05 14.0 +8.5
MAUC AMS AMS 09 34 50.0
comp=Z,6μm,21.3s
NIE Niedzica 101.48 2 *e*P **PP 08 50 35.0 +0.4**
ZVC Zvikov 101.48 358 *e*PP **PP 08 50 36.9 +2.3**
ZVC *e*SS SS 09 05 03.2 -3.5
ZVC AMS AMS 09 37 30.0
comp=Z,2μm,18.6s
STHS Stebnicka Huta 101.50 3 *e*PP **PP 08 50 38.8 +4.0**
KWP Kalwaria Pacla 101.77 4 *e*P **PP 08 50 34.8 -2.0**
KWP Kalwaria Pacla 101.77 4 IAMs_20 IAMs_20 09 36 50.0
comp=Z,2μm,20.0s
MORC Moravsky Berou 101.80 0 *e*PP **PP 08 50 32.5 -4.5**
MORC *e* 08 50 43.8
GRA1 Grafenberg Arr 101.83 356 IAMs_20 IAMs_20 09 40 12.0
comp=Z,3μm,18.0s
OKC Ostrava-Krasne 101.86 1 *e*PP **PP 08 50 42.4 +4.9**
OKC *e*SS SS 09 05 09.9 -2.1
OKC AMS AMS 09 35 30.0
comp=Z,2μm,21.8s
GOPC GO Pecny, Ondr 101.95 359 *e*PP **PP 08 50 37.7 -0.5**
GOPC *e*SS SS 09 05 10.4 -2.8
GOPC AMS AMS 09 36 00.0
comp=Z,3μm,19.2s
KOUNC Koumac, New Ca 102.00 149 IAMs_20 IAMs_20 09 29 34.4
comp=Z,1μm,18.0s
PRU Pruhonice 102.03 358 *e*PP **PP 08 50 37.6 -1.1**
PRU *e*SS SS 09 05 11.2 -3.0
PRU AMS AMS 09 33 40.0
comp=Z,3μm,19.6s
WLF Walferdange 102.09 353 IAMs_20 IAMs_20 09 35 45.9
comp=Z,2μm,18.0s
WLF Walferdange 102.09 353 *d*PKiKP **PKiKP 08 50 49.1 +0.1**
KRLC Kraliky 102.09 360 *e*PP **PKiKP 08 50 43.9 -5.2**
KRLC *e*SS SS 09 05 15.3 0.0
KRLC AMS AMS 09 35 20.0
comp=Z,3μm,19.0s
PRA Prague 102.11 358 *e*PP **PP 08 50 38.0 -1.3**
PRA *e*SS SS 09 05 13.8 -1.6
PRA AMS AMS 09 37 40.0
comp=Z,3μm,19.2s
OJC Ojcow 102.27 2 *e*P **PP 08 50 37.0 -3.5**
NKC Novy Kostel 102.32 357 *e*PP **PKiKP 08 50 44.7 -4.8**
NKC *e*SS SS 09 05 16.9 -1.5
NKC AMS AMS 09 36 50.0
comp=Z,5μm,20.1s
DPC Dobruska-Polom 102.37 360 *e*PP **PP 08 50 40.3 -1.1**
DPC *e*SS SS 09 05 16.0 -3.1
DPC AMS AMS 09 35 50.0
comp=Z,2μm,21.7s
UPC Upice 102.53 359 *e*PP **PP 08 50 41.7 -0.8**
UPC *e*SS SS 09 05 18.2 -3.0
UPC AMS AMS 09 36 00.0
comp=Z,3μm,21.8s
PVCC Panska Ves 102.57 358 *e*PP **PP 08 50 41.4 -1.4**
PVCC *e*SS SS 09 05 18.2 -3.5
PVCC AMS AMS 09 36 20.0
comp=Z,3μm,19.9s
OSTC Ostas 102.58 360 *e*PP **PP 08 50 42.2 -0.7**
OSTC *e*SS SS 09 05 21.4 -0.5
OSTC AMS AMS 09 36 00.0
comp=Z,3μm,23.3s
RICC Richard 102.59 358 *e*PP **PP 08 50 42.2 -0.7**
RICC *e*SS SS 09 05 22.5 +0.5
RICC AMS AMS 09 38 00.0
comp=Z,2μm,18.8s
CHVC Chvalec 102.61 359 *e*PP **PKiKP 08 50 48.0 -2.0**
CHVC *e*SS SS 09 05 17.0 -5.4
CHVC AMS AMS 09 36 00.0
comp=Z,3μm,23.1s
DOU Dourbes 102.65 352 *d*PKiKP **PKiKP 08 50 49.9 -0.1**
DOU *dp*PKiKP **pPKiKP 08 50 52.3 +1.0**
RCHB Rochefort 102.65 352 *d*PP **PP 08 50 41.7 -1.7**
RCHB *d*PKiKP **PKiKP 08 50 49.5 -0.5**
HSKC Hora Svate Kat 102.67 358 *e*PP **PP 08 50 43.2 -0.4**
HSKC *e*SS SS 09 05 18.5 -4.7
HSKC AMS AMS 09 34 30.0
comp=Z,2μm,21.2s
LIFNC LIFOU 102.69 152 IAMs_20 IAMs_20 09 29 57.3
comp=Z,2μm,20.0s
BMRD Maredsous 102.84 352 *d*PP **PP 08 50 44.1 -0.7**
KSP Ksiaz 102.86 360 *e*P **PP 08 50 43.6 -1.4**
BGES Gesves 102.89 352 *d*PKiKP **PKiKP 08 50 51.1 +0.7**
BCLA Clavier 102.91 352 *d*PP **PP 08 50 43.8 -1.5**
BCLA *d*PKiKP **PKiKP 08 50 49.4 -1.0**
BCLA *dp*PKiKP **pPKiKP 08 50 52.1 +0.3**
BRG Berggiesshubel 102.92 358 *e*PKiKP **PKiKP 08 50 43.9 -6.6**
BRG Berggiesshubel 102.92 358 PP **PKiKP 08 50 47.0 -3.5**
BRG Amp 08 50 49.2
comp=Z,51nm,1.8s
BRG Berggiesshubel 102.92 358 P **PKiKP 08 50 52.6 +2.1**
BRG Amp 08 50 55.8
comp=Z,65nm,1.7s
BRG Berggiesshubel 102.92 358 PS PS 09 00 02.0 +9.4
BRG Berggiesshubel 102.92 358 SS SS 09 05 28.0 +1.4
BRG Amp 09 38 34.0
comp=N,1.8nm,17.7s
BRG Amp 09 38 40.0
comp=Z,2.4nm,19.0s
BRG Amp 09 38 48.0
comp=E,0.9nm,19.7s
BTNL Ternell 103.01 353 *d*PP **PP 08 50 44.9 -1.3**
BSTI Sart Tilman 103.05 353 *d*PKiKP **PKiKP 08 50 50.7 0.0**
RIOS Rincon, Osa 103.19 267 IAMs_20 IAMs_20 09 38 22.4
comp=Z,3μm,21.0s
AKASG Malin Array Be 103.25 8 PP **PP 08 50 47.3 -0.6**
comp=Z,3.8nm,0.9s,baz=199,slow=7.1,SNR=23
RGM0 Gandoca 103.33 268 IAMs_20 IAMs_20 09 32 35.0
comp=Z,2μm,19.0s
CLL Collm 103.38 357 IAMs_20 IAMs_20 09 36 45.2
comp=Z,2μm,20.0s
CLL Collm 103.38 357 *e*PP **PKiKP 08 50 49.0 -2.3**
CLL *e*PPP PPP 08 53 00.0
CLL *e*PPPP 08 54 42.0
CLL *e*SKSac **SKSac 08 57 18.0 +6.2**
CLL *e*Sdif **Sdif 08 58 31.0 +11**
CLL *e*PS **PS 09 00 00.0 +2.6**
CLL *e*SS **SS 09 05 32.0 -0.9**
CLL AMS AMS 09 36 00.0
comp=N,2μm,20.6s
CLL AMS AMS 09 36 00.0
comp=E,900nm,18.9s
CLL AMS AMS 09 36 00.0
comp=Z,2μm,20.2s
CLL R2 10 33 00.0
CLL R2 10 46 00.0
comp=N,300nm,22.2s
CLL R2 10 46 00.0
comp=E,100nm,25.6s
CLL R2 10 46 00.0
comp=Z,300nm,22.8s
LSA Lhasa 104.17 60 IAMs_20 IAMs_20 09 27 08.4
comp=Z,3μm,21.0s
IUG Iuzhnay 104.77 38 *e*Pdif **Pdif 08 46 39.6 +0.5**
baz=38
IUG Iuzhnay 104.77 38 *i* P **Pdif 08 46 39.5 +0.5**
SLVN Son La 104.83 74 IAMs_20 IAMs_20 09 25 51.2
comp=Z,2μm,21.0s
PMG Port Moresby 105.22 129 IAMs_20 IAMs_20 09 38 43.9
comp=Z,2μm,18.0s
SUW Suwalki 106.17 4 *e*P **PP 08 51 05.1 -4.3**
QIZ Qiongzhong 106.61 80 SS SS 09 06 31.3 +14
QIZ LR LR
comp=N,940nm,17.7s
QIZ LR LR
comp=E,1μm,19.4s
QIZ LR LR
comp=Z,2μm,16.2s
QIZ Qiongzhong 106.61 80 IAMs_20 IAMs_20 09 29 22.6
comp=Z,2μm,20.0s
MTDJ Mount Denham 106.90 278 IAMs_20 IAMs_20 09 33 21.3
comp=Z,1μm,21.0s
AAK Ala-Archa 106.92 41 IAMs_20 IAMs_20 09 32 41.7
comp=Z,2μm,20.0s
MNK Minsk 106.92 7 *i* PKiKP **PKiKP 08 50 56.6 -1.1**
MNK *i* PKiKP **PKiKP 08 50 56.6 -1.1**
baz=187
MNK *i* PKiKP **PKiKP 08 50 57.2 -0.5**
MNK *i* PP **PP 08 51 14.8 -0.2**
MNK *i* PPP PPP 08 53 30.1
MNK *i* SKS **SKSdf 08 58 08.1 -1.2**
MNK *i* SS **SS 09 06 23.7 +2.5**
MNK *i* SSS SSS 09 10 24.4
MNK *i* LQ LQ 09 29 15.7
MNK *i* LR LR 09 36 40.8
MNK *i* LRM MLR 09 39 41.3
comp=N,1μm,17.4s
MNK *i* LRM MLR 09 39 58.7
comp=E,584nm,18.7s
MNK *i* LRM MLR 09 39 58.7
comp=Z,3μm,20.6s
KMI Kunming 107.06 71 ⇑Pdif **Pdif 08 46 49.3 -0.5**
KMI LR LR
comp=Z,1μm,16.1s
KMI LR LR
comp=Z,960nm,17.9s
KMI LR LR
comp=Z,2μm,25.0s
FRU1 Bishkek 107.12 41 IAMs_20 IAMs_20 09 37 35.0
comp=Z,2μm,21.0s
NACGM Naroch 107.25 6 *e*Pdif **Pdif 08 46 43.8 -5.8**
comp=Z,10.0nm,0.8s,baz=187
BOOM Boomskoye usch 107.38 42 IAMs_20 IAMs_20 09 39 30.9
comp=Z,2μm,20.0s
TARG Taragay, Kyrgy 107.52 43 IAMs_20 IAMs_20 09 38 17.6
comp=Z,2μm,20.0s
PZH PanZhiHua 107.54 69 PKP **PKiKP 08 50 59.8 -0.2**
PZH PP PP 08 51 39.9 +20
SGDS Sogindy 107.66 40 *e*Pdif **Pdif 08 46 51.7 -0.1**
baz=40
SGDS *e*PP **PP 08 51 21.6 +0.9**
baz=40
SGDS Sogindy 107.66 40 *i* P **Pdif 08 46 51.7 -0.1**
SGDS *e* 08 51 21.6
OBN Obninsk 108.38 12 IAMs_20 IAMs_20 09 41 15.1
comp=Z,2μm,18.0s
KUU Kurty 108.71 41 *e*PKiKP **PKiKP 08 51 00.7 -0.7**
baz=41
KUU *e*PP **PP 08 51 30.4 +2.0**
baz=41
BTLS Baital 108.76 39 *e*PP **PP 08 51 30.0 +1.3**
baz=39
SATY Saty 108.86 43 *e*Pdif **Pdif 08 46 57.6 +0.2**
baz=43
SATY *e*PKiKP **PKiKP 08 51 01.8 -0.2**
baz=43
SATY *e*PP **PP 08 51 31.1 +1.5**
baz=43
SATY Saty 108.86 43 *i* P **Pdif 08 46 57.5 +0.2**
SATY *e* 08 51 31.1
ZHN Zhinishke 108.97 43 *e*PKiKP **PKiKP 08 51 02.2 +0.1**
baz=43
UZB Uzynbulak 109.19 43 *e*Pdif **Pdif 08 46 59.0 +0.2**
baz=44
UZB *e*PKiKP **PKiKP 08 51 02.2 -0.4**
baz=44
UZB *e*PP **PP 08 51 33.6 +1.5**
baz=44
UZB Uzynbulak 109.19 43 *i* P **Pdif 08 46 58.9 +0.2**
UZB *e* 08 51 33.5
KPKS Kokpek 109.31 43 *e*Pdif **Pdif 08 46 58.8 -0.4**
baz=43
KPKS *e*PKiKP **PKiKP 08 51 02.7 0.0**
baz=43
KPKS Kokpek 109.31 43 *i* P **Pdif 08 46 58.8 -0.4**
PPT2 Papeete2 109.33 194 *e*PP **PP 08 51 32.7 +0.9**
comp=Z,147nm,23.2s
PPT2 *e*S Sdif 08 58 53.2 -18
comp=Z,931nm,26.2s
PPT2 *e*SS **SS 09 06 47.1 -5.2**
comp=Z,2μm,25.8s
PPT2 Papeete2 109.33 194 *e*LR LR 09 22 54.9
comp=Z,4μm,23.5s
PPT2 *e*LR LR 09 23 05.9
comp=Z,4μm,27.8s
CBCY The Bluff, Cay 109.40 277 IAMs_20 IAMs_20 09 31 02.0
comp=Z,2μm,21.0s
GYA Guiyang 110.36 73 PKP **PKiKP 08 51 06.9 +1.6**
GYA AMB AMB
comp=Z,430nm,6.8s
GYA LR LR
comp=Z,1μm,17.2s
GOMU GeErMu 111.16 58 PKP **PKiKP 08 51 11.1 +4.3**
GOMU LR LR
comp=Z,650nm,17.4s
GOMU LR LR
comp=Z,490nm,17.9s
GOMU LR LR
comp=Z,820nm,18.4s
HKPS Hong Kong Po S 111.68 81 IAMs_20 IAMs_20 09 30 21.8
comp=Z,1μm,21.0s
KONO Kongsberg 111.84 356 IAMs_20 IAMs_20 09 41 54.1
comp=Z,2μm,20.0s
CD2 Chengdu 112.03 68 PKP **PKiKP 08 51 11.1 +2.9**
CD2 SKS **SKSdf 08 58 18.8 -1.7**
CD2 SKKS **SKKSac 08 58 52.5 -2.2**
CD2 SS **SS 09 07 27.4 -3.3**
CD2 AMB AMB
comp=Z,510nm,6.2s
CD2 LR LR
comp=Z,1μm,20.2s
CD2 LR LR
comp=Z,1μm,22.2s
CD2 LR LR
comp=Z,2μm,21.2s
BRZS Berezniki 112.40 35 *e*PP **PP 08 51 56.9 +2.1**
baz=36
MAKZ Makanchi 113.39 43 IAMs_20 IAMs_20 09 44 32.9
comp=Z,2μm,20.0s
MK31 Makanchi Array 113.51 43 ‖ *i*PKIKP **PKiKP 08 51 10.1 -0.4**
MKAR Makanchi Array 113.51 43 Pdiff **Pdif 08 47 18.9 +1.2**
comp=Z,1.5nm,1.0s,baz=232,slow=6.0,SNR=4.2

MKAR					PKKPbc	PKKPab	09 02 03.5	+4.6
	comp=Z,1.2nm,1.0s,baz=42,slow=2.0,SNR=3.9								
WMQ	Urumqi	113.54	48	*e*PKP	PKiKP		08 51 10.8	+0.1
WMQ				LR	LR				
	comp=Z,970nm,20.7s								
WMQ				LR	LR				
	comp=Z,710nm,20.7s								
WMQ				LR	LR				
	comp=Z,1μm,25.3s								
ARU	Arti	113.75	24	*i* PKIKP	PKiKP		08 51 10.8	+0.3
ARU							08 52 08.0	
ARU				PPP	PPP		08 54 30.8	
ARU							08 58 23.0	
ARU				SP	SP		09 01 44.5	+5.6
ARU				SS	SS		09 07 47.6	-5.1
ARU				SSS	SSS		09 12 07.7	
ARU				MLR	MLR			
	comp=Z,4μm,20.0s								
ARU	Arti	113.75	24	PKKPbc	PKKPbc		09 01 58.9	+5.6
	comp=Z,2.5nm,0.3s,baz=31,slow=2.9,SNR=5.3								
BRVK	Borovoye	114.17	32	*d i* PKIKP	PKiKP		08 51 11.7	+0.2
BRVK				MLR	MLR				
	comp=Z,2μm,19.0s								
BVAR	Borovoye Array	114.18	32	PKP	PKPdf		08 51 10.1	-1.4
	comp=Z,3.9nm,0.8s,baz=205,slow=3.1,SNR=14								
BVAR				PKKPbc	PKKPab		09 01 54.8	-0.7
	comp=Z,1.4nm,0.6s,baz=93,slow=3.0,SNR=5.0								
KLMR	Klimovskoe	114.34	12	*e*PKPdf	PKiKP		08 51 12.5	+0.9
KLMR				AMP			08 51 15.8	
	comp=Z,11nm,1.4s								
KLMR				*e*PP	PP		08 52 09.7	+1.3
KLMR				*e*SP	SP		09 01 45.1	+1.0
KLMR				LQ	LQ		09 26 21.3	
KLMR				LQ	LQ		09 26 21.3	
KLMR				LR	LR		09 30 47.3	
KLMR				AMP			09 46 23.8	
	comp=Z,2μm,17.1s								
KLMR	Klimovskoe	114.34	12	*e*PKIKP	PKiKP		08 51 12.4	+0.9
KLMR				*e*			08 52 09.7	
KLMR				*e*SP	SP		09 01 45.1	+1.0
KLMR				pmax	pmax			
	comp=Z,11nm,1.4s								
ENH	Enshi	114.85	72	IAMs_20	IAMs_20		09 37 01.4	
	comp=Z,1μm,19.0s								
KURBB	Kurchatov Arra	115.07	38	PKP	PKPdf		08 51 12.9	-0.4
	comp=Z,2.1nm,0.9s,baz=224,slow=2.8,SNR=4.5								
KURBB				PKKPbc	PKKPab		09 01 53.2	+1.4
	comp=Z,3.7nm,1.1s,baz=25,slow=4.3,SNR=12								
ZSN	Zaisan	115.11	44	*e*PKP	PKPdf		08 51 12.6	-0.9
	baz=44								
ZSN	Zaisan	115.11	44	*e*PKIKP	PKPdf		08 51 12.5	-0.9
KURK	Kurchatov	115.18	38	IAMs_20	IAMs_20		09 38 17.4	
	comp=Z,2μm,21.0s								
KURK	Kurchatov	115.18	38	PKIKP	PKPdf		08 51 12.9	-0.5
KNMB	Chin-men Tao	115.89	83	IAMs_20	IAMs_20		09 37 04.4	
	comp=Z,1μm,19.0s								
TAOE	Nuku Hiva Isla	115.90	205	*e*P	PKiKP		08 51 10.9	-5.3
	comp=Z,99nm,25.2s								
TAOE				*e*S			08 58 59.3	
	comp=Z,918nm,25.0s								
TAOE				*e*SS	SS		09 08 25.0	+5.1
	comp=Z,964nm,25.3s								
TAOE	Nuku Hiva Isla	115.90	205	*e*LR	LR		09 26 04.6	
	comp=Z,3μm,32.6s								
PRGR	Permogore	115.96	15	*e*PKIKP	PKPdf		08 51 09.6	-5.0
PRGR				pmax	pmax			
	comp=Z,6.0nm,0.8s								
GTA	Gaotai	116.18	59	*e*PKP	PKiKP		08 51 16.9	+0.9
GTA				LR	LR			
	comp=Z,1μm,24.4s								
GTA				LR	LR				
	comp=Z,920nm,24.0s								
GTA				LR	LR				
	comp=Z,2μm,24.4s								
DWPF	Disney Wildern	116.67	282	IAMs_20	IAMs_20		09 36 07.5	
	comp=Z,1μm,22.0s								
YULB	Yu-li	116.87	86	IAMs_20	IAMs_20		09 33 10.3	
	comp=Z,2μm,21.0s								
XAN	Xi'an	117.28	69	PKP	PKPdf		08 51 17.8	-0.3
XAN				LR	LR			
	comp=Z,3μm,20.6s								
XAN				LR	LR				
	comp=Z,2μm,16.0s								
XAN				LR	LR				
	comp=Z,3μm,20.5s								
WHN	Wuhan	117.92	75	PKPbc	PKiKP		08 51 27.3	+7.9
WHN				PP	PP		08 52 42.3	+8.4
WHN	Wuhan	117.92	75	SS	SS		09 08 57.6	+10
WHN				LR	LR			
	comp=Z,4μm,18.5s								
Y60A	Bolivia	119.03	289	IAMs_20	IAMs_20		09 39 27.0	
	comp=Z,979nm,20.0s								
LYN	LuoYang	119.68	71	⇑PKP	PKPdf		08 51 22.5	-0.2
LYN				sPKP			08 51 30.3	
LYN				SS	SS		09 09 14.3	+3.5
LYN				AMB	AMB			
	comp=Z,1μm,6.9s								
LYN				LR	LR				
	comp=Z,2μm,17.4s								
LYN				LR	LR				
	comp=Z,1μm,22.6s								
LYN				LR	LR				
	comp=Z,3μm,19.4s								
ZAA0	Zalesovo Array	120.08	39	IAMs_20	IAMs_20		09 43 37.2	
	comp=Z,1μm,20.0s								
ZALV	Zalesovo Beam	120.08	39	PKKPbc	PKKPbc		09 01 33.4	+2.6
	comp=Z,0.8nm,0.3s,baz=343,slow=1.5,SNR=4.8								
APA	Apatity	120.28	7	⇓*i* PKIKP	PKPdf		08 51 22.5	-0.3
APA				*i*			08 52 55.0	
APA				pmax	pmax			
	comp=Z,6.0nm,1.4s								
APA				MLR	MLR			
	comp=Z,500nm,22.0s								
T60A	Surry	120.41	292	IAMs_20	IAMs_20		09 31 54.4	
	comp=Z,1μm,22.0s								
LVZ	Lovozero	120.70	8	⇓*i* PKIKP	PKPdf		08 51 23.0	-0.6
JSC	Jenkinsville	121.00	287	IAMs_20	IAMs_20		09 40 59.2	
	comp=Z,1μm,21.0s								
352A	Blakely	121.19	282	IAMs_20	IAMs_20		09 41 22.0	
	comp=Z,1μm,19.0s								
HRV	Adam Dziewonsk	121.32	300		PKPdf		08 51 24.9	-0.7
HRV	Adam Dziewonsk	121.32	300	IAMs_20	IAMs_20		09 41 12.2	
	comp=Z,870nm,19.0s								
HRV	Adam Dziewonsk	121.32	300	P	PKiKP		08 51 25.8	+0.1
	baz=134								
HRV	Adam Dziewonsk	121.32	300	PKIKP	PKPdf		08 51 24.9	-0.7
HRV				MLR	MLR			
	comp=Z,900nm,19.0s								
PAL	Palisades	121.54	297	P	PKPdf		08 51 25.6	-0.5
	baz=134								
KMSC	Kings Mountain	121.65	288	P	PKPdf		08 51 25.6	-0.9
	baz=135								
NJ2	Nanjing	121.68	77	*e*PKP	PKPdf		08 51 26.3	-0.3
NJ2				LR	LR			
	comp=Z,1μm,19.9s								
NJ2				LR	LR				
	comp=Z,1μm,13.3s								
NJ2				LR	LR				
	comp=Z,2μm,17.0s								
GOGA	Godfrey	121.69	285	P	PKPdf		08 51 25.9	-0.7
	baz=135								
ARCES	ARCESS Array B	121.78	4		PKPdf		08 51 25.7	+0.1
ARCES	ARCESS Array B	121.78	4	PKIKP	PKPdf		08 51 25.7	+0.1
ARCES	ARCESS Array B	121.78	4	PKP	PKPdf		08 51 25.3	-0.3
	comp=Z,7.4nm,0.9s,baz=177,slow=2.4,SNR=11								
K62A	Royalston	121.79	300	IAMs_20	IAMs_20		09 34 56.6	
	comp=Z,1μm,20.0s								
TRNY	Table Rock, Ra	121.81	297	IAMs_20	IAMs_20		09 34 13.1	
	comp=Z,1μm,20.0s								
L61B	Northampton	121.88	299	P	PKPdf		08 51 26.3	-0.3
	baz=134								
152A	Waverly Hall	121.91	283	PKPdf	PKPdf		08 51 25.4	-1.6
PKME	Peaks-Kenny Pk	122.06	304	P	PKPdf		08 51 25.8	-1.1
	baz=134								
KEV	Kevo	122.06	4	IAMs_20	IAMs_20		09 44 44.5	
	comp=Z,2μm,22.0s								
250A	Grady	122.35	282	IAMs_20	IAMs_20		09 37 26.0	
	comp=Z,2μm,22.0s								
BG3	Lake Jocassee	122.48	286	PKPdf	PKPdf		08 51 27.8	-0.3
BTO	Baotou	122.53	64	*e*PKP	PKPdf		08 51 25.6	-2.5
BTO				PP	PP		08 53 06.1	+0.4
BTO				SS	SS		09 09 49.8	+2.4
BTO				LR	LR			
	comp=Z,2μm,20.5s								
BTO				LR	LR				
	comp=Z,3μm,18.5s								
BTO				LR	LR				
	comp=Z,4μm,23.7s								
BLA	Blacksburg	122.56	290	P	PKPdf		08 51 27.6	-0.6
	baz=134								
LBNH	Lisbon	122.71	301	P	PKPdf		08 51 27.2	-1.0
	baz=133								
HNS	HongShan	122.97	70	⇓PKP	PKPdf		08 51 28.3	-0.6
HNS				PP	PP		08 53 13.9	+5.4
HNS				LR	LR			
	comp=Z,1μm,16.8s								
HNS				LR	LR				
	comp=Z,1μm,18.1s								
SSPA	Standing Stone	123.47	295	P	PKPdf		08 51 29.0	-0.8
	baz=133								
BINY	Binghamton	123.49	297	P	PKPdf		08 51 29.7	-0.1
	baz=133								
LRAL	Lakeview Retre	123.53	282	P	PKPdf		08 51 29.4	-0.7
	baz=135								
HHC	Hu-ho-hao-te	123.55	65	*e*PKP	PKPdf		08 51 25.5	-4.6
HHC				SS	SS		09 10 06.0	+5.6
HHC				AMB	AMB			
	comp=Z,1μm,8.3s								
HHC				LR	LR				
	comp=Z,2μm,18.6s								
HHC				LR	LR				
	comp=Z,2μm,19.6s								
HHC				LR	LR				
	comp=Z,4μm,19.1s								
MCWV	Mont Chateau	123.91	293	P	PKPdf		08 51 29.6	-1.0
	baz=133								
TZTN	Tazewell	123.92	287	P	PKPdf		08 51 30.0	-0.8
	baz=134								
R53A	Hurricane	124.21	290		PKPdf		08 51 31.1	-0.1
LONY	Lake Ozonia	124.37	300	P	PKPdf		08 51 31.1	-0.3
	baz=132								
146A	Union	124.49	280	IAMs_20	IAMs_20		09 40 35.7	
	comp=Z,1μm,22.0s								
VBMS	Vicksburg	125.08	279	P	PKPdf		08 51 31.4	-1.7
	baz=134								
O53A	New Philadelph	125.08	292	P	PKPdf		08 51 31.6	-1.3
	baz=132								
P52A	Corning	125.19	291	P	PKPdf		08 51 32.1	-1.0
	baz=132								
SONM	Songino Array	125.47	56	PKP	PKPdf		08 51 32.8	-0.8
	comp=Z,5.1nm,0.9s,baz=229,slow=1.7,SNR=18								
SONM				SKKPbc	SKKPbc		09 05 08.1	+6.0
	comp=Z,1.6nm,1.0s,baz=48,slow=2.2,SNR=5.7								
MEDO	Medina	125.49	297	IAMs_20	IAMs_20		09 37 12.5	
	comp=Z,871nm,18.0s								
M53A	WI Miller and	125.57	294	P	PKPdf		08 51 32.8	-1.0
	baz=132								
BJT	Baijiatuau	125.59	69	IAMs_20	IAMs_20		09 41 50.9	
	comp=Z,969nm,20.0s								
BJI	Beijing	125.61	69	PKP	PKPdf		08 51 33.9	+0.1
BJI				LR	LR			
	comp=Z,690nm,18.7s								
BJI				LR	LR				
	comp=Z,610nm,17.6s								
BJI				LR	LR				
	comp=Z,650nm,24.5s								
ZAK	Zakamensk	125.61	52	*e*PKIKP	PKPdf		08 51 32.0	-1.7
ZAK				pmax	pmax			
	comp=Z,27nm,1.8s								
ULN	Ulaanbaatar	125.83	56	*d i* PKIKP	PKiKP		08 51 35.0	+0.3
T47A	Sharon Grove	126.31	285	IAMs_20	IAMs_20		09 38 06.7	
	comp=Z,1μm,21.0s								
P49A	Miami Univ. Ec	126.61	289	P	PKPdf		08 51 34.4	-1.5
	baz=132								
WCI	Wyandotte Cave	126.67	287	P	PKPdf		08 51 35.1	-0.8
	baz=132								
HKT	Hockley	126.73	273	⇓*i* PKIKP	PKPdf		08 51 36.1	-0.2
NATX	Nacogdoches	127.28	275	P	PKPdf		08 51 36.6	-0.8
	baz=134								
SCHQ	Schefferville	127.29	314	PKP	PKPdf		08 51 36.7	0.0
	comp=Z,17nm,0.8s,baz=174,slow=1.7,SNR=13								
IRK	Irkutsk	127.30	51	*e*PKHKP	PKPpre		08 51 12.5	
IRK				pmax	pmax			
	comp=Z,126nm,0.1s								
O48B	Farmland	127.34	290	P	PKPdf		08 51 36.7	-0.5
	baz=131								
PARMO	Parma	127.66	283	IAMs_20	IAMs_20		09 37 51.6	
	comp=Z,1μm,21.0s								
833A	Chaparral WMA,	127.75	269	P	PKPdf		08 51 38.3	0.0
	baz=136								
AAM	Ann Arbor	127.82	293	P	PKiKP		08 51 38.9	+0.3
	baz=130								
XLT	XiLinHaoTe	128.08	65	*e*PKP	PKPdf		08 51 38.8	+0.2
XLT				LR	LR			
	comp=Z,790nm,12.6s								
XLT				LR	LR				
	comp=Z,760nm,19.7s								
435B	Jarrell	128.39	272	P	PKPdf		08 51 39.7	+0.2
	baz=135								
MIAR	Mount Ida	128.54	279	P	PKiKP		08 51 40.1	-0.2
	baz=133								
SFIN	Lafayette	128.55	289	P	PKPdf		08 51 39.3	-0.2
	baz=131								
WHTX	Lake Whitney,	129.15	273	P	PKPdf		08 51 40.7	-0.2
	baz=134								
CCM	Cathedral Cave	129.47	284	P	PKPdf		08 51 41.1	-0.2
	baz=131								
JCT	Junction City	129.53	270	P	PKPdf		08 51 41.0	-0.7
	baz=135								
HDIL	Hopedale	129.94	287	P	PKPdf		08 51 41.6	-0.6
	baz=130								
GLMI	Grayling	129.96	295	P	PKPdf		08 51 41.7	-0.3
	baz=128								
L44A	Lake County Fo	130.17	290	P	PKPdf		08 51 41.5	-1.0
	baz=129								
SUMG	Summit	130.43	341	PKPdf	PKPdf		08 51 41.9	-0.7
SUMG	Summit	130.43	341	PKIKP	PKPdf		08 51 41.9	-0.7
RLO	Rose Lookout	130.50	279	IAMs_20	IAMs_20		09 56 16.8	
	comp=Z,2μm,20.0s								
KSAR	Wonju Array Be	130.77	79	PKPdf	PKPdf		08 51 43.2	-0.6
KSAR	Wonju Array Be	130.77	79	PKIKP	PKPdf		08 51 43.2	-0.6
TUL3	Leonard	130.79	278	PKPdf	PKPdf		08 51 43.1	-0.9
TUL3	Leonard	130.79	278	P	PKPdf		08 51 44.1	+0.2
	baz=132								
ABTX	Abilene, Hawle	130.93	272	P	PKPdf		08 51 44.7	+0.4
	baz=134								
TXAR	Lajitas Array	131.09	266	PKP	PKPdf		08 51 45.2	+0.4
	comp=Z,9.3nm,1.1s,baz=148,slow=2.8,SNR=26								
TXAR				SKKPbc	SKKPbc		09 04 46.6	+6.5
	comp=Z,1.4nm,1.1s,baz=300,slow=2.5,SNR=4.1								
DEOK	Depew	131.18	278		PKPdf		08 51 45.0	+0.4
QUOK	Quay	131.52	278	IAMs_20	IAMs_20		09 58 28.9	
	comp=Z,2μm,19.0s								
WMOK	Wichita Mounta	131.83	275	PKPdf	PKPdf		08 51 45.1	-0.8
WMOK	Wichita Mounta	131.83	275	P	PKPdf		08 51 45.8	-0.2
	baz=132								
WMOK	Wichita Mounta	131.83	275	PKIKP	PKPdf		08 51 45.1	-0.8
T35A	Sooner Cattle	131.89	279	PKPdf	PKPdf		08 51 46.0	0.0
JFWS	Jewell Farm	131.98	289	IAMs_20	IAMs_20		09 41 45.7	
	comp=Z,2μm,21.0s								
JFWS	Jewell Farm	131.98	289	P	PKPdf		08 51 45.5	-0.5
	baz=128								
SCIA	State Center	133.09	286	P	PKPdf		08 51 48.2	+0.2
	baz=126								
HIA	Hailar	133.34	61	IAMs_20	IAMs_20		09 44 49.8	
	comp=Z,2μm,22.0s								
AMTX	Amarillo	133.70	273	P	PKPdf		08 51 49.3	-0.3
	baz=132								
MSTX	Muleshoe	133.76	271	IAMs_20	IAMs_20		09 45 39.1	
	comp=Z,1μm,18.0s								
MSTX	Muleshoe	133.76	271	P	PKPdf		08 51 49.6	-0.1
	baz=133								
MNTX	Cornudas Mount	133.80	267	P	PKPdf		08 51 49.0	-0.7
	baz=134								
R32A	Long Quarter,	134.20	279	PKPdf	PKPdf		08 51 49.9	-0.4
SPMN	Marine on St.	134.84	290	P	PKPdf		08 51 51.3	0.0
	baz=126								
CBKS	Cedar Bluff	135.07	279	P	PKPdf		08 51 51.9	-0.1
	baz=129								
EYMN	Ely	135.64	294	P	PKPdf		08 51 53.0	+0.3
	baz=124								
BGNE	Belgrade	135.72	283	P	PKPdf		08 51 53.4	+0.4
	baz=127								
121A	Cookes Peak, D	135.85	266	P	PKPdf		08 51 54.2	+0.4
	baz=134								
ECSD	EROS Data Cent	136.19	286	P	PKPdf		08 51 54.3	+0.5
	baz=126								
MDJ	Mudanjiang	136.22	72	PKP	PKiKP		08 51 54.8	-0.7
MDJ				SS	SS		09 12 36.3	+0.4
MDJ				AMB	AMB			
	comp=Z,820nm,6.8s								
MDJ				LR	LR				
	comp=Z,1μm,22.1s								
Y22D	IRIS PASSCAL I	136.37	268	P	PKPdf		08 51 54.9	+0.3
	baz=132								
Y22F	Passcal Instru	136.37	268	P	PKPdf		08 51 54.5	-0.2
	baz=132								
MAJO	Matsushiro	136.46	87	⇓*i* PKIKP	PKPdf		08 51 55.0	+0.4
MJAR	Matsushiro Arr	136.46	87	PKP	PKiKP		08 51 56.0	-0.3
	comp=Z,22nm,1.3s,baz=242,slow=2.4,SNR=4.2								
ANMO	Albuquerque	136.67	269	P	PKPdf		08 51 55.7	+0.4
	baz=132								
ANMO	Albuquerque	136.67	269	PKP	PKPdf		08 51 55.1	-0.1
	comp=Z,5.0nm,1.0s,baz=250,slow=3.6,SNR=3.7								
VLA	Vladivostok	136.70	75	⇑*e*PKIKP	PKPdf		08 51 54.4	-0.3
T25A	Trinidad	136.85	273	P	PKPdf		08 51 55.9	+0.4
	baz=130								
KSCO	Kaye Shedlock'	136.94	277	P	PKPdf		08 51 55.1	-0.4
	baz=129								
USA0B	Ussuriysk Arra	137.38	74	⇓*e*PKIKP	PKPdf		08 51 54.6	-1.4
USRK	Ussuriysk Ar.	137.38	74	PP	PP		08 54 49.3	+7.1
	comp=Z,1.1nm,0.7s,baz=172,slow=5.4,SNR=4.3								
TUC	Tucson	137.52	263	PKPdf	PKPdf		08 51 57.3	+0.5
TUC	Tucson	137.52	263	P	PKPdf		08 51 55.8	-0.9
	baz=134								
TUC	Tucson	137.52	263	PKIKP	PKPdf		08 51 57.3	+0.5
OGNE	Ogallala	137.77	279	IAMs_20	IAMs_20		09 44 17.8	
	comp=Z,2μm,22.0s								
OGNE	Ogallala	137.77	279	P	PKPdf		08 51 57.6	+0.7
	baz=127								
SDCO	Great Sand Dun	137.90	273	P	PKPdf		08 51 57.6	+0.1
	baz=130								
SUSD	Miller	137.97	286	P	PKPdf		08 51 57.7	+0.6
	baz=125								
HEH	HeiHe	138.05	64	PKP	PKPdf		08 51 55.4	-1.6
HEH				PP	PP		08 54 46.3	0.0
HEH				AMB	AMB			
	comp=Z,1μm,5.2s								
HEH				LR	LR				
	comp=Z,980nm,18.7s								
HEH				LR	LR				
	comp=Z,2μm,17.6s								
HEH				LR	LR				
	comp=Z,3μm,18.8s								
214A	Organ Pipe Nat	138.51	261	P	PKPdf		08 51 59.1	+0.6
	baz=135								
S22A	4UR Ranch, Cre	138.72	272	P	PKPdf		08 51 59.3	+0.3
	baz=130								
W18A	Petrified Fore	138.79	267	P	PKPdf		08 51 59.7	+0.5
	baz=132								
ISCO	Idaho Springs	139.25	276	P	PKPdf		08 52 00.2	+0.2
	baz=128								
ULM	Lac du Bonnet	139.30	295	PKP	PKPdf		08 51 58.9	-0.4
	comp=Z,6.0nm,1.0s,baz=140,slow=11,SNR=3.0								
ULM				PP	PP		08 54 58.8	+4.7
	comp=Z,11nm,1.1s,baz=154,slow=3.9,SNR=4.0								
MVCO	Mesa Verde	139.40	270	P	PKPdf		08 52 00.3	0.0
	baz=130								
ZEA	Zeya	139.67	59	*e*PKIKP	PKiKP		08 52 03.3	+1.1
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.5s								
KLR	Kul'dur	139.96	68	⇓*e*PKIKP	PKPdf		08 51 59.3	-1.2
WUAZ	Wupatki	140.06	266	P	PKPdf		08 52 02.2	+0.8
	baz=132								
N23A	Red Feather La	140.11	277	P	PKPdf		08 52 01.4	-0.1
	baz=127								
MDND	Maddock	140.20	290	P	PKPdf		08 52 00.9	-0.2
	baz=121								
GLA	Glamis	140.49	260	P	PKPdf		08 52 00.9	-1.2
	baz=134								
BLYC	Blythe	140.79	261	IAMs_20	IAMs_20		09 46 54.2	
	comp=Z,1μm,20.0s								
RSSD	Black Hills	140.82	282	PKPdf	PKPdf		08 52 01.4	-1.2
RSSD	Black Hills	140.82	282	P	PKPdf		08 52 02.2	-0.4
	baz=124								
RSSD	Black Hills	140.82	282	PKIKP	PKPdf		08 52 01.4	-1.2
YUH	Yuha Desert	140.87	259	IAMs_20	IAMs_20		09 44 37.3	
	comp=Z,1μm,19.0s								
RMX	La Rumorosa	140.93	258	IAMs_20	IAMs_20		09 53 06.2	
	comp=Z,2μm,21.0s								
PDMCI	Parker Dam,Lak	140.93	262	P	PKPdf		08 52 02.9	+0.1
	baz=133								
IKP	In-Ko-Pah, Jac	140.98	258	P	PKPdf		08 52 03.0	-0.1
	baz=135								
SWSC	Sam W. Stewart	141.00	259	P	PKPdf		08 52 03.0	+0.1
	baz=134								
O20A	White River Ci	141.06	274	P	PKPdf		08 52 03.2	0.0
	baz=127								
BC3	Big Chuckawall	141.28	260	P	PKPdf		08 52 03.7	0.0
	baz=134								
MONP2	Monument Peak	141.34	258	P	PKPdf		08 52 03.4	-0.5
	baz=134								
IRM	Iron Mountain	141.44	261	P	PKPdf		08 52 03.7	-0.1
	baz=133								
TJX	Tijuana	141.45	257	IAMs_20	IAMs_20		10 09 03.7	
	comp=Z,2μm,20.0s								
K22A	Casper	141.49	279	P	PKPdf		08 52 03.5	-0.3
	baz=125								
NEE2	Needles Airpor	141.54	262	P	PKPdf		08 52 04.0	+0.1
	baz=132								
109C	Camp Elliot, M	141.75	258	P	PKPdf		08 52 04.5	+0.2
	baz=135								
BELC	Belle Mtn. Jos	141.85	260	P	PKPdf		08 52 05.5	+0.8
	baz=133								
TPFO	Pinon Flats	141.85	259	P	PKPdf		08 52 06.0	+1.3
	baz=134								
PFO	Pinyon Flats O	141.86	259	IAMs_20	IAMs_20		09 41 52.5	
	comp=Z,1μm,19.0s								
PFO	Pinyon Flats O	141.86	259	P	PKiKP		08 52 06.5	-1.1
	baz=134								
PFO	Pinyon Flats O	141.86	259	PKP	PKPdf		08 52 04.2	-0.5
	comp=Z,5.0nm,1.1s,baz=86,slow=1.1,SNR=6.3								
GMRC	Granite Mounta	142.18	261	P	PKPdf		08 52 06.0	+0.8
	baz=133								
P17A	Butcher Ranch,	142.19	271		PKPdf		08 52 04.0	-1.1
MURC	Murrieta	142.29	259	P	PKPdf		08 52 04.8	-0.6
	baz=134								
V12A	Nelson	142.32	263	PKPdf	PKPdf		08 52 04.5	-0.9
BBRC	Big Bear Solar	142.59	260	P	PKPdf		08 52 05.6	-0.5
	baz=133								
HEC	Hector,Ludlow	142.62	261	P	PKPdf		08 52

TPNV	Topopah Spring	143.97	264		PKPdf	08 52 07.6	-0.8
TPNV	Topopah Spring	143.97	264	P	PKPdf	08 52 07.6	-0.8
	baz=131,SNR=11						
TPNV	Topopah Spring	143.97	264	PKIKP	PKPdf	08 52 07.6	-0.8
YAK	Yakutsk	143.98	48	PKPdf	PKPab	08 52 04.7	0.0
YAK				IAMs_20	IAMs_20	10 05 07.3	
	comp=Z,2μm,19.0s						
YAK	Yakutsk	143.98	48c	*i*PKIKP	PKPab	08 52 04.5	-0.1
YAK				*e*		08 52 07.9	
YAK				*e*		08 55 18.8	
YAK				pmax	pmax		
	comp=Z,100nm,1.1s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,38nm,1.5s						
YAK				pmax	pmax		
	comp=Z,482nm,3.8s						
YAK				pmax	pmax		
	comp=N,470nm,4.1s						
YAK				pmax	pmax		
	comp=E,481nm,3.5s						
FURC	Furnace Creek,	144.03	262	P	PKPdf	08 52 08.5	+0.3
	baz=131,SNR=7.2						
WCT	Wildcat Mounta	144.10	263	IAMs_20	IAMs_20	10 10 15.8	
	comp=Z,1μm,18.0s						
MPMC	Manual Prospec	144.14	261	P	PKPdf	08 52 08.8	+0.1
	baz=132,SNR=9.9						
ARVC	Arvin	144.32	259	P	PKPbc	08 52 07.5	+0.3
	baz=133						
SBC	Santa Barbara	144.38	257	P	PKPbc	08 52 07.6	+0.3
	baz=134						
R11B	Troy Canyon, C	144.46	266	P	PKPdf	08 52 08.7	-0.5
	baz=129,SNR=32						
ISA	Isabella, Lake	144.47	260	P	PKPdf	08 52 08.7	-0.5
	baz=132,SNR=22						
RLMT	Red Lodge	144.50	280	P	PKPdf	08 52 08.5	-0.5
	baz=122						
LOHW	Long Hollow	144.50	277	PKPdf	PKPab	08 52 07.2	-0.4
FFC	Flin Flon	144.62	299	PKPdf	PKPbc	08 52 07.7	+0.2
FFC	Flin Flon	144.62	299	PKIKP	PKPbc	08 52 07.7	+0.2
TPAW	Teton Pass	144.65	277	PKPdf	PKPbc	08 52 08.3	0.0
GRAC	Grapevine Rang	144.68	263	P	PKPab	08 52 08.0	-0.2
	baz=131,SNR=35						
CWC	Cottonwood Cre	144.75	261	P	PKPab	08 52 07.5	-1.1
	baz=131						
PKM	Mcpherson Peak	144.75	258	P	PKPab	08 52 07.5	-1.2
	baz=133						
GMN	Gold Mountain	144.81	263		PKPab	08 52 08.0	-0.9
ID08	Devils Gate	144.86	275	IAMs_20	IAMs_20	10 10 53.5	
	comp=Z,771nm,20.0s						
H17A	Grant Village	144.91	278	P	PKPdf	08 52 09.9	0.0
	baz=122						
VES	Vestal, Richgr	144.96	260	P	PKPbc	08 52 09.4	+0.3
	baz=132,SNR=9.1						
SMMC	Simmler	145.15	258	P	PKPdf	08 52 10.3	0.0
	baz=133						
TIN	Tinemaha, Big	145.24	262	P	PKPbc	08 52 10.2	0.0
	baz=131						
YSS	Yuzh-Sakhalins	145.24	77d	*i*PKIKP	PKPbc	08 52 08.9	-0.8
TIXI	Tiksi	145.30	31		PKPbc	08 52 08.1	-1.1
TIXI				IAMs_20	IAMs_20	10 08 28.2	
	comp=Z,1μm,20.0s						
TIXI	Tiksi	145.30	31	PKIKP	PKPbc	08 52 08.1	-1.1
VOG	Valley Oaks Go	145.46	260	P	PKPdf	08 52 10.4	-0.3
	baz=132						
ELK	Elko	145.71	270	PKPbc	PKPbc	08 52 11.7	0.0
	comp=Z,34nm,0.9s,baz=81,slow=6.7,SNR=77						
UGL	Uglegorsk	145.84	73	*e*PKP2	PKiKP	08 52 17.2	+2.2
UGL				pmax	pmax		
	comp=Z,240nm,1.3s						
UGL				pmax	pmax		
	comp=Z,3μm,5.0s						
MLAC	Mammoth, Mammo	145.98	262	P	PKPab	08 52 13.1	-0.1
	baz=130						
NVAR	Mina Array Bea	146.17	264	PKPbc	PKPbc	08 52 13.3	+0.1
	comp=Z,35nm,0.8s,baz=137,slow=4.1,SNR=164						
BOZ	Bozeman (W)	146.17	279	P	PKPdf	08 52 12.1	+0.3
	baz=121,SNR=37						
EGMT	Eagleton	146.23	284	P	PKPdf	08 52 11.8	0.0
	baz=118,SNR=5.7						
SDHHI	Sand Hill	146.50	193	IAMs_20	IAMs_20	09 45 45.2	
	comp=Z,2μm,20.0s						
DLMT	Dillon	146.64	278	IAMs_20	IAMs_20	09 56 59.9	
	comp=Z,1μm,20.0s						
HLID	Hailey	146.80	274	P	PKPbc	08 52 14.0	-0.9
	baz=123						
TYV	Tymovskoe	146.95	71	*e*PKP2	PKPbc	08 52 14.1	-0.7
TYV				pmax	pmax		
	comp=Z,2μm,5.3s						
TYV				pmax	pmax		
	comp=Z,98nm,1.5s						
MSO	Missoula	148.18	280	IAMs_20	IAMs_20	09 51 12.5	
	comp=Z,1μm,19.0s						
MSO	Missoula	148.18	280	P	PKPdf	08 52 15.2	+0.1
	baz=118						
PLTX	Planet X, Gerl	148.27	266	IAMs_20	IAMs_20	09 58 42.4	
	comp=Z,753nm,18.0s						
NEW	Newport	150.75	280	P	PKPdf	08 52 18.0	-1.0
	baz=116						
NEW	Newport	150.75	280	PKP	PKPdf	08 52 17.9	-1.2
	comp=Z,3.1nm,1.1s,baz=29,slow=2.1,SNR=4.6						
NEW				PKPbc	sPKPdf	08 52 22.7	+1.9
	comp=Z,6.1nm,0.8s,baz=119,slow=4.7,SNR=9.3						
YBH	Yreka Blue Hor	150.85	265	PKPbc	PKPbc	08 52 23.7	-1.5
	comp=Z,14nm,1.1s,baz=336,slow=1.5,SNR=11						
I04A	Tendick Farm,	151.82	269	PKPdf	PKPdf	08 52 19.3	-1.6
I04A				PKPbc	PKPbc	08 52 25.8	-1.4
I04A				PKPab	PKPab	08 52 35.2	-1.1
YKA	Yellowknife Ar	152.68	311	PKPdf	PKPdf	08 52 19.6	-1.8
YKA				PKPab	PKPab	08 52 36.7	-2.7
YKA	Yellowknife Ar	152.68	311	PKP	PKPdf	08 52 18.6	-2.8
	comp=Z,2.2nm,0.9s,baz=90,slow=1.2,SNR=3.6						
YKA				PKPbc	PKPbc	08 52 26.2	-2.2
	comp=Z,2.2nm,0.5s,baz=87,slow=1.7,SNR=24						
A36M	Sachs Harbour	154.36	334	P	PKPdf	08 52 25.1	+1.5
	baz=60						
SEY	Seymchan	154.50	48⇑	*e*PKIKP	PKPdf	08 52 19.7	-4.3
LLLB	Lillooet	154.52	283	PKPdf	PKPdf	08 52 23.8	-0.7
LLLB				PKPab	PKPab	08 52 45.6	-2.0
WRGLY	Wrigley	156.67	313	P	PKPdf	08 52 26.9	0.0
	baz=81						
FLDN	Fort Liard	156.98	306	P	PKPdf	08 52 27.3	-0.2
	baz=88						
PET	Petropavlovsk	157.00	73	*i* PKIKP	PKPdf	08 52 21.1	-6.5
PET				*e*		08 56 36.8	
PET				*e*SS	SS	09 16 30.6	-0.7
KOTAN	Kotaneelee Air	157.27	305	P	PKPdf	08 52 27.4	-0.4
	baz=88						
LIRD	Liard River Hi	158.34	304	P	PKPdf	08 52 28.9	-0.2
	baz=88						
INK	Inuvik	158.71	330	P	PKPdf	08 52 28.2	-1.1
	baz=56						
TGTN	Hyland Airport	159.17	310	P	PKPdf	08 52 28.7	-1.4
	baz=80						
F31M	Tsiigehtchic	159.25	328	PKPdf	PKPdf	08 52 28.3	-1.6
F31M	Tsiigehtchic	159.25	328	P	PKPdf	08 52 28.8	-1.1
	baz=58						
D28M	Stokes Point	159.55	335	P	PKPdf	08 52 29.8	-0.5
	baz=46						
G31M	Satah River	159.70	327	IAMs_20	IAMs_20	10 10 19.0	
	comp=Z,1μm,21.0s						
G31M	Satah River	159.70	327	P	PKPdf	08 52 27.8	-2.7
	baz=58						
F30M	Barrier River	159.81	329	P	PKPdf	08 52 28.6	-2.1
	baz=55						
E29M	Blow River	159.95	333	P	PKPdf	08 52 28.8	-2.0
	baz=50						
D27M	Malcolm River	160.17	337		PKPdf	08 52 29.6	-1.5
D27M				PKPab	PKPab	08 53 10.3	-1.1
D27M	Malcolm River	160.17	337	P	PKPdf	08 52 29.6	-1.5
	baz=43						
E28M	Babbage River	160.26	334	P	PKPdf	08 52 29.7	-1.5
	baz=47						
H31M	Peel River	160.29	324	P	PKPdf	08 52 29.6	-1.7
	baz=61						
G30M	tAoh Zraii Nji	160.31	328	P	PKPdf	08 52 30.0	-1.2
	baz=55						
DLBC	Dease Lake	160.42	301	P	PKPdf	08 52 30.6	-1.1
	baz=86						
DLBC	Dease Lake	160.42	301	PKPab	PKPab	08 53 13.3	+0.4
	comp=Z,28nm,1.2s,baz=47,slow=2.6,SNR=5.4						
C26K	Camden Bay	160.51	341	P	PKPdf	08 52 29.7	-1.7
	baz=35						
T35M	Bob Quinn	160.59	297	P	PKPdf	08 52 30.5	-1.3
	baz=90						
R33M	Jennings River	160.82	304	P	PKPdf	08 52 31.4	-0.8
	baz=83						
EPYK	Eagle Plains	160.82	327	P	PKPdf	08 52 30.6	-1.3
	baz=56						
G29M	Pine Creek	160.92	329	P	PKPdf	08 52 31.0	-0.9
	baz=53						
A22K	Sinclair Lake	160.97	352	P	PKPdf	08 52 31.1	-0.7
	baz=16						
F28M	Old Crow	161.03	332	P	PKPdf	08 52 31.2	-0.8
	baz=48						
S34M	Telegraph Cree	161.04	300	P	PKPdf	08 52 30.5	-1.7
	baz=87						
E27K	Coleen River	161.10	335	PKPdf	PKPdf	08 52 30.4	-1.6
E27K	Coleen River	161.10	335	P	PKPdf	08 52 31.8	-0.3
	baz=44						
V35K	Ketchikan	161.28	292	P	PKPdf	08 52 31.3	-1.3
	baz=94						
D25K	Kavik River	161.29	341	P	PKPdf	08 52 30.8	-1.5
	baz=34						
I30M	Mount Dempster	161.32	324		PKPdf	08 52 30.8	-1.8
I30M				PKPab	PKPab	08 53 15.3	-1.4
I30M	Mount Dempster	161.32	324	P	PKPdf	08 52 32.4	-0.2
	baz=59						
FARO	Faro, Yukon	161.33	313	P	PKPdf	08 52 32.7	+0.2
	baz=72						
C24K	Franklin Bluff	161.37	344	P	PKPdf	08 52 32.0	-0.2
	baz=29						
B22K	Teshekpuk Lake	161.45	350	P	PKPdf	08 52 31.9	-0.4
	baz=19						
H29M	Whitestone	161.45	328	P	PKPdf	08 52 32.9	+0.4
	baz=54						
N32M	Quiet Lake	161.52	310	P	PKPdf	08 52 32.8	0.0
	baz=75						
Q32M	Nakina River	161.54	303	P	PKPdf	08 52 31.8	-1.3
	baz=83						
C23K	Itkillik River	161.56	346	P	PKPdf	08 52 32.0	-0.4
	baz=25						
P33M	Teslin, Yukon	161.61	307	P	PKPdf	08 52 32.3	-0.7
	baz=78						
J30M	Hart River	161.62	322	P	PKPdf	08 52 32.1	-0.8
	baz=61						
M31M	Drury Creek, Y	161.80	314	P	PKPdf	08 52 33.8	+0.8
	baz=70						
D24K	Happy Valley	161.89	344	P	PKPdf	08 52 32.6	-0.3
	baz=29						
MAYO	Mayo, Yukon	161.90	319	P	PKPdf	08 52 32.1	-1.0
	baz=64						
I29M	Ogilvie Camp,	161.93	325	P	PKPdf	08 52 32.7	-0.3
	baz=56						
T33K	Petersburg	162.07	296	P	PKPdf	08 52 33.1	-0.2
	baz=88						
G27K	Doyon Strip	162.09	332		PKPdf	08 52 31.4	-1.7
G27K				PKPab	PKPab	08 53 19.2	-0.7
G27K	Doyon Strip	162.09	332	P	PKPdf	08 52 32.9	-0.3
	baz=47						
F26K	Sheenjek River	162.11	336	P	PKPdf	08 52 32.6	-0.6
	baz=40						
E25K	Arctic Village	162.11	338	P	PKPdf	08 52 32.8	-0.4
	baz=37						
B20K	Meade River	162.11	353	P	PKPdf	08 52 33.2	+0.2
	baz=12						
CRAG	Craig	162.15	292	P	PKPdf	08 52 32.8	-0.6
	baz=92						
U33K	Whale Pass	162.17	294	P	PKPdf	08 52 32.0	-1.4
	baz=90						
P32M	Atlin	162.17	305	P	PKPdf	08 52 33.2	-0.2
	baz=79						
B21K	Ikpikpuk River	162.27	350	P	PKPdf	08 52 33.0	-0.2
	baz=18						
D23K	Nanushuk River	162.37	345	P	PKPdf	08 52 31.4	-1.9
	baz=26						
J29N	Klondike Camp	162.39	323	P	PKPdf	08 52 32.6	-1.0
	baz=58						
BMAR	Burnt Mountain	162.42	336	PKPdf	PKPdf	08 52 32.9	-0.7
I28M	Miner Creek	162.43	327		PKPdf	08 52 32.6	-1.1
I28M				PKPab	PKPab	08 53 20.6	-0.9
I28M	Miner Creek	162.43	327	P	PKPdf	08 52 32.3	-1.3
	baz=53						
K29M	Barlow Dome	162.43	321	PKPdf	PKPdf	08 52 32.3	-1.5
K29M				PKPab	PKPab	08 53 20.9	-0.7
K29M	Barlow Dome	162.43	321	P	PKPdf	08 52 33.2	-0.5
	baz=61						
H27K	Steamboat Moun	162.44	330	P	PKPdf	08 52 32.6	-0.9
	baz=48						
TOLK	Toolik Lake Re	162.47	343	P	PKPdf	08 52 32.1	-1.4
	baz=29						
WHY	Whitehorse	162.49	309	P	PKPdf	08 52 33.2	-0.7
	baz=74						
F25K	Christian Rive	162.55	337	P	PKPdf	08 52 33.6	0.0
	baz=38						
G26K	Porcupine Rive	162.58	334	P	PKPdf	08 52 34.0	+0.4
	baz=43						
N31M	Braeburn, Yuko	162.66	312	P	PKPdf	08 52 32.5	-1.4
	baz=71						
M30M	Minto, Yukon	162.70	316		PKPdf	08 52 31.6	-2.3
M30M				PKPab	PKPab	08 53 21.4	-1.3
M30M	Minto, Yukon	162.70	316	P	PKPdf	08 52 33.0	-0.9
	baz=66						
C21K	Knifeblade Rid	162.73	350	P	PKPdf	08 52 32.9	-0.8
	baz=18						
D22K	Ayikyak River	162.74	347	P	PKPdf	08 52 33.6	-0.1
	baz=22						
E24K	Your Creek	162.76	341	PKPdf	PKPdf	08 52 32.4	-1.5
E24K	Your Creek	162.76	341	P	PKPdf	08 52 30.6	-3.2
	baz=32						
R32K	Eaglecrest	162.79	301	P	PKPdf	08 52 31.2	-2.8
	baz=82						
I27K	Kandik River	162.88	329	P	PKPdf	08 52 30.9	-3.1
	baz=50						
S32K	Killisnoo	162.91	299	P	PKPdf	08 52 32.0	-2.2
	baz=85						
B18K	Kokolik River	162.96	358	P	PKPdf	08 52 31.2	-2.7
	baz=3.0						
E23K	Chandalar	162.99	343	P	PKPdf	08 52 31.8	-2.3
	baz=29						
SKAG	Skagway	163.00	306	P	PKPdf	08 52 32.7	-1.5
	baz=78						
L29M	L29M	163.02	319	P	PKPdf	08 52 31.9	-2.4
	baz=62						
DAWY	Dawson	163.03	323	P	PKPdf	08 52 31.5	-2.7
	baz=58						
O30N	Mendenhall	163.03	310	P	PKPdf	08 52 31.7	-2.6
	baz=72						
F24K	Squaw Lake	163.11	340	P	PKPdf	08 52 33.0	-1.2
	baz=34						
C19K	Lookout Ridge	163.15	356	P	PKPdf	08 52 33.3	-0.8
	baz=7.7						
N30M	Aishikik Lake	163.26	313	PKPdf	PKPdf	08 52 33.0	-1.5
N30M	Aishikik Lake	163.26	313	P	PKPdf	08 52 33.1	-1.4
	baz=69						
E22K	Anaktuvuk Pass	163.30	345	P	PKPdf	08 52 32.6	-1.8
	baz=25						
G25K	Bearman Lake	163.31	336	P	PKPdf	08 52 31.3	-2.9
	baz=39						
E21K	Kilik River	163.32	348	P	PKPdf	08 52 32.2	-2.2
	baz=20						
D20K	Etivluk River	163.34	352	P	PKPdf	08 52 31.8	-2.5
	baz=14						
SIT	Sitka	163.35	297	P	PKPdf	08 52 32.4	-2.2
	baz=86						
R31K	City Hall, Gus	163.41	302	P	PKPdf	08 52 31.8	-2.8
	baz=80						
M29M	Somme Creek	163.46	317	P	PKPdf	08 52 31.3	-3.5
	baz=64						
PLBC	Pleasant Camp	163.52	306	P	PKPdf	08 52 32.2	-2.5
	baz=76						
I26K	Coal Creek Min	163.56	330	P	PKPdf	08 52 32.0	-2.6
	baz=48						
H25L	Birch Creek	163.63	335	P	PKPdf	08 52 31.5	-3.1
	baz=40						
P30M	Million Dollar	163.64	308	P	PKPdf	08 52 32.0	-2.9
	baz=73						
C18K	Utukok River	163.67	358	P	PKPdf	08 52 31.7	-3.0
	baz=4.4						
D19K	Kuna River	163.67	353	P	PKPdf	08 52 31.5	-3.1
	baz=11						
HYT	Haines Junctio	163.67	311	P	PKPdf	08 52 31.2	-3.8
	baz=70						
G24K	Hadweenzic Riv	163.70	338	PKPdf	PKPdf	08 52 33.4	-1.3
G24K	Hadweenzic Riv	163.70	338	P	PKPdf	08 52 31.1	-3.6
	baz=36						
S31K	Pelican	163.74	301	P	PKPdf	08 52 33.2	-1.8
	baz=82						
E20K	Nigu River	163.74	351	P	PKPdf	08 52 31.9	-2.9
	baz=16						
COLD	Coldfoot	163.83	342	P	PKPdf	08 52 32.2	-2.5
	baz=30						
C17K	DeLong Mountai	163.87	0	P	PKPdf	08 52 33.1	-1.7
	baz=0.1						
F22K	John River	163.93	345	P	PKPdf	08 52 33.8	-1.1
	baz=25						
YUK4	Talbot Arm	164.00	314	P	PKPdf	08 52 32.0	-3.4
	baz=67						
K27K	Chicken	164.02	325		PKPdf	08 52 34.5	-0.5
K27K	Chicken	164.02	325	P	PKPdf	08 52 33.0	-2.1
	baz=53						
YUK6	Outpost Mounta	164.03	312	P	PKPdf	08 52 33.0	-2.5
	baz=69						
C16K	Lisburne Hills	164.03	3	P	PKPdf	08 52 33.5	-1.4
	baz=355						
PRP	Porcupine Dome	164.11	333	P	PKPdf	08 52 33.7	-1.6
	baz=43						
P29M	Windy Craggy	164.15	307	P	PKPdf	08 52 34.0	-1.4
	baz=74						
J26L	Joseph Creek	164.23	328	P	PKPdf	08 52 31.6	-3.8
	baz=49						
G23K	Bananza Creek	164.25	341	P	PKPdf	08 52 31.8	-3.4
	baz=31						
G22K	Bettles	164.34	343	P	PKPdf	08 52 33.0	-2.2
	baz=27						
O29M	Mount Kennedy	164.35	310	P	PKPdf	08 52 33.0	-2.6
	baz=70						
F21K	Alatna River	164.39	346	P	PKPdf	08 52 31.9	-3.4
	baz=23						
BCAR	Beaver Creek A	164.48	322		PKPdf	08 52 32.5	-3.0
H24K	Noodor Dome	164.49	336	P	PKPdf	08 52 32.6	-2.9
	baz=37						
L27K	Beaver Creek,	164.49	322		PKPdf	08 52 33.7	-1.9
L27K	Beaver Creek,	164.49	322	P	PKPdf	08 52 33.0	-2.5
	baz=56						
YUK8	Steele Glacier	164.52	314	P	PKPdf	08 52 32.0	-3.9
	baz=65						
YUK3	Moose Creek	164.60	316	P	PKPdf	08 52 32.5	-3.4
	baz=63						
E19K	Redstone River	164.62	351	P	PKPdf	08 52 31.5	-4.0
	baz=14						
D17K	Noatak River	164.65	360	P	PKPdf	08 52 31.9	-3.6
	baz=0.3						
SCRK	Sand Creek	164.71	327	PKPdf	PKPdf	08 52 35.3	-0.6
SCRK				PKPab	PKPab	08 53 29.3	-2.3
SCRK	Sand Creek	164.71	327	P	PKPdf	08 52 32.6	-3.2
	baz=50						
J25K	Salcha River,	164.72	330	P	PKPdf	08 52 32.0	-3.7
	baz=45						
F20K	Avaraart Lake	164.86	349	P	PKPdf	08 52 32.6	-3.1
	baz=18						
E18K	Tukpahlearik C	164.88	356	PKPdf	PKPdf	08 52 34.8	-0.9
E18K				PKPab	PKPab	08 53 29.8	-2.2
E18K	Tukpahlearik C	164.88	356	P	PKPdf	08 52 32.4	-3.3
	baz=6.1						
H23K	Yukon River	164.90	338	P	PKPdf	08 52 32.4	-3.4
	baz=34						
M27K	Edge Creek, AK	164.90	320	P	PKPdf	08 52 33.4	-2.7
	baz=58						
O28M	Mount Upton	164.92	313	P	PKPdf	08 52 32.9	-3.4
	baz=66						
POKR	Poker Plat Res	164.94	334	P	PKPdf	08 52 32.7	-3.2
	baz=40						
PNL	Peninsula	164.94	308	P	PKPdf	08 52 33.0	-3.1
	baz=72						
G21K	Allakaket	165.05	345	P	PKPdf	08 52 33.4	-2.5
	baz=24						
ILAR	Eielson Array	165.06	332	PKP	PKPdf	08 52 32.9	-3.1
	comp=Z,1.6nm,1.2s,baz=305,slow=3.2,SNR=5.8						
ILAR				PKPab	PKPab	08 53 33.3	+0.4
	comp=Z,6.5nm,0.9s,baz=24,slow=2.5,SNR=17						
ILAR				PP	PP	08 57 26.3	+6.3
	comp=Z,1.7nm,1.1s,baz=23,slow=3.8,SNR=4.5						
ILAR				PKKP		09 00 32.0	
	comp=Z,0.7nm,0.9s,baz=227,slow=4.3,SNR=4.7						
ILAR				SKKPbc		09 02 26.0	
	comp=Z,2.4nm,1.3s,baz=217,slow=4.7,SNR=4.4						
L26K	Log Cabin Wild	165.08	323	P	PKPdf	08 52 33.7	-2.4
	baz=54						
RIDG	Independent Ri	165.16	327	P	PKPdf	08 52 33.4	-2.7
	baz=49						
PINM	Pinnacle	165.20	310	P	PKPdf	08 52 33.3	-3.1
	baz=69						
H22K	Ishtalitna Cre	165.23	341	P	PKPdf	08 52 33.3	-2.8
	baz=29						
COLA	College	165.24	334	P	PKPdf	08 52 34.4	-1.7
	baz=39						
E17K	Hotham Inlet	165.25	358	P	PKPdf	08 52 34.1	-1.9
	baz=3.3						
F19K	Shalateruckik Mo	165.28	352	P	PKPdf	08 52 34.4	-1.6
	baz=13						
M26K	Nabesna, AK	165.31	321	P	PKPdf	08 52 33.8	-2.5
	baz=56						
HDA	Harding Lake	165.34	331	P	PKPdf	08 52 34.5	-1.7
	baz=42						
CTG	Chitna Glacier	165.35	314	P	PKPdf	08 52 32.6	-3.9
	baz=64						
I23K	Minto, Yukon-K	165.41	337	P	PKPdf	08 52 33.9	-2.3
	baz=36						
K24K	Donnelly Dome	165.42	328	P	PKPdf	08 52 33.4	-3.0
	baz=46						
F18K	Selawik	165.65	354	P	PKPdf	08 52 33.3	-3.0
	baz=8.8						
H21K	Melozitna Rive	165.71	343	P	PKPdf	08 52 33.0	-3.4
	baz=26						
NEA2	Nenana	165.79	335	P	PKPdf	08 52 33.1	-3.5
	baz=37						
MLY	Manley	165.84	338	P	PKPdf	08 52 33.7	-2.9
	baz=33						
MCARA	McCarthy VSAT	165.87	317	P	PKPdf	08 52 33.4	-3.3
	baz=60						
PAX	Paxson	165.88	325	P	PKPdf	08 52 34.3	-2.5
	baz=50						
F17K	Baldwin Pennin	165.88	357	P	PKPdf	08 52 33.0	-3.5
	baz=4.9						
G19K	Purcell Mounta	165.88	350	P	PKPdf	08 52 33.2	-3.4
	baz=16						
MESA	MESA	165.96	312	P	PKPdf	08 52 33.2	-3.9
	baz=66						
I21K	Tanana	165.98	340	P	PKPdf	08 52 32.7	-4.0
	baz=29						
HARP	HAARP	166.13	323	P	PKPdf	08 52 32.8	-4.1
	baz=52						
CRQE	Cirque	166.21	315	P	PKPdf	08 52 32.9	-4.3
	baz=62						
H20K	Anotleneega Mo	166.22	346	P	PKPdf	08 52 33.9	-3.0
	baz=22						
G18K	Tagagawik	166.27	352	P	PKPdf	08 52 35.0	-1.9
	baz=12						
N25K	Chitina, Valde	166.38	320	PKPdf	PKPdf	08 52 36.9	-0.3
N25K				PKPab	PKPab	08 53 38.0	-1.0
N25K	Chitina, Valde	166.38	320	P	PKPdf	08 52 34.0	-3.2
	baz=56						
H19K	Roundabout Mou	166.40	348	P	PKPdf	08 52 33.6	-3.4
	baz=18						
MCK	McKinley	166.43	332	P	PKPdf	08 52 34.5	-2.6
	baz=40						
DHY	Denali Highway	166.44	328	P	PKPdf	08 52 34.9	-2.4
	baz=45						
TNA	Tin City	166.57	9	P	PKPdf	08 52 34.0	-3.1
	baz=348						
BGLC	Bering Glacier	166.58	313	P	PKPdf	08 52 34.4	-2.9
	baz=64			

	baz=31						
KAIM	Kayak Island	167.18 313	P		PKPdf	08 52 35.9	-1.9
	baz=62						
GCSA	Galena City Sc	167.21 348	P		PKPdf	08 52 34.3	-3.3
	baz=18						
SCM	Sheep Creek Mo	167.28 324	P		PKPdf	08 52 34.5	-3.4
	baz=49						
J20K	Nowinta River	167.30 342	P		PKPdf	08 52 34.0	-3.7
	baz=26						
H17K	Granite Mounta	167.31 354	P		PKPdf	08 52 34.3	-3.4
	baz=9.2						
G15K	Niukluk	167.35 2	P		PKPdf	08 52 35.2	-2.5
	baz=358						
EYAK	Cordova Ski Ar	167.44 317	P		PKPdf	08 52 33.8	-4.1
	baz=57						
M23K	Glacier View	167.44 325	P		PKPdf	08 52 33.6	-4.3
	baz=48						
CAST	Castle Rocks	167.52 337	P		PKPdf	08 52 33.9	-4.1
	baz=33						
SML	Sawmill	167.65 326	P		PKPdf	08 52 34.5	-3.6
	baz=47						
H16K	Elim	167.71 358	P		PKPdf	08 52 33.6	-4.4
	baz=2.8						
GAMB	Gambell	167.73 18	P		PKPdf	08 52 34.1	-3.9
	baz=335						
J19K	Poorman	167.73 344	P		PKPdf	08 52 34.2	-3.8
	baz=22						
ANM	Nome	167.74 5	P		PKPdf	08 52 33.7	-4.4
	baz=354						
GLI	Glacier Island	167.79 320	P		PKPdf	08 52 33.9	-4.3
	baz=53						
CUT	Chulitna	167.84 331	P		PKPdf	08 52 35.3	-2.9
	baz=40						
KNK	Knik Glacier	167.96 324	P		PKPdf	08 52 35.1	-3.3
	baz=48						
PPLA	Purkeypile	167.98 335	P		PKPdf	08 52 34.4	-4.0
	baz=34						
K20K	Telida	168.02 340	P		PKPdf	08 52 34.8	-3.5
	baz=28						
PMR	Palmer	168.07 326	P		PKPdf	08 52 34.8	-3.5
	baz=46						
PWL	Port Wells	168.28 322	P		PKPdf	08 52 34.8	-3.7
	baz=50						
Q23K	Middleton Isla	168.28 314	P		PKPdf	08 52 34.7	-3.8
	baz=60						
M22K	Willow	168.28 328	P		PKPdf	08 52 35.6	-2.8
	baz=43						
J18K	Innoko River	168.40 346	P		PKPdf	08 52 35.1	-3.5
	baz=20						
I17K	Unalakleet	168.41 355	P		PKPdf	08 52 36.0	-2.5
	baz=7.7						
P23K	Montague Islan	168.43 317	P		PKPdf	08 52 35.3	-3.3
	baz=56						
SKT	Skwentna	168.55 332			PKPdf	08 52 37.3	-1.4
SKT			PKPab		PKPab	08 53 47.5	-1.0
SKT	Skwentna	168.55 332	P		PKPdf	08 52 36.6	-2.1
	baz=38						
RC01	Rabbit Creek A	168.63 325	P		PKPdf	08 52 37.2	-1.5
	baz=46						
SUA	Susitna One	168.70 328	P		PKPdf	08 52 37.3	-1.6
	baz=42						
L20K	Farewell, AK	168.75 338	P		PKPdf	08 52 36.2	-2.6
	baz=30						
TTA	Tatalina	168.78 343	P		PKPdf	08 52 36.8	-2.1
	baz=23						
J16K	Anvik River	169.00 354	P		PKPdf	08 52 36.9	-2.0
	baz=8.4						
O22K	Cooper Landing	169.04 323	P		PKPdf	08 52 36.1	-2.9
	baz=48						
M20K	Styx River	169.07 334	P		PKPdf	08 52 37.5	-1.6
	baz=34						
SEW	Seward	169.19 321	P		PKPdf	08 52 37.0	-2.0
	baz=50						
L19K	White Mountain	169.23 339	P		PKPdf	08 52 37.1	-2.1
	baz=28						
K17K	Iditarod	169.34 348	P		PKPdf	08 52 36.6	-2.5
	baz=16						
N20K	Mount Spurr	169.36 330	P		PKPdf	08 52 37.7	-1.6
	baz=39						
M19K	Big River Lodg	169.37 337	P		PKPdf	08 52 36.9	-2.3
	baz=30						
L18K	Granite Mounta	169.56 343	P		PKPdf	08 52 37.6	-1.7
	baz=22						
J14K	Nanvaranak Lak	169.61 1	P		PKPdf	08 52 37.9	-1.3
	baz=359						
L17K	Donlin	169.90 347	P		PKPdf	08 52 38.1	-1.4
	baz=17						
BRSE	Bradley Lake S	169.92 322	P		PKPdf	08 52 38.1	-1.5
	baz=49						
K15K	Wolf Creek Mou	170.04 356	P		PKPdf	08 52 37.6	-2.0
	baz=6.0						
M18K	Stony River	170.06 339	P		PKPdf	08 52 37.8	-1.8
	baz=27						
HOM	Homer	170.31 323	P		PKPdf	08 52 37.9	-1.8
	baz=46						
N19K	Bonanza Creek	170.33 334	P		PKPdf	08 52 37.4	-2.5
	baz=33						
O20K	Slope Mountain	170.35 327	P		PKPdf	08 52 36.1	-3.8
	baz=42						
K13K	Kusilvak Mount	170.40 4	P		PKPdf	08 52 36.4	-3.4
	baz=355						
L16K	Owhat River	170.46 350	P		PKPdf	08 52 36.8	-3.0
	baz=14						
M17K	Holitna River	170.46 343	P		PKPdf	08 52 37.2	-2.6
	baz=22						
L15K	Ungalak Mounta	170.65 355	P		PKPdf	08 52 37.5	-2.4
	baz=6.5						
O19K	Port Alsworth	170.79 332	P		PKPdf	08 52 37.8	-2.2
	baz=36						
N18K	Kilae Creek	170.79 337	P		PKPdf	08 52 38.4	-1.6
	baz=29						
P19K	Oil Pt	170.88 327	P		PKPdf	08 52 38.1	-2.1
	baz=42						
L14K	Kuka Creek	171.03 359	P		PKPdf	08 52 37.7	-2.3
	baz=2.1						
M16K	Timber Creek	171.06 347	P		PKPdf	08 52 38.4	-1.8
	baz=17						
N17K	Nushagak Hills	171.22 341	P		PKPdf	08 52 38.9	-1.4
	baz=25						
Q20K	Shuyak Island	171.31 320	P		PKPdf	08 52 37.9	-2.5
	baz=49						
O18K	Koktuh Hills	171.33 333	P		PKPdf	08 52 38.5	-1.9
	baz=34						
Q19K	Cape Douglas,	171.55 325	P		PKPdf	08 52 37.8	-2.7
	baz=43						
N16K	Nishlik Lake	171.56 345	P		PKPdf	08 52 39.2	-1.2
	baz=19						
M15K	Kasigluk River	171.57 352	P		PKPdf	08 52 39.7	-0.7
	baz=11						
M14K	Bethel	171.60 356	P		PKPdf	08 52 39.3	-1.1
	baz=5.2						
P18K	Big Mountain,	171.71 331	P		PKPdf	08 52 39.6	-1.0
	baz=36						
O17K	Koliganek Bris	171.88 338	P		PKPdf	08 52 40.0	-0.6
	baz=27						
KDAK	Kodiak Island	171.91 316	P		PKPdf	08 52 39.7	-0.9
	baz=53						
M13K	Dall Lake	171.96 1	P		PKPdf	08 52 40.0	-0.5
	baz=359						
N15K	Kwethluk River	172.03 349	P		PKPdf	08 52 40.4	-0.3
	baz=14						
P17K	Kvichak River	172.22 334	P		PKPdf	08 52 40.2	-0.6
	baz=32						
Q18K	Katmai Hardscr	172.24 327	P		PKPdf	08 52 39.8	-1.2
	baz=40						
O16K	Kokwok River B	172.26 341	P		PKPdf	08 52 39.3	-1.4
	baz=24						
N14K	Kuskokwak Cree	172.41 355	P		PKPdf	08 52 40.1	-0.7
	baz=7.1						
Q16K	King Salmon	172.72 332	P		PKPdf	08 52 40.2	-0.8
	baz=33						
P16K	Nushagak River	172.75 339	P		PKPdf	08 52 41.0	0.0
	baz=26						
R18K	Karluk	172.82 320	P		PKPdf	08 52 41.0	0.0
	baz=48						
Q17K	Contact Creek	172.82 328	P		PKPdf	08 52 40.7	-0.5
	baz=38						
O15K	Ungalikthiuk R	172.96 346	P		PKPdf	08 52 39.9	-1.2
	baz=17						
O14K	Tigyukauivet M	173.05 352	P		PKPdf	08 52 39.7	-1.4
	baz=9.8						
SII	Sitkinak Islan	173.34 312	P		PKPdf	08 52 40.8	-0.5
	baz=55						
R17K	Ugashik Creek	173.48 326	P		PKPdf	08 52 40.3	-1.0
	baz=39						
CHIR	Chirikof Islan	174.42 311	P		PKPdf	08 52 41.6	-0.1
	baz=55						
CHGN	Chignik	175.22 327	P		PKPdf	08 52 41.8	0.0
	baz=37						
NIKH	Nikolski High	176.45 78	P		PKPdf	08 52 42.0	-0.3
	baz=278						
SDPT	Sand Point	176.66 333	P		PKPdf	08 52 41.0	-1.2
	baz=29						
CHNA	Chernabura Isl	176.79 321	P		PKPdf	08 52 42.1	-0.2
	baz=42						
UNV	Unalaska Valle	177.49 53	P		PKPdf	08 52 42.6	+0.2
	baz=306						
FALS	False Pass	177.53 4	P		PKPdf	08 52 41.6	-0.8
	baz=357						

*IDC **23** 08:47:05.7±1.9, 13°.86S×170°.13E, h612km±20km, mb3.2/6, mbtmp4.2/8, Error ellipse: s-maj=30.7km s-min=19.6km az=176.0*

ISC 23 08:47:05.1±1.1, 13°.7S±0°.2×170°.1E±0°.1, h600km, n8, σ0°.85/10, mb4.0/6, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.68	118	P	P	08 49 11.7	+0.7
	4.9nm,0.6s,baz=113,slow=21,SNR=5.1						
DZM	Mont Dzumac	8.98	202	P	P	08 49 14.6	+0.7
	6.0nm,0.5s,baz=250,slow=18,SNR=26						
CTA	Charters Tower	23.61	251	P	P	08 51 31.8	+0.6
	2.2nm,0.7s,baz=86,slow=8.9,SNR=3.7						
	2.2nm,0.7s						
STKA	Stephens Creek	31.70	230	P	P	08 52 41.4	+0.1
	2.4nm,0.4s,baz=55,slow=8.3,SNR=13						
	2.4nm,0.4s						
WRA	Warramunga Arr	34.68	255	P	P	08 53 06.5	-0.1
	3.1nm,0.3s,baz=85,slow=8.7,SNR=108						
	3.1nm,0.3s						
ASAR	Alice Springs	35.55	248	P	P	08 53 13.7	0.0
	5.5nm,0.4s,baz=73,slow=9.6,SNR=185						
ASAR				PcP	PcP	08 55 25.1	-0.4
	0.5nm,0.7s,baz=83,slow=2.4,SNR=4.2						
ASAR				ScP	ScP	08 58 15.8	+0.3
	0.4nm,0.6s,baz=99,slow=3.7,SNR=8.4						
	5.5nm,0.4s						
QSPA	South Pole Qui	76.30	180	P	P	08 57 51.4	-1.9
	0.9nm,0.6s,baz=283,slow=1.5,SNR=11						
	0.9nm,0.6s						
ILAR	Eielson Array	84.76	17	P	P	08 58 36.8	+0.1
	0.2nm,0.4s,baz=234,slow=5.2,SNR=5.7						
	0.2nm,0.4s						

*IDC **23** 08:48:48.7±3.2, 53°.81N×91°.05E, h0km, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=29.0km s-min=23.4km az=35.0*

*NNC **23** 08:48:54.7±5.2, 53°.11N×90°.82E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=39.0km s-min=31.9km az=70.0, Suspected Mining explosion.*

ISC 23 08:48:49.9±3.7, 53°.8N±0°.1×90°.8E±0°.2, h0km, n11, σ1°.65/14, 7C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	3.57	276	I	I	09 15 40.0	
	baz=88,slow=330,SNR=2.0						
ZAA0	Zalesovo Array	3.57	276	⇑Pn	Pb	08 49 52.8	-1.0
	4.7nm,0.8s						
ZAA0				⇑Sn	Sb	08 50 39.2	+1.6
	17nm,0.8s						
ZALV	Zalesovo Beam	3.57	276	Pn	Pn	08 49 47.2	+0.8
	0.8nm,0.3s,baz=83,slow=13,SNR=2.4						
ZALV				Lg	Lg	08 50 43.1	
	2.9nm,0.3s,baz=93,slow=25,SNR=12						
KURK	Kurchatov	8.09	253	⇑Pn	Pn	08 50 46.1	-2.4
	6.4nm,0.8s						
KURK				⇑Sn	Sn	08 52 20.1	-0.5
	18nm,0.9s						
KURK				⇑Lg	Lg	08 53 08.2	
	33nm,0.8s						
KURBB	Kurchatov Arra	8.18	252	⇓Pn	Pn	08 50 50.5	+0.8
	8.7nm,0.8s						
KURBB				⇑Sn	Sn	08 52 21.3	-1.6
	64nm,0.8s						
KURBB				⇑Lg	Lg	08 53 11.1	
	41nm,0.7s						
KURBB	Kurchatov Arra	8.18	252	Pn	Pn	08 50 50.5	+0.8
	0.3nm,0.3s,baz=64,slow=14,SNR=24						
KURBB				Sn	Sn	08 52 24.6	+1.7
	0.1nm,0.3s,baz=68,slow=26,SNR=14						
KURBB				Lg	Lg	08 53 09.6	
	baz=64,slow=33,SNR=4.7						
	4.9nm,0.8s						
MK31	Makanchi Array	8.85	222	⇓Pn	Pn	08 51 00.0	+1.1
	7.1nm,1.0s,baz=45,slow=5.9,SNR=4.9						
MK31				⇓Sn	Sn	08 52 36.4	-2.9
	4.4nm,0.8s,baz=39,slow=23,SNR=4.6						
MK31				⇓Lg	Lg	08 53 24.7	
	25nm,0.8s,baz=40,slow=32,SNR=4.7						
MKAR	Makanchi Array	8.85	222	PKIKP	Pn	08 51 00.0	+1.0
MKAR	Makanchi Array	8.85	222	Pn	Pn	08 50 60.0	+1.0
	0.4nm,0.3s,baz=32,slow=12,SNR=16						
MKAR				Sn	Sn	08 52 40.3	+1.0
	0.2nm,0.3s,baz=34,slow=21,SNR=2.0						
MKAR				Lg	Lg	08 53 27.6	
	0.1nm,0.3s,baz=37,slow=29,SNR=5.0						
	1.4nm,0.6s						
SONM	Songino Array	11.48	115	Lg	Lg	08 54 49.6	
	0.1nm,0.3s,baz=300,slow=27,SNR=10.0						
I34MN	SONGINO INFRAS	11.51	115	I	I	09 53 30.0	
	baz=311,slow=323,SNR=1.6						

*IDC **23** 09:35:32.1±0.8, 29°.05S×61°.65E, h0km, mb3.9/9, mbtmp3.9/10, ML3.4/1, Error ellipse: s-maj=31.2km s-min=21.9km az=56.0*

ISC 23 09:35:33.8±0.8, 29°.1S±0°.2×61°.6E±0°.2, h11km, n19, σ0°.36/10, mb4.0/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	16.81	305	Pn	Pn	09 39 29.2	-0.3
	baz=131,slow=20,SNR=3.0						
	2.0nm,0.8s						
H04N2	CROZET ISLANDS	18.74	202	T	T	09 58 58.6	
	baz=28,slow=75,SNR=187						
H04N1	CROZET ISLANDS	18.75	202	T	T	09 58 59.9	
	baz=28,slow=75,SNR=175						
H04N3	CROZET ISLANDS	18.76	202	T	T	09 58 59.0	
	baz=28,slow=75,SNR=178						
H08S1	Diego Garcia H	23.62	28	T	T	10 05 19.5	
	baz=200						
H08S2	Diego Garcia H	23.63	28	T	T	10 05 25.6	
	baz=200,slow=74,SNR=6.2						
H08S3	Diego Garcia H	23.64	28	T	T	10 05 27.7	
	baz=200,slow=74,SNR=17						
H01W2	Cape Leeuwin H	44.51	112	T	T	10 31 24.0	
	baz=262,slow=75,SNR=18						
H01W3	Cape Leeuwin H	44.51	111	T	T	10 31 23.9	
	baz=262,slow=75,SNR=18						
H01W1	Cape Leeuwin H	44.53	112	T	T	10 31 25.2	
	baz=262,slow=75,SNR=19						
SNAA	Sanae	54.71	200	P	P	09 45 02.7	0.0
	1.1nm,1.1s,baz=100,slow=6.1,SNR=2.5						
	1.1nm,1.1s						
QSPA	South Pole Qui	61.10	180	P	P	09 45 48.0	+0.2
	1.5nm,0.9s,baz=354,slow=0.4,SNR=5.7						
	1.5nm,0.9s						
ASAR	Alice Springs	64.08	104	P	P	09 46 08.2	-0.1
	1.1nm,0.7s,baz=247,slow=5.9,SNR=14						
	1.1nm,0.7s						
WRA	Warramunga Arr	65.89	100	P	P	09 46 20.0	-0.1
	1.0nm,0.9s,baz=247,slow=6.1,SNR=12						
	1.0nm,0.9s						
STKA	Stephens Creek	67.44	115	P	P	09 46 29.6	-0.2
	1.6nm,0.9s,baz=233,slow=3.9,SNR=3.5						
	1.6nm,0.9s						
BRTR	Keskin Array B	73.22	338	P	P	09 47 05.5	+0.6
	0.4nm,0.3s,baz=178,slow=7.2,SNR=4.3						
	0.4nm,0.3s						
BVAR	Borovoye Array	82.09	5	P	P	09 47 53.7	-0.3
	0.5nm,0.5s,baz=164,slow=2.7,SNR=2.1						
	0.5nm,0.5s						
AKASG	Malin Array Be	84.42	340	P	P	09 48 05.7	-0.3
	0.2nm,0.3s,baz=169,slow=4.9,SNR=4.2						
	0.2nm,0.3s						
ZALV	Zalesovo Beam	85.07	14	P	P	09 48 09.6	+0.4
	0.5nm,0.4s,baz=194,slow=5.5,SNR=4.5						
	0.5nm,0.4s						

*NEIC **23** 09:40:57.6±1.6, 0°.09S±0°.03×79°.33W±0°.05, h10km±2km, mb3.5/3, Error ellipse: s-maj=9.8km s-min=3.0km az=113.0*

*IGQ **23** 09:40:59±0.2, 0°.S±1°.×7°.9W±°, h9km*

ISC 23 09:40:57.8±1.0, 0°.06S±0°.02×79°.32W±0°.03, h16km±7km, n114, σ1°.87/146, 3C, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BV15	Puerto Quito-O	0.24	25	P	Pg	09 41 06.0	+2.9
BV15				S	Sg	09 41 12.0	+5.3
ASDO	Santo Domingo	0.28	135	P	Pg	09 41 03.0	-0.9
ASDO				S	Sg	09 41 07.0	-1.1
APR2	Miler	0.38	69	P	Pb	09 41 06.0	-0.3
APR2				S	Sb	09 41 12.0	0.0
AV18	Acelerografo,	0.40	337	P	Pn	09 41 10.0	+1.0
MAG1	Magdalena	0.45	268	P	Pn	09 41 12.0	+2.3
PAC1	Pacto, Paraso	0.62	59	⇑iP	Pb	09 41 10.6	+0.1
PAC1				eS	Sb	09 41 18.8	-0.3
PAC1				i		09 41 19.3	
	comp=Z,44μm,0.6s						
APR1	Acelerografo,	0.71	89	P	Pg	09 41 11.0	-0.8
APR1				S	Sg	09 41 19.0	-2.3
PINO	Pino	0.72	98	P	Pg	09 41 11.0	-1.1
JUA2	San Juan 2	0.74	102	P	Pg	09 41 12.0	-0.3
GGPC	Guagua Pichinc	0.74	99	P	Pg	09 41 11.0	-1.3
AV21	Acelerografo,	0.75	343	P	Pn	09 41 15.0	+1.2
PULU	Pululahua	0.83	84	Pg	Pg	09 41 13.5	-0.5
PULU	Pululahua	0.83	84	P	Pg	09 41 13.0	-0.9
EPNL	EPN Laboratori	0.85	100	P	Pg	09 41 13.0	-1.3
FENY	Casa Vinicio C	0.85	96	P	Pg	09 41 13.0	-1.3
SADP	Ecuador-Quito-	0.88	86	P	Pg	09 41 14.0	-0.9
OTAV	Otavalo	0.92	71	Pg	Pb	09 41 15.2	-0.5
OTAV				Sg	Sg	09 41 26.5	-1.5
OTAV	Otavalo	0.92	71	eP	Pg	09 41 15.0	-0.8
OTAV				eS	Sg	09 41 26.4	-1.6
PAST	Pastocalle	0.93	133	P	Pg	09 41 15.0	-0.9
AV11	Acelerografo,	0.95	91	P	Pb	09 41 16.0	-0.1
AIMS	Ecuador-Tababe	0.96	93	P	Pg	09 41 16.0	-0.5
GBMB	Ecuador-Guayll	0.97	90	P	Pg	09 41 16.0	-0.6
CUSE	Cuicocha Este	0.99	69	P	Pg	09 41 16.0	-1.1
CUSE	Cuicocha Este	0.99	69	⇑iP	Pb	09 41 16.4	-0.5
CUSE				eS	Sg	09 41 29.0	-1.2
CUSE				i		09 41 31.1	
	comp=Z,13μm,0.3s						
AQUE	Quevedo	1.00	190	P	Pg	09 41 16.0	-1.1
PITA	Cotopaxi Volc	1.02	119	P	Pg	09 41 16.0	-1.6
CAMI	Rancho Maria	1.02	127	P	Pg	09 41 17.0	-0.7
CUIC	Cuicocha-Domo	1.03	70	P	Pb	09 41 17.0	-0.5
CUSW	Cuicocha Oeste	1.03	71	P	Pg	09 41 17.0	-0.8
BNAS	Cotopaxi Volca	1.04	126	P	Pg	09 41 18.0	0.0
COTA	Cotacachi	1.06	68	P	Pg	09 41 17.0	-1.4
AMA1	Acelerografo,	1.06	338	P	Pn	09 41 20.0	+1.9
BREF	Cotopaxi Volca	1.07	125	P	Pg	09 41 18.0	-0.7
VC1	Cotopaxi 1	1.09	122	P	Pg	09 41 18.0	-0.9
BVC2	Cotopaxi Volca	1.09	123	P	Pg	09 41 18.0	-1.0
BTAM	Cotopaxi Volca	1.11	123	P	Pg	09 41 18.0	-1.4
TAMB	Tambo	1.15	123	P	Pg	09 41 19.0	-1.0
CABP	Cabo Pasado	1.15	254	P	Pn	09 41 20.0	+0.7
IMBA	Imbabura, San	1.17	74		Pn	09 41 20.4	+0.4
IMBA	Imbabura, San	1.17	74	P	Pb	09 41 20.0	0.0
AAT1	Ecuador-Atunta	1.18	71	P	Pb	09 41 20.0	+0.1
ANTI	Antisana	1.23	108	P	Pg	09 41 19.0	-2.6
APS4	Papallacta	1.26	104	P	Pg	09 41 20.0	-2.1
LITE1	Lita	1.28	49	P	Pg	09 41 19.0	-3.5
ALIT	Ecuador-Imbabu	1.28	49	P	Pg	09 41 21.0	-1.6
ANGU	Angureal	1.32	85	P	Pg	09 41 22.0	-1.3
YAHU	Yahuarcocha	1.32	71	P	Pg	09 41 22.0	-1.4
CAYA	Cayambe	1.34	84	P	Pg	09 41 22.0	-1.7
SNLR	San Lorenzo-Es	1.42	20	P	Pg	09 41 23.0	-2.2
CHSH	Refugio Sur-Vo	1.50	162	Pn	Pn	09 41 25.1	+0.5
CHSH	Refugio Sur-Vo	1.50	162	P	Pn	09 41 25.0	+0.4
LNGL	El Angel-Carch	1.54	59	P	Pg	09 41 26.0	-1.5
ECEN	Cerro Negro	1.61	57	P	Pb	09 41 27.0	-0.5
CHL1	Volc¡n Chiles	1.62	58	P	Pb	09 41 27.0	-0.6
BRUN	Tungurahua Vol	1.62	146	P	Pn	09 41 26.0	-0.1
RETU	Refugio	1.64	148	P	Pn	09 41 27.0	+0.5
CHL2	Volc¡n Chiles	1.65	59	P	Pg	09 41 28.0	-1.5
BULB	Ulba Tungurahu	1.65	146	P	Pn	09 41 27.0	+0.5
BMAS	Trigal station	1.67	150	P	Pn	09 41 28.0	+1.3
LAV4	Lava4-Reventad	1.69	91	P	Pn	09 41 28.0	+0.9
REVS	Reventador Sur	1.71	92	P	Pn	09 41 28.0	+0.8
TULM	Tulcn-Chalpat	1.72	63	Pn	Pb	09 41 29.0	-0.3
TULM	Tulcn-Chalpat	1.72	63	P	Pb	09 41 29.0	-0.3
TULM	Tulcn-Chalpat	1.72	63	eP	Pg	09 41 29.6	-1.4
TULM				eS	Sn	09 41 50.8	+1.4
TULM				i		09 41 55.8	
	comp=Z,474nm,0.5s						
ARDO	Archidona, Ten	1.79	121	P	Pn	09 41 29.0	+0.9
CMBC	Cumbal	1.80	57	P	Pg	09 41 31.0	-1.4
CMBC	Cumbal	1.80	57	eP	Pg	09 41 31.2	-1.2
CMBC				eS	Sb	09 41 53.0	-0.1
CMBC				i		09 41 55.6	
	comp=Z,18μm,0.2s						
BONI	La Bonita	1.87	74	P	Pb	09 41 31.0	-0.7
BONI	La Bonita	1.87	74	eP	Pb	09 41 31.3	-0.4
BONI				eS	Sn	09 41 54.0	+1.3
BONI				i		09 41 56.0	
	comp=Z,2μm,0.2s						
TUMC	Tumaco	1.96	18	P	Pn	09 41 31.0	+0.5
TUMC	Tumaco	1.96	18	eP	Pb	09 41 31.5	-1.7
TUMC				eS	Sb	09 41 56.9	-0.6
TUMC				i		09 42 07.6	
	comp=Z,405nm,0.3s						
PPLP	Puerto Lpez	2.07	224	P	Pn	09 41 31.0	-1.0
PPLP	Puerto Lpez	2.07	224	eP	Pn	09 41 31.9	-0.1
PPLP				eS	Sn	09 41 56.3	-1.2
AMIL	Milagro (Trans	2.08	187	P	Pn	09 41 32.0	-0.1
ISPT	Isla de la Pla	2.12	236	P	Pb	09 41 35.0	-0.9
GYE3	Ecuador-Guayaq	2.16	195	P	Pn	09 41 32.0	-1.2
GCUF	Volcan Galeras	2.35	57	eP	Pb	09 41 39.6	-0.6
GCUF				eS	Sb	09 42 10.0	+0.7
GCUF				i		09 42 15.7	
	comp=Z,114nm,0.4s						
COHC	Cochancay	2.39	178	Pn	Pn	09 41 35.3	-1.1
COHC	Cochancay	2.39	178	P	Pn	09 41 35.0	-1.4
COHC	Cochancay	2.39	178	⇑iP	Pn	09 41 35.9	-0.5
COHC				eS	Sn	09 42 05.4	-0.1
SALI	Salinas	2.69	218	Pn	Pn	09 41 41.1	+0.5
SALI	Salinas	2.69	218	P	Pn	09 41 41.0	+0.5
MORR	Playas El Morr	2.76	202	P	Pn	09 41 41.0	-0.4
CRUC	La Cruz	2.87	56	eP	Pn	09 41 41.6	-1.7
CRUC				eS	Sg	09 42 28.2	-1.9
CRUC				i		09 42 30.1	
	comp=Z,3μm,0.3s						
BBAC	Balboa, Cauca	2.93	45	eP	Pn	09 41 44.9	+0.9
BBAC				eS	Sn	09 42 18.5	-0.5
BBAC				i		09 42 22.2	
	comp=Z,197nm,0.3s						
BOSC	San

BETC	Betania	4.74	55	eP		Pb	09 42 14.8	-5.8
YOTC	Yotoco, Valle	5.00	37	eP		Pn	09 42 12.4	+0.1
YOTC				eS		Sn	09 43 07.4	-2.5
YOTC				i			09 43 13.2	
	comp=Z,37nm,0.5s							
ORTC	Ortega, Tolima	5.67	46	eP		Pn	09 42 24.7	+3.2
ORTC				eS		Sn	09 43 26.9	+0.5
ORTC				i			09 43 42.7	
	comp=Z,25nm,0.5s							
PLMC	San Jos del P	5.79	32	eP		Pn	09 42 22.6	-0.7
PLMC				eS		Sn	09 43 25.3	-4.2
PLMC				i			09 43 42.1	
	comp=Z,45nm,0.4s							
PRAC	Prado	5.81	50	eP		Pn	09 42 26.5	+3.1
PRAC				eS		Sn	09 43 32.9	+3.1
PRAC				i			09 43 40.4	
	comp=Z,11nm,0.4s							
MACC	Macarena, Meta	5.90	68	eP		Pn	09 42 32.5	+7.9
MACC				eS		Sb	09 43 58.6	+7.8
MACC				i			09 44 16.9	
	comp=Z,23nm,0.6s							
ANIL	Santa Ana	5.98	41	eP		Pn	09 42 28.3	+2.3
ANIL				eS		Sn	09 43 37.0	+2.5
ANIL				i			09 43 45.8	
	comp=Z,69nm,0.5s							
GUY2C	Guyana, Caldas	6.57	37	eP		Pn	09 42 36.3	+2.0
GUY2C				eS		Sn	09 43 46.7	-2.5
GUY2C				i			09 44 07.2	
	comp=Z,14nm,0.6s							
ROSC	El Rosal	6.97	46	Pn		Pn	09 42 39.8	0.0
NORC	Norcasia	7.14	38	eP		Pn	09 42 45.5	+3.8
NORC				eS		Sn	09 44 05.9	+3.2
NORC				i			09 44 15.2	
	comp=Z,5.4nm,0.7s							
CHIC	Chingaza	7.27	50	eP		Pn	09 42 48.5	+4.6
CHIC				eS		Sn	09 44 12.1	+5.7
PTBC	PUERTO BERRIO,	8.16	36	eP		Pn	09 42 55.5	-0.2
PTBC				eS		Sn	09 44 24.0	-3.7
PTBC				i			09 44 34.1	
	comp=Z,2.3nm,0.5s							
ZARC	Zaragoza, Cauc	8.72	31	eP		Pn	09 43 07.5	+4.0
ZARC				eS		Sn	09 44 41.9	+0.3
CZSB	Cruzeiro do Su	10.08	139	Pn		Pn	09 43 20.2	-1.9
ETMB	Extrema	16.25	127	Pn		Pn	09 44 44.3	-1.4
ETMB				IAmb		IAmb	09 44 53.8	
	comp=Z,3.3nm,1.1s							
MTO3	Montecristo	17.46	326			P	09 45 03.0	+0.7
MTO3				IAmb		IAmb	09 45 09.3	
	comp=Z,2.8nm,0.8s							
PETF	Flores	19.81	329			P	09 45 28.1	+0.2
PETF				IAmb		IAmb	09 45 31.5	
	comp=Z,10nm,1.0s							

*IDC **23** 09:51:28.2±0.8, 52°.29S×16°.92E, h0km, mb4.1/8, mbtmp4.1/8, Error ellipse: s-maj=34.3km s-min=20.1km az=86.0*

ISC 23 09:51:29.7±0.8, 52°.3S±0°.1×16°.9E±0°.2, h10km, n24, σ0°82/14, mb4.1/11, 5C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROLL	Troll, Antarti	20.80	193	⇑P	Pn	09 56 11.5	-1.8
	comp=Z,120nm,0.7s						
SNAA	Sanae	21.35	197	⇑P	P	09 56 17.3	+0.6
	comp=Z,166nm,0.8s						
SNAA	Sanae	21.35	197	P	P	09 56 16.7	0.0
	comp=Z,8.3nm,0.9s,baz=47,slow=7.8,SNR=26						
	comp=Z,8.3nm,0.9s						
VNA2	Neumayer--Watz	21.69	201	⇑P	P	09 56 19.9	-0.4
	comp=Z,11nm,0.7s,baz=31,slow=10.0						
VNA1	Neumayer--Stat	21.70	203	⇑P	P	09 56 22.7	+2.4
	comp=Z,13nm,1.3s						
VNA3	Neumayer Olymp	22.44	202	⇑P	P	09 56 28.2	-0.2
	comp=Z,5.4nm,0.7s						
H04S2	CROZET ISLANDS	23.16	90	T	T	10 20 48.1	
	baz=244,slow=75,SNR=6.2						
H04S3	CROZET ISLANDS	23.17	90	T	T	10 20 56.6	
	baz=244,slow=75,SNR=7.8						
H04S1	CROZET ISLANDS	23.18	90	T	T	10 20 52.1	
	baz=244,slow=75,SNR=9.8						
BOSA	Boshof	24.43	18	P	P	09 56 49.0	+0.4
	comp=Z,3.5nm,0.9s,baz=191,slow=4.5,SNR=4.4						
	comp=Z,3.5nm,0.9s						
QSPA	South Pole Qui	37.96	180	P	P	09 58 46.6	-0.7
	comp=Z,1.2nm,0.7s,baz=242,slow=1.8,SNR=12						
	comp=Z,1.2nm,0.7s						
H10S2	ASCENSION HYDR	50.26	318	T	T	10 54 42.1	
	baz=66,slow=74,SNR=4.0						
H10S3	ASCENSION HYDR	50.27	318	T	T	10 54 41.1	
	baz=154,slow=74,SNR=8.6						
DBIC	Dimbokro	61.59	335	P	P	10 01 47.2	0.0
	comp=Z,7.7nm,0.9s,baz=136,slow=7.7,SNR=4.4						
	comp=Z,7.7nm,0.9s						
TORD	Torodi Ar. Bea	66.47	344	P	P	10 02 18.9	-0.3
	comp=Z,0.7nm,0.8s,baz=180,slow=2.7,SNR=4.0						
	comp=Z,0.7nm,0.8s						
H01W2	Cape Leeuwin H	67.30	118	T	T	11 16 27.4	
	baz=220,slow=75,SNR=13						
H01W3	Cape Leeuwin H	67.31	118	T	T	11 16 34.1	
	baz=220,slow=75,SNR=11						
H01W1	Cape Leeuwin H	67.31	118	T	T	11 16 30.1	
	baz=220,slow=75,SNR=12						
LPAZ	La Paz	74.29	264	P	P	10 03 07.8	-0.2
	comp=Z,2.6nm,1.2s,baz=122,slow=3.1,SNR=4.7						
	comp=Z,2.6nm,1.2s						
ASAR	Alice Springs	86.60	125	P	P	10 04 13.9	+0.6
	comp=Z,1.2nm,0.7s,baz=209,slow=4.5,SNR=20						
	comp=Z,1.2nm,0.7s						
WRA	Warramunga Arr	89.92	123	P	P	10 04 28.8	-0.3
	comp=Z,0.7nm,1.0s,baz=206,slow=3.6,SNR=4.2						
	comp=Z,0.7nm,1.0s						
TXAR	Lajitas Array	131.12	266	PKP	PKPdf	10 10 41.5	0.0
	comp=Z,0.5nm,1.0s,baz=117,slow=1.0,SNR=3.5						
PDAR	Pinedale Array	143.40	277	PKhKP	PKPpre	10 10 59.9	
	comp=Z,0.4nm,0.6s,baz=111,slow=3.3,SNR=4.1						
NVAR	Mina Array Bea	146.20	264	PKPbc	PKPab	10 11 10.6	-0.1
	comp=Z,3.6nm,0.8s,baz=142,slow=4.1,SNR=29						

*MEX **23** 09:59:56.7±0.5, 13°.88N×92°.06W, h48km±45km, MD3.7*
*GCG **23** 09:59:58.4±0.3, 14°.02N×91°.43W, h75km±4km, MD3.3*

ISC 23 09:59:54.3±3.1, 14°.1N±0°.2×91°.7W±0°.1, h99km±14km, n10, σ2°19/20, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.30	35	eP	Pn	10 00 11.7	+3.0
SULM				eS	Sn	10 00 19.3	-0.2
STG3	Santiaguito 3,	0.67	14	eP	Pn	10 00 14.4	+2.8
STG3				eS	Sn	10 00 26.9	+2.4
FUG	Fuego 3	0.95	66	eP	Pn	10 00 12.4	-1.9
FUG				eS	Sn	10 00 27.0	-2.4
THIG		0.98	329	eP	Pn	10 00 13.2	-1.2
THIG				eS	Sn	10 00 25.9	-3.8
CHUJ	Union Juarez	1.09	341	eP	Pn	10 00 15.7	-0.2
CHUJ				eS	Sn	10 00 30.1	-2.0
PATR	El Naranjo	1.16	336	eP	Pn	10 00 16.1	-0.6
PATR				eS	Sn	10 00 31.9	-1.6
PAVE	Pavencul	1.20	340	eP	Pn	10 00 17.3	+0.1
PAVE				eS	Sn	10 00 33.8	-0.7
PCIG		2.17	319	eP	Pn	10 00 28.6	-0.5
PCIG				eS	Sn	10 00 52.7	-3.0
TGIG		3.01	334	eP	Pn	10 00 41.4	+1.2
TGIG				eS	Sn	10 01 16.5	+0.9
UXUV	UXUV	3.98	325	eP	Pn	10 00 56.5	+3.2
UXUV				i S	Sn	10 01 39.6	+0.7

*DJA **23** 10:07:14.6±0.5, 8°.S±5°.×10°.4E±°, h10km, M4.9/13, mb5.0/6, mB5.1/1, MLv4.8/13, Mw(mB)4.4/1*
*IDC **23** 10:07:16.0±1.2, 8°.15S×103°.92E, h0km, mb4.0/11, mbtmp4.0/12, ML4.5/1, MS3.4/1, Error ellipse: s-maj=44.2km s-min=16.2km az=48.0*
*NEIC **23** 10:07:17.5±1.9, 8°.16S±0°.06×103°.99E±0°.07, h17km±5km, mb4.7/15, Error ellipse: s-maj=10.6km s-min=8.8km az=64.0*

ISC 23 10:07:16.4±0.6, 8°.17S±0°.07×104°.03E±0°.07, h10km, n57, σ1°57/57, mb4.2/18, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	2.26	47	P	Pn	10 07 52.4	-1.4
KASI	Kota Agung	2.67	10	P	Pn	10 07 57.9	-1.6
XMI	Christmas Isla	2.79	144	P	Pn	10 08 00.3	-0.9
XMIS	Christmas Isla	2.79	145	Pn	Pn	10 08 00.0	-1.2
XMIS	Christmas Isla	2.79	145	P	Pn	10 07 59.7	-1.5
LWLI	Liwa	3.13	0	P	Pn	10 08 04.6	-1.4
CNJI	Cibinong	3.19	75	P	Pn	10 08 05.6	-1.0
CBJI	Citeko	3.29	58	P	Pn	10 08 07.4	-0.6
BBJI	Bungbulang	3.65	79	P	Pn	10 08 12.8	-0.3
LEM	Lembang	3.80	70	P	Pn	10 08 16.0	+0.9
LEM	Lembang	3.80	70	Pn	Pn	10 08 17.0	+1.9
	30nm,0.3s,baz=355,slow=1.5,SNR=30						
LEM				Sn	Sn	10 08 56.6	-3.4
	36nm,0.3s,baz=140,slow=17,SNR=8.1						
LEM				LR	LR	10 10 01.9	
	comp=Z,508nm,18.3s,baz=292,slow=43						
	156nm,0.6s						
MNAI	Manna	3.94	344		Pn	10 08 15.6	-1.3
MNAI	Manna	3.94	344	P	Pn	10 08 15.5	-1.4
CMJI	Cimerak	4.39	85	P	Pn	10 08 23.4	+0.3
KPJI	Karang Pucung	4.92	81	P	Pn	10 08 31.5	+1.0
	106nm,0.5s,2μm0.9nm						
UGM	Wanagama	6.43	88		Pn	10 08 52.0	+0.8
UGM	Wanagama	6.43	88	P	Pn	10 08 53.4	+2.1
UGM	Wanagama	6.43	88	P	Pn	10 08 52.1	+0.8
	247nm,0.9s,1.2nm						
PPSI	Pulau Pagai	6.70	323	P	Pn	10 08 52.2	-2.7
	74nm,0.5s,0.4nm						
COCO	West Island	8.13	240	Pn	Pn	10 09 14.4	-0.2
SISI	Saibi	8.40	324	P	Pn	10 09 16.6	-1.6
JAGI	Jajag, Banyuwa	10.02	92		Pn	10 09 40.8	+0.3
JAGI	Jajag, Banyuwa	10.02	92	P	Pn	10 09 43.2	+2.7
JAGI	Jajag, Banyuwa	10.02	92	P	Pn	10 09 53.6	+13
SRBI	Singaraja	11.07	90	P	Pn	10 09 56.3	+1.4
PLAI	Plampang	13.61	94	P	Pn	10 10 31.2	+1.6
GIRL	Giralia	17.41	147	Pn	Pn	10 11 18.4	-1.2
TOLI2	Tolitoli	19.08	62	P	P	10 11 38.1	-1.1
MBWA	Marble Bar	19.91	132	P	P	10 11 48.0	-0.3
MBWA				IAmb	IAmb	10 12 07.1	
	comp=Z,12nm,0.7s						
LUWI	Luwuk	19.96	70	P	P	10 11 49.2	+0.2
LUWI				IAmb	IAmb	10 11 50.2	
	comp=Z,21nm,0.6s						
SOEI	Soe	20.05	96	P	P	10 11 49.9	-0.2
SOEI				IAmb	IAmb	10 12 20.8	
	comp=Z,29nm,0.6s						
PSA00	Pilbara Seismi	20.25	133	P	P	10 11 52.2	+0.2
PSA00				IAmb	IAmb	10 12 08.7	
	comp=Z,29nm,1.1s						
CMAR	Chiang Mai Arr	26.93	349	P	P	10 12 58.6	+0.6
	comp=Z,1.5nm,0.5s,baz=180,slow=8.8,SNR=13						
	comp=Z,1.5nm,0.5s						
WRA	Warramunga Arr	31.58	115	P	P	10 13 40.9	+1.4
	comp=Z,1.1nm,0.6s,baz=287,slow=11,SNR=11						
	comp=Z,1.1nm,0.6s						
WRAB	Tennant Creek	31.58	115	P	P	10 13 37.6	-1.9
WRAB				IAmb	IAmb	10 13 52.8	
	comp=Z,5.5nm,0.7s						
FORT	Forrest	31.78	138	P	P	10 13 38.3	-2.8
ASAR	Alice Springs	32.49	122	P	P	10 13 46.0	-1.5
ASAR	Alice Springs	32.49	122	P	P	10 13 49.5	+2.0
	comp=Z,0.4nm,0.4s,baz=291,slow=7.5,SNR=18						
	comp=Z,0.4nm,0.4s						
AS31	Alice Springs	32.49	122	P	P	10 13 47.4	-0.1
YULB	Yu-li	35.63	28	P	P	10 14 12.9	-1.7
STKA	Stephens Creek	42.11	129	P	P	10 15 08.5	-0.5
STKA	Stephens Creek	42.11	129	P	P	10 15 11.2	+2.2
	comp=Z,2.4nm,0.6s,baz=289,slow=7.1,SNR=6.4						
	comp=Z,2.4nm,0.6s						
CAN	Canberra	49.15	130	P	P	10 16 04.3	-0.4
CAN				IAmb	IAmb	10 16 38.6	
	comp=Z,15nm,1.2s						
HHC	Hu-ho-hao-te	49.27	8	eP	P	10 16 08.1	+2.6
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,260nm,6.1s						
SONM	Songino Array	55.80	2	P	P	10 16 55.3	+1.5
	comp=Z,1.2nm,0.9s,baz=191,slow=7.6,SNR=3.9						
	comp=Z,1.2nm,0.9s						
USA0B	Ussuriysk Arra	57.94	23	P	P	10 17 09.0	+0.1
USA0B				IAmb	IAmb	10 17 27.4	
	comp=Z,18nm,1.4s						
USRK	Ussuriysk Ar.	57.94	23	P	P	10 17 08.6	-0.2
USRK	Ussuriysk Ar.	57.94	23	P	P	10 17 11.2	+2.3
	comp=Z,1.0nm,0.6s,baz=169,slow=8.5,SNR=1.6						
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	58.05	343	P	P	10 17 07.8	-1.9
MKAR	Makanchi Array	58.05	343	P	P	10 17 09.1	-0.5
	comp=Z,0.7nm,0.7s,baz=125,slow=7.6,SNR=5.4						
	comp=Z,0.7nm,0.7s						
HEH	HeiHe	61.64	17	eP	P	10 17 38.5	+4.3
HEH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURBB	Kurchatov Arra	62.59	342	P	P	10 17 42.1	+1.5
	comp=Z,1.1nm,0.2s,baz=163,slow=5.9,SNR=4.1						
	comp=Z,1.1nm,0.2s						
ZALV	Zalesovo Beam	63.98	347	P	P	10 17 50.5	+0.7
	comp=Z,2.0nm,0.6s,baz=134,slow=6.4,SNR=4.2						
	comp=Z,2.0nm,0.6s						
BVAR	Borovoye Array	67.34	339	P	P	10 18 12.2	+0.6
	comp=Z,0.8nm,0.6s,baz=152,slow=6.7,SNR=4.3						
	comp=Z,0.8nm,0.6s						
ABKAR	Akbulak array	68.95	331	P	P	10 18 20.8	-0.8
ABKAR				IAmb	IAmb	10 18 24.2	
	comp=Z,2.1nm,0.8s						
BKZ	Black Stump Fm	71.29	128	P	P	10 18 36.2	-0.2
BKZ				IAmb	IAmb	10 18 51.5	
	comp=Z,9.9nm,1.1s						
BRTR	Keskin Array B	80.43	313	P	P	10 19 29.9	+1.2
	comp=Z,0.7nm,0.6s,baz=160,slow=11,SNR=3.8						
	comp=Z,0.7nm,0.6s						

*IDC **23** 10:07:48.9±0.5, 52°.26S×17°.01E, h0km, mb4.6/14, mbtmp4.6/14, MS4.3/17, Error ellipse: s-maj=21.8km s-min=14.8km az=74.0*
*NEIC **23** 10:07:50.1±1.4, 52°.4S±0°.1×16°.84E±0°.08, h10km±1km, mb4.9/25, Error ellipse: s-maj=19.6km s-min=8.2km az=356.0*
*GCMT **23** 10:07:54.1±0.3, 52°.68S±0°.03×16°.74E±0°.05, h28km±1km, MW5.2/88, Moment Tensor Solution. s25,c25; s88,c106; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.68±.05; $M_{\theta\theta}$=0.60±.03; $M_{\phi\phi}$=0.07±.03; $M_{r\theta}$=-0.34±.04; $M_{\theta\phi}$=-0.06±.02; $M_{\phi r}$=0.31±.04; Best double couple: M_0=0.78300×10^{17} NP1:φs115.00000°, δ63.00000°, λ-75.00000°. NP2:φs265.00000°, δ31.00000°, λ-117.00000°. Principal axes: T 0.7160, Plg16.0000°, Azm194.0000°; N 0.1350, Plg13.0000°, Azm288.0000°; P -0.8500, Plg69.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 10:07:50.0±0.5, 52°.26S±0°.08×16°.8E±0°.1, h10km, n76, σ1°31/57, mb4.8/23, MS4.3/17, 5D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	20.08	10	P	P	10 12 24.8	+1.2
SUR	Sutherland	20.08	10	P	P	10 12 25.0	+1.3
	24nm,0.9s,baz=196,slow=7.2,SNR=7.5						
SUR				S	S	10 16 04.1	-5.1
	2.1nm,0.4s,baz=170,slow=4.2,SNR=1.3						
SUR				LR	LR	10 18 31.5	
	comp=Z,802nm,20.0s,baz=169,slow=32						
	24nm,0.9s						
GRHM	Grahamstown, E	20.20	24	P	P	10 12 26.5	+1.8
GRHM				IAmb	IAmb	10 12 29.5	
	comp=Z,84nm,1.6s						
TROLL	Troll, Antarti	20.80	192	⇓P	P	10 12 32.2	+1.1
	comp=Z,594nm,1.0s						
SNAA	Sanae	21.34	197	P	P	10 12 37.0	+0.1
SNAA				IAmb	IAmb	10 12 39.5	
	comp=Z,43nm,1.0s						
SNAA	Sanae	21.34	197	⇓P	P	10 12 38.0	+1.1
	comp=Z,511nm,0.8s						
SNAA	Sanae	21.34	197	P	P	10 12 38.0	+1.1
	comp=Z,28nm,0.9s,baz=30,slow=9.8,SNR=85						
SNAA				LR	LR	10 19 19.2	
	comp=Z,598nm,19.1s,baz=28,slow=32						
	comp=Z,28nm,0.9s						
VNA1	Neumayer--Stat	21.68	202	⇓P	P	10 12 41.6	+1.2
	comp=Z,37nm,1.1s						
VNA2	Neumayer--Watz	21.68	201	⇓P	P	10 12 41.0	+0.5
	comp=Z,25nm,0.9s,baz=35,slow=11						
VNA3	Neumayer Olymp	22.43	202	⇓P	P	10 12 48.6	+0.1
	comp=Z,23nm,0.8s						
H04S2	CROZET ISLANDS	23.23	91	T	T	10 37 02.5	
	baz=244,slow=75,SNR=50						
H04S3	CROZET ISLANDS	23.23	91	T	T	10 37 06.4	
	baz=244,slow=75,SNR=55						
H04S1	CROZET ISLANDS	23.25	91	T	T	10 37 05.8	
	baz=244,slow=75,SNR=67						
BOSA	Boshof	24.45	18	P	P	10 13 09.2	+0.3
BOSA	Boshof	24.45	18	P	P	10 13 08.9	-0.1
	comp=Z,12nm,0.9s,baz=197,slow=10,SNR=13						
BOSA				LR	LR	10 21 35.9	
	comp=Z,970nm,18.1s,baz=192,slow=34						
	comp=Z,12nm,0.9s						
MAW	Mawson	26.87	142	P	P	10 13 30.6	+0.2
MAW	Mawson	26.87	142	P	P	10 13 30.8	+0.5
	comp=Z,6.6nm,0.9s,baz=291,slow=13,SNR=15						
	comp=Z,6.6nm,0.9s						
BELA	Belgrano 2	31.57	198	P	P	10 14 10.3	-1.8
BELA				IAmb	IAmb	10 15 10.8	
	comp=Z,10nm,0.7s						
TSUM	Tsumeb	33.00	1	LR	LR	10 25 34.6	
	comp=Z,661nm,21.9s,baz=152,slow=32						
QSPA	South Pole Qui	37.97	180	P	P	10 15 07.7	+0.1
QSPA				IAmb	IAmb	10 15 17.2	
	comp=Z,48nm,1.6s						
QSPA	South Pole Qui	37.97	180	P	P	10 15 08.1	+0.5
	comp=Z,8.3nm,0.9s,baz=261,slow=5.2,SNR=20						
	comp=Z,8.3nm,0.9s						
LSZ	Lusaka	37.99	18	LR	LR	10 29 33.4	
	comp=Z,690nm,19.3s,baz=180,slow=34						
PMSA	Palmer Station	41.02	220	LR	LR	10 28 52.3	
	comp=Z,530nm,19.6s,baz=100,slow=31						
CASY	Casey	45.15	145	P	P	10 16 06.3	+0.1
H10S2	ASCENSION HYDR	50.21	318	T	T	11 11 05.6	
	baz=154,slow=74,SNR=29						
H10S3	ASCENSION HYDR	50.22	318	T	T	11 11 06.2	
	baz=66,slow=74,SNR=85						
MBAR	Mbarara	52.79	18	LR	LR	10 38 32.0	
	comp=Z,1μm,19.5s,baz=182,slow=35						
TRQA	Tornquist	54.66	252	P	P	10 17 18.8	-0.1
TRQA				IAmb	IAmb	10 17 33.7	
	comp=Z,15nm,1.1s						
CPUP	Villa Florida	60.09	265	P	P	10 17 57.4	+0.1
CPUP				IAmb	IAmb	10 18 07.1	
	comp=Z,15nm,1.2s						
CPUP	Villa Florida	60.09	265	P	P	10 17 58.3	+1.0
	comp=Z,3.1nm,0.9s,baz=38,slow=7.5,SNR=4.4						
	comp=Z,3.1nm,0.9s						
DBIC	Dimbokro	61.55	335	P	P	10 18 08.0	+0.8
DBIC	Dimbokro	61.55	335	P	P	10 18 08.0	+0.8
	comp=Z,20nm,0.9s,baz=146,slow=7.5,SNR=13						
DBIC				LR	LR	10 38 30.7	
	comp=Z,192nm,21.6s,baz=158,slow=30						
	comp=Z,20nm,0.9s						
BDFB	Brasilia	62.41	280	P	P	10 18 13.7	+0.5
BDFB	Brasilia	62.41	280	P	P	10 18 13.4	+0.2
	comp=Z,3.5nm,0.4s,baz=141,slow=6.7,SNR=6.2						
BDFB				LR	LR	10 38 45.0	
	comp=Z,162nm,21.1s,baz=233,slow=30						
	comp=Z,3.5nm,0.4s						
TOA0	Torodi Ar. Sit	66.44	344	P	P	10 18 39.3	0.0
TOA0				IAmb	IAmb	10 18 40.8	
	comp=Z,11nm,1.1s						
TORD	Torodi Ar. Bea	66.44	344	P	P	10 18 39.0	-0.4
TORD				IAmb	IAmb	10 18 40.8	
	comp=Z,10.0nm,1.1s						
TORD	Torodi Ar. Bea	66.44	344	P	P	10 18 39.3	0.0
	comp=Z,5.6nm,1.0s,baz=160,slow=5.7,SNR=21						
	comp=Z,5.6nm,1.0s						
AC06	Mina Casimiro	67.20	254	P	P	10 18 41.3	-3.0
H01W2	Cape Leeuwin H	67.36	118	T	T	11 32 49.4	
	baz=220,slow=75,SNR=56						
H01W3	Cape Leeuwin H	67.37	118	T	T	11 32 41.0	
	baz=220,slow=75,SNR=56						
H01W1	Cape Leeuwin H	67.37	118	T	T	11 32 50.5	
	baz=220,slow=75,SNR=61						
KOWA	Kowa	68.89	338	P	P	10 18 55.0	+0.3
KOWA				IAmb	IAmb	10 18 56.5	
	comp=Z,6.7nm,0.8s						
KOWA	Kowa	68.89	338	LR	LR	10 43 38.2	
	comp=Z,226nm,19.7s,baz=256,slow=31						
PTLB	Pontes e Lacer	69.35	271	P	P	10 18 57.9	+0.1
PTLB				IAmb	IAmb	10 18 59.4	
	comp=Z,13nm,1.1s						
LVC	Limon Verde	69.89	259	LR	LR	10 46 29.6	
	comp=Z,67nm,20.9s,baz=40,slow=33						
LPAZ	La Paz	74.23	264	P	P	10 19 27.2	-0.6
LPAZ				IAmb	IAmb	10 19 39.9	
	comp=Z,11nm,1.2s						
LPAZ	La Paz	74.23	264	P	P	10 19 29.8	+1.9
	comp=Z,2.8nm,0.8s,baz=97,slow=6.3,SNR=8.2						
	comp=Z,2.8nm,0.8s						
SAML	Samuel	76.86	272	P	P	10 19 41.9	-0.4
ETMB	Extrema	78.05	269	P	P	10 19 48.2	-0.7
ETMB				IAmb	IAmb	10 19 57.9	
	comp=Z,13nm,1.2s						
MDP	Montagnes des	81.66	289	LR	LR	10 51 22.4	
	comp=Z,153nm,20.1s,baz=342,slow=32						
RPZ	Rata Peaks	81.84	161	LR	LR	10 53 28.4	
	comp=Z,297nm,21.8s,baz=256,slow=34						
NNA	Nana	82.86	260	LR	LR	10 52 54.3	
	comp=Z,52nm,20.6s,baz=321,slow=33						
STKA	Stephens Creek	83.32	135	P	P	10 20 15.5	-1.4
STKA	Stephens Creek	83.32	135	P	P	10 20 16.8	-0.2
	comp=Z,8.5nm,1.1s,baz=182,slow=6.9,SNR=7.4						
	comp=Z,8.5nm,1.1s						
WSAR	Wadi Sarin	83.57	38	LR	LR	10 51 20.6	
	comp=Z,146nm,20.3s,baz=46,slow=31						
BOAV	Boa Vista	84.16	281	P	P	10 20 21.4	+0.1
MMAI	Mount Meron Ar	86.46	16	LR	LR	10 59 12.0	
	comp=Z,218nm,19.9s,baz=328,slow=36						
ASAR	Alice Springs	86.66	125	P	P	10 20 33.3	-0.6
ASAR	Alice Springs	86.66	125	P	P	10 20 33.6	-0.3
	comp=Z,6.3nm,1.0s,baz=204,slow=4.7,SNR=15						
	comp=Z,6.3nm,1.0s						
AS31	Alice Springs	86.66	125	P	P	10 20 33.3	-0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA				Sn	Sn	10 15 41.9	-7.3
	0.3nm,0.3s,baz=334,slow=23,SNR=1.8 0.4nm,0.4s						
ASAR	**Alice Springs**	**16.82**	**170**	Pn	Pn	10 14 07.8	+0.7
	0.3nm,0.3s,baz=347,slow=8.9,SNR=21 0.5nm,0.4s						
MKAR	**Makanchi Array**	**68.63**	**327**	P	P	10 21 14.9	-0.2
	0.5nm,0.4s,baz=116,slow=6.6,SNR=6.8 0.5nm,0.4s						

IDC 23 10:12:10.2±28.0, 63°.14S×152°.05E, h0km, mb4.0/4, mbtmp4.0/4, MS4.1/5, Error ellipse: s-maj=511.1km s-min=172.6km az=160.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**26.95**	**180**	LR	LR	10 29 55.8	
	comp=Z,404nm,19.3s,baz=291,slow=40						
URZ	**Urewera**	**29.16**	**43**	LR	LR	10 28 53.0	
	comp=Z,336nm,18.1s,baz=210,slow=34						
STKA	**Stephens Creek**	**31.98**	**343**	P	P	10 18 37.7	0.0
	1.7nm,0.8s,baz=150,slow=13,SNR=2.9 1.7nm,0.8s						
MAW	**Mawson**	**34.38**	**223**	LR	LR	10 33 59.2	
	comp=Z,392nm,20.5s,baz=58,slow=38						
H01W1	**Cape Leeuwin H**	**36.68**	**302**	T	T	10 58 30.0	
	baz=148,slow=75,SNR=853						
H01W2	**Cape Leeuwin H**	**36.68**	**302**	T	T	10 58 30.0	
	baz=148,slow=75,SNR=604						
H01W3	**Cape Leeuwin H**	**36.69**	**302**	T	T	10 58 30.9	
	baz=148,slow=75,SNR=743						
NWAO	**Narrogin (SRO)**	**37.28**	**308**	LR	LR	10 30 46.7	
	comp=Z,392nm,19.8s,baz=117,slow=30						
ASAR	**Alice Springs**	**41.29**	**334**	P	P	10 19 57.8	+0.7
	1.3nm,0.9s,baz=168,slow=9.0,SNR=8.6 1.3nm,0.9s						
CTA	**Charters Tower**	**43.20**	**352**	P	P	10 20 12.6	-0.1
	0.7nm,0.3s,baz=174,slow=10,SNR=3.5 0.7nm,0.3s						
WRA	**Warramunga Arr**	**44.83**	**336**	P	P	10 20 24.8	-1.0
	4.8nm,1.2s,baz=167,slow=7.3,SNR=6.6 4.8nm,1.2s						
KAPI	**Kappang**	**62.62**	**323**	LR	LR	10 48 43.9	
	comp=Z,129nm,20.0s,baz=137,slow=35						
H03S1	**Juan Fernandez**	**75.19**	**138**	T	T	11 47 50.9	
	baz=201,slow=74,SNR=72						
H03S2	**Juan Fernandez**	**75.19**	**138**	T	T	11 47 51.3	
	baz=201,slow=74,SNR=92						
H03S3	**Juan Fernandez**	**75.20**	**138**	T	T	11 47 52.5	
	baz=201,slow=74,SNR=78						
H08S2	**Diego Garcia H**	**78.50**	**276**	T	T	11 51 57.4	
	baz=151,slow=76,SNR=36						
H08S1	**Diego Carcia H**	**78.51**	**276**	T	T	11 52 02.5	
	baz=151,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**78.52**	**276**	T	T	11 52 07.5	
	baz=151,slow=76,SNR=73						

*NEIC **23** 10:31:56.6±2.3, 12°.47N±0°.09×142°.6E±0°.1, h78km±8km, mb4.8/25, Error ellipse: s-maj=16.7km s-min=13.6km az=94.0*
*IDC **23** 10:31:60.0±1.7, 12°.61N×142°.99E, h123km±18km, mb4.0/15, mbtmp4.4/16, Error ellipse: s-maj=20.4km s-min=11.1km az=82.0*
*DJA **23** 10:32:12.9±0.6, 12°N±7°×14°3E±1°, h239km±12km, M4.5/6, mB5.6/2, mb4.7/6, MLv4.4/1, Mw(mB)5.1/2*
ISC 23 10:31:56.2±0.5, 12°.56N±0°.06×142°.65E±0°.07, h80km, n63, σ1§51/60, mb4.8/29, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.39**	**64**	P	Pn	10 32 34.8	+1.5
	299nm,0.3s,baz=340,slow=18,SNR=15						
GUMO				S	Sn	10 33 01.3	-0.3
	1μm,0.4s,baz=135,slow=22,SNR=28						
GENI	**Genyem**	**15.26**	**189**	P	P	10 35 34.1	+3.8
	29nm,0.6s						
PATS	**Pohnpei**	**16.45**	**109**	Pn	Pn	10 35 40.5	-1.7
FAKI	**Fak Fak**	**18.53**	**215**	P	Pn	10 36 07.1	-0.5
FAKI	**Fak Fak**	**18.53**	**215**	P	Pn	10 36 09.5	+1.9
	36nm,0.9s						
SSLB	**Suanglung**	**23.41**	**302**	P	P	10 36 56.6	-1.7
SSLB				IAmb	IAmb	10 37 02.5	
	comp=Z,61nm,1.4s						
MRSI	**Marisa**	**23.79**	**241**	P	P	10 37 03.4	+1.6
	comp=Z,43nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**23.88**	**73**	T	T	11 01 23.9	
	baz=253,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**23.90**	**73**	T	T	11 01 02.7	
	baz=253,slow=75,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**23.90**	**73**	T	T	11 01 15.1	
	baz=253,slow=75,SNR=5.6						
LUWI	**Luwuk**	**23.92**	**237**	P	P	10 37 02.0	-0.9
LUWI	**Luwuk**	**23.92**	**237**	P	P	10 37 03.5	+0.6
	comp=Z,157nm,0.9s,comp=Z,5μm						
MJAR	**Matsushiro Arr**	**24.21**	**351**	P	P	10 37 05.5	+0.1
	comp=Z,2.3nm,0.6s,baz=197,slow=9.3,SNR=4.5 comp=Z,2.3nm,0.6s						
MAJO	**Matsushiro**	**24.21**	**351**	P	P	10 37 04.5	-0.9
MAJO				IAmb	IAmb	10 37 38.7	
	comp=Z,118nm,2.0s						
H11N1	**WAKE ISLAND Hy**	**24.32**	**70**	T	T	11 02 26.6	
	baz=253,slow=75,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**24.33**	**70**	T	T	11 02 10.6	
	baz=253,slow=74,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**24.34**	**70**	T	T	11 02 14.1	
	baz=253,slow=75,SNR=17						
COEN	**Coen**	**26.36**	**179**	P	P	10 37 23.4	-1.5
MTN	**Manton Dam**	**27.71**	**205**	P	P	10 37 35.6	-1.4
MTN				IAmb	IAmb	10 38 13.2	
	comp=Z,20nm,1.3s						
USRK	**Ussuriysk Ar.**	**32.83**	**346**	P	P	10 38 22.3	+0.2
USRK	**Ussuriysk Ar.**	**32.83**	**346**	P	P	10 38 23.2	+1.1
	comp=Z,4.5nm,0.7s,baz=170,slow=10,SNR=9.0 comp=Z,4.5nm,0.7s						
WB0	**Warramunga Arr**	**33.14**	**194**		P	10 38 25.2	+0.2
WB0				IAmb	IAmb	10 38 26.0	
	comp=Z,13nm,0.8s						
WR0	**Warramunga Arr**	**33.29**	**194**	P	P	10 38 26.6	+0.3
WR0				IAmb	IAmb	10 38 27.4	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**33.31**	**194**	P	P	10 38 25.2	-1.2
WRAB	**Tennant Creek**	**33.31**	**194**	⇓P	P	10 38 26.8	+0.3
WRAB				pP	pP	10 38 42.7	-1.5
WB2	**Warramunga Arr**	**33.32**	**194**		P	10 38 26.9	+0.3
WB2				IAmb	IAmb	10 38 27.7	
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**33.32**	**194**		P	10 38 25.4	-1.2
WRA	**Warramunga Arr**	**33.32**	**194**	P	P	10 38 26.8	+0.2
	comp=Z,16nm,0.7s,baz=16,slow=9.3,SNR=103 comp=Z,16nm,0.7s						
AS31	**Alice Springs**	**37.01**	**193**	P	P	10 38 58.6	+0.3
ASAR	**Alice Springs**	**37.01**	**193**	P	P	10 38 58.7	+0.4
ASAR	**Alice Springs**	**37.01**	**193**	P	P	10 38 58.5	+0.3
	comp=Z,4.9nm,0.4s,baz=20,slow=12,SNR=208						
ASAR				PP	PnPn	10 40 30.9	+5.5
	comp=Z,1.2nm,0.9s,baz=10,slow=12,SNR=6.6 comp=Z,4.9nm,0.4s						
PSA00	**Pilbara Seismi**	**40.65**	**214**	P	P	10 39 28.5	-0.2
PSA00				IAmb	IAmb	10 39 33.4	
	comp=Z,26nm,1.4s						
DZM	**Mont Dzumac**	**41.59**	**146**	P	P	10 39 35.1	-1.4
DZM				IAmb	IAmb	10 39 43.9	
	comp=Z,16nm,1.2s						
DZM	**Mont Dzumac**	**41.59**	**146**	P	P	10 39 35.8	-0.7
	comp=Z,2.5nm,0.5s,baz=308,slow=18,SNR=9.5 comp=Z,2.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**42.45**	**284**	P	P	10 39 43.7	+0.2
CMAR	**Chiang Mai Arr**	**42.45**	**284**	P	P	10 39 46.1	+2.6
	comp=Z,5.3nm,0.8s,baz=84,slow=6.2,SNR=28 comp=Z,5.3nm,0.8s						
STKA	**Stephens Creek**	**44.20**	**181**	P	P	10 39 56.6	-0.8
STKA	**Stephens Creek**	**44.20**	**181**	P	P	10 39 56.5	-0.8
	comp=Z,2.1nm,0.4s,baz=1.0,slow=7.8,SNR=9.2 comp=Z,2.1nm,0.4s						
GIRL	**Giralia**	**44.72**	**219**	P	P	10 40 00.6	-1.1
FORT	**Forrest**	**45.32**	**198**	P	P	10 40 05.7	-0.6
BBOO	**Buckleboo**	**45.55**	**188**	P	P	10 40 06.7	-1.4
BBOO				IAmb	IAmb	10 40 08.7	
	comp=Z,14nm,0.7s						
SONM	**Songino Array**	**46.36**	**327**	P	P	10 40 15.5	+1.0
SONM	**Songino Array**	**46.36**	**327**	P	P	10 40 14.9	+0.4
	comp=Z,0.9nm,0.4s,baz=146,slow=6.8,SNR=5.8 comp=Z,0.9nm,0.4s						
MK31	**Makanchi Array**	**60.74**	**317**	P	P	10 42 00.1	+0.5
MKAR	**Makanchi Array**	**60.74**	**317**	P	P	10 42 00.0	+0.5
MKAR	**Makanchi Array**	**60.74**	**317**	P	P	10 42 00.1	+0.6
	comp=Z,1.9nm,0.8s,baz=90,slow=8.5,SNR=5.9 comp=Z,1.9nm,0.8s						
MAKZ	**Makanchi**	**60.95**	**317**	P	P	10 41 59.8	-1.2
MAKZ				IAmb	IAmb	10 42 02.1	
	comp=Z,4.6nm,1.0s						
MAKZ	**Makanchi**	**60.95**	**317**	P	P	10 42 01.6	+0.6
ZAA0	**Zalesovo Array**	**61.21**	**325**	P	P	10 42 02.1	-0.4
ZAA0				IAmb	IAmb	10 42 02.9	
	comp=Z,21nm,1.9s						
ZALV	**Zalesovo Beam**	**61.21**	**325**	P	P	10 42 01.8	-0.8
ZALV	**Zalesovo Beam**	**61.21**	**325**	P	P	10 42 02.1	-0.4
	comp=Z,2.5nm,0.4s,baz=111,slow=7.2,SNR=8.2 comp=Z,2.5nm,0.4s						
KURK	**Kurchatov**	**63.98**	**321**	P	P	10 42 21.0	-0.1
KURK				IAmb	IAmb	10 42 21.8	
	comp=Z,10nm,0.8s						
KURK	**Kurchatov**	**63.98**	**321**	P	P	10 42 20.9	-0.1
KURK				pP	pP	10 42 37.2	-3.5
KURBB	**Kurchatov Arra**	**64.02**	**320**	P	P	10 42 21.4	+0.1
	comp=Z,8.9nm,0.6s,baz=105,slow=6.7,SNR=40 comp=Z,8.9nm,0.6s						
BVAR	**Borovoye Array**	**69.40**	**322**	P	P	10 42 55.4	-0.1
	comp=Z,5.4nm,0.4s,baz=105,slow=7.4,SNR=25 comp=Z,5.4nm,0.4s						
BRVK	**Borovoye**	**69.46**	**322**	P	P	10 42 55.2	-0.7
BRVK				IAmb	IAmb	10 42 56.3	
	comp=Z,4.9nm,0.6s						
BRVK	**Borovoye**	**69.46**	**322**	P	P	10 42 56.0	+0.1
I23K	**Minto, Yukon-K**	**69.48**	**25**	P	P	10 43 00.1	+4.3
ILAR	**Eielson Array**	**70.41**	**25**	P	P	10 42 57.8	-3.7
	comp=Z,0.3nm,0.6s,baz=256,slow=6.0,SNR=5.4 comp=Z,0.3nm,0.6s						
ABKAR	**Akbulak array**	**75.85**	**318**	P	P	10 43 33.3	-0.5
NVAR	**Mina Array Bea**	**89.24**	**51**	P	P	10 44 42.9	-1.0
	comp=Z,0.5nm,0.7s,baz=277,slow=5.6,SNR=5.8 comp=Z,0.5nm,0.7s						
FINES	**FINESS Array B**	**91.17**	**335**	P	P	10 44 49.7	-2.3
	comp=Z,1.2nm,0.8s,baz=85,slow=4.0,SNR=3.5 comp=Z,1.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**133.62**	**302**	PKP	PKPdf	10 51 03.7	-0.8
	comp=Z,0.7nm,0.6s,baz=35,slow=3.2,SNR=4.9						

*IDC **23** 10:45:30.0±1.0, 24°.12N×122°.48E, h0km, mb3.8/7, mbtmp3.9/8, ML3.5/1, MS3.0/1, Error ellipse: s-maj=41.8km s-min=18.6km az=61.0*
*TAP **23** 10:45:34.7, 24°.07N×122°.47E, h29km, ML4.2, C*
*JMA **23** 10:45:34.5±0.2, 24°N±1°×122°.5E±0°.4, h26km±2km, MD4.0/19, MV3.6/19, NW OFF ISHIGAKIJIMA IS*
ISC 23 10:45:34.4±0.9, 24°.01N±0°.02×122°.46E±0°.02, h28km±7km, n179, σ0§90/317, mb3.7/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.17**	**312**	*i* P	Pn	10 45 40.2	-0.6
	baz=289						
EOS4				S	Sb	10 45 44.2	+0.9
	baz=289						
EOS3	**EOS3**	**0.31**	**336**	*i* P	Pn	10 45 41.9	-1.0
	baz=323						
EOS3				S	Sb	10 45 47.0	+0.4
	baz=323						
EOS2	**EOS2**	**0.46**	**334**	*i* P	Pn	10 45 44.5	-0.6
	baz=318						
EOS2				*e*S	Sn	10 45 51.4	-0.8
	baz=318						
JYNG	**Yonagunijimaku**	**0.63**	**45**	*i* P	Pb	10 45 46.2	-0.7
JYNG				S	Sb	10 45 54.1	-1.3
JYNG	**Yonagunijimaku**	**0.63**	**45**	A	A	10 45 46.2	
	comp=E,18nm,1.1s,comp=N,16nm,1.0s						
YOJ	**Yonaguni jima**	**0.68**	**48**	P	Pb	10 45 47.1	-0.6
YOJ				S	Sb	10 45 55.5	-1.3
YOJ	**Yonaguni jima**	**0.68**	**48**	A	A	10 45 47.1	
	comp=E,9.0nm,1.7s,comp=N,6.0nm,2.1s						
YOJ	**Yonaguni jima**	**0.68**	**48**	*i* P	Pb	10 45 47.1	-0.6
	baz=58						
YOJ				*e*S	Sb	10 45 55.7	-1.2
	baz=58						
EWUT	**Wuta**	**0.76**	**305**	*i* P	Pn	10 45 49.0	-0.3
	baz=300						
EWUT				S	Sn	10 45 59.1	-0.6
	baz=300						
ENA	**Nanau**	**0.78**	**303**	*i* P	Pn	10 45 49.4	-0.1
	baz=298						
ENA				*e*S	Sn	10 45 59.7	-0.6
	baz=298						
ETL	**Fush Village**	**0.78**	**282**	*e*P	Pn	10 45 49.7	+0.2
	baz=261						
ETL				*e*S	Sn	10 46 00.6	+0.3
	baz=261						
HWA	**Hwalien**	**0.78**	**268**	*e*P	Pn	10 45 50.6	+1.1
	baz=249						
HWA				*e*S	Sn	10 46 01.8	+1.5
	baz=249						
TWD	**Chiawan**	**0.79**	**276**	*e*P	Pn	10 45 49.3	-0.4
	baz=270						
TWD				*e*S	Sn	10 46 00.5	-0.1
	baz=270						
NACB	**Ninganchiao**	**0.81**	**282**	P	Pn	10 45 49.9	0.0
NACB	**Ninganchiao**	**0.81**	**282**	*i* P	Pn	10 45 49.6	-0.3
	baz=262						
NACB				S	Sn	10 46 01.0	+0.1
	baz=262						
TWC	**Suao**	**0.82**	**317**	*i* P	Pb	10 45 49.4	-0.6
	baz=314						
TWC				S	Sb	10 45 59.9	-0.9
	baz=314						
ETM	**Tongmen**	**0.88**	**268**	P	Pn	10 45 50.7	-0.2
	baz=253						
ETM				S	Sn	10 46 02.5	-0.4
	baz=253						
TEGC	**Jichi Village**	**0.89**	**251**	*e*S	Sn	10 46 03.6	+0.6
	baz=246						
ETLH	**Xiulin Townshi**	**0.91**	**283**	*i* P	Pn	10 45 51.3	-0.1
	baz=278						
ETLH				S	Sn	10 46 04.2	+0.4
	baz=278						
NDS	**Dongshan**	**0.92**	**313**	P	Pn	10 45 51.7	+0.2
	baz=309						
NDS				*e*S	Sn	10 46 03.8	0.0
	baz=309						
LXIB	**Xiulin Townshi**	**0.95**	**271**	*i* P	Pb	10 45 52.0	-0.5
	baz=267						
LXIB				*e*S	Sb	10 46 04.4	-0.4
	baz=267						
ESL	**Shilin**	**0.96**	**259**	P	Pn	10 45 51.5	-0.4
	baz=245						
ESL				*e*S	Sn	10 46 04.7	0.0
	baz=245						
EGS		**0.96**	**330**	*e*P	Pn	10 45 50.5	-1.6
	baz=316						
EGS				*e*S	Sb	10 46 03.6	-1.3
	baz=316						
EGFH	**Guangfu**	**1.00**	**251**	*e*P	Pb	10 45 53.0	-0.1
	baz=247						
EGFH				*e*S	Sn	10 46 06.2	+0.5
	baz=247						
LATG	**Datong**	**1.00**	**302**	*i* P	Pb	10 45 52.9	-0.3
	baz=298						
LATG				*e*S	Sn	10 46 07.1	+1.2
	baz=298						
TWE	**Neicheng**	**1.01**	**315**	*i* P	Pb	10 45 53.1	-0.3
	baz=312						
TWE				S	Sn	10 46 07.0	+0.9
	baz=312						
WARBT	**Fenglin Townsh**	**1.02**	**254**	*i* P	Pn	10 45 52.4	-0.5
	baz=240						
WARBT				*e*S	Sn	10 46 06.7	+0.4
	baz=240						
ENTT	**Nioudou**	**1.03**	**308**	*i* P	Pb	10 45 53.4	-0.2
	baz=304						
ENTT				*e*S	Sn	10 46 07.5	+1.0
	baz=304						
NDT	**Datong Townshi**	**1.05**	**305**	*i* P	Pb	10 45 53.6	-0.3
	baz=288						
NDT				*e*S	Sn	10 46 07.0	+0.1
	baz=288						
NNSB	**Datong**	**1.07**	**293**	*i* P	Pb	10 45 53.8	-0.5
	baz=289						
NNSB				S	Sn	10 46 08.2	+0.6
	baz=289						
HGSD	**Ruisui**	**1.08**	**242**	*i* P	Pn	10 45 53.4	-0.2
	baz=239						
HGSD				S	Sb	10 46 07.8	-0.2
	baz=239						
NNS	**Nan Shan**	**1.08**	**294**	*i* P	Pb	10 45 54.1	-0.5
	baz=290						
NNS				S	Sn	10 46 08.6	+0.7
	baz=290						
TWB1	**Santiao Chiao**	**1.09**	**337**	*i* P	Pn	10 45 53.7	-0.1
	baz=351						
TWB1				*e*S	Sn	10 46 07.1	-0.7
	baz=351						
FUSB	**Fushanzhiwuyua**	**1.09**	**314**	*i* P	Pb	10 45 54.5	-0.3
	baz=310						
FUSB				*e*S	Sb	10 46 08.9	+0.2
	baz=310						
WHF	**Hehuan Shan**	**1.10**	**278**	*i* P	Pb	10 45 54.4	-0.7
	baz=273						
WHF				S	Sn	10 46 09.2	+0.5
	baz=273						
ECBN	**Changbin**	**1.15**	**234**	P	Pb	10 45 54.8	-0.8
	baz=231						
ECBN				S	Sn	10 46 09.3	-0.1
	baz=231						
EHY	**Hungye**	**1.15**	**245**	*i* P	Pn	10 45 54.8	+0.1
	baz=256						
EHY				*e*S	Sn	10 46 08.7	-0.8
	baz=256						
NWLT	**Wulai**	**1.16**	**312**	*i* P	Pb	10 45 55.5	-0.4
	baz=308						
NWLT				*e*S	Sb	10 46 11.1	+0.5
	baz=308						
OWD	**Renai**	**1.17**	**268**	*i* P	Pb	10 45 55.5	-0.6
	baz=264						
OWD				S	Sb	10 46 10.4	-0.6
	baz=264						
CHGB	**Renai**	**1.18**	**273**	*i* P	Pb	10 45 55.5	-0.7
	baz=257						
CHGB				*e*S	Sb	10 46 10.7	-0.5
	baz=257						
YHNB	**Yeheng**	**1.19**	**304**	P	Pb	10 45 56.0	-0.4
YHNB	**Yeheng**	**1.19**	**304**	*i* P	Pb	10 45 55.8	-0.6
	baz=288						
YHNB				*e*S	Sb	10 46 10.7	-0.7
	baz=288						
TWT	**Tachien**	**1.20**	**282**	P	Pb	10 45 57.0	+0.4
	baz=266						
TWT				*e*S	Sb	10 46 11.4	-0.3
	baz=266						
NSK	**Sanguang**	**1.21**	**304**	*i* P	Pb	10 45 55.9	-0.7
	baz=288						
NSK				S	Sb	10 46 11.6	-0.3
	baz=288						
SXI1	**Grass Mountain**	**1.21**	**334**	*i* P	Pn	10 45 55.5	0.0
	baz=346						
SXI1				*e*S	Sb	10 46 11.4	-0.5
	baz=346						
IRIF	**Iriomote-Funau**	**1.21**	**74**	P	Pb	10 45 55.9	-0.8
IRIF				*e*S	Sb	10 46 11.8	-0.1
IRIF	**Iriomote-Funau**	**1.21**	**74**	A	A	10 45 55.9	
	comp=E,5.0nm,1.7s,comp=N,8.0nm,1.9s						
TDCB	**Techi**	**1.21**	**282**	*e*P	Pb	10 45 56.5	-0.3
	baz=266						
TDCB				*e*S	Sb	10 46 11.9	-0.3
	baz=266						
WUSB	**Renai**	**1.23**	**270**	*i* P	Pb	10 45 56.4	-0.7
	baz=266						
WUSB				S	Sb	10 46 12.2	-0.3
	baz=266						
YULB	**Yu-li**	**1.23**	**240**	P	Pb	10 45 56.1	-0.8
YULB	**Yu-li**	**1.23**	**240**	*i* P	Pn	10 45 55.9	+0.2
	baz=253						
YULB				*e*S	Sn	10 46 11.5	+0.1
	baz=253						
NWF	**Wu-fen Shan**	**1.23**	**330**	*i* P	Pn	10 45 55.9	+0.1
	baz=328						
NWF				S	Sb	10 46 12.4	-0.1
	baz=328						
WFSB	**Wu-fen Shan**	**1.23**	**330**	*i* P	Pn	10 45 55.8	+0.1
	baz=328						
WFSB				S	Sb	10 46 12.1	-0.3
	baz=328						
VWDT	**VWDT**	**1.23**	**259**	*i* P	Pb	10 45 56.4	-0.6
	baz=255						
VWDT				S	Sb	10 46 12.3	-0.2
	baz=255						
EYUL	**Yuli**	**1.23**	**238**	*i* P	Pb	10 45 56.1	-0.9
	baz=235						
EYUL				S	Sb	10 46 12.4	-0.2
	baz=235						
HATJ	**Hateruma jima**	**1.23**	**87**	P	Pb	10 45 56.3	-0.7
HATJ				S	Sb	10 46 12.5	-0.1
TWF1	**Yuli**	**1.25**	**239**	*i* P	Pb	10 45 56.3	-1.0
	baz=235						
TWF1				S	Sb	10 46 12.3	-0.7
	baz=235						
NHDH	**Xindian Distri**	**1.28**	**319**	P	Pb	10 45 57.1	-0.7
	baz=332						
NHDH				*e*S	Sb	10 46 14.7	+0.9
	baz=332						
TNOU	**National Taiwa**	**1.30**	**331**	P	Pn	10 45 56.5	-0.2
	baz=329						
TNOU				*e*S	Sn	10 46 13.0	-0.1
	baz=329						
TATO	**Taipei**	**1.31**	**318**	P	Pb	10 45 57.9	-0.5
NHY	**Taipei**	**1.31**	**322**	*e*S	Sb	10 46 16.5	+1.7
	baz=336						
FULB	**Fuli**	**1.33**	**233**	P	Pn	10 45 57.1	-0.1
	baz=219						
FULB				*e*S	Sb	10 46 14.8	-0.7
	baz=219						
CHKT	**Chengkung**	**1.35**	**228**	P	Pn	10 45 56.8	-0.5
	baz=225						
CHKT				*e*S	Sn	10 46 13.2	-1.1
	baz=225						
NFF	**Wufeng Townshi**	**1.37**	**297**	P	Pb	10 45 58.7	-0.8
	baz=294						
NFF				*e*S	Sb	10 46 16.8	+0.1
	baz=294						
SSLB	**Suanglung**	**1.39**	**261**	P	Pb	10 45 59.6	-0.2
SSLB	**Suanglung**	**1.39**	**261**	*e*P	Pb	10 45 59.0	-0.8
	baz=258						
SSLB				*e*S	Sb	10 46 17.3	+0.1
	baz=258						
YM01	**YM01**	**1.40**	**325**	P	Pn	10 45 58.0	0.0
	baz=323						
YM01				*e*S	Sb	10 46 16.6	-0.7
	baz=323						
WHP	**Taichung City**	**1.41**	**281**	P	Pb	10 45 59.7	-0.4
	baz=267						
WHP				*e*S	Sb	10 46 17.9	+0.3
	baz=267						
WCS	**Beigang Elemen**	**1.41**	**272**	*i* P	Pb	10 45 59.3	-0.9
	baz=269						
WCS				*e*S	Sb	10 46 17.1	-0.7
	baz=269						
YM08	**YM08**	**1.42**	**326**	P	Pn	10 45 57.9	-0.4
	baz=324						
YM08				*e*S	Sn	10 46 15.8	-0.3
	baz=324						
EHD	**Haiduan**	**1.43**	**234**	*e*P	Pn	10 45 58.2	-0.3
	baz=246						
EHD				*e*S	Sn	10 46 16.0	-0.3
	baz=246						
SMLT	**Sun Moon Lake**	**1.43**	**265**	P	Pb	10 45 59.8	-0.6
	baz=262						
SMLT				*e*S	Sb	10 46 17.7	-0.6
	baz=262						
JKRS	**Kuro-shima**	**1.44**	**80**	P	Pn	10 45 59.3	+0.8
JKRS				S	Sb	10 46 18.4	0.0
TWS1	**Kuangyinshan**	**1.45**	**319**	*i* P	Pn	10 45 59.3	+0.6
	baz=334						
TWS1				*e*S	Sb	10 46 19.0	+0.3
	baz=334						
ECS	**Chishang**	**1.45**	**232**	P	Pn	10 45 59.4	+0.6
	baz=219						
ECS				*e*S	Sb	10 46 18.3	-0.6
	baz=219						
ANP	**

	baz=263						
EDH	Donghe	1.48 226	P		Pn	10 45 58.8	-0.3
	baz=215						
EDH			eS		Sn	10 46 16.7	-0.8
	baz=215						
NTST	Danshui	1.48 322	eP		Pn	10 45 59.5	+0.5
	baz=335						
NTST			eS		Sb	10 46 20.4	+0.8
	baz=335						
TWY	Chenhua	1.49 329	eP		Pn	10 45 59.7	+0.4
	baz=327						
TWY			eS		Sb	10 46 19.9	0.0
	baz=327						
WHYT	Xinyi Township	1.50 259	P		Pb	10 46 00.9	-0.8
	baz=244						
WHYT			eS		Sb	10 46 20.6	+0.3
	baz=244						
NCU	National Centr	1.50 310	eP		Pb	10 46 01.4	-0.3
	baz=307						
NCU			eS		Sb	10 46 20.0	-0.4
	baz=307						
NCUH	Zhongli	1.50 310	P		Pn	10 45 59.9	+0.4
	baz=307						
NCUH			eS		Sb	10 46 21.3	+0.9
	baz=307						
ELDTW	Lidau	1.55 239	eP		Pn	10 46 00.4	+0.1
	baz=236						
ELDTW			eS		Sn	10 46 19.2	-0.3
	baz=236						
SBCB	Hsinchu	1.55 301	P		Pb	10 46 01.7	-0.8
	baz=297						
SBCB			eS		Sb	10 46 21.9	+0.1
	baz=297						
HSN	Hsinchu	1.57 301	eS		Sb	10 46 23.1	+0.8
	baz=299						
TWQ1	Liyutan	1.58 283	i P		Pb	10 46 02.6	-0.3
	baz=279						
TWQ1			S		Sb	10 46 23.4	+1.0
	baz=279						
JIJ	Ishigaki jima	1.58 77	P		Pn	10 46 00.7	+0.2
JIJ			S		Sn	10 46 19.9	-0.1
ALS	Alishan	1.59 252	i P		Pb	10 46 02.4	-1.0
	baz=249						
ALS			eS		Sb	10 46 22.6	-0.6
	baz=249						
WJS	Zhushan	1.59 264	eP		Pb	10 46 03.5	+0.4
	baz=261						
WJS			eS		Sb	10 46 23.5	+0.6
	baz=261						
NSY	Sanyi	1.60 285	i P		Pb	10 46 03.1	-0.2
	baz=282						
NSY			S		Sb	10 46 24.3	+1.1
	baz=282						
LDUT	Ludao	1.61 215	i P		Pn	10 46 00.6	-0.3
	baz=213						
LDUT			eS		Sn	10 46 18.9	-1.8
	baz=213						
NMLH	Miaoli	1.61 290	i P		Pb	10 46 02.9	-0.6
	baz=286						
NMLH			S		Sb	10 46 23.9	+0.5
	baz=286						
WNT	Mingjian	1.63 266	eP		Pb	10 46 04.0	+0.2
	baz=262						
WNT			S		Sb	10 46 25.0	+1.1
	baz=262						
TCU	Taichung	1.63 275	P		Pb	10 46 03.7	-0.2
	baz=272						
TCU			eS		Sb	10 46 25.3	+1.2
	baz=272						
LONT	Longtian	1.64 228	i P		Pn	10 46 01.6	+0.2
	baz=239						
LONT			S		Sn	10 46 21.9	+0.4
	baz=239						
CHN5	Tsauling	1.68 256	P		Pb	10 46 04.0	-0.7
	baz=243						
CHN5			eS		Sb	10 46 26.5	+1.0
	baz=243						
WDJ	Dajia District	1.69 282	P		Pb	10 46 04.3	-0.6
	baz=278						
WDJ			S		Sb	10 46 26.1	+0.3
	baz=278						
TWGBT	Beinan	1.73 227	P		Pn	10 46 03.1	+0.5
TWGBT	Beinan	1.73 227	P		Pn	10 46 02.6	0.0
	baz=237						
TWGBT			eS		Sn	10 46 23.0	-0.8
	baz=237						
TTN	Taitung	1.73 224	eS		Sn	10 46 25.0	+1.2
	baz=222						
TWG	Pinlang	1.73 227	P		Pn	10 46 02.7	0.0
	baz=237						
TWG			S		Sn	10 46 23.9	0.0
	baz=237						
WCHH	Zhanghua	1.74 273	eP		Pb	10 46 05.0	-0.6
	baz=269						
WCHH			eS		Sb	10 46 28.0	+0.9
	baz=269						
STYH	Taoyuan	1.75 242	P		Pb	10 46 04.1	-1.8
	baz=230						
STYH			S		Sb	10 46 25.7	-1.8
	baz=230						
WDLH	Douliu	1.79 260	P		Pb	10 46 06.3	-0.1
	baz=257						
WDLH			S		Sb	10 46 28.7	+0.2
	baz=257						
JISG	Ishigakijimahi	1.79 71	P		Pn	10 46 03.5	+0.1
JISG			S		Sn	10 46 24.1	-1.0
WCKO	Fanlu	1.79 252	P		Pb	10 46 05.8	-0.7
	baz=249						
WCKO			S		Sb	10 46 28.4	-0.1
	baz=249						
TPUB	Ta-pu	1.82 248	P		Pb	10 46 06.2	-0.8
TPUB	Ta-pu	1.82 248	i P		Pb	10 46 06.0	-1.0
	baz=245						
TPUB			S		Sb	10 46 29.3	0.0
	baz=245						
CHN4	Tsaushan	1.83 250	P		Pb	10 46 06.3	-0.9
	baz=247						
CHN4			eS		Sb	10 46 30.8	+1.1
	baz=247						
WTP	Ta-pu	1.85 246	P		Pb	10 46 06.4	-1.2
	baz=243						
WTP			S		Sb	10 46 30.2	-0.2
	baz=243						
CHN2	Minshiung	1.88 256	eP		Pb	10 46 08.2	+0.2
	baz=253						
CHN2			eS		Sb	10 46 32.4	+1.4
	baz=253						
WRL	Guolierlin Hig	1.91 267	P		Pb	10 46 07.5	-1.0
	baz=278						
WRL			S		Sb	10 46 31.7	-0.2
	baz=278						
WTK	Tuku	1.92 261	P		Pb	10 46 08.0	-0.7
	baz=258						
WTK			eS		Sb	10 46 32.0	-0.3
	baz=258						
CHY	Chiayi	1.93 255	eP		Pb	10 46 09.0	+0.1
	baz=252						
CHY			S		Sb	10 46 31.8	-0.7
	baz=252						
SLGT	Liugui	1.94 239	P		Pb	10 46 07.4	-1.7
	baz=228						
SLGT			eS		Sb	10 46 32.0	-1.0
	baz=228						
CHN1	Nanshi	1.95 246	P		Pb	10 46 08.3	-0.9
	baz=243						
CHN1			eS		Sb	10 46 33.5	+0.3
	baz=243						
SGST	Jiashian	1.95 242	eP		Pb	10 46 07.8	-1.5
	baz=230						
SGST			eS		Sb	10 46 32.7	-0.4
	baz=230						
TWK	Hsinying	1.95 248	P		Pb	10 46 08.1	-1.2
	baz=245						
TWK			S		Sb	10 46 33.5	+0.3
	baz=245						
SNST	Tainan City	1.96 247	eP		Pb	10 46 08.6	-0.9
	baz=244						
SNST			eS		Sb	10 46 33.3	-0.1
	baz=244						
ECL	Taimali	1.97 225	P		Pn	10 46 05.7	-0.2
	baz=222						
ECL			S		Sn	10 46 29.4	-0.2
	baz=222						
WTCT	Ta-ch'eng	2.00 266	eS		Sb	10 46 34.6	+0.1
	baz=276						
WSF	Szhu	2.08 260	eP		Pb	10 46 09.5	-1.9
	baz=257						
WSF			S		Sb	10 46 36.8	-0.1
	baz=257						
ICHU	Yijhu	2.10 253	eP		Pb	10 46 09.7	-2.1
	baz=249						
ICHU			eS		Sb	10 46 37.3	0.0
	baz=249						
WSL	Shuilin Townsh	2.10 257	S		Sb	10 46 37.1	-0.4
	baz=254						
TSMG	Majia	2.11 233	P		Pn	10 46 09.3	+1.5
	baz=225						
TSMG			eS		Sn	10 46 34.3	+1.2
	baz=225						
SCST	Cishan	2.12 239	P		Pb	10 46 11.6	-0.6
	baz=224						
SCST			S		Sb	10 46 38.2	+0.1
	baz=224						
LAY	Lan-yu	2.13 203	eP		Pn	10 46 07.3	-0.8
	baz=202						
CHN3	Shinhua	2.13 245	eS		Sb	10 46 39.4	+1.0
	baz=242						
JTJ	Tarama	2.14 72	P		Pn	10 46 09.1	+0.8
JTJ			eS		Sn	10 46 34.6	+0.7
LYUB	Lan-yu	2.15 202	eP		Pn	10 46 07.3	-1.1
	baz=201						
CHN8	Yiju	2.16 253	eP		Pb	10 46 11.9	-1.0
	baz=250						
CHN8			eS		Sb	10 46 38.0	-1.2
	baz=250						
SHHT	Tainan City	2.17 244	eP		Pb	10 46 13.2	+0.2
	baz=240						
SHHT			eS		Sb	10 46 41.1	+1.6
	baz=240						
MASBT	Mashibuluo	2.18 231	P		Pn	10 46 10.1	+1.3
	baz=223						
MASBT			eS		Sb	10 46 39.1	-0.5
	baz=223						
TAW	Tawu	2.18 222	eP		Pn	10 46 09.4	+0.6
	baz=229						
TAW			eS		Sn	10 46 35.3	+0.5
	baz=229						
EAST	Anshuo	2.19 223	P		Pn	10 46 09.3	+0.3
	baz=221						
TAWH	Dawu Township	2.20 221	eP		Pn	10 46 09.4	+0.4
	baz=228						
TAWH			eS		Sn	10 46 34.4	-0.9
	baz=228						
TWM1	Shoushan	2.21 238	eP		Pb	10 46 13.5	-0.2
	baz=236						
TWM1			eS		Sb	10 46 42.9	+2.3
	baz=236						
SGLT	Jiouru	2.21 235	eP		Pb	10 46 14.2	+0.6
	baz=232						
SGLT			eS		Sb	10 46 42.7	+2.0
	baz=232						
SCLT	Jiali	2.23 249	S		Sb	10 46 40.6	-0.7
	baz=245						
SNJT	Kaohsiung City	2.31 238	eP		Pb	10 46 14.8	-0.6
	baz=234						
SNJT			eS		Sb	10 46 44.9	+1.3
	baz=234						
TSCK	Chigu Township	2.34 249	P		Pb	10 46 13.3	-2.5
	baz=246						
TSCK			eS		Sb	10 46 41.9	-2.4
	baz=246						
SCZT	Fangliau	2.34 226	eP		Pb	10 46 14.8	-1.1
	baz=218						
SCZT			eS		Sb	10 46 43.2	-1.3
	baz=218						
WSSB	Gushan	2.43 237	eP		Pb	10 46 16.1	-1.4
	baz=233						
WSSB			eS		Sb	10 46 47.1	0.0
	baz=233						
SMST	Manzhou Townsh	2.48 217	eP		Pb	10 46 15.6	-2.6
	baz=215						
SMST			eS		Sn	10 46 42.2	+0.1
	baz=215						
HEN	Hengchun	2.54 219	eP		Pb	10 46 17.4	-2.0
	baz=217						
HEN			eS		Sn	10 46 46.2	+2.4
	baz=217						
TWKBT	Hengchun	2.55 217	eP		Pn	10 46 15.0	+1.0
	baz=214						
TWKBT			eS		Sn	10 46 45.9	+1.9
	baz=214						
TWK1	Hengchun	2.56 217	eP		Pn	10 46 15.4	+1.4
	baz=214						
TWK1			eS		Sn	10 46 46.1	+2.0
	baz=214						
JIRB	Irabujima	2.61 71	P		Pn	10 46 15.6	+0.9
JIRB			eS		Sn	10 46 46.7	+1.3
WDGT	Dungji	2.67 254	eP		Pn	10 46 17.1	+1.6
	baz=240						
WDGT			eS		Sn	10 46 49.7	+2.7
	baz=240						
PHUB	P'eng-hu	2.69 260	eP		Pn	10 46 16.9	+1.1
	baz=271						
PHUB			S		Sn	10 46 48.7	+1.3
	baz=271						
PNG	Penghu	2.69 261	eP		Pn	10 46 17.2	+1.4
	baz=258						
PNG			S		Sn	10 46 48.9	+1.3
	baz=258						
JIKM	Ikemajima	2.70 70	P		Pn	10 46 16.9	+0.9
JIKM			eS		Sn	10 46 48.6	+0.9
JMJ2	Miyako jima3	2.72 74	P		Pn	10 46 17.8	+1.6
JMJ2			eS		Sn	10 46 49.0	+0.9
JOGS	Gusukube	2.79 74	eS		Sn	10 46 51.7	+1.8
VCHM	Qimei	2.89 255	eP		Pn	10 46 20.8	+2.3
	baz=252						
VCHM			eS		Sn	10 46 53.4	+1.0
	baz=252						
VWUC	VWUC	2.91 290	eP		Pn	10 46 18.9	+0.1
	baz=287						
MATB	Ma-tsu	3.12 314	eP		Pn	10 46 21.9	+0.1
	baz=298						
PTMZ	Houxiangcun	3.21 289	eP		Pn	10 46 23.2	+0.3
	baz=286						
PTMZ			eS		Sn	10 46 59.3	-1.0
	baz=286						
LYJJ	Jianjiangzhen	3.52 317	eP		Pn	10 46 27.0	-0.2
	baz=324						
XPSS	Dashiqiu	3.56 325	eP		Pn	10 46 27.3	-0.5
	baz=322						
KNM	Kinmen	3.70 277	eP		Pn	10 46 31.9	+2.2
	baz=273						
KNM			eS		Sn	10 47 13.7	+1.4
	baz=273						
KNMB	Chin-men Tao	3.74 278	eP		Pn	10 46 30.7	+0.4
	baz=274						
KNMB			eS		Sn	10 47 11.8	-1.6
	baz=274						
MHZQ	Yeshan	3.74 305	eP		Pn	10 46 30.2	-0.1
	baz=301						
AXDP	Jialang	4.18 283	eP		Pn	10 46 37.0	+0.6
	baz=268						
AXDP			eS		Sn	10 47 22.8	-1.6
	baz=268						
ZPLA	Ao Xicun	4.31 270	eP		Pn	10 46 37.2	-0.8
	baz=266						
DSXP	Dongshan	4.62 267	eP		Pn	10 46 42.8	+0.5
	baz=264						
SXFK	Yanhouchang	4.97 300	eP		Pn	10 46 47.0	-0.1
	baz=294						
SXFK			eS		Sn	10 47 42.0	-1.7
	baz=294						
JOW	Kunigami	5.96 61	Pn		Pn	10 46 59.2	-1.7
	comp=N,3.0nm,0.3s,baz=315,slow=7.1,SNR=1.5						
	comp=N,7.5nm,0.3s						
KSRS	Korea Array	14.20 18	Pn		Pn	10 48 56.2	+2.6
	comp=N,0.4nm,0.3s,baz=197,slow=11,SNR=14						
KSRS			LR		LR	10 54 51.5	
	comp=N,59nm,20.0s,baz=110,slow=40						
SONM	Songino Array	27.00 336	P		P	10 51 12.3	-1.6
	comp=N,0.6nm,0.4s,baz=157,slow=10,SNR=4.0						
	comp=N,0.6nm,0.4s						
MKAR	Makanchi Array	39.28 316	P		P	10 53 00.0	-0.7
	comp=N,0.8nm,0.4s,baz=98,slow=9.5,SNR=11						
	comp=N,0.8nm,0.4s						
ZALV	Zalesovo Beam	41.03 327	P		P	10 53 13.9	-1.1
	comp=N,1.0nm,0.5s,baz=114,slow=9.8,SNR=2.1						
	comp=N,1.0nm,0.5s						
KURBB	Kurchatov Arra	43.00 320	P		P	10 53 29.9	-1.2
	comp=N,0.7nm,0.4s,baz=109,slow=8.6,SNR=4.4						
	comp=N,0.7nm,0.4s						
WRA	Warramunga Arr	45.19 164	P		P	10 53 48.8	-0.3
	comp=N,0.8nm,0.8s,baz=344,slow=7.9,SNR=6.5						
	comp=N,0.8nm,0.8s						
ASAR	Alice Springs	48.67 166	P		P	10 54 17.3	+1.1
	comp=N,0.2nm,0.5s,baz=345,slow=7.0,SNR=10.0						
	comp=N,0.2nm,0.5s						
GEYT	Alibeck	55.89 301	P		P	10 55 10.0	+0.1
	comp=N,3.9nm,0.8s,baz=76,slow=6.3,SNR=4.1						
	comp=N,3.9nm,0.8s						

SNET 23 11:27:25.3±0.9, 13°.48N×88°.58W, h1km±5km, ML1.2, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECA	Tecapa	0.08	79	eP	Pg	11 27 27.9	+1.0
TECA				eS	Sg	11 27 29.3	+1.3
TECO	Alcaldia de Te	0.20	286	eP	Pg	11 27 29.8	+0.6
TECO				eS	Sg	11 27 33.6	+1.7
SCLA	Alcaldia de Sa	0.26	327	eP	Pb	11 27 32.5	-0.4
SCLA				eS	Sb	11 27 37.2	-0.7

*IDC **23** 11:39:55.8±1.1, 56°.07S×26°.98W, h0km, mb4.0/5, mbtmp3.9/6, ML4.1/1, Error ellipse: s-maj=50.3km s-min=24.0km az=69.0*

ISC 23 11:39:57.5±1.0, 56°.05±0°.2×27°.0W±0°.3, h10km, n18, σ1§74/10, mb3.8/4, 5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.79	158	⇓P	P	11 43 56.7	+2.2
	comp=Z,8.2nm,0.6s						
VNA3	Neumayer Olymp	16.99	161	⇓P	P	11 43 58.4	+1.6
	comp=Z,6.5nm,0.5s						
VNA2	Neumayer--Watz	17.18	158	⇓P	P	11 44 01.7	+2.8
	comp=Z,2.0nm,0.4s,baz=316,slow=13						
SNAA	Sanae	18.73	156	⇓	Pn	11 44 15.5	-0.9
	comp=Z,40nm,0.6s						
SNAA	Sanae	18.73	156	x	x	11 44 15.5	
SNAA	Sanae	18.73	156	P	Pn	11 44 15.7	-0.7
	comp=Z,0.5nm,0.3s,baz=293,slow=14,SNR=14						
	comp=Z,2.0nm,0.5s						
TROLL	Troll, Antarti	20.23	154	⇓P	Pn	11 44 33.2	-1.2
	comp=Z,157nm,0.8s						
QSPA	South Pole Qui	34.23	180	P	P	11 46 42.4	-0.7
	comp=Z,1.5nm,0.5s,baz=46,slow=2.3,SNR=36						
	comp=Z,1.5nm,0.5s						
MAW	Mawson	40.11	144	P	P	11 47 31.4	-1.3
	comp=Z,0.4nm,0.3s,baz=231,slow=6.5,SNR=2.0						
	comp=Z,0.4nm,0.3s						
H10S2	ASCENSION HYDR	47.94	17	T	T	12 40 50.5	
	baz=186						
H10S3	ASCENSION HYDR	47.94	17	T	T	12 40 51.4	
	baz=34,SNR=10						
H10N1	ASCENSION HYDR	49.06	17	T	T	12 42 15.8	
	baz=194,slow=71,SNR=3.9						
H10N3	ASCENSION HYDR	49.06	16	T	T	12 42 21.1	
	baz=194,slow=71,SNR=11						
H10N2	ASCENSION HYDR	49.07	17	T	T	12 42 17.7	
	baz=194,slow=71,SNR=9.2						
LPAZ	La Paz	50.45	305	P	P	11 48 56.5	+0.5
	comp=Z,0.6nm,0.4s,baz=135,slow=5.7,SNR=2.3						
	comp=Z,0.6nm,0.4s						
TORD	Torodi Ar. Bea	72.97	29	P	P	11 51 27.5	+0.5
	comp=Z,0.4nm,0.5s,baz=202,slow=6.4,SNR=2.5						
	comp=Z,0.4nm,0.5s						
ASAR	Alice Springs	98.99	162	P	Pdif	11 53 38.5	+0.1
	comp=Z,0.3nm,0.5s,baz=189,slow=4.3,SNR=6.1						
	comp=Z,0.3nm,0.5s						
ILAR	Eielson Array	150.17	312	PKPbc	PKPbc	11 59 45.7	-1.3
	comp=Z,0.3nm,0.7s,baz=122,slow=3.1,SNR=5.6						

*IDC **23** 12:02:14.4±2.6, 6°.79N×92°.42E, h0km, mb3.6/5, mbtmp3.6/6, ML4.2/1, Error ellipse: s-maj=82.0km s-min=31.2km az=61.0*

ISC 23 12:02:19.0±2.0, 6°.9N±0°.2×92°.7E±0°.3, h23km, n6, σ1§57/6, mb3.7/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.01	27	Pn	Pn	12 05 21.9	-0.6
	0.4nm,0.3s,baz=226,slow=14,SNR=4.8						
	0.6nm,0.4s						
MKAR	Makanchi Array	40.73	349	P	P	12 09 56.6	-1.4
	1.1nm,0.6s,baz=169,slow=7.5,SNR=10.0						
	1.1nm,0.6s						
SONM	Songino Array	42.43	14	P	P	12 10 14.1	+2.0
	0.1nm,0.3s,baz=210,slow=8.3,SNR=1.7						
	0.1nm,0.3s						
KURBB	Kurchatov Arra	45.14	347	P	P	12 10 33.7	0.0
	0.7nm,0.4s,baz=170,slow=7.1,SNR=2.1						
	0.7nm,0.4s						
ZALV	Zalesovo Beam	47.33	354	P	P	12 10 49.9	-0.9
	0.7nm,0.6s,baz=175,slow=6.9,SNR=2.0						
	0.7nm,0.6s						
WRA	Warramunga Arr	48.91	124	P	P	12 11 03.4	-0.2
	0.3nm,0.9s,baz=304,slow=8.7,SNR=2.6						
	0.3nm,0.9s						

IDC 23 12:08:47.4±2.8, 6°.94S×128°.13E, h0km, mb3.6/1, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=307.6km s-min=33.4km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.26	156	Pn	Pn	12 12 11.0	+0.2
	0.1nm,0.3s,baz=333,slow=13,SNR=8.5						
WRA				Sn	Sn	12 14 34.4	-15
	0.1nm,0.3s,baz=340,slow=22,SNR=3.3						
	0.2nm,0.3s						
ASAR	Alice Springs	17.53	162	P	Pn	12 12 53.4	-0.1
	0.1nm,0.3s,baz=347,slow=9.3,SNR=5.5						
	0.1nm,0.5s						
MKAR	Makanchi Array	67.17	328	P	P	12 19 43.3	0.0
	0.3nm,0.4s,baz=124,slow=7.2,SNR=2.7						
	0.3nm,0.4s						

*DJA **23** 12:20:47.1±0.8, 8°.S±4°.×10°.8E±°, h28km±8km, M4.7/18, mb4.8/12, mB5.1/4, MLv4.7/18, Mw(mB)4.5/4*
*NEIC **23** 12:20:47.6±2.9, 7°.96S±0°.08×107°.82E±0°.06, h55km±7km, mb4.3/23, Error ellipse: s-maj=12.0km s-min=9.2km az=179.0*
*IDC **23** 12:20:50.8±1.3, 7°.67S×108°.04E, h90km±11km, mb3.8/14, mbtmp4.1/14, MS3.3/4, Error ellipse: s-maj=26.3km s-min=12.3km az=56.0*

ISC 23 12:20:48.7±0.4, 8°.05S±0°.06×107°.89E±0°.05, h70km, n101, σ1§74/90, mb4.2/27, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	Cimerak	0.61	65	P	Pn	12 21 00.7	-1.9
CMJI				S	Sn	12 21 09.5	-3.4
CNJI	Cibinong	1.05	314	P	Pn	12 21 06.4	-1.4
LEM	Lembang	1.24	347	P	Pn	12 21 10.2	-0.2
	2μm,0.4s,baz=94,slow=8.3,SNR=163						
LEM				S	Sn	12 21 29.6	+2.9
	1μm,0.6s,baz=228,slow=21,SNR=6.8						
KPJI	Karang Pucung	1.25	56	P	Pn	12 21 09.6	-0.8
YOGI	Yogyakarta	2.39	85	P	Pn	12 21 24.4	-1.2
CGJI	Cibinong	2.60	303	P	Pn	12 21 27.5	-1.0
UGM	Wanagama	2.61	87		Pn	12 21 27.6	-1.0
UGM				Sn	Sn	12 21 56.3	-3.0
UGM	Wanagama	2.61	87	P	Pn	12 21 27.7	-1.0
UGM	Wanagama	2.61	87	P	Pn	12 21 27.5	-1.1
SMRI	Semarang	2.71	69		Pn	12 21 30.7	+0.6
SMRI				Sn	Sn	12 22 02.7	+0.9
SMRI	Semarang	2.71	69	P	Pn	12 21 30.9	+0.9
SMRI	Semarang	2.71	69	P	Pn	12 21 30.2	+0.2
WOJI	Wonogiri, Jawa	3.01	86	P	Pn	12 21 32.7	-1.3
XMI	Christmas Isla	3.23	222	P	Pn	12 21 35.3	-1.8
XMIS	Christmas Isla	3.28	222		Pn	12 21 35.5	-2.2
XMIS	Christmas Isla	3.28	222	P	Pn	12 21 35.6	-2.2
UWJI	Ujung Watu	3.44	62	P	Pn	12 21 39.5	-0.4
NGJI	Ngawi	3.60	79	P	Pn	12 21 41.9	-0.2
GRJI	Gresik	4.69	76	P	Pn	12 21 56.1	-0.8
BWJI	Bawean	5.21	66	P	Pn	12 22 03.4	-0.7
	507nm,1.3s,2.3nm						
GMJI	Gumukmas	5.50	93	P	Pn	12 22 07.6	-0.5
	37nm,0.7s,1μm0.3nm						
BLJI	Banyuglugur	5.66	87	P	Pn	12 22 10.6	+0.4
	58nm,0.8s,2μm0.4nm						
MNAI	Manna	6.12	306	Pn	Pn	12 22 14.5	-2.1
MNAI	Manna	6.12	306	P	Pn	12 22 19.4	+2.8
MNAI	Manna	6.12	306	P	Pn	12 22 16.7	+0.1
	259nm,1.3s,1.1nm						
JAGI	Jajag, Banyuwa	6.21	94		Pn	12 22 18.3	+0.5

JAGI	**Jajag, Banyuwa**	**6.21**	**94**	P	**Pn**	**12 22 18.5**	**+0.7**
JAGI	**Jajag, Banyuwa**	**6.21**	**94**	P	**Pn**	**12 22 17.4**	**-0.4**
	85nm,0.7s,2μm0.4nm						
ABJI	**Asem Bagus**	**6.29**	**88**	P	**Pn**	**12 22 21.0**	**+2.1**
	66nm,0.4s,0.4nm						
IGBI	**Denpasar**	**7.22**	**97**	P	**Pn**	**12 22 31.9**	**+0.3**
	47nm,0.7s,2μm0.3nm						
DSRI	**Dabo**	**8.21**	**336**	P	**Pn**	**12 22 47.1**	**+2.0**
	25nm,1.0s						
TWSI	**Taliwang, Sumb**	**8.92**	**95**	P	**Pn**	**12 22 55.3**	**+0.4**
	17nm,0.5s						
PPSI	**Pulau Pagai**	**9.44**	**303**	P	**Pn**	**12 23 01.0**	**-0.9**
	45nm,0.6s						
PLAI	**Plampang**	**9.81**	**95**	P	**Pn**	**12 23 07.6**	**+0.6**
PLAI	**Plampang**	**9.81**	**95**	P	**Pn**	**12 23 07.7**	**+0.7**
	32nm,0.7s						
KAPI	**Kappang**	**12.16**	**76**	LR	LR	12 28 31.4	
	comp=Z,71nm,21.0s,baz=284,slow=39						
EDFI	**Ende, Flores**	**13.67**	**94**	P	Pn	12 23 56.1	-3.5
	11nm,0.6s						
MMRI	**Maumere**	**14.21**	**93**	Pn	**Pn**	**12 24 05.4**	**-1.2**
BATI	**Baumata**	**15.72**	**99**	LR	LR	12 30 59.4	
	comp=Z,109nm,18.6s,baz=216,slow=39						
GIRL	**Giralia**	**15.74**	**158**	Pn	**Pn**	**12 24 24.5**	**-1.8**
SOEI	**Soe**	**16.27**	**97**	Pn	**Pn**	**12 24 32.5**	**-0.6**
SOEI				IAmb	IAmb	12 24 49.4	
	comp=Z,25nm,0.8s						
PSA00	**Pilbara Seismi**	**17.71**	**141**	P	**P**	**12 24 50.1**	**-0.7**
SANI	**Sanana**	**18.98**	**73**	P	**P**	**12 25 04.2**	**-0.5**
KNRA	**Kununurra**	**21.77**	**112**	P	**P**	**12 25 35.5**	**+0.7**
KNRA				IAmb	IAmb	12 25 39.9	
	comp=Z,12nm,0.9s						
MTN	**Manton Dam**	**23.34**	**104**	P	**P**	**12 25 49.2**	**-1.9**
MTN				IAmb	IAmb	12 25 58.2	
	comp=Z,35nm,1.5s						
FAKI	**Fak Fak**	**24.77**	**79**	P	**P**	**12 26 03.0**	**-1.1**
FAKI				IAmb	IAmb	12 26 37.5	
	comp=Z,15nm,1.0s						
NWAO	**Narrogin (SRO)**	**26.23**	**162**	LR	LR	12 36 01.6	
	comp=Z,61nm,21.2s,baz=333,slow=34						
H01W3	**Cape Leeuwin H**	**27.32**	**169**	T	T	12 56 10.7	
	baz=344,slow=74,SNR=4.8						
H01W1	**Cape Leeuwin H**	**27.33**	**169**	T	T	12 56 15.1	
	baz=344,slow=74,SNR=4.4						
H01W2	**Cape Leeuwin H**	**27.34**	**169**	T	T	12 56 16.6	
	baz=344						
WB0	**Warramunga Arr**	**28.19**	**117**	P	**P**	**12 26 35.6**	**+0.7**
WB0				IAmb	IAmb	12 27 15.2	
	comp=Z,9.9nm,1.4s						
WRA	**Warramunga Arr**	**28.20**	**118**	P	**P**	**12 26 36.2**	**+1.1**
WRA	**Warramunga Arr**	**28.20**	**118**	P	**P**	**12 26 35.5**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=292,slow=12,SNR=24						
	comp=Z,0.6nm,0.5s						
WRAB	**Tennant Creek**	**28.21**	**118**	P	**P**	**12 26 35.6**	**+0.5**
WRAB				IAmb	IAmb	12 27 13.8	
	comp=Z,6.1nm,1.2s						
WB2	**Warramunga Arr**	**28.22**	**118**	P	**P**	**12 26 35.4**	**+0.3**
WB2				IAmb	IAmb	12 26 53.2	
	comp=Z,7.7nm,1.4s						
WR0	**Warramunga Arr**	**28.39**	**117**	P	**P**	**12 26 37.2**	**+0.5**
ASAR	**Alice Springs**	**29.37**	**125**	P	**P**	**12 26 46.5**	**+1.1**
ASAR	**Alice Springs**	**29.37**	**125**	P	**P**	**12 26 45.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=303,slow=8.9,SNR=15						
ASAR				PcP	**PcP**	**12 29 50.7**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=307,slow=2.3,SNR=6.7						
	comp=Z,0.4nm,0.6s						
AS31	**Alice Springs**	**29.37**	**125**	P	**P**	**12 26 45.8**	**+0.4**
H08S2	**Diego Garcia H**	**35.06**	**268**	T	T	13 04 45.8	
	baz=93,slow=76,SNR=98						
H08S3	**Diego Garcia H**	**35.07**	**268**	T	T	13 04 44.7	
	baz=93,slow=76,SNR=333						
H08S1	**Diego Garcia H**	**35.08**	**268**	T	T	13 04 45.4	
	baz=93,slow=76,SNR=93						
BBOO	**Buckleboo**	**35.89**	**137**	P	**P**	**12 27 42.1**	**0.0**
WHN	**Wuhan**	**38.87**	**9**	P	**P**	**12 28 08.3**	**+1.1**
STKA	**Stephens Creek**	**39.29**	**132**	P	**P**	**12 28 12.3**	**+1.4**
STKA	**Stephens Creek**	**39.29**	**132**	P	**P**	**12 28 12.2**	**+1.4**
	comp=Z,4.2nm,0.5s,baz=311,slow=8.0,SNR=30						
STKA				PcP	**PcP**	**12 30 18.9**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=225,slow=2.9,SNR=3.2						
	comp=Z,4.2nm,0.5s						
BTO	**Baotou**	**48.45**	**2**	*e*P	P	12 29 31.3	+7.1
BTO				pP	pP	12 29 40.8	-1.0
BTO				sP	sP	12 29 45.1	-4.7
BTO				PP	**PP**	**12 31 24.9**	**+7.3**
BTO				pmax	pmax		
	comp=Z,19nm,0.9s						
BTO				pmax	pmax		
	comp=Z,450nm,5.5s						
HHC	**Hu-ho-hao-te**	**48.77**	**4**	*e*P	P	12 29 32.4	+5.7
HHC				pmax	pmax		
	comp=Z,27nm,0.5s						
HHC				pmax	pmax		
	comp=Z,610nm,6.0s						
SONM	**Songino Array**	**55.65**	**359**	P	**P**	**12 30 15.4**	**-2.2**
	comp=Z,0.7nm,0.5s,baz=166,slow=8.3,SNR=3.9						
SONM				PcP	**PcP**	**12 31 15.5**	**-0.9**
	comp=Z,1.5nm,0.5s,baz=183,slow=5.2,SNR=4.9						
	comp=Z,0.7nm,0.5s						
OUENC	**Ouen Island, N**	**58.31**	**111**	P	**P**	**12 30 38.1**	**+1.3**
MK31	**Makanchi Array**	**59.16**	**340**	P	**P**	**12 30 40.1**	**-2.2**
MK31				IAmb	IAmb	12 30 41.4	
	comp=Z,1.4nm,0.6s						
MKAR	**Makanchi Array**	**59.16**	**340**	P	**P**	**12 30 39.3**	**-3.0**
MKAR	**Makanchi Array**	**59.16**	**340**	P	**P**	**12 30 39.4**	**-2.8**
	comp=Z,1.9nm,0.4s,baz=147,slow=7.8,SNR=19						
	comp=Z,1.9nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.06**	**221**	T	T	13 37 45.6	
	baz=70,slow=75,SNR=318						
H04N1	**CROZET ISLANDS**	**61.07**	**221**	T	T	13 37 45.8	
	baz=70,slow=75,SNR=298						
H04N3	**CROZET ISLANDS**	**61.07**	**221**	T	T	13 37 44.6	
	baz=70,slow=75,SNR=319						
H04S1	**CROZET ISLANDS**	**61.22**	**220**	T	T	13 37 57.4	
	baz=68,slow=76,SNR=37						
H04S3	**CROZET ISLANDS**	**61.23**	**220**	T	T	13 37 57.5	
	baz=68,slow=76,SNR=7.7						
H04S2	**CROZET ISLANDS**	**61.24**	**220**	T	T	13 37 56.8	
	baz=68,slow=76,SNR=8.2						
KURBB	**Kurchatov Arra**	**63.73**	**340**	P	**P**	**12 31 10.5**	**-2.4**
	comp=Z,0.7nm,0.4s,baz=153,slow=5.7,SNR=8.5						
KURBB				PcP	**PcP**	**12 31 47.5**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=162,slow=3.6,SNR=5.7						
	comp=Z,0.7nm,0.4s						
KURK	**Kurchatov**	**63.78**	**340**	P	**P**	**12 31 10.5**	**-2.7**
KURK				IAmb	IAmb	12 31 44.1	
	comp=Z,3.0nm,1.1s						
ZALV	**Zalesovo Beam**	**64.76**	**345**	P	**P**	**12 31 16.4**	**-3.2**
GEYT	**Alibeck**	**65.13**	**318**	P	**P**	**12 31 20.1**	**-2.3**
GEYT	**Alibeck**	**65.13**	**318**	P	**P**	**12 31 21.2**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=147,slow=8.5,SNR=4.2						
	comp=Z,2.1nm,0.4s						
GYA0B	**ALIBECK ARRAY**	**65.13**	**318**	P	**P**	**12 31 20.5**	**-1.9**
GYA0B				IAmb	IAmb	12 31 22.3	
	comp=Z,4.0nm,0.6s						
MAW	**Mawson**	**66.63**	**197**	P	**P**	**12 31 33.5**	**+2.1**
MAW	**Mawson**	**66.63**	**197**	P	**P**	**12 31 32.8**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=31,slow=6.2,SNR=2.1						
	comp=Z,0.9nm,0.6s						
BKZ	**Black Stump Fm**	**68.39**	**129**	P	**P**	**12 31 44.3**	**+1.1**
BVAR	**Borovoye Array**	**68.67**	**337**	P	**P**	**12 31 42.0**	**-2.5**
	comp=Z,1.3nm,0.4s,baz=127,slow=8.0,SNR=11						
	comp=Z,1.3nm,0.4s						
ABKAR	**Akbulak array**	**70.76**	**329**	P	**P**	**12 31 55.6**	**-1.8**
ABKAR				IAmb	IAmb	12 31 57.4	
	comp=Z,4.3nm,0.8s						
ABKAR	**Akbulak array**	**70.76**	**329**	P	**P**	**12 31 55.4**	**-2.0**
SBA	**Scott Base**	**75.86**	**169**	P	**P**	**12 32 29.0**	**+2.0**
SBA				IAmb	IAmb	12 32 52.6	
	comp=Z,4.5nm,1.3s						
BOSA	**Boshof**	**79.75**	**242**	P	**P**	**12 32 51.6**	**+1.8**
	comp=Z,1.5nm,0.5s,baz=113,slow=1.4,SNR=6.4						
	comp=Z,1.5nm,0.5s						
QSPA	**South Pole Qui**	**81.95**	**180**	P	**P**	**12 33 02.4**	**+1.7**
QSPA				IAmb	IAmb	12 33 15.9	
	comp=Z,4.2nm,1.4s						
QSPA	**South Pole Qui**	**81.95**	**180**	P	**P**	**12 33 02.4**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=1.6,slow=0.9,SNR=2.3						
	comp=Z,0.5nm,0.5s						
BRTR	**Keskin Array B**	**83.18**	**312**	P	**P**	**12 33 06.0**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=126,slow=7.8,SNR=4.0						
	comp=Z,1.0nm,0.7s						
SNAA	**Sanae**	**88.80**	**197**	P	**P**	**12 33 36.4**	**+1.8**
SNAA	**Sanae**	**88.80**	**197**	P	**P**	**12 33 36.6**	**+2.0**
	comp=Z,0.9nm,0.6s,baz=157,slow=4.4,SNR=10						
	comp=Z,0.9nm,0.6s						
MLR	**Muntele Rosu**	**90.07**	**316**	LR	LR	13 20 57.6	
	comp=Z,32nm,19.6s,baz=287,slow=40						
FINES	**FINESS Array B**	**93.11**	**332**	P	**P**	**12 33 53.2**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=123,slow=7.0,SNR=3.4						
	comp=Z,1.2nm,0.7s						
TXAR	**Lajitas Array**	**143.57**	**50**	PKP	PKPbc	12 40 13.9	+0.1
	comp=Z,0.2nm,0.5s,baz=260,slow=1.4,SNR=7.7						

*DJA **23** 13:09:45.0±0.3, 1°N±2°×12°7E±°, h10km, M3.6/7, MLv3.6/7*
*IDC **23** 13:09:46.6±2.1, 0°60N×127°23E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=162.6km s-min=26.0km az=66.0*

ISC 23 13:09:45.1±1.6, 1°04N±0°08×127°4E±0°1, h10km, n8, σ0§62/9, mb3.5/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.27**	**191**	P	**Pg**	**13 09 51.2**	**+0.7**
TNTI				S	**Sb**	**13 09 56.1**	**-0.6**
LBMI	**Labuha**	**1.66**	**177**	P	**Pn**	**13 10 14.6**	**+0.2**
LBMI				S	**Sb**	**13 10 37.3**	**+0.4**
SGSI	**Sangihe**	**3.24**	**324**	P	**Pn**	**13 10 36.2**	**+0.2**
SANI	**Sanana**	**3.38**	**205**	P	**Pn**	**13 10 37.8**	**-0.2**
KMSI	**Cibinong**	**3.47**	**262**	P	**Pn**	**13 10 39.2**	**0.0**
WRA	**Warramunga Arr**	**21.93**	**162**	P	**P**	**13 14 37.8**	**-1.1**
	1.4nm,0.7s,baz=341,slow=11,SNR=13						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**25.35**	**166**	P	**P**	**13 15 12.3**	**-0.2**
	0.7nm,0.7s,baz=339,slow=6.5,SNR=12						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**60.15**	**326**	P	P	13 19 57.8	+4.7
	0.6nm,0.6s,baz=126,slow=8.3,SNR=5.4						
	0.6nm,0.6s						

*NEIC **23** 13:12:54.4±2.0, 20°5S±0°1×177°47W±0°08, h351km±9km, mb4.0/18, Error ellipse: s-maj=19.6km s-min=10.0km az=162.0*
*NOU **23** 13:12:55.1, 20°37S×177°42W, h350km, mb4.2/10, Fiji Islands Region*
*IDC **23** 13:12:57.6±2.5, 20°89S×178°11W, h353km±22km, mb3.1/3, mbtmp4.0/6, Error ellipse: s-maj=29.2km s-min=25.6km az=112.0*

ISC 23 13:12:53.8±0.7, 20°6S±0°1×177°53W±0°09, h350km, n42, σ0§98/42, mb3.8/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**4.47**	**329**	P	**Pn**	**13 14 08.3**	**+0.6**
DGTI	**Dogotuki**	**4.99**	**328**	P	**Pn**	**13 14 13.4**	**0.0**
MSVF	**Nonsavu**	**5.05**	**304**	P	**Pn**	**13 14 14.9**	**+0.8**
MSVF	**Nonsavu**	**5.05**	**304**	P	**Pn**	**13 14 14.7**	**+0.6**
	8.9nm,0.4s,baz=279,slow=24,SNR=24						
YSA	**Yasawairara**	**6.04**	**309**	P	**Pn**	**13 14 25.4**	**+0.3**
NIUE	**Niue**	**7.32**	**79**	Pn	**Pn**	**13 14 39.6**	**-0.3**
NIUE	**Niue**	**7.32**	**79**	P	**Pn**	**13 14 39.6**	**-0.3**
AFI	**Afiamalu**	**8.62**	**41**	Pn	**Pn**	**13 14 54.1**	**-1.4**
MARNC	**Mare, Loyalty**	**13.51**	**264**		**Pn**	**13 15 53.4**	**0.0**
PINNC	**Pines Island,**	**14.12**	**259**	Pn	**Pn**	**13 16 01.8**	**+1.4**
PINNC	**Pines Island,**	**14.12**	**259**	P	**Pn**	**13 16 02.2**	**+1.8**
LIFNC	**LIFOU**	**14.25**	**267**		**Pn**	**13 16 01.4**	**-0.6**
YATNC	**Mamie plateau,**	**14.59**	**261**	P	**Pn**	**13 16 06.7**	**+0.8**
OUENC	**Ouen Island, N**	**14.66**	**260**		**Pn**	**13 16 06.7**	**0.0**
OUENC	**Ouen Island, N**	**14.66**	**260**	P	**Pn**	**13 16 07.7**	**+1.0**
DZM	**Mont Dzumac**	**15.00**	**261**		**Pn**	**13 16 10.8**	**-0.1**
DZM				IAmb	IAmb	13 16 13.6	
	comp=Z,8.4nm,0.8s						
DZM	**Mont Dzumac**	**15.00**	**261**	P	**Pn**	**13 16 11.4**	**+0.6**
DZM	**Mont Dzumac**	**15.00**	**261**	P	**P**	**13 16 07.7**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=80,slow=19,SNR=14						
URZ	**Urewera**	**18.21**	**194**	P	**P**	**13 16 41.8**	**-1.0**
	comp=Z,7.9nm,0.6s,baz=335,slow=5.2,SNR=18						
BKZ	**Black Stump Fm**	**19.21**	**194**	P	**P**	**13 16 53.4**	**-0.1**
BKZ				IAmb	IAmb	13 17 15.9	
	comp=Z,12nm,1.1s						
TUWZ	**Tuamarina**	**22.00**	**197**	P	**P**	**13 17 20.8**	**+1.0**
EIDS	**Eidsvold**	**29.25**	**255**	P	**P**	**13 18 25.4**	**+0.7**
EIDS				IAmb	IAmb	13 18 49.3	
	comp=Z,11nm,1.2s						
ARMA	**Armidale**	**29.42**	**244**	P	**P**	**13 18 27.3**	**+0.9**
ARMA				IAmb	IAmb	13 18 28.9	
	comp=Z,16nm,1.4s						
CTAO	**Charters Tower**	**33.92**	**264**	P	**P**	**13 19 05.3**	**0.0**
CTAO				IAmb	IAmb	13 19 45.3	
	comp=Z,5.7nm,1.1s						
TOO	**Toolangi**	**36.20**	**234**	P	**P**	**13 19 24.2**	**-0.2**
TOO				IAmb	IAmb	13 19 32.9	
	comp=Z,12nm,1.4s						
BBOO	**Buckleboo**	**42.90**	**244**	P	**P**	**13 20 18.9**	**-0.3**
BBOO				IAmb	IAmb	13 20 55.2	
	comp=Z,22nm,1.4s						
WR0	**Warramunga Arr**	**44.83**	**262**	P	**P**	**13 20 33.5**	**-1.1**
WR0				IAmb	IAmb	13 21 15.0	
	comp=Z,8.3nm,1.4s						
AS31	**Alice Springs**	**44.92**	**257**	P	**P**	**13 20 34.2**	**-1.2**
ASAR	**Alice Springs**	**44.92**	**257**	P	**P**	**13 20 34.3**	**-1.1**
ASAR	**Alice Springs**	**44.92**	**257**	P	**P**	**13 20 34.8**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=91,slow=8.2,SNR=116						
ASAR				PcP	**PcP**	**13 22 09.8**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=109,slow=3.7,SNR=6.6						
	comp=Z,1.4nm,0.4s						
WB0	**Warramunga Arr**	**45.00**	**262**	P	**P**	**13 20 34.5**	**-1.5**
WB2	**Warramunga Arr**	**45.01**	**262**	P	**P**	**13 20 34.5**	**-1.5**
WRAB	**Tennant Creek**	**45.01**	**262**	P	**P**	**13 20 34.5**	**-1.5**
WRA	**Warramunga Arr**	**45.02**	**262**	P	**P**	**13 20 34.6**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=98,slow=7.2,SNR=38						
	comp=Z,0.6nm,0.3s						
KNRA	**Kununurra**	**51.09**	**266**	P	**P**	**13 21 21.3**	**-0.8**
KNRA				IAmb	IAmb	13 21 58.6	
	comp=Z,21nm,1.4s						
PSA00	**Pilbara Seismi**	**58.07**	**257**	P	**P**	**13 22 10.4**	**-1.4**
MBWA	**Marble Bar**	**58.26**	**257**	P	**P**	**13 22 12.1**	**-1.0**
CASY	**Casey**	**64.07**	**205**	P	**P**	**13 22 52.3**	**+1.4**
CASY				IAmb	IAmb	13 23 06.3	
	comp=Z,3.7nm,1.4s						
JMZ	**Minamidaito 2**	**67.84**	**311**	P	**P**	**13 23 16.3**	**+1.0**
NVAR	**Mina Array Bea**	**80.79**	**43**	P	P	13 24 36.8	+7.4
	comp=Z,0.2nm,0.7s,baz=224,slow=7.5,SNR=1.8						
	comp=Z,0.2nm,0.7s						
M17K	**Holitna River**	**83.29**	**10**	P	**P**	**13 24 43.2**	**+1.7**
IMAR	**Indian Mountai**	**88.17**	**10**	P	**P**	**13 25 05.0**	**-0.1**

*EAF **23** 13:45:44.4, 26°13S×29°48E, h10km, MC3.5*

BUL 23 13:45:45.5±1.0, 26°10S×29°39E, h10km, MD3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.15**	**36**	*i* P	Pn	13 46 33.1	-2.1
MOPA				*i* S	Sn	13 47 08.6	-4.3
MOPA	**Mopani**	**3.15**	**36**	*i* P	Pn	13 46 33.1	-2.1
	baz=34						
MOPA				*i* S	Sn	13 47 08.6	-4.3
	baz=34						
LBTB	**Lobatse**	**3.59**	**287**	*i* P	Pn	13 46 40.1	-1.3
LBTB				*i* S	Sn	13 47 22.0	-2.0
LBTB	**Lobatse**	**3.59**	**287**	*i* P	Pn	13 46 40.1	-1.3
	baz=287						
LBTB				*i* S	Sn	13 47 22.0	-2.0
	baz=287						
MUSN	**Musina, Limpop**	**3.82**	**7**	*i* P	Pn	13 46 43.7	-0.8
MUSN				*i* S	Sn	13 47 27.1	-2.3
MUSN	**Musina, Limpop**	**3.82**	**7**	*i* P	Pn	13 46 43.7	-0.8
	baz=5.0						
MUSN				*i* S	Sn	13 47 27.1	-2.3
	baz=5.0						
BOSA	**Boshof**	**4.45**	**235**	*i* P	Pn	13 46 52.5	-0.7
BOSA				*i* S	Sn	13 47 42.4	-2.8
BOSA	**Boshof**	**4.45**	**235**	*i* P	Pn	13 46 52.5	-0.7
	baz=236						
BOSA				*i* S	Sn	13 47 42.4	-2.8
	baz=236						

*NEIC **23** 14:19:09.8±1.5, 15°06N±0°05×94°35W±0°05, h10km±1km, mb4.1/1, Md4.1/16(MEX), Error ellipse: s-maj=9.2km s-min=7.4km az=168.0*
*MEX **23** 14:19:12.7±0.7, 14°93N×94°35W, h15km, MD4.2*

ISC 23 14:19:10.0±2.9, 14°93N±0°06×94°37W±0°03, h26km±25km, n27, σ1§67/45, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.35**	**55**		**Pn**	**14 19 32.6**	**-0.5**
PCIG					**Sn**	**14 19 48.5**	**-1.7**
PCIG		**1.35**	**55**	*e*P	**Pn**	**14 19 32.6**	**-0.5**
PCIG				*e*S	**Sn**	**14 19 48.5**	**-1.7**
CARR	**Arriaga**	**1.38**	**18**	*e*P	**Pn**	**14 19 33.4**	**-0.2**
CARR				*e*S	**Sn**	**14 19 48.5**	**-2.5**
NILT	**Santiago Nilte**	**1.65**	**352**	*i* P	**Pn**	**14 19 37.5**	**+0.3**
NILT				*i* S	**Sn**	**14 19 56.5**	**-1.0**
HUIG	**Huatulco**	**1.88**	**297**		**Pn**	**14 19 41.3**	**+0.9**
HUIG					**Sn**	**14 20 01.9**	**-1.4**
HUIG	**Huatulco**	**1.88**	**297**	*e*P	**Pn**	**14 19 41.3**	**+0.9**
HUIG				*i* S	**Sn**	**14 20 01.9**	**-1.4**
PATR	**El Naranjo**	**2.07**	**85**	*e*P	**Pn**	**14 19 43.0**	**-0.2**
PATR				*e*S	**Sn**	**14 20 06.7**	**-1.6**
PAVE	**Pavencul**	**2.13**	**83**	*e*P	**Pn**	**14 19 44.3**	**+0.2**
PAVE				*e*S	**Sn**	**14 20 08.0**	**-1.8**
CHUJ	**Union Juarez**	**2.19**	**85**	*i* P	**Pn**	**14 19 45.3**	**+0.4**
CHUJ				*i* S	**Sn**	**14 20 11.2**	**0.0**
TGIG		**2.19**	**33**		**Pn**	**14 19 46.1**	**+1.3**
TGIG					**Sn**	**14 20 11.1**	**0.0**
TGIG		**2.19**	**33**	*e*P	**Pn**	**14 19 46.1**	**+1.3**
TGIG				*e*S	**Sn**	**14 20 11.1**	**0.0**
TGBT	**Tuxtla Gutierr**	**2.21**	**34**	*e*P	**Pn**	**14 19 46.1**	**+1.1**
TGBT				*e*S	**Sn**	**14 20 13.1**	**+1.6**
UXUV	**UXUV**	**2.38**	**5**	*e*P	**Pn**	**14 19 49.2**	**+1.9**
UXUV				*e*S	**Sn**	**14 20 16.7**	**+0.9**
CCIG	**Comitan**	**2.53**	**58**	Pn	**Pn**	**14 19 49.0**	**-0.6**
CCIG	**Comitan**	**2.53**	**58**	*e*P	**Pn**	**14 19 52.0**	**+2.4**
CCIG				*e*S	**Sn**	**14 20 22.0**	**+2.3**
RTAL	**Retalhuleu**	**2.62**	**98**		**Pn**	**14 19 52.5**	**+1.9**
HUEH	**Huehuetenango**	**2.79**	**82**		**Pn**	**14 19 55.1**	**+1.9**
PEIG	**Puerto Escondi**	**2.88**	**292**	*e*P	**Pn**	**14 19 55.5**	**+1.2**
PEIG				*e*S	**Sn**	**14 20 23.3**	**-4.9**
NEUV	**Arroyo Zacate**	**3.09**	**334**	*e*P	**Pn**	**14 19 58.7**	**+1.6**
NEUV				*i* S	**Sb**	**14 20 40.4**	**-1.2**
VHO	**Vista Hermosa**	**3.12**	**313**	*e*P	**Pn**	**14 20 01.6**	**+4.0**
VHO				*e*S	**Sn**	**14 20 35.2**	**+1.0**
YOIG	**Yosondua**	**3.61**	**302**	*e*P	Pn	14 20 08.8	+4.3
YOIG				*e*S	**Sn**	**14 20 46.8**	**+0.3**
PETF	**Flores**	**4.76**	**65**		**Pn**	**14 20 21.7**	**+1.7**
MTO3	**Montecristo**	**4.87**	**96**		**Pn**	**14 20 22.8**	**+0.9**
JAUV	**Jalcomulco**	**4.99**	**333**	*e*P	**Pn**	**14 20 24.3**	**+1.0**
JAUV				*e*S	**Sn**	**14 21 17.5**	**-2.7**
TEIG	**Tepich**	**7.84**	**47**		**Pn**	**14 21 02.2**	**-0.1**
SOR	**Soroa**	**13.29**	**52**	Pn	**Pn**	**14 22 16.6**	**-0.5**
AMTX	**Amarillo**	**20.93**	**343**	P	**P**	**14 23 51.1**	**+0.2**
AMTX				IAmb	IAmb	14 24 00.2	
	comp=Z,11nm,1.1s						

*IDC **23** 14:23:40.5±0.8, 6°75N×92°59E, h0km, mb4.1/10, mbtmp4.1/12, ML4.1/2, MS3.6/18, Error ellipse: s-maj=28.7km s-min=17.1km az=53.0*
*NEIC **23** 14:23:42.7±1.4, 6°81N±0°07×92°50E±0°08, h10km±1km, mb4.5/31, Error ellipse: s-maj=14.6km s-min=11.4km az=245.0*

ISC 23 14:23:44.3±0.5, 6°78N±0°06×92°53E±0°06, h23km, n107, σ1§82/90, mb4.5/29, MS3.6/21, 1C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.66**	**109**	Pn	**Pn**	**14 24 54.9**	**+1.6**
PBA	**Port Blair**	**4.85**	**3**	Pn	**Pn**	**14 24 56.1**	**+0.2**
PBA	**Port Blair**	**4.85**	**3**	*e*P	**Pn**	**14 24 56.4**	**+0.5**
PBA				*e*S	**Sn**	**14 25 49.1**	**-2.3**
PBA				IAML		14 26 08.1	
	comp=E,348nm,0.7s						
SRIT	**Nakonsritamara**	**7.24**	**75**		**Pn**	**14 25 28.6**	**-0.2**
RPSI	**Rantau Prapat**	**7.56**	**122**	Pn	**Pn**	**14 25 31.6**	**-1.4**
PALK	**Pallekele**	**11.75**	**273**		**Pn**	**14 26 28.4**	**-2.2**
PALK	**Pallekele**	**11.75**	**273**	Pn	**Pn**	**14 26 28.3**	**-2.3**
	comp=E,1.8nm,0.3s,baz=197,slow=14,SNR=8.9						
PALK				Sn	Sn	14 28 25.6	-16
	comp=E,2.8nm,0.3s,baz=108,slow=23,SNR=7.8						
PALK				LR	LR	14 30 27.0	
	comp=E,448nm,19.3s,baz=199,slow=34						
	comp=E,5.1nm,0.3s						
CM31	**Chiang Mai Arr**	**13.19**	**28**		**Pn**	**14 26 48.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**13.19**	**28**		**Pn**	**14 26 49.3**	**-0.9**
CMAR	**Chiang Mai Arr**	**13.19**	**28**	Pn	**Pn**	**14 26 50.3**	**0.0**
	comp=E,0.3nm,0.3s,baz=218,slow=13,SNR=35						
CMAR				LR	LR	14 32 52.0	
	com

comp=E,280nm,10.8s
PZH LR LR
comp=Z,420nm,13.7s
JIRN Jiri 21.62 345 *e*P **P 14 28 36.0 +2.7**
comp=Z,83nm,0.9s
PKI Pulchoki 21.76 343 *e*P **P 14 28 38.1 +3.4**
comp=Z,61nm,1.0s
PKIN Phulchoki 21.77 343 *e*P **P 14 28 38.0 +3.3**
comp=Z,81nm,1.0s
GUN Gumba 21.94 344 *e*P **P 14 28 38.4 +1.7**
comp=Z,111nm,1.1s
GKN Gorkha 22.40 341 *e*P **P 14 28 43.2 +1.8**
comp=Z,97nm,1.0s
KOLN Koldanda 22.53 339 *e*P **P 14 28 45.7 +2.8**
LSA Lhasa 22.84 357 P **P 14 28 48.1 +1.7**
LSA pmax pmax
comp=Z,3.0nm,0.4s
LSA Lhasa 22.84 357 P **P 14 28 45.8 -0.6**
LSA IAmb IAmb 14 29 12.2
comp=Z,15nm,0.8s
DANN Dangsing 23.01 340 *e*P **P 14 28 49.0 +1.0**
comp=Z,33nm,0.8s
PYUN Piuthan 23.05 338 *e*P **P 14 28 50.4 +2.0**
comp=Z,76nm,1.0s
GYA Guiyang 23.76 33⇓*i*P **P 14 28 56.4 +1.1**
GYA pP pwP 14 29 06.6 +0.9
GYA pmax pmax
comp=Z,38nm,1.3s
GYA pmax pmax
comp=Z,320nm,4.0s
GYA LR LR
comp=Z,440nm,14.3s
H08S3 Diego Garcia H 24.58 235 T T 14 55 13.1
baz=55,slow=76,SNR=99
H08S2 Diego Garcia H 24.59 235 T T 14 55 12.1
baz=55,slow=76,SNR=47
H08S1 Diego Carcia H 24.60 235 T T 14 54 56.9
baz=55,slow=76,SNR=37
TGY Tagaytay City 28.85 73 LR LR 14 41 22.7
comp=Z,192nm,19.2s,baz=170,slow=37
KAPI Kappang 29.59 113 LR LR 14 43 25.4
comp=Z,58nm,18.2s,baz=289,slow=40
LZH Lanzhou 30.96 18 *e*P P 14 30 04.8 +4.9
LZH pP pwP 14 30 14.6 +3.5
LZH sP sP 14 30 18.4 +10
LZH pmax pmax
comp=Z,15nm,1.1s
XAN Xi'an 31.08 27 P P 14 30 10.4 +10
XAN pP pwP 14 30 16.4 +4.4
XAN pmax pmax
comp=Z,16nm,1.0s
DAV Davao City (W) 32.81 87 LR LR 14 44 15.3
comp=Z,76nm,18.2s,baz=292,slow=38
GTA Gaotai 33.15 10 *e*P **P 14 30 20.5 +1.4**
GTA pP pwP 14 30 30.0 -0.2
GTA pmax pmax
comp=Z,4.0nm,1.2s
LYN LuoYang 33.20 31⇓P **P 14 30 21.3 +1.8**
LYN sP pwP 14 30 31.1 +0.5
LYN pmax pmax
comp=Z,19nm,0.6s
LYN LR LR
comp=N,1μm,7.5s
LYN LR LR
comp=E,530nm,5.3s
LYN LR LR
comp=Z,570nm,10.8s
NJ2 Nanjing 35.14 41 *e*P **P 14 30 37.1 +0.8**
NJ2 pP **pwP 14 30 45.9 -1.0**
NJ2 sP **sP 14 30 49.3 +5.0**
NJ2 pmax pmax
comp=Z,11nm,0.8s
NJ2 pmax pmax
comp=Z,560nm,4.2s
BATI Baumata 35.30 118 LR LR 14 46 40.0
comp=Z,215nm,18.3s,baz=246,slow=39
WSAR Wadi Sarin 36.46 300 LR LR 14 43 31.9
comp=Z,37nm,19.1s,baz=234,slow=33
HNS HongShan 36.56 30⇓P **P 14 30 50.1 +1.7**
HNS pmax pmax
comp=Z,12nm,1.2s
WMQ Urumqi 37.14 354 *e*P **P 14 30 55.4 +2.1**
TARG Taragay, Kyrgy 37.19 342 P **P 14 30 52.5 -1.7**
TARG IAmb IAmb 14 31 19.6
comp=Z,12nm,1.4s
NRN Naryn 37.52 339 P **P 14 30 57.4 +0.5**
HHC Hu-ho-hao-te 37.95 24 *e*P **P 14 31 02.6 +2.3**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,580nm,5.8s
BTK Batken 38.44 333 P **P 14 31 04.3 -0.1**
BOOM Boomskoye usch 38.48 340 P **P 14 31 04.1 -0.7**
BOOM IAmb IAmb 14 31 16.6
comp=Z,10.0nm,1.2s
ARSB Arslanbob 38.55 336 P **P 14 31 05.1 -0.4**
ARSB IAmb IAmb 14 31 17.9
comp=Z,10nm,1.5s
AAK Ala-Archa 39.11 339 P **P 14 31 08.4 -1.7**
AAK IAmb IAmb 14 31 26.5
comp=Z,16nm,1.4s
AAK Ala-Archa 39.11 339 LR LR 14 50 03.7
comp=Z,92nm,18.1s,baz=156,slow=40
BJT Baijiatuan 39.31 29 P **P 14 31 09.9 -1.7**
BJT IAmb IAmb 14 31 32.1
comp=Z,6.2nm,0.9s
JOW Kunigami 39.39 55 LR LR 14 48 41.5
comp=Z,59nm,19.3s,baz=131,slow=38
SIJI Sorong 39.40 100 LR LR 14 50 10.5
comp=Z,88nm,18.8s,baz=292,slow=40
MK31 Makanchi Array 40.83 349 P **P 14 31 23.7 -0.5**
MKAR Makanchi Array 40.83 349 P **P 14 31 23.7 -0.5**
comp=Z,1.1nm,0.6s,baz=170,slow=8.4,SNR=11
MKAR LR LR 14 51 22.0
comp=Z,76nm,19.6s,baz=132,slow=41
comp=Z,1.1nm,0.6s
KK31 Karatay Array 41.05 335 P **P 14 31 25.4 -0.6**
KKAR Karatay Array 41.05 335 P **P 14 31 25.7 -0.4**
SONM Songino Array 42.59 14 P **P 14 31 37.9 -0.8**
SONM IAmb IAmb 14 31 50.5
comp=Z,8.6nm,1.1s
SONM Songino Array 42.59 14 P **P 14 31 37.9 -0.8**
comp=Z,2.5nm,0.9s,baz=197,slow=7.1,SNR=10.0
SONM LR LR 14 52 20.2
comp=Z,44nm,19.8s,baz=192,slow=40
comp=Z,2.5nm,0.9s
GEYT Alibeck 43.97 320 P **P 14 31 49.5 -0.4**
GEYT IAmb IAmb 14 32 22.0
comp=Z,5.9nm,0.9s
GEYT Alibeck 43.97 320 P **P 14 31 49.8 -0.1**
comp=Z,2.5nm,0.7s,baz=162,slow=7.3,SNR=5.0
comp=Z,2.5nm,0.7s
JNU Nakatsue 44.17 48 LR LR 14 51 19.5
comp=Z,53nm,19.8s,baz=218,slow=38
KURBB Kurchatov Arra 45.24 347 P **P 14 32 00.2 +0.5**
comp=Z,1.6nm,0.6s,baz=171,slow=7.1,SNR=22
KURBB LR LR 14 53 58.0
comp=Z,60nm,21.8s,baz=174,slow=40
comp=Z,1.6nm,0.6s
KURK Kurchatov 45.31 348 P **P 14 32 00.2 0.0**
ZAA0 Zalesovo Array 47.45 354 P **P 14 32 15.8 -1.2**
ZAA0 IAmb IAmb 14 32 52.2
comp=Z,9.9nm,1.1s
ZALV Zalesovo Beam 47.45 354 P **P 14 32 16.6 -0.4**
comp=Z,0.8nm,0.3s,baz=177,slow=9.9,SNR=7.1
ZALV LR LR 14 54 54.0
comp=Z,58nm,18.1s,baz=170,slow=40
comp=Z,0.8nm,0.3s
WB0 Warramunga Arr 48.92 124 P **P 14 32 28.3 -0.7**
WB0 IAmb IAmb 14 32 52.1
comp=Z,11nm,1.4s
WRA Warramunga Arr 48.96 124 P **P 14 32 28.4 -0.8**
WRA Warramunga Arr 48.96 124 P **P 14 32 28.6 -0.7**
comp=Z,3.3nm,0.9s,baz=303,slow=8.7,SNR=22
comp=Z,3.3nm,0.9s
WB2 Warramunga Arr 48.97 124 P **P 14 32 28.6 -0.7**
WB2 IAmb IAmb 14 32 41.3
comp=Z,6.9nm,1.0s
WR0 Warramunga Arr 49.13 124 P **P 14 32 29.6 -1.0**
BVAR Borovoye Array 49.53 343 P **P 14 32 32.8 -0.3**
comp=Z,0.8nm,0.5s,baz=127,slow=9.3,SNR=3.6
BVAR LR LR 14 54 36.5
comp=Z,82nm,18.8s,baz=154,slow=37
comp=Z,0.8nm,0.5s
ABKAR Akbulak array 50.44 333 P **P 14 32 38.9 -1.2**
AS31 Alice Springs 50.47 128 P **P 14 32 39.7 -1.1**
ASAR Alice Springs 50.47 128 P **P 14 32 41.3 +0.5**
ASAR Alice Springs 50.47 128 P **P 14 32 39.9 -0.9**
comp=Z,3.3nm,0.9s,baz=306,slow=7.4,SNR=24
comp=Z,3.3nm,0.9s
HEH HeiHe 52.21 28 *e*P **P 14 32 53.8 +0.5**
HEH pmax pmax
comp=Z,9.0nm,1.2s
MMAI Mount Meron Ar 58.90 305 P **P 14 33 43.8 +1.9**
comp=Z,0.7nm,0.4s,baz=95,slow=10,SNR=6.5
comp=Z,0.7nm,0.4s
CTA Charters Tower 59.19 118 LR LR 15 01 04.1
comp=Z,61nm,19.8s,baz=280,slow=38
H04N2 CROZET ISLANDS 63.97 210 T T 15 44 18.3
baz=47,slow=75,SNR=41
H04N1 CROZET ISLANDS 63.98 210 T T 15 44 19.9
baz=47,slow=75,SNR=10.0
H04N3 CROZET ISLANDS 63.99 210 T T 15 44 18.5
baz=47,slow=75,SNR=9.0
TIXI Tiksi 68.62 12 P **P 14 34 44.6 -0.5**
MAW Mawson 77.15 191 P **P 14 35 36.1 +0.5**
ELIB Princess Elisa 90.08 197 *d*PcP **PcP 14 36 43.7 +0.5**
ESDC Sonseca Array 90.69 310 P **P 14 36 45.5 -0.1**
comp=Z,0.7nm,0.7s,baz=44,slow=5.7,SNR=5.5
comp=Z,0.7nm,0.7s
NVAR Mina Array Bea 126.67 30 PKP **PKiKP 14 42 46.2 -0.8**
comp=Z,0.3nm,0.5s,baz=281,slow=2.0,SNR=5.2
PDAR Pinedale Array 126.75 20 PKP **PKiKP 14 42 46.5 -0.6**
comp=Z,0.1nm,0.5s,baz=318,slow=1.2,SNR=3.6
TXAR Lajitas Array 140.86 23 PKP **PKPdf 14 43 11.7 -1.6**
comp=Z,0.3nm,0.6s,baz=270,slow=0.4,SNR=3.7
CPUP Villa Florida 145.33 232 PKPbc **PKPbc 14 43 19.9 -0.9**
comp=Z,4.9nm,1.1s,baz=46,slow=4.0,SNR=4.8

---

*SJA **23** 14:34:57.1±2.1,22°.29S×67°.03W,h150km,ML3.6,MW3.4*
*SCB **23** 14:34:59.0±1.0,22°.35S×67°.29W,h187km±8km,ML3.5/3,*
MW2.9,Error ellipse: s-maj=4.2km s-min=2.4km az=0.0
*GUC **23** 14:35:00.1±0.7,22°.30S×67°.45W,h199km±9km,ML3.8*
ISC 23 14:34:58.0±1.6,22°.32S±0°.04×67°.34W±0°.05,
h202km±12km,n50,σ1§19/84,10C-1D,Chile-Bolivia
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.48**	**258**	Pg	**Pn**	**14 35 33.0**	**+0.8**
LVC	**Limon Verde**	**1.48**	**258**	*e*P	**Pn**	**14 35 32.2**	**0.0**
LVC				*i* S	**Sn**	**14 35 57.5**	**-1.1**
LVC	**Limon Verde**	**1.48**	**258**	*e*P	**Pn**	**14 35 32.9**	**+0.8**
LVC				*e*S	**Sn**	**14 35 58.6**	**-0.1**
YJA	**Yavi**	**1.69**	**86**	Pg	**Pn**	**14 35 34.1**	**-0.1**
PB09	**IPOC Station P**	**1.84**	**286**	Pg	**Pn**	**14 35 36.7**	**+1.4**
PB09	**IPOC Station P**	**1.84**	**286**	⇑*i*P	**Pn**	**14 35 36.5**	**+1.2**
PB09				*i* S	**Sn**	**14 36 03.0**	**-1.3**
PB09	**IPOC Station P**	**1.84**	**286**	*e*P	**Pn**	**14 35 36.6**	**+1.2**
PB09				*e*S	**Sn**	**14 36 05.5**	**+1.3**
MOCB	**Mochara**	**1.90**	**56**	Pg	**Pn**	**14 35 36.3**	**0.0**
MOCB				Sg	**Sn**	**14 36 04.5**	**-1.4**
MOCB				IAML		14 36 08.9	
	48nm,0.6s						
PB06	**IPOC Station P**	**2.10**	**259**	Pg	**Pn**	**14 35 38.9**	**+0.9**
PB06	**IPOC Station P**	**2.10**	**259**	*e*P	**Pn**	**14 35 38.6**	**+0.6**
PB06				*i* S	**Sn**	**14 36 07.8**	**-1.1**
PB06				IAML		14 36 10.9	
	comp=N,300nm,0.1s						
PB06	**IPOC Station P**	**2.10**	**259**	*e*P	**Pn**	**14 35 38.8**	**+0.9**
PB06				*e*S	**Sn**	**14 36 09.9**	**+0.9**
PB06				IAML		14 36 11.4	
	comp=Z,172nm,0.2s						
PB15	**IPOC Station P**	**2.16**	**245**	Pg	**Pn**	**14 35 39.4**	**+0.8**
PB15				Sg	**Sn**	**14 36 10.1**	**-0.1**
PB15				IAML		14 36 12.3	
	comp=Z,1μm,0.3s						
PB15	**IPOC Station P**	**2.16**	**245**	⇑*i*P	**Pn**	**14 35 39.5**	**+0.9**
PB15				*i* S	**Sn**	**14 36 09.8**	**-0.3**
PB15	**IPOC Station P**	**2.16**	**245**	*e*P	**Pn**	**14 35 39.6**	**+1.0**
PB15				*e*S	**Sn**	**14 36 10.8**	**+0.6**
PB15				IAML		14 36 14.3	
	comp=Z,980nm,0.1s						
PB01	**IPOC Station P**	**2.37**	**302**	Pg	**Pn**	**14 35 41.5**	**+0.7**
PB01				Sg	**Sn**	**14 36 13.4**	**-0.6**
PB01				IAML		14 36 14.7	
	comp=Z,133nm,0.2s						
PB01	**IPOC Station P**	**2.37**	**302**	⇑*i*P	**Pn**	**14 35 41.3**	**+0.6**
PB01				*i* S	**Sn**	**14 36 13.0**	**-1.0**
PB01				IAML		14 36 14.6	
	comp=E,199nm,0.2s						
PB01	**IPOC Station P**	**2.37**	**302**	*e*P	**Pn**	**14 35 41.4**	**+0.7**
PB01				*e*S	**Sn**	**14 36 13.7**	**-0.3**
PB01				IAML		14 36 16.7	
	comp=Z,102nm,0.2s						
PB07	**IPOC Station P**	**2.44**	**284**	Pg	**Pn**	**14 35 42.6**	**+1.0**
PB07	**IPOC Station P**	**2.44**	**284**	⇑*i*P	**Pn**	**14 35 42.3**	**+0.7**
PB07				*i* S	**Sn**	**14 36 13.7**	**-1.7**
PB07				IAML		14 36 15.2	
	comp=N,337nm,0.2s						
PB07	**IPOC Station P**	**2.44**	**284**	*e*P	**Pn**	**14 35 42.2**	**+0.7**
PB07				*e*S	**Sn**	**14 36 14.8**	**-0.7**
PB07				IAML		14 36 15.6	
	comp=Z,250nm,0.3s						
PB02	**IPOC Station P**	**2.58**	**292**	Pg	**Pn**	**14 35 43.9**	**+0.8**
PB02	**IPOC Station P**	**2.58**	**292**	⇑*i*P	**Pn**	**14 35 43.5**	**+0.5**
PB02				*i* S	**Sn**	**14 36 16.5**	**-1.6**
PB02				IAML		14 36 18.8	
	comp=E,193nm,0.1s						
PB02	**IPOC Station P**	**2.58**	**292**	*e*P	**Pn**	**14 35 43.7**	**+0.6**
PB02				*e*S	**Sn**	**14 36 17.6**	**-0.6**
PB02				IAML		14 36 19.7	
	comp=Z,188nm,0.1s						
PB04	**IPOC Station P**	**2.60**	**269**	Pg	**Pn**	**14 35 44.3**	**+0.9**
PB04	**IPOC Station P**	**2.60**	**269**	*e*P	**Pn**	**14 35 44.2**	**+0.8**
PB04				*i* S	**Sn**	**14 36 16.8**	**-1.9**
PB04				IAML		14 36 20.3	
	comp=E,309nm,0.2s						
PB04	**IPOC Station P**	**2.60**	**269**	*e*P	**Pn**	**14 35 44.0**	**+0.5**
PB04				*e*S	**Sn**	**14 36 17.6**	**-1.2**
PB04				IAML		14 36 19.2	
	comp=Z,272nm,0.1s						
PB08	**IPOC Station P**	**2.75**	**322**	Pg	**Pn**	**14 35 47.2**	**+1.8**
PB08	**IPOC Station P**	**2.75**	**322**	⇑*i*P	**Pn**	**14 35 47.0**	**+1.6**
PB08				*i* S	**Sn**	**14 36 21.8**	**-0.5**
PB08	**IPOC Station P**	**2.75**	**322**	*e*P	**Pn**	**14 35 46.8**	**+1.5**
PB08				*e*S	**Sn**	**14 36 23.2**	**+0.9**
PATCX	**Punta Patache**	**3.02**	**299**	⇑*i*P	**Pn**	**14 35 48.3**	**+0.2**
PATCX				*i* S	**Sn**	**14 36 24.6**	**-2.5**
PATCX				IAML		14 36 26.9	
	comp=E,141nm,0.2s						
PATCX	**Punta Patache**	**3.02**	**299**	*e*P	**Pn**	**14 35 48.5**	**+0.4**
PATCX				*e*S	**Sn**	**14 36 25.8**	**-1.4**
HMBC	**Humberstone**	**3.13**	**310**	⇑*i*P	**Pn**	**14 35 49.5**	**0.0**
HMBC				*i* S	**Sn**	**14 36 27.0**	**-2.7**
HMBC				IAML		14 36 28.3	
	comp=N,126nm,0.2s						
HMBC	**Humberstone**	**3.13**	**310**	*e*P	**Pn**	**14 35 49.5**	**0.0**
HMBC				*e*S	**Sn**	**14 36 28.3**	**-1.3**
HMBC				IAML		14 36 30.6	
	comp=Z,84nm,0.2s						
GO01	**Chusmiza**	**3.16**	**326**	Pg	**Pn**	**14 35 51.6**	**+1.4**
GO01	**Chusmiza**	**3.16**	**326**	⇑*i*P	**Pn**	**14 35 51.5**	**+1.3**
GO01				*i* S	**Sn**	**14 36 31.0**	**+0.1**
GO01				IAML		14 36 34.7	
	comp=N,259nm,0.1s						
GO01	**Chusmiza**	**3.16**	**326**	*e*P	**Pn**	**14 35 51.4**	**+1.2**
GO01				*e*S	**Sn**	**14 36 32.3**	**+1.4**
GO01				IAML		14 36 34.5	
	comp=Z,64nm,0.1s						
TA01	**Diego Aracena**	**3.17**	**303**	⇑*i*P	**Pn**	**14 35 49.8**	**-0.1**
TA01				*i* S	**Sn**	**14 36 27.6**	**-2.7**
TA01	**Diego Aracena**	**3.17**	**303**	*e*P	**Pn**	**14 35 49.9**	**+0.1**
TA01				*e*S	**Sn**	**14 36 28.3**	**-2.0**
TA01				*e*S	S	14 36 28.8	-0.9
GO02	**Mina Guanaco**	**3.50**	**216**	Pg	**Pn**	**14 35 54.9**	**+0.8**
GO02	**Mina Guanaco**	**3.50**	**216**	⇓*i*P	**Pn**	**14 35 55.5**	**+1.4**
GO02				*i* S	**Sn**	**14 36 37.5**	**-0.6**
GO02	**Mina Guanaco**	**3.50**	**216**	*e*P	**Pn**	**14 35 54.8**	**+0.8**
GO02				*e*S	**Sn**	**14 36 37.7**	**-0.4**
GO02				IAML		14 36 38.7	
	comp=Z,115nm,0.3s						
PB14	**IPOC Station P**	**3.63**	**230**	*e*P	**Pn**	**14 35 56.5**	**+0.8**
PB14				*e*S	**Sn**	**14 36 39.3**	**-1.6**
PB14				IAML		14 36 40.3	
	comp=Z,128nm,0.3s						
SOEO	**Opoqueri**	**3.77**	**352**	Pg	**Pn**	**14 35 59.5**	**+1.9**
SOTI	**Planta Incahua**	**4.24**	**55**	Pg	**Pn**	**14 36 03.3**	**+0.3**
SOET	**ToroToro**	**4.42**	**19**	Pg	**Pn**	**14 36 06.3**	**+0.7**
PB16	**IPOC Station P**	**4.46**	**332**	Pg	**Pn**	**14 36 07.8**	**+1.6**
PB16	**IPOC Station P**	**4.46**	**332**	*e*P	**Pn**	**14 36 07.2**	**+1.0**
PB16				*e*S	**Sn**	**14 36 59.2**	**-0.6**
PB12	**IPOC Station P**	**4.63**	**322**	*e*P	**Pn**	**14 36 07.4**	**-0.6**
PB12				*e*S	**Sn**	**14 37 00.1**	**-2.9**
PB12				IAML		14 37 08.2	
	comp=Z,24nm,0.2s						
BBOE	**La Paz, Chanca**	**5.51**	**354**	Pg	**Pn**	**14 36 21.3**	**+1.6**
BBOD	**La Paz, Gloria**	**5.78**	**348**	Pg	**Pn**	**14 36 24.8**	**+1.8**

---

*TAP **23** 14:36:37.9,24°.79N×122°.31E,h14km,ML3.0,C*
*JMA **23** 14:36:38.2±0.1,25°.N±1°×122°.4E±0°.4,h6km,MV2.3/11,*
TAIWAN REGION
ISC 23 14:36:37.7±1.0,24°.76N±0°.02×122°.35E±0°.02,h8km±9km,
n82,σ0§48/122,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.35**	**197**	*i* P	**Pb**	**14 36 46.0**	**-0.2**
	baz=193						
EOS2				*i* S	**Sb**	**14 36 52.2**	**+0.5**
	baz=193						
EGS		**0.39**	**283**	*e*P	**Pg**	**14 36 45.3**	**0.0**
	baz=270						
TWB1	**Santiao Chiao**	**0.41**	**308**	*i* P	**Pg**	**14 36 45.7**	**0.0**
	baz=307						
TWB1				*i* S	**Sg**	**14 36 50.6**	**-0.6**
	baz=307						
EOS3	**EOS3**	**0.47**	**183**	*i* P	**Pb**	**14 36 48.1**	**-0.1**
	baz=179						
EOS3				*i* S	**Sb**	**14 36 56.0**	**+0.8**
	baz=179						
TWC	**Suao**	**0.48**	**252**	*e*P	**Pg**	**14 36 47.0**	**+0.1**
	baz=245						
SXI1	**Grass Mountain**	**0.54**	**308**	*i* P	**Pg**	**14 36 48.6**	**+0.3**
	baz=307						
SXI1				*i* S	**Sg**	**14 36 55.6**	**+0.2**
	baz=307						
NDS	**Dongshan**	**0.59**	**258**	P	**Pg**	**14 36 49.2**	**+0.1**
	baz=248						
NDS				*e*S	**Sb**	**14 36 58.0**	**-0.7**
	baz=248						
NWF	**Wu-fen Shan**	**0.60**	**301**	P	**Pb**	**14 36 50.1**	**-0.4**
	baz=300						
NWF				S	**Sg**	**14 36 58.0**	**+0.7**
	baz=300						
WFSB	**Wu-fen Shan**	**0.60**	**301**	*i* P	**Pb**	**14 36 50.2**	**-0.3**
	baz=299						
WFSB				S	**Sg**	**14 36 57.8**	**+0.5**
	baz=299						
EWUT	**Wuta**	**0.60**	**239**	*e*P	**Pg**	**14 36 49.8**	**+0.4**
	baz=234						
EWUT				*e*S	**Sb**	**14 36 58.8**	**-0.4**
	baz=234						
TWE	**Neicheng**	**0.62**	**267**	*i* P	**Pg**	**14 36 49.7**	**0.0**
	baz=262						
TWE				*i* S	**Sb**	**14 36 58.7**	**-1.0**
	baz=262						
JYNG	**Yonagunijimaku**	**0.62**	**119**	P	**Pg**	**14 36 49.9**	**+0.1**
JYNG				*e*S	**Sg**	**14 36 57.2**	**-0.7**
EOS4	**EOS4**	**0.63**	**182**	P	**Pb**	**14 36 51.0**	**+0.2**
	baz=172						
EOS4				S	**Sb**	**14 37 00.9**	**+1.3**
	baz=172						
ENA	**Nanau**	**0.64**	**239**	P	**Pg**	**14 36 50.2**	**+0.1**
	baz=234						
ENA				*e*S	**Sb**	**14 37 00.0**	**-0.3**
	baz=234						
TNOU	**National Taiwa**	**0.65**	**307**	P	**Pg**	**14 36 50.4**	**+0.1**
	baz=306						
TNOU				*e*S	**Sg**	**14 36 59.2**	**+0.4**
	baz=306						
YOJ	**Yonaguni jima**	**0.67**	**116**	P	**Pg**	**14 36 50.6**	**0.0**
YOJ				S	**Sg**	**14 36 59.1**	**-0.4**
YOJ	**Yonaguni jima**	**0.67**	**116**	P	**Pg**	**14 36 50.7**	**0.0**
	baz=117						
FUSB	**Fushanzhiwuyua**	**0.69**	**270**	P	**Pg**	**14 36 51.1**	**0.0**
	baz=267						
FUSB				*e*S	**Sg**	**14 37 00.3**	**+0.3**
	baz=267						
ENTT	**Nioudou**	**0.72**	**261**	*e*P	**Pg**	**14 36 51.9**	**+0.3**
	baz=257						
TWA	**Mucha**	**0.73**	**288**	*e*P	**Pg**	**14 36 51.8**	**+0.1**
	baz=286						
NWRT	**Kuosheng**	**0.77**	**306**	*e*P	**Pg**	**14 36 52.0**	**-0.5**
	baz=304						
NWRT				*e*S	**Sg**	**14 37 02.6**	**+0.2**
	baz=304						
NWLT	**Wulai**	**0.77**	**272**	*e*P	**Pg**	**14 36 52.7**	**+0.2**
	baz=268						
NWLT				*e*S	**Sg**	**14 37 02.5**	**0.0**
	baz=268						
NDT	**Datong Townshi**	**0.77**	**259**	P	**Pg**	**14 36 53.0**	**+0.4**
	baz=263						
NDT				*e*S	**Sb**	**14 37 03.8**	**-0.3**
	baz=263						
NHDH	**Xindian Distri**	**0.77**	**286**	P	**Pb**	**14 36 53.3**	**-0.1**
	baz=273						
NHDH				*e*S	**Sg**	**14 37 03.3**	**+0.6**
	baz=273						
LATG	**Datong**	**0.78**	**254**	*e*P	**Pg**	**14 36 52.8**	**0.0**
	baz=244						
LATG				*e*S	**Sb**	**14 37 04.1**	**-0.2**
	baz=244						
YM01	**YM01**	**0.81**	**299**	*e*P	**Pg**	**14 36 53.6**	**+0.4**
	baz=297						
YM01				*e*S	**Sb**	**14 37 04.5**	**-0.5**
	baz=297						
TATO	**Taipei**	**0.81**	**286**	*e*P	**Pb**	**14 36 53.8**	**-0.3**
	baz=283						
TATO				*e*S	**Sb**	**14 37 04.6**	**-0.5**
	baz=283						
YM08	**YM08**	**0.81**	**302**	*e*P	**Pg**	**14 36 53.3**	**-0.1**
	baz=301						
YM08				*e*S	**Sg**	**14 37 03.9**	**0.0**
	baz=301						
TAP	**Taipei**	**0.81**	**290**	*e*S	**Sb**	**14 37 05.4**	**+0.2**
	baz=288						
TWY	**Chenhua**	**0.85**	**307**	P	**Pb**	**14 36 54.8**	**0.0**
	baz=307						
TWY				*e*S	**Sb**	**14 37 06.0**	**-0.3**
	baz=307						
ANP	**Anpu**	**0.86**	**300**	P	**Pb**	**14 36 54.9**	**-0.1**
	baz=298						
ANP				*e*S	**Sg**	**14 37 05.8**	**+0.2**
	baz=298						
YHNB	**Yeheng**	**0.89**	**265**	*e*P	**Pg**	**14 36 54.8**	**0.0**
	baz=261						
YHNB				*e*S	**Sg**	**14 37 06.2**	**-0.2**
	baz=261						
ETL	**Fush Village**	**0.89**	**228**	P	**Pg**	**14 36 55.0**	**+0.2**
	baz=224						
NACB	**Ninganchiao**	**0.90**	**230**	P	**Pg**	**14 36 55.0**	**0.0**
	baz=236						
NACB				S	**Sb**	**14 37 07.1**	**-0.5**
	baz=236						
NSK	**Sanguang**	**0.90**	**265**	P	**Pg**	**14 36 54.9**	**-0.2**
	baz=262						
NSK				*e*S	**Sg**	**14 37 06.7**	**-0.1**
	baz=262						
PCYT	**Pengchaiyu**	**0.90**	**344**	*e*P	**Pg**	**14 36 55.2**	**0.0**
	baz=346						
NTST	**Danshui**	**0.91**	**297**	*e*P	**Pb**	**14 36 56.0**	**+0.2**
	baz=305						
NTST				*e*S	**Sb**	**14 37 07.7**	**-0.3**
	baz=305						
TWS1	**Kuangyinshan**	**0.91**	**292**	*e*P	**Pn**	**14 36 56.7**	**-0.1**
	baz=290						
TWS1				*e*S	**Sb**	**14 37 07.9**	**-0.1**
	baz=290						
NNSB	**Datong**	**0.94**	**250**	*e*P	**Pg**	**14 36 55.5**	**-0.3**
	baz=235						
NNSB				*e*S	**Sb**	**14 37 08.4**	**-0.5**
	baz=235						
NNSH	**Datong**	**0.94**	**250**	*e*P	**Pg**	**14 36 55.4**	**-0.3**
	baz=247						
NNS	**Nan Shan**	**0.94**	**251**	*i* P	**Pg**	**14 36 56.0**	**+0.2**
	baz=235						
NNS				*e*S	**Sb**	**14 37 08.6**	**-0.4**
	baz=235						
ETLH	**Xiulin Townshi**	**0.96**	**235**	*e*P	**Pg**	**14 36 56.0**	**-0.2**
	baz=232						
ETLH				S	**Sb**	**14 37 09.7**	**+0.1**
	baz=232						
TWD	**Chiawan**	**0.96**	**226**	*e*P	**Pg**	**14 36 56.3**	**+0.1**
	baz=229						

TWD				*eS*	**Sg**	**14 37 08.6**	**-0.1**
	baz=229						
ETM	**Tongmen**	**1.11 225**		*eP*	**Pg**	**14 36 59.1**	**+0.1**
	baz=203						
LXIB	**Xiulin Townshi**	**1.12 229**		*eP*	**Pg**	**14 36 58.9**	**-0.4**
	baz=226						
NFF	**Wufeng Townshi**	**1.12 264**		P	**Pb**	**14 36 59.0**	**-0.5**
	baz=251						
NFF				*eS*	**Sn**	**14 37 15.5**	**0.0**
	baz=251						
NJD	**Zhudong**	**1.15 269**		*eP*	**Pn**	**14 37 01.6**	**+1.5**
	baz=259						
WHF	**Hehuan Shan**	**1.16 239**		*eP*	**Pg**	**14 36 60.0**	**-0.1**
	baz=235						
TWT	**Tachien**	**1.18 245**		P	**Pn**	**14 37 01.3**	**+0.6**
	baz=242						
TWT				*eS*	**Sn**	**14 37 17.5**	**+0.5**
	baz=242						
TDCB	**Techi**	**1.19 245**		*eP*	**Pn**	**14 37 00.9**	**0.0**
	baz=242						
LIOB	**Emei**	**1.22 265**		*eP*	**Pg**	**14 37 01.7**	**+0.6**
	baz=263						
NSTT	**Nanjuang**	**1.23 264**		*eP*	**Pg**	**14 37 02.1**	**+0.8**
	baz=262						
SBCB	**Hsinchu**	**1.24 272**		*eP*	**Pb**	**14 37 01.3**	**-0.1**
	baz=288						
CHGB	**Renai**	**1.27 237**		*eP*	**Pb**	**14 37 02.0**	**-0.1**
	baz=234						
CHGB				*eS*	**Sn**	**14 37 18.9**	**-0.5**
	baz=234						
IRIF	**Iriomote-Funau**	**1.33 108**		P	**Pn**	**14 37 02.8**	**+0.2**
OWD	**Renai**	**1.33 233**		*eP*	**Pg**	**14 37 03.5**	**+0.2**
	baz=225						
WUSB	**Renai**	**1.35 236**		*eP*	**Pg**	**14 37 04.1**	**+0.3**
	baz=241						
WUSB				*eS*	**Sg**	**14 37 22.0**	**+0.6**
	baz=241						
WARBT	**Fenglin Townsh**	**1.36 220**		*eP*	**Pb**	**14 37 03.1**	**-0.3**
	baz=201						
WHP	**Taichung City**	**1.36 250**		*eP*	**Pg**	**14 37 04.2**	**+0.3**
	baz=247						
WHP				*eS*	**Sg**	**14 37 21.3**	**-0.2**
	baz=247						
NMLH	**Miaoli**	**1.43 262**		*eP*	**Pg**	**14 37 05.8**	**+0.6**
	baz=276						
WCS	**Beigang Elemen**	**1.48 242**		*eP*	**Pg**	**14 37 06.3**	**+0.1**
	baz=239						
NSY	**Sanyi**	**1.48 257**		*eP*	**Pg**	**14 37 06.4**	**+0.2**
	baz=247						
VWDT	**VWDT**	**1.49 228**		*eP*	**Pb**	**14 37 05.7**	**+0.1**
	baz=210						
TWQ1	**Liyutan**	**1.49 254**		*eP*	**Pg**	**14 37 06.1**	**-0.2**
	baz=251						
HGSD	**Ruisui**	**1.52 214**		*eP*	**Pn**	**14 37 05.3**	**+0.2**
	baz=197						
EHY	**Hungye**	**1.56 217**		*eP*	**Pn**	**14 37 05.1**	**-0.7**
	baz=214						
SMLT	**Sun Moon Lake**	**1.58 237**		*eP*	**Pg**	**14 37 07.9**	**-0.2**
	baz=242						
SMLT				*eS*	**Sg**	**14 37 29.9**	**+1.3**
	baz=242						
SSLB	**Suanglung**	**1.60 233**		P	**Pb**	**14 37 07.6**	**+0.1**
	baz=230						
JKRS	**Kuro-shima**	**1.60 108**		*eP*	**Pb**	**14 37 07.5**	**0.0**
TYC	**Yuchr**	**1.60 238**		*eP*	**Pg**	**14 37 08.4**	**-0.1**
	baz=235						
TCU	**Taichung**	**1.64 249**		*eP*	**Pg**	**14 37 10.7**	**+1.5**
	baz=238						
YULB	**Yu-li**	**1.66 215**		*eP*	**Pn**	**14 37 06.7**	**-0.5**
	baz=212						
JIJ	**Ishigaki jima**	**1.68 103**		*eP*	**Pn**	**14 37 08.0**	**+0.5**
WHYT	**Xinyi Township**	**1.72 233**		*eP*	**Pb**	**14 37 09.5**	**-0.1**
	baz=215						
ALS	**Alishan**	**1.88 229**		*eP*	**Pb**	**14 37 12.0**	**-0.4**
	baz=209						
EHD	**Haiduan**	**1.91 213**		*eP*	**Pn**	**14 37 10.0**	**-0.6**
	baz=211						
CHN5	**Tsauling**	**1.91 233**		*eP*	**Pb**	**14 37 13.1**	**+0.2**
	baz=230						
ELDTW	**Lidau**	**1.98 218**		*eP*	**Pb**	**14 37 13.1**	**-1.0**
	baz=202						
WCKO	**Fanlu**	**2.06 231**		*eP*	**Pb**	**14 37 15.5**	**0.0**
	baz=228						
CHN4	**Tsaushan**	**2.13 229**		*eP*	**Pb**	**14 37 15.8**	**-0.7**
	baz=226						
TPUB	**Ta-pu**	**2.14 228**		*eP*	**Pb**	**14 37 15.5**	**-1.2**
	baz=209						
SLGT	**Liugui**	**2.35 222**		*eP*	**Pb**	**14 37 18.5**	**-1.7**
	baz=219						

*IDC **23** 14:42:42.5±0.4, 52°.31S×17°.03E, h0km, mb4.9/20, mbtmp4.9/20, MS4.6/47, Error ellipse: s-maj=16.7km s-min=13.8km az=86.0*

*MOS **23** 14:42:42.9±1.2, 52°.37S×16°.81E, h10km, mb5.4/15, Error ellipse: s-maj=21.7km s-min=11.3km az=84.2*

*NEIC **23** 14:42:43.5±1.8, 52°.37S±0°.07×16°.8E±0°.2, h10km±1km, mb5.3/61, Error ellipse: s-maj=18.9km s-min=7.4km az=122.0*

*GCMT **23** 14:42:47.5±0.1, 52°.43S±0°.01×17°.33E±0°.02, h12km, MW5.2/143, Moment Tensor Solution. s60, c76; s143, c239; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.86±.01; Mθθ0.73±.01; Mφφ0.13±.01; Mrθ-0.03±.04; Mφφ-0.22±.01; Mθr0.00±.04; Best double couple: M0.82800×10^17 NP1:φs107.00000°, δ46.00000°, λ-91.00000°. NP2:φs289.00000°, δ44.00000°, λ-89.00000°. Principal axes: T 0.7970, Plg1.0000°, Azm198.0000°; N 0.0620, Plg1.0000°, Azm108.0000°; P -0.8590, Plg89.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 14:42:44.0±0.2, 52°.46S±0°.05×16°.84E±0°.06, h10km, n385, σ1§73/356, mb5.2/86, MS4.7/55, 12C-11D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	**18.51**	**185**	*eP*	**P**	**14 46 57.1**	**-2.9**
NVL				*eS*	**Sn**	**14 50 25.2**	**-1.4**
NVL				pmax	pmax		
	comp=Z,135nm,1.2s						
NVL				smax	smax		
	comp=E,476nm,8.9s						
NVL				MLR	MLR		
	comp=Z,4μm,22.0s						
CER	**Ceres**	**19.18**	**6**	*eP*	**P**	**14 47 07.9**	**+0.3**
CER				IAmb	IAmb	14 47 10.6	
	comp=Z,78nm,1.0s						
MATJ	**Matjiesfontein**	**19.38**	**9**	*eP*	**P**	**14 47 08.1**	**-1.8**
MATJ				IAmb	IAmb	14 47 14.4	
	comp=Z,258nm,0.9s						
PRTV	**Porterville,We**	**19.45**	**6**	*eP*	**P**	**14 47 08.9**	**-1.8**
PRTV				IAmb	IAmb	14 47 14.1	
	comp=Z,218nm,1.1s						
ELIB	**Princess Elisa**	**19.76**	**174**	*dP*	**Pn**	**14 47 14.9**	**-0.4**
	comp=Z,66nm,1.5s						
ELIB				*dS*	**Sn**	**14 51 04.1**	**+7.0**
MERW	**Merweville**	**20.07**	**12**	*eP*	**P**	**14 47 16.9**	**-0.6**
MERW				IAmb	IAmb	14 47 22.7	
	comp=Z,172nm,1.1s						
SUR	**Sutherland**	**20.28**	**10**		**P**	**14 47 18.8**	**-1.0**
SUR				IAmb	IAmb	14 47 28.4	
	comp=Z,242nm,1.1s						
SUR	**Sutherland**	**20.28**	**10**	P	**P**	**14 47 19.7**	**-0.1**
SUR				P	**P**	**14 47 19.7**	**-0.1**
SUR				S	Sn	14 51 15.9	+5.8
SUR				S	Sn	14 51 15.9	+5.8
SUR	**Sutherland**	**20.28**	**10**	*eP*	**P**	**14 47 19.4**	**-0.4**
SUR	**Sutherland**	**20.28**	**10**	P	**P**	**14 47 17.5**	**-2.3**
	comp=Z,147nm,1.1s,baz=178,slow=8.0,SNR=22						
SUR				LR	LR	14 53 13.3	
	comp=Z,4μm,21.1s,baz=187,slow=31						
	comp=Z,147nm,1.1s						
GRAN	**Grantham**	**20.52**	**13**	*eP*	**P**	**14 47 21.6**	**-0.6**
GRAN				IAmb	IAmb	14 47 23.5	
	comp=Z,86nm,1.0s						
ROOI	**Rooidraai Farm**	**20.54**	**16**	*eP*	**P**	**14 47 22.3**	**-0.2**
ROOI				IAmb	IAmb	14 47 24.7	
	comp=Z,129nm,1.1s						
TROLL	**Troll, Antarti**	**20.60**	**193**	⇑P	Pn	14 47 24.9	-0.3
	comp=Z,3μm,0.8s						
SOE	**Somerset East**	**20.73**	**21**	*eP*	**P**	**14 47 21.1**	**-3.4**
SOE				IAmb	IAmb	14 47 33.1	
	comp=Z,42nm,0.8s						
FRAZ	**Fraserburg**	**20.79**	**11**	*eP*	**P**	**14 47 24.3**	**-1.0**
FRAZ				IAmb	IAmb	14 47 32.1	
	comp=Z,190nm,1.0s						
GRAF	**Camdeboo Natio**	**20.93**	**18**	*eP*	**P**	**14 47 25.7**	**-1.0**
GRAF				IAmb	IAmb	14 47 28.6	
	comp=Z,298nm,1.2s						
CVNA	**Calvinia**	**21.08**	**7**	*eP*	**P**	**14 47 27.6**	**-0.7**
CVNA				IAmb	IAmb	14 47 29.6	
	comp=Z,262nm,1.1s						
BRAK	**Brakfontein**	**21.14**	**14**	*eP*	**P**	**14 47 28.1**	**-0.8**
BRAK				IAmb	IAmb	14 47 35.5	
	comp=Z,4μm,3.7s						
SNAA	**Sanae**	**21.15**	**197**	P	**P**	**14 47 30.4**	**+1.6**
SNAA				IAmb	IAmb	14 47 34.4	
	comp=Z,182nm,1.0s						
SNAA	**Sanae**	**21.15**	**197**	*eP*	**P**	**14 47 29.7**	**+0.9**
SNAA	**Sanae**	**21.15**	**197**	⇑P	**P**	**14 47 30.6**	**+1.7**
	comp=Z,2μm,0.7s						
SNAA	**Sanae**	**21.15**	**197**	P	**P**	**14 47 30.5**	**+1.7**
	comp=Z,122nm,0.9s,baz=29,slow=8.9,SNR=139						
SNAA				LR	LR	14 53 35.0	
	comp=Z,2μm,21.9s,baz=30,slow=31						
	comp=Z,122nm,0.9s						
BFON	**Badsfontein, M**	**21.25**	**16**	*eP*	**P**	**14 47 28.6**	**-1.6**
BFON				IAmb	IAmb	14 47 30.6	
	comp=Z,246nm,1.1s						
VNA2	**Neumayer--Watz**	**21.50**	**202**	⇑P	**P**	**14 47 33.5**	**+1.0**
	comp=Z,130nm,0.8s,baz=36,slow=11						
VNA1	**Neumayer--Stat**	**21.50**	**203**	⇑P	**P**	**14 47 34.5**	**+2.1**
	comp=Z,104nm,1.0s						
VNA3	**Neumayer Olymp**	**22.25**	**202**	⇑P	**P**	**14 47 41.6**	**+1.1**
	comp=Z,76nm,0.9s						
KOMG	**Komaggas**	**22.65**	**1**	*eP*	**P**	**14 47 43.6**	**-1.5**
KOMG				IAmb	IAmb	14 48 02.8	
	comp=Z,175μm,5.7s						
HVD	**Gariep Dam**	**22.75**	**20**	*eP*	**P**	**14 47 44.9**	**-1.4**
HVD				IAmb	IAmb	14 47 46.6	
	comp=Z,182nm,1.2s						
PKA	**Prieska**	**23.19**	**13**	*eP*	**P**	**14 47 49.3**	**-1.6**
PKA				IAmb	IAmb	14 47 57.1	
	comp=Z,28nm,1.0s						
H04S2	**CROZET ISLANDS**	**23.21**	**90**	T	T	15 12 00.1	
	baz=243,slow=75,SNR=338						
H04S3	**CROZET ISLANDS**	**23.22**	**90**	T	T	15 11 56.9	
	baz=243,slow=75,SNR=254						
H04S1	**CROZET ISLANDS**	**23.23**	**90**	T	T	15 11 58.8	
	baz=243,slow=75,SNR=306						
KSTD	**Kokstad**	**23.67**	**28**	*eP*	**P**	**14 47 56.4**	**+0.7**
KSTD				IAmb	IAmb	14 47 56.5	
	comp=Z,1μm,3.0s						
KEIM	**Keimoes**	**23.93**	**9**	*eP*	**P**	**14 47 56.6**	**-1.5**
KEIM				IAmb	IAmb	14 47 58.7	
	comp=Z,787nm,2.5s						
UPI	**Upington**	**24.30**	**9**	*eP*	**P**	**14 48 00.1**	**-1.4**
UPI				IAmb	IAmb	14 48 02.3	
	comp=Z,178nm,1.4s						
BOSA	**Boshof**	**24.63**	**18**	P	**P**	**14 48 02.7**	**-2.0**
BOSA				IAmb	IAmb	14 48 05.6	
	comp=Z,110nm,1.1s						
BOSA	**Boshof**	**24.63**	**18**	*eP*	**P**	**14 48 02.9**	**-1.7**
BOSA				IAmb	IAmb	14 48 05.3	
	comp=Z,114nm,1.1s						
BOSA	**Boshof**	**24.63**	**18**	P	**P**	**14 48 03.4**	**-1.2**
	comp=Z,85nm,1.0s,baz=197,slow=9.4,SNR=42						
BOSA				LR	LR	14 56 18.1	
	comp=Z,4μm,18.5s,baz=202,slow=33						
	comp=Z,85nm,1.0s						
SNKL	**Senekal, Frees**	**25.50**	**23**	*eP*	**P**	**14 48 12.3**	**-0.2**
SNKL				IAmb	IAmb	14 48 28.1	
	comp=Z,104nm,1.1s						
SWZ	**Schweizer**	**26.04**	**17**	*eP*	**P**	**14 48 15.6**	**-1.8**
SWZ				IAmb	IAmb	14 48 20.4	
	comp=Z,57nm,1.1s						
NWCL	**Newcastle**	**26.56**	**27**	*eP*	**P**	**14 48 23.3**	**+1.3**
NWCL				IAmb	IAmb	14 48 25.5	
	comp=Z,40nm,1.1s						
MAW	**Mawson**	**26.70**	**142**	P	**P**	**14 48 21.7**	**-1.1**
MAW	**Mawson**	**26.70**	**142**	P	**P**	**14 48 23.8**	**+1.0**
	comp=Z,21nm,1.0s,baz=275,slow=6.6,SNR=22						
MAW				LR	LR	14 56 51.0	
	comp=Z,920nm,21.4s,baz=294,slow=32						
	comp=Z,21nm,1.0s						
PRYS	**Parys**	**26.70**	**21**	*eP*	**P**	**14 48 23.3**	**-0.1**
PRYS				IAmb	IAmb	14 48 32.8	
	comp=Z,50nm,0.9s						
KSR	**Koster**	**27.64**	**20**	*eP*	**P**	**14 48 29.7**	**-2.2**
KSR				IAmb	IAmb	14 48 42.8	
	comp=Z,31nm,1.0s						
HRAO	**HartRAO**	**27.77**	**21**	*eP*	**P**	**14 48 30.5**	**-2.5**
HRAO				IAmb	IAmb	14 48 51.6	
	comp=Z,39nm,1.1s						
MRCO	**Marico , North**	**27.91**	**19**	*eP*	**P**	**14 48 30.8**	**-3.4**
MRCO				IAmb	IAmb	14 48 34.0	
	comp=Z,51nm,1.2s						
SLR	**Silverton**	**28.06**	**22**	*eP*	**P**	**14 48 31.6**	**-3.9**
SLR				IAmb	IAmb	14 48 39.8	
	comp=Z,262nm,2.5s						
LBTB	**Lobatse**	**28.20**	**17**	P	**P**	**14 48 33.6**	**-3.2**
LBTB	**Lobatse**	**28.20**	**17**	*eP*	**P**	**14 48 34.5**	**-2.3**
LBTB				IAmb	IAmb	14 48 46.6	
	comp=Z,23nm,1.1s						
LBTB	**Lobatse**	**28.20**	**17**	P	**P**	**14 48 33.6**	**-3.2**
LBTB				pmax	pmax		
	comp=Z,24nm,1.1s						
NYAT	**Nyati, Northwe**	**28.25**	**21**	*eP*	**P**	**14 48 35.1**	**-2.1**
NYAT				IAmb	IAmb	14 48 59.9	
	comp=Z,44nm,1.1s						
RUST	**Rust De Winter**	**28.59**	**23**	*eP*	**P**	**14 48 37.8**	**-2.5**
RUST				IAmb	IAmb	14 48 56.9	
	comp=Z,14nm,0.9s						
NHAM	**Northam, North**	**28.64**	**20**	*eP*	**P**	**14 48 38.7**	**-1.9**
NHAM				IAmb	IAmb	14 48 58.0	
	comp=Z,23nm,1.1s						
PILG	**Pilgrimsrest,**	**29.44**	**26**	*eP*	**P**	**14 48 48.2**	**+0.3**
PILG				IAmb	IAmb	14 48 49.6	
	comp=Z,112nm,2.1s						
MTLB	**Matlabas, Limp**	**29.65**	**19**	*eP*	**P**	**14 48 47.0**	**-2.6**
MTLB				IAmb	IAmb	14 48 50.8	
	comp=Z,33nm,1.1s						
WTBG	**Waterberg Wild**	**29.66**	**23**	*eP*	**P**	**14 48 46.9**	**-3.0**
WTBG				IAmb	IAmb	14 49 23.7	
	comp=Z,24nm,1.1s						
LEPH	**Lephalale, Lim**	**29.76**	**21**	*eP*	**P**	**14 48 48.4**	**-2.2**
LEPH				IAmb	IAmb	14 48 50.6	
	comp=Z,63nm,1.3s						
HOED	**Hoedspruit, Li**	**29.99**	**26**	*eP*	**P**	**14 48 49.8**	**-2.8**
HOED				IAmb	IAmb	14 49 00.3	
	comp=Z,24nm,1.2s						
MOPA	**Mopani**	**30.97**	**27**	*eP*	**P**	**14 49 00.6**	**-0.7**
MPHEP	**Siloam, Limpop**	**31.23**	**24**	*eP*	**P**	**14 48 59.8**	**-3.9**
MPHEP				IAmb	IAmb	14 49 02.8	
	comp=Z,18nm,1.2s						
BELA	**Belgrano 2**	**31.39**	**199**	P	**P**	**14 49 04.6**	**+0.1**
BELA				IAmb	IAmb	14 49 12.8	
	comp=Z,33nm,1.0s						
MUSN	**Musina, Limpop**	**31.75**	**23**	*eP*	**P**	**14 49 05.2**	**-2.9**
MUSN				IAmb	IAmb	14 49 24.8	
	comp=Z,26nm,1.2s						
TSUM	**Tsumeb**	**33.20**	**1**	P	**P**	**14 49 20.0**	**-1.0**
TSUM				IAmb	IAmb	14 49 22.5	
	comp=Z,52nm,1.1s						
TSUM	**Tsumeb**	**33.20**	**1**	*eP*	**P**	**14 49 18.6**	**-2.4**
TSUM	**Tsumeb**	**33.20**	**1**	LR	LR	15 01 25.2	
	comp=Z,2μm,18.7s,baz=163,slow=34						
ORCD	**Orcadas**	**33.69**	**231**	P	**P**	**14 49 23.3**	**-1.4**
FOMA	**Nahampoana Res**	**35.67**	**51**	P	**P**	**14 49 41.7**	**-0.4**
QSPA	**South Pole Qui**	**37.77**	**180**	P	**P**	**14 50 01.3**	**+1.4**
	comp=Z,38nm,1.0s,baz=262,slow=1.5,SNR=54						
QSPA				LR	LR	15 04 15.0	
	comp=Z,745nm,20.6s,baz=230,slow=34						
	comp=Z,38nm,1.0s						
LSZ	**Lusaka**	**38.18**	**18**	P	**P**	**14 50 01.3**	**-2.4**
LSZ	**Lusaka**	**38.18**	**18**	P	**P**	**14 50 01.3**	**-2.4**
LSZ				pmax	pmax		
	comp=Z,79nm,2.0s						
LSZ	**Lusaka**	**38.18**	**18**	LR	LR	15 04 25.2	
	comp=Z,2μm,19.6s,baz=218,slow=34						
VOI	**Vohitsoka**	**38.21**	**49**	P	**P**	**14 50 04.5**	**+0.5**
VOI	**Vohitsoka**	**38.21**	**49**	*eP*	P	14 49 59.1	-4.9
PMSA	**Palmer Station**	**40.87**	**220**	LR	LR	15 04 59.6	
	comp=Z,1μm,18.7s,baz=112,slow=33						
ABPO	**Ambohimpanom**	**40.93**	**47**	*eP*	**P**	**14 50 26.6**	**-0.1**
ABPO				IAmb	IAmb	14 50 29.9	
	comp=Z,31nm,1.1s						
OPO	**Ambohidratompo**	**41.30**	**47**	LR	LR	15 05 55.6	
	comp=Z,682nm,18.0s,baz=6.5,slow=34						
CASY	**Casey**	**44.97**	**145**	P	**P**	**14 50 59.7**	**+0.9**
SBA	**Scott Base**	**48.63**	**172**	P	**P**	**14 51 28.6**	**+1.4**
SBA	**Scott Base**	**48.63**	**172**	P	**P**	**14 51 28.6**	**+1.4**
SBA				pmax	pmax		
	comp=Z,94nm,1.6s						
H10S2	**ASCENSION HYDR**	**50.37**	**318**	T	T	15 46 00.7	
	baz=154,slow=74,SNR=152						
H10S3	**ASCENSION HYDR**	**50.38**	**318**	T	T	15 46 01.7	
	baz=66,slow=74,SNR=485						
MBAR	**Mbarara**	**52.98**	**18**	P	**P**	**14 51 59.7**	**-1.1**
MBAR	**Mbarara**	**52.98**	**18**	*eP*	**P**	**14 52 01.4**	**+0.6**
MBAR	**Mbarara**	**52.98**	**18**	P	**P**	**14 52 02.9**	**+2.1**
MBAR				P	**P**	**14 52 02.9**	**+2.1**
MBAR				S	**S**	**14 59 37.1**	**+6.7**
MBAR				S	**S**	**14 59 37.1**	**+6.7**
MBAR	**Mbarara**	**52.98**	**18**	⇑*iP*	**P**	**14 52 03.4**	**+2.6**
MBAR				pmax	pmax		
	comp=Z,25nm,1.5s						
MBAR	**Mbarara**	**52.98**	**18**	LR	LR	15 13 33.1	
	comp=Z,4μm,18.9s,baz=178,slow=35						
MBAR	**Mbarara**	**52.98**	**18**	*eP*	**P**	**14 52 01.4**	**+0.6**
	baz=20						
KIBK	**Kibwezi**	**52.98**	**27**	P	**P**	**14 51 59.3**	**-1.5**
KMBO	**Kilima Mbogo**	**53.93**	**26**	*eP*	**P**	**14 52 09.1**	**+1.1**
KMBO	**Kilima Mbogo**	**53.93**	**26**	*eP*	**P**	**14 52 09.1**	**+1.1**
	baz=28						
TRQA	**Tornquist**	**54.61**	**252**	P	**P**	**14 52 10.9**	**-1.5**
TRQA				IAmb	IAmb	14 52 20.4	
	comp=Z,46nm,1.4s						
TRQA	**Tornquist**	**54.61**	**252**	P	**P**	**14 52 11.0**	**-1.5**
TRQA				pmax	pmax		
	comp=Z,46nm,1.4s						
COYC	**Coyhaique**	**55.17**	**239**	P	**P**	**14 52 15.7**	**-0.7**
COYC				IAmb	IAmb	14 52 26.1	
	comp=Z,65nm,1.4s						
AY01	**Puyuhuapi**	**56.25**	**240**	P	**P**	**14 52 22.5**	**-1.5**
LL02	**Futaleuf**	**56.66**	**241**	P	**P**	**14 52 26.3**	**-0.7**
LL02				IAmb	IAmb	14 52 35.3	
	comp=Z,68nm,1.4s						
MSEY	**Mahe Island**	**57.29**	**48**	P	**P**	**14 52 30.6**	**-1.3**
MSEY				IAmb	IAmb	14 52 34.1	
	comp=Z,39nm,1.4s						
MSEY	**Mahe Island**	**57.29**	**48**	P	**P**	**14 52 30.6**	**-1.3**
MSEY				pmax	pmax		
	comp=Z,39nm,1.4s						
PLCA	**Paso Flores**	**57.64**	**244**	P	**P**	**14 52 36.5**	**+2.4**
	comp=Z,8.5nm,1.0s,baz=124,slow=9.1,SNR=6.1						
PLCA				LR	LR	15 14 09.9	
	comp=Z,493nm,19.8s,baz=142,slow=33						
	comp=Z,8.5nm,1.0s						
LODK	**Lodwar**	**57.84**	**22**	P	**P**	**14 52 34.1**	**-1.7**
LODK	**Lodwar**	**57.84**	**22**	*eP*	**P**	**14 52 37.5**	**+1.7**
LODK	**Lodwar**	**57.84**	**22**	P	**P**	**14 52 38.3**	**+2.6**
	SNR=7.1						
LODK	**Lodwar**	**57.84**	**22**	*eP*	**P**	**14 52 37.5**	**+1.7**
	baz=24						
GO06	**Curarrehue**	**58.94**	**244**	P	**P**	**14 52 41.0**	**-2.3**
GO06				IAmb	IAmb	14 52 51.6	
	comp=Z,41nm,1.6s						
CPUP	**Villa Florida**	**60.09**	**265**	P	**P**	**14 52 49.8**	**-1.4**
CPUP				IAmb	IAmb	14 53 01.6	
	comp=Z,20nm,1.1s						
CPUP	**Villa Florida**	**60.09**	**265**	P	**P**	**14 52 51.8**	**+0.6**
	comp=Z,8.3nm,1.0s,baz=127,slow=5.7,SNR=6.9						
CPUP				LR	LR	15 14 07.3	
	comp=Z,265nm,21.8s,baz=166,slow=31						
	comp=Z,8.3nm,1.0s						
JANB	**Januaria**	**60.70**	**284**	*eP*	**P**	**14 52 55.7**	**+0.1**
ITRB	**Iturama**	**60.76**	**276**	*eP*	**P**	**14 52 58.0**	**+2.1**
AMBA	**Amambai (Brazi**	**61.17**	**269**	*eP*	**P**	**14 53 00.3**	**+1.6**
LIC	**Lamto**	**61.36**	**335**	⇑*iP*	**P**	**14 52 58.9**	**-1.0**
	comp=Z,82nm,0.9s						
KIC	**Kosan Boka**	**61.42**	**335**	⇑*iP*	**P**	**14 52 59.2**	**-1.1**
	comp=Z,26nm,0.9s						
DILA	**Dilla**	**61.45**	**24**	*eP*	**P**	**14 53 03.1**	**+2.4**
DILA	**Dilla**	**61.45**	**24**	*eP*	**P**	**14 53 03.1**	**+2.4**
	baz=26						
DBIC	**Dimbokro**	**61.74**	**335**	P	**P**	**14 52 59.0**	**-3.4**
DBIC	**Dimbokro**	**61.74**	**335**	*eP*	**P**	**14 53 01.1**	**-1.4**
DBIC				IAmb	IAmb	14 53 04.7	
	comp=Z,67nm,1.1s						
DBIC	**Dimbokro**	**61.74**	**335**	P	**P**	**14 53 01.7**	**-0.8**
	comp=Z,47nm,0.9s,baz=153,slow=7.5,SNR=24						
DBIC				LR	LR	15 13 34.9	
	comp=Z,544nm,21.6s,baz=150,slow=30						
	comp=Z,47nm,0.9s						
TIC	**Toumodi**	**61.76**	**335**	⇑*iP*	**P**	**14 53 01.6**	**-1.0**
	comp=Z,80nm,0.8s						
ESFA	**Espinillo Form**	**61.80**	**265**	*eP*	**P**	**14 53 06.2**	**+3.3**
LMEL	**Las Melosas**	**62.30**	**250**	P	**P**	**14 53 05.7**	**-0.7**
LMEL				IAmb	IAmb	14 53 29.0	
	comp=Z,24nm,1.1s						
MT13	**San Alfonso**	**62.43**	**250**	P	**P**	**14 53 07.2**	**+0.1**
BO04	**La Punta**	**62.44**	**249**	P	**P**	**14 53 06.0**	**-1.1**
BO04				IAmb	IAmb	14 53 18.3	
	comp=Z,30nm,1.1s						
BDFB	**Brasilia**	**62.46**	**280**	P	**P**	**14 53 06.4**	**-1.1**
BDFB	**Brasilia**	**62.46**	**280**	P	**P**	**14 53 07.5**	**0.0**
	comp=Z,15nm,1.0s,baz=161,slow=6.2,SNR=11						
BDFB				LR	LR	15 16 11.3	
	comp=Z,130nm,18.3s,baz=164,slow=32						
	comp=Z,15nm,1.0s						
ANTJ	**Antonio Joao (**	**62.48**	**269**	*eP*	**P**	**14 53 08.2**	**+0.7**
MT08	**Bocatoma Ro**	**62.49**	**250**	P	**P**	**14 53 07.1**	**-0.6**
MT08				IAmb	IAmb	14 53 20.9	
	comp=Z,35nm,1.2s						
MT09	**Talagante**	**62.81**	**249**	P	**P**	**14 53 09.1**	**-0.6**
MT01	**Popeta**	**62.89**	**249**	P	**P**	**14 53 09.8**	**-0.3**
MT01				IAmb	IAmb	14 53 20.4	
	comp=Z,39nm,1.4s						
C2SB	**Chapadao do Su**	**62.98**	**274**	*eP*	**P**	**14 53 12.1**	**+1.2**
SDBA	**SAO DESID

ATD	Arta Tunnel	67.55	28	eP	P	14 53 41.6	+1.1
	baz=30						
BBRB	Robore, Bolivi	67.62	269	eP	P	14 53 42.8	+1.8
BBSD	Serra de San D	68.94	269	eP	P	14 53 52.0	+2.8
KOWA	Kowa	69.08	338	LR	LR	15 19 32.0	
	comp=Z,805nm,19.6s,baz=150,slow=32						
PTLB	Pontes e Lacer	69.37	271	P	P	14 53 51.5	-0.4
PTLB				IAmb	IAmb	14 54 02.5	
	comp=Z,32nm,1.1s						
PTLB	Pontes e Lacer	69.37	271	eP	P	14 53 52.9	+1.0
PB15	IPOC Station P	69.75	258	P	P	14 53 52.1	-2.3
PB15				IAmb	IAmb	14 54 02.9	
	comp=Z,22nm,0.9s						
LVC	Limon Verde	69.86	259	P	P	14 53 55.1	-0.2
LVC				IAmb	IAmb	14 54 04.1	
	comp=Z,31nm,1.4s						
LVC	Limon Verde	69.86	259	P	P	14 53 55.1	-0.2
LVC				pmax	pmax		
	comp=Z,31nm,1.4s						
LVC	Limon Verde	69.86	259	eP	P	14 53 58.2	+2.9
LVC	Limon Verde	69.86	259	LR	LR	15 21 35.4	
	comp=Z,282nm,20.1s,baz=154,slow=33						
SIV	San Ignacio	70.14	269	LR	LR	15 20 30.2	
	comp=Z,383nm,19.3s,baz=104,slow=32						
ROSB	Rosrio	70.35	292	eP	P	14 53 59.1	+1.2
NWAO	Narrogin (SRO)	70.42	119	LR	LR	15 20 14.4	
	comp=Z,223nm,18.1s,baz=236,slow=32						
PDRB	Porto dos Gac	70.87	276	eP	P	14 54 02.5	+1.4
CLDB	Colider	70.88	277	eP	P	14 54 02.3	+1.1
PRPB	Parauapebas	71.00	285	eP	P	14 54 03.4	+1.4
VILB	Vilhena	71.95	272	P	P	14 54 06.1	-1.5
VILB				IAmb	IAmb	14 54 27.4	
	comp=Z,21nm,1.0s						
VILB	Vilhena	71.95	272	eP	P	14 54 09.2	+1.5
TMAB	Tom-Au,PA,Br	73.06	289	eP	P	14 54 15.6	+1.4
PB16	IPOC Station P	73.48	261	P	P	14 54 15.7	-1.7
PB16				IAmb	IAmb	14 54 27.1	
	comp=Z,49nm,1.7s						
NPGB	Novo Progresso	73.62	280	eP	P	14 54 18.4	+0.8
LPAZ	La Paz	74.22	264	eP	P	14 54 23.8	+1.9
LPAZ	La Paz	74.22	264	P	P	14 54 22.9	+1.1
	comp=Z,2.5nm,0.6s,baz=131,slow=3.4,SNR=13						
LPAZ				LR	LR	15 25 32.1	
	comp=Z,183nm,18.9s,baz=114,slow=35						
	comp=Z,2.5nm,0.6s						
ITTB	Itaituba	75.97	281	eP	P	14 54 32.2	+1.0
ABTO	Aybut	76.38	36	P	P	14 54 34.0	+0.7
ABTO				S	S	15 04 24.8	+6.4
RBK	Rabkut	76.84	36	P	P	14 54 36.7	+0.8
RBK				P	P	14 54 36.7	+0.8
RBK				S	S	15 04 27.4	+4.0
RBK				S	S	15 04 27.4	+4.0
SAML	Samuel	76.88	272	P	P	14 54 35.0	-1.3
SAML				IAmb	IAmb	14 54 39.8	
	comp=Z,27nm,1.1s						
SAML	Samuel	76.88	272	P	P	14 54 35.0	-1.3
SAML				pmax	pmax		
	comp=Z,27nm,1.1s						
SAML	Samuel	76.88	272	eP	P	14 54 36.6	+0.3
MCPB	Macapa, AP	76.99	287	eP	P	14 54 37.7	+0.8
WHFO	Wadi Hawf	77.07	36	P	P	14 54 38.0	+0.9
	SNR=5.3						
WHFO				P	P	14 54 38.0	+0.9
	SNR=5.3						
WHFO				S	S	15 04 30.8	+4.9
WHFO				S	S	15 04 30.8	+4.9
MALB	Monte Alegre	77.09	284	eP	P	14 54 39.0	+1.5
DMTO	DMTO	77.31	37	P	P	14 54 41.0	+2.5
DMTO				S	S	15 04 32.0	+3.5
DOK	Doka	77.84	36	P	P	14 54 39.9	-1.5
DOK				P	P	14 54 39.9	-1.5
DOK				S	S	15 04 35.1	+1.0
DOK				S	S	15 04 35.1	+1.0
ETMB	Extrema	78.06	269	P	P	14 54 41.8	-1.2
ETMB	Extrema	78.06	269	eP	P	14 54 43.7	+0.8
MACA	Manacapuru-AM	79.91	278	eP	P	14 54 53.6	+0.5
BBOO	Buckleboo	79.92	132	P	P	14 54 49.7	-3.2
PALK	Pallekele	80.33	65	LR	LR	15 22 06.6	
	comp=Z,491nm,21.1s,baz=337,slow=30						
PSA00	Pilbara Seismi	80.73	113	P	P	14 54 56.6	-0.9
MBWA	Marble Bar	81.00	113	P	P	14 54 53.9	-5.0
MHTO	MHTO	81.43	38	P	P	14 55 01.6	+0.7
	SNR=5.6						
MHTO				P	P	14 55 01.6	+0.7
	SNR=5.6						
RPZ	Rata Peaks	81.65	161	LR	LR	15 28 34.5	
	comp=Z,771nm,21.9s,baz=202,slow=34						
MDP	Montagnes des	81.74	289	LR	LR	15 26 28.2	
	comp=Z,345nm,19.6s,baz=143,slow=32						
TEFE	Tefe	82.03	275	eP	P	14 55 05.0	+0.6
BSY	Bisya	82.74	37	P	P	14 55 08.0	+0.2
	SNR=7.1						
BSY				P	P	14 55 08.0	+0.2
	SNR=7.1						
NNA	Nana	82.83	260	LR	LR	15 28 55.1	
	comp=Z,133nm,21.2s,baz=168,slow=33						
CAN	Canberra	83.14	142	P	P	14 55 09.8	-0.1
CAN	Canberra	83.14	142	P	P	14 55 09.9	-0.1
CAN				pmax	pmax		
	comp=Z,65nm,1.8s						
STKA	Stephens Creek	83.17	135	P	P	14 55 09.4	-0.7
STKA	Stephens Creek	83.17	135⇑	iP	P	14 55 11.0	+0.9
STKA	Stephens Creek	83.17	135	P	P	14 55 10.3	+0.2
	comp=Z,8.5nm,1.0s,baz=229,slow=1.8,SNR=10						
	comp=Z,8.5nm,1.0s						
EIL	Elat	83.31	16	P	P	14 55 10.7	+0.2
	comp=Z,7.2nm,1.0s,baz=83,slow=7.5,SNR=5.2						
EIL				LR	LR	15 31 46.8	
	comp=Z,422nm,18.3s,baz=240,slow=35						
	comp=Z,7.2nm,1.0s						
SMDO	Samad	83.34	38	P	P	14 55 11.0	0.0
	SNR=7.0						
SMDO				P	P	14 55 11.0	0.0
	SNR=7.0						
ALNE	Al Ain	83.42	35	P	P	14 55 13.9	+2.7
	SNR=6.8						
ALNE				P	P	14 55 13.9	+2.7
	SNR=6.8						
HOQ	Hoqain	83.55	37	P	P	14 55 11.9	0.0
	SNR=6.7						
HOQ				P	P	14 55 11.9	0.0
	SNR=6.7						
CZSB	Cruzeiro do Su	83.66	266	P	P	14 55 10.3	-2.6
DSZ	Denniston Nort	83.69	161	P	P	14 55 10.4	-2.3
WSAR	Wadi Sarin	83.73	38	P	P	14 55 11.9	-0.9
	comp=Z,16nm,1.2s,baz=242,slow=7.1,SNR=5.3						
WSAR				LR	LR	15 26 21.9	
	comp=Z,621nm,20.3s,baz=228,slow=31						
	comp=Z,16nm,1.2s						
ASHO	Ashiyiah	84.10	35	P	P	14 55 14.7	-0.1
	SNR=5.3						
ASHO				P	P	14 55 14.7	-0.1
	SNR=5.3						
CGJI	Cibinong	84.11	93	P	P	14 55 16.2	+1.1
	comp=Z,37nm,1.3s						
MNAI	Manna	84.20	90	P	P	14 55 15.0	-0.6
	comp=Z,239nm,1.2s						
BOAV	Boa Vista	84.21	281	P	P	14 55 14.6	-1.0
BOAV	Boa Vista	84.21	281	eP	P	14 55 16.8	+1.1
NAZ	Nazwa, Dubai	84.24	35	P	P	14 55 17.0	+1.6
	SNR=5.4						
NAZ				P	P	14 55 17.0	+1.6
	SNR=5.4						
HATD	Hatta, Dubai	84.26	35	P	P	14 55 18.0	+2.4
	SNR=5.9						
HATD				P	P	14 55 18.0	+2.4
	SNR=5.9						
UOSS	Minazif	84.40	35	P	P	14 55 13.9	-2.4
UOSS				IAmb	IAmb	14 55 26.4	
	comp=Z,21nm,1.1s						
UOSS	Minazif	84.40	35	P	P	14 55 17.0	+0.8
UOSS				P	P	14 55 17.0	+0.8
TBTG	Tabatinga, AM	84.72	270	eP	P	14 55 19.1	+0.8
CBJI	Citeko	84.96	94	P	P	14 55 28.9	+9.4
GHAJ	Ghor Haditha	85.01	16	P	P	14 55 17.6	-1.5
LEM	Lembang	85.11	95	LR	LR	15 24 15.6	
	comp=Z,166nm,20.9s,baz=209,slow=29						
GSI	Gunungsitoli	85.38	82	P	P	14 55 21.3	-0.2
GSI	Gunungsitoli	85.38	82	P	P	14 55 31.7	+10
PDSI	Padang	85.38	85	P	P	14 55 28.8	+7.2
SDSI	Sungai Dareh	85.96	86	P	P	14 55 27.0	+2.6
ASF	Jabal al Asfar	86.09	17	P	P	14 55 25.6	+0.9
	comp=Z,3.0nm,0.8s,baz=219,slow=4.1,SNR=5.6						
ASF				LR	LR	15 33 15.3	
	comp=Z,962nm,19.3s,baz=271,slow=35						
	comp=Z,3.0nm,0.8s						
SGCB	São Gabriel d	86.16	275	eP	P	14 55 27.1	+1.6
ASAR	Alice Springs	86.53	125	P	P	14 55 26.9	-0.3
ASAR	Alice Springs	86.53	125	P	P	14 55 27.2	0.0
	comp=Z,5.9nm,0.8s,baz=204,slow=4.3,SNR=64						
ASAR				LR	LR	15 27 23.8	
	comp=Z,162nm,20.6s,baz=212,slow=31						
	comp=Z,5.9nm,0.8s						
AS31	Alice Springs	86.53	125	P	P	14 55 26.7	-0.6
MMAI	Mount Meron Ar	86.65	16	LR	LR	15 34 13.0	
	comp=Z,650nm,18.7s,baz=178,slow=36						
MDT	Midelt	86.97	342	LR	LR	15 29 19.9	
	comp=Z,264nm,20.9s,baz=166,slow=32						
KCSI	Kotacane, Aceh	87.25	81	P	P	14 55 39.9	+9.2
RPSI	Rantau Prapat	87.29	82	P	P	14 55 30.4	-0.5
RPSI				IAmb	IAmb	14 55 40.2	
	comp=Z,14nm,0.9s						
PSI	Prapat	87.38	82	P	P	14 55 30.4	-1.1
PSI				pmax	pmax		
	comp=Z,14nm,0.9s						
GMJI	Gumukmas	87.51	100	P	P	14 55 41.9	+10
ATAH	Atahualpa	87.58	262	LR	LR	15 35 21.5	
	comp=Z,101nm,18.5s,baz=158,slow=36						
HYB	Hyderabad	87.62	57	eP	P	14 55 31.9	-0.5
HYB				IVmB_BB		14 55 32.8	
	comp=Z,352nm,4.3s						
HYB				ePP	PP	14 58 56.7	-1.2
HYB				eSKSac	SKSac	15 05 59.3	-1.0
IDI	Anoyia	87.67	7	LR	LR	15 35 36.9	
	comp=Z,662nm,20.0s,baz=216,slow=36						
RPN	Rapa Nui	87.89	226	LR	LR	15 26 43.8	
	comp=Z,113nm,21.0s,baz=126,slow=30						
DSRI	Dabo	88.24	88	P	P	14 55 43.1	+7.6
SRBI	Singaraja	88.72	102	P	P	14 55 47.8	+10
TPRI	Tanjung Pinang	89.30	88	P	P	14 55 49.4	+8.9
PLAI	Plampang	89.66	104	P	P	14 55 51.0	+8.8
WRA	Warramunga Arr	89.86	123	P	P	14 55 40.9	-2.2
WRA	Warramunga Arr	89.86	123	P	P	14 55 42.8	-0.3
	comp=Z,3.5nm,0.9s,baz=202,slow=3.0,SNR=20						
	comp=Z,3.5nm,0.9s						
WB2	Warramunga Arr	89.86	123	P	P	14 55 41.4	-1.8
WB2				IAmb	IAmb	14 55 51.5	
	comp=Z,50nm,1.7s						
WRAB	Tennant Creek	89.87	123	P	P	14 55 40.6	-2.6
WRAB				IAmb	IAmb	14 55 51.6	
	comp=Z,44nm,1.6s						
WRAB	Tennant Creek	89.87	123⇑	eP	P	14 55 43.3	+0.1
WRAB				pmax	pmax		
	comp=Z,29nm,1.6s						
WR0	Warramunga Arr	89.95	124	P	P	14 55 41.3	-2.2
WR0				IAmb	IAmb	14 55 51.8	
	comp=Z,32nm,1.8s						
WB0	Warramunga Arr	90.03	123	P	P	14 55 43.7	-0.2
WB0				IAmb	IAmb	14 55 52.1	
	comp=Z,30nm,1.6s						
AGG	Agios Georgios	91.24	4	P	P	14 55 49.6	+0.8
AGG	Agios Georgios	91.24	4	P	P	14 55 49.6	+0.8
AGG				pmax	pmax		
	comp=Z,12nm,1.2s						
BATI	Baumata	92.01	109	LR	LR	15 30 48.3	
	comp=Z,267nm,20.9s,baz=238,slow=31						
EDFI	Ende, Flores	92.03	107	P	P	14 56 02.0	+8.6
BNN	Bunyan	92.44	15	P	P	14 55 52.8	-1.7
PCRV	Puerto La Cruz	92.84	283	LR	LR	15 34 20.9	
	comp=Z,232nm,18.0s,slow=33						
BR131	Keskin Array S	92.97	13⇓	eP	P	14 55 56.0	-1.0
BRTR	Keskin Array B	92.97	13	iP	P	14 55 58.5	+1.5
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BRTR	Keskin Array B	92.97	13	P	P	14 55 56.4	-0.6
	comp=Z,1.7nm,1.0s,baz=204,slow=2.7,SNR=5.9						
BRTR				PP	PP	14 59 41.0	+0.6
	comp=Z,1.4nm,1.0s,baz=182,slow=11,SNR=5.0						
BRTR				LR	LR	15 39 42.4	
	comp=Z,378nm,18.7s,baz=203,slow=37						
	comp=Z,1.7nm,1.0s						
OTAV	Otavalo	93.42	266	eP	P	14 56 03.5	+3.3
ESDC	Sonseca Array	93.53	344	P	P	14 55 58.1	-1.3
ESDC	Sonseca Array	93.53	344	P	P	14 56 00.1	+0.6
	comp=Z,4.7nm,1.3s,baz=166,slow=4.0,SNR=4.8						
ESDC				PP	PP	14 59 49.0	+4.4
	comp=Z,1.4nm,1.1s,baz=165,slow=7.7,SNR=5.0						
ESDC				LR	LR	15 36 08.0	
	comp=Z,165nm,18.9s,baz=170,slow=34						
	comp=Z,4.7nm,1.3s						
KAPI	Kappang	93.87	103	LR	LR	15 32 54.3	
	comp=Z,84nm,19.6s,baz=224,slow=32						
MTKI	Muara Teweh, K	94.17	97	P	P	14 56 11.5	+8.4
GNI	Garni	95.37	21	LR	LR	15 40 20.1	
	comp=Z,353nm,18.1s,baz=206,slow=36						
SDV	Santo Domingo	95.44	277	LR	LR	15 35 18.8	
	comp=Z,122nm,18.8s,baz=144,slow=33						
CTA	Charters Tower	95.45	133	LR	LR	15 35 17.6	
	comp=Z,126nm,18.5s,baz=238,slow=33						
RAO	Raoul Island	97.61	167	LR	LR	15 38 25.7	
	comp=Z,251nm,20.5s,baz=142,slow=34						
SOC	Sochi	97.69	17	eP	P	14 56 18.3	+0.1
SOC				e		15 00 12.5	
SOC				eS	SKSac	15 06 55.8	+0.7
SOC				eSS	SS	15 14 27.2	+2.7
SOC				MLR	MLR		
	comp=Z,180nm,17.0s						
KBZ	Khabaz	98.42	19	LR	LR	15 42 53.5	
	comp=Z,313nm,18.1s,baz=196,slow=37						
KIV	Kislovodsk	98.59	19	eP	Pdif	14 56 23.5	+1.1
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,427nm,20.0s						
BRDH	Bariadhala	98.92	64	LR	LR	15 34 58.3	
	comp=Z,549nm,19.9s,baz=291,slow=32						
KIS	Kishinev	99.61	8	eP	Pdif	14 56 25.0	-1.7
KIS				eL	L	15 43 07.0	
KIS				LRM	MLR	15 45 49.0	
	comp=Z,200nm,18.5s						
KIS	Kishinev	99.61	8	eP	Pdif	14 56 25.0	-1.7
CMAR	Chiang Mai Arr	99.73	73	iP	Pdif	14 56 31.6	+3.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	Chiang Mai Arr	99.73	73	P	Pdif	14 56 29.0	+1.0
	comp=Z,0.5nm,0.3s,baz=226,slow=3.5,SNR=5.1						
CMAR				LR	LR	15 33 37.6	
	comp=Z,147nm,21.5s,baz=240,slow=31						
	comp=Z,0.5nm,0.3s						
DZM	Mont Dzumac	101.19	151	eLR	LR	15 29 28.8	
	comp=Z,396nm,33.9s						
AKASG	Malin Array Be	103.32	8	PP	PP	15 00 59.0	-0.3
	comp=Z,0.3nm,0.3s,baz=198,slow=7.1,SNR=9.1						
CLL	Collm	103.45	358	ePP	PKiKP	15 00 59.0	-3.3
CLL				ePS	PS	15 10 12.0	+2.9
CLL				eSS	SS	15 15 48.0	+3.5
CLL				AMS	AMS	15 46 00.0	
	comp=Z,300nm,19.5s						
NACGM	Naroch	107.32	6	ePdif	Pdif	14 57 00.3	-0.5
PZH	PanZhiHua	107.60	69	PKP	PKiKP	15 01 10.9	-0.1
PPT2	Papeete2	109.25	194	eLR	LR	15 33 20.2	
	comp=Z,528nm,28.0s						
PPT2				eLR	LR	15 33 44.3	
	comp=Z,548nm,23.2s						
CD2	Chengdu	112.09	68	PKP	PKiKP	15 01 20.9	+1.7
MK31	Makanchi Array	113.58	43	⇓iPKIKP	PKiKP	15 01 20.1	-1.4
WMQ	Urumqi	113.61	48	ePKP	PKiKP	15 01 21.5	-0.2
BRVK	Borovoye	114.25	32	⇓iPKIKP	PKPdf	15 01 21.5	-1.0
BVAR	Borovoye Array	114.25	32	PKP	PKPdf	15 01 21.6	-1.0
	comp=Z,1.6nm,0.8s,baz=222,slow=2.0,SNR=6.4						
BVAR				PKKPbc	PKKPab	15 12 08.0	+1.9
	comp=Z,1.4nm,0.8s,baz=48,slow=3.9,SNR=4.3						
KLMR	Klimovskoe	114.42	12	ePP	PP	15 02 14.8	-5.1
KLMR				AMP		15 02 18.8	
	comp=Z,17nm,1.3s						
KURBB	Kurchatov Arra	115.15	38	PKP	PKPdf	15 01 23.5	-0.8
	comp=Z,0.8nm,0.8s,baz=232,slow=2.8,SNR=4.2						
KURK	Kurchatov	115.25	38	⇓iPKIKP	PKiKP	15 01 24.6	+0.1
TAOE	Nuku Hiva Isla	115.82	205	eS		15 09 16.6	
	comp=Z,101nm,25.8s						
TAOE				eSS	SS	15 18 31.7	+2.1
	comp=Z,106nm,25.3s						
TAOE	Nuku Hiva Isla	115.82	205	eLR	LR	15 36 10.0	
	comp=Z,432nm,33.2s						
DGZ	Jazzator, Alta	118.00	44	⇓iPKIKP	PKPdf	15 01 29.4	-0.7
ZALV	Zalesovo Beam	120.16	39	PKP	PKPdf	15 01 32.6	-1.2
	comp=Z,0.3nm,0.3s,baz=238,slow=5.1,SNR=4.3						
GOGA	Godfrey	121.68	285	P	PKPdf	15 01 36.6	-0.8
	baz=135						
NJ2	Nanjing	121.73	78	ePKP	PKPdf	15 01 37.1	-0.5
ARCES	ARCESS Array B	121.85	4	PKP	PKPdf	15 01 35.4	-1.3
	comp=Z,6.1nm,1.1s,baz=257,slow=2.1,SNR=5.0						
BTO	Baotou	122.59	64	ePKP	PKPdf	15 01 35.5	-3.6
BTO				PP	PP	15 03 16.5	-0.5
BTO				SS	SS	15 19 57.3	-1.5
HNS	HongShan	123.03	70	ePKP	PKiKP	15 01 41.4	+1.3
SSPA	Standing Stone	123.47	295	P	PKiKP	15 01 41.8	+0.9
	baz=133						
LRAL	Lakeview Retre	123.51	282	P	PKPdf	15 01 40.5	-0.5
	baz=135						
HHC	Hu-ho-hao-te	123.61	65	ePKP	PKPdf	15 01 38.0	-3.1
O53A	New Philadelph	125.08	292	P	PKPdf	15 01 43.7	-0.1
	baz=132						
SONM	Songino Array	125.54	56	PKP	PKPdf	15 01 43.2	-1.4
	comp=Z,1.8nm,1.0s,baz=194,slow=1.7,SNR=6.3						
ULN	Ulaanbaatar	125.89	56	⇓iPKIKP	PKPdf	15 01 44.8	-0.5
WCI	Wyandotte Cave	126.65	287	P	PKPdf	15 01 46.7	-0.2
	baz=132						
HKT	Hockley	126.70	273	⇓iPKIKP	PKiKP	15 01 47.8	+0.2
SCHQ	Schefferville	127.31	314	PKP	PKPdf	15 01 47.1	-0.5
	comp=Z,11nm,0.9s,baz=109,slow=6.2,SNR=4.4						
LCAR	Lake Charles	128.09	282	PKPdf	PKPdf	15 01 49.3	-0.3
MIAR	Mount Ida	128.51	279	P	PKPdf	15 01 50.1	-0.4
	baz=133						
SFIN	Lafayette	128.54	289	P	PKPdf	15 01 49.9	-0.5
	baz=131						
CCM	Cathedral Cave	129.46	284	PKPdf	PKPdf	15 01 50.9	-1.3
CCM	Cathedral Cave	129.46	284	P	PKPdf	15 01 52.2	-0.1
	baz=131						
CCM	Cathedral Cave	129.46	284	PKIKP	PKPdf	15 01 50.9	-1.3
TXAR	Lajitas Array	131.05	266	PKPdf	PKPdf	15 01 53.1	-2.5
TXAR	Lajitas Array	131.05	266	PKP	PKiKP	15 01 56.3	-0.3
	comp=Z,3.5nm,1.0s,baz=134,slow=3.6,SNR=15						
MNTX	Cornudas Mount	133.77	267	P	PKPdf	15 02 00.5	-0.1
	baz=134						
ECSD	EROS Data Cent	136.17	286	P	PKPdf	15 02 03.7	-1.0
	baz=126						
ANMO	Albuquerque	136.63	269	P	PKPdf	15 02 05.3	-0.8
	baz=132						
ANMO	Albuquerque	136.63	269⇑	ePKIKP	PKPdf	15 02 05.6	-0.5
T25A	Trinidad	136.82	273	P	PKPdf	15 02 05.1	-1.3
	baz=130						
TUC	Tucson	137.48	263	P	PKPdf	15 02 07.2	-0.4
	baz=134						
SDCO	Great Sand Dun	137.87	273	P	PKPdf	15 02 07.9	-0.5
	baz=130						
S22A	4UR Ranch, Cre	138.69	272	P	PKPdf	15 02 08.7	-1.3
	baz=130						
ISCO	Idaho Springs	139.22	276	P	PKPdf	15 02 10.0	-0.8
	baz=128						
MVCO	Mesa Verde	139.36	270	P	PKPdf	15 02 11.0	-0.1
	baz=130						
KLR	Kul'dur	140.02	68	⇓ePKIKP	PKPdf	15 02 12.5	+0.9
WUAZ	Wupatki	140.02	266	P	PKPdf	15 02 12.4	+0.1
	baz=132						
N23A	Red Feather La	140.09	277	P	PKPdf	15 02 11.2	-1.2
	baz=127						
RSSD	Black Hills	140.80	282	P	PKPdf	15 02 12.3	-1.2
	baz=124						
O20A	White River Ci	141.03	274	P	PKPdf	15 02 14.0	0.0
	baz=127						
MONP2	Monument Peak	141.29	258	P	PKPdf	15 02 14.4	-0.3
	baz=134						
IRM	Iron Mountain	141.40	261	P	PKPdf	15 02 14.4	-0.2
	baz=133						
K22A	Casper	141.47	278	P	PKPdf	15 02 15.1	+0.5
	baz=125						
BELC	Belle Mtn. Jos	141.80	260	P	PKPdf	15 02 15.9	+0.4
	baz=133						
GMRC	Granite Mounta	142.13	261	P	PKPdf	15 02 15.0	-1.1
	baz=133						
DGMT	Dagmar	143.16	288	P	PKPdf	15 02 17.0	-0.3
	baz=119						
GSC	Goldstone, Bar	143.18	261	P	PKPdf	15 02 16.4	-1.4
	baz=132						
PDAR	Pinedale Array	143.37	277	PKhKP	PKPpre	15 02 14.2	
	comp=Z,2.8nm,0.7s,baz=122,slow=5.4,SNR=16						
PDAR				PP	PP	15 05 30.2	0.0
	comp=Z,1.6nm,1.1s,baz=134,slow=6.4,SNR=3.9						
BW06	Boulder Array	143.37	277	P	PKPab	15 02 14.5	+0.3
	baz=124						
EDW2	Edwards Air Fo	143.61	259	P	PKPbc	15 02 17.2	+1.2
	baz=133						
DUG	Dugway, Tooele	143.86	271	P	PKPbc	15 02 16.9	+0.2
	baz=127						
TPNV	Topopah Spring	143.93	263	P	PKPbc	15 02 17.0	0.0
	baz=131						
YAK	Yakutsk	144.05	48	ePKIKP	PKPab	15 02 15.6	-0.2
YAK				e		15 02 22.6	
YAK				e		15 05 30.2	
YAK				eSS	SS	15 24 16.4	-1.3
YAK				pmax	pmax		
	comp=Z,38nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,14nm,1.4s						
YAK				pmax	pmax		
	comp=Z,611nm,3.8s						
YAK				pmax	pmax		
	comp=N,307nm,3.5s						
YAK				pmax	pmax		
	comp=E,610nm,3.3s						
SPR3	Spring Creek 3	144.06	268	PKPdf	PKPbc	15 02 18.2	+0.6
MPMC	Manual Prospec	144.09	261	P	PKPbc	15 02 17.6	0.0
	baz=132						
R11B	Troy Canyon, C	144.42	266	PKPdf	PKPbc	15 02 18.9	+0.3
R11B	Troy Canyon, C	144.42	266	P	PKPbc	15 02 19.2	+0.6
	baz=129						
ISA	Isabella, Lake	144.43	260	P	PKPdf	15 02 19.3	-0.6
	baz=132						
RLMT	Red Lodge	144.48	280	PKPdf	PKPab	15 02 18.4	+0.1
RLMT	Red Lodge	144.48	280	P	PKPbc	15 02 18.9	+0.3
	baz=122						
FFC	Flin Flon	144.63	299	PKPdf	PKPbc	15 02 18.4	0.0
FFC	Flin Flon	144.63

*DSN **23** 14:48:49.5±2.3,27°.93N×57°.61E,h15km,ML3.1/6,Error ellipse: s-maj=57.7km s-min=22.0km az=119.0*
*TEH **23** 14:48:51.7,27°.82N×57°.27E,h20km±54km,ML3.6*
*OMAN **23** 14:49:02.1±0.7,27°.09N×57°.24E,h10km,mb4.7/1,Error ellipse: s-maj=15.3km s-min=10.9km az=327.0*

ISC 23 14:48:52.8±1.0,27.77N±0°.05×57°.29E±0.05,h30km,n37,σ2°08/46,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.41**	**65**	Pg	**Pb**	**14 49 00.2**	**-1.7**
KHNJ				Sg	**Sb**	**14 49 07.1**	**-1.0**
IBND	**Bandar-abas**	**0.74**	**244**	Pg	**Pn**	**14 49 06.6**	**-0.5**
IBND				Sg	**Sb**	**14 49 17.7**	**+0.9**
GENO	**Geno**	**1.05**	**250**	Pg	**Pn**	**14 49 11.6**	**-0.1**
GENO				Sg	**Sb**	**14 49 27.4**	**+1.2**
KBAM	**BAM**	**1.70**	**37**	Pg	**Pn**	**14 49 21.5**	**+0.9**
NGRK	**Negar Kerman**	**1.93**	**345**	Pn	**Pn**	**14 49 23.6**	**-0.3**
JASK	**Jask - Hormozg**	**1.97**	**165**	P	**Pn**	**14 49 26.9**	**+2.8**
SNR=8.7							
JASK	**Jask - Hormozg**	**1.97**	**165**	Pn	**Pn**	**14 49 26.3**	**+2.2**
SHME	**Shamm**	**2.00**	**211**	P	**Pn**	**14 49 25.5**	**+1.0**
SHME	**Shamm**	**2.00**	**211**	P	**Pb**	**14 49 28.3**	**-0.1**
CHMN	**Cheshme madani**	**2.09**	**6**	Pn	**Pn**	**14 49 26.5**	**+0.3**
TVBK	**TV Kerman**	**2.25**	**348**	Pn	**Pn**	**14 49 29.1**	**+0.7**
MASF	**Masafi**	**2.59**	**203**	P	**Pb**	**14 49 38.3**	**-0.4**
MSFE	**Esma-Masafi**	**2.60**	**203**	P	**Pn**	**14 49 36.1**	**+3.2**
MSFE				S	**Sb**	**14 50 10.2**	**-0.3**
MDH	**Madha**	**2.62**	**200**	P	**Pn**	**14 49 34.8**	**+1.7**
KHGB	**Koh Gabri**	**2.69**	**345**	Pn	**Pn**	**14 49 36.1**	**+1.9**
UOSS	**Minazif**	**2.98**	**199**	P	**Pn**	**14 49 39.2**	**+1.2**
UOSS	**Minazif**	**2.98**	**199**	P	**Pb**	**14 49 42.9**	**-2.3**
HATD	**Hatta, Dubai**	**3.11**	**200**	P	**Pn**	**14 49 43.1**	**+3.3**
HATD	**Hatta, Dubai**	**3.11**	**200**	P	**Pb**	**14 49 45.9**	**-1.6**
ASHO	**Ashiyiah**	**3.27**	**200**	P	**Pn**	**14 49 45.1**	**+3.0**
ASHO	**Ashiyiah**	**3.27**	**200**	P	**Pn**	**14 49 46.4**	**+4.4**
ASUD	**Al Ashush, Dub**	**3.59**	**210**	P	**Pn**	**14 49 48.5**	**+2.1**
SOHO	**SOHO**	**3.69**	**191**	P	**Pn**	**14 49 47.6**	**-0.1**
SOHO	**SOHO**	**3.69**	**191**	P	**Pn**	**14 49 48.1**	**+0.4**
HOQ	**Hoqain**	**4.17**	**180**	P	**Pn**	**14 49 56.0**	**+1.5**
SNR=7.0							
HOQ	**Hoqain**	**4.17**	**180**	Pn	**Pn**	**14 49 55.4**	**+1.0**
NHDN	**Nehbandan**	**4.34**	**33**	Pn	**Pn**	**14 49 58.9**	**+2.1**
ARQ	**Araqi**	**4.47**	**189**	P	**Pn**	**14 50 02.0**	**+3.4**
SNR=28							
BSRN	**Basiran**	**4.47**	**20**	Pn	**Pn**	**14 50 00.3**	**+1.5**
WSAR	**Wadi Sarin**	**4.67**	**165**	P	**Pn**	**14 50 03.9**	**+2.5**
WBK	**Wadi Bani Khal**	**5.36**	**163**	P	**Pn**	**14 50 13.6**	**+2.8**
SNR=7.2							
WBK				S	**Sn**	**14 51 11.3**	**-0.3**
WBK	**Wadi Bani Khal**	**5.36**	**163**	Pn	**Pn**	**14 50 12.8**	**+1.9**
MHTO	**MHTO**	**6.78**	**175**	P	**Pn**	**14 50 33.2**	**+2.8**
DOK	**Doka**	**9.56**	**198**	P	**Pn**	**14 51 11.1**	**+2.7**
DOK				S	**Sn**	**14 52 52.6**	**-2.4**
SHAO	**Shalim**	**9.82**	**189**	P	**Pn**	**14 51 15.5**	**+3.4**
SHAO				S	**Sn**	**14 52 58.9**	**-2.4**
DMTO	**DMTO**	**10.24**	**193**	P	**Pn**	**14 51 20.2**	**+2.5**
DMTO				S	**Sn**	**14 53 08.8**	**-2.7**
WHFO	**Wadi Hawf**	**10.33**	**199**	P	**Pn**	**14 51 19.9**	**+0.9**
WHFO				S	**Sn**	**14 53 12.0**	**-1.8**

---

*OSPL **23** 14:49:33.0±1.2, 19°.94N×74°.43W,h28km±38km,ML3.0*
*SSNC **23** 14:49:33.1±1.2, 19°.92N×74°.48W,h3km,MD3.2,ML3.0, MW3.1*

ISC 23 14:49:32.3±1.3,19°.92N±0°.07×74°.41W±0°.03,h35km,n13,σ1°69/18,1D,Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.30**	**34**	*e*P	**Pn**	**14 49 39.5**	**-0.8**
MASC	**Masc**	**0.30**	**34**	*i* P	**Pn**	**14 49 39.4**	**-0.8**
GTBY	**Guantanamo Bay**	**0.66**	**271**	*e*P	**Pn**	**14 49 44.6**	**-0.5**
GTBY				IAML		14 49 56.0	
525nm,0.1s							
GTBY				IAML		14 49 56.2	
comp=Z,1μm,0.1s							
GTBY	**Guantanamo Bay**	**0.66**	**271**	*i* P	**Pn**	**14 49 44.5**	**-0.5**
GTBY				*e*S	**Sn**	**14 49 54.0**	**-0.3**
GTBY				IAML		14 49 56.7	
comp=Z,336nm,0.3s							
MOAC	**Moa**	**0.90**	**325**	*e*P	**Pn**	**14 49 48.2**	**-0.2**
MOAC				IAML		14 50 07.7	
comp=E,417nm,0.2s							
MOAC				IAML		14 50 08.0	
comp=N,647nm,0.3s							
RCC	**Rio Carpintero**	**1.21**	**274**	*e*P	**Pn**	**14 49 52.4**	**-0.3**
RCC				*e*S	**Sn**	**14 50 07.5**	**-0.4**
RCC				IAML		14 50 10.6	
comp=N,323nm,0.1s							
RCC				IAML		14 50 11.4	
comp=E,470nm,0.2s							
HLGC	**Holguin**	**1.82**	**302**	*e*P	**Pn**	**14 50 04.6**	**+3.4**
PAPH	**Port-au-Prince**	**2.43**	**125**	*i* P	**Pn**	**14 50 10.2**	**+0.6**
PAPH				IAML		14 50 47.7	
comp=Z,52nm,0.1s							
LMGC	**Las Mercedes**	**2.44**	**274**	*e*P	**Pn**	**14 50 10.4**	**+0.8**
LMGC				*e*S	**Sn**	**14 50 39.2**	**+0.9**
LMGC				IAML		14 50 41.0	
comp=E,63nm,0.2s							
LMGC				IAML		14 50 41.0	
comp=N,90nm,0.1s							
LODA1	**ITESIL, Dajabo**	**2.58**	**98**	*e*S	**Sn**	**14 50 40.1**	**-1.5**
LODA1				IAML		14 50 41.6	
comp=Z,1μm,5.0s							
SDDR	**Presa de Saban**	**3.09**	**107**	*e*P	**Pn**	**14 50 22.2**	**+3.5**
SDDR	**Presa de Saban**	**3.09**	**107**	*i* P	**Pn**	**14 50 19.9**	**+1.2**
SDDR				*e*S	**Sn**	**14 50 52.6**	**-1.9**
SDDR				IAML		14 50 56.8	
comp=Z,95nm,0.5s							
MTDJ	**Mount Denham**	**3.40**	**241**	*i* P	**Pn**	**14 50 23.3**	**+0.3**
MTDJ				*e*S	**Sn**	**14 50 59.4**	**-2.7**
MTDJ				IAML		14 51 16.5	
comp=Z,38nm,1.4s							

---

*IDC **23** 15:07:20.9±1.6,6°.75S×147°.49E,h87km±15km,mb3.8/10, mbtmp4.3/15,MS3.1/4,Error ellipse: s-maj=19.2km s-min=10.6km az=110.0*
*NEIC **23** 15:07:20.4±1.2,6°.73S±0°.06×147°.46E±0°.06,h72km±8km, mb4.4/27,Error ellipse: s-maj=10.3km s-min=6.4km az=49.0*
*DJA **23** 15:07:21.1±0.3,7°.S±2°.×147°.7E±°.,h77km±5km,M4.5/29, mB4.9/6,mb4.6/29,MLv4.7/5,Mw(mB)4.2/6*

ISC 23 15:07:19.2±0.5,6.73S±0°.05×147°.44E±0°.06,h63km,n90,σ1°23/91,mb4.4/22,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.67**	**186**		**Pn**	**15 08 00.7**	**+0.8**
PMG	**Port Moresby**	**2.67**	**186**	P	**Pn**	**15 08 01.3**	**+1.3**
PMG	**Port Moresby**	**2.67**	**186**	P	**Pn**	**15 08 00.8**	**+0.9**
572nm,0.6s,baz=32,slow=5.6,SNR=138							
PMG				S	**Sn**	**15 08 34.4**	**+3.2**
1μm,0.6s,baz=83,slow=7.1,SNR=6.0							
PMG				LR	LR	15 08 52.6	
comp=Z,269nm,19.6s,baz=3.0,slow=34							
MANU	**Manus Island**	**4.66**	**359**		**Pn**	**15 08 27.7**	**+0.6**
KRVT	**Keravat (AS076**	**5.16**	**62**	P	**Pn**	**15 08 33.8**	**-0.3**
66nm,0.6s,baz=130,slow=23,SNR=1.7							
KRVT				LR	LR	15 10 30.2	
comp=Z,171nm,20.6s,baz=8.6,slow=37							
RABL	**Rabaul**	**5.34**	**62**	Pn	**Pn**	**15 08 37.4**	**+1.0**
TABU	**Tabubil**	**6.35**	**283**	P	**Pn**	**15 08 53.7**	**+3.4**
JAY	**Jayapura**	**7.91**	**302**	P	**Pn**	**15 09 14.3**	**+2.7**
21nm,1.1s,0.1nm							
COEN	**Coen**	**8.32**	**210**		**Pn**	**15 09 17.6**	**+0.4**
COEN	**Coen**	**8.32**	**210**	P	**Pn**	**15 09 19.1**	**+1.9**
GENI	**Genyem**	**8.33**	**299**	P	**Pn**	**15 09 20.9**	**+3.6**
MTSU	**Mount Surprise**	**11.74**	**195**	P	**Pn**	**15 10 05.8**	**+1.8**
TV1H	**Townsville Har**	**12.47**	**183**	P	**Pn**	**15 10 16.6**	**+2.6**
HNR	**Honiara**	**12.67**	**103**		**Pn**	**15 10 17.5**	**+0.8**
HNR	**Honiara**	**12.67**	**103**	P	**P**	**15 10 26.5**	**+0.6**
HNR	**Honiara**	**12.67**	**103**	P	**Pn**	**15 10 17.2**	**+0.5**
892nm,0.7s,baz=133,slow=11,SNR=11							
CTA	**Charters Tower**	**13.33**	**185**	P	**Pn**	**15 10 26.1**	**+0.4**
6.8nm,0.6s,baz=2.0,slow=14,SNR=25							
CTA				LR	LR	15 15 06.7	
comp=Z,41nm,18.1s,baz=14,slow=35							
CTAO	**Charters Tower**	**13.33**	**185**		**Pn**	**15 10 27.3**	**+1.6**
CTAO	**Charters Tower**	**13.33**	**185**	P	**Pn**	**15 10 27.7**	**+2.0**
KMPI	**Kaimana, Papua**	**14.01**	**282**	P	**Pn**	**15 10 36.7**	**+1.9**
168nm,0.7s							
FAKI	**Fak Fak**	**15.60**	**283**	P	**P**	**15 10 58.9**	**+0.4**
FAKI				IAmb	IAmb	15 11 02.1	
comp=Z,29nm,0.8s							
FAKI	**Fak Fak**	**15.60**	**283**	P	**P**	**15 11 00.3**	**+1.9**
FAKI	**Fak Fak**	**15.60**	**283**	P	**P**	**15 10 57.6**	**-0.8**
comp=Z,43nm,0.8s							
QIS	**Mount Isa**	**15.70**	**208**	P	**Pn**	**15 10 57.3**	**+0.6**
SAUI	**Saumlaki**	**16.05**	**265**	P	**P**	**15 11 04.7**	**+1.2**
SIJI	**Sorong**	**17.15**	**289**	P	**P**	**15 11 15.2**	**-0.4**
comp=Z,58nm,0.8s,baz=77,slow=13,SNR=33							
SIJI				LR	LR	15 18 53.5	
comp=Z,106nm,18.0s,baz=86,slow=40							
SWI	**Sorong**	**17.15**	**289**	P	**P**	**15 11 16.8**	**+1.1**
comp=Z,108nm,0.8s							
MTN	**Manton Dam**	**17.17**	**248**		**Pn**	**15 11 14.4**	**-0.7**
MTN				IAmb	IAmb	15 11 18.3	
comp=Z,24nm,1.4s							
WB0	**Warramunga Arr**	**18.12**	**223**		**P**	**15 11 26.5**	**+0.2**
WR0	**Warramunga Arr**	**18.16**	**222**	P	**P**	**15 11 26.6**	**-0.1**
WR0				IAmb	IAmb	15 11 33.7	
comp=Z,21nm,1.1s							
WRAB	**Tennant Creek**	**18.27**	**223**	P	**P**	**15 11 27.7**	**-0.2**
WRAB				IAmb	IAmb	15 12 04.1	
comp=Z,22nm,1.4s							
WRAB	**Tennant Creek**	**18.27**	**223**	P	**P**	**15 11 27.8**	**-0.2**
WB2	**Warramunga Arr**	**18.27**	**223**		**P**	**15 11 27.6**	**-0.4**
WRA	**Warramunga Arr**	**18.28**	**223**		**P**	**15 11 27.5**	**-0.6**
WRA	**Warramunga Arr**	**18.28**	**223**	P	**P**	**15 11 28.1**	**0.0**
comp=Z,1.6nm,0.5s,baz=52,slow=11,SNR=24							
WRA				S	**Sn**	**15 14 48.5**	**-3.8**
comp=Z,2.3nm,0.7s,baz=53,slow=22,SNR=4.9							
EIDS	**Eidsvold**	**18.86**	**170**	P	**P**	**15 11 34.5**	**+0.1**
EIDS				IAmb	IAmb	15 11 40.5	
comp=Z,19nm,1.1s							
QLP	**Quilpie**	**19.98**	**188**	P	**P**	**15 11 47.1**	**+0.5**
KNRA	**Kununurra**	**20.34**	**243**	P	**P**	**15 11 50.0**	**-0.6**
KNRA				IAmb	IAmb	15 12 13.7	
comp=Z,13nm,0.8s							
KNRA	**Kununurra**	**20.34**	**243**	P	**P**	**15 11 50.5**	**-0.1**
GUMO	**Guam**	**20.35**	**353**	P	**P**	**15 11 51.1**	**+0.6**
NLAI	**Namlea**	**20.55**	**279**	P	Pn	15 11 55.0	-0.6
comp=Z,9.9nm,0.9s							
LBMI	**Labuha**	**20.79**	**286**	P	Pn	15 11 57.6	-0.8
comp=Z,40nm,1.3s,comp=Z,1μm							
AS31	**Alice Springs**	**21.28**	**216**	P	**P**	**15 12 00.8**	**+0.1**
AS31				S	**S**	**15 15 53.3**	**-0.4**
ASAR	**Alice Springs**	**21.28**	**216**	P	**P**	**15 12 00.8**	**+0.1**
comp=Z,4.7nm,0.6s,baz=54,slow=8.8,SNR=201							
ASAR				S	**S**	**15 15 52.0**	**-1.8**
comp=Z,2.7nm,0.5s,baz=34,slow=22,SNR=8.8							
comp=Z,4.7nm,0.6s							
TNTI	**Ternate**	**21.37**	**290**	P	**P**	**15 12 03.1**	**+1.4**
comp=Z,34nm,0.9s							
INKA	**Innaminka**	**21.84**	**196**	P	**P**	**15 12 07.3**	**+0.7**
SANI	**Sanana**	**21.88**	**281**	P	**P**	**15 12 07.8**	**+0.7**
comp=Z,14nm,0.8s							
LIFNC	**LIFOU**	**23.73**	**128**	P	**P**	**15 12 25.3**	**-0.5**
OOD	**Oodnadatta**	**23.73**	**207**	P	**P**	**15 12 25.5**	**-0.2**
DZM	**Mont Dzumac**	**23.86**	**132**	P	**P**	**15 12 26.2**	**-0.9**
DZM				IAmb	IAmb	15 12 27.4	
comp=Z,19nm,1.5s							
DZM	**Mont Dzumac**	**23.86**	**132**	P	**P**	**15 12 26.0**	**-1.1**
comp=Z,2.8nm,0.7s,baz=131,slow=23,SNR=5.0							
comp=Z,2.8nm,0.7s							
ARMA	**Armidale**	**23.89**	**171**	P	**P**	**15 12 26.7**	**-0.6**
ARMA				IAmb	IAmb	15 12 28.6	
comp=Z,7.4nm,0.7s							
ARMA	**Armidale**	**23.89**	**171**	P	**P**	**15 12 26.7**	**-0.6**
KMSI	**Cibinong**	**24.50**	**286**	P	**P**	**15 12 34.3**	**+1.4**
comp=Z,86nm,0.6s							
CMSA	**Cobar Meteorol**	**24.74**	**184**	P	**P**	**15 12 34.2**	**-0.6**
BBSI	**Bau Bau**	**24.75**	**271**	P	**P**	**15 12 35.7**	**+0.5**
comp=Z,16nm,0.8s							
MMRI	**Maumere**	**25.04**	**264**	P	**P**	**15 12 37.0**	**-0.8**
MMRI				IAmb	IAmb	15 12 39.1	
comp=Z,19nm,0.6s							
MMRI	**Maumere**	**25.04**	**264**	P	**P**	**15 12 38.3**	**+0.5**
comp=Z,29nm,0.7s							
LCRK	**Leigh Creek**	**25.13**	**199**	P	**P**	**15 12 38.3**	**-0.2**
EDFI	**Ende, Flores**	**25.59**	**264**	P	**P**	**15 12 41.8**	**-1.1**
comp=Z,19nm,0.8s							
STKA	**Stephens Creek**	**25.61**	**192**	P	**P**	**15 12 42.1**	**-0.6**
STKA	**Stephens Creek**	**25.61**	**192**	P	**P**	**15 12 42.3**	**-0.5**
STKA	**Stephens Creek**	**25.61**	**192**	P	**P**	**15 12 42.2**	**-0.6**
comp=Z,8.9nm,0.6s,baz=359,slow=8.9,SNR=33							
comp=Z,8.9nm,0.6s							
WRKA	**Warakurna**	**25.82**	**223**	P	**P**	**15 12 44.1**	**-0.8**
MULG	**Mulgathing**	**26.59**	**207**	P	**P**	**15 12 51.1**	**-0.6**
YNG	**Young**	**27.45**	**178**	P	**P**	**15 12 59.6**	**+0.2**
BBOO	**Buckleboo**	**28.03**	**201**	P	**P**	**15 13 04.9**	**+0.4**
BBOO				IAmb	IAmb	15 13 31.4	
comp=Z,14nm,1.1s							
BBOO	**Buckleboo**	**28.03**	**201**	P	**P**	**15 13 05.1**	**+0.6**
CAN	**Canberra**	**28.49**	**177**	P	**P**	**15 13 08.2**	**-0.5**
CAN				IAmb	IAmb	15 13 48.4	
comp=Z,16nm,1.4s							
MBWA	**Marble Bar**	**30.40**	**239**	P	**P**	**15 13 25.4**	**-0.3**
MBWA				IAmb	IAmb	15 14 05.5	
comp=Z,20nm,1.2s							
PSA00	**Pilbara Seismi**	**30.47**	**238**	P	**P**	**15 13 25.9**	**-0.5**
PSA00				IAmb	IAmb	15 13 49.3	
comp=Z,15nm,1.1s							
MEEK	**Meekatharra**	**33.82**	**231**	P	**P**	**15 13 56.3**	**+0.6**
MORW	**Morawa**	**37.02**	**229**	P	**P**	**15 14 23.1**	**0.0**
KLBR	**Kellerberrin**	**37.15**	**224**	P	**P**	**15 14 24.0**	**-0.2**
CBJI	**Citeko**	**40.31**	**268**	P	P	15 15 00.3	+9.4
JSG	**Sagara**	**42.10**	**349**	P	**P**	**15 15 05.4**	**+0.3**
KSRS	**Korea Array**	**47.58**	**339**	P	**P**	**15 15 47.9**	**-0.8**
comp=Z,0.8nm,0.7s,baz=156,slow=9.5,SNR=2.5							
comp=Z,0.8nm,0.7s							
GSI	**Gunungsitoli**	**50.40**	**277**	P	**P**	**15 16 09.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**53.98**	**298**	P	**P**	**15 16 37.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**53.98**	**298**	P	**P**	**15 16 38.0**	**+0.8**
comp=Z,3.1nm,0.7s,baz=123,slow=5.6,SNR=29							
comp=Z,3.1nm,0.7s							
CHTO	**Chiang Mai**	**54.11**	**299**	P	**P**	**15 16 38.3**	**+0.1**
CHTO				IAmb	IAmb	15 16 39.9	
comp=Z,2.8nm,0.8s							
CASY	**Casey**	**64.67**	**196**	P	**P**	**15 17 49.2**	**-1.0**
ZALV	**Zalesovo Beam**	**79.86**	**328**	P	**P**	**15 19 18.7**	**-2.2**
ZALV	**Zalesovo Beam**	**79.86**	**328**	P	**P**	**15 19 18.8**	**-2.1**
comp=Z,1.8nm,0.5s,baz=112,slow=6.7,SNR=9.0							
comp=Z,1.8nm,0.5s							
KURBB	**Kurchatov Arra**	**82.07**	**323**	P	**P**	**15 19 31.6**	**-1.1**
comp=Z,0.3nm,0.3s,baz=100,slow=4.4,SNR=4.4							
comp=Z,0.3nm,0.3s							
QSPA	**South Pole Qui**	**83.24**	**180**	P	**P**	**15 19 38.2**	**-0.6**
QSPA				IAmb	IAmb	15 20 12.5	
comp=Z,4.7nm,1.1s							
QSPA	**South Pole Qui**	**83.24**	**180**	P	**P**	**15 19 38.0**	**-0.8**
comp=Z,2.1nm,0.6s,baz=169,slow=0.8,SNR=23							
comp=Z,2.1nm,0.6s							
ILAR	**Eielson Array**	**85.98**	**23**	P	**P**	**15 19 51.4**	**-1.0**
comp=Z,0.4nm,0.7s,baz=257,slow=4.5,SNR=6.5							
comp=Z,0.4nm,0.7s							
BVAR	**Borovoye Array**	**87.61**	**324**	P	**P**	**15 19 58.8**	**-1.8**
comp=Z,0.8nm,0.5s,baz=95,slow=6.5,SNR=5.1							
comp=Z,0.8nm,0.5s							
TORD	**Torodi Ar. Bea**	**145.69**	**283**	PKPbc	**PKPbc**	**15 26 51.9**	**-0.1**
comp=Z,1.7nm,0.4s,baz=72,slow=4.3,SNR=12							

---

*MDD **23** 15:09:15.8±1.0,36°.71N×11°.04W,h6km±24km,mb_Lg2.7/8, Error ellipse: s-maj=32.3km s-min=7.2km az=53.0*
*IGIL **23** 15:09:17.8,36°.66N×11°.08W,h30km,ML1.9*
*INMG **23** 15:09:17.4±1.2,36°.63N×11°.18W,h31km,ML2.0,Error ellipse: s-maj=6.2km s-min=4.2km az=90.0*
*CNRM **23** 15:09:18.0,36°.37N×10°.58W,h0km*

ISC 23 15:09:14.4±2.0,36.63N±0°.05×11°.2W±0°.1,h35km,n47,σ1°53/76,1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.97**	**74**	*e*P	**Pn**	**15 09 46.4**	**+1.2**
PFVI				*e*S	**Sn**	**15 10 08.5**	**-0.2**
PFVI				A	A	15 10 09.5	
9.2nm,0.3s							
PFVI	**Vila Bisbo**	**1.97**	**74**	P	**Pn**	**15 09 47.4**	**+2.2**
PFVI				S	**Sn**	**15 10 09.4**	**+0.7**
PFVI	**Vila Bisbo**	**1.97**	**74**	Sn	**Sn**	**15 10 07.7**	**-1.0**
PFVI				Pn	**Pn**	**15 09 46.5**	**+1.2**
MORF	**Marmelete**	**2.15**	**71**	*e*P	**Pn**	**15 09 49.3**	**+1.5**
MORF				*e*S	**Sn**	**15 10 13.0**	**-0.2**
MORF				A	A	15 10 14.7	
7.6nm,0.2s							
MORF	**Marmelete**	**2.15**	**71**	*e*P	**Pn**	**15 09 48.9**	**+1.2**
MORF				*e*S	**Sn**	**15 10 11.5**	**-1.7**
MORF				IAML		15 10 13.1	
comp=N,7.7nm,0.1s							
PTEO	**Sao Teotonio**	**2.18**	**64**	*e*P	**Pn**	**15 09 49.8**	**+1.6**
PTEO				*e*S	**Sn**	**15 10 14.2**	**+0.3**
PTEO				A	A	15 10 19.1	
comp=N,8.4nm,0.5s							
PNCL	**Nicolau / Gran**	**2.59**	**54**	*e*P	**Pn**	**15 09 55.5**	**+1.7**
PNCL				*e*S	**Sn**	**15 10 23.9**	**-0.2**
PNCL				A	A	15 10 27.7	
comp=N,4.6nm,0.2s							
PNCL	**Nicolau / Gran**	**2.59**	**54**	Sn	**Sn**	**15 10 22.6**	**-1.4**
PNCL				Pn	**Pn**	**15 09 55.3**	**+1.5**
PBDV	**Barranco-do-Ve**	**2.69**	**76**	*e*P	**Pn**	**15 09 56.7**	**+1.5**
PBDV				*e*S	**Sn**	**15 10 26.8**	**+0.3**
PBDV				A	A	15 10 31.1	
comp=N,4.6nm,0.7s							
PCVE	**Castro Verde**	**2.72**	**67**	*e*P	**Pn**	**15 09 57.2**	**+1.6**
PCVE				*e*S	**Sn**	**15 10 26.8**	**-0.4**
PCVE				A	A	15 10 30.2	
comp=N,2.5nm,0.4s							
PCVE	**Castro Verde**	**2.72**	**67**	Sn	**Sn**	**15 10 26.5**	**-0.7**
PCVE				Pn	**Pn**	**15 09 57.1**	**+1.6**
PMAFR	**Mafra**	**2.78**	**33**	*e*S	**Sn**	**15 10 28.6**	**0.0**
PMAFR				A	A	15 10 31.4	
comp=N,15nm,0.5s							
PMAFR	**Mafra**	**2.78**	**33**	Sn	**Sn**	**15 10 28.0**	**-0.6**
PACT	**Alcochete**	**2.84**	**41**	*e*S	**Sn**	**15 10 31.3**	**+1.0**
PVAQ	**Vaqueiros**	**2.89**	**73**	*e*P	**Pn**	**15 09 59.6**	**+1.7**
PVAQ				*e*S	**Sn**	**15 10 31.0**	**-0.5**
PVAQ				A	A	15 10 35.5	
comp=N,3.5nm,0.5s							
PVAQ	**Vaqueiros**	**2.89**	**73**	P	**Pn**	**15 10 01.4**	**+3.5**
PVAQ				S	**Sn**	**15 10 30.9**	**-0.5**
PVAQ	**Vaqueiros**	**2.89**	**73**	Sn	**Sn**	**15 10 31.4**	**-0.1**
PVAQ				Pn	**Pn**	**15 09 59.0**	**+1.1**
PBEJ	**Beja**	**3.00**	**61**	*e*S	**Sn**	**15 10 33.0**	**-1.2**
PBEJ				A	A	15 10 35.4	
comp=N,2.1nm,0.2s							
EGRO	**El Granado**	**3.10**	**72**	Pn	**Pn**	**15 10 02.0**	**+1.1**
EGRO				Sn	**Sn**	**15 10 37.4**	**+0.6**
EGRO				*i* Vmb_Lg		15 10 43.9	
EGRO	**El Granado**	**3.10**	**72**	Pn	**Pn**	**15 10 02.8**	**+1.9**
PMTG	**Montargil**	**3.39**	**43**	*e*P	**Pn**	**15 10 06.7**	**+1.9**
PMTG				*e*S	**Sn**	**15 10 42.7**	**-1.0**
PMTG				A	A	15 10 47.2	
comp=N,2.5nm,0.4s							
PESTR	**Estremoz**	**3.63**	**51**	Sn	**Sn**	**15 10 48.5**	**-1.3**
PBAR	**Barrancos**	**3.65**	**64**	*e*P	**Pn**	**15 10 10.7**	**+2.3**
PBAR				*e*S	**Sn**	**15 10 49.2**	**-1.1**
PBAR				A	A	15 10 52.0	
comp=N,1.4nm,0.3s							
PBAR	**Barrancos**	**3.65**	**64**	Pn	**Pn**	**15 10 10.2**	**+1.8**
EMIN	**Mina Concepcio**	**3.79**	**71**	Pn	**Pn**	**15 10 11.4**	**+1.1**
EMIN				Sn	**Sn**	**15 10 52.8**	**-0.8**
EMIN				*i* Vmb_Lg		15 11 02.8	
EBAD	**Badajoz**	**3.94**	**56**	Pn	**Pn**	**15 10 13.7**	**+1.3**
EBAD				Sn	**Sn**	**15 10 56.1**	**-1.2**
EBAD				*i* Vmb_Lg		15 10 58.4	
EBAD	**Badajoz**	**3.94**	**56**	Sn	**Sn**	**15 10 55.6**	**-1.7**
PCAS	**Casmilo, Conde**	**4.03**	**31**	*e*P	**Pn**	**15 10 14.6**	**+1.1**
PCAS				*e*S	**Sn**	**15 10 58.6**	**-0.9**
PMRV	**Marv??o**	**4.11**	**46**	*e*P	**Pn**	**15 10 15.3**	**+0.7**
PMRV				*e*S	**Sn**	**15 10 59.3**	**-2.1**
PMRV				A	A	15 11 03.4	
comp=N,1.7nm,0.3s							
ESPR	**Espera**	**4.30**	**85**	Pn	**Pn**	**15 10 18.9**	**+1.7**
ESPR				Sn	**Sn**	**15 11 05.1**	**-1.0**
ESPR				*i* Vmb_Lg		15 11 10.9	
ESPR	**Espera**	**4.30**	**85**	Pn	**Pn**	**15 10 18.8**	**+1.5**
ESPR				Sn	**Sn**	**15 11 05.4**	**-0.8**
ECAB	**El Cabril**	**4.83**	**71**	Pn	**Pn**	**15 10 26.0**	**+1.5**
ECAB				Sn	**Sn**	**15 11 17.5**	**-1.8**
ECAB				*i* Vmb_

PMG	Port Moresby	34.52	289	P	P	15 16 46.0 -0.4
STKA	Stephens Creek	34.76	248	P	P	15 16 47.0 -1.3
STKA	Stephens Creek	34.76	248	P	P	15 16 49.0 +0.7
	comp=Z,2.0nm,0.5s,baz=101,slow=10,SNR=4.8					
	comp=Z,2.0nm,0.5s					
COEN	Coen	36.14	279	P	P	15 17 00.9 +0.9
COEN				IAmb	IAmb	15 17 33.3
	comp=Z,15nm,1.2s					
BBOO	Buckleboo	39.48	247	P	P	15 17 26.5 -0.6
BBOO				IAmb	IAmb	15 18 07.8
	comp=Z,17nm,1.3s					
AS31	Alice Springs	42.07	261	P	P	15 17 47.8 -0.1
ASAR	Alice Springs	42.07	261	P	P	15 17 47.5 -0.4
ASAR	Alice Springs	42.07	261	P	P	15 17 47.9 0.0
	comp=Z,10.0nm,0.8s,baz=96,slow=7.7,SNR=53					
ASAR				ScP	ScP	15 22 32.9 +1.0
	comp=Z,2.7nm,0.8s,baz=106,slow=4.3,SNR=18					
ASAR				S	S	15 23 28.4 -1.3
	comp=Z,0.3nm,0.7s,baz=95,slow=15,SNR=4.7					
	comp=Z,10.0nm,0.8s					
WR0	Warramunga Arr	42.25	266	P	P	15 17 48.7 -0.7
WB2	Warramunga Arr	42.43	266	P	P	15 17 50.0 -0.8
WB2				IAmb	IAmb	15 17 50.9
	comp=Z,14nm,0.8s					
WB0	Warramunga Arr	42.43	266	P	P	15 17 50.0 -0.8
WB0				IAmb	IAmb	15 17 50.9
	comp=Z,19nm,0.7s					
WRA	Warramunga Arr	42.44	266	P	P	15 17 50.2 -0.6
	comp=Z,12nm,0.5s,baz=96,slow=8.4,SNR=197					
WRA				ScP	ScP	15 22 34.5 +1.1
	comp=Z,1.3nm,0.7s,baz=97,slow=3.9,SNR=12					
	comp=Z,12nm,0.5s					
FORT	Forrest	46.35	250	P	P	15 18 20.2 -0.6
MTN	Manton Dam	47.49	274	P	P	15 18 28.5 -1.2
KNRA	Kununurra	48.72	270	P	P	15 18 38.3 -0.5
KNRA				IAmb	IAmb	15 18 39.4
	comp=Z,17nm,0.9s					
FAKI	Fak Fak	50.61	287	P	P	15 18 52.1 -0.7
FAKI				IAmb	IAmb	15 19 04.2
	comp=Z,22nm,1.1s					
SIJI	Sorong	52.46	288	P	P	15 19 05.5 -0.7
	comp=Z,24nm,0.7s,baz=99,slow=7.1,SNR=14					
	comp=Z,24nm,0.7s					
PSA00	Pilbara Seismi	55.20	260	P	P	15 19 24.6 -0.9
PSA00				IAmb	IAmb	15 19 40.6
	comp=Z,31nm,1.4s					
MBWA	Marble Bar	55.41	260	P	P	15 19 26.1 -0.8
MBWA				IAmb	IAmb	15 19 27.1
	comp=Z,24nm,1.1s					
MORW	Morawa	56.91	250	P	P	15 19 36.5 -0.7
QSPA	South Pole Qui	66.20	180	P	P	15 20 38.1 +0.6
	comp=Z,2.5nm,0.7s,baz=347,slow=1.7,SNR=4.4					
	comp=Z,2.5nm,0.7s					
UGM	Wanagama	68.14	271	P	P	15 20 49.6 -0.6
SSLB	Suanglung	74.37	305	P	P	15 21 25.7 -0.8
SSLB				IAmb	IAmb	15 21 37.9
	comp=Z,13nm,1.0s					
ADK	Adak	75.49	2	P	P	15 21 31.3 -0.7
TROLL	Troll, Antarti	84.35	181	⇑P	P	15 22 18.4 -0.1
	comp=Z,184nm,0.7s					
SNAA	Sanae	84.69	179	P	P	15 22 19.1 -1.1
SNAA	Sanae	84.69	179	⇑P	P	15 22 19.3 -0.9
	comp=Z,16nm,0.5s					
SNAA	Sanae	84.69	179	P	P	15 22 18.9 -1.2
	comp=Z,0.6nm,0.5s,baz=195,slow=9.0,SNR=11					
	comp=Z,0.6nm,0.5s					
NVAR	Mina Array Bea	84.71	44	P	P	15 22 21.1 +0.1
	comp=Z,0.8nm,0.7s,baz=217,slow=7.7,SNR=6.1					
	comp=Z,0.8nm,0.7s					
N15K	Kwethluk River	85.31	10	P	P	15 22 23.4 +0.4
N15K				IAmb	IAmb	15 22 28.2
	comp=Z,26nm,1.4s					
SYI	Shuyak Island	85.31	14	P	P	15 22 24.4 +1.4
VNA2	Neumayer--Watz	85.31	178	⇑P	P	15 22 22.4 -0.7
	comp=Z,1.4nm,0.6s,baz=199,slow=6.0					
PINE	Pine Mountain	86.35	38	P	P	15 22 28.9 +0.2
SUA	Susitna One	88.25	14	P	P	15 22 36.4 -0.7
G08A	Pilot Rock	88.39	38	P	P	15 22 37.9 -0.2
G08A				IAmb	IAmb	15 22 40.0
	comp=Z,13nm,1.5s					
LTY	Liberty	88.64	36	P	P	15 22 39.1 -0.1
LTY				IAmb	IAmb	15 22 44.5
	comp=Z,8.1nm,1.4s					
J18K	Innoko River	88.96	10	P	P	15 22 40.1 -0.1
J18K				IAmb	IAmb	15 22 56.0
	comp=Z,8.5nm,1.4s					
WAX	Waxell Ridge	89.30	17	P	P	15 22 42.0 +0.1
WAX				IAmb	IAmb	15 22 43.1
	comp=Z,12nm,1.0s					
CMAR	Chiang Mai Arr	89.55	290	P	P	15 22 44.8 +0.8
	comp=Z,0.8nm,0.8s,baz=141,slow=3.7,SNR=6.2					
	comp=Z,0.8nm,0.8s					
HVU	Hansel Valley	90.10	44	P	P	15 22 46.1 0.0
TXAR	Lajitas Array	90.39	58	P	P	15 22 48.6 +0.9
	comp=Z,1.1nm,0.7s,baz=217,slow=6.7,SNR=15					
	comp=Z,1.1nm,0.7s					
BSUT	Blindstream Ca	90.74	45	P	P	15 22 49.7 +0.3
BSUT				IAmb	IAmb	15 22 50.9
	comp=Z,7.2nm,1.2s					
FINES	FINESS Array B	138.44	341	SKPbc	SKPbc	15 31 51.6 -1.4
	comp=Z,2.1nm,0.9s,baz=134,slow=4.0,SNR=1.9					
AKASG	Malin Array Be	144.97	327	SKPbc	SKPbc	15 32 08.3 -1.4
	comp=Z,0.2nm,0.4s,baz=46,slow=2.8,SNR=4.2					
EKA	Eskdalemuir Ar	148.50	3	PKPbc	PKPbc	15 29 28.1 -1.3
	comp=Z,0.5nm,0.4s,baz=358,slow=2.7,SNR=3.8					
CLL	Collm	150.84	343	*e*PKPbc	PKPbc	15 29 34.0 -1.0

*NIED **23** 15:17:10.7, 32.°49N×130.°63E, h10km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}0.20; $M_{\theta\theta}$0.94; $M_{\phi\phi}$-1.14; $M_{r\theta}$-0.12; $M_{\theta\phi}$1.18; $M_{\phi r}$-0.43; Fault plane solution: $M_0$1.64000×10^14^ NP1: ϕ_s200.00000°, δ88.00000°, λ164.00000°. NP2: ϕ_s291.00000°, δ74.00000°, λ2.00000°.*

JMA 23 15:17:10.7±0.0, 32.°5N±0.°1×130.°6E±0.°2, h10km, MV3.7/20, 2D, SOUTHERN KUMAMOTO PREF, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU3	Izumi3	0.17	68	⇓*i*P	Pg	15 17 14.2	-0.2
JIU3				⇓S	Sg	15 17 17.1	+0.2
JZO	Okuchi	0.35	184	*i* P	Pg	15 17 17.5	-0.1
JZO				S	Sg	15 17 22.2	0.0
JTA	Tamana	0.48	351	*i* P	Pg	15 17 20.3	+0.2
JTA				*e*S	Sg	15 17 27.0	+0.4
JTZ	Takazaki	0.70	146	*i* P	Pb	15 17 24.7	-0.4
JTZ				S	Sg	15 17 33.9	+0.4

*IDC **23** 15:17:29.1±2.4, 6.°51N×92.°91E, h0km, mb3.4/4, mbtmp3.4/5, ML3.5/1, MS4.1/2, Error ellipse: s-maj=92.7km s-min=23.3km az=61.0*

ISC 23 15:17:33.2±1.9, 6.°6N±0.°2×93.°0E±0.°3, h25km, n8, σ0°73/6, mb3.5/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.16	26	Pn	Pn	15 20 38.7	+0.1
	0.1nm,0.3s,baz=229,slow=13,SNR=4.6						
	0.4nm,0.7s						
DAV	Davao City (W)	32.34	87	LR	LR	15 38 19.0	
	comp=Z,168nm,20.0s,baz=194,slow=38						
MKAR	Makanchi Array	41.13	349	P	P	15 25 14.5	-0.8
	0.8nm,0.8s,baz=166,slow=7.0,SNR=6.8						
	0.8nm,0.8s						
KURBB	Kurchatov Arra	45.55	347	P	P	15 25 51.5	+0.6
	2.6nm,0.2s,baz=164,slow=6.9,SNR=4.8						
ZALV	Zalesovo Beam	47.71	353	P	P	15 26 07.7	0.0
	0.3nm,0.3s,baz=168,slow=7.4,SNR=2.0						
	0.3nm,0.3s						
WRA	Warramunga Arr	48.44	124	P	P	15 26 13.4	-0.6
	0.3nm,1.0s,baz=283,slow=9.4,SNR=2.0						
	0.3nm,1.0s						
ASAR	Alice Springs	49.96	128	P	P	15 26 26.1	+0.5
	0.4nm,0.9s,baz=302,slow=7.4,SNR=4.9						
	0.4nm,0.9s						
ILAR	Eielson Array	96.37	22	LR	LR	16 20 50.7	
	comp=Z,132nm,19.0s,baz=74,slow=39						

*NEIC **23** 15:28:46.0±2.2, 13.°60N±0.°08×121.°2E±0.°2, h105km±3km, mb4.5/31, Error ellipse: s-maj=26.6km s-min=9.5km az=71.0*
*DJA **23** 15:28:47.5±0.4, 14.°N±3.°×12.°0E±.°, h63km±6km, M5.1/19, mB5.9/5, mb4.8/19, Mw(mB)5.5/5*

*IDC **23** 15:28:52.7±0.6, 13.°66N×120.°93E, h150km±5km, mb3.7/10, mbtmp4.2/10, Error ellipse: s-maj=37.6km s-min=12.3km az=63.0.*

ISC 23 15:28:52.1±0.5, 13.°67N±0.°07×120.°9E±0.°1, h150km, n72, σ1°78/74, mb4.4/29, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.43	2	P	Pn	15 29 15.1	+1.8
	8μm,0.6s,baz=236,slow=2.6,SNR=129						
TGY				S	Sn	15 29 31.1	+1.7
	3μm,0.3s,baz=344,slow=24,SNR=11						
NACB	Ninganchiao	10.47	3	Pn	Pn	15 31 13.1	-5.3
SGSI	Sangihe	10.91	155	P	Pn	15 31 26.7	+2.5
	81nm,0.9s						
YHNB	Yeheng	10.95	2	Pn	Pn	15 31 19.6	-5.2
GTOI	Gorontalo	13.11	171	P	Pn	15 31 54.2	+1.4
	7.4nm,1.1s						
MRSI	Marisa	13.14	176	P	P	15 31 56.4	-1.4
	8.8nm,1.1s						
MPSI	Mapaga	13.28	184	P	Pn	15 31 56.4	+1.4
	5.6nm,1.1s						
GULI	GuiLin	15.24	321	⇓P	P	15 32 25.9	+4.9
LBMI	Labuha	15.64	155	P	P	15 32 29.2	+3.7
	9.2nm,1.5s,1μm						
TTSI	Tana Toraja	16.64	184	P	Pn	15 32 40.2	+3.5
	8.5nm,1.2s						
NJ2	Nanjing	18.40	354	*e*P	P	15 32 55.0	-0.7
NJ2				pP	pP	15 33 15.3	-6.3
NJ2				sP	sP	15 33 28.1	-13
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,570nm,3.6s						
CRAI	Chiangrai	20.70	291	P	P	15 33 21.9	+1.2
CRAI				IAmb	IAmb	15 33 24.3	
	comp=Z,19nm,0.9s						
DSRI	Dabo	21.44	230	P	P	15 33 30.7	+2.1
CM31	Chiang Mai Arr	21.64	286	P	P	15 33 30.4	-0.4
CM31				IAmb	IAmb	15 33 33.1	
	comp=Z,21nm,0.8s						
CMAR	Chiang Mai Arr	21.64	286	P	P	15 33 31.1	+0.3
CMAR	Chiang Mai Arr	21.64	286	P	P	15 33 31.4	+0.6
	comp=Z,10nm,0.8s,baz=94,slow=7.7,SNR=83						
CMAR				PcP	PcP	15 37 25.9	-0.5
	comp=Z,0.5nm,0.7s,baz=132,slow=1.3,SNR=5.6						
	comp=Z,10nm,0.8s						
CHTO	Chiang Mai	21.70	287	P	P	15 33 31.3	-0.1
PZH	PanZhiHua	22.04	308	P	P	15 33 33.5	-1.4
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,240nm,5.5s						
LYN	LuoYang	22.16	341	⇓P	P	15 33 37.4	+1.6
LYN				pmax	pmax		
	comp=Z,29nm,0.9s						
EDFI	Ende, Flores	22.28	178	P	P	15 33 39.7	+2.3
PLAI	Plampang	22.57	188	P	P	15 33 42.5	+2.6
	comp=Z,20nm,0.7s						
CD2	Chengdu	23.32	320	P	P	15 33 47.5	+0.6
TNCH	TengChong	23.93	302	P	P	15 33 53.0	+0.4
TNCH				pP	pP	15 34 15.8	-5.8
TNCH				pmax	pmax		
	comp=Z,13nm,1.0s						
RPSI	Rantau Prapat	24.32	245	P	P	15 33 54.8	-1.2
RPSI				IAmb	IAmb	15 33 57.4	
	comp=Z,12nm,0.8s						
LHMI	Lhok Sumawe	25.07	253	P	P	15 34 01.4	-1.4
GSI	Gunungsitoli	26.16	244	P	P	15 34 10.4	-2.3
GSI	Gunungsitoli	26.16	244	P	P	15 34 12.7	0.0
	comp=Z,36nm,0.9s						
LZH	Lanzhou	27.09	329	*e*P	P	15 34 22.8	+1.8
LZH				pP	pP	15 34 49.8	-2.6
LZH				sP	sP	15 35 00.1	-10
LZH				pmax	pmax		
	comp=Z,33nm,1.1s						
HHC	Hu-ho-hao-te	28.29	345	*e*P	P	15 34 33.6	+2.0
HHC				pmax	pmax		
	comp=Z,27nm,0.6s						
HHC				pmax	pmax		
	comp=Z,310nm,4.7s						
SHL	Shillong	29.73	298	P	P	15 34 44.0	-0.6
GTA	Gaotai	31.68	328	*e*P	P	15 35 02.4	+0.9
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
LSA	Lhasa	31.80	305	P	P	15 35 02.9	-0.2
LSA				IAmb	IAmb	15 35 05.3	
	comp=Z,7.4nm,0.5s						
GOMU	GeErMu	32.42	318	P	P	15 35 10.1	+1.7
GOMU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TAPN	Taplejung	33.83	299	*e*P	P	15 35 20.6	0.0
ODAN	Odare	33.97	298	*e*P	P	15 35 22.1	+0.4
MBWA	Marble Bar	34.63	182	P	P	15 35 23.1	-4.0
RAMN	Ramite	34.67	298	*e*P	P	15 35 28.5	+0.7
	comp=Z,40nm,0.7s						
JIRN	Jiri	35.21	299	*e*P	P	15 35 33.1	+0.5
	comp=Z,50nm,0.7s						
GUN	Gumba	35.55	299	*e*P	P	15 35 35.9	+0.5
	comp=Z,53nm,0.7s						
WB0	Warramunga Arr	35.77	158	P	P	15 35 33.6	-3.3
PKI	Pulchoki	35.85	298	*e*P	P	15 35 38.0	0.0
	comp=Z,44nm,1.0s						
PKIN	Phulchoki	35.87	298	*e*P	P	15 35 37.8	-0.3
	comp=Z,26nm,0.6s						
WRA	Warramunga Arr	35.91	158	P	P	15 35 38.1	0.0
	comp=Z,0.6nm,0.4s,baz=336,slow=9.5,SNR=12						
WRA				pP	pP	15 36 11.7	+0.9
	comp=Z,1.4nm,0.8s,baz=336,slow=9.6,SNR=7.0						
	comp=Z,0.6nm,0.4s						
WB2	Warramunga Arr	35.92	158	P	P	15 35 35.8	-2.3
WB2				IAmb	IAmb	15 36 17.9	
	comp=Z,6.4nm,1.3s						
DMN	Daman	36.12	298	*e*P	P	15 35 40.3	+0.1
	comp=Z,13nm,0.5s						
SONM	Songino Array	36.15	343	P	P	15 35 39.5	-0.5
SONM	Songino Array	36.15	343	P	P	15 35 40.9	+0.9
	comp=Z,1.9nm,0.7s,baz=161,slow=9.8,SNR=11						
	comp=Z,1.9nm,0.7s						
GKN	Gorkha	36.63	299	*e*P	P	15 35 44.0	-0.4
	comp=Z,22nm,0.8s						
DANN	Dangsing	37.47	299	*e*P	P	15 35 51.5	-0.1
	comp=Z,28nm,0.6s						
PYUN	Piuthan	38.06	298	*e*P	P	15 35 56.8	+0.3
	comp=Z,45nm,0.8s						
ASAR	Alice Springs	39.22	161	P	P	15 36 06.9	+1.0
	comp=Z,0.3nm,0.3s,baz=334,slow=7.5,SNR=24						
ASAR				pP	pP	15 36 39.5	+0.6
	comp=Z,0.8nm,0.6s,baz=338,slow=6.7,SNR=12						
	comp=Z,0.3nm,0.3s						
WMQ	Urumqi	41.36	323	*e*P	P	15 36 25.6	+2.2
MK31	Makanchi Array	46.19	324	P	P	15 37 02.5	+0.6
MKAR	Makanchi Array	46.19	324	P	P	15 37 02.5	+0.7
MKAR	Makanchi Array	46.19	324	P	P	15 37 02.9	+1.0
	comp=Z,4.6nm,0.8s,baz=132,slow=8.7,SNR=33						
	comp=Z,4.6nm,0.8s						
MAKZ	Makanchi	46.38	323	P	P	15 37 04.4	+1.1
NIL	Nilore	47.51	303	P	P	15 37 10.2	-2.1
BBOO	Buckleboo	48.43	163	P	P	15 37 16.4	-2.9
BBOO				IAmb	IAmb	15 37 22.4	
	comp=Z,14nm,1.2s						
ZALV	Zalesovo Beam	49.19	333	P	P	15 37 24.9	+0.1
	comp=Z,1.8nm,0.4s,baz=125,slow=7.5,SNR=8.4						
	comp=Z,1.8nm,0.4s						
KURBB	Kurchatov Arra	50.34	326	P	P	15 37 34.5	+0.9
	comp=Z,5.8nm,0.8s,baz=123,slow=8.1,SNR=47						
	comp=Z,5.8nm,0.8s						
KURK	Kurchatov	50.34	326	P	P	15 37 34.0	+0.5
KK31	Karatay Array	52.15	314	P	P	15 37 46.3	-0.9
KK31				IAmb	IAmb	15 37 48.6	
	comp=Z,3.3nm,0.7s						
KKAR	Karatay Array	52.15	314	P	P	15 37 46.4	-0.8
KKAR				IAmb	IAmb	15 37 48.6	
	comp=Z,3.3nm,0.7s						
KKAR	Karatay Array	52.15	314	P	P	15 37 47.4	+0.2
BVAR	Borovoye Array	55.92	326	P	P	15 38 15.2	+0.8
	comp=Z,1.2nm,0.6s,baz=110,slow=8.5,SNR=7.3						
	comp=Z,1.2nm,0.6s						
BRVK	Borovoye	55.99	326	P	P	15 38 13.8	-1.0
BRVK				IAmb	IAmb	15 38 17.1	
	comp=Z,5.4nm,1.1s						
GEYT	Alibeck	60.33	306	P	P	15 38 43.2	-2.1
GEYT				IAmb	IAmb	15 38 47.5	
	comp=Z,4.9nm,0.8s						
GEYT	Alibeck	60.33	306	P	P	15 38 45.9	+0.6
	comp=Z,3.8nm,0.7s,baz=116,slow=6.8,SNR=9.5						
	comp=Z,3.8nm,0.7s						
GYA0B	ALIBECK ARRAY	60.33	306	P	P	15 38 43.9	-1.4
GYA0B				IAmb	IAmb	15 38 47.5	
	comp=Z,5.2nm,0.9s						
ABKAR	Akbulak array	60.90	319	P	P	15 38 47.5	-1.4
ABKAR				IAmb	IAmb	15 38 50.1	
	comp=Z,3.3nm,0.8s						
ARCES	ARCESS Array B	79.19	339	P	P	15 40 40.2	+0.2
	comp=Z,1.6nm,0.8s,baz=50,slow=3.8,SNR=4.0						
	comp=Z,1.6nm,0.8s						
CASY	Casey	80.09	184	P	P	15 40 40.0	-4.7

IDC 23 15:32:21.8±274.0, 29.°00N×46.°49E, h0km, Error ellipse: s-maj=265.6km s-min=98.7km az=111.0, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I19DJ	I19DJ	17.71	191	I	I	17 17 35.0	
	baz=5.5,slow=312,SNR=5.2						
I31KZ	AKTYUBINSK INF	23.09	19	I	I	17 54 25.0	
	0.1nm,1.0s,baz=206,slow=330,SNR=3.0						
I32KE	NAIROBI INFRAS	31.47	199	I	I	18 45 20.0	
	baz=21,slow=340,SNR=1.2						
I46RU	ZALESOVO INFRA	37.32	37	I	I	19 19 20.0	
	baz=244,slow=324,SNR=1.1						

*OSPL **23** 15:53:52.2±0.3, 20.°24N×74.°46W, h43km±2km, ML2.4*
*SSNC **23** 15:53:53.5±1.3, 19.°92N×74.°45W, h9km±8km, MD2.6, ML2.3, MW2.5*

ISC 23 15:53:51.9±1.4, 19.°9N±0.°1×74.°42W±0.°05, h29km±13km, n7, σ0°76/13, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	Masc	0.32	34	*e*P	Pb	15 53 59.3	-0.2
MASC				*e*S	Sb	15 54 04.6	-0.1
MASC				IAML		15 54 05.1	
	comp=N,202nm,0.2s						
MASC				IAML		15 54 05.1	
	comp=E,234nm,0.1s						
MASC	Masc	0.32	34	*i* P	Pb	15 53 59.4	-0.1
MASC				*e*S	Sb	15 54 04.8	+0.2
MASC				IAML		15 54 05.1	
	comp=Z,325nm,0.2s						
GTBY	Guantanamo Bay	0.65	272	*e*P	Pb	15 54 04.5	-0.2
GTBY				*e*S	Sb	15 54 13.0	-0.4
GTBY				IAML		15 54 14.6	
	comp=Z,112nm,0.1s						
GTBY				IAML		15 54 15.8	
	comp=Z,105nm,0.1s						
GTBY	Guantanamo Bay	0.65	272	*i* P	Pb	15 54 04.6	-0.1
GTBY				*e*S	Sb	15 54 13.8	+0.3
GTBY				IAML		15 54 17.9	
	comp=Z,38nm,0.8s						
RCC	Rio Carpintero	1.20	274	*e*P	Pn	15 54 12.3	-0.4
RCC				*e*S	Sn	15 54 27.0	-1.1
RCC				IAML		15 54 32.4	
	comp=N,79nm,0.2s						
RCC				IAML		15 54 32.9	
	comp=E,85nm,0.2s						
LMGC	Las Mercedes	2.43	274	*e*P	Pn	15 54 31.5	+1.7
LMGC				*e*S	Sn	15 54 58.4	-0.2
LMGC				IAML		15 55 01.9	
	comp=N,26nm,0.1s						
LMGC				IAML		15 55 03.7	
	comp=E,21nm,0.1s						
SDDR	Presa de Saban	3.10	107	*e*S	Sn	15 55 14.6	-0.5
SDDR				IAML		15 55 18.1	
	comp=Z,8.6nm,0.3s						

*IDC **23** 16:06:26.2±1.1, 24.°73N×127.°62E, h0km, mb3.9/5, mbtmp3.9/6, ML3.2/1, Error ellipse: s-maj=52.2km s-min=19.0km az=76.0*
*NEIC **23** 16:06:27.3±1.9, 24.°70N±0.°08×127.°62E±0.°08, h10km±1km, mb4.2/12, Error ellipse: s-maj=14.5km s-min=11.7km az=139.0*
*JMA **23** 16:06:28.8±0.2, 24.°8N±0.°8×127.°6E±0.°8, h59km, MV3.2/26, NEAR OKINAWAJIMA ISLAND*

ISC 23 16:06:25.3±2.8, 24.°69N±0.°05×127.°67E±0.°04, h4km±17km, n55, σ1°78/77, mb4.1/11, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	1.45	4	*e*P	Pn	16 06 52.7	+0.3
JJT3				S	Sg	16 07 10.5	-1.5
JKE	Kume jima 2	1.81	334	*e*P	Pn	16 06 57.5	+0.1
JKE				*e*S	Sn	16 07 18.0	-2.8
JNTH	Nagotoyohara	1.85	10	*e*P	Pn	16 06 57.7	-0.2
JNTH				*e*S	Sn	16 07 19.2	-2.4
JAGN	Aguni-jima	1.93	349	P	Pn	16 06 59.6	+0.6
JAGN				*e*S	Sn	16 07 21.9	-1.8
JOGS	Gusukube	2.06	272	P	Pn	16 07 00.6	-0.1
JOGS				S	Sn	16 07 25.1	-1.7
JMJ2	Miyako jima3	2.13	272	P	Pn	16 07 02.0	+0.4
JMJ2				S	Sn	16 07 26.4	-2.1
JOW	Kunigami	2.20	14	P	Pn	16 07 03.7	+0.9
JOW				*e*S	Sn	16 07 29.3	-1.1
JOW	Kunigami	2.20	14	Pn	Pn	16 07 03.7	+0.9
	11nm,0.3s,baz=125,slow=26,SNR=15						
JOW				Sn	Sn	16 07 26.3	-4.1
	13nm,0.3s,baz=112,slow=26,SNR=12						
	26nm,0.3s						
JIKM	Ikemajima	2.21	277	*e*P	Pn	16 07 03.2	+0.4
JIKM				*e*S	Sn	16 07 28.5	-2.1
JIRB	Irabujima	2.27	274	P	Pn	16 07 03.8	+0.2
JIRB				*e*S	Sn	16 07 29.8	-2.3
JIH	Iheya	2.35	7	*e*P	Pn	16 07 05.3	+0.5
JIH				S	Sn	16 07 32.0	-2.1
JYRO	Yoronjima	2.43	17	*e*P	Pn	16 07 06.3	+0.5
JYRO				*e*S	Sn	16 07 33.4	-2.6
JTJ	Tarama	2.70	270	P	Pn	16 07 09.8	+0.3
JTJ				*e*S	Sn	16 07 39.5	-3.2
JOKE	Okinoerabujima	2.78	17	*e*P	Pn	16 07 11.7	+1.0
JOKE				*e*S	Sn	16 07 43.5	-1.2
JISG	Ishigakijimahi	3.05	269	*e*P	Pn	16 07 14.3	-0.1
JISG				*e*S	Sn	16 07 48.1	-3.3
JIJ	Ishigaki jima	3.23	265	P	Pn	16 07 16.8	0.0
JIJ				*e*S	Sn	16 07 51.1	-4.6
JTK	Tokunoshima	3.29	20	P	Pn	16 07 18.8	+1.1
JTK				S	Sn	16 07 53.2	-4.1
JKRS	Kuro-shima	3.36	263	*e*P	Pn	16 07 19.2	+0.5
JKRS				S	Sn	16 07 54.8	-4.3
JMZ	Minamidaito 2	3.41	70	Pn	Pn	16 07 19.9	+0.6
JMZ	Minamidaito 2	3.41	70	P	Pn	16 07 18.2	-1.1
JMZ				S	Sn	16 07 55.8	-4.4
JKDJ	Kitadaito

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB0				IAmb	IAmb	16 14 55.0	
	comp=Z,2.7nm,0.9s						
WRA	**Warramunga Arr**	**44.84**	**171**	P	**P**	**16 14 41.6**	**+0.8**
WRA	**Warramunga Arr**	**44.84**	**171**	P	**P**	**16 14 41.8**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=352,slow=8.7,SNR=22						
	comp=Z,2.0nm,0.6s						
WB2	**Warramunga Arr**	**44.84**	**171**	P	**P**	**16 14 41.6**	**+0.8**
WB2				IAmb	IAmb	16 14 49.0	
	comp=Z,4.5nm,1.2s						
WR0	**Warramunga Arr**	**44.88**	**171**	P	**P**	**16 14 42.2**	**+1.1**
WR0				IAmb	IAmb	16 14 43.0	
	comp=Z,2.6nm,0.8s						
AS31	**Alice Springs**	**48.45**	**172**	P	**P**	**16 15 10.2**	**+1.1**
ASAR	**Alice Springs**	**48.45**	**172**	P	**P**	**16 15 10.2**	**+1.1**
ASAR	**Alice Springs**	**48.45**	**172**	P	**P**	**16 15 11.5**	**+2.4**
	comp=Z,0.6nm,0.8s,baz=0.8,slow=13,SNR=11						
	comp=Z,0.6nm,0.8s						
BRVK	**Borovoye**	**51.16**	**319**	P	**P**	**16 15 29.5**	**0.0**
BRVK				IAmb	IAmb	16 15 33.2	
	comp=Z,3.4nm,1.4s						
ABKAR	**Akbulak array**	**57.33**	**314**	P	**P**	**16 16 15.2**	**+0.7**
TOO	**Toolangi**	**64.16**	**164**	P	**P**	**16 17 01.8**	**+0.8**
FINES	**FINESS Array B**	**73.95**	**331**	P	**P**	**16 18 03.1**	**+1.5**
	comp=Z,2.6nm,1.1s,baz=64,slow=9.4,SNR=1.7						
	comp=Z,2.6nm,1.1s						

*DJA **23** 16:17:39.8±0.3,5°N±4°×12°3E±°,h542km±2km,M4.4/35, mb4.5/35,mB4.9/13,MLv4.9/13,Mw(mB)4.2/13, MwMwp5.7/1,Mwp5.8/1*
*NEIC **23** 16:17:40.3±1.8,4°83N±0°05×123°3E±0°1,h551km±8km, mb4.3/51,Error ellipse: s-maj=16.6km s-min=13.2km az=66.0*
*IDC **23** 16:17:40.6±0.9,4°87N×123°35E,h561km±11km,mb3.6/26, mbtmp4.6/30,Error ellipse: s-maj=14.2km s-min=6.9km az=60.0*
ISC 23 16:17:39.9±0.6,**4°85N**±0°05×**123°30E**±0°07,**h552**km±7km, **n179**,σ1§**08**/193,**mb4.3**/61,**Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.50**	**117**	P	**P**	**16 18 50.9**	**-1.4**
SGSI				S	**S**	**16 19 49.3**	**-1.8**
DAV	**Davao City (W)**	**3.16**	**46**	P	**P**	**16 18 54.6**	**-1.5**
DAV	**Davao City (W)**	**3.16**	**46**	P	**P**	**16 18 57.9**	**+1.7**
	262nm,0.5s,baz=99,slow=3.8,SNR=5.7						
GTOI	**Gorontalo**	**4.20**	**184**	P	**P**	**16 19 02.1**	**-1.3**
KMSI	**Cibinong**	**4.30**	**171**	P	**P**	**16 19 05.5**	**+1.2**
TOLI2	**Tolitoli**	**4.48**	**214**	P	**P**	**16 19 05.1**	**-0.6**
MRSI	**Marisa**	**4.55**	**197**	P	**P**	**16 19 06.7**	**+0.5**
MPSI	**Mapaga**	**5.62**	**217**	P	**P**	**16 19 15.5**	**+0.2**
	9.5nm,0.5s,493nm0.1nm						
TNTI	**Ternate**	**5.74**	**135**	P	**P**	**16 19 15.5**	**-0.8**
TNTI	**Ternate**	**5.74**	**135**	P	**P**	**16 19 15.7**	**-0.6**
	109nm,0.5s,2μm1.5nm						
LUWI	**Luwuk**	**5.88**	**185**	P	**P**	**16 19 17.3**	**-0.3**
LUWI	**Luwuk**	**5.88**	**185**	P	**P**	**16 19 17.8**	**+0.3**
	126nm,0.6s,12μm2.1nm						
LBMI	**Labuha**	**6.88**	**142**	P	**P**	**16 19 28.1**	**+1.2**
	108nm,0.9s,2μm3.4nm						
SANI	**Sanana**	**7.36**	**159**	P	**P**	**16 19 29.2**	**-2.3**
	73nm,0.6s,2μm1.8nm						
TTSI	**Tana Toraja**	**8.58**	**204**	P	**P**	**16 19 43.1**	**-0.4**
	15nm,0.8s						
NLAI	**Namlea**	**8.89**	**155**	P	**P**	**16 19 48.0**	**+1.4**
	190nm,0.7s,0.8nm						
TGY	**Tagaytay City**	**9.48**	**346**	P	**P**	**16 19 52.7**	**0.0**
	206nm,0.4s,baz=192,slow=3.8,SNR=4.4						
SWI	**Sorong**	**9.77**	**125**	P	**P**	**16 19 56.0**	**+0.4**
	93nm,1.0s,952nm						
SIJI	**Sorong**	**9.78**	**125**	P	**P**	**16 19 56.2**	**+0.6**
	49nm,0.6s,baz=326,slow=8.9,SNR=24						
MTKI	**Muara Teweh, K**	**10.18**	**236**	P	**P**	**16 20 00.2**	**+0.5**
BBSI	**Bau Bau**	**10.29**	**184**	P	**P**	**16 20 01.4**	**+0.5**
	23nm,0.9s						
BKSI	**Bulukumba**	**10.59**	**197**	P	**P**	**16 20 04.1**	**+0.1**
	6.5nm,1.2s						
BNDI	**Bandanaira**	**11.41**	**145**	P	**P**	**16 20 13.2**	**+0.8**
BNDI	**Bandanaira**	**11.41**	**145**	P	**P**	**16 20 12.8**	**+0.4**
	361nm,0.7s,3μm						
FAKI	**Fak Fak**	**11.81**	**131**	P	**P**	**16 20 16.2**	**-0.4**
FAKI	**Fak Fak**	**11.81**	**131**	P	**P**	**16 20 16.9**	**+0.3**
FAKI	**Fak Fak**	**11.81**	**131**	P	**P**	**16 20 16.7**	**+0.1**
	169nm,0.8s,2μm						
RKPI	**Ransiki, Papua**	**12.57**	**120**	P	**P**	**16 20 24.4**	**0.0**
	41nm,0.9s						
STKI	**Sintang**	**12.73**	**248**	P	**P**	**16 20 27.9**	**+1.9**
EDFI	**Ende, Flores**	**13.60**	**187**	P	**P**	**16 20 39.5**	**+4.3**
	12nm,0.7s						
SOEI	**Soe**	**14.54**	**176**	P	**P**	**16 20 43.0**	**-1.8**
SOEI	**Soe**	**14.54**	**176**	P	**P**	**16 20 44.7**	**-0.1**
	36nm,0.7s						
PLAI	**Plampang**	**14.66**	**202**	P	**P**	**16 20 46.8**	**+0.9**
	32nm,1.0s						
TWSI	**Taliwang, Sumb**	**14.94**	**205**	P	**P**	**16 20 49.4**	**+0.7**
	17nm,0.7s						
BATI	**Baumata**	**14.96**	**179**	P	**P**	**16 20 48.7**	**-0.3**
	140nm,0.7s,1μm						
BATI	**Baumata**	**14.96**	**179**	P	**P**	**16 20 48.7**	**-0.3**
	100nm,0.6s,baz=355,slow=0.6,SNR=35						
BATI				S	**S**	**16 23 25.5**	**+0.8**
	27nm,0.5s,baz=81,slow=23,SNR=9.0						
SAUI	**Saumlaki**	**15.04**	**148**	P	**P**	**16 20 49.1**	**-0.7**
JAGI	**Jajag, Banyuwa**	**16.07**	**215**	P	**P**	**16 21 00.8**	**+0.7**
JAGI	**Jajag, Banyuwa**	**16.07**	**215**	P	**P**	**16 21 01.7**	**+1.6**
	58nm,0.9s						
GMJI	**Gumukmas**	**16.33**	**217**	P	**P**	**16 21 03.3**	**+0.8**
GENI	**Genyem**	**18.40**	**113**	P	**P**	**16 21 22.7**	**+1.2**
	124nm,1.1s,2μm						
KPJI	**Karang Pucung**	**18.76**	**230**	P	**P**	**16 21 25.4**	**+0.7**
	18nm,1.9s						
JAY	**Jayapura**	**18.86**	**112**	P	**P**	**16 21 27.6**	**+1.9**
	38nm,1.0s						
MTN	**Manton Dam**	**19.22**	**156**	P	**P**	**16 21 28.2**	**-0.7**
MTN	**Manton Dam**	**19.22**	**156**	P	**P**	**16 21 28.6**	**-0.3**
LEM	**Lembang**	**19.48**	**234**	P	**P**	**16 21 31.6**	**+0.1**
	24nm,0.7s,baz=80,slow=10,SNR=5.6						
KDU	**Kakadu**	**19.66**	**152**	P	**P**	**16 21 32.5**	**-0.4**
KNRA	**Kununurra**	**21.10**	**165**	P	**P**	**16 21 45.9**	**0.0**
KNRA	**Kununurra**	**21.10**	**165**	P	**P**	**16 21 45.8**	**0.0**
RPSI	**Rantau Prapat**	**24.41**	**266**	P	**P**	**16 22 15.8**	**+0.3**
RPSI				IAmb	IAmb	16 22 16.6	
	comp=Z,7.9nm,0.8s						
SISI	**Saibi**	**24.95**	**256**	P	**P**	**16 22 20.4**	**+0.1**
	comp=Z,48nm,0.6s						
MANU	**Manus Island**	**25.00**	**105**	P	**P**	**16 22 21.2**	**+0.5**
GSI	**Gunungsitoli**	**25.92**	**263**	P	**P**	**16 22 28.0**	**-0.9**
WB0	**Warramunga Arr**	**26.79**	**156**	P	**P**	**16 22 35.0**	**-1.4**
WRAB	**Tennant Creek**	**26.92**	**157**	P	**P**	**16 22 36.7**	**-0.8**
WRA	**Warramunga Arr**	**26.92**	**157**	P	**P**	**16 22 36.7**	**-0.9**
WRA	**Warramunga Arr**	**26.92**	**157**	P	**P**	**16 22 36.6**	**-0.9**
	comp=Z,20nm,0.6s,baz=330,slow=10,SNR=428						
WRA				PcP	**PcP**	**16 25 40.6**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=329,slow=4.8,SNR=3.1						
WRA				S	**S**	**16 26 31.7**	**-4.5**
	comp=Z,2.5nm,0.6s,baz=333,slow=16,SNR=8.3						
	comp=Z,20nm,0.6s						
WB2	**Warramunga Arr**	**26.93**	**157**	P	**P**	**16 22 36.9**	**-0.7**
WR0	**Warramunga Arr**	**27.02**	**156**	P	**P**	**16 22 37.6**	**-0.8**
WR0				IAmb	IAmb	16 22 38.6	
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**27.37**	**302**	P	**P**	**16 22 42.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**27.37**	**302**	P	**P**	**16 22 42.8**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=118,slow=7.3,SNR=15						
CMAR				PcP	**PcP**	**16 25 42.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=120,slow=1.3,SNR=9.6						
CMAR				ScP	**ScP**	**16 28 31.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=149,slow=1.7,SNR=5.1						
	comp=Z,1.1nm,0.3s						
CHTO	**Chiang Mai**	**27.53**	**302**	P	**P**	**16 22 43.9**	**+1.0**
CHTO				IAmb	IAmb	16 22 44.9	
	comp=Z,3.7nm,0.7s						
PMG	**Port Moresby**	**27.68**	**121**	P	**P**	**16 22 42.7**	**-1.5**
	comp=Z,12nm,0.8s,baz=18,slow=6.0,SNR=5.7						
	comp=Z,12nm,0.8s						
PZH	**PanZhiHua**	**29.80**	**319**	P	**P**	**16 23 04.3**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,160nm,5.4s						
QIS	**Mount Isa**	**29.90**	**148**	P	**P**	**16 23 03.4**	**-0.1**
WRKA	**Warakurna**	**30.10**	**171**	P	**P**	**16 23 05.4**	**+0.2**
AS31	**Alice Springs**	**30.17**	**160**	P	**P**	**16 23 05.4**	**-0.4**
AS31				IAmb	IAmb	16 23 06.5	
	comp=Z,5.0nm,0.5s						
ASAR	**Alice Springs**	**30.17**	**160**	P	**P**	**16 23 05.7**	**-0.1**
ASAR	**Alice Springs**	**30.17**	**160**	P	**P**	**16 23 06.0**	**+0.1**
	comp=Z,11nm,0.3s,baz=338,slow=7.3,SNR=898						
ASAR				PcP	**PcP**	**16 25 49.5**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=351,slow=2.2,SNR=4.7						
ASAR				S	**S**	**16 27 24.3**	**-2.3**
	comp=Z,6.3nm,0.9s,baz=347,slow=18,SNR=24						
ASAR				ScP	**ScP**	**16 28 38.6**	**-1.3**
	comp=Z,3.4nm,0.5s,baz=342,slow=3.0,SNR=15						
	comp=Z,11nm,0.3s						
MEEK	**Meekatharra**	**31.63**	**188**	P	**P**	**16 23 18.2**	**0.0**
KSRS	**Korea Array**	**32.73**	**7**	P	**P**	**16 23 28.4**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=184,slow=9.6,SNR=4.4						
	comp=Z,1.0nm,0.5s						
CTA	**Charters Tower**	**33.51**	**138**	P	**P**	**16 23 35.1**	**+0.8**
	comp=Z,9.7nm,0.7s,baz=325,slow=9.2,SNR=16						
	comp=Z,9.7nm,0.7s						
CTAO	**Charters Tower**	**33.51**	**138**	P	**P**	**16 23 35.0**	**+0.8**
CTAO				IAmb	IAmb	16 23 36.1	
	comp=Z,12nm,0.8s						
CTAO	**Charters Tower**	**33.51**	**138**	P	**P**	**16 23 35.3**	**+1.0**
MJAR	**Matsushiro Arr**	**34.39**	**22**	P	**P**	**16 23 40.7**	**-0.7**
	comp=Z,3.1nm,0.9s,baz=206,slow=9.3,SNR=4.7						
	comp=Z,3.1nm,0.9s						
MORW	**Morawa**	**34.44**	**191**	P	**P**	**16 23 41.6**	**-0.3**
MORW				IAmb	IAmb	16 23 42.2	
	comp=Z,25nm,1.5s						
MORW	**Morawa**	**34.44**	**191**	P	**P**	**16 23 41.9**	**0.0**
OOD	**Oodnadatta**	**34.59**	**160**	P	**P**	**16 23 43.4**	**+0.3**
FORT	**Forrest**	**35.72**	**173**	P	**P**	**16 23 53.4**	**+0.9**
FORT	**Forrest**	**35.72**	**173**	P	**P**	**16 23 53.0**	**+0.5**
BLDU	**Ballidu**	**35.82**	**190**	P	**P**	**16 23 53.3**	**-0.1**
MULG	**Mulgathing**	**36.42**	**164**	P	**P**	**16 23 58.8**	**+0.5**
SHL	**Shillong**	**36.48**	**308**	P	**P**	**16 23 59.4**	**+0.3**
INKA	**Innaminka**	**36.52**	**153**	P	**P**	**16 24 00.5**	**+1.4**
HHC	**Hu-ho-hao-te**	**37.36**	**345**	*eP*	**P**	**16 24 09.1**	**+3.1**
HHC				pmax	pmax		
	comp=Z,28nm,0.5s						
HHC				pmax	pmax		
	comp=Z,330nm,4.7s						
LCRK	**Leigh Creek**	**37.89**	**159**	P	**P**	**16 24 11.1**	**+0.8**
NWAO	**Narrogin (SRO)**	**38.01**	**188**	P	**P**	**16 24 11.8**	**+0.6**
RK1H	**Rockhampton Ha**	**38.63**	**138**	P	**P**	**16 24 17.0**	**+0.6**
HNR	**Honiara**	**39.18**	**111**	P	**P**	**16 24 20.6**	**-0.5**
	comp=Z,268nm,0.6s,baz=32,slow=2.0,SNR=4.3						
BBOO	**Buckleboo**	**39.36**	**163**	P	**P**	**16 24 22.7**	**+0.5**
XLT	**XiLinHaoTe**	**39.41**	**352**	*eP*	**P**	**16 24 22.4**	**-0.1**
XLT				pmax	pmax		
	comp=Z,8.0nm,1.1s						
XLT				pmax	pmax		
	comp=Z,170nm,8.2s						
USRK	**Ussuriysk Ar.**	**39.93**	**10**	P	**P**	**16 24 27.0**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=183,slow=6.6,SNR=6.2						
USRK				PcP	**PcP**	**16 26 18.2**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=235,slow=3.5,SNR=4.9						
	comp=Z,2.9nm,0.8s						
EIDS	**Eidsvold**	**40.38**	**139**	P	**P**	**16 24 30.4**	**-0.1**
EIDS				IAmb	IAmb	16 24 31.8	
	comp=Z,8.2nm,0.7s						
GTA	**Gaotai**	**40.44**	**332**	*eP*	**P**	**16 24 32.3**	**+1.4**
GTA				PcP	**PcP**	**16 26 21.0**	**+0.8**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
STKA	**Stephens Creek**	**40.47**	**156**	P	**P**	**16 24 31.9**	**+0.8**
STKA	**Stephens Creek**	**40.47**	**156**	P	**P**	**16 24 32.0**	**+0.9**
STKA	**Stephens Creek**	**40.47**	**156**	P	**P**	**16 24 31.8**	**+0.8**
	comp=Z,11nm,0.7s,baz=332,slow=8.5,SNR=25						
STKA				PcP	**PcP**	**16 26 20.3**	**0.0**
	comp=Z,3.6nm,0.7s,baz=320,slow=12,SNR=5.8						
	comp=Z,11nm,0.7s						
TAPN	**Taplejung**	**40.61**	**307**	*eP*	**P**	**16 24 33.3**	**+0.6**
GOMU	**GeErMu**	**40.73**	**324**	P	**P**	**16 24 30.8**	**-2.8**
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HTT	**Hallett**	**40.85**	**160**	P	**P**	**16 24 35.2**	**+1.1**
RAMN	**Ramite**	**41.32**	**306**	*eP*	**P**	**16 24 39.3**	**+1.0**
JIRN	**Jiri**	**41.96**	**307**	*eP*	**P**	**16 24 44.2**	**+0.8**
CMSA	**Cobar Meteorol**	**42.01**	**151**	P	**P**	**16 24 44.9**	**+1.6**
GUN	**Gumba**	**42.31**	**307**	*eP*	**P**	**16 24 47.2**	**+1.0**
PKI	**Pulchoki**	**42.55**	**306**	*eP*	**P**	**16 24 48.2**	**+0.2**
	comp=Z,23nm,1.2s						
PKIN	**Phulchoki**	**42.56**	**306**	*eP*	**P**	**16 24 48.4**	**+0.4**
	comp=Z,15nm,0.8s						
DMN	**Daman**	**42.80**	**306**	*eP*	**P**	**16 24 50.7**	**+0.8**
	comp=Z,26nm,0.8s						
GKN	**Gorkha**	**43.35**	**306**	*eP*	**P**	**16 24 54.6**	**+0.6**
	comp=Z,25nm,0.9s						
DANN	**Dangsing**	**44.19**	**306**	*eP*	**P**	**16 25 01.6**	**+0.8**
	comp=Z,61nm,0.7s						
ARMA	**Armidale**	**44.33**	**144**	P	**P**	**16 25 03.1**	**+1.7**
ARMA				IAmb	IAmb	16 25 04.3	
	comp=Z,9.2nm,0.9s						
ARMA	**Armidale**	**44.33**	**144**	P	**P**	**16 25 03.5**	**+2.0**
PYUN	**Piuthan**	**44.71**	**306**	*eP*	**P**	**16 25 05.9**	**+1.2**
	comp=Z,40nm,0.9s						
ARPS	**Mount Arapiles**	**44.88**	**159**	P	**P**	**16 25 06.2**	**+0.7**
SONM	**Songino Array**	**45.22**	**344**	P	**P**	**16 25 08.4**	**+0.4**
SONM	**Songino Array**	**45.22**	**344**	P	**P**	**16 25 08.6**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=160,slow=8.6,SNR=7.8						
SONM				PcP	**PcP**	**16 26 36.0**	**-0.3**
	comp=Z,2.5nm,1.1s,baz=151,slow=3.4,SNR=4.1						
	comp=Z,2.9nm,0.9s						
HEH	**HeiHe**	**45.38**	**4**	*eP*	**P**	**16 25 08.6**	**-0.5**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,330nm,4.7s						
CAN	**Canberra**	**46.69**	**151**	P	**P**	**16 25 20.8**	**+1.4**
CAN				IAmb	IAmb	16 25 21.8	
	comp=Z,16nm,0.7s						
CAN	**Canberra**	**46.69**	**151**	P	**P**	**16 25 21.1**	**+1.7**
CNB	**Canberra Magne**	**46.86**	**151**	P	**P**	**16 25 22.1**	**+1.4**
WMQ	**Urumqi**	**49.88**	**327**	*eP*	**P**	**16 25 44.1**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
DZM	**Mont Dzumac**	**49.98**	**124**	P	**P**	**16 25 44.5**	**+0.4**
	comp=Z,4.1nm,0.9s,baz=204,slow=16,SNR=9.8						
	comp=Z,4.1nm,0.9s						
YATNC	**Mamie plateau,**	**50.34**	**124**	P	**P**	**16 25 48.4**	**+1.7**
PRZ	**Przheval'sk**	**54.65**	**320**	P	**P**	**16 26 19.2**	**+1.9**
PRZ				IAmb	IAmb	16 26 20.0	
	comp=Z,19nm,1.4s						
MK31	**Makanchi Array**	**54.72**	**326**	P	**P**	**16 26 18.1**	**+0.6**
MKAR	**Makanchi Array**	**54.72**	**326**	P	**P**	**16 26 18.1**	**+0.6**
MKAR	**Makanchi Array**	**54.72**	**326**	P	**P**	**16 26 17.9**	**+0.4**
	comp=Z,4.1nm,0.5s,baz=121,slow=8.3,SNR=66						
MKAR				PcP	**PcP**	**16 27 11.4**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=123,slow=4.5,SNR=15						
	comp=Z,4.1nm,0.5s						
KSH	**Kashi**	**54.85**	**316**	P	**P**	**16 26 20.3**	**+1.6**
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAKZ	**Makanchi**	**54.90**	**326**	P	**P**	**16 26 19.4**	**+0.6**
NRN	**Naryn**	**55.70**	**318**	P	**P**	**16 26 25.5**	**+0.7**
BOOM	**Boomskoye usch**	**56.24**	**319**	P	**P**	**16 26 28.8**	**+0.5**
YAK	**Yakutsk**	**57.25**	**4**	P	**P**	**16 26 34.5**	**-0.2**
YAK				IAmb	IAmb	16 26 35.9	
	comp=Z,16nm,0.7s						
ZAA0	**Zalesovo Array**	**58.07**	**334**	P	**P**	**16 26 39.9**	**-0.5**
ZALV	**Zalesovo Beam**	**58.07**	**334**	P	**P**	**16 26 39.7**	**-0.7**
ZALV	**Zalesovo Beam**	**58.07**	**334**	P	**P**	**16 26 39.4**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=123,slow=5.5,SNR=9.3						
	comp=Z,1.8nm,0.5s						
KBL	**Kabul**	**58.14**	**308**	P	**P**	**16 26 40.7**	**-0.8**
KBL				IAmb	IAmb	16 26 42.5	
	comp=Z,7.0nm,0.8s						
BTK	**Batken**	**58.69**	**315**	P	**P**	**16 26 45.4**	**+0.4**
KURBB	**Kurchatov Arra**	**58.98**	**328**	P	**P**	**16 26 47.0**	**+0.5**
	comp=Z,7.6nm,0.6s,baz=128,slow=6.3,SNR=72						
	comp=Z,7.6nm,0.6s						
KURK	**Kurchatov**	**58.99**	**329**	P	**P**	**16 26 46.7**	**+0.1**
KURK				IAmb	IAmb	16 26 47.6	
	comp=Z,18nm,0.7s						
KK31	**Karatay Array**	**60.10**	**318**	P	**P**	**16 26 54.4**	**+0.2**
KKAR	**Karatay Array**	**60.10**	**318**	P	**P**	**16 26 54.4**	**+0.2**
KKAR	**Karatay Array**	**60.10**	**318**	P	**P**	**16 26 54.0**	**-0.2**
BVAR	**Borovoye Array**	**64.54**	**328**	P	**P**	**16 27 22.0**	**-0.7**
	comp=Z,7.0nm,0.9s,baz=139,slow=7.8,SNR=24						
	comp=Z,7.0nm,0.9s						
BRVK	**Borovoye**	**64.61**	**328**	P	**P**	**16 27 23.0**	**-0.2**
BRVK				IAmb	IAmb	16 27 24.1	
	comp=Z,8.8nm,0.9s						
TIXI	**Tiksi**	**66.81**	**2**	P	**P**	**16 27 35.5**	**-1.0**
TIXI				IAmb	IAmb	16 27 36.6	
	comp=Z,5.6nm,0.7s						
GEYT	**Alibeck**	**67.53**	**309**	P	**P**	**16 27 41.3**	**-0.4**
GEYT				IAmb	IAmb	16 27 43.3	
	comp=Z,5.1nm,0.9s						
GEYT	**Alibeck**	**67.53**	**309**	P	**P**	**16 27 42.0**	**+0.3**
	comp=Z,4.5nm,0.8s,baz=145,slow=5.4,SNR=8.5						
	comp=Z,4.5nm,0.8s						
ABKAR	**Akbulak array**	**69.13**	**321**	P	**P**	**16 27 50.5**	**-0.6**
ABKAR	**Akbulak array**	**69.13**	**321**	P	**P**	**16 27 50.2**	**-0.9**
ABKAR				IAmb	IAmb	16 27 51.8	
	comp=Z,6.6nm,0.8s						
ARU	**Arti**	**72.18**	**328**	P	**P**	**16 28 08.0**	**-0.9**
ARU				IAmb	IAmb	16 28 08.8	
	comp=Z,8.8nm,0.7s						
VOI	**Vohitsoka**	**79.35**	**247**	P	**P**	**16 28 48.6**	**-0.8**
VOI				IAmb	IAmb	16 28 49.3	
	comp=Z,14nm,0.7s						
SIRT	**Sirnak**	**79.82**	**307**	P	**P**	**16 28 51.8**	**+0.2**
GURO	**Guroymak-BITLI**	**80.17**	**308**	P	**P**	**16 28 54.4**	**+1.0**
GURO				IAmb	IAmb	16 28 55.2	
	comp=Z,9.3nm,0.9s						
E19K	**Redstone River**	**81.51**	**23**	P	**P**	**16 29 01.4**	**+1.9**
E19K				IAmb	IAmb	16 29 01.9	
	comp=Z,14nm,1.1s						
H19K	**Roundabout Mou**	**81.57**	**25**	P	**P**	**16 29 01.4**	**+1.6**
H19K				IAmb	IAmb	16 29 02.3	
	comp=Z,11nm,0.8s						
J19K	**Poorman**	**81.75**	**26**	P	**P**	**16 29 01.9**	**+1.1**
J19K				IAmb	IAmb	16 29 03.4	
	comp=Z,8.9nm,1.0s						
F20K	**Avaraart Lake**	**82.04**	**23**	P	**P**	**16 29 03.4**	**+1.2**
F20K				IAmb	IAmb	16 29 04.5	
	comp=Z,7.0nm,1.1s						
B21K	**Ikpikpuk River**	**82.72**	**20**	P	**P**	**16 29 07.1**	**+1.5**
IMAR	**Indian Mountai**	**82.72**	**24**	P	**P**	**16 29 06.6**	**+0.9**
KLMR	**Klimovskoe**	**82.76**	**331**	*eP*	**P**	**16 29 03.1**	**-2.9**
KLMR				AMP		16 29 06.1	
	comp=Z,14nm,0.7s						
MAW	**Mawson**	**83.63**	**200**	P	**P**	**16 29 10.3**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=102,slow=3.6,SNR=6.1						
	comp=Z,1.7nm,0.6s						
OBN	**Obninsk**	**84.18**	**325**	P	**P**	**16 29 12.6**	**-0.5**
	comp=Z,12nm,0.4s,baz=80,slow=17,SNR=3.7						
	comp=Z,12nm,0.4s						
ASF	**Jabal al Asfar**	**84.40**	**302**	P	**P**	**16 29 15.8**	**+0.9**
	comp=Z,6.5nm,0.8s,baz=97,slow=3.7,SNR=10						
	comp=Z,6.5nm,0.8s						
VNDA	**Vanda**	**84.98**	**172**	P	**P**	**16 29 16.6**	**0.0**
H24K	**Noodor Dome**	**85.13**	**24**	P	**P**	**16 29 18.4**	**+0.8**
H24K				IAmb	IAmb	16 29 19.7	
	comp=Z,3.8nm,0.8s						
ILAR	**Eielson Array**	**85.57**	**25**	P	**P**	**16 29 18.2**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=242,slow=5.2,SNR=10						
	comp=Z,0.4nm,0.6s						
MMAI	**Mount Meron Ar**	**85.63**	**303**	P	**P**	**16 29 21.1**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=47,slow=3.7,SNR=5.7						
	comp=Z,2.4nm,0.7s						
EIL	**Elat**	**86.20**	**299**	P	**P**	**16 29 23.9**	**+0.5**
	comp=Z,5.0nm,0.6s,baz=0.8,slow=2.8,SNR=5.4						
	comp=Z,5.0nm,0.6s						
BMAR	**Burnt Mountain**	**86.37**	**23**	P	**P**	**16 29 24.4**	**+0.8**
BRTR	**Keskin Array B**	**86.67**	**309**	P	**P**	**16 29 24.4**	**-1.4**
BRTR	**Keskin Array B**	**86.67**	**309**	P	**P**	**16 29 24.6**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=114,slow=5.0,SNR=9.0						
	comp=Z,1.5nm,0.7s						
ARCES	**ARCESS Array B**	**88.22**	**340**	P	**P**	**16 29 30.8**	**-1.3**
	comp=Z,3.0nm,0.9s,baz=92,slow=6.1,SNR=6.0						
	comp=Z,3.0nm,0.9s						
I28M	**Miner Creek**	**88.44**	**25**	P	**P**	**16 29 33.9**	**+0.6**
I28M				IAmb	IAmb	16 30 03.9	
	comp=Z,6.6nm,1.4s						
FINES	**FINESS Array B**	**89.23**	**332**

EMIN				Sn	Sn	16 21 08.9	-1.3
EMIN				*i* Vmb_Lg		16 21 16.9	
EMIN	**Mina Concepcio**	**3.43**	**75**	Sn	**Sn**	**16 21 09.6**	**-0.6**
EBAD	**Badajoz**	**3.53**	**58**	Pn	**Pn**	**16 20 33.1**	**+0.8**
EBAD				Sn	**Sn**	**16 21 11.3**	**-1.4**
EBAD				*i* Vmb_Lg		16 21 14.7	
EBAD	**Badajoz**	**3.53**	**58**	Pn	**Pn**	**16 20 33.2**	**+1.0**
EBAD				Sn	**Sn**	**16 21 11.4**	**-1.4**
PCAS	**Casmilo, Conde**	**3.60**	**30**	*e*S	**Sn**	**16 21 14.5**	**0.0**
PCAS				A	A	16 21 17.3	
	2.7nm,0.3s						
PMRV	**Marv??o**	**3.68**	**47**	*e*P	**Pn**	**16 20 34.7**	**+0.4**
PMRV				*e*S	**Sn**	**16 21 15.6**	**-0.8**
PMRV				A	A	16 21 16.5	
	2.5nm,0.5s						
PCBR	**Castelo Branco**	**3.92**	**42**	*e*P	**Pn**	**16 20 38.5**	**+1.0**
PCBR				*e*S	**Sn**	**16 21 22.2**	**0.0**
ESPR	**Espera**	**4.00**	**90**	Pn	**Pn**	**16 20 39.8**	**+1.1**
ESPR				Sn	**Sn**	**16 21 22.2**	**-2.2**
ESPR				*i* Vmb_Lg		16 21 29.6	
ESPR	**Espera**	**4.00**	**90**	Sn	**Sn**	**16 21 24.5**	**+0.1**
ECAB	**El Cabril**	**4.46**	**74**	Pn	**Pn**	**16 20 46.0**	**+0.9**
ECAB				Sn	**Sn**	**16 21 33.6**	**-2.2**
ECAB				*i* Vmb_Lg		16 21 40.9	
ECAB	**El Cabril**	**4.46**	**74**	Pn	**Pn**	**16 20 46.4**	**+1.3**
ECAB				Sn	**Sn**	**16 21 34.0**	**-1.7**
EPLA	**Plasencia**	**4.86**	**49**	Pn	**Pn**	**16 20 51.4**	**+0.8**
EPLA				Sn	**Sn**	**16 21 44.0**	**-1.7**
EPLA				*i* Vmb_Lg		16 21 46.1	
POLO	**Lamas de Olo**	**5.01**	**27**	*e*S	**Sn**	**16 21 46.8**	**-2.6**
POLO				A	A	16 21 48.6	
	0.7nm,0.6s						
EADA	**Adamuz**	**5.13**	**74**	Pn	**Pn**	**16 20 55.3**	**+1.0**
EADA				Sn	**Sn**	**16 21 49.2**	**-3.0**
EADA				*i* Vmb_Lg		16 21 53.4	
EADA	**Adamuz**	**5.13**	**74**	Pn	**Pn**	**16 20 55.3**	**+1.0**
MVO	**Moncorvo**	**5.15**	**34**	*e*S	**Sn**	**16 21 50.9**	**-1.9**
MVO				A	A	16 21 52.5	
	1.7nm,0.7s						
ELOB	**Lobios**	**5.36**	**23**	Pn	**Pn**	**16 20 57.4**	**-0.1**
ELOB				Sn	**Sn**	**16 21 54.1**	**-3.9**
ELOB				*i* Vmb_Lg		16 21 59.7	
PGAV	**Gavieira, Arco**	**5.39**	**21**	*e*S	**Sn**	**16 21 56.6**	**-2.1**
PSIM	**Granatula de C**	**5.91**	**69**	Pn	**Pn**	**16 21 05.6**	**+0.6**
PSIM				Sn	**Sn**	**16 22 08.4**	**-3.2**
OUK	**Oukaimeden**	**6.24**	**156**	P	**Pn**	**16 21 09.5**	**-0.4**
OUK				S	**Sn**	**16 22 16.9**	**-3.3**
MDT	**Midelt**	**6.59**	**127**	P	**Pn**	**16 21 13.3**	**-1.1**
MDT				S	**Sn**	**16 22 24.4**	**-3.8**

*IDC **23** 16:24:23.2±0.8, 1°.18S×120°.62E, h0km, mb3.9/8, mbtmp4.0/9, ML4.1/1, MS3.2/4, Error ellipse: s-maj=41.1km s-min=14.7km az=67.0*
*DJA **23** 16:24:25.7±0.2, 1°.S±2°.×12°.0E±°, h10km, M4.5/21, mB5.3/6, mb4.6/10, MLv4.4/21, Mw(mB)4.7/6*
*NEIC **23** 16:24:25.6±2.8, 1°.33S±0°.06×120°.31E±0°.06, h10km±1km, mb4.5/11, Error ellipse: s-maj=10.6km s-min=10.3km az=168.0*

ISC 23 16:24:24.9±0.5, **1°.24S**±0°.04×**120°.25E**±0°.06, **h10**km, **n52**, σ1§**38**/53, **mb4.2**/15, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.61**	**347**	P	**Pn**	**16 24 51.9**	**-1.4**
MPSI				S	**Sn**	**16 25 13.6**	**-0.6**
TTSI	**Tana Toraja**	**1.84**	**193**	P	**Pb**	**16 24 57.8**	**-0.9**
TTSI				S	**Sg**	**16 25 23.1**	**-1.1**
TOLI2	**Tolitoli**	**2.40**	**13**		**Pn**	**16 25 04.0**	**-0.2**
MRSI	**Marisa**	**2.40**	**45**	P	**Pn**	**16 25 05.7**	**+1.4**
MRSI				S	**Sn**	**16 25 34.4**	**+0.6**
LUWI	**Luwuk**	**2.53**	**86**	Pn	**Pn**	**16 25 06.8**	**+0.8**
LUWI	**Luwuk**	**2.53**	**86**	P	**Pn**	**16 25 06.4**	**+0.4**
GTOI	**Gorontalo**	**3.33**	**56**	P	**Pn**	**16 25 17.8**	**+0.7**
BKB	**Balikpapan**	**3.35**	**270**		**Pn**	**16 25 19.6**	**+2.2**
BKB	**Balikpapan**	**3.35**	**270**	P	**Pn**	**16 25 18.9**	**+1.5**
KAPI	**Kappang**	**3.78**	**188**		**Pn**	**16 25 22.0**	**-1.3**
KAPI	**Kappang**	**3.78**	**188**	Pn	**Pn**	**16 25 22.9**	**-0.4**
	14nm,0.3s,baz=325,slow=3.9,SNR=16						
KAPI				Sn	**Sn**	**16 26 11.1**	**+3.2**
	6.3nm,0.3s,baz=188,slow=24,SNR=7.5						
	30nm,0.3s						
BKSI	**Bulukumba**	**4.06**	**182**	P	**Pn**	**16 25 29.4**	**+2.3**
KMSI	**Cibinong**	**4.14**	**64**	P	**Pn**	**16 25 29.2**	**+0.9**
KBKI	**Kotabaru**	**4.56**	**243**	P	**Pn**	**16 25 35.9**	**+1.9**
BBSI	**Bau Bau**	**4.81**	**151**	P	**Pn**	**16 25 39.2**	**+1.7**
MTKI	**Muara Teweh, K**	**5.36**	**273**	P	**Pn**	**16 25 46.3**	**+1.3**
	47nm,0.4s,3μm0.3nm						
SANI	**Sanana**	**5.79**	**98**	P	**Pn**	**16 25 51.5**	**+0.6**
	9.8nm,0.4s,0.1nm						
BBKI	**Banjar Baru**	**5.84**	**248**	P	**Pn**	**16 25 53.2**	**+1.6**
	48nm,0.6s,5μm1.2nm						
NLAI	**Namlea**	**7.13**	**106**	P	**Pn**	**16 26 09.7**	**+0.4**
	9.8nm,0.7s,4μm0.1nm						
SGSI	**Sangihe**	**7.20**	**47**	P	**Pn**	**16 26 10.4**	**+0.1**
	116nm,0.8s,0.4nm						
LBMI	**Labuha**	**7.28**	**85**	P	**Pn**	**16 26 11.2**	**-0.1**
	37nm,0.9s,0.3nm						
TNTI	**Ternate**	**7.39**	**74**	P	**Pn**	**16 26 13.7**	**+0.8**
	21nm,0.5s,1μm0.1nm						
EDFI	**Ende, Flores**	**7.60**	**169**	P	**Pn**	**16 26 17.2**	**+1.4**
	4.6nm,1.1s,0.0nm						
BATI	**Baumata**	**9.53**	**159**	LR	LR	16 30 45.9	
	comp=Z,95nm,20.1s,baz=347,slow=40						
DAV	**Davao City (W)**	**9.82**	**33**	LR	LR	16 31 37.0	
	comp=Z,55nm,18.1s,baz=183,slow=45						
KNRA	**Kununurra**	**16.62**	**150**	Pn	**Pn**	**16 28 15.7**	**-2.4**
KNRA				IAmb	IAmb	16 28 58.9	
	comp=Z,38nm,1.4s						
XMIS	**Christmas Isla**	**17.17**	**237**	Pn	**Pn**	**16 28 23.2**	**-1.9**
XMIS				IAmb	IAmb	16 28 40.8	
	comp=Z,64nm,1.1s						
BKNI	**Bangkinang**	**19.27**	**275**	P	**P**	**16 28 51.5**	**+1.5**
WB0	**Warramunga Arr**	**23.04**	**144**	P	**P**	**16 29 30.9**	**+0.5**
WRA	**Warramunga Arr**	**23.14**	**144**	P	**P**	**16 29 29.3**	**-2.3**
	comp=Z,2.4nm,0.7s,baz=325,slow=11,SNR=10						
	comp=Z,2.4nm,0.7s						
WB2	**Warramunga Arr**	**23.15**	**144**	P	**P**	**16 29 31.7**	**0.0**
WB2				IAmb	IAmb	16 29 34.9	
	comp=Z,5.8nm,0.9s						
ASAR	**Alice Springs**	**25.93**	**150**	P	**P**	**16 29 55.6**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=343,slow=14,SNR=2.7						
ASAR				PcP	**PcP**	**16 33 26.1**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=336,slow=2.0,SNR=7.3						
	comp=Z,0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.68**	**314**	P	**P**	**16 30 24.6**	**+2.3**
	comp=Z,1.9nm,0.9s,baz=136,slow=6.7,SNR=17						
	comp=Z,1.9nm,0.9s						
JOW	**Kunigami**	**28.96**	**15**	LR	LR	16 41 41.6	
	comp=Z,76nm,19.0s,baz=328,slow=36						
JNU	**Nakatsue**	**35.62**	**15**	LR	LR	16 46 20.4	
	comp=Z,65nm,19.4s,baz=44,slow=37						
STKA	**Stephens Creek**	**36.53**	**149**	P	**P**	**16 31 30.5**	**-0.3**
STKA	**Stephens Creek**	**36.53**	**149**	P	**P**	**16 31 30.6**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=335,slow=9.2,SNR=6.8						
	comp=Z,2.2nm,0.6s						
HHC	**Hu-ho-hao-te**	**42.63**	**350**	*e*P	**P**	**16 32 23.8**	**+2.1**
HHC				pmax	pmax		
	comp=Z,45nm,0.5s						
HHC				pmax	pmax		
	comp=Z,210nm,4.7s						
USRK	**Ussuriysk Ar.**	**46.44**	**12**	P	**P**	**16 32 49.5**	**-2.4**
	comp=Z,0.6nm,0.5s,baz=207,slow=9.3,SNR=1.7						
	comp=Z,0.6nm,0.5s						
HEH	**HeiHe**	**51.66**	**6**	*e*P	**P**	**16 33 31.1**	**-0.7**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,510nm,4.9s						
MK31	**Makanchi Array**	**58.27**	**330**	P	**P**	**16 34 20.6**	**+0.8**
MK31				IAmb	IAmb	16 34 52.4	
	comp=Z,3.4nm,1.2s						
MKAR	**Makanchi Array**	**58.27**	**330**	P	**P**	**16 34 20.8**	**+1.0**
MKAR	**Makanchi Array**	**58.27**	**330**	P	**P**	**16 34 21.2**	**+1.5**
	comp=Z,1.3nm,0.6s,baz=130,slow=7.8,SNR=13						
	comp=Z,1.3nm,0.6s						
AAK	**Ala-Archa**	**59.98**	**322**	P	**P**	**16 34 33.7**	**+1.7**
AAK				IAmb	IAmb	16 34 34.6	
	comp=Z,3.9nm,1.1s						
ZALV	**Zalesovo Beam**	**62.34**	**337**	P	**P**	**16 34 47.5**	**0.0**
	comp=Z,1.1nm,0.5s,baz=129,slow=8.5,SNR=5.6						
	comp=Z,1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**62.69**	**332**	P	**P**	**16 34 50.3**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=140,slow=6.3,SNR=11						
	comp=Z,1.3nm,0.7s						
KKAR	**Karatay Array**	**62.70**	**321**	P	**P**	**16 34 50.4**	**+0.3**
KURK	**Kurchatov**	**62.71**	**332**	P	**P**	**16 34 50.6**	**+0.6**
KURK				IAmb	IAmb	16 34 51.6	
	comp=Z,3.6nm,0.8s						
ABKAR	**Akbulak array**	**72.05**	**323**	P	**P**	**16 35 47.8**	**-1.4**
BRTR	**Keskin Array B**	**88.17**	**310**	P	**P**	**16 37 17.1**	**+0.4**
H19K	**Roundabout Mou**	**88.34**	**24**	P	**P**	**16 37 16.1**	**-0.5**
J19K	**Poorman**	**88.52**	**26**	P	**P**	**16 37 17.2**	**-0.3**
J19K				IAmb	IAmb	16 37 33.6	
	comp=Z,8.5nm,1.4s						

*KRSC **23** 16:34:14.5±0.4, 54°.56N×168°.10E, h15km±6km, Ml3.9*
*IDC **23** 16:34:14.6±1.6, 54°.60N×168°.31E, h0km, mb3.5/2, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=46.1km s-min=24.1km az=178.0*

ISC 23 16:34:15.6±1.1, **54°.63N**±0°.09×**168°.27E**±0°.06, **h10**km, **n32**, σ1§**40**/42, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.45**	**295**	*e*P	**Pn**	**16 34 39.2**	**-2.6**
BKI				*e*S	**Sb**	**16 34 57.0**	**-4.0**
KBTR	**Krutoberegovo**	**3.49**	**299**	*e*P	**Pn**	**16 35 10.5**	**+0.7**
KBTR				*e*S	**Sn**	**16 35 51.3**	**+0.2**
SHEM	**Shemya Is, Ala**	**3.95**	**116**	Pn	**Pn**	**16 35 15.6**	**-0.6**
	14nm,0.3s,baz=19,slow=3.2,SNR=6.6						
SHEM				Sn	**Sn**	**16 36 01.8**	**-0.8**
	3.7nm,0.3s,baz=261,slow=18,SNR=1.8						
	34nm,0.4s						
ZLN	**Zelenaya**	**4.49**	**291**	*e*P	**Pn**	**16 35 25.2**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**4.53**	**290**	*e*P	**Pn**	**16 35 25.4**	**+1.2**
BZGR				*e*S	**Sn**	**16 36 17.8**	**+0.9**
TUMD	**Tumrok D**	**4.58**	**280**	*e*P	**Pn**	**16 35 26.4**	**+1.6**
TUMD				*e*S	**Sn**	**16 36 19.4**	**+1.3**
BZP	**Bezymyannyi-Pe**	**4.61**	**289**	*e*P	**Pn**	**16 35 26.7**	**+1.4**
BZP				*e*S	**Sn**	**16 36 19.6**	**+0.7**
KZV	**Kizimen**	**4.63**	**279**	*e*P	**Pn**	**16 35 26.8**	**+1.1**
BZMR	**Bezymyannaya**	**4.64**	**290**	*e*P	**Pn**	**16 35 27.2**	**+1.5**
KLY	**Klyuchi**	**4.65**	**294**	*e*P	**Pn**	**16 35 25.8**	**0.0**
KLY				*e*S	**Sn**	**16 36 18.3**	**-1.5**
KRSR	**Krestovskiy**	**4.67**	**293**	*e*P	**Pn**	**16 35 27.5**	**+1.4**
KRSR				*e*S	**Sn**	**16 36 21.6**	**+1.2**
KMNR	**Kamenistaya**	**4.74**	**287**	*e*P	**Pn**	**16 35 28.8**	**+1.6**
KMNR				*e*S	**Sn**	**16 36 23.3**	**+1.2**
SRDR	**Sredinnyy**	**5.15**	**293**	*e*P	**Pn**	**16 35 34.8**	**+2.0**
SRDR				*e*S	**Sn**	**16 36 33.5**	**+1.3**
ESO	**Esso**	**5.62**	**287**	*e*P	**Pn**	**16 35 41.3**	**+2.1**
SDLR	**Sedlovina**	**5.70**	**260**	*e*P	**Pn**	**16 35 41.8**	**+1.4**
SMAR	**Somma**	**5.76**	**260**	*e*P	**Pn**	**16 35 42.3**	**+1.1**
SMAR				*e*S	**Sn**	**16 36 47.2**	**-0.2**
UGLR	**Uglovaya**	**5.76**	**260**	*e*P	**Pn**	**16 35 42.4**	**+1.3**
KRER	**Koryakskii**	**5.77**	**261**	*e*P	**Pn**	**16 35 42.6**	**+1.1**
KRER				*e*S	**Sn**	**16 36 47.2**	**-0.6**
KRX	**Arik**	**5.81**	**261**	*e*P	**Pn**	**16 35 42.9**	**+0.9**
DALK	**Dalny**	**5.86**	**258**	*e*P	**Pn**	**16 35 43.7**	**+1.4**
PET	**Petropavlovsk**	**5.92**	**258**	*e*P	**Pn**	**16 35 44.8**	**+1.6**
PET				*e*S	**Sn**	**16 36 51.1**	**+0.2**
MTVR	**Mutnovka**	**6.38**	**254**	*e*P	**Pn**	**16 35 50.9**	**+1.2**
MTVR				*e*S	**Sn**	**16 37 02.2**	**-0.5**
GRL	**Gorelyy**	**6.42**	**255**	*e*P	**Pn**	**16 35 51.2**	**+1.1**
GRL				*e*S	**Sn**	**16 37 02.6**	**-0.8**
PETK	**Petropavlovsk-**	**6.43**	**261**	Pn	**Pn**	**16 35 50.9**	**+0.6**
	0.7nm,0.3s,baz=83,slow=19,SNR=13						
PETK				Sn	**Sn**	**16 37 05.0**	**+1.2**
	0.6nm,0.3s,baz=66,slow=35,SNR=1.9						
	1.8nm,0.5s						
ILAR	**Eielson Array**	**24.25**	**47**	P	**P**	**16 39 32.4**	**0.0**
	0.8nm,0.8s,baz=250,slow=8.1,SNR=6.7						
	0.8nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**34.85**	**182**	T	T	17 17 55.2	
	baz=1.2,slow=76,SNR=188						
H11N3	**WAKE ISLAND Hy**	**34.86**	**182**	T	T	17 17 51.4	
	baz=1.2,slow=76,SNR=235						
H11N1	**WAKE ISLAND Hy**	**34.87**	**182**	T	T	17 17 51.8	
	baz=1.2,slow=76,SNR=219						
H11S1	**WAKE ISLAND Hy**	**36.07**	**183**	T	T	17 19 22.1	
	baz=1.7,slow=76,SNR=39						
H11S3	**WAKE ISLAND Hy**	**36.09**	**183**	T	T	17 19 21.8	
	baz=1.7,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**36.09**	**183**	T	T	17 19 21.0	
	baz=1.7,slow=76,SNR=66						
TXAR	**Lajitas Array**	**65.56**	**73**	P	**P**	**16 45 00.3**	**+0.9**
	0.4nm,0.5s,baz=296,slow=4.6,SNR=7.5						
	0.4nm,0.5s						

*IDC **23** 16:34:38.6±1.3, 43°.44N×105°.42W, h0km, mbtmp3.2/3, ML3.8/2, Error ellipse: s-maj=22.1km s-min=10.6km az=155.0*
*NEIC **23** 16:34:39.4±0.8, 43°.57N±0°.08×105°.40W±0°.07, h0km±2km, ML3.3/39, Error ellipse: s-maj=15.9km s-min=3.1km az=327.0*

ISC 23 16:34:38.7±0.9, **43°.59N**±0°.06×**105°.34W**±0°.06, **h0**km, **n27**, σ0§**62**/26, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.08**	**60**	Pg	**Pb**	**16 35 00.6**	**+0.1**
K22A	**Casper**	**1.28**	**223**	Pg	**Pg**	**16 35 02.5**	**-0.7**
K22A				IAML		16 35 27.9	
	comp=E,292nm,0.6s						
PHWY	**Pilot Hill**	**2.29**	**182**		**Pn**	**16 35 18.2**	**+0.2**
RWWY	**Rawlins**	**2.35**	**217**	Pn	**Pn**	**16 35 19.7**	**+0.9**
RWWY				IAML		16 35 52.9	
	comp=E,216nm,0.9s						
RWWY				IAML		16 35 55.0	
	comp=E,190nm,0.8s						
N23A	**Red Feather La**	**2.73**	**190**		**Pn**	**16 35 24.4**	**+0.3**
N23A				IAML		16 36 03.4	
	comp=E,104nm,0.7s						
N23A				IAML		16 36 08.3	
	comp=N,156nm,0.7s						
BW06	**Boulder Array**	**3.19**	**256**	Pn	**Pn**	**16 35 30.6**	**+0.2**
BW06				IAML		16 36 41.8	
	comp=N,46nm,0.8s						
PD31	**Pinedale Array**	**3.19**	**256**	Pn	**Pn**	**16 35 30.4**	**0.0**
PDAR	**Pinedale Array**	**3.19**	**256**	Pn	**Pn**	**16 35 30.1**	**-0.2**
PDAR	**Pinedale Array**	**3.19**	**256**	Pn	**Pn**	**16 35 31.9**	**+1.5**
	comp=N,3.5nm,0.3s,baz=80,slow=18,SNR=13						
PDAR				Lg	Lg	16 36 15.8	
	comp=N,7.2nm,0.3s,baz=83,slow=34,SNR=5.8						
	comp=N,2.7nm,0.5s						
OGNE	**Ogallala**	**3.61**	**136**	Pn	**Pn**	**16 35 36.7**	**+0.7**
YMP	**Mirror Lake PI**	**3.65**	**290**	Pn	**Pn**	**16 35 37.1**	**+0.3**
ISCO	**Idaho Springs**	**3.79**	**183**	Pn	**Pn**	**16 35 39.8**	**+1.0**
LOHW	**Long Hollow**	**3.82**	**272**	Pn	**Pn**	**16 35 39.9**	**+0.9**
LOHW				IAML		16 36 42.4	
	comp=N,34nm,0.9s						
LOHW				IAML		16 36 49.2	
	comp=N,33nm,0.9s						
IMW	**Indian Meadow**	**4.07**	**276**	Pn	**Pn**	**16 35 42.8**	**+0.3**
IMW				IAML		16 37 00.5	
	comp=N,27nm,0.8s						
IMW				IAML		16 37 13.2	
	comp=N,36nm,0.7s						
RDMU	**Red Mountain**	**4.36**	**228**	Pn	**Pn**	**16 35 46.8**	**+0.4**
RDMU				IAML		16 37 01.9	
	comp=N,31nm,0.8s						
RDMU				IAML		16 37 05.2	
	comp=E,38nm,0.9s						
SMCO	**Snowmass**	**4.58**	**196**	Pn	**Pn**	**16 35 49.4**	**-0.2**
SMCO				IAML		16 37 08.9	
	comp=E,28nm,1.2s						
SMCO				IAML		16 37 13.2	
	comp=E,28nm,1.4s						
ID08	**Devils Gate**	**4.79**	**264**	Pn	**Pn**	**16 35 52.4**	**0.0**
BOZ	**Bozeman (W)**	**4.92**	**296**	Pn	**Pn**	**16 35 54.0**	**0.0**
BOZ				IAML		16 37 26.0	
	comp=E,22nm,0.9s						
BOZ				IAML		16 37 46.5	
	comp=E,18nm,4.3s						
ID07	**Smith Canyon R**	**5.05**	**260**	Pn	**Pn**	**16 35 57.0**	**+1.1**
BSUT	**Blindstream Ca**	**5.06**	**235**	Pn	**Pn**	**16 35 56.4**	**+0.3**
BSUT				IAML		16 37 28.2	
	comp=E,18nm,2.7s						
BSUT				IAML		16 37 31.1	
	comp=N,15nm,1.5s						
TCUT	**Toone Canyon**	**5.13**	**243**	Pn	**Pn**	**16 35 57.0**	**0.0**
S22A	**4UR Ranch, Cre**	**5.95**	**191**	Pn	**Pn**	**16 36 08.8**	**+0.5**
LYMT	**Lyon Mountain**	**5.95**	**307**	Pn	**Pn**	**16 36 08.7**	**+0.4**
CHMT	**Chamberlain Mo**	**6.50**	**304**		**Pn**	**16 36 16.4**	**+0.7**
I10CA	**LAC DU BONNET**	**9.18**	**41**	I	I	17 35 30.0	
	baz=220,slow=331,SNR=1.7						
ULM	**Lac du Bonnet**	**9.29**	**41**	Pn	**Pn**	**16 36 53.5**	**-0.3**
	comp=N,2.4nm,0.5s,baz=231,slow=14,SNR=1.7						
ULM				Lg	Lg	16 39 29.2	
	comp=N,0.1nm,0.3s,baz=322,slow=16,SNR=2.2						
TXAR	**Lajitas Array**	**14.29**	**174**	Pn	**Pn**	**16 38 02.4**	**0.0**
	baz=338,slow=14,SNR=1.8						
	comp=N,0.1nm,0.5s						

*PRE **23** 16:56:02.7±0.8, 26°.39S×27°.48E, h2km, ML1.8*
*BUL **23** 16:56:04.0±0.8, 26°.64S×27°.33E, h10km, MD3.5*
*EAF **23** 16:56:04.0, 26°.65S×27°.35E, h10km, MC3.5*

ISC 23 16:56:03.7±1.4, **26°.46S**±0°.03×**27°.44E**±0°.04, **h11**km±11km, **n16**, σ2§**52**/32, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.47**	**189**	*e*P	**Pg**	**16 56 13.7**	**+0.8**
PRYS				*e*S	**Sg**	**16 56 20.5**	**+1.3**
PRYS				IAML		16 56 26.9	
	comp=Z,43nm,0.4s						
SLR	**Silverton**	**1.04**	**46**	*e*P	**Pg**	**16 56 20.6**	**-3.2**
SLR				*e*S	**Sb**	**16 56 35.1**	**-2.6**
SLR				IAML		16 56 42.4	
	comp=Z,24nm,0.2s						
SNKL	**Senekal, Frees**	**1.83**	**171**	*e*P	**Pn**	**16 56 36.8**	**+1.5**
SNKL				*e*S	**Sb**	**16 57 01.9**	**+1.5**
SNKL				IAML		16 57 05.9	
	comp=Z,31nm,0.3s						
SWZ	**Schweizer**	**2.02**	**249**	*e*P	**Pn**	**16 56 39.6**	**+1.7**
SWZ				*e*S	**Sn**	**16 57 06.2**	**+3.0**
SWZ				IAML		16 57 10.2	
	comp=Z,14nm,0.2s						
LBTB	**Lobatse**	**2.20**	**310**	*i* P	**Pn**	**16 56 41.1**	**+0.8**
LBTB				*i* S	**Sn**	**16 57 07.9**	**+0.2**
LBTB	**Lobatse**	**2.20**	**310**	*e*P	**Pn**	**16 56 41.3**	**+1.0**
LBTB				*e*S	**Sn**	**16 57 08.4**	**+0.7**
LBTB				IAML		16 57 13.5	
	comp=Z,13nm,0.2s						
LBTB	**Lobatse**	**2.20**	**310**	*i* P	**Pn**	**16 56 41.1**	**+0.8**
	baz=315						
LBTB				*i* S	**Sn**	**16 57 07.9**	**+0.2**
	baz=315						
LEPH	**Lephalale, Lim**	**2.61**	**7**	*e*P	**Pn**	**16 56 46.1**	**+0.1**
LEPH				*e*S	**Sn**	**16 57 17.2**	**-0.6**
LEPH				IAML		16 57 27.2	
	comp=Z,7.9nm,0.3s						
BOSA	**Boshof**	**2.89**	**222**	*i* P	**Pn**	**16 56 47.7**	**-2.2**
BOSA				*i* S	**Sn**	**16 57 18.2**	**-6.6**
BOSA	**Boshof**	**2.89**	**222**	*e*P	**Pn**	**16 56 51.2**	**+1.3**
BOSA				*e*S	**Sn**	**16 57 27.6**	**+2.8**
BOSA				IAML		16 57 37.7	
	comp=Z,2.6nm,0.4s						
BOSA	**Boshof**	**2.89**	**222**	*i* P	**Pn**	**16 56 47.7**	**-2.2**
	baz=223						
BOSA				*i* S	**Sn**	**16 57 18.2**	**-6.6**
	baz=223						
PILG	**Pilgrimsrest,**	**3.32**	**63**	*e*P	**Pn**	**16 56 56.2**	**+0.4**
PILG				*e*S	**Sn**	**16 57 34.8**	**-0.6**
PILG				IAML		16 57 54.2	
	comp=Z,5.5nm,0.5s						
MOPA	**Mopani**	**4.63**	**52**	*i* P	**Pn**	**16 57 16.0**	**+2.2**
MOPA				*i* S	**Sn**	**16 58 07.6**	**0.0**
MOPA	**Mopani**	**4.63**	**52**	*i* P	**Pn**	**16 57 16.0**	**+2.2**
	baz=51						
MOPA				*i* S	**Sn**	**16 58 07.6**	**0.0**
	baz=51						
MUSN	**Musina, Limpop**	**4.70**	**28**	*i* P	**Pn**	**16 57 18.0**	**+3.2**
MUSN				*i* S	**Sn**	**16 58 10.3**	**+1.0**
MUSN	**Musina, Limpop**	**4.70**	**28**	*i* P	**Pn**	**16 57 18.0**	**+3.2**
	baz=28						
MUSN				*i* S	**Sn**	**16 58 10.3**	**+1.0**
	baz=28						

*TRN **23** 17:05:45.9, 11°.07N×62°.08W, h118km, MD3.4*
*FUNV **23** 17:05:46.2, 11°.12N×62°.04W, h120km, MW3.5*

ISC 23 17:05:44.0±1.8, **11°.07N**±0°.07×**62°.11W**±0°.08, **h133**km±14km, **n15**, σ1§**64**/24, **1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.82**	**121**	‖ *i* P	**Pn**	**17 06 06.5**	**+0.9**
TRN				*e*S	**Sn**	**17 06 19.9**	**-2.1**
GRGR	**Grenville**	**1.14**	**23**	*e*P	**Pn**	**17 06 09.7**	**+1.0**
GRGR				*e*S	**Sn**	**17 06 26.2**	**-1.2**
GRW	**Mount Saint Ca**	**1.17**	**22**	*e*P	**Pn**	**17 06 10.6**	**+1.7**
GRW				*e*S	**Sn**	**17 06 27.8**	**-0.1**
CRUV	**Carupano**	**1.17**	**250**	*e*P	**Pn**	**17 06 10.4**	**+1.5**
CR

TERV Terraza Guagua 1.52 322 P **Pn 17 08 52.0 -0.7**
PINO Pino 1.53 323 P **Pn 17 08 52.0 -0.9**
CASC Dorado de Casc 1.55 13 P **Pn 17 08 52.0 -0.5**
PULU Pululahua 1.62 329 Pn 17 08 53.0 -0.5
IMBA Imbabura, San 1.73 342 Pn 17 08 54.8 +0.2
OTAV Otavalo 1.79 334 Pn **Pn 17 08 54.2 -1.0**
OTAV Otavalo 1.79 334 *eP* **Pn 17 08 54.3 -0.8**
OTAV *eS* **Sn 17 09 22.9 -0.3**
CUIC Cuicocha-Domo 1.81 338 P **Pn 17 08 55.0 -0.4**
CUSE Cuicocha Este 1.83 337 P **Pn 17 08 55.0 -0.6**
CUSE Cuicocha Este 1.83 337 *eP* **Pn 17 08 55.2 -0.3**
CUSE *eS* Sn 17 09 35.8 +12
BONI La Bonita 1.83 5 P **Pn 17 08 55.0 -0.4**
BONI La Bonita 1.83 5 ⇓*iP* **Pn 17 08 55.1 -0.3**
BONI *eS* **Sn 17 09 23.0 -0.6**
AQUE Quevedo 1.84 280 P **Pn 17 08 54.0 -1.2**
COHC Cochancay 1.91 236 Pn **Pn 17 08 54.2 -1.7**
COHC Cochancay 1.91 236 P **Pn 17 08 54.0 -1.9**
COHC Cochancay 1.91 236 *eP* **Pn 17 08 54.7 -1.2**
COHC *eS* **Sn 17 09 23.2 -1.3**
BOSC San Juan Bosco 1.94 205 Pn **Pn 17 08 56.2 -0.2**
BOSC San Juan Bosco 1.94 205 P **Pn 17 08 56.0 -0.4**
PAC1 Pacto, Paraso 1.98 326 *eP* **Pn 17 08 56.3 -0.6**
AMIL Milagro (Trans 2.06 249 P **Pn 17 08 55.0 -2.5**
MILO Milagro-Astudi 2.08 245 P **Pn 17 08 55.0 -2.7**
MILO S **Sn 17 09 24.0 -3.7**
TULM Tulcn-Chalpat 2.09 357 Pn 17 08 58.1 -0.2
TULM Tulcn-Chalpat 2.09 357 *eP* **Pn 17 08 57.5 -0.8**
LNGL El Angel-Carch 2.13 351 P **Pn 17 08 59.0 +0.1**
BV15 Puerto Quito-O 2.18 315 P **Pn 17 08 56.0 -2.8**
ECEN Cerro Negro 2.21 352 P **Pn 17 08 59.0 -0.8**
CHMA Chilma 2.26 350 P **Pn 17 08 58.0 -2.1**
LITE1 Lita 2.27 342 P **Pn 17 08 58.0 -2.0**
GYE3 Ecuador-Guayaq 2.35 251 P **Pn 17 08 58.0 -2.7**
AGUAY Guayaquil 2.37 254 P **Pn 17 08 58.0 -2.9**
MAG1 Magdalena 2.47 302 P **Pn 17 09 01.0 -1.1**
GCUF Volcan Galeras 2.61 7 *eP* **Pn 17 09 04.4 +0.2**
GCUF *eS* **Sn 17 09 39.0 -0.4**
AV21 Acelerografo, 2.76 317 P **Pn 17 09 04.0 -1.4**
ACH2 Ecuador-Machal 2.83 229 P **Pn 17 09 03.0 -3.3**
SNLR San Lorenzo-Es 2.90 336 P **Pn 17 09 05.0 -2.1**
MORR Playas El Morr 2.94 245 P **Pn 17 09 05.0 -2.5**
ISPG Isla Puna-Puer 2.95 238 P **Pn 17 09 05.0 -2.7**
CRUC La Cruz 3.02 14 *eP* **Pn 17 09 09.2 +0.3**
CRUC *eS* Sn 17 09 22.4 -25
PPLP Puerto Lpez 3.10 267 P **Pn 17 09 08.0 -1.5**
PPLP Puerto Lpez 3.10 267 *eP* **Pn 17 09 07.1 -2.4**
PTLC Puerto Leguiza 3.27 62 *eP* **Pn 17 09 10.0 -1.5**
ISPT Isla de la Pia 3.40 272 P **Pn 17 09 10.0 -3.1**
BBAC Balboa, Cauca 3.41 7 P **Pn 17 09 12.0 -1.5**
BBAC Balboa, Cauca 3.41 7 *eP* **Pn 17 09 12.4 -1.1**
BBAC *eS* **Sn 17 09 55.0 -1.0**
SALI Salinas 3.41 256 Pn 17 09 10.9 -2.3
SALI Salinas 3.41 256 P **Pn 17 09 10.0 -3.2**
FLOC Florencia 3.57 34 P **Pn 17 09 15.0 -0.3**
FLOC Florencia 3.57 34 ⇑*iP* **Pn 17 09 15.2 -0.2**
AMCR Ecuador-Macara 3.74 217 P **Pn 17 09 14.0 -3.4**
MCRA Macar, Loja 3.74 217 Pn **Pn 17 09 14.5 -2.9**
MCRA Macar, Loja 3.74 217 P **Pn 17 09 14.0 -3.4**
MCRA Macar, Loja 3.74 217 ⇑*iP* **Pn 17 09 14.5 -2.9**
ZUMB Zumba 3.76 203 P **Pn 17 09 17.0 -0.7**
POPC Popayan, Colom 4.02 14 *eP* **Pn 17 09 20.2 -1.0**
GARC Garzon, Huila 4.16 32 *eP* **Pn 17 09 22.6 -0.3**
GR1C Gorgona, Isla 4.38 354 *eP* **Pn 17 09 24.8 -0.7**
GR1C *eS* **Sn 17 10 11.9 -5.7**
BETC Betania 4.61 29 *eP* **Pn 17 09 29.1 +0.7**
JAMC Jamundi, Valle 4.67 12 *eP* **Pn 17 09 27.1 -2.3**
MACC Macarena, Meta 5.19 48 *eP* **Pn 17 09 35.6 -0.2**
MALC Bahia Malaga 5.37 4 *eP* **Pn 17 09 36.0 -2.1**
YOTC Yotoco, Valle 5.49 14 *eP* **Pn 17 09 36.3 -3.6**
ATAH Atahualpa 5.76 187 P **Pn 17 09 44.3 +0.7**
235nm,0.6s,baz=10,slow=8.6,SNR=151
ATAH S **Sn 17 10 48.4 -1.7**
144nm,0.6s,baz=40,slow=9.9,SNR=4.6
PRAC Prado 5.78 29 *eP* **Pn 17 09 42.3 -1.2**
PLMC San Jos del P 6.40 13 *eP* **Pn 17 09 48.3 -3.3**
VILC Villavicencio, 6.75 36 *eP* **Pn 17 09 56.8 +0.4**
GUY2C Guyana, Caldas 6.96 19 *eP* **Pn 17 09 56.9 -2.4**
ROSC El Rosal 7.03 28 Pn **Pn 17 10 00.7 +0.5**
CHIC Chingaza 7.16 33 *eP* **Pn 17 10 01.8 -0.1**
NORC Norcasia 7.45 22 *eP* **Pn 17 10 04.2 -1.1**
CZSB Cruzeiro do Su 8.02 142 Pn **Pn 17 10 12.1 -0.7**
CZSB Cruzeiro do Su 8.02 142 *eP* **Pn 17 10 12.2 -0.5**
TBTG Tabatinga, AM 8.24 110 *eP* **Pn 17 10 14.3 -1.4**
DBBC Dabeiba 8.47 10 *eP* **Pn 17 10 20.7 +1.9**
PTBC PUERTO BERRIO, 8.50 22 *eP* **Pn 17 10 17.6 -1.5**
RUSC La Rusia 8.56 32 *eP* **Pn 17 10 20.6 +0.3**
BARC Barichara 9.10 29 *eP* **Pn 17 10 28.3 +1.1**
CACAO El Cacao, Vera 9.23 340 *eP* **Pn 17 10 26.6 -2.0**
ZARC Zaragoza, Cauc 9.25 18 *eP* **Pn 17 10 27.2 -1.7**
APAC Apartado, Choc 9.29 7 *eP* **Pn 17 10 31.1 +1.7**
TAMC Tame, Arauca 9.74 37 *eP* Pn 17 10 46.1 +11
PAMC Pamplona, Colo 9.99 30 *eP* **Pn 17 10 39.8 +0.8**
NNA Nana 10.57 176 P **Pn 17 10 46.3 +0.3**
6.7nm,0.3s,baz=336,slow=14,SNR=3.6
NNA S Sn 17 12 35.8 -8.1
12nm,0.3s,baz=346,slow=23,SNR=6.1
BCIP Isla Barro Col 10.70 348 Pn **Pn 17 10 47.3 -0.4**
SGCB S.o Gabriel d 10.72 83 *eP* **Pn 17 10 46.3 -1.7**
SDV Santo Domingo 12.38 34 Pn 17 11 08.1 -1.4
SDV Santo Domingo 12.38 34 *eP* **Pn 17 11 08.6 -0.9**
SDV Santo Domingo 12.38 34 *eP* **Pn 17 11 08.8 -0.7**
SDV Santo Domingo 12.38 34 P **Pn 17 11 08.0 -1.5**
12nm,0.3s,baz=223,slow=9.3,SNR=15
LCR2 La Lucha 2 12.72 330 P **P 17 11 19.8 +1.9**
TEFE Tefe 13.20 99 *eP* **Pn 17 11 16.9 -2.7**
CRJC Cerrejon, Guaj 13.21 21 *eP* **Pn 17 11 18.1 -1.8**
JTS Las Juntas de 13.67 328 P 17 11 27.8 -0.4
JTS Las Juntas de 13.67 328 P **Pn 17 11 27.0 +1.4**
14nm,0.7s,baz=98,slow=0.7,SNR=9.8
DUNO Dulce Nombre, 13.79 326 Pn 17 11 27.5 +0.5
ORTG Ortega, Santa 14.00 327 Pn **Pn 17 11 28.3 -1.5**
ETMB Extrema 14.15 127 Pn 17 11 28.6 -2.9
ETMB Extrema 14.15 127 *eP* **Pn 17 11 29.3 -2.2**
URIC Uribia, Colomb 14.17 23 *eP* **Pn 17 11 29.5 -2.3**
HZTE Horizontes, Gu 14.37 327 Pn **Pn 17 11 33.2 -1.0**
SAML Samuel 16.27 118 P 17 11 55.5 -1.4
SAML Samuel 16.27 118 *eP* **P 17 11 55.8 -1.1**
MACA Manacapuru-AM 17.07 96 P 17 12 04.7 -1.1
MACA Manacapuru-AM 17.07 96 *eP* **P 17 12 05.2 -0.6**
PCRV Puerto La Cruz 17.33 48 P **P 17 12 07.6 -1.0**
9.9nm,0.5s,baz=20,slow=0.8,SNR=11
LPAZ La Paz 17.55 148 P **P 17 12 13.2 +1.7**
LPAZ La Paz 17.55 148 *eP* **P 17 12 12.7 +1.2**
LPAZ La Paz 17.55 148 P **P 17 12 12.8 +1.2**
4.3nm,0.6s,baz=326,slow=9.6,SNR=16
BOAV Boa Vista 17.56 78 P **P 17 12 10.3 -0.8**
BOAV IAmb IAmb 17 12 17.5
comp=Z,10.0nm,0.6s
BOAV Boa Vista 17.56 78 *eP* **P 17 12 10.7 -0.4**
BOAV Boa Vista 17.56 78 *eP* **P 17 12 10.2 -0.8**
PB18 Visviri 18.01 154 P **Pn 17 12 19.0 +0.5**
PB12 IPOC Station P 18.58 158 P 17 12 22.4 +0.2
PB16 IPOC Station P 18.66 155 P **P 17 12 25.4 +1.8**
MTO3 Montecristo 19.49 324 P **P 17 12 33.0 +0.8**
MTO3 IAmb IAmb 17 12 34.5
comp=Z,19nm,0.8s
GO01 Chusmiza 19.98 156 P **P 17 12 39.4 +1.7**
GO01 IAmb IAmb 17 12 45.3
comp=Z,15nm,0.7s
VILB Vilhena 20.78 124 P **P 17 12 46.1 +0.3**
VILB Vilhena 20.78 124 *eP* **P 17 12 46.1 +0.3**
PB01 IPOC Station P 21.11 158 P **P 17 12 51.7 +2.3**
PB01 IAmb IAmb 17 12 53.7
comp=Z,13nm,1.0s
SDDR Presa de Saban 21.19 17 P **P 17 12 50.8 +0.6**
PB07 IPOC Station P 21.60 160 P **P 17 12 55.7 +1.1**
PB07 IAmb IAmb 17 13 12.6
comp=Z,9.4nm,0.7s
SIV San Ignacio 21.88 132 P **P 17 12 57.6 +0.3**
comp=Z,4.6nm,0.5s,baz=311,slow=11,SNR=20
comp=Z,4.6nm,0.5s
ITTB Itaituba 22.11 98 *eP* **P 17 12 59.0 -0.6**
LVC Limon Verde 22.76 159 P **P 17 13 05.3 -0.5**
LVC IAmb IAmb 17 13 10.1
comp=Z,14nm,1.2s
LVC Limon Verde 22.76 159 *eP* **P 17 13 07.8 +2.0**
LVC Limon Verde 22.76 159 P **P 17 13 07.2 +1.3**
comp=Z,4.9nm,0.6s,baz=350,slow=4.4,SNR=8.2
comp=Z,4.9nm,0.6s
NPGB Novo Progresso 22.95 105 *eP* **P 17 13 06.5 -0.7**

BBSD Serra de San D 22.99 134 *eP* **P 17 13 08.6 +1.0**
PTLB Pontes e Lacer 23.02 128 P **P 17 13 08.8 +0.9**
PTLB IAmb IAmb 17 13 10.3
comp=Z,8.5nm,0.5s
PTLB Pontes e Lacer 23.02 128 *eP* **P 17 13 09.2 +1.4**
PDRB Porto dos Gac 23.14 117 *eP* **P 17 13 09.3 +0.4**
MALB Monte Alegre 23.41 91 *eP* **P 17 13 11.3 -0.1**
CLDB Colider 23.69 114 *eP* **P 17 13 13.9 -0.1**
BBRB Robore, Bolivi 24.28 135 *eP* **P 17 13 20.5 +1.1**
MCPB Macapa, AP 25.64 88 *eP* **P 17 13 31.0 -0.7**
MDP Montagnes des 25.82 75 P **P 17 13 33.1 -0.2**
comp=Z,14nm,0.9s,baz=236,slow=12,SNR=3.9
comp=Z,14nm,0.9s
SALV Santo Antonio 26.03 125 *eP* **P 17 13 36.0 +0.8**
PP1B Ponte de Pedra 27.60 127 *eP* **P 17 13 50.4 +1.2**
MURT Porto Murtinho 28.08 137 *eP* **P 17 13 54.5 +1.1**
PRPB Parauapebas 28.20 100 *eP* **P 17 13 53.5 -1.0**
SNDB Serra Nova Dou 28.20 113 *eP* **P 17 13 54.7 +0.2**
ARAG Araguaiana, MT 29.21 121 *eP* **P 17 14 03.7 +0.3**
ROC1 El Roble 32.05 169 P **P 17 14 29.5 +1.1**
BDFB Brasilia 32.50 117 P **P 17 14 32.0 -0.4**
comp=Z,4.1nm,0.4s,baz=262,slow=6.0,SNR=7.0
comp=Z,4.1nm,0.4s
MT08 Bocatoma Ro 32.70 168 P **P 17 14 37.0 +3.0**
MT13 San Alfonso 32.93 169 P **P 17 14 37.8 +1.8**
LMEL Las Melosas 33.05 169 P **P 17 14 39.0 +1.9**
LMEL IAmb IAmb 17 14 40.4
comp=Z,9.7nm,0.7s
BO04 La Punta 33.11 169 P **P 17 14 38.4 +0.9**
ROSB Rosrio 33.56 93 *eP* **P 17 14 39.8 -1.8**
SDBA SAO DESIDERIO 34.28 110 *eP* **P 17 14 47.7 -0.1**
BB19B Bebedouro 34.51 127 *eP* **P 17 14 50.2 +0.5**
GOGA Godfrey 35.04 352 P **P 17 14 56.1 +2.1**
baz=170
LRAL Lakeview Retre 35.35 346 P **P 17 14 58.0 +1.4**
baz=164
ITAB Concordia 35.51 139 *eP* **P 17 14 58.1 0.0**
JANB Januaria 35.63 114 *eP* **P 17 14 58.7 -0.7**
833A Chaparral WMA, 36.15 326 P **P 17 15 04.6 +1.1**
baz=141
CNNC Cliffs of the 36.43 360 P **P 17 15 07.5 +1.7**
baz=180
NATX Nacogdoches 36.69 335 P **P 17 15 09.3 +1.3**
baz=151
HNDO Hondo 37.03 328 P **P 17 15 11.2 +0.2**
HNDO IAmb IAmb 17 15 12.6
comp=Z,17nm,0.8s
435B Jarrell 37.18 331 P **P 17 15 13.4 +1.2**
baz=146
U56A King 37.62 356 P **P 17 15 16.4 +0.6**
DRIO Del Rio 37.68 326 P **P 17 15 17.2 +0.7**
DRIO IAmb IAmb 17 15 18.1
comp=Z,28nm,1.0s
JCT Junction City 38.06 328 P **P 17 15 20.5 +0.8**
JCT IAmb IAmb 17 15 21.2
comp=Z,7.3nm,0.9s
JCT Junction City 38.06 328 P **P 17 15 20.6 +1.0**
baz=142
WHTX Lake Whitney, 38.12 332 P **P 17 15 21.1 +1.0**
baz=147
TZTN Tazewell 38.13 352 P **P 17 15 20.4 +0.3**
baz=170
T59A Double "B" Far 38.16 0 P **P 17 15 20.4 +0.1**
T59A IAmb IAmb 17 15 21.3
comp=Z,18nm,1.2s
T57A Hurt 38.22 358 P **P 17 15 21.0 +0.3**
BLA Blacksburg 38.48 356 P **P 17 15 23.7 +0.6**
baz=175
SAND Sanderson 38.93 325 P **P 17 15 27.1 +0.2**
SAND IAmb IAmb 17 15 29.0
comp=Z,5.3nm,0.8s
LCAR Lake Charles 39.32 343 P **P 17 15 28.4 -1.6**
TXAR Lajitas Array 39.38 323 P **P 17 15 31.3 +0.6**
TXAR Lajitas Array 39.38 323 P **P 17 15 31.4 +0.7**
comp=Z,2.2nm,0.6s,baz=146,slow=8.7,SNR=27
TXAR PcP **PcP 17 17 36.0 +0.8**
comp=Z,1.2nm,0.6s,baz=147,slow=5.4,SNR=9.2
comp=Z,2.2nm,0.6s
TX31 Lajitas Ar. Si 39.38 323 P **P 17 15 31.2 +0.5**
TX32 Lajitas Array 39.38 323 P **P 17 15 31.3 +0.6**
TX32 IAmb IAmb 17 15 32.5
comp=Z,12nm,1.4s
ABTX Abilene, Hawle 39.69 330 P **P 17 15 32.8 -0.4**
ABTX Abilene, Hawle 39.69 330 P **P 17 15 33.8 +0.7**
baz=144
PLCA Paso Flores 39.70 172 P **P 17 15 34.2 +1.1**
PLCA IAmb IAmb 17 15 35.5
comp=Z,10nm,0.8s
PLCA Paso Flores 39.70 172 *eP* **P 17 15 35.0 +1.9**
PLCA Paso Flores 39.70 172 P **P 17 15 34.5 +1.4**
comp=Z,8.1nm,0.8s,baz=343,slow=9.9,SNR=11
PLCA PcP **PcP 17 17 36.9 +0.9**
comp=Z,1.3nm,0.6s,baz=278,slow=4.7,SNR=3.3
comp=Z,8.1nm,0.8s
SGCY Sterling City 39.88 328 P **P 17 15 34.8 0.0**
SGCY IAmb IAmb 17 15 36.1
comp=Z,30nm,1.0s
CGM3 Cape Girardeau 40.06 345 P **P 17 15 34.9 -1.1**
ALPN Alpine 40.12 324 P **P 17 15 37.3 +0.4**
ALPN IAmb IAmb 17 15 38.6
comp=Z,9.8nm,0.8s
T42A Van Buren 40.20 343 P **P 17 15 36.0 -1.2**
T42A IAmb IAmb 17 15 38.5
comp=Z,6.4nm,0.6s
APMT Aspermont 40.49 331 P **P 17 15 40.3 +0.6**
APMT IAmb IAmb 17 15 41.3
comp=Z,12nm,0.8s
SN01 Snyder 1 40.51 329 P **P 17 15 40.4 +0.5**
SN01 IAmb IAmb 17 15 41.5
comp=Z,10nm,0.8s
TUL3 Leonard 40.77 337 P **P 17 15 42.6 +0.7**
baz=152
MCWV Mount Chateau 40.89 357 P **P 17 15 44.0 +1.2**
baz=176
PECS Pecos 40.98 325 P **P 17 15 44.4 +0.5**
PECS IAmb IAmb 17 15 45.5
comp=Z,10nm,0.5s
POST Post 40.98 329 P **P 17 15 43.9 +0.1**
POST IAmb IAmb 17 15 49.0
comp=Z,8.7nm,0.8s
WMOK Wichita Mounta 41.02 333 P **P 17 15 43.8 -0.2**
WMOK Wichita Mounta 41.02 333 P **P 17 15 44.4 +0.4**
baz=147
P52A Corning 41.02 355 P **P 17 15 44.2 +0.2**
baz=173
DKNS Dickens 41.16 330 P **P 17 15 46.0 +0.7**
DKNS IAmb IAmb 17 15 46.9
comp=Z,20nm,0.7s
CCM Cathedral Cave 41.20 344 P **P 17 15 46.6 +1.2**
baz=159
MVL Millersville 41.20 2 P **P 17 15 45.7 +0.4**
MVL IAmb IAmb 17 15 46.6
comp=Z,7.1nm,0.7s
P49A Miami Univ. Ec 41.23 352 P **P 17 15 46.5 +0.9**
baz=169
SSPA Standing Stone 41.82 360 P **P 17 15 51.0 +0.6**
baz=180
O48B Farmland 42.00 351 P **P 17 15 52.7 +0.8**
baz=169
MNTX Cornudas Mount 42.10 324 P **P 17 15 52.3 -0.5**
MNTX Cornudas Mount 42.10 324 P **P 17 15 53.4 +0.5**
baz=136,SNR=12
PAL Palisades 42.33 4 P **P 17 15 56.2 +1.7**
baz=185
MSTX Muleshoe 42.35 328 P **P 17 15 54.6 -0.3**
MSTX IAmb IAmb 17 15 56.3
comp=Z,18nm,1.1s
MSTX Muleshoe 42.35 328 P **P 17 15 55.6 +0.7**
baz=141
SFIN Lafayette 42.44 349 P **P 17 15 57.2 +1.7**
baz=166
AMTX Amarillo 42.51 330 P **P 17 15 57.2 +1.0**
baz=143
ERPA Erie 43.35 357 P **P 17 16 03.5 +0.8**
baz=176
BINY Binghamton 43.41 2 P **P 17 16 03.6 +0.4**
baz=182
L61B Northampton 43.86 5 P **P 17 16 08.7 +1.9**
baz=187
121A Cookes Peak, D 44.13 323 P **P 17 16 10.9 +1.6**
121A IAmb IAmb 17 16 11.9
comp=Z,9.8nm,0.9s
121A Cookes Peak, D 44.13 323 P **P 17 16 11.2 +1.8**
baz=134,SNR=7.8
319A Douglas 44.29 320 P **P 17 16 11.0 +0.5**
319A IAmb IAmb 17 16 12.7
comp=Z,20nm,1.1s
DUN6 Lazy B Ranch 44.95 321 P **P 17 16 17.0 +1.3**
ANMO Albuquerque 45.08 326 P **P 17 16 17.6 +0.8**
ANMO Albuquerque 45.08 326 P **P 17 16 18.1 +1.3**
baz=137
JFWS Jewell Farm 45.53 347 P **P 17 16 21.5 +1.6**
baz=162
T25A Trinidad 45.65 330 P **P 17 16 22.3 +1.1**
T25A IAmb IAmb 17 16 23.6
comp=Z,11nm,1.1s
T25A Trinidad 45.65 330 P **P 17 16 22.1 +0.9**
baz=141
LBNH Lisbon 45.71 6 P **P 17 16 22.3 +1.0**
baz=188
TUC Tucson 45.87 320 P **P 17 16 23.1 +0.2**
TUC Tucson 45.87 320 P **P 17 16 23.6 +0.7**
baz=130
LONY Lake Ozonia 45.88 3 P **P 17 16 23.1 +0.4**
baz=184
SDCO Great Sand Dun 46.67 329 P **P 17 16 30.1 +0.9**
SDCO IAmb IAmb 17 16 31.2
comp=Z,18nm,1.1s
SDCO Great Sand Dun 46.67 329 P **P 17 16 30.6 +1.4**
baz=140,SNR=8.6
MNTQ Montreal, Queb 46.82 4 P **P 17 16 29.8 -0.1**
MNTQ IAmb IAmb 17 16 30.7
comp=Z,22nm,1.2s
G62A West of Eustis 46.83 7 P **P 17 16 30.6 +0.5**
214A Organ Pipe Nat 46.97 318 P **P 17 16 32.1 +0.7**
214A IAmb IAmb 17 16 33.5
comp=Z,14nm,0.8s
214A Organ Pipe Nat 46.97 318 P **P 17 16 32.8 +1.3**
baz=128,SNR=8.8
PKME Peaks-Kenny Pk 47.04 8 P **P 17 16 31.9 +0.3**
baz=191
W18A Petrified Fore 47.09 324 P **P 17 16 33.2 +0.7**
W18A Petrified Fore 47.09 324 P **P 17 16 33.6 +1.1**
baz=134
S22A 4UR Ranch, Cre 47.35 328 P **P 17 16 35.5 +0.9**
S22A 4UR Ranch, Cre 47.35 328 P **P 17 16 35.8 +1.2**
baz=138,SNR=6.2
OGNE Ogallala 47.60 335 P **P 17 16 37.2 +1.0**
baz=146
X16A Lo Mia Camp, P 47.66 322 P **P 17 16 38.3 +1.4**
MVCO Mesa Verde 47.86 327 P **P 17 16 39.0 +0.5**
MVCO Mesa Verde 47.86 327 P **P 17 16 39.1 +0.7**
baz=136
ECSD EROS Data Cent 48.02 342 P **P 17 16 41.3 +2.1**
baz=154
ISCO Idaho Springs 48.31 331 P **P 17 16 42.9 +1.1**
baz=141
SPMN Marine on St. 48.31 346 P **P 17 16 43.4 +1.9**
baz=159
E62A Clayton Lake 48.34 8 P **P 17 16 41.9 +0.2**
E62A IAmb IAmb 17 16 42.9
comp=Z,13nm,0.8s
WUAZ Wupatki 48.34 323 P **P 17 16 43.3 +1.2**
WUAZ IAmb IAmb 17 16 44.8
comp=Z,21nm,0.9s
WUAZ Wupatki 48.34 323 P **P 17 16 43.4 +1.3**
baz=132,SNR=14
SMCO Snowmass 48.50 329 P **P 17 16 44.3 +0.8**
PDMCI Parker Dam,Lak 49.30 320 P **P 17 16 50.5 +1.4**
baz=128
N23A Red Feather La 49.32 332 P **P 17 16 51.5 +2.0**
baz=141
YUH Yuha Desert 49.50 317 P **P 17 16 51.0 +0.3**
U15A North Rim 49.51 323 P **P 17 16 52.4 +1.4**
SWSC Sam W. Stewart 49.59 317 P **P 17 16 53.2 +1.9**
baz=126
IKP In-Ko-Pah, Jac 49.63 317 P **P 17 16 53.5 +1.7**
baz=125
HMU Henry Mountain 49.63 326 P **P 17 16 52.4 +0.4**
HMU IAmb IAmb 17 16 54.9
comp=Z,12nm,0.9s
W13A Hualapai Mount 49.63 321 P **P 17 16 53.2 +1.2**
W13A IAmb IAmb 17 16 54.1
comp=Z,7.4nm,0.8s
BC3 Big Chuckawall 49.77 318 P **P 17 16 54.3 +1.4**
baz=127
IRM Iron Mountain 49.87 319 P **P 17 16 54.7 +1.2**
baz=127,SNR=7.0
O20A White River Ci 49.87 329 P **P 17 16 54.4 +0.8**
baz=138
MONP2 Monument Peak 49.98 317 P **P 17 16 55.0 +0.4**
baz=125
KNB Kanab 50.21 323 P **P 17 16 57.5 +1.2**
BELC Belle Mtn. Jos 50.34 318 P **P 17 16 58.7 +1.5**
baz=126
TPFO Pinon Flats 50.41 317 P **P 17 16 59.0 +1.2**
baz=126
PFO Pinyon Flats O 50.42 317 P **P 17 16 59.6 +1.8**
baz=126
LCMT Little Creek M 50.46 323 P **P 17 16 58.9 +0.8**
MTPU Mount Pierson 50.52 325 P **P 17 16 59.5 +0.7**
GMRC Granite Mounta 50.58 319 P **P 17 17 00.2 +1.2**
baz=127
EYMN Ely 50.59 348 P **P 17 17 00.8 +2.2**
baz=162
V12A Nelson 50.64 321 P **P 17 16 59.9 +0.6**
V12A IAmb IAmb 17 17 01.2
comp=Z,7.1nm,0.9s
MSU Marysvale 50.84 325 P **P 17 17 01.9 +0.9**
MVU Marysvale 50.85 325 P **P 17 17 02.0 +0.9**
CCUT Cedar City 50.89 323 P **P 17 17 02.9 +1.6**
MURC Murrieta 50.92 317 P **P 17 17 02.5 +1.1**
baz=125
K22A Casper 50.96 333 P **P 17 17 02.9 +1.1**
baz=142
HEC Hector,Ludlow 51.05 319 P **P 17 17 03.7 +1.2**
baz=126
BBRC Big Bear Solar 51.11 318 P **P 17 17 04.7 +1.7**
baz=126
TUQ Turquoise Moun 51.15 320 P **P 17 17 04.4 +1.2**
baz=127
BSUT Blindstream Ca 51.47 328 P **P 17 17 06.6 +0.8**
BSUT IAmb IAmb 17 17 08.1
comp=Z,10nm,1.1s
SCI2 San Clemente I 51.51 315 P **P 17 17 07.1 +1.3**
baz=123
MPU Maple Canyon 51.58 327 P **P 17 17 06.9 +0.5**
MPU IAmb IAmb 17 17 07.9
comp=Z,10nm,1.1s
BFSC Mount Baldy Ra 51.60 317 P **P 17 17 07.7 +1.1**
baz=125
GSC Goldstone, Bar 51.65 319 P **P 17 17 08.1 +1.2**
GSC IAmb IAmb 17 17 09.1
comp=Z,8.0nm,0.9s
GSC Goldstone, Bar 51.65 319 P **P 17 17 08.3 +1.4**
baz=126
CIS Catalina Islan 51.65 316 P **P 17 17 08.1 +1.3**
baz=124
PSUT Pine Spring 51.83 324 P **P 17 17 09.2 +0.9**
DECC Green Verdugo 52.06 317 P **P 17 17 11.3 +1.4**
baz=124
QSM Queen of Sheba 52.08 319 P **P 17 17 10.9 +0.9**
GWY Greenwater Val 52.08 320 P **P 17 17 10.8 +0.6**
EDW2 Edwards Air Fo 52.19 318 P **P 17 17 11.8 +0.9**
baz=125,SNR=8.0
TPNV Topopah Spring 52.28 321 P **P 17 17 13.1 +1.5**
TPNV IAmb IAmb 17 17 14.4
comp=Z,10nm,0.8s
TPNV Topopah Spring 52.28 321 P **P 17 17 13.4 +1.8**
baz=128,SNR=9.3
LRMC Laurel Mtn Rad 52.33 318 P **P 17 17 13.5 +1.6**
baz=126
DUG Dugway, Tooele 52.35 326 P **P 17 17 13.1 +1.0**
DUG IAmb IAmb 17 17 14.7
comp=Z,6.4nm,0.9s
DUG Dugway, Tooele 52.35 326 P **P 17 17 13.4 +1.4**
baz=133,SNR=6.7
CCAC Calif City Air 52.36 318 P **P 17 17 12.5 +0.4**
FURC Furnace Creek, 52.38 320 P **P 17 17 14.0 +2.0**
baz=127
SPR3 Spring Creek 3 52.42 324 P **P 17 17 12.4 -0.3**
SPR3 IAmb IAmb 17 17 14.2
comp=Z,7.5nm,0.8s
WCT Wildcat Mounta 52.42 320 P **P 17 17 14.0 +1.4**
WCT IAmb IAmb 17 17 14.8
comp=Z,7.0nm,1.0s
PDAR Pinedale Array 52.49 331 P **P 17 17 12.8 -0.3**
PDAR Pinedale Array 52.49 331 P **P 17 17 12.7 -0.5**
comp=Z,1.2nm,0.7s,baz=134,slow=8.5,SNR=5.1
PDAR PcP **sP 17 18 20.2 +2.1**
comp=Z,0.6nm,0.4s,baz=143,slow=6.2,SNR=2.9
comp=Z,1.2nm,0.7s

MPMC	Manual Prospec	52.54 319	P	P	17 17 14.5 +1.0
	baz=126				
HWUT	Hardware Ranch	52.66 328	P	P	17 17 14.5 +0.2
HWUT			IAmb	IAmb	17 17 15.4
	comp=Z,7.0nm,0.8s				
R11B	Troy Canyon, C	52.74 323	P	P	17 17 15.8 +0.8
R11B	Troy Canyon, C	52.74 323	P	P	17 17 16.2 +1.2
	baz=129,SNR=5.7				
SCZ2	Santa Cruz Isl	52.82 316	P	P	17 17 16.9 +1.4
	baz=123				
ARVC	Arvin	52.90 317	P	P	17 17 17.3 +1.4
	baz=124				
SPUT	South Promonto	52.92 327	P	P	17 17 16.6 +0.3
SPUT			IAmb	IAmb	17 17 17.6
	comp=Z,12nm,0.9s				
ID09	Alton	52.93 329	P	P	17 17 16.1 -0.3
ID09			IAmb	IAmb	17 17 18.1
	comp=Z,7.2nm,1.0s				
ISA	Isabella, Lake	52.96 318	P	P	17 17 17.6 +1.1
ISA	Isabella, Lake	52.96 318	P	P	17 17 17.5 +1.0
	baz=125				
ID10	Lander Cutoff	52.97 330	P	P	17 17 16.5 -0.1
ID10			IAmb	IAmb	17 17 17.5
	comp=Z,12nm,1.0s				
BGU	Big Grassy Mou	52.97 327	P	P	17 17 17.2 +0.6
BGU			IAmb	IAmb	17 17 18.1
	comp=Z,14nm,1.2s				
GRAC	Grapevine Rang	53.02 320	P	P	17 17 17.6 +0.7
	baz=127				
GMN	Gold Mountain	53.13 321	P	P	17 17 18.9 +1.0
GMN			IAmb	IAmb	17 17 19.9
	comp=Z,7.3nm,0.9s				
CWC	Cottonwood Cre	53.15 319	P	P	17 17 19.1 +1.1
	baz=126				
AHID	Auburn Hatcher	53.26 330	P	P	17 17 16.8 -1.9
AHID			IAmb	IAmb	17 17 19.4
	comp=Z,5.6nm,0.8s				
HVU	Hansel Valley	53.43 328	P	P	17 17 20.0 +0.1
PKM	Mcpherson Peak	53.43 317	P	P	17 17 21.1 +1.0
	baz=123				
MZP	Montezuma Peak	53.45 321	P	P	17 17 20.9 +0.6
VES	Vestal, Richgr	53.47 318	P	P	17 17 21.4 +1.3
	baz=125				
REDW	Red Top Meadow	53.57 330	P	P	17 17 20.9 -0.1
TPH	Tonopah	53.58 321	P	P	17 17 21.9 +0.7
TIN	Tinemaha, Big	53.61 320	P	P	17 17 22.2 +1.0
	baz=126				
DSP	Deep Springs	53.63 320	P	P	17 17 22.5 +1.3
LOHW	Long Hollow	53.63 331	P	P	17 17 21.2 -0.2
ID08	Devils Gate	53.73 329	P	P	17 17 22.3 +0.2
ID08			IAmb	IAmb	17 17 23.2
	comp=Z,7.6nm,0.9s				
ULM	Lac du Bonnet	53.75 346	P	P	17 17 21.2 -0.6
	comp=Z,2.6nm,0.5s,baz=162,slow=6.4,SNR=2.1				
	comp=Z,2.6nm,0.5s				
MOOW	Moose Ponds	53.80 331	P	P	17 17 22.5 -0.1
IMW	Indian Meadow	54.00 331	P	P	17 17 24.3 +0.1
RLMT	Red Lodge	54.13 333	P	P	17 17 25.4 +0.4
	baz=140				
NV11	Mina Array Sit	54.38 321	P	P	17 17 27.9 +1.1
NV11			IAmb	IAmb	17 17 29.7
	comp=Z,10nm,1.4s				
NVAR	Mina Array Bea	54.47 321	P	P	17 17 28.2 +0.6
NVAR	Mina Array Bea	54.47 321	P	P	17 17 28.6 +0.9
	comp=Z,3.2nm,0.7s,baz=125,slow=7.0,SNR=5.3				
	comp=Z,3.2nm,0.7s				
LHV	Little Huntoon	54.49 321	P	P	17 17 28.9 +1.4
LHV			IAmb	IAmb	17 17 29.4
	comp=Z,7.4nm,1.1s				
YHH	Holmes Hill	54.62 331	P	P	17 17 29.2 +0.5
KVN	Kaiserville	54.72 322	P	P	17 17 29.8 +0.5
YHL	Hebgen Lake	54.82 331	P	P	17 17 31.1 +0.9
YHL			IAmb	IAmb	17 17 32.2
	comp=Z,12nm,0.9s				
BCYI	Bear Canyon	55.53 329	P	P	17 17 35.7 +0.6
HLID	Hailey	55.53 328	P	P	17 17 35.3 +0.2
HLID			IAmb	IAmb	17 17 36.5
	comp=Z,6.3nm,1.1s				
HLID	Hailey	55.53 328	P	P	17 17 35.4 +0.3
	baz=133				
BOZ	Bozeman (W)	55.59 332	P	P	17 17 36.1 +0.7
BOZ			IAmb	IAmb	17 17 36.6
	comp=Z,7.4nm,1.0s				
BOZ	Bozeman (W)	55.59 332	P	P	17 17 35.9 +0.5
	baz=137,SNR=5.3				
EMB	Emerald Bay	55.93 321	P	P	17 17 39.2 +1.2
EMB			IAmb	IAmb	17 17 39.6
	comp=Z,7.0nm,0.9s				
MFID	Camas Ranch	56.19 327	P	P	17 17 40.2 +0.5
AFDM	Forest Hills D	56.47 320	P	P	17 17 41.4 -0.2
AFDM			IAmb	IAmb	17 17 42.8
	comp=Z,9.1nm,1.2s				
BPMT	Black Pine Rid	57.07 331	P	P	17 17 45.0 -0.9
WVOR	Wild Horse Val	57.13 325	P	P	17 17 46.8 +0.5
ORV	Oroville	57.15 320	P	P	17 17 47.7 +1.4
PLID	Pearl Lake	57.41 329	P	P	17 17 47.3 -1.0
MSO	Missoula	57.59 331	P	P	17 17 49.6 +0.2
MSO	Missoula	57.59 331	P	P	17 17 50.0 +0.6
	baz=136				
F10A	Beach Ranch, E	58.64 329	P	P	17 17 56.9 +0.2
F10A			IAmb	IAmb	17 17 57.4
	comp=Z,5.7nm,1.0s				
G08A	Pilot Rock	59.11 327	P	P	17 18 00.4 +0.4
G08A			IAmb	IAmb	17 18 01.4
	comp=Z,9.5nm,0.8s				
J05D	Fort Rock, OR	59.16 324	P	P	17 18 01.0 +0.6
PINE	Pine Mountain	59.29 325	P	P	17 18 02.6 +1.2
I05D	Terrebonne, OR	59.85 325	P	P	17 18 06.1 +1.2
G06A	Carlson Farm,	60.00 326	P	P	17 18 07.2 +1.2
G06A			IAmb	IAmb	17 18 07.7
	comp=Z,6.9nm,0.7s				
NEW	Newport	60.13 331	P	P	17 18 06.1 -0.7
NEW			IAmb	IAmb	17 18 07.6
	comp=Z,7.9nm,1.1s				
NEW	Newport	60.13 331	P	P	17 18 07.3 +0.5
	baz=133				
G05A	Wamic	60.38 326	P	P	17 18 10.1 +1.5
E07A	Sunnyside	60.41 328	P	P	17 18 09.5 +0.9
H04A	Detroit Lake	60.54 325	P	P	17 18 09.3 -0.3
H04A			IAmb	IAmb	17 18 10.5
	comp=Z,10nm,1.0s				
HOOD	Mount Hood Mea	60.62 326	P	P	17 18 11.0 +0.7
GNW	Green Mountain	62.62 327	P	P	17 18 23.5 +0.1
GNW			IAmb	IAmb	17 18 24.4
	comp=Z,9.9nm,1.0s				
DY2G	Dye2	71.30 13	*i* P	P	17 19 16.5 -1.6
CRAG	Craig	72.35 331	P	P	17 19 26.3 +2.0
	baz=120				
LIC	Lamto	72.91 83⇑	*i* P	P	17 19 27.2 -1.2
	comp=Z,22nm,0.6s				
TIC	Toumodi	72.94 83⇑	*i* P	P	17 19 27.3 -1.3
	comp=Z,4.7nm,0.2s				
DBIC	Dimbokro	73.11 83	P	P	17 19 28.4 -1.1
	comp=Z,10nm,0.8s,baz=260,slow=4.5,SNR=9.5				
	comp=Z,10nm,0.8s				
KIC	Kosan Boka	73.20 83⇑	*e* P	P	17 19 29.0 -1.2
	comp=Z,9.9nm,0.3s				
TGTN	Hyland Airport	73.56 337	P	P	17 19 32.4 +1.1
	baz=126				
Q32M	Nakina River	73.76 334	P	P	17 19 33.7 +1.0
	baz=122				
SIT	Sitka	74.20 331	P	P	17 19 36.0 +1.0
	baz=118				
P33M	Teslin, Yukon	74.66 335	P	P	17 19 38.9 +1.1
	baz=122				
ICESG	Greenland Ices	74.91 13	*i* P	P	17 19 37.6 -1.7
ICESG			IAmb	IAmb	17 19 39.0
	comp=Z,14nm,0.7s				
S31K	Pelican	75.06 332	P	P	17 19 41.3 +1.3
	baz=118				
MMPY	Sheldon Lake,	75.34 337	P	P	17 19 43.1 +1.5
	baz=124				
PLBC	Pleasant Camp	75.83 333	P	P	17 19 45.8 +1.4
	baz=118				
FARO	Faro, Yukon	75.94 336	P	P	17 19 45.8 +0.9
	baz=122				
O30N	Mendenhall	76.34 335	P	P	17 19 48.5 +1.2
	baz=119				
M31M	Drury Creek, Y	76.35 336	P	P	17 19 48.6 +1.4
	baz=121				
P30M	Million Dollar	76.41 334	P	P	17 19 48.7 +1.0
	baz=118				
P29M	Windy Craggy	76.53 333	P	P	17 19 49.5 +1.1
	baz=117				
N31M	Braeburn, Yuko	76.56 335	P	P	17 19 49.4 +0.9
	baz=119				
N30M	Aishikik Lake	77.10 335	P	P	17 19 52.6 +1.1
N30M			IAmb	IAmb	17 19 53.4
	comp=Z,8.0nm,0.9s				
N30M	Aishikik Lake	77.10 335	P	P	17 19 53.0 +1.6
	baz=118				
C36M	Paulatuk	77.16 345	P	P	17 19 53.6 +2.1
	baz=132				
O29M	Mount Kennedy	77.21 334	P	P	17 19 53.2 +1.0
	baz=116				
PNL	Peninsula	77.31 333	P	P	17 19 53.4 +0.8
	baz=115				
YUK6	Outpost Mounta	77.41 334	P	P	17 19 53.7 +0.3
	baz=117				
M30M	Minto, Yukon	77.51 336	P	P	17 19 54.6 +0.9
	baz=118				
YUK4	Talbot Arm	77.71 334	P	P	17 19 56.1 +1.0
	baz=117				
SUMG	Summit	77.85 11	*i* P	P	17 19 54.7 -1.1
SUMG			IAmb	IAmb	17 19 56.3
	comp=Z,12nm,0.6s				
PINM	Pinnacle	77.88 333	P	P	17 19 57.0 +1.1
	baz=115				
M29M	Somme Creek	78.13 335		P	17 19 58.3 +1.0
M29M			IAmb	IAmb	17 19 58.9
	comp=Z,15nm,1.2s				
M29M	Somme Creek	78.13 335	P	P	17 19 58.1 +0.9
	baz=117				
O28M	Mount Upton	78.14 334	P	P	17 19 58.8 +1.2
	baz=115				
YUK8	Steele Glacier	78.17 334	P	P	17 19 58.7 +1.0
	baz=115				
H31M	Peel River	78.19 339	P	P	17 19 58.4 +1.0
	baz=121				
J30M	Hart River	78.29 338	P	P	17 19 59.4 +1.3
	baz=119				
L29M	L29M	78.30 336	P	P	17 19 58.9 +0.8
	baz=117,SNR=6.5				
K29M	Barlow Dome	78.40 337	P	P	17 19 58.6 -0.1
K29M			IAmb	IAmb	17 19 59.8
	comp=Z,6.0nm,0.9s				
K29M	Barlow Dome	78.40 337	P	P	17 19 59.4 +0.7
	baz=118				
I30M	Mount Dempster	78.63 338	P	P	17 20 00.3 +0.4
I30M			IAmb	IAmb	17 20 01.4
	comp=Z,6.1nm,0.8s				
I30M	Mount Dempster	78.63 338	P	P	17 20 00.7 +0.7
	baz=119,SNR=6.3				
YUK3	Moose Creek	78.68 334	P	P	17 20 01.1 +0.7
	baz=115				
MESA	MESA	78.69 333	P	P	17 20 01.0 +0.5
	baz=113				
CTG	Chitna Glacier	78.73 334	P	P	17 20 01.5 +0.9
	baz=114				
G31M	Satah River	78.76 340	P	P	17 20 01.7 +1.3
	baz=122				
F31M	Tsiigehtchic	78.86 341	P	P	17 20 01.5 +0.6
	baz=122				
A36M	Sachs Harbour	79.22 346	P	P	17 20 03.9 +1.1
	baz=131				
DAWY	Dawson	79.23 337	P	P	17 20 03.9 +0.7
	baz=116				
INK	Inuvik	79.26 342	P	P	17 20 03.9 +0.8
	baz=122				
BGLC	Bering Glacier	79.28 332	P	P	17 20 04.5 +1.1
	baz=112				
EPYK	Eagle Plains	79.32 339	P	P	17 20 04.1 +0.6
	baz=119				
I29M	Ogilvie Camp,	79.41 338	P	P	17 20 04.6 +0.6
	baz=118				
M27K	Edge Creek, AK	79.53 335	P	P	17 20 05.8 +0.9
	baz=114				
F30M	Barrier River	79.62 341	P	P	17 20 06.0 +0.9
	baz=120				
MCARA	McCarthy VSAT	79.64 334	P	P	17 20 06.7 +1.3
	baz=112				
KAIM	Kayak Island	79.74 332	P	P	17 20 07.0 +1.1
	baz=111				
BELA	Belgrano 2	79.75 172	P	P	17 20 06.2 +0.6
BCAR	Beaver Creek A	79.78 335	P	P	17 20 06.7 +0.5
L27K	Beaver Creek,	79.79 335	P	P	17 20 06.9 +0.7
L27K	Beaver Creek,	79.79 335	P	P	17 20 07.2 +1.1
	baz=114				
H29M	Whitestone	79.83 339	P	P	17 20 07.0 +0.7
	baz=118				
TOA0	Torodi Ar. Sit	79.97 76	P	P	17 20 06.2 -1.9
TOA0			IAmb	IAmb	17 20 07.3
	comp=Z,7.7nm,1.2s				
TORD	Torodi Ar. Bea	79.97 76	P	P	17 20 05.9 -2.1
TORD			IAmb	IAmb	17 20 07.4
	comp=Z,8.7nm,1.5s				
TORD	Torodi Ar. Bea	79.97 76	P	P	17 20 06.1 -2.0
	comp=Z,1.8nm,0.4s,baz=282,slow=5.9,SNR=30				
	comp=Z,1.8nm,0.4s				
M26K	Nabesna, AK	80.03 335	P	P	17 20 07.8 +0.3
	baz=113				
G29M	Pine Creek	80.03 340	P	P	17 20 07.6 +0.2
G29M			IAmb	IAmb	17 20 08.8
	comp=Z,15nm,1.1s				
G29M	Pine Creek	80.03 340	P	P	17 20 08.0 +0.6
	baz=118				
I28M	Miner Creek	80.06 338	P	P	17 20 07.8 +0.2
I28M			IAmb	IAmb	17 20 08.8
	comp=Z,5.7nm,0.9s				
I28M	Miner Creek	80.06 338	P	P	17 20 08.2 +0.6
	baz=116				
NEEM	North Greenlan	80.09 6	*i* P	P	17 20 06.8 -1.1
BMRM	Bremner River	80.20 333	P	P	17 20 09.3 +0.9
	baz=111				
K27K	Chicken	80.29 336	P	P	17 20 09.9 +1.1
	baz=114				
L26K	Log Cabin Wild	80.42 335	P	P	17 20 10.4 +0.9
	baz=112				
N25K	Chitina, Valde	80.43 334	P	P	17 20 10.7 +1.1
	baz=111				
EYAK	Cordova Ski Ar	80.58 332	P	P	17 20 10.5 +0.2
	baz=110				
E29M	Blow River	80.70 341	P	P	17 20 11.3 +0.5
	baz=118				
I27K	Kandik River	80.76 338	P	P	17 20 11.8 +0.5
	baz=114				
HARP	HAARP	80.96 334	P	P	17 20 12.7 +0.3
	baz=111				
KLU	Klutina	80.98 333	P	P	17 20 12.9 +0.2
	baz=110				
H27K	Steamboat Moun	80.99 338	P	P	17 20 12.6 +0.1
	baz=115				
F28M	Old Crow	81.00 340	P	P	17 20 12.8 +0.3
	baz=116				
SCRK	Sand Creek	81.04 336	P	P	17 20 12.8 -0.1
SCRK			IAmb	IAmb	17 20 14.4
	comp=Z,6.1nm,1.0s				
SCRK	Sand Creek	81.04 336	P	P	17 20 13.1 +0.1
	baz=112				
J26L	Joseph Creek	81.07 336	P	P	17 20 13.3 +0.3
J26L			IAmb	IAmb	17 20 14.2
	comp=Z,11nm,1.1s				
J26L	Joseph Creek	81.07 336	P	P	17 20 13.8 +0.7
	baz=112,SNR=7.1				
I26K	Coal Creek Min	81.22 337	P	P	17 20 13.8 +0.1
	baz=113				
G27K	Doyon Strip	81.28 339	P	P	17 20 13.8 -0.2
	baz=114				
PAX	Paxson	81.30 335	P	P	17 20 14.4 +0.1
	baz=110				
M24K	Tolsona, Glenn	81.31 334	P	P	17 20 14.8 +0.5
	baz=110				
RIDG	Independent Ri	81.31 335	P	P	17 20 14.7 +0.5
RIDG			IAmb	IAmb	17 20 15.8
	comp=Z,12nm,1.2s				
RIDG	Independent Ri	81.31 335	P	P	17 20 15.0 +0.8
	baz=111				
GLI	Glacier Island	81.31 332	P	P	17 20 14.7 +0.4
	baz=109				
E28M	Babbage River	81.33 341	P	P	17 20 14.8 +0.6
	baz=117				
K24K	Donnelly Dome	81.72 335	P	P	17 20 16.6 +0.2
	baz=110				
SCM	Sheep Creek Mo	81.73 333	P	P	17 20 16.5 0.0
	baz=109				
VNA3	Neumayer Olymp	81.73 162	⇓P	P	17 20 16.9 +0.6
	comp=Z,6.6nm,0.8s				
E27K	Coleen River	81.83 340	P	P	17 20 17.2 +0.3
	baz=115				
J25K	Salcha River,	81.84 336	P	P	17 20 16.9 -0.1
J25K			IAmb	IAmb	17 20 17.6
	comp=Z,5.6nm,0.8s				
J25K	Salcha River,	81.84 336	P	P	17 20 17.3 +0.2
	baz=111,SNR=5.7				
PWL	Port Wells	81.89 332	P	P	17 20 18.1 +0.8
	baz=108				
VNA1	Neumayer--Stat	81.97 162	⇓P	P	17 20 18.9 +1.5
	comp=Z,5.8nm,0.9s				
D27M	Malcolm River	82.08 341	P	P	17 20 19.0 +0.8
	baz=116				
G26K	Porcupine Rive	82.10 339	P	P	17 20 19.1 +0.9
	baz=112				
DHY	Denali Highway	82.15 334	P	P	17 20 19.5 +0.7
	baz=109				
WAT6	Susitna Watana	82.15 334	P	P	17 20 18.9 +0.1
	baz=108				
SML	Sawmill	82.17 333	P	P	17 20 19.3 +0.5
	baz=108				
PRP	Porcupine Dome	82.22 337	P	P	17 20 19.1 0.0
	baz=111				
VNA2	Neumayer--Watz	82.33 162	⇓P	P	17 20 19.8 +0.4
	comp=Z,4.4nm,0.8s,baz=294,slow=6.0				
EKA	Eskdalemuir Ar	82.37 34	P	P	17 20 18.5 -1.4
	comp=Z,1.8nm,0.8s,baz=212,slow=26,SNR=3.5				
	comp=Z,1.8nm,0.8s				
HDA	Harding Lake	82.41 336	P	P	17 20 19.6 -0.3
HDA			IAmb	IAmb	17 20 20.3
	comp=Z,9.8nm,1.1s				
HDA	Harding Lake	82.41 336	P	P	17 20 20.0 +0.1
	baz=109				
IL03	Eielson Array	82.49 336	P	P	17 20 19.8 -0.6
IL31		82.51 336	P	P	17 20 19.7 -0.6
ILAR	Eielson Array	82.51 336	P	P	17 20 19.7 -0.7
ILAR	Eielson Array	82.51 336	P	P	17 20 19.9 -0.5
	comp=Z,4.0nm,0.9s,baz=124,slow=3.9,SNR=29				
	comp=Z,4.0nm,0.9s				
F26K	Sheenjek River	82.52 339	P	P	17 20 21.3 +0.8
	baz=112				
BMAR	Burnt Mountain	82.57 339	P	P	17 20 20.8 0.0
WAT1	Susitna Watana	82.58 334	P	P	17 20 20.9 0.0
	baz=108				
H25L	Birch Creek	82.60 338	P	P	17 20 21.9 +1.1
	baz=111				
BRSE	Bradley Lake S	82.72 331	P	P	17 20 22.4 +0.8
	baz=105				
POKR	Poker Plat Res	82.84 336	P	P	17 20 22.9 +0.8
	baz=109				
G25K	Bearman Lake	82.89 338	P	P	17 20 23.3 +1.0
	baz=110				
M22K	Willow	82.97 333	P	P	17 20 23.7 +0.9
	baz=106				
F25K	Christian Rive	83.01 339	P	P	17 20 23.9 +0.9
	baz=111				
MCK	McKinley	83.02 335	P	P	17 20 23.1 -0.1
MCK			IAmb	IAmb	17 20 25.3
	comp=Z,9.1nm,1.0s				
MCK	McKinley	83.02 335	P	P	17 20 23.9 +0.7
	baz=107				
MDM	Murphy Dome	83.11 336	P	P	17 20 23.4 -0.2
MDM			IAmb	IAmb	17 20 24.4
	comp=Z,7.1nm,0.9s				
KDAK	Kodiak Island	83.15 329	P	P	17 20 25.3 +1.5
	baz=104				
E25K	Arctic Village	83.18 340	P	P	17 20 24.7 +0.9
	baz=111				
SUA	Susitna One	83.18 332	P	P	17 20 25.0 +0.9
	baz=106				
H24K	Noodor Dome	83.25 337	P	P	17 20 24.9 +0.6
	baz=109				
Q20K	Shuyak Island	83.25 329	P	P	17 20 24.9 +0.6
	baz=104				
NEA2	Nenana	83.34 336	P	P	17 20 24.5 -0.2
NEA2			IAmb	IAmb	17 20 25.4
	comp=Z,13nm,1.0s				
NEA2	Nenana	83.34 336	P	P	17 20 24.8 +0.1
	baz=107				
G24K	Hadweenzic Riv	83.38 338	P	P	17 20 25.6 +0.8
	baz=109				
I23K	Minto, Yukon-K	83.62 336	P	P	17 20 26.4 +0.3
I23K	Minto, Yukon-K	83.62 336	P	P	17 20 26.3 +0.3
	baz=107				
SKT	Skwentna	83.68 333	P	P	17 20 26.4 -0.1
SKT	Skwentna	83.68 333	P	P	17 20 26.6 +0.1
	baz=105,SNR=6.2				
O20K	Slope Mountain	83.72 331	P	P	17 20 26.9 +0.1
	baz=104				
SII	Sitkinak Islan	83.73 327	P	P	17 20 27.1 +0.2
	baz=102				
N20K	Mount Spurr	83.79 332	P	P	17 20 27.9 +0.7
	baz=104				
F24K	Squaw Lake	83.80 339	P	P	17 20 28.0 +1.0
	baz=109				
KTH	Kantishna Hill	83.82 334	P	P	17 20 26.8 -0.4
KTH			IAmb	IAmb	17 20 28.3
	comp=Z,11nm,0.9s				
D25K	Kavik River	83.88 341	P	P	17 20 28.2 +0.8
	baz=110				
SNAA	Sanae	83.95 162	P	P	17 20 28.1 +0.4
SNAA	Sanae	83.95 162	⇓P	P	17 20 28.1 +0.4
	comp=Z,78nm,0.8s				
SNAA	Sanae	83.95 162	P	P	17 20 28.2 +0.4
	comp=Z,2.3nm,0.7s,baz=260,slow=5.6,SNR=19				
	comp=Z,2.3nm,0.7s				
BPAW	Bear Paw Mtn.	84.00 335	P	P	17 20 27.4 -0.6
BPAW			IAmb	IAmb	17 20 28.7
	comp=Z,12nm,0.9s				
BPAW	Bear Paw Mtn.	84.00 335	P	P	17 20 28.5 +0.4
	baz=106,SNR=9.9				
MLY	Manley	84.15 336	P	P	17 20 28.6 -0.2
MLY			IAmb	IAmb	17 20 29.9
	comp=Z,10nm,1.3s				
MLY	Manley	84.15 336	P	P	17 20 28.8 -0.1
	baz=106,SNR=5.9				
E24K	Your Creek	84.19 339	P	P	17 20 29.0 0.0
	baz=108				
PPLA	Purkeypile	84.20 334	P	P	17 20 28.9 -0.4
PPLA	Purkeypile	84.20 334	P	P	17 20 29.1 -0.2
	baz=104				
CAST	Castle Rocks	84.29 334	P	P	17 20 29.2 -0.4
CAST			IAmb	IAmb	17 20 29.9
	comp=Z,11nm,0.9s				
CAST	Castle Rocks	84.29 334	P	P	17 20 29.2 -0.4
	baz=104,SNR=9.4				
G23K	Bananza Creek	84.34 338	P	P	17 20 30.4 +0.6
	baz=107				
M20K	Styx River	84.39 333	P	P	17 20 29.8 -0.4
M20K			IAmb	IAmb	17 20 30.1
	comp=Z,5.3nm,0.8s				
M20K	Styx River	84.39 333	P	P	17 20 30.1 0.0
	baz=103				
CHUM	Lake Minchumin	84.51 335	P	P	17 20 30.6 0.0
	baz=104				
DAG	Danmarks Havn	84.54 11	*i* P	P	17 20 28.8 -1.7
COLD	Coldfoot	84.56 338	P	P	17 20 31.9 +1.1
	baz=107				
Q18K	Katmai Hardscr	84.59 329	P	P	17 20 32.0 +0.7
	baz=101				
H22K	Ishtalitna Cre	84.64 337	P	P	17 20 32.0 +0.7
	baz=105				
D24K	Happy Valley	84.65 340	P	P	17 20 32.1 +0.9
	baz=108				
I21K	Tanana	84.70 336	P	P	17 20 32.4 +0.9
	baz=105				
TOLK	Toolik Lake Re	84.75 340	P	P	17 20 32.7 +0.9
	baz=107				
N19K	Bonanza Creek	84.78 331	P	P	17 20 32.9 +0.7
	baz=102				
C24K	Franklin Bluff	84.79 341	P	P	17 20 32.8 +0.9
	baz=108				
L20K	Farewell, AK	84.86 333	P	P	17 20 32.4 -0.1
	baz=103				
O18K	Koktuh Hills	84.94 330	P	P	17 20 33.2 +0.4
	baz=101				
M19K	Big River Lodg	84.97 332	P	P	17 20 33.2 +0.2
	baz=102				
K20K	Telida	85.14 334	P	P	17 20 33.1 -0.7
	baz=103				
H21K	Melozitna Rive	85.15 336	P	P	17 20 33.8 0.0
	baz=104				
D23K	Nanushuk River	85.23 340	P	P	17 20 33.7 -0.4
	baz=106				
L19K	White Mountain	85.24 333	P	P	17 20 34.0 -0.3
	baz=102				
J20K	Nowinta River	85.36 335	P	P	17 20 34.5 -0.3
J20K			IAmb	IAmb	17 20 34.7
	comp=Z,2.9nm,0.6s				
J20K	Nowinta River	85.36 335	P	P	17 20 34.8 0.0
	baz=103				
F22K	John River	85.37 338	P	P	17 20 35.5 +0.6
	baz=105				
E22K	Anaktuvuk Pass	85.40 339	P	P	17 20 35.6 +0.6
	baz=105				

M18K Stony River 85.56 332 P **P** **17 20 35.9 +0.1**
baz=101
G21K Allakaket 85.63 337 P **P** **17 20 36.9 +0.7**
baz=104
TROLL Troll, Antarti 85.66 162 ⇓P **P** **17 20 37.1 +0.7**
comp=Z,269nm,0.4s
F21K Alatna River 85.79 338 P **P** **17 20 37.5 +0.6**
baz=104
O17K Koliganek Bris 85.86 330 P **P** **17 20 37.7 +0.4**
baz=100
H20K Anotleneega Mo 85.95 336 P **P** **17 20 38.1 +0.3**
baz=102
L18K Granite Mounta 86.09 333 P **P** **17 20 38.8 +0.3**
baz=100
B22K Teshekpuk Lake 86.52 341 P **P** **17 20 41.0 +0.7**
baz=104
H19K Roundabout Mou 86.60 336 P **P** **17 20 42.1 +1.3**
baz=101
GCSA Galena City Sc 86.64 335 P **P** **17 20 41.8 +0.8**
baz=100
C21K Knifeblade Rid 86.71 340 P **P** **17 20 42.2 +0.8**
baz=102
B21K Ikpikpuk River 86.75 340 P **P** **17 20 42.3 +0.7**
baz=103
N16K Nishlik Lake 86.80 331 P **P** **17 20 42.5 +0.5**
baz=98
L17K Donlin 86.82 332 P **P** **17 20 42.6 +0.6**
baz=99
K17K Iditarod 86.92 333 P **P** **17 20 42.4 -0.1**
baz=99
M16K Timber Creek 86.97 331 P **P** **17 20 42.9 +0.1**
baz=98
G19K Purcell Mounta 86.97 336 P **P** **17 20 42.6 0.0**
baz=100
E20K Nigu River 87.02 339 P **P** **17 20 43.6 +0.6**
baz=101
O15K Ungalikthiuk R 87.15 329 P **P** **17 20 44.5 +0.9**
baz=97
A22K Sinclair Lake 87.17 341 P **P** **17 20 44.6 +1.1**
baz=102
E19K Redstone River 87.26 338 P **P** **17 20 44.2 +0.2**
E19K IAmb IAmb 17 20 44.9
comp=Z,6.2nm,0.8s
E19K Redstone River 87.26 338 P **P** **17 20 44.9 +0.9**
baz=100
D20K Ettivluk River 87.26 339 P **P** **17 20 45.3 +1.2**
baz=101
L16K Owhat River 87.31 332 P **P** **17 20 45.7 +1.4**
baz=98
H18K Honhosa River 87.33 335 P **P** **17 20 46.0 +1.6**
baz=99
F19K Shaleruckik Mo 87.36 337 P **P** **17 20 45.6 +1.1**
baz=100
G18K Tagagawik 87.56 336 P **P** **17 20 46.6 +1.0**
baz=99
D19K Kuna River 87.77 339 P **P** **17 20 47.2 +0.7**
baz=99
H17K Granite Mounta 87.95 335 P **P** **17 20 48.4 +1.0**
baz=98
J16K Anvik River 88.04 333 P **P** **17 20 48.6 +0.8**
baz=97
N14K Kuskokwak Cree 88.17 330 P **P** **17 20 49.5 +1.0**
baz=96
L15K Ungalak Mounta 88.26 332 P **P** **17 20 50.2 +1.3**
baz=96
G17K Kiwalik Mounta 88.33 336 P **P** **17 20 50.1 +1.0**
baz=97
K15K Wolf Creek Mou 88.35 332 P **P** **17 20 50.3 +1.0**
baz=96
M14K Bethel 88.39 331 P **P** **17 20 50.2 +0.8**
M14K Bethel 88.39 331 P **P** **17 20 50.5 +1.0**
baz=96
F17K Baldwin Pennin 88.68 336 P **P** **17 20 51.7 +1.0**
baz=96
QSPA South Pole Qui 88.68 180 P **P** **17 20 51.9 +0.9**
QSPA South Pole Qui 88.68 180 P **P** **17 20 52.3 +1.4**
comp=Z,10nm,0.9s,baz=191,slow=0.9,SNR=44
comp=Z,10nm,0.9s
L14K Kuka Creek 88.80 331 P **P** **17 20 52.3 +0.9**
baz=95
E17K Hotham Inlet 88.98 337 P **P** **17 20 52.9 +0.8**
baz=96
G16K Koyuk River 89.02 335 P **P** **17 20 53.0 +0.7**
baz=95
M13K Dall Lake 89.05 330 P **P** **17 20 53.3 +0.7**
baz=94
B18K Kokolik River 89.20 339 P **P** **17 20 54.1 +1.0**
baz=96
J14K Nanvaranak Lak 89.32 333 P **P** **17 20 54.6 +0.8**
baz=94
D17K Noatak River 89.52 338 P **P** **17 20 55.9 +1.3**
baz=95
K13K Kusilvak Mount 89.78 332 P **P** **17 20 57.5 +1.5**
baz=93
F14K Arctic Creek 90.69 335 P **P** **17 21 01.2 +1.1**
baz=92
NIKH Nikolski High 91.81 323 P **P** **17 21 06.5 +0.9**
baz=90
ELIB Princess Elisa 92.11 162 *d*PcP **P** **17 21 07.7 +0.9**
comp=Z,6.7nm,0.7s
ZALV Zalesovo Beam 125.65 13 PKP **PKPdf** **17 26 56.2 -1.9**
comp=Z,0.6nm,0.4s,baz=224,slow=1.4,SNR=4.7
STKA Stephens Creek 130.23 225 PKP **PKPdf** **17 27 07.2 -0.3**
comp=Z,1.3nm,0.5s,baz=225,slow=4.5,SNR=5.0
MKAR Makanchi Array 131.51 18 PKP **PKPdf** **17 27 08.8 -0.8**
comp=Z,0.2nm,0.4s,baz=283,slow=3.2,SNR=5.5
MKAR SKPbc **SKPbc** **17 30 17.1 -0.1**
comp=Z,1.3nm,0.9s,baz=286,slow=4.9,SNR=5.7
SONM Songino Array 133.59 356 SKPbc **SKPbc** **17 30 23.7 -0.9**
comp=Z,1.2nm,0.9s,baz=270,slow=3.0,SNR=4.7
ASAR Alice Springs 140.47 229 PKhKP PKPpre 17 27 18.2
comp=Z,0.9nm,0.5s,baz=122,slow=3.8,SNR=35
WRA Warramunga Arr 142.12 234 PKhKP PKPpre 17 27 25.1
comp=Z,2.9nm,0.5s,baz=114,slow=2.7,SNR=66
WRA SKPbc **SKPbc** **17 30 48.9 -0.9**
comp=Z,2.2nm,1.0s,baz=123,slow=2.0,SNR=6.5
PZH PanZhiHua 155.02 1 PKPbc **PKPdf** **17 27 48.3 -2.2**
CMAR Chiang Mai Arr 162.71 11 PKP **PKPdf** **17 27 59.1 -0.4**
comp=Z,0.5nm,0.6s,baz=302,slow=2.2,SNR=5.0
CMAR PKPab **PKPab** **17 28 47.4 -1.5**
comp=Z,0.8nm,0.7s,baz=332,slow=4.9,SNR=5.4

---

*DJA **23** 17:24:38.6±0.5, 4°S×4°×12°9E±°, h195km±5km, M4.4/13, mb4.3/4, mB5.4/2, MLv4.4/13, Mw(mB)4.9/2*
*IDC **23** 17:24:38.8±1.4, 4°43S×129°08E, h204km±16km, mb3.4/6, mbtmp4.2/10, MS3.1/2, Error ellipse: s-maj=22.9km s-min=10.7km az=84.0*
*NEIC **23** 17:24:38.7±1.2, 4°50S±0°07×128°92E±0°10, h201km±6km, mb4.0/15, Error ellipse: s-maj=14.1km s-min=9.5km az=96.0*
ISC 23 17:24:38.0±0.5, **4°52S**±0°05×**128°97E**±0°05, **h200**km, **n73**, σ1$**39**/79, **mb3.8**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.93**	**90**	P	**Pn**	**17 25 09.0**	**+1.7**
BNDI	**Bandanaira**	**0.93**	**90**	P	**Pn**	**17 25 09.0**	**+1.7**
NLAI	**Namlea**	**2.26**	**304**	P	**Pn**	**17 25 19.4**	**+0.1**
NLAI				S	**Sn**	**17 25 49.7**	**-1.7**
FAKI	**Fak Fak**	**3.64**	**64**		**Pn**	**17 25 36.3**	**+0.9**
FAKI				Sn	**Sn**	**17 26 14.9**	**-5.4**
FAKI	**Fak Fak**	**3.64**	**64**	P	**Pn**	**17 25 36.5**	**+1.1**
FAKI	**Fak Fak**	**3.64**	**64**	P	**Pn**	**17 25 36.6**	**+1.1**
SANI	**Sanana**	**3.86**	**309**	P	**Pn**	**17 25 36.6**	**-1.5**
SANI	**Sanana**	**3.86**	**309**	P	**Pn**	**17 25 36.7**	**-1.4**
LBMI	**Labuha**	**4.13**	**339**	P	**Pn**	**17 25 41.0**	**-0.5**
SAUI	**Saumlaki**	**4.14**	**146**	Pn	**Pn**	**17 25 42.7**	**+1.1**
SAUI				Sn	**Sn**	**17 26 27.0**	**-4.7**
SAUI	**Saumlaki**	**4.14**	**146**	P	**Pn**	**17 25 42.2**	**+0.5**
SIJI	**Sorong**	**4.29**	**32**	P	**Pn**	**17 25 43.8**	**+0.2**
	100nm,0.3s,baz=221,slow=11,SNR=268						
SIJI				S	**Sn**	**17 26 32.8**	**-2.3**
	222nm,0.2s,baz=250,slow=23,SNR=42						
SWI	**Sorong**	**4.29**	**32**	P	**Pn**	**17 25 43.8**	**+0.3**
TNTI	**Ternate**	**5.50**	**343**		**Pn**	**17 25 58.4**	**-0.5**
TNTI	**Ternate**	**5.50**	**343**	P	**Pn**	**17 25 59.0**	**+0.1**
TNTI	**Ternate**	**5.50**	**343**	P	**Pn**	**17 25 59.0**	**+0.1**
	39nm,0.9s,0.1nm						
RKPI	**Ransiki, Papua**	**6.00**	**60**	P	**Pn**	**17 26 07.2**	**+1.9**
	777nm,0.6s,13μm3.9nm						
BBSI	**Bau Bau**	**6.45**	**261**	P	**Pn**	**17 26 10.9**	**-0.2**
	23nm,1.1s,0.1nm						
SOEI	**Soe**	**6.99**	**222**		**Pn**	**17 26 19.1**	**+0.9**
BATI	**Baumata**	**7.72**	**223**	P	**Pn**	**17 26 31.0**	**+3.3**
	17nm,0.3s,baz=34,slow=11,SNR=3.8						
BATI				LR	LR	17 29 35.4	
	comp=Z,65nm,18.2s,baz=108,slow=38						
MMRI	**Maumere**	**7.84**	**238**	Pn	**Pn**	**17 26 29.6**	**+0.4**
MTN	**Manton Dam**	**8.54**	**166**		**Pn**	**17 26 38.1**	**-0.2**
MTN	**Manton Dam**	**8.54**	**166**	P	**Pn**	**17 26 38.2**	**-0.2**
KDU	**Kakadu**	**8.82**	**157**	P	**Pn**	**17 26 41.7**	**-0.3**
KNRA	**Kununurra**	**11.09**	**181**		**Pn**	**17 27 10.8**	**-0.5**
KNRA	**Kununurra**	**11.09**	**181**	P	**Pn**	**17 27 11.4**	**+0.1**
PLAI	**Plampang**	**11.91**	**248**	P	**Pn**	**17 27 21.6**	**-0.3**
JAGI	**Jajag, Banyuwa**	**15.23**	**254**		**Pn**	**17 28 02.4**	**-0.9**
JAGI	**Jajag, Banyuwa**	**15.23**	**254**	P	**Pn**	**17 28 03.0**	**-0.3**
WB0	**Warramunga Arr**	**16.05**	**161**	P	**P**	**17 28 12.8**	**+0.2**
WB0				IAmb	IAmb	17 28 20.1	
	comp=Z,4.8nm,0.7s						
WRAB	**Tennant Creek**	**16.19**	**162**	P	**P**	**17 28 15.2**	**+1.0**
WRA	**Warramunga Arr**	**16.20**	**162**	P	**P**	**17 28 13.8**	**-0.4**
WRA	**Warramunga Arr**	**16.20**	**162**	P	**P**	**17 28 14.2**	**0.0**
	comp=Z,2.6nm,0.3s,baz=342,slow=11,SNR=40						
WRA				S	**S**	**17 31 11.4**	**-2.5**
	comp=Z,2.2nm,0.7s,baz=337,slow=21,SNR=11						
WB2	**Warramunga Arr**	**16.20**	**162**	P	**P**	**17 28 14.9**	**+0.7**
WB2				IAmb	IAmb	17 28 15.7	
	comp=Z,4.2nm,0.8s						
WR0	**Warramunga Arr**	**16.28**	**161**	P	**P**	**17 28 15.9**	**+0.8**
WR0				IAmb	IAmb	17 28 54.8	
	comp=Z,4.0nm,0.9s						
COEN	**Coen**	**16.85**	**125**	P	**Pn**	**17 28 25.0**	**+2.3**
MBWA	**Marble Bar**	**18.82**	**208**	P	**P**	**17 28 43.1**	**+0.3**
QIS	**Mount Isa**	**19.00**	**148**	P	**P**	**17 28 46.9**	**+2.0**
PSA00	**Pilbara Seismi**	**19.12**	**207**	P	**P**	**17 28 45.0**	**-1.1**
PSA00	**Pilbara Seismi**	**19.12**	**207**	P	**P**	**17 28 44.4**	**-1.7**
PSA00				IAmb	IAmb	17 28 51.0	
	comp=Z,11nm,1.4s						
PSA00	**Pilbara Seismi**	**19.12**	**207**	P	**P**	**17 28 45.5**	**-0.6**
AS31	**Alice Springs**	**19.62**	**166**	P	**P**	**17 28 52.9**	**+1.4**
AS31				IAmb	IAmb	17 28 53.9	
	comp=Z,6.0nm,0.5s						
ASAR	**Alice Springs**	**19.62**	**166**	P	**P**	**17 28 53.0**	**+1.6**
	comp=Z,9.4nm,0.5s,baz=346,slow=11,SNR=184						
ASAR				S	**S**	**17 32 19.4**	**-2.7**
	comp=Z,5.2nm,0.8s,baz=347,slow=21,SNR=24						
ASAR				PcP	**PcP**	**17 33 02.9**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=2.6,slow=1.2,SNR=4.8						
TGY	**Tagaytay City**	**20.15**	**337**	LR	LR	17 37 58.8	
	comp=Z,129nm,20.5s,baz=135,slow=40						
WRKA	**Warakurna**	**20.41**	**182**	P	**P**	**17 29 00.3**	**+0.4**
OOD	**Oodnadatta**	**24.01**	**165**	P	**P**	**17 29 36.6**	**+2.0**
MULG	**Mulgathing**	**26.07**	**170**	P	**P**	**17 29 55.3**	**+2.1**
KLBR	**Kellerberrin**	**28.92**	**200**	P	**P**	**17 30 18.7**	**+0.2**
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**29.68**	**158**	P	**P**	**17 30 26.1**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=335,slow=12,SNR=3.4						
	comp=Z,1.8nm,0.8s						
NWAO	**Narrogin (SRO)**	**30.31**	**200**	P	**P**	**17 30 30.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**37.38**	**309**	P	**P**	**17 31 32.2**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=136,slow=7.1,SNR=11						
	comp=Z,1.0nm,0.8s						
CHTO	**Chiang Mai**	**37.58**	**309**	P	**P**	**17 31 33.9**	**+0.3**
CHTO				IAmb	IAmb	17 31 34.6	
	comp=Z,4.5nm,1.1s						
USRK	**Ussuriysk Ar.**	**48.58**	**3**	P	**P**	**17 33 02.1**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=178,slow=7.7,SNR=4.6						
	comp=Z,1.9nm,0.7s						
TAPN	**Taplejung**	**50.89**	**311**	*e*P	**P**	**17 33 18.6**	**-0.7**
	comp=Z,8.0nm,0.4s						
RAMN	**Ramite**	**51.53**	**310**	*e*P	**P**	**17 33 23.6**	**-0.4**
	comp=Z,18nm,0.6s						
JIRN	**Jiri**	**52.20**	**310**	*e*P	**P**	**17 33 28.3**	**-0.9**
	comp=Z,2.3nm,0.2s						
GUN	**Gumba**	**52.57**	**310**	*e*P	**P**	**17 33 30.9**	**-0.9**
	comp=Z,13nm,0.6s						
PKI	**Pulchoki**	**52.75**	**310**	*e*P	**P**	**17 33 31.9**	**-1.3**
	comp=Z,3.1nm,0.4s						
PKIN	**Phulchoki**	**52.77**	**310**	*e*P	**P**	**17 33 32.0**	**-1.2**
	comp=Z,3.1nm,0.4s						
DMN	**Daman**	**53.01**	**310**	*e*P	**P**	**17 33 33.8**	**-1.1**
	comp=Z,7.1nm,0.4s						
GKN	**Gorkha**	**53.56**	**310**	*e*P	**P**	**17 33 37.9**	**-0.9**
	comp=Z,11nm,0.4s						
DANN	**Dangsing**	**54.41**	**310**	*e*P	**P**	**17 33 44.2**	**-0.9**
	comp=Z,7.7nm,0.5s						
PYUN	**Piuthan**	**54.88**	**309**	*e*P	**P**	**17 33 47.7**	**-0.7**
	comp=Z,6.4nm,0.6s						
MK31	**Makanchi Array**	**65.61**	**327**	P	**P**	**17 34 60.0**	**-0.6**
MKAR	**Makanchi Array**	**65.61**	**327**	P	**P**	**17 35 00.6**	**0.0**
MKAR	**Makanchi Array**	**65.61**	**327**	P	**P**	**17 35 00.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=116,slow=8.8,SNR=16						
	comp=Z,0.8nm,0.5s						
MAKZ	**Makanchi**	**65.78**	**327**	P	**P**	**17 35 01.7**	**0.0**
MAKZ				IAmb	IAmb	17 35 14.0	
	comp=Z,3.3nm,1.1s						
KURBB	**Kurchatov Arra**	**69.88**	**328**	P	**P**	**17 35 27.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=132,slow=5.6,SNR=5.0						
	comp=Z,0.6nm,0.5s						
SBA	**Scott Base**	**75.91**	**172**	P	**P**	**17 36 03.5**	**+1.4**
TIXI	**Tiksi**	**76.03**	**360**	P	**P**	**17 36 03.5**	**+0.7**
TIXI				IAmb	IAmb	17 36 28.4	
	comp=Z,3.7nm,1.1s						
ABKAR	**Akbulak array**	**79.94**	**322**	P	**P**	**17 36 24.8**	**0.0**
QSPA	**South Pole Qui**	**85.44**	**180**	P	**P**	**17 36 52.8**	**-0.2**
QSPA				IAmb	IAmb	17 37 26.3	
	comp=Z,3.6nm,1.4s						
QSPA	**South Pole Qui**	**85.44**	**180**	P	**P**	**17 36 52.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=302,slow=1.7,SNR=8.0						
	comp=Z,0.6nm,0.6s						

---

*IDC **23** 17:31:04.0±0.8, 23°6S×175°73W, h0km, mb4.1/10, mbtmp4.0/11, ML4.9/1, MS3.3/5, Error ellipse: s-maj=29.3km s-min=22.5km az=166.0*
*NEIC **23** 17:31:03.2±0.6, 23°5S±0°1×175°44W±0°07, h10km±1km, mb4.5/13, Error ellipse: s-maj=20.3km s-min=9.0km az=159.0*
ISC 23 17:31:06.3±0.6, **23°4S**±0°1×**175°37W**±0°07, **h30**km, **n40**, σ1$**51**/36, **mb4.5**/19, **MS3.2**/3, **5C, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**6.67**	**51**	Pn	**Pn**	**17 32 42.4**	**+0.2**
NIUE				Sn	**Sn**	**17 33 56.7**	**-0.5**
MSVF	**Nonsavu**	**8.37**	**311**		**Pn**	**17 33 04.3**	**-1.4**
MSVF	**Nonsavu**	**8.37**	**311**	Pn	Pn	17 33 09.1	+3.4
	0.5nm,0.3s,baz=4.0,slow=23,SNR=12						
MSVF				LR	LR	17 36 19.3	
	comp=Z,292nm,20.4s,baz=96,slow=37						
	1.0nm,0.4s						
RAR	**Rarotonga**	**14.60**	**84**	Pn	**Pn**	**17 34 30.3**	**-0.6**
RAR	**Rarotonga**	**14.60**	**84**	Pn	**Pn**	**17 34 28.5**	**-2.3**
	1.8nm,0.3s,baz=245,slow=11,SNR=6.5						
RAR				LR	LR	17 38 45.5	
	comp=Z,83nm,20.9s,baz=230,slow=31						
PPT	**Papeete**	**24.83**	**81**	LR	LR	17 45 18.3	
	comp=Z,66nm,19.8s,baz=272,slow=34						
CTA	**Charters Tower**	**35.73**	**268**	P	**P**	**17 38 01.5**	**-1.1**
	3.2nm,0.5s,baz=93,slow=9.7,SNR=7.4						
CTA				LR	LR	17 51 54.2	
	comp=Z,37nm,18.3s,baz=78,slow=35						
	3.2nm,0.5s						
CTAO	**Charters Tower**	**35.73**	**268**	P	**P**	**17 38 01.7**	**-0.9**
PMG	**Port Moresby**	**38.42**	**285**	P	**P**	**17 38 25.8**	**+0.3**
PMG				IAmb	IAmb	17 38 28.7	
	comp=Z,6.4nm,0.8s						
AS31	**Alice Springs**	**46.30**	**259**	P	**P**	**17 39 27.9**	**-1.7**
ASAR	**Alice Springs**	**46.30**	**259**	P	**P**	**17 39 28.7**	**-1.0**
ASAR	**Alice Springs**	**46.30**	**259**	P	**P**	**17 39 27.4**	**-2.2**
	comp=Z,0.7nm,0.6s,baz=91,slow=7.0,SNR=12						
	comp=Z,0.7nm,0.6s						
WB2	**Warramunga Arr**	**46.67**	**264**		**P**	**17 39 30.7**	**-1.8**
WB2				IAmb	IAmb	17 39 36.3	
	comp=Z,7.4nm,1.2s						
WB0	**Warramunga Arr**	**46.67**	**264**	P	**P**	**17 39 30.4**	**-2.1**
WB0				IAmb	IAmb	17 39 36.6	
	comp=Z,5.3nm,1.1s						
WRAB	**Tennant Creek**	**46.67**	**264**	P	**P**	**17 39 30.8**	**-1.8**
WRAB				IAmb	IAmb	17 39 36.2	
	comp=Z,7.2nm,1.2s						
WRA	**Warramunga Arr**	**46.68**	**264**	P	**P**	**17 39 29.8**	**-2.8**
WRA	**Warramunga Arr**	**46.68**	**264**	P	**P**	**17 39 30.6**	**-2.0**
	comp=Z,1.4nm,0.7s,baz=103,slow=7.8,SNR=8.1						
	comp=Z,1.4nm,0.7s						
SIJI	**Sorong**	**56.36**	**285**	P	**P**	**17 40 46.7**	**+1.6**
	comp=Z,5.1nm,0.8s,baz=128,slow=17,SNR=3.9						
	comp=Z,5.1nm,0.8s						
NWAO	**Narrogin (SRO)**	**59.29**	**245**	LR	LR	18 04 25.3	
	comp=Z,39nm,19.1s,baz=3.5,slow=34						
QSPA	**South Pole Qui**	**66.66**	**180**		**P**	**17 41 53.9**	**-0.1**
MAW	**Mawson**	**79.64**	**199**	P	**P**	**17 43 10.5**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=153,slow=4.5,SNR=6.3						
	comp=Z,2.8nm,1.0s						
PETK	**Petropavlovsk-**	**79.72**	**344**	P	**P**	**17 43 11.1**	**+0.2**
NVAR	**Mina Array Bea**	**81.51**	**42**	P	**P**	**17 43 21.0**	**-0.2**
NVAR	**Mina Array Bea**	**81.51**	**42**	P	P	17 43 26.7	+5.5
	comp=Z,0.7nm,0.7s,baz=220,slow=9.4,SNR=7.0						
	comp=Z,0.7nm,0.7s						
U15A	**North Rim**	**84.16**	**46**	P	**P**	**17 43 35.3**	**+0.3**
U15A				IAmb	IAmb	17 43 43.0	
	comp=Z,2.9nm,0.8s						
TROLL	**Troll, Antarti**	**84.81**	**179**	⇑P	**P**	**17 43 37.9**	**+0.2**
	comp=Z,249nm,0.7s						
SNAA	**Sanae**	**85.02**	**178**	P	**P**	**17 43 38.0**	**-0.6**
SNAA				IAmb	IAmb	17 43 44.4	
	comp=Z,4.5nm,1.1s						
SNAA	**Sanae**	**85.02**	**178**	⇑P	**P**	**17 43 38.8**	**+0.1**
	comp=Z,51nm,0.9s						
SNAA	**Sanae**	**85.02**	**178**	P	**P**	**17 43 38.3**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=192,slow=3.7,SNR=7.9						
	comp=Z,2.4nm,0.9s						
VNA3	**Neumayer Olymp**	**85.06**	**175**	⇑P	**P**	**17 43 38.9**	**+0.1**
	comp=Z,5.7nm,0.7s						
VNA2	**Neumayer--Watz**	**85.53**	**176**	⇑P	**P**	**17 43 41.5**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=189,slow=4.0						
VNA1	**Neumayer--Stat**	**85.75**	**176**	⇑P	**P**	**17 43 42.3**	**+0.1**
	comp=Z,4.6nm,0.8s						
MNTX	**Cornudas Mount**	**86.48**	**53**	P	**P**	**17 43 46.3**	**-0.1**
MNTX				IAmb	IAmb	17 43 53.0	
	comp=Z,2.2nm,1.0s						
TX31	**Lajitas Ar. Si**	**86.61**	**56**	P	**P**	**17 43 47.1**	**-0.1**
TX32	**Lajitas Array**	**86.61**	**56**	P	**P**	**17 43 47.2**	**0.0**
TXAR	**Lajitas Array**	**86.61**	**56**	P	**P**	**17 43 51.5**	**+4.3**
	comp=Z,0.6nm,1.0s,baz=243,slow=2.2,SNR=3.7						
	comp=Z,0.6nm,1.0s						
ILAR	**Eielson Array**	**90.63**	**12**	P	P	17 44 10.8	+5.5
	comp=Z,0.5nm,0.8s,baz=222,slow=6.1,SNR=3.1						
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.37**	**289**	P	**P**	**17 44 22.1**	**+3.0**
	comp=Z,1.0nm,0.8s,baz=130,slow=2.8,SNR=12						
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**146.74**	**331**	PKPbc	**PKiKP**	**17 50 48.1**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=42,slow=3.9,SNR=5.6						
BRTR	**Keskin Array B**	**150.59**	**310**	PKPbc	**PKiKP**	**17 50 57.8**	**+1.4**
	comp=Z,1.1nm,1.2s,baz=155,slow=6.1,SNR=4.1						

---

*IDC **23** 17:32:12.3±1.3, 36°79N×144°67E, h0km, mb3.6/6, mbtmp3.8/9, ML3.6/3, Error ellipse: s-maj=30.2km s-min=21.8km az=92.0*
*JMA **23** 17:32:17.4±0.3, 37°N±1°×14°4E±°, h43km, MV3.8/21, FAR E OFF NORTH HONSHU*
ISC 23 17:32:16.9±1.1, **36°99N**±0°06×**144°34E**±0°10, **h26**km, **n28**, σ1$**91**/33, **mb3.7**/6, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.64**	**301**	*e*P	**Pn**	**17 32 58.1**	**+0.3**
JIO	**Ouri**	**2.79**	**303**	P	**Pn**	**17 33 00.4**	**+0.6**
JIO				*e*S	**Sn**	**17 33 32.0**	**-0.7**
JFK	**Kawauchi**	**2.80**	**279**	P	**Pn**	**17 33 00.3**	**+0.3**
JFK				*e*S	**Sn**	**17 33 32.2**	**-0.8**
ONAJ	**Iwakimizuishiy**	**2.84**	**273**	P	**Pn**	**17 33 01.0**	**+0.4**
ONAJ				*e*S	**Sn**	**17 33 33.2**	**-0.8**
JMST	**Minamisoumatoc**	**2.85**	**286**	P	**Pn**	**17 33 01.0**	**+0.3**
JKMT	**Kesennumamotoy**	**2.91**	**310**	*e*P	**Pn**	**17 33 01.7**	**+0.2**
JMK	**Ichinoseki**	**3.15**	**309**	P	**Pn**	**17 33 05.7**	**+0.9**
JMK				*e*S	**Sn**	**17 33 41.7**	**+0.1**
JOTO	**OTAMA OYAMA**	**3.25**	**281**	*e*P	**Pn**	**17 33 07.5**	**+1.3**
JOTO				S	**Sn**	**17 33 44.9**	**+0.9**
JRY	**Ryogami san**	**4.49**	**259**	P	**Pn**	**17 33 23.4**	**+0.1**
JRY				*e*S	**Sn**	**17 34 13.1**	**-1.6**
MJAR	**Matsushiro Arr**	**4.95**	**267**	Pn	**Pn**	**17 33 30.3**	**+0.8**
	0.6nm,0.3s,baz=48,slow=8.9,SNR=22						
MJAR				Sn	**Sn**	**17 34 27.7**	**+1.8**
	0.1nm,0.3s,baz=294,slow=28,SNR=1.6						
	5.0nm,0.4s						
JHJ2	**Mitsune**	**5.36**	**225**	*e*P	**Pn**	**17 33 33.8**	**-1.4**
JHJ2				*e*S	**Sn**	**17 34 33.7**	**-2.4**
JHJ	**Hachijo jima 2**	**5.37**	**225**	Pn	**Pn**	**17 33 33.5**	**-1.8**
	16nm,0.3s,baz=46,slow=21,SNR=8.0						
JHJ				Sn	**Sn**	**17 34 32.5**	**-3.9**
	25nm,0.3s,baz=67,slow=17,SNR=2.0						
	110nm,0.5s						
JCH	**Churui**	**5.67**	**353**	*e*P	**Pn**	**17 33 38.4**	**-1.0**
JCH				*e*S	**Sn**	**17 34 39.4**	**-4.3**
JTKR	**Abashiri--Toko**	**6.99**	**357**	*e*P	**Pn**	**17 33 56.1**	**-1.4**
JTKR				*e*S	**Sn**	**17 35 10.4**	**-5.6**
ASAJ	**Asahikawa**	**7.25**	**350**	Pn	**Pn**	**17 34 00.7**	**-0.4**
	1.2nm,0.3s,baz=146,slow=13,SNR=2.8						
	13nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**26.15**	**125**	T	T	18 04 41.1	
	baz=317,slow=75,SNR=60						
H11N1	**WAKE ISLAND Hy**	**26.16**	**125**	T	T	18 04 38.4	
	baz=317,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**26.17**	**125**	T	T	18 04 35.8	
	baz=317,slow=75,SNR=56						
H11S1	**WAKE ISLAND Hy**	**26.91**	**127**	T	T	18 05 31.2	
	baz=318,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**26.91**	**127**	T	T	18 05 38.9	
	baz=318,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**26.93**	**127**	T	T	18 05 33.0	
	baz=318,slow=76,SNR=17						
ZALV	**Zalesovo Beam**	**43.68**	**312**	PcP	**PcP**	**17 42 06.5**	**+0.5**
	0.8nm,0.4s,baz=96,slow=3.4,SNR=4.6						
CMAR	**Chiang Mai Arr**	**43.77**	**258**	P	**P**	**17 40 22.5**	**+2.1**
	0.4nm,0.6s,baz=46,slow=7.1,SNR=5.7						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**46.12**	**303**	P	**P**	**17 40 41.0**	**+2.0**
	0.8nm,0.7s,baz=81,slow=9.8,SNR=7.1						

YURE S **Sb** **17 35 35.4 -0.5**
ASF Jabal al Asfar 2.59 183 P **Pg** **17 35 14.4 -0.1**
MMLI Mount Malkishu 2.69 211 Pn **Pn** **17 35 08.7 +1.2**
MMLI Mount Malkishu 2.69 211 P **Pn** **17 35 08.2 +0.8**
MMLI S **Sb** **17 35 43.0 -2.4**
QRNJ Al-Qirein 2.72 208 P **Pb** **17 35 11.5 -1.6**
OFRI `Ofer 2.75 220 Pn **Pn** **17 35 10.3 +2.1**
OFRI Sn **Sb** **17 35 44.6 -2.4**
OFRI `Ofer 2.75 220 P **Pb** **17 35 13.1 -0.5**
HMDT Nahal Hemdat 2.81 208 Pn **Pn** **17 35 10.4 +1.3**
HMDT Nahal Hemdat 2.81 208 P **Pb** **17 35 14.4 -0.3**
SLTI Sal'it 3.03 214 Pn **Pn** **17 35 13.7 +1.6**
SLTI Sal'it 3.03 214 P **Pb** **17 35 17.3 -1.1**
CSS Mathiatis 3.07 275 Pn **Pn** **17 35 15.6 +2.9**
UJAP Al Uja 3.10 206 P **Pb** **17 35 19.0 -0.6**
SALP Salfit 3.11 211 Pn **Pn** **17 35 14.9 +1.7**
WALJ Wala 3.36 198 P **Pb** **17 35 22.4 -1.6**
DSI Dead Sea 3.48 204 P **Pb** **17 35 25.0 -1.1**
AMAZ Amatzia 3.69 210 P **Pb** **17 35 27.7 -2.0**
YTIR Yattir 3.76 206 P **Pb** **17 35 27.8 -3.1**
PRNI Paran 4.73 202 P Pn 17 35 40.1 +4.6

*IDC **23** 17:37:40.0±0.8, 4°.44S×152°.01E, h173km±7km, mb3.3/4, mbtmp3.8/4, Error ellipse: s-maj=32.3km s-min=23.8km az=54.0*
ISC 23 17:37:40.1±1.2, 4°.4S±0°.3×152°.0E±0°.3, h176km±10km, n6, σ0°.48/7, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.13**	**359**	P	**Pn**	**17 38 03.2**	**-0.2**
	131nm,0.6s,baz=91,slow=24,SNR=11						
KRVT				S	**Sn**	**17 38 21.6**	**+0.2**
	154nm,0.4s,baz=308,slow=20,SNR=6.2						
DZM	**Mont Dzumac**	**22.41**	**143**	P	**P**	**17 42 24.7**	**+0.3**
	5.0nm,0.8s,baz=107,slow=24,SNR=8.7						
	5.0nm,0.8s						
WRA	**Warramunga Arr**	**23.12**	**227**	P	**P**	**17 42 30.7**	**-0.1**
	1.5nm,0.3s,baz=51,slow=9.9,SNR=41						
	1.5nm,0.3s						
ASAR	**Alice Springs**	**25.91**	**221**	P	**P**	**17 42 56.0**	**-0.1**
	0.2nm,0.3s,baz=49,slow=8.5,SNR=7.7						
	0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**57.03**	**295**	P	**P**	**17 47 08.5**	**+0.4**
	0.6nm,0.6s,baz=119,slow=5.7,SNR=7.0						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.46**	**288**	PKPbc	**PKPbc**	**17 57 08.9**	**-0.6**
	0.4nm,0.3s,baz=68,slow=2.8,SNR=6.5						

IDC 23 17:49:09.1±2.2, 7°.01S×129°.13E, h0km, mb3.3/1, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=114.1km s-min=33.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.81**	**159**	Pn	Pn	17 52 25.7	-0.7
	0.4nm,0.3s,baz=338,slow=14,SNR=24						
WRA				Sn	Sn	17 54 48.1	-12
	0.5nm,0.3s,baz=332,slow=22,SNR=10						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**17.18**	**165**	P	Pn	17 53 11.3	+0.6
	0.1nm,0.3s,baz=337,slow=8.7,SNR=17						
ASAR				S	Sn	17 56 11.7	-11
	0.5nm,0.6s,baz=355,slow=30,SNR=6.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	18 00 08.8	0.0
	0.1nm,0.3s,baz=111,slow=8.2,SNR=1.9						
	0.1nm,0.3s						

*IDC **23** 17:54:26.1±0.6, 52°.28S×17°.14E, h0km, mb4.6/13, mbtmp4.7/13, MS3.8/28, Error ellipse: s-maj=22.7km s-min=15.2km az=76.0*
*NEIC **23** 17:54:28.3±1.9, 52°.38S±0°.08×17°.0E±0°.1, h10km±1km, mb5.0/40, Error ellipse: s-maj=17.1km s-min=10.9km az=48.0*
ISC 23 17:54:27.9±0.3, 52°.35S±0°.07×16°.93E±0°.09, h10km, n139, σ0°.93/102, mb5.0/33, MS3.9/28, 6C-2D, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.15**	**10**		Pn	17 59 03.0	-1.3
SUR				IAmb	IAmb	17 59 11.4	
	comp=Z,97nm,1.3s						
SUR	**Sutherland**	**20.15**	**10**	P	**P**	**17 59 02.0**	**-0.5**
	comp=Z,32nm,1.0s,baz=216,slow=6.4,SNR=6.1						
SUR				LR	LR	18 04 56.2	
	comp=Z,412nm,21.1s,baz=168,slow=31						
	comp=Z,32nm,1.0s						
TROLL	**Troll, Antarti**	**20.73**	**193**	⇑P	**P**	**17 59 09.0**	**+0.7**
	comp=Z,1μm,0.6s						
SNAA	**Sanae**	**21.28**	**197**	P	**P**	**17 59 14.2**	**0.0**
SNAA	**Sanae**	**21.28**	**197**	⇑P	**P**	**17 59 14.8**	**+0.6**
	comp=Z,2μm,0.8s						
SNAA	**Sanae**	**21.28**	**197**	P	**P**	**17 59 14.8**	**+0.6**
	comp=Z,107nm,0.9s,baz=36,slow=9.9,SNR=282						
SNAA				LR	LR	18 05 29.1	
	comp=Z,229nm,20.8s,baz=16,slow=31						
	comp=Z,107nm,0.9s						
VNA2	**Neumayer--Watz**	**21.62**	**202**	⇑P	**P**	**17 59 17.8**	**0.0**
	comp=Z,73nm,0.7s,baz=31,slow=10.0						
VNA1	**Neumayer--Stat**	**21.63**	**203**	⇑P	**P**	**17 59 18.3**	**+0.5**
	comp=Z,56nm,1.0s						
VNA3	**Neumayer Olymp**	**22.37**	**202**	⇑P	**P**	**17 59 25.4**	**-0.4**
	comp=Z,35nm,0.6s						
H04S2	**CROZET ISLANDS**	**23.16**	**90**	T	T	18 23 37.7	
	baz=244,slow=75,SNR=90						
H04S3	**CROZET ISLANDS**	**23.17**	**90**	T	T	18 23 39.0	
	baz=244,slow=75,SNR=126						
H04S1	**CROZET ISLANDS**	**23.18**	**90**	T	T	18 23 38.1	
	baz=244,slow=75,SNR=159						
H04N3	**CROZET ISLANDS**	**23.41**	**89**	T	T	18 23 55.9	
	baz=239,slow=75,SNR=8.0						
H04N1	**CROZET ISLANDS**	**23.41**	**89**	T	T	18 23 58.0	
	baz=239,slow=75,SNR=6.8						
H04N2	**CROZET ISLANDS**	**23.42**	**89**	T	T	18 23 53.3	
	baz=239,slow=75,SNR=6.7						
BOSA	**Boshof**	**24.51**	**18**	P	**P**	**17 59 46.8**	**-0.7**
BOSA				IAmb	IAmb	17 59 48.8	
	comp=Z,43nm,1.3s						
BOSA	**Boshof**	**24.51**	**18**	P	**P**	**17 59 45.7**	**-1.8**
	comp=Z,17nm,1.1s,baz=187,slow=12,SNR=9.2						
BOSA				LR	LR	18 08 10.3	
	comp=Z,384nm,18.1s,baz=190,slow=34						
	comp=Z,17nm,1.1s						
MAW	**Mawson**	**26.76**	**142**	P	**P**	**18 00 07.0**	**-0.3**
MAW	**Mawson**	**26.76**	**142**	P	**P**	**18 00 06.9**	**-0.5**
	comp=Z,6.8nm,0.9s,baz=275,slow=23,SNR=10						
MAW				LR	LR	18 08 23.3	
	comp=Z,138nm,21.3s,baz=290,slow=31						
	comp=Z,6.8nm,0.9s						
BELA	**Belgrano 2**	**31.51**	**198**	P	**P**	**18 00 48.5**	**-1.1**
TSUM	**Tsumeb**	**33.08**	**1**	P	**P**	**18 01 03.5**	**-0.4**
TSUM				IAmb	IAmb	18 01 05.8	
	comp=Z,28nm,1.5s						
TSUM	**Tsumeb**	**33.08**	**1**	LR	LR	18 13 07.7	
	comp=Z,172nm,18.8s,baz=174,slow=34						
QSPA	**South Pole Qui**	**37.88**	**180**	P	**P**	**18 01 44.4**	**-0.5**
QSPA				IAmb	IAmb	18 01 45.6	
	comp=Z,20nm,0.8s						
QSPA	**South Pole Qui**	**37.88**	**180**	P	**P**	**18 01 45.0**	**+0.1**
	comp=Z,20nm,1.0s,baz=242,slow=3.4,SNR=48						
QSPA				LR	LR	18 15 58.1	
	comp=Z,76nm,21.4s,baz=237,slow=34						
	comp=Z,20nm,1.0s						
LSZ	**Lusaka**	**38.05**	**18**	LR	LR	18 16 07.7	
	comp=Z,278nm,19.1s,baz=174,slow=34						
VOI	**Vohitsoka**	**38.10**	**49**	P	**P**	**18 01 47.1**	**+0.1**
ABPO	**Ambohimpanom**	**40.81**	**47**	P	**P**	**18 02 10.1**	**+0.4**
ABPO				IAmb	IAmb	18 02 13.9	
	comp=Z,57nm,1.8s						
PMSA	**Palmer Station**	**40.99**	**220**	P	**P**	**18 02 10.8**	**+0.3**
PMSA				IAmb	IAmb	18 02 23.9	
	comp=Z,52nm,1.4s						
PMSA	**Palmer Station**	**40.99**	**220**	LR	LR	18 15 20.5	
	comp=Z,205nm,19.8s,baz=103,slow=30						
CASY	**Casey**	**45.04**	**145**	P	**P**	**18 02 43.1**	**-0.1**
SBA	**Scott Base**	**48.74**	**172**	P	**P**	**18 03 12.8**	**+0.8**
SBA				IAmb	IAmb	18 03 14.0	
	comp=Z,12nm,0.9s						
H10S2	**ASCENSION HYDR**	**50.32**	**318**	T	T	18 57 46.3	
	baz=154,slow=74,SNR=65						
H10S3	**ASCENSION HYDR**	**50.33**	**318**	T	T	18 57 47.2	
	baz=66,slow=74,SNR=296						
MBAR	**Mbarara**	**52.85**	**17**	P	**P**	**18 03 43.9**	**0.0**
MBAR	**Mbarara**	**52.85**	**17**	LR	LR	18 25 16.0	
	comp=Z,445nm,19.3s,baz=166,slow=35						
KIBK	**Kibwezi**	**52.86**	**27**	P	**P**	**18 03 42.6**	**-1.2**
TRQA	**Tornquist**	**54.69**	**252**	P	**P**	**18 03 57.0**	**0.0**
LL02	**Futaleuf**	**56.76**	**241**	P	**P**	**18 04 11.0**	**-0.8**
LL02				IAmb	IAmb	18 04 33.3	
	comp=Z,16nm,1.1s						
LODK	**Lodwar**	**57.72**	**22**	P	**P**	**18 04 21.6**	**+2.7**
PLCA	**Paso Flores**	**57.73**	**244**	P	**P**	**18 04 18.9**	**+0.1**
	comp=Z,4.4nm,1.0s,baz=111,slow=3.9,SNR=3.7						
PLCA				LR	LR	18 26 40.8	
	comp=Z,51nm,18.4s,baz=170,slow=33						
	comp=Z,4.4nm,1.0s						
GO06	**Curarrehue**	**59.04**	**244**	P	**P**	**18 04 27.4**	**-0.6**
GO06				IAmb	IAmb	18 04 29.9	
	comp=Z,20nm,1.4s						
CPUP	**Villa Florida**	**60.15**	**265**	P	**P**	**18 04 35.7**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=106,slow=6.0,SNR=3.5						
CPUP				LR	LR	18 25 28.4	
	comp=Z,42nm,21.9s,baz=217,slow=31						
	comp=Z,1.7nm,0.6s						
LIC	**Lamto**	**61.28**	**335**	⇓*eP*	**P**	**18 04 42.7**	**-0.6**
	comp=Z,43nm,0.9s						
KIC	**Kosan Boka**	**61.33**	**335**	⇑*iP*	**P**	**18 04 43.4**	**-0.3**
	comp=Z,11nm,0.8s						
DBIC	**Dimbokro**	**61.66**	**335**	P	**P**	**18 04 45.5**	**-0.3**
DBIC	**Dimbokro**	**61.66**	**335**	P	**P**	**18 04 45.9**	**0.0**
	comp=Z,18nm,0.9s,baz=134,slow=8.9,SNR=11						
DBIC				LR	LR	18 25 18.3	
	comp=Z,70nm,21.9s,baz=124,slow=30						
	comp=Z,18nm,0.9s						
TIC	**Toumodi**	**61.68**	**335**	⇓*eP*	**P**	**18 04 45.6**	**-0.4**
	comp=Z,39nm,0.8s						
ML02	**Panimavida**	**61.71**	**247**	P	**P**	**18 04 46.4**	**+0.2**
LMEL	**Las Melosas**	**62.39**	**250**	P	**P**	**18 04 49.6**	**-1.4**
BDFB	**Brasilia**	**62.49**	**280**	P	**P**	**18 04 53.2**	**+1.5**
BDFB				IAmb	IAmb	18 04 54.0	
	comp=Z,17nm,1.2s						
BDFB	**Brasilia**	**62.49**	**280**	P	**P**	**18 04 52.8**	**+1.1**
	comp=Z,8.3nm,1.0s,baz=119,slow=9.0,SNR=5.5						
BDFB				LR	LR	18 27 47.4	
	comp=Z,28nm,18.5s,baz=231,slow=32						
	comp=Z,8.3nm,1.0s						
BO04	**La Punta**	**62.52**	**249**	P	**P**	**18 04 51.1**	**-0.6**
BO04				IAmb	IAmb	18 04 53.1	
	comp=Z,16nm,1.1s						
MT08	**Bocatoma Ro**	**62.58**	**250**	P	**P**	**18 04 51.7**	**-0.6**
MT08				IAmb	IAmb	18 04 55.1	
	comp=Z,11nm,0.8s						
ROC1	**El Roble**	**63.49**	**250**	P	**P**	**18 04 57.3**	**-1.1**
ROC1				IAmb	IAmb	18 05 03.4	
	comp=Z,9.2nm,0.7s						
CO01	**Juntas del Tor**	**65.15**	**253**	P	**P**	**18 05 09.3**	**+0.1**
CO01				IAmb	IAmb	18 05 12.1	
	comp=Z,9.1nm,0.8s						
TOA0	**Torodi Ar. Sit**	**66.54**	**344**	P	**P**	**18 05 17.5**	**-0.4**
TOA0				IAmb	IAmb	18 05 20.2	
	comp=Z,9.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**66.54**	**344**	P	**P**	**18 05 17.3**	**-0.6**
TORD				IAmb	IAmb	18 05 20.2	
	comp=Z,8.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**66.54**	**344**	P	**P**	**18 05 17.3**	**-0.6**
	comp=Z,7.6nm,1.1s,baz=174,slow=5.3,SNR=18						
	comp=Z,7.6nm,1.1s						
H01W2	**Cape Leeuwin H**	**67.26**	**118**	T	T	19 19 24.5	
	baz=220,slow=75,SNR=121						
H01W3	**Cape Leeuwin H**	**67.27**	**118**	T	T	19 19 28.7	
	baz=220,slow=75,SNR=162						
H01W1	**Cape Leeuwin H**	**67.28**	**118**	T	T	19 19 22.3	
	baz=220,slow=75,SNR=117						
KOWA	**Kowa**	**68.99**	**338**	P	**P**	**18 05 33.0**	**-0.4**
KOWA	**Kowa**	**68.99**	**338**	LR	LR	18 32 30.2	
	comp=Z,104nm,18.0s,baz=142,slow=33						
PTLB	**Pontes e Lacer**	**69.42**	**271**	P	**P**	**18 05 36.5**	**+0.4**
PTLB				IAmb	IAmb	18 05 43.4	
	comp=Z,15nm,1.3s						
PB15	**IPOC Station P**	**69.82**	**258**	P	**P**	**18 05 39.3**	**+0.4**
LVC	**Limon Verde**	**69.94**	**259**	LR	LR	18 32 59.4	
	comp=Z,32nm,20.1s,baz=197,slow=33						
LPAZ	**La Paz**	**74.28**	**264**	P	**P**	**18 06 06.7**	**+0.5**
LPAZ	**La Paz**	**74.28**	**264**	LR	LR	18 37 05.8	
	comp=Z,31nm,18.9s,baz=76,slow=34						
TAM	**Tamanrasset**	**75.48**	**349**	P	**P**	**18 06 12.4**	**+0.3**
SAML	**Samuel**	**76.93**	**272**	P	**P**	**18 06 20.8**	**+0.2**
SAML				IAmb	IAmb	18 06 22.8	
	comp=Z,13nm,1.3s						
ETMB	**Extrema**	**78.11**	**269**	P	**P**	**18 06 27.9**	**+0.7**
PALK	**Pallekele**	**80.23**	**65**	LR	LR	18 33 48.4	
	comp=Z,80nm,19.7s,baz=328,slow=30						
PSA00	**Pilbara Seismi**	**80.73**	**113**	P	**P**	**18 06 41.9**	**+0.4**
PSA00				IAmb	IAmb	18 09 26.9	
	comp=Z,21nm,1.9s						
RPZ	**Rata Peaks**	**81.74**	**161**	LR	LR	18 40 18.8	
	comp=Z,75nm,21.1s,baz=210,slow=34						
MDP	**Montagnes des**	**81.75**	**289**	LR	LR	18 39 08.3	
	comp=Z,53nm,18.6s,baz=116,slow=33						
NNA	**Nana**	**82.91**	**260**	LR	LR	18 40 39.0	
	comp=Z,26nm,20.8s,baz=213,slow=33						
EIL	**Elat**	**83.18**	**16**	LR	LR	18 43 30.3	
	comp=Z,64nm,18.2s,baz=234,slow=35						
STKA	**Stephens Creek**	**83.21**	**135**	P	**P**	**18 06 55.9**	**+1.5**
	comp=Z,6.7nm,1.1s,baz=186,slow=10,SNR=3.3						
	comp=Z,6.7nm,1.1s						
BOAV	**Boa Vista**	**84.24**	**281**	P	**P**	**18 07 00.5**	**+0.7**
BOAV				IAmb	IAmb	18 07 06.6	
	comp=Z,9.0nm,1.2s						
MMAI	**Mount Meron Ar**	**86.53**	**15**	LR	LR	18 45 46.9	
	comp=Z,72nm,18.8s,baz=173,slow=36						
ASAR	**Alice Springs**	**86.56**	**125**	P	**P**	**18 07 10.7**	**-0.7**
ASAR	**Alice Springs**	**86.56**	**125**	P	**P**	**18 07 11.2**	**-0.1**
	comp=Z,7.3nm,1.2s,baz=206,slow=4.5,SNR=33						
	comp=Z,7.3nm,1.2s						
AS31	**Alice Springs**	**86.56**	**125**	P	**P**	**18 07 10.7**	**-0.6**
MDT	**Midelt**	**86.87**	**342**	LR	LR	18 43 03.5	
	comp=Z,39nm,18.1s,baz=142,slow=34						
HYB	**Hyderabad**	**87.51**	**57**	*eP*	**P**	**18 07 16.3**	**+0.5**
URZ	**Urewera**	**88.13**	**165**	LR	LR	18 44 26.0	
	comp=Z,70nm,20.4s,baz=212,slow=34						
WRA	**Warramunga Arr**	**89.88**	**123**	P	**P**	**18 07 25.0**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=213,slow=4.2,SNR=25						
	comp=Z,0.5nm,0.3s						
BRTR	**Keskin Array B**	**92.84**	**13**	LR	LR	18 50 11.5	
	comp=Z,52nm,19.4s,baz=295,slow=36						
NRCA	**Norcia**	**94.86**	**357**	P	**P**	**18 07 51.3**	**+1.8**
GNI	**Garni**	**95.24**	**21**	LR	LR	18 52 21.5	
	comp=Z,44nm,18.3s,baz=214,slow=36						
MLR	**Muntele Rosu**	**97.77**	**6**	LR	LR	18 54 02.6	
	comp=Z,102nm,18.5s,baz=265,slow=37						
KBZ	**Khabaz**	**98.29**	**19**	LR	LR	18 52 25.5	
	comp=Z,45nm,19.2s,baz=214,slow=35						
NACGM	**Naroch**	**107.20**	**6**	*e*Pdif	**Pdif**	**18 08 47.7**	**+3.5**
	comp=N,666nm,0.9s						
PZH	**PanZhiHua**	**107.51**	**69**	PKP	**PKiKP**	**18 12 54.9**	**+0.1**
WMQ	**Urumqi**	**113.49**	**48**	*eP*	**PKiKP**	**18 13 06.5**	**+1.0**
NJ2	**Nanjing**	**121.65**	**77**	*eP**	**PKiKP**	**18 13 22.0**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC	**Hu-ho-hao-te**	**123.52**	**65**	*eP*	**PKiKP**	**18 13 25.1**	**0.0**
N47A	**Urbana**	**128.06**	**290**		**PKPdf**	**18 13 30.9**	**-2.6**
TXAR	**Lajitas Array**	**131.11**	**266**	PKP	**PKiKP**	**18 13 41.2**	**+0.5**
	comp=Z,1.4nm,1.1s,baz=151,slow=2.9,SNR=5.0						
MDJ	**Mudanjiang**	**136.19**	**72**	P	**PKPdf**	**18 13 48.6**	**0.0**
MDJ				pmax	pmax		
	comp=Z,12nm,2.4s						
MDJ				pmax	pmax		
	comp=Z,450nm,4.3s						
P18A	**Preston Nutter**	**141.99**	**272**		**PKPdf**	**18 13 59.6**	**-0.2**
PD31	**Pinedale Array**	**143.41**	**277**		PKPpre	18 13 58.4	
PDAR	**Pinedale Array**	**143.41**	**277**	PKhKP	PKPpre	18 13 58.5	
	comp=Z,1.1nm,0.6s,baz=129,slow=5.7,SNR=9.1						
YAK	**Yakutsk**	**143.93**	**48**		PKPpre	18 13 58.8	
SPR3	**Spring Creek 3**	**144.11**	**268**	PKPdf	PKPbc	18 14 02.4	+0.7
SPUT	**South Promonto**	**144.34**	**273**	PKPdf	**PKPab**	**18 14 02.0**	**+0.2**
BGU	**Big Grassy Mou**	**144.47**	**272**		**PKPdf**	**18 14 03.4**	**-0.6**
RLMT	**Red Lodge**	**144.51**	**280**	PKPdf	PKPbc	18 14 02.6	-0.1
LOHW	**Long Hollow**	**144.51**	**277**	PKPdf	**PKPab**	**18 14 02.5**	**0.0**
FFC	**Flin Flon**	**144.62**	**299**		PKPbc	18 14 02.7	+0.3
FXWY	**Fox Creek**	**144.78**	**277**		**PKPab**	**18 14 03.2**	**-0.3**
GMN	**Gold Mountain**	**144.84**	**263**		**PKPdf**	**18 14 04.5**	**-0.3**
MZP	**Montezuma Peak**	**145.17**	**264**		**PKPbc**	**18 14 04.7**	**-0.3**
TIXI	**Tiksi**	**145.25**	**31**	PKPbc	**PKPbc**	**18 14 02.8**	**-1.1**
RES	**Resolute Bay**	**145.28**	**334**	PKPbc	**PKPab**	**18 14 04.2**	**+0.1**
YHH	**Holmes Hill**	**145.29**	**279**	PKPbc	**PKPbc**	**18 14 04.2**	**-1.1**
TPH	**Tonopah**	**145.31**	**264**	PKPbc	**PKPbc**	**18 14 02.9**	**-2.5**
DSP	**Deep Springs**	**145.31**	**263**		**PKPbc**	**18 14 04.5**	**-0.6**
ELK	**Elko**	**145.72**	**270**	PKPdf	**PKPbc**	**18 14 06.9**	**+0.2**
NV11	**Mina Array Sit**	**146.10**	**264**	PKPdf	**PKPbc**	**18 14 08.1**	**+0.3**
NVAR	**Mina Array Bea**	**146.19**	**264**		**PKPbc**	**18 14 07.7**	**-0.5**
NVAR	**Mina Array Bea**	**146.19**	**264**	PKPbc	**PKPab**	**18 14 08.8**	**-0.1**
	comp=Z,8.4nm,0.8s,baz=131,slow=4.2,SNR=47						
LHV	**Little Huntoon**	**146.20**	**263**	PKPdf	**PKPbc**	**18 14 07.4**	**-0.4**
KVN	**Kaiserville**	**146.45**	**265**	PKPdf	**PKPdf**	**18 14 08.1**	**+0.6**
HLID	**Hailey**	**146.81**	**274**	PKPdf	**PKPdf**	**18 14 07.5**	**-0.4**
WAKR	**Walker**	**146.93**	**263**	PKPbc	**PKiKP**	**18 14 12.6**	**-0.3**
YERR	**Yerington**	**147.11**	**264**	PKPbc	**PKPab**	**18 14 11.9**	**-0.5**
LYMT	**Lyon Mountain**	**147.26**	**281**	PKPbc	**PKPab**	**18 14 12.0**	**-0.8**
MFID	**Camas Ranch**	**147.60**	**273**		**PKPbc**	**18 14 11.9**	**0.0**
BPMT	**Black Pine Rid**	**147.70**	**280**		**PKPdf**	**18 14 10.5**	**+1.1**
OVMT	**Ovando**	**147.73**	**281**	PKPbc	**PKPbc**	**18 14 11.6**	**-0.6**
MPK	**Martis Peak**	**147.78**	**263**	PKPdf	**PKPdf**	**18 14 08.3**	**-1.6**
CHMT	**Chamberlain Mo**	**147.81**	**281**	PKPbc	**PKPbc**	**18 14 11.0**	**-1.5**
MSO	**Missoula**	**148.18**	**280**		**PKPbc**	**18 14 13.8**	**+0.5**
BMO	**Blue Mountains**	**149.26**	**274**	PKPdf	**PKPdf**	**18 14 12.8**	**+1.0**
K05A	**Summer Lake**	**150.33**	**268**		**PKiKP**	**18 14 20.8**	**+1.1**
G08A	**Pilot Rock**	**150.49**	**274**	PKPdf	**PKPdf**	**18 14 14.4**	**+0.7**
YKA	**Yellowknife Ar**	**152.66**	**311**	PKPbc	**PKPbc**	**18 14 21.3**	**-2.1**
	comp=Z,2.9nm,0.9s,baz=58,slow=1.8,SNR=3.8						
ILAR	**Eielson Array**	**165.02**	**332**	PKPab	**PKPab**	**18 15 27.6**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=19,slow=3.1,SNR=11						

*IDC **23** 18:10:30.9±1.2, 67°.84N×20°.65E, h0km, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=18.0km s-min=6.9km az=120.0*
*HEL **23** 18:10:31.3±0.2, 67°.80N×20°.18E, h0km, ML1.9, Suspected explosion*
*UPP **23** 18:10:31.0±0.0, 67°.82N×20°.22E, h0km, ML2.5, Confirmed Induced event*
ISC 23 18:10:31.1±0.8, 67°.82N±0°.02×20°.27E±0°.03, h0km, n36, σ1°.20/56, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**11**	P	**Pg**	**18 10 34.0**	**+0.4**
KUA				S	**Sg**	**18 10 36.0**	**+0.6**
RATU	**Laukkuluspa**	**0.26**	**271**	P	**Pg**	**18 10 35.7**	**-0.2**
KOVU	**Salmi**	**0.40**	**354**	P	**Pg**	**18 10 38.7**	**-0.1**
LANU	**Lannavaara**	**0.69**	**70**	P	**Pg**	**18 10 44.4**	**+0.1**
LANU	**Lannavaara**	**0.69**	**70**	PG	**Pg**	**18 10 44.3**	**+0.1**
LANU				SG	**Sg**	**18 10 53.7**	**+0.5**
DUNU	**Dundret**	**0.71**	**171**	P	**Pg**	**18 10 44.5**	**-0.2**
MASU	**Masugnsbyn**	**0.76**	**118**	P	**Pg**	**18 10 45.6**	**+0.1**
MASU				S	**Sg**	**18 10 56.7**	**+1.4**
SALU	**Saltoluokta**	**0.81**	**238**	P	**Pg**	**18 10 45.9**	**-0.7**
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*P	**Pb**	**18 10 54.3**	**-0.3**
KIF	**Kilpisjarvi**	**1.20**	**9**	PG	**Pb**	**18 10 54.4**	**-0.3**
KIF				MSG		18 11 09.7	
	comp=Z,12nm,0.2s						
KIF				SG	**Sb**	**18 11 10.5**	**-0.2**
PAJU	**Pajala**	**1.36**	**125**	P	**Pg**	**18 10 56.2**	**-0.8**
HEF	**Hetta**	**1.40**	**64**	*e*P	**Pn**	**18 10 57.2**	**-0.6**
HEF	**Hetta**	**1.40**	**64**	PG	**Pn**	**18 10 56.9**	**-0.9**
	baz=249						
HEF				MSG		18 11 14.6	
	comp=Z,7.2nm,0.2s						
HEF				SG	**Sg**	**18 11 15.9**	**0.0**
ERTU	**Ertsjaerv**	**1.48**	**149**	P	**Pn**	**18 10 58.0**	**-0.9**
ERTU	**Ertsjaerv**	**1.48**	**149**	PG	**Pn**	**18 10 58.0**	**-0.9**
ERTU				SG	**Sg**	**18 11 18.1**	**-0.3**
KLF	**Kolari**	**1.54**	**111**	PG	**Pn**	**18 10 58.9**	**-0.8**
KLF				MSG		18 11 18.2	
	comp=Z,8.8nm,0.2s						
KLF				SN	**Sn**	**18 11 20.4**	**0.0**
KTK1	**Kautokeino**	**1.62**	**41**	PG	**Pn**	**18 11 00.9**	**0.0**
KTK1				SN	**Sg**	**18 11 23.7**	**+0.6**
HARU	**Harads**	**1.69**	**170**	P	**Pn**	**18 11 01.6**	**-0.2**
TRO	**Tromso**	**1.88**	**346**	PG	**Pn**	**18 11 04.7**	**+0.3**
TRO				SG	**Sb**	**18 11 30.2**	**-0.1**
KALU	**Kalix**	**2.32**	**147**	PB	**Pn**	**18 11 11.3**	**+1.0**
KALU				SG	**Sb**	**18 11 41.8**	**-1.0**
TOF	**Tornio**	**2.37**	**136**	PB	**Pn**	**18 11 12.4**	**+1.3**
TOF				MSG

PLAI	Plampang	4.56	86	P	Pn	18 37 05.6	+1.9
KPJI	Karang Pucung	4.57	293	P	Pn	18 37 05.0	+1.2
CMJI	Cimerak	4.87	286	P	Pn	18 37 07.3	-0.5
BBJI	Bungbulang	5.72	287	P	Pn	18 37 19.7	+0.1
LEM	Lembang	5.97	292	P	Pn	18 37 24.2	+1.1
	53nm,1.0s,0.2nm						
LEM	Lembang	5.97	292	Pn	Pn	18 37 21.3	-1.8
	4.8nm,0.3s,baz=30,slow=14,SNR=5.9						
LEM				Sn	Sn	18 38 33.2	+2.9
	5.2nm,0.3s,baz=131,slow=20,SNR=1.6						
LEM				LR	LR	18 39 18.3	
	comp=Z,52nm,19.0s,baz=198,slow=35						
	19nm,0.5s						
BASI	Baing, Sumba	7.38	99	P	Pn	18 37 44.0	+1.7
	91nm,0.7s,2μm0.4nm						
XMI	Christmas Isla	7.48	260	P	Pn	18 37 43.8	+0.1
XMIS	Christmas Isla	7.52	259	Pn	Pn	18 37 43.6	-0.7
XMIS	Christmas Isla	7.52	259	P	Pn	18 37 43.3	-1.0
KAPI	Kappang	7.72	58	Pn	Pn	18 37 41.6	-5.4
	4.1nm,0.3s,baz=225,slow=20,SNR=2.4						
KAPI				Sn	Sn	18 39 11.1	-2.2
	2.5nm,0.3s,baz=118,slow=18,SNR=1.5						
	8.6nm,0.3s						
CGJI	Cibinong	7.83	288	P	Pn	18 37 50.7	+2.2
	157nm,0.6s,3μm0.7nm						
BKSI	Bulukumba	7.88	62	P	Pn	18 37 51.1	+1.9
	17nm,0.7s,0.1nm						
EDFI	Ende, Flores	8.43	88	P	Pn	18 37 57.0	+0.2
	18nm,0.5s,574nm						
BKB	Balikpapan	8.68	25	P	Pn	18 38 03.9	+3.7
	110nm,1.3s						
MMRI	Maumere	8.98	87		Pn	18 38 04.5	+0.3
MMRI	Maumere	8.98	87	P	Pn	18 38 06.7	+2.5
MMRI	Maumere	8.98	87	P	Pn	18 38 06.5	+2.3
	38nm,0.5s						
KASI	Kota Agung	9.33	292	P	Pn	18 38 10.0	+0.9
	30nm,0.6s,852nm						
LWLI	Liwa	9.93	294	P	Pn	18 38 19.3	+1.9
	79nm,0.6s						
BATI	Baumata	10.40	97	P	Pn	18 38 24.4	+0.7
	30nm,0.5s						
BATI	Baumata	10.40	97	Pn	Pn	18 38 21.9	-1.9
	8.3nm,0.3s,baz=4.8,slow=0.8,SNR=17						
BATI				Sn	Sn	18 40 15.4	-3.5
	2.2nm,0.3s,baz=208,slow=20,SNR=1.7						
	21nm,0.4s						
SOEI	Soe	10.96	94		Pn	18 38 32.3	+0.7
SOEI	Soe	10.96	94	P	Pn	18 38 33.6	+2.0
SOEI	Soe	10.96	94	P	Pn	18 38 33.3	+1.8
	30nm,0.6s						
MNAI	Manna	11.21	295	Pn	Pn	18 38 35.4	+0.6
MNAI	Manna	11.21	295	P	Pn	18 38 35.8	+1.0
MNAI	Manna	11.21	295	P	Pn	18 38 35.2	+0.4
	175nm,0.8s						
MPSI	Mapaga	11.58	36	P	Pn	18 38 41.7	+1.9
	4.5nm,1.0s						
DSRI	Dabo	12.15	315	P	Pn	18 38 49.2	+1.6
LUWI	Luwuk	12.51	50	Pn	Pn	18 38 52.7	+0.2
GIRL	Giralia	13.44	176	Pn	Pn	18 39 05.0	-0.2
GIRL	Giralia	13.44	176	P	Pn	18 39 04.8	-0.4
MBWA	Marble Bar	13.50	153		Pn	18 39 02.6	-3.4
PSA00	Pilbara Seismi	13.91	153		Pn	18 39 05.7	-5.9
PSA00	Pilbara Seismi	13.91	153	Pn	Pn	18 39 08.1	-3.6
PSA00	Pilbara Seismi	13.91	153	P	Pn	18 39 09.8	-1.9
KNRA	Kununurra	16.54	115		Pn	18 39 46.1	+0.3
KNRA	Kununurra	16.54	115	P	P	18 39 47.3	-0.4
MTN	Manton Dam	18.01	103	P	P	18 40 04.4	+0.4
MTN				IAmb	IAmb	18 40 08.7	
	comp=Z,12nm,0.5s						
MTN	Manton Dam	18.01	103	P	Pn	18 40 05.6	+1.6
MEEK	Meekatharra	18.13	164	P	Pn	18 40 06.4	+1.0
GSI	Gunungsitoli	18.69	303	P	P	18 40 08.0	-3.5
GSI				IAmb	IAmb	18 40 30.1	
	comp=Z,18nm,1.3s						
SIJI	Sorong	19.81	66	P	P	18 40 20.5	-3.2
	comp=Z,0.3nm,0.3s,baz=184,slow=22,SNR=7.5						
	comp=Z,5.5nm,0.7s						
FAKI	Fak Fak	19.95	73	P	P	18 40 23.1	-2.1
MORW	Morawa	19.98	173	P	P	18 40 25.2	-0.2
MORW				IAmb	IAmb	18 40 38.5	
	comp=Z,20nm,1.4s						
WRKA	Warakurna	21.37	139	P	P	18 40 42.3	+1.8
WB0	Warramunga Arr	23.07	120	P	P	18 40 58.4	-0.2
WB0				IAmb	IAmb	18 41 01.3	
	comp=Z,4.8nm,0.6s						
WRA	Warramunga Arr	23.09	120	P	P	18 40 58.1	-0.7
WRA	Warramunga Arr	23.09	120	P	P	18 40 58.7	-0.1
	comp=Z,2.7nm,0.6s,baz=295,slow=12,SNR=42						
	comp=Z,2.7nm,0.6s						
WRAB	Tennant Creek	23.10	120	P	P	18 41 00.7	+1.8
WB2	Warramunga Arr	23.10	120	P	P	18 40 58.9	0.0
WB2				IAmb	IAmb	18 41 01.4	
	comp=Z,4.1nm,0.7s						
WR0	Warramunga Arr	23.27	120	P	P	18 41 00.8	+0.3
WR0				IAmb	IAmb	18 41 02.3	
	comp=Z,4.5nm,0.6s						
AS31	Alice Springs	24.52	129	P	P	18 41 12.5	+0.4
ASAR	Alice Springs	24.52	129	P	P	18 41 12.6	+0.5
ASAR	Alice Springs	24.52	129	P	P	18 41 12.9	+0.8
	comp=Z,2.9nm,0.6s,baz=303,slow=8.3,SNR=71						
	comp=Z,2.9nm,0.6s						
FORT	Forrest	25.60	149	P	P	18 41 22.8	+1.0
FORT	Forrest	25.60	149	P	P	18 41 24.5	+2.7
QIS	Mount Isa	27.90	117	P	P	18 41 44.9	+2.2
OOD	Oodnadatta	28.18	134	P	P	18 41 46.9	+1.8
MULG	Mulgathing	28.67	140	P	P	18 41 52.2	+2.8
CMAR	Chiang Mai Arr	30.83	333	P	P	18 42 07.2	-1.4
	comp=Z,0.5nm,0.4s,baz=174,slow=8.8,SNR=5.1						
CMAR				LR	LR	18 56 31.5	
	comp=Z,15nm,19.5s,baz=20,slow=40						
	comp=Z,0.5nm,0.4s						
MTSU	Mount Surprise	31.51	110	P	P	18 42 18.2	+3.5
LCRK	Leigh Creek	31.54	136	P	P	18 42 17.9	+3.1
	comp=Z,16nm,2.1s						
STKA	Stephens Creek	34.72	135	P	P	18 42 42.6	+0.1
STKA	Stephens Creek	34.72	135	P	P	18 42 45.3	+2.8
STKA	Stephens Creek	34.72	135	P	P	18 42 43.7	+1.1
	comp=Z,2.7nm,0.4s,baz=324,slow=6.3,SNR=15						
	comp=Z,2.7nm,0.4s						
GUMO	Guam	38.74	55	LR	LR	19 00 16.1	
	comp=Z,99nm,18.2s,baz=104,slow=38						
H08S2	Diego Garcia H	40.25	269	T	T	19 26 21.8	
	baz=95,slow=76,SNR=7.5						
H08S3	Diego Garcia H	40.26	269	T	T	19 26 13.2	
	baz=95,slow=76,SNR=7.3						
H08S1	Diego Carcia H	40.27	269	T	T	19 26 15.0	
	baz=95,slow=76,SNR=4.0						
YNG	Young	40.84	133	P	P	18 43 37.2	+3.0
BTO	Baotou	49.60	357	eP	P	18 44 51.8	+8.2
BTO				pP	pP	18 44 56.3	-0.3
BTO				sP	pwP	18 44 58.9	-0.1
BTO				PP	PP	18 46 47.8	+9.3
BTO				pmax	pmax		
	comp=Z,13nm,0.6s						
BTO				pmax	pmax		
	comp=Z,470nm,6.3s						
HHC	Hu-ho-hao-te	49.78	358	eP	P	18 44 51.5	+6.6
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,310nm,6.4s						
USRK	Ussuriysk Ar.	55.78	16	P	P	18 45 27.2	-1.8
	comp=Z,1.9nm,0.7s,baz=190,slow=7.3,SNR=2.7						
	comp=Z,1.9nm,0.7s						
SONM	Songino Array	57.06	355	P	P	18 45 36.6	-1.7
	comp=Z,0.4nm,0.4s,baz=182,slow=7.8,SNR=4.2						
	comp=Z,0.4nm,0.4s						
KLR	Kul'dur	60.39	14	LR	LR	19 13 50.3	
	comp=Z,158nm,18.1s,baz=51,slow=38						
MKAR	Makanchi Array	62.14	336	P	P	18 46 11.7	-1.4
	comp=Z,1.2nm,0.4s,baz=149,slow=7.2,SNR=27						
	comp=Z,1.2nm,0.4s						
H04N2	CROZET ISLANDS	63.73	223	T	T	19 56 30.5	
	baz=80						
H04N1	CROZET ISLANDS	63.74	223	T	T	19 56 36.8	
	baz=80						
H04N3	CROZET ISLANDS	63.74	223	T	T	19 56 44.3	
	baz=80						
OPO	Ambohidratompo	64.45	254	LR	LR	19 10 28.8	
	comp=Z,96nm,20.8s,baz=12,slow=32						
KURBB	Kurchatov Arra	66.70	337	P	P	18 46 41.4	-1.4
	comp=Z,0.9nm,0.2s,baz=147,slow=6.0,SNR=5.4						
	comp=Z,0.9nm,0.2s						
ZALV	Zalesovo Beam	67.29	342	P	P	18 46 44.5	-2.0
	comp=Z,1.2nm,0.6s,baz=129,slow=4.2,SNR=6.8						
	comp=Z,1.2nm,0.6s						
BRTR	Keskin Array B	87.84	311	P	P	18 48 40.9	-0.7
	comp=Z,0.7nm,0.8s,baz=152,slow=6.4,SNR=5.1						
	comp=Z,0.7nm,0.8s						
SNAA	Sanae	89.25	197	P	P	18 48 48.7	+1.2
	comp=Z,0.9nm,0.7s,baz=160,slow=8.2,SNR=8.8						
	comp=Z,0.9nm,0.7s						
KDAK	Kodiak Island	99.95	33	LR	LR	19 32 58.5	
	comp=Z,51nm,19.5s,baz=196,slow=34						

ANF 23 18:41:45.7±1.3, 64°.82N×173°.46W, h18km±12km, ML4.4/13, Error ellipse: s-maj=5.8km s-min=3.0km az=91.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	Gambell	1.30	143	P	Pn	18 42 08.2	-0.7
	baz=325,SNR=27						
GAMB				S	Sn	18 42 25.0	-0.7
	baz=325						
TNA	Tin City	2.45	70	P	Pn	18 42 23.1	-1.6
	baz=255,SNR=8.2						
TNA				S	Sb	18 42 57.3	-1.6
	baz=255						
F14K	Arctic Creek	3.08	74	P	Pn	18 42 31.9	-1.5
	baz=261,SNR=6.9						
F14K				Sb	Sb	18 43 17.3	+0.2
	baz=261						
ANM	Nome	3.48	91	P	Pn	18 42 37.3	-1.6
	baz=278,SNR=6.3						
ANM				Sb	Sb	18 43 28.7	+0.1
	baz=278						
F15K	North Star Dit	3.81	73	P	Pn	18 42 41.7	-1.6
	baz=260,SNR=9.2						
F15K				Sb	Sb	18 43 39.5	+1.5
	baz=260						
G15K	Niukluk	4.02	83	P	Pn	18 42 45.2	-1.0
	baz=272,SNR=6.1						
G15K				Sb	Sb	18 43 45.5	+1.5
	baz=272						
G16K	Koyuk River	4.73	78	P	Pn	18 42 54.6	-1.4
	baz=268						
G16K				Sb	Sb	18 44 06.8	+2.4
	baz=268						
C16K	Lisburne Hills	4.75	39	P	Pn	18 42 55.6	-0.6
	baz=227						
C16K				S	Sn	18 43 48.7	-1.9
	baz=227						
H16K	Elim	4.81	87	P	Pn	18 42 56.1	-1.0
	baz=277						
H16K				Sb	Sb	18 44 09.6	+2.7
	baz=277						
J14K	Nanvaranak Lak	4.86	111	P	Pn	18 42 56.8	-1.0
	baz=300						
K13K	Kusilvak Mount	4.91	122	P	Pn	18 42 57.4	-1.0
	baz=310,SNR=5.2						
K13K				S	Sn	18 43 54.0	-0.6
	baz=310						
E17K	Hotham Inlet	5.27	59	P	Pn	18 43 02.5	-0.9
	baz=250						
E17K				Sb	Sb	18 44 23.7	+3.7
	baz=250						
F17K	Baldwin Pennin	5.31	67	P	Pn	18 43 03.0	-0.9
	baz=258						
F17K				Sb	Sb	18 44 26.4	+5.3
	baz=258						
G17K	Kiwalik Mounta	5.44	77	P	Pn	18 43 04.4	-1.3
	baz=269						
G17K				Sb	Sb	18 44 29.0	+4.0
	baz=269						
C17K	DeLong Mountai	5.49	44	P	Pn	18 43 06.1	-0.3
	baz=233						
C17K				S	Sn	18 44 07.9	-1.1
	baz=233						
M11K	Mekoryuk	5.57	140	P	Pn	18 43 06.8	-0.7
	baz=326						
I17K	Unalakleet	5.62	94	P	Pn	18 43 08.0	-0.2
	baz=285						
I17K				Sb	Sb	18 44 34.0	+3.9
	baz=285						
H17K	Granite Mounta	5.77	83	P	Pn	18 43 09.3	-1.0
	baz=275						
H17K				Sb	Sb	18 44 39.2	+4.7
	baz=275						
E18K	Tukpahlearik C	5.83	58	P	Pn	18 43 10.7	-0.4
	baz=249						
E18K				Sb	Sb	18 44 39.5	+3.3
	baz=249						
J16K	Anvik River	5.85	99	P	Pn	18 43 10.9	-0.5
	baz=291						
J16K				Sb	Sb	18 44 42.1	+5.5
	baz=291						
K15K	Wolf Creek Mou	5.90	110	P	Pn	18 43 11.7	-0.3
	baz=301						
L14K	Kuka Creek	6.01	121	P	Pn	18 43 13.5	0.0
	baz=310,SNR=8.7						
L14K				S	Sn	18 44 21.7	0.0
	baz=310						
C18K	Utukok River	6.19	46	S	Sn	18 44 23.7	-2.6
	baz=237						
L15K	Ungalak Mounta	6.25	115	P	Pn	18 43 16.7	-0.2
	baz=306,SNR=7.5						
L15K				S	Sn	18 44 27.0	-0.8
	baz=306						
G18K	Tagagawik	6.29	73	P	Pn	18 43 15.9	-1.4
	baz=267						
G18K				Sb	Sb	18 44 56.0	+6.8
	baz=267						
H18K	Honhosa River	6.41	80	P	Pn	18 43 17.9	-1.1
	baz=274						
H18K				Sb	Sb	18 44 58.2	+5.4
	baz=274						
M14K	Bethel	6.67	122	P	Pn	18 43 22.3	-0.2
	baz=313						
F19K	Shaleruckik Mo	6.75	66	P	Pn	18 43 23.4	-0.2
	baz=260						
F19K				Sb	Sb	18 45 10.1	+7.7
	baz=260						
G19K	Purcell Mounta	6.94	72	P	Pn	18 43 25.6	-0.7
	baz=266						
G19K				Sb	Sb	18 45 16.5	+8.6
	baz=266						
L16K	Owhat River	7.03	110	P	Pn	18 43 27.5	0.0
	baz=302,SNR=9.3						
L16K				S	Sn	18 44 46.2	-0.8
	baz=302						
K17K	Iditarod	7.04	101	P	Pn	18 43 27.7	0.0
	baz=294						
GCSA	Galena City Sc	7.08	83	P	Pn	18 43 27.9	-0.4
	baz=278						
GCSA				Sb	Sb	18 45 19.1	+7.1
	baz=278						
E19K	Redstone River	7.09	61	P	Pn	18 43 28.6	+0.2
	baz=256						
D19K	Kuna River	7.11	52	P	Pn	18 43 28.4	-0.4
	baz=246						
M15K	Kasigluk River	7.17	119	P	Pn	18 43 29.3	-0.1
	baz=311						
H19K	Roundabout Mou	7.20	77	P	Pn	18 43 28.9	-0.9
	baz=272						
H19K				Sb	Sb	18 45 22.3	+7.1
	baz=272						
L17K	Donlin	7.30	105	P	Pn	18 43 30.7	-0.6
	baz=298						
N14K	Kuskokwak Cree	7.35	127	P	Pn	18 43 31.7	-0.2
	baz=317						
J18K	Innoko River	7.45	93	P	Pn	18 43 32.9	-0.3
	baz=288						
J19K	Poorman	7.77	88	P	Pn	18 43 37.1	-0.6
	baz=284						
H20K	Anotleneega Mo	7.85	77	P	Pn	18 43 38.4	-0.4
	baz=274						
TTA	Tatalina	7.93	96	P	Pn	18 43 39.2	-0.7
	baz=292						
L18K	Granite Mounta	7.93	102	P	Pn	18 43 39.8	-0.1
	baz=297						
M17K	Holitna River	8.02	108	P	Pn	18 43 41.4	+0.2
	baz=302						
N16K	Nishlik Lake	8.04	116	P	Pn	18 43 41.0	-0.4
	baz=309						
B20K	Meade River	8.13	43	P	Pn	18 43 42.8	+0.3
	baz=238						
J20K	Nowinta River	8.35	86	P	Pn	18 43 45.6	0.0
	baz=283						
C21K	Knifeblade Rid	8.49	51	P	Pn	18 43 47.9	+0.4
	baz=248						
K20K	Telida	8.61	91	P	Pn	18 43 48.9	-0.3
	baz=288						
N17K	Nushagak Hills	8.62	112	P	Pn	18 43 49.1	-0.3
	baz=307						
M18K	Stony River	8.64	105	P	Pn	18 43 49.6	0.0
	baz=300						
H21K	Melozitna Rive	8.70	75	P	Pn	18 43 50.4	-0.1
	baz=274						
L19K	White Mountain	8.72	99	P	Pn	18 43 50.8	+0.1
	baz=296						
B21K	Ikpikpuk River	8.73	48	P	Pn	18 43 51.2	+0.5
	baz=246						
O16K	Kokwok River B	8.87	119	P	Pn	18 43 52.7	0.0
	baz=313						
L20K	Farewell, AK	9.01	96	P	Pn	18 43 54.8	+0.1
	baz=294						
M19K	Big River Lodg	9.04	100	P	Pn	18 43 55.0	-0.1
	baz=297						
N18K	Kilae Creek	9.05	109	P	Pn	18 43 55.5	+0.2
	baz=305						
D22K	Ayikyak River	9.11	54	P	Pn	18 43 56.3	+0.2
	baz=253						
O17K	Koliganek Bris	9.13	116	P	Pn	18 43 56.3	0.0
	baz=311						
CHUM	Lake Minchumin	9.21	86	P	Pn	18 43 57.1	-0.2
	baz=285						
CAST	Castle Rocks	9.44	89	P	Pn	18 44 00.9	+0.3
	baz=288,SNR=7.2						
N19K	Bonanza Creek	9.55	106	P	Pn	18 44 02.4	+0.2
	baz=303						
PPLA	Purkeypile	9.57	92	P	Pn	18 44 02.5	0.0
	baz=291						

*IDC **23** 18:44:29.8±1.2, 21°.37N×143°.90E, h0km, mb3.8/8, mbtmp3.8/8, MS4.0/1, Error ellipse: s-maj=47.1km s-min=24.0km az=78.0*

ISC 23 18:44:34.9±1.1, 21°.4N±0°.2×143°.8E±0°.3, h33km, n14, σ0°66/9, mb3.8/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	WAKE ISLAND Hy	21.67	90	T	T	19 11 34.3	
	baz=278,slow=74,SNR=19						
H11N2	WAKE ISLAND Hy	21.67	90	T	T	19 11 38.8	
	baz=278,slow=74,SNR=18						
H11N3	WAKE ISLAND Hy	21.69	90	T	T	19 11 39.8	
	baz=278,slow=74,SNR=14						
H11S3	WAKE ISLAND Hy	21.69	93	T	T	19 11 37.7	
	baz=281,slow=75,SNR=29						
H11S1	WAKE ISLAND Hy	21.70	93	T	T	19 11 38.4	
	baz=281,slow=75,SNR=27						
H11S2	WAKE ISLAND Hy	21.70	93	T	T	19 11 39.1	
	baz=281,slow=75,SNR=30						
WRA	Warramunga Arr	42.07	193	P	P	18 52 23.7	-0.1
	0.9nm,1.1s,baz=15,slow=9.0,SNR=3.4						
	0.9nm,1.1s						
ASAR	Alice Springs	45.77	193	P	P	18 52 53.6	+0.1
	0.2nm,0.7s,baz=14,slow=8.0,SNR=1.5						
	0.2nm,0.7s						
ZALV	Zalesovo Beam	54.85	322	P	P	18 54 02.2	+0.3
	0.5nm,0.5s,baz=101,slow=7.8,SNR=2.1						
	0.5nm,0.5s						
MKAR	Makanchi Array	55.37	313	P	P	18 54 06.8	+1.0
	0.3nm,0.6s,baz=89,slow=9.2,SNR=2.4						
MKAR				PcP	PcP	18 55 06.0	0.0
	0.5nm,0.6s,baz=75,slow=3.9,SNR=4.9						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	58.18	317	P	P	18 54 25.9	+0.3
	2.6nm,0.7s,baz=95,slow=7.8,SNR=15						
KURBB				LR	LR	19 21 39.0	
	comp=Z,114nm,18.6s,baz=176,slow=38						
	2.6nm,0.7s						
BVAR	Borovoye Array	63.32	320	P	P	18 55 00.9	+0.3
	2.4nm,0.7s,baz=90,slow=7.4,SNR=12						
	2.4nm,0.7s						
NVAR	Mina Array Bea	82.90	52	P	P	18 56 57.2	+0.4
	0.5nm,0.7s,baz=262,slow=7.3,SNR=3.7						
	0.5nm,0.7s						
FINES	FINESS Array B	83.75	335	P	P	18 56 59.3	-1.1
	1.1nm,0.5s,baz=76,slow=4.4,SNR=14						
	1.1nm,0.5s						

*IDC **23** 18:49:54.0±0.7, 64°.36N×173°.29W, h0km, mb3.7/26, mbtmp3.7/30, ML3.4/3, MS3.8/50, Error ellipse: s-maj=19.3km s-min=12.5km az=10.0*

*MOS **23** 18:50:02.4±1.1, 64°.72N×172°.82W, h10km, mb4.7/25, Error ellipse: s-maj=15.2km s-min=9.5km az=106.9*

*NEIC **23** 18:50:04.8±1.7, 64°.93N±0°.07×172°.8W±0°.2, h10km±1km, mb4.5/108, Error ellipse: s-maj=12.8km s-min=10.5km az=148.0*

ISC 23 18:50:04.4±0.3, 64°.82N±0°.06×172°.63W±0°.04, h10km, n681, σ1$43/607, mb4.5/101, MS3.8/48, 7C-10D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	Gambell	1.12	159	P	Pb	18 50 24.9	-0.9
	baz=339,SNR=189						
TNA	Tin City	2.12	67	P	Pn	18 50 39.1	-0.7
	baz=255,SNR=48						
F14K	Arctic Creek	2.74	73	P	Pn	18 50 48.4	0.0
	baz=262,SNR=14						
ANM	Nome	3.13	91		Pn	18 50 53.8	+0.1
ANM	Nome	3.13	91	P	Pn	18 50 54.2	+0.5
	baz=280,SNR=13						
ANM	Nome	3.13	91	P	Pn	18 50 53.8	+0.1
F15K	North Star Dit	3.47	71		Pn	18 50 58.2	-0.2
F15K	North Star Dit	3.47	71	P	Pn	18 50 58.0	-0.4
	baz=261,SNR=10						
G15K	Niukluk	3.66	83	P	Pn	18 51 01.4	+0.3
	baz=273,SNR=7.2						
G16K	Koyuk River	4.38	78	Pn	Pn	18 51 10.6	-0.3
G16K	Koyuk River	4.38	78	P	Pn	18 51 11.0	+0.1
	baz=269						
H16K	Elim	4.46	88	P	Pn	18 51 12.1	+0.1
	baz=279						
J14K	Nanvaranak Lak	4.53	113	Pn	Pn	18 51 13.1	+0.2
J14K	Nanvaranak Lak	4.53	113	P	Pn	18 51 13.3	+0.4
	baz=302						
C16K	Lisburne Hills	4.53	37		Pn	18 51 11.4	-1.5
C16K	Lisburne Hills	4.53	37	P	Pn	18 51 12.1	-0.8
	baz=225						
K13K	Kusilvak Mount	4.61	125		Pn	18 51 13.7	-0.3
K13K	Kusilvak Mount	4.61	125	P	Pn	18 51 14.3	+0.3
	baz=313						
E17K	Hotham Inlet	4.97	58	P	Pn	18 51 19.0	+0.1
	baz=249						
F17K	Baldwin Pennin	4.99	66	P	Pn	18 51 19.9	+0.7
	baz=258						
G17K	Kiwalik Mounta	5.10	77	P	Pn	18 51 21.0	+0.2
	baz=269						
C17K	DeLong Mountai	5.25	41	P	Pn	18 51 22.9	0.0
	baz=232						
I17K	Unalakleet	5.27	95		Pn	18 51 24.1	+1.1
I17K	Unalakleet	5.27	95	P	Pn	18 51 24.5	+1.5
	baz=287,SNR=7.8						
M11K	Mekoryuk	5.34	143		Pn	18 51 25.2	+1.1
M11K	Mekoryuk	5.34	143	P	Pn	18 51 25.2	+1.1
	baz=329						
H17K	Granite Mounta	5.42	83	P	Pn	18 51 25.6	+0.4
	baz=276						
J16K	Anvik River	5.50	101		Pn	18 51 27.5	+1.2
J16K	Anvik River	5.50	101	P	Pn	18 51 27.5	+1.2
	baz=293						
E18K	Tukpahlearik C	5.54	56		Pn	18 51 27.2	+0.4
E18K	Tukpahlearik C	5.54	56	P	Pn	18 51 27.1	+0.4
	baz=249						
K15K	Wolf Creek Mou	5.57	112		Pn	18 51 28.1	+0.9
K15K	Wolf Creek Mou	5.57	112	P	Pn	18 51 28.6	+1.4
	baz=303						
L14K	Kuka Creek	5.70	123	Pn	Pn	18 51 29.5	+0.5
L14K	Kuka Creek	5.70	123	P	Pn	18 51 29.9	+0.8
	baz=313						
L15K	Ungalak Mounta	5.93

B18K	Kokolik River	6.21	38	P	Pn	18 51 35.3 -0.7
	baz=229					
M14K	Bethel	6.37	125		Pn	18 51 37.9 -0.2
M14K	Bethel	6.37	125	P	Pn	18 51 39.1 +1.0
	baz=315,SNR=8.7					
F19K	Shaleruckik Mo	6.42	65		Pn	18 51 39.0 0.0
F19K	Shaleruckik Mo	6.42	65	P	Pn	18 51 39.3 +0.3
	baz=260					
G19K	Purcell Mounta	6.60	71	P	Pn	18 51 42.3 +0.9
	baz=267					
C19K	Lookout Ridge	6.68	44		Pn	18 51 42.0 -0.5
C19K	Lookout Ridge	6.68	44	P	Pn	18 51 41.8 -0.7
	baz=237					
K17K	Iditarod	6.69	102		Pn	18 51 43.3 +0.7
K17K	Iditarod	6.69	102	P	Pn	18 51 43.2 +0.7
	baz=296					
L16K	Owhat River	6.70	112	Pn	Pn	18 51 42.8 0.0
L16K	Owhat River	6.70	112	P	Pn	18 51 43.8 +1.1
	baz=304,SNR=11					
GCSA	Galena City Sc	6.73	83	P	Pn	18 51 44.0 +0.9
	baz=279					
E19K	Redstone River	6.78	60	P	Pn	18 51 44.0 +0.2
	baz=255					
D19K	Kuna River	6.84	51	P	Pn	18 51 44.7 +0.1
	baz=245					
H19K	Roundabout Mou	6.85	77	P	Pn	18 51 45.4 +0.6
	baz=273					
M15K	Kasigluk River	6.86	122	P	Pn	18 51 45.8 +0.9
	baz=313,SNR=7.7					
L17K	Donlin	6.96	106	P	Pn	18 51 47.4 +1.1
	baz=300					
A19K	Wainwright	6.98	34	P	Pn	18 51 46.2 -0.3
	baz=226					
N14K	Kuskokwak Cree	7.06	129	P	Pn	18 51 48.4 +0.7
	baz=319,SNR=12					
J18K	Innoko River	7.09	94	P	Pn	18 51 49.2 +1.1
	baz=289,SNR=15					
F20K	Avaraart Lake	7.26	64	P	Pn	18 51 50.1 -0.3
	baz=261					
M16K	Timber Creek	7.30	115	P	Pn	18 51 52.4 +1.4
	baz=308					
E20K	Nigu River	7.40	55	P	Pn	18 51 52.5 0.0
	baz=251					
J19K	Poorman	7.41	89	Pn	Pn	18 51 53.0 +0.5
J19K	Poorman	7.41	89	P	Pn	18 51 53.1 +0.7
	baz=285					
D20K	Etivluk River	7.43	51	P	Pn	18 51 52.4 -0.4
	baz=247					
N15K	Kwethluk River	7.44	123		Pn	18 51 53.7 +0.9
N15K	Kwethluk River	7.44	123	P	Pn	18 51 53.9 +1.1
	baz=315					
H20K	Anotleneega Mo	7.50	77	P	Pn	18 51 54.5 +0.8
	baz=274					
TTA	Tatalina	7.57	97	Pn	Pn	18 51 55.1 +0.4
TTA	Tatalina	7.57	97	P	Pn	18 51 56.3 +1.6
	baz=293					
TTA	Tatalina	7.57	97	P	Pn	18 51 55.1 +0.4
L18K	Granite Mounta	7.58	103	Pn	Pn	18 51 56.0 +1.1
L18K	Granite Mounta	7.58	103	P	Pn	18 51 56.5 +1.7
	baz=298,SNR=7.5					
M17K	Holitna River	7.69	109		Pn	18 51 58.0 +1.7
M17K	Holitna River	7.69	109	P	Pn	18 51 58.0 +1.7
	baz=304,SNR=11					
O14K	Tigyukauivet M	7.71	131	Pn	Pn	18 51 58.1 +1.4
O14K	Tigyukauivet M	7.71	131	P	Pn	18 51 58.4 +1.7
	baz=322					
N16K	Nishlik Lake	7.72	118	P	Pn	18 51 57.3 +0.6
	baz=311					
I20K	Naaghedeneel	7.74	82	Pn	Pn	18 51 56.3 -0.6
I20K	Naaghedeneel	7.74	82	P	Pn	18 51 58.3 +1.3
	baz=279					
SPIA	Saint Paul Isl	7.75	170	P	Pn	18 51 58.2 +1.1
	baz=352					
B20K	Meade River	7.89	42		Pn	18 51 59.2 +0.2
B20K	Meade River	7.89	42	P	Pn	18 51 59.1 +0.1
	baz=237					
IMAR	Indian Mountai	7.96	73	Pn	Pn	18 52 01.5 +1.5
J20K	Nowinta River	8.00	86		Pn	18 52 00.4 -0.1
J20K	Nowinta River	8.00	86	P	Pn	18 52 01.4 +0.9
	baz=284,SNR=7.7					
G21K	Allakaket	8.07	69	Pn	Pn	18 52 00.9 -0.6
G21K	Allakaket	8.07	69	P	Pn	18 52 02.1 +0.6
	baz=268					
F21K	Alatna River	8.15	64	Pn	Pn	18 52 02.6 0.0
F21K	Alatna River	8.15	64	P	Pn	18 52 03.2 +0.6
	baz=263					
C21K	Knifeblade Rid	8.21	50	P	Pn	18 52 04.0 +0.5
	baz=248,SNR=6.2					
E21K	Killik River	8.24	56	P	Pn	18 52 03.4 -0.5
	baz=254					
O15K	Ungalikthiuk R	8.25	127	P	Pn	18 52 05.4 +1.4
	baz=319					
K20K	Telida	8.25	92		Pn	18 52 04.2 +0.2
K20K	Telida	8.25	92	P	Pn	18 52 05.1 +1.0
	baz=289,SNR=14					
N17K	Nushagak Hills	8.29	114		Pn	18 52 05.9 +1.4
N17K	Nushagak Hills	8.29	114	P	Pn	18 52 06.0 +1.4
	baz=308					
M18K	Stony River	8.29	106	P	Pn	18 52 05.9 +1.3
	baz=302,SNR=12					
H21K	Melozitna Rive	8.36	75		Pn	18 52 05.6 +0.1
H21K	Melozitna Rive	8.36	75	P	Pn	18 52 06.3 +0.8
	baz=274					
L19K	White Mountain	8.37	100		Pn	18 52 06.5 +0.9
L19K	White Mountain	8.37	100	P	Pn	18 52 07.0 +1.4
	baz=297,SNR=13					
B21K	Ikpikpuk River	8.46	47	Pn	Pn	18 52 06.7 -0.2
B21K	Ikpikpuk River	8.46	47	P	Pn	18 52 06.7 -0.2
	baz=245					
O16K	Kokwok River B	8.56	121		Pn	18 52 09.7 +1.4
O16K	Kokwok River B	8.56	121	P	Pn	18 52 09.7 +1.4
	baz=314					
SVW2	Sparrevohn	8.60	108		Pn	18 52 10.1 +1.3
L20K	Farewell, AK	8.65	97	P	Pn	18 52 11.1 +1.6
	baz=295,SNR=13					
M19K	Big River Lodg	8.69	101	Pn	Pn	18 52 11.5 +1.5
M19K	Big River Lodg	8.69	101	P	Pn	18 52 11.6 +1.6
	baz=298					
F22K	John River	8.69	63	P	Pn	18 52 10.2 +0.1
	baz=262					
N18K	Kilae Creek	8.71	111		Pn	18 52 12.1 +1.8
N18K	Kilae Creek	8.71	111	P	Pn	18 52 12.2 +1.8
	baz=306,SNR=7.3					
I21K	Tanana	8.74	78		Pn	18 52 11.1 +0.4
I21K	Tanana	8.74	78	P	Pn	18 52 11.7 +1.0
	baz=278					
O17K	Koliganek Bris	8.81	118	P	Pn	18 52 12.8 +1.1
	baz=312					
D22K	Ayikyak River	8.82	54	Pn	Pn	18 52 12.2 +0.4
D22K	Ayikyak River	8.82	54	P	Pn	18 52 12.6 +0.8
	baz=253					
A21K	Barrow	8.83	35	P	Pn	18 52 11.1 -0.7
	baz=231					
CHUM	Lake Minchumin	8.85	87	P	Pn	18 52 13.6 +1.4
	baz=286,SNR=14					
H22K	Ishtalitna Cre	8.93	73	P	Pn	18 52 13.8 +0.5
	baz=274					
E22K	Anaktuvuk Pass	8.94	59		Pn	18 52 14.6 +1.1
E22K	Anaktuvuk Pass	8.94	59	P	Pn	18 52 13.8 +0.3
	baz=259					
P16K	Nushagak River	9.00	123	P	Pn	18 52 15.7 +1.5
	baz=317					
A22K	Sinclair Lake	9.06	39	P	Pn	18 52 14.4 -0.7
	baz=236					
CAST	Castle Rocks	9.08	90	Pn	Pn	18 52 16.8 +1.4
CAST	Castle Rocks	9.08	90	P	Pn	18 52 16.9 +1.4
	baz=289,SNR=27					
B22K	Teshekpuk Lake	9.16	44		Pn	18 52 15.7 -0.7
B22K	Teshekpuk Lake	9.16	44	P	Pn	18 52 16.0 -0.3
	baz=243					
N19K	Bonanza Creek	9.21	107		Pn	18 52 18.6 +1.4
N19K	Bonanza Creek	9.21	107	P	Pn	18 52 18.8 +1.6
	baz=304,SNR=7.1					
PPLA	Purkeypile	9.21	93	P	Pn	18 52 19.1 +1.7
	baz=292,SNR=9.4					
M20K	Styx River	9.23	100		Pn	18 52 19.1 +1.7
M20K	Styx River	9.23	100	P	Pn	18 52 19.0 +1.5
	baz=298,SNR=10					
MLY	Manley	9.28	79		Pn	18 52 18.2 0.0
MLY	Manley	9.28	79	P	Pn	18 52 18.5 +0.4
	baz=280,SNR=7.0					
BPAW	Bear Paw Mtn.	9.36	85	Pn	Pn	18 52 19.6 +0.4
BPAW	Bear Paw Mtn.	9.36	85	P	Pn	18 52 19.8 +0.5
	baz=285					
COLD	Coldfoot	9.42	65	P	Pn	18 52 20.3 +0.3
	baz=266					
P17K	Kvichak River	9.45	119	P	Pn	18 52 21.6 +1.2
	baz=314					
G23K	Bananza Creek	9.47	68	Pn	Pn	18 52 21.6 +0.9
G23K	Bananza Creek	9.47	68	P	Pn	18 52 21.0 +0.3
	baz=270,SNR=9.0					
O18K	Koktuh Hills	9.49	114	Pn	Pn	18 52 22.7 +1.8
O18K	Koktuh Hills	9.49	114	P	Pn	18 52 22.3 +1.4
	baz=310					
KTH	Kantishna Hill	9.54	88		Pn	18 52 23.5 +1.8
D23K	Nanushuk River	9.54	54	P	Pn	18 52 21.7 0.0
	baz=256					
O19K	Port Alsworth	9.63	110		Pn	18 52 24.4 +1.5
O19K	Port Alsworth	9.63	110	P	Pn	18 52 24.2 +1.3
	baz=307					
H23K	Yukon River	9.69	74		Pn	18 52 24.5 +0.8
H23K	Yukon River	9.69	74	P	Pn	18 52 24.4 +0.8
	baz=275,SNR=18					
E23K	Chandalar	9.74	60	P	Pn	18 52 24.9 +0.5
	baz=262					
P18K	Big Mountain,	9.78	116	Pn	Pn	18 52 26.0 +1.1
P18K	Big Mountain,	9.78	116	P	Pn	18 52 26.4 +1.5
	baz=312					
C23K	Itkillik River	9.83	50	Pn	Pn	18 52 25.2 -0.4
C23K	Itkillik River	9.83	50	P	Pn	18 52 25.0 -0.6
	baz=251					
TRF	Thorofare Moun	9.84	88	Pn	Pn	18 52 27.1 +1.1
TRF	Thorofare Moun	9.84	88	P	Pn	18 52 27.2 +1.3
	baz=289,SNR=28					
I23K	Minto, Yukon-K	9.84	78		Pn	18 52 26.6 +0.8
I23K	Minto, Yukon-K	9.84	78	P	Pn	18 52 26.3 +0.5
	baz=280					
TOLK	Toolik Lake Re	9.86	57		Pn	18 52 26.2 +0.2
TOLK	Toolik Lake Re	9.86	57	P	Pn	18 52 26.0 0.0
	baz=259					
SKT	Skwentna	9.86	97	Pn	Pn	18 52 27.6 +1.6
SKT	Skwentna	9.86	97	P	Pn	18 52 28.1 +2.1
	baz=297,SNR=7.3					
N20K	Mount Spurr	9.94	102	P	Pn	18 52 29.6 +2.4
	baz=301,SNR=8.9					
SPCR	Spurr Chakacha	9.94	102	P	Pn	18 52 29.1 +1.9
	baz=301,SNR=6.4					
BWN	Browne	9.99	83		Pn	18 52 29.4 +1.6
NEA2	Nenana	10.06	81		Pn	18 52 29.3 +0.4
NEA2	Nenana	10.06	81	P	Pn	18 52 29.8 +1.0
	baz=283					
RSO	Redoubt South	10.11	106		Pn	18 52 31.9 +2.2
E24K	Your Creek	10.16	61	Pn	Pn	18 52 31.7 +1.6
E24K	Your Creek	10.16	61	P	Pn	18 52 31.6 +1.4
	baz=264					
CUT	Chulitna	10.22	93		Pn	18 52 32.6 +1.7
CUT	Chulitna	10.22	93	P	Pn	18 52 32.0 +1.0
	baz=294,SNR=7.5					
D24K	Happy Valley	10.24	54	Pn	Pn	18 52 30.6 -0.5
D24K	Happy Valley	10.24	54	P	Pn	18 52 31.5 +0.4
	baz=257					
Q17K	Contact Creek	10.31	122	P	Pn	18 52 33.5 +1.1
	baz=317,SNR=7.3					
F24K	Squaw Lake	10.34	64	Pn	Pn	18 52 32.5 0.0
F24K	Squaw Lake	10.34	64	P	Pn	18 52 32.8 +0.2
	baz=267,SNR=7.3					
MCK	McKinley	10.34	85	P	Pn	18 52 33.4 +0.8
	baz=287,SNR=16					
MDM	Murphy Dome	10.35	78	Pn	Pn	18 52 32.9 +0.2
Q18K	Katmai Hardscr	10.37	118	P	Pn	18 52 34.0 +0.9
	baz=314					
H24K	Noodor Dome	10.37	73		Pn	18 52 34.1 +1.1
H24K	Noodor Dome	10.37	73	P	Pn	18 52 33.4 +0.4
	baz=276					
O20K	Slope Mountain	10.38	108	P	Pn	18 52 35.5 +2.3
	baz=306					
P19K	Oil Pt	10.40	111	P	Pn	18 52 35.6 +2.2
	baz=309					
C24K	Franklin Bluff	10.43	51	P	Pn	18 52 33.2 -0.5
	baz=254					
SUA	Susitna One	10.43	99	Pn	Pn	18 52 36.3 +2.4
SUA	Susitna One	10.43	99	P	Pn	18 52 35.7 +1.8
	baz=299					
RND	Reindeer	10.47	87	Pn	Pn	18 52 35.6 +1.3
RND	Reindeer	10.47	87	P	Pn	18 52 35.7 +1.3
G24K	Hadweenzic Riv	10.48	68	Pn	Pn	18 52 35.5 +1.0
G24K	Hadweenzic Riv	10.48	68	P	Pn	18 52 36.2 +1.7
	baz=272,SNR=13					
WRH	Wood River Hil	10.51	81	Pn	Pn	18 52 35.5 +0.7
CCB	Clear Creek Bu	10.59	80	Pn	Pn	18 52 35.8 -0.1
R17K	Ugashik Creek	10.60	125	P	Pn	18 52 37.8 +1.7
	baz=320					
CAPN	Captain Cook N	10.61	103	P	Pn	18 52 37.5 +1.3
	baz=302					
POKR	Poker Plat Res	10.65	77	Pn	Pn	18 52 36.9 +0.1
POKR	Poker Plat Res	10.65	77	P	Pn	18 52 37.1 +0.2
	baz=281					
S14K	Fog Glacier	10.68	137	P	Pn	18 52 39.7 +2.3
	baz=329					
Q19K	Cape Douglas,	10.70	115	P	Pn	18 52 38.4 +0.9
	baz=312					
WAT1	Susitna Watana	10.79	90	P	Pn	18 52 40.6 +1.7
	baz=292					
IL31		10.95	79		Pn	18 52 41.3 +0.5
ILAR	Eielson Array	10.95	79		Pn	18 52 41.3 +0.4
ILAR	Eielson Array	10.95	79	P	Pn	18 52 41.3 +0.4
ILAR	Eielson Array	10.95	79	Pn	Pn	18 52 39.4 -1.4
	0.3nm,0.3s,baz=277,slow=13,SNR=26					
ILAR				Sn	Sn	18 54 39.3 -3.9
	baz=284,slow=12					
ILAR				Lg	Lg	18 55 52.7
	baz=292,slow=25					
ILAR				LR	LR	18 57 26.3
	comp=Z,225nm,21.7s,baz=279,slow=40					
FALS	False Pass	10.99	151	P	Pn	18 52 43.7 +2.2
	baz=339					
HDA	Harding Lake	11.00	80		Pn	18 52 42.2 +0.6
HDA	Harding Lake	11.00	80	P	Pn	18 52 42.7 +1.1
	baz=284					
CHGN	Chignik	11.01	134	P	Pn	18 52 43.4 +1.8
	baz=327					
G25K	Bearman Lake	11.02	68	P	Pn	18 52 42.4 +0.5
	baz=273,SNR=5.5					
HOM	Homer	11.03	108	P	Pn	18 52 43.7 +1.6
	baz=307					
GHO	Glory Hole Cre	11.06	95	Pn	Pn	18 52 45.7 +3.2
D25K	Kavik River	11.13	55	Pn	Pn	18 52 42.1 -1.3
D25K	Kavik River	11.13	55	P	Pn	18 52 43.4 +0.1
	baz=260					
H25L	Birch Creek	11.17	70	P	Pn	18 52 44.0 +0.2
	baz=276					
F25K	Christian Rive	11.20	64	P	Pn	18 52 45.7 +1.4
	baz=269,SNR=13					
DHY	Denali Highway	11.21	87	Pn	Pn	18 52 46.3 +1.7
DHY	Denali Highway	11.21	87	P	Pn	18 52 46.3 +1.7
	baz=291,SNR=16					
WAT6	Susitna Watana	11.23	90	P	Pn	18 52 46.8 +1.8
	baz=293,SNR=16					
E25K	Arctic Village	11.26	61	Pn	Pn	18 52 45.7 +0.7
E25K	Arctic Village	11.26	61	P	Pn	18 52 45.8 +0.7
	baz=266					
SML	Sawmill	11.30	94		Pn	18 52 48.4 +2.6
SML	Sawmill	11.30	94	P	Pn	18 52 48.8 +3.0
	baz=297,SNR=18					
BRSE	Bradley Lake S	11.35	106	P	Pn	18 52 48.0 +1.6
	baz=306					
O22K	Cooper Landing	11.36	102	P	Pn	18 52 47.5 +1.0
	baz=303					
PRP	Porcupine Dome	11.38	74	Pn	Pn	18 52 47.8 +0.9
PRP	Porcupine Dome	11.38	74	P	Pn	18 52 48.6 +1.7
	baz=280,SNR=6.2					
FYU	Fort Yukon	11.38	69	Pn	Pn	18 52 49.2 +2.4
Q20K	Shuyak Island	11.40	114	P	Pn	18 52 49.4 +2.3
	baz=312					
KNK	Knik Glacier	11.43	96		Pn	18 52 50.4 +3.0
KNK	Knik Glacier	11.43	96	P	Pn	18 52 48.4 +1.0
	baz=298					
M23K	Glacier View	11.56	94	P	Pn	18 52 51.9 +2.5
	baz=297,SNR=18					
BMAR	Burnt Mountain	11.61	64	Pn	Pn	18 52 51.0 +1.1
J25K	Salcha River,	11.62	79	Pn	Pn	18 52 51.0 +0.9
J25K	Salcha River,	11.62	79	P	Pn	18 52 50.4 +0.3
	baz=284					
K24K	Donnelly Dome	11.66	83	P	Pn	18 52 54.9 +4.3
	baz=288,SNR=15					
SEW	Seward	11.68	103	P	Pn	18 52 53.9 +3.1
	baz=304					
SCM	Sheep Creek Mo	11.72	93		Pn	18 52 54.2 +2.7
SCM	Sheep Creek Mo	11.72	93	P	Pn	18 52 55.5 +4.0
	baz=296,SNR=11					
SCM	Sheep Creek Mo	11.72	93	P	Pn	18 52 54.2 +2.7
PWL	Port Wells	11.75	99	Pn	Pn	18 52 53.9 +2.1
PWL	Port Wells	11.75	99	P	Pn	18 52 54.7 +2.8
	baz=301					
C26K	Camden Bay	11.75	52	P	Pn	18 52 53.2 +1.4
	baz=258					
F26K	Sheenjek River	11.77	63	P	Pn	18 52 54.3 +2.1
	baz=270					
KDAK	Kodiak Island	11.89	117	P	Pn	18 52 57.3 +3.5
	baz=315					
KDAK	Kodiak Island	11.89	117	Pn	Pn	18 52 45.1 -8.7
	0.2nm,0.3s,baz=315,slow=4.3,SNR=2.0					
KDAK				LR	LR	18 58 09.8
	comp=Z,335nm,19.4s,baz=343,slow=42					
	15nm,1.1s					
G26K	Porcupine Rive	11.93	67	P	Pn	18 52 56.5 +2.2
	baz=274					
CHNA	Chernabura Isl	11.94	141	P	Pn	18 52 58.7 +4.2
	baz=332					
PAX	Paxson	12.06	86	P	Pn	18 52 59.5 +3.3
	baz=292,SNR=19					
RIDG	Independent Ri	12.07	82		Pn	18 52 58.3 +2.0
RIDG	Independent Ri	12.07	82	P	Pn	18 53 00.4 +4.1
	baz=288,SNR=18					
M24K	Tolsona, Glenn	12.09	91		Pn	18 53 00.0 +3.4
M24K	Tolsona, Glenn	12.09	91	P	Pn	18 53 00.6 +4.0
	baz=295,SNR=11					
SII	Sitkinak Islan	12.21	124	P	Pn	18 53 02.3 +4.2
	baz=321					
GLI	Glacier Island	12.26	97	P	Pn	18 53 02.4 +3.6
	baz=300					
CHIR	Chirikof Islan	12.29	129	P	Pn	18 53 03.4 +4.1
	baz=324					
SCRK	Sand Creek	12.37	81	Pn	Pn	18 53 03.0 +2.6
SCRK	Sand Creek	12.37	81	P	Pn	18 53 03.6 +3.2
	baz=287,SNR=12					
I26K	Coal Creek Min	12.39	74	Pn	Pn	18 53 01.5 +0.9
I26K	Coal Creek Min	12.39	74	P	Pn	18 53 03.9 +3.3
	baz=282,SNR=6.0					
J26L	Joseph Creek	12.40	78	Pn	Pn	18 53 01.6 +0.8
J26L	Joseph Creek	12.40	78	P	Pn	18 53 02.5 +1.6
	baz=285,SNR=6.7					
HARP	HAARP	12.41	89	P	Pn	18 53 03.7 +2.8
	baz=294					
KLU	Klutina	12.47	93		Pn	18 53 04.7 +2.9
KLU	Klutina	12.47	93	P	Pn	18 53 04.9 +3.1
	baz=298,SNR=8.4					
FID	Port Fidalgo	12.59	97	Pn	Pn	18 53 05.1 +1.8
E27K	Coleen River	12.74	61	P	Pn	18 53 07.0 +1.6
	baz=270					
G27K	Doyon Strip	12.78	67		Pn	18 53 09.7 +3.8
G27K	Doyon Strip	12.78	67	P	Pn	18 53 07.8 +1.9
	baz=276,SNR=5.9					
MENT	Mentasta	12.82	85		Pn	18 53 09.3 +2.8
H27K	Steamboat Moun	12.90	70	P	Pn	18 53 09.5 +1.9
	baz=279					
I27K	Kandik River	12.97	73	P	Pn	18 53 10.5 +2.0
	baz=281					
N25K	Chitina, Valde	12.98	91	Pn	Pn	18 53 10.5 +1.8
N25K	Chitina, Valde	12.98	91	P	Pn	18 53 11.3 +2.5
	baz=297					
EYAK	Cordova Ski Ar	13.00	97	P	Pn	18 53 11.0 +2.1
	baz=301					
D27M	Malcolm River	13.02	56	Pn	Pn	18 53 09.6 +0.4
D27M	Malcolm River	13.02	56	P	Pn	18 53 10.1 +0.9
	baz=266					
K27K	Chicken	13.16	80	Pn	Pn	18 53 13.5 +2.4
K27K	Chicken	13.16	80	P	Pn	18 53 13.7 +2.7
	baz=288					
BMRM	Bremner River	13.28	94	P	Pn	18 53 15.2 +2.4
	baz=300					
M26K	Nabesna, AK	13.33	87		Pn	18 53 15.2 +1.7
M26K	Nabesna, AK	13.33	87	P	Pn	18 53 16.2 +2.7
	baz=294,SNR=12					
Q23K	Middleton Isla	13.36	102	P	Pn	18 53 16.6 +2.9
	baz=306					
GLB	Gilahina Butte	13.40	91		Pn	18 53 15.4 +1.1
F28M	Old Crow	13.41	63	Pn	Pn	18 53 16.9 +2.4
F28M	Old Crow	13.41	63	P	Pn	18 53 16.4 +1.9
	baz=274					
E28M	Babbage River	13.51	59	Pn	Pn	18 53 15.0 -0.9
E28M	Babbage River	13.51	59	P	Pn	18 53 16.1 +0.2
	baz=270					
L27K	Beaver Creek,	13.58	83	Pn	Pn	18 53 17.5 +0.7
L27K	Beaver Creek,	13.58	83	P	Pn	18 53 18.5 +1.6
	baz=292,SNR=11					
BCAR	Beaver Creek A	13.60	83	Pn	Pn	18 53 17.6 +0.5
VRDI	Verde Repeater	13.65	92		Pn	18 53 18.3 +0.4
I28M	Miner Creek	13.68	73	Pn	Pn	18 53 19.0 +0.7
I28M	Miner Creek	13.68	73	P	Pn	18 53 20.0 +1.7
	baz=283					
MCARA	McCarthy VSAT	13.76	91		Pn	18 53 19.0 -0.3
MCARA	McCarthy VSAT	13.76	91	P	Pn	18 53 20.9 +1.7
	baz=298					
D28M	Stokes Point	13.82	56	P	Pn	18 53 20.8 +0.8
	baz=268					
M27K	Edge Creek, AK	13.83	86		Pn	18 53 21.4 +1.1
M27K	Edge Creek, AK	13.83	86	P	Pn	18 53 22.9 +2.5
	baz=294,SNR=14					
KAIM	Kayak Island	13.89	98	P	Pn	18 53 22.4 +1.3
	baz=303					
CRQM	Cirque	14.01	93		Pn	18 53 23.6 +0.7
CRQE	Cirque	14.03	93	P	Pn	18 53 25.5 +2.4
	baz=300,SNR=8.3					
E29M	Blow River	14.12	60	P	Pn	18 53 24.2 +0.1
	baz=272					
TGL	Tana Glacier	14.14	93		Pn	18 53 26.4 +1.8
H29M	Whitestone	14.16	69		Pn	18 53 25.5 +0.7
H29M	Whitestone	14.16	69	P	Pn	18 53 26.0 +1.2
	baz=281					
G29M	Pine Creek	14.19	66	Pn	Pn	18 53 26.7 +1.5
G29M	Pine Creek	14.19	66	P	Pn	18 53 26.4 +1.2
	baz=278					
BVCY	Beaver Creek	14.24	85	P	Pn	18 53 27.5 +1.7
	baz=294					
DAWY	Dawson	14.27	78		Pn	18 53 26.7 +0.4
DAWY	Dawson	14.27	78	P	Pn	18 53 27.4 +1.1
	baz=289,SNR=9.7					
WAX	Waxell Ridge	14.29	94		Pn	18 53 27.7 +1.2
I29M	Ogilvie Camp,	14.37	72		Pn	18 53 28.2 +0.6
I29M	Ogilvie Camp,	14.37	72	P	Pn	18 53 29.7 +2.1
	baz=284					
BARN	Barnard Glacie	14.49	91		Pn	18 53 30.5 +1.0
GRNC	Granite Creek	14.61	92		Pn	18 53 32.4 +1.3
J29N	Klondike Camp	14.64	76	Pn	Pn	18 53 32.3 +0.9
J29N	Klondike Camp	14.64	76	P	Pn	18 53 33.6 +2.2
	baz=288					
CTG	Chitna Glacier	14.68	91	P	Pn	18 53 32.6 +0.6
	baz=299,SNR=6.1					
CTGM	Chitina Glacie	14.68	91	P	P	18 53 38.3 0.0
YUK3	Moose Creek	14.68	87	P	Pn	18 53 32.9 +0.8
	baz=296,SNR=9.3					
EPYK	Eagle Plains	14.79	68		Pn	18 53 34.0 +0.6
EPYK	Eagle Plains	14.79	68	P	Pn	18 53 34.8 +1.4
	baz=281					
MESA	MESA	14.81	94	P	Pn	18 53 36.0 +2.2
	baz=302					

SEY Lg Lg 18 57 59.6
comp=Z,0.2nm,0.3s,baz=10,slow=17,SNR=2.3
SEY LR LR 19 00 27.8
comp=Z,176nm,18.8s,baz=77,slow=42
comp=Z,1.6nm,0.9s
PINM Pinnacle 15.58 93 P **Pn 18 53 44.5 +0.7**
baz=302
YUK4 Talbot Arm 15.65 87 P **Pn 18 53 46.3 +1.4**
baz=298,SNR=14
G31M Satah River 15.65 65 Pn **Pn 18 53 44.3 -0.4**
G31M IAmb IAmb 18 53 50.9
comp=Z,40nm,1.0s
G31M Satah River 15.65 65 P **Pn 18 53 45.2 +0.5**
baz=281,SNR=10
INK Inuvik 15.74 60 Pn **Pn 18 53 44.7 -1.1**
INK IAmb IAmb 18 53 52.4
comp=Z,37nm,1.1s
INK Inuvik 15.74 60 P **Pn 18 53 46.1 +0.3**
baz=276,SNR=11
INK Inuvik 15.74 60 Pn **Pn 18 53 41.5 -4.3**
comp=Z,0.3nm,0.3s,baz=282,slow=15,SNR=4.1
INK Sn **Sn 18 56 35.2 -4.7**
comp=Z,0.1nm,0.3s,baz=320,slow=5.8,SNR=1.9
comp=Z,1.1nm,0.4s
F31M Tsiigehtchic 15.77 63 P **Pn 18 53 46.7 +0.5**
baz=279,SNR=5.4
H31M Peel River 15.86 69 Pn **Pn 18 53 47.7 +0.2**
H31M IAmb IAmb 18 54 04.9
comp=Z,35nm,1.2s
H31M Peel River 15.86 69 P **Pn 18 53 48.1 +0.7**
baz=285
M30M Minto, Yukon 15.90 82 Pn **Pn 18 53 47.3 -0.7**
M30M Minto, Yukon 15.90 82 P **Pn 18 53 49.1 +1.1**
baz=294,SNR=5.6
YUK6 Outpost Mounta 15.96 88 P **Pn 18 53 50.0 +1.0**
baz=299
PNL Peninsula 16.17 93 P **Pn 18 53 53.2 +1.8**
baz=303
O29M Mount Kennedy 16.19 90 **Pn 18 53 52.8 +1.0**
O29M Mount Kennedy 16.19 90 P **Pn 18 53 53.5 +1.7**
baz=301
N30M Aishikik Lake 16.26 85 P **Pn 18 53 54.1 +1.5**
N30M Aishikik Lake 16.26 85 P **Pn 18 53 54.4 +1.8**
baz=298,SNR=6.6
HYT Haines Junctio 16.39 88 P **Pn 18 53 55.9 +1.6**
baz=300
N31M Braeburn, Yuko 16.81 84 **Pn 18 54 00.6 +1.0**
N31M IAmb IAmb 18 54 05.4
comp=Z,28nm,0.8s
N31M Braeburn, Yuko 16.81 84 P **Pn 18 54 01.2 +1.6**
baz=298,SNR=8.2
P29M Windy Craggy 16.90 92 P **Pn 18 54 00.6 -0.1**
P29M Windy Craggy 16.90 92 P **Pn 18 54 02.1 +1.4**
baz=303
P30M Million Dollar 16.97 89 P **Pn 18 54 03.4 +1.7**
baz=302
O30N Mendenhall 17.02 87 **Pn 18 54 03.2 +1.0**
O30N Mendenhall 17.02 87 P **Pn 18 54 03.5 +1.3**
baz=300
M31M Drury Creek, Y 17.07 81 P **Pn 18 54 04.0 +1.1**
M31M Drury Creek, Y 17.07 81 P **Pn 18 54 04.6 +1.7**
baz=296,SNR=7.4
FARO Faro, Yukon 17.50 80 P **Pn 18 54 09.0 +0.8**
baz=296
PLBC Pleasant Camp 17.58 91 P **P 18 54 11.6 +1.4**
baz=304
WHY Whitehorse 17.59 86 P **P 18 54 11.2 +0.8**
baz=300
MA2 Magadan 17.67 270 LR LR 19 01 52.9
comp=Z,112nm,19.1s,baz=73,slow=41
SKAG Skagway 18.02 90 P **P 18 54 16.9 +1.8**
baz=304
N32M Quiet Lake 18.11 83 **P 18 54 17.1 +0.9**
N32M IAmb IAmb 18 54 18.8
comp=Z,49nm,1.0s
N32M Quiet Lake 18.11 83 P **P 18 54 17.7 +1.6**
baz=299
MMPY Sheldon Lake, 18.21 78 P **P 18 54 18.2 +1.0**
MMPY Sheldon Lake, 18.21 78 P **P 18 54 18.8 +1.6**
baz=296,SNR=12
A36M Sachs Harbour 18.36 47 P **P 18 54 19.4 +0.7**
baz=272
R31K City Hall, Gus 18.44 93 P **Pn 18 54 21.4 +1.7**
baz=306
S31K Pelican 18.50 95 P **P 18 54 20.5 +0.2**
baz=307
P32M Atlin 18.64 88 P **Pn 18 54 24.6 +2.3**
baz=303
P33M Teslin, Yukon 18.70 86 P **Pn 18 54 23.8 +0.9**
baz=302
PET Petropavlovsk 18.74 245 *e*P **P 18 54 21.1 -1.9**
PET *e*S Sn 18 57 37.7 -15
PET MLR MLR
comp=Z,200nm,13.0s
C36M Paulatuk 19.00 55 P **Pn 18 54 27.0 +0.5**
baz=280
R32K Eaglecrest 19.05 92 P **Pn 18 54 27.9 +0.8**
baz=306
PEA0B Petropavlovsk- 19.05 246‖ *e*P **P 18 54 24.3 -2.1**
PETK Petropavlovsk- 19.05 246 P P 18 54 12.2 -14
comp=Z,1.0nm,0.8s,baz=310,slow=7.6,SNR=1.0
PETK LR LR 19 01 53.3
comp=Z,172nm,18.5s,baz=47,slow=39
SIT Sitka 19.45 96 P **Pn 18 54 32.5 +0.7**
baz=309
S32K Kilisnoo 19.51 94 P **Pn 18 54 33.2 +0.6**
baz=308
Q32M Nakina River 19.61 88 P **P 18 54 33.4 +0.6**
baz=305
R33M Jennings River 19.93 86 P **Pn 18 54 38.3 +0.5**
R33M Jennings River 19.93 86 P **P 18 54 37.6 +1.5**
baz=304,SNR=5.9
TGTN Hyland Airport 19.96 79 P **P 18 54 37.9 +1.5**
baz=299,SNR=9.8
WTLY Watson Lake, Y 20.46 83 P **P 18 54 42.2 +0.4**
S34M Telegraph Cree 20.71 90 P **P 18 54 44.9 +0.4**
S34M Telegraph Cree 20.71 90 P **P 18 54 46.4 +1.9**
baz=307
DLBC Dease Lake 20.87 88 P **P 18 54 48.4 +2.1**
DLBC Dease Lake 20.87 88 P **P 18 54 47.5 +1.2**
baz=306
DLBC Dease Lake 20.87 88 P P 18 54 39.7 -6.6
comp=Z,3.3nm,1.1s,baz=277,slow=13,SNR=2.0
DLBC LR LR 19 02 58.6
comp=Z,200nm,18.9s,baz=304,slow=37
comp=Z,3.3nm,1.1s
WRGLY Wrigley 21.16 72 P **P 18 54 50.1 +0.8**
WRGLY IAmb IAmb 18 54 56.9
comp=Z,49nm,1.4s
WRGLY Wrigley 21.16 72 P **P 18 54 50.4 +1.1**
baz=297
TIXI Tiksi 21.86 313 P **P 18 54 54.6 -2.1**
TIXI IAmb IAmb 18 55 00.8
comp=Z,26nm,0.8s
TIXI Tiksi 21.86 313 P **P 18 54 54.6 -2.1**
TIXI pmax pmax
comp=Z,26nm,0.8s
LIRD Liard River Hi 21.99 82 P **P 18 54 58.8 +0.6**
baz=304
KOTAN Kotaneelee Air 22.46 79 P **P 18 55 04.8 +1.5**
baz=303,SNR=10
FLDN Fort Liard 22.64 79 P **P 18 55 06.2 +1.1**
YKA Yellowknife Ar 25.08 68 P **P 18 55 23.3 -5.3**
comp=Z,0.7nm,0.8s,baz=302,slow=9.0,SNR=2.2
YKA LR LR 19 06 42.5
comp=Z,190nm,19.6s,baz=328,slow=39
comp=Z,0.7nm,0.8s
YAK Yakutsk 25.19 291 P **P 18 55 25.7 -3.9**
YAK Yakutsk 25.19 291 *e*P **P 18 55 27.7 -1.9**
YAK *e**PP **pP 18 55 32.4 -0.2**
YAK *e* 18 56 05.2
YAK *e* 18 59 00.1
YAK *e*S **S 18 59 53.3 -1.0**
YAK *e**SS **sS 19 00 01.1 +1.7**
YAK *e*SS **SnSn 19 00 49.6 +5.5**
YAK *e* 19 06 28.9
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=Z,531nm,3.5s
YAK pmax pmax
comp=E,221nm,3.3s
YAK pmax pmax
comp=N,363nm,3.0s
YAK smax smax
comp=N,671nm,3.7s
YAK smax smax
comp=E,340nm,3.7s
BBB Bella Bella 25.83 98 LR LR 19 05 25.7
comp=E,134nm,19.0s,baz=332,slow=36
RES Resolute Bay 26.43 36 LR LR 19 07 27.8
comp=E,117nm,21.2s,baz=316,slow=39
ZEA Zeya 31.39 278 *e*P **P 18 56 24.1 -0.9**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=Z,400nm,13.0s
KLR Kul'dur 32.76 269‖ *e*P **P 18 56 35.2 -1.9**
KLR pmax pmax
comp=Z,19nm,2.5s
NEW Newport 33.45 92 P **P 18 56 44.5 +1.3**
baz=320
NEW Newport 33.45 92 LR LR 19 11 25.5
comp=Z,322nm,18.5s,baz=311,slow=38
NEEM North Greenlan 33.60 20 *i* P **P 18 56 43.5 -0.9**
NEEM IAmb IAmb 18 56 48.3
comp=Z,37nm,1.1s
J05D Fort Rock, OR 35.66 102 P **P 18 57 04.2 +1.7**
MSO Missoula 35.92 91 P **P 18 57 03.4 -1.3**
baz=322
BMO Blue Mountains 36.05 96 P **P 18 57 06.7 +0.9**
BMO IAmb IAmb 18 57 08.0
comp=Z,7.5nm,1.2s
BMO Blue Mountains 36.05 96 P **P 18 57 06.7 +0.9**
BMO pmax pmax
comp=Z,7.0nm,1.2s
YBH Yreka Blue Hor 36.33 105 P **P 18 57 10.3 +2.1**
YBH IAmb IAmb 18 57 16.4
comp=Z,7.3nm,1.2s
YBH Yreka Blue Hor 36.33 105 P **P 18 57 10.3 +2.1**
YBH pmax pmax
comp=Z,7.0nm,1.3s
YBH Yreka Blue Hor 36.33 105 LR LR 19 11 24.3
comp=Z,157nm,18.1s,baz=351,slow=35
USRK Ussuriysk Ar. 36.60 263 LR LR 19 13 00.7
comp=Z,136nm,18.1s,baz=59,slow=38
EGMT Eagleton 36.78 86 P **P 18 57 12.2 +0.2**
baz=321
SPITS Spitsbergen Ar 37.13 357 P P 18 57 08.5 -6.0
comp=Z,26nm,1.0s,baz=75,slow=11,SNR=3.1
SPITS LR LR 19 11 49.0
comp=Z,107nm,19.8s,baz=316,slow=35
WVOR Wild Horse Val 37.45 100 P **P 18 57 19.4 +1.7**
WVOR IAmb IAmb 18 57 20.4
comp=Z,7.8nm,1.1s
WVOR Wild Horse Val 37.45 100 P **P 18 57 19.4 +1.7**
WVOR pmax pmax
comp=Z,8.0nm,1.1s
DAG Danmarks Havn 37.72 10 *i* P **P 18 57 19.0 -0.5**
DAG IAmb IAmb 18 57 22.8
comp=Z,9.9nm,1.0s
MFID Camas Ranch 37.84 96 P **P 18 57 22.0 +1.0**
MFID IAmb IAmb 18 57 23.5
comp=Z,6.8nm,0.9s
BOZ Bozeman (W) 37.88 90 IAmb IAmb 18 57 23.5
comp=Z,7.1nm,1.1s
BOZ Bozeman (W) 37.88 90 P **P 18 57 21.5 +0.1**
baz=323,SNR=6.8
HLID Hailey 38.32 95 IAmb IAmb 18 57 27.4
comp=Z,12nm,1.5s
HLID Hailey 38.32 95 P **P 18 57 25.5 +0.4**
baz=324
YHL Hebgen Lake 38.67 91 IAmb IAmb 18 57 31.0
comp=Z,8.9nm,1.1s
RLMT Red Lodge 39.27 89 P **P 18 57 33.9 +0.8**
baz=323
H17A Grant Village 39.29 90 P **P 18 57 32.3 -1.0**
baz=324
SUMG Summit 39.46 20 P **P 18 57 34.4 -0.2**
SUMG IAmb IAmb 18 57 34.4
comp=Z,18nm,1.5s
SUMG Summit 39.46 20 P **P 18 57 34.4 -0.2**
SUMG pmax pmax
comp=Z,18nm,1.5s
SUMG Summit 39.46 20 *i* P **P 18 57 36.0 +1.4**
IMW Indian Meadow 39.54 91 IAmb IAmb 18 57 38.1
comp=Z,9.5nm,1.1s
CN2 Changchun 39.72 269 *e*P **P 18 57 35.3 -1.3**
FRB Frobisher Bay 40.25 42 LR LR 19 16 15.2
comp=Z,178nm,19.0s,baz=318,slow=39
MJAR Matsushiro Arr 40.44 250 LR LR 19 14 33.6
comp=Z,83nm,20.8s,baz=35,slow=37
HVU Hansel Valley 40.48 95 IAmb IAmb 18 57 45.5
comp=Z,12nm,1.1s
KVN Kaiserville 40.49 102 P **P 18 57 44.7 +1.4**
KVN Kaiserville 40.49 102 P **P 18 57 44.7 +1.4**
KVN pmax pmax
comp=Z,5.0nm,1.0s
ULM Lac du Bonnet 40.89 73 LR LR 19 15 21.1
comp=Z,139nm,21.2s,baz=308,slow=37
NVAR Mina Array Bea 40.93 103 P P 18 57 40.4 -6.6
comp=Z,0.1nm,0.3s,baz=267,slow=7.2,SNR=1.7
NVAR LR LR 19 14 37.9
comp=Z,117nm,18.4s,baz=33,slow=36
comp=Z,0.1nm,0.3s
NV11 Mina Array Sit 40.99 103 P **P 18 57 48.4 +1.0**
SPUT South Promonto 41.00 95 IAmb IAmb 18 57 49.8
comp=Z,11nm,1.1s
BW06 Boulder Array 41.04 91 P **P 18 57 47.9 +0.1**
baz=325
PDAR Pinedale Array 41.04 91 P P 18 57 41.1 -6.7
comp=Z,0.1nm,0.3s,baz=345,slow=2.8,SNR=1.6
PDAR LR LR 19 15 30.3
comp=Z,182nm,20.3s,baz=343,slow=37
comp=Z,0.1nm,0.3s
MDND Maddock 41.22 78 P **P 18 57 49.1 +0.1**
baz=322
MLAC Mammoth, Mammo 41.39 104 P **P 18 57 51.1 +0.3**
baz=329
DUG Dugway, Tooele 41.77 96 P **P 18 57 53.9 +0.2**
baz=327
SFJD Kangerlussuaq 42.10 30 LR LR 19 18 06.7
comp=Z,35nm,18.0s,baz=308,slow=40
SPR3 Spring Creek 3 42.12 99 IAmb IAmb 18 57 60.0
comp=Z,12nm,0.9s
TIN Tinemaha, Big 42.13 104 P **P 18 57 57.9 +1.2**
baz=329
R11B Troy Canyon, C 42.14 100 P **P 18 57 57.5 +0.7**
R11B Troy Canyon, C 42.14 100 P **P 18 57 57.9 +1.0**
baz=328,SNR=5.6
NLU North Lily Min 42.28 96 IAmb IAmb 18 58 00.4
comp=Z,8.5nm,1.0s
RSSD Black Hills 42.31 85 P **P 18 57 57.8 -0.4**
baz=324
BSUT Blindstream Ca 42.36 94 IAmb IAmb 18 58 01.0
comp=Z,11nm,0.9s
GRAC Grapevine Rang 42.54 103 P **P 18 58 01.1 +1.2**
baz=329
PSUT Pine Spring 42.72 99 IAmb IAmb 18 58 03.7
comp=Z,12nm,0.9s
CWC Cottonwood Cre 42.72 104 P **P 18 58 02.3 +0.7**
baz=329
RDMU Red Mountain 42.84 93 IAmb IAmb 18 58 04.4
comp=Z,9.4nm,1.0s
SMMC Simmler 42.90 107 P **P 18 58 03.0 +0.1**
baz=330
TPNV Topopah Spring 43.05 102 IAmb IAmb 18 58 06.2
comp=Z,12nm,1.2s
TPNV Topopah Spring 43.05 102 P **P 18 58 04.3 +0.1**
baz=329
PRN Pahroc Range 43.16 101 IAmb IAmb 18 58 07.0
comp=Z,7.4nm,0.9s
FURC Furnace Creek, 43.20 103 P **P 18 58 06.2 +1.1**
baz=329
ISA Isabella, Lake 43.23 105 P **P 18 58 05.6 +0.1**
baz=330
MPMC Manual Prospec 43.29 104 P **P 18 58 07.1 +0.9**
baz=330,SNR=6.1
P18A Preston Nutter 43.33 94 IAmb IAmb 18 58 09.8
comp=Z,13nm,1.2s
PKM Mcpherson Peak 43.34 107 P **P 18 58 07.0 +0.4**
baz=330
GWY Greenwater Val 43.52 103 IAmb IAmb 18 58 11.2
comp=Z,9.1nm,1.3s
ARVC Arvin 43.54 106 P **P 18 58 09.0 +1.1**
baz=330
QSM Queen of Sheba 43.63 104 IAmb IAmb 18 58 10.7
comp=Z,9.5nm,1.0s
LRMC Laurel Mtn Rad 43.71 105 P **P 18 58 10.3 +0.8**
baz=330
O20A White River Ci 43.77 92 P **P 18 58 10.5 +0.4**
baz=326
SZCU Shurtz Canyon 43.83 99 IAmb IAmb 18 58 12.5
comp=Z,10nm,1.1s
KSRS Korea Array 43.91 261 P P 18 57 59.7 -11
comp=Z,1.2nm,0.9s,baz=24,slow=9.3,SNR=1.8
KSRS LR LR 19 16 30.2
comp=Z,74nm,20.3s,baz=20,slow=37
comp=Z,1.2nm,0.9s
JMIC Jan Mayen 44.03 7 LR LR 19 18 46.5
comp=Z,58nm,19.2s,baz=273,slow=39
EDW2 Edwards Air Fo 44.10 106 P **P 18 58 13.0 +0.5**
baz=330
ULN Ulaanbaatar 44.22 288⇑ *e*P **P 18 58 12.1 -1.4**
ULN pmax pmax
comp=Z,15nm,2.8s
GSC Goldstone, Bar 44.23 104 IAmb IAmb 18 58 15.5
comp=Z,8.5nm,0.9s
GSC Goldstone, Bar 44.23 104 P **P 18 58 14.3 +0.7**
baz=330,SNR=5.9
LCMT Little Creek M 44.26 99 IAmb IAmb 18 58 16.0
comp=Z,9.2nm,1.0s
KNB Kanab 44.43 99 IAmb IAmb 18 58 17.6
comp=Z,8.1nm,0.9s
TUQ Turquoise Moun 44.48 103 P **P 18 58 17.2 +1.5**
baz=330
EYMN Ely 44.48 71 P **P 18 58 15.5 +0.1**
baz=323
DECC Green Verdugo 44.50 106 P **P 18 58 17.3 +1.6**
baz=331
SONM Songino Array 44.51 288 P P 18 58 06.7 -9.1
comp=Z,0.8nm,1.2s,baz=57,slow=11,SNR=2.9
SONM LR LR 19 19 14.8
comp=Z,162nm,19.2s,baz=21,slow=40
comp=Z,0.8nm,1.2s
HMU Henry Mountain 44.54 96 IAmb IAmb 18 58 17.9
comp=Z,14nm,1.2s
V12A Nelson 44.68 102 IAmb IAmb 18 58 19.5
comp=Z,12nm,1.1s
BFSC Mount Baldy Ra 44.79 106 P **P 18 58 19.2 +1.0**
baz=330
HEC Hector,Ludlow 44.83 104 P **P 18 58 18.5 +0.1**
baz=330
SNCC San Nicolas Is 44.89 108 P **P 18 58 18.9 +0.1**
baz=331
BBRC Big Bear Solar 45.08 105 P **P 18 58 20.5 -0.1**
baz=330
GMRC Granite Mounta 45.15 103 P **P 18 58 19.5 -1.5**
baz=330
U15A North Rim 45.16 99 IAmb IAmb 18 58 23.2
comp=Z,8.9nm,0.9s
ARCES ARCESS Array B 45.33 351 P P 18 58 16.0 -5.9
ARCES ARCESS Array B 45.33 351 P P 18 58 16.0 -5.9
comp=Z,2.7nm,0.9s,baz=31,slow=16,SNR=2.4
ARCES LR LR 19 18 34.8
comp=Z,91nm,18.0s,baz=346,slow=38
comp=Z,2.7nm,0.9s
BELC Belle Mtn. Jos 45.68 104 P **P 18 58 24.8 -0.5**
baz=330
ECSD EROS Data Cent 45.77 79 P **P 18 58 25.1 -0.5**
baz=325
PFO Pinyon Flats O 45.83 105 P **P 18 58 25.3 -1.1**
baz=331
PFO Pinyon Flats O 45.83 105 LR LR 19 15 12.5
comp=Z,70nm,18.7s,baz=340,slow=33
TPFO Pinon Flats 45.84 105 P **P 18 58 26.3 -0.1**
baz=331
IRM Iron Mountain 45.90 103 P **P 18 58 27.1 +0.2**
baz=330,SNR=5.8
MVCO Mesa Verde 46.11 95 P **P 18 58 28.5 -0.2**
baz=328
109C Camp Elliot, M 46.19 106 P **P 18 58 30.5 +1.5**
baz=331
PDMCI Parker Dam,Lak 46.20 102 P **P 18 58 29.6 +0.5**
baz=330
BC3 Big Chuckawall 46.21 104 P **P 18 58 29.3 0.0**
baz=330
WUAZ Wupatki 46.32 99 P **P 18 58 30.8 +0.5**
baz=329,SNR=7.6
S22A 4UR Ranch, Cre 46.37 93 P **P 18 58 31.2 +0.4**
baz=328,SNR=8.1
JNU Nakatsue 46.39 255 LR LR 19 16 57.1
comp=Z,80nm,20.5s,baz=30,slow=35
MONP2 Monument Peak 46.47 105 P **P 18 58 31.6 +0.1**
baz=331
SWSC Sam W. Stewart 46.68 105 P **P 18 58 33.2 +0.2**
baz=331
IKP In-Ko-Pah, Jac 46.81 105 P **P 18 58 34.5 +0.5**
baz=331
SDCO Great Sand Dun 46.94 91 IAmb IAmb 18 58 36.7
comp=Z,7.4nm,1.2s
SDCO Great Sand Dun 46.94 91 P **P 18 58 35.6 +0.3**
baz=328
GLA Glamis 46.99 104 P **P 18 58 36.1 +0.7**
baz=331
W18A Petrified Fore 47.35 97 P **P 18 58 39.3 +0.9**
baz=329
ZAA0 Zalesovo Array 47.62 309 P **P 18 58 40.5 +0.5**
ZAA0 IAmb IAmb 18 58 43.5
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 47.62 309 P **P 18 58 39.4 -0.6**
ZALV Zalesovo Beam 47.62 309 P **P 18 58 39.4 -0.6**
ZALV Zalesovo Beam 47.62 309 P P 18 58 31.0 -9.0
comp=Z,0.2nm,0.3s,baz=37,slow=8.3,SNR=2.1
comp=Z,0.2nm,0.3s
T25A Trinidad 47.91 91 P **P 18 58 42.0 -0.7**
baz=328
SCHQ Schefferville 47.95 49 LR LR 19 22 13.4
comp=Z,46nm,18.1s,baz=65,slow=40
HHC Hu-ho-hao-te 48.05 279 *e*P **P 18 58 42.3 -1.4**
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,510nm,6.1s
214A Organ Pipe Nat 48.78 102 P **P 18 58 50.2 +0.9**
baz=331
ANMO Albuquerque 48.90 94 P **P 18 58 50.7 +0.3**
baz=329
ANMO Albuquerque 48.90 94⇑ *i*P **P 18 58 51.3 +1.0**
ANMO pmax pmax
comp=Z,5.0nm,1.2s
ANMO Albuquerque 48.90 94 LR LR 19 21 43.1
comp=Z,149nm,20.8s,baz=67,slow=39
BORG Borgarnes 49.05 16 LR LR 19 20 49.5
comp=Z,66nm,18.6s,baz=276,slow=37
JFWS Jewell Farm 49.09 74 P **P 18 58 52.0 +0.6**
baz=326
TUC Tucson 49.33 100 P **P 18 58 53.2 -0.3**
TUC IAmb IAmb 18 58 55.4
comp=Z,4.5nm,0.9s
TUC Tucson 49.33 100 P **P 18 58 53.5 0.0**
baz=330
TUC Tucson 49.33 100 P **P 18 58 53.2 -0.3**
TUC pmax pmax
comp=Z,4.0nm,1.0s
Y22D IRIS PASSCAL I 49.45 95 P **P 18 58 54.0 -0.5**
baz=329
Y22F Passcal Instru 49.45 95 P **P 18 58 54.3 -0.2**
baz=329
KSU1 Kansas State U 49.59 83 P **P 18 58 55.0 -0.3**
baz=327
GLMI Grayling 49.79 69 P **P 18 58 55.7 -1.1**
baz=326
DGZ Jazzator, Alta 50.25 304‖ *e*P **P 18 59 01.2 +0.8**
121A Cookes Peak, D 50.40 97 IAmb IAmb 19 11 29.0
comp=Z,5.3nm,0.9s
121A Cookes Peak, D 50.40 97 P **P 18 59 02.5 +0.7**
baz=330
PRGR Permogore 50.68 338 *e*P P 18 58 52.5 -11
PRGR pmax pmax
comp=Z,10.0nm,0.8s
AMTX Amarillo 50.99 90 P **P 18 59 06.0 -0.2**
baz=329
MSTX Muleshoe 51.31 92 P **P 18 59 07.4 -1.1**
baz=329
HDIL Hopedale 51.45 75 P **P 18 59 09.0 -0.4**
baz=327
SADO Sadowa 51.99 64 LR LR 19 21 31.1
comp=Z,171nm,18.6s,baz=332,slow=36
MNTX Cornudas Mount 52.14 95 IAmb IAmb 18 59 16.6
comp=Z,7.1nm,1.0s
MNTX Cornudas Mount 52.14 95 P **P 18 59 15.4 +0.7**
baz=330,SNR=7.1
KLMR Klimovskoe 52.35 341 *e*P **P 18 59 17.5 +1.7**
KLMR AMP 18 59 19.3
comp=Z,8.0nm,0.6s
KLMR *e*PcP **PcP 19 00 26.8 +0.2**
KLMR Klimovskoe 52.35 341 *e*P **P 18 59 17.5 +1.7**

KLMR e 19 00 26.7
KLMR pmax pmax
comp=Z,8.0nm,0.6s
WMOK Wichita Mounta 52.36 87 P **P 18 59 16.5 +0.2**
baz=329,SNR=5.8
NJ2 Nanjing 52.38 266 *e*P **P 18 59 14.6 -1.8**
NJ2 pP **pP 18 59 17.4 -2.2**
NJ2 sP **sP 18 59 20.8 0.0**
NJ2 pmax pmax
comp=Z,20nm,0.9s
NJ2 pmax pmax
comp=Z,420nm,4.0s
KURK Kurchatov 52.39 311 P **P 18 59 16.4 +0.1**
KURK IAmb IAmb 18 59 23.1
comp=Z,4.9nm,1.0s
KURK Kurchatov 52.39 311 P **P 18 59 16.4 +0.1**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 52.50 311 P P 18 59 09.4 -7.6
comp=Z,0.4nm,0.2s,baz=33,slow=7.5,SNR=11
comp=Z,0.4nm,0.2s
SFIN Lafayette 52.50 74 P **P 18 59 17.0 -0.2**
baz=328
POST Post 52.62 91 P **P 18 59 17.8 -0.5**
POST IAmb IAmb 18 59 19.2
comp=Z,8.2nm,1.1s
TUL3 Leonard 52.63 84 P **P 18 59 17.8 -0.4**
baz=329
CCM Cathedral Cave 52.74 79 P **P 18 59 18.4 -0.6**
baz=328
KIRV Kirov 52.88 334⇑ *e*P **P 18 59 21.7 +2.0**
KIRV Kirov 52.88 334 LR LR 19 24 18.7
comp=Z,115nm,19.5s,baz=27,slow=39
BVAR Borovoye Array 52.91 318 P P 18 59 12.6 -7.5
comp=Z,0.3nm,0.4s,baz=24,slow=6.2,SNR=1.9
comp=Z,0.3nm,0.4s
BRVK Borovoye 52.91 318⇓ *e*P **P 18 59 20.2 +0.1**
BRVK pmax pmax
comp=Z,15nm,3.2s
ARU Arti 52.95 327 P **P 18 59 21.2 +0.9**
ARU IAmb IAmb 18 59 22.7
comp=Z,4.9nm,0.9s
ARU Arti 52.95 327 *c i*P **P 18 59 21.7 +1.4**
ARU 19 00 33.9
ARU S **S 19 06 51.8 +2.7**
ARU SS **SS 19 10 25.4 -1.7**
ARU pmax pmax
comp=Z,6.0nm,1.0s
JOW Kunigami 52.98 254 LR LR 19 24 28.6
comp=Z,82nm,18.5s,baz=117,slow=40
FINES FINESS Array B 53.28 349 P P 18 59 16.4 -6.3
comp=Z,1.8nm,0.9s,baz=14,slow=8.5,SNR=9.5
FINES LR LR 19 24 26.7
comp=Z,103nm,18.2s,baz=353,slow=39
comp=Z,1.8nm,0.9s
O48B Farmland 53.40 72 P **P 18 59 23.4 -0.4**
baz=328
SGCY Sterling City 53.77 91 IAmb IAmb 18 59 27.9
comp=Z,8.6nm,0.8s
ABTX Abilene, Hawle 53.80 90 P **P 18 59 26.9 0.0**
baz=330
LONY Lake Ozonia 53.85 61 P **P 18 59 25.9 -1.2**
baz=329
ERPA Erie 53.89 67 P **P 18 59 26.5 -0.9**
baz=328
GTA Gaotai 54.15 287 *e*P **P 18 59 31.0 +1.5**
GTA pmax pmax
comp=Z,5.0nm,0.9s
P49A Miami Univ. Ec 54.19 72 P **P 18 59 27.9 -1.7**
baz=328
M53A WI Miller and 54.20 68 P **P 18 59 28.9 -0.8**
baz=328
NB2 NORSAR Subarra 54.42 358 P **P 18 59 31.9 +0.8**
comp=Z,5.6nm,0.9s,baz=0.2,slow=6.9
NOA NORSAR Array B 54.42 358 P P 18 59 24.6 -6.5
comp=Z,1.4nm,0.9s,baz=330,slow=15,SNR=2.3
NOA LR LR 19 22 38.7
comp=Z,50nm,18.5s,baz=340,slow=36
comp=Z,1.4nm,0.9s
MK31 Makanchi Array 54.53 305⇑ *e*P **P 18 59 31.6 -0.5**
MKAR Makanchi Array 54.53 305 P P 18 59 22.8 -9.2
comp=Z,0.8nm,1.0s,baz=356,slow=10,SNR=2.9
MKAR LR LR 19 23 52.8
comp=Z,135nm,18.1s,baz=24,slow=37
comp=Z,0.8nm,1.0s
OZNA Ozona 54.63 92 IAmb IAmb 18 59 34.0
comp=Z,9.9nm,1.1s
MIAR Mount Ida 54.74 83 P **P 18 59 33.6 -0.1**
baz=329
TX32 Lajitas Array 54.92 95 IAmb IAmb 18 59 36.3
comp=Z,4.5nm,1.1s
TXAR Lajitas Array 54.92 95 P P 18 59 29.1 -6.1
comp=Z,0.1nm,0.4s,baz=330,slow=5.2,SNR=1.8
TXAR LR LR 19 24 20.2
comp=Z,112nm,18.9s,baz=336,slow=38
comp=Z,0.1nm,0.4s
O53A New Philadelph 55.00 69 P **P 18 59 33.9 -1.6**
baz=329
SAND Sanderson 55.04 93 IAmb IAmb 18 59 37.1
comp=Z,7.7nm,0.9s
WMQ Urumqi 55.14 300 *e*P **P 18 59 37.9 +1.3**
WMQ LR LR
comp=Z,58nm,20.3s
P52A Corning 55.15 70 P **P 18 59 36.4 -0.2**
baz=329
LBNH Lisbon 55.16 59 P **P 18 59 35.7 -0.9**
baz=329
BRDY Brady 55.23 90 IAmb IAmb 18 59 37.9
comp=Z,6.5nm,1.1s
PKME Peaks-Kenny Pk 55.23 57 P **P 18 59 36.5 -0.6**
baz=330
HFS Hagfors 55.27 356 P P 18 59 30.7 -6.5
comp=Z,4.0nm,1.0s,baz=10,slow=9.3,SNR=3.1
comp=Z,4.0nm,1.0s
WHTX Lake Whitney, 55.28 88 P **P 18 59 37.6 0.0**
baz=330
LZH Lanzhou 55.31 282 *e*P **P 18 59 38.0 0.0**
LZH pP sP 18 59 44.6 +2.2
LZH sP pP 18 59 47.8 +6.6
LZH pmax pmax
comp=Z,19nm,1.2s
BINY Binghamton 55.38 64 P **P 18 59 38.5 +0.3**
baz=329
JCT Junction City 55.58 91 P **P 18 59 39.5 -0.3**
baz=331
SSPA Standing Stone 55.98 66 P **P 18 59 42.6 0.0**
baz=329
MCWV Mont Chateau 56.05 68 P **P 18 59 41.4 -1.7**
baz=329
R53A Hurricane 56.34 71 P **P 18 59 44.6 -0.6**
HRV Adam Dziewonsk 56.79 60 P **P 18 59 47.7 -0.5**
baz=330
PAL Palisades 57.20 63 P **P 18 59 50.4 -0.8**
baz=330
833A Chaparral WMA, 57.63 92 P **P 18 59 54.3 -0.1**
baz=331
TKL Tuckaleechee C 57.89 74 LR LR 19 24 53.3
comp=Z,123nm,18.1s,baz=334,slow=36
BLA Blacksburg 57.92 70 P **P 18 59 55.6 -0.8**
baz=330
GOMU GeErMu 58.94 289 P **P 19 00 05.6 +1.7**
GOMU pP sP 19 00 13.5 +5.2
GOMU sP pP 19 00 16.8 +10
GOMU pmax pmax
comp=Z,3.0nm,0.7s
BELG Belogornoye 59.06 333⇑ *e*P **P 19 00 04.2 +0.2**
BELG pmax pmax
comp=Z,2.0nm,0.6s
ABKAR Abkulak array 59.17 323 P **P 19 00 03.9 -1.1**
ABKAR Abkulak array 59.17 323 IAmb IAmb 19 00 07.0
comp=Z,3.9nm,0.8s
PABE Paberze 59.34 349 P **P 19 00 05.3 -0.6**
KMSC Kings Mountain 59.34 72 P **P 19 00 04.4 -1.8**
baz=330
NACGM Naroch 59.68 347 *e*P **P 19 00 09.0 +0.7**
comp=E,819nm,0.8s
EKA Eskdalemuir Ar 59.91 7 P P 19 00 04.7 -5.2
comp=E,0.8nm,0.6s,baz=19,slow=14,SNR=2.2
comp=E,0.8nm,0.6s
GOGA Godfrey 59.96 75 P **P 19 00 09.8 -0.8**
baz=331
MNK Minsk 59.97 346 *i*P **P 19 00 09.5 -0.8**
comp=E,6.0nm,1.0s
MNK *i*P **P 19 00 09.5 -0.8**
comp=N,11nm,1.0s
MNK *i*P **P 19 00 09.5 -0.8**
comp=Z,19nm,1.0s,baz=10
MNK *i*PP **PP 19 02 21.8 -0.2**
MNK *i*PPP PPP 19 03 43.8
MNK *i*S **S 19 08 22.3 +0.2**
MNK *i*SS **SS 19 12 20.5 +3.0**
MNK *i*SSS SSS 19 15 03.4
MNK *i*LQ LQ 19 21 50.6
MNK *i*LR LR 19 26 17.5
MNK *i*LRM MLR 19 28 42.7
comp=E,53nm,23.7s
MNK *i*LRM MLR 19 28 47.8
comp=Z,83nm,15.2s
MNK Minsk 59.97 346 *i*P **P 19 00 09.5 -0.8**
MNK *i* 19 02 21.7
MNK *i*S **S 19 08 22.3 +0.2**
MNK *i*SS **SS 19 12 20.5 +3.0**
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=Z,19nm,1.0s
MNK pmax pmax
comp=N,11nm,1.0s
MNK MLR MLR
comp=E,53nm,24.0s
MNK MLR MLR
comp=Z,83nm,15.0s
AAK Ala-Archa 60.84 309⇑ *e*P **P 19 00 16.7 0.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 60.84 309 LR LR 19 29 05.1
comp=Z,114nm,18.8s,baz=26,slow=39
TIGA Tifton 61.62 76 P **P 19 00 21.1 -0.8**
baz=331
AKASG Malin Array Be 63.58 345 *i*P **P 19 00 34.2 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 63.58 345 P P 19 00 27.9 -6.7
comp=Z,0.2nm,0.3s,baz=51,slow=0.4,SNR=1.4
AKASG LR LR 19 33 00.9
comp=Z,91nm,18.9s,baz=5.0,slow=40
comp=Z,0.2nm,0.3s
AKBB Malin Array Si 63.58 345⇓ *e*P **P 19 00 34.2 -0.4**
AKBB pmax pmax
comp=Z,12nm,1.5s
CLL Collm 64.13 356 *e*P **P 19 00 39.0 +0.7**
CLL Collm 64.13 356 *e*P **P 19 00 39.0 +0.7**
CLL *e*PP **PP 19 02 57.0 -1.6**
CLL *e*(sPP) 19 03 05.0
PZH PanZhiHua 64.51 278 P **P 19 00 42.1 +0.8**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,180nm,6.1s
KWP Kalwaria Pacla 65.27 349 P **P 19 00 45.5 -0.2**
KWP Kalwaria Pacla 65.27 349 P **P 19 00 45.6 -0.2**
KWP pmax pmax
comp=Z,11nm,1.0s
DWPF Disney Wildern 65.43 76 P **P 19 00 45.9 -1.2**
baz=332
CRVS Cervenica-Dubn 66.09 350 *e*P **P 19 00 53.2 +2.2**
CRVS Cervenica-Dubn 66.09 350 *e*P **P 19 00 53.3 +2.2**
KHC Kasperske Hory 66.29 356 P **P 19 00 52.0 -0.4**
KHC IAmb IAmb 19 00 55.0
comp=Z,4.2nm,1.0s
KHC Kasperske Hory 66.29 356 *e*P **P 19 00 50.0 -2.4**
KHC Kasperske Hory 66.29 356⇓ *e*P **P 19 00 52.8 +0.4**
KHC pmax pmax
comp=Z,11nm,1.1s
GERES GERESS Array B 66.57 355 P P 19 00 46.8 -7.5
comp=Z,0.3nm,0.6s,baz=31,slow=6.8,SNR=1.6
comp=Z,0.3nm,0.6s
VYHS Vyhne 66.68 352 *e*P **P 19 00 56.1 +1.3**
VYHS Vyhne 66.68 352 *e*P **P 19 00 56.1 +1.3**
CONA Conrad Observa 67.40 354 *i*pP pP 19 01 01.3 -1.5
comp=Z,4.0nm,1.1s
RONA Rosalia, Austr 67.61 353 *i*pP pP 19 01 02.8 -1.3
comp=Z,4.3nm,0.6s
ARSA Arzberg 68.09 354 *i*pP **P 19 01 03.6 -0.2**
comp=Z,4.0nm,1.1s
KVAR Kislovodsk Arr 68.10 333 LR LR 19 35 04.4
comp=Z,71nm,18.1s,baz=279,slow=40
WATA Walderalm 68.14 357 *i*pP **P 19 01 05.4 +1.1**
comp=Z,5.9nm,0.9s
MOTA Moosalm 68.14 357 *e*pP **P 19 01 05.4 +1.1**
comp=Z,3.2nm,1.0s
WTTA Wattenberg 68.21 357 *i*pP **P 19 01 06.4 +1.6**
comp=Z,9.8nm,1.0s
SQTA Sankt Quirin 68.26 357 *e*pP **P 19 01 06.6 +1.6**
comp=Z,7.0nm,1.2s
KBZ Khabaz 68.28 333⇓ *i*P **P 19 01 06.5 +1.5**
KBZ Khabaz 68.28 333 P P 19 00 58.1 -6.9
comp=Z,1.0nm,0.8s,baz=18,slow=6.9,SNR=1.5
KBZ LR LR 19 33 40.0
comp=Z,82nm,19.3s,baz=4.5,slow=38
comp=Z,1.0nm,0.8s
NCK Nalchik 68.36 332⇓ *e*P **P 19 01 06.9 +1.3**
NCK pmax pmax
comp=Z,5.0nm,0.3s
FETA Feichten 68.47 358 *i*pP **P 19 01 07.6 +1.2**
comp=Z,8.2nm,1.1s
ABTA Abfaltersbach 68.70 356 *i*pP **P 19 01 07.2 -0.5**
comp=Z,6.3nm,1.3s
OBKA Obir 68.87 355 *i*pP **P 19 01 10.3 +1.5**
comp=Z,11nm,0.9s
FUORN Ofenpass-Fuorn 68.88 358 P **P 19 01 08.7 -0.4**
MLR Muntele Rosu 69.08 346 LR LR 19 36 04.7
comp=Z,58nm,18.6s,baz=93,slow=40
GEYT Alibeck 70.17 319 P P 19 01 10.0 -6.9
comp=Z,1.1nm,0.8s,baz=311,slow=4.8,SNR=1.6
GEYT LR LR 19 34 48.1
comp=Z,122nm,19.5s,baz=1.0,slow=38
comp=Z,1.1nm,0.8s
CMAR Chiang Mai Arr 72.81 277 *i*P **P 19 01 35.0 +2.0**
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 72.81 277 P P 19 01 21.3 -12
comp=Z,0.2nm,0.5s,baz=21,slow=6.6,SNR=2.2
CMAR LR LR 19 34 40.2
comp=Z,42nm,19.7s,baz=295,slow=37
comp=Z,0.2nm,0.5s
BR131 Keskin Array S 73.77 339⇓ *e*P **P 19 01 39.4 +0.8**
BRTR Keskin Array B 73.77 339 *i*P **P 19 01 39.0 +0.4**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 73.77 339 P P 19 01 32.6 -6.0
comp=Z,0.4nm,0.6s,baz=24,slow=4.6,SNR=1.7
BRTR LR LR 19 38 49.0
comp=Z,53nm,18.1s,baz=343,slow=40
comp=Z,0.4nm,0.6s
MTO3 Montecristo 74.22 90 P **P 19 01 41.6 +0.1**
ESDC Sonseca Array 75.47 9 P **P 19 01 49.0 +0.7**
ESDC Sonseca Array 75.47 9 P P 19 01 42.6 -5.7
comp=Z,0.4nm,0.8s,baz=357,slow=5.4,SNR=3.3
comp=Z,0.4nm,0.8s
JTS Las Juntas de 79.78 88 LR LR 19 42 51.5
comp=Z,45nm,19.2s,baz=334,slow=40
MMAI Mount Meron Ar 80.05 336 P P 19 02 08.3 -5.7
comp=Z,1.7nm,0.8s,baz=44,slow=9.0,SNR=2.0
MMAI LR LR 19 43 20.3
comp=Z,21nm,19.9s,baz=355,slow=40
comp=Z,1.7nm,0.8s
MSVF Nonsavu 82.60 189 LR LR 19 35 54.6
comp=Z,56nm,20.4s,baz=17,slow=34
WSAR Wadi Sarin 83.78 314 LR LR 19 43 07.3
comp=Z,75nm,18.5s,baz=40,slow=38
DZM Mont Dzumac 88.11 199 LR LR 19 40 41.4
comp=Z,111nm,19.0s,baz=33,slow=35
PALK Pallekele 90.47 288 LR LR 19 48 07.4
comp=Z,57nm,18.1s,baz=104,slow=39
WRA Warramunga Arr 93.69 229 P P 19 03 09.1 -12
comp=Z,0.2nm,0.9s,baz=6.0,slow=3.9,SNR=1.5
comp=Z,0.2nm,0.9s
ASAR Alice Springs 97.31 228 P P 19 03 24.3 -13
comp=Z,0.1nm,0.7s,baz=21,slow=4.0,SNR=4.2
comp=Z,0.1nm,0.7s

SJA ***23*** *18:58:08.9±0.6, 22°.88S×66°.33W, h250km±3km, ML3.5, MW3.8*
ISC 23 18:58:08.0±2.2,**22°.94S**±0°.05×**66°.39W**±0°.06,
h258km±17km,**n31**,σ1§**63**/59,**8C-1D,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.11**	**47**	*e*P	**Pn**	**18 58 46.2**	**+1.1**
YJA				*e*S	**S**	**18 59 12.3**	**-1.8**
YJA				IAML		18 59 14.7	
comp=Z,25nm,0.5s							
AZAP	**Zapla**	**1.76**	**137**	*e*P	**Pn**	**18 58 50.5**	**+1.1**
AZAP				IAML		18 58 52.1	
comp=Z,34nm,0.6s							
AZAP				*e*S	**S**	**18 59 20.7**	**-1.3**
LVC	**Limon Verde**	**2.35**	**278**⇑	*i*P	**Pn**	**18 58 56.4**	**+1.6**
LVC				*i*S	**S**	**18 59 30.9**	**-0.7**
LVC				IAML		18 59 31.9	
comp=Z,219nm,0.7s							
LVC	**Limon Verde**	**2.35**	**278**	*e*P	**Pn**	**18 58 56.2**	**+1.5**
LVC				*e*S	**S**	**18 59 30.3**	**-1.3**
ALOL	**LOMAS DE OLMED**	**2.38**	**112**	*e*P	**Pn**	**18 58 55.1**	**+0.5**
PB15	**IPOC Station P**	**2.85**	**264**⇑	*i*P	**Pn**	**18 59 01.2**	**+1.6**
PB15				*e*S	**S**	**18 59 39.6**	**-0.8**
PB15	**IPOC Station P**	**2.85**	**264**	*e*P	**Pn**	**18 59 00.8**	**+1.3**
PB15				*e*S	**S**	**18 59 39.9**	**-0.6**
PB09	**IPOC Station P**	**2.88**	**293**	*i*P	**Pn**	**18 59 02.0**	**+2.1**
PB09				*e*S	**S**	**18 59 40.6**	**-0.3**
PB09				IAML		18 59 44.3	
comp=E,48nm,0.1s							
PB09	**IPOC Station P**	**2.88**	**293**	*e*P	**Pn**	**18 59 01.9**	**+2.1**
PB06	**IPOC Station P**	**2.94**	**274**	*e*P	**Pn**	**18 59 02.2**	**+1.7**
PB06				*e*S	**S**	**18 59 40.9**	**-1.3**
PB06	**IPOC Station P**	**2.94**	**274**	*e*P	**Pn**	**18 59 02.1**	**+1.6**
PB06				*e*S	**S**	**18 59 41.3**	**-0.9**
PB06				IAML		18 59 42.6	
comp=Z,122nm,0.3s							
FSA	**Cafayete**	**3.18**	**173**	*e*P	**Pn**	**18 59 04.6**	**+1.5**
PB01	**IPOC Station P**	**3.44**	**303**⇑	*i*P	**Pn**	**18 59 07.3**	**+1.4**
PB01				*e*S	**S**	**18 59 50.4**	**-1.4**
PB01	**IPOC Station P**	**3.44**	**303**	*e*P	**Pn**	**18 59 06.8**	**+1.0**
PB01				*e*S	**S**	**18 59 51.0**	**-0.9**
PB01				IAML		18 59 54.7	
comp=Z,58nm,0.2s							
PB07	**IPOC Station P**	**3.46**	**290**⇑	*i*P	**Pn**	**18 59 07.6**	**+1.5**
PB07				*e*S	**S**	**18 59 50.3**	**-1.9**
PB07	**IPOC Station P**	**3.46**	**290**	*e*P	**Pn**	**18 59 07.5**	**+1.3**
PB07				*e*S	**S**	**18 59 50.5**	**-1.7**
PB07				IAML		18 59 51.2	
comp=Z,85nm,0.5s							
PB04	**IPOC Station P**	**3.52**	**279**⇑	*i*P	**Pn**	**18 59 08.4**	**+1.6**
PB04				*e*S	**S**	**18 59 51.4**	**-2.3**
PB04	**IPOC Station P**	**3.52**	**279**	*e*P	**Pn**	**18 59 08.5**	**+1.6**
PB04				*e*S	**S**	**18 59 52.1**	**-1.6**
PB04				IAML		18 59 55.4	
comp=Z,125nm,0.3s							
PB02	**IPOC Station P**	**3.63**	**296**⇑	*i*P	**Pn**	**18 59 09.2**	**+1.2**
PB02				*e*S	**S**	**18 59 53.2**	**-2.5**
PB02	**IPOC Station P**	**3.63**	**296**	*e*P	**Pn**	**18 59 08.9**	**+0.9**
PB02				*e*S	**S**	**18 59 53.8**	**-1.9**
PB02				IAML		18 59 57.1	
comp=Z,108nm,0.4s							
GO02	**Mina Guanaco**	**3.67**	**232**⇑	*i*P	**Pn**	**18 59 10.4**	**+1.8**
GO02				*e*S	**S**	**18 59 56.2**	**-0.6**
GO02	**Mina Guanaco**	**3.67**	**232**	*e*P	**Pn**	**18 59 10.4**	**+1.8**
GO02				*e*S	**S**	**18 59 56.4**	**-0.4**
PB08	**IPOC Station P**	**3.79**	**317**⇑	*i*P	**Pn**	**18 59 12.7**	**+2.5**
PB08				*e*S	**S**	**18 59 59.4**	**-0.1**
PB08	**IPOC Station P**	**3.79**	**317**	*e*P	**Pn**	**18 59 12.7**	**+2.5**
PB08				*e*S	**S**	**19 00 00.0**	**+0.5**
PB08				IAML		19 00 01.0	
comp=Z,60nm,0.8s							
PB14	**IPOC Station P**	**4.04**	**245**	*e*P	**Pn**	**18 59 14.4**	**+1.5**
PB14				*e*S	**S**	**19 00 02.7**	**-1.8**
PB14	**IPOC Station P**	**4.04**	**245**	*e*P	**Pn**	**18 59 14.4**	**+1.5**
PB14				*e*S	**S**	**19 00 02.9**	**-1.6**
PB14				IAML		19 00 06.1	
comp=Z,146nm,0.2s							
PATCX	**Punta Patache**	**4.08**	**300**⇓	*e*P	**Pn**	**18 59 14.3**	**+1.1**
PATCX				*e*S	**S**	**19 00 02.0**	**-3.1**
PATCX	**Punta Patache**	**4.08**	**300**	*e*P	**Pn**	**18 59 14.4**	**+1.1**
PATCX				*e*S	**S**	**19 00 03.0**	**-2.1**
HMBC	**Humberstone**	**4.20**	**308**	*e*P	**Pn**	**18 59 15.2**	**+0.6**
HMBC				*e*S	**S**	**19 00 05.2**	**-2.4**
TA01	**Diego Aracena**	**4.24**	**303**	*e*P	**Pn**	**18 59 15.6**	**+0.6**
TA01				*e*S	**S**	**19 00 06.1**	**-2.3**
TA01				IAML		19 00 07.9	
comp=Z,26nm,0.2s							
AC01	**Pan de Azucar**	**4.99**	**229**	*e*P	**Pn**	**18 59 24.4**	**+0.5**
AC01				*e*S	**S**	**19 00 21.8**	**-2.6**
AC01				IAML		19 00 26.1	
comp=Z,35nm,0.6s							

OMAN ***23*** *18:58:55.0±0.1, 27°.50N×56°.73E, h10km, mb4.6/3, ml3.2/22, Mwp4.9/3, Error ellipse: s-maj=1.6km s-min=1.0km az=333.0*
TEH ***23*** *18:58:54.9, 27°.78N×56°.73E, h8km±64km, ML3.5*
DSN ***23*** *18:58:54.5±1.6, 27°.61N×56°.64E, h15km, ML3.1/8, Error ellipse: s-maj=30.5km s-min=15.9km az=106.0*
ISC 23 18:58:56.7±1.3,**27°.57N**±0°.06×**56°.73E**±0°.04,**h32**km±9km,
n55,σ1§**12**/83,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.21**	**235**	Pg	Pn	18 59 02.5	-1.0
IBND				Sg	**Sb**	**18 59 08.5**	**+0.9**
GENO	**Geno**	**0.52**	**251**	Pg	**Pb**	**18 59 06.8**	**-0.9**
KHNJ	**Kahnooj**	**0.94**	**66**	Pg	**Pn**	**18 59 12.1**	**-1.7**
SHME	**Shamm**	**1.60**	**199**	P	**Pn**	**18 59 22.6**	**-0.2**
SHME				S	**Sn**	**18 59 44.1**	**+1.7**
SHME	**Shamm**	**1.60**	**199**	P	**Pn**	**18 59 23.5**	**+0.7**
SNR=21							
SHME				P	**Pn**	**18 59 23.5**	**+0.7**
SNR=21							
SHME				S	**Sn**	**18 59 44.2**	**+1.7**
SHME				S	**Sn**	**18 59 44.2**	**+1.7**
JASK	**Jask - Hormozg**	**1.98**	**149**	P	**Pn**	**18 59 28.0**	**0.0**
JASK				S	**Sn**	**18 59 53.2**	**+1.6**
NGRK	**Negar Kerman**	**2.07**	**360**	Pn	**Pn**	**18 59 28.4**	**-1.2**
KBAM	**BAM**	**2.18**	**44**	Pn	**Pn**	**18 59 31.4**	**+0.6**
MASF	**Masafi**	**2.25**	**193**	P	**Pn**	**18 59 32.8**	**+1.1**
MASF				S	**Sn**	**18 59 59.5**	**+1.0**
UMQ	**Umm Al-Quwin**	**2.25**	**205**	P	**Pn**	**18 59 32.4**	**+0.7**
UMQ				S	**Sn**	**19 00 00.2**	**+1.8**
MSFE	**Esma-Masafi**	**2.26**	**193**	P	**Pn**	**18 59 30.4**	**-1.5**
MDH	**Madha**	**2.29**	**190**	P	**Pn**	**18 59 31.6**	**-0.7**
MDH	**Madha**	**2.29**	**190**	P	**Pn**	**18 59 32.8**	**+0.5**
CHMN	**Cheshme madani**	**2.39**	**17**	Pn	**Pn**	**18 59 34.4**	**+0.4**
TVBK	**TV Kerman**	**2.41**	**1**	Pn	**Pn**	**18 59 34.2**	**-0.1**
UOSS	**Minazif**	**2.66**	**190**	P	**Pn**	**18 59 37.5**	**+0.2**
UOSS	**Minazif**	**2.66**	**190**	P	**Pn**	**18 59 37.9**	**+0.6**
UOSS				S	**Sn**	**19 00 09.1**	**+0.6**
NAZ	**Nazwa, Dubai**	**2.74**	**201**	P	**Pn**	**18 59 39.5**	**+1.1**
NAZ	**Nazwa, Dubai**	**2.74**	**201**	P	**Pn**	**18 59 39.6**	**+1.1**
NAZ				S	**Sn**	**19 00 11.7**	**+1.1**
HATD	**Hatta, Dubai**	**2.79**	**191**	P	**Pn**	**18 59 39.7**	**+0.6**
HATD	**Hatta, Dubai**	**2.79**	**191**	P	**Pn**	**18 59 40.0**	**+0.9**
HATD				S	**Sn**	**19 00 13.3**	**+1.7**
KHGB	**Koh Gabri**	**2.81**	**356**	Pn	**Pn**	**18 59 39.6**	**+0.1**
ASHO	**Ashiyiah**	**2.94**	**192**	P	**Pn**	**18 59 41.3**	**+0.1**
ASHO	**Ashiyiah**	**2.94**	**192**	P	**Pn**	**18 59 41.8**	**+0.6**
SNR=22							
ASHO				S	**Sn**	**19 00 17.0**	**+1.6**
FAQ	**Al Faqa, Dubai**	**2.99**	**200**	P	**Pn**	**18 59 42.8**	**+0.8**
SNR=71							
FAQ				S	**Sn**	**19 00 17.7**	**+1.0**
ASUD	**Al Ashush, Dub**	**3.19**	**204**	P	**Pn**	**18 59 45.1**	**+0.5**
ASUD	**Al Ashush, Dub**	**3.19**	**204**	P	**Pn**	**18 59 45.8**	**+1.2**
SNR=49							
ASUD				S	**Sn**	**19 00 23.1**	**+1.5**
AJN	**Ajban**	**3.38**	**208**	P	**Pn**	**18 59 48.1**	**+0.8**
SNR=7.2							
AJN				P	**Pn**	**18 59 48.1**	**+0.8**
SNR=7.2							
AJN				S	**Sn**	**19 00 26.7**	**+0.4**
AJN				S	**Sn**	**19 00 26.7**	**+0.4**
SOHO	**SOHO**	**3.42**	**183**	P	**Pn**	**18 59 48.2**	**+0.3**
ALNE	**Al Ain**	**3.61**	**194**	P	**Pn**	**18 59 51.0**	**+0.6**
ALNE				S	**Sn**	**19 00 33.8**	**+1.8**
HOQ	**Hoqain**	**4.00**	**172**	P	**Pn**	**18 59 55.9**	**0.0**
ZHDN	**Zahedan**	**4.03**	**62**	Pn	**Pn**	**18 59 57.6**	**+1.3**
ARQ	**Araqi**	**4.22**	**183**	P	**Pn**	**18 59 59.7**	**+0.8**
SNR=9.8							
BIDO	**Bidbid**	**4.22**	**162**	P	**Pn**	**18 59 58.0**	**-0.9**
BIDO				S	**Sn**	**19 00 47.1**	**0.0**
JRN	**Qarnain Island**	**4.36**	**234**	P	**Pn**	**19 00 01.3**	**+0.7**
JRN				S	**Sn**	**19 00 50.1**	**-0.3**
NGCH	**Negor - Chabah**	**4.52**	**118**	P	**Pn**	**19 00 03.1**	**+0.1**
NGCH				S	**Sn**	**19 00 54.3**	**-0.1**
WSAR	**Wadi Sarin**	**4.64**	**158**	P	**Pn**	**19 00 04.1**	**-0.5**
SNR=58							

WSAR			S	Sn	19 00 58.3	+0.8
SMDO	Samad	4.65 165	P	Pn	19 00 04.1	-0.7
NHDN	Nehbandan	4.78 36	Pn	Pn	19 00 07.7	+1.0
BSY	Bisya	4.82 175	P	Pn	19 00 07.5	+0.4
	SNR=8.3					
BSY			P	Pn	19 00 07.5	+0.4
	SNR=8.3					
ISAD	Sadrabad	5.08 329	Pn	Pn	19 00 11.4	+0.6
JMDO	Jabal Madar	5.32 166	P	Pn	19 00 13.8	-0.3
JMDO			S	Sn	19 01 14.0	-0.3
WBK	Wadi Bani Khal	5.34 157	P	Pn	19 00 13.5	-0.7
	SNR=16					
MZR	Muzera	5.42 214	P	Pn	19 00 13.9	-1.4
MZR	Muzera	5.42 214	P	Pn	19 00 15.7	+0.5
	SNR=8.4					
MZR			S	Sn	19 01 14.3	-2.3
SHMA	Al-Shehemyia	5.43 253	P	Pn	19 00 15.2	-0.3
	SNR=20					
SHMA			S	Sn	19 01 14.7	-2.2
SAKB	Bahrain	5.76 255	P	Pn	19 00 19.2	-0.7
SAKB			S	Sn	19 01 23.4	-1.6
JLN	Jalan Bani Buh	5.92 155	P	Pn	19 00 21.0	-1.2
JLN			S	Sn	19 01 26.6	-2.3
SMRA	Abu-Samra	6.01 243	P	Pn	19 00 21.9	-1.5
MHTO	MHTO	6.65 170	P	Pn	19 00 31.7	-0.5
MHTO			S	Sn	19 01 46.4	-0.5
DOK	Doka	9.22 196	P	Pn	19 01 05.5	-2.1
SHAO	Shalim	9.56 186	P	Pn	19 01 11.1	-1.0
DMTO	DMTO	9.94 190	P	Pn	19 01 16.3	-1.1
WHFO	Wadi Hawf	9.98 196	P	Pn	19 01 15.5	-2.5
ABTO	Aybut	10.65 198	P	Pn	19 01 25.0	-2.1

*IDC **23** 19:16:25.1±5.0,36°.34N×70°.99E,h73km±34km,mb3.5/5, mbtmp3.7/11,ML3.0/5,MS3.6/1,Error ellipse: s-maj=57.2km s-min=21.8km az=155.0*
*NNC **23** 19:16:32.3±2.5,36°.70N×70°.91E,h95km±56km,mb3.4, mpv3.9,Error ellipse: s-maj=25.2km s-min=18.3km az=127.0*

ISC 23 19:16:26.1±0.9,36°.32N±0°.08×71°.03E±0°.07,h100km,n34, σ1§89/39,mb3.7/4,4C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.16	19	P	Pn	19 17 56.9	+2.1
	SNR=14						
AML	Almayashu	6.16	19	⇑P	Pn	19 17 56.8	+2.0
	0.9nm,0.4s						
AML				⇓S	Sn	19 19 03.3	-0.7
	4.5nm,0.6s						
EKS2	Erkin-Say	6.68	18	P	Pn	19 18 04.0	+2.3
	SNR=45						
KK31	Karatay Array	6.78	357	P	Pn	19 18 04.8	+1.8
	6.2nm,0.3s,baz=181,slow=13,SNR=160						
KK31				⇓S	Sn	19 19 15.7	-2.9
	6.8nm,0.4s,baz=186,slow=24,SNR=12						
AAK	Ala-Archa	6.85	22	P	Pn	19 18 06.6	+2.6
	SNR=21						
AAK	Ala-Archa	6.85	22	P	Pn	19 18 04.9	+0.9
	16nm,0.4s,baz=183,slow=4.1,SNR=68						
AAK				S	Sn	19 19 17.3	-3.3
	8.0nm,0.6s,baz=35,slow=18,SNR=3.8						
KBK	Karagaybulak	7.01	24	P	Pn	19 18 09.2	+3.0
	SNR=5.6						
CHMS	Chumysh	7.26	22	P	Pn	19 18 11.8	+2.4
	SNR=11						
CHMS	Chumysh	7.26	22	⇓P	Pn	19 18 11.0	+1.5
	4.5nm,0.2s						
CHMS				⇑S	Sn	19 19 30.1	-0.2
	12nm,0.8s						
USP	Ospenovka	7.43	20	P	Pn	19 18 14.0	+2.2
	SNR=18						
TKM2	Tokmak 2	7.47	27	P	Pn	19 18 14.4	+1.9
	SNR=8.9						
TKM2	Tokmak 2	7.47	27	⇓P	Pn	19 18 14.1	+1.6
	4.2nm,0.5s						
TKM2				⇑S	Sn	19 19 34.5	-1.2
	5.4nm,0.7s						
GEYT	Alibeck	10.44	283	P	Pn	19 18 51.5	-1.2
	0.3nm,0.3s,baz=48,slow=34,SNR=2.1						
GEYT				S	Sn	19 20 45.5	-2.1
	2.0nm,0.7s,baz=110,slow=16,SNR=3.0						
	0.8nm,0.5s						
PYUN	Piuthan	13.02	126	eP	Pn	19 19 26.4	-1.0
	8.0nm,0.3s						
DANN	Dangsing	13.37	123	eP	Pn	19 19 32.1	0.0
	9.8nm,0.4s						
MKAR	Makanchi Array	13.42	35	P	Pn	19 19 32.3	-0.1
	baz=211,slow=14,SNR=3.0						
	0.6nm,0.9s						
GKN	Gorkha	14.19	122	eP	Pn	19 19 41.6	-1.0
	12nm,0.5s						
PKIN	Phulchoki	14.98	122	eP	Pn	19 19 51.4	-1.4
	5.7nm,0.4s						
PKI	Pulchoki	14.99	122	eP	Pn	19 19 51.3	-1.7
	10nm,0.8s						
GUN	Gumba	15.11	120	eP	Pn	19 19 53.5	-1.0
	12nm,0.5s						
AB31	Akbulak array	15.25	331	⇑P	P	19 19 56.7	-1.7
	0.3nm,0.3s,baz=142,slow=12,SNR=32						
KURBB	Kurchatov Arra	15.28	18	P	Pn	19 19 54.9	-1.3
	baz=206,slow=11,SNR=1.9						
	0.3nm,0.8s						
JIRN	Jiri	15.48	120	eP	Pn	19 19 57.9	-1.3
	8.4nm,0.4s						
RAMN	Ramite	16.20	121	eP	Pn	19 20 05.8	-2.3
	4.8nm,0.4s						
BVAR	Borovoye Array	16.71	359	P	P	19 20 14.0	-0.5
	baz=170,slow=9.9,SNR=6.1						
	1.1nm,0.5s						
TAPN	Taplejung	16.74	118	eP	Pn	19 20 12.2	-2.6
	11nm,0.6s						
AKTO	Aktyubinsk	16.95	330	⇓P	P	19 20 19.6	+2.4
	2.4nm,0.8s						
AKTO	Aktyubinsk	16.95	330	P	Pn	19 20 15.5	-1.3
	0.2nm,0.3s,baz=146,slow=14,SNR=4.8						
	1.5nm,0.6s						
ZALV	Zalesovo Beam	20.07	24	P	P	19 20 50.9	-0.3
	1.6nm,0.5s,baz=230,slow=9.4,SNR=12						
	1.6nm,0.5s						
FINES	FINESS Array B	37.64	326	P	P	19 23 33.1	+2.1
	5.8nm,1.2s,baz=134,slow=9.8,SNR=1.4						
	5.8nm,1.2s						
HFS	Hagfors	43.22	322	P	P	19 24 19.4	+2.5
	1.6nm,0.7s,baz=99,slow=9.3,SNR=1.7						
	1.6nm,0.7s						
NOA	NORSAR Array B	44.54	323	P	P	19 24 28.7	+1.1
	0.3nm,0.6s,baz=100,slow=8.1,SNR=1.2						
	0.3nm,0.6s						
USRK	Ussuriysk Ar.	46.23	61	LR	LR	19 44 55.2	
	comp=Z,64nm,20.9s,baz=28,slow=37						
TORD	Torodi Ar. Bea	65.74	269	P	P	19 27 02.0	+1.5
	0.4nm,0.7s,baz=49,slow=6.3,SNR=5.3						
	0.4nm,0.7s						

IDC 23 19:29:21.6±57.0,23°.55S×174°.30W,h0km,mb3.8/3, mbtmp3.8/3,Error ellipse: s-maj=1076.0km s-min=183.7km az=88.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.70	248	P	P	19 36 55.9	+0.1
	1.2nm,0.7s,baz=120,slow=20,SNR=2.3						
	1.2nm,0.7s						
ASAR	Alice Springs	47.24	259	P	P	19 37 56.6	-0.2
	0.6nm,0.8s,baz=90,slow=7.4,SNR=5.9						
	0.6nm,0.8s						
WRA	Warramunga Arr	47.65	264	P	P	19 37 59.8	-0.2
	1.3nm,0.6s,baz=104,slow=8.1,SNR=16						
	1.3nm,0.6s						

*ISK **23** 19:47:35.6,39°.56N×25°.99E,h7km,ML2.7/20*
*AFAD **23** 19:47:36.7±0.0,39°.57N×26°.03E,h7km±1km,ML2.4*
*ATH **23** 19:47:36.5,39°.52N×25°.99E,h17km±4km,ML2.4/4, Manual Solution by A.Plessa First location: 2019/05/20 11:42:00, This location: 2019/05/20 11:41:04 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*
*THE **23** 19:47:36.8,39°.53N×25°.99E,h12km±1km,ML2.5/5,Error ellipse: s-maj=1.6km s-min=0.6km az=242.0*

ISC 23 19:47:36.3±0.8,39°.55N±0°.02×26°.00E±0°.02,h10km±6km, n48,σ0§47/75,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	Canakkale, Ayv	0.12	114	P	Pg	19 47 39.4	+0.1
KOCA				S	Sg	19 47 41.6	+0.3
GPNR	Gulpinar-Canak	0.14	132	Pg	Pg	19 47 39.2	-0.4
GPNR				Sg	Sg	19 47 41.9	+0.1
BOZC	Bozcaada	0.29	8	P	Pg	19 47 42.4	+0.1
BOZC				S	Sg	19 47 46.7	+0.4
RFT1	Sazli	0.34	93	Pg	Pg	19 47 43.1	-0.1
RFT1				Sg	Sg	19 47 48.3	+0.5
SIGR	SIGRI	0.36	198	Pg	Pg	19 47 43.2	-0.2
SIGR				Sg	Sg	19 47 48.7	+0.5
SIGR	SIGRI	0.36	198	P	Pg	19 47 43.6	+0.2
SIGR				S	Sg	19 47 48.9	+0.7
	1μm,0.3s						
SIGR	SIGRI	0.36	198	P	Pg	19 47 43.6	+0.2
SIGR				S	Sg	19 47 48.6	+0.4
PRK	Paraskevi	0.37	145	P	Pg	19 47 43.7	+0.1
PRK				S	Sg	19 47 49.2	+0.6
	1μm,0.2s						
PRK	Paraskevi	0.37	145	P	Pg	19 47 43.8	+0.1
PRK				S	Sg	19 47 48.4	-0.2
EZN	Ezine	0.37	42	Pg	Pg	19 47 43.2	-0.6
BAYC	CANAKKALE_Bayr	0.47	66	P	Pg	19 47 45.0	-0.4
BAYC				S	Sg	19 47 50.8	-0.8
EAG1	Polichnitos, L	0.49	159	P	Pg	19 47 45.7	-0.3
EAG1				S	Sg	19 47 52.8	+0.3
ECEA	Canakkale, Ece	0.51	15	P	Pg	19 47 46.9	+0.5
ECEA				*i* AML	AML	19 47 54.0	
	comp=E,294nm,0.4s						
ECEA				S	Sb	19 47 54.2	-0.7
ECEA				*i* AML	AML	19 47 56.0	
	comp=N,330nm,0.5s						
ECEA				*i* AML	AML	19 48 06.0	
	comp=Z,247nm,0.9s						
AYVA	Ayvalik	0.59	114	P	Pg	19 47 48.5	+0.7
AYVA				S	Sb	19 47 58.1	+1.1
CNKL	anakkale-Mer	0.60	30	P	Pg	19 47 47.4	-0.5
CNKL				P	Pg	19 47 47.4	-0.5
CNKL				S	Sg	19 47 56.0	+0.2
CNKL				S	Sg	19 47 56.0	+0.2
EAG3	Mitilini, Lesv	0.64	136	P	Pb	19 47 49.9	+0.3
EAG3				S	Sg	19 47 57.8	+0.6
GOKA	anakkale-Gk	0.64	354	P	Pg	19 47 49.0	+0.1
GOKA				S	Sg	19 47 57.8	+0.5
GOKA				*i* AML	AML	19 48 01.0	
	comp=Z,156nm,0.2s						
GOKA				*i* AML	AML	19 48 01.0	
	comp=N,345nm,0.3s						
GOKA				*i* AML	AML	19 48 01.0	
	comp=E,297nm,0.2s						
RFT2	Karaagac	0.68	101	Pg	Pg	19 47 49.5	-0.1
LIA	Limnos Island	0.72	299	P	Pg	19 47 50.6	+0.4
LIA				S	Sb	19 48 01.3	+0.5
	295nm,0.2s						
LIA	Limnos Island	0.72	299	P	Pb	19 47 50.7	-0.2
LIA				S	Sb	19 48 00.8	0.0
EFSA	Agios Efstrati	0.78	270	P	Pb	19 47 52.0	+0.1
DKL	Dikili	0.85	124	Pg	Pg	19 47 52.8	0.0
DKL				Sg	Sb	19 48 04.9	+0.3
DKL	Dikili	0.85	124	P	Pg	19 47 52.9	+0.2
GELI	Tayfur-Gelibol	0.92	23	Pg	Pg	19 47 53.8	-0.3
RFT7	Candarli	0.93	129	Pg	Pg	19 47 54.1	-0.1
SMTH	Samothraki Isl	0.99	339	P	Pb	19 47 55.7	+0.2
SMTH				S	Sb	19 48 08.9	+0.3
	80nm,0.3s						
SMTH	Samothraki Isl	0.99	339	P	Pg	19 47 55.5	+0.2
SMTH				S	Sg	19 48 08.4	+0.1
LPK	Lapseki	1.01	35	Pg	Pb	19 47 55.4	-0.5
RFT5	Foca	1.06	147	Pg	Pb	19 47 56.6	-0.2
CHOS	Chios island	1.16	178	Pn	Pb	19 47 58.4	-0.1
CHOS	Chios island	1.16	178	P	Pb	19 47 57.3	-1.2
CHOS				S	Sb	19 48 13.4	-0.3
	185nm,0.3s						
CHOS	Chios island	1.16	178	P	Pb	19 47 57.5	-1.1
ERIK	Erikli-Kesan	1.19	19	Pn	Pn	19 47 58.3	-0.6
ENEZ	Enez	1.19	6	Pn	Pn	19 47 58.8	-0.2
ENEZ	Enez	1.19	6	P	Pn	19 47 58.8	-0.2
ENEZ				S	Sg	19 48 14.9	+0.2
URLA	Izmir	1.28	158	Pn	Pn	19 48 00.2	0.0
KRBG	Karabiga-Canak	1.31	49	Pn	Pn	19 48 00.7	+0.1
ALN	Alexandroupoli	1.35	2	Pn	Pn	19 48 01.1	0.0
ALN	Alexandroupoli	1.35	2	P	Pn	19 48 00.9	-0.2
ALN				S	Sg	19 48 19.5	+0.2
GONE	Gonen-Balikesi	1.39	69	Pn	Pn	19 48 01.9	+0.1
THAS	Thassos island	1.44	317	P	Pn	19 48 01.9	-0.5
RDO	Rodhopi	1.63	348	Pn	Pn	19 48 05.2	+0.1
EDC	Edincik	1.64	60	Pn	Pn	19 48 05.4	+0.2
UKOP	Uzunkopru-Edir	1.65	17	Pn	Pn	19 48 05.5	+0.2
KYMI	Kymi, Euboea I	1.74	239	P	Pn	19 48 05.2	-1.3
KAVA	Kavala	1.84	322	P	Pn	19 48 07.4	-0.5
SMG	Samos	1.95	160	P	Pn	19 48 08.7	-0.8
SMG				S	Sn	19 48 34.8	+0.8
DION	Dionisos Attik	2.18	228	P	Pn	19 48 12.2	-0.4

*CNRM **23** 19:59:23.9,37°.11N×7°.56W,h14km,ml2.0*
*INMG **23** 19:59:25.4±1.3,37°.19N×7°.55W,h3km,ML2.2,Error ellipse: s-maj=1.5km s-min=1.4km az=162.0*
*IGIL **23** 19:59:25.6,37°.17N×7°.57W,h5km,ML2.6*
*MDD **23** 19:59:25.6±0.3,37°.22N×7°.58W,h12km,mb_Lg2.5/17, Error ellipse: s-maj=3.0km s-min=1.7km az=20.0*
*SFS **23** 19:59:26.4,37°.23N×7°.60W,h21km,ML2.4/12,ML2.5/9, MLv2.4/12*

ISC 23 19:59:24.5±0.8,37°.19N±0°.02×7°.55W±0°.02,h16km±5km, n71,σ1§28/144,2C-3D,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAV	Tavira	0.11	231	ePg	Pg	19 59 27.6	-0.3
PTAV				eSg	Sg	19 59 29.2	-1.0
PVAQ	Vaqueiros	0.25	327	⇓iPg	Pb	19 59 30.4	-0.2
PVAQ				eSg	Sg	19 59 33.7	-0.1
PVAQ				A	A	19 59 34.2	
	154nm,0.3s						
PVAQ	Vaqueiros	0.25	327	P	Pb	19 59 30.5	-0.2
PVAQ				S	Sb	19 59 35.2	+0.4
PBDV	Barranco-do-Ve	0.31	279	⇓iPg	Pg	19 59 30.8	-0.2
PBDV				eSg	Sg	19 59 34.7	-0.8
PBDV				A	A	19 59 36.8	
	116nm,0.5s						
PFARO	Faro	0.34	241	ePg	Pb	19 59 31.8	-0.4
PFARO				eSg	Sg	19 59 36.3	-0.1
EGRO	El Granado	0.34	9	⇑Pg	Pb	19 59 32.5	+0.3
EGRO				Sg	Sg	19 59 36.6	+0.1
EGRO				*i* Vmb_Lg		19 59 37.6	
EGRO	El Granado	0.34	9	Sg	Sb	19 59 37.4	0.0
EGRO				Pg	Pb	19 59 32.6	+0.3
PALBU	Albufeira	0.57	260	ePg	Pb	19 59 36.6	+0.6
PALBU				eSg	Sb	19 59 45.0	+1.2
PCVE	Castro Verde	0.59	318	⇓ePg	Pg	19 59 36.0	-0.1
PCVE				eSg	Sb	19 59 44.5	+0.1
PCVE				A	A	19 59 49.5	
	31nm,0.4s						
PCVE	Castro Verde	0.59	318	Sg	Sg	19 59 44.3	+0.5
PCVE				Pg	Pg	19 59 36.0	-0.1
ARNO	Arenosillo	0.66	98	Pg	Pn	19 59 39.5	+0.5
ARNO				Sg	Sn	19 59 48.9	-0.3
PPOR	Portimao	0.79	266	eP	Pg	19 59 39.6	-0.2
PPOR				eS	Sb	19 59 51.4	+1.1
PBEJ	Beja	0.87	343	ePg	Pb	19 59 41.6	+0.4
PBEJ				eS	Sb	19 59 53.4	+0.8
PBEJ				A	A	19 59 55.9	
	39nm,0.1s						
MORF	Marmelete	0.89	277	⇑eP	Pg	19 59 41.1	-0.6
MORF				eS	Sg	19 59 53.2	-0.2
MORF				A	A	19 59 56.0	
	105nm,0.1s						
MORF	Marmelete	0.89	277	eP	Pg	19 59 41.1	-0.6
MORF				eS	Sg	19 59 52.9	-0.5
MORF				IAML		19 59 56.0	
	comp=E,145nm,0.2s						
EMIN	Mina Concepcio	0.90	50	Pg	Pb	19 59 42.3	+0.6
EMIN				Sg	Sb	19 59 53.9	+0.4
EMIN				*i* Vmb_Lg		19 59 56.8	
EMIN	Mina Concepcio	0.90	50	Sg	Sb	19 59 54.2	+0.7
EMIN				Pg	Pn	19 59 42.6	+0.1
PLAGO	Lagos	0.92	264	eS	Sb	19 59 54.8	+0.9
PTEO	Sao Teotonio	1.00	291	eP	Pg	19 59 43.2	-0.6
PTEO				eS	Sb	19 59 57.2	+0.9
PTEO				A	A	20 00 01.4	
	comp=E,50nm,0.7s						
PALJ	Aljezur	1.00	278	eS	Sb	19 59 57.7	+1.3
PFVI	Vila Bisbo	1.02	267	eP	Pg	19 59 43.6	-0.6
PFVI				eS	Sg	19 59 57.0	-0.7
PFVI				A	A	20 00 00.2	
	comp=E,34nm,0.2s						
PFVI	Vila Bisbo	1.02	267	P	Pb	19 59 43.9	+0.1
PFVI				S	Sg	19 59 57.0	-0.7
PFVI	Vila Bisbo	1.02	267	Sg	Sg	19 59 56.9	-0.7
PFVI				Pg	Pg	19 59 43.5	-0.8
PBAR	Barrancos	1.06	22	eP	Pn	19 59 45.9	+1.2
PBAR				eS	Sb	19 59 59.5	+1.4
PBAR				A	A	20 00 01.8	
	comp=E,38nm,0.6s						
PBAR	Barrancos	1.06	22	Pg	Pn	19 59 45.9	+1.2
PNCL	Nicolau / Gran	1.20	320	eP	Pb	19 59 46.6	-0.3
PNCL				eS	Sn	20 00 03.7	+1.1
PNCL				A	A	20 00 09.4	
	comp=E,15nm,0.3s						
PNCL	Nicolau / Gran	1.20	320	Pg	Pb	19 59 46.5	-0.3
PNCL				Sg	Sg	20 00 02.6	-0.8
EVO	Evora	1.39	345	eP	Pn	19 59 50.0	+0.8
EVO				eS	Sb	20 00 08.2	+0.7
EVO				A	A	20 00 08.8	
	comp=E,25nm,0.1s						
EVO	Evora	1.39	345	Pn	Pn	19 59 48.7	-0.5
EVO				Sn	Sb	20 00 05.2	-2.3
ESPR	Espera	1.39	103	Pn	Pn	19 59 49.9	+0.7
ESPR				Sn	Sg	20 00 08.6	-0.8
ESPR				*i* Vmb_Lg		20 00 13.1	
ESPR	Espera	1.39	103	Pn	Pb	19 59 50.0	0.0
ESPR				Sn	Sg	20 00 08.6	-0.8
EBAD	Badajoz	1.62	15	Pn	Pn	19 59 52.7	+0.3
EBAD				Pg	Pb	19 59 54.6	+0.7
EBAD				Sn	Sn	20 00 12.1	-0.8
EBAD				Sg	Sb	20 00 15.0	+0.9
EBAD				*i* Vmb_Lg		20 00 17.5	
EBAD	Badajoz	1.62	15	Pn	Pn	19 59 52.7	+0.3
EBAD				Sg	Sb	20 00 15.4	+1.3
PESTR	Estremoz	1.67	359	ePg	Pg	19 59 55.8	-0.8
PESTR				eSg	Sb	20 00 16.7	+1.0
PESTR				A	A	20 00 18.3	
	comp=E,16nm,0.3s						
PESTR	Estremoz	1.67	359	P	Pn	19 59 53.9	+0.8
PESTR				S	Sg	20 00 17.5	-0.9
PESTR	Estremoz	1.67	359	Pn	Pn	19 59 53.8	+0.7
PESTR				Sg	Sb	20 00 16.9	+1.2
PACT	Alcochete	1.87	328	ePg	Pg	19 59 59.5	-0.9
PACT				eSg	Sg	20 00 25.6	+0.9
PACT				A	A	20 00 27.0	
	comp=E,22nm,0.4s						
ECAB	El Cabril	1.91	62	Pn	Pn	19 59 57.2	+0.8
ECAB				Pg	Pb	19 59 59.8	+0.9
ECAB				Sn	Sn	20 00 19.5	-0.5
ECAB				Sg	Sb	20 00 23.4	+0.9
ECAB				*i* Vmb_Lg		20 00 28.0	
ECAB	El Cabril	1.91	62	Pn	Pn	19 59 57.2	+0.8
PMTG	Montargil	1.95	344	ePn	Pn	19 59 57.4	+0.5
PMTG	Montargil	1.95	344	ePg	Pb	20 00 00.4	+0.8
PMTG				eSg	Sg	20 00 26.4	-0.7
PMTG				A	A	20 00 31.6	
	comp=E,14nm,0.6s						
PMAFR	Mafra	2.23	323	Pn	Pn	20 00 01.6	+0.9
PMRV	Marv??o	2.23	3	ePn	Pn	20 00 01.5	+0.7
PMRV	Marv??o	2.23	3	ePg	Pb	20 00 05.7	+1.2
PMRV				eSg	Sb	20 00 33.5	+1.6
PMRV				A	A	20 00 38.3	
	comp=E,9.2nm,0.3s						
EMIJ	Mijas	2.31	105	Pn	Pn	20 00 02.8	+0.9
EMIJ				Sn	Sn	20 00 30.9	+0.8
EMIJ	Mijas	2.31	105	Pn	Pn	20 00 02.4	+0.5
PSBE	So Bento	2.52	337	ePn	Pn	20 00 06.0	+1.3
PSBE	So Bento	2.52	337	ePg	Pg	20 00 11.8	-0.9
PSBE				eSg	Sg	20 00 46.1	+0.8
PSBE				A	A	20 00 53.6	
	comp=E,9.5nm,0.2s						
EADA	Adamuz	2.55	67	Pn	Pn	20 00 05.9	+0.7
EADA				Sn	Sn	20 00 35.7	-0.3
EADA				Sg	Sg	20 00 44.2	-2.3
EADA				*i* Vmb_Lg		20 00 50.4	
EADA	Adamuz	2.55	67	Pn	Pn	20 00 06.1	+0.9
EADA				Sg	Sb	20 00 43.6	+2.6
PCBR	Castelo Branco	2.64	1	ePn	Pn	20 00 07.2	+0.8
PCBR				eSn	Sn	20 00 37.9	-0.3
PCBR				eSg	Sg	20 00 48.2	-1.2
PCBR				A	A	20 00 49.2	
	comp=E,3.8nm,0.5s						
EGOR	Sierra Gorda,	2.75	91	Pn	Pn	20 00 09.0	+0.9
EGOR				Sn	Sn	20 00 40.4	-0.6
EGOR				Sg	Sg	20 00 52.5	-0.3
EGOR				*i* Vmb_Lg		20 00 57.5	
PCAS	Casmilo, Conde	2.95	346	ePg	Pg	20 00 19.8	-1.2
PCAS				eSg	Sg	20 00 58.4	-0.8
PCAS				A	A	20 01 02.7	
	comp=E,8.1nm,0.5s						
EPLA	Plasencia	3.09	21	Pn	Pn	20 00 13.0	+0.4
EPLA				Pg	Pb	20 00 18.8	-0.2
EPLA				Sn	Sn	20 00 47.6	-1.7
EPLA				Sg	Sb	20 00 60.0	+3.5
EPLA				*i* Vmb_Lg		20 01 06.9	
ELGU	Los Guajares,	3.15	95	Pn	Pn	20 00 14.9	+1.4
ELGU				Sn	Sn	20 00 50.1	-0.8
ELGU				*i* Vmb_Lg		20 01 01.6	
MTE	Manteigas	3.20	0	eSg	Sg	20 01 05.4	-1.9
MTE				A	A	20 01 08.0	
	comp=E,14nm,0.5s						
EQUE	Quentar	3.28	89	Pn	Pn	20 00 15.5	+0.2
EQUE				Sn	Sn	20 00 54.0	0.0
EQUE				*i* Vmb_Lg		20 01 17.1	
PSIM	Granatula de C	3.41	60	Pn	Pn	20 00 17.8	+0.8
PSIM				Sn	Sn	20 00 54.5	-2.6
PSIM				Sg	Sb	20 01 09.7	+4.1
PAB	San Pablo	3.44	46	Pn	Pn	20 00 18.3	+0.8
PAB				Sn	Sn	20 00 55.8	-2.1
PAB				Sg	Sg	20 01 13.0	-2.0
PAB				*i* Vmb_Lg		20 01 19.0	
PVIS	Viseu	3.53	356	eSg	Sg	20 01 17.4	-0.3
EQES	Quesada	3.61	79	Pn	Pn	20 00 20.4	+0.6
EQES				Sn	Sn	20 01 01.0	-1.3
EQES				Sg	Sg	20 01 16.6	-3.9
EQES				*i* Vmb_Lg		20 01 27.2	
MVO	Moncorvo	3.99	6	ePn	Pn	20 00 26.0	+1.0
MVO				eSn	Sn	20 01 10.3	-1.1
MVO				eSg	Sg	20 01 32.1	-0.3
MVO				A	A	20 01 38.5	
	comp=E,4.6nm,1.2s						
POLO	Lamas de Olo	4.18	357	eSn	Sn	20 01 14.7	-1.5
POLO				eSg	Sg	20 01 40.2	+1.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.42	80	Pg	Pb	20 00 54.5	-1.5
KHNJ				Sg	Sb	20 01 00.7	-1.4
IBND	Bandar-abas	0.75	236	Pg	Pb	20 01 00.9	-0.5
IBND				Sg	Sn	20 01 12.3	-0.3
GENO	Geno	1.05	244	Pg	Pn	20 01 05.9	-0.6
GENO				Sg	Sn	20 01 21.2	+0.7
KBAM	BAM	1.65	40	Pg	Pn	20 01 15.8	+1.1
NGRK	Negar Kerman	1.82	346	Pn	Pn	20 01 18.2	+1.0
CHMN	Cheshme madani	2.00	8	Pn	Pn	20 01 21.0	+1.3
SHME	Shamm	2.06	208	P	Pb	20 01 22.7	-1.0
SHME				S	Sb	20 01 49.4	+0.5
SHME	Shamm SNR=10	2.06	208	P	Pb	20 01 24.4	+0.6
JASK	Jask - Hormozg	2.08	164	Pn	Pn	20 01 21.3	+0.9
TVBK	TV Kerman	2.15	349	Pn	Pn	20 01 23.3	+1.6
LAR1	LAR	2.54	266	Pn	Pb	20 01 29.4	-2.6
KHGB	Koh Gabri	2.58	345	Pn	Pn	20 01 29.9	+2.3
MASF	Masafi	2.67	201	P	Pb	20 01 32.8	-1.4
MSFE	Esma-Masafi	2.68	201	P	Pb	20 01 33.4	-1.0
MDH	Madha	2.70	198	P	Pb	20 01 32.7	-1.9
UOSS	Minazif	3.06	198	P	Pb	20 01 38.5	-2.2
UOSS	Minazif	3.06	198	P	Pb	20 01 37.5	-3.3
HATD	Hatta, Dubai	3.19	198	P	Pn	20 01 38.8	+3.0
ASHO	Ashiyiah	3.35	199	P	Pn	20 01 41.3	+3.4
ASHO	Ashiyiah	3.35	199	P	Pn	20 01 41.3	+3.4
FAQ	Al Faqa, Dubai	3.44	206	P	Pn	20 01 40.2	+1.0
FAQ	Al Faqa, Dubai	3.44	206	P	Pn	20 01 42.0	+2.8
ASUD	Al Ashush, Dub	3.66	208	P	Pn	20 01 42.6	+0.4
ASUD	Al Ashush, Dub	3.66	208	P	Pn	20 01 43.3	+1.2
NGCH	Negor - Chabah	4.30	125	P	Pn	20 01 43.9	-7.0
BSRN	Basiran	4.40	21	Pn	Pn	20 01 54.8	+2.4
ARQ	Araqi SNR=11	4.56	188	P	Pn	20 01 56.9	+2.3
WSAR	Wadi Sarin SNR=20	4.78	164	P	Pn	20 01 58.0	+0.3
IKOO	Kooshah	4.79	18	Pn	Pn	20 02 00.6	+2.7
SMDO	Samad	4.85	171	P	Pn	20 01 58.7	0.0
BSY	Bisya	5.11	180	P	Pn	20 02 04.0	+1.8
WBK	Wadi Bani Khal	5.47	163	P	Pn	20 02 07.2	+0.1
JMDO	Jabal Madar	5.54	172	P	Pn	20 02 09.0	+1.0
AFRZ	Afriz	5.74	15	Pn	Pn	20 02 13.6	+2.6
IRAM	Ramesheh	5.76	314	Pn	Pn	20 02 12.0	+0.8
SHMA	Al-Shehemyia SNR=6.1	5.95	252	P	Pn	20 02 14.1	+0.5
JLN	Jalan Bani Buh	6.03	160	P	Pn	20 02 14.4	-0.3
SAKB	Bahrain	6.27	254	P	Pn	20 02 17.8	-0.2
SMRA	Abu-Samra	6.54	243	P	Pn	20 02 22.0	+0.2

*IDC **23** 20:02:44.3±0.9, 0.˚46S×121.˚97E, h0km, mb3.6/6, mbtmp3.7/8, ML4.0/2, Error ellipse: s-maj=33.9km s-min=17.1km az=70.0*
*DJA **23** 20:02:47.0±0.2, 0.˚S±.2˚×12.˚2E±.˚, h10km, M4.1/14, mb4.3/7, mB4.8/3, MLv3.9/14, Mw(mB)4.1/3*
ISC 23 20:02:46.3±0.8, 0.˚39S±0.˚04×121.˚96E±0.˚07, h10km, n19, σ0.˚97/19, mb3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	Marisa	0.86	358	P	Pg	20 03 03.1	+0.2
MRSI				S	Sg	20 03 15.0	+0.8
LUWI	Luwuk	1.03	129	P	Pg	20 03 06.0	-0.2
GTOI	Gorontalo	1.46	46	P	Pn	20 03 11.1	-1.6
MPSI	Mapaga	2.19	289	P	Pn	20 03 22.9	+0.2
KMSI	Cibinong	2.23	65	P	Pn	20 03 23.9	+0.5
TTSI	Tana Toraja	3.40	219	P	Pn	20 03 40.7	+1.3
SANI	Sanana	4.35	112	P	Pn	20 03 49.8	-2.7
KAPI	Kappang 6.6nm,0.3s,baz=21,slow=8.4,SNR=20	5.09	206	Pn	Pn	20 04 02.9	+0.2
KAPI				Sn	Sn	20 05 01.2	-0.5
	0.8nm,0.3s,baz=196,slow=21,SNR=1.9 18nm,0.4s						
BBSI	Bau Bau	5.10	173	P	Pn	20 04 03.8	+1.0
	27nm,0.7s,0.1nm						
BKSI	Bulukumba	5.23	201	P	Pn	20 04 05.4	+0.8
	24nm,0.7s,374nm0.1nm						
LBMI	Labuha	5.54	93	P	Pn	20 04 08.9	0.0
	36nm,0.6s,0.3nm						
NLAI	Namlea	5.86	119	P	Pn	20 04 13.9	+0.6
SIJI	Sorong 1.2nm,0.3s,baz=270,slow=20,SNR=5.1 3.5nm,0.4s	9.31	93	Pn	Pn	20 05 01.8	+1.1
WRA	Warramunga Arr 1.6nm,0.8s,baz=336,slow=9.4,SNR=15 1.6nm,0.8s	22.90	149	P	P	20 07 48.3	-2.1
ASAR	Alice Springs 0.6nm,0.8s,baz=337,slow=8.9,SNR=11 0.6nm,0.8s	25.88	154	P	P	20 08 17.6	-0.9
SONM	Songino Array 0.6nm,0.5s,baz=162,slow=8.3,SNR=4.4 0.6nm,0.5s	49.91	346	P	P	20 11 40.6	+0.4
MKAR	Makanchi Array 0.5nm,0.4s,baz=122,slow=9.0,SNR=15 0.5nm,0.4s	58.41	329	P	P	20 12 42.8	+0.6
KURBB	Kurchatov Arra 0.4nm,0.8s,baz=113,slow=6.0,SNR=4.6 0.4nm,0.8s	62.79	330	P	P	20 13 11.7	-0.2
VNDA	Vanda 0.3nm,0.7s,baz=325,slow=6.7,SNR=2.3 0.3nm,0.7s	80.01	172	P	P	20 14 53.1	-2.4

*TEH **23** 20:12:48.8, 27.˚89N×57.˚14E, h8km±38km, ML3.0*
*OMAN **23** 20:12:52.0±0.1, 27.˚81N×57.˚45E, h13km, mb3.9/1, ml3.2/7, Error ellipse: s-maj=3.4km s-min=2.3km az=266.0*
ISC 23 20:12:49.2±0.9, 27.˚91N±0.˚04×57.˚15E±0.˚04, h10km, n25, σ1.˚28/34, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.49	85	Pg	Pb	20 13 00.1	+0.1
KHNJ				Sg	Sb	20 13 06.3	-1.0
IBND	Bandar-abas	0.71	230	Pg	Pb	20 13 02.9	-0.7
IBND				Sg	Sb	20 13 13.4	0.0
GENO	Geno	1.00	240	Pg	Pb	20 13 08.0	-0.8
KBAM	BAM	1.68	43	Pg	Pb	20 13 20.2	0.0
NGRK	Negar Kerman	1.77	348	Pg	Pb	20 13 21.0	-0.9
CHMN	Cheshme madani	1.98	10	Pn	Pb	20 13 25.0	-0.5
SHME	Shamm SNR=5.7	2.06	206	P	Pg	20 13 27.7	-1.0
TVBK	TV Kerman	2.10	351	Pn	Pb	20 13 26.7	-0.9
JASK	Jask - Hormozg	2.13	162	P	Pn	20 13 25.3	+0.5
JASK	Jask - Hormozg	2.13	162	Pn	Pb	20 13 26.1	-1.8
KHGB	Koh Gabri	2.53	347	Pn	Pb	20 13 32.9	-1.9
FAQ	Al Faqa, Dubai SNR=6.1	3.44	204	S	Sn	20 14 25.0	+1.2
ASUD	Al Ashush, Dub SNR=13	3.65	207	P	Pn	20 13 46.8	+1.0
AJN	Ajban	3.85	211	P	Pn	20 13 48.9	+0.3
HOQ	Hoqain SNR=5.9	4.31	178	P	Pn	20 13 54.4	-0.4
BIDO	Bidbid	4.45	168	P	Pn	20 13 57.6	+0.8
ARQ	Araqi	4.58	187	P	Pn	20 14 00.3	+1.6
ARQ				S	Sn	20 14 54.3	+2.3
IKOO	Kooshah	4.78	19	Pn	Pn	20 14 04.5	+3.0
WSAR	Wadi Sarin SNR=34	4.83	164	P	Pn	20 14 02.6	+0.6
WSAR				S	Sn	20 14 56.3	-1.9
SMDO	Samad	4.89	170	P	Pn	20 14 03.6	+0.7
SMDO				S	Sn	20 14 59.9	+0.2
BSY	Bisya	5.14	179	P	Pn	20 14 07.5	+1.2
BSY				S	Sn	20 15 08.0	+2.4
WBK	Wadi Bani Khal SNR=6.7	5.52	162	P	Pn	20 14 13.0	+1.4
JMDO	Jabal Madar	5.58	171	P	Pn	20 14 12.9	+0.6
JMDO				S	Sn	20 15 17.9	+1.4
JLN	Jalan Bani Buh	6.09	160	P	Pn	20 14 19.3	+0.1
JLN				S	Sn	20 15 28.0	-1.0
MHTO	MHTO SNR=5.5	6.93	174	P	Pn	20 14 32.2	+1.4
MHTO				S	Sn	20 15 49.9	+0.2

*ATH **23** 20:19:19.1, 36.˚46N×22.˚90E, h12km±4km, ML2.5/3, Manual Solution by A.Plessa First location: 2019/05/20 11:56:21, This location: 2019/05/20 11:55:21 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 9 km*
*THE **23** 20:19:19.8, 36.˚47N×23.˚04E, h8km±2km, ML2.2/5, Error ellipse: s-maj=2.9km s-min=0.8km az=266.0*
ISC 23 20:19:19.1±1.0, 36.˚46N±0.˚03×22.˚92E±0.˚05, h15km±7km, n23, σ0.˚69/34, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHA	Kythira Island	0.23	150	P	Pg	20 19 23.9	-0.3
KTHA				S	Sg	20 19 28.5	+0.8
	712nm,0.2s						
VLI	Veliai	0.26	3	P	Pg	20 19 24.8	+0.1
VLI				S	Sg	20 19 29.1	+0.5
	490nm,0.2s						
VLI	Veliai	0.26	3	P	Pg	20 19 24.8	+0.1
VLI				S	Sg	20 19 28.3	-0.3
ANKY	Antikythira Is	0.67	152	P	Pg	20 19 32.1	0.0
ANKY				S	Sg	20 19 41.0	+0.1
	160nm,0.4s						
ANKY	Antikythira Is	0.67	152	P	Pg	20 19 32.2	0.0
ANKY				S	Sg	20 19 41.0	+0.1
KRND	KRANIDI	0.94	11	P	Pg	20 19 36.5	-0.8
KRND				S	Sb	20 19 50.0	+0.6
	308nm,0.2s						
KRND	KRANIDI	0.94	11	P	Pg	20 19 36.6	-0.8
KRND				S	Sb	20 19 50.0	+0.6
PYL	PYLOS	1.04	295	P	Pg	20 19 37.7	-1.5
RODP	Rodopos	1.12	142	P	Pg	20 19 40.8	0.0
RODP				S	Sg	20 19 54.2	-1.3
MHLO	Agia Marina, M	1.22	79	P	Pb	20 19 41.0	-0.8
MHLO				S	Sb	20 19 57.2	-0.1
IMMV	Iera Moni Meta	1.32	139	P	Pn	20 19 42.7	-0.2
IMMV				S	Sn	20 20 01.1	+0.9
	120nm,0.5s						
GUR	Goura	1.55	343	P	Pn	20 19 46.4	+0.2
GUR				S	Sn	20 20 06.6	+0.6
VLY	Voula,Athens	1.56	26	P	Pn	20 19 45.6	-0.7
THAL	Thalero	1.59	353	P	Pn	20 19 47.2	+0.5
KLV	Kalavryta, Ach	1.70	339	P	Pn	20 19 48.9	+0.7
PTL	Pentelí	1.76	25	P	Pn	20 19 49.5	+0.5
VIL2	Platees	1.77	9	P	Pn	20 19 48.4	-0.8
DION	Dionisos Attik	1.81	26	P	Pn	20 19 50.3	+0.6
LAKA	Lakka	1.93	337	P	Pn	20 19 52.6	+1.2
LKR	Lokris	2.19	2	P	Pn	20 19 55.3	+0.4
ATAL	Atalanti	2.23	2	P	Pn	20 19 55.8	+0.3
ANX	Ano Chora	2.27	340	P	Pn	20 19 57.0	+0.9
AGG	Agios Georgios	2.60	350	P	Pn	20 20 01.2	+0.6

*IDC **23** 20:29:51.7±8.7, 38.˚64S×140.˚72E, h0km, mbtmp3.5/3, ML3.6/3, Error ellipse: s-maj=156.5km s-min=52.7km az=112.0*
*NOU **23** 20:29:54.2, 38.˚54S×140.˚72E, h0km, mb4.0/15, Near Coast of South Australia*
*AUST **23** 20:29:55.8±1.7, 38.˚49S×140.˚81E, h10km, Error ellipse: s-maj=21.1km s-min=12.9km az=42.0*
ISC 23 20:29:53.8±1.1, 38.˚53S±0.˚07×140.˚75E±0.˚06, h10km, n29, σ1.˚85/38, 1C, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUHPC	Hawkesdale P12 baz=1.2	1.30	72	P	Pn	20 30 18.8	+0.7
AUHPC				S	Sb	20 30 34.4	-0.8
ARPS	Mount Arapiles baz=1.9,SNR=255	1.96	26	⇑P	Pn	20 30 28.2	+1.1
ARPS				S	Sn	20 30 52.5	+0.7
	baz=1.9						
ARPS	Mount Arapiles	1.96	26	P	Pn	20 30 28.4	+1.3
AUMTC	Mt Clear Colle baz=2.6	2.63	70	P	Pn	20 30 38.2	+1.8
AUMTC				S	Sn	20 31 07.0	-1.3
	baz=2.6						
BRAT	Ballarat	2.69	70	P	Pn	20 30 38.3	+1.1
AUKSC	Keysborough Se baz=3.5	3.52	82	P	Pn	20 30 47.5	-0.9
TOO	Toolangi baz=3.8,SNR=23	3.86	77	P	Pn	20 30 55.0	+1.7
TOO				S	Sn	20 31 36.8	-2.0
	baz=3.8						
TOO	Toolangi	3.86	77	P	Pn	20 30 54.8	+1.5
AUMAG	Moama Anglican baz=3.9	4.01	54	P	Pn	20 30 57.4	+2.2
HTT	Hallett baz=5.3,SNR=16	5.30	343	P	Pn	20 31 15.2	+2.0
HTT				S	Sn	20 32 14.8	+0.5
	baz=5.3						
HTT	Hallett	5.30	343	P	Pn	20 31 15.0	+1.9
MOO	Moorlands baz=6.3,SNR=3.3	6.27	131	P	Pn	20 31 27.7	+1.4
MOO				S	Sn	20 32 36.5	-1.5
	baz=6.3						
MOO	Moorlands	6.27	131	P	Pn	20 31 28.4	+2.1
TAU	Tasmania Unive	6.63	133	P	Pn	20 31 32.7	+1.4
STKA	Stephens Creek baz=6.6	6.68	6	P	Pn	20 31 33.6	+1.7
STKA				S	Sn	20 32 45.2	-2.9
	baz=6.6						
STKA	Stephens Creek	6.68	6	P	Pn	20 31 33.5	+1.6
STKA	Stephens Creek 2.9nm,0.3s,baz=179,slow=14,SNR=88	6.68	6	Pn	Pn	20 31 32.5	+0.5
STKA				Sn	Sn	20 32 44.3	-3.8
	1.1nm,0.3s,baz=150,slow=19,SNR=3.1						
STKA				Lg	Lg	20 33 27.6	
	2.8nm,0.3s,baz=252,slow=20,SNR=3.8 6.3nm,0.3s						
MILA	Mila	6.82	80	P	Pn	20 31 36.2	+2.3
BBOO	Buckleboo baz=6.9,SNR=12	6.87	325	P	Pn	20 31 36.0	+1.4
BBOO				S	Sn	20 32 48.9	-3.9
	baz=6.9						
BBOO	Buckleboo	6.87	325	P	Pn	20 31 35.8	+1.2
CAN	Canberra	7.34	67	P	Pn	20 31 43.4	+2.3
YNG	Young baz=7.4	7.47	58	P	Pn	20 31 44.3	+1.4
YNG	Young	7.47	58	P	Pn	20 31 44.3	+1.4
CMSA	Cobar Meteorol	8.07	32	P	Pn	20 31 53.0	+2.0
LCRK	Leigh Creek	8.33	345	P	Pn	20 31 56.7	+2.0
MULG	Mulgathing	9.91	324	P	Pn	20 32 16.9	+0.6
OOD	Oodnadatta	11.52	337	P	Pn	20 32 39.6	+1.3
ASAR	Alice Springs 0.1nm,0.3s,baz=160,slow=13,SNR=1.2 0.2nm,0.6s	15.93	337	Pn	Pn	20 33 36.6	-1.5
WRA	Warramunga Arr 0.1nm,0.3s,baz=164,slow=10,SNR=6.2 1.4nm,0.8s	19.34	342	P	P	20 34 20.5	+1.1

*CNRM **23** 20:38:38.1, 36.˚06N×2.˚65W, h24km, ml2.7*
*INMG **23** 20:38:38.0±1.0, 36.˚05N×2.˚67W, h3km, ML2.2, Error ellipse: s-maj=3.0km s-min=1.9km az=129.0*
*MDD **23** 20:38:38.1±0.5, 36.˚08N×2.˚67W, h4km±2km, mb_Lg2.6/24, Error ellipse: s-maj=3.1km s-min=2.3km az=146.0*
*SFS **23** 20:38:39.2, 36.˚10N×2.˚68W, h21km, ML2.9/18, ML3.0/16, MLv2.9/18*
ISC 23 20:38:37.9±1.0, 36.˚08N±0.˚02×2.˚68W±0.˚02, h17km±8km, n69, σ1.˚18/112, 1C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.32	244	Pg	Pg	20 38 45.1	+0.4
EALB				Sg	Sg	20 38 47.8	-1.5
EALB	Alboran	0.32	244	Pg	Pb	20 38 45.4	+0.3
EALB				Sg	Sb	20 38 50.4	+0.5
WMELI	Melilla	0.79	196	Pg	Pb	20 38 53.2	0.0
WMELI				Sg	Sb	20 39 03.9	+0.3
EBER	Berja	0.83	348	⇓Pg	Pg	20 38 54.5	+0.3
EBER				Sg	Sb	20 39 05.2	+0.2
EBER				*i* Vmb_Lg		20 39 08.1	
GOG	Mont Gurugu	0.89	197	P	Pb	20 38 54.7	-0.2
GOG				S	Sb	20 39 06.1	-0.5
CHAS	Isla Isabel II	0.92	167	Pg	Pn	20 38 56.3	+0.3
CHAS				Sg	Sg	20 39 08.2	+0.4
ENIJ	Nijar	0.97	23	⇑Pg	Pb	20 38 56.3	+0.1
ENIJ				Sg	Sb	20 39 08.0	-0.7
ENIJ				*i* Vmb_Lg		20 39 10.6	
ENIJ	Nijar	0.97	23	Pg	Pb	20 38 56.2	0.0
ELGU	Los Guajares,	1.10	316	⇓Pg	Pb	20 38 57.5	-0.9
ELGU				Sg	Sb	20 39 12.8	+0.3
ELGU	Los Guajares,	1.10	316	Sg	Sb	20 39 12.7	+0.3
ELGU				Pg	Pb	20 38 57.5	-0.9
EQUE	Quentar	1.28	332	Pg	Pn	20 39 01.4	+0.4
EQUE				Sg	Sb	20 39 17.7	-0.1
EQUE				*i* Vmb_Lg		20 39 21.3	
TAF	Taforalt	1.28	170	P	Pn	20 39 00.9	-0.2
TAF				S	Sn	20 39 16.5	-1.3
EQTA	Presa de Quent	1.28	332	Pg	Pb	20 39 01.7	+0.1
PALE	Palemas	1.34	230	P	Pn	20 39 01.6	-0.2
PALE				S	Sg	20 39 20.8	-0.4
EGOR	Sierra Gorda,	1.54	312	Pn	Pn	20 39 05.1	+0.3
EGOR				Sn	Sb	20 39 26.2	+0.8
EGOR				*i* Vmb_Lg		20 39 31.9	
EGOR	Sierra Gorda,	1.54	312	Pg	Pn	20 39 04.7	0.0
EMAL	Malaga-Limoner	1.57	296	Pn	Pb	20 39 06.3	-0.1
EMAL				Sn	Sn	20 39 22.6	-2.1
PVLZ	Peæn de	1.60	236	Pn	Pn	20 39 05.2	-0.1
PVLZ				Sn	Sn	20 39 25.9	+0.3
JBK	JBK	1.74	177	P	Pn	20 39 07.5	0.0
JBK				S	Sn	20 39 29.3	-0.1
EQES	Quesada	1.75	350	Pn	Pb	20 39 09.6	0.0
EQES				Sn	Sb	20 39 31.9	+0.7
EQES				*i* Vmb_Lg		20 39 36.2	
EMIJ	Mijas	1.76	287	Pn	Pn	20 39 05.9	-1.7
EMIJ				Sn	Sn	20 39 27.0	-2.6
EMIJ				*i* Vmb_Lg		20 39 36.4	
EMIJ	Mijas	1.76	287	Pn	Pn	20 39 05.7	-1.8
EZAR	Zarzadilla de	1.96	23	Sn	Sn	20 39 34.4	-0.2
EZAR				*i* Vmb_Lg		20 39 36.5	
CART	Cartagena	2.02	41	P	Pn	20 39 10.3	-0.8
CART				S	Sn	20 39 34.7	-1.2
CART	Cartagena	2.02	41	Pn	Pn	20 39 10.1	-1.0
CART				Sn	Sn	20 39 33.2	-2.7
EMUR	La Murta	2.10	33	Pn	Pn	20 39 12.5	+0.2
EMUR				Sn	Sn	20 39 37.0	-1.0
EMUR				*i* Vmb_Lg		20 39 40.4	
EMUR	La Murta	2.10	33	Pn	Pn	20 39 12.5	+0.2
CEU	Ceuta	2.19	266	Pn	Pn	20 39 13.7	+0.2
SMIR	Smir Dam	2.23	261	P	Pn	20 39 12.6	-1.4
SMIR				S	Sn	20 39 41.6	+0.5
EADA	Adamuz	2.58	325	Pn	Pn	20 39 19.9	+1.0
EADA				Sn	Sn	20 39 51.3	+1.5
EADA				*i* Vmb_Lg		20 39 57.9	
EADA	Adamuz	2.58	325	Pn	Pn	20 39 20.2	+1.4
ETOB	Tobarra	2.71	19	Pn	Pn	20 39 21.8	+1.1
ETOB				Sn	Sn	20 39 54.0	+0.8
ETOB				*i* Vmb_Lg		20 40 28.1	
ETOB	Tobarra	2.71	19	Pn	Pn	20 39 22.0	+1.3
PSIM	Granatula de C	2.87	343	Pn	Pn	20 39 24.1	+1.3
PSIM				Sn	Sn	20 39 55.9	-1.0
ECAB	El Cabril	2.96	313	Pn	Pn	20 39 24.6	+0.5
ECAB				Sn	Sn	20 39 58.6	-0.6
ECAB				*i* Vmb_Lg		20 40 13.9	
ECAB	El Cabril	2.96	313	Pn	Pn	20 39 24.5	+0.4
AFON	Font Roja	3.09	33	Pn	Pn	20 39 26.9	+1.0
AFON				*i* Vmb_Lg		20 40 36.4	
IFR	Ifrane	3.25	219	Sn	Sn	20 40 05.3	-1.3
EVIV	Cofrentes, Val	3.41	21	Pn	Pn	20 39 31.2	+0.8
EVIV				*i* Vmb_Lg		20 40 39.8	
EMIN	Mina Concepcio	3.62	299	Pn	Pn	20 39 34.0	+0.9
EMIN				Sn	Sn	20 40 14.4	-1.0
EMIN				*i* Vmb_Lg		20 40 30.1	
MDT	Midelt	3.63	207	P	Pn	20 39 34.5	+1.2
MDT				S	Sn	20 40 14.5	-1.2
MD31	MD31	3.64	209	P	Pn	20 39 34.5	+1.1
MD31				S	Sn	20 40 15.9	-0.1
PAB	San Pablo	3.70	340	Pn	Pn	20 39 36.3	+1.9
PAB				Sn	Sn	20 40 20.0	+2.3
PAB				*i* Vmb_Lg		20 40 48.8	
PBAR	Barrancos	4.06	302	*e*P	Pn	20 39 40.2	+1.0
PBAR				*e*S	Sn	20 40 27.2	+0.9
PBAR				A	A	20 41 00.0	
	2.2nm,0.4s						
PBAR	Barrancos	4.06	302	Pn	Pn	20 39 39.9	+0.7
FIGM	Figuig	4.11	163	P	Pn	20 39 41.0	+1.1
FIGM				S	Sn	20 40 28.5	+0.8
EGRO	El Granado	4.12	292	Pn	Pn	20 39 41.1	+1.2
EGRO				*i* Vmb_Lg		20 40 33.7	
EGRO	El Granado	4.12	292	Pn	Pn	20 39 40.3	+0.4
ZHG	ZHG	4.19	232	P	Pn	20 39 42.0	+1.0
PVAQ	Vaqueiros	4.26	290	*e*P	Pn	20 39 43.1	+1.2
PVAQ				*e*S	Sn	20 40 29.6	-1.5
PVAQ				A	A	20 40 35.1	
	2.1nm,0.3s						
PVAQ	Vaqueiros	4.26	290	P	Pn	20 39 42.2	+0.4
PVAQ				S	Sn	20 40 32.0	+0.9
PVAQ	Vaqueiros	4.26	290	Pn	Pn	20 39 42.0	+0.1
EIBI	Ibiza	4.34	46	Pn	Pn	20 39 43.6	+0.5
EIBI				Sn	Sn	20 40 30.0	-3.3
EIBI				*i* Vmb_Lg		20 40 33.3	
EBAD	Badajoz	4.36	309	Pn	Pn	20 39 44.0	+0.6
EBAD				Sn	Sn	20 40 31.3	-2.4
EBAD				*i* Vmb_Lg		20 40 36.5	
EBAD	Badajoz	4.36	309	Pn	Pn	20 39 43.5	+0.2
PBDV	Barranco-do-Ve	4.38	287	*e*P	Pn	20 39 44.7	+1.1
PBDV				*e*S	Sn	20 40 34.1	-0.1
PBDV				A	A	20 40 41.8	
	2.3nm,0.7s						
PCVE	Castro Verde	4.57	291	*e*P	Pn	20 39 47.5	+1.3
PCVE				*e*S	Sn	20 40 39.7	+0.9
ETOR	Torete	4.76	6	Pn	Pn	20 39 49.7	+0.9
EPLA	Plasencia	4.80	327	Pn	Pn	20 39 50.4	+1.0
EPLA				*i* Vmb_Lg		20 41 29.5	
EVO	Evora	4.91	302	*e*P	Pn	20 39 50.6	-0.2
EVO				*e*S	Sn	20 40 43.4	-3.7
EVO	Evora	4.91	302	Pn	Pn	20 39 50.4	-0.4
EVO				Sn	Sn	20 40 43.1	-4.0
PMRV	Marv??o	5.01	313	*e*P	Pn	20 39 53.5	+1.2
PMRV				*e*S	Sn	20 40 49.1	-0.7
PMRV				A	A	20 41 15.4	
	2.2nm,0.5s						
PFVI	Vila Bisbo	5.06	284	*e*P	Pn	20 39 54.4	+1.6
PFVI				*e*S	Sn	20 40 50.4	-0.4
PFVI	Vila Bisbo	5.06	284	P	Pn	20 39 53.9	+1.1
PNCL	Nicolau / Gran	5.10	295	*e*P	Pn	20 39 54.2	+0.8
PNCL				*e*S	Sn	20 40 51.5	-0.3
PNCL				A	A	20 40 52.3	
	1.9nm,0.8s						
PMTG	Montargil	5.32	306	*e*P	Pn	20 39 57.3	+0.8
PCBR	Castelo Branco	5.33	316	*e*P	Pn	20 39 58.3	+1.6
PSBE	So Bento	5.93	307	*e*P	Pn	20 40 06.4	+1.5
MVO	Moncorvo	6.11	327	*e*P	Pn	20 40 09.4	+2.0

**IDC 23 20:39:05.8±56.0, 18.˚59S×176.˚92W, h0km, mb4.1/3, mbtmp4.1/3, Error

OFRI			Sg	Sn	20 46 42.4	0.0
MMLI	**Mount Malkishu**	**1.20 189**	Pg	Pb	20 46 28.1	+0.2
MMLI			Sg	Sg	20 46 44.9	+0.7
SLTI	**Sal'it**	**1.47 200**	Pn	Pb	20 46 32.4	-0.2
SLTI			Sn	Sg	20 46 52.6	-0.3

*TRN **23** 20:56:08.5, 11.°13N×62.°33W, h109km, MD3.1*
*FUNV **23** 20:56:09.3, 11.°12N×62.°22W, h116km, MW3.5*
ISC 23 20:56:06.9±1.9, 11.°15N±0.°07×62.°32W±0.°08, h127km±16km, n13, σ1§47/21, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**1.02**	**243**	*eP*	**Pn**	**20 56 30.8**	**+1.1**
CRUV				*eS*	**Sn**	20 56 47.2	+0.2
TRN	**Trinidad (W)**	**1.02**	**119**	⇑*iP*	**Pn**	20 56 30.4	+0.7
TRN				*eS*	**Sn**	20 56 45.7	-1.5
GRGR	**Grenville**	**1.18**	**33**	*eP*	**Pn**	20 56 31.4	+0.1
GRGR				*eS*	**Sn**	20 56 49.1	-0.8
GRW	**Mount Saint Ca**	**1.20**	**32**	*eP*	**Pn**	20 56 32.0	+0.4
GRW				*eS*	**Sn**	20 56 50.2	-0.2
GRHS	**Sauteurs**	**1.26**	**32**	*eP*	**Pn**	20 56 32.5	+0.4
GRHS				*eS*	**Sn**	20 56 50.4	-1.1
GCMP	**Grenada, Carri**	**1.59**	**33**	*eP*	**Pn**	20 56 36.9	+1.1
GCMP				*eS*	**Sn**	20 56 56.4	-1.6
SVB	**Belmont**	**2.36**	**26**	*eS*	**Sn**	20 57 15.3	+0.7
PRGV	**PARIAGUAN**	**3.30**	**224**	*eP*	**Pn**	20 56 58.6	+1.2
PRGV				*eS*	**Sn**	20 57 36.5	+0.1
BENV	**Beln**	**5.33**	**258**	*eP*	**Pn**	20 57 26.4	+2.0
BENV				*eS*	**Sn**	20 58 23.2	-1.6
CACV	**CAICARA DEL OR**	**5.48**	**230**	*eP*	Pn	20 57 21.9	-4.5
CACV				*eS*	Sn	20 58 16.8	-12
BAUV	**El Baul**	**6.05**	**249**	*eP*	**Pn**	20 57 35.0	+1.0
BAUV				*eS*	**Sn**	20 58 39.0	-3.1
BAUV	**El Baul**	**6.05**	**249**	*eP*	**Pn**	20 57 34.8	+0.7
BAUV	**El Baul**	**6.05**	**249**	*eS*	**Sn**	20 58 39.4	-2.7

*NEIC **23** 20:56:47.0±1.3, 22.°3S±0.°1×179.°5W±0.°2, h575km±8km, mb4.6/61, Error ellipse: s-maj=21.5km s-min=16.1km az=102.0*
*IDC **23** 20:56:47.1±1.7, 22.°19S×179.°46W, h578km±17km, mb3.4/10, mbtmp4.3/12, Error ellipse: s-maj=20.3km s-min=14.3km az=88.0*
*NOU **23** 20:57:17.6, 20.°58S×179.°93W, h342km, MLv4.2/5, Fiji Islands Region*
ISC 23 20:56:47.1±0.5, 22.°40S±0.°07×179.°53W±0.°09, h579km, n117, σ1§16/119, mb4.5/38, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**4.20**	**9**	P	**P**	**20 58 12.6**	**0.0**
MSVF	**Nonsavu**	**5.17**	**333**	P	**P**	**20 58 20.5**	**+0.2**
MSVF	**Nonsavu**	**5.17**	**333**	P	**P**	**20 58 20.2**	**-0.1**
MSVF	**Nonsavu**	**5.17**	**333**	P	**P**	**20 58 19.7**	**-0.5**
	90nm,0.4s,baz=249,slow=22,SNR=278						
TAVE	**Taveuni**	**5.67**	**356**	P	**P**	**20 58 25.5**	**+1.1**
DGTI	**Dogotuki**	**6.11**	**353**	P	**P**	**20 58 28.4**	**+0.2**
YSA	**Yasawairara**	**6.29**	**334**	P	**P**	**20 58 32.0**	**+2.2**
DZM	**Mont Dzumac**	**12.99**	**269**	P	**P**	**20 59 38.2**	**+2.1**
	3.6nm,0.5s,baz=108,slow=13,SNR=9.9						
URZ	**Urewera**	**16.07**	**190**	P	**P**	**21 00 04.3**	**-1.5**
	12nm,0.3s,baz=341,slow=2.2,SNR=20						
URZ				S	**S**	**21 02 40.5**	**-7.3**
	8.3nm,1.0s,baz=89,slow=3.7,SNR=1.9						
BKZ	**Black Stump Fm**	**17.05**	**191**	P	**P**	**21 00 13.7**	**-1.2**
BKZ				IAmb	IAmb	21 00 39.0	
	comp=Z,19nm,1.3s						
BFZ	**Birch Farm**	**18.57**	**190**	P	**P**	**21 00 29.5**	**+0.9**
BFZ				IAmb	IAmb	21 01 05.2	
	comp=Z,26nm,1.1s						
MRZ	**Mangatainoka R**	**18.67**	**192**	P	**P**	**21 00 29.3**	**-0.2**
MRZ				IAmb	IAmb	21 00 30.9	
	comp=Z,24nm,1.2s						
TCW	**Tory Channel**	**19.47**	**194**	P	**P**	**21 00 36.5**	**-0.2**
SNZO	**South Karori**	**19.47**	**193**	P	**P**	**21 00 38.1**	**+1.4**
QRZ	**Quartz Range**	**19.56**	**198**	P	**P**	**21 00 37.7**	**+0.2**
PLWZ	**Palliser**	**19.61**	**192**	P	**P**	**21 00 37.9**	**-0.2**
TKNZ	**Takaka Hill**	**19.63**	**197**	P	**P**	**21 00 38.7**	**+0.5**
NNZ	**Nelson**	**19.69**	**196**	P	**P**	**21 00 38.7**	**-0.1**
TUWZ	**Tuamarina**	**19.75**	**195**	P	**P**	**21 00 39.8**	**+0.5**
MRNZ	**Matariki Terra**	**20.02**	**197**	P	**P**	**21 00 41.4**	**-0.4**
THZ	**Tophouse**	**20.32**	**196**	P	**P**	**21 00 44.1**	**-0.4**
THZ				IAmb	IAmb	21 01 19.1	
	comp=Z,32nm,1.3s						
DSZ	**Denniston Nort**	**20.62**	**199**	P	**P**	**21 00 47.0**	**-0.2**
KHZ	**Kahutara**	**20.78**	**195**	P	**P**	**21 00 47.7**	**-0.8**
GVZ	**Greta Valley S**	**21.43**	**195**	P	**P**	**21 00 52.8**	**-1.6**
LTZ	**Lake Taylor**	**21.44**	**197**	P	**P**	**21 00 55.4**	**+0.9**
LTZ				IAmb	IAmb	21 00 56.7	
	comp=Z,14nm,0.9s						
INZ	**Inchbonnie**	**21.62**	**198**	P	**P**	**21 00 55.3**	**-0.8**
INZ				IAmb	IAmb	21 01 06.2	
	comp=Z,26nm,1.2s						
OXZ	**Oxford**	**22.01**	**197**	P	**P**	**21 00 59.5**	**-0.1**
FOZ	**Fox Glacier**	**22.85**	**200**	P	**P**	**21 01 07.6**	**+0.5**
LBZ	**Lake Benmore**	**23.51**	**199**	P	**P**	**21 01 12.4**	**-0.5**
LBZ				IAmb	IAmb	21 01 26.2	
	comp=Z,21nm,1.2s						
MLZ	**Mavora Lakes**	**25.04**	**201**	P	**P**	**21 01 27.5**	**+1.0**
MLZ				IAmb	IAmb	21 01 59.9	
	comp=Z,33nm,1.4s						
WHZ	**Wether Hill Ro**	**25.56**	**201**	P	**P**	**21 01 33.0**	**+2.0**
WHZ				IAmb	IAmb	21 01 33.8	
	comp=Z,15nm,0.6s						
EIDS	**Eidsvold**	**27.01**	**258**	P	**P**	**21 01 44.5**	**+0.5**
EIDS				IAmb	IAmb	21 02 05.9	
	comp=Z,11nm,1.2s						
CTAO	**Charters Tower**	**31.94**	**268**	P	**P**	**21 02 27.2**	**+0.6**
CTAO				IAmb	IAmb	21 02 27.8	
	comp=Z,6.8nm,0.5s						
STKA	**Stephens Creek**	**35.70**	**246**	P	**P**	**21 02 57.6**	**-0.3**
STKA	**Stephens Creek**	**35.70**	**246**	P	**P**	**21 02 59.0**	**+1.1**
	comp=Z,3.1nm,0.5s,baz=88,slow=9.0,SNR=9.0						
	comp=Z,3.1nm,0.5s						
COEN	**Coen**	**36.34**	**277**	P	**P**	**21 03 02.9**	**-0.5**
COEN				IAmb	IAmb	21 03 21.8	
	comp=Z,16nm,1.4s						
BBOO	**Buckleboo**	**40.45**	**245**	P	**P**	**21 03 37.1**	**+0.7**
BBOO				IAmb	IAmb	21 03 59.1	
	comp=Z,39nm,1.4s						
AS31	**Alice Springs**	**42.73**	**259**	P	**P**	**21 03 54.9**	**+0.3**
ASAR	**Alice Springs**	**42.73**	**259**	P	**P**	**21 03 54.3**	**-0.3**
ASAR	**Alice Springs**	**42.73**	**259**	P	**P**	**21 03 54.8**	**+0.2**
	comp=Z,7.1nm,0.7s,baz=100,slow=7.9,SNR=66						
ASAR				PcP	**PcP**	**21 05 32.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=120,slow=3.4,SNR=4.7						
ASAR				S	**S**	**21 09 36.2**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=196,slow=22,SNR=4.5						
	comp=Z,7.1nm,0.7s						
WR0	**Warramunga Arr**	**42.77**	**264**	P	**P**	**21 03 54.6**	**-0.3**
WB0	**Warramunga Arr**	**42.95**	**265**	P	**P**	**21 03 56.1**	**-0.2**
WB0				IAmb	IAmb	21 03 56.7	
	comp=Z,6.3nm,0.5s						
WB2	**Warramunga Arr**	**42.95**	**264**	P	**P**	**21 03 56.0**	**-0.2**
WRA	**Warramunga Arr**	**42.96**	**264**	P	**P**	**21 03 55.1**	**-1.3**
WRA	**Warramunga Arr**	**42.96**	**264**	P	**P**	**21 03 56.1**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=94,slow=7.9,SNR=116						
WRA				ScP	**ScP**	**21 08 32.0**	**+2.0**
	comp=Z,0.7nm,1.0s,baz=94,slow=3.8,SNR=4.4						
WRA				S	**S**	**21 09 37.2**	**-3.4**
	comp=Z,0.2nm,1.0s,baz=124,slow=23,SNR=2.2						
	comp=Z,2.6nm,0.6s						
FORT	**Forrest**	**47.25**	**248**	P	**P**	**21 04 29.4**	**+0.4**
FORT				IAmb	IAmb	21 05 06.9	
	comp=Z,24nm,0.9s						
MTN	**Manton Dam**	**47.79**	**273**	P	**P**	**21 04 33.0**	**-0.2**
MTN				IAmb	IAmb	21 04 48.8	
	comp=Z,22nm,1.2s						
KNRA	**Kununurra**	**49.15**	**268**	P	**P**	**21 04 43.4**	**+0.2**
KNRA				IAmb	IAmb	21 04 59.9	
	comp=Z,30nm,1.4s						
SOEI	**Soe**	**55.16**	**274**	P	**P**	**21 05 28.2**	**+1.7**
SOEI				IAmb	IAmb	21 05 33.3	
	comp=Z,15nm,0.7s						
PSA00	**Pilbara Seismi**	**55.87**	**258**	P	**P**	**21 05 31.2**	**+0.1**
VNDA	**Vanda**	**55.90**	**185**	P	**P**	**21 05 32.8**	**+2.4**
VNDA	**Vanda**	**55.90**	**185**	P	**P**	**21 05 32.3**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=4.3,slow=6.0,SNR=16						
	comp=Z,1.1nm,0.7s						
MBWA	**Marble Bar**	**56.07**	**259**	P	**P**	**21 05 32.3**	**-0.2**
CASY	**Casey**	**61.64**	**206**	P	**P**	**21 06 09.5**	**+0.6**
TOLI2	**Tolitoli**	**62.63**	**284**	P	**P**	**21 06 15.3**	**-1.0**
JAGI	**Jajag, Banyuwa**	**64.97**	**271**	P	**P**	**21 06 30.2**	**-0.9**
JAGI				IAmb	IAmb	21 06 30.6	
	comp=Z,22nm,1.0s						
QSPA	**South Pole Qui**	**67.68**	**180**	P	**P**	**21 06 49.3**	**+2.2**
QSPA	**South Pole Qui**	**67.68**	**180**	P	**P**	**21 06 48.6**	**+1.5**
	comp=Z,4.6nm,0.8s,baz=11,slow=1.1,SNR=13						
	comp=Z,4.6nm,0.8s						
UGM	**Wanagama**	**68.52**	**270**	P	**P**	**21 06 53.2**	**+0.2**
MJAR	**Matsushiro Arr**	**70.92**	**325**	P	**P**	**21 07 06.0**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=169,slow=6.6,SNR=4.2						
	comp=Z,2.3nm,0.6s						
NACB	**Ninganchiao**	**73.58**	**305**	P	**P**	**21 07 22.4**	**+0.1**
NACB				IAmb	IAmb	21 07 45.9	
	comp=Z,15nm,0.9s						
TPUB	**Ta-pu**	**73.83**	**304**	P	**P**	**21 07 22.3**	**-1.5**
SSLB	**Suanglung**	**73.85**	**305**	P	**P**	**21 07 22.7**	**-1.2**
ADK	**Adak**	**74.00**	**2**	P	**P**	**21 07 23.4**	**-0.7**
PEA0B	**Petropavlovsk-**	**77.75**	**346**	P	**P**	**21 07 44.7**	**0.0**
PETK	**Petropavlovsk-**	**77.75**	**346**	P	**P**	**21 07 44.7**	**0.0**
PETK	**Petropavlovsk-**	**77.75**	**346**	P	**P**	**21 07 44.3**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=119,slow=6.5,SNR=5.8						
	comp=Z,3.1nm,0.6s						
BELA	**Belgrano 2**	**77.86**	**173**	P	**P**	**21 07 45.1**	**0.0**
O16K	**Kokwok River B**	**83.57**	**11**	P	**P**	**21 08 13.7**	**-0.9**
O16K				IAmb	IAmb	21 08 20.0	
	comp=Z,19nm,1.4s						
N15K	**Kwethluk River**	**83.79**	**10**	P	**P**	**21 08 16.4**	**+0.7**
N15K				IAmb	IAmb	21 08 17.1	
	comp=Z,9.9nm,0.8s						
O18K	**Koktuh Hills**	**84.34**	**12**	P	**P**	**21 08 18.0**	**-0.4**
O18K				IAmb	IAmb	21 08 57.4	
	comp=Z,31nm,1.4s						
K15K	**Wolf Creek Mou**	**85.62**	**8**	P	**P**	**21 08 25.2**	**+0.7**
K15K				IAmb	IAmb	21 08 47.1	
	comp=Z,18nm,1.4s						
TROLL	**Troll, Antarti**	**85.83**	**181**	⇑P	**P**	**21 08 26.4**	**+0.6**
	comp=Z,65nm,0.4s						
SNAA	**Sanae**	**86.15**	**179**	P	**P**	**21 08 27.7**	**+0.5**
SNAA	**Sanae**	**86.15**	**179**	⇑P	**P**	**21 08 27.6**	**+0.3**
	comp=Z,10.0nm,0.7s						
SNAA	**Sanae**	**86.15**	**179**	P	**P**	**21 08 27.8**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=192,slow=14,SNR=6.5						
	comp=Z,0.4nm,0.7s						
L18K	**Granite Mounta**	**86.28**	**11**	P	**P**	**21 08 28.5**	**+0.9**
L18K				IAmb	IAmb	21 08 45.5	
	comp=Z,9.8nm,1.3s						
M19K	**Big River Lodg**	**86.39**	**12**	P	**P**	**21 08 28.1**	**-0.2**
M19K				IAmb	IAmb	21 08 40.9	
	comp=Z,11nm,1.3s						
L19K	**White Mountain**	**86.57**	**11**	P	**P**	**21 08 29.2**	**+0.2**
L19K				IAmb	IAmb	21 09 02.1	
	comp=Z,11nm,1.4s						
SUA	**Susitna One**	**86.72**	**13**	P	**P**	**21 08 29.7**	**-0.3**
PWL	**Port Wells**	**86.73**	**15**	P	**P**	**21 08 29.6**	**-0.2**
PWL				IAmb	IAmb	21 08 55.8	
	comp=Z,20nm,1.1s						
VNA2	**Neumayer--Watz**	**86.76**	**177**	⇑P	**P**	**21 08 30.8**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=198,slow=5.0						
GHO	**Glory Hole Cre**	**87.40**	**14**	P	**P**	**21 08 32.9**	**-0.2**
SCM	**Sheep Creek Mo**	**87.82**	**15**	P	**P**	**21 08 34.9**	**-0.1**
SCM				IAmb	IAmb	21 08 50.7	
	comp=Z,18nm,1.2s						
J19K	**Poorman**	**88.12**	**10**	P	**P**	**21 08 36.4**	**+0.2**
N25K	**Chitina, Valde**	**88.29**	**16**	P	**P**	**21 08 37.4**	**+0.2**
N25K				IAmb	IAmb	21 08 47.0	
	comp=Z,11nm,1.4s						
GLB	**Gilahina Butte**	**88.35**	**16**	P	**P**	**21 08 37.8**	**+0.3**
GLB				IAmb	IAmb	21 08 44.1	
	comp=Z,12nm,1.4s						
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**21 08 44.8**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=136,slow=3.7,SNR=13						
	comp=Z,1.7nm,0.8s						
CHTO	**Chiang Mai**	**89.56**	**290**		**P**	**21 08 44.8**	**+0.8**
ILAR	**Eielson Array**	**90.48**	**13**	P	**P**	**21 08 46.0**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=225,slow=3.9,SNR=4.1						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**111.45**	**313**	PKiKP	**PKiKP**	**21 14 15.1**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=199,slow=1.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**114.46**	**317**	PKP	PKPdf	21 14 20.5	-1.1
	comp=Z,0.3nm,0.4s,baz=115,slow=1.9,SNR=5.8						
BVAR	**Borovoye Array**	**119.60**	**319**	PKP	**PKPdf**	**21 14 30.7**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=116,slow=2.4,SNR=11						
ARCES	**ARCESS Array B**	**130.51**	**349**	PKP	**PKiKP**	**21 14 52.3**	**-0.5**
	comp=Z,4.0nm,1.1s,baz=108,slow=0.3,SNR=4.4						
FINES	**FINESS Array B**	**137.16**	**342**	PKP	**PKPdf**	**21 15 03.3**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=84,slow=5.9,SNR=3.9						
HFS	**Hagfors**	**141.16**	**349**	PKhKP	PKPpre	21 15 06.1	
	comp=Z,1.5nm,0.4s,baz=90,slow=5.9,SNR=2.5						
AKASG	**Malin Array Be**	**143.94**	**329**		PKPbc	21 15 15.5	-0.9
AKASG	**Malin Array Be**	**143.94**	**329**	PKP	PKPbc	21 15 14.9	-1.4
	comp=Z,2.0nm,0.4s,baz=42,slow=4.0,SNR=16						
AKBB	**Malin Array Si**	**143.94**	**329**		PKPbc	21 15 15.3	-1.0
AK05	**Malin Array Si**	**144.00**	**329**		PKPbc	21 15 15.5	-1.0
SUW	**Suwalki**	**144.07**	**337**		PKPbc	21 15 14.8	-1.8
BNN	**Bunyan**	**145.68**	**307**	PKPdf	**PKPdf**	**21 15 19.1**	**-1.4**
BRTR	**Keskin Array B**	**147.00**	**309**	PKPbc	**PKPbc**	**21 15 25.4**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=142,slow=4.5,SNR=7.1						
EKA	**Eskdalemuir Ar**	**147.00**	**4**	PKPbc	**PKPdf**	**21 15 22.3**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=2.6,slow=2.1,SNR=6.2						
MMAI	**Mount Meron Ar**	**147.45**	**297**	PKPbc	**PKiKP**	**21 15 28.1**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=72,slow=5.4,SNR=12						
KWP	**Kalwaria Pacla**	**147.66**	**333**		**PKPbc**	**21 15 26.7**	**-0.3**
BUR08	**Bucovina Ar. S**	**147.94**	**328**	PKPbc	**PKiKP**	**21 15 29.1**	**-0.1**
BURAR	**Bucovina Array**	**147.96**	**328**	PKPbc	**PKiKP**	**21 15 29.1**	**-0.1**
OSTC	**Ostas**	**149.31**	**340**	*e*PKP	**PKiKP**	**21 15 32.1**	**+0.3**
UPC	**Upice**	**149.42**	**340**	*e*PKP	**PKiKP**	**21 15 31.8**	**-0.2**
DPC	**Dobruska-Polom**	**149.46**	**340**	*e*PKP	**PKiKP**	**21 15 32.1**	**-0.1**
CLL	**Collm**	**149.54**	**344**	PKPdf	**PKPdf**	**21 15 24.0**	**-2.3**
CLL					**PKPbc**	**21 15 31.1**	**-0.4**
KRLC	**Kraliky**	**149.55**	**339**	*e*PKP	**PKiKP**	**21 15 32.2**	**-0.2**
PVCC	**Panska Ves**	**149.83**	**342**	*e*PKP	**PKiKP**	**21 15 33.0**	**+0.1**
PVCC				*ex*	**PKPab**	**21 15 41.7**	**+1.4**
KHC	**Kasperske Hory**	**151.37**	**342**	*e*PKP	**PKiKP**	**21 15 36.3**	**+0.1**
KHC				*ex*	**PKPab**	**21 15 47.4**	**+0.6**
CKRC	**Cesky Krumlov**	**151.43**	**341**	*e*PKP	**PKiKP**	**21 15 36.5**	**+0.2**
CKRC				*ex*	**PKPab**	**21 15 47.8**	**+0.7**
GERES	**GERESS Array B**	**151.59**	**341**	PKPbc	**PKPbc**	**21 15 35.1**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=341,slow=1.9,SNR=4.5						

ANF 23 20:57:26.1±1.6, 55.°36N×140.°25W, h0km, ML4.1/1, Error ellipse: s-maj=16.4km s-min=9.7km az=148.0, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S31K	**Pelican**	**3.43**	**39**	P	Pn	20 58 20.5	-0.2
	baz=222						
S31K				S	Sn	20 59 02.2	+0.3
	baz=222						
S32K	**Killisnoo**	**3.80**	**54**	P	Pn	20 58 27.5	+1.7
	baz=238						
PNL	**Peninsula**	**4.35**	**6**	P	Pn	20 58 33.4	0.0
	baz=186,SNR=12						
P29M	**Windy Craggy**	**4.49**	**17**	P	Pn	20 58 36.3	+0.8
	baz=199						
P29M				S	Sn	20 59 29.8	+1.5
	baz=199						
PINM	**Pinnacle**	**4.75**	**360**	P	Pn	20 58 37.6	-1.4
	baz=180,SNR=14						
MESA	**MESA**	**4.92**	**350**	P	Pn	20 58 38.6	-2.8
	baz=169,SNR=6.6						
O29M	**Mount Kennedy**	**5.04**	**10**	P	Pn	20 58 44.5	+1.5
	baz=191						
O29M				S	Sn	20 59 42.3	+0.4
	baz=191						
O28M	**Mount Upton**	**5.43**	**0**	P	Pn	20 58 47.8	-0.7
	baz=180						
CTG	**Chitna Glacier**	**5.65**	**355**	P	Pn	20 58 49.4	-2.0
	baz=174,SNR=15						
YUK6	**Outpost Mounta**	**5.69**	**9**	P	Pn	20 58 53.6	+1.5
	baz=191,SNR=13						
YUK4	**Talbot Arm**	**6.07**	**7**	P	Pn	20 59 00.2	+3.1
	baz=189,SNR=8.3						
M30M	**Minto, Yukon**	**7.46**	**12**	P	Pn	20 59 17.9	+1.8
	baz=195,SNR=5.9						

JMA 23 21:03:28.8±0.3, 37.°4N±0.°9×14.°4E±.°, h45km, MV3.6/25, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.54**	**291**	*i*P	Pn	21 04 08.8	+1.4
JIKH				S	Sn	21 04 38.6	+1.4
JIO	**Ouri**	**2.68**	**294**	*e*P	Pn	21 04 10.9	+1.6
JIO				*e*S	Sn	21 04 42.5	+2.0
JKMT	**Kesennumamotoy**	**2.74**	**301**	P	Pn	21 04 11.6	+1.3
OFUJ	**Ofunato**	**2.76**	**308**	P	Pn	21 04 11.8	+1.3
JMK	**Ichinoseki**	**2.99**	**302**	P	Pn	21 04 15.4	+1.8
JMK				S	Sn	21 04 50.0	+1.9
JOM	**Ohasama**	**3.23**	**310**	P	Pn	21 04 19.1	+2.2
JOM				S	Sn	21 04 56.1	+1.9
JOTO	**OTAMA OYAMA**	**3.29**	**274**	P	Pn	21 04 20.3	+2.5
JOTO				S	Sn	21 04 58.7	+2.9
JRY	**Ryogami san**	**4.69**	**254**	P	Pn	21 04 37.9	+0.9
JRY				*e*S	Sn	21 05 29.7	-0.5
JCH	**Churui**	**5.26**	**351**	P	Pn	21 04 44.4	-0.4
JCH				*e*S	Sn	21 05 41.0	-3.1
NEM2	**Nemuro 2**	**6.02**	**9**	*e*P	Pn	21 04 51.9	-3.3
NEM2				*e*S	Sn	21 05 56.2	-6.6
JTKR	**Abashiri--Toko**	**6.56**	**356**	*e*P	Pn	21 05 02.6	0.0
JTKR				*e*S	Sn	21 06 11.5	-4.6

*IDC **23** 21:20:24.1±0.5, 26.°38S×141.°24W, h0km, mb4.5/17, mbtmp4.5/17, ML6.1/1, MS4.2/35, Error ellipse: s-maj=18.0km s-min=14.9km az=111.0*
*MOS **23** 21:20:24.8±1.1, 26.°45S×141.°12W, h10km, mb5.1/15, Error ellipse: s-maj=15.1km s-min=11.6km az=81.6*
*NEIC **23** 21:20:26.5±1.9, 26.°4S±0.°1×141.°33W±0.°04, h10km±1km, mb5.2/221, Error ellipse: s-maj=18.0km s-min=6.4km az=180.0*
ISC 23 21:20:26.0±0.3, 26.°52S±0.°08×141.°35W±0.°08, h10km, n520, σ1§11/402, mb5.1/130, MS4.3/33, 19C-19D, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCN	**Pitcairn Islan**	**10.24**	**84**	Pn	**Pn**	**21 22 52.5**	**-0.6**
MEH	**Mehetia**	**10.61**	**323**	*e*P	**Pn**	**21 23 00.1**	**+2.0**
MEH	**Mehetia**	**10.61**	**323**	*e*T	T	21 33 37.7	
	14nm,0.2s						
TVO	**Taravao**	**11.36**	**318**	*e*P	**Pn**	**21 23 06.8**	**-1.6**
	38nm,0.7s						
TVO				*e*S	Sn	21 25 04.5	-11
	7.0nm,0.2s						
TIAR	**Tiarei**	**11.59**	**319**	*e*P	**Pn**	**21 23 09.6**	**-2.0**
	34nm,0.9s						
TIAR				*e*S	Sn	21 25 09.0	-12
	1.8nm,0.1s						
PAE	**Paea**	**11.65**	**317**	*e*P	**Pn**	**21 23 10.4**	**-1.9**
	68nm,0.8s						
PAE				*e*S	Sn	21 25 10.7	-12
	3.0nm,0.2s						
PPTF	**Pamatai, Papee**	**11.70**	**318**	Pn	**Pn**	**21 23 10.3**	**-2.7**
PPT2	**Papeete2**	**11.70**	**318**	*e*P	**Pn**	**21 23 11.2**	**-2.0**
	138nm,0.9s,baz=124						
PPT2				*e*S	Sn	21 25 07.9	-16
	8.4nm,0.2s						
PPT2				*e*LR	LR	21 25 44.2	
	comp=Z,2μm,23.0s						
PPT	**Papeete**	**11.72**	**318**	Pn	**Pn**	**21 23 11.0**	**-2.3**
	11nm,0.3s,baz=114,slow=11,SNR=32						
PPT				Sn	Sn	21 25 12.4	-12
	1.4nm,0.3s,baz=62,slow=20,SNR=1.9						
PPT				LR	LR	21 26 24.3	
	comp=Z,1μm,20.9s,baz=93,slow=31						
PMOR	**Pomariorio Ree**	**12.98**	**331**	*e*P	**Pn**	**21 23 27.8**	**-2.8**
PMOR				*e*S	Sn	21 25 41.7	-13
	3.7nm,0.2s						
PMOR	**Pomariorio Ree**	**12.98**	**331**	*e*T	T	21 36 19.9	
	1.3nm,0.2s						
TAOE	**Nuku Hiva Isla**	**17.60**	**4**	*e*LR	LR	21 28 29.0	
	comp=Z,1μm,24.2s						
RAR	**Rarotonga**	**17.65**	**284**	LR	LR	21 29 09.9	
	comp=Z,446nm,21.8s,baz=161,slow=30						
RPN	**Rapa Nui**	**28.54**	**99**	LR	LR	21 34 18.7	
	comp=Z,373nm,20.1s,baz=302,slow=29						
URZ	**Urewera**	**36.70**	**241**	LR	LR	21 40 03.6	
	comp=Z,91nm,19.4s,baz=211,slow=32						
MSVF	**Nonsavu**	**38.48**	**275**	LR	LR	21 40 08.1	
	comp=Z,142nm,21.0s,baz=346,slow=31						
RPZ	**Rata Peaks**	**41.93**	**233**	LR	LR	21 41 39.0	
	comp=Z,108nm,20.8s,baz=94,slow=30					

PB14 IAmb IAmb 21 30 57.0
comp=Z,25nm,1.1s
CIS Catalina Islan 63.45 21 P P 21 30 56.9 +0.9
baz=203
IKP In-Ko-Pah, Jac 63.56 24 P P 21 30 57.5 +0.7
baz=205
SCZ2 Santa Cruz Isl 63.61 20 P P 21 30 58.3 +1.2
baz=202
QSPA South Pole Qui 63.62 180 P P 21 30 58.4 +1.4
QSPA IAmb IAmb 21 31 02.1
comp=Z,30nm,1.3s
QSPA South Pole Qui 63.62 180 P P 21 30 57.7 +0.7
comp=Z,12nm,1.0s,baz=84,slow=3.4,SNR=18
QSPA LR LR 21 53 02.3
comp=Z,190nm,21.7s,baz=38,slow=31
comp=Z,12nm,1.0s
YUH Yuha Desert 63.62 24 P P 21 30 57.3 +0.2
YUH IAmb IAmb 21 31 01.8
comp=Z,41nm,1.9s
MONP2 Monument Peak 63.67 23 P P 21 30 59.1 +1.4
baz=205
GO02 Mina Guanaco 63.77 106 P P 21 30 57.6 -1.2
GO02 IAmb IAmb 21 31 08.5
comp=Z,17nm,1.1s
SWSC Sam W. Stewart 63.94 24 P P 21 31 00.8 +1.6
baz=205
214A Organ Pipe Nat 64.20 27 P P 21 31 02.2 +1.1
baz=208
TPFO Pinon Flats 64.30 23 P P 21 31 03.1 +1.3
baz=205
PFO Pinyon Flats O 64.30 23 P P 21 31 02.0 +0.3
PFO Pinyon Flats O 64.30 23 P P 21 31 03.5 +1.8
baz=205
PFO Pinyon Flats O 64.30 23⇑ eP P 21 31 02.8 +1.0
PFO Pinyon Flats O 64.30 23 LR LR 21 53 35.7
comp=Z,239nm,18.4s,baz=199,slow=31
PMD Palm Desert 64.36 23 P P 21 31 02.4 +0.4
PKM Mcpherson Peak 64.39 20 P P 21 31 04.0 +1.6
baz=201
GLA Glamis 64.39 25 P P 21 31 03.7 +1.5
baz=206
BFSC Mount Baldy Ra 64.47 22 P P 21 31 04.0 +1.2
baz=204
OSI Osito Audit: C 64.47 21 P P 21 31 04.4 +1.7
baz=202
BC3 Big Chuckawall 64.70 24 P P 21 31 06.0 +1.7
baz=206
BELC Belle Mtn. Jos 64.82 23 P P 21 31 06.7 +1.5
baz=205
ARVC Arvin 64.91 20 P P 21 31 06.6 +1.1
baz=202
EDW2 Edwards Air Fo 64.95 21 P P 21 31 07.1 +1.2
baz=203
LVC Limon Verde 65.19 104 P P 21 31 09.1 +0.8
LVC Limon Verde 65.19 104 eP P 21 31 09.1 +0.8
LVC Limon Verde 65.19 104 LR LR 21 52 52.9
comp=Z,171nm,19.2s,baz=228,slow=30
319A Douglas 65.21 30 IAmb IAmb 21 31 09.9
comp=Z,18nm,1.0s
PB01 IPOC Station P 65.22 102 IAmb IAmb 21 31 12.6
comp=Z,26nm,1.2s
IRM Iron Mountain 65.26 24 P P 21 31 08.9 +1.0
baz=206
TUC Tucson 65.35 28 P P 21 31 08.4 -0.2
TUC Tucson 65.35 28 P P 21 31 10.0 +1.4
baz=210
TUC Tucson 65.35 28 P P 21 31 08.4 -0.2
TUC pmax pmax
comp=Z,12nm,1.4s
HEC Hector,Ludlow 65.45 22 P P 21 31 10.4 +1.3
baz=205,SNR=6.5
VES Vestal, Richgr 65.49 20 P P 21 31 10.8 +1.5
baz=202
ISA Isabella, Lake 65.51 20 P P 21 31 10.4 +0.9
ISA IAmb IAmb 21 31 12.2
comp=Z,20nm,1.2s
ISA Isabella, Lake 65.51 20 P P 21 31 11.5 +1.9
baz=202,SNR=6.9
ISA Isabella, Lake 65.51 20 P P 21 31 10.4 +0.9
ISA pmax pmax
comp=Z,19nm,1.2s
EFI East Falkland 65.63 137⇓ eP P 21 31 10.2 +0.1
EFI pmax pmax
comp=Z,143nm,1.4s
GMRC Granite Mounta 65.64 23 P P 21 31 11.9 +1.5
baz=205,SNR=9.5
GSC Goldstone, Bar 65.72 22 P P 21 31 12.2 +1.3
baz=204
PDMCI Parker Dam,Lak 65.76 25 P P 21 31 12.3 +1.3
baz=207
TUQ Turquoise Moun 66.14 23 P P 21 31 14.9 +1.2
baz=205
PB16 IPOC Station P 66.17 99 IAmb IAmb 21 31 19.2
comp=Z,21nm,1.5s
MPMC Manual Prospec 66.19 21 P P 21 31 15.3 +1.3
baz=203,SNR=13
TRQA Tornquist 66.23 122 P P 21 31 14.2 -0.1
TRQA Tornquist 66.23 122 eP P 21 31 14.2 -0.1
TX31 Lajitas Ar. Si 66.25 36 P P 21 31 14.6 +0.2
TX31 Lajitas Ar. Si 66.25 36 P P 21 31 15.2 +0.8
baz=217
TXAR Lajitas Array 66.25 36 P P 21 31 14.1 -0.3
comp=Z,5.9nm,0.9s,baz=200,slow=9.6,SNR=45
TXAR LR LR 21 53 31.7
comp=Z,157nm,18.8s,baz=206,slow=30
comp=Z,5.9nm,0.9s
QSM Queen of Sheba 66.31 22 P P 21 31 15.5 +1.0
QSM IAmb IAmb 21 31 17.0
comp=Z,23nm,1.1s
CWC Cottonwood Cre 66.35 20 P P 21 31 16.6 +1.5
baz=203
GWY Greenwater Val 66.57 22 P P 21 31 15.5 -1.0
425A Indio Mountain 66.75 34 P P 21 31 17.8 +0.1
425A IAmb IAmb 21 31 22.6
comp=Z,19nm,1.5s
FURC Furnace Creek, 66.76 21 P P 21 31 19.8 +2.4
baz=204
V12A Nelson 66.78 23 P P 21 31 17.4 -0.3
V12A IAmb IAmb 21 31 23.0
comp=Z,14nm,1.3s
121A Cookes Peak, D 66.86 31 P P 21 31 19.3 +0.9
baz=212
121A Cookes Peak, D 66.86 31 P P 21 31 19.4 +0.9
baz=212
GRAC Grapevine Rang 67.09 21 IAmb IAmb 21 31 22.3
comp=Z,23nm,1.2s
GRAC Grapevine Rang 67.09 21 P P 21 31 20.9 +1.3
baz=203,SNR=7.2
ALPN Alpine 67.10 35 IAmb IAmb 21 33 30.9
comp=Z,12nm,0.4s
WCT Wildcat Mounta 67.14 21 IAmb IAmb 21 31 22.6
comp=Z,14nm,1.0s
CMB Columbia Colle 67.16 18 IAmb IAmb 21 31 24.4
comp=Z,37nm,1.8s
DSP Deep Springs 67.24 20 P P 21 31 19.9 -0.6
MNTX Cornudas Mount 67.30 33 IAmb IAmb 21 31 25.0
comp=Z,16nm,1.4s
MNTX Cornudas Mount 67.30 33 P P 21 31 22.2 +1.2
baz=215
MNTX Cornudas Mount 67.30 33 P P 21 31 21.7 +0.7
baz=215,SNR=8.4
TPNV Topopah Spring 67.41 22 IAmb IAmb 21 31 24.6
comp=Z,17nm,1.1s
TPNV Topopah Spring 67.41 22 P P 21 31 23.4 +1.7
baz=204,SNR=11
H11S2 WAKE ISLAND Hy 67.41 306 T T 22 44 57.7
baz=128
H11S1 WAKE ISLAND Hy 67.42 306 T T 22 44 52.0
baz=128
H11S3 WAKE ISLAND Hy 67.42 306 T T 22 44 59.7
baz=128
SAND Sanderson 67.56 36 IAmb IAmb 21 31 24.4
comp=Z,8.8nm,1.0s
X18A Snowflake 67.61 28 P P 21 31 23.4 +0.3
X18A IAmb IAmb 21 31 25.6
comp=Z,14nm,1.1s
BELA Belgrano 2 67.70 167 P P 21 31 22.4 -0.5
BELA IAmb IAmb 21 31 32.5
comp=Z,19nm,1.3s
833A Chaparral WMA, 67.80 40 P P 21 31 25.3 +1.1
baz=220
AFDM Forest Hills D 67.86 17 IAmb IAmb 21 31 26.7
comp=Z,35nm,1.8s
WUAZ Wupatki 67.89 26 IAmb IAmb 21 31 27.4
comp=Z,15nm,1.1s
WUAZ Wupatki 67.89 26 P P 21 31 26.4 +1.5
baz=209,SNR=5.9

EMB Emerald Bay 68.11 18 P P 21 31 25.0 -1.3
EMB IAmb IAmb 21 31 28.5
comp=Z,11nm,0.9s
NVAR Mina Array Bea 68.12 19 P P 21 31 25.9 -0.4
comp=Z,2.3nm,0.8s,baz=212,slow=9.2,SNR=16
NVAR LR LR 21 53 56.3
comp=Z,125nm,21.3s,baz=268,slow=30
comp=Z,2.3nm,0.8s
LPAZ La Paz 68.15 98 P P 21 31 26.0 -1.5
LPAZ La Paz 68.15 98 P P 21 31 26.0 -1.5
comp=Z,3.4nm,0.7s,baz=237,slow=3.8,SNR=17
LPAZ LR LR 21 54 13.3
comp=Z,144nm,19.5s,baz=252,slow=30
comp=Z,3.4nm,0.7s
NV11 Mina Array Sit 68.17 19 IAmb IAmb 21 31 31.3
comp=Z,15nm,1.4s
PRN Pahroc Range 68.22 22 IAmb IAmb 21 31 30.0
comp=Z,23nm,1.1s
MNHN Monahans 68.32 35 IAmb IAmb 21 31 30.7
comp=Z,25nm,1.7s
YERR Yerington 68.36 18 IAmb IAmb 21 31 30.1
comp=Z,12nm,1.1s
LCMT Little Creek M 68.50 24 P P 21 31 27.5 -1.2
Y22D IRIS PASSCAL I 68.54 30 P P 21 31 30.4 +1.4
baz=213
Y22F Passcal Instru 68.54 30 P P 21 31 30.2 +1.3
baz=213
KNB Kanab 68.66 24 IAmb IAmb 21 31 32.1
comp=Z,17nm,1.1s
OZNA Ozona 68.85 37 IAmb IAmb 21 31 32.3
comp=Z,27nm,1.2s
R11B Troy Canyon, C 68.89 21 IAmb IAmb 21 31 33.8
comp=Z,17nm,1.2s
R11B Troy Canyon, C 68.89 21 P P 21 31 32.5 +1.4
baz=205,SNR=16
PAHR Pah Rah Range 69.00 18 IAmb IAmb 21 31 35.8
comp=Z,30nm,1.7s
JCT Junction City 69.22 38 IAmb IAmb 21 31 34.3
comp=Z,22nm,1.0s
JCT Junction City 69.22 38 P P 21 31 33.7 +0.6
baz=219,SNR=5.4
JCT Junction City 69.22 38 P P 21 31 33.5 +0.4
baz=219,SNR=5.4
TEIG Tepich 69.34 53 LR LR 21 55 07.3
comp=Z,501nm,20.5s,baz=27,slow=30
ANMO Albuquerque 69.48 30 P P 21 31 34.5 -0.3
ANMO IAmb IAmb 21 31 38.8
comp=Z,27nm,1.8s
ANMO Albuquerque 69.48 30 P P 21 31 35.8 +1.0
baz=213
ANMO Albuquerque 69.48 30 P P 21 31 35.8 +1.0
baz=213
ANMO Albuquerque 69.48 30⇑ eP P 21 31 35.5 +0.7
ANMO pmax pmax
comp=Z,17nm,1.9s
ANMO Albuquerque 69.48 30 LR LR 21 56 03.7
comp=Z,170nm,19.4s,baz=328,slow=31
PSUT Pine Spring 69.64 23 IAmb IAmb 21 31 38.5
comp=Z,15nm,1.0s
YBH Yreka Blue Hor 70.06 15 LR LR 21 55 07.5
comp=Z,168nm,20.6s,baz=206,slow=30
HMU Henry Mountain 70.25 25 IAmb IAmb 21 31 41.7
comp=Z,34nm,1.4s
POST Post 70.34 35 P P 21 31 39.1 -0.9
POST IAmb IAmb 21 31 41.0
comp=Z,20nm,1.0s
MSTX Muleshoe 70.42 33 P P 21 31 41.2 +0.7
baz=216,SNR=7.2
MSTX Muleshoe 70.42 33 P P 21 31 40.9 +0.4
baz=216,SNR=7.2
MVCO Mesa Verde 70.52 27 IAmb IAmb 21 32 16.3
comp=Z,18nm,1.4s
MVCO Mesa Verde 70.52 27 P P 21 31 41.8 +0.6
baz=211
435B Jarrell 70.69 39 P P 21 31 42.5 +0.4
baz=221
ABTX Abilene, Hawle 70.96 36 IAmb IAmb 21 31 47.4
comp=Z,31nm,1.4s
ABTX Abilene, Hawle 70.96 36 P P 21 31 44.0 +0.2
baz=219
ABTX Abilene, Hawle 70.96 36 P P 21 31 43.7 0.0
baz=219
HKT Hockley 71.08 41⇓ iP P 21 31 45.3 +0.9
HKT pmax pmax
comp=Z,17nm,1.8s
DKNS Dickens 71.11 35 IAmb IAmb 21 31 45.8
comp=Z,21nm,1.1s
APMT Aspermont 71.25 36 IAmb IAmb 21 31 49.2
comp=Z,38nm,1.2s
SRU San Rafael Swe 71.36 25 P P 21 31 45.5 -0.7
SRU IAmb IAmb 21 31 48.3
comp=Z,21nm,1.1s
SRU San Rafael Swe 71.36 25 P P 21 31 45.5 -0.7
SRU pmax pmax
comp=Z,21nm,1.1s
K05A Summer Lake 71.43 16 IAmb IAmb 21 31 48.8
comp=Z,20nm,1.0s
DUG Dugway, Tooele 71.49 23 IAmb IAmb 21 31 49.5
comp=Z,17nm,1.1s
DUG Dugway, Tooele 71.49 23 P P 21 31 48.3 +1.4
baz=207
P17A Butcher Ranch, 71.60 25 IAmb IAmb 21 31 50.0
comp=Z,26nm,1.1s
WHTX Lake Whitney, 71.67 38 P P 21 31 48.5 +0.5
baz=221
S22A 4UR Ranch, Cre 71.67 28 IAmb IAmb 21 31 50.5
comp=Z,24nm,1.4s
S22A 4UR Ranch, Cre 71.67 28 P P 21 31 49.2 +0.9
baz=212,SNR=7.0
AMTX Amarillo 71.69 34 P P 21 31 48.4 +0.2
baz=217
AMTX Amarillo 71.69 34 P P 21 31 48.5 +0.4
baz=217
WVOR Wild Horse Val 71.74 18 P P 21 31 48.3 0.0
WVOR IAmb IAmb 21 31 52.5
comp=Z,33nm,1.5s
WVOR Wild Horse Val 71.74 18 P P 21 31 48.3 0.0
WVOR pmax pmax
comp=Z,33nm,1.5s
MPU Maple Canyon 71.75 24 IAmb IAmb 21 31 51.5
comp=Z,22nm,1.2s
PLPT Palo Pinto 71.82 37 IAmb IAmb 21 31 50.3
comp=Z,37nm,1.1s
P18A Preston Nutter 71.92 25 IAmb IAmb 21 31 59.8
comp=Z,19nm,1.3s
FW03 Perrin-Whitt E 72.13 37 IAmb IAmb 21 31 52.2
comp=Z,30nm,1.0s
T25A Trinidad 72.22 30 IAmb IAmb 21 31 53.2
comp=Z,25nm,1.1s
T25A Trinidad 72.22 30 P P 21 31 52.5 +1.1
baz=214,SNR=7.5
SDCO Great Sand Dun 72.24 29 P P 21 31 49.2 -2.4
SDCO Great Sand Dun 72.24 29 P P 21 31 52.1 +0.4
baz=213,SNR=5.9
CTU Camp Tracy 72.30 23 IAmb IAmb 21 31 56.3
comp=Z,18nm,1.2s
PINE Pine Mountain 72.43 15 IAmb IAmb 21 31 54.6
comp=Z,18nm,0.9s
WTFS Witchita Falls 72.47 36 IAmb IAmb 21 31 54.0
comp=Z,34nm,1.3s
J08A Circle Bar Ran 72.64 17 IAmb IAmb 21 31 55.9
comp=Z,21nm,1.1s
TCUT Toone Canyon 72.80 23 IAmb IAmb 21 31 57.0
comp=Z,29nm,1.5s
HVU Hansel Valley 72.92 22 IAmb IAmb 21 31 57.6
comp=Z,17nm,1.0s
RDMU Red Mountain 72.99 25 IAmb IAmb 21 31 58.0
comp=Z,25nm,0.9s
I07A Izee 73.05 16 P P 21 31 56.6 +0.4
NATX Nacogdoches 73.08 40 P P 21 31 57.5 +1.1
baz=223
O20A White River Ci 73.12 26 IAmb IAmb 21 31 58.7
comp=Z,23nm,1.2s
O20A White River Ci 73.12 26 P P 21 31 57.9 +1.2
baz=211
Q24A Divide 73.41 29 P P 21 31 59.6 +1.0
baz=214
CPUP Villa Florida 73.76 112 P P 21 32 00.5 -0.3
comp=Z,1.6nm,0.6s,baz=175,slow=11,SNR=3.7
CPUP LR LR 21 58 42.9
comp=Z,119nm,18.7s,baz=220,slow=31
comp=Z,1.6nm,0.6s
ISCO Idaho Springs 73.91 28 P P 21 32 02.6 +1.1
baz=213
ISCO Idaho Springs 73.91 28 P P 21 32 02.6 +1.1
baz=213
HLID Hailey 74.00 20 P P 21 32 03.2 +1.4
baz=205

ID10 Lander Cutoff 74.22 23 IAmb IAmb 21 32 04.7
comp=Z,26nm,1.0s
SIV San Ignacio 74.51 100 LR LR 21 59 44.0
comp=Z,84nm,18.5s,baz=186,slow=32
N23A Red Feather La 74.69 27 P P 21 32 06.8 +0.8
baz=212
X37A Clayton 74.77 38 IAmb IAmb 21 32 07.4
comp=Z,37nm,1.4s
X37A Clayton 74.77 38 P P 21 32 06.5 +0.2
baz=222,SNR=6.0
BW06 Boulder Array 74.91 24 P P 21 32 07.8 +0.6
baz=209
PDAR Pinedale Array 74.91 24 P P 21 32 06.5 -0.7
PDAR Pinedale Array 74.91 24 P P 21 32 06.7 -0.5
comp=Z,6.2nm,0.8s,baz=183,slow=5.5,SNR=29
PDAR LR LR 21 59 09.4
comp=Z,208nm,18.0s,baz=244,slow=31
comp=Z,6.2nm,0.8s
TPAW Teton Pass 75.05 22 IAmb IAmb 21 32 10.3
comp=Z,19nm,1.1s
FXWY Fox Creek 75.16 22 IAmb IAmb 21 32 10.7
comp=Z,17nm,1.1s
QUOK Quay 75.23 36 IAmb IAmb 21 32 10.2
comp=Z,43nm,1.3s
MOOW Moose Ponds 75.35 22 IAmb IAmb 21 32 11.7
comp=Z,20nm,1.2s
ASAR Alice Springs 75.38 251 P P 21 32 09.9 -0.3
ASAR Alice Springs 75.38 251 P P 21 32 10.0 -0.3
ASAR Alice Springs 75.38 251 P P 21 32 11.0 +0.8
comp=Z,1.8nm,0.8s,baz=114,slow=5.2,SNR=19
comp=Z,1.8nm,0.8s
WLAR White Oak Lake 75.38 40 P P 21 32 10.1 +0.3
WLAR IAmb IAmb 21 32 11.4
comp=Z,30nm,0.9s
F10A Beach Ranch, E 75.40 17 IAmb IAmb 21 32 10.7
comp=Z,27nm,1.7s
TUL3 Leonard 75.52 37 P P 21 32 10.8 +0.3
baz=221
FLWY Flagg Ranch 75.66 22 IAmb IAmb 21 32 13.9
comp=Z,22nm,1.0s
MIAR Mount Ida 75.74 39 IAmb IAmb 21 32 14.7
comp=Z,26nm,1.5s
MIAR Mount Ida 75.74 39 P P 21 32 12.0 +0.2
baz=223
MIAR Mount Ida 75.74 39 P P 21 32 11.8 0.0
baz=223
T35B Sooner Cattle 75.90 36 P P 21 32 13.4 +0.7
baz=221,SNR=6.0
YFT Old Faithful 75.94 22 IAmb IAmb 21 32 16.6
comp=Z,17nm,0.9s
K22A Casper 75.94 26 P P 21 32 14.3 +1.2
baz=212
H17A Grant Village 75.98 22 P P 21 32 15.3 +1.9
baz=208
YHL Hebgen Lake 76.18 22 IAmb IAmb 21 32 20.0
comp=Z,27nm,1.3s
DLMT Dillon 76.18 20 IAmb IAmb 21 32 16.9
comp=Z,36nm,1.4s
WR0 Warramunga Arr 76.28 254 P P 21 32 15.3 -0.1
WR0 IAmb IAmb 21 32 25.1
comp=Z,10.0nm,0.6s
WRA Warramunga Arr 76.46 254 P P 21 32 17.4 +1.0
comp=Z,3.1nm,1.1s,baz=112,slow=5.2,SNR=11
comp=Z,3.1nm,1.1s
WB0 Warramunga Arr 76.48 255 P P 21 32 16.8 +0.2
VILB Vilhena 76.51 98 IAmb IAmb 21 32 18.1
comp=Z,15nm,1.0s
UALR University of 76.60 40 IAmb IAmb 21 32 18.5
comp=Z,32nm,1.1s
U38A Gravette 76.67 37 IAmb IAmb 21 32 18.4
comp=Z,16nm,1.0s
U38A Gravette 76.67 37 P P 21 32 17.5 +0.3
baz=222,SNR=5.5
BOZ Bozeman (W) 76.70 21 P P 21 32 17.1 -0.1
BOZ Bozeman (W) 76.70 21 P P 21 32 18.3 +1.1
baz=207
BOZ Bozeman (W) 76.70 21 P P 21 32 17.1 -0.1
BOZ pmax pmax
comp=Z,16nm,1.4s
HHAR Hobbs 76.80 38 IAmb IAmb 21 32 19.0
comp=Z,15nm,1.0s
VNA3 Neumayer Olymp 76.85 166 ⇑P P 21 32 18.1 +0.3
comp=Z,7.3nm,0.9s
WHAR Wooly Hollow 77.00 39 IAmb IAmb 21 32 23.3
comp=Z,39nm,1.5s
RLMT Red Lodge 77.06 23 IAmb IAmb 21 32 21.7
comp=Z,22nm,1.2s
RLMT Red Lodge 77.06 23 P P 21 32 20.5 +1.1
baz=209
MSO Missoula 77.10 19 IAmb IAmb 21 32 21.4
comp=Z,17nm,1.1s
MSO Missoula 77.10 19 P P 21 32 20.9 +1.5
baz=205
U40A Yellville 77.46 38 P P 21 32 22.0 +0.4
baz=223,SNR=7.7
U40A P P 21 32 22.0 +0.4
baz=223,SNR=7.7
FCAR Ozark Folk Cen 77.53 39 IAmb IAmb 21 32 23.2
comp=Z,25nm,1.2s
NEW Newport 77.55 16 IAmb IAmb 21 32 25.7
comp=Z,19nm,1.3s
NEW Newport 77.55 16 P P 21 32 22.7 +0.9
baz=202
NEW Newport 77.55 16 LR LR 22 01 55.0
comp=Z,227nm,18.2s,baz=210,slow=32
VNA2 Neumayer--Watz 77.59 166 ⇑P P 21 32 22.7 +0.8
comp=Z,4.7nm,0.9s,baz=229,slow=6.0
VNA1 Neumayer--Stat 77.61 166 ⇑P P 21 32 22.7 +0.8
comp=Z,7.4nm,1.0s
SNAA Sanae 77.94 168 P P 21 32 23.1 -0.8
SNAA Sanae 77.94 168 ⇑P P 21 32 24.1 +0.2
comp=Z,55nm,1.1s
SNAA Sanae 77.94 168⇓ eP P 21 32 23.8 -0.2
SNAA pmax pmax
comp=Z,12nm,1.7s
SNAA Sanae 77.94 168 P P 21 32 23.7 -0.2
comp=Z,3.7nm,1.1s,baz=253,slow=3.5,SNR=6.0
SNAA LR LR 22 05 46.7
comp=Z,169nm,18.1s,baz=189,slow=35
comp=Z,3.7nm,1.1s
RSSD Black Hills 78.16 26 P P 21 32 25.2 -0.3
RSSD IAmb IAmb 21 32 26.6
comp=Z,20nm,1.1s
RSSD Black Hills 78.16 26 P P 21 32 26.1 +0.5
baz=214
RSSD Black Hills 78.16 26 P P 21 32 25.3 -0.3
baz=214
RSSD Black Hills 78.16 26 P P 21 32 25.2 -0.3
RSSD pmax pmax
comp=Z,20nm,1.1s
S39A Bolivar 78.17 37 P P 21 32 25.4 -0.1
baz=223,SNR=5.3
LCAR Lake Charles 78.21 39 P P 21 32 26.3 +0.6
baz=225
MGMO Mountain Grove 78.36 38 IAmb IAmb 21 32 30.4
comp=Z,35nm,1.3s
TROLL Troll, Antarti 78.63 169 ⇑P P 21 32 28.5 +0.7
comp=Z,195nm,0.9s
PBMO Poplar Bluff 79.12 39 IAmb IAmb 21 32 31.8
comp=Z,15nm,0.8s
PBMO Poplar Bluff 79.12 39 P P 21 32 31.0 +0.3
baz=225
R40A Maddies Statio 79.18 37 IAmb IAmb 21 32 32.0
comp=Z,29nm,0.8s
R40A Maddies Statio 79.18 37 P P 21 32 30.9 -0.1
baz=224,SNR=11
BBB Bella Bella 79.22 8 LR LR 22 00 15.0
comp=Z,183nm,18.4s,baz=202,slow=30
P38A Dawn 79.48 36 IAmb IAmb 21 32 36.7
comp=Z,23nm,1.1s
P38A Dawn 79.48 36 P P 21 32 31.4 -1.2
baz=222
FVM French Village 79.97 39 IAmb IAmb 21 32 36.6
comp=Z,24nm,0.9s
FVM French Village 79.97 39 P P 21 32 35.7 +0.3
baz=225,SNR=5.0
P40A Paris 80.19 37 IAmb IAmb 21 32 37.2
comp=Z,21nm,0.9s
P40A Paris 80.19 37 P P 21 32 35.9 -0.6
baz=224,SNR=6.5
V48A Smith Brothers 80.52 42 P P 21 32 38.5 +0.1
baz=228
ECSD EROS Data Cent 81.06 31 IAmb IAmb 21 32 41.9
comp=Z,28nm,1.1s
ECSD EROS Data Cent 81.06 31 P P 21 32 41.0 -0.1
baz=220
ECSD EROS Data Cent 81.06 31 P P 21 32 41.2 +0.1
baz=220

W50A	**Signal Mountai**	**81.08**	**43**	IAmb	IAmb	21 32 42.8
	comp=Z,18nm,0.8s					
W50A	**Signal Mountai**	**81.08**	**43**	P	**P**	**21 32 41.6 +0.2**
	baz=229					
ELIB	**Princess Elisa**	**81.23**	**175**	*d*P	**P**	**21 32 42.7 +0.8**
	comp=Z,5.8nm,1.1s					
ELIB				*d*PP	**PP**	**21 35 43.3 -3.3**
Q44A	**Meyer Farm, Va**	**81.40**	**39**	P	**P**	**21 32 42.2 -0.7**
Q44A	**Meyer Farm, Va**	**81.40**	**39**	P	**P**	**21 32 43.6 +0.6**
	baz=226,SNR=11					
U49A	**Red Boiling Sp**	**81.66**	**42**	IAmb	IAmb	21 32 45.6
	comp=Z,24nm,0.9s					
U49A	**Red Boiling Sp**	**81.66**	**42**	P	**P**	**21 32 44.4 0.0**
	baz=228,SNR=6.7					
N41A	**Harden Midland**	**81.67**	**36**	P	**P**	**21 32 44.4 0.0**
	baz=224					
DGMT	**Dagmar**	**81.73**	**24**	P	**P**	**21 32 45.5 +1.0**
	baz=213					
DGMT	**Dagmar**	**81.73**	**24**	P	**P**	**21 32 45.6 +1.1**
	baz=213					
W52A	**Murphy**	**81.87**	**44**	P	**P**	**21 32 46.9 +1.3**
	baz=230					
CRAG	**Craig**	**81.96**	**5**	P	**P**	**21 32 48.0 +2.5**
	baz=187					
L40A	**Anamosa**	**82.45**	**35**	P	**P**	**21 32 48.9 +0.4**
	baz=224					
WCI	**Wyandotte Cave**	**82.50**	**41**	P	**P**	**21 32 47.7 -1.1**
WCI				IAmb	IAmb	21 32 49.5
	comp=Z,18nm,0.8s					
WCI	**Wyandotte Cave**	**82.50**	**41**	P	**P**	**21 32 48.9 +0.2**
	baz=228					
WCI	**Wyandotte Cave**	**82.50**	**41**	P	**P**	**21 32 48.8 0.0**
	baz=228					
WCI	**Wyandotte Cave**	**82.50**	**41**	P	**P**	**21 32 47.7 -1.1**
WCI				pmax	pmax	
	comp=Z,18nm,0.8s					
V52A	**Sevierville**	**82.56**	**44**	P	**P**	**21 32 49.7 +0.5**
	baz=230					
I37B	**Waseca**	**82.79**	**33**	P	**P**	**21 32 50.3 +0.2**
	baz=222					
TZTN	**Tazewell**	**83.04**	**43**	P	**P**	**21 32 52.2 +0.6**
	baz=230					
R49A	**Shelbyville**	**83.20**	**41**	IAmb	IAmb	21 32 53.2
	comp=Z,19nm,0.9s					
R49A	**Shelbyville**	**83.20**	**41**	P	**P**	**21 32 52.1 -0.3**
	baz=228,SNR=6.2					
R49A				P	**P**	**21 32 52.1 -0.3**
	baz=228,SNR=6.2					
L42A	**Oliver, Polo**	**83.22**	**36**	P	**P**	**21 32 52.5 +0.1**
	baz=225					
SFIN	**Lafayette**	**83.49**	**39**	P	**P**	**21 32 54.4 +0.5**
	baz=227					
KMSC	**Kings Mountain**	**83.54**	**46**	P	**P**	**21 32 55.1 +0.9**
	baz=231					
KMSC	**Kings Mountain**	**83.54**	**46**	P	**P**	**21 32 55.3 +1.0**
	baz=231					
JFWS	**Jewell Farm**	**83.57**	**35**	P	**P**	**21 32 54.8 +0.6**
	baz=224					
JFWS	**Jewell Farm**	**83.57**	**35**	P	**P**	**21 32 54.6 +0.4**
	baz=224					
R50A	**Paris**	**83.69**	**42**	IAmb	IAmb	21 32 55.4
	comp=Z,19nm,0.9s					
R50A	**Paris**	**83.69**	**42**	P	**P**	**21 32 54.6 -0.4**
	baz=229,SNR=7.6					
R50A				P	**P**	**21 32 54.6 -0.4**
	baz=229,SNR=7.6					
P48A	**Milroy**	**83.83**	**40**	P	**P**	**21 32 55.6 0.0**
	baz=228,SNR=5.8					
P48A				P	**P**	**21 32 55.6 0.0**
	baz=228,SNR=5.8					
S32K	**Killisnoo**	**83.85**	**4**	P	**P**	**21 32 55.9 +0.6**
	baz=186					
P49A	**Miami Univ. Ec**	**84.29**	**40**	P	**P**	**21 32 57.7 -0.2**
	baz=229					
P49A	**Miami Univ. Ec**	**84.29**	**40**	P	**P**	**21 32 58.1 +0.1**
	baz=229					
MAW	**Mawson**	**84.43**	**189**	P	**P**	**21 32 59.2 +0.9**
MAW	**Mawson**	**84.43**	**189**	P	**P**	**21 32 59.3 +0.9**
	comp=Z,8.6nm,1.0s,baz=175,slow=4.4,SNR=13					
MAW				LR	LR	22 06 19.8
	comp=Z,125nm,18.5s,baz=170,slow=33					
	comp=Z,8.6nm,1.0s					
O48B	**Farmland**	**84.51**	**40**	P	**P**	**21 32 59.5 +0.5**
	baz=228					
O48B	**Farmland**	**84.51**	**40**	P	**P**	**21 32 59.2 +0.1**
	baz=228					
I42A	**Draeger Farm,**	**84.94**	**35**	P	**P**	**21 33 01.0 -0.2**
	baz=225					
DLBC	**Dease Lake**	**85.16**	**6**	LR	LR	22 03 57.6
	comp=Z,239nm,18.1s,baz=216,slow=31					
G40A	**Rib Lake**	**85.27**	**33**	P	**P**	**21 33 02.9 +0.1**
	baz=224					
Q52A	**Bidwell**	**85.36**	**42**	P	**P**	**21 33 03.5 +0.1**
	baz=230					
Q52A				P	**P**	**21 33 03.5 +0.1**
	baz=230					
BLA	**Blacksburg**	**85.40**	**44**	P	**P**	**21 33 04.8 +1.1**
	baz=232					
Q32M	**Nakina River**	**85.49**	**5**	P	**P**	**21 33 05.3 +1.5**
	baz=188					
N49A	**Columbus Grove**	**85.51**	**40**	P	**P**	**21 33 04.3 +0.3**
	baz=229,SNR=8.1					
N49A				P	**P**	**21 33 04.3 +0.3**
	baz=229,SNR=8.1					
ACSO	**Alum Creek Sta**	**85.75**	**41**	P	**P**	**21 33 05.8 +0.5**
	baz=230					
R33M	**Jennings River**	**86.02**	**5**	P	**P**	**21 33 07.9 +1.6**
	baz=189					
BDFB	**Brasilia**	**86.06**	**105**	P	**P**	**21 33 06.6 -1.0**
	comp=Z,4.6nm,0.8s,baz=265,slow=6.2,SNR=5.3					
	comp=Z,4.6nm,0.8s					
KAIM	**Kayak Island**	**86.16**	**358**	P	**P**	**21 33 08.8 +1.9**
	baz=177					
P53A	**Whipple**	**86.22**	**42**	P	**P**	**21 33 06.1 -1.6**
Q54A	**Coxs Mills**	**86.25**	**43**	IAmb	IAmb	21 33 11.7
	comp=Z,29nm,1.2s					
BRSE	**Bradley Lake S**	**86.29**	**355**	P	**P**	**21 33 08.7 +1.2**
	baz=172					
O52A	**Adamsville**	**86.35**	**41**	P	**P**	**21 33 08.4 +0.1**
	baz=231					
O52A				P	**P**	**21 33 08.4 +0.1**
	baz=231					
COWI	**Conover**	**86.39**	**33**	IAmb	IAmb	21 33 09.3
	comp=Z,22nm,0.9s					
COWI	**Conover**	**86.39**	**33**	P	**P**	**21 33 08.6 +0.3**
	baz=225					
ULM	**Lac du Bonnet**	**86.39**	**27**	P	**P**	**21 33 05.4 -2.8**
	comp=Z,10nm,0.9s,baz=191,slow=4.0,SNR=4.4					
ULM				LR	LR	22 07 46.1
	comp=Z,115nm,18.0s,baz=122,slow=33					
	comp=Z,10nm,0.9s					
O29M	**Mount Kennedy**	**86.53**	**1**	P	**P**	**21 33 10.2 +1.3**
	baz=182					
SEW	**Seward**	**86.56**	**356**	P	**P**	**21 33 09.2 +0.5**
	baz=173					
P33M	**Teslin, Yukon**	**86.69**	**4**	P	**P**	**21 33 10.8 +1.2**
	baz=188					
O18K	**Koktuh Hills**	**86.81**	**353**	P	**P**	**21 33 10.4 +0.3**
	baz=168					
O53A	**New Philadelph**	**86.81**	**42**	P	**P**	**21 33 11.1 +0.6**
	baz=231					
O17K	**Koliganek Bris**	**86.94**	**352**	P	**P**	**21 33 11.9 +1.3**
	baz=166					
O28M	**Mount Upton**	**86.98**	**1**	P	**P**	**21 33 11.8 +0.7**
	baz=181					
HYT	**Haines Junctio**	**87.08**	**2**	P	**P**	**21 33 13.1 +1.5**
	baz=183					
YUK6	**Outpost Mounta**	**87.18**	**1**	P	**P**	**21 33 13.1 +0.9**
	baz=183					
PWL	**Port Wells**	**87.25**	**357**	P	**P**	**21 33 13.7 +1.5**
	baz=174					
O54A	**Avella**	**87.27**	**42**	P	**P**	**21 33 13.3 +0.6**
	baz=232,SNR=7.7					
O54A				P	**P**	**21 33 13.3 +0.6**
	baz=232,SNR=7.7					
N53A	**Lisbon**	**87.38**	**41**	P	**P**	**21 33 13.6 +0.3**
	baz=231,SNR=5.2					
N53A				P	**P**	**21 33 13.6 +0.3**
	baz=231,SNR=5.2					
KOTAN	**Kotaneelee Air**	**87.49**	**9**	P	**P**	**21 33 15.3 +2.0**
	baz=195					
YUK8	**Steele Glacier**	**87.50**	**1**	P	**P**	**21 33 15.3 +1.7**
	baz=181					
N32M	**Quiet Lake**	**87.61**	**4**	P	**P**	**21 33 15.0 +1.1**
	baz=187					
E43A	**Lone Tree Farm**	**87.64**	**34**	P	**P**	**21 33 14.8 +0.4**
	baz=227					
UPAO	**U. Pittsburgh**	**87.67**	**42**	P	**P**	**21 33 15.3 +0.7**
	baz=232					
N30M	**Aishikik Lake**	**87.73**	**2**	P	**P**	**21 33 15.2 +0.7**
	baz=184					
N14K	**Kuskokwak Cree**	**87.73**	**350**	P	**P**	**21 33 14.4 0.0**
	baz=162					
N31M	**Braeburn, Yuko**	**87.80**	**3**	P	**P**	**21 33 16.0 +1.2**
	baz=185					
N25K	**Chitina, Valde**	**87.85**	**358**	P	**P**	**21 33 16.6 +1.5**
	baz=177					
YUK3	**Moose Creek**	**87.98**	**0**	P	**P**	**21 33 16.6 +0.7**
	baz=181					
M23K	**Glacier View**	**88.15**	**357**	P	**P**	**21 33 17.5 +1.0**
	baz=174					
M31M	**Drury Creek, Y**	**88.58**	**3**	P	**P**	**21 33 19.5 +0.9**
	baz=186					
FARO	**Faro, Yukon**	**88.67**	**4**	P	**P**	**21 33 20.1 +1.2**
	baz=187					
M29M	**Somme Creek**	**88.68**	**1**	P	**P**	**21 33 19.6 +0.5**
	baz=183					
SSPA	**Standing Stone**	**89.05**	**43**	P	**P**	**21 33 19.7 -1.5**
SSPA				IAmb	IAmb	21 33 22.1
	comp=Z,14nm,0.9s					
SSPA	**Standing Stone**	**89.05**	**43**	P	**P**	**21 33 21.8 +0.6**
	baz=233					
L29M	**L29M**	**89.35**	**1**	P	**P**	**21 33 23.8 +1.7**
	baz=183					
L15K	**Ungalak Mounta**	**89.38**	**351**	P	**P**	**21 33 24.2 +2.0**
	baz=162					
PPLA	**Purkeypile**	**89.52**	**355**	P	**P**	**21 33 25.2 +2.2**
	baz=170					
MVL	**Millersville**	**89.62**	**44**	IAmb	IAmb	21 33 25.1
	comp=Z,17nm,1.1s					
K15K	**Wolf Creek Mou**	**89.97**	**351**	P	**P**	**21 33 27.6 +2.6**
	baz=162					
K29M	**Barlow Dome**	**90.11**	**2**	P	**P**	**21 33 27.1 +1.4**
	baz=183					
J16K	**Anvik River**	**90.79**	**351**	P	**P**	**21 33 29.8 +1.0**
	baz=163					
J30M	**Hart River**	**90.87**	**2**	P	**P**	**21 33 29.9 +0.5**
	baz=184					
ILAR	**Eielson Array**	**91.09**	**358**	P	**P**	**21 33 29.1 -1.1**
	comp=Z,0.8nm,0.8s,baz=187,slow=5.9,SNR=7.8					
ILAR				LR	LR	22 10 26.4
	comp=Z,131nm,18.1s,baz=200,slow=33					
	comp=Z,0.8nm,0.8s					
MDP	**Montagnes des**	**91.09**	**85**	LR	LR	22 08 52.7
	comp=Z,48nm,19.0s,baz=7.5,slow=32					
YKA	**Yellowknife Ar**	**91.25**	**12**	P	**P**	**21 33 28.5 -2.4**
	comp=Z,3.2nm,0.8s,baz=206,slow=4.5,SNR=7.1					
	comp=Z,3.2nm,0.8s					
I30M	**Mount Dempster**	**91.52**	**2**	P	**P**	**21 33 33.0 +0.6**
	baz=184					
I27K	**Kandik River**	**91.82**	**360**	P	**P**	**21 33 34.9 +1.3**
	baz=180					
H24K	**Noodor Dome**	**92.19**	**357**	P	**P**	**21 33 36.0 +0.7**
EPYK	**Eagle Plains**	**92.66**	**2**	P	**P**	**21 33 39.1 +1.6**
	baz=184					
F28M	**Old Crow**	**93.85**	**1**	P	**P**	**21 33 44.5 +1.6**
	baz=181					
F25K	**Christian Rive**	**93.88**	**358**	P	**P**	**21 33 44.7 +1.7**
	baz=176					
F17K	**Baldwin Pennin**	**93.90**	**352**	P	**P**	**21 33 44.4 +1.3**
	baz=162					
F26K	**Sheenjek River**	**93.95**	**359**	P	**P**	**21 33 45.0 +1.7**
	baz=178					
E25K	**Arctic Village**	**94.40**	**358**	P	**P**	**21 33 47.1 +1.7**
	baz=176					
E27K	**Coleen River**	**94.42**	**360**	P	**P**	**21 33 47.1 +1.6**
	baz=180					
E24K	**Your Creek**	**94.45**	**357**	P	**P**	**21 33 44.6 -1.1**
E29M	**Blow River**	**94.66**	**1**	P	**P**	**21 33 47.5 +1.0**
	baz=183					
INK	**Inuvik**	**94.72**	**3**	LR	LR	22 10 03.7
	comp=Z,118nm,18.3s,baz=177,slow=32					
PETK	**Petropavlovsk-**	**95.28**	**328**	LR	LR	22 07 16.7
	comp=Z,132nm,20.6s,baz=147,slow=30					
D24K	**Happy Valley**	**95.55**	**357**	P	**P**	**21 33 50.9 +0.3**
B22K	**Teshekpuk Lake**	**96.97**	**356**	P	**P**	**21 33 58.7 +1.7**
	baz=169					
A19K	**Wainwright**	**97.48**	**353**	P	Pdif	21 34 00.7 +1.4
	baz=162					
ASAJ	**Asahikawa**	**98.77**	**315**	LR	LR	22 11 00.0
	comp=Z,127nm,20.5s,baz=160,slow=31					
HHC	**Hu-ho-hao-te**	**119.28**	**304**	*e*P	**PKPdf**	**21 39 11.3 -4.3**
BTO	**Baotou**	**120.39**	**303**	*e*PKP	**PKPdf**	**21 39 14.8 -3.0**
BTO				PP	**PP**	**21 40 47.4 +2.9**
BTO				pmax	pmax	
	comp=Z,12nm,0.4s					
BTO				pmax	pmax	
	comp=Z,270nm,3.9s					
ULN	**Ulaanbaatar**	**123.39**	**311**	‖ *i*PKIKP	**PKiKP**	**21 39 24.1 +0.5**
CD2	**Chengdu**	**123.44**	**291**	PKP	**PKPdf**	**21 39 23.4 -0.5**
SONM	**Songino Array**	**123.83**	**311**	PKP	**PKPdf**	**21 39 24.0 -0.1**
	comp=Z,1.1nm,0.9s,baz=140,slow=3.4,SNR=6.4					
PZH	**PanZhiHua**	**124.09**	**285**	PKP	**PKPdf**	**21 39 23.0 -2.3**
CMAR	**Chiang Mai Arr**	**124.14**	**275**	PKP	**PKPdf**	**21 39 25.4 0.0**
	comp=Z,0.8nm,0.7s,baz=270,slow=0.3,SNR=6.2					
GTA	**Gaotai**	**127.99**	**301**	*e*PKPbc	**PKiKP**	**21 39 34.3 +1.3**
DGZ	**Jazzator, Alta**	**136.14**	**315**	‖ *e*PKIKP	**PKPdf**	**21 39 47.4 -0.1**
ZALV	**Zalesovo Beam**	**136.47**	**322**		**PKPdf**	**21 39 47.8 +0.1**
ZALV	**Zalesovo Beam**	**136.47**	**322**	PKIKP	**PKPdf**	**21 39 47.8 +0.1**
ZALV	**Zalesovo Beam**	**136.47**	**322**	PKP	**PKPdf**	**21 39 46.2 -1.5**
	comp=Z,1.7nm,0.7s,baz=122,slow=1.9,SNR=7.4					
WMQ	**Urumqi**	**137.01**	**307**	*e*P	**PKPdf**	**21 39 49.3 +0.1**
MK31	**Makanchi Array**	**140.19**	**312**	‖ *e*PKIKP	**PKPdf**	**21 39 52.6 -2.3**
SEM	**Semipalatinsk**	**140.35**	**318**	*e*PKP	**PKPdf**	**21 39 53.9 -1.5**
	baz=319					
SEM	**Semipalatinsk**	**140.35**	**318**	*e*PKIKP	**PKPdf**	**21 39 53.8 -1.5**
KURK	**Kurchatov**	**141.20**	**319**	‖ *i*PKIKP	**PKPdf**	**21 39 57.0 +0.5**
KURBB	**Kurchatov Arra**	**141.29**	**319**	PKP	**PKPdf**	**21 39 53.6 -3.0**
	comp=Z,1.4nm,0.8s,baz=58,slow=2.7,SNR=6.0					
HYB	**Hyderabad**	**142.03**	**265**	*e*Pdif	**Pdif**	**21 37 18.3 -0.5**
TORD	**Torodi Ar. Bea**	**142.92**	**104**	PKP	**PKPdf**	**21 39 57.4 -3.3**
	comp=Z,1.7nm,1.1s,baz=294,slow=3.4,SNR=4.9					
SHLS	**Shalkode**	**143.02**	**307**	*e*PKP	PKPbc	21 39 57.9 +0.9
	baz=307					
SHLS	**Shalkode**	**143.02**	**307**	*e*PKIKP	PKPbc	21 39 57.8 +0.8
TDK	**Taldyqorghan**	**143.29**	**311**	*e*PKP	PKPbc	21 39 58.9 +1.4
	baz=310					
TDK	**Taldyqorghan**	**143.29**	**311**	*e*PKIKP	PKPbc	21 39 58.9 +1.4
UZB	**Uzynbulak**	**143.34**	**307**	*e*PKP	PKPbc	21 39 59.0 +1.1
	baz=307					
UZB	**Uzynbulak**	**143.34**	**307**	*e*PKIKP	PKPbc	21 39 59.0 +1.1
KPKS	**Kokpek**	**143.50**	**308**	*e*PKP	PKPbc	21 39 59.5 +1.2
	baz=308					
KPKS	**Kokpek**	**143.50**	**308**	*e*PKIKP	PKPbc	21 39 59.4 +1.1
SATY	**Saty**	**143.80**	**307**	*e*PKP	PKPbc	21 39 60.0 +0.8
	baz=307					
SATY	**Saty**	**143.80**	**307**	*e*PKIKP	PKPbc	21 39 59.9 +0.7
FINES	**FINESS Array B**	**144.06**	**10**	PKP	**PKPab**	**21 39 57.9 -0.8**
	comp=Z,6.7nm,1.0s,baz=63,slow=8.8,SNR=5.4					
BVAR	**Borovoye Array**	**144.51**	**327**	PKP	**PKPab**	**21 40 00.7 0.0**
	comp=Z,7.6nm,0.9s,baz=64,slow=3.4,SNR=22					
BRVK	**Borovoye**	**144.54**	**327**	PKPdf	**PKPab**	**21 40 00.5 -0.3**
BRVK	**Borovoye**	**144.54**	**327**	*c i*PKIKP	PKPbc	21 40 01.2 +0.2
TARG	**Taragay, Kyrgy**	**144.54**	**305**	PKPdf	PKPbc	21 40 02.1 +0.2
TARG	**Taragay, Kyrgy**	**144.54**	**305**	PKIKP	PKPbc	21 40 02.1 +0.2
PRGR	**Permogore**	**144.57**	**354**	*e*PKHKP	PKPpre	21 39 57.9
PRGR				pmax	pmax	
	comp=Z,18nm,0.9s					
CHKK	**Chushkaly**	**144.59**	**309**	*e*PKP	PKPbc	21 40 01.6 +0.1
	baz=309					
CHKK	**Chushkaly**	**144.59**	**309**	*e*PKIKP	**PKPab**	**21 40 01.5 +0.2**
MDOK	**Medeo**	**144.73**	**308**	*e*PKP	PKPbc	21 40 02.5 +0.3
	baz=308					
MDOK	**Medeo**	**144.73**	**308**	*e*PKIKP	PKPbc	21 40 02.5 +0.3
AAA	**Alma-Ata**	**144.82**	**308**	*e*PKP	PKPbc	21 40 02.9 +0.6
	baz=308					
AAA	**Alma-Ata**	**144.82**	**308**	*e*PKIKP	PKPbc	21 40 02.8 +0.5
TNSS	**Tian-Shan**	**144.84**	**308**	*e*PKP	**PKPab**	**21 40 02.7 -0.1**
	baz=308					
TNSS	**Tian-Shan**	**144.84**	**308**	*e*PKIKP	**PKPab**	**21 40 02.7 -0.1**
BMRD	**Maredsous**	**144.86**	**38**	*d*PKP	PKPbc	21 40 02.4 +0.3
DOU	**Dourbes**	**144.87**	**39**	*d*PKPdf	**PKPdf**	**21 40 03.3 +0.3**
BRZS	**Berezniki**	**144.94**	**321**	*e*PKP	**PKPab**	**21 40 02.0 -0.4**
	baz=321					
BRZS	**Berezniki**	**144.94**	**321**	*e*PKIKP	**PKPab**	**21 40 02.0 -0.4**
BGES	**Gesves**	**145.00**	**38**	*d*PKPdf	**PKPdf**	**21 40 03.2 0.0**
BGES				*d*PKP	**sPKPdf**	**21 40 06.3 +0.5**
KUU	**Kurty**	**145.03**	**310**	*e*PKP	**PKPbc**	**21 40 02.7 -0.2**
	baz=309					
KUU	**Kurty**	**145.03**	**310**	*e*PKIKP	**PKPbc**	**21 40 02.7 -0.2**
BCLA	**Clavier**	**145.10**	**38**	*d*PKPdf	**PKPdf**	**21 40 03.4 0.0**
BCLA				*d*PKP	**PKiKP**	**21 40 06.8 -0.4**
RCHB	**Rochefort**	**145.19**	**38**	*d*PKP	**PKPdf**	**21 40 03.7 +0.1**
MEM	**Membach**	**145.38**	**37**	*d*PKP	**PKPbc**	**21 40 03.1 -0.7**
BHOU	**Houvegnez**	**145.52**	**38**	*d*PKP	**PKPbc**	**21 40 04.4 +0.1**
KLMR	**Klimovskoe**	**145.67**	**359**	*e*PKPdf	**PKPdf**	**21 40 02.6 -1.5**
KLMR				AMP		21 40 05.7
	comp=Z,40nm,1.2s					
KLMR	**Klimovskoe**	**145.67**	**359**	*e*PKP2	**PKPdf**	**21 40 02.5 -1.5**
KLMR				pmax	pmax	
	comp=Z,40nm,1.2s					
SVE	**Sverdlovsk**	**145.86**	**338**	*e*PKP2	**PKPab**	**21 40 05.7 +0.2**
SVE				pmax	pmax	
	comp=Z,31nm,1.5s					
WLF	**Walferdange**	**145.95**	**39**	*d*PKP	**PKPbc**	**21 40 06.0 +0.4**
BTLS	**Baital**	**146.20**	**312**	*e*PKPab	**PKPbc**	**21 40 07.0 +0.4**
	baz=312					
BTLS	**Baital**	**146.20**	**312**	*e*PKP2	**PKPbc**	**21 40 06.9 +0.4**
SGDS	**Sogindy**	**146.34**	**309**	*e*PKPab	**PKPbc**	**21 40 07.6 +0.5**
	baz=309					
SGDS	**Sogindy**	**146.34**	**309**	*e*PKP2	**PKPbc**	**21 40 07.6 +0.5**
KSH	**Kashi**	**146.37**	**302**	PKPbc	**PKiKP**	**21 40 09.6 -0.8**
AAK	**Ala-Archa**	**146.68**	**308**	‖ *e*PKP2	**PKPdf**	**21 40 07.3 +0.7**
ARU	**Arti**	**146.85**	**340**	PKPdf	**PKPdf**	**21 40 05.5 -0.7**
ARU	**Arti**	**146.85**	**340**	*i* PKP2	**PKPdf**	**21 40 06.6 +0.4**
ARU						21 43 28.5
ARU				SS	SS	22 02 31.4 +0.4
VSU	**Vasula**	**146.99**	**11**	‖ *i*PKP2	**PKPab**	**21 40 10.2 +0.4**
KIRV	**Kirov**	**147.07**	**350**	*c e*PKP2	**PKPdf**	**21 40 07.5 +1.1**
CLL	**Collm**	**148.50**	**31**	*e*PKIKP	**PKPdf**	**21 40 10.0 +0.9**
CLL				*i*		21 40 12.9
CLL				*i*		21 40 16.0
CLL				pmax	pmax	
	comp=Z,21nm,1.6s					
CLL	**Collm**	**148.50**	**31**	*e*PKPdf	**PKPdf**	**21 40 10.0 +0.9**
CLL				*i* PKPbc	**PKPbc**	**21 40 12.9 +0.2**
	comp=Z,21nm,1.6s					
CLL				*i* PKPab	**PKPab**	**21 40 16.0 -0.1**
	comp=Z,12nm,1.2s					
CLL				*i* x	x	21 40 22.8
BRG	**Berggiesshubel**	**149.24**	**31**	*e*PKP	**PKiKP**	**21 40 16.6 +0.8**
BRG				Amp		21 40 19.3
	comp=Z,17nm,1.6s					
BRG	**Berggiesshubel**	**149.24**	**31**	*e*PKP2	**PKiKP**	**21 40 16.6 +0.8**
BRG				pmax	pmax	
	comp=Z,17nm,1.6s					
KKAR	**Karatay Array**	**149.28**	**311**	PKPdf	**PKPdf**	**21 40 07.8 -2.9**
KKAR	**Karatay Array**	**149.28**	**311**	PKHKP	PKPpre	21 40 07.8
DAVA	**Damuels**	**149.31**	**40**	*i* pPKiKP	**PKPab**	**21 40 20.5 +0.8**
	comp=Z,13nm,1.2s					
NIL	**Nilore**	**149.33**	**292**	PKPdf	**PKPdf**	**21 40 09.8 -1.3**
NIL	**Nilore**	**149.33**	**292**	PKIKP	**PKPdf**	**21 40 09.8 -1.3**
RETA	**Reutte**	**149.71**	**39**	*i* PKiKP	**PKiKP**	**21 40 18.0 +1.1**
	comp=Z,15nm,1.2s					
FETA	**Feichten**	**149.94**	**40**	*e*pPKP	**PKiKP**	**21 40 18.7 +1.2**
	comp=Z,14nm,1.3s					
IUG	**Iuzhnay**	**149.97**	**309**	*e*PKPbc	**PKPbc**	**21 40 15.1 -1.7**
	baz=309					
IUG	**Iuzhnay**	**149.97**	**309**	*e*PKIKP	**PKPbc**	**21 40 15.1 -1.7**
MOTA	**Moosalm**	**149.98**	**39**	*e*PKiKP	**PKiKP**	**21 40 18.4 +0.8**
	comp=Z,12nm,1.1s					
SQTA	**Sankt Quirin**	**150.10**	**39**	*e*PKiKP	**PKiKP**	**21 40 18.9 +1.0**
	comp=Z,12nm,1.1s					
KHC	**Kasperske Hory**	**150.22**	**34**	‖ *e*PKP	**PKiKP**	**21 40 18.3 +0.4**
KHC	**Kasperske Hory**	**150.22**	**34**	*e*PKIKP	**PKiKP**	**21 40 18.3 +0.4**
WATA	**Walderalm**	**150.25**	**39**	*i* PKiKP	**PKiKP**	**21 40 19.2 +1.0**
	comp=Z,11nm,1.3s					
ZVC	**Zvikov**	**150.32**	**33**	‖ *e*PKP	**PKiKP**	**21 40 18.6 +0.5**
WTTA	**Wattenberg**	**150.32**	**39**	*e*PKiKP	**PKPbc**	**21 40 18.1 +0.5**
	comp=Z,15nm,1.5s					
NACGM	**Naroch**	**150.33**	**14**	*e*PKP	**PKPbc**	**21 40 16.8 -0.3**
	comp=N,983nm,0.7s					
CHVC	**Chvalec**	**150.40**	**30**	‖ *e*PKP	**PKiKP**	**21 40 18.9 +0.7**
CHVC	**Chvalec**	**150.40**	**30**	*e*PKIKP	**PKiKP**	**21 40 18.9 +0.7**
UPC	**Upice**	**150.43**	**30**	‖ *e*PKP	**PKiKP**	**21 40 18.9 +0.6**
UPC	**Upice**	**150.43**	**30**	*e*PKIKP	**PKiKP**	**21 40 18.9 +0.6**
GERES	**GERESS Array B**	**150.46**	**34**	PKPbc	**PKPbc**	**21 40 17.6 -0.1**
	comp=N,0.8nm,0.8s,baz=1.1,slow=9.8,SNR=2.6					
OSTC	**Ostas**	**150.49**	**30**	‖ *e*PKP	**PKiKP**	**21 40 19.1 +0.7**
OSTC	**Ostas**	**150.49**	**30**	*e*PKIKP	**PKiKP**	**21 40 19.1 +0.7**
DPC	**Dobruska-Polom**	**150.69**	**30**	‖ *e*PKP	**PKiKP**	**21 40 19.9 +1.1**
DPC	**Dobruska-Polom**	**150.69**	**30**	*e*PKIKP	**PKiKP**	**21 40 19.9 +1.1**
CKRC	**Cesky Krumlov**	**150.79**	**34**	‖ *e*PKP	**PKiKP**	**21 40 19.6 +0.5**
CKRC	**Cesky Krumlov**	**150.79**	**34**	*e*PKIKP	**PKiKP**	**21 40 19.6 +0.5**
MOS	**Moscow**	**150.79**	**1**	*e*PKIKP	**PKPbc**	**21 40 17.2 -0.9**
KRLC	**Kraliky**	**151.09**	**30**	‖ *e*PKP	**PKiKP**	**21 40 20.1 +0.4**
KRLC	**Kraliky**	**151.09**	**30**	*e*PKIKP	**PKiKP**	**21 40 20.1 +0.4**
ABTA	**Abfaltersbach**	**151.11**	**39**	*e*PKiKP	**PKPbc**	**21 40 19.7 +0.4**
	comp=N,9.7nm,1.0s					
MOA	**Molln**	**151.39**	**36**	*e*pPKP	**PKiKP**	**21 40 23.3

KUR AMB AMB 21 26 40.6
comp=E,6μm,0.3s
KUR *i* S **Sn** **21 26 54.5 -3.0**
KUR A A 21 26 56.6
comp=E,19μm,0.5s
KUR A A 21 26 56.6
comp=E,34μm,0.5s
KUR Kuril'sk 1.34 356 *d i* PN **Pn** **21 26 39.0 -1.8**
KUR *i* S **Sn** **21 26 55.7 -1.8**
KUR pmax pmax
comp=Z,6μm,0.3s
KUR pmax pmax
comp=E,2μm,0.4s
KUR pmax pmax
comp=N,1μm,0.3s
KUR smax smax
comp=N,14μm,0.5s
KUR smax smax
comp=E,27μm,0.5s
YUK Yuzh-Kuril'sk 1.55 276 *i* P **Pn** **21 26 42.2 -1.4**
YUK AMB AMB 21 26 43.9
comp=E,6μm,0.3s
YUK *e*S **Sn** **21 27 00.4 -2.2**
YUK A A 21 27 03.2
comp=E,10μm,0.3s
YUK A A 21 27 03.2
comp=E,29μm,0.3s
YUK Yuzh-Kuril'sk 1.55 276 *d i* PN **Pn** **21 26 42.2 -1.4**
YUK *e*S **Sn** **21 27 01.2 -1.4**
YUK pmax pmax
comp=Z,6μm,0.3s
YUK pmax pmax
comp=N,1μm,0.1s
YUK pmax pmax
comp=E,2μm,0.3s
YUK smax smax
comp=N,10μm,0.2s
YUK smax smax
comp=E,29μm,0.4s
NEM2 Nemuro 2 1.72 253 P **Pn** **21 26 44.1 -1.9**
NEM2 *e*S **Sn** **21 27 05.0 -1.8**
NEM2 Nemuro 2 1.72 253 A A 21 26 44.1
comp=E,5.0nm,0.6s,comp=N,5.0nm,0.7s
NMR Nemuro--Hokkai 1.73 253 *i* P **Pn** **21 26 44.1 -2.0**
NMR *e*S **Sn** **21 27 06.4 -0.6**
NMR Nemuro--Hokkai 1.73 253 ⇓ *i* PN **Pn** **21 26 44.1 -2.0**
NMR *e*S **Sn** **21 27 06.4 -0.6**
RUSJ Misakicho 2.00 277 ⇓ *i* PN **Pn** **21 26 49.4 -0.3**
RUSJ *e*S **Sn** **21 27 13.5 -0.1**
JRA Rausu 2.08 272 P **Pn** **21 26 50.5 -0.4**
JRA *e*S **Sn** **21 27 16.0 +0.4**
JRA Rausu 2.08 272 A A 21 26 50.5
comp=E,7.0nm,1.5s,comp=N,12nm,1.6s
JNSB Nemuroshibetsu 2.17 268 P **Pn** **21 26 51.7 -0.4**
JNSB *e*S **Sn** **21 27 18.0 +0.2**
JNSB Nemuroshibetsu 2.17 268 A A 21 26 51.7
comp=E,14nm,3.1s,comp=N,11nm,2.8s
JKHN Kushirohamanak 2.22 250 *e*P **Pn** **21 26 51.7 -1.1**
JKHN Kushirohamanak 2.22 250 A A 21 26 51.7
comp=E,10.0nm,1.7s,comp=N,9.0nm,0.6s
JNK Nakash 2.40 264 *e*P **Pn** **21 26 54.4 -0.9**
JNK *e*S **Sn** **21 27 22.3 -1.1**
JNK Nakash 2.40 264 A A 21 26 54.4
comp=E,5.0nm,0.6s,comp=N,6.0nm,0.6s
JAK Akkeshi 2.57 251 *e*P **Pn** **21 26 56.4 -1.2**
JAK Akkeshi 2.57 251 A A 21 26 56.4
comp=E,7.0nm,0.6s,comp=N,9.0nm,0.6s
JTKR Abashiri--Toko 2.96 273 *e*P **Pn** **21 27 03.1 +0.2**
JTKR *e*S **Sn** **21 27 37.9 +0.7**
JAR Ashorobuto 3.13 261 *e*P **Pn** **21 27 05.0 -0.3**
JAR *e*S **Sn** **21 27 41.0 -0.4**
JAR Ashorobuto 3.13 261 A A 21 27 05.0
comp=E,9.0nm,0.7s,comp=N,5.0nm,1.5s
JOB Onbets 3.19 253 *e*P **Pn** **21 27 05.5 -0.7**
JOB *e*S **Sn** **21 27 42.2 -0.7**
JOB Onbets 3.19 253 A A 21 27 05.5
comp=E,5.0nm,1.0s,comp=N,7.0nm,1.0s
JMP Maruseppu 3.36 274 *e*P **Pn** **21 27 08.8 +0.4**
JCH Churui 3.62 251 *e*P **Pn** **21 27 11.8 -0.3**
JCH *e*S **Sn** **21 27 52.7 -0.7**
JKK2 Kamakawa 2 3.80 272 *e*P **Pn** **21 27 15.9 +1.4**
JKA Kamikawa-asahi 3.91 275 **Pn** **21 27 16.0 +0.2**
JKA Kamikawa-asahi 3.91 275 *e*P **Pn** **21 27 16.6 +0.7**
ASAJ Asahikawa 3.91 275 *e*P **Pn** **21 27 17.3 +1.4**
ASAJ Asahikawa 3.91 275 P **Pn** **21 27 16.6 +0.7**
comp=N,79nm,0.5s,baz=90,slow=9.4,SNR=104
ASAJ S **Sn** **21 28 04.4 +3.9**
comp=N,96nm,0.4s,baz=164,slow=29,SNR=1.3
ASAJ LR LR 21 28 56.0
comp=N,2μm,19.6s,baz=154,slow=41
ERM Erimo 4.02 244 **Pn** **21 27 19.1 +1.6**
ERM Erimo 4.02 244 *d i* PN **Pn** **21 27 19.3 +1.8**
JEM Erimo 4.02 244 A A 21 27 17.2
comp=E,6.0nm,4.2s,comp=N,4.0nm,3.7s
JSE Soyaes 4.03 287 *e*P **Pn** **21 27 17.8 +0.3**
JNBK Urakawa-nobuka 4.17 249 *e*P **Pn** **21 27 18.7 -0.8**
JNBK *e*S **Sn** **21 28 06.0 -0.9**
JNBK Urakawa-nobuka 4.17 249 A A 21 27 18.7
comp=E,15nm,0.9s,comp=N,9.0nm,0.6s
JSHD Hidakashinhida 4.31 252 A A 21 27 21.5
comp=E,15nm,4.9s,comp=N,10.0nm,2.7s
JWK2 Keihoku 4.59 290 *e*P **Pn** **21 27 27.0 +1.7**
JIAM Iburiatsuma 4.62 256 A A 21 27 26.0
comp=E,8.0nm,0.7s,comp=N,12nm,1.9s
YSS Yuzh-Sakhalins 4.80 311 Pn **Pn** **21 27 27.2 -0.9**
YSS Yuzh-Sakhalins 4.80 311 *e*P **Pn** **21 27 28.2 +0.1**
YSS *e*S **Sn** **21 28 20.0 -2.4**
YSS Yuzh-Sakhalins 4.80 311 ⇓ *e*PN **Pn** **21 27 28.2 +0.1**
YSS pmax pmax
comp=Z,150nm,0.6s
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=N,1μm,17.0s
YSS MLR MLR
comp=E,1μm,13.0s
JEW Eniwo 4.89 260 *e*P **Pn** **21 27 30.1 +0.7**
JKB Kayabe 5.50 251 A A 21 27 38.2
comp=E,7.0nm,1.1s,comp=N,5.0nm,1.6s
JAHD Aomorihigashid 5.58 244 A A 21 27 39.1
comp=E,6.0nm,0.7s,comp=N,4.0nm,0.9s
JTM Tenmabayashi 6.00 241 Pn **Pn** **21 27 44.0 -0.6**
UGL Uglegorsk 6.61 324 *e*P **Pn** **21 27 52.6 -0.3**
TYV Tymovskoe 7.86 334 *e*PN Pn 21 28 15.1 +5.0
TYV *e*S **Sn** **21 29 42.0 +4.4**
TYV pmax pmax
comp=Z,300nm,2.9s
TYV smax smax
comp=N,1μm,3.8s
TYV smax smax
comp=E,1μm,3.8s
TYV smax smax
comp=N,38nm,2.1s
TYV smax smax
comp=E,39nm,2.1s
JMM Marumori 8.12 225 Pn **Pn** **21 28 12.2 -1.5**
TEY Ternei 8.24 282 *e*P **Pn** **21 28 15.9 +0.7**
TEY Ternei 8.24 282 ⇑ *e*PN **Pn** **21 28 19.9 +4.7**
TEY pmax pmax
comp=Z,40nm,0.9s
TEY pmax pmax
comp=E,50nm,0.9s
TEY pmax pmax
comp=N,10.0nm,0.8s
SKR Severo-Kuril's 8.75 36 *e*P **Pn** **21 28 23.6 +1.4**
SKR AMB AMB 21 28 27.3
comp=N,190nm,0.6s
SKR *e*S **Sn** **21 29 59.1 -0.2**
SKR A A 21 30 02.1
comp=N,210nm,0.7s
SKR A A 21 30 02.1
comp=N,230nm,0.7s
SKR Severo-Kuril's 8.75 36 *e*PN **Pn** **21 28 25.5 +3.3**
SKR pmax pmax
comp=Z,187nm,0.6s
SKR MLR MLR
comp=Z,3μm,14.0s
JSD Sado 9.40 235 Pn **Pn** **21 28 30.3 -1.0**
GRNR Gornyy 10.44 315 *e*P **Pn** **21 28 46.7 +1.3**
GRNR Gornyy 10.44 315 ⇓ *i* PN **Pn** **21 28 46.7 +1.3**
GRNR pmax pmax
comp=Z,6.0nm,0.8s
GRNR MLR MLR
comp=E,290nm,16.0s
GRNR MLR MLR
comp=Z,680nm,17.0s
MAJO Matsushiro 10.48 229 Pn **Pn** **21 28 44.5 -1.6**
MAJO Matsushiro 10.48 229 ⇓ *e*PN **Pn** **21 28 46.1 +0.1**
MJAR Matsushiro Arr 10.48 229 P **Pn** **21 28 45.1 -0.9**
comp=Z,6.9nm,0.5s,baz=28,slow=13,SNR=13
MJAR S **Sn** **21 30 39.1 -2.9**
comp=Z,1.2nm,0.3s,baz=219,slow=49,SNR=1.4
MJAR LR LR 21 33 05.3
comp=Z,234nm,20.6s,baz=54,slow=38
MJB9 Matsu-Tunnel 10.48 229 Pn **Pn** **21 28 45.8 -0.2**
PEA0B Petropavlovsk- 11.23 31 Pn **Pn** **21 28 56.4 +0.2**
PEA0B Petropavlovsk- 11.23 31 ⇑ *e*PN **Pn** **21 28 56.8 +0.6**
PETK Petropavlovsk- 11.23 31 Pn **Pn** **21 28 55.8 -0.4**
PETK Petropavlovsk- 11.23 31 P **Pn** **21 28 56.5 +0.2**
comp=Z,6.6nm,0.4s,baz=209,slow=12,SNR=53
USA0B Ussuriysk Arra 11.53 277 Pn **Pn** **21 29 01.0 +0.6**
USA0B Ussuriysk Arra 11.53 277 ⇓ *e*PN **Pn** **21 29 03.0 +2.6**
USRK Ussuriysk Ar. 11.53 277 Pn **Pn** **21 28 59.1 -1.3**
USRK Ussuriysk Ar. 11.53 277 P **Pn** **21 29 00.7 +0.3**
comp=Z,8.7nm,0.7s,baz=80,slow=13,SNR=6.9
USRK LR LR 21 33 20.8
comp=Z,566nm,20.3s,baz=88,slow=37
PET Petropavlovsk 11.54 34 *e*P **Pn** **21 29 00.7 +0.3**
PET Petropavlovsk 11.54 34 *e*PN **Pn** **21 29 03.4 +3.0**
PET MLR MLR
comp=Z,300nm,15.0s
VLA Vladivostok 11.73 272 ⇑ *e*PN **Pn** **21 29 06.1 +3.0**
MSHR Mys Shultsa 12.36 270 *d i* PN **Pn** **21 29 14.6 +3.0**
KLR Kul'dur 12.39 301 ⇓ *e*PN **Pn** **21 29 15.2 +3.2**
KLR MLR MLR
comp=Z,547nm,13.0s
KLR Kul'dur 12.39 301 P **Pn** **21 29 12.6 +0.6**
comp=Z,16nm,1.0s,baz=108,slow=15,SNR=26
KLR LR LR 21 34 21.9
comp=Z,499nm,18.5s,baz=106,slow=39
MDJ Mudanjiang 13.22 280 P **Pn** **21 29 25.1 +1.7**
MDJ pP P 21 29 32.0 0.0
MDJ sP 21 29 40.3
MDJ S **Sn** **21 31 49.5 +0.7**
MDJ pmax pmax
comp=Z,12nm,1.4s
MDJ pmax pmax
comp=Z,150nm,4.3s
MDJ LR LR
comp=Z,420nm,15.2s
MDJ LR LR
comp=Z,540nm,16.2s
MDJ LR LR
comp=Z,860nm,19.9s
BNX BinXian 14.74 284 ⇑ P **Pn** **21 29 44.5 +0.8**
BNX pmax pmax
comp=Z,41nm,0.8s
BNX pmax pmax
comp=Z,660nm,5.5s
HEH HeiHe 15.38 302 *e*P **P** **21 29 54.5 -1.5**
HEH pmax pmax
comp=Z,7.0nm,0.8s
HEH pmax pmax
comp=Z,220nm,4.9s
MA2 Magadan 15.80 5 Pn **Pn** **21 29 58.0 +0.6**
MA2 IAmb IAmb 21 29 59.4
comp=Z,187nm,1.9s
MA2 Magadan 15.80 5 P **Pn** **21 29 58.0 +0.6**
MA2 pmax pmax
comp=Z,187nm,1.9s
MA2 Magadan 15.80 5 P **Pn** **21 29 57.7 +0.3**
comp=Z,20nm,0.8s,baz=145,slow=13,SNR=2.9
MA2 LR LR 21 35 49.3
comp=Z,202nm,18.6s,baz=194,slow=36
CN2 Changchun 16.27 278 *e*P **Pn** **21 30 04.3 +0.8**
CN2 *e*S **Sn** **21 33 06.3 +3.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,470nm,16.0s
CN2 LR LR
comp=Z,630nm,16.0s
KSRS Korea Array 16.52 254 P **P** **21 30 07.8 -0.8**
comp=Z,6.8nm,0.8s,baz=66,slow=12,SNR=10.0
KSRS LR LR 21 36 50.7
comp=Z,248nm,19.2s,baz=60,slow=38
ZEA Zeya 16.79 313 *e*P **P** **21 30 11.3 -0.2**
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=E,20nm,1.3s
ZEA pmax pmax
comp=Z,30nm,1.3s
JNU Nakatsue 17.15 237 P **P** **21 30 16.8 +1.0**
JNU IAmb IAmb 21 30 22.5
comp=Z,72nm,1.1s
JNU Nakatsue 17.15 237 P **P** **21 30 15.7 -0.1**
comp=Z,42nm,0.8s,baz=50,slow=7.7,SNR=15
JNU LR LR 21 36 49.3
comp=Z,264nm,20.6s,baz=37,slow=37
TJN Taejon 17.45 252 *ce*P **P** **21 30 19.9 +1.0**
SNY Shenyang 18.01 272 ⇑ P **Pn** **21 30 25.8 +0.7**
SNY pmax pmax
comp=Z,23nm,0.6s
SNY LR LR
comp=Z,470nm,20.6s
SEY Seymchan 19.25 6 ⇑ *e*P **P** **21 30 37.6 -0.9**
SEY pmax pmax
comp=Z,99nm,3.4s
SEY Seymchan 19.25 6 P **P** **21 30 37.5 -0.9**
comp=Z,3.3nm,0.4s,baz=182,slow=8.7,SNR=9.8
SEY LR LR 21 37 49.9
comp=Z,216nm,20.4s,baz=196,slow=36
SHEM Shemya Is, Ala 19.39 54 LR LR 21 39 24.1
comp=Z,121nm,18.7s,baz=60,slow=40
DL2 Dalian 20.36 265 P Pn 21 30 54.4 +1.2
DL2 pmax pmax
comp=Z,55nm,1.2s
YAK Yakutsk 21.12 336 P **P** **21 30 54.8 -3.9**
YAK IAmb IAmb 21 31 06.1
comp=Z,54nm,0.8s
YAK Yakutsk 21.12 336 *e*P **P** **21 30 55.1 -3.6**
YAK *e* 21 31 13.9
YAK *e*S **S** **21 34 50.2 -0.6**
YAK *e* 21 35 00.9
YAK pmax pmax
comp=Z,27nm,1.0s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK smax smax
comp=E,315nm,3.5s
YAK smax smax
comp=N,176nm,2.8s
XLT XiLinHaoTe 22.93 281 ⇑ *i* P **P** **21 31 19.8 +1.4**
XLT pP pP 21 31 32.0 +2.2
XLT sP sP 21 31 37.1 +1.3
XLT pmax pmax
comp=N,24nm,0.7s
XLT pmax pmax
comp=N,150nm,4.0s
JOW Kunigami 23.32 230 P **P** **21 31 22.6 +0.3**
JOW IAmb IAmb 21 31 25.2
comp=Z,59nm,1.1s
JOW Kunigami 23.32 230 LR LR 21 41 39.9
comp=Z,165nm,19.1s,baz=302,slow=39
BJI Beijing 23.90 272 P **P** **21 31 27.4 -0.1**
BJI pmax pmax
comp=Z,23nm,0.8s
TIA Tai'an 24.75 263 ⇑ P **P** **21 31 35.5 +0.1**
TIA pmax pmax
comp=Z,42nm,0.5s
NJ2 Nanjing 25.70 252 ⇓ P **P** **21 31 45.3 +1.2**
NJ2 pP **pP** **21 31 56.6 +0.3**
NJ2 sP **sP** **21 32 01.1 -0.9**
NJ2 pmax pmax
comp=Z,21nm,0.8s
NJ2 pmax pmax
comp=Z,420nm,4.7s
HNS HongShan 25.96 267 ⇓ P **P** **21 31 47.1 +0.8**
HNS pmax pmax
comp=Z,21nm,0.9s
HHC Hu-ho-hao-te 26.95 276 *e*P **P** **21 31 56.6 +1.2**
HHC pmax pmax
comp=Z,47nm,0.9s
HHC pmax pmax
comp=Z,470nm,5.3s
HHC LR LR
comp=Z,440nm,15.7s
HHC LR LR
comp=Z,750nm,18.6s
TIY Taiyuan 27.47 269 *e*P **P** **21 32 03.8 +3.7**
TIY pmax pmax
comp=Z,22nm,0.7s
BTO Baotou 28.14 277 *e*P **P** **21 32 07.4 +1.3**
BTO pP **pP** **21 32 19.1 +0.6**
BTO sP **sP** **21 32 24.6 +0.4**
BTO PP **PnPn** **21 32 58.0 +2.5**
BTO S **S** **21 36 53.0 +5.0**
BTO sS **sS** **21 37 04.8 -2.9**
BTO SS **SnSn** **21 38 12.1 +5.2**
BTO pmax pmax
comp=Z,29nm,1.3s
BTO pmax pmax
comp=Z,670nm,4.6s
ULN Ulaanbaatar 28.54 293 P **P** **21 32 08.7 -0.9**
ULN Ulaanbaatar 28.54 293 *e*P **P** **21 32 09.8 +0.2**
ULN Ulaanbaatar 28.54 293 *d i* P **P** **21 32 09.8 +0.2**
ULN pmax pmax
comp=Z,6.0nm,0.8s
H11N2 WAKE ISLAND Hy 28.81 141 T T 22 02 49.8
baz=332,slow=75,SNR=1820
H11N1 WAKE ISLAND Hy 28.82 141 T T 22 02 50.9
baz=332,slow=75,SNR=2331
H11N3 WAKE ISLAND Hy 28.83 141 T T 22 02 53.1
baz=332,slow=75,SNR=1344
LYN LuoYang 28.88 263 *e*P **P** **21 32 10.8 -1.7**
LYN sP sP 21 32 29.3 -1.3
LYN pmax pmax
comp=Z,20nm,1.1s
SONM Songino Array 28.99 293 P **P** **21 32 12.7 -0.8**
SONM Songino Array 28.99 293 P **P** **21 32 13.0 -0.5**
SONM Songino Array 28.99 293 P **P** **21 32 13.0 -0.5**
comp=Z,3.6nm,0.5s,baz=83,slow=8.8,SNR=30
SONM LR LR 21 44 31.5
comp=Z,285nm,20.4s,baz=55,slow=38
comp=Z,3.6nm,0.5s
SPIA Saint Paul Isl 29.17 48 P **P** **21 32 16.4 +1.6**
baz=261
TIK Tiksi 29.34 348 *e*P **P** **21 32 16.0 -0.1**
TIXI Tiksi 29.35 348 ⇑ *e*P **P** **21 32 16.0 -0.3**
TIXI pmax pmax
comp=Z,11nm,2.1s
TIXI MLR MLR
comp=Z,49nm,16.0s
WHN Wuhan 29.71 255 ⇑ *i*P **P** **21 32 20.3 +0.4**
WHN pmax pmax
comp=Z,50nm,0.6s
H11S1 WAKE ISLAND Hy 29.79 142 T T 22 04 07.6
baz=332,slow=76,SNR=7271
H11S3 WAKE ISLAND Hy 29.80 142 T T 22 04 08.6
baz=332,slow=76,SNR=4983
H11S2 WAKE ISLAND Hy 29.81 142 T T 22 04 08.8
baz=332,slow=76,SNR=5696
GUMO Guam 30.32 186 LR LR 21 42 55.2
comp=Z,78nm,21.8s,baz=125,slow=33
XAN Xi'an 31.68 265 P **P** **21 32 37.5 +0.1**
XAN pP pP 21 32 44.5 -5.3
XAN pmax pmax
comp=Z,14nm,1.2s
CNSH ChangSha 32.12 253 ⇑ P **P** **21 32 41.3 +0.1**
CNSH pmax pmax
comp=Z,18nm,1.0s
K13K Kusilvak Mount 32.81 40 P **P** **21 32 47.3 +0.4**
K13K IAmb IAmb 21 34 01.1
comp=Z,22nm,1.4s
K13K Kusilvak Mount 32.81 40 P **P** **21 32 48.2 +1.3**
baz=259
F14K Arctic Creek 33.00 33 P **P** **21 32 49.4 +0.9**
baz=252
ANM Nome 33.12 35 P **P** **21 32 49.7 +0.2**
baz=254
M13K Dall Lake 33.19 43 P **P** **21 32 50.3 +0.1**
M13K Dall Lake 33.19 43 P **P** **21 32 50.5 +0.3**
baz=263
J14K Nanvaranak Lak 33.48 39 P **P** **21 32 53.8 +1.1**
J14K IAmb IAmb 21 32 59.0
comp=Z,56nm,1.9s
J14K Nanvaranak Lak 33.48 39 P **P** **21 32 52.8 +0.2**
baz=259
L14K Kuka Creek 33.64 41 P **P** **21 32 55.3 +1.2**
L14K IAmb IAmb 21 32 57.1
comp=Z,19nm,1.1s
L14K Kuka Creek 33.64 41 P **P** **21 32 55.1 +1.0**
baz=262
M14K Bethel 33.91 42 P **P** **21 32 57.4 +0.9**
M14K IAmb IAmb 21 33 12.8
comp=Z,13nm,0.7s
M14K Bethel 33.91 42 P **P** **21 32 57.3 +0.9**
baz=264
N14K Kuskokwak Cree 33.96 44 P **P** **21 32 57.9 +1.0**
baz=265
O14K Tigyukauivet M 34.12 45 P **P** **21 32 59.1 +0.9**
baz=266
L15K Ungalak Mounta 34.26 41 P **P** **21 33 00.2 +0.8**
baz=263
C16K Lisburne Hills 34.31 29 P **P** **21 32 59.4 -0.4**
C16K Lisburne Hills 34.31 29 P **P** **21 32 59.7 -0.1**
baz=249
K15K Wolf Creek Mou 34.32 40 P **P** **21 33 00.7 +0.7**
baz=262
LZH Lanzhou 34.38 272 *e*P **P** **21 33 02.0 +1.0**
LZH pP sP 21 33 16.8 -2.4
LZH sP pP 21 33 23.3 +10
LZH pmax pmax
comp=Z,82nm,1.1s
H16K Elim 34.45 36 P **P** **21 33 01.5 +0.5**
baz=258
SDPT Sand Point 34.51 52 P **P** **21 33 00.3 -1.3**
baz=273
M15K Kasigluk River 34.53 43 P **P** **21 33 02.4 +0.6**
baz=265
N15K Kwethluk River 34.78 44 P **P** **21 33 05.4 +1.4**
N15K IAmb IAmb 21 33 21.9
comp=Z,19nm,1.0s
N15K Kwethluk River 34.78 44 P **P** **21 33 04.4 +0.4**
baz=266
O15K Ungalikthiuk R 34.86 45 P **P** **21 33 05.2 +0.6**
baz=268
J16K Anvik River 34.90 38 P **P** **21 33 05.5 +0.5**
baz=261
C17K DeLong Mountai 35.14 29 P **P** **21 33 07.1 +0.2**
baz=251
E17K Hotham Inlet 35.21 31 P **P** **21 33 07.7 +0.1**
baz=254
L16K Owhat River 35.21 41 P **P** **21 33 07.8 +0.1**
baz=264
F17K Baldwin Pennin 35.27 33 P **P** **21 33 08.8 +0.7**
baz=256
G17K Kiwalik Mounta 35.29 34 P **P** **21 33 08.9 +0.6**
baz=258,SNR=5.8
M16K Timber Creek 35.40 42 P **P** **21 33 10.2 +0.9**
M16K IAmb IAmb 21 33 13.1
comp=Z,26nm,1.2s
M16K Timber Creek 35.40 42 P **P** **21 33 09.3 -0.1**
baz=266
N16K Nishlik Lake 35.46 43 P **P** **21 33 10.2 +0.4**
baz=267
H17K Granite Mounta 35.48 35 P **P** **21 33 09.8 -0.1**
baz=260
E18K Tukpahlearik C 35.76 31 P **P** **21 33 12.6 +0.3**
baz=255
O16K Kokwok River B 35.76 45 P **P** **21 33 11.2 -1.1**
baz=269
P16K Nushagak River 35.80 46 P **P** **21 33 13.0 +0.2**
baz=270
L17K Donlin 35.81 40 P **P** **21 33 13.2 +0.4**
baz=265
K17K Iditarod 35.86 39 P **P** **21 33 13.6 +0.3**
K17K IAmb IAmb 21 33 16.4
comp=Z,16nm,0.9s
K17K Iditarod 35.86 39 P **P** **21 33 13.1 -0.2**
baz=264
GTA Gaotai 35.88 280 *e*P **P** **21 33 14.5 +0.7**
GTA pP pP 21 33 26.5 +0.1
GTA PcP **PcP** **21 35 41.3 +1.1**
GTA pmax pmax
comp=Z,11nm,0.8s
C18K Utukok River 35.88 29 P **P** **21 33 13.5 +0.1**
C18K Utukok River 35.88 29 P **P** **21 33 13.3 -0.1**
baz=253
B18K Kokolik River 35.90 28 P **P** **21 33 13.6 +0.2**
baz=252
M17K Holitna River 36.16 42 P **P** **21 33 17.3 +1.5**
M17K IAmb IAmb 21 33 34.0
comp=Z,20nm,0.8s

M17K	Holitna River	36.16	42	P	P	21 33 15.7 -0.1
	baz=267,SNR=5.8					
H18K	Honhosa River	36.17	35	P	P	21 33 16.6 +0.8
H18K	Honhosa River	36.17	35	P	P	21 33 16.4 +0.5
	baz=261,SNR=9.9					
G18K	Tagagawik	36.18	34	P	P	21 33 16.8 +0.9
G18K				IAmb	IAmb	21 33 17.7
	comp=Z,19nm,0.9s					
G18K	Tagagawik	36.18	34	P	P	21 33 16.4 +0.5
	baz=259,SNR=9.7					
N17K	Nushagak Hills	36.24	43	P	P	21 33 16.9 +0.4
	baz=268					
O17K	Koliganek Bris	36.27	44	P	P	21 33 17.3 +0.5
	baz=269					
A19K	Wainwright	36.41	26	P	P	21 33 18.2 +0.4
	baz=251					
L18K	Granite Mounta	36.57	40	P	P	21 33 20.7 +1.5
L18K				IAmb	IAmb	21 33 22.2
	comp=Z,19nm,1.1s					
L18K	Granite Mounta	36.57	40	P	P	21 33 21.1 +1.8
	baz=266					
C19K	Lookout Ridge	36.57	28	P	P	21 33 19.8 +0.5
	baz=254					
J18K	Innoko River	36.66	38	P	P	21 33 20.7 +0.6
	baz=265,SNR=5.0					
F19K	Shaleruckik Mo	36.70	32	IAmb	IAmb	21 33 21.6
	comp=Z,9.9nm,0.9s					
F19K	Shaleruckik Mo	36.70	32	P	P	21 33 21.1 +0.8
	baz=259					
GCSA	Galena City Sc	36.73	36	P	P	21 33 21.0 +0.5
	baz=263					
G19K	Purcell Mounta	36.85	34	P	P	21 33 22.6 +1.0
	baz=261,SNR=5.4					
N18K	Kilae Creek	36.89	43	P	P	21 33 23.1 +1.1
	baz=269					
D19K	Kuna River	36.93	30	IAmb	IAmb	21 33 26.3
	comp=Z,23nm,0.9s					
D19K	Kuna River	36.93	30	P	P	21 33 23.0 +0.7
	baz=257,SNR=8.9					
M18K	Stony River	36.94	42	P	P	21 33 24.1 +1.7
	baz=268					
H19K	Roundabout Mou	37.02	35	P	P	21 33 24.3 +1.3
	baz=262,SNR=23					
CD2	Chengdu	37.03	265	P	P	21 33 23.8 +0.1
CD2				pP	pP	21 33 33.4 -2.9
CD2				sP	sP	21 33 40.8 -1.1
CD2				S	S	21 39 04.4 -1.6
CD2				pmax	pmax	
	comp=Z,40nm,0.7s					
E19K	Redstone River	37.03	32	IAmb	IAmb	21 33 25.4
	comp=Z,15nm,0.7s					
E19K	Redstone River	37.03	32	P	P	21 33 24.2 +1.0
	baz=259,SNR=9.0					
SVW2	Sparrevohn	37.05	42	P	P	21 33 24.3 +0.9
SVW2				IAmb	IAmb	21 34 32.1
	comp=Z,36nm,1.6s					
J19K	Poorman	37.19	37	IAmb	IAmb	21 33 26.9
	comp=Z,23nm,0.9s					
J19K	Poorman	37.19	37	P	P	21 33 25.6 +1.0
	baz=265,SNR=17					
P18K	Big Mountain,	37.22	45	P	P	21 33 26.2 +1.3
	baz=271					
O18K	Koktuh Hills	37.22	44	P	P	21 33 25.9 +1.0
	baz=271					
Q18K	Katmai Hardscr	37.36	46	P	P	21 33 27.2 +1.0
	baz=273					
D20K	Etivluk River	37.52	30	P	P	21 33 28.1 +0.7
	baz=258,SNR=6.5					
F20K	Avaraart Lake	37.54	32	P	P	21 33 28.2 +0.8
	baz=261					
GYA	Guiyang	37.55	256	P	P	21 33 28.4 +0.2
GYA				sP	sP	21 33 47.5 +1.1
GYA				pmax	pmax	
	comp=Z,11nm,0.9s					
GYA				pmax	pmax	
	comp=Z,220nm,5.1s					
GYA				LR	LR	
	comp=Z,350nm,18.2s					
N19K	Bonanza Creek	37.58	43	P	P	21 33 29.4 +1.4
	baz=270					
E20K	Nigu River	37.58	30	P	P	21 33 29.1 +1.2
	baz=259,SNR=7.7					
B20K	Meade River	37.63	27	P	P	21 33 28.4 +0.2
	baz=256					
M19K	Big River Lodg	37.63	41	P	P	21 33 29.8 +1.4
	baz=269					
H20K	Anotleneega Mo	37.66	35	P	P	21 33 29.6 +1.1
	baz=264,SNR=14					
R18K	Karluk	37.72	48	P	P	21 33 30.8 +1.8
	baz=274					
I20K	Naaghedeneel	37.76	36	P	P	21 33 30.5 +1.2
	baz=265					
K20K	Telida	37.84	39	P	P	21 33 31.5 +1.5
	baz=267					
J20K	Nowinta River	37.85	37	IAmb	IAmb	21 33 32.9
	comp=Z,21nm,0.9s					
J20K	Nowinta River	37.85	37	P	P	21 33 31.9 +1.7
	baz=266,SNR=13					
L20K	Farewell, AK	37.89	40	P	P	21 33 31.0 +0.5
	baz=269					
C21K	Knifeblade Rid	38.26	29	P	P	21 33 34.5 +1.0
	baz=259					
G21K	Allakaket	38.34	33	IAmb	IAmb	21 33 36.2
	comp=Z,20nm,0.8s					
G21K	Allakaket	38.34	33	P	P	21 33 35.2 +1.0
	baz=264,SNR=10					
B21K	Ikpikpuk River	38.41	28	P	P	21 33 35.7 +1.0
	baz=259					
E21K	Killik River	38.42	30	P	P	21 33 35.6 +0.7
	baz=261					
F21K	Alatna River	38.43	32	P	P	21 33 35.2 +0.2
F21K				IAmb	IAmb	21 33 37.5
	comp=Z,11nm,0.8s					
F21K	Alatna River	38.43	32	P	P	21 33 35.8 +0.8
	baz=263,SNR=7.5					
H21K	Melozitna Rive	38.54	35	P	P	21 33 36.3 +0.4
H21K				IAmb	IAmb	21 33 37.9
	comp=Z,14nm,0.9s					
H21K	Melozitna Rive	38.54	35	P	P	21 33 37.1 +1.2
	baz=266,SNR=11					
A22K	Sinclair Lake	38.59	26	P	P	21 33 36.5 +0.3
	baz=257					
CHUM	Lake Minchumin	38.64	38	P	P	21 33 38.4 +1.6
	baz=268					
PPLA	Purkeypile	38.68	39	P	P	21 33 38.6 +1.3
	baz=270					
N20K	Mount Spurr	38.68	42	P	P	21 33 38.5 +1.3
	baz=272					
SPCR	Spurr Chakacha	38.68	42	P	P	21 33 38.5 +1.3
	baz=272					
Q20K	Shuyak Island	38.73	46	P	P	21 33 38.2 +0.7
	baz=275					
CAST	Castle Rocks	38.73	38	IAmb	IAmb	21 33 40.6
	comp=Z,16nm,1.1s					
CAST	Castle Rocks	38.73	38	P	P	21 33 39.1 +1.6
	baz=269					
I21K	Tanana	38.85	36	IAmb	IAmb	21 33 41.3
	comp=Z,16nm,0.8s					
I21K	Tanana	38.85	36	P	P	21 33 39.9 +1.4
	baz=267,SNR=9.0					
B22K	Teshekpuk Lake	38.95	27	P	P	21 33 39.0 -0.2
B22K	Teshekpuk Lake	38.95	27	P	P	21 33 39.2 0.0
	baz=259					
D22K	Ayikyak River	38.96	30	P	P	21 33 40.5 +1.2
	baz=262					
F22K	John River	38.96	32	P	P	21 33 41.3 +1.9
	baz=264					
H22K	Ishtalitna Cre	39.14	35	P	P	21 33 42.5 +1.5
	baz=267					
G22K	Bettles	39.17	33	P	P	21 33 42.1 +1.0
	baz=265					
E22K	Anaktuvuk Pass	39.17	31	P	P	21 33 42.1 +0.9
	baz=263,SNR=6.8					
BPAW	Bear Paw Mtn.	39.23	37	P	P	21 33 42.8 +1.1
	baz=269					
KTH	Kantishna Hill	39.26	38	IAmb	IAmb	21 33 45.0
	comp=Z,26nm,1.0s					
MLY	Manley	39.37	36	IAmb	IAmb	21 33 45.2
	comp=Z,13nm,0.8s					
MLY	Manley	39.37	36	P	P	21 33 44.3 +1.5
	baz=268,SNR=6.7					
BRSE	Bradley Lake S	39.48	44	P	P	21 33 45.6 +1.7
	baz=275					
TRF	Thorofare Moun	39.54	38	P	P	21 33 45.5 +1.0
	baz=271					
D23K	Nanushuk River	39.69	30	P	P	21 33 46.5 +1.0
	baz=264					
COLD	Coldfoot	39.70	32	P	P	21 33 46.6 +1.0
	baz=266,SNR=5.7					
G23K	Bananza Creek	39.74	33	IAmb	IAmb	21 33 48.1
	comp=Z,15nm,0.9s					
G23K	Bananza Creek	39.74	33	P	P	21 33 46.9 +1.0
	baz=267,SNR=6.0					
C23K	Itkillik River	39.82	28	P	P	21 33 47.2 +0.7
	baz=262					
H23K	Yukon River	39.89	35	P	P	21 33 48.7 +1.5
	baz=268					
BWN	Browne	39.90	37	P	P	21 33 48.6 +1.3
I23K	Minto, Yukon-K	39.95	36	IAmb	IAmb	21 33 50.0
	comp=Z,15nm,0.9s					
I23K	Minto, Yukon-K	39.95	36	P	P	21 33 49.1 +1.5
	baz=269					
E23K	Chandalar	39.99	31	P	P	21 33 48.9 +0.8
	baz=266					
TOLK	Toolik Lake Re	40.05	30	P	P	21 33 49.5 +1.0
	baz=265					
NEA2	Nenana	40.07	37	IAmb	IAmb	21 33 50.7
	comp=Z,21nm,0.7s					
NEA2	Nenana	40.07	37	P	P	21 33 50.0 +1.3
	baz=270,SNR=9.5					
MCK	McKinley	40.14	38	P	P	21 33 50.4 +1.1
	baz=271,SNR=5.5					
PMR	Palmer	40.14	41	P	P	21 33 50.0 +0.7
	baz=274					
RND	Reindeer	40.19	38	IAmb	IAmb	21 33 51.6
	comp=Z,14nm,0.9s					
WAT1	Susitna Watana	40.35	39	P	P	21 33 51.2 +0.1
	baz=273					
D24K	Happy Valley	40.37	30	P	P	21 33 52.1 +1.0
	baz=265					
E24K	Your Creek	40.41	31	P	P	21 33 52.7 +1.2
	baz=267					
MDM	Murphy Dome	40.43	36	P	P	21 33 52.8 +1.1
MDM				IAmb	IAmb	21 33 53.8
	comp=Z,22nm,0.7s					
C24K	Franklin Bluff	40.47	29	P	P	21 33 52.4 +0.6
	baz=264					
KNK	Knik Glacier	40.48	42	P	P	21 33 52.9 +0.8
KNK				IAmb	IAmb	21 34 45.9
	comp=Z,30nm,1.3s					
SML	Sawmill	40.51	41	P	P	21 33 52.8 +0.4
SML				IAmb	IAmb	21 34 09.7
	comp=Z,20nm,0.8s					
SML	Sawmill	40.51	41	P	P	21 33 53.4 +1.0
	baz=274					
H24K	Noodor Dome	40.58	35	P	P	21 33 54.2 +1.3
	baz=270					
PWL	Port Wells	40.58	42	P	P	21 33 53.5 +0.5
	baz=275					
COLA	College	40.59	36	P	P	21 33 54.6 +1.7
COLA				IAmb	IAmb	21 33 55.5
	comp=Z,28nm,0.8s					
COLA	College	40.59	36	P	P	21 33 54.3 +1.4
	baz=271					
COLA	College	40.59	36	P	P	21 33 54.6 +1.7
COLA				pmax	pmax	
	comp=Z,28nm,0.8s					
COLA	College	40.59	36	P	P	21 33 54.4 +1.4
COLA				pP	sP	21 34 08.8 -2.4
F24K	Squaw Lake	40.61	32	P	P	21 33 53.6 +0.4
	baz=268					
WAT6	Susitna Watana	40.73	40	P	P	21 33 54.9 +0.5
	baz=274					
G24K	Hadweenzic Riv	40.75	33	IAmb	IAmb	21 33 56.8
	comp=Z,22nm,1.0s					
G24K	Hadweenzic Riv	40.75	33	P	P	21 33 55.9 +1.7
	baz=269,SNR=16					
POKR	Poker Plat Res	40.77	36	P	P	21 33 56.0 +1.6
	baz=271,SNR=20					
M23K	Glacier View	40.80	41	P	P	21 33 55.2 +0.5
	baz=275					
GOMU	GeErMu	40.83	278	P	P	21 33 56.3 +0.5
GOMU				pP	pP	21 34 04.5 -4.0
GOMU				sP	sP	21 34 11.6 -2.6
GOMU				S	S	21 39 58.4 -5.3
GOMU				pmax	pmax	
	comp=Z,31nm,0.8s					
GOMU				LR	LR	
	comp=Z,210nm,18.4s					
GOMU				LR	LR	
	comp=Z,290nm,18.2s					
GOMU				LR	LR	
	comp=Z,400nm,18.4s					
DHY	Denali Highway	40.87	39	P	P	21 33 56.0 +0.5
	baz=274					
DGZ	Jazzator, Alta	40.88	300⇓	eP	P	21 33 56.6 +0.9
DGZ				pmax	pmax	
	comp=Z,4.0nm,0.6s					
HDA	Harding Lake	40.99	37	P	P	21 33 56.8 +0.5
HDA				IAmb	IAmb	21 33 58.0
	comp=Z,20nm,1.0s					
HDA	Harding Lake	40.99	37	P	P	21 33 57.1 +0.8
	baz=272,SNR=10.0					
ILAR	Eielson Array	41.01	36	P	P	21 33 56.5 +0.1
ILAR	Eielson Array	41.01	36	P	P	21 33 56.3 -0.1
	comp=Z,8.9nm,0.8s,baz=257,slow=7.3,SNR=59					
ILAR				ScP	ScP	21 39 36.1 -5.0
	comp=Z,0.5nm,0.8s,baz=225,slow=0.6,SNR=4.1					
	comp=Z,8.9nm,0.8s					
PZH	PanZhiHua	41.01	261	P	P	21 33 56.6 -0.4
PZH				pmax	pmax	
	comp=Z,30nm,1.1s					
PZH				pmax	pmax	
	comp=Z,260nm,6.6s					
KMI	Kunming	41.15	258	⇓P	P	21 33 58.8 +0.5
KMI				pP	sP	21 34 14.4 -2.3
KMI				pmax	pmax	
	comp=Z,21nm,0.9s					
D25K	Kavik River	41.25	29	P	P	21 33 59.7 +1.3
	baz=267					
G25K	Bearman Lake	41.30	33	P	P	21 34 00.4 +1.7
	baz=270,SNR=5.1					
ZALV	Zalesovo Beam	41.41	307	P	P	21 33 59.3 -0.5
	comp=Z,2.1nm,0.5s,baz=82,slow=8.2,SNR=8.8					
ZALV				PcP	PcP	21 35 57.4 +0.4
	comp=Z,7.5nm,0.7s,baz=83,slow=2.6,SNR=19					
ZALV				LR	LR	21 52 14.5
	comp=Z,135nm,18.4s,baz=67,slow=38					
	comp=Z,2.1nm,0.5s					
H25L	Birch Creek	41.41	34	P	P	21 34 01.3 +1.6
	baz=271					
F25K	Christian Rive	41.47	32	P	P	21 34 01.5 +1.3
	baz=270					
M24K	Tolsona, Glenn	41.50	40	P	P	21 34 01.8 +1.3
M24K				IAmb	IAmb	21 34 31.8
	comp=Z,36nm,1.1s					
M24K	Tolsona, Glenn	41.50	40	P	P	21 34 02.0 +1.4
	baz=276					
E25K	Arctic Village	41.51	31	P	P	21 34 02.2 +1.7
	baz=269					
K24K	Donnelly Dome	41.54	38	P	P	21 34 01.5 +0.7
	baz=274,SNR=8.2					
PRP	Porcupine Dome	41.56	35	P	P	21 34 00.9 -0.2
PRP				IAmb	IAmb	21 34 03.6
	comp=Z,27nm,0.8s					
PRP	Porcupine Dome	41.56	35	P	P	21 34 02.6 +1.5
	baz=272,SNR=22					
FYU	Fort Yukon	41.64	34	IAmb	IAmb	21 34 04.2
	comp=Z,29nm,0.7s					
J25K	Salcha River,	41.67	37	P	P	21 34 02.1 +0.3
	baz=274,SNR=8.8					
KLU	Klutina	41.68	41	P	P	21 34 03.0 +1.0
KLU	Klutina	41.68	41	P	P	21 34 03.3 +1.2
	baz=277					
PAX	Paxson	41.74	39	P	P	21 34 04.4 +1.8
	baz=275					
C26K	Camden Bay	41.79	29	P	P	21 34 05.0 +2.2
	baz=268					
EYAK	Cordova Ski Ar	41.88	43	P	P	21 34 04.3 +0.8
	baz=278					
HARP	HAARP	41.94	40	P	P	21 34 05.7 +1.6
	baz=276					
RIDG	Independent Ri	41.96	38	P	P	21 34 05.6 +1.3
	baz=275					
F26K	Sheenjek River	42.05	32	P	P	21 34 06.7 +1.8
	baz=271					
G26K	Porcupine Rive	42.21	33	P	P	21 34 08.1 +1.9
	baz=272,SNR=9.2					
SCRK	Sand Creek	42.32	37	P	P	21 34 07.6 +0.3
SCRK	Sand Creek	42.32	37	P	P	21 34 07.6 +0.3
	baz=275,SNR=8.3					
BMRM	Bremner River	42.38	42	P	P	21 34 08.9 +1.2
	baz=278					
J26L	Joseph Creek	42.45	37	P	P	21 34 08.4 +0.1
	baz=275					
I26K	Coal Creek Min	42.56	35	P	P	21 34 09.5 +0.4
	baz=275					
WMQ	Urumqi	42.62	292	eP	P	21 34 10.1 +0.2
WMQ				pP	pP	21 34 23.9 +1.2
WMQ				sP	sP	21 34 28.0 -0.3
WMQ				pmax	pmax	
	comp=Z,20nm,0.9s					
WMQ				LR	LR	
	comp=Z,270nm,11.5s					
WMQ				LR	LR	
	comp=Z,620nm,14.5s					
WMQ				LR	LR	
	comp=Z,230nm,16.9s					
KAIM	Kayak Island	42.63	43	P	P	21 34 11.1 +1.4
	baz=280					
L26K	Log Cabin Wild	42.70	39	P	P	21 34 11.8 +1.5
	baz=277,SNR=5.7					
M26K	Nabesna, AK	42.94	40	IAmb	IAmb	21 34 30.8
	comp=Z,17nm,0.9s					
M26K	Nabesna, AK	42.94	40	P	P	21 34 14.0 +1.7
	baz=278					
E27K	Coleen River	42.99	31	IAmb	IAmb	21 34 31.8
	comp=Z,56nm,1.9s					
E27K	Coleen River	42.99	31	P	P	21 34 13.9 +1.4
	baz=273					
G27K	Doyon Strip	43.05	33	P	P	21 34 14.1 +1.0
G27K	Doyon Strip	43.05	33	P	P	21 34 14.5 +1.4
	baz=274					
MCARA	McCarthy VSAT	43.08	41	P	P	21 34 14.8 +1.5
	baz=279					
CRQM	Cirque	43.12	42	IAmb	IAmb	21 34 17.4
	comp=Z,36nm,1.1s					
CRQE	Cirque	43.15	42	P	P	21 34 15.9 +1.9
	baz=280,SNR=5.2					
K27K	Chicken	43.15	37	P	P	21 34 15.8 +2.0
	baz=277					
H27K	Steamboat Moun	43.15	34	P	P	21 34 16.1 +2.2
	baz=275,SNR=12					
I27K	Kandik River	43.17	35	P	P	21 34 15.4 +1.3
	baz=276					
D27M	Malcolm River	43.18	30	P	P	21 34 15.5 +1.4
	baz=272					
ZSN	Zaisan	43.19	298	eP	P	21 34 15.1 +0.6
	baz=298					
ZSN	Zaisan	43.19	298	eP	P	21 34 15.0 +0.6
L27K	Beaver Creek,	43.38	39	IAmb	IAmb	21 34 33.7
	comp=Z,18nm,0.8s					
L27K	Beaver Creek,	43.38	39	P	P	21 34 17.7 +1.8
	baz=278,SNR=9.9					
M27K	Edge Creek, AK	43.46	40	P	P	21 34 17.9 +1.3
	baz=279					
F28M	Old Crow	43.68	32	IAmb	IAmb	21 34 20.6
	comp=Z,13nm,0.8s					
F28M	Old Crow	43.68	32	P	P	21 34 19.7 +1.6
	baz=275,SNR=6.7					
E28M	Babbage River	43.73	30	P	P	21 34 20.1 +1.6
	baz=274					
BARN	Barnard Glacie	43.78	41	P	P	21 34 20.5 +1.3
BARN				IAmb	IAmb	21 34 23.4
	comp=Z,21nm,1.2s					
GRNC	Granite Creek	43.80	42	IAmb	IAmb	21 34 22.0
	comp=Z,24nm,0.8s					
I28M	Miner Creek	43.89	35	IAmb	IAmb	21 34 22.6
	comp=Z,39nm,0.8s					
I28M	Miner Creek	43.89	35	P	P	21 34 21.7 +1.8
	baz=277,SNR=31					
CTG	Chitna Glacier	43.95	42	P	P	21 34 22.0 +1.5
	baz=281					
CTGM	Chitina Glacie	43.96	42	IAmb	IAmb	21 34 38.8
	comp=Z,17nm,0.8s					
LOGN	Logan Glacier	44.14	42	P	P	21 34 22.3 +0.2
LOGN				IAmb	IAmb	21 34 43.5
	comp=Z,20nm,1.1s					
TNCH	TengChong	44.21	262	⇑P	P	21 34 24.0 +0.9
TNCH				pP	pP	21 34 37.0 +1.1
TNCH				pmax	pmax	
	comp=Z,36nm,0.8s					
YUK3	Moose Creek	44.22	40	P	P	21 34 23.9 +1.2
	baz=281					
DAWY	Dawson	44.31	37	P	P	21 34 24.2 +1.0
	baz=279					
E29M	Blow River	44.35	31	P	P	21 34 24.9 +1.5
	baz=276,SNR=6.7					
H29M	Whitestone	44.42	34	IAmb	IAmb	21 34 27.2
	comp=Z,20nm,0.8s					
H29M	Whitestone	44.42	34	P	P	21 34 26.0 +1.9
	baz=278,SNR=8.6					
G29M	Pine Creek	44.47	33	P	P	21 34 25.5 +1.1
G29M	Pine Creek	44.47	33	P	P	21 34 26.2 +1.8
	baz=278,SNR=13					
O28M	Mount Upton	44.54	42	P	P	21 34 27.0 +1.6
	baz=282					
I29M	Ogilvie Camp,	44.57	35	P	P	21 34 26.6 +1.4
	baz=279,SNR=42					
PINM	Pinnacle	44.65	43	P	P	21 34 28.0 +1.9
	baz=282					
SGSI	Sangihe	44.70	213	P	P	21 34 28.2 +1.4
	comp=Z,82nm,0.6s					
M29M	Somme Creek	45.02	39	P	P	21 34 30.0 +1.1
M29M				IAmb	IAmb	21 34 59.3
	comp=Z,40nm,2.0s					
M29M	Somme Creek	45.02	39	P	P	21 34 30.3 +1.4
	baz=282					
L29M	L29M	45.04	38	P	P	21 34 30.5 +1.4
	baz=281					
EPYK	Eagle Plains	45.06	33	P	P	21 34 30.8 +1.6
	baz=279,SNR=24					
MK31	Makanchi Array	45.07	298	cP	P	21 34 29.2 -0.3
MKAR	Makanchi Array	45.07	298	eP	P	21 34 29.0 -0.5
MKAR	Makanchi Array	45.07	298	P	P	21 34 29.0 -0.5
	comp=Z,7.8nm,0.7s,baz=76,slow=8.7,SNR=38					
MKAR				PcP	PcP	21 36 09.7 +0.2
	comp=Z,2.8nm,0.7s,baz=59,slow=4.7,SNR=5.5					
MKAR				ScP	ScP	21 39 53.9 -3.9
	comp=Z,1.3nm,0.8s,baz=41,slow=4.6,SNR=6.2					
MKAR				LR	LR	21 54 39.2
	comp=Z,343nm,18.2s,baz=64,slow=38					
	comp=Z,7.8nm,0.7s					
SEM	Semipalatinsk	45.08	303	eP	P	21 34 28.9 -0.9
	baz=303					
SEM	Semipalatinsk	45.08	303	eP	P	21 34 28.9 -0.9
G30M	tAoh Zraii Nji	45.16	33	P	P	21 34 31.5 +1.5
	baz=279,SNR=13					
K29M	Barlow Dome	45.16	37	P	P	21 34 32.1 +2.0
	baz=281,SNR=8.3					
F30M	Barrier River	45.24	32	P	P	21 34 32.5 +2.0
	baz=279,SNR=16					
MAKZ	Makanchi	45.26	298	P	P	21 34 29.4 -1.6
MAKZ				IAmb	IAmb	21 34 34.7
	comp=Z,10nm,0.7s					
MAKZ	Makanchi	45.26	298	P	P	21 34 29.4 -1.6
MAKZ				pmax	pmax	
	comp=Z,10.0nm,0.7s					
MAKZ	Makanchi	45.26	298	P	P	21 34 30.0 -1.0
MAKZ				PcP	PcP	21 36 10.3 +0.1
I30M	Mount Dempster	45.40	35	P	P	21 34 33.5 +1.6
	baz=281,SNR=36					
O29M	Mount Kennedy	45.42	42	P	P	21 34 33.8 +1.6
	baz=284					
J30M	Hart River	45.54	36	IAmb	IAmb	21 34 35.4
	comp=Z,10nm,0.8s					
J30M	Hart River	45.54	36	P	P	21 34 34.7 +1.6
	baz=281,SNR=7.0					
M30M	Minto, Yukon	45.74	39	P	P	21 34 37.1 +2.5
	baz=283					
HYT	Haines Junctio	45.82	41	P	P	21 34 37.5 +2.2
HYT				IAmb	IAmb	21 34 38.9
	comp=Z,26nm,0.8s					
HYT	Haines Junctio	45.82	41	P	P	21 34 37.4 +2.0
	baz=284,SNR=14					
G31M	Satah River	45.93	32	P	P	21 34 37.1 +1.1
	baz=281,SNR=8.7					
KURK	Kurchatov	45.96	304	P	P	21 34 35.4 -1.0
KURK	Kurchatov	45.96	304	eP	P	21 34 36.2 -0.2
KURK	Kurchatov	45.96	304	P	P	21 34 36.2 -0.2
KURK						21 36 13.2
KURK	Kurchatov	45.96	304	P	P	21 34 36.4 0.0
KURK				PcP	PcP	21 36 12.9 +0.4
KURK				PP	PP	21 36 24.0 -0.6
INK	Inuvik	45.97	30	IAmb	IAmb	21 34 38.4
	comp=Z,28nm,1.4s					
INK	Inuvik	45.97	30	P	P	21 34 37.5 +1.4
	baz=280,SNR=5.9					
CRAI	Chiangrai	45.97	255	P	P	21 34 36.8 -0.1
P29M	Windy Craggy	46.00	43	P	P	21 34 38.9 +2.3
	baz=285,SNR=11					
F31M	Tsiigehtchic	46.04	32	IAmb	IAmb	21 34 39.1

comp=Z,24nm,0.8s
F31M Tsiigehtchic 46.04 32 P **P 21 34 38.0 +1.2**
baz=281,SNR=7.6
KURBB Kurchatov Arra 46.05 304 P **P 21 34 36.2 -0.9**
comp=Z,4.2nm,0.4s,baz=72,slow=8.7,SNR=20
KURBB PcP **PcP 21 36 13.2 +0.4**
comp=Z,5.1nm,0.7s,baz=79,slow=3.4,SNR=13
comp=Z,4.2nm,0.4s
H31M Peel River 46.12 34 P **P 21 34 39.1 +1.6**
baz=282,SNR=12
P30M Million Dollar 46.25 42 P **P 21 34 40.8 +2.1**
baz=285
N31M Braeburn, Yuko 46.47 40 P **P 21 34 41.9 +1.6**
baz=285
O30N Mendenhall 46.50 41 P **P 21 34 42.7 +2.1**
O30N IAmb IAmb 21 35 05.6
comp=Z,12nm,1.1s
O30N Mendenhall 46.50 41 P **P 21 34 42.2 +1.5**
baz=285
TNTI Ternate 46.70 209 P **P 21 34 44.3 +1.7**
comp=Z,38nm,0.6s
PLBC Pleasant Camp 46.72 43 P **P 21 34 44.0 +1.8**
baz=286
LSA Lhasa 46.80 272 P **P 21 34 45.0 +1.1**
LSA pmax pmax
comp=Z,17nm,0.9s
LSA Lhasa 46.80 272 P **P 21 34 45.0 +1.1**
LSA pP **sP 21 35 00.2 -2.1**
M31M Drury Creek, Y 46.92 39 P **P 21 34 45.6 +1.8**
baz=285
WHY Whitehorse 47.10 41 P **P 21 34 47.1 +1.7**
baz=286
FARO Faro, Yukon 47.39 39 IAmb IAmb 21 35 05.2
comp=Z,9.5nm,0.9s
FARO Faro, Yukon 47.39 39 P **P 21 34 49.1 +1.6**
baz=286
CHTO Chiang Mai 47.92 255 P **P 21 34 52.7 +0.6**
CHTO Chiang Mai 47.92 255 P **P 21 34 52.7 +0.6**
CHTO pmax pmax
comp=Z,20nm,0.8s
SIT Sitka 47.96 46 P **P 21 34 51.8 0.0**
baz=289
P32M Atlin 47.97 42 P **P 21 34 51.2 -0.9**
baz=288
R32K Eaglecrest 47.98 44 P **P 21 34 54.7 +2.6**
baz=288
A36M Sachs Harbour 47.98 25 P **P 21 34 52.9 +1.0**
baz=284
CM31 Chiang Mai Arr 48.16 254 IAmb IAmb 21 35 06.5
comp=Z,25nm,1.4s
CMAR Chiang Mai Arr 48.16 254 P **P 21 34 53.5 -0.4**
CMAR Chiang Mai Arr 48.16 254 *i* P **P 21 34 55.2 +1.3**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CMAR Chiang Mai Arr 48.16 254 P **P 21 34 54.5 +0.5**
comp=Z,5.5nm,0.8s,baz=42,slow=7.2,SNR=38
CMAR LR LR 21 57 19.1
comp=Z,90nm,18.6s,baz=55,slow=39
comp=Z,5.5nm,0.8s
MMPY Sheldon Lake, 48.21 38 P **P 21 34 55.3 +1.5**
baz=287
P33M Teslin, Yukon 48.21 41 IAmb IAmb 21 34 57.6
comp=Z,14nm,1.1s
P33M Teslin, Yukon 48.21 41 P **P 21 34 56.0 +2.0**
baz=288
TDK Taldyqorghan 48.26 297⇑ *i* P **P 21 34 55.1 +0.6**
baz=297
TDK Taldyqorghan 48.26 297*c i* P **P 21 34 55.1 +0.6**
SHLS Shalkode 48.36 294⇑ *i* P **P 21 34 53.3 -2.2**
comp=Z,4.2nm,0.4s,baz=294
SHLS Shalkode 48.36 294*c i* P **P 21 34 53.2 -2.2**
SHLS pmax pmax
comp=Z,4.0nm,0.4s
UZB Uzynbulak 48.66 294 *e* P **P 21 34 57.8 +0.1**
comp=Z,4.2nm,0.5s,baz=294
UZB Uzynbulak 48.66 294 *e* P **P 21 34 57.8 +0.1**
UZB pmax pmax
comp=Z,4.0nm,0.5s
SHL Shillong 48.66 267 P **P 21 34 56.8 -1.2**
SHL Shillong 48.66 267 P **P 21 34 56.8 -1.2**
SHL pmax pmax
comp=Z,20nm,0.7s
KPKS Kokpek 48.74 295 *i* P **P 21 34 58.6 +0.4**
comp=Z,9.1nm,0.7s,baz=295
KPKS Kokpek 48.74 295 *i* P **P 21 34 58.6 +0.4**
KPKS pmax pmax
comp=Z,9.0nm,0.7s
Q32M Nakina River 48.88 43 P **P 21 35 00.5 +1.3**
baz=289
ZHN Zhinishke 49.03 295 *e* P **P 21 35 00.8 +0.3**
comp=Z,5.2nm,0.7s,baz=295
ZHN Zhinishke 49.03 295 *e* P **P 21 35 00.8 +0.3**
ZHN pmax pmax
comp=Z,5.0nm,0.7s
SATY Saty 49.10 295 *e* P **P 21 35 01.5 +0.4**
comp=Z,6.5nm,0.6s,baz=295
SATY Saty 49.10 295 *e* P **P 21 35 01.5 +0.4**
SATY pmax pmax
comp=Z,6.0nm,0.6s
PRZ Przheval'sk 49.36 294 P **P 21 35 04.0 +0.9**
PRZ IAmb IAmb 21 35 05.0
comp=Z,12nm,0.6s
PRZ Przheval'sk 49.36 294 P **P 21 35 04.0 +0.9**
PRZ pmax pmax
comp=Z,12nm,0.6s
R33M Jennings River 49.36 42 P **P 21 35 04.8 +2.0**
baz=290
WUS Wushi 49.40 292 P **P 21 35 04.0 +0.6**
CHKK Chushkaly 49.67 296 *e* P **P 21 35 05.2 -0.2**
baz=296
CHKK Chushkaly 49.67 296 *e* P **P 21 35 05.1 -0.2**
BRZS Berezniki 49.77 305 *e* P **P 21 35 05.5 -0.4**
comp=Z,4.0nm,0.4s,baz=305
BRZS Berezniki 49.77 305 *e* P **P 21 35 05.5 -0.4**
BRZS pmax pmax
comp=Z,4.0nm,0.4s
SANI Sanana 49.81 209 P **P 21 35 06.7 +0.2**
comp=Z,8.2nm,1.2s
BVAR Borovoye Array 49.89 310 P **P 21 35 05.9 -0.9**
comp=Z,2.6nm,0.4s,baz=80,slow=9.7,SNR=17
BVAR PcP **PcP 21 36 23.9 -2.7**
comp=Z,3.6nm,0.5s,baz=72,slow=4.7,SNR=8.3
BVAR LR LR 21 58 22.3
comp=Z,147nm,18.4s,baz=72,slow=39
comp=Z,2.6nm,0.4s
BRVK Borovoye 49.94 310 P **P 21 35 07.3 +0.2**
BRVK IAmb IAmb 21 36 28.7
comp=Z,8.3nm,1.0s
BRVK Borovoye 49.94 310 *e* P **P 21 35 07.3 +0.2**
BRVK Borovoye 49.94 310 P **P 21 35 07.3 +0.2**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 49.94 310 P **P 21 35 07.6 +0.5**
BRVK PcP **PcP 21 36 27.3 +0.6**
MDOK Medeo 49.94 295 *e* P **P 21 35 08.0 +0.5**
baz=295
MDOK Medeo 49.94 295 *e* P **P 21 35 08.0 +0.5**
AAA Alma-Ata 50.01 295 *e* P **P 21 35 08.2 +0.3**
baz=296
AAA Alma-Ata 50.01 295 *e* P **P 21 35 08.2 +0.3**
AAA Alma-Ata 50.01 295 *e* P **P 21 35 08.2 +0.3**
TNSS Tian-Shan 50.07 295⇑ *i* P **P 21 35 09.4 +0.7**
baz=295
TNSS Tian-Shan 50.07 295⇑ *i* P **P 21 35 09.4 +0.7**
KUU Kurty 50.08 297⇑ *i* P **P 21 35 07.9 -0.5**
comp=Z,7.8nm,0.6s,baz=296
KUU Kurty 50.08 297*c i* P **P 21 35 07.9 -0.5**
KUU pmax pmax
comp=Z,8.0nm,0.6s
DLBC Dease Lake 50.16 43 P **P 21 35 10.3 +1.5**
baz=291
TAPN Taplejung 50.62 272 *e* P **P 21 35 13.8 +0.8**
ULHL Ulahol 50.89 295 P **P 21 35 15.4 +0.6**
SNR=9.3
TKM2 Tokmak 2 51.00 296 P **P 21 35 15.9 +0.3**
SNR=27
BTLS Baital 51.03 299 *e* P **P 21 35 15.2 -0.4**
baz=299
BTLS Baital 51.03 299 *e* P **P 21 35 15.1 -0.4**
ODAN Odare 51.14 272 *e* P **P 21 35 18.0 +1.1**
comp=Z,91nm,2.2s
SGDS Sogindy 51.38 297⇑ *i* P **P 21 35 18.6 +0.3**
baz=297
SGDS Sogindy 51.38 297*c i* P **P 21 35 18.5 +0.3**
JIRN Jiri 51.54 273 *e* P **P 21 35 20.5 +0.5**
KBK Karagaybulak 51.55 296 P **P 21 35 20.2 +0.6**
SNR=17

USP Ospenovka 51.55 297 P **P 21 35 20.1 +0.5**
SNR=17
GUN Gumba 51.62 274 *e* P **P 21 35 20.8 +0.2**
RAMN Ramite 51.66 272 *e* P **P 21 35 21.5 +0.8**
AAK Ala-Archa 51.85 296 P **P 21 35 22.3 +0.4**
SNR=8.5
AAK Ala-Archa 51.85 296 P **P 21 35 21.9 0.0**
AAK IAmb IAmb 21 35 23.1
comp=Z,26nm,1.4s
AAK Ala-Archa 51.85 296 *i* P **P 21 35 22.0 +0.2**
SNR=8.4
AAK Ala-Archa 51.85 296 *e* P **P 21 35 21.9 0.0**
AAK Ala-Archa 51.85 296*c i* P **P 21 35 21.9 0.0**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 51.85 296 LR LR 21 59 30.1
comp=Z,73nm,21.7s,baz=58,slow=38
AAK Ala-Archa 51.85 296 P **P 21 35 22.1 +0.2**
KKN Kakani 52.12 274 *e* P **P 21 35 24.6 +0.4**
comp=Z,68nm,0.9s
PKI Pulchoki 52.16 274 *e* P **P 21 35 24.6 +0.1**
PKIN Phulchoki 52.16 274 *e* P **P 21 35 24.7 +0.2**
EKS2 Erkin-Say 52.31 296 P **P 21 35 25.6 +0.4**
SNR=6.5
DMN Daman 52.35 274 *e* P **P 21 35 26.3 +0.4**
KSH Kashi 52.38 292 P **P 21 35 29.3 +3.5**
KSH pP sP 21 35 43.3 -1.2
KSH pmax pmax
comp=Z,13nm,0.9s
KSH LR LR
comp=Z,220nm,12.9s
KSH LR LR
comp=Z,190nm,11.1s
KSH LR LR
comp=Z,400nm,18.2s
GKN Gorkha 52.46 275 *e* P **P 21 35 26.8 +0.2**
AML Almayashu 52.61 296 P **P 21 35 28.6 +0.7**
SNR=9.9
DANN Dangsing 52.90 276 *e* P **P 21 35 30.7 +0.7**
ALE Alert 52.92 5 P **P 21 35 28.6 -0.5**
KOLN Koldanda 53.35 275 *e* P **P 21 35 33.8 +0.6**
comp=Z,60nm,0.8s
SVE Sverdlovsk 53.46 317 *e* P **P 21 35 32.6 -0.7**
PYUN Piuthan 53.59 276 *e* P **P 21 35 35.5 +0.5**
DZA Taraz 53.77 298 *e* P **P 21 35 36.0 0.0**
baz=298
DZA Taraz 53.77 298 *e* P **P 21 35 35.9 0.0**
KK31 Karatay Array 54.19 298 IAmb IAmb 21 35 39.7
comp=Z,14nm,0.8s
KKAR Karatay Array 54.19 298 P **P 21 35 38.5 -0.4**
KKAR Karatay Array 54.19 298 P **P 21 35 38.5 -0.4**
STKI Sintang 54.43 227 P **P 21 35 41.6 +0.7**
NOR Nord 54.49 357 *i* P **P 21 35 41.5 +1.0**
RES Resolute Bay 54.65 17 IAmb IAmb 21 35 42.5
comp=Z,12nm,0.7s
ARU Arti 54.66 317 P **P 21 35 40.0 -2.1**
ARU IAmb IAmb 21 35 42.2
comp=Z,9.3nm,0.6s
ARU Arti 54.66 317 *e* P **P 21 35 41.2 -0.9**
ARU Arti 54.66 317*c i* P **P 21 35 41.2 -0.9**
ARU 21 36 43.7
ARU S **S 21 43 17.8 -0.5**
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 54.66 317 LR LR 22 01 15.1
comp=Z,118nm,18.6s,baz=36,slow=38
ARU Arti 54.66 317 P **P 21 35 41.6 -0.5**
SPITS Spitsbergen Ar 54.76 349 LR LR 21 59 26.1
comp=Z,63nm,20.0s,baz=220,slow=36
IUG Iuzhnay 54.98 297 *e* P **P 21 35 45.2 +0.5**
comp=Z,7.0nm,0.6s,baz=297
IUG Iuzhnay 54.98 297 *e* P **P 21 35 45.2 +0.5**
IUG pmax pmax
comp=Z,7.0nm,0.6s
CHM Chimkent 55.16 298 *e* P **P 21 35 46.3 +0.3**
comp=Z,8.4nm,0.6s,baz=298
CHM Chimkent 55.16 298 *e* P **P 21 35 46.3 +0.3**
CHM pmax pmax
comp=Z,8.0nm,0.6s
YKA Yellowknife Ar 55.34 34 *i* P **P 21 35 47.9 +1.0**
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 55.34 34 P **P 21 35 46.9 +0.1**
comp=Z,2.5nm,0.6s,baz=299,slow=7.1,SNR=10
comp=Z,2.5nm,0.6s
BTK Batken 55.53 295 P **P 21 35 48.1 -0.7**
BTK Batken 55.53 295 P **P 21 35 48.1 -0.7**
BTK pmax pmax
comp=Z,15nm,0.6s
NIL Nilore 57.34 287 P **P 21 36 02.4 +0.8**
ABKAR Akbulak array 57.45 309 P **P 21 36 02.0 -0.1**
SIMJ Simiganj 57.46 294 P **P 21 36 02.4 -0.1**
SIMJ pP **pP 21 36 16.9 +1.1**
PRGR Permogore 57.79 327 *e* P **P 21 36 02.1 -2.2**
PRGR pmax pmax
comp=Z,13nm,1.0s
KIRV Kirov 57.86 322*de* P **P 21 36 04.6 -0.2**
KIRV Kirov 57.86 322 LR LR 22 03 11.4
comp=Z,147nm,18.6s,baz=44,slow=38
NEEM North Greenlan 58.35 5 *i* P **P 21 36 06.5 -2.0**
NEEM IAmb IAmb 21 36 08.3
comp=Z,12nm,0.5s
ARCES ARCESS Array B 59.33 340 P **P 21 36 12.8 -2.1**
comp=Z,0.7nm,0.3s,baz=43,slow=6.6,SNR=20
ARCES LR LR 22 05 19.4
comp=Z,91nm,19.6s,baz=29,slow=40
comp=Z,0.7nm,0.3s
KBL Kabul 59.72 290 P **P 21 36 17.4 -1.0**
KBL Kabul 59.72 290 P **P 21 36 17.4 -1.0**
KBL pmax pmax
comp=Z,30nm,1.1s
BKNI Bangkinang 60.18 237 P **P 21 36 21.5 +0.1**
comp=Z,71nm,0.4s,comp=Z,1μm
KLMR Klimovskoe 60.65 328 *e* P **P 21 36 20.9 -3.1**
KLMR AMP 21 36 24.9
comp=Z,25nm,1.3s
KLMR Klimovskoe 60.65 328 *e* P **P 21 36 20.9 -3.1**
KLMR pmax pmax
comp=Z,25nm,1.3s
HOOD Mount Hood Mea 60.89 54 IAmb IAmb 21 36 44.5
comp=Z,19nm,1.1s
SDSI Sungai Dareh 60.94 236 P **P 21 36 27.5 +0.9**
comp=Z,22nm,1.0s
BELG Belogornoye 62.22 317*d i* P **P 21 36 34.6 -0.1**
BELG pmax pmax
comp=Z,3.0nm,0.6s
L04D Klamath Falls 62.26 57 P **P 21 36 34.9 -0.6**
SUMG Summit 63.75 2 P **P 21 36 44.0 -1.1**
SUMG Summit 63.75 2 P **P 21 36 44.0 -1.1**
SUMG pmax pmax
comp=Z,29nm,0.9s
SUMG Summit 63.75 2 *i* P **P 21 36 44.0 -1.1**
SUMG IAmb IAmb 21 36 46.4
comp=Z,32nm,0.9s
PLID Pearl Lake 64.27 51 P **P 21 36 49.5 +0.6**
MSO Missoula 64.36 49 P **P 21 36 49.9 +0.7**
baz=308
HRA Herat 64.37 294 P **P 21 36 48.8 -0.8**
HRA IAmb IAmb 21 36 51.1
comp=Z,21nm,1.3s
WB0 Warramunga Arr 64.56 194 P **P 21 36 51.0 +0.5**
WR0 Warramunga Arr 64.73 194 P **P 21 36 51.9 +0.3**
WR0 IAmb IAmb 21 37 37.6
comp=Z,21nm,1.7s
WRAB Tennant Creek 64.73 194⇑ *i* P **P 21 36 53.2 +1.5**
WRAB pmax pmax
comp=Z,5.0nm,1.0s
WRAB Tennant Creek 64.73 194 P **P 21 36 52.0 +0.3**
WRAB pP **pP 21 37 05.8 +1.5**
WRA Warramunga Arr 64.75 194 P **P 21 36 52.1 +0.3**
WRA Warramunga Arr 64.75 194 *i* P **P 21 36 53.0 +1.3**
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 64.75 194 P **P 21 36 52.0 +0.2**
comp=Z,2.6nm,0.7s,baz=12,slow=6.7,SNR=22
comp=Z,2.6nm,0.7s
GEYT Alibeck 64.91 299 P **P 21 36 52.3 -0.5**
comp=Z,17nm,0.8s,baz=48,slow=4.4,SNR=61
comp=Z,17nm,0.8s
GYA0B ALIBECK ARRAY 64.91 299 IAmb IAmb 21 36 54.0
comp=Z,16nm,0.8s
FINES FINESS Array B 65.03 333 P **P 21 36 51.8 -1.4**
FINES FINESS Array B 65.03 333 P **P 21 36 51.8 -1.4**
FINES FINESS Array B 65.03 333 P **P 21 36 51.3 -1.8**
comp=Z,11nm,0.5s,baz=35,slow=5.2,SNR=105

FINES LR LR 22 07 25.5
comp=Z,118nm,18.6s,baz=338,slow=38
comp=Z,11nm,0.5s
FFC Flin Flon 65.22 37 P **P 21 36 54.5 0.0**
FFC Flin Flon 65.22 37 P **P 21 36 54.5 0.0**
FFC pmax pmax
comp=Z,109nm,2.0s
FFC Flin Flon 65.22 37 P **P 21 36 55.4 +0.9**
OBN Obninsk 65.56 324 *e* P **P 21 36 56.4 -0.3**
OBN Obninsk 65.56 324 *e* P **P 21 36 56.4 -0.3**
OBN *i* *PP **pP 21 37 07.2 -3.0**
OBN pmax pmax
comp=Z,24nm,1.5s
OBN MLR MLR
comp=Z,110nm,17.0s
VRH Novokhopyorsk 65.83 319 *e* P **P 21 36 55.4 -3.1**
VRH pmax pmax
comp=Z,20nm,0.6s
EGMT Eagleton 65.85 46 P **P 21 36 59.9 +1.1**
baz=310
HLID Hailey 66.10 52 P **P 21 37 01.7 +1.0**
baz=309
LPSR Galich'ya Gora 66.21 321 *e* P **P 21 36 57.6 -3.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
ILULI Ilulissat 66.33 7 *i* P **P 21 37 00.6 -0.8**
BOZ Bozeman (W) 66.38 49 IAmb IAmb 21 37 18.2
comp=Z,12nm,1.4s
BOZ Bozeman (W) 66.38 49 P **P 21 37 03.1 +0.7**
baz=309
VORR Voronezh 66.70 320 *e* P **P 21 37 01.9 -2.2**
VORR pmax pmax
comp=Z,20nm,0.4s
KVN Kaiserville 66.72 58 IAmb IAmb 21 37 19.2
comp=Z,9.7nm,0.9s
LHV Little Huntoon 66.97 59 IAmb IAmb 21 37 21.7
comp=Z,15nm,1.0s
NVAR Mina Array Bea 66.98 58 P **P 21 37 06.9 +0.5**
NVAR Mina Array Bea 66.98 58 P **P 21 37 07.3 +1.0**
comp=Z,3.8nm,0.7s,baz=289,slow=6.8,SNR=27
comp=Z,3.8nm,0.7s
VSU Vasula 67.01 331*de* P **P 21 37 05.7 -0.2**
VSU pmax pmax
comp=Z,79nm,1.4s
VSR Storozhevoye 67.03 320 *e* P **P 21 37 02.9 -3.2**
VSR pmax pmax
comp=Z,10.0nm,0.5s
VORD Divnogorie 67.13 319 *e* P **P 21 37 03.2 -3.6**
VORD pmax pmax
comp=Z,10.0nm,0.6s
ICESG Greenland Ices 67.20 3 *i* P **P 21 37 06.0 -1.3**
ICESG IAmb IAmb 21 37 08.2
comp=Z,44nm,0.7s
MSVF Nonsavu 67.21 149 LR LR 22 01 44.1
comp=Z,85nm,18.8s,baz=345,slow=32
H17A Grant Village 67.72 49 P **P 21 37 12.2 +1.2**
baz=310
TPH Tonopah 67.86 58 P **P 21 37 12.6 +0.7**
TPH Tonopah 67.86 58 P **P 21 37 12.6 +0.7**
TPH pmax pmax
comp=Z,55nm,1.2s
RLMT Red Lodge 67.97 48 P **P 21 37 13.5 +1.0**
baz=311
MAK Makhachkala 68.13 309 *e* P **P 21 37 13.9 +0.6**
MAK *e* 21 39 44.7
MAK *e* S **S 21 46 11.6 +2.1**
MAK *e* SS **SS 21 50 35.6 +3.7**
MAK MLR MLR
comp=Z,128nm,19.0s
PKM Mcpherson Peak 68.24 62 P **P 21 37 15.4 +1.1**
baz=309
CWC Cottonwood Cre 68.36 60 P **P 21 37 16.4 +1.3**
baz=309
DGMT Dagmar 68.37 43 P **P 21 37 15.3 +0.6**
baz=312
GRAC Grapevine Rang 68.45 59 P **P 21 37 17.1 +1.7**
baz=309
ASAR Alice Springs 68.46 194 P **P 21 37 16.6 +1.2**
comp=Z,0.8nm,0.6s,baz=12,slow=5.5,SNR=11
comp=Z,0.8nm,0.6s
SFJD Kangerlussuaq 68.53 8 *i* P **P 21 37 13.9 -1.4**
SFJD Kangerlussuaq 68.53 8 P **P 21 37 14.8 -0.5**
SFJD pP **pP 21 37 28.9 +0.2**
PALK Pallekele 68.67 259 LR LR 22 10 28.2
comp=Z,38nm,18.1s,baz=248,slow=39
R11B Troy Canyon, C 68.69 57 P **P 21 37 18.5 +1.5**
baz=310
HWUT Hardware Ranch 68.97 52 IAmb IAmb 21 38 34.7
comp=Z,20nm,2.0s
MPMC Manual Prospec 68.97 60 P **P 21 37 20.2 +1.3**
baz=310
DUG Dugway, Tooele 69.16 54 P **P 21 37 20.9 +1.0**
baz=310
TPNV Topopah Spring 69.18 59 P **P 21 37 21.3 +1.2**
baz=310
GOF Gofitskoye 69.20 313*c i* P **P 21 37 20.5 +0.6**
PD31 Pinedale Array 69.34 50 P **P 21 37 20.9 -0.2**
PDAR Pinedale Array 69.34 50 P **P 21 37 21.8 +0.7**
comp=Z,1.7nm,0.7s,baz=248,slow=1.4,SNR=15
comp=Z,1.7nm,0.7s
EDW2 Edwards Air Fo 69.40 61 P **P 21 37 22.0 +0.6**
baz=310
GWY Greenwater Val 69.40 59 P **P 21 37 21.4 -0.1**
DY2G Dye2 69.42 6 *i* P **P 21 37 20.4 -0.8**
DY2G IAmb IAmb 21 37 22.1
comp=Z,19nm,0.8s
MNK Minsk 69.54 327 *i* P **P 21 37 21.5 -0.3**
comp=E,11nm,1.4s
MNK *i* P **P 21 37 21.5 -0.3**
comp=N,8.0nm,1.0s
MNK *i* P **P 21 37 21.5 -0.3**
comp=Z,14nm,1.4s,baz=42
MNK *i* pP **pP 21 37 35.4 -0.1**
MNK *i* PP **PP 21 39 55.1 -0.2**
MNK *i* PPP PPP 21 41 36.5
MNK *i* S **S 21 46 25.4 -0.4**
MNK *i* sS **sS 21 46 50.6 +2.0**
MNK *i* SS **SS 21 50 55.6 +2.7**
MNK *i* SSS SSS 21 54 12.7
MNK *i* LQ LQ 22 03 06.6
MNK *i* LR LR 22 08 33.9
MNK *i* LRM MLR 22 10 24.9
comp=Z,141nm,16.8s
MNK *i* LRM MLR 22 10 31.9
MNK *i* LRM MLR 22 10 31.9
comp=N,116nm,18.3s
MNK Minsk 69.54 327 *i* P **P 21 37 21.5 -0.3**
MNK *i* *PP **pP 21 37 35.3 -0.1**
MNK *i* 21 39 55.1
MNK *i* PPP PPP 21 41 36.5
MNK *i* S **S 21 46 25.3 -0.4**
MNK *i* *SS **sS 21 46 50.5 +2.0**
MNK *i* SS **SS 21 50 55.6 +2.7**
MNK pmax pmax
comp=N,8.0nm,1.0s
MNK pmax pmax
comp=E,11nm,1.3s
MNK pmax pmax
comp=Z,14nm,1.3s
MNK MLR MLR
comp=Z,141nm,17.0s
MNK MLR MLR
comp=N,116nm,18.0s
NACGM Naroch 69.66 328 *e* P **P 21 37 21.7 -0.8**
comp=E,932nm,1.0s
NB2 NORSAR Subarra 69.69 339 P **P 21 37 21.8 -0.9**
comp=Z,3.2nm,0.4s,baz=30,slow=6.5
NOA NORSAR Array B 69.69 339 P **P 21 37 21.5 -1.2**
NOA NORSAR Array B 69.69 339 P **P 21 37 21.4 -1.2**
comp=Z,3.1nm,0.4s,baz=32,slow=6.6,SNR=76
NOA LR LR 22 10 57.5
comp=Z,65nm,20.7s,baz=265,slow=38
comp=Z,3.1nm,0.4s
HFS Hagfors 69.80 338 P **P 21 37 21.6 -1.7**
HFS Hagfors 69.80 338 P **P 21 37 21.6 -1.7**
comp=Z,7.0nm,0.4s,baz=46,slow=6.4,SNR=12
HFS LR LR 22 10 52.9
comp=Z,90nm,20.0s,baz=326,slow=38
comp=Z,7.0nm,0.4s
NCK Nalchik 69.94 311⇓ *i* P **P 21 37 25.4 +0.9**
NCK pmax pmax
comp=Z,28nm,0.7s
BFSC Mount Baldy Ra 70.02 62 P **P 21 37 26.2 +0.8**
baz=310
KVAR Kislovodsk Arr 70.12 312 LR LR 22 12 23.9
comp=Z,131nm,18.4s,baz=300,slow=40

KIV **Kislovodsk** 70.13 312 ⇑P P 21 37 25.9 +0.2
KIV **Kislovodsk** 70.13 312 P P 21 37 26.5 +0.8
KIV **Kislovodsk** 70.13 312 *i* P P 21 37 26.3 +0.5
SNR=20
KIV **Kislovodsk** 70.13 312 *e*P P 21 37 25.9 +0.2
KIV **Kislovodsk** 70.13 312 ⇑P P 21 37 25.9 +0.2
KIV **Kislovodsk** 70.13 312 P P 21 37 26.6 +0.8
KBZ **Khabaz** 70.17 312*c i*P P 21 37 26.5 +0.7
KBZ pmax pmax
comp=Z,40nm,0.8s
KBZ **Khabaz** 70.17 312 P P 21 37 26.2 +0.4
comp=Z,37nm,0.8s,baz=59,slow=4.1,SNR=74
KBZ LR LR 22 11 14.9
comp=Z,154nm,19.2s,baz=23,slow=38
ZEI **Tsey** 70.25 311 *e*P P 21 37 25.6 -1.1
ZEI pmax pmax
comp=Z,32nm,0.9s
SCI2 **San Clemente I** 70.26 63 P P 21 37 27.2 +0.6
baz=310
HEC **Hector,Ludlow** 70.48 60 P P 21 37 28.9 +0.9
baz=310
TMUT **Trail Mountain** 70.68 54 IAmb IAmb 21 37 31.7
comp=Z,11nm,0.6s
RDMU **Red Mountain** 70.79 52 IAmb IAmb 21 37 32.1
comp=Z,9.0nm,0.7s
GMRC **Granite Mounta** 70.93 60 P P 21 37 31.4 +0.6
baz=311
ULM **Lac du Bonnet** 71.01 38 P P 21 37 30.8 -0.1
comp=Z,2.4nm,0.4s,baz=227,slow=3.3,SNR=1.8
comp=Z,2.4nm,0.4s
MDND **Maddock** 71.03 41 P P 21 37 31.9 +0.8
baz=315
PFO **Pinyon Flats O** 71.19 61 P P 21 37 33.2 +0.7
baz=311
TPFO **Pinon Flats** 71.20 61 P P 21 37 32.4 -0.1
baz=311
BELC **Belle Mtn. Jos** 71.23 61 P P 21 37 33.7 +1.0
baz=311
RSSD **Black Hills** 71.41 46 P P 21 37 34.0 +0.3
baz=314
RSSD **Black Hills** 71.41 46 P P 21 37 33.8 +0.1
GNI **Garni** 71.54 308 P P 21 37 33.9 -0.6
GNI IAmb IAmb 21 38 11.0
comp=Z,24nm,1.0s
GNI **Garni** 71.54 308 P P 21 37 35.9 +1.4
GNI **Garni** 71.54 308*de*P P 21 37 35.6 +1.1
GNI pmax pmax
comp=Z,18nm,0.8s
GNI **Garni** 71.54 308 LR LR 22 11 26.1
comp=Z,47nm,19.2s,baz=52,slow=38
GNI **Garni** 71.54 308 P P 21 37 36.0 +1.5
IRM **Iron Mountain** 71.66 60 P P 21 37 36.0 +0.8
baz=311
MONP2 **Monument Peak** 71.68 62 P P 21 37 35.1 -0.4
baz=311
BC3 **Big Chuckawall** 71.80 61 P P 21 37 36.5 +0.4
baz=311
AKASG **Malin Array Be** 71.83 324 *i* P P 21 37 35.2 -0.6
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG **Malin Array Be** 71.83 324 P P 21 37 34.7 -1.1
comp=Z,4.2nm,0.4s,baz=38,slow=6.0,SNR=35
AKASG LR LR 22 15 13.4
comp=Z,58nm,19.3s,baz=347,slow=41
comp=Z,4.2nm,0.4s
AKBB **Malin Array Si** 71.83 324 IAmb IAmb 21 37 36.7
comp=Z,27nm,1.1s
AKBB **Malin Array Si** 71.83 324*c i*P P 21 37 35.1 -0.7
AKBB pmax pmax
comp=Z,25nm,1.0s
O20A **White River Ci** 71.83 52 P P 21 37 35.9 -0.4
baz=313
SOC **Sochi** 71.95 313 *e*P P 21 37 35.4 -1.3
SOC *e* 21 40 15.2
SOC *e*PPP PPP 21 42 01.2
SOC *e*S S 21 46 52.9 -1.3
SOC MLR MLR
comp=Z,128nm,20.0s
IKP **In-Ko-Pah, Jac** 72.04 62 P P 21 37 38.2 +0.7
baz=311
PDMCI **Parker Dam,Lak** 72.19 59 P P 21 37 39.0 +0.8
baz=311
ANN **Anapa** 72.28 316 *e*P P 21 37 35.2 -3.4
ANN *e**PP pP 21 37 48.5 -3.8
ANN *e* 21 40 18.7
ANN *e*S S 21 46 53.0 -4.9
ANN *e*SSS SSS 21 54 48.4
ANN pmax pmax
comp=Z,63nm,1.5s
KLNR **Kaliningrad** 72.29 331⇑*e*P P 21 37 37.5 -1.0
BCA **Borcka** 72.41 311 ⇓P P 21 37 40.3 +0.9
GLA **Glamis** 72.59 61 P P 21 37 42.1 +1.4
baz=312
N23A **Red Feather La** 72.60 50 P P 21 37 41.1 +0.2
baz=314
WUAZ **Wupatki** 73.09 57 P P 21 37 44.7 +0.9
baz=312
ISCO **Idaho Springs** 73.54 50 P P 21 37 47.4 +0.8
baz=314
MVCO **Mesa Verde** 73.66 54 P P 21 37 48.2 +0.9
baz=313
SHME **Shamm** 73.70 290 *i* P P 21 37 47.4 +0.1
SNR=8.2
SORM **Soroca** 74.14 323 ⇑P P 21 37 49.1 -0.4
SORM **Soroca** 74.14 323 ⇑P P 21 37 49.1 -0.4
GURO **Guroymak-BITLI** 74.17 308 IAmb IAmb 21 37 52.5
comp=Z,19nm,1.0s
S22A **4UR Ranch, Cre** 74.26 53 P P 21 37 51.3 +0.4
baz=314
BEL **Belsk** 74.31 329 *e*P P 21 37 51.1 +0.7
W18A **Petrified Fore** 74.35 56 P P 21 37 51.6 +0.4
baz=313
Q24A **Divide** 74.38 51 P P 21 37 50.8 -0.7
baz=314
UOSS **Minazif** 74.39 290 P P 21 37 51.3 0.0
UOSS IAmb IAmb 21 37 52.3
comp=Z,20nm,0.8s
UOSS **Minazif** 74.39 290 *i* P P 21 37 51.2 -0.1
SNR=9.5
GKP **Gorka Klasztor** 74.41 332 *e*P P 21 37 51.2 +0.3
IVI **Ivigtut** 74.44 8 *i* P P 21 37 50.0 -0.9
HATD **Hatta, Dubai** 74.51 290 *i* P P 21 37 52.7 +0.6
SNR=9.4
RGN **Rugen** 74.61 335 *e*P P 21 37 58.8 +6.7
comp=Z,68nm,0.8s,baz=30,slow=5.2
LVV **L'vov** 74.65 326 *e*P P 21 37 52.9 +0.4
SOHO **SOHO** 74.69 289 *i* P P 21 37 53.2 +0.1
SNR=6.8
FAQ **Al Faqa, Dubai** 74.93 290 *i* P P 21 37 54.8 +0.3
SNR=7.1
SDCO **Great Sand Dun** 75.02 52 P P 21 37 55.4 +0.2
baz=314
ASUD **Al Ashush, Dub** 75.19 290 P P 21 37 56.5 +0.5
ALNE **Al Ain** 75.28 289 *i* P P 21 37 56.9 +0.4
SNR=7.1
KWP **Kalwaria Pacla** 75.33 327 *e*P P 21 37 57.1 +0.7
ECSD **EROS Data Cent** 75.45 43 P P 21 37 58.2 +1.0
baz=318
TUC **Tucson** 75.61 59 P P 21 37 60.0 +1.6
baz=313
BURAR **Bucovina Array** 75.89 324 ⇑P P 21 37 59.9 +0.2
BURAR **Bucovina Array** 75.89 324 ⇑P P 21 37 59.9 +0.2
OJC **Ojcow** 75.98 329 *e*P P 21 38 00.6 +0.5
VLDR **Vladesti** 76.00 321 ⇓P P 21 38 00.8 +0.5
BSEG **Bad Segeberg** 76.05 336 *e*P P 21 38 00.9 +0.5
comp=Z,17nm,0.9s,baz=30,slow=5.2
KOLS **Kolonicke sedl** 76.06 327 *e*P P 21 38 01.0 +0.4
KOLS **Kolonicke sedl** 76.06 327 *e*P P 21 38 01.0 +0.4
KOLS pmax pmax
comp=Z,17nm,0.7s
T25A **Trinidad** 76.07 52 P P 21 38 02.0 +0.9
baz=315
STHS **Stebnicka Huta** 76.08 327 *e*P P 21 38 00.5 -0.2
STHS **Stebnicka Huta** 76.08 327 *e*P P 21 38 00.5 -0.2
STHS pmax pmax
comp=Z,15nm,0.7s
TESR **Tescani** 76.12 323 ⇑P P 21 38 00.8 -0.2
GHRR 76.13 322 ⇑P P 21 38 02.4 +1.4
TLCR 76.17 321 ⇑P P 21 38 01.9 +0.7
TLCR 76.17 321 ⇑P P 21 38 01.9 +0.7
CRVS **Cervenica-Dubn** 76.40 327 *e*P P 21 38 03.0 +0.5
CRVS **Cervenica-Dubn** 76.40 327 *e*P P 21 38 03.0 +0.5
CRVS pmax pmax
comp=Z,23nm,1.2s
ANMO **Albuquerque** 76.42 55 P P 21 38 04.4 +1.3
baz=314

NIE **Niedzica** 76.44 328 *e*P P 21 38 04.4 +1.6
CFR **Carcaliu** 76.48 321 ⇓P P 21 38 03.5 +0.5
CFR **Carcaliu** 76.48 321 ⇓P P 21 38 03.5 +0.5
ODBI **Odobesti** 76.52 322 ⇓P P 21 38 04.8 +1.6
VRI **Vrincioaia** 76.59 322 ⇑P P 21 38 04.6 +1.0
VRI **Vrincioaia** 76.59 322 ⇑P P 21 38 04.6 +1.0
TRPA **Tarpa** 76.59 326 ⇑P P 21 38 04.4 +0.9
TPGR **Topolog** 76.60 321 ⇓P P 21 38 04.5 +0.8
PLOR **Plostina** 76.63 322 ⇑P P 21 38 04.7 +0.8
PLOR **Plostina** 76.63 322 ⇑P P 21 38 04.7 +0.8
KSP **Ksiaz** 76.74 331 *e*P P 21 38 04.8 +0.3
I37A **Lemond, Waseca** 76.78 41 IAmb IAmb 21 38 18.1
comp=Z,20nm,0.8s
OKC **Ostrava-Krasne** 76.91 329 *e*P P 21 38 06.1 +0.8
OKC **Ostrava-Krasne** 76.91 329 *e*P P 21 38 06.1 +0.8
LANS **Liptovska Anna** 76.98 328 *e*P P 21 38 07.0 +1.2
LANS **Liptovska Anna** 76.98 328 *e*P P 21 38 07.1 +1.2
LANS pmax pmax
comp=Z,17nm,0.8s
OSTC **Ostas** 77.01 331 *e*P P 21 38 06.6 +0.7
OSTC **Ostas** 77.01 331 *e*P P 21 38 06.6 +0.7
CHVC **Chvalec** 77.04 331 *e*P P 21 38 06.6 +0.5
CHVC **Chvalec** 77.04 331 *e*P P 21 38 06.6 +0.5
DOPR **Dopca** 77.10 323 ⇑P P 21 38 07.8 +1.3
UPC **Upice** 77.12 331 *e*P P 21 38 07.0 +0.4
UPC **Upice** 77.12 331 *e*P P 21 38 07.0 +0.4
DPC **Dobruska-Polom** 77.14 331 *e*P P 21 38 07.3 +0.6
DPC **Dobruska-Polom** 77.14 331 *e*P P 21 38 07.3 +0.6
FLTG **Flechtingen** 77.16 334 *e*P P 21 38 06.7 +0.1
comp=Z,19nm,0.8s,baz=30,slow=5.2
MORC **Moravsky Berou** 77.18 330 ⇑P P 21 38 07.5 +0.6
MORC **Moravsky Berou** 77.18 330 *e*P P 21 38 06.9 0.0
MORC **Moravsky Berou** 77.18 330 ⇑P P 21 38 07.5 +0.6
MESR **Meseseni** 77.20 325 ⇑P P 21 38 08.6 +1.5
KRLC **Kraliky** 77.21 330 *e*P P 21 38 07.6 +0.5
KRLC **Kraliky** 77.21 330 *e*P P 21 38 07.6 +0.5
MLR **Muntele Rosu** 77.22 322 ⇑P P 21 38 08.1 +0.7
MLR **Muntele Rosu** 77.22 322 P P 21 38 08.3 +0.9
MLR IAmb IAmb 21 38 09.0
comp=Z,9.4nm,0.5s
MLR **Muntele Rosu** 77.22 322 P P 21 38 08.3 +0.9
MLR pmax pmax
comp=Z,9.0nm,0.5s
SCHQ **Schefferville** 77.28 20 P P 21 38 07.7 +0.3
comp=Z,12nm,0.8s,baz=359,slow=5.9,SNR=12
SCHQ LR LR 22 16 24.8
comp=Z,125nm,18.5s,baz=274,slow=39
comp=Z,12nm,0.8s
121A **Cookes Peak, D** 77.30 57 P P 21 38 08.9 +0.8
baz=314
NRDL **Niedersach Rie** 77.36 335 *e*P P 21 38 08.2 +0.5
comp=Z,7.5nm,0.8s,baz=30,slow=5.2
MAUC **Maruska** 77.42 329 *e*P P 21 38 09.1 +0.8
CLL **Collm** 77.47 333⇑*i*P P 21 38 08.3 -0.2
CLL *i* *PP pP 21 38 23.5 +1.2
CLL pmax pmax
comp=Z,48nm,1.1s
CLL **Collm** 77.47 333 *e*P P 21 38 08.6 +0.1
comp=Z,27nm,0.9s,baz=30,slow=5.2
CLL **Collm** 77.47 333⇑*i*P P 21 38 08.3 -0.2
comp=Z,48nm,1.1s
CLL *i* pP pP 21 38 23.5 +1.2
CLL *es*P sP 21 38 29.0 +1.4
MARR **Marisel-Cluj** 77.51 325 ⇑P P 21 38 09.6 +0.7
BRG **Berggiesshubel** 77.53 332 *e*P P 21 38 09.3 +0.5
BRG Amp 21 38 10.4
comp=Z,8.6nm,0.8s
BRG **Berggiesshubel** 77.53 332 P P 21 38 18.3 +10
BRG Amp 21 38 19.0
comp=Z,3.5nm,0.8s
BRG **Berggiesshubel** 77.53 332 *e*P P 21 38 09.3 +0.5
BRG 21 38 18.3
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG **Berggiesshubel** 77.53 332 *e*P P 21 38 09.7 +0.9
comp=Z,13nm,1.1s,baz=30,slow=5.2
MZR **Muzera** 77.53 290 *i* P P 21 38 09.4 +0.1
SNR=20
PVCC **Panska Ves** 77.61 332 *e*P P 21 38 09.8 +0.6
PVCC **Panska Ves** 77.61 332 *e*P P 21 38 09.8 +0.6
VOIR 77.66 323 ⇓P P 21 38 10.9 +1.1
VOIR 77.66 323 ⇓P P 21 38 10.9 +1.1
FBE **Freiberg** 77.69 333 *e*P P 21 38 10.2 +0.5
comp=Z,15nm,0.9s,baz=30,slow=5.2
BORR **Bors** 77.73 326 ⇓P P 21 38 11.2 +1.3
VYHS **Vyhne** 77.75 328 *e*P P 21 38 10.8 +0.7
VYHS **Vyhne** 77.75 328 *e*P P 21 38 10.8 +0.7
VYHS pmax pmax
comp=Z,13nm,1.1s
RICC **Richard** 77.75 332 *e*P P 21 38 10.4 +0.3
PSZ **Piszkesteto** 77.81 327 ⇓P P 21 38 11.1 +0.6
PSZ **Piszkesteto** 77.81 327 IAmb IAmb 21 38 12.1
comp=Z,13nm,0.8s
PSZ **Piszkesteto** 77.81 327 ⇓P P 21 38 11.1 +0.6
MTUR **Matau** 77.82 323 ⇑P P 21 38 07.7 -2.9
MTUR **Matau** 77.82 323 ⇑P P 21 38 07.7 -2.9
CLZ **Clausthal** 77.85 335 *e*P P 21 38 11.4 +0.8
comp=Z,17nm,0.8s,baz=30,slow=5.2
BR131 **Keskin Array S** 77.89 314 IAmb IAmb 21 38 12.7
comp=Z,10nm,0.8s
BR131 **Keskin Array S** 77.89 314*d i*P P 21 38 11.9 +0.7
BRTR **Keskin Array B** 77.89 314 P P 21 38 10.9 -0.3
BRTR **Keskin Array B** 77.89 314 *i* P P 21 38 11.8 +0.6
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR **Keskin Array B** 77.89 314 P P 21 38 11.2 -0.1
comp=Z,5.2nm,0.8s,baz=87,slow=3.7,SNR=24
comp=Z,5.2nm,0.8s
JAVC **Velka Javorina** 77.89 329 *e*P P 21 38 12.1 +1.2
ARR **Arges** 77.90 323 ⇓P P 21 38 12.4 +1.4
VRAC **Vranov** 77.92 330 ⇑P P 21 38 11.7 +0.7
VRAC **Vranov** 77.92 330 *e*P P 21 38 11.3 +0.3
VRAC **Vranov** 77.92 330 ⇑P P 21 38 11.7 +0.7
VRAC **Vranov** 77.92 330 LR LR 22 18 24.3
comp=Z,112nm,18.4s,baz=8.5,slow=40
HSKC **Hora Svate Kat** 77.93 332 *e*P P 21 38 11.3 +0.2
NEUB **Neuenburg** 77.96 334 *e*P P 21 38 11.4 +0.2
comp=Z,25nm,0.9s,baz=30,slow=5.2
PRA **Prague** 78.04 331 *e*P P 21 38 12.3 +0.7
PRA **Prague** 78.04 331 *e*P P 21 38 12.3 +0.7
GOPC **GO Pecny, Ondr** 78.05 331 *e*P P 21 38 12.4 +0.6
GOPC **GO Pecny, Ondr** 78.05 331 *e*P P 21 38 12.4 +0.6
PRU **Pruhonice** 78.07 331 *e*P P 21 38 12.1 +0.3
PRU **Pruhonice** 78.07 331 *e*P P 21 38 12.1 +0.3
EKA **Eskdalemuir Ar** 78.16 344 P P 21 38 12.2 -0.1
comp=Z,9.0nm,0.6s,baz=21,slow=5.4,SNR=38
comp=Z,9.0nm,0.6s
ANTO **Ankara** 78.22 315 ⇑P P 21 38 13.0 +0.1
ANTO **Ankara** 78.22 315 P P 21 38 12.6 -0.3
ANTO **Ankara** 78.22 315 ⇑P P 21 38 13.0 +0.1
IBBN **Ibbenburen** 78.23 336 *e*P P 21 38 13.1 +0.5
comp=Z,17nm,0.8s,baz=30,slow=5.2
GTTG **Gottingen** 78.23 335 *e*P P 21 38 13.3 +0.6
comp=Z,18nm,0.8s,baz=30,slow=5.2
BR231 **Keskin MP Arra** 78.25 315 P P 21 38 13.1 -0.1
BR231 IAmb IAmb 21 38 15.0
comp=Z,22nm,0.9s
SMOL **Smolenice** 78.27 329 *e*P P 21 38 14.0 +1.0
SMOL pmax pmax
comp=Z,10.0nm,1.1s
TREC **Trest** 78.33 330 *e*P P 21 38 13.6 +0.3
TREC **Trest** 78.33 330 *e*P P 21 38 13.6 +0.3
TANN **Tannenbergstha** 78.41 333 *e*P P 21 38 14.1 +0.3
comp=Z,3.5nm,0.8s,baz=30,slow=5.2
WERD **Werda** 78.44 333 *e*P P 21 38 14.3 +0.4
comp=Z,6.9nm,0.8s,baz=30,slow=5.2
MODS **Modra-Piesok** 78.44 329 *e*P P 21 38 14.7 +0.8
MODS **Modra-Piesok** 78.44 329 *e*P P 21 38 14.7 +0.8
MOX **Moxa** 78.49 333 *e*P P 21 38 14.5 +0.4
comp=Z,16nm,1.1s,baz=30,slow=5.2
GUNZ **Gunzen** 78.50 333 *e*P P 21 38 14.8 +0.5
comp=Z,7.8nm,0.8s,baz=30,slow=5.2
SRO **Srobarova** 78.51 328 *e*P P 21 38 15.7 +1.4
SRO **Srobarova** 78.51 328 *e*P P 21 38 15.7 +1.4
SRO pmax pmax
comp=Z,22nm,0.6s
WERN **Wernitzgruen** 78.55 333 *e*P P 21 38 15.2 +0.6
comp=Z,9.9nm,0.7s,baz=30,slow=5.2
NKC **Novy Kostel** 78.57 333 *e*P P 21 38 14.7 +0.1
NKC **Novy Kostel** 78.57 333 *e*P P 21 38 14.7 +0.1
COPA **Copaceanca** 78.61 322 ⇓P P 21 38 15.2 +0.3
ZVC **Zvikov** 78.66 331 *e*P P 21 38 15.2 +0.1
GZR **Gura Zlata** 78.67 324 ⇓P P 21 38 15.6 +0.2
GZR **Gura Zlata** 78.67 324 ⇓P P 21 38 15.6 +0.2

UBBA **Unterbreizbach** 78.86 334 *e*P P 21 38 16.2 +0.2
comp=Z,5.0nm,0.6s,baz=30,slow=5.2
MANZ **Manzenberg** 78.90 333 *e*P P 21 38 16.9 +0.4
comp=Z,1.3nm,0.8s,baz=30,slow=5.2
BZS **Buzias** 78.98 325 ⇓P P 21 38 17.0 +0.1
BZS **Buzias** 78.98 325 ⇓P P 21 38 17.0 +0.1
KASTN **Kahler Asten** 79.01 335 *e*P P 21 38 17.5 +0.5
comp=Z,11nm,0.8s,baz=30,slow=5.2
ROTZ **Rotzenmuhle** 79.05 333 *e*P P 21 38 18.0 +0.7
comp=Z,1.9nm,0.8s,baz=30,slow=5.2
KHC **Kasperske Hory** 79.13 331 *e*P P 21 38 18.3 +0.5
KHC *e*pP pP 21 38 33.9 +2.3
KHC x x 21 40 17.5
KHC **Kasperske Hory** 79.13 331 *e*P P 21 38 18.3 +0.5
KHC *e**PP pP 21 38 33.9 +2.3
BUG **Bochum--Univer** 79.14 336 *e*P P 21 38 17.9 +0.3
comp=Z,19nm,0.9s,baz=30,slow=5.2
CKRC **Cesky Krumlov** 79.14 331 *e*P P 21 38 18.1 +0.3
CKRC **Cesky Krumlov** 79.14 331 *e*P P 21 38 18.1 +0.3
AMTX **Amarillo** 79.22 52 P P 21 38 19.1 +0.6
baz=317
HERR **Herculane** 79.24 324 ⇓P P 21 38 18.2 -0.2
GEC2 **GERESS Array S** 79.33 331 *e*P P 21 38 19.2 +0.2
comp=Z,5.2nm,0.6s,baz=30,slow=5.2
GERES **GERESS Array B** 79.33 331 P P 21 38 18.4 -0.5
GERES **GERESS Array B** 79.33 331 P P 21 38 18.9 -0.1
comp=Z,7.2nm,0.6s,baz=45,slow=5.8,SNR=33
comp=Z,7.2nm,0.6s
CONA **Conrad Observa** 79.34 330 *i* P P 21 38 19.7 +0.7
comp=Z,11nm,0.6s,SNR=5.8
MNTX **Cornudas Mount** 79.34 56 P P 21 38 19.4 +0.2
baz=315
WET **Wettzell** 79.36 332 *e*P P 21 38 19.8 +0.8
comp=Z,13nm,0.9s,baz=30,slow=5.2
RONA **Rosalia, Austr** 79.37 329 *i* P P 21 38 20.0 +0.9
comp=Z,13nm,0.6s
GRF **Grafenberg Arr** 79.44 333 *e*P P 21 38 20.3 +0.9
comp=Z,28nm,0.8s,baz=30,slow=5.2
GRFO **Grafenberg** 79.44 333 P P 21 38 19.3 -0.1
GRFO **Grafenberg** 79.44 333 P P 21 38 19.3 -0.1
GRFO pmax pmax
comp=Z,33nm,0.8s
PUNG **Punghina** 79.50 323 ⇓P P 21 38 19.3 -0.4
MDVR **Moldovita** 79.61 324 ⇑P P 21 38 20.6 +0.2
MORH **Mrgy, Hungar** 79.70 327 ⇓P P 21 38 20.5 -0.3
TNS **Taunus Mts** 79.86 335 *e*P P 21 38 22.2 +0.5
comp=Z,11nm,0.9s,baz=30,slow=5.2
MOA **Molin** 79.98 330 *i* P P 21 38 22.6 +0.2
comp=Z,5.9nm,0.7s
AHRW **Bad Neuenahr-A** 79.99 336 *e*P P 21 38 22.9 +0.6
comp=Z,10.0nm,0.8s,baz=30,slow=5.2
ARSA **Arzberg** 80.03 329 *i* P P 21 38 23.1 +0.4
comp=Z,3.4nm,0.6s
FRGS **Fruska Gora** 80.10 326 ⇓P P 21 38 22.0 -1.0
BEBN **Eben Emael** 80.17 337 *d*P P 21 38 22.7 -0.5
BTNL **Ternell** 80.23 336 *d*P P 21 38 23.1 -0.6
comp=Z,9.9nm,0.9s
MEM **Membach** 80.24 337 *d*P P 21 38 23.6 0.0
comp=Z,13nm,0.9s
BIOA **Bad Ischl, Aus** 80.34 331 *i* P P 21 38 24.6 +0.3
comp=Z,18nm,1.2s,SNR=6.6
BSTI **Sart Tilman** 80.39 337 *d*P P 21 38 24.8 +0.3
BHOU **Houvegnez** 80.47 336 *d*P P 21 38 25.3 +0.3
comp=Z,10.0nm,1.0s
BOVS **Bovan** 80.54 324 ⇓P P 21 38 24.4 -1.0
RJOB **Jochberg** 80.59 331 *e*P P 21 38 26.6 +0.8
comp=Z,7.7nm,0.8s,baz=30,slow=5.2
BCLA **Clavier** 80.61 337 *d*P P 21 38 25.5 -0.1
comp=Z,11nm,0.9s
BCLA *d*PcP PcP 21 38 31.7 -0.6
VTS **Vitosha** 80.69 322 ⇑P P 21 38 27.0 +0.5
VTS **Vitosha** 80.69 322 ⇑P P 21 38 27.0 +0.5
SOKA **Soboth** 80.69 329 *i* P P 21 38 26.5 +0.2
comp=Z,12nm,0.7s,SNR=6.9
PERS **Pernice** 80.70 329 *i* P P 21 38 26.5 +0.2
BGES **Gesves** 80.70 337 *d*P P 21 38 26.1 0.0
comp=Z,10nm,0.9s
FUR **Furstenfeldbru** 80.75 332 *e*P P 21 38 27.1 +0.6
comp=Z,17nm,0.8s,baz=30,slow=5.2
BMRD **Maredsous** 80.87 337 *d*P P 21 38 27.2 +0.2
comp=Z,16nm,0.8s
RCHB **Rochefort** 80.87 337 *d*P P 21 38 26.7 -0.3
comp=Z,7.0nm,1.0s
STU **Stuttgart** 80.90 334 *e*P P 21 38 27.7 +0.5
comp=Z,20nm,0.8s,baz=30,slow=5.2
LESA **Schwarzleotal** 80.91 331 *e*P P 21 38 28.0 +0.5
comp=Z,11nm,0.6s
WMOK **Wichita Mounta** 80.96 50 P P 21 38 28.3 +0.5
baz=318
KBA **Koelnbreinsper** 80.97 331 *e*P P 21 38 29.1 +1.2
comp=Z,18nm,0.7s
OBKA **Obir** 81.01 329 *e*P P 21 38 27.8 -0.2
comp=Z,9.4nm,0.7s
GOLS **Golise** 81.03 329 *i* P P 21 38 27.9 -0.1
DOU **Dourbes** 81.10 337 *d*P P 21 38 28.0 -0.3
comp=Z,6.2nm,1.2s
MYKA **Terra Mystica** 81.24 330 *e*P P 21 38 28.8 -0.3
comp=Z,8.0nm,0.9s
WATA **Walderalm** 81.36 332 *e*P P 21 38 30.2 +0.3
comp=Z,13nm,0.6s
HDIL **Hopedale** 81.38 40 P P 21 38 30.0 0.0
baz=322
WTTA **Wattenberg** 81.40 332 *i* P P 21 38 30.6 +0.4
comp=Z,19nm,0.7s,SNR=8.4
PRED **Cave del Predi** 81.43 330 IAmb IAmb 21 38 30.2
comp=Z,7.9nm,0.7s
VISS **Visnje** 81.50 329 *i* P P 21 38 30.1 -0.4
RETA **Reutte** 81.51 332 *e*P P 21 38 31.0 +0.4
comp=Z,15nm,1.1s
MOTA **Moosalm** 81.52 332 *i* P P 21 38 31.0 +0.2
comp=Z,17nm,0.7s,SNR=8.3
ABTA **Abfaltersbach** 81.54 331 *e*P P 21 38 30.7 -0.2
comp=Z,6.2nm,1.4s
UBR **Ueberruh** 81.56 333 *e*P P 21 38 30.9 +0.1
comp=Z,3.5nm,0.7s,baz=30,slow=5.2
BFO **Black Forest** 81.56 334 P P 21 38 30.6 -0.2
BFO **Black Forest** 81.56 334 P P 21 38 30.6 -0.2
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO **Black Forest** 81.56 334 *e*P P 21 38 31.1 +0.3
comp=Z,6.0nm,0.8s,baz=30,slow=5.2
SQTA **Sankt Quirin** 81.59 332 *i* P P 21 38 31.5 +0.4
comp=Z,14nm,0.7s,SNR=5.5
CSS **Mathiatis** 81.59 311 IAmb IAmb 21 38 33.8
comp=Z,9.8nm,0.9s
CLUD **Cludinico** 81.66 330 IAmb IAmb 21 38 32.1
comp=Z,9.5nm,0.9s
TUL3 **Leonard** 81.71 47 P P 21 38 32.3 +0.6
baz=319
R40A **Maddies Statio** 81.71 44 IAmb IAmb 21 38 32.8
comp=Z,9.7nm,1.0s
MMAI **Mount Meron Ar** 81.88 308 P P 21 38 34.0 +1.2
comp=Z,13nm,0.6s,baz=42,slow=6.7,SNR=41
MMAI LR LR 22 19 27.7
comp=Z,74nm,18.6s,baz=338,slow=39
comp=Z,13nm,0.6s
STAL **STALIGIAL** 81.89 330 IAmb IAmb 21 38 32.1
comp=Z,11nm,0.8s
FETA **Feichten** 81.92 332 *e*P P 21 38 33.0 +0.1
comp=Z,6.2nm,0.8s
DAVA **Damuels** 81.98 333 *e*P P 21 38 33.4 +0.2
comp=Z,13nm,0.8s
SLE **Schleitheim** 82.01 334 *e*P P 21 38 33.2 0.0
comp=Z,6.2nm,0.7s,baz=30,slow=5.2
TX31 **Lajitas Ar. Si** 82.06 57 IAmb IAmb 21 38 48.3
comp=Z,17nm,1.0s
TXAR **Lajitas Array** 82.06 57 P P 21 38 34.5 +0.6
TXAR **Lajitas Array** 82.06 57 P P 21 38 34.8 +1.0
comp=Z,3.5nm,0.8s,baz=297,slow=4.0,SNR=34
comp=Z,3.5nm,0.8s
SULZ **Cheisacher** 82.34 334 *e*P P 21 38 35.2 +0.3
comp=Z,20nm,0.9s,baz=30,slow=5.2
PLONS **Plons/SG** 82.35 333 *e*P P 21 38 35.4 +0.4
comp=Z,7.0nm,0.8s,baz=30,slow=5.2
CCM **Cathedral Cave** 82.40 43 P P 21 38 35.3 0.0
CCM **Cathedral Cave** 82.40 43 P P 21 38 35.4 +0.1
baz=321
CCM **Cathedral Cave** 82.40 43 P P 21 38 35.3 0.0
CCM pmax pmax
comp=Z,6.0nm,0.8s
FUORN **Ofenpass-Fuorn** 82.43 332 P P 21 38 35.6 -0.1
FUORN IAmb IAmb 21 38 37.2
comp=Z,12nm,1.1s
CTI **Castel Tesino** 82.45 331 IAmb IAmb 21 38 35.4
comp=Z,9.4nm,0.7s
SAND **Sanderson** 82.53 55 IAmb IAmb 21 38 50.0
comp=Z,4.3nm,1.0s

SFIN	Lafayette	82.54	39	P	P	21 38 35.9	-0.1
	baz=324						
PDG	Podgorica	82.56	324	⇑P	P	21 38 35.9	-0.2
BALST	Balsthal	82.64	334	eP	P	21 38 36.9	+0.4
	comp=Z,13nm,0.8s,baz=30,slow=5.2						
PMOR	Pomariorio Ree	82.68	119	eT	T	23 09 57.7	
	comp=Z,53nm,0.2s						
TUE	Stuetta	82.87	333	IAmb	IAmb	21 38 39.0	
	comp=Z,11nm,0.8s						
TEOL	Teolo	83.04	331	IAmb	IAmb	21 40 30.8	
	comp=Z,22nm,0.9s						
TAOE	Nuku Hiva Isla	83.28	109	eLR	LR	22 04 22.9	
	comp=Z,116nm,24.5s						
O48B	Farmland	83.51	38	P	P	21 38 40.5	-0.6
	baz=325						
JCT	Junction City	83.52	54	P	P	21 38 42.2	+0.9
	baz=318						
PPT	Papeete	83.57	122	LR	LR	22 20 44.5	
	comp=Z,18nm,18.1s,baz=288,slow=39						
PPT2	Papeete2	83.58	122	eLR	LR	22 04 59.9	
	comp=Z,114nm,25.0s						
PPT2				eLR	LR	22 05 06.2	
	comp=Z,134nm,26.0s						
TIAR	Tiarei	83.70	122	eT	T	23 11 19.9	
	comp=Z,2.6nm,0.3s						
DRIO	Del Rio	83.81	55	IAmb	IAmb	21 38 57.1	
	comp=Z,11nm,1.0s						
MIAR	Mount Ida	83.92	47	P	P	21 38 43.7	+0.4
MIAR	Mount Ida	83.92	47	P	P	21 38 43.9	+0.7
	baz=320						
MIAR	Mount Ida	83.92	47	P	P	21 38 43.7	+0.4
MIAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ERPA	Erie	84.17	34	P	P	21 38 44.5	+0.1
	baz=328						
P49A	Miami Univ. Ec	84.30	38	P	P	21 38 45.3	+0.2
	baz=325						
M53A	Wt Miller and	84.46	35	P	P	21 38 46.1	+0.2
	baz=327						
F62A	Pittston Farm,	84.46	26	IAmb	IAmb	21 38 47.1	
	comp=Z,16nm,1.1s						
EIL	Elat	84.61	306	LR	LR	22 21 39.5	
	comp=Z,49nm,18.2s,baz=72,slow=39						
WCI	Wyandotte Cave	84.64	40	P	P	21 38 47.2	+0.3
	baz=324						
MEH	Mehetia	84.73	121	eT	T	23 12 38.8	
	comp=Z,26nm,0.2s						
O53A	New Philadelph	85.23	36	P	P	21 38 50.0	+0.2
	baz=327						
PKME	Peaks-Kenny Pk	85.24	25	P	P	21 38 49.4	-0.3
	baz=334						
T47A	Sharon Grove	85.25	41	IAmb	IAmb	21 39 04.0	
	comp=Z,6.9nm,0.8s						
H62A	Milan	85.26	27	P	P	21 38 49.9	0.0
H62A				IAmb	IAmb	21 38 51.5	
	comp=Z,14nm,1.0s						
SSFO	Shawnee State	85.66	38	P	P	21 38 52.0	0.0
SSPA	Standing Stone	86.26	33	P	P	21 38 54.8	0.0
	baz=329						
MCWV	Mont Chateau	86.30	35	P	P	21 38 56.1	+1.0
	baz=328						
HRV	Adam Dziewonsk	86.97	28	P	P	21 38 58.6	+0.4
	baz=333						
TKL	Tuckaleechee C	87.90	40	LR	LR	22 22 09.8	
	comp=Z,44nm,18.1s,baz=304,slow=38						
KMSC	Kings Mountain	89.44	38	P	P	21 39 10.7	+0.5
	baz=327						
NHSC	New Hope	91.66	39	P	P	21 39 21.7	+1.2
	baz=328						
ESDC	Sonseca Array	93.05	339	P	P	21 39 25.6	-1.3
	comp=Z,1.5nm,0.8s,baz=20,slow=4.0,SNR=13						
	comp=Z,1.5nm,0.8s						
DWPF	Disney Wildern	95.25	42	P	P	21 39 37.1	0.0
	baz=327						
TORD	Torodi Ar. Bea	115.46	323	PKP	PKiKP	21 44 55.0	-0.4
	comp=Z,0.5nm,0.5s,baz=41,slow=1.0,SNR=7.7						
VNDA	Vanda	121.44	177	PKP	PKiKP	21 45 05.2	+0.2
	comp=Z,0.5nm,0.7s,baz=271,slow=3.6,SNR=4.5						
DBIC	Dimbokro	124.01	327	PKP	PKPdf	21 45 11.1	-0.7
	comp=Z,4.2nm,1.0s,baz=24,slow=2.7,SNR=4.1						
MAW	Mawson	127.92	209	PKP	PKPdf	21 45 17.1	-0.4
	comp=Z,0.6nm,0.4s,baz=174,slow=10,SNR=1.6						
QSPA	South Pole Qui	133.63	180	PKP	PKPdf	21 45 27.9	-0.6
	comp=Z,1.0nm,0.6s,baz=279,slow=1.0,SNR=4.5						
LPAZ	La Paz	138.88	59	PKIKP	PKPdf	21 45 40.0	-0.4
LPAZ	La Paz	138.88	59	PKP	PKPdf	21 45 40.0	-0.4
	comp=Z,0.5nm,0.4s,baz=288,slow=4.3,SNR=2.0						
H03N2	Juan Fernandez	142.35	90	T	T	00 24 49.2	
	baz=305,slow=77,SNR=324						
H03N3	Juan Fernandez	142.36	90	T	T	00 24 50.1	
	baz=305,slow=77,SNR=242						
H03N1	Juan Fernandez	142.36	90	T	T	00 24 50.5	
	baz=305,slow=77,SNR=335						
TROLL	Troll, Antarti	147.33	199	⇑PKPdf	PKPab	21 45 57.1	-0.5
	comp=Z,276nm,0.6s						
BDFB	Brasilia	148.72	31	PKPbc	PKPbc	21 46 00.1	-0.7
	comp=Z,3.8nm,0.5s,baz=316,slow=3.7,SNR=7.1						
SNAA	Sanae	148.78	197	⇑PKPdf	PKiKP	21 46 00.3	-0.3
	comp=Z,38nm,0.5s						
SNAA	Sanae	148.78	197	PKPbc	PKPbc	21 45 59.3	+0.1
	comp=Z,2.0nm,0.6s,baz=189,slow=3.6,SNR=20						
VNA2	Neumayer--Watz	150.29	196	⇑PKPdf	PKiKP	21 46 04.3	+0.6
	comp=Z,1.1nm,0.6s,baz=135,slow=1.0						
VNA3	Neumayer Olymp	150.47	194	⇑PKPdf	PKiKP	21 46 04.4	+0.4
	comp=Z,5.8nm,0.8s						
VNA1	Neumayer--Stat	150.69	196	⇑PKPdf	PKiKP	21 46 05.2	+0.7
	comp=Z,3.5nm,0.6s						
PLCA	Paso Flores	151.49	97	PKPbc	PKPbc	21 46 06.8	0.0
	comp=Z,2.8nm,0.7s,baz=309,slow=1.9,SNR=5.6						

*NEIC **23** 21:58:13.3±0.6, 18°.84N±0°.07×155°.30W±0°.05, h33km±10km, Error ellipse: s-maj=10.4km s-min=6.4km az=151.0*

HVO 23 21:58:15.8±1.4, 18°.89N±0°.01×155°.32W±0°.02, h13km±6km, ML2.4/13, ML2.6/41(NEIC), Error ellipse: s-maj=3.4km s-min=1.4km az=112.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	Honuapo	0.30	312		Pg	21 58 21.9	-0.1
HPO					Sg	21 58 26.5	+0.5
HTC	Hot Caves	0.35	348		Pg	21 58 22.9	-0.2
HLP	Hilina Pali	0.41	2		Pg	21 58 23.6	-0.4
HLP				Sg	Sg	21 58 30.1	+0.7
HLP				IAML		21 58 32.0	
	comp=E,580nm,0.8s						
HLP				IAML		21 58 35.8	
	comp=N,585nm,0.5s						
KHU	Kahuku	0.45	322	Pg	Pg	21 58 24.1	-0.7
KHU				Sg	Sg	21 58 30.5	-0.4
KHU				IAML		21 58 31.0	
	comp=E,493nm,0.9s						
KHU				IAML		21 58 31.1	
	comp=N,450nm,1.4s						
PUH	Pauahi	0.49	12	Pg	Pg	21 58 24.6	-1.0
AIN	Ainahou	0.50	345	Pg	Pg	21 58 25.0	-0.7
AIN				Sg	Sg	21 58 32.0	-0.4
AIN				IAML		21 58 34.0	
	comp=E,490nm,0.4s						
SDHHI	Sand Hill	0.50	3	Pg	Pg	21 58 24.7	-1.0
SDHHI				IAML		21 58 35.6	
	comp=N,454nm,1.0s						
KKO	Keanakako`i	0.51	6	Pg	Pg	21 58 24.9	-1.0
KKO				IAML		21 58 34.4	
	comp=E,480nm,1.5s						
KNHH	Kane Nui o Ham	0.51	17		Pg	21 58 24.9	-1.0
WRMHI	West Rim	0.52	2	Pg	Pg	21 58 24.8	-1.2
BYL	Byron's Ledge	0.52	6	Pg	Pg	21 58 24.9	-1.3
BYL				IAML		21 58 40.2	
	comp=N,327nm,0.6s						
STCH	Steam Cracks	0.53	21	Pg	Pg	21 58 25.1	-1.2
UWE	Uwekahuna	0.53	3	Pg	Pg	21 58 25.1	-1.2
HATHI	Halema'uma'u T	0.54	6	Pg	Pg	21 58 25.0	-1.4
HATHI				IAML		21 58 36.1	
	comp=N,370nm,0.8s						
JCUZ	Jacuzzi	0.54	23	Pg	Pg	21 58 25.5	-0.9
JCUZ				Sg	Sg	21 58 33.2	-0.4
UWB	Uwekahuna B	0.54	5	Pg	Pg	21 58 25.2	-1.2
UWB				IAML		21 58 32.6	
	comp=N,355nm,3.5s						
SBLHI	Steaming Bluff	0.54	6	Pg	Pg	21 58 24.9	-1.5
SBLHI				IAML		21 58 37.8	
	comp=N,319nm,2.9s						
SBLHI				IAML		21 58 43.7	
	comp=E,312nm,1.4s						
NPOC	North of Pu'u	0.54	22	Pg	Pg	21 58 25.5	-0.9
NPOC				IAML		21 58 31.2	
	comp=N,304nm,0.9s						
RSD	Rainshed	0.57	4	Pg	Pg	21 58 25.6	-1.5
MLH	Mauna Loa	0.60	354	Pg	Pg	21 58 26.4	-1.3
MLH				IAML		21 58 39.7	
	comp=E,296nm,3.3s						
MLH				IAML		21 58 41.5	
	comp=N,239nm,0.5s						
JOKA	Jonika Flow	0.62	29		Pg	21 58 26.4	-1.6
MWH	Moku'aweowe	0.65	336	Pg	Pg	21 58 27.1	-1.6
MWH				IAML		21 58 46.9	
	comp=E,350nm,0.6s						
MWH				IAML		21 58 50.1	
	comp=N,303nm,1.0s						
ALEP	Alea Permanent	0.72	335		Pg	21 58 27.8	-2.0
HMH	Humu'ula Sheep	0.73	348	Pg	Pg	21 58 28.3	-1.7
HMH				IAML		21 58 36.4	
	comp=E,262nm,4.2s						
HMH				Sg	Sg	21 58 38.3	-1.3
HMH				IAML		21 58 48.3	
	comp=N,216nm,1.7s						
KHLU	Kahalu`u	0.88	322	Pg	Pg	21 58 30.2	-2.7
KHLU				IAML		21 58 45.2	
	comp=E,187nm,3.5s						
KHLU				IAML		21 58 57.8	
	comp=N,225nm,3.5s						
HUH	Hualalai	0.93	329	Pg	Pg	21 58 31.1	-2.8

IDC 23 22:00:20.1±5.8, 64°.82N×173°.09W, h0km, mb3.9/2, mbtmp3.6/3, ML2.5/1, MS3.9/6, Error ellipse: s-maj=149.6km s-min=30.0km az=9.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	11.14	78	LR	LR	22 12 41.0	
	baz=286,slow=14,SNR=5.5						
	0.4nm,0.7s						
DLBC	Dease Lake	21.07	87	LR	LR	22 12 41.0	
	comp=Z,158nm,19.3s,baz=232,slow=35						
ZALV	Zalesovo Beam	47.46	308	P	P	22 08 55.6	-0.3
	0.7nm,0.5s,baz=34,slow=6.6,SNR=3.7						
	0.7nm,0.5s						
BORG	Borgarnes	49.09	16	LR	LR	22 29 23.8	
	comp=Z,121nm,18.2s,baz=267,slow=36						
FINES	FINESS Array B	53.23	349	P	P	22 09 39.7	+0.2
	1.3nm,0.6s,baz=21,slow=8.1,SNR=5.3						
	1.3nm,0.6s						
MKAR	Makanchi Array	54.37	305	LR	LR	22 34 32.5	
	comp=Z,118nm,20.2s,baz=68,slow=38						
AAK	Ala-Archa	60.68	309	LR	LR	22 38 03.7	
	comp=Z,72nm,18.1s,baz=100,slow=37						
GERES	GERESS Array B	66.55	355	LR	LR	22 42 00.8	
	comp=Z,107nm,18.3s,baz=316,slow=38						
WSAR	Wadi Sarin	83.63	313	LR	LR	22 52 29.6	
	comp=Z,53nm,19.3s,baz=221,slow=37						

*IDC **23** 22:00:41.7±0.7, 12°.62N×144°.43E, h0km, mb4.1/14, mbtmp4.1/14, MS3.5/18, Error ellipse: s-maj=23.7km s-min=14.5km az=110.0*

*NEIC **23** 22:00:44.7±1.3, 12°.53N±0°.07×144°.8E±0°.2, h13km±6km, mb4.5/16, Error ellipse: s-maj=21.3km s-min=10.6km az=92.0*

ISC 23 22:00:46.5±0.7, 12°.57N±0°.08×144°.6E±0°.1, h30km, n58, σ1.24/41, mb4.4/22, MS3.5/16, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.05	16		Pn	22 01 04.6	-0.7
GUMO				Sg	Sn	22 01 18.2	-0.8
GUMO	Guam	1.05	16	Pn	Pn	22 01 03.6	-1.7
	304nm,0.3s,baz=105,slow=1.3,SNR=35						
GUMO				Sn	Sb	22 01 21.6	+1.9
	492nm,0.3s,baz=343,slow=19,SNR=5.4						
GUMO				LR	LR	22 01 28.2	
	comp=Z,1μm,19.3s,baz=135,slow=44						
JCJ	Chichijima	14.62	352	LR	LR	22 08 59.7	
	comp=Z,305nm,18.6s,baz=170,slow=34						
PATS	Pohnpei	14.70	112	Pn	Pn	22 04 06.7	-5.8
DAV	Davao City (W)	19.48	255	LR	LR	22 12 54.9	
	comp=Z,57nm,20.1s,baz=78,slow=38						
H11S3	WAKE ISLAND Hy 22.11	72		T	T	22 28 47.0	
	baz=242,slow=77,SNR=17						
H11S1	WAKE ISLAND Hy 22.12	72		T	T	22 28 53.5	
	baz=242,slow=77,SNR=16						
H11S2	WAKE ISLAND Hy 22.12	72		T	T	22 28 50.3	
	baz=242,slow=77,SNR=18						
H11N1	WAKE ISLAND Hy 22.58	69		T	T	22 29 22.4	
	baz=255,slow=75,SNR=43						
H11N2	WAKE ISLAND Hy 22.59	69		T	T	22 29 26.8	
	baz=255,slow=75,SNR=28						
H11N3	WAKE ISLAND Hy 22.60	69		T	T	22 29 30.0	
	baz=255,slow=75,SNR=35						
MJAR	Matsushiro Arr	24.54	348	P	P	22 06 03.8	+0.2
	1.3nm,0.5s,baz=183,slow=9.5,SNR=2.2						
	1.3nm,0.5s						
BATI	Baumata	30.71	223	LR	LR	22 20 19.0	
	comp=Z,54nm,18.1s,baz=20,slow=39						
CTA	Charters Tower	32.50	177	LR	LR	22 20 05.1	
	comp=Z,39nm,18.8s,baz=68,slow=36						
WB0	Warramunga Arr	33.66	197	P	P	22 07 24.9	0.0
WB0				IAmb	IAmb	22 07 26.1	
	comp=Z,4.4nm,0.8s						
WR0	Warramunga Arr	33.80	197	P	P	22 07 26.2	+0.2
WR0				IAmb	IAmb	22 07 33.4	
	comp=Z,4.6nm,0.9s						
WB2	Warramunga Arr	33.84	197	P	P	22 07 26.6	+0.2
WB2				IAmb	IAmb	22 07 28.2	
	comp=Z,9.3nm,0.9s						
WRA	Warramunga Arr	33.84	197	P	P	22 07 24.8	-1.6
WRA	Warramunga Arr	33.84	197	P	P	22 07 26.1	-0.4
	comp=Z,6.2nm,0.9s,baz=21,slow=9.7,SNR=39						
WRA				LR	LR	22 22 35.1	
	comp=Z,85nm,18.9s,baz=193,slow=39						
	comp=Z,6.2nm,0.9s						
ASAR	Alice Springs	37.49	196	P	P	22 07 58.0	+0.2
	comp=Z,2.0nm,1.1s,baz=15,slow=6.7,SNR=8.8						
ASAR				PcP	PcP	22 10 15.4	-0.5
	comp=Z,0.6nm,0.9s,baz=26,slow=4.5,SNR=2.1						
ASAR				LR	LR	22 22 27.9	
	comp=Z,82nm,21.9s,baz=356,slow=35						
	comp=Z,2.0nm,1.1s						
MBWA	Marble Bar	41.46	216	P	P	22 08 32.0	+1.2
MBWA				IAmb	IAmb	22 08 50.8	
	comp=Z,23nm,1.4s						
LEM	Lembang	41.47	244	LR	LR	22 27 38.6	
	comp=Z,40nm,19.1s,baz=20,slow=39						
PSA00	Pilbara Seismi	41.72	216	P	P	22 08 34.0	+1.0
PETK	Petropavlovsk-	41.78	12	LR	LR	22 28 16.3	
	comp=Z,13nm,19.1s,baz=194,slow=40						
CMAR	Chiang Mai Arr	44.26	284	P	P	22 08 52.5	-1.2
	comp=Z,2.0nm,0.4s,baz=92,slow=6.9,SNR=4.3						
CMAR				LR	LR	22 26 54.8	
	comp=Z,37nm,19.6s,baz=90,slow=36						
	comp=Z,2.0nm,0.4s						
MA2	Magadan	47.15	4	LR	LR	22 27 48.2	
	comp=Z,34nm,21.6s,baz=170,slow=34						
SONM	Songino Array	47.39	326	P	P	22 09 21.6	+3.5
SONM	Songino Array	47.39	326	P	P	22 09 17.5	-0.7
	comp=Z,0.4nm,0.6s,baz=35,slow=7.9,SNR=1.5						
	comp=Z,0.4nm,0.6s						
GSI	Gunungsitoli	47.88	260	P	P	22 09 22.0	-0.3
SEY	Seymchan	50.60	5	LR	LR	22 28 38.0	
	comp=Z,69nm,21.2s,baz=186,slow=33						
LSA	Lhasa	52.20	298	P	P	22 09 56.9	+1.5
LSA				IAmb	IAmb	22 10 04.5	
	comp=Z,4.5nm,0.6s						
RPZ	Rata Peaks	61.01	158	LR	LR	22 35 56.8	
	comp=Z,40nm,18.2s,baz=334,slow=35						
MKAR	Makanchi Array	62.02	316	P	P	22 11 04.8	+0.7
MKAR	Makanchi Array	62.02	316	P	P	22 11 02.4	-1.7
	comp=Z,0.3nm,0.6s,baz=94,slow=10.0,SNR=3.0						
	comp=Z,0.3nm,0.6s						
MAKZ	Makanchi	62.23	316	P	P	22 11 07.8	+2.2
MAKZ				IAmb	IAmb	22 11 24.0	
	comp=Z,3.8nm,1.1s						
RAR	Rarotonga	64.15	121	LR	LR	22 34 30.5	
	comp=Z,48nm,21.4s,baz=203,slow=32						
KURBB	Kurchatov Arra	65.21	320	P	P	22 11 24.4	-0.7
	comp=Z,0.9nm,0.3s,baz=104,slow=6.8,SNR=5.5						
KURBB				PcP	PcP	22 11 54.6	-2.7
	comp=Z,1.4nm,0.3s,baz=102,slow=6.6,SNR=4.2						
	comp=Z,0.9nm,0.3s						
SML	Sawmill	68.24	28	P	P	22 11 44.4	+0.2
E22K	Anaktuvuk Pass	68.72	21	P	P	22 11 46.7	-0.4
E22K				IAmb	IAmb	22 11 49.6	
	comp=Z,3.8nm,1.2s						
ILAR	Eielson Array	69.61	25	P	P	22 11 51.5	-1.2
	comp=Z,0.5nm,0.5s,baz=251,slow=5.8,SNR=10						
ILAR				LR	LR	22 41 44.5	
	comp=Z,47nm,19.3s,baz=266,slow=35						
	comp=Z,0.5nm,0.5s						
TOLK	Toolik Lake Re	69.67	21	P	P	22 11 53.6	+0.6
KKAR	Karatay Array	69.90	311	P	P	22 11 56.6	+1.7
J25K	Salcha River,	70.21	26	P	P	22 11 56.3	-0.1
BVAR	Borovoye Array	70.54	322	P	P	22 11 58.8	+0.3
	comp=Z,1.1nm,0.4s,baz=104,slow=7.2,SNR=7.2						
	comp=Z,1.1nm,0.4s						
J26L	Joseph Creek	70.95	26	P	P	22 12 00.8	-0.1
J26L				IAmb	IAmb	22 12 06.8	
	comp=Z,3.6nm,0.9s						
BMAR	Burnt Mountain	71.15	23	P	P	22 12 02.8	+0.7
ABKAR	Akbulak array	77.09	318	P	P	22 12 36.7	-0.3
GEYT	Alibeck	79.62	307	P	P	22 12 49.5	-1.8
	comp=Z,0.7nm,0.5s,baz=102,slow=3.5,SNR=2.4						
	comp=Z,0.7nm,0.5s						
YBH	Yreka Blue Hor	83.76	49	P	P	22 13 13.2	0.0
	comp=Z,3.6nm,1.0s,baz=291,slow=5.3,SNR=5.2						
YBH				LR	LR	22 43 13.6	
	comp=Z,34nm,19.3s,baz=326,slow=30						
	comp=Z,3.6nm,1.0s						
YKA	Yellowknife Ar	83.90	27	LR	LR	22 48 53.4	
	comp=Z,39nm,19.7s,baz=236,slow=34						
ELK	Elko	89.47	48	P	P	22 13 42.0	+0.7
ELK	Elko	89.47	48	P	P	22 13 42.2	+0.9
	comp=Z,3.2nm,1.0s,baz=25,slow=8.9,SNR=13						
	comp=Z,3.2nm,1.0s						
PFO	Pinyon Flats O	90.46	56	LR	LR	22 53 58.1	
	comp=Z,43nm,18.4s,baz=275,slow=35						
FINES	FINESS Array B	91.95	335	P	P	22 13 50.5	-1.5
	comp=Z,1.3nm,0.7s,baz=101,slow=1.9,SNR=5.3						
	comp=Z,1.3nm,0.7s						
PDAR	Pinedale Array	92.89	45	P	P	22 13 57.7	+0.6
	comp=Z,0.3nm,0.7s,baz=292,slow=0.5,SNR=2.4						
	comp=Z,0.3nm,0.7s						
NOA	NORSAR Array B	97.89	339	LR	LR	23 02 39.6	
	comp=Z,28nm,18.1s,baz=65,slow=38						
DBIC	Dimbokro	144.09	300	PKP	PKPbc	22 20 18.9	+0.5
	comp=Z,1.5nm,0.5s,baz=334,slow=2.3,SNR=4.7						
LPAZ	La Paz	148.14	101	PKPbc	PKPbc	22 20 31.9	+0.8
	comp=Z,1.4nm,0.8s,baz=214,slow=2.0,SNR=3.6						

*IDC **23** 22:04:09.4±2.7, 5°.07N×76°.32W, h163km±22km, mb3.5/2, mbtmp3.8/3, Error ellipse: s-maj=59.0km s-min=33.7km az=21.0*

*RSNC **23** 22:04:10.5±1.5, 4°.14N×76°.21W, h148km±5km, ML3.2, Mw3.7*

ISC 23 22:04:09.2±0.9, 4°.12N±0°.03×76°.14W±0°.03, h156km±6km, n42, σ1.62/75, 2C-5D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	Yotoco, Valle	0.25	238	⇑iP	Pn	22 04 30.2	-0.2
YOTC				eS	Sn	22 04 45.3	-1.3
YOTC				i		22 04 49.0	
	comp=Z,188nm,0.2s						
PLMC	San Jos del P	0.80	349	eP	Pn	22 04 33.4	+0.3
PLMC				eS	Sn	22 04 50.9	-0.6
ORTC	Ortega, Tolima	0.91	103	eP	Pn	22 04 34.5	+0.7
ORTC				eS	Sn	22 04 53.2	+0.5
JAMC	Jamundi, Valle	1.04	211	eP	Pn	22 04 35.6	+0.4
JAMC				eS	Sn	22 04 54.5	-0.5
JAMC				i		22 04 56.3	
	comp=Z,711nm,0.5s						
NIZA	Niza - Manizal	1.15	35	eP	Pn	22 04 38.3	+2.1
NIZA				eS	Sn	22 04 58.5	+1.7
MALC	Bahia Malaga	1.20	265	eP	Pn	22 04 37.5	+1.2
MALC				eS	Sn	22 04 59.1	+2.1
MALC				i		22 05 04.7	
	comp=Z,160nm,0.3s						
PRAC	Prado	1.31	108	eP	Pn	22 04 38.2	+0.8
PRAC				eS	Sn	22 04 59.5	+0.5
PRAC				i		22 05 01.2	
	comp=Z,133nm,0.5s						
GUY2C	Guyana, Caldas	1.34	35	eP	Pn	22 04 38.7	+0.5
GUY2C				eS	Sn	22 05 00.0	-0.3
GUY2C				i		22 05 02.2	
	comp=Z,174nm,0.4s						
PIZC	Pizarro, Choco	1.48	305	⇑iP	Pn	22 04 39.8	+0.8
PIZC				eS	Sn	22 05 02.1	+0.1
PIZC				i		22 05 09.2	
	comp=Z,236nm,0.7s						
BETC	Betania	1.58	154	eP	Pn	22 04 41.0	+0.8
BETC				eS	Sn	22 05 04.4	+0.4
BETC				i		22 05 07.8	
	comp=Z,214nm,0.5s						
POPC	Popayan, Colom	1.66	199	⇓iP	Pn	22 04 41.1	-0.1
POPC				i		22 05 06.2	
	comp=Z,198nm,0.3s						
NORC	Norcasia	1.91	41	⇓iP	Pn	22 04 44.1	+0.3
NORC				eS	Sn	22 05 09.7	-0.7
ROSC	El Rosal	1.95	68	P	Pn	22 04 46.3	+1.8
	comp=Z,20nm,0.5s,baz=322,slow=19,SNR=5.3						
ROSC				S	Sn	22 05 13.9	+2.4
	comp=Z,33nm,0.5s,baz=190,slow=22,SNR=17						
GARC	Garzon, Huila	2.02	161	⇓iP	Pn	22 04 45.7	+0.5
GARC				eS	Sn	22 05 13.1	+0.1
GARC				i		22 05 14.1	
	comp=Z,115nm,0.3s						
GR1C	Gorgona, Isla	2.31	241	eP	Pn	22 04 47.9	-0.5
GR1C				eS	Sn	22 05 15.8	-2.8
BBAC	Balboa, Cauca	2.36	208	eP	Pn	22 04 49.5	+0.3
BBAC				eS	Sn	22 05 19.6	-0.3
BBAC				i		22 05 22.3	
	comp=Z,103nm,0.3s						
VILC	Villavicencio,	2.44	90	eP	Pn	22 04 52.0	+2.0
VILC				eS	Sn	22 05 24.7	+3.3
VILC				i		22 05 27.4	
	comp=Z,55nm,0.6s						
CHIC	Chingaza	2.45	78	eP	Pn	22 04 52.1	+1.7
CHIC				eS	Sn	22 05 23.6	+1.5
SPBC	San Pablo de B	2.56	53	eP	Pn	22 04 52.4	+0.9
SPBC				eS	Sn	22 05 22.4	-1.7
FLOC	Florencia	2.56	169	⇓iP	Pn	22 04 52.5	+1.0
FLOC				eS	Sn	22 05 24.7	+0.5
CRUC	La Cruz	2.66	198	eP	Pn	22 04 54.0	+1.0
CRUC				eS	Sn	22 05 26.7	0.0
DBBC	Dabe

PAMC	**Pamplona, Colo**	**4.68**	**47**	*e*P		**Pn**	**22 05 21.6**	**+2.5**
PAMC				*e*S		**Sn**	**22 06 12.7**	**-0.7**
PAMC				*i*			22 06 18.5	
	comp=Z,14nm,0.5s							
UPD2	**Meteti**	**4.78**	**337**	*e*S		**Sn**	**22 06 14.7**	**-0.4**
CACAO	**El Cacao, Vera**	**5.69**	**305**	*e*P		**Pn**	**22 05 33.6**	**+1.7**
CACAO				*e*S		**Sn**	**22 06 37.5**	**+0.8**
BCIP	**Isla Barro Col**	**6.22**	**324**	*e*P		**Pn**	**22 05 42.7**	**+3.7**
BCIP				*e*S		**Sn**	**22 06 48.7**	**-0.6**
SDV	**Santo Domingo**	**7.23**	**49**	S		**Sn**	**22 07 08.9**	**-4.9**
	comp=Z,8.7nm,0.4s,baz=346,slow=22,SNR=7.2							
NEW	**Newport**	**56.21**	**328**	P		P	22 13 26.0	-7.1
	comp=Z,2.8nm,0.8s,baz=117,slow=4.5,SNR=3.8							
	comp=Z,2.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**77.23**	**78**	P		**P**	**22 15 46.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=282,slow=7.2,SNR=6.3							
	comp=Z,0.3nm,0.5s							
ASAR	**Alice Springs**	**145.10**	**233**	PKPbc		**PKPdf**	**22 23 28.4**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=114,slow=3.7,SNR=6.0							

*IDC **23** 22:15:45.7±2.4, 22°.98N×142°.89E, h121km±21km, mb3.5/9, mbtmp3.9/10, Error ellipse: s-maj=38.1km s-min=15.2km az=82.0*
*NEIC **23** 22:15:49.5±0.9, 22°.84N±0°.10×142°.5E±0°.2, h142km±5km, mb4.1/20, Error ellipse: s-maj=27.2km s-min=14.2km az=97.0*
ISC 23 22:15:49.7±1.0, **23°.01N**±0°.09×**142°.6E**±0°.2, **h150**km, **n36**, σ**1**§**56**/37, **mb4.0**/19, **Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.08**	**355**	Pn		**Pn**	**22 16 52.6**	**+1.6**
JCJ	**Chichijima**	**4.08**	**355**	P		**Pn**	**22 16 49.1**	**-1.9**
	125nm,0.4s,baz=267,slow=19,SNR=6.8							
JCJ				S		**Sn**	**22 17 34.6**	**-4.1**
	96nm,0.4s,baz=270,slow=20,SNR=7.3							
JMM	**Marumori**	**14.88**	**355**	Pn		**Pn**	**22 19 13.1**	**+0.4**
SONM	**Songino Array**	**37.97**	**320**	P		**P**	**22 22 54.0**	**+1.1**
SONM	**Songino Array**	**37.97**	**320**	P		**P**	**22 22 53.7**	**+0.7**
	0.6nm,0.6s,baz=120,slow=3.9,SNR=4.2							
	0.6nm,0.6s							
WB0	**Warramunga Arr**	**43.26**	**191**	P		**P**	**22 23 34.3**	**-2.2**
WR0	**Warramunga Arr**	**43.42**	**191**	P		**P**	**22 23 36.4**	**-1.4**
WB2	**Warramunga Arr**	**43.44**	**191**	P		**P**	**22 23 36.2**	**-1.8**
WB2				IAmb		IAmb	22 23 38.3	
	comp=Z,3.5nm,1.1s							
WRA	**Warramunga Arr**	**43.44**	**191**	P		**P**	**22 23 36.9**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=18,slow=8.7,SNR=30							
	comp=Z,0.9nm,0.4s							
ASAR	**Alice Springs**	**47.16**	**191**	P		**P**	**22 24 05.8**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=15,slow=7.8,SNR=5.6							
	comp=Z,0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**52.83**	**321**	P		**P**	**22 24 49.9**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=106,slow=7.9,SNR=2.3							
	comp=Z,0.5nm,0.5s							
MK31	**Makanchi Array**	**53.39**	**312**	P		**P**	**22 24 54.6**	**+0.7**
MKAR	**Makanchi Array**	**53.39**	**312**	P		**P**	**22 24 54.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=91,slow=8.7,SNR=6.7							
	comp=Z,0.5nm,0.6s							
MAKZ	**Makanchi**	**53.61**	**312**	P		**P**	**22 24 55.0**	**-0.5**
MAKZ				IAmb		IAmb	22 24 58.6	
	comp=Z,1.7nm,0.6s							
FORT	**Forrest**	**55.26**	**195**	P		**P**	**22 25 06.7**	**-0.8**
KURBB	**Kurchatov Arra**	**56.18**	**316**	P		**P**	**22 25 14.7**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=92,slow=7.7,SNR=18							
	comp=Z,1.9nm,0.6s							
J20K	**Nowinta River**	**57.94**	**27**	P		**P**	**22 25 28.1**	**+2.1**
F20K	**Avaraart Lake**	**58.08**	**24**	P		**P**	**22 25 28.5**	**+1.6**
F20K				IAmb		IAmb	22 25 29.1	
	comp=Z,2.4nm,0.8s							
B20K	**Meade River**	**58.53**	**20**	P		**P**	**22 25 31.5**	**+1.6**
CAST	**Castle Rocks**	**58.67**	**29**	P		**P**	**22 25 31.3**	**+0.2**
CAST				IAmb		IAmb	22 25 35.0	
	comp=Z,3.4nm,1.1s							
D22K	**Ayikyak River**	**59.69**	**22**	P		**P**	**22 25 40.1**	**+2.1**
I23K	**Minto, Yukon-K**	**60.16**	**27**	P		**P**	**22 25 43.0**	**+1.8**
I23K				IAmb		IAmb	22 26 10.6	
	comp=Z,2.1nm,1.1s							
C23K	**Itkillik River**	**60.64**	**21**	P		**P**	**22 25 45.8**	**+1.4**
TOLK	**Toolik Lake Re**	**60.73**	**23**	P		**P**	**22 25 47.0**	**+1.8**
TOLK				IAmb		IAmb	22 26 13.7	
	comp=Z,3.5nm,1.1s							
E24K	**Your Creek**	**61.02**	**24**	P		**P**	**22 25 48.8**	**+1.7**
E24K				IAmb		IAmb	22 25 50.5	
	comp=Z,2.0nm,1.1s							
ILAR	**Eielson Array**	**61.14**	**27**	P		**P**	**22 25 46.5**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=259,slow=5.9,SNR=4.5							
	comp=Z,0.3nm,0.6s							
BVAR	**Borovoye Array**	**61.31**	**319**	P		**P**	**22 25 50.3**	**+1.1**
	comp=Z,3.7nm,0.5s,baz=89,slow=7.6,SNR=29							
	comp=Z,3.7nm,0.5s							
BRVK	**Borovoye**	**61.37**	**319**	P		**P**	**22 25 50.4**	**+0.7**
BRVK				IAmb		IAmb	22 25 51.8	
	comp=Z,2.6nm,0.8s							
KKAR	**Karatay Array**	**61.80**	**308**	P		**P**	**22 25 54.1**	**+1.4**
D25K	**Kavik River**	**61.99**	**22**	P		**P**	**22 25 55.0**	**+1.4**
D25K				IAmb		IAmb	22 26 14.8	
	comp=Z,2.7nm,1.1s							
BMAR	**Burnt Mountain**	**62.39**	**25**	P		**P**	**22 25 58.1**	**+1.8**
E28M	**Babbage River**	**64.38**	**23**	P		**P**	**22 26 11.4**	**+2.1**
G29M	**Pine Creek**	**64.92**	**25**	P		**P**	**22 26 13.8**	**+1.0**
G31M	**Satah River**	**66.39**	**25**	P		**P**	**22 26 23.0**	**+0.8**
ABKAR	**Akbulak array**	**68.21**	**316**	P		**P**	**22 26 34.3**	**+0.3**
ABKAR				IAmb		IAmb	22 26 35.2	
	comp=Z,1.2nm,0.5s							
FINES	**FINESS Array B**	**81.75**	**334**	P		**P**	**22 27 50.9**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=70,slow=5.1,SNR=16							
	comp=Z,1.2nm,0.5s							

*AFAD **23** 22:39:04.2±0.0, 36°.92N×27°.55E, h7km±1km, ML2.6*
*THE **23** 22:39:04.1, 36°.93N×27°.57E, h0km, ML2.8/4, Error ellipse: s-maj=0.9km s-min=0.5km az=48.0*
*ATH **23** 22:39:05.1, 36°.93N×27°.53E, h22km±2km, ML2.9/5, Error ellipse: s-maj=3.2km s-min=1.4km az=229.0*
ISC 23 22:39:04.1±0.9, **36°.92N**±0°.02×**27°.57E**±0°.02, **h14**km±8km, **n19**, σ0§**67**/37, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.19**	**177**	P		**Pg**	**22 39 08.5**	**0.0**
DAT				S		**Sb**	**22 39 12.6**	**-0.2**
DAT	**Datca**	**0.19**	**177**	P		**Pg**	**22 39 08.5**	**0.0**
DAT				S		**Sb**	**22 39 12.0**	**-0.8**
DAT				*i* AML	AML		22 39 13.0	
	comp=N,1μm,0.2s							
DAT				*i* AML	AML		22 39 13.0	
	comp=E,1μm,0.2s							
NIS1	**Nisyros Isl.**	**0.44**	**225**	P		**Pb**	**22 39 13.4**	**-0.2**
NIS1				S		**Sb**	**22 39 20.7**	**+0.6**
	3μm,0.3s							
NIS1	**Nisyros Isl.**	**0.44**	**225**	P		**Pb**	**22 39 13.4**	**-0.2**
NIS1				S		**Sb**	**22 39 20.5**	**+0.4**
NIS1				AML	AML		22 39 22.6	
	comp=E,5190μm,0.2s							
NIS1				AML	AML		22 39 25.8	
	comp=N,7202μm,0.3s							
NISR	**Nisiros**	**0.46**	**229**	P		**Pb**	**22 39 14.0**	**0.0**
NISR				S		**Sb**	**22 39 21.6**	**+0.9**
	comp=N,1μm,0.2s							
NISR	**Nisiros**	**0.46**	**229**	P		**Pb**	**22 39 14.0**	**0.0**
NISR				S		**Sb**	**22 39 20.8**	**+0.1**
NISR				AML	AML		22 39 23.3	
	comp=E,3726μm,0.2s							
NISR				AML	AML		22 39 24.9	
	comp=N,1888μm,0.3s							
KLNA	**Kalymnos**	**0.48**	**275**	P		**Pg**	**22 39 13.7**	**+0.2**
KLNA				S		**Sb**	**22 39 20.9**	**-0.2**
KLNA				AML	AML		22 39 25.2	
	comp=E,4142μm,0.2s							
KLNA				AML	AML		22 39 25.6	
	comp=N,2769μm,0.2s							
KOSK	**Kos Island**	**0.50**	**251**	P		**Pb**	**22 39 14.7**	**+0.1**
KOSK				S		**Sb**	**22 39 22.6**	**+0.9**
DDIM	**Aydin, Didim**	**0.60**	**335**	P		**Pg**	**22 39 15.6**	**-0.3**
DDIM				S		**Sg**	**22 39 24.6**	**+0.8**
DDIM				*i* AML	AML		22 39 30.0	
	comp=N,309nm,0.4s							
MULA	**Mugla, Merkez-**	**0.69**	**60**	P		**Pg**	**22 39 17.9**	**+0.2**
MULA				S		**Sg**	**22 39 25.3**	**-1.6**
ARG	**Arkhangelos**	**0.83**	**147**	P		**Pg**	**22 39 20.4**	**+0.1**
ARG				S		**Sn**	**22 39 33.8**	**+0.4**
	comp=N,868nm,0.2s							
ARG	**Arkhangelos**	**0.83**	**147**	P		**Pg**	**22 39 20.3**	**+0.1**
ARG				S		**Sn**	**22 39 33.2**	**-0.1**
ARG				AML	AML		22 39 36.4	
	comp=E,1737μm,0.3s							
ARG				AML	AML		22 39 36.7	
	comp=N,1726μm,0.2s							
SMG	**Samos**	**0.98**	**324**	P		**Pb**	**22 39 22.6**	**-0.2**
SMG				S		**Sn**	**22 39 38.0**	**+0.9**
	comp=N,362nm,0.4s							
SMG	**Samos**	**0.98**	**324**	P		**Pb**	**22 39 22.6**	**-0.2**
SMG				S		**Sb**	**22 39 34.1**	**-1.6**
SMG				AML	AML		22 39 40.4	
	comp=N,512μm,0.3s							
SMG				AML	AML		22 39 42.0	
	comp=E,858μm,0.3s							
TAVA	**DENIZLI_Tavas**	**1.21**	**63**	P		**Pb**	**22 39 27.4**	**+0.7**
TAVA				S		**Sb**	**22 39 41.7**	**-0.6**
DNIZ	**Denizli-Tavas-**	**1.37**	**58**	P		**Pb**	**22 39 30.0**	**+0.4**
DNIZ				S		**Sg**	**22 39 48.5**	**+0.1**
DNIZ				*i* AML	AML		22 39 53.0	
	comp=E,102nm,0.6s							
DNIZ				*i* AML	AML		22 39 57.0	
	comp=E,133nm,0.3s							
KARP	**Karpathos**	**1.40**	**194**	P		**Pn**	**22 39 29.2**	**-0.1**
KARP				S		**Sn**	**22 39 45.8**	**-1.8**
CAEL	**Denizli, Camel**	**1.42**	**81**	P		**Pg**	**22 39 31.7**	**+0.3**
CAEL				S		**Sg**	**22 39 50.7**	**+0.8**
CAEL				*i* AML	AML		22 40 05.0	
	comp=E,80nm,1.0s							
CAEL				*i* AML	AML		22 40 05.0	
	comp=E,68nm,0.6s							
APE	**Apeiranthos**	**1.64**	**276**	P		**Pn**	**22 39 32.6**	**+0.1**

*NNC **23** 22:47:55.2±0.3, 42°.60N×74°.38E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=6.1km s-min=1.7km az=144.0*
*KNET **23** 22:47:55.0±0.3, 42°.57N×74°.42E, h9km±4km, ml2.5, Error ellipse: s-maj=3.6km s-min=1.7km az=154.0*
*KRNET **23** 22:47:55.4±0.1, 42°.58N×74°.43E, h17km, mb3.2*
*SOME **23** 22:47:56.0, 42°.58N×74°.42E, h15km*
ISC 23 22:47:55.2±0.9, **42°.65N**±0°.02×**74°.34E**±0°.02, **h6**km±7km, **n80**, σ1§**05**/124, **47C-26D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.11**	**96**	⇑P		**Pg**	**22 47 57.7**	**0.0**
	803nm,0.1s,SNR=3153							
AAK				⇑S		**Sg**	**22 47 59.3**	**-0.1**
	4μm,0.3s							
AAK	**Ala-Archa**	**0.11**	**96**	⇑*i*P		**Pg**	**22 47 57.9**	**+0.2**
	baz=41							
AAK				⇑*i*S		**Sg**	**22 47 59.4**	**0.0**
	baz=41							
FRU1	**Bishkek**	**0.27**	**52**	⇑*i*P		**Pb**	**22 48 01.6**	**-0.9**
	baz=33							
FRU1				⇑*i*S		**Sb**	**22 48 05.6**	**-1.7**
	baz=33							
EKS2	**Erkin-Say**	**0.42**	**272**	⇑P		**Pb**	**22 48 05.1**	**0.0**
	49nm,0.1s,SNR=211							
EKS2				⇓S		**Sb**	**22 48 11.6**	**-0.2**
	78nm,0.1s							
EKS2	**Erkin-Say**	**0.42**	**272**	⇓*i*P		**Pb**	**22 48 05.1**	**0.0**
	baz=80							
EKS2				⇓*i*S		**Sb**	**22 48 12.0**	**+0.2**
	baz=80							
KBK	**Karagaybulak**	**0.45**	**89**	⇑P		**Pg**	**22 48 04.0**	**+0.1**
	79nm,0.2s,SNR=30							
KBK				⇓S		**Sg**	**22 48 09.8**	**0.0**
	385nm,0.2s							
KBK	**Karagaybulak**	**0.45**	**89**	⇑*i*P		**Pg**	**22 48 03.5**	**-0.4**
	baz=78							
KBK				⇑*i*S		**Sg**	**22 48 09.0**	**-0.7**
	baz=78							
CHMS	**Chumysh**	**0.46**	**40**	P		**Pb**	**22 48 05.1**	**-0.7**
	107nm,0.2s,SNR=119							
CHMS				⇑S		**Sb**	**22 48 11.8**	**-1.1**
	560nm,0.3s							
CHMS	**Chumysh**	**0.46**	**40**	⇑P		**Pb**	**22 48 05.0**	**-0.9**
	39nm,0.3s							
CHMS				⇓S		**Sb**	**22 48 11.7**	**-1.3**
	78nm,0.3s							
CHMS	**Chumysh**	**0.46**	**40**	⇑*i*P		**Pb**	**22 48 04.9**	**-0.9**
	baz=30							
CHMS				⇑*i*S		**Sb**	**22 48 11.6**	**-1.3**
	baz=30							
USP	**Ospenovka**	**0.63**	**10**	P		**Pb**	**22 48 08.6**	**-0.1**
	46nm,0.1s,SNR=420							
USP				⇑S		**Sb**	**22 48 17.8**	**+0.1**
	435nm,0.2s							
USP	**Ospenovka**	**0.63**	**10**	⇑*i*P		**Pb**	**22 48 08.6**	**-0.1**
	baz=4.0							
USP				⇑*i*S		**Sb**	**22 48 17.9**	**+0.1**
	baz=4.0							
AML	**Almayashu**	**0.71**	**223**	⇑P		**Pg**	**22 48 09.2**	**+0.3**
	91nm,0.2s,SNR=95							
AML				⇓S		**Sg**	**22 48 18.4**	**+0.4**
	189nm,0.2s							
AML	**Almayashu**	**0.71**	**223**	⇑P		**Pg**	**22 48 09.1**	**+0.3**
	0.6nm,0.2s							
AML				⇑S		**Sg**	**22 48 18.2**	**+0.1**
	14nm,0.5s							
AML	**Almayashu**	**0.71**	**223**	⇑*i*P		**Pg**	**22 48 08.9**	**+0.1**
	baz=31							
AML				⇑*i*S		**Sg**	**22 48 18.4**	**+0.4**
	baz=31							
ARLS	**Aral**	**0.79**	**181**	⇓*i*P		**Pg**	**22 48 09.3**	**-1.0**
	baz=86							
ARLS				⇓*i*S		**Sg**	**22 48 19.2**	**-1.4**
	baz=86							
MRKS	**Merke**	**0.83**	**277**	*e*P		**Pb**	**22 48 12.4**	**+0.3**
	10nm,0.1s							
MRKS				*e*S		**Sb**	**22 48 24.2**	**+0.7**
	290nm,0.2s							
SGDS	**Sogindy**	**0.83**	**15**	P		**Pb**	**22 48 12.1**	**0.0**
	64nm,0.1s							
SGDS				S		**Sb**	**22 48 23.4**	**-0.2**
	132nm,0.1s							
TKM2	**Tokmak 2**	**0.96**	**73**	⇑P		**Pg**	**22 48 13.1**	**-0.6**
	18nm,0.1s,SNR=242							
TKM2				⇑S		**Sg**	**22 48 25.9**	**-0.3**
	194nm,0.1s							
TKM2	**Tokmak 2**	**0.96**	**73**	⇑P		**Pg**	**22 48 13.1**	**-0.6**
	3.1nm,0.2s							
TKM2				⇑S		**Sg**	**22 48 25.6**	**-0.6**
	12nm,0.1s							
TKM2	**Tokmak 2**	**0.96**	**73**	⇑*i*P		**Pg**	**22 48 12.8**	**-0.9**
	baz=68							
TKM2				⇑*i*S		**Sg**	**22 48 25.3**	**-0.9**
	baz=68							
BOOM	**Boomskoye usch**	**1.19**	**97**	⇑*i*P		**Pg**	**22 48 16.3**	**-1.7**
	baz=94							
BOOM				⇑*i*S		**Sg**	**22 48 31.5**	**-2.0**
	baz=94							
DGS	**Degeres**	**1.21**	**60**	P		**Pg**	**22 48 18.1**	**-0.3**
	13nm,0.2s							
DGS				S		**Sg**	**22 48 34.1**	**+0.1**
	68nm,0.2s							
DGS	**Degeres**	**1.21**	**60**	*e*P		**Pg**	**22 48 18.1**	**-0.3**
	13nm,0.2s							
DGS				*e*S		**Sg**	**22 48 34.1**	**+0.1**
	68nm,0.2s							
KST	**Kastek**	**1.25**	**71**	P		**Pg**	**22 48 19.0**	**-0.3**
	4.6nm,0.2s							
KST				S		**Sb**	**22 48 36.0**	**+0.2**
	48nm,0.2s							
KST	**Kastek**	**1.25**	**71**	*e*P		**Pg**	**22 48 19.0**	**-0.3**
	4.6nm,0.2s							
KST				*e*S		**Sg**	**22 48 35.2**	**-0.3**
	48nm,0.2s							
MNAS	**Manas**	**1.37**	**264**	⇓*i*P		**Pg**	**22 48 21.5**	**0.0**
	baz=67							
MNAS				⇓*i*S		**Sn**	**22 48 40.6**	**+1.1**
	baz=67							
KRBS	**Karabastau**	**1.43**	**42**	P		**Pb**	**22 48 22.4**	**0.0**
	11nm,0.1s							
KRBS				S		**Sg**	**22 48 41.6**	**+0.5**
	61nm,0.2s							
KRBS	**Karabastau**	**1.43**	**42**	*e*P		**Pb**	**22 48 22.4**	**0.0**
	11nm,0.1s							
KRBS				*e*S		**Sg**	**22 48 41.1**	**-0.1**
	61nm,0.2s							
ULHL	**Ulahol**	**1.46**	**105**	⇑P		**Pn**	**22 48 21.5**	**-0.8**
	13nm,0.1s,SNR=12							
ULHL				⇓S		**Sb**	**22 48 41.1**	**-0.8**
	36nm,0.2s							
ULHL	**Ulahol**	**1.46**	**105**	⇓*i*P		**Pn**	**22 48 20.9**	**-1.4**
	baz=3.0							
ULHL				⇓*i*S		**Sb**	**22 48 39.5**	**-2.4**
	baz=3.0							
MTBS	**Maitube**	**1.61**	**72**	P		**Pb**	**22 48 25.6**	**+0.3**
	5.5nm,0.2s							
MTBS				S		**Sg**	**22 48 46.6**	**-0.3**
	60nm,0.3s							
MTBS	**Maitube**	**1.61**	**72**	*e*P		**Pb**	**22 48 25.0**	**-0.4**
	6.3nm,0.1s							
MTBS				*e*S		**Sb**	**22 48 45.7**	**-0.2**
	60nm,0.3s							
ARSB	**Arslanbob**	**1.67**	**218**	⇑*e*P		**Pn**	**22 48 25.8**	**+0.7**
	baz=21							
ARSB				⇑*e*S		**Sb**	**22 48 48.1**	**+0.4**
	baz=21							
NRN	**Naryn**	**1.73**	**134**	⇓*i*P		**Pn**	**22 48 25.3**	**-0.8**
	baz=35							
NRN				⇓*i*S		**Sn**	**22 48 47.0**	**-1.7**
	baz=35							
KASK	**Kaskelen**	**1.78**	**71**	⇑P		**Pg**	**22 48 29.7**	**+0.3**
KASK				⇑S		**Sg**	**22 48 52.7**	**+0.2**
KUU	**Kurty**	**1.92**	**49**	P		**Pb**	**22 48 30.8**	**+0.2**
	12nm,0.3s							
KUU				S		**Sg**	**22 48 55.8**	**-1.0**
	76nm,0.2s							
KUU	**Kurty**	**1.92**	**49**	*e*P		**Pb**	**22 48 30.8**	**+0.2**
	12nm,0.3s							
KUU				*e*S		**Sg**	**22 48 55.8**	**-1.0**
	76nm,0.2s							
TNSS	**Tian-Shan**	**1.95**	**78**	Pg		**Pb**	**22 48 32.1**	**+0.6**
	17nm,0.2s							
TNSS				Lg		Lg	22 48 58.1	
	20nm,0.3s							
TNSS	**Tian-Shan**	**1.95**	**78**	*e*P		**Pb**	**22 48 31.2**	**-0.3**
	10.0nm,0.2s							
TNSS				*e*S		**Sb**	**22 48 56.3**	**+0.1**
	21nm,0.2s							
ARK	**Arkit**	**1.96**	**245**	⇓*i*P		**Pb**	**22 48 31.0**	**-0.4**
	baz=48							
ARK				⇓*i*S		**Sb**	**22 48 57.0**	**+0.8**
	baz=48							
KNDC	**Almaty**	**2.01**	**73**	⇑Pg		**Pg**	**22 48 35.3**	**+1.6**
	15nm,0.4s							
KNDC				⇓Lg		Lg	22 48 59.4	
	57nm,0.4s							
KTBS	**Karatobe**	**2.01**	**57**	Pg		**Pb**	**22 48 32.0**	**-0.3**
	20nm,0.2s							
KTBS				Lg		Lg	22 48 58.6	
	97nm,0.3s							
KTBS	**Karatobe**	**2.01**	**57**	*e*Pg		**Pb**	**22 48 32.5**	**+0.2**
	20nm,0.2s							
KTBS				*e*Lg		Lg	22 48 58.6	
	106nm,0.3s							
MDOK	**Medeo**	**2.05**	**75**	Pg		**Pb**	**22 48 33.1**	**+0.1**
	9.9nm,0.2s							
MDOK				Lg		Lg	22 49 00.4	
	37nm,0.3s							
MDOK	**Medeo**	**2.05**	**75**	*e*Pg		**Pb**	**22 48 33.1**	**+0.1**
	9.9nm,0.2s							
MDOK				*e*Lg		Lg	22 48 59.7	
	37nm,0.3s							
DZA	**Taraz**	**2.23**	**277**	*e*Pg		**Pg**	**22 48 37.8**	**-0.2**
	19nm,0.2s							
DZA				*e*Lg		Lg	22 49 08.1	
	181nm,0.4s							
CHKK	**Chushkaly**	**2.28**	**57**	Pg		**Pb**	**22 48 36.6**	**-0.1**
	4.9nm,0.3s							
CHKK				Lg		Lg	22 49 05.6	
	88nm,0.2s							
CHKK	**Chushkaly**	**2.28**	**57**	*e*Pg		**Pb**	**22 48 37.3**	**+0.6**
	3.8nm,0.2s							
CHKK				*e*Lg		Lg	22 49 06.8	
	125nm,0.2s							
BTLS	**Baital**	**2.40**	**355**	Pg		**Pb**	**22 48 38.9**	**0.0**
	2.8nm,0.2s							
BTLS				Lg		Lg	22 49 09.7	
	18nm,0.1s							
BTLS	**Baital**	**2.40**	**355**	*e*Pg		**Pg**	**22 48 40.8**	**-0.4**
	7.8nm,0.2s							
BTLS				*e*Lg		Lg	22 49 12.8	
	70nm,0.2s							
OHH	**Osh**	**2.42**	**209**	⇓*i*P		**Pn**	**22 48 36.5**	**+1.1**
	baz=12							
OHH				⇓*i*S		**Sn**	**22 49 06.4**	**+0.9**
	baz=12							
ANVS	**Anan'yevo**	**2.45**	**86**	⇑*i*P		**Pn**	**22 48 36.7**	**+0.7**
	baz=84							
ANVS				⇑*i*S		**Sn**	**22 49 06.8**	**+0.5**
	baz=84							
TRKS	**Terek-Say**	**2.63**	**246**	⇑*i*P		**Pn**	**22 48 40.4**	**+2.0**
	baz=46							
TRKS				⇑*i*S		**Sb**	**22 49 13.2**	**-2.3**
	baz=46							
SFK	**Sufi-Kurgan**	**2.71**	**194**	⇑*i*P		**Pn**	**22 48 40.3**	**+0.8**
	baz=96							
SFK				⇑*i*S		**Sn**	**22 49 12.8**	**+0.1**
	baz=96							
KK31	**Karatay Array**	**2.85**	**280**	Pn		**Pb**	**22 48 44.5**	**-2.0**
	0.5nm,0.2s,baz=99,slow=17,SNR=24							
KK31				⇑Lg		Lg	22 49 25.3	
	5.3nm,0.3s,baz=96,slow=30,SNR=28							
KKAR	**Karatay Array**	**2.85**	**280**	⇑*i*P		**Pb**	**22 48 43.9**	**-2.7**
	baz=82							
KKAR				⇑*i*S		**Sb**	**22 49 19.3**	**-2.4**
	baz=82							
ARXS	**Arharly**	**2.98**	**57**	Pg		**Pb**	**22 48 49.3**	**+0.5**
	2.8nm,0.2s							
ARXS				Lg		Lg	22 49 27.8	
	59nm,0.4s							
ARXS	**Arharly**	**2.98**	**57**	*e*Pg		**Pb**	**22 48 49.8**	**+1.1**
	3.0nm,0.1s							
ARXS				*e*Lg		Lg	22 49 28.1	
	79nm,0.5s							
SATY	**Saty**	**3.02**	**81**	Pg		**Pb**	**22 48 50.8**	**+1.4**
	3.4nm,0.2s							
SATY				Lg		Lg	22 49 29.7	
	26nm,0.2s							
SATY	**Saty**	**3.02**	**81**	*e*Pg		**Pb**	**22 48 50.2**	**+0.8**
	3.1nm,0.2s							
SATY

PDGK	**Podgornoye**	**3.84**	**78**	⇓Pg		**Pb**	**22 49 06.0 +2.7**
	3.1nm,0.5s						
PDGK				⇓Lg		Lg	22 49 53.5
	9.3nm,0.6s						
KNOS	**Konyrlen**	**3.91**	**62**	Pg		**Pb**	**22 49 05.8 +1.1**
	3.4nm,0.4s						
KNOS				Lg		Lg	22 49 55.6
	9.4nm,0.6s						
DJR	**Jarkent**	**4.30**	**65**	Pg		**Pb**	**22 49 13.6 +2.2**
	1.5nm,0.2s						
DJR				Lg		Lg	22 50 10.2
	10nm,0.5s						
DJR	**Jarkent**	**4.30**	**65**	*e*Pg		**Pb**	**22 49 13.6 +2.2**
	1.5nm,0.2s						
DJR				*e*Lg		Lg	22 50 09.2
	10nm,0.5s						
OTUK	**Ortayu**	**5.77**	**347**	⇓Lg		Lg	22 50 56.4
	8.1nm,0.6s						
MK31	**Makanchi Array**	**7.01**	**51**	⇑Pn		**Pn**	**22 49 40.8 +2.3**
	0.8nm,0.5s,baz=230,slow=14,SNR=13						
MK31				⇑Lg		Lg	22 51 35.9
	1.3nm,0.5s,baz=225,slow=31,SNR=4.3						
KURK	**Kurchatov**	**8.59**	**19**	⇓Lg		Lg	22 52 25.5
	7.2nm,1.0s						

*DNK **23** 22:50:46.6±2.2,51°.42N×16°.42E,h10km,ML3.1*
*IPEC **23** 22:50:48.6±0.4,51°.46N×16°.32E,h0km±2km,ML2.1/4,*
Error ellipse: s-maj=2.8km s-min=1.2km az=33.0
*VIE **23** 22:50:50.8±0.7,51°.32N×16°.11E,h0km,mb2.2/2,ml2.4/3,*
Error ellipse: s-maj=5.5km s-min=4.8km az=133.0 68 km
WNW of Wroclaw Suspected Mining induced.
*PRU **23** 22:50:51.3,51°.38N×16°.14E,h0km*
ISC 23 22:50:47.3±0.8,51°.55N±0°.03×16°.27E±0°.03,h0km,n32,
σ1§14/60,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**179**	*e*Pg	**Pg**	**22 51 00.9**	**+0.1**
KSP				*e*Sg	**Sg**	22 51 09.1	-0.8
CHVC	**Chvalec**	**0.97**	**188**	*e*PG	**Pg**	**22 51 05.9**	**0.0**
CHVC				*e*SG	**Sg**	22 51 17.7	-0.7
	comp=Z,40nm,0.8s						
OSTC	**Ostas**	**0.99**	**182**	*e*PG	**Pg**	**22 51 06.5**	**+0.2**
OSTC				*e*SG	**Sg**	22 51 18.0	-1.1
	comp=Z,33nm,0.8s						
UPC	**Upice**	**1.05**	**189**	*e*PG	**Pg**	**22 51 07.3**	**-0.2**
UPC				*e*SG	**Sg**	22 51 20.7	-0.4
	comp=Z,65nm,0.5s						
DPC	**Dobruska-Polom**	**1.20**	**178**	*e*PG	**Pg**	**22 51 09.6**	**-0.7**
DPC				*e*SG	**Sg**	22 51 24.7	-1.1
	comp=Z,21nm,0.6s						
PVCC	**Panska Ves**	**1.48**	**227**	*e*PG	**Pn**	**22 51 15.5**	**+0.3**
PVCC				*e*SG	**Sg**	22 51 33.3	-1.5
	comp=Z,60nm,0.2s						
KRLC	**Kraliky**	**1.51**	**167**	*e*PG	**Pn**	**22 51 15.9**	**+0.2**
KRLC				*e*SG	**Sg**	22 51 34.8	-1.0
	comp=Z,12nm,0.4s						
BRG	**Berggiesshubel**	**1.61**	**246**	Pg	**Pg**	**22 51 18.8**	**+0.6**
BRG				Sg	**Sn**	22 51 39.0	+0.6
BRG				Amp		22 51 40.4	
	comp=Z,15nm,0.3s						
RICC	**Richard**	**1.70**	**235**	*e*PG	**Pb**	**22 51 19.3**	**-0.1**
RICC				*e*SG	**Sn**	22 51 40.1	-0.5
	comp=Z,30nm,0.6s						
PRU	**Pruhonice**	**1.91**	**216**	*e*PG	**Pn**	**22 51 22.2**	**+1.1**
PRU				*e*SG	**Sn**	22 51 46.0	+0.2
	comp=Z,16nm,0.7s						
MORC	**Moravsky Berou**	**1.95**	**155**	*e*Pn	**Pn**	**22 51 21.8**	**+0.1**
	baz=336						
MORC				*e*Sg	**Sn**	22 51 46.6	-0.3
	comp=Z,25nm,0.6s,baz=336						
HSKC	**Hora Svate Kat**	**2.02**	**243**	*e*PG	**Pb**	**22 51 24.3**	**-0.6**
HSKC				*e*SG	**Sn**	22 51 49.9	+1.3
	comp=Z,21nm,0.7s						
CLL	**Collm**	**2.06**	**265**	*e*Pg	**Pg**	**22 51 27.0**	**+0.3**
CLL				*e*Sg	**Sb**	22 51 52.0	+0.4
	comp=Z,9.0nm,0.9s						
OKC	**Ostrava-Krasne**	**2.09**	**144**	*e*PG	**Pg**	**22 51 27.4**	**+0.1**
OKC				*e*SG	**Sb**	22 51 52.7	+0.2
	comp=Z,12nm,0.5s						
VRAC	**Vranov**	**2.25**	**175**	*e*Pn	**Pn**	**22 51 25.9**	**+0.1**
	baz=355						
VRAC				*e*Sg	**Sb**	22 51 56.3	-0.9
	comp=Z,8.6nm,0.4s,baz=355						
KRUC	**Moravsky**	**2.49**	**178**	*e*Pn	**Pn**	**22 51 29.3**	**+0.2**
	baz=359						
KRUC				*e*Sg	**Sb**	22 52 03.9	-0.1
	comp=Z,11nm,0.6s,baz=359						
KRUC	**Moravsky**	**2.49**	**178**	*e*PN	**Pn**	**22 51 29.4**	**+0.3**
KRUC				*e*SG	**Sb**	22 52 04.0	-0.1
ZVC	**Zvikov**	**2.49**	**213**	*e*SG	**Sb**	**22 52 04.2**	**+0.1**
	comp=Z,9.0nm,0.6s						
OJC	**Ojcow**	**2.60**	**119**	*e*Pg	**Pg**	**22 51 38.0**	**+0.8**
OJC				*e*Sg	**Sg**	22 52 12.9	+2.1
NKC	**Novy Kostel**	**2.75**	**243**	*e*PG	**Pg**	**22 51 39.3**	**-0.8**
NKC				*e*SG	**Sb**	22 52 14.1	+2.4
	comp=Z,11nm,0.3s						
KHC	**Kasperske Hory**	**2.97**	**217**	*e*PN	**Pn**	**22 51 35.8**	**+0.1**
KHC				*e*PG	**Pb**	**22 51 41.6**	**+0.5**
KHC				*e*SG	**Sb**	22 52 18.7	+0.8
	comp=Z,6.9nm,0.5s						
CKRC	**Cesky Krumlov**	**3.01**	**206**	*e*PG	**Pb**	**22 51 43.1**	**+1.4**
CKRC				*e*SG	**Sb**	22 52 20.1	+1.1
	comp=Z,9.7nm,0.5s						
LANS	**Liptovska Anna**	**3.15**	**138**	*e*SG	**Sg**	**22 52 26.6**	**-2.0**
MODS	**Modra-Piesok**	**3.24**	**168**	*e*SG	**Sg**	**22 52 29.6**	**-1.8**
CONA	**Conrad Observa**	**3.63**	**184**	*i* Pn	**Pn**	**22 51 45.4**	**+0.5**
	comp=Z,0.2nm,0.1s						
CONA				*e*Sg	**Sg**	22 52 42.2	-1.7
	comp=Z,2.0nm,0.2s						
BSD	**Bornholm Skovb**	**3.67**	**348**	*i* P	**Pn**	**22 51 44.9**	**-0.3**
BSD				*i* S	**Sn**	22 52 29.6	+0.5
BSD				IAML		22 52 39.1	
	comp=Z,20nm,0.9s						
MOA	**Molln**	**3.92**	**200**	*i* Pn	**Pn**	**22 51 49.4**	**+0.6**
	comp=Z,0.5nm,0.1s						
MOA				*e*Sg	**Sg**	22 52 51.2	-2.0
	comp=Z,1.5nm,0.2s						
ARSA	**Arzberg**	**4.33**	**187**	Sg	**Sg**	**22 53 06.9**	**+0.6**
	comp=Z,2.4nm,0.3s						
LUNU	**Lund**	**4.42**	**339**	*i* P	**Pn**	**22 51 56.1**	**+0.5**
LUNU				*e*S	**Sn**	22 52 48.2	+0.4
BLEU	**Blekinge**	**4.78**	**357**	*i* P	**Pn**	**22 52 02.3**	**+1.9**
BLEU				*e*S	**Sn**	22 52 54.7	-1.7
BJUU	**Bjuv**	**4.93**	**338**	*i* P	**Pn**	**22 52 03.2**	**+0.7**
DEL	**Delary**	**5.13**	**345**	*i* P	**Pn**	**22 52 05.7**	**+0.4**
DEL				*e*S	**Sn**	**22 53 00.6**	**-4.7**

*IDC **23** 22:53:49.6±1.3,30°.24S×178°.69W,h155km±25km,mb3.6/5,*
mbtmp4.1/5,Error ellipse: s-maj=47.7km s-min=20.7km
az=27.0
ISC 23 22:53:49.1±0.9,30°.3S±0°.2×178°.7W±0°.2,h150km,n8,
σ1§10/9,mb3.9/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.22**	**33**	P	**Pn**	**22 54 14.9**	**-0.9**
	189nm,0.3s,baz=52,slow=23,SNR=2.2						
RAO				S	**Sn**	22 54 37.4	+1.2
	594nm,0.4s,baz=132,slow=22,SNR=7.6						
STKA	**Stephens Creek**	**33.93**	**257**	P	**P**	**23 00 18.4**	**+0.4**
	3.4nm,0.5s,baz=90,slow=11,SNR=10.0						
	3.4nm,0.5s						
ASAR	**Alice Springs**	**42.52**	**267**	P	**P**	**23 01 29.6**	**-0.4**
	0.4nm,0.4s,baz=106,slow=6.9,SNR=7.0						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**43.50**	**272**	P	**P**	**23 01 37.9**	**0.0**
	1.2nm,0.4s,baz=111,slow=8.1,SNR=34						
	1.2nm,0.4s						
QSPA	**South Pole Qui**	**59.84**	**180**	P	**P**	**23 03 38.9**	**+0.5**
	2.6nm,0.7s,baz=52,slow=1.2,SNR=12						
	2.6nm,0.7s						
SNAA	**Sanae**	**78.30**	**179**	P	**P**	**23 05 32.8**	**+0.8**
	0.3nm,0.3s,baz=195,slow=16,SNR=12						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**144.82**	**340**	PKP	**PKPab**	**23 13 07.0**	**+0.2**
	1.1nm,0.4s,baz=44,slow=3.9,SNR=19						
TORD	**Torodi Ar. Bea**	**162.96**	**181**	PKPab	**PKPab**	**23 14 22.1**	**-1.9**
	0.4nm,0.9s,baz=191,slow=3.6,SNR=1.7						

*WEL **23** 23:30:44.1±1.2,36°.S±14°.×17°.7E±1°.2,h259km±10km,*
M2.9/10,ML3.1/9,MLv2.9/10,Error ellipse: s-maj=0.0km
s-min=0.0km az=33.9,confirmed
ISC 23 23:30:39.7±3.5,36°.5S±0°.1×177°.1E±0°.1,h297km±19km,
n34,σ1§72/40,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.16**	**256**	P	**Pn**	**23 31 21.5**	**+1.1**
GRZ	**Great Barrier**	**1.36**	**279**	P	**Pn**	**23 31 22.7**	**+1.1**
HAZ	**Te Kaha**	**1.38**	**158**	P	**Pn**	**23 31 22.2**	**+0.6**
HAZ				S	**S**	23 31 52.6	-2.3
MXZ	**Matakaoa Point**	**1.44**	**139**	P	**Pn**	**23 31 22.3**	**+0.3**
MXZ				S	**S**	23 31 54.0	-1.6
RUGZ	**Raukumara Rang**	**1.54**	**164**	P	**Pn**	**23 31 23.2**	**+0.3**
RUGZ				S	**S**	23 31 54.9	-2.3
PKGZ	**Pakihiroa**	**1.60**	**152**	P	**Pn**	**23 31 24.5**	**+1.4**
PKGZ				S	**S**	23 31 56.4	-1.4
WMGZ	**Waiomatatini S**	**1.69**	**143**	P	**Pn**	**23 31 24.7**	**+1.0**
WMGZ				S	**S**	23 31 57.4	-1.3
MKAZ	**Moumakai**	**1.69**	**248**	P	**Pn**	**23 31 26.2**	**+2.5**
URZ	**Urewera**	**1.77**	**180**	P	**Pn**	**23 31 25.5**	**+1.2**
URZ	**Urewera**	**1.77**	**180**	P	**Pn**	**23 31 25.5**	**+1.2**
URZ				S	**S**	23 31 59.5	-0.4
TWGZ	**Tauwhareparae**	**1.82**	**158**	P	**Pn**	**23 31 26.3**	**+1.6**
PUZ	**Puketiti**	**1.83**	**151**	P	**Pn**	**23 31 25.9**	**+1.1**
MWZ	**Matawai**	**1.88**	**170**	P	**Pn**	**23 31 26.5**	**+1.3**
MUGZ	**Murupara**	**2.01**	**188**	P	**Pn**	**23 31 27.8**	**+1.7**
CNGZ	**Carnagh Statio**	**2.18**	**157**	P	**Pn**	**23 31 29.3**	**+1.8**
RIGZ	**Rimuhau**	**2.28**	**167**	P	**Pn**	**23 31 30.4**	**+2.1**
SNGZ	**Shannon Statio**	**2.30**	**176**	P	**Pn**	**23 31 30.3**	**+1.7**
MTHZ	**Maungataniwha**	**2.38**	**185**	P	**Pn**	**23 31 31.0**	**+1.8**
RAHZ	**Arahi**	**2.43**	**181**	P	**Pn**	**23 31 31.8**	**+2.1**
NMHZ	**Naumai**	**2.62**	**185**	P	**Pn**	**23 31 34.0**	**+2.5**
BKZ	**Black Stump Fm**	**2.73**	**190**	P	**Pn**	**23 31 34.1**	**+1.6**
BKZ	**Black Stump Fm**	**2.73**	**190**	P	**Pn**	**23 31 34.1**	**+1.6**
TMVZ	**Te Maari**	**2.86**	**203**	P	**Pn**	**23 31 35.8**	**+2.0**
SNVZ	**South Ngauruho**	**2.94**	**203**	P	**Pn**	**23 31 37.3**	**+2.5**
WNVZ	**Wahianoa**	**3.08**	**203**	P	**Pn**	**23 31 37.7**	**+1.6**
MOVZ	**Moawhango**	**3.11**	**200**	P	**Pn**	**23 31 37.8**	**+1.5**
BHHZ	**Black Hill Sta**	**3.12**	**195**	P	**Pn**	**23 31 38.1**	**+1.7**
KRHZ	**Kereru**	**3.21**	**190**	P	**Pn**	**23 31 38.7**	**+1.4**
KAHZ	**Kahuranaki**	**3.31**	**183**	P	**Pn**	**23 31 40.1**	**+1.8**
PNHZ	**Pukenui**	**3.50**	**192**	P	**Pn**	**23 31 41.4**	**+1.2**
BFZ	**Birch Farm**	**4.25**	**189**	P	**Pn**	**23 31 49.8**	**+1.5**
HOWZ	**Holdsworth Sta**	**4.58**	**195**	P	**Pn**	**23 31 52.9**	**+0.7**
QRZ	**Quartz Range**	**5.63**	**218**	P	**Pn**	**23 32 01.7**	**-2.7**
KHZ	**Kahutara**	**6.54**	**204**	P	**Pn**	**23 32 16.4**	**+1.2**

*TEH **23** 23:45:27.2,39°.68N×54°.57E,h10km±999km,ML4.1*
*IDC **23** 23:45:29.1±1.0,39°.69N×54°.66E,h0km,mb3.7/9,*
mbtmp3.7/19,ML3.2/10,MS2.7/2,Error ellipse:
s-maj=15.7km s-min=8.2km az=7.0
*NNC **23** 23:45:31.1±5.7,39°.90N×54°.89E,h0km,mb4.2,Error*
ellipse: s-maj=72.6km s-min=18.7km az=70.0
*AZER **23** 23:45:34.9±0.9,39°.36N×54°.32E,h10km,Error ellipse:*
s-maj=10.8km s-min=6.3km az=173.0
ISC 23 23:45:29.4±0.6,39°.67N±0°.05×54°.66E±0°.04,h10km,n102,
σ2§28/130,mb3.8/9,1C-6D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**2.30**	**150**	Pn	**Pn**	**23 46 08.9**	**+1.5**
IMND	**Minoodasht**	**2.48**	**166**	Pn	**Pn**	**23 46 10.9**	**+1.0**
GEYT	**Alibeck**	**3.21**	**122**	Pn	**Pn**	**23 46 20.9**	**+0.9**
	16nm,0.3s,baz=247,slow=2.7,SNR=312						
GEYT				Sn	**Sn**	**23 46 57.0**	**-1.3**
	18nm,0.3s,baz=298,slow=11,SNR=6.6						
GEYT				Lg	Lg	23 47 12.5	
	23nm,0.3s,baz=303,slow=19,SNR=4.6						
GEYT				LR	LR	23 47 55.8	
	comp=Z,74nm,18.9s,baz=46,slow=45						
	33nm,0.4s						
GYA0B	**ALIBECK ARRAY**	**3.21**	**122**	⇓Pn	**Pn**	**23 46 21.0**	**+1.0**
GYA0B				⇓Lg	Lg	23 47 15.7	
IGLO	**Ghaloghah**	**3.23**	**192**	Pn	**Pn**	**23 46 20.2**	**-0.2**
IKIA	**Kiasar**	**3.54**	**193**	Pn	**Pn**	**23 46 25.3**	**+0.6**
ISFR	**Sfrayin**	**3.70**	**134**	Pn	**Pn**	**23 46 29.1**	**+2.2**
IEMG	**Emamgholi**	**3.85**	**124**	Pn	**Pn**	**23 46 30.7**	**+1.6**
IPRN	**Peran**	**3.88**	**209**	Pn	**Pn**	**23 46 29.2**	**-0.1**
ISHM	**Shahmirzad**	**4.01**	**196**	Pn	**Pn**	**23 46 32.3**	**+1.2**
SBZV	**Sabzevar**	**4.02**	**144**	Pn	**Pn**	**23 46 33.4**	**+2.2**
MZPU	**Pul - Mazandar**	**4.04**	**218**	Pn	**Pn**	**23 46 31.2**	**-0.4**
KLST	**Kelardasht - M**	**4.24**	**223**	Pn	**Pn**	**23 46 33.4**	**-1.0**
IFIR	**Firoozkooh**	**4.30**	**201**	Pn	**Pn**	**23 46 36.5**	**+1.3**
IAKL	**Akhelmad**	**4.45**	**132**	Pn	**Pn**	**23 46 38.8**	**+1.6**
GBS	**Qobustan**	**4.47**	**283**	P	**Pn**	**23 46 41.2**	**+3.9**
GBS				S	**Sn**	**23 47 32.0**	**+2.6**
ILAS	**Lasjerd**	**4.49**	**198**	Pn	**Pn**	**23 46 39.4**	**+1.7**
SIZA	**Siyzn**	**4.62**	**290**	P	**Pn**	23 46 44.1	+4.7
SIZA				S	**Sn**	**23 47 35.9**	**+2.8**
LKRN	**Lenkeran, Azer**	**4.67**	**260**	P	**Pn**	**23 46 40.8**	**+0.8**
	SNR=4.7						
LKRN				S	**Sn**	**23 47 29.4**	**-4.8**
IPAY	**Payeh**	**4.69**	**132**	Pn	**Pn**	**23 46 42.3**	**+1.8**
ASTR	**Astara**	**4.70**	**258**	P	**Pn**	**23 46 40.5**	**+0.1**
ASTR				S	**Sn**	**23 47 30.6**	**-4.3**
GAS1	**Astara - Iran**	**4.71**	**256**	Pn	**Pn**	**23 46 39.6**	**-1.0**
PQL	**Pirkuli**	**4.78**	**285**	S	**Sn**	**23 47 40.8**	**+3.7**
IKRD	**Kardeh**	**4.79**	**126**	Pn	**Pn**	**23 46 43.7**	**+1.8**
IGZV	**Ghazvin**	**4.80**	**228**	Pn	**Pn**	**23 46 41.9**	**-0.1**
JIR1	**Jirandeh**	**4.84**	**234**	Pn	**Pn**	**23 46 41.3**	**-1.1**
GLBA	**Cilabad**	**4.87**	**267**	P	**Pn**	**23 46 43.9**	**+1.2**
	SNR=25						
GLBA				S	**Sn**	**23 47 38.8**	**-0.4**
QUBA	**Quba, Azerbaij**	**5.00**	**292**	P	**Pn**	23 46 49.0	+4.5
QUBA				S	**Sn**	**23 47 48.5**	**+6.2**
IHSB	**Hasanabad**	**5.01**	**214**	Pn	**Pn**	**23 46 46.0**	**+1.2**
LRK	**Lerik**	**5.02**	**260**	P	**Pn**	**23 46 45.5**	**+0.5**
	SNR=19						
LRK				S	**Sn**	**23 47 43.3**	**+0.2**
YRD	**Yardimli**	**5.04**	**263**	P	**Pn**	**23 46 45.9**	**+0.6**
	SNR=6.3						
YRD				S	**Sn**	**23 47 43.5**	**-0.1**
IML	**Ismayilli**	**5.09**	**285**	S	**Sn**	**23 47 48.1**	**+3.5**
XNQ	**Khinaliq**	**5.20**	**289**	P	Pn	23 46 51.8	+4.3
XNQ				S	**Sn**	**23 47 51.2**	**+3.6**
QSAR	**Qusar**	**5.21**	**293**	P	Pn	23 46 52.2	+4.7
QSAR				S	**Sn**	**23 47 53.2**	**+5.6**
IVRN	**Varamin**	**5.22**	**208**	Pn	**Pn**	**23 46 49.1**	**+1.5**
GRMI	**Germi**	**5.33**	**263**	Pn	**Pn**	**23 46 49.1**	**0.0**
QSDN	**Sirdan**	**5.36**	**236**	Pn	**Pn**	**23 46 49.0**	**-0.7**
QBL	**Gabala**	**5.37**	**286**	P	**Pn**	**23 46 52.7**	**+3.0**
QBL				S	**Sn**	**23 47 54.4**	**+2.8**
ZRD	**Zardab**	**5.40**	**279**	P	**Pn**	**23 46 52.5**	**+2.6**
	SNR=7.3						
ZRD				S	**Sn**	**23 47 54.7**	**+2.6**
IMYA	**Miami**	**5.43**	**126**	Pn	**Pn**	**23 46 51.7**	**+1.2**
BLQ	**Beylaqan**	**5.48**	**273**	P	**Pn**	**23 46 52.2**	**+1.1**
BLQ				S	**Sn**	**23 47 50.5**	**-3.7**
IQOM	**Qom**	**5.61**	**212**	Pn	**Pn**	**23 46 53.7**	**+0.6**
ISFB	**Sefidab**	**5.65**	**201**	Pn	**Pn**	**23 46 54.3**	**+0.8**
QRD	**Qoradiz**	**5.68**	**270**	P	**Pn**	**23 46 55.0**	**+1.1**
	SNR=4.8						
QRD				S	**Sn**	**23 47 57.0**	**-2.0**
IRAZ	**Razeghan**	**5.68**	**223**	Pn	**Pn**	**23 46 54.8**	**+0.7**
ISRB	**Sarab**	**5.77**	**254**	Pn	**Pn**	**23 46 54.8**	**-0.5**
BRDA	**Brd**	**5.78**	**278**	P	**Pn**	**23 46 58.3**	**+3.1**
BRDA				S	**Sn**	**23 48 01.6**	**+0.1**
AGDM	**Agdam**	**5.83**	**277**	P	**Pn**	**23 46 59.0**	**+3.1**
	SNR=6.7						
AGDM				S	**Sn**	**23 48 01.7**	**-1.1**
SEKA	**Sheki**	**5.90**	**287**	P	**Pn**	**23 47 00.5**	**+3.6**
SEKA				S	**Sn**	**23 48 04.2**	**-0.4**
TNSJ	**Nastanj**	**5.91**	**164**	Pn	**Pn**	**23 46 58.1**	**+1.1**
KRSH	**Karshahi**	**6.04**	**200**	Pn	**Pn**	**23 46 59.8**	**+0.8**
IHRS	**Heris**	**6.09**	**260**	Pn	**Pn**	**23 46 59.9**	**+0.2**
IHSH	**Hashtrud**	**6.27**	**250**	Pn	**Pn**	**23 47 02.8**	**+0.6**
ZKTA	**Zakatala**	**6.42**	**290**	P	**Pn**	**23 47 07.9**	**+3.8**
ZKTA				S	**Sn**	**23 48 20.3**	**+2.8**
GANJ	**Ganja**	**6.46**	**281**	P	**Pn**	**23 47 06.9**	**+2.3**
GANJ				S	**Sn**	**23 48 16.8**	**-1.7**
QAMS	**Qamsar**	**6.48**	**205**	Pn	**Pn**	**23 47 05.6**	**+0.5**
ANAR	**Anarak**	**6.51**	**187**	Pn	**Pn**	**23 47 06.4**	**+1.0**
HAGD	**Aghdareh**	**6.54**	**224**	Pn	**Pn**	**23 47 05.9**	**0.0**
ORD	**Ordubad**	**6.76**	**266**	P	**Pn**	**23 47 10.1**	**+1.2**
ORD				S	**Sn**	**23 48 21.5**	**-4.5**
IKLH	**Kolahrood**	**6.81**	**202**	Pn	**Pn**	**23 47 10.6**	**+1.0**
TPRV	**Parvadeh(Tabas**	**6.83**	**166**	Pn	**Pn**	**23 47 11.8**	**+2.1**
GDB	**GEDABAY**	**6.90**	**282**	P	**Pn**	**23 47 12.4**	**+1.6**
	SNR=31						
GDB				S	**Sn**	**23 48 28.2**	**-1.3**

IZEF	**Zefreh**	**7.02**	**196**	Pn	**Pn**	**23 47 13.2**	**+0.7**
IMRD	**Marand**	**7.03**	**265**	Pn	**Pn**	**23 47 13.0**	**+0.5**
SBZ	**Shahbuz**	**7.05**	**271**	P	**Pn**	**23 47 14.6**	**+1.9**
	SNR=8.0						
SBZ				S	**Sn**	**23 48 32.8**	**-0.2**
NAX	**Nakhchivan**	**7.12**	**269**	P	**Pn**	**23 47 15.1**	**+1.4**
AFRZ	**Afriz**	**7.15**	**149**	Pn	**Pn**	**23 47 16.5**	**+2.3**
QZX	**Qazax, Azerbai**	**7.23**	**284**	P	**Pn**	**23 47 17.2**	**+2.0**
	SNR=10						
QZX				S	**Sn**	**23 48 37.6**	**+0.3**
ICHK	**Chekchek**	**7.41**	**182**	Pn	**Pn**	**23 47 19.4**	**+1.5**
GNI	**Garni**	**7.64**	**277**	Pn	**Pn**	**23 47 22.9**	**+2.0**
	0.4nm,0.3s,baz=48,slow=22,SNR=1.5						
GNI				Sn	**Sn**	**23 48 51.3**	**+3.6**
	0.6nm,0.3s,baz=27,slow=24,SNR=2.0						
	1.5nm,0.4s						
MAKU	**Maku**	**7.72**	**271**	Pn	**Pn**	**23 47 23.4**	**+1.3**
ISAD	**Sadrabad**	**7.78**	**186**	Pn	**Pn**	**23 47 24.0**	**+1.0**
IKOO	**Kooshah**	**8.04**	**153**	Pn	**Pn**	**23 47 28.3**	**+1.8**
IRAM	**Ramesheh**	**8.06**	**194**	Pn	**Pn**	**23 47 28.6**	**+1.8**
IBAF	**Bafgh**	**8.10**	**175**	Pn	**Pn**	**23 47 28.6**	**+1.4**
IMEH	**Mehriz**	**8.26**	**180**	Pn	**Pn**	**23 47 30.9**	**+1.3**
KBZ	**Khabaz**	**9.69**	**299**	Pn	**Pn**	**23 47 50.0**	**+1.2**
	0.3nm,0.3s,baz=210,slow=20,SNR=3.1						
KBZ				Sn	**Sn**	**23 49 34.7**	**-2.9**
	0.3nm,0.3s,baz=295,slow=11,SNR=1.3						
	0.7nm,0.2s						
KVAR	**Kislovodsk Arr**	**9.91**	**299**	Pn	**Pn**	**23 47 53.8**	**+1.8**
	baz=100,slow=14						
KVAR				Sn	**Sn**	**23 49 41.9**	**-1.3**
	baz=186,slow=9.2						
	3.6nm,0.9s						
AB31	**Akbulak array**	**10.30**	**20**	Pn	**Pn**	**23 47 59.1**	**+1.9**
	0.7nm,0.2s,baz=204,slow=13,SNR=166						
AB31				⇓Sn	**Sn**	**23 49 48.6**	**-4.0**
	4.0nm,0.3s,baz=197,slow=22,SNR=14						
AB31	**Akbulak array**	**10.30**	**20**	Pn	**Pn**	**23 47 59.0**	**+1.9**
AKTO	**Aktyubinsk**	**11.02**	**11**	⇓Pn	**Pn**	**23 48 09.1**	**+2.0**
	3.2nm,0.5s						
AKTO				⇓Sn	**Sn**	**23 50 06.1**	**-4.2**
	13nm,0.6s						
AKTO	**Aktyubinsk**	**11.02**	**11**	Pn	**Pn**	**23 48 06.3**	**-0.7**
	0.3nm,0.3s,baz=182,slow=11,SNR=2.4						
AKTO				Sn	**Sn**	**23 50 04.0**	**-6.3**
	0.7nm,0.3s,baz=139,slow=19,SNR=2.3						
	1.2nm,0.4s						
KK31	**Karatay Array**	**12.39**	**69**	P	**Pn**	**23 48 25.2**	**-0.6**
	1.7nm,0.5s,baz=257,slow=16,SNR=24						
KK31	**Karatay Array**	**12.39**	**69**	Pn	**Pn**	**23 48 25.0**	**-0.8**
BELG	**Belogornoye**	**13.62**	**341**	Pn	**Pn**	**23 48 43.0**	**+0.5**
	0.6nm,0.3s,baz=192,slow=15,SNR=1.8						
BELG				Sn	**Sn**	**23 51 05.8**	**-8.0**
	1.5nm,0.3s,baz=96,slow=21,SNR=9.8						
	2.5nm,0.4s						
AML	**Almayashu**	**14.60**	**74**	⇑Pn	**Pn**	**23 48 55.4**	**-1.0**
AAK	**Ala-Archa**	**15.23**	**72**	Pn	**Pn**	**23 49 03.4**	**-1.2**
	0.5nm,0.3s,baz=236,slow=8.6,SNR=14						
AAK				LR	LR	23 56 10.9	
	comp=Z,43nm,18.2s,baz=302,slow=42						
	3.7nm,0.6s						
OTUK	**Ortayu**	**15.32**	**50**	⇓P	**Pn**	**23 49 04.8**	**-0.8**
	4.6nm,0.8s						
KSH	**Kashi**	**16.43**	**84**	P	**Pn**	**23 49 17.9**	**-2.2**
KSH				sP	pP	23 49 26.3	+0.4
KSH				S	**Sn**	**23 52 18.3**	**-4.2**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARU	**Arti**	**16.97**	**7**	Pn	**Pn**	**23 49 21.0**

MAW			LR	LR	00 14 09.9		
	comp=Z,84nm,20.5s,baz=302,slow=33						
	comp=Z,3.0nm,1.0s						
BELA	**Belgrano 2**	**31.59 199**	P	**P**	**00 06 15.2**	**+0.2**	
TSUM	**Tsumeb**	**33.14 360**	P	**P**	**00 06 28.0**	**-1.2**	
TSUM			IAmb	IAmb	00 06 44.1		
	comp=Z,10nm,1.3s						
TSUM	**Tsumeb**	**33.14 360**	LR	LR	00 18 37.3		
	comp=Z,80nm,18.8s,baz=156,slow=34						
ORCD	**Orcadas**	**34.09 231**	P	**P**	**00 06 36.2**	**-0.8**	
FOMA	**Nahampoana Res**	**35.28 50**	P	P	00 06 43.0	-4.6	
QSPA	**South Pole Qui**	**37.82 180**	P	**P**	**00 07 05.6**	**-3.5**	
QSPA	**South Pole Qui**	**37.82 180**	P	**P**	**00 07 10.3**	**+1.1**	
	comp=Z,2.1nm,0.9s,baz=262,slow=5.2,SNR=5.7						
QSPA			LR	LR	00 21 22.2		
	comp=Z,65nm,18.8s,baz=256,slow=34						
	comp=Z,2.1nm,0.9s						
VOI	**Vohitsoka**	**37.84 48**	P	P	00 07 04.9	-4.7	
VOI			IAmb	IAmb	00 07 26.8		
	comp=Z,17nm,1.4s						
LSZ	**Lusaka**	**37.99 17**	LR	LR	00 21 47.3		
	comp=Z,63nm,18.8s,baz=185,slow=34						
SHEL	**Horse Pasture**	**40.80 324**	P	**P**	**00 07 33.9**	**-0.4**	
PMSA	**Palmer Station**	**41.21 220**	LR	LR	00 21 35.2		
	comp=Z,116nm,18.5s,baz=124,slow=32						
VNDA	**Vanda**	**48.45 170**	P	**P**	**00 08 32.6**	**-2.0**	
VNDA			IAmb	IAmb	00 08 39.7		
	comp=Z,3.5nm,1.1s						
VNDA	**Vanda**	**48.45 170**	P	**P**	**00 08 37.0**	**+2.4**	
	comp=Z,1.8nm,0.9s,baz=240,slow=7.1,SNR=12						
VNDA			LR	LR	00 28 18.9		
	comp=Z,69nm,19.1s,baz=205,slow=35						
	comp=Z,1.8nm,0.9s						
H10S2	**ASCENSION HYDR**	**50.64 317**	T	T	01 03 09.3		
	baz=154,slow=74,SNR=28						
H10S3	**ASCENSION HYDR**	**50.65 317**	T	T	01 03 10.3		
	baz=66,slow=74,SNR=68						
MBAR	**Mbarara**	**52.79 17**	LR	LR	00 30 45.6		
	comp=Z,133nm,18.4s,baz=162,slow=35						
LODK	**Lodwar**	**57.62 21**	P	**P**	**00 09 43.5**	**+0.5**	
PLCA	**Paso Flores**	**58.07 243**	LR	LR	00 31 23.9		
	comp=Z,19nm,19.3s,baz=157,slow=32						
DBIC	**Dimbokro**	**61.89 335**	P	**P**	**00 10 16.6**	**+4.3**	
	comp=Z,3.8nm,0.9s,baz=120,slow=8.0,SNR=3.5						
DBIC			LR	LR	00 30 56.1		
	comp=Z,33nm,21.9s,baz=134,slow=30						
	comp=Z,3.8nm,0.9s						
GO05	**Huala**	**62.90 247**	P	**P**	**00 10 19.4**	**+0.5**	
LCO	**Las Campanas**	**66.59 253**	P	**P**	**00 10 44.5**	**+1.1**	
LCO			IAmb	IAmb	00 10 56.1		
	comp=Z,12nm,1.2s						
TOA0	**Torodi Ar. Sit**	**66.72 343**	P	**P**	**00 10 43.0**	**-0.8**	
TOA0			IAmb	IAmb	00 10 51.9		
	comp=Z,8.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.72 343**	P	**P**	**00 10 42.4**	**-1.5**	
TORD			IAmb	IAmb	00 10 51.8		
	comp=Z,4.6nm,1.3s						
TORD	**Torodi Ar. Bea**	**66.72 343**	P	P	00 10 49.3	+5.5	
	comp=Z,2.3nm,1.1s,baz=147,slow=2.9,SNR=5.3						
	comp=Z,2.3nm,1.1s						
H01W2	**Cape Leeuwin H**	**66.87 117**	T	T	01 24 48.0		
	baz=220,slow=75,SNR=26						
H01W3	**Cape Leeuwin H**	**66.89 117**	T	T	01 24 42.6		
	baz=220,slow=75,SNR=25						
H01W1	**Cape Leeuwin H**	**66.89 117**	T	T	01 24 49.3		
	baz=220,slow=75,SNR=26						
AC01	**Pan de Azucar**	**68.67 255**	P	**P**	**00 10 56.5**	**+0.2**	
GO02	**Mina Guanaco**	**68.81 256**	P	P	00 10 54.5	-3.0	
GO02			IAmb	IAmb	00 11 02.2		
	comp=Z,15nm,1.4s						
KOWA	**Kowa**	**69.20 338**	P	**P**	**00 10 58.3**	**-1.2**	
PB14	**IPOC Station P**	**69.69 256**	P	P	00 11 00.0	-3.0	
PB14			IAmb	IAmb	00 11 20.5		
	comp=Z,14nm,1.0s						
NWAO	**Narrogin (SRO)**	**70.04 118**	P	**P**	**00 11 01.2**	**-3.5**	
NWAO	**Narrogin (SRO)**	**70.04 118**	P	**P**	**00 11 02.7**	**-2.0**	
NWAO			IAmb	IAmb	00 11 21.3		
	comp=Z,23nm,1.4s						
LVC	**Limon Verde**	**70.33 258**	P	**P**	**00 11 06.6**	**-0.4**	
LVC			IAmb	IAmb	00 11 24.0		
	comp=Z,7.5nm,1.1s						
PB09	**IPOC Station P**	**71.14 259**	P	**P**	**00 11 11.3**	**-0.5**	
PB09			IAmb	IAmb	00 11 26.5		
	comp=Z,8.5nm,1.1s						
PB02	**IPOC Station P**	**71.90 259**	P	**P**	**00 11 16.0**	**-0.3**	
PB02			IAmb	IAmb	00 11 34.4		
	comp=Z,23nm,1.2s						
VILB	**Vilhena**	**72.40 272**	P	**P**	**00 11 18.7**	**-0.5**	
VILB			IAmb	IAmb	00 11 34.4		
	comp=Z,18nm,1.4s						
LPAZ	**La Paz**	**74.68 263**	P	**P**	**00 11 32.1**	**-1.2**	
LPAZ	**La Paz**	**74.68 263**	P	P	00 11 39.4	+6.0	
	comp=Z,1.8nm,0.9s,baz=200,slow=7.7,SNR=4.2						
	comp=Z,1.8nm,0.9s						
SAML	**Samuel**	**77.34 272**	P	**P**	**00 11 47.5**	**-0.2**	
SAML			IAmb	IAmb	00 11 53.3		
	comp=Z,7.2nm,1.4s						
WKZ	**Wanaka**	**80.07 160**	P	**P**	**00 12 01.6**	**-0.8**	
EIL	**Elat**	**83.13 15**	LR	LR	00 48 51.2		
	comp=Z,32nm,18.1s,baz=236,slow=35						
BOAV	**Boa Vista**	**84.65 281**	P	P	00 12 24.2	-2.5	
BOAV			IAmb	IAmb	00 12 33.0		
	comp=Z,3.1nm,0.9s						
ASAR	**Alice Springs**	**86.19 125**	P	**P**	**00 12 36.8**	**+2.4**	
	comp=Z,1.1nm,0.9s,baz=200,slow=5.8,SNR=7.9						
	comp=Z,1.1nm,0.9s						
URZ	**Urewera**	**87.96 164**	LR	LR	00 50 20.4		
	comp=Z,56nm,18.8s,baz=212,slow=34						
WRA	**Warramunga Arr**	**89.51 123**	P	**P**	**00 12 52.5**	**+2.2**	
	comp=Z,0.4nm,0.9s,baz=198,slow=3.9,SNR=2.5						
	comp=Z,0.4nm,0.9s						
PDAR	**Pinedale Array**	**143.82 276**	PKP	**PKPdf**	**00 19 29.4**	**+1.7**	
	comp=Z,0.6nm,0.8s,baz=82,slow=6.5,SNR=3.8						
NVAR	**Mina Array Bea**	**146.59 263**	PKP	**PKPdf**	**00 19 33.4**	**+0.8**	
	comp=Z,1.9nm,0.9s,baz=137,slow=4.9,SNR=11						
ILAR	**Eielson Array**	**165.26 333**	PKPab	**PKPab**	**00 20 58.8**	**+5.2**	
	comp=Z,0.7nm,1.0s,baz=318,slow=1.6,SNR=4.7						

*NEIC **24** 00:05:47.9±2.0, 52°.2S±0°.1×17°.0E±0°.2, h10km±1km, mb4.7/33, Error ellipse: s-maj=23.1km s-min=17.8km az=100.0*
*IDC **24** 00:05:48.9±0.8, 52°.20S×17°.08E, h0km, mb3.9/9, mbtmp4.0/10, ML3.7/1, Error ellipse: s-maj=38.8km s-min=17.4km az=84.0*

ISC 24 00:05:48.5±0.5, 52°.14S±0°.08×17°.0E±0°.1, h10km, n59, σ1§76/48, mb4.5/28, 5C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SUR	**Sutherland**	**19.94**	**10**	P	**P**	**P**	**00 10 19.5**	**-1.2**
SUR					IAmb	IAmb	00 10 48.0	
	comp=Z,66nm,1.5s							
SUR	**Sutherland**	**19.94**	**10**	P	**Pn**	**Pn**	**00 10 21.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=164,slow=7.4,SNR=1.8							
	comp=Z,12nm,1.0s							
TROLL	**Troll, Antarti**	**20.94**	**193**	⇑P	Pn		00 10 33.4	-0.2
	comp=Z,173nm,1.0s							
SNAA	**Sanae**	**21.49**	**197**	P	**P**	**P**	**00 10 36.3**	**-0.6**
SNAA	**Sanae**	**21.49**	**197**	⇑P	**P**	**P**	**00 10 38.3**	**+1.3**
	comp=Z,168nm,1.1s							
SNAA	**Sanae**	**21.49**	**197**	P	**P**	**P**	**00 10 37.7**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=33,slow=11,SNR=14							
	comp=Z,3.4nm,0.9s							
VNA2	**Neumayer--Watz**	**21.83**	**201**	⇑P	**P**	**P**	**00 10 44.3**	**+3.7**
	comp=Z,4.6nm,0.6s,baz=35,slow=7.0							
VNA1	**Neumayer--Stat**	**21.83**	**202**	⇑P	**P**	**P**	**00 10 45.9**	**+5.3**
	comp=Z,2.3nm,0.4s							
VNA3	**Neumayer Olymp**	**22.58**	**202**	⇑P	**P**	**P**	**00 10 48.4**	**-0.3**
	comp=Z,1.2nm,0.4s							
H04S2	**CROZET ISLANDS**	**23.12**	**91**	T	T	T	00 35 07.2	
	baz=244,slow=75,SNR=18							
H04S3	**CROZET ISLANDS**	**23.13**	**91**	T	T	T	00 35 12.1	
	baz=244,slow=75,SNR=14							
H04S1	**CROZET ISLANDS**	**23.14**	**91**	T	T	T	00 35 09.2	
	baz=244,slow=75,SNR=13							
BOSA	**Boshof**	**24.30**	**18**	P	**P**	**P**	**00 11 07.4**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=176,slow=14,SNR=1.2							
	comp=Z,1.2nm,0.8s							
MAW	**Mawson**	**26.90**	**143**	P	**P**	**P**	**00 11 29.9**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=278,slow=9.3,SNR=1.9							
	comp=Z,1.6nm,0.8s							
POGA	**Pongola**	**27.12**	**30**	P	**P**	**P**	**00 11 31.5**	**0.0**
LBTB	**Lobatse**	**27.87**	**17**	P	**P**	**P**	**00 11 39.2**	**+0.9**
LBTB					IAmb	IAmb	00 11 56.1	
	comp=Z,8.2nm,1.0s							

BELA	**Belgrano 2**	**31.72 198**	P	**P**	**00 12 10.7**	**-1.2**	
BELA			IAmb	IAmb	00 12 38.5		
	comp=Z,7.8nm,1.4s						
QSPA	**South Pole Qui**	**38.09 180**	P	**P**	**00 13 07.6**	**+0.5**	
QSPA	**South Pole Qui**	**38.09 180**	P	**P**	**00 13 07.9**	**+0.8**	
	comp=Z,1.7nm,0.6s,baz=259,slow=5.9,SNR=5.3						
	comp=Z,1.7nm,0.6s						
CASY	**Casey**	**45.19 145**	P	**P**	**00 14 03.4**	**-1.6**	
CASY			IAmb	IAmb	00 14 06.4		
	comp=Z,11nm,1.4s						
VNDA	**Vanda**	**48.77 170**	P	**P**	**00 14 34.0**	**+1.2**	
VNDA	**Vanda**	**48.77 170**	P	**P**	**00 14 33.8**	**+0.9**	
	comp=Z,1.1nm,0.9s,baz=229,slow=9.9,SNR=6.6						
	comp=Z,1.1nm,0.9s						
H10S2	**ASCENSION HYDR**	**50.19 318**	T	T	01 09 04.4		
	baz=153,slow=74,SNR=11						
H10S3	**ASCENSION HYDR**	**50.21 318**	T	T	01 09 10.5		
	baz=67,slow=74,SNR=27						
GO09	**Cerro Castillo**	**51.88 233**	P	**P**	**00 14 57.2**	**+0.5**	
KIBK	**Kibwezi**	**52.65 27**	P	**P**	**00 15 03.1**	**+0.2**	
KIBK			IAmb	IAmb	00 15 10.4		
	comp=Z,11nm,1.5s						
AY02	**Valle Explorad**	**55.40 237**	P	**P**	**00 15 22.4**	**0.0**	
ITAB	**Concordia**	**56.36 268**	P	**P**	**00 15 31.3**	**+1.7**	
LODK	**Lodwar**	**57.51 22**	P	**P**	**00 15 36.4**	**-1.5**	
PLCA	**Paso Flores**	**57.86 244**	P	**P**	**00 15 39.6**	**-0.6**	
PLCA			IAmb	IAmb	00 15 57.0		
	comp=Z,4.8nm,1.2s						
CPUP	**Villa Florida**	**60.21 265**	P	**P**	**00 15 55.7**	**-0.8**	
CPUP			IAmb	IAmb	00 16 15.1		
	comp=Z,4.1nm,1.4s						
DBIC	**Dimbokro**	**61.49 335**	P	**P**	**00 16 08.1**	**+2.9**	
	comp=Z,4.5nm,0.9s,baz=169,slow=11,SNR=3.2						
	comp=Z,4.5nm,0.9s						
ML02	**Panimavida**	**61.83 247**	P	**P**	**00 16 04.5**	**-3.0**	
ML02			IAmb	IAmb	00 16 22.4		
	comp=Z,9.6nm,0.9s						
BO02	**Sierra Bellavi**	**62.16 248**	P	**P**	**00 16 08.0**	**-1.8**	
BO02			IAmb	IAmb	00 16 11.0		
	comp=Z,13nm,1.4s						
BO01	**Tunca**	**62.62 249**	P	**P**	**00 16 11.2**	**-1.6**	
BO01			IAmb	IAmb	00 16 40.4		
	comp=Z,9.5nm,1.5s						
BO04	**La Punta**	**62.64 249**	P	**P**	**00 16 13.6**	**+0.6**	
BO04			IAmb	IAmb	00 16 36.8		
	comp=Z,12nm,1.4s						
ZON	**Zonda**	**63.27 252**	P	**P**	**00 16 15.9**	**-1.4**	
ZON			IAmb	IAmb	00 16 25.7		
	comp=Z,10.0nm,1.4s						
VA01	**Torpederas**	**63.93 249**	P	**P**	**00 16 19.9**	**-1.6**	
LCO	**Las Campanas**	**66.32 253**	P	**P**	**00 16 37.5**	**+0.1**	
LCO			IAmb	IAmb	00 17 04.1		
	comp=Z,18nm,1.4s						
TORD	**Torodi Ar. Bea**	**66.36 344**	P	**P**	**00 16 36.0**	**-1.2**	
TORD	**Torodi Ar. Bea**	**66.36 344**	P	**P**	**00 16 40.0**	**+2.7**	
	comp=Z,0.8nm,0.9s,baz=178,slow=6.6,SNR=3.8						
	comp=Z,0.8nm,0.9s						
H01W2	**Cape Leeuwin H**	**67.32 118**	T	T	01 30 46.7		
	baz=220,slow=75,SNR=9.8						
H01W3	**Cape Leeuwin H**	**67.33 118**	T	T	01 30 40.4		
	baz=220,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**67.34 118**	T	T	01 30 40.3		
	baz=220,slow=75,SNR=12						
PB15	**IPOC Station P**	**69.91 258**	P	**P**	**00 16 58.1**	**-1.8**	
PB15			IAmb	IAmb	00 17 08.3		
	comp=Z,6.8nm,0.8s						
LVC	**Limon Verde**	**70.02 259**	P	**P**	**00 16 59.6**	**-1.2**	
LVC			IAmb	IAmb	00 17 00.1		
	comp=Z,6.1nm,1.2s						
PB18	**Visviri**	**74.18 262**	P	P	00 17 18.9	-7.1	
PB18			IAmb	IAmb	00 17 24.1		
	comp=Z,19nm,1.2s						
FORT	**Forrest**	**77.86 125**	P	**P**	**00 17 44.6**	**-1.5**	
ETMB	**Extrema**	**78.16 269**	P	**P**	**00 17 46.9**	**-1.1**	
DCZ	**Deep Cove**	**79.44 159**	P	**P**	**00 17 54.3**	**-0.3**	
MLZ	**Mavora Lakes**	**79.74 160**	P	**P**	**00 17 55.6**	**-0.7**	
TOO	**Toolangi**	**80.02 141**	P	**P**	**00 17 57.2**	**-0.7**	
ODZ	**Otahua Downs**	**80.57 161**	P	**P**	**00 17 59.8**	**-0.9**	
ODZ			IAmb	IAmb	00 18 07.9		
	comp=Z,24nm,1.3s						
THZ	**Tophouse**	**84.17 162**	P	**P**	**00 18 17.8**	**-1.9**	
SNZO	**South Karori**	**84.93 163**	P	**P**	**00 18 20.0**	**-3.4**	
ASAR	**Alice Springs**	**86.64 125**	P	**P**	**00 18 35.1**	**+2.8**	
	comp=Z,1.0nm,0.6s,baz=206,slow=4.6,SNR=11						
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**89.96 123**	P	**P**	**00 18 50.5**	**+2.4**	
	comp=Z,0.3nm,0.7s,baz=207,slow=4.5,SNR=3.1						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**143.43 277**	PKhKP	PKPpre	00 25 20.9		
	comp=Z,0.2nm,0.6s,baz=122,slow=3.3,SNR=2.5						
NVAR	**Mina Array Bea**	**146.25 264**	PKPbc	**PKiKP**	**00 25 31.1**	**-0.9**	
	comp=Z,2.6nm,0.8s,baz=126,slow=4.6,SNR=16						

*IDC **24** 00:22:39.8±1.8, 6°.26S×129°.34E, h0km, mb3.6/2, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=122.8km s-min=30.1km az=68.0*

ISC 24 00:22:58.9±1.3, 7°.1S±0°.1×129°.8E±0°.2, h200km, n9, σ2§57/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.86**	**167**	P	**Pn**	**Pn**	**00 24 26.8**	**+2.4**
	baz=5.5							
MTN				S		**Sn**	**00 25 32.4**	**+0.3**
	baz=5.5							
KDU	**Kakadu**	**6.14**	**155**	P	**Pn**	**Pn**	**00 24 28.9**	**+0.8**
	baz=5.8							
KDU				S		**Sn**	**00 25 37.8**	**-0.9**
	baz=5.8							
KNRA	**Kununurra**	**8.60**	**187**	P	**Pn**	**Pn**	**00 25 00.6**	**+0.6**
	baz=8.3							
KNRA				S		**Sn**	**00 26 35.9**	**-0.8**
	baz=8.3							
WRA	**Warramunga Arr**	**13.50**	**162**	Pn	**P**	**P**	**00 26 05.2**	**-0.1**
	0.2nm,0.3s,baz=340,slow=12,SNR=6.3							
WRA				Sn		**S**	**00 28 28.7**	**-4.7**
	0.2nm,0.3s,baz=336,slow=23,SNR=4.7							
	0.2nm,0.5s							
WB2	**Warramunga Arr**	**13.51**	**162**	P	**P**	**P**	**00 26 05.0**	**-0.4**
	baz=13							
WB2				S		**S**	**00 28 31.0**	**-2.5**
	baz=13							
WC3	**Warramunga Arr**	**13.53**	**161**	P	**P**	**P**	**00 26 05.4**	**-0.2**
	baz=13							
ASAR	**Alice Springs**	**16.94**	**167**	P	**Pn**	**Pn**	**00 26 50.0**	**+5.3**
	0.1nm,0.3s,baz=345,slow=10,SNR=2.8							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**68.21**	**327**	P	**P**	**P**	**00 33 35.2**	**-2.7**
	0.2nm,0.3s,baz=120,slow=7.7,SNR=7.0							
	0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**72.50**	**329**	P	**P**	**P**	**00 34 03.6**	**-0.1**
	0.3nm,0.4s,baz=126,slow=7.1,SNR=7.5							
	0.3nm,0.4s							

*WEL **24** 01:06:06.0±1.1, 33°.S±6°.×18°.0E±1°.4, h264km±21km, M4.7/28, mB5.1/6, ML4.9/7, MLv4.9/28, Mw(mB)4.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=108.6, confirmed*
*NOU **24** 01:06:24.0, 34°.29S×178°.36E, h310km, MLv4.6/11, South of Kermadec Islands*

ISC 24 01:06:06.3±1.4, 32°.65S±0°.08×179°.9E±0°.1, h250km, n60, σ2§07/70, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.87**	**30**	P	**Pn**	**Pn**	**01 07 08.6**	**0.0**
GLKZ				S		**S**	**01 07 59.5**	**+1.5**
MXZ	**Matakaoa Point**	**5.07**	**194**	P	**Pn**	**Pn**	**01 07 23.0**	**+0.2**
MXZ	**Matakaoa Point**	**5.07**	**194**	P	**Pn**	**Pn**	**01 07 23.1**	**+0.2**
MXZ				S		**S**	**01 08 26.0**	**+2.1**
GRZ	**Great Barrier**	**5.12**	**224**	P	**Pn**	**Pn**	**01 07 23.8**	**+0.3**
WMGZ	**Waiomatatini S**	**5.30**	**193**	P	**Pn**	**Pn**	**01 07 26.7**	**+1.1**
WMGZ				S		**S**	**01 08 31.9**	**+2.9**
KUZ	**Kuaotunu**	**5.33**	**219**	P	**Pn**	**Pn**	**01 07 27.4**	**+1.3**
HAZ	**Te Kaha**	**5.38**	**198**	P	**Pn**	**Pn**	**01 07 26.7**	**+0.1**
HAZ				S		**S**	**01 08 31.9**	**+1.2**
PKGZ	**Pakihiroa**	**5.43**	**195**	P	**Pn**	**Pn**	**01 07 28.0**	**+0.6**
PKGZ				S		**S**	**01 08 32.9**	**+0.8**
PUZ	**Puketiti**	**5.57**	**193**	P	**Pn**	**Pn**	**01 07 29.7**	**+0.7**
PUZ				S		**S**	**01 08 35.3**	**+0.1**
RUGZ	**Raukumara Rang**	**5.60**	**198**	P	**Pn**	**Pn**	**01 07 29.5**	**0.0**
RUGZ				S		**S**	**01 08 35.9**	**-0.1**
WCZ	**Waipu Caves**	**5.63**	**233**	P	**Pn**	**Pn**	**01 07 29.8**	**0.0**
TWGZ	**Tauwhareparae**	**5.73**	**195**	P	**Pn**	**Pn**	**01 07 32.0**	**+1.0**

TWGZ				S		**S**	**01 08 40.8**	**+2.0**
OUZ	**Omahuta**	**5.82**	**242**	P	**Pn**	**Pn**	**01 07 30.9**	**-1.2**
OUZ	**Omahuta**	**5.82**	**242**	P	**Pn**	**Pn**	**01 07 30.9**	**-1.2**
CNGZ	**Carnagh Statio**	**5.98**	**193**	P	**Pn**	**Pn**	**01 07 32.7**	**-1.4**
CNGZ				S		**S**	**01 08 48.4**	**+4.1**
MWZ	**Matawai**	**5.99**	**198**	P	**Pn**	**Pn**	**01 07 31.5**	**-2.7**
MWZ				S		**S**	**01 08 46.0**	**+1.4**
TKGZ	**Te Karaka**	**6.01**	**195**	P	**Pn**	**Pn**	**01 07 33.7**	**-0.7**
TKGZ				S		**S**	**01 08 46.8**	**+1.7**
URZ	**Urewera**	**6.04**	**201**	P	**Pn**	**Pn**	**01 07 31.1**	**-3.7**
URZ	**Urewera**	**6.04**	**201**	P	**Pn**	**Pn**	**01 07 33.2**	**-1.5**
RAGZ	**Rawiri**	**6.17**	**198**	P	**Pn**	**Pn**	**01 07 35.5**	**-1.0**
RAGZ				S		**S**	**01 08 50.2**	**+1.4**
TOZ	**Tahuroa Road**	**6.21**	**214**	P	**Pn**	**Pn**	**01 07 37.4**	**+0.5**
RIGZ	**Rimuhau**	**6.29**	**195**	P	**Pn**	**Pn**	**01 07 36.4**	**-1.6**
RIGZ				S		**S**	**01 08 52.9**	**+1.6**
HSRZ	**Hossack Road**	**6.38**	**207**	P	**Pn**	**Pn**	**01 07 40.0**	**+0.8**
RTZ	**Ruatahuna**	**6.41**	**201**	P	**Pn**	**Pn**	**01 07 37.8**	**-1.7**
SNGZ	**Shannon Statio**	**6.46**	**198**	P	**Pn**	**Pn**	**01 07 39.6**	**-0.5**
PRGZ	**Paritu Road**	**6.47**	**194**	P	**Pn**	**Pn**	**01 07 39.9**	**-0.3**
PRGZ				S		**S**	**01 08 57.5**	**+2.0**
PRRZ	**Plateau Road**	**6.49**	**205**	P	**Pn**	**Pn**	**01 07 39.5**	**-1.0**
KNZ	**Kokohu**	**6.61**	**195**	P	**Pn**	**Pn**	**01 07 41.0**	**-0.9**
RAHZ	**Arahi**	**6.65**	**199**	P	**Pn**	**Pn**	**01 07 40.2**	**-2.3**
RAHZ				S		**S**	**01 08 59.5**	**-0.3**
MTHZ	**Maungataniwha**	**6.67**	**201**	P	**Pn**	**Pn**	**01 07 40.8**	**-1.9**
MTHZ				S		**S**	**01 08 59.6**	**-0.4**
TLZ	**Tolley Road**	**6.68**	**211**	P	**Pn**	**Pn**	**01 07 43.4**	**+0.5**
MHGZ	**Mahia Peninsul**	**6.69**	**193**	P	**Pn**	**Pn**	**01 07 42.9**	**0.0**
MHGZ				S		**S**	**01 09 00.5**	**+0.1**
KUTZ	**Kaahu Road**	**6.70**	**208**	P	**Pn**	**Pn**	**01 07 42.8**	**-0.3**
WHHZ	**Waihua**	**6.76**	**198**	P	**Pn**	**Pn**	**01 07 43.5**	**-0.4**
MRHZ	**Matea Rd**	**6.78**	**204**	P	**Pn**	**Pn**	**01 07 42.0**	**-2.2**
NMHZ	**Naumai**	**6.90**	**200**	P	**Pn**	**Pn**	**01 07 43.8**	**-1.9**
ARHZ	**Aropaoanui**	**7.00**	**199**	P	**Pn**	**Pn**	**01 07 44.4**	**-2.5**
BKZ	**Black Stump Fm**	**7.06**	**202**	P	**Pn**	**Pn**	**01 07 43.2**	**-4.5**
BKZ	**Black Stump Fm**	**7.06**	**202**	P	**Pn**	**Pn**	**01 07 43.7**	**-4.0**
MCHZ	**McNeill Hill**	**7.25**	**200**	P	**Pn**	**Pn**	**01 07 48.3**	**-1.8**
TMVZ	**Te Maari**	**7.29**	**207**	P	**Pn**	**Pn**	**01 07 47.7**	**-2.9**
ETVZ	**East Tongariro**	**7.30**	**206**	P	**Pn**	**Pn**	**01 07 47.9**	**-3.0**
KWHZ	**Kaweka Forest**	**7.32**	**201**	P	**Pn**	**Pn**	**01 07 47.0**	**-4.0**
WTVZ	**West Tongariro**	**7.33**	**207**	P	**Pn**	**Pn**	**01 07 48.2**	**-3.0**
NNVZ	**North Ngauruho**	**7.34**	**207**	P	**Pn**	**Pn**	**01 07 48.6**	**-2.7**
OTVZ	**Oturere**	**7.34**	**207**	P	**Pn**	**Pn**	**01 07 48.5**	**-2.9**
TWVZ	**Taurewa**	**7.35**	**208**	P	**Pn**	**Pn**	**01 07 49.0**	**-2.4**
CKHZ	**Cape Kidnapper**	**7.35**	**197**	P	**Pn**	**Pn**	**01 07 48.5**	**-2.8**
SNVZ	**South Ngauruho**	**7.37**	**207**	P	**Pn**	**Pn**	**01 07 48.7**	**-3.1**
NGZ	**Ngauruhoe**	**7.38**	**207**	P	**Pn**	**Pn**	**01 07 48.9**	**-2.9**
KAHZ	**Kahuranaki**	**7.53**	**198**	P	**Pn**	**Pn**	**01 07 50.1**	**-3.6**
KRHZ	**Kereru**	**7.54**	**201**	P	**Pn**	**Pn**	**01 07 49.9**	**-3.7**
WPHZ	**Waipukurau**	**7.90**	**200**	P	**Pn**	**Pn**	**01 07 54.5**	**-3.8**
KHEZ	**Kahui Hut**	**8.16**	**214**	P	**Pn**	Pn	01 07 54.8	-6.8
BFZ	**Birch Farm**	**8.53**	**199**	P	**Pn**	Pn	01 08 00.7	-5.5
SNZO	**South Karori**	**9.58**	**204**	P	**Pn**	Pn	01 08 12.2	-7.2
QRZ	**Quartz Range**	**10.06**	**214**	P	**Pn**	Pn	01 08 17.4	-8.2
KHZ	**Kahutara**	**10.97**	**205**	P	**Pn**	Pn	01 08 28.4	-8.5
RPZ	**Rata Peaks**	**13.04**	**210**	P	**Pn**	Pn	01 08 53.3	-9.3
JCZ	**Jackson Bay**	**14.33**	**214**	P	**Pn**	Pn	01 09 09.7	-8.7

*IDC **24** 01:23:34.4±0.7, 35°.15N×141°.13E, h0km, mb4.1/15, mbtmp4.1/19, ML3.5/

K17K Iditarod 45.92 34 P **P 01 31 57.4 -0.1**
K17K IAmb IAmb 01 32 03.3
comp=Z,8.7nm,1.1s
KURK Kurchatov 47.05 309 P **P 01 32 06.6 +0.1**
KURK IAmb IAmb 01 32 07.7
comp=Z,9.6nm,0.8s
RAMN Ramite 47.10 276 *eP* **P 01 32 07.1 -0.4**
comp=Z,14nm,0.4s
KURBB Kurchatov Arra 47.12 309 P **P 01 32 07.3 +0.3**
comp=Z,4.7nm,0.6s,baz=85,slow=8.2,SNR=54
comp=Z,4.7nm,0.6s
JIRN Jiri 47.15 277 *eP* **P 01 32 08.4 +0.3**
comp=Z,9.8nm,0.4s
GUN Gumba 47.30 277 *eP* **P 01 32 09.6 +0.4**
comp=Z,4.7nm,0.3s
O19K Port Alsworth 47.63 38 P **P 01 32 11.0 +0.2**
GKN Gorkha 48.28 278 *eP* **P 01 32 16.9 +0.4**
comp=Z,7.6nm,0.4s
CAST Castle Rocks 48.81 33 P **P 01 32 18.6 -1.4**
CAST IAmb IAmb 01 32 39.6
comp=Z,11nm,1.5s
DANN Dangsing 48.85 279 *eP* **P 01 32 21.6 +0.5**
comp=Z,24nm,0.6s
COEN Coen 48.89 178 P **P 01 32 21.6 +0.7**
COEN IAmb IAmb 01 32 23.4
comp=Z,8.3nm,0.8s
TARG Taragay, Kyrgy 49.19 298 P **P 01 32 23.6 -0.1**
PYUN Piuthan 49.57 279 *eP* **P 01 32 26.8 +0.3**
comp=Z,12nm,0.4s
BOOM Boomskoye usch 50.34 299 P **P 01 32 33.1 +0.9**
BOOM IAmb IAmb 01 32 33.6
comp=Z,3.1nm,0.8s
ILAR Eielson Array 51.11 32 P **P 01 32 39.7 +2.3**
comp=Z,0.8nm,0.8s,baz=267,slow=6.1,SNR=6.3
comp=Z,0.8nm,0.8s
BVAR Borovoye Array 51.79 313 P **P 01 32 42.5 -0.2**
comp=Z,1.9nm,0.8s,baz=94,slow=8.9,SNR=8.2
comp=Z,1.9nm,0.8s
BRVK Borovoye 51.85 313 P **P 01 32 43.8 +0.7**
KNRA Kununurra 51.96 195 P **P 01 32 44.3 +0.1**
KNRA IAmb IAmb 01 32 46.5
comp=Z,9.2nm,0.7s
KK31 Karatay Array 54.02 301 P **P 01 32 59.2 -0.1**
KK31 IAmb IAmb 01 33 01.1
comp=Z,3.3nm,0.9s
KKAR Karatay Array 54.02 301 P **P 01 32 59.0 -0.3**
KKAR IAmb IAmb 01 33 01.1
comp=Z,3.3nm,0.9s
KKAR Karatay Array 54.02 301 P **P 01 32 59.9 +0.6**
WB0 Warramunga Arr 55.03 188 P **P 01 33 06.7 0.0**
WRAB Tennant Creek 55.20 188 P **P 01 33 07.6 -0.3**
WR0 Warramunga Arr 55.20 188 P **P 01 33 07.7 -0.2**
WR0 IAmb IAmb 01 33 09.1
comp=Z,6.8nm,0.7s
WB2 Warramunga Arr 55.21 188 P **P 01 33 07.7 -0.3**
WB2 IAmb IAmb 01 33 09.2
comp=Z,7.8nm,0.8s
WRA Warramunga Arr 55.21 188 P **P 01 33 07.6 -0.4**
WRA Warramunga Arr 55.21 188 P **P 01 33 08.3 +0.3**
comp=Z,6.5nm,0.7s,baz=4.7,slow=7.5,SNR=91
comp=Z,6.5nm,0.7s
ARU Arti 57.72 319 P **P 01 33 26.0 +0.4**
ARU IAmb IAmb 01 33 26.5
comp=Z,5.7nm,1.0s
ASAR Alice Springs 58.94 188 P **P 01 33 34.7 +0.3**
comp=Z,1.6nm,0.6s,baz=354,slow=6.7,SNR=21
comp=Z,1.6nm,0.6s
ABKAR Akbulak array 59.10 311 P **P 01 33 35.4 +0.1**
ABKAR IAmb IAmb 01 33 38.1
comp=Z,3.7nm,1.1s
MBWA Marble Bar 59.66 203 P **P 01 33 38.6 -0.7**
PSA00 Pilbara Seismi 60.00 203 P **P 01 33 41.4 -0.3**
PSA00 IAmb IAmb 01 33 50.1
comp=Z,6.7nm,1.3s
FINES FINESS Array B 70.44 333 P **P 01 34 48.7 -0.2**
FINES FINESS Array B 70.44 333 P **P 01 34 49.2 +0.3**
comp=Z,2.5nm,0.9s,baz=53,slow=9.8,SNR=6.9
comp=Z,2.5nm,0.9s
YERR Yerington 75.24 53 P **P 01 35 16.7 -1.4**
AKASG Malin Array Be 75.73 323 P **P 01 35 20.3 -0.1**
comp=Z,1.4nm,0.8s,baz=47,slow=6.5,SNR=4.4
comp=Z,1.4nm,0.8s
NC204 NORSAR Array S 75.84 338 P **P 01 35 21.5 +0.5**
NB2 NORSAR Subarra 75.88 337 P **P 01 35 21.7 +0.5**
comp=Z,0.8nm,0.6s,baz=41,slow=5.9
NOA NORSAR Array B 75.88 337 P **P 01 35 22.1 +0.9**
comp=Z,1.9nm,0.8s,baz=40,slow=5.7,SNR=4.8
comp=Z,1.9nm,0.8s
NVAR Mina Array Bea 76.16 53 P **P 01 35 21.6 -1.8**
NVAR Mina Array Bea 76.16 53 P **P 01 35 26.2 +2.8**
comp=Z,0.6nm,0.8s,baz=286,slow=5.4,SNR=4.2
comp=Z,0.6nm,0.8s
PDAR Pinedale Array 79.02 45 P **P 01 35 37.1 -2.3**
PDAR Pinedale Array 79.02 45 P **P 01 35 41.4 +2.1**
comp=Z,0.4nm,0.6s,baz=270,slow=0.9,SNR=4.9
comp=Z,0.4nm,0.6s
BRTR Keskin Array B 80.04 312 P **P 01 35 45.4 +0.5**
comp=Z,0.8nm,0.9s,baz=29,slow=4.1,SNR=1.9
comp=Z,0.8nm,0.9s
CLL Collm 82.68 330 *eP* **P 01 35 59.0 +0.6**
TORD Torodi Ar. Bea 118.59 314 PKP **PKiKP 01 42 25.1 +1.6**
comp=Z,0.1nm,0.3s,baz=6.9,slow=3.4,SNR=4.2
H03N2 Juan Fernandez 146.84 99 T T 04 27 53.6
baz=290,slow=76,SNR=21
H03N3 Juan Fernandez 146.86 99 T T 04 27 54.7
baz=290,slow=76,SNR=19
H03N1 Juan Fernandez 146.86 99 T T 04 27 59.4
baz=290,slow=76,SNR=24
LPAZ La Paz 147.66 62 PKPbc **PKiKP 01 43 22.3 -0.5**
comp=Z,0.9nm,0.5s,baz=22,slow=4.6,SNR=5.1

IDC ***24*** *01:57:57.5±0.5,33°.49S×77°.85E,h0km,mb4.4/24, mbtmp4.4/24,MS4.5/53,Error ellipse: s-maj=18.9km s-min=14.1km az=83.0*
NEIC ***24*** *01:57:59.0±2.0,33°.62S±0°.08×77°.72E±0°.07,h10km±1km, mb5.1/67,Error ellipse: s-maj=15.9km s-min=5.3km az=215.0*
MOS ***24*** *01:57:59.0±2.3,33°.60S×77°.70E,h10km,mb5.1/34,Error ellipse: s-maj=13.5km s-min=7.7km az=93.0*
GCMT ***24*** *01:58:03.0±0.1,33°.45S±0°.01×77°.71E±0°.01,h16km, MW5.3/135,Moment Tensor Solution. s82,c130; s135,c223; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.14±.02; $M_{\theta\theta}$=0.86±.01; $M_{\phi\phi}$=1.00±.02; $M_{r\theta}$=0.38±.05; $M_{\theta\phi}$=0.02±.01; $M_{\phi r}$=0.12±.04; Best double couple: M_0=1.01900×10^{17} NP1:ϕ_s=318.00000°,δ=79.00000°, λ=-159.00000°. NP2:ϕ_s=223.00000°,δ=69.00000°, λ=-12.00000°. Principal axes: T 1.0130, Plg=6.0000°, Azm=89.0000°; N 0.0120, Plg=66.0000°, Azm=345.0000°; P -1.0250, Plg=23.0000°, Azm=182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 01:57:60.0±0.3,33°.66S±0°.06×77°.69E±0°.07,h16km,n237, σ**1§32/193,mb4.9/98,MS4.5/58,7C-14D,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Time ISC	Res ISC
AIS	**Amsterdam Isla**	**4.13**	**181**	Pn	**Pn**	**01 59 02.6 +0.2**
H04N2	**CROZET ISLANDS**	**23.34**	**230**	T	T	02 27 35.8
baz=68,slow=74,SNR=6494						
H04N1	**CROZET ISLANDS**	**23.36**	**230**	T	T	02 27 34.6
baz=68,slow=74,SNR=6614						
H04N3	**CROZET ISLANDS**	**23.36**	**230**	T	T	02 27 32.7
baz=68,slow=74,SNR=7326						
H04S1	**CROZET ISLANDS**	**23.55**	**228**	T	T	02 27 48.6
baz=65,slow=75,SNR=368						
H04S3	**CROZET ISLANDS**	**23.56**	**228**	T	T	02 27 57.3
baz=65,slow=75,SNR=534						
H04S2	**CROZET ISLANDS**	**23.57**	**228**	T	T	02 27 58.7
baz=65,slow=75,SNR=358						
H08S2	**Diego Garcia H**	**26.33**	**348**	T	T	02 30 29.0
baz=170,slow=76						
H08S1	**Diego Garcia H**	**26.33**	**348**	T	T	02 30 35.5
baz=170,slow=76						
H08S3	**Diego Garcia H**	**26.35**	**348**	T	T	02 30 31.2
baz=170,slow=76						
H01W2	**Cape Leeuwin H**	**30.04**	**103**	T	T	02 35 44.9
baz=262,slow=74						
H01W3	**Cape Leeuwin H**	**30.04**	**103**	T	T	02 35 42.9
baz=262,slow=74						
H01W1	**Cape Leeuwin H**	**30.05**	**103**	T	T	02 35 43.9
baz=262,slow=74						
OPO	**Ambohidratompo**	**31.10**	**291**	LR	LR	02 14 12.5
comp=Z,332nm,18.1s,baz=0.0,slow=31						
NWAO	**Narrogin (SRO)**	**32.92**	**100**	LR	LR	02 14 38.3
comp=Z,2μm,21.2s,baz=249,slow=30						
MORW	**Morawa**	**32.94**	**93**	P	**P**	**02 04 32.3 -1.5**
MAW	**Mawson**	**35.06**	**190**	P	**P**	**02 04 52.8 +1.0**
MAW	**Mawson**	**35.06**	**190**	P	**P**	**02 04 52.8 +1.0**
MAW				pmax	pmax	
comp=Z,2.0nm,1.1s						
MAW	**Mawson**	**35.06**	**190**	P	**P**	**02 04 52.6 +0.9**
comp=Z,3.7nm,0.9s,baz=21,slow=12,SNR=5.4						
MAW				LR	LR	02 16 08.9
comp=Z,535nm,21.0s,baz=19,slow=31						
comp=Z,3.7nm,0.9s						
CGJI	**Cibinong**	**37.37**	**50**	P	**P**	**02 05 12.4 +0.3**
comp=Z,25nm,1.2s						
CNJI	**Cibinong**	**37.79**	**53**	P	**P**	**02 05 18.4 +2.8**
comp=Z,31nm,1.1s						
CASY	**Casey**	**38.00**	**159**	P	**P**	**02 05 17.8 +0.9**
CMJI	**Cimerak**	**38.33**	**55**	P	**P**	**02 05 22.5 +2.3**
comp=Z,78nm,1.8s						
LEM	**Lembang**	**38.47**	**53**	P	**P**	**02 05 22.4 +0.9**
comp=Z,31nm,1.3s						
LEM	**Lembang**	**38.47**	**53**	LR	LR	02 18 17.6
comp=Z,769nm,19.4s,baz=209,slow=32						
PBSI	**Pulau Batu**	**38.62**	**34**	P	**P**	**02 05 24.0 +1.4**
comp=Z,60nm,1.1s						
PDSI	**Padang**	**38.95**	**38**	P	**P**	**02 05 26.9 +1.5**
KPJI	**Karang Pucung**	**38.98**	**55**	P	**P**	**02 05 25.8 +0.1**
comp=Z,25nm,1.5s						
PSA00	**Pilbara Seismi**	**38.99**	**83**	P	**P**	**02 05 25.3 -0.5**
PSA00	**Pilbara Seismi**	**38.99**	**83**	P	**P**	**02 05 25.1 -0.7**
PSA00				IAmb	IAmb	02 05 26.9
comp=Z,19nm,1.4s						
MBWA	**Marble Bar**	**39.09**	**82**	P	**P**	**02 05 26.2 -0.4**
SDSI	**Sungai Dareh**	**39.44**	**39**	P	**P**	**02 05 30.0 +0.6**
comp=Z,14nm,1.9s,comp=Z,1μm						
SNSI	**Sinabang, Aceh**	**39.95**	**30**	P	**P**	**02 05 34.8 +1.1**
WOJI	**Wonogiri, Jawa**	**40.01**	**58**	P	**P**	**02 05 35.8 +1.6**
comp=Z,40nm,1.4s,comp=Z,20μm						
BKNI	**Bangkinang**	**40.30**	**38**	P	**P**	**02 05 36.8 +0.1**
PALK	**Pallekele**	**40.80**	**5**	*eP*	**P**	**02 05 40.9 +0.1**
PALK	**Pallekele**	**40.80**	**5**	LR	LR	02 18 35.1
comp=Z,747nm,20.7s,baz=291,slow=30						
RPSI	**Rantau Prapat**	**41.34**	**33**	P	**P**	**02 05 45.4 +0.3**
PSI	**Prapat**	**41.43**	**33**	P	**P**	**02 05 45.4 -0.7**
PSI				pmax	pmax	
comp=Z,15nm,1.0s						
DSRI	**Dabo**	**41.54**	**43**	P	**P**	**02 05 47.6 +0.7**
KCSI	**Kotacane, Aceh**	**41.56**	**31**	P	**P**	**02 05 47.8 +0.8**
comp=Z,40nm,1.2s,comp=Z,3μm						
JAGI	**Jajag, Banyuwa**	**41.90**	**62**	P	**P**	**02 05 50.9 +1.1**
comp=Z,19nm,0.9s						
MYKOM	**Kota Tinggi**	**43.02**	**40**	P	**P**	**02 05 57.7 -1.2**
PLAI	**Plampang**	**44.37**	**66**	P	**P**	**02 06 12.1 +2.2**
comp=Z,19nm,1.4s						
KULM	**Kulim**	**44.42**	**34**	P	**P**	**02 06 09.9 -0.2**
BOSA	**Boshof**	**44.77**	**262**	P	**P**	**02 06 14.3 +1.1**
comp=Z,4.7nm,1.0s,baz=121,slow=5.3,SNR=4.8						
BOSA				LR	LR	02 20 49.4
comp=Z,1μm,21.6s,baz=108,slow=30						
comp=Z,4.7nm,1.0s						
KSM	**Kuching**	**46.51**	**48**	P	**P**	**02 06 25.6 -1.2**
SRIT	**Nakonsritamara**	**46.89**	**30**	P	**P**	**02 06 28.5 -1.2**
SRIT				IAmb	IAmb	02 06 32.4
comp=Z,18nm,0.9s						
SUR	**Sutherland**	**47.19**	**255**	LR	LR	02 21 39.0
comp=Z,993nm,21.7s,baz=115,slow=30						
MMRI	**Maumere**	**47.93**	**69**	P	**P**	**02 06 36.3 -1.5**
LSZ	**Lusaka**	**48.15**	**280**	P	**P**	**02 06 39.4 -0.3**
LSZ				IAmb	IAmb	02 06 41.3
comp=Z,17nm,0.6s						
LSZ	**Lusaka**	**48.15**	**280**	P	**P**	**02 06 39.4 -0.3**
LSZ				pmax	pmax	
comp=Z,17nm,0.6s						
LSZ	**Lusaka**	**48.15**	**280**	LR	LR	02 24 48.0
comp=Z,578nm,18.5s,baz=140,slow=33						
KAPI	**Kappang**	**48.33**	**63**	LR	LR	02 23 18.1
comp=Z,390nm,21.6s,baz=222,slow=32						
SBUM	**Sibu**	**48.46**	**49**	P	**P**	**02 06 41.8 -0.2**
SBUM				IAmb	IAmb	02 06 43.3
comp=Z,20nm,1.4s						
SOEI	**Soe**	**48.85**	**72**	P	**P**	**02 06 44.3 -0.9**
SOEI				IAmb	IAmb	02 07 05.3
comp=Z,33nm,1.2s						
SOEI	**Soe**	**48.85**	**72**	P	**P**	**02 06 45.5 +0.4**
comp=Z,25nm,1.2s						
KNRA	**Kununurra**	**49.23**	**82**	P	**P**	**02 06 47.9 0.0**
ASAR	**Alice Springs**	**49.80**	**94**	P	**P**	**02 06 51.8 -0.5**
ASAR	**Alice Springs**	**49.80**	**94**	P	**P**	**02 06 51.8 -0.5**
ASAR	**Alice Springs**	**49.80**	**94**	P	**P**	**02 06 51.5 -0.7**
comp=Z,2.2nm,0.8s,baz=246,slow=6.4,SNR=21						
ASAR				LR	LR	02 26 20.3
comp=Z,524nm,19.4s,baz=270,slow=34						
comp=Z,2.2nm,0.8s						
AS31	**Alice Springs**	**49.80**	**94**	P	**P**	**02 06 50.5 -1.7**
KMBO	**Kilima Mbogo**	**49.80**	**302**	P	**P**	**02 06 51.8 -0.7**
KMBO	**Kilima Mbogo**	**49.80**	**302**	P	**P**	**02 06 51.8 -0.7**
KMBO				pmax	pmax	
comp=Z,6.0nm,1.0s						
NVL	**N'lazarevskaya**	**50.69**	**203**	*eP*	**P**	**02 06 56.4 -1.8**
NVL				*eS*	**S**	**02 14 09.1 -3.3**
NVL				pmax	pmax	
comp=Z,15nm,1.4s						
NVL				smax	smax	
comp=E,320nm,15.7s						
HYB	**Hyderabad**	**50.79**	**1**	*eP*	**P**	**02 06 60.0 +0.4**
WRA	**Warramunga Arr**	**51.80**	**90**	P	**P**	**02 07 07.3 0.0**
WRA	**Warramunga Arr**	**51.80**	**90**	P	**P**	**02 07 07.3 0.0**
WRA				pmax	pmax	
comp=Z,4.0nm,1.8s						
WRA	**Warramunga Arr**	**51.80**	**90**	P	**P**	**02 07 06.9 -0.4**
comp=Z,4.7nm,0.7s,baz=246,slow=7.1,SNR=23						
WRA				LR	LR	02 27 40.3
comp=Z,606nm,19.5s,baz=248,slow=34						
comp=Z,4.7nm,0.7s						
WB2	**Warramunga Arr**	**51.81**	**90**	P	**P**	**02 07 07.2 -0.1**
WB2				IAmb	IAmb	02 07 08.9
comp=Z,42nm,1.6s						
WRAB	**Tennant Creek**	**51.81**	**90**	P	**P**	**02 07 06.4 -1.0**
WRAB				IAmb	IAmb	02 07 16.4
comp=Z,20nm,1.1s						
WRAB	**Tennant Creek**	**51.81**	**90**	*ceP*	**P**	**02 07 07.1 -0.3**
WRAB				pmax	pmax	
comp=Z,28nm,1.4s						
WB0	**Warramunga Arr**	**51.92**	**90**	P	**P**	**02 07 07.8 -0.4**
WB0				IAmb	IAmb	02 07 09.7
comp=Z,15nm,1.0s						
WR0	**Warramunga Arr**	**51.96**	**90**	P	**P**	**02 07 08.1 -0.4**
WR0				IAmb	IAmb	02 07 09.9
comp=Z,15nm,1.0s						
MPSI	**Mapaga**	**52.08**	**58**	P	**P**	**02 07 08.6 -0.8**
comp=Z,13nm,1.7s						
MTN	**Manton Dam**	**52.67**	**80**	P	**P**	**02 07 13.3 -0.5**
MTN				IAmb	IAmb	02 07 14.7
comp=Z,36nm,1.4s						
STKA	**Stephens Creek**	**52.98**	**107**	*eP*	**P**	**02 07 15.1 -0.9**
STKA				pmax	pmax	
comp=Z,2.0nm,0.3s						
STKA	**Stephens Creek**	**52.98**	**107**	LR	LR	02 26 50.7
comp=Z,812nm,19.6s,baz=231,slow=33						
TOLI2	**Tolitoli**	**53.25**	**58**	P	**P**	**02 07 15.9 -2.1**
TOLI2				IAmb	IAmb	02 07 32.0
comp=Z,19nm,1.3s						
TROLL	**Troll, Antarti**	**53.79**	**202**	⇓P	**P**	**02 07 23.2 +1.7**
comp=Z,267nm,0.9s						
TOO	**Toolangi**	**54.17**	**115**	P	**P**	**02 07 25.1 +0.4**
TOO				IAmb	IAmb	02 07 35.2
comp=Z,21nm,1.4s						
TOO	**Toolangi**	**54.17**	**115**	P	**P**	**02 07 25.1 +0.4**
TOO				pmax	pmax	
comp=Z,21nm,1.4s						
LODK	**Lodwar**	**54.35**	**304**	P	**P**	**02 07 26.6 +0.4**
MYLDM	**Lahad Datu**	**54.60**	**53**	P	**P**	**02 07 28.4 +0.5**
MYLDM				IAmb	IAmb	02 07 50.9
comp=Z,34nm,1.1s						
MBAR	**Mbarara**	**54.90**	**297**	LR	LR	02 27 39.8
comp=Z,488nm,19.0s,baz=110,slow=32						
TSUM	**Tsumeb**	**55.03**	**269**	LR	LR	02 27 41.3
comp=Z,1μm,19.2s,baz=120,slow=32						
SNAA	**Sanae**	**55.48**	**202**	P	**P**	**02 07 34.7 +1.1**
SNAA				IAmb	IAmb	02 07 45.0
comp=Z,31nm,1.7s						
SNAA	**Sanae**	**55.48**	**202**	⇓P	**P**	**02 07 35.1 +1.4**
comp=Z,55nm,0.8s						
SNAA	**Sanae**	**55.48**	**202**	⇓*eP*	**P**	**02 07 35.0 +1.4**
SNAA				pmax	pmax	
comp=Z,19nm,1.7s						
SNAA	**Sanae**	**55.48**	**202**	P	**P**	**02 07 34.7 +1.1**
comp=Z,2.5nm,0.8s,baz=116,slow=8.5,SNR=22						
SNAA				LR	LR	02 28 23.8
comp=Z,154nm,18.1s,baz=72,slow=33						
comp=Z,2.5nm,0.8s						
CM31	**Chiang Mai Arr**	**55.65**	**25**	P	**P**	**02 07 34.3 -1.0**
CM31				IAmb	IAmb	02 07 37.6
comp=Z,22nm,1.2s						
CMAR	**Chiang Mai Arr**	**55.65**	**25**	P	**P**	**02 07 34.3 -1.0**
CMAR	**Chiang Mai Arr**	**55.65**	**25**	*eP*	**P**	**02 07 34.5 -0.8**
CMAR				pmax	pmax	
comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.65**	**25**	P	**P**	**02 07 34.1 -1.3**
comp=Z,3.7nm,0.6s,baz=210,slow=6.6,SNR=15						
CMAR				LR	LR	02 26 51.6
comp=Z,272nm,21.6s,baz=210,slow=31						
comp=Z,3.7nm,0.6s						
ATD	**Arta Tunnel**	**55.85**	**317**	LR	LR	02 26 59.7
comp=Z,10.0nm,21.5s,baz=146,slow=31						
CHTO	**Chiang Mai**	**55.98**	**24**	P	**P**	**02 07 36.3 -1.4**
CHTO				pmax	pmax	
comp=Z,25nm,1.8s						
VNDA	**Vanda**	**56.16**	**165**	P	**P**	**02 07 39.6 +1.2**
comp=Z,2.5nm,0.7s,baz=276,slow=5.4,SNR=16						
VNDA				LR	LR	02 29 29.1
comp=Z,688nm,19.6s,baz=274,slow=34						
comp=Z,2.5nm,0.7s						
BNDI	**Bandanaira**	**56.45**	**71**	P	**P**	**02 07 42.5 +1.3**
comp=Z,46nm,0.8s						
QSPA	**South Pole Qui**	**56.49**	**180**	P	**P**	**02 07 40.9 -0.2**
QSPA				IAmb	IAmb	02 07 47.2
comp=Z,54nm,1.8s						
QSPA	**South Pole Qui**	**56.49**	**180**	P	**P**	**02 07 42.3 +1.2**
comp=Z,3.4nm,0.7s,baz=297,slow=1.0,SNR=6.6						
QSPA				LR	LR	02 29 47.4
comp=Z,264nm,20.6s,baz=292,slow=34						
comp=Z,3.4nm,0.7s						
VNA2	**Neumayer--Watz**	**57.01**	**203**	⇓P	**P**	**02 07 46.0 +1.5**
comp=Z,4.2nm,0.7s,baz=86,slow=5.0						
LBMI	**Labuha**	**57.02**	**66**	P	**P**	**02 07 46.2 +0.9**
comp=Z,28nm,1.6s						
VNA1	**Neumayer--Stat**	**57.34**	**203**	⇓P	**P**	**02 07 48.6 +1.9**
comp=Z,7.8nm,0.9s						
BRDH	**Bariadhala**	**57.58**	**15**	LR	LR	02 27 43.9
comp=Z,421nm,21.7s,baz=322,slow=31						
VNA3	**Neumayer Olymp**	**57.70**	**202**	⇓P	**P**	**02 07 50.9 +1.5**
comp=Z,6.0nm,0.7s						
CRAI	**Chiangrai**	**57.79**	**25**	P	**P**	**02 07 49.0 -1.5**
CRAI				IAmb	IAmb	02 07 53.5
comp=Z,15nm,1.0s						
FAKI	**Fak Fak**	**59.27**	**71**	P	**P**	**02 08 00.8 -0.3**
FAKI				IAmb	IAmb	02 08 02.7
comp=Z,28nm,1.3s						
WSAR	**Wadi Sarin**	**59.42**	**340**	LR	LR	02 27 17.4
comp=Z,472nm,21.4s,baz=190,slow=30						
SLVN	**Son La**	**60.12**	**28**	P	**P**	**02 08 05.2 -1.6**
SLVN				IAmb	IAmb	02 08 15.4
comp=Z,12nm,1.1s						
SHL	**Shillong**	**60.42**	**15**	P	**P**	**02 08 07.5 -1.4**
SHL				IAmb	IAmb	02 08 11.4
comp=Z,23nm,0.9s						
SHL	**Shillong**	**60.42**	**15**	P	**P**	**02 08 07.5 -1.4**
SHL				pmax	pmax	
comp=Z,23nm,0.9s						
DAV	**Davao City (W)**	**60.81**	**57**	LR	LR	02 31 18.3
comp=Z,210nm,21.4s,baz=212,slow=33						
TNCH	**TengChong**	**61.63**	**22**	*eP*	P	02 08 20.5 +3.4
TNCH				pP	pwP	02 08 23.6 -1.7
TNCH				pmax	pmax	
comp=Z,28nm,0.6s						
CTA	**Charters Tower**	**61.65**	**96**	LR	LR	02 32 58.2
comp=Z,919nm,19.8s,baz=256,slow=34						
CTAO	**Charters Tower**	**61.65**	**96**	P	**P**	**02 08 16.7 -0.6**
CTAO				IAmb	IAmb	02 08 18.2
comp=Z,7.6nm,0.9s						
CTAO	**Charters Tower**	**61.65**	**96**	P	**P**	**02 08 16.7 -0.6**
CTAO				pmax	pmax	
comp=Z,8.0nm,0.9s						
KMI	**Kunming**	**63.12**	**25**	⇓P	**P**	**02 08 29.5 +2.3**
KMI				S	**S**	**02 16 59.5 +1.7**
KMI				pmax	pmax	
comp=Z,12nm,1.0s						
KMI				LR	LR	
comp=N,220nm,17.1s						
KMI				LR	LR	
comp=E,290nm,11.4s						
KMI				LR	LR	
comp=Z,200nm,24.1s						
EIDS	**Eidsvold**	**63.21**	**104**	P	**P**	**02 08 27.1 -0.6**
EIDS				IAmb	IAmb	02 08 29.2
comp=Z,25nm,1.4s						
LSA	**Lhasa**	**64.29**	**13**	P	**P**	**02 08 33.1 -1.9**
LSA				IAmb	IAmb	02 08 43.6
comp=Z,20nm,1.4s						
LSA	**Lhasa**	**64.29**	**13**	P	**P**	**02 08 33.1 -1.9**
LSA				pmax	pmax	
comp=Z,20nm,1.4s						
PYZ	**Puysegur Point**	**65.99**	**130**	P	**P**	**02 08 43.8 -1.7**
NIL	**Nilore**	**67.08**	**356**	P	**P**	**02 08 51.8 -0.7**
NIL				IAmb	IAmb	02 09 16.4
comp=Z,37nm,1.8s						
NIL	**Nilore**	**67.08**	**356**	P	**P**	**02 08 51.8 -0.7**
NIL				pmax	pmax	
comp=Z,37nm,1.8s						
PMG	**Port Moresby**	**67.78**	**87**	P	**P**	**02 08 56.4 -1.0**
PMG	**Port Moresby**	**67.78**	**87**	*cP*	**P**	**02 08 58.0 +0.7**
PMG				pmax	pmax	
comp=Z,38nm,1.4s						
PMG	**Port Moresby**	**67.78**	**87**	LR	LR	02 38 31.8
comp=Z,1μm,18.1s,baz=248,slow=36						
KBL	**Kabul**	**68.33**	**352**	P	**P**	**02 08 59.4 -1.1**
KBL				IAmb	IAmb	02 09 03.3
comp=Z,11nm,0.9s						
KBL	**Kabul**	**68.33**	**352**	P	**P**	**02 08 59.4 -1.1**
KBL				pmax	pmax	
comp=Z,11nm,0.9s						
HRA	**Herat**	**69.22**	**346**	P	**P**	**02 09 05.3 -0.9**
HRA				IAmb	IAmb	02 09 33.2
comp=Z,12nm,1.4s						
RPZ	**Rata Peaks**	**69.85**	**130**	LR	LR	02 33 14.9
comp=Z,423nm,19.0s,baz=244,slow=30						
GOMU	**GeErMu**	**71.31**	**15**	P	**P**	**02 09 21.1 +2.0**
GOMU				pP	pwP	02 09 30.9 +3.6
GOMU				sP	PcP	02 09 38.1 -0.7
GOMU				PcP	sP	02 10 16.6 +52
GOMU				PP	PP	02 11 32.8 -25
GOMU				S	S	02 18 06.3 -30
WHN	**Wuhan**	**72.64**	**33**	⇑P	**P**	**02 09 29.0 +2.3**
WHN				sP	**pwP**	**02 09 36.3 +1.3**
XAN	**Xi'an**	**73.45**	**27**	⇓P	**P**	**02 09 30.4 -1.1**
XAN				pP	sP	02 09 35.9 -1.4
XAN				pmax	pmax	
comp=Z,31nm,1.3s						
GEYT	**Alibeck**	**73.52**	**344**	P	**P**	**02 09 30.8 -1.0**
GEYT	**Alibeck**	**73.52**	**344**	P	**P**	**02 09 31.4 -0.3**
comp=Z,2.9nm,0.9s,baz=224,slow=15,SNR=6.2						
GEYT				LR	LR	02 37 00.7
comp=Z,126nm,21.1s,baz=164,slow=32						
comp=Z,2.9nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**73.52**	**344**	P	**P**	**02 09 30.8 -0.9**
LZH	**Lanzhou**	**73.56**	**22**	*eP*	**P**	**02 09 32.0 -0.3**
LZH				pP	pwP	02 09 40.0 -0.5
LZ

comp=Z,20nm,0.6s
LYN LR LR
comp=N,380nm,11.7s
LYN LR LR
comp=E,560nm,20.4s
GHAJ Ghor Haditha 75.86 324 P **P** **02 09 45.3 -0.1**
GHAJ IAmb IAmb 02 10 04.7
comp=Z,27nm,1.2s
ASF Jabal al Asfar 75.93 325 P **P** **02 09 46.7 +0.7**
comp=Z,2.3nm,0.9s,baz=192,slow=1.4,SNR=4.2
comp=Z,2.3nm,0.9s
AAK Ala-Archa 75.98 358 P **P** **02 09 44.8 -1.3**
AAK IAmb IAmb 02 09 54.5
comp=Z,16nm,1.4s
AAK Ala-Archa 75.98 358⇑ *e*P **P** **02 09 46.1 0.0**
AAK pmax pmax
comp=Z,13nm,1.4s
AAK Ala-Archa 75.98 358 LR LR 02 39 47.8
comp=Z,395nm,21.5s,baz=184,slow=33
URZ Urewera 76.54 127 LR LR 02 39 08.8
comp=Z,199nm,18.1s,baz=31,slow=32
KK31 Karatay Array 76.67 355 P **P** **02 09 49.0 -0.9**
KK31 Karatay Array 76.67 355 P **P** **02 09 49.0 -0.9**
KK31 pmax pmax
comp=Z,56nm,1.6s
KKAR Karatay Array 76.67 355 P **P** **02 09 49.0 -0.9**
KKAR Karatay Array 76.67 355 P **P** **02 09 48.9 -0.9**
KKAR IAmb IAmb 02 09 59.3
comp=Z,56nm,1.6s
KKAR Karatay Array 76.67 355 P **P** **02 09 49.0 -0.9**
JOW Kunigami 76.96 45 LR LR 02 40 36.1
comp=Z,99nm,21.7s,baz=141,slow=33
DZM Mont Dzumac 77.12 108 LR LR 02 39 16.9
comp=Z,390nm,20.4s,baz=224,slow=32
MMAI Mount Meron Ar 77.33 325 P **P** **02 09 54.6 +0.7**
comp=Z,3.8nm,0.8s,baz=139,slow=7.7,SNR=10
MMAI LR LR 02 40 28.3
comp=Z,148nm,18.2s,baz=116,slow=33
comp=Z,3.8nm,0.8s
PMSA Palmer Station 77.42 196 LR LR 02 43 06.2
comp=Z,116nm,18.1s,baz=137,slow=35
SIRT Sirnak 78.04 332 P **P** **02 09 58.5 +0.7**
HNR Honiara 78.42 94 LR LR 02 41 58.6
comp=Z,5μm,20.6s,baz=183,slow=34
GURO Guroymak-BITLI 79.11 332 P **P** **02 10 03.9 +0.3**
GNI Garni 79.50 335 P **P** **02 10 06.0 +0.2**
GNI IAmb IAmb 02 10 24.6
comp=Z,30nm,1.4s
GNI Garni 79.50 335⇓ *e*P **P** **02 10 07.2 +1.4**
GNI pmax pmax
comp=Z,11nm,1.3s
GNI Garni 79.50 335 P **P** **02 10 05.5 -0.3**
comp=Z,1.9nm,0.4s,baz=204,slow=12,SNR=3.1
GNI LR LR 02 43 22.9
comp=Z,143nm,19.3s,baz=146,slow=34
comp=Z,1.9nm,0.4s
BTO Baotou 79.69 24 *e*P **P** **02 10 06.8 0.0**
BTO pP **sP** **02 10 11.4 -1.2**
BTO sP **PcP** **02 10 13.8 -0.7**
BTO PP **PP** **02 13 12.1 +3.9**
BTO Baotou 79.69 24 S **S** **02 20 09.5 +1.0**
BTO Baotou 79.69 24 SS SS 02 25 27.9 +10
BTO pmax pmax
comp=Z,31nm,0.8s
BTO pmax pmax
comp=Z,500nm,5.3s
BTO LR LR
comp=N,350nm,6.7s
BTO LR LR
comp=E,620nm,6.5s
BTO LR LR
comp=Z,310nm,5.4s
CSS Mathiatis 79.92 324 P **P** **02 10 06.7 -1.3**
MAKZ Makanchi 80.19 3 P **P** **02 10 08.0 -1.2**
MAKZ Makanchi 80.19 3 P **P** **02 10 08.0 -1.2**
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 80.19 3 P **P** **02 10 06.3 -2.9**
MK31 Makanchi Array 80.19 3⇓ *e*P **P** **02 10 07.8 -1.4**
MKAR Makanchi Array 80.19 3 P **P** **02 10 06.8 -2.4**
MKAR Makanchi Array 80.19 3 *e*P **P** **02 10 09.3 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 80.19 3 P **P** **02 10 07.0 -2.1**
comp=Z,3.4nm,0.9s,baz=174,slow=6.1,SNR=14
MKAR LR LR 02 42 37.1
comp=Z,471nm,21.9s,baz=132,slow=34
comp=Z,3.4nm,0.9s
HHC Hu-ho-hao-te 80.45 25 *e*P **P** **02 10 13.1 +2.2**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,310nm,5.4s
MAK Makhachkala 81.10 338 *e*P P 02 10 09.0 -5.1
MAK *e* 02 13 15.6
MAK *e*SS SS 02 25 34.3 -4.4
MAK *e*SSS SSS 02 29 03.3
MAK pmax pmax
comp=Z,343nm,1.1s
MAK MLR MLR
comp=Z,96nm,14.0s
BNN Bunyan 81.92 328 P **P** **02 10 17.3 -1.5**
ZEI Tsey 82.13 336 *e*P P 02 10 25.5 +5.6
ZEI pmax pmax
comp=Z,5.0nm,1.1s
NCK Nalchik 82.86 336⇓ *i*P **P** **02 10 24.0 +0.6**
NCK pmax pmax
comp=Z,35nm,2.3s
KBZ Khabaz 83.31 335 *e*P **P** **02 10 29.1 +3.5**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ Khabaz 83.31 335 P **P** **02 10 27.2 +1.6**
comp=Z,2.4nm,0.9s,baz=130,slow=8.3,SNR=3.6
KBZ LR LR 02 43 36.6
comp=Z,121nm,20.1s,baz=162,slow=33
comp=Z,2.4nm,0.9s
DGZ Jazzator, Alta 83.44 6⇑ *e*P **P** **02 10 26.3 -0.1**
DGZ pmax pmax
comp=Z,15nm,2.2s
KIV Kislovodsk 83.58 335 *e*P **P** **02 10 28.5 +1.3**
KIV pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 83.62 327 P **P** **02 10 27.9 +0.3**
BRTR Keskin Array B 83.62 327 P **P** **02 10 27.9 +0.3**
BRTR Keskin Array B 83.62 327 P **P** **02 10 27.3 -0.3**
comp=Z,1.7nm,1.0s,baz=145,slow=5.3,SNR=4.8
BRTR LR LR 02 44 43.7
comp=Z,155nm,18.7s,baz=162,slow=34
comp=Z,1.7nm,1.0s
KURBB Kurchatov Arra 83.92 1 P **P** **02 10 27.2 -1.4**
comp=Z,1.0nm,0.3s,baz=191,slow=5.2,SNR=12
KURBB LR LR 02 45 26.3
comp=Z,266nm,20.2s,baz=170,slow=34
comp=Z,1.0nm,0.3s
KURK Kurchatov 84.01 1 P **P** **02 10 29.4 +0.3**
KURK IAmb IAmb 02 10 37.2
comp=Z,17nm,1.4s
KURK Kurchatov 84.01 1 P **P** **02 10 29.4 +0.3**
KURK pmax pmax
comp=Z,17nm,1.4s
ABKAR Akbulak array 84.05 348 P **P** **02 10 29.5 +0.2**
ABKAR IAmb IAmb 02 10 38.1
comp=Z,23nm,1.3s
ABKAR Akbulak array 84.05 348 P **P** **02 10 29.2 -0.1**
KSAR Wonju Array Be 84.78 38 P **P** **02 10 31.6 -1.6**
KSAR Wonju Array Be 84.78 38 P **P** **02 10 31.7 -1.6**
KSRS Korea Array 84.80 38 P **P** **02 10 33.0 -0.4**
comp=Z,2.0nm,0.9s,baz=235,slow=4.3,SNR=2.6
comp=Z,2.0nm,0.9s
RAO Raoul Island 85.01 122 LR LR 02 42 54.5
comp=Z,278nm,18.5s,baz=235,slow=32
SONM Songino Array 85.11 19 *e*P **P** **02 10 36.1 +1.2**
SONM pmax pmax
comp=Z,2.0nm,0.5s
SONM Songino Array 85.11 19 P **P** **02 10 33.4 -1.6**
comp=Z,2.0nm,0.5s,baz=204,slow=3.3,SNR=9.1
SONM LR LR 02 46 13.9
comp=Z,247nm,21.8s,baz=196,slow=34
comp=Z,2.0nm,0.5s
ULN Ulaanbaatar 85.32 19 P **P** **02 10 34.4 -1.6**
ULN Ulaanbaatar 85.32 19 P **P** **02 10 34.4 -1.6**
ULN pmax pmax
comp=Z,21nm,0.8s
AKTO Aktyubinsk 85.52 348 LR LR 02 46 20.9
comp=Z,85nm,19.5s,baz=183,slow=34
TORD Torodi Ar. Bea 85.88 289 P **P** **02 10 39.1 -0.2**
comp=Z,3.7nm,0.9s,baz=85,slow=3.7,SNR=13
TORD LR LR 02 47 56.0
comp=Z,621nm,18.1s,baz=142,slow=35
comp=Z,3.7nm,0.9s
JCJ Chichijima 85.97 54 LR LR 02 45 34.6
comp=Z,36nm,21.2s,baz=140,slow=33
ANN Anapa 86.23 333 *e*P **P** **02 10 40.6 +0.3**
ANN pmax pmax
comp=Z,87nm,1.4s
BVAR Borovoye Array 86.56 356 P **P** **02 10 40.5 -1.3**
comp=Z,6.1nm,1.1s,baz=144,slow=5.3,SNR=14
BVAR LR LR 02 47 41.2
comp=Z,201nm,19.3s,baz=183,slow=34
comp=Z,6.1nm,1.1s
BRVK Borovoye 86.59 356 P **P** **02 10 40.8 -1.1**
BRVK IAmb IAmb 02 10 50.7
comp=Z,14nm,1.3s
BRVK Borovoye 86.59 356 *d*P **P** **02 10 43.3 +1.3**
BRVK pmax pmax
comp=Z,13nm,1.3s
ZAA0 Zalesovo Array 87.46 4 P **P** **02 10 44.1 -2.1**
ZALV Zalesovo Beam 87.46 4 P **P** **02 10 44.3 -1.8**
ZALV Zalesovo Beam 87.46 4 *e*P **P** **02 10 47.1 +0.9**
ZALV pmax pmax
comp=Z,10.0nm,1.0s
ZALV Zalesovo Beam 87.46 4 P **P** **02 10 44.5 -1.7**
comp=Z,10nm,1.0s,baz=200,slow=3.9,SNR=18
ZALV LR LR 02 46 59.1
comp=Z,308nm,21.8s,baz=201,slow=34
comp=Z,10nm,1.0s
DBIC Dimbokro 87.49 280 LR LR 02 45 41.6
comp=Z,661nm,21.5s,baz=116,slow=33
CN2 Changchun 88.54 32 *e*P **P** **02 10 54.3 +2.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
MSVF Nonsavu 88.62 110 LR LR 02 43 52.6
comp=Z,424nm,19.3s,baz=210,slow=31
BELG Belogornoye 89.63 342 LR LR 02 49 36.2
comp=Z,140nm,18.5s,baz=100,slow=35
VRH Novokhopyorsk 90.24 338 *e*P **P** **02 10 57.4 -1.9**
VRH pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 91.06 337 *e*P **P** **02 11 01.9 -1.2**
VSR pmax pmax
comp=Z,8.0nm,1.2s
KOWA Kowa 91.19 287 LR LR 02 50 04.0
comp=Z,784nm,19.9s,baz=124,slow=34
ARU Arti 91.20 350 *e*P **P** **02 11 03.4 -0.3**
ARU S **SKSac** **02 21 35.4 +0.7**
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 91.20 350 LR LR 02 48 39.2
comp=Z,108nm,18.4s,baz=161,slow=33
VORR Voronezh 91.44 337 *e*P **P** **02 11 03.0 -1.9**
VORR pmax pmax
comp=Z,10.0nm,0.3s
MLR Muntele Rosu 91.65 326 P **P** **02 11 07.3 +1.1**
comp=Z,4.1nm,0.9s,baz=146,slow=7.3,SNR=4.1
comp=Z,4.1nm,0.9s
LPSR Galich'ya Gora 92.32 338 *e*P **P** **02 11 04.9 -4.0**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
KEST Kesra 94.03 311 LR LR 02 52 02.2
comp=Z,124nm,19.0s,baz=288,slow=34
AKASG Malin Array Be 94.25 331 P **P** **02 11 18.4 +0.5**
comp=Z,0.3nm,0.4s,baz=135,slow=3.9,SNR=5.8
comp=Z,0.3nm,0.4s
KIRV Kirov 94.89 346⇑ *e*P **P** **02 11 22.1 +1.5**
KIRV Kirov 94.89 346 LR LR 02 51 06.1
comp=Z,148nm,21.6s,baz=179,slow=34
KLR Kul'dur 95.49 32⇓ *e*P **P** **02 11 24.1 +0.5**
KLR pmax pmax
comp=Z,22nm,2.4s
VRAC Vranov 98.81 325 LR LR 02 55 49.8
comp=Z,72nm,18.4s,baz=142,slow=35
YSS Yuzh-Sakhalins 99.26 39 *e*P **Pdif** **02 11 38.2 -2.5**
YSS pmax pmax
comp=Z,20nm,1.3s
ILAR Eielson Array 138.85 27 PKP **PKPdf** **02 17 23.8 -0.8**
comp=Z,0.9nm,1.0s,baz=298,slow=3.9,SNR=4.9
SCHQ Schefferville 147.45 321 PKPbc **PKPbc** **02 17 41.0 -1.5**
comp=Z,9.8nm,1.0s,baz=73,slow=5.2,SNR=3.2
YKA Yellowknife Ar 150.11 11 PKPbc **PKPbc** **02 17 46.4 -2.7**
comp=Z,1.8nm,1.0s,baz=322,slow=3.3,SNR=3.8
NVAR Mina Array Bea 166.21 65 PKP **PKPdf** **02 18 05.7 +1.1**
comp=Z,0.6nm,0.7s,baz=243,slow=3.6,SNR=5.1
PDAR Pinedale Array 169.27 30 PKP **PKPdf** **02 18 07.5 +0.8**
comp=Z,0.4nm,0.9s,baz=345,slow=2.1,SNR=3.6
TXAR Lajitas Array 175.54 165 PKP **PKPdf** **02 18 10.8 +1.2**
comp=Z,0.9nm,0.9s,baz=191,slow=0.9,SNR=5.3

*IDC **24** 02:14:21.5±0.7,20°.15S×66°.65E,h0km,mb3.9/12, mbtmp3.9/12,Error ellipse: s-maj=26.5km s-min=18.6km az=93.0*

ISC 24 02:14:24.3±0.7,20°.2S±0°.1×66°.7E±0°.2,h16km,n15, σ1§04/12,mb4.0/12,Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	28.69	202	T	T	02 50 27.9	
	baz=30,slow=75,SNR=146						
H04N1	CROZET ISLANDS	28.69	202	T	T	02 50 28.9	
	baz=30,slow=75,SNR=162						
H04N3	CROZET ISLANDS	28.70	202	T	T	02 50 24.5	
	baz=30,slow=75,SNR=173						
MAW	Mawson	47.50	182	P	**P**	**02 22 58.1**	**-0.1**
	0.6nm,0.2s,baz=336,slow=4.5,SNR=1.8						
	0.6nm,0.2s						
CMAR	Chiang Mai Arr	49.71	42	P	**P**	**02 23 15.4**	**-0.5**
	1.1nm,0.3s,baz=227,slow=8.5,SNR=5.0						
	1.1nm,0.3s						
MMAI	Mount Meron Ar	60.76	330	P	**P**	**02 24 36.6**	**+1.2**
	0.2nm,0.3s,baz=148,slow=6.8,SNR=2.0						
	0.2nm,0.3s						
ASAR	Alice Springs	61.91	107	P	**P**	**02 24 44.6**	**+1.0**
	1.1nm,0.7s,baz=266,slow=6.1,SNR=11						
	1.1nm,0.7s						
WRA	Warramunga Arr	63.08	103	P	**P**	**02 24 52.0**	**+0.6**
	2.0nm,1.0s,baz=261,slow=5.7,SNR=7.3						
	2.0nm,1.0s						
SNAA	Sanae	64.61	199	P	**P**	**02 24 59.0**	**-1.7**
	0.9nm,0.9s,baz=71,slow=3.8,SNR=8.8						
	0.9nm,0.9s						
MKAR	Makanchi Array	68.11	11	P	**P**	**02 25 22.5**	**-0.7**
	0.9nm,0.9s,baz=208,slow=8.1,SNR=4.4						
	0.9nm,0.9s						
QSPA	South Pole Qui	69.95	180	P	**P**	**02 25 34.7**	**0.0**
	1.0nm,0.6s,baz=289,slow=7.7,SNR=3.8						
	1.0nm,0.6s						
VNDA	Vanda	71.57	167	P	**P**	**02 25 45.2**	**+1.0**
	0.4nm,0.9s,baz=245,slow=5.8,SNR=1.9						
	0.4nm,0.9s						
TORD	Torodi Ar. Bea	72.00	292	P	**P**	**02 25 48.4**	**+0.6**
	0.8nm,1.0s,baz=88,slow=6.1,SNR=3.1						
	0.8nm,1.0s						
ZALV	Zalesovo Beam	75.43	11	P	**P**	**02 26 05.7**	**-1.4**
	1.3nm,0.7s,baz=202,slow=7.3,SNR=4.9						
	1.3nm,0.7s						
SONM	Songino Array	76.46	26	P	**P**	**02 26 13.1**	**-0.2**
	0.7nm,0.8s,baz=231,slow=4.6,SNR=4.8						
	0.7nm,0.8s						

*TEH **24** 02:14:31.7,33°.76N×46°.93E,h7km±27km,ML3.1*
*ISN **24** 02:14:31.2±1.2,33°.71N×46°.88E,h11km±5km,ML3.0*

ISC 24 02:14:31.3±1.4,33°.74N±0°.03×46°.89E±0°.03,h1km±12km, n32,σ1§08/40,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCHF	Cheshme Sefid,	0.54	13	Pg	**Pg**	**02 14 42.0**	**+0.2**
IGHG	Ghaleghazi	0.64	335	Pg	**Pg**	**02 14 44.5**	**+0.9**
IKOM	Komasi	0.67	50	Pg	**Pg**	**02 14 44.0**	**-0.2**
IKOM				Sg	**Sb**	**02 14 54.2**	**-1.6**
IKFM	Kafar-mosalman	0.83	105	Pg	**Pg**	**02 14 47.5**	**+0.3**
IKFM				Sg	**Sb**	**02 14 59.0**	**-1.0**
IBDR	Badra	1.02	232	*e*Pg	**Pg**	**02 14 51.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**02 15 04.0**	**-0.2**
IBDR				AML	AML	02 15 15.2	
	comp=N,322nm,0.5s						
IBDR				AML	AML	02 15 15.8	
	comp=E,320nm,0.4s						
IDHR	Dehrash	1.04	336	Pg	**Pg**	**02 14 51.5**	**+0.2**
IDHR				Sg	**Sn**	**02 15 07.1**	**-1.5**
IBZA	Bozab	1.08	48	Pg	**Pn**	**02 14 53.2**	**-0.7**
ILIN	Lien	1.17	3	Pg	**Pn**	**02 14 54.6**	**-0.5**
HSAM	Samen	1.50	71	Pg	**Pg**	**02 15 00.4**	**+0.5**
RAFI	Al-Rafai	2.12	198	*e*Pn	**Pn**	**02 15 08.0**	**+0.1**
RAFI				*e*Sn	**Sn**	**02 15 35.0**	**+0.2**
RAFI				AML	AML	02 15 43.2	
	comp=E,174nm,0.3s						
RAFI				AML	AML	02 15 44.5	
	comp=N,225nm,0.4s						
HAGD	Aghdareh	2.15	59	Pn	**Pb**	**02 15 10.0**	**-1.1**
BHD	Baghdad	2.15	258	*e*Pn	**Pn**	**02 15 08.0**	**-0.3**
BHD				*e*Sn	**Sn**	**02 15 36.0**	**+0.4**
IKRK	Kirkuk	2.68	309	*e*Pn	**Pn**	**02 15 16.0**	**+0.4**
IKRK				*e*Sn	**Sn**	**02 15 49.0**	**+0.4**
IKRK				AML	AML	02 16 02.2	
	comp=N,70nm,0.7s						
IKRK				AML	AML	02 16 11.3	
	comp=E,111nm,0.4s						
AMIS	Naft Sefid	2.89	135	Pn	**Pn**	**02 15 20.3**	**+1.7**
IRAZ	Razeghan	3.00	56	Pn	**Pn**	**02 15 21.9**	**+1.7**
QSDN	Sirdan	3.33	34	Pn	**Pn**	**02 15 26.0**	**+1.2**
JHBN	Jahan bin	3.51	114	Pn	**Pn**	**02 15 28.8**	**+1.5**
IPIR	Pirpir	3.52	106	Pn	**Pn**	**02 15 28.2**	**+0.8**
IQOM	Qom	3.63	71	Pn	**Pn**	**02 15 29.4**	**+0.5**
ZNGN	Zangian	3.71	115	Pn	**Pn**	**02 15 30.8**	**+0.8**
QAMS	Qamsar	3.75	89	Pn	**Pn**	**02 15 31.5**	**+0.9**
JIR1	Jirandeh	3.80	38	Pn	**Pn**	**02 15 32.7**	**+1.6**
IKLH	Kolahrood	3.94	95	Pn	**Pn**	**02 15 34.3**	**+1.2**
MSL	Mosul	4.08	312	*e*Pn	**Pn**	**02 15 36.0**	**+1.2**
MSL				*e*Sn	**Sn**	**02 16 24.0**	**+0.8**
IBRJ	Brojen	4.11	115	Pn	**Pn**	**02 15 35.9**	**+0.4**
ISRB	Sarab	4.12	9	Pn	**Pn**	**02 15 37.5**	**+1.9**
IVRN	Varamin	4.19	71	Pn	**Pn**	**02 15 37.5**	**+1.0**
KRSH	Karshahi	4.37	86	Pn	**Pn**	**02 15 40.7**	**+1.7**
IZEF	Zefreh	4.63	99	Pn	**Pn**	**02 15 43.2**	**+0.5**
ISHB	Shabestar	4.65	348	Pn	**Pn**	**02 15 44.7**	**+1.9**
IRAM	Ramesheh	5.01	111	Pn	**Pn**	**02 15 49.2**	**+1.3**
IFIR	Firoozkooh	5.19	67	Pn	**Pn**	**02 15 51.7**	**+1.3**

TRN 24 02:20:03.3,11°.63N×60°.52W,h41km,MD3.5,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGR	Grenville	1.22	294	*e*P	Pn	02 20 25.3	+1.4
GRGR				*e*S	Sn	02 20 40.7	+1.5
GCMP	Grenada, Carri	1.23	314	*e*P	Pn	02 20 24.7	+0.7
GCMP				*e*S	Sn	02 20 40.8	+1.3
GRW	Mount Saint Ca	1.24	295	*e*P	Pn	02 20 26.1	+1.9
GRW				*e*S	Sn	02 20 42.3	+2.6
GRHS	Sauteurs	1.25	298	*e*P	Pn	02 20 25.3	+1.1
GRHS				*e*S	Sn	02 20 42.2	+2.4
TRN	Trinidad (W)	1.31	222	*e*P	Pn	02 20 27.0	+2.0
TRN				*e*S	Sn	02 20 42.8	+1.5
SVOC	Richmond Hill,	1.66	336	*e*P	Pn	02 20 31.0	+1.1
SVOC				*e*S	Sn	02 20 52.8	+2.7
SVB	Belmont	1.78	336	*e*P	Pn	02 20 33.0	+1.4
SVB				*e*S	Sn	02 20 54.8	+1.7
MCLT	Moule a Chique	2.11	349	*e*P	Pn	02 20 37.6	+1.5
MCLT				*e*S	Sn	02 21 01.9	+0.8
SLBI	Saint Lucia, B	2.42	349	*e*P	Pn	02 20 41.6	+1.3
SLBI				*e*S	Sn	02 21 09.6	+0.9
MPOM	Morne Pois Mar	2.82	353	*e*P	Pn	02 20 46.6	+0.8
BIM	Bigot	2.92	349	*e*P	Pn	02 20 49.5	+2.2
BIM				*e*S	Sn	02 21 20.7	-0.4
GBMF	Grand Be	3.21	349	*e*P	Pn	02 20 53.9	+2.5
SVN	Savane Anatole	3.25	349	*e*P	Pn	02 20 54.4	+2.5
SVN				*e*S	Sn	02 21 30.5	+1.1
MAGL	Barre de l'ile	4.36	350	*e*P	Pn	02 21 09.6	+2.5
BAUV	El Baul	7.87	251	*e*P	Pn	02 21 54.2	-1.0
BAUV	El Baul	7.87	251	*e*S	Sn	02 23 20.2	-2.9

*IDC **24** 02:21:32.8±0.6,20°.10S×66°.13E,h0km,mb4.0/16, mbtmp4.0/16,MS4.0/12,Error ellipse: s-maj=21.9km s-min=16.3km az=78.0*
*NEIC **24** 02:21:35.2±1.1,20°.00S±0°.05×66°.1E±0°.1,h10km±1km, mb4.7/36,Error ellipse: s-maj=16.6km s-min=9.7km az=90.0*
*GCMT **24** 02:21:37.2±0.4,19°.80S±0°.06×66°.14E±0°.04,h18km±1km, MW4.9/79,Moment Tensor Solution. s11,c11; s79,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.42±.24; $M_{\theta\theta}$0.67±.14; $M_{\phi\phi}$1.75±.14; $M_{r\theta}$1.67±.49; $M_{\phi\phi}$-0.32±.12; $M_{\phi r}$1.35±.41; Best double couple: $M_0$2.84200×10^{16} NP1:ϕ_s343.00000°,δ30.00000°,λ-128.00000°. NP2: ϕ_s205.00000°,δ67.00000°,λ-71.00000°. Principal axes: T 2.1780, Plg20.0000°, Azm281.0000°; N 1.3270, Plg18.0000°, Azm17.0000°; P -3.5060, Plg63.0000°, Azm146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 02:21:34.6±0.5,20°.00S±0°.10×66°.1E±0°.1,h10km,n85, σ0§71/68,mb4.5/35,MS4.0/13,5C,Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	Rodrigues Isla	2.60	275	Pn	**Pn**	**02 22 16.4**	**-0.2**
H08S1	Diego Garcia H	13.74	28	T	T	02 38 43.8	
	baz=205,slow=75,SNR=66						
H08S2	Diego Garcia H	13.75	28	T	T	02 38 46.2	
	baz=205,slow=75,SNR=33						
H08S3	Diego Garcia H	13.76	28	T	T	02 38 46.1	
	baz=205,slow=75,SNR=48						
H04N2	CROZET ISLANDS	28.63	201	T	T	02 57 40.2	
	baz=30,slow=75						
H04N1	CROZET ISLANDS	28.63	201	T	T	02 57 41.2	
	baz=30,slow=75						
H04N3	CROZET ISLANDS	28.64	201	T	T	02 57 41.0	
	baz=30,slow=75						
PALK	Pallekele	30.67	29	LR	LR	02 37 21.7	
	comp=Z,269nm,19.5s,baz=304,slow=31						
KIBK	Kibwezi	32.55	299	P	**P**	**02 28 05.9**	**-0.4**
KIBK				IAmb	IAmb	02 28 13.8	
	comp=Z,12nm,1.5s						
LSZ	Lusaka	36.40	271	LR	LR	02 41 48.5	
	comp=Z,285nm,21.1s,baz=134,slow=33						
BOSA	Boshof	38.06	249	LR	LR	02 42 00.4	
	comp=Z,242nm,18.9s,baz=64,slow=32						
LODK	Lodwar	38.13	304	P	**P**	**02 28 54.8**	**+0.5**
MBAR	Mbarara	39.62	295	LR	LR	02 43 18.9	
	comp=Z,137nm,19.4s,baz=100,slow=33						
SUR	Sutherland	42.20	244	LR	LR	02 44 14.5	
	comp=Z,283nm,19.5s,baz=94,slow=32						
LEM	Lembang	42.31	78	LR	LR	02 43 25.3	
	comp=Z,115nm,22.0s,baz=202,slow=31						
TSUM	Tsumeb	45.60	262	LR	LR	02 47 10.3	
	comp=Z,300nm,19.6s,baz=109,slow=34						
MAW	Mawson	47.64	182	P	**P**	**02 30 10.6**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=14,slow=14,SNR=3.6						
	comp=Z,1.3nm,0.6s						
BRDH	Bariadhala	49.20	32	LR	LR	02 50 33.0	
	comp=Z,162nm,20.0s,baz=263,slow=35						
CM31	Chiang Mai Arr	49.98	42	P	**P**	**02 30 29.4**	**+0.3**
CMAR	Chiang Mai Arr	49.98	42	P	**P**	**02 30 29.6**	**+0.5**
CMAR	Chiang Mai Arr	49.98	42	P	**P**	**02 30 30.2**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=236,slow=8.6,SNR=12						
CMAR				LR	LR	02 48 29.8	
	comp=Z,199nm,21.3s,baz=240,slow=32						
	comp=Z,1.8nm,0.3s						
SHL	Shillong	51.76	30	P	**P**	**02 30 42.9**	**+0.2**
SHL				IAmb	IAmb	02 30 50.2	
	comp=Z,18nm,1.2s						
KBL	Kabul	54.31	3	P	**P**	**02 31 01.1**	**-0.3**
EIL	Elat	57.80	328	LR	LR	02 52 56.5	
	comp=Z,74nm,20.0s,baz=176,slow=32						
GHAJ	Ghor Haditha	58.84	329	P	**P**	**02 31 33.9**	**+0.5**
BTK	Batken	59.91	4	P	**P**	**02 31 40.9**	**+0.1**
BTK				IAmb	IAmb	02 31 48.9	
	comp=Z,9.1nm,1.4s						
MMAI	Mount Meron Ar	60.33	330	P	**P**	**02 31 43.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=140,slow=11,SNR=2.9						
	comp=Z,1.1nm,0.7s						
GURO	Guroymak-BITLI	62.47	339	P	**P**	**02 31 58.6**	**+0.4**
GURO				IAmb	IAmb	02 32 07.3	
	comp=Z,4.5nm,1.1s						
ASAR	Alice Springs	62.50	107	P	**P**	**02 31 58.7**	**-0.2**
ASAR	Alice Springs	62.50	107	P	**P**	**02 31 57.3**	**-1.5**
	comp=Z,2.3nm,0.8s,baz=261,slow=6.3,SNR=22						
	comp=Z,2.3nm,0.8s						
AAK	Ala-Archa	62.80	7	P	**P**	**02 32 01.6**	**+1.2**
AAK				IAmb	IAmb	02 32 08.0	
	comp=Z,10nm,1.5s						

AAK	Ala-Archa	62.80	7	LR	LR		02 57 53.2
	comp=Z,112nm,18.6s,baz=184,slow=35						
BOOM	Boomskoye usch	62.83	8	P	P		02 32 01.4 +0.7
CSS	Mathiatis	62.91	330	P	P		02 32 01.8 +0.7
CSS				IAmb	IAmb		02 32 04.6
	comp=Z,7.7nm,1.2s						
KK31	Karatay Array	62.92	4	P	P		02 32 00.8 -0.2
KK31				IAmb	IAmb		02 32 03.7
	comp=Z,4.5nm,1.2s						
KKAR	Karatay Array	62.92	4	P	P		02 32 00.8 -0.2
KKAR				IAmb	IAmb		02 32 03.7
	comp=Z,4.5nm,1.2s						
KKAR	Karatay Array	62.92	4	P	P		02 32 01.5 +0.5
TROLL	Troll, Antarti	63.05	198	⇑P	P		02 32 08.4 +6.6
	comp=Z,80nm,1.0s						
WRA	Warramunga Arr	63.67	103	P	P		02 32 06.8 +0.2
WRA	Warramunga Arr	63.67	103	P	P		02 32 06.2 -0.5
	comp=Z,3.4nm,1.0s,baz=259,slow=5.7,SNR=14						
	comp=Z,3.4nm,1.0s						
WB2	Warramunga Arr	63.68	103	P	P		02 32 06.8 +0.2
WRAB	Tennant Creek	63.68	103	P	P		02 32 06.7 0.0
WB0	Warramunga Arr	63.76	103	P	P		02 32 06.7 -0.5
WB0				IAmb	IAmb		02 32 12.3
	comp=Z,9.6nm,1.2s						
KARS	Kars	64.01	341	P	P		02 32 08.6 +0.1
SNAA	Sanae	64.57	199	P	P		02 32 12.0 +0.3
SNAA				IAmb	IAmb		02 32 18.8
	comp=Z,5.5nm,1.1s						
SNAA	Sanae	64.57	199	⇑P	P		02 32 12.5 +0.8
	comp=Z,55nm,1.1s						
SNAA	Sanae	64.57	199	P	P		02 32 11.9 +0.3
	comp=Z,2.3nm,1.0s,baz=103,slow=4.5,SNR=9.9						
	comp=Z,2.3nm,1.0s						
VNA2	Neumayer--Watz	65.87	200	⇑P	P		02 32 21.1 +1.1
	comp=Z,3.1nm,0.9s,baz=87,slow=7.0						
VNA1	Neumayer--Stat	66.11	201	⇑P	P		02 32 23.2 +1.6
	comp=Z,3.9nm,0.8s						
VNA3	Neumayer Olymp	66.65	200	⇑P	P		02 32 26.0 +1.0
	comp=Z,3.9nm,0.7s						
BRTR	Keskin Array B	66.71	333	P	P		02 32 24.6 -1.4
BRTR	Keskin Array B	66.71	333	P	P		02 32 26.9 +1.0
	comp=Z,0.4nm,0.3s,baz=149,slow=6.2,SNR=5.3						
	comp=Z,0.4nm,0.3s						
MK31	Makanchi Array	68.07	12	P	P		02 32 34.1 -0.2
MK31				IAmb	IAmb		02 32 40.9
	comp=Z,8.4nm,1.5s						
MKAR	Makanchi Array	68.07	12	P	P		02 32 34.1 -0.2
MKAR	Makanchi Array	68.07	12	P	P		02 32 35.2 +1.0
	comp=Z,1.6nm,0.9s,baz=193,slow=8.2,SNR=7.9						
MKAR				LR	LR		03 01 30.7
	comp=Z,92nm,18.4s,baz=308,slow=35						
	comp=Z,1.6nm,0.9s						
MDUB	Mudurnu	68.38	332	P	P		02 32 36.9 +0.5
ABKAR	Akbulak array	69.16	356	P	P		02 32 41.1 +0.1
ABKAR				IAmb	IAmb		02 32 52.8
	comp=Z,8.3nm,1.5s						
ABKAR	Akbulak array	69.16	356	P	P		02 32 41.3 +0.4
QSPA	South Pole Qui	70.11	180	P	P		02 32 47.6 +0.6
QSPA	South Pole Qui	70.11	180	P	P		02 32 45.8 -1.1
	comp=Z,0.7nm,0.2s,baz=234,slow=6.1,SNR=4.3						
	comp=Z,0.7nm,0.2s						
KURBB	Kurchatov Arra	71.16	8	P	P		02 32 54.3 +1.1
	comp=Z,1.0nm,0.8s,baz=202,slow=7.2,SNR=5.8						
	comp=Z,1.0nm,0.8s						
KURK	Kurchatov	71.26	8	P	P		02 32 54.2 +0.4
TORD	Torodi Ar. Bea	71.42	292	P	P		02 32 55.9 +0.3
TORD	Torodi Ar. Bea	71.42	292	P	P		02 32 54.4 -1.2
	comp=Z,0.9nm,1.0s,baz=107,slow=7.8,SNR=4.2						
	comp=Z,0.9nm,1.0s						
BVAR	Borovoye Array	72.81	3	P	P		02 33 03.4 +0.3
	comp=Z,0.4nm,0.4s,baz=160,slow=4.6,SNR=3.0						
	comp=Z,0.4nm,0.4s						
BRVK	Borovoye	72.84	3	P	P		02 33 03.4 +0.2
ZAA0	Zalesovo Array	75.39	11	P	P		02 33 18.6 +0.5
ZAA0				IAmb	IAmb		02 33 25.6
	comp=Z,5.8nm,1.1s						
ZALV	Zalesovo Beam	75.39	11	P	P		02 33 18.6 +0.5
	comp=Z,1.4nm,0.6s,baz=214,slow=5.0,SNR=8.1						
	comp=Z,1.4nm,0.6s						
ARU	Arti	76.39	356	P	P		02 33 22.7 -1.1
ARU				IAmb	IAmb		02 33 31.1
	comp=Z,15nm,1.4s						
DIVS	Divibare	76.48	328	P	P		02 33 25.4 +0.7
SONM	Songino Array	76.58	27	P	P		02 33 25.8 +0.5
SONM	Songino Array	76.58	27	P	P		02 33 25.7 +0.5
	comp=Z,2.1nm,1.0s,baz=206,slow=4.7,SNR=7.5						
	comp=Z,2.1nm,1.0s						
AKASG	Malin Array Be	77.53	337	P	P		02 33 30.4 +0.1
AKASG	Malin Array Be	77.53	337	P	P		02 33 30.4 0.0
	comp=Z,0.1nm,0.3s,baz=154,slow=4.7,SNR=8.1						
	comp=Z,0.1nm,0.3s						
AKBB	Malin Array Si	77.53	337	P	P		02 33 30.0 -0.3
AKBB				IAmb	IAmb		02 33 37.6
	comp=Z,12nm,1.1s						
OJC	Ojcow	80.99	332	P	P		02 33 48.9 -0.4
OJC				IAmb	IAmb		02 33 51.7
	comp=Z,8.0nm,1.1s						
KSAR	Wonju Array Be	81.47	45	P	P		02 33 51.8 -0.3
KS19	Wonju Array Si	81.49	45	P	P		02 33 50.5 -1.7
MORC	Moravsky Berou	81.69	331	P	P		02 33 52.6 -0.5
NACGM	Naroch	81.81	338	*eP*	P		02 33 54.8 +1.4
	comp=Z,13nm,1.0s,baz=143						
KLMR	Klimovskoe	83.39	347	*eP*	P		02 34 00.5 -1.0
KLMR				AMP			02 34 02.9
	comp=Z,24nm,1.5s						
ESDC	Sonseca Array	88.22	313	P	P		02 34 26.3 +0.2
ESDC				IAmb	IAmb		02 34 33.9
	comp=Z,4.4nm,1.3s						
ESDC	Sonseca Array	88.22	313	P	P		02 34 26.1 -0.1
	comp=Z,1.2nm,1.1s,baz=114,slow=1.6,SNR=5.7						
	comp=Z,1.2nm,1.1s						
DZM	Mont Dzumac	91.68	114	*e*LR	LR		02 34 50.8
	comp=Z,696nm,24.4s						
TXAR	Lajitas Array	166.87	317	PKP	PKPdf		02 41 40.4 -0.8
	comp=Z,0.4nm,0.8s,baz=106,slow=3.0,SNR=3.4						
TXAR				PKPab	PKPab		02 42 45.0 +0.6
	comp=Z,0.4nm,0.8s,baz=104,slow=5.3,SNR=4.2						

*IDC **24** 02:23:06.3±0.7, 22°.83S×66°.80E, h0km, mb3.9/11, mbtmp3.9/11, MS3.8/1, Error ellipse: s-maj=24.1km s-min=21.9km az=101.0*
*NEIC **24** 02:23:08.5±0.8, 22°.7S±0°.1×66°.9E±0°.2, h10km±1km, mb4.4/8, Error ellipse: s-maj=27.6km s-min=18.8km az=297.0*
ISC 24 02:23:07.7±0.6, 22°.8S±0°.1×66°.8E±0°.1, h10km, n26, σ0§52/22, mb4.1/15, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	26.30	204	T	T	02 56 03.7	
	baz=33						
H04N1	CROZET ISLANDS	26.31	204	T	T	02 56 04.6	
	baz=33						
H04N3	CROZET ISLANDS	26.32	204	T	T	02 56 03.2	
	baz=33						
BOSA	Boshof	37.74	252	P	P	02 30 23.8	-0.3
	1.7nm,0.7s,baz=100,slow=8.4,SNR=5.0						
	1.7nm,0.7s						
MAW	Mawson	44.88	182	P	P	02 31 22.5	+0.5
	1.6nm,0.7s,baz=343,slow=8.4,SNR=1.9						
	1.6nm,0.7s						
BATI	Baumata	55.64	87	LR	LR	02 55 06.0	
	comp=Z,85nm,19.4s,baz=262,slow=34						
KBL	Kabul	57.05	2	P	P	02 32 53.8	-0.5
KBL				IAmb	IAmb	02 32 56.6	
	comp=Z,2.2nm,0.9s						
ASAR	Alice Springs	61.13	105	P	P	02 33 22.4	-0.2
	comp=Z,1.2nm,0.8s,baz=255,slow=6.1,SNR=5.8						
	comp=Z,1.2nm,0.8s						
SNAA	Sanae	62.16	200	P	P	02 33 29.0	+0.1
	comp=Z,1.3nm,0.9s,baz=61,slow=5.3,SNR=2.4						
	comp=Z,1.3nm,0.9s						
WRA	Warramunga Arr	62.47	101	P	P	02 33 31.6	-0.1
	comp=Z,1.1nm,0.9s,baz=258,slow=5.9,SNR=6.7						
	comp=Z,1.1nm,0.9s						
WB0	Warramunga Arr	62.56	101	P	P	02 33 31.8	-0.6
WR0	Warramunga Arr	62.65	101	P	P	02 33 33.0	+0.1
WR0				IAmb	IAmb	02 33 34.7	
	comp=Z,6.8nm,1.5s						
QSPA	South Pole Qui	67.33	180	P	P	02 34 02.8	0.0
	comp=Z,0.7nm,0.3s,baz=255,slow=1.5,SNR=2.2						
	comp=Z,0.7nm,0.3s						
BRTR	Keskin Array B	69.47	333	P	P	02 34 16.8	+0.4
	comp=Z,0.5nm,0.5s,baz=143,slow=9.9,SNR=2.3						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	70.66	11	P	P	02 34 24.1	+0.6
	comp=Z,0.3nm,0.6s,baz=190,slow=5.1,SNR=1.8						
	comp=Z,0.3nm,0.6s						
ABKAR	Akbulak array	71.98	355	P	P	02 34 31.4	+0.2
ABKAR	Akbulak array	71.98	355	P	P	02 34 31.2	-0.1
ABKAR				IAmb	IAmb	02 34 32.6	
	comp=Z,0.9nm,0.8s						
TOA0	Torodi Ar. Sit	73.06	293	P	P	02 34 37.6	-0.9
TORD	Torodi Ar. Bea	73.06	293	P	P	02 34 38.7	+0.2
	comp=Z,0.5nm,0.7s,baz=129,slow=5.6,SNR=2.9						
	comp=Z,0.5nm,0.7s						
CTAO	Charters Tower	73.13	105	P	P	02 34 38.3	-0.6
KURK	Kurchatov	73.92	8	P	P	02 34 41.9	-0.9
KURK				IAmb	IAmb	02 34 42.7	
	comp=Z,2.2nm,1.2s						
EIDS	Eidsvold	75.69	112	P	P	02 34 53.6	-0.1
EIDS				IAmb	IAmb	02 34 54.9	
	comp=Z,8.1nm,1.2s						
DBIC	Dimbokro	75.87	284	P	P	02 34 55.0	+0.1
ZALV	Zalesovo Beam	77.99	11	P	P	02 35 05.6	-0.3
ZALV	Zalesovo Beam	77.99	11	P	P	02 35 06.7	+0.8
	comp=Z,0.8nm,0.4s,baz=193,slow=5.8,SNR=3.0						
	comp=Z,0.8nm,0.4s						
SONM	Songino Array	78.79	26	P	P	02 35 11.5	+0.9
	comp=Z,0.9nm,0.8s,baz=212,slow=8.0,SNR=4.6						
	comp=Z,0.9nm,0.8s						

*UPA **24** 02:24:43.2±0.5, 6°.76N×82°.55W, h3km±32km, MW2.9*
*UCR **24** 02:24:45.3±0.4, 6°.63N×83°.43W, h13km±999km, MW3.6*
ISC 24 02:24:43.0±3.4, 6°.7N±0°.2×82°.6W±0°.1, h10km, n10, σ0§60/16, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	Petroterminale	1.50	348	*e*S	Sn	02 25 29.5	-0.2
LOCO3	Loma Colorada,	1.68	5	*e*P	Pn	02 25 12.1	-0.4
DVD	David	1.70	4	*e*P	Pn	02 25 12.1	-0.7
DVD				*e*S	Sn	02 25 34.2	-0.5
CACAO	El Cacao, Vera	1.80	70	*e*P	Pn	02 25 13.6	-0.6
CACAO				*e*S	Sn	02 25 36.1	-0.9
MARI3	Mariato, Verag	1.81	60	*e*S	Sb	02 25 38.9	-0.2
BCO2	Palmira	1.98	1	*e*P	Pn	02 25 16.2	-0.6
BCO2				*e*S	Sn	02 25 42.3	+0.5
CHIT3	Chitre	2.46	60	*e*P	Pn	02 25 23.9	+0.7
CHIT3				*e*S	Sn	02 25 54.0	+0.7
AZU	Azuero	2.51	65	*e*P	Pn	02 25 24.3	+0.5
AZU				*e*S	Sn	02 25 54.8	+0.2
CNI2	El Empalme, Bo	2.68	2	*e*P	Pn	02 25 26.7	+0.4
CNI2				*e*S	Sn	02 25 59.5	+0.6
VERB	Verbena	3.39	341	*e*P	Pn	02 25 36.5	+0.3

*IDC **24** 02:29:41.9±0.9, 15°.11S×173°.70W, h0km, mb3.9/8, mbtmp3.9/8, MS3.8/5, Error ellipse: s-maj=37.6km s-min=24.0km az=129.0*
ISC 24 02:29:47.1±0.8, 15°.1S±0°.2×173°.8W±0°.2, h35km, n21, σ0§47/10, mb3.8/8, MS4.0/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	8.30	250	LR	LR	02 34 38.4	
	comp=Z,245nm,20.7s,baz=124,slow=36						
H11S2	WAKE ISLAND Hy	38.49	329	T	T	03 17 52.9	
	baz=146,slow=75						
H11S3	WAKE ISLAND Hy	38.51	329	T	T	03 17 54.3	
	baz=146,slow=75						
H11S1	WAKE ISLAND Hy	38.51	329	T	T	03 17 47.8	
	baz=146,slow=75						
H11N3	WAKE ISLAND Hy	39.44	331	T	T	03 19 28.1	
	baz=149,slow=76						
H11N1	WAKE ISLAND Hy	39.45	331	T	T	03 19 31.2	
	baz=149,slow=76						
H11N2	WAKE ISLAND Hy	39.46	331	T	T	03 19 29.1	
	baz=149,slow=76						
STKA	Stephens Creek	43.91	240	P	P	02 37 50.7	0.0
	1.1nm,0.6s,baz=76,slow=8.3,SNR=3.4						
	1.1nm,0.6s						
WRA	Warramunga Arr	49.58	257	P	P	02 38 35.0	-0.3
	0.3nm,0.4s,baz=88,slow=6.9,SNR=1.4						
	0.3nm,0.4s						
ASAR	Alice Springs	49.89	252	P	P	02 38 37.2	-0.4
	3.3nm,0.5s,baz=86,slow=8.2,SNR=41						
	3.3nm,0.5s						
RPN	Rapa Nui	60.74	113	LR	LR	03 00 16.3	
	comp=Z,64nm,21.4s,baz=80,slow=30						
NVAR	Mina Array Bea	74.31	42	P	P	02 41 20.9	-0.4
	0.8nm,0.9s,baz=221,slow=11,SNR=4.6						
	0.8nm,0.9s						
QSPA	South Pole Qui	74.98	180	P	P	02 41 24.9	+0.1
	1.6nm,0.7s,baz=22,slow=1.1,SNR=9.5						
	1.6nm,0.7s						
ILAR	Eielson Array	82.18	11	P	P	02 42 03.9	-0.1
	0.3nm,0.7s,baz=224,slow=7.2,SNR=4.6						
	0.3nm,0.7s						
MAW	Mawson	88.00	199	P	P	02 42 33.1	-0.2
	1.7nm,0.7s,baz=157,slow=7.7,SNR=7.5						
	1.7nm,0.7s						
INK	Inuvik	88.02	14	LR	LR	03 13 39.3	
	comp=Z,67nm,21.0s,baz=357,slow=30						
PLCA	Paso Flores	90.00	132	LR	LR	03 15 33.3	
	comp=Z,70nm,20.5s,baz=146,slow=31						
SNAA	Sanae	93.26	177	P	P	02 42 58.1	+0.3
	0.4nm,0.8s,baz=211,slow=5.9,SNR=1.4						
	0.4nm,0.8s						
CFA	Coronel Fontan	94.93	124	LR	LR	03 18 28.6	
	comp=Z,70nm,18.4s,baz=125,slow=31						
BRTR	Keskin Array B	145.67	321	PKPbc	PKPab	02 49 23.9	+0.9
	1.5nm,0.8s,baz=88,slow=2.7,SNR=8.6						
GERES	GERESS Array B	145.75	351	PKPbc	PKPab	02 49 23.4	+0.5
	0.2nm,0.3s,baz=340,slow=5.3,SNR=2.0						

*SOME **24** 02:43:31.2, 40°.23N×77°.68E, h0km*
*KRNET **24** 02:43:33.1±0.1, 39°.99N×77°.22E, mb3.1*
*NNC **24** 02:43:34.1±1.1, 40°.29N×77°.62E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=8.0km s-min=6.2km az=162.0*
ISC 24 02:43:27.8±1.9, 39°.78N±0°.10×77°.43E±0°.06, h10km, n57, σ1§59/68, 22C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	Naryn	1.97	327	⇑*e*P	Pg	02 44 04.4	-1.3
	baz=27						
NRN				⇑*e*S	Sn	02 44 27.3	+0.7
	baz=27						
ULHL	Ulahol	2.62	340	⇓*e*P	Pb	02 44 14.0	-0.9
	baz=42						
ULHL				⇓*e*S	Sn	02 44 43.7	+1.4
	baz=42						
PRZ	Przheval'sk	2.79	15	⇑*e*P	Pb	02 44 17.8	-0.1
	baz=19						
PRZ				⇑*e*S	Sb	02 44 50.5	-1.8
	baz=19						
BOOM	Boomskoye usch	2.93	338	⇑*e*P	Pb	02 44 18.1	-2.1
	baz=39						
BOOM				⇑*e*S	Sn	02 44 50.9	+1.0
	baz=39						
SFK	Sufi-Kurgan	3.03	276	⇑*e*P	Pb	02 44 20.6	-1.3
	baz=72						
SFK				⇑*e*S	Sn	02 44 55.4	+3.0
	baz=72						
ARLS	Aral	3.14	312	⇑*e*P	Pb	02 44 20.8	-3.0
	baz=11						
ARLS				⇑*e*S	Sn	02 44 55.4	+0.3
	baz=11						
TNSS	Tian-Shan	3.27	354	Pg	Pb	02 44 25.5	-0.6
	37nm,0.3s						
TNSS				Lg	Lg	02 45 04.5	
	15nm,0.5s						
TNSS	Tian-Shan	3.27	354	*e*Pg	Pb	02 44 25.5	-0.6
	37nm,1.3s						
TNSS				*e*Lg	Lg	02 45 04.5	
	48nm,0.3s						
IZV	Izvestkoviy	3.31	350	Pg	Pb	02 44 26.8	+0.2
	8.0nm,0.4s						
IZV				Lg	Lg	02 45 06.5	
	70nm,0.6s						
IZV	Izvestkoviy	3.31	350	*e*Pg	Pb	02 44 26.8	+0.2
	8.0nm,0.4s						
IZV				*e*Lg	Lg	02 45 06.5	
	70nm,0.6s						
SATY	Saty	3.35	12	Pg	Pb	02 44 25.9	-1.5
	20nm,0.5s						
SATY				Lg	Lg	02 45 05.2	
	20nm,0.5s						
SATY	Saty	3.35	12	*e*Pg	Pb	02 44 25.9	-1.5
	28nm,0.4s						
SATY				*e*Lg	Lg	02 45 05.2	
	25nm,0.2s						
MDOK	Medeo	3.39	355	Pg	Pb	02 44 27.5	-0.5
	36nm,0.4s						
MDOK				Lg	Lg	02 45 07.9	
	40nm,0.7s						
MDOK	Medeo	3.39	355	*e*Pg	Pb	02 44 27.5	-0.5
	36nm,0.4s						
MDOK				*e*Lg	Lg	02 45 07.9	
	40nm,0.7s						
TKM2	Tokmak 2	3.42	337	⇑Pg	Pb	02 44 26.6	-2.0
	3.4nm,0.4s						
TKM2				⇑Lg	Lg	02 45 12.2	
	30nm,0.6s						
TKM2	Tokmak 2	3.42	337	⇓*e*P	Pb	02 44 25.1	-3.6
	baz=38						
TKM2				⇓*e*S	Sn	02 45 03.0	+0.8
	baz=38						
KBK	Karagaybulak	3.43	328	⇑*e*P	Pb	02 44 24.8	-3.9
	baz=28						
KBK				⇑*e*S	Sn	02 45 02.7	+0.5
	baz=28						
MTBS	Maitube	3.43	348	Pg	Pb	02 44 28.5	-0.1
	12nm,0.3s						
MTBS				Lg	Lg	02 45 09.4	
	41nm,0.4s						
MTBS	Maitube	3.43	348	*e*Pg	Pb	02 44 28.5	-0.1
	12nm,0.3s						
MTBS				*e*Lg	Lg	02 45 09.4	
	41nm,0.4s						
KST	Kastek	3.44	342	Pg	Pb	02 44 29.7	+0.9
	3.0nm,0.3s						
KST				Lg	Lg	02 45 11.6	
	35nm,0.6s						
KST	Kastek	3.44	342	*e*Pg	Pb	02 44 29.7	+0.9
	3.0nm,0.3s						
KST				*e*Lg	Lg	02 45 11.6	
	35nm,0.6s						
KNDC	Almaty	3.45	354	⇑Pg	Pb	02 44 27.7	-1.2
	21nm,0.3s						
KNDC				⇓Lg	Lg	02 45 09.6	
	186nm,0.7s						
KOTS	Kotyrbulak	3.46	356	Pg	Pb	02 44 28.7	-0.5
	17nm,0.4s						
KOTS				Lg	Lg	02 45 09.7	
	80nm,0.5s						
KOTS	Kotyrbulak	3.46	356	*e*Pg	Pb	02 44 28.7	-0.5
	17nm,0.4s						
KOTS				*e*Lg	Lg	02 45 09.7	
	80nm,0.5s						
AAK	Ala-Archa	3.61	323	⇑*e*P	Pb	02 44 27.4	-4.4
	baz=23						
AAK				⇑*e*S	Sn	02 45 07.0	+0.3
	baz=23						
DGS	Degeres	3.67	341	Pg	Pb	02 44 34.0	+1.2
	9.2nm,0.5s						
DGS				Lg	Lg	02 45 18.5	
	38nm,0.6s						
DGS	Degeres	3.67	341	*e*Pg	Pb	02 44 34.0	+1.2
	9.2nm,0.5s						
DGS				*e*Lg	Lg	02 45 18.5	
	38nm,0.6s						
AML	Almayashu	3.67	311	⇓Pn	Pb	02 44 32.5	-0.5
	0.2nm,0.4s						
AML				⇑Lg	Lg	02 45 24.1	
	5.3nm,0.8s						
AML	Almayashu	3.67	311	⇑*e*P	Pn	02 44 28.3	+3.3
	baz=10.0						
AML				⇑*e*S	Sn	02 45 08.9	+0.3
	baz=10.0						
KURS	Kuram	3.74	8	Pg	Pb	02 44 32.2	-1.8
	9.7nm,0.6s						
KURS				Lg	Lg	02 45 15.9	
	24nm,0.9s						
KURS	Kuram	3.74	8	*e*Pg	Pb	02 44 32.2	-1.8
	9.7nm,0.6s						
KURS				*e*Lg	Lg	02 45 15.9	
	24nm,0.9s						
CHMS	Chumysh	3.79	329	⇓Pg	Pb	02 44 36.4	+1.6
	2.4nm,0.5s						
CHMS				⇓Lg	Lg	02 45 23.6	
	32nm,0.7s						
KPKS	Kokpek	3.80	14	Pg	Pb	02 44 33.6	-1.4
	17nm,0.3s						
KPKS				Lg	Lg	02 45 18.1	
	22nm,0.4s						
KPKS	Kokpek	3.80	14	*e*Pg	Pb	02 44 33.6	-1.4
	17nm,0.3s						
KPKS				*e*Lg	Lg	02 45 18.1	
	22nm,0.4s						
PDGK	Podgornoye	3.87	23	Pg	Pb	02 44 34.6	-1.5
	10.0nm,0.6s						
PDGK				Lg	Lg	02 45 20.0	
	10nm,0.4s						
PDGK	Podgornoye	3.87	23	⇑Pn	Pn	02 44 29.4	+2.0
	13nm,0.6s						
PDGK				⇓Lg	Lg	02 45 19.9	
	44nm,0.8s						
KTBS	Karatobe	3.96	352	Pg	Pb	02 44 37.6	-0.1
	7.5nm,0.3s						
KTBS				Lg	Lg	02 45 25.1	
	18nm,0.5s						
KTBS	Karatobe	3.96	352	*e*Pg	Pb	02 44 37.6	-0.1
	7.5nm,0.3s						
KTBS				*e*Lg	Lg	02 45 25.1	
	18nm,0.5s						
EKS2	Erkin-Say	3.98	317	⇓*e*P	Pn	02 44 32.4	+3.4
	baz=17						
EKS2				⇓*e*S	Sn	02 45 15.7	-0.1
	baz=17						
CHKK	Chushkaly	4.08	356	Pg	Pb	02 44 39.5	-0.2
	9.3nm,0.4s						
CHKK				Lg	Lg	02 45 28.4	
	50nm,0.4s						
CHKK	Chushkaly	4.08	356	*e*Pg	Pb	02 44 39.5	-0.2
	9.3nm,0.4s						
CHKK				*e*Lg	Lg	02 45 28.4	
	50nm,0.4s						
KRBS	Karabastau	4.12	342	Pg	Pb	02 44 41.2	+0.7
	5.3nm,1.4s						
KRBS				Lg	Lg	02 45 31.3	
	46nm,0.6s						
KRBS	Karabastau	4.12	342	*e*Pg	Pb	02 44 41.2	+0.7
	5.3nm,1.4s						
KRBS				*e*Lg	Lg	02 45 31.3	
	46nm,0.6s						
KUU	Kurty	4.19	349	Pg	Pb	02 44 41.4	-0.1
	2.3nm,0.6s						
KUU				Lg	Lg	02 45 31.8	
	23nm,0.6s						
KUU	Kurty	4.19	349	*e*Pg	Pb	02 44 41.4	-0.1
	2.3nm,0.6s						
KUU				*e*Lg	Lg	02 45 31.8	
	23nm,0.6s						
SGDS	Sogindy	4.22	331	Pg	Pb	02 44 44.3	+2.1
	3.4nm,0.6s						
SGDS				Lg	Lg	02 45 36.7	
	6.7nm,0.9s						
KTMS	Ketmen	4.26	30	Pg	Pb	02 44 41.6	-1.3
	3.4nm,0.5s						
KTMS				Lg	Lg	02

KNOS Lg Lg 02 45 48.2
4.1nm,0.7s
DJR Jarkent 4.87 20 Pg **Pb 02 44 52.5 -0.7**
6.8nm,0.5s
DJR Lg Lg 02 45 50.6
11nm,0.5s
DJR Jarkent 4.87 20 *e*Pg **Pb 02 44 52.5 -0.7**
6.8nm,0.5s
DJR *e*Lg Lg 02 45 50.6
11nm,0.5s
KK31 Karatay Array 6.17 305 ⇓Pg **Pg 02 45 23.2 -2.6**
0.2nm,0.2s,baz=124,slow=16
KK31 ⇑Lg Lg 02 46 44.4
2.6nm,0.7s,baz=125,slow=28,SNR=3.9

---

*IDC **24** 02:43:57.9±0.9, 19°.98S×66°.22E, h0km, mb3.9/9, mbtmp3.9/9, MS3.6/9, Error ellipse: s-maj=32.7km s-min=22.5km az=91.0*

ISC 24 02:43:59.6±0.9, 20°.0S±0°.2×66°.2E±0°.3, h10km, n23, σ0§60/9, mb4.0/9, MS3.6/9, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.68**	**27**	T	T	03 01 09.7	
baz=205,slow=75,SNR=26							
H08S2	**Diego Garcia H**	**13.69**	**27**	T	T	03 01 09.7	
baz=205,slow=75,SNR=21							
H08S3	**Diego Garcia H**	**13.70**	**27**	T	T	03 01 07.6	
baz=205,slow=75,SNR=22							
H04N2	**CROZET ISLANDS**	**28.67**	**201**	T	T	03 20 04.3	
baz=30,slow=75,SNR=72							
H04N1	**CROZET ISLANDS**	**28.68**	**201**	T	T	03 20 07.4	
baz=30,slow=75,SNR=81							
H04N3	**CROZET ISLANDS**	**28.69**	**201**	T	T	03 20 01.5	
baz=30,slow=75,SNR=82							
PALK	**Pallekele**	**30.61**	**29**	LR	LR	02 59 56.4	
comp=Z,86nm,19.5s,baz=307,slow=31							
LSZ	**Lusaka**	**36.51**	**271**	LR	LR	03 03 40.4	
comp=Z,122nm,21.9s,baz=148,slow=32							
BOSA	**Boshof**	**38.17**	**249**	LR	LR	03 03 54.6	
comp=Z,99nm,19.2s,baz=157,slow=31							
LEM	**Lembang**	**42.20**	**78**	LR	LR	03 05 39.4	
comp=Z,52nm,20.5s,baz=236,slow=31							
TSUM	**Tsumeb**	**45.71**	**262**	LR	LR	03 09 36.2	
comp=Z,84nm,19.1s,baz=139,slow=34							
CMAR	**Chiang Mai Arr**	**49.90**	**42**	P	**P**	**02 52 53.8 +0.2**	
1.4nm,0.3s,baz=230,slow=9.3,SNR=4.2							
CMAR				LR	LR	03 10 44.1	
comp=Z,65nm,20.5s,baz=225,slow=32							
1.4nm,0.3s							
ASAR	**Alice Springs**	**62.40**	**107**	P	**P**	**02 54 23.1 -0.1**	
1.3nm,0.8s,baz=262,slow=6.4,SNR=13							
1.3nm,0.8s							
AAK	**Ala-Archa**	**62.78**	**7**	LR	LR	03 18 07.1	
comp=Z,50nm,18.6s,baz=46,slow=33							
WRA	**Warramunga Arr**	**63.56**	**103**	P	**P**	**02 54 31.0 +0.1**	
2.1nm,0.9s,baz=258,slow=5.6,SNR=10.0							
2.1nm,0.9s							
SNAA	**Sanae**	**64.61**	**199**	P	**P**	**02 54 37.0 0.0**	
0.9nm,0.8s,baz=81,slow=3.3,SNR=6.3							
0.9nm,0.8s							
MKAR	**Makanchi Array**	**68.04**	**12**	P	**P**	**02 54 58.1 -1.0**	
0.6nm,0.8s,baz=186,slow=4.3,SNR=4.0							
0.6nm,0.8s							
QSPA	**South Pole Qui**	**70.11**	**180**	P	**P**	**02 55 11.9 -0.1**	
0.8nm,0.6s,baz=261,slow=2.5,SNR=3.0							
0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**71.14**	**8**	P	**P**	**02 55 17.4 -0.7**	
0.3nm,0.6s,baz=224,slow=6.4,SNR=2.3							
0.3nm,0.6s							
BVAR	**Borovoye Array**	**72.80**	**3**	LR	LR	03 26 53.9	
comp=Z,50nm,18.2s,baz=302,slow=35							
DBIC	**Dimbokro**	**74.72**	**283**	LR	LR	03 25 42.5	
comp=Z,52nm,21.4s,baz=117,slow=34							
SONM	**Songino Array**	**76.52**	**27**	P	**P**	**02 55 50.6 +0.7**	
0.4nm,0.4s,baz=225,slow=3.9,SNR=4.0							
0.4nm,0.4s							
AKASG	**Malin Array Be**	**77.57**	**337**	P	**P**	**02 55 56.0 +0.4**	
0.3nm,0.4s,baz=164,slow=4.8,SNR=4.1							
0.3nm,0.4s							

---

*IDC **24** 03:19:28.3±0.9, 20°.25S×65°.94E, h0km, mb3.6/11, mbtmp3.6/11, MS4.0/3, Error ellipse: s-maj=34.6km s-min=22.4km az=85.0*

ISC 24 03:19:30.1±0.8, 20°.3S±0°.1×65°.9E±0°.2, h10km, n16, σ1§06/11, mb3.7/13, 3C, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.75**	**272**	LR	LR	03 28 59.2	
comp=Z,215nm,21.7s,baz=230,slow=32							
MAW	**Mawson**	**47.38**	**182**	P	**P**	**03 28 05.3 +1.3**	
1.2nm,0.8s,baz=0.0,slow=13,SNR=1.5							
1.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**50.29**	**42**	P	**P**	**03 28 28.1 +1.1**	
0.4nm,0.3s,baz=220,slow=8.3,SNR=1.1							
0.4nm,0.3s							
ASAR	**Alice Springs**	**62.61**	**107**	P	**P**	**03 29 54.4 -0.6**	
0.4nm,0.8s,baz=268,slow=6.5,SNR=4.6							
0.4nm,0.8s							
WRA	**Warramunga Arr**	**63.79**	**103**	P	**P**	**03 30 02.1 -0.8**	
0.4nm,0.9s,baz=264,slow=5.2,SNR=2.2							
0.4nm,0.9s							
SNAA	**Sanae**	**64.27**	**199**	⇑P	P	03 30 18.1 +13	
comp=Z,50nm,0.8s							
SNAA	**Sanae**	**64.27**	**199**	P	**P**	**03 30 04.5 -0.8**	
comp=Z,0.8nm,1.0s,baz=107,slow=9.0,SNR=2.3							
comp=Z,0.8nm,1.0s							
VNA2	**Neumayer--Watz**	**65.57**	**200**	⇑P	P	03 30 26.7 +13	
comp=Z,3.9nm,0.7s,baz=85,slow=6.0							
VNA3	**Neumayer Olymp**	**66.34**	**200**	⇑P	P	03 30 31.6 +13	
comp=Z,5.4nm,0.7s							
BRTR	**Keskin Array B**	**66.85**	**333**	P	**P**	**03 30 23.6 +1.2**	
comp=Z,0.2nm,0.4s,baz=142,slow=14,SNR=2.9							
comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**68.35**	**12**	P	**P**	**03 30 31.7 +0.1**	
comp=Z,0.5nm,0.8s,baz=218,slow=9.1,SNR=2.6							
MKAR				LR	LR	03 59 46.8	
comp=Z,145nm,18.5s,baz=146,slow=35							
comp=Z,0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**71.44**	**8**	P	**P**	**03 30 49.5 -0.9**	
comp=Z,0.1nm,0.3s,baz=209,slow=7.2,SNR=2.2							
comp=Z,0.1nm,0.3s							
ZALV	**Zalesovo Beam**	**75.67**	**11**	P	**P**	**03 31 14.4 -0.9**	
comp=Z,0.7nm,0.3s,baz=174,slow=2.9,SNR=1.8							
comp=Z,0.7nm,0.3s							
SONM	**Songino Array**	**76.89**	**27**	P	**P**	**03 31 22.8 +0.3**	
comp=Z,0.3nm,0.4s,baz=196,slow=2.6,SNR=2.1							
comp=Z,0.3nm,0.4s							
AKASG	**Malin Array Be**	**77.69**	**337**	P	**P**	**03 31 25.5 -1.2**	
comp=Z,0.2nm,0.4s,baz=142,slow=4.7,SNR=1.2							
comp=Z,0.2nm,0.4s							
ESDC	**Sonseca Array**	**88.26**	**314**	LR	LR	04 14 23.2	
comp=Z,80nm,18.1s,baz=22,slow=37							

---

*IDC **24** 03:20:18.0±0.6, 20°.26S×66°.24E, h0km, mb4.0/19, mbtmp4.0/19, MS4.1/4, Error ellipse: s-maj=22.8km s-min=16.0km az=81.0*

*NEIC **24** 03:20:19.1±1.9, 20°.18S±0°.09×66°.23E±0°.09, h10km±1km, mb4.6/10, Error ellipse: s-maj=19.3km s-min=8.9km az=138.0*

*GCMT **24** 03:20:25.1±0.3, 19°.95S±0°.03×66°.10E±0°.02, h12km, MW5.0/94, Moment Tensor Solution. s30,c32; s94,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.82±.08; $M_{\theta\theta}$0.66±.08; $M_{\phi\phi}$2.16±.08; $M_{r\theta}$0.51±.36; $M_{\theta\phi}$-0.77±.08; $M_{\phi r}$3.10±.33; Best double couple: $M_0$4.07600×10^{16} NP1:ϕ_s180.00000°, δ70.00000°, λ-77.00000°. NP2: ϕ_s326.00000°, δ23.00000°, λ-122.00000°. Principal axes: T 3.7210, Plg24.0000°, Azm260.0000°; N 0.7100, Plg12.0000°, Azm356.0000°; P -4.4310, Plg62.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 03:20:19.4±0.5, 20°.22S±0°.10×66°.2E±0°.1, h10km, n47, σ1§05/36, mb4.2/23, MS4.2/5, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.69**	**279**	Pn	**Pn**	**03 21 02.2 -0.6**	
H08S1	**Diego Carcia H**	**13.90**	**27**	T	T	03 37 32.0	
baz=205,slow=76,SNR=109							
H08S2	**Diego Garcia H**	**13.91**	**27**	T	T	03 37 32.7	
baz=205,slow=76,SNR=111							
H08S3	**Diego Garcia H**	**13.92**	**27**	T	T	03 37 32.4	
baz=205,slow=76,SNR=210							
H04N2	**CROZET ISLANDS**	**28.45**	**201**	T	T	03 56 26.9	
baz=30,slow=75,SNR=170							
H04N1	**CROZET ISLANDS**	**28.45**	**201**	T	T	03 56 19.0	
baz=30,slow=75,SNR=171							
H04N3	**CROZET ISLANDS**	**28.47**	**201**	T	T	03 56 18.4	
baz=30,slow=75,SNR=184							
LSZ	**Lusaka**	**36.47**	**271**	LR	LR	03 40 36.1	
comp=Z,548nm,21.6s,baz=123,slow=33							
LBTB	**Lobatse**	**37.68**	**255**	P	**P**	**03 27 34.3 -1.0**	
LBTB				IAmb	IAmb	03 27 39.5	
comp=Z,3.7nm,0.8s							
LODK	**Lodwar**	**38.31**	**304**	P	**P**	**03 27 40.6 -0.1**	
WSAR	**Wadi Sarin**	**43.82**	**350**	LR	LR	03 43 49.0	
comp=Z,153nm,19.6s,baz=224,slow=32							
MAW	**Mawson**	**47.42**	**182**	P	**P**	**03 28 55.2 +1.5**	
comp=Z,2.0nm,0.8s,baz=341,slow=4.9,SNR=4.3							
comp=Z,2.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**50.09**	**42**	P	**P**	**03 29 14.5 -0.4**	
CMAR	**Chiang Mai Arr**	**50.09**	**42**	P	**P**	**03 29 14.9 0.0**	
comp=Z,0.8nm,0.3s,baz=242,slow=7.8,SNR=4.1							
comp=Z,0.8nm,0.3s							
KBL	**Kabul**	**54.52**	**3**	P	**P**	**03 29 47.5 -0.3**	
KBL				IAmb	IAmb	03 29 55.0	
comp=Z,3.2nm,0.8s							
GEYT	**Alibeck**	**58.33**	**353**	P	**P**	**03 30 13.6 -1.1**	
ASAR	**Alice Springs**	**62.38**	**107**	P	**P**	**03 30 41.6 -1.2**	
ASAR	**Alice Springs**	**62.38**	**107**	P	**P**	**03 30 42.3 -0.5**	
comp=Z,1.7nm,0.9s,baz=258,slow=6.1,SNR=6.2							
comp=Z,1.7nm,0.9s							
KK31	**Karatay Array**	**63.13**	**4**	P	**P**	**03 30 46.9 -0.4**	
KK31				IAmb	IAmb	03 30 54.2	
comp=Z,5.4nm,1.2s							
KKAR	**Karatay Array**	**63.13**	**4**	P	**P**	**03 30 47.3 0.0**	
WRA	**Warramunga Arr**	**63.56**	**103**	P	**P**	**03 30 49.0 -1.7**	
WRA	**Warramunga Arr**	**63.56**	**103**	P	**P**	**03 30 50.5 -0.2**	
comp=Z,2.6nm,1.1s,baz=259,slow=5.6,SNR=5.2							
comp=Z,2.6nm,1.1s							
WB2	**Warramunga Arr**	**63.57**	**103**	P	**P**	**03 30 48.6 -2.1**	
WR0	**Warramunga Arr**	**63.74**	**103**	P	**P**	**03 30 51.3 -0.6**	
WR0				IAmb	IAmb	03 30 54.4	
comp=Z,9.8nm,1.4s							
SNAA	**Sanae**	**64.39**	**199**	P	**P**	**03 30 55.8 +0.4**	
SNAA				IAmb	IAmb	03 31 00.4	
comp=Z,3.5nm,0.9s							
SNAA	**Sanae**	**64.39**	**199**	P	**P**	**03 30 55.0 -0.4**	
comp=Z,3.0nm,0.9s,baz=84,slow=8.7,SNR=11							
comp=Z,3.0nm,0.9s							
BRTR	**Keskin Array B**	**66.93**	**333**	P	**P**	**03 31 12.9 +0.7**	
comp=Z,0.9nm,0.6s,baz=165,slow=7.1,SNR=4.8							
comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**68.26**	**12**	P	**P**	**03 31 21.6 +1.3**	
comp=Z,0.7nm,0.7s,baz=190,slow=5.5,SNR=3.8							
comp=Z,0.7nm,0.7s							
ABKAR	**Akbulak array**	**69.38**	**356**	P	**P**	**03 31 26.3 -0.9**	
QSPA	**South Pole Qui**	**69.89**	**180**	P	**P**	**03 31 29.7 -0.8**	
QSPA	**South Pole Qui**	**69.89**	**180**	P	**P**	**03 31 28.8 -1.7**	
comp=Z,2.0nm,0.9s,baz=293,slow=3.9,SNR=4.3							
comp=Z,2.0nm,0.9s							
KURBB	**Kurchatov Arra**	**71.36**	**8**	P	**P**	**03 31 39.0 -0.3**	
comp=Z,0.9nm,0.8s,baz=199,slow=6.5,SNR=5.0							
comp=Z,0.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**71.56**	**292**	P	**P**	**03 31 41.9 +0.5**	
comp=Z,0.6nm,0.8s,baz=101,slow=7.5,SNR=2.9							
comp=Z,0.6nm,0.8s							
VNDA	**Vanda**	**71.63**	**167**	P	**P**	**03 31 42.0 +1.3**	
comp=Z,0.7nm,0.9s,baz=273,slow=16,SNR=2.2							
comp=Z,0.7nm,0.9s							
BVAR	**Borovoye Array**	**73.02**	**3**	P	**P**	**03 31 50.5 +1.3**	
comp=Z,0.7nm,0.5s,baz=168,slow=7.4,SNR=2.4							
comp=Z,0.7nm,0.5s							
DBIC	**Dimbokro**	**74.73**	**283**	P	**P**	**03 32 00.4 +0.3**	
comp=Z,3.6nm,0.8s,baz=89,slow=6.8,SNR=3.0							
comp=Z,3.6nm,0.8s							
MLR	**Muntele Rosu**	**74.93**	**332**	P	**P**	**03 32 02.3 +1.6**	
comp=Z,2.1nm,0.6s,baz=143,slow=15,SNR=3.2							
comp=Z,2.1nm,0.6s							
ZALV	**Zalesovo Beam**	**75.58**	**11**	P	**P**	**03 32 02.2 -1.9**	
ZALV	**Zalesovo Beam**	**75.58**	**11**	P	**P**	**03 32 03.2 -0.8**	
comp=Z,1.1nm,0.4s,baz=191,slow=4.9,SNR=5.3							
comp=Z,1.1nm,0.4s							
SONM	**Songino Array**	**76.74**	**27**	P	**P**	**03 32 12.3 +1.3**	
comp=Z,0.8nm,0.8s,baz=216,slow=5.2,SNR=2.5							
comp=Z,0.8nm,0.8s							
AKASG	**Malin Array Be**	**77.76**	**337**	P	**P**	**03 32 17.8 +1.4**	
comp=Z,0.3nm,0.4s,baz=147,slow=4.8,SNR=5.4							
comp=Z,0.3nm,0.4s							
DAVOX	**Davos/Dischmat**	**83.77**	**325**	P	**P**	**03 32 49.1 +0.1**	
comp=Z,1.4nm,0.6s,baz=112,slow=19,SNR=4.0							
comp=Z,1.4nm,0.6s							
FINES	**FINESS Array B**	**87.49**	**342**	LR	LR	04 12 35.1	
comp=Z,100nm,18.5s,baz=315,slow=36							
ESDC	**Sonseca Array**	**88.42**	**313**	P	**P**	**03 33 12.0 +0.1**	
comp=Z,0.7nm,0.9s,baz=97,slow=3.4,SNR=4.1							
comp=Z,0.7nm,0.9s							
HNR	**Honiara**	**90.27**	**100**	LR	LR	04 08 18.4	
comp=Z,2μm,21.6s,baz=240,slow=32							
RCBR	**Riachuelo**	**99.27**	**260**	LR	LR	04 13 20.9	
comp=Z,70nm,18.3s,baz=70,slow=32							
ULM	**Lac du Bonnet**	**146.82**	**339**	PKPbc	**PKPbc**	**03 40 01.2 -0.6**	
comp=Z,7.8nm,0.8s,baz=61,slow=3.4,SNR=3.6							

---

*IDC **24** 03:25:30.6±0.6, 20°.15S×66°.26E, h0km, mb4.0/12, mbtmp4.0/12, Error ellipse: s-maj=23.9km s-min=18.1km az=74.0*

*NEIC **24** 03:25:32.3±1.8, 20°.2S±0°.1×66°.1E±0°.1, h10km±1km, mb4.5/8, Error ellipse: s-maj=25.3km s-min=12.0km az=49.0*

ISC 24 03:25:32.1±0.6, 20°.2S±0°.1×66°.2E±0°.1, h10km, n35, σ1§16/29, mb4.3/17, 5C, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.68**	**278**	Pn	**Pn**	**03 26 14.3 -0.9**	
H08S1	**Diego Carcia H**	**13.85**	**27**	T	T	03 42 44.7	
baz=205,slow=76,SNR=38							
H08S2	**Diego Garcia H**	**13.85**	**27**	T	T	03 42 49.7	
baz=205,slow=76,SNR=45							
H08S3	**Diego Garcia H**	**13.87**	**27**	T	T	03 42 48.1	
baz=205,slow=76,SNR=72							
H04N2	**CROZET ISLANDS**	**28.51**	**201**	T	T	04 01 29.9	
baz=30,slow=75,SNR=46							
H04N1	**CROZET ISLANDS**	**28.51**	**201**	T	T	04 01 30.9	
baz=30,slow=75,SNR=50							
H04N3	**CROZET ISLANDS**	**28.53**	**201**	T	T	04 01 38.0	
baz=30,slow=75,SNR=61							
MAW	**Mawson**	**47.49**	**182**	P	**P**	**03 34 05.2 -1.7**	
3.4nm,0.7s,baz=313,slow=8.1,SNR=9.1							
3.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**50.04**	**42**	P	**P**	**03 34 27.1 -0.1**	
0.6nm,0.2s,baz=242,slow=7.0,SNR=0.8							
0.6nm,0.2s							
ASAR	**Alice Springs**	**62.40**	**107**	P	**P**	**03 35 55.0 -0.6**	
1.0nm,0.6s,baz=267,slow=6.1,SNR=15							
1.0nm,0.6s							
TROLL	**Troll, Antarti**	**62.93**	**198**	⇑P	**P**	**03 36 00.4 +1.9**	
comp=Z,86nm,1.4s							
WRA	**Warramunga Arr**	**63.58**	**103**	P	**P**	**03 36 03.4 -0.1**	
comp=Z,1.3nm,0.9s,baz=260,slow=5.7,SNR=9.2							
comp=Z,1.3nm,0.9s							
WB2	**Warramunga Arr**	**63.59**	**103**	P	**P**	**03 36 03.7 +0.1**	
WB0	**Warramunga Arr**	**63.67**	**103**	P	**P**	**03 36 02.5 -1.6**	
WR0	**Warramunga Arr**	**63.76**	**103**	P	**P**	**03 36 04.1 -0.5**	
WR0				IAmb	IAmb	03 36 16.4	
comp=Z,6.1nm,1.3s							
SNAA	**Sanae**	**64.45**	**199**	P	**P**	**03 36 09.5 +1.0**	
SNAA				IAmb	IAmb	03 36 11.2	
comp=Z,2.7nm,0.9s							
SNAA	**Sanae**	**64.45**	**199**	⇑P	**P**	**03 36 10.3 +1.9**	
comp=Z,51nm,0.8s							
SNAA	**Sanae**	**64.45**	**199**	P	**P**	**03 36 09.8 +1.3**	
comp=Z,1.9nm,0.8s,baz=100,slow=7.5,SNR=13							
comp=Z,1.9nm,0.8s							
VNA2	**Neumayer--Watz**	**65.75**	**200**	⇑P	**P**	**03 36 18.9 +2.1**	
comp=Z,3.8nm,0.7s,baz=89,slow=5.0							
VNA1	**Neumayer--Stat**	**65.99**	**201**	⇑P	**P**	**03 36 20.5 +2.2**	
comp=Z,4.4nm,0.9s							
VNA3	**Neumayer Olymp**	**66.53**	**200**	⇑P	**P**	**03 36 23.9 +2.1**	
comp=Z,6.3nm,0.7s							
BRTR	**Keskin Array B**	**66.87**	**333**	P	**P**	**03 36 25.2 +0.7**	
BRTR	**Keskin Array B**	**66.87**	**333**	P	**P**	**03 36 25.3 +0.8**	
comp=Z,1.7nm,0.7s,baz=161,slow=7.3,SNR=7.3							
comp=Z,1.7nm,0.7s							
ABKAR	**Akbulak array**	**69.31**	**356**	P	**P**	**03 36 39.3 -0.1**	
ABKAR	**Akbulak array**	**69.31**	**356**	P	**P**	**03 36 39.1 -0.3**	
ABKAR				IAmb	IAmb	03 36 45.7	
comp=Z,1.7nm,0.8s							
QSPA	**South Pole Qui**	**69.96**	**180**	P	**P**	**03 36 42.8 -0.8**	
QSPA				IAmb	IAmb	03 36 45.4	
comp=Z,3.7nm,1.0s							
QSPA	**South Pole Qui**	**69.96**	**180**	P	**P**	**03 36 44.5 +1.0**	
comp=Z,1.5nm,0.7s,baz=290,slow=3.9,SNR=4.5							
comp=Z,1.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**71.53**	**292**	P	**P**	**03 36 52.9 -0.9**	
TORD	**Torodi Ar. Bea**	**71.53**	**292**	P	**P**	**03 36 53.4 -0.3**	
comp=Z,0.5nm,0.8s,baz=108,slow=3.3,SNR=2.8							
comp=Z,0.5nm,0.8s							
VNDA	**Vanda**	**71.70**	**167**	P	**P**	**03 36 53.4 -0.4**	
ZALV	**Zalesovo Beam**	**75.52**	**11**	P	**P**	**03 37 16.3 -0.1**	
comp=Z,1.6nm,0.6s,baz=197,slow=6.1,SNR=1.6							
comp=Z,1.6nm,0.6s							
SONM	**Songino Array**	**76.68**	**27**	P	**P**	**03 37 23.6 +0.3**	
comp=Z,0.8nm,0.7s,baz=205,slow=6.4,SNR=3.1							
comp=Z,0.8nm,0.7s							
AKASG	**Malin Array Be**	**77.69**	**337**	P	**P**	**03 37 28.9 +0.1**	
comp=Z,1.2nm,0.6s,baz=141,slow=4.8,SNR=8.2							
comp=Z,1.2nm,0.6s							
ESDC	**Sonseca Array**	**88.37**	**313**	P	**P**	**03 38 24.5 +0.1**	
comp=Z,0.6nm,0.7s,baz=103,slow=4.7,SNR=4.4							
comp=Z,0.6nm,0.7s							
TXAR	**Lajitas Array**	**167.02**	**317**	PKPab	**PKPab**	**03 46 43.1 +0.6**	
comp=Z,0.3nm,0.6s,baz=74,slow=4.6,SNR=4.9							

---

*BJI **24** 03:27:41.9±0.0, 35°.76N×141°.81E, h6km, mb4.8/34, mB5.0/11, Ms4.5/23, Ms7 4.3/24*

*IDC **24** 03:27:43.7±0.6, 36°.03N×141°.84E, h0km, mb4.3/25, mbtmp4.3/33, ML3.7/7, MS3.8/16, Error ellipse: s-maj=15.3km s-min=12.1km az=89.0*

*MOS **24** 03:27:43.8±0.9, 36°.10N×141°.86E, h10km, mb4.9/27, MS4.0/5, Error ellipse: s-maj=10.2km s-min=5.4km az=117.3*

*JMA **24** 03:27:45.3±0.4, 36°.1N±0°.9×14°2E±°, h41km, MD4.8/36, MV4.6/36, FAR E OFF IBARAKI PREF*

*NIED **24** 03:27:45.3, 36°.10N×142°.03E, h41km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.74; $M_{\theta\theta}$1.22; $M_{\phi\phi}$-3.96; $M_{r\theta}$0.87; $M_{\theta\phi}$-2.34; $M_{\phi r}$3.93; Fault plane solution: $M_0$5.57000×10^{15} NP1:ϕ_s10.00000°, δ69.00000°, λ78.00000°. NP2:ϕ_s221.00000°, δ24.00000°, λ118.00000°.*

*NEIC **24** 03:27:46.6±1.6, 36°.04N±0°.06×141°.8E±0°.1, h13km±4km, mb4.7/65 Error ellipse: s-maj=13.0km s-min=8.1km az=102.0*

ISC 24 03:27:47.4±0.4, 36°.04N±0°.04×141°.90E±0°.05, h23km, n261, σ1§69/240, mb4.7/85, MS4.1/24, 6C-14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.10**	**286**	*i* P	**Pn**	**03 28 06.1 -1.4**	
JHYU				S	**Sn**	**03 28 21.9 -0.1**	
JHYU	**Hitachinakayam**	**1.10**	**286**	A	A	03 28 06.1	
comp=E,21nm,1.9s,comp=N,16nm,0.8s							
JIHU	**Itakohorinouch**	**1.12**	**267**	P	**Pn**	**03 28 06.6 -1.1**	
JIHU				S	**Sn**	**03 28 23.9 +1.6**	
JIHU	**Itakohorinouch**	**1.12**	**267**	A	A	03 28 06.6	
comp=E,66nm,3.0s,comp=N,67nm,5.1s							
JHO	**Hitachi**	**1.22**	**298**	⇓*i* P	**Pn**	**03 28 07.1 -2.0**	
JHO	**Hitachi**	**1.22**	**298**	A	A	03 28 07.1	
comp=E,11nm,2.6s,comp=N,9.0nm,5.8s							
JSMT	**Sammumatsuo**	**1.25**	**252**	P	**Pb**	**03 28 09.2 -1.0**	
JSMT				S	**Sb**	**03 28 27.8 +2.0**	
JSMT	**Sammumatsuo**	**1.25**	**252**	A	A	03 28 09.2	
comp=E,74nm,4.4s,comp=N,67nm,2.1s							
JYT	**Yasato**	**1.40**	**278**	A	A	03 28 10.2	
comp=E,16nm,0.4s,comp=N,17nm,0.6s							
JFK	**Kawauchi**	**1.56**	**328**	P	**Pn**	**03 28 12.1 -1.7**	
BSO1	**Boso 1**	**1.57**	**209**	P	**Pn**	**03 28 13.2 -0.2**	
BSO3	**Boso 3**	**1.68**	**223**	P	**Pn**	**03 28 14.7 -0.5**	
JSB	**Shiboa**	**1.85**	**301**	A	A	03 28 16.4	
comp=E,29nm,2.5s,comp=N,24nm,2.6s							
JOTO	**OTAMA OYAMA**	**1.97**	**321**	*i* P	**Pn**	**03 28 18.9 -0.6**	
JOTO	**OTAMA OYAMA**	**1.97**	**321**	A	A	03 28 18.9	
comp=E,13nm,1.8s,comp=N,34nm,1.1s							
JAG	**Ashikaga**	**2.02**	**282**	*i* P	**Pn**	**03 28 18.9 -1.2**	
JAG	**Ashikaga**	**2.02**	**282**	A	A	03 28 18.9	
comp=E,5.0nm,6.3s,comp=N,5.0nm,4.7s							
JMM	**Marumori**	**2.03**	**334**		**Pn**	**03 28 19.7 -0.5**	
JMM	**Marumori**	**2.03**	**334**	P	**Pn**	**03 28 19.5 -0.7**	
JMM	**Marumori**	**2.03**	**334**	P	**Pn**	**03 28 18.6 -1.6**	
JFY	**Yanaizu**	**2.23**	**308**	A	A	03 28 21.7	
comp=E,6.0nm,4.0s,comp=N,5.0nm,3.0s							
JKT	**Katashina**	**2.26**	**290**	*i* P	**Pn**	**03 28 22.9 -0.5**	
JKT	**Katashina**	**2.26**	**290**	A	A	03 28 22.9	
comp=E,9.0nm,1.3s,comp=N,10.0nm,4.9s							
JYAR	**Yonezawaarcadi**	**2.34**	**324**	A	A	03 28 22.8	
comp=E,23nm,1.1s,comp=N,29nm,1.2s							
JOD2	**Odawara 2**	**2.42**

comp=Z,7.2nm,1.0s
KSRS Korea Array 11.31 281 *e*P **Pn** **03 30 30.6 +3.1**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 11.31 281 Pn **Pn** **03 30 28.1 +0.6**
comp=Z,0.7nm,0.3s,baz=98,slow=13,SNR=17
KSRS LR LR 03 34 43.5
comp=Z,395nm,19.7s,baz=85,slow=37
comp=Z,8.7nm,0.9s
CN2 Changchun 14.80 307 *e*P **Pn** **03 31 15.5 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
TYV Tymovskoe 14.83 2 *e*P Pn 03 31 00.2 -15
TYV pmax pmax
comp=Z,17nm,0.7s
TYV pmax pmax
comp=Z,200nm,2.7s
KLR Kul'dur 15.13 334 Pn **Pn** **03 31 17.7 -1.9**
comp=Z,0.1nm,0.3s,baz=154,slow=18,SNR=1.9
comp=Z,1.1nm,0.6s
SNY Shenyang 15.38 298 ⇑P **Pn** **03 31 22.3 -0.6**
SNY pmax pmax
comp=Z,10.0nm,0.6s
SNY pmax pmax
comp=Z,190nm,6.0s
SNY LR LR
comp=Z,460nm,10.0s
SNY LR LR
comp=Z,640nm,18.0s
SNY LR LR
comp=Z,680nm,16.7s
PETK Petropavlovsk- 20.36 28 P **P** **03 32 22.2 0.0**
comp=Z,4.5nm,0.8s,baz=212,slow=15,SNR=2.4
comp=Z,4.5nm,0.8s
ZEA Zeya 20.44 335 *e*P **P** **03 32 22.6 -0.4**
ZEA *e* 03 32 25.7
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=Z,300nm,14.0s
XLT XiLinHaoTe 21.23 300 *e*P **P** **03 32 28.8 -2.9**
XLT pP pP 03 32 33.6 -4.0
XLT sP sP 03 32 37.3 -2.9
XLT pmax pmax
comp=Z,30nm,0.8s
XLT pmax pmax
comp=Z,260nm,5.4s
XLT LR LR
comp=Z,880nm,13.7s
XLT LR LR
comp=Z,780nm,14.2s
WHN Wuhan 23.63 265 P P 03 33 04.0 +7.1
LYN LuoYang 24.03 275 ⇓P **P** **03 32 57.0 -3.7**
LYN pP pP 03 33 02.0 -4.8
LYN sP sP 03 33 03.8 -5.6
LYN S **S** **03 37 13.3 -3.2**
LYN pmax pmax
comp=Z,13nm,0.9s
LYN pmax pmax
comp=Z,300nm,4.7s
LYN LR LR
comp=Z,480nm,12.1s
LYN LR LR
comp=Z,560nm,16.8s
LYN LR LR
comp=Z,780nm,17.5s
HHC Hu-ho-hao-te 24.18 291 *e*P **P** **03 33 00.1 -2.0**
HHC pmax pmax
comp=Z,26nm,0.7s
HHC pmax pmax
comp=Z,310nm,4.6s
HHC LR LR
comp=Z,540nm,12.0s
HHC LR LR
comp=Z,520nm,11.0s
HHC LR LR
comp=Z,650nm,10.2s
MA2 Magadan 24.25 11 LR LR 03 43 45.0
comp=Z,135nm,18.2s,baz=153,slow=40
BTO Baotou 25.34 290 *e*P **P** **03 33 17.9 +5.2**
BTO pP **pwP** **03 33 22.1 +0.3**
BTO sP **sP** **03 33 25.0 +3.6**
BTO PP PnPn 03 34 00.5 +13
BTO PcP **PcP** **03 36 50.6 +5.6**
BTO S S 03 37 49.4 +12
BTO SS SnSn 03 38 45.5 +16
BTO pmax pmax
comp=Z,23nm,0.8s
BTO pmax pmax
comp=Z,680nm,5.6s
BTO LR LR
comp=N,620nm,5.2s
BTO LR LR
comp=E,770nm,10.6s
BTO LR LR
comp=Z,700nm,6.7s
XAN Xi'an 27.01 276 ⇓P **P** **03 33 26.6 -1.1**
XAN pP pP 03 33 31.9 -2.0
XAN pmax pmax
comp=Z,27nm,1.1s
YAK Yakutsk 27.12 347 *e*P **P** **03 33 27.6 -0.8**
YAK *e* 03 34 09.5
YAK *e*S **S** **03 38 07.2 +2.1**
YAK pmax pmax
comp=Z,23nm,0.8s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=Z,345nm,3.5s
YAK pmax pmax
comp=N,564nm,3.3s
YAK pmax pmax
comp=E,354nm,3.3s
YAK smax smax
comp=E,254nm,3.8s
YAK MLR MLR
comp=Z,248nm,13.0s
H11N2 WAKE ISLAND Hy 27.31 120 T T 04 02 08.9
baz=312,slow=75,SNR=23
H11N1 WAKE ISLAND Hy 27.32 120 T T 04 02 09.8
baz=312,slow=75,SNR=31
H11N3 WAKE ISLAND Hy 27.32 120 T T 04 02 10.1
baz=312,slow=75,SNR=26
SEY Seymchan 27.69 10 ⇓*e*P **P** **03 33 34.2 +0.7**
SEY pmax pmax
comp=Z,68nm,2.5s
SEY Seymchan 27.69 10 LR LR 03 44 39.6
comp=Z,116nm,19.1s,baz=138,slow=37
H11S1 WAKE ISLAND Hy 28.00 122 T T 04 02 53.8
baz=314,slow=75,SNR=63
H11S3 WAKE ISLAND Hy 28.00 122 T T 04 02 55.8
baz=314,slow=75,SNR=61
H11S2 WAKE ISLAND Hy 28.01 122 T T 04 02 57.6
baz=314,slow=75,SNR=57
ULN Ulaanbaatar 28.25 306 P **P** **03 33 38.4 -0.4**
ULN Ulaanbaatar 28.25 306 ⇓*i*P **P** **03 33 39.0 +0.2**
ULN pmax pmax
comp=Z,9.0nm,0.9s
SONM Songino Array 28.67 305 P **P** **03 33 42.0 -0.5**
SONM IAmb IAmb 03 33 44.4
comp=Z,11nm,0.8s
SONM Songino Array 28.67 305 *e*P **P** **03 33 42.3 -0.3**
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM Songino Array 28.67 305 P **P** **03 33 42.1 -0.5**
comp=Z,10nm,0.8s,baz=104,slow=7.9,SNR=36
SONM LR LR 03 45 38.6
comp=Z,175nm,18.4s,baz=108,slow=38
comp=Z,10nm,0.8s
ZAK Zakamensk 31.20 310 *e*P **P** **03 34 04.3 -0.6**
ZAK pmax pmax
comp=Z,11nm,1.2s
MOY Mondy 32.88 311 *e*P **P** **03 34 19.2 -0.5**
GTA Gaotai 33.24 289 *e*P **P** **03 34 22.8 -0.1**
GTA pmax pmax
comp=Z,23nm,1.0s
GTA LR LR
comp=Z,260nm,13.8s
GTA LR LR
comp=Z,380nm,14.9s
GTA LR LR
comp=Z,200nm,13.4s
KMI Kunming 35.22 263 ⇑P **P** **03 34 39.9 -0.4**
KMI pmax pmax
comp=Z,10.0nm,0.6s
KMI LR LR
comp=Z,230nm,18.8s
KMI LR LR
comp=Z,280nm,22.9s
KMI LR LR
comp=Z,320nm,17.0s
GOMU GeErMu 37.74 285 P **P** **03 35 01.9 0.0**
GOMU SS SS 03 43 22.5 -15
GOMU pmax pmax
comp=Z,20nm,0.9s
GOMU LR LR
comp=Z,180nm,13.2s
GOMU LR LR
comp=Z,160nm,14.2s
GOMU LR LR
comp=Z,180nm,13.0s
CRAI Chiangrai 39.55 258 P **P** **03 35 15.4 -1.4**
DGZ Jazzator, Alta 41.30 307 *c i*P **P** **03 35 31.9 +0.8**
DGZ pmax pmax
comp=Z,35nm,0.8s
CMAR Chiang Mai Arr 41.64 257 *e*P **P** **03 35 34.5 +0.4**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 41.64 257 P **P** **03 35 32.9 -1.2**
comp=Z,1.0nm,0.3s,baz=48,slow=6.5,SNR=8.2
comp=Z,1.0nm,0.3s
ZAA0 Zalesovo Array 42.88 313 P **P** **03 35 43.6 -0.1**
ZALV Zalesovo Beam 42.88 313 *e*P **P** **03 35 43.6 -0.2**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV Zalesovo Beam 42.88 313 P **P** **03 35 43.4 -0.4**
comp=Z,4.5nm,0.5s,baz=94,slow=6.6,SNR=19
comp=Z,4.5nm,0.5s
MK31 Makanchi Array 44.98 303 P **P** **03 36 00.3 -0.6**
MK31 IAmb IAmb 03 36 03.1
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 44.98 303 P **P** **03 36 00.3 -0.6**
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MKAR Makanchi Array 44.98 303 P **P** **03 36 00.4 -0.5**
MKAR Makanchi Array 44.98 303 P **P** **03 36 00.6 -0.3**
comp=Z,7.8nm,0.8s,baz=90,slow=8.8,SNR=32
comp=Z,7.8nm,0.8s
MAKZ Makanchi 45.20 303 P **P** **03 36 01.9 -0.5**
MAKZ IAmb IAmb 03 36 04.8
comp=Z,11nm,0.9s
MAKZ Makanchi 45.20 303 P **P** **03 36 02.0 -0.5**
MAKZ pmax pmax
comp=Z,11nm,0.9s
G18K Tagagawik 45.31 30 P **P** **03 36 04.7 +1.6**
G18K IAmb IAmb 03 36 14.0
comp=Z,9.9nm,1.1s
KAPI Kappang 45.81 212 P **P** **03 36 08.0 +0.4**
KAPI Kappang 45.81 212 P **P** **03 36 08.0 +0.4**
KAPI pmax pmax
comp=Z,44nm,1.3s
KAPI Kappang 45.81 212 P **P** **03 36 07.6 -0.1**
comp=Z,7.3nm,0.4s,baz=12,slow=4.6,SNR=11
comp=Z,7.3nm,0.4s
H19K Roundabout Mou 46.15 31 P **P** **03 36 11.6 +1.9**
H19K IAmb IAmb 03 36 21.4
comp=Z,10nm,0.9s
E19K Redstone River 46.16 28 P **P** **03 36 09.3 -0.5**
E19K IAmb IAmb 03 36 21.4
comp=Z,8.8nm,0.9s
J19K Poorman 46.30 33 P **P** **03 36 11.3 +0.4**
TAPN Taplejung 46.41 275 *e*P **P** **03 36 12.4 -0.3**
comp=Z,42nm,0.7s
KURK Kurchatov 46.86 309 P **P** **03 36 14.7 -0.8**
KURK Kurchatov 46.86 309 P **P** **03 36 15.5 0.0**
KURBB Kurchatov Arra 46.93 309 P **P** **03 36 15.5 -0.5**
comp=Z,6.4nm,0.6s,baz=84,slow=7.8,SNR=41
comp=Z,6.4nm,0.6s
J20K Nowinta River 46.96 33 P **P** **03 36 17.7 +1.5**
J20K IAmb IAmb 03 36 27.4
comp=Z,9.3nm,1.1s
RAMN Ramite 47.48 275 *e*P **P** **03 36 20.5 -0.5**
comp=Z,71nm,0.7s
JIRN Jiri 47.51 276 *e*P **P** **03 36 22.0 +0.7**
comp=Z,43nm,0.7s
GUN Gumba 47.65 277 *e*P **P** **03 36 21.8 -0.6**
comp=Z,33nm,0.8s
MLY Manley 48.49 32 P **P** **03 36 29.3 +1.3**
MLY IAmb IAmb 03 36 40.2
comp=Z,6.7nm,1.0s
SOEI Soe 48.49 204 P **P** **03 36 29.4 +0.8**
GKN Gorkha 48.61 278 *e*P **P** **03 36 28.6 -1.0**
comp=Z,41nm,0.8s
H23K Yukon River 49.02 31 P **P** **03 36 34.0 +1.9**
H23K IAmb IAmb 03 36 59.9
comp=Z,12nm,1.4s
DANN Dangsing 49.17 278 *e*P **P** **03 36 33.4 -0.7**
comp=Z,79nm,0.8s
TARG Taragay, Kyrgy 49.20 297 P **P** **03 36 33.8 -0.5**
TARG Taragay, Kyrgy 49.20 297 P **P** **03 36 33.8 -0.5**
TARG pmax pmax
comp=Z,12nm,0.8s
GHO Glory Hole Cre 49.28 36 P **P** **03 36 35.1 +0.9**
MDM Murphy Dome 49.55 32 P **P** **03 36 37.6 +1.5**
MDM IAmb IAmb 03 36 47.2
comp=Z,8.1nm,1.0s
SML Sawmill 49.56 36 P **P** **03 36 37.1 +0.8**
MTN Manton Dam 49.67 194 P **P** **03 36 36.9 -0.6**
POKR Poker Plat Res 49.89 31 P **P** **03 36 40.8 +2.1**
POKR IAmb IAmb 03 36 50.0
comp=Z,7.0nm,0.8s
PYUN Piuthan 49.90 278 *e*P **P** **03 36 38.6 -0.9**
comp=Z,46nm,0.9s
IL31 50.13 32 P **P** **03 36 40.7 +0.3**
IL31 IAmb IAmb 03 36 51.7
comp=Z,7.3nm,1.1s
ILAR Eielson Array 50.13 32 P **P** **03 36 41.2 +0.7**
ILAR Eielson Array 50.13 32 P **P** **03 36 41.2 +0.7**
ILAR Eielson Array 50.13 32 P **P** **03 36 40.9 +0.4**
comp=Z,2.1nm,0.8s,baz=268,slow=6.5,SNR=28
ILAR LR LR 03 59 26.0
comp=Z,63nm,19.6s,baz=184,slow=38
comp=Z,2.1nm,0.8s
BOOM Boomskoye usch 50.33 299 P **P** **03 36 42.1 -0.4**
BOOM IAmb IAmb 03 37 06.0
comp=Z,10nm,1.4s
BOOM Boomskoye usch 50.33 299 P **P** **03 36 42.2 -0.4**
BOOM pmax pmax
comp=Z,10.0nm,1.4s
NRN Naryn 50.58 297 P **P** **03 36 44.2 -0.5**
NRN Naryn 50.58 297 P **P** **03 36 44.2 -0.5**
NRN pmax pmax
comp=Z,6.0nm,1.1s
BMAR Burnt Mountain 51.02 28 P **P** **03 36 48.1 +0.9**
KSH Kashi 51.17 295 P **P** **03 36 52.0 +3.1**
KSH sP pwP 03 37 01.8 +3.4
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH LR LR
comp=Z,260nm,14.0s
KSH LR LR
comp=Z,260nm,13.9s
KSH LR LR
comp=Z,300nm,16.7s
AAK Ala-Archa 51.31 299 P **P** **03 36 49.8 -0.2**
AAK Ala-Archa 51.31 299 P **P** **03 36 49.8 -0.2**
AAK pmax pmax
comp=Z,11nm,1.5s
BVAR Borovoye Array 51.53 313 P **P** **03 36 50.6 -0.7**
comp=Z,4.3nm,0.8s,baz=75,slow=7.8,SNR=12
comp=Z,4.3nm,0.8s
BRVK Borovoye 51.59 313 P **P** **03 36 51.1 -0.6**
BRVK IAmb IAmb 03 36 52.5
comp=Z,6.2nm,0.8s
BRVK Borovoye 51.59 313 *de*P **P** **03 36 51.9 +0.2**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
K27K Chicken 52.26 33 P **P** **03 36 57.8 +1.4**
BCAR Beaver Creek A 52.49 34 P **P** **03 37 00.3 +1.9**
KNRA Kununurra 52.92 196 P **P** **03 37 02.4 +0.7**
I28M Miner Creek 53.01 31 P **P** **03 37 03.6 +1.4**
I29M Ogilvie Camp, 53.70 31 P **P** **03 37 09.2 +2.0**
I29M IAmb IAmb 03 37 28.9
comp=Z,17nm,1.4s
KK31 Karatay Array 53.97 301 P **P** **03 37 09.9 +0.5**
KK31 IAmb IAmb 03 37 13.8
comp=Z,7.9nm,0.9s
KK31 Karatay Array 53.97 301 P **P** **03 37 09.9 +0.5**
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 53.97 301 P **P** **03 37 09.5 +0.1**
KKAR IAmb IAmb 03 37 13.8
comp=Z,7.9nm,0.9s
KKAR Karatay Array 53.97 301 P **P** **03 37 09.2 -0.2**
KKAR Karatay Array 53.97 301 P **P** **03 37 09.2 -0.2**
KKAR 03 37 09.5
KKAR pmax pmax
comp=Z,8.0nm,1.0s
L29M L29M 54.13 34 P **P** **03 37 11.2 +0.8**
L29M IAmb IAmb 03 37 22.4
comp=Z,9.7nm,1.0s
EPYK Eagle Plains 54.20 29 P **P** **03 37 13.0 +2.2**
G30M tAoh Zraii Nji 54.30 29 P **P** **03 37 13.3 +1.8**
G30M IAmb IAmb 03 37 33.2
comp=Z,12nm,1.1s
I30M Mount Dempster 54.52 31 P **P** **03 37 15.0 +1.8**
I30M IAmb IAmb 03 37 24.6
comp=Z,7.6nm,0.9s
M30M Minto, Yukon 54.84 34 P **P** **03 37 15.0 -0.4**
M30M IAmb IAmb 03 37 17.7
comp=Z,8.4nm,1.3s
INK Inuvik 55.09 27 LR LR 04 02 52.4
comp=Z,54nm,19.6s,baz=1.0,slow=38
H31M Peel River 55.25 30 P **P** **03 37 19.7 +1.3**
H31M IAmb IAmb 03 37 29.8
comp=Z,11nm,1.1s
NIL Nilore 55.30 289 P **P** **03 37 18.8 -0.5**
NIL Nilore 55.30 289 P **P** **03 37 18.8 -0.5**
NIL pmax pmax
comp=Z,12nm,0.7s
WB0 Warramunga Arr 55.95 189 P **P** **03 37 23.5 -0.4**
WB0 IAmb IAmb 03 37 37.4
comp=Z,11nm,0.9s
WRAB Tennant Creek 56.12 189 P **P** **03 37 25.1 0.0**
WRAB IAmb IAmb 03 37 32.5
comp=Z,7.9nm,0.8s
WRAB Tennant Creek 56.12 189 P **P** **03 37 25.1 0.0**
WRAB pmax pmax
comp=Z,8.0nm,0.9s
WR0 Warramunga Arr 56.13 188 P **P** **03 37 24.5 -0.6**
WR0 IAmb IAmb 03 37 44.7
comp=Z,8.7nm,0.9s
WB2 Warramunga Arr 56.13 189 P **P** **03 37 24.1 -1.0**
WB2 IAmb IAmb 03 37 52.4
comp=Z,7.8nm,0.8s
WRA Warramunga Arr 56.13 189 P **P** **03 37 24.6 -0.6**
WRA Warramunga Arr 56.13 189 P **P** **03 37 24.6 -0.6**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 56.13 189 P **P** **03 37 24.4 -0.8**
comp=Z,2.6nm,0.5s,baz=7.7,slow=7.1,SNR=35
comp=Z,2.6nm,0.5s
FARO Faro, Yukon 56.48 34 P **P** **03 37 28.9 +1.7**
ARU Arti 57.37 319 P **P** **03 37 32.5 -1.0**
ARU Arti 57.37 319 *c i*P **P** **03 37 33.3 -0.3**
ARU 03 38 21.4
ARU 03 39 35.6
ARU S **S** **03 45 32.1 +3.5**
ARU SS **SS** **03 49 14.5 -3.2**
ARU pmax pmax
comp=Z,17nm,1.0s
ABKAR Akbulak array 58.88 311 P **P** **03 37 43.5 -0.8**
ABKAR Akbulak array 58.88 311 P **P** **03 37 43.4 -0.9**
ABKAR IAmb IAmb 03 37 44.1
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 59.63 313 LR LR 04 04 47.8
comp=Z,126nm,18.5s,baz=84,slow=37
AS31 Alice Springs 59.86 188 P **P** **03 37 52.1 +0.8**
AS31 IAmb IAmb 03 38 00.2
comp=Z,2.6nm,0.6s
ASAR Alice Springs 59.86 188 P **P** **03 37 50.5 -0.8**
comp=Z,1.0nm,0.5s,baz=2.2,slow=6.6,SNR=18
comp=Z,1.0nm,0.5s
MBWA Marble Bar 60.63 204 P **P** **03 37 56.2 -0.3**
PSA00 Pilbara Seismi 60.98 204 P **P** **03 37 57.9 -1.1**
KIRV Kirov 61.28 323 *c i*P **P** **03 38 00.2 -0.3**
NOR Nord 62.07 357 *i*P P 03 38 14.9 +9.4
LVZ Lovozero 63.18 336 ⇓*e*P **P** **03 38 13.1 -0.1**
LVZ pmax pmax
comp=Z,34nm,1.3s
GEYT Alibeck 64.66 300 P **P** **03 38 22.8 -0.7**
comp=Z,2.4nm,0.6s,baz=46,slow=8.3,SNR=4.4
comp=Z,2.4nm,0.6s
KLMR Klimovskoe 64.81 328 *e*P **P** **03 38 22.1 -1.9**
KLMR AMP 03 38 24.6
comp=Z,15nm,1.1s
KLMR Klimovskoe 64.81 328 *e*P **P** **03 38 22.0 -1.9**
KLMR pmax pmax
comp=Z,15nm,1.1s
ARCES ARCESS Array B 65.06 340 P **P** **03 38 25.4 -0.1**
ARCES ARCESS Array B 65.06 340 *e*P **P** **03 38 25.8 +0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 65.06 340 P **P** **03 38 25.3 -0.2**
comp=Z,3.5nm,1.0s,baz=46,slow=9.1,SNR=5.8
comp=Z,3.5nm,1.0s
NEEM North Greenlan 66.50 3 *i*P P 03 38 44.5 +9.5
DAG Danmarks Havn 66.80 355 *i*P P 03 38 45.0 +8.5
STKA Stephens Creek 67.56 180 *e*P **P** **03 38 43.6 +1.8**
STKA pmax pmax
comp=Z,1.0nm,0.4s
STKA Stephens Creek 67.56 180 P **P** **03 38 42.2 +0.4**
comp=Z,1.0nm,0.4s,baz=339,slow=14,SNR=4.0
comp=Z,1.0nm,0.4s
FORT Forrest 67.73 193 P **P** **03 38 42.6 -0.3**
VRH Novokhopyorsk 68.58 318 *e*P **P** **03 38 44.3 -3.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 69.13 324 ⇓*e*P **P** **03 38 51.3 -0.2**
OBN *e* 03 39 14.6
OBN *e* 03 41 25.2
OBN *e*S **SKiKP** **03 48 34.9 -5.4**
OBN *e*SS **SS** **03 52 30.0 +9.1**
OBN pmax pmax
comp=Z,31nm,2.2s
OBN MLR MLR
comp=Z,124nm,15.0s
MORW Morawa 69.19 204 P **P** **03 38 52.3 +0.2**
MORW IAmb IAmb 03 39 24.2
comp=Z,11nm,1.2s
FINES FINESS Array B 69.88 333 P **P** **03 38 55.6 -0.4**
FINES FINESS Array B 69.88 333 *e*P **P** **03 38 55.9 -0.1**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 69.88 333 P **P** **03 38 55.8 -0.3**
comp=Z,4.2nm,0.8s,baz=57,slow=10,SNR=10
comp=Z,4.2nm,0.8s
VSR Storozhevoye 69.94 319 *e*P **P** **03 38 53.0 -3.6**
VSR pmax pmax
comp=Z,5.0nm,0.6s
PINE Pine Mountain 70.68 50 P **P** **03 39 03.6 +2.0**
PINE IAmb IAmb 03 39 13.4
comp=Z,5.7nm,0.9s
WSAR Wadi Sarin 71.51 286 LR LR 04 13 08.9
comp=Z,42nm,19.9s,baz=56,slow=38
SUMG Summit 71.68 0 *i*P P 03 39 17.0 +10
KBZ Khabaz 71.85 311 P **P** **03 39 08.0 -0.3**
KBZ Khabaz 71.85 311 P **P** **03 39 08.0 -0.3**
comp=Z,3.1nm,1.0s,baz=43,slow=1.0,SNR=4.1
comp=Z,3.1nm,1.0s
KIV Kislovodsk 71.86 311 *e*P **P** **03 39 09.3 +0.8**
KIV pmax pmax
comp=Z,9.0nm,1.0s
NWAO Narrogin (SRO) 72.39 202 LR LR 04 09 39.3
comp=Z,25nm,20.4s,baz=184,slow=35
GNI Garni 72.62 307 ⇓*e*P **P** **03 39 13.2 0.0**
GNI pmax pmax
comp=Z,4.0nm,0.8s
MNK Minsk 73.54 326 *i*P **P** **03 39 21.3 +3.1**
comp=E,8.0nm,1.0s
MNK *i*P **P** **03 39 21.3 +3.1**
comp=N,14nm,1.1s
MNK *i*P **P** **03 39 21.3 +3.1**
comp=Z,12nm,1.1s,baz=50
MNK *i*PcP **PcP** **03 39 34.7 +0.6**
MNK *i*PP **PP** **03 42 05.9 +4.3**
MNK *i*PPP PPP 03 43 57.4
MNK *i*S **SKiKP** **03 48 56.0 +9.1**
MNK *i*SS SS 03 53 42.0 +14
MNK *i*SSS SSS 03 57 06.4
MNK *i*LQ LQ 04 07 08.3
MNK *i*LR LR 04 10 35.0
MNK *i*LRM MLR 04 14 53.4
comp=N,103nm,17.2s
MNK *i*LRM MLR 04 15 08.4
comp=E,59nm,17.6s

MNK *i* LRM MLR 04 15 47.2
comp=Z,180nm,20.7s
MNK Minsk 73.54 326 *i* P **P 03 39 21.2 +3.1**
MNK *i* 03 39 34.7
MNK *i* 03 42 05.9
MNK pmax pmax
comp=Z,12nm,1.1s
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=N,14nm,1.1s
MNK MLR MLR
comp=N,103nm,17.0s
MNK MLR MLR
comp=E,59nm,18.0s
MNK MLR MLR
comp=Z,180nm,21.0s
NACGM Naroch 73.77 327 *e*P **P 03 39 23.9 +4.4**
comp=Z,10.0nm,0.9s,baz=49
NC405 NORSAR Array S 75.04 337 P **P 03 39 26.8 0.0**
NC405 IAmb IAmb 03 39 43.7
comp=Z,13nm,1.1s
KVN Kaiserville 75.05 53 P **P 03 39 28.9 +1.3**
KVN Kaiserville 75.05 53 P **P 03 39 28.9 +1.3**
KVN pmax pmax
comp=Z,4.0nm,1.0s
HFS Hagfors 75.15 336 P **P 03 39 27.0 -0.5**
comp=Z,2.3nm,0.8s,baz=23,slow=8.0,SNR=2.2
comp=Z,2.3nm,0.8s
BOZ Bozeman (W) 75.18 44 P **P 03 39 28.6 +0.5**
BOZ Bozeman (W) 75.18 44 P **P 03 39 28.6 +0.5**
BOZ pmax pmax
comp=Z,6.0nm,1.2s
NC204 NORSAR Array S 75.21 338 P **P 03 39 28.1 +0.2**
NB2 NORSAR Subarra 75.25 338 P **P 03 39 27.6 -0.5**
comp=Z,1.2nm,0.6s,baz=40,slow=5.9
NOA NORSAR Array B 75.25 338 P **P 03 39 28.0 -0.1**
NOA NORSAR Array B 75.25 338 P **P 03 39 28.0 -0.1**
comp=Z,2.7nm,0.8s,baz=39,slow=5.7,SNR=6.8
NOA LR LR 04 16 01.6
comp=Z,96nm,18.7s,baz=270,slow=38
comp=Z,2.7nm,0.8s
NVAR Mina Array Bea 75.27 53 P **P 03 39 29.7 +0.8**
comp=Z,0.5nm,0.8s,baz=300,slow=7.2,SNR=3.9
comp=Z,0.5nm,0.8s
AKASG Malin Array Be 75.32 323 P **P 03 39 28.3 -0.3**
comp=Z,2.4nm,0.6s,baz=46,slow=6.1,SNR=14
AKASG LR LR 04 15 23.0
comp=Z,164nm,18.7s,baz=26,slow=38
comp=Z,2.4nm,0.6s
AKBB Malin Array Si 75.32 323⇓*i*P **P 03 39 28.3 -0.3**
AKBB pmax pmax
comp=Z,26nm,3.5s
IMW Indian Meadow 76.59 45 P **P 03 39 36.4 0.0**
R11B Troy Canyon, C 77.06 52 P **P 03 39 40.6 +1.6**
R11B IAmb IAmb 03 39 50.3
comp=Z,8.6nm,1.5s
DUG Dugway, Tooele 77.71 49 P **P 03 39 44.0 +1.5**
DUG Dugway, Tooele 77.71 49 P **P 03 39 44.0 +1.5**
DUG pmax pmax
comp=Z,6.0nm,1.1s
PDAR Pinedale Array 78.08 46 P **P 03 39 45.0 +0.3**
PDAR Pinedale Array 78.08 46 P **P 03 39 44.6 -0.1**
comp=Z,0.3nm,0.6s,baz=305,slow=3.2,SNR=2.9
comp=Z,0.3nm,0.6s
TCRU Three Creeks R 78.89 50 P **P 03 39 50.4 +1.1**
RAR Rarotonga 79.26 126 LR LR 04 10 23.6
comp=Z,62nm,20.0s,baz=306,slow=32
BUR08 Bucovina Ar. S 79.32 322 P **P 03 39 51.5 +0.3**
BR131 Keskin Array S 79.81 312⇓*e*P **P 03 39 54.4 +0.3**
BRTR Keskin Array B 79.81 312 *e*P **P 03 39 54.2 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 79.81 312 P **P 03 39 52.6 -1.5**
comp=Z,1.8nm,0.9s,baz=83,slow=4.0,SNR=7.4
comp=Z,1.8nm,0.9s
KRLC Kraliky 81.52 328 *e*P **P 03 40 02.7 -0.2**
KRLC Kraliky 81.52 328 *e*P **P 03 40 02.7 -0.2**
MMAI Mount Meron Ar 82.86 306 LR LR 04 19 43.8
comp=Z,78nm,21.3s,baz=10,slow=38
CKRC Cesky Krumlov 83.52 328 *e*P **P 03 40 13.9 +0.5**
CKRC Cesky Krumlov 83.52 328 *e*P **P 03 40 13.9 +0.5**
KHC Kasperske Hory 83.59 329 *e*P **P 03 40 13.8 0.0**
KHC *ex* x 03 40 25.6
KHC Kasperske Hory 83.59 329 *e*P **P 03 40 13.8 0.0**
GERES GERESS Array B 83.76 329 *e*P **P 03 40 15.1 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 83.76 329 P **P 03 40 14.0 -0.7**
comp=Z,0.8nm,0.7s,baz=12,slow=6.8,SNR=3.5
comp=Z,0.8nm,0.7s
EKA Eskdalemuir Ar 84.20 341 P **P 03 40 16.6 0.0**
comp=Z,0.9nm,0.6s,baz=40,slow=5.6,SNR=2.1
comp=Z,0.9nm,0.6s
TXAR Lajitas Array 90.41 53 P **P 03 40 48.2 +0.8**
comp=Z,0.6nm,0.9s,baz=262,slow=6.0,SNR=3.9
comp=Z,0.6nm,0.9s
H03N2 Juan Fernandez 146.51 98 T T 06 32 18.0
baz=291
H03N3 Juan Fernandez 146.53 98 T T 06 32 20.1
baz=291
H03N1 Juan Fernandez 146.53 98 T T 06 32 11.4
baz=291
LPAZ La Paz 146.84 61 PKPbc **PKPbc 03 47 29.3 +0.3**
comp=Z,1.6nm,0.5s,baz=16,slow=3.1,SNR=14

---

*IDC **24** 03:32:48.4±1.5, 35°.15N×32°.15E, h0km, mb3.8/3, mbtmp3.7/8, ML3.8/5, Error ellipse: s-maj=35.4km s-min=19.2km az=56.0*
*ISK **24** 03:32:52.9, 34°.99N×32°.19E, h28km, ML3.1/37*
*NIC **24** 03:32:54.9, 35°.08N×32°.27E, h36km±1km, Ml2.8/9*
*AFAD **24** 03:32:55.3±0.0, 35°.23N×32°.29E, h38km±1km, MW3.5*
*GII **24** 03:32:57.4±0.3, 34°.74N×32°.38E, h60km, MD2.5/5, Mm2.9/9*
ISC 24 03:32:53.3±0.9, **34°.96N**±0°.02×**32°.22E**±0°.03, **h44**km±6km, **n116**, σ1°.**56**/159, **mb3.7**/3, **1C-5D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.11**	**59**⇑	*i*P	**Pn**	**03 33 01.0**	**+0.5**
AKMS				S	**Sn**	**03 33 06.2**	**+0.7**
AKMS				AML	AML	03 33 07.2	
	13nm,0.2s						
AKMS				AML	AML	03 33 07.7	
	7.9nm,0.1s						
NATA	**Nata**	**0.34**	**123**⇓	*i*P	**Pn**	**03 33 03.9**	**+1.5**
NATA				S	**Sn**	**03 33 11.3**	**+2.7**
NATA				AML	AML	03 33 12.5	
	25nm,0.4s						
NATA				AML	AML	03 33 12.6	
	26nm,0.4s						
ALFC	**Alefka**	**0.36**	**58**⇓	*i*P	**Pn**	**03 33 02.9**	**+0.3**
ALFC				S	**Sn**	**03 33 08.4**	**-0.8**
ALFC				AML	AML	03 33 09.5	
	20nm,0.5s						
ALFC				AML	AML	03 33 10.3	
	12nm,0.3s						
TROD	**Troodos**	**0.53**	**92**⇓	*i*P	**Pn**	**03 33 05.4**	**+0.6**
TROD				S	**Sn**	**03 33 13.6**	**+0.7**
TROD				AML	AML	03 33 14.5	
	2.8nm,0.3s						
TROD				AML	AML	03 33 15.5	
	1.8nm,0.2s						
LEF	**Lefka**	**0.57**	**74**	Pg	**Pn**	**03 33 04.6**	**-0.5**
LEF	**Lefka**	**0.57**	**74**	P	**Pn**	**03 33 06.0**	**+0.9**
LEF				S	**Sn**	**03 33 13.9**	**+0.4**
ASGA	**Asgata**	**0.86**	**102**⇓	*e*P	**Pn**	**03 33 09.9**	**+0.9**
ASGA				S	**Sn**	**03 33 23.0**	**+2.5**
ASGA				AML	AML	03 33 24.1	
	1.0nm,0.3s						
ASGA				AML	AML	03 33 32.6	
	0.6nm,0.3s						
CSS	**Mathiatis**	**0.91**	**90**	Pg	**Pn**	**03 33 10.4**	**+0.8**
CSS	**Mathiatis**	**0.91**	**90**⇓	*e*P	**Pn**	**03 33 10.5**	**+0.8**
CSS				S	**Sn**	**03 33 23.1**	**+1.4**
CSS				AML	AML	03 33 30.6	
	0.4nm,0.6s						
CSS				AML	AML	03 33 32.7	
	0.5nm,0.4s						
ATHAL	**Athalassa**	**0.98**	**79**	P	**Pn**	**03 33 11.7**	**+1.1**
ATHAL				S	**Sn**	**03 33 25.2**	**+1.9**
ATHAL				AML	AML	03 33 28.2	
	1.4nm,0.6s						
ATHAL				AML	AML	03 33 37.3	
	1.3nm,0.4s						
AKIN	**Akıncılar- Kıb**	**1.02**	**87**	Pg	**Pn**	**03 33 12.4**	**+1.2**
LFK	**Lefkose**	**1.12**	**73**	Pn	**Pn**	**03 33 13.4**	**+0.8**
LFK				Sn	**Sn**	**03 33 28.8**	**+2.0**
MVOU	**Mavrovouni**	**1.16**	**87**	P	**Pn**	**03 33 14.1**	**+1.1**
MVOU				S	**Sn**	**03 33 29.0**	**+1.3**
MVOU				AML	AML	03 33 31.3	
	0.4nm,0.5s						
MVOU				AML	AML	03 33 32.0	
	0.4nm,0.5s						
GAZI	**Gazipasa**	**1.27**	**3**	Pn	**Pn**	**03 33 14.4**	**-0.2**
GAZI	**Gazipasa**	**1.27**	**3**	P	**Pn**	**03 33 14.2**	**-0.4**
GAZI				*i* AML	AML	03 33 29.0	
	comp=E,282nm,0.3s						
GAZI				S	**Sn**	**03 33 29.0**	**-1.5**
BOZY	**Bozyazi-Mersin**	**1.30**	**28**	Pn	**Pn**	**03 33 15.4**	**+0.5**
TEKE	**Tekeli-Mersin**	**1.38**	**31**	Pn	**Pn**	**03 33 16.7**	**+0.6**
PARAL	**Paralimni**	**1.49**	**88**	P	**Pn**	**03 33 19.7**	**+2.1**
PARAL				AML	AML	03 33 50.2	
	0.4nm,0.6s						
PARAL				AML	AML	03 33 55.3	
	0.3nm,0.5s						
YORU	**Yoruktepe-Mers**	**1.53**	**39**	Pn	**Pn**	**03 33 18.9**	**+0.7**
AKK2	**Akkuyu-Mersin**	**1.59**	**42**	Pn	**Pn**	**03 33 19.9**	**+0.9**
AKK1	**Akkuyu-Mersin**	**1.59**	**42**	Pn	**Pn**	**03 33 19.9**	**+0.9**
OREN	**Orenkoy-Mersin**	**1.60**	**39**	Pn	**Pn**	**03 33 19.9**	**+0.8**
BERE	**Bereket-Mersin**	**1.60**	**30**	Pn	**Pn**	**03 33 19.9**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.61**	**42**	Pn	**Pn**	**03 33 20.1**	**+0.9**
GULN	**MERSIN_Gulnar**	**1.62**	**41**	P	**Pn**	**03 33 19.3**	**-0.1**
GULN				S	**Sn**	**03 33 38.6**	**-0.5**
TEPK	**Tepekoy-MERSIN**	**1.66**	**40**	Pn	**Pn**	**03 33 20.8**	**+0.9**
OSC1	**CSNet OBS 1**	**1.66**	**209**	P	Pn	03 33 26.2	+6.3
OSC1				S	**Sn**	**03 33 45.6**	**+5.7**
TISA	**Tisan-Mersin**	**1.69**	**44**	Pn	**Pn**	**03 33 21.2**	**+0.9**
YESI	**Yesilovacik-Me**	**1.69**	**43**	Pn	**Pn**	**03 33 20.9**	**+0.6**
EREN	**Erenkoy**	**1.69**	**70**	Pn	**Pn**	**03 33 21.8**	**+1.5**
EREN	**Erenkoy**	**1.69**	**70**	P	**Pn**	**03 33 21.9**	**+1.5**
EREN				S	**Sn**	**03 33 43.7**	**+2.9**
EREN				*i* AML	AML	03 33 47.0	
	comp=Z,174nm,0.4s						
EREN				*i* AML	AML	03 33 47.0	
	comp=E,240nm,0.6s						
EREN				*i* AML	AML	03 33 47.0	
	comp=N,174nm,0.3s						
KARG	**Kargicak-Mersi**	**1.73**	**44**	Pn	**Pn**	**03 33 21.9**	**+1.0**
IKL	**Isikli**	**1.74**	**43**	Pn	**Pn**	**03 33 22.1**	**+1.0**
TEVE	**Tevekalti-Mers**	**1.77**	**34**	Pn	**Pn**	**03 33 22.8**	**+1.2**
OSC2	**CSNet OBS 4**	**1.88**	**179**	*i* P	**Pn**	**03 33 24.8**	**+1.8**
OSC2				S	**Sn**	**03 33 49.4**	**+3.9**
KEBE	**Keben-Mersin**	**1.91**	**39**	Pn	**Pn**	**03 33 24.6**	**+1.1**
KEPZ	**Antalya-Kepez**	**2.00**	**346**	P	**Pn**	**03 33 25.1**	**+0.5**
KEPZ				S	**Sn**	**03 33 47.4**	**-1.1**
HDMB	**Hadim**	**2.01**	**6**	Pn	**Pn**	**03 33 25.9**	**+1.0**
AKUM	**Antalya-Kumluc**	**2.05**	**312**	P	**Pn**	**03 33 25.5**	**+0.3**
AKUM				S	**Sn**	**03 33 49.3**	**-0.2**
AKUM				*i* AML	AML	03 34 00.0	
	comp=N,24nm,0.6s						
AKUM				*i* AML	AML	03 34 05.0	
	comp=E,42nm,0.4s						
KIZK	**Mersin**	**2.17**	**45**	Pn	**Pn**	**03 33 28.4**	**+1.4**
KIZK	**Mersin**	**2.17**	**45**	P	**Pn**	**03 33 28.5**	**+1.4**
KIZK				S	**Sn**	**03 33 53.7**	**+1.0**
KIZK				*i* AML	AML	03 33 57.0	
	comp=N,123nm,0.5s						
KIZK				*i* AML	AML	03 33 58.0	
	comp=Z,98nm,0.2s						
KIZK				*i* AML	AML	03 34 00.0	
	comp=E,102nm,0.3s						
KKBE	**Karaman, Kazim**	**2.33**	**14**	P	**Pn**	**03 33 30.9**	**+1.7**
KKBE				S	**Sn**	**03 33 59.3**	**+2.7**
KKBE				*i* AML	AML	03 34 03.0	
	comp=N,90nm,0.5s						
KRMN	**Karaman**	**2.36**	**21**	Pn	**Pn**	**03 33 30.5**	**+0.8**
SEYD	**Seydisehir-KON**	**2.46**	**353**	Pn	**Pn**	**03 33 32.3**	**+1.3**
AKAS	**Kas**	**2.48**	**301**	Pn	**Pn**	**03 33 32.3**	**+1.0**
SEDI	**Konya, Seydise**	**2.51**	**351**	P	**Pn**	**03 33 34.2**	**+2.5**
SEDI				S	**Sn**	**03 34 04.0**	**+2.8**
SEDI				*i* AML	AML	03 34 07.0	
	comp=E,47nm,0.7s						
KORT	**Korkueli**	**2.54**	**324**	Pn	**Pn**	**03 33 33.2**	**+1.1**
KORT	**Korkueli**	**2.54**	**324**	P	**Pn**	**03 33 35.9**	**+3.8**
KORT				*i* AML	AML	03 34 15.0	
	comp=N,26nm,0.5s						
KORT				*i* AML	AML	03 34 15.0	
	comp=E,36nm,0.5s						
ELL	**Elmali**	**2.59**	**314**	Pn	**Pn**	**03 33 34.5**	**+1.7**
SUTC	**Sutluce-Ispart**	**2.70**	**339**	Pn	**Pn**	**03 33 35.3**	**+1.0**
KMER	**Konya-Meram**	**2.80**	**2**	P	**Pn**	**03 33 37.5**	**+1.8**
KMER				S	**Sn**	**03 34 10.1**	**+1.7**
KMER				*i* AML	AML	03 34 17.0	
	comp=E,34nm,0.5s						
KERG	**Konya-Eregli**	**2.89**	**32**	P	**Pn**	**03 33 39.5**	**+2.5**
KERG				S	**Sn**	**03 34 12.4**	**+1.9**
KERG				*i* AML	AML	03 34 14.0	
	comp=E,91nm,0.7s						
KERG				*i* AML	AML	03 34 17.0	
	comp=Z,51nm,0.6s						
KERG				*i* AML	AML	03 34 18.0	
	comp=N,70nm,0.4s						
KONT	**Konya--Tatoy**	**2.98**	**2**	Pn	**Pn**	**03 33 39.4**	**+1.3**
KONT	**Konya--Tatoy**	**2.98**	**2**	P	**Pn**	**03 33 38.8**	**+0.7**
KONT				S	**Sn**	**03 34 17.0**	**+4.5**
KONT				*i* AML	AML	03 34 23.0	
	comp=E,23nm,0.7s						
KONT				*i* AML	AML	03 34 27.0	
	comp=N,9.9nm,0.8s						
BHL	**Bhannes**	**3.03**	**109**	*e*P	**Pn**	**03 33 39.3**	**+0.5**
FETY	**Fethiye**	**3.05**	**304**	Pn	**Pn**	**03 33 39.6**	**+0.6**
CAME	**Cameli-Denizli**	**3.09**	**311**	Pn	**Pn**	**03 33 40.8**	**+1.2**
HWQ	**Hawqa**	**3.15**	**101**	*e*P	**Pn**	**03 33 41.2**	**+0.7**
QRWL	**Qaraoun**	**3.19**	**115**	*e*P	**Pn**	**03 33 41.8**	**+0.7**
ZAHL	**Zahle**	**3.22**	**109**	*e*P	**Pn**	**03 33 41.8**	**+0.3**
LADK	**Ladik-KONYA**	**3.23**	**2**	Pn	**Pn**	**03 33 42.8**	**+1.2**
KARA	**Karaisali**	**3.24**	**44**	Pn	**Pn**	**03 33 43.6**	**+1.9**
MMC7	**Mount Meron ar**	**3.27**	**125**	Pn	**Pn**	**03 33 42.8**	**+0.7**
OFRI	**`Ofer**	**3.28**	**135**	Pn	**Pn**	**03 33 43.3**	**+1.1**
OFRI				Sn	**Sn**	**03 34 19.4**	**-0.6**
OFRI	**`Ofer**	**3.28**	**135**	P	**Pn**	**03 33 42.6**	**+0.4**
MMA0B	**Mount Meron ar**	**3.28**	**125**	Pn	**Pn**	**03 33 43.1**	**+0.9**
MMA0B				Sn	**Sn**	**03 34 18.9**	**-1.1**
MMAI	**Mount Meron Ar**	**3.28**	**125**	Pn	**Pn**	**03 33 43.2**	**+1.0**
	38nm,0.3s,baz=311,slow=12,SNR=108						
MMAI				Sn	**Sn**	**03 34 20.1**	**0.0**
	20nm,0.3s,baz=311,slow=26,SNR=11						
	26nm,0.3s						
BEIL	**Beino**	**3.29**	**96**	*e*P	**Pn**	**03 33 42.7**	**+0.4**
BLGI	**Bet Lehem HaGe**	**3.32**	**131**	P	**Pn**	**03 33 43.0**	**+0.2**
RCY	**Rachaya**	**3.33**	**115**	*e*P	**Pn**	**03 33 43.7**	**+0.7**
SHBL	**Chebaa**	**3.33**	**118**	*e*P	**Pn**	**03 33 43.7**	**+0.7**
GEM	**Giv'at Ha'Em**	**3.35**	**121**	Pn	**Pn**	**03 33 44.0**	**+0.9**
GEM				Sn	**Sn**	**03 34 21.2**	**-0.4**
NATI	**Neve Ativ**	**3.37**	**119**	Pn	**Pn**	**03 33 44.2**	**+0.8**
NATI				Sn	**Sn**	**03 34 22.4**	**+0.2**
NATI	**Neve Ativ**	**3.37**	**119**	P	**Pn**	**03 33 43.8**	**+0.4**
SULT	**Sultanhani-AKS**	**3.39**	**17**	Pn	**Pn**	**03 33 45.3**	**+1.5**
CMRD	**Camardi-Nigde**	**3.50**	**39**	Pn	**Pn**	**03 33 47.0**	**+1.7**
KSHT	**Keshet**	**3.58**	**123**	Pn	**Pn**	**03 33 47.7**	**+1.4**
KSHT				Sn	**Sn**	**03 34 26.9**	**-0.4**
SLTI	**Sal'it**	**3.59**	**138**	Pn	**Pn**	**03 33 47.7**	**+1.2**
SLTI				Sn	**Sn**	**03 34 26.0**	**-1.6**
SLTI	**Sal'it**	**3.59**	**138**	P	**Pn**	**03 33 46.9**	**+0.4**
MMLI	**Mount Malkishu**	**3.67**	**132**	Pn	**Pn**	**03 33 49.4**	**+1.9**
MMLI	**Mount Malkishu**	**3.67**	**132**	Pn	**Pn**	**03 33 48.9**	**+1.4**
MMLI				Sn	**Sn**	**03 34 28.1**	**-1.4**
MMLI	**Mount Malkishu**	**3.67**	**132**	P	**Pn**	**03 33 48.9**	**+1.4**
SHMJ	**Saham**	**3.69**	**126**	P	**Pn**	**03 33 49.4**	**+1.5**
GULA	**Gulagac**	**3.74**	**25**	Pn	**Pn**	**03 33 50.5**	**+1.9**
QRNJ	**Al-Qirein**	**3.83**	**132**	P	**Pn**	**03 33 51.6**	**+1.9**
HMDT	**Nahal Hemdat**	**3.86**	**134**	Pn	**Pn**	**03 33 51.6**	**+1.5**
HMDT				Sn	**Sn**	**03 34 33.0**	**-1.2**
HMDT	**Nahal Hemdat**	**3.86**	**134**	P	**Pn**	**03 33 52.4**	**+2.3**
UJAP	**Al Uja**	**4.04**	**137**	Pn	**Pn**	**03 33 53.9**	**+1.3**
UJAP				Sn	**Sn**	**03 34 37.2**	**-1.5**
UJAP	**Al Uja**	**4.04**	**137**	P	**Pn**	**03 33 53.9**	**+1.3**
DSI	**Dead Sea**	**4.29**	**141**	Pn	**Pn**	**03 33 57.8**	**+1.7**
DSI				Sn	**Sn**	**03 34 46.4**	**+1.5**
DSI	**Dead Sea**	**4.29**	**141**	P	**Pn**	**03 33 57.3**	**+1.2**
YTIR	**Yattir**	**4.33**	**145**	Pn	**Pn**	**03 33 57.9**	**+1.2**
YTIR				Sn	**Sn**	**03 34 45.7**	**-0.3**
YTIR	**Yattir**	**4.33**	**145**	P	**Pn**	**03 33 57.9**	**+1.2**
KZIT	**Kziot**	**4.44**	**155**	Pn	**Pn**	**03 33 59.1**	**+1.0**
KZIT				Sn	**Sn**	**03 34 46.3**	**-2.2**
KZIT	**Kziot**	**4.44**	**155**	P	**Pn**	**03 33 58.8**	**+0.7**
MDBI	**Mazsada**	**4.49**	**143**	P	**Pn**	**03 33 59.9**	**+1.1**
MSBI	**Mazada**	**4.49**	**143**	Pn	**Pn**	**03 33 59.9**	**+1.1**
MSBI				Sn	**Sn**	**03 34 48.4**	**-1.3**
WALJ	**Wala**	**4.53**	**137**	P	**Pn**	**03 34 00.9**	**+1.5**
ASF	**Jabal al Asfar**	**4.79**	**124**	P	**Pn**	**03 34 04.4**	**+1.4**
ASF	**Jabal al Asfar**	**4.79**	**124**	Pn	**Pn**	**03 34 04.8**	**+1.7**
	1.8nm,0.3s,baz=310,slow=2.6,SNR=27						
ASF				Sn	**Sn**	**03 34 58.1**	**+0.7**
	0.3nm,0.3s,baz=299,slow=11,SNR=1.2						
	3.8nm,0.3s						
KARJ	**KARJ**	**4.79**	**142**	P	Pn	03 33 54.4	-8.6
PRNI	**Paran**	**5.16**	**152**	Pn	**Pn**	**03 34 09.2**	**+1.1**
PRNI				Sn	**Sn**	**03 35 04.5**	**-1.9**
PRNI	**Paran**	**5.16**	**152**	P	**Pn**	**03 34 08.9**	**+0.8**
KRMI	**Paran Flat**	**5.27**	**156**	Pn	**Pn**	**03 34 10.7**	**+1.1**
KRMI				Sn	**Sn**	**03 35 07.0**	**-2.1**
KRMI	**Paran Flat**	**5.27**	**156**	P	**Pn**	**03 34 10.5**	**+0.9**
HRFI	**Mount Harif**	**5.46**	**153**	Pn	**Pn**	**03 34 13.2**	**+1.1**
HRFI				Sn	**Sn**	**03 35 11.8**	**-1.8**
MBRI	**Mt Berech**	**5.63**	**155**	Pn	**Pn**	**03 34 15.8**	**+1.2**
MBRI				Sn	**Sn**	**03 35 16.6**	**-1.5**
MBRI	**Mt Berech**	**5.63**	**155**	P	**Pn**	**03 34 15.8**	**+1.2**
EIL	**Elat**	**5.76**	**156**	Pn	**Pn**	**03 34 17.3**	**+1.0**
EIL				Sn	**Sn**	**03 35 18.2**	**-2.9**
EIL	**Elat**	**5.76**	**156**	P	**Pn**	**03 34 17.3**	**+1.0**
EIL	**Elat**	**5.76**	**156**	Pn	**Pn**	**03 34 18.0**	**+1.7**
	0.7nm,0.3s,baz=345,slow=5.0,SNR=18						
EIL				Sn	**Sn**	**03 35 20.6**	**-0.4**
	0.9nm,0.3s,baz=81,slow=19,SNR=2.5						
	1.9nm,0.3s						
IDI	**Anoyia**	**6.02**	**275**	Pn	**Pn**	**03 34 17.7**	**-2.1**
	2.1nm,0.3s,baz=94,slow=14,SNR=8.7						
IDI				Sn	**Sn**	**03 35 22.2**	**-5.3**
	0.7nm,0.3s,baz=303,slow=15,SNR=1.5						
	4.6nm,0.3s						
AKASG	**Malin Array Be**	**15.88**	**353**	Pn	**Pn**	**03 36 31.1**	**-2.4**
	0.6nm,0.3s,baz=173,slow=9.4,SNR=2.2						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**26.79**	**353**	P	**P**	**03 38 27.7**	**-1.1**
	0.9nm,0.4s,baz=154,slow=12,SNR=8.6						
	0.9nm,0.4s						
ARCES	**ARCESS Array B**	**34.83**	**356**	P	**P**	**03 39 38.5**	**-1.1**
	1.5nm,0.7s,baz=157,slow=5.9,SNR=5.3						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**39.04**	**57**	P	**P**	**03 40 16.1**	**+0.4**
	0.5nm,0.5s,baz=258,slow=5.7,SNR=2.9						
	0.5nm,0.5s						

---

*IDC **24** 03:49:52.7±0.8, 20°.31S×65°.88E, h0km, mb3.8/12, mbtmp3.8/12, MS3.5/4, Error ellipse: s-maj=28.0km s-min=21.5km az=71.0*
ISC 24 03:49:54.4±0.8, **20°.3S**±0°.1×**65°.9E**±0°.2, **h10**km, **n21**, σ0°.**82**/12, **mb3.9**/12, **MS3.5**/4, **Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**14.14**	**28**	T	T	04 07 20.2	
	baz=205,slow=76,SNR=22						
H08S2	**Diego Garcia H**	**14.15**	**28**	T	T	04 07 17.3	
	baz=205,slow=76,SNR=21						
H08S3	**Diego Garcia H**	**14.16**	**28**	T	T	04 07 10.8	
	baz=205,slow=76,SNR=45						
H04N2	**CROZET ISLANDS**	**28.23**	**201**	T	T	04 25 55.6	
	baz=30,slow=75,SNR=36						
H04N1	**CROZET ISLANDS**	**28.24**	**201**	T	T	04 25 59.1	
	baz=30,slow=75,SNR=31						
H04N3	**CROZET ISLANDS**	**28.25**	**201**	T	T	04 25 56.3	
	baz=30,slow=75,SNR=32						
PALK	**Pallekele**	**31.07**	**29**	LR	LR	04 05 17.6	
	comp=Z,78nm,18.4s,baz=167,slow=30						
SUR	**Sutherland**	**41.85**	**244**	LR	LR	04 11 49.8	
	comp=Z,88nm,21.0s,baz=74,slow=32						
MAW	**Mawson**	**47.30**	**182**	P	**P**	**03 58 27.6**	**-0.1**
	0.7nm,0.6s,baz=0.0,slow=10,SNR=1.6						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**50.37**	**42**	P	**P**	**03 58 52.8**	**+0.8**
	1.3nm,0.3s,baz=232,slow=10,SNR=1.1						
CMAR				LR	LR	04 18 01.6	
	comp=Z,27nm,20.0s,baz=205,slow=34						
	1.3nm,0.3s						
ASAR	**Alice Springs**	**62.61**	**107**	P	**P**	**04 00 19.2**	**-0.2**
	0.7nm,0.8s,baz=267,slow=5.8,SNR=7.4						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**63.81**	**103**	P	**P**	**04 00 27.4**	**+0.1**
	0.6nm,0.8s,baz=261,slow=5.5,SNR=6.4						
	0.6nm,0.8s						
SNAA	**Sanae**	**64.19**	**199**	P	**P**	**04 00 28.8**	**-0.2**
	0.3nm,0.7s,baz=105,slow=7.8,SNR=1.0						
	0.3nm,0.7s						
BRTR	**Keskin Array B**	**66.91**	**333**	P	**P**	**04 00 46.1**	**-1.0**
	0.7nm,0.6s,baz=162,slow=6.1,SNR=4.3						
	0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**71.34**	**292**	P	**P**	**04 01 16.3**	**+1.3**
	0.4nm,0.9s,baz=100,slow=7.5,SNR=2.4						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**71.52**	**8**	P	**P**	**04 01 14.9**	**-0.3**
	0.3nm,0.2s,baz=209,slow=6.8,SNR=1.9						
	0.3nm,0.2s						
BVAR	**Borovoye Array**	**73.16**	**3**	P	**P**	**04 01 25.4**	**+0.4**
	0.6nm,0.6s,baz=140,slow=4.7,SNR=2.3						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**75.76**	**11**	P	**P**	**04 01 38.7**	**-1.4**
	0.9nm,0.4s,baz=191,slow=6.8,SNR=3.8						
	0.9nm,0.4s						
SONM	**Songino Array**	**76.97**	**27**	P	**P**	**04 01 47.7**	**+0.4**
	0.2nm,0.3s,baz=193,slow=5.9,SNR=2.1						
	0.2nm,0.3s						
AKASG	**Malin Array Be**	**77.76**	**337**	P	**P**	**04 01 50.9**	**-0.6**
	0.9nm,0.7s,baz=137,slow=4.7,SNR=2.2						
	0.9nm,0.7s				

UZB	**Uzynbulak** 3.3nm,0.4s	**3.32 260**	Pg	**Pb**	**03 51 58.8**	**-1.5**
UZB	5.9nm,0.4s		Lg	Lg	03 52 43.6	
UZB	**Uzynbulak** 3.1nm,0.2s	**3.32 260**	*e*Pg	**Pb**	**03 51 58.8**	**-1.5**
UZB	9.6nm,0.2s		*e*Lg	Lg	03 52 43.6	
KPKS	**Kokpek** 3.1nm,0.3s	**3.51 266**	Pg	**Pb**	**03 52 01.8**	**-1.7**
KPKS	7.9nm,0.3s		Lg	Lg	03 52 48.7	
KPKS	**Kokpek** 3.1nm,0.1s	**3.51 266**	*e*Pg	**Pb**	**03 52 01.8**	**-1.7**
KPKS	14nm,0.1s		*e*Lg	Lg	03 52 48.7	
BLB	**Baldybastay** 13nm,0.5s	**3.64 277**	Pg	**Pb**	**03 52 04.4**	**-1.2**
BLB	2.7nm,0.2s		Lg	Lg	03 52 53.4	
SATY	**Saty** 1.6nm,0.2s	**3.78 261**	Pg	**Pb**	**03 52 08.0**	**-0.1**
SATY	9.5nm,0.3s		Lg	Lg	03 52 59.4	
SATY	**Saty** 1.6nm,0.1s	**3.78 261**	*e*Pg	**Pb**	**03 52 08.0**	**-0.1**
SATY	17nm,0.1s		*e*Lg	Lg	03 52 59.4	
ARXS	**Arharly** 3.5nm,0.3s	**4.11 278**	Pg	**Pb**	**03 52 12.7**	**-1.0**
ARXS	5.5nm,0.7s		Lg	Lg	03 53 07.7	
ARXS	**Arharly** 3.5nm,0.2s	**4.11 278**	*e*Pg	**Pb**	**03 52 12.7**	**-1.0**
ARXS	6.8nm,0.2s		*e*Lg	Lg	03 53 07.8	
KTBS	**Karatobe** 1.2nm,0.4s	**4.94 271**	Pg	**Pb**	**03 52 28.5**	**+0.7**
KTBS	3.8nm,0.6s		Lg	Lg	03 53 34.4	
KTBS	**Karatobe** 0.6nm,0.1s	**4.94 271**	*e*Pg	**Pb**	**03 52 28.4**	**+0.7**
KTBS	4.6nm,0.2s		*e*Lg	Lg	03 53 34.4	
KUU	**Kurty** 1.2nm,0.6s	**5.18 274**	Pg	**Pb**	**03 52 33.9**	**+2.0**
KUU	3.0nm,0.5s		Lg	Lg	03 53 43.7	
KUU	**Kurty** 1.2nm,0.3s	**5.18 274**	*e*Pg	**Pb**	**03 52 33.9**	**+2.0**
KUU	3.0nm,0.2s		*e*Lg	Lg	03 53 43.7	

DJA 24 04:08:32.0±1.5, 2°S±3°×12°1E±°, h14km±12km, M4.1/13, mb4.5/3, mB6.0/1, MLv4.0/13, Mw(mB)5.7/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.77**	**251**	P	Pn	04 09 01.6	-0.6
TTSI				S	Sn	04 09 25.0	+0.5
LUWI	**Luwuk**	**1.90**	**42**	P	Pn	04 09 03.9	-0.2
MRSI	**Marisa**	**2.95**	**9**	P	Pn	04 09 17.1	-1.4
MRSI				S	Sn	04 09 54.3	+0.5
BKSI	**Bulukumba**	**3.15**	**206**	P	Pn	04 09 20.9	-0.4
MPSI	**Mapaga**	**3.20**	**330**	P	Pn	04 09 22.5	+0.6
GTOI	**Gorontalo**	**3.43**	**26**	P	Pn	04 09 25.0	-0.1
EDFI	**Ende, Flores**	**6.25**	**178**	P	Pn	04 10 03.5	-0.5

IDC 24 04:10:59.3±2.3, 4°52S×152°06E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=70.4km s-min=11.2km az=96.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** 171nm,0.3s,baz=81,slow=1.1,SNR=107	**0.21**	**351**	Pn	Pg	04 11 09.7	+6.3
KRVT	814nm,0.3s,baz=132,slow=0.4,SNR=20			Sn	Sg	04 11 16.9	+11
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=56,slow=10,SNR=47 0.9nm,0.3s	**23.09**	**227**	P	P	04 16 06.3	-0.6
ASAR	**Alice Springs** 0.5nm,0.7s,baz=57,slow=9.1,SNR=3.1 0.5nm,0.7s	**25.87**	**221**	P	P	04 16 32.6	-0.4
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=74,slow=1.8,SNR=1.6	**149.52**	**288**	PKPbc	PKiKP	04 30 53.4	+0.5

*IDC **24** 04:31:20.7±4.0, 19°.08S×174°.93W, h181km±34km, mb3.4/5, mbtmp3.9/6, MS3.5/1, Error ellipse: s-maj=33.9km s-min=22.7km az=73.0*

ISC 24 04:31:17.1±2.1, 19°.1S±0°.2×174°.7W±0°.2, h150km, n13, σ1§12/8, mb3.6/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu** 7.9nm,1.0s,baz=115,slow=16,SNR=4.0	**7.01**	**280**	P	**Pn**	**04 32 58.4**	**+1.0**
DZM	**Mont Dzumac** comp=Z,135nm,18.4s,baz=234,slow=34	**17.90**	**257**	LR	LR	04 41 21.3	
URZ	**Urewera** 5.6nm,0.4s,baz=40,slow=3.8,SNR=2.2	**20.39**	**199**	P	**P**	**04 35 42.6**	**+0.5**
URZ	14nm,1.0s,baz=231,slow=17,SNR=3.0 5.6nm,0.4s			S	**S**	**04 39 21.5**	**-0.7**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=89,slow=8.4,SNR=6.1	**47.87**	**255**	P	**P**	**04 39 39.5**	**-0.8**
ASAR	0.2nm,0.3s,baz=94,slow=3.9,SNR=1.9 0.5nm,0.5s			PcP	**PcP**	**04 41 05.7**	**-0.9**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=96,slow=7.6,SNR=20 0.4nm,0.3s	**47.88**	**260**	P	**P**	**04 39 39.0**	**-1.4**
VNDA	**Vanda** 0.7nm,0.8s,baz=7.2,slow=5.9,SNR=4.5 0.7nm,0.8s	**59.60**	**186**	P	**P**	**04 41 05.7**	**+1.1**
QSPA	**South Pole Qui** 1.3nm,0.7s,baz=28,slow=2.0,SNR=11 1.3nm,0.7s	**70.97**	**180**	P	**P**	**04 42 18.1**	**-0.1**
H03S2	**Juan Fernandez** baz=249,slow=75,SNR=63	**84.20**	**124**	T	T	06 16 13.3	
H03S1	**Juan Fernandez** baz=249,slow=75,SNR=63	**84.22**	**124**	T	T	06 16 14.3	
H03S3	**Juan Fernandez** baz=249,slow=75,SNR=56	**84.22**	**124**	T	T	06 16 13.0	
H03N2	**Juan Fernandez** baz=257,slow=72,SNR=7.9	**84.33**	**123**	T	T	06 16 18.4	
H03N3	**Juan Fernandez** baz=257,slow=72,SNR=12	**84.33**	**123**	T	T	06 16 12.0	
H03N1	**Juan Fernandez** baz=257,slow=72,SNR=7.6	**84.34**	**123**	T	T	06 16 14.2	

*IDC **24** 04:33:13.5±2.4, 13°.98S×14°.23W, h0km, mb4.0/5, mbtmp4.0/5, MS3.5/18, Error ellipse: s-maj=207.4km s-min=28.3km az=107.0*

*NEIC **24** 04:33:15.4±1.0, 14°.0S±0°.1×14°.3W±0°.2, h10km±1km, mb4.4/8, Error ellipse: s-maj=32.5km s-min=18.9km az=109.0*

ISC 24 04:33:15.5±0.7, 13°.9S±0°.1×14°.4W±0°.2, h14km, n33, σ0§49/16, mb4.2/8, MS3.5/18, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**5.94**	**0**	Pn	**Pn**	**04 34 42.6**	**-0.6**
DBIC	**Dimbokro** comp=Z,100nm,22.0s,baz=168,slow=31	**22.52**	**25**	LR	LR	04 44 45.2	
RCBR	**Riachuelo** comp=Z,34nm,20.4s,baz=110,slow=32	**22.67**	**289**	LR	LR	04 45 25.9	
KOWA	**Kowa** comp=Z,11nm,1.5s	**30.03**	**20**	P	**P**	**04 39 24.2**	**0.0**
KOWA				IAmb	IAmb	04 39 41.9	
KOWA	**Kowa** comp=Z,73nm,19.4s,baz=158,slow=32	**30.03**	**20**	LR	LR	04 49 27.9	
TSUM	**Tsumeb** comp=Z,99nm,20.3s,baz=334,slow=31	**31.05**	**104**	LR	LR	04 49 11.5	
TOA0	**Torodi Ar. Sit** comp=Z,3.0nm,1.1s	**31.24**	**31**	P	**P**	**04 39 34.8**	**-0.2**
TOA0				IAmb	IAmb	04 39 36.5	
TORD	**Torodi Ar. Bea**	**31.24**	**31**	P	**P**	**04 39 34.8**	**-0.2**
TORD	**Torodi Ar. Bea** comp=Z,1.3nm,0.7s,baz=217,slow=8.6,SNR=6.9	**31.24**	**31**	P	**P**	**04 39 34.4**	**-0.5**
TORD	comp=Z,74nm,18.9s,baz=174,slow=33			LR	LR	04 50 33.3	
	comp=Z,1.3nm,0.7s						
BDFB	**Brasilia** comp=Z,93nm,21.7s,baz=99,slow=32	**32.56**	**263**	LR	LR	04 50 31.7	
SPB	**Sao Paulo**	**32.68**	**248**	P	**P**	**04 39 47.0**	**-0.6**
LSZ	**Lusaka** comp=Z,93nm,20.3s,baz=290,slow=32	**41.16**	**97**	LR	LR	04 55 16.0	
CPUP	**Villa Florida**	**42.00**	**246**	P	**P**	**04 41 06.8**	**+0.2**
CPUP	**Villa Florida** comp=Z,80nm,19.5s,baz=68,slow=33	**42.00**	**246**	LR	LR	04 56 32.6	
MBAR	**Mbarara** comp=Z,86nm,18.6s,baz=262,slow=33	**46.54**	**77**	LR	LR	04 58 24.9	
MDT	**Midelt** comp=Z,97nm,20.4s,baz=191,slow=34	**47.39**	**11**	LR	LR	05 00 01.7	
LPAZ	**La Paz** comp=Z,43nm,19.9s,baz=71,slow=34	**51.84**	**260**	LR	LR	05 02 57.6	
CFA	**Coronel Fontan** comp=Z,45nm,18.5s,baz=81,slow=34	**52.18**	**241**	LR	LR	05 03 07.6	
LVC	**Limon Verde** comp=Z,52nm,19.4s,baz=128,slow=35	**52.27**	**252**	LR	LR	05 03 54.2	
LCO	**Las Campanas**	**54.07**	**244**	P	**P**	**04 42 41.1**	**+0.8**
PLCA	**Paso Flores** comp=Z,43nm,21.5s,baz=122,slow=32	**55.53**	**230**	LR	LR	05 02 54.4	
SNAA	**Sanae**	**58.15**	**176**	P	**P**	**04 43 08.0**	**-0.6**
SNAA	comp=Z,5.4nm,1.5s			IAmb	IAmb	04 43 48.8	
NNA	**Nana** comp=Z,29nm,19.8s,baz=66,slow=35	**60.76**	**264**	LR	LR	05 08 18.7	
ROSC	**El Rosal** comp=Z,80nm,18.8s,baz=114,slow=36	**62.32**	**283**	LR	LR	05 10 26.2	
DAVOX	**Davos/Dischmat** comp=Z,70nm,18.1s,baz=274,slow=36	**64.22**	**18**	LR	LR	05 12 18.7	
BRTR	**Keskin Array B**	**69.58**	**38**	P	**P**	**04 44 24.8**	**+0.4**
BRTR	**Keskin Array B** comp=Z,1.1nm,0.9s,baz=226,slow=5.6,SNR=4.2 comp=Z,1.1nm,0.9s	**69.58**	**38**	P	**P**	**04 44 25.0**	**+0.6**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.6s,baz=221,slow=5.9,SNR=4.2 comp=Z,0.5nm,0.6s	**74.76**	**27**	P	**P**	**04 44 54.8**	**-0.2**
QSPA	**South Pole Qui**	**76.25**	**180**	P	**P**	**04 45 03.6**	**0.0**
QSPA	comp=Z,7.6nm,1.2s			IAmb	IAmb	04 45 04.1	
QSPA	**South Pole Qui** comp=Z,1.4nm,0.7s,baz=203,slow=1.8,SNR=8.4 comp=Z,1.4nm,0.7s	**76.25**	**180**	P	**P**	**04 45 03.3**	**-0.2**
NOA	**NORSAR Array B** comp=Z,24nm,18.3s,baz=315,slow=36	**77.44**	**12**	LR	LR	05 20 23.2	
FINES	**FINESS Array B** comp=Z,3.1nm,1.0s,baz=224,slow=5.8,SNR=2.6 comp=Z,3.1nm,1.0s	**81.63**	**18**	P	**P**	**04 45 33.4**	**+0.7**
MJAR	**Matsushiro Arr** comp=Z,2.0nm,0.8s,baz=304,slow=2.0,SNR=4.4	**146.70**	**42**	PKPbc	**PKPbc**	**04 52 57.6**	**+0.2**

*TAP **24** 04:53:09.2, 23°.23N×120°.71E, h8km, ML3.6, C*

*JMA **24** 04:53:10.0±0.1, 23°.2N±0°.1×120°.7E±0°.5, h0km±1km, MV3.4/11, TAIWAN REGION*

*ASIES **24** 04:53:09.2, 23°.23N×120°.71E, h8km, ML3.6, Mw3.1, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}0.81; $M_{\theta\theta}$3.08; $M_{\phi\phi}$-3.83; $M_{r\theta}$-3.55; $M_{\theta r}$-4.11; $M_{\phi r}$-0.31; Fault plane solution: $M_0$6.48134×10^{20} NP1: ϕ_s247.76000°, δ81.67000°, λ147.36000°. NP2: ϕ_s343.06000°, δ57.75000°, λ9.87000°. Principal axes: T Plg28.6740°, Azm200.4970°; N Plg56.4300°, Azm55.0010°; P Plg15.9510°, Azm299.4900°;*

ISC 24 04:53:09.8±0.8, 23°.23N±0°.01×120°.73E±0°.01, h11km±4km, n113, σ0§87/214, 16C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan** baz=133	**0.07**	**143**	⇓*i*P	**Pg**	**04 53 11.8**	**-0.3**
STYH				S	**Sg**	**04 53 13.5**	**-0.3**
WTP	**Ta-pu** baz=283	**0.11**	**280**	⇓*i*P	**Pg**	**04 53 11.9**	**-0.7**
WTP				*i* S	**Sg**	**04 53 13.8**	**-0.9**
TPUB	**Ta-pu** baz=315	**0.12**	**308**	⇓*i*P	**Pg**	**04 53 12.2**	**-0.5**
TPUB				*i* S	**Sg**	**04 53 14.2**	**-0.7**
CHN4	**Tsaushan** baz=327	**0.17**	**314**	⇓*i*P	**Pg**	**04 53 13.5**	**-0.1**
CHN4				*i* S	**Sg**	**04 53 16.7**	**+0.3**
CHN1	**Nanshi** baz=257	**0.19**	**257**	⇑*i*P	**Pg**	**04 53 13.9**	**0.0**
CHN1				*i* S	**Sg**	**04 53 17.2**	**+0.5**
SGST	**Jiashian** baz=218	**0.20**	**223**	⇑*i*P	**Pg**	**04 53 13.0**	**-1.0**
SGST				S	**Sg**	**04 53 17.1**	**+0.2**
SNST	**Tainan City** baz=269	**0.21**	**268**	⇓*i*P	**Pg**	**04 53 14.3**	**0.0**
SNST				*e*S	**Sg**	**04 53 18.0**	**+0.6**
TWK	**Hsinying** baz=282	**0.23**	**280**	⇓*i*P	**Pg**	**04 53 14.4**	**-0.1**
TWK				*e*S	**Sg**	**04 53 18.5**	**+0.8**
WCKO	**Fanlu** baz=336	**0.24**	**331**	⇑*e*P	**Pg**	**04 53 15.0**	**+0.2**
WCKO				S	**Sg**	**04 53 19.4**	**+1.3**
SLGT	**Liugui** baz=189	**0.24**	**198**	⇑*i*P	**Pg**	**04 53 15.2**	**+0.4**
SLGT				*e*S	**Sg**	**04 53 19.1**	**+0.9**
ELDTW	**Lidau** baz=97	**0.27**	**98**	⇓*i*P	**Pb**	**04 53 15.8**	**-0.9**
ELDTW				S	**Sg**	**04 53 19.5**	**+0.4**
ALS	**Alishan** baz=18	**0.29**	**14**	⇑*i*P	**Pg**	**04 53 15.9**	**+0.1**
ALS				S	**Sb**	**04 53 21.0**	**-1.2**
CHN3	**Shinhua** baz=258	**0.37**	**246**	*e*P	**Pb**	**04 53 18.4**	**+0.1**
CHN3				*e*S	**Sb**	**04 53 24.9**	**+0.8**
CHN5	**Tsauling** baz=3.0	**0.37**	**353**	⇑*i*P	**Pb**	**04 53 17.4**	**-1.1**
CHN5				*e*S	**Sb**	**04 53 23.7**	**-0.6**
CHN2	**Minshiung** baz=326	**0.38**	**322**	*e*P	**Pb**	**04 53 18.4**	**-0.3**
CHN2				*e*S	**Sb**	**04 53 25.2**	**+0.7**
CHY	**Chiayi** baz=318	**0.39**	**314**	*e*P	**Pb**	**04 53 18.0**	**-0.7**
CHY				S	**Sb**	**04 53 25.3**	**+0.5**
SCST	**Cishan** baz=199	**0.40**	**213**	*e*P	**Pb**	**04 53 18.9**	**-0.1**
SCST				*e*S	**Sb**	**04 53 26.0**	**+0.9**
SHHT	**Tainan City** baz=257	**0.41**	**240**	*e*P	**Pb**	**04 53 19.4**	**+0.4**
SHHT				*e*S	**Sb**	**04 53 26.6**	**+1.4**
ICHU	**Yijhu** baz=291	**0.43**	**288**	*e*P	**Pb**	**04 53 19.1**	**-0.4**
ICHU				*e*S	**Sb**	**04 53 25.4**	**-0.6**
EHD	**Haiduan** baz=99	**0.45**	**100**	⇓*i*P	**Pb**	**04 53 19.0**	**-0.7**
EHD				*e*S	**Sg**	**04 53 25.1**	**+0.6**
ECS	**Chishang** baz=105	**0.47**	**106**	P	**Pb**	**04 53 19.6**	**-0.5**
ECS				*e*S	**Sb**	**04 53 27.4**	**+0.3**
WHYT	**Xinyi Township** baz=22	**0.48**	**14**	*e*P	**Pb**	**04 53 19.4**	**-1.0**
WHYT				*e*S	**Sb**	**04 53 26.9**	**-0.5**
LONT	**Longtian** baz=125	**0.49**	**131**	*e*P	**Pb**	**04 53 19.8**	**-0.6**
LONT				*e*S	**Sb**	**04 53 26.9**	**-0.7**
CHN8	**Yiju** baz=287	**0.49**	**284**	*e*P	**Pb**	**04 53 19.9**	**-0.5**
CHN8				*e*S	**Sb**	**04 53 28.6**	**+0.9**
TWM1	**Shoushan** baz=212	**0.49**	**215**	P	**Pb**	**04 53 21.1**	**+0.6**
TWM1	baz=212			*e*S	**Sb**	**04 53 30.3**	**+2.6**
WDLH	**Douliu** baz=342	**0.49**	**339**	P	**Pb**	**04 53 20.4**	**-0.1**
WDLH	baz=342			S	**Sb**	**04 53 29.2**	**+1.5**
SCLT	**Jiali** baz=265	**0.49**	**264**	*e*P	**Pb**	**04 53 20.8**	**+0.3**
SCLT	baz=265			*e*S	**Sb**	**04 53 29.4**	**+1.6**
TWG	**Pinlang** baz=128	**0.51**	**142**	⇓*i*P	**Pb**	**04 53 20.4**	**-0.4**
TWG	baz=128			S	**Sb**	**04 53 28.1**	**-0.3**
FULB	**Fuli** baz=84	**0.52**	**93**	⇓*i*P	**Pb**	**04 53 21.1**	**+0.1**
FULB	baz=84			*e*S	**Sb**	**04 53 28.3**	**-0.2**
TWGBT	**Beinan** baz=128	**0.52**	**142**	⇓*i*P	**Pb**	**04 53 20.4**	**-0.5**
TWGBT	baz=128			*i* S	**Sb**	**04 53 27.9**	**-0.6**
TSMG	**Majia** baz=177	**0.53**	**189**	⇑P	**Pb**	**04 53 20.1**	**-0.9**
TSMG	baz=177			*e*S	**Sg**	**04 53 27.0**	**0.0**
TWF1	**Yuli** baz=76	**0.54**	**77**	*e*P	**Pb**	**04 53 20.8**	**-0.4**
TWF1	baz=76			*e*S	**Sb**	**04 53 28.2**	**-0.8**
SGLT	**Jiouru** baz=187	**0.55**	**204**	*e*P	**Pn**	**04 53 22.4**	**-1.1**
SGLT	baz=187			*e*S	**Sn**	**04 53 32.8**	**+0.1**
WSL	**Shuilin Townsh** baz=306	**0.55**	**303**	*e*P	**Pb**	**04 53 20.9**	**-0.5**
WSL	baz=306			*e*S	**Sb**	**04 53 30.5**	**+1.2**
YULB	**Yu-li** baz=72	**0.55**	**72**	⇓*i*P	**Pb**	**04 53 20.8**	**-0.6**
YULB	baz=72			S	**Sg**	**04 53 27.9**	**+0.2**
EYUL	**Yuli** baz=77	**0.56**	**77**	⇓*i*P	**Pb**	**04 53 21.1**	**-0.5**
EYUL	baz=77			*e*S	**Sg**	**04 53 28.0**	**0.0**
WTK	**Tuku** baz=329	**0.56**	**326**	*e*P	**Pb**	**04 53 21.1**	**-0.4**
WTK	baz=329			S	**Sb**	**04 53 30.7**	**+1.2**
EDH	**Donghe** baz=115	**0.59**	**116**	P	**Pb**	**04 53 22.0**	**-0.1**
EDH	baz=115			S	**Sb**	**04 53 30.3**	**-0.1**
WJS	**Zhushan** baz=348	**0.59**	**360**	*e*P	**Pb**	**04 53 22.4**	**+0.2**
WJS	baz=348			*e*S	**Sb**	**04 53 32.0**	**+1.4**
SSLB	**Suanglung** baz=30	**0.59**	**20**	⇑*i*P	**Pg**	**04 53 21.1**	**-0.2**
SSLB	baz=30			*e*S	**Sb**	**04 53 30.4**	**-0.3**
SNJT	**Kaohsiung City** baz=216	**0.59**	**218**	*e*P	**Pn**	**04 53 23.3**	**-0.9**
SNJT	baz=216			*e*S	**Sn**	**04 53 36.0**	**+2.1**
TSCK	**Chigu Township** baz=263	**0.60**	**262**	*e*P	**Pb**	**04 53 22.1**	**-0.2**
TSCK	baz=263			*e*S	**Sb**	**04 53 31.5**	**+0.8**
CHKT	**Chengkung** baz=101	**0.60**	**102**	⇓P	**Pb**	**04 53 22.8**	**+0.5**
CHKT	baz=101			*e*S	**Sb**	**04 53 32.2**	**+1.4**
TTN	**Taitung** baz=138	**0.61**	**141**	*e*P	**Pb**	**04 53 23.0**	**+0.6**
TTN	baz=138			*e*S	**Sn**	**04 53 32.7**	**-1.5**
EHY	**Hungye** baz=69	**0.61**	**63**	*e*P	**Pb**	**04 53 22.1**	**-0.5**
EHY	baz=69			*e*S	**Sg**	**04 53 30.0**	**+0.3**
MASBT	**Mashibuluo** baz=181	**0.62**	**188**	⇑P	**Pb**	**04 53 21.9**	**-0.7**
MASBT	baz=181			S	**Sg**	**04 53 29.9**	**0.0**
WSF	**Szhu** baz=314	**0.62**	**311**	*e*P	**Pb**	**04 53 22.4**	**-0.2**
WSF	baz=314			*e*S	**Sb**	**04 53 32.1**	**+0.7**
VWDT	**VWDT** baz=42	**0.65**	**36**	⇑*i*P	**Pb**	**04 53 22.6**	**-0.5**
WNT	**Mingjian** baz=359	**0.65**	**356**	⇑P	**Pb**	**04 53 23.3**	**+0.1**
WNT	baz=359			*e*S	**Sb**	**04 53 33.4**	**+1.1**
ECL	**Taimali** baz=152	**0.66**	**162**	*e*P	**Pb**	**04 53 22.7**	**-0.6**
ECL	baz=152			*e*S	**Sg**	**04 53 31.5**	**+0.2**
ECBN	**Changbin** baz=73	**0.67**	**82**	*e*P	**Pn**	**04 53 24.4**	**-0.8**
ECBN	baz=73			*e*S	**Sb**	**04 53 33.2**	**+0.4**
SMLT	**Sun Moon Lake** baz=23	**0.67**	**13**	⇑P	**Pb**	**04 53 23.2**	**-0.4**
SMLT	baz=23			*e*S	**Sb**	**04 53 34.2**	**+1.2**
TYC	**Yuchr** baz=19	**0.68**	**10**	⇑P	**Pb**	**04 53 23.6**	**-0.1**
TYC	baz=19			S	**Sn**	**04 53 35.0**	**-1.1**
HGSD	**Ruisui** baz=74	**0.69**	**67**	*e*P	**Pb**	**04 53 24.4**	**+0.5**
HGSD	baz=74			*e*S	**Sb**	**04 53 32.8**	**-0.6**
WSSB	**Gushan** baz=231	**0.72**	**217**	*e*P	**Pn**	**04 53 25.8**	**-0.2**
WRL	**Guolierlin Hig** baz=324	**0.74**	**334**	*e*P	**Pb**	**04 53 24.9**	**+0.1**
WARBT	**Fenglin Townsh** baz=52	**0.78**	**51**	⇑*i*P	**Pb**	**04 53 24.8**	**-0.6**
EGFH	**Guangfu** baz=64	**0.78**	**55**	*e*P	**Pb**	**04 53 25.0**	**-0.4**
OWD	**Renai** baz=38	**0.83**	**29**	*e*P	**Pg**	**04 53 25.6**	**-0.3**
OWD	baz=38			*e*S	**Sn**	**04 53 39.0**	**-0.9**
WUSB	**Renai** baz=33	**0.84**	**25**	⇑*i*P	**Pg**	**04 53 25.6**	**-0.4**
WUSB	baz=33			*e*S	**Sb**	**04 53 38.3**	**+0.4**
WCS	**Beigang Elemen** baz=13	**0.84**	**11**	⇑*e*P	**Pb**	**04 53 26.7**	**+0.2**
WCS	baz=13			S	**Sn**	**04 53 39.1**	**-0.9**
EAST	**Anshuo** baz=164	**0.85**	**173**	P	**Pb**	**04 53 26.4**	**-0.1**
EAST	baz=164			*e*S	**Sb**	**04 53 38.2**	**+0.3**
SCZT	**Fangliau** baz=184	**0.86**	**187**	P	**Pb**	**04 53 26.2**	**-0.5**
SCZT	baz=184			*e*S	**Sb**	**04 53 37.5**	**-0.7**
WCHH	**Zhanghua** baz=351	**0.86**	**350**	*e*P	**Pb**	**04 53 26.8**	**0.0**
WCHH	baz=351			*e*S	**Sn**	**04 53 39.5**	**-1.0**
ESL	**Shilin** baz=49	**0.87**	**48**	P	**Pb**	**04 53 26.9**	**0.0**
ESL	baz=49			*e*S	**Sb**	**04 53 38.9**	**+0.3**
LDUT	**Ludao** baz=127	**0.88**	**129**	*e*P	**Pb**	**04 53 26.9**	**-0.1**
LDUT	baz=127			*e*S	**Sb**	**04 53 39.5**	**+0.8**
TAW	**Tawu** baz=167	**0.88**	**170**	*e*P	**Pb**	**04 53 27.1**	**+0.1**
TAW	baz=167			*e*S	**Sn**	**04 53 39.9**	**-0.9**
TAWH	**Dawu Township** baz=168	**0.90**	**171**	*e*P	**Pb**	**04 53 27.2**	**-0.1**
TAWH	baz=168			*e*S	**Sb**	**04 53 39.6**	**+0.3**
TCU	**Taichung** baz=359	**0.92**	**357**	*e*P	**Pb**	**04 53 27.5**	**-0.2**
TCU	baz=359			*e*S	**Sn**	**04 53 41.3**	**-0.6**

CHGB	Renai	0.92	26	*i* P	Pg	04 53 27.2	-0.4
	baz=35						
CHGB				S	Sn	04 53 41.5	-0.9
	baz=35						
WDGT	Dungji	0.98	272	P	Pg	04 53 27.9	-0.9
	baz=274						
WDGT				*e*S	Sb	04 53 41.2	-0.6
	baz=274						
LXIB	Xiulin Townshi	1.01	38	*i* P	Pg	04 53 28.8	-0.4
	baz=33						
LXIB				S	Sn	04 53 43.8	-0.5
	baz=33						
ETM	Tongmen	1.01	43	*e*P	Pb	04 53 29.4	0.0
	baz=44						
ETM				*e*S	Sg	04 53 42.2	-0.4
	baz=44						
WHF	Hehuan Shan	1.04	28	*e*P	Pg	04 53 29.4	-0.4
	baz=29						
WHF				*e*S	Sn	04 53 45.4	0.0
	baz=29						
WHP	Taichung City	1.06	11	*e*P	Pn	04 53 30.6	-0.2
	baz=22						
WHP				*e*S	Sn	04 53 46.8	+1.2
	baz=22						
TDCB	Techi	1.09	21	*e*P	Pg	04 53 30.4	-0.4
	baz=22						
TDCB				*e*S	Sb	04 53 45.6	+0.4
	baz=22						
HWA	Hwalien	1.10	47	*e*P	Pn	04 53 31.4	+0.3
	baz=47						
HWA				*e*S	Sn	04 53 47.1	+0.8
	baz=47						
TWT	Tachien	1.10	22	*e*P	Pb	04 53 30.6	-0.3
	baz=22						
TWT				*e*S	Sn	04 53 46.3	-0.4
	baz=22						
PHUB	P'eng-hu	1.10	285	*e*P	Pg	04 53 29.4	-1.5
	baz=288						
PHUB				*e*S	Sg	04 53 42.9	-2.4
	baz=288						
TWQ1	Liyutan	1.12	2	*e*P	Pn	04 53 31.3	-0.1
	baz=4.0						
TWQ1				*e*S	Sn	04 53 47.6	+0.8
	baz=4.0						
WDJ	Dajia District	1.12	356	*e*P	Pn	04 53 31.5	+0.1
	baz=357						
WDJ				*e*S	Sn	04 53 47.5	+0.7
	baz=357						
PNG	Penghu	1.13	288	P	Pg	04 53 30.1	-1.4
	baz=291						
PNG				*e*S	Sg	04 53 45.1	-1.2
	baz=291						
TWD	Chiawan	1.16	43	P	Pn	04 53 32.0	0.0
	baz=43						
TWD				*e*S	Sn	04 53 49.0	+1.1
	baz=43						
NSY	Sanyi	1.18	1	*e*P	Pn	04 53 33.0	+0.6
	baz=351						
NSY				*e*S	Sn	04 53 49.9	+1.5
	baz=351						
ETLH	Xiulin Townshi	1.19	35	P	Pg	04 53 32.0	-0.7
	baz=35						
ETLH				*e*S	Sn	04 53 49.2	+0.4
	baz=35						
VCHM	Qimei	1.20	269	*e*P	Pb	04 53 30.9	-1.5
	baz=272						
VCHM				*e*S	Sg	04 53 46.5	-1.8
	baz=272						
HEN	Hengchun	1.22	180	*e*P	Pg	04 53 32.7	-0.5
	baz=176						
HEN				*e*S	Sn	04 53 51.7	+2.5
	baz=176						
NACB	Ninganchiao	1.23	40	*e*P	Pn	04 53 32.8	-0.2
	baz=51						
NACB				*e*S	Sn	04 53 49.7	+0.1
	baz=51						
ETL	Fush Village	1.24	41	*e*P	Pg	04 53 33.7	+0.1
	baz=52						
ETL				*e*S	Sn	04 53 50.5	+0.7
	baz=52						
TWK1	Hengchun	1.28	177	*e*P	Pg	04 53 34.8	+0.5
	baz=192						
TWKBT	Hengchun	1.28	177	*e*P	Pg	04 53 34.0	-0.5
	baz=173						
NNSB	Datong	1.34	26	*e*P	Pn	04 53 34.4	-0.1
	baz=27						
NNSB				*e*S	Sn	04 53 53.0	+0.6
	baz=27						
NNS	Nan Shan	1.34	26	*e*P	Pb	04 53 34.8	-0.3
	baz=27						
NNS				*e*S	Sn	04 53 54.0	+1.4
	baz=27						
LAY	Lan-yu	1.41	147	*e*P	Pg	04 53 36.3	-0.5
	baz=132						
NSTT	Nanjuang	1.42	10	*e*P	Pb	04 53 36.1	-0.2
	baz=360						
NSTT				*e*S	Sg	04 53 56.2	+0.7
	baz=360						
LIOB	Emei	1.44	10	*e*P	Pg	04 53 36.7	-0.7
	baz=360						
LIOB				*e*S	Sg	04 53 56.1	0.0
	baz=360						
NFF	Wufeng Townshi	1.44	14	*e*P	Pb	04 53 36.5	-0.2
	baz=14						
NFF				*e*S	Sg	04 53 56.0	-0.3
	baz=14						
LYUB	Lan-yu	1.45	147	*e*P	Pn	04 53 34.1	-1.9
	baz=145						
LYUB				*e*S	Sb	04 53 55.3	-0.1
	baz=145						
LATG	Datong	1.49	29	P	Pb	04 53 37.1	-0.5
	baz=17						
LATG				*e*S	Sg	04 53 57.8	-0.1
	baz=17						
ENA	Nanau	1.51	38	*e*P	Pb	04 53 38.0	+0.1
	baz=55						
NDT	Datong Townshi	1.54	27	*e*P	Pb	04 53 38.4	0.0
	baz=28						
NDT				*e*S	Sg	04 53 59.3	-0.3
	baz=28						
EWUT	Wuta	1.55	38	*e*P	Pb	04 53 38.5	+0.1
	baz=49						
EWUT				*e*S	Sb	04 53 58.6	+0.5
	baz=49						
NSK	Sanguang	1.55	22	*e*P	Pg	04 53 38.8	-0.8
	baz=22						
NSK				*e*S	Sg	04 53 59.3	-0.5
	baz=22						
YHNB	Yeheng	1.55	22	*e*P	Pg	04 53 39.1	-0.5
	baz=23						
YHNB				*e*S	Sg	04 54 00.1	+0.3
	baz=23						
ENTT	Nioudou	1.60	28	*e*P	Pb	04 53 39.5	0.0
	baz=19						
NWLT	Wulai	1.70	24	*e*P	Pb	04 53 41.2	+0.2
	baz=25						
NWLT				*e*S	Sb	04 54 03.2	+0.8
	baz=25						
FUSB	Fushanzhiwuyua	1.71	27	*e*P	Pb	04 53 41.6	+0.2
	baz=17						
FUSB				*e*S	Sg	04 54 04.2	-0.8
	baz=17						
TWC	Suao	1.71	36	*e*P	Pg	04 53 41.8	-0.9
	baz=53						
TWE	Neicheng	1.72	30	*e*P	Pg	04 53 42.1	-0.6
	baz=18						
YOJ	Yonaguni jima	2.42	59	*e*P	Pb	04 53 51.9	-1.5
YOJ				S	Sb	04 54 22.1	-1.2
HATJ	Hateruma jima	2.94	73	P	Pn	04 53 58.9	+2.5
HATJ				S	Sb	04 54 35.2	-3.0
JIJ	Ishigaki jima	3.33	69	P	Pn	04 54 03.9	+2.1
JIJ				S	Sn	04 54 43.6	+2.3
JISG	Ishigakijimahi	3.55	67	*e*P	Pn	04 54 07.3	+2.5
JISG				*e*S	Sn	04 54 49.6	+2.9

IDC 24 05:30:27.2±3.5, 6°27S×147°93E, h0km, mb3.2/1, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=95.0km s-min=42.4km az=103.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.21	194	Pn	Pn	05 31 20.1	+1.2
	16nm,0.4s,baz=53,slow=8.9,SNR=6.8						
PMG				Sn	Sn	05 31 51.5	-6.3
	1.2nm,0.3s,baz=80,slow=16,SNR=1.4						
WRA	Warramunga Arr	18.94	223	P	P	05 34 49.5	-0.5
	0.1nm,0.3s,baz=50,slow=11,SNR=9.4						
	0.4nm,0.7s						
ASAR	Alice Springs	21.93	216	P	P	05 35 22.4	-0.1
	0.5nm,0.5s,baz=52,slow=9.4,SNR=7.8						
	0.5nm,0.5s						
TORD	Torodi Ar. Bea	146.05	284	PKPbc	PKPdf	05 50 09.3	-0.2
	0.4nm,1.0s,baz=69,slow=3.9,SNR=1.9						

NOU 24 05:31:12.2, 40°69S×173°25E, h141km, MLv3.7/10, Cook Strait, New Zealand
WEL 24 05:31:13.7±0.9, 41°S±4°×17°3E±°, h130km±7km, M3.2/33, MLv3.2/33, Error ellipse: s-maj=0.0km s-min=0.0km az=126.7, confirmed

ISC 24 05:31:09.5±1.6, 40°65S±0°04×173°35E±0°05, h167km±9km, n91, σ1°15/107, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.46	109	P	Pn	05 31 33.5	+0.9
DUWZ				S	Sn	05 31 49.2	-1.2
TKNZ	Takaka Hill	0.48	218	P	Pn	05 31 33.5	+0.8
TKNZ				S	Sn	05 31 49.2	-1.4
NNZ	Nelson	0.57	178	P	Pn	05 31 34.0	+1.0
NNZ				S	Sn	05 31 50.4	-0.9
QRZ	Quartz Range	0.65	254	P	Pn	05 31 34.3	+0.8
QRZ	Quartz Range	0.65	254	P	Pn	05 31 34.3	+0.8
QRZ				S	Sn	05 31 50.5	-1.4
MRNZ	Matariki Terra	0.87	211	P	Pn	05 31 36.0	+1.0
MRNZ				S	Sn	05 31 53.5	-1.1
TCW	Tory Channel	0.90	129	P	Pn	05 31 36.5	+1.5
TCW				S	Sn	05 31 53.5	-1.3
TUWZ	Tuamarina	0.90	150	P	Pn	05 31 36.6	+1.5
TUWZ				S	Sn	05 31 53.9	-0.9
BSWZ	Blackbirch Sta	1.14	160	P	Pn	05 31 38.6	+1.7
BSWZ				S	Sn	05 31 57.8	-0.4
THZ	Tophouse	1.16	197	P	Pn	05 31 38.6	+1.3
THZ				S	Sn	05 31 58.2	-0.5
KIW	Kapiti Island	1.20	101	P	Pn	05 31 38.6	+1.0
KIW				S	Sn	05 31 57.0	-2.2
SNZO	South Karori	1.22	123	P	Pn	05 31 38.9	+1.3
WEL	Wellington	1.25	121	P	Pn	05 31 39.2	+1.3
WEL				S	Sn	05 31 58.1	-1.7
BHW	Baring Head	1.38	124	P	Pn	05 31 40.3	+1.2
BHW				S	Sn	05 31 60.0	-2.0
CAW	Cannon Point	1.38	110	P	Pn	05 31 40.2	+1.1
CAW				S	Sn	05 32 00.5	-1.6
OGWZ	Otaki Gorge	1.39	97	P	Pn	05 31 40.5	+1.2
OGWZ				S	Sn	05 32 00.9	-1.4
PREZ	Palmer Road	1.45	26	P	Pn	05 31 40.7	+0.8
PREZ				S	Sn	05 32 02.9	-0.4
KHEZ	Kahui Hut	1.45	21	P	Pn	05 31 40.8	+0.8
KHEZ	Kahui Hut	1.45	21	P	Pn	05 31 40.8	+0.8
KHEZ				S	Sn	05 32 02.8	-0.6
WAZ	Wanganui	1.54	55	P	Pn	05 31 42.2	+1.4
WAZ				S	Sn	05 32 05.8	+0.9
OHWZ	Ohakea	1.56	74	P	Pn	05 31 42.2	+1.3
DSZ	Denniston Nort	1.60	226	P	Pn	05 31 42.7	+1.4
HOWZ	Holdsworth Sta	1.66	99	P	Pn	05 31 42.9	+0.9
MRZ	Mangatainoka R	1.69	91	P	Pn	05 31 43.1	+0.8
MTW	Mount Morrison	1.71	109	P	Pn	05 31 43.5	+1.0
PLWZ	Palliser	1.71	123	P	Pn	05 31 43.6	+1.1
PAWZ	Paruwai Farm	1.73	116	P	Pn	05 31 43.8	+1.1
KHZ	Kahutara	1.77	176	P	Pn	05 31 44.7	+1.7
KHZ	Kahutara	1.77	176	P	Pn	05 31 44.8	+1.7
POWZ	Post Office Ro	1.86	83	P	Pn	05 31 44.9	+0.8
VRZ	Vera Road	1.87	36	P	Pn	05 31 45.0	+0.8
TRWZ	Traveller	1.92	114	P	Pn	05 31 46.0	+1.2
TIWZ	Tintock	1.93	95	P	Pn	05 31 45.9	+1.0
TMWZ	Te Maipa	1.98	104	P	Pn	05 31 46.5	+1.1
PRWZ	Pori Road	2.00	88	P	Pn	05 31 46.8	+1.2
PKVZ	Pokaka	2.05	49	P	Pn	05 31 47.0	+0.7
TSZ	Takapari Road	2.08	74	P	Pn	05 31 47.3	+0.7
TRVZ	Turoa	2.16	52	P	Pn	05 31 48.6	+0.9
WNVZ	Wahianoa	2.17	53	P	Pn	05 31 48.3	+0.5
DVHZ	Dannevirke	2.17	82	P	Pn	05 31 48.2	+0.6
FWVZ	Far West T-bar	2.19	51	P	Pn	05 31 48.7	+0.6
WHVZ	Whangaehu Hut	2.20	52	P	Pn	05 31 49.4	+1.3
BFZ	Birch Farm	2.20	92	P	Pn	05 31 48.8	+0.9
BFZ	Birch Farm	2.20	92	P	Pn	05 31 48.8	+0.9
MOVZ	Moawhango	2.22	57	P	Pn	05 31 48.4	+0.1
TUVZ	Tukino	2.24	53	P	Pn	05 31 49.4	+0.8
TWVZ	Taurewa	2.25	46	P	Pn	05 31 49.0	+0.4
NGZ	Ngauruhoe	2.27	50	P	Pn	05 31 49.2	+0.3
LTZ	Lake Taylor	2.28	200	P	Pn	05 31 50.2	+1.3
SNVZ	South Ngauruho	2.29	51	P	Pn	05 31 50.0	+0.9
PNHZ	Pukenui	2.30	72	P	Pn	05 31 49.6	+0.5
WTVZ	West Tongariro	2.31	49	P	Pn	05 31 49.5	+0.2
NNVZ	North Ngauruho	2.31	50	P	Pn	05 31 49.7	+0.3
GVZ	Greta Valley S	2.33	186	P	Pn	05 31 50.9	+1.5
ETVZ	East Tongariro	2.36	51	P	Pn	05 31 50.4	+0.4
NTVZ	North Tongarir	2.37	50	P	Pn	05 31 51.0	+1.0
TMVZ	Te Maari	2.37	50	P	Pn	05 31 50.6	+0.5
BHHZ	Black Hill Sta	2.38	62	P	Pn	05 31 50.3	+0.1
ANWZ	Angora Road	2.39	86	P	Pn	05 31 51.0	+1.0
WPHZ	Waipukurau	2.43	77	P	Pn	05 31 51.4	+0.8
INZ	Inchbonnie	2.52	214	P	Pn	05 31 52.8	+1.2
PRHZ	Porangahau	2.53	82	P	Pn	05 31 52.7	+0.9
AMCZ	Amberley	2.58	191	P	Pn	05 31 53.6	+1.3
KWHZ	Kaweka Forest	2.66	64	P	Pn	05 31 53.9	+0.5
PXZ	Pawanui	2.75	78	P	Pn	05 31 54.9	+0.5
KAHZ	Kahuranaki	2.83	74	P	Pn	05 31 56.2	+0.7
BKZ	Black Stump Fm	2.83	59	P	Pn	05 31 55.5	0.0
MCHZ	McNeill Hill	2.84	66	P	Pn	05 31 56.1	+0.6
OXZ	Oxford	2.85	200	P	Pn	05 31 56.2	+0.6
NMHZ	Naumai	3.08	61	P	Pn	05 31 59.1	+0.6
MQZ	McQueen's Vall	3.10	189	P	Pn	05 31 59.0	+0.3
WVZ	Waitaha Valley	3.11	218	P	Pn	05 31 59.8	+1.0
ARHZ	Aropaoanui	3.12	65	P	Pn	05 31 59.3	+0.2
MHCZ	Mount Hutt	3.17	204	P	Pn	05 32 00.0	+0.4
RACZ	Rakaia	3.20	196	P	Pn	05 32 00.8	+0.9
AKCZ	Akaroa Harbour	3.24	186	P	Pn	05 32 00.9	+0.5
WACZ	Wakanui South	3.48	198	P	Pn	05 32 04.4	+1.1
GCSZ	Gaunt Creek Bo	3.49	219	P	Pn	05 32 03.8	+0.2
RPZ	Rata Peaks	3.51	208	P	Pn	05 32 05.3	+1.5
RPZ	Rata Peaks	3.51	208	P	Pn	05 32 04.5	+0.6
ARCZ	Arundel	3.67	205	P	Pn	05 32 06.1	+0.2
URZ	Urewera	3.76	52	P	Pn	05 32 10.2	+3.1
URZ	Urewera	3.76	52	P	Pn	05 32 06.4	-0.7
MHGZ	Mahia Peninsul	3.81	68	P	Pn	05 32 07.8	+0.1
TMZ	Timaru	4.11	204	P	Pn	05 32 12.1	+0.5
JCZ	Jackson Bay	4.81	223	P	Pn	05 32 21.0	+0.3
JCZ	Jackson Bay	4.81	223	P	Pn	05 32 21.1	+0.3
ODZ	Otahua Downs	4.82	203	P	Pn	05 32 21.8	+1.1
ODZ	Otahua Downs	4.82	203	P	Pn	05 32 21.3	+0.5
MXZ	Matakaoa Point	4.94	53	P	Pn	05 32 27.1	+4.8
MXZ	Matakaoa Point	4.94	53	P	Pn	05 32 27.3	+4.9

IDC 24 05:34:44.9±3.5, 19°21S×177°73W, h583km±27km, mb2.6/4, mbtmp3.5/5, Error ellipse: s-maj=93.5km s-min=31.1km az=34.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.26	290	P	P	05 36 11.2	0.0
	3.6nm,0.4s,baz=144,slow=17,SNR=6.6						
WRA	Warramunga Arr	45.04	261	P	P	05 42 09.8	-0.2
	0.2nm,0.3s,baz=98,slow=7.1,SNR=13						
WRA				PcP	PcP	05 43 38.2	-0.2
	0.3nm,0.6s,baz=97,slow=3.6,SNR=3.3						
	0.2nm,0.3s						
ASAR	Alice Springs	45.07	255	P	P	05 42 10.2	-0.1
	0.6nm,0.8s,baz=87,slow=7.9,SNR=7.6						
	0.6nm,0.8s						
VNDA	Vanda	59.21	185	P	P	05 43 50.7	+0.4
	0.2nm,0.6s,baz=359,slow=4.3,SNR=2.0						
	0.2nm,0.6s						
QSPA	South Pole Qui	70.85	180	P	P	05 45 03.3	-0.3
	1.2nm,0.8s,baz=102,slow=5.1,SNR=3.3						
	1.2nm,0.8s						

IDC 24 05:44:48.8±5.4, 22°01N×143°26E, h281km±56km, mb3.3/7, mbtmp3.9/8, Error ellipse: s-maj=31.3km s-min=13.7km az=86.0

ISC 24 05:44:50.4±1.2, 22°0N±0°1×143°3E±0°3, h300km, n8, σ0°96/8, mb3.5/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	15.10	344	P	P	05 48 06.7	-1.8
	1.6nm,0.4s,baz=166,slow=8.9,SNR=4.1						
KSRS	Korea Array	20.29	323	P	P	05 49 04.6	+0.4
	1.6nm,0.8s,baz=150,slow=8.6,SNR=7.1						
	1.6nm,0.8s						
WRA	Warramunga Arr	42.63	192	P	P	05 52 17.7	-0.4
	1.1nm,0.6s,baz=17,slow=8.9,SNR=27						
	1.1nm,0.6s						
ASAR	Alice Springs	46.34	192	P	P	05 52 47.0	-0.2
	0.4nm,0.6s,baz=17,slow=12,SNR=6.1						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	57.33	317	P	P	05 54 07.8	+0.2
	0.9nm,0.5s,baz=95,slow=7.6,SNR=10						
	0.9nm,0.5s						
ILAR	Eielson Array	61.70	27	P	P	05 54 37.5	+0.6
	0.9nm,0.7s,baz=264,slow=5.1,SNR=13						
	0.9nm,0.7s						
BVAR	Borovoye Array	62.46	319	P	P	05 54 42.8	+0.5
	1.5nm,0.4s,baz=89,slow=7.7,SNR=8.4						
	1.5nm,0.4s						
FINES	FINESS Array B	82.91	334	P	P	05 56 41.6	0.0
	2.5nm,1.0s,baz=91,slow=5.6,SNR=3.5						
	2.5nm,1.0s						

IDC 24 06:27:32.6±3.8, 54°66N×83°45E, h0km, mbtmp3.1/1, ML2.6/1, Error ellipse: s-maj=28.3km s-min=15.3km az=148.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.08	131	I	I	06 33 30.0	
	baz=313,slow=332,SNR=1.8						
ZALV	Zalesovo Beam	1.08	131	Pg	Pg	06 27 53.5	+0.3
	0.5nm,0.3s,baz=311,slow=16,SNR=5.3						
ZALV				Lg	Lg	06 28 08.0	
	0.6nm,0.3s,baz=312,slow=29,SNR=2.8						
MKAR	Makanchi Array	7.92	186	Pn	Pn	06 29 29.0	+0.1
	0.1nm,0.3s,baz=5.2,slow=17,SNR=2.2						
	1.3nm,1.1s						

ANF 24 06:52:10.3±0.5, 64°79N×173°38W, h0km, ML4.3/14, Error ellipse: s-maj=6.8km s-min=3.6km az=155.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	Gambell	1.25	144	P	Pb	06 52 34.6	-0.2
	baz=325,SNR=87						
GAMB				S	Sb	06 52 51.5	0.0
	baz=325						
TNA	Tin City	2.43	69	P	Pn	06 52 50.9	-0.3
	baz=254						
TNA				S	Sb	06 53 24.4	-0.9
	baz=254						
F14K	Arctic Creek	3.06	74	P	Pn	06 52 58.4	-1.5
	baz=260,SNR=9.5						
F14K				Sb	Sb	06 53 44.4	+1.0
	baz=260						
ANM	Nome	3.45	90	P	Pn	06 53 04.1	-1.1
	baz=277						
ANM				Sb	Sb	06 53 56.4	+1.8
	baz=277						
F15K	North Star Dit	3.79	72	P	Pn	06 53 08.2	-1.7
	baz=260,SNR=14						
F15K				Sb	Sb	06 54 06.7	+2.3
	baz=260						
G15K	Niukluk	3.99	83	P	Pn	06 53 11.8	-0.9
	baz=271,SNR=12						
G15K				Sb	Sb	06 54 12.4	+2.3
	baz=271						
G16K	Koyuk River	4.70	78	P	Pn	06 53 20.5	-2.0
	baz=268						
G16K				Sb	Sb	06 54 34.1	+3.4
	baz=268						
H16K	Elim	4.78	87	P	Pn	06 53 21.9	-1.6
	baz=277						
H16K				Sb	Sb	06 54 38.2	+5.3
	baz=277						
J14K	Nanvaranak Lak	4.82	111	P	Pn	06 53 23.1	-0.9
	baz=300						
J14K				Sb	Sg	06 54 39.9	-5.0
	baz=300						
K13K	Kusilvak Mount	4.86	122	P	Pn	06 53 23.3	-1.3
	baz=310						
D17K	Noatak River	5.08	50	P	Pn	06 53 26.6	-1.1
	baz=240						
D17K				Sb	Sb	06 54 45.7	+4.1
	baz=240						
E17K	Hotham Inlet	5.26	59	P	Pn	06 53 29.2	-0.9
	baz=249,SNR=7.9						
E17K				Sb	Sb	06 54 51.4	+4.8
	baz=249						
F17K	Baldwin Pennin	5.29	66	P	Pn	06 53 30.4	-0.1
	baz=257						
F17K				Sb	Sg	06 54 54.2	-5.9
	baz=257						
G17K	Kiwalik Mounta	5.42	77	P	Pn	06 53 30.5	-1.8
	baz=268						
G17K				Sb	Sb	06 54 57.0	+5.8
	baz=268						
C17K	DeLong Mountai	5.49	43	P	Pn	06 53 32.3	-1.0
	baz=232						
I17K	Unalakleet	5.59	94	P	Pn	06 53 33.5	-1.1
	baz=285						
I17K				Sb	Sb	06 55 02.6	+6.5
	baz=285						
H17K	Granite Mounta	5.74	82	P	Pn	06 53 35.8	-1.0
	baz=275,SNR=5.1						
H17K				Sb	Sb	06 55 06.1	+5.5
	baz=275						
J16K	Anvik River	5.81	99	P	Pn	06 53 37.2	-0.5
	baz=291						
E18K	Tukpahlearik C	5.82	57	P	Pn	06 53 36.8	-1.0
	baz=249						
K15K	Wolf Creek Mou	5.86	110	P	Pn	06 53 37.8	-0.5
	baz=300						
L14K	Kuka Creek	5.96	121	P	Pn	06 53 38.7	-1.1
	baz=310						
L15K	Ungalak Mounta	6.21	115	P	Pn	06 53 42.4	-0.7
	baz=305,SNR=5.1						
G18K	Tagagawik	6.26	73	P	Pn	06 53 42.1	-1.8
	baz=267						
M13K	Dall Lake	6.38	129	P	Pn	06 53 44.4	-1.0
	baz=318						
H18K	Honhosa River	6.38	80	P	Pn	06 53 44.0	-1.5
	baz=274						
H18K				Sb	Sb	06 55 25.6	+6.7
	baz=274						
M14K	Bethel	6.62	122	P	Pn	06 53 47.9	-0.9
	baz=313						
F19K	Shaleruckik Mo	6.73	65	P	Pn	06 53 49.8	-0.4
	baz=260						
G19K	Purcell Mounta	6.92	71	P	Pn	06 53 51.1	-1.8
	baz=266						
L16K	Owhat River	6.99	110	P	Pn	06 53 53.5	-0.4
	baz=302,SNR=8.5						
K17K	Iditarod	7.00	100	P	Pn	06 53 53.4	-0.6
	baz=294						
GCSA	Galena City Sc	7.05	83	P	Pn	06 53 53.8	-0.9
	baz=278						
E19K	Redstone River	7.07	61	P	Pn	06 53 54.6	-0.4
	baz=255						
D19K	Kuna River	7.11	52	P	Pn	06 53 54.6	-0.8
	baz=246						
M15K	Kasigluk River	7.13	119	P	Pn	06 53 55.5	-0.2
	baz=311						
H19K	Roundabout Mou	7.17	76	P	Pn	06 53 55.6	-0.6
	baz=272						
L17K	Donlin	7.26	105	P	Pn	06 53 57.7	+0.2
	baz=298						
N14K	Kuskokwak Cree	7.30	127	P	Pn	06 53 57.5	-0.6
	baz=317						
J18K	Innoko River	7.41	93	P	Pn	06 53 58.7	-0.9
	baz=288,SNR=5.1						
M16K	Timber Creek	7.59	113	P	Pn	06 54 02.3	+0.2
	baz=306						
N15K	Kwethluk River	7.70	121	P	Pn	06 54 03.8	+0.3
	baz=313						
J19K	Poorman	7.73	88	P	Pn	06 54 03.3	-0.7
	baz=284						
H20

I20K	Naaghedeneel	8.06	81	P	Pn	06 54 07.9	-0.6
	baz=278						
J20K	Nowinta River	8.32	86	P	Pn	06 54 12.1	+0.1
	baz=283						
K20K	Telida	8.58	91	P	Pn	06 54 15.3	-0.3
	baz=288,SNR=5.3						
M18K	Stony River	8.60	105	P	Pn	06 54 16.2	+0.3
	baz=300						
L19K	White Mountain	8.68	99	P	Pn	06 54 15.9	-1.2
	baz=296						
B21K	Ikpikpuk River	8.72	48	P	Pn	06 54 17.9	+0.4
	baz=245						
L20K	Farewell, AK	8.97	96	P	Pn	06 54 21.2	+0.1
	baz=294						
M19K	Big River Lodg	9.00	100	P	Pn	06 54 21.7	+0.3
	baz=297						
N18K	Kilae Creek	9.01	109	P	Pn	06 54 22.6	+1.1
	baz=305,SNR=6.2						
D22K	Ayikyak River	9.10	54	P	Pn	06 54 23.2	+0.4
	baz=253						
CHUM	Lake Minchumin	9.18	86	P	Pn	06 54 23.2	-0.6
	baz=285						
CAST	Castle Rocks	9.41	89	P	Pn	06 54 27.2	+0.2
	baz=288,SNR=11						
N19K	Bonanza Creek	9.51	106	P	Pn	06 54 29.1	+0.7
	baz=303						
PPLA	Purkeypile	9.54	92	P	Pn	06 54 29.5	+0.7
	baz=291						
M20K	Styx River	9.54	98	P	Pn	06 54 29.1	+0.2
	baz=297						
MLY	Manley	9.61	78	P	Pn	06 54 28.5	-1.2
	baz=279						
BPAW	Bear Paw Mtn.	9.69	84	P	Pn	06 54 30.3	-0.5
	baz=284						
COLD	Coldfoot	9.73	65	P	Pn	06 54 30.6	-0.7
	baz=266						
O18K	Koktuh Hills	9.78	112	P	Pn	06 54 32.7	+0.6
	baz=308						
H23K	Yukon River	10.01	73	P	Pn	06 54 35.4	+0.3
	baz=275						
TRF	Thorofare Moun	10.16	87	P	Pn	06 54 37.8	+0.3
	baz=288,SNR=6.8						
SKT	Skwentna	10.18	96	P	Pn	06 54 38.2	+0.6
	baz=296						
NEA2	Nenana	10.39	80	P	Pn	06 54 39.0	-1.4
	baz=282						
MCK	McKinley	10.66	85	P	Pn	06 54 43.9	-0.2
	baz=287						
WAT1	Susitna Watana	11.12	89	P	Pn	06 54 51.3	+0.9
	baz=291						
PMR	Palmer	11.38	95	P	Pn	06 54 55.8	+1.9
	baz=297						
DHY	Denali Highway	11.53	87	P	Pn	06 54 56.5	+0.4
	baz=290						
WAT6	Susitna Watana	11.56	89	P	Pn	06 54 57.3	+0.8
	baz=292						
SML	Sawmill	11.62	93	P	Pn	06 54 58.4	+1.1
	baz=296						

IDC 24 06:53:45.1±4.2, 53.74N×88.05E, h0^{km}, mbtmp3.0/1, ML2.8/1, Error ellipse: s-maj=40.4km s-min=19.7km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	1.93	278	Pn	Pn	06 54 18.9	-0.2
	1.8nm,0.3s,baz=96,slow=11,SNR=35						
ZALV				Lg	Lg	06 54 46.2	
	4.6nm,0.3s,baz=99,slow=25,SNR=25						
MKAR	Makanchi Array	7.87	210	Pn	Pn	06 55 42.0	+1.3
	0.1nm,0.3s,baz=32,slow=14,SNR=6.0						
MKAR				Sn	Sn	06 57 13.0	+2.4
	0.1nm,0.3s,baz=64,slow=26,SNR=3.2						
MKAR				Lg	Lg	06 57 55.4	
	0.1nm,0.3s,baz=28,slow=26,SNR=3.6						
	0.5nm,0.5s						
SONM	Songino Array	13.01	110	Lg	Lg	07 00 42.5	
	0.2nm,0.3s,baz=293,slow=28,SNR=1.8						
I34MN	SONGINO INFRAS	13.03	110	I	I	08 07 50.0	
	baz=308,slow=321,SNR=2.2						

*ISK **24** 06:53:44.9, 38.94N×26.39E, h20^{km}±2^{km}, ML2.2/9*
*AFAD **24** 06:53:45.4±0.0, 38.91N×26.32E, h7^{km}±2^{km}, ML1.9*
*THE **24** 06:53:46.9, 38.96N×26.27E, h6^{km}±3^{km}, ML1.8/2, Error ellipse: s-maj=3.5km s-min=0.8km az=286.0*
*ATH **24** 06:53:46.0, 38.93N×26.34E, h12^{km}±5^{km}, ML2.5/2, Error ellipse: s-maj=6.0km s-min=1.0km az=16.0*

ISC 24 06:53:46.1±0.9, 38.93N±0.02×26.35E±0.02, h11^{km}±7^{km}, n28, σ0°58/46, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG1	Polichnitos, L	0.18	328	P	Pg	06 53 49.9	-0.2
EAG1				S	Sg	06 53 53.1	+0.3
EAG1				AML	AML	06 53 55.0	
	comp=E,1401μm,0.4s						
EAG1				AML	AML	06 53 57.0	
	comp=N,1558μm,0.5s						
EAG3	Mitilini, Lesv	0.23	48	P	Pg	06 53 50.9	0.0
EAG3				S	Sg	06 53 54.4	+0.3
KARB	zmir-Karabur	0.27	170	P	Pg	06 53 51.4	-0.2
KARB				S	Sg	06 53 55.0	-0.4
PRK	Paraskevi	0.32	349	P	Pg	06 53 52.3	-0.3
PRK				S	Sg	06 53 57.5	+0.6
PRK	Paraskevi	0.32	349	P	Pg	06 53 52.3	-0.3
PRK				S	Sg	06 53 57.5	+0.6
RFT5	Foca	0.41	131	Pg	Pg	06 53 53.6	-0.6
RFT5				Sg	Sg	06 53 59.8	+0.1
EAG2	Marmaro, Chios	0.43	206	P	Pg	06 53 54.4	-0.1
EAG2				S	Sg	06 54 00.0	-0.2
EAG2				AML	AML	06 54 00.4	
	comp=E,3956μm,0.3s						
EAG2				AML	AML	06 54 01.2	
	comp=N,5013μm,0.4s						
RFT7	Candarli	0.45	86	Pg	Pg	06 53 53.9	-1.0
RFT7				Sg	Sg	06 54 00.5	-0.3
DKL	Dikili	0.46	72	Pg	Pg	06 53 54.0	-1.0
AYVA	Ayvalik	0.46	35	P	Pg	06 53 54.9	-0.2
AYVA				S	Sg	06 54 01.8	+0.6
AYVA				*i* AML	AML	06 54 06.0	
	comp=N,50nm,0.2s						
SIGR	SIGRI	0.48	306	Pg	Pg	06 53 55.4	0.0
SIGR	SIGRI	0.48	306	P	Pg	06 53 55.1	-0.3
SIGR				S	Sg	06 54 00.8	-0.9
	comp=N,115nm,0.4s						
SIGR	SIGRI	0.48	306	P	Pg	06 53 55.2	-0.3
SIGR				S	Sg	06 54 01.7	0.0
CHOS	Chios island	0.59	203	Pg	Pg	06 53 57.9	+0.3
CHOS	Chios island	0.59	203	P	Pg	06 53 57.8	+0.2
CHOS				S	Sb	06 54 07.6	+0.7
	comp=N,168nm,0.2s						
CHOS	Chios island	0.59	203	P	Pg	06 53 57.4	-0.2
KOCA	Canakkale, Ayv	0.59	344	P	Pg	06 53 57.0	-0.6
KOCA				S	Sn	06 54 08.4	-1.8
URLA	Izmir	0.60	161	Pg	Pg	06 53 57.2	-0.6
RFT1	Sazli	0.60	7	Pg	Pg	06 53 57.4	-0.5
RFT2	Karaagac	0.63	39	Pg	Pg	06 53 57.4	-1.0
BUHA	Balikesir, Bur	0.80	45	P	Pg	06 54 01.5	-0.1
BUHA				S	Sb	06 54 13.7	+0.7
BUHA				*i* AML	AML	06 54 15.0	
	comp=N,35nm,0.5s						
BUHA				*i* AML	AML	06 54 16.0	
	comp=N,38nm,0.3s						
BAYC	CANAKKALE_Bayr	0.82	11	P	Pb	06 54 02.4	-0.1
BAYC				S	Sb	06 54 13.8	+0.2
BAYC				*i* AML	AML	06 54 15.0	
	comp=N,53nm,0.2s						
BAYC				*i* AML	AML	06 54 16.0	
	comp=N,50nm,0.2s						
EZN	Ezine	0.89	359	Pg	Pg	06 54 02.6	-0.7
BOZC	Bozcaada	0.94	346	P	Pg	06 54 03.9	-0.3
BOZC				S	Sb	06 54 17.1	+0.2
CNKL	anakkale-Mer	1.13	1	P	Pg	06 54 08.1	+0.2
CNKL				S	Sn	06 54 23.5	0.0
CNKL				*i* AML	AML	06 54 27.0	
	comp=N,26nm,0.6s						
CNKL				*i* AML	AML	06 54 38.0	
	comp=N,44nm,1.3s						
STEP	BALIKESIR_Sava	1.15	67	P	Pg	06 54 08.8	+0.5
STEP				S	Sn	06 54 25.4	+1.3
STEP				*i* AML	AML	06 54 28.0	
	comp=N,28nm,1.0s						
STEP				*i* AML	AML	06 54 29.0	
	comp=N,29nm,0.4s						
SMG	Samos	1.28	162	P	Pb	06 54 10.3	+0.1
SMTH	Samothraki Isl	1.66	338	P	Pn	06 54 15.2	0.0

*PAS **24** 07:00:51.7±2.4, 33.16N±0.02×118.72W±0.01, h5^{km}±1^{km}, Mwr3.9/6, ML3.7/80(NEIC), Error ellipse: s-maj=3.6km s-min=2.9km az=184.0*
*NEIC **24** 07:00:51.7±1.6, 33.17N±0.02×118.71W±0.02, h17^{km}±2^{km}, Error ellipse: s-maj=3.0km s-min=2.6km az=225.0*
*NEIC **24** 07:00:52, 33.16N×118.72W, h8^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M$_{rr}$8.12; M$_{\theta\theta}$-6.55; M$_{\phi\phi}$-1.58; M$_{r\theta}$-0.15; M$_{\theta\phi}$4.09; M$_{\phi r}$-2.80; Fault plane solution: M$_0$8.96000×10^{14} NP1:ϕ_s283.00000°, δ43.00000°, λ65.00000°. NP2:ϕ_s136.00000°, δ52.00000°, λ112.00000°. Principal axes: T 8.9752, Plg73.0000°, Azm106.0000°; N -0.0330, Plg17.0000°, Azm302.0000°; P -8.9421, Plg4.0000°, Azm210.0000°;*
*ANF **24** 07:00:52.1±0.3, 33.21N×118.69W, h17^{km}±2^{km}, ML4.0/40 Error ellipse: s-maj=3.1km s-min=2.4km az=19.0*
*IDC **24** 07:00:52.9±2.1, 33.27N×118.43W, h0^{km}, mb3.7/2, mbtmp3.3/6, ML3.3/4, MS3.6/4, Error ellipse: s-maj=25.8km s-min=12.1km az=21.0*

ISC 24 07:00:52.1±1.0, 33.20N±0.02×118.70W±0.02, h13^{km}±7^{km}, n182, σ1°16/204, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCI2	San Clemente I	0.25	150		Pb	07 00 58.4	-0.1
SCI2					Sb	07 01 03.2	+0.5
SCI2	San Clemente I	0.25	150	P	Pb	07 00 58.4	-0.1
	baz=321,SNR=1000						
SCI2				S	Sb	07 01 02.7	0.0
	baz=321						
CIAC	Catalina I. Ai	0.31	49		Pg	07 00 58.4	-0.2
CIAC					Sg	07 01 02.8	-0.1
CIS	Catalina Islan	0.31	49	P	Pg	07 00 58.4	-0.2
	baz=226,SNR=1000						
CIS				S	Sg	07 01 02.7	-0.1
	baz=226						
SBI	Santa Barbara	0.40	316		Pg	07 00 59.8	-0.3
SBI					Sg	07 01 05.3	-0.1
RPV	Rancho Palos V	0.60	24		Pb	07 01 03.7	-0.8
RPV					Sb	07 01 12.1	-0.7
FMP	Fort Macarthur	0.62	33		Pg	07 01 03.9	-0.3
FMP					Sb	07 01 12.1	-1.3
FMP	Fort Macarthur	0.62	33	P	Pb	07 01 04.0	-0.8
	baz=213,SNR=185						
FMP				S	Sb	07 01 12.3	-1.1
	baz=213						
SNCC	San Nicolas Is	0.69	275		Pb	07 01 04.7	-1.4
SNCC				Sg	Sg	07 01 14.0	-0.8
SNCC				IAML		07 01 19.0	
	comp=E,7μm,0.4s						
SNCC	San Nicolas Is	0.69	275	P	Pb	07 01 04.7	-1.4
	baz=97,SNR=77						
SNCC				S	Sg	07 01 14.5	-0.3
	baz=97						
PT2	Point Dume	0.81	354		Pb	07 01 06.8	-1.3
PT2					Sg	07 01 18.2	-0.2
DLAC	Del Amo	0.82	37		Pg	07 01 08.1	+0.1
DLAC					Sn	07 01 20.8	-0.7
WTT2	Watts, South G	0.84	26		Pn	07 01 08.6	-1.0
WTT2					Sn	07 01 20.2	-1.6
BHPC	Baldwin Hills	0.84	19		Pg	07 01 08.5	+0.1
BHPC					Sn	07 01 20.2	-1.7
LCGC	La Cienega, Cu	0.85	18		Pn	07 01 08.7	-1.1
LCGC					Sn	07 01 20.6	-1.4
SANC	Santa Ana	0.85	53		Pg	07 01 08.3	-0.2
SANC					Sn	07 01 20.8	-1.3
BREC	Barre Substati	0.85	44		Pn	07 01 08.9	-0.9
BREC					Sn	07 01 21.2	-1.0
USC	University of	0.89	23		Pn	07 01 09.5	-0.8
USC					Sn	07 01 21.9	-1.2
DJJ	Donna J Jenkin	0.93	12		Pb	07 01 09.3	-0.8
DJJ					Sg	07 01 21.8	-0.5
GR2C	Griffith Obs.	0.98	20		Pb	07 01 10.2	-0.7
GR2C	Griffith Obs.	0.98	20		Sb	07 01 23.0	-0.8
GVRC	Garvey Reservo	0.98	29		Pg	07 01 10.7	-0.3
RHC	Rose Hills Cem	0.99	35		Pg	07 01 10.7	-0.5
PASC	Pasadena Art C	1.06	24		Pb	07 01 11.3	-1.1
PASC				Sg	Sb	07 01 24.6	-1.6
PASC				IAML		07 01 25.6	
	comp=N,3μm,0.7s						
PASC				IAML		07 01 25.7	
	comp=E,2μm,0.6s						
PASC	Pasadena Art C	1.06	24		Sb	07 01 24.8	-1.4
DECC	Green Verdugo	1.10	16		Pb	07 01 11.9	-1.1
DECC	Green Verdugo	1.10	16	P	Pb	07 01 12.0	-1.1
	baz=196,SNR=202						
DECC				S	Sb	07 01 26.4	-0.9
	baz=196						
SCZ2	Santa Cruz Isl	1.12	316	P	Pb	07 01 11.9	-1.5
	baz=137,SNR=63						
SCZ2				S	Sb	07 01 27.3	-0.5
	baz=137						
OAT	Oat Mountain	1.15	3		Pg	07 01 13.8	-0.4
ELS	Elsinore Mount	1.15	67		Pn	07 01 12.2	-1.9
MWC	Mount Wilson	1.16	27		Pn	07 01 12.8	-1.4
PSRC	Puddingstone R	1.16	39		Pn	07 01 12.9	-1.2
CHNC	Chino	1.17	46		Pn	07 01 13.3	-0.8
PEM	Pine Mountain	1.19	35		Pn	07 01 13.1	-1.4
GORC	Green Oak Ranc	1.23	92		Pn	07 01 13.2	-1.9
CHFC	Chilao Flat St	1.27	26		Pn	07 01 14.4	-1.3
XTL	Crystal Lake,	1.30	32		Pn	07 01 14.8	-1.3
MURC	Murrieta	1.32	72		Pn	07 01 15.0	-1.3
MURC	Murrieta	1.32	72	P	Pn	07 01 14.9	-1.4
	baz=251,SNR=340						
MURC				S	Sn	07 01 31.3	-2.5
	baz=251						
BFSC	Mount Baldy Ra	1.35	39		Pn	07 01 15.6	-1.2
BFSC	Mount Baldy Ra	1.35	39	P	Pn	07 01 15.7	-1.2
	baz=220,SNR=848						
BFSC				S	Sn	07 01 32.3	-2.5
	baz=220						
RVR	Riverside	1.36	54		Pn	07 01 15.7	-1.1
PYR	Pyramid	1.37	358		Pn	07 01 16.4	-0.7
109C	Camp Elliot, M	1.37	102		Pn	07 01 15.3	-1.6
109C	Camp Elliot, M	1.37	102	P	Pn	07 01 15.2	-1.8
	baz=282,SNR=171						
CPE	Camp Elliot	1.37	102		Pn	07 01 15.3	-1.7
SDMC	San Diego Miss	1.37	107		Pn	07 01 15.6	-1.4
JNH	Juniper Hills	1.39	26		Pn	07 01 16.4	-1.0
OSI	Osito Audit: C	1.42	359		Pn	07 01 16.7	-0.9
OSI	Osito Audit: C	1.42	359	P	Pn	07 01 16.7	-0.9
	baz=180,SNR=96						
LRRC	Littlerock Res	1.44	23		Pn	07 01 17.3	-0.6
BACC	Bachelor Mtn.	1.45	73		Pn	07 01 16.6	-1.4
PEC	Perris	1.46	61		Pn	07 01 17.3	-1.0
LEOC	Leona Valley	1.47	13		Pg	07 01 19.9	-0.4
DGR	Domenigoni Val	1.48	72		Pn	07 01 17.3	-1.3
DPP	Dos Picos Cty	1.49	97		Pn	07 01 14.2	-4.4
SBC	Santa Barbara	1.50	326	P	Pn	07 01 18.2	-0.6
	baz=147,SNR=12						
HMTC	Hemet	1.51	70		Pn	07 01 17.8	-1.1
TJX	Tijuana	1.54	116		Pn	07 01 17.6	-1.7
SDRC	San Diego Road	1.54	107		Pn	07 01 17.6	-1.7
PLM	Palomar	1.55	84		Pn	07 01 18.1	-1.5
POB	Polly Butte	1.56	71		Pn	07 01 18.6	-1.1
CFT	Crafton Hills	1.57	57		Pn	07 01 19.6	-0.1
EML	El Monte Cty P	1.58	101		Pn	07 01 18.2	-1.7
OLP	Otay Lakes Par	1.60	111		Pn	07 01 18.7	-1.3
BBSC	Beaumont Base	1.61	63		Pn	07 01 19.9	-0.4
SVD	Seven Oaks Dam	1.61	55		Pn	07 01 20.3	-0.1
BSM	San Miguel Isl	1.61	302		Pn	07 01 19.6	-0.8
SBB	Saddle Back Bu	1.66	26		Pn	07 01 20.6	-0.4
CRY	Cary Ranch	1.68	77		Pn	07 01 20.3	-1.1
MATG	Mataguay Scout	1.72	89		Pn	07 01 20.7	-1.1
DUZA	Dulzura	1.72	109		Pn	07 01 20.2	-1.6
TPO	Tropico Hills	1.72	13		Pn	07 01 21.9	-0.1
BZNA	Buzz No.'s Pla	1.73	80		Pn	07 01 21.1	-0.9
JUEM	Julian Eagle M	1.77	93		Pn	07 01 21.2	-1.3
DNR	Dunn Ranch,Anz	1.77	77		Pn	07 01 22.5	-0.1
FRD	Ford Ranch, An	1.78	80		Pn	07 01 21.9	-0.8
FRD	Ford Ranch, An	1.78	80		Pn	07 01 21.9	-0.8
EDW2	Edwards Air Fo	1.78	19		Pn	07 01 22.6	-0.1
EDW2	Edwards Air Fo	1.78	19	P	Pn	07 01 22.5	-0.2
	baz=199,SNR=423						
EDW2				S	Sn	07 01 44.1	-1.1
	baz=199						
NJQ	Nojoqui County	1.82	318		Pn	07 01 23.1	0.0
BBRC	Big Bear Solar	1.82	54		Pn	07 01 23.1	-0.3
BBRC	Big Bear Solar	1.82	54	P	Pn	07 01 23.1	-0.3
	baz=234,SNR=60						
BCW	Bitter Crk WRg	1.84	341		Pn	07 01 22.7	-0.8
TKX	Tecate	1.87	109		Pn	07 01 21.9	-1.9
FIGC	Figueroa Mtn.	1.87	325		Pn	07 01 23.7	-0.2
HYS	Haystack Butte	1.91	29		Pn	07 01 24.7	+0.2
BORC	Borrego Spring	1.91	87		Pn	07 01 24.0	-0.4
PFO	Pinyon Flats O	1.92	77	Pn	Pn	07 01 24.1	-0.6
PFO				IAML		07 01 56.1	
	comp=E,456nm,0.5s						
PFO				IAML		07 01 57.9	
	comp=E,661nm,0.7s						
PFO	Pinyon Flats O	1.92	77	P	Pn	07 01 24.1	-0.6
	baz=257,SNR=274						
PFO				S	Sn	07 01 47.3	-1.4
	baz=257						
PFO	Pinyon Flats O	1.92	77	Pg	Pn	07 01 24.0	-0.6
	comp=E,24nm,0.3s,baz=261,slow=16,SNR=323						
PFO				Lg	Lg	07 01 47.0	
	comp=E,136nm,0.3s,baz=271,slow=10,SNR=17						
PFO				LR	LR	07 02 10.4	
	comp=E,232nm,19.9s,baz=194,slow=46						
TPFO	Pinon Flats	1.92	77	P	Pn	07 01 24.1	-0.5
	baz=257,SNR=341						
TPFO				S	Sn	07 01 47.5	-1.3
	baz=257						
CBX	Cerro Bola	1.93	117	Pn	Pn	07 01 23.1	-1.6
CBX				IAML		07 01 58.8	
	comp=E,892nm,0.7s						
CBX				IAML		07 01 59.6	
	comp=N,775nm,0.5s						
PKM	Mcpherson Peak	1.93	332	P	Pn	07 01 24.3	-0.5
	baz=152,SNR=32						
ARVC	Arvin	1.93	357	P	Pn	07 01 24.7	+0.1
	baz=177,SNR=134						
MONP2	Monument Peak	1.94	98	P	Pn	07 01 23.8	-1.1
	baz=278,SNR=113						
MONP2				S	Sn	07 01 47.2	-2.0
	baz=278						
PMD	Palm Desert	1.99	76	Pn	Pn	07 01 25.1	-0.4
PMD				IAML		07 01 55.1	
	comp=E,625nm,0.3s						
PMD				IAML		07 01 59.7	
	comp=N,887nm,0.7s						
CCAC	Calif City Air	2.03	16		Pn	07 01 26.0	-0.1
CCX	Cicese	2.17	127		Pn	07 01 26.4	-1.5
CCX				IAML		07 02 04.0	
	comp=N,406nm,0.7s						
CCX				IAML		07 02 04.8	
	comp=E,422nm,0.6s						
RRX	Edison Barstow	2.19	40	P	Pn	07 01 28.4	+0.1
	baz=220,SNR=20						
IKP	In-Ko-Pah, Jac	2.24	103	P	Pn	07 01 28.6	-0.4
	baz=284,SNR=155						
RMX	La Rumorosa	2.28	104		Pn	07 01 29.6	0.0
RMX				IAML		07 02 07.8	
	comp=E,547nm,0.5s						
SMMC	Simmler	2.37	333	P	Pn	07 01 30.6	-0.1
	baz=154,SNR=18						
BELC	Belle Mtn. Jos	2.39	70	P	Pn	07 01 30.8	-0.3
	baz=250						
YUH	Yuha Desert	2.40	102		Pn	07 01 31.0	-0.1
YUH				IAML		07 02 07.8	
	comp=N,352nm,0.3s						
YUH				IAML		07 02 16.2	
	comp=E,570nm,0.8s						
LRMC	Laurel Mtn Rad	2.43	20	P	Pn	07 01 31.6	0.0
	baz=200,SNR=75						
SWSC	Sam W. Stewart	2.45	95	P	Pn	07 01 30.6	-1.1
	baz=276,SNR=47						
ISA	Isabella, Lake	2.47	4	Pn	Pn	07 01 32.2	+0.1
ISA	Isabella, Lake	2.47	4	P	Pn	07 01 32.3	+0.1
	baz=185,SNR=75						
HEC	Hector,Ludlow	2.55	50	P	Pn	07 01 33.1	-0.2
	baz=230,SNR=25						
ESJX	Sierra Juarez	2.61	116		Pn	07 01 33.1	-1.0
ESJX				IAML		07 02 18.9	
	comp=E,201nm,0.3s						
GSC	Goldstone, Bar	2.62	36		Pn	07 01 34.0	-0.2
GSC	Goldstone, Bar	2.62	36	P	Pn	07 01 34.5	+0.3
	baz=217,SNR=311						
VES	Vestal, Richgr	2.66	353	P	Pn	07 01 34.2	-0.5
	baz=174,SNR=49						
BC3	Big Chuckawall	2.75	80	P	Pn	07 01 36.5	+0.5
	baz=261,SNR=15						
GMRC	Granite Mounta	2.98	57	P	Pn	07 01 39.0	-0.2
	baz=238,SNR=22						
MPMC	Manual Prospec	3.02	19	P	Pn	07 01 39.9	0.0
	baz=200,SNR=29						
VTX	Valle De La Tr	3.05	125		Pn	07 01 39.2	-1.0
IRM	Iron Mountain	3.11	71	P	Pn	07 01 40.4	-0.6
	baz=252,SNR=27						
QSM	Queen of Sheba	3.15	28	Pn	Pn	07 01 41.1	-0.3
QSM				IAML		07 02 34.6	
	comp=N,245nm,0.7s						
QSM				IAML		07 02 44.3	
	comp=E,234nm,0.7s						
VOG	Valley Oaks Go	3.17	350	P	Pn	07 01 41.9	+0.2
	baz=170						
GLA	Glamis	3.25	91	P	Pn	07 01 42.2	-0.7
	baz=273						
CWC	Cottonwood Cre	3.28	9	P	Pn	07 01 43.3	0.0
	baz=189						
GWY	Greenwater Val	3.42	29	Pn	Pn	07 01 45.5	+0.2
GWY				IAML		07 02 51.8	
	comp=E,230nm,0.9s						
GWY				IAML		07 03 02.8	
	comp=N,212nm,0.9s						
PMPB	Monarch Peak	3.48	331	Pn	Pn	07 01 45.2	-0.8
PMPB				IAML		07 02 46.3	
	comp=E,119nm,0.8s						
PMPB				IAML		07 03 01.1	
	comp=N,138nm,1.1s						
BLYC	Blythe	3.53	80	Pn	Pn	07 01 46.2	-0.5
BLYC				IAML		07 02 46.5	
	comp=E,140nm,0.7s						
BLYC				IAML		07 02 52.2	
	comp=N,197nm,0.9s						
FURC	Furnace Creek,	3.60	24	P	Pn	07 01 47.3	-0.2
	baz=205						
NEE2	Needles Airpor	3.73	64	P	Pn	07 01 49.8	+0.3
	baz=246,SNR=7.9						
BBGB	Big Mountain B	3.88	331		Pn	07 01 51.0	-0.6
SFX	San Felipe	3.91	122		Pn	07 01 51.4	-0.5
SFX				IAML		07 02 58.5	
	comp=N,74nm,0.7s						
SFX				IAML		07 03 03.5	
	comp=E,85nm,0.8s						
GRAC	Grapevine Rang	3.95	16		Pn	07 01 53.2	+0.8
GRAC				IAML		07 03 02.6	
	comp=N,167nm,0.8s						
GRAC				IAML		07 03 10.7	
	comp=E,129nm,1.1s						
GRAC	Grapevine Rang	3.95	16	P	Pn	07 01 52.2	-0.3
	baz=196						
PDMCI	Parker Dam,Lak	3.95	73	P	Pn	07 01 52.6	+0.1
	baz=255,SNR=6.0						
WCT	Wildcat Mounta	3.97	25		Pn

MZP	Montezuma Peak	4.62	13		Pn	07 02 02.3	+0.4
TPH	Tonopah	5.01	13		Pn	07 02 07.9	+0.7
CMB	Columbia Colle	5.02	345		Pn	07 02 08.7	+1.5
214A	Organ Pipe Nat	5.12	102		Pn	07 02 08.1	-0.4
214A				IAML		07 04 01.5	
	comp=N,23nm,1.4s						
214A	Organ Pipe Nat	5.12	102	P	Pn	07 02 08.3	-0.3
	baz=285						
PRN	Pahroc Range	5.15	34		Pn	07 02 10.7	+1.6
NVAR	Mina Array Bea	5.23	3		Pn	07 02 11.5	+1.2
NVAR	Mina Array Bea	5.23	3	Pn	Pn	07 02 11.8	+1.6
	comp=N,0.2nm,0.3s,baz=192,slow=14,SNR=3.4						
NVAR				Lg	Lg	07 03 29.6	
	baz=14,slow=41						
NVAR				LR	LR	07 03 39.2	
	comp=N,62nm,21.9s,baz=166,slow=32						
	comp=N,0.3nm,0.4s						
R11B	Troy Canyon, C	5.73	25		Pn	07 02 18.4	+1.3
R11B	Troy Canyon, C	5.73	25	P	Pn	07 02 16.6	-0.5
	baz=207						
LCMT	Little Creek M	5.87	48		Pn	07 02 20.1	+1.2
KNB	Kanab	6.14	50	Pn	Pn	07 02 24.1	+1.4
CCUT	Cedar City	6.15	44		Pn	07 02 24.6	+1.7
U15A	North Rim	6.18	57		Pn	07 02 23.9	+0.6
MPK	Martis Peak	6.18	350		Pn	07 02 22.9	-0.5
SZCU	Shurtz Canyon	6.34	45		Pn	07 02 27.3	+1.8
WUAZ	Wupatki	6.48	67	Pn	Pn	07 02 29.6	+2.2
WUAZ	Wupatki	6.48	67	P	Pn	07 02 27.1	-0.3
	baz=251						
PSUT	Pine Spring	6.62	35	Pn	Pn	07 02 31.6	+2.2
PKCU	Pink Cliffs	6.72	49		Pn	07 02 33.2	+2.4
TUC	Tucson	6.72	95		Pn	07 02 31.8	+1.2
SPR3	Spring Creek 3	6.78	30		Pn	07 02 32.9	+1.2
MTPU	Mount Pierson	7.18	46		Pn	07 02 38.6	+1.5
X18A	Snowflake	7.40	77		Pn	07 02 41.0	+1.0
MSU	Marysvale	7.49	43		Pn	07 02 44.7	+3.4
HMU	Henry Mountain	8.02	52	Pn	Pn	07 02 50.2	+1.6
ELK	Elko	8.03	19	Pn	Pn	07 02 49.3	+0.6
	comp=N,0.1nm,0.3s,baz=152,slow=17,SNR=2.1						
ELK				Lg	Lg	07 05 01.7	
	comp=N,0.2nm,0.3s,baz=108,slow=14,SNR=3.9						
	comp=N,0.5nm,0.4s						
121A	Cookes Peak, D	9.20	91	Pn	Pn	07 03 06.5	+1.8
121A	Cookes Peak, D	9.20	91	P	Pn	07 03 05.6	+0.8
	baz=277,SNR=7.6						
ANMO	Albuquerque	10.30	77	Lg	Lg	07 06 08.8	
	comp=N,0.1nm,0.3s,baz=38,slow=6.6,SNR=1.4						
ANMO				LR	LR	07 07 28.8	
	comp=N,90nm,21.0s,baz=250,slow=39						
PDAR	Pinedale Array	11.96	34	Pn	Pn	07 03 46.3	+3.7
	comp=N,0.1nm,0.3s,baz=210,slow=12,SNR=3.0						
PDAR				LR	LR	07 07 23.7	
	comp=N,88nm,21.9s,baz=171,slow=33						
	comp=N,0.3nm,0.6s						
TXAR	Lajitas Array	13.42	103	Pn	Pn	07 04 04.8	+2.4
	comp=N,0.1nm,0.3s,baz=277,slow=9.9,SNR=3.5						
	comp=N,0.5nm,0.7s						
YKA	Yellowknife Ar	29.43	4	P	P	07 06 56.7	+1.5
	comp=N,0.7nm,0.7s,baz=203,slow=9.0,SNR=2.3						
	comp=N,0.7nm,0.7s						
ILAR	Eielson Array	35.99	340	P	P	07 07 55.0	+2.6
	comp=N,0.8nm,0.6s,baz=153,slow=8.3,SNR=22						
	comp=N,0.8nm,0.6s						
H11S1	WAKE ISLAND Hy	67.47	278	T	T	08 25 43.9	
	baz=61						
H11S2	WAKE ISLAND Hy	67.47	278	T	T	08 25 46.2	
	baz=61						
H11S3	WAKE ISLAND Hy	67.48	278	T	T	08 25 40.9	
	baz=61						
ARCES	ARCESS Array B	74.28	12	LR	LR	07 47 32.1	
	comp=N,120nm,18.3s,baz=268,slow=38						
HFS	Hagfors	79.12	22	LR	LR	07 48 08.7	
	comp=N,173nm,18.6s,baz=324,slow=36						

JMA ***24*** *07:01:10.4±0.1,24°N±1°×122°.4E±0°.3,h47km±3km, MV2.4/13,TAIWAN REGION*
TAP ***24*** *07:01:11.0,24°.12N×122°.34E,h51km,ML3.3,C*
ISC 24 07:01:11.4±1.2,**24°.11N**±0°.03×**122°.38E**±0°.02,**h46**km±6km, **n92**,σ1§**15**/168,**11C-7D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.06	280	⇑*i*P	Pn	07 01 18.4	+0.2
	baz=268						
EOS4				S	Sn	07 01 23.7	+0.7
	baz=268						
EOS3	EOS3	0.18	342	⇑*i*P	Pn	07 01 19.2	+0.2
	baz=323						
EOS3				*i* S	Sn	07 01 25.6	+1.2
	baz=323						
EOS2	EOS2	0.34	337	*i* P	Pn	07 01 20.3	-0.1
	baz=323						
EOS2				S	Sn	07 01 28.0	+1.2
	baz=323						
EHP	Heping Village	0.61	289	*e*S	Sn	07 01 30.3	-2.6
	baz=289						
JYNG	Yonagunijimaku	0.62	57	P	Pn	07 01 23.4	-0.5
JYNG				*e*S	Sn	07 01 33.0	0.0
EWUT	Wuta	0.64	301	P	Pn	07 01 23.1	-1.1
	baz=307						
EWUT				*i* S	Sn	07 01 33.0	-0.4
	baz=307						
ENA	Nanau	0.66	299	P	Pn	07 01 23.6	-0.9
	baz=304						
ENA				S	Sn	07 01 33.9	-0.1
	baz=304						
YOJ	Yonaguni jima	0.68	59	P	Pn	07 01 24.7	0.0
YOJ	Yonaguni jima	0.68	59	P	Pn	07 01 24.1	-0.5
YOJ				*e*S	Sn	07 01 33.9	-0.4
YOJ	Yonaguni jima	0.68	59	*e*P	Pn	07 01 24.2	-0.5
	baz=60						
YOJ				*e*S	Sn	07 01 34.0	-0.2
	baz=60						
ETL	Fush Village	0.69	274	P	Pn	07 01 24.0	-1.0
	baz=263						
ETL				S	Sn	07 01 34.0	-0.7
	baz=263						
TWC	Suao	0.69	316	P	Pn	07 01 24.7	-0.2
	baz=318						
TWC				*i* S	Sn	07 01 33.7	-1.0
	baz=318						
TWD	Chiawan	0.72	268	⇓P	Pn	07 01 24.0	-1.2
	baz=259						
TWD				*i* S	Sn	07 01 34.0	-1.2
	baz=259						
HWA	Hwalien	0.72	260	P	Pn	07 01 24.8	-0.5
	baz=257						
HWA				S	Sn	07 01 35.3	0.0
	baz=257						
NACB	Ninganchiao	0.72	275	P	Pn	07 01 24.3	-1.0
ETM	Tongmen	0.82	260	P	Pn	07 01 25.5	-1.2
	baz=258						
ETM				*i* S	Sn	07 01 36.4	-1.4
	baz=258						
ETLH	Xiulin Townshi	0.82	277	⇓*e*P	Pn	07 01 25.5	-1.2
	baz=276						
ETLH				*e*S	Sn	07 01 36.5	-1.5
	baz=276						
TEGC	Jichi Village	0.86	243	*e*P	Pn	07 01 23.9	-3.4
	baz=235						
TEGC				*i* S	Sn	07 01 38.1	-0.6
	baz=235						
TWE	Neicheng	0.89	313	P	Pn	07 01 27.7	+0.2
	baz=315						
TWE				S	Sn	07 01 38.6	-0.8
	baz=315						
ENTT	Nioudou	0.91	306	P	Pn	07 01 27.1	-0.7
	baz=298						
ENTT				S	Sn	07 01 38.9	-0.9
	baz=298						
ESL	Shilin	0.91	251	*i* S	Sn	07 01 38.7	-1.2
	baz=243						
NDT	Datong Townshi	0.93	302	P	Pn	07 01 27.5	-0.6
	baz=296						
NDT				S	Sn	07 01 39.6	-0.7
	baz=296						
NNSH	Datong	0.96	289	P	Pn	07 01 27.7	-1.0
	baz=289						
NNSH				S	Sn	07 01 40.1	-1.2
	baz=289						
TWB1	Santiao Chiao	0.96	338	*e*P	Pn	07 01 29.8	+1.2
	baz=341						
TWB1				*e*S	Sn	07 01 38.6	-2.5
	baz=341						
NNS	Nan Shan	0.97	290	*i* S	Sn	07 01 40.9	-0.8
	baz=290						
EGFH	Guangfu	0.97	243	⇑P	Pn	07 01 27.7	-1.0
	baz=241						
EGFH				S	Sn	07 01 40.3	-1.1
	baz=241						
WHF	Hehuan Shan	1.02	272	P	Pn	07 01 28.6	-1.1
	baz=262						
WHF				S	Sn	07 01 41.9	-1.2
	baz=262						
NWLT	Wulai	1.04	310	P	Pn	07 01 28.9	-0.7
	baz=300						
NWLT				*e*S	Sn	07 01 41.8	-1.2
	baz=300						
FUSS	Fushou	1.04	278	*e*P	Pn	07 01 29.2	-0.7
	baz=268						
FUSS				*e*S	Sn	07 01 42.9	-0.6
	baz=268						
YHNB	Yeheng	1.07	302	P	Pn	07 01 29.8	-0.3
NSK	Sanguang	1.09	301	⇓P	Pn	07 01 29.6	-0.8
	baz=302						
NSK				*e*S	Sn	07 01 42.7	-1.6
	baz=302						
NWF	Wu-fen Shan	1.10	330	P	Pn	07 01 30.3	-0.2
	baz=343						
NWF				*e*S	Sn	07 01 42.5	-2.1
	baz=343						
OWD	Renai	1.11	262	P	Pn	07 01 30.1	-0.6
	baz=270						
OWD				S	Sn	07 01 43.6	-1.3
	baz=270						
TWA	Mucha	1.13	320	*e*P	Pn	07 01 30.6	-0.2
	baz=334						
TWA				*e*S	Sn	07 01 45.3	+0.1
	baz=334						
EHY	Hungye	1.14	238	P	Pn	07 01 30.3	-0.7
	baz=247						
EHY				S	Sn	07 01 43.8	-1.7
	baz=247						
NHDH	Xindian Distri	1.15	318	P	Pn	07 01 30.8	-0.3
	baz=329						
NHDH				*e*S	Sn	07 01 44.8	-0.9
	baz=329						
ECBN	Changbin	1.16	227	*i* P	Pn	07 01 30.2	-1.0
	baz=216						
ECBN				*e*S	Sn	07 01 45.2	-0.8
	baz=216						
TATO	Taipei	1.18	317	*e*P	Pn	07 01 31.0	-0.5
	baz=328						
TATO				*e*S	Sn	07 01 45.5	-1.0
	baz=328						
YULB	Yu-li	1.22	234	P	Pn	07 01 31.3	-0.8
EYUL	Yuli	1.23	232	*e*P	Pn	07 01 32.0	-0.2
	baz=243						
EYUL				*i* S	Sn	07 01 47.6	-0.1
	baz=243						
TWF1	Yuli	1.25	233	⇓*i*P	Pn	07 01 31.6	-0.8
	baz=243						
TWF1				*e*S	Sn	07 01 46.9	-1.2
	baz=243						
NFF	Wufeng Townshi	1.26	295	⇓P	Pn	07 01 32.9	+0.2
	baz=294						
NFF				S	Sn	07 01 47.6	-0.9
	baz=294						
HATJ	Hateruma jima	1.30	92	P	Pn	07 01 33.6	+0.4
HATJ				*e*S	Sn	07 01 50.5	+1.0
TWS1	Kuangyinshan	1.32	319	P	Pn	07 01 33.3	-0.1
	baz=331						
TWS1				*e*S	Sn	07 01 49.1	-0.7
	baz=331						
WHP	Taichung City	1.32	278	P	Pn	07 01 33.3	-0.1
	baz=269						
WHP				*i* S	Sn	07 01 49.6	-0.4
	baz=269						
DPDB	Guoxing	1.33	267	P	Pn	07 01 33.7	+0.1
	baz=266						
DPDB				*e*S	Sn	07 01 50.5	+0.3
	baz=266						
NJD	Zhudong	1.33	298	*e*P	Pn	07 01 33.7	+0.1
	baz=298						
NJD				*e*S	Sn	07 01 51.1	+1.0
	baz=298						
SSLB	Suanglung	1.34	256	P	Pn	07 01 33.3	-0.4
WCS	Beigang Elemen	1.34	268	⇑P	Pn	07 01 33.6	-0.1
	baz=267						
FULB	Fuli	1.35	228	P	Pn	07 01 33.0	-0.7
	baz=216						
FULB				*i* S	Sn	07 01 49.6	-1.0
	baz=216						
NTST	Danshui	1.35	321	P	Pn	07 01 34.0	+0.2
	baz=334						
NTST				S	Sn	07 01 50.5	0.0
	baz=334						
LIOB	Emei	1.35	293	P	Pn	07 01 34.1	+0.2
	baz=293						
LIOB				S	Sn	07 01 51.1	+0.5
	baz=293						
NSTT	Nanjuang	1.36	293	*i* P	Pn	07 01 34.5	+0.6
	baz=292						
NSTT				*i* S	Sn	07 01 50.9	+0.1
	baz=292						
CHKT	Chengkung	1.37	223	⇑*i*P	Pn	07 01 32.9	-1.2
	baz=214						
CHKT				*e*S	Sn	07 01 48.6	-2.4
	baz=214						
SMLT	Sun Moon Lake	1.37	261	⇑*i*P	Pn	07 01 33.9	-0.3
	baz=259						
SMLT				*e*S	Sn	07 01 51.3	0.0
	baz=259						
TYC	Yuchr	1.41	262	⇑P	Pn	07 01 34.5	-0.1
	baz=261						
TYC				*e*S	Sn	07 01 51.8	-0.1
	baz=261						
EHD	Haiduan	1.44	229	P	Pn	07 01 33.9	-1.2
	baz=238						
EHD				S	Sn	07 01 51.8	-1.0
	baz=238						
WHYT	Xinyi Township	1.46	254	⇑P	Pn	07 01 35.5	+0.2
	baz=245						
WHYT				*e*S	Sn	07 01 54.6	+1.4
	baz=245						
ECS	Chishang	1.47	227	*e*P	Pn	07 01 34.2	-1.2
	baz=218						
ECS				*e*S	Sn	07 01 53.6	+0.1
	baz=218						
TWQ1	Liyutan	1.48	279	⇓*e*P	Pn	07 01 37.1	+1.4
	baz=279						
TWQ1				S	Sn	07 01 55.0	+1.1
	baz=279						
JKRS	Kuro-shima	1.50	85	P	Pn	07 01 36.1	+0.3
JKRS				*e*S	Sn	07 01 54.8	+0.7
EDH	Donghe	1.50	221	⇑*i*P	Pn	07 01 34.6	-1.3
	baz=213						
EDH				S	Sn	07 01 52.3	-2.0
	baz=213						
WJS	Zhushan	1.54	260	P	Pn	07 01 37.6	+1.2
	baz=258						
WJS				S	Sn	07 01 57.0	+1.8
	baz=258						
ELDTW	Lidau	1.55	234	*i* P	Pn	07 01 35.7	-0.9
	baz=223						
ELDTW				*e*S	Sn	07 01 54.0	-1.6
	baz=223						
TCU	Taichung	1.56	272	*i* P	Pn	07 01 37.2	+0.6
	baz=270						
TCU				*e*S	Sn	07 01 57.4	+1.8
	baz=270						
ALS	Alishan	1.56	248	P	Pn	07 01 37.4	+0.4
	baz=246						
ALS				*e*S	Sn	07 01 57.9	+1.7
	baz=246						
WNT	Mingjian	1.57	262	P	Pn	07 01 37.9	+1.2
	baz=260						
WNT				*e*S	Sn	07 01 58.0	+2.1
	baz=260						
JIJ	Ishigaki jima	1.63	81	P	Pn	07 01 37.2	-0.4
JIJ				S	Sn	07 01 56.4	-1.1
CHN5	Tsauling	1.64	252	P	Pn	07 01 38.5	+0.7
	baz=251						
CHN5				*e*S	Sn	07 01 59.6	+1.8
	baz=251						
LDUT	Ludao	1.66	210	S	Sn	07 01 55.7	-2.3
	baz=208						
LONT	Longtian	1.66	224	S	Sn	07 01 57.0	-1.2
	baz=232						
WDLH	Douliu	1.74	256	*e*P	Pn	07 01 40.8	+1.7
	baz=255						
WDLH				*e*S	Sn	07 02 01.8	+1.7
	baz=255						
STYH	Taoyuan	1.74	238	⇑*e*P	Pn	07 01 39.6	+0.4
	baz=236						
STYH				*e*S	Sn	07 02 00.6	+0.4
	baz=236						
TWG	Pinlang	1.76	223	*e*P	Pn	07 01 38.6	-0.8
	baz=230						
WCKO	Fanlu	1.76	248	*e*P	Pn	07 01 40.9	+1.5
	baz=239						
WCKO				*e*S	Sn	07 02 02.5	+1.9
	baz=239						
STYT	Tauyuan	1.76	238	*i* P	Pn	07 01 39.6	+0.1
	baz=236						
STYT				*e*S	Sn	07 02 01.4	+0.6
	baz=236						
TPUB	Ta-pu	1.79	244	P	Pn	07 01 41.2	+1.3
CHN4	Tsaushan	1.80	246	*e*P	Pn	07 01 41.3	+1.3
	baz=244						
CHN4				*e*S	Sn	07 02 04.1	+2.4
	baz=244						
JISG	Ishigakijimahi	1.82	75	P	Pn	07 01 39.5	-0.8
JISG				*e*S	Sn	07 02 01.2	-1.1
WTP	Ta-pu	1.83	242	*e*P	Pn	07 01 41.4	+0.9
	baz=240						
WTP				*e*S	Sn	07 02 04.5	+2.0
	baz=240						
WRL	Guolierlin Hig	1.84	264	*i* P	Pn	07 01 41.2	+0.7
	baz=273						
WRL				*e*S	Sn	07 02 02.6	0.0
	baz=273						
WTK	Tuku	1.87	257	*i* P	Pn	07 01 41.9	+1.0
	baz=256						
WTK				*e*S	Sn	07 02 05.3	+2.0
	baz=256						
TWK	Hsinying	1.93	245	*e*P	Pn	07 01 42.9	+1.1
	baz=243						
CHN1	Nanshi	1.93	242	⇑*e*P	Pn	07 01 43.7	+1.9
	baz=240						
CHN1				*e*S	Sn	07 02 08.5	+3.6
	baz=240						
SGST	Jiashian	1.94	238	⇓P	Pn	07 01 42.3	+0.4
	baz=237						
SGST				*e*S	Sn	07 02 07.2	+2.1
	baz=237						
SLGT	Liugui	1.94	235	*i* P	Pn	07 01 42.7	+0.8
	baz=226						
SLGT				*e*S	Sn	07 02 06.9	+1.8
	baz=226						
SSD	Sandimen	2.10	230	*e*P	Pn	07 01 46.1	+2.0
	baz=225						
SSD				*e*S	Sn	07 02 09.6	+0.5
	baz=225						
TSMG	Majia	2.12	229	*e*P	Pn	07 01 46.2	+1.8
	baz=222						
JTJ	Tarama	2.18	76	P	Pn	07 01 45.2	0.0
TAWH	Dawu Township	2.23	218	*e*P	Pn	07 01 46.2	+0.2
	baz=223						
TAWH				*e*S	Sn	07 02 11.2	-1.1
	baz=223						
TSCK	Chigu Township	2.31	246	*e*P	Pn	07 01 47.2	+0.3
	baz=244						
TSCK				*e*S	Sn	07 02 14.3	+0.1
	baz=244						
SLIU	Shizi	2.38	218	*e*P	Pn	07 01 49.8	+1.8
	baz=216						
SLIU				*e*S	Sn	07 02 14.8	-1.2
	baz=216						

AEIC ***24*** *07:09:28.3±3.2,51°.09N±0°.10×178°.30W±0°.05,h10km±4km, Error ellipse: s-maj=14.2km s-min=4.6km az=183.0*
MOS ***24*** *07:09:30.1±0.9,51°.54N×178°.30W,h48km,mb5.2/37, Error ellipse: s-maj=8.5km s-min=5.6km az=100.5*
IDC ***24*** *07:09:31.1±1.3,51°.54N×178°.31W,h44km±10km,mb4.5/33, mbtmp4.8/38,ML5.1/4,MS3.9/69,Error ellipse: s-maj=12.1km s-min=7.8km az=168.0*
BJI ***24*** *07:09:31.6±0.0,51°.67N×178°.68W,h57km,mb5.3/69, mB5.3/38,Ms4.7/13,Ms7 4.3/16*
NEIC ***24*** *07:09:32.4±2.4,51°.39N±0°.10×178°.37W±0°.07,h55km±6km, mb4.8/239,ML5.0(AEIC),Error ellipse: s-maj=13.8km s-min=6.0km az=176.0*
ISC 24 07:09:32.8±0.3,**51°.45N**±0°.05×**178°.39W**±0°.03,**h58**km±2km, **h58**km:**pP-P,n1085**,σ1§**17**/1102,**mb4.9**/189,**MS4.0**/76, **29C-27D,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	Adak	1.15	67		Pn	07 09 50.4	-2.3
ADK	Adak	1.15	67	P	Pn	07 09 50.4	-2.3
CERB	Semis' Cerberu	1.32	292		Pn	07 09 55.3	+0.3
CERB					Sn	07 10 12.9	+1.2
CEPE	Semis' Perret	1.32	294		Pn	07 09 55.1	0.0
CEAP	Semis' Anvil P	1.38	294		Pn	07 09 56.1	+0.3
AMKA	Amchitka	1.45	268		Pn	07 09 55.0	-1.6
AMKA					Sn	07 10 16.5	+1.9
LSPA	Little Sitkin	1.96	286		Pn	07 10 04.1	+0.5
LSNW	Little Sitkin	1.99	286		Pn	07 10 03.9	-0.2
ATKA	Atka Island	2.71	72		Pn	07 10 11.9	-1.9
ATKA					Sn	07 10 44.2	-1.1
ATKA	Atka Island	2.71	72	P	Pn	07 10 12.9	-0.9
KOKL	Mount Kliuchef	2.74	70		Pn	07 10 14.3	0.0
KOFP	Korovin Flat P	2.79	71		Pn	07 10 14.5	-0.5
KONE	Korovin Northe	2.81	69		Sn	07 10 52.3	+4.5
KOSE	Korovin Southe	2.83	70		Pn	07 10 15.9	+0.3
KOSE					Sn	07 10 53.1	+4.6
SHEM	Shemya Is, Ala	4.80	288	P	Pn	07 10 41.3	-1.1
	51nm,0.3s,baz=58,slow=3.0,SNR=20						
SHEM				S	Sn	07 11 34.2	-2.5
	310nm,0.6s,baz=102,slow=4.2,SNR=4.1						
	102nm,0.3s						
CLES	Cleveland East	5.41	72		Pn	07 10 44.0	-6.7
CLCO	Concord Point,	5.51	73		Pn	07 10 52.6	+0.6
NIKH	Nikolski High	6.06	72		Pn	07 10 59.5	-0.1
NIKH	Nikolski High	6.06	72	P	Pn	07 10 59.8	+0.2
NIKH	Nikolski High	6.06	72	P	Pn	07 11 00.5	+0.9
	baz=257,SNR=16						
OKSP	Okmok Steeple	6.45	70		Pn	07 11 05.5	+0.5
OKWE	Okmok W'ng Wal	6.53	68		Pn	07 11 07.8	+1.7
OKCE	Okmok Cone E	6.56	68		Pn	07 11 07.9	+1.4
OKNC	Okmok New Cone	6.59	68		Pn	07 11 08.6	+1.6
OKER	Okmok East Rim	6.63	68		Pn	07 11 09.7	+2.1
OKFG	Magazine Ridge	6.70	69		Pn	07 11 10.3	+1.9
MAPS	Pakushin South	7.36	67		Pn	07 11 18.1	+0.7
MGOD	Makushin Gods	7.39	67		Pn	07 11 18.8	+0.9
SPIA	Saint Paul Isl	7.45	36		Pn	07 11 19.7	+1.0
SPIA	Saint Paul Isl	7.45	36	P	Pn	07 11 20.8	+2.2
	baz=222,SNR=6.6						
MSW	Makushin Switc	7.47	66		Pn	07 11 19.6	+0.5
MNAT	Makushin Natee	7.53	67		Pn	07 11 20.6	+0.8
MNAT					Sn	07 12 50.6	+7.1
MTBL	Makushin Table	7.55	66		Pn	07 11 21.6	+1.5
UNV	Unalaska Valle	7.62	67		Pn	07 11 21.2	+0.2
UNV					Sn	07 12 52.3	+6.6
UNV	Unalaska Valle	7.62	67	P	Pn	07 11 21.6	+0.6
UNV	Unalaska Valle	7.62	67	P	Pn	07 11 21.7	+0.8
	baz=255,SNR=11						
ZRO	Akutan Zero	7.98	66		Pn	07 11 27.2	+1.2
AKV	Akutan Volcano	8.00	66		Pn	07 11 27.6	+1.4
AKGG	Akutan Green G	8.00	65		Pn	07 11 27.6	+1.4
AKBBA	Akutan Broad B	8.01	66		Pn	07 11 28.3	+2.0
AHB	Akutan Harbor	8.08	66		Pn	07 11 28.9	+1.6
AKUT	Akutan	8.11	66		Pn	07 11 29.8	+2.2
AKUT	Akutan	8.11	66	P	Pn	07 11 28.5	+0.9
AKSA	Akutan Strait	8.15	66		Pn	07 11 30.1	+1.9
WECS	Westdahl Cape	8.77	64		Pn	07 11 38.7	+1.9
WEBT	Westdahl Beart	8.80	64		Pn	07 11 38.7	+1.5
FALS	False Pass	9.62	63	P	Pn	07 11 49.8	+1.5
FALS	False Pass	9.62	63	P	Pn	07 11 49.3	+1.1
	baz=254						
M11K	Mekoryuk	11.24	33		Pn	07 12 13.3	+2.9
M11K	Mekoryuk	11.24	33	P	Pn	07 12 11.9	+1.4
	baz=222,SNR=6.2						
SDPT	Sand Point	11.38	63		Pn	07 12 10.7	-1.6
SDPT	Sand Point	11.38	63	P	Pn	07 12 11.3	-1.0
	baz=256						
CNBA	Chernabura Isl	11.78	66	Pn	Pn	07 12 15.9	-1.8
CHNA	Chernabura Isl	11.78	66	P	Pn	07 12 16.4	-1.4
	baz=260,SNR=7.2						
M13K	Dall Lake	12.29	37		Pn	07 12 28.6	+3.9
M13K	Dall Lake	12.29	37	P	Pn	07 12 26.4	+1.8
	baz=229,SNR=6.1						
O14K	Tigyukauivet M	12.46	45	Pn	Pn	07 12 29.8	+2.8

baz=234
CHGN Chignik 12.73 60 Pn Pn 07 12 29.6 -1.1
CHGN Chignik 12.73 60 P **Pn 07 12 30.3 -0.4**
baz=255
GAMB Gambell 12.86 13 P **Pn 07 12 34.2 +1.8**
baz=199
K13K Kusilvak Mount 12.90 30 Pn **Pn 07 12 35.2 +2.2**
K13K Kusilvak Mount 12.90 30 P **Pn 07 12 34.2 +1.2**
baz=221
M14K Bethel 13.03 38 Pn 07 12 37.2 +2.4
M14K Bethel 13.03 38 P **Pn 07 12 37.2 +2.4**
baz=231,SNR=7.4
O15K Ungalikthiuk R 13.07 46 P **Pn 07 12 37.2 +1.9**
baz=241,SNR=5.9
L14K Kuka Creek 13.14 35 Pn 07 12 39.2 +2.9
L14K Kuka Creek 13.14 35 P **Pn 07 12 38.4 +2.1**
baz=227
N15K Kwethluk River 13.45 42 Pn 07 12 42.5 +1.9
N15K Kwethluk River 13.45 42 P **Pn 07 12 42.0 +1.4**
baz=237,SNR=11
M15K Kasigluk River 13.50 40 P **Pn 07 12 43.4 +2.2**
baz=234,SNR=18
L15K Ungalak Mounta 13.80 36 P **Pn 07 12 47.6 +2.4**
baz=229,SNR=7.7
P16K Nushagak River 13.85 49 P **Pn 07 12 47.2 +1.3**
baz=245
J14K Nanvaranak Lak 13.85 29 Pn **Pn 07 12 48.4 +2.5**
J14K Nanvaranak Lak 13.85 29 P **Pn 07 12 47.3 +1.4**
baz=221,SNR=6.0
O16K Kokwok River B 14.04 47 Pn 07 12 50.6 +2.1
R17K Ugashik Creek 14.16 55 Pn 07 12 49.9 -0.1
R17K Ugashik Creek 14.16 55 P **Pn 07 12 49.8 -0.1**
baz=253,SNR=5.6
N16K Nishlik Lake 14.17 43 P **Pn 07 12 52.6 +2.4**
baz=238,SNR=16
CHIR Chirikof Islan 14.17 63 Pn **Pn 07 12 46.7 -3.5**
K15K Wolf Creek Mou 14.19 34 P 07 12 54.5 -1.7
K15K Wolf Creek Mou 14.19 34 P **Pn 07 12 52.8 +2.3**
baz=227,SNR=18
Q16K King Salmon 14.36 51 P **Pn 07 12 54.2 +1.6**
baz=248,SNR=8.6
M16K Timber Creek 14.38 41 Pn 07 12 55.5 +2.6
M16K Timber Creek 14.38 41 P **Pn 07 12 55.3 +2.3**
baz=236,SNR=15
L16K Owhat River 14.57 38 P **P 07 12 59.5 -1.0**
L16K Owhat River 14.57 38 P **Pn 07 12 57.2 +1.8**
baz=233,SNR=16
O17K Koliganek Bris 14.58 47 P **Pn 07 12 58.2 +2.7**
baz=244,SNR=7.9
Q17K Contact Creek 14.60 53 P **Pn 07 12 55.4 -0.5**
baz=251,SNR=14
P17K Kvichak River 14.65 50 P **Pn 07 12 56.6 +0.2**
baz=247
PEA0B Petropavlovsk- 14.71 286 *i* P **Pn 07 13 00.1 +2.8**
PETK Petropavlovsk- 14.71 286 P **Pn 07 12 57.1 -0.3**
8.8nm,1.1s,baz=89,slow=17,SNR=11
PETK S **Sn 07 15 39.5 +0.5**
2.2nm,0.8s,baz=164,slow=38,SNR=1.9
PETK LR LR 07 18 25.2
comp=Z,651nm,21.8s,baz=90,slow=36
ANM Nome 14.80 22 P **P 07 13 01.8 -1.2**
ANM Nome 14.80 22 P **P 07 13 01.8 -1.2**
N17K Nushagak Hills 14.88 44 P **Pn 07 13 01.6 +2.2**
N17K Nushagak Hills 14.88 44 P **Pn 07 12 59.8 +0.4**
baz=241,SNR=10.0
SII Sitkinak Islan 15.08 61 P **Pn 07 12 58.7 -3.4**
SII IAmb IAmb 07 13 05.8
comp=Z,45nm,0.6s
SII Sitkinak Islan 15.08 61 P **Pn 07 13 01.4 -0.7**
baz=260
R18K Karluk 15.14 57 P **Pn 07 13 01.9 -0.9**
baz=256
Q18K Katmai Hardscr 15.16 53 P **Pn 07 13 04.0 +0.9**
baz=251,SNR=12
J16K Anvik River 15.18 32 P **P 07 13 06.2 -1.0**
J16K IAmb IAmb 07 13 10.4
comp=Z,43nm,0.8s
J16K Anvik River 15.18 32 P **Pn 07 13 04.2 +0.9**
baz=226,SNR=5.6
M17K Holitna River 15.21 41 P **P 07 13 06.3 -1.2**
M17K IAmb IAmb 07 13 09.7
comp=Z,53nm,0.9s
M17K Holitna River 15.21 41 P **Pn 07 13 04.9 +1.2**
baz=238,SNR=22
L17K Donlin 15.27 38 P **Pn 07 13 04.2 -0.3**
baz=234,SNR=12
P18K Big Mountain, 15.30 50 P **Pn 07 13 06.7 +1.8**
P18K Big Mountain, 15.30 50 P **Pn 07 13 05.2 +0.4**
baz=248
F14K Arctic Creek 15.37 19 P **Pn 07 13 06.7 +1.1**
baz=209
G15K Niukluk 15.48 23 P **Pn 07 13 07.1 0.0**
baz=215,SNR=5.6
O18K Koktuh Hills 15.48 48 P **P 07 13 09.5 -1.0**
O18K IAmb IAmb 07 13 14.0
comp=Z,37nm,0.7s
O18K Koktuh Hills 15.48 48 P **Pn 07 13 07.9 +0.7**
baz=247,SNR=7.6
N18K Kilae Creek 15.52 45 P **P 07 13 10.1 -0.9**
N18K Kilae Creek 15.52 45 P **Pn 07 13 08.0 +0.3**
baz=243,SNR=11
K17K Iditarod 15.62 36 P **Pn 07 13 10.1 +1.2**
K17K Iditarod 15.62 36 P **Pn 07 13 09.7 +0.8**
baz=232,SNR=11
H16K Elim 15.67 26 P **Pn 07 13 09.4 -0.1**
baz=220
SVW2 Sparrevohn 15.84 44 P **P 07 13 13.9 -0.7**
SVW2 IAmb IAmb 07 13 17.2
comp=Z,72nm,1.4s
SVW2 Sparrevohn 15.84 44 P **Pn 07 13 13.3 +1.5**
Q19K Cape Douglas, 15.92 52 P **Pn 07 13 11.8 -0.9**
baz=252
M18K Stony River 15.93 42 P **Pn 07 13 12.9 +0.1**
baz=240
F15K North Star Dit 15.93 21 P 07 13 17.4 +1.9
F15K North Star Dit 15.93 21 P **Pn 07 13 13.4 +0.6**
baz=212,SNR=9.1
L18K Granite Mounta 15.95 39 P **P 07 13 15.7 0.0**
L18K Granite Mounta 15.95 39 P **Pn 07 13 13.4 +0.3**
baz=237,SNR=6.9
O19K Port Alsworth 16.03 48 P **Pn 07 13 14.3 +0.3**
O19K Port Alsworth 16.03 48 P **Pn 07 13 14.6 +0.6**
baz=247
KDAK Kodiak Island 16.17 57 P **Pn 07 13 12.0 -3.9**
KDAK IAmb IAmb 07 13 17.6
comp=Z,41nm,0.4s
KDAK Kodiak Island 16.17 57 P **Pn 07 13 14.7 -1.2**
baz=257
KDAK Kodiak Island 16.17 57 P **Pn 07 13 12.2 -3.7**
comp=Z,6.0nm,0.3s,baz=266,slow=6.9,SNR=48
KDAK S **Sn 07 16 08.9 -5.2**
comp=Z,3.2nm,0.4s,baz=264,slow=9.9,SNR=1.9
comp=Z,39nm,0.4s
N19K Bonanza Creek 16.20 45 P **P 07 13 17.9 -0.7**
N19K IAmb IAmb 07 13 21.3
comp=Z,42nm,0.8s
N19K Bonanza Creek 16.20 45 P **Pn 07 13 17.2 +0.8**
baz=245,SNR=15
G16K Koyuk River 16.23 24 P **P 07 13 20.6 +1.9**
G16K Koyuk River 16.23 24 P **Pn 07 13 17.5 +1.0**
baz=218,SNR=8.6
P19K Oil Pt 16.35 50 P **Pn 07 13 19.1 +0.9**
P19K IAmb IAmb 07 13 23.8
comp=Z,30nm,0.6s
P19K Oil Pt 16.35 50 P **Pn 07 13 17.0 -1.1**
baz=250
Q20K Shuyak Island 16.46 54 P **Pn 07 13 19.5 0.0**
baz=255
SYI Shuyak Island 16.46 54 P **Pn 07 13 16.9 -2.6**
SYI IAmb IAmb 07 13 27.7
comp=Z,94nm,1.6s
ILSW Iliamna Southw 16.50 49 P **Pn 07 13 21.1 +0.9**
H17K Granite Mounta 16.56 28 P **Pn 07 13 20.7 0.0**
baz=224,SNR=14
TTA Tatalina 16.60 38 P **P 07 13 23.2 +0.2**
TTA Tatalina 16.60 38 P **P 07 13 24.9 +1.9**
TTA Tatalina 16.60 38 P **Pn 07 13 22.0 +0.6**
baz=236,SNR=6.6
TTA Tatalina 16.60 38 P **P 07 13 23.2 +0.2**
TTA pmax pmax
comp=Z,33nm,1.0s
J18K Innoko River 16.64 35 P **Pn 07 13 23.0 +1.2**
baz=233,SNR=9.3
L19K White Mountain 16.66 41 P **P 07 13 24.6 +0.9**
L19K IAmb IAmb 07 13 29.0
comp=Z,55nm,0.7s
L19K White Mountain 16.66 41 P **P 07 13 23.6 0.0**
baz=240,SNR=48
M19K Big River Lodg 16.72 42 P **P 07 13 25.2 +0.9**
M19K Big River Lodg 16.72 42 P **Pn 07 13 23.7 +0.8**
baz=242
G17K Kiwalik Mounta 16.77 26 P **P 07 13 25.2 +0.5**
baz=221,SNR=11
O20K Slope Mountain 16.78 49 P **Pn 07 13 24.6 +1.0**
baz=250
RSO Redoubt South 16.85 48 P **P 07 13 26.7 +0.8**
HOM Homer 17.11 51 P **Pn 07 13 28.2 +0.6**
baz=252
H18K Honhosa River 17.18 29 P **P 07 13 31.4 +2.1**
H18K Honhosa River 17.18 29 P **P 07 13 29.4 +0.1**
baz=226
L20K Farewell, AK 17.21 41 P **P 07 13 29.7 0.0**
baz=241,SNR=16
M20K Styx River 17.25 43 P **P 07 13 31.2 +1.0**
M20K Styx River 17.25 43 P **P 07 13 30.6 +0.4**
baz=244,SNR=19
CNPM China Poot 17.28 52 P **Pn 07 13 29.5 -0.2**
F17K Baldwin Pennin 17.33 23 P **Pn 07 13 30.5 +0.2**
baz=218,SNR=6.6
J19K Poorman 17.35 35 P **P 07 13 32.1 +0.9**
J19K Poorman 17.35 35 P **Pn 07 13 31.0 +0.4**
baz=234,SNR=16
N20K Mount Spurr 17.37 46 P **Pn 07 13 31.2 +0.2**
baz=247,SNR=20
SPCR Spurr Chakacha 17.37 46 P **Pn 07 13 31.5 +0.6**
baz=244,SNR=14
GCSA Galena City Sc 17.38 32 P **P 07 13 32.5 +1.1**
baz=230,SNR=11
BRLK Bradley Lake 17.51 51 P **Pn 07 13 30.7 -1.9**
K20K Telida 17.57 38 P **P 07 13 34.5 +0.9**
K20K Telida 17.57 38 P **P 07 13 34.0 +0.3**
baz=238,SNR=19
BRSE Bradley Lake S 17.58 51 P **Pn 07 13 32.8 -0.6**
baz=253
G18K Tagagawik 17.62 27 P **P 07 13 35.9 +1.8**
G18K Tagagawik 17.62 27 P **P 07 13 35.4 +1.3**
baz=224,SNR=14
E17K Hotham Inlet 17.71 22 P **P 07 13 37.1 +2.0**
baz=216,SNR=15
D17K Noatak River 17.95 19 P **Pn 07 13 39.1 +1.3**
baz=212
SKT Skwentna 17.97 44 P **Pn 07 13 39.1 +0.9**
SKT IAmb IAmb 07 13 42.8
comp=Z,54nm,0.5s
SKT Skwentna 17.97 44 P **Pn 07 13 39.2 +1.0**
baz=246,SNR=35
J20K Nowinta River 17.99 36 P **P 07 13 38.6 +0.5**
J20K Nowinta River 17.99 36 P **Pn 07 13 38.8 +0.5**
baz=236,SNR=11
H19K Roundabout Mou 18.03 30 P **Pn 07 13 40.0 +1.2**
H19K Roundabout Mou 18.03 30 P **Pn 07 13 39.5 +0.7**
baz=229
C16K Lisburne Hills 18.03 16 P **Pn 07 13 40.5 +1.7**
C16K IAmb IAmb 07 13 46.4
comp=Z,67nm,1.4s
C16K Lisburne Hills 18.03 16 P **Pn 07 13 39.8 +1.0**
baz=207
PPLA Purkeypile 18.09 41 P **Pn 07 13 41.3 +1.5**
baz=242,SNR=22
SUA Susitna One 18.12 46 P **P 07 13 39.4 -0.4**
SUA Susitna One 18.12 46 P **P 07 13 39.4 -0.4**
baz=248
I20K Naaghedeneel 18.22 34 P **Pn 07 13 41.6 +0.4**
I20K Naaghedeneel 18.22 34 P **Pn 07 13 41.5 +0.4**
baz=234,SNR=5.3
G19K Purcell Mounta 18.25 28 P **Pn 07 13 42.5 +1.0**
G19K Purcell Mounta 18.25 28 P **Pn 07 13 42.2 +0.7**
baz=226,SNR=10.0
E18K Tukpahlearik C 18.27 22 P **Pn 07 13 42.6 +1.0**
E18K Tukpahlearik C 18.27 22 P **Pn 07 13 42.7 +1.0**
baz=217
O22K Cooper Landing 18.27 49 P **P 07 13 41.8 +0.4**
O22K Cooper Landing 18.27 49 P **P 07 13 41.8 +0.4**
baz=253,SNR=12
SEW Seward 18.30 51 P **P 07 13 40.9 -0.7**
baz=254
CAST Castle Rocks 18.38 39 Pn 07 13 43.6 +0.4
CAST IAmb IAmb 07 13 51.9
comp=Z,34nm,0.5s
CAST Castle Rocks 18.38 39 P **Pn 07 13 43.7 +0.6**
baz=241,SNR=33
RC01 Rabbit Creek A 18.45 47 P **Pn 07 13 45.0 +1.0**
RC01 Rabbit Creek A 18.45 47 P **Pn 07 13 44.1 0.0**
baz=251
M22K Willow 18.51 45 P **P 07 13 43.4 -0.5**
M22K IAmb IAmb 07 13 56.7
comp=Z,89nm,1.1s
M22K Willow 18.51 45 P **P 07 13 43.9 0.0**
baz=248
H20K Anotleneega Mo 18.51 32 P **P 07 13 44.5 +0.6**
baz=231,SNR=20
CHUM Lake Minchumin 18.52 38 P **P 07 13 44.8 +0.8**
baz=240,SNR=15
F19K Shaleruckik Mo 18.54 26 P **P 07 13 45.1 +0.8**
F19K IAmb IAmb 07 13 50.1
comp=Z,48nm,1.2s
F19K Shaleruckik Mo 18.54 26 P **P 07 13 44.9 +0.7**
baz=223
C17K DeLong Mountai 18.59 18 P **P 07 13 45.7 +0.9**
baz=211
CUT Chulitna 18.69 43 P **P 07 13 45.9 0.0**
CUT IAmb IAmb 07 13 49.6
comp=Z,67nm,0.6s
CUT Chulitna 18.69 43 P **P 07 13 46.2 +0.3**
baz=246,SNR=10
PMR Palmer 18.89 46 P **P 07 13 47.1 -1.0**
PMR Palmer 18.89 46 P **Pn 07 13 49.2 0.0**
baz=250
PMR Palmer 18.89 46 P **P 07 13 47.2 -1.0**
PMR pmax pmax
comp=Z,7.0nm,0.6s
KTH Kantishna Hill 18.90 40 P **P 07 13 49.1 +0.8**
KTH IAmb IAmb 07 13 52.5
comp=Z,95nm,0.7s
PWL Port Wells 19.04 49 P **P 07 13 48.8 -1.0**
PWL IAmb IAmb 07 13 57.0
comp=Z,43nm,1.2s
PWL Port Wells 19.04 49 P **P 07 13 50.0 +0.2**
baz=253,SNR=8.3
GHO Glory Hole Cre 19.05 46 P 07 13 50.8 +0.8
MA2 Magadan 19.11 307 P **P 07 13 51.6 +1.1**
comp=Z,1.1nm,0.3s,baz=107,slow=11,SNR=4.8
MA2 LR LR 07 20 46.8
comp=Z,500nm,20.2s,baz=104,slow=35
comp=Z,12nm,0.6s
TRF Thorofare Moun 19.11 40 P 07 13 51.5 +0.8
TRF IAmb IAmb 07 14 03.5
comp=Z,103nm,1.2s
TRF Thorofare Moun 19.11 40 P **P 07 13 51.5 +0.8**
baz=244,SNR=28
BPAW Bear Paw Mtn. 19.13 38 P **P 07 13 51.1 +0.3**
BPAW IAmb IAmb 07 13 56.5
comp=Z,32nm,0.6s
BPAW Bear Paw Mtn. 19.13 38 P **P 07 13 51.7 +0.9**
baz=241,SNR=35
C18K Utukok River 19.13 19 Pn 07 13 52.8 +0.7
C18K IAmb IAmb 07 13 54.1
comp=Z,36nm,0.9s
C18K Utukok River 19.13 19 P **Pn 07 13 52.4 +0.2**
baz=214,SNR=8.0
E19K Redstone River 19.14 25 P **P 07 13 51.4 +0.6**
E19K Redstone River 19.14 25 P **Pn 07 13 52.3 +0.1**
baz=223
KNK Knik Glacier 19.14 47 P **P 07 13 50.9 0.0**
KNK IAmb IAmb 07 14 02.2
comp=Z,25nm,0.7s
KNK Knik Glacier 19.14 47 P **P 07 13 51.7 +0.8**
baz=252,SNR=6.6
IMAR Indian Mountai 19.18 31 P **P 07 13 52.0 +0.7**
F20K Avaraart Lake 19.27 27 P **Pn 07 13 53.5 -0.1**
F20K Avaraart Lake 19.27 27 P **P 07 13 52.8 +0.6**
baz=226,SNR=9.5
P23K Montague Islan 19.27 52 P **P 07 13 52.5 +0.2**
baz=257
H21K Melozitna Rive 19.30 33 Pn 07 13 54.1 0.0
H21K IAmb IAmb 07 13 57.4
comp=Z,34nm,0.9s
H21K Melozitna Rive 19.30 33 P **P 07 13 53.6 +1.0**
baz=234,SNR=35
I21K Tanana 19.32 35 P **Pn 07 13 54.5 +0.2**
I21K IAmb IAmb 07 13 55.1
comp=Z,32nm,0.8s
I21K Tanana 19.32 35 P **P 07 13 53.8 +1.0**
baz=237,SNR=29
SML Sawmill 19.32 46 P **P 07 13 51.9 -1.0**
SML Sawmill 19.32 46 P **P 07 13 52.9 0.0**
baz=251
SEY Seymchan 19.36 318 *i* P **P 07 13 54.2 +1.0**
SEY Seymchan 19.36 318 P **P 07 13 53.4 +0.2**
comp=Z,1.5nm,0.3s,baz=110,slow=13,SNR=14
SEY PcP **PcP 07 18 12.8 +0.1**
comp=Z,4.4nm,0.7s,baz=141,slow=2.5,SNR=6.6
SEY LR LR 07 21 07.9
comp=Z,563nm,18.8s,baz=117,slow=36
SEY ScP **ScP 07 21 44.0 +0.7**
comp=Z,2.1nm,0.7s,baz=93,slow=7.7,SNR=5.8
comp=Z,5.4nm,0.5s
WAT1 Susitna Watana 19.58 43 P **P 07 13 54.5 -1.2**
baz=248
G21K Allakaket 19.59 30 P **P 07 13 56.5 +0.8**
G21K IAmb IAmb 07 13 58.0
comp=Z,72nm,0.7s
G21K Allakaket 19.59 30 P **P 07 13 56.9 +1.2**
baz=231
M23K Glacier View 19.59 46 P **P 07 13 56.5 +0.7**
baz=252,SNR=13
B18K Kokolik River 19.62 18 P **Pn 07 13 57.7 0.0**
baz=212
GLI Glacier Island 19.63 49 P **P 07 13 56.1 -0.1**
GLI IAmb IAmb 07 14 11.5
comp=Z,56nm,1.2s
RND Reindeer 19.68 41 P **P 07 13 56.5 -0.3**
RND IAmb IAmb 07 13 59.9
comp=Z,30nm,0.6s
RND Reindeer 19.68 41 P **P 07 13 56.5 -0.3**
RND pmax pmax
comp=Z,29nm,0.6s
MLY Manley 19.69 36 P **P 07 13 57.7 +0.9**
MLY IAmb IAmb 07 14 02.4
comp=Z,25nm,0.7s
MLY Manley 19.69 36 P **P 07 13 57.3 +0.4**
baz=239,SNR=33
D19K Kuna River 19.70 22 P **P 07 13 57.1 +0.2**
D19K IAmb IAmb 07 14 02.5
comp=Z,51nm,0.8s
D19K Kuna River 19.70 22 P **Pn 07 13 58.3 -0.5**
baz=220
BWN Browne 19.76 39 P **P 07 13 58.6 +1.0**
BWN IAmb IAmb 07 14 03.8
comp=Z,55nm,0.8s
MCK McKinley 19.78 40 P **P 07 13 57.5 -0.3**
baz=245,SNR=14
SCM Sheep Creek Mo 19.79 46 P **P 07 13 56.3 -1.7**
SCM IAmb IAmb 07 14 01.2
comp=Z,31nm,0.8s
SCM Sheep Creek Mo 19.79 46 P **P 07 13 56.6 -1.3**
baz=252
SCM Sheep Creek Mo 19.79 46 P **P 07 13 56.3 -1.7**
SCM pmax pmax
comp=Z,31nm,0.8s
HIN Hinchinbrook I 19.80 51 P **P 07 13 58.5 +0.4**
WAT6 Susitna Watana 19.84 44 P **P 07 13 57.9 -0.7**
baz=250,SNR=24
C19K Lookout Ridge 19.85 20 Pn 07 14 00.4 -0.1
C19K Lookout Ridge 19.85 20 P **P 07 13 59.8 +1.3**
baz=216
FID Port Fidalgo 19.89 50 P **P 07 13 58.4 -0.6**
FID IAmb IAmb 07 14 02.2
comp=Z,32nm,0.7s
H22K Ishtalitna Cre 19.92 33 P **P 07 13 59.6 +0.3**
baz=236,SNR=15
E20K Nigu River 20.00 24 P **P 07 14 00.8 +0.7**
baz=223
F21K Alatna River 20.04 29 P **P 07 14 01.9 +1.3**
F21K IAmb IAmb 07 14 02.8
comp=Z,35nm,0.7s
F21K Alatna River 20.04 29 P **P 07 14 01.3 +0.7**
baz=230,SNR=24
NEA2 Nenana 20.10 38 P **P 07 14 01.4 +0.1**
NEA2 IAmb IAmb 07 14 06.1
comp=Z,37nm,0.6s
NEA2 Nenana 20.10 38 P **P 07 14 01.2 -0.1**
baz=243,SNR=35
DHY Denali Highway 20.17 43 P **P 07 14 01.2 -1.0**
DHY IAmb IAmb 07 14 11.6
comp=Z,52nm,0.6s
DHY Denali Highway 20.17 43 P **P 07 14 01.4 -0.9**
baz=249,SNR=62
EYAK Cordova Ski Ar 20.20 51 P **P 07 14 02.4 +0.1**
baz=257
D20K Etivluk River 20.22 23 P **P 07 14 03.4 +0.8**
baz=222
I23K Minto, Yukon-K 20.25 36 P **P 07 14 03.4 +0.5**
I23K IAmb IAmb 07 14 08.5
comp=Z,36nm,0.6s
I23K Minto, Yukon-K 20.25 36 P **P 07 14 03.0 +0.1**
baz=241,SNR=28
KLU Klutina 20.34 48 P **P 07 14 02.8 -1.2**
KLU Klutina 20.34 48 P **P 07 14 04.0 +0.1**
baz=255,SNR=12
M24K Tolsona, Glenn 20.39 46 P **P 07 14 04.0 -0.5**
M24K IAmb IAmb 07 14 17.5
comp=Z,54nm,0.8s
M24K Tolsona, Glenn 20.39 46 P **P 07 14 04.5 0.0**
baz=253,SNR=7.1
WRH Wood River Hil 20.43 39 P **P 07 14 04.3 -0.6**
G22K Bettles 20.47 31 P **P 07 14 06.1 +1.0**
baz=234
H23K Yukon River 20.52 35 P **P 07 14 06.8 +0.9**
H23K IAmb IAmb 07 14 24.4
comp=Z,39nm,0.8s
H23K Yukon River 20.52 35 P **P 07 14 06.6 +0.7**
baz=239,SNR=9.3
MDM Murphy Dome 20.59 37 P **P 07 14 06.6 0.0**
MDM IAmb IAmb 07 14 22.1
comp=Z,42nm,0.7s
F22K John River 20.61 29 P **P 07 14 08.1 +1.3**
baz=231
CCB Clear Creek Bu 20.62 38 P **P 07 14 05.9 -0.9**
RAGM Ragged Mountai 20.69 51 P **P 07 14 09.3 +1.7**
RAGM IAmb IAmb 07 14 23.5
comp=Z,22nm,0.6s
COLA College 20.70 38 P **P 07 14 08.3 +0.6**
COLA IAmb IAmb 07 14 18.9
comp=Z,34nm,0.8s
COLA College 20.70 38 P **P 07 14 08.9 +1.2**
COLA College 20.70 38 P **P 07 14 08.5 +0.8**
baz=244
COLA College 20.70 38 P **P 07 14 08.3 +0.6**
COLA pmax pmax
comp=Z,34nm,0.8s
E21K Killik River 20.71 26 P **P 07 14 07.9 0.0**
E21K IAmb IAmb 07 14 18.8
comp=Z,84nm,1.6s
E21K Killik River 20.71 26 P **P 07 14 08.1 +0.2**
baz=227
G23K Bananza Creek 20.83 32 P **P 07 14 09.2 0.0**
G23K Bananza Creek 20.83 32 P **P 07 14 09.9 +0.7**
baz=236,SNR=10
BMRM Bremner River 20.83 50 P **P 07 14 10.1 +0.8**
baz=258
HDA Harding Lake 20.86 40 P **P 07 14 09.1 -0.3**
HDA IAmb IAmb 07 14 26.6
comp=Z,18nm,0.6s
HDA Harding Lake 20.86 40 P **P 07 14 09.2 -0.3**
baz=246,SNR=14
HMT Hamilton 20.88 52 P **P 07 14 11.4 +1.7**
HMT IAmb IAmb 07 14 16.7
comp=Z,217nm,1.9s
HARP HAARP 20.93 46 P **P 07 14 10.2 0.0**
baz=253
PAX Paxson 20.96 44 P **P 07 14 09.9 -0.7**
baz=251,SNR=30
POKR Poker Plat Res 20.96 37 P **P 07 14 10.7 +0.1**
POKR Poker Plat Res 20.96 37 P **P 07 14 11.2 +0.6**
baz=244,SNR=13
N25K Chitina, Valde 20.98 48 P 07 14 09.9 -0.9
N25K IAmb IAmb 07 14 25.6
comp=Z,31nm,0.7s
N25K Chitina, Valde 20.98 48 P **P 07 14 11.6 +0.8**
baz=256,SNR=13
C21K Knifeblade Rid 21.00 24 P **P 07 14 12.0 +1.1**
baz=224
IL31 21.03 39 P **P 07 14 09.6 -1.6**
IL31 IAmb IAmb 07 14 28.6
comp=Z,24nm,0.8s
ILAR Eielson Array 21.03 39 P **P 07 14 12.0 +0.7**
ILAR Eielson Array 21.03 39 P **P 07 14 09.3 -1.9**

comp=Z,2.1nm,0.4s,baz=241,slow=9.7,SNR=29
ILAR S **S** 07 18 00.2 -1.7
comp=Z,0.3nm,0.6s,baz=154,slow=35,SNR=2.2
ILAR PcP **PcP** 07 18 15.1 -0.6
comp=Z,5.6nm,0.5s,baz=284,slow=3.3,SNR=26
ILAR ScP **ScP** 07 21 47.0 -0.3
comp=Z,1.7nm,0.5s,baz=278,slow=3.1,SNR=28
comp=Z,2.1nm,0.4s
COLD Coldfoot 21.06 31 P **P** 07 14 13.0 +1.4
baz=235,SNR=15
B20K Meade River 21.09 20 P **P** 07 14 12.0 +0.2
B20K IAmb IAmb 07 14 17.5
comp=Z,134nm,1.4s
B20K Meade River 21.09 20 P **P** 07 14 12.3 +0.5
baz=219
K24K Donnelly Dome 21.10 42 P **P** 07 14 11.9 -0.2
baz=249
E22K Anaktuvuk Pass 21.11 28 P **P** 07 14 12.3 +0.1
E22K IAmb IAmb 07 14 17.1
comp=Z,25nm,0.8s
E22K Anaktuvuk Pass 21.11 28 P **P** 07 14 12.2 +0.1
baz=231
H24K Noodor Dome 21.13 35 P **P** 07 14 12.4 0.0
H24K IAmb IAmb 07 14 19.0
comp=Z,22nm,0.6s
H24K Noodor Dome 21.13 35 P **P** 07 14 12.7 +0.3
baz=241,SNR=16
BERG Berg Lake 21.16 52 P **P** 07 14 12.2 -0.6
BERG IAmb IAmb 07 14 19.2
comp=Z,109nm,1.8s
GLB Gilahina Butte 21.31 49 P **P** 07 14 12.8 -1.6
GLB IAmb IAmb 07 14 23.0
comp=Z,28nm,0.6s
D22K Ayikyak River 21.36 26 P **P** 07 14 15.5 +0.8
baz=228,SNR=8.2
B21K Ikpikpuk River 21.38 23 P **P** 07 14 15.7 +0.8
B21K IAmb IAmb 07 14 20.6
comp=Z,72nm,1.2s
B21K Ikpikpuk River 21.38 23 P **P** 07 14 15.4 +0.4
baz=223,SNR=6.8
VRDI Verde Repeater 21.43 49 P **P** 07 14 15.2 -0.7
VRDI IAmb IAmb 07 14 24.2
comp=Z,125nm,1.9s
RIDG Independent Ri 21.47 42 P **P** 07 14 15.7 -0.4
RIDG IAmb IAmb 07 14 36.5
comp=Z,36nm,0.7s
RIDG Independent Ri 21.47 42 P **P** 07 14 16.8 +0.7
baz=250,SNR=8.7
CRQM Cirque 21.50 51 P **P** 07 14 16.4 -0.1
CRQM IAmb IAmb 07 14 32.5
comp=Z,22nm,0.8s
CRQE Cirque 21.52 51 P **P** 07 14 16.8 +0.1
baz=260
J25K Salcha River, 21.56 40 P **P** 07 14 15.3 -1.8
J25K Salcha River, 21.56 40 P **P** 07 14 16.8 -0.3
baz=248,SNR=14
WAX Waxell Ridge 21.59 52 P **P** 07 14 18.6 +1.2
TGL Tana Glacier 21.65 51 P **P** 07 14 17.8 -0.2
TGL IAmb IAmb 07 14 23.8
comp=Z,44nm,1.6s
MCARA McCarthy VSAT 21.67 49 P **P** 07 14 18.1 0.0
MCARA IAmb IAmb 07 14 29.7
comp=Z,27nm,0.8s
MCARA McCarthy VSAT 21.67 49 P **P** 07 14 18.4 +0.3
baz=258
G24K Hadweenzic Riv 21.69 34 P **P** 07 14 18.6 +0.3
G24K IAmb IAmb 07 14 37.5
comp=Z,104nm,1.4s
G24K Hadweenzic Riv 21.69 34 P **P** 07 14 18.6 +0.3
baz=240,SNR=22
MENT Mentasta 21.71 45 P **P** 07 14 18.0 -0.7
MENT IAmb IAmb 07 14 39.7
comp=Z,29nm,0.6s
E23K Chandalar 21.72 29 P **P** 07 14 19.4 +0.7
baz=234,SNR=11
PRP Porcupine Dome 21.86 37 P **P** 07 14 20.2 -0.1
PRP IAmb IAmb 07 14 36.6
comp=Z,21nm,0.7s
PRP Porcupine Dome 21.86 37 P **P** 07 14 20.4 +0.1
baz=245
ISLE Juniper Island 21.86 51 P **P** 07 14 21.4 +1.0
ISLE IAmb IAmb 07 14 35.1
comp=Z,65nm,1.7s
M26K Nabesna, AK 21.90 46 P **P** 07 14 18.8 -1.8
M26K Nabesna, AK 21.90 46 P **P** 07 14 20.1 -0.6
baz=256,SNR=12
L26K Log Cabin Wild 21.90 45 P **P** 07 14 19.9 -0.8
L26K IAmb IAmb 07 14 43.1
comp=Z,57nm,1.1s
L26K Log Cabin Wild 21.90 45 P **P** 07 14 19.9 -0.8
baz=254,SNR=17
SCRK Sand Creek 21.91 42 P **P** 07 14 19.9 -0.9
SCRK IAmb IAmb 07 14 43.2
comp=Z,21nm,0.7s
SCRK Sand Creek 21.91 42 P **P** 07 14 20.3 -0.6
baz=251
D23K Nanushuk River 21.96 27 P **P** 07 14 21.5 +0.3
baz=231,SNR=8.6
F24K Squaw Lake 21.97 31 P **P** 07 14 22.3 +1.0
F24K IAmb IAmb 07 14 42.1
comp=Z,39nm,0.7s
F24K Squaw Lake 21.97 31 P **P** 07 14 22.0 +0.6
baz=238,SNR=33
MESA MESA 22.00 52 P **P** 07 14 21.8 -0.1
baz=262
H25L Birch Creek 22.07 35 P **P** 07 14 22.1 -0.3
baz=243
E24K Your Creek 22.08 30 P **P** 07 14 23.0 +0.4
E24K IAmb IAmb 07 14 36.5
comp=Z,18nm,0.6s
E24K Your Creek 22.08 30 P **P** 07 14 22.7 +0.2
baz=236,SNR=13
TOLK Toolik Lake Re 22.08 28 P **P** 07 14 23.0 +0.5
TOLK IAmb IAmb 07 14 25.8
comp=Z,42nm,1.1s
TOLK Toolik Lake Re 22.08 28 P **P** 07 14 22.4 -0.1
baz=233,SNR=14
YAH Yahtse 22.12 52 P **P** 07 14 24.3 +1.0
YAH IAmb IAmb 07 14 42.6
comp=Z,17nm,0.7s
GRNC Granite Creek 22.17 51 P **P** 07 14 22.7 -1.1
B22K Teshekpuk Lake 22.18 22 P **P** 07 14 23.3 -0.2
B22K Teshekpuk Lake 22.18 22 P **P** 07 14 23.7 +0.2
baz=224
G25K Bearman Lake 22.20 34 P **P** 07 14 23.9 +0.2
baz=242,SNR=5.7
J26L Joseph Creek 22.25 41 P **P** 07 14 23.6 -0.9
J26L IAmb IAmb 07 14 28.6
comp=Z,21nm,0.6s
J26L Joseph Creek 22.25 41 P **P** 07 14 22.9 -1.6
baz=250,SNR=31
BARN Barnard Glacie 22.26 50 P **P** 07 14 25.0 +0.3
M27K Edge Creek, AK 22.40 47 P **P** 07 14 26.2 +0.1
M27K IAmb IAmb 07 14 27.6
comp=Z,24nm,0.8s
M27K Edge Creek, AK 22.40 47 P **P** 07 14 25.9 -0.3
baz=257,SNR=17
CTG Chitna Glacier 22.40 50 P **P** 07 14 26.1 -0.1
baz=261
CTGM Chitina Glacie 22.40 50 P **P** 07 14 26.6 +0.3
CTGM IAmb IAmb 07 14 35.7
comp=Z,14nm,0.6s
FYU Fort Yukon 22.42 35 P **P** 07 14 26.4 +0.3
FYU IAmb IAmb 07 14 49.7
comp=Z,47nm,1.0s
TABL Table Mountain 22.43 52 P **P** 07 14 26.2 -0.3
C23K Itkillik River 22.54 25 P **P** 07 14 27.7 +0.3
C23K IAmb IAmb 07 14 28.2
comp=Z,48nm,0.7s
C23K Itkillik River 22.54 25 P **P** 07 14 27.3 -0.1
baz=229,SNR=7.0
LOGN Logan Glacier 22.54 51 P **P** 07 14 27.3 -0.4
L27K Beaver Creek, 22.58 45 P **P** 07 14 27.0 -1.0
L27K Beaver Creek, 22.58 45 P **P** 07 14 27.0 -1.0
baz=256,SNR=9.1
BCAR Beaver Creek A 22.60 45 P **P** 07 14 27.0 -1.2
D24K Happy Valley 22.61 27 P **P** 07 14 27.9 -0.3
D24K IAmb IAmb 07 14 43.8
comp=Z,40nm,0.8s
D24K Happy Valley 22.61 27 P **P** 07 14 27.7 -0.4
baz=233
I26K Coal Creek Min 22.70 39 P **P** 07 14 27.2 -1.9
I26K Coal Creek Min 22.70 39 P **P** 07 14 28.3 -0.8
baz=249
K27K Chicken 22.73 42 P **P** 07 14 28.8 -0.6
K27K IAmb IAmb 07 14 52.2
comp=Z,51nm,1.4s
K27K Chicken 22.73 42 P **P** 07 14 29.0 -0.4
baz=253
F25K Christian Rive 22.75 32 P **P** 07 14 29.8 0.0
baz=241,SNR=18
PINM Pinnacle 22.83 53 P **P** 07 14 29.3 -1.3
baz=264
BVCY Beaver Creek 22.87 47 P **P** 07 14 30.2 -0.8
baz=258
O28M Mount Upton 22.93 51 P **P** 07 14 31.2 -0.7
baz=263
YUK3 Moose Creek 22.95 49 P **P** 07 14 30.8 -1.2
baz=260,SNR=13
C24K Franklin Bluff 22.98 26 P **P** 07 14 31.4 -0.6
baz=232,SNR=10.0
BMAR Burnt Mountain 23.03 33 P **P** 07 14 32.1 -0.5
E25K Arctic Village 23.04 31 P **P** 07 14 32.6 0.0
E25K IAmb IAmb 07 14 50.6
comp=Z,71nm,1.6s
E25K Arctic Village 23.04 31 P **P** 07 14 32.3 -0.3
baz=240,SNR=10
G26K Porcupine Rive 23.10 35 P **P** 07 14 32.7 -0.5
baz=244,SNR=35
YUK8 Steele Glacier 23.20 50 P **P** 07 14 33.3 -1.3
baz=262,SNR=10
F26K Sheenjek River 23.30 33 P **P** 07 14 35.4 +0.1
baz=242,SNR=15
I27K Kandik River 23.40 39 P **P** 07 14 34.8 -1.3
baz=250
D25K Kavik River 23.42 28 P **P** 07 14 36.0 -0.3
D25K IAmb IAmb 07 14 38.7
comp=Z,22nm,0.7s
D25K Kavik River 23.42 28 P **P** 07 14 35.7 -0.6
baz=236
H27K Steamboat Moun 23.65 37 P **P** 07 14 37.4 -1.1
baz=249
O29M Mount Kennedy 23.68 53 P **P** 07 14 38.5 -0.4
baz=266
YUK4 Talbot Arm 23.75 50 P **P** 07 14 38.5 -1.0
baz=263
G27K Doyon Strip 23.82 36 P **P** 07 14 39.1 -0.8
G27K Doyon Strip 23.82 36 P **P** 07 14 39.4 -0.5
baz=248
YUK6 Outpost Mounta 23.84 51 P **P** 07 14 39.9 -0.6
baz=264
DAWY Dawson 23.88 43 P **P** 07 14 39.6 -0.9
DAWY IAmb IAmb 07 15 04.4
comp=Z,29nm,1.1s
DAWY Dawson 23.88 43 P **P** 07 14 39.6 -0.9
baz=256,SNR=11
M29M Somme Creek 23.98 47 P **P** 07 14 40.3 -1.2
M29M IAmb IAmb 07 15 05.9
comp=Z,22nm,1.1s
M29M Somme Creek 23.98 47 P **P** 07 14 40.4 -1.2
baz=261,SNR=16
I28M Miner Creek 24.02 40 P **P** 07 14 41.0 -0.8
I28M IAmb IAmb 07 15 02.6
comp=Z,28nm,0.9s
I28M Miner Creek 24.02 40 P **P** 07 14 40.8 -1.1
baz=252,SNR=26
P29M Windy Craggy 24.07 54 P **P** 07 14 41.9 -0.4
baz=268
C26K Camden Bay 24.18 28 P **P** 07 14 43.6 +0.5
baz=237,SNR=14
L29M L29M 24.24 46 P **P** 07 14 42.8 -1.1
baz=260,SNR=16
HYT Haines Junctio 24.25 51 P **P** 07 14 44.1 0.0
HYT Haines Junctio 24.25 51 P **P** 07 14 42.9 -1.2
baz=265
E27K Coleen River 24.39 33 P **P** 07 14 45.9 +0.8
E27K IAmb IAmb 07 15 04.6
comp=Z,24nm,0.9s
E27K Coleen River 24.39 33 P **P** 07 14 45.3 +0.2
baz=245,SNR=8.4
J29N Klondike Camp 24.47 42 P **P** 07 14 45.8 -0.1
baz=257
N30M Aishikik Lake 24.50 50 P **P** 07 14 45.2 -1.0
N30M Aishikik Lake 24.50 50 P **P** 07 14 44.5 -1.8
baz=264
K29M Barlow Dome 24.64 44 P **P** 07 14 46.3 -1.3
K29M IAmb IAmb 07 14 57.6
comp=Z,31nm,0.6s
K29M Barlow Dome 24.64 44 P **P** 07 14 46.2 -1.3
baz=259,SNR=27
I29M Ogilvie Camp, 24.65 40 P **P** 07 14 46.0 -1.5
I29M IAmb IAmb 07 15 09.6
comp=Z,30nm,0.9s
I29M Ogilvie Camp, 24.65 40 P **P** 07 14 46.0 -1.5
baz=255
F28M Old Crow 24.76 35 P **P** 07 14 48.5 0.0
F28M IAmb IAmb 07 14 51.7
comp=Z,20nm,0.7s
F28M Old Crow 24.76 35 P **P** 07 14 48.5 0.0
baz=248,SNR=16
M30M Minto, Yukon 24.76 47 P **P** 07 14 47.2 -1.4
M30M Minto, Yukon 24.76 47 P **P** 07 14 47.5 -1.1
baz=262
H29M Whitestone 24.86 38 P **P** 07 14 48.2 -1.3
H29M IAmb IAmb 07 15 16.8
comp=Z,63nm,1.8s
H29M Whitestone 24.86 38 P **P** 07 14 48.1 -1.3
baz=253
O30N Mendenhall 24.94 52 P **P** 07 14 48.4 -1.8
baz=267
D27M Malcolm River 25.05 31 P **P** 07 14 51.7 +0.5
D27M Malcolm River 25.05 31 P **P** 07 14 51.4 +0.2
baz=244
N31M Braeburn, Yuko 25.13 50 P **P** 07 14 51.4 -0.5
baz=266
UGL Uglegorsk 25.18 280 *e*P **P** 07 14 54.0 +1.6
UGL pmax pmax
comp=Z,150nm,0.6s
G29M Pine Creek 25.20 37 P **P** 07 14 51.9 -0.6
G29M Pine Creek 25.20 37 P **P** 07 14 52.0 -0.6
baz=252
E28M Babbage River 25.25 33 P **P** 07 14 54.2 +1.2
baz=247,SNR=6.5
J30M Hart River 25.29 43 P **P** 07 14 52.6 -0.9
J30M Hart River 25.29 43 P **P** 07 14 52.1 -1.4
baz=258,SNR=7.4
SKAG Skagway 25.30 55 P **P** 07 14 53.7 +0.3
baz=270
MAYO Mayo, Yukon 25.31 45 P **P** 07 14 54.1 +0.5
MAYO IAmb IAmb 07 15 13.5
comp=Z,21nm,0.9s
MAYO Mayo, Yukon 25.31 45 P **P** 07 14 52.9 -0.6
baz=261
I30M Mount Dempster 25.40 41 P **P** 07 14 52.8 -1.7
I30M IAmb IAmb 07 15 15.9
comp=Z,19nm,0.8s
I30M Mount Dempster 25.40 41 P **P** 07 14 52.7 -1.7
baz=257,SNR=15
WHY Whitehorse 25.53 52 P **P** 07 14 54.4 -1.2
baz=268
EPYK Eagle Plains 25.54 38 P **P** 07 14 54.1 -1.5
EPYK Eagle Plains 25.54 38 P **P** 07 14 54.2 -1.4
baz=254
YSS Yuzh-Sakhalins 25.57 275 P **P** 07 14 57.4 +1.4
YSS Yuzh-Sakhalins 25.57 275 P **P** 07 14 58.4 +2.4
YSS Yuzh-Sakhalins 25.57 275↓ *e*P **P** 07 14 57.7 +1.7
YSS pmax pmax
comp=Z,80nm,0.9s
YSS MLR MLR
comp=Z,800nm,16.0s
E29M Blow River 25.73 34 P **P** 07 14 57.3 0.0
baz=249
M31M Drury Creek, Y 25.84 48 P **P** 07 14 57.4 -1.0
M31M Drury Creek, Y 25.84 48 P **P** 07 14 57.4 -1.0
baz=265
G30M tAoh Zraii Nji 25.90 37 P **P** 07 14 57.8 -1.0
baz=254
P32M Atlin 26.11 54 P **P** 07 15 00.5 -0.4
baz=271
F30M Barrier River 26.24 36 P **P** 07 15 02.2 +0.4
baz=253
FARO Faro, Yukon 26.33 48 P **P** 07 15 02.0 -0.8
FARO Faro, Yukon 26.33 48 P **P** 07 15 02.1 -0.6
baz=266
H31M Peel River 26.36 40 P **P** 07 15 01.6 -1.3
H31M Peel River 26.36 40 P **P** 07 15 01.8 -1.2
baz=258
N32M Quiet Lake 26.42 51 P **P** 07 15 03.6 0.0
baz=269
P33M Teslin, Yukon 26.55 53 P **P** 07 15 04.1 -0.7
baz=271
G31M Satah River 26.63 38 P **P** 07 15 05.0 -0.3
baz=256
F31M Tsiigehtchic 26.95 37 P **P** 07 15 07.6 -0.6
baz=256
JKA Kamikawa-asahi 26.96 270 P **P** 07 15 09.7 +1.1
ASAJ Asahikawa 26.96 270 P **P** 07 15 09.7 +1.1
ASAJ pmax pmax
comp=Z,74nm,1.0s
ASAJ Asahikawa 26.96 270 LR LR 07 24 42.6
comp=Z,87nm,21.7s,baz=116,slow=34
INK Inuvik 27.25 35 P **P** 07 15 10.6 -0.3
INK Inuvik 27.25 35 P **P** 07 15 10.9 0.0
baz=254
INK Inuvik 27.25 35 P **P** 07 15 10.6 -0.3
INK pmax pmax
comp=Z,15nm,1.2s
INK Inuvik 27.25 35 LR LR 07 26 48.6
comp=Z,207nm,19.3s,baz=178,slow=38
MMPY Sheldon Lake, 27.32 48 P **P** 07 15 11.6 -0.1
MMPY Sheldon Lake, 27.32 48 P **P** 07 15 11.2 -0.4
baz=268
R33M Jennings River 27.52 55 P **P** 07 15 13.3 -0.4
baz=274
ERM Erimo 27.71 265 *e*P **P** 07 15 16.1 +0.9
ERM pmax pmax
comp=Z,61nm,1.5s
DLBC Dease Lake 28.11 57 LR LR 07 26 49.8
comp=Z,162nm,18.5s,baz=280,slow=37
TGTN Hyland Airport 28.73 50 P **P** 07 15 23.4 -0.8
baz=272
YAK Yakutsk 29.56 311 *i*P **P** 07 15 33.5 +2.0
YAK pmax pmax
comp=Z,16nm,0.5s
LIRD Liard River Hi 30.00 54 P **P** 07 15 35.2 -0.3
baz=278
BBB Bella Bella 30.59 69 LR LR 07 26 08.4
comp=Z,50nm,21.6s,baz=305,slow=33
C36M Paulatuk 30.82 34 P **P** 07 15 42.3 -0.3
baz=262
WRGLY Wrigley 30.88 46 P **P** 07 15 43.4 +0.3
WRGLY IAmb IAmb 07 15 53.6
comp=Z,13nm,0.8s
WRGLY Wrigley 30.88 46 P **P** 07 15 42.7 -0.4
baz=273
KOTAN Kotaneelee Air 30.92 52 P **P** 07 15 42.7 -0.9
baz=278
KLR Kul'dur 31.41 286 *ce*P **P** 07 15 47.6 -0.3
KLR pmax pmax
comp=Z,14nm,0.5s
KLR Kul'dur 31.41 286 LR LR 07 28 34.1
comp=Z,265nm,20.8s,baz=63,slow=36
JMM Marumori 31.61 261 P **P** 07 15 49.6 -0.3
JMM Marumori 31.61 261 P **P** 07 15 50.0 +0.1
USA0B Ussuriysk Arra 33.54 277 P **P** 07 16 06.2 -0.4
USA0B Ussuriysk Arra 33.54 277 P **P** 07 16 06.3 -0.4
USA0B pmax pmax
comp=Z,29nm,0.6s
USRK Ussuriysk Ar. 33.54 277 P **P** 07 16 06.2 -0.4
USRK Ussuriysk Ar. 33.54 277 P **P** 07 16 06.7 0.0
comp=Z,33nm,0.6s,baz=56,slow=9.1,SNR=61
USRK PcP **PcP** 07 18 46.6 +0.6
comp=Z,3.4nm,0.9s,baz=41,slow=4.6,SNR=3.8
USRK LR LR 07 31 12.4
comp=Z,111nm,19.0s,baz=50,slow=39
comp=Z,33nm,0.6s
HEH HeiHe 33.58 290 *e*P **P** 07 16 06.1 -0.9
HEH pmax pmax
comp=Z,31nm,0.6s
HEH pmax pmax
comp=Z,200nm,4.2s
H11N2 WAKE ISLAND Hy 33.70 206 T T 07 52 01.7
baz=17,slow=76,SNR=977
H11N3 WAKE ISLAND Hy 33.71 206 T T 07 51 55.8
baz=17,slow=76,SNR=1342
H11N1 WAKE ISLAND Hy 33.72 206 T T 07 52 03.1
baz=17,slow=76,SNR=828
MAJO Matsushiro 34.05 261 P **P** 07 16 11.8 +0.6
MAJO Matsushiro 34.05 261 P **P** 07 16 12.2 +1.0
MAJO Matsushiro 34.05 261 P **P** 07 16 11.8 +0.6
MAJO pmax pmax
comp=Z,47nm,1.0s
MAJO Matsushiro 34.05 261 P **P** 07 16 12.0 +0.9
MAJO pP **pP** 07 16 27.6 +1.8
MAJO PcP **PcP** 07 18 48.1 +0.5
MJAR Matsushiro Arr 34.05 261 P **P** 07 16 11.9 +0.7
comp=Z,18nm,0.7s,baz=48,slow=6.1,SNR=42
MJAR PcP **PcP** 07 18 48.0 +0.4
comp=Z,4.5nm,0.8s,baz=62,slow=1.5,SNR=5.4
MJAR LR LR 07 28 11.8
comp=Z,223nm,21.4s,baz=54,slow=33
comp=Z,18nm,0.7s
MJB9 Matsu-Tunnel 34.05 261 P **P** 07 16 12.7 +1.5
CLRS Cowichan Lake 34.21 73 P **P** 07 16 13.7 +1.2
PGC Sidney 34.69 72 P **P** 07 16 16.5 0.0
PGC IAmb IAmb 07 16 30.8
comp=Z,24nm,1.3s
LLLB Lillooet 34.80 69 P **P** 07 16 18.3 +0.7
LLLB IAmb IAmb 07 16 28.5
comp=Z,13nm,1.0s
MDJ Mudanjiang 34.81 280 P **P** 07 16 17.4 -0.3
MDJ pP pP 07 16 31.8 -0.5
MDJ sP sP 07 16 39.4 +0.3
MDJ PP **PnPn** 07 17 33.4 -2.0
MDJ PcP **PcP** 07 18 51.3 +1.7
MDJ S **S** 07 21 40.8 -3.2
MDJ sS sS 07 22 07.0 -1.7
MDJ ScP **ScP** 07 22 32.8 +3.0
MDJ PcS **PcS** 07 22 37.8 +1.6
MDJ SS **SnSn** 07 23 55.5 -6.9
MDJ ScS **ScS** 07 26 34.4 +1.3
MDJ pmax pmax
comp=Z,23nm,0.9s
MDJ pmax pmax
comp=Z,170nm,5.0s
MDJ LR LR
comp=Z,430nm,14.3s
MDJ LR LR
comp=Z,560nm,14.6s
MDJ LR LR
comp=Z,280nm,15.4s
MDJ Mudanjiang 34.81 280 P **P** 07 16 18.7 +1.0
MSHR Mys Shultsa 34.90 276 *c i*P **P** 07 16 18.9 +0.5
H11S1 WAKE ISLAND Hy 34.92 205 T T 07 53 31.2
baz=17,slow=76,SNR=1649
H11S2 WAKE ISLAND Hy 34.94 205 T T 07 53 34.9
baz=17,slow=76,SNR=1257
H11S3 WAKE ISLAND Hy 34.94 205 T T 07 53 33.1
baz=17,slow=76,SNR=1318
YKA Yellowknife Ar 35.00 47 P **P** 07 16 17.9 -1.1
comp=Z,2.8nm,0.6s,baz=284,slow=8.3,SNR=14
YKA PcP **PcP** 07 18 50.3 +0.5
comp=Z,6.8nm,0.8s,baz=289,slow=2.9,SNR=14
YKA ScP **ScP** 07 22 31.0 +0.9
comp=Z,0.6nm,0.6s,baz=286,slow=3.7,SNR=5.4
YKA LR LR 07 32 16.9
comp=Z,181nm,18.1s,baz=209,slow=39
comp=Z,2.8nm,0.6s
NLWA Neilton Lookou 35.01 75 P **P** 07 16 20.4 +1.0
NLWA IAmb IAmb 07 16 38.0
comp=Z,32nm,1.1s
GNW Green Mountain 35.56 74 P **P** 07 16 25.3 +1.3
GNW IAmb IAmb 07 16 44.0
comp=Z,17nm,0.8s
INU Inuyama 35.56 261 P **P** 07 16 24.9 +0.7
BNX BinXian 35.60 283↓ *i*P **P** 07 16 23.8 -0.6
BNX pmax pmax
comp=Z,29nm,0.9s
BNX pmax pmax
comp=Z,290nm,5.4s
D05A Enumclaw 36.23 74 P **P** 07 16 32.0 +2.2
COR Corvallis 36.72 79 P **P** 07 16 35.6 +1.6
COR pP **pP** 07 16 50.1 +1.5
LTY Liberty 36.99 73 P **P** 07 16 36.8 +0.4
LTY IAmb IAmb 07 16 47.1
comp=Z,18nm,1.0s
CN2 Changchun 37.78 281 *e*P **P** 07 16 42.1 -0.9
CN2 *es*P pP 07 16 58.0 +0.3
CN2 *e*S **S** 07 22 28.0 -1.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
E07A Sunnyside 37.82 74 P **P** 07 16 44.2 +0.9
E07A IAmb IAmb 07 17 02.2
comp=Z,15nm,0.9s
G06A Carlson Farm, 38.01 76 P **P** 07 16 45.0 0.0
G06A IAmb IAmb 07 17 04.1
comp=Z,7.4nm,0.9s

JCJ Chichijima 38.34 246 LR LR 07 29 54.8
comp=Z,193nm,21.6s,baz=92,slow=32
HIA Hailar 38.50 292 P P 07 16 48.4 -0.6
HIA PcP PcP 07 19 01.3 +0.6
YBH Yreka Blue Hor 38.62 82 LR LR 07 29 28.9
comp=Z,148nm,20.3s,baz=299,slow=31
NEW Newport 38.62 70 P P 07 16 50.0 0.0
baz=298,SNR=46
NEW Newport 38.62 70 LR LR 07 29 48.9
comp=Z,133nm,20.8s,baz=284,slow=32
RES Resolute Bay 39.57 24 LR LR 07 35 32.5
comp=Z,201nm,20.1s,baz=268,slow=40
KSRS Korea Array 39.89 271 P P 07 17 01.8 +1.1
comp=Z,20nm,0.7s,baz=55,slow=8.2,SNR=78
KSRS PcP PcP 07 19 06.2 +0.9
comp=Z,2.5nm,0.8s,baz=66,slow=3.3,SNR=4.9
KSRS LR LR 07 33 13.7
comp=Z,34nm,21.7s,baz=60,slow=36
comp=Z,20nm,0.7s
KS19 Wonju Array Si 39.90 271 P P 07 17 00.7 0.0
KS19 IAmb IAmb 07 17 02.8
comp=Z,25nm,0.8s
KSAR Wonju Array Be 39.92 271 P P 07 17 00.6 -0.4
KSAR Wonju Array Be 39.92 271 P P 07 17 00.6 -0.4
SNY Shenyang 40.02 280 ⇑P P 07 17 02.4 +0.7
SNY pmax pmax
comp=Z,43nm,0.7s
EUNU Eureka 40.15 16 P P 07 17 02.1 -0.3
EUNU IAmb IAmb 07 17 41.9
comp=Z,54nm,1.9s
INCN Inchon 40.68 272 P P 07 17 08.4 +1.1
INCN Inchon 40.68 272 P P 07 17 08.2 +0.9
JNU Nakatsue 40.84 264 P P 07 17 09.6 +1.0
JNU Nakatsue 40.84 264 LR LR 07 33 00.9
comp=Z,151nm,21.4s,baz=48,slow=34
TJN Taejon 40.91 270 P P 07 17 09.7 +0.6
TJN Taejon 40.91 270 P P 07 17 10.3 +1.2
TJN Taejon 40.91 270 P P 07 17 09.7 +0.6
TJN pmax pmax
comp=Z,202nm,0.8s
MSO Missoula 41.20 70 P P 07 17 11.2 -0.3
baz=301,SNR=19
CHMT Chamberlain Mo 41.56 70 P P 07 17 14.2 -0.4
BPMT Black Pine Rid 41.70 70 P P 07 17 15.5 -0.3
ALE Alert 42.51 10 P P 07 17 21.6 0.0
ALE pP pP 07 17 38.1 +1.7
ALE PcP PcP 07 19 12.7 -0.5
WAKR Walker 42.54 84 P P 07 17 23.0 +0.3
WAKR IAmb IAmb 07 17 43.1
comp=Z,8.3nm,0.7s
HLID Hailey 42.67 75 P P 07 17 24.0 +0.3
baz=304,SNR=23
EGMT Eagleton 43.02 66 P P 07 17 26.0 -0.3
baz=301
BOZ Bozeman (W) 43.22 70 P P 07 17 27.9 -0.1
baz=303,SNR=59
NVAR Mina Array Bea 43.29 83 P P 07 17 29.2 +0.5
comp=Z,4.4nm,0.8s,baz=291,slow=7.7,SNR=38
NVAR PcP PcP 07 19 15.9 -0.9
comp=Z,1.6nm,0.8s,baz=267,slow=3.6,SNR=2.4
NVAR ScP ScP 07 23 05.0 +2.2
comp=Z,0.3nm,0.5s,baz=253,slow=2.7,SNR=2.4
NVAR LR LR 07 32 30.2
comp=Z,96nm,19.3s,baz=290,slow=32
comp=Z,4.4nm,0.8s
XLT XiLinHaoTe 43.42 287 ⇓iP P 07 17 30.8 +1.2
XLT pmax pmax
comp=Z,39nm,0.9s
XLT pmax pmax
comp=Z,180nm,4.7s
ELK Elko 43.79 78 P P 07 17 33.3 +0.5
ELK IAmb IAmb 07 17 34.1
comp=Z,9.5nm,0.8s
ELK Elko 43.79 78 P P 07 17 33.3 +0.5
ELK pmax pmax
comp=Z,9.0nm,0.8s
VOG Valley Oaks Go 43.93 86 P P 07 17 33.9 +0.3
baz=309
VES Vestal, Richgr 44.42 87 P P 07 17 37.3 -0.2
baz=310,SNR=5.4
H17A Grant Village 44.50 71 P P 07 17 40.0 +1.5
baz=304,SNR=36
CWC Cottonwood Cre 44.66 85 P P 07 17 39.8 +0.1
baz=309
RLMT Red Lodge 44.87 70 P P 07 17 41.5 +0.2
RLMT Red Lodge 44.87 70 P P 07 17 41.5 +0.2
baz=304,SNR=42
ISA Isabella, Lake 44.91 86 P P 07 17 41.0 -0.6
baz=310
R11B Troy Canyon, C 45.02 81 P P 07 17 42.5 0.0
R11B IAmb IAmb 07 17 43.5
comp=Z,8.0nm,0.8s
R11B Troy Canyon, C 45.02 81 P P 07 17 42.6 0.0
baz=308,SNR=19
MPMC Manual Prospec 45.28 85 P P 07 17 45.1 +0.4
baz=310,SNR=8.1
FURC Furnace Creek, 45.41 84 P P 07 17 45.8 +0.4
baz=309,SNR=7.6
TPNV Topopah Spring 45.48 83 P P 07 17 46.5 +0.3
baz=309,SNR=16
DUG Dugway, Tooele 45.60 77 P P 07 17 47.6 +0.5
DUG IAmb IAmb 07 17 48.4
comp=Z,23nm,0.8s
DUG Dugway, Tooele 45.60 77 P P 07 17 47.6 +0.5
baz=307,SNR=38
DUG Dugway, Tooele 45.60 77 P P 07 17 47.6 +0.5
DUG pmax pmax
comp=Z,23nm,0.8s
BJI Beijing 45.61 282 P P 07 17 48.0 +1.1
BJI pP pP 07 18 01.3 -0.7
BJI sP sP 07 18 07.3 -1.4
BJI pmax pmax
comp=Z,8.0nm,0.5s
BJI pmax pmax
comp=Z,75nm,6.6s
BJT Baijiatuau 45.63 282 P P 07 17 48.7 +1.6
EDW2 Edwards Air Fo 45.72 87 P P 07 17 47.6 -0.3
baz=310
LAO LASA Array 45.76 66 P P 07 17 48.4 +0.2
LAO IAmb IAmb 07 17 49.1
comp=Z,25nm,0.9s
LAO LASA Array 45.76 66 P P 07 17 47.6 -0.5
baz=304,SNR=10
SNCC San Nicolas Is 45.83 90 P P 07 17 48.7 -0.1
baz=312
DGMT Dagmar 45.92 63 P P 07 17 48.2 -1.2
baz=303
BW06 Boulder Array 46.04 73 P P 07 17 50.5 -0.1
BW06 Boulder Array 46.04 73 P P 07 17 50.5 -0.1
baz=306,SNR=37
PDAR Pinedale Array 46.04 73 P P 07 17 50.2 -0.4
PDAR Pinedale Array 46.04 73 P P 07 17 50.4 -0.2
comp=Z,9.5nm,0.5s,baz=335,slow=2.7,SNR=168
PDAR ScP ScP 07 23 13.5 -0.5
comp=Z,0.2nm,0.5s,baz=338,slow=1.9,SNR=2.3
PDAR S S 07 24 31.6 -0.1
comp=Z,0.2nm,0.6s,baz=76,slow=41,SNR=1.3
PDAR LR LR 07 35 20.2
comp=Z,110nm,21.5s,baz=313,slow=34
comp=Z,9.5nm,0.5s
GSC Goldstone, Bar 46.19 86 P P 07 17 51.8 +0.2
baz=310,SNR=15
BFSC Mount Baldy Ra 46.35 87 P P 07 17 52.6 -0.4
baz=311
ULN Ulaanbaatar 46.46 296 iP P 07 17 53.7 0.0
ULN pmax pmax
comp=Z,6.0nm,0.6s
ULN Ulaanbaatar 46.46 296 P P 07 17 54.1 +0.3
ULN PcP PcP 07 19 27.9 +0.4
SCI2 San Clemente I 46.62 89 P P 07 17 55.0 +0.1
baz=312
HEC Hector,Ludlow 46.79 86 P P 07 17 56.4 0.0
baz=310
BBRC Big Bear Solar 46.79 87 P P 07 17 56.8 +0.2
baz=311
NOR Nord 46.83 4 iP P 07 17 57.0 +1.0
NOR IAmb IAmb 07 17 58.2
comp=Z,1.2nm,0.7s
JOW Kunigami 46.84 259 LR LR 07 34 09.9
comp=Z,38nm,21.2s,baz=93,slow=32
SONM Songino Array 46.84 297 P P 07 17 57.0 +0.2
comp=Z,4.0nm,0.6s,baz=56,slow=9.4,SNR=20
SONM PcP PcP 07 19 28.7 -0.1
comp=Z,7.7nm,0.8s,baz=80,slow=1.8,SNR=8.8
SONM ScP ScP 07 23 18.1 +0.9
comp=Z,1.5nm,0.8s,baz=40,slow=3.2,SNR=6.6
SONM S S 07 24 44.6 +1.8
comp=Z,0.3nm,0.4s,baz=139,slow=42,SNR=1.3
SONM LR LR 07 38 35.3
comp=Z,333nm,19.3s,baz=50,slow=37
comp=Z,4.0nm,0.6s
MVU Marysvale 47.01 79 P P 07 17 58.6 +0.4
MURC Murrieta 47.06 88 P P 07 17 57.9 -0.5
baz=311
ZAK Zakamensk 47.14 301 eP P 07 17 59.1 +0.2
ZAK pmax pmax
comp=Z,8.0nm,1.5s
GMRC Granite Mounta 47.24 85 P P 07 17 59.7 -0.2
baz=311,SNR=7.3
NEEM North Greenlan 47.30 14 iP P 07 17 58.5 -1.6
NEEM IAmb IAmb 07 18 01.4
comp=Z,20nm,0.5s
PFO Pinyon Flats O 47.51 87 P P 07 18 01.2 -0.8
baz=311
PFO Pinyon Flats O 47.51 87 LR LR 07 34 49.1
comp=Z,62nm,19.9s,baz=279,slow=32
PFO Pinyon Flats O 47.51 87 P P 07 18 06.4 +4.4
TPFO Pinon Flats 47.52 87 P P 07 18 01.7 -0.4
baz=311
BELC Belle Mtn. Jos 47.54 86 P P 07 18 02.1 -0.2
baz=311
109C Camp Elliot, M 47.58 88 P P 07 18 02.5 +0.1
baz=312
NEE2 Needles Airpor 47.90 84 P P 07 18 04.5 -0.4
baz=311
K22A Casper 47.91 71 P P 07 18 04.5 -0.6
baz=307,SNR=8.4
HHC Hu-ho-hao-te 47.91 286 eP P 07 18 06.4 +1.3
HHC pmax pmax
comp=Z,65nm,0.7s
HHC pmax pmax
comp=Z,320nm,5.4s
IRM Iron Mountain 47.97 85 P P 07 18 05.9 +0.4
baz=311
MONP2 Monument Peak 48.01 88 P P 07 18 05.8 -0.2
baz=312
HNS HongShan 48.15 280 ⇑P P 07 18 07.8 +1.1
HNS pmax pmax
comp=Z,46nm,0.9s
U15A North Rim 48.27 81 P P 07 18 08.4 +0.4
SWSC Sam W. Stewart 48.36 87 P P 07 18 07.5 -1.0
baz=312
IKP In-Ko-Pah, Jac 48.37 88 P P 07 18 07.9 -0.7
baz=312
O20A White River Ci 48.41 75 P P 07 18 09.0 -0.1
baz=308,SNR=29
RSSD Black Hills 48.49 68 P P 07 18 08.5 -1.2
baz=306
RSSD Black Hills 48.49 68 P P 07 18 08.7 -1.0
RSSD PcP PcP 07 19 34.8 0.0
PDMCI Parker Dam,Lak 48.50 85 P P 07 18 09.5 0.0
baz=311
MDND Maddock 48.81 61 P P 07 18 11.4 -0.4
baz=305
BTO Baotou 48.99 287 eP P 07 18 14.5 +1.1
BTO pP pP 07 18 27.3 -1.2
BTO sP sP 07 18 32.4 -2.8
BTO PcP PcP 07 19 39.9 +3.3
BTO PP PP 07 20 07.8 +0.8
BTO S S 07 25 18.3 +5.0
BTO pmax pmax
comp=Z,520nm,5.1s
BTO LR LR
comp=Z,480nm,5.3s
BTO LR LR
comp=Z,440nm,5.2s
BTO LR LR
comp=Z,510nm,7.5s
NJ2 Nanjing 49.06 272 ⇑P P 07 18 13.8 -0.1
NJ2 pP pP 07 18 29.4 +0.4
NJ2 sP sP 07 18 34.5 -1.1
NJ2 pmax pmax
comp=Z,29nm,0.7s
NJ2 pmax pmax
comp=Z,290nm,6.2s
N23A Red Feather La 49.33 72 P P 07 18 16.7 +0.6
baz=308,SNR=8.0
TIY Taiyuan 49.34 282 eP P 07 18 17.5 +1.5
TIY pmax pmax
comp=Z,33nm,0.6s
WUAZ Wupatki 49.42 81 P P 07 18 16.6 -0.2
WUAZ IAmb IAmb 07 18 18.0
comp=Z,14nm,0.8s
WUAZ Wupatki 49.42 81 P P 07 18 17.3 +0.5
baz=310,SNR=9.6
ULM Lac du Bonnet 49.43 57 P P 07 18 15.5 -0.9
comp=Z,4.1nm,0.5s,baz=307,slow=7.1,SNR=6.5
ULM LR LR 07 39 08.6
comp=Z,98nm,20.5s,baz=277,slow=36
comp=Z,4.1nm,0.5s
KBS Kingsbay 49.74 357 eP P 07 18 19.0 +0.6
KBS Kingsbay 49.74 357 iP P 07 18 18.2 -0.2
KBS Kingsbay 49.74 357 P P 07 18 18.7 +0.3
KBS pP pP 07 18 34.6 +1.0
KBS sP sP 07 18 42.3 +2.1
KBS PcP PcP 07 19 38.8 +0.3
MVCO Mesa Verde 50.10 78 P P 07 18 21.7 -0.3
MVCO Mesa Verde 50.10 78 P P 07 18 21.8 -0.3
baz=310,SNR=12
ISCO Idaho Springs 50.20 73 P P 07 18 23.5 +0.6
baz=309,SNR=8.9
SPA0 Spitsbergen Ar 50.32 356 eP P 07 18 22.0 -0.9
SPITS Spitsbergen Ar 50.32 356 P P 07 18 21.9 -0.9
comp=Z,20nm,0.6s,baz=42,slow=6.7,SNR=46
SPITS PcP PcP 07 19 40.5 -0.2
comp=Z,5.5nm,0.5s,baz=71,slow=3.8,SNR=5.5
comp=Z,20nm,0.6s
SPB2 Spitsbergen Ar 50.32 356 P P 07 18 22.6 -0.2
W18A Petrified Fore 50.70 81 P P 07 18 27.1 +0.6
baz=311,SNR=9.7
S22A 4UR Ranch, Cre 50.77 76 P P 07 18 27.8 +0.7
baz=310,SNR=18
214A Organ Pipe Nat 50.89 86 P P 07 18 27.6 -0.2
baz=313
Q24A Divide 51.01 74 P P 07 18 28.6 -0.4
baz=309
SUSD Miller 51.21 65 P P 07 18 29.0 -1.0
baz=308
LYN LuoYang 51.37 279 ⇑iP P 07 18 31.6 +0.3
LYN pmax pmax
comp=Z,110nm,0.7s
LYN pmax pmax
comp=Z,290nm,4.8s
DAG Danmarks Havn 51.40 6 iP P 07 18 30.0 -0.9
DAG IAmb IAmb 07 18 35.5
comp=Z,2.0nm,0.6s
SDCO Great Sand Dun 51.58 75 P P 07 18 33.5 +0.3
baz=310,SNR=24
OGNE Ogallala 51.61 70 P P 07 18 33.6 +0.4
baz=309,SNR=6.3
TUC Tucson 51.92 84 P P 07 18 35.5 0.0
baz=313
TUC Tucson 51.92 84 P P 07 18 35.5 0.0
TUC pP pP 07 18 52.1 +1.6
TUC PcP PcP 07 19 47.9 +0.5
KSCO Kaye Shedlock' 52.49 72 P P 07 18 40.0 +0.3
baz=310
T25A Trinidad 52.63 75 P P 07 18 41.6 +0.7
baz=311,SNR=20
ANMO Albuquerque 52.83 79 P P 07 18 42.2 -0.2
ANMO IAmb IAmb 07 18 43.3
comp=Z,5.6nm,0.9s
ANMO Albuquerque 52.83 79 P P 07 18 42.1 -0.2
baz=312
ANMO Albuquerque 52.83 79 P P 07 18 42.2 -0.2
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 52.83 79 LR LR 07 41 31.5
comp=Z,65nm,18.0s,baz=61,slow=36
ANMO Albuquerque 52.83 79 P P 07 18 42.4 0.0
WHN Wuhan 52.91 274 ⇓iP P 07 18 42.9 +0.2
WHN pmax pmax
comp=Z,130nm,0.7s
ECSD EROS Data Cent 52.97 64 P P 07 18 41.3 -1.8
baz=309,SNR=6.5
EYMN Ely 53.12 57 P P 07 18 43.0 -1.1
baz=308
Y22D IRIS PASSCAL I 53.12 80 P P 07 18 44.9 +0.4
baz=312
Y22F Passcal Instru 53.12 80 P P 07 18 44.1 -0.4
baz=312
SUMG Summit 53.16 14 P P 07 18 44.6 0.0
SUMG pmax pmax
comp=Z,48nm,1.5s
SUMG Summit 53.16 14 iP P 07 18 44.0 -0.6
SUMG IAmb IAmb 07 18 59.5
comp=Z,6.5nm,0.7s
BGNE Belgrade 53.58 67 P P 07 18 47.0 -0.6
baz=310
SSLB Suanglung 53.58 263 P P 07 18 48.5 +0.7
121A Cookes Peak, D 53.63 82 P P 07 18 47.9 -0.4
baz=313,SNR=13
XAN Xi'an 53.90 281 P P 07 18 50.0 0.0
SPMN Marine on St. 54.13 60 P P 07 18 51.1 -0.5
baz=310
ZALV Zalesovo Beam 54.17 314 P P 07 18 51.0 -0.6
comp=Z,1.5nm,0.5s,baz=46,slow=9.5,SNR=1.9
ZALV PcP PcP 07 19 55.7 +0.2
comp=Z,13nm,0.6s,baz=41,slow=4.2,SNR=22
ZALV LR LR 07 43 27.7
comp=Z,109nm,18.7s,baz=34,slow=38
comp=Z,1.5nm,0.5s
CBKS Cedar Bluff 54.33 71 P P 07 18 53.0 -0.2
baz=311
R32A Long Quarter, 55.19 70 P P 07 18 59.0 -0.3
CNSH ChangSha 55.44 273 ⇑P P 07 19 01.3 +0.1
CNSH pmax pmax
comp=Z,28nm,0.6s
SFJD Kangerlussuaq 55.48 22 LR LR 07 43 47.2
comp=Z,72nm,21.2s,baz=324,slow=37
LZH Lanzhou 55.61 286 eP P 07 19 03.6 +1.1
LZH pP pP 07 19 21.3 +3.3
LZH sP sP 07 19 28.3 +3.7
LZH PcP PcP 07 20 02.8 +1.2
LZH pmax pmax
comp=Z,110nm,1.1s
MNTX Cornudas Mount 55.69 81 P P 07 19 02.6 -0.4
baz=314,SNR=14
DGZ Jazzator, Alta 55.69 308 iP P 07 19 02.0 -0.9
DGZ pmax pmax
comp=Z,6.0nm,1.0s
MSTX Muleshoe 55.74 77 P P 07 19 03.1 -0.3
baz=313,SNR=8.5
GTA Gaotai 55.78 292 eP P 07 19 04.4 +0.7
GTA PcP PcP 07 20 03.1 +1.0
GTA pmax pmax
comp=Z,57nm,0.7s
GTA LR LR
comp=Z,180nm,20.0s
GTA LR LR
comp=Z,170nm,20.4s
GTA LR LR
comp=Z,250nm,20.0s
AMTX Amarillo 55.78 75 P P 07 19 03.2 -0.5
baz=312
ICESG Greenland Ices 56.00 17 iP P 07 19 03.4 -1.7
ICESG IAmb IAmb 07 19 09.1
comp=Z,7.0nm,0.6s
E43A Lone Tree Farm 56.48 56 P P 07 19 08.0 -0.3
SMWD Samnorwood 56.50 74 P P 07 19 09.1 +0.3
SMWD IAmb IAmb 07 19 28.0
comp=Z,26nm,0.8s
KS20 Mayfield South 56.67 71 P 07 19 08.8 -1.1
DY2G Dye2 56.91 21 iP P 07 19 11.1 -0.4
DY2G IAmb IAmb 07 19 11.9
comp=Z,5.5nm,0.5s
JFWS Jewell Farm 57.04 61 P P 07 19 10.9 -1.5
baz=312
VADS Vadso 57.08 349 eP P 07 19 11.6 -0.6
P38A Dawn 57.40 66 P P 07 19 13.8 -1.1
WMOK Wichita Mounta 57.63 74 P P 07 19 16.3 -0.4
baz=313,SNR=13
JMIC Jan Mayen 57.65 4 LR LR 07 45 44.3
comp=Z,105nm,18.0s,baz=10,slow=38
QUOK Quay 57.89 71 P 07 19 17.3 -1.2
OK052 Battle Ridge R 57.95 71 P P 07 19 18.3 -0.6
ARA0 ARCESS Array S 58.06 350 eP P 07 19 18.5 -0.7
ARCES ARCESS Array B 58.06 350 P P 07 19 18.5 -0.8
ARCES ARCESS Array B 58.06 350 P P 07 19 18.2 -1.0
comp=Z,4.8nm,0.4s,baz=22,slow=7.6,SNR=60
ARCES PcP PcP 07 20 10.2 -0.2
comp=Z,8.6nm,0.7s,baz=7.1,slow=4.9,SNR=8.3
comp=Z,4.8nm,0.4s
P40A Paris 58.31 65 P P 07 19 20.0 -1.4
TX32 Lajitas Array 58.39 82 P P 07 19 21.7 -0.5
TX32 IAmb IAmb 07 19 22.6
comp=Z,7.7nm,0.7s
TXAR Lajitas Array 58.39 82 P P 07 19 21.9 -0.3
comp=Z,4.7nm,0.6s,baz=304,slow=4.9,SNR=43
TXAR LR LR 07 41 47.2
comp=Z,68nm,21.8s,baz=324,slow=33
comp=Z,4.7nm,0.6s
LVZ Lovozero 58.43 346 P P 07 19 20.4 -1.5
JETT Jettan, Norway 58.52 352 eP P 07 19 22.1 -0.3
ABTX Abilene, Hawle 58.56 76 P P 07 19 23.1 -0.2
baz=314,SNR=5.3
TRO Tromso 58.56 353 eP P 07 19 22.2 -0.5
TUL3 Leonard 58.61 71 P P 07 19 23.0 -0.5
baz=313,SNR=13
KTK1 Kautokeino 58.80 351 eP P 07 19 23.6 -0.7
L44A Lake County Fo 58.81 60 P P 07 19 24.3 -0.5
baz=313
OZNA Ozona 58.84 78 P P 07 19 23.9 -1.4
OZNA IAmb IAmb 07 19 25.2
comp=Z,12nm,0.7s
APA Apatity 58.92 346 ⇓iP P 07 19 25.8 +0.6
APA pmax pmax
comp=Z,8.0nm,1.1s
HDIL Hopedale 59.16 63 P P 07 19 26.7 -0.5
baz=313,SNR=5.1
KURK Kurchatov 59.16 314 P P 07 19 27.3 +0.2
KURK Kurchatov 59.16 314 P P 07 19 27.8 +0.8
KURK 07 20 15.5
KURK Kurchatov 59.16 314 P P 07 19 27.0 -0.1
KURK PcP PcP 07 20 15.0 0.0
CD2 Chengdu 59.21 282 P P 07 19 27.6 -0.2
CD2 pP pP 07 19 43.0 -0.4
CD2 sP sP 07 19 49.8 -0.2
CD2 S S 07 27 31.3 +0.1
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,220nm,5.5s
KURBB Kurchatov Arra 59.26 314 P P 07 19 27.8 0.0
comp=Z,6.5nm,0.5s,baz=42,slow=6.5,SNR=17
KURBB PcP PcP 07 20 15.5 +0.1
comp=Z,7.2nm,0.8s,baz=42,slow=3.9,SNR=9.5
KURBB LR LR 07 47 06.5
comp=Z,171nm,18.3s,baz=172,slow=38
comp=Z,6.5nm,0.5s
HHAR Hobbs 59.44 69 P P 07 19 27.9 -1.3
WMQ Urumqi 59.52 303 eP P 07 19 36.0 +6.2
WMQ pmax pmax
comp=Z,6.0nm,0.9s
WMQ LR LR
comp=Z,170nm,21.5s
CCM Cathedral Cave 59.77 66 P P 07 19 30.2 -1.3
CCM Cathedral Cave 59.77 66 P P 07 19 30.1 -1.5
baz=314
CCM Cathedral Cave 59.77 66 P P 07 19 30.2 -1.3
CCM pmax pmax
comp=Z,105nm,1.9s
CCM Cathedral Cave 59.77 66 P P 07 19 29.7 -1.8
CCM PcP PcP 07 20 16.8 -0.9
SCHQ Schefferville 59.79 39 P P 07 19 30.3 -1.1
comp=Z,2.4nm,0.6s,baz=314,slow=6.5,SNR=6.6
SCHQ PcP PcP 07 20 17.2 -0.3
comp=Z,5.2nm,0.6s,baz=287,slow=4.1,SNR=6.4
SCHQ LR LR 07 45 17.7
comp=Z,157nm,18.3s,baz=301,slow=36
comp=Z,2.4nm,0.6s
JCT Junction City 59.96 78 P P 07 19 31.9 -1.0
baz=315,SNR=11
MK31 Makanchi Array 60.19 309 P P 07 19 33.8 -0.5
MK31 IAmb IAmb 07 19 36.0
comp=Z,5.4nm,0.6s
MK31 Makanchi Array 60.19 309 P P 07 19 33.8 -0.5
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 60.19 309 P P 07 19 32.9 -1.4
MKAR Makanchi Array 60.19 309 P P 07 19 32.6 -1.7
comp=Z,4.6nm,0.4s,baz=47,slow=6.5,SNR=38
MKAR PcP PcP 07 20 19.4 +0.1
comp=Z,2.8nm,0.5s,baz=48,slow=3.8,SNR=5.5
MKAR LR LR 07 45 40.9
comp=Z,142nm,21.3s,baz=42,slow=36
comp=Z,4.6nm,0.4s

DRIO	**Del Rio**	60.21	79	P		**P**	07 19 33.2	-1.4
DRIO				IAmb		IAmb	07 19 34.0	
comp=Z,9.8nm,0.7s								
WHTX	**Lake Whitney,**	60.33	75	P		**P**	07 19 34.9	-0.5
baz=315								
MAKZ	**Makanchi**	60.33	309	P		**P**	07 19 35.2	0.0
MAKZ				IAmb		IAmb	07 19 37.3	
comp=Z,6.8nm,0.6s								
MAKZ	**Makanchi**	60.33	309	P		**P**	07 19 35.2	0.0
MAKZ				pmax		pmax		
comp=Z,7.0nm,0.6s								
SFIN	**Lafayette**	60.49	61	P		**P**	07 19 36.2	-0.1
SFIN	**Lafayette**	60.49	61	P		**P**	07 19 36.3	-0.1
baz=314,SNR=11								
STEI	**Steigen**	60.50	354	*e*P		**P**	07 19 35.2	-0.8
GYA	**Guiyang**	60.57	276	⇊*i*P		**P**	07 19 37.8	+0.5
GYA				pP		pP	07 19 49.6	-3.2
GYA				pmax		pmax		
comp=Z,40nm,0.8s								
GYA				pmax		pmax		
comp=Z,230nm,5.2s								
FCAR	**Ozark Folk Cen**	60.77	68	P		**P**	07 19 36.9	-1.4
L48A	**N Adams**	60.84	58	P		**P**	07 19 37.9	-0.9
MIAR	**Mount Ida**	60.86	70	P		**P**	07 19 38.6	-0.3
MIAR	**Mount Ida**	60.86	70	P		**P**	07 19 38.8	-0.2
baz=314,SNR=15								
MIAR	**Mount Ida**	60.86	70	P		**P**	07 19 38.7	-0.2
MIAR				pmax		pmax		
comp=Z,26nm,0.9s								
GOMU	**GeErMu**	60.86	292	P		**P**	07 19 39.9	+0.5
GOMU				pmax		pmax		
comp=Z,24nm,0.8s								
BVAR	**Borovoye Array**	61.00	320	P		**P**	07 19 39.3	-0.4
comp=Z,14nm,0.4s,baz=51,slow=6.3,SNR=56								
BVAR				PcP		**PcP**	07 20 21.9	-0.5
comp=Z,9.3nm,0.6s,baz=51,slow=3.4,SNR=9.2								
BVAR				LR		LR	07 48 40.2	
comp=Z,240nm,18.5s,baz=39,slow=38								
comp=Z,14nm,0.4s								
AAM	**Ann Arbor**	61.01	58	P		**P**	07 19 39.5	-0.4
baz=314								
BRVK	**Borovoye**	61.02	320	P		**P**	07 19 40.4	+0.6
BRVK	**Borovoye**	61.02	320	P		**P**	07 19 40.4	+0.6
BRVK				pmax		pmax		
comp=Z,10.0nm,0.5s								
BRVK	**Borovoye**	61.02	320	P		**P**	07 19 40.0	+0.2
BRVK				PcP		**PcP**	07 20 22.3	-0.1
WHAR	**Wooly Hollow**	61.09	69	P		**P**	07 19 39.7	-0.9
435B	**Jarrell**	61.10	76	P		**P**	07 19 40.5	-0.2
baz=315								
SADO	**Sadowa**	61.59	53	LR		LR	07 49 09.1	
comp=Z,93nm,18.3s,baz=316,slow=39								
O48B	**Farmland**	61.64	60	P		**P**	07 19 43.4	-0.8
baz=315,SNR=17								
WLAR	**White Oak Lake**	61.73	71	P		**P**	07 19 45.0	+0.1
833A	**Chaparral WMA,**	61.74	79	P		**P**	07 19 44.7	-0.3
baz=316								
PRGR	**Permogore**	61.94	338	*e*P		**P**	07 19 44.9	-0.9
PRGR				pmax		pmax		
comp=Z,21nm,0.6s								
P48A	**Milroy**	62.05	61	P		**P**	07 19 46.0	-1.0
NATX	**Nacogdoches**	62.17	73	P		**P**	07 19 48.3	+0.4
baz=315								
P49A	**Miami Univ. Ec**	62.38	61	P		**P**	07 19 48.5	-0.6
baz=315,SNR=14								
WCI	**Wyandotte Cave**	62.44	63	P		**P**	07 19 49.0	-0.5
baz=315								
WCI	**Wyandotte Cave**	62.44	63	P		**P**	07 19 49.0	-0.5
WCI				pP		**pP**	07 20 05.6	+0.5
WCI				sP		**sP**	07 20 12.8	+1.2
ARU	**Arti**	62.68	328	*c i*P		**P**	07 19 49.9	-0.9
ARU							07 20 27.9	
ARU				S		**S**	07 28 15.9	+1.4
ARU				SS		**SS**	07 32 17.8	-1.0
ARU				pmax		pmax		
comp=Z,6.0nm,0.7s								
ARU	**Arti**	62.68	328	LR		LR	07 50 32.2	
comp=Z,94nm,18.3s,baz=324,slow=39								
ARU	**Arti**	62.68	328	P		**P**	07 19 50.3	-0.6
ARU				PcP		**PcP**	07 20 28.3	-0.8
HKT	**Hockley**	62.75	75	*i* P		**P**	07 19 48.4	-3.3
HKT				pmax		pmax		
comp=Z,10.0nm,0.9s								
HKT	**Hockley**	62.75	75	P		**P**	07 19 51.9	+0.2
ERPA	**Erie**	63.05	56	P		**P**	07 19 53.3	-0.3
baz=316								
M53A	**Wt Miller and**	63.18	57	P		**P**	07 19 54.0	-0.5
baz=316								
HNR	**Honiara**	63.46	204	LR		LR	07 41 43.3	
comp=Z,623nm,21.7s,baz=46,slow=30								
PZH	**PanZhiHua**	63.59	280	P		**P**	07 19 57.4	-0.1
PZH				pmax		pmax		
comp=Z,60nm,0.9s								
PZH				pmax		pmax		
comp=Z,260nm,5.2s								
KIRV	**Kirov**	63.62	334	*i* P		**P**	07 19 56.3	-0.7
KIRV	**Kirov**	63.62	334	LR		LR	07 50 17.6	
comp=Z,287nm,20.3s,baz=14,slow=38								
P52A	**Corning**	63.71	59	P		**P**	07 19 56.5	-1.5
baz=316								
DAV	**Davao City (W)**	63.74	247	LR		LR	07 42 60.0	
comp=Z,107nm,21.5s,baz=61,slow=32								
O53A	**New Philadelph**	63.76	58	P		**P**	07 19 57.8	-0.5
baz=316								
SSFO	**Shawnee State**	63.81	60	P		**P**	07 19 59.0	+0.4
KMI	**Kunming**	63.97	278	⇑P		**P**	07 20 00.4	+0.3
KMI				pmax		pmax		
comp=Z,28nm,0.9s								
KLMR	**Klimovskoe**	63.99	340	*e*P		**P**	07 19 55.7	-3.7
KLMR				AMP			07 19 59.6	
comp=Z,20nm,1.4s								
KLMR				*e*pP		**pP**	07 20 10.0	-4.9
KLMR				*e*PcP		**PcP**	07 20 32.2	-2.2
KLMR	**Klimovskoe**	63.99	340	*e*P		**P**	07 19 55.6	-3.8
KLMR				*e**PP		**pP**	07 20 10.0	-4.9
KLMR				*e*			07 20 32.2	
KLMR				pmax		pmax		
comp=Z,20nm,1.4s								
VBMS	**Vicksburg**	64.31	70	P		**P**	07 20 01.3	-0.7
baz=316								
S51A	**Beattyville**	64.35	61	P		**P**	07 20 01.8	-0.5
SWET	**Sewanee**	64.80	65	P		**P**	07 20 04.6	-0.6
MCWV	**Mont Chateau**	64.91	57	P		**P**	07 20 03.9	-1.9
baz=317								
BINY	**Binghamton**	65.03	53	P		**P**	07 20 06.3	-0.3
baz=318								
TZTN	**Tazewell**	65.17	62	P		**P**	07 20 07.6	0.0
TZTN	**Tazewell**	65.17	62	P		**P**	07 20 07.4	-0.2
baz=316								
SSPA	**Standing Stone**	65.22	56	P		**P**	07 20 06.9	-0.9
baz=317								
SSPA	**Standing Stone**	65.22	56	P		**P**	07 20 06.9	-0.9
SSPA				PcP		**PcP**	07 20 40.2	+0.3
CPCT	**Cooper Cave**	65.42	64	P		**P**	07 20 08.7	-0.5
FPAL	**Fort Paine**	65.47	65	P		**P**	07 20 08.7	-0.8
TKL	**Tuckaleechee C**	65.69	63	LR		LR	07 50 51.5	
comp=Z,111nm,18.1s,baz=332,slow=38								
LRAL	**Lakeview Retre**	65.77	67	P		**P**	07 20 10.7	-0.7
baz=317,SNR=6.7								
FINES	**FINESS Array B**	65.77	347	P		**P**	07 20 10.0	-1.0
FINES	**FINESS Array B**	65.77	347	P		**P**	07 20 09.8	-1.2
comp=Z,6.4nm,0.5s,baz=22,slow=8.2,SNR=36								
FINES				PcP		**PcP**	07 20 40.2	-1.5
comp=Z,4.2nm,0.5s,baz=43,slow=3.4,SNR=5.3								
comp=Z,6.4nm,0.5s								
PKME	**Peaks-Kenny Pk**	65.94	47	P		**P**	07 20 10.7	-1.6
baz=320								
TABU	**Tabubil**	66.20	225	P		**P**	07 20 15.2	+0.8
TKM2	**Tokmak 2**	66.27	310	P		**P**	07 20 17.5	+2.7
SNR=5.5								
BLA	**Blacksburg**	66.39	60	P		**P**	07 20 15.2	-0.2
baz=317								
L61B	**Northampton**	66.47	51	P		**P**	07 20 15.1	-0.7
baz=319								
USP	**Ospenovka**	66.53	310	P		**P**	07 20 16.2	-0.1
SNR=5.9								
BG3	**Lake Jocassee**	66.64	63	P		**P**	07 20 16.7	-0.4
KBK	**Karagaybulak**	66.78	310	P		**P**	07 20 20.4	+2.4
SNR=5.7								
Y52A	**Lilburn**	66.84	64	P		**P**	07 20 17.9	-0.4
AAK	**Ala-Archa**	67.01	310	P		**P**	07 20 20.9	+1.4
SNR=7.4								
AAK	**Ala-Archa**	67.01	310	P		**P**	07 20 20.0	+0.5
AAK				IAmb		IAmb	07 20 22.4	
comp=Z,9.8nm,0.6s								
AAK	**Ala-Archa**	67.01	310	P		**P**	07 20 20.0	+0.5
AAK				pmax		pmax		
comp=Z,10.0nm,0.6s								
AAK	**Ala-Archa**	67.01	310	LR		LR	07 52 37.1	
comp=Z,158nm,18.1s,baz=35,slow=39								
AAK	**Ala-Archa**	67.01	310	P		**P**	07 20 20.8	+1.3
AAK				PcP		**PcP**	07 20 47.8	+0.3
BRAL	**Brewton**	67.10	68	P		**P**	07 20 20.0	0.0
baz=317								
EKS2	**Erkin-Say**	67.34	310	P		**P**	07 20 20.4	-1.1
SNR=8.6								
KMSC	**Kings Mountain**	67.42	62	P		**P**	07 20 21.9	0.0
baz=318,SNR=11								
GOGA	**Godfrey**	67.51	64	P		**P**	07 20 21.8	-0.7
GOGA	**Godfrey**	67.51	64	P		**P**	07 20 21.9	-0.6
baz=318,SNR=10								
GOGA	**Godfrey**	67.51	64	P		**P**	07 20 21.8	-0.7
GOGA				pmax		pmax		
comp=Z,40nm,0.8s								
NB201	**NORSAR Array S**	67.58	355	*e*P		**P**	07 20 22.0	-0.6
NB2	**NORSAR Subarra**	67.60	355	P		**P**	07 20 21.9	-0.8
comp=Z,3.6nm,0.6s,baz=7.3,slow=6.9								
NB2	**NORSAR Subarra**	67.60	355	P		**P**	07 20 21.9	-0.8
baz=7.3,slow=6.9								
NOA	**NORSAR Array B**	67.60	355	P		**P**	07 20 21.8	-0.9
comp=Z,3.0nm,0.5s,baz=337,slow=3.4,SNR=26								
NOA				PcP		**PcP**	07 20 48.9	-0.5
comp=Z,2.2nm,0.5s,baz=356,slow=3.1,SNR=4.7								
comp=Z,3.0nm,0.5s								
LSA	**Lhasa**	67.66	290	P		**P**	07 20 25.9	+1.8
LSA				pmax		pmax		
comp=Z,150nm,0.5s								
LSA	**Lhasa**	67.66	290	P		**P**	07 20 26.0	+1.9
AKTO	**Aktyubinsk**	67.77	325	LR		LR	07 52 19.5	
comp=Z,190nm,18.9s,baz=31,slow=38								
ABKAR	**Akbulak array**	68.03	323	P		**P**	07 20 25.2	-0.4
ABKAR				IAmb		IAmb	07 20 52.0	
comp=Z,5.9nm,0.8s								
ABKAR	**Akbulak array**	68.03	323	P		**P**	07 20 24.9	-0.7
352A	**Blakely**	68.10	67	P		**P**	07 20 25.9	-0.4
HFS	**Hagfors**	68.34	354	P		**P**	07 20 26.0	-1.3
comp=Z,5.6nm,0.4s,baz=4.8,slow=3.6,SNR=9.5								
HFS				PcP		**sP**	07 20 51.5	+2.2
comp=Z,3.9nm,0.5s,baz=130,slow=2.3,SNR=3.0								
comp=Z,5.6nm,0.4s								
FAKI	**Fak Fak**	68.44	235	P		**P**	07 20 29.2	+0.7
TAOE	**Nuku Hiva Isla**	68.51	139	*e*LR		LR	07 41 04.8	
comp=Z,273nm,24.3s								
TAOE	**Nuku Hiva Isla**	68.51	139	*e*T		T	08 35 05.0	
comp=Z,67nm,0.3s								
KKAR	**Karatay Array**	68.52	313	P		**P**	07 20 28.8	0.0
KKAR	**Karatay Array**	68.52	313	P		**P**	07 20 28.8	0.0
KSH	**Kashi**	68.66	307	P		**P**	07 20 34.4	+4.6
KSH				sP		sP	07 20 59.0	+6.9
KSH				pmax		pmax		
comp=Z,17nm,0.9s								
NONG	**Nongkai**	68.93	273	P		**P**	07 20 32.1	+0.5
MSVF	**Nonsavu**	68.96	184	LR		LR	07 46 23.0	
comp=Z,52nm,19.9s,baz=6.4,slow=32								
CRAI	**Chiangrai**	69.04	276	P		**P**	07 20 32.9	+0.6
MOS	**Moscow**	69.08	339	*e*P		**P**	07 20 30.7	-1.3
CNNC	**Cliffs of the**	69.22	59	P		**P**	07 20 33.4	+0.2
baz=319								
BELG	**Belogornoye**	69.51	332	*i* P		**P**	07 20 33.7	-0.9
BELG				pmax		pmax		
comp=Z,4.0nm,0.8s								
BELG	**Belogornoye**	69.51	332	LR		LR	07 54 01.9	
comp=Z,180nm,19.1s,baz=337,slow=38								
NHSC	**New Hope**	69.57	62	P		**P**	07 20 35.7	+0.3
baz=319								
OBN	**Obninsk**	69.89	339	⇈*e*P		**P**	07 20 35.2	-1.8
OBN				*e*			07 20 57.9	
OBN				*e*			07 23 17.1	
OBN				pmax		pmax		
comp=Z,9.0nm,0.4s								
OBN				MLR		MLR		
comp=Z,176nm,16.0s								
SHL	**Shillong**	70.28	286	P		**P**	07 20 39.8	-0.3
SHL	**Shillong**	70.28	286	P		**P**	07 20 39.8	-0.3
SHL				pmax		pmax		
comp=Z,91nm,0.7s								
CMAR	**Chiang Mai Arr**	71.26	276	P		**P**	07 20 46.2	+0.3
comp=Z,8.2nm,0.6s,baz=28,slow=6.6,SNR=36								
CMAR				LR		LR	07 56 06.2	
comp=Z,37nm,18.5s,baz=60,slow=39								
comp=Z,8.2nm,0.6s								
PMOR	**Pomariorio Ree**	71.31	149	*e*T		T	08 38 35.1	
comp=Z,32nm,0.3s								
TOLI2	**Tolitoli**	71.34	247	P		**P**	07 20 47.5	+1.2
TAPN	**Taplejung**	71.42	291	*e*P		**P**	07 20 48.3	+1.2
NACGM	**Naroch**	71.96	345	LRM		MLR	07 50 59.4	
comp=Z,356nm,26.1s								
NACGM	**Naroch**	71.96	345	*e*P		P	07 20 42.4	-7.1
comp=Z,13nm,0.8s,baz=16								
NACGM	**Naroch**	71.96	345	PP		PP	07 23 13.8	-15
NACGM	**Naroch**	71.96	345	PPP		PPP	07 25 02.3	
NACGM	**Naroch**	71.96	345	S		**S**	07 30 05.1	-0.7
NACGM	**Naroch**	71.96	345	sS		sS	07 30 35.6	+4.1
NACGM	**Naroch**	71.96	345	SS		SS	07 34 30.6	-11
NACGM	**Naroch**	71.96	345	SSS		SSS	07 38 01.4	
NACGM	**Naroch**	71.96	345	LQ		LQ	07 44 14.4	
NACGM	**Naroch**	71.96	345	LR		LR	07 47 28.2	
ODAN	**Odare**	71.98	290	*e*P		**P**	07 20 51.2	+0.8
comp=Z,111nm,0.7s								
GUN	**Gumba**	72.07	292	*e*P		**P**	07 20 52.2	+1.1
comp=Z,571nm,0.5s								
JIRN	**Jiri**	72.07	292	*e*P		**P**	07 20 52.4	+1.3
comp=Z,530nm,0.6s								
MNK	**Minsk**	72.16	344	*i* LR		LR	07 51 55.3	
MNK	**Minsk**	72.16	344	*i* P		**P**	07 20 48.6	-2.1
MNK				*i **PP		**pP**	07 21 05.1	-1.7
MNK				*i*			07 23 29.0	
MNK				*i* S		**S**	07 30 06.3	-1.9
MNK				*i **SS		**sS**	07 30 34.7	+0.9
MNK				*i* SS		**SS**	07 34 45.2	0.0
MNK				pmax		pmax		
comp=N,19nm,1.4s								
MNK				pmax		pmax		
comp=E,8.0nm,1.2s								
MNK				pmax		pmax		
comp=Z,22nm,0.7s								
MNK	**Minsk**	72.16	344	*i* P		**P**	07 20 48.7	-2.1
comp=E,8.0nm,1.2s								
MNK	**Minsk**	72.16	344	*i* P		**P**	07 20 48.7	-2.1
comp=Z,22nm,0.7s,baz=17								
MNK	**Minsk**	72.16	344	*i* P		**P**	07 20 48.7	-2.1
comp=N,19nm,1.4s								
MNK	**Minsk**	72.16	344	*i* pP		pP	07 21 05.1	-1.7
MNK	**Minsk**	72.16	344	*i* PP		PP	07 23 29.1	-1.8
MNK	**Minsk**	72.16	344	*i* PPP		PPP	07 25 44.5	
MNK	**Minsk**	72.16	344	*i* S		**S**	07 30 06.4	-1.9
MNK	**Minsk**	72.16	344	*i* sS		sS	07 30 34.8	+0.9
MNK	**Minsk**	72.16	344	*i* SS		SS	07 34 45.2	+0.1
MNK	**Minsk**	72.16	344	*i* SSS		SSS	07 38 05.3	
MNK	**Minsk**	72.16	344	*i* LQ		LQ	07 46 15.1	
RAMN	**Ramite**	72.37	291	*e*P		**P**	07 20 54.1	+1.3
KKN	**Kakani**	72.50	293	*e*P		**P**	07 20 54.6	+1.1
comp=N,265nm,0.6s								
PKI	**Pulchoki**	72.59	292	*e*P		**P**	07 20 55.2	+1.0
comp=N,176nm,0.6s								
PKIN	**Phulchoki**	72.60	292	*e*P		**P**	07 20 54.9	+0.8
comp=N,174nm,0.6s								
DWPF	**Disney Wildern**	72.62	67	P		**P**	07 20 54.0	+0.1
baz=319								
GKN	**Gorkha**	72.71	293	*e*P		**P**	07 20 55.5	+0.8
comp=N,267nm,0.7s								
DMN	**Daman**	72.74	293	*e*P		**P**	07 20 56.2	+1.2
comp=N,213nm,0.8s								
CMIG	**Matias Romero**	72.81	84	LR		LR	07 48 36.9	
comp=N,46nm,21.3s,baz=350,slow=32								
NAYO	**Nakonayok**	72.90	272	P		**P**	07 20 56.4	+0.7
DANN	**Dangsing**	72.95	294	*e*P		**P**	07 20 57.2	+0.9
comp=N,239nm,0.8s								
PPT	**Papeete**	73.20	151	LR		LR	07 49 42.9	
comp=N,37nm,18.7s,baz=297,slow=33								
PPT2	**Papeete2**	73.22	151	*e*LR		LR	07 43 09.5	
comp=N,249nm,27.2s								
PPT2				*e*LR		LR	07 43 16.2	
comp=N,176nm,29.0s								
PPT2	**Papeete2**	73.22	151	*e*T		T	08 40 56.1	
comp=N,4.6nm,0.2s								
KOLN	**Koldanda**	73.48	294	*e*P		**P**	07 21 00.1	+0.8
comp=N,129nm,0.9s								
EKA	**Eskdalemuir Ar**	73.51	3	P		**P**	07 20 58.2	-0.5
comp=N,1.7nm,0.3s,baz=0.6,slow=5.1,SNR=28								
comp=N,1.7nm,0.3s								
PYUN	**Piuthan**	73.58	294	*e*P		**P**	07 21 01.0	+1.1
comp=N,150nm,0.8s								
RAR	**Rarotonga**	74.17	162	LR		LR	07 46 20.7	
comp=N,152nm,19.5s,baz=342,slow=30								
DZM	**Mont Dzumac**	74.41	195	*e*LR		LR	07 44 20.2	
comp=N,182nm,24.7s								
TEIG	**Tepich**	74.52	77	LR		LR	07 54 25.3	
comp=N,284nm,19.8s,baz=192,slow=36								
AKASG	**Malin Array Be**	75.56	342	P		**P**	07 21 09.8	-0.8
AKASG	**Malin Array Be**	75.56	342	P		**P**	07 21 09.8	-0.8
AKASG				pmax		pmax		
comp=Z,2.0nm,0.8s								
AKASG	**Malin Array Be**	75.56	342	P		**P**	07 21 09.8	-0.8
comp=Z,4.3nm,0.3s,baz=20,slow=6.0,SNR=31								
comp=Z,4.3nm,0.3s								
AKBB	**Malin Array Si**	75.56	342	P		**P**	07 21 10.1	-0.5
AKBB	**Malin Array Si**	75.56	342	P		**P**	07 21 10.1	-0.5
AKBB				pmax		pmax		
comp=Z,15nm,0.5s								
MTSU	**Mount Surprise**	76.58	216	P		**P**	07 21 17.2	+0.4
KDU	**Kakadu**	76.74	229	P		**P**	07 21 17.5	-0.2
KAPI	**Kappang**	76.92	244	LR		LR	07 50 06.6	
comp=Z,25nm,21.8s,baz=40,slow=32								
CLL	**Collm**	77.16	353	*e*P		**P**	07 21 19.0	-0.7
CLL				*e**PP		**PcP**	07 21 29.0	-1.3
CLL				pmax		pmax		
comp=Z,8.0nm,1.0s								
CLL	**Collm**	77.16	353	*e*P		**P**	07 21 19.0	-0.7
comp=Z,8.0nm,1.0s								
CLL				*e*PcP		**PcP**	07 21 29.0	-1.3
MTN	**Manton Dam**	77.52	230	P		**P**	07 21 22.0	-0.2
MTN	**Manton Dam**	77.52	230	P		**P**	07 21 21.9	-0.2
CHVC	**Chvalec**	77.60	351	*e*P		**P**	07 21 22.0	-0.2
CHVC	**Chvalec**	77.60	351	*e*P		**P**	07 21 22.0	-0.2
OSTC	**Ostas**	77.61	351	*e*P		**P**	07 21 23.1	+0.8
OSTC	**Ostas**	77.61	351	*e*P		**P**	07 21 23.1	+0.8
CTA	**Charters Tower**	77.68	214	LR		LR	07 51 53.0	
comp=Z,47nm,19.5s,baz=80,slow=33								
UPC	**Upice**	77.68	351	*e*P		**P**	07 21 23.3	+0.6
UPC	**Upice**	77.68	351	*e*P		**P**	07 21 23.3	+0.6
KWP	**Kalwaria Pacla**	77.70	346	P		**P**	07 21 22.8	0.0
KWP	**Kalwaria Pacla**	77.70	346	P		**P**	07 21 22.8	0.0
KWP				pmax		pmax		
comp=Z,41nm,0.6s								
DPC	**Dobruska-Polom**	77.81	350	*e*P		**P**	07 21 23.4	0.0
DPC	**Dobruska-Polom**	77.81	350	*e*P		**P**	07 21 23.4	0.0
HSKC	**Hora Svate Kat**	77.82	352	*e*P		**P**	07 21 19.1	-4.4
HSKC				*ex*		x	07 21 23.0	
MAK	**Makhachkala**	77.88	327	*e*P		**P**	07 21 24.4	+0.5
MAK				*e**PP		**pP**	07 21 38.2	-1.8
MAK				*e**SP		**sP**	07 21 45.3	-1.2
MAK				*e*S		**S**	07 31 14.7	+2.6
MAK				*e**SS		**ScS**	07 31 38.8	+0.9
MAK				pmax		pmax		
comp=Z,431nm,1.2s								
SURA	**Surathani**	77.90	270	P		**P**	07 21 25.1	+0.7
KRLC	**Kraliky**	78.03	350	*e*P		**P**	07 21 24.8	+0.1
KRLC	**Kraliky**	78.03	350	*e*P		**P**	07 21 24.8	+0.1
STHS	**Stebnicka Huta**	78.12	347	*e*P		**P**	07 21 25.6	+0.4
STHS	**Stebnicka Huta**	78.12	347	*e*P		**P**	07 21 25.7	+0.5
STHS				pmax		pmax		
comp=Z,8.0nm,0.6s								
SORM	**Soroca**	78.18	342	⇊P		**P**	07 21 25.0	-0.4
SORM	**Soroca**	78.18	342	P		**P**	07 21 25.0	-0.4
GEYT	**Alibeck**	78.20	318	P		**P**	07 21 26.1	+0.2
comp=Z,5.4nm,0.9s,baz=43,slow=2.6,SNR=7.0								
comp=Z,5.4nm,0.9s								
MORC	**Moravsky Berou**	78.24	350	*e*P		**P**	07 21 25.9	+0.1
MEM	**Membach**	78.25	357	*d*P		**P**	07 21 26.0	+0.2
comp=Z,8.0nm,0.8s								
BTNL	**Ternell**	78.27	357	*d*P		**P**	07 21 26.2	+0.3
GOPC	**GO Pecny, Ondr**	78.39	351	*e*P		**P**	07 21 26.3	-0.3
GOPC	**GO Pecny, Ondr**	78.39	351	*e*P		**P**	07 21 26.3	-0.3
KOLS	**Kolonicke sedl**	78.45	346	*e*P		**P**	07 21 27.3	+0.4
KOLS	**Kolonicke sedl**	78.45	346	*e*P		**P**	07 21 27.3	+0.4
KOLS				pmax		pmax		
comp=Z,14nm,0.7s								
BCLA	**Clavier**	78.46	358	*d*P		**P**	07 21 26.5	-0.5
KIV	**Kislovodsk**	78.53	331	*e*P		**P**	07 21 26.4	-1.2
KIV				pmax		pmax		
comp=Z,14nm,1.1s								
KIV				MLR		MLR		
comp=Z,114nm,18.0s								
BMRD	**Maredsous**	78.59	358	*d*P		**P**	07 21 26.9	-0.7
comp=Z,15nm,0.8s								
CRVS	**Cervenica-Dubn**	78.59	347	*e*P		**P**	07 21 28.2	+0.4
CRVS	**Cervenica-Dubn**	78.59	347	*e*P		**P**	07 21 28.2	+0.4
CRVS				pmax		pmax		
comp=Z,11nm,1.0s								
LANS	**Liptovska Anna**	78.62	348	*e*P		**P**	07 21 28.

comp=Z,10nm,0.6s
VOIR **81.39 344** ⇓P **P** **07 21 43.0 0.0**
VOIR **81.39 344** P **P** **07 21 43.0 0.0**
ARR **Arges** **81.53 344** ⇓P **P** **07 21 43.6 -0.1**
SURR **Surduc** **81.57 346** ⇓P **P** **07 21 44.1 +0.2**
SOKA **Soboth** **81.57 351** *e*P **P** **07 21 45.0 +1.0**
comp=Z,14nm,0.6s,SNR=12
FETA **Feichten** **81.59 354** *i* P **P** **07 21 43.9 -0.3**
comp=Z,13nm,1.1s
PERS **Pernice** **81.60 351** *i* P **P** **07 21 44.4 +0.3**
ABTA **Abfaltersbach** **81.73 352** *i* P **P** **07 21 44.4 -0.3**
comp=Z,12nm,1.1s
MYKA **Terra Mystica** **81.75 352** *i* P **P** **07 21 45.1 +0.3**
comp=Z,6.8nm,0.5s
BZS **Buzias** **81.78 346** ⇓P **P** **07 21 44.0 -0.9**
BZS **Buzias** **81.78 346** P **P** **07 21 44.0 -0.9**
OBKA **Obir** **81.78 351** *i* P **P** **07 21 45.6 +0.5**
comp=Z,18nm,0.9s
OBKA **Obir** **81.78 351** *e*P **P** **07 21 45.4 +0.3**
GZR **Gura Zlata** **81.82 345** ⇓P **P** **07 21 45.2 -0.1**
GZR **Gura Zlata** **81.82 345** P **P** **07 21 45.1 -0.1**
PRED **Cave del Predi** **81.94 352** P **P** **07 21 44.7 -1.2**
FUORN **Ofenpass-Fuorn** **82.03 354** P **P** **07 21 46.8 +0.2**
FUORN IAmb IAmb 07 21 50.3
comp=Z,7.7nm,0.7s
WB0 **Warramunga Arr** **82.06 224** P **P** **07 21 45.2 -1.4**
WB0 IAmb IAmb 07 21 46.2
comp=Z,5.6nm,0.8s
WR0 **Warramunga Arr** **82.17 224** P **P** **07 21 46.5 -0.6**
WR0 IAmb IAmb 07 21 46.8
comp=Z,6.9nm,0.7s
TUE **Stuetta** **82.23 355** P **P** **07 21 48.3 +0.8**
TUE IAmb IAmb 07 21 52.0
comp=Z,8.9nm,0.6s
WRAB **Tennant Creek** **82.23 224** P **P** **07 21 47.1 -0.4**
WRAB **Tennant Creek** **82.23 224** *c*eP **P** **07 21 44.2 -3.3**
WRAB pmax pmax
comp=Z,18nm,2.5s
WB2 **Warramunga Arr** **82.24 224** P **P** **07 21 46.8 -0.7**
WB2 IAmb IAmb 07 21 47.8
comp=Z,12nm,1.1s
WRA **Warramunga Arr** **82.24 224** P **P** **07 21 46.5 -1.1**
WRA **Warramunga Arr** **82.24 224** P **P** **07 21 46.7 -0.9**
comp=Z,4.5nm,0.7s,baz=32,slow=5.8,SNR=50
WRA PKKPbc **PKKPbc** **07 40 13.9 0.0**
comp=Z,0.3nm,0.4s,baz=224,slow=2.3,SNR=10
comp=Z,4.5nm,0.7s
GCIS **Gornji Cirnik** **82.31 350** *i* P **P** **07 21 48.0 +0.3**
FRGS **Fruska Gora** **82.49 347** ⇓P **P** **07 21 48.5 -0.2**
FRGS **Fruska Gora** **82.49 347** *e*P **P** **07 21 48.9 +0.2**
CEY **Cerknica** **82.56 351** *e*P **P** **07 21 47.5 -1.6**
MDVR **Moldovita** **82.58 346** ⇓P **P** **07 21 49.1 -0.1**
BOJS **Bojanci** **82.71 350** *e*P **P** **07 21 48.8 -1.0**
A051A **Mrakovica** **83.01 349** *e*P **P** **07 21 50.7 -0.8**
TEKS **Tekeris** **83.13 347** *e*P **P** **07 21 51.6 -0.4**
TEOL **Teolo** **83.18 353** P **P** **07 21 52.1 -0.1**
BLY **Banja Luka** **83.24 349** *e*P **P** **07 21 53.3 +0.8**
PSI **Prapat** **83.26 266** P **P** **07 21 53.2 0.0**
DIVS **Divibare** **83.51 347** *e*P **P** **07 21 53.6 -0.4**
MGRS **Mrkonjic Grad** **83.58 349** *e*P **P** **07 21 50.6 -3.7**
BOVS **Bovan** **83.70 345** ⇑P **P** **07 21 54.1 -0.8**
ORTG **Ortega, Santa** **83.81 81** P **P** **07 21 56.5 +0.5**
ORTG IAmb IAmb 07 21 57.4
comp=Z,13nm,0.8s
BBLS **Lazići** **83.82 347** *e*P **P** **07 21 55.9 +0.3**
RUDO **Rudo** **84.06 347** *e*P **P** **07 21 56.1 -0.7**
JTS **Las Juntas de** **84.17 81** LR LR 08 01 08.4
comp=Z,34nm,18.9s,baz=310,slow=37
SJES **Sjenica** **84.33 347** *e*P **P** **07 21 58.1 -0.2**
QLP **Quilpie** **84.37 213** P **P** **07 21 59.7 +1.4**
BRY **Bratogost** **84.88 346** *e*P **P** **07 21 59.9 -1.2**
BR131 **Keskin Array S** **84.98 336** P **P** **07 22 01.4 -0.2**
BR131 **Keskin Array S** **84.98 336** P **P** **07 22 01.5 -0.2**
BR131 pmax pmax
comp=Z,17nm,0.8s
BRTR **Keskin Array B** **84.98 336** P **P** **07 22 01.3 -0.4**
BRTR **Keskin Array B** **84.98 336** P **P** **07 22 01.6 -0.1**
comp=Z,11nm,0.8s,baz=46,slow=2.4,SNR=38
BRTR LR LR 08 05 31.2
comp=Z,70nm,18.4s,baz=354,slow=40
comp=Z,11nm,0.8s
STON **Ston** **85.02 348** *e*P **P** **07 21 59.5 -2.1**
TREB **Trebinje** **85.09 348** *e*P **P** **07 22 00.8 -1.2**
MURB **Monte Urbino** **85.19 352** P **P** **07 22 03.1 +0.6**
PDG **Podgorica** **85.25 347** *e*P **P** **07 22 02.6 -0.1**
HCY **Herceg Novi** **85.33 348** *e*P **P** **07 22 01.8 -1.4**
LEM **Lembang** **85.45 253** LR LR 07 59 09.8
comp=Z,20nm,18.9s,baz=200,slow=35
DRME **Dracevica, Mon** **85.50 347** *e*P **P** **07 22 03.4 -0.6**
ARMA **Armidale** **85.69 206** P **P** **07 22 06.9 +1.9**
ASAR **Alice Springs** **85.71 223** P **P** **07 22 04.9 -0.3**
ASAR **Alice Springs** **85.71 223** P **P** **07 22 05.0 -0.1**
comp=Z,8.9nm,0.8s,baz=24,slow=5.5,SNR=94
ASAR PKIKP **PKiKP** **07 27 13.5 -1.0**
comp=Z,0.5nm,0.7s,baz=37,slow=1.6,SNR=4.5
ASAR PKKPbc **PKKPbc** **07 40 05.1 -0.8**
comp=Z,0.3nm,0.6s,baz=214,slow=1.6,SNR=4.6
ASAR LR LR 07 54 23.2
comp=Z,40nm,21.1s,baz=34,slow=31
comp=Z,8.9nm,0.8s
INKA **Innaminka** **86.66 216** P **P** **07 22 10.3 +0.6**
CMSA **Cobar Meteorol** **88.47 210** P **P** **07 22 19.2 +0.9**
OOD **Oodnadatta** **88.64 220** P **P** **07 22 19.7 +0.6**
ESDC **Sonseca Array** **89.12 4** P **P** **07 22 20.6 -1.1**
ESDC IAmb IAmb 07 22 21.4
comp=Z,13nm,1.4s
ESDC **Sonseca Array** **89.12 4** P **P** **07 22 20.5 -1.1**
comp=Z,3.9nm,0.6s,baz=348,slow=4.0,SNR=30
ESDC LR LR 08 04 39.8
comp=Z,70nm,18.2s,baz=344,slow=37
comp=Z,3.9nm,0.6s
LCRK **Leigh Creek** **90.04 216** P **P** **07 22 27.6 +2.0**
STKA **Stephens Creek** **90.13 213** P **P** **07 22 26.6 +0.5**
STKA IAmb IAmb 07 22 27.5
comp=Z,3.0nm,0.8s
STKA **Stephens Creek** **90.13 213** P **P** **07 22 26.9 +0.9**
STKA **Stephens Creek** **90.13 213** P **P** **07 22 26.7 +0.7**
comp=Z,13nm,0.7s,baz=358,slow=6.1,SNR=21
STKA LR LR 07 59 59.4
comp=Z,54nm,18.8s,baz=24,slow=34
comp=Z,13nm,0.7s
WSAR **Wadi Sarin** **90.42 309** LR LR 08 08 52.7
comp=Z,63nm,18.4s,baz=48,slow=39
MMAI **Mount Meron Ar** **90.80 332** P **P** **07 22 28.9 -0.7**
comp=Z,1.0nm,0.3s,baz=27,slow=5.6,SNR=5.0
MMAI LR LR 08 09 13.7
comp=Z,38nm,18.2s,baz=342,slow=40
comp=Z,1.0nm,0.3s
PALK **Pallekele** **91.11 283** LR LR 08 06 47.5
comp=Z,19nm,20.4s,baz=66,slow=38
APAC **Apartado, Choc** **91.17 76** *e*P **P** **07 22 32.9 +1.5**
IDI **Anoyia** **91.24 341** LR LR 08 09 18.0
comp=Z,44nm,18.5s,baz=37,slow=39
KEST **Kesra** **92.92 354** P **P** **07 22 38.9 -0.4**
comp=Z,6.6nm,0.9s,baz=342,slow=13,SNR=2.6
comp=Z,6.6nm,0.9s
PTBC **PUERTO BERRIO,** **93.52 75** *e*P **P** **07 22 41.8 -0.5**
PAMC **Pamplona, Colo** **93.95 73** *e*P **P** **07 22 44.5 -0.3**
SDV **Santo Domingo** **93.95 71** LR LR 08 06 28.7
comp=Z,28nm,20.7s,baz=320,slow=36
GUY2C **Guyana, Caldas** **94.01 77** *e*P **P** **07 22 45.1 0.0**
NORC **Norcasia** **94.04 76** *e*P **P** **07 22 45.0 +0.2**
EIL **Elat** **94.06 331** LR LR 08 10 57.7
comp=Z,53nm,19.3s,baz=64,slow=39
BARC **Barichara** **94.25 74** *e*P **P** **07 22 45.8 -0.2**
SPBC **San Pablo de B** **94.46 75** *e*P **P** **07 22 46.2 -0.5**
ORTC **Ortega, Tolima** **95.11 77** *e*P **P** **07 22 49.0 -0.7**
RPZ **Rata Peaks** **95.23 188** LR LR 08 02 44.6
comp=Z,71nm,19.0s,baz=40,slow=34
PRAC **Prado** **95.49 77** *e*P **P** **07 22 51.2 -0.1**
PCRV **Puerto La Cruz** **96.39 65** LR LR 08 07 30.3
comp=Z,45nm,19.8s,slow=36
RPN **Rapa Nui** **98.88 123** LR LR 07 57 40.2
comp=Z,57nm,19.3s,baz=330,slow=29
LPAZ **La Paz** **115.18 85** PKP **PKiKP** **07 28 08.1 -0.1**
comp=Z,0.4nm,0.6s,baz=347,slow=1.5,SNR=1.8
TORD **Torodi Ar. Bea** **115.67 360** PKP **PKiKP** **07 28 07.6 -0.9**
comp=Z,3.3nm,0.6s,baz=0.9,slow=2.5,SNR=22
TORD PKKPbc **PKKPbc** **07 38 38.5 -0.4**
comp=Z,0.5nm,0.7s,baz=164,slow=1.7,SNR=2.6
H03N2 **Juan Fernandez** **120.92 106** T T 09 41 05.1
baz=317,slow=78,SNR=120
H03N1 **Juan Fernandez** **120.93 106** T T 09 41 06.2
baz=317,slow=78,SNR=135
H03N3 **Juan Fernandez** **120.93 106** T T 09 41 06.2
baz=317,slow=78,SNR=166
DBIC **Dimbokro** **121.84 8** PKP **PKPdf** **07 28 19.8 -0.6**
comp=Z,11nm,0.5s,baz=354,slow=2.5,SNR=38
TIC **Toumodi** **121.86 8**⇑*i*PKIKP **PKPdf** **07 28 19.7 -0.8**
comp=Z,14nm,0.3s
KIC **Kosan Boka** **122.16 7**⇑*e*PKIKP **PKPdf** **07 28 20.3 -0.8**
comp=Z,20nm,0.6s
LIC **Lamto** **122.27 8**⇑*i*PKIKP **PKPdf** **07 28 20.4 -0.9**
comp=Z,15nm,0.3s
VNDA **Vanda** **129.29 185** PKP **PKPdf** **07 28 31.1 -1.6**
comp=Z,0.5nm,0.6s,baz=31,slow=1.0,SNR=5.0
CPUP **Villa Florida** **129.34 84** PKP **PKPdf** **07 28 32.5 -1.7**
comp=Z,2.1nm,0.9s,baz=333,slow=2.4,SNR=4.6
PLCA **Paso Flores** **130.75 107** PKP **PKPdf** **07 28 34.8 -1.8**
comp=Z,2.4nm,0.8s,baz=6.0,slow=6.7,SNR=3.7
QSPA **South Pole Qui** **141.21 180** PKhKP PKPpre 07 28 48.2
comp=Z,2.8nm,0.8s,baz=177,slow=0.8,SNR=18
QSPA SKPbc **SKPbc** **07 32 26.8 0.0**
comp=Z,4.3nm,1.0s,baz=12,slow=3.6,SNR=4.3
MUSN **Musina, Limpop** **143.58 312** *e*P PKPbc 07 28 58.5 +0.2
MUSN IAmb IAmb 07 28 60.0
comp=Z,18nm,1.2s
MOPA **Mopani** **143.90 309** *e*P **PKPdf** **07 29 00.8 -0.5**
LEPH **Lephalale, Lim** **145.88 314** *e*P **PKPab** **07 29 06.2 +0.2**
MAW **Mawson** **146.70 218** PKPbc **PKPbc** **07 29 06.6 +0.1**
comp=Z,33nm,0.9s,baz=79,slow=2.6,SNR=62
LBTB **Lobatse** **147.86 316** *e*P **PKPbc** **07 29 11.3 +0.2**
WDLM **Western Deep L** **148.25 312** *e*P **PKPbc** **07 29 12.3 +0.1**
KSTD **Kokstad** **150.80 305** *e*P **PKiKP** **07 29 19.8 +0.8**
BOSA **Boshof** **151.12 313** *e*P **PKiKP** **07 29 19.5 -0.1**
BOSA **Boshof** **151.12 313** PKPbc **PKPbc** **07 29 19.2 +0.1**
comp=Z,42nm,0.6s,baz=27,slow=2.3,SNR=17
ELIB **Princess Elisa** **157.28 197** *d*PKPdf **PKPdf** **07 29 20.2 -0.4**
ELIB *d*PKP **PKPab** **07 29 50.9 -1.1**
TROLL **Troll, Antarti** **159.36 181** ⇑P **PKPdf** **07 29 22.4 -0.7**
comp=Z,2.7nm,0.1s
TROLL **Troll, Antarti** **159.36 181** ⇑PcP **PKPab** **07 29 59.3 -1.8**
comp=Z,2.7nm,0.1s
VNA3 **Neumayer Olymp** **159.49 170** ⇑P **PKPdf** **07 29 21.3 -1.8**
VNA3 **Neumayer Olymp** **159.49 170** ⇑PcP **PKPab** **07 30 00.1 -1.3**
SNAA **Sanae** **159.61 176** *e*P **PKPab** **07 30 00.8 -1.2**
SNAA **Sanae** **159.61 176** ⇑P **PKPdf** **07 29 20.7 -2.6**
SNAA **Sanae** **159.61 176** ⇑PcP **PKPab** **07 30 00.9 -1.2**
SNAA **Sanae** **159.61 176** PKP **PKPdf** **07 29 20.9 -2.3**
comp=Z,1.9nm,1.1s,baz=207,slow=2.1,SNR=5.5
SNAA PKPab **PKPab** **07 30 00.8 -1.2**
comp=Z,1.7nm,0.8s,baz=219,slow=8.0,SNR=10.0
VNA2 **Neumayer--Watz** **160.03 171** ⇑P **PKPdf** **07 29 22.4 -1.3**
baz=316,slow=1.0
VNA2 **Neumayer--Watz** **160.03 171** ⇑PcP **PKPab** **07 30 02.6 -1.2**
baz=185,slow=3.0
VNA1 **Neumayer--Stat** **160.20 170** ⇑PcP **PKPab** **07 30 04.0 -0.5**

*SJA **24** 07:11:11.3±0.7, 20°.40S×69°.27W, h100km±2km, ML3.8, MW3.8*
*GUC **24** 07:11:12.5±0.7, 20°.40S×69°.20W, h98km±2km, ML3.8*
ISC 24 07:11:13.0±1.4, 20°.41S±0°.03×69°.28W±0°.05, h94km±8km, n34, σ0°65/62, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.29**	**24**	⇓*i*P	**Pn**	**07 11 26.8**	**-0.7**
PB08				*e*S	**Sn**	**07 11 38.0**	**-0.1**
PB08				IAML		07 11 38.8	
comp=E,7μm,0.1s							
PB08	**IPOC Station P**	**0.29**	**24**	*e*P	**Pn**	**07 11 26.8**	**-0.7**
PB08				*e*S	**Sn**	**07 11 38.5**	**+0.4**
PB08				IAML		07 11 39.2	
comp=Z,3μm,0.3s							
HMBC	**Humberstone**	**0.59**	**283**	*e*P	**Pn**	**07 11 28.7**	**-0.4**
HMBC				*e*S	**Sn**	**07 11 41.1**	**+0.1**
HMBC				IAML		07 11 41.7	
comp=N,5μm,0.2s							
HMBC	**Humberstone**	**0.59**	**283**	*e*P	**Pn**	**07 11 28.8**	**-0.4**
HMBC				*e*S	**Sn**	**07 11 41.5**	**+0.4**
HMBC				IAML		07 11 44.2	
comp=Z,5μm,0.2s							
PB01	**IPOC Station P**	**0.66**	**197**	⇑*i*P	**Pn**	**07 11 29.4**	**-0.3**
PB01				*e*S	**Sn**	**07 11 42.4**	**+0.3**
PB01				IAML		07 11 43.2	
comp=N,6μm,0.2s							
PB01	**IPOC Station P**	**0.66**	**197**	*e*P	**Pn**	**07 11 29.2**	**-0.5**
PB01				*e*S	**Sn**	**07 11 42.8**	**+0.7**
PB01				IAML		07 11 43.5	
comp=Z,4μm,0.2s							
GO01	**Chusmiza**	**0.74**	**6**	⇑*i*P	**Pn**	**07 11 30.2**	**-0.7**
GO01				*e*S	**Sn**	**07 11 44.0**	**-0.2**
GO01	**Chusmiza**	**0.74**	**6**	*e*P	**Pn**	**07 11 30.3**	**-0.7**
GO01				*e*S	**Sn**	**07 11 44.8**	**+0.6**
GO01				IAML		07 11 45.1	
comp=Z,3μm,0.1s							
TA02	**Huaiquique**	**0.81**	**280**	*e*P	**Pn**	**07 11 30.9**	**-0.1**
TA02				*e*S	**Sn**	**07 11 45.2**	**+0.6**
TA02	**Huaiquique**	**0.81**	**280**	*e*P	**Pn**	**07 11 30.6**	**-0.4**
TA02				*e*S	**Sn**	**07 11 45.9**	**+1.4**
TA02				IAML		07 11 47.0	
comp=Z,4μm,0.1s							
TA01	**Diego Aracena**	**0.86**	**260**	⇑*i*P	**Pn**	**07 11 31.1**	**-0.4**
TA01				*e*S	**Sn**	**07 11 45.4**	**0.0**
TA01	**Diego Aracena**	**0.86**	**260**	*e*P	**Pn**	**07 11 31.1**	**-0.4**
TA01				*e*S	**Sn**	**07 11 45.6**	**+0.2**
PATCX	**Punta Patache**	**0.92**	**243**	⇑*i*P	**Pn**	**07 11 32.0**	**-0.2**
PATCX				*e*S	**Sn**	**07 11 47.0**	**+0.4**
PATCX				IAML		07 11 47.9	
comp=E,3μm,0.2s							
PATCX	**Punta Patache**	**0.92**	**243**	*e*P	**Pn**	**07 11 32.0**	**-0.2**
PATCX				*e*S	**Sn**	**07 11 47.5**	**+0.9**
PATCX				IAML		07 11 48.9	
comp=Z,880nm,0.2s							
PB02	**IPOC Station P**	**1.07**	**212**	*e*P	**Pn**	**07 11 33.6**	**-0.4**
PB02				*e*S	**Sn**	**07 11 50.7**	**+1.0**
PB02				IAML		07 11 51.9	
comp=E,4μm,0.2s							
PB02	**IPOC Station P**	**1.07**	**212**	*e*P	**Pn**	**07 11 33.7**	**-0.3**
PB02				*e*S	**Sn**	**07 11 51.0**	**+1.2**
PB02				IAML		07 11 52.1	
comp=Z,2μm,0.2s							
PB09	**IPOC Station P**	**1.38**	**179**	⇑*i*P	**Pn**	**07 11 37.5**	**-0.2**
PB09				*e*S	**Sn**	**07 11 56.8**	**+0.5**
PB09				IAML		07 11 58.4	
comp=N,1μm,0.2s							
PB09	**IPOC Station P**	**1.38**	**179**	*e*P	**Pn**	**07 11 37.5**	**-0.2**
PB09				*e*S	**Sn**	**07 11 57.8**	**+1.5**
PB09				IAML		07 11 58.9	
comp=Z,642nm,0.2s							
PB07	**IPOC Station P**	**1.43**	**203**	*e*P	**Pn**	**07 11 37.7**	**-0.6**
PB07				*e*S	**Sn**	**07 11 57.3**	**0.0**
PB07				IAML		07 12 00.2	
comp=E,1μm,0.1s							
PB07	**IPOC Station P**	**1.43**	**203**	*e*P	**Pn**	**07 11 37.8**	**-0.6**
PB07				*e*S	**Sn**	**07 11 57.7**	**+0.3**
PB07				IAML		07 11 59.2	
comp=Z,644nm,0.2s							
PB12	**IPOC Station P**	**2.04**	**331**	*e*P	**Pn**	**07 11 45.3**	**-0.8**
PB12	**IPOC Station P**	**2.04**	**331**	*e*P	**Pn**	**07 11 45.3**	**-0.8**
PB12				*e*S	**Sn**	**07 12 11.0**	**-0.3**
PB16	**IPOC Station P**	**2.08**	**354**	*e*P	**Pn**	**07 11 47.4**	**+0.4**
PB16	**IPOC Station P**	**2.08**	**354**	*e*P	**Pn**	**07 11 47.5**	**+0.5**
PB16				*e*S	**Sn**	**07 12 14.6**	**+1.8**
PB04	**IPOC Station P**	**2.08**	**203**	*e*P	**Pn**	**07 11 46.2**	**-0.4**
PB04				IAML		07 12 13.7	
comp=E,364nm,0.1s							
PB04	**IPOC Station P**	**2.08**	**203**	*e*P	**Pn**	**07 11 46.3**	**-0.3**
PB04				*e*S	**Sn**	**07 12 11.3**	**-0.9**
PB04				IAML		07 12 24.0	
comp=Z,285nm,0.2s							
LVC	**Limon Verde**	**2.21**	**171**	*e*P	**Pn**	**07 11 48.1**	**-0.5**
LVC				*e*S	**Sn**	**07 12 16.1**	**+0.4**
LVC				IAML		07 12 21.6	
comp=Z,890nm,0.5s							
LVC	**Limon Verde**	**2.21**	**171**	*e*P	**Pn**	**07 11 48.4**	**-0.2**
LVC				*e*S	**Sn**	**07 12 16.4**	**+0.7**
AP01	**Chacalluta**	**2.27**	**333**	*e*P	**Pn**	**07 11 47.9**	**-1.0**
AP01	**Chacalluta**	**2.27**	**333**	*e*P	**Pn**	**07 11 48.8**	**-0.1**
AP01				*e*S	**Sn**	**07 12 16.4**	**+0.1**
AP01				IAML		07 12 35.5	
comp=Z,363nm,0.2s							
PB06	**IPOC Station P**	**2.30**	**187**	*e*P	**Pn**	**07 11 48.5**	**-1.0**
PB06				IAML		07 12 23.9	
comp=E,364nm,0.2s							
PB06	**IPOC Station P**	**2.30**	**187**	*e*P	**Pn**	**07 11 48.8**	**-0.7**
PB06				*e*S	**Sn**	**07 12 18.0**	**+0.6**
PB06				IAML		07 12 21.9	
comp=Z,223nm,0.1s							
PB15	**IPOC Station P**	**2.79**	**184**	*e*P	**Pn**	**07 11 55.1**	**-1.0**
PB15	**IPOC Station P**	**2.79**	**184**	*e*P	**Pn**	**07 11 56.0**	**-0.1**
PB15				*e*S	**Sn**	**07 12 29.2**	**+0.1**
PB15				IAML		07 12 37.8	
comp=Z,663nm,0.2s							

*SOME **24** 07:14:07.1, 37°.68N×71°.72E, h10km*
ISC 24 07:14:01.4±1.9, 37°.52N±0°.08×71°.4E±0°.1, h10km, n13, σ2°41/13, 3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.74**	**348**	*e*Pg	**Pg**	**07 15 32.6**	**+0.4**
20nm,0.2s							
IUG				*e*Lg	Lg	07 16 34.1	
36nm,0.2s							
AML	**Almayashu**	**4.94**	**20**	⇓P	**Pg**	**07 15 38.0**	**+2.0**
0.4nm,0.5s							
AML				⇓S	**Sb**	**07 16 32.1**	**+4.3**
4.2nm,0.7s							
MRKS	**Merke**	**5.41**	**15**	*e*Pg	**Pg**	**07 15 45.6**	**+0.6**
3.1nm,0.2s							
MRKS				*e*Lg	Lg	07 16 56.3	
12nm,0.2s							
KK31	**Karatay Array**	**5.62**	**353**	⇓P	Pg	07 15 56.9	+7.9
0.5nm,0.2s,baz=172,slow=12,SNR=12							
KK31				S	**Sg**	**07 16 57.8**	**-3.9**
3.3nm,0.7s,baz=156,slow=32,SNR=7.0							
KST	**Kastek**	**6.53**	**31**	*e*Pg	**Pg**	**07 16 03.1**	**-3.4**
2.6nm,0.4s							
KST				*e*Lg	Lg	07 17 26.9	
4.3nm,0.4s							
PYUN	**Piuthan**	**13.53**	**131**	*e*P	Pn	07 17 12.8	-0.9
4.8nm,0.2s							
DANN	**Dangsing**	**13.83**	**128**	*e*P	**Pn**	**07 17 18.5**	**+0.7**
6.3nm,0.3s							
GKN	**Gorkha**	**14.62**	**127**	*e*P	**Pn**	**07 17 28.6**	**0.0**
9.3nm,0.2s							
PKIN	**Phulchoki**	**15.40**	**126**	*e*P	**Pn**	**07 17 38.9**	**-0.2**
15nm,0.4s							
PKI	**Pulchoki**	**15.42**	**126**	*e*P	**Pn**	**07 17 38.8**	**-0.5**
12nm,0.6s							
GUN	**Gumba**	**15.49**	**124**	*e*P	**Pn**	**07 17 41.8**	**+1.4**
22nm,0.8s							
JIRN	**Jiri**	**15.87**	**124**	*e*P	**Pn**	**07 17 45.8**	**+0.6**
16nm,0.5s							
RAMN	**Ramite**	**16.61**	**125**	*e*P	**Pn**	**07 17 52.5**	**-2.2**
6.6nm,0.4s							

PRU 24 07:18:48.3, 50°.15N×19°.26E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.35**	**78**	*e*Pg	Pg	07 18 54.6	-0.5
OJC				*e*Sg	Sg	07 18 59.6	0.0
NIE	**Niedzica**	**0.99**	**137**	*e*Pg	Pg	07 19 06.7	-0.6
NIE				*e*Sg	Sg	07 19 20.8	+0.5
LANS	**Liptovska Anna**	**1.01**	**172**	*e*PG	Pg	07 19 06.0	-1.6
LANS				*e*SG	Sg	07 19 19.1	-1.6
LANS				*e*LG	Lg	07 19 22.5	
MORC	**Moravsky Berou**	**1.17**	**252**	*e*PG	Pg	07 19 09.6	-1.1
MORC				*e*SG	Sg	07 19 25.9	0.0
MAUC	**Maruska**	**1.22**	**230**	*e*SG	Sb	07 19 27.9	-0.6
STHS	**Stebnicka Huta**	**1.48**	**119**	*e*PN	Pn	07 19 15.2	-1.0
STHS				*e*SN	Sn	07 19 36.4	+0.1
STHS				*e*LG	Lg	07 19 45.6	
KRLC	**Kraliky**	**1.60**	**268**	*e*PG	Pn	07 19 16.4	-1.4
KRLC				*e*SG	Sn	07 19 37.8	-1.4
comp=Z,7.2nm,0.3s							
VYHS	**Vyhne**	**1.68**	**190**	*e*PN	Pn	07 19 16.9	-2.1
VYHS				*e*SN	Sn	07 19 38.3	-2.9
DPC	**Dobruska-Polom**	**1.90**	**277**	*e*PG	Pb	07 19 23.0	-0.8
DPC				*e*SG	Sg	07 19 48.8	-0.4
comp=Z,4.4nm,0.3s							
OSTC	**Ostas**	**1.99**	**283**	*e*SG	Sg	07 19 51.8	-0.5
KHC	**Kasperske Hory**	**3.83**	**257**	*e*SG	Sg	07 20 50.8	-0.5

*NEIC **24** 07:59:50.4±0.5, 14°.9S±0°.2×177°.9W±0°.2, h382km±14km, mb4.0/9, Error ellipse: s-maj=34.7km s-min=20.8km az=156.0*
*IDC **24** 07:59:52.1±3.8, 14°.98S×178°.06W, h388km±28km, mb3.4/4, mbtmp4.2/5, Error ellipse: s-maj=49.4km s-min=33.2km az=17.0*
ISC 24 07:59:50.5±1.3, 14°.9S±0°.2×178°.0W±0°.1, h379km, n19, σ0°82/20, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.77**	**233**		**Pn**	**08 01 09.6**	**+0.4**
MSVF	**Nonsavu**	**4.77**	**233**	P	**Pn**	**08 01 10.1**	**+1.0**
52nm,0.5s,baz=60,slow=14,SNR=74							
NIUE	**Niue**	**8.74**	**120**		**Pn**	**08 01 53.6**	**-0.1**
STKA	**Stephens Creek**	**40.53**	**238**	P	**P**	**08 06 54.2**	**-0.3**
1.4nm,0.7s,baz=79,slow=14,SNR=2.0							
1.4nm,0.7s							
BBOO	**Buckleboo**	**45.30**	**238**	P	**P**	**08 07 31.7**	**-0.7**
WR0	**Warramunga Arr**	**45.49**	**257**	P	**P**	**08 07 33.1**	**-1.0**
WB0	**Warramunga Arr**	**45.64**	**257**	P	**P**	**08 07 34.2**	**-1.0**
WB0				IAmb	IAmb	08 08 08.5	
comp=Z,9.0nm,1.5s							
WB2	**Warramunga Arr**	**45.67**	**257**	P	**P**	**08 07 34.2**	**-1.2**
WB2				IAmb	IAmb	08 08 09.9	
comp=Z,5.4nm,1.3s							
WRA	**Warramunga Arr**	**45.68**	**257**	P	**P**	**08 07 34.5**	**-1.0**
WRA	**Warramunga Arr**	**45.68**	**257**	P	**P**	**08 07 34.9**	**-0.6**
comp=Z,0.3nm,0.4s,baz=92,slow=7.2,SNR=31							
comp=Z,0.3nm,0.4s							
AS31	**Alice Springs**	**46.09**	**251**	P	**P**	**08 07 38.7**	**0.0**
AS31				IAmb	IAmb	08 07 39.2	
comp=Z,4.9nm,0.5s							
ASAR	**Alice Springs**	**46.10**	**251**	P	**P**	**08 07 38.3**	**-0.4**
ASAR	**Alice Springs**	**46.10**	**251**	P	**P**	**08 07 38.6**	**0.0**
comp=Z,11nm,0.5s,baz=85,slow=8.4,SNR=230							
ASAR	PcP			PcP	**PcP**	**08 09 08.3**	**+0.5**
comp=Z,0.2nm,0.4s,baz=95,slow=3.6,SNR=2.0							
comp=Z,11nm,0.5s							
CASY	**Casey**	**69.06**	**204**	P	**P**	**08 10 15.9**	**-0.1**
CASY				IAmb	IAmb	08 10 47.8	
comp=Z,3.2nm,1.0s							
QSPA	**South Pole Qui**	**75.16**	**180**	P	**P**	**08 10 52.8**	**+0.7**
QSPA				IAmb	IAmb	08 11 16.3	
comp=Z,7.1nm,1.4s		

	16nm,0.3s					
CHKK			Lg	Lg	08 04 14.4	
	14nm,0.3s					
TKM2	**Tokmak 2**	**2.13 298**	⇓*e*P	**Pn**	**08 03 42.6**	**0.0**
	baz=97					
TKM2			⇓*e*S	**Sn**	**08 04 09.5**	**-0.4**
	baz=97					
BLB	**Baldybastay**	**2.17 6**	Pg	**Pb**	**08 03 45.6**	**-0.2**
	8.8nm,0.2s					
BLB			Lg	Lg	08 04 16.3	
	5.6nm,0.3s					
DGS	**Degeres**	**2.19 307**	Pg	**Pb**	**08 03 45.5**	**-0.6**
	10nm,0.5s					
DGS			Lg	Lg	08 04 16.0	
	6.4nm,0.8s					
ARXS	**Arharly**	**2.28 354**	Pg	**Pb**	**08 03 47.5**	**-0.2**
	9.0nm,0.3s					
ARXS			Lg	Lg	08 04 19.5	
	9.4nm,0.5s					
KRBS	**Karabastau**	**2.53 315**	Pg	**Pb**	**08 03 51.7**	**-0.2**
	4.8nm,0.6s					
KRBS			Lg	Lg	08 04 26.9	
	5.6nm,0.4s					

IDC 24 08:25:23.8±3.3, 54°.49N×83°.52E, h0km, mbtmp2.7/1, ML2.3/1, Error ellipse: s-maj=23.7km s-min=13.6km az=143.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**125**	I	I	08 30 48.5	
	0.1nm,1.1s,baz=307,slow=334,SNR=14						
ZALV	**Zalesovo Beam**	**0.94**	**125**	Pg	Pg	08 25 41.5	-0.3
	2.6nm,0.3s,baz=307,slow=16,SNR=15						
ZALV				Lg	Lg	08 25 55.4	
	3.1nm,0.3s,baz=304,slow=30,SNR=5.3						
MKAR	**Makanchi Array**	**7.75**	**186**	Pn	Pn	08 27 18.3	+0.5
	baz=8.0,slow=15,SNR=1.9						
	0.6nm,1.0s						

AUST 24 08:30:01.7±6.8, 20°.16S×148°.73E, h10km, Error ellipse: s-maj=81.7km s-min=53.1km az=170.0, Mining explosion., Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.33**	**271**	P	Pn	08 30 40.3	+0.2
	baz=2.3						
CTA				S	Sn	08 31 09.7	+0.8
	baz=2.3						
MTSU	**Mount Surprise**	**4.63**	**295**	P	Pn	08 31 10.9	-1.0
	baz=4.7						

*NEIC **24** 08:58:26.8±1.0, 19°.35N±0°.02×155°.192W±0°.009, h9km±1km, Error ellipse: s-maj=2.4km s-min=1.1km az=165.0*

HVO 24 08:58:27±1.0, 19°.37N±0°.01×155°.211W±0°.009, h3km±2km, ML2.9/21, ML2.3/48(NEIC), Error ellipse: s-maj=1.9km s-min=1.1km az=170.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.01**	**326**		Sg	08 58 28.6	+0.3
KNHH	**Kane Nui o Ham**	**0.04**	**71**		Pg	08 58 28.5	+0.5
KKO	**Keanakako`i**	**0.06**	**301**	Pg	Pg	08 58 29.1	+0.7
KKO					Sg	08 58 30.3	+1.0
BYL	**Byron's Ledge**	**0.07**	**314**	Pg	Pg	08 58 29.0	+0.5
BYL				IAML		08 58 30.2	
	comp=N,3μm,0.6s						
BYL					Sg	08 58 30.5	+1.1
RIM	**Rim**	**0.07**	**296**	Pg	Pg	08 58 29.2	+0.7
RIM					Sg	08 58 30.4	+1.0
HATHI	**Halema'uma'u T**	**0.07**	**320**		Pg	08 58 29.2	+0.6
HATHI					Sg	08 58 30.8	+1.1
HATHI				IAML		08 58 30.9	
	comp=E,3μm,0.3s						
NPH	**North Pit**	**0.08**	**304**	Pg	Pg	08 58 29.4	+0.7
NPH					Sg	08 58 30.8	+0.9
NPH				IAML		08 58 31.2	
	comp=N,2μm,0.6s						
SBLHI	**Steaming Bluff**	**0.08**	**318**	Pg	Pg	08 58 29.3	+0.6
SBLHI					Sg	08 58 30.9	+1.0
SDHHI	**Sand Hill**	**0.08**	**286**	Pg	Pg	08 58 29.2	+0.4
SDHHI				IAML		08 58 30.6	
	comp=N,2μm,0.3s						
SDHHI					Sg	08 58 31.1	+1.2
STCH	**Steam Cracks**	**0.08**	**77**		Pg	08 58 29.3	+0.6
STCH	**Steam Cracks**	**0.08**	**77**	IAML		08 58 31.5	
	comp=N,2μm,0.2s						
STCH				IAML		08 58 31.9	
	comp=E,3μm,0.1s						
OBL	**Observatory Le**	**0.09**	**306**	Pg	Pg	08 58 29.4	+0.6
OBL					Sg	08 58 31.1	+1.1
OBL				IAML		08 58 31.3	
	comp=N,2μm,0.5s						
OBL				IAML		08 58 31.6	
	comp=E,2μm,0.6s						
UWB	**Uwekahuna B**	**0.09**	**312**	Pg	Pg	08 58 29.4	+0.6
UWB					Sg	08 58 31.0	+1.0
UWB				IAML		08 58 31.4	
	comp=E,2μm,1.0s						
UWB				IAML		08 58 31.5	
	comp=N,2μm,0.8s						
WRMHI	**West Rim**	**0.09**	**295**	Pg	Pg	08 58 29.3	+0.4
WRMHI					Sg	08 58 31.5	+1.2
WRMHI				IAML		08 58 31.9	
	comp=N,2μm,0.8s						
UWE	**Uwekahuna**	**0.10**	**305**		Pg	08 58 29.8	+0.8
UWE					Sg	08 58 31.8	+1.5
UWE	**Uwekahuna**	**0.10**	**305**	IAML		08 58 32.1	
	comp=E,2μm,0.7s						
UWE				IAML		08 58 32.2	
	comp=N,5μm,0.5s						
NPOC	**North of Pu'u**	**0.10**	**74**		Pg	08 58 29.7	+0.7
NPOC					Sg	08 58 31.8	+1.4
NPOC	**North of Pu'u**	**0.10**	**74**	IAML		08 58 32.4	
	comp=N,2μm,0.6s						
NPOC				IAML		08 58 32.7	
	comp=E,1μm,0.3s						
JCUZ	**Jacuzzi**	**0.10**	**80**		Pg	08 58 29.9	+0.8
JCUZ	**Jacuzzi**	**0.10**	**80**	IAML		08 58 31.9	
	comp=E,2μm,0.8s						
JCUZ				IAML		08 58 32.1	
	comp=N,1μm,0.5s						
RSD	**Rainshed**	**0.12**	**327**		Pg	08 58 29.5	+0.1
RSD				IAML		08 58 32.4	
	comp=E,2μm,0.6s						
RSD				IAML		08 58 32.5	
	comp=N,1μm,0.6s						
HLP	**Hilina Pali**	**0.12**	**233**		Pg	08 58 30.1	+0.8
HLP					Sg	08 58 32.4	+1.5
HLP	**Hilina Pali**	**0.12**	**233**	IAML		08 58 32.6	
	comp=E,2μm,0.3s						
HLP				IAML		08 58 32.9	
	comp=N,2μm,0.2s						
JOKA	**Jonika Flow**	**0.21**	**71**		Pg	08 58 31.2	+0.2
JOKA					Sg	08 58 34.4	+0.7
MLH	**Mauna Loa**	**0.21**	**308**		Pg	08 58 31.8	+0.7
MLH					Sg	08 58 35.5	+1.6
MLH	**Mauna Loa**	**0.21**	**308**	IAML		08 58 35.6	
	comp=E,394nm,1.2s						
MLH				IAML		08 58 36.3	
	comp=N,515nm,1.1s						
HTC	**Hot Caves**	**0.22**	**234**		Pg	08 58 31.9	+0.7
AIN	**Ainahou**	**0.23**	**271**		Pg	08 58 32.3	+0.7
AIN	**Ainahou**	**0.23**	**271**	IAML		08 58 38.0	
	comp=N,560nm,1.4s						
AIN				IAML		08 58 38.8	
	comp=E,426nm,0.4s						
HMH	**Humu'ula Sheep**	**0.35**	**313**		Pg	08 58 34.2	+0.4
HMH	**Humu'ula Sheep**	**0.35**	**313**	IAML		08 58 41.9	
	comp=E,200nm,0.3s						
HMH				IAML		08 58 43.0	
	comp=N,202nm,0.9s						
MWH	**Moku'aweowe**	**0.38**	**288**		Pg	08 58 34.9	+0.3
MWH	**Moku'aweowe**	**0.38**	**288**	IAML		08 58 47.3	
	comp=N,335nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.38**	**296**		Pg	08 58 35.0	+0.5
MLOA	**Mauna Loa Obse**	**0.38**	**296**		Sg	08 58 40.5	+0.9
KHU	**Kahuku**	**0.40**	**253**		Pg	08 58 34.8	0.0
KHU					Sb	08 58 41.9	-1.6
KHU	**Kahuku**	**0.40**	**253**	IAML		08 58 42.4	
	comp=E,327nm,0.3s						
KHU				IAML		08 58 48.5	
	comp=N,330nm,2.8s						
ALEP	**Alea Permanent**	**0.45**	**293**		Pg	08 58 35.6	0.0
ALEP					Sb	08 58 43.9	-1.0
POHA	**Pohakuloa**	**0.49**	**322**		Pg	08 58 36.7	+0.1
HUH	**Hualalai**	**0.67**	**298**		Pg	08 58 39.9	0.0
CPH	**Captain Cook**	**0.68**	**280**		Pg	08 58 39.6	-0.4
KHLU	**Kahalu`u**	**0.68**	**289**		Pg	08 58 39.9	-0.2
KHLU	**Kahalu`u**	**0.68**	**289**	IAML		08 58 51.9	
	comp=E,172nm,4.0s						
KHLU				IAML		08 59 01.4	
	comp=N,200nm,3.4s						
HPAH	**Hawaii Prepara**	**0.80**	**325**		Pg	08 58 41.4	-1.0

IDC 24 09:09:31.3±2.0, 2°.59N×127°.48E, h0km, mb3.6/3, mbtmp3.7/3, Error ellipse: s-maj=141.9km s-min=25.3km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.38**	**164**	P	P	09 14 41.8	-0.1
	1.0nm,0.4s,baz=343,slow=10.0,SNR=25						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**26.83**	**167**	P	P	09 15 13.3	-0.4
	0.3nm,0.5s,baz=354,slow=7.4,SNR=12						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.92**	**325**	P	P	09 19 32.8	+0.4
	0.4nm,0.4s,baz=110,slow=7.7,SNR=5.5						
	0.4nm,0.4s						

*SOME **24** 09:16:00.4, 43°.52N×69°.70E*

NNC 24 09:16:02.5±1.6, 43°.50N×69°.78E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=13.1km s-min=4.4km az=124.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.36**	**172**	P	Pg	09 16 27.3	-1.3
	33nm,0.4s						
IUG				S	Sb	09 16 47.2	+0.2
	32nm,0.4s						
MRKS	**Merke**	**2.63**	**105**	Pg	Pb	09 16 50.3	-0.3
	14nm,0.5s						
MRKS				Lg	Lg	09 17 26.4	
	7.9nm,0.3s						
BTLS	**Baital**	**3.43**	**62**	Pg	Pg	09 17 06.2	-2.0
	4.8nm,0.6s						
BTLS				Lg	Lg	09 17 53.6	
	3.7nm,0.6s						
SGDS	**Sogindy**	**3.53**	**89**	Pg	Pb	09 17 05.6	-0.3
	4.2nm,0.8s						
SGDS				Lg	Lg	09 17 52.7	
	4.0nm,0.6s						
KRBS	**Karabastau**	**4.29**	**85**	Pg	Pb	09 17 19.8	+1.1
	0.8nm,0.4s						
KRBS				Lg	Lg	09 18 17.3	
	4.7nm,0.6s						
DGS	**Degeres**	**4.38**	**91**	Pg	Pg	09 17 23.9	-2.4
	2.8nm,0.3s						
DGS				Lg	Lg	09 18 23.8	
	11nm,1.6s						
KST	**Kastek**	**4.54**	**94**	Pg	Pb	09 17 25.6	+2.5
	1.8nm,0.5s						
KST				Lg	Lg	09 18 26.5	
	9.7nm,0.9s						
KUU	**Kurty**	**4.77**	**83**	Pg	Pb	09 17 29.7	+2.7
	0.5nm,0.5s						
KUU				Lg	Lg	09 18 33.5	
	3.7nm,0.5s						
KTBS	**Karatobe**	**5.01**	**85**	Pg	Pb	09 17 33.8	+2.6
	2.4nm,0.7s						
KTBS				Lg	Lg	09 18 40.6	
	9.2nm,0.5s						

*BGR **24** 09:35:28.9±2.9, 33°.24N×32°.21E, h10km, mb4.4, Error ellipse: s-maj=223.5km s-min=163.4km az=47.0*

*IDC **24** 09:36:22.0±0.5, 36°.91N×27°.41E, h0km, mb4.4/27, mbtmp4.4/38, ML3.9/12, MS3.8/43, Error ellipse: s-maj=11.8km s-min=9.9km az=151.0*

*ISK **24** 09:36:23.7, 36°.98N×27°.40E, h7km, ML4.5/42*

*AFAD **24** 09:36:23.9±0.0, 36°.95N×27°.39E, h12km, MW4.6*

*GCMT **24** 09:36:24.2±0.4, 36°.79N±0°.03×27°.34E±0°.06, h21km±1km, MW4.8/64, Moment Tensor Solution. s16,c16; s64,c84; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.11±.18; $M_{\theta\theta}$1.81±.11; $M_{\phi\phi}$0.30±.10; $M_{r\theta}$-0.43±.14; $M_{\theta\phi}$-0.30±.07; $M_{\phi r}$0.65±.24; Best double couple: $M_0$2.12100×10^16^ NP1:ϕ_s114.00000°, δ54.00000°, λ-75.00000°. NP2: ϕ_s270.00000°, δ38.00000°, λ-109.00000°. Principal axes: T 1.9420, Plg8.0000°, Azm193.0000°; N 0.3640, Plg12.0000°, Azm285.0000°; P -2.3000, Plg76.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*THE **24** 09:36:24.2, 36°.96N×27°.45E, h0km, ML4.5/8 Error ellipse: s-maj=0.6km s-min=0.3km az=54.0*

*ATH **24** 09:36:24.8, 36°.95N×27°.42E, h11km±1km, ML4.5/21, Error ellipse: s-maj=1.5km s-min=0.7km az=213.0*

*NEIC **24** 09:36:24.3, 36°.96N×27°.37E, h10km*

*NEIC **24** 09:36:24.2±2.9, 36°.96N±0°.04×27°.35E±0°.06, h10km±1km, mb4.5/34, Mwr4.6/6, Error ellipse: s-maj=8.4km s-min=6.5km az=81.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}-7.66; $M_{\theta\theta}$8.09; $M_{\phi\phi}$-0.43; $M_{r\theta}$-1.83; $M_{\theta\phi}$1.01; $M_{\phi r}$4.15; Fault plane solution: $M_0$9.15000×10^15^ NP1:ϕ_s241.23000°, δ45.05000°, λ-126.23000°. NP2:ϕ_s107.27000°, δ55.19000°, λ-59.38000°. Principal axes: T 8.3381, Plg6.0000°, Azm176.0000°; N 1.4539, Plg25.0000°, Azm269.0000°; P -9.7920, Plg65.0000°, Azm74.0000°;*

*MED_RC **24** 09:36:25.0±0.2, 36°.92N×27°.71E, h13km±1km, MW4.7/23, Moment Tensor Solution. Body waves: s1,c1;Mantle waves: s23,c34; Duration: 1s0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.38±.11; $M_{\theta\theta}$1.46±.07; $M_{\phi\phi}$-0.08±.05; $M_{r\theta}$0.17±.08; $M_{\theta\phi}$-0.28±.04; $M_{\phi r}$-0.46±.11; Best double couple: $M_0$1.53000×10^16^ NP1:ϕ_s296.00000°, δ52.00000°, λ-69.00000°. NP2:ϕ_s84.00000°, δ42.00000°, λ-115.00000°. Principal axes: T 1.5300, Plg5.0000°, Azm11.0000°; N 0.0000, Plg17.0000°, Azm103.0000°; P -1.5300, Plg72.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*

*NAO **24** 09:36:28.9, 36°.86N×27°.46E, h0km, mb5.0*

*GII **24** 09:36:30.5±0.0, 36°.38N×27°.69E, h10km, mb4.2/5, MD4.0/5, Mm4.2/9*

ISC 24 09:36:24.5±0.5, 36°.93N±0°.01×27°.40E±0°.01, h15km±2km, n627, σ1§44/673, mb4.7/61, MS3.9/36, 12C-15D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.14**	**14**	P	**Pg**	**09 36 27.1**	**-1.2**
BDRM				S	**Sg**	**09 36 29.3**	**-1.5**
BODT	**Bodrum**	**0.15**	**330**	Pg	**Pg**	**09 36 27.5**	**-1.0**
BODT	**Bodrum**	**0.15**	**330**	P	**Pg**	**09 36 27.9**	**-0.6**
BODT				S	**Sg**	**09 36 30.6**	**-0.5**
DAT	**Datca**	**0.25**	**146**	Pg	**Pg**	**09 36 29.9**	**-0.1**
DAT	**Datca**	**0.25**	**146**	P	**Pg**	**09 36 29.9**	**-0.1**
DAT				S	**Sg**	**09 36 34.3**	**+0.5**
DAT	**Datca**	**0.25**	**146**	P	**Pg**	**09 36 29.9**	**-0.1**
DAT				S	**Sg**	**09 36 34.2**	**+0.5**
RFTD	**Palamutbuku-Ka**	**0.26**	**163**	Pg	**Pg**	**09 36 30.2**	**0.0**
RFTD				Sg	**Sb**	**09 36 34.9**	**-0.3**
RFTAA	**Mazikoy-Bodrum**	**0.28**	**77**	Pg	**Pg**	**09 36 29.7**	**-0.8**
RFTAA				Sg	**Sg**	**09 36 33.9**	**-0.7**
KLNA	**Kalymnos**	**0.35**	**274**	P	**Pg**	**09 36 31.8**	**+0.2**
KLNA				S	**Sg**	**09 36 36.8**	**+0.3**
KLNA				AML	AML	09 36 37.7	
KLNA				AML	AML	09 36 37.8	
RFTC	**Emecik-Datca**	**0.36**	**115**	Pg	**Pg**	**09 36 31.6**	**-0.4**
RFTC				Sg	**Sb**	**09 36 37.9**	**-0.3**
NIS1	**Nisyros Isl.**	**0.38**	**209**	Pg	**Pg**	**09 36 32.4**	**+0.2**
NIS1	**Nisyros Isl.**	**0.38**	**209**	P	**Pb**	**09 36 32.9**	**0.0**
NIS1				S	**Sb**	**09 36 39.4**	**+0.8**
	210μm,0.5s						
NIS1	**Nisyros Isl.**	**0.38**	**209**	P	**Pb**	**09 36 32.8**	**-0.2**
NIS1				S	**Sg**	**09 36 37.7**	**+0.3**
NIS1				AML	AML	09 36 41.2	
NIS1				AML	AML	09 36 45.0	
KOSK	**Kos Island**	**0.39**	**242**	Pg	**Pg**	**09 36 32.2**	**-0.2**
KOSK				Sg	**Sg**	**09 36 38.3**	**+0.6**
KOSK	**Kos Island**	**0.39**	**242**	P	**Pb**	**09 36 33.2**	**+0.1**
KOSK	**Kos Island**	**0.39**	**242**	P	**Pg**	**09 36 32.6**	**+0.2**
KOSK				S	**Sg**	**09 36 38.2**	**+0.6**
KOSK				AML	AML	09 36 41.8	
KOSK				AML	AML	09 36 43.7	
NISR	**Nisiros**	**0.39**	**215**	P	**Pb**	**09 36 33.0**	**-0.2**
NISR				S	**Sb**	**09 36 39.5**	**+0.6**
	107μm,0.4s						
NISR	**Nisiros**	**0.39**	**215**	P	**Pb**	**09 36 32.9**	**-0.2**
NISR				S	**Sb**	**09 36 38.6**	**-0.4**
NISR				AML	AML	09 36 40.9	
NISR				AML	AML	09 36 42.9	
MLSB	**Milas**	**0.47**	**39**	Pg	**Pg**	**09 36 32.7**	**-1.2**
MLSB				Sg	**Sg**	**09 36 39.2**	**-1.0**
DDIM	**Aydin, Didim**	**0.54**	**346**	P	**Pg**	**09 36 34.3**	**-0.9**
DDIM				S	**Sb**	**09 36 43.1**	**-0.1**
TURN	**Turunc**	**0.69**	**103**	Pg	**Pg**	**09 36 37.6**	**-0.5**
TURN	**Turunc**	**0.69**	**103**	P	**Pg**	**09 36 37.5**	**-0.5**
TURN				S	**Sb**	**09 36 47.9**	**+0.3**
YER	**Yerkesik**	**0.73**	**74**	Pg	**Pg**	**09 36 38.5**	**-0.3**
YER	**Yerkesik**	**0.73**	**74**	P	**Pg**	**09 36 38.5**	**-0.3**
YER				S	**Sg**	**09 36 48.4**	**-0.1**
GCAM	**G?zelcaml?**	**0.78**	**350**	Pg	**Pg**	**09 36 38.6**	**-1.1**
GCAM	**G?zelcaml?**	**0.78**	**350**	P	**Pg**	**09 36 38.5**	**-1.2**
GCAM				S	**Sn**	**09 36 51.8**	**-0.5**
MULA	**Mugla, Merkez-**	**0.80**	**66**	P	**Pg**	**09 36 39.0**	**-1.2**
MULA				S	**Sb**	**09 36 51.1**	**+0.2**
AYDN	**Tasoluk**	**0.82**	**27**	P	**Pg**	**09 36 39.1**	**-1.4**
AYDN				S	**Sg**	**09 36 51.1**	**-0.2**
SMG	**Samos**	**0.90**	**330**	P	**Pb**	**09 36 41.3**	**-0.5**
SMG				S	**Sn**	**09 36 55.1**	**-0.2**
	44μm,0.5s						
SMG	**Samos**	**0.90**	**330**	P	**Pb**	**09 36 41.2**	**-0.5**
SMG				S	**Sg**	**09 36 53.9**	**+0.2**
SMG				AML	AML	09 36 56.2	
	comp=N,66487μm,0.3s						
SMG				AML	AML	09 36 58.9	
ARG	**Arkhangelos**	**0.92**	**141**	Pg	**Pg**	**09 36 42.6**	**+0.2**
ARG	**Arkhangelos**	**0.92**	**141**	P	**Pb**	**09 36 42.2**	**0.0**
ARG				S	**Sn**	**09 36 56.5**	**+0.6**
	comp=N,36μm,0.9s						
ARG	**Arkhangelos**	**0.92**	**141**		**Pb**	**09 36 42.1**	**-0.1**
ARG	**Arkhangelos**	**0.92**	**141**	P	**Pb**	**09 36 41.9**	**-0.3**
ARG				S	**Sn**	**09 36 55.3**	**-0.6**
ARG				AML	AML	09 37 00.2	
	comp=N,77935μm,1.2s						
ARG				AML	AML	09 37 01.2	
	comp=E,66066μm,0.6s						
IKRA	**Agios-Kirikos-**	**1.11**	**308**	P	**Pb**	**09 36 45.3**	**-0.2**
IKRA				S	**Sn**	**09 37 01.4**	**+0.7**
IKRA				AML	AML	09 37 05.1	
	comp=E,75919μm,1.0s						
IKRA				AML	AML	09 37 07.8	
DGB	**zmir**	**1.19**	**340**	P	**Pn**	**09 36 46.0**	**-0.7**
DGB				S	**Sn**	**09 37 02.5**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.32**	**66**	P	**Pb**	**09 36 48.9**	**-0.1**
TAVA				S	**Sg**	**09 37 09.5**	**+2.4**
FETY	**Fethiye**	**1.38**	**102**	Pn	**Pb**	**09 36 50.4**	**+0.3**
KARP	**Karpathos**	**1.40**	**188**	Pn	**Pn**	**09 36 49.5**	**-0.1**
KARP	**Karpathos**	**1.40**	**188**	P	**Pn**	**09 36 49.5**	**-0.1**
KARP				S	**Sg**	**09 37 09.7**	**+0.1**
	comp=E,12μm,0.8s						
KARP	**Karpathos**	**1.40**	**188**		**Pn**	**09 36 49.3**	**-0.2**
KARP				Sg	**Sg**	**09 37 09.8**	**+0.2**
KARP	**Karpathos**	**1.40**	**188**	P	**Pn**	**09 36 49.4**	**-0.1**
KARP	**Karpathos**	**1.40**	**188**	P	**Pn**	**09 36 49.4**	**-0.1**
KARP				AML	AML	09 37 14.6	
	comp=E,29831μm,0.9s						
KARP				AML	AML	09 37 18.9	
	comp=N,17316μm,0.6s						
DNIZ	**Denizli-Tavas-**	**1.48**	**62**	P	**Pb**	**09 36 51.4**	**-0.3**
DNIZ				S	**Sg**	**09 37 15.3**	**+3.2**
ZEYE	**Izmir, Urla-Ze**	**1.49**	**332**	P	**Pn**	**09 36 50.1**	**-0.6**
ZEYE				S	**Sg**	**09 37 12.7**	**+0.2**
APE	**Apeiranthos**	**1.51**	**276**	⇓P	**Pn**	**09 36 51.0**	**-0.1**
APE	**Apeiranthos**	**1.51**	**276**	Pn	**Pb**	**09 36 51.7**	**-0.5**
APE	**Apeiranthos**	**1.51**	**276**	P	**Pn**	**09 36 50.9**	**-0.1**
APE				S	**Sg**	**09 37 13.3**	**+0.2**
	comp=N,10μm,0.6s						
APE	**Apeiranthos**	**1.51**	**276**	P	**Pn**	**09 36 50.9**	**-0.1**
APE				S	**Sn**	**09 37 10.0**	**-0.4**
APE				AML	AML	09 37 15.6	
	comp=E,8907μm,0.6s						
APE				AML	AML	09 37 20.7	
	comp=N,27042μm,0.7s						
CAME	**Cameli-Denizli**	**1.52**	**89**	Pn	**Pn**	**09 36 51.9**	**+0.6**
CAEL	**Denizli, Camel**	**1.54**	**82**	P	**Pg**	**09 36 53.9**	**-0.4**
CAEL				S	**Sg**	**09 37 15.6**	**+1.3**
IZZE	**Mula-Seydike**	**1.55**	**108**	P	**Pb**	**09 36 53.0**	**+0.1**
IZZE				S	**Sg**	**09 37 14.4**	**0.0**
URLA	**Izmir**	**1.56**	**336**	Pn	**Pn**	**09 36 51.8**	**0.0**
URLA	**Izmir**	**1.56**	**336**	P	**Pn**	**09 36 51.2**	**-0.6**
URLA				S	**Sg**	**09 37 14.2**	**-0.7**
APMY	**Acipayam-Deniz**	**1.61**	**70**	Pb	**Pb**	**09 36 53.2**	**-0.8**
THR8	**Santorini-Mono**	**1.63**	**252**	P	**Pn**	**09 36 53.5**	**+0.8**
THR8	**Santorini-Mono**	**1.63**	**252**	P	**Pn**	**09 36 52.8**	**0.0**
CESE	**eme**	**1.65**	**328**	Pn	**Pn**	**09 36 53.1**	**+0.2**
THR2	**Thira island,**	**1.66**	**254**	P	**Pn**	**09 36 53.8**	**+0.8**
SANT	**Santorini**	**1.66**	**251**	⇑P	**Pn**	**09 36 53.6**	**+0.4**
SANT	**Santorini**	**1.66**	**251**	Pn	**Pn**	**09 36 53.9**	**+0.7**
SANT	**Santorini**	**1.66**	**251**	P	**Pn**	**09 36 53.6**	**+0.4**
SANT				S	**Sg**	**09 37 17.2**	**-0.9**
	comp=N,9μm,0.8s						
SANT	**Santorini**	**1.66**	**251**		**Pn**	**09 36 53.0**	**-0.1**
SANT	**Santorini**	**1.66**	**251**	P	**Pn**	**09 36 53.7**	**+0.5**
SANT				AML	AML	09 37 23.3	
	comp=N,8428μm,0.9s						
SANT				AML	AML	09 37 24.1	
	comp=E,25735μm,0.9s						
CMBO	**Columbo, Santo**	**1.67**	**255**	P	**Pb**	**09 36 54.2**	**-0.8**
CMBO				AML	AML	09 37 22.8	
	comp=N,47048μm,0.7s						
CMBO				AML	AML	09 37 26.3	
	comp=E,48006μm,0.5s						
STAX	**Taxiarchis Har**	**1.69**	**252**	P	**Pn**	**09 36 53.9**	**+0.4**
THR3	**Thira Island,**	**1.69**	**253**	P	**Pn**	**09 36 54.3**	**+0.8**
THR3	**Thira Island,**	**1.69**	**253**	P	**Pn**	**09 36 54.0**	**+0.4**
SNT5	**Nea Kammeni, S**	**1.70**	**252**	P	**Pn**	**09 36 54.4**	**+0.8**
THR6	**Thira Island,**	**1.71**	**251**	P	**Pn**	**09 36 54.5**	**+0.7**
THR6	**Thira Island,**	**1.71**	**251**	P	**Pn**	**09 36 54.6**	**+0.8**
RFT5	**Foca**	**1.80**	**343**	Pn	**Pn**	**09 36 55.2**	**+0.2**
CHOS	**Chios island**	**1.80**	**324**	Pn	**Pn**	**09 36 55.3**	**+0.2**
CHOS	**Chios island**	**1.80**	**324**	P	**Pn**	**09 36 55.1**	**0.0**
CHOS				S	**Sb**	**09 37 19.7**	**0.0**
	comp=E,8μm,1.1s						
CHOS	**Chios island**	**1.80**	**324**	P	**Pn**	**09 36 55.0**	**-0.2**
CHOS				S	**Sn**	**09 37 18.2**	**+0.4**
CHOS				AML	AML	09 37 29.0	
	comp=N,18458μm,1.1s						
CHOS				AML	AML	09 37 29.7	
	comp=E,17

comp=N,26884μm,1.1s
EAG3 AML AML 09 37 47.7
comp=E,37001μm,1.1s
BRDR BURDUR-Merkez 2.25 69 P **Pn 09 37 02.5 +1.2**
BASM Basmaki-Afyon 2.33 64 Pn **Pn 09 37 02.9 +0.6**
EAG1 Polichnitos, L 2.34 337 P **Pn 09 37 02.0 -0.5**
EAG1 AML AML 09 37 44.2
comp=N,40421μm,1.0s
EAG1 AML AML 09 37 49.2
comp=E,28000μm,0.8s
KORT Korkueli 2.36 87 Pn **Pn 09 37 04.2 +1.3**
MHLO Agia Marina, M 2.42 265 P **Pn 09 37 04.0 +0.4**
AKUM Antalya-Kumluc 2.44 104 P **Pb 09 37 06.5 -1.7**
STEP BALIKESIR_Sava 2.45 6 P **Pn 09 37 03.9 -0.1**
HRKL Herakleio 2.47 230 Pn **Pn 09 37 05.9 +1.7**
PRK Paraskevi 2.48 339 P **Pn 09 37 04.4 +0.1**
PRK Paraskevi 2.48 339 P **Pn 09 37 04.4 +0.1**
PRK AML AML 09 37 49.9
comp=E,18169μm,0.7s
PRK AML AML 09 37 52.3
comp=N,9361μm,0.6s
SIMA Simav-Kutahya 2.48 30 Pn **Pn 09 37 05.0 +0.5**
RFT2 Karaagac 2.52 350 Pn **Pn 09 37 05.6 +0.7**
KZIL AFYON_Kizioren 2.54 58 P **Pb 09 37 08.0 -2.0**
BUHA Balikesir, Bur 2.58 354 P **Pn 09 37 05.6 -0.1**
SIGR SIGRI 2.58 332 Pn **Pn 09 37 06.2 +0.4**
SIGR SIGRI 2.58 332 P **Pn 09 37 05.7 -0.1**
SIGR SIGRI 2.58 332 P **Pn 09 37 05.8 +0.1**
SIGR AML AML 09 37 52.4
comp=N,3728μm,0.8s
SIGR AML AML 09 37 57.6
comp=E,3029μm,0.7s
BCK Bucak 2.60 77 Pn **Pn 09 37 07.4 +1.3**
ANTB Antalya 2.60 90 Pn **Pn 09 37 07.7 +1.6**
IDI Anoyia 2.62 232 ⇑P **Pn 09 37 06.8 +0.5**
IDI Anoyia 2.62 232 Pn **Pn 09 37 07.8 +1.5**
IDI Anoyia 2.62 232 P **Pn 09 37 06.8 +0.5**
IDI Anoyia 2.62 232 Pn **Pn 09 37 06.8 +0.5**
IDI Anoyia 2.62 232 Pn **Pn 09 37 06.3 0.0**
comp=E,17nm,0.3s,baz=64,slow=14,SNR=53
IDI Sn **Sn 09 37 37.1 -0.7**
comp=E,68nm,0.3s,baz=339,slow=4.0,SNR=9.9
comp=E,58nm,0.4s
IDI Anoyia 2.62 232 P **Pn 09 37 06.7 +0.5**
IDI S **Sn 09 37 36.8 -1.0**
IDI AML AML 09 37 52.6
comp=N,3337μm,0.7s
IDI AML AML 09 37 55.2
comp=E,3188μm,0.6s
GEDZ Gediz 2.64 36 Pn **Pn 09 37 07.6 +1.0**
RFT1 Sazli 2.70 344 Pn **Pn 09 37 08.3 +0.8**
GPNR Gulpinar-Canak 2.71 339 Pn **Pn 09 37 08.3 +0.8**
KOCA Canakkale, Ayv 2.75 339 P **Pn 09 37 07.9 -0.2**
EZN Ezine 3.01 344 P **Pn 09 37 11.5 -0.1**
VLY Voula,Athens 3.02 289 P **Pn 09 37 12.7 +1.0**
VLY Voula,Athens 3.02 289 P **Pn 09 37 12.8 +1.0**
ATHU Athens Univers 3.06 291 P **Pn 09 37 13.1 +0.8**
ATH Athens Observa 3.11 291 P **Pn 09 37 14.2 +1.2**
ATH Athens Observa 3.11 291 P **Pn 09 37 13.8 +0.7**
KYMI Kymi, Euboea I 3.12 304 P **Pn 09 37 13.6 +0.4**
KYMI Kymi, Euboea I 3.12 304 P **Pn 09 37 14.0 +0.8**
KYMI AML AML 09 38 15.9
comp=E,935μm,0.9s
KYMI AML AML 09 38 16.0
comp=N,1050μm,0.7s
EFSA Agios Efstrati 3.22 325 P **Pn 09 37 15.0 +0.4**
LIA Limnos Island 3.44 330 P **Pn 09 37 18.1 +0.6**
LIA Limnos Island 3.44 330 P **Pn 09 37 18.1 +0.6**
LIA AML AML 09 38 21.6
comp=N,6422μm,1.5s
LIA AML AML 09 38 24.9
comp=E,5685μm,0.9s
VILL Villia 3.48 292 P **Pn 09 37 19.1 +1.0**
SEDI Konya, Seydise 3.51 80 P **Pn 09 37 21.1 +2.4**
KTHA Kythira Island 3.56 260 P **Pn 09 37 20.4 +1.2**
DOGA KONYA_Doganhis 3.59 70 P **Pn 09 37 21.5 +1.8**
VLI Veliai 3.59 268 P **Pn 09 37 19.9 +0.3**
SMTH Samothraki Isl 3.82 338 P **Pn 09 37 23.0 +0.1**
SMTH Samothraki Isl 3.82 338 P **Pn 09 37 23.1 +0.3**
SMTH AML AML 09 38 33.9
comp=E,378μm,0.8s
SMTH AML AML 09 38 36.6
comp=N,618μm,1.2s
ENEZ Enez 3.92 346 P **Pn 09 37 24.8 +0.6**
NEO Neokhori 4.06 307 P **Pn 09 37 27.0 +0.9**
ALN Alexandroupoli 4.10 345 Pn **Pn 09 37 27.2 +0.6**
THAS Thassos island 4.22 331 P **Pn 09 37 28.3 0.0**
RDO Rodhopi 4.45 342 Pn **Pn 09 37 32.2 +0.8**
AGG Agios Georgios 4.52 299 Pn **Pn 09 37 33.6 +1.1**
MDUB Mudurnu 4.61 39 Pn **Pn 09 37 31.8 -2.0**
ANTO Ankara 5.15 54 **Pn 09 37 38.5 -2.6**
RZN Rozhen 5.18 337 *e*P **Pn 09 37 40.6 -1.1**
CSS Mathiatis 5.20 110 Pn **Pn 09 37 42.7 +1.0**
CSS Mathiatis 5.20 110 P **Pn 09 37 43.3 +1.6**
DIM Dimitrovgrad 5.30 345 *e*P **Pn 09 37 45.9 +2.8**
MMB Musomishta 5.41 330 *i* P **Pn 09 37 46.1 +1.4**
BR131 Keskin Array S 5.64 58 **Pn 09 37 49.6 +1.6**
BRTR Keskin Array B 5.64 58 Pn **Pn 09 37 49.3 +1.4**
BRTR Keskin Array B 5.64 58 Pn **Pn 09 37 49.8 +1.9**
comp=N,2.6nm,0.3s,baz=241,slow=15,SNR=30
BRTR Sn **Sn 09 38 53.2 +0.7**
comp=N,0.7nm,0.3s,baz=315,slow=14,SNR=4.0
comp=N,13nm,0.4s
VAY Valandovo 5.77 321 *i* Pn **Pn 09 37 52.5 +2.9**
KKB Krupnik 5.91 327 *i* P **Pn 09 37 53.3 +1.7**
PEHC Pehcevo 5.96 326 *i* Pn **Pn 09 37 54.5 +2.2**
PEHC *i* Sn **Sn 09 39 05.3 +4.9**
FNA Florina 6.07 311 **Pn 09 37 55.4 +1.6**
STIP Stip 6.24 321 *i* Pn **Pn 09 37 57.1 +1.0**
STIP *i* Sn **Sn 09 39 10.2 +3.1**
KBN Korca 6.35 308 Pn **Pn 09 37 56.7 -0.9**
SZH Strazhitsa 6.42 351 *e*P **Pn 09 38 00.1 +1.6**
VTS Vitosha 6.52 332 ⇑P **Pn 09 38 01.5 +1.4**
VTS Vitosha 6.52 332 *i* P **Pn 09 38 00.3 +0.3**
KEK Kerkira 6.59 297 Pn **Pn 09 37 58.6 -2.3**
OHR Ohrid 6.62 311 *i* Pn Pn 09 38 06.8 +5.5
PLVB Pleven 6.79 343 ⇓P **Pn 09 38 05.0 +1.4**
BNN Bunyan 6.95 71 Pn **Pn 09 38 04.5 -1.4**
TIR Tirane 7.33 309 Pn **Pn 09 38 10.1 -0.9**
HWQ Hawqa 7.45 108 *e*P **Pn 09 38 14.7 +2.0**
BEIL Beino 7.53 106 *e*P **Pn 09 38 13.9 +0.1**
MMC7 Mount Meron ar 7.63 118 Pn **Pn 09 38 16.2 +1.0**
MMA0B Mount Meron ar 7.64 118 Pn **Pn 09 38 16.3 +0.9**
MMA0B Sn **Sn 09 39 37.8 -3.9**
MMAI Mount Meron Ar 7.64 118 Pn **Pn 09 38 14.7 -0.7**
comp=N,13nm,0.3s,baz=309,slow=13,SNR=24
MMAI Sn **Sn 09 39 38.0 -3.7**
comp=N,30nm,0.3s,baz=311,slow=25,SNR=9.4
MMAI LR LR 09 41 42.1
comp=N,384nm,19.8s,baz=272,slow=42
comp=N,7.5nm,0.3s
SCTE Santa Cesarea 7.67 297 Pn **Pn 09 38 15.5 -0.3**
RCY Rachaya 7.71 114 *e*P **Pn 09 38 16.0 -0.3**
GEM Giv'at Ha'Em 7.72 116 Pn **Pn 09 38 17.5 +1.1**
GEM Sn **Sn 09 39 39.8 -3.8**
GEM Giv'at Ha'Em 7.72 116 P **Pn 09 38 16.8 +0.4**
NATI Neve Ativ 7.75 116 Pn **Pn 09 38 16.9 +0.1**
NATI Sn **Sn 09 39 40.6 -3.6**
NATI Neve Ativ 7.75 116 P **Pn 09 38 16.9 +0.1**
SLTI Sal'it 7.84 124 Pn **Pn 09 38 17.8 -0.3**
SLTI Sn **Sn 09 39 42.0 -4.6**
GAZ Gaziantep 7.85 85 Pn **Pn 09 38 19.0 +0.8**
MMLI Mount Malkishu 7.98 122 Pn **Pn 09 38 20.5 +0.5**
MMLI Sn **Sn 09 39 45.2 -4.8**
BOVS Bovan 7.98 329 ⇓P **Pn 09 38 21.3 +1.4**
QRNJ Al-Qirein 8.15 122 P **Pn 09 38 25.0 +2.8**
HMDT Nahal Hemdat 8.16 123 Pn **Pn 09 38 22.8 +0.4**
HMDT Sn **Sn 09 39 49.7 -4.7**
HMDT Nahal Hemdat 8.16 123 P **Pn 09 38 24.5 +2.1**
AMAZ Amatzia 8.23 129 Pn **Pn 09 38 23.3 -0.1**
AMAZ Sn **Sn 09 39 50.7 -5.4**
KZIT Kziot 8.36 134 Pn **Pn 09 38 24.7 -0.5**
KZIT Sn **Sn 09 39 53.1 -6.2**
YTIR Yattir 8.47 129 Pn **Pn 09 38 26.6 -0.1**
YTIR Sn **Sn 09 39 56.9 -5.2**
YTIR Yattir 8.47 129 P **Pn 09 38 27.0 +0.3**
DSI Dead Sea 8.50 127 Pn **Pn 09 38 26.9 -0.1**
DSI Sn **Sn 09 39 57.4 -5.2**
DSI Dead Sea 8.50 127 P **Pn 09 38 28.7 +1.7**
DJES Djerdap 8.56 336 Pn **Pn 09 38 25.7 -2.3**
MLR Muntele Rosu 8.62 353 ⇑P **Pn 09 38 31.5 +2.7**
MLR Muntele Rosu 8.62 353 Pn **Pn 09 38 27.0 -1.8**
MLR Muntele Rosu 8.62 353 Pn **Pn 09 38 30.0 +1.2**
comp=N,0.4nm,0.3s,baz=206,slow=4.5,SNR=11
MLR LR LR 09 42 14.4
comp=N,572nm,21.1s,baz=183,slow=41
comp=N,16nm,0.9s
MDBI Mazsada 8.65 128 P **Pn 09 38 29.4 +0.3**
MSBI Mazada 8.65 128 Pn **Pn 09 38 28.9 -0.2**
MSBI Sn **Sn 09 40 01.1 -5.3**
VOIR 8.68 349 ⇑P **Pn 09 38 30.7 +1.1**
WALJ Wala 8.78 125 P **Pn 09 38 35.2 +4.3**
PLOR Plostina 8.93 357 ⇑P **Pn 09 38 36.0 +3.1**
LOT Lotru 8.94 343 ⇑P **Pn 09 38 34.2 +1.1**
VRI Vrincioaia 8.94 357 ⇓P **Pn 09 38 36.2 +3.1**
MDVR Moldovita 8.94 333 ⇑P **Pn 09 38 33.6 +0.4**
KARJ KARJ 8.97 128 P **Pn 09 38 32.9 -0.6**
DIVS Divibare 9.11 324 Pn **Pn 09 38 33.3 -2.2**
PRNI Paran 9.12 134 Pn **Pn 09 38 34.7 -0.9**
PRNI Sn **Sn 09 40 12.0 -6.0**
PRNI Paran 9.12 134 P **Pn 09 38 34.9 -0.7**
KRMI Paran Flat 9.14 136 Pn **Pn 09 38 34.7 -1.2**
KRMI Sn **Sn 09 40 12.1 -6.4**
GZR Gura Zlata 9.14 339 ⇑P **Pn 09 38 36.7 +0.8**
ASF Jabal al Asfar 9.16 118 Pn **Pn 09 38 35.7 -0.4**
comp=N,0.7nm,0.3s,baz=299,slow=8.0,SNR=4.0
ASF Sn **Sn 09 40 16.2 -2.8**
comp=N,0.8nm,0.3s,baz=9.4,slow=16,SNR=1.2
comp=N,2.6nm,0.3s
HRFI Mount Harif 9.38 135 Pn **Pn 09 38 38.3 -0.8**
HRFI Sn **Sn 09 40 18.0 -6.3**
MBRI Mt Berech 9.49 136 Pn **Pn 09 38 39.8 -1.0**
MBRI Sn **Sn 09 40 20.9 -6.3**
MBRI Mt Berech 9.49 136 P **Pn 09 38 39.9 -0.9**
CUC Castrocucco 9.59 292 Pn **Pn 09 38 39.7 -2.4**
EIL Elat 9.61 137 Pn **Pn 09 38 41.2 -1.1**
EIL Sn **Sn 09 40 23.4 -6.6**
EIL Elat 9.61 137 P **Pn 09 38 41.0 -1.3**
EIL Elat 9.61 137 Pn **Pn 09 38 41.0 -1.3**
comp=N,1.6nm,0.3s,baz=314,slow=4.4,SNR=12
EIL Sn **Sn 09 40 23.2 -6.7**
comp=N,9.4nm,0.3s,baz=287,slow=17,SNR=9.6
EIL LR LR 09 44 09.5
comp=N,197nm,20.4s,baz=271,slow=49
comp=N,13nm,0.5s
BZS Buzias 9.70 335 ⇓P **Pn 09 38 44.9 +1.3**
KIS Kishinev 10.11 6 *e*P **Pn 09 38 51.0 +1.9**
KIS *e*L L 09 42 53.0
KIS LRM MLR 09 43 12.0
comp=N,500nm,10.0s
MARR Marisel-Cluj 10.24 343 ⇓P **Pn 09 38 52.5 +1.5**
WDD Wied Dalam 10.44 268 Pn **Pn 09 38 53.1 -0.6**
PSZ Piszkesteto 12.29 336 Pn **Pn 09 39 18.7 -0.3**
VYHS Vyhne 13.15 334 *e*PN **Pn 09 39 32.5 +1.9**
STHS Stebnicka Huta 13.26 342 *e*PN **Pn 09 39 34.9 +2.8**
SOKA Soboth 13.40 320 *i* Pn **Pn 09 39 35.6 +1.4**
comp=N,12nm,1.2s
ARSA Arzberg 13.55 323 *e*Pn **Pn 09 39 37.3 +1.2**
comp=N,13nm,1.3s
KBZ Khabaz 13.62 55 Pn **Pn 09 39 41.3 +4.3**
comp=N,0.1nm,0.3s,baz=260,slow=16,SNR=2.8
KBZ LR LR 09 45 25.3
comp=N,329nm,18.5s,baz=240,slow=40
comp=N,3.0nm,1.0s
AKASG Malin Array Be 13.82 5 Pn **Pn 09 39 41.0 +1.2**
comp=N,0.6nm,0.3s,baz=187,slow=12,SNR=7.3
AKASG LR LR 09 45 44.8
comp=N,98nm,20.2s,baz=180,slow=41
JAVC Velka Javorina 13.88 332 *e*PN **Pn 09 39 41.9 +1.3**
MAUC Maruska 14.24 334 *e*P **P 09 39 55.3 +2.4**
OJC Ojcow 14.37 340 Pn **Pn 09 39 44.0 -3.3**
CLUD Cludinico 14.41 316 Pn **Pn 09 39 45.2 -2.7**
TEOL Teolo 14.52 310 Pn **Pn 09 39 45.7 -3.7**
OKC Ostrava-Krasne 14.53 335 AMS AMS 09 46 40.0
comp=N,1μm,9.5s
KRUC Moravsky 14.53 330 *e*PN **Pn 09 39 51.5 +1.9**
KRUC *e* 09 39 57.8
KBA Koelnbreinsper 14.54 319 *i* Pn **Pn 09 39 52.0 +2.2**
comp=N,15nm,0.7s
MOA Molln 14.58 323 *e*Pn **Pn 09 39 51.8 +1.6**
comp=N,1.4nm,0.7s
KEST Kesra 14.61 271 **Pn 09 39 47.3 -3.5**
KEST Kesra 14.61 271 Pn **Pn 09 39 52.0 +1.2**
comp=N,0.2nm,0.3s,baz=55,slow=11,SNR=3.5
comp=N,7.2nm,0.9s
VRAC Vranov 14.65 331 *e*PN **Pn 09 39 52.5 +1.3**
VRAC *e* 09 39 59.1
VRAC Vranov 14.65 331 Pn **Pn 09 39 52.0 +0.8**
comp=N,0.1nm,0.3s,baz=119,slow=19,SNR=2.7
VRAC LR LR 09 44 49.5
comp=N,260nm,21.4s,baz=140,slow=35
comp=N,1.2nm,0.2s
MORC Moravsky Berou 14.69 334 Pn **Pn 09 39 50.9 -0.8**
MORC Moravsky Berou 14.69 334 *e*PN **Pn 09 39 52.8 +1.1**
BIOA Bad Ischl, Aus 14.78 321 *i* Pn **Pn 09 39 52.8 -0.2**
comp=N,8.7nm,1.0s
ABTA Abfaltersbach 14.79 316 *i* Pn **P 09 40 01.4 +2.4**
comp=N,8.6nm,0.9s
CTI Castel Tesino 14.89 313 Pn **Pn 09 39 54.7 +0.2**
LESA Schwarzleotal 15.11 319 *i* P **P 09 40 03.1 +0.5**
comp=N,5.0nm,0.9s
KRLC Kraliky 15.21 333 *e*P **P 09 40 05.6 +2.0**
KRLC AMS AMS 09 47 00.0
comp=N,2μm,10.1s
RJOB Jochberg 15.24 320 *e*P **P 09 40 06.5 +2.5**
comp=N,5.2nm,0.8s,baz=129,slow=10
CKRC Cesky Krumlov 15.24 325 *e*P **P 09 40 04.3 +0.3**
CKRC AMS AMS 09 46 40.0
comp=N,1μm,8.9s
SALO Salr 15.35 310 Pn **Pn 09 39 58.8 -1.8**
GEC2 GERESS Array S 15.54 324 Pn **Pn 09 40 03.1 0.0**
GEC2 GERESS Array S 15.54 324 *e*P **P 09 40 06.9 -0.6**
comp=N,7.3nm,1.0s,baz=129,slow=10
GERES GERESS Array B 15.54 324 Pn **Pn 09 40 04.0 +0.8**
GERES GERESS Array B 15.54 324 Pn **Pn 09 40 04.3 +1.1**
comp=N,0.7nm,0.3s,baz=144,slow=12,SNR=12
GERES LR LR 09 46 18.7
comp=N,402nm,20.7s,baz=145,slow=38
comp=N,2.9nm,0.8s
WTTA Wattenberg 15.57 316 *i* Pn **Pn 09 40 05.7 +2.0**
comp=N,36nm,1.4s
DPC Dobruska-Polom 15.60 333 *e*P **P 09 40 06.6 -1.4**
DPC AMS AMS 09 47 50.0
comp=N,1μm,7.9s
WATA Walderalm 15.65 317 *e*Pn **P 09 40 07.0 -1.7**
comp=N,30nm,1.5s
ZVC Zvikov 15.75 327 *e*P **P 09 40 11.3 +1.7**
SQTA Sankt Quirin 15.79 316 *e*Pn **P 09 40 08.5 -1.6**
comp=N,31nm,2.0s
KHC Kasperske Hory 15.80 325 Pn **Pn 09 40 07.3 +0.8**
KHC Kasperske Hory 15.80 325 *e*P **P 09 40 09.1 -1.2**
KHC *ex* x 09 40 17.8
KHC AMS AMS 09 46 50.0
comp=N,1μm,10.4s
OSTC Ostas 15.81 333 *e*P **P 09 40 11.4 +1.1**
UPC Upice 15.84 332 AMS AMS 09 47 10.0
comp=N,1μm,8.4s
GOPC GO Pecny, Ondr 15.85 329 *e*P **P 09 40 12.7 +1.9**
CHVC Chvalec 15.89 333 *e*P **P 09 40 13.1 +1.9**
MOTA Moosalm 15.92 316 *e*Pn **P 09 40 10.0 -1.7**
comp=N,27nm,1.2s
FETA Feichten 15.95 314 *e*Pn **P 09 40 10.3 -1.7**
comp=N,56nm,1.2s,SNR=14
FUORN Ofenpass-Fuorn 16.00 313 Pn **Pn 09 40 08.2 -1.0**
FUORN IAmb IAmb 09 40 26.5
comp=Z,34nm,1.2s
PRU Pruhonice 16.01 329 *e*P **P 09 40 14.6 +2.1**
PRU AMS AMS 09 47 10.0
comp=Z,800nm,12.2s
PRA Prague 16.12 329 *e*P **P 09 40 16.5 +2.8**
PRA AMS AMS 09 47 20.0
comp=Z,1μm,9.2s
WET Wettzell 16.14 324 *e*P **P 09 40 13.9 -0.1**
comp=Z,7.7nm,1.0s,baz=129,slow=10
RETA Reutte 16.19 316 *e*Pn **Pn 09 40 12.9 +1.5**
comp=Z,16nm,1.3s
DAVOX Davos/Dischmat 16.32 313 Pn **Pn 09 40 14.4 +1.2**
comp=Z,0.4nm,0.3s,baz=146,slow=7.7,SNR=12
DAVOX LR LR 09 47 02.5
comp=Z,384nm,21.3s,baz=102,slow=39
comp=Z,4.8nm,0.9s
PVCC Panska Ves 16.42 330 *e*P **P 09 40 18.8 +1.8**
TUE Stuetta 16.48 311 Pn **Pn 09 40 12.9 -2.4**
DAVA Damuels 16.58 314 *e*Pn **Pn 09 40 16.8 +0.3**
comp=Z,25nm,1.3s
UBR Ueberruh 16.66 316 *e*P **P 09 40 21.5 +1.7**
comp=Z,52nm,1.4s,baz=129,slow=10
PLONS Plons/SG 16.75 313 *e*P **P 09 40 22.0 +1.3**
comp=Z,10nm,0.9s,baz=129,slow=10
ROTZ Rotzenmuhle 16.89 324 *e*P **P 09 40 22.6 +0.4**
comp=Z,2.2nm,1.1s,baz=129,slow=10
BRG Berggiesshubel 16.94 330 *e*P **P 09 40 25.0 +2.3**
BRG Amp 09 40 27.5
comp=Z,19nm,1.2s
BRG Berggiesshubel 16.94 330 P P 09 40 32.0 +9.3
BRG Amp 09 40 33.7
comp=Z,15nm,1.1s
BRG Berggiesshubel 16.94 330 *e*P **P 09 40 24.6 +1.8**
comp=Z,6.1nm,0.9s,baz=129,slow=10
HSKC Hora Svate Kat 16.95 328 *e*P **P 09 40 25.4 +2.5**
HSKC AMS AMS 09 47 50.0
comp=Z,1μm,10.1s
MANZ Manzenberg 17.09 325 *e*P **P 09 40 25.9 +1.4**
comp=Z,1.4nm,0.9s,baz=129,slow=10
NKC Novy Kostel 17.11 326 AMS AMS 09 47 40.0
comp=Z,1μm,9.2s
WERN Wernitzgruen 17.18 326 *e*P **P 09 40 28.4 +3.0**
comp=Z,6.4nm,0.9s,baz=129,slow=10
WILA Wila 17.21 313 *e*P **P 09 40 28.3 +2.4**
comp=Z,24nm,0.9s,baz=129,slow=10
FBE Freiberg 17.22 329 *e*P **P 09 40 29.1 +3.2**
comp=Z,17nm,1.0s,baz=129,slow=10
TANN Tannenbergstha 17.23 326 *e*P **P 09 40 28.4 +2.3**
comp=Z,6.6nm,0.9s,baz=129,slow=10
GUNZ Gunzen 17.25 326 *e*P **P 09 40 29.3 +3.0**
comp=Z,10nm,0.9s,baz=129,slow=10
GRA1 Grafenberg Arr 17.31 323 Pn **Pn 09 40 23.8 -1.7**
GRF Grafenberg Arr 17.31 323 *e*P **P 09 40 29.9 +3.0**
comp=Z,16nm,1.1s,baz=129,slow=10
GRFO Grafenberg 17.31 323 Pn **Pn 09 40 23.6 -1.9**
WERD Werda 17.32 326 *e*P **P 09 40 30.2 +3.2**
comp=Z,6.4nm,0.9s,baz=129,slow=10
SUW Suwalki 17.33 352 Pn **Pn 09 40 25.1 -0.6**
SUW IAmb IAmb 09 40 28.5
comp=Z,81nm,1.2s
MNK Minsk 17.57 1 *i* P **Pn 09 40 28.2 -0.6**
comp=E,11nm,1.0s
MNK *i* P **Pn 09 40 28.2 -0.6**
comp=N,46nm,1.0s
MNK *i* P **Pn 09 40 28.2 -0.6**
comp=Z,51nm,1.0s,baz=182
MNK *i* PP **sP 09 40 36.0 0.0**
MNK *i* S **Sn 09 43 43.4 -0.6**
MNK *i* SS **SnSn 09 44 01.4 +3.8**
MNK *i* LQ LQ 09 45 42.2
MNK *i* LR LR 09 46 39.6
MNK *i* LRM MLR 09 49 15.3
comp=Z,142nm,19.7s
MNK *i* LRM MLR 09 49 19.3
BNI Bardonecchia 17.59 304 Pn **Pn 09 40 27.2 -2.0**
BNI IAmb IAmb 09 40 36.2
comp=Z,29nm,1.1s
SLE Schleitheim 17.63 314 *e*P **P 09 40 31.2 +0.7**
comp=Z,27nm,1.1s,baz=129,slow=10
CLL Collm 17.65 329 **Pn 09 40 29.8 +0.1**
CLL Collm 17.65 329 *e*P **P 09 40 33.8 +3.1**
comp=Z,17nm,1.2s,baz=129,slow=10
CLL Collm 17.65 329 *e*sP **P 09 40 32.0 +1.4**
comp=Z,26nm,1.5s
CLL *e*PP **PnPn 09 40 39.0 -1.2**
CLL *i* sPP 09 40 44.1
CLL AMS AMS 09 48 00.0
SENIN Lac Senin/Sane 17.69 308 Pn **Pn 09 40 29.4 -1.1**
SULZ Cheisacher 17.73 313 *e*P **P 09 40 32.9 +1.3**
comp=Z,44nm,1.1s,baz=129,slow=10
MOX Moxa 17.77 325 *e*P **P 09 40 32.8 +0.8**
comp=Z,21nm,1.2s,baz=129,slow=10
STU Stuttgart 17.79 317 *e*P **P 09 40 34.8 +2.7**
comp=Z,16nm,0.8s,baz=129,slow=10
BALST Balsthal 17.89 312 *e*P **P 09 40 35.1 +1.7**
comp=Z,14nm,1.0s,baz=129,slow=10
NACGM Naroch 17.98 359 *e*P **P 09 40 35.5 +1.3**
NEUB Neuenburg 18.10 327 *e*P **P 09 40 38.0 +2.4**
comp=Z,18nm,1.1s,baz=129,slow=10
ECH Echery 18.63 314 P **Pn 09 40 42.4 +0.6**
PABE Paberze 18.72 354 P **P 09 40 42.2 -0.1**
PABE IAmb IAmb 09 40 45.0
comp=Z,82nm,1.4s
TNS Taunus Mts 19.03 320 *e*P **Pn 09 40 48.5 +1.8**
comp=Z,33nm,1.1s,baz=129,slow=10
GTTG Gottingen 19.15 325 *e*P **Pn 09 40 49.7 +1.7**
comp=Z,45nm,1.2s,baz=129,slow=10
CLZ Clausthal 19.17 326 *e*P **Pn 09 40 48.9 +0.6**
comp=Z,11nm,1.1s,baz=129,slow=10
OBN Obninsk 19.23 16 LR LR 09 47 59.0
comp=Z,251nm,21.3s,baz=175,slow=36
ASSE Asse, Remlinge 19.24 327 *e*P **Pn 09 40 49.8 +0.7**
comp=Z,7.4nm,1.0s,baz=129,slow=10
NRDL Niedersach Rie 19.75 327 *e*P **Pn 09 40 56.1 +1.1**
comp=Z,22nm,1.1s,baz=129,slow=10
AHRW Bad Neuenahr-A 19.93 319 *e*P **Pn 09 40 58.2 +0.9**
comp=Z,19nm,1.1s,baz=129,slow=10
WLF Walferdange 19.94 316 P **P 09 40 56.1 +0.4**
WLF IAmb IAmb 09 41 03.0
comp=Z,12nm,0.7s
BUG Bochum--Univer 20.37 322 *e*P Pn 09 41 02.9 +0.4
comp=Z,14nm,1.0s,baz=129,slow=10
BTNL Ternell 20.45 319 *d*P Pn 09 41 02.8 -0.7
comp=Z,10nm,1.0s
MEM Membach 20.53 318 *d*P Pn 09 41 04.4 0.0
comp=Z,12nm,1.0s
IBBN Ibbenburen 20.68 324 *e*P Pn 09 41 06.2 +0.1
comp=Z,18nm,0.9s,baz=129,slow=10
RCHB Rochefort 20.71 317 *d*P Pn 09 41 05.7 -0.8
BSTI Sart Tilman 20.75 318 *d*P Pn 09 41 07.4 +0.4
BCLA Clavier 20.81 317 *d*P Pn 09 41 07.6 0.0
BGES Gesves 20.91 317 *d*P Pn 09 41 08.4 -0.4
comp=Z,14nm,1.0s
BELG Belogornoye 21.00 36 P **P 09 41 06.1 -1.1**
comp=Z,48nm,0.8s,baz=207,slow=9.0,SNR=13
comp=Z,48nm,0.8s
DOU Dourbes 21.03 316 *d*P **P 09 41 07.2 -0.4**
comp=Z,10nm,1.1s
BMRD Maredsous 21.04 317 *d*P **P 09 41 08.8 +1.2**
CLF Chambon-Foret 21.51 309 P **P 09 41 12.1 -0.6**
VSU Vasula 21.55 359 *e*P **P 09 41 14.3 +1.3**
DEL Delary 21.56 339 *e*P **P 09 41 14.6 +1.4**
HLG Helgoland 21.89 328 *e*P P 09 41 04.8 -12
comp=Z,210nm,0.9s,baz=129,slow=10
MTSE Matsula 21.92 355 *e*P **P 09 41 18.0 +1.0**
AAL Aland 23.74 351 *e*P **P 09 41 36.5 +0.7**
GEYT Alibeck 24.36 78 P **P 09 41 40.0 -1.9**
comp=Z,1.6nm,0.5s,baz=273,slow=13,SNR=2.3
GEYT LR LR 09 51 44.2
comp=Z,120nm,19.9s,baz=334,slow=38
comp=Z,1.6nm,0.5s
FINES FINESS Array B 24.55 358 P **P 09 41 44.1 +0.8**
FINES FINESS Array B 24.55 358 P **P 09 41 42.8 -0.5**
comp=Z,11nm,1.0s,baz=148,slow=11,SNR=13
FINES PcP **PcP 09 45 19.9 -1.1**
comp=Z,3.2nm,0.9s,baz=169,slow=1.9,SNR=3.7
comp=Z,11nm,1.0s
ESBB Sonseca Array 24.70 286 P **P 09 41 45.3 +0.2**
ESDC Sonseca Array 24.70 286 P **P 09 41 44.7 -0.4**
ESDC IAmb IAmb 09 41 46.9
comp=Z,26nm,1.3s
ESDC Sonseca Array 24.70 286 P **P 09 41 45.3 +0.2**
comp=Z,16nm,1.0s,baz=79,slow=9.4,SNR=77
ESDC LR LR 09 52 23.4
comp=Z,135nm,19.3s,baz=85,slow=39
comp=Z,16nm,1.0s
HFS Hagfors 24.83 344 P **P 09 41 44.4 -1.5**
comp=Z,14nm,1.0s,baz=144,slow=8.3,SNR=8.4
HFS LR LR 09 53 38.3
comp=Z,321nm,19.2s,baz=164,slow=42
comp=Z,14nm,1.0s
PAB San Pablo 25.01 286 P **P 09 41 48.6 +0.8**
PAB IAmb IAmb 09 41 59.7
comp=Z,6.9nm,0.8s
KLMR Klimovskoe 25.15 14 *e*P **P 09 41 45.3 -3.5**
KLMR AMP 09 41 50.7
comp=Z,83nm,1.1s
AKTO Aktyubinsk 25.71 49 P **P 09 41 53.3 -0.8**
comp=Z,5.6nm,0.6s,baz=249,slow=11,SNR=15
AKTO LR LR 09 56 42.0
comp=Z,134nm,18.9s,baz=234,slow=47
comp=Z,5.6nm,0.6s
KIRV Kirov 26.00 27 P **P 09 41 56.4 -0.2**
comp=Z,11nm,0.6s,baz=254,slow=5.9,SNR=5.5
comp=Z,11nm,0.6s
NAO01 NORSAR Array S 26.12 342 P **P 09 41 57.4 -0.3**
NC405 NORSAR Array S 26.15 343 P **P 09 41 57.8 -0.2**
NC405 IAmb IAmb 09 42 24.6
comp=Z,24nm,1.4s

NB2 NORSAR Subarra 26.21 342 P **P 09 41 58.9 +0.4**
comp=Z,40nm,1.7s,baz=150,slow=9.3
NB2 NORSAR Subarra 26.21 342 P **P 09 41 58.9 +0.4**
baz=150,slow=9.3
NOA NORSAR Array B 26.21 342 P **P 09 41 58.5 0.0**
comp=Z,5.6nm,1.1s,baz=146,slow=8.7,SNR=5.5
NOA LR LR 09 53 33.7
comp=Z,175nm,18.5s,baz=145,slow=39
comp=Z,5.6nm,1.1s
ABKAR Akbulak array 26.55 52 P **P 09 42 01.7 +0.1**
PBRG Braganca 26.73 291 *e*P **P 09 42 04.4 +1.0**
comp=Z,32nm,1.3s
MVO Moncorvo 26.96 290 *e*P **P 09 42 06.8 +1.2**
comp=Z,53nm,1.5s
PBAR Barrancos 27.25 283 *e*P **P 09 42 09.5 +1.5**
PMRV Marv??o 27.37 286 *e*P **P 09 42 09.9 +0.8**
PCBR Castelo Branco 27.39 287 *e*P **P 09 42 10.4 +1.1**
MTE Manteigas 27.40 288 *e*P **P 09 42 10.4 +1.0**
comp=Z,36nm,1.5s
MTE Manteigas 27.40 288 P **P 09 42 07.8 -1.6**
POLO Lamas de Olo 27.53 290 *e*P **P 09 42 11.7 +1.0**
comp=Z,11nm,1.6s
PESTR Estremoz 27.58 285 *e*P **P 09 42 11.5 +0.4**
comp=Z,26nm,1.7s
PVIS Viseu 27.64 289 *e*P **P 09 42 13.0 +1.4**
EKA Eskdalemuir Ar 27.72 321 P **P 09 42 12.2 +0.2**
comp=Z,5.8nm,1.0s,baz=128,slow=12,SNR=4.0
comp=Z,5.8nm,1.0s
PGAV Gavieira, Arco 27.87 292 *e*P **P 09 42 16.3 +2.6**
comp=Z,34nm,1.8s
PBEJ Beja 27.91 283 *e*P **P 09 42 15.0 +1.0**
comp=Z,25nm,2.5s
PMTG Montargil 28.05 285 *e*P **P 09 42 15.6 +0.4**
comp=Z,35nm,1.7s
ARU Arti 28.55 37 P **P 09 42 19.9 +0.4**
ARU IAmb IAmb 09 42 22.2
comp=Z,23nm,1.4s
ARU Arti 28.55 37 P **P 09 42 19.0 -0.5**
comp=Z,5.3nm,0.2s,baz=228,slow=8.4,SNR=8.0
comp=Z,5.3nm,0.2s
WSAR Wadi Sarin 30.12 108 LR LR 09 58 46.0
comp=Z,84nm,19.9s,baz=34,slow=45
ARCES ARCESS Array B 32.68 359 P **P 09 42 54.7 -1.0**
comp=Z,8.8nm,1.1s,baz=120,slow=4.3,SNR=4.5
ARCES PcP **PcP 09 45 40.3 -0.8**
comp=Z,2.9nm,1.0s,baz=210,slow=5.2,SNR=1.9
ARCES LR LR 09 56 17.5
comp=Z,203nm,18.1s,baz=164,slow=37
comp=Z,8.8nm,1.1s
TORD Torodi Ar. Bea 33.02 231 P **P 09 42 59.8 +0.6**
comp=Z,5.9nm,0.6s,baz=35,slow=9.6,SNR=7.3
TORD PcP **PcP 09 45 42.8 -0.2**
comp=Z,1.2nm,0.8s,baz=33,slow=1.7,SNR=4.5
TORD LR LR 09 59 03.2
comp=Z,123nm,18.1s,baz=52,slow=41
comp=Z,5.9nm,0.6s
KKAR Karatay Array 33.30 66 P **P 09 43 01.8 +0.3**
BRVK Borovoye 33.75 48 P **P 09 43 05.1 -0.2**
BRVK IAmb IAmb 09 43 10.1
comp=Z,4.9nm,0.9s
BVAR Borovoye Array 33.81 48 P **P 09 43 07.1 +1.2**
comp=Z,4.0nm,1.0s,baz=227,slow=5.9,SNR=9.7
BVAR LR LR 10 01 21.9
comp=Z,129nm,18.1s,baz=237,slow=44
comp=Z,4.0nm,1.0s
LODK Lodwar 34.14 166 P **P 09 43 07.6 -1.5**
LODK IAmb IAmb 09 43 17.3
comp=Z,3.6nm,0.9s
KOWA Kowa 35.80 240 LR LR 09 58 27.1
comp=Z,92nm,21.2s,baz=110,slow=37
AAK Ala-Archa 36.26 66 P **P 09 43 27.7 +0.4**
AAK IAmb IAmb 09 43 31.8
comp=Z,6.4nm,1.1s
AAK Ala-Archa 36.26 66 P **P 09 43 27.9 +0.7**
comp=Z,1.0nm,0.3s,baz=260,slow=12,SNR=5.8
AAK LR LR 10 01 32.0
comp=Z,94nm,18.0s,baz=271,slow=42
comp=Z,1.0nm,0.3s
MBAR Mbarara 37.48 175 LR LR 10 01 44.2
comp=Z,143nm,18.1s,baz=14,slow=41
KURBB Kurchatov Arra 38.60 53 P **P 09 43 47.6 +0.8**
comp=Z,12nm,1.1s,baz=276,slow=8.9,SNR=41
KURBB PcP **PcP 09 45 59.4 +0.5**
comp=Z,0.6nm,0.3s,baz=275,slow=3.5,SNR=1.8
KURBB LR LR 10 01 47.1
comp=Z,105nm,19.1s,baz=168,slow=40
comp=Z,12nm,1.1s
KURK Kurchatov 38.66 52 P **P 09 43 46.4 -0.9**
KURK IAmb IAmb 09 43 50.1
comp=Z,24nm,1.2s
JMIC Jan Mayen 38.92 342 LR LR 10 00 58.4
comp=Z,79nm,19.0s,baz=100,slow=38
BORG Borgarnes 39.90 330 LR LR 10 03 22.6
comp=Z,313nm,19.6s,baz=118,slow=41
MAKZ Makanchi 41.07 58 P **P 09 44 08.1 +0.6**
MAKZ IAmb IAmb 09 44 09.7
comp=Z,9.4nm,1.3s
MK31 Makanchi Array 41.29 58 P **P 09 44 08.1 -1.1**
MKAR Makanchi Array 41.29 58 P **P 09 44 08.0 -1.3**
MKAR Makanchi Array 41.29 58 P **P 09 44 10.2 +0.9**
comp=Z,4.8nm,0.7s,baz=282,slow=6.4,SNR=34
MKAR LR LR 10 06 15.7
comp=Z,85nm,18.8s,baz=234,slow=43
comp=Z,4.8nm,0.7s
SPB2 Spitsbergen Ar 41.61 357 P **P 09 44 10.2 -1.2**
DBIC Dimbokro 42.09 232 P **P 09 44 14.2 -1.9**
DBIC IAmb IAmb 09 44 22.2
comp=Z,12nm,0.8s
DBIC Dimbokro 42.09 232 P **P 09 44 16.1 0.0**
comp=Z,3.9nm,0.5s,baz=29,slow=9.1,SNR=8.3
comp=Z,3.9nm,0.5s
TIC Toumodi 42.21 232⇑ *e*P **P 09 44 17.6 +0.5**
comp=Z,8.2nm,0.6s
KIC Kosan Boka 42.26 232⇑ *i*P **P 09 44 17.9 +0.5**
comp=Z,14nm,0.7s
ZAA0 Zalesovo Array 42.47 48 P **P 09 44 18.8 +0.1**
ZAA0 IAmb IAmb 09 44 22.7
comp=Z,6.6nm,0.8s
ZALV Zalesovo Beam 42.47 48 P **P 09 44 18.9 +0.3**
ZALV Zalesovo Beam 42.47 48 P **P 09 44 19.0 +0.3**
comp=Z,5.2nm,0.6s,baz=267,slow=8.9,SNR=20
ZALV LR LR 10 05 26.1
comp=Z,133nm,18.3s,baz=308,slow=41
comp=Z,5.2nm,0.6s
LIC Lamto 42.54 232⇑ *e*P **P 09 44 20.2 +0.5**
comp=Z,48nm,0.8s
SOEG Soedalen 44.76 333 *i*P **P 09 44 37.8 +0.9**
WMQ Urumqi 45.55 62 *e*P **P 09 44 46.3 +2.6**
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ LR LR
comp=E,410nm,19.7s
WMQ LR LR
comp=Z,160nm,17.7s
NOR Nord 47.43 352 *i*P **P 09 44 58.1 +0.3**
NOR IAmb IAmb 09 44 59.1
comp=Z,22nm,1.4s
ICESG Greenland Ices 47.89 334 *i*P **P 09 45 01.1 -0.9**
ICESG IAmb IAmb 09 45 03.3
comp=Z,67nm,1.4s
SUMG Summit 47.99 338 P **P 09 45 03.8 +1.0**
SUMG Summit 47.99 338 *i*P **P 09 45 03.0 +0.2**
SUMG IAmb IAmb 09 45 05.1
comp=Z,30nm,1.1s
DY2G Dye2 50.33 330 *i*P **P 09 45 20.3 -0.2**
DY2G IAmb IAmb 09 45 22.5
comp=Z,88nm,1.5s
NEEM North Greenlan 51.77 344 *i*P **P 09 45 32.7 +1.4**
SFJD Kangerlussuaq 52.01 331 LR LR 10 10 27.3
comp=Z,108nm,19.7s,baz=98,slow=39
GOMU GeErMu 53.08 69 P **P 09 45 44.5 +2.8**
GOMU pmax pmax
comp=Z,1.0nm,0.6s
SHL Shillong 55.35 82 P **P 09 45 58.2 0.0**
SHL IAmb IAmb 09 46 05.8
comp=Z,4.5nm,0.6s
TSUM Tsumeb 56.60 191 LR LR 10 11 06.7
comp=Z,66nm,21.6s,baz=340,slow=37
SONM Songino Array 56.96 52 P **P 09 46 10.3 +1.0**
SONM IAmb IAmb 09 46 13.2
comp=Z,7.3nm,1.4s
SONM Songino Array 56.96 52 P **P 09 46 09.7 +0.4**
comp=Z,0.9nm,0.4s,baz=280,slow=8.6,SNR=9.0
SONM LR LR 10 13 05.4
comp=Z,88nm,18.5s,baz=314,slow=39
comp=Z,0.9nm,0.4s
FRB Frobisher Bay 60.07 329 LR LR 10 14 19.2
comp=Z,103nm,18.7s,baz=48,slow=38
CD2 Chengdu 62.08 71 P **P 09 46 44.0 -0.8**
BTO Baotou 62.21 59 *e*P **P 09 46 46.5 +0.9**
BTO pP **pP 09 46 50.8 +0.4**
BTO sP **sP 09 46 53.8 +1.6**
BTO PP **PP 09 49 04.9 +2.7**
BTO S **S 09 55 12.1 +1.3**
BTO Baotou 62.21 59 SS SS 09 59 06.0 -7.4
BTO pmax pmax
comp=Z,22nm,0.5s
BTO pmax pmax
comp=Z,310nm,8.1s
BTO LR LR
comp=N,460nm,5.0s
BTO LR LR
comp=E,350nm,5.9s
BTO LR LR
comp=Z,440nm,11.8s
RES Resolute Bay 62.42 345 LR LR 10 12 55.0
comp=Z,78nm,20.1s,baz=26,slow=35
PZH PanZhiHua 62.65 76 P **P 09 46 49.1 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,140nm,5.9s
HHC Hu-ho-hao-te 63.15 58 *e*P **P 09 46 53.6 +1.7**
HHC pmax pmax
comp=Z,25nm,0.9s
HHC pmax pmax
comp=Z,220nm,6.0s
CMAR Chiang Mai Arr 64.59 85 P **P 09 47 02.2 +0.7**
CMAR Chiang Mai Arr 64.59 85 P **P 09 47 00.9 -0.6**
comp=Z,1.0nm,0.3s,baz=299,slow=7.5,SNR=12
comp=Z,1.0nm,0.3s
BOSA Boshof 65.23 182 P **P 09 47 05.6 +0.1**
comp=Z,4.3nm,0.9s,baz=352,slow=6.4,SNR=5.0
comp=Z,4.3nm,0.9s
LYN LuoYang 66.75 64 ⇓P **P 09 47 19.3 +4.0**
LYN pmax pmax
comp=Z,15nm,0.5s
HEH HeiHe 68.32 43 *e*P **P 09 47 26.1 +1.2**
HEH pmax pmax
comp=Z,23nm,1.2s
HEH pmax pmax
comp=Z,440nm,4.5s
SUR Sutherland 69.23 186 LR LR 10 19 22.8
comp=Z,68nm,20.5s,baz=24,slow=37
LBNH Lisbon 71.18 311 P **P 09 47 41.5 -1.2**
baz=56
KLR Kul'dur 71.24 42 LR LR 10 24 19.0
comp=Z,59nm,18.6s,baz=302,slow=40
A21K Barrow 72.01 1 P **P 09 47 45.8 -1.4**
baz=357
NJ2 Nanjing 72.62 63 *e*P **P 09 47 49.6 -1.9**
NJ2 sP **pP 09 47 55.0 -1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 pmax pmax
comp=Z,340nm,5.2s
MDJ Mudanjiang 72.66 47 P **P 09 47 51.4 -0.1**
MDJ pmax pmax
comp=Z,7.0nm,0.6s
MDJ pmax pmax
comp=Z,360nm,4.8s
MA2 Magadan 73.10 26 LR LR 10 24 57.7
comp=Z,66nm,18.1s,baz=297,slow=40
C23K Itkillik River 73.53 359 P **P 09 47 54.7 -1.5**
baz=1.7
D28M Stokes Point 73.56 355 P **P 09 47 55.3 -1.1**
baz=12
C24K Franklin Bluff 73.62 359 P **P 09 47 55.5 -1.2**
baz=3.3
B21K Ikpikpuk River 73.75 1 P **P 09 47 56.4 -1.1**
baz=358
D27M Malcolm River 73.79 356 P **P 09 47 56.9 -1.0**
baz=9.7
INK Inuvik 74.11 353 LR LR 10 23 53.7
comp=Z,70nm,18.1s,baz=170,slow=38
D24K Happy Valley 74.19 359 P **P 09 47 59.4 -0.7**
baz=3.1
C21K Knifeblade Rid 74.21 1 P **P 09 47 59.5 -0.8**
baz=358
USRK Ussuriysk Ar. 74.30 46 P **P 09 48 00.7 -0.5**
comp=Z,6.8nm,0.8s,baz=297,slow=4.1,SNR=8.6
comp=Z,6.8nm,0.8s
E28M Babbage River 74.33 355 P **P 09 48 01.2 +0.3**
baz=11
D23K Nanushuk River 74.41 359 P **P 09 48 01.2 -0.2**
baz=1.6
E29M Blow River 74.42 354 P **P 09 48 01.1 -0.4**
baz=12
D20K Etivluk River 74.63 2 P **P 09 48 02.9 +0.3**
baz=357
TOLK Toolik Lake Re 74.72 359 P **P 09 48 03.5 +0.3**
baz=2.5
BINY Binghamton 74.78 311 P **P 09 48 04.3 +0.2**
baz=54
D19K Kuna River 74.81 2 P **P 09 48 04.2 +0.4**
baz=355
E27K Coleen River 74.87 356 P **P 09 48 04.0 -0.1**
baz=9.1
E21K Killik River 74.94 1 P **P 09 48 04.5 0.0**
baz=359
F31M Tsiigehtchic 74.97 353 P **P 09 48 04.9 +0.3**
baz=16
F30M Barrier River 75.00 353 P **P 09 48 04.5 -0.3**
baz=14
E20K Nigu River 75.09 1 P **P 09 48 04.3 -1.1**
baz=357
E25K Arctic Village 75.13 357 P **P 09 48 04.9 -0.8**
baz=5.8
E22K Anaktuvuk Pass 75.25 360 P **P 09 48 05.8 -0.5**
baz=0.7
E24K Your Creek 75.26 358 P **P 09 48 06.0 -0.4**
baz=3.4
E23K Chandalar 75.30 359 P **P 09 48 06.3 -0.3**
baz=2.5
F28M Old Crow 75.33 355 P **P 09 48 06.3 -0.4**
baz=10
D17K Noatak River 75.39 4 P **P 09 48 06.7 -0.3**
baz=351
F26K Sheenjek River 75.50 357 P **P 09 48 07.8 +0.1**
baz=7.0
G31M Satah River 75.52 353 P **P 09 48 07.5 -0.3**
baz=15
G30M tAoh Zraii Nji 75.66 353 P **P 09 48 08.3 -0.4**
baz=14
F25K Christian Rive 75.66 357 P **P 09 48 08.6 -0.1**
baz=5.8
KSRS Korea Array 75.77 54 P **P 09 48 09.8 +0.1**
comp=Z,3.8nm,0.9s,baz=298,slow=5.7,SNR=14
KSRS LR LR 10 24 52.1
comp=Z,82nm,19.9s,baz=320,slow=38
comp=Z,3.8nm,0.9s
E18K Tukpahlearik C 75.79 3 P **P 09 48 08.3 -1.0**
baz=353
F24K Squaw Lake 75.81 358 P **P 09 48 10.0 +0.5**
baz=3.9,SNR=5.2
E19K Redstone River 75.87 2 P **P 09 48 10.1 +0.3**
baz=356
F22K John River 75.88 360 P **P 09 48 10.0 +0.1**
baz=0.4,SNR=5.1
G29M Pine Creek 75.88 354 P **P 09 48 09.8 -0.2**
baz=12
E17K Hotham Inlet 76.07 4 P **P 09 48 09.9 -1.0**
baz=352
COLD Coldfoot 76.14 359 P **P 09 48 11.3 -0.1**
baz=2.0
F21K Alatna River 76.17 0 P **P 09 48 11.6 +0.1**
baz=359
G26K Porcupine Rive 76.22 356 P **P 09 48 12.6 +0.8**
baz=7.3
G27K Doyon Strip 76.24 356 P **P 09 48 12.9 +0.9**
baz=9.0
EPYK Eagle Plains 76.30 353 P **P 09 48 11.7 -0.6**
baz=13
YKA Yellowknife Ar 76.31 343 P **P 09 48 11.9 -0.5**
comp=Z,2.0nm,1.0s,baz=130,slow=25,SNR=4.4
YKA LR LR 10 21 48.6
comp=Z,94nm,18.2s,baz=309,slow=36
comp=Z,2.0nm,1.0s
F20K Avaraart Lake 76.31 1 P **P 09 48 12.3 0.0**
baz=357
G22K Bettles 76.47 360 P **P 09 48 13.1 -0.1**
baz=0.9
F19K Shaleruckik Mo 76.48 2 P **P 09 48 12.5 -0.8**
baz=356
H29M Whitestone 76.59 354 P **P 09 48 12.2 -1.7**
baz=12
H31M Peel River 76.61 352 P **P 09 48 12.9 -1.2**
baz=15
G23K Bananza Creek 76.66 359 P **P 09 48 13.9 -0.5**
baz=2.1
F17K Baldwin Pennin 76.73 4 P **P 09 48 14.1 -0.6**
baz=353
H27K Steamboat Moun 76.81 355 P **P 09 48 15.0 -0.2**
baz=9.1,SNR=5.6
G21K Allakaket 76.87 0 P **P 09 48 15.4 -0.1**
baz=359
H25L Birch Creek 76.99 357 P **P 09 48 15.2 -1.0**
baz=5.6
G19K Purcell Mounta 77.19 2 P **P 09 48 17.4 +0.1**
baz=356
ERPA Erie 77.20 313 P **P 09 48 18.1 +0.3**
baz=52
F15K North Star Dit 77.26 5 P **P 09 48 17.9 +0.2**
baz=350
F14K Arctic Creek 77.36 6 P **P 09 48 18.7 +0.5**
baz=349
I30M Mount Dempster 77.39 353 P **P 09 48 18.9 +0.3**
baz=13,SNR=5.2
G18K Tagagawik 77.39 3 P **P 09 48 18.4 -0.1**
baz=355
I29M Ogilvie Camp, 77.43 354 P **P 09 48 18.8 +0.1**
baz=12,SNR=7.3
I27K Kandik River 77.44 355 P **P 09 48 18.9 +0.2**
baz=9.0
I28M Miner Creek 77.47 355 P **P 09 48 19.8 +0.8**
baz=10
H24K Noodor Dome 77.49 358 P **P 09 48 19.2 +0.1**
baz=3.9
H22K Ishtalitna Cre 77.50 359 P **P 09 48 19.9 +0.9**
baz=1.0,SNR=5.4
H23K Yukon River 77.54 359 P **P 09 48 20.0 +0.6**
baz=2.5
G17K Kiwalik Mounta 77.70 3 P **P 09 48 20.3 +0.1**
baz=353
PRP Porcupine Dome 77.73 357 P **P 09 48 21.2 +0.7**
baz=5.8
H21K Melozitna Rive 77.74 0 P **P 09 48 21.6 +1.2**
baz=360
I26K Coal Creek Min 77.82 356 P **P 09 48 21.4 +0.6**
baz=7.7
H19K Roundabout Mou 77.83 2 P **P 09 48 21.5 +0.6**
baz=357
H20K Anotleneega Mo 77.89 1 P **P 09 48 21.4 +0.2**
baz=358
J30M Hart River 78.02 353 P **P 09 48 22.9 +0.8**
baz=13,SNR=7.0
POKR Poker Plat Res 78.20 358 P **P 09 48 23.5 +0.5**
baz=4.2
I21K Tanana 78.22 360 P **P 09 48 23.6 +0.6**
baz=0.5
J29N Klondike Camp 78.31 354 P **P 09 48 23.5 -0.2**
baz=12
ANM Nome 78.33 6 P **P 09 48 24.0 +0.3**
baz=350
MLY Manley 78.36 359 P **P 09 48 24.3 +0.4**
baz=1.5
ILAR Eielson Array 78.53 358 P **P 09 48 24.6 -0.2**
comp=Z,1.5nm,1.0s,baz=350,slow=3.2,SNR=10
comp=Z,1.5nm,1.0s
GCSA Galena City Sc 78.60 2 P **P 09 48 25.4 +0.3**
baz=356
J25K Salcha River, 78.63 357 P **P 09 48 25.5 +0.1**
baz=5.9
J26L Joseph Creek 78.65 356 P **P 09 48 24.4 -1.2**
baz=7.4
NEA2 Nenana 78.77 358 P **P 09 48 25.4 -0.7**
baz=2.9
DAWY Dawson 78.79 354 P **P 09 48 26.2 -0.1**
baz=11,SNR=5.2
K29M Barlow Dome 78.85 353 P **P 09 48 26.6 -0.1**
baz=12
HDA Harding Lake 78.89 358 P **P 09 48 27.2 +0.4**
baz=4.6,SNR=6.5
MAYO Mayo, Yukon 78.93 352 P **P 09 48 27.2 +0.2**
baz=14
K27K Chicken 79.03 355 P **P 09 48 27.7 +0.2**
baz=8.6
SCRK Sand Creek 79.19 356 P **P 09 48 29.3 +0.7**
baz=7.0
J20K Nowinta River 79.22 1 P **P 09 48 28.4 -0.1**
baz=359
BPAW Bear Paw Mtn. 79.30 359 P **P 09 48 29.2 +0.2**
baz=1.3
MMPY Sheldon Lake, 79.31 350 P **P 09 48 29.5 +0.3**
baz=17
J19K Poorman 79.38 1 P **P 09 48 30.4 +0.9**
baz=358
RIDG Independent Ri 79.47 357 P **P 09 48 30.5 +0.5**
baz=6.3
CHUM Lake Minchumin 79.52 360 P **P 09 48 30.5 +0.3**
baz=0.2
L29M L29M 79.62 353 P **P 09 48 30.8 -0.1**
baz=12
MCK McKinley 79.63 358 P **P 09 48 30.7 -0.2**
baz=3.0
ULM Lac du Bonnet 79.83 327 LR LR 10 26 47.7
comp=Z,42nm,18.1s,baz=44,slow=38
J18K Innoko River 79.89 2 P **P 09 48 32.8 +0.5**
baz=357
TRF Thorofare Moun 79.94 359 P **P 09 48 33.0 +0.3**
baz=1.9
FARO Faro, Yukon 79.96 351 P **P 09 48 33.2 +0.5**
baz=16
L27K Beaver Creek, 79.97 355 P **P 09 48 33.4 +0.7**
baz=8.8
CAST Castle Rocks 79.99 360 P **P 09 48 33.3 +0.5**
baz=0.4
M30M Minto, Yukon 80.02 353 P **P 09 48 32.9 -0.1**
baz=13
K20K Telida 80.04 1 P **P 09 48 33.4 +0.3**
baz=359
M31M Drury Creek, Y 80.12 351 P **P 09 48 33.9 +0.3**
baz=15
DHY Denali Highway 80.24 358 P **P 09 48 34.2 -0.1**
baz=4.2
PAX Paxson 80.27 357 P **P 09 48 33.2 -1.2**
baz=5.8
JNU Nakatsue 80.29 56 LR LR 10 29 45.8
comp=Z,60nm,20.4s,baz=36,slow=40
M29M Somme Creek 80.31 353 P **P 09 48 35.0 +0.4**
baz=11,SNR=7.0
TTA Talina 80.44 2 P **P 09 48 35.6 +0.3**
baz=357
KOTAN Kotaneelee Air 80.47 346 P **P 09 48 35.9 +0.5**
baz=23
PETK Petropavlovsk- 80.51 28 LR LR 10 25 59.7
comp=Z,48nm,19.3s,baz=150,slow=37
PPLA Purkeypile 80.51 360 P **P 09 48 36.5 +0.7**
baz=0.3
BVCY Beaver Creek 80.54 354 P **P 09 48 36.6 +0.8**
baz=9.5
M27K Edge Creek, AK 80.67 355 P **P 09 48 37.0 +0.3**
baz=8.7
M26K Nabesna, AK 80.70 355 P **P 09 48 37.4 +0.6**
baz=7.8
WAT6 Susitna Watana 80.75 358 P **P 09 48 37.4 +0.3**
baz=4.0
L20K Farewell, AK 80.92 1 P **P 09 48 37.4 -0.5**
baz=359
N32M Quiet Lake 80.97 351 P **P 09 48 38.4 +0.2**
baz=16
N31M Braeburn, Yuko 80.97 352 P **P 09 48 38.0 -0.2**
baz=14
L18K Granite Mounta 81.14 2 P **P 09 48 39.2 +0.2**
baz=357
N30M Aishikik Lake 81.14 353 P **P 09 48 38.8 -0.3**
baz=12
YUK3 Moose Creek 81.14 354 P **P 09 48 39.0 -0.3**
baz=9.8
L17K Donlin 81.17 3 P **P 09 48 38.4 -0.7**
baz=355
L19K White Mountain 81.21 1 P **P 09 48 39.4 0.0**
baz=358
O48B Farmland 81.38 314 P **P 09 48 39.9 -0.8**
baz=48
YUK4 Talbot Arm 81.41 353 P **P 09 48 40.3 -0.4**
baz=11
SKT Skwentna 81.43 359 P **P 09 48 41.0 +0.5**
baz=0.9
L15K Ungalak Mounta 81.47 4 P **P 09 48 40.6 -0.1**
baz=353
SCM Sheep Creek Mo 81.48 357 P **P 09 48 41.3 +0.4**
baz=4.3
M19K Big River Lodg 81.50 1 P **P 09 48 40.4 -0.5**

	baz=359						
LIRD	Liard River Hi	81.52	347	P	P	09 48 40.6	-0.5
	baz=21						
M20K	Styx River	81.53	0	P	P	09 48 41.6	+0.4
	baz=360						
M23K	Glacier View	81.54	358	P	P	09 48 40.6	-0.6
	baz=4.0						
L16K	Owhat River	81.54	3	P	P	09 48 40.4	-0.7
	baz=354						
SML	Sawmill	81.54	358	P	P	09 48 41.0	-0.2
	baz=3.5						
N25K	Chitina, Valde	81.59	356	P	P	09 48 41.6	+0.1
	baz=6.5						
M22K	Willow	81.64	359	P	P	09 48 42.0	+0.4
	baz=2.0						
L14K	Kuka Creek	81.73	5	P	P	09 48 42.1	+0.1
	baz=352						
KLU	Klutina	81.77	357	P	P	09 48 42.3	-0.1
	baz=5.4						
YUK6	Outpost Mounta	81.78	353	P	P	09 48 41.8	-0.8
	baz=12						
PMR	Palmer	81.78	358	P	P	09 48 42.6	+0.2
	baz=2.8						
HYT	Haines Junctio	81.81	353	P	P	09 48 42.7	0.0
	baz=12						
M18K	Stony River	81.89	2	P	P	09 48 42.2	-0.7
	baz=357						
M17K	Holitna River	81.93	2	P	P	09 48 43.0	-0.2
	baz=356						
SUA	Susitna One	81.94	359	P	P	09 48 43.7	+0.4
	baz=1.5						
KNK	Knik Glacier	81.94	358	P	P	09 48 43.4	+0.1
	baz=3.4						
CTG	Chitna Glacier	82.02	354	P	P	09 48 43.5	-0.3
	baz=9.1						
O28M	Mount Upton	82.11	354	P	P	09 48 44.3	-0.2
	baz=10.0						
N20K	Mount Spurr	82.21	360	P	P	09 48 44.8	+0.1
	baz=0.3						
SPCR	Spurr Chakacha	82.21	360	P	P	09 48 44.8	+0.1
	baz=0.3						
BMRM	Bremner River	82.23	356	P	P	09 48 44.3	-0.6
	baz=6.5						
M16K	Timber Creek	82.25	3	P	P	09 48 44.1	-0.8
	baz=355						
RC01	Rabbit Creek A	82.30	359	P	P	09 48 44.6	-0.5
	baz=2.3						
CRQE	Cirque	82.35	355	P	P	09 48 44.9	-0.7
	baz=7.7						
R33M	Jennings River	82.36	349	P	P	09 48 45.0	-0.7
	baz=17						
M14K	Bethel	82.36	5	P	P	09 48 44.0	-1.4
	baz=352						
SFIN	Lafayette	82.40	315	P	P	09 48 45.0	-1.1
	baz=47						
KMSC	Kings Mountain	82.42	308	P	P	09 48 44.9	-1.3
	baz=50						
O29M	Mount Kennedy	82.43	353	P	P	09 48 45.6	-0.3
	baz=11						
P30M	Million Dollar	82.44	352	P	P	09 48 44.7	-1.2
	baz=13						
PWL	Port Wells	82.49	358	P	P	09 48 45.0	-1.2
	baz=3.5						
M15K	Kasigluk River	82.49	4	P	P	09 48 45.3	-0.9
	baz=354						
N19K	Bonanza Creek	82.59	1	P	P	09 48 46.5	-0.3
	baz=358						
M13K	Dall Lake	82.60	5	P	P	09 48 47.2	+0.6
	baz=351						
MJAR	Matsushiro Arr	82.79	49	P	P	09 48 48.7	+0.5
	comp=Z,2.3nm,0.9s,baz=273,slow=6.9,SNR=2.7						
	comp=Z,2.3nm,0.9s						
MESA	MESA	82.84	355	P	P	09 48 47.5	-0.7
	baz=8.6						
P29M	Windy Craggy	83.00	352	P	P	09 48 48.4	-0.4
	baz=12						
DLBC	Dease Lake	83.13	348	P	P	09 48 50.0	+0.4
	baz=18						
O18K	Koktuh Hills	83.54	1	P	P	09 48 50.4	-1.2
	baz=358						
TKL	Tuckaleechee C	83.60	310	LR	LR	10 26 33.9	
	comp=Z,58nm,18.2s,baz=37,slow=36						
Q16K	King Salmon	84.68	2	P	P	09 48 57.2	-0.1
	baz=357						
GOGA	Godfrey	84.89	308	P	P	09 48 59.2	+0.3
	baz=49						
ECSD	EROS Data Cent	85.00	323	P	P	09 48 59.1	-0.2
	baz=42						
KDAK	Kodiak Island	85.64	360	P	P	09 49 02.0	-0.2
	baz=0.0						
CCM	Cathedral Cave	86.33	316	P	P	09 49 05.9	-0.1
	baz=45						
LAO	LASA Array	86.94	330	P	P	09 49 08.6	-0.3
	baz=35						
EGMT	Eagleton	87.19	333	P	P	09 49 09.8	-0.4
	baz=33						
LRAL	Lakeview Retre	87.33	310	P	P	09 49 10.9	-0.1
	baz=47						
BDFB	Brasilia	88.05	249	LR	LR	10 28 57.3	
	comp=Z,54nm,19.5s,baz=90,slow=36						
NEW	Newport	89.48	337	LR	LR	10 30 46.9	
	comp=Z,59nm,18.0s,baz=51,slow=36						
BOZ	Bozeman (W)	89.93	333	P	P	09 49 22.8	-0.5
	baz=32						
MIAR	Mount Ida	90.16	315	P	P	09 49 24.2	-0.1
	baz=43						
TUL3	Leonard	90.39	317	P	P	09 49 23.9	-1.5
	baz=42						
PDAR	Pinedale Array	91.52	330	P	P	09 49 31.5	+0.7
	comp=Z,0.4nm,0.9s,baz=64,slow=8.2,SNR=2.1						
	comp=Z,0.4nm,0.9s						
T25A	Trinidad	93.85	323	P	P	09 49 40.8	-0.9
	baz=37						
SDCO	Great Sand Dun	93.88	324	P	P	09 49 40.9	-1.0
	baz=36						
WHTX	Lake Whitney,	94.23	316	P	P	09 49 42.8	-0.4
	baz=41						
AMTX	Amarillo	94.28	320	P	P	09 49 43.5	-0.1
	baz=38						
WRA	Warramunga Arr	114.99	97	PKP	PKPdf	09 55 03.9	-1.3
	comp=Z,0.2nm,0.7s,baz=311,slow=1.3,SNR=6.9						
ASAR	Alice Springs	116.58	101	PKP	PKPdf	09 55 07.4	-0.9
	comp=Z,0.4nm,0.6s,baz=317,slow=1.1,SNR=7.3						
QSPA	South Pole Qui	126.78	180	PKP	PKPdf	09 55 25.6	-1.0
	comp=Z,1.2nm,0.7s,baz=276,slow=1.8,SNR=9.6						

IDC 24 09:50:45.7±3.7, 54°.68N×83°.67E, h0km, mbtmp2.5/1, ML2.5/1, Error ellipse: s-maj=25.3km s-min=13.9km az=151.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.00	137	I	I	09 56 20.0	
	0.1nm,0.9s,baz=319,slow=332,SNR=5.9						
ZALV	Zalesovo Beam	1.00	137	Pg	Pg	09 51 04.1	-0.7
	2.1nm,0.3s,baz=320,slow=15,SNR=13						
ZALV				Lg	Lg	09 51 19.2	
	6.6nm,0.3s,baz=316,slow=29,SNR=25						
KURBB	Kurchatov Arra	5.13	220	Lg	Lg	09 53 27.5	
	0.1nm,0.3s,baz=38,slow=27,SNR=2.1						
MKAR	Makanchi Array	7.95	187	Pn	Pn	09 52 42.9	+0.5
	0.1nm,0.3s,baz=8.5,slow=12,SNR=1.5						
	0.1nm,0.3s						

*UPA **24** 09:51:38.1±0.4, 5°.90N×77°.83W, h0km±956km, MW3.6*
*RSNC **24** 09:51:38.0±0.8, 5°.95N×77°.70W, h0km±9km, ML2.8*
ISC 24 09:51:38.2±1.1, 5°.94N±0°.04×77°.73W±0°.04, h10km, n22, σ1§48/27, 3D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	Bahia Solano	0.43	48	‖ iP	Pg	09 51 46.1	-0.6
SOLC				eS	Sg	09 51 52.0	-0.4
PIZC	Pizarro, Choco	1.03	159	eP	Pg	09 51 57.5	-0.7
PLMC	San Jos del P	1.77	125	eP	Pn	09 52 05.5	-3.5
DBBC	Dabeiba	1.85	55	eP	Pn	09 52 08.2	-2.0
APAC	Apartado, Choc	2.26	30	eP	Pn	09 52 15.3	-0.4
YOTC	Yotoco, Valle	2.38	145	eP	Pn	09 52 15.6	-1.9
GUY2C	Guyana, Caldas	2.46	107	eP	Pn	09 52 17.1	-1.8
ANIL	Santa Ana	2.73	122	eP	Pn	09 52 22.6	+0.2
UREC	San Jos de Ur	2.83	50	eP	Pn	09 52 22.6	-1.0
UREC				i		09 53 10.5	
	comp=Z,32nm,0.8s						
NORC	Norcasia	2.87	97	eP	Pn	09 52 22.8	-1.4
AZU	Azuero	3.13	306	‖ iP	Pn	09 52 27.6	-0.1
AZU				eS	Sn	09 53 05.2	+0.1
AZU	Azuero	3.13	306	eP	Pn	09 52 27.5	-0.1
ORTC	Ortega, Tolima	3.19	129	eP	Pn	09 52 28.5	-0.1
ZARC	Zaragoza, Cauc	3.25	61	eP	Pn	09 52 28.7	-0.6
ZARC				eS	Sn	09 53 08.6	+0.6
PTBC	PUERTO BERRIO,	3.31	79	eP	Pn	09 52 29.5	-0.7
CHIT3	Chitre	3.34	307	eP	Pn	09 52 30.6	+0.1
CHIT3				eS	Sn	09 53 10.6	+0.3
CACAO	El Cacao, Vera	3.41	294	‖ eP	Pn	09 52 31.3	-0.2
POPC	Popayan, Colom	3.53	163	eP	Pn	09 52 33.2	-0.2
PRAC	Prado	3.59	128	eP	Pn	09 52 34.9	+0.8
CHIC	Chingaza	4.19	108	eP	Pn	09 52 43.9	+1.3
GARC	Garzon, Huila	4.34	149	eP	Pn	09 52 45.8	+1.2
PAMC	Pamplona, Colo	5.19	74	eP	Pn	09 52 56.6	+0.1
PAMC				eS	Sn	09 54 01.2	+4.5

*VIE **24** 10:00:31.8±0.4, 48°.72N×10°.14E, h0km, mb2.1/5, ml2.5/8, Error ellipse: s-maj=3.3km s-min=3.0km az=160.0 29 km WSW of Noerdlingen Suspected Mining explosion.*
ISC 24 10:00:33.1±2.1, 48°.70N±0°.06×10°.00E±0°.09, h9km±13km, n9, σ1§10/19, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RETA	Reutte	1.32	157	ePg	Pg	10 00 58.0	-0.4
	3.6nm,0.1s						
RETA				eSg	Sb	10 01 15.3	+0.1
	7.4nm,0.2s						
DAVA	Damuels	1.42	183	ePn	Pb	10 00 59.1	-0.7
	1.4nm,0.1s						
DAVA				Sg	Sg	10 01 21.3	+2.6
	13nm,0.2s						
MOTA	Moosalm	1.55	151	i Pg	Pb	10 01 01.7	-0.3
	2.2nm,0.1s						
MOTA				eSg	Sg	10 01 23.1	+0.2
	5.0nm,0.2s						
SQTA	Sankt Quirin	1.69	151	i Pg	Pb	10 01 04.0	-0.5
	1.4nm,0.1s						
SQTA				eSg	Sg	10 01 27.3	-0.2
	9.2nm,0.3s						
WATA	Walderalm	1.73	142	ePn	Pn	10 01 02.4	-1.1
	1.9nm,0.2s						
WATA				eSg	Sn	10 01 26.6	+0.9
	9.7nm,0.2s						
FETA	Feichten	1.75	163	i Pn	Pn	10 01 03.6	-0.3
	1.5nm,0.2s						
FETA				eSn	Sn	10 01 26.4	0.0
	1.7nm,0.2s						
FETA				eSg	Sg	10 01 30.0	+0.5
	2.1nm,0.2s						
WTTA	Wattenberg	1.81	142	ePn	Pn	10 01 03.0	-1.7
	0.5nm,0.1s						
WTTA				ePg	Pb	10 01 06.4	-0.1
	2.6nm,0.3s						
WTTA				Sg	Sb	10 01 30.6	+1.2
	36nm,0.5s						
LESA	Schwarzleotal	2.21	124	ePg	Pb	10 01 12.7	-0.5
	2.1nm,0.2s						
LESA				eSg	Sb	10 01 41.8	+1.2
	2.3nm,0.3s						
CLL	Collm	3.25	35	eSg	Sb	10 02 12.0	+1.5
	comp=Z,7.0nm,0.5s						

*HEL **24** 10:10:36.2±0.1, 64°.70N×30°.77E, h0km, ML2.0, Explosion*
*IDC **24** 10:10:39.3±2.5, 64°.75N×30°.29E, h0km, mbtmp3.1/3, ML1.9/3, Error ellipse: s-maj=40.0km s-min=9.2km az=99.0*
*UPP **24** 10:10:49.0±2.6, 64°.79N×28°.54E, h0km, ML1.5*
ISC 24 10:10:36.7±1.1, 64°.73N±0°.03×30°.59E±0°.06, h0km, n32, σ1§99/46, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	Romuvaara	0.59	209	PG	Pg	10 10 47.2	-0.8
	baz=33						
RMF				MSG	Sg	10 10 55.4	-0.1
	comp=Z,26nm,0.2s						
RMF				SG	Sg	10 10 55.4	-0.1
KU6	Riekki	1.33	348	PG	Pg	10 11 01.2	-1.1
	baz=163						
KU6				MSG		10 11 17.9	
	comp=Z,20nm,0.2s						
KU6				SG	Sg	10 11 19.4	-0.2
MSF	Maaselka	1.35	332	PG	Pg	10 11 01.8	-0.8
MSF				SG	Sg	10 11 19.8	-0.4
OLKF	Oulanka, Finla	1.67	343	PG	Pn	10 11 07.3	+0.1
OLKF				MSG		10 11 27.8	
	comp=Z,13nm,0.2s						
OLKF				SN	Sn	10 11 30.1	+0.7
NIF	Nilsia	1.82	224	PG	Pn	10 11 07.8	-1.3
JOF	Joensuu	1.85	170	PG	Pn	10 11 08.4	-1.2
JOF				SN	Sn	10 11 33.5	-0.1
OBF4	Vikkela, Lumij	2.35	275	PB	Pn	10 11 17.9	+1.3
	baz=89						
OBF4				SB	Sn	10 11 47.5	+1.4
OBF4				MSG		10 11 48.0	
	comp=Z,8.8nm,0.2s						
RNF	Rovaniemi	2.67	317	PB	Pn	10 11 22.2	+1.2
	baz=132						
RNF				SN	Sn	10 11 53.0	-1.0
OBF0	Syolatti, Pyha	2.75	268	PG	Pb	10 11 26.6	0.0
OBF0				MSG		10 11 59.4	
	comp=Z,7.2nm,0.2s						
OBF0				SG	Sb	10 12 01.9	+1.2
TOF	Tornio	2.95	300	PB	Pn	10 11 26.2	+1.4
TOF				SN	Sn	10 11 58.3	-2.5
TOF				MSG		10 12 05.3	
	comp=Z,2.3nm,0.2s						
VRF	Varrio	3.06	353	PB	Pn	10 11 27.2	+0.9
VRF				MSG		10 12 07.4	
	comp=Z,2.8nm,0.2s						
SGF	Sodankyl	3.19	331	PB	Pn	10 11 30.3	+2.2
SGF				SN	Sn	10 12 04.2	-2.5
KALU	Kalix	3.24	294	P	Pn	10 11 30.1	+1.3
KALU	Kalix	3.24	294	PB	Pn	10 11 30.9	+2.1
KALU				SN	Sn	10 12 07.2	-0.8
KAF	Kangasniemi	3.25	218	PB	Pn	10 11 31.2	+2.2
RUF	Ruokolahti	3.40	193	PB	Pn	10 11 31.5	+0.5
	baz=11						
KLF	Kolari	3.70	316	PN	Pn	10 11 36.4	+1.4
PAJU	Pajala	3.84	310	PB	Pn	10 11 40.7	+3.7
SJUU	Sjulsmark	3.88	286	P	Pn	10 11 38.5	+1.1
SJUU				S	Sn	10 12 15.8	-7.9
FIA0	FINESS Array S	3.88	214	PN	Pn	10 11 38.5	+0.9
FIA0				SN	Sn	10 12 21.5	-2.3
FINES	FINESS Array B	3.88	214	Pn	Pn	10 11 37.6	+0.1
	comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=1.2						
FINES				Pg	Pb	10 11 46.7	+0.7
	comp=Z,0.2nm,0.3s,baz=32,slow=18,SNR=8.0						
FINES				Lg	Lg	10 12 37.2	
	comp=Z,0.6nm,0.3s,baz=30,slow=22,SNR=2.9						
	comp=Z,0.5nm,0.5s						
VAF	Ylistaro	3.89	248	PB	Pn	10 11 41.8	+4.2
ERTU	Ertsjaerv	3.93	302	P	Pn	10 11 39.5	+1.2
ERTU	Ertsjaerv	3.93	302	PN	Pn	10 11 39.6	+1.4
BURU	Burvik	3.96	272	P	Pn	10 11 38.8	+0.1
HARU	Harads	4.26	294	P	Pn	10 11 44.0	+1.2
HARU				S	Sn	10 12 21.4	-12
ODEU	Stanfors	4.27	270	P	Pn	10 11 42.7	-0.2
UMAU	Umeaa	4.40	263	PN	Pn	10 11 44.7	+0.1
	baz=72						
VJF	Virojoki	4.43	200	SG	Sb	10 12 53.0	+3.7
ARCES	ARCESS Array B	5.22	340	Pn	Pn	10 11 55.9	0.0
	comp=Z,0.1nm,0.3s,baz=156,slow=15,SNR=14						
ARCES				Lg	Lg	10 13 17.7	
	comp=Z,0.2nm,0.3s,baz=159,slow=28,SNR=1.8						
	comp=Z,0.3nm,0.2s						
I43RU	DUBNA INFRASON	8.66	155	I	I	11 06 10.0	
	baz=346,slow=332,SNR=3.0						
HFS	Hagfors	9.07	247	Pn	Pn	10 12 47.8	-1.0
	comp=Z,0.2nm,0.3s,baz=64,slow=13,SNR=4.0						
	comp=Z,6.6nm,1.0s						

*IDC **24** 10:11:05.4±2.8, 64°.80N×31°.00E, h0km, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=42.5km s-min=10.8km az=97.0*
*KOLA **24** 10:11:05.8, 64°.73N×30°.59E, h0km, ML2.1, Error ellipse: s-maj=22.3km s-min=12.9km az=140.0, Kostomuksha, Karelia*
ISC 24 10:11:06.9±1.3, 64°.82N±0°.08×30°.3E±0°.1, h10km, n9, σ0§83/13, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	3.01	20	P	Pn	10 11 55.1	+0.6
APA0				S	Sn	10 12 31.9	+1.4
APA	Apatity	3.04	23	S	Sn	10 12 30.6	-0.8
LVZ	Lovozero	3.56	28	S	Sn	10 12 42.5	-1.7
FINES	FINESS Array B	3.89	211	Pn	Pn	10 12 06.8	+0.1
	0.3nm,0.3s,baz=35,slow=18,SNR=5.1						
FINES				Pg	Pb	10 12 15.7	+0.2
	0.4nm,0.3s,baz=38,slow=14,SNR=6.2						
FINES				Lg	Lg	10 13 03.6	
	1.2nm,0.3s,baz=33,slow=32,SNR=6.4						
	1.5nm,0.8s						
ARCES	ARCESS Array B	5.09	341	P	Pn	10 12 23.9	+0.7
ARCES				S	Sn	10 13 21.6	-0.4
ARCES	ARCESS Array B	5.09	341	Pn	Pn	10 12 23.2	0.0
	0.4nm,0.3s,baz=150,slow=12,SNR=25						
ARCES				Lg	Lg	10 13 44.7	
	0.3nm,0.3s,baz=148,slow=32,SNR=2.4						
	1.0nm,0.3s						
VADS	Vadso	5.34	357	P	Pn	10 12 26.8	+0.2
VADS				S	Sn	10 13 28.1	+0.1
HFS	Hagfors	8.99	246	Pn	Pn	10 13 16.5	-0.2
	0.2nm,0.3s,baz=56,slow=13,SNR=1.7						
	0.7nm,0.4s						
NOA	NORSAR Array B	9.47	255	Pn	Pn	10 13 22.7	-0.5
	baz=55,slow=12,SNR=1.5						
	0.3nm,0.5s						

*IDC **24** 10:37:45.5±0.9, 30°.90S×178°.11W, h0km, mb3.9/6, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=27.2km s-min=20.6km az=102.0*
ISC 24 10:37:50.7±0.8, 30°.93S±0°.07×178°.2W±0°.2, h46km, n41, σ2§89/39, mb3.9/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.68	8	P	Pn	10 38 16.5	-1.1
GLKZ				S	Sn	10 38 33.8	-4.1
RAO	Raoul Island	1.69	8	Pn	Pn	10 38 17.2	-0.6
	109nm,0.3s,baz=74,slow=17,SNR=7.3						
RAO				Sn	Sn	10 38 34.9	-3.3
	600nm,0.3s,baz=75,slow=20,SNR=12						
MXZ	Matakaoa Point	7.22	203	P	Pn	10 39 33.0	-0.7
HAZ	Te Kaha	7.58	205	P	Pn	10 39 38.2	-0.3
HAZ				S	Sn	10 41 06.3	+3.2
PUZ	Puketiti	7.71	201	P	Pn	10 39 38.6	-1.7
WCZ	Waipu Caves	8.00	229	P	Pn	10 39 52.9	+8.6
OUZ	Omahuta	8.12	236	P	Pn	10 39 53.5	+7.6
TKGZ	Te Karaka	8.17	203	P	Pn	10 39 45.6	-1.0
URZ	Urewera	8.28	207	P	Pn	10 39 46.7	-1.3
URZ				S	Sn	10 41 19.7	-0.5
URZ	Urewera	8.28	207	Pn	Pn	10 39 46.5	-1.6
	0.7nm,0.3s,baz=358,slow=5.1,SNR=11						
URZ				Sn	Sn	10 41 19.4	-0.8
	3.2nm,0.3s,baz=288,slow=22,SNR=17						
	1.9nm,0.3s						
RIGZ	Rimuhau	8.44	202	P	Pn	10 39 49.1	-1.3
SNGZ	Shannon Statio	8.65	204	P	Pn	10 39 52.4	-0.8
MHGZ	Mahia Peninsul	8.81	200	P	Pn	10 39 52.8	-2.6
WHHZ	Waihua	8.95	204	P	Sn	10 41 38.3	+1.5
NMHZ	Naumai	9.12	205	P	Pn	10 39 58.9	-0.8
NMHZ				P	Sn	10 41 42.7	+1.6
ARHZ	Aropaoanui	9.20	204	P	Pn	10 39 58.3	-2.4
ARHZ				P	Sn	10 41 35.5	-7.4
MCHZ	McNeill Hill	9.47	205	P	Sn	10 41 47.8	-1.7
KWHZ	Kaweka Forest	9.55	206	P	Sn	10 41 50.6	-1.0
KAHZ	Kahuranaki	9.72	203	P	Sn	10 41 49.3	-6.3
KRHZ	Kereru	9.76	206	P	Sn	10 41 53.5	-3.2
PXZ	Pawanui	9.94	203	P	Sn	10 41 54.6	-6.3
PNHZ	Pukenui	10.06	206	P	Sn	10 42 00.7	-3.4
WPHZ	Waipukurau	10.11	204	P	Sn	10 41 59.3	-5.8
TSZ	Takapari Road	10.28	206	P	Sn	10 42 01.0	-8.4
ANWZ	Angora Road	10.45	203	P	Sn	10 42 09.9	-3.5
STKA	Stephens Creek	34.21	258	P	P	10 44 34.3	+2.3
	2.1nm,0.7s,baz=87,slow=11,SNR=5.4						
	2.1nm,0.7s						
ASAR	Alice Springs	42.93	268	P	P	10 45 46.7	+1.4
	0.7nm,0.4s,baz=105,slow=7.2,SNR=16						
	0.7nm,0.4s						
WRA	Warramunga Arr	43.97	273	P	P	10 45 54.9	+1.3
	2.0nm,0.6s,baz=111,slow=8.1,SNR=36						
	2.0nm,0.6s						
QSPA	South Pole Qui	59.18	180	P	P	10 47 49.2	+2.5
	1.1nm,0.7s,baz=354,slow=1.0,SNR=14						
	1.1nm,0.7s						
SNAA	Sanae	77.63	178	P	P	10 49 43.1	+1.3
	0.7nm,0.8s,baz=256,slow=18,SNR=2.7						
	0.7nm,0.8s						
H03S2	Juan Fernandez	80.30	124	T	T	12 18 56.7	
	baz=237,slow=74,SNR=87						
H03S1	Juan Fernandez	80.31	124	T	T	12 18 57.3	
	baz=237,slow=74,SNR=92						
H03S3	Juan Fernandez	80.32	124	T	T	12 18 57.1	
	baz=237,slow=74,SNR=119						
H03N3	Juan Fernandez	80.50	123	T	T	12 19 12.8	
	baz=241,slow=72,SNR=14						
H03N2	Juan Fernandez	80.50	123	T	T	12 19 11.2	
	baz=241,slow=72,SNR=27						
H03N1	Juan Fernandez	80.51	123	T	T	12 19 09.7	
	baz=241,slow=72,SNR=32						
NVAR	Mina Array Bea	88.73	43	P	P	10 50 41.4	+1.9
	0.4nm,0.9s,baz=221,slow=11,SNR=2.8						
	0.4nm,0.9s						
KBZ	Khabaz	145.28	303	PKPbc	PKiKP	10 57 25.9	-1.2
	0.8nm,0.6s,baz=80,slow=6.1,SNR=3.6						
FINES	FINESS Array B	145.59	340	PKPbc	PKPdf	10 57 22.9	-0.2
	2.1nm,0.5s,baz=74,slow=4.3,SNR=12						
HFS	Hagfors	149.73	348	PKPbc	PKPbc	10 57 33.7	-1.0
	2.5nm,0.8s,baz=321,slow=2.0,SNR=1.8						
TORD	Torodi Ar. Bea	162.30	180	PKPab	PKPab	10 58 36.6	+1.6
	0.5nm,0.6s,baz=158,slow=3.0,SNR=2.8						

*DJA **24** 10:47:46.8±0.1, 7°.S±1°.×12°.3E±°, h552km±1km, M6.2/148, mb6.4/148, mB6.5/139, MLv7.0/21, Mw6.7/96, Mw(mB)6.3/139, MwMwp6.1/124, Mwp6.1/124*
*BJI **24** 10:47:46.6±0.0, 7°.22S×123°.06E, h560km, mb6.0/96, mB6.1/78*
*MOS **24** 10:47:46.6±1.0, 7°.15S×123°.07E, h552km, mb6.2/68, Error ellipse: s-maj=7.2km s-min=4.2km az=116.8*
*IDC **24** 10:47:47.6±0.3, 7°.24S×123°.05E, h552km±3km, mb5.6/38, mbtmp6.4/45, Error ellipse: s-maj=8.9km s-min=5.7km az=66.0*
*NEIC **24** 10:47:47.9±2.0, 7°.22S±0°.08×123°.07E±0°.08, h554km±3km, mb6.1/323, Mwb6.7/61, Mwc6.7/123, Mww6.7/46, Error ellipse: s-maj=11.5km s-min=10.8km az=49.0, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}-1.31; $M_{\theta\theta}$1.09; $M_{\phi\phi}$0.23; $M_{r\theta}$-0.03; $M_{\theta\phi}$0.47; $M_{\phi r}$0.83; Fault plane solution: $M_0$1.55000×10^{19} NP1: ϕ_s221.84000°, δ57.07000°, λ-118.16000°. NP2: ϕ_s86.41000°, δ42.27000°, λ-53.91000°. Principal axes: T 1.3360, Plg8.0000°, Azm332.0000°; N 0.3590, Plg23.0000°, Azm238.0000°; P -1.6951, Plg65.0000°, Azm79.0000°;*
*GCMT **24** 10:47:49.9±0.1, 7°.25S×123°.02E, h557km, MW6.7/172, Moment Tensor Solution. s172,c460; s165,c333; Duration: 5s6 Moment tensor: Scale 10^{19}Nm; M_{rr}-1.23±.01; $M

Azm85.0000°;
NEIC ***24*** *10:47:49, 7°.20S×123°.09E, h569km*
KLM ***24*** *10:47:50, 6°.93S×123°.22E, h568km, mb6.8*
NEIC ***24*** *10:47:59.8, 7°.48S×123°.27E, h544km, Moment Tensor Solution. Duration: 12s2 Moment tensor: Scale 10^19Nm; Mrr-1.11; Mθθ1.09; Mφφ0.02; Mrθ0.16; Mθφ0.39; Mrφ0.66; Fault plane solution: M0 1.34000×10^19 NP1: φs=229.08000°, δ58.27000°, λ-116.93000°. NP2: φs=93.09000°, δ40.69000°, λ-53.78000°. Principal axes: T 1.2706, Plg9.0000°, Azm338.0000°; N 0.1386, Plg23.0000°, Azm244.0000°; P -1.4092, Plg65.0000°, Azm89.0000°;*

ISC 24 10:47:47.7±0.2, 7°.24S±0°.02×123°.04E±0°.02, h558km±1km, h560km:pP-P, n2555, σ2s 05/3116, mb6.0/447, 149C-110D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.60**	**210**	P	**P**	**10 48 55.6**	**-1.0**
MMRI	**Maumere**	**1.60**	**210**	P	**P**	**10 48 56.4**	**-0.2**
MMRI	**Maumere**	**1.60**	**210**	P	**P**	**10 48 55.3**	**-1.3**
MMRI				S	**S**	**10 49 49.4**	**-3.1**
MMRI	**Maumere**	**1.60**	**210**	⇓P	**P**	**10 48 55.4**	**-1.2**
BBSI	**Bau Bau**	**1.81**	**345**	P	**P**	**10 48 58.5**	**+1.1**
BBSI				S	**S**	**10 49 55.2**	**+1.2**
EDFI	**Ende, Flores**	**2.01**	**222**	P	**P**	**10 48 56.8**	**-1.5**
EDFI				S	**S**	**10 49 51.5**	**-4.2**
SOEI	**Soe**	**2.77**	**154**	P	**P**	**10 49 01.8**	**-0.5**
SOEI	**Soe**	**2.77**	**154**	P	**P**	**10 49 02.4**	**+0.1**
SOEI	**Soe**	**2.77**	**154**	P	**P**	**10 49 01.6**	**-0.6**
SOEI				S	**S**	**10 49 58.7**	**-4.2**
SOEI	**Soe**	**2.77**	**154**	S	**S**	**10 49 57.6**	**-5.2**
SOEI				P	P	10 48 56.4	-5.8
SOEI	**Soe**	**2.77**	**154**	⇑P	**P**	**10 49 01.7**	**-0.6**
BATI	**Baumata**	**3.01**	**168**	P	**P**	**10 49 03.0**	**-0.5**
BATI	**Baumata**	**3.01**	**168**	P	**P**	**10 49 03.5**	**0.0**
	38μm,0.5s,baz=42,slow=0.8,SNR=3167						
BATI				S	**S**	**10 49 59.8**	**-5.4**
	127μm,0.6s,baz=8.9,slow=5.5,SNR=5.2						
BKSI	**Bulukumba**	**3.47**	**303**	P	**P**	**10 49 06.6**	**+0.1**
BKSI				S	**S**	**10 50 10.1**	**-0.4**
BASI	**Baing, Sumba**	**3.83**	**219**	P	**P**	**10 49 07.7**	**-1.2**
BASI				S	**S**	**10 50 12.4**	**-2.7**
KAPI	**Kappang**	**3.95**	**304**	P	**P**	**10 49 11.1**	**+1.3**
KAPI	**Kappang**	**3.95**	**304**	P	**P**	**10 49 10.5**	**+0.7**
KAPI	**Kappang**	**3.95**	**304**	P	**P**	**10 49 10.9**	**+1.1**
KAPI				S	**S**	**10 50 19.1**	**+2.4**
KAPI	**Kappang**	**3.95**	**304**	⇓P	**P**	**10 49 11.2**	**+1.3**
KAPI	**Kappang**	**3.95**	**304**	*d*iP	**P**	**10 49 11.1**	**+1.3**
KAPI	**Kappang**	**3.95**	**304**	P	**P**	**10 49 10.9**	**+1.1**
	10μm,0.7s,baz=123,slow=6.1,SNR=700						
KAPI				S	**S**	**10 50 16.2**	**-0.5**
	1μm,0.7s,baz=62,slow=21,SNR=0.7						
TTSI	**Tana Toraja**	**5.26**	**322**	P	**P**	**10 49 21.0**	**+0.7**
	8μm,0.9s,96μm54μm48nm						
PLAI	**Plampang**	**5.45**	**253**	P	**P**	**10 49 20.2**	**-1.7**
PLAI	**Plampang**	**5.45**	**253**	P	**P**	**10 49 19.3**	**-2.6**
	46μm,0.8s,468μm331μm150nm						
NLAI	**Namlea**	**5.67**	**46**	P	**P**	**10 49 24.3**	**+0.5**
	32μm,0.6s,485μm257nm						
SANI	**Sanana**	**5.94**	**30**	P	**P**	**10 49 27.2**	**+1.0**
SANI	**Sanana**	**5.94**	**30**	P	**P**	**10 49 26.7**	**+0.5**
	23μm,0.7s,257μm221μm85nm						
SANI	**Sanana**	**5.94**	**30**	S	**S**	**10 50 45.4**	**-1.2**
SANI				P	P	10 49 17.4	-8.8
SANI	**Sanana**	**5.94**	**30**	⇑P	**P**	**10 49 26.7**	**+0.5**
LUWI	**Luwuk**	**6.17**	**357**	P	**P**	**10 49 29.6**	**+1.3**
LUWI	**Luwuk**	**6.17**	**357**	P	**P**	**10 49 30.0**	**+1.7**
LUWI	**Luwuk**	**6.17**	**357**	P	**P**	**10 49 29.2**	**+0.9**
	28μm,0.8s,409μm344μm101nm						
LUWI	**Luwuk**	**6.17**	**357**	P	P	10 49 20.7	-7.6
LUWI				S	**S**	**10 50 48.2**	**-2.2**
LUWI	**Luwuk**	**6.17**	**357**	⇑P	**P**	**10 49 29.6**	**+1.3**
TWSI	**Taliwang, Sumb**	**6.28**	**256**	P	**P**	**10 49 27.7**	**-1.6**
	13μm,0.6s,378μm251μm176nm						
BNDI	**Bandanaira**	**7.34**	**69**	P	**P**	**10 49 39.6**	**+0.3**
BNDI	**Bandanaira**	**7.34**	**69**	P	**P**	**10 49 38.3**	**-1.1**
	41μm,1.2s,357μm137μm228nm						
BNDI	**Bandanaira**	**7.34**	**69**	⇓P	**P**	**10 49 38.2**	**-1.1**
MRSI	**Marisa**	**7.75**	**352**	P	**P**	**10 49 43.5**	**+0.2**
	83μm,1.0s,749μm349μm243nm						
KMSI	**Cibinong**	**7.82**	**7**	P	**P**	**10 49 45.2**	**+1.2**
	168μm,0.7s,223μm541nm						
GTOI	**Gorontalo**	**7.83**	**360**	P	**P**	**10 49 45.1**	**+1.0**
	7μm,0.9s,145μm135μm						
DNP	**Denpasar**	**7.89**	**259**	P	**P**	**10 49 43.1**	**-1.5**
	37μm,0.8s,335μm203μm393nm						
LBMI	**Labuha**	**7.93**	**34**	P	**P**	**10 49 45.2**	**+0.2**
	20μm,0.6s,246μm167μm88nm						
IGBI	**Denpasar**	**7.97**	**258**	P	**P**	**10 49 43.4**	**-2.1**
	16μm,0.6s,318μm92μm111nm						
MPSI	**Mapaga**	**8.16**	**337**	P	**P**	**10 49 47.9**	**+0.6**
	26μm,0.9s,337μm277μm						
SAUI	**Saumlaki**	**8.22**	**96**	P	**P**	**10 49 47.4**	**-0.5**
SAUI	**Saumlaki**	**8.22**	**96**	P	**P**	**10 49 47.4**	**-0.5**
SAUI	**Saumlaki**	**8.22**	**96**	P	**P**	**10 49 46.6**	**-1.3**
	141μm,0.8s,275μm						
SAUI	**Saumlaki**	**8.22**	**96**	⇑P	**P**	**10 49 46.6**	**-1.3**
BKB	**Balikpapan**	**8.54**	**314**	P	**P**	**10 49 54.3**	**+3.2**
BKB	**Balikpapan**	**8.54**	**314**	P	**P**	**10 49 53.9**	**+2.9**
BKB	**Balikpapan**	**8.54**	**314**	P	**P**	**10 49 54.2**	**+3.2**
	12μm,1.2s,195μm224μm						
BKB	**Balikpapan**	**8.54**	**314**	⇑P	**P**	**10 49 54.3**	**+3.2**
TOLI2	**Tolitoli**	**8.60**	**345**	P	**P**	**10 49 51.8**	**+0.1**
TOLI2	**Tolitoli**	**8.60**	**345**	P	**P**	**10 49 52.2**	**+0.5**
ABJI	**Asem Bagus**	**8.75**	**266**	P	**P**	**10 49 52.6**	**-0.6**
	7μm,1.0s,124μm167μm						
JAGI	**Jajag, Banyuwa**	**8.89**	**262**	P	**P**	**10 49 52.3**	**-2.3**
JAGI	**Jajag, Banyuwa**	**8.89**	**262**	P	**P**	**10 49 53.2**	**-1.4**
JAGI	**Jajag, Banyuwa**	**8.89**	**262**	P	**P**	**10 49 52.1**	**-2.5**
	7μm,0.5s,145μm103μm						
JAGI	**Jajag, Banyuwa**	**8.89**	**262**	⇓P	**P**	**10 49 52.3**	**-2.3**
JAGI				⇓S	**S**	**10 51 36.0**	**-2.7**
BBKI	**Banjar Baru**	**8.99**	**294**	P	**P**	**10 49 57.5**	**+1.9**
	12μm,1.3s,138μm85μm						
TNTI	**Ternate**	**9.05**	**29**	P	**P**	**10 49 55.7**	**-0.6**
TNTI	**Ternate**	**9.05**	**29**	P	**P**	**10 49 56.2**	**-0.1**
TNTI	**Ternate**	**9.05**	**29**	P	**P**	**10 49 55.5**	**-0.8**
	7μm,0.6s,107μm106μm						
TNTI	**Ternate**	**9.05**	**29**	⇑P	**P**	**10 49 55.7**	**-0.6**
BLJI	**Banyuglugur**	**9.38**	**266**	P	**P**	**10 49 58.2**	**-1.3**
	9μm,0.7s,89μm102μm						
MTN	**Manton Dam**	**9.72**	**126**	P	**P**	**10 50 02.2**	**-0.7**
	baz=9.7,SNR=1000						
MTN	**Manton Dam**	**9.72**	**126**	P	**P**	**10 50 02.2**	**-0.7**
MTN	**Manton Dam**	**9.72**	**126**	P	**P**	**10 50 02.2**	**-0.7**
MTN	**Manton Dam**	**9.72**	**126**	⇑P	**P**	**10 50 02.2**	**-0.7**
KNRA	**Kununurra**	**10.08**	**147**	P	**P**	**10 50 05.8**	**-0.8**
	baz=10,SNR=1000						
KNRA	**Kununurra**	**10.08**	**147**	P	**P**	**10 50 05.7**	**-0.8**
KNRA	**Kununurra**	**10.08**	**147**	P	**P**	**10 50 05.8**	**-0.8**
FAKI	**Fak Fak**	**10.12**	**65**	P	**P**	**10 50 05.6**	**-1.5**
FAKI	**Fak Fak**	**10.12**	**65**	P	**P**	**10 50 06.7**	**-0.4**
FAKI	**Fak Fak**	**10.12**	**65**	P	**P**	**10 50 04.6**	**-2.5**
	8μm,0.7s,96μm43μm						
FAKI	**Fak Fak**	**10.12**	**65**	⇓P	**P**	**10 50 04.5**	**-2.7**
FAKI				⇑S	**S**	**10 51 57.7**	**-4.0**
MTKI	**Muara Teweh, K**	**10.25**	**307**	P	**P**	**10 50 08.7**	**+0.3**
	8μm,1.2s,130μm116μm						
SWI	**Sorong**	**10.36**	**53**	P	**P**	**10 50 09.0**	**-0.5**
	9μm,1.4s,96μm56μm						
SIJI	**Sorong**	**10.36**	**53**	P	**P**	**10 50 09.2**	**-0.3**
	2μm,0.5s,baz=244,slow=6.0,SNR=292						
SIJI				S	**S**	**10 52 02.0**	**-4.1**
	1μm,0.6s,baz=229,slow=19,SNR=21						
SIJI				ScP	**ScP**	**10 57 58.5**	**-1.1**
	51nm,0.5s,baz=191,slow=14,SNR=6.0						
BWJI	**Bawean**	**10.41**	**277**	P	**P**	**10 50 09.5**	**-0.5**
	4μm,1.2s,58μm45μm						
GRJI	**Gresik**	**10.49**	**271**	P	**P**	**10 50 08.7**	**-2.1**
	5μm,1.0s,50μm53μm						
KDU	**Kakadu**	**10.75**	**121**	P	**P**	**10 50 12.2**	**-1.3**
	baz=11,SNR=1000						
KDU	**Kakadu**	**10.75**	**121**	P	**P**	**10 50 12.5**	**-0.9**
KDU	**Kakadu**	**10.75**	**121**	⇑P	**P**	**10 50 12.1**	**-1.3**
SGSI	**Sangihe**	**11.14**	**13**	P	**P**	**10 50 16.4**	**-1.1**
	14μm,0.6s,176μm119μm						
KMPI	**Kaimana, Papua**	**11.19**	**72**	P	**P**	**10 50 16.1**	**-2.0**
	6μm,1.0s,82μm37μm						
NGJI	**Ngawi**	**11.49**	**269**	P	**P**	**10 50 19.9**	**-1.2**
	1μm,0.9s,24μm40μm						
WOJI	**Wonogiri, Jawa**	**12.03**	**266**	P	**P**	**10 50 23.4**	**-3.2**
	2μm,1.1s,31μm23μm						
UWJI	**Ujung Watu**	**12.04**	**273**	P	**P**	**10 50 25.1**	**-1.6**
	831nm,0.7s,13μm38μm						
UGM	**Wanagama**	**12.43**	**266**	P	**P**	**10 50 30.4**	**-0.4**
UGM	**Wanagama**	**12.43**	**266**	P	**P**	**10 50 31.2**	**+0.4**
UGM	**Wanagama**	**12.43**	**266**	P	**P**	**10 50 28.6**	**-2.2**
	4μm,1.2s,48μm23μm						
RKPI	**Ransiki, Papua**	**12.47**	**63**	P	**P**	**10 50 30.8**	**-0.5**
	13μm,0.8s,109μm37μm						
SMRI	**Semarang**	**12.51**	**270**	P	**P**	**10 50 31.0**	**-0.6**
SMRI	**Semarang**	**12.51**	**270**	P	**P**	**10 50 32.7**	**+1.1**
SMRI	**Semarang**	**12.51**	**270**	P	**P**	**10 50 30.6**	**-1.0**
	2μm,1.4s,31μm32μm						
SMRI	**Semarang**	**12.51**	**270**	⇓P	**P**	**10 50 30.2**	**-1.4**
YOGI	**Yogyakarta**	**12.65**	**267**	P	**P**	**10 50 31.5**	**-1.6**
	2μm,0.8s,30μm						
MYLDM	**Lahad Datu**	**13.15**	**340**	P	**P**	**10 50 39.2**	**+1.0**
MYLDM	**Lahad Datu**	**13.15**	**340**	⇑P	**P**	**10 50 39.1**	**+1.0**
SPMM	**Sapulut**	**13.56**	**331**	P	**P**	**10 50 43.0**	**+0.4**
STKI	**Sintang**	**13.63**	**302**	P	**P**	**10 50 43.1**	**-0.1**
	4μm,1.0s,72μm101μm						
KPJI	**Karang Pucung**	**14.00**	**269**	P	**P**	**10 50 46.1**	**-0.8**
	4μm,0.6s,72μm49μm						
MBWA	**Marble Bar**	**14.20**	**193**	P	**P**	**10 50 47.5**	**-1.4**
MBWA	**Marble Bar**	**14.20**	**193**	P	**P**	**10 50 47.5**	**-1.4**
MBWA	**Marble Bar**	**14.20**	**193**	P	**P**	**10 50 47.5**	**-1.4**
MBWA				P	**P**	**10 50 47.5**	**-1.4**
MBWA				S	**S**	**10 53 14.0**	**-4.0**
MBWA				S	**S**	**10 53 14.0**	**-4.0**
MBWA	**Marble Bar**	**14.20**	**193**	⇑P	**P**	**10 50 47.5**	**-1.4**
DAV	**Davao City (W)**	**14.44**	**10**	⇑*i*P	**P**	**10 50 50.0**	**-1.5**
DAV	**Davao City (W)**	**14.44**	**10**	P	**P**	**10 50 50.9**	**-0.6**
DAV	**Davao City (W)**	**14.44**	**10**	P	**P**	**10 50 53.6**	**+2.1**
DAV	**Davao City (W)**	**14.44**	**10**	P	**P**	**10 50 50.2**	**-1.3**
DAV				P	**P**	**10 50 50.2**	**-1.3**
DAV				S	**S**	**10 53 22.0**	**-0.7**
DAV				S	**S**	**10 53 22.0**	**-0.7**
DAV	**Davao City (W)**	**14.44**	**10**	⇑P	**P**	**10 50 50.2**	**-1.3**
DAV	**Davao City (W)**	**14.44**	**10**	P	**P**	**10 50 50.2**	**-1.3**
	3μm,0.7s,baz=117,slow=1.8,SNR=37						
DAV				S	**S**	**10 53 20.4**	**-2.3**
	1μm,0.6s,baz=227,slow=20,SNR=1.3						
SBUM	**Sibu**	**14.47**	**311**	P	**P**	**10 50 52.1**	**+0.4**
SBUM	**Sibu**	**14.47**	**311**	P	**P**	**10 50 53.0**	**+1.3**
SBUM	**Sibu**	**14.47**	**311**	⇑P	**P**	**10 50 52.0**	**+0.2**
CMJI	**Cimerak**	**14.48**	**267**	P	**P**	**10 50 49.5**	**-2.3**
	7μm,0.7s,65μm26μm						
PSA00	**Pilbara Seismi**	**14.58**	**192**	P	**P**	**10 50 51.4**	**-1.3**
PSA00	**Pilbara Seismi**	**14.58**	**192**	P	**P**	**10 50 51.4**	**-1.3**
PSA00	**Pilbara Seismi**	**14.58**	**192**	P	**P**	**10 50 51.4**	**-1.3**
JCJI	**Jatiwangi**	**14.69**	**272**	P	**P**	**10 50 53.2**	**-0.7**
	5μm,1.0s,60μm46μm						
KKM	**Kota Kinabalu**	**14.85**	**333**	P	**P**	**10 50 54.7**	**-1.1**
KKM	**Kota Kinabalu**	**14.85**	**333**	P	**P**	**10 50 55.6**	**-0.1**
KKM	**Kota Kinabalu**	**14.85**	**333**	⇑P	**P**	**10 50 54.4**	**-1.3**
BBJI	**Bungbulang**	**15.27**	**268**	P	**P**	**10 50 58.8**	**-1.1**
LEM	**Lembang**	**15.31**	**271**	P	**P**	**10 50 59.3**	**-1.2**
	4μm,0.9s,42μm40μm						
LEM	**Lembang**	**15.31**	**271**	P	**P**	**10 51 00.3**	**-0.1**
	2μm,0.8s,baz=60,slow=7.6,SNR=67						
LEM				S	**S**	**10 53 34.9**	**-3.8**
	407nm,0.6s,baz=353,slow=16,SNR=1.5						
LEM				P4KP		11 33 59.4	
	15nm,0.5s,baz=151,slow=7.6,SNR=4.8						
KSM	**Kuching**	**15.38**	**304**	P	**P**	**10 51 00.8**	**-0.1**
KSM	**Kuching**	**15.38**	**304**	P	**P**	**10 51 01.8**	**+0.9**
KSM	**Kuching**	**15.38**	**304**	P	**P**	**10 51 02.0**	**+1.1**
KSM	**Kuching**	**15.38**	**304**	⇑P	**P**	**10 51 00.6**	**-0.3**
CNJI	**Cibinong**	**15.79**	**269**	P	**P**	**10 51 02.6**	**-2.4**
	3μm,0.8s,32μm15μm						
CBJI	**Citeko**	**16.10**	**272**	P	**P**	**10 51 06.2**	**-1.8**
	5μm,0.7s,74μm46μm						
WB0	**Warramunga Arr**	**16.62**	**140**	P	**P**	**10 51 11.5**	**-1.2**
I07AU	**WARRAMUNGA INF**	**16.70**	**140**	P	**P**	**10 51 10.0**	**-3.5**
	baz=313,slow=18,SNR=16						
WRA	**Warramunga Arr**	**16.72**	**140**	P	**P**	**10 51 12.3**	**-1.3**
WRA	**Warramunga Arr**	**16.72**	**140**	P	**P**	**10 51 12.8**	**-0.7**
	1μm,0.4s,baz=314,slow=11,SNR=1272						
WRA				S	**S**	**10 54 00.8**	**-0.6**
	1μm,0.9s,baz=310,slow=18,SNR=16						
WRA				ScP	**ScP**	**10 58 09.5**	**-0.7**
	150nm,0.7s,baz=319,slow=2.2,SNR=2.7						
WRA				PKiKP	**PKiKP**	**11 03 19.3**	**-1.5**
	15nm,1.0s,baz=310,slow=1.2,SNR=4.6						
WRA				P3KPbc		11 25 34.3	
	1.6nm,1.0s,baz=160,slow=1.5,SNR=5.4						
WRA				P4KP		11 34 00.8	
	3.3nm,0.7s,baz=326,slow=4.5,SNR=12						
WRAB	**Tennant Creek**	**16.72**	**140**	P	**P**	**10 51 12.7**	**-0.9**
WRAB	**Tennant Creek**	**16.72**	**140**	P	**P**	**10 51 13.2**	**-0.4**
WRAB	**Tennant Creek**	**16.72**	**140**	⇑P	**P**	**10 51 12.5**	**-1.1**
WRAB	**Tennant Creek**	**16.72**	**140**	P	**P**	**10 51 12.7**	**-0.9**
WB2	**Warramunga Arr**	**16.73**	**140**	P	**P**	**10 51 12.7**	**-0.9**
	baz=17						
WB2	**Warramunga Arr**	**16.73**	**140**	P	**P**	**10 51 12.7**	**-0.9**
WR0	**Warramunga Arr**	**16.86**	**140**	P	**P**	**10 51 13.9**	**-1.0**
MMPI	**Merauke**	**17.22**	**95**	P	**P**	**10 51 17.0**	**-1.2**
	27μm,1.1s,175μm93μm						
CGJI	**Cibinong**	**17.23**	**271**	P	**P**	**10 51 16.6**	**-1.7**
	10μm,0.8s,114μm41μm						
XMI	**Christmas Isla**	**17.44**	**258**	P	**P**	**10 51 21.1**	**+0.9**
XMI	**Christmas Isla**	**17.44**	**258**	⇑P	**P**	**10 51 19.9**	**-0.3**
XMIS	**Christmas Isla**	**17.48**	**258**	P	**P**	**10 51 19.7**	**-0.9**
XMIS	**Christmas Isla**	**17.48**	**258**	P	**P**	**10 51 20.6**	**0.0**
GIRL	**Giralia**	**17.50**	**208**	P	**P**	**10 51 20.8**	**+0.1**
	baz=18,SNR=1000						
GIRL	**Giralia**	**17.50**	**208**	P	**P**	**10 51 20.8**	**+0.1**
GIRL	**Giralia**	**17.50**	**208**	P	**P**	**10 51 21.3**	**+0.6**
GIRL	**Giralia**	**17.50**	**208**	⇑P	**P**	**10 51 20.7**	**0.0**
PPBI	**Pangkal Pinang**	**17.58**	**286**	P	**P**	**10 51 22.5**	**+1.0**
	6μm,1.2s,96μm77μm						
GENI	**Genyem**	**17.67**	**76**	P	**P**	**10 51 22.9**	**+0.5**
GENI	**Genyem**	**17.67**	**76**	P	**P**	**10 51 20.7**	**-1.7**
	8μm,0.9s,80μm103μm						
GENI	**Genyem**	**17.67**	**76**	⇓P	**P**	**10 51 21.5**	**-0.9**
TABU	**Tabubil**	**18.18**	**85**	P	**P**	**10 51 27.4**	**+0.3**
JAY	**Jayapura**	**18.21**	**76**	P	**P**	**10 51 25.1**	**-2.2**
	2μm,1.1s,27μm58μm						
KLI	**Kotabumi**	**18.24**	**276**	P	**P**	**10 51 25.2**	**-2.3**
	1μm,0.9s,25μm33μm						
WRKA	**Warakurna**	**18.39**	**165**	P	**P**	**10 51 28.2**	**-0.6**
	baz=18,SNR=1000						
WRKA	**Warakurna**	**18.39**	**165**	P	**P**	**10 51 28.7**	**-0.2**
WRKA	**Warakurna**	**18.39**	**165**	⇑P	**P**	**10 51 28.2**	**-0.6**
KASI	**Kota Agung**	**18.51**	**274**	P	**P**	**10 51 28.4**	**-1.6**
	3μm,1.3s,27μm28μm						
PMBI	**Palembang**	**18.69**	**282**	P	**P**	**10 51 34.4**	**+2.8**
PMBI	**Palembang**	**18.69**	**282**	P	**P**	**10 51 35.4**	**+3.7**
PMBI	**Palembang**	**18.69**	**282**	P	**P**	**10 51 32.8**	**+1.1**
	14μm,1.0s,142μm66μm						
PMBI	**Palembang**	**18.69**	**282**	⇑P	**P**	**10 51 33.1**	**+1.4**
LWLI	**Liwa**	**19.00**	**276**	P	**P**	**10 51 33.1**	**-1.5**
	2μm,0.7s,33μm31μm						
AS31	**Alice Springs**	**19.38**	**149**	P	**P**	**10 51 37.6**	**-0.3**
ASAR	**Alice Springs**	**19.38**	**149**	P	**P**	**10 51 37.3**	**-0.5**
ASAR	**Alice Springs**	**19.38**	**149**	P	**P**	**10 51 37.5**	**-0.3**
	990nm,0.6s,baz=320,slow=8.2,SNR=2566						
ASAR				S	**S**	**10 54 42.0**	**-2.6**
	833nm,0.9s,baz=328,slow=16,SNR=7.6						
ASAR				ScP	**ScP**	**10 58 15.6**	**-0.4**
	353nm,0.6s,baz=342,slow=2.2,SNR=11						
ASAR				PKiKP	**PKiKP**	**11 03 19.7**	**-2.0**
	11nm,0.7s,baz=352,slow=1.9,SNR=2.6						
ASAR				P3KPbc		11 25 25.2	
	1.5nm,0.8s,baz=157,slow=1.1,SNR=5.5						
ASAR				P4KP		11 34 12.2	
	5.0nm,0.8s,baz=316,slow=4.4,SNR=18						
DSRI	**Dabo**	**19.60**	**289**	P	**P**	**10 51 39.8**	**-0.1**
	2μm,1.2s,26μm52μm						
MEEK	**Meekatharra**	**19.74**	**192**	P	**P**	**10 51 40.0**	**-1.0**
	baz=20,SNR=1000						
MEEK	**Meekatharra**	**19.74**	**192**	P	**P**	**10 51 40.2**	**-0.9**
JMBI	**JAMBI**	**20.12**	**285**	P	**P**	**10 51 45.4**	**+0.7**
	3μm,1.0s,35μm						
TPRI	**Tanjung Pinang**	**20.17**	**293**	P	**P**	**10 51 45.6**	**+0.5**
	5μm,0.9s,44μm51μm						
MNAI	**Manna**	**20.18**	**277**	P	**P**	**10 51 44.8**	**-0.5**
MNAI	**Manna**	**20.18**	**277**	P	**P**	**10 51 45.6**	**+0.3**
MNAI	**Manna**	**20.18**	**277**	P	**P**	**10 51 44.4**	**-0.9**
	2μm,0.8s,24μm34μm						
MNAI	**Manna**	**20.18**	**277**	⇑P	**P**	**10 51 43.5**	**-1.7**
QIS	**Mount Isa**	**20.80**	**131**	P	**P**	**10 51 50.1**	**-0.6**
	baz=21,SNR=953						
QIS	**Mount Isa**	**20.80**	**131**	P	**P**	**10 51 50.5**	**-0.2**
COEN	**Coen**	**20.87**	**110**	P	**P**	**10 51 50.6**	**-0.8**
	baz=21						
COEN	**Coen**	**20.87**	**110**	P	**P**	**10 51 50.7**	**-0.8**
COEN	**Coen**	**20.87**	**110**	P	**P**	**10 51 51.1**	**-0.3**
COEN	**Coen**	**20.87**	**110**	⇓P	**P**	**10 51 50.6**	**-0.8**
MYKOM	**Kota Tinggi**	**21.15**	**294**	P	**P**	**10 51 54.5**	**+0.5**
MYKOM	**Kota Tinggi**	**21.15**	**294**	⇑P	**P**	**10 51 54.6**	**+0.6**
TGY	**Tagaytay City**	**21.31**	**354**	P	**P**	**10 51 56.4**	**+1.0**
	6μm,0.6s,baz=202,slow=3.2,SNR=68						
	6μm,0.6s						
SDSI	**Sungai Dareh**	**22.44**	**285**	P	**P**	**10 52 04.6**	**-0.9**
	2μm,1.0s,28μm35μm						
MORW	**Morawa**	**22.69**	**196**	P	**P**	**10 52 06.6**	**-1.0**
	baz=23,SNR=1000						
MORW	**Morawa**	**22.69**	**196**	P	**P**	**10 52 06.7**	**-0.9**
MORW	**Morawa**	**22.69**	**196**	P	**P**	**10 52 06.9**	**-0.7**
MORW	**Morawa**	**22.69**	**196**	⇑P	**P**	**10 52 06.5**	**-1.0**
BKNI	**Bangkinang**	**23.20**	**288**	P	**P**	**10 52 12.4**	**+0.1**
BKNI	**Bangkinang**	**23.20**	**288**	P	**P**	**10 52 13.4**	**+1.1**
BKNI	**Bangkinang**	**23.20**	**288**	P	**P**	**10 52 11.6**	**-0.7**
	5μm,0.8s,51μm42μm						
BKNI	**Bangkinang**	**23.20**	**288**	P	**P**	**10 52 09.5**	**-2.8**
BKNI	**Bangkinang**	**23.20**	**288**	⇑P	**P**	**10 52 11.9**	**-0.4**
PPSI	**Pulau Pagai**	**23.37**	**280**	P	**P**	**10 52 11.3**	**-2.5**
	2μm,1.1s,18μm22μm						
MTSU	**Mount Surprise**	**23.38**	**120**	P	**P**	**10 52 13.7**	**-0.1**
	baz=23,SNR=386						
MTSU	**Mount Surprise**	**23.38**	**120**	P	**P**	**10 52 13.9**	**+0.1**
OOD	**Oodnadatta**	**23.69**	**151**	P	**P**	**10 52 16.0**	**-0.5**
FORT	**Forrest**	**23.88**	**169**	P	**P**	**10 52 17.4**	**-0.8**
	baz=24,SNR=1000						
FORT	**Forrest**	**23.88**	**169**	P	**P**	**10 52 17.3**	**-0.8**
FORT	**Forrest**	**23.88**	**169**	P	**P**	**10 52 17.3**	**-0.8**
FORT	**Forrest**	**23.88**	**169**	⇑P	**P**	**10 52 17.3**	**-0.8**
DLV	**T Lat**	**23.93**	**323**	P	**P**	**10 52 19.3**	**+0.3**
DLV	**T Lat**	**23.93**	**323**	P	**P**	**10 52 21.3**	**+2.3**
DLV	**T Lat**	**23.93**	**323**	⇑P	**P**	**10 52 19.3**	**+0.3**
PMG	**Port Moresby**	**23.96**	**97**	P	**P**	**10 52 18.5**	**-0.5**
PMG	**Port Moresby**	**23.96**	**97**	⇓P	**P**	**10 52 17.9**	**-1.1**
PMG	**Port Moresby**	**23.96**	**97**	P	**P**	**10 52 18.1**	**-0.9**
	876nm,0.7s,baz=2.0,slow=3.0,SNR=97						
PMG				S	**S**	**10 55 56.2**	**-0.9**
	200nm,1.0s,baz=131,slow=22,SNR=1.2						
PMG				ScP	**ScP**	**10 58 29.5**	**+1.7**
	228nm,0.9s,baz=288,slow=3.6,SNR=3.8						
	876nm,0.7s						
BLDU	**Ballidu**	**24.00**	**194**	P	**P**	**10 52 18.0**	**-1.1**
	baz=24,SNR=1000						
BLDU	**Ballidu**	**24.00**	**194**	P	**P**	**10 52 18.0**	**-1.1**
KMBL	**Kambalda**	**24.03**	**182**	P	**P**	**10 52 18.4**	**-1.0**
	baz=24,SNR=959						
KMBL	**Kambalda**	**24.03**	**182**	P	**P**	**10 52 18.7**	**-0.7**
SISI	**Saibi**	**24.59**	**283**	P

GUMO	**Guam**	**29.97 46**	P	**P**	**10 53 11.4**	**-0.2**
GUMO			pmax	pmax		
	comp=Z,2μm,0.9s					
STKA	**Stephens Creek**	**30.00 147**	P	**P**	**10 53 11.4**	**-0.3**
	baz=30,SNR=233					
STKA	**Stephens Creek**	**30.00 147**	P	**P**	**10 53 11.9**	**+0.2**
STKA			IAmb	IAmb	10 53 15.9	
	comp=Z,474nm,0.7s					
STKA	**Stephens Creek**	**30.00 147**	P	**P**	**10 53 11.8**	**+0.1**
STKA	**Stephens Creek**	**30.00 147**	P	**P**	**10 53 12.0**	**+0.2**
STKA			pmax	pmax		
	comp=Z,474nm,0.7s					
STKA	**Stephens Creek**	**30.00 147**	P	**P**	**10 53 11.9**	**+0.2**
	comp=Z,2μm,0.7s,baz=317,slow=9.2,SNR=1074					
STKA			S	**S**	**10 57 29.1**	**-1.8**
	comp=Z,315nm,0.7s,baz=292,slow=23,SNR=6.2					
STKA			P3KP		11 25 58.1	
	comp=Z,3.0nm,0.8s,baz=92,slow=1.7,SNR=3.3					
	comp=Z,2μm,0.7s					
NAYO	**Nakonayok**	**30.38 315**	P	**P**	**10 53 15.7**	**+0.5**
TPUB	**Ta-pu**	**30.45 356**	P	**P**	**10 53 14.6**	**-1.1**
TPUB	**Ta-pu**	**30.45 356**	P	**P**	**10 53 15.9**	**+0.3**
YULB	**Yu-li**	**30.50 357**	P	**P**	**10 53 14.3**	**-1.8**
YULB			IAmb	IAmb	10 53 20.3	
	comp=Z,451nm,0.7s					
YULB	**Yu-li**	**30.50 357**	P	**P**	**10 53 14.2**	**-1.8**
HKPS	**Hong Kong Po S**	**30.61 344**	P	**P**	**10 53 18.3**	**+1.3**
HKPS			IAmb	IAmb	10 53 19.0	
	comp=Z,631nm,0.9s					
HKPS	**Hong Kong Po S**	**30.61 344**	P	**P**	**10 53 18.3**	**+1.3**
HKC	**Hong Kong Obse**	**30.62 344**	⇑P	**P**	**10 53 17.0**	**-0.1**
MCO	**Taipa Grande**	**30.63 343**	P	**P**	**10 53 17.0**	**-0.2**
RK1H	**Rockhampton Ha**	**30.87 124**	P	**P**	**10 53 18.3**	**-1.0**
SSLB	**Suanglung**	**30.91 356**	P	**P**	**10 53 17.7**	**-1.9**
SSLB			IAmb	IAmb	10 53 29.3	
	comp=Z,450nm,0.8s					
SSLB	**Suanglung**	**30.91 356**	P	**P**	**10 53 18.5**	**-1.1**
GHSS	**Government Hou**	**31.04 155**	P	**P**	**10 53 21.9**	**+1.3**
RMQ	**Roma**	**31.06 131**	P	**P**	**10 53 21.4**	**+0.6**
	baz=31,SNR=180					
RMQ	**Roma**	**31.06 131**	P	**P**	**10 53 22.3**	**+1.4**
NACB	**Ninganchiao**	**31.26 357**	P	**P**	**10 53 20.8**	**-1.7**
NACB			IAmb	IAmb	10 53 24.7	
	comp=Z,494nm,1.1s					
NACB	**Ninganchiao**	**31.26 357**	P	**P**	**10 53 21.5**	**-1.0**
YOJ	**Yonaguni jima**	**31.51 360**	P	**P**	**10 53 24.1**	**-0.6**
YOJ	**Yonaguni jima**	**31.51 360**	P	**P**	**10 53 25.2**	**+0.5**
YOJ	**Yonaguni jima**	**31.51 360**	⇑P	**P**	**10 53 24.6**	**-0.1**
YOJ	**Yonaguni jima**	**31.51 360**	P	**P**	**10 53 24.1**	**-0.6**
YOJ			pmax	pmax		
	comp=Z,2μm,1.4s					
GZH	**Guangzhou**	**31.60 343**	⇑*i*P	**P**	**10 53 28.5**	**+3.0**
GZH			PcP	**PcP**	**10 56 01.6**	**+0.9**
GZH			sP	**sP**	**10 56 08.6**	**+5.7**
GZH			S	**S**	**10 58 01.0**	**+5.5**
GZH			ScS	**ScS**	**11 02 51.6**	**+0.6**
GZH			pmax	pmax		
	comp=Z,500nm,1.0s					
YHNB	**Yeheng**	**31.76 357**	P	**P**	**10 53 26.0**	**-0.9**
YHNB			IAmb	IAmb	10 53 28.7	
	comp=Z,959nm,1.3s					
YHNB	**Yeheng**	**31.76 357**	P	**P**	**10 53 25.9**	**-1.0**
KNMB	**Chin-men Tao**	**31.84 352**	P	**P**	**10 53 27.7**	**+0.3**
KNMB			IAmb	IAmb	10 53 30.2	
	comp=Z,1μm,1.9s					
JMJ	**Miyako jima 2**	**31.94 4**	P	**P**	**10 53 29.2**	**+0.9**
TATO	**Taipei**	**32.06 357**	P	**P**	**10 53 28.1**	**-1.3**
TATO			IAmb	IAmb	10 53 30.6	
	comp=Z,545nm,0.7s					
TATO	**Taipei**	**32.06 357**	P	**P**	**10 53 28.1**	**-1.3**
TATO	**Taipei**	**32.06 357**	P	**P**	**10 53 28.4**	**-0.9**
TATO			P	**P**	**10 53 28.4**	**-0.9**
TATO	**Taipei**	**32.06 357**	P	**P**	**10 53 27.6**	**-1.8**
TATO			pP	**pP**	**10 55 00.8**	**-1.0**
TATO			PP	**PP**	**10 55 08.8**	**-1.6**
TATO			ScP	**ScP**	**10 58 54.9**	**+1.9**
CMSA	**Cobar Meteorol**	**32.12 142**	P	**P**	**10 53 30.3**	**+0.6**
	baz=32,SNR=1000					
CMSA	**Cobar Meteorol**	**32.12 142**	P	**P**	**10 53 30.9**	**+1.1**
EIDS	**Eidsvold**	**32.27 127**	P	**P**	**10 53 30.2**	**-1.0**
	baz=32,SNR=75					
EIDS	**Eidsvold**	**32.27 127**	P	**P**	**10 53 30.2**	**-1.0**
EIDS	**Eidsvold**	**32.27 127**	P	**P**	**10 53 30.9**	**-0.3**
EIDS	**Eidsvold**	**32.27 127**	⇓P	**P**	**10 53 30.1**	**-1.0**
EIDS			⇓p	**pP**	**10 55 02.2**	**-1.7**
QZH	**Quanzhou**	**32.28 352**	⇑P	**P**	**10 53 30.4**	**-0.8**
QZH			S	**S**	**10 58 03.9**	**-2.0**
QZH			ScP	**ScP**	**10 58 55.1**	**+1.4**
QZH			SS	**SS**	**11 01 03.9**	**-13**
QZH			ScS	**ScS**	**11 02 54.6**	**+0.1**
QZH			pmax	pmax		
	comp=Z,560nm,1.4s					
QZH			pmax	pmax		
	comp=Z,11μm,4.6s					
JMZ	**Minamidaito 2**	**33.81 13**	P	**P**	**10 53 44.0**	**-0.1**
JMZ	**Minamidaito 2**	**33.81 13**	P	**P**	**10 53 44.1**	**-0.1**
JMZ	**Minamidaito 2**	**33.81 13**	⇑P	**P**	**10 53 44.0**	**-0.1**
ARPS	**Mount Arapiles**	**34.02 152**	P	**P**	**10 53 46.0**	**+0.2**
	baz=34,SNR=1000					
ARPS	**Mount Arapiles**	**34.02 152**	P	**P**	**10 53 46.3**	**+0.5**
SLVN	**Son La**	**34.05 327**	P	**P**	**10 53 46.8**	**+0.5**
JOW	**Kunigami**	**34.25 8**	P	**P**	**10 53 47.3**	**-0.5**
JOW	**Kunigami**	**34.25 8**	P	**P**	**10 53 48.4**	**+0.6**
JOW	**Kunigami**	**34.25 8**	⇑P	**P**	**10 53 47.3**	**-0.5**
GULI	**GuiLin**	**34.61 340**	⇑P	**P**	**10 53 53.8**	**+2.9**
GULI			S	**S**	**10 58 37.6**	**-3.6**
GULI			pmax	pmax		
	comp=Z,930nm,0.9s					
CM31	**Chiang Mai Arr**	**34.89 317**	P	**P**	**10 53 53.7**	**+0.4**
CM31	**Chiang Mai Arr**	**34.89 317**	P	**P**	**10 53 53.7**	**+0.4**
	SNR=331					
CM31			P	**P**	**10 53 53.7**	**+0.4**
	SNR=331					
CM31			S	**S**	**10 58 47.4**	**+1.8**
CM31			S	**S**	**10 58 47.4**	**+1.8**
CMAR	**Chiang Mai Arr**	**34.89 317**	P	**P**	**10 53 53.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**34.89 317**	P	**P**	**10 53 53.7**	**+0.4**
	comp=Z,476nm,0.8s,baz=144,slow=6.5,SNR=310					
CMAR			PcP	**PcP**	**10 56 11.5**	**+1.2**
	comp=Z,161nm,0.8s,baz=180,slow=2.5,SNR=13					
CMAR			S	**S**	**10 58 43.8**	**-1.8**
	comp=Z,8.6nm,0.9s,baz=159,slow=7.7,SNR=1.0					
CMAR			ScP	**ScP**	**10 59 05.3**	**+2.2**
	comp=Z,81nm,0.9s,baz=166,slow=3.3,SNR=6.4					
CMAR			PKiKP	**PKiKP**	**11 03 30.1**	**-1.1**
	comp=Z,9.7nm,0.8s,baz=231,slow=1.8,SNR=5.5					
CMAR			P3KPbc		11 24 34.5	
	comp=Z,5.7nm,0.8s,baz=310,slow=5.7,SNR=18					
CMAR			P3KP		11 26 05.7	
	comp=Z,4.6nm,1.0s,baz=249,slow=4.3,SNR=8.1					
	comp=Z,476nm,0.8s					
CHTO	**Chiang Mai**	**35.14 318**	P	**P**	**10 53 55.4**	**0.0**
CHTO	**Chiang Mai**	**35.14 318**	P	**P**	**10 53 55.4**	**0.0**
CHTO			pmax	pmax		
	comp=Z,37nm,1.0s					
CRAI	**Chiangrai**	**35.25 321**	P	**P**	**10 53 56.6**	**+0.3**
ARMA	**Armidale**	**35.35 134**	P	**P**	**10 53 58.7**	**+1.5**
	baz=35,SNR=262					
ARMA	**Armidale**	**35.35 134**	P	**P**	**10 53 58.5**	**+1.5**
ARMA			IAmb	IAmb	10 54 02.6	
	comp=Z,572nm,1.0s					
ARMA	**Armidale**	**35.35 134**	P	**P**	**10 53 58.6**	**+1.5**
ARMA	**Armidale**	**35.35 134**	⇓P	**P**	**10 53 58.6**	**+1.5**
PBA	**Port Blair**	**35.51 302**	*e*P	**P**	**10 53 59.1**	**+0.6**
PBA			IAmb	IAmb	10 54 07.9	
	comp=Z,690nm,0.7s					
PBA	**Port Blair**	**35.51 302**	P	**P**	**10 53 58.9**	**+0.5**
	SNR=33					
PBA	**Port Blair**	**35.51 302**	⇑P	**P**	**10 53 56.8**	**-1.6**
BRAT	**Ballarat**	**35.64 151**	P	**P**	**10 54 00.2**	**+1.0**
YNG	**Young**	**35.66 143**	P	**P**	**10 54 00.7**	**+1.2**
TOO	**Toolangi**	**36.43 149**	P	**P**	**10 54 07.0**	**+1.2**
	baz=36,SNR=365					
TOO	**Toolangi**	**36.43 149**	P	**P**	**10 54 07.0**	**+1.2**
TOO	**Toolangi**	**36.43 149**	P	**P**	**10 54 07.9**	**+2.1**
TOO	**Toolangi**	**36.43 149**	⇓P	**P**	**10 54 06.8**	**+0.9**
TOO			⇓p	**pP**	**10 55 42.1**	**+1.2**
TOO	**Toolangi**	**36.43 149**	P	**P**	**10 54 07.0**	**+1.2**
TOO			pmax	pmax		
	comp=Z,1μm,1.4s					
CNSH	**ChangSha**	**36.55 345**	⇑P	**P**	**10 54 06.4**	**-0.4**
CNSH			S	**S**	**10 59 12.3**	**+2.3**
CNSH			pmax	pmax		
	comp=Z,8μm,5.6s					
HNR	**Honiara**	**36.57 96**	P	**P**	**10 54 06.0**	**-1.2**
HNR	**Honiara**	**36.57 96**	P	**P**	**10 54 06.1**	**-1.2**
HNR			pmax	pmax		
	comp=Z,13μm,1.1s					
HNR	**Honiara**	**36.57 96**	P	**P**	**10 54 06.5**	**-0.8**
HNR			pP	**pwP**	**10 55 44.3**	**-2.6**
MGCD	**Mangrove Creek**	**36.66 139**	P	**P**	**10 54 09.3**	**+1.5**
	baz=37,SNR=135					
MGCD	**Mangrove Creek**	**36.66 139**	P	**P**	**10 54 09.4**	**+1.7**
CAN	**Canberra**	**36.72 143**	P	**P**	**10 54 08.4**	**+0.1**
CAN	**Canberra**	**36.72 143**	P	**P**	**10 54 09.1**	**+0.8**
CAN	**Canberra**	**36.72 143**	⇓P	**P**	**10 54 09.1**	**+0.8**
CAN	**Canberra**	**36.72 143**	P	**P**	**10 54 08.4**	**+0.1**
CAN			pmax	pmax		
	comp=Z,1μm,0.9s					
CAN	**Canberra**	**36.72 143**	P	**P**	**10 54 09.3**	**+1.0**
CAN			pP	**pP**	**10 55 44.3**	**+0.7**
CAN			PcP	**PcP**	**10 56 15.6**	**0.0**
SYDH	**Sydney Hard Ro**	**36.77 140**	P	**P**	**10 54 09.6**	**+1.0**
CNB	**Canberra Magne**	**36.93 143**	P	**P**	**10 54 10.7**	**+0.7**
	baz=37,SNR=330					
CNB	**Canberra Magne**	**36.93 143**	P	**P**	**10 54 10.7**	**+0.7**
RIV	**Riverview**	**37.08 139**	P	**P**	**10 54 12.6**	**+1.5**
	baz=37,SNR=35					
RIV	**Riverview**	**37.08 139**	P	**P**	**10 54 12.2**	**+1.1**
RIV	**Riverview**	**37.08 139**	⇑P	**P**	**10 54 12.8**	**+1.6**
RIV			⇑p	**pP**	**10 55 47.0**	**+0.4**
GYA	**Guiyang**	**37.08 335**	⇑*i*P	**P**	**10 54 11.5**	**+0.1**
GYA			pP	pP	10 55 50.3	+3.2
GYA			PcP	**PcP**	**10 56 20.1**	**+3.2**
GYA			sP	sP	10 56 49.8	-1.4
GYA			ScP	**ScP**	**10 59 13.8**	**+2.5**
GYA			S	**S**	**10 59 14.9**	**-3.3**
GYA			ScS	**ScS**	**11 03 23.6**	**+2.5**
GYA			pmax	pmax		
	comp=Z,730nm,0.8s					
GYA			pmax	pmax		
	comp=Z,10μm,5.0s					
KMI	**Kunming**	**37.76 329**	⇑P	**P**	**10 54 18.3**	**+1.2**
KMI			pP	pP	10 55 51.6	-2.0
KMI			PP	**PP**	**10 55 59.0**	**-2.7**
KMI			sP	sP	10 56 53.0	-3.7
KMI			S	**S**	**10 59 28.8**	**+0.3**
KMI			sS	sS	11 02 25.1	+1.8
KMI			pmax	pmax		
	comp=Z,970nm,1.6s					
KMI			pmax	pmax		
	comp=Z,9μm,5.1s					
KMI	**Kunming**	**37.76 329**	P	**P**	**10 54 18.3**	**+1.2**
KMI			PcP	**PcP**	**10 56 22.4**	**+3.2**
PATS	**Pohnpei**	**37.86 69**	P	**P**	**10 54 17.2**	**-0.7**
	baz=38,SNR=16					
PATS	**Pohnpei**	**37.86 69**	P	**P**	**10 54 17.1**	**-0.7**
PATS	**Pohnpei**	**37.86 69**	P	**P**	**10 54 18.9**	**+1.1**
MILA	**Mila**	**38.02 145**	P	**P**	**10 54 19.4**	**+0.6**
	baz=38,SNR=128					
MILA	**Mila**	**38.02 145**	P	**P**	**10 54 19.7**	**+0.9**
MILA	**Mila**	**38.02 145**	⇓P	**P**	**10 54 19.4**	**+0.6**
MILA			⇓p	**pP**	**10 55 55.6**	**+0.6**
SSE	**Sheshan**	**38.16 357**	P	**P**	**10 54 20.0**	**+0.1**
SSE			pP	**pP**	**10 55 54.0**	**-2.1**
SSE			S	**S**	**10 59 32.8**	**-1.0**
SSE			pmax	pmax		
	comp=Z,440nm,0.8s					
SSE			pmax	pmax		
	comp=Z,2μm,6.8s					
SSE	**Sheshan**	**38.16 357**	P	**P**	**10 54 20.0**	**+0.1**
SSE			pP	**pP**	**10 55 56.8**	**+0.7**
SSE			PcP	**PcP**	**10 56 22.4**	**+2.4**
SSE			ScP	**ScP**	**10 59 15.4**	**+0.3**
WHN	**Wuhan**	**38.48 348**	⇑*i*P	**P**	**10 54 23.0**	**+0.4**
WHN			pP	**pP**	**10 56 01.9**	**+2.9**
WHN			PcP	**PcP**	**10 56 23.8**	**+2.7**
WHN			sP	**sP**	**10 57 03.0**	**+0.8**
WHN			ScP	**ScP**	**10 59 17.9**	**+1.5**
WHN			S	**S**	**10 59 39.4**	**+0.9**
WHN			ScS	**ScS**	**11 03 30.3**	**+1.5**
WHN			pmax	pmax		
	comp=Z,1μm,0.8s					
WHN			pmax	pmax		
	comp=Z,17μm,3.6s					
CBIJ	**Chichi jima**	**38.85 28**	P	**P**	**10 54 24.9**	**-0.7**
JCJ	**Chichijima**	**38.85 28**	P	**P**	**10 54 24.7**	**-0.9**
JCJ	**Chichijima**	**38.85 28**	P	**P**	**10 54 25.3**	**-0.3**
JCJ	**Chichijima**	**38.85 28**	⇑P	**P**	**10 54 24.8**	**-0.9**
JSU	**Suzuyama**	**39.18 10**	P	**P**	**10 54 28.1**	**-0.1**
MND	**Mandalay**	**39.27 318**	P	**P**	**10 54 29.2**	**+0.1**
NJ2	**Nanjing**	**39.28 354**	⇑*i*P	**P**	**10 54 29.3**	**+0.3**
NJ2			pP	**pP**	**10 56 08.9**	**+3.2**
NJ2			PcP	**PcP**	**10 56 26.5**	**+2.9**
NJ2			sP	**sP**	**10 57 10.5**	**+1.7**
NJ2			ScP	**ScP**	**10 59 20.0**	**+0.6**
NJ2			S	**S**	**10 59 48.4**	**-1.7**
NJ2			ScS	**ScS**	**11 03 37.0**	**+3.5**
NJ2			pmax	pmax		
	comp=Z,640nm,0.6s					
NJ2			pmax	pmax		
	comp=Z,6μm,3.8s					
PZH	**PanZhiHua**	**39.40 329**	P	**P**	**10 54 30.3**	**+0.1**
PZH			pP	**pP**	**10 56 12.1**	**+4.4**
PZH			ScP	**ScP**	**10 59 23.3**	**+3.0**
PZH			S	**S**	**10 59 51.5**	**-0.9**
PZH			PcS	**PcS**	**11 00 17.1**	**+1.6**
PZH			sS	**sS**	**11 02 49.9**	**+1.3**
PZH			ScS	**ScS**	**11 03 35.5**	**+0.7**
PZH			pmax	pmax		
	comp=Z,570nm,1.1s					
PZH			pmax	pmax		
	comp=Z,7μm,11.2s					
TNCH	**TengChong**	**39.99 324**	P	**P**	**10 54 35.5**	**+0.5**
TNCH			pP	pP	10 56 15.8	+2.8
TNCH			PcP	**PcP**	**10 56 26.3**	**0.0**
TNCH			sP	sP	10 57 12.6	-3.5
TNCH			ScP	**ScP**	**10 59 24.6**	**+1.9**
TNCH			S	**S**	**11 00 02.8**	**+1.7**
TNCH			sS	sS	11 03 01.5	+3.6
TNCH			SS	**SS**	**11 03 19.6**	**-5.1**
TNCH			pmax	pmax		
	comp=Z,960nm,1.1s					
TNCH			pmax	pmax		
	comp=Z,7μm,3.3s					
JNU	**Nakatsue**	**40.83 10**	IAmb	IAmb	10 54 46.9	
	comp=Z,557nm,0.9s					
JNU	**Nakatsue**	**40.83 10**	P	**P**	**10 54 41.2**	**-0.2**
JNU	**Nakatsue**	**40.83 10**	P	**P**	**10 54 40.4**	**-1.0**
JNU	**Nakatsue**	**40.83 10**	⇑P	**P**	**10 54 40.5**	**-1.0**
MOO	**Moorlands**	**41.03 153**	P	**P**	**10 54 44.0**	**+1.1**
	baz=41,SNR=66					
MOO	**Moorlands**	**41.03 153**	P	**P**	**10 54 44.8**	**+1.9**
LHI	**Lord Howe Isla**	**41.37 131**	P	**P**	**10 54 46.3**	**+0.6**
	baz=41,SNR=36					
LHI	**Lord Howe Isla**	**41.37 131**	P	**P**	**10 54 46.4**	**+0.6**
LHI			IAmb	IAmb	10 54 49.5	
	comp=Z,664nm,0.7s					
LHI	**Lord Howe Isla**	**41.37 131**	P	**P**	**10 54 47.0**	**+1.3**
LHI	**Lord Howe Isla**	**41.37 131**	⇓P	**P**	**10 54 46.5**	**+0.8**
TAU	**Tasmania Unive**	**41.46 153**	P	**P**	**10 54 47.7**	**+1.5**
TAU			IAmb	IAmb	10 54 51.6	
	comp=Z,755nm,1.1s					
TAU	**Tasmania Unive**	**41.46 153**	P	**P**	**10 54 47.3**	**+1.1**
TAU	**Tasmania Unive**	**41.46 153**	⇑P	**P**	**10 54 47.3**	**+1.1**
TAU			⇓p	**pP**	**10 56 25.4**	**+0.7**
TAU	**Tasmania Unive**	**41.46 153**	P	**P**	**10 54 47.7**	**+1.5**
TAU			pmax	pmax		
	comp=Z,755nm,1.1s					
TAU	**Tasmania Unive**	**41.46 153**	P	**P**	**10 54 47.7**	**+1.5**
TAU			pP	**pP**	**10 56 25.2**	**+0.5**
TAU			ScP	**ScP**	**10 59 29.2**	**+1.3**
JTU	**Tsushima**	**41.97 8**	P	**P**	**10 54 50.3**	**0.0**
JTU			IAmb	IAmb	10 54 56.5	
	comp=Z,653nm,1.1s					
JTU	**Tsushima**	**41.97 8**	P	**P**	**10 54 50.6**	**+0.2**
JTU	**Tsushima**	**41.97 8**	⇑P	**P**	**10 54 50.5**	**+0.2**
JMN	**Monobe**	**42.02 14**	P	**P**	**10 54 51.3**	**+0.4**
JMN	**Monobe**	**42.02 14**	P	**P**	**10 54 51.2**	**+0.3**
JMN	**Monobe**	**42.02 14**	⇑P	**P**	**10 54 51.2**	**+0.4**
KOUNC	**Koumac, New Ca**	**42.03 113**	P	**P**	**10 54 51.2**	**+0.1**
KOUNC			IAmb	IAmb	10 54 53.7	
	comp=Z,728nm,0.8s					
KOUNC	**Koumac, New Ca**	**42.03 113**	P	**P**	**10 54 51.3**	**+0.2**
KOUNC	**Koumac, New Ca**	**42.03 113**	⇓P	**P**	**10 54 51.1**	**0.0**
CD2	**Chengdu**	**42.20 335**	P	**P**	**10 54 53.3**	**+1.1**
CD2			pP	pP	10 56 32.3	+1.0
CD2			PP	**PP**	**10 56 45.0**	**+1.3**
CD2			sP	sP	10 57 33.0	-0.9
CD2			S	**S**	**11 00 31.3**	**-1.2**
CD2			sS	sS	11 03 35.8	+4.6
CD2			pmax	pmax		
	comp=Z,1μm,1.1s					
CD2			pmax	pmax		
	comp=Z,5μm,3.8s					
LYN	**LuoYang**	**42.75 347**	⇑*i*P	**P**	**10 54 55.9**	**-0.6**
LYN			pP	PcP	10 56 33.3	-1.8
LYN			ScP	**ScP**	**10 59 35.0**	**+1.7**
LYN			ScS	**ScS**	**11 03 56.8**	**+1.9**
LYN			pmax	pmax		
	comp=Z,820nm,0.9s					
LYN			pmax	pmax		
	comp=Z,9μm,4.1s					
JHS	**Saijyo**	**43.08 12**	P	**P**	**10 54 59.4**	**+0.3**
XAN	**Xi'an**	**43.18 343**	⇑P	**P**	**10 54 59.3**	**-0.6**
XAN			pP	PcP	10 56 36.8	+0.1
XAN			S	**S**	**11 00 40.4**	**-6.1**
XAN			pmax	pmax		
	comp=Z,2μm,0.7s					
XAN			pmax	pmax		
	comp=Z,9μm,8.5s					
XAN	**Xi'an**	**43.18 343**	P	**P**	**10 54 59.0**	**-0.9**
XAN			pP	**PcP**	**10 56 36.9**	**+0.2**
XAN			ScP	**ScP**	**10 59 36.5**	**+1.4**
JHJ2	**Mitsune**	**43.19 21**	P	**P**	**10 54 59.4**	**-0.4**
JHJ2	**Mitsune**	**43.19 21**	P	**P**	**10 55 00.2**	**+0.3**
JAD	**Aida**	**43.25 13**	P	**P**	**10 55 00.4**	**+0.1**
JIE	**Ise**	**43.38 17**	P	**P**	**10 55 01.8**	**+0.4**
TJN	**Taejon**	**43.58 5**	P	**P**	**10 55 03.5**	**+0.7**
TJN	**Taejon**	**43.58 5**	*c i*P	**P**	**10 55 02.7**	**-0.1**
TIA	**Tai'an**	**43.58 353**	⇑P	**P**	**10 55 01.8**	**-1.1**
TIA			S	**S**	**11 00 45.1**	**-6.9**
TIA			sS	**ScS**	**11 03 56.5**	**-3.6**
TIA			pmax	pmax		
	comp=Z,280nm,0.9s					
JWT	**Wachi**	**43.87 15**	P	**P**	**10 55 05.5**	**+0.3**
JSG	**Sagara**	**44.08 18**	IAmb	IAmb	10 55 13.4	
	comp=Z,920nm,0.9s					
NOUC	**Port Laguerre**	**44.20 114**	P	**P**	**10 55 08.2**	**+0.2**
NOUC	**Port Laguerre**	**44.20 114**	P	**P**	**10 55 08.2**	**+0.2**
NOUC			PP	**PP**	**10 57 02.4**	**+0.4**
HALK	**Hakmana**	**44.29 286**	⇓P	**P**	**10 55 08.2**	**-0.5**
DZM	**Mont Dzumac**	**44.32 114**	*e*P	**P**	**10 55 09.4**	**+0.4**
	comp=Z,2μm,1.0s					
DZM			*e*pP	**pwP**	**10 56 51.3**	**+0.2**
	comp=Z,1μm,1.4s					
DZM			*e*S	**S**	**11 01 04.2**	**+1.0**
	comp=Z,537nm,1.6s					
DZM			*e*SS	**SS**	**11 04 29.7**	**-5.0**
	comp=Z,43μm,27.8s					
DZM	**Mont Dzumac**	**44.32 114**	IAmb	IAmb	10 55 12.0	
	comp=Z,944nm,0.9s					
DZM	**Mont Dzumac**	**44.32 114**	P	**P**	**10 55 09.5**	**+0.4**
DZM	**Mont Dzumac**	**44.32 114**	⇓P	**P**	**10 55 09.3**	**+0.3**
DZM	**Mont Dzumac**	**44.32 114**	P	**P**	**10 55 09.4**	**+0.4**
DZM			PcP	**PcP**	**10 56 43.3**	**+2.2**
DZM			pP	**pwP**	**10 56 50.9**	**-0.2**
DZM			PP	**PP**	**10 57 04.5**	**+1.3**
DZM			ScP	**ScP**	**10 59 43.4**	**+3.1**
INU	**Inuyama**	**44.37 16**	P	**P**	**10 55 08.7**	**-0.3**
INU			IAmb	IAmb	10 55 15.1	
	comp=Z,327nm,0.8s					
INU	**Inuyama**	**44.37 16**	P	**P**	**10 55 09.7**	**+0.7**
INU	**Inuyama**	**44.37 16**	⇑P	**P**	**10 55 08.8**	**-0.1**
INU	**Inuyama**	**44.37 16**	P	**P**	**10 55 08.8**	**-0.1**
INU			PcP	**PcP**	**10 56 43.2**	**+2.6**
ONTNC	**Ouen Toro**	**44.38 115**	P	**P**	**10 55 10.1**	**+0.7**
ONTNC	**Ouen Toro**	**44.38 115**	⇓P	**P**	**10 55 09.6**	**+0.2**
SHL	**Shillong**	**44.52 318**	*e*P	**P**	**10 55 09.6**	**-0.9**
SHL			IAmb	IAmb	10 55 15.9	
	comp=Z,516nm,0.6s					
SHL	**Shillong**	**44.52 318**	P	**P**	**10 55 09.9**	**-0.7**
	SNR=252					
INCN	**Inchon**	**44.62 4**	P	**P**	**10 55 11.3**	**+0.4**
INCN	**Inchon**	**44.62 4**	P	**P**	**10 55 11.1**	**+0.2**
INCN	**Inchon**	**44.62 4**	P	**P**	**10 55 11.1**	**+0.2**
INCN			S	**S**	**11 01 07.0**	**+0.3**
INCN	**Inchon**	**44.62 4**	⇑P	**P**	**10 55 10.7**	**-0.2**
INCN	**Inchon**	**44.62 4**	P	**P**	**10 55 11.3**	**+0.4**
INCN			pmax	pmax		
	comp=Z,514nm,1.4s					
INCN	**Inchon**	**44.62 4**	P	**P**	**10 55 11.1**	**+0.2**
INCN			PcP	**PcP**	**10 56 44.0**	**+2.4**
PALK	**Pallekele**	**44.62 288**	P	**P**	**10 55 10.7**	**-0.7**
PALK			IAmb	IAmb	10 55 17.3	
	comp=Z,479nm,0.9s					
PALK	**Pallekele**	**44.62 288**	P	**P**	**10 55 10.8**	**-0.5**
PALK			P	**P**	**10 55 10.8**	**-0.5**
PALK			S	**S**	**11 01 04.4**	**-3.1**
PALK			S	**S**	**11 01 04.4**	**-3.1**
PALK	**Pallekele**	**44.62 288**	⇑P	**P**	**10 55 10.7**	**-0.7**
PALK	**Pallekele**	**44.62 288**	*c i*P	**P**	**10 55 10.7**	**-0.7**
KSRS	**Korea Array**	**44.70 6**	P	**P**	**10 55 11.6**	**+0.2**
	comp=Z,327nm,1.0s,baz=182,slow=8.6,SNR=384					
KSRS			PcP	**PcP**	**10 56 42.3**	**+0.5**
	comp=Z,86nm,0.7s,baz=184,slow=3.1,SNR=16					
KSRS			ScP	**ScP**	**10 59 41.6**	**+0.4**
	comp=Z,72nm,0.9s,baz=189,slow=3.5,SNR=7.2					
KSRS			S	**S**	**11 01 07.2**	**-0.5**
	comp=Z,4.2nm,0.8s,baz=198,slow=7.7,SNR=1.0					
KSRS			PKiKP	**PKiKP**	**11 03 39.3**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=211,slow=0.7,SNR=5.2					
KSRS			P3KPbc		11 23 54.4	
	comp=Z,0.7nm,0.6s,baz=344,slow=3.8

MJAR				P4KPbc		11 33 00.4	
	comp=Z,4.0nm,1.0s,baz=184,slow=4.6,SNR=5.2						
	comp=Z,710nm,0.9s						
MAJO	**Matsushiro**	**45.82**	**17**	P	**P**	**10 55 19.9**	**-0.2**
MAJO	**Matsushiro**	**45.82**	**17**	P	**P**	**10 55 20.0**	**-0.1**
MAJO	**Matsushiro**	**45.82**	**17**	⇑P	**P**	**10 55 19.6**	**-0.5**
MAJO	**Matsushiro**	**45.82**	**17**	P	**P**	**10 55 19.9**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,1μm,1.1s						
MAJO	**Matsushiro**	**45.82**	**17**	P	**P**	**10 55 19.6**	**-0.5**
MAJO				PcP	**PcP**	**10 56 46.6**	**+0.8**
MAJO				sP	**sP**	**10 58 02.2**	**+0.8**
MAT	**Matsushiro**	**45.82**	**17**	P	**P**	**10 55 19.6**	**-0.6**
DL2	**Dalian**	**45.93**	**358**	P	**P**	**10 55 19.9**	**-1.0**
DL2				PcP	**PcP**	**10 56 48.3**	**+2.2**
DL2				sP	**sP**	**10 58 00.4**	**-2.6**
DL2				ScP	**ScP**	**10 59 46.5**	**+0.2**
DL2				S	**S**	**11 01 22.4**	**-2.6**
DL2				pmax	pmax		
	comp=Z,560nm,1.0s						
DL2				pmax	pmax		
	comp=Z,1μm,6.5s						
PYAG	**Pyongyang**	**46.13**	**3**	P	**P**	**10 55 22.1**	**-0.2**
PYAG				pP	**pwP**	**10 57 09.5**	**+2.6**
PYAG				S	**S**	**11 01 23.3**	**-4.4**
PYAG				AmB			
	comp=Z,2μm,2.5s						
JYT	**Yasato**	**46.15**	**19**	P	**P**	**10 55 21.4**	**-1.1**
VIS	**Vishakhapatnam**	**46.41**	**303**	*e*P	**P**	**10 55 24.8**	**0.0**
VIS				IAmb	IAmb	10 55 31.1	
	comp=Z,1μm,0.8s						
LZH	**Lanzhou**	**46.73**	**339**	⇑*i*P	**P**	**10 55 27.9**	**+0.7**
LZH				PcP	**PcP**	**10 56 52.9**	**+3.6**
LZH				pP	pP	10 57 13.5	+4.2
LZH				PP	**PP**	**10 57 26.0**	**+1.1**
LZH				sP	sP	10 58 09.4	-1.8
LZH				ScP	**ScP**	**10 59 52.4**	**+2.4**
LZH				S	**S**	**11 01 36.3**	**-0.2**
LZH				ScS	**ScS**	**11 04 22.8**	**+1.7**
LZH				SS	**SS**	**11 05 10.5**	**-2.3**
LZH				pmax	pmax		
	comp=Z,2μm,1.2s						
LZH				pmax	pmax		
	comp=Z,9μm,4.8s						
MDRS	**Chennai**	**47.06**	**295**	*e*P	**P**	**10 55 29.6**	**-0.1**
MDRS				IAmb	IAmb	10 55 36.1	
	comp=Z,2μm,0.8s						
HHU	**Hamhung**	**47.12**	**5**	P	**P**	**10 55 29.9**	**+0.1**
HHU				S	**S**	**11 01 36.6**	**-4.8**
HHU				AmB			
	comp=Z,1μm,1.4s						
JSD	**Sado**	**47.23**	**16**	P	**P**	**10 55 31.1**	**+0.4**
JSD	**Sado**	**47.23**	**16**	P	**P**	**10 55 30.7**	**0.0**
JSD	**Sado**	**47.23**	**16**	⇑P	**P**	**10 55 30.7**	**0.0**
KWJN	**Gagan, Kwajale**	**47.26**	**70**	P	**P**	**10 55 32.4**	**+1.0**
BJT	**Baijiatuau**	**47.45**	**353**	IAmb	IAmb	10 55 33.9	
	comp=Z,2μm,1.7s						
BJT	**Baijiatuau**	**47.45**	**353**	P	**P**	**10 55 32.2**	**-0.1**
BJT	**Baijiatuau**	**47.45**	**353**	P	**P**	**10 55 31.7**	**-0.6**
BJT				PcP	**PcP**	**10 56 52.2**	**+0.7**
BJT				pP	**pP**	**10 57 14.9**	**+0.8**
BJT				PP	**PP**	**10 57 32.4**	**+1.2**
BJT				ScP	**ScP**	**10 59 54.0**	**+1.3**
BJI	**Beijing**	**47.47**	**353**	P	**P**	**10 55 31.8**	**-0.6**
BJI				PcP	**PcP**	**10 56 54.8**	**+3.2**
BJI				ScP	**ScP**	**10 59 53.8**	**+1.0**
BJI				S	**S**	**11 01 43.9**	**-2.4**
BJI				ScS	**ScS**	**11 04 26.1**	**+0.6**
BJI				pmax	pmax		
	comp=Z,230nm,0.7s						
BJI				pmax	pmax		
	comp=Z,2μm,4.8s						
NFK	**Norfolk Island**	**47.48**	**123**	P	**P**	**10 55 34.7**	**+1.9**
	baz=48,SNR=9.5						
NFK	**Norfolk Island**	**47.48**	**123**	P	**P**	**10 55 34.2**	**+1.4**
NFK	**Norfolk Island**	**47.48**	**123**	⇓P	**P**	**10 55 33.9**	**+1.1**
BOK	**Bokaro**	**47.62**	**312**	*e*P	**P**	**10 55 34.6**	**+0.7**
BOK				IAmb	IAmb	10 55 38.6	
	comp=Z,239nm,1.0s						
JMM	**Marumori**	**47.84**	**19**	P	**P**	**10 55 36.8**	**+1.6**
JMM	**Marumori**	**47.84**	**19**	P	**P**	**10 55 36.1**	**+0.9**
JMM	**Marumori**	**47.84**	**19**	⇑P	**P**	**10 55 36.1**	**+0.9**
LSA	**Lhasa**	**47.84**	**322**	P	**P**	**10 55 37.0**	**+1.0**
LSA				S	**S**	**11 01 46.3**	**-6.4**
LSA				pmax	pmax		
	comp=Z,97nm,0.5s						
LSA	**Lhasa**	**47.84**	**322**	P	**P**	**10 55 36.4**	**+0.3**
LSA	**Lhasa**	**47.84**	**322**	P	**P**	**10 55 37.0**	**+1.0**
LSA				P	**P**	**10 55 37.0**	**+1.0**
LSA	**Lhasa**	**47.84**	**322**	P	**P**	**10 55 36.8**	**+0.8**
JYA	**Atsumi**	**48.17**	**18**	P	**P**	**10 55 38.8**	**+1.1**
ODAN	**Odare**	**48.40**	**316**	*e*P	**P**	**10 55 40.2**	**+0.2**
	comp=Z,3μm,0.9s						
TAPN	**Taplejung**	**48.49**	**317**	*e*P	**P**	**10 55 40.9**	**+0.2**
	comp=Z,7μm,1.3s						
TRD	**Trivandrum**	**48.53**	**288**	*e*P	**P**	**10 55 40.5**	**-0.3**
TRD				IAmb	IAmb	10 55 46.5	
	comp=Z,611nm,1.0s						
SNY	**Shenyang**	**48.83**	**1**	⇑P	**P**	**10 55 41.4**	**-1.1**
SNY				S	**S**	**11 01 56.9**	**-8.0**
SNY				pmax	pmax		
	comp=Z,280nm,1.3s						
SNY				pmax	pmax		
	comp=Z,1μm,6.6s						
HHC	**Hu-ho-hao-te**	**49.01**	**348**	*e*P	**P**	**10 55 43.5**	**-0.5**
HHC				pP	pP	10 57 24.3	-3.0
HHC				sP	sP	10 58 24.5	-4.5
HHC				S	**S**	**11 02 08.4**	**+0.8**
HHC				ScS	**ScS**	**11 04 35.8**	**-0.4**
HHC				sS	sS	11 05 10.3	-2.3
HHC				pmax	pmax		
	comp=Z,550nm,1.5s						
HHC				pmax	pmax		
	comp=Z,7μm,7.9s						
RAMN	**Ramite**	**49.01**	**315**	*e*P	**P**	**10 55 45.1**	**+0.6**
	comp=Z,5μm,0.8s						
BTO	**Baotou**	**49.10**	**347**	*e*P	**P**	**10 55 45.0**	**+0.3**
BTO				PcP	**PcP**	**10 56 57.3**	**-0.4**
BTO				pP	**pP**	**10 57 26.8**	**-1.5**
BTO				PP	**PP**	**10 57 47.3**	**+1.1**
BTO				sP	**sP**	**10 58 27.8**	**-1.9**
BTO				S	**S**	**11 02 10.3**	**+1.5**
BTO				sS	**sS**	**11 05 09.8**	**-4.1**
BTO				SS	**SS**	**11 05 55.0**	**+5.0**
BTO				pmax	pmax		
	comp=Z,330nm,1.2s						
BTO				pmax	pmax		
	comp=Z,9μm,7.3s						
JOM	**Ohasama**	**49.46**	**19**	P	**P**	**10 55 47.7**	**+0.4**
EVN	**Everest**	**49.49**	**317**	⇑P	**P**	**10 55 50.2**	**+1.7**
JIRN	**Jiri**	**49.73**	**316**	*e*P	**P**	**10 55 50.0**	**+0.1**
	comp=Z,6μm,1.4s						
H11S3	**WAKE ISLAND Hy**	**50.07**	**59**	P	**P**	**10 55 52.4**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**50.09**	**59**	P	**P**	**10 55 52.5**	**+0.5**
H11S1	**WAKE ISLAND Hy**	**50.09**	**59**	P	**P**	**10 55 52.5**	**+0.5**
H08S2	**Diego Garcia H**	**50.10**	**266**	P	**P**	**10 55 50.8**	**-1.3**
	baz=54,slow=8.9,SNR=62						
GUN	**Gumba**	**50.10**	**316**	*e*P	**P**	**10 55 52.8**	**+0.2**
	comp=Z,4μm,0.9s						
H08S3	**Diego Garcia H**	**50.11**	**266**	P	**P**	**10 55 51.0**	**-1.2**
	baz=54,slow=8.9,SNR=94						
H08S1	**Diego Garcia H**	**50.12**	**266**	P	**P**	**10 55 52.2**	**0.0**
	baz=54,slow=8.9,SNR=17						
MSHR	**Mys Shultsa**	**50.13**	**8***c*	*i*P	**P**	**10 55 52.8**	**+0.7**
DGAR	**Diego Garcia**	**50.15**	**266**	P	**P**	**10 55 54.2**	**+1.4**
DGAR	**Diego Garcia**	**50.15**	**266**	P	**P**	**10 55 55.5**	**+2.6**
DGAR				S	**S**	**11 02 25.4**	**+1.6**
DGAR	**Diego Garcia**	**50.15**	**266**	⇑P	**P**	**10 55 55.1**	**+2.3**
DGAR	**Diego Garcia**	**50.15**	**266**	P	**P**	**10 55 54.2**	**+1.4**
DGAR				pmax	pmax		
	comp=Z,1μm,0.8s						
DGAR	**Diego Garcia**	**50.15**	**266**	P	**P**	**10 55 55.0**	**+2.2**
DGAR				pP	**pP**	**10 57 38.7**	**+2.0**
PKI	**Pulchoki**	**50.22**	**315**	*e*P	**P**	**10 55 53.2**	**-0.3**
	comp=Z,1μm,0.5s						
PKIN	**Phulchoki**	**50.23**	**315**	*e*P	**P**	**10 55 53.2**	**-0.3**
	comp=Z,2μm,0.5s						
HYB	**Hyderabad**	**50.32**	**300**	*e*P	**P**	**10 55 52.8**	**-1.3**
HYB				IAmb	IAmb	10 55 59.1	
	comp=Z,907nm,0.9s						
HYB	**Hyderabad**	**50.32**	**300**	*e*P	**P**	**10 55 52.7**	**-1.3**
HYB				IVmB_BB		10 55 58.7	
	comp=Z,11μm,1.7s						
HYB				*e*PcP	**PcP**	**10 57 03.0**	**+0.3**
HYB				*e*pP	**pP**	**10 57 37.6**	**-0.6**
HYB				*e*PP	**PP**	**10 57 57.9**	**+0.5**
HYB				*e*ScP	**ScP**	**11 00 06.0**	**+0.4**
HYB				*e*PcS	**PcS**	**11 01 00.8**	**-0.4**
HYB				IVMs_BB	IVMs_BB	11 02 24.4	
	comp=Z,4μm,4.3s						
HYB				*e*ScS	**ScS**	**11 04 46.4**	**+0.4**
WAKE	**Wake Island**	**50.40**	**58**	P	**P**	**10 55 53.6**	**-0.9**
WAKE				IAmb	IAmb	10 56 05.2	
	comp=Z,743nm,1.1s						
WAKE	**Wake Island**	**50.40**	**58**	P	**P**	**10 55 54.5**	**0.0**
KKN	**Kakani**	**50.45**	**315**	*e*P	**P**	**10 55 55.5**	**+0.5**
	comp=Z,8μm,1.8s						
DMN	**Daman**	**50.46**	**315**	*e*P	**P**	**10 55 55.1**	**0.0**
	comp=Z,3μm,1.1s						
JTM	**Tenmabayashi**	**50.59**	**18**	P	**P**	**10 55 56.7**	**+1.2**
JTM	**Tenmabayashi**	**50.59**	**18**	⇓P	**P**	**10 55 56.2**	**+0.7**
GOMU	**GeErMu**	**50.70**	**330**	P	**P**	**10 55 57.9**	**+1.1**
GOMU				PcP	**PcP**	**10 57 07.3**	**+3.1**
GOMU				pmax	pmax		
	comp=Z,220nm,1.6s						
VLA	**Vladivostok**	**50.76**	**8***c*	*i*P	**P**	**10 55 56.5**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**50.80**	**57**	P	**P**	**10 55 57.8**	**+0.6**
	baz=236,slow=12,SNR=60						
H11N2	**WAKE ISLAND Hy**	**50.81**	**57**	P	**P**	**10 55 58.2**	**+1.0**
	baz=236,slow=12,SNR=50						
H11N3	**WAKE ISLAND Hy**	**50.81**	**57**	P	**P**	**10 55 58.3**	**+1.1**
	baz=236,slow=12,SNR=108						
CN2	**Changchun**	**50.85**	**2**	⇓P	**P**	**10 55 57.1**	**-0.2**
CN2				*e*pP	pP	10 57 41.0	+0.6
CN2				*e*S	**S**	**11 02 34.3**	**+2.1**
CN2				pmax	pmax		
	comp=Z,100nm,1.0s						
CN2				pmax	pmax		
	comp=Z,2μm,5.0s						
GKN	**Gorkha**	**51.03**	**315**	*e*P	**P**	**10 55 59.1**	**0.0**
	comp=Z,4μm,0.9s						
AIS	**Amsterdam Isla**	**51.13**	**227**	P	**P**	**10 56 02.0**	**+2.5**
AIS				IAmb	IAmb	10 56 06.1	
	comp=Z,607nm,1.0s						
AIS	**Amsterdam Isla**	**51.13**	**227**	⇑P	**P**	**10 56 02.7**	**+3.2**
JOT	**Ohata**	**51.13**	**17**	P	**P**	**10 55 59.9**	**+0.5**
GTA	**Gaotai**	**51.16**	**337**	⇑P	**P**	**10 56 00.0**	**+0.2**
GTA				PcP	**PcP**	**10 57 08.9**	**+3.4**
GTA				pP	pP	10 57 43.9	-1.0
GTA				ScP	**ScP**	**11 00 10.8**	**+1.9**
GTA				S	**S**	**11 02 35.8**	**-1.1**
GTA				ScS	**ScS**	**11 04 53.3**	**+2.1**
GTA				sS	sS	11 05 41.3	-2.5
GTA				pmax	pmax		
	comp=Z,300nm,1.1s						
GTA				pmax	pmax		
	comp=Z,5μm,6.2s						
XLT	**XiLinHaoTe**	**51.29**	**354**	⇑*i*P	**P**	**10 56 00.3**	**-0.3**
XLT				S	**S**	**11 02 38.3**	**0.0**
XLT				ScS	**ScS**	**11 04 47.4**	**-4.4**
XLT				SS	**SKiKP**	**11 06 26.9**	**+1.1**
XLT				pmax	pmax		
	comp=Z,480nm,0.9s						
KOLN	**Koldanda**	**51.62**	**314**	*e*P	**P**	**10 56 03.5**	**0.0**
	comp=Z,10μm,1.6s						
HMDM	**Hanimaadhoo**	**51.65**	**285**	P	**P**	**10 56 05.1**	**+1.5**
	SNR=34						
HMDM	**Hanimaadhoo**	**51.65**	**285**	⇑P	**P**	**10 56 05.8**	**+2.1**
HMDM				⇓P	**pP**	**10 57 51.2**	**+2.7**
USA0B	**Ussuriysk Arra**	**51.84**	**8**	P	**P**	**10 56 04.3**	**-0.1**
USA0B				IAmb	IAmb	10 56 08.4	
	comp=Z,626nm,0.7s						
USA0B	**Ussuriysk Arra**	**51.84**	**8**	P	**P**	**10 56 04.3**	**-0.1**
USA0B				pmax	pmax		
	comp=Z,626nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.84**	**8**	P	**P**	**10 56 04.5**	**+0.1**
	comp=Z,513nm,0.5s,baz=194,slow=6.5,SNR=486						
USRK				ScP	**ScP**	**11 00 12.8**	**+1.4**
	comp=Z,99nm,1.0s,baz=215,slow=2.3,SNR=7.0						
USRK				S	**S**	**11 02 43.1**	**-2.3**
	comp=Z,39nm,1.0s,baz=200,slow=12,SNR=3.2						
USRK				PKPPKP	P'P'df	11 26 17.0	-11
	comp=Z,3.2nm,0.8s,baz=338,slow=2.1,SNR=4.8						
	comp=Z,513nm,0.5s						
DANN	**Dangsing**	**51.85**	**315**	*e*P	**P**	**10 56 05.2**	**0.0**
	comp=Z,6μm,0.8s						
MDJ	**Mudanjiang**	**51.96**	**6**	P	**P**	**10 56 05.8**	**+0.5**
MDJ				pP	pP	10 57 49.0	-0.2
MDJ				PP	**PP**	**10 58 08.3**	**-3.2**
MDJ				sP	sP	10 58 50.3	+0.6
MDJ				ScP	**ScP**	**11 00 13.1**	**+1.1**
MDJ				PcS	**PcS**	**11 01 05.8**	**-1.4**
MDJ				S	**S**	**11 02 48.4**	**+1.4**
MDJ				ScS	**ScS**	**11 04 57.3**	**+1.0**
MDJ				sS	sS	11 05 56.8	+2.1
MDJ				SS	**SS**	**11 06 39.8**	**+5.1**
MDJ				pmax	pmax		
	comp=Z,1μm,0.8s						
MDJ				pmax	pmax		
	comp=Z,2μm,4.2s						
MDJ	**Mudanjiang**	**51.96**	**6**	P	**P**	**10 56 06.2**	**+0.9**
MDJ	**Mudanjiang**	**51.96**	**6**	P	**P**	**10 56 05.6**	**+0.3**
MDJ				pP	**pP**	**10 57 50.8**	**+1.6**
MDJ				ScP	**ScP**	**11 00 13.1**	**+1.1**
JSH	**Shimam**	**52.01**	**16**	P	**P**	**10 56 06.8**	**+1.2**
MNCI	**Minicoy**	**52.16**	**286**	IAmb	IAmb	10 56 13.4	
	comp=Z,1μm,1.0s						
MNCI	**Minicoy**	**52.16**	**286**	⇓P	**P**	**10 56 08.3**	**+1.0**
PYUN	**Piuthan**	**52.25**	**314**	*e*P	**P**	**10 56 08.1**	**+0.1**
	comp=Z,8μm,1.0s						
ERM	**Erimo**	**52.36**	**19**	P	**P**	**10 56 08.7**	**+0.5**
ERM	**Erimo**	**52.36**	**19**	P	**P**	**10 56 09.5**	**+1.3**
ERM	**Erimo**	**52.36**	**19**	⇑P	**P**	**10 56 08.7**	**+0.5**
ERM	**Erimo**	**52.36**	**19***d*	*i*P	**P**	**10 56 09.1**	**+0.9**
ERM				pmax	pmax		
	comp=Z,265nm,0.8s						
ERM	**Erimo**	**52.36**	**19**	P	**P**	**10 56 09.1**	**+0.9**
JEM	**Erimo**	**52.36**	**19**	P	**P**	**10 56 09.7**	**+1.5**
JEM	**Erimo**	**52.36**	**19**	P	**P**	**10 56 08.8**	**+0.6**
JEW	**Eniwo**	**52.59**	**17**	P	**P**	**10 56 10.9**	**+1.1**
BNX	**BinXian**	**52.89**	**4**	⇓P	**P**	**10 56 11.9**	**0.0**
BNX				pP	**pP**	**10 57 55.9**	**-0.6**
BNX				PP	**PP**	**10 58 23.3**	**+3.6**
BNX				sP	**sP**	**10 58 53.4**	**-3.4**
BNX				S	**S**	**11 02 59.8**	**+0.5**
BNX				sS	**sS**	**11 06 08.5**	**+0.7**
BNX				pmax	pmax		
	comp=Z,140nm,1.0s						
BNX				pmax	pmax		
	comp=Z,1μm,4.0s						
TEY	**Ternei**	**53.45**	**12**	⇓*e*P	**P**	**10 56 16.5**	**+0.6**
TEY				*e*		11 03 06.3	
TEY				pmax	pmax		
	comp=N,190nm,0.8s						
TEY				pmax	pmax		
	comp=Z,450nm,0.7s						
TEY				pmax	pmax		
	comp=E,2μm,8.7s						
TEY				pmax	pmax		
	comp=N,2μm,7.5s						
TEY				pmax	pmax		
	comp=Z,2μm,7.8s						
GOA	**Goa**	**53.73**	**295**	*e*P	**P**	**10 56 18.1**	**-0.3**
GOA				IAmb	IAmb	10 56 24.5	
	comp=Z,876nm,0.9s						
DCZ	**Deep Cove**	**53.82**	**143**	IAmb	IAmb	10 56 23.3	
	comp=Z,761nm,1.2s						
DCZ	**Deep Cove**	**53.82**	**143**	P	**P**	**10 56 19.7**	**+1.1**
	comp=Z,23μmcomp=Z,587nm,1.1s,comp=Z,9μmcomp=Z,15μm						
MSZ	**Milford Sound**	**53.89**	**141**	P	**P**	**10 56 20.2**	**+1.1**
	comp=Z,36μmcomp=Z,2μm,0.8s,comp=Z,13μm						
BHPL	**Bhopal**	**53.90**	**306**	*e*P	**P**	**10 56 18.3**	**-1.3**
BHPL				IAmb	IAmb	10 56 24.5	
	comp=Z,776nm,0.7s						
PYZ	**Puysegur Point**	**53.91**	**144**	P	**P**	**10 56 20.0**	**+0.8**
PYZ				IAmb	IAmb	10 56 23.6	
	comp=Z,488nm,0.7s						
PYZ	**Puysegur Point**	**53.91**	**144**	P	**P**	**10 56 20.5**	**+1.3**
PYZ	**Puysegur Point**	**53.91**	**144**	P	**P**	**10 56 20.2**	**+1.0**
	comp=Z,28μmcomp=Z,718nm,1.1s,comp=Z,10μmcomp=Z,16μm						
OUZ	**Omahuta**	**53.98**	**129**	P	**P**	**10 56 21.2**	**+1.2**
OUZ	**Omahuta**	**53.98**	**129**	P	**P**	**10 56 21.9**	**+2.0**
	comp=Z,15μmcomp=Z,383nm,0.9s,comp=Z,7μmcomp=Z,27μm						
OUZ	**Omahuta**	**53.98**	**129**	⇓P	**P**	**10 56 21.1**	**+1.2**
YSA	**Yasawairara**	**54.03**	**105**	P	**P**	**10 56 21.7**	**+1.2**
JKA	**Kamikawa-asahi**	**54.09**	**17**	IAmb	IAmb	10 56 26.7	
	comp=Z,741nm,1.1s						
JCZ	**Jackson Bay**	**54.14**	**140**	P	**P**	**10 56 22.0**	**+1.0**
JCZ	**Jackson Bay**	**54.14**	**140**	P	**P**	**10 56 22.4**	**+1.4**
	comp=Z,57μmcomp=Z,1μm,1.3s,comp=Z,15μmcomp=Z,17μm						
MLZ	**Mavora Lakes**	**54.36**	**142**	IAmb	IAmb	10 56 26.7	
	comp=Z,757nm,1.0s						
MLZ	**Mavora Lakes**	**54.36**	**142**	P	**P**	**10 56 23.1**	**+0.7**
	comp=Z,23μmcomp=Z,833nm,1.1s,comp=Z,10μmcomp=Z,15μm						
WHZ	**Wether Hill Ro**	**54.52**	**143**	IAmb	IAmb	10 56 27.6	
	comp=Z,952nm,0.9s						
WHZ	**Wether Hill Ro**	**54.52**	**143**	P	**P**	**10 56 23.4**	**-0.1**
	comp=Z,35μmcomp=Z,1μm,0.8s,comp=Z,12μmcomp=Z,14μm						
MSVF	**Nonsavu**	**54.54**	**107**	P	**P**	**10 56 25.1**	**+0.9**
MSVF	**Nonsavu**	**54.54**	**107**	P	**P**	**10 56 25.5**	**+1.3**
MSVF	**Nonsavu**	**54.54**	**107**	⇓P	**P**	**10 56 25.0**	**+0.7**
MSVF				⇓P	**P**	**10 56 25.1**	**+0.9**
MSVF	**Nonsavu**	**54.54**	**107**	P	**P**	**10 56 25.1**	**+0.9**
MSVF				pmax	pmax		
	comp=Z,1μm,0.7s						
MSVF	**Nonsavu**	**54.54**	**107**	P	**P**	**10 56 25.1**	**+0.9**
MSVF				pP	**pP**	**10 58 11.4**	**+0.4**
FOZ	**Fox Glacier**	**54.54**	**139**	P	**P**	**10 56 24.0**	**+0.4**
FOZ	**Fox Glacier**	**54.54**	**139**	P	**P**	**10 56 23.6**	**-0.1**
	comp=Z,16μmcomp=Z,439nm,0.7s,comp=Z,7μmcomp=Z,17μm						
WKZ	**Wanaka**	**54.65**	**141**	P	**P**	**10 56 24.8**	**+0.4**
WKZ	**Wanaka**	**54.65**	**141**	P	**P**	**10 56 25.3**	**+0.8**
	comp=Z,26μmcomp=Z,294nm,0.8s,comp=Z,7μm						
WCZ	**Waipu Caves**	**54.79**	**129**	P	**P**	**10 56 27.3**	**+1.7**
	comp=Z,17μmcomp=Z,254nm,0.9s,comp=Z,9μmcomp=Z,24μm						
POO	**Poona**	**54.86**	**299**	*e*P	**P**	**10 56 25.3**	**-1.1**
POO				IAmb	IAmb	10 56 31.5	
	comp=Z,894nm,0.8s						
WVZ	**Waitaha Valley**	**54.93**	**139**	P	**P**	**10 56 26.5**	**+0.1**
	comp=Z,25μmcomp=Z,605nm,0.9s,comp=Z,11μmcomp=Z,19μm						
JWK2	**Keihoku**	**54.99**	**16**	P	**P**	**10 56 27.5**	**+0.8**
EAZ	**Earnscleugh**	**55.02**	**141**	P	**P**	**10 56 27.0**	**0.0**
	comp=Z,11μmcomp=Z,420nm,0.8s,comp=Z,7μmcomp=Z,16μm						
APZ	**The Paps**	**55.03**	**144**	P	**P**	**10 56 27.6**	**+0.5**
	comp=Z,36μmcomp=Z,1μm,0.9s,comp=Z,11μmcomp=Z,15μm						
YUK	**Yuzh-Kuril'sk**	**55.05**	**20***d*	*i*P	**P**	**10 56 26.2**	**-1.0**
YUK				*e*		10 57 18.6	
YUK				*e*		10 58 40.0	
YUK				*i* S	**S**	**11 03 26.5**	**-1.2**
YUK				*e*		11 05 18.1	
YUK				*e*SS	**SS**	**11 07 27.8**	**+4.5**
YUK				pmax	pmax		
	comp=Z,2μm,1.2s						
YUK				pmax	pmax		
	comp=Z,2μm,1.1s						
YUK				pmax	pmax		
	comp=N,955nm,0.7s						
YUK				pmax	pmax		
	comp=E,1μm,1.0s						
DSZ	**Denniston Nort**	**55.08**	**137**	IAmb	IAmb	10 56 32.5	
	comp=Z,1μm,1.0s						
DSZ				pP		10 58 13.2	-1.1
DSZ	**Denniston Nort**	**55.08**	**137**	P	**P**	**10 56 28.9**	**+1.4**
	comp=Z,35μmcomp=Z,1μm,1.1s,comp=Z,15μmcomp=Z,22μm						
LBZ	**Lake Benmore**	**55.17**	**140**	P	**P**	**10 56 28.2**	**+0.1**
LBZ	**Lake Benmore**	**55.17**	**140**	P	**P**	**10 56 27.8**	**-0.3**
	comp=Z,22μmcomp=Z,749nm,1.7s,comp=Z,9μmcomp=Z,16μm						
QRZ	**Quartz Range**	**55.20**	**135**	IAmb	IAmb	10 56 33.2	
	comp=Z,609nm,0.7s						
QRZ	**Quartz Range**	**55.20**	**135**	P	**P**	**10 56 29.9**	**+1.5**
QRZ	**Quartz Range**	**55.20**	**135**	P	**P**	**10 56 30.0**	**+1.6**
	comp=Z,38μmcomp=Z,860nm,1.0s,comp=Z,15μmcomp=Z,27μm						
MCQ	**Macquarie Isla**	**55.22**	**155**	P	**P**	**10 56 29.4**	**+1.2**
	baz=55,SNR=25						
MCQ	**Macquarie Isla**	**55.22**	**155**	IAmb	IAmb	10 56 33.7	
	comp=Z,2μm,0.9s						
MCQ	**Macquarie Isla**	**55.22**	**155**	P	**P**	**10 56 29.5**	**+1.4**
MCQ	**Macquarie Isla**	**55.22**	**155**	⇓P	**P**	**10 56 29.6**	**+1.4**
INZ	**Inchbonnie**	**55.25**	**138**	P	**P**	**10 56 28.8**	**+0.1**
	comp=Z,26μmcomp=Z,629nm,1.2s,comp=Z,11μmcomp=Z,21μm						
RPZ	**Rata Peaks**	**55.42**	**139**	P	**P**	**10 56 30.2**	**+0.3**
RPZ	**Rata Peaks**	**55.42**	**139**	P	**P**	**10 56 30.5**	**+0.6**
	comp=Z,101μmcomp=Z,4μm,0.9s,comp=Z,29μm						
SYZ	**Scrubby Hill**	**55.56**	**143**	P	**P**	**10 56 30.9**	**+0.2**
SYZ	**Scrubby Hill**	**55.56**	**143**	P	**P**	**10 56 30.9**	**+0.2**
	comp=Z,21μmcomp=Z,532nm,1.1s,comp=Z,9μmcomp=Z,15μm						
TUZ	**Tuapeka**	**55.57**	**142**	P	**P**	**10 56 30.7**	**-0.1**
	comp=Z,18μmcomp=Z,517nm,1.4s,comp=Z,11μm						
FUNA	**Funafuti**	**55.60**	**95**	P	**P**	**10 56 32.0**	**+0.4**
FUNA				IAmb	IAmb	10 56 34.3	
	comp=Z,1μm,1.1s						
FUNA	**Funafuti**	**55.60**	**95**	P	**P**	**10 56 31.9**	**+0.4**
FUNA	**Funafuti**	**55.60**	**95**	⇓P	**P**	**10 56 31.7**	**+0.1**
FUNA	**Funafuti**	**55.60**	**95**	P	**P**	**10 56 31.9**	**+0.3**
FUNA				pP	**pP**	**10 58 17.8**	**-0.6**
FUNA				PP	**PP**	**10 58 42.1**	**-2.1**
KHEZ	**Kahui Hut**	**55.68**	**

ULN				pmax	pmax		
	comp=Z,801nm,1.5s						
ULN	**Ulaanbaatar**	**56.66**	**347**	P	**P**	**10 56 38.5**	**+0.1**
ULN				PcP	**PcP**	**10 57 28.2**	**+1.6**
ULN				pP	**pP**	**10 58 26.5**	**+0.1**
ULN				PP	**PP**	**10 58 50.9**	**-2.3**
ULN				ScP	**ScP**	**11 00 34.3**	**+1.5**
YSS	**Yuzh-Sakhalins**	**56.73**	**16**	P	**P**	**10 56 39.3**	**+0.6**
YSS				IAmb	IAmb	10 56 44.8	
	comp=Z,1μm,1.3s						
YSS	**Yuzh-Sakhalins**	**56.73**	**16**	P	**P**	**10 56 40.2**	**+1.5**
YSS	**Yuzh-Sakhalins**	**56.73**	**16**	⇑P	**P**	**10 56 39.2**	**+0.5**
YSS	**Yuzh-Sakhalins**	**56.73**	**16**	κeP	**P**	**10 56 39.5**	**+0.8**
YSS				*e*		10 57 29.9	
YSS				*e*		10 58 59.4	
YSS				*e**SP	**sP**	**10 59 25.6**	**+1.2**
YSS				*e*S	**S**	**11 03 48.8**	**-0.5**
YSS				*e*PS	**SPn**	**11 04 07.3**	**+6.3**
YSS				*e*		11 05 32.0	
YSS				*e*SS	**SS**	**11 07 50.1**	**+0.5**
YSS				pmax	pmax		
	comp=Z,2μm,2.8s						
YSS				pmax	pmax		
	comp=E,500nm,3.1s						
YSS				pmax	pmax		
	comp=Z,650nm,1.2s						
YSS				smax	smax		
	comp=E,18μm,12.3s						
YSS				MLR	MLR		
	comp=Z,3μm,17.0s						
YSS	**Yuzh-Sakhalins**	**56.73**	**16**	P	**P**	**10 56 39.6**	**+0.8**
YSS				pP	**pP**	**10 58 27.9**	**+2.9**
YSS				ScP	**ScP**	**11 00 35.8**	**+2.9**
KUTZ	**Kaahu Road**	**56.73**	**132**	P	**P**	**10 56 42.0**	**+2.9**
	comp=Z,48μmcomp=Z,341nm,0.9s,comp=Z,4μm						
CMWZ	**Cape Campbell**	**56.73**	**134**	P	**P**	**10 56 38.8**	**-0.1**
WATZ	**Wairara**	**56.74**	**132**	P	**P**	**10 56 41.0**	**+1.9**
	comp=Z,34μmcomp=Z,974nm,0.9s,comp=Z,9μm						
WTVZ	**West Tongariro**	**56.77**	**132**	P	**P**	**10 56 40.3**	**+0.9**
	comp=Z,16μmcomp=Z,384nm,1.0s,comp=Z,5μm						
MTVZ	**Mangateitei**	**56.77**	**133**	P	**P**	**10 56 42.6**	**+3.2**
	comp=Z,109μmcomp=Z,718nm,0.9s,comp=Z,9μm						
SONM	**Songino Array**	**56.78**	**347**	P	**P**	**10 56 39.4**	**+0.1**
SONM	**Songino Array**	**56.78**	**347**	P	**P**	**10 56 39.2**	**0.0**
	comp=Z,150nm,0.5s,baz=163,slow=7.9,SNR=372						
SONM				ScP	**ScP**	**11 00 35.2**	**+1.9**
	comp=Z,50nm,0.8s,baz=161,slow=5.2,SNR=4.4						
SONM				S	**S**	**11 03 50.8**	**+0.5**
	comp=Z,37nm,1.2s,baz=178,slow=7.7,SNR=3.9						
SONM				P3KPbc		11 25 56.4	
	comp=Z,2.8nm,0.8s,baz=254,slow=4.4,SNR=6.0						
	comp=Z,150nm,0.5s						
FWVZ	**Far West T-bar**	**56.79**	**133**	P	**P**	**10 56 40.8**	**+1.2**
	comp=Z,18μmcomp=Z,346nm,1.1s,comp=Z,9μmcomp=Z,23μm						
NNVZ	**North Ngauruho**	**56.79**	**132**	P	**P**	**10 56 40.6**	**+1.0**
	comp=Z,26μmcomp=Z,558nm,0.8s,comp=Z,5μm						
NDI	**New Delhi**	**56.79**	**311**	*e*P	**P**	**10 56 39.0**	**-0.6**
KUR	**Kuril'sk**	**56.80**	**21***c*	*i*P	**P**	**10 56 41.6**	**+2.4**
KUR				*i*S	**S**	**11 03 51.3**	**+1.1**
KUR				pmax	pmax		
	comp=Z,2μm,1.2s						
NGZ	**Ngauruhoe**	**56.80**	**132**	P	**P**	**10 56 40.4**	**+0.8**
	comp=Z,32μmcomp=Z,320nm,0.9s,comp=Z,3μm						
KRVZ	**Karewarewa**	**56.80**	**132**	P	**P**	**10 56 40.6**	**+1.0**
	comp=Z,19μmcomp=Z,458nm,0.9s,comp=Z,5μm						
TRVZ	**Turoa**	**56.80**	**133**	P	**P**	**10 56 40.8**	**+1.1**
	comp=Z,23μmcomp=Z,740nm,1.0s,comp=Z,13μmcomp=Z,24μm						
TGRZ	**Tauranga**	**56.82**	**131**	P	**P**	**10 56 40.6**	**+1.0**
	comp=Z,35μmcomp=Z,592nm,0.9s,comp=Z,4μm						
RATZ	**Rangitukua**	**56.82**	**132**	P	**P**	**10 56 41.5**	**+1.8**
	comp=Z,30μmcomp=Z,754nm,1.4s,comp=Z,16μmcomp=Z,27μm						
WHVZ	**Whangaehu Hut**	**56.82**	**133**	P	**P**	**10 56 41.4**	**+1.5**
	comp=Z,20μmcomp=Z,660nm,1.3s,comp=Z,10μmcomp=Z,24μm						
NTVZ	**North Tongarir**	**56.83**	**132**	P	**P**	**10 56 40.8**	**+1.0**
	comp=Z,22μmcomp=Z,591nm,1.2s,comp=Z,11μmcomp=Z,24μm						
SNVZ	**South Ngauruho**	**56.83**	**132**	P	**P**	**10 56 40.7**	**+0.9**
	comp=Z,26μmcomp=Z,597nm,0.9s,comp=Z,4μm						
WNVZ	**Wahianoa**	**56.84**	**133**	P	**P**	**10 56 40.4**	**+0.4**
	comp=Z,39μmcomp=Z,349nm,0.8s,comp=Z,3μmcomp=Z,89nm						
TMVZ	**Te Maari**	**56.85**	**132**	P	**P**	**10 56 41.0**	**+1.0**
	comp=Z,31μmcomp=Z,696nm,1.0s,comp=Z,13μmcomp=Z,24μm						
ETVZ	**East Tongariro**	**56.86**	**132**	P	**P**	**10 56 40.9**	**+0.9**
	comp=Z,24μmcomp=Z,772nm,1.0s,comp=Z,12μmcomp=Z,24μm						
KIW	**Kapiti Island**	**56.89**	**135**	P	**P**	**10 56 39.4**	**-0.6**
	comp=Z,29μmcomp=Z,633nm,0.9s,comp=Z,5μm						
GRRZ	**Galatos Road**	**56.90**	**131**	P	**P**	**10 56 41.6**	**+1.4**
	comp=Z,27μmcomp=Z,822nm,0.8s,comp=Z,6μm						
SNZO	**South Karori**	**56.91**	**135**	P	**P**	**10 56 39.5**	**-0.6**
SNZO				IAmb	IAmb	10 56 43.5	
	comp=Z,733nm,0.9s						
SNZO	**South Karori**	**56.91**	**135**	P	**P**	**10 56 39.3**	**-0.8**
SNZO	**South Karori**	**56.91**	**135**	⇓P	**P**	**10 56 39.1**	**-1.0**
SNZO	**South Karori**	**56.91**	**135**	P	**P**	**10 56 39.2**	**-1.0**
SNZO				PcP	**PcP**	**10 57 28.3**	**+0.7**
SNZO				pP	**pP**	**10 58 27.9**	**+0.1**
RTZ	**Rihia Road**	**56.92**	**132**	P	**P**	**10 56 41.5**	**+1.1**
OHWZ	**Ohakea**	**56.94**	**134**	P	**P**	**10 56 42.4**	**+2.0**
	comp=Z,721nm,0.9s						
WEL	**Wellington**	**56.94**	**135**	P	**P**	**10 56 40.1**	**-0.3**
	comp=Z,49μmcomp=Z,1μm,1.0s,comp=Z,13μmcomp=Z,19μm						
HSRZ	**Hossack Road**	**56.99**	**131**	P	**P**	**10 56 42.7**	**+1.9**
	comp=Z,18μmcomp=Z,395nm,1.0s,comp=Z,3μm						
WPRZ	**Whakapapatarin**	**56.99**	**132**	P	**P**	**10 56 43.6**	**+2.8**
	comp=Z,36μmcomp=Z,521nm,0.9s,comp=Z,4μm						
LIRZ	**Lichensteins R**	**56.99**	**131**	P	**P**	**10 56 42.5**	**+1.7**
	comp=Z,29μmcomp=Z,787nm,0.8s,comp=Z,6μm						
OMRZ	**Omania**	**57.02**	**131**	P	**P**	**10 56 42.3**	**+1.3**
	comp=Z,36μmcomp=Z,1μm,0.9s,comp=Z,7μm						
DDI	**Dehra Dun**	**57.05**	**313**	*e*P	**P**	**10 56 41.6**	**+0.2**
DDI				IAmb	IAmb	10 56 46.6	
	comp=Z,1μm,0.8s						
OGWZ	**Otaki Gorge**	**57.06**	**134**	P	**P**	**10 56 40.6**	**-0.6**
	comp=Z,55μmcomp=Z,1μm,0.8s,comp=Z,8μm						
BHW	**Baring Head**	**57.06**	**135**	IAmb	IAmb	10 56 44.3	
	comp=Z,667nm,0.7s						
BHW	**Baring Head**	**57.06**	**135**	P	**P**	**10 56 40.2**	**-0.9**
	comp=Z,36μmcomp=Z,1μm,0.8s,comp=Z,11μmcomp=Z,21μm						
OPRZ	**Ohinepanea**	**57.07**	**131**	P	**P**	**10 56 42.1**	**+0.8**
	comp=Z,24μmcomp=Z,481nm,1.8s,comp=Z,13μmcomp=Z,29μm						
CAW	**Cannon Point**	**57.09**	**135**	P	**P**	**10 56 40.6**	**-0.8**
	comp=Z,48μmcomp=Z,799nm,0.9s,comp=Z,5μm						
PRRZ	**Plateau Road**	**57.16**	**131**	P	**P**	**10 56 43.3**	**+1.4**
	comp=Z,24μmcomp=Z,211nm,0.9s,comp=Z,2μm						
TARZ	**Mount Tarawera**	**57.16**	**131**	P	**P**	**10 56 44.0**	**+1.9**
	comp=Z,43μmcomp=Z,224nm,0.8s,comp=Z,3μm						
RRRZ	**Republican Roa**	**57.20**	**131**	P	**P**	**10 56 42.9**	**+0.7**
MARZ	**Manawahe**	**57.21**	**131**	P	**P**	**10 56 43.9**	**+1.6**
	comp=Z,57μmcomp=Z,2μm,0.8s,comp=Z,12μm						
BHHZ	**Black Hill Sta**	**57.24**	**133**	P	**P**	**10 56 42.1**	**-0.4**
	comp=Z,37μmcomp=Z,436nm,0.8s,comp=Z,4μm						
MRHZ	**Matea Rd**	**57.28**	**132**	P	**P**	**10 56 42.6**	**-0.2**
MRZ	**Mangatainoka R**	**57.29**	**134**	P	**P**	**10 56 41.9**	**-0.9**
	comp=Z,23μmcomp=Z,601nm,1.1s,comp=Z,9μmcomp=Z,20μm						
HOWZ	**Holdsworth Sta**	**57.33**	**134**	P	**P**	**10 56 42.3**	**-0.8**
	comp=Z,65μmcomp=Z,911nm,0.5s,comp=Z,12μm						
POWZ	**Post Office Ro**	**57.33**	**134**	P	**P**	**10 56 42.5**	**-0.5**
	comp=Z,22μmcomp=Z,436nm,0.8s,comp=Z,4μm						
TSZ	**Takapari Road**	**57.36**	**133**	P	**P**	**10 56 43.0**	**-0.3**
	comp=Z,41μmcomp=Z,1μm,1.0s,comp=Z,17μmcomp=Z,22μm						
HEH	**HeiHe**	**57.38**	**3**	*e*P	**P**	**10 56 43.1**	**0.0**
HEH				PcP	**PcP**	**10 57 30.6**	**+1.4**
HEH				pP	**pP**	**10 58 30.3**	**-0.3**
HEH				S	**S**	**11 03 55.8**	**-1.8**
HEH				pmax	pmax		
	comp=Z,820nm,1.0s						
HEH				pmax	pmax		
	comp=Z,3μm,4.1s						
PLWZ	**Palliser**	**57.39**	**135**		pwP	10 58 32.4	-1.2
PLWZ	**Palliser**	**57.39**	**135**	P	**P**	**10 56 43.0**	**-0.5**
	comp=Z,35μmcomp=Z,498nm,0.6s,comp=Z,4μm						
MTW	**Mount Morrison**	**57.41**	**135**	P	**P**	**10 56 42.9**	**-0.7**
	comp=Z,24μmcomp=Z,358nm,0.8s,comp=Z,4μm						
PAWZ	**Paruwai Farm**	**57.44**	**135**	P	**P**	**10 56 43.2**	**-0.6**
	comp=Z,35μmcomp=Z,650nm,0.9s,comp=Z,5μm						
BKZ	**Black Stump Fm**	**57.45**	**132**	IAmb	IAmb	10 56 48.5	
	comp=Z,670nm,1.0s						
BKZ	**Black Stump Fm**	**57.45**	**132**	P	**P**	**10 56 43.9**	**0.0**
BKZ	**Black Stump Fm**	**57.45**	**132**	P	**P**	**10 56 43.5**	**-0.4**
	comp=Z,30μmcomp=Z,779nm,0.8s,comp=Z,12μm						
PNHZ	**Pukenui**	**57.48**	**133**	P	**P**	**10 56 43.9**	**-0.3**
	comp=Z,24μmcomp=Z,278nm,0.9s,comp=Z,3μm						
PRWZ	**Pori Road**	**57.53**	**134**	P	**P**	**10 56 44.1**	**-0.4**
	comp=Z,47μmcomp=Z,427nm,1.0s,comp=Z,5μm						
DVHZ	**Dannevirke**	**57.59**	**134**	P	**P**	**10 56 44.3**	**-0.6**
	comp=Z,51μmcomp=Z,658nm,0.8s,comp=Z,5μm						
MTHZ	**Maungataniwha**	**57.60**	**132**	P	**P**	**10 56 44.8**	**-0.2**
	comp=Z,114μmcomp=Z,904nm,0.4s,comp=Z,12μm						
URZ	**Urewera**	**57.62**	**131**	P	**P**	**10 56 44.5**	**-0.5**
URZ	**Urewera**	**57.62**	**131**	P	**P**	**10 56 44.2**	**-0.8**
	comp=Z,29μmcomp=Z,904nm,0.9s,comp=Z,11μmcomp=Z,26μm						
TRWZ	**Traveller**	**57.63**	**135**	P	**P**	**10 56 45.2**	**+0.1**
	comp=Z,59μmcomp=Z,597nm,0.7s,comp=Z,6μm						
RTZ	**Ruatahuna**	**57.63**	**131**	P	**P**	**10 56 44.6**	**-0.7**
	comp=Z,34μmcomp=Z,605nm,1.1s,comp=Z,9μmcomp=Z,15μm						
TMWZ	**Te Maipa**	**57.67**	**135**	P	**P**	**10 56 45.2**	**-0.2**
	comp=Z,44μmcomp=Z,242nm,0.5s,comp=Z,5μm						
BFZ	**Birch Farm**	**57.77**	**134**	IAmb	IAmb	10 56 47.6	
	comp=Z,1μm,1.8s						
BFZ	**Birch Farm**	**57.77**	**134**	P	**P**	**10 56 46.1**	**0.0**
BFZ	**Birch Farm**	**57.77**	**134**	P	**P**	**10 56 46.7**	**+0.6**
	comp=Z,23μmcomp=Z,418nm,0.7s,comp=Z,12μmcomp=Z,27μm						
ANWZ	**Angora Road**	**57.86**	**134**	P	**P**	**10 56 46.3**	**-0.4**
	comp=Z,70μmcomp=Z,781nm,0.8s,comp=Z,11μm						
RAGZ	**Rawiri**	**57.92**	**131**	P	**P**	**10 56 47.0**	**-0.2**
	comp=Z,91μmcomp=Z,1μm,0.8s,comp=Z,12μm						
MWZ	**Matawai**	**57.95**	**131**	P	**P**	**10 56 48.3**	**+0.9**
	comp=Z,54μmcomp=Z,1μm,1.0s,comp=Z,17μmcomp=Z,22μm						
HAZ	**Te Kaha**	**57.97**	**130**	P	**P**	**10 56 47.6**	**+0.2**
	comp=Z,29μmcomp=Z,571nm,1.0s,comp=Z,10μmcomp=Z,23μm						
PXZ	**Pawanui**	**58.00**	**133**	P	**P**	**10 56 48.3**	**+0.7**
	comp=Z,40μmcomp=Z,957nm,1.0s,comp=Z,23μmcomp=Z,27μm						
FUTU	**Fugatoga**	**58.10**	**102**	P	**P**	**10 56 49.9**	**+1.2**
FUTU	**Fugatoga**	**58.10**	**102**	P	**P**	**10 56 50.1**	**+1.4**
SMLA	**Simla**	**58.13**	**314**	*e*P	**P**	**10 56 48.5**	**-0.1**
SMLA				IAmb	IAmb	10 56 54.6	
	comp=Z,5μm,1.0s						
KNZ	**Kokohu**	**58.27**	**132**	P	**P**	**10 56 49.9**	**+0.4**
	comp=Z,27μmcomp=Z,526nm,0.9s,comp=Z,14μm						
MXZ	**Matakaoa Point**	**58.31**	**130**	P	**P**	**10 56 50.2**	**+0.4**
MXZ	**Matakaoa Point**	**58.31**	**130**	P	**P**	**10 56 50.5**	**+0.7**
	comp=Z,88μmcomp=Z,1μm,0.4s,comp=Z,26μmcomp=Z,25μm						
PUZ	**Puketiti**	**58.42**	**130**	P	**P**	**10 56 50.5**	**-0.1**
	comp=Z,49μmcomp=Z,686nm,0.8s,comp=Z,19μmcomp=Z,24μm						
UGL	**Uglegorsk**	**58.51**	**15**	*e*P	**P**	**10 56 50.4**	**-0.3**
UGL				*e*		10 58 43.6	
UGL				*e*S	**S**	**11 04 09.3**	**-2.5**
UGL				*e*		11 05 35.1	
UGL				*e*SS	**SS**	**11 08 13.5**	**-3.8**
UGL				pmax	pmax		
	comp=Z,590nm,1.0s						
UGL				pmax	pmax		
	comp=Z,4μm,6.5s						
UGL				smax	smax		
	comp=E,35μm,9.0s						
UGL				smax	smax		
	comp=N,11μm,11.5s						
GRNR	**Gornyy**	**58.93**	**10**	⇑*i*P	**P**	**10 56 54.8**	**+1.2**
GRNR				*e*		10 57 35.0	
GRNR				*e*S	**S**	**11 04 19.2**	**+2.1**
GRNR				*e*SS	**ScS**	**11 05 42.1**	**-4.7**
GRNR				pmax	pmax		
	comp=N,8.0nm,0.7s						
GRNR				pmax	pmax		
	comp=E,20nm,0.7s						
GRNR				pmax	pmax		
	comp=Z,230nm,0.6s						
GRNR				smax	smax		
	comp=E,30nm,0.9s						
ROCAM	**Rodrigues Isla**	**59.07**	**251**	P	P	10 57 00.7	+5.5
ROCAM				pP	pP	10 58 50.2	+5.9
DHRM	**DHARAMSHALA**	**59.36**	**314**	*e*P	**P**	**10 56 56.4**	**-0.7**
DHRM				IAmb	IAmb	10 57 02.5	
	comp=Z,1μm,0.7s						
CASY	**Casey**	**59.58**	**186**	P	**P**	**10 56 57.3**	**-0.3**
CASY	**Casey**	**59.58**	**186**	⇓P	**P**	**10 56 57.0**	**-0.6**
CASY	**Casey**	**59.58**	**186**	P	**P**	**10 56 57.3**	**-0.3**
CASY				pP	**pP**	**10 58 47.1**	**+0.3**
CASY				sP	**sP**	**10 59 46.2**	**-0.4**
CIT	**Chita**	**59.59**	**353**	*e*P	**P**	**10 56 59.4**	**+1.4**
CIT				*e*		10 57 39.2	
CIT				*e*		10 58 47.0	
CIT				*e*		10 59 44.9	
CIT				*e*		11 00 59.9	
CIT				pmax	pmax		
	comp=Z,745nm,1.9s						
ZAK	**Zakamensk**	**59.90**	**346**	*e*P	**P**	**10 56 59.3**	**-0.9**
ZAK				*e*		11 04 31.5	
ZAK				pmax	pmax		
	comp=Z,222nm,1.6s						
ZAK				pmax	pmax		
	comp=Z,76nm,1.0s						
WMQ	**Urumqi**	**60.04**	**331**	⇑P	**P**	**10 57 01.6**	**+0.4**
WMQ				PcP	**PcP**	**10 57 38.6**	**-1.6**
WMQ				pP	pP	10 58 54.8	+3.8
WMQ				PP	**PP**	**10 59 25.6**	**+2.6**
WMQ				ScP	**ScP**	**11 00 45.4**	**-2.4**
WMQ				S	**S**	**11 04 31.3**	**-0.2**
WMQ				ScS	SKKSac	11 05 54.3	-1.4
WMQ				sS	sS	11 07 47.3	+1.1
WMQ				pmax	pmax		
	comp=Z,580nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,3μm,4.1s						
TYV	**Tymovskoe**	**60.31**	**14**	*e*P	**P**	**10 57 04.7**	**+2.0**
TYV				*e*S	**S**	**11 04 36.1**	**+1.8**
TYV				pmax	pmax		
	comp=Z,345nm,0.9s						
TYV				pmax	pmax		
	comp=Z,3μm,6.0s						
TYV				smax	smax		
	comp=N,8μm,7.4s						
TYV				smax	smax		
	comp=E,31μm,7.4s						
TYV				smax	smax		
	comp=N,42nm,1.7s						
TYV				smax	smax		
	comp=E,89nm,1.7s						
BHUJ	**Bhuj**	**60.33**	**302**	*e*P	**P**	**10 57 05.0**	**+1.6**
BHUJ				IAmb	IAmb	10 57 09.0	
	comp=Z,1μm,1.4s						
DRV	**Dumont d'Urvil**	**60.47**	**172**	P	**P**	**10 57 03.1**	**-0.4**
DRV				pP	**pP**	**10 58 51.2**	**-1.7**
ZEA	**Zeya**	**60.85**	**3**	*e*P	**P**	**10 57 06.8**	**+0.6**
ZEA				*e**PP	**pP**	**10 58 55.8**	**-0.3**
ZEA				*e*S	**S**	**11 04 41.6**	**+0.6**
ZEA				*e*		11 06 01.7	
ZEA				pmax	pmax		
	comp=N,190nm,0.9s						
ZEA				pmax	pmax		
	comp=E,60nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,380nm,0.9s						
ZEA				pmax	pmax		
	comp=N,800nm,1.8s						
ZEA				pmax	pmax		
	comp=Z,1μm,2.1s						
ZEA				pmax	pmax		
	comp=E,200nm,9.5s						
ZEA				pmax	pmax		
	comp=N,600nm,7.3s						
ZEA				pmax	pmax		
	comp=Z,1μm,7.3s						
ZEA				smax	smax		
	comp=Z,7μm,12.0s						
ZEA				smax	smax		
	comp=E,13μm,11.3s						
ZEA				smax	smax		
	comp=N,14μm,10.7s						
IRK	**Irkutsk**	**61.39**	**347**	*e*P	**P**	**10 57 09.4**	**-0.4**
IRK				*e*S	**S**	**11 04 50.1**	**+2.3**
IRK				pmax	pmax		
	comp=Z,825nm,1.7s						
MOY	**Mondy**	**61.66**	**345**	*e*P	**P**	**10 57 12.1**	**+0.4**
MOY				*e*		11 04 50.2	
MOY				pmax	pmax		
	comp=Z,800nm,1.9s						
NKL	**Nikolayevsk**	**62.00**	**12**	*e*P	**P**	**10 57 13.8**	**+0.1**
NKL				*e*S	**S**	**11 04 54.4**	**-0.7**
NKL				pmax	pmax		
	comp=E,370nm,1.1s						
NKL				pmax	pmax		
	comp=N,834nm,0.7s						
NKL				pmax	pmax		
	comp=Z,2μm,0.8s						
NKL				smax	smax		
	comp=E,14μm,3.4s						
NKL				smax	smax		
	comp=N,6μm,3.0s						
NIL	**Nilore**	**62.28**	**314**	P	**P**	**10 57 15.2**	**-0.8**
NIL	**Nilore**	**62.28**	**314**	P	**P**	**10 57 15.5**	**-0.5**
NIL	**Nilore**	**62.28**	**314**	P	**P**	**10 57 15.2**	**-0.8**
NIL				pmax	pmax		
	comp=Z,1μm,0.7s						
NIL	**Nilore**	**62.28**	**314**	P	**P**	**10 57 15.7**	**-0.4**
KSH	**Kashi**	**63.68**	**321**	P	**P**	**10 57 25.0**	**0.0**
KSH				PcP	**PcP**	**10 57 58.6**	**+3.3**
KSH				pP	pwP	10 59 20.0	+1.6
KSH				PP	**PP**	**10 59 54.9**	**+0.1**
KSH				S	**S**	**11 05 16.6**	**+0.1**
KSH				ScS	**SKSac**	**11 06 19.0**	**-4.6**
KSH				SS	**SS**	**11 09 35.0**	**-3.4**
KSH				pmax	pmax		
	comp=Z,230nm,0.9s						
KSH				pmax	pmax		
	comp=Z,2μm,8.6s						
CTZ	**Chatham Island**	**63.76**	**135**	P	**P**	**10 57 26.3**	**+0.9**
CTZ				IAmb	IAmb	10 57 29.9	
	comp=Z,390nm,0.9s						
CTZ	**Chatham Island**	**63.76**	**135**	P	**P**	**10 57 26.1**	**+0.8**
SHLS	**Shalkode**	**63.86**	**326**	*i*P	**P**	**10 57 25.0**	**-1.2**
	comp=Z,572nm,0.7s,baz=326						
SHLS				*i*S	**S**	**11 05 16.7**	**-1.8**
	baz=326						
SHLS				*i*S	S	11 05 16.8	-1.7
	baz=326						
SHLS	**Shalkode**	**63.86**	**326**	*i*P	**P**	**10 57 24.9**	**-1.2**
SHLS				*i*S	**S**	**11 05 16.8**	**-1.7**
SHLS				pmax	pmax		
	comp=Z,572nm,0.7s						
TARG	**Taragay, Kyrgy**	**63.90**	**324**	P	**P**	**10 57 26.8**	**0.0**
TARG				IAmb	IAmb	10 57 40.8	
	comp=Z,472nm,1.0s						
TARG	**Taragay, Kyrgy**	**63.90**	**324**	P	**P**	**10 57 26.8**	**0.0**
TARG				pmax	pmax		
	comp=Z,472nm,1.0s						
PRZ	**Przheval'sk**	**64.03**	**325**	IAmb	IAmb	10 57 34.8	
	comp=Z,685nm,1.0s						
ZSN	**Zaisan**	**64.06**	**332**	*i*P	**P**	**10 57 27.2**	**0.0**
	baz=332						
ZSN	**Zaisan**	**64.06**	**332**	*i*P	**P**	**10 57 27.1**	**0.0**
UZB	**Uzynbulak**	**64.10**	**326**	*i*P	**P**	**10 57 27.9**	**+0.2**
	comp=Z,459nm,1.1s,baz=326						
UZB				*e*S	**S**	**11 05 22.5**	**+1.1**
	baz=326						
UZB	**Uzynbulak**	**64.10**	**326**	*i*P	**P**	**10 57 27.9**	**+0.2**
UZB				*e*S	**S**	**11 05 22.5**	**+1.1**
UZB				pmax	pmax		
	comp=Z,459nm,1.1s						
AFI	**Afiamalu**	**64.26**	**102**	P	**P**	**10 57 29.6**	**+0.5**
AFI				IAmb	IAmb	10 57 32.2	
	comp=Z,901nm,1.0s						
AFI	**Afiamalu**	**64.26**	**102**	P	**P**	**10 57 30.5**	**+1.4**
AFI	**Afiamalu**	**64.26**	**102**	⇓P	**P**	**10 57 29.5**	**+0.5**
AFI				⇑P	PcP	10 57 30.1	-28
AFI	**Afiamalu**	**64.26**	**102**	P	**P**	**10 57 29.6**	**+0.5**
AFI				pmax	pmax		
	comp=Z,901nm,1.0s						
AFI	**Afiamalu**	**64.26**	**102**	P	**P**	**10 57 29.9**	**+0.8**
AFI				pP	**pwP**	**10 59 22.5**	**0.0**
SATY	**Saty**	**64.39**	**325**	⇑*i*P	**P**	**10 57 30.0**	**+0.5**
	comp=Z,628nm,0.9s,baz=325						
SATY				*i*S	**S**	**11 05 26.0**	**+1.1**
	baz=325						
SATY	**Saty**	**64.39**	**325***c*	*i*P	**P**	**10 57 29.9**	**+0.5**
SATY				*i*S	**S**	**11 05 26.0**	**+1.1**
SATY				pmax	pmax		
	comp=Z,628nm,0.9s						
SKR	**Severo-Kuril's**	**64.39**	**23**	*e*P	**P**	**10 57 29.4**	**+0.3**
SKR				*e*		11 00 16.8	
SKR				*i*S	**S**	**11 05 22.0**	**-2.2**
SKR				pmax	pmax		
	comp=Z,6μm,9.2s						
SKR				pmax	pmax		
	comp=Z,722nm,0.6s						
ZHN	**Zhinishke**	**64.44**	**325**	*i*P	**P**	**10 57 29.9**	**+0.1**
	baz=325						
ZHN				*i*S	**S**	**11 05 26.5**	**+1.0**
	baz=325						
ZHN	**Zhinishke**	**64.44**	**325**	*i*P	**P**	**10 57 29.9**	**+0.1**
ZHN				*i*S	**S**	**11 05 26.5**	**+1.0**
KPKS	**Kokpek**	**64.49**	**326**	⇑*i*P	**P**	**10 57 30.3**	**+0.2**
	comp=Z,591nm,0.9s,baz=326						
KPKS				*e*S	**S**	**11 05 27.0**	**+0.9**
	baz=326						
KPKS	**Kokpek**	**64.49**	**326***c*	*i*P	**P**	**10 57 30.3**	**+0.2**
KPKS				*e*S	**S**	**11 05 26.9**	**+0.9**
KPKS				pmax	pmax		
	comp=Z,591nm,0.9s						
DGZ	**Jazzator, Alta**	**64.63**	**335***c*	*i*P	**P**	**10 57 30.8**	**-0.1**
DGZ				pmax	pmax		
	comp=Z,649nm,1.1s						
MK31	**Makanchi Array**	**64.83**	**330**	P	**P**	**10 57 32.1**	**+0.1**
MK31				IAmb	IAmb	10 57 38.3	
	comp=Z,680nm,0.8s						
MK31	**Makanchi Array**	**64.83**	**330**	P	**P**	**10 57 32.1**	**+0.1**
MK31				pmax	pmax		
	comp=Z,680nm,0.8s						
MKAR	**Makanchi Array**	**64.83**	**330**	P	**P**	**10 57 32.2**	**+0.2

baz=66,SNR=25
NIUE Niue 65.99 108 P **P 10 57 41.1 +1.3**
NIUE IAmb IAmb 10 57 43.1
comp=Z,762nm,0.9s
NIUE Niue 65.99 108 P **P 10 57 41.1 +1.3**
KUU Kurty 66.09 325 *e*P **P 10 57 40.0 +0.1**
comp=Z,1μm,0.9s,baz=325
KUU *e*S **S 11 05 45.8 +0.9**
baz=325
KUU Kurty 66.09 325 *e*P **P 10 57 40.0 +0.1**
KUU *e*S **S 11 05 45.7 +0.9**
KUU pmax pmax
comp=Z,1μm,0.9s
KBK Karagaybulak 66.15 323 P **P 10 57 41.1 +0.5**
SNR=107
RER Riviere de l'E 66.27 250 P **P 10 57 42.9 +1.2**
RER IAmb IAmb 10 57 48.4
comp=Z,630nm,0.9s
RER **pP 10 59 33.4 -1.1**
RER Riviere de l'E 66.27 250 P P 10 57 47.8 +6.1
SNR=7.2
RER Riviere de l'E 66.27 250 ⇓P **P 10 57 43.1 +1.4**
RER ⇑P **P 10 57 43.5 +1.8**
RER Riviere de l'E 66.27 250 P **P 10 57 43.1 +1.4**
RER pP **pP 10 59 35.6 +1.2**
AAK Ala-Archa 66.41 323 P **P 10 57 42.6 +0.5**
SNR=348
AAK Ala-Archa 66.41 323 P **P 10 57 42.8 +0.6**
AAK IAmb IAmb 10 57 48.9
comp=Z,711nm,0.8s
AAK Ala-Archa 66.41 323 *i* P **P 10 57 42.6 +0.5**
SNR=875
AAK Ala-Archa 66.41 323 P **P 10 57 42.5 +0.3**
AAK P **P 10 57 42.5 +0.3**
AAK S **S 11 05 50.7 +1.7**
AAK S **S 11 05 50.7 +1.7**
AAK Ala-Archa 66.41 323 P **P 10 57 42.8 +0.6**
AAK pmax pmax
comp=Z,711nm,0.8s
AAK Ala-Archa 66.41 323 PKPPKP 11 25 53.6
comp=Z,8.0nm,0.9s,baz=232,slow=5.0,SNR=5.3
AAK Ala-Archa 66.41 323 P **P 10 57 42.6 +0.5**
AAK PcP **PcP 10 58 07.7 +1.0**
AAK pP **pwP 10 59 36.1 -0.7**
FRU1 Bishkek 66.43 323 IAmb IAmb 10 57 48.1
comp=Z,335nm,0.7s
CHMS Chumysh 66.47 323 P **P 10 57 43.8 +1.4**
SNR=83
AML Almayashu 66.61 322 P **P 10 57 43.8 +0.1**
SNR=131
USP Ospenovka 66.78 323 P **P 10 57 44.3 0.0**
SNR=167
SGDS Sogindy 66.81 324⇑ *i* P **P 10 57 44.3 -0.2**
baz=324
SGDS *e*S **S 11 05 54.0 +0.5**
baz=324
SGDS Sogindy 66.81 324*c i* P **P 10 57 44.3 -0.2**
SGDS *e*S **S 11 05 53.9 +0.5**
EKS2 Erkin-Say 66.86 323 P **P 10 57 45.3 +0.4**
SNR=130
PEA0B Petropavlovsk- 66.92 22 IAmb IAmb 10 57 48.6
comp=Z,499nm,0.8s
PEA0B Petropavlovsk- 66.92 22*d i* P **P 10 57 45.7 +0.9**
PETK Petropavlovsk- 66.92 22 P **P 10 57 45.3 +0.5**
comp=Z,423nm,0.7s,baz=210,slow=2.5,SNR=257
PETK PKPPKP P'P'df 11 25 55.1 -10
comp=Z,14nm,1.0s,baz=73,slow=5.0,SNR=3.6
comp=Z,423nm,0.7s
MSEY Mahe Island 67.20 268 P **P 10 57 48.1 +0.6**
MSEY Mahe Island 67.20 268 *i* P **P 10 57 48.6 +1.1**
SNR=16
MSEY Mahe Island 67.20 268 P **P 10 57 48.3 +0.9**
MSEY S **S 11 06 01.4 +2.4**
MSEY Mahe Island 67.20 268 *e*P **P 10 57 47.8 +0.4**
MSEY IAmb IAmb 10 57 53.6
comp=Z,274nm,1.6s
MSEY Mahe Island 67.20 268 P **P 10 57 48.1 +0.6**
MSEY pmax pmax
comp=Z,167nm,1.0s
PET Petropavlovsk 67.21 22 P **P 10 57 46.9 +0.3**
PET IAmb IAmb 10 57 50.7
comp=Z,593nm,1.0s
PET Petropavlovsk 67.21 22 P **P 10 57 48.1 +1.5**
PET Petropavlovsk 67.21 22 *e*P **P 10 57 48.1 +1.5**
PET *e**PP **pP 10 59 36.9 -1.5**
PET *e**SP **sP 11 00 38.0 +1.7**
PET *e*S **S 11 05 59.0 +1.6**
PET *e*SS **SS 11 10 34.6 +2.9**
PET pmax pmax
comp=Z,843nm,1.4s
PET pmax pmax
comp=Z,5μm,15.5s
PET pmax pmax
comp=Z,7μm,14.0s
PET Petropavlovsk 67.21 22 P **P 10 57 47.7 +1.1**
PET pP **pP 10 59 39.1 +0.7**
BTK Batken 67.28 319 IAmb IAmb 10 57 54.6
comp=Z,324nm,0.8s
CCD Concordia, Ant 67.82 180 P **P 10 57 51.3 +0.8**
CCD PcP **PcP 10 58 13.2 +0.9**
CCD pP **pP 10 59 46.7 +2.7**
BTLS Baital 68.09 325⇑ *i* P **P 10 57 51.9 -0.3**
baz=325
BTLS *e*S **S 11 06 08.5 +0.4**
baz=325
BTLS Baital 68.09 325*c i* P **P 10 57 51.9 -0.3**
BTLS *e*S **S 11 06 08.5 +0.4**
SEM Semipalatinsk 68.31 332 *i* P **P 10 57 53.1 -0.6**
baz=332
SEM Semipalatinsk 68.31 332 *i* P **P 10 57 53.1 -0.6**
NGCH Negor - Chabah 68.32 301 P **P 10 57 55.5 +1.6**
SNR=13
NGCH S **S 11 06 11.8 +0.3**
DZA Taraz 68.48 322 *e*P **P 10 57 54.9 +0.2**
baz=322
DZA Taraz 68.48 322 *e*P **P 10 57 54.8 +0.2**
JLN Jalan Bani Buh 68.80 297 P **P 10 57 57.8 +0.8**
SNR=55
JLN P **P 10 57 57.8 +0.8**
SNR=55
JLN S **S 11 06 17.5 +0.3**
JLN S **S 11 06 17.5 +0.3**
IUG Iuzhnay 68.89 320 *i* P **P 10 57 57.3 +0.1**
comp=Z,482nm,0.9s,baz=320
IUG *e*S **S 11 06 18.7 +1.0**
baz=320
IUG Iuzhnay 68.89 320 *i* P **P 10 57 57.3 +0.1**
IUG *e*S **S 11 06 18.7 +1.0**
IUG pmax pmax
comp=Z,482nm,0.9s
ZAA0 Zalesovo Array 68.92 337 P **P 10 57 56.1 -0.8**
ZAA0 IAmb IAmb 10 58 00.8
comp=Z,402nm,0.9s
ZALV Zalesovo Beam 68.92 337 P **P 10 57 55.6 -1.3**
ZALV Zalesovo Beam 68.92 337 P **P 10 57 56.0 -1.0**
ZALV Zalesovo Beam 68.92 337 P **P 10 57 56.0 -1.0**
comp=Z,223nm,0.6s,baz=134,slow=4.5,SNR=283
ZALV S **S 11 06 13.9 -3.3**
comp=Z,81nm,0.9s,baz=128,slow=12,SNR=15
ZALV PKKP **PKKPdf 11 17 48.2 +0.4**
comp=Z,2.6nm,0.7s,baz=318,slow=2.0,SNR=5.0
ZALV PKPPKP P'P'df 11 25 51.5 -10
comp=Z,4.6nm,0.8s,baz=321,slow=4.0,SNR=4.0
comp=Z,223nm,0.6s
KKAR Karatay Array 69.10 322 P **P 10 57 58.0 -0.4**
KKAR Karatay Array 69.10 322 IAmb IAmb 10 58 04.4
comp=Z,759nm,1.9s
KKAR Karatay Array 69.10 322 P **P 10 57 58.0 -0.4**
CHM Chimkent 69.25 320 *e*P **P 10 57 59.2 -0.1**
baz=320
CHM Chimkent 69.25 320 *e*P **P 10 57 59.2 -0.1**
YAK Yakutsk 69.26 3 P **P 10 57 58.8 0.0**
YAK Yakutsk 69.26 3 *e*P **P 10 57 59.5 +0.7**
YAK *e**PP **pP 10 59 55.0 +2.0**
YAK *e* 11 00 40.3
YAK *e*S **S 11 06 22.8 +1.9**
YAK *e* 11 07 00.9
YAK *e*SSS SSS 11 14 21.2
YAK pmax pmax
comp=Z,2μm,0.8s
YAK pmax pmax
comp=N,326nm,0.9s
YAK pmax pmax
comp=E,127nm,1.0s
YAK pmax pmax
comp=Z,772nm,2.5s
YAK pmax pmax
comp=N,459nm,2.3s
YAK pmax pmax
comp=E,289nm,2.5s
YAK smax smax
comp=N,7μm,4.1s
YAK smax smax
comp=E,4μm,3.2s
YAK Yakutsk 69.26 3 P **P 10 57 59.5 +0.7**
YAK pP **pP 10 59 54.5 +1.5**
KURBB Kurchatov Arra 69.26 331 P **P 10 57 58.8 -0.3**
comp=E,174nm,0.6s,baz=144,slow=5.4,SNR=288
KURBB pP **pP 10 59 52.5 -0.8**
comp=E,20nm,0.6s,baz=131,slow=5.4,SNR=1.7
KURBB S **S 11 06 16.3 -5.0**
comp=E,28nm,1.0s,baz=137,slow=13,SNR=12
KURBB PKPPKP P'P'df 11 25 50.4 -11
comp=E,5.3nm,0.8s,baz=290,slow=2.8,SNR=6.4
KURBB P4KPbc 11 34 39.8
comp=E,3.0nm,0.8s,baz=131,slow=3.7,SNR=16
comp=E,174nm,0.6s
KURK Kurchatov 69.28 332 P **P 10 57 59.0 -0.1**
KURK IAmb IAmb 10 58 05.2
comp=Z,782nm,1.1s
KURK Kurchatov 69.28 332 P **P 10 57 59.1 -0.1**
KURK P **P 10 57 59.1 -0.1**
KURK S **S 11 06 20.5 -1.1**
KURK S **S 11 06 20.5 -1.1**
KURK Kurchatov 69.28 332 P **P 10 57 58.8 -0.4**
KURK *PP **pP 10 59 52.5 -0.9**
KURK Kurchatov 69.28 332 P **P 10 57 59.1 -0.1**
KURK pP **pP 10 59 53.8 +0.4**
WBK Wadi Bani Khal 69.33 297 P **P 10 57 60.0 -0.2**
SNR=101
WBK S **S 11 06 23.5 +0.1**
MHTO MHTO 69.75 295 P **P 10 58 01.8 -0.8**
SNR=123
MHTO P **P 10 58 01.8 -0.8**
SNR=123
MHTO S **S 11 06 26.5 -1.6**
MHTO S **S 11 06 26.5 -1.6**
WSAR Wadi Sarin 69.82 298 P **P 10 58 03.9 +0.8**
SNR=117
WSAR Wadi Sarin 69.82 298 S **S 11 06 28.8 -0.1**
WSAR Wadi Sarin 69.82 298 PKP2bc 11 25 58.3
comp=Z,39nm,1.1s,baz=283,slow=3.3,SNR=12
DQM DQM 69.84 294 P **P 10 58 03.9 +0.7**
SNR=82
DQM S **S 11 06 29.1 -0.1**
JMDO Jabal Madar 70.02 297 P **P 10 58 04.7 +0.4**
SNR=130
JMDO S **S 11 06 30.6 -0.7**
JMDO S **S 11 06 31.1 -0.1**
MA2 Magadan 70.17 15 P **P 10 58 05.5 +1.2**
MA2 IAmb IAmb 10 58 09.3
comp=Z,1μm,1.2s
MA2 Magadan 70.17 15 P **P 10 58 05.3 +0.9**
MA2 Magadan 70.17 15 P **P 10 58 05.5 +1.2**
MA2 pmax pmax
comp=Z,1μm,1.2s
MA2 Magadan 70.17 15 S **S 11 06 30.8 -0.7**
comp=Z,24nm,1.1s,baz=209,slow=22,SNR=1.6
MA2 Magadan 70.17 15 P **P 10 58 05.0 +0.7**
MA2 pP **pwP 11 00 01.0 -3.0**
SMDO Samad 70.27 298 P **P 10 58 06.5 +0.6**
SNR=70
SMDO S **S 11 06 34.7 +0.4**
BIDO Bidbid 70.34 298 P **P 10 58 07.1 +1.0**
SNR=176
BIDO S **S 11 06 34.1 -0.6**
HRA Herat 70.74 310 IAmb IAmb 10 58 14.6
comp=Z,872nm,1.7s
JOHN Johnston Islan 70.79 70 P **P 10 58 09.0 +0.2**
JOHN Johnston Islan 70.79 70 P **P 10 58 10.0 +1.2**
JOHN Johnston Islan 70.79 70 P **P 10 58 09.1 +0.2**
BSY Bisya 70.93 297 P **P 10 58 08.7 -1.0**
SNR=87
BSY S **S 11 06 40.4 -1.1**
HOQ Hoqain 71.08 298 P **P 10 58 10.7 +0.2**
SNR=134
HOQ S **S 11 06 43.3 +0.2**
SHAO Shalim 71.09 292 *i* P **P 10 58 11.5 +0.9**
SNR=82
SHAO Shalim 71.09 292 P **P 10 58 11.6 +0.9**
SNR=52
SHAO S **S 11 06 42.2 -1.2**
JASK Jask - Hormozg 71.28 300 P **P 10 58 13.4 +1.8**
SNR=32
JASK S **S 11 06 46.2 +0.9**
DMTO DMTO 71.64 291 P **P 10 58 14.1 +0.2**
SNR=65
DMTO S **S 11 06 46.7 -2.9**
ARQ Araqi 71.70 297 P **P 10 58 14.5 +0.4**
SNR=78
ARQ S **S 11 06 48.4 -1.7**
BRZS Berezniki 71.77 328 *e*P **P 10 58 13.8 -0.2**
baz=328
BRZS *e*S **S 11 06 50.1 +0.2**
baz=328
BRZS Berezniki 71.77 328 *e*P **P 10 58 13.7 -0.2**
BRZS *e*S **S 11 06 50.0 +0.2**
H04N2 CROZET ISLANDS 71.83 224 P **P 10 58 18.2 +4.1**
baz=63,slow=3.2,SNR=7.7
H04N3 CROZET ISLANDS 71.85 224 P **P 10 58 18.4 +4.2**
baz=63,slow=3.2,SNR=3.6
H04N1 CROZET ISLANDS 71.85 224 P **P 10 58 16.5 +2.3**
baz=63,slow=3.2,SNR=2.8
H04S1 CROZET ISLANDS 71.86 223 P **P 10 58 16.5 +2.1**
baz=72,slow=5.7,SNR=5.2
H04S2 CROZET ISLANDS 71.87 223 P **P 10 58 16.0 +1.6**
baz=72,slow=5.7,SNR=6.4
H04S3 CROZET ISLANDS 71.88 223 P **P 10 58 16.9 +2.4**
baz=72,slow=5.7,SNR=14
SOHO SOHO 71.92 298 *i* P **P 10 58 15.8 +0.5**
SNR=101
SOHO SOHO 71.92 298 P **P 10 58 15.1 -0.2**
SOHO S **S 11 06 52.3 -0.1**
SBV Sambava 71.99 258 P P 10 58 28.0 +12
MAW Mawson 72.25 200 P **P 10 58 16.5 +0.1**
baz=72,SNR=320
MAW Mawson 72.25 200 P **P 10 58 16.5 +0.1**
comp=Z,198nm,0.8s,baz=78,slow=6.2,SNR=107
MAW pP **pP 11 00 10.9 -0.4**
comp=Z,22nm,0.7s,baz=74,slow=4.0,SNR=2.0
MAW S **SKiKP 11 06 53.3 +0.5**
comp=Z,7.8nm,1.0s,baz=165,slow=22,SNR=1.4
MAW PKP2bc 11 25 48.7
comp=Z,7.6nm,0.8s,baz=263,slow=7.7,SNR=3.8
comp=Z,198nm,0.8s
RBK Rabkut 72.28 291 P **P 10 58 17.6 0.0**
SNR=111
RBK S **SKiKP 11 06 54.7 +0.4**
UOSS Minazif 72.44 299 P **P 10 58 19.0 +0.7**
UOSS Minazif 72.44 299 *i* P **P 10 58 18.6 +0.2**
SNR=74
UOSS Minazif 72.44 299 P **P 10 58 18.5 +0.2**
UOSS S **SKiKP 11 06 55.7 +1.3**
MDH Madha 72.46 299 *i* P **P 10 58 21.0 +2.5**
SNR=24
MDH Madha 72.46 299 P **P 10 58 18.1 -0.3**
SNR=18
MDH S **S 11 06 56.5 -1.9**
HATD Hatta, Dubai 72.47 299 *i* P **P 10 58 19.2 +0.7**
SNR=78
HATD Hatta, Dubai 72.47 299 P **P 10 58 19.2 +0.7**
SNR=87
HATD S **S 11 06 57.7 -0.9**
ASHO Ashiyiah 72.49 299 *i* P **P 10 58 19.5 +0.8**
SNR=67
ASHO Ashiyiah 72.49 299 P **P 10 58 19.3 +0.6**
SNR=85
ASHO S **S 11 06 57.5 -1.4**
ALNE Al Ain 72.58 298 *i* P **P 10 58 20.1 +0.9**
SNR=60
ALNE Al Ain 72.58 298 P **P 10 58 19.7 +0.5**
SNR=108
ALNE S **S 11 06 57.8 -2.1**
MSFE Esma-Masafi 72.60 299 *i* P **P 10 58 20.0 +0.7**
SNR=69
MASF Masafi 72.60 299 P **P 10 58 19.6 +0.2**
SNR=47
MASF S **S 11 06 58.7 -1.4**
DOK Doka 72.62 292 P **P 10 58 18.8 -0.7**
SNR=136
DOK S **SKiKP 11 06 56.6 +1.9**
WHFO Wadi Hawf 72.78 291 P **P 10 58 19.8 -0.7**
SNR=177
WHFO S **SKiKP 11 06 58.3 +3.3**
SHME Shamm 72.81 300 *i* P **P 10 58 21.5 +1.0**
SNR=51
SHME Shamm 72.81 300 P **P 10 58 21.3 +0.8**
SNR=32
SHME S **S 11 07 01.8 -0.6**
FAQ Al Faqa, Dubai 72.91 299 *i* P **P 10 58 22.0 +0.9**
SNR=166
FAQ Al Faqa, Dubai 72.91 299 P **P 10 58 21.7 +0.6**
SNR=59
FAQ S **S 11 07 01.0 -2.5**
NAZ Nazwa, Dubai 72.92 299 *i* P **P 10 58 21.0 -0.1**
SNR=37
NAZ Nazwa, Dubai 72.92 299 P **P 10 58 21.7 +0.6**
SNR=48
NAZ S **S 11 07 01.4 -2.1**
NAZ S **SKiKP 11 07 02.4 +7.3**
UMQ Umm Al-Quwin 73.08 299 *i* P **P 10 58 22.9 +1.0**
SNR=12
UMQ Umm Al-Quwin 73.08 299 P **P 10 58 24.2 +2.2**
SNR=11
UMQ S **S 11 07 06.1 +0.9**
ABTO Aybut 73.09 291 P **P 10 58 22.2 -0.1**
SNR=169
ABTO S **S 11 07 02.3 -3.5**
ASUD Al Ashush, Dub 73.11 298 *i* P **P 10 58 22.7 +0.5**
SNR=32
ASUD Al Ashush, Dub 73.11 298 P **P 10 58 22.7 +0.5**
SNR=36
ASUD S **S 11 07 04.6 -1.1**
VNDA Vanda 73.12 172 P **P 10 58 21.0 -0.3**
VNDA IAmb IAmb 10 58 25.9
comp=Z,393nm,0.8s
VNDA Vanda 73.12 172 P **P 10 58 21.0 -0.3**
VNDA Vanda 73.12 172 P **P 10 58 20.9 -0.3**
comp=Z,274nm,0.7s,baz=318,slow=6.5,SNR=491
VNDA S **S 11 07 03.7 -0.2**
comp=Z,8.9nm,0.9s,baz=318,slow=16,SNR=17
VNDA PKP2bc 11 25 49.7
comp=Z,4.2nm,0.9s,baz=200,slow=2.4,SNR=4.2
comp=Z,274nm,0.7s
AJN Ajban 73.39 298 *i* P **P 10 58 23.7 -0.1**
SNR=8.5
AJN Ajban 73.39 298 P **P 10 58 23.9 +0.1**
SNR=32
AJN S **S 11 07 06.1 -2.6**
SEY Seymchan 73.48 14*d i* P **P 10 58 24.4 +0.9**
SEY pmax pmax
comp=Z,433nm,0.6s
SEY Seymchan 73.48 14 S **S 11 07 08.9 +0.7**
comp=Z,12nm,1.0s,baz=108,slow=22,SNR=20
SBA Scott Base 74.08 171 P **P 10 58 27.5 +0.8**
SBA Scott Base 74.08 171 P **P 10 58 27.5 +0.8**
SBA pmax pmax
comp=Z,253nm,0.9s
ABPO Ambohimpanom 74.30 252 P **P 10 58 30.0 +0.7**
ABPO Ambohimpanom 74.30 252⇓ *i* P **P 10 58 30.1 +0.8**
ABPO IAmb IAmb 10 58 35.6
comp=Z,126nm,0.9s
ABPO Ambohimpanom 74.30 252 P **P 10 58 30.0 +0.7**
ABPO pmax pmax
comp=Z,133nm,1.0s
MZR Muzera 74.30 296 *i* P **P 10 58 29.2 +0.2**
SNR=174
MZR Muzera 74.30 296 P **P 10 58 29.4 +0.3**
SNR=71
MZR S **S 11 07 17.1 -1.7**
FOMA Nahampoana Res 74.37 246 pP 11 00 24.1 -1.9
FOMA Nahampoana Res 74.37 246 P **P 10 58 32.8 +3.4**
SNR=6.3
VOI Vohitsoka 74.61 249 P **P 10 58 31.5 +0.6**
VOI Vohitsoka 74.61 249 P **P 10 58 32.0 +1.1**
SNR=21
VOI Vohitsoka 74.61 249 *e*P **P 10 58 31.2 +0.3**
BVAR Borovoye Array 74.71 330 P **P 10 58 30.3 -0.3**
comp=Z,113nm,0.7s,baz=134,slow=6.4,SNR=139
BVAR pP **pP 11 00 27.6 +0.3**
comp=Z,32nm,0.8s,baz=138,slow=8.9,SNR=2.6
BVAR PP **PP 11 01 27.2 -0.9**
comp=Z,83nm,1.0s,baz=119,slow=5.2,SNR=3.8
BVAR S **S 11 07 20.6 -1.4**
comp=Z,32nm,0.9s,baz=123,slow=11,SNR=8.5
BVAR PKP2bc 11 25 42.9
comp=Z,2.9nm,0.7s,baz=318,slow=2.0,SNR=6.6
comp=Z,113nm,0.7s
BRVK Borovoye 74.78 330 P **P 10 58 30.9 -0.2**
BRVK IAmb IAmb 10 58 37.1
comp=Z,857nm,1.5s
BRVK Borovoye 74.78 330 P **P 10 58 30.2 -0.9**
BRVK S **S 11 07 21.5 -1.2**
BRVK Borovoye 74.78 330*c i* P **P 10 58 31.0 0.0**
BRVK pmax pmax
comp=Z,548nm,1.7s
GEYT Alibeck 75.18 312 IAmb IAmb 10 58 40.3
comp=Z,688nm,1.1s
GEYT Alibeck 75.18 312 P **P 10 58 34.5 +0.8**
comp=Z,284nm,0.7s,baz=141,slow=5.0,SNR=63
GEYT S **S 11 07 27.4 -0.4**
comp=Z,5.9nm,0.9s,baz=344,slow=26,SNR=2.6
GEYT PKP2bc 11 25 40.8
comp=Z,3.8nm,0.9s,baz=275,slow=18,SNR=5.9
comp=Z,284nm,0.7s
GYA0B ALIBECK ARRAY 75.18 312 IAmb IAmb 10 58 40.2
comp=Z,668nm,1.1s
JRN Qarnain Island 75.36 298 P **P 10 58 36.2 +1.3**
SNR=15
RAR Rarotonga 75.50 110 P **P 10 58 35.9 +0.1**
RAR Rarotonga 75.50 110 P **P 10 58 37.6 +1.9**
RAR Rarotonga 75.50 110 P **P 10 58 35.9 +0.1**
RAR pmax pmax
comp=Z,628nm,1.4s
SMRA Abu-Samra 77.09 297 P **P 10 58 44.3 -0.1**
SNR=42
SMRA S **S 11 07 44.8 -3.8**
SHMA Al-Shehemyia 77.25 298 P **P 10 58 45.1 -0.1**
SNR=24
SHMA S **S 11 07 45.8 -4.4**
SAKB Bahrain 77.65 298 P **P 10 58 47.7 +0.3**
SAKB S **S 11 07 51.2 -3.3**
ADK Adak 78.08 33 P **P 10 58 49.3 +0.2**
ADK IAmb IAmb 10 58 53.5
comp=Z,2μm,1.7s
ADK Adak 78.08 33 P **P 10 58 49.3 +0.2**
ADK pmax pmax
comp=Z,2μm,1.7s
ABKAR Akbulak array 78.49 323 P **P 10 58 51.0 -0.4**
ABKAR Akbulak array 78.49 323 IAmb IAmb 10 58 57.1
comp=Z,536nm,1.1s
ATKA Atka Island 79.59 34 IAmb IAmb 10 59 00.6
comp=Z,781nm,0.8s
ATKA Atka Island 79.59 34 P **P 10 58 58.6 +1.5**
XMAS Kiritimati 79.86 87 P **P 10 59 00.8 +1.4**
XMAS IAmb IAmb 10 59 04.1
comp=Z,928nm,1.1s
XMAS Kiritimati 79.86 87 P **P 10 59 01.8 +2.4**
AKTO Aktyubinsk 80.12 324 P **P 10 59 00.1 +0.1**
comp=Z,549nm,0.7s,baz=113,slow=4.4,SNR=131
AKTO S **S 11 08 17.9 -1.1**
comp=Z,14nm,1.0s,baz=316,slow=20,SNR=15
AKTO PKKPbc **PKKPbc 11 17 39.4 -2.0**
comp=Z,28nm,0.7s,baz=284,slow=3.3,SNR=20
AKTO PKP2bc 11 25 30.6
comp=Z,2.2nm,0.9s,baz=83,slow=1.3,SNR=2.4
comp=Z,549nm,0.7s
SVE Sverdlovsk 81.49 330*c i* P **P 10 59 07.4 +0.5**
SVE *e* 11 01 05.4
SVE *e* 11 02 06.0
SVE *e* 11 04 14.4
SVE *e*S **S 11 08 29.5 -3.1**
SVE *e* 11 09 26.9
SVE pmax pmax
comp=Z,1μm,1.1s
ATD Arta Tunnel 81.91 283 *e*P **P 10 59 12.3 +2.2**
ATD *e*S **pP 11 01 07.6 -1.7**
ATD Arta Tunnel 81.91 283 P **P 10 59 11.5 +1.5**
ATD Arta Tunnel 81.91 283 *e*P **P 10 59 12.3 +2.2**
baz=349
ATD *e*S **pP 11 01 07.6 -1.7**
baz=349
ARU Arti 82.34 330 P **P 10 59 11.1 -0.1**
ARU IAmb IAmb 10 59 15.2
comp=Z,405nm,0.8s
ARU Arti 82.34 330*d i* P **P 10 59 11.1 -0.1**
ARU *PP **pP 11 01 10.6 -0.2**

ARU							11 02 26.7	
ARU				PPP	PPP		11 04 23.3	
ARU				S	**SKSac**		**11 08 38.7**	**-0.1**
ARU				SS	**SS**		**11 14 15.2**	**-3.2**
ARU				pmax	pmax			
	comp=Z,440nm,0.8s							
ARU	**Arti**	**82.34**	**330**	P	**P**		**10 59 10.9**	**-0.3**
	comp=Z,342nm,0.8s,baz=145,slow=1.9,SNR=62							
ARU				S	**SKSac**		**11 08 36.5**	**-2.3**
	comp=Z,6.8nm,0.2s,baz=21,slow=23,SNR=16							
ARU				PKKPbc	**PKKPbc**		**11 17 34.6**	**-2.0**
	comp=Z,26nm,0.6s,baz=296,slow=2.3,SNR=14							
	comp=Z,342nm,0.8s							
KIP	**Kipapa**	**82.43**	**67**	P	**P**		**10 59 13.5**	**+1.1**
KIP				IAmb	IAmb		10 59 18.5	
	comp=Z,611nm,0.9s							
KIP	**Kipapa**	**82.43**	**67**	P	**P**		**10 59 15.1**	**+2.7**
KIP	**Kipapa**	**82.43**	**67**	P	**P**		**10 59 13.5**	**+1.1**
KIP				pmax	pmax			
	comp=Z,611nm,1.0s							
QSPA	**South Pole Qui**	**82.74**	**180**	P	**P**		**10 59 12.8**	**-0.4**
QSPA				IAmb	IAmb		10 59 18.1	
	comp=Z,1μm,1.6s							
QSPA	**South Pole Qui**	**82.74**	**180**	P	**P**		**10 59 12.7**	**-0.6**
	comp=Z,357nm,0.9s,baz=290,slow=0.7,SNR=433							
QSPA				S	**SKSac**		**11 08 37.0**	**-4.4**
	comp=Z,55nm,1.2s,baz=345,slow=2.5,SNR=3.8							
QSPA				PKKPbc	**PKKPbc**		**11 17 32.6**	**-4.0**
	comp=Z,15nm,0.6s,baz=322,slow=0.3,SNR=17							
QSPA				PKP2bc			11 25 18.0	
	comp=Z,5.8nm,0.9s,baz=217,slow=1.9,SNR=5.7							
	comp=Z,357nm,0.9s							
NIKH	**Nikolski High**	**82.88**	**34**	P	**P**		**10 59 14.8**	**+0.8**
NIKH	**Nikolski High**	**82.88**	**34**	P	**P**		**10 59 13.2**	**-0.8**
	baz=248,SNR=26							
NIKH				S	**S**		**11 08 46.2**	**-0.4**
	baz=248							
TEND	**Ethiopian Broa**	**83.73**	**283**	*e*P	**P**		**10 59 21.3**	**+2.2**
	baz=338							
TEND				*e*S	**pP**		**11 01 25.0**	**+6.4**
	baz=338							
SPIA	**Saint Paul Isl**	**83.77**	**30**	P	**P**		**10 59 20.4**	**+2.1**
SPIA	**Saint Paul Isl**	**83.77**	**30**	P	**P**		**10 59 18.2**	**-0.1**
	baz=246,SNR=5.4							
SPIA				S	**S**		**11 08 55.2**	**+0.1**
	baz=246							
HUH	**Hualalai**	**84.13**	**69**	IAmb	IAmb		10 59 26.7	
	comp=Z,661nm,0.9s							
HPAH	**Hawaii Prepara**	**84.31**	**69**	IAmb	IAmb		10 59 26.3	
	comp=Z,616nm,0.7s							
MWH	**Moku'aweowe**	**84.31**	**70**	IAmb	IAmb		10 59 26.9	
	comp=Z,887nm,1.1s							
POHA	**Pohakuloa**	**84.42**	**69**	P	**P**		**10 59 24.4**	**+1.7**
MAK	**Makhachkala**	**84.44**	**314**	*e*P	**P**		**10 59 20.2**	**-1.8**
MAK				*e**PP	**pP**		**11 01 20.9**	**-0.7**
MAK				*e**SP	**sP**		**11 02 16.2**	**-1.7**
MAK				*e*			11 02 45.8	
MAK				*e*PPP	PPP		11 04 43.4	
MAK				*e*			11 08 50.1	
MAK				*e*SS	SS		11 14 51.4	+1.7
MAK				*e*SSS	SSS		11 18 29.8	
MAK				pmax	pmax			
	comp=Z,533nm,1.1s							
UNV	**Unalaska Valle**	**84.50**	**34**	P	**P**		**10 59 21.9**	**-0.1**
UNV	**Unalaska Valle**	**84.50**	**34**	P	**P**		**10 59 21.4**	**-0.6**
	baz=250,SNR=36							
UNV				S	**S**		**11 09 01.3**	**-1.0**
	baz=250							
STCH	**Steam Cracks**	**84.74**	**70**	IAmb	IAmb		10 59 29.3	
	comp=Z,578nm,1.0s							
KIBK	**Kibwezi**	**84.75**	**268**	P	**P**		**10 59 23.6**	**-0.7**
	SNR=19							
KIBK	**Kibwezi**	**84.75**	**268**	P	**P**		**10 59 23.6**	**-0.7**
AKUT	**Akutan**	**85.01**	**34**	P	**P**		**10 59 24.2**	**-0.2**
PAE	**Paea**	**85.35**	**107**	*e*P	**P**		**10 59 28.8**	**+1.8**
	comp=Z,290nm,1.3s							
PAE				*e*pP	**pwP**		**11 01 31.8**	**-0.2**
	comp=Z,93nm,1.3s							
PPT2	**Papeete2**	**85.36**	**107**	*e*P	**P**		**10 59 29.1**	**+2.0**
	comp=Z,784nm,1.1s							
PPT2				*e*pP	**pwP**		**11 01 30.3**	**-1.9**
	comp=Z,207nm,1.3s							
PPT2				*e*S	**S**		**11 09 17.3**	**+5.0**
	comp=Z,5μm,26.0s							
PPT2				*e*SS	**SS**		**11 15 07.9**	**+3.8**
	comp=Z,8μm,25.5s							
PPT	**Papeete**	**85.37**	**107**	P	**P**		**10 59 29.1**	**+2.0**
	comp=Z,500nm,0.8s,baz=334,slow=3.2,SNR=34							
	comp=Z,500nm,0.8s							
PPTF	**Pamatai, Papee**	**85.37**	**107**	IAmb	IAmb		10 59 33.5	
	comp=Z,738nm,1.0s							
PPTF	**Pamatai, Papee**	**85.37**	**107**	P	**P**		**10 59 29.2**	**+2.0**
FURI	**Furi**	**85.58**	**280**	*e*P	**P**		**10 59 32.0**	**+3.5**
FURI				*e*S	pP		11 01 15.6	-13
FURI				IAMs_20	IAMs_20		11 15 16.7	
	comp=Z,5μm,15.9s							
FURI	**Furi**	**85.58**	**280**	*e*P	**P**		**10 59 32.0**	**+3.5**
	baz=316							
FURI				*e*S	pP		11 01 15.6	-13
	baz=316							
FURI				IAMs_20	IAMs_20		11 15 16.7	
	comp=Z,5μm,15.9s,baz=316							
TIAR	**Tiarei**	**85.58**	**107**	*e*P	**P**		**10 59 30.0**	**+1.9**
	comp=Z,84nm,0.8s							
DILA	**Dilla**	**85.63**	**277**	*e*P	**P**		**10 59 31.3**	**+2.7**
DILA				*e*S	pP		11 00 59.1	-30
DILA	**Dilla**	**85.63**	**277**	*e*P	**P**		**10 59 31.3**	**+2.7**
	baz=300							
DILA				*e*S	pP		11 00 59.1	-30
	baz=300							
TVO	**Taravao**	**85.65**	**107**	*e*P	**P**		**10 59 30.6**	**+2.1**
	comp=Z,460nm,1.0s							
KMBO	**Kilima Mbogo**	**85.68**	**269**	P	**P**		**10 59 29.9**	**+0.9**
KMBO	**Kilima Mbogo**	**85.68**	**269**	*i* P	**P**		**10 59 29.5**	**+0.6**
	SNR=68							
KMBO	**Kilima Mbogo**	**85.68**	**269**	*e*P	**P**		**10 59 29.9**	**+0.9**
KMBO				*e*S	pP		11 01 09.1	-20
KMBO	**Kilima Mbogo**	**85.68**	**269**	P	**P**		**10 59 28.6**	**-0.4**
KMBO	**Kilima Mbogo**	**85.68**	**269**	*e*P	**P**		**10 59 30.0**	**+1.0**
KMBO				IAmb	IAmb		10 59 35.2	
	comp=Z,541nm,1.1s							
KMBO	**Kilima Mbogo**	**85.68**	**269**	P	**P**		**10 59 29.9**	**+0.9**
KMBO				pmax	pmax			
	comp=Z,180nm,1.1s							
KMBO	**Kilima Mbogo**	**85.68**	**269**	*e*P	**P**		**10 59 29.9**	**+0.9**
	baz=242							
KMBO				*e*S	pP		11 01 09.1	-20
	baz=242							
GNI	**Garni**	**85.77**	**311**	P	**P**		**10 59 29.6**	**+0.9**
GNI	**Garni**	**85.77**	**311**	P	**P**		**10 59 29.9**	**+1.2**
GNI	**Garni**	**85.77**	**311**	P	**P**		**10 59 29.1**	**+0.4**
GNI	**Garni**	**85.77**	**311**	P	**P**		**10 59 29.9**	**+1.2**
	comp=Z,94nm,1.0s,baz=29,slow=3.8,SNR=19							
GNI				S	**SKSac**		**11 09 01.7**	**+0.2**
	comp=Z,6.7nm,0.4s,baz=9.6,slow=22,SNR=1.6							
	comp=Z,94nm,1.0s							
GAMB	**Gambell**	**85.85**	**24**		**P**		**10 59 30.3**	**+2.0**
GAMB	**Gambell**	**85.85**	**24**	P	**P**		**10 59 29.0**	**+0.7**
	baz=245,SNR=20							
GAMB				S	**S**		**11 09 14.5**	**-0.4**
	baz=245							
ELIB	**Princess Elisa**	**86.16**	**198**	*d*P	**P**		**10 59 29.9**	**0.0**
	comp=Z,736nm,0.6s							
ELIB				*d*pP	**pwP**		**11 01 34.3**	**+0.1**
ELIB				*d*sP	**sP**		**11 02 26.6**	**+0.6**
ELIB				*d*pPKiKP	**pPKiKP**		**11 06 42.4**	**-1.0**
ELIB				*d*SKS	**SKSac**		**11 08 59.7**	**-3.1**
ELIB				*d*S	**S**		**11 09 18.2**	**+0.1**
ELIB				*d*SP	**SP**		**11 10 21.0**	**-0.1**
ELIB				*d*sS	**sS**		**11 12 50.2**	**-2.8**
ELIB				*d*SnSn	**SS**		**11 15 11.1**	**-2.0**
FALS	**False Pass**	**86.54**	**34**		**P**		**10 59 33.4**	**+1.7**
FALS				IAmb	IAmb		10 59 35.0	
	comp=Z,879nm,1.5s							
FALS	**False Pass**	**86.54**	**34**	P	**P**		**10 59 32.6**	**+0.9**
FALS	**False Pass**	**86.54**	**34**	P	**P**		**10 59 31.0**	**-0.7**
	baz=252,SNR=13							
FALS				S	**S**		**11 09 19.2**	**-2.5**
	baz=252							
MEH	**Mehetia**	**86.76**	**108**	*e*P	**P**		**10 59 35.1**	**+1.4**
	comp=Z,578nm,1.5s							
BELG	**Belogornoye**	**86.90**	**324**	P	**P**		**10 59 33.1**	**-0.4**
	comp=Z,778nm,0.8s,baz=180,slow=0.2,SNR=110							
BELG				PKKPbc	**PKKPbc**		**11 17 24.8**	**-0.8**
	comp=Z,16nm,0.6s,baz=334,slow=1.4,SNR=4.6							
BELG				PKPPKP	**P'P'df**		**11 25 27.6**	**-2.3**
	comp=Z,14nm,1.0s,baz=267,slow=6.3,SNR=4.4							
	comp=Z,778nm,0.8s							
M11K	**Mekoryuk**	**86.92**	**28**	IAmb	IAmb		10 59 38.0	
	comp=Z,267nm,0.9s							
M11K	**Mekoryuk**	**86.92**	**28**	P	**P**		**10 59 34.4**	**+1.0**
	baz=250,SNR=8.4							
M11K				S	**S**		**11 09 23.6**	**-1.5**
	baz=250							
ZEI	**Tsey**	**86.97**	**314**	*e*P	**P**		**10 59 34.4**	**0.0**
ZEI				pmax	pmax			
	comp=Z,210nm,0.9s							
PMOR	**Pomariorio Ree**	**87.26**	**105**	*e*P	**P**		**10 59 38.1**	**+2.1**
	comp=Z,3μm,1.4s							
GURO	**Guroymak-BITLI**	**87.49**	**309**	IAmb	IAmb		10 59 41.7	
	comp=Z,265nm,1.0s							
KIRV	**Kirov**	**87.72**	**330**	P	**P**		**10 59 37.7**	**+0.5**
	comp=Z,99nm,0.7s,baz=230,slow=3.5,SNR=13							
KIRV				PP	**PP**		**11 03 14.4**	**+1.2**
	comp=Z,33nm,0.8s,baz=105,slow=8.8,SNR=5.3							
KIRV				PKKPbc	**PKKPbc**		**11 17 21.8**	**-2.1**
	comp=Z,19nm,0.5s,baz=202,slow=3.6,SNR=5.2							
KIRV				PKPPKP	**P'P'df**		**11 25 26.6**	**-1.3**
	comp=Z,8.2nm,0.4s,baz=263,slow=17,SNR=4.6							
	comp=Z,99nm,0.7s							
KBZ	**Khabaz**	**87.89**	**314**	P	**P**		**10 59 38.9**	**+0.5**
	comp=Z,172nm,0.8s,baz=126,slow=2.9,SNR=102							
KBZ				S	**SKSac**		**11 09 12.0**	**-1.6**
	comp=Z,4.1nm,1.0s,baz=183,slow=19,SNR=1.3							
KBZ				PKKPbc	**PKKPbc**		**11 17 21.5**	**-1.4**
	comp=Z,20nm,0.7s,baz=215,slow=4.9,SNR=20							
KBZ				PKPPKP	**P'P'df**		**11 25 26.8**	**-1.9**
	comp=Z,8.7nm,0.9s,baz=253,slow=1.1,SNR=8.8							
	comp=Z,172nm,0.8s							
POGA	**Pongola**	**87.90**	**243**		pP		11 01 38.9	-1.3
POGA	**Pongola**	**87.90**	**243**	*e*P	**P**		**10 59 39.8**	**+0.9**
POGA				IAmb	IAmb		10 59 41.9	
	comp=Z,35nm,1.2s							
TNA	**Tin City**	**88.06**	**23**	P	**P**		**10 59 38.1**	**-0.5**
	baz=248							
TNA				S	**S**		**11 09 32.0**	**-3.5**
	baz=248							
GOF	**Gofitskoye**	**88.06**	**316**	*c*e*P	**P**		**10 59 39.6**	**+0.4**
KVAR	**Kislovodsk Arr**	**88.08**	**315**	P	**P**		**10 59 41.6**	**+2.2**
	comp=Z,36nm,1.0s,baz=107,slow=20,SNR=6.4							
	comp=Z,36nm,1.0s							
KIV	**Kislovodsk**	**88.08**	**315**	⇑P	**P**		**10 59 40.8**	**+1.4**
KIV	**Kislovodsk**	**88.08**	**315**	P	**P**		**10 59 39.7**	**+0.3**
KIV	**Kislovodsk**	**88.08**	**315**	*i* P	**P**		**10 59 39.7**	**+0.3**
	SNR=14							
KIV	**Kislovodsk**	**88.08**	**315**	P	**P**		**10 59 38.5**	**-0.9**
KIV	**Kislovodsk**	**88.08**	**315**	*e*P	**P**		**10 59 40.1**	**+0.7**
KIV				*e**PP	**pP**		**11 01 39.9**	**-0.4**
KIV				*e*			11 03 13.2	
KIV				*e*			11 09 15.5	
KIV				*e*SS	SS		11 15 42.6	+0.1
KIV				pmax	pmax			
	comp=Z,117nm,1.1s							
KIV				pmax	pmax			
	comp=Z,380nm,4.1s							
LODK	**Lodwar**	**88.13**	**274**	*e*P	**P**		**10 59 40.7**	**+0.5**
LODK				*e*S	pP		11 01 33.1	-8.7
LODK	**Lodwar**	**88.13**	**274**	P	**P**		**10 59 41.2**	**+1.0**
	SNR=34							
LODK	**Lodwar**	**88.13**	**274**	*e*P	**P**		**10 59 40.7**	**+0.5**
	baz=274							
LODK				*e*S	pP		11 01 33.1	-8.7
	baz=274							
K13K	**Kusilvak Mount**	**88.15**	**27**	IAmb	IAmb		10 59 43.4	
	comp=Z,228nm,1.1s							
K13K	**Kusilvak Mount**	**88.15**	**27**	P	**P**		**10 59 39.6**	**+0.4**
	baz=251,SNR=54							
K13K				S	**S**		**11 09 34.0**	**-2.5**
	baz=251							
M13K	**Dall Lake**	**88.27**	**28**	IAmb	IAmb		10 59 43.6	
	comp=Z,430nm,1.2s							
M13K	**Dall Lake**	**88.27**	**28**	P	**P**		**10 59 40.4**	**+0.7**
	baz=252,SNR=16							
M13K				S	**S**		**11 09 35.5**	**-2.1**
	baz=252							
SDPT	**Sand Point**	**88.30**	**34**	P	**P**		**10 59 39.2**	**-0.8**
SDPT	**Sand Point**	**88.30**	**34**	P	**P**		**10 59 38.7**	**-1.2**
	baz=255,SNR=38							
SDPT				S	**S**		**11 09 34.6**	**-3.5**
	baz=255							
MMAL	**MMAL**	**88.50**	**244**	*e*P	**P**		**10 59 42.4**	**+0.6**
MMAL				IAmb	IAmb		10 59 44.4	
	comp=Z,77nm,0.9s							
HAGI	**HAGI**	**88.51**	**244**	*e*P	**P**		**10 59 42.3**	**+0.4**
HAGI				IAmb	IAmb		10 59 44.5	
	comp=Z,117nm,1.3s							
MOPA	**Mopani**	**88.65**	**247**	*e*P	**P**		**10 59 43.1**	**+0.7**
F14K	**Arctic Creek**	**88.65**	**23**	P	**P**		**10 59 41.7**	**+0.2**
	baz=249,SNR=14							
F14K				S	**S**		**11 09 38.9**	**-2.1**
	baz=249							
CHNA	**Chernabura Isl**	**88.66**	**34**	P	**P**		**10 59 41.3**	**-0.3**
	baz=256,SNR=17							
CHNA				S	**S**		**11 09 38.3**	**-3.1**
	baz=256							
ANM	**Nome**	**88.72**	**24**	P	**P**		**10 59 42.1**	**+0.3**
	baz=250							
ANM				S	**S**		**11 09 37.6**	**-4.0**
	baz=250							
L14K	**Kuka Creek**	**88.86**	**28**	IAmb	IAmb		10 59 46.7	
	comp=Z,286nm,1.6s							
L14K	**Kuka Creek**	**88.86**	**28**	P	**P**		**10 59 42.2**	**-0.3**
	baz=253,SNR=21							
L14K				S	**S**		**11 09 38.8**	**-4.2**
	baz=253							
J14K	**Nanvaranak Lak**	**88.90**	**26**	P	**P**		**10 59 42.8**	**+0.2**
	baz=252,SNR=27							
J14K				S	**S**		**11 09 40.5**	**-2.8**
	baz=252							
N14K	**Kuskokwak Cree**	**88.92**	**29**	P	**P**		**10 59 42.8**	**0.0**
	baz=254,SNR=11							
N14K				S	**S**		**11 09 39.6**	**-4.0**
	baz=254							
O14K	**Tigyukauivet M**	**88.94**	**30**	IAmb	IAmb		10 59 46.1	
	comp=Z,327nm,1.1s							
O14K	**Tigyukauivet M**	**88.94**	**30**	P	**P**		**10 59 42.9**	**0.0**
	baz=254,SNR=17							
O14K				S	**S**		**11 09 38.6**	**-5.2**
	baz=254							
HOED	**Hoedspruit, Li**	**88.96**	**246**	*e*P	**P**		**10 59 44.0**	**+0.1**
HOED				IAmb	IAmb		10 59 49.0	
	comp=Z,175nm,0.9s							
M14K	**Bethel**	**89.03**	**28**	IAmb	IAmb		10 59 47.2	
	comp=Z,346nm,1.0s							
M14K	**Bethel**	**89.03**	**28**	P	**P**		**10 59 43.6**	**+0.4**
	baz=253,SNR=59							
M14K				S	**S**		**11 09 38.0**	**-6.5**
	baz=253							
S14K	**Fog Glacier**	**89.04**	**33**	P	**P**		**10 59 43.3**	**-0.3**
	baz=256,SNR=9.1							
S14K				S	**S**		**11 09 40.1**	**-5.0**
	baz=256							
PILG	**Pilgrimsrest,**	**89.09**	**245**	*e*P	**P**		**10 59 44.9**	**+0.1**
PILG				IAmb	IAmb		10 59 50.4	
	comp=Z,150nm,0.8s							
F15K	**North Star Dit**	**89.39**	**23**	P	**P**		**10 59 44.7**	**-0.1**
	baz=251,SNR=18							
F15K				S	**S**		**11 09 43.3**	**-4.4**
	baz=251							
G15K	**Niukluk**	**89.40**	**24**	P	**P**		**10 59 44.2**	**-0.7**
	baz=252,SNR=5.9							
G15K				S	**S**		**11 09 41.8**	**-6.0**
	baz=252							
GRD1	**Great Renaissa**	**89.42**	**281**	*e*P	**P**		**10 59 47.5**	**+1.3**
	baz=312							
GRD1				*e*S	**pP**		**11 01 48.9**	**+0.7**
	baz=312							
NWCL	**Newcastle**	**89.45**	**242**	*e*P	**P**		**10 59 46.2**	**0.0**
NWCL				IAmb	IAmb		10 59 48.5	
	comp=Z,139nm,1.2s							
L15K	**Ungalak Mounta**	**89.51**	**27**	P	**P**		**10 59 45.4**	**-0.1**
	baz=254,SNR=17							
L15K				S	**S**		**11 09 44.8**	**-4.0**
	baz=254							
DULL	**Dullstroom, Mp**	**89.51**	**245**	*e*P	**P**		**10 59 47.0**	**+0.2**
DULL				IAmb	IAmb		10 59 49.5	
	comp=Z,77nm,0.8s							
KSTD	**Kokstad**	**89.55**	**239**	*e*P	**P**		**10 59 47.6**	**+0.9**
KSTD				IAmb	IAmb		10 59 49.7	
	comp=Z,76nm,1.0s							
CRLN	**Carolina, Mapu**	**89.57**	**244**	*e*P	**P**		**10 59 47.6**	**+0.7**
CRLN				IAmb	IAmb		10 59 49.6	
	comp=Z,54nm,1.0s							
M15K	**Kasigluk River**	**89.61**	**29**	P	**P**		**10 59 45.9**	**0.0**
	baz=254,SNR=45							
M15K				S	**S**		**11 09 45.3**	**-4.5**
	baz=254							
O15K	**Ungalikthiuk R**	**89.63**	**30**	P	**P**		**10 59 45.9**	**-0.2**
	baz=255,SNR=14							
O15K				S	**S**		**11 09 44.9**	**-5.2**
	baz=255							
K15K	**Wolf Creek Mou**	**89.66**	**27**	P	**P**		**10 59 46.7**	**+0.6**
	baz=254,SNR=13							
K15K				S	**S**		**11 09 46.6**	**-3.7**
	baz=254							
CHGN	**Chignik**	**89.67**	**33**	P	**P**		**10 59 45.3**	**-1.0**
	baz=256,SNR=7.6							
CHGN				S	**S**		**11 09 44.5**	**-6.0**
	baz=256							
N15K	**Kwethluk River**	**89.76**	**29**	IAmb	IAmb		10 59 50.6	
	comp=Z,222nm,1.0s							
N15K	**Kwethluk River**	**89.76**	**29**	P	**P**		**10 59 46.7**	**0.0**
	baz=255,SNR=39							
N15K				S	**S**		**11 09 46.0**	**-5.3**
	baz=255							
MPHEP	**Siloam, Limpop**	**89.84**	**247**	*e*P	**P**		**10 59 48.7**	**+0.6**
MPHEP				IAmb	IAmb		10 59 50.9	
	comp=Z,123nm,1.1s							
C16K	**Lisburne Hills**	**89.98**	**21**	IAmb	IAmb		10 59 51.4	
	comp=Z,182nm,0.9s							
C16K	**Lisburne Hills**	**89.98**	**21**	P	**P**		**10 59 48.7**	**+1.2**
	baz=250,SNR=17							
C16K				S	**S**		**11 09 49.1**	**-3.8**
	baz=250							
H16K	**Elim**	**90.02**	**25**	P	**P**		**10 59 47.7**	**-0.1**
	baz=253,SNR=14							
H16K				S	**S**		**11 09 48.8**	**-4.7**
	baz=253							
SOC	**Sochi**	**90.13**	**314**	*e*P	**P**		**10 59 47.3**	**-1.5**
SOC				*e**PP	**pP**		**11 01 47.8**	**-2.4**
SOC				*e**SP	**sP**		**11 02 43.3**	**-2.6**
SOC				*e*			11 03 30.4	
SOC				*e*PPP	PPP		11 05 32.8	
SOC				*e*S	**SKSac**		**11 09 24.8**	**-1.9**
SOC				*e*SS	**SS**		**11 16 12.6**	**+1.0**
SOC				pmax	pmax			
	comp=Z,83nm,0.8s							
VRH	**Novokhopyorsk**	**90.18**	**322**	*e*P	**P**		**10 59 48.1**	**-0.7**
VRH				*e*			11 09 23.3	
VRH				*e*S	**S**		**11 09 49.3**	**-6.0**
VRH				pmax	pmax			
	comp=Z,280nm,0.7s							
VRH				pmax	pmax			
	comp=Z,250nm,0.7s							
VRH				smax	smax			
	comp=N,4μm,9.0s							
G16K	**Koyuk River**	**90.20**	**24**	IAmb	IAmb		10 59 52.3	
	comp=Z,200nm,0.8s							
G16K	**Koyuk River**	**90.20**	**24**	P	**P**		**10 59 48.4**	**-0.1**
	baz=253,SNR=45							
G16K				S	**S**		**11 09 50.6**	**-4.3**
	baz=253							
MUSN	**Musina, Limpop**	**90.22**	**248**	*e*P	**P**		**10 59 50.2**	**+0.4**
MUSN				IAmb	IAmb		10 59 53.2	
	comp=Z,168nm,1.0s							
J16K	**Anvik River**	**90.34**	**26**	IAmb	IAmb		10 59 53.3	
	comp=Z,158nm,0.9s							
J16K	**Anvik River**	**90.34**	**26**	P	**P**		**10 59 49.5**	**+0.2**
	baz=255,SNR=52							
J16K				S	**S**		**11 09 51.2**	**-5.1**
	baz=255							
PRGR	**Permogore**	**90.39**	**332**	*e*P	**P**		**10 59 49.9**	**+0.4**
PRGR				*e*S	**SKSac**		**11 09 27.6**	**+0.3**
PRGR				*e*			11 09 54.3	
PRGR				pmax	pmax			
	comp=Z,197nm,0.7s							
R16K	**Pilot Point**	**90.40**	**32**	P	**P**		**10 59 49.3**	**-0.3**
	baz=257							
R16K				S	**S**		**11 09 51.0**	**-6.0**
	baz=257							
L16K	**Owhat River**	**90.44**	**28**	IAmb	IAmb		10 59 52.8	
	comp=Z,175nm,1.1s							
L16K	**Owhat River**	**90.44**	**28**	P	**P**		**10 59 49.4**	**-0.4**
	baz=256,SNR=56							
L16K				S	**S**		**11 09 50.7**	**-6.6**
	baz=256							
I17K	**Unalakleet**	**90.46**	**25**	IAmb	IAmb		10 59 53.4	
	comp=Z,176nm,1.1s							
I17K	**Unalakleet**	**90.46**	**25**	P	**P**		**10 59 50.1**	**+0.3**
	baz=254,SNR=8.4							
I17K				S	**S**		**11 09 52.3**	**-5.0**
	baz=254							
N16K	**Nishlik Lake**	**90.47**	**29**	P	**P**		**10 59 50.3**	**+0.3**
	baz=256,SNR=92							
N16K				S	**S**		**11 09 52.8**	**-4.8**
	baz=256							
M16K	**Timber Creek**	**90.51**	**28**	IAmb	IAmb		10 59 53.9	
	comp=Z,138nm,0.8s							
M16K	**Timber Creek**	**90.51**	**28**	P	**P**		**10 59 49.9**	**-0.3**
	baz=256,SNR=51							
M16K				S	**S**		**11 09 52.5**	**-5.4**
	baz=256							
P16K	**Nushagak River**	**90.52**	**31**	P	**P**		**10 59 49.2**	**-1.0**
	baz=257,SNR=18							
P16K				S	**S**		**11 09 52.0**	**-6.0**
	baz=257							
ASF	**Jabal al Asfar**	**90.56**	**302**	P	**P**		**10 59 52.0**	**+0.8**
ASF	**Jabal al Asfar**	**90.56**	**302**	P	**P**		**10 59 52.0**	**+0.8**
	comp=Z,45nm,0.8s,baz=16,slow=14,SNR=3.7							
ASF				S	**SKSac**		**11 09 32.5**	**+2.7**
	comp=Z,6.8nm,0.4s,baz=33,slow=20,SNR=9.4							
ASF				PKKPbc	**PKKPbc**		**11 17 16.6**	**+0.6**
	comp=Z,20nm,0.8s,baz=214,slow=3.7,SNR=13							
ASF				PKPPKP	P'P'df		11 25 15.5	-9.2
	comp=Z,2.4nm,0.3s,baz=18,slow=14,SNR=3.6							
	comp=Z,45nm,0.8s							
O16K	**Kokwok River B**	**90.59**	**30**	P	**P**		**10 59 50.8**	**+0.3**
	baz=257,SNR=20							
O16K				S	**S**		**11 09 53.9**	**-4.8**
	baz=257							
D17K	**Noatak River**	**90.61**

O17K	**Koliganek Bris**	**91.13**	**30**	P	**P**	**10 59 53.1**	**+0.1**
	baz=258,SNR=14						
O17K				S	**S**	**11 09 57.9**	**-5.5**
	baz=258						
SLR	**Silverton**	**91.16**	**244**	*e*P	**P**	**10 59 54.1**	**-0.1**
SLR				IAmb	IAmb	10 59 56.6	
	comp=Z,132nm,1.1s						
K17K	**Iditarod**	**91.22**	**27**	IAmb	IAmb	10 59 57.2	
	comp=Z,269nm,0.9s						
K17K	**Iditarod**	**91.22**	**27**	P	**P**	**10 59 53.4**	**+0.1**
	baz=257,SNR=84						
K17K				S	**S**	**11 09 59.3**	**-4.8**
	baz=257						
SNKL	**Senekal, Frees**	**91.22**	**241**	*e*P	**P**	**10 59 54.7**	**+0.2**
SNKL				IAmb	IAmb	10 59 56.9	
	comp=Z,117nm,1.1s						
N17K	**Nushagak Hills**	**91.25**	**29**	P	**P**	**10 59 53.5**	**0.0**
	baz=258,SNR=9.6						
N17K				S	**S**	**11 10 00.5**	**-4.0**
	baz=258						
M17K	**Holitna River**	**91.32**	**28**	IAmb	IAmb	10 59 57.4	
	comp=Z,141nm,1.1s						
M17K	**Holitna River**	**91.32**	**28**	P	**P**	**10 59 54.0**	**+0.1**
	baz=257,SNR=27						
M17K				S	**S**	**11 10 00.8**	**-4.2**
	baz=257						
P17K	**Kvichak River**	**91.33**	**31**	P	**P**	**10 59 53.2**	**-0.8**
	baz=258,SNR=13						
P17K				S	**S**	**11 09 58.3**	**-6.9**
	baz=258						
Q17K	**Contact Creek**	**91.43**	**31**	P	**P**	**10 59 53.1**	**-1.5**
	baz=259,SNR=50						
Q17K				S	**S**	**11 09 59.8**	**-6.6**
	baz=259						
E18K	**Tukpahlearik C**	**91.44**	**22**	IAmb	IAmb	10 59 58.3	
	comp=Z,223nm,0.8s						
E18K	**Tukpahlearik C**	**91.44**	**22**	P	**P**	**10 59 54.1**	**-0.2**
	baz=255,SNR=83						
E18K				S	**S**	**11 09 59.4**	**-6.6**
	baz=255						
B18K	**Kokolik River**	**91.55**	**20**	P	**P**	**10 59 56.7**	**+1.9**
	baz=254,SNR=7.4						
B18K				S	**S**	**11 10 02.4**	**-4.3**
	baz=254						
C18K	**Utukok River**	**91.56**	**21**	P	**P**	**10 59 55.0**	**+0.1**
	baz=254,SNR=10						
C18K				S	**S**	**11 10 03.0**	**-4.1**
	baz=254						
GHAJ	**Ghor Haditha**	**91.57**	**301**	IAmb	IAmb	10 59 59.4	
	comp=Z,132nm,0.8s						
GRHM	**Grahamstown, E**	**91.61**	**236**	P	**P**	**10 59 56.6**	**+0.6**
GRHM					**pP**	**11 01 56.5**	**-1.8**
GRHM				IAmb	IAmb	11 02 05.7	
	comp=Z,147nm,0.9s						
GRHM	**Grahamstown, E**	**91.61**	**236**	*e*P	**P**	**10 59 56.7**	**+0.6**
GRHM				IAmb	IAmb	10 59 59.2	
	comp=Z,152nm,1.0s						
VORD	**Divnogorie**	**91.64**	**321**	*e*P	**P**	**10 59 54.8**	**-0.8**
VORD				*e**PP	**pP**	**11 01 53.5**	**-4.2**
VORD				*e*		11 09 30.0	
VORD				*e*S	**S**	**11 10 03.2**	**-5.1**
VORD				pmax	pmax		
	comp=Z,320nm,0.8s						
VORD				pmax	pmax		
	comp=Z,290nm,0.8s						
VORD				smax	smax		
	comp=N,480nm,5.0s						
HRAO	**HartRAO**	**91.66**	**244**	*e*P	**P**	**10 59 56.0**	**-0.6**
HRAO				IAmb	IAmb	10 59 59.2	
	comp=Z,184nm,1.1s						
H18K	**Honhosa River**	**91.75**	**24**	P	**P**	**10 59 55.1**	**-0.7**
	baz=257,SNR=31						
H18K				S	**S**	**11 10 02.3**	**-6.5**
	baz=257						
VSR	**Storozhevoye**	**91.77**	**321**	*e*P	**P**	**10 59 55.4**	**-0.7**
VSR				*e**PP	**pP**	**11 01 55.1**	**-3.2**
VSR				*e*		11 09 31.6	
VSR				*e*S	**S**	**11 10 04.3**	**-5.1**
VSR				pmax	pmax		
	comp=Z,300nm,0.8s						
VSR				pmax	pmax		
	comp=Z,280nm,0.8s						
VSR				smax	smax		
	comp=N,3μm,10.6s						
PRYS	**Parys**	**91.79**	**243**	*e*P	**P**	**10 59 56.6**	**-0.5**
PRYS				IAmb	IAmb	10 59 59.2	
	comp=Z,186nm,1.0s						
G18K	**Tagagawik**	**91.81**	**24**	P	**P**	**10 59 55.5**	**-0.6**
	baz=256,SNR=51						
G18K				S	**S**	**11 10 02.6**	**-6.7**
	baz=256						
VORR	**Voronezh**	**91.81**	**322**	*e*P	**P**	**10 59 56.7**	**+0.4**
VORR				*e*		11 09 33.3	
VORR				*e*S	**S**	**11 10 05.4**	**-4.4**
VORR				pmax	pmax		
	comp=Z,260nm,0.6s						
VORR				pmax	pmax		
	comp=Z,220nm,0.5s						
VORR				smax	smax		
	comp=N,20nm,1.4s						
WDLM	**Western Deep L**	**91.81**	**243**	*e*P	**P**	**10 59 57.9**	**+0.6**
WDLM				IAmb	IAmb	10 59 59.8	
	comp=Z,68nm,1.0s						
L18K	**Granite Mounta**	**91.84**	**28**	IAmb	IAmb	11 00 00.1	
	comp=Z,211nm,1.1s						
L18K	**Granite Mounta**	**91.84**	**28**	P	**P**	**10 59 56.1**	**-0.1**
	baz=258,SNR=95						
L18K				S	**S**	**11 10 05.3**	**-4.3**
	baz=258						
NYAT	**Nyati, Northwe**	**91.85**	**244**	*e*P	**P**	**10 59 58.0**	**+0.7**
NYAT				IAmb	IAmb	11 00 03.0	
	comp=Z,121nm,0.7s						
LEPH	**Lephalale, Lim**	**91.87**	**246**	*e*P	**P**	**10 59 57.3**	**-0.1**
LEPH				IAmb	IAmb	11 00 02.4	
	comp=Z,99nm,1.1s						
N18K	**Kilae Creek**	**91.90**	**29**	P	**P**	**10 59 56.7**	**+0.1**
	baz=259,SNR=13						
N18K				S	**S**	**11 10 05.0**	**-5.2**
	baz=259						
MMAI	**Mount Meron Ar**	**91.92**	**303**	P	**P**	**10 59 58.5**	**+1.1**
	comp=Z,18nm,0.5s,baz=96,slow=6.0,SNR=47						
MMAI				pP	**pP**	**11 01 59.0**	**0.0**
	comp=Z,14nm,1.0s,baz=90,slow=6.2,SNR=2.4						
MMAI				PP	**PP**	**11 03 53.9**	**+7.0**
	comp=Z,27nm,1.0s,baz=104,slow=10,SNR=4.1						
MMAI				S	**SKSac**	**11 09 37.3**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=159,slow=9.1,SNR=2.8						
MMAI				PKKPbc	**PKKPbc**	**11 17 12.9**	**+0.4**
	comp=Z,3.0nm,0.5s,baz=357,slow=3.4,SNR=7.2						
	comp=Z,18nm,0.5s						
ANN	**Anapa**	**91.94**	**315**	*d i*P	**P**	**10 59 57.6**	**+0.5**
ANN				*i* *PP	**pP**	**11 01 56.9**	**-1.8**
ANN				*e*		11 03 45.6	
ANN				*i* PPP	PPP	11 05 49.8	
ANN				*e*S	**SKSac**	**11 09 35.1**	**-1.6**
ANN				*i*		11 10 07.7	
ANN				*e*PS		11 11 27.2	
ANN				*e*SS	**SS**	**11 16 37.1**	**-0.1**
ANN				pmax	pmax		
	comp=Z,244nm,0.8s						
ANN				pmax	pmax		
	comp=N,81nm,0.9s						
ANN				smax	smax		
	comp=E,9μm,9.3s						
ANN				smax	smax		
	comp=N,624nm,1.8s						
ANN				smax	smax		
	comp=Z,289nm,1.3s						
Q18K	**Katmai Hardscr**	**91.95**	**31**	P	**P**	**10 59 55.2**	**-1.8**
	baz=259,SNR=25						
Q18K				S	**S**	**11 10 02.2**	**-8.8**
	baz=259						
P18K	**Big Mountain,**	**91.98**	**30**	P	**P**	**10 59 55.8**	**-1.3**
	baz=259						
P18K				S	**S**	**11 10 03.3**	**-7.7**
	baz=259						
SII	**Sitkinak Islan**	**92.02**	**33**	P	**P**	**10 59 58.5**	**+1.3**
SII	**Sitkinak Islan**	**92.02**	**33**	P	**P**	**10 59 56.1**	**-1.1**
	baz=260,SNR=16						
SII				S	**S**	**11 10 05.0**	**-6.4**
	baz=260						
A19K	**Wainwright**	**92.03**	**19**	P	**P**	**10 59 57.5**	**+0.6**
	baz=254,SNR=7.9						
A19K				S	**S**	**11 10 05.6**	**-5.2**
	baz=254						
R18K	**Karluk**	**92.05**	**32**	P	**P**	**10 59 56.3**	**-1.0**
	baz=260						
R18K				S	**S**	**11 10 03.6**	**-7.9**
	baz=260						
NMMU	**Nelson Mandela**	**92.07**	**236**	*e*P	**P**	**11 00 00.3**	**+2.3**
O18K	**Koktuh Hills**	**92.08**	**30**	P	**P**	**10 59 57.0**	**-0.4**
	baz=259,SNR=8.5						
O18K				S	**S**	**11 10 05.8**	**-6.0**
	baz=259						
J18K	**Innoko River**	**92.08**	**26**	P	**P**	**10 59 56.7**	**-0.7**
	baz=258,SNR=63						
J18K				S	**S**	**11 10 05.4**	**-6.4**
	baz=258						
M18K	**Stony River**	**92.09**	**28**	P	**P**	**10 59 57.3**	**-0.1**
	baz=259,SNR=60						
M18K				S	**S**	**11 10 06.9**	**-4.9**
	baz=259						
LPSR	**Galich'ya Gora**	**92.13**	**323**	*e*P	**P**	**10 59 57.5**	**-0.3**
LPSR				*e*		11 09 35.5	
LPSR				*e*S	**S**	**11 10 07.1**	**-5.4**
LPSR				pmax	pmax		
	comp=Z,260nm,0.8s						
LPSR				pmax	pmax		
	comp=Z,290nm,0.9s						
LPSR				smax	smax		
	comp=N,3μm,10.4s						
NHAM	**Northam, North**	**92.14**	**245**	*e*P	**P**	**10 59 58.0**	**-0.7**
NHAM				IAmb	IAmb	11 00 03.8	
	comp=Z,101nm,0.9s						
TROLL	**Troll, Antarti**	**92.15**	**196**	⇓P	**P**	**10 59 58.3**	**+0.6**
	comp=Z,36μm,1.4s						
TROLL				⇑PKiKP	**PKiKP**	**11 04 46.4**	**+2.9**
	comp=Z,117nm,0.3s						
TROLL				⇑SKSac	**SKSac**	**11 09 38.3**	**+1.0**
	comp=Z,788nm,0.9s						
TROLL				⇑x	x	11 17 10.0	
	comp=Z,368nm,0.5s						
MBAR	**Mbarara**	**92.21**	**269**	*e*P	**P**	**10 59 58.9**	**-0.4**
MBAR				*e*S	**pP**	**11 02 05.4**	**+3.9**
MBAR	**Mbarara**	**92.21**	**269**	*i* P	**P**	**11 00 00.2**	**+0.9**
MBAR				pmax	pmax		
	comp=Z,85nm,1.0s						
MBAR	**Mbarara**	**92.21**	**269**	*e*P	**P**	**10 59 58.9**	**-0.4**
	baz=256						
MBAR				*e*S	**pP**	**11 02 05.4**	**+3.9**
	baz=256						
C19K	**Lookout Ridge**	**92.24**	**21**	IAmb	IAmb	11 00 02.4	
	comp=Z,241nm,0.9s						
C19K	**Lookout Ridge**	**92.24**	**21**	P	**P**	**10 59 57.4**	**-0.6**
	baz=256,SNR=40						
C19K				S	**S**	**11 10 07.6**	**-5.4**
	baz=256						
GCSA	**Galena City Sc**	**92.28**	**25**	P	**P**	**10 59 57.8**	**-0.4**
	baz=258,SNR=53						
GCSA				S	**S**	**11 10 05.7**	**-7.5**
	baz=258						
TTA	**Tatalina**	**92.29**	**27**	IAmb	IAmb	11 00 01.9	
	comp=Z,160nm,1.1s						
TTA	**Tatalina**	**92.29**	**27**	P	**P**	**10 59 58.1**	**-0.3**
	baz=259,SNR=20						
BNN	**Bunyan**	**92.31**	**309**	IAmb	IAmb	11 00 02.4	
	comp=Z,171nm,1.1s						
F19K	**Shaleruckik Mo**	**92.37**	**23**	P	**P**	**10 59 58.2**	**-0.3**
	baz=257,SNR=32						
F19K				S	**S**	**11 10 09.2**	**-4.8**
	baz=257						
KSR	**Koster**	**92.37**	**244**	*e*P	**P**	**11 00 01.6**	**+1.8**
KSR				IAmb	IAmb	11 00 05.0	
	comp=Z,28nm,1.0s						
SOE	**Somerset East**	**92.38**	**237**	*e*P	**P**	**10 59 59.4**	**-0.2**
SOE				IAmb	IAmb	11 00 05.9	
	comp=Z,94nm,1.0s						
G19K	**Purcell Mounta**	**92.49**	**24**	P	**P**	**10 59 59.0**	**-0.2**
	baz=258,SNR=180						
G19K				S	**S**	**11 10 11.3**	**-3.8**
	baz=258						
MTLB	**Matlabas, Limp**	**92.55**	**246**	*e*P	**P**	**11 00 01.2**	**+0.6**
MTLB				IAmb	IAmb	11 00 03.5	
	comp=Z,250nm,0.9s						
O19K	**Port Alsworth**	**92.58**	**30**	P	**P**	**10 59 58.6**	**-1.1**
	baz=260,SNR=8.3						
O19K				S	**S**	**11 10 09.6**	**-6.4**
	baz=260						
N19K	**Bonanza Creek**	**92.61**	**29**	IAmb	IAmb	11 00 02.9	
	comp=Z,191nm,1.1s						
N19K	**Bonanza Creek**	**92.61**	**29**	P	**P**	**10 59 59.5**	**-0.4**
	baz=260,SNR=61						
N19K				S	**S**	**11 10 10.3**	**-6.3**
	baz=260						
D19K	**Kuna River**	**92.61**	**21**	IAmb	IAmb	11 00 03.5	
	comp=Z,220nm,0.8s						
D19K	**Kuna River**	**92.61**	**21**	P	**P**	**10 59 59.5**	**-0.3**
	baz=257						
D19K				S	**S**	**11 10 08.8**	**-7.4**
	baz=257						
H19K	**Roundabout Mou**	**92.62**	**24**	P	**P**	**10 59 59.7**	**0.0**
	baz=258,SNR=258						
H19K				S	**S**	**11 10 11.9**	**-4.3**
	baz=258						
J19K	**Poorman**	**92.67**	**26**	IAmb	IAmb	11 00 03.1	
	comp=Z,132nm,1.1s						
J19K	**Poorman**	**92.67**	**26**	P	**P**	**10 59 59.9**	**-0.1**
	baz=259,SNR=64						
J19K				S	**S**	**11 10 11.1**	**-5.7**
	baz=259						
L19K	**White Mountain**	**92.67**	**28**	IAmb	IAmb	11 00 03.9	
	comp=Z,153nm,1.0s						
L19K	**White Mountain**	**92.67**	**28**	P	**P**	**11 00 00.3**	**+0.1**
	baz=260,SNR=68						
L19K				S	**S**	**11 10 10.6**	**-6.4**
	baz=260						
Q19K	**Cape Douglas,**	**92.70**	**31**	IAmb	IAmb	11 00 01.9	
	comp=Z,152nm,1.1s						
Q19K	**Cape Douglas,**	**92.70**	**31**	P	**P**	**10 59 58.9**	**-1.4**
	baz=261						
E19K	**Redstone River**	**92.71**	**22**	P	**P**	**11 00 00.5**	**+0.3**
	baz=258						
E19K				S	**S**	**11 10 11.8**	**-5.3**
	baz=258						
LSZ	**Lusaka**	**92.76**	**254**	P	**P**	**11 00 01.6**	**-0.1**
LSZ				IAmb	IAmb	11 00 04.5	
	comp=Z,123nm,0.9s						
LSZ	**Lusaka**	**92.76**	**254**	P	**P**	**11 00 01.6**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,123nm,0.9s						
HVD	**Gariep Dam**	**92.80**	**239**	*e*P	**P**	**11 00 02.5**	**+0.8**
HVD				IAmb	IAmb	11 00 04.2	
	comp=Z,130nm,1.2s						
M19K	**Big River Lodg**	**92.84**	**28**	P	**P**	**11 00 01.0**	**+0.2**
	baz=260						
M19K				S	**S**	**11 10 13.4**	**-5.0**
	baz=260						
MRCO	**Marico , North**	**92.87**	**244**	*e*P	**P**	**11 00 01.7**	**-0.3**
MRCO				IAmb	IAmb	11 00 04.8	
	comp=Z,147nm,1.1s						
P19K	**Oil Pt**	**93.03**	**30**	P	**P**	**11 00 01.1**	**-0.7**
	baz=261						
P19K				S	**S**	**11 10 12.2**	**-8.0**
	baz=261						
KDAK	**Kodiak Island**	**93.08**	**32**	P	**P**	**11 00 01.7**	**-0.3**
KDAK	**Kodiak Island**	**93.08**	**32**	P	**P**	**11 00 01.5**	**-0.5**
	baz=261						
KDAK				S	**S**	**11 10 15.0**	**-5.5**
	baz=261						
KDAK	**Kodiak Island**	**93.08**	**32**	P	**P**	**11 00 01.7**	**-0.3**
KDAK				pmax	pmax		
	comp=Z,82nm,1.1s						
KLMR	**Klimovskoe**	**93.12**	**331**	*i* P	**P**	**11 00 01.1**	**-1.0**
KLMR				*e*P	**P**	**11 00 01.1**	**-1.0**
KLMR				*e*P	**P**	**11 00 01.1**	**-1.0**
KLMR				AMP		11 00 04.2	
	comp=Z,227nm,0.9s						
KLMR				*e*pP	**pP**	**11 02 08.5**	**+3.8**
KLMR				PP	**PP**	**11 03 55.9**	**+0.7**
KLMR				*e*S	**SKSac**	**11 09 41.5**	**-1.0**
KLMR				*e*S	**SKSac**	**11 09 41.5**	**-1.0**
KLMR				*e*ScS	**ScS**	**11 10 22.9**	**+1.3**
KLMR				*e*ScS	**ScS**	**11 10 22.9**	**+1.3**
KLMR	**Klimovskoe**	**93.12**	**331**	*d i*P	**P**	**11 00 01.1**	**-1.0**
KLMR						11 03 55.9	
KLMR				*e*S	**SKSac**	**11 09 41.5**	**-1.0**
KLMR				*e*		11 10 22.9	
KLMR				pmax	pmax		
	comp=Z,227nm,0.9s						
ILSW	**Iliamna Southw**	**93.13**	**30**	P	**P**	**11 00 02.7**	**+0.3**
L20K	**Farewell, AK**	**93.17**	**28**	P	**P**	**11 00 02.1**	**-0.3**
	baz=260,SNR=63						
L20K				S	**S**	**11 10 15.9**	**-5.4**
	baz=260						
D20K	**Etivluk River**	**93.20**	**21**	P	**P**	**11 00 02.3**	**-0.1**
	baz=258,SNR=45						
D20K				S	**S**	**11 10 14.5**	**-6.8**
	baz=258						
F20K	**Avaraart Lake**	**93.20**	**23**	IAmb	IAmb	11 00 06.4	
	comp=Z,157nm,0.8s						
F20K	**Avaraart Lake**	**93.20**	**23**	P	**P**	**11 00 02.7**	**+0.3**
	baz=259,SNR=91						
F20K				S	**S**	**11 10 15.6**	**-5.7**
	baz=259						
K20K	**Telida**	**93.23**	**27**	IAmb	IAmb	11 00 05.9	
	comp=Z,161nm,1.1s						
K20K	**Telida**	**93.23**	**27**	P	**P**	**11 00 02.7**	**+0.1**
	baz=260,SNR=50						
K20K				S	**S**	**11 10 14.7**	**-7.1**
	baz=260						
H20K	**Anotleneega Mo**	**93.25**	**24**	P	**P**	**11 00 02.7**	**0.0**
	baz=260,SNR=80						
H20K				S	**S**	**11 10 17.3**	**-4.5**
	baz=260						
E20K	**Nigu River**	**93.26**	**22**	P	**P**	**11 00 02.2**	**-0.6**
	baz=259,SNR=171						
E20K				S	**S**	**11 10 15.3**	**-6.6**
	baz=259						
B20K	**Meade River**	**93.28**	**20**	IAmb	IAmb	11 00 06.2	
	comp=Z,227nm,1.1s						
B20K	**Meade River**	**93.28**	**20**	P	**P**	**11 00 03.5**	**+0.8**
	baz=258,SNR=11						
B20K				S	**S**	**11 10 17.4**	**-4.3**
	baz=258						
Q20K	**Shuyak Island**	**93.30**	**31**	P	**P**	**11 00 02.6**	**-0.3**
	baz=262,SNR=5.1						
Q20K				S	**S**	**11 10 13.9**	**-8.5**
	baz=262						
I20K	**Naaghedeneel**	**93.30**	**25**	IAmb	IAmb	11 00 06.7	
	comp=Z,183nm,0.9s						
I20K	**Naaghedeneel**	**93.30**	**25**	P	**P**	**11 00 02.8**	**-0.1**
	baz=260,SNR=34						
I20K				S	**S**	**11 10 14.5**	**-7.7**
	baz=260						
J20K	**Nowinta River**	**93.34**	**26**	IAmb	IAmb	11 00 06.3	
	comp=Z,154nm,1.1s						
J20K	**Nowinta River**	**93.34**	**26**	P	**P**	**11 00 03.2**	**+0.1**
	baz=260,SNR=46						
J20K				S	**S**	**11 10 16.2**	**-6.4**
	baz=260						
GRAF	**Camdeboo Natio**	**93.35**	**237**	*e*P	**P**	**11 00 05.1**	**+1.1**
GRAF				IAmb	IAmb	11 00 09.5	
	comp=Z,50nm,0.9s						
MOS	**Moscow**	**93.35**	**326**	*e*P	**P**	**11 00 01.6**	**-1.7**
MOS				*e**PP	**pP**	**11 02 01.9**	**-3.8**
MOS				*e**SP	**sP**	**11 03 02.7**	**+1.1**
MOS				*e*		11 03 57.8	
MOS				*e*		11 09 44.6	
MOS				*e*S	**S**	**11 10 19.4**	**-3.6**
MOS				pmax	pmax		
	comp=Z,286nm,0.9s						
MOS				pmax	pmax		
	comp=Z,300nm,1.0s						
MOS				smax	smax		
	comp=E,7μm,4.6s						
MOS				smax	smax		
	comp=N,9μm,3.6s						
BOSA	**Boshof**	**93.35**	**241**	P	**P**	**11 00 03.6**	**-0.6**
BOSA				IAmb	IAmb	11 00 06.9	
	comp=Z,144nm,1.0s						
BOSA					**pP**	**11 02 05.1**	**-1.2**
BOSA	**Boshof**	**93.35**	**241**	*e*P	**P**	**11 00 05.0**	**+0.8**
BOSA				IAmb	IAmb	11 00 06.6	
	comp=Z,146nm,1.0s						
BOSA	**Boshof**	**93.35**	**241**	P	**P**	**11 00 04.2**	**+0.1**
	comp=Z,87nm,0.8s,baz=112,slow=3.9,SNR=49						
BOSA				pP	**pP**	**11 02 05.6**	**-0.7**
	comp=Z,24nm,0.8s,baz=113,slow=4.7,SNR=5.4						
BOSA				S	**SKSac**	**11 09 43.7**	**-1.8**
	comp=Z,4.4nm,1.0s,baz=74,slow=20,SNR=1.3						
BOSA				PKKPbc	**PKKPbc**	**11 17 07.6**	**-1.2**
	comp=Z,7.7nm,0.6s,baz=291,slow=2.4,SNR=9.2						
BOSA				SKKPbc	**SKKPbc**	**11 19 55.3**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=25,slow=4.3,SNR=3.1						
BOSA				PKPPKP	**P'P'df**	**11 25 15.1**	**-5.1**
	comp=Z,4.2nm,1.1s,baz=47,slow=5.0,SNR=3.7						
	comp=Z,87nm,0.8s						
O20K	**Slope Mountain**	**93.40**	**30**	P	**P**	**11 00 02.5**	**-1.0**
	baz=262						
O20K				S	**S**	**11 10 14.9**	**-8.5**
	baz=262						
M20K	**Styx River**	**93.42**	**28**	IAmb	IAmb	11 00 06.6	
	comp=Z,121nm,1.1s						
M20K	**Styx River**	**93.42**	**28**	P	**P**	**11 00 03.4**	**-0.2**
	baz=261						
M20K				S	**S**	**11 10 19.1**	**-4.5**
	baz=261						
SWZ	**Schweizer**	**93.53**	**242**	*e*P	**P**	**11 00 04.9**	**-0.1**
SWZ				IAmb	IAmb	11 00 10.6	
	comp=Z,99nm,0.9s						
LBTB	**Lobatse**	**93.67**	**244**	P	**P**	**11 00 06.0**	**+0.3**
LBTB					**pP**	**11 02 05.2**	**-2.3**
LBTB	**Lobatse**	**93.67**	**244**	*e*P	**P**	**11 00 06.2**	**+0.6**
LBTB				IAmb	IAmb	11 00 11.2	
	comp=Z,72nm,0.9s						
LBTB	**Lobatse**	**93.67**	**244**	P	**P**	**11 00 06.0**	**+0.3**
LBTB				*PP	**pP**	**11 02 05.2**	**-2.3**
LBTB				pmax	pmax		
	comp=Z,90nm,1.0s						
SNAA	**Sanae**	**93.74**	**195**	P	**P**	**11 00 04.8**	**-0.1**
SNAA				IAmb	IAmb	11 00 10.1	
	comp=Z,146nm,0.9s						
SNAA	**Sanae**	**93.74**	**195**	⇓*i* P	**P**	**11 00 05.1**	**+0.1**
SNAA	**Sanae**	**93.74**	**195**	⇓P	**P**	**11 00 04.7**	**-0.2**
	comp=Z,4μm,0.7s						
SNAA				⇑PKiKP	**PKiKP**	**11 04 48.6**	**+2.5**
	comp=Z,17nm,0.3s						
SNAA				⇑SKSac	**SKSac**	**11 09 45.6**	**-0.2**
	comp=Z,382nm,0.7s						
SNAA				⇑x	x	11 17 05.8	
	comp=Z,221nm,0.5s						
SNAA	**Sanae**	**93.74**	**195**	P	**P**	**11 00 05.0**	**+0.1**
	comp=Z,113nm,0.8s,baz=175,slow=5.1,SNR=111						
SNAA				pP	**pP**	**11 02 07.5**	**+1.2**
	comp=Z,26nm,0.8s,baz=86,slow=4.1,SNR=3.7						
SNAA				PP	**PP**	**11 04 00.2**	**+0.8**
	comp=Z,47nm,1.0s,baz=168,slow=7.3,SNR=5.0						
SNAA				S	**SKSac**	**11 09 44.1**	**-1.7**
	comp=Z,16nm,0.7s,baz=227,slow=21,SNR=15						
SNAA				PKKPbc	**PKKPdf**	**11 17 06.0**	**-0.1**
	comp=Z,8.5nm,0.5s,baz=285,slow=7.4,SNR=32						
SNAA				PKPPKP	P'P'df	11 25 05.4	-12
	comp=Z,2.8nm,0.8s,baz=240,slow=1.2,SNR=7.7						
	comp=Z,113nm,0.8s						
N20K	**Mount Spurr**	**93.76**	**29**	P	**P**	**11 00 03.8**	**-1.4**
	baz=262,SNR=26						
N20K				S	**S**	**11 10 19.1**	**-7.5**
	baz=262						
SPCR	**Spurr Chakacha**	**93.76**	**29**	P	**P**	**11 00 03.3**	**-1.9**
	baz=262,SNR=22						
SPCR				S	**S**	**11 10 18.1**	**-8.5**
	baz=262						
IMAR	**Indian Mountai**	**93.80**	**24**	P	**P**	**11 00 04.8**	**-0.3**
HOM	**Homer**	**93.83**	**30**	P	**P**	**11 00 06.7**	**+1.3**
HOM	**Homer**	**93.83**	**30**	P	**P**	**11 00 04.1**	**-1.3**
	baz=262						
HOM				S	**S**	**11 10 18.9**	**-8.1**
	baz=262						
OBN	**Obninsk**	**93.87**	**325**	P	**P**	**11 00 05.9**	**+0.3**
OBN	**Obninsk**	**93.87**	**325**	*de*P	**P**	**11 00 05.2**	**-0.4**
OBN				*e**PP	**pP**	**11 02 11.7**	**+3.6**
OBN				*e*		11 04 04.9	
OBN				*e*PPP	PPP	11 06 08.7	
OBN				*i* S	**SKSac**	**11 09 48.7**	**+2.0**
OBN				*e*SS	**SS**	**11 17 01.0**	**-2.8**
OBN				*e*SSS	SSS	11 20 48.6	
OBN				pmax	pmax		
	comp=Z,418nm,0.9s						
OBN	**Obninsk**	**93.87**	**325**	P	**P**	**11 00 05.9**	**+0.3**
	comp=Z,368nm,0.7s,baz=55,slow=2.0,SNR=56						
OBN				PKPPKP

G21K				S	S	11 10 22.7	-5.4	
	baz=261							
PPLA	**Purkeypile**	**94.01**	**27**	P	**P**	**11 00 05.5**	**-0.8**	
	baz=262,SNR=16							
PPLA				S	**S**	**11 10 20.7**	**-8.0**	
	baz=262							
CNPM	**China Poot**	**94.02**	**31**	IAmb	IAmb	11 00 11.4		
	comp=Z,361nm,1.8s							
B21K	**Ikpikpuk River**	**94.07**	**20**	IAmb	IAmb	11 00 09.8		
	comp=Z,210nm,1.1s							
B21K	**Ikpikpuk River**	**94.07**	**20**	P	**P**	**11 00 06.4**	**+0.1**	
	baz=260,SNR=17							
B21K				S	**S**	**11 10 21.5**	**-7.2**	
	baz=260							
ROOI	**Rooidraai Farm**	**94.09**	**237**	*e*P	**P**	**11 00 08.4**	**+1.0**	
ROOI				IAmb	IAmb	11 00 10.1		
	comp=Z,50nm,0.8s							
CHUM	**Lake Minchumin**	**94.09**	**26**	P	**P**	**11 00 06.2**	**-0.3**	
	baz=262,SNR=97							
CHUM				S	**S**	**11 10 22.1**	**-6.9**	
	baz=262							
F21K	**Alatna River**	**94.10**	**23**	P	**P**	**11 00 05.6**	**-0.9**	
	baz=261,SNR=21							
F21K				S	**S**	**11 10 23.2**	**-5.9**	
	baz=261							
E21K	**Killik River**	**94.11**	**22**	IAmb	IAmb	11 00 10.3		
	comp=Z,165nm,1.0s							
E21K	**Killik River**	**94.11**	**22**	P	**P**	**11 00 06.1**	**-0.5**	
	baz=261,SNR=48							
E21K				S	**S**	**11 10 22.2**	**-7.0**	
	baz=261							
BR131	**Keskin Array S**	**94.11**	**309**	P	**P**	**11 00 07.0**	**-0.4**	
BR131	**Keskin Array S**	**94.11**	**309**	P	**P**	**11 00 07.0**	**-0.4**	
BR131				pmax	pmax			
	comp=Z,64nm,0.9s							
BRTR	**Keskin Array B**	**94.11**	**309**	P	**P**	**11 00 06.8**	**-0.6**	
BRTR	**Keskin Array B**	**94.11**	**309**	P	**P**	**11 00 06.7**	**-0.7**	
	comp=Z,37nm,0.8s,baz=124,slow=5.4,SNR=76							
BRTR				pP	**pP**	**11 02 08.3**	**-0.8**	
	comp=Z,3.2nm,0.7s,baz=116,slow=3.4,SNR=1.7							
BRTR				PP	**PP**	**11 04 00.2**	**-3.5**	
	comp=Z,16nm,0.8s,baz=114,slow=8.0,SNR=5.1							
BRTR				PKKPbc	**PKKPdf**	**11 17 05.8**	**0.0**	
	comp=Z,3.0nm,0.8s,baz=158,slow=1.3,SNR=4.4							
BRTR				PKPPKP	**P'P'df**	**11 25 17.1**	**-0.6**	
	comp=Z,1.2nm,0.9s,baz=242,slow=2.7,SNR=4.4							
	comp=Z,37nm,0.8s							
CAST	**Castle Rocks**	**94.13**	**27**	P	**P**	**11 00 06.2**	**-0.6**	
	baz=262,SNR=55							
CAST				S	**S**	**11 10 20.7**	**-8.8**	
	baz=262							
H21K	**Melozitna Rive**	**94.13**	**24**	IAmb	IAmb	11 00 10.5		
	comp=Z,117nm,1.1s							
H21K	**Melozitna Rive**	**94.13**	**24**	P	**P**	**11 00 06.4**	**-0.3**	
	baz=262,SNR=76							
H21K				S	**S**	**11 10 22.3**	**-7.2**	
	baz=262							
ADZR	**Andozero**	**94.14**	**334**	*e*P	**P**	**11 00 08.7**	**+2.0**	
ADZR				*e*		11 04 04.7		
ADZR				*e*S	**SKSac**	**11 09 49.0**	**+1.2**	
ADZR				pmax	pmax			
	comp=Z,140nm,0.9s							
A22K	**Sinclair Lake**	**94.19**	**19**	P	**P**	**11 00 06.8**	**0.0**	
	baz=260							
SKT	**Skwentna**	**94.19**	**28**	P	**P**	**11 00 05.8**	**-1.2**	
SKT	**Skwentna**	**94.19**	**28**	P	**P**	**11 00 05.2**	**-1.9**	
	baz=263,SNR=32							
SKT				S	S	11 10 21.0	-9.1	
	baz=263							
CAPN	**Captain Cook N**	**94.21**	**29**	P	**P**	**11 00 07.1**	**0.0**	
	baz=263							
BRLK	**Bradley Lake**	**94.22**	**30**	P	**P**	**11 00 06.8**	**-0.4**	
BRLK				IAmb	IAmb	11 00 11.1		
	comp=Z,166nm,1.0s							
BRSE	**Bradley Lake S**	**94.29**	**30**	P	**P**	**11 00 06.3**	**-1.2**	
	baz=263,SNR=9.0							
BRSE				S	**S**	**11 10 23.0**	**-8.0**	
	baz=263							
SIM	**Simferopol'**	**94.30**	**315**	*e*P	**P**	**11 00 10.1**	**+2.2**	
SIM				*e*		11 02 15.0		
SIM				*e*		11 04 09.0		
SIM				*e*		11 09 50.0		
SIM				*e*S	**S**	**11 10 27.0**	**-4.7**	
SIM				pmax	pmax			
	comp=Z,234nm,1.0s							
SIM				pmax	pmax			
	comp=Z,1μm,17.6s							
SIM				pmax	pmax			
	comp=Z,2μm,4.1s							
SIM				pmax	pmax			
	comp=E,4μm,8.5s							
SIM				smax	smax			
	comp=N,500nm,5.0s							
I21K	**Tanana**	**94.41**	**25**	IAmb	IAmb	11 00 11.1		
	comp=Z,126nm,1.1s							
I21K	**Tanana**	**94.41**	**25**	P	**P**	**11 00 07.5**	**-0.4**	
	baz=262,SNR=61							
I21K				S	**S**	**11 10 26.1**	**-5.7**	
	baz=262							
SUA	**Susitna One**	**94.50**	**29**	IAmb	IAmb	11 00 10.8		
	comp=Z,175nm,1.0s							
SUA	**Susitna One**	**94.50**	**29**	P	**P**	**11 00 06.9**	**-1.7**	
	baz=263,SNR=27							
SUA				S	S	11 10 23.4	-10	
	baz=263							
B22K	**Teshekpuk Lake**	**94.59**	**20**	P	**P**	**11 00 07.6**	**-1.1**	
	baz=262,SNR=15							
B22K				S	**S**	**11 10 28.5**	**-4.7**	
	baz=262							
D22K	**Ayikyak River**	**94.64**	**21**	P	**P**	**11 00 09.0**	**+0.1**	
	baz=262,SNR=16							
D22K				S	**S**	**11 10 27.7**	**-6.1**	
	baz=262							
F22K	**John River**	**94.64**	**23**	P	**P**	**11 00 09.2**	**+0.3**	
	baz=262,SNR=65							
F22K				S	**S**	**11 10 29.2**	**-4.6**	
	baz=262							
KTH	**Kantishna Hill**	**94.66**	**27**	P	**P**	**11 00 08.1**	**-1.2**	
KTH				IAmb	IAmb	11 00 11.9		
	comp=Z,134nm,1.0s							
BPAW	**Bear Paw Mtn.**	**94.70**	**26**	P	**P**	**11 00 08.6**	**-0.8**	
BPAW				IAmb	IAmb	11 00 13.1		
	comp=Z,88nm,0.9s							
BPAW	**Bear Paw Mtn.**	**94.70**	**26**	P	**P**	**11 00 08.7**	**-0.6**	
	baz=263,SNR=32							
BPAW				S	**S**	**11 10 26.9**	**-7.5**	
	baz=263							
H22K	**Ishtalitna Cre**	**94.75**	**24**	P	**P**	**11 00 09.5**	**0.0**	
	baz=263,SNR=38							
H22K				S	**S**	**11 10 30.2**	**-4.6**	
	baz=263							
ANTO	**Ankara**	**94.78**	**309**	P	**P**	**11 00 10.2**	**-0.1**	
ANTO	**Ankara**	**94.78**	**309**	P	**P**	**11 00 10.2**	**-0.1**	
ANTO				pmax	pmax			
	comp=Z,43nm,0.9s							
G22K	**Bettles**	**94.82**	**23**	P	**P**	**11 00 09.3**	**-0.5**	
	baz=263							
G22K				S	**S**	**11 10 30.5**	**-4.7**	
	baz=263							
M22K	**Willow**	**94.83**	**28**	P	**P**	**11 00 08.3**	**-1.6**	
	baz=264,SNR=22							
CUT	**Chulitna**	**94.83**	**28**	IAmb	IAmb	11 00 12.2		
	comp=Z,213nm,1.2s							
CUT	**Chulitna**	**94.83**	**28**	P	**P**	**11 00 08.4**	**-1.5**	
	baz=264,SNR=7.1							
E22K	**Anaktuvuk Pass**	**94.86**	**22**	P	**P**	**11 00 10.3**	**+0.4**	
	baz=263,SNR=102							
E22K				S	**S**	**11 10 27.6**	**-8.1**	
	baz=263							
O22K	**Cooper Landing**	**94.88**	**30**	P	**P**	**11 00 08.8**	**-1.3**	
	baz=264,SNR=30							
O22K				S	**S**	**11 10 27.2**	**-8.8**	
	baz=264							
MLY	**Manley**	**94.91**	**25**	P	**P**	**11 00 09.4**	**-0.9**	
	baz=264,SNR=237							
MLY				S	**S**	**11 10 28.4**	**-7.9**	
	baz=264							
TRF	**Thorofare Moun**	**94.93**	**27**	IAmb	IAmb	11 00 14.4		
	comp=Z,152nm,1.0s							
TRF	**Thorofare Moun**	**94.93**	**27**	P	**P**	**11 00 08.6**	**-1.9**	
	baz=264,SNR=60							
TRF				S	**S**	**11 10 27.9**	**-8.8**	
	baz=264							
RC01	**Rabbit Creek A**	**94.94**	**29**	IAmb	IAmb	11 00 12.8		
	comp=Z,84nm,0.7s							
RC01	**Rabbit Creek A**	**94.94**	**29**	P	**P**	**11 00 09.0**	**-1.4**	
	baz=264,SNR=21							
RC01				S	S	11 10 26.9	-10	
	baz=264							
SEW	**Seward**	**94.98**	**30**	P	**P**	**11 00 09.6**	**-1.0**	
	baz=264,SNR=15							
SEW				S	**S**	**11 10 29.2**	**-7.7**	
	baz=264							
GRAN	**Grantham**	**95.27**	**237**	*e*P	**P**	**11 00 13.5**	**+0.7**	
GRAN				IAmb	IAmb	11 00 16.2		
	comp=Z,25nm,0.8s							
PMR	**Palmer**	**95.28**	**29**	P	**P**	**11 00 10.0**	**-1.9**	
PMR				IAmb	IAmb	11 00 13.8		
	comp=Z,112nm,1.2s							
PMR	**Palmer**	**95.28**	**29**	P	**P**	**11 00 12.4**	**+0.5**	
PMR	**Palmer**	**95.28**	**29**	P	**P**	**11 00 10.8**	**-1.1**	
	baz=265,SNR=17							
PMR				S	**S**	**11 10 30.5**	**-8.8**	
	baz=265							
PMR	**Palmer**	**95.28**	**29**	P	**P**	**11 00 10.0**	**-1.9**	
PMR				pmax	pmax			
	comp=Z,112nm,1.2s							
VNA2	**Neumayer--Watz**	**95.35**	**195**	⇓P	**P**	**11 00 12.3**	**+0.2**	
	comp=Z,125nm,0.8s,baz=132,slow=4.0							
VNA2				⇑PKiKP	**PKiKP**	**11 04 51.0**	**+2.1**	
	comp=Z,3.1nm,0.4s,baz=84,slow=1.0							
VNA2				⇓SKSac	**SKSac**	**11 09 53.8**	**-0.4**	
	comp=Z,1.0nm,0.4s,baz=91,slow=4.0							
VNA2				⇑x	x	11 17 02.7		
	comp=Z,28nm,0.6s,baz=131,slow=4.0							
COLD	**Coldfoot**	**95.37**	**23**	P	**P**	**11 00 11.9**	**-0.3**	
	baz=264,SNR=125							
COLD				S	**S**	**11 10 35.0**	**-5.0**	
	baz=264							
D23K	**Nanushuk River**	**95.37**	**21**	P	**P**	**11 00 12.7**	**+0.5**	
	baz=264,SNR=41							
D23K				S	**S**	**11 10 35.0**	**-4.9**	
	baz=264							
G23K	**Bananza Creek**	**95.38**	**24**	P	**P**	**11 00 12.1**	**-0.3**	
	baz=264,SNR=150							
G23K				S	**S**	**11 10 35.1**	**-5.1**	
	baz=264							
C23K	**Itkillik River**	**95.48**	**20**	P	**P**	**11 00 12.7**	**0.0**	
	baz=264,SNR=41							
C23K				S	**S**	**11 10 34.0**	**-6.8**	
	baz=264							
H23K	**Yukon River**	**95.49**	**24**	IAmb	IAmb	11 00 16.7		
	comp=Z,125nm,0.9s							
H23K	**Yukon River**	**95.49**	**24**	P	**P**	**11 00 12.7**	**-0.2**	
	baz=265,SNR=89							
H23K				S	**S**	**11 10 33.0**	**-8.1**	
	baz=265							
I23K	**Minto, Yukon-K**	**95.50**	**25**	P	**P**	**11 00 12.1**	**-0.8**	
	baz=265,SNR=280							
I23K				S	**S**	**11 10 35.6**	**-5.5**	
	baz=265							
MCK	**McKinley**	**95.56**	**27**	P	**P**	**11 00 11.9**	**-1.3**	
	baz=265,SNR=104							
MCK				S	S	11 10 32.8	-9.0	
	baz=265							
TAOE	**Nuku Hiva Isla**	**95.57**	**100**	*e*P	P	11 00 00.4	-14	
	comp=Z,2μm,26.7s							
TAOE	**Nuku Hiva Isla**	**95.57**	**100**	*e*S	S	11 10 56.1	+12	
	comp=Z,3μm,26.9s							
TAOE				*e*SS	SS	11 17 15.6	-14	
	comp=Z,6μm,29.0s							
NEA2	**Nenana**	**95.58**	**26**	P	**P**	**11 00 11.4**	**-1.9**	
	baz=265,SNR=19							
NEA2				S	**S**	**11 10 33.9**	**-8.0**	
	baz=265							
KNK	**Knik Glacier**	**95.58**	**29**	IAmb	IAmb	11 00 16.5		
	comp=Z,168nm,0.8s							
KNK	**Knik Glacier**	**95.58**	**29**	P	**P**	**11 00 12.8**	**-0.6**	
	baz=265,SNR=54							
KNK				S	**S**	**11 10 34.4**	**-7.7**	
	baz=265							
PWL	**Port Wells**	**95.60**	**29**	IAmb	IAmb	11 00 15.7		
	comp=Z,186nm,1.2s							
PWL	**Port Wells**	**95.60**	**29**	P	**P**	**11 00 12.8**	**-0.6**	
	baz=265,SNR=33							
PWL				S	**S**	**11 10 35.0**	**-7.2**	
	baz=265							
WAT1	**Susitna Watana**	**95.66**	**27**	P	**P**	**11 00 12.2**	**-1.5**	
	baz=265							
WAT1				S	S	11 10 31.7	-11	
	baz=265							
E23K	**Chandalar**	**95.67**	**22**	P	**P**	**11 00 13.0**	**-0.7**	
	baz=265,SNR=188							
E23K				S	**S**	**11 10 37.9**	**-4.8**	
	baz=265							
SML	**Sawmill**	**95.68**	**28**	P	**P**	**11 00 12.0**	**-1.8**	
SML				IAmb	IAmb	11 00 16.7		
	comp=Z,130nm,0.8s							
SML	**Sawmill**	**95.68**	**28**	P	**P**	**11 00 12.7**	**-1.1**	
	baz=265,SNR=42							
SML				S	**S**	**11 10 34.3**	**-8.6**	
	baz=265							
VNA3	**Neumayer Olymp**	**95.69**	**194**	⇓P	**P**	**11 00 13.6**	**-0.1**	
	comp=Z,123nm,1.0s							
VNA3				⇑PKiKP	**PKiKP**	**11 04 51.3**	**+1.8**	
	comp=Z,1.8nm,0.3s							
VNA3				⇑SKSac	**SKSac**	**11 09 55.5**	**-0.5**	
	comp=Z,6.9nm,0.7s							
VNA3				⇑x	x	11 17 01.3		
	comp=Z,12nm,0.6s							
MERW	**Merweville**	**95.73**	**236**	*e*P	**P**	**11 00 16.0**	**+1.2**	
MERW				IAmb	IAmb	11 00 20.9		
	comp=Z,74nm,0.9s							
TOLK	**Toolik Lake Re**	**95.74**	**22**	IAmb	IAmb	11 00 18.0		
	comp=Z,109nm,0.8s							
TOLK	**Toolik Lake Re**	**95.74**	**22**	P	**P**	**11 00 14.6**	**+0.7**	
	baz=265,SNR=40							
TOLK				S	**S**	**11 10 37.7**	**-5.5**	
	baz=265							
VNA1	**Neumayer--Stat**	**95.75**	**195**	⇓P	**P**	**11 00 14.3**	**+0.3**	
	comp=Z,77nm,1.2s							
VNA1				⇑x	x	11 17 01.9		
	comp=Z,8.4nm,0.6s							
M23K	**Glacier View**	**95.96**	**29**	P	**P**	**11 00 13.9**	**-1.2**	
	baz=266,SNR=36							
M23K				S	**S**	**11 10 36.6**	**-8.7**	
	baz=266							
MDM	**Murphy Dome**	**95.97**	**25**	IAmb	IAmb	11 00 19.1		
	comp=Z,99nm,0.9s							
FRAZ	**Fraserburg**	**95.98**	**237**	*e*P	**P**	**11 00 17.4**	**+1.4**	
FRAZ				IAmb	IAmb	11 00 19.4		
	comp=Z,73nm,1.0s							
P23K	**Montague Islan**	**95.99**	**30**	P	**P**	**11 00 14.6**	**-0.6**	
	baz=266							
P23K				S	**S**	**11 10 39.3**	**-6.2**	
	baz=266							
WAT6	**Susitna Watana**	**96.01**	**28**	P	**P**	**11 00 14.4**	**-1.0**	
	baz=266,SNR=60							
WAT6				S	**S**	**11 10 38.9**	**-7.1**	
	baz=266							
MDUB	**Mudurnu**	**96.05**	**310**	P	**P**	**11 00 17.3**	**+1.2**	
D24K	**Happy Valley**	**96.05**	**21**	IAmb	IAmb	11 00 19.5		
	comp=Z,187nm,0.9s							
D24K	**Happy Valley**	**96.05**	**21**	P	**P**	**11 00 15.4**	**+0.1**	
	baz=266							
D24K				S	**S**	**11 10 41.1**	**-4.6**	
	baz=266							
LVZ	**Lovozero**	**96.05**	**338**	P	**P**	**11 00 14.1**	**-1.3**	
LVZ				IAmb	IAmb	11 00 17.0		
	comp=Z,84nm,0.9s							
LVZ	**Lovozero**	**96.05**	**338**	*ce*P	**P**	**11 00 16.2**	**+0.9**	
LVZ				pmax	pmax			
	comp=Z,79nm,0.8s							
E24K	**Your Creek**	**96.09**	**22**	P	**P**	**11 00 15.7**	**+0.1**	
	baz=266,SNR=27							
E24K				S	**S**	**11 10 40.3**	**-6.0**	
	baz=266							
COLA	**College**	**96.12**	**25**	P	**P**	**11 00 14.8**	**-0.9**	
COLA	**College**	**96.12**	**25**	P	**P**	**11 00 16.3**	**+0.7**	
COLA	**College**	**96.12**	**25**	P	**P**	**11 00 13.9**	**-1.7**	
	baz=266							
COLA				S	**S**	**11 10 38.9**	**-7.5**	
	baz=266							
COLA	**College**	**96.12**	**25**	P	**P**	**11 00 16.4**	**+0.8**	
C24K	**Franklin Bluff**	**96.14**	**21**	P	**P**	**11 00 15.3**	**-0.3**	
	baz=266							
C24K				S	**S**	**11 10 39.4**	**-6.9**	
	baz=266							
SCM	**Sheep Creek Mo**	**96.15**	**29**	IAmb	IAmb	11 00 21.4		
	comp=Z,221nm,1.4s							
SCM	**Sheep Creek Mo**	**96.15**	**29**	P	**P**	**11 00 15.4**	**-0.6**	
	baz=266,SNR=18							
SCM				S	**S**	**11 10 41.1**	**-6.0**	
	baz=266							
H24K	**Noodor Dome**	**96.18**	**24**	IAmb	IAmb	11 00 19.9		
	comp=Z,194nm,0.9s							
H24K	**Noodor Dome**	**96.18**	**24**	P	**P**	**11 00 16.1**	**+0.1**	
	baz=266,SNR=112							
H24K				S	**S**	**11 10 41.7**	**-5.3**	
	baz=266							
GLI	**Glacier Island**	**96.20**	**29**	IAmb	IAmb	11 00 20.5		
	comp=Z,73nm,0.7s							
GLI	**Glacier Island**	**96.20**	**29**	P	**P**	**11 00 15.4**	**-0.7**	
	baz=266,SNR=9.4							
GLI				S	**S**	**11 10 40.8**	**-6.6**	
	baz=266							
DHY	**Denali Highway**	**96.21**	**27**	IAmb	IAmb	11 00 19.5		
	comp=Z,99nm,0.9s							
DHY	**Denali Highway**	**96.21**	**27**	P	**P**	**11 00 15.4**	**-0.9**	
	baz=266,SNR=61							
DHY				S	**S**	**11 10 39.8**	**-7.9**	
	baz=266							
F24K	**Squaw Lake**	**96.28**	**23**	IAmb	IAmb	11 00 20.8		
	comp=Z,124nm,1.1s							
F24K	**Squaw Lake**	**96.28**	**23**	P	**P**	**11 00 16.2**	**-0.2**	
	baz=266,SNR=60							
F24K				S	**S**	**11 10 41.6**	**-6.2**	
	baz=266							
POKR	**Poker Plat Res**	**96.31**	**25**	P	**P**	**11 00 15.4**	**-1.2**	
POKR	**Poker Plat Res**	**96.31**	**25**	P	**P**	**11 00 15.3**	**-1.2**	
	baz=266,SNR=13							
POKR				S	**S**	**11 10 39.2**	**-8.9**	
	baz=266							
MATJ	**Matjiesfontein**	**96.37**	**235**	⇓*i*P	**P**	**11 00 19.1**	**+1.3**	
MATJ				IAmb	IAmb	11 00 21.8		
	comp=Z,179nm,0.9s							
SUR	**Sutherland**	**96.38**	**236**	P	**P**	**11 00 17.7**	**-0.2**	
SUR				IAmb	IAmb	11 00 21.8		
	comp=Z,86nm,1.0s							
SUR	**Sutherland**	**96.38**	**236**	*e*P	**P**	**11 00 19.2**	**+1.3**	
G24K	**Hadweenzic Riv**	**96.39**	**24**	IAmb	IAmb	11 00 21.0		
	comp=Z,117nm,0.9s							
G24K	**Hadweenzic Riv**	**96.39**	**24**	Pdiff	**P**	**11 00 15.2**	**-1.7**	
	baz=267							
G24K				S	**S**	**11 10 41.6**	**-7.1**	
	baz=267							
HIN	**Hinchinbrook I**	**96.47**	**30**	IAmb	IAmb	11 00 21.4		
	comp=Z,113nm,1.1s							
HDA	**Harding Lake**	**96.48**	**26**	Pdiff	**P**	**11 00 15.9**	**-1.4**	
	baz=267							
HDA				S	S	11 10 37.9	-12	
	baz=267							
HDA				S	S	11 10 37.9	-12	
	baz=267							
Q23K	**Middleton Isla**	**96.49**	**31**	Pdiff	**P**	**11 00 15.8**	**-1.6**	
	baz=267							
FID	**Port Fidalgo**	**96.50**	**30**	P	**P**	**11 00 18.0**	**+0.6**	
FID				IAmb	IAmb	11 00 19.9		
	comp=Z,88nm,1.1s							
APA	**Apatity**	**96.50**	**337**	⇓*i*P	**P**	**11 00 15.4**	**-1.9**	
APA				*i* *PP	**pP**	**11 02 17.0**	**-3.1**	
APA				*i*		11 09 58.0		
APA				*i* S	**S**	**11 10 43.0**	**-6.5**	
APA				pmax	pmax			
	comp=Z,33nm,1.0s							
APA				MLR	MLR			
	comp=Z,6μm,18.0s							
IL31		**96.53**	**26**	P	**P**	**11 00 14.8**	**-2.6**	
IL31				IAmb	IAmb	11 00 19.2		
	comp=Z,108nm,1.2s							
ILAR	**Eielson Array**	**96.53**	**26**	P	**P**	**11 00 15.0**	**-2.5**	
ILAR	**Eielson Array**	**96.53**	**26**	P	**P**	**11 00 16.1**	**-1.4**	
	comp=Z,75nm,1.0s,baz=270,slow=4.0,SNR=98							
ILAR				pP	**pP**	**11 02 19.5**	**-0.2**	
	comp=Z,3.3nm,0.9s,baz=258,slow=4.7,SNR=1.2							
ILAR				PP	**PP**	**11 04 23.4**	**+2.2**	
	comp=Z,20nm,0.9s,baz=270,slow=6.9,SNR=5.7							
ILAR				PKiKP	**PKiKP**	**11 04 51.9**	**+0.9**	
	comp=Z,8.3nm,0.8s,baz=268,slow=2.9,SNR=6.6							
ILAR				S	**SKSac**	**11 09 57.2**	**-3.1**	
	comp=Z,1.7nm,0.9s,baz=304,slow=3.9,SNR=1.2							
ILAR				PKKPbc	**PKKPbc**	**11 16 59.0**	**-2.7**	
	comp=Z,29nm,0.9s,baz=179,slow=0.1,SNR=33							
ILAR				PKPPKP	P'P'df	11 25 02.0	-9.2	
	comp=Z,1.3nm,0.9s,baz=171,slow=0.8,SNR=4.8							
	comp=Z,75nm,1.0s							
M24K	**Tolsona, Glenn**	**96.71**	**28**	Pdiff	**P**	**11 00 16.6**	**-1.9**	
	baz=267							
M24K				S	**S**	**11 10 46.6**	**-5.1**	
	baz=267							
KLU	**Klutina**	**96.81**	**29**	Pdiff	**P**	**11 00 17.0**	**-1.9**	
	baz=267							
KLU				S	**S**	**11 10 48.0**	**-4.5**	
	baz=267							
EYAK	**Cordova Ski Ar**	**96.85**	**30**	P	**P**	**11 00 21.3**	**+2.3**	
EYAK	**Cordova Ski Ar**	**96.85**	**30**	Pdiff	**P**	**11 00 17.0**	**-2.0**	
	baz=268							
EYAK				S	**S**	**11 10 49.3**	**-3.4**	
	baz=268							
UPI	**Upington**	**96.86**	**240**	*e*P	**P**	**11 00 20.0**	**0.0**	
UPI				IAmb	IAmb	11 00 23.1		
	comp=Z,73nm,1.5s							
D25K	**Kavik River**	**96.93**	**21**	IAmb	IAmb	11 00 31.4		
	comp=Z,62nm,0.8s							
D25K	**Kavik River**	**96.93**	**21**	Pdiff	**P**	**11 00 18.0**	**-1.2**	
	baz=268							
D25K				S	**S**	**11 10 47.1**	**-6.2**	
	baz=268							
G25K	**Bearman Lake**	**96.94**	**24**	Pdiff	**P**	**11 00 17.7**	**-1.5**	
	baz=268							
G25K				S	**S**	**11 10 49.7**	**-3.6**	
	baz=268							
K24K	**Donnelly Dome**	**96.97**	**27**	Pdiff	**P**	**11 00 18.5**	**-1.0**	
	baz=268							
KEIM	**Keimoes**	**97.03**	**240**	*e*P	Pdif	11 00 21.8	+1.1	
KEIM				IAmb	IAmb	11 00 24.1		
	comp=Z,68nm,1.1s							
H25L	**Birch Creek**	**97.04**	**24**	Pdiff	Pdif	11 00 18.2	-1.5	
	baz=268							
H25L				S	**S**	**11 10 54.2**	**+0.1**	
	baz=268							
PAX	**Paxson**	**97.08**	**27**	Pdiff	Pdif	11 00 17.7	-2.5	
	baz=268							
PAX				S	**S**	**11 10 48.2**	**-6.6**	
	baz=268							
PRP	**Porcupine Dome**	**97.13**	**25**	Pdiff	Pdif	11 00 19.1	-1.3	
	baz=268							
F25K	**Christian Rive**	**97.15**	**23**	Pdiff	Pdif	11 00 19.7	-0.6	
	baz=268							
J25K	**Salcha River,**	**97.17**	**26**	IAmb	IAmb	11 00 22.3		
	comp=Z,80nm,1.1s							
J25K	**Salcha River,**	**97.17**	**26**	Pdiff	Pdif	11 00 19.1	-1.4	
	baz=268							
E25K	**Arctic Village**	**97.19**	**22**	IAmb	IAmb	11 00 24.8		
	comp=Z,93nm,0.8s							
E25K	**Arctic Village**	**97.19**	**22**	Pdiff	Pdif	11 00 20.2	-0.2	
	baz=269							
HARP	**HAARP**	**97.20**	**28**	Pdiff	Pdif	11 00 19.1	-1.5	
	baz=268							
RAGM	**Ragged Mountai**	**97.37**	**30**	P	Pdif	11 00 19.2	-2.2	
RAGM				IAmb	IAmb	11 00 27.1		
	comp=Z,81nm,1.1s							
RIDG	**Independent Ri**	**97.38**	**27**	P	Pdif	11 00 20.2	-1.2	
RIDG				IAmb	IAmb	11 00 24.5		
	comp=Z,122nm

comp=Z,66nm,1.0s
SCRK Sand Creek 97.76 26 Pdiff Pdif 11 00 22.7 -0.5
baz=270
G26K Porcupine Rive 97.86 23 Pdiff Pdif 11 00 22.5 -0.9
baz=270
J26L Joseph Creek 97.95 26 Pdiff Pdif 11 00 22.4 -1.6
baz=270
AKASG Malin Array Be 97.97 320 P Pdif 11 00 23.4 -0.8
comp=Z,59nm,0.8s,baz=77,slow=4.6,SNR=94
AKASG pP pP 11 02 26.2 -0.5
comp=Z,12nm,0.8s,baz=76,slow=4.6,SNR=3.6
AKASG PP **PP** **11 04 29.9 -2.6**
comp=Z,20nm,0.8s,baz=78,slow=6.1,SNR=4.8
AKASG PKiKP **PKiKP** **11 04 54.1 +0.2**
comp=Z,2.8nm,0.4s,baz=88,slow=1.9,SNR=9.3
AKASG S **SKSac** **11 10 07.1 -1.0**
comp=Z,2.7nm,0.7s,baz=87,slow=4.9,SNR=3.4
AKASG PKKPbc **PKKPbc** **11 16 54.2 -3.1**
comp=Z,28nm,0.6s,baz=277,slow=3.5,SNR=27
AKASG SKKPbc **SKKPbc** **11 19 40.6 -4.6**
comp=Z,2.1nm,0.6s,baz=278,slow=3.3,SNR=4.1
AKASG PKPPKP **P'P'df** **11 25 07.3 -2.0**
comp=Z,0.8nm,0.6s,baz=266,slow=3.1,SNR=5.8
comp=Z,59nm,0.8s
AKBB Malin Array Si 97.97 320 *c*eP **P** **11 00 24.7 +0.5**
AKBB pmax pmax
comp=Z,86nm,0.8s
VADS Vadso 98.02 340 *e*P **P** **11 00 26.0 +2.0**
VADS *e*pP **pP** **11 02 26.2 -0.8**
VADS *e*SKSac **SKSac** **11 10 08.2 +0.7**
L26K Log Cabin Wild 98.05 27 Pdiff Pdif 11 00 22.8 -1.6
baz=270
BGLC Bering Glacier 98.06 30 Pdiff Pdif 11 00 20.8 -3.6
baz=270
TLCR 98.06 315 ⇑P **P** **11 00 25.2 +0.3**
TLCR 98.06 315 P **P** **11 00 25.1 +0.3**
I26K Coal Creek Min 98.12 25 Pdiff Pdif 11 00 24.2 -0.4
baz=270
KIS Kishinev 98.12 316 *e*P **P** **11 00 26.0 +1.0**
KIS *i* pP **pP** **11 02 26.0 -1.3**
KIS *e*sP pwP 11 02 55.0 +25
KIS Kishinev 98.12 316 *i* PP **PP** **11 04 28.0 -5.7**
comp=Z,550nm,6.2s
KIS Kishinev 98.12 316 *e*P **P** **11 00 26.0 +1.0**
KIS *i* *PP **pP** **11 02 26.0 -1.3**
KIS *e*PPP PPP 11 06 46.0
KIS *i* 11 10 08.0
KIS *e*S **S** **11 10 59.0 -5.1**
KIS *i* PS PS 11 13 17.0 -29
KIS *e*SS **SS** **11 18 13.0 +9.4**
KIS pmax pmax
comp=Z,550nm,6.2s
KIS pmax pmax
comp=E,3μm,8.9s
KIS MLR MLR
comp=Z,700nm,20.5s
CRQE Cirque 98.16 30 Pdiff Pdif 11 00 24.3 -0.7
baz=270
MCARA McCarthy VSAT 98.19 29 Pdiff Pdif 11 00 24.0 -1.0
baz=270
M26K Nabesna, AK 98.21 28 Pdiff Pdif 11 00 24.0 -1.1
baz=270
TIRR Tirgusor 98.32 314 ⇑P **P** **11 00 27.2 +1.2**
TIRR Tirgusor 98.32 314 P **P** **11 00 27.2 +1.2**
SORM Soroca 98.47 318 ⇑P **P** **11 00 27.5 +1.0**
SORM Soroca 98.47 318 ⇑P **PKKPbc** **11 16 54.0 -1.7**
SORM Soroca 98.47 318 P **P** **11 00 27.5 +1.0**
CFR Carcaliu 98.54 315 ⇓P **P** **11 00 28.2 +1.2**
CFR Carcaliu 98.54 315 ⇑P **PKKPbc** **11 16 53.1 -2.3**
CFR Carcaliu 98.54 315 P **P** **11 00 28.1 +1.2**
K27K Chicken 98.61 26 Pdiff Pdif 11 00 26.1 -0.7
baz=271
E27K Coleen River 98.67 22 **P** **11 00 28.0 +0.9**
E27K IAmb IAmb 11 00 31.2
comp=Z,86nm,0.7s
E27K Coleen River 98.67 22 Pdiff Pdif 11 00 25.4 -1.6
baz=272
G27K Doyon Strip 98.70 24 IAmb IAmb 11 00 31.6
comp=Z,73nm,1.1s
G27K Doyon Strip 98.70 24 Pdiff Pdif 11 00 25.9 -1.3
baz=272
M27K Edge Creek, AK 98.73 28 Pdiff Pdif 11 00 27.5 -0.1
baz=271
MESA MESA 98.73 30 Pdiff Pdif 11 00 26.8 -0.8
baz=271
L27K Beaver Creek, 98.74 27 IAmb IAmb 11 00 31.0
comp=Z,86nm,1.2s
L27K Beaver Creek, 98.74 27 Pdiff Pdif 11 00 26.5 -0.9
baz=271
ICOR Ion Corvin 98.75 313 ⇓P **P** **11 00 28.6 +0.7**
I27K Kandik River 98.76 25 Pdiff Pdif 11 00 27.5 0.0
baz=272
H27K Steamboat Moun 98.78 24 Pdiff Pdif 11 00 27.4 -0.2
baz=272
VASR Vaslui 98.82 316 ⇑P **P** **11 00 29.6 +1.4**
MNK Minsk 98.84 324 *i* P **P** **11 00 28.9 +0.8**
comp=E,6.0nm,1.1s
MNK *i* P **P** **11 00 28.9 +0.8**
comp=N,28nm,1.0s
MNK *i* P **P** **11 00 28.9 +0.8**
comp=Z,103nm,1.0s,baz=90
MNK *i* pP **pP** **11 02 31.2 +0.3**
MNK *i* PP **PP** **11 04 31.5 -7.3**
MNK *i* SKS 11 09 23.9
MNK *i* S **SKSac** **11 10 13.8 +1.6**
MNK *i* SP **SP** **11 12 40.8 +0.3**
MNK *i* PS **PS** **11 13 46.3 -6.8**
MNK *i* sS pS 11 13 59.3 +10
MNK *i* SS **SS** **11 18 12.2 -1.0**
MNK *i* SSS SSS 11 21 11.1
MNK Minsk 98.84 324 *i* P **P** **11 00 28.9 +0.8**
MNK *i* *PP **pP** **11 02 31.2 +0.3**
MNK *i* S **SKSac** **11 10 13.8 +1.6**
MNK *i* SP **SP** **11 12 40.7 +0.3**
MNK *i* PS **PS** **11 13 46.3 -6.8**
MNK *i* SS **SS** **11 18 12.1 -1.0**
MNK pmax pmax
comp=N,28nm,1.0s
MNK pmax pmax
comp=E,6.0nm,1.1s
MNK pmax pmax
comp=Z,103nm,1.0s
D27M Malcolm River 98.86 21 Pdiff Pdif 11 00 27.7 -0.1
baz=273
HOPEN Hopen 98.88 346 *e*Pdif **P** **11 00 28.6 +0.8**
HOPEN *e*pP **pP** **11 02 30.9 +0.1**
HOPEN *e*PP **PP** **11 04 40.5 +1.9**
HOPEN *e*SKSac **SKSac** **11 10 12.8 +1.2**
HOPEN *e*SP **SP** **11 12 42.4 +2.6**
HOPEN *e*PS **PS** **11 13 55.5 +2.6**
CTG Chitna Glacier 99.02 29 Pdiff **Pdif** **11 00 29.0 +0.1**
baz=271
BVCY Beaver Creek 99.20 28 Pdiff **Pdif** **11 00 29.4 -0.1**
baz=272
ODBI Odobesti 99.31 315 ⇑P **Pdif** **11 00 32.5 +2.2**
F28M Old Crow 99.36 23 Pdiff **Pdif** **11 00 29.6 -0.5**
baz=274
ARA0 ARCESS Array S 99.38 339 *e*P **Pdif** **11 00 31.3 +1.2**
ARA0 *e*pP **pP** **11 02 32.1 -1.1**
ARA0 *e*SKSac **SKSac** **11 10 15.0 +0.6**
ARCES ARCESS Array B 99.38 339 P **Pdif** **11 00 29.8 -0.3**
comp=Z,61nm,0.8s,baz=81,slow=3.9,SNR=52
ARCES pP **pP** **11 02 31.9 -1.3**
comp=Z,4.4nm,0.7s,baz=71,slow=8.7,SNR=1.5
ARCES PKiKP **PKiKP** **11 04 56.3 +0.3**
comp=Z,5.4nm,0.5s,baz=117,slow=1.6,SNR=23
ARCES S **SKSac** **11 10 14.2 -0.1**
comp=Z,13nm,0.9s,baz=80,slow=8.8,SNR=5.1
ARCES PKKPbc **PKKPbc** **11 16 49.8 -4.2**
comp=Z,13nm,0.7s,baz=269,slow=4.0,SNR=15
comp=Z,61nm,0.8s
E28M Babbage River 99.41 22 Pdiff **Pdif** **11 00 30.0 -0.3**
baz=274
YUK3 Moose Creek 99.41 29 Pdiff **Pdif** **11 00 30.7 0.0**
baz=272
VSU Vasula 99.43 328 *e*P **Pdif** **11 00 31.4 +0.9**
I28M Miner Creek 99.47 25 IAmb IAmb 11 00 34.9
comp=Z,115nm,0.9s
I28M Miner Creek 99.47 25 Pdiff **Pdif** **11 00 30.4 -0.3**
baz=273
NACGM Naroch 99.48 324 *e*P **Pdif** **11 00 32.9 +2.1**
VRI Vrincioaia 99.55 315 ⇓P **Pdif** **11 00 32.3 +0.9**
VRI Vrincioaia 99.55 315 ⇑P **PKKPbc** **11 16 50.9 -1.9**
VRI Vrincioaia 99.55 315 P **Pdif** **11 00 32.3 +0.9**
PINM Pinnacle 99.58 30 Pdiff **Pdif** **11 00 30.6 -0.7**
baz=272
O28M Mount Upton 99.58 30 Pdiff **Pdif** **11 00 30.6 -1.0**
baz=272
PLOR Plostina 99.60 315 ⇓P **Pdif** **11 00 32.9 +1.2**
PLOR Plostina 99.60 315 ⇓P **PKKPbc** **11 16 51.4 -1.2**
PLOR Plostina 99.60 315 P **Pdif** **11 00 32.8 +1.2**
TESR Tescani 99.61 316 ⇓P **Pdif** **11 00 32.1 +0.5**
D28M Stokes Point 99.64 21 Pdiff **Pdif** **11 00 30.5 -0.7**
baz=275
FINES FINESS Array B 99.65 331 P **Pdif** **11 00 31.1 -0.4**
comp=Z,12nm,0.6s,baz=81,slow=4.3,SNR=29
FINES PP **PP** **11 04 45.6 +0.9**
comp=Z,21nm,0.9s,baz=116,slow=8.7,SNR=4.8
FINES PKiKP **PKiKP** **11 04 57.5 +0.9**
comp=Z,24nm,0.7s,baz=98,slow=2.3,SNR=12
FINES S **SKSac** **11 10 15.3 -0.5**
comp=Z,12nm,0.9s,baz=91,slow=3.4,SNR=3.1
FINES PKKPbc **PKKPbc** **11 16 47.4 -5.6**
comp=Z,3.4nm,0.5s,baz=274,slow=1.9,SNR=6.1
comp=Z,12nm,0.6s
YUK8 Steele Glacier 99.77 29 Pdiff **Pdif** **11 00 32.5 +0.1**
baz=273
DAWY Dawson 99.78 26 Pdiff **Pdif** **11 00 31.7 -0.4**
baz=274
IIGN Ignalina 99.79 325 *e*P **Pdif** **11 00 35.0 +2.7**
ISAL Salakas 99.84 325 *e*P **Pdif** **11 00 35.2 +2.7**
NEHR Nehoiu 99.85 315 ⇑P **Pdif** **11 00 34.9 +2.1**
HAMF Hammerfest 99.90 340 *e*P **Pdif** **11 00 32.1 -0.2**
HAMF IVmB_BB 11 00 35.2
comp=Z,826nm,0.5s
HAMF *e*SKSac **SKSac** **11 10 17.7 +1.0**
PRAR RASCA 99.90 317 ⇓P **Pdif** **11 00 33.4 +0.5**
PNL Peninsula 100.03 31 Pdiff **Pdif** **11 00 32.4 -0.8**
baz=273
E29M Blow River 100.03 22 Pdiff **Pdif** **11 00 32.2 -0.8**
baz=276
H29M Whitestone 100.05 24 Pdiff **Pdif** **11 00 32.5 -0.7**
baz=275
MLR Muntele Rosu 100.09 315 ⇓P **Pdif** **11 00 34.9 +0.8**
MLR Muntele Rosu 100.09 315 ⇑P **PKKPbc** **11 16 48.8 -2.6**
MLR Muntele Rosu 100.09 315 P **Pdif** **11 00 34.8 +0.8**
MLR Muntele Rosu 100.09 315 P **Pdif** **11 00 34.0 0.0**
comp=Z,31nm,0.9s,baz=229,slow=1.8,SNR=27
MLR S **SKSac** **11 10 19.2 +0.1**
comp=Z,24nm,1.0s,baz=160,slow=22,SNR=9.8
MLR PKKPbc **PKKPbc** **11 16 48.4 -2.9**
comp=Z,8.2nm,0.6s,baz=336,slow=10,SNR=9.2
MLR PKPPKP **P'P'df** **11 24 59.3 -6.6**
comp=Z,3.1nm,0.7s,baz=188,slow=4.7,SNR=3.6
G29M Pine Creek 100.13 23 **Pdif** **11 00 33.4 -0.1**
G29M Pine Creek 100.13 23 Pdiff **Pdif** **11 00 32.8 -0.7**
baz=275
I29M Ogilvie Camp, 100.15 25 Pdiff **Pdif** **11 00 31.2 -2.4**
baz=275
KTK1 Kautokeino 100.24 339 *e*P **Pdif** **11 00 33.6 -0.3**
KTK1 *e*pP pP 11 02 37.8 +0.7
KTK1 *e*SKSac **SKSac** **11 10 20.4 +1.9**
J29N Klondike Camp 100.27 26 Pdiff **Pdif** **11 00 33.8 -0.5**
baz=275
YUK4 Talbot Arm 100.30 29 Pdiff **Pdif** **11 00 34.1 -0.5**
baz=274
APE Apeiranthos 100.31 306 ⇑P **PKKPbc** **11 16 49.2 -1.1**
M29M Somme Creek 100.31 28 Pdiff **Pdif** **11 00 33.5 -1.1**
baz=274
O29M Mount Kennedy 100.41 30 Pdiff **Pdif** **11 00 33.1 -2.0**
baz=274
L29M L29M 100.42 27 Pdiff **Pdif** **11 00 33.1 -1.8**
baz=275
SPA0 Spitsbergen Ar 100.44 348 *e*P **Pdif** **11 00 34.0 -0.7**
SPA0 *e*SKSac **SKSac** **11 10 21.0 +1.8**
SPITS Spitsbergen Ar 100.44 348 P **Pdif** **11 00 33.9 -0.8**
comp=Z,29nm,0.4s,baz=96,slow=8.5,SNR=59
SPITS PKiKP **PKiKP** **11 04 59.5 +1.8**
comp=Z,5.4nm,0.5s,baz=109,slow=6.3,SNR=7.7
SPITS S **SKSac** **11 10 19.1 -0.2**
comp=Z,4.2nm,0.6s,baz=141,slow=9.4,SNR=0.8
SPITS PKKPbc **PKKPbc** **11 16 46.6 -4.6**
comp=Z,12nm,0.7s,baz=150,slow=3.7,SNR=13
YUK6 Outpost Mounta 100.47 29 Pdiff **Pdif** **11 00 33.3 -2.1**
baz=274
MEF Metsahovi 100.54 330 *e*P **Pdif** **11 00 35.9 +0.5**
BURAR Bucovina Array 100.58 317 ⇑P **Pdif** **11 00 37.1 +1.1**
BURAR Bucovina Array 100.58 317 ⇑P **PKKPbc** **11 16 47.0 -3.0**
K29M Barlow Dome 100.62 26 Pdiff **Pdif** **11 00 33.8 -2.1**
baz=275
EPYK Eagle Plains 100.70 24 Pdiff **Pdif** **11 00 33.7 -2.5**
baz=274
VOIR 100.72 315 ⇑P **Pdif** **11 00 38.2 +1.4**
VOIR 100.72 315 P **Pdif** **11 00 38.1 +1.4**
IDI Anoyia 100.78 304 ⇓P **PKKPbc** **11 16 47.2 -1.8**
IDI Anoyia 100.78 304 P **Pdif** **11 00 37.2 0.0**
comp=Z,24nm,0.7s,baz=72,slow=7.8,SNR=10
IDI PKiKP **PKiKP** **11 05 00.7 +1.1**
comp=Z,24nm,0.5s,baz=77,slow=6.5,SNR=4.1
IDI S **SKSac** **11 10 21.4 -1.3**
comp=Z,16nm,1.1s,baz=268,slow=5.7,SNR=1.5
IDI PKKPbc **PKKPbc** **11 16 47.0 -1.9**
comp=Z,35nm,0.5s,baz=256,slow=4.1,SNR=21
G30M tAoh Zraii Nji 100.83 23 Pdiff **Pdif** **11 00 35.1 -1.6**
baz=277
P29M Windy Craggy 100.87 31 Pdiff **Pdif** **11 00 36.0 -1.0**
baz=274
HYT Haines Junctio 100.90 29 Pdiff **Pdif** **11 00 36.8 -0.5**
baz=275
F30M Barrier River 100.91 23 Pdiff **Pdif** **11 00 36.6 -0.3**
baz=278
MTSE Matsula 100.94 328 *e*P **Pdif** **11 00 37.8 +0.5**
I30M Mount Dempster 100.97 25 Pdiff **Pdif** **11 00 36.9 -0.5**
baz=277
ARR Arges 101.02 315 ⇑P **PKKPbc** **11 16 46.8 -1.8**
N30M Aishikik Lake 101.04 29 Pdiff **Pdif** **11 00 37.6 -0.2**
baz=275
VSVD Vaisvydziai 101.06 326 *e*P **Pdif** **11 00 40.1 +2.3**
KBS Kingsbay 101.06 349 *e*P **Pdif** **11 00 35.6 -1.8**
KBS Kingsbay 101.06 349 *i* P **Pdif** **11 00 37.3 -0.1**
J30M Hart River 101.07 26 Pdiff **Pdif** **11 00 37.3 -0.6**
baz=276
PABE Paberze 101.07 325 *e*P **Pdif** **11 00 38.9 +1.1**
M30M Minto, Yukon 101.07 28 Pdiff **Pdif** **11 00 38.4 +0.5**
baz=276
JETT Jettan, Norway 101.16 340 *e*P **Pdif** **11 00 37.9 -0.2**
JETT IVmB_BB 11 00 39.7
comp=Z,2μm,1.0s
JETT *e*SKSac **SKSac** **11 10 24.5 +1.6**
ARCR ARCALIA 101.18 316 ⇑P **Pdif** **11 00 41.0 +2.3**
ARCR ARCALIA 101.18 316 ⇓P **PKKPbc** **11 16 47.1 -1.1**
P30M Million Dollar 101.22 30 Pdiff **Pdif** **11 00 37.5 -1.1**
baz=275
LVV L'vov 101.31 319 *e*P **Pdif** **11 00 40.1 +1.0**
LVV *e* 11 04 56.7
LVV *e* 11 10 18.3
LVV MLR MLR
comp=Z,2μm,22.0s
MAYO Mayo, Yukon 101.37 27 Pdiff **Pdif** **11 00 38.8 -0.3**
baz=277
PLBC Pleasant Camp 101.58 31 Pdiff **Pdif** **11 00 39.6 -0.5**
baz=275
O30N Mendenhall 101.59 29 Pdiff **Pdif** **11 00 39.6 -0.6**
baz=276
G31M Satah River 101.59 23 Pdiff **Pdif** **11 00 39.3 -0.7**
baz=279
SUW Suwalki 101.62 324 *e*P **Pdif** **11 00 42.0 +1.6**
SUW Suwalki 101.62 324 *e*P **Pdif** **11 00 42.0 +1.6**
LOT Lotru 101.62 315 ⇑P **PKKPbc** **11 16 44.3 -2.7**
INK Inuvik 101.65 22 Pdiff **Pdif** **11 00 39.2 -1.0**
baz=280
TRO Tromso 101.66 340 *e*P **Pdif** **11 00 39.9 -0.2**
N31M Braeburn, Yuko 101.66 29 Pdiff **Pdif** **11 00 40.0 -0.5**
baz=276
CJR Cluj-Napoca 101.71 316 ⇑P **Pdif** **11 00 43.1 +2.1**
CJR Cluj-Napoca 101.71 316 P **Pdif** **11 00 43.1 +2.1**
F31M Tsiigehtchic 101.72 23 Pdiff **Pdif** **11 00 39.7 -0.8**
baz=280
H31M Peel River 101.74 24 Pdiff **Pdif** **11 00 39.9 -0.8**
baz=279
BMR Baia Mare 101.74 317 ⇓P **Pdif** **11 00 42.3 +1.1**
BMR Baia Mare 101.74 317 P **Pdif** **11 00 42.2 +1.1**
RAF Rauma 101.76 331 *e*P **Pdif** **11 00 40.8 0.0**
S31K Pelican 101.79 32 Pdiff **Pdif** **11 00 39.9 -1.2**
baz=275
R31K City Hall, Gus 102.01 32 Pdiff **Pdif** **11 00 42.0 0.0**
baz=276
MARR Marisel-Cluj 102.04 316 ⇑P **Pdif** **11 00 44.4 +1.8**
VTS Vitosha 102.08 312 ⇓P **Pdif** **11 00 43.4 +0.5**
VTS Vitosha 102.08 312 ⇓P **PKKPbc** **11 16 44.6 -1.0**
VTS Vitosha 102.08 312 P **Pdif** **11 00 43.4 +0.5**
SKAG Skagway 102.11 31 Pdiff **Pdif** **11 00 40.8 -1.7**
baz=276
KWP Kalwaria Pacla 102.17 319 *e*P **Pdif** **11 00 43.6 +0.7**
PBUR Paburge 102.18 326 *e*P **Pdif** **11 00 43.6 +0.8**
WHY Whitehorse 102.19 30 Pdiff **Pdif** **11 00 42.8 -0.1**
baz=277
DEV Deva 102.22 315 ⇑P **Pdif** **11 00 45.5 +2.2**
DEV Deva 102.22 315 P **Pdif** **11 00 45.4 +2.2**
M31M Drury Creek, Y 102.23 28 Pdiff **Pdif** **11 00 42.8 -0.2**
baz=278
GZR Gura Zlata 102.32 315 ⇓P **Pdif** **11 00 45.9 +2.1**
GZR Gura Zlata 102.32 315 ⇑P **PKKPbc** **11 16 43.5 -1.4**
GZR Gura Zlata 102.32 315 P **Pdif** **11 00 45.9 +2.1**
TRPA Tarpa 102.36 318 ⇓P **Pdif** **11 00 45.4 +1.5**
TRPA Tarpa 102.36 318 ⇑P **PKKPbc** **11 16 43.6 -1.1**
SIT Sitka 102.37 33 Pdiff **Pdif** **11 00 43.4 -0.2**
baz=276
KOLS Kolonicke sedl 102.50 318 *e*PDIFF **Pdif** **11 00 47.6 +3.1**
KOLS *e*PP **PP** **11 05 05.8 -0.4**
KOLS Kolonicke sedl 102.50 318 ⇑*e*P **Pdif** **11 00 47.6 +3.1**
KOLS *e* 11 05 05.8
KOLS *e* 11 10 32.5
HERR Herculane 102.60 314 ⇑P **Pdif** **11 00 45.9 +1.0**
HERR Herculane 102.60 314 ⇑P **PKKPbc** **11 16 43.1 -0.9**
R32K Eaglecrest 102.67 32 Pdiff **Pdif** **11 00 44.7 -0.2**
baz=277
FARO Faro, Yukon 102.71 28 Pdiff **Pdif** **11 00 44.6 -0.5**
baz=279
S32K Killisnoo 102.73 33 Pdiff **Pdif** **11 00 45.0 -0.2**
baz=277
AAL Aland 102.73 330 *e*P **Pdif** **11 00 45.0 -0.1**
SURR Surduc 102.77 315 ⇑P **Pdif** **11 00 47.3 +1.6**
SURR Surduc 102.77 315 ⇑P **PKKPbc** **11 16 43.5 0.0**
P32M Atlin 102.91 31 Pdiff **Pdif** **11 00 46.2 +0.1**
baz=278
N32M Quiet Lake 103.00 29 Pdiff **Pdif** **11 00 46.2 -0.2**
baz=279
SIRR Siria 103.06 316 ⇓P **Pdif** **11 00 48.8 +1.8**
BZS Buzias 103.13 315 ⇑P **PKKPbc** **11 16 41.3 -1.2**
STHS Stebnicka Huta 103.14 319 *e*PDIFF **Pdif** **11 00 49.6 +2.3**
STHS *e* 11 16 42.6
STHS Stebnicka Huta 103.14 319 *e*P **Pdif** **11 00 49.6 +2.3**
BOVS Bovan 103.16 313 ⇓P **Pdif** **11 00 48.0 +0.5**
BOVS Bovan 103.16 313 ⇑P **PKKPbc** **11 16 41.2 -1.1**
P33M Teslin, Yukon 103.27 30 Pdiff **Pdif** **11 00 47.4 -0.3**
baz=279
STEI Steigen 103.33 338 *e*P **Pdif** **11 00 47.3 -0.4**
STEI *e*SKSac **SKSac** **11 10 35.8 +2.8**
FAUS Fauske 103.44 338 *e*P **Pdif** **11 00 47.5 -0.7**
FAUS IVmB_BB 11 00 50.5
comp=Z,800nm,1.0s
FAUS *e*SKSac **SKSac** **11 10 34.5 +0.9**
A36M Sachs Harbour 103.49 17 Pdiff **Pdif** **11 00 48.5 +0.2**
baz=289
MMPY Sheldon Lake, 103.60 27 Pdiff **Pdif** **11 00 49.0 -0.1**
baz=281
T33K Petersburg 103.69 33 Pdiff **Pdif** **11 00 48.9 -0.6**
baz=278
U33K Whale Pass 103.69 34 Pdiff **Pdif** **11 00 48.8 -0.7**
baz=278
Q32M Nakina River 103.74 31 Pdiff **Pdif** **11 00 47.8 -2.2**
baz=279
NIE Niedzica 103.75 319 *e*P **Pdif** **11 00 56.9 +6.8**
CRAG Craig 103.77 35 Pdiff **Pdif** **11 00 49.5 -0.4**
baz=277
LOF Lofoten 103.90 339 *e*SKSac **SKSac** **11 10 36.9 +1.4**
LOF *e*SP **SP** **11 13 32.3 -0.3**
OJC Ojcow 104.00 320 *e*P **Pdif** **11 00 53.9 +2.8**
MOR8 Moi Rana 104.06 337 *e*P **Pdif** **11 00 50.0 -1.1**
MOR8 *e*SKSac **SKSac** **11 10 37.5 +1.0**
WRAK Wrangell Islan 104.08 34 Pdiff **Pdif** **11 00 50.3 -0.9**
baz=278
R33M Jennings River 104.33 31 Pdiff **Pdif** **11 00 51.2 -1.3**
baz=280
S34M Telegraph Cree 104.50 32 Pdiff **Pdif** **11 00 52.5 -0.6**
baz=280
STOK Stokkvaagen 104.58 337 *e* 11 10 23.9
V35K Ketchikan 104.64 35 Pdiff **Pdif** **11 00 52.8 -1.0**
baz=279
C36M Paulatuk 104.71 20 Pdiff **Pdif** **11 00 53.2 -0.5**
baz=289
VYHS Vyhne 104.80 318 *e*PDIFF **Pdif** **11 00 56.6 +1.9**
VYHS *e* 11 05 08.9
VYHS *e*PP **PP** **11 05 26.1 +3.0**
VYHS Vyhne 104.80 318 *e*P **Pdif** **11 00 56.6 +1.9**
VYHS *e* 11 05 26.1
VYHS *e* 11 10 42.2
VYHS *e* 11 13 41.3
DLBC Dease Lake 104.98 31 Pdiff **Pdif** **11 00 54.3 -1.1**
baz=281
OKC Ostrava-Krasne 105.10 320 *e*SKS **SKSac** **11 10 41.0 -0.8**
T35M Bob Quinn 105.13 33 PKiKP **PKiKP** **11 05 07.4 +0.6**
baz=280
MORH Mrgy, Hungar 105.16 316 ⇑P **PKKPbc** **11 16 35.3 -1.1**
TGTN Hyland Airport 105.20 28 PKiKP **PKiKP** **11 05 07.8 +0.9**
baz=283
WTLY Watson Lake, Y 105.27 30 PKiKP **PKiKP** **11 05 08.1 +1.1**
baz=282
MAUC Maruska 105.37 319 *e*PDIFF **Pdif** **11 01 00.1 +2.9**
MAUC *e*SKS **SKSac** **11 10 42.8 -0.3**
NSS Namsos 105.50 335 *e*P **Pdif** **11 00 57.3 0.0**
NSS *e*SKSac **SKSac** **11 10 44.6 +1.7**
NSS *e*SP **SP** **11 13 50.3 +1.1**
MORC Moravsky Berou 105.50 320 ⇑P **Pdif** **11 00 59.5 +1.6**
MORC Moravsky Berou 105.50 320 *e*PDIFF **Pdif** **11 00 57.9 +0.1**
MORC *e*PKiKP **PKiKP** **11 05 11.0 +3.3**
MORC *e*SKS **SKSac** **11 10 45.6 +1.9**
MORC *e*PKKP **PKKPbc** **11 16 34.6 -1.1**
MORC *e* 11 16 56.4
MORC Moravsky Berou 105.50 320 P **Pdif** **11 00 59.4 +1.6**
JAVC Velka Javorina 105.53 319 *e*PDIFF **Pdif** **11 00 58.0 0.0**
JAVC *e*PKiKP **PKiKP** **11 05 10.8 +3.0**
JAVC *e*SKS **SKSac** **11 10 47.4 +3.5**
HFS Hagfors 105.84 331 Pdiff **Pdif** **11 00 59.3 +0.2**
comp=Z,15nm,0.7s,baz=69,slow=8.1,SNR=15
HFS PKiKP **PKiKP** **11 05 09.1 +1.2**
comp=Z,11nm,0.6s,baz=139,slow=4.0,SNR=8.0
HFS PKKPbc **PKKPbc** **11 16 29.9 -5.0**
comp=Z,3.4nm,0.4s,baz=199,slow=3.1,SNR=6.0
MODS Modra-Piesok 105.85 318 *e* **PKiKP** **11 05 11.8 +3.4**
MODS *e*PP **PP** **11 05 34.2 +3.6**
KRLC Kraliky 105.95 320 *e*PDIFF **Pdif** **11 01 02.8 +3.0**
KRLC *e*PKP **PKiKP** **11 05 10.1 +1.5**
KRLC *e*SKS **SKSac** **11 10 46.3 +0.7**
KRLC *e*x x 11 16 31.5
KRLC Kraliky 105.95 320 *e*P **Pdif** **11 01 02.8 +3.0**
KRLC *e* 11 10 46.3
ZST Bratislava 105.98 318 *e*PP **PP** **11 05 35.2 +3.6**
VRAC Vranov 106.17 319 ⇑P **PKKPbc** **11 16 32.1 -1.5**
VRAC Vranov 106.17 319 *e*PDIFF **Pdif** **11 01 01.8 +1.0**
VRAC *e*PKIKP **PKiKP** **11 05 11.8 +2.8**
VRAC *e*PP **PP** **11 05 34.3 +1.3**
VRAC *e*SKS **SKSac** **11 10 48.4 +1.8**
VRAC *e* 11 13 44.8
VRAC *e*PKKP **PKKPbc** **11 16 32.3 -1.3**
VRAC *e* 11 16 52.9
VRAC Vranov 106.17 319 Pdiff **Pdif** **11 01 02.3 +1.5**
comp=Z,1.7nm,0.3s,baz=97,slow=8.1,SNR=1.6
VRAC PP **PP** **11 05 31.4 -1.5**
comp=Z,18nm,0.9s,baz=100,slow=8.7,SNR=6.6
VRAC S **SKSac** **11 10 46.8 +0.2**
comp=Z,1.8nm,0.4s,baz=208,slow=22,SNR=4.7
VRAC PKKPbc **PKKPbc** **11 16 31.8 -1.8**
comp=Z,8.2nm,0.6s,baz=9.0,slow=3.3,SNR=5.5
VRAC PKKP **PKKPab** **11 16 50.0 -0.6**
comp=Z,13nm,1.0s,baz=258,slow=5.8,SNR=8.0
VRAC PKPPKP **P'P'df** **11 24 51.3 -2.6**
comp=Z,1.6nm,0.2s,baz=90,slow=2.2,SNR=3.3
DPC Dobruska-Polom 106.20 320 *e*PDIFF **Pdif** **11 01 04.3 +3.4**
DPC *e*PKP **PKiKP** **11 05 10.9 +1.9**
DPC *e*SKS **SKSac** **11 10 45.9 -0.8**
DPC Dobruska-Polom 106.20 320 *e*P **Pdif** **11 01 04.3 +3.4**
DPC *e* 11 10 45.9
OSTC Ostas 106.24 321 *e*PDIFF **Pdif** **11 01 05.9 +4.8**
OSTC *e*PKP **PKiKP** **11 05 10.4 +1.3**
OSTC *e*SKS **SKSac** **11 10 48.0 +1.2**
OSTC *e*x x 11 16 32.8
OSTC Ostas 106.24 321 *e*P **Pdif** **11 01 05.9 +4.8**
OSTC *e* 11 10 48.0
BSD Bornholm Skovb 106.25 325 *e*P **Pdif** **11 01 02.9 +2.0**
CHVC Chvalec 106.33 321 *e*PDIFF **Pdif** **11 01 03.2 +1.7**
CHVC Chvalec 106.33 321 *e*P **Pdif** **11 01 03.2 +1.7**
KRUC Moravsky 106.34 319 *e*PDIFF **Pdif** **11 01 01.5 0.0**

KRUC *e*PKIKP **PKiKP** **11 05 11.0 +1.7**
KRUC *e*PP **PP** **11 05 33.7 -0.4**
KRUC *e*SKS **SKSac** **11 10 49.3 +2.1**
KRUC *e*PKKP **PKKPbc** **11 16 31.4 -1.6**
KRUC *e* 11 16 52.2
UPC Upice 106.37 320 *e*PDIFF **Pdif** **11 01 03.9 +2.2**
UPC *e*PKP **PKiKP** **11 05 11.1 +1.8**
UPC *e*SKS **SKSac** **11 10 46.4 -1.0**
UPC *e*PKKP **PKKPbc** **11 16 34.0 +1.0**
UPC Upice 106.37 320 *e*P **Pdif** **11 01 03.9 +2.2**
UPC *e* 11 10 46.4
DEL Delary 106.56 327 *e*P **Pdif** **11 01 04.5 +2.3**
RONA Rosalia, Austr 106.58 318 *i* PKiKP **PKiKP** **11 05 11.7 +1.9**
comp=Z,16nm,0.8s
LIRD Liard River Hi 106.76 30 PKiKP **PKiKP** **11 05 10.9 +1.1**
baz=284
NB2 NORSAR Subarra106.79 332 P **Pdif** **11 01 02.8 -0.5**
comp=Z,5.0nm,0.6s,baz=75,slow=4.4
NB2 PKP **PKiKP** **11 05 09.7 -0.1**
comp=Z,4.7nm,0.6s,baz=71,slow=3.2
NB2 S **SP** **11 13 54.3 -8.3**
comp=Z,38nm,1.7s,baz=80,slow=10
NB2 PKKP **PKKPbc** **11 16 29.1 -3.0**
comp=Z,2.3nm,0.6s,baz=240,slow=2.8
NB2 NORSAR Subarra106.79 332 P **Pdif** **11 01 02.8 -0.5**
baz=75,slow=4.4
NOA NORSAR Array B106.79 332 Pdiff **Pdif** **11 01 02.9 -0.5**
comp=Z,5.7nm,0.7s,baz=75,slow=4.5,SNR=26
NOA PKiKP **PKiKP** **11 05 09.7 -0.1**
comp=Z,9.1nm,0.8s,baz=263,slow=3.2,SNR=12
NOA PKKPbc **PKKPbc** **11 16 29.5 -2.6**
comp=Z,3.0nm,0.6s,baz=62,slow=2.6,SNR=10
CONA Conrad Observa 106.84 318 *i* PKiKP **PKiKP** **11 05 12.2 +1.8**
comp=Z,19nm,1.1s
CONA *i* PKKP **PKKPbc** **11 16 30.3 -1.2**
comp=Z,18nm,0.5s
TREC Trest 106.89 319 *e*SKS **SKSac** **11 10 50.9 +1.2**
WRGLY Wrigley 106.91 26 PKiKP **PKiKP** **11 05 11.3 +1.5**
baz=288
MATE Matera 107.07 310 ⇑P **PKKPbc** **11 16 27.9 -2.5**
ARSA Arzberg 107.17 317 *i* PKiKP **PKiKP** **11 05 12.6 +1.7**
comp=Z,21nm,0.9s
ARSA *i* SKS **SKSac** **11 10 49.9 -1.1**
comp=Z,5.1nm,0.7s
ARSA *e*PKKP **PKKPbc** **11 16 29.2 -1.3**
comp=Z,8.8nm,0.6s
GOPC GO Pecny, Ondr 107.25 320 *e*SKS **SKSac** **11 10 49.8 -1.4**
PVCC Panska Ves 107.28 321 *e*PKP **PKiKP** **11 05 13.7 +2.7**
PRU Pruhonice 107.39 320 *e*PDIFF **Pdif** **11 01 09.0 +2.8**
PRU *e*PKP **PKiKP** **11 05 13.7 +2.5**
PRU *e*SKS **SKSac** **11 10 52.0 +0.3**
PRU AMS AMS 11 57 20.0
comp=Z,4μm,22.9s
PRU Pruhonice 107.39 320 *e*P **Pdif** **11 01 09.0 +2.8**
PRU *e* 11 10 52.0
PRU MLR MLR
comp=Z,4μm,22.9s
PRA Prague 107.44 320 *e*SKS **SKSac** **11 10 49.7 -2.2**
DOMB Dombas 107.49 333 *e*SKSac **SKSac** **11 10 53.9 +2.1**
DAG Danmarks Havn 107.53 351 *i* P **Pdif** **11 01 06.1 -0.1**
PERS Pernice 107.53 317 *i* PKiKP **PKiKP** **11 05 11.9 +0.3**
PERS *e*PP **PP** **11 05 43.3 +0.5**
PERS *e*pPP 11 07 44.7
PERS *e* 11 10 04.2
PERS *i* SKSac **SKSac** **11 10 52.3 -0.3**
PERS *e*SKKSac **SKKSac** **11 11 43.5 -4.6**
PERS *e* 11 12 06.5
PERS *e*SP **SP** **11 14 08.2 -2.5**
PERS *e*PKKPbc **PKKPbc** **11 16 27.6 -1.7**
PERS *e* 11 19 59.6
KOTAN Kotaneelee Air 107.56 29 PKiKP **PKiKP** **11 05 12.3 +1.1**
baz=287
SOKA Soboth 107.58 317 *i* PKiKP **PKiKP** **11 05 13.5 +1.8**
comp=Z,61nm,1.0s
SOKA *e*PP **PP** **11 05 40.8 -2.4**
comp=Z,52nm,1.2s
SOKA *i* PKKP **PKKPbc** **11 16 27.9 -1.4**
comp=Z,5.8nm,0.6s
BRG Berggiesshubel 107.61 321⇓ *e*Pif 11 01 10.8
BRG Amp 11 01 13.3
comp=Z,8.8nm,0.8s
BRG ⇓pPif 11 03 16.4
BRG Amp 11 03 19.2
comp=Z,4.3nm,0.9s
BRG Berggiesshubel 107.61 321 SP SP 11 14 14.0 +2.8
BRG Berggiesshubel 107.61 321 PS PS 11 15 16.0 -1.6
BRG ⇑PKKPb 11 16 28.9
BRG Amp 11 16 33.6
comp=Z,44nm,1.1s
BRG ⇓PKKPf 11 16 45.8
BRG Amp 11 16 50.0
comp=Z,71nm,1.3s
BRG Berggiesshubel 107.61 321 SS SS 11 20 22.0 +10
BRG Berggiesshubel 107.61 321 *e*P **Pdif** **11 01 10.7 +3.6**
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,11nm,1.1s
ZVC Zvikov 107.70 320 *e*PDIFF **Pdif** **11 01 10.0 +2.4**
ZVC *e*PKKP **PKKPbc** **11 16 27.5 -1.3**
CKRC Cesky Krumlov 107.73 319 *e*PDIFF **Pdif** **11 01 10.6 +2.8**
CKRC *e*PKP **PKiKP** **11 05 13.8 +1.9**
CKRC *e*SKS **SKSac** **11 10 53.2 -0.1**
CKRC Cesky Krumlov 107.73 319 *e*P **Pdif** **11 01 10.6 +2.8**
CKRC *e* 11 10 53.2
FLDN Fort Liard 107.81 29 PKiKP **PKiKP** **11 05 12.8 +1.2**
baz=287
MOA Molln 107.92 318 *i* PKiKP **PKiKP** **11 05 13.8 +1.5**
comp=Z,22nm,1.0s
MOA *e*PKKP **PKKPbc** **11 16 28.8 +0.7**
comp=Z,14nm,0.6s,SNR=5.4
OBKA Obir 107.93 316 *i* PKiKP **PKiKP** **11 05 13.9 +1.5**
comp=Z,30nm,0.8s
OBKA *i* SKS **SKSac** **11 10 52.5 -2.0**
comp=Z,22nm,2.1s
OBKA *e*PKKP **PKKPbc** **11 16 27.1 -1.0**
comp=Z,21nm,0.7s
KONO Kongsberg 107.96 331 *e*PP **PP** **11 05 44.8 -0.6**
HSKC Hora Svate Kat 107.98 321 *e*PDIFF **Pdif** **11 01 11.9 +3.1**
LJU Ljubljana 108.02 316 *e*PKiKP **PKiKP** **11 05 12.9 +0.4**
LJU *i* PP **PP** **11 05 46.4 0.0**
LJU *e*pPP 11 07 48.1
LJU *i* SP SP 11 14 13.7 -1.7
LJU *e*PKKPbc **PKKPbc** **11 16 26.7 -1.1**
LJU *i* 11 16 40.1
CLL Collm 108.11 322 *e*P **Pdif** **11 01 11.0 +1.7**
CLL *e* 11 05 47.0
CLL *e* 11 10 55.0
CLL Collm 108.11 322 *e*Pdif **Pdif** **11 01 11.0 +1.7**
CLL *e*pPdif **pPdif** **11 03 15.0 +3.1**
CLL *e*x x 11 04 28.0
CLL *i* PKiKP **PKiKP** **11 05 14.0 +1.5**
CLL *e*PP **PP** **11 05 47.0 +0.2**
CLL *i* PPmax 11 05 52.1
comp=Z,295nm,2.0s
CLL *e*pPP 11 07 33.0
CLL *e*x x 11 07 56.0
CLL *e*PPP PPP 11 08 10.0
CLL *e*PPPP 11 09 54.0
CLL *e*SKSac **SKSac** **11 10 55.0 +0.3**
CLL *e*SKKSac **SKKSac** **11 11 54.0 +2.3**
CLL *e*Sdif **Sdif** **11 12 31.0 +3.8**
CLL *e*SP **SP** **11 14 13.0 -2.9**
CLL *e*sSKSac **sSKSac** **11 14 52.0 +2.8**
CLL *e*PS **PS** **11 15 23.0 +0.9**
CLL *e*PKKPbc **PKKPbc** **11 16 26.0 -1.6**
CLL *i* PKKPbcma 11 16 29.2
comp=Z,32nm,0.9s
CLL *e*(sSdif) 11 16 30.0
CLL *e*PKKPab **PKKPdf** **11 16 41.0 +0.8**
CLL *i* PKKPabma 11 16 44.4
comp=Z,53nm,1.3s
CLL *e*sPS 11 17 50.0
CLL *e*sPPS 11 18 48.0
CLL *e*SS **SS** **11 20 23.0 +4.2**
CLL *e*SKKSacre 11 23 12.0
CLL *e*sSS 11 23 32.0
CLL *e*SSS SSS 11 24 48.0
CLL *e*sSSS 11 27 12.0
CLL *e*(SSSS) 11 28 36.0
CLL *e*(sSSSS) 11 31 24.0

CLL AMS AMS 11 54 00.0
comp=Z,4μm,20.7s
GERES GERESS Array B 108.12 319 Pdiff **Pdif** **11 01 10.8 +1.2**
comp=Z,3.4nm,0.7s,baz=90,slow=5.3,SNR=9.8
GERES PKiKP **PKiKP** **11 05 12.4 -0.3**
comp=Z,11nm,0.5s,baz=64,slow=3.1,SNR=15
GERES SKP 11 07 55.8
comp=Z,6.7nm,0.7s,baz=11,slow=2.7,SNR=4.2
GERES PKKPbc **PKKPbc** **11 16 25.9 -1.7**
comp=Z,8.5nm,0.7s,baz=318,slow=1.8,SNR=7.4
GERES PKKP **PKKPab** **11 16 42.5 +0.4**
comp=Z,14nm,0.8s,baz=272,slow=3.6,SNR=8.8
GERES PKPPKP **P'P'df** **11 24 50.5 +0.2**
comp=Z,0.4nm,0.2s,baz=299,slow=2.7,SNR=3.7
KHC Kasperske Hory 108.15 319 *e*PDIFF **Pdif** **11 01 12.3 +2.7**
KHC *e*PKP **PKiKP** **11 05 13.0 +0.3**
KHC *e*SKS **SKSac** **11 10 52.9 -2.2**
KHC *e*SP **SP** **11 14 08.6 -7.9**
KHC *e*PKKP **PKKPbc** **11 16 26.1 -1.4**
KHC AMS AMS 11 58 00.0
comp=Z,4μm,20.1s
KHC Kasperske Hory 108.15 319 *e*P **Pdif** **11 01 12.3 +2.7**
KHC *e* 11 10 52.9
KHC MLR MLR
comp=Z,4μm,20.1s
SKAR Skarslia 108.26 332 *e*SKSac **SKSac** **11 10 56.8 +1.7**
AKN Aaknes 108.36 334 *e*P **Pdif** **11 01 10.7 +0.5**
AKN *e*SKSac **SKSac** **11 10 60.0 +4.6**
JAVS Javornik 108.36 316 *e*Pdiff **Pdif** **11 01 13.2 +2.5**
JAVS *e*PP **PP** **11 05 48.6 -0.3**
JAVS *e*SKSac **SKSac** **11 10 56.8 +0.5**
JAVS *e*SKKSac **SKKSac** **11 11 49.3 -4.6**
JAVS *e*Sdiff **Sdif** **11 12 27.9 -1.8**
BIOA Bad Ischl, Aus 108.36 318 *e*PKiKP **PKiKP** **11 05 13.4 +0.3**
comp=Z,16nm,0.8s
BIOA *i* PP **PP** **11 05 46.5 -2.3**
comp=Z,19nm,1.0s
BIOA *i* PKKP **PKKPbc** **11 16 25.6 -1.2**
comp=Z,24nm,0.5s
CADS Cadrg 108.53 316 *i* PKiKP **PKiKP** **11 05 13.2 -0.3**
MYKA Terra Mystica 108.53 317 *e*PKiKP **PKiKP** **11 05 15.8 +2.2**
comp=Z,12nm,0.8s
MYKA *i* PP **PP** **11 05 47.1 -2.9**
comp=Z,22nm,1.1s
MYKA *i* PKKP **PKKPbc** **11 16 25.2 -1.1**
comp=Z,22nm,0.5s
KBA Koelnbreinsper 108.66 317 *i* PKiKP **PKiKP** **11 05 14.9 +1.0**
comp=Z,22nm,0.9s
KBA *i* PKKP **PKKPbc** **11 16 24.7 -1.3**
comp=Z,22nm,0.4s
NKC Novy Kostel 108.67 321 *e*PKP **PKiKP** **11 05 14.3 +0.7**
NKC *e*SKS **SKSac** **11 10 58.4 +1.2**
NKC *e*PKKP **PKKPbc** **11 16 25.2 -0.7**
LESA Schwarzleotal 109.05 318 *e*PKiKP **PKiKP** **11 05 15.8 +1.3**
comp=Z,28nm,0.8s
LESA *e*PP **PP** **11 05 51.3 -2.5**
comp=Z,63nm,1.7s
LESA *i* PKKP **PKKPbc** **11 16 23.8 -0.9**
comp=Z,18nm,0.4s
ABTA Abfaltersbach 109.28 317 *i* PKiKP **PKiKP** **11 05 14.8 -0.1**
comp=Z,74nm,0.9s,SNR=18
ABTA *i* SKS **SKSac** **11 10 58.5 -1.5**
comp=Z,33nm,2.0s
ODD1 Odda 109.30 331 *e*SP SP 11 14 27.3 +0.9
BLS5 Blasjo 109.55 331 *e*P **Pdif** **11 01 19.2 +3.7**
SUE Sulen 109.76 333 *e*SKSac **SKSac** **11 11 05.2 +4.1**
NEEM North Greenlan 109.76 359 *i* P **Pdif** **11 01 19.3 +2.8**
WTTA Wattenberg 109.77 318 *i* PKiKP **PKiKP** **11 05 16.4 +0.4**
comp=Z,179nm,0.9s,SNR=24
WTTA *i* PP **PP** **11 05 57.1 -1.9**
comp=Z,54nm,1.0s
WTTA *e*PKKP **PKKPbc** **11 16 21.9 -0.6**
comp=Z,35nm,0.6s,SNR=10
WATA Walderalm 109.80 318 *i* PKiKP **PKiKP** **11 05 16.1 +0.1**
comp=Z,71nm,1.0s,SNR=8.4
WATA *i* PP **PP** **11 05 57.0 -2.2**
comp=Z,44nm,1.6s
WATA *i* PKKP **PKKPbc** **11 16 21.5 -0.8**
comp=Z,71nm,1.5s
SQTA Sankt Quirin 110.07 318 *e*PKiKP **PKiKP** **11 05 16.6 +0.1**
comp=Z,37nm,0.8s
SQTA *i* PP **PP** **11 05 57.6 -3.4**
comp=Z,51nm,1.3s
SQTA *i* PKKP **PKKPbc** **11 16 20.9 -0.6**
comp=Z,41nm,0.5s,SNR=15
MOTA Moosalm 110.11 318 *i* PKiKP **PKiKP** **11 05 16.7 +0.1**
comp=Z,66nm,0.8s,SNR=8.1
MOTA *i* PP **PP** **11 05 57.9 -3.5**
comp=Z,55nm,1.5s
MOTA *i* PKKP **PKKPbc** **11 16 20.6 -0.8**
comp=Z,28nm,0.6s
KMY Karmoy 110.20 331 *e*SKSac **SKSac** **11 11 05.5 +2.4**
KMY *e*SP **SP** **11 14 31.1 -3.5**
RETA Reutte 110.31 318 *i* PKiKP **PKiKP** **11 05 16.7 -0.2**
comp=Z,23nm,1.0s
RETA *i* PP **PP** **11 05 59.1 -3.6**
comp=Z,40nm,1.3s
RETA *i* PKKP **PKKPbc** **11 16 19.9 -0.8**
comp=Z,11nm,0.5s
FETA Feichten 110.43 318 *i* PKiKP **PKiKP** **11 05 17.6 +0.4**
comp=Z,55nm,0.9s,SNR=9.0
FETA *e*PP **PP** **11 06 00.0 -3.6**
comp=Z,27nm,1.0s
FETA *e*PKKP **PKKPbc** **11 16 21.0 +0.6**
comp=Z,17nm,0.6s
DAVA Damuels 110.94 318 *i* PKiKP **PKiKP** **11 05 18.0 -0.2**
comp=Z,119nm,0.8s,SNR=21
DAVA *i* PKKP **PKKPbc** **11 16 20.3 +1.5**
comp=Z,9.1nm,0.5s
YKA Yellowknife Ar 110.94 25 Pdiff **Pdif** **11 01 22.3 +0.7**
comp=Z,2.9nm,0.9s,baz=298,slow=4.7,SNR=5.1
YKA PKiKP **PKiKP** **11 05 17.4 -0.1**
comp=Z,40nm,0.7s,baz=307,slow=1.9,SNR=62
YKA SKP 11 07 59.2
comp=Z,6.4nm,0.6s,baz=311,slow=1.7,SNR=8.9
YKA PKKPbc **PKKPbc** **11 16 16.2 -2.8**
comp=Z,18nm,0.9s,baz=108,slow=2.8,SNR=20
DAVOX Davos/Dischmat 111.05 317 Pdiff **Pdif** **11 01 23.1 +0.3**
comp=Z,6.5nm,0.6s,baz=68,slow=1.5,SNR=8.8
DAVOX PKiKP **PKiKP** **11 05 18.3 -0.2**
comp=Z,56nm,0.7s,baz=53,slow=5.0,SNR=27
DAVOX SKP 11 08 02.6
comp=Z,19nm,0.8s,baz=25,slow=13,SNR=3.5
DAVOX S **SKSac** **11 11 07.9 +0.4**
comp=Z,8.3nm,0.8s,baz=227,slow=19,SNR=5.2
DAVOX PKKPbc **PKKPbc** **11 16 17.7 -0.7**
comp=Z,13nm,0.4s,baz=258,slow=6.5,SNR=20
BTNL Ternell 112.50 322 *d*PKiKP **PKiKP** **11 05 22.2 +1.3**
MEM Membach 112.57 322 *d*PKiKP **PKiKP** **11 05 21.2 +0.2**
BHOU Houvegnez 112.65 322 *d*PKiKP **PKiKP** **11 05 21.6 +0.4**
WLF Walferdange 112.75 321 *d*PKiKP **PKiKP** **11 05 24.0 +2.7**
WLF Walferdange 112.75 321 PP PP 11 06 21.8 +2.1
LRW Lerwick 112.81 333 *e*P **PKiKP** **11 05 21.2 +0.1**
BSTI Sart Tilman 112.85 322 *d*PKiKP **PKiKP** **11 05 23.6 +2.2**
BCLA Clavier 113.06 322 *d*PKiKP **PKiKP** **11 05 22.4 +0.6**
RCHB Rochefort 113.18 322 *d*PKiKP **PKiKP** **11 05 22.9 +0.8**
BGES Gesves 113.20 322 *d*PKiKP **PKiKP** **11 05 22.4 +0.2**
KEST Kesra 113.40 306 PKiKP **PKiKP** **11 05 23.4 +0.3**
comp=Z,34nm,0.7s,baz=346,slow=1.3,SNR=22
KEST PP **PP** **11 06 24.3 -0.6**
comp=Z,88nm,0.8s,baz=173,slow=3.1,SNR=9.2
KEST PKKPbc **PKKPbc** **11 16 09.7 -0.6**
comp=Z,13nm,0.4s,baz=184,slow=3.4,SNR=21
BMRD Maredsous 113.42 322 *d*PKiKP **PKiKP** **11 05 23.2 +0.6**
DOU Dourbes 113.59 322 *d*PKiKP **PKiKP** **11 05 22.9 0.0**
SUMG Summit 113.76 354 *i* P **PKiKP** **11 05 23.3 +0.2**
UPNV Upernavik 114.52 360 *i* P **PKiKP** **11 05 24.9 +0.8**
I07A Izee 114.61 45 PKPdf 11 05 24.6 -0.7
AFDM Forest Hills D 114.67 50 PKPdf 11 05 25.1 -0.3
E09A Wood Farm, Sta 114.89 42 PKPdf 11 05 25.0 -0.5
MCD Coleburn Disti 114.95 331 *e*P PKPdf 11 05 24.9 -0.4
WACR West Acre 115.02 325 *e*P **PKiKP** **11 05 27.2 +1.7**
NEW Newport 115.02 40 PKiKP **PKiKP** **11 05 26.9 +1.1**
baz=288
J08A Circle Bar Ran 115.52 45 **PKPdf** **11 05 26.7 -0.3**
EDMD Edmundbyers 115.56 328 *e*P **PKiKP** **11 05 26.6 0.0**
LINV Loch Inver, As 115.58 332 *e*P **PKPdf** **11 05 26.2 -0.3**
EDI Edinburgh 115.69 330 *e*P **PKiKP** **11 05 28.1 +1.3**
NUUG Nuugaatsiaq 115.73 359 *i* P **PKiKP** **11 05 27.1 +0.7**
INVG Invergeldie, C 115.88 330 *e*P **PKPdf** **11 05 27.1 0.0**
EKA Eskdalemuir Ar 115.95 329 PKP **PKiKP** **11 05 27.5 +0.2**
comp=Z,17nm,0.6s,baz=6.6,slow=1.9,SNR=30
EKA PP **PP** **11 06 42.0 +0.4**
comp=Z,45nm,1.1s,baz=72,slow=7.8,SNR=5.8
EKA SKP 11 08 11.1
comp=Z,5.5nm,0.6s,baz=1.4,slow=3.9,SNR=5.3

EKA PKKPbc **PKKPbc** **11 15 58.1 -4.0**
comp=Z,4.9nm,0.5s,baz=255,slow=2.9,SNR=11
EKA PKPPKP **P'P'df** **11 24 32.9 -1.5**
comp=Z,1.4nm,0.8s,baz=45,slow=9.6,SNR=3.5
ESK Eskdalemuir 115.98 329 **PKPdf** **11 05 26.8 -0.6**
ESK Eskdalemuir 115.98 329 PKiKP **PKPdf** **11 05 26.8 -0.6**
YERR Yerington 115.98 50 **PKPdf** **11 05 28.0 -0.2**
LBWR Ladybower, Pea 116.04 327 *e*P **PKiKP** **11 05 28.3 +0.7**
SMMC Simmler 116.10 54 PKiKP **PKiKP** **11 05 28.6 +0.3**
baz=280
KPL Plockton 116.20 332 *e*P **PKPdf** **11 05 26.9 -0.8**
KESW Keswick, Cumbr 116.26 328 *e*P **PKiKP** **11 05 28.3 +0.4**
PKM Mcpherson Peak 116.32 55 PKiKP **PKPdf** **11 05 28.4 -0.5**
baz=280
HOPE Hope Point 116.33 193 **PKPdf** **11 05 26.2 -1.8**
HOPE Hope Point 116.33 193 PKiKP **PKPdf** **11 05 26.3 -1.8**
VOG Valley Oaks Go 116.41 53 PKiKP **PKPdf** **11 05 28.8 0.0**
baz=281
SBC Santa Barbara 116.48 55 PKiKP **PKPdf** **11 05 28.7 -0.3**
baz=280
UMMG Uummannaq 116.56 358 *i* P **PKiKP** **11 05 28.3 +0.2**
MLAC Mammoth, Mammo116.58 52 PKiKP **PKiKP** **11 05 29.7 +0.3**
baz=282
NEWG New Galloway 116.59 329 *e*P **PKiKP** **11 05 28.6 +0.1**
SCZ2 Santa Cruz Isl 116.62 56 PKiKP **PKPdf** **11 05 29.2 -0.1**
baz=280
LAWE Loch Awe, Argy 116.62 331 *e*P **PKPdf** **11 05 28.1 -0.4**
VES Vestal, Richgr 116.74 54 PKiKP **PKiKP** **11 05 29.6 +0.2**
baz=281
SOEG Soedalen 116.77 350 *i* P **PKiKP** **11 05 29.6 +1.1**
NVAR Mina Array Bea 116.82 51 **PKPdf** **11 05 29.6 -0.2**
NVAR Mina Array Bea 116.82 51 Pdiff **Pdif** **11 01 52.4 +3.7**
comp=Z,2.4nm,0.8s,baz=260,slow=5.9,SNR=8.4
NVAR PKP **PKiKP** **11 05 30.4 +0.6**
comp=Z,87nm,0.8s,baz=261,slow=2.6,SNR=39
NVAR PP **PP** **11 06 48.3 -0.2**
comp=Z,16nm,0.8s,baz=273,slow=6.6,SNR=4.8
NVAR SKP 11 08 14.2
comp=Z,12nm,0.7s,baz=264,slow=1.2,SNR=4.3
NVAR PKKPbc **PKKPbc** **11 15 59.0 +0.1**
comp=Z,18nm,0.9s,baz=109,slow=3.0,SNR=20
NVAR SKKPbc SKKPbc 11 18 52.7 +0.6
comp=Z,6.8nm,0.9s,baz=176,slow=3.2,SNR=4.9
NVAR PKPPKP **P'P'df** **11 24 31.3 -3.2**
comp=Z,1.0nm,0.8s,baz=174,slow=2.1,SNR=4.0
SNCC San Nicolas Is 116.83 56 PKiKP **PKiKP** **11 05 30.0 +0.3**
baz=279
KVN Kaiserville 116.84 50 **PKiKP** **11 05 30.4 +0.6**
KVN Kaiserville 116.84 50 PKiKP **PKiKP** **11 05 30.4 +0.6**
SWN1 Swindon 116.87 325 *e*P **PKPdf** **11 05 29.1 0.0**
GAL1 Galloway 116.96 329 *e*P **PKPdf** **11 05 28.8 -0.4**
STRD Stroud 116.97 325 *e*P **PKiKP** **11 05 29.6 +0.2**
HLM1 Long Mynd 117.05 326 *e*P **PKPdf** **11 05 29.4 -0.1**
ARVC Arvin 117.07 54 PKiKP **PKiKP** **11 05 30.5 +0.3**
baz=281
SBD1 Bryn Du 117.09 327 *e*P **PKiKP** **11 05 33.2 +3.6**
IOMK Kirk Michael 117.17 329 *e*P **PKiKP** **11 05 30.0 +0.3**
TIN Tinemaha, Big 117.17 52 PKiKP **PKiKP** **11 05 30.6 +0.2**
baz=282
ICESG Greenland Ices 117.19 353 *i* P **PKiKP** **11 05 30.2 +0.4**
OSI Osito Audit: C 117.25 55 PKiKP **PKiKP** **11 05 30.8 +0.2**
baz=281
ISA Isabella, Lake 117.26 54 PKiKP **PKiKP** **11 05 31.2 +0.6**
baz=281
WIM Isle of Man 117.28 328 *e*P **PKiKP** **11 05 30.0 +0.1**
MCH1 Michaelchurch 117.34 326 *e*P **PKPdf** **11 05 29.9 -0.2**
CWC Cottonwood Cre 117.42 53 PKiKP **PKPdf** **11 05 30.9 -0.1**
baz=282
YLL Llanberis 117.48 327 *e*P **PKPdf** **11 05 29.3 -1.0**
MSO Missoula 117.53 40 PKiKP **PKPdf** **11 05 30.0 -0.8**
baz=290
WLF1 Llynfaes 117.53 327 *e*P **PKiKP** **11 05 32.0 +1.6**
WPS Cemaes, Angles 117.53 328 *e*P **PKiKP** **11 05 31.1 +0.7**
CLGH Cloghs, Cushen 117.56 330 *e*P **PKiKP** **11 05 30.5 0.0**
DECC Green Verdugo 117.64 55 PKiKP **PKiKP** **11 05 31.7 +0.4**
baz=281
SCI2 San Clemente I 117.69 57 PKiKP **PKiKP** **11 05 32.3 +0.9**
baz=280
ETOS Mallorca 117.69 311 PKP **PKiKP** **11 05 32.8 +1.6**
CIS Catalina Islan 117.72 56 PKiKP **PKPdf** **11 05 29.8 -1.6**
baz=280
FMP Fort Macarthur 117.77 56 PKiKP **PKPdf** **11 05 31.2 -0.3**
baz=280
EDW2 Edwards Air Fo 117.79 54 PKiKP **PKPdf** **11 05 31.2 -0.4**
baz=281
GRAC Grapevine Rang 117.86 52 PKiKP **PKPdf** **11 05 31.1 -0.5**
baz=283
LRMC Laurel Mtn Rad 117.93 54 PKiKP **PKPdf** **11 05 31.0 -0.9**
baz=282
MPMC Manual Prospec 117.96 53 PKiKP **PKPdf** **11 05 31.5 -0.5**
baz=282
ILULI Ilulissat 117.99 358 *i* P **PKPdf** **11 05 30.8 0.0**
BFSC Mount Baldy Ra 118.19 55 PKiKP **PKiKP** **11 05 32.6 +0.1**
baz=281
HLID Hailey 118.29 44 PKiKP **PKiKP** **11 05 32.5 0.0**
baz=288
RSBS Rosebush, Pemb 118.33 326 *e*P **PKPdf** **11 05 32.0 0.0**
FURC Furnace Creek, 118.37 52 PKiKP **PKiKP** **11 05 33.3 +0.8**
baz=283
ELK Elko 118.54 47 **PKPdf** **11 05 32.4 -0.7**
ELK Elko 118.54 47 PKIKP **PKPdf** **11 05 32.4 -0.7**
ELK Elko 118.54 47 SKP 11 08 17.1
comp=Z,14nm,0.9s,baz=54,slow=6.7,SNR=3.7
ELK PKKPbc PKKPbc 11 15 50.6 -2.4
comp=Z,7.4nm,0.9s,baz=63,slow=6.7,SNR=6.6
ELK SKKPbc SKKPbc 11 18 47.0 0.0
comp=Z,6.1nm,1.1s,baz=100,slow=9.7,SNR=4.7
DYA Yadsworthy 118.55 324 *e*P **PKPdf** **11 05 32.4 -0.1**
RRX Edison Barstow 118.60 54 PKiKP **PKPdf** **11 05 32.9 -0.1**
baz=282
HTL Hartland 118.62 325 *e*P **PKPdf** **11 05 32.5 0.0**
GSC Goldstone, Bar 118.66 54 PKiKP **PKiKP** **11 05 33.5 +0.1**
baz=282
MURC Murrieta 118.69 56 PKiKP **PKiKP** **11 05 33.8 +0.4**
baz=281
TPNV Topopah Spring 118.74 52 PKiKP **PKPdf** **11 05 33.4 -0.1**
baz=283
BBRC Big Bear Solar 118.78 55 PKiKP **PKPdf** **11 05 33.5 -0.2**
baz=282
109C Camp Elliot, M 118.89 56 PKiKP **PKiKP** **11 05 34.8 +1.0**
baz=281
R11B Troy Canyon, C 118.91 50 PKiKP **PKiKP** **11 05 34.2 +0.3**
baz=285
EIBI Ibiza 118.99 311 PKP **PKiKP** **11 05 35.8 +2.1**
HEC Hector,Ludlow 119.14 54 PKiKP **PKiKP** **11 05 34.4 +0.1**
baz=282
PFO Pinyon Flats O 119.29 56 **PKPdf** **11 05 34.6 0.0**
PFO Pinyon Flats O 119.29 56 PKiKP **PKiKP** **11 05 34.7 0.0**
baz=282
PFO Pinyon Flats O 119.29 56 PKP **PKiKP** **11 05 35.5 +0.8**
comp=Z,123nm,0.7s,baz=243,slow=1.0,SNR=60
PFO PKKPbc **PKKPbc** **11 15 48.7 -1.3**
comp=Z,13nm,1.0s,baz=113,slow=2.4,SNR=7.8
PFO SKKPbc SKKPbc 11 18 43.6 -0.4
comp=Z,4.1nm,0.7s,baz=99,slow=1.4,SNR=5.5
TPFO Pinon Flats 119.29 56 PKiKP **PKiKP** **11 05 35.1 +0.4**
baz=282
H09W1 TRISTAN DA CUN119.30 220 PKP **PKPdf** **11 05 34.3 0.0**
SNR=16
H09N1 TRISTAN DA CUN119.30 220 PKP **PKiKP** **11 05 35.2 +0.7**
TUQ Turquoise Moun 119.34 53 PKiKP **PKiKP** **11 05 35.0 +0.3**
baz=283
CCA1 Carnmenellis 119.40 325 *e*P **PKiKP** **11 05 34.4 +0.2**
MONP2 Monument Peak 119.46 56 PKiKP **PKiKP** **11 05 35.6 +0.5**
baz=281
BOZ Bozeman (W) 119.47 41 PKiKP **PKiKP** **11 05 35.4 +0.7**
baz=292
BELC Belle Mtn. Jos 119.59 55 PKiKP **PKiKP** **11 05 35.3 0.0**
baz=282
GMRC Granite Mounta 119.69 54 PKiKP **PKPdf** **11 05 35.2 -0.1**
baz=283
EGMT Eagleton 119.70 38 **PKPdf** **11 05 34.4 -0.5**
EGMT Eagleton 119.70 38 PKiKP **PKiKP** **11 05 35.2 +0.2**
baz=295
IKP In-Ko-Pah, Jac 119.76 57 PKiKP **PKiKP** **11 05 35.8 +0.2**
baz=281
SWSC Sam W. Stewart 119.96 56 PKiKP **PKPdf** **11 05 35.1 -0.6**
baz=282
BC3 Big Chuckawall 120.10 55 PKiKP **PKiKP** **11 05 36.4 +0.2**
baz=282
ANGG Ammassalik, Gr 120.17 351 *i* P **PKPdf** **11 05 34.6 -0.5**
SFJD Kangerlussuaq 120.18 357 **PKPdf** **11 05 34.6 -0.5**
SFJD Kangerlussuaq 120.18 357 PKIKP **PKPdf** **11 05 34.6 -0.5**
SFJD Kangerlussuaq 120.18 357 *i* P **PKPdf** **11 05 34.6 -0.5**
IRM Iron Mountain 120.25 55 PKiKP **PKiKP** **11 05 36.5 +0.1**
baz=283

DY2G	Dye2	120.40	355	*i* P		PKPdf	11 05 35.7	-0.1	
ISOG	Isortoq, Green	120.44	351	*i* P		PKPdf	11 05 35.5	-0.1	
DUG	Dugway, Tooele	120.47	47	PKiKP		PKiKP	11 05 36.9	+0.1	
	baz=288								
NEE2	Needles Airpor	120.53	54	PKiKP		PKiKP	11 05 37.5	+0.6	
	baz=283								
ECHE	Chera	120.55	312	PKP		PKiKP	11 05 36.9	+0.1	
H17A	Grant Village	120.61	42	PKiKP		PKiKP	11 05 37.8	+0.7	
	baz=292								
GLA	Glamis	120.74	56	PKiKP		PKiKP	11 05 37.5	+0.1	
	baz=282								
PDMCI	Parker Dam,Lak	121.02	54	PKiKP		PKiKP	11 05 38.3	+0.4	
	baz=283								
NLU	North Lily Min	121.08	47			PKiKP	11 05 38.5	+0.4	
CART	Cartagena	121.15	310	PKP		PKPdf	11 05 37.5	-0.3	
RLMT	Red Lodge	121.19	41	PKiKP		PKiKP	11 05 38.7	+0.5	
	baz=294								
EMUR	La Murta	121.26	310	PKP		PKiKP	11 05 38.5	+0.2	
ETOB	Tobarra	121.26	311	PKP		PKPdf	11 05 37.7	-0.5	
EFI	East Falkland	121.31	179			PKPdf	11 05 35.8	-1.9	
EFI	East Falkland	121.31	179	*c i* PKIKP		PKiKP	11 05 40.2	+2.3	
EFI				pmax		pmax			
	comp=Z,228nm,1.3s								
BW06	Boulder Array	121.90	44	PKiKP		PKiKP	11 05 40.3	+0.6	
	baz=292								
PDAR	Pinedale Array	121.90	44			PKPdf	11 05 38.0	-1.5	
PDAR	Pinedale Array	121.90	44	Pdiff		Pdif	11 02 23.0	+12	
	comp=Z,0.7nm,0.8s,baz=222,slow=2.0,SNR=4.9								
PDAR				PKP		PKPdf	11 05 39.2	-0.2	
	comp=Z,50nm,0.7s,baz=147,slow=1.5,SNR=44								
PDAR				PP		PP	11 07 21.4	-1.2	
	comp=Z,20nm,0.9s,baz=283,slow=3.5,SNR=3.7								
PDAR				PKKPbc		PKKPbc	11 15 38.7	-2.2	
	comp=Z,42nm,0.8s,baz=117,slow=5.1,SNR=33								
TMUT	Trail Mountain	121.92	48			PKPdf	11 05 39.6	-0.1	
UCM	Universidad Co	121.99	313	PKP		PKiKP	11 05 40.1	+0.4	
TORD	Torodi Ar. Bea	122.08	281	PKP		PKPdf	11 05 39.8	-0.5	
	comp=Z,277nm,0.9s,baz=62,slow=2.5,SNR=111								
TORD				SKPbc		SKPbc	11 07 56.5		
	comp=Z,18nm,0.7s,baz=55,slow=3.0,SNR=3.6								
TORD				SKP			11 08 24.3		
	comp=Z,31nm,0.7s,baz=42,slow=3.5,SNR=5.6								
TORD				PKKPbc		PKKPbc	11 15 38.1	-1.1	
	comp=Z,38nm,1.0s,baz=295,slow=5.4,SNR=21								
ENIJ	Nijar	122.25	309	PKP		PKPdf	11 05 39.6	-0.4	
LAO	LASA Array	122.45	38	PKiKP		PKiKP	11 05 40.4	0.0	
	baz=297								
LAO	LASA Array	122.45	38	P		PKPdf	11 05 40.2	0.0	
	baz=297								
214A	Organ Pipe Nat	122.64	57	PKiKP		PKiKP	11 05 41.3	+0.1	
	baz=283								
ESDC	Sonseca Array	122.72	313	PKP		PKPdf	11 05 41.0	+0.1	
	comp=Z,71nm,1.1s,baz=16,slow=2.7,SNR=90								
ESDC				PP		PP	11 07 23.1	-4.9	
	comp=Z,38nm,1.1s,baz=70,slow=6.4,SNR=8.1								
ESDC				SKP			11 08 26.1		
	comp=Z,8.1nm,0.9s,baz=33,slow=2.3,SNR=2.0								
ESDC				PKKPbc		PKKPbc	11 15 36.5	-1.0	
	comp=Z,3.5nm,0.5s,baz=275,slow=3.6,SNR=20								
DGMT	Dagmar	122.80	36	PKiKP		PKPdf	11 05 40.7	-0.1	
	baz=300								
DGMT	Dagmar	122.80	36	P		PKiKP	11 05 41.2	+0.2	
	baz=300								
WUAZ	Wupatki	122.92	52	PKiKP		PKPdf	11 05 41.4	-0.2	
	baz=286								
PAB	San Pablo	123.04	313			PKPdf	11 05 41.6	+0.1	
PAB	San Pablo	123.04	313	PKIKP		PKPdf	11 05 41.7	+0.1	
NUUK	Nuuk	123.04	357	*i* P		PKPdf	11 05 40.5	-0.1	
O20A	White River Ci	123.79	46	PKiKP		PKiKP	11 05 43.4	0.0	
	baz=291								
PBRG	Braganca	123.90	316	*e*PKPdf		PKiKP	11 05 44.0	+0.6	
PBRG	Braganca	123.90	316	*e*PP		PP	11 07 36.4	+0.7	
K22A	Casper	124.01	43	PKiKP		PKPdf	11 05 43.2	-0.2	
	baz=294								
K22A	Casper	124.01	43	P		PKPdf	11 05 43.2	-0.2	
	baz=294								
TUC	Tucson	124.23	56			PKPdf	11 05 43.8	-0.3	
TUC	Tucson	124.23	56	PKiKP		PKiKP	11 05 44.5	+0.1	
	baz=284								
TUC	Tucson	124.23	56	PKIKP		PKPdf	11 05 43.8	-0.3	
W18A	Petrified Fore	124.31	52	PKiKP		PKiKP	11 05 44.7	0.0	
	baz=287								
MVO	Moncorvo	124.36	316	*e*PKPdf		PKiKP	11 05 45.0	+0.6	
MVO	Moncorvo	124.36	316	*e*PP		PP	11 07 40.4	+1.6	
MVO				*e*SKS		SKSac	11 11 56.8	+1.6	
MVCO	Mesa Verde	124.61	49	PKiKP		PKPdf	11 05 45.0	+0.2	
	baz=289								
PVRL	Vila Real	124.79	316	*e*PKPdf		PKiKP	11 05 46.3	+1.1	
POLO	Lamas de Olo	124.80	316	*e*PKPdf		PKiKP	11 05 46.2	+0.9	
POLO	Lamas de Olo	124.80	316	*e*PP		PP	11 07 44.3	+2.6	
PGAV	Gavieira, Arco	124.88	317	*e*PKPdf		PKiKP	11 05 46.0	+0.6	
PGAV	Gavieira, Arco	124.88	317	*e*PP		PP	11 07 44.4	+2.2	
PGAV				*e*SKS		SKSdf	11 12 02.3	-2.1	
RSSD	Black Hills	124.99	40	PKiKP		PKiKP	11 05 45.7	-0.1	
	baz=298								
RSSD	Black Hills	124.99	40	P		PKPdf	11 05 45.5	+0.1	
	baz=298								
MTE	Manteigas	125.02	315	*e*PKPdf		PKiKP	11 05 46.5	+0.8	
MTE	Manteigas	125.02	315	*e*PP		PP	11 07 44.8	+1.7	
MTE				*e*SKS		SKSdf	11 12 02.8	-1.8	
N23A	Red Feather La	125.12	44	PKiKP		PKPdf	11 05 45.7	0.0	
	baz=294								
PVIS	Viseu	125.14	315	*e*PKPdf		PKiKP	11 05 46.9	+1.0	
PVIS	Viseu	125.14	315	*e*PP		PP	11 07 45.2	+1.3	
PCBR	Castelo Branco	125.19	314	*e*PKPdf		PKiKP	11 05 46.8	+0.9	
PCBR	Castelo Branco	125.19	314	*e*PP		PP	11 07 45.0	+0.8	
PMRV	Marv??o	125.28	314	*e*PKPdf		PKiKP	11 05 46.5	+0.3	
PMRV	Marv??o	125.28	314	*e*PP		PP	11 07 45.5	+0.6	
PMRV				*e*SKS		SKSdf	11 12 02.6	-2.5	
PTO	Porto	125.45	316	*e*PKPdf		PKiKP	11 05 47.6	+1.2	
PBAR	Barrancos	125.49	312	*e*PKPdf		PKiKP	11 05 47.4	+0.8	
PBAR	Barrancos	125.49	312	*e*PP		PP	11 07 43.4	-2.8	
PBAR				*e*SKS		SKSdf	11 12 03.1	-2.3	
NRS	Narsarsuaq	125.51	353	*i* P		PKiKP	11 05 45.9	0.0	
PESTR	Estremoz	125.64	313	*e*PKPdf		PKiKP	11 05 48.0	+1.1	
PESTR	Estremoz	125.64	313	*e*PP		PP	11 07 50.1	+2.9	
PESTR				*e*SKS		SKSdf	11 12 06.5	+0.8	
S22A	4UR Ranch, Cre	125.68	48	PKiKP		PKiKP	11 05 47.9	+0.4	
	baz=291								
COI	Coimbra	125.70	315	*e*PKPdf		PKiKP	11 05 48.5	+1.5	
COI	Coimbra	125.70	315	*e*PP		PP	11 07 48.8	+1.3	
MDND	Maddock	125.74	34	PKiKP		PKPdf	11 05 46.0	-0.4	
	baz=304								
MDND	Maddock	125.74	34	P		PKiKP	11 05 46.6	-0.2	
	baz=304								
IVI	Ivigtut	125.75	355	*i* P		PKPdf	11 05 45.9	-0.1	
ISCO	Idaho Springs	125.79	45	PKiKP		PKPdf	11 05 47.0	-0.1	
	baz=293								
ISCO	Idaho Springs	125.79	45	P		PKiKP	11 05 47.4	-0.2	
	baz=293								
E28A	Huff	125.82	36	P		PKPdf	11 05 46.4	-0.2	
	baz=302								
PCAS	Casmilo, Conde	125.82	315	*e*PKPdf		PKiKP	11 05 48.0	+0.8	
PCAS	Casmilo, Conde	125.82	315	*e*PP		PP	11 07 52.3	+4.0	
PCAS				*e*SKS		SKSac	11 12 03.7	+4.1	
PMTG	Montargil	126.02	314	*e*PKPdf		PKiKP	11 05 48.3	+0.7	
PMTG				*e*SKS		SKSac	11 12 02.2	+2.0	
EVO	Evora	126.07	313	*e*PKPdf		PKiKP	11 05 48.7	+0.9	
EVO	Evora	126.07	313	*e*PP		PP	11 07 50.4	+0.4	
PBEJ	Beja	126.15	312	*e*PKPdf		PKiKP	11 05 49.4	+1.5	
PSBE	So Bento	126.25	314	*e*PKPdf		PKiKP	11 05 50.5	+2.4	
PSBE	So Bento	126.25	314	*e*PP		PP	11 07 55.7	+4.5	
PSBE				*e*SKS		SKSac	11 12 03.9	+2.9	
PVAQ	Vaqueiros	126.27	312	*e*PKPdf		PKiKP	11 05 49.3	+1.1	
PVAQ	Vaqueiros	126.27	312	*e*PP		PP	11 07 55.4	+4.0	
PVAQ				*e*SKS		SKSdf	11 12 05.2	-1.7	
ULM	Lac du Bonnet	126.27	30	PKP		PKPdf	11 05 47.2	-0.1	
	comp=Z,107nm,0.6s,baz=306,slow=2.3,SNR=45								
ULM				PKKPbc		PKKPbc	11 15 23.3	-0.6	
	comp=Z,8.9nm,0.9s,baz=320,slow=5.4,SNR=3.2								
H06S1	SOCORRO T	126.34	72	PKP		PKPdf	11 05 48.5	+0.3	
	SNR=8.0								
H06E1	SOCORRO T-PHAS	126.37	72	PKP		PKiKP	11 05 48.9	0.0	
	SNR=8.4								
PCVE	Castro Verde	126.42	312	*e*PKPdf		PKiKP	11 05 49.7	+1.2	
Q24A	Divide	126.45	46	PKiKP		PKPdf	11 05 48.3	-0.2	
	baz=293								
PBDV	Barranco-do-Ve	126.49	311	*e*PKPdf		PKiKP	11 05 50.0	+1.3	
PBDV	Barranco-do-Ve	126.49	311	*e*PP		PP	11 07 58.2	+5.4	
PBDV				*e*SKS		SKSdf	11 12 06.6	-0.8	
PACT	Alcochete	126.57	314	*e*PKPdf		PKiKP	11 05 51.5	+2.8	
PACT	Alcochete	126.57	314	*e*PP		PP	11 08 01.4	+8.2	
PNCL	Nicolau / Gran	126.60	313	*e*PKPdf		PKiKP	11 05 50.1	+1.3	
PNCL				*e*SKS		SKSdf	11 12 07.8	+0.3	
121A	Cookes Peak, D	126.61	55	PKiKP		PKiKP	11 05 49.0	-0.2	
	baz=287								
121A	Cookes Peak, D	126.61	55	P		PKiKP	11 05 50.0	+0.7	
	baz=287,SNR=24								
SDCO	Great Sand Dun	126.66	48	PKiKP		PKPdf	11 05 48.5	-0.4	
	baz=292								
SDCO	Great Sand Dun	126.66	48	P		PKiKP	11 05 49.6	+0.2	
	baz=292								
PMAFR	Mafra	126.82	314	*e*PKPdf		PKiKP	11 05 49.0	-0.3	
PMAFR	Mafra	126.82	314	*e*PP		PP	11 07 59.5	+4.6	
PMAFR				*e*SKS		SKSdf	11 12 08.2	+0.3	
Y22D	IRIS PASSCAL I	126.84	53	PKiKP		PKiKP	11 05 50.3	+0.6	
	baz=288								
Y22F	Passcal Instru	126.84	53	PKiKP		PKiKP	11 05 49.7	0.0	
	baz=288								
Y22A	Socorro	126.85	53	P		PKiKP	11 05 50.4	+0.7	
	baz=288,SNR=55								
ANMO	Albuquerque	126.92	51			PKPpre	11 05 37.6		
ANMO	Albuquerque	126.92	51	PKiKP		PKiKP	11 05 49.8	0.0	
	baz=289								
ANMO	Albuquerque	126.92	51	P		PKiKP	11 05 50.4	+0.6	
	baz=289,SNR=46								
ANMO	Albuquerque	126.92	51	PKP		PKiKP	11 05 49.9	+0.1	
	comp=Z,115nm,0.9s,baz=308,slow=1.2,SNR=38								
ANMO				PP		PP	11 07 55.1	-0.9	
	comp=Z,38nm,1.1s,baz=24,slow=6.0,SNR=7.1								
ANMO				SKPbc		SKPbc	11 08 15.2		
	comp=Z,35nm,0.8s,baz=3.7,slow=3.8,SNR=9.4								
ANMO				SKKPbc		SKKPbc	11 18 18.5	-0.6	
	comp=Z,4.2nm,0.8s,baz=223,slow=3.9,SNR=4.2								
PTEO	Sao Teotonio	126.96	312	*e*PKPdf		PKiKP	11 05 50.2	+0.6	
MORF	Marmelete	127.00	312	*e*PKPdf		PKiKP	11 05 51.2	+1.5	
MORF	Marmelete	127.00	312	*e*PP		PP	11 07 59.8	+3.6	
MORF				*e*SKS		SKSdf	11 12 06.9	-1.5	
MORF	Marmelete	127.00	312	*e*PKPdf		PKiKP	11 05 50.5	+0.8	
MORF				*e*PP		PP	11 07 57.7	+1.5	
MORF				*e*SKSac		SKSac	11 12 04.5	+1.1	
PFVI	Vila Bisbo	127.19	312	*e*PKPdf		PKiKP	11 05 51.5	+1.5	
T25A	Trinidad	127.69	48	PKiKP		PKPdf	11 05 50.4	-0.3	
	baz=293								
OGNE	Ogallala	127.77	43	PKiKP		PKiKP	11 05 51.2	-0.1	
	baz=297								
KIDD	KIDD Seismic O	127.87	55	P		PKiKP	11 05 51.4	-0.3	
	baz=287,SNR=16								
SUSD	Miller	127.99	37	PKiKP		PKPdf	11 05 50.7	-0.1	
	baz=303								
SUSD	Miller	127.99	37	P		PKPdf	11 05 50.3	-0.5	
	baz=303								
KIC	Kosan Boka	128.16	272	*e*P		PKPpre	11 05 41.6		
	comp=Z,15nm,0.8s								
KSCO	Kaye Shedlock'	128.22	45	PKiKP		PKPdf	11 05 51.4	-0.2	
	baz=296								
KSCO	Kaye Shedlock'	128.22	45	P		PKiKP	11 05 52.1	-0.1	
	baz=296								
DBIC	Dimbokro	128.30	273			PKPpre	11 05 41.1		
DBIC	Dimbokro	128.30	273	*e*P		PKiKP	11 05 53.1	+0.2	
DBIC				IAmb		IAmb	11 05 55.1		
	comp=Z,338nm,1.2s								
DBIC	Dimbokro	128.30	273	PKhKP		PKPpre	11 05 33.3		
	comp=Z,2.7nm,0.6s,baz=122,slow=0.7,SNR=3.7								
DBIC				PKP		PKiKP	11 05 53.1	+0.2	
	comp=Z,92nm,0.5s,baz=91,slow=2.0,SNR=21								
DBIC				SKPbc		SKPbc	11 08 20.8		
	comp=Z,289nm,0.7s,baz=97,slow=4.9,SNR=19								
DBIC				PKKP		PKKPdf	11 16 04.5	+3.3	
	comp=Z,9.1nm,0.9s,baz=247,slow=3.6,SNR=4.6								
LIC	Lamto	128.44	272	*e*P		PKPpre	11 05 44.9		
	comp=Z,32nm,0.6s								
TIC	Toumodi	128.46	273	*e*P		PKPpre	11 05 42.9		
	comp=Z,18nm,0.8s								
K30B	Basset	128.51	40	P		PKPdf	11 05 51.9	0.0	
	baz=301								
B35A	Bob, Littlefor	128.56	31	P		PKPdf	11 05 51.6	-0.2	
	baz=311								
F33A	5 Mile Ranch,	128.76	35	P		PKPdf	11 05 51.9	-0.2	
	baz=306								
MNTX	Cornudas Mount	128.81	55	PKiKP		PKPdf	11 05 52.8	0.0	
	baz=288								
MNTX	Cornudas Mount	128.81	55	P		PKPdf	11 05 52.8	0.0	
	baz=288,SNR=29								
ECSD	EROS Data Cent	129.79	37	PKiKP		PKPdf	11 05 53.0	-1.2	
	baz=305								
ECSD	EROS Data Cent	129.79	37	P		PKPdf	11 05 53.6	-0.6	
	baz=305								
EYMN	Ely	129.95	30	PKiKP		PKPdf	11 05 54.0	-0.5	
	baz=313								
BGNE	Belgrade	130.10	40	PKiKP		PKPdf	11 05 54.5	-0.4	
	baz=301								
BGNE	Belgrade	130.10	40	P		PKPdf	11 05 54.7	-0.2	
	baz=301								
MSTX	Muleshoe	130.12	51	PKiKP		PKPdf	11 05 55.0	-0.3	
	baz=292								
MSTX	Muleshoe	130.12	51	P		PKPdf	11 05 55.1	-0.3	
	baz=292,SNR=27								
F36A	Milaca	130.27	33	P		PKPdf	11 05 54.7	-0.4	
	baz=309								
CBKS	Cedar Bluff	130.32	44	PKiKP		PKPdf	11 05 54.5	-0.9	
	baz=298								
CBKS	Cedar Bluff	130.32	44	P		PKPdf	11 05 55.6	+0.1	
	baz=298								
AMTX	Amarillo	130.60	50	PKiKP		PKPdf	11 05 55.9	-0.3	
	baz=293								
AMTX	Amarillo	130.60	50	P		PKPdf	11 05 56.4	+0.2	
	baz=293								
PLCA	Paso Flores	130.65	166	PKhKP		PKPpre	11 05 41.7		
	comp=Z,6.3nm,0.7s,baz=299,slow=2.6,SNR=11								
PLCA				PKP		PKPdf	11 05 56.1	+0.1	
	comp=Z,103nm,0.7s,baz=242,slow=3.6,SNR=29								
PLCA				PP		PP	11 08 17.0	-1.4	
	comp=Z,18nm,0.9s,baz=194,slow=6.3,SNR=2.9								
PLCA				SKPbc		SKPab	11 08 28.9	0.0	
	comp=Z,112nm,1.1s,baz=227,slow=4.3,SNR=10								
PLCA				SKKPbc		SKKPbc	11 18 05.6	+0.1	
	comp=Z,2.5nm,0.6s,baz=360,slow=5.2,SNR=5.7								
E38A	The Farm, Brul	130.83	31	P		PKPdf	11 05 55.6	-0.5	
	baz=312								
N33B	J Bar K, Exete	130.90	41	P		PKPdf	11 05 56.7	+0.3	
	baz=302								
TX31	Lajitas Ar. Si	130.93	57	P		PKiKP	11 05 58.3	+0.3	
	baz=287								
TXAR	Lajitas Array	130.93	57	PKhKP		PKPpre	11 05 39.2		
	comp=Z,1.8nm,0.6s,baz=225,slow=2.8,SNR=3.9								
TXAR				PKP		PKiKP	11 05 57.6	-0.3	
	comp=Z,69nm,0.8s,baz=185,slow=2.4,SNR=24								
TXAR				PP		PP	11 08 21.0	-0.8	
	comp=Z,11nm,0.8s,baz=289,slow=3.8,SNR=4.0								
TXAR				SKPbc		SKPab	11 08 31.3	+0.9	
	comp=Z,45nm,0.7s,baz=264,slow=2.5,SNR=14								
TXAR				PKKPbc		PKKPbc	11 15 04.8		
	comp=Z,0.9nm,0.5s,baz=115,slow=4.5,SNR=3.6								
TXAR				SKKPbc		SKKPbc	11 18 04.6	-0.2	
	comp=Z,6.4nm,0.7s,baz=123,slow=6.3,SNR=11								
SPMN	Marine on St.	131.07	33	PKiKP		PKiKP	11 05 57.1	-0.5	
	baz=310								
R32A	Long Quarter,	131.22	44	P		PKiKP	11 05 58.5	+0.4	
	baz=299								
SCHQ	Schefferville	131.89	8	PKhKP		PKPpre	11 05 42.6		
	comp=Z,9.4nm,0.6s,baz=344,slow=3.7,SNR=9.7								
SCHQ				PKP		PKPdf	11 05 58.4	+0.5	
	comp=Z,89nm,0.4s,baz=278,slow=3.6,SNR=23								
SCHQ				SKPbc		SKPbc	11 08 32.4	+0.2	
	comp=Z,282nm,1.0s,baz=10,slow=3.6,SNR=12								
SCHQ				PKKP		PKKPdf	11 15 51.8	-3.2	
	comp=Z,23nm,0.6s,baz=148,slow=1.1,SNR=25								
SCHQ				SKKPbc		SKKPbc	11 17 57.1	-5.4	
	comp=Z,7.6nm,0.8s,baz=143,slow=1.9,SNR=4.2								
U32A	Winter Ranch,	131.96	47	P		PKPdf	11 05 58.5	-0.1	
	baz=297								
D41A	Chassel	132.00	29	P		PKPdf	11 05 57.9	-0.4	
	baz=316								
WMOK	Wichita Mounta	132.84	48	PKiKP		PKPdf	11 05 59.9	-0.4	
	baz=296								
WMOK	Wichita Mounta	132.84	48	P		PKPdf	11 05 59.3	-0.9	
	baz=296								
SCIA	State Center	132.88	37	PKiKP		PKPdf	11 05 59.3	-0.9	
	baz=307								
ABTX	Abilene, Hawle	133.05	52	PKiKP		PKPdf	11 06 00.5	-0.3	
	baz=293								
JCT	Junction City	133.72	54	PKiKP		PKPdf	11 06 01.7	-0.4	
	baz=291								
JCT	Junction City	133.72	54	P		PKPdf	11 06 02.5	+0.4	
	baz=291								
JFWS	Jewell Farm	133.97	34	PKiKP		PKPdf	11 06 01.7	-0.5	
	baz=311								
PMPST	Porto Santo, M	134.45	310	*e*PKPdf		PKiKP	11 06 06.7	+1.9	
PMPST	Porto Santo, M	134.45	310	*e*PP		PP	11 08 43.6	0.0	
PMPS	Porto Santo	134.46	310	*e*PP		PP	11 08 42.2	-1.4	
H03N3	Juan Fernandez	134.47	154	PKhKP		PKPpre	11 05 52.8		
	baz=163,slow=17,SNR=4.6								
TUL3	Leonard	134.47	46	PKiKP		PKPdf	11 06 03.3	0.0	
	baz=299								
H03N2	Juan Fernandez	134.48	154	PKhKP		PKPpre	11 05 52.5		
	baz=163,slow=17,SNR=7.8								
H03N1	Juan Fernandez	134.48	154	PKhKP		PKPpre	11 05 52.6		
	baz=163,slow=17,SNR=5.7								
TRQA	Tornquist	134.69	174			PKPpre	11 05 53.3		
TRQA	Tornquist	134.69	174	PKHKP		PKPpre	11 05 53.3		
833A	Chaparral WMA,	134.80	57	PKiKP		PKiKP	11 06 05.2	-0.5	
	baz=290								
WHTX	Lake Whitney,	135.00	51	PKiKP		PKPdf	11 06 04.6	+0.3	
	baz=294								
WHTX	Lake Whitney,	135.00	51	P		PKPdf	11 06 04.7	+0.3	
	baz=294								
PMAR	Madeira	135.04	310	*e*PKPdf		PKPdf	11 06 05.4	+0.7	
PMAR	Madeira	135.04	310	*e*PP		PP	11 08 45.0	-2.5	
FUL	Funchal	135.06	310	*e*PP		PP	11 08 46.2	-1.2	
H10N1	ASCENSION HYDR	135.07	251	PKP		PKiKP	11 06 06.2	0.0	
	baz=62,slow=2.6,SNR=10.0								
H10N2	ASCENSION HYDR	135.08	251	PKP		PKiKP	11 06 06.7	+0.4	
	baz=62,slow=2.6,SNR=25								
H10N3	ASCENSION HYDR	135.09	251	PKP		PKiKP	11 06 06.5	+0.2	
	baz=62,slow=2.6,SNR=7.3								
PMOZ	Porto Moniz, M	135.21	310	*e*PKPdf		PKPdf	11 06 00.9	-4.0	
PMOZ	Porto Moniz, M	135.21	310	*e*PP		PP	11 08 46.4	-2.1	
PMOZ				*e*SKS		SKSdf	11 11 56.3	-27	
S39A	Bolivar	135.24	42	P		PKPdf	11 06 04.3	-0.3	
	baz=304								
435B	Jarrell	135.38	53	PKiKP		PKPdf	11 06 05.6	+0.4	
	baz=293								
435B	Jarrell	135.38	53	P		PKPdf	11 06 05.5	+0.4	
	baz=293,SNR=5.5								
X37A	Clayton	135.41	47	P		PKPdf	11 06 05.8	+0.7	
	baz=299								
GLMI	Grayling	135.51	28	PKiKP		PKPdf	11 06 04.8	-0.1	
	baz=319								
R40A	Maddies Statio	135.59	41	P		PKPdf	11 06 04.4	-0.9	
	baz=305								
L44A	Lake County Fo	135.74	33	PKiKP		PKPdf	11 06 05.0	-0.5	
	baz=313								
735A	Kenedy	135.93	56	P		PKPdf	11 06 06.9	+0.7	
	baz=291								
HDIL	Hopedale	136.04	36	PKiKP		PKPdf	11 06 05.5	-0.5	
	baz=310								
M44A	Midewin, Midew	136.20	34	P		PKiKP	11 06 07.5	-0.6	
	baz=312								
237A	Washetta, Mont	136.26	50	P		PKPdf	11 06 07.5	+0.8	
	baz=296								
U40A	Yellville	136.28	43	P		PKPdf	11 06 05.9	-0.8	
	baz=303								
U40A				P		PKPdf	11 06 05.9	-0.8	
	baz=303								
Z38A	Mt. Pleasant	136.32	48	P		PKPdf	11 06 07.2	+0.4	
	baz=298								
CCM	Cathedral Cave	136.38	40			PKPpre	11 05 55.4		
CCM	Cathedral Cave	136.38	40	PKiKP		PKPdf	11 06 06.6	-0.1	
	baz=306								
CCM	Cathedral Cave	136.38	40	PKHKP		PKPpre	11 05 55.4	

E62A				P	PKPpre	11 06 07.2	
	baz=341						
WCI	**Wyandotte Cave**	**139.32**	**36**		**PKPpre**	11 06 03.4	
WCI	**Wyandotte Cave**	**139.32**	**36**	PKiKP	**PKPdf**	**11 06 11.8**	**-0.3**
	baz=312						
WCI	**Wyandotte Cave**	**139.32**	**36**	P	PKPpre	11 06 04.7	
	baz=312,SNR=76						
WCI	**Wyandotte Cave**	**139.32**	**36**	PKHKP	PKPpre	11 06 03.4	
P49A	**Miami Univ. Ec**	**139.32**	**34**	PKiKP	**PKPdf**	**11 06 11.6**	**-0.5**
	baz=315						
P49A	**Miami Univ. Ec**	**139.32**	**34**	P	PKPpre	11 06 04.2	
	baz=315,SNR=7.0						
J54A	**Appleton**	**139.37**	**24**	P	PKPpre	11 06 04.9	
	baz=326,SNR=9.5						
J54A				P	PKPpre	11 06 04.9	
	baz=326,SNR=9.5						
RTLS	**Leoncito**	**139.43**	**164**	*e*P	PKPpre	11 06 05.3	
BMNY	**Brushton-Moira**	**139.55**	**19**	P	PKPpre	11 06 05.5	
	baz=333,SNR=22						
M52A	**Chesterland**	**139.55**	**29**	P	PKPpre	11 06 05.5	
	baz=321						
M52A				P	PKPpre	11 06 05.5	
	baz=321						
T47A	**Sharon Grove**	**139.64**	**38**	P	PKPpre	11 06 05.2	
	baz=310						
MRA	**San Martin**	**139.69**	**169**	*e*P	PKPpre	11 06 04.8	
J55A	**Hilton**	**139.71**	**24**	P	PKPpre	11 06 06.6	
	baz=327						
J55A				P	PKPpre	11 06 06.6	
	baz=327						
LONY	**Lake Ozonia**	**139.72**	**20**	PKiKP	**PKPdf**	**11 06 12.7**	**0.0**
	baz=332						
ERPA	**Erie**	**139.73**	**27**	PKiKP	**PKPdf**	**11 06 12.5**	**-0.3**
	baz=323						
ERPA	**Erie**	**139.73**	**27**	P	PKPpre	11 06 05.6	
	baz=323						
ACSO	**Alum Creek Sta**	**139.74**	**31**	PKiKP	**PKPdf**	**11 06 12.5**	**-0.3**
	baz=318						
ACSO	**Alum Creek Sta**	**139.74**	**31**	P	PKPpre	11 06 05.6	
	baz=318,SNR=20						
ZON	**Zonda**	**139.84**	**164**	*i* P	PKPpre	11 06 06.4	
F62A	**Pittston Farm,**	**139.88**	**14**	P	PKPpre	11 06 06.5	
	baz=340						
F62A				P	PKPpre	11 06 06.5	
	baz=340						
CFA	**Coronel Fontan**	**139.90**	**165**	PKhKP	PKPpre	11 06 06.2	
	comp=Z,93nm,0.4s,baz=223,slow=3.5,SNR=60						
CFA				SKKPbc	**SKPbc**	**11 08 57.1**	**0.0**
	comp=Z,67nm,0.6s,baz=212,slow=2.6,SNR=9.3						
CFA				SKKPbc	**SKKPbc**	**11 17 30.9**	**-0.1**
	comp=Z,28nm,0.9s,baz=359,slow=4.3,SNR=8.5						
CFA	**Coronel Fontan**	**139.90**	**165**	*e*P	PKPpre	11 06 06.1	
Y45A	**Yeager Farm, C**	**139.91**	**44**	P	PKPpre	11 06 07.6	
	baz=304,SNR=33						
CO03	**El Pedregal**	**139.91**	**162**	*e*P	PKPpre	11 06 06.0	
WCNY	**West Carthage**	**139.91**	**21**	P	PKPpre	11 06 07.6	
	baz=330,SNR=6.9						
R49A	**Shelbyville**	**139.93**	**35**	P	PKPpre	11 06 07.5	
	baz=313,SNR=34						
R49A				P	PKPpre	11 06 07.5	
	baz=313,SNR=34						
M53A	**WI Miller and**	**139.95**	**28**	PKiKP	PKPpre	11 06 12.9	
	baz=322						
J56A	**Wolcott**	**140.07**	**23**	P	PKPpre	11 06 08.1	
	baz=328,SNR=6.9						
J56A				P	PKPpre	11 06 08.1	
	baz=328,SNR=6.9						
VBMS	**Vicksburg**	**140.11**	**47**	PKiKP	**PKPdf**	**11 06 13.1**	**-0.6**
	baz=301						
VBMS	**Vicksburg**	**140.11**	**47**	P	PKPpre	11 06 09.0	
	baz=301						
H07N1	**FLORES T-PHASE**	**140.23**	**328**	PKhKP	PKPpre	11 06 10.3	
	SNR=4.8						
P51A	**Williamsport**	**140.25**	**32**	P	PKPpre	11 06 08.0	
	baz=317,SNR=61						
P51A				P	PKPpre	11 06 08.0	
	baz=317,SNR=61						
F63A	**Nahmakanta, Br**	**140.27**	**13**	P	PKPpre	11 06 09.1	
	baz=341						
F63A				P	PKPpre	11 06 09.1	
	baz=341						
F64A	**Sherman**	**140.28**	**12**	P	PKPpre	11 06 08.5	
	baz=342,SNR=21						
F64A				P	PKPpre	11 06 08.5	
	baz=342,SNR=21						
J57A	**Williamstown**	**140.28**	**22**	P	PKPpre	11 06 07.7	
	baz=330,SNR=17						
J57A				P	PKPpre	11 06 07.7	
	baz=330,SNR=17						
DOCA	**Reserva Natura**	**140.29**	**164**	*i* P	PKPpre	11 06 08.6	
N53A	**Lisbon**	**140.37**	**29**	P	PKPpre	11 06 06.5	
	baz=321,SNR=20						
N53A				P	PKPpre	11 06 06.5	
	baz=321,SNR=20						
G62A	**West of Eustis**	**140.38**	**15**	P	PKPpre	11 06 09.0	
	baz=339,SNR=18						
G62A				P	PKPpre	11 06 09.0	
	baz=339,SNR=18						
O52A	**Adamsville**	**140.41**	**30**	P	PKPpre	11 06 08.7	
	baz=319,SNR=37						
O52A				P	PKPpre	11 06 08.7	
	baz=319,SNR=37						
R50A	**Paris**	**140.41**	**35**	P	PKPpre	11 06 07.8	
	baz=314,SNR=66						
R50A				P	PKPpre	11 06 07.8	
	baz=314,SNR=66						
NCB	**Newcomb**	**140.42**	**20**	P	PKPpre	11 06 08.7	
	baz=333,SNR=16						
Q51A	**Peebles**	**140.43**	**33**	P	PKPpre	11 06 07.7	
	baz=316,SNR=66						
Q51A				P	PKPpre	11 06 07.7	
	baz=316,SNR=66						
GO04	**Tololo Observa**	**140.50**	**161**	*i* P	PKPpre	11 06 10.8	
H07S1	**FLORES T-PHASE**	**140.51**	**328**	PKP	**PKPdf**	**11 06 12.7**	**-1.5**
	SNR=12						
VT1	**Waterbury**	**140.56**	**18**	P	PKPpre	11 06 10.2	
	baz=335						
J58A	**Remsen**	**140.59**	**21**	P	PKPpre	11 06 10.3	
	baz=331						
J58A				P	PKPpre	11 06 10.3	
	baz=331						
V48A	**Smith Brothers**	**140.60**	**40**	P	PKPpre	11 06 07.4	
	baz=309						
PAMR	**Moraine State**	**140.62**	**28**	P	PKPpre	11 06 07.7	
	baz=322						
O53A	**New Philadelph**	**140.62**	**30**	PKiKP	**PKPdf**	**11 06 13.9**	**-0.5**
	baz=320						
P52A	**Corning**	**140.62**	**31**	PKiKP	**PKPdf**	**11 06 13.6**	**-0.8**
	baz=318						
ACCO	**Cerro Coronel**	**140.63**	**163**	*e*P	PKPpre	11 06 09.2	
PKME	**Peaks-Kenny Pk**	**140.64**	**14**	PKiKP	**PKPdf**	**11 06 13.6**	**-0.7**
	baz=340						
PKME	**Peaks-Kenny Pk**	**140.64**	**14**	P	PKPpre	11 06 09.1	
	baz=340,SNR=16						
K57A	**Scipio Center**	**140.67**	**23**	P	PKPpre	11 06 07.5	
	baz=328						
L56A	**Greenwood**	**140.76**	**24**	P	PKPpre	11 06 08.1	
	baz=327,SNR=39						
L56A				P	PKPpre	11 06 08.1	
	baz=327,SNR=39						
U49A	**Red Boiling Sp**	**140.76**	**38**	P	PKPpre	11 06 08.0	
	baz=311						
J59A	**Piesco**	**140.77**	**20**	P	PKPpre	11 06 08.1	
	baz=332						
J59A				P	PKPpre	11 06 08.1	
	baz=332						
M55A	**Ridgway**	**140.79**	**26**	P	PKPpre	11 06 07.8	
	baz=324						
M55A				P	PKPpre	11 06 07.8	
	baz=324						
H62A	**Milan**	**140.81**	**16**	P	PKPpre	11 06 08.9	
	baz=337						
H62A				P	PKPpre	11 06 08.9	
	baz=337						
MCVT	**Middlebury Col**	**140.83**	**18**	P	PKPpre	11 06 10.1	
	baz=334						
LBNH	**Lisbon**	**140.89**	**17**	PKiKP	PKPpre	11 06 14.4	
	baz=336						
LBNH	**Lisbon**	**140.89**	**17**	P	PKPpre	11 06 08.9	
	baz=336						
CO01	**Juntas del Tor**	**140.90**	**162**	*i* P	PKPpre	11 06 11.1	
AROD	**Rodeo**	**140.91**	**163**	*e*P	PKPpre	11 06 10.0	
146A	**Union**	**140.93**	**45**	P	PKPpre	11 06 10.8	
	baz=303						
T50A	**Nancy**	**140.98**	**36**	P	PKPpre	11 06 09.2	
	baz=313						
T50A				P	PKPpre	11 06 09.2	
	baz=313						
UPAO	**U. Pittsburgh**	**141.01**	**28**	P	PKPpre	11 06 09.3	
	baz=322						
ACDV	**Cuesta del Vie**	**141.01**	**163**	*e*P	PKPpre	11 06 10.3	
Q52A	**Bidwell**	**141.05**	**32**	P	PKPpre	11 06 09.5	
	baz=318						
Q52A				P	PKPpre	11 06 09.5	
	baz=318						
O54A	**Avella**	**141.07**	**29**	P	PKPpre	11 06 10.0	
	baz=321						
O54A				P	PKPpre	11 06 10.0	
	baz=321						
PSDB	**Penn State Uni**	**141.07**	**27**	P	PKPpre	11 06 09.6	
	baz=324						
G65A	**Princeton**	**141.08**	**12**	P	PKPpre	11 06 10.8	
	baz=343						
G65A				P	PKPpre	11 06 10.8	
	baz=343						
P53A	**Whipple**	**141.11**	**31**	P	PKPpre	11 06 10.1	
	baz=319						
P53A				P	PKPpre	11 06 10.1	
	baz=319						
ACCN	**Adirondack Com**	**141.12**	**20**	P	PKPpre	11 06 10.2	
	baz=333						
WVL	**Waterville**	**141.21**	**15**	P	PKPpre	11 06 10.8	
	baz=340						
X48A	**Hartselle**	**141.25**	**41**	P	PKPpre	11 06 09.8	
	baz=308						
S51A	**Beattyville**	**141.28**	**35**	P	PKPpre	11 06 10.2	
	baz=315						
S51A				P	PKPpre	11 06 10.2	
	baz=315						
Z47A	**Carrollton**	**141.30**	**44**	P	PKPpre	11 06 10.9	
	baz=305						
346A	**Big Creek Wild**	**141.30**	**47**	P	PKPpre	11 06 11.8	
	baz=302						
BINY	**Binghamton**	**141.33**	**23**	PKiKP	**PKPdf**	**11 06 15.4**	**-0.2**
	baz=329						
BINY	**Binghamton**	**141.33**	**23**	P	PKPpre	11 06 10.3	
	baz=329						
I63A	**Otisfield**	**141.45**	**16**	P	PKPpre	11 06 12.1	
	baz=338						
I63A				P	PKPpre	11 06 12.1	
	baz=338						
APLL	**PUNTA DE LOS L**	**141.47**	**167**	*e*P	PKPpre	11 06 11.6	
HCNY	**Howe Caverns**	**141.48**	**21**	P	PKPpre	11 06 12.1	
	baz=332						
J61A	**Chester**	**141.52**	**18**	P	PKPpre	11 06 12.5	
	baz=335						
J61A				P	PKPpre	11 06 12.5	
	baz=335						
EMMW	**East Machias**	**141.57**	**12**	P	PKPpre	11 06 12.0	
	baz=343						
M57A	**Sunshine Farm,**	**141.60**	**25**	P	PKPpre	11 06 11.1	
	baz=327						
M57A				P	PKPpre	11 06 11.1	
	baz=327						
LCO	**Las Campanas**	**141.60**	**160**		PKPpre	11 06 12.2	
LCO	**Las Campanas**	**141.60**	**160**	PKHKP	PKPpre	11 06 12.2	
LCO	**Las Campanas**	**141.60**	**160**	*e*P	PKPpre	11 06 12.2	
R53A	**Hurricane**	**141.68**	**32**	P	PKPpre	11 06 11.4	
	baz=318						
R53A				P	PKPpre	11 06 11.4	
	baz=318						
L59A	**Walton**	**141.69**	**22**	P	PKPpre	11 06 11.5	
	baz=330						
L59A				P	PKPpre	11 06 11.5	
	baz=330						
TRY	**Troy**	**141.70**	**20**	P	PKPpre	11 06 13.0	
	baz=333						
CMIG	**Matias Romero**	**141.73**	**72**	PKhKP	PKPpre	11 06 12.9	
	comp=Z,96nm,0.7s,baz=296,slow=4.1,SNR=48						
MCWV	**Mont Chateau**	**141.74**	**29**	PKiKP	PKPpre	11 06 16.0	
	baz=322						
MCWV	**Mont Chateau**	**141.74**	**29**	P	PKPpre	11 06 11.8	
	baz=322						
Q54A	**Coxs Mills**	**141.77**	**31**	P	PKPpre	11 06 12.2	
	baz=320						
Q54A				P	PKPpre	11 06 12.2	
	baz=320						
PABK	**Blue Knob Stat**	**141.85**	**27**	P	PKPpre	11 06 12.1	
	baz=324						
SSPA	**Standing Stone**	**141.86**	**26**	PKPdf	PKPpre	11 06 12.4	
SSPA	**Standing Stone**	**141.86**	**26**	PKiKP	PKPpre	11 06 16.4	
	baz=325						
SSPA	**Standing Stone**	**141.86**	**26**	P	PKPpre	11 06 12.2	
	baz=325						
W50A	**Signal Mountai**	**141.90**	**39**	P	PKPpre	11 06 11.6	
	baz=310,SNR=96						
AC05	**El Transito**	**141.90**	**161**	*i* P	PKPpre	11 06 13.3	
KSPA	**Keystone Colle**	**141.96**	**23**	P	PKPpre	11 06 12.5	
	baz=329						
Y49A	**Blount Mountai**	**142.03**	**42**	P	PKPpre	11 06 12.9	
	baz=308,SNR=58						
TZTN	**Tazewell**	**142.06**	**36**	PKiKP	PKPpre	11 06 16.5	
	baz=314						
TZTN	**Tazewell**	**142.06**	**36**	P	PKPpre	11 06 13.8	
	baz=314						
V51A	**Loudon**	**142.09**	**37**	P	PKPpre	11 06 12.1	
	baz=312,SNR=80						
LRAL	**Lakeview Retre**	**142.13**	**43**	PKiKP	PKPpre	11 06 17.2	
	baz=306						
LRAL	**Lakeview Retre**	**142.13**	**43**	P	PKPpre	11 06 13.3	
	baz=306,SNR=157						
N58A	**Sunbury**	**142.19**	**25**	P	PKPpre	11 06 13.3	
	baz=327,SNR=43						
N58A				P	PKPpre	11 06 13.3	
	baz=327,SNR=43						
AC04	**Llanos de Chal**	**142.22**	**159**	*i* P	PKPpre	11 06 12.2	
K62A	**Royalston**	**142.23**	**18**	P	PKPpre	11 06 13.3	
	baz=335,SNR=24						
K62A				P	PKPpre	11 06 13.3	
	baz=335,SNR=24						
UNH	**University of**	**142.25**	**17**	P	PKPpre	11 06 13.3	
	baz=337,SNR=31						
L61B	**Northampton**	**142.28**	**19**	PKiKP	PKPpre	11 06 17.2	
	baz=334						
L61B	**Northampton**	**142.28**	**19**	P	PKPpre	11 06 13.0	
	baz=334,SNR=38						
ACLC	**CERRO LA CRUZ**	**142.30**	**166**	*e*P	PKPpre	11 06 14.0	
NPNY	**Mohonk Preserv**	**142.40**	**21**	P	PKPpre	11 06 13.5	
	baz=331,SNR=39						
S54A	**Dingess, Beckl**	**142.41**	**32**	P	PKPpre	11 06 13.5	
	baz=318,SNR=96						
S54A				P	PKPpre	11 06 13.5	
	baz=318,SNR=96						
V52A	**Sevierville**	**142.52**	**37**	P	PKPpre	11 06 14.1	
	baz=313,SNR=58						
TKL	**Tuckaleechee C**	**142.54**	**37**	P	PKPpre	11 06 13.9	
	baz=313,SNR=79						
TKL	**Tuckaleechee C**	**142.54**	**37**	PKhKP	PKPpre	11 06 14.7	
	comp=Z,147nm,0.6s,baz=313,slow=4.1,SNR=52						
TKL				SKPbc	**SKiKP**	**11 09 04.6**	**-0.2**
	comp=Z,254nm,1.1s,baz=214,slow=0.1,SNR=7.7						
Q56A	**Snyder Ridge,**	**142.54**	**29**	P	PKPpre	11 06 14.6	
	baz=322						
Q56A				P	PKPpre	11 06 14.6	
	baz=322						
QUA2	**Belchertown**	**142.54**	**19**	P	PKPpre	11 06 14.1	
	baz=334,SNR=19						
HRV	**Adam Dziewonsk**	**142.59**	**18**		PKPpre	11 06 14.6	
HRV	**Adam Dziewonsk**	**142.59**	**18**	PKiKP	**PKPdf**	**11 06 17.7**	**-0.1**
	baz=336						
HRV	**Adam Dziewonsk**	**142.59**	**18**	P	PKPpre	11 06 14.2	
	baz=336,SNR=45						
HRV	**Adam Dziewonsk**	**142.59**	**18**	PKHKP	PKPpre	11 06 14.6	
RODS	**Rosario do Sul**	**142.59**	**183**	*e*P	**PKPdf**	**11 06 17.6**	**-0.7**
X51A	**Calhoun**	**142.59**	**39**	P	PKPpre	11 06 14.3	
	baz=310,SNR=45						
X51A				P	PKPpre	11 06 14.3	
	baz=310,SNR=45						
VCA	**Vinchina**	**142.62**	**164**	*i* P	PKPpre	11 06 15.6	
R55A	**Marlinton**	**142.67**	**31**	P	PKPpre	11 06 14.8	
	baz=320,SNR=87						
R55A				P	PKPpre	11 06 14.8	
	baz=320,SNR=87						
P57A	**Homestead Farm**	**142.74**	**27**	P	PKPpre	11 06 15.2	
	baz=324,SNR=128						
P57A				P	PKPpre	11 06 15.2	
	baz=324,SNR=128						
BRNY	**Black Rk. Fore**	**142.75**	**21**	P	PKPpre	11 06 14.8	
	baz=331,SNR=39						
ODNJ	**Ogdensburg**	**142.81**	**22**	P	PKPpre	11 06 15.0	
	baz=330,SNR=64						
W52A	**Murphy**	**142.82**	**38**	P	PKPpre	11 06 15.5	
	baz=312,SNR=52						
GO03	**Copiap**	**143.06**	**160**	*i* P	PKPab	11 06 16.7	-0.1
U54A	**Nelsons Funny**	**143.07**	**34**	P	PKPab	11 06 16.1	-0.5
	baz=316,SNR=143						
U54A				P	PKPab	11 06 16.1	-0.5
	baz=316,SNR=143						
V53A	**Saluda**	**143.10**	**36**	P	PKPab	11 06 16.7	0.0
	baz=314,SNR=286						
V53A				P	PKPab	11 06 16.7	0.0
	baz=314,SNR=286						
PAL	**Palisades**	**143.14**	**22**	PKiKP	**PKPdf**	**11 06 18.3**	**-0.6**
	baz=331						
PAL	**Palisades**	**143.14**	**22**	P	PKPab	11 06 16.7	+0.1
	baz=331,SNR=65						
BRAL	**Brewton**	**143.16**	**46**	PKiKP	PKPbc	11 06 17.7	+0.3
	baz=304						
BRAL	**Brewton**	**143.16**	**46**	P	PKPbc	11 06 18.0	+0.6
	baz=304						
Z51A	**Franklin**	**143.18**	**41**	P	PKPab	11 06 16.4	-0.6
	baz=309,SNR=159						
250A	**Grady**	**143.25**	**44**	P	PKPab	11 06 17.4	+0.1
	baz=306						
FOR	**Fordham**	**143.27**	**22**	P	PKPab	11 06 16.6	-0.5
	baz=331,SNR=35						
BLA	**Blacksburg**	**143.32**	**32**	PKiKP	PKPab	11 06 17.3	-0.2
	baz=319						
BLA	**Blacksburg**	**143.32**	**32**	P	PKPab	11 06 16.8	-0.7
	baz=319,SNR=196						
L64A	**Middleborough**	**143.32**	**17**	P	PKPab	11 06 16.8	-0.4
	baz=337,SNR=112						
L64A				P	PKPab	11 06 16.8	-0.4
	baz=337,SNR=112						
N62A	**Caumsett State**	**143.37**	**21**	P	PKPab	11 06 16.9	-0.5
	baz=332,SNR=26						
N62A				P	PKPab	11 06 16.9	-0.5
	baz=332,SNR=26						
TUPA	**Temple Univers**	**143.38**	**24**	P	PKPab	11 06 16.9	-0.6
	baz=329,SNR=275						
M63A	**Gales Ferry**	**143.43**	**19**	P	PKPab	11 06 17.1	-0.5
	baz=334,SNR=39						
M63A				P	PKPab	11 06 17.1	-0.5
	baz=334,SNR=39						
TINO	**Tinogasta**	**143.44**	**164**	*e*P	PKPbc	11 06 18.6	+0.1
PSUB	**Penn St. - Bra**	**143.47**	**24**	P	PKPab	11 06 17.8	-0.1
	baz=328						
CASEE	**Lake Jocassee**	**143.49**	**37**	P	PKPbc	11 06 18.7	+0.3
	baz=313						
GEDE	**Greenville**	**143.50**	**24**	P	PKPab	11 06 17.5	-0.6
	baz=328,SNR=495						
CYA	**Choya**	**143.51**	**167**	*i* P	PKPbc	11 06 18.6	-0.1
Y52A	**Lilburn**	**143.55**	**40**	P	PKPab	11 06 17.5	-0.9
	baz=311,SNR=93						
Y52A				P	PKPab	11 06 17.5	-0.9
	baz=311,SNR=93						
MECA	**Mercedes**	**143.65**	**178**	*e*P	PKPbc	11 06 19.3	+0.3
S57A	**Dark Hollow, R**	**143.66**	**30**	P	PKPab	11 06 18.1	-0.6
	baz=321,SNR=170						
S57A				P	PKPab	11 06 18.1	-0.6
	baz=321,SNR=170						
M65A	**Busby, Falmout**	**143.72**	**17**	PKiKP	PKPab	11 06 18.5	-0.3
	baz=337						
152A	**Waverly Hall**	**143.88**	**42**	P	PKPbc	11 06 19.2	-0.4
	baz=308,SNR=388						
V55A	**Taylorsville**	**143.89**	**34**	P	PKPbc	11 06 19.1	-0.4
	baz=316,SNR=382						
V55A				P	PKPbc	11 06 19.1	-0.4
	baz=316,SNR=382						
P61A	**Hammonton**	**143.96**	**24**	P	PKPbc	11 06 18.7	-0.9
	baz=329,SNR=50						
P61A				P	PKPbc	11 06 18.7	-0.9
	baz=329,SNR=50						
ALGR	**Alto Alegre (B**	**143.97**	**186**	*e*P	PKPbc	11 06 19.7	-0.4
U56A	**King**	**143.99**	**33**	P	PKPbc	11 06 19.2	-0.7
	baz=318,SNR=106						
U56A				P	PKPbc	11 06 19.2	-0.7
	baz=318,SNR=106						
R58B	**Mineral**	**144.02**	**29**	P	PKPbc	11 06 19.2	-0.7
	baz=323,SNR=139						
R58B				P	PKPbc	11 06 19.2	-0.7
	baz=323,SNR=139						
CBN	**Corbin Frederi**	**144.06**	**28**	PKiKP	PKPbc	11 06 19.7	-0.3
	baz=324						
CBN	**Corbin Frederi**	**144.06**	**28**	P	PKPbc	11 06 19.5	-0.6
	baz=324,SNR=64						
T57A	**Hurt**	**144.09**	**31**	P	PKPbc	11 06 19.4	-0.8
	baz=320,SNR=184						
T57A				P	PKPbc	11 06 19.4	-0.8
	baz=320,SNR=184						
AC02	**Maricunga**	**144.13**	**161**	*i* P	PKPbc	11 06 21.3	+0.1
GOGA	**Godfrey**	**144.22**	**40**	PKiKP	PKPbc	11 06 20.4	-0.2
	baz=311						
GOGA	**Godfrey**	**144.22**	**40**	P	PKPbc	11 06 20.4	-0.3
	baz=311,SNR=342						
GUSE	**Guasayan**	**144.25**	**168**	*e*P	PKPbc	11 06 20.6	-0.3
AC01	**Pan de Azucar**	**144.26**	**159**	*i* P	PKPbc	11 06 20.3	-0.8
PAULI	**Pauline**	**144.28**	**36**	P	PKPbc	11 06 20.3	-0.5
	baz=315,SNR=248						
KMSC	**Kings Mountain**	**144.33**	**35**	PKiKP	PKPbc	11 06 20.8	-0.2
	baz=316						
KMSC	**Kings Mountain**	**144.33**	**35**	P	PKPbc	11 06 20.8	-0.2
	baz=316,SNR=317						
451A	**Vernon**	**144.40**	**45**	P	**PKPab**	**11 06 21.7**	**0.0**
	baz=305						
HODGE	**Hodges**	**144.42**	**37**	P	PKPbc	11 06 21.0	-0.2
	baz=313,SNR=266						
352A	**Blakely**	**144.46**	**44**	P	**PKPdf**	**11 06 20.8**	**-0.6**
	baz=307						
T59A	**Double "B" Far**	**144.96**	**29**	P	**PKPdf**	**11 06 22.0**	**-0.1**
	baz=323,SNR=263						
T59A				P	**PKPdf**	**11 06 22.0**	**-0.1**
	baz=323,SNR=263						
154A	**Montrose**	**144.97**	**40**	P	PKPbc	11 06 22.8	-0.2
	baz=310						
JSC	**Jenkinsville**	**144.98**	**36**	P	PKPbc	11 06 22.7	-0.2
	baz=315,SNR=97						
V58A	**Windy Hill, Pi**	**145.08**	**32**	P	**PKPdf**	**11 06 22.8**	**+0.4**
	baz=319,SNR=140						
V58A				P	**PKPdf**	**11 06 22.8**	**+0.4**
	baz=319,SNR=140						
W57A	**Gilead**	**145.08**	**34**	P	**PKPbc**	**11 06 22.9**	**-0.4**
	baz=317,SNR=152						
W57A				P	**PKPbc**	**11 06 22.9**	**-0.4**
	baz=317,SNR=152						
BIRD	**Birdtown, Kers**	**145.18**	**35**	P	**PKPdf**	**11 06 22.2**	**-0.3**
	baz=316,SNR=97						
T60A	**Surry**	**145.22**	**28**	P	**PKPdf**	**11 06 22.8**	**+0.3**
	baz=324,SNR=104						
T60A				P	**PKPdf**	**11 06 22.8**	**+0.3**
	baz=324,SNR=104						
STG3	**Santiaguito 3,**	**145.26**	**75**	*e*P	**PKPab**	**11 06 26.3**	**+0.6**
S61A	**Accomac**	**145.26**	**27**	P	**PKPdf**	**11 06 21.8**	**-0.8**
	baz=326,SNR=8.3						
S61A				P	**PKPdf**	**11 06 21.8**	**-0.8**
	baz=326,SNR=8.3						
SULM	**Suchitepequez,**	**145.32**	**75**	*e*P	**PKiKP**	**11 06 27.1**	**-0.4**
U59A	**Littleton**	**145.33**	**30**	P	**PKPbc**	**11 06 23.9**	**0.0**
	baz=322,SNR=62						
U59A				P	**PKPbc**	**11 06 23.9**	**0.0**
	baz=322,SNR=62						
CRSM	**Crissiumal (Br**	**145.35**	**185**	*e*P	**PKPdf**	**11 06 23.4**	**+0.3**
TIGA	**Tifton**	**145.39**	**42**	PKiKP	**PKPbc**	**11 06 23.9**	**-0.4**
	baz=309						
TIGA	**Tifton**	**145.39**	**42**	P	**PKPbc**	**11 06 24.1**	**-0.1**
	baz=309						
HAW	**Hawthorne Fire**	**145.41**	**38**	P	**PKPbc**	**11 06 24.4**	**+0.1**
	baz=313,SNR=151						
553A	**Crawfordville**	**145.57**	**45**	P	**PKPbc**	**11 06 25.2**	**+0.4**
	baz=306						
Y57A	**Sumter**	**145.67**	**36**	P	**PKPbc**	**11 06 24.6**	**-0.4**
	baz=316,SNR=49						
Y57A		

baz=323
SACV Santiago Islan 146.42 286 PKPbc 11 06 28.2 +0.6
NHSC New Hope 146.44 37 PKiKP **PKPbc 11 06 28.0 +0.9**
baz=315
NHSC New Hope 146.44 37 P **PKPbc 11 06 27.2 +0.1**
baz=315
NBG Las Nubes 146.45 75 *eP* **PKiKP 11 06 29.9 -0.3**
CPUP Villa Florida 146.62 179 PKPdf 11 06 25.8 +0.5
CPUP Villa Florida 146.62 179 PKPbc **PKPbc 11 06 27.1 -0.8**
comp=Z,554nm,0.8s,baz=157,slow=1.0,SNR=71
CPUP pPKPbc pPKPbc 11 08 35.9 +0.9
comp=Z,92nm,1.0s,baz=210,slow=2.2,SNR=3.0
CPUP SKKPbc SKKPbc 11 17 01.9 -1.8
comp=Z,14nm,1.1s,baz=347,slow=6.9,SNR=3.0
FRBT Francisco Belt 146.76 186 *eP* **PKPdf 11 06 26.2 +0.6**
456A Hilliard 146.88 42 P **PKPbc 11 06 28.8 +0.4**
baz=310
Y60A Bolivia 146.91 33 P **PKPbc 11 06 27.8 -0.5**
baz=319
Y60A P **PKPbc 11 06 27.8 -0.5**
baz=319
TEIG Tepich 147.03 64 *eP* **PKPdf 11 06 26.0 -0.1**
TEIG Tepich 147.03 64 PKPbc **PKPbc 11 06 28.9 -0.2**
comp=Z,3μm,1.0s,baz=88,slow=2.9,SNR=99
TEIG SKKPbc 11 17 02.8
comp=Z,178nm,0.6s,baz=291,slow=0.8,SNR=12
SLOZ Alcaldia de Sa 147.07 75 *eP* **PKPbc 11 06 29.6 +0.3**
RTR El Retiro 147.22 76 *eP* **PKPbc 11 06 30.4 +0.5**
SBLS San Blas 147.25 76 *eP* **PKiKP 11 06 31.3 -0.5**
SNJE San Jose 147.26 76 *eP* **PKPbc 11 06 29.6 -0.5**
PET01 Itanhaem-SP 147.27 196 *eP* **PKPdf 11 06 25.1 -1.3**
656A Willston 147.38 44 P **PKPbc 11 06 28.7 -1.0**
baz=308
JAYA Jayaque - finc 147.44 76 *eP* **PKPbc 11 06 30.3 -0.2**
JAYA *eS* **PKPab 11 06 33.7 -0.8**
LALI Alcalda de L 147.59 76 *eP* **PKPbc 11 06 29.3 -1.3**
BOQS Boqueron 147.60 76 *eP* **PKiKP 11 06 31.8 -0.7**
PARB Paraibuna 147.65 200 *eP* **PKPdf 11 06 26.9 -0.2**
LOMA Loma Larga 147.71 76 *eP* **PKPbc 11 06 31.5 +0.4**
LFU La Fuente 147.75 76 *eP* **PKPbc 11 06 31.9 +0.7**
VAS01 Vassouras-RJ 147.81 204 *eP* **PKPdf 11 06 28.6 +1.3**
LFRS El Faro 147.82 76 *eP* **PKPbc 11 06 31.7 +0.2**
SJTE Alcalda de S 147.88 76 *eP* **PKPbc 11 06 31.2 -0.3**
PAVA Las Pavas 147.93 76 *eP* **PKiKP 11 06 32.4 -0.7**
PAVA *eS* **PKPab 11 06 35.4 -1.0**
ESFA Espinillo Form 147.96 177 *eP* **PKPdf 11 06 27.2 -0.3**
COEG Centro de Oper 148.00 76 *eP* **PKPbc 11 06 31.8 -0.1**
ALF01 Guarapari-ES 148.04 210 *eP* **PKPdf 11 06 28.6 +0.9**
TECO Alcaldia de Te 148.10 76 *eP* **PKPbc 11 06 32.1 0.0**
LVC Limon Verde 148.11 159 PKPdf 11 06 29.6 +1.3
LVC Limon Verde 148.11 159 *eP* **PKPdf 11 06 28.5 +0.2**
LVC Limon Verde 148.11 159 PKPbc **PKPdf 11 06 29.8 +1.5**
comp=Z,258nm,0.6s,baz=266,slow=1.1,SNR=76
LVC pPKPbc **pPKPab 11 08 40.7 -0.2**
comp=Z,35nm,0.9s,baz=222,slow=20,SNR=1.1
LVC SKKPbc 11 16 58.2
comp=Z,10nm,0.7s,baz=12,slow=3.6,SNR=7.6
ALJI Alcalda de J 148.34 76 *eP* **PKPbc 11 06 32.5 -0.1**
MCR1 Marechal Candi 148.36 185 *eP* **PKPdf 11 06 28.6 +0.4**
TECA Tecapa 148.38 76 *eP* **PKPbc 11 06 33.2 +0.2**
PACA Pacayal 148.55 76 *eP* **PKiKP 11 06 34.1 -0.3**
PACA *eS* **PKPab 11 06 36.0 -2.9**
VSM San Miguel 148.61 76 *eP* **PKPbc 11 06 33.4 -0.2**
DWPF Disney Wildern 148.91 45 PKPbc 11 06 31.4 -2.3
DWPF Disney Wildern 148.91 45 P **PKPdf 11 06 29.7 +0.8**
baz=307
LCND La Caada 148.99 76 *eP* **PKPbc 11 06 34.1 -0.1**
RCLB Rio Claro- Sao 149.11 197 *eP* **PKPdf 11 06 29.4 -0.2**
ABR01 Abrolhos, BA 149.14 216 *eP* **PKPdf 11 06 30.5 +0.9**
TGUH Tegucigalpa,Un 149.47 75 *eP* **PKPdf 11 06 30.2 -0.1**
CRIN San Cristobal 149.89 77 *eP* **PKPdf 11 06 33.0 +2.1**
CRIN San Cristobal 149.89 77 *eP* **PKPdf 11 06 32.2 +1.3**
AMBA Amambai (Brazi 149.95 184 *eP* **PKPdf 11 06 30.9 +0.1**
ICCO Coco Island 150.04 91 *eP* **PKPdf 11 06 31.2 +0.1**
060A Indiantown 150.31 46 P **PKPdf 11 06 32.5 +1.4**
baz=307
SOR Soroa 150.55 56 PKPdf 11 06 33.1 +1.4
SOR Soroa 150.55 56 PKIKP **PKPdf 11 06 33.1 +1.4**
061Z Ochoppi 150.60 48 P **PKPdf 11 06 34.3 +2.7**
baz=305
MATN Matagalpa 150.94 76 *eP* **PKPdf 11 06 30.5 -2.0**
JUD3 Juan Diaz 3 151.61 82 *eP* **PKPdf 11 06 33.4 -0.1**
NARJA Naranjal 151.61 82 *eP* **PKPdf 11 06 33.5 0.0**
DUNO Dulce Nombre, 151.66 82 *eP* **PKPdf 11 06 32.9 -0.7**
INDI Punta indio, G 151.66 83 *eP* **PKPdf 11 06 32.9 -0.6**
ORTG Ortega, Santa 151.67 82 *eP* **PKPdf 11 06 33.9 +0.2**
NICO Nicoya 151.70 82 *eP* **PKPdf 11 06 34.2 +0.6**
VRLE La Escondida, 151.73 81 *eP* **PKPdf 11 06 33.0 -0.7**
VORI VORI 151.75 81 *eP* **PKPdf 11 06 34.0 +0.1**
PLVR Palo Verde 151.78 82 *eP* **PKPdf 11 06 33.9 0.0**
ACON Acoyapa 151.80 78 *eP* **PKPdf 11 06 32.8 -0.9**
ACON Acoyapa 151.80 78 *eP* **PKPdf 11 06 33.0 -0.7**
NYURE Nandayure 151.90 82 *eP* **PKPdf 11 06 33.3 -0.6**
CUI Cuipilapa 151.94 81 *eP* **PKPdf 11 06 33.5 -0.5**
VMAR Armenia, Volca 151.97 81 *eP* **PKPdf 11 06 32.7 -1.4**
CBL1 Cabuya 152.08 83 *eP* **PKPdf 11 06 34.1 0.0**
JUNT Juntas 152.17 82 *eP* **PKPdf 11 06 34.5 +0.2**
JTS Las Juntas de 152.17 82 PKPdf 11 06 32.1 -2.3
JTS Las Juntas de 152.17 82 *eP* **PKPdf 11 06 35.1 +0.8**
JTS IAMs_20 IAMs_20 11 10 36.6
comp=Z,26μm,5.6s
JTS Las Juntas de 152.17 82 *eP* **PKPdf 11 06 32.6 -1.7**
JTS Las Juntas de 152.17 82 PKP **PKPdf 11 06 34.6 +0.3**
comp=Z,95nm,0.9s,baz=334,slow=4.1,SNR=31
JTS PKPbc **PKiKP 11 06 42.2 +0.5**
comp=Z,148nm,0.6s,baz=350,slow=8.1,SNR=21
JTS Las Juntas de 152.17 82 *eP* **PKPdf 11 06 32.2 -2.1**
LAFE Finca La Fe, P 152.24 83 *eP* **PKPdf 11 06 34.1 -0.3**
CEDE Laguna Cedeo 152.40 81 *eP* **PKPdf 11 06 33.5 -1.2**
VACR Volcan Arenal 152.43 81 *eP* **PKPdf 11 06 34.4 -0.3**
NNA Nana 152.50 134 *eP* **PKPdf 11 06 34.2 -0.6**
NNA Nana 152.50 134 PKP **PKPdf 11 06 34.6 -0.2**
comp=Z,165nm,0.8s,baz=264,slow=3.0,SNR=16
NNA PKPbc **PKiKP 11 06 42.7 +0.3**
comp=Z,618nm,0.7s,baz=266,slow=2.1,SNR=28
NNA pPKPbc **pPKPbc 11 08 52.0 +0.6**
comp=Z,40nm,0.8s,baz=312,slow=4.5,SNR=2.8
TRB2 Turrubares 152.69 82 *eP* **PKPdf 11 06 35.5 +0.4**
VPTE Poasito 152.92 82 *eP* **PKPdf 11 06 35.5 -0.2**
HDC Heredia 153.02 82 *eP* **PKPdf 11 06 35.6 -0.1**
HDC Heredia 153.02 82 *eP* **PKPdf 11 06 35.8 +0.1**
HDC3 Heredia 3 153.02 82 *eP* **PKPdf 11 06 36.0 +0.3**
LCR2 La Lucha 2 153.14 83 *eP* **PKPdf 11 06 35.9 -0.1**
RIFO Rio Frio, Sara 153.18 81 *eP* **PKPdf 11 06 35.2 -0.6**
CVIMO Finca Echandi 153.18 82 *eP* **PKPdf 11 06 35.8 -0.3**
RIMA Rio Macho 153.28 83 *eP* **PKPdf 11 06 35.9 -0.2**
VICA Volcano Irazu 153.28 82 *eP* **PKPdf 11 06 36.6 +0.1**
RAFA San Farael, Vo 153.32 82 *eP* **PKPdf 11 06 36.7 +0.3**
CVTQ Turrialba Volc 153.36 82 *eP* **PKPdf 11 06 36.3 -0.2**
VTR0 Volcan Turrial 153.36 82 *eP* **PKPdf 11 06 36.5 -0.1**
CVTR Volcan Turrial 153.36 82 *eP* **PKPdf 11 06 36.0 -0.5**
CDM Cerro de Muert 153.39 83 *eP* **PKPdf 11 06 36.6 0.0**
BUS1 Rivas 153.40 83 *eP* **PKPdf 11 06 36.1 -0.6**
VERB Verbena 153.43 82 *eP* **PKPdf 11 06 37.0 +0.7**
LCOCO El Coco 153.56 82 *eP* **PKPdf 11 06 37.0 +0.7**
IRES Siquirres 153.61 82 *eP* **PKPdf 11 06 37.2 +0.9**
BATAN Batan 153.74 82 *eP* **PKPdf 11 06 39.3 +2.8**
PIRO Carate, Puerto 153.84 86 *eP* **PKPdf 11 06 37.1 +0.4**
BBSR BB Station 153.98 15 PKPdf 11 06 39.4 +3.0
LPAZ La Paz 154.14 155 *eP* **PKPdf 11 06 38.1 +0.3**
LPAZ La Paz 154.14 155 PKP **PKPdf 11 06 38.2 +0.4**
comp=Z,53nm,0.8s,baz=215,slow=1.0,SNR=73
LPAZ PKPbc **PKiKP 11 06 48.2 +1.8**
comp=Z,52nm,0.6s,baz=239,slow=1.7,SNR=10
LPAZ PKPab **PKPab 11 07 03.5 +0.7**
comp=Z,240nm,0.6s,baz=161,slow=4.3,SNR=12
LPAZ SKKPbc 11 16 31.7
comp=Z,9.5nm,0.8s,baz=172,slow=25,SNR=2.1
SALI Salinas 154.25 110 PKPdf 11 06 39.7 +2.4
ATAH Atahualpa 154.29 123 PKP **PKPdf 11 06 39.1 +1.3**
comp=Z,151nm,0.8s,baz=211,slow=1.7,SNR=36
ATAH PKPbc **PKPbc 11 06 48.3 +1.7**
comp=Z,228nm,0.7s,baz=203,slow=3.3,SNR=13
ATAH PKPab **PKPab 11 07 04.2 +0.7**
comp=Z,206nm,0.8s,baz=262,slow=5.9,SNR=9.4
ATAH SKP 11 09 15.9
comp=Z,128nm,1.0s,baz=304,slow=5.0,SNR=4.3
PTPM Petroterminale 154.30 86 *i P* **PKPdf 11 06 39.6 +2.3**
CDITO Canoas 154.30 85 *eP* **PKPdf 11 06 38.8 +1.5**
MCRA Macar, Loja 154.31 116 *eP* **PKPdf 11 06 37.8 +0.3**
BBRB Robore, Bolivi 154.49 174 *eP* **PKPdf 11 06 37.8 +0.3**
JANB Januaria 154.54 209 *eP* **PKPdf 11 06 37.4 -0.3**
BCO2 Palmira 154.64 85 *eP* **PKPdf 11 06 38.7 +0.7**

DVD David 154.72 86 *eP* **PKPdf 11 06 37.7 -0.2**
PEDE3 Pedregal, Chir 154.75 86 *eP* **PKPdf 11 06 40.8 +2.9**
LOCO3 Loma Colorada, 154.75 86 *eP* **PKPdf 11 06 41.4 +3.4**
CHGR2 Aguacate 155.01 84 *eP* **PKPdf 11 06 41.1 +2.8**
PRVC Isla de Provid 155.24 74 *eP* **PKPdf 11 06 36.6 -1.9**
PRVC Isla de Provid 155.24 74 *eP* **PKPdf 11 06 37.5 -1.0**
RCBR Riachuelo 155.30 239 *eP* **PKPdf 11 06 38.6 -0.1**
RCBR Riachuelo 155.30 239 PKP **PKPdf 11 06 39.2 +0.5**
comp=Z,79nm,0.9s,baz=115,slow=1.6,SNR=19
RCBR PKPbc PKPbc 11 06 49.6
comp=Z,78nm,0.9s,baz=127,slow=3.5,SNR=12
RCBR PKPab **PKPab 11 07 08.9 +1.5**
comp=Z,124nm,1.0s,baz=114,slow=6.2,SNR=10
RCBR SKKPbc 11 16 39.7
comp=Z,13nm,1.1s,baz=271,slow=13,SNR=1.9
BBSD Serra de San D 155.46 172 *eP* **PKPdf 11 06 39.0 +0.2**
BDFB Brasilia 155.60 201 PKP **PKPdf 11 06 39.5 +0.3**
comp=Z,94nm,0.9s,baz=162,slow=1.6,SNR=54
BDFB PKPab **PKPab 11 07 09.3 +0.8**
comp=Z,131nm,0.9s,baz=224,slow=12,SNR=5.4
BDFB SKKPbc 11 16 38.9
comp=Z,7.9nm,0.9s,baz=122,slow=5.1,SNR=1.7
COHC Cochancay 155.75 113 *eP* **PKPdf 11 06 38.3 -1.0**
RSUS3 Rio de Jesus, 156.00 87 *eP* **PKPdf 11 06 41.8 +2.2**
MARI3 Mariato, Verag 156.17 87 *eP* **PKPdf 11 06 43.4 +3.6**
CACAO El Cacao, Vera 156.29 88 *eP* **PKPdf 11 06 40.1 +0.1**
CACAO El Cacao, Vera 156.29 88 *eP* **PKPdf 11 06 38.7 -1.2**
SIV San Ignacio 156.56 170 PKP **PKPdf 11 06 40.3 0.0**
comp=Z,83nm,0.8s,baz=179,slow=1.0,SNR=94
SIV PKPab **PKPab 11 07 12.7 +0.2**
comp=Z,239nm,0.8s,baz=204,slow=4.1,SNR=11
SIV SKP 11 09 20.3
comp=Z,59nm,1.0s,baz=224,slow=4.0,SNR=5.7
SIV PP **PP 11 10 55.4 +4.1**
comp=Z,43nm,0.9s,baz=196,slow=3.4,SNR=3.1
CHIT3 Chitre 156.74 87 *eP* **PKPdf 11 06 40.6 +0.1**
PNME Penonome 156.82 85 *eP* **PKPdf 11 06 40.9 +0.2**
PNME *e* 11 07 15.4
PNME Penonome 156.82 85 *eP* **PKPdf 11 06 39.0 -1.6**
AZU Azuero 156.88 87⇓ *eP* **PKPdf 11 06 39.9 -0.8**
AZU *eS* **PKPab 11 07 17.4 +3.1**
AZU Azuero 156.88 87 *eP* **PKPdf 11 06 39.7 -1.0**
AZU Azuero 156.88 87 *eP* **PKPdf 11 06 39.5 -1.2**
SALV Santo Antonio 156.97 183 *eP* **PKPdf 11 06 40.7 -0.1**
SDBA SAO DESIDERIO 157.09 212 *eP* **PKPdf 11 06 40.5 -0.5**
PAC1 Pacto, Paraso 157.15 107 *eP* **PKPdf 11 06 40.5 -0.8**
MTDJ Mount Denham 157.18 59 *eP* **PKPdf 11 06 39.2 -1.9**
PIAT Ana Tenorio 157.22 110 *eP* **PKPdf 11 06 42.1 +0.4**
BCIP Isla Barro Col 157.28 84 *eP* **PKPdf 11 06 40.0 -1.2**
BCIP *eS* **PKPab 11 07 17.6 +1.6**
BCIP Isla Barro Col 157.28 84 *eP* **PKPdf 11 06 39.5 -1.7**
BCIP Isla Barro Col 157.28 84 *eP* **PKPdf 11 06 39.8 -1.4**
PTLB Pontes e Lacer 157.35 175 *eP* **PKPdf 11 06 41.0 -0.2**
CHOR3 La Chorrera 157.36 84 *eP* **PKPdf 11 06 42.5 +1.2**
CHOR3 *eS* **PKPab 11 07 17.8 +1.4**
OTAV Otavalo 157.47 107 *eP* **PKPdf 11 06 42.2 +0.1**
OTAV Otavalo 157.47 107 *eP* **PKPdf 11 06 42.4 +0.3**
CUSE Cuicocha Este 157.54 107 *eP* **PKPdf 11 06 42.4 +0.2**
UPA Univ. de Panam 157.59 84 *eP* **PKPdf 11 06 40.8 -0.8**
UPA *eS* **PKPab 11 07 18.2 +0.8**
UPA Univ. de Panam 157.59 84 *eP* **PKPdf 11 06 36.1 -5.5**
TUMC Tumaco 157.65 103 *eP* **PKPdf 11 06 40.8 -0.9**
TULM Tulcn-Chalpat 158.24 106 *eP* **PKPdf 11 06 43.1 0.0**
CMBC Cumbal 158.28 106 *eP* **PKPdf 11 06 39.3 -3.8**
GTBY Guantanamo Bay 158.34 53 *eP* **PKPdf 11 06 39.9 -2.4**
CZSB Cruzeiro do Su 158.37 133 *eP* **PKPdf 11 06 41.7 -0.9**
CZSB Cruzeiro do Su 158.37 133 *eP* **PKPdf 11 06 42.5 0.0**
BONI La Bonita 158.41 107 *eP* **PKPdf 11 06 43.4 +0.4**
GR1C Gorgona, Isla 158.47 100 *eP* **PKPdf 11 06 42.3 -0.4**
GCUF Volcan Galeras 158.82 105 *eP* **PKPdf 11 06 43.6 -0.1**
UPD2 Meteti 159.10 85 *eP* **PKPdf 11 06 43.9 +0.5**
UPD2 *e*PKiK **PKPab 11 07 26.6 +2.6**
UPD2 *eS* **PKPab 11 07 28.3 +4.3**
UPD2 Meteti 159.10 85 *eP* **PKPdf 11 06 40.6 -2.7**
BBAC Balboa, Cauca 159.13 103 *eP* **PKPdf 11 06 42.8 -1.0**
CRUC La Cruz 159.29 105 *eP* **PKPdf 11 06 44.8 +0.7**
MALC Bahia Malaga 159.47 98 *eP* PKPdf 11 06 33.6 -10
PIZC Pizarro, Choco 159.59 95 *eP* **PKPdf 11 06 44.5 +0.6**
SOLC Bahia Solano 159.67 92 *eP* **PKPdf 11 06 44.7 +0.7**
VILB Vilhena 159.68 171 *eP* **PKPdf 11 06 43.8 -0.3**
POPC Popayan, Colom 159.81 102 *eP* **PKPdf 11 06 42.6 -1.9**
JAMC Jamundi, Valle 159.97 101 *eP* **PKPdf 11 06 43.0 -1.7**
SNDB Serra Nova Dou 160.09 196 *eP* **PKPdf 11 06 44.1 -0.4**
YOTC Yotoco, Valle 160.44 98 *eP* **PKPdf 11 06 43.1 -2.0**
APAC Apartado, Choc 160.54 87 *eP* **PKPdf 11 06 44.2 -0.8**
FLOC Florencia 160.54 106 *eP* **PKPdf 11 06 44.4 -0.6**
PLMC San Jos del P 160.65 96 *eP* **PKPdf 11 06 43.2 -2.0**
ETMB Extrema 160.71 151 *eP* **PKPdf 11 06 44.4 -0.8**
LCBC Los crdobas, 160.72 84⇓ *iP* **PKPdf 11 06 45.6 +0.4**
LCBC IAMs_20 IAMs_20 11 11 23.4
comp=Z,4μm,5.6s
LCBC Los crdobas, 160.72 84 *eP* **PKPdf 11 06 45.1 -0.1**
GARC Garzon, Huila 160.86 104 *eP* **PKPdf 11 06 44.4 -1.3**
PTLC Puerto Leguiza 160.87 111 *eP* **PKPdf 11 06 42.8 -2.6**
DBBC Dabeiba 160.90 89 *eP* **PKPdf 11 06 47.1 +1.7**
BETC Betania 161.04 103 *eP* **PKPdf 11 06 46.4 +0.7**
PDRB Porto dos Gac 161.27 181 *eP* **PKPdf 11 06 45.6 -0.1**
ANIL Santa Ana 161.45 97 *eP* **PKPdf 11 06 45.6 -0.7**
ORTC Ortega, Tolima 161.50 99 *eP* **PKPdf 11 06 44.2 -1.9**
UREC Santa Ana de Ur 161.58 87 *eP* **PKPdf 11 06 44.8 -1.3**
GUY2C Guyana, Caldas 161.59 95 *eP* **PKPdf 11 06 45.3 -1.4**
SJCC San Jacinto, C 161.79 80 *eP* **PKPdf 11 06 45.0 -1.3**
PRAC Prado 161.82 100 *eP* **PKPdf 11 06 44.8 -1.7**
SDDR Presa de Saban 161.83 49 *eP* **PKPdf 11 06 45.0 -1.2**
CLDB Colider 161.97 184 *eP* **PKPdf 11 06 45.9 -0.6**
NORC Norcasia 162.12 94 *eP* **PKPdf 11 06 45.0 -1.7**
ZARC Zaragoza, Cauc 162.25 88 *eP* **PKPdf 11 06 44.8 -1.9**
MACC Macarena, Meta 162.43 106 *eP* **PKPdf 11 06 45.9 -1.1**
SMRC Santa Marta, M 162.52 76 *eP* **PKPdf 11 06 45.1 -1.8**
ROSC El Rosal 162.57 97 *eP* **PKPdf 11 06 47.5 -0.1**
ROSC El Rosal 162.57 97 PKP **PKPdf 11 06 47.4 -0.2**
comp=Z,280nm,0.8s,baz=238,slow=1.9,SNR=35
ROSC PKPab **PKPab 11 07 40.7 +1.0**
comp=Z,313nm,0.8s,baz=178,slow=4.3,SNR=13
PTBC PUERTO BERRIO 162.61 91 *eP* **PKPdf 11 06 45.2 -1.9**
ARGC Ariguani, Magd 162.71 80 *eP* **PKPdf 11 06 46.5 -0.7**
SAML Samuel 162.76 159 PKPdf 11 06 46.7 -0.5
SAML Samuel 162.76 159 *eP* **PKPdf 11 06 46.5 -0.8**
SAML Samuel 162.76 159 PKIKP **PKPdf 11 06 46.7 -0.5**
SAML Samuel 162.76 159 *eP* **PKPdf 11 06 47.2 0.0**
TBTG Tabatinga, AM 162.80 131 *eP* **PKPdf 11 06 46.1 -1.2**
SPBC San Pablo de B 162.92 94 *eP* **PKPdf 11 06 45.1 -2.5**
CHIC Chingaza 163.12 98 *eP* **PKPdf 11 06 46.7 -1.4**
BRRC Barranca, Sant 163.38 89 *eP* **PKPdf 11 06 46.4 -1.4**
ROSB Rosrio 163.71 232 *eP* **PKPdf 11 06 47.5 -0.7**
CRJC Cerrejon, Guaj 163.84 75 *eP* **PKPdf 11 06 47.2 -1.1**
BARC Barichara 163.88 91 *eP* **PKPdf 11 06 48.2 -0.4**
RUSC La Rusia 163.93 94 *eP* **PKPdf 11 06 46.7 -2.2**
PAMC Pamplona, Colo 164.38 89 *eP* **PKPdf 11 06 49.1 -0.2**
URIC Uribia, Colomb 164.53 72 *eP* **PKPdf 11 06 47.7 -1.1**
PTCC Puerto Gaitan, 164.60 101 *eP* **PKPdf 11 06 45.9 -3.1**
PRPB Paranapebas 164.89 208 *eP* **PKPdf 11 06 48.8 -0.5**
TAMC Tame, Arauca 165.25 92 *eP* **PKPdf 11 06 47.8 -1.7**
NPGB Novo Progresso 165.72 186 *eP* **PKPdf 11 06 49.5 -0.4**
SDV Santo Domingo 166.36 82 *eP* **PKPdf 11 06 48.4 -2.2**
SDV Santo Domingo 166.36 82 *eP* **PKPdf 11 06 49.8 -0.8**
SDV Santo Domingo 166.36 82 PKP **PKPdf 11 06 50.0 -0.6**
comp=Z,131nm,0.8s,baz=351,slow=0.8,SNR=27
SDV PKPab **PKPab 11 07 57.0 +0.8**
comp=Z,261nm,0.8s,baz=274,slow=3.3,SNR=23
TEFE Tefe 166.86 144 *eP* **PKPdf 11 06 50.3 -0.4**
ITTB Itaituba 168.40 186 *eP* **PKPdf 11 06 53.1 +1.3**
BAUV El Baul 168.90 80 *eP* **PKPdf 11 06 49.8 -2.3**
ANBD Bethesda, Anti 169.18 25 *eP* **PKPdf 11 06 48.4 -3.7**
MBFL Flemmings, Mon 169.25 28 *eP* **PKPdf 11 06 51.8 -0.4**
MLYT Lee's Yard 169.28 28 *eP* **PKPdf 11 06 52.9 +0.7**
ABD La Joyeuse, An 169.81 25 *eP* **PKPdf 11 06 48.5 -4.1**
CBE Ff, Capester 170.12 27 *eP* **PKPdf 11 06 51.0 -1.8**
H05N1 Guadeloupe/Mar 170.13 24 PKP **PKPdf 11 06 52.4 -0.3**
SNR=20
TDBA Terre de Bas, 170.30 28 *eP* **PKPdf 11 06 50.3 -2.5**
MAGL Barre de l'ile 170.37 26 *eP* **PKPdf 11 06 51.3 -1.5**
MALB Monte Alegre 170.57 197 *eP* **PKPdf 11 06 52.3 -0.8**
MCPB Macapa, AP 171.00 213 *eP* **PKPdf 11 06 52.3 -1.0**
SVN Savane Anatole 171.39 28 *eP* **PKPdf 11 06 53.6 +0.2**
FDF Fort de France 171.50 29 *eP* **PKPdf 11 06 50.3 -3.2**
BIM Bigot 171.72 29 *eP* **PKPdf 11 06 52.5 -1.1**
PCRV Puerto La Cruz 171.87 68 PKP **PKPdf 11 06 51.8 -1.9**
comp=Z,31nm,0.9s,baz=9.3,slow=7.7,SNR=10
PCRV PKPab **PKPab 11 08 20.9 +0.5**
comp=Z,29nm,0.8s,baz=202,slow=1.8,SNR=7.5

PCRV PP **PP 11 12 17.8 +5.3**
comp=Z,30nm,1.2s,baz=28,slow=6.0,SNR=5.0
MPOM Morne Pois Mar 171.88 28 *eP* **PKPdf 11 06 50.9 -2.7**
SLBI Saint Lucia, B 172.19 30 *eP* **PKPdf 11 06 51.6 -2.2**
MCLT Moule a Chique 172.47 31 *eP* **PKPdf 11 06 51.6 -2.4**
SVV Soufriere Volc 172.65 34 *eP* **PKPdf 11 06 55.6 +1.6**
SSV Crater Summit 172.66 34 *eP* **PKPdf 11 06 56.6 +2.5**
SVB Belmont 172.67 35 *eP* **PKPdf 11 06 52.2 -1.8**
GCMP Grenada, Carri 173.18 40 *eP* **PKPdf 11 06 50.3 -3.9**
GRHS Sauteurs 173.23 43 *eP* **PKPdf 11 06 50.8 -3.4**
GRW Mount Saint Ca 173.26 43 *eP* **PKPdf 11 06 53.5 -0.9**
GRGR Grenville 173.29 43 *eP* **PKPdf 11 06 50.8 -3.5**
GRGR Grenville 173.29 43 *eP* **PKPdf 11 06 51.6 -2.7**
BOAV Boa Vista 174.02 143 *eP* **PKPdf 11 06 52.5 -2.1**
BOAV Boa Vista 174.02 143 *eP* **PKPdf 11 06 53.6 -1.0**
TRN Trinidad (W) 174.46 52 *eP* **PKPdf 11 06 53.8 -0.9**
MDP Montagnes des 175.21 244 PKP **PKPdf 11 06 53.7 -1.2**
comp=Z,150nm,1.0s,baz=35,slow=0.6,SNR=28
MDP PKPab **PKPab 11 08 35.9 +0.8**
comp=Z,28nm,0.9s,baz=113,slow=5.4,SNR=3.9
MDP PP **PP 11 12 32.2 +3.9**
comp=Z,18nm,0.9s,baz=164,slow=6.0,SNR=3.6

---

*IDC **24** 11:14:54.4±8.8, 0°.40N×121°.78E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=200.4km s-min=136.7km az=55.0*
*DJA **24** 11:15:17.8±0.9, 0°.N±10°×12°.2E±°, h181km±8km, M2.9/7, MLv2.9/7*
ISC 24 11:15:15.5±1.4, **0°.4N**±0°.2×**121°.98E**±0°.07, **h198**km±10km, **n8**, σ0°92/11, **mb3.6/3, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.07**	**325**	P		**Pn**		**11 15 41.7**	**+0.2**
MRSI				S		**S**		**11 16 01.0**	**-0.5**
GTOI	**Gorontalo**	**1.05**	**78**	P		**Pn**		**11 15 45.5**	**+0.1**
GTOI				S		**S**		**11 16 08.0**	**-0.5**
LUWI	**Luwuk**	**1.66**	**151**	P		**Pn**		**11 15 51.4**	**+0.9**
KMSI	**Cibinong**	**2.01**	**86**	P		**Pn**		**11 15 55.5**	**+1.5**
MPSI	**Mapaga**	**2.08**	**268**	P		**Pn**		**11 15 55.8**	**+1.1**
MPSI				S		**S**		**11 16 24.8**	**-0.4**
WRA	**Warramunga Arr**	**23.59**	**150**	P		**P**		**11 20 07.7**	**-0.9**
	0.8nm,0.6s,baz=325,slow=11,SNR=6.2								
	0.8nm,0.6s								
ASAR	**Alice Springs**	**26.60**	**155**	P		**P**		**11 20 35.8**	**0.0**
	0.4nm,0.7s,baz=344,slow=15,SNR=6.6								
	0.4nm,0.7s								
STKA	**Stephens Creek**	**37.11**	**152**	P		**P**		**11 22 06.8**	**-0.4**
	0.7nm,0.4s,baz=333,slow=16,SNR=1.5								
	0.7nm,0.4s								

---

*EAF **24** 11:40:47.3, 23°.50S×27°.33E, h33km, MC3.3*
BUL 24 11:40:47.3±0.3, **23°.69S×27°.54E, h29**km±3km, **MD3.4, South Africa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.21**	**233**	*i* P		Pn		11 41 22.0	-0.1
LBTB				*i* S		Sn		11 41 47.4	-1.1
LBTB	**Lobatse**	**2.21**	**233**	*i* P		Pn		11 41 22.0	-0.1
	baz=226								
LBTB				*i* S		Sn		11 41 47.4	-1.1
	baz=226								
MUSN	**Musina, Limpop**	**2.55**	**57**	*i* P		Pn		11 41 26.7	0.0
MUSN				*i* S		Sn		11 41 55.4	-1.5
MUSN	**Musina, Limpop**	**2.55**	**57**	*i* P		Pn		11 41 26.7	0.0
	baz=63								
MUSN				*i* S		Sn		11 41 55.4	-1.5
	baz=63								
MOPA	**Mopani**	**3.54**	**88**	*i* P		Pn		11 41 43.4	+3.0
MOPA				*i* S		Sn		11 42 24.4	+3.2
MOPA	**Mopani**	**3.54**	**88**	*i* P		Pn		11 41 43.4	+3.0
	baz=91								
MOPA				*i* S		Sn		11 42 24.4	+3.2
	baz=91								
BOSA	**Boshof**	**5.31**	**202**	*i* P		Pn		11 42 04.3	-0.5
BOSA				*i* S		Sn		11 43 00.6	-4.5
BOSA	**Boshof**	**5.31**	**202**	*i* P		Pn		11 42 04.3	-0.5
	baz=200								
BOSA				*i* S		Sn		11 43 00.6	-4.5
	baz=200								

---

*SKO **24** 11:41:33.8, 40°.65N×21°.74E, h13km, ML2.7*
*ATH **24** 11:41:34.1, 40°.64N×21°.74E, h5km±1km, ML2.5/11, Error ellipse: s-maj=1.9km s-min=0.7km az=316.0*
*BEO **24** 11:41:34.6±0.7, 40°.64N×21°.70E, h6km±3km, ML2.3/7*
*THE **24** 11:41:34.1, 40°.62N×21°.74E, h13km±1km, ML2.4/9, Error ellipse: s-maj=1.2km s-min=0.4km az=308.0*
ISC 24 11:41:33.9±0.9, **40°.62N**±0°.02×**21°.74E**±0°.02, **h10**km±8km, **n56**, σ0°66/88, **1C-1D, Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.32**	**301**	P		**Pg**		**11 41 39.9**	**-0.4**
FNA				S		**Sg**		**11 41 45.8**	**+1.1**
	2μm,0.3s								
FNA	**Florina**	**0.32**	**301**	*e*Pg		**Pg**		**11 41 39.9**	**-0.4**
FNA				*e*

LSK	**Leskovik**	**0.99**	**242**	P	**Pb**	**11 41 52.3**	**-0.9**
LSK				S	**Sg**	**11 42 06.5**	**+0.8**
comp=N,255nm,0.5s							
KNT	**Kendrikon**	**1.03**	**58**	P	**Pb**	**11 41 53.1**	**-0.8**
KNT				S	**Sg**	**11 42 07.8**	**+0.6**
comp=N,138nm,0.3s							
KNT	**Kendrikon**	**1.03**	**58**	*i* Pg	**Pb**	**11 41 53.1**	**-0.8**
KNT				*i* Sg	**Sg**	**11 42 07.8**	**+0.6**
KNT	**Kendrikon**	**1.03**	**58**	P	**Pb**	**11 41 53.1**	**-0.8**
KNT				S	**Sg**	**11 42 07.3**	**+0.1**
KNT				AML	AML	11 42 12.3	
comp=E,231μm,0.3s							
KNT				AML	AML	11 42 13.3	
comp=N,315μm,0.3s							
HORT	**Hortiatis**	**1.03**	**91**	P	**Pb**	**11 41 53.6**	**-0.3**
HORT				S	**Sn**	**11 42 08.3**	**-0.8**
comp=N,110nm,0.5s							
HORT	**Hortiatis**	**1.03**	**91**	P	**Pb**	**11 41 53.7**	**-0.3**
HORT				AML	AML	11 42 11.8	
comp=N,278μm,0.4s							
HORT				AML	AML	11 42 12.6	
comp=E,173μm,0.4s							
THL	**Klokotos Trika**	**1.07**	**169**	P	**Pb**	**11 41 53.6**	**-0.9**
THL	**Klokotos Trika**	**1.07**	**169**	P	**Pb**	**11 41 53.7**	**-0.8**
THL				S	**Sn**	**11 42 09.8**	**-0.1**
THL				AML	AML	11 42 15.0	
comp=E,468μm,0.5s							
THL				AML	AML	11 42 17.7	
comp=N,315μm,0.6s							
STIP	**Stip**	**1.13**	**17**	*i* Pg	**Pg**	**11 41 56.9**	**+1.4**
STIP				*i* Sg	**Sn**	**11 42 14.3**	**+2.9**
JAN	**Janina**	**1.18**	**216**	P	**Pn**	**11 41 56.2**	**-0.3**
SOH	**Sokhos**	**1.24**	**80**	P	**Pn**	**11 41 56.6**	**-0.7**
SOH				S	**Sg**	**11 42 14.1**	**+0.2**
comp=N,185nm,0.4s							
SOH	**Sokhos**	**1.24**	**80**	*i* Pg	**Pn**	**11 41 57.2**	**-0.1**
SOH	**Sokhos**	**1.24**	**80**	P	**Pn**	**11 41 56.7**	**-0.7**
SOH				AML	AML	11 42 18.5	
comp=N,382μm,0.3s							
SOH				AML	AML	11 42 19.1	
comp=E,541μm,0.5s							
SKO	**Skopje**	**1.37**	**351**	*e*Pg	**Pb**	**11 41 59.6**	**-0.1**
SKO				*e*Sg	**Sn**	**11 42 16.7**	**-0.7**
SKO	**Skopje**	**1.37**	**351**	*i* Pg	**Pg**	**11 41 59.8**	**-0.5**
SKO				*i* Sg	**Sg**	**11 42 18.2**	**+0.2**
PEHC	**Pehcevo**	**1.45**	**37**	*i* Pg	**Pg**	**11 42 02.0**	**+0.2**
SRS	**Serrai**	**1.49**	**70**	P	**Pn**	**11 42 00.1**	**-0.6**
SRS	**Serrai**	**1.49**	**70**	*e*Pg	**Pn**	**11 42 00.6**	**-0.2**
SRS				*e*Sg	**Sg**	**11 42 22.8**	**+1.0**
SRS	**Serrai**	**1.49**	**70**	*i* Pg	**Pn**	**11 42 00.8**	**0.0**
SRS	**Serrai**	**1.49**	**70**	P	**Pn**	**11 42 00.1**	**-0.6**
IGT	**Igoumenitsa**	**1.53**	**225**	P	**Pn**	**11 42 01.3**	**0.0**
MAKR	**Makrakomi, Fth**	**1.63**	**169**	P	**Pn**	**11 42 02.8**	**+0.1**
MAKR				AML	AML	11 42 34.0	
comp=E,464μm,0.5s							
MAKR				AML	AML	11 42 36.2	
comp=N,510μm,0.4s							
AGG	**Agios Georgios**	**1.66**	**164**	P	**Pn**	**11 42 03.4**	**+0.4**
XOR	**Xorichti**	**1.67**	**138**	P	**Pn**	**11 42 03.4**	**+0.1**
XOR				AML	AML	11 42 31.4	
comp=E,160μm,0.4s							
XOR				AML	AML	11 42 35.0	
comp=N,390μm,0.6s							
EVR	**Evrytania**	**1.70**	**178**	P	**Pn**	**11 42 04.6**	**+0.9**
KOKK	**Kokkinochori,**	**1.73**	**83**	P	**Pn**	**11 42 04.1**	**+0.1**
OUR	**Ouranopolis**	**1.73**	**99**	P	**Pn**	**11 42 03.9**	**-0.1**
KEK	**Kerkira**	**1.74**	**239**	P	**Pn**	**11 42 04.2**	**+0.1**
NVR	**Nevrokopi**	**1.77**	**65**	P	**Pn**	**11 42 03.7**	**-0.8**
PVO	**Paravola**	**2.00**	**185**	P	**Pn**	**11 42 08.8**	**+1.0**
ANX	**Ano Chora**	**2.02**	**176**	P	**Pn**	**11 42 09.1**	**+0.9**
NYDR	**Nydri-Lefkada**	**2.06**	**203**	P	**Pn**	**11 42 09.0**	**+0.4**
BARS	**Barje**	**2.20**	**1**	*e*Pn	**Pn**	**11 42 11.1**	**+0.6**
BARS				*e*Sn	**Sn**	**11 42 38.2**	**+0.4**
VTS	**Vitosha**	**2.29**	**29**	*e*Pn	**Pn**	**11 42 12.7**	**+0.8**
VTS				*e*Sn	**Sn**	**11 42 41.1**	**+0.8**
SELS	**Selova**	**2.64**	**350**	*e*Pn	**Pn**	**11 42 16.9**	**+0.3**

*ATH **24** 11:54:19.9, 40.°45N×20.°66E, h5km±1km, ML2.2/8, Error ellipse: s-maj=1.9km s-min=0.9km az=157.0*
*THE **24** 11:54:19.5, 40.°46N×20.°65E, h12km±1km, ML2.3/6, Error ellipse: s-maj=1.2km s-min=0.4km az=91.0*
*TIR **24** 11:54:19.1, 40.°45N×20.°67E, h10km±2km, Md2.6, Ml2.7*
*SKO **24** 11:54:21.2, 40.°48N×20.°69E, h14km, ML2.3*
*BEO **24** 11:54:21.0±1.0, 40.°48N×20.°73E, h16km±3km, ML2.1/3*

ISC 24 11:54:19.8±0.9, 40.°44N±0.°02×20.°67E±0.°02, h9km±7km, n45, σ1°07/77, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.20**	**25**	P	**Pg**	**11 54 23.6**	**-0.5**
KBN				S	**Sg**	**11 54 27.2**	**+0.2**
1μm,0.2s							
KBN	**Korca**	**0.20**	**25**	P	**Pg**	**11 54 23.8**	**-0.3**
baz=28							
KBN				S	**Sg**	**11 54 26.9**	**-0.1**
baz=28							
KBN				AMP			
comp=N,6.3nm,0.2s,baz=28							
NEST	**Nestorio**	**0.29**	**94**	P	**Pg**	**11 54 25.8**	**+0.2**
NEST				S	**Sg**	**11 54 30.6**	**+1.1**
comp=N,470nm,0.4s							
NEST	**Nestorio**	**0.29**	**94**	P	**Pg**	**11 54 25.6**	**0.0**
NEST				S	**Sg**	**11 54 29.9**	**+0.5**
NEST				AML	AML	11 54 31.6	
comp=N,1060μm,0.5s							
NEST				AML	AML	11 54 32.5	
comp=E,1370μm,0.3s							
LSK	**Leskovik**	**0.29**	**191**	P	**Pg**	**11 54 25.3**	**-0.4**
LSK				S	**Sg**	**11 54 30.9**	**+1.3**
comp=E,1μm,0.5s							
LSK	**Leskovik**	**0.29**	**191**	P	**Pg**	**11 54 25.5**	**-0.2**
baz=190							
LSK				S	**Sg**	**11 54 30.5**	**+0.9**
baz=190							
LSK				AMP			
comp=E,5.3nm,0.5s,baz=190							
PENT	**Pentalofos**	**0.43**	**124**	P	**Pg**	**11 54 28.1**	**-0.1**
PENT				S	**Sg**	**11 54 34.4**	**+0.5**
FNA	**Florina**	**0.64**	**57**	P	**Pg**	**11 54 31.6**	**-0.5**
FNA				S	**Sb**	**11 54 41.7**	**-0.4**
comp=E,482nm,0.3s							
FNA	**Florina**	**0.64**	**57**	P	**Pg**	**11 54 31.8**	**-0.4**
baz=58							
FNA				S	**Sb**	**11 54 41.7**	**-0.4**
baz=58							
FNA	**Florina**	**0.64**	**57**	*e*Pg	**Pg**	**11 54 31.6**	**-0.5**
FNA				*e*Sg	**Sb**	**11 54 41.5**	**-0.6**
FNA	**Florina**	**0.64**	**57**	*i* Pg	**Pg**	**11 54 31.6**	**-0.5**
FNA				*i* Sg	**Sb**	**11 54 41.8**	**-0.3**
FNA	**Florina**	**0.64**	**57**	P	**Pg**	**11 54 31.5**	**-0.5**
FNA				S	**Sb**	**11 54 41.1**	**-1.0**
FNA				AML	AML	11 54 44.2	
comp=N,1054μm,0.2s							
FNA				AML	AML	11 54 44.6	
comp=E,967μm,0.4s							
OHR	**Ohrid**	**0.68**	**8**	*e*Pg	**Pb**	**11 54 33.2**	**-0.6**
OHR				*e*Sg	**Sb**	**11 54 42.9**	**-0.5**
OHR	**Ohrid**	**0.68**	**8**	*i* Pg	**Pb**	**11 54 33.3**	**-0.5**
OHR				*i* Sg	**Sb**	**11 54 43.1**	**-0.3**
OHR				*e*Lg	Lg	11 54 43.8	
comp=E,187nm,0.6s							
OHR				*e*Lg	Lg	11 54 45.5	
comp=N,152nm,0.8s							
KPRO	**Kipourio**	**0.71**	**132**	P	**Pg**	**11 54 33.3**	**-0.3**
KPRO				S	**Sb**	**11 54 44.9**	**+0.5**
comp=N,222nm,0.4s							
KPRO	**Kipourio**	**0.71**	**132**	P	**Pg**	**11 54 33.3**	**-0.3**
KPRO				S	**Sg**	**11 54 43.5**	**+0.5**
KPRO				AML	AML	11 54 47.2	
comp=E,423μm,0.4s							
KPRO				AML	AML	11 54 48.8	
comp=N,455μm,0.4s							
SRN	**Sarande**	**0.76**	**223**	P	**Pg**	**11 54 33.6**	**-0.8**
SRN				S	**Sb**	**11 54 45.5**	**0.0**
SRN	**Sarande**	**0.76**	**223**	P	**Pg**	**11 54 34.2**	**-0.2**
baz=223							
SRN				S	**Sb**	**11 54 45.6**	**0.0**
baz=223							
JAN	**Janina**	**0.79**	**170**	P	**Pg**	**11 54 34.5**	**-0.5**
JAN				S	**Sb**	**11 54 47.2**	**+0.7**
comp=N,165nm,0.4s							
JAN	**Janina**	**0.79**	**170**	P	**Pg**	**11 54 34.4**	**-0.6**
JAN				S	**Sg**	**11 54 46.4**	**+1.1**
JAN				AML	AML	11 54 52.5	
comp=E,398μm,0.5s							
JAN				AML	AML	11 54 55.3	
comp=N,309μm,0.5s							
IGT	**Igoumenitsa**	**0.94**	**196**	P	**Pg**	**11 54 37.9**	**0.0**
IGT	**Igoumenitsa**	**0.94**	**196**	P	**Pg**	**11 54 38.3**	**+0.4**
baz=196							
IGT				S	**Sn**	**11 54 52.3**	**-0.4**
baz=196							
IGT	**Igoumenitsa**	**0.94**	**196**	*i* Pg	**Pg**	**11 54 38.3**	**+0.4**
IGT				*i* Sg	**Sn**	**11 54 53.4**	**+0.7**
IGT	**Igoumenitsa**	**0.94**	**196**	P	**Pg**	**11 54 37.7**	**-0.1**
IGT				S	**Sg**	**11 54 50.4**	**+0.3**
IGT				AML	AML	11 54 54.9	
comp=E,194μm,0.8s							
IGT				AML	AML	11 54 56.0	
comp=N,285μm,0.6s							
KEK	**Kerkira**	**0.99**	**223**	P	**Pb**	**11 54 38.5**	**-0.5**
KEK				S	**Sb**	**11 54 52.5**	**+0.4**
KEK	**Kerkira**	**0.99**	**223**	P	**Pb**	**11 54 38.5**	**-0.5**
KEK				S	**Sg**	**11 54 52.0**	**+0.4**
TIR	**Tirane**	**1.10**	**326**	*e*Pg	**Pb**	**11 54 40.0**	**-0.9**
KTI	**Kastanea**	**1.10**	**92**	P	**Pb**	**11 54 40.0**	**-1.1**
THL	**Klokotos Trika**	**1.35**	**130**	P	**Pn**	**11 54 44.8**	**0.0**
THL				S	**Sn**	**11 55 02.4**	**-0.3**
THL				AML	AML	11 55 13.5	
comp=N,128μm,0.6s							
THL				AML	AML	11 55 14.5	
comp=E,126μm,0.6s							
TYRN	**Tyrnavos**	**1.40**	**121**	P	**Pn**	**11 54 45.8**	**+0.3**
GRG	**Griva**	**1.41**	**68**	*i* Pg	**Pb**	**11 54 45.8**	**-0.5**
GRG				*i* Sg	**Sg**	**11 55 06.2**	**+1.0**
GRG	**Griva**	**1.41**	**68**	P	**Pn**	**11 54 45.5**	**-0.1**
GRG				S	**Sn**	**11 55 03.8**	**-0.6**
GRG				AML	AML	11 55 08.4	
comp=E,62μm,0.2s							
GRG				AML	AML	11 55 10.3	
comp=N,93μm,0.3s							
VAY	**Valandovo**	**1.69**	**58**	*i* Pn	**Pn**	**11 54 49.2**	**-0.2**
VAY				*i* Sn	**Sg**	**11 55 15.7**	**+1.7**
VAY				*e*Lg	Lg	11 55 21.1	
comp=E,26nm,0.7s							
VAY				*e*Lg	Lg	11 55 22.1	
comp=N,38nm,0.9s							
STIP	**Stip**	**1.70**	**42**	*i* Pn	**Pg**	**11 54 53.0**	**+0.7**
STIP				*i* Sn	**Sg**	**11 55 21.9**	**+7.6**
MAKR	**Makrakomi, Fth**	**1.81**	**141**	P	**Pn**	**11 54 51.1**	**-0.1**
MAKR				AML	AML	11 55 26.1	
comp=N,272μm,0.5s							
MAKR				AML	AML	11 55 26.4	
comp=E,234μm,0.3s							
KNT	**Kendrikon**	**1.84**	**66**	*i* Pn	**Pn**	**11 54 52.2**	**+0.7**
KNT				*i* Sn	**Sg**	**11 55 19.1**	**+0.2**
KNT	**Kendrikon**	**1.84**	**66**	P	**Pn**	**11 54 51.4**	**-0.1**
HORT	**Hortiatis**	**1.86**	**84**	P	**Pn**	**11 54 51.9**	**+0.1**
AGG	**Agios Georgios**	**1.91**	**137**	P	**Pn**	**11 54 52.2**	**-0.2**
PDG	**Podgorica**	**2.26**	**332**	*e*Pn	**Pn**	**11 54 58.1**	**+0.9**
BARS	**Barje**	**2.53**	**19**	*e*Pn	**Pn**	**11 55 00.9**	**-0.1**
BARS				*e*Sn	**Sn**	**11 55 30.5**	**-1.4**
BARS	**Barje**	**2.53**	**19**	*i* Pn	**Pn**	**11 55 01.3**	**+0.4**
SELS	**Selova**	**2.80**	**7**	*e*Pn	**Pn**	**11 55 05.4**	**+0.7**
SJES	**Sjenica**	**2.87**	**350**	*e*Pn	**Pn**	**11 55 05.8**	**0.0**
BOVS	**Bovan**	**3.29**	**13**	*e*Pn	**Pn**	**11 55 10.5**	**-0.9**

*IDC **24** 12:23:13.1±5.4, 36.°05N×70.°89E, h188km±50km, mb3.1/6, mbtmp3.8/10, Error ellipse: s-maj=40.5km s-min=20.4km az=30.0*
*NNC **24** 12:23:26.1±5.8, 37.°14N×71.°37E, h302km±190km, mb2.2, mpv3.6, Error ellipse: s-maj=101.3km s-min=50.2km az=179.0*

ISC 24 12:23:14.8±1.2, 36.°31N±0.°10×71.°1E±0.°1, h200km, n14, σ2°52/18, mb3.4/5, 7C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.14**	**18**	⇑P	**Pn**	**12 24 46.9**	**+2.7**
1.1nm,0.3s							
AML				⇑S	**Sn**	**12 25 53.6**	**-1.3**
6.9nm,0.6s							
KK31	**Karatay Array**	**6.80**	**356**	⇑P	**Pn**	**12 24 54.8**	**+2.4**
1.3nm,0.3s,baz=175,slow=12,SNR=25							
KK31				⇓S	**Sn**	**12 26 07.6**	**-2.2**
3.3nm,0.6s,baz=184,slow=24,SNR=6.0							
AAK	**Ala-Archa**	**6.83**	**21**	P	**Pn**	**12 24 55.9**	**+3.0**
11nm,0.3s,baz=195,slow=4.1,SNR=27							
AAK				S	**Sn**	**12 26 10.4**	**-0.3**
5.2nm,0.7s,baz=155,slow=23,SNR=7.5							
CHMS	**Chumysh**	**7.24**	**22**	⇑P	**Pn**	**12 25 01.4**	**+3.4**
2.3nm,0.3s							
CHMS				⇑S	**Sn**	**12 26 18.9**	**-1.2**
2.8nm,0.5s							
TKM2	**Tokmak 2**	**7.44**	**26**	⇑P	**Pn**	**12 25 03.4**	**+2.5**
6.1nm,0.5s							
TKM2				⇑S	**Sn**	**12 26 18.8**	**-6.4**
0.6nm,0.5s							
MKAR	**Makanchi Array**	**13.38**	**35**	P	**Pn**	**12 26 18.2**	**+1.3**
0.8nm,0.5s,baz=202,slow=9.7,SNR=8.9							
KURBB	**Kurchatov Arra**	**15.27**	**18**	P	**P**	**12 26 40.7**	**+0.3**
0.4nm,0.2s,baz=202,slow=9.5,SNR=2.6							
AKTO	**Aktyubinsk**	**17.00**	**330**	P	**Pn**	**12 27 00.9**	**0.0**
2.8nm,0.6s,baz=134,slow=9.9,SNR=7.6							
ZALV	**Zalesovo Beam**	**20.04**	**24**	P	Pn	12 27 35.8	-1.1
0.5nm,0.3s,baz=220,slow=10,SNR=3.0							
0.5nm,0.3s							
FINES	**FINESS Array B**	**37.70**	**326**	P	**P**	**12 30 10.7**	**+0.1**
2.2nm,1.0s,baz=113,slow=8.7,SNR=5.1							
2.2nm,1.0s							
ARCES	**ARCESS Array B**	**41.36**	**338**	P	**P**	**12 30 41.4**	**+0.6**
0.6nm,0.4s,baz=112,slow=9.3,SNR=6.3							
0.6nm,0.4s							
TORD	**Torodi Ar. Bea**	**65.83**	**269**	P	**P**	**12 33 37.1**	**-2.0**
0.3nm,0.4s,baz=48,slow=5.9,SNR=5.5							
0.3nm,0.4s							
WRA	**Warramunga Arr**	**81.80**	**122**	P	**P**	**12 35 11.7**	**+0.1**
0.1nm,0.4s,baz=324,slow=4.9,SNR=9.5							
0.1nm,0.4s							
ASAR	**Alice Springs**	**84.06**	**125**	P	**P**	**12 35 22.6**	**-0.5**
0.3nm,0.6s,baz=314,slow=3.4,SNR=2.3							
0.3nm,0.6s							

*UUSS **24** 12:30:32.4±0.7, 42.°595N±0.°008×111.°44W±0.°01, h2km±1km, Error ellipse: s-maj=1.4km s-min=1.1km az=58.0*

NEIC 24 12:30:32.1±0.6, 42.°596N±0.°007×111.°45W±0.°01, h4km±1km, ML2.8/108, ML2.9/11(UUSS), Error ellipse: s-maj=1.5km s-min=0.7km az=57.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ID06	**Fossil Canyon**	**0.01**	**190**		Pg	12 30 33.2	0.0
ID06				Sg	Sg	12 30 34.0	0.0
ID05	**Sulphur Canyon**	**0.05**	**351**		Pg	12 30 33.7	+0.2
ID05				Sg	Sg	12 30 35.0	+0.4
AHID	**Auburn Hatcher**	**0.31**	**57**		Pg	12 30 38.6	+0.5
AHID				Sg	Sg	12 30 43.3	+1.1
ID09	**Alton**	**0.40**	**152**		Pg	12 30 39.9	0.0
ID09				Sg	Sg	12 30 45.7	+0.6
ID09				IAML		12 30 46.5	
1μm,0.3s							
ID09				IAML		12 30 46.8	
1μm,0.5s							
ID08	**Devils Gate**	**0.41**	**316**		Pg	12 30 40.4	+0.3
ID08				Sg	Sg	12 30 46.7	+1.1
ID08				IAML		12 30 47.5	
1μm,0.6s							
ID08				IAML		12 30 50.2	
873nm,0.6s							
ID10	**Lander Cutoff**	**0.42**	**100**		Pg	12 30 40.5	+0.3
ID10				Sg	Sg	12 30 46.5	+0.8
ID10				IAML		12 30 47.2	
1μm,0.5s							
ID07	**Smith Canyon R**	**0.47**	**263**		Pg	12 30 41.4	+0.2
ID07				Sg	Sg	12 30 48.0	+0.7
ID07				IAML		12 30 49.5	
642nm,0.6s							
BEI	**Bear River Ran**	**0.54**	**207**		Pg	12 30 42.8	+0.3
L17A	**Cokeville**	**0.66**	**139**		Pg	12 30 45.0	+0.3
L17A					Sb	12 30 54.5	-1.2
BMUT	**Black Mountain**	**0.66**	**166**		Pg	12 30 44.6	-0.1
MLI	**Malad Range**	**0.76**	**222**		Pg	12 30 47.0	+0.4
HDU	**Hyde Park**	**0.82**	**197**		Pg	12 30 47.9	0.0
REDW	**Red Top Meadow**	**0.88**	**30**		Pg	12 30 49.0	0.0
NPI	**North Pocatell**	**0.91**	**241**		Pg	12 30 49.6	+0.1
PTU	**Portage**	**0.93**	**225**		Pg	12 30 50.2	+0.3
TPAW	**Teton Pass**	**0.96**	**22**		Pg	12 30 50.5	-0.1
TPAW				IAML		12 31 06.0	
227nm,0.6s							
HWUT	**Hardware Ranch**	**0.99**	**185**		Pg	12 30 50.8	-0.3
HWUT				IAML		12 31 08.3	
143nm,0.4s							
SNOW	**Snow King Moun**	**1.00**	**30**		Pg	12 30 51.4	0.0
SNOW				IAML		12 31 09.0	
183nm,0.9s							
SNOW				IAML		12 31 11.4	
260nm,0.8s							
FXWY	**Fox Creek**	**1.09**	**16**		Pg	12 30 52.9	-0.1
MCU	**Monte Cristo P**	**1.13**	**182**		Pg	12 30 53.7	-0.1
LTU	**Little Mountai**	**1.17**	**211**		Pg	12 30 54.4	-0.1
LOHW	**Long Hollow**	**1.19**	**31**		Pg	12 30 54.5	-0.4
LOHW				IAML		12 31 14.5	
148nm,0.6s							
LOHW				IAML		12 31 16.9	
153nm,0.7s							
MOOW	**Moose Ponds**	**1.26**	**24**		Pg	12 30 55.9	-0.4
HVU	**Hansel Valley**	**1.28**	**231**		Pg	12 30 56.1	-0.5
IMW	**Indian Meadow**	**1.35**	**16**		Pn	12 30 57.4	-0.6
BW06	**Boulder Array**	**1.41**	**82**		Pb	12 30 58.9	-0.1
BW06				IAML		12 31 21.4	
85nm,1.1s							
BW06				IAML		12 31 21.9	
118nm,0.9s							
PD31	**Pinedale Array**	**1.41**	**82**		Pn	12 30 58.7	+0.1
PDAR	**Pinedale Array**	**1.41**	**82**		Pn	12 30 58.7	0.0
TCUT	**Toone Canyon**	**1.48**	**179**		Pg	12 31 00.9	+0.5
SPUT	**South Promonto**	**1.49**	**210**		Pn	12 30 59.9	+0.2
SPUT				IAML		12 31 22.0	
comp=N,195nm,0.3s							
SPUT				IAML		12 31 26.4	
comp=E,104nm,0.9s							
FLWY	**Flagg Ranch**	**1.58**	**20**	Pg	Pn	12 31 01.4	+0.3
FLWY				IAML		12 31 26.8	
comp=E,109nm,0.9s							
H17A	**Grant Village**	**1.91**	**19**		Pn	12 31 06.0	+0.4
YFT	**Old Faithful**	**1.91**	**13**		Pn	12 31 06.4	+0.8
YFT				IAML		12 31 19.5	
comp=N,54nm,0.8s							
CTU	**Camp Tracy**	**1.92**	**187**	Pn	Pb	12 31 06.8	-0.8
CTU				IAML		12 31 37.3	
comp=N,98nm,0.8s							
CTU				IAML		12 31 42.2	
comp=E,90nm,0.4s							
BGU	**Big Grassy Mou**	**2.05**	**216**		Pn	12 31 08.2	+0.8
BGU				IAML		12 32 25.0	
comp=N,42nm,0.4s							
BGU				IAML		12 32 25.1	
comp=E,51nm,0.2s							
YMR	**Madison River**	**2.10**	**9**	Pn	Pn	12 31 09.0	+0.8
YMR				IAML		12 31 43.5	
comp=E,68nm,0.9s							
YMR				IAML		12 31 44.1	
comp=N,112nm,0.8s							
LKWY	**Lake**	**2.11**	**21**	Pn	Pn	12 31 08.6	+0.2
BSUT	**Blindstream Ca**	**2.12**	**166**	Pn	Pb	12 31 10.6	-0.7
YNR	**Norris Junctio**	**2.19**	**15**	Pn	Pn	12 31 10.3	+0.9
BCYI	**Bear Canyon**	**2.23**	**321**	Pn	Pn	12 31 11.3	+1.3
YHH	**Holmes Hill**	**2.23**	**11**	Pn	Pn	12 31 10.2	0.0
YHL	**Hebgen Lake**	**2.26**	**5**		Pn	12 31 11.9	+1.4
YMP	**Mirror Lake Pl**	**2.34**	**23**	Pn	Pn	12 31 13.3	+1.7
HLID	**Hailey**	**2.38**	**295**		Pb	12 31 13.9	-1.6
HLID				IAML		12 31 48.4	
comp=N,34nm,0.9s							
HLID				IAML		12 31 51.4	
comp=N,37nm,0.7s							
RDMU	**Red Mountain**	**2.47**	**145**	Pn	Pn	12 31 14.5	+1.3
RDMU				IAML		12 31 50.1	
comp=E,57nm,0.5s							
RDMU				IAML		12 31 51.6	
comp=N,49nm,0.7s							
MPU	**Maple Canyon**	**2.58**	**183**	Pn	Pn	12 31 16.0	+1.2
MPU				IAML		12 32 01.0	
comp=E,32nm,1.3s							
DUG	**Dugway, Tooele**	**2.61**	**204**		Pn	12 31 16.0	+0.9
DUG				IAML		12 31 58.5	
comp=E,38nm,0.5s							
DUG				IAML		12 31 58.5	
comp=E,29nm,0.7s							
NLU	**North Lily Min**	**2.68**	**190**	Pn	Pn	12 31 17.6	+1.4
RLMT	**Red Lodge**	**2.98**	**31**	Pn	Pn	12 31 21.1	+0.9
P18A	**Preston Nutter**	**3.10**	**163**	Pn	Pn	12 31 23.4	+1.4
P18A				IAML		12 32 18.1	
comp=E,36nm,0.6s							
P18A				IAML		12 32 24.7	
comp=N,37nm,0.7s							
P17A	**Butcher Ranch,**	**3.17**	**170**	Pn	Pn	12 31 23.1	+0.3
RWWY	**Rawlins**	**3.28**	**105**		Pn	12 31 25.0	+0.6
TMUT	**Trail Mountain**	**3.30**	**177**	Pn	Pn	12 31 24.3	-0.5
TMUT				IAML		12 32 19.9	
comp=E,38nm,0.6s							
TMUT				IAML		12 32 20.1	
comp=N,40nm,0.7s							
MFID	**Camas Ranch**	**3.31**	**286**		Pn	12 31 27.0	+2.2
MFID				IAML		12 32 22.6	
comp=N,25nm,1.0s							
MFID				IAML		12 32 23.4	
comp=N,31nm,1.3s							
ELK	**Elko**	**3.39**	**238**	Pn	Pn	12 31 27.6	+1.7
O20A	**White River Ci**	**3.45**	**134**		Pn	12 31 27.1	+0.4
K22A	**Casper**	**3.63**	**87**		Pn	12 31 30.5	+1.3
K22A				IAML		12 32 31.1	
comp=N,31nm,1.3s							
K22A				IAML		12 32 35.1	
comp=E,28nm,0.7s							
Q16A	**Castle Valley**	**3.68**	**177**	Pn	Pn	12 31 29.4	-0.5
Q16A				IAML		12 32 29.5	
comp=E,22nm,0.9s							
Q16A				IAML		12 32 29.6	
comp=N,17nm,0.9s							
TCRU	**Three Creeks R**	**4.05**	**191**	Pn	Pn	12 31 37.6	+2.5
TCRU				IAML		12 32 54.3	
comp=E,17nm,1.3s							
TCRU				IAML		12 33 02.1	
comp=N,15nm,3.5s							
BPMT	**Black Pine Rid**	**4.10**	**340**	Pn	Pn	12 31 35.6	-0.

baz=1.3
CTA Charters Tower 2.39 264 P Pn 12 31 47.6 +0.1
baz=2.7
CTA S Sb 12 32 21.5 +0.5
baz=2.7
MTSU Mount Surprise 4.57 291 P Pn 12 32 17.7 +0.3
baz=4.6
MTSU S Sn 12 33 10.9 +0.2
baz=4.6

*EAF **24** 12:43:07.3,26.35S×29.51E,h10km,MC3.5*
BUL 24 12:43:08.7±0.7,26.35S×29.51E,h10km,MD3.7,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.30**	**32**	*i* P	Pn	12 43 57.9	-2.6
MOPA				*i* S	Sn	12 44 34.6	-5.2
MOPA	**Mopani**	**3.30**	**32**	*i* P	Pn	12 43 57.9	-2.6
baz=30							
MOPA				*i* S	Sn	12 44 34.6	-5.2
baz=30							
LBTB	**Lobatse**	**3.78**	**290**	*i* P	Pn	12 44 06.3	-0.8
LBTB				*i* S	Sn	12 44 49.2	-2.5
LBTB	**Lobatse**	**3.78**	**290**	*i* P	Pn	12 44 06.3	-0.8
baz=290							
LBTB				*i* S	Sn	12 44 49.2	-2.5
baz=290							
MUSN	**Musina, Limpop**	**4.06**	**5**	*i* P	Pn	12 44 10.1	-0.8
MUSN				*i* S	Sn	12 44 55.9	-2.7
MUSN	**Musina, Limpop**	**4.06**	**5**	*i* P	Pn	12 44 10.1	-0.8
baz=3.0							
MUSN				*i* S	Sn	12 44 55.9	-2.7
baz=3.0							
BOSA	**Boshof**	**4.40**	**238**	*i* P	Pn	12 44 15.0	-0.7
BOSA				*i* S	Sn	12 45 04.3	-2.8
BOSA	**Boshof**	**4.40**	**238**	*i* P	Pn	12 44 15.0	-0.7
baz=239							
BOSA				*i* S	Sn	12 45 04.3	-2.8
baz=239							

*SOME **24** 12:54:04.0,39.02N×73.23E,h0km,MS3.5*
*MOS **24** 12:54:07.3±1.0,38.34N×73.96E,h140km,mb4.6/18,Error ellipse: s-maj=7.8km s-min=4.1km az=83.9*
*NNC **24** 12:54:07.7±3.8,38.56N×73.75E,h5km±30km,mb4.5, mpv3.8,Error ellipse: s-maj=32.3km s-min=23.8km az=156.0*
*IDC **24** 12:54:08.4±0.8,38.29N×74.00E,h139km±7km,mb3.8/24, mbtmp4.3/30,Error ellipse: s-maj=13.0km s-min=9.9km az=23.0*
*NEIC **24** 12:54:09.2±1.4,38.35N±0.06×73.97E±0.09,h138km±8km, mb4.4/91,Error ellipse: s-maj=10.8km s-min=9.0km az=103.0*
ISC 24 12:54:06.5±0.4,38.28N±0.04×73.90E±0.04,h123km±4km, h123km:pP-P,n283,σ1.94/292,mb4.4/86,15C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.04**	**52**	P	**Pn**	**12 54 37.5**	**-3.2**
KSH				S	**Sn**	**12 54 58.4**	**-8.4**
KSH				pmax	pmax		
comp=Z,570nm,0.6s							
KSH				smax	smax		
comp=N,8μm,0.6s							
KSH				smax	smax		
comp=E,8μm,0.8s							
BTK	**Batken**	**2.98**	**307**		**Pn**	**12 54 55.0**	**+2.3**
BTK				Sn	**Sn**	**12 55 30.6**	**+2.3**
AML	**Almayashu**	**3.85**	**358**	P	**Pn**	**12 55 05.9**	**+1.4**
SNR=74							
AML	**Almayashu**	**3.85**	**358**	⇓Pn	**Pn**	**12 55 05.4**	**+1.0**
comp=E,1.4nm,0.3s							
AML				⇑Sn	**Sn**	**12 55 49.4**	**+0.2**
comp=E,60nm,0.5s							
ULHL	**Ulahol**	**4.35**	**24**	P	**Pn**	**12 55 12.8**	**+1.9**
SNR=9.9							
AAK	**Ala-Archa**	**4.37**	**6**	P	**Pn**	**12 55 13.0**	**+1.8**
SNR=23							
AAK	**Ala-Archa**	**4.37**	**6**	*ce*PN	**Pn**	**12 55 12.6**	**+1.4**
AAK				pmax	pmax		
comp=Z,11nm,0.5s							
AAK	**Ala-Archa**	**4.37**	**6**	P	**Pn**	**12 55 13.0**	**+1.8**
comp=Z,9.9nm,0.3s,baz=190,slow=9.3,SNR=39							
AAK				S	**Sn**	**12 56 01.9**	**+0.4**
comp=Z,25nm,0.4s,baz=175,slow=11,SNR=7.3							
EKS2	**Erkin-Say**	**4.38**	**359**	P	**Pn**	**12 55 13.1**	**+1.9**
SNR=38							
KBK	**Karagaybulak**	**4.44**	**10**	P	**Pn**	**12 55 14.1**	**+1.9**
SNR=30							
MRKS	**Merke**	**4.49**	**354**	*e*Pg	**Pn**	**12 55 14.3**	**+1.6**
comp=Z,138nm,0.4s							
MRKS				*e*Lg	Lg	12 56 03.2	
comp=Z,786nm,0.6s							
CHCP	**Chirah Chowk**	**4.64**	**187**	P	**Pn**	**12 55 18.7**	**+3.9**
NIL	**Nilore**	**4.65**	**187**		**Pn**	**12 55 18.8**	**+3.9**
NIL	**Nilore**	**4.65**	**187**	PN	**Pn**	**12 55 18.8**	**+3.9**
CEP	**Cherat**	**4.73**	**200**	P	**Pn**	**12 55 19.1**	**+3.0**
CHMS	**Chumysh**	**4.76**	**8**	P	**Pn**	**12 55 17.9**	**+1.7**
SNR=6.7							
CHMS	**Chumysh**	**4.76**	**8**	⇓Pn	**Pn**	**12 55 16.8**	**+0.6**
comp=Z,9.9nm,0.3s							
CHMS				⇑Sn	**Sn**	**12 56 11.2**	**+0.7**
comp=Z,63nm,0.7s							
CHMS				⇓Lg	Lg	12 56 31.1	
comp=Z,70nm,1.0s							
TKM2	**Tokmak 2**	**4.81**	**15**	P	**Pn**	**12 55 18.6**	**+1.5**
SNR=18							
TKM2	**Tokmak 2**	**4.81**	**15**	⇓Pn	**Pn**	**12 55 17.8**	**+0.6**
comp=Z,17nm,0.5s							
TKM2				⇑Sn	**Sn**	**12 56 12.2**	**+0.2**
comp=Z,81nm,0.7s							
TKM2				⇓Lg	Lg	12 56 32.0	
comp=Z,78nm,0.9s							
IUG	**Iuzhnay**	**4.86**	**324**	⇑*i*P	**Pn**	**12 55 19.2**	**+1.4**
baz=324							
IUG				*e*S	**Sn**	**12 56 11.0**	**-2.1**
baz=324							
IUG	**Iuzhnay**	**4.86**	**324**	*e*Pg	**Pn**	**12 55 19.1**	**+1.4**
comp=Z,85nm,0.2s							
IUG				*e*Lg	Lg	12 56 11.3	
comp=Z,317nm,0.9s							
IUG	**Iuzhnay**	**4.86**	**324**	*c i*PN	**Pn**	**12 55 19.1**	**+1.4**
USP	**Ospenovka**	**5.00**	**5**	P	**Pn**	**12 55 20.5**	**+1.0**
SNR=12							
DZA	**Taraz**	**5.00**	**338**	*e*Pg	**Pn**	**12 55 20.6**	**+1.1**
comp=Z,100nm,0.1s							
DZA				*e*Lg	Lg	12 56 14.1	
comp=Z,1μm,0.3s							
SGDS	**Sogindy**	**5.19**	**6**	*e*P	**Pn**	**12 55 23.1**	**+0.9**
baz=5.8							
SGDS	**Sogindy**	**5.19**	**6**	*e*PN	**Pn**	**12 55 23.0**	**+0.9**
CHM	**Chimkent**	**5.20**	**322**	*e*Pg	**Pn**	**12 55 23.4**	**+1.2**
comp=Z,76nm,0.1s							
CHM				*e*Lg	Lg	12 56 18.4	
comp=Z,744nm,10.3s							
TNSS	**Tian-Shan**	**5.29**	**25**	*e*P	**Pn**	**12 55 24.7**	**+1.0**
baz=25							
TNSS	**Tian-Shan**	**5.29**	**25**	*e*PN	**Pn**	**12 55 24.7**	**+1.0**
KBL	**Kabul**	**5.41**	**228**	Pn	**Pn**	**12 55 28.4**	**+3.2**
KBL	**Kabul**	**5.41**	**228**	PN	**Pn**	**12 55 28.4**	**+3.2**
PRZ	**Przheval'sk**	**5.42**	**38**		**Pn**	**12 55 27.4**	**+2.1**
PRZ	**Przheval'sk**	**5.42**	**38**	PN	**Pn**	**12 55 27.4**	**+2.1**
MDOK	**Medeo**	**5.43**	**25**	*i* P	**Pn**	**12 55 26.5**	**+1.1**
baz=25							
MDOK	**Medeo**	**5.43**	**25**	*i* PN	**Pn**	**12 55 26.5**	**+1.1**
KK31	**Karatay Array**	**5.46**	**333**	⇑Pn	**Pn**	**12 55 26.7**	**+1.0**
comp=Z,8.1nm,0.3s,baz=143,slow=14,SNR=129							
KK31				⇑Sn	**Sn**	**12 56 23.4**	**-3.9**
comp=Z,99nm,0.5s,baz=145,slow=21,SNR=21							
KK31	**Karatay Array**	**5.46**	**333**	Pn	**Pn**	**12 55 26.8**	**+1.1**
KK31	**Karatay Array**	**5.46**	**333**	PN	**Pn**	**12 55 26.8**	**+1.1**
KKAR	**Karatay Array**	**5.46**	**333**	Pn	**Pn**	**12 55 26.8**	**+1.1**
KKAR	**Karatay Array**	**5.46**	**333**	PN	**Pn**	**12 55 26.8**	**+1.1**
THW	**Thamme Wali**	**5.75**	**198**	P	**Pn**	**12 55 32.4**	**+2.7**
SATY	**Saty**	**5.87**	**34**	⇑*i*P	**Pn**	**12 55 32.1**	**+0.7**
baz=34							
SATY	**Saty**	**5.87**	**34**	*c i*PN	**Pn**	**12 55 32.0**	**+0.7**
KUU	**Kurty**	**5.90**	**17**	*e*P	**Pn**	**12 55 31.9**	**+0.2**
baz=17							
KUU	**Kurty**	**5.90**	**17**	*e*PN	**Pn**	**12 55 31.8**	**+0.2**
ZHN	**Zhinishke**	**5.97**	**34**	*e*P	**Pn**	**12 55 33.4**	**+0.7**
baz=33							
ZHN	**Zhinishke**	**5.97**	**34**	*e*PN	**Pn**	**12 55 33.3**	**+0.6**
CHKK	**Chushkaly**	**6.04**	**22**	*e*P	**Pn**	**12 55 34.3**	**+0.8**
baz=22							
CHKK	**Chushkaly**	**6.04**	**22**	*e*PN	**Pn**	**12 55 34.2**	**+0.8**
UZB	**Uzynbulak**	**6.22**	**37**	*e*P	**Pn**	**12 55 36.6**	**+0.5**
baz=37							
UZB	**Uzynbulak**	**6.22**	**37**	*e*PN	**Pn**	**12 55 36.6**	**+0.5**
KPKS	**Kokpek**	**6.32**	**33**	*i* P	**Pn**	**12 55 38.3**	**+0.9**
baz=33							
KPKS	**Kokpek**	**6.32**	**33**	*i* PN	**Pn**	**12 55 38.2**	**+0.9**
DHRM	**DHARAMSHALA**	**6.33**	**161**	*e*P	**Pn**	**12 55 39.0**	**+1.3**
DHRM				*e*S	**Sn**	**12 56 46.1**	**-2.7**
DHRM				IAML		12 56 52.5	
comp=E,656nm,0.6s							
SARP	**Sargodha**	**6.42**	**189**	P	**Pn**	**12 55 40.4**	**+1.7**
SHLS	**Shalkode**	**6.45**	**39**	*e*P	**Pn**	**12 55 43.1**	**+4.1**
baz=41							
SHLS	**Shalkode**	**6.45**	**39**	*e*PN	**Pn**	**12 55 43.1**	**+4.1**
PDGK	**Podgornoye**	**6.59**	**38**	⇑P	**Pn**	**12 55 41.4**	**+0.4**
comp=E,11nm,0.7s							
BTLS	**Baital**	**6.75**	**1**	*e*P	**Pn**	**12 55 44.6**	**+1.5**
baz=0.9							
BTLS	**Baital**	**6.75**	**1**	*e*PN	**Pn**	**12 55 44.6**	**+1.5**
TDK	**Taldyqorghan**	**7.51**	**25**	*e*P	**Pn**	**12 55 53.5**	**+0.1**
baz=25							
TDK	**Taldyqorghan**	**7.51**	**25**	*e*PN	**Pn**	**12 55 53.4**	**+0.1**
SMLA	**Simla**	**7.63**	**158**	*e*P	**Pn**	**12 55 55.6**	**+0.6**
SMLA				*e*S	**Sn**	**12 57 13.3**	**-6.5**
SMLA				IAML		12 57 20.7	
comp=E,333nm,0.5s							
SMLA				IAML		12 57 22.2	
comp=N,286nm,0.5s							
DDI	**Dehra Dun**	**8.65**	**155**	*e*P	**Pn**	**12 56 10.2**	**+1.3**
DDI				*e*S	**Sn**	**12 57 38.6**	**-6.2**
OTUK	**Ortayu**	**10.02**	**354**	⇓P	**Pn**	**12 56 26.5**	**-0.6**
comp=N,3.1nm,0.6s							
HRA	**Herat**	**10.17**	**251**	Pn	**Pn**	**12 56 31.4**	**+1.9**
MAKZ	**Makanchi**	**10.39**	**32**	Pn	**Pn**	**12 56 32.7**	**+0.5**
MAKZ	**Makanchi**	**10.39**	**32**	P	**Pn**	**12 56 32.7**	**+0.5**
MK31	**Makanchi Array**	**10.51**	**33**	P	**Pn**	**12 56 34.1**	**+0.3**
comp=N,3.9nm,0.7s,baz=208,slow=13,SNR=24							
MK31	**Makanchi Array**	**10.51**	**33**		**Pn**	**12 56 34.2**	**+0.5**
MK31	**Makanchi Array**	**10.51**	**33**	P	**Pn**	**12 56 34.3**	**+0.5**
MKAR	**Makanchi Array**	**10.51**	**33**		**Pn**	**12 56 34.2**	**+0.4**
MKAR	**Makanchi Array**	**10.51**	**33**	P	**Pn**	**12 56 34.2**	**+0.4**
MKAR	**Makanchi Array**	**10.51**	**33**	P	**Pn**	**12 56 34.6**	**+0.8**
comp=N,3.4nm,0.8s,baz=206,slow=14,SNR=31							
WMQ	**Urumqi**	**11.79**	**58**	*e*P	**Pn**	**12 56 51.6**	**+0.8**
WMQ				pmax	pmax		
comp=Z,7.0nm,0.7s							
GEYT	**Alibeck**	**12.44**	**273**	P	**Pn**	**12 56 58.2**	**-1.2**
comp=Z,5.3nm,0.4s,baz=103,slow=10,SNR=16							
GEYT				S	**Sn**	**12 59 08.1**	**-8.2**
comp=Z,4.8nm,0.3s,baz=166,slow=24,SNR=9.3							
GYA0B	**ALIBECK ARRAY**	**12.44**	**273**	Pn	**Pn**	**12 56 58.3**	**-1.0**
PYUN	**Piuthan**	**12.68**	**141**	*e*P	**Pn**	**12 57 00.4**	**-2.4**
comp=Z,30nm,0.3s							
KURBB	**Kurchatov Arra**	**12.77**	**13**	⇓P	**P**	**12 57 09.7**	**0.0**
comp=Z,34nm,0.8s							
KURBB	**Kurchatov Arra**	**12.77**	**13**	P	**Pn**	**12 57 01.7**	**-1.8**
comp=Z,2.1nm,0.6s,baz=200,slow=11,SNR=11							
KURK	**Kurchatov**	**12.88**	**14**	⇓P	**P**	**12 57 10.7**	**-0.1**
comp=Z,24nm,0.6s							
KURK	**Kurchatov**	**12.88**	**14**	Pn	**Pn**	**12 57 04.0**	**-0.8**
KURK	**Kurchatov**	**12.88**	**14**	*i* P	**P**	**12 57 07.6**	**-3.2**
DANN	**Dangsing**	**12.88**	**137**	*e*P	**Pn**	**12 57 02.9**	**-2.5**
comp=Z,18nm,0.3s							
SEM	**Semipalatinsk**	**12.94**	**18**	*e*P	**Pn**	**12 57 06.1**	**+0.1**
baz=18							
SEM	**Semipalatinsk**	**12.94**	**18**	*e*P	**Pn**	**12 57 06.0**	**+0.1**
GKN	**Gorkha**	**13.63**	**136**	*e*P	**Pn**	**12 57 12.8**	**-2.1**
comp=Z,38nm,0.5s							
DMN	**Daman**	**14.19**	**135**	*e*P	**Pn**	**12 57 20.4**	**-1.9**
comp=Z,13nm,0.3s							
PKIN	**Phulchoki**	**14.38**	**135**	*e*P	**Pn**	**12 57 22.5**	**-2.1**
comp=Z,12nm,0.4s							
PKI	**Pulchoki**	**14.39**	**135**	*e*P	**Pn**	**12 57 22.9**	**-2.0**
comp=Z,16nm,0.5s							
GUN	**Gumba**	**14.40**	**132**	*e*P	**Pn**	**12 57 23.0**	**-2.0**
comp=Z,15nm,0.4s							
JIRN	**Jiri**	**14.77**	**132**	*e*P	**Pn**	**12 57 28.0**	**-1.7**
comp=Z,34nm,0.5s							
AB31	**Akbulak array**	**14.87**	**322**	P	**P**	**12 57 32.5**	**-0.5**
comp=Z,4.0nm,0.5s,baz=127,slow=12,SNR=70							
ABKAR	**Akbulak array**	**14.87**	**322**		**Pn**	**12 57 28.9**	**-1.4**
ABKAR	**Akbulak array**	**14.87**	**322**		**Pn**	**12 57 29.0**	**-1.4**
BVA0	**Borovoye Array**	**14.94**	**352**	⇑P	**P**	**12 57 33.9**	**+0.1**
comp=Z,24nm,0.7s,baz=162,slow=10.0,SNR=5.3							
BVAR	**Borovoye Array**	**14.94**	**352**	P	**Pn**	**12 57 30.6**	**-0.7**
comp=Z,10.0nm,0.4s,baz=158,slow=13,SNR=54							
BVAR				S	**Sn**	**13 00 09.3**	**-7.2**
comp=Z,1.0nm,0.5s,baz=169,slow=23,SNR=2.4							
DGZ	**Jazzator, Alta**	**14.98**	**36**	*i* P	**P**	**12 57 33.8**	**-0.6**
BRVK	**Borovoye**	**14.99**	**352**	⇓P	**P**	**12 57 34.5**	**+0.3**
comp=Z,31nm,0.8s							
BRVK	**Borovoye**	**14.99**	**352**		**Pn**	**12 57 31.1**	**-0.8**
BRVK	**Borovoye**	**14.99**	**352**	*ce*P	**P**	**12 57 34.2**	**-0.1**
BRVK				pmax	pmax		
comp=Z,54nm,1.7s							
BHPL	**Bhopal**	**15.29**	**168**	*e*S	**Sn**	**13 00 14.9**	**-10**
RAMN	**Ramite**	**15.54**	**133**	*e*P	**Pn**	**12 57 37.2**	**-2.0**
comp=Z,8.9nm,0.3s							
AKTO	**Aktyubinsk**	**16.59**	**322**	⇓P	**P**	**12 57 57.1**	**+5.2**
comp=Z,3.7nm,0.5s							
AKTO	**Aktyubinsk**	**16.59**	**322**	P	**P**	**12 57 51.6**	**-0.4**
comp=Z,12nm,0.6s,baz=124,slow=12,SNR=25							
AKTO				S	**Sn**	**13 00 46.0**	**-10**
comp=Z,5.1nm,0.7s,baz=342,slow=18,SNR=2.9							
GOMU	**GeErMu**	**16.79**	**91**	P	**P**	**12 57 56.9**	**+2.2**
GOMU				pP	pP	12 58 15.0	-2.7
GOMU				sP	sP	12 58 29.1	-4.7
GOMU				pmax	pmax		
comp=Z,2.0nm,0.5s							
ZAA0	**Zalesovo Array**	**17.37**	**22**	P	**P**	**12 57 58.3**	**-2.2**
ZAA0				IAmb	IAmb	12 58 02.4	
comp=Z,12nm,0.6s							
ZALV	**Zalesovo Beam**	**17.37**	**22**	P	**P**	**12 57 59.6**	**-0.9**
ZALV	**Zalesovo Beam**	**17.37**	**22**	P	**P**	**12 58 00.4**	**-0.1**
comp=Z,11nm,0.4s,baz=219,slow=11,SNR=62							
TEZP	**TEZPUR**	**19.70**	**121**	*e*P	**Pn**	**12 58 27.9**	**-1.0**
SHL	**Shillong**	**19.80**	**125**	P	**P**	**12 58 28.3**	**+0.8**
SHL	**Shillong**	**19.80**	**125**	P	**P**	**12 58 28.3**	**+0.8**
SHL				pmax	pmax		
comp=Z,5.0nm,0.6s							
ZIRO	**ZIRO**	**19.85**	**117**	*e*P	**Pn**	**12 58 30.2**	**-0.6**
WSAR	**Wadi Sarin**	**19.88**	**225**	P	**Pn**	**12 58 29.8**	**-1.2**
comp=Z,7.7nm,0.5s,baz=63,slow=7.6,SNR=15							
UOSS	**Minazif**	**20.05**	**234**	P	**P**	**12 58 29.4**	**-0.6**
GTA	**Gaotai**	**20.20**	**79**	*e*P	Pn	12 58 33.6	-1.1
GTA				pmax	pmax		
comp=Z,6.0nm,0.8s							
ARU	**Arti**	**20.83**	**336**	*c i*P	**P**	**12 58 36.8**	**-1.3**
ARU						12 59 13.7	
ARU				S	**S**	**13 02 20.6**	**-2.8**
ARU				pmax	pmax		
comp=Z,17nm,1.0s							
ARU	**Arti**	**20.83**	**336**	P	**P**	**12 58 38.6**	**+0.6**
comp=Z,5.2nm,0.3s,baz=144,slow=8.0,SNR=12							
comp=Z,5.2nm,0.3s							
MOKO	**MOKOCHONG**	**21.07**	**118**	*e*P	**P**	**12 58 42.1**	**+1.0**
KOHI	**KOHIMA**	**21.17**	**120**	*e*P	**P**	**12 58 44.5**	**+2.2**
IMP	**Imphal**	**21.66**	**122**	*e*P	**P**	**12 58 48.8**	**+1.4**
BELG	**Belogornoye**	**23.07**	**316**	*i* P	**P**	**12 59 00.8**	**-0.3**
BELG				pmax	pmax		
comp=Z,3.0nm,0.6s							
MOY	**Mondy**	**23.21**	**46**	*e*P	**P**	**12 59 04.7**	**+2.1**
KBZ	**Khabaz**	**23.93**	**293**	P	**P**	**12 59 10.8**	**+1.7**
comp=Z,2.8nm,0.9s,baz=148,slow=7.6,SNR=4.1							
comp=Z,2.8nm,0.9s							
ZAK	**Zakamensk**	**24.08**	**50**	*e*P	**P**	**12 59 09.1**	**-1.4**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.4s							
KIV	**Kislovodsk**	**24.10**	**294**	*e*P	**P**	**12 59 12.4**	**+1.7**
KIV				pmax	pmax		
comp=Z,7.0nm,1.0s							
SONM	**Songino Array**	**25.43**	**57**	P	**P**	**12 59 21.4**	**-1.3**
SONM	**Songino Array**	**25.43**	**57**	P	**P**	**12 59 24.3**	**+1.5**
comp=Z,5.7nm,0.8s,baz=256,slow=10,SNR=29							
comp=Z,5.7nm,0.8s							
ULN	**Ulaanbaatar**	**25.87**	**58**	P	**P**	**12 59 24.1**	**-2.7**
ULN	**Ulaanbaatar**	**25.87**	**58**	P	**P**	**12 59 24.1**	**-2.7**
ULN				pmax	pmax		
comp=Z,5.0nm,0.8s							
PZH	**PanZhiHua**	**26.18**	**108**	P	**P**	**12 59 31.8**	**+2.1**
PZH				pmax	pmax		
comp=Z,20nm,0.8s							
PZH				pmax	pmax		
comp=Z,250nm,8.3s							
BTO	**Baotou**	**27.87**	**74**	*e*P	**P**	**12 59 43.3**	**-1.4**
BTO				pP	**pP**	**13 00 12.6**	**0.0**
BTO				sP	**sP**	**13 00 30.8**	**+3.5**
BTO				PP	**PnPn**	**13 00 40.0**	**+1.7**
BTO				PcP	**PcP**	**13 03 01.0**	**+3.6**
BTO				S	**S**	**13 04 16.5**	**-2.6**
BTO				SS	**SnSn**	**13 05 44.3**	**-2.5**
BTO				pmax	pmax		
comp=Z,19nm,0.6s							
BTO				pmax	pmax		
comp=Z,340nm,5.4s							
BTO				LR	LR		
comp=N,560nm,6.5s							
BTO				LR	LR		
comp=E,450nm,6.9s							
BTO				LR	LR		
comp=Z,870nm,13.9s							
HHC	**Hu-ho-hao-te**	**29.01**	**73**	*e*P	**P**	**12 59 55.3**	**+0.5**
HHC				pmax	pmax		
comp=Z,34nm,0.6s							
HHC				pmax	pmax		
comp=Z,480nm,7.3s							
CMAR	**Chiang Mai Arr**	**29.43**	**125**	P	**P**	**12 59 58.9**	**+0.3**
comp=Z,0.4nm,0.4s,baz=292,slow=7.7,SNR=2.5							
CMAR				pP	**pP**	**13 00 28.1**	**+1.4**
comp=Z,0.3nm,0.3s,baz=307,slow=8.9,SNR=2.4							
comp=Z,0.4nm,0.4s							
OBN	**Obninsk**	**30.17**	**316**	⇑*e*P	**P**	**13 00 04.3**	**-0.4**
OBN				*e*PP	**pP**	**13 00 34.5**	**+1.7**
OBN				*e*		13 01 10.2	
OBN				pmax	pmax		
comp=Z,9.0nm,0.5s							
BRTR	**Keskin Array B**	**31.14**	**285**	P	**P**	**13 00 15.1**	**+1.5**
comp=Z,0.6nm,0.5s,baz=79,slow=7.5,SNR=2.8							
comp=Z,0.6nm,0.5s							
AKASG	**Malin Array Be**	**33.69**	**306**	P	**P**	**13 00 36.3**	**+0.7**
comp=Z,1.2nm,0.4s,baz=77,slow=8.9,SNR=5.9							
comp=Z,1.2nm,0.4s							
AKBB	**Malin Array Si**	**33.69**	**306**	*i* P	**P**	**13 00 35.1**	**-0.5**
AKBB				pmax	pmax		
comp=Z,16nm,1.5s							
MNK	**Minsk**	**34.92**	**313**	*i* LRM		13 16 24.8	
comp=N,319nm,17.5s							
MNK	**Minsk**	**34.92**	**313**	*i* P	P	13 00 38.4	-7.7
MNK				*i* *PP	pP	13 01 10.5	-4.1
MNK				*i*		13 02 05.3	
MNK				*i* S	S	13 05 58.9	-9.4
MNK				*i* *SS	sS	13 06 55.5	-2.3
MNK				*i* SS	**SnSn**	**13 08 36.2**	**-0.6**
MNK				pmax	pmax		
comp=Z,13nm,0.9s							
MNK				pmax	pmax		
comp=N,6.0nm,0.7s							
MNK				MLR	MLR		
comp=Z,429nm,18.0s							
MNK				MLR	MLR		
comp=N,319nm,17.0s							
MNK	**Minsk**	**34.92**	**313**	*i* P	Pg	13 00 38.5	+0.9
MNK	**Minsk**	**34.92**	**313**	*i* P		13 00 38.5	
comp=N,6.0nm,0.7s							
MNK	**Minsk**	**34.92**	**313**	*i* P		13 00 38.5	
comp=Z,13nm,0.9s,baz=99							
MNK	**Minsk**	**34.92**	**313**	*i* pP		13 01 10.5	
MNK	**Minsk**	**34.92**	**313**	*i* PP		13 02 05.3	
MNK	**Minsk**	**34.92**	**313**	*i* S		13 05 59.0	
MNK	**Minsk**	**34.92**	**313**	*i* sS		13 06 55.5	
MNK	**Minsk**	**34.92**	**313**	*i* SS		13 08 36.3	
MNK	**Minsk**	**34.92**	**313**	*i* LR		13 12 48.6	
MNK	**Minsk**	**34.92**	**313**	*i* LRM		13 16 19.3	
comp=Z,429nm,18.3s							
NACGM	**Naroch**	**35.61**	**313**	*e*P	**P**	**13 00 53.7**	**+1.6**
comp=Z,23nm,0.9s,baz=98							
MLR	**Muntele Rosu**	**35.97**	**297**	P	**P**	**13 00 57.9**	**+2.5**
comp=Z,3.2nm,0.5s,baz=134,slow=9.4,SNR=3.3							
comp=Z,3.2nm,0.5s							
FINES	**FINESS Array B**	**37.35**	**324**	P	**P**	**13 01 07.7**	**+1.0**
FINES	**FINESS Array B**	**37.35**	**324**	P	**P**	**13 01 07.7**	**+1.0**
FINES	**FINESS Array B**	**37.35**	**324**	P	**P**	**13 01 07.6**	**+0.9**
comp=Z,4.9nm,0.4s,baz=115,slow=9.9,SNR=61							
comp=Z,4.9nm,0.4s							
KWP	**Kalwaria Pacla**	**37.87**	**304**	P	**P**	**13 01 13.0**	**+1.7**
KWP	**Kalwaria Pacla**	**37.87**	**304**	P	**P**	**13 01 13.0**	**+1.7**
KWP				pmax	pmax		
comp=Z,8.0nm,0.5s							
ZEA	**Zeya**	**39.16**	**49**	*e*P	**P**	**13 01 24.3**	**+2.3**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.8s							
HEH	**HeiHe**	**39.33**	**55**	*e*P	**P**	**13 01 24.6**	**+1.1**
HEH				pmax	pmax		
comp=Z,15nm,0.7s							
HEH				pmax	pmax		
comp=Z,310nm,5.9s							
KEV	**Kevo**	**40.04**	**337**	P	**P**	**13 01 30.2**	**+1.2**
KEV	**Kevo**	**40.04**	**337**	P	**P**	**13 01 30.2**	**+1.2**
KEV				pmax	pmax		
comp=Z,38nm,1.4s							
KEV	**Kevo**	**40.04**	**337**	PN	Pn	13 01 29.9	+1.5
ARCES	**ARCESS Array B**	**40.42**	**336**	P	**P**	**13 01 33.5**	**+1.3**
ARCES				IAmb	IAmb	13 01 34.5	
comp=Z,22nm,1.4s							
ARCES	**ARCESS Array B**	**40.42**	**336**	P	**P**

MJAR	**Matsushiro Arr**	**50.17**	**71**	P		**P**	**13 02 49.8**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=292,slow=10,SNR=5.2							
	comp=Z,2.2nm,0.7s							
EKA	**Eskdalemuir Ar**	**52.62**	**316**	P		**P**	**13 03 07.5**	**0.0**
	comp=Z,1.3nm,0.6s,baz=88,slow=7.9,SNR=6.6							
	comp=Z,1.3nm,0.6s							
DAG	**Danmarks Havn**	**53.68**	**343**	*i* P		**P**	**13 03 15.0**	**+0.1**
DAG				IAmb		IAmb	13 03 16.7	
	comp=Z,8.4nm,0.7s							
ESDC	**Sonseca Array**	**58.66**	**298**	P		**P**	**13 03 51.6**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=57,slow=6.8,SNR=7.2							
	comp=Z,0.7nm,0.5s							
NEEM	**North Greenlan**	**59.78**	**348**	*i* P		**P**	**13 03 57.9**	**-0.4**
SUMG	**Summit**	**60.12**	**341**	P		**P**	**13 04 02.7**	**+1.8**
SUMG	**Summit**	**60.12**	**341**	P		**P**	**13 04 02.7**	**+1.8**
SUMG				pmax		pmax		
	comp=Z,16nm,1.3s							
SUMG	**Summit**	**60.12**	**341**	*i* P		**P**	**13 04 02.5**	**+1.6**
ICESG	**Greenland Ices**	**62.42**	**338**	*i* P		**P**	**13 04 17.4**	**+1.1**
C19K	**Lookout Ridge**	**65.93**	**18**	P		**P**	**13 04 40.0**	**+1.2**
B22K	**Teshekpuk Lake**	**66.42**	**16**	P		**P**	**13 04 42.8**	**+0.9**
B21K	**Ikpikpuk River**	**66.72**	**17**	P		**P**	**13 04 44.9**	**+1.1**
D19K	**Kuna River**	**66.74**	**18**	P		**P**	**13 04 44.7**	**+0.7**
D19K				IAmb		IAmb	13 05 01.5	
	comp=Z,9.7nm,1.4s							
C23K	**Itkillik River**	**67.41**	**15**	P		**P**	**13 04 49.4**	**+1.2**
C23K				IAmb		IAmb	13 04 52.5	
	comp=Z,5.7nm,1.1s							
E19K	**Redstone River**	**67.74**	**19**	P		**P**	**13 04 50.9**	**+0.6**
E19K				IAmb		IAmb	13 05 03.1	
	comp=Z,10nm,1.4s							
E21K	**Killik River**	**67.78**	**17**	P		**P**	**13 04 51.1**	**+0.5**
E21K				IAmb		IAmb	13 04 51.3	
	comp=Z,3.5nm,0.7s							
TOA0	**Torodi Ar. Sit**	**68.05**	**270**	P		**P**	**13 04 53.3**	**+0.2**
TOA0				IAmb		IAmb	13 04 53.7	
	comp=Z,3.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**68.05**	**270**	IAmb		IAmb	13 04 53.7	
	comp=Z,2.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**68.05**	**270**	P		**P**	**13 04 53.0**	**0.0**
	comp=Z,3.1nm,0.4s,baz=46,slow=5.8,SNR=35							
	comp=Z,3.1nm,0.4s							
F20K	**Avaraart Lake**	**68.43**	**19**	P		**P**	**13 04 54.8**	**+0.2**
F20K				IAmb		IAmb	13 05 13.3	
	comp=Z,7.0nm,1.2s							
E22K	**Anaktuvuk Pass**	**68.52**	**17**	P		**P**	**13 04 55.7**	**+0.5**
TOLK	**Toolik Lake Re**	**68.60**	**16**	P		**P**	**13 04 56.6**	**+0.9**
TOLK				IAmb		IAmb	13 04 57.0	
	comp=Z,7.3nm,0.6s							
G19K	**Purcell Mounta**	**68.77**	**20**	P		**P**	**13 04 57.2**	**+0.5**
G19K				IAmb		IAmb	13 04 59.9	
	comp=Z,7.7nm,1.4s							
F21K	**Alatna River**	**68.85**	**18**	P		**P**	**13 04 57.7**	**+0.4**
H18K	**Honhosa River**	**69.17**	**21**	P		**P**	**13 04 59.7**	**+0.5**
H18K				IAmb		IAmb	13 05 14.2	
	comp=Z,14nm,1.4s							
E24K	**Your Creek**	**69.30**	**16**	P		**P**	**13 05 01.0**	**+1.0**
E24K				IAmb		IAmb	13 05 16.6	
	comp=Z,7.6nm,1.4s							
J14K	**Nanvaranak Lak**	**69.34**	**24**	P		**P**	**13 05 01.6**	**+1.4**
G21K	**Allakaket**	**69.40**	**18**	P		**P**	**13 05 00.8**	**+0.2**
G21K				IAmb		IAmb	13 05 07.5	
	comp=Z,7.6nm,1.5s							
H19K	**Roundabout Mou**	**69.41**	**20**	P		**P**	**13 05 01.2**	**+0.6**
H19K				IAmb		IAmb	13 05 05.1	
	comp=Z,12nm,1.5s							
D27M	**Malcolm River**	**69.74**	**13**	P		**P**	**13 05 03.7**	**+1.0**
D27M				IAmb		IAmb	13 05 19.8	
	comp=Z,7.3nm,1.4s							
IMAR	**Indian Mountai**	**69.76**	**19**	P		**P**	**13 05 03.0**	**+0.1**
E25K	**Arctic Village**	**69.86**	**15**	P		**P**	**13 05 04.3**	**+0.8**
F24K	**Squaw Lake**	**69.89**	**16**	P		**P**	**13 05 03.6**	**-0.1**
J16K	**Anvik River**	**69.89**	**23**	P		**P**	**13 05 05.0**	**+1.4**
H21K	**Melozitna Rive**	**70.26**	**19**	P		**P**	**13 05 06.3**	**+0.4**
K15K	**Wolf Creek Mou**	**70.32**	**24**	P		**P**	**13 05 07.7**	**+1.4**
E27K	**Coleen River**	**70.56**	**13**	P		**P**	**13 05 08.4**	**+0.7**
E27K				IAmb		IAmb	13 05 23.6	
	comp=Z,13nm,1.5s							
BMAR	**Burnt Mountain**	**70.65**	**15**	P		**P**	**13 05 09.6**	**+1.3**
J19K	**Poorman**	**70.82**	**21**	P		**P**	**13 05 10.4**	**+1.1**
J19K				IAmb		IAmb	13 05 18.6	
	comp=Z,11nm,1.4s							
K17K	**Iditarod**	**71.02**	**23**	P		**P**	**13 05 11.9**	**+1.4**
M13K	**Dall Lake**	**71.07**	**26**	P		**P**	**13 05 12.9**	**+2.0**
J20K	**Nowinta River**	**71.08**	**20**	P		**P**	**13 05 11.9**	**+1.0**
J20K				IAmb		IAmb	13 05 20.0	
	comp=Z,7.6nm,1.4s							
FYU	**Fort Yukon**	**71.26**	**15**	P		**P**	**13 05 12.7**	**+0.8**
FYU				IAmb		IAmb	13 05 37.2	
	comp=Z,19nm,1.5s							
MLY	**Manley**	**71.28**	**18**	P		**P**	**13 05 12.4**	**+0.2**
H24K	**Noodor Dome**	**71.30**	**17**	P		**P**	**13 05 13.4**	**+1.2**
M14K	**Bethel**	**71.31**	**25**	P		**P**	**13 05 14.4**	**+2.2**
F28M	**Old Crow**	**71.38**	**13**	P		**P**	**13 05 13.8**	**+1.2**
F28M				IAmb		IAmb	13 05 13.9	
	comp=Z,6.2nm,1.2s							
L16K	**Owhat River**	**71.41**	**24**	P		**P**	**13 05 14.4**	**+1.6**
L16K				IAmb		IAmb	13 05 14.7	
	comp=Z,4.9nm,0.8s							
I23K	**Minto, Yukon-K**	**71.52**	**18**	P		**P**	**13 05 14.6**	**+1.1**
K20K	**Telida**	**71.75**	**21**	P		**P**	**13 05 16.0**	**+1.1**
K20K				IAmb		IAmb	13 05 30.1	
	comp=Z,9.8nm,1.5s							
INK	**Inuvik**	**71.76**	**10**	P		**P**	**13 05 15.7**	**+0.9**
INK				IAmb		IAmb	13 05 18.0	
	comp=Z,18nm,1.5s							
INK	**Inuvik**	**71.76**	**10**	P		**P**	**13 05 15.7**	**+0.9**
INK				pmax		pmax		
	comp=Z,18nm,1.5s							
C36M	**Paulatuk**	**71.86**	**7**	P		**P**	**13 05 15.7**	**+0.3**
L18K	**Granite Mounta**	**71.88**	**22**	P		**P**	**13 05 16.7**	**+0.9**
L18K				IAmb		IAmb	13 05 30.9	
	comp=Z,7.7nm,1.2s							
M16K	**Timber Creek**	**72.09**	**24**	P		**P**	**13 05 17.4**	**+0.4**
CAST	**Castle Rocks**	**72.24**	**20**	P		**P**	**13 05 18.7**	**+0.8**
M17K	**Holitna River**	**72.28**	**23**	P		**P**	**13 05 19.7**	**+1.6**
M17K				IAmb		IAmb	13 05 29.4	
	comp=Z,13nm,1.3s							
CCB	**Clear Creek Bu**	**72.31**	**17**	P		**P**	**13 05 19.0**	**+0.8**
G29M	**Pine Creek**	**72.33**	**13**	P		**P**	**13 05 18.7**	**+0.3**
G29M				IAmb		IAmb	13 05 43.2	
	comp=Z,14nm,1.4s							
WRH	**Wood River Hil**	**72.39**	**18**	P		**P**	**13 05 18.8**	**+0.1**
ILAR	**Eielson Array**	**72.42**	**17**	P		**P**	**13 05 18.6**	**-0.3**
ILAR	**Eielson Array**	**72.42**	**17**	P		**P**	**13 05 18.4**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=321,slow=5.4,SNR=19							
ILAR				pP		**pP**	**13 05 52.6**	**+1.6**
	comp=Z,0.7nm,0.9s,baz=315,slow=5.1,SNR=3.8							
	comp=Z,1.7nm,0.8s							
KTH	**Kantishna Hill**	**72.44**	**19**	P		**P**	**13 05 19.7**	**+0.6**
KTH				IAmb		IAmb	13 05 45.7	
	comp=Z,11nm,1.4s							
G30M	**tAoh Zraii Nji**	**72.57**	**12**	P		**P**	**13 05 20.3**	**+0.5**
G30M				IAmb		IAmb	13 05 25.7	
	comp=Z,15nm,1.3s							
I26K	**Coal Creek Min**	**72.78**	**15**	P		**P**	**13 05 21.9**	**+0.9**
I26K				IAmb		IAmb	13 05 33.2	
	comp=Z,7.6nm,1.5s							
H29M	**Whitestone**	**72.89**	**13**	P		**P**	**13 05 22.7**	**+1.0**
H29M				IAmb		IAmb	13 05 33.0	
	comp=Z,12nm,1.5s							
J25K	**Salcha River,**	**72.90**	**17**	P		**P**	**13 05 22.3**	**+0.5**
RND	**Reindeer**	**73.09**	**19**	P		**P**	**13 05 22.8**	**-0.1**
RND	**Reindeer**	**73.09**	**19**	P		**P**	**13 05 22.8**	**-0.1**
RND				pmax		pmax		
	comp=Z,4.0nm,1.2s							
I28M	**Miner Creek**	**73.30**	**14**	P		**P**	**13 05 24.8**	**+0.6**
J26L	**Joseph Creek**	**73.39**	**16**	P		**P**	**13 05 25.3**	**+0.6**
O16K	**Kokwok River B**	**73.46**	**25**	P		**P**	**13 05 26.0**	**+0.9**
SKT	**Skwentna**	**73.56**	**21**	P		**P**	**13 05 25.4**	**-0.2**
SKT				IAmb		IAmb	13 05 26.6	
	comp=Z,4.4nm,0.8s							
SCRK	**Sand Creek**	**73.76**	**16**	P		**P**	**13 05 27.2**	**+0.3**
H31M	**Peel River**	**73.95**	**12**	P		**P**	**13 05 28.1**	**+0.2**
H31M				IAmb		IAmb	13 05 35.8	
	comp=Z,9.2nm,1.3s							
I30M	**Mount Dempster**	**74.15**	**13**	P		**P**	**13 05 30.0**	**+0.8**
I30M				IAmb		IAmb	13 05 45.9	
	comp=Z,6.8nm,1.4s							
GHO	**Glory Hole Cre**	**74.44**	**20**	P		**P**	**13 05 31.2**	**+0.4**
GHO				IAmb		IAmb	13 05 53.6	
	comp=Z,6.0nm,1.0s							
DAWY	**Dawson**	**74.64**	**14**	P		**P**	**13 05 32.3**	**+0.4**
SCM	**Sheep Creek Mo**	**74.80**	**19**	P		**P**	**13 05 33.3**	**+0.4**
SCM				IAmb		IAmb	13 05 33.8	
	comp=Z,9.8nm,0.8s							
SCM	**Sheep Creek Mo**	**74.80**	**19**	P		**P**	**13 05 33.3**	**+0.4**
SCM				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KNK	**Knik Glacier**	**74.86**	**20**	P		**P**	**13 05 33.9**	**+0.7**
KNK				IAmb		IAmb	13 05 49.4	
	comp=Z,16nm,1.4s							
BCAR	**Beaver Creek A**	**75.04**	**16**	P		**P**	**13 05 35.5**	**+1.2**
PWL	**Port Wells**	**75.36**	**20**	P		**P**	**13 05 36.1**	**0.0**
PWL				IAmb		IAmb	13 05 53.2	
	comp=Z,10nm,1.2s							
N25K	**Chitina, Valde**	**75.67**	**18**	P		**P**	**13 05 40.0**	**+2.1**
N25K				IAmb		IAmb	13 05 49.4	
	comp=Z,14nm,1.4s							
FID	**Port Fidalgo**	**75.94**	**19**	P		**P**	**13 05 40.3**	**+0.9**
M29M	**Somme Creek**	**76.29**	**15**	P		**P**	**13 05 42.6**	**+1.2**
M29M				IAmb		IAmb	13 05 43.2	
	comp=Z,5.2nm,1.0s							
DBIC	**Dimbokro**	**77.08**	**268**	P		**P**	**13 05 47.1**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=333,slow=2.3,SNR=1.6							
	comp=Z,2.2nm,0.7s							
WAX	**Waxell Ridge**	**77.10**	**18**	P		**P**	**13 05 47.1**	**+1.2**
LOGN	**Logan Glacier**	**77.20**	**17**	P		**P**	**13 05 47.6**	**+1.0**
LOGN				IAmb		IAmb	13 06 16.4	
	comp=Z,9.3nm,1.4s							
MMPY	**Sheldon Lake,**	**77.42**	**12**	P		**P**	**13 05 47.8**	**+0.1**
MMPY				IAmb		IAmb	13 06 06.5	
	comp=Z,8.0nm,1.4s							
FARO	**Faro, Yukon**	**77.44**	**13**	P		**P**	**13 05 48.5**	**+0.6**
HYT	**Haines Junctio**	**77.95**	**15**	P		**P**	**13 05 51.8**	**+1.0**
HYT				IAmb		IAmb	13 06 10.1	
	comp=Z,15nm,1.5s							
YKA	**Yellowknife Ar**	**79.33**	**4**	P		**P**	**13 05 57.5**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=267,slow=2.8,SNR=8.7							
	comp=Z,1.6nm,0.6s							
WRA	**Warramunga Arr**	**81.02**	**124**	P		**P**	**13 06 07.4**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=324,slow=5.0,SNR=13							
	comp=Z,0.8nm,0.6s							
ASAR	**Alice Springs**	**83.43**	**127**	P		**P**	**13 06 19.7**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=327,slow=5.0,SNR=7.2							
ASAR				pP		**pP**	**13 06 55.5**	**+2.5**
	comp=Z,0.5nm,0.9s,baz=329,slow=4.9,SNR=4.3							
	comp=Z,0.4nm,0.7s							
EDM	**Edmonton**	**88.65**	**4**	P		**P**	**13 06 45.1**	**-0.5**
EDM	**Edmonton**	**88.65**	**4**	P		**P**	**13 06 45.1**	**-0.5**
EDM				pmax		pmax		
	comp=Z,7.0nm,0.8s							

*DNK **24** 12:58:09.3±1.5, 58°.33N×15°.82E, h0km±16km*
UPP 24 12:58:08.7±0.1, 58°.33N×15°.68E, h0km, ML2.1,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNKU	**Linkoeping**	**0.14**	**220**	P	Pg	12 58 11.7	+0.2
LNKU				S	Sg	12 58 13.7	+0.4
LNKU	**Linkoeping**	**0.14**	**220**	P	Pg	12 58 11.7	+0.2
LNKU				S	Sg	12 58 13.7	+0.4
VIKU	**Vikbolandet**	**0.56**	**72**	P	Pg	12 58 19.3	-0.1
VIKU	**Vikbolandet**	**0.56**	**72**	P	Pg	12 58 19.3	-0.1
ASKU	**Askersund**	**0.72**	**322**	P	Pg	12 58 22.1	-0.3
ASKU	**Askersund**	**0.72**	**322**	P	Pg	12 58 22.1	-0.3
VSTU	**Vaestervik**	**0.81**	**146**	P	Pg	12 58 23.9	-0.3
VSTU	**Vaestervik**	**0.81**	**146**	P	Pg	12 58 23.9	-0.3
ESKU	**Eskilstuna**	**0.97**	**22**	P	Pg	12 58 27.1	-0.2
ESKU	**Eskilstuna**	**0.97**	**22**	P	Pg	12 58 27.1	-0.2
FKPU	**Falk**	**1.05**	**261**	P	Pg	12 58 28.3	-0.5
FKPU	**Falk**	**1.05**	**261**	P	Pg	12 58 28.3	-0.5
OSKU	**Oskarshamn**	**1.16**	**169**	P	Pg	12 58 30.2	-0.7
OSKU	**Oskarshamn**	**1.16**	**169**	P	Pg	12 58 30.2	-0.7
BYXU	**Byxelkrok**	**1.27**	**145**	P	Pg	12 58 32.1	-0.8
BYXU	**Byxelkrok**	**1.27**	**145**	P	Pg	12 58 32.1	-0.8
NRAU	**Nora**	**1.28**	**345**	P	Pg	12 58 32.6	-0.7
NRAU	**Nora**	**1.28**	**345**	P	Pg	12 58 32.6	-0.7
NASU	**Vaermlandsnaes**	**1.43**	**296**	P	Pn	12 58 35.1	-0.8
NASU	**Vaermlandsnaes**	**1.43**	**296**	P	Pn	12 58 35.1	-0.8
GNOU	**Gnosjoe**	**1.47**	**225**	P	Pn	12 58 35.6	-0.7
GNOU	**Gnosjoe**	**1.47**	**225**	P	Pn	12 58 35.6	-0.7
VXJU	**Vaexsjoe**	**1.47**	**196**	P	Pn	12 58 35.6	-0.8
VXJU	**Vaexsjoe**	**1.47**	**196**	P	Pn	12 58 35.6	-0.8
GOTU	**Gotland**	**1.67**	**112**	P	Pn	12 58 39.1	0.0
GOTU	**Gotland**	**1.67**	**112**	P	Pn	12 58 39.1	0.0
BACU	**Backbrunna**	**1.69**	**25**	P	Pn	12 58 39.9	+0.4
BACU	**Backbrunna**	**1.69**	**25**	P	Pn	12 58 39.9	+0.4
BORU	**Boraas**	**1.70**	**247**	P	Pn	12 58 39.5	0.0
BORU	**Boraas**	**1.70**	**247**	*e*P	Pn	12 58 39.5	-0.1
BORU				*i* S	Sg	12 59 03.7	+0.4
BORU	**Boraas**	**1.70**	**247**	P	Pn	12 58 39.5	0.0
BLEU	**Blekinge**	**2.04**	**178**	*e*P	Pn	12 58 45.3	+1.1
TJOU	**Tjoern**	**2.17**	**264**	*e*P	Pb	12 58 47.8	-1.0
TJOU				*e*S	Sb	12 59 16.4	+0.3
ONAU	**Onsala**	**2.22**	**247**	*e*P	Pn	12 58 47.8	+1.1
ONAU				*i* S	Sb	12 59 17.3	-0.3
STRU	**Stroemstad**	**2.45**	**289**	*e*P	Pb	12 58 51.8	-1.8

HEL 24 13:00:36.6±0.2, 66°.58N×25°.83E, h0km, ML0.8,
Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNF	**Rovaniemi**	**0.08**	**66**	PG	Pg	13 00 36.5	-1.6
TOF	**Tornio**	**0.79**	**231**	MSG		13 01 01.0	
	comp=Z,0.5nm,0.2s						
SGF	**Sodankyl**	**0.91**	**17**	PG	Pg	13 00 53.1	-0.9
KLF	**Kolari**	**0.99**	**313**	PB	Pg	13 00 54.9	-0.7
	baz=128						
KLF				MSG		13 01 06.9	
	comp=Z,0.6nm,0.2s						
KLF				SB	Sg	13 01 07.4	-1.0
PAJU	**Pajala**	**1.17**	**294**	PG	Pg	13 00 57.1	-1.8
KALU	**Kalix**	**1.24**	**235**	SN	Sn	13 01 19.3	+0.9
OLKF	**Oulanka, Finla**	**1.46**	**99**	PN	Pn	13 01 03.6	-0.6
OLKF				MSG		13 01 20.4	
	comp=Z,1.2nm,0.2s						
OLKF				SB	Sg	13 01 22.0	-1.3
ERTU	**Ertsjaerv**	**1.46**	**271**	PN	Pn	13 01 03.6	-0.5
	baz=89						
ERTU				SN	Sb	13 01 23.7	+0.1
KU6	**Riekki**	**1.73**	**107**	PG	Pn	13 01 07.2	-0.7
KU6				MSG		13 01 28.2	
	comp=Z,0.5nm,0.2s						
KU6				SN	Sb	13 01 31.3	-0.2
HEF	**Hetta**	**2.02**	**337**	MSG		13 01 36.5	
	comp=Z,0.4nm,0.2s						
HEF				SG	Sb	13 01 39.4	-0.4
ARA0	**ARCESS Array S**	**2.98**	**358**	PG	Pb	13 01 30.8	+0.4
KIF	**Kilpisjarvi**	**3.10**	**324**	PG	Pb	13 01 31.1	-1.3
KIF				MSG		13 02 08.3	
	comp=Z,0.3nm,0.2s						
KEV	**Kevo**	**3.22**	**7**	SB	Sb	13 02 11.3	-3.1
UMAU	**Umeaa**	**3.47**	**221**	PN	Pn	13 01 32.9	+1.2

*IDC **24** 13:05:27.1±6.1, 42°.74N×148°.65E, h0km, mb3.5/3,*
mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=140.5km
s-min=30.8km az=165.0
*MOS **24** 13:05:36.0±0.8, 43°.59N×148°.31E, h44km, mb4.3/1, Error*
ellipse: s-maj=17.7km s-min=13.2km az=38.8
*JMA **24** 13:05:38.9±0.5, 44°N±2°×14°8E±°, h0km, MV4.1/30, E*
OFF HOKKAIDO
*SKHL **24** 13:05:38.5±0.5, 43°.80N×148°.20E, h55km±5km, mb4.5/4*
ISC 24 13:05:39.1±2.9, 43°.89N±0°.08×148°.02E±0°.08, h29km±20km,
n38, σ1§38/42, mb3.3/3, 3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.86**	**269**	*i* P	**Pn**	**13 05 54.9**	**-0.3**
SHO				AMB	AMB	13 05 57.5	
	140nm,0.3s						
SHO				*i* S	**Sn**	**13 06 06.4**	**-0.4**
SHO				A	A	13 06 07.9	
	1μm,0.3s						
SHO				A	A	13 06 07.9	
	1μm,0.3s						
SHO	**Shikotan**	**0.86**	**269**	⇓*i* PN	**Pn**	**13 05 54.9**	**-0.3**
SHO				*i* S	**Sn**	**13 06 06.4**	**-0.4**
SHO				pmax	pmax		
	comp=Z,145nm,0.3s						
SHO				pmax	pmax		
	comp=N,95nm,0.4s						
SHO				pmax	pmax		
	comp=E,66nm,0.2s						
SHO				smax	smax		
	comp=N,2μm,0.2s						
SHO				smax	smax		
	comp=E,882nm,0.2s						
KUR	**Kuril'sk**	**1.35**	**355**	*e*P	**Pn**	**13 06 02.1**	**+0.2**
KUR				AMB	AMB	13 06 03.4	
	comp=E,350nm,0.3s						
KUR				*i* S	**Sn**	**13 06 18.9**	**0.0**
KUR				A	A	13 06 19.3	
	comp=E,730nm,0.4s						
KUR				A	A	13 06 19.3	
	comp=E,1μm,0.4s						
KUR	**Kuril'sk**	**1.35**	**355**	*e*PN	**Pn**	**13 06 02.2**	**+0.3**
KUR				*i* S	**Sn**	**13 06 19.1**	**+0.2**
KUR				pmax	pmax		
	comp=Z,371nm,0.3s						
KUR				pmax	pmax		
	comp=E,134nm,0.4s						
KUR				pmax	pmax		
	comp=N,56nm,0.3s						
KUR				smax	smax		
	comp=N,590nm,0.3s						
KUR				smax	smax		
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.56**	**276**	*i* P	**Pn**	**13 06 05.0**	**+0.1**
YUK				AMB	AMB	13 06 06.6	
	comp=E,200nm,0.2s						
YUK				*e*S	**Sn**	**13 06 23.9**	**-0.3**
YUK				A	A	13 06 26.0	
	comp=E,360nm,0.4s						
YUK				A	A	13 06 26.0	
	comp=E,890nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.56**	**276**	*d i* PN	**Pn**	**13 06 05.0**	**+0.1**
YUK				*e*S	**Sn**	**13 06 23.4**	**-0.8**
YUK				pmax	pmax		
	comp=Z,395nm,0.2s						
YUK				pmax	pmax		
	comp=N,125nm,0.1s						
YUK				pmax	pmax		
	comp=E,186nm,0.1s						
YUK				smax	smax		
	comp=N,393nm,0.2s						
YUK				smax	smax		
	comp=E,1μm,0.1s						
NEM2	**Nemuro 2**	**1.73**	**253**	*e*P	**Pn**	**13 06 07.1**	**-0.1**
NEM2				*e*S	**Sn**	**13 06 27.6**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.74**	**254**	*e*P	**Pn**	**13 06 07.0**	**-0.3**
NMR				*e*S	**Sn**	**13 06 28.4**	**-0.1**
NMR	**Nemuro--Hokkai**	**1.74**	**254**	*e*PN	**Pn**	**13 06 07.0**	**-0.3**
NMR				*e*S	**Sn**	**13 06 28.4**	**-0.1**
RUSJ	**Misakicho**	**2.01**	**277**	⇓*i* PN	**Pn**	**13 06 12.3**	**+1.3**
RUSJ				*e*S	**Sb**	**13 06 38.2**	**-1.3**
JRA	**Rausu**	**2.10**	**272**	*e*P	**Pn**	**13 06 13.2**	**+1.1**
JNSB	**Nemuroshibetsu**	**2.19**	**268**	*e*P	**Pn**	**13 06 14.5**	**+1.1**
JKHN	**Kushirohamanak**	**2.23**	**250**	*e*P	**Pn**	**13 06 14.7**	**+0.7**
JNK	**Nakash**	**2.41**	**264**	P	**Pn**	**13 06 17.4**	**+0.9**
JNK				*e*S	**Sn**	**13 06 45.9**	**+0.9**
JAK	**Akkeshi**	**2.58**	**251**	*e*P	**Pn**	**13 06 19.4**	**+0.5**
JAK				*e*S	**Sn**	**13 06 49.1**	**-0.1**
JTKR	**Abashiri--Toko**	**2.97**	**273**	P	**Pn**	**13 06 26.1**	**+1.9**
JAR	**Ashorobuto**	**3.14**	**261**	*e*P	**Pn**	**13 06 28.5**	**+1.9**
JOB	**Onbets**	**3.20**	**254**	*e*P	**Pn**	**13 06 29.0**	**+1.6**
JOB				*e*S	**Sn**	**13 07 06.1**	**+1.5**
JCH	**Churui**	**3.63**	**251**	*e*P	**Pn**	**13 06 34.9**	**+1.6**
JKK2	**Kamakawa 2**	**3.81**	**272**	*e*P	**Pn**	**13 06 39.5**	**+3.7**
JKA	**Kamikawa-asahi**	**3.92**	**275**	*e*P	**Pn**	**13 06 39.5**	**+2.3**
ASAJ	**Asahikawa**	**3.92**	**275**	*e*P	**Pn**	**13 06 40.5**	**+3.3**
ASAJ	**Asahikawa**	**3.92**	**275**	Pn	**Pn**	**13 06 39.5**	**+2.2**
	comp=E,2.2nm,0.3s,baz=104,slow=12,SNR=10						
ASAJ				Sn	**Sb**	**13 07 32.6**	**-1.7**
	comp=E,1.2nm,0.3s,baz=234,slow=31,SNR=1.5						
	comp=E,7.6nm,1.0s						
JNBK	**Urakawa-nobuka**	**4.18**	**249**	*e*P	**Pn**	**13 06 42.4**	**+1.6**
YSS	**Yuzh-Sakhalins**	**4.81**	**311**	*e*PN	Pn	13 06 54.9	+5.4
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
PETK	**Petropavlovsk-**	**11.23**	**31**	Pn	**Pn**	**13 08 19.4**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=208,slow=12,SNR=5.6						
	comp=Z,6.3nm,0.9s						
H11N2	**WAKE ISLAND Hy 28.80**	**141**		T	T	13 42 07.5	
	baz=332,slow=76,SNR=46						
H11N1	**WAKE ISLAND Hy 28.81**	**141**		T	T	13 42 07.5	
	baz=332,slow=76,SNR=52						
H11N3	**WAKE ISLAND Hy 28.82**	**141**		T	T	13 42 07.5	
	baz=332,slow=76,SNR=63						
H11S1	**WAKE ISLAND Hy 29.78**	**142**		T	T	13 43 20.2	
	baz=333,slow=76,SNR=192						
H11S3	**WAKE ISLAND Hy 29.79**	**142**		T	T	13 43 20.2	
	baz=333,slow=76,SNR=126						
**H11S

TORD	Torodi Ar. Bea	64.79	267	P	P	13 24 48.2	+1.0
	0.6nm,0.8s,baz=42,slow=6.9,SNR=3.6						
	0.6nm,0.8s						
WRA	Warramunga Arr	83.76	121	P	P	13 26 37.4	-0.1
	0.5nm,0.9s,baz=323,slow=5.0,SNR=3.7						
	0.5nm,0.9s						
ASAR	Alice Springs	86.07	124	P	P	13 26 48.9	-0.3
	0.2nm,0.9s,baz=314,slow=5.4,SNR=4.8						
	0.2nm,0.9s						

IDC 24 13:17:09.5±4.4, 61°52S×152°01E, h0km, mb3.7/2, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=347.1km s-min=39.0km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	16.40	172	Pn	Pn	13 21 00.6	+0.1
	0.1nm,0.3s,baz=343,slow=13,SNR=10						
VNDA				Sn	Sn	13 23 55.4	-7.4
	baz=307,slow=9.2,SNR=2.1						
	0.9nm,0.9s						
H01W1	Cape Leeuwin H	35.81	300	T	T	14 03 07.9	
	baz=148,slow=75,SNR=142						
H01W2	Cape Leeuwin H	35.82	300	T	T	14 03 08.2	
	baz=148,slow=75,SNR=109						
H01W3	Cape Leeuwin H	35.83	300	T	T	14 03 10.2	
	baz=148,slow=75,SNR=122						
ASAR	Alice Springs	39.82	334	P	P	13 24 42.5	-1.8
	1.0nm,0.9s,baz=162,slow=8.1,SNR=2.3						
	1.0nm,0.9s						
WRA	Warramunga Arr	43.34	335	P	P	13 25 14.2	+1.1
	1.6nm,1.2s,baz=166,slow=7.2,SNR=6.7						
	1.6nm,1.2s						
H03S2	Juan Fernandez	76.41	138	T	T	14 53 12.1	
	baz=201,slow=74,SNR=18						
H03S1	Juan Fernandez	76.41	138	T	T	14 53 11.3	
	baz=201,slow=74						
H03S3	Juan Fernandez	76.43	138	T	T	14 53 02.9	
	baz=201,slow=74						
H08S2	Diego Garcia H	78.32	276	T	T	14 56 49.6	
	baz=150,slow=76						
H08S1	Diego Garcia H	78.33	276	T	T	14 56 49.6	
	baz=150,slow=76						
H08S3	Diego Garcia H	78.34	276	T	T	14 56 51.3	
	baz=150,slow=76						

IDC 24 13:23:31.3±50.0, 21°82S×176°86W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=931.1km s-min=161.1km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.20	246	P	P	13 30 51.2	-1.7
	0.6nm,0.5s,baz=63,slow=11,SNR=3.6						
	0.6nm,0.5s						
ASAR	Alice Springs	45.27	258	P	P	13 31 50.8	-0.2
	0.3nm,0.7s,baz=93,slow=6.7,SNR=12						
	0.3nm,0.7s						
WRA	Warramunga Arr	45.48	263	P	P	13 31 53.8	+1.0
	0.5nm,0.4s,baz=98,slow=8.4,SNR=26						
	0.5nm,0.4s						

EAF 24 13:32:58.8, 26°60S×29°76E, h10km, MC3.8
BUL 24 13:33:00.5±0.6, 26°57S×29°63E, h10km, MD4.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	3.44	28	*i* P	Pn	13 33 51.3	-2.9
MOPA				*i* S	Sn	13 34 29.0	-6.0
MOPA	Mopani	3.44	28	*i* P	Pn	13 33 51.3	-2.9
	baz=26						
MOPA				*i* S	Sn	13 34 29.0	-6.0
	baz=26						
LBTB	Lobatse	3.96	292	*i* P	Pn	13 34 00.6	-0.8
LBTB				*i* S	Sn	13 34 45.1	-2.8
LBTB	Lobatse	3.96	292	*i* P	Pn	13 34 00.6	-0.8
	baz=292						
LBTB				*i* S	Sn	13 34 45.1	-2.8
	baz=292						
MUSN	Musina, Limpop	4.27	3	*i* P	Pn	13 34 04.8	-0.8
MUSN				*i* S	Sn	13 34 52.5	-3.0
MUSN	Musina, Limpop	4.27	3	*i* P	Pn	13 34 04.8	-0.8
	baz=1.0						
MUSN				*i* S	Sn	13 34 52.5	-3.0
	baz=1.0						
BOSA	Boshof	4.39	241	*i* P	Pn	13 34 06.6	-0.7
BOSA				*i* S	Sn	13 34 55.6	-2.9
BOSA	Boshof	4.39	241	*i* P	Pn	13 34 06.6	-0.7
	baz=242						
BOSA				*i* S	Sn	13 34 55.6	-2.9
	baz=242						

IDC 24 13:48:53.9±1.4, 41°93N×141°14E, h141km±16km, mb3.3/7, mbtmp3.7/10, Error ellipse: s-maj=22.0km s-min=15.6km az=75.0
JMA 24 13:48:55.1±0.2, 41°9N±0°4×141°0E±0°7, h140km±1km, MV3.1/39, UCHIURA BAY REGION
ISC 24 13:48:54.5±0.8, 41°91N±0°04×140°98E±0°05, h145km±6km, n28, σ0°78/40, mb3.7/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	Kayabe	0.05	114	*e*P	Pn	13 49 14.2	+0.2
JYM2	Yakumo 2	0.50	295	*e*P	Pn	13 49 15.4	+0.1
JOT	Ohata	0.53	174	*e*P	Pn	13 49 15.8	+0.3
JNB	Noboribetsu	0.56	5	*e*P	Pn	13 49 15.4	-0.2
JSR	Shiriuchi	0.56	228	*i* P	Pn	13 49 15.9	+0.2
JSR				S	Sn	13 49 31.3	-0.3
JOMM	Oshimamatsumae	0.82	243	*e*P	Pn	13 49 18.0	+0.7
JOMM				S	Sn	13 49 34.9	+0.2
JHST	Hiyamasetana	0.97	303	P	Pn	13 49 18.5	0.0
JHST				S	Sn	13 49 36.0	-0.8
JEW	Eniwo	1.00	20	*i* P	Pn	13 49 19.1	+0.3
JIAM	Iburiatsuma	1.00	44	*i* P	Pn	13 49 19.3	+0.5
JIAM				S	Sn	13 49 37.7	+0.4
JSH	Shimam	1.01	317	P	Pn	13 49 19.2	+0.3
JSH				S	Sn	13 49 37.1	-0.4
JTM	Tenmabayashi	1.12	176	P	Pn	13 49 20.3	+0.4
JTM				S	Sn	13 49 39.0	-0.3
JOSM	Okushiri--Mats	1.13	279	*i* P	Pn	13 49 19.8	-0.1
JOSM				S	Sn	13 49 38.6	-0.8
JBT2	Biratori 2	1.35	49	*i* P	Pn	13 49 22.3	+0.2
JBT2				*e*S	Sn	13 49 43.3	+0.1
JNBK	Urakawa-nobuka	1.37	74	P	Pn	13 49 22.9	+0.5
JNBK				*e*S	Sn	13 49 43.9	+0.3
JANG	Nango	1.58	165	*i* P	Pn	13 49 24.4	-0.3
JANG				S	Sn	13 49 46.4	-1.3
JCH	Churui	1.91	67	P	Pn	13 49 28.7	+0.5
JCH				*e*S	Sn	13 49 53.2	-0.9
JHR	Hokuryu	1.92	16	P	Pn	13 49 29.3	+1.0
ASAJ	Asahikawa	2.51	28	P	Pn	13 49 35.5	0.0
	14nm,0.3s,baz=217,slow=14,SNR=74						
ASAJ				S	Sn	13 50 04.1	-2.9
	17nm,0.5s,baz=51,slow=30,SNR=3.0						
MJAR	Matsushiro Arr	5.77	203	P	Pn	13 50 19.0	+0.8
	1.9nm,0.6s,baz=24,slow=11,SNR=4.1						
USRK	Ussuriysk Ar.	6.97	292	P	Pn	13 50 35.2	+1.1
	6.9nm,0.7s,baz=95,slow=14,SNR=12						
SONM	Songino Array	25.07	296	P	P	13 54 05.8	+0.3
	0.4nm,0.4s,baz=101,slow=7.5,SNR=2.9						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	38.51	308	P	P	13 56 02.9	+0.5
	1.0nm,0.3s,baz=75,slow=6.3,SNR=3.7						
	1.0nm,0.3s						
MKAR	Makanchi Array	41.40	297	P	P	13 56 26.6	+0.2
	0.3nm,0.7s,baz=86,slow=10,SNR=2.8						
	0.3nm,0.7s						
KURBB	Kurchatov Arra	42.87	304	P	P	13 56 37.2	-1.0
	0.7nm,0.2s,baz=78,slow=8.7,SNR=2.5						
	0.7nm,0.2s						
BVAR	Borovoye Array	47.14	309	P	P	13 57 13.3	+1.4
	1.0nm,0.4s,baz=91,slow=10,SNR=4.1						
	1.0nm,0.4s						
WRA	Warramunga Arr	61.84	187	P	P	13 58 57.5	-0.7
	0.4nm,0.4s,baz=4.0,slow=6.9,SNR=21						
	0.4nm,0.4s						
ASAR	Alice Springs	65.57	187	P	P	13 59 22.6	+0.1
	0.2nm,0.5s,baz=7.9,slow=8.1,SNR=8.6						
	0.2nm,0.5s						
SNAA	Sanae	145.27	199	PKPbc	PKPdf	14 08 14.1	+0.4
	0.6nm,0.4s,baz=151,slow=5.1,SNR=15						

ANF 24 14:16:53.0±0.2, 66°00N×135°29W, h11km±1km, ML3.8/49, ML3.8/48, Error ellipse: s-maj=1.1km s-min=1.0km az=85.0
PGC 24 14:16:53.6±0.0, 66°02N×135°20W, h15km, ML3.7/24, 161km Ssw of Fort McPherson, Nt Northern Yukon Territory, Canada
ISC 24 14:16:51.4±1.2, 65°97N±0°02×135°18W±0°02, h6km±10km, n130, σ1°45/191, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H31M	Peel River	0.38	116	P	Pb	14 17 01.7	+1.1
	baz=302,SNR=1000						
H31M				S	Sb	14 17 07.0	+0.3
	baz=302						
H31M	Peel River	0.38	116	P	Pb	14 17 01.7	+1.1
H31M				S	Sb	14 17 06.8	0.0
EPYK	Eagle Plains	0.74	303	P	Pb	14 17 06.9	+0.1
	baz=119,SNR=450						
EPYK				S	Sb	14 17 16.5	-0.6
	baz=119						
EPYK	Eagle Plains	0.74	303	P	Pb	14 17 07.0	+0.2
EPYK				S	Sb	14 17 16.5	-0.6
I30M	Mount Dempster	0.90	214	P	Pb	14 17 10.3	+0.7
	baz=31,SNR=1000						
I30M				S	Sb	14 17 22.8	+0.9
	baz=31						
I30M	Mount Dempster	0.90	214	P	Pb	14 17 10.1	+0.5
I30M				S	Sb	14 17 22.3	+0.4
G31M	Satah River	1.02	20	P	Pb	14 17 12.1	+0.6
	baz=203,SNR=1000						
G31M				S	Sb	14 17 26.4	+1.3
	baz=203						
G30M	tAoh Zraii Nji	1.10	338	P	Pg	14 17 12.6	+0.2
	baz=157,SNR=1000						
G30M				S	Sb	14 17 27.7	+0.3
	baz=157						
G30M	tAoh Zraii Nji	1.10	338	P	Pg	14 17 12.8	+0.3
G30M				S	Sg	14 17 26.5	-0.2
H29M	Whitestone	1.32	282	P	Pn	14 17 16.7	+0.3
	baz=97,SNR=1000						
H29M				S	Sn	14 17 34.8	+0.3
	baz=97						
H29M	Whitestone	1.32	282	P	Pn	14 17 16.8	+0.3
H29M				S	Sn	14 17 34.7	+0.3
I29M	Ogilvie Camp,	1.43	246	P	Pn	14 17 18.5	+0.5
	baz=61,SNR=68						
I29M				S	Sg	14 17 37.8	+0.4
	baz=61						
I29M	Ogilvie Camp,	1.43	246	Pn	Pn	14 17 18.4	+0.5
I29M				Sg	Sg	14 17 38.1	+0.6
G29M	Pine Creek	1.48	311	P	Pn	14 17 18.8	+0.1
	baz=127,SNR=1000						
G29M				S	Sb	14 17 38.8	+0.4
	baz=127						
G29M	Pine Creek	1.48	311	Pn	Pn	14 17 18.7	+0.1
G29M				Sg	Sg	14 17 39.4	+0.4
J30M	Hart River	1.48	200	P	Pb	14 17 19.9	+0.5
	baz=18,SNR=1000						
J30M				S	Sg	14 17 40.4	+1.3
	baz=18						
J30M	Hart River	1.48	200	Pn	Pb	14 17 20.0	+0.5
J30M				Sg	Sg	14 17 40.4	+1.3
F31M	Tsiigehtchic	1.58	21	P	Pn	14 17 20.4	+0.5
	baz=203,SNR=565						
F31M				S	Sb	14 17 42.1	+0.9
	baz=203						
F31M	Tsiigehtchic	1.58	21	Pn	Pn	14 17 20.5	+0.5
F31M				Sg	Sb	14 17 42.1	+0.9
F30M	Barrier River	1.66	352	P	Pn	14 17 21.6	+0.5
	baz=172,SNR=1000						
F30M				S	Sn	14 17 43.4	+0.7
	baz=172						
J29N	Klondike Camp	1.99	221	P	Pn	14 17 26.9	+1.2
	baz=37,SNR=18						
J29N				S	Sn	14 17 52.3	+1.4
	baz=37						
I28M	Miner Creek	2.04	257	P	Pn	14 17 26.1	-0.1
	baz=71,SNR=146						
I28M				Sb	Sb	14 17 55.7	+1.3
	baz=71						
I28M	Miner Creek	2.04	257	Pn	Pn	14 17 26.2	-0.1
I28M				Sn	Sb	14 17 55.1	+0.7
K29M	Barlow Dome	2.36	206	P	Pn	14 17 31.8	+1.0
	baz=23,SNR=53						
K29M				Sb	Sg	14 18 06.5	-0.6
	baz=23						
K29M	Barlow Dome	2.36	206	Pn	Pn	14 17 32.4	+1.7
MAYO	Mayo, Yukon	2.41	188	S	Sn	14 18 03.2	+2.2
	baz=6.6						
INK	Inuvik	2.43	15	P	Pn	14 17 31.6	0.0
	baz=197,SNR=274						
INK	Inuvik	2.43	15	Pn	Pn	14 17 31.7	+0.1
INK				Sn	Sn	14 17 59.9	-1.7
F28M	Old Crow	2.48	314	P	Pn	14 17 32.5	+0.1
	baz=129,SNR=164						
F28M				Sb	Sb	14 18 08.3	+1.0
	baz=129						
F28M	Old Crow	2.48	314	Pn	Pn	14 17 32.4	0.0
H27K	Steamboat Moun	2.60	279	P	Pn	14 17 34.1	+0.1
	baz=92,SNR=417						
H27K	Steamboat Moun	2.60	279	Pn	Pn	14 17 34.0	0.0
H27K				Sn	Sn	14 18 05.0	-0.9
DAWY	Dawson	2.62	225	P	Pn	14 17 35.2	+1.0
	baz=40,SNR=64						
DAWY				S	Sn	14 18 07.2	+0.8
	baz=40						
DAWY	Dawson	2.62	225	Pn	Pn	14 17 35.4	+1.1
E29M	Blow River	2.65	338	P	Pn	14 17 35.4	+0.8
	baz=155,SNR=194						
E29M				S	Sn	14 18 07.2	+0.2
	baz=155						
I27K	Kandik River	2.68	265	P	Pn	14 17 35.4	+0.3
	baz=78,SNR=136						
I27K	Kandik River	2.68	265	Pn	Pn	14 17 35.2	+0.1
I27K				Sn	Sn	14 18 06.6	-1.2
G27K	Doyon Strip	2.74	291	P	Pn	14 17 36.1	+0.2
	baz=104,SNR=117						
G27K	Doyon Strip	2.74	291	Pn	Pn	14 17 36.0	+0.2
E28M	Babbage River	3.14	329	P	Pn	14 17 41.6	+0.3
	baz=145,SNR=117						
L29M	L29M	3.15	205	P	Pn	14 17 42.0	+0.5
	baz=22,SNR=52						
L29M	L29M	3.15	205	Pn	Pn	14 17 43.3	+1.8
L29M				Sg	Sg	14 18 31.1	-1.2
E27K	Coleen River	3.35	314	P	Pn	14 17 44.1	-0.2
	baz=128,SNR=13						
E27K	Coleen River	3.35	314	Pn	Pn	14 17 44.2	-0.2
E27K				Sn	Sn	14 18 23.6	-0.8
I26K	Coal Creek Min	3.37	262	P	Pn	14 17 44.3	-0.2
	baz=74						
M30M	Minto, Yukon	3.48	192	P	Pn	14 17 47.1	+0.9
	baz=11,SNR=110						
M30M	Minto, Yukon	3.48	192	Pn	Pn	14 17 47.5	+1.4
M30M				Sg	Sg	14 18 43.1	0.0
K27K	Chicken	3.52	239	P	Pn	14 17 47.0	+0.4
	baz=52						
G26K	Porcupine Rive	3.59	290	P	Pn	14 17 47.4	-0.1
	baz=101,SNR=116						
D28M	Stokes Point	3.63	340	P	Pn	14 17 49.1	+1.0
	baz=156						
MMPY	Sheldon Lake,	3.77	151	P	Pn	14 17 51.2	+1.0
	baz=335,SNR=56						
MMPY	Sheldon Lake,	3.77	151	Pn	Pn	14 17 51.0	+0.9
MMPY				Sn	Sn	14 18 33.9	-0.9
M31M	Drury Creek, Y	3.80	174	P	Pn	14 17 52.1	+1.6
	baz=355,SNR=13						
M31M	Drury Creek, Y	3.80	174	Pn	Pn	14 17 51.9	+1.4
M29M	Somme Creek	3.82	204	P	Pn	14 17 52.3	+1.4
	baz=20,SNR=65						
M29M	Somme Creek	3.82	204	Pn	Pn	14 17 51.9	+1.1
M29M				Sn	Sn	14 18 35.9	-0.2
J26L	Joseph Creek	3.83	251	P	Pn	14 17 50.8	-0.1
	baz=63,SNR=108						
FARO	Faro, Yukon	3.84	167	P	Pn	14 17 52.5	+1.4
	baz=349,SNR=16						
FARO	Faro, Yukon	3.84	167	Pn	Pn	14 17 52.3	+1.2
FARO				Sn	Sn	14 18 36.2	-0.3
F26K	Sheenjek River	3.94	300	P	Pn	14 17 52.6	+0.2
	baz=111,SNR=21						
D27M	Malcolm River	3.96	329	P	Pn	14 17 53.1	+0.4
	baz=143,SNR=130						
L27K	Beaver Creek,	4.10	228	P	Pn	14 17 55.6	+1.0
	baz=41,SNR=108						
L27K	Beaver Creek,	4.10	228	Pn	Pn	14 17 55.5	+0.9
L27K				Sn	Sn	14 18 41.6	-1.2
SCRK	Sand Creek	4.24	246	P	Pn	14 17 57.0	+0.4
	baz=57,SNR=38						
PRP	Porcupine Dome	4.29	269	P	Pn	14 17 56.8	-0.5
	baz=78						
BVCY	Beaver Creek	4.35	217	P	Pn	14 17 59.3	+1.3
	baz=32,SNR=8.1						
BVCY	Beaver Creek	4.35	217	Pn	Pn	14 17 59.2	+1.1
BVCY				Sn	Sn	14 18 47.3	-1.7
F25K	Christian Rive	4.45	296	P	Pn	14 17 59.5	+0.1
	baz=106,SNR=30						
J25K	Salcha River,	4.49	257	P	Pn	14 17 59.5	-0.5
	baz=67						
N31M	Braeburn, Yuko	4.51	184	Pn	Pn	14 18 01.8	+1.6
N31M				Sn	Sn	14 18 55.3	+2.3
E25K	Arctic Village	4.60	303	P	Pn	14 18 01.9	+0.4
	baz=113,SNR=23						
N30M	Aishikik Lake	4.61	191	P	Pn	14 18 03.0	+1.4
	baz=9.5,SNR=22						
N30M	Aishikik Lake	4.61	191	Pn	Pn	14 18 03.4	+1.7
N30M				Sn	Sn	14 18 54.8	-0.6
M27K	Edge Creek, AK	4.66	222	P	Pn	14 18 03.1	+0.7
	baz=35,SNR=33						
M27K	Edge Creek, AK	4.66	222	Pn	Pn	14 18 03.0	+0.6
M27K				Sn	Sn	14 18 56.4	-0.4
RIDG	Independent Ri	4.69	246	P	Pn	14 18 03.1	+0.4
	baz=56						
YUK3	Moose Creek	4.82	211	P	Pn	14 18 06.0	+1.4
	baz=26,SNR=32						
YUK3	Moose Creek	4.82	211	Pn	Pn	14 18 06.0	+1.4
YUK3				Sn	Sn	14 18 59.1	-1.6
YUK2	White River	4.89	213	Pn	Pn	14 18 06.4	+0.9
YUK2				Sn	Sn	14 19 01.4	-1.0
YUK4	Talbot Arm	4.90	200	P	Pn	14 18 05.6	-0.1
	baz=16,SNR=29						
YUK4	Talbot Arm	4.90	200	Pn	Pn	14 18 05.9	+0.3
M26K	Nabesna, AK	4.95	227	P	Pn	14 18 07.3	+1.0
	baz=40,SNR=20						
YUK5	Granite Creek	5.01	195	Pn	Pn	14 18 06.8	-0.4
YUK5				Sg	Sg	14 19 29.6	-2.4
YUK8	Steele Glacier	5.13	206	P	Pn	14 18 10.1	+1.2
	baz=21						
YUK8	Steele Glacier	5.13	206	Pn	Pn	14 18 09.2	+0.3
POKR	Poker Plat Res	5.17	266	P	Pn	14 18 09.1	0.0
	baz=74						
HDA	Harding Lake	5.20	258	P	Pn	14 18 09.3	-0.3
	baz=67						
H24K	Noodor Dome	5.21	274	P	Pn	14 18 09.9	+0.1
	baz=82						
O30N	Mendenhall	5.24	185	P	Pn	14 18 12.4	+2.2
	baz=3.9,SNR=6.9						
YUK6	Outpost Mounta	5.25	197	P	Pn	14 18 12.6	+2.1
	baz=14,SNR=17						
YUK6	Outpost Mounta	5.25	197	Pn	Pn	14 18 12.1	+1.5
YUK6				Sg	Sg	14 19 38.3	-1.5
F24K	Squaw Lake	5.27	293	P	Pn	14 18 10.7	+0.1
	baz=101						
HYT	Haines Junctio	5.27	192	P	Pn	14 18 12.9	+2.1
	baz=10,SNR=29						
HYT	Haines Junctio	5.27	192	Pn	Pn	14 18 12.6	+1.9
HYT				Sg	Sg	14 19 38.5	-2.0
WHY	Whitehorse	5.34	178	P	Pn	14 18 13.1	+1.5
	baz=359,SNR=16						
WHY	Whitehorse	5.34	178	Pn	Pn	14 18 12.7	+1.1
WHY				Sg	Sg	14 19 38.8	-3.8
C26K	Camden Bay	5.39	322	P	Pn	14 18 14.0	+1.7
	baz=132,SNR=19						
TGTN	Hyland Airport	5.41	142	P	Pn	14 18 14.0	+1.4
	baz=329						
TGTN	Hyland Airport	5.41	142	Pn	Pn	14 18 13.7	+1.1
C36M	Paulatuk	5.42	46	P	Pn	14 18 12.6	-0.1
	baz=237,SNR=24						
C36M	Paulatuk	5.42	46	Pn	Pn	14 18 12.4	-0.2
C36M				Sn	Sn	14 19 09.4	-5.8
E24K	Your Creek	5.62	298	P	Pn	14 18 15.6	+0.2
	baz=105						
YUK7	Dusty Glacier	5.62	195	Pn	Pn	14 18 16.3	+0.6
YUK7				Sg	Sg	14 19 49.4	-2.4
O28M	Mount Upton	5.69	206	P	Pn	14 18 18.4	+1.9
	baz=21,SNR=9.5						
O28M	Mount Upton	5.69	206	Pn	Pn	14 18 18.8	+2.2
O28M				Sn	Sn	14 19 22.5	+0.3
CTGM	Chitina Glacie	5.73	212	Pn	Pn	14 18 19.2	+2.1
MCARA	McCarthy VSAT	5.78	221	P	Pn	14 18 19.3	+1.8
	baz=33,SNR=11						
LOGN	Logan Glacier	5.79	210	Pn	Pn	14 18 19.4	+1.4
PTPK	Patty Peak	5.80	217	Sn	Sn	14 19 24.3	-0.6
P33M	Teslin, Yukon	5.88	168	P	Pn	14 18 20.7	+1.6
	baz=350,SNR=11						
P33M	Teslin, Yukon	5.88	168	Pn	Pn	14 18 19.9	+0.8
P33M				Sn	Sn	14 19 25.5	-1.3
P33M				Sg	Sg	14 19 56.8	-3.3
H23K	Yukon River	5.89	275	P	Pn	14 18 18.9	-0.2
	baz=82						
O29M	Mount Kennedy	5.90	197	P	Pn	14 18 20.9	+1.6
	baz=13,SNR=15						
O29M	Mount Kennedy	5.90	197	Pn	Pn	14 18 20.9	+1.6
P30M	Million Dollar	5.93	189	Pn	Pn	14 18 20.4	+0.7
P30M				Sg	Sg	14 19 58.3	-3.3
I23K	Minto, Yukon-K	5.95	269	P	Pn	14 18 19.4	-0.4
	baz=75						
KIAG	Kiagna River	6.00	216	Pn	Pn	14 18 24.4	+3.6
DHY	Denali Highway	6.01	247	P	Pn	14 18 21.7	+0.8
	baz=55						
E23K	Chandalar	6.03	297	P	Pn	14 18 21.8	+0.7
	baz=103						
COLD	Coldfoot	6.12	289	Pn	Pn	14 18 23.1	+0.9
COLD				Sn	Sn	14 19 27.3	-5.1
TOLK	Toolik Lake Re	6.18	302	P	Pn	14 18 24.0	+1.0
	baz=108						
WAT6	Susitna Watana	6.44	244	P	Pn	14 18 27.8	+1.0
	baz=52						
P32M	Atlin	6.44	173	P	Pn	14 18 29.2	+2.4
	baz=355,SNR=7.0						
P32M	Atlin	6.44	173	Pn	Pn	14 18 29.1	+2.4
P32M				Sn	Sn	14 19 38.9	-1.7
P32M				Sg	Sg	14 20 15.2	-2.8
PLBC	Pleasant Camp	6.56	185	P	Pn	14 18 30.9	+2.5
	baz=4.1,SNR=6.5						
PLBC	Pleasant Camp	6.56	185	Pn	Pn	14 18 31.6	+3.3
PLBC				Sg	Sg	14 20 18.4	-3.5
R33M	Jennings River	6.88	162	Pn	Pn	14 18 34.0	+1.2
R33M				Sn	Sn	14 19 50.5	-0.9
R33M				Sg	Sg	14 20 28.9	-3.1
Q32M	Nakina River	7.17	168	Pn	Pn	14 18 38.9	+2.1
Q32M				Sg	Sg	14 20 37.9	-3.4
DLBC	Dease Lake	7.93	160	P	Pn	14 18 50.0	+2.7
	baz=345,SNR=8.7						
DLBC	Dease Lake	7.93	160	Pn	Pn	14 18 48.5	+1.3
DLBC				Sg	Sg	14 21 02.0	-3.8

REY 24 14:18:30.2, 64°62N×17°44W, h6km
IDC 24 14:18:32.0±0.7, 64°54N×17°73W, h0km, mb3.7/13, mbtmp3.7/16, ML2.7/2, MS3.4/1, Error ellipse: s-maj=21.6km s-min=10.3km az=11.0
ISC 24 14:18:33.0±0.5, 64°62N±0°02×17°47W±0°02, h10km, n47, σ2°92/61, mb3.7/13, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIS	Kista	0.07	322	P	Pg	14 18 32.1	-

baz=117
ISKR Skrokkalda 0.40 261 P Pg 14 18 37.9 -3.0
baz=262
IJOK Jokulheimar 0.45 227 P Pg 14 18 38.6 -3.2
baz=228
IJOK S Sg 14 18 45.9 -1.8
baz=228
THOR Thorvaldshraun 0.46 47 P Pg 14 18 38.8 -3.3
baz=46
THOR S Sg 14 18 45.6 -2.5
baz=46
IKRE Kreppuhraun 0.49 70 P Pg 14 18 39.1 -3.5
baz=70
IKRE S Sg 14 18 46.1 -3.0
baz=70
IASK Askja 0.56 39 P Pg 14 18 40.2 -3.6
baz=38
IMKO Mokollar 0.60 53 P Pg 14 18 41.1 -3.5
baz=52
IMKO S Sg 14 18 49.9 -2.6
baz=52
IIEY Innrieyrar 0.60 209 P Pg 14 18 41.2 -3.4
baz=210
IIEY S Sg 14 18 50.1 -2.4
baz=210
IKSK Karasker 0.63 137 P Pg 14 18 41.0 -4.2
baz=137
IKSK S Sg 14 18 49.8 -3.8
baz=137
IKAL Kalfafell 0.68 188 P Pg 14 18 42.6 -3.5
baz=189
IKAL S Sg 14 18 52.7 -2.4
baz=189
ISVA Svartarkot 0.72 7 P Pg 14 18 43.1 -3.8
baz=6.3
IFAL Falljokull 0.72 157 P Pg 14 18 43.0 -4.0
baz=158
IFAL S Sg 14 18 53.7 -2.7
baz=158
IVAT Vatnsfell 0.77 236 P Pg 14 18 44.1 -3.6
baz=236
IVAT S Sg 14 18 55.2 -2.5
baz=236
IVSH V-Sauoahnukur 0.77 75 P Pg 14 18 43.8 -4.0
baz=75
IVSH S Sg 14 18 54.8 -3.1
baz=75
IFAG Fagurholsmyri 0.83 154 P Pg 14 18 44.8 -4.2
baz=155
IFAG S Sg 14 18 57.1 -2.6
baz=155
IADA Aoalbol 0.90 63 P Pg 14 18 45.9 -4.4
baz=63
ISTE Stelbrattur 0.96 285 P Pg 14 18 47.3 -4.1
baz=285
IMEL Melhnausar 1.01 19 P Pg 14 18 47.7 -4.7
baz=19
BORG Borgarnes 1.66 276 Pg **Pn 14 18 59.1 -3.0**
22nm,0.3s,baz=96,slow=9.4,SNR=56
BORG Lg Lg 14 19 22.9
6.7nm,0.3s,baz=51,slow=23,SNR=10
JMIC Jan Mayen 7.23 24 LR LR 14 22 34.7
comp=Z,281nm,20.1s,baz=144,slow=33
EKA Eskdalemuir Ar 11.72 136 Pn **Pn 14 21 19.3 -0.7**
1.8nm,0.5s,baz=320,slow=13,SNR=7.0
NOA NORSAR Array B 13.52 92 Pn **Pn 14 21 47.2 +2.7**
baz=298,slow=14,SNR=2.5
0.7nm,0.7s
FINES FINESS Array B 19.70 79 P **Pn 14 23 02.7 -0.7**
0.1nm,0.3s,baz=294,slow=10,SNR=2.5
2.3nm,0.8s
BRG Berggiesshubel 21.38 115 *e*P **P 14 23 23.9 +3.5**
BRG Amp 14 23 26.5
comp=Z,6.0nm,1.2s
KHC Kasperske Hory 22.64 118 *e*P P 14 23 23.2 -11
GERES GERESS Array B 22.92 119 P **P 14 23 39.6 +2.7**
comp=Z,0.3nm,0.3s,baz=317,slow=9.9,SNR=4.7
comp=Z,0.3nm,0.3s
MORC Moravsky Berou 23.67 112 *e*P **P 14 23 47.3 +3.0**
KRUC Moravsky 23.78 115 *e*P **P 14 23 44.1 -1.3**
ESDC Sonseca Array 26.21 156 P **P 14 24 08.6 +1.0**
comp=Z,1.3nm,1.0s,baz=346,slow=8.4,SNR=5.9
comp=Z,1.3nm,1.0s
AKASG Malin Array Be 27.82 98 P **P 14 24 23.9 +1.9**
comp=Z,0.2nm,0.3s,baz=324,slow=8.4,SNR=4.8
comp=Z,0.2nm,0.3s
BRTR Keskin Array B 38.45 105 P **P 14 25 55.0 +0.2**
comp=Z,0.3nm,0.4s,baz=354,slow=10,SNR=2.0
comp=Z,0.3nm,0.4s
BVAR Borovoye Array 43.21 62 P **P 14 26 35.5 +1.8**
comp=Z,1.7nm,0.8s,baz=297,slow=7.9,SNR=4.4
comp=Z,1.7nm,0.8s
ILAR Eielson Array 45.73 332 P **P 14 26 54.7 +1.0**
comp=Z,2.1nm,1.1s,baz=26,slow=6.4,SNR=6.6
ILAR PcP **PcP 14 28 30.9 -0.3**
comp=Z,0.7nm,0.9s,baz=5.4,slow=1.8,SNR=4.3
comp=Z,2.1nm,1.1s
ZALV Zalesovo Beam 47.65 51 P **P 14 27 11.0 +2.2**
comp=Z,1.1nm,0.7s,baz=326,slow=7.5,SNR=3.8
comp=Z,1.1nm,0.7s
KURBB Kurchatov Arra 48.17 58 P **P 14 27 13.9 +1.1**
comp=Z,1.2nm,0.5s,baz=322,slow=7.0,SNR=6.7
comp=Z,1.2nm,0.5s
MKAR Makanchi Array 52.74 58 P **P 14 27 47.7 +0.2**
comp=Z,0.6nm,0.9s,baz=332,slow=4.5,SNR=3.0
comp=Z,0.6nm,0.9s
TORD Torodi Ar. Bea 53.10 156 P **P 14 27 50.0 -0.4**
comp=Z,0.8nm,0.8s,baz=346,slow=7.3,SNR=4.1
comp=Z,0.8nm,0.8s
PDAR Pinedale Array 53.21 293 P **P 14 27 51.0 -0.3**
comp=Z,1.4nm,0.7s,baz=60,slow=5.6,SNR=12
comp=Z,1.4nm,0.7s
SONM Songino Array 59.66 40 P **P 14 28 38.9 +1.9**
comp=Z,0.4nm,0.6s,baz=306,slow=5.0,SNR=1.8
comp=Z,0.4nm,0.6s
CMAR Chiang Mai Arr 84.14 59 P **P 14 31 06.9 +2.8**
comp=Z,0.4nm,0.3s,baz=311,slow=5.5,SNR=5.2
comp=Z,0.4nm,0.3s

---

*NEIC **24** 14:32:13.1±0.7, 15°.7S±0°.1×174°.6W±0°.1, h231km±8km, mb4.4/35, Error ellipse: s-maj=16.9km s-min=14.0km az=142.0*
*IDC **24** 14:32:17.0±3.7, 15°.76S×174°.66W, h269km±33km, mb3.5/10, mbtmp4.0/11, Error ellipse: s-maj=23.5km s-min=20.0km az=117.0*
ISC 24 14:32:14.4±0.6, 15°.73S±0°.10×174°.60W±0°.09, h250km, n56, σ1.9 08/58, mb4.3/28, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.27**	**57**		**Pn**	**14 33 07.7**	**-2.3**
NIUE	**Niue**	**5.56**	**127**	Pn	**Pn**	**14 33 35.5**	**-1.7**
MSVF	**Nonsavu**	**7.32**	**253**	Pn	**Pn**	**14 33 55.6**	**-3.7**
MSVF	**Nonsavu**	**7.32**	**253**	P	**Pn**	**14 34 02.3**	**+3.0**
	4.4nm,0.9s,baz=106,slow=17,SNR=5.3						
DZM	**Mont Dzumac**	**19.01**	**248**	P	**Pn**	**14 36 20.3**	**-1.7**
DZM				IAmb	IAmb	14 36 49.3	
	comp=Z,17nm,1.2s						
MXZ	**Matakaoa Point**	**22.64**	**195**	P	**P**	**14 36 55.4**	**+1.2**
TCW	**Tory Channel**	**27.16**	**199**	P	**P**	**14 37 34.4**	**-0.5**
QRZ	**Quartz Range**	**27.39**	**202**	P	**P**	**14 37 36.9**	**0.0**
THZ	**Tophouse**	**28.10**	**200**	P	**P**	**14 37 42.8**	**-0.5**
DSZ	**Denniston Nort**	**28.46**	**202**	P	**P**	**14 37 45.6**	**-0.8**
MQZ	**McQueen's Vall**	**29.93**	**199**	P	**P**	**14 37 58.6**	**-0.7**
ARMA	**Armidale**	**34.19**	**239**	P	**P**	**14 38 36.3**	**-0.4**
ARMA				IAmb	IAmb	14 39 18.4	
	comp=Z,17nm,1.4s						
CAN	**Canberra**	**37.92**	**232**	P	**P**	**14 39 07.7**	**-0.4**
CAN				IAmb	IAmb	14 39 32.1	
	comp=Z,28nm,1.5s						
COEN	**Coen**	**40.81**	**267**	P	**P**	**14 39 33.1**	**+1.0**
COEN				IAmb	IAmb	14 39 34.4	
	comp=Z,14nm,0.7s						
TOO	**Toolangi**	**41.37**	**230**	P	**P**	**14 39 36.1**	**-0.3**
TOO				IAmb	IAmb	14 39 37.8	
	comp=Z,19nm,1.4s						
STKA	**Stephens Creek**	**42.88**	**240**	P	**P**	**14 39 48.2**	**-0.4**
STKA	**Stephens Creek**	**42.88**	**240**	P	**P**	**14 39 48.1**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=84,slow=10,SNR=8.0						
	comp=Z,1.9nm,0.5s						
BBOO	**Buckleboo**	**47.65**	**240**	P	**P**	**14 40 25.7**	**-0.3**
BBOO				IAmb	IAmb	14 40 57.3	
	comp=Z,20nm,1.2s						
WR0	**Warramunga Arr**	**48.46**	**257**	P	**P**	**14 40 31.9**	**-0.5**
WB0	**Warramunga Arr**	**48.61**	**257**	P	**P**	**14 40 33.0**	**-0.5**
WB2	**Warramunga Arr**	**48.64**	**257**	P	**P**	**14 40 33.3**	**-0.4**
WB2				IAmb	IAmb	14 40 34.2	
	comp=Z,7.8nm,0.7s						
WRAB	**Tennant Creek**	**48.64**	**257**	P	**P**	**14 40 33.1**	**-0.5**
WRAB				IAmb	IAmb	14 40 34.1	
	comp=Z,5.9nm,0.6s						
WRA	**Warramunga Arr**	**48.65**	**257**	P	**P**	**14 40 33.5**	**-0.3**
	comp=Z,5.7nm,0.7s,baz=93,slow=6.9,SNR=152						
WRA				PcP	**PcP**	**14 41 55.3**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=92,slow=3.7,SNR=2.4						
	comp=Z,5.7nm,0.7s						
AS31	**Alice Springs**	**48.91**	**252**	P	**P**	**14 40 35.6**	**-0.1**
ASAR	**Alice Springs**	**48.91**	**252**	P	**P**	**14 40 35.8**	**0.0**
	comp=Z,18nm,0.8s,baz=89,slow=7.6,SNR=443						
ASAR				PcP	**PcP**	**14 41 56.3**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=96,slow=3.4,SNR=2.6						
	comp=Z,18nm,0.8s						
MTN	**Manton Dam**	**52.56**	**266**	P	**P**	**14 41 02.9**	**0.0**
MTN				IAmb	IAmb	14 41 29.6	
	comp=Z,13nm,1.1s						
FORT	**Forrest**	**54.24**	**243**	P	**P**	**14 41 14.5**	**-0.4**
KNRA	**Kununurra**	**54.38**	**262**	P	**P**	**14 41 15.5**	**-0.6**
KNRA				IAmb	IAmb	14 41 23.4	
	comp=Z,9.9nm,1.0s						
PSA00	**Pilbara Seismi**	**62.01**	**254**	P	**P**	**14 42 08.4**	**-0.4**
PSA00				IAmb	IAmb	14 42 09.4	
	comp=Z,6.6nm,0.8s						
MBWA	**Marble Bar**	**62.16**	**254**	P	**P**	**14 42 09.8**	**0.0**
SBA	**Scott Base**	**62.84**	**184**	P	**P**	**14 42 15.4**	**+2.1**
VNDA	**Vanda**	**62.94**	**186**	P	**P**	**14 42 15.3**	**+1.3**
VNDA	**Vanda**	**62.94**	**186**	P	**P**	**14 42 14.5**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=357,slow=8.2,SNR=9.3						
	comp=Z,1.3nm,0.9s						
UGM	**Wanagama**	**73.40**	**266**	P	**P**	**14 43 19.8**	**-0.1**
QSPA	**South Pole Qui**	**74.32**	**180**	P	**P**	**14 43 24.9**	**+0.5**
QSPA	**South Pole Qui**	**74.32**	**180**	P	**P**	**14 43 24.9**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=39,slow=0.5,SNR=12						
	comp=Z,1.5nm,0.7s						
NVAR	**Mina Array Bea**	**75.34**	**42**	P	**P**	**14 43 31.9**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=230,slow=9.9,SNR=2.3						
	comp=Z,0.3nm,0.6s						
N25K	**Chitina, Valde**	**80.67**	**14**	P	**P**	**14 43 59.7**	**+0.3**
N25K				IAmb	IAmb	14 44 16.6	
	comp=Z,9.7nm,1.4s						
J20K	**Nowinta River**	**81.20**	**9**	P	**P**	**14 44 02.8**	**+0.9**
J20K				IAmb	IAmb	14 44 09.2	
	comp=Z,7.8nm,1.4s						
RND	**Reindeer**	**81.38**	**11**	P	**P**	**14 44 03.8**	**+0.8**
RND				IAmb	IAmb	14 44 10.9	
	comp=Z,11nm,1.5s						
IMAR	**Indian Mountai**	**82.96**	**8**	P	**P**	**14 44 11.7**	**+0.7**
ILAR	**Eielson Array**	**82.99**	**12**	P	**P**	**14 44 11.0**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=223,slow=3.4,SNR=1.5						
	comp=Z,0.2nm,0.5s						
F19K	**Shaleruckik Mo**	**83.26**	**7**	P	**P**	**14 44 13.2**	**+0.7**
PDAR	**Pinedale Array**	**83.28**	**42**	P	**P**	**14 44 13.8**	**+0.3**
PDAR	**Pinedale Array**	**83.28**	**42**	P	**P**	**14 44 12.7**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=220,slow=3.5,SNR=2.1						
	comp=Z,0.2nm,0.6s						
J26L	**Joseph Creek**	**83.43**	**13**	P	**P**	**14 44 16.0**	**+2.4**
E19K	**Redstone River**	**83.92**	**7**	P	**P**	**14 44 16.9**	**+1.0**
E19K				IAmb	IAmb	14 44 17.6	
	comp=Z,15nm,1.5s						
F21K	**Alatna River**	**84.16**	**8**	P	**P**	**14 44 18.1**	**+1.0**
F21K				IAmb	IAmb	14 44 37.1	
	comp=Z,7.8nm,1.4s						
BMAR	**Burnt Mountain**	**85.79**	**11**	P	**P**	**14 44 25.3**	**+0.1**
D22K	**Ayikyak River**	**85.83**	**8**	P	**P**	**14 44 26.4**	**+1.1**
D22K				IAmb	IAmb	14 45 05.2	
	comp=Z,5.9nm,1.2s						
MAW	**Mawson**	**87.11**	**199**	P	**P**	**14 44 32.6**	**+0.9**
MAW	**Mawson**	**87.11**	**199**	P	**P**	**14 44 32.0**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=136,slow=7.9,SNR=4.5						
	comp=Z,1.9nm,0.7s						
G31M	**Satah River**	**87.60**	**15**	P	**P**	**14 44 34.4**	**+0.5**
G31M				IAmb	IAmb	14 45 07.7	
	comp=Z,14nm,1.4s						
D27M	**Malcolm River**	**88.04**	**11**	P	**P**	**14 44 37.0**	**+1.0**
D27M				IAmb	IAmb	14 44 51.3	
	comp=Z,4.9nm,1.3s						
CMAR	**Chiang Mai Arr**	**91.62**	**289**	P	**P**	**14 44 53.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=107,slow=3.3,SNR=4.4						
	comp=Z,0.4nm,0.4s						
BRTR	**Keskin Array B**	**145.67**	**320**	PKPbc	**PKPab**	**14 51 25.6**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=111,slow=3.8,SNR=8.6						

---

*IDC **24** 14:37:38.3±1.8, 25°.96N×140°.19E, h0km, mb3.7/4, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=88.6km s-min=21.5km az=118.0*
*NEIC **24** 14:37:40.5±0.9, 26°.1N±0°.2×139°.8E±0°.2, h16km±5km, mb4.7/10, Error ellipse: s-maj=36.2km s-min=11.6km az=122.0*
ISC 24 14:37:42.9±1.0, 26°.1N±0°.1×140°.0E±0°.1, h35km, n19, σ0.9 90/19, mb4.4/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.21**	**62**	Pn	**Pn**	**14 38 18.5**	**+1.4**
JCJ	**Chichijima**	**2.21**	**62**	Pn	**Pn**	**14 38 14.9**	**-2.2**
	36nm,0.3s,baz=48,slow=22,SNR=21						
JCJ				Sn	Sn	14 38 35.1	-8.2
	22nm,0.3s,baz=298,slow=23,SNR=8.1						
	121nm,0.5s						
JHJ2	**Mitsune**	**7.02**	**359**	Pn	**Pn**	**14 39 22.7**	**-0.5**
WB0	**Warramunga Arr**	**45.88**	**187**	P	**P**	**14 46 02.4**	**+0.3**
WB0				IAmb	IAmb	14 46 17.4	
	comp=Z,8.3nm,1.5s						
WRAB	**Tennant Creek**	**46.05**	**187**	P	**P**	**14 46 03.4**	**0.0**
WRAB				IAmb	IAmb	14 46 05.8	
	comp=Z,3.2nm,0.4s						
WR0	**Warramunga Arr**	**46.06**	**187**	P	**P**	**14 46 03.4**	**0.0**
WB2	**Warramunga Arr**	**46.06**	**187**	P	**P**	**14 46 03.3**	**-0.2**
WB2				IAmb	IAmb	14 46 10.1	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**46.06**	**187**	P	**P**	**14 46 03.4**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=8.4,slow=8.6,SNR=62						
	comp=Z,1.9nm,0.4s						
AS31	**Alice Springs**	**49.79**	**187**	P	**P**	**14 46 31.7**	**-0.7**
ASAR	**Alice Springs**	**49.79**	**187**	P	**P**	**14 46 31.0**	**-1.3**
ASAR	**Alice Springs**	**49.79**	**187**	P	**P**	**14 46 32.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=2.9,slow=5.2,SNR=10						
	comp=Z,0.3nm,0.7s						
N17K	**Nushagak Hills**	**54.34**	**33**	P	**P**	**14 47 05.3**	**-0.4**
FORT	**Forrest**	**57.67**	**192**	P	**P**	**14 47 31.0**	**+1.2**
KNK	**Knik Glacier**	**58.66**	**32**	P	**P**	**14 47 37.0**	**+0.5**
PWL	**Port Wells**	**58.70**	**33**	P	**P**	**14 47 37.6**	**+0.9**
ILAR	**Eielson Array**	**59.55**	**28**	P	**P**	**14 47 43.5**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=263,slow=7.2,SNR=4.1						
	comp=Z,0.4nm,0.9s						
BMAR	**Burnt Mountain**	**60.62**	**25**	P	**P**	**14 47 50.2**	**+0.2**
NVAR	**Mina Array Bea**	**82.69**	**51**	P	**P**	**14 50 03.9**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=300,slow=6.0,SNR=3.6						
	comp=Z,0.3nm,0.5s						
VTX	**Valle De La Tr**	**87.85**	**56**	P	**P**	**14 50 29.1**	**0.0**
VTX				IAmb	IAmb	14 50 29.4	
	comp=Z,4.0nm,0.6s						

---

*MOS **24** 14:41:38.8±1.1, 32°.49N×139°.93E, h113km, mb4.6/19, Error ellipse: s-maj=11.8km s-min=6.0km az=116.7*
*IDC **24** 14:41:40.6±0.6, 32°.50N×139°.89E, h112km±3km, mb3.9/24, mbtmp4.2/28, Error ellipse: s-maj=15.0km s-min=11.8km az=69.0*
*JMA **24** 14:41:41.8±0.2, 32°.6N±0°.4×14°.0E±°, h113km±1km, MV3.9/35, E OFF HACHIJOJIMA ISLAND*
*NEIC **24** 14:41:41.5±1.5, 32°.50N±0°.09×139°.9E±0°.1, h115km±6km, mb4.6/110, Error ellipse: s-maj=16.2km s-min=13.4km az=95.0*
ISC 24 14:41:40.6±0.5, 32°.50N±0°.04×139°.94E±0°.06, h119km±3km, h118km:pP-P, n264, σ1.9 75/287, mb4.5/95, 2C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.15**	**257**	*i* P	**Pn**	**14 41 58.6**	**+1.6**
JAOM				*e*S	**Sn**	**14 42 11.6**	**+2.1**
JHCJ	**Hachijojimakas**	**0.58**	**348**	*i* P	**Pn**	**14 41 59.5**	**+0.5**
JHCJ				S	**Sn**	**14 42 12.2**	**-0.7**
JHJ2	**Mitsune**	**0.62**	**350**		**Pn**	**14 41 59.6**	**+0.4**
JHJ2	**Mitsune**	**0.62**	**350**	P	**Pn**	**14 41 59.8**	**+0.5**
JHJ2	**Mitsune**	**0.62**	**350**	*i* P	**Pn**	**14 41 59.8**	**+0.5**
JHJ2				S	**Sn**	**14 42 13.5**	**+0.2**
JHJ	**Hachijo jima 2**	**0.63**	**348**	P	**Pn**	**14 41 59.8**	**+0.4**
	3μm,0.3s,baz=83,slow=22,SNR=244						
JHJ				S	**Sn**	**14 42 13.2**	**-0.3**
	5μm,0.3s,baz=67,slow=20,SNR=26						
JMKN	**Mikurajimanish**	**1.42**	**348**	P	**Pn**	**14 42 07.1**	**0.0**
JMKN				*e*S	**Sn**	**14 42 26.4**	**-0.7**
JMYK	**Miyake Tsubota**	**1.59**	**348**	S	**Sn**	**14 42 30.8**	**+0.1**
JKO	**Kozu shima**	**1.81**	**338**	P	**Pn**	**14 42 12.5**	**+0.8**
JIM2	**Oshima 3**	**2.25**	**349**	*i* P	**Pn**	**14 42 17.6**	**+0.3**
JIM2				*e*S	**Sn**	**14 42 44.8**	**-0.5**
BSO1	**Boso 1**	**2.32**	**22**	P	**Pn**	**14 42 16.7**	**-0.8**
BSO1				*e*S	**Sn**	**14 42 43.8**	**-2.0**
BSO3	**Boso 3**	**2.34**	**12**	P	**Pn**	**14 42 17.8**	**-0.3**
JIZS	**Izushimoda**	**2.38**	**338**	P	**Pn**	**14 42 19.6**	**+0.8**
JSG	**Sagara**	**2.62**	**326**	Pn	**Pn**	**14 42 18.9**	**-3.0**
TTO2	**TONANKAI O.B.S**	**2.74**	**298**	P	**Pn**	**14 42 25.3**	**+2.2**
JOD2	**Odawara 2**	**2.85**	**346**	P	**Pn**	**14 42 25.6**	**+0.7**
SHZ3	**Shizuoka 3**	**2.94**	**331**	P	**Pn**	**14 42 27.4**	**+1.2**
JYN	**Shimob**	**3.21**	**339**	*i* P	**Pn**	**14 42 31.1**	**+1.4**
JIE	**Ise**	**3.30**	**306**	P	**Pn**	**14 42 32.3**	**+1.5**
JRY	**Ryogami san**	**3.61**	**346**	P	**Pn**	**14 42 35.8**	**+0.8**
INU	**Inuyama**	**3.74**	**320**		**Pn**	**14 42 37.9**	**+1.3**
INU	**Inuyama**	**3.74**	**320**	P	**Pn**	**14 42 38.3**	**+1.7**
JAG	**Ashikaga**	**3.94**	**354**	*i* P	**Pn**	**14 42 38.2**	**-1.1**
MJAR	**Matsushiro Arr**	**4.28**	**341**	P	**Pn**	**14 42 44.3**	**+0.4**
	14nm,0.7s,baz=158,slow=9.8,SNR=40						
MAJO	**Matsushiro**	**4.28**	**341**		**Pn**	**14 42 44.4**	**+0.5**
MAJO	**Matsushiro**	**4.28**	**341**	P	**Pn**	**14 42 44.4**	**+0.5**
MAJO	**Matsushiro**	**4.28**	**341**	P	**Pn**	**14 42 44.4**	**+0.5**
MJB9	**Matsu-Tunnel**	**4.28**	**341**		**Pn**	**14 42 45.1**	**+1.2**
JMN	**Monobe**	**5.23**	**285**		**Pn**	**14 42 59.6**	**+2.9**
JMN	**Monobe**	**5.23**	**285**	P	**Pn**	**14 42 59.3**	**+2.6**
JMM	**Marumori**	**5.40**	**7**		Pn	14 42 54.4	-4.5
JMM	**Marumori**	**5.40**	**7**	P	**Pn**	**14 42 55.0**	**-3.9**
JSD	**Sado**	**5.69**	**346**		**Pn**	**14 42 59.4**	**-3.4**
JCJ	**Chichijima**	**5.73**	**160**	Pn	**Pn**	**14 43 01.9**	**-1.5**
JCJ	**Chichijima**	**5.73**	**160**	P	**Pn**	**14 43 02.8**	**-0.6**
JCJ	**Chichijima**	**5.73**	**160**	P	Pn	14 42 58.1	-5.3
	29nm,0.3s,baz=11,slow=20,SNR=14						
JCJ				S	**Sn**	**14 44 00.7**	**-7.2**
	113nm,0.3s,baz=270,slow=23,SNR=7.3						
JNU	**Nakatsue**	**7.66**	**277**	P	**Pn**	**14 43 33.4**	**+4.0**
JNU	**Nakatsue**	**7.66**	**277**	P	**Pn**	**14 43 25.7**	**-3.8**
	7.1nm,0.7s,baz=86,slow=10,SNR=2.5						
JTM	**Tenmabayashi**	**8.32**	**6**	Pn	**Pn**	**14 43 34.9**	**-3.4**
JTM	**Tenmabayashi**	**8.32**	**6**	P	**Pn**	**14 43 35.5**	**-2.8**
ERM	**Erimo**	**9.84**	**14**	Pn	**Pn**	**14 43 56.0**	**-2.8**
ERM	**Erimo**	**9.84**	**14**	*i* P	**Pn**	**14 43 57.2**	**-1.6**
KSRS	**Korea Array**	**11.03**	**300**	P	**Pn**	**14 44 15.8**	**+1.0**
	5.0nm,1.0s,baz=115,slow=13,SNR=12						
TJN	**Taejon**	**11.08**	**294**	*i* P	**Pn**	**14 44 17.6**	**+2.0**
ASAJ	**Asahikawa**	**11.78**	**9**	P	**Pn**	**14 44 21.1**	**-3.7**
ASAJ	**Asahikawa**	**11.78**	**9**	P	**Pn**	**14 44 21.3**	**-3.6**
	3.0nm,0.3s,baz=258,slow=25,SNR=2.3						
JKA	**Kamikawa-asahi**	**11.78**	**9**	Pn	**Pn**	**14 44 21.1**	**-3.8**
INCN	**Inchon**	**11.99**	**298**	Pn	**Pn**	**14 44 24.6**	**-3.1**
INCN	**Inchon**	**11.99**	**298**	P	**Pn**	**14 44 24.6**	**-3.1**
USRK	**Ussuriysk Ar.**	**13.23**	**334**	P	**Pn**	**14 44 41.9**	**-1.9**
	0.8nm,0.7s,baz=146,slow=9.5,SNR=1.6						
MDJ	**Mudanjiang**	**14.54**	**329**	P	**Pn**	**14 45 02.1**	**+1.6**
MDJ				S	**Sn**	**14 47 35.3**	**-5.8**
MDJ				PcP	**PcP**	**14 50 11.4**	**+5.3**
MDJ				ScP	**ScP**	**14 53 30.8**	**+1.9**
YSS	**Yuzh-Sakhalins**	**14.60**	**8**	Pn	**Pn**	**14 44 57.6**	**-3.6**
YSS	**Yuzh-Sakhalins**	**14.60**	**8**	P	**Pn**	**14 44 58.8**	**-2.4**
	33nm,1.7s						
YSS	**Yuzh-Sakhalins**	**14.60**	**8**	*e*P	Pn	14 44 56.0	-5.2
KLR	**Kul'dur**	**17.81**	**342**	P	**P**	**14 45 38.4**	**-1.4**
	1.1nm,0.4s,baz=168,slow=13,SNR=6.1						
NJ2	**Nanjing**	**17.84**	**274**	*e*P	**Pn**	**14 45 41.0**	**-0.3**
NJ2				pP	**pP**	**14 46 00.3**	**-0.5**
NJ2				sP	**sP**	**14 46 16.4**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,16nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,290nm,5.7s						
YHNB	**Yeheng**	**18.06**	**249**	P	**Pn**	**14 45 44.4**	**+0.3**
YHNB				IAmb	IAmb	14 45 46.1	
	comp=Z,22nm,0.7s						
YULB	**Yu-li**	**18.78**	**246**	P	**P**	**14 45 51.8**	**+1.1**
HEH	**HeiHe**	**20.03**	**336**	*e*P	Pn	14 46 07.6	+0.8
HEH				pmax	pmax		
	comp=Z,11nm,0.6s						
HEH				pmax	pmax		
	comp=Z,230nm,6.0s						
HIA	**Hailar**	**22.55**	**324**	P	**P**	**14 46 29.1**	**-1.6**
HIA				IAmb	IAmb	14 46 32.1	
	comp=Z,14nm,0.7s						
HIA	**Hailar**	**22.55**	**324**	P	**P**	**14 46 29.1**	**-1.6**
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
ZEA	**Zeya**	**23.09**	**341**	*e*P	**P**	**14 46 36.9**	**+1.1**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=N,10.0nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,30nm,0.9s						
HHC	**Hu-ho-hao-te**	**24.16**	**298**	*e*P	**P**	**14 46 45.0**	**-0.8**
HHC				pmax	pmax		
	comp=Z,47nm,0.8s						
HHC				pmax	pmax		
	comp=Z,300nm,5.3s						
BTO	**Baotou**	**25.27**	**297**	*e*P	**P**	**14 46 54.4**	**-1.5**
BTO				pP	**pP**	**14 47 16.9**	**-4.1**
BTO				sP	sP	14 47 26.6	-8.1
BTO				PP	**PnPn**	**14 47 35.8**	**-2.2**
BTO				S	**S**	**14 51 13.4**	**+0.5**
BTO				SS	**SnSn**	**14 52 18.4**	**+0.4**
BTO				pmax	pmax		
	comp=Z,41nm,0.6s						
BTO				pmax	pmax		
	comp=Z,400nm,5.2s						
BTO				LR	LR		
	comp=N,490nm,5.3s						
BTO				LR	LR		
	comp=E,470nm,5.3s						
BTO				LR	LR		
	comp=Z,310nm,10.8s						
H11N2	**WAKE ISLAND Hy 27.25**	**111**		T	T	15 16 14.5	
	baz=305,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy 27.26**	**111**		T	T	15 16 14.3	
	baz=305,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy 27.27**	**111**		T	T	15 16 15.2	
	baz=305,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy 27.78**	**114**		T	T	15

TAPN Taplejung 45.19 278 *eP* **P 14 49 46.1 -0.1**
comp=Z,6.9nm,0.6s
MK31 Makanchi Array 45.64 306 P **P 14 49 48.6 -0.4**
MK31 Makanchi Array 45.64 306 *i* P **P 14 49 48.8 -0.3**
MKAR Makanchi Array 45.64 306 P **P 14 49 49.4 +0.3**
MKAR Makanchi Array 45.64 306 P **P 14 49 50.0 +0.9**
MKAR Makanchi Array 45.64 306 P **P 14 49 50.0 +0.9**
comp=Z,2.4nm,0.5s,baz=85,slow=9.8,SNR=31
MKAR ScP **ScP 14 55 06.5 -0.7**
comp=Z,0.6nm,0.7s,baz=94,slow=4.9,SNR=4.5
comp=Z,2.4nm,0.5s
MAKZ Makanchi 45.85 306 P **P 14 49 51.0 +0.3**
MAKZ Makanchi 45.85 306 P **P 14 49 51.0 +0.3**
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
RAMN Ramite 46.26 278 *eP* **P 14 49 54.4 -0.1**
comp=Z,11nm,0.6s
JIRN Jiri 46.36 279 *eP* **P 14 49 55.2 -0.2**
comp=Z,17nm,0.4s
GUN Gumba 46.54 279 *eP* **P 14 49 56.8 0.0**
comp=Z,7.7nm,0.5s
PKI Pulchoki 47.04 279 *eP* **P 14 50 00.0 -0.7**
comp=Z,2.9nm,0.3s
PKIN Phulchoki 47.05 279 *eP* **P 14 50 00.1 -0.6**
comp=Z,4.6nm,0.4s
DMN Daman 47.28 279 *eP* **P 14 50 01.8 -0.7**
comp=Z,7.7nm,0.3s
KURK Kurchatov 47.89 311 P **P 14 50 05.5 -1.0**
KURK IAmb IAmb 14 50 07.2
comp=Z,4.9nm,0.7s
KURK Kurchatov 47.89 311 P **P 14 50 07.1 +0.6**
KURK 14 51 33.3
KURBB Kurchatov Arra 47.95 311 P **P 14 50 07.1 +0.2**
comp=Z,2.5nm,0.5s,baz=84,slow=7.1,SNR=20
KURBB PcP **PcP 14 51 33.3 0.0**
comp=Z,0.5nm,0.7s,baz=95,slow=2.9,SNR=4.4
comp=Z,2.5nm,0.5s
DANN Dangsing 48.16 281 *eP* **P 14 50 09.0 -0.2**
comp=Z,8.2nm,0.3s
PYUN Piuthan 48.88 281 *eP* **P 14 50 14.4 -0.3**
comp=Z,19nm,0.4s
E19K Redstone River 50.05 27 P **P 14 50 23.9 +1.2**
E19K IAmb IAmb 14 50 25.6
comp=Z,9.2nm,0.8s
GSI Gunungsitoli 50.48 241 P **P 14 50 26.4 -0.3**
M20K Styx River 51.11 34 P **P 14 50 32.6 +1.7**
M20K IAmb IAmb 14 50 32.9
comp=Z,15nm,1.4s
IMAR Indian Mountai 51.18 29 P **P 14 50 31.9 +0.7**
RSO Redoubt South 51.24 36 P **P 14 50 33.3 +1.3**
KDAK Kodiak Island 51.32 39 P **P 14 50 32.4 +0.1**
KDAK Kodiak Island 51.32 39 P **P 14 50 32.4 +0.1**
KDAK pmax pmax
comp=Z,19nm,0.7s
G21K Allakaket 51.34 28 P **P 14 50 34.1 +1.7**
B21K Ikpikpuk River 51.40 24 P **P 14 50 34.3 +1.6**
B21K IAmb IAmb 14 50 44.9
comp=Z,12nm,1.4s
SYI Shuyak Island 51.41 38 P **P 14 50 33.2 +0.2**
H21K Melozitna Rive 51.53 29 P **P 14 50 35.7 +1.8**
H21K IAmb IAmb 14 50 36.2
comp=Z,5.0nm,0.9s
CAST Castle Rocks 51.67 32 P **P 14 50 37.1 +2.2**
CAST IAmb IAmb 14 50 50.0
comp=Z,8.2nm,1.4s
I21K Tanana 51.84 30 P **P 14 50 37.7 +1.6**
I21K IAmb IAmb 14 50 46.1
comp=Z,7.8nm,1.4s
SKT Skwentna 51.87 34 P **P 14 50 37.7 +1.2**
SKT IAmb IAmb 14 50 50.1
comp=Z,7.9nm,1.2s
B22K Teshekpuk Lake 51.93 23 P **P 14 50 36.9 +0.2**
CNPM China Poot 52.00 37 P **P 14 50 37.8 +0.4**
BRLK Bradley Lake 52.17 37 P **P 14 50 39.8 +1.0**
E22K Anaktuvuk Pass 52.19 26 P **P 14 50 40.5 +1.8**
E22K IAmb IAmb 14 51 09.4
comp=Z,11nm,1.4s
BPAW Bear Paw Mtn. 52.20 31 P **P 14 50 40.2 +1.4**
BPAW IAmb IAmb 14 51 11.6
comp=Z,7.5nm,1.4s
KTH Kantishna Hill 52.20 32 P **P 14 50 40.2 +1.2**
KTH IAmb IAmb 14 51 08.5
comp=Z,7.0nm,1.2s
SUA Susitna One 52.24 35 P **P 14 50 40.0 +0.8**
WB0 Warramunga Arr 52.24 187 P **P 14 50 39.5 0.0**
WB0 IAmb IAmb 14 50 55.3
comp=Z,7.7nm,1.3s
MLY Manley 52.35 30 P **P 14 50 41.9 +1.9**
WRAB Tennant Creek 52.41 187 P **P 14 50 41.1 +0.3**
WRAB Tennant Creek 52.41 187 P **P 14 50 41.1 +0.3**
WRAB pmax pmax
comp=Z,6.0nm,1.3s
WR0 Warramunga Arr 52.42 186 P **P 14 50 41.1 +0.2**
WB2 Warramunga Arr 52.42 187 P **P 14 50 41.5 +0.6**
WB2 IAmb IAmb 14 51 19.3
comp=Z,7.2nm,1.4s
WRA Warramunga Arr 52.42 187 P **P 14 50 41.1 +0.2**
WRA Warramunga Arr 52.42 187 *i* P **P 14 50 41.7 +0.8**
WRA pmax pmax
comp=Z,2.0nm,0.4s
WRA Warramunga Arr 52.42 187 P **P 14 50 40.9 0.0**
comp=Z,1.5nm,0.4s,baz=3.4,slow=7.7,SNR=56
comp=Z,1.5nm,0.4s
TRF Thorofare Moun 52.48 32 P **P 14 50 43.0 +1.9**
TRF IAmb IAmb 14 50 53.9
comp=Z,14nm,1.5s
CTAO Charters Tower 52.64 173 P **P 14 50 43.8 +1.3**
CTAO IAmb IAmb 14 51 13.7
comp=Z,7.7nm,1.1s
CTAO Charters Tower 52.64 173 P **P 14 50 43.8 +1.3**
CTAO pmax pmax
comp=Z,8.0nm,1.1s
RC01 Rabbit Creek A 52.73 35 P **P 14 50 43.5 +0.8**
G23K Bananza Creek 52.74 28 P **P 14 50 43.7 +0.8**
BVAR Borovoye Array 52.81 315 P **P 14 50 44.0 +0.5**
comp=Z,1.5nm,0.3s,baz=94,slow=9.5,SNR=12
BVAR PcP **PcP 14 51 52.1 +0.9**
comp=Z,1.8nm,0.5s,baz=61,slow=3.3,SNR=5.0
comp=Z,1.5nm,0.3s
BRVK Borovoye 52.87 315 P **P 14 50 43.8 -0.1**
BRVK IAmb IAmb 14 50 45.1
comp=Z,6.1nm,1.1s
BRVK Borovoye 52.87 315 *ceP* **P 14 50 43.8 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
H23K Yukon River 52.89 29 P **P 14 50 45.3 +1.4**
H23K IAmb IAmb 14 50 47.0
comp=Z,7.8nm,1.4s
NEA2 Nenana 53.05 31 P **P 14 50 46.6 +1.5**
NEA2 IAmb IAmb 14 50 47.5
comp=Z,4.6nm,1.0s
TOLK Toolik Lake Re 53.06 26 P **P 14 50 45.8 +0.6**
TOLK IAmb IAmb 14 50 48.4
comp=Z,7.4nm,1.2s
GHO Glory Hole Cre 53.11 34 P **P 14 50 46.9 +1.2**
RND Reindeer 53.13 32 P **P 14 50 46.3 +0.6**
RND IAmb IAmb 14 50 46.9
comp=Z,3.5nm,0.7s
RND Reindeer 53.13 32 P **P 14 50 46.3 +0.6**
RND pmax pmax
comp=Z,4.0nm,0.7s
KNK Knik Glacier 53.34 35 P **P 14 50 48.4 +1.2**
SML Sawmill 53.39 34 P **P 14 50 48.8 +1.1**
MDM Murphy Dome 53.41 30 P **P 14 50 48.8 +1.1**
MDM IAmb IAmb 14 50 50.1
comp=Z,5.6nm,0.7s
PWL Port Wells 53.42 35 P **P 14 50 48.9 +1.1**
E24K Your Creek 53.42 26 P **P 14 50 49.9 +2.1**
H24K Noodor Dome 53.58 29 P **P 14 50 50.8 +1.9**
H24K IAmb IAmb 14 51 24.3
comp=Z,6.7nm,1.4s
CCB Clear Creek Bu 53.59 31 P **P 14 50 49.7 +0.7**
F24K Squaw Lake 53.62 27 P **P 14 50 51.0 +1.7**
F24K IAmb IAmb 14 50 51.9
comp=Z,3.4nm,0.6s
G24K Hadweenzic Riv 53.76 28 P **P 14 50 52.4 +2.2**
DHY Denali Highway 53.80 33 P **P 14 50 51.1 +0.4**
DHY IAmb IAmb 14 51 28.9
comp=Z,11nm,1.5s
SCM Sheep Creek Mo 53.86 34 P **P 14 50 52.0 +0.9**
SCM Sheep Creek Mo 53.86 34 P **P 14 50 52.0 +0.9**
SCM pmax pmax
comp=Z,12nm,0.8s
HDA Harding Lake 53.97 31 P **P 14 50 52.3 +0.6**
HDA IAmb IAmb 14 50 52.5
comp=Z,2.9nm,0.6s
IL31 53.99 30 P **P 14 50 52.4 +0.6**
ILAR Eielson Array 53.99 30 P **P 14 50 51.9 0.0**
ILAR Eielson Array 53.99 30 P **P 14 50 52.1 +0.2**
comp=Z,1.5nm,0.7s,baz=264,slow=6.4,SNR=19
comp=Z,1.5nm,0.7s
FID Port Fidalgo 54.33 35 P **P 14 50 55.7 +1.2**
M24K Tolsona, Glenn 54.39 34 P **P 14 50 56.6 +1.6**
KKAR Karatay Array 54.44 303 P **P 14 50 55.9 +0.3**
KKAR Karatay Array 54.44 303 P **P 14 50 55.9 +0.3**
E25K Arctic Village 54.52 26 P **P 14 50 57.9 +2.1**
E25K IAmb IAmb 14 51 26.1
comp=Z,12nm,1.4s
KLU Klutina 54.55 35 P **P 14 50 56.9 +0.7**
KLU IAmb IAmb 14 51 16.4
comp=Z,10nm,1.2s
BMAR Burnt Mountain 54.90 27 P **P 14 51 00.8 +2.3**
RIDG Independent Ri 54.91 32 P **P 14 50 59.5 +0.8**
RIDG IAmb IAmb 14 51 33.5
comp=Z,7.9nm,1.3s
N25K Chitina, Valde 55.17 34 P **P 14 51 02.0 +1.4**
N25K IAmb IAmb 14 51 17.9
comp=Z,11nm,1.3s
SCRK Sand Creek 55.28 31 P **P 14 51 02.1 +0.7**
SCRK IAmb IAmb 14 51 03.5
comp=Z,6.5nm,1.1s
J26L Joseph Creek 55.43 31 P **P 14 51 03.0 +0.6**
MENT Mentasta 55.47 33 P **P 14 51 04.7 +2.0**
MENT IAmb IAmb 14 51 05.4
comp=Z,5.3nm,0.6s
GLB Gilahina Butte 55.56 34 P **P 14 51 04.7 +1.3**
GLB IAmb IAmb 14 51 46.8
comp=Z,11nm,1.4s
M26K Nabesna, AK 55.85 33 P **P 14 51 06.5 +1.1**
M26K IAmb IAmb 14 51 45.0
comp=Z,7.8nm,1.4s
MCARA McCarthy VSAT 55.95 34 P **P 14 51 08.1 +2.0**
CRQM Cirque 55.96 35 P **P 14 51 07.8 +1.4**
E27K Coleen River 56.00 26 P **P 14 51 08.1 +1.7**
WAX Waxell Ridge 56.14 36 P **P 14 51 09.2 +1.7**
AS31 Alice Springs 56.15 187 P **P 14 51 08.1 +0.2**
ASAR Alice Springs 56.15 187 P **P 14 51 08.1 +0.2**
ASAR Alice Springs 56.15 187 P **P 14 51 08.2 +0.4**
comp=Z,0.4nm,0.3s,baz=1.6,slow=6.7,SNR=32
comp=Z,0.4nm,0.3s
D27M Malcolm River 56.18 25 P **P 14 51 09.2 +1.6**
D27M IAmb IAmb 14 51 31.7
comp=Z,6.9nm,1.2s
L27K Beaver Creek, 56.32 32 P **P 14 51 10.2 +1.5**
BCAR Beaver Creek A 56.34 32 P **P 14 51 10.5 +1.6**
M27K Edge Creek, AK 56.38 33 P **P 14 51 11.0 +1.7**
M27K IAmb IAmb 14 51 42.6
comp=Z,8.1nm,1.2s
GRNC Granite Creek 56.64 35 P **P 14 51 12.9 +1.6**
GRNC IAmb IAmb 14 51 46.3
comp=Z,15nm,1.4s
F28M Old Crow 56.69 27 P **P 14 51 13.4 +2.1**
F28M IAmb IAmb 14 51 22.9
comp=Z,7.0nm,1.4s
CTGM Chitina Glacie 56.81 35 P **P 14 51 13.8 +1.4**
CTGM IAmb IAmb 14 51 17.6
comp=Z,16nm,1.5s
I28M Miner Creek 56.88 29 P **P 14 51 14.6 +1.8**
I28M IAmb IAmb 14 51 15.2
comp=Z,4.8nm,0.7s
DAWY Dawson 57.28 31 P **P 14 51 17.0 +1.5**
H29M Whitestone 57.43 28 P **P 14 51 18.0 +1.5**
H29M IAmb IAmb 14 51 52.5
comp=Z,5.7nm,1.1s
G29M Pine Creek 57.48 28 P **P 14 51 19.1 +2.3**
M29M Somme Creek 57.94 33 P **P 14 51 22.7 +2.5**
M29M IAmb IAmb 14 51 23.2
comp=Z,5.4nm,0.8s
EPYK Eagle Plains 58.07 28 P **P 14 51 22.9 +2.0**
K29M Barlow Dome 58.13 31 P **P 14 51 23.4 +1.8**
K29M IAmb IAmb 14 51 24.6
comp=Z,7.1nm,1.2s
G30M tAoh Zraii Nji 58.18 27 P **P 14 51 23.2 +1.5**
O29M Mount Kennedy 58.26 35 P **P 14 51 24.6 +2.1**
N30M Aishikik Lake 58.76 34 P **P 14 51 28.3 +2.4**
INK Inuvik 58.98 26 P **P 14 51 27.8 +0.7**
INK Inuvik 58.98 26 P **P 14 51 27.8 +0.7**
INK pmax pmax
comp=Z,21nm,1.5s
ARU Arti 59.00 320 P **P 14 51 28.2 +0.7**
ARU IAmb IAmb 14 51 28.6
comp=Z,6.1nm,0.7s
ARU Arti 59.00 320 *d iP* **P 14 51 24.7 -2.8**
ARU S **S 14 59 22.0 -2.6**
ARU SS **SS 15 03 15.7 -4.0**
ARU pmax pmax
comp=Z,7.0nm,0.8s
H31M Peel River 59.12 29 P **P 14 51 29.9 +1.7**
WHY Whitehorse 59.98 35 P **P 14 51 35.7 +1.4**
WHY IAmb IAmb 14 51 37.1
comp=Z,3.5nm,0.8s
ABKAR Akbulak array 59.99 312 P **P 14 51 34.6 +0.2**
ABKAR Akbulak array 59.99 312 P **P 14 51 34.7 +0.2**
ABKAR IAmb IAmb 14 51 35.4
comp=Z,4.3nm,0.6s
FARO Faro, Yukon 60.32 33 P **P 14 51 38.3 +1.8**
FARO IAmb IAmb 14 51 38.9
comp=Z,8.1nm,1.3s
MMPY Sheldon Lake, 61.16 32 P **P 14 51 44.4 +2.2**
MMPY IAmb IAmb 14 51 44.9
comp=Z,12nm,1.4s
C36M Paulatuk 62.05 24 P **P 14 51 49.1 +1.1**
KIRV Kirov 63.16 324 *ceP* **P 14 51 52.9 -2.6**
FORT Forrest 63.93 191 P **P 14 52 01.9 +1.0**
STKA Stephens Creek 64.05 178 P **P 14 52 02.6 +1.0**
comp=Z,1.1nm,0.7s,baz=325,slow=14,SNR=4.4
comp=Z,1.1nm,0.7s
SPITS Spitsbergen Ar 64.73 349 P **P 14 52 07.3 +1.8**
comp=Z,16nm,1.1s,baz=2.5,slow=10,SNR=2.2
comp=Z,16nm,1.1s
EUNU Eureka 64.84 8 P **P 14 52 06.8 +0.5**
EUNU IAmb IAmb 14 52 29.3
comp=Z,11nm,1.5s
GEYT Alibeck 65.02 300 P **P 14 52 07.8 -0.4**
comp=Z,1.8nm,0.6s,baz=72,slow=14,SNR=4.0
comp=Z,1.8nm,0.6s
VRH Novokhopyorsk 70.15 319 *eP* **P 14 52 39.1 -0.9**
VRH pmax pmax
comp=Z,20nm,0.6s
LPSR Galich'ya Gora 71.02 321 *eP* **P 14 52 44.1 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 71.56 319 *eP* **P 14 52 44.3 -4.3**
VSR pmax pmax
comp=Z,9.0nm,0.5s
FINES FINESS Array B 72.26 333 P **P 14 52 53.2 +0.6**
comp=Z,1.2nm,0.3s,baz=62,slow=6.4,SNR=20
comp=Z,1.2nm,0.3s
KBZ Khabaz 72.95 311 P **P 14 52 58.2 +1.3**
comp=Z,8.5nm,0.8s,baz=90,slow=5.4,SNR=17
comp=Z,8.5nm,0.8s
KIV Kislovodsk 72.97 311 *eP* **P 14 52 58.3 +1.0**
KIV pmax pmax
comp=Z,13nm,1.0s
PINE Pine Mountain 74.23 48 P **P 14 53 07.0 +2.2**
PINE IAmb IAmb 14 53 08.5
comp=Z,8.9nm,0.8s
K05A Summer Lake 74.79 49 P **P 14 53 10.2 +2.1**
MNK Minsk 75.57 326 *i* P **P 14 53 08.3 -3.6**
MNK *i* P **P 14 53 08.3 -3.6**
MNK *i* P **P 14 53 08.3 -3.6**
comp=Z,4.0nm,0.6s,baz=53
MNK *i* pP **pP 14 53 40.7 -1.0**
MNK *i* PP **PP 14 55 55.5 -6.8**
MNK *i* S **S 15 02 39.5 -3.4**
MNK *i* sS **sS 15 03 35.9 +2.5**
MNK *i* SS SS 15 07 19.2 -16
MNK *i* SSS SSS 15 10 54.2
MNK Minsk 75.57 326 *i* P **P 14 53 08.3 -3.6**
MNK *i* *PP **pP 14 53 40.6 -1.0**
MNK *i* S **S 15 02 39.4 -3.4**
MNK *i* *SS **sS 15 03 35.8 +2.5**
MNK *i* SSS SSS 15 10 54.2
MNK pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 77.14 322 P **P 14 53 21.2 +0.3**
comp=Z,3.2nm,0.6s,baz=50,slow=5.5,SNR=11
comp=Z,3.2nm,0.6s
AKBB Malin Array Si 77.14 322 P **P 14 53 21.3 +0.4**
AKBB IAmb IAmb 14 53 22.0
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 77.14 322 P **P 14 53 21.3 +0.4**
AKBB pmax pmax
comp=Z,6.0nm,0.8s
HFS Hagfors 77.71 336 P **P 14 53 24.3 +0.4**
comp=Z,0.9nm,0.4s,baz=103,slow=3.2,SNR=7.0
comp=Z,0.9nm,0.4s
NC204 NORSAR Array S 77.86 337 P **P 14 53 25.5 +0.7**
NC204 IAmb IAmb 14 53 27.7
comp=Z,21nm,1.4s
NB2 NORSAR Subarra 77.89 337 P **P 14 53 25.5 +0.6**
comp=Z,0.8nm,0.6s,baz=41,slow=5.3
NOA NORSAR Array B 77.89 337 P **P 14 53 25.4 +0.4**
comp=Z,1.0nm,0.6s,baz=43,slow=5.4,SNR=3.8
comp=Z,1.0nm,0.6s
KVN Kaiserville 78.51 51 P **P 14 53 30.4 +1.4**
KVN Kaiserville 78.51 51 P **P 14 53 30.4 +1.4**
KVN pmax pmax
comp=Z,3.0nm,0.7s
NVAR Mina Array Bea 78.71 52 P **P 14 53 32.2 +2.0**
NVAR Mina Array Bea 78.71 52 P **P 14 53 31.9 +1.8**
comp=Z,1.6nm,0.6s,baz=287,slow=5.6,SNR=17
comp=Z,1.6nm,0.6s
ELK Elko 79.43 48 P **P 14 53 34.6 +0.5**
ELK Elko 79.43 48 P **P 14 53 34.6 +0.5**
ELK pmax pmax
comp=Z,2.0nm,1.0s
R11B Troy Canyon, C 80.54 51 P **P 14 53 41.6 +1.6**
BR131 Keskin Array S 80.94 311 P **P 14 53 42.9 +0.8**
BR131 IAmb IAmb 14 53 43.7
comp=Z,6.0nm,0.8s
BR131 Keskin Array S 80.94 311 P **P 14 53 42.9 +0.8**
BR131 pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 80.94 311 P **P 14 53 43.0 +0.9**
BRTR Keskin Array B 80.94 311 P **P 14 53 43.2 +1.1**
comp=Z,4.0nm,0.9s,baz=93,slow=4.3,SNR=11
comp=Z,4.0nm,0.9s
KWP Kalwaria Pacla 81.09 324 P **P 14 53 43.7 +1.2**
KWP IAmb IAmb 14 53 45.3
comp=Z,15nm,1.0s
KWP Kalwaria Pacla 81.09 324 P **P 14 53 43.7 +1.2**
KWP pmax pmax
comp=Z,15nm,1.0s
BURAR Bucovina Array 81.11 322 P **P 14 53 43.0 +0.3**
PDAR Pinedale Array 81.73 44 P **P 14 53 47.1 +0.9**
comp=Z,0.4nm,0.6s,baz=26,slow=0.5,SNR=6.2
comp=Z,0.4nm,0.6s
MMAI Mount Meron Ar 83.58 305 P **P 14 53 57.3 +1.5**
comp=Z,3.0nm,0.7s,baz=14,slow=7.1,SNR=7.4
comp=Z,3.0nm,0.7s
VYHS Vyhne 83.75 325 *eP* **P 14 53 57.4 +1.1**
VYHS Vyhne 83.75 325 *eP* **P 14 53 57.4 +1.1**
CLL Collm 84.41 330 P **P 14 54 00.1 +0.6**
CLL IAmb IAmb 14 54 01.3
comp=Z,7.0nm,0.8s
CLL Collm 84.41 330 *i* P **P 14 54 00.1 +0.6**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 84.41 330 *i* P **P 14 54 00.1 +0.6**
comp=Z,7.0nm,0.8s
MODS Modra-Piesok 84.58 326 *eP* **P 14 54 02.0 +1.5**
MODS Modra-Piesok 84.58 326 *eP* **P 14 54 02.1 +1.5**
GERES GERESS Array B 85.90 328 P **P 14 54 08.0 +0.8**
GERES GERESS Array B 85.90 328 P **P 14 54 08.0 +0.8**
GERES GERESS Array B 85.90 328 P **P 14 54 07.7 +0.5**
comp=Z,1.0nm,0.6s,baz=99,slow=4.3,SNR=3.0
comp=Z,1.0nm,0.6s
EKA Eskdalemuir Ar 86.98 340 P **P 14 54 14.2 +2.0**
comp=Z,2.8nm,1.0s,baz=162,slow=18,SNR=3.7
comp=Z,2.8nm,1.0s
TXAR Lajitas Array 93.86 52 P **P 14 54 46.7 +1.7**
comp=Z,1.6nm,0.7s,baz=275,slow=2.9,SNR=9.0
comp=Z,1.6nm,0.7s
QSPA South Pole Qui 122.25 180 PKP **PKiKP 15 00 21.3 +0.5**
comp=Z,0.9nm,0.6s,baz=314,slow=1.5,SNR=13
LPAZ La Paz 149.90 64 PKPbc **PKiKP 15 01 19.3 +0.3**
comp=Z,1.0nm,0.5s,baz=9.5,slow=4.6,SNR=6.6

NEIC ***24*** *15:17:43.6±1.4, 19°.1S±0°.1×177°.56W±0°.07, h551km±8km, mb4.3/85, Error ellipse: s-maj=18.6km s-min=2.5km az=150.0*
IDC ***24*** *15:17:45.1±1.1, 19°.14S×177°.66W, h567km±11km, mb3.5/12, mbtmp4.4/15, Error ellipse: s-maj=15.5km s-min=12.3km az=138.0*
NOU ***24*** *15:17:48.5, 20°.43S×178°.12W, h420km, mb4.3/12, Fiji Islands Region*
ISC 24 15:17:44.6±0.9, 19°.20S±0°.08×177°.64W±0°.09, h563km±9km, n137, σ0 80/142, mb4.3/57, 3C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**3.28**	**319**	P	**P**	**15 19 03.0**	**+0.5**
DGTI	**Dogotuki**	**3.81**	**319**	P	**P**	**15 19 06.3**	**+0.2**
MSVF	**Nonsavu**	**4.34**	**289**	P	**P**	**15 19 10.9**	**+0.9**
MSVF	**Nonsavu**	**4.34**	**289**	P	**P**	**15 19 11.0**	**+0.9**
	33nm,0.5s,baz=139,slow=6.2,SNR=108						
MSVF				S	**S**	**15 20 21.3**	**+1.6**
	18nm,1.1s,baz=121,slow=24,SNR=1.0						
YSA	**Yasawairara**	**5.18**	**298**	P	**P**	**15 19 17.3**	**+0.5**
NIUE	**Niue**	**7.30**	**90**	P	P	15 19 33.7	-2.2
AFI	**Afiamalu**	**7.70**	**48**	P	P	15 19 35.9	-4.0
AFI				S		15 21 05.2	-9.2
FUNA	**Funafuti**	**11.04**	**343**	P	P	15 20 29.8	+16
MARNC	**Mare, Loyalty**	**13.63**	**258**	P	**P**	**15 20 39.5**	**-0.5**
LIFNC	**LIFOU**	**14.30**	**261**	P	**P**	**15 20 45.1**	**-1.7**
PINNC	**Pines Island,**	**14.34**	**254**	P	**P**	**15 20 46.4**	**-0.7**
PINNC	**Pines Island,**	**14.34**	**254**	P	**P**	**15 20 47.0**	**-0.2**
YATNC	**Mamie plateau,**	**14.76**	**256**	P	**P**	**15 20 50.0**	**-1.4**
OUENC	**Ouen Island, N**	**14.86**	**255**	P	**P**	**15 20 52.2**	**-0.2**
DZM	**Mont Dzumac**	**15.17**	**256**	P	**P**	**15 20 55.2**	**-0.4**
DZM				IAmb	IAmb	15 21 09.9	
	comp=Z,15nm,1.2s						
DZM	**Mont Dzumac**	**15.17**	**256**	P	**P**	**15 20 55.9**	**+0.3**
DZM	**Mont Dzumac**	**15.17**	**256**	P	**P**	**15 20 55.5**	**-0.1**
	comp=Z,3.3nm,0.5s,baz=261,slow=22,SNR=10						
KOUNC	**Koumac, New Ca**	**17.05**	**262**	P	**P**	**15 21 14.4**	**+1.1**
KOUNC	**Koumac, New Ca**	**17.05**	**262**	P	**P**	**15 21 15.8**	**+2.6**
URZ	**Urewera**	**19.54**	**192**	P	**P**	**15 21 34.2**	**-1.4**
URZ	**Urewera**	**19.54**	**192**	P	**P**	**15 21 34.6**	**-1.1**
	comp=Z,7.9nm,0.6s,baz=87,slow=12,SNR=5.8						
BKZ	**Black Stump Fm**	**20.54**	**193**	P	**P**	**15 21 43.1**	**-1.7**
BKZ				IAmb	IAmb	15 22 05.1	
	comp=Z,12nm,1.2s						
GVZ	**Greta Valley S**	**24.97**	**196**	P	**P**	**15 22 23.3**	**-0.9**
WHZ	**Wether Hill Ro**	**29.16**	**201**	P	**P**	**15 23 00.7**	**-0.2**
EIDS	**Eidsvold**	**29.54**	**252**	P	**P**	**15 23 04.2**	**-0.2**
EIDS				IAmb	IAmb	15 23 05.3	
	comp=Z,5.5nm,0.8s						
ARMA	**Armidale**	**29.95**	**242**	P	**P**	**15 23 08.8**	**+0.7**
ARMA				IAmb	IAmb	15 23 10.1	
	comp=Z,13nm,1.1s						
CAN	**Canberra**	**33.52**	**235**	P	**P**	**15 23 39.2**	**+0.8**
CTAO	**Charters Tower**	**33.97**	**262**	P	**P**	**15 23 42.4**	**+0.2**
PMG	**Port Moresby**	**35.40**	**281**	P	**P**	**15 23 54.5**	**+0.3**
TOO	**Toolangi**	**36.94**	**232**	P	**P**	**15 24 07.1**	**+0.5**
TOO				IAmb	IAmb	15 24 08.4	
	comp=Z,13nm,1.4s						
COEN	**Coen**	**37.85**	**272**	P	**P**	**15 24 14.3**	**0.0**
STKA	**Stephens Creek**	**38.67**	**243**	P	**P**	**15 24 21.4**	**+0.7**
STKA	**Stephens Creek**	**38.67**	**243**	P	**P**	**15 24 21.4**	**+0.7**
	comp=Z,10nm,0.8s,baz=92,slow=8.2,SNR=18						
	comp=Z,10nm,0.8s						
BBOO	**Buckleboo**	**43.44**	**242**	P	**P**	**15 24 58.6**	**+0.1**
WR0	**Warramunga Arr**	**44.94**	**261**	P	**P**	**15 25 09.5**	**-0.7**
WB0	**Warramunga Arr**	**45.10**	**261**	P	**P**	**15 25 10.6**	**-0.9**
WB0				IAmb	IAmb	15 25 11.8	
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**45.12**	**261**	P	**P**	**15 25 10.8**	**-0.8**
WB2				IAmb	IAmb	15 25 12.0	
	comp=Z,11nm,0.8s						
WB2				PcP	**PcP**	**15 26 40.1**	**0.0**
WRAB	**Tennant Creek**	**45.12**	**261**	P	**P**	**15 25 10.7**	**-0.9**
WRAB				IAmb	IAmb	15 25 11.9	
	comp=Z,9.5nm,0.8s						
WRA	**Warramunga Arr**	**45.13**	**261**	P	**P**	**15 25 10.4**	**-1.3**
WRA				PcP	**PcP**	**15 26 39.7**	**-0.4**
WRA	**Warramunga Arr**	**45.13**	**261**	P	**P**	**15 25 11.0**	**-0.7**
	comp=Z,8.3nm,0.9s,baz=97,slow=7.6,SNR=118						
WRA				PcP	**PcP**	**15 26 39.7**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=96,slow=3.8,SNR=5.4						
	comp=Z,8.3nm,0.9s						

AS31	Alice Springs	45.15	255	P	P	15 25 11.6	-0.2
AS31				IAmb	IAmb	15 25 13.2	
	comp=Z,6.1nm,0.9s						
AS31				PcP	PcP	15 26 39.4	-0.8
ASAR	Alice Springs	45.16	255	P	P	15 25 11.6	-0.3
ASAR				PcP	PcP	15 26 39.8	-0.5
ASAR	Alice Springs	45.16	255	P	P	15 25 11.8	0.0
	comp=Z,16nm,0.7s,baz=89,slow=8.2,SNR=200						
ASAR				PcP	PcP	15 26 40.0	-0.2
	comp=Z,1.7nm,0.6s,baz=97,slow=4.6,SNR=8.1						
ASAR				ScP	ScP	15 29 41.5	+2.0
	comp=Z,0.4nm,0.8s,baz=101,slow=4.8,SNR=2.7						
ASAR				S	S	15 31 10.5	-0.6
	comp=Z,0.2nm,0.7s,baz=93,slow=16,SNR=3.3						
	comp=Z,16nm,0.7s						
MTN	Manton Dam	49.50	269	P	P	15 25 43.7	-0.8
MTN				IAmb	IAmb	15 25 44.6	
	comp=Z,12nm,0.8s						
FORT	Forrest	50.12	246	P	P	15 25 48.3	-0.5
KNRA	Kununurra	51.09	265	P	P	15 25 55.8	-0.2
KNRA				IAmb	IAmb	15 25 56.3	
	comp=Z,12nm,0.8s						
SOEI	Soe	56.81	271	P	P	15 26 37.0	+0.5
TNTI	Ternate	57.47	284	P	P	15 26 40.4	-0.5
TNTI				IAmb	IAmb	15 26 41.8	
	comp=Z,18nm,0.8s						
PSA00	Pilbara Seismi	58.30	256	P	P	15 26 46.0	-0.4
PSA00	Pilbara Seismi	58.30	256	P	P	15 26 45.5	-0.9
PSA00				IAmb	IAmb	15 26 46.4	
	comp=Z,10nm,0.7s						
MBWA	Marble Bar	58.47	257	P	P	15 26 47.0	-0.6
MBWA				IAmb	IAmb	15 27 01.2	
	comp=Z,15nm,1.1s						
MMRI	Maumere	59.05	271	P	P	15 26 51.0	-0.5
MMRI				IAmb	IAmb	15 26 51.4	
	comp=Z,13nm,0.6s						
SBA	Scott Base	59.19	184	P	P	15 26 53.7	+2.3
VNDA	Vanda	59.23	185	P	P	15 26 53.1	+1.4
VNDA	Vanda	59.23	185	P	P	15 26 53.0	+1.4
	comp=Z,1.1nm,0.9s,baz=352,slow=8.1,SNR=9.8						
	comp=Z,1.1nm,0.9s						
MORW	Morawa	60.64	247	P	P	15 27 01.2	-0.7
MORW				IAmb	IAmb	15 27 12.6	
	comp=Z,12nm,1.3s						
GIRL	Giralia	63.23	254	P	P	15 27 19.1	+0.3
TOLI2	Tolitoli	63.67	281	P	P	15 27 22.6	+0.8
TOLI2				IAmb	IAmb	15 27 23.6	
	comp=Z,5.1nm,0.8s						
CASY	Casey	65.28	205	P	P	15 27 30.8	-0.1
CASY				IAmb	IAmb	15 28 13.0	
	comp=Z,6.1nm,0.6s						
UGM	Wanagama	70.33	268	P	P	15 28 02.3	-0.4
QSPA	South Pole Qui	70.86	180	P	P	15 28 05.7	+0.7
QSPA				IAmb	IAmb	15 28 06.9	
	comp=Z,6.8nm,0.9s						
QSPA	South Pole Qui	70.86	180	P	P	15 28 05.7	+0.7
	comp=Z,5.2nm,0.8s,baz=357,slow=0.7,SNR=33						
	comp=Z,5.2nm,0.8s						
KSAR	Wonju Array Be	76.16	318	P	P	15 28 34.0	-1.3
KS19	Wonju Array Si	76.20	318	P	P	15 28 34.2	-1.4
KS19				IAmb	IAmb	15 28 35.4	
	comp=Z,13nm,0.9s						
CHGN	Chignik	76.94	11	P	P	15 28 38.1	-1.0
KMRM	Mail Ridge	77.54	39	P	P	15 28 43.3	+0.4
R17K	Ugashik Creek	78.57	11	P	P	15 28 47.2	-0.7
YBH	Yreka Blue Hor	79.07	39	P	P	15 28 51.7	+0.6
PNTR	Pine Nut	79.40	42	P	P	15 28 52.4	-0.7
PNTR				IAmb	IAmb	15 28 54.2	
	comp=Z,12nm,0.8s						
DSP	Deep Springs	79.48	44	P	P	15 28 53.5	+0.3
YERR	Yerington	79.56	42	P	P	15 28 53.6	-0.4
YERR				IAmb	IAmb	15 28 54.8	
	comp=Z,6.5nm,0.6s						
LHV	Little Huntoon	79.62	43	P	P	15 28 54.0	0.0
MDJ	Mudanjiang	79.65	325	P	P	15 28 55.1	+1.1
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,190nm,5.2s						
NVAR	Mina Array Bea	79.85	43	P	P	15 28 55.0	-0.5
NVAR	Mina Array Bea	79.85	43	P	P	15 28 55.8	+0.3
	comp=Z,1.5nm,0.6s,baz=226,slow=8.8,SNR=18						
	comp=Z,1.5nm,0.6s						
KVN	Kaiserville	80.33	43	P	P	15 28 57.6	-0.4
K05A	Summer Lake	80.74	39	P	P	15 29 00.4	+0.5
K05A				IAmb	IAmb	15 29 01.9	
	comp=Z,11nm,1.1s						
O18K	Koktuh Hills	80.87	11	P	P	15 28 59.3	-0.7
O18K				IAmb	IAmb	15 29 04.4	
	comp=Z,14nm,1.1s						
J05D	Fort Rock, OR	80.88	38	P	P	15 28 60.0	-0.6
M16K	Timber Creek	81.35	9	P	P	15 29 02.8	+0.4
M16K				IAmb	IAmb	15 29 03.8	
	comp=Z,15nm,1.1s						
PINE	Pine Mountain	81.36	38	P	P	15 29 02.9	-0.2
PINE				IAmb	IAmb	15 29 04.6	
	comp=Z,8.9nm,0.9s						
R11B	Troy Canyon, C	81.59	45	P	P	15 29 04.3	-0.1
BRLK	Bradley Lake	81.65	13	P	P	15 29 03.4	-0.6
WVOR	Wild Horse Val	81.92	40	P	P	15 29 05.8	-0.1
L16K	Owhat River	81.93	9	P	P	15 29 05.3	0.0
L16K				IAmb	IAmb	15 29 15.4	
	comp=Z,14nm,1.4s						
K15K	Wolf Creek Mou	82.22	8	P	P	15 29 06.9	+0.2
K15K				IAmb	IAmb	15 29 37.4	
	comp=Z,13nm,1.1s						
LCMT	Little Creek M	82.48	47	P	P	15 29 08.9	+0.1
319A	Douglas	82.61	53	P	P	15 29 09.0	-0.6
319A				IAmb	IAmb	15 29 11.7	
	comp=Z,9.6nm,1.0s						
U15A	North Rim	82.84	48	P	P	15 29 11.9	+1.0
U15A				IAmb	IAmb	15 29 12.5	
	comp=Z,5.8nm,0.8s						
MAW	Mawson	82.90	200	P	P	15 29 10.2	-0.1
	comp=Z,1.2nm,0.7s,baz=124,slow=10,SNR=2.0						
	comp=Z,1.2nm,0.7s						
ELK	Elko	83.10	43	P	P	15 29 11.3	-0.8
L19K	White Mountain	83.10	11	P	P	15 29 10.3	-0.9
L19K				IAmb	IAmb	15 29 21.2	
	comp=Z,9.3nm,1.4s						
J16K	Anvik River	83.29	8	P	P	15 29 12.0	-0.1
J16K				IAmb	IAmb	15 29 37.6	
	comp=Z,22nm,1.5s						
G08A	Pilot Rock	83.38	37	P	P	15 29 12.8	-0.4
MTPU	Mount Pierson	83.72	46	P	P	15 29 15.8	+0.5
GHO	Glory Hole Cre	83.89	13	P	P	15 29 14.2	-1.0
J19K	Poorman	84.67	10	P	P	15 29 18.7	-0.2
J19K				IAmb	IAmb	15 29 19.9	
	comp=Z,9.3nm,1.3s						
N25K	Chitina, Valde	84.75	15	P	P	15 29 18.6	-0.8
N25K				IAmb	IAmb	15 29 19.6	
	comp=Z,6.4nm,0.7s						
PLID	Pearl Lake	84.99	39	P	P	15 29 20.9	-0.4
TMUT	Trail Mountain	85.01	46	P	P	15 29 20.9	-0.7
LYN	LuoYang	85.20	309	⇓P	P	15 29 21.0	-1.2
LYN				pmax	pmax		
	comp=Z,7.0nm,0.5s						
RND	Reindeer	85.36	13	P	P	15 29 21.4	-1.0
RND				IAmb	IAmb	15 29 22.6	
	comp=Z,9.9nm,1.1s						
425A	Indio Mountain	85.64	55	P	P	15 29 24.2	-0.4
425A				IAmb	IAmb	15 29 26.3	
	comp=Z,3.8nm,0.8s						
TX31	Lajitas Ar. Si	86.07	57	P	P	15 29 26.0	-0.6
TX32	Lajitas Array	86.07	57	P	P	15 29 26.0	-0.6
TX32				IAmb	IAmb	15 29 28.5	
	comp=Z,7.6nm,1.2s						
TXAR	Lajitas Array	86.07	57	P	P	15 29 27.2	+0.6
TXAR	Lajitas Array	86.07	57	P	P	15 29 27.4	+0.8
	comp=Z,2.0nm,0.8s,baz=221,slow=6.0,SNR=11						
	comp=Z,2.0nm,0.8s						
Q32M	Nakina River	86.30	22	P	P	15 29 27.1	0.0
ALPN	Alpine	86.53	56	P	P	15 29 28.1	-0.6
ALPN				IAmb	IAmb	15 29 29.8	
	comp=Z,4.5nm,0.7s						
CCB	Clear Creek Bu	86.68	12	P	P	15 29 27.2	-1.3
CCB				IAmb	IAmb	15 29 27.4	
	comp=Z,4.8nm,0.5s						
BCAR	Beaver Creek A	86.69	15	P	P	15 29 28.2	-0.4
IMAR	Indian Mountai	86.82	10	P	P	15 29 27.9	-1.2
ILAR	Eielson Array	86.98	13	P	P	15 29 28.7	-1.2
ILAR	Eielson Array	86.98	13	P	P	15 29 28.2	-1.7
	comp=Z,0.9nm,0.6s,baz=233,slow=4.9,SNR=20						
	comp=Z,0.9nm,0.6s						
IMW	Indian Meadow	87.46	42	P	P	15 29 32.5	-0.5
J26L	Joseph Creek	87.47	14	P	P	15 29 32.2	-0.2
YHL	Hebgen Lake	87.78	41	P	P	15 29 34.4	-0.1
PDAR	Pinedale Array	87.79	43	P	P	15 29 34.1	-0.5
PDAR	Pinedale Array	87.79	43	P	P	15 29 34.2	-0.3
	comp=Z,1.0nm,0.8s,baz=219,slow=3.6,SNR=8.4						
	comp=Z,1.0nm,0.8s						
ELIB	Princess Elisa	87.97	186	dP	P	15 29 34.6	-0.2
	comp=Z,7.8nm,0.7s						
K29M	Barlow Dome	88.44	17	P	P	15 29 36.6	-0.3
K29M				IAmb	IAmb	15 29 37.2	
	comp=Z,3.0nm,0.8s						
HHC	Hu-ho-hao-te	88.69	314	eP	P	15 29 40.5	+1.9
HHC				pmax	pmax		
	comp=Z,24nm,0.6s						
HHC				pmax	pmax		
	comp=Z,510nm,5.1s						
TROLL	Troll, Antarti	89.03	180	⇑P	P	15 29 39.7	0.0
	comp=Z,127nm,1.0s						
E22K	Anaktuvuk Pass	89.11	9	P	P	15 29 39.2	-0.6
E22K				IAmb	IAmb	15 29 49.8	
	comp=Z,9.1nm,1.4s						
SNAA	Sanae	89.30	178	P	P	15 29 40.3	-0.6
SNAA				IAmb	IAmb	15 29 40.9	
	comp=Z,2.2nm,0.9s						
SNAA	Sanae	89.30	178	⇑P	P	15 29 40.5	-0.4
	comp=Z,26nm,0.7s						
SNAA	Sanae	89.30	178	P	P	15 29 40.7	-0.2
	comp=Z,0.9nm,0.6s,baz=210,slow=8.7,SNR=10						
	comp=Z,0.9nm,0.6s						
MMPY	Sheldon Lake,	89.33	20	P	P	15 29 40.1	-0.9
VNA3	Neumayer Olymp	89.41	176	⇑P	P	15 29 41.2	-0.2
	comp=Z,4.6nm,0.6s						
BMAR	Burnt Mountain	89.76	12	P	P	15 29 42.9	0.0
VNA2	Neumayer--Watz	89.86	177	⇓P	P	15 29 43.7	+0.3
	comp=Z,3.2nm,0.6s,baz=188,slow=5.0						
CMAR	Chiang Mai Arr	90.00	289	P	P	15 29 45.2	+0.2
CMAR	Chiang Mai Arr	90.00	289	P	P	15 29 45.7	+0.7
	comp=Z,1.0nm,0.7s,baz=116,slow=2.5,SNR=10						
	comp=Z,1.0nm,0.7s						
PZH	PanZhiHua	90.40	298	P	P	15 29 47.1	+0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,220nm,5.8s						
EKA	Eskdalemuir Ar	143.68	5	PKP	PKPab	15 36 13.3	-1.2
	comp=Z,1.0nm,0.5s,baz=328,slow=3.2,SNR=5.2						
BRTR	Keskin Array B	146.20	314	PKPbc	PKPdf	15 36 21.3	+0.7
	comp=Z,0.5nm,0.6s,baz=103,slow=1.9,SNR=5.2						
MMAI	Mount Meron Ar	147.44	302	PKPbc	PKPbc	15 36 26.4	+0.3
	comp=Z,2.0nm,0.5s,baz=72,slow=4.7,SNR=6.0						

MEX ***24*** *15:22:41.2±0.5, 13°.65N×93°.10W, h15km, MD4.1*
GCG ***24*** *15:22:44.9±1.7, 14°.07N×92°.81W, h12km±999km, MD3.8*
ISC 24 15:22:39.5±2.7, 13°.94N±0°.09×93°.06W±0°.04, h10km±15km, n15, σ2°.05/28, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATR	El Naranjo	1.42	34	eP	Pn	15 23 06.4	+0.7
PATR				eS	Sg	15 23 27.3	+1.9
CHUJ	Union Juarez	1.48	39	eP	Pn	15 23 07.3	+0.8
CHUJ				eS	Sg	15 23 28.0	+0.9
PAVE	Pavencul	1.52	34	eP	Pn	15 23 07.9	+0.9
PAVE				eS	Sg	15 23 29.3	+0.9
STG3	Santiaguito 3,	1.64	62	eP	Pn	15 23 10.0	+1.4
STG3				eS	Sn	15 23 28.0	-1.9
PCIG		1.77	355	i P	Pb	15 23 12.0	0.0
PCIG				i S	Sg	15 23 35.0	-1.4
FUG	Fuego 3	2.21	76	eP	Pn	15 23 17.3	+0.8
FUG				eS	Sn	15 23 41.0	-3.0
PCG	Pacaya	2.42	79	eP	Pn	15 23 22.5	+3.0
PCG				eS	Sn	15 23 49.3	-0.1
CARR	Arriaga	2.44	340	eP	Pb	15 23 22.4	-1.1
CARR				eS	Sb	15 23 52.8	-0.9
CCIG	Comitan	2.50	21	eP	Pb	15 23 25.3	+0.7
CCIG				eS	Sg	15 23 58.0	-1.9
TGIG		2.83	359	eP	Pb	15 23 28.7	-1.4
TGIG				i S	Sb	15 24 03.7	-1.2
NILT	Santiago Nilte	3.01	330	eS	Sn	15 24 04.7	+1.1
HUIG	Huatulco	3.46	302	eP	Pb	15 23 40.5	-0.5
HUIG				i S	Sn	15 24 10.0	-4.7
UXUV	UXUV	3.52	343	eP	Pb	15 23 38.9	-3.0
UXUV				eS	Sn	15 24 19.0	+2.9
CMIG	Matias Romero	3.59	331	eP	Pn	15 23 38.1	+2.8
CMIG				eS	Sn	15 24 17.8	-0.1
TOIG	Toxpalan	5.65	318	i S	Sn	15 25 11.8	+3.1

EAF ***24*** *15:30:27.7, 26°.00S×30°.35E, h10km, MC3.5*
BUL 24 15:30:29.3±1.0, 25°.98S×30°.23E, h10km, MD3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	Mopani	2.68	24	i P	Pn	15 31 09.1	-3.4
MOPA				i S	Sn	15 31 39.9	-5.1
MOPA	Mopani	2.68	24	i P	Pn	15 31 09.1	-3.4
	baz=21						
MOPA				i S	Sn	15 31 39.9	-5.1
	baz=21						
MUSN	Musina, Limpop	3.69	355	i P	Pn	15 31 25.6	-0.9
MUSN				i S	Sn	15 32 07.8	-2.4
MUSN	Musina, Limpop	3.69	355	i P	Pn	15 31 25.6	-0.9
	baz=353						
MUSN				i S	Sn	15 32 07.8	-2.4
	baz=353						
LBTB	Lobatse	4.29	282	i P	Pn	15 31 33.9	-0.9
LBTB				i S	Sn	15 32 22.0	-3.0
LBTB	Lobatse	4.29	282	i P	Pn	15 31 33.9	-0.9
	baz=282						
LBTB				i S	Sn	15 32 22.0	-3.0
	baz=282						
BOSA	Boshof	5.14	238	i P	Pn	15 31 45.7	-0.8
BOSA				i S	Sn	15 32 42.3	-3.6
BOSA	Boshof	5.14	238	i P	Pn	15 31 45.7	-0.8
	baz=239						
BOSA				i S	Sn	15 32 42.3	-3.6
	baz=239						
CHIPN	CHIPINGE	6.14	22	i P	Pn	15 31 59.2	-1.1
CHIPN	CHIPINGE	6.14	22	i P	Pn	15 31 59.2	-1.1
	baz=25						

NEIC ***24*** *15:58:31.1±2.4, 30°.35S±0°.08×176°.12W±0°.09, h10km±2km, mb4.3/12, Error ellipse: s-maj=17.5km s-min=7.2km az=133.0*
IDC ***24*** *15:58:42.8±2.5, 29°.45S×176°.54W, h72km±20km, mb3.6/5, mbtmp4.0/5, Error ellipse: s-maj=32.2km s-min=26.6km az=176.0*
ISC 24 15:58:40.3±0.8, 29°.87S±0°.08×176°.63W±0°.09, h50km, n45, σ2°.41/40, mb4.1/14, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.28	298		Pn	15 59 02.5	+0.6
RAO	Raoul Island	1.28	298	P	Pn	15 59 02.8	+1.0
	881nm,0.3s,baz=150,slow=7.9,SNR=15						
RAO				S	Sn	15 59 20.5	+2.5
	3μm,0.3s,baz=293,slow=23,SNR=9.4						
WMGZ	Waiomatatini S	8.94	206	P	Pn	16 00 47.1	+0.4
PKGZ	Pakihiroa	9.13	207	P	Pn	16 00 41.7	-7.7
HAZ	Te Kaha	9.14	209	P	Pn	16 00 50.3	+0.8
PUZ	Puketiti	9.22	206	P	Pn	16 00 50.7	+0.1
RUGZ	Raukumara Rang	9.36	209	P	Pn	16 00 52.4	-0.2
TKGZ	Te Karaka	9.70	207	P	Pn	16 00 55.5	-1.6
MWZ	Matawai	9.73	208	P	Pn	16 00 56.6	-1.1
URZ	Urewera	9.85	210	P	Pn	16 00 59.3	+0.2
URZ	Urewera	9.85	210	P	Pn	16 00 58.0	-1.2
	2.5nm,0.5s,baz=113,slow=21,SNR=1.3						
URZ				S	Sn	16 02 52.6	+4.4
	8.7nm,0.5s,baz=152,slow=22,SNR=8.6						
KMRZ	Kaimai	10.07	216	P	Pn	16 01 08.4	+6.1
MUGZ	Murupara	10.18	211	P	Pn	16 01 03.0	-0.8
BKZ	Black Stump Fm	10.87	210	Pn	Pn	16 01 05.4	-7.8
BKZ	Black Stump Fm	10.87	210	P	Pn	16 01 12.1	-1.1
TKNZ	Takaka Hill	13.99	214	Pn	Pn	16 01 47.4	-8.4
RPZ	Rata Peaks	16.95	212	P	Pn	16 02 33.5	-0.5
	6.4nm,0.8s,baz=13,slow=19,SNR=1.9						
RPZ				S	Sn	16 05 31.0	-10
	5.6nm,0.8s,baz=11,slow=20,SNR=1.3						
DZM	Mont Dzumac	17.08	293	P	P	16 02 36.8	0.0
RAR	Rarotonga	17.46	64	P	Pn	16 02 27.4	-13
	8.7nm,0.5s,baz=249,slow=7.5,SNR=7.6						
RAR				S	Sn	16 05 22.2	-32
	5.2nm,0.4s,baz=141,slow=12,SNR=1.7						
CTAO	Charters Tower	34.90	278	P	P	16 05 28.0	+0.7
CTAO				IAmb	IAmb	16 05 59.3	
	comp=Z,6.6nm,1.1s						
STKA	Stephens Creek	35.76	256	P	P	16 05 32.6	-2.0
STKA	Stephens Creek	35.76	256	P	P	16 05 31.6	-3.0
	comp=Z,1.4nm,0.8s,baz=77,slow=14,SNR=2.1						
AS31	Alice Springs	44.33	266	P	P	16 06 44.7	-1.0
ASAR	Alice Springs	44.33	266	P	P	16 06 45.5	-0.3
ASAR	Alice Springs	44.33	266	P	P	16 06 46.1	+0.4
	comp=Z,1.0nm,0.6s,baz=98,slow=7.2,SNR=20						
	comp=Z,1.0nm,0.6s						
WR0	Warramunga Arr	45.09	271	P	P	16 06 51.1	-0.7
WR0				IAmb	IAmb	16 07 14.4	
	comp=Z,3.5nm,1.1s						
WB2	Warramunga Arr	45.26	271	P	P	16 06 51.6	-1.5
WB2				IAmb	IAmb	16 07 08.3	
	comp=Z,2.9nm,0.9s						
WRAB	Tennant Creek	45.27	271	P	P	16 06 52.6	-0.5
WRA	Warramunga Arr	45.27	271	P	P	16 06 53.6	+0.4
	comp=Z,1.2nm,0.5s,baz=110,slow=8.2,SNR=17						
	comp=Z,1.2nm,0.5s						
WB0	Warramunga Arr	45.29	271	P	P	16 06 53.7	+0.3
WB0				IAmb	IAmb	16 07 08.8	
	comp=Z,2.9nm,0.7s						
VNDA	Vanda	48.75	186	P	P	16 07 09.4	-10
VNDA				IAmb	IAmb	16 07 18.6	
	comp=Z,2.8nm,1.4s						
KNRA	Kununurra	51.86	273	P	P	16 07 42.4	-1.5
CASY	Casey	56.16	208	P	P	16 08 09.7	-4.8
CASY				IAmb	IAmb	16 08 19.5	
	comp=Z,4.9nm,1.1s						
QSPA	South Pole Qui	60.24	180	P	P	16 08 46.4	+3.2
	comp=Z,1.8nm,0.9s,baz=352,slow=1.6,SNR=5.6						
	comp=Z,1.8nm,0.9s						
TROLL	Troll, Antarti	78.40	180	⇑P	P	16 10 38.4	+3.1
SNAA	Sanae	78.65	178	P	P	16 10 29.8	-6.8
SNAA	Sanae	78.65	178	⇑P	P	16 10 39.2	+2.6
	comp=Z,45nm,1.1s						
VNA3	Neumayer Olymp	78.75	176	⇑P	P	16 10 39.4	+2.3
	comp=Z,3.4nm,0.6s						
VNA2	Neumayer--Watz	79.20	176	⇑P	P	16 10 42.2	+2.6
	comp=Z,3.4nm,0.7s,baz=194,slow=4.0						
NVAR	Mina Array Bea	87.04	42	P	P	16 11 19.3	-1.4
	comp=Z,0.8nm,0.8s,baz=222,slow=6.9,SNR=5.4						
	comp=Z,0.8nm,0.8s						
TXAR	Lajitas Array	91.10	57	P	P	16 11 37.5	-2.4
	comp=Z,0.7nm,0.9s,baz=197,slow=3.9,SNR=3.4						
	comp=Z,0.7nm,0.9s						
KURBB	Kurchatov Arra	121.58	314	PKP	PKPdf	16 17 27.3	-0.7
	comp=Z,0.3nm,0.6s,baz=114,slow=2.8,SNR=2.4						
FINES	FINESS Array B	145.04	341	PKP	PKPbc	16 18 09.1	-1.7
	comp=Z,2.8nm,0.9s,baz=90,slow=3.8,SNR=7.3						
AKASG	Malin Array Be	151.58	324	PKPbc	PKPbc	16 18 28.3	-0.2
	comp=Z,2.0nm,0.5s,baz=42,slow=2.9,SNR=8.1						
TORD	Torodi Ar. Bea	163.29	174	PKPab	PKPab	16 19 30.0	+1.6
	comp=Z,1.5nm,0.9s,baz=162,slow=2.0,SNR=7.4						

IDC ***24*** *16:12:07.6±0.6, 15°.10N×94°.18W, h0km, mb4.7/20, mbtmp4.7/22, ML4.4/2, MS4.3/58, Error ellipse: s-maj=22.8km s-min=11.9km az=62.0*
GCG ***24*** *16:12:10.7±1.9, 15°.19N×94°.39W, h23km, MD5.0*
MOS ***24*** *16:12:11.2±1.3, 15°.17N×94°.20W, h31km, mb5.2/16, Error ellipse: s-maj=10.6km s-min=6.1km az=102.1*
MEX ***24*** *16:12:12.7±1.2, 15°.02N×94°.35W, h18km±116km, MD4.9*
NEIC ***24*** *16:12:12.9±2.0, 15°.21N±0°.05×94°.24W±0°.04, h30km±3km, mb5.0/411, Md4.9/60(MEX), Error ellipse: s-maj=7.6km s-min=6.1km az=194.0*
GCMT ***24*** *16:12:13.9±0.4, 15°.32N±0°.03×94°.25W±0°.04, h36km±1km, MW5.2/59, Moment Tensor Solution. s35,c40; s59,c71; Duration: 1ꝏ0 Moment tensor: Scale 10^17^Nm; M_{rr}0.92±.05; $M_{\theta\theta}$-0.68±.03; $M_{\phi\phi}$-0.24±.03; $M_{r\theta}$-0.30±.03; $M_{\theta\phi}$0.17±.03; $M_{\phi r}$0.16±.04; Best double couple: $M_0$0.89700×10^17^ NP1:ϕ_s292.00000°, δ56.00000°, λ93.00000°. NP2:ϕ_s107.00000°, δ34.00000°, λ86.00000°. Principal axes: T 0.9880, Plg79.0000°, Azm212.0000°; N -0.1820, Plg2.0000°, Azm111.0000°; P -0.8060, Plg11.0000°, Azm20.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***24*** *16:12:16.7, 14.77N×93°.11W, h38km±3km, mb4.9, Ms4.7*
ISC 24 16:12:11.8±0.4, 15°.04N±0°.04×94°.30W±0°.03, h30km±2km, h30km:pP-P, n980, σ1°.75/894, mb5.0/221, MS4.4/60, 9D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.23	58		Pn	16 12 31.7	-1.3
PCIG					Sn	16 12 46.4	-2.3
PCIG		1.23	58	eP	Pn	16 12 31.7	-1.3
PCIG				i S	Sn	16 12 47.1	-1.6
CARR	Arriaga	1.25	17	eP	Pn	16 12 31.8	-1.5
CARR				eS	Sn	16 12 46.1	-3.2
NILT	Santiago Nilte	1.54	349	eP	Pn	16 12 35.5	-1.9
NILT				eS	Sn	16 12 54.1	-2.3
HUIG	Huatulco	1.89	293	eP	Pn	16 12 40.3	-1.8
HUIG				i S	Sn	16 13 01.0	-3.9
THIG		1.97	94	eP	Pn	16 12 43.8	+0.6
THIG				i S	Sn	16 13 01.3	-5.6
PATR	El Naranjo	2.00	88	eP	Pn	16 12 43.6	-0.2
PATR				eS	Sn	16 13 07.2	-0.7
PAVE	Pavencul	2.06	86	eP	Pn	16 12 44.2	-0.4
PAVE				eS	Sn	16 13 08.8	-0.5
TGIG		2.06	33		Pn	16 12 45.2	+0.7
TGIG					Sn	16 13 06.5	-2.9
TGIG		2.06	33	i P	Pn	16 12 45.2	+0.7
TGIG				i S	Sn	16 13 06.5	-2.9
TGBT	Tuxtla Gutierr	2.08	34		Pn	16 12

PMUV eS **Sn** **16 13 46.7 +0.1**
YOIG Yosondua 3.61 300 eP **Pn** **16 13 06.8 +0.8**
YOIG eS **Sn** **16 13 45.0 -2.8**
PCG Pacaya 3.63 100 eP **Pn** **16 13 08.5 +2.2**
PCG eS **Sn** **16 13 51.9 +3.6**
NBG Las Nubes 3.85 96 eP **Pn** **16 13 13.5 +4.2**
NBG eS **Sn** **16 13 56.0 +2.3**
PNIG Pinotepa 3.92 291 **Pn** **16 13 09.8 -0.3**
PNIG **Sn** **16 13 48.4 -6.8**
PNIG Pinotepa 3.92 291 eP **Pn** **16 13 09.8 -0.3**
PNIG eS **Sn** **16 13 48.4 -6.8**
TXIG Tlaxiaco 3.99 304 eP **Pn** **16 13 12.7 +1.4**
TXIG eS **Sn** **16 13 59.8 +2.5**
TOIG Toxpalan 4.03 319 **Pn** **16 13 14.4 +2.8**
TOIG **Sn** **16 13 58.5 +0.5**
TOIG Toxpalan 4.03 319 eP **Pn** **16 13 14.4 +2.8**
TOIG eS **Sn** **16 13 58.5 +0.5**
HLIG Huajuapan de L 4.36 310 **Pn** **16 13 17.9 +1.6**
HLIG **Sn** **16 14 08.7 +2.5**
HLIG Huajuapan de L 4.36 310 eP **Pn** **16 13 17.9 +1.6**
HLIG eS **Sn** **16 14 08.7 +2.5**
TPIG Tehuac#an 4.46 319 **Pn** **16 13 21.8 +4.2**
TPIG **Sn** **16 14 10.2 +1.5**
TPIG Tehuac#an 4.46 319 eP **Pn** **16 13 21.8 +4.2**
TPIG eS **Sn** **16 14 10.2 +1.5**
FTIG Fresnillo de T 4.65 308 **Pn** **16 13 22.5 +2.3**
FTIG **Sn** **16 14 07.4 -5.9**
FTIG Fresnillo de T 4.65 308 eP **Pn** **16 13 22.5 +2.3**
FTIG eS **Sn** **16 14 07.4 -5.9**
PETF Flores 4.65 66 **Pn** **16 13 19.6 -0.5**
TLIG Tlapa 4.80 302 eP **Pn** **16 13 24.1 +1.8**
TLIG eS **Sn** **16 14 15.7 -1.4**
ESQI Esquipulas 4.82 95 **Pn** **16 13 22.7 +0.2**
MTO3 Montecristo 4.82 97 **Pn** **16 13 20.8 -1.8**
SCIG Sabancuy 4.91 37 eP **Pn** **16 13 23.8 +0.2**
SCIG eS **Sn** **16 14 17.8 -1.6**
JAUV Jalcomulco 4.92 331 eP **Pn** **16 13 22.8 -1.1**
JAUV eS **Sn** **16 14 15.7 -4.1**
LVIG Laguna Verde 5.08 337 eP **Pn** **16 13 23.2 -2.7**
LVIG eS **Sn** **16 14 16.9 -6.6**
SNET Serv Nac Est T 5.09 105 **Pn** **16 13 26.9 +0.6**
DAIG Los Arroyos 5.51 292 eP **Pn** **16 13 32.0 +0.1**
DAIG eS **Sn** **16 14 28.4 -6.0**
PPM Popocatepetl 5.76 315 eP Pn 16 13 42.0 +6.2
PPM eS Sn 16 14 50.5 +9.4
PPIG Popocatepetl 5.76 315 Pn 16 13 42.0 +6.2
PPIG Sn 16 14 50.5 +9.4
MEIG Mezcala 5.85 300 eP **Pn** **16 13 38.7 +1.9**
MEIG eS **Sn** **16 14 40.2 -2.8**
YAIG Yautepec 5.94 310 eP **Pn** **16 13 41.2 +3.3**
YAIG eS **Sn** **16 14 43.8 -1.3**
CXUV Coxquihui 5.99 329 eP **Pn** **16 13 38.5 0.0**
CXUV eS **Sn** **16 14 47.2 +1.0**
PLIG Platanillo 6.00 304 eP **Pn** **16 13 40.8 +2.1**
PLIG eS **Sn** **16 14 39.5 -6.9**
CAIG El Cayaco 6.08 290 eP **Pn** **16 13 40.4 +0.7**
CAIG eS Sn 16 14 38.7 -10
ARIG Puente Sto Nin 6.63 300 eP **Pn** **16 13 49.9 +2.5**
ARIG eS **Sn** **16 14 56.9 -5.1**
TGUH Tegucigalpa,Un 6.87 97 Pn **Pn** **16 13 51.3 +0.5**
TGUH Tegucigalpa,Un 6.87 97 eP **Pn** **16 13 52.0 +1.2**
DEIG Demacu 6.91 320 eP **Pn** **16 13 55.9 +4.5**
DEIG eS **Sn** **16 15 07.6 -1.5**
ZIIG Zihuatanejo 7.34 291 eP **Pn** **16 13 57.6 +0.6**
ZIIG eS **Sn** **16 15 23.1 +3.7**
CRIN San Cristobal 7.42 107 **Pn** **16 14 00.0 +1.9**
CRIN San Cristobal 7.42 107 eP **Pn** **16 14 02.3 +4.2**
TEIG Tepich 7.71 47 Pn **Pn** **16 14 00.5 -1.7**
TEIG Tepich 7.71 47 eP **Pn** **16 14 01.4 -0.8**
TEIG Tepich 7.71 47 Pn **Pn** **16 14 00.0 -2.2**
1µm,0.3s,baz=6.8,slow=1.0,SNR=66
TEIG Sn **Sn** **16 15 26.8 -1.8**
569nm,0.3s,baz=188,slow=20,SNR=9.2
TEIG LR LR 16 17 29.6
comp=Z,44µm,19.4s,baz=8.5,slow=42
CNGN Cerro Negro 7.80 108 **Pn** **16 14 03.1 -0.4**
CNGN Cerro Negro 7.80 108 eP Pn 16 14 09.9 +6.4
MATN Matagalpa 8.39 103 Pn **Pn** **16 14 11.8 +0.1**
RPIG Rio Verde 8.68 322 eP **Pn** **16 14 18.3 +2.7**
RPIG eS **Sn** **16 14 58.0 +5.4**
BOAB BOACO BROADBAN 8.78 106 **Pn** **16 14 17.8 +1.0**
GTIG Gomez Farias 9.21 331 eP **Pn** **16 14 23.3 +0.5**
GTIG eS **Sn** **16 16 03.3 -2.2**
MMIG Aquila 9.25 292 eP **Pn** **16 14 24.6 +1.3**
MMIG eS **Sn** **16 16 00.9 -5.5**
ACON Acoyapa 9.39 108 **Pn** **16 14 27.0 +1.8**
ACON Acoyapa 9.39 108 eP **Pn** **16 14 27.6 +2.5**
HZTE Horizontes, Gu 9.51 116 **Pn** **16 14 30.1 +3.1**
ORTG Ortega, Santa 9.80 117 Pn **Pn** **16 14 34.5 +3.6**
DUNO Dulce Nombre, 9.91 119 **Pn** **16 14 34.9 +2.6**
ESPN Las Esperanzas 10.12 105 **Pn** **16 14 36.5 +1.2**
JTS Las Juntas de 10.27 116 **Pn** **16 14 40.2 +3.0**
JTS Las Juntas de 10.27 116 eP **Pn** **16 14 40.8 +3.5**
JTS Las Juntas de 10.27 116 P **Pn** **16 14 40.3 +3.0**
JTS Las Juntas de 10.27 116 Pn **Pn** **16 14 41.0 +3.7**
5.8nm,0.3s,baz=305,slow=9.2,SNR=12
JTS Sn **Sn** **16 16 34.5 +3.0**
baz=150,slow=21
AAIG Aguscalientes 10.30 313 eP Pn 16 14 43.2 +5.3
AAIG eS **Sn** **16 16 31.2 -1.4**
COVE Coope Vega, Sa 10.56 113 **Pn** **16 14 42.3 +1.0**
JACO JACO, Garabito 10.83 118 **Pn** **16 14 47.4 +2.5**
LNIG Linares 10.94 334 eP **Pn** **16 14 48.0 +1.6**
LNIG eS **Sn** **16 16 43.3 -4.6**
ZAIG Zacatecas 10.96 316 eP Pn 16 14 52.0 +4.9
CJM Chamela 11.18 295 eP **Pn** **16 14 52.6 +2.9**
CJM eS **Sn** **16 16 58.6 +4.9**
LCR2 La Lucha 2 11.35 116 **Pn** **16 14 54.5 +2.2**
RIMA Rio Macho 11.46 116 **Pn** **16 14 55.9 +2.1**
SRBA San Rafael, Bu 12.15 117 **Pn** **16 15 05.3 +2.1**
DRK0 Durika 12.24 117 Pn **Pn** **16 15 05.6 +1.3**
HBVL Hebbronville 12.64 342 Pn **Pn** **16 15 12.4 +2.8**
CDITO Canoas 12.90 119 **Pn** **16 15 15.3 +2.0**
SOR Soroa 13.17 52 Pn **Pn** **16 15 14.7 -2.2**
SOR Soroa 13.17 52 P **Pn** **16 15 14.7 -2.2**
833A Chaparral WMA, 14.04 341 Pn **Pn** **16 15 29.4 +0.7**
833A Chaparral WMA, 14.04 341 P **Pn** **16 15 30.9 +2.2**
baz=159,SNR=80
833A Chaparral WMA, 14.04 341 P **Pn** **16 15 30.5 +1.8**
baz=159,SNR=80
735A Kenedy 14.12 347 **Pn** **16 15 29.1 -0.8**
HKT Hockley 14.90 355 Pn **Pn** **16 15 40.2 -0.2**
HKT Hockley 14.90 355 P **Pn** **16 15 40.2 -0.2**
HNDO Hondo 15.13 343 P **Pn** **16 15 43.5 -0.1**
DRIO Del Rio 15.46 339 **Pn** **16 15 47.8 0.0**
DRIO IAmb IAmb 16 15 52.8
comp=Z,39nm,1.2s
AZU Azuero 15.52 116 eP **P** **16 15 55.6 +2.9**
435B Jarrell 15.95 350 **Pn** **16 15 55.0 +0.7**
435B IAmb IAmb 16 16 01.3
comp=Z,95nm,0.6s
435B Jarrell 15.95 350 P **Pn** **16 15 55.5 +1.3**
baz=168
435B Jarrell 15.95 350 P **Pn** **16 15 55.4 +1.1**
baz=168,SNR=8.0
JCT Junction City 16.18 343 **Pn** **16 15 58.1 +1.1**
JCT IAmb IAmb 16 16 03.5
comp=Z,159nm,1.9s
JCT Junction City 16.18 343 P **P** **16 15 59.0 -1.0**
baz=160,SNR=24
JCT Junction City 16.18 343 P **P** **16 15 59.7 -0.3**
baz=160,SNR=24
JCT Junction City 16.18 343 P **Pn** **16 15 58.2 +1.1**
JCT pmax pmax
comp=Z,159nm,1.9s
SAND Sanderson 16.50 335 P **P** **16 16 02.4 -1.3**
SAND IAmb IAmb 16 16 06.8
comp=Z,128nm,1.9s
NATX Nacogdoches 16.64 359 P **Pn** **16 16 02.2 -0.8**
NATX Nacogdoches 16.64 359 P **P** **16 16 04.0 -1.2**
baz=179
TX31 Lajitas Ar. Si 16.65 330 IAmb IAmb 16 16 10.7
comp=Z,245nm,1.5s
TX31 Lajitas Ar. Si 16.65 330 P **P** **16 16 05.0 -0.3**
baz=146,SNR=21
TXAR Lajitas Array 16.65 330 Pn **P** **16 16 04.3 -1.0**
comp=Z,0.2nm,0.3s,baz=149,slow=10,SNR=24
TXAR LR LR 16 22 59.4
comp=Z,480nm,18.7s,baz=127,slow=39
comp=Z,6.1nm,0.8s
BRDY Brady 16.73 346 P **Pn** **16 16 03.7 -0.4**
BRDY IAmb IAmb 16 16 12.9
comp=Z,26nm,0.7s
237A Washetta, Mont 16.94 356 IAmb IAmb 16 16 13.4
comp=Z,77nm,0.8s
OZNA Ozona 17.00 340 P **Pn** **16 16 08.0 +0.4**
OZNA IAmb IAmb 16 16 17.5
comp=Z,89nm,0.7s
WHTX Lake Whitney, 17.12 351 P **Pn** **16 16 08.1 -0.8**
WHTX IAmb IAmb 16 16 17.6
comp=Z,96nm,0.6s
WHTX Lake Whitney, 17.12 351 P **P** **16 16 09.5 -0.9**
baz=169,SNR=18
WHTX Lake Whitney, 17.12 351 P **P** **16 16 10.6 +0.2**
baz=169,SNR=18
VBMS Vicksburg 17.44 11 P **Pn** **16 16 12.7 -0.2**
baz=192
FW13 Cleburne 17.47 351 P **Pn** **16 16 11.3 -1.9**
FW13 IAmb IAmb 16 16 22.2
comp=Z,102nm,0.6s
FW14 Alvarado 17.48 352 P **Pn** **16 16 12.1 -1.3**
FW14 IAmb IAmb 16 16 22.3
comp=Z,125nm,0.8s
ALPN Alpine 17.51 332 P **Pn** **16 16 14.1 +0.1**
ALPN IAmb IAmb 16 16 20.6
comp=Z,42nm,0.8s
553A Crawfordville 17.60 29 P **Pn** **16 16 12.7 -2.2**
553A IAmb IAmb 16 16 21.7
comp=Z,198nm,1.2s
553A Crawfordville 17.60 29 P **P** **16 16 15.1 -0.6**
baz=213
DWPF Disney Wildern 17.65 40 P **Pn** **16 16 14.5 -1.1**
baz=225
FW07 Weatherford 17.86 350 P **P** **16 16 18.3 -0.4**
FW07 IAmb IAmb 16 16 25.6
comp=Z,66nm,0.9s
SGCY Sterling City 17.91 341 P **P** **16 16 19.3 0.0**
SGCY IAmb IAmb 16 16 26.9
comp=Z,150nm,0.8s
656A Willston 17.92 35 P **Pn** **16 16 17.1 -1.8**
MNHN Monahans 17.98 336 P **P** **16 16 20.0 0.0**
MNHN IAmb IAmb 16 16 27.6
comp=Z,95nm,0.9s
PLPT Palo Pinto 18.06 349 P **P** **16 16 20.6 -0.3**
PLPT IAmb IAmb 16 16 29.8
comp=Z,124nm,1.2s
FW06 Azle 18.09 351 P **Pn** **16 16 19.9 -1.2**
FW06 IAmb IAmb 16 16 31.6
comp=Z,130nm,1.4s
Z38A Mt. Pleasant 18.15 358 P **Pn** **16 16 20.9 -0.8**
Z38A IAmb IAmb 16 16 28.1
comp=Z,66nm,0.7s
146A Union 18.15 14 P **Pn** **16 16 20.4 -1.3**
146A IAmb IAmb 16 16 27.7
comp=Z,136nm,1.5s
ABTX Abilene, Hawle 18.17 345 P **P** **16 16 22.1 +0.1**
ABTX IAmb IAmb 16 16 25.6
comp=Z,103nm,0.7s
ABTX Abilene, Hawle 18.17 345 P **P** **16 16 23.3 +1.3**
baz=163,SNR=21
ABTX Abilene, Hawle 18.17 345 P **P** **16 16 23.6 +1.6**
baz=163,SNR=21
Z41A Richland Creek 18.18 4 P **Pn** **16 16 20.4 -1.7**
Z41A Richland Creek 18.18 4 P **P** **16 16 22.7 +0.5**
baz=184,SNR=5.7
Z41A P **P** **16 16 22.7 +0.5**
baz=184,SNR=5.7
FW03 Perrin-Whitt E 18.24 350 P **Pn** **16 16 22.4 -0.5**
FW03 IAmb IAmb 16 16 27.5
comp=Z,48nm,0.7s
250A Grady 18.38 22 P **P** **16 16 22.3 -2.1**
Z35A Perchaven, San 18.40 352 P **P** **16 16 23.2 -1.4**
Z35A IAmb IAmb 16 16 33.4
comp=Z,68nm,0.8s
PECS Pecos 18.46 333 P **Pn** **16 16 25.9 +0.2**
PECS IAmb IAmb 16 16 36.0
comp=Z,28nm,1.0s
352A Blakely 18.47 26 P **P** **16 16 23.3 -2.0**
352A IAmb IAmb 16 16 28.6
comp=Z,180nm,1.1s
352A Blakely 18.47 26 P **Pn** **16 16 27.1 +1.5**
baz=210,SNR=12
425A Indio Mountain 18.48 330 P **Pn** **16 16 25.9 0.0**
ODSA Odessa 18.59 338 P **Pn** **16 16 27.2 0.0**
ODSA IAmb IAmb 16 16 35.1
comp=Z,158nm,0.9s
WLAR White Oak Lake 18.59 3 P **P** **16 16 24.0 -2.6**
SN01 Snyder 1 18.72 342 P **P** **16 16 27.7 -0.5**
SN01 IAmb IAmb 16 16 35.9
comp=Z,115nm,0.7s
GTBY Guantanamo Bay 18.93 72 P **P** **16 16 28.1 -2.4**
GTBY IAmb IAmb 16 16 33.9
comp=Z,248nm,1.6s
GTBY Guantanamo Bay 18.93 72 eP **Pn** **16 16 30.6 -0.7**
Z47A Carrollton 18.94 16 P **P** **16 16 27.7 -2.7**
Z47A IAmb IAmb 16 16 34.8
comp=Z,74nm,0.8s
Z47A Carrollton 18.94 16 P **P** **16 16 30.3 -0.2**
baz=199,SNR=11
APMT Aspermont 18.95 345 P **P** **16 16 29.2 -1.4**
APMT IAmb IAmb 16 16 35.2
comp=Z,46nm,0.6s
WTFS Witchita Falls 19.02 349 P **P** **16 16 30.6 -0.8**
WTFS IAmb IAmb 16 16 43.8
comp=Z,68nm,0.6s
TIGA Tifton 19.04 29 P **P** **16 16 28.6 -2.9**
TIGA IAmb IAmb 16 16 38.5
comp=Z,99nm,0.8s
TIGA Tifton 19.04 29 P **P** **16 16 31.0 -0.5**
baz=213
TIGA Tifton 19.04 29 P **Pn** **16 16 32.9 +0.4**
baz=213
LOOK Love County 19.05 353 **P** **16 16 29.8 -1.9**
LOOK IAmb IAmb 16 16 43.7
comp=Z,108nm,0.9s
POST Post 19.10 341 P **P** **16 16 31.5 -0.8**
POST IAmb IAmb 16 16 38.6
comp=Z,69nm,0.7s
LRAL Lakeview Retre 19.10 19 P **P** **16 16 30.3 -1.9**
LRAL Lakeview Retre 19.10 19 P **P** **16 16 31.8 -0.5**
baz=202
LRAL Lakeview Retre 19.10 19 P **Pn** **16 16 33.2 0.0**
baz=202
Y45A Yeager Farm, C 19.23 12 P **P** **16 16 31.3 -2.4**
Y45A IAmb IAmb 16 16 39.6
comp=Z,85nm,0.8s
SJCC San Jacinto, C 19.35 103 eP **P** **16 16 35.5 +0.3**
X40A Basin Creek Fa 19.41 4 P **P** **16 16 33.5 -2.1**
MNTX Cornudas Mount 19.43 330 P **P** **16 16 36.2 +0.4**
MNTX Cornudas Mount 19.43 330 P **Pn** **16 16 38.2 +1.0**
baz=146,SNR=6.0
MNTX Cornudas Mount 19.43 330 P **Pn** **16 16 38.8 +1.6**
baz=146,SNR=6.0
MIAR Mount Ida 19.43 2 P **P** **16 16 33.7 -2.1**
MIAR IAmb IAmb 16 16 45.0
comp=Z,55nm,0.7s
MIAR Mount Ida 19.43 2 P **P** **16 16 36.2 +0.3**
baz=182,SNR=15
MIAR Mount Ida 19.43 2 P **Pn** **16 16 36.3 -0.9**
baz=182,SNR=15
MIAR Mount Ida 19.43 2 P **P** **16 16 33.7 -2.1**
MIAR pmax pmax
comp=Z,55nm,0.7s
DBBC Dabeiba 19.45 112 eP **Pn** **16 16 40.6 +3.0**
X37A Clayton 19.49 357 **P** **16 16 34.3 -2.2**
X37A IAmb IAmb 16 16 48.5
comp=Z,55nm,0.7s
X37A Clayton 19.49 357 P **Pn** **16 16 37.3 -0.5**
baz=177,SNR=7.1
DKNS Dickens 19.49 343 P **P** **16 16 36.2 -0.3**
DKNS IAmb IAmb 16 16 49.6
comp=Z,123nm,0.7s
152A Waverly Hall 19.59 25 P **P** **16 16 35.9 -1.8**
152A IAmb IAmb 16 16 49.7
comp=Z,247nm,2.0s
UALR University of 19.73 5 P **P** **16 16 38.0 -1.1**
UALR IAmb IAmb 16 16 47.0
comp=Z,53nm,0.8s
X34A Smith Ranch, M 19.73 351 **P** **16 16 39.2 +0.1**
X34A IAmb IAmb 16 16 51.8
comp=Z,97nm,0.8s
GR1C Gorgona, Isla 19.90 125 eP **Pn** **16 16 42.5 -0.4**
255A Hazlehurst 19.97 31 P **P** **16 16 40.0 -1.8**
255A IAmb IAmb 16 16 48.3
comp=Z,73nm,0.7s
Z51A Franklin 19.99 23 P **P** **16 16 40.0 -1.9**
Z51A IAmb IAmb 16 16 54.9
comp=Z,116nm,1.7s
Z51A Franklin 19.99 23 P **Pn** **16 16 44.3 +0.5**
baz=207
WMOK Wichita Mounta 20.02 349 P **P** **16 16 42.1 -0.2**
WMOK Wichita Mounta 20.02 349 P Pn 16 16 43.5 -0.7
baz=167,SNR=12
WMOK Wichita Mounta 20.02 349 P Pn 16 16 44.1 -0.1
baz=167,SNR=12
WMOK Wichita Mounta 20.02 349 P **P** **16 16 42.1 -0.2**
WMOK pmax pmax
comp=Z,23nm,0.7s
Y49A Blount Mountai 20.05 19 P **P** **16 16 41.6 -1.0**
Y49A IAmb IAmb 16 16 55.9
comp=Z,134nm,1.9s
Y49A Blount Mountai 20.05 19 P Pn 16 16 43.8 -0.7
baz=203
154A Montrose 20.24 28 P **P** **16 16 43.7 -1.0**
154A IAmb IAmb 16 16 52.5
comp=Z,110nm,0.8s
WHAR Wooly Hollow 20.24 5 P **P** **16 16 43.9 -0.8**
MSTX Muleshoe 20.34 339 P **P** **16 16 46.6 +0.6**
MSTX IAmb IAmb 16 16 54.3
comp=Z,110nm,1.0s
MSTX Muleshoe 20.34 339 P Pn 16 16 47.5 -0.6
baz=156,SNR=13
MSTX Muleshoe 20.34 339 P Pn 16 16 48.0 -0.1
baz=156,SNR=13
PLMC San Jos del P 20.38 118 eP **P** **16 16 47.1 +0.7**
X48A Hartselle 20.40 17 P **P** **16 16 45.5 -1.0**
X48A IAmb IAmb 16 16 54.9
comp=Z,36nm,0.8s
X48A Hartselle 20.40 17 P **P** **16 16 46.8 +0.4**
baz=200,SNR=11
ZARC Zaragoza, Cauc 20.48 109 eP **P** **16 16 46.2 -1.2**
PLAL Pickwick Lake 20.63 15 P **P** **16 16 47.9 -1.0**
SMWD Samnorwood 20.68 346 P **P** **16 16 49.3 -0.2**
SMWD IAmb IAmb 16 17 01.0
comp=Z,128nm,0.7s
GOGA Godfrey 20.76 26 P **P** **16 16 48.6 -1.7**
GOGA IAmb IAmb 16 16 57.6
comp=Z,53nm,0.8s
GOGA Godfrey 20.76 26 P **P** **16 16 50.7 +0.5**
baz=211,SNR=17
GOGA Godfrey 20.76 26 P Pn 16 16 53.2 +0.4
baz=211,SNR=17
GOGA Godfrey 20.76 26 P **P** **16 16 48.6 -1.7**
GOGA pmax pmax
comp=Z,53nm,0.9s
DEOK Depew 20.81 355 **P** **16 16 49.7 -1.1**
DEOK IAmb IAmb 16 16 56.2
comp=Z,84nm,0.7s
YOTC Yotoco, Valle 20.82 120 eP Pn 16 16 53.0 -0.8
TUL3 Leonard 20.82 357 P **P** **16 16 50.0 -1.0**
TUL3 Leonard 20.82 357 P **P** **16 16 51.7 +0.7**
baz=176,SNR=7.0
TUL3 Leonard 20.82 357 P Pn 16 16 52.2 -1.4
baz=176,SNR=7.0
AMTX Amarillo 20.84 343 P **P** **16 16 51.0 -0.3**
AMTX Amarillo 20.84 343 P Pn 16 16 52.4 -1.5
baz=159
AMTX Amarillo 20.84 343 P Pn 16 16 52.9 -1.0
baz=159,SNR=38
FCAR Ozark Folk Cen 20.85 5 P **P** **16 16 48.9 -2.4**
FCAR IAmb IAmb 16 16 57.1
comp=Z,64nm,0.7s
OK029 Liberty Lake 20.86 353 **P** **16 16 50.1 -1.3**
CSTR Hydro, Custer 20.89 350 **P** **16 16 51.3 -0.5**
Y52A Lilburn 20.90 24 P **P** **16 16 49.6 -2.2**
Y52A IAmb IAmb 16 17 07.5
comp=Z,60nm,0.8s
Y52A Lilburn 20.90 24 P **P** **16 16 51.4 -0.4**
baz=209,SNR=7.1
Y52A P **P** **16 16 51.4 -0.4**
baz=209,SNR=7.1
FPAL Fort Paine 20.93 20 P **P** **16 16 50.3 -2.0**
FPAL IAmb IAmb 16 16 59.9
comp=Z,106nm,1.0s
JAMC Jamundi, Valle 20.97 122 eP Pn 16 16 54.6 -1.1
OK052 Battle Ridge R 20.98 354 P **P** **16 16 51.4 -1.3**
GUY2C Guyana, Caldas 21.02 116 eP **P** **16 16 55.4 +1.6**
OK033 Mehan 21.05 354 **P** **16 16 51.4 -2.0**
LCAR Lake Charles 21.13 7 P **P** **16 16 52.3 -1.9**
LCAR Lake Charles 21.13 7 P **P** **16 16 53.6 -0.6**
baz=188,SNR=13
QUOK Quay 21.15 355 **P** **16 16 53.5 -1.0**
HHAR Hobbs 21.15 1 P **P** **16 16 52.8 -1.7**
HHAR IAmb IAmb 16 16 59.2
comp=Z,73nm,0.7s
X51A Calhoun 21.22 22 P **P** **16 16 53.5 -1.8**
X51A IAmb IAmb 16 17 03.2
comp=Z,72nm,1.2s
BBAC Balboa, Cauca 21.23 126 eP **P** **16 16 58.7 +3.0**
PTBC PUERTO BERRIO, 21.23 111 eP **P** **16 16 56.4 +0.8**
319A Douglas 21.26 322 P **P** **16 16 56.2 +0.3**
319A IAmb IAmb 16 17 01.6
comp=Z,46nm,1.0s
U40A Yellville 21.27 3 P **P** **16 16 55.4 -0.3**
baz=184,SNR=12
U40A P **P** **16 16 55.4 -0.3**
baz=184,SNR=12
NORC Norcasia 21.29 114 eP **P** **16 16 57.8 +1.6**
121A Cookes Peak, D 21.30 327 P **P** **16 16 56.8 +0.4**
121A IAmb IAmb 16 17 02.1
comp=Z,73nm,0.9s
121A Cookes Peak, D 21.30 327 P **P** **16 16 59.0 +2.6**
baz=141,SNR=50
121A Cookes Peak, D 21.30 327 P **P** **16 16 59.2 +2.8**
baz=141,SNR=50
U38A Gravette 21.31 360 IAmb IAmb 16 17 01.1
comp=Z,61nm,0.7s
U38A Gravette 21.31 360 P **P** **16 16 57.4 +1.2**
baz=180,SNR=13
ANIL Santa Ana 21.35 118 eP **P** **16 17 01.4 +4.3**
POPC Popayan, Colom 21.36 124 eP **P** **16 16 59.4 +2.2**
ELIS Ellis County 21.43 349 P **P** **16 16 57.5 -0.1**
SWET Sewanee 21.45 19 P **P** **16 16 55.9 -1.9**
SWET IAmb IAmb 16 17 11.5
comp=Z,32nm,0.8s
CUSE Cuicocha Este 21.48 132 eP **P** **16 17 01.0 +2.3**
OTAV Otavalo 21.49 132 P **P** **16 16 59.4 +0.6**
OTAV IAmb IAmb 16 17 03.0
comp=Z,55nm,1.2s
OTAV Otavalo 21.49 132 eP **P** **16 17 01.1 +2.3**
OTAV Otavalo 21.49 132 P **P** **16 16 59.4 +0.6**
OTAV pmax pmax
comp=Z,55nm,1.2s
PULU Pululahua 21.60 132 P **P** **16 17 00.8 +0.9**
CROK Carrier 21.63 352 **P** **16 16 58.8 -0.9**
W50A Signal Mountai 21.64 20 P **P** **16 16 58.7 -1.1**
W50A IAmb IAmb 16 17 08.0
comp=Z,86nm,1.0s
W50A Signal Mountai 21.64 20 P **P** **16 16 59.1 -0.7**
baz=204,SNR=15
IMBA Imbabura, San 21.64 131 P **P** **16 17 03.0 +2.6**
TULM Tulcn-Chalpat 21.65 130 P **P** **16 17 03.3 +2.8**
GCUF Volcan Galeras 21.65 128 eP **P** **16 17 03.7 +3.1**
U32A Winter Ranch, 21.66 350 P **P** **16 16 59.5 -0.6**
U32A Winter Ranch, 21.66 350 P **P** **16 17 03.1 +3.1**
baz=167,SNR=8.4
V48A Smith Brothers 21.67 17 P **P** **16 16 58.8 -1.3**
V48A Smith Brothers 21.67 17 P **P** **16 16 59.5 -0.6**
baz=200
OK038 West end E0370 21.71 350 P **P** **16 16 59.4 -1.2**
ORTC Ortega, Tolima 21.78 119 eP **P** **16 17 03.6 +2.1**
BLOK Blackwell 21.79 354 P **P** **16 16 59.8 -1.5**
T35A Sooner Cattle 21.87 355 P **P** **16 17 00.9 -1.4**
T35B Sooner Cattle 21.87 355 P **P** **16 17 02.3 +0.1**
baz=174,SNR=12
NOKA Waynoka 21.90 350 **P** **16 17 01.9 -0.7**
PBMO Poplar Bluff 21.92 8 P **P** **16 17 00.8 -2.0**
PBMO IAmb IAmb 16 17 05.3
comp=Z,31nm,0.7s
PBMO Poplar Bluff 21.92 8 P **P** **16 17 02.7 0.0**
baz=190,SNR=6.7
SPBC San Pablo de B 21.96 113 eP **P** **16 17 04.5 +1.1**
HODGE Hodges 21.98 27 IAmb IAmb 16 17 11.7
comp=Z,37nm,0.8s
BONI La Bonita 22.02 130 eP **P** **16 17 07.6 +3.3**
Y22A Socorro 22.02 331 P **P** **16 17 08.7 +4.6**
baz=145
W52A Murphy 22.04 23 P **P** **16 17 02.5 -1.5**
W52A Murphy 22.04 23 P **P** **16 17 05.6 +1.5**
baz=208
T42A Van Buren 22.08 7 P **P** **16 17 04.2 -0.4**
baz=188,SNR=16
MGMO Mountain Grove 22.10 4 IAmb IAmb 16 17 08.6

comp=Z,53nm,0.8s
ROSC El Rosal 22.11 115 *e*P **P 16 17 08.5 +3.0**
ROSC El Rosal 22.11 115 P **P 16 17 06.0 +0.6**
comp=Z,51nm,1.1s,baz=293,slow=3.9,SNR=22
comp=Z,51nm,1.1s
Y22D IRIS PASSCAL I 22.11 331 P **P 16 17 07.7 +2.6**
baz=146
Y22F Passcal Instru 22.11 331 P **P 16 17 07.7 +2.6**
baz=146
SLOR San Lorenzo - 22.13 134 IAmb IAmb 16 17 13.1
comp=Z,44nm,1.0s
CPCT Cooper Cave 22.13 22 IAmb IAmb 16 17 17.5
comp=Z,129nm,1.8s
CLTN Cedars of Leba 22.14 17 P **P 16 17 03.7 -1.4**
PRAC Prado 22.19 119 *e*P **P 16 17 07.9 +2.0**
BG3 Lake Jocassee 22.34 25 IAmb IAmb 16 17 22.5
comp=Z,68nm,1.2s
SDDR Presa de Saban 22.34 77 P **P 16 17 05.7 -1.9**
BARC Barichara 22.36 110 *e*P **P 16 17 10.3 +2.4**
CHSH Refugio Sur-Vo 22.43 136 IAmb IAmb 16 17 16.3
comp=Z,82nm,1.1s
JSC Jenkinsville 22.48 29 IAmb IAmb 16 17 16.6
comp=Z,81nm,1.0s
PIAT Ana Tenorio 22.49 134 *e*P **P 16 17 12.2 +2.7**
PAMC Pamplona, Colo 22.51 108 *e*P **P 16 17 09.4 -0.4**
V51A Loudon 22.51 22 P **P 16 17 09.1 0.0**
baz=206
GARC Garzon, Huila 22.53 123 *e*P **P 16 17 13.0 +3.3**
S39A Bolivar 22.57 2 P **P 16 17 08.1 -1.7**
S39A IAmb IAmb 16 17 12.1
comp=Z,51nm,0.8s
S39A Bolivar 22.57 2 P **P 16 17 08.8 -1.0**
baz=182,SNR=32
TKL Tuckaleechee C 22.59 23 IAmb IAmb 16 17 26.9
comp=Z,53nm,1.1s
TKL Tuckaleechee C 22.59 23 P **P 16 17 09.9 -0.1**
baz=207
TKL Tuckaleechee C 22.59 23 LR LR 16 27 36.5
comp=Z,657nm,20.7s,baz=200,slow=41
RTBA Rita Blanca 22.60 342 IAmb IAmb 16 17 20.6
comp=Z,60nm,0.7s
ANMO Albuquerque 22.64 333 P **P 16 17 09.1 -1.6**
ANMO Albuquerque 22.64 333 P **P 16 17 13.2 +2.5**
baz=148
ANMO Albuquerque 22.64 333 P **P 16 17 11.3 +0.6**
baz=148,SNR=18
ANMO Albuquerque 22.64 333 P **P 16 17 09.1 -1.6**
ANMO pmax pmax
comp=Z,15nm,0.9s
ANMO Albuquerque 22.64 333 LR LR 16 26 59.1
comp=Z,328nm,19.3s,baz=268,slow=39
PAULI Pauline 22.67 27 **P 16 17 08.4 -2.5**
PAULI IAmb IAmb 16 17 20.6
comp=Z,56nm,0.8s
U49A Red Boiling Sp 22.69 18 IAmb IAmb 16 17 20.6
comp=Z,46nm,0.8s
U49A Red Boiling Sp 22.69 18 P **P 16 17 09.5 -1.6**
baz=202
CHIC Chingaza 22.73 115 *e*P **P 16 17 14.3 +2.2**
RUSC La Rusia 22.74 111 *e*P **P 16 17 13.1 +0.9**
FLOC Florencia 22.75 124 *e*P **P 16 17 14.5 +2.5**
T47A Sharon Grove 22.77 15 IAmb IAmb 16 17 17.5
comp=Z,36nm,0.8s
T47A Sharon Grove 22.77 15 P **P 16 17 10.9 -1.1**
baz=198,SNR=11
V52A Sevierville 22.82 23 IAmb IAmb 16 17 30.7
comp=Z,41nm,1.1s
TUC Tucson 22.82 322 P **P 16 17 14.8 +2.2**
baz=135
COHC Cochancay 22.90 138 P **P 16 17 13.0 -0.4**
COHC Cochancay 22.90 138 *e*P **P 16 17 14.3 +0.9**
V53A Saluda 22.98 25 IAmb IAmb 16 17 24.8
comp=Z,36nm,0.7s
V53A Saluda 22.98 25 P **P 16 17 13.1 -0.9**
baz=210,SNR=6.3
V53A P **P 16 17 13.1 -0.9**
baz=210,SNR=6.3
S44A Carbondale 23.00 10 P **P 16 17 12.3 -1.9**
baz=192,SNR=8.8
VILC Villavicencio, 23.01 116 *e*P **P 16 17 18.7 +4.0**
CCM Cathedral Cave 23.08 6 P **P 16 17 12.4 -2.7**
CCM IAmb IAmb 16 17 16.5
comp=Z,49nm,0.8s
CCM Cathedral Cave 23.08 6 P **P 16 17 14.7 -0.3**
baz=187
CCM Cathedral Cave 23.08 6 P **P 16 17 13.7 -1.4**
baz=187,SNR=24
CCM Cathedral Cave 23.08 6 P **P 16 17 12.4 -2.7**
CCM pmax pmax
comp=Z,49nm,0.8s
FVM French Village 23.11 8 P **P 16 17 14.2 -1.1**
baz=189
KMSC Kings Mountain 23.16 28 P **P 16 17 15.1 -0.8**
baz=213
R40A Maddies Statio 23.23 4 IAmb IAmb 16 17 19.8
comp=Z,64nm,0.7s
R40A Maddies Statio 23.23 4 P **P 16 17 16.1 -0.4**
baz=185,SNR=34
TZTN Tazewell 23.46 22 P **P 16 17 17.1 -1.8**
TZTN IAmb IAmb 16 17 43.1
comp=Z,34nm,0.8s
TZTN Tazewell 23.46 22 P **P 16 17 18.2 -0.7**
baz=207
USIN University of 23.57 13 IAmb IAmb 16 17 46.2
comp=Z,58nm,0.7s
R32A Long Quarter, 23.61 351 P **P 16 17 20.7 +0.4**
baz=169,SNR=26
X58A Rowland 23.65 32 P **P 16 17 18.2 -2.5**
X58A IAmb IAmb 16 17 32.2
comp=Z,42nm,0.8s
TAMC Tame, Arauca 23.69 109 *e*P **P 16 17 23.1 +1.7**
T25A Trinidad 23.77 340 P **P 16 17 24.4 +2.3**
baz=155,SNR=22
W57A Gilead 23.80 30 P **P 16 17 21.1 -1.0**
baz=216,SNR=6.1
W57A P **P 16 17 21.1 -1.0**
baz=216,SNR=6.1
V55A Taylorsville 23.80 27 P **P 16 17 19.6 -2.6**
V55A IAmb IAmb 16 17 35.2
comp=Z,28nm,0.9s
214A Organ Pipe Nat 23.85 318 P **P 16 17 22.7 +0.1**
214A Organ Pipe Nat 23.85 318 P **P 16 17 24.3 +1.6**
baz=130
MACC Macarena, Meta 23.90 120 *e*P **P 16 17 24.8 +1.5**
SDV Santo Domingo 23.93 102 P **P 16 17 22.2 -1.6**
SDV IAmb IAmb 16 17 27.3
comp=Z,35nm,1.0s
SDV Santo Domingo 23.93 102 LR LR 16 27 50.3
comp=Z,936nm,20.4s,baz=284,slow=40
MCRA Macar, Loja 23.96 143 P **P 16 17 23.6 -0.2**
MCRA Macar, Loja 23.96 143 *e*P **P 16 17 24.9 +1.1**
KSU1 Kansas State U 24.05 356 IAmb IAmb 16 17 49.8
comp=Z,55nm,0.8s
U54A Nelsons Funny 24.11 25 P **P 16 17 23.5 -1.6**
U54A IAmb IAmb 16 17 49.1
comp=Z,49nm,0.9s
WCI Wyandotte Cave 24.16 16 P **P 16 17 23.0 -2.4**
WCI IAmb IAmb 16 17 53.8
comp=Z,42nm,0.8s
WCI Wyandotte Cave 24.16 16 P **P 16 17 25.0 -0.4**
baz=199
WCI Wyandotte Cave 24.16 16 P **P 16 17 24.9 -0.4**
baz=199
WCI Wyandotte Cave 24.16 16 P **P 16 17 23.0 -2.4**
WCI pmax pmax
comp=Z,42nm,0.8s
CBKS Cedar Bluff 24.16 350 P **P 16 17 27.5 +2.0**
baz=167,SNR=9.5
CBKS Cedar Bluff 24.16 350 P **P 16 17 26.4 +0.9**
baz=167,SNR=9.5
Q44A Meyer Farm, Va 24.22 10 IAmb IAmb 16 17 27.3
comp=Z,46nm,0.7s
Q44A Meyer Farm, Va 24.22 10 P **P 16 17 25.2 -0.7**
baz=192,SNR=7.7
OLIL Olney 24.22 12 IAmb IAmb 16 17 27.4
comp=Z,66nm,0.8s
OLIL Olney 24.22 12 P **P 16 17 25.8 -0.2**
baz=195,SNR=8.0
PTLC Puerto Leguiza 24.29 126 *e*P **P 16 17 30.3 +3.5**
W18A Petrified Fore 24.33 328 P **P 16 17 29.8 +2.5**
baz=141
S51A Beattyville 24.43 21 P **P 16 17 24.4 -3.5**
S51A IAmb IAmb 16 17 50.0
comp=Z,77nm,1.5s
P40A Paris 24.47 4 P **P 16 17 26.6 -1.7**
baz=185,SNR=22
P38A Dawn 24.50 1 IAmb IAmb 16 17 30.0
comp=Z,36nm,0.7s
P38A Dawn 24.50 1 P **P 16 17 28.0 -0.5**
baz=182,SNR=7.7
R49A Shelbyville 24.52 18 IAmb IAmb 16 17 41.7
comp=Z,46nm,1.1s
SDCO Great Sand Dun 24.70 338 IAmb IAmb 16 17 44.2
comp=Z,26nm,0.9s
SDCO Great Sand Dun 24.70 338 P **P 16 17 32.1 +1.4**
baz=153,SNR=18
SDCO Great Sand Dun 24.70 338 P **P 16 17 33.7 +3.0**
baz=153,SNR=18
X16A Lo Mia Camp, P 24.72 324 IAmb IAmb 16 17 45.6
comp=Z,43nm,1.2s
R50A Paris 24.77 19 P **P 16 17 28.7 -2.3**
R50A IAmb IAmb 16 17 45.3
comp=Z,62nm,1.1s
P43A Skaggs, Pawnee 24.86 9 IAmb IAmb 16 17 33.1
comp=Z,48nm,0.9s
KSCO Kaye Shedlock' 24.98 344 P **P 16 17 34.6 +1.6**
baz=160
113A Mohawk Valley, 24.99 318 P **P 16 17 34.1 +1.0**
BLO Bloomington 24.99 14 IAmb IAmb 16 18 02.8
comp=Z,58nm,0.9s
S22A 4UR Ranch, Cre 25.19 336 P **P 16 17 37.3 +2.1**
baz=150
BLA Blacksburg 25.29 27 P **P 16 17 35.8 +0.1**
baz=213
MVCO Mesa Verde 25.43 333 IAmb IAmb 16 17 51.9
comp=Z,25nm,0.8s
MVCO Mesa Verde 25.43 333 P **P 16 17 38.8 +1.5**
baz=146,SNR=15
WUAZ Wupatki 25.50 326 P **P 16 17 38.7 +0.9**
baz=139,SNR=48
SSFO Shawnee State 25.51 20 P **P 16 17 36.5 -1.3**
O44A Mansfield 25.53 10 IAmb IAmb 16 17 38.9
comp=Z,49nm,1.0s
P48A Milroy 25.54 16 IAmb IAmb 16 18 07.4
comp=Z,32nm,0.8s
P48A Milroy 25.54 16 P **P 16 17 36.7 -1.3**
baz=200
P48A P **P 16 17 36.7 -1.3**
baz=200
N38A Joes South For 25.67 2 P **P 16 17 39.1 -0.1**
baz=182,SNR=56
N41A Harden Midland 25.75 6 P **P 16 17 39.8 0.0**
baz=188,SNR=8.3
Q51A Peebles 25.76 20 P **P 16 17 38.1 -1.8**
Q51A IAmb IAmb 16 18 11.4
comp=Z,53nm,0.9s
HDIL Hopedale 25.79 9 IAmb IAmb 16 17 42.3
comp=Z,36nm,0.6s
HDIL Hopedale 25.79 9 P **P 16 17 40.1 -0.2**
baz=191
HDIL Hopedale 25.79 9 P **P 16 17 40.2 0.0**
baz=191
P49A Miami Univ. Ec 25.81 17 P **P 16 17 40.0 -0.4**
baz=202
SFIN Lafayette 26.01 13 P **P 16 17 41.8 -0.4**
baz=196
Q52A Bidwell 26.07 22 IAmb IAmb 16 18 14.7
comp=Z,47nm,0.9s
P51A Williamsport 26.27 20 IAmb IAmb 16 18 20.6
comp=Z,50nm,0.9s
P51A Williamsport 26.27 20 P **P 16 17 42.8 -1.8**
baz=205
P51A P **P 16 17 42.8 -1.8**
baz=205
R55A Marlinton 26.32 26 P **P 16 17 45.3 +0.2**
baz=212
R55A P **P 16 17 45.3 +0.2**
baz=212
O48B Farmland 26.36 16 P **P 16 17 42.7 -2.7**
O48B IAmb IAmb 16 18 13.8
comp=Z,26nm,0.8s
O48B Farmland 26.36 16 P **P 16 17 45.0 -0.4**
baz=200
BAUV El Baul 26.37 100 P **P 16 17 44.3 -1.5**
BAUV IAmb IAmb 16 17 48.1
comp=Z,46nm,1.0s
SWSC Sam W. Stewart 26.43 316 P **P 16 17 47.7 +1.6**
baz=127
SMCO Snowmass 26.50 338 IAmb IAmb 16 18 02.0
comp=Z,35nm,1.1s
O49A Covington 26.52 17 IAmb IAmb 16 18 16.9
comp=Z,41nm,0.8s
O49A Covington 26.52 17 P **P 16 17 44.8 -2.0**
baz=202
O49A P **P 16 17 44.8 -2.0**
baz=202
ISCO Idaho Springs 26.58 340 P **P 16 17 49.5 +1.7**
baz=155,SNR=12
ISCO Idaho Springs 26.58 340 P **P 16 17 49.1 +1.4**
baz=155,SNR=12
W13A Hualapai Mount 26.62 322 P **P 16 17 47.8 -0.2**
BC3 Big Chuckawall 26.64 318 P **P 16 17 50.4 +2.3**
baz=129
OGNE Ogallala 26.67 347 P **P 16 17 49.5 +1.2**
baz=163
IRM Iron Mountain 26.76 319 P **P 16 17 51.7 +2.6**
baz=130
SCIA State Center 26.79 2 P **P 16 17 49.2 0.0**
baz=182,SNR=8.5
SCIA State Center 26.79 2 P **P 16 17 49.4 +0.2**
baz=182,SNR=8.5
L40A Anamosa 27.06 5 P **P 16 17 50.9 -0.7**
baz=186,SNR=7.8
ATAH Atahualpa 27.09 143 LR LR 16 27 08.5
comp=Z,847nm,18.4s,baz=291,slow=33
L42A Oliver, Polo 27.16 8 IAmb IAmb 16 17 53.7
comp=Z,49nm,0.7s
L42A Oliver, Polo 27.16 8 P **P 16 17 52.2 -0.3**
baz=190,SNR=6.4
TPFO Pinon Flats 27.27 317 P **P 16 17 55.3 +1.5**
baz=127
PFO Pinyon Flats O 27.27 317 P **P 16 17 56.3 +2.4**
baz=127
PFO Pinyon Flats O 27.27 317 LR LR 16 29 16.7
comp=Z,706nm,21.2s,baz=132,slow=38
KNB Kanab 27.39 326 IAmb IAmb 16 18 29.1
comp=Z,43nm,1.6s
GMRC Granite Mounta 27.49 319 P **P 16 17 58.2 +2.4**
baz=130
K38A Parkersburg 27.54 2 P **P 16 17 54.2 -1.8**
K38A Parkersburg 27.54 2 P **P 16 17 54.9 -1.1**
baz=183,SNR=7.7
L44A Lake County Fo 27.60 10 P **P 16 17 56.8 +0.4**
baz=193
LCMT Little Creek M 27.62 326 P **P 16 17 55.8 -1.1**
N23A Red Feather La 27.68 341 P **P 16 17 59.5 +2.0**
baz=155
O20A White River Ci 27.81 337 IAmb IAmb 16 18 12.4
comp=Z,84nm,2.0s
O20A White River Ci 27.81 337 P **P 16 18 00.2 +1.5**
baz=150
HEC Hector,Ludlow 27.95 319 P **P 16 18 01.6 +1.8**
baz=129
SZCU Shurtz Canyon 27.96 327 IAmb IAmb 16 18 13.3
comp=Z,48nm,1.8s
JFWS Jewell Farm 27.99 6 P **P 16 18 00.1 +0.1**
baz=188
JFWS Jewell Farm 27.99 6 P **P 16 18 00.1 +0.1**
baz=188
P18A Preston Nutter 28.20 333 P **P 16 18 01.0 -1.3**
MVU Marysvale 28.21 329 IAmb IAmb 16 18 18.1
comp=Z,40nm,1.0s
ECSD EROS Data Cent 28.66 356 IAmb IAmb 16 18 08.1
comp=Z,28nm,0.8s
ECSD EROS Data Cent 28.66 356 P **P 16 18 07.4 +1.4**
baz=175,SNR=17
ECSD EROS Data Cent 28.66 356 P **P 16 18 05.8 -0.2**
baz=175,SNR=17
RWWY Rawlins 28.81 340 IAmb IAmb 16 18 20.0
comp=Z,51nm,1.2s
I37A Lemond, Waseca 28.89 1 P **P 16 18 06.3 -1.6**
I37A IAmb IAmb 16 18 08.8
comp=Z,37nm,0.7s
NLU North Lily Min 29.29 331 P **P 16 18 11.7 -0.1**
PCRV Puerto La Cruz 29.33 96 LR LR 16 32 12.3
comp=Z,360nm,19.7s,slow=41
K22A Casper 29.45 341 IAmb IAmb 16 18 26.1
comp=Z,43nm,1.6s
K22A Casper 29.45 341 P **P 16 18 14.6 +1.4**
baz=155
K22A Casper 29.45 341 P **P 16 18 14.8 +1.5**
baz=155
SUSD Miller 29.57 353 P **P 16 18 15.2 +1.1**
baz=171
SPR3 Spring Creek 3 29.66 327 P **P 16 18 14.7 -0.6**
DUG Dugway, Tooele 29.82 331 P **P 16 18 19.2 +2.6**
baz=142
R11B Troy Canyon, C 29.86 325 P **P 16 18 19.0 +2.1**
baz=135
TCUT Toone Canyon 29.93 334 IAmb IAmb 16 18 26.3
comp=Z,34nm,0.9s
GRAC Grapevine Rang 29.98 321 P **P 16 18 20.0 +2.2**
baz=131
CWC Cottonwood Cre 30.06 320 P **P 16 18 21.1 +2.4**
baz=129
SPMN Marine on St. 30.11 2 P **P 16 18 19.8 +1.0**
baz=183,SNR=20
SPMN Marine on St. 30.11 2 P **P 16 18 18.2 -0.6**
baz=183,SNR=20
RSSD Black Hills 30.15 346 P **P 16 18 18.4 -1.0**
RSSD Black Hills 30.15 346 P **P 16 18 22.3 +2.9**
baz=161
RSSD Black Hills 30.15 346 P **P 16 18 18.4 -1.0**
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 30.15 346 P **P 16 18 22.8 +3.4**
PKM Mcpherson Peak 30.27 315 P **P 16 18 23.4 +2.8**
baz=124
VES Vestal, Richgr 30.34 318 P **P 16 18 22.9 +1.9**
baz=126
BW06 Boulder Array 30.58 338 P **P 16 18 24.9 +1.6**
baz=150
PD31 Pinedale Array 30.58 338 P **P 16 18 23.5 +0.2**
PDAR Pinedale Array 30.58 338 P **P 16 18 23.6 +0.3**
comp=Z,2.1nm,0.8s,baz=146,slow=8.1,SNR=15
PDAR LR LR 16 33 32.7
comp=Z,366nm,18.4s,baz=148,slow=42
comp=Z,2.1nm,0.8s
F36A Milaca 30.73 1 P **P 16 18 22.9 -1.4**
baz=181,SNR=9.0
GLMI Grayling 30.80 14 P **P 16 18 25.0 +0.1**
baz=198
HVU Hansel Valley 31.07 333 P **P 16 18 27.2 -0.3**
HVU IAmb IAmb 16 18 40.4
comp=Z,18nm,0.9s
HVU Hansel Valley 31.07 333 P **P 16 18 27.2 -0.3**
HVU pmax pmax
comp=Z,18nm,0.9s
BINY Binghamton 31.33 27 P **P 16 18 30.7 +1.0**
baz=216
PAL Palisades 31.35 30 P **P 16 18 30.4 +0.6**
baz=220
NV11 Mina Array Sit 31.39 322 P **P 16 18 30.7 +0.3**
NVAR Mina Array Bea 31.48 322 P **P 16 18 33.1 +1.9**
comp=Z,6.9nm,0.9s,baz=142,slow=8.5,SNR=27
NVAR LR LR 16 32 20.6
comp=Z,830nm,21.8s,baz=134,slow=39
comp=Z,6.9nm,0.9s
E38A The Farm, Brul 31.55 4 P **P 16 18 31.5 0.0**
baz=185,SNR=5.8
ID08 Devils Gate 31.58 335 P **P 16 18 32.2 +0.2**
ID08 IAmb IAmb 16 18 44.5
comp=Z,17nm,0.8s
LOHW Long Hollow 31.70 337 IAmb IAmb 16 18 46.2
comp=Z,17nm,1.1s
TPAW Teton Pass 31.73 337 IAmb IAmb 16 18 46.7
comp=Z,29nm,0.9s
FXWY Fox Creek 31.88 337 P **P 16 18 34.7 0.0**
E28A Huff 31.89 352 P **P 16 18 37.0 +2.5**
baz=168,SNR=11
NNA Nana 31.94 146 LR LR 16 29 09.5
comp=Z,648nm,20.7s,baz=340,slow=32
FLWY Flagg Ranch 32.14 338 IAmb IAmb 16 18 47.5
comp=Z,12nm,0.8s
SADO Sadowa 32.30 20 LR LR 16 34 13.4
comp=Z,408nm,18.5s,baz=172,slow=41
H17A Grant Village 32.36 338 P **P 16 18 41.7 +2.7**
baz=150
YERR Yerington 32.40 322 P **P 16 18 39.9 +0.6**
RLMT Red Lodge 32.55 340 IAmb IAmb 16 18 52.6
comp=Z,31nm,1.2s
RLMT Red Lodge 32.55 340 P **P 16 18 42.8 +2.2**
baz=152
PNTR Pine Nut 32.67 322 P **P 16 18 41.4 -0.4**
YMR Madison River 32.74 338 IAmb IAmb 16 18 52.4
comp=Z,16nm,0.9s
EYMN Ely 32.89 3 P **P 16 18 41.4 -1.9**
EYMN Ely 32.89 3 P **P 16 18 43.0 -0.3**
baz=185
PAHR Pah Rah Range 32.95 323 IAmb IAmb 16 19 29.7
comp=Z,39nm,2.0s
YHL Hebgen Lake 32.98 338 IAmb IAmb 16 18 58.4
comp=Z,12nm,0.9s
MDND Maddock 33.00 353 P **P 16 18 46.2 +2.0**
baz=170,SNR=6.5
MDND Maddock 33.00 353 P **P 16 18 46.1 +1.8**
baz=170,SNR=6.5
L61B Northampton 33.05 30 P **P 16 18 44.4 -0.2**
baz=221
HLID Hailey 33.22 333 P **P 16 18 48.6 +2.3**
baz=142,SNR=14
B35A Bob, Littlefor 33.23 1 P **P 16 18 44.7 -1.4**
B35A Bob, Littlefor 33.23 1 P **P 16 18 45.8 -0.4**
baz=181,SNR=19
BOZ Bozeman (W) 33.78 338 P **P 16 18 53.7 +2.5**
baz=149
DLMT Dillon 33.94 337 IAmb IAmb 16 19 06.2
comp=Z,37nm,1.1s
DGMT Dagmar 34.32 348 P **P 16 18 57.3 +1.6**
baz=163
WVOR Wild Horse Val 34.40 327 P **P 16 18 56.6 -0.1**
WVOR IAmb IAmb 16 19 01.3
comp=Z,20nm,1.1s
WVOR Wild Horse Val 34.40 327 P **P 16 18 56.6 -0.1**
WVOR pmax pmax
comp=Z,20nm,1.1s
J08A Circle Bar Ran 34.98 329 IAmb IAmb 16 19 06.2
comp=Z,27nm,0.9s
ULM Lac du Bonnet 35.14 358 P **P 16 19 01.9 -0.8**
comp=Z,26nm,0.6s,baz=172,slow=10,SNR=29
ULM LR LR 16 36 10.7
comp=Z,397nm,20.5s,baz=134,slow=41
comp=Z,26nm,0.6s
BOAV Boa Vista 35.60 107 P **P 16 19 05.0 -2.1**
BOAV IAmb IAmb 16 19 08.4
comp=Z,18nm,1.1s
BOAV Boa Vista 35.60 107 *e*P **P 16 19 04.8 -2.4**
MSO Missoula 35.68 337 IAmb IAmb 16 19 20.2
comp=Z,21nm,1.2s
MSO Missoula 35.68 337 P **P 16 19 08.5 +0.9**
baz=146
YBH Yreka Blue Hor 36.19 323 LR LR 16 36 24.6
comp=Z,667nm,18.0s,baz=150,slow=40
F10A Beach Ranch, E 36.35 333 P **P 16 19 13.3 0.0**
F10A IAmb IAmb 16 19 27.2
comp=Z,27nm,0.8s
G08A Pilot Rock 36.63 330 IAmb IAmb 16 19 28.3
comp=Z,30nm,1.9s
G08A **PcP 16 21 38.7 +0.3**
ETMB Extrema 37.21 130 P **P 16 19 20.8 -0.1**
H04A Detroit Lake 37.82 327 IAmb IAmb 16 19 39.8
comp=Z,20nm,1.0s
D08A Wollman Farm, 37.93 332 P **P 16 19 27.1 +0.5**
HOOD Mount Hood Mea 37.98 328 IAmb IAmb 16 19 31.9
comp=Z,46nm,1.1s
NEW Newport 38.10 335 P **P 16 19 28.7 +0.7**
baz=142
NEW Newport 38.10 335 LR LR 16 37 52.6
comp=Z,743nm,18.1s,baz=152,slow=41
C09A Chrisman Ranch 38.22 334 IAmb IAmb 16 19 39.3
comp=Z,11nm,0.7s
SAML Samuel 38.98 126 P **P 16 19 34.5 -1.2**
SAML IAmb IAmb 16 19 36.2
comp=Z,23nm,1.2s
SAML Samuel 38.98 126 P **P 16 19 34.6 -1.2**
SAML pmax pmax
comp=Z,23nm,1.2s
SAML Samuel 38.98 126 P **P 16 19 35.4 -0.4**
SAML pP **pP 16 19 45.3 +1.0**
FFC Flin Flon 40.05 353 P **P 16 19 43.8 -0.4**
FFC IAmb IAmb 16 19 55.0
comp=Z,23nm,0.8s
FFC Flin Flon 40.05 353 P **P 16 19 43.8 -0.4**
FFC pmax pmax
comp=Z,23nm,0.8s
FFC Flin Flon 40.05 353 P **P 16 19 45.7 +1.6**
FFC pP **sP 16 19 54.4 -2.2**
LPAZ La Paz 40.46 139 P **P 16 19 49.1 +0.4**
comp=Z,7.8nm,0.6s,baz=315,slow=4.9,SNR=28
LPAZ LR LR 16 37 11.0
comp=Z,231nm,18.8s,baz=305,slow=37
comp=Z,7.8nm,0.6s

LPAZ	La Paz	40.46	139	P	P	16 19 49.7 +1.0
NLWA	Neilton Lookou	40.52	329	IAmb	IAmb	16 19 52.0
	comp=Z,27nm,1.2s					
PB18	Visviri	40.63	142	IAmb	IAmb	16 19 54.2
	comp=Z,43nm,1.2s					
PB12	IPOC Station P	40.94	144	IAmb	IAmb	16 19 55.3
	comp=Z,29nm,1.2s					
EDM	Edmonton	40.95	343	P	P	16 19 52.0 +0.2
EDM				IAmb	IAmb	16 20 03.1
	comp=Z,31nm,1.0s					
EDM	Edmonton	40.95	343	P	P	16 19 52.0 +0.2
EDM				pmax	pmax	
	comp=Z,31nm,1.0s					
PB16	IPOC Station P	41.19	143	IAmb	IAmb	16 19 58.1
	comp=Z,23nm,1.0s					
MDP	Montagnes des	42.11	99	LR	LR	16 38 26.8
	comp=Z,538nm,21.9s,baz=285,slow=38					
GO01	Chusmiza	42.42	144	IAmb	IAmb	16 20 08.2
	comp=Z,30nm,1.1s					
TA01	Diego Aracena	42.59	146	IAmb	IAmb	16 20 08.3
	comp=Z,40nm,1.2s					
PATCX	Punta Patache	42.81	146	IAmb	IAmb	16 20 10.9
	comp=Z,51nm,1.2s					
BRLDA	Berland Lookou	42.95	340	P	P	16 20 08.2 +0.1
BRLDA				IAmb	IAmb	16 20 17.2
	comp=Z,18nm,0.6s					
PB02	IPOC Station P	43.35	146	P	P	16 20 12.4 +0.7
PB07	IPOC Station P	43.69	146	IAmb	IAmb	16 20 17.5
	comp=Z,38nm,1.3s					
VILB	Vilhena	43.74	128	IAmb	IAmb	16 20 20.4
	comp=Z,21nm,0.8s					
PB09	IPOC Station P	44.09	146	IAmb	IAmb	16 21 05.7
	comp=Z,18nm,0.5s					
RPN	Rapa Nui	44.39	199	LR	LR	16 34 07.9
	comp=Z,422nm,19.7s,baz=3.5,slow=30					
LVC	Limon Verde	44.93	146	P	P	16 20 24.8 +0.1
LVC				IAmb	IAmb	16 20 28.1
	comp=Z,17nm,1.1s					
LVC	Limon Verde	44.93	146	P	P	16 20 24.8 +0.1
LVC				pmax	pmax	
	comp=Z,17nm,1.1s					
LVC	Limon Verde	44.93	146	LR	LR	16 38 21.4
	comp=Z,316nm,19.2s,baz=316,slow=35					
LVC	Limon Verde	44.93	146	P	P	16 20 27.3 +2.6
SIV	San Ignacio	45.03	132	LR	LR	16 38 30.5
	comp=Z,505nm,19.2s,baz=296,slow=35					
SCHQ	Schefferville	45.06	22	LR	LR	16 41 09.6
	comp=Z,1µm,20.0s,baz=220,slow=39					
BBB	Bella Bella	45.77	331	LR	LR	16 42 11.0
	comp=Z,346nm,18.5s,baz=95,slow=39					
PB14	IPOC Station P	45.81	149	IAmb	IAmb	16 20 34.3
	comp=Z,30nm,1.1s					
PTLB	Pontes e Lacer	46.10	130	P	P	16 20 33.3 -0.3
PTLB				IAmb	IAmb	16 20 34.8
	comp=Z,19nm,1.0s					
LCO	Las Campanas	49.38	152	P	P	16 21 00.4 +1.2
LCO	Las Campanas	49.38	152	P	P	16 21 00.4 +1.2
LCO				pmax	pmax	
	comp=Z,40nm,1.1s					
LCO	Las Campanas	49.38	152	P	P	16 21 01.0 +1.8
LCO				pP	sP	16 21 10.6 -1.0
YKA	Yellowknife Ar	49.52	348	P	P	16 20 59.7 +0.2
	comp=Z,6.2nm,0.8s,baz=151,slow=7.2,SNR=11					
YKA				LR	LR	16 46 26.4
	comp=Z,280nm,18.4s,baz=128,slow=42					
	comp=Z,6.2nm,0.8s					
T35M	Bob Quinn	49.91	335	P	P	16 21 04.4 +1.8
	baz=132					
KOTAN	Kotaneelee Air	49.97	341	P	P	16 21 04.5 +1.5
	baz=141,SNR=7.2					
CO01	Juntas del Tor	50.48	153	IAmb	IAmb	16 21 10.8
	comp=Z,15nm,1.0s					
DLBC	Dease Lake	50.81	337	IAmb	IAmb	16 21 57.6
	comp=Z,20nm,1.3s					
DLBC	Dease Lake	50.81	337	P	P	16 21 11.5 +2.1
	baz=133					
DLBC	Dease Lake	50.81	337	LR	LR	16 45 38.0
	comp=Z,487nm,18.2s,baz=148,slow=40					
S34M	Telegraph Cree	50.88	336	P	P	16 21 12.2 +2.3
	baz=132					
CO02	Combarbal	51.14	154	P	P	16 21 13.7 +1.4
TAOE	Nuku Hiva Isla	51.27	245	*e*P	P	16 21 07.5 -6.1
	comp=Z,62nm,23.3s					
TAOE				*e*S	S	16 28 27.8 -3.2
	comp=Z,152nm,26.6s					
TAOE				*e*LR	LR	16 35 52.0
	comp=Z,609nm,23.7s					
TAOE	Nuku Hiva Isla	51.27	245	*e*T	T	17 16 10.1
	comp=Z,49nm,0.2s					
R33M	Jennings River	51.82	337	IAmb	IAmb	16 21 30.4
	comp=Z,37nm,1.6s					
R33M	Jennings River	51.82	337	P	P	16 21 19.2 +2.1
	baz=133					
FRB	Frobisher Bay	51.83	14	LR	LR	16 45 36.5
	comp=Z,434nm,20.5s,baz=197,slow=39					
Q32M	Nakina River	52.03	336	IAmb	IAmb	16 21 23.8
	comp=Z,23nm,1.1s					
Q32M	Nakina River	52.03	336	P	P	16 21 20.6 +1.9
	baz=131					
WRGLY	Wrigley	52.26	344	P	P	16 21 22.7 +2.6
	baz=143					
TGTN	Hyland Airport	52.38	340	P	P	16 21 23.7 +2.5
	baz=137,SNR=5.1					
ZON	Zonda	52.45	152	IAmb	IAmb	16 21 25.3
	comp=Z,31nm,1.2s					
P32M	Atlin	53.00	336	P	P	16 21 28.7 +3.0
	baz=130					
P33M	Teslin, Yukon	53.06	337	P	P	16 21 26.9 +0.7
P33M				IAmb	IAmb	16 22 34.9
	comp=Z,50nm,1.9s					
P33M	Teslin, Yukon	53.06	337	P	P	16 21 28.6 +2.3
	baz=131					
SKAG	Skagway	53.56	335	P	P	16 21 31.8 +2.1
	baz=128					
MT13	San Alfonso	53.65	155	IAmb	IAmb	16 21 39.4
	comp=Z,32nm,1.2s					
N32M	Quiet Lake	53.78	338	IAmb	IAmb	16 21 35.7
	comp=Z,17nm,0.9s					
N32M	Quiet Lake	53.78	338	P	P	16 21 33.1 +1.7
	baz=131					
BO01	Tunca	53.90	156	IAmb	IAmb	16 21 35.3
	comp=Z,15nm,1.0s					
PLBC	Pleasant Camp	53.98	335	P	P	16 21 35.2 +2.4
	baz=127					
WHY	Whitehorse	54.14	337	P	P	16 21 35.3 +1.2
	baz=129					
MMPY	Sheldon Lake,	54.15	340	IAmb	IAmb	16 21 47.4
	comp=Z,19nm,1.3s					
MMPY	Sheldon Lake,	54.15	340	P	P	16 21 36.1 +2.0
	baz=134,SNR=5.8					
FARO	Faro, Yukon	54.60	339	P	P	16 21 38.2 +0.9
	baz=132					
CPUP	Villa Florida	54.62	139	P	P	16 21 37.2 -0.7
CPUP				IAmb	IAmb	16 21 38.8
	comp=Z,20nm,1.1s					
CPUP	Villa Florida	54.62	139	P	P	16 21 37.8 -0.2
	comp=Z,9.9nm,0.9s,baz=333,slow=8.4,SNR=12					
CPUP				LR	LR	16 46 28.5
	comp=Z,179nm,18.8s,baz=338,slow=38					
	comp=Z,9.9nm,0.9s					
CPUP	Villa Florida	54.62	139	P	P	16 21 37.7 -0.3
P29M	Windy Craggy	54.65	335	P	P	16 21 38.4 +0.6
	baz=125					
O30N	Mendenhall	54.67	336	P	P	16 21 38.6 +0.7
	baz=128					
M31M	Drury Creek, Y	54.95	338	P	P	16 21 42.6 +2.7
	baz=130					
BDFB	Brasilia	54.96	122	P	P	16 21 40.8 +0.1
	comp=Z,13nm,0.8s,baz=294,slow=7.6,SNR=8.4					
BDFB				LR	LR	16 46 58.9
	comp=Z,239nm,18.2s,baz=321,slow=38					
	comp=Z,13nm,0.8s					
N31M	Braeburn, Yuko	55.00	337	P	P	16 21 42.3 +2.0
	baz=128					
O29M	Mount Kennedy	55.38	335	P	P	16 21 44.6 +1.5
	baz=125					
N30M	Aishikik Lake	55.48	337	P	P	16 21 45.9 +2.2
	baz=127					
YUK6	Outpost Mounta	55.67	336	P	P	16 21 47.2 +1.8
	baz=125					
PINM	Pinnacle	55.96	334	P	P	16 21 49.3 +2.0
	baz=123					
YUK4	Talbot Arm	56.01	336	P	P	16 21 48.5 +0.8
	baz=126					
M30M	Minto, Yukon	56.05	338	P	P	16 21 49.0 +1.2
	baz=128					
O28M	Mount Upton	56.31	335	P	P	16 21 50.1 +0.1
	baz=123					
YUK8	Steele Glacier	56.42	336	P	P	16 21 51.7 +0.9
	baz=124					
M29M	Somme Creek	56.59	337	IAmb	IAmb	16 22 04.9
	comp=Z,12nm,0.9s					
M29M	Somme Creek	56.59	337	P	P	16 21 54.0 +2.3
	baz=126,SNR=7.1					
MESA	MESA	56.72	334	P	P	16 21 54.4 +1.6
	baz=121					
L29M	L29M	56.86	338	P	P	16 21 55.6 +2.0
	baz=127					
YUK3	Moose Creek	56.97	336	P	P	16 21 52.9 -1.7
	baz=124					
K29M	Barlow Dome	57.09	339	P	P	16 21 55.4 0.0
	baz=128					
J30M	Hart River	57.15	340	P	P	16 21 56.7 +1.0
	baz=130					
H31M	Peel River	57.33	342	P	P	16 21 57.8 +0.9
	baz=132					
ITQB	Itaqui	57.42	141	P	P	16 21 57.5 -0.4
I30M	Mount Dempster	57.58	340	P	P	16 22 00.6 +1.8
	baz=130					
KAIM	Kayak Island	57.67	333	P	P	16 22 02.3 +3.0
	baz=119					
MCARA	McCarthy VSAT	57.80	335	IAmb	IAmb	16 22 13.2
	comp=Z,14nm,0.8s					
MCARA	McCarthy VSAT	57.80	335	P	P	16 22 02.8 +2.6
	baz=121					
M27K	Edge Creek, AK	57.85	336	P	P	16 22 01.4 +0.7
	baz=122					
DAWY	Dawson	57.89	338	P	P	16 22 01.0 +0.1
	baz=126					
G31M	Satah River	58.07	343	P	P	16 22 03.2 +1.3
	baz=133					
GLB	Gilahina Butte	58.15	335	IAmb	IAmb	16 22 15.8
	comp=Z,12nm,1.0s					
L27K	Beaver Creek,	58.21	337	IAmb	IAmb	16 22 15.1
	comp=Z,30nm,1.9s					
L27K	Beaver Creek,	58.21	337	P	P	16 22 04.3 +1.2
	baz=123					
BMRM	Bremner River	58.25	334	P	P	16 22 04.8 +1.4
	baz=119					
F31M	Tsiigehtchic	58.28	343	P	P	16 22 04.7 +1.3
	baz=134					
I29M	Ogilvie Camp,	58.30	340	P	P	16 22 04.9 +1.3
	baz=128					
M26K	Nabesna, AK	58.32	336	P	P	16 22 06.0 +2.2
	baz=121					
GO06	Curarrehue	58.37	159	IAmb	IAmb	16 22 06.9
	comp=Z,10nm,1.0s					
N25K	Chitina, Valde	58.56	334	P	P	16 22 05.5 -0.1
N25K				IAmb	IAmb	16 22 10.1
	comp=Z,13nm,1.1s					
N25K	Chitina, Valde	58.56	334	P	P	16 22 08.4 +2.8
	baz=119					
L26K	Log Cabin Wild	58.78	336	P	P	16 22 07.9 +0.8
	baz=121					
INK	Inuvik	58.82	344	P	P	16 22 08.4 +1.3
	baz=134					
INK	Inuvik	58.82	344	LR	LR	16 51 44.5
	comp=Z,659nm,18.0s,baz=178,slow=40					
K27K	Chicken	58.84	338	IAmb	IAmb	16 22 21.9
	comp=Z,34nm,1.8s					
K27K	Chicken	58.84	338	P	P	16 22 09.4 +2.0
	baz=123					
H29M	Whitestone	58.85	341	P	P	16 22 08.9 +1.4
	baz=128					
I28M	Miner Creek	58.90	340	P	P	16 22 09.8 +1.9
	baz=126					
F30M	Barrier River	58.97	343	P	P	16 22 09.7 +1.4
	baz=132					
P23K	Montague Islan	59.04	332	P	P	16 22 10.3 +1.5
	baz=116					
KLU	Klutina	59.06	334	IAmb	IAmb	16 22 22.8
	comp=Z,32nm,1.4s					
KLU	Klutina	59.06	334	P	P	16 22 10.3 +1.1
	baz=118					
G29M	Pine Creek	59.18	341	P	P	16 22 11.3 +1.6
	baz=129					
HARP	HAARP	59.18	335	P	P	16 22 11.5 +1.7
	baz=119					
SFJD	Kangerlussuaq	59.22	18	LR	LR	16 50 13.8
	comp=Z,344nm,18.2s,baz=231,slow=39					
GLI	Glacier Island	59.29	333	P	P	16 22 12.8 +2.3
	baz=116					
M24K	Tolsona, Glenn	59.46	335	P	P	16 22 14.1 +2.3
	baz=118					
SCRK	Sand Creek	59.52	337	P	P	16 22 13.0 +0.7
SCRK				IAmb	IAmb	16 22 16.2
	comp=Z,10nm,1.2s					
SCRK	Sand Creek	59.52	337	P	P	16 22 14.0 +1.7
	baz=121					
I27K	Kandik River	59.56	339	P	P	16 22 14.3 +1.9
	baz=124					
PAX	Paxson	59.59	336	P	P	16 22 13.7 +0.9
	baz=119					
J26L	Joseph Creek	59.64	338	IAmb	IAmb	16 22 17.1
	comp=Z,14nm,1.2s					
J26L	Joseph Creek	59.64	338	P	P	16 22 14.1 +1.1
	baz=122,SNR=5.8					
RES	Resolute Bay	59.64	360	LR	LR	16 53 14.8
	comp=Z,222nm,18.6s,baz=168,slow=41					
PLCA	Paso Flores	59.71	159	P	P	16 22 14.7 +0.9
	comp=Z,16nm,1.0s,baz=334,slow=8.3,SNR=22					
PLCA				LR	LR	16 42 52.9
	comp=Z,178nm,19.6s,baz=351,slow=31					
	comp=Z,16nm,1.0s					
PLCA	Paso Flores	59.71	159	P	P	16 22 14.8 +1.0
PLCA				sP	sP	16 22 28.5 +2.5
RIDG	Independent Ri	59.73	337	IAmb	IAmb	16 22 17.5
	comp=Z,21nm,1.1s					
RIDG	Independent Ri	59.73	337	P	P	16 22 16.1 +2.5
	baz=120					
SCM	Sheep Creek Mo	59.82	334	P	P	16 22 14.9 +0.6
	baz=117					
H27K	Steamboat Moun	59.89	340	P	P	16 22 16.7 +2.1
	baz=125					
E29M	Blow River	60.08	343	P	P	16 22 18.5 +2.6
	baz=130					
KNK	Knik Glacier	60.12	333	P	P	16 22 18.8 +2.5
	baz=115					
F28M	Old Crow	60.18	342	IAmb	IAmb	16 22 50.8
	comp=Z,16nm,1.1s					
F28M	Old Crow	60.18	342	P	P	16 22 18.5 +1.9
	baz=127,SNR=7.2					
G27K	Doyon Strip	60.26	340	P	P	16 22 18.9 +1.7
	baz=125					
WAT6	Susitna Watana	60.33	335	P	P	16 22 18.9 +1.0
	baz=117					
J25K	Salcha River,	60.37	337	IAmb	IAmb	16 22 20.9
	comp=Z,12nm,1.2s					
J25K	Salcha River,	60.37	337	P	P	16 22 19.4 +1.4
	baz=120					
GHO	Glory Hole Cre	60.47	334	IAmb	IAmb	16 22 21.8
	comp=Z,11nm,0.7s					
RC01	Rabbit Creek A	60.54	333	P	P	16 22 19.3 +0.1
	baz=114					
KDAK	Kodiak Island	60.67	328	P	P	16 22 22.1 +2.0
	baz=109					
KDAK	Kodiak Island	60.67	328	LR	LR	16 47 43.9
	comp=Z,261nm,19.6s,baz=121,slow=35					
E28M	Babbage River	60.69	343	P	P	16 22 20.4 +0.4
	baz=128					
PLTB	Pedras Altas	60.73	140	P	P	16 22 20.8 -0.1
PLTB				IAmb	IAmb	16 22 21.9
	comp=Z,19nm,1.1s					
WAT1	Susitna Watana	60.77	335	P	P	16 22 22.8 +2.0
	baz=116					
PMOR	Pomariorio Ree	60.81	243	*e*T	T	17 28 26.5
	comp=Z,4.2nm,0.2s					
Q20K	Shuyak Island	60.85	329	P	P	16 22 23.0 +1.7
	baz=110					
HDA	Harding Lake	60.86	337	P	P	16 22 21.5 +0.2
	baz=118					
PRP	Porcupine Dome	60.88	338	P	P	16 22 21.5 -0.1
PRP				IAmb	IAmb	16 22 24.3
	comp=Z,26nm,1.4s					
PRP	Porcupine Dome	60.88	338	P	P	16 22 22.6 +1.0
	baz=120					
TRQA	Tornquist	60.91	151	P	P	16 22 22.0 0.0
TRQA	Tornquist	60.91	151	P	P	16 22 22.0 0.0
TRQA				pmax	pmax	
	comp=Z,26nm,1.1s					
D28M	Stokes Point	60.92	343	P	P	16 22 22.6 +1.1
	baz=129					
IL31		61.01	337	IAmb	IAmb	16 22 25.4
	comp=Z,15nm,1.1s					
ILAR	Eielson Array	61.01	337	P	P	16 22 22.7 +0.4
	comp=Z,4.5nm,0.9s,baz=136,slow=5.2,SNR=34					
ILAR				LR	LR	16 52 21.5
	comp=Z,730nm,18.0s,baz=108,slow=40					
	comp=Z,4.5nm,0.9s					
G26K	Porcupine Rive	61.04	340	P	P	16 22 24.1 +1.6
	baz=123					
E27K	Coleen River	61.04	342	IAmb	IAmb	16 22 56.6
	comp=Z,19nm,1.2s					
E27K	Coleen River	61.04	342	P	P	16 22 24.9 +2.3
	baz=126,SNR=5.8					
SII	Sitkinak Islan	61.11	327	P	P	16 22 23.9 +0.8
	baz=107					
SUA	Susitna One	61.14	333	P	P	16 22 24.3 +0.9
	baz=113					
RND	Reindeer	61.15	335	IAmb	IAmb	16 22 27.1
	comp=Z,20nm,1.1s					
MCK	McKinley	61.33	336	P	P	16 22 25.5 +1.0
	baz=116					
H25L	Birch Creek	61.37	339	P	P	16 22 26.2 +1.5
	baz=120					
POKR	Poker Plat Res	61.38	337	P	P	16 22 26.5 +1.6
	baz=118					
COLA	College	61.43	337	P	P	16 22 26.8 +1.7
	baz=118					
COLA	College	61.43	337	P	P	16 22 26.4 +1.4
COLA				sP	sP	16 22 39.4 +1.8
RCBR	Riachuelo	61.47	105	LR	LR	16 50 34.8
	comp=Z,275nm,19.4s,baz=277,slow=38					
O20K	Slope Mountain	61.48	331	P	P	16 22 27.3 +1.7
	baz=110					
D27M	Malcolm River	61.49	343	P	P	16 22 27.0 +1.5
	baz=127					
LL02	Futaleuf	61.50	161	IAmb	IAmb	16 22 28.5
	comp=Z,21nm,1.2s					
F26K	Sheenjek River	61.56	341	P	P	16 22 27.4 +1.4
	baz=123					
CHIR	Chirikof Islan	61.67	326	P	P	16 22 28.8 +1.9
	baz=106					
SKT	Skwentna	61.69	333	IAmb	IAmb	16 22 30.4
	comp=Z,20nm,1.2s					
SKT	Skwentna	61.69	333	P	P	16 22 28.5 +1.5
	baz=112					
N20K	Mount Spurr	61.69	332	P	P	16 22 28.7 +1.6
	baz=112					
SPCR	Spurr Chakacha	61.69	332	P	P	16 22 28.0 +1.0
	baz=112					
G25K	Bearman Lake	61.72	339	P	P	16 22 28.5 +1.5
	baz=120					
TRF	Thorofare Moun	61.75	335	P	P	16 22 27.7 +0.2
TRF	Thorofare Moun	61.75	335	P	P	16 22 28.5 +1.0
	baz=114					
NEA2	Nenana	61.76	336	IAmb	IAmb	16 22 30.4
	comp=Z,18nm,1.5s					
NEA2	Nenana	61.76	336	P	P	16 22 28.4 +1.0
	baz=116					
H24K	Noodor Dome	61.89	338	IAmb	IAmb	16 22 31.5
	comp=Z,18nm,1.1s					
H24K	Noodor Dome	61.89	338	P	P	16 22 29.2 +0.9
	baz=118,SNR=6.8					
F25K	Christian Rive	61.99	340	P	P	16 22 30.5 +1.5
	baz=121,SNR=5.6					
KTH	Kantishna Hill	62.05	335	IAmb	IAmb	16 22 51.9
	comp=Z,12nm,1.0s					
I23K	Minto, Yukon-K	62.12	337	IAmb	IAmb	16 22 33.3
	comp=Z,17nm,1.1s					
I23K	Minto, Yukon-K	62.12	337	P	P	16 22 31.9 +2.2
	baz=116					
Q18K	Katmai Hardscr	62.16	329	P	P	16 22 31.1 +0.8
	baz=108					
G24K	Hadweenzic Riv	62.16	339	P	P	16 22 30.3 +0.3
G24K				IAmb	IAmb	16 22 43.1
	comp=Z,18nm,1.2s					
G24K	Hadweenzic Riv	62.16	339	P	P	16 22 31.5 +1.4
	baz=119,SNR=5.0					
E25K	Arctic Village	62.24	341	P	P	16 22 31.8 +1.2
	baz=122					
BPAW	Bear Paw Mtn.	62.31	336	IAmb	IAmb	16 22 43.6
	comp=Z,28nm,1.5s					
BPAW	Bear Paw Mtn.	62.31	336	P	P	16 22 31.4 +0.3
	baz=114,SNR=5.1					
O19K	Port Alsworth	62.31	331	P	P	16 22 31.9 +0.8
	baz=109					
M20K	Styx River	62.35	333	IAmb	IAmb	16 22 38.3
	comp=Z,9.4nm,1.0s					
M20K	Styx River	62.35	333	P	P	16 22 32.6 +1.1
	baz=111					
CAST	Castle Rocks	62.48	335	IAmb	IAmb	16 22 34.9
	comp=Z,13nm,1.1s					
CAST	Castle Rocks	62.48	335	P	P	16 22 32.9 +0.6
	baz=113,SNR=5.9					
N19K	Bonanza Creek	62.59	331	IAmb	IAmb	16 22 39.0
	comp=Z,15nm,1.1s					
N19K	Bonanza Creek	62.59	331	P	P	16 22 34.1 +1.0
	baz=109					
MLY	Manley	62.60	337	IAmb	IAmb	16 22 36.2
	comp=Z,12nm,1.0s					
MLY	Manley	62.60	337	P	P	16 22 34.0 +0.9
	baz=115,SNR=10.0					
O18K	Koktuh Hills	62.63	330	P	P	16 22 33.5 +0.2
	baz=108					
CHUM	Lake Minchumin	62.76	335	P	P	16 22 34.1 0.0
	baz=113					
L20K	Farewell, AK	62.89	333	P	P	16 22 35.5 +0.5
	baz=110,SNR=5.6					
M19K	Big River Lodg	62.92	333	P	P	16 22 35.8 +0.7
M19K	Big River Lodg	62.92	333	P	P	16 22 35.9 +0.7
	baz=110					
Q16K	King Salmon	62.99	329	P	P	16 22 37.7 +2.0
	baz=106					
C26K	Camden Bay	63.01	343	P	P	16 22 36.3 +0.7
	baz=123					
P17K	Kvichak River	63.03	329	P	P	16 22 35.7 -0.2
	baz=106					
G23K	Bananza Creek	63.06	338	P	P	16 22 37.0 +0.9
	baz=116					
D25K	Kavik River	63.13	342	IAmb	IAmb	16 22 40.0
	comp=Z,15nm,1.1s					
D25K	Kavik River	63.13	342	P	P	16 22 36.8 +0.3
	baz=121,SNR=5.8					
I21K	Tanana	63.14	336	P	P	16 22 36.2 -0.3
	baz=114					
E24K	Your Creek	63.17	340	P	P	16 22 37.1 +0.3
	baz=118					
H22K	Ishtalitna Cre	63.20	337	P	P	16 22 37.9 +0.9
	baz=115					
N18K	Kilae Creek	63.21	331	P	P	16 22 38.2 +1.0
	baz=108					
L19K	White Mountain	63.22	333	P	P	16 22 37.7 +0.5
	baz=109					
K20K	Telida	63.29	334	P	P	16 22 38.9 +1.3
	baz=111					
CHGN	Chignik	63.30	326	P	P	16 22 39.0 +1.2
	baz=103					
COLD	Coldfoot	63.36	339	P	P	16 22 38.4 +0.4
	baz=116					
PPT	Papeete	63.41	241	LR	LR	16 42 18.5
	comp=Z,233nm,22.0s,baz=76,slow=28					
PPT2	Papeete2	63.42	241	*e*P	P	16 22 30.5 -8.8
	comp=Z,108nm,29.0s					
PPT2				*e*S	S	16 31 07.7 -2.9
	comp=Z,99nm,24.0s					
PPT2	Papeete2	63.42	241	*e*LR	LR	16 41 31.4
	comp=Z,449nm,24.5s					
PPT2				*e*LR	LR	16 41 38.2
	comp=Z,274nm,23.2s					
M18K	Stony River	63.43	332	P	P	16 22 38.6 +0.1
	baz=108					
O17K	Koliganek Bris	63.52	330	P	P	16 22 39.9 +0.8
	baz=106					
E23K	Chandalar	63.54	340	P	P	16 22 40.9 +1.6
	baz=117					
COYC	Coyhaique	63.60	163	P	P	16 22 40.9 +1.1
J20K	Nowinta River	63.61	335	IAmb	IAmb	16 22 42.4
	comp=Z,12nm,1.1s					
J20K	Nowinta River	63.61	335	P	P	16 22 40.4 +0.7
	baz=111					
H21K	Melozitna Rive	63.65	337	P	P	16 22 40.7 +0.8
	baz=113					
N17K	Nushagak Hills	63.77	331	P	P	16 22 41.9 +1.1
	baz=106					
TOLK	Toolik Lake Re	63.79	340	P	P	16 22 42.6 +1.7
	baz=118					
D24K	Happy Valley	63.80	341	P	P	16 22 42.7 +1.9
	baz=119					
ICESG	Greenland Ices	63.81	19	*i*P	P	16 22 37.5 -3.9
ICESG				IAmb	IAmb	16 22 44.6
	comp=Z,41nm,0.9s					
S14K	Fog Glacier	63.92	326	P	P	16 22 43.7 +1.7
	baz=102					

O16K	Kokwok River B	63.95	329	P		P	16 22 42.8 +0.8
	baz=105						
I20K	Naaghedeneel	63.97	336	P		P	16 22 43.2 +1.2
	baz=111						
C24K	Franklin Bluff	64.03	342	P		P	16 22 43.9 +1.6
	baz=119						
L18K	Granite Mounta	64.05	332	P		P	16 22 43.8 +1.2
	baz=108						
M17K	Holitna River	64.14	332	P		P	16 22 44.6 +1.4
	baz=107						
J19K	Poorman	64.16	335	IAmb		IAmb	16 22 45.9
	comp=Z,14nm,0.9s						
J19K	Poorman	64.16	335	P		P	16 22 43.5 +0.2
	baz=110,SNR=5.7						
SDPT	Sand Point	64.24	325	P		P	16 22 46.2 +2.2
	baz=101						
G21K	Allakaket	64.25	338	P		P	16 22 44.5 +0.6
	baz=113						
D23K	Nanushuk River	64.30	341	P		P	16 22 45.4 +1.2
	baz=117						
E22K	Anaktuvuk Pass	64.31	339	P		P	16 22 45.3 +1.0
	baz=115						
H20K	Anotleneega Mo	64.38	336	P		P	16 22 45.7 +0.9
	baz=111						
J18K	Innoko River	64.44	334	P		P	16 22 46.4 +1.1
	baz=108						
F21K	Alatna River	64.51	338	P		P	16 22 47.0 +1.3
	baz=113,SNR=17						
C23K	Itkillik River	64.68	341	P		P	16 22 48.0 +1.4
	baz=117						
M16K	Timber Creek	64.75	331	P		P	16 22 48.8 +1.5
	baz=105						
K17K	Iditarod	64.91	333	P		P	16 22 50.8 +2.5
	baz=106						
D22K	Ayikyak River	64.92	340	P		P	16 22 49.6 +1.4
	baz=115						
H19K	Roundabout Mou	65.01	336	IAmb		IAmb	16 22 51.5
	comp=Z,12nm,1.0s						
H19K	Roundabout Mou	65.01	336	P		P	16 22 50.0 +1.2
	baz=109						
F20K	Avaraart Lake	65.26	338	IAmb		IAmb	16 22 53.9
	comp=Z,16nm,1.1s						
F20K	Avaraart Lake	65.26	338	P		P	16 22 52.2 +1.8
	baz=111,SNR=6.6						
G19K	Purcell Mounta	65.46	337	IAmb		IAmb	16 22 54.2
	comp=Z,9.9nm,1.0s						
G19K	Purcell Mounta	65.46	337	P		P	16 22 52.4 +0.6
	baz=109						
H18K	Honhosa River	65.65	335	P		P	16 22 54.1 +1.1
	baz=107						
C21K	Knifeblade Rid	65.72	340	P		P	16 22 54.8 +1.4
	baz=113						
B22K	Teshekpuk Lake	65.76	341	P		P	16 22 54.7 +1.1
	baz=114						
SUMG	Summit	65.83	16	P		P	16 22 54.1 -0.4
SUMG	Summit	65.83	16	P		P	16 22 54.1 -0.4
SUMG				pmax		pmax	
	comp=Z,75nm,1.7s						
SUMG	Summit	65.83	16	*i* P		P	16 22 53.4 -1.1
B21K	Ikpikpuk River	65.85	341	P		P	16 22 55.4 +1.2
	baz=113						
E20K	Nigu River	65.86	339	P		P	16 22 55.7 +1.3
	baz=111						
F19K	Shaleruckik Mo	65.95	337	IAmb		IAmb	16 22 58.2
	comp=Z,13nm,1.1s						
F19K	Shaleruckik Mo	65.95	337	P		P	16 22 55.1 +0.3
	baz=109						
E19K	Redstone River	65.95	338	P		P	16 22 55.7 +0.7
	baz=110						
G18K	Tagagawik	65.99	336	P		P	16 22 56.6 +1.4
	baz=107						
NEEM	North Greenlan	66.07	9	*i* P		P	16 22 54.4 -1.5
NEEM				IAmb		IAmb	16 22 58.0
	comp=Z,68nm,1.4s						
J16K	Anvik River	66.07	333	P		P	16 22 56.9 +1.2
	baz=104						
L15K	Ungalak Mounta	66.09	331	P		P	16 22 56.9 +1.0
	baz=103						
M14K	Bethel	66.11	330	P		P	16 22 57.4 +1.4
	baz=102						
D20K	Etivluk River	66.17	339	P		P	16 22 57.2 +0.8
	baz=111						
H17K	Granite Mounta	66.22	335	P		P	16 22 57.8 +1.1
	baz=106						
K15K	Wolf Creek Mou	66.25	332	P		P	16 22 58.4 +1.5
	baz=103						
I17K	Unalakleet	66.27	334	P		P	16 22 57.8 +0.8
	baz=105						
L14K	Kuka Creek	66.58	331	P		P	16 22 59.7 +0.7
	baz=102						
D19K	Kuna River	66.61	339	P		P	16 23 00.3 +1.1
	baz=109						
G17K	Kiwalik Mounta	66.67	335	P		P	16 23 00.8 +1.3
	baz=105						
M13K	Dall Lake	66.71	330	P		P	16 23 01.9 +2.1
	baz=101						
B20K	Meade River	66.81	341	P		P	16 23 02.4 +2.0
	baz=111						
F17K	Baldwin Pennin	67.16	336	P		P	16 23 03.9 +1.3
	baz=105						
E18K	Tukpahlearik C	67.18	337	P		P	16 23 04.0 +1.2
	baz=106						
J14K	Nanvaranak Lak	67.26	332	IAmb		IAmb	16 23 07.0
	comp=Z,22nm,1.1s						
J14K	Nanvaranak Lak	67.26	332	P		P	16 23 05.2 +1.9
	baz=102						
C19K	Lookout Ridge	67.32	339	P		P	16 23 05.1 +1.4
	baz=108						
E17K	Hotham Inlet	67.55	337	P		P	16 23 06.3 +1.2
	baz=105,SNR=7.0						
F15K	North Star Dit	68.33	335	P		P	16 23 12.4 +2.4
	baz=102						
C17K	DeLong Mountai	68.40	338	P		P	16 23 13.1 +2.7
	baz=104						
ALE	Alert	68.69	4	P		P	16 23 12.0 0.0
ALE				pP		pP	16 23 22.1 +0.8
F14K	Arctic Creek	68.97	335	P		P	16 23 15.1 +1.1
	baz=100						
BORG	Borgarnes	69.25	26	LR		LR	16 52 47.4
	comp=Z,89nm,18.5s,baz=269,slow=35						
DAG	Danmarks Havn	72.17	14	*i* P		P	16 23 35.3 +1.9
NOR	Nord	73.41	9	*i* P		P	16 23 40.3 -0.4
JMIC	Jan Mayen	74.52	20	LR		LR	16 57 38.7
	comp=Z,428nm,19.8s,baz=250,slow=37						
PCAS	Casmilo, Conde	77.31	52	*e*P		P	16 24 05.6 +1.8
POLO	Lamas de Olo	77.63	50	*e*P		P	16 24 07.1 +1.4
PVIS	Viseu	77.66	51	*e*P		P	16 24 06.1 +0.2
PMTG	Montargil	77.68	53	*e*P		P	16 24 06.9 +1.0
	comp=Z,19nm,1.6s						
MTE	Manteigas	77.98	51	*e*P		P	16 24 08.6 +1.0
PCBR	Castelo Branco	78.12	52	*e*P		P	16 24 09.8 +1.5
PESTR	Estremoz	78.20	53	*e*P		P	16 24 10.1 +1.3
	comp=Z,18nm,1.9s						
MVO	Moncorvo	78.24	50	*e*P		P	16 24 10.8 +1.7
	comp=Z,16nm,2.1s						
PMRV	Marv??o	78.26	52	*e*P		P	16 24 10.1 +1.0
	comp=Z,22nm,1.9s						
PBRG	Braganca	78.34	50	*e*P		P	16 24 11.0 +1.4
EKA	Eskdalemuir Ar	78.42	36	P		P	16 24 08.5 -1.1
	comp=Z,8.0nm,0.8s,baz=284,slow=6.4,SNR=12						
	comp=Z,8.0nm,0.8s						
PBAR	Barrancos	78.75	53	*e*P		P	16 24 12.7 +0.9
	comp=Z,17nm,1.6s						
SPITS	Spitsbergen Ar	79.51	11	P		P	16 24 14.6 -0.7
	comp=Z,21nm,1.1s,baz=216,slow=4.0,SNR=4.3						
SPITS				LR		LR	17 01 48.0
	comp=Z,154nm,19.6s,baz=264,slow=38						
	comp=Z,21nm,1.1s						
ESDC	Sonseca Array	80.81	51	P		P	16 24 22.5 -0.6
	comp=Z,3.4nm,0.9s,baz=291,slow=5.7,SNR=18						
ESDC				LR		LR	16 53 51.2
	comp=Z,294nm,21.4s,baz=288,slow=31						
	comp=Z,3.4nm,0.9s						
MDT	Midelt	81.75	58	LR		LR	16 57 07.8
	comp=Z,129nm,18.1s,baz=302,slow=33						
PMSA	Palmer Station	82.84	167	LR		LR	16 52 30.5
	comp=Z,149nm,21.4s,baz=316,slow=29						
DOU	Dourbes	84.20	40	*d*P		P	16 24 40.6 +0.1
DOU				*d*PcP		PcP	16 24 42.9 -1.3
BMRD	Maredsous	84.25	40	*d*PcP		PcP	16 24 44.1 -0.3
NB2	NORSAR Subarra	84.29	28	P		P	16 24 41.4 +0.7
	comp=Z,63nm,1.7s,baz=294,slow=5.1						
NB2	NORSAR Subarra	84.29	28	P		P	16 24 41.4 +0.7
	baz=294,slow=5.1						
NOA	NORSAR Array B	84.29	28	P		P	16 24 40.7 -0.1
	comp=Z,5.9nm,0.8s,baz=294,slow=4.9,SNR=15						
NOA				LR		LR	17 04 44.9
	comp=Z,124nm,18.3s,baz=290,slow=38						
	comp=Z,5.9nm,0.8s						
BGES	Gesves	84.42	39	*d*P		P	16 24 41.7 +0.2
	comp=Z,22nm,0.8s						
BCLA	Clavier	84.54	39	*d*P		P	16 24 42.4 +0.2
	comp=Z,12nm,0.8s						
RCHB	Rochefort	84.57	40	*d*P		P	16 24 42.5 +0.2
BSTI	Sart Tilman	84.65	39	*d*PcP		PcP	16 24 44.9 -1.3
MEM	Membach	84.91	39	*d*PcP		PcP	16 24 45.6 -1.8
WLF	Walferdange	85.29	40	*d*PcP		PcP	16 24 47.6 -1.4
WLF	Walferdange	85.29	40	*e*P		P	16 24 47.9 +1.9
	comp=Z,8.3nm,0.8s,baz=290,slow=4.8						
IBBN	Ibbenburen	85.43	37	*e*P		P	16 24 48.6 +2.0
	comp=Z,23nm,0.8s,baz=290,slow=4.8						
IBBN				*e*pP		sP	16 24 58.6 -0.9
AHRW	Bad Neuenahr-A	85.58	39	*e*P		P	16 24 48.7 +1.3
	comp=Z,23nm,0.8s,baz=290,slow=4.8						
AHRW				*e*pP		sP	16 25 00.3 0.0
HFS	Hagfors	85.76	29	P		P	16 24 49.0 +0.9
HFS	Hagfors	85.76	29	P		P	16 24 49.0 +0.9
	comp=Z,6.4nm,0.9s,baz=241,slow=3.1,SNR=6.0						
HFS				LR		LR	17 02 06.6
	comp=Z,203nm,18.6s,baz=284,slow=35						
	comp=Z,6.4nm,0.9s						
ARCES	ARCESS Array B	85.84	18	P		P	16 24 48.1 -0.2
	comp=Z,4.2nm,0.7s,baz=299,slow=4.4,SNR=15						
ARCES				LR		LR	17 04 21.2
	comp=Z,261nm,19.1s,baz=297,slow=36						
	comp=Z,4.2nm,0.7s						
KASTN	Kahler Asten	86.18	38	*e*P		P	16 24 50.2 -0.2
	comp=Z,11nm,0.8s,baz=290,slow=4.8						
BSEG	Bad Segeberg	86.34	35	*e*P		P	16 24 53.3 +2.3
	comp=Z,25nm,0.8s,baz=290,slow=4.8						
BSEG				*e*pP		sP	16 25 03.3 -0.7
ECH	Echery	86.36	41	IAmb		IAmb	16 24 53.2
	comp=Z,16nm,0.9s						
TNS	Taunus Mts	86.52	39	*e*P		P	16 24 53.6 +1.5
	comp=Z,32nm,0.8s,baz=290,slow=4.8						
TNS				*e*pP		sP	16 25 04.3 -0.7
NRDL	Niedersach Rie	86.72	36	*e*P		P	16 24 55.4 +2.5
	comp=Z,14nm,0.8s,baz=290,slow=4.8						
NRDL				*e*pP		sP	16 25 05.5 -0.3
GTTG	Gottingen	86.97	37	*e*P		P	16 24 55.6 +1.4
	comp=Z,27nm,0.9s,baz=290,slow=4.8						
BFO	Black Forest	87.07	41	P		P	16 24 54.3 -0.5
BFO				IAmb		IAmb	16 24 58.5
	comp=Z,9.0nm,0.8s						
BFO	Black Forest	87.07	41	P		P	16 24 54.3 -0.5
BFO				pmax		pmax	
	comp=Z,9.0nm,0.8s						
BFO	Black Forest	87.07	41	*e*P		P	16 24 56.1 +1.3
	comp=Z,7.8nm,0.8s,baz=290,slow=4.8						
CLZ	Clausthal	87.11	37	*e*P		P	16 24 56.4 +1.4
	comp=Z,9.1nm,0.8s,baz=290,slow=4.8						
CLZ				*e*pP		sP	16 25 07.6 -0.3
ASSE	Asse, Remlinge	87.18	37	*e*P		P	16 24 57.5 +2.4
	comp=Z,8.4nm,0.9s,baz=290,slow=4.8						
UBBA	Unterbreizbach	87.25	38	*e*P		P	16 24 57.7 +2.3
	comp=Z,7.7nm,0.8s,baz=290,slow=4.8						
FLTG	Flechtingen	87.43	36	*e*P		P	16 24 58.4 +2.0
	comp=Z,8.1nm,0.9s,baz=290,slow=4.8						
STU	Stuttgart	87.46	40	*e*P		P	16 24 58.0 +1.4
	comp=Z,44nm,0.8s,baz=290,slow=4.8						
DBIC	Dimbokro	87.76	84	P		P	16 24 57.6 -1.1
	comp=Z,11nm,0.9s,baz=276,slow=4.4,SNR=7.2						
DBIC				LR		LR	17 01 37.6
	comp=Z,106nm,20.8s,baz=234,slow=34						
	comp=Z,11nm,0.9s						
MOX	Moxa	88.27	38	*e*P		P	16 25 02.7 +2.2
	comp=Z,3.1nm,0.7s,baz=290,slow=4.8						
MOX				*e*L		L	17 01 02.9
	comp=Z,366nm,18.3s						
GRF	Grafenberg Arr	88.38	39	*e*P		P	16 25 03.6 +2.5
	comp=Z,7.0nm,0.8s,baz=290,slow=4.8						
GRF				*e*L		L	16 57 28.5
	comp=Z,261nm,19.1s						
GRFO	Grafenberg	88.38	39	P		P	16 25 00.7 -0.3
GRFO	Grafenberg	88.38	39	P		P	16 25 00.7 -0.3
GRFO				pmax		pmax	
	comp=Z,42nm,1.6s						
DAVA	Damuels	88.41	41	*e*PcP		PcP	16 25 02.8 -0.3
	comp=Z,22nm,1.2s						
UBR	Ueberruh	88.41	41	*e*P		P	16 25 03.1 +1.8
	comp=Z,9.2nm,0.9s,baz=290,slow=4.8						
DAVOX	Davos/Dischmat	88.58	42	LR		LR	17 03 39.1
	comp=Z,182nm,19.3s,baz=300,slow=35						
WERD	Werda	88.75	38	*e*P		P	16 25 04.2 +1.5
	comp=Z,1.8nm,0.8s,baz=290,slow=4.8						
GUNZ	Gunzen	88.80	38	*e*P		P	16 25 04.2 +1.1
	comp=Z,4.7nm,0.8s,baz=290,slow=4.8						
MANZ	Manzenberg	88.81	38	*e*P		P	16 25 04.3 +1.2
	comp=Z,0.8nm,0.8s,baz=290,slow=4.8						
CLL	Collm	88.83	37	*e*P		P	16 25 04.0 +0.9
CLL				*e**SP		sP	16 25 16.0 0.0
CLL				pmax		pmax	
	comp=Z,5.0nm,0.8s						
CLL	Collm	88.83	37	*e*P		P	16 25 03.9 +0.9
	comp=Z,4.7nm,0.9s,baz=290,slow=4.8						
CLL				*e*pP		sP	16 25 15.8 -0.2
CLL	Collm	88.83	37	*e*P		P	16 25 04.0 +0.9
	comp=Z,5.0nm,0.8s						
CLL				*e*sP		sP	16 25 16.0 0.0
CLL				*e*S		S	16 35 48.0 -0.6
WERN	Wernitzgruen	88.85	38	*e*P		P	16 25 04.3 +1.1
	comp=Z,4.5nm,0.7s,baz=290,slow=4.8						
TANN	Tannenbergstha	88.86	38	*e*P		P	16 25 04.5 +1.2
	comp=Z,5.4nm,0.8s,baz=290,slow=4.8						
FUORN	Ofenpass-Fuorn	88.89	42	IAmb		IAmb	16 25 08.6
	comp=Z,7.9nm,0.7s						
RETA	Reutte	88.90	41	*e*PcP		PcP	16 25 05.0 -0.1
	comp=Z,11nm,1.3s						
NKC	Novy Kostel	88.92	38	*e*P		P	16 25 04.1 +0.5
NKC				*e*pP		pP	16 25 13.2 +0.1
NKC	Novy Kostel	88.92	38	*e*P		P	16 25 04.1 +0.5
NKC				*e*			16 25 13.2
ROTZ	Rotzenmuhle	88.95	38	*e*P		P	16 25 05.2 +1.6
	comp=Z,0.7nm,0.9s,baz=290,slow=4.8						
FETA	Feichten	89.04	41	*e*PcP		PcP	16 25 05.6 -0.2
	comp=Z,5.6nm,0.7s						
MA2	Magadan	89.16	333	LR		LR	17 10 09.1
	comp=Z,100nm,18.0s,baz=61,slow=39						
MOTA	Moosalm	89.16	41	*e*PcP		PcP	16 25 06.2 -0.2
	comp=Z,7.4nm,1.1s						
FBE	Freiberg	89.18	37	*e*P		P	16 25 06.6 +1.9
	comp=Z,6.4nm,0.8s,baz=290,slow=4.8						
SQTA	Sankt Quirin	89.28	41	*e*PcP		PcP	16 25 07.0 +0.1
	comp=Z,3.8nm,0.6s						
BRG	Berggiesshubel	89.55	37	*e*P		P	16 25 09.1 +2.6
BRG				Amp			16 25 11.2
	comp=Z,7.1nm,0.9s						
BRG	Berggiesshubel	89.55	37	*e*P		P	16 25 09.0 +2.6
BRG				pmax		pmax	
	comp=Z,7.0nm,0.9s						
BRG	Berggiesshubel	89.55	37	*e*P		P	16 25 09.0 +2.6
	comp=Z,5.5nm,0.8s,baz=290,slow=4.8						
WET	Wettzell	89.59	39	*e*P		P	16 25 08.5 +1.7
	comp=Z,6.3nm,0.8s,baz=290,slow=4.8						
KHC	Kasperske Hory	90.02	39	IAmb		IAmb	16 25 13.3
	comp=Z,6.0nm,0.9s						
KHC	Kasperske Hory	90.02	39	*e*P		P	16 25 10.0 +1.2
KHC				*e*pP		sP	16 25 20.1 -1.6
KHC	Kasperske Hory	90.02	39	*e*P		P	16 25 10.0 +1.2
KHC				*e*			16 25 20.1
RJOB	Jochberg	90.08	40	*e*P		P	16 25 10.6 +1.5
	comp=Z,4.0nm,0.8s,baz=290,slow=4.8						
LESA	Schwarzleotal	90.13	40	*e*PcP		P	16 25 09.7 +0.3
	comp=Z,12nm,1.7s						
ZCCA	Zocca	90.17	44	P		P	16 25 09.5 -0.1
GEC2	GERESS Array S	90.21	39	IAmb		IAmb	16 25 13.6
	comp=Z,6.2nm,0.9s						
GEC2	GERESS Array S	90.21	39	*e*P		P	16 25 09.6 -0.1
	comp=Z,5.4nm,0.9s,baz=290,slow=4.8						
GERES	GERESS Array B	90.21	39	P		P	16 25 11.4 +1.7
	comp=Z,4.8nm,0.8s,baz=305,slow=4.7,SNR=17						
	comp=Z,4.8nm,0.8s						
PRU	Pruhonice	90.25	38	*e*P		P	16 25 12.1 +2.3
PRU	Pruhonice	90.25	38	*e*P		P	16 25 12.1 +2.3
ABTA	Abfaltersbach	90.28	41	*e*PcP		P	16 25 11.4 +1.3
	comp=Z,11nm,1.0s						
FINES	FINESS Array B	90.49	24	P		P	16 25 11.9 +1.3
	comp=Z,2.2nm,0.7s,baz=302,slow=4.3,SNR=9.7						
FINES				LR		LR	17 06 06.2
	comp=Z,148nm,19.1s,baz=299,slow=36						
	comp=Z,2.2nm,0.7s						
CHVC	Chvalec	90.89	37	*e*P		P	16 25 14.2 +1.4
CHVC	Chvalec	90.89	37	*e*P		P	16 25 14.2 +1.4
MOA	Molln	90.95	40	*e*PcP		PcP	16 25 14.1 0.0
	comp=Z,6.4nm,1.1s						
PRED	Cave del Predi	91.07	41	IAmb		IAmb	16 25 17.7
	comp=Z,9.5nm,0.8s						
DPC	Dobruska-Polom	91.14	37	*e*P		P	16 25 14.9 +0.9
DPC	Dobruska-Polom	91.14	37	*e*P		P	16 25 14.9 +0.9
KRLC	Kraliky	91.53	37	*e*P		P	16 25 16.9 +1.1
KRLC	Kraliky	91.53	37	*e*P		P	16 25 16.9 +1.1
OBKA	Obir	91.67	41	*e*PcP		P	16 25 17.6 +1.1
	comp=Z,7.4nm,1.2s						
KRUC	Moravsky	91.74	38	*e*P		P	16 25 17.5 +0.8
VRAC	Vranov	91.75	38	*e*P		P	16 25 18.0 +1.2
VRAC	Vranov	91.75	38	LR		LR	17 07 47.4
	comp=Z,110nm,18.1s,baz=304,slow=36						
RAO	Raoul Island	91.81	240	LR		LR	16 59 37.1
	comp=Z,61nm,19.8s,baz=278,slow=31						
CONA	Conrad Observa	91.89	39	*e*PcP		P	16 25 18.7 +1.1
	comp=Z,12nm,1.8s						
SOKA	Soboth	91.90	41	*e*PcP		PcP	16 25 18.0 -0.4
	comp=Z,9.2nm,1.4s						
ARSA	Arzberg	91.97	40	*e*PcP		PcP	16 25 18.6 0.0
	comp=Z,2.7nm,0.8s						
KEST	Kesra	92.03	52	LR		LR	17 01 14.3
	comp=Z,156nm,21.9s,baz=257,slow=32						
MORC	Moravsky Berou	92.10	37	IAmb		IAmb	16 25 20.9
	comp=Z,7.7nm,1.3s						
MORC	Moravsky Berou	92.10	37	*e*P		P	16 25 19.4 +1.0
TORD	Torodi Ar. Bea	92.29	76	IAmb		IAmb	16 25 56.3
	comp=Z,12nm,2.0s						
TORD	Torodi Ar. Bea	92.29	76	P		P	16 25 18.9 -1.0
	comp=Z,1.0nm,0.6s,baz=297,slow=5.6,SNR=9.3						
TORD				LR		LR	17 03 07.0
	comp=Z,187nm,21.5s,baz=169,slow=33						
	comp=Z,1.0nm,0.6s						
MSVF	Nonsavu	92.31	252	LR		LR	16 56 56.6
	comp=Z,294nm,20.9s,baz=21,slow=29						
MODS	Modra-Piesok	92.56	38	*e*P		P	16 25 23.5 +2.9
MODS	Modra-Piesok	92.56	38	*e*P		P	16 25 23.5 +2.9
JAVC	Velka Javorina	92.58	38	*e*P		P	16 25 22.1 +1.4
VYHS	Vyhne	93.44	38	*e*P		P	16 25 26.0 +1.4
VYHS	Vyhne	93.44	38	*e*P		P	16 25 26.0 +1.4
STHS	Stebnicka Huta	94.40	36	*e*P		P	16 25 28.2 -0.8
STHS	Stebnicka Huta	94.40	36	*e*P		P	16 25 28.2 -0.8
NACGM	Naroch	94.45	30	*e*P		P	16 25 25.5 -3.5
	comp=Z,11nm,0.8s,baz=304						
VAE	Valguarnera	95.18	49	LR		LR	17 03 22.0
	comp=Z,307nm,20.8s,baz=334,slow=32						
AKASG	Malin Array Be	98.06	32	LR		LR	17 11 59.9
	comp=Z,150nm,18.1s,baz=334,slow=37						
URZ	Urewera	98.07	233	LR		LR	17 00 37.5
	comp=Z,106nm,20.0s,baz=210,slow=30						
OBN	Obninsk	98.75	26	LR		LR	17 12 50.8
	comp=Z,185nm,18.0s,baz=348,slow=37						
MLR	Muntele Rosu	99.15	38	LR		LR	17 11 54.8
	comp=Z,96nm,21.5s,baz=298,slow=36						
YSS	Yuzh-Sakhalins	99.91	324			Pdif	16 25 53.1 -0.8
DZM	Mont Dzumac	103.92	251	*e*LR		LR	17 01 03.1
	comp=Z,355nm,22.5s						
MDJ	Mudanjiang	108.47	329	Pdif		Pdif	16 26 34.3 +2.3
MDJ				PP		PP	16 31 01.6 -0.3
MDJ				AMB		AMB	
	comp=Z,130nm,5.5s						
KURK	Kurchatov	114.23	5	PKIKP		PKPdf	16 30 48.7 +0.2
KURBB	Kurchatov Arra	114.32	5	PKP		PKPdf	16 30 48.7 +0.1
	comp=Z,0.5nm,0.6s,baz=0.7,slow=1.8,SNR=5.5						
SONM	Songjino Array	114.73	345	PKP		PKiKP	16 30 49.3 -0.4
	comp=Z,0.3nm,0.4s,baz=41,slow=2.7,SNR=1.8						
MKAR	Makanchi Array	118.38	3	PKP		PKPdf	16 30 56.1 -0.6
	comp=Z,0.4nm,0.5s,baz=35,slow=3.6,SNR=4.0						
MKAR				PKKPbc		PKKPbc	16 41 16.9 +1.0
	comp=Z,0.3nm,0.8s,baz=123,slow=4.5,SNR=3.6						
BTO	Baotou	120.21	339	*e*PKP		PKiKP	16 31 04.0 +3.4
BTO				sPKP			16 31 19.3
BTO				LR		LR	
	comp=Z,340nm,7.3s						
WMQ	Urumqi	121.40	358	*e*PKP		PKiKP	16 31 03.3 +0.5
WMQ				LR		LR	
	comp=Z,150nm,25.3s						
BOSA	Boshof	122.81	114	PKP		PKPdf	16 31 05.5 -0.2
	comp=Z,4.9nm,1.0s,baz=247,slow=0.9,SNR=5.2						
NJ2	Nanjing	123.41	326	*e*PKP		PKiKP	16 31 07.3 +0.4
MAW	Mawson	125.41	169	PKP		PKPdf	16 31 09.2 -0.2
	comp=Z,2.3nm,0.6s,baz=194,slow=1.9,SNR=7.2						
LZH	Lanzhou	126.33	342	*e*PKP		PKPdf	16 31 10.1 -2.3
STKA	Stephens Creek	126.62	241	PKP		PKiKP	16 31 13.2 0.0
	comp=Z,2.4nm,0.7s,baz=321,slow=4.0,SNR=5.1						
WRA	Warramunga Arr	133.48	257			PKPdf	16 31 25.9 -0.2
WRA	Warramunga Arr	133.48	257	PKP		PKPdf	16 31 26.2 0.0
	comp=Z,1.7nm,0.9s,baz=90,slow=2.5,SNR=16						
ASAR	Alice Springs	133.90	252	PKhKP		PKPpre	16 31 18.4
	comp=Z,0.3nm,0.7s,baz=114,slow=3.5,SNR=6.3						
ASAR				PKP		PKPdf	16 31 26.6 -0.3
	comp=Z,1.0nm,0.7s,baz=96,slow=1.9,SNR=7.6						
PZH	PanZhiHua	135.86	339	PKP		PKPdf	16 31 30.0 -0.7
CHTO	Chiang Mai	143.92	338			PKPbc	16 31 42.6 -0.4
CHTO	Chiang Mai	143.92	338	PKIKP		PKPbc	16 31 42.6 -0.4
CMAR	Chiang Mai Arr	144.25	338	PKPdf		PKPab	16 31 42.7 -0.9
CMAR	Chiang Mai Arr	144.25	338	PKP		PKPbc	16 31 44.1 +0.1
	comp=Z,5.

	baz=34							
KST	Kastek	3.72	1	Pg		Pb	16 44 10.3	-1.2
	8.9nm,0.5s							
KST				Lg		Lg	16 45 02.2	
	34nm,0.9s							
KST	Kastek	3.72	1	*e*Pg		Pb	16 44 10.3	-1.2
	8.9nm,0.5s							
KST				*e*Lg		Lg	16 45 02.2	
	34nm,0.9s							
IZV	Izvestkoviy	3.75	8	Pg		Pb	16 44 11.5	-0.6
	4.8nm,0.7s							
IZV				Lg		Lg	16 45 04.3	
	26nm,0.8s							
IZV	Izvestkoviy	3.75	8	*e*Pg		Pb	16 44 11.5	-0.6
	4.8nm,0.7s							
IZV				*e*Lg		Lg	16 45 04.3	
	26nm,0.8s							
CHMS	Chumysh	3.78	347	⇑Pn		Pn	16 44 04.3	+0.3
	3.8nm,0.4s							
CHMS				⇓Lg		Lg	16 45 01.8	
	25nm,0.6s							
TNSS	Tian-Shan	3.80	12	Pg		Pb	16 44 10.6	-2.5
	12nm,0.7s							
TNSS				Lg		Lg	16 45 03.0	
	8.7nm,0.6s							
TNSS	Tian-Shan	3.80	12	*e*Pg		Pb	16 44 10.6	-2.5
	12nm,0.7s							
TNSS				*e*Lg		Lg	16 45 03.0	
	8.7nm,0.6s							
MTBS	Maitube	3.83	6	Pg		Pb	16 44 12.0	-1.4
	11nm,0.5s							
MTBS				Lg		Lg	16 45 05.4	
	24nm,0.7s							
MTBS	Maitube	3.83	6	*e*Pg		Pb	16 44 12.0	-1.4
	11nm,0.5s							
MTBS				*e*Lg		Lg	16 45 05.4	
	24nm,0.7s							
DGS	Degeres	3.92	359	Pg		Pb	16 44 13.4	-1.6
	25nm,0.8s							
DGS				Lg		Lg	16 45 07.7	
	26nm,0.7s							
DGS	Degeres	3.92	359	*e*Pg		Pb	16 44 13.4	-1.6
	25nm,0.8s							
DGS				*e*Lg		Lg	16 45 07.7	
	26nm,0.7s							
MDOK	Medeo	3.94	12	Pg		Pb	16 44 13.2	-2.0
	8.2nm,0.8s							
MDOK				Lg		Lg	16 45 07.2	
	15nm,0.7s							
MDOK	Medeo	3.94	12	*e*Pg		Pb	16 44 13.2	-2.0
	8.2nm,0.8s							
MDOK				*e*Lg		Lg	16 45 07.2	
	15nm,0.7s							
MRKS	Merke	3.97	330	Pg		Pb	16 44 16.5	+0.6
	10nm,0.7s							
MRKS				Lg		Lg	16 45 12.9	
	16nm,0.6s							
MRKS	Merke	3.97	330	*e*Pg		Pb	16 44 16.5	+0.6
	10nm,0.7s							
MRKS				*e*Lg		Lg	16 45 12.9	
	16nm,0.6s							
BTK	Batken	3.99	282	⇓*e*P		Pn	16 44 08.4	+1.4
	baz=84							
BTK				⇓*e*S		Sn	16 44 57.7	+3.9
	baz=84							
KOTS	Kotyrbulak	4.02	13	Pg		Pb	16 44 15.8	-0.8
	13nm,0.9s							
KOTS				Lg		Lg	16 45 11.6	
	83nm,0.6s							
KOTS	Kotyrbulak	4.02	13	*e*Pg		Pb	16 44 15.8	-0.8
	13nm,0.9s							
KOTS				*e*Lg		Lg	16 45 11.6	
	83nm,0.6s							
MNAS	Manas	4.08	322	⇑*e*P		Pn	16 44 10.3	+2.0
	baz=22							
MNAS				⇑*e*S		Sn	16 45 01.1	+5.0
	baz=22							
SATY	Saty	4.19	26	Pg		Pb	16 44 18.8	-0.7
	11nm,0.9s							
SATY				Lg		Lg	16 45 16.8	
	19nm,0.9s							
SATY	Saty	4.19	26	*e*Pg		Pb	16 44 18.8	-0.7
	11nm,0.9s							
SATY				*e*Lg		Lg	16 45 16.8	
	19nm,0.9s							
SGDS	Sogindy	4.24	347	Pg		Pb	16 44 19.4	-0.9
	6.0nm,0.7s							
SGDS				Lg		Lg	16 45 17.3	
	8.5nm,0.4s							
TRKS	Terek-Say	4.25	303	⇑*e*P		Pn	16 44 11.9	+1.2
	baz=3.0							
TRKS				⇑*e*S		Sn	16 45 03.7	+3.3
	baz=3.0							
KTBS	Karatobe	4.43	7	Pg		Pb	16 44 23.4	-0.1
	6.2nm,0.4s							
KTBS				Lg		Lg	16 45 24.6	
	17nm,0.6s							
KTBS	Karatobe	4.43	7	*e*Pg		Pb	16 44 23.4	-0.1
	6.2nm,0.4s							
KTBS				*e*Lg		Lg	16 45 24.6	
	17nm,0.6s							
UZB	Uzynbulak	4.49	31	Pg		Pb	16 44 23.6	-1.1
	3.0nm,0.8s							
UZB				Lg		Lg	16 45 24.5	
	7.7nm,0.7s							
UZB	Uzynbulak	4.49	31	*e*Pg		Pb	16 44 23.6	-1.1
	3.0nm,0.8s							
UZB				*e*Lg		Lg	16 45 24.5	
	7.7nm,0.7s							
KURS	Kuram	4.50	22	Pg		Pb	16 44 24.7	-0.2
	3.3nm,0.5s							
KURS				Lg		Lg	16 45 26.6	
	18nm,0.8s							
KURS	Kuram	4.50	22	*e*Pg		Pb	16 44 24.6	-0.2
	3.3nm,0.5s							
KURS				*e*Lg		Lg	16 45 26.6	
	18nm,0.8s							
KUU	Kurty	4.58	4	Pg		Pb	16 44 25.8	-0.4
	4.8nm,0.5s							
KUU				Lg		Lg	16 45 28.2	
	9.4nm,0.8s							
KUU	Kurty	4.58	4	*e*Pg		Pb	16 44 25.8	-0.4
	4.8nm,0.5s							
KUU				*e*Lg		Lg	16 45 28.2	
	9.4nm,0.8s							
CHKK	Chushkaly	4.60	10	Pg		Pb	16 44 25.6	-0.9
	2.3nm,0.3s							
CHKK				Lg		Lg	16 45 28.6	
	15nm,0.4s							
CHKK	Chushkaly	4.60	10	*e*Pg		Pb	16 44 25.6	-0.9
	2.3nm,0.3s							
CHKK				*e*Lg		Lg	16 45 28.6	
	15nm,0.4s							
KPKS	Kokpek	4.64	26	Pg		Pb	16 44 26.4	-0.9
	4.4nm,0.7s							
KPKS				Lg		Lg	16 45 29.4	
	14nm,0.5s							
KPKS	Kokpek	4.64	26	*e*Pg		Pb	16 44 26.4	-0.9
	4.4nm,0.7s							
KPKS				*e*Lg		Lg	16 45 29.4	
	14nm,0.5s							
PDGK	Podgornoye	4.83	33	Pg		Pb	16 44 29.8	-0.7
	2.6nm,0.9s							
PDGK				Lg		Lg	16 45 35.8	
	9.0nm,0.9s							
PDGK	Podgornoye	4.83	33	⇑Pn		Pn	16 44 18.4	-0.2
	1.5nm,0.4s							
PDGK				⇑Pg		Pg	16 44 37.3	-0.9
	5.3nm,0.5s							
PDGK				⇓Lg		Lg	16 45 40.9	
	26nm,0.8s							
ARXS	Arharly	5.10	16	Pg		Pb	16 44 33.8	-1.2
	2.7nm,0.7s							
ARXS				Lg		Lg	16 45 42.4	
	14nm,0.8s							
ARXS	Arharly	5.10	16	*e*Pg		Pb	16 44 33.8	-1.2
	2.7nm,0.7s							
ARXS				*e*Lg		Lg	16 45 42.4	
	14nm,0.8s							
BLB	Baldybastay	5.15	21	Pg		Pb	16 44 35.0	-0.9
	7.9nm,0.9s							
BLB				Lg		Lg	16 45 44.5	
KTMS	Ketmen	5.31	38	Pg		Pb	16 44 38.8	+0.1
	0.7nm,0.4s							
KTMS				Lg		Lg	16 45 50.7	
	3.2nm,0.4s							
KTMS	Ketmen	5.31	38	*e*Pg		Pb	16 44 38.8	+0.1
	0.7nm,0.4s							
KTMS				*e*Lg		Lg	16 45 50.7	
	3.2nm,0.4s							
KK31	Karatay Array	5.55	315	⇑Pn		Pn	16 44 26.9	-1.5
	0.8nm,0.3s,baz=127,slow=12,SNR=15							
KK31				⇓Pg		Pg	16 44 48.5	-3.4
	0.8nm,0.4s,baz=134,slow=14,SNR=3.9							
KK31				⇓Sn		Sn	16 45 34.6	+2.4
	2.6nm,0.6s							
KK31				⇑Lg		Lg	16 45 60.0	
	4.8nm,0.8s,baz=133,slow=29							
KNOS	Konyrlen	5.60	25	Pg		Pb	16 44 43.2	-0.4
	5.2nm,0.7s							
KNOS				Lg		Lg	16 45 59.2	
	5.2nm,0.9s							
DJR	Jarkent	5.79	29	Pg		Pb	16 44 47.9	+1.1
	2.5nm,0.7s							
DJR				Lg		Lg	16 46 06.6	
	9.6nm,0.8s							
DJR	Jarkent	5.79	29	*e*Pg		Pb	16 44 47.9	+1.1
	2.5nm,0.7s							
DJR				*e*Lg		Lg	16 46 06.6	
	9.6nm,0.8s							
BTLS	Baital	5.88	347	Pg		Pb	16 44 48.4	+0.2
	1.2nm,0.7s							
BTLS				Lg		Lg	16 46 07.4	
	5.9nm,0.7s							
TDK	Taldyqorghan	5.97	17	Pg		Pg	16 44 53.6	-6.5
	11nm,0.2s							
TDK				Lg		Lg	16 46 16.2	
	19nm,0.8s							
TDK	Taldyqorghan	5.97	17	*e*Pg		Pg	16 44 53.6	-6.5
	11nm,0.2s							
TDK				*e*Lg		Lg	16 46 16.2	
	19nm,0.8s							

DJA 24 17:25:40.9±0.5, 5°S±4°×12°9E±°, h255km±6km, M3.5/9, mb3.5/2, MLv3.5/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.93	30	P	Pn	17 26 16.4	+0.3
BNDI				S	S	17 26 44.7	+0.9
NLAI	Namlea	3.12	312	P	Pn	17 26 37.3	+2.2
SAUI	Saumlaki	3.22	145	P	Pn	17 26 37.5	+1.4
SAUI				S	S	17 27 19.3	-0.6
FAKI	Fak Fak	3.69	50	P	Pn	17 26 41.3	-0.1
SANI	Sanana	4.74	313	P	Pn	17 26 53.7	-0.1
LBMI	Labuha	5.05	337	P	Pn	17 26 56.9	-0.6
	16nm,2.0s,0.1nm						

DJA 24 17:40:04.5±0.4, 7°S±3°×13°0E±°, h208km±12km, M4.2/10, mb3.9/9, MLv4.3/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.07	125	P	Pn	17 40 44.7	+0.4
BNDI	Bandanaira	2.26	8	P	Pn	17 40 46.2	-0.2
FAKI	Fak Fak	4.66	35	P	Pn	17 41 13.7	-1.1
SOEI	Soe	6.05	240	P	Pn	17 41 32.2	-0.5
	22nm,0.6s,0.2nm						
SWI	Sorong	6.11	16	P	Pn	17 41 32.9	-0.4
	12nm,1.1s,0.1nm						
BATI	Baumata	6.79	239	P	Pn	17 41 42.0	-0.1
	23nm,1.0s,0.2nm						
RKPI	Ransiki, Papua	6.95	41	P	Pn	17 41 45.9	+1.8
	79nm,0.8s,0.3nm						
EDFI	Ende, Flores	8.08	255	P	Pn	17 41 59.9	+1.0
PLAI	Plampang	11.89	259	P	Pn	17 42 47.1	-0.8

*JMA **24** 17:56:17.2±0.1, 41°.5N±0°.3×141°.4E±0°.6, h87km, MV3.3/40, TSUGARU STRAIT REGION*
JMA Felt I J1 at TSUGARU STRAIT REGION .
*IDC **24** 17:56:18.2±1.5, 41°.53N×141°.35E, h104km±13km, mb3.4/12, mbtmp3.7/16, Error ellipse: s-maj=18.3km s-min=12.1km az=120.0*

ISC 24 17:56:17.1±0.7, 41°.50N±0°.03×141°.33E±0°.04, h91km±5km, n38, σ0°.86/52, mb3.8/12, 11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	Aomorihigashid	0.24	178	P	Pn	17 56 30.0	-0.3
JAHD				S	Sn	17 56 40.1	0.0
JOT	Ohata	0.24	240	⇓P	Pn	17 56 30.1	-0.2
JOT				⇓S	Sn	17 56 40.2	0.0
JKB	Kayabe	0.45	330	⇓P	Pn	17 56 31.2	-0.3
JKB				⇓*e*S	Sn	17 56 42.2	0.0
JARK	Aomorirokkasho	0.49	177	*i* P	Pn	17 56 31.8	-0.1
JARK				S	Sn	17 56 43.0	+0.1
JSR	Shiriuchi	0.68	273	⇓*i* P	Pn	17 56 33.7	+0.1
JSR				⇓S	Sn	17 56 45.5	-0.3
JTM	Tenmabayashi	0.74	195	*i* P	Pn	17 56 34.1	0.0
JTM				S	Sn	17 56 46.8	0.0
JYM2	Yakumo 2	0.94	311	⇓*i* P	Pn	17 56 36.5	+0.3
JYM2				⇓S	Sn	17 56 51.1	+0.5
JNB	Noboribetsu	0.99	347	*i* P	Pn	17 56 36.5	-0.3
JNB				S	Sn	17 56 51.4	-0.1
JOMM	Oshimamatsumae	0.99	272	⇓*i* P	Pn	17 56 37.0	+0.2
JOMM				⇓S	Sn	17 56 51.2	-0.3
JANG	Nango	1.14	173	*i* P	Pn	17 56 38.1	-0.4
JANG				S	Sn	17 56 53.6	-0.9
JIAM	Iburiatsuma	1.20	21	*i* P	Pn	17 56 39.8	+0.6
JIAM				S	Sn	17 56 56.9	+1.0
JNBK	Urakawa-nobuka	1.32	53	P	Pn	17 56 40.8	+0.1
JNBK				*e*S	Sn	17 56 59.2	+0.8
JEW	Eniwo	1.34	4	*i* P	Pn	17 56 41.2	+0.3
JEW				S	Sn	17 56 59.2	+0.4
JIW	Iwasaki	1.35	228	*i* P	Pn	17 56 41.5	+0.5
JIW				*e*S	Sn	17 56 59.5	+0.4
JAH	Hinai	1.41	202	*i* P	Pn	17 56 42.6	+0.8
JAH				*e*S	Sn	17 57 01.4	+0.9
JHST	Hiyamasetana	1.42	311	⇓P	Pn	17 56 42.0	+0.1
JEM	Erimo	1.46	69	P	Pn	17 56 42.6	+0.2
JBT2	Biratori 2	1.49	31	P	Pn	17 56 43.1	+0.3
JOSM	Okushiri--Mats	1.50	293	*i* P	Pn	17 56 42.6	-0.3
JOSM				*e*S	Sn	17 57 02.4	-0.1
ASAJ	Asahikawa	2.77	19	P	Pn	17 56 59.5	-0.1
	26nm,0.3s,baz=221,slow=13,SNR=36						
ASAJ				S	Sn	17 57 33.9	+1.6
	39nm,0.7s,baz=16,slow=25,SNR=6.9						
MJAR	Matsushiro Arr	5.52	207	P	Pn	17 57 39.7	+2.9
	2.9nm,0.5s,baz=13,slow=14,SNR=16						
USRK	Ussuriysk Ar.	7.37	295	P	Pn	17 58 02.9	+1.0
	3.7nm,0.6s,baz=98,slow=14,SNR=12						
KSRS	Korea Array	11.12	253	P	Pn	17 58 55.3	+2.3
	0.7nm,0.5s,baz=62,slow=14,SNR=4.6						
SONM	Songino Array	25.48	296	P	P	18 01 37.1	+0.3
	0.3nm,0.3s,baz=114,slow=6.8,SNR=1.7						
	0.3nm,0.3s						
H11N2	WAKE ISLAND Hy	30.70	127	T	T	18 34 36.5	
	baz=321,slow=75,SNR=3.1						
H11N1	WAKE ISLAND Hy	30.71	127	T	T	18 34 55.8	
	baz=321,slow=75,SNR=2.4						
H11N3	WAKE ISLAND Hy	30.72	127	T	T	18 34 57.8	
	baz=321,slow=75,SNR=4.1						
ZALV	Zalesovo Beam	38.97	308	P	P	18 03 33.8	-0.3
	0.4nm,0.3s,baz=74,slow=6.2,SNR=2.2						
	0.4nm,0.3s						
MKAR	Makanchi Array	41.83	298	P	P	18 03 57.7	-0.1
	1.2nm,0.6s,baz=84,slow=12,SNR=11						
	1.2nm,0.6s						
CMAR	Chiang Mai Arr	42.75	251	P	P	18 04 06.0	+0.5
	0.3nm,0.6s,baz=48,slow=7.9,SNR=2.5						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	43.31	304	P	P	18 04 09.4	-0.3
	0.9nm,0.5s,baz=80,slow=8.8,SNR=11						
	0.9nm,0.5s						
ILAR	Eielson Array	45.81	35	P	P	18 04 28.8	-0.6
	0.5nm,0.9s,baz=294,slow=6.6,SNR=4.2						
	0.5nm,0.9s						
BVAR	Borovoye Array	47.60	309	P	P	18 04 43.1	-0.4
	0.7nm,0.4s,baz=80,slow=10,SNR=2.9						
	0.7nm,0.4s						
WRA	Warramunga Arr	61.47	187	P	P	18 06 22.7	-1.4
	0.2nm,0.4s,baz=5.2,slow=7.0,SNR=7.6						
	0.2nm,0.4s						
FINES	FINESS Array B	64.85	331	P	P	18 06 43.9	-2.1
	0.7nm,0.6s,baz=21,slow=2.7,SNR=4.1						
	0.7nm,0.6s						
ASAR	Alice Springs	65.20	187	P	P	18 06 48.1	-0.7
	0.3nm,1.0s,baz=6.2,slow=4.4,SNR=1.8						
	0.3nm,1.0s						
HFS	Hagfors	70.00	335	P	P	18 07 17.0	-1.6
	2.9nm,1.0s,baz=57,slow=5.3,SNR=1.4						
	2.9nm,1.0s						
TXAR	Lajitas Array	87.45	52	P	P	18 08 56.0	+1.3
	0.6nm,0.6s,baz=42,slow=11,SNR=13						
	0.6nm,0.6s						

*IDC **24** 18:34:57.4±1.1, 10°.91S×164°.38E, h0km, mb3.8/8, mbtmp3.9/10, ML4.4/2, MS3.6/9, Error ellipse: s-maj=25.6km s-min=21.0km az=71.0*
*NEIC **24** 18:35:00.0±1.7, 10°.83S±0°.10×164°.39E±0°.09, h10km±1km, mb4.6/21, Error ellipse: s-maj=19.8km s-min=10.8km az=40.0*

ISC 24 18:35:02.3±0.8, 10°.92S±0°.08×164°.35E±0°.09, h29km, n55, σ1°.13/45, mb4.4/17, MS3.5/6, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.58	288		Pn	18 36 09.7	-0.1
HNR				Sn	Sn	18 37 02.7	+0.6
HNR	Honiara	4.58	288	Pn	Pn	18 36 08.9	-0.8
	1μm,0.3s,baz=143,slow=5.6,SNR=41						
HNR				Sn	Sn	18 37 04.1	+2.1
	336nm,0.3s,baz=119,slow=20,SNR=3.3						
HNR				LR	LR	18 37 50.9	
	comp=Z,2μm,20.7s,baz=162,slow=38						
KOUNC	Koumac, New Ca	9.58	180		Pn	18 37 19.2	+0.9
LIFNC	LIFOU	10.19	165	Pn	Pn	18 37 25.9	-0.8
MARNC	Mare, Loyalty	11.08	162	Pn	Pn	18 37 39.6	+0.7
DZM	Mont Dzumac	11.27	170		Pn	18 37 41.5	-0.1
DZM	Mont Dzumac	11.27	170	Pn	Pn	18 37 40.1	-1.5
	3.3nm,0.3s,baz=321,slow=14,SNR=30						
DZM				Sn	Sn	18 39 46.7	0.0
	0.2nm,0.3s,baz=73,slow=20,SNR=1.0						
DZM				LR	LR	18 41 28.6	
	comp=Z,254nm,18.1s,baz=28,slow=35						
	8.0nm,0.6s						
ONTNC	Ouen Toro	11.50	170	Pn	Pn	18 37 46.1	+1.4
OUENC	Ouen Island, N	11.68	169	Pn	Pn	18 37 47.9	+0.8
PINNC	Pines Island,	12.00	166	Pn	Pn	18 37 52.2	+0.7
KRVT	Keravat (AS076	13.87	297	LR	LR	18 43 17.1	
	comp=Z,121nm,20.8s,baz=120,slow=36						
EIDS	Eidsvold	19.09	219		Pn	18 39 24.8	+0.9
CTA	Charters Tower	19.66	240	P	P	18 39 29.2	0.0
	0.6nm,0.3s,baz=57,slow=13,SNR=5.5						
	3.9nm,0.5s						
CTAO	Charters Tower	19.66	240	P	Pn	18 39 30.4	-0.3
CTAO				IAmb	IAmb	18 39 41.8	
	comp=Z,14nm,1.0s						
COEN	Coen	20.90	259	P	P	18 39 42.5	-0.1
COEN				IAmb	IAmb	18 40 25.1	
	comp=Z,11nm,1.1s						
H11S2	WAKE ISLAND Hy	29.32	5	T	T	19 11 24.0	
	baz=184,slow=76,SNR=8.1						
H11S3	WAKE ISLAND Hy	29.32	5	T	T	19 11 27.9	
	baz=184,slow=76,SNR=7.9						
H11S1	WAKE ISLAND Hy	29.33	5	T	T	19 11 24.4	
	baz=184,slow=76,SNR=8.3						
STKA	Stephens Creek	29.61	222	P	P	18 41 04.0	-1.1
STKA	Stephens Creek	29.61	222	P	P	18 41 06.4	+1.2
	comp=Z,1.0nm,0.7s,baz=42,slow=12,SNR=3.7						
	comp=Z,1.0nm,0.7s						
WB0	Warramunga Arr	30.16	249	P	P	18 41 08.5	-1.7
WB2	Warramunga Arr	30.23	249	P	P	18 41 08.8	-2.1
WB2				IAmb	IAmb	18 41 10.9	
	comp=Z,10nm,1.5s						
WRA	Warramunga Arr	30.25	249	P	P	18 41 08.8	-2.2
	comp=Z,0.7nm,0.5s,baz=77,slow=8.9,SNR=12						
	comp=Z,0.7nm,0.5s						
H11N1	WAKE ISLAND Hy	30.54	5	T	T	19 12 55.0	
	baz=184,slow=76,SNR=5.9						
H11N3	WAKE ISLAND Hy	30.55	5	T	T	19 12 55.1	
	baz=184,slow=76,SNR=5.8						
H11N2	WAKE ISLAND Hy	30.56	5	T	T	19 12 59.3	
	baz=184,slow=76,SNR=5.0						
GUMO	Guam	31.09	321	LR	LR	18 51 37.9	
	comp=Z,65nm,21.3s,baz=141,slow=32						
BFZ	Birch Farm	31.45	163	P	P	18 41 21.6	+0.3
ASAR	Alice Springs	31.63	242	P	P	18 41 21.1	-2.1
	comp=Z,0.4nm,0.5s,baz=62,slow=10,SNR=7.2						
	comp=Z,0.4nm,0.5s						
BBOO	Buckleboo	33.93	226	P	P	18 41 43.0	-0.1
KNRA	Kununurra	34.93	258	P	P	18 41 49.6	-2.3
KNRA				IAmb	IAmb	18 42 05.6	
	comp=Z,19nm,1.2s						
RAR	Rarotonga	35.88	111	LR	LR	18 55 52.3	
	comp=Z,33nm,18.2s,baz=82,slow=35						
JOW	Kunigami	51.33	318	LR	LR	19 04 11.8	
	comp=Z,102nm,21.9s,baz=301,slow=34						
JNU	Nakatsue	54.19	325	LR	LR	19 05 02.7	
	comp=Z,49nm,18.8s,baz=73,slow=33						
KSRS	Korea Array	59.01	327	LR	LR	19 10 19.2	
	comp=Z,30nm,18.1s,baz=20,slow=36						
PETK	Petropavlovsk-	64.03	356	LR	LR	19 08 41.2	
	comp=Z,77nm,19.3s,baz=37,slow=32						
VNDA	Vanda	66.60	181	P	P	18 45 51.2	+1.7
VNDA	Vanda	66.60	181	P	P	18 45 50.3	+0.8
	comp=Z,0.6nm,0.8s,baz=336,slow=4.9,SNR=4.5						
	comp=Z,0.6nm,0.8s						
CMAR	Chiang Mai Arr	70.81	294	P	P	18 46 17.7	+0.9
	comp=Z,0.3nm,0.5s,baz=133,slow=4.2,SNR=5.5						
	comp=Z,0.3nm,0.5s						
K15K	Wolf Creek Mou	77.66	16	P	P	18 46 55.8	0.0
SONM	Songino Array	77.76	324	P	P	18 46 57.4	+0.6
	comp=Z,0.2nm,0.4s,baz=120,slow=41,SNR=1.7						
	comp=Z,0.2nm,0.4s						
L18K	Granite Mounta	78.96	17	P	P	18 47 03.6	+0.6
L18K				IAmb	IAmb	18 47 04.8	
	comp=Z,16nm,1.4s						
QSPA	South Pole Qui	79.08	180	P	P	18 47 03.0	-0.9
	comp=Z,2.1nm,1.0s,baz=325,slow=1.6,SNR=4.8						
	comp=Z,2.1nm,1.0s						
M19K	Big River Lodg	79.41	19	P	P	18 47 06.0	+0.6
M19K				IAmb	IAmb	18 47 39.2	
	comp=Z,12nm,1.4s						
L19K	White Mountain	79.48	18	P	P	18 47 06.5	+0.6
L19K				IAmb	IAmb	18 47 21.1	
	comp=Z,9.1nm,1.1s						
J18K	Innoko River	79.92	17	P	P	18 47 07.7	-0.5
J18K				IAmb	IAmb	18 47 21.2	
	comp=Z,7.8nm,1.2s						
IMAR	Indian Mountai	82.68	16	P	P	18 47 21.9	-0.8
MLY	Manley	82.83	18	P	P	18 47 22.7	-0.9
MLY				IAmb	IAmb	18 47 50.0	
	comp=Z,5.3nm,1.4s						
E19K	Redstone River	82.93	14	P	P	18 47 24.1	0.0
CTGM	Chitina Glacie	83.39	24	P	P	18 47 24.9	-1.8
ILAR	Eielson Array	83.83	19	P	P	18 47 27.4	-1.4
	comp=Z,1.2nm,0.8s,baz=231,slow=6.3,SNR=8.0						
	comp=Z,1.2nm,0.8s						
J25K	Salcha River,	84.22	19	P	P	18 47 30.5	-0.3
J25K				IAmb	IAmb	18 47 35.3	
	comp=Z,3.2nm,0.8s						
G24K	Hadweenzic Riv	84.96	17	P	P	18 47 34.0	-0.4
G24K				IAmb	IAmb	18 47 35.6	
	comp=Z,5.7nm,1.2s						
D22K	Ayikyak River	85.12	14	P	P	18 47 35.6	+0.4
BMAR	Burnt Mountain	86.29	18	P	P	18

HMH	**Humu'ula Sheep**	**0.23**	**34**		Sg	18 54 24.8	+1.5
HMH	**Humu'ula Sheep**	**0.23**	**34**		Pg	18 54 20.7	+0.5
HMH	**Humu'ula Sheep**	**0.23**	**34**	IAML		18 54 25.4	
HMH	comp=E,568nm,1.5s			IAML		18 54 25.8	
	comp=N,385nm,1.3s						
MLH	**Mauna Loa**	**0.23**	**69**		Pg	18 54 21.0	+0.7
MLH				IAML		18 54 28.2	
	comp=N,769nm,0.4s						
HTC	**Hot Caves**	**0.27**	**130**		Pg	18 54 21.3	+0.4
CPH	**Captain Cook**	**0.29**	**285**		Pb	18 54 22.7	-1.0
WRMHI	**West Rim**	**0.30**	**91**		Pg	18 54 22.0	+0.4
WRMHI	**West Rim**	**0.30**	**91**	IAML		18 54 31.5	
WRMHI	comp=E,881nm,0.5s			IAML		18 54 31.6	
	comp=N,629nm,0.6s						
SDHHI	**Sand Hill**	**0.31**	**94**		Pg	18 54 22.0	+0.4
SDHHI	**Sand Hill**	**0.31**	**94**	IAML		18 54 30.6	
SDHHI	comp=N,735nm,0.7s			IAML		18 54 31.3	
	comp=E,592nm,0.5s						
UWE	**Uwekahuna**	**0.31**	**88**		Pg	18 54 21.9	+0.3
HLP	**Hilina Pali**	**0.31**	**111**		Pg	18 54 22.2	+0.4
HLP				IAML		18 54 28.3	
	comp=N,670nm,2.8s						
HLP				IAML		18 54 29.4	
	comp=E,763nm,1.2s						
OBL	**Observatory Le**	**0.32**	**89**		Pg	18 54 22.1	+0.3
KHLU	**Kahalu`u**	**0.32**	**305**		Sb	18 54 29.2	-0.6
KHLU	**Kahalu`u**	**0.32**	**305**		Pg	18 54 22.7	+0.8
KHLU	**Kahalu`u**	**0.32**	**305**	IAML		18 54 32.0	
KHLU	comp=N,2µm,0.2s			IAML		18 54 33.0	
	comp=E,1µm,0.2s						
NPH	**North Pit**	**0.32**	**90**		Pg	18 54 22.0	+0.1
UWB	**Uwekahuna B**	**0.32**	**88**		Pg	18 54 22.2	+0.3
UWB	**Uwekahuna B**	**0.32**	**88**	IAML		18 54 26.3	
UWB	comp=N,321nm,4.2s			IAML		18 54 28.5	
	comp=E,227nm,1.8s						
RIM	**Rim**	**0.32**	**93**		Pg	18 54 22.2	+0.2
RIM				IAML		18 54 33.5	
	comp=E,549nm,0.6s						
RSD	**Rainshed**	**0.32**	**81**	Pg	Pg	18 54 22.0	-0.1
SBLHI	**Steaming Bluff**	**0.33**	**87**		Pg	18 54 22.2	0.0
SBLHI				IAML		18 54 31.6	
	comp=E,390nm,0.6s						
KKO	**Keanakako`i**	**0.33**	**92**		Pg	18 54 22.4	+0.2
KKO				IAML		18 54 29.1	
	comp=E,525nm,1.7s						
HATHI	**Halema'uma'u T**	**0.34**	**88**		Pg	18 54 22.6	+0.4
HATHI	**Halema'uma'u T**	**0.34**	**88**	IAML		18 54 33.1	
HATHI	comp=N,403nm,1.1s			IAML		18 54 33.1	
	comp=E,643nm,0.6s						
BYL	**Byron's Ledge**	**0.34**	**90**		Pg	18 54 22.7	+0.4
BYL				IAML		18 54 26.9	
	comp=N,447nm,3.4s						
HUH	**Hualalai**	**0.34**	**323**		Pb	18 54 24.0	-0.7
HUH				IAML		18 54 33.8	
	comp=E,743nm,0.4s						
PUH	**Pauahi**	**0.38**	**96**		Pg	18 54 23.1	+0.1
KNHH	**Kane Nui o Ham**	**0.42**	**94**		Pg	18 54 24.1	+0.2
STCH	**Steam Cracks**	**0.47**	**93**		Pg	18 54 25.0	+0.3
STCH	**Steam Cracks**	**0.47**	**93**	IAML		18 54 29.8	
STCH	comp=N,348nm,2.3s			IAML		18 54 36.0	
	comp=E,404nm,2.2s						
NPOC	**North of Pu'u**	**0.48**	**92**		Pg	18 54 25.4	+0.5
NPOC				IAML		18 54 33.0	
	comp=N,413nm,1.1s						
NPOC				IAML		18 54 34.4	
	comp=E,306nm,1.8s						
JOKA	**Jonika Flow**	**0.58**	**88**		Pg	18 54 26.6	-0.3

*IDC **24** 19:02:37.1±3.8, 0.°04S×91.°11W, h0km, mb3.7/5, mbtmp3.7/5, MS3.8/9, Error ellipse: s-maj=147.9km s-min=47.9km az=40.0*

ISC 24 19:02:38.0±3.6, 0.°2S±0.°7×91.°1W±0.°6, h10km, n15, σ1§10/6, mb3.9/5, MS3.8/7, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**Las Juntas de**	**12.06**	**30**	LR	LR	19 08 24.1	
	comp=Z,488nm,19.8s,baz=216,slow=29						
ROSC	**El Rosal**	**17.51**	**73**	LR	LR	19 12 05.8	
	comp=Z,130nm,21.0s,baz=232,slow=33						
TEIG	**Tepich**	**20.44**	**8**	LR	LR	19 13 25.7	
	comp=Z,732nm,21.7s,baz=346,slow=32						
LPAZ	**La Paz**	**27.78**	**126**	LR	LR	19 19 04.5	
	comp=Z,116nm,21.5s,baz=348,slow=36						
TXAR	**Lajitas Array**	**31.67**	**339**	P	**P**	**19 09 03.0**	**+1.2**
	0.7nm,0.9s,baz=170,slow=12,SNR=4.0						
	0.7nm,0.9s						
RPN	**Rapa Nui**	**32.02**	**212**	LR	LR	19 19 06.5	
	comp=Z,154nm,20.4s,baz=35,slow=31						
SIV	**San Ignacio**	**33.58**	**119**	LR	LR	19 22 02.2	
	comp=Z,91nm,18.0s,baz=182,slow=35						
NVAR	**Mina Array Bea**	**45.81**	**330**	P	**P**	**19 11 00.3**	**-0.1**
	2.4nm,1.0s,baz=130,slow=9.7,SNR=8.4						
	2.4nm,1.0s						
PDAR	**Pinedale Array**	**45.82**	**341**	P	**P**	**19 10 59.5**	**-1.0**
	0.2nm,0.3s,baz=153,slow=10,SNR=2.2						
	0.2nm,0.3s						
SCHQ	**Scheffer ville**	**58.32**	**16**	LR	LR	19 36 36.5	
	comp=Z,75nm,20.1s,baz=154,slow=35						
ILAR	**Eielson Array**	**76.18**	**339**	P	**P**	**19 14 25.3**	**-0.9**
	0.9nm,0.8s,baz=134,slow=3.9,SNR=4.1						
	0.9nm,0.8s						
DBIC	**Dimbokro**	**86.32**	**83**	LR	LR	19 50 59.8	
	comp=Z,45nm,19.4s,baz=136,slow=34						
ESDC	**Sonseca Array**	**87.91**	**50**	P	**P**	**19 15 28.5**	**+0.1**
	0.2nm,0.3s,baz=267,slow=4.9,SNR=2.1						
	0.2nm,0.3s						
SPITS	**Spitsbergen Ar**	**93.70**	**11**	LR	LR	20 00 41.5	
	comp=Z,88nm,18.2s,baz=158,slow=37						
KURBB	**Kurchatov Arra**	**128.95**	**8**	PKP	**PKiKP**	**19 21 47.5**	**+0.6**
	0.2nm,0.3s,baz=1.8,slow=2.9,SNR=1.4						

*IDC **24** 19:23:19.4±1.3, 27.°91N×103.°94E, h0km, mb3.3/4, mbtmp3.2/6, ML3.3/2, Error ellipse: s-maj=37.0km s-min=24.2km az=82.0*

ISC 24 19:23:22.4±1.1, 28.°0N±0.°1×104.°0E±0.°2, h21km, n6, σ0§61/6, mb3.4/4, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.52**	**207**	Pn	**Pn**	**19 25 52.3**	**+0.3**
	0.1nm,0.3s,baz=19,slow=8.6,SNR=1.5						
CMAR				Sn	Sn	19 27 38.3	-11
	0.1nm,0.3s,baz=335,slow=25,SNR=1.7						
	0.2nm,0.6s						
SONM	**Songino Array**	**19.93**	**5**	P	**Pn**	**19 27 55.4**	**+0.7**
	0.1nm,0.3s,baz=180,slow=11,SNR=2.1						
	0.3nm,0.6s						
KSRS	**Korea Array**	**22.22**	**59**	P	**P**	**19 28 17.5**	**-0.1**
	0.6nm,0.5s,baz=246,slow=9.3,SNR=5.0						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**25.35**	**324**	P	**P**	**19 28 47.2**	**-0.7**
	0.4nm,0.6s,baz=124,slow=10,SNR=3.0						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**55.96**	**145**	P	**P**	**19 32 59.2**	**-0.1**
	0.2nm,0.5s,baz=335,slow=8.2,SNR=2.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**58.89**	**148**	P	**P**	**19 33 19.8**	**-0.2**
	0.2nm,0.6s,baz=326,slow=6.7,SNR=5.5						
	0.2nm,0.6s						

*IDC **24** 19:35:47.2±1.0, 4.°12N×133.°09E, h0km, mb4.0/11, mbtmp4.1/12, ML4.1/1, MS2.9/1, Error ellipse: s-maj=42.9km s-min=15.3km az=73.0*

*NEIC **24** 19:35:50.4±1.2, 4.°07N±0.°10×132.°8E±0.°1, h15km±5km, mb4.5/48, Error ellipse: s-maj=18.6km s-min=13.9km az=75.0*

*DJA **24** 19:35:51.3±1.2, 4.°N±10.°×13.°3E±.°, h10km, M4.7/12, mB5.4/7, mb4.7/12, MLv4.5/9, Mw(mB)4.8/7*

ISC 24 19:35:49.2±0.5, 4.°07N±0.°06×132.°82E±0.°09, h10km, n93, σ0§92/85, mb4.4/35, 1C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**5.14**	**198**	P	**Pn**	**19 37 04.6**	**-1.7**
RKPI	**Ransiki, Papua**	**5.71**	**166**	P	**Pn**	**19 37 11.8**	**-2.3**
	58nm,1.0s,0.2nm						
TNTI	**Ternate**	**6.36**	**239**	P	**Pn**	**19 37 23.9**	**+0.9**
	96nm,0.6s,1µm0.4nm						
FAKI	**Fak Fak**	**6.97**	**185**	P	**Pn**	**19 37 31.0**	**-0.4**
	14nm,0.9s,0.1nm						
LBMI	**Labuha**	**7.08**	**229**	P	**Pn**	**19 37 31.9**	**-1.1**
	46nm,0.9s,0.2nm						
SGSI	**Sangihe**	**7.28**	**267**	P	**Pn**	**19 37 35.4**	**-0.3**
	281nm,0.6s,4µm1.3nm						
SANI	**Sanana**	**9.14**	**228**	P	**Pn**	**19 38 01.2**	**-0.1**
	11nm,0.8s						
KMSI	**Cibinong**	**9.49**	**249**	P	Pn	19 38 16.9	+11
GTOI	**Gorontalo**	**10.37**	**251**	P	**Pn**	**19 38 17.8**	**-0.4**
	13nm,0.4s						
MRSI	**Marisa**	**11.44**	**252**	P	**Pn**	**19 38 34.0**	**+1.2**
	53nm,1.0s,652nm						
MPSI	**Mapaga**	**13.43**	**254**	P	**Pn**	**19 39 00.2**	**+0.2**
	11nm,1.0s						
MMPI	**Merauke**	**14.56**	**149**	P	**Pn**	**19 39 18.6**	**+3.1**
BKSI	**Bulukumba**	**15.74**	**234**	P	**Pn**	**19 39 31.3**	**+0.1**
KKM	**Kota Kinabalu**	**16.65**	**277**	Pn	**Pn**	**19 39 43.7**	**+0.7**
BATI	**Baumata**	**16.86**	**213**	P	**P**	**19 39 48.2**	**+0.6**
	0.7nm,0.3s,baz=27,slow=9.0,SNR=2.4						
	8.9nm,0.6s						
MTN	**Manton Dam**	**16.89**	**186**	Pn	**Pn**	**19 39 44.9**	**-0.9**
KNRA	**Kununurra**	**20.03**	**191**	P	**P**	**19 40 21.8**	**-0.6**
KNRA				IAmb	IAmb	19 40 36.7	
	comp=Z,43nm,1.5s						
SBUM	**Sibu**	**20.63**	**266**	P	**P**	**19 40 29.1**	**0.0**
KSM	**Kuching**	**22.63**	**264**	P	**P**	**19 40 49.6**	**-1.0**
KSM				IAmb	IAmb	19 40 54.1	
	comp=Z,25nm,1.1s						
WB0	**Warramunga Arr**	**23.74**	**176**	P	**P**	**19 41 01.2**	**-0.6**
WRAB	**Tennant Creek**	**23.90**	**176**	P	**P**	**19 41 03.4**	**0.0**
WRA	**Warramunga Arr**	**23.91**	**176**	P	**P**	**19 41 03.2**	**-0.2**
WRA	**Warramunga Arr**	**23.91**	**176**	P	**P**	**19 41 03.3**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=354,slow=9.8,SNR=13						
	comp=Z,2.7nm,0.7s						
WR0	**Warramunga Arr**	**23.94**	**176**	P	**P**	**19 41 02.6**	**-1.2**
AS31	**Alice Springs**	**27.59**	**178**	P	**P**	**19 41 36.8**	**-0.1**
ASAR	**Alice Springs**	**27.59**	**178**	P	**P**	**19 41 36.4**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=14,slow=10,SNR=14						
	comp=Z,1.6nm,0.9s						
KULM	**Kulim**	**32.08**	**273**	P	**P**	**19 42 16.0**	**-0.7**
KULM				IAmb	IAmb	19 42 17.8	
	comp=Z,8.1nm,1.0s						
SRIT	**Nakonsritamara**	**33.30**	**279**	P	**P**	**19 42 26.7**	**-0.7**
KSAR	**Wonju Array Be**	**33.52**	**353**	P	**P**	**19 42 27.2**	**-1.8**
KSRS	**Korea Array**	**33.52**	**353**	LR	LR	19 57 31.2	
	comp=Z,17nm,18.9s,baz=80,slow=39						
KS19	**Wonju Array Si**	**33.58**	**353**	P	**P**	**19 42 27.9**	**-1.7**
RPSI	**Rantau Prapat**	**33.86**	**269**	P	**P**	**19 42 31.4**	**-1.0**
RPSI				IAmb	IAmb	19 42 35.1	
	comp=Z,16nm,1.4s						
FORT	**Forrest**	**34.95**	**187**	P	**P**	**19 42 41.2**	**-0.4**
CRAI	**Chiangrai**	**35.44**	**300**	P	**P**	**19 42 46.2**	**+0.3**
CRAI				IAmb	IAmb	19 42 47.6	
	comp=Z,8.2nm,1.4s						
KMI	**Kunming**	**35.68**	**309**	⇑P	**P**	**19 42 49.3**	**+1.1**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CM31	**Chiang Mai Arr**	**36.07**	**296**	P	**P**	**19 42 51.8**	**+0.4**
CM31				IAmb	IAmb	19 42 53.2	
	comp=Z,7.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**36.07**	**296**	P	**P**	**19 42 51.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**36.07**	**296**	P	**P**	**19 42 52.2**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=117,slow=7.4,SNR=25						
	comp=Z,2.5nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**36.08**	**64**	T	T	20 21 08.8	
	baz=250,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**36.09**	**64**	T	T	20 21 15.1	
	baz=250,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**36.09**	**64**	T	T	20 21 15.2	
	baz=250,slow=75,SNR=23						
CHTO	**Chiang Mai**	**36.19**	**297**	P	**P**	**19 42 52.5**	**+0.2**
CHTO				IAmb	IAmb	19 42 53.9	
	comp=Z,4.9nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**36.67**	**62**	T	T	20 22 48.2	
	baz=250,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**36.68**	**62**	T	T	20 22 50.7	
	baz=250,slow=75,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**36.69**	**62**	T	T	20 22 50.4	
	baz=250,slow=75,SNR=19						
STKA	**Stephens Creek**	**36.71**	**167**	P	**P**	**19 42 56.1**	**-0.5**
STKA	**Stephens Creek**	**36.71**	**167**	P	**P**	**19 42 56.2**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=336,slow=12,SNR=7.4						
	comp=Z,2.9nm,0.7s						
BBOO	**Buckleboo**	**36.81**	**175**	P	**P**	**19 42 56.3**	**-1.2**
ERM	**Erimo**	**38.89**	**12**	P	**P**	**19 43 13.8**	**-1.1**
TNCH	**TengChong**	**38.99**	**306**	*e*P	**P**	**19 43 16.5**	**+0.2**
TNCH				pP	pP	19 43 19.6	+1.4
TNCH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PBA	**Port Blair**	**40.37**	**283**	P	**P**	**19 43 28.0**	**+0.4**
SHL	**Shillong**	**44.69**	**303**	P	**P**	**19 44 02.3**	**-0.6**
GTA	**Gaotai**	**46.16**	**324**	*e*P	**P**	**19 44 15.4**	**+1.1**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
LSA	**Lhasa**	**46.91**	**308**	P	**P**	**19 44 20.5**	**-0.3**
LSA				IAmb	IAmb	19 44 27.7	
	comp=Z,4.7nm,0.9s						
TAU	**Tasmania Unive**	**48.57**	**166**	P	**P**	**19 44 33.3**	**+0.5**
TAPN	**Taplejung**	**48.82**	**303**	*e*P	**P**	**19 44 35.4**	**0.0**
	comp=Z,22nm,1.2s						
ULN	**Ulaanbaatar**	**48.92**	**337**	P	**P**	**19 44 34.5**	**-1.1**
ULN				IAmb	IAmb	19 44 39.8	
	comp=Z,3.6nm,0.9s						
SONM	**Songino Array**	**49.16**	**337**	P	**P**	**19 44 37.3**	**-0.1**
SONM	**Songino Array**	**49.16**	**337**	P	**P**	**19 44 38.4**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=143,slow=6.7,SNR=6.9						
	comp=Z,1.6nm,1.0s						
RAMN	**Ramite**	**49.62**	**302**	*e*P	**P**	**19 44 42.0**	**+0.6**
	comp=Z,14nm,0.7s						
JIRN	**Jiri**	**50.19**	**303**	*e*P	**P**	**19 44 46.4**	**+0.4**
	comp=Z,13nm,1.0s						
GUN	**Gumba**	**50.53**	**303**	*e*P	**P**	**19 44 49.5**	**+1.0**
GKN	**Gorkha**	**51.60**	**303**	*e*P	**P**	**19 44 57.2**	**+0.8**
	comp=Z,3.3nm,0.4s						
DANN	**Dangsing**	**52.45**	**303**	*e*P	**P**	**19 45 03.1**	**+0.3**
	comp=Z,20nm,0.8s						
PYUN	**Piuthan**	**53.02**	**302**	*e*P	**P**	**19 45 07.2**	**+0.3**
	comp=Z,27nm,0.8s						
MK31	**Makanchi Array**	**60.86**	**323**	P	**P**	**19 46 02.5**	**+0.5**
MK31				IAmb	IAmb	19 46 27.0	
	comp=Z,10nm,1.4s						
MKAR	**Makanchi Array**	**60.86**	**323**	P	**P**	**19 46 01.9**	**-0.1**
MKAR	**Makanchi Array**	**60.86**	**323**	P	**P**	**19 46 02.7**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=120,slow=8.1,SNR=13						
	comp=Z,2.3nm,0.7s						
KSH	**Kashi**	**62.18**	**313**	P	**P**	**19 46 12.8**	**+1.6**
KSH				sP	pwP	19 46 26.8	+8.7
KSH				pmax	pmax		
	comp=Z,3.0nm,1.1s						
NIL	**Nilore**	**62.59**	**306**	P	**P**	**19 46 13.6**	**-0.3**
ZAA0	**Zalesovo Array**	**63.16**	**331**	P	**P**	**19 46 16.4**	**-0.8**
ZAA0				IAmb	IAmb	19 46 17.4	
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**63.16**	**331**	P	**P**	**19 46 16.3**	**-1.0**
ZALV	**Zalesovo Beam**	**63.16**	**331**	P	**P**	**19 46 17.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=90,slow=5.8,SNR=2.0						
	comp=Z,0.6nm,0.5s						
KURK	**Kurchatov**	**64.82**	**325**	P	**P**	**19 46 28.5**	**+0.3**
KURK				IAmb	IAmb	19 46 42.3	
	comp=Z,6.1nm,1.3s						
KURBB	**Kurchatov Arra**	**64.83**	**325**	P	**P**	**19 46 28.7**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=119,slow=5.7,SNR=10						
	comp=Z,1.2nm,0.5s						
KK31	**Karatay Array**	**67.20**	**315**	P	**P**	**19 46 43.4**	**-0.4**
KK31				IAmb	IAmb	19 46 47.6	
	comp=Z,3.0nm,1.1s						
KKAR	**Karatay Array**	**67.20**	**315**	P	**P**	**19 46 43.3**	**-0.5**
KKAR				IAmb	IAmb	19 46 47.6	
	comp=Z,3.0nm,1.1s						
KKAR	**Karatay Array**	**67.20**	**315**	P	**P**	**19 46 43.9**	**+0.1**
BVAR	**Borovoye Array**	**70.42**	**325**	P	**P**	**19 47 04.0**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=108,slow=9.3,SNR=6.9						
	comp=Z,1.5nm,0.6s						
BRVK	**Borovoye**	**70.49**	**325**	P	**P**	**19 47 04.2**	**+0.2**
BRVK				IAmb	IAmb	19 47 05.5	
	comp=Z,5.2nm,1.3s						
GEYT	**Alibeck**	**75.44**	**308**	P	**P**	**19 47 34.8**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=76,slow=18,SNR=2.7						
	comp=Z,1.5nm,0.8s						
ABKAR	**Akbulak array**	**75.77**	**320**	P	**P**	**19 47 34.5**	**-0.9**
ABKAR	**Akbulak array**	**75.77**	**320**	P	**P**	**19 47 34.6**	**-0.7**
ABKAR				IAmb	IAmb	19 47 38.5	
	comp=Z,2.8nm,1.0s						
N17K	**Nushagak Hills**	**76.70**	**29**	P	**P**	**19 47 41.7**	**+1.3**
K17K	**Iditarod**	**76.81**	**26**	P	**P**	**19 47 42.7**	**+1.7**
L18K	**Granite Mounta**	**77.39**	**27**	P	**P**	**19 47 45.6**	**+1.3**
L18K				IAmb	IAmb	19 48 13.6	
	comp=Z,12nm,1.4s						
F19K	**Shaleruckik Mo**	**78.25**	**22**	P	**P**	**19 47 48.8**	**-0.2**
F19K				IAmb	IAmb	19 48 14.7	
	comp=Z,2.9nm,0.8s						
J19K	**Poorman**	**78.32**	**25**	P	**P**	**19 47 50.0**	**+0.5**
J19K				IAmb	IAmb	19 48 01.4	
	comp=Z,6.4nm,1.2s						
M19K	**Big River Lodg**	**78.36**	**27**	P	**P**	**19 47 49.4**	**-0.2**
KDAK	**Kodiak Island**	**78.38**	**32**	P	**P**	**19 47 49.9**	**+0.1**
D19K	**Kuna River**	**78.64**	**21**	P	**P**	**19 47 52.8**	**+1.7**
D19K				IAmb	IAmb	19 48 03.2	
	comp=Z,9.7nm,1.2s						
E19K	**Redstone River**	**78.64**	**22**	P	**P**	**19 47 52.6**	**+1.4**
E19K				IAmb	IAmb	19 47 56.2	
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**82.19**	**25**	P	**P**	**19 48 08.7**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=260,slow=5.4,SNR=2.9						
	comp=Z,0.5nm,0.8s						

IDC 24 19:42:53.5±3.8, 57.°34S×149.°73E, h0km, mb3.2/3, mbtmp3.3/3, MS3.9/1, Error ellipse: s-maj=349.0km s-min=29.1km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.70**	**173**	P	P	19 47 34.9	0.0
	0.4nm,0.5s,baz=324,slow=14,SNR=5.4						
	0.4nm,0.5s						
H01W1	**Cape Leeuwin H**	**32.75**	**298**	T	T	20 22 33.7	
	baz=145,slow=76,SNR=73						
H01W2	**Cape Leeuwin H**	**32.76**	**298**	T	T	20 22 32.7	
	baz=145,slow=76,SNR=51						
H01W3	**Cape Leeuwin H**	**32.77**	**298**	T	T	20 22 35.0	
	baz=145,slow=76,SNR=55						
ASAR	**Alice Springs**	**35.54**	**335**	P	P	19 49 53.4	+1.2
	0.2nm,0.5s,baz=161,slow=9.2,SNR=2.6						
	0.2nm,0.5s						
MAW	**Mawson**	**38.05**	**218**	LR	LR	20 04 48.4	
	comp=Z,153nm,18.8s,baz=12,slow=35						
WRA	**Warramunga Arr**	**39.04**	**337**	P	P	19 50 20.8	-1.1
	0.4nm,0.7s,baz=166,slow=7.5,SNR=5.9						
	0.4nm,0.7s						
H04S2	**CROZET ISLANDS**	**55.92**	**235**	T	T	20 53 03.8	
	baz=139,slow=75,SNR=5.3						
H04S1	**CROZET ISLANDS**	**55.92**	**235**	T	T	20 53 00.9	
	baz=139,slow=75,SNR=6.4						
H04S3	**CROZET ISLANDS**	**55.94**	**235**	T	T	20 53 03.4	
	baz=139,slow=75,SNR=5.6						
H08S2	**Diego Garcia H**	**76.72**	**277**	T	T	21 17 25.3	
	baz=147,slow=76,SNR=29						
H08S1	**Diego Garcia H**	**76.72**	**277**	T	T	21 17 25.2	
	baz=147,slow=76,SNR=38						
H08S3	**Diego Garcia H**	**76.73**	**277**	T	T	21 17 26.8	
	baz=147,slow=76,SNR=33						

*BER **24** 19:59:06.7±2.2, 80.°72N×2.°93W, h10km, mb(Pn)3.4, Confirmed Earthquake*

*DNK **24** 19:59:07.9±2.1, 80.°72N×2.°53W, h28km±20km, ML1.8*

*IEPN **24** 19:59:12.0, 80.°77N×0.°38W, h10km*

ISC 24 19:59:01.6±0.9, 80.°85N±0.°07×3.°17W±0.°05, h10km, n16, σ3§37/27, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.20**	**297**	*e*P	**Pg**	**19 59 42.9**	**-0.8**
NOR				*e*S	**Sb**	**20 00 08.6**	**-0.1**
NOR	**Nord**	**2.20**	**297**	*i* P	**Pg**	**19 59 43.2**	**-0.6**
NOR				IAML		20 00 15.2	
	comp=Z,3.3nm,0.3s						
KBS	**Kingsbay**	**3.28**	**118**	*e*P	**Pn**	**19 59 55.7**	**+2.7**
KBS				*e*S	**Sn**	**20 00 29.3**	**-2.6**
KBS	**Kingsbay**	**3.28**	**118**	*e*P	**Pn**	**19 59 56.0**	**+3.0**
KBS				*e*S	**Sn**	**20 00 29.3**	**-2.6**
KBS				IAML		20 00 34.3	
	comp=Z,4.5nm,0.4s						
KBS	**Kingsbay**	**3.28**	**118**	*i* P	**Pn**	**19 59 55.8**	**+2.9**
KBS				*e*S	**Sn**	**20 00 29.6**	**-2.4**
SPA0	**Spitsbergen Ar**	**4.44**	**117**	⇑*i* P	**Pn**	**20 00 12.0**	**+3.2**
SPA0				*e*S	**Sn**	**20 00 57.9**	**-2.6**
SPA0	**Spitsbergen Ar**	**4.44**	**117**	*e*P	**Pn**	**20 00 12.1**	**+3.2**
SPA0				*e*S	**Sn**	**20 00 58.0**	**-2.5**
SPA0				IAML		20 01 02.7	
	comp=Z,1.2nm,0.3s						
DAG	**Danmarks Havn**	**5.06**	**224**	*e*P	**Pn**	**20 00 21.1**	**+3.7**
DAG				*e*S	**Sn**	**20 01 12.7**	**-3.1**
DAG	**Danmarks Havn**	**5.06**	**224**	*e*	**Pn**	**20 00 20.5**	**+3.2**
	baz=38,slow=16						
DAG				*i* P	Pb	20 00 21.0	-9.0
DAG				IAML		20 01 17.6	
	comp=Z,13nm,0.3s						
HSPB	**Hornsund (broa**	**5.25**	**128**	*e*P	**Pn**	**20 00 23.2**	**+3.3**
HSPB	**Hornsund (broa**	**5.25**	**128**	*e*P	**Pn**	**20 00 23.9**	**+4.0**
HSPB				*e*S	Sn	20 01 10.8	-10
HSPB				IAML		20 01 13.2	
	comp=Z,111nm,0.5s						
HOPEN	**Hopen**	**6.95**	**114**	*e*P	**Pn**	**20 00 45.7**	**+2.4**

SMIR	**Smir Dam**	**1.67**	**237**	P	**Pn**	**20 09 51.4 +0.1**
SMIR				S	**Sn**	**20 10 12.8 -0.6**
EADA	**Adamuz**	**1.71**	**335**	Pn	**Pn**	**20 09 52.0 +0.1**
EADA				Pg	**Pb**	**20 09 53.3 +0.1**
EADA				Sg	**Sn**	**20 10 14.7 +0.3**
EADA				*i* Vmb_Lg		20 10 17.1
EADA	**Adamuz**	**1.71**	**335**	Pn	**Pn**	**20 09 51.3 -0.6**
EADA				Sn	**Sn**	**20 10 13.2 -1.2**
ESPR	**Espera**	**1.78**	**279**	Pg	**Pg**	**20 09 57.0 +2.1**
EZAR	**Zarzadilla de**	**2.01**	**51**	Pg	**Pn**	**20 09 58.3 +2.3**
EZAR				Sg	**Sg**	**20 10 26.5 +0.9**
ECAB	**El Cabril**	**2.02**	**317**	Pg	**Pn**	**20 09 58.0 +1.9**
ECAB				Sg	**Sb**	**20 10 25.6 +1.6**
ECAB	**El Cabril**	**2.02**	**317**	Pg	**Pn**	**20 09 57.9 +1.8**
ECAB				Sn	**Sn**	**20 10 20.4 -1.6**
EMUR	**La Murta**	**2.29**	**57**	Pn	**Pn**	**20 09 59.6 -0.1**
CART	**Cartagena**	**2.34**	**65**	P	**Pn**	**20 10 02.7 +2.3**
CART				S	**Sn**	**20 10 32.0 +2.3**
CART	**Cartagena**	**2.34**	**65**	Pn	**Pn**	**20 10 01.3 +0.9**
JBK	**JBK**	**2.44**	**158**	P	**Pn**	**20 10 02.0 0.0**
JBK				S	**Sn**	**20 10 30.3 -2.4**
ETOB	**Tobarra**	**2.63**	**39**	Pn	**Pn**	**20 10 06.7 +2.1**
ETOB				Pg	**Pb**	**20 10 08.6 -0.2**
ETOB				Sg	**Sb**	**20 10 42.7 +1.1**
ETOB	**Tobarra**	**2.63**	**39**	Pg	**Pb**	**20 10 08.6 -0.2**
ETOB				Pn	**Pn**	**20 10 05.3 +0.8**
ETOB				Sg	**Sb**	**20 10 42.5 +0.9**
PVAQ	**Vaqueiros**	**3.34**	**285**	*e*Pn	**Pn**	**20 10 16.5 +2.3**
PVAQ				*e*Sn	**Sn**	**20 10 54.6 +0.1**
PVAQ	**Vaqueiros**	**3.34**	**285**	P	**Pn**	**20 10 14.2 +0.1**
PVAQ				S	**Sn**	**20 10 51.0 -3.5**
PVAQ	**Vaqueiros**	**3.34**	**285**	Pn	**Pn**	**20 10 16.0 +1.8**
EBAD	**Badajoz**	**3.41**	**310**	Pn	**Pn**	**20 10 16.4 +1.3**
MD31	**MD31**	**3.85**	**194**	P	**Pn**	**20 10 21.0 -0.2**
MD31				S	**Sn**	**20 11 06.2 -0.9**
MDT	**Midelt**	**3.87**	**192**	P	**Pn**	**20 10 20.7 -0.9**
MDT				S	**Sn**	**20 11 06.8 -0.9**

MDD ***24*** *20:25:03.5±0.8, 29°.66N×14°.63W, h8km±10km, mb_Lg3.5/25, Error ellipse: s-maj=12.3km s-min=3.0km az=13.0*
INMG ***24*** *20:25:03.7±1.2, 29°.69N×14°.53W, h79km±12km, ML2.6, Error ellipse: s-maj=3.0km s-min=2.6km az=134.0*
CNRM ***24*** *20:25:12.2, 32°.34N×13°.72W, h25km, ml3.3*

ISC 24 20:24:60.0±1.6, 29°.62N±0°.05×14°.66W±0°.05, h12km±12km, n43, σ1°.26/59, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFAM	**Famara**	**1.10**	**116**	S	**Sg**	**20 25 34.8**	**-0.7**
EFAM				*i* Vmb_Lg		20 25 40.2	
CLOB	**Isla de Lobos,**	**1.13**	**139**	P	**Pg**	**20 25 22.5**	**+0.8**
CLOB				S	**Sg**	**20 25 35.6**	**-0.8**
CLOB				*i* Vmb_Lg		20 25 37.3	
CFUE	**Fuerteventura**	**1.16**	**147**	P	**Pg**	**20 25 22.7**	**+0.4**
CFUE				S	**Sg**	**20 25 36.2**	**-1.1**
CFUE				*i* Vmb_Lg		20 25 37.2	
CFTV	**Fuerteventura**	**1.30**	**157**	P	**Pn**	**20 25 24.6**	**+0.4**
CFTV				S	**Sb**	**20 25 39.6**	**-1.7**
CFTV				*i* Vmb_Lg		20 25 39.9	
CGIN	**Giniginamar, F**	**1.50**	**160**	P	**Pn**	**20 25 27.7**	**+1.0**
CGIN				S	**Sn**	**20 25 44.9**	**-1.4**
CGIN				*i* Vmb_Lg		20 25 45.2	
EOSO	**Osorio**	**1.73**	**207**	P	**Pn**	**20 25 31.2**	**+1.2**
EOSO				S	**Sn**	**20 25 51.6**	**-0.5**
EOSO				*i* Vmb_Lg		20 25 55.1	
EBAJ	**Bajamar**	**1.83**	**234**	P	**Pn**	**20 25 32.2**	**+0.9**
EBAJ				S	**Sn**	**20 25 53.0**	**-1.4**
EBAJ				*i* Vmb_Lg		20 25 54.9	
CGUI	**Guimar, Teneri**	**2.03**	**231**	P	**Pn**	**20 25 35.0**	**+0.8**
CGUI				S	**Sn**	**20 25 58.5**	**-1.0**
CGUI				*i* Vmb_Lg		20 26 00.0	
CREA	**Los Realejos,**	**2.11**	**234**	P	**Pn**	**20 25 35.8**	**+0.6**
CREA				S	**Sn**	**20 26 00.6**	**-0.8**
CREA				*i* Vmb_Lg		20 26 03.1	
MACI	**Morro de la Ar**	**2.12**	**230**	P	**Pn**	**20 25 36.2**	**+0.7**
MACI				S	**Sn**	**20 26 01.3**	**-0.6**
MACI				*i* Vmb_Lg		20 26 03.1	
CFOR	**Fortaleza, Los**	**2.14**	**233**	P	**Pn**	**20 25 36.7**	**+0.9**
CFOR				S	**Sn**	**20 26 01.9**	**-0.5**
CFOR				*i* Vmb_Lg		20 26 03.7	
CNOR	**Icod de los Vi**	**2.19**	**234**	P	**Pn**	**20 25 36.9**	**+0.5**
CNOR				S	**Sn**	**20 26 02.6**	**-0.9**
CCAN	**Las Canadas**	**2.21**	**231**	P	**Pn**	**20 25 36.8**	**+0.1**
CCAN				S	**Sn**	**20 26 03.2**	**-0.9**
CCAN				*i* Vmb_Lg		20 26 03.9	
CGRA	**Granadilla de**	**2.23**	**228**	P	**Pn**	**20 25 37.7**	**+0.8**
CGRA				S	**Sn**	**20 26 02.9**	**-1.6**
CGRA				*i* Vmb_Lg		20 26 04.7	
CDOS	**Garachico, Isl**	**2.25**	**235**	P	**Pn**	**20 25 38.0**	**+0.7**
CDOS				S	**Sn**	**20 26 04.5**	**-0.7**
CDOS				*i* Vmb_Lg		20 26 08.1	
CVIL	**Vilaflor**	**2.27**	**231**	P	**Pn**	**20 25 38.1**	**+0.5**
CVIL				S	**Sn**	**20 26 04.5**	**-1.1**
CADE	**Adeje, Tenerif**	**2.34**	**232**	P	**Pn**	**20 25 38.4**	**0.0**
CADE				S	**Sn**	**20 26 05.4**	**-1.7**
CADE				*i* Vmb_Lg		20 26 06.6	
EGOM	**La Gomera**	**2.67**	**238**	P	**Pn**	**20 25 42.9**	**0.0**
EGOM				S	**Sn**	**20 26 12.9**	**-2.3**
CROM	**Garafia, La Pa**	**2.95**	**254**	P	**Pn**	**20 25 47.7**	**+0.8**
CROM				S	**Sn**	**20 26 20.0**	**-2.5**
CROM				*i* Vmb_Lg		20 26 21.0	
EHIG	**Higuera**	**2.95**	**250**	S	**Sn**	**20 26 20.9**	**-1.4**
EHIG				*i* Vmb_Lg		20 26 22.5	
CVIE	**Villa de Mazo,**	**2.96**	**250**	P	**Pn**	**20 25 47.8**	**+0.8**
CVIE				S	**Sn**	**20 26 20.8**	**-1.6**
CENR	**El Paso, La Pa**	**2.96**	**251**	P	**Pn**	**20 25 47.7**	**+0.7**
CENR				S	**Sn**	**20 26 21.2**	**-1.4**
CENR				*i* Vmb_Lg		20 26 23.5	
CJED	**Jedey, El Paso**	**3.00**	**250**	P	**Pn**	**20 25 48.6**	**+1.1**
CJED				S	**Sn**	**20 26 22.2**	**-1.2**
CJED				*i* Vmb_Lg		20 26 23.5	
TBT	**Taburiente**	**3.00**	**253**	P	**Pn**	**20 25 47.6**	**+0.2**
TBT				S	Sn	20 26 18.1	-5.3
TBT				*i* Vmb_Lg		20 26 22.8	
CCUM	**Cumbre, El Hie**	**3.50**	**239**	P	**Pn**	**20 25 54.8**	**+0.4**
CCUM				S	**Sn**	**20 26 34.0**	**-1.9**
CCUM				*i* Vmb_Lg		20 26 34.9	
CMCL	**Mercadel, El H**	**3.52**	**238**	P	**Pn**	**20 25 55.4**	**+0.8**
CMCL				S	**Sn**	**20 26 33.8**	**-2.4**
CTAN	**El Hierro**	**3.52**	**239**	S	**Sn**	**20 26 34.4**	**-1.7**
CTAN				*i* Vmb_Lg		20 26 36.8	
CTAD	**Las Tabladas,**	**3.54**	**239**	S	**Sn**	**20 26 35.2**	**-1.5**
CTAD				*i* Vmb_Lg		20 26 39.6	
CJUL	**El Julan, El H**	**3.55**	**239**	P	**Pn**	**20 25 55.8**	**+0.7**
CJUL				S	**Sn**	**20 26 35.6**	**-1.5**
CJUL				*i* Vmb_Lg		20 26 42.9	
CCAL	**Punta Orchilla**	**3.61**	**239**	P	**Pn**	**20 25 56.9**	**+1.1**
CCAL				S	**Sn**	**20 26 36.0**	**-2.3**
CCAL				*i* Vmb_Lg		20 26 40.2	
PMAR	**Madeira**	**3.65**	**329**	*e*P	Pn	20 25 54.8	-1.7
PMAR				*e*S	Sn	20 26 32.0	-7.5
PMAR				A	A	20 26 38.1	
	19nm,0.2s						
PMAR	**Madeira**	**3.65**	**329**	P	Pn	20 25 54.6	-1.8
PMAR				S	Sn	20 26 26.9	-13
PMPS	**Porto Santo**	**3.71**	**338**	*e*S	Sn	20 26 32.6	-8.3
PMPS				A	A	20 26 37.3	
	9.1nm,0.5s						
PMPST	**Porto Santo, M**	**3.73**	**338**	*e*P	Pn	20 25 55.6	-1.9
PMPST				*e*S	Sn	20 26 35.4	-6.0
PMPST				A	A	20 26 39.1	
	17nm,0.8s						
PMOZ	**Porto Moniz, M**	**3.86**	**326**	*e*P	**Pn**	**20 25 58.5**	**-0.9**
PMOZ				*e*S	Sn	20 26 39.0	-5.7
PMOZ				A	A	20 26 44.3	
	20nm,0.7s						
PMOZ	**Porto Moniz, M**	**3.86**	**326**	P	Pn	20 25 57.3	-2.0
PMOZ				S	Sn	20 26 32.1	-13
SFNM	**Sidi Ifni**	**3.93**	**93**	P	**Pg**	**20 26 15.6**	**+0.4**
SFNM				S	**Sg**	**20 27 04.8**	**-1.3**
OUK	**Oukaimeden**	**6.07**	**73**	P	Pn	20 26 26.9	-3.1
SRHM	**Skhour des Reh**	**6.46**	**62**	P	Pn	20 26 21.9	-13
SRHM				S	Sn	20 27 19.1	-30
OUZM	**OUZ**	**6.95**	**77**	P	Pn	20 26 39.4	-2.4
MD31	**MD31**	**9.07**	**67**	P	Pn	20 27 01.3	-10
MDT	**Midelt**	**9.17**	**67**	P	Pn	20 27 03.0	-9.3
WCI	**Wyandotte Cave**	**58.73**	**299**	P	**P**	**20 35 00.6**	**+2.7**

NIED ***24*** *20:34:07.3, 37°.50N×141°.98E, h32km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=1.27; $M_{\theta\theta}$=-0.43; $M_{\phi\phi}$=-0.84; $M_{r\theta}$=6.55; $M_{\theta\phi}$=-1.96; $M_{r\phi}$=1.16; Fault plane solution: M_0=7.03000×10^14^ NP1:φs=78.00000°, δ=85.00000°, λ=106.00000°. NP2:φs=187.00000°, δ=16.00000°, λ=19.00000°.*
JMA ***24*** *20:34:07.3±0.2, 37°.5N±0°.4×142°.0E±0°.8, h32km±2km, MD4.1/40, MV4.1/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
IDC ***24*** *20:34:09.4±2.2, 37°.49N×142°.09E, h48km±20km, mb3.6/10, mbtmp3.8/15, ML3.5/5, MS3.4/3, Error ellipse: s-maj=19.1km s-min=14.5km az=104.0*
NEIC ***24*** *20:34:09.1±1.1, 37°.49N±0°.01×141°.95E±0°.08, h40km±9km, mb4.4/17, Error ellipse: s-maj=9.6km s-min=2.1km az=92.0*

ISC 24 20:34:05.1±3.0, 37°.48N±0°.04×142°.08E±0°.05, h15km±19km, n73, σ1°.21/78, mb4.2/18, 16D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.96**	**330**	||P	**Pb**	**20 34 23.6**	**+0.2**
JIKH				||S	**Sb**	**20 34 34.9**	**-1.0**
JFK	**Kawauchi**	**0.97**	**264**	||P	**Pb**	**20 34 23.5**	**-0.1**
JFK				||S	**Sb**	**20 34 34.9**	**-1.3**
JMST	**Minamisoumatoc**	**0.98**	**285**	||P	**Pb**	**20 34 23.6**	**-0.1**
JMST				||S	**Sb**	**20 34 35.1**	**-1.3**
JMST	**Minamisoumatoc**	**0.98**	**285**	A	A	20 34 23.6	
	comp=E,7.0nm,0.2s,comp=N,11nm,0.3s						
ONAJ	**Iwakimizuishiy**	**1.09**	**250**	*i* P	**Pb**	**20 34 25.3**	**-0.4**
ONAJ				S	**Sb**	**20 34 37.9**	**-1.9**
ONAJ	**Iwakimizuishiy**	**1.09**	**250**	A	A	20 34 25.3	
	comp=E,25nm,0.2s,comp=N,16nm,0.3s						
JMM	**Marumori**	**1.09**	**291**		**Pb**	**20 34 25.3**	**-0.4**
JMM				Sn	**Sb**	**20 34 38.0**	**-1.7**
JMM	**Marumori**	**1.09**	**291**	||*i*P	**Pb**	**20 34 25.4**	**-0.3**
JMM				||S	**Sb**	**20 34 38.1**	**-1.7**
JIO	**Ouri**	**1.13**	**329**	||*i*P	**Pn**	**20 34 26.3**	**-0.1**
JIO				||S	**Sb**	**20 34 39.5**	**-1.3**
JOTO	**OTAMA OYAMA**	**1.39**	**274**	*i* P	**Pn**	**20 34 30.5**	**+0.5**
JOTO				S	**Sn**	**20 34 46.6**	**-1.6**
JOU	**Okura**	**1.43**	**309**	||*i*P	**Pn**	**20 34 30.9**	**+0.4**
JOU				||S	**Sn**	**20 34 48.1**	**-0.9**
JOU	**Okura**	**1.43**	**309**	A	A	20 34 30.9	
	comp=E,5.0nm,0.6s,comp=N,4.0nm,0.3s						
JMK	**Ichinoseki**	**1.62**	**335**	||*i*P	**Pn**	**20 34 33.6**	**+0.6**
JYS	**Shirataka**	**1.76**	**295**	P	**Pn**	**20 34 36.6**	**+1.6**
JYS				S	**Sn**	**20 34 57.8**	**+0.6**
JFY	**Yanaizu**	**1.89**	**268**	P	**Pn**	**20 34 37.9**	**+1.0**
JFY				S	**Sn**	**20 35 00.8**	**+0.3**
JYK	**Kaneyama**	**1.98**	**317**	||*i*P	**Pn**	**20 34 38.6**	**+0.6**
JYK				||S	**Sn**	**20 35 01.9**	**-0.6**
JOM	**Ohasama**	**2.08**	**343**	||P	**Pn**	**20 34 40.5**	**+1.0**
JSD	**Sado**	**3.08**	**282**		**Pn**	**20 34 53.7**	**+0.5**
MJAR	**Matsushiro Arr**	**3.24**	**254**	P	**Pn**	**20 34 57.2**	**+1.8**
	comp=N,0.8nm,0.3s,baz=212,slow=33,SNR=24						
MJAR				S	**Sn**	**20 35 35.7**	**+2.0**
	comp=N,15nm,0.3s,baz=149,slow=25,SNR=7.3						
MJAR				LR	LR	20 36 29.8	
	comp=N,119nm,20.1s,baz=17,slow=43 comp=N,5.8nm,0.4s						
MAJO	**Matsushiro**	**3.24**	**254**		**Pn**	**20 34 56.3**	**+0.9**
MJB9	**Matsu-Tunnel**	**3.24**	**254**		**Pn**	**20 34 57.1**	**+1.7**
JTM	**Tenmabayashi**	**3.39**	**347**		**Pn**	**20 34 58.9**	**+1.4**
ERM	**Erimo**	**4.60**	**10**	Pn	**Pn**	**20 35 15.5**	**+1.4**
INU	**Inuyama**	**4.60**	**244**	Pn	**Pn**	**20 35 17.1**	**+2.9**
JHJ2	**Mitsune**	**4.74**	**204**	Pn	**Pn**	**20 35 17.0**	**+1.0**
JHJ	**Hachijo jima 2**	**4.74**	**204**	P	**Pn**	**20 35 18.1**	**+2.1**
	comp=N,27nm,0.3s,baz=304,slow=22,SNR=7.3						
JHJ				S	**Sn**	**20 36 08.2**	**-2.4**
	comp=N,285nm,0.7s,baz=65,slow=21,SNR=2.6 comp=N,171nm,0.7s						
ASAJ	**Asahikawa**	**6.64**	**3**	P	**Pn**	**20 35 43.8**	**+1.7**
	comp=N,1.4nm,0.3s,baz=198,slow=13,SNR=10						
ASAJ				S	**Sn**	**20 36 55.1**	**-2.4**
	comp=N,10,0nm,1.1s,baz=161,slow=20,SNR=1.2 comp=N,4.4nm,0.4s						
JKA	**Kamikawa-asahi**	**6.64**	**3**	Pn	**Pn**	**20 35 42.1**	**0.0**
JMN	**Monobe**	**7.66**	**243**	Pn	**Pn**	**20 35 56.6**	**+0.4**
USA0B	**Ussuriysk Arra**	**10.17**	**314**	Pn	**Pn**	**20 36 31.4**	**+0.9**
USRK	**Ussuriysk Ar.**	**10.17**	**314**	Pn	**Pn**	**20 36 31.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.17**	**314**	P	**Pn**	**20 36 32.1**	**+1.6**
	comp=N,0.4nm,0.3s,baz=122,slow=14,SNR=5.6						
USRK				LR	LR	20 39 37.9	
	comp=N,109nm,19.8s,baz=134,slow=32 comp=N,2.1nm,0.6s						
JCJ	**Chichijima**	**10.36**	**179**	Pn	**Pn**	**20 36 31.7**	**-1.4**
KSRS	**Korea Array**	**11.25**	**274**	P	**Pn**	**20 36 46.6**	**+1.2**
	comp=N,0.3nm,0.3s,baz=90,slow=1.5,SNR=2.4 comp=N,0.4nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**27.93**	**122**	T	T	21 09 32.1	
	baz=314,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**27.94**	**122**	T	T	21 09 32.8	
	baz=314,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**27.95**	**122**	T	T	21 09 34.7	
	baz=314,slow=75,SNR=24						
SONM	**Songino Array**	**27.98**	**303**	P	**P**	**20 39 54.8**	**-0.4**
SONM	**Songino Array**	**27.98**	**303**	P	**P**	**20 39 55.5**	**+0.3**
	comp=N,0.8nm,0.8s,baz=94,slow=6.9,SNR=5.8 comp=N,0.8nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**28.66**	**124**	T	T	21 10 28.1	
	baz=316,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy**	**28.66**	**125**	T	T	21 10 27.5	
	baz=316,slow=76,SNR=46						
H11S2	**WAKE ISLAND Hy**	**28.68**	**125**	T	T	21 10 28.7	
	baz=316,slow=76,SNR=25						
ZALV	**Zalesovo Beam**	**42.01**	**312**	P	**P**	**20 41 55.4**	**-0.2**
	comp=N,1.1nm,0.5s,baz=91,slow=7.5,SNR=4.4 comp=N,1.1nm,0.5s						
C18K	**Utukok River**	**43.64**	**26**	P	**P**	**20 42 08.7**	**+0.1**
H18K	**Honhosa River**	**43.99**	**32**	P	**P**	**20 42 12.3**	**+0.8**
H18K				IAmb	IAmb	20 42 30.9	
	comp=Z,9.2nm,1.4s						
C19K	**Lookout Ridge**	**44.32**	**26**	P	**P**	**20 42 14.8**	**+0.7**
C19K				IAmb	IAmb	20 42 17.4	
	comp=Z,8.9nm,1.1s						
MKAR	**Makanchi Array**	**44.33**	**302**	P	**P**	**20 42 14.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=80,slow=10,SNR=5.9 comp=Z,0.4nm,0.5s						
B20K	**Meade River**	**45.36**	**25**	P	**P**	**20 42 23.1**	**+0.7**
KURK	**Kurchatov**	**46.08**	**308**	P	**P**	**20 42 27.8**	**-0.4**
KURBB	**Kurchatov Arra**	**46.15**	**308**	P	**P**	**20 42 28.4**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=81,slow=7.9,SNR=12 comp=Z,1.7nm,0.5s						
B21K	**Ikpikpuk River**	**46.16**	**26**	P	**P**	**20 42 30.2**	**+1.7**
H21K	**Melozitna River**	**46.36**	**31**	P	**P**	**20 42 31.6**	**+1.4**
B22K	**Teshekpuk Lake**	**46.68**	**25**	P	**P**	**20 42 34.2**	**+1.6**
D22K	**Ayikyak River**	**46.73**	**27**	P	**P**	**20 42 33.9**	**+0.8**
E22K	**Anaktuvuk Pass**	**46.96**	**28**	P	**P**	**20 42 36.5**	**+1.5**
E22K				IAmb	IAmb	20 43 08.4	
	comp=Z,4.6nm,1.2s						
H24K	**Noodor Dome**	**48.40**	**31**	P	**P**	**20 42 47.4**	**+1.2**
H24K				IAmb	IAmb	20 42 57.7	
	comp=Z,8.7nm,1.4s						
ILAR	**Eielson Array**	**48.83**	**33**	P	**P**	**20 42 50.5**	**+1.0**
ILAR	**Eielson Array**	**48.83**	**33**	P	**P**	**20 42 49.9**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=268,slow=6.2,SNR=10 comp=Z,0.7nm,0.7s						
BVAR	**Borovoye Array**	**50.67**	**312**	P	**P**	**20 43 04.4**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=68,slow=5.3,SNR=2.5 comp=Z,0.7nm,0.4s						
E27K	**Coleen River**	**50.78**	**28**	P	**P**	**20 43 06.2**	**+1.9**
E27K				IAmb	IAmb	20 43 25.6	
	comp=Z,5.0nm,1.3s						
G29M	**Pine Creek**	**52.28**	**29**		**P**	**20 43 17.2**	**+1.8**
G29M				IAmb	IAmb	20 43 47.7	
	comp=Z,9.9nm,1.5s						
M29M	**Somme Creek**	**52.84**	**35**	P	**P**	**20 43 21.7**	**+1.9**
M29M				IAmb	IAmb	20 43 25.3	
	comp=Z,4.5nm,1.4s						
G31M	**Satah River**	**53.73**	**29**	P	**P**	**20 43 27.4**	**+1.3**
WB0	**Warramunga Arr**	**57.40**	**189**	P	**P**	**20 43 52.2**	**-0.8**
WB0				IAmb	IAmb	20 44 16.2	
	comp=Z,5.7nm,1.4s						
WRA	**Warramunga Arr**	**57.58**	**189**	P	**P**	**20 43 53.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=24,slow=7.3,SNR=34 comp=Z,0.6nm,0.3s						
ABKAR	**Akbulak array**	**58.06**	**310**		**P**	**20 43 56.8**	**-0.6**
ABKAR	**Akbulak array**	**58.06**	**310**	P	**P**	**20 43 56.9**	**-0.5**
ABKAR				IAmb	IAmb	20 44 10.1	
	comp=Z,1.5nm,0.8s						
ASAR	**Alice Springs**	**61.30**	**189**	P	**P**	**20 44 19.8**	**-0.2**
ASAR	**Alice Springs**	**61.30**	**189**	P	**P**	**20 44 20.4**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=13,slow=6.9,SNR=15 comp=Z,1.1nm,0.7s						
FINES	**FINESS Array B**	**68.67**	**332**	P	**P**	**20 45 06.9**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=57,slow=10,SNR=1.1 comp=Z,0.9nm,0.8s						
PDAR	**Pinedale Array**	**76.97**	**46**	P	**P**	**20 45 58.0**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=291,slow=3.6,SNR=2.9 comp=Z,0.3nm,0.6s						
RAR	**Rarotonga**	**79.99**	**126**	LR	LR	21 15 34.3	
	comp=Z,155nm,19.7s,baz=238,slow=31						
CLL	**Collm**	**80.97**	**330**	*e*P	**P**	**20 46 20.0**	**+1.2**

IDC ***24*** *20:44:49.5±0.9, 51°.37N×178°.30W, h0km, mb3.7/14, mbtmp3.8/15, ML4.3/1, Error ellipse: s-maj=28.8km s-min=18.1km az=166.0*
AEIC ***24*** *20:44:55.9±0.9, 51°.27N±0°.05×178°.28W±0°.05, h31km±5km, Error ellipse: s-maj=8.0km s-min=3.2km az=158.0*
NEIC ***24*** *20:44:57.5±1.5, 51°.39N±0°.08×178°.30W±0°.05, h35km±2km, ML3.6(AEIC), Error ellipse: s-maj=14.3km s-min=4.3km az=347.0*

ISC 24 20:44:56.1±1.5, 51°.3N±0°.1×178°.26W±0°.04, h49km±11km, n46, σ0°.96/46, mb3.7/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAFL	**Tanaga Flats**	**0.51**	**26**		**Pn**	**20 45 07.2**	**-0.2**
TAFL					**Sn**	**20 45 15.2**	**-0.3**
GALAA	**Gareloi Lava P**	**0.56**	**325**		**Pn**	**20 45 08.5**	**+0.4**
GAEA	**Gareloi East**	**0.57**	**328**		**Pn**	**20 45 08.5**	**+0.3**
TAPA	**Tanaga Point A**	**0.58**	**28**		**Pn**	**20 45 08.6**	**+0.2**
TANO	**Tanaga North**	**0.62**	**8**		**Pn**	**20 45 09.2**	**+0.4**
KIMD	**Kanaga Island**	**0.79**	**54**		**Pn**	**20 45 11.1**	**+0.2**
KIMD					**Sn**	**20 45 21.8**	**0.0**
KIWB	**Kanaga Island**	**0.88**	**51**		**Pn**	**20 45 12.4**	**+0.2**
KICM	**Kanaga Island**	**0.91**	**46**		**Pn**	**20 45 13.2**	**+0.6**
KICM					**Sn**	**20 45 25.7**	**+1.2**
KINC	**Kanaga Island**	**0.95**	**48**		**Pn**	**20 45 13.6**	**+0.5**
KINC					**Sn**	**20 45 26.9**	**+1.4**
ADK	**Adak**	**1.14**	**59**		**Pn**	**20 45 15.9**	**+0.3**
ADK				Sn	**Sn**	**20 45 31.0**	**+0.7**
ADAG	**Mount Adagdak**	**1.23**	**56**		**Pn**	**20 45 17.9**	**+0.9**
CERB	**Semis' Cerberu**	**1.46**	**296**		**Pn**	**20 45 21.2**	**+1.2**
CERB					**Sn**	**20 45 40.0**	**+2.0**
GSCK	**Great Sitkin C**	**1.49**	**61**		**Pn**	**20 45 21.5**	**+1.1**
CESW	**Semis' Southwe**	**1.49**	**295**		**Pn**	**20 45 21.3**	**+0.9**
CEAP	**Semis' Anvil P**	**1.52**	**298**		**Pn**	**20 45 21.2**	**+0.3**
AMKA	**Amchitka**	**1.53**	**274**		**Pn**	**20 45 20.4**	**-0.6**
AMKA					**Sn**	**20 45 39.9**	**+0.1**
GSMY	**Great Sitkin M**	**1.56**	**61**		**Sn**	**20 45 43.3**	**+2.8**
GSTR	**Great Sitkin T**	**1.58**	**59**		**Pn**	**20 45 22.5**	**+0.8**
LSPA	**Little Sitkin**	**2.08**	**290**		**Pn**	**20 45 29.5**	**+1.0**
ATKA	**Atka Island**	**2.68**	**69**		**Pn**	**20 45 37.0**	**+0.3**
ATKA				Sn	**Sn**	**20 46 08.8**	**+0.8**
KDAK	**Kodiak Island**	**16.18**	**56**	Pn	**Pn**	**20 48 37.7**	**-2.1**
	1.1nm,0.3s,baz=286,slow=5.6,SNR=19 3.4nm,0.4s						
ILAR	**Eielson Array**	**21.09**	**38**	P	**P**	**20 49 34.3**	**-1.8**
	0.2nm,0.4s,baz=239,slow=10,SNR=2.1						
ILAR				PcP	**PcP**	**20 53 40.3**	**-0.1**
	0.3nm,0.6s,baz=274,slow=3.7,SNR=2.4 0.2nm,0.4s						
KLR	**Kul'dur**	**31.53**	**286**	P	**P**	**20 51 13.9**	**+0.6**
	1.5nm,0.5s,baz=60,slow=12,SNR=5.7 1.5nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**33.61**	**206**	T	T	21 27 18.2	
	baz=17,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**33.62**	**206**	T	T	21 27 21.2	
	baz=17,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**33.62**	**206**	T	T	21 27 23.1	
	baz=17,slow=76,SNR=25						
USRK	**Ussuriysk Ar.**	**33.64**	**278**	P	**P**	**20 51 31.9**	**+0.1**
	2.0nm,0.7s,baz=53,slow=8.1,SNR=1.0 2.0nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**34.82**	**206**	T	T	21 28 57.6	
	baz=16,

K15K	Wolf Creek Mou	14.69	35		P		20 52 45.0	-1.8
R17K	Ugashik Creek	14.79	56	Pn	Pn		20 52 44.8	+1.3
N17K	Nushagak Hills	15.45	45		P		20 52 54.1	-1.3
N17K				IAmb	IAmb		20 53 10.0	
	comp=Z,20nm,1.3s							
M17K	Holitna River	15.76	42	Pn	Pn		20 52 56.4	+0.5
M17K				IAmb	IAmb		20 53 19.7	
	comp=Z,16nm,1.4s							
O18K	Koktuh Hills	16.08	48	Pn	Pn		20 52 59.4	-0.6
O18K				IAmb	IAmb		20 53 26.1	
	comp=Z,22nm,1.2s							
N18K	Kilae Creek	16.10	45	Pn	Pn		20 53 00.0	-0.1
N18K				IAmb	IAmb		20 53 10.5	
	comp=Z,18nm,1.4s							
SVW2	Sparrevohn	16.41	44	Pn	Pn		20 53 03.3	-0.8
KDAK	Kodiak Island	16.81	57	Pn	Pn		20 53 07.0	-2.1
BRLK	Bradley Lake	18.13	51	P	P		20 53 24.2	-0.6
BRLK				IAmb	IAmb		20 53 51.0	
	comp=Z,39nm,1.3s							

*NEIC **24** 20:59:26.8±2.1, 16°.22S±0°.02×73°.4W±0°.1, h115km±17km, mb4.2/2, Error ellipse: s-maj=16.1km s-min=3.7km az=91.0*
*IDC **24** 20:59:28.6±1.6, 16°.07S×73°.46W, h90km±17km, mb3.5/3, mbtmp3.9/8, Error ellipse: s-maj=24.6km s-min=11.7km az=38.0*
ISC 24 20:59:27.3±0.7, 16°.20S±0°.06×73°.47W±0°.08, h100km, n50, σ1°.93/45, mb3.8/4, 2D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AP01	Chacalluta	3.69	126		Pn		Pn	21 00 21.9	-0.4
AP01	Chacalluta	3.69	126	eP	Pn		Pn	21 00 21.2	-1.1
AP01						IAML		21 01 25.7	
	comp=E,1μm,1.0s								
PB12	IPOC Station P	3.84	129				Pn	21 00 22.7	-1.8
PB12	IPOC Station P	3.84	129	⇓iP			Pn	21 00 23.1	-1.4
PB12						IAML		21 01 26.5	
	comp=E,233nm,0.3s								
PB18	Visviri	4.07	110				Pn	21 00 30.2	+2.4
PB16	IPOC Station P	4.34	120				Pn	21 00 31.4	-0.2
PB16	IPOC Station P	4.34	120	⇓eP			Pn	21 00 32.0	+0.3
PB16				eS			Sn	21 01 22.1	+0.5
PB16						IAML		21 01 39.9	
	comp=N,155nm,0.6s								
LPAZ	La Paz	5.13	92				Pn	21 00 45.2	+2.8
LPAZ	La Paz	5.13	92	P			Pn	21 00 45.4	+3.0
	comp=N,7.1nm,0.3s,baz=274,slow=8.1,SNR=46								
LPAZ					S		Sn	21 01 41.8	+1.1
	comp=N,4.9nm,0.6s,baz=207,slow=8.5,SNR=0.9								
TA02	Huaiquique	5.15	142	Pn			Pn	21 00 37.1	-5.0
NNA	Nana	5.31	322				Pn	21 00 45.2	+0.9
NNA	Nana	5.31	322	P			Pn	21 00 43.7	-0.6
	comp=N,26nm,0.5s,baz=158,slow=7.1,SNR=11								
NNA					S		Sn	21 01 44.7	+0.4
	comp=N,34nm,0.4s,baz=194,slow=18,SNR=1.8								
GO01	Chusmiza	5.34	131				Pn	21 00 44.0	-1.1
TA01	Diego Aracena	5.35	145				Pn	21 00 43.1	-1.7
PATCX	Punta Patache	5.57	146				Pn	21 00 45.3	-2.6
PATCX	Punta Patache	5.57	146	eP			Pn	21 00 46.4	-1.5
PATCX				iS			Sn	21 01 43.5	-7.2
PB08	IPOC Station P	5.68	134				Pn	21 00 48.7	-0.9
PB08	IPOC Station P	5.68	134	eP			Pn	21 00 49.0	-0.6
PB08				eS			Sn	21 01 49.3	-4.4
PB02	IPOC Station P	6.12	147				Pn	21 00 54.0	-1.4
PB01	IPOC Station P	6.12	143				Pn	21 00 54.0	-1.4
PB07	IPOC Station P	6.46	149				Pn	21 00 58.6	-1.4
PB09	IPOC Station P	6.86	145				Pn	21 01 04.8	-0.6
PB04	IPOC Station P	6.86	153				Pn	21 01 02.7	-2.8
PB06	IPOC Station P	7.45	151				Pn	21 01 12.4	-1.1
LVC	Limon Verde	7.70	147	Pn			Pn	21 01 15.1	-1.9
LVC	Limon Verde	7.70	147	P			Pn	21 01 18.9	+1.9
	comp=N,4.8nm,0.3s,baz=346,slow=10,SNR=18								
LVC					S		Sn	21 02 39.4	-3.4
	comp=N,9.7nm,0.3s,baz=82,slow=21,SNR=9.8								
PB15	IPOC Station P	7.93	152	Pn			Pn	21 01 18.7	-1.3
CZSB	Cruzeiro do Su	8.45	5				Pn	21 01 24.8	-2.2
PB14	IPOC Station P	8.87	162	Pn			Pn	21 01 28.7	-4.2
ETMB	Extrema	9.50	49				Pn	21 01 39.3	-2.0
GO02	Mina Guanaco	9.63	158				Pn	21 01 42.0	-1.3
ATAH	Atahualpa	10.21	331	P			Pn	21 01 51.0	-0.3
	comp=N,2.0nm,0.6s,baz=154,slow=10,SNR=3.5								
ATAH					S		Sn	21 03 42.6	-1.6
	comp=N,3.0nm,0.6s,baz=102,slow=13,SNR=1.2								
AC01	Pan de Azucar	10.26	165	Pn			Pn	21 01 49.0	-2.5
SIV	San Ignacio	11.92	91	P			Pn	21 02 14.8	+0.8
	comp=N,1.7nm,0.5s,baz=269,slow=18,SNR=1.3								
SAML	Samuel	12.36	56				Pn	21 02 15.6	-4.2
COHC	Cochancay	14.78	337	P			P	21 02 53.2	-1.6
H03N1	Juan Fernandez	17.86	195	T			T	21 21 58.6	
	baz=17,slow=74,SNR=4567								
H03N2	Juan Fernandez	17.86	195	T			T	21 21 57.3	
	baz=17,slow=74,SNR=2911								
H03N3	Juan Fernandez	17.88	195	T			T	21 21 57.4	
	baz=17,slow=74,SNR=3758								
PLCA	Paso Flores	24.58	175	P			P	21 04 36.1	-1.9
PLCA				IAmb			IAmb	21 05 11.3	
	comp=Z,6.7nm,1.2s								
PLCA	Paso Flores	24.58	175	P			P	21 04 41.1	+3.0
	comp=Z,1.6nm,0.7s,baz=349,slow=12,SNR=5.6								
	comp=Z,1.6nm,0.7s								
BAUV	El Baul	25.55	13	P			P	21 04 45.4	-1.6
BAUV				IAmb			IAmb	21 05 04.7	
	comp=Z,12nm,1.1s								
SNAA	Sanae	68.67	161	P			P	21 10 23.1	+3.4
	comp=Z,1.0nm,0.5s,baz=275,slow=8.3,SNR=19								
	comp=Z,1.0nm,0.5s								
TORD	Torodi Ar. Bea	79.81	73	P			P	21 11 27.3	+2.0
	comp=Z,0.4nm,0.6s,baz=260,slow=4.7,SNR=5.1								
	comp=Z,0.4nm,0.6s								
H11S2	WAKE ISLAND Hyl	22.74	282	T			T	23 33 44.3	
	baz=99								
H11S1	WAKE ISLAND Hyl	22.75	282	T			T	23 33 43.4	
	baz=99								
H11S3	WAKE ISLAND Hyl	22.76	282	T			T	23 33 39.4	
	baz=99								
ASAR	Alice Springs	132.19	215	PKP			PKiKP	21 18 33.2	+1.7
	comp=Z,0.2nm,0.7s,baz=127,slow=2.4,SNR=1.9								
WRA	Warramunga Arr	134.87	218	PKP			PKiKP	21 18 37.9	+1.0
	comp=Z,0.6nm,0.8s,baz=130,slow=1.9,SNR=5.6								
SONM	Songino Array	148.45	0	PKPbc			PKPbc	21 19 03.9	+1.4
	comp=Z,0.4nm,0.5s,baz=29,slow=3.3,SNR=3.1								

*JMA **24** 21:33:40.6±0.3, 24°.7N±0°.8×121°.9E±0°.7, h90km±2km, MV2.9/14, TAIWAN REGION*
*TAP **24** 21:33:41.3, 24°.77N×121°.93E, h83km, ML3.5, B*
ISC 24 21:33:41.2±1.2, 24°.79N±0°.03×121°.92E±0°.02, h88km±5km, n161, σ0°.77/306, 35C-27D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS		0.06	10	P			Pn	21 33 53.6	0.0
	baz=23								
EGS					S		Sn	21 34 02.9	+0.1
	baz=23								
NTC	Toucheng	0.11	309	iP			Pn	21 33 53.4	-0.2
	baz=324								
NTC				iS			Sn	21 34 02.7	-0.2
	baz=324								
ILA	Ilan	0.16	262	⇑P			Pn	21 33 53.9	+0.1
	baz=277								
ILA					S		Sn	21 34 02.9	-0.2
	baz=277								
TWC	Suao	0.19	200	P			Pn	21 33 53.9	0.0
	baz=201								
TWC					S		Sn	21 34 03.0	-0.3
	baz=201								
TWB1	Santiao Chiao	0.23	16	iP			Pn	21 33 53.9	-0.2
	baz=20								
TWB1				eS			Sn	21 34 02.7	-0.9
	baz=20								
TWE	Neicheng	0.24	254	eP			Pn	21 33 54.3	+0.2
	baz=258								
TWE				iS			Sn	21 34 03.8	+0.2
	baz=258								
NDS	Dongshan	0.24	231	P			Pn	21 33 54.6	+0.5
	baz=235								
NDS				iS			Sn	21 34 03.7	0.0
	baz=235								
FUSB	Fushanzhiwuyua	0.30	265	eP			Pn	21 33 54.7	+0.2
	baz=276								
FUSB				iS			Sn	21 34 04.3	-0.1
	baz=276								
SXI1	Grass Mountain	0.31	352	iP			Pn	21 33 54.2	-0.4
	baz=343								
SXI1					S		Sn	21 34 03.9	-0.5
	baz=343								
NWF	Wu-fen Shan	0.31	336	⇑iP			Pn	21 33 54.4	-0.2
	baz=344								
NWF					S		Sn	21 34 03.7	-0.8
	baz=344								
WFSB	Wu-fen Shan	0.31	336	⇑iP			Pn	21 33 54.3	-0.2
	baz=341								
WFSB					S		Sn	21 34 03.6	-0.7
	baz=341								
ENTT	Nioudou	0.35	246	eP			Pn	21 33 55.2	+0.4
	baz=255								
ENTT				iS			Sn	21 34 04.8	0.0
	baz=255								
TWA	Mucha	0.36	302	⇑eP			Pn	21 33 54.6	-0.1
	baz=309								
TWA				eS			Sn	21 34 04.2	-0.7
	baz=309								
EWUT	Wuta	0.36	201	⇑P			Pn	21 33 54.9	+0.1
	baz=203								
EWUT					S		Sn	21 34 05.0	+0.2
	baz=203								
NWLT	Wulai	0.38	269	⇑iP			Pn	21 33 54.8	-0.1
	baz=280								
NWLT					S		Sn	21 34 04.8	-0.3
	baz=280								
TNOU	National Taiwa	0.39	340	⇑P			Pn	21 33 54.2	-0.7
	baz=340								
TNOU					S		Sn	21 34 04.1	-0.9
	baz=340								
ENA	Nanau	0.39	205	⇑P			Pn	21 33 55.1	+0.2
	baz=201								
ENA					S		Sn	21 34 05.6	+0.5
	baz=201								
NHDH	Xindian Distri	0.40	296	⇑iP			Pn	21 33 55.0	0.0
	baz=302								
NHDH					S		Sn	21 34 04.8	-0.4
	baz=302								
NHY	Taipei	0.41	308	⇓iP			Pn	21 33 55.0	-0.1
	baz=317								
NHY					S		Sn	21 34 05.2	-0.1
	baz=317								
NDT	Datong Townshi	0.41	244	eP			Pn	21 33 55.5	+0.4
	baz=257								
NDT					S		Sn	21 34 05.8	+0.4
	baz=257								
TATO	Taipei	0.43	296	P			Pn	21 33 55.3	+0.1
TATO	Taipei	0.43	296	⇓iP			Pn	21 33 55.1	-0.1
	baz=304								
TATO				eS			Sn	21 34 04.9	-0.8
	baz=304								
LATG	Datong	0.44	235	eP			Pn	21 33 55.9	+0.4
	baz=246								
LATG				eS			Sn	21 34 06.6	+0.6
	baz=246								
TAP	Taipei	0.45	304	eP			Pn	21 33 55.5	+0.1
	baz=312								
TAP					S		Sn	21 34 05.6	-0.3
	baz=312								
EOS2	EOS2	0.46	142	eP			Pn	21 33 56.0	+0.7
	baz=141								
EOS2				eS			Sn	21 34 06.6	+0.9
	baz=141								
NWRT	Kuosheng	0.48	330	iP			Pn	21 33 55.6	0.0
	baz=336								
NWRT				eS			Sn	21 34 06.6	+0.4
	baz=336								
BACT	New Taipei Cit	0.48	296	P			Pn	21 33 55.1	-0.4
	baz=301								
BACT				eS			Sn	21 34 07.3	+1.0
	baz=301								
YHNB	Yeheng	0.51	257	P			Pn	21 33 55.9	-0.1
YHNB	Yeheng	0.51	257	⇑iP			Pn	21 33 55.8	-0.1
	baz=259								
YHNB					S		Sn	21 34 06.3	-0.5
	baz=259								
NSK	Sanguang	0.52	258	iP			Pn	21 33 55.9	-0.1
	baz=260								
NSK				eS			Sn	21 34 06.3	-0.7
	baz=260								
ANP	Anpu	0.54	318	P			Pn	21 33 56.1	-0.1
	baz=319								
TWS1	Kuangyinshan	0.55	304	⇑P			Pn	21 33 56.6	+0.4
	baz=313								
TWS1					S		Sn	21 34 08.0	+0.7
	baz=313								
TWY	Chenhua	0.57	329	P			Pn	21 33 55.6	-0.7
	baz=337								
TWY				iS			Sn	21 34 07.4	-0.1
	baz=337								
NTST	Danshui	0.57	311	P			Pn	21 33 56.6	+0.3
	baz=318								
NTST					S		Sn	21 34 08.2	+0.6
	baz=318								
NSM	Shimen	0.58	329	P			Pn	21 33 56.3	-0.2
	baz=330								
NSM					S		Sn	21 34 08.3	+0.6
	baz=330								
NTY	Taoyuan	0.60	291	⇓P			Pn	21 33 57.0	+0.4
	baz=301								
NTY					S		Sn	21 34 08.8	+0.7
	baz=301								
NNS	Nan Shan	0.61	235	eP			Pn	21 33 57.0	+0.2
	baz=241								
NNS				iS			Sn	21 34 08.5	+0.1
	baz=241								
NNSB	Datong	0.61	234	eP			Pn	21 33 57.1	+0.3
	baz=242								
NNSB				iS			Sn	21 34 08.3	-0.1
	baz=242								
NNSH	Datong	0.61	234	⇑P			Pn	21 33 57.2	+0.4
	baz=241								
NNSH				iS			Sn	21 34 08.4	0.0
	baz=241								
EOS3	EOS3	0.62	144	⇓eP			Pn	21 33 57.3	+0.7
	baz=149								
EOS3				eS			Sn	21 34 09.1	+1.1
	baz=149								
NACB	Ninganchiao	0.68	206	P			Pn	21 33 56.9	-0.5
NACB	Ninganchiao	0.68	206	⇑P			Pn	21 33 56.7	-0.7
	baz=207								
NACB				eS			Sn	21 34 08.7	-0.7
	baz=207								
ETL	Fush Village	0.68	203	eP			Pn	21 33 57.0	-0.4
	baz=215								
ETL					S		Sn	21 34 09.4	0.0
	baz=215								
NCU	National Centr	0.69	285	⇓P			Pn	21 33 57.5	+0.1
	baz=278								
NCU					S		Sn	21 34 10.0	+0.5
	baz=278								
NCUH	Zhongli	0.69	285	⇓P			Pn	21 33 57.7	+0.2
	baz=278								
NCUH					S		Sn	21 34 09.7	+0.1
	baz=278								
ETLH	Xiulin Townshi	0.70	215	⇑P			Pn	21 33 57.4	-0.3
	baz=224								
ETLH					S		Sn	21 34 09.4	-0.5
	baz=224								
NFF	Wufeng Townshi	0.75	258	eP			Pn	21 33 58.0	-0.1
	baz=268								
NFF				eS			Sn	21 34 10.2	-0.5
	baz=268								
EOS4	EOS4	0.76	151	⇓P			Pn	21 33 57.8	+0.1
	baz=158								
EOS4				eS			Sn	21 34 09.7	-0.3
	baz=158								
NJD	Zhudong	0.76	266	P			Pn	21 33 58.5	+0.4
	baz=268								
NJD				iS			Sn	21 34 11.2	+0.5
	baz=268								
TWD	Chiawan	0.76	203	iP			Pn	21 33 57.7	-0.5
	baz=212								
TWD				eS			Sn	21 34 09.7	-1.1
	baz=212								
FUSS	Fushou	0.82	229	⇑eP			Pn	21 33 59.5	+0.5
	baz=222								
FUSS				eS			Sn	21 34 12.3	+0.1
	baz=222								
HSN1	Hsinchu	0.82	270	P			Pn	21 33 59.2	+0.4
	baz=271								
HSN1				iS			Sn	21 34 12.2	+0.4
	baz=271								
NHW	Xinwu Township	0.82	286	⇓iP			Pn	21 33 59.0	+0.2
	baz=287								
NHW					S		Sn	21 34 12.6	+0.7
	baz=287								
LIOB	Emei	0.83	260	⇑P			Pn	21 33 59.1	+0.1
	baz=262								
LIOB					S		Sn	21 34 12.1	-0.1
	baz=262								
NSTT	Nanjuang	0.85	260	⇑P			Pn	21 33 59.1	0.0
	baz=261								
NSTT					eS		Sn	21 34 12.1	-0.4
	baz=261								
PCYT	Pengchaiyu	0.85	9	eP			Pn	21 33 58.9	-0.2
	baz=7.0								
SBCB	Hsinchu	0.85	271	⇓P			Pn	21 33 59.5	+0.4
	baz=272								
SBCB					iS		Sn	21 34 12.9	+0.4
	baz=272								
HWA	Hwalien	0.86	200	P			Pn	21 33 59.0	-0.1
	baz=188								
HWA					S		Sn	21 34 12.6	0.0
	baz=188								
TWT	Tachien	0.86	232	eP			Pn	21 34 00.5	+1.0
	baz=227								
TWT					S		Sn	21 34 13.9	+0.9
	baz=227								
HSN	Hsinchu	0.86	271	iP			Pn	21 33 59.0	-0.2
	baz=274								
HSN					S		Sn	21 34 12.5	-0.2
	baz=274								
TDCB	Techi	0.87	233	eP			Pn	21 34 00.3	+0.8
	baz=227								
TDCB					iS		Sn	21 34 13.8	+0.6
	baz=227								
WHF	Hehuan Shan	0.88	223	⇑P			Pn	21 34 00.1	+0.3
	baz=217								
WHF					S		Sn	21 34 13.7	0.0
	baz=217								
LXIB	Xiulin Townshi	0.89	211	⇑eP			Pn	21 33 58.9	-0.9
	baz=202								
LXIB					S		Sn	21 34 13.1	-0.4
	baz=202								
ETM	Tongmen	0.91	206	⇓eP			Pn	21 33 58.8	-0.9
	baz=205								
ETM				eS			Sn	21 34 12.8	-0.8
	baz=205								
NJN	Zhunan	0.96	264	iP			Pn	21 34 00.6	+0.3
	baz=259								
NJN					S		Sn	21 34 15.2	+0.6
	baz=259								
JYNG	Yonagunijimaku	0.99	110	P			Pn	21 34 00.5	-0.2
JYNG					eS		Sn	21 34 14.6	-0.6
CHGB	Renai	0.99	223	⇑P			Pn	21 34 01.5	+0.6
	baz=217								
CHGB					iS		Sn	21 34 15.8	+0.1
	baz=217								
WHP	Taichung City	1.02	240	eP			Pn	21 34 01.8	+0.7
	baz=241								
WHP					S		Sn	21 34 16.3	+0.2
	baz=241								
YOJ	Yonaguni jima	1.04	108	P			Pn	21 34 01.2	-0.1
YOJ	Yonaguni jima	1.04	108	P			Pn	21 34 01.1	-0.2
YOJ					eS		Sn	21 34 16.1	-0.2
YOJ	Yonaguni jima	1.04	108	⇓iP			Pn	21 34 01.1	-0.2
	baz=107								
YOJ					S		Sn	21 34 15.7	-0.6
	baz=107								
NMLH	Miaoli	1.06	257	⇑iP			Pn	21 34 01.9	+0.4
	baz=257								
NMLH					eS		Sn	21 34 16.4	-0.2
	baz=257								
ESL	Shilin	1.07	205	eP			Pn	21 34 00.3	-1.2
	baz=204								
ESL					eS		Sn	21 34 15.4	-1.4
	baz=204								
OWD	Renai	1.07	219	⇓P			Pn	21 34 02.0	+0.2
	baz=214								
OWD					S		Sn	21 34 17.6	+0.4
	baz=214								
WUSB	Renai	1.08	223	⇑P			Pn	21 34 02.3	+0.5
	baz=218								
WUSB					iS		Sn	21 34 17.4	+0.2
	baz=218								
NSY	Sanyi	1.12	251	iP			Pn	21 34 02.4	+0.2
	baz=251								
NSY					iS		Sn	21 34 18.3	+0.4
	baz=251								
TEGC	Jichi Village	1.13	198	P			Pn	21 34 02.7	+0.4
	baz=189								
TEGC					S		Sn	21 34 18.2	+0.1
	baz=189								
TWQ1	Liyutan	1.13	248	eP			Pn	21 34 02.2	-0.1
	baz=248								
TWQ1					iS		Sn	21 34 18.2	0.0
	baz=248								
WPL	Puli Township	1.17	229	P			Pn	21 34 03.1	+0.3
	baz=238								
WPL					S		Sn	21 34 20.1	+1.1
	baz=238								
WARBT	Fenglin Townsh	1.17	205	⇓eP			Pn	21 34 01.5	-1.4
	baz=204								
WARBT					eS		Sn	21 34 17.3	-1.8
	baz=204								
WCS	Beigang Elemen	1.17	232	⇓P			Pn	21 34 03.5	+0.7
	baz=240								
WCS					S		Sn	21 34 19.9	+0.9
	baz=240								
DPDB	Guoxing	1.18	231	P			Pn	21 34 03.7	+0.7
	baz=239								
DPDB					iS		Sn	21 34 19.7	+0.4
	baz=239								
EGFH	Guangfu	1.20	202	⇑eP			Pn	21 34 03.9	+0.7
	baz=207								
EGFH					eS		Sn	21 34 20.0	+0.3
	baz=207								
WDJ	Dajia District	1.25	250	iP			Pn	21 34 04.1	+0.4
	baz=242								
WDJ					S		Sn	21 34 20.4	-0.2
	baz=242								
VWDT	VWDT	1.25	215	eP			Pn	21 34 04.3	+0.6
	baz=209								
VWDT					S		Sn	21 34 21.4	+0.6
	baz=209								
SMLT	Sun Moon Lake	1.29	226	⇓P			Pn	21 34 05.1	+0.7
	baz=234								
SMLT					iS		Sn	21 34 22.2	+0.3
	baz=234								
TCU	Taichung	1.30	241	P			Pn	21 34 04.8	+0.5
	baz=241								
TCU					iS		Sn	21 34 22.3	+0.5
	baz=241								
TYC	Yuchr	1.31	228	eP			Pn	21 34 05.1	+0.6
	baz=236								
TYC					S		Sn	21 34 23.0	+1.0
	baz=236								
SSLB	Suanglung	1.33	222	P			Pn	21 34 05.5	+0.7
SSLB	Suanglung	1.33	222	⇑P			Pn	21 34 05.4	+0.6
	baz=232								
SSLB					S		Sn	21 34 23.4	+0.8
	baz=232								
HGSD	Ruisui	1.37	199	⇑P			Pn	21 34 05.0	-0.2
	baz=207								
HGSD					S		Sn	21 34 23.9	+0.6
	baz=207								
EHY	Hungye	1.39	203	eP			Pn	21 34 04.2	-1.3
	baz=194								
EHY					eS		Sn	21 34 22.6	-1.2
	baz=194								
WCHH	Zhanghua	1.43	241	⇓P			Pn	21 34 06.3	+0.4
	baz=240								
WCHH					iS		Sn	21 34 25.2	+0.5
	baz=240								
WNT1	Nantou City	1.43	232	iP			Pn	21 34 06.4	+0.4
	baz=242								
WNT1					eS		Sn	21 34 25.4	+0.6
	baz=242								
WNT	Mingjian	1.45	232	P			Pn	21 34 06.5	+0.2
	baz=241								
WNT					S		Sn	21 34 25.8	+0.7
	baz=241								
WJS	Zhushan	1.45	229	⇑iP			Pn	21 34 06.7	+0.4
	baz=239								
WJS					S		Sn	21 34 25.9	+0.7
	baz=239								
WHYT	Xinyi

baz=245
YULB Yu-li 1.50 202 P Pn 21 34 06.9 0.0
YULB Yu-li 1.50 202⇑ eP Pn 21 34 05.5 -1.4
baz=201
YULB eS Sn 21 34 26.3 -0.1
baz=201
ECBN Changbin 1.53 196 eP Pn 21 34 06.8 -0.4
baz=203
ECBN S Sn 21 34 26.5 -0.4
baz=203
EYUL Yuli 1.54 201 P Pn 21 34 07.5 +0.1
baz=206
EYUL eS Sn 21 34 27.9 +0.8
baz=206
TWF1 Yuli 1.54 202 ⇑P Pn 21 34 07.3 -0.1
baz=201
TWF1 eS Sn 21 34 26.9 -0.3
baz=201
ALS Alishan 1.63 219 ⇓P Pn 21 34 09.6 +0.7
baz=227
ALS eS Sn 21 34 29.8 +0.1
baz=227
WGK Gukeng 1.66 229⇑ iP Pn 21 34 09.3 +0.4
baz=238
WGK S Sn 21 34 29.9 0.0
baz=238
WRL Guolierlin Hig 1.66 238 ⇓P Pn 21 34 08.9 -0.1
baz=238
WRL eS Sn 21 34 29.2 -0.7
baz=238
WDLH Douliu 1.67 229⇓ iP Pn 21 34 09.5 +0.4
baz=238
WDLH eS Sn 21 34 29.9 -0.3
baz=238
RLNB Erlin 1.68 238 P Pn 21 34 09.3 +0.1
baz=238
RLNB S Sn 21 34 30.2 -0.2
baz=238
FULB Fuli 1.68 200 ⇑P Pn 21 34 09.5 +0.2
baz=206
FULB S Sn 21 34 30.9 +0.4
baz=206
IRIF Iriomote-Funau 1.71 105 P Pn 21 34 09.3 -0.3
IRIF eS Sn 21 34 30.9 -0.2
CHKT Chengkung 1.75 197⇓ eP Pn 21 34 09.5 -0.7
baz=195
CHKT eS Sn 21 34 29.8 -2.4
baz=195
EHD Haiduan 1.76 202 eP Pn 21 34 09.1 -1.2
baz=201
EHD eS Sn 21 34 32.0 -0.2
baz=201
WTK Tuku 1.78 232 P Pn 21 34 10.8 +0.4
baz=231
WTK S Sn 21 34 32.6 0.0
baz=231
ELDTW Lidau 1.79 208⇓ iP Pn 21 34 11.0 +0.2
baz=197
ELDTW S Sn 21 34 33.2 0.0
baz=197
ECS Chishang 1.80 201 P Pn 21 34 11.5 +0.7
baz=190
ECS S Sn 21 34 33.9 +0.6
baz=190
WCKO Fanlu 1.80 222 i P Pn 21 34 11.3 +0.5
baz=221
WCKO S Sn 21 34 34.0 +0.7
baz=221
CHN2 Minshiung 1.82 227 P Pn 21 34 11.0 0.0
baz=235
CHN2 S Sn 21 34 34.2 +0.6
baz=235
HATJ Hateruma jima 1.87 113 P Pn 21 34 12.1 +0.5
CHN4 Tsaushan 1.88 221 P Pn 21 34 12.8 +1.0
baz=219
CHN4 S Sn 21 34 36.6 +1.6
baz=219
CHY Chiayi 1.88 227 ⇓P Pn 21 34 12.1 +0.3
baz=235
CHY S Sn 21 34 35.4 +0.4
baz=235
EDH Donghe 1.89 197⇑ eP Pn 21 34 11.2 -0.8
baz=196
EDH S Sn 21 34 34.8 -0.6
baz=196
TPUB Ta-pu 1.89 219 P Pn 21 34 13.2 +1.2
TPUB Ta-pu 1.89 219 i P Pn 21 34 12.5 +0.5
baz=218
TPUB S Sn 21 34 36.0 +0.6
baz=218
STYH Taoyuan 1.92 213 ⇓P Pn 21 34 13.2 +0.8
baz=223
STYH eS Sn 21 34 37.9 +1.9
baz=223
WSF Szhu 1.93 234 ⇓P Pn 21 34 12.7 +0.3
baz=233
WSF S Sn 21 34 36.2 +0.1
baz=233
STYT Tauyuan 1.94 214 P Pn 21 34 13.8 +1.2
baz=212
WTP Ta-pu 1.94 218 i P Pn 21 34 13.2 +0.5
baz=217
WTP S Sn 21 34 37.0 +0.4
baz=217
JKRS Kuro-shima 1.98 106 P Pn 21 34 13.7 +0.6
WSL Shuilin Townsh 1.99 231 i P Pn 21 34 13.8 +0.5
baz=238
WSL S Sn 21 34 37.8 +0.1
baz=238
TWK Hsinying 2.00 221 P Pn 21 34 14.3 +0.8
baz=219
TWK S Sn 21 34 38.3 +0.3
baz=219
LONT Longtian 2.01 201 eP Pn 21 34 12.4 -1.1
baz=191
LONT eS Sn 21 34 37.7 -0.4
baz=191
SNST Tainan City 2.03 220 P Pn 21 34 14.6 +0.7
baz=219
SNST S Sn 21 34 39.4 +0.8
baz=219
CHN1 Nanshi 2.04 219 i P Pn 21 34 14.6 +0.6
baz=217
CHN1 S Sn 21 34 39.5 +0.6
baz=217
ICHU Yijhu 2.07 227 P Pn 21 34 14.3 0.0
baz=226
ICHU S Sn 21 34 39.6 +0.2
baz=226
JIJ Ishigaki jima 2.07 101 P Pn 21 34 14.0 -0.3
JIJ S Sn 21 34 39.5 0.0
SGST Jiashian 2.09 216 ⇑P Pn 21 34 14.7 +0.1
baz=224
SGST i S Sn 21 34 40.2 +0.1
baz=224
TWG Pinlang 2.11 202 P Pn 21 34 15.0 +0.2
baz=192
TWG eS Sn 21 34 39.3 -1.1
baz=192
TWGBT Beinan 2.11 202 eP Pn 21 34 14.8 0.0
baz=192
TWGBT eS Sn 21 34 39.6 -0.8
baz=192
CHN8 Yiju 2.12 228 P Pn 21 34 15.3 +0.3
baz=236
CHN8 S Sn 21 34 41.5 +0.8
baz=236
SLGT Liugui 2.13 213 eP Pn 21 34 16.6 +1.4
baz=222
SLGT eS Sn 21 34 42.8 +1.8
baz=222
LDUT Ludao 2.15 191 P Pn 21 34 15.1 -0.2
baz=186
LDUT eS Sn 21 34 38.8 -2.5
baz=186
JISG Ishigakijimahi 2.18 95 P Pn 21 34 16.0 +0.3
MATB Ma-tsu 2.24 308⇓ eP Pn 21 34 16.1 -0.5
baz=307
MATB eS Sn 21 34 42.6 -1.1
baz=307
VWUC VWUC 2.25 276⇓ eP Pn 21 34 16.2 -0.5
baz=275
VWUC eS Sn 21 34 41.8 -2.1
baz=275
MSUT Lienchiang 2.27 308 eP Pn 21 34 16.5 -0.5
baz=308
MSUT S Sn 21 34 45.1 +0.8
baz=308

TSCK Chigu Township 2.34 226 eP Pn 21 34 18.7 +0.8
baz=225
TSCK eS Sn 21 34 46.0 0.0
baz=225
SSD Sandimen 2.35 210 eP Pn 21 34 19.7 +1.7
baz=208
SSD eS Sn 21 34 48.3 +2.2
baz=208
ECL Taimali 2.35 202 P Pn 21 34 18.1 0.0
baz=193
ECL S Sn 21 34 45.2 -1.1
baz=193
TSMG Majia 2.38 210 eP Pn 21 34 20.4 +2.0
baz=207
TSMG eS Sn 21 34 48.4 +1.5
baz=207
MASBT Mashibuluo 2.47 209⇑ eP Pn 21 34 21.1 +1.5
baz=206
MASBT eS Sn 21 34 50.1 +1.2
baz=206
PHUB P'eng-hu 2.49 240⇓ eP Pn 21 34 19.2 -0.7
baz=238
PHUB eS Sn 21 34 47.6 -1.9
baz=238
JTJ Tarama 2.53 93 P Pn 21 34 21.9 +1.4
EAST Anshuo 2.59 203 i P Pn 21 34 21.4 +0.2
baz=192
EAST S Sn 21 34 51.1 -0.9
baz=192
TAWH Dawu Township 2.61 201 P Pn 21 34 22.1 +0.6
baz=193
SCZT Fangliau 2.68 207 eP Pn 21 34 23.7 +1.2
baz=204
SCZT S Sn 21 34 54.0 -0.2
baz=204
SLIU Shizi 2.76 202 P Pn 21 34 24.2 +0.7
baz=199
SLIU S Sn 21 34 55.7 -0.3
baz=199
VCHM Qimei 2.77 236 P Pn 21 34 23.2 -0.4
baz=234
VCHM eS Sn 21 34 54.7 -1.5
baz=234
LYUB Lan-yu 2.79 186 eP Pn 21 34 22.1 -1.8
baz=185
LYUB eS Sn 21 34 52.0 -4.7
baz=185
JMJ Miyako jima 2 3.07 89⇑ eP Pn 21 34 29.5 +1.9
baz=98
JMJ eS Sn 21 35 04.8 +1.5
baz=98
KNM Kinmen 3.19 264 eP Pn 21 34 30.6 +1.2
baz=261
KNMB Chin-men Tao 3.23 265 eP Pn 21 34 29.1 -0.7
baz=263
KNMB eS Sn 21 35 05.0 -2.3
baz=263

*IDC **24** 21:58:17.9±1.6, 76°.53N×97°.87W, h0km, mb3.9/1, mbtmp3.9/5, ML3.7/3, MS3.9/3, Error ellipse: s-maj=27.0km s-min=20.8km az=69.0*
*OTT **24** 21:58:19.1±0.3, 76°.60N×98°.14W, h18km, MN3.9/2, 139km northeast from Polaris, Nu Boothia Ungava Seismic Zone.*
ISC 24 21:58:13.5±0.8, 76°.81N±0°.05×96°.94W±0°.07, h10km, n14, σ2º91/17, MS3.5/3, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**2.19**	**166**	Pn	**Pn**	**21 58 52.1**	**+2.3**
	12nm,0.3s,baz=338,slow=11,SNR=183						
RES				Sn	**Sb**	**21 59 20.0**	**-0.3**
	93nm,0.3s,baz=60,slow=15,SNR=14						
RES				LR	LR	21 59 44.9	
	comp=Z,268nm,20.9s,baz=8.0,slow=44						
RES	**Resolute Bay**	**2.19**	**166**	PN	**Pn**	**21 58 52.2**	**+2.3**
RES				SN	**Sn**	**21 59 19.2**	**+2.2**
RES				LG	Lg	21 59 24.4	
RES				Trac		21 59 28.8	
	comp=Z,506nm,0.5s						
EUNU	**Eureka**	**3.88**	**28**	PN	**Pb**	**21 59 22.1**	**0.0**
EUNU				SN	**Sb**	**22 00 08.3**	**-0.7**
EUNU				Trac		22 00 35.5	
	comp=Z,141nm,1.4s						
ILON	**Igloolik, Nuna**	**8.63**	**142**	PN	**Pn**	**22 00 20.6**	**+2.4**
ILON				SN	**Sn**	**22 01 53.6**	**-1.8**
ILON				LG	Lg	22 02 51.4	
ILON				Trac		22 02 56.1	
	comp=Z,342nm,1.6s						
A36M	**Sachs Harbour**	**8.93**	**252**	PN	**Pn**	**22 00 21.7**	**-0.6**
A36M				SN	Sn	22 01 52.4	-10
A36M				Trac		22 02 14.6	
	comp=Z,144nm,1.2s						
INK	**Inuvik**	**13.57**	**251**	Pn	**Pn**	**22 01 25.0**	**-0.7**
	0.3nm,0.3s,baz=31,slow=16,SNR=4.7						
INK				Sn	Sn	22 03 44.8	-12
	0.4nm,0.3s,baz=42,slow=16,SNR=3.3						
	0.8nm,0.4s						
YKA	**Yellowknife Ar**	**15.50**	**212**	Pn	**Pn**	**22 01 46.3**	**-5.6**
	1.5nm,0.9s,baz=12,slow=12,SNR=1.5						
YKA				Sn	Sn	22 04 29.7	-14
	0.5nm,0.3s,baz=16,slow=21,SNR=4.5						
YKA				Lg	Lg	22 06 04.5	
	0.4nm,0.3s,baz=25,slow=31,SNR=4.4						
FRB	**Frobisher Bay**	**15.93**	**130**	Pn	**Pn**	**22 01 59.0**	**+1.6**
	0.6nm,0.3s,baz=35,slow=1.7,SNR=1.2						
FRB				Sn	**Sn**	**22 04 48.7**	**-5.0**
	0.6nm,0.3s,baz=146,slow=2.3,SNR=1.7						
FRB				Lg	Lg	22 06 33.7	
	0.8nm,0.3s,baz=69,slow=21,SNR=6.1						
	16nm,1.0s						
DAG	**Danmarks Havn**	**16.70**	**52**	*e*	**P**	**22 02 11.7**	**+2.3**
	baz=11,slow=9.3						
DAG				*i* P	**P**	**22 02 12.8**	**+3.4**
DAG				*e*S	**Sn**	**22 05 08.4**	**-3.7**
DAG				IAML		22 05 14.8	
	comp=Z,3.0nm,0.4s						
ILAR	**Eielson Array**	**19.49**	**259**	P	**Pn**	**22 02 43.4**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=30,slow=9.7,SNR=14						
	comp=Z,1.8nm,0.9s						
SCHQ	**Schefferville**	**24.66**	**136**	LR	LR	22 13 18.6	
	comp=Z,160nm,18.7s,baz=48,slow=37						
NOA	**NORSAR Array B**	**35.37**	**53**	LR	LR	22 18 39.7	
	comp=Z,72nm,19.1s,baz=20,slow=34						
SONM	**Songino Array**	**54.75**	**341**	P	P	22 07 49.9	+7.1
	comp=Z,1.1nm,0.7s,baz=6.3,slow=6.1,SNR=6.5						
	comp=Z,1.1nm,0.7s						
TEIG	**Tepich**	**56.79**	**170**	LR	LR	22 32 04.7	
	comp=Z,405nm,18.1s,baz=350,slow=36						

*IDC **24** 22:02:45.5±0.9, 15°.37S×173°.24W, h0km, mb3.7/7, mbtmp3.7/7, MS4.0/2, Error ellipse: s-maj=45.6km s-min=21.7km az=144.0*
ISC 24 22:02:50.9±0.9, 15°.35±0°.3×173°.3W±0°.2, h35km, n10, σ0º43/8, mb3.7/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.74**	**280**	LR	LR	22 16 42.3	
	comp=Z,1μm,19.5s,baz=177,slow=31						
WRA	**Warramunga Arr**	**49.93**	**257**	P	**P**	**22 11 41.8**	**+0.1**
	0.1nm,0.4s,baz=97,slow=6.2,SNR=11						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**50.20**	**252**	P	**P**	**22 11 43.9**	**+0.1**
	0.8nm,0.6s,baz=87,slow=8.2,SNR=12						
	0.8nm,0.6s						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**22 14 24.3**	**-0.4**
	1.3nm,0.8s,baz=227,slow=10,SNR=7.8						
	1.3nm,0.8s						
QSPA	**South Pole Qui**	**74.72**	**180**	P	**P**	**22 14 26.9**	**-0.1**
	0.9nm,1.0s,baz=307,slow=23,SNR=5.8						
	0.9nm,1.0s						
KSRS	**Korea Array**	**76.16**	**316**	LR	LR	22 47 06.8	
	comp=Z,16nm,18.0s,baz=15,slow=35						
TXAR	**Lajitas Array**	**80.51**	**56**	P	**P**	**22 15 00.1**	**+0.2**
	0.7nm,0.9s,baz=216,slow=4.5,SNR=4.9						
	0.7nm,0.9s						
PDAR	**Pinedale Array**	**82.16**	**42**	P	**P**	**22 15 08.4**	**-0.1**
	0.9nm,0.9s,baz=224,slow=4.1,SNR=5.7						
	0.9nm,0.9s						
ILAR	**Eielson Array**	**82.36**	**11**	P	**P**	**22 15 09.2**	**+0.4**
	0.3nm,0.6s,baz=224,slow=5.9,SNR=5.0						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**146.15**	**321**	PKPbc	**PKPab**	**22 22 27.9**	**-0.7**
	0.9nm,0.7s,baz=99,slow=4.1,SNR=4.7						

*NEIC **24** 22:06:01.6±1.3, 32°.22S±0°.10×177°.8W±0°.2, h10km±1km, mb4.3/9, Error ellipse: s-maj=33.2km s-min=13.7km az=71.0*
*IDC **24** 22:06:02.1±1.0, 32°.57S×178°.11W, h0km, mb4.1/4, mbtmp4.2/6, ML4.4/2, Error ellipse: s-maj=33.3km s-min=24.4km az=83.0*
*WEL **24** 22:06:02.0±1.1, 33°.S±6°×17°.8W±1°.9, h33km, M4.6/13, mB5.1/6, ML4.8/11, MLv4.8/13, Mw(mB)4.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=104.9, confirmed*
ISC 24 22:06:03.7±0.8, 32°.64S±0°.06×177°.9W±0°.1, h20km, n48, σ2º05/50, mb4.4/9, 3C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.37**	**360**	P	**Pn**	**22 06 53.7**	**-1.4**
GLKZ				S	**Sn**	**22 07 30.5**	**-3.9**
RAO	**Raoul Island**	**3.38**	**360**	Pn	Pn	22 06 49.6	-5.7
RAO	**Raoul Island**	**3.38**	**360**	Pn	**Pn**	**22 06 53.4**	**-1.8**
	55nm,0.3s,baz=252,slow=20,SNR=1.8						
RAO				Sn	**Sn**	**22 07 33.0**	**-1.7**
	79nm,0.3s,baz=270,slow=20,SNR=2.1						
	146nm,0.3s						
MXZ	**Matakaoa Point**	**5.81**	**211**	Pn	**Pn**	**22 07 25.2**	**-3.5**
MXZ	**Matakaoa Point**	**5.81**	**211**	P	**Pn**	**22 07 26.6**	**-2.1**
MXZ				S	**Sn**	**22 08 32.9**	**-1.9**
WMGZ	**Waiomatatini S**	**5.98**	**209**	P	**Pn**	**22 07 29.9**	**-1.2**
PKGZ	**Pakihiroa**	**6.18**	**211**	P	**Pn**	**22 07 32.0**	**-1.9**
HAZ	**Te Kaha**	**6.21**	**213**	P	**Pn**	**22 07 33.3**	**-0.8**
HAZ				S	**Sn**	**22 08 43.3**	**-1.2**
PUZ	**Puketiti**	**6.26**	**209**	P	**Pn**	**22 07 32.9**	**-2.1**
RUGZ	**Raukumara Rang**	**6.43**	**213**	P	**Pn**	**22 07 36.2**	**-1.1**
TWGZ	**Tauwhareparae**	**6.47**	**210**	P	**Pn**	**22 07 36.4**	**-1.4**
CNGZ	**Carnagh Statio**	**6.64**	**207**	P	**Pn**	**22 07 38.0**	**-2.1**
TKGZ	**Te Karaka**	**6.75**	**210**	P	**Pn**	**22 07 41.0**	**-0.6**
MWZ	**Matawai**	**6.80**	**212**	P	**Pn**	**22 07 39.9**	**-2.4**
URZ	**Urewera**	**6.93**	**215**	P	**Pn**	**22 07 41.9**	**-2.1**
URZ				S	**Sn**	**22 08 59.6**	**-2.7**
URZ	**Urewera**	**6.93**	**215**	Pn	**Pn**	**22 07 43.0**	**-1.0**
	5.5nm,0.3s,baz=122,slow=24,SNR=31						
URZ				Sn	**Sn**	**22 08 56.7**	**-5.5**
	2.6nm,0.3s,baz=342,slow=20,SNR=3.5						
	15nm,0.3s						
RAGZ	**Rawiri**	**6.98**	**212**	P	**Pn**	**22 07 43.2**	**-1.7**
RIGZ	**Rimuhau**	**7.01**	**209**	P	**Pn**	**22 07 42.9**	**-2.3**
PRGZ	**Paritu Road**	**7.14**	**207**	P	**Pn**	**22 07 44.0**	**-3.0**
SNGZ	**Shannon Statio**	**7.25**	**211**	P	**Pn**	**22 07 47.3**	**-1.2**
RTZ	**Ruatahuna**	**7.27**	**213**		**Pn**	**22 07 47.3**	**-1.6**
RTZ	**Ruatahuna**	**7.27**	**213**	P	**Pn**	**22 07 48.0**	**-0.9**
MHGZ	**Mahia Peninsul**	**7.33**	**206**	P	**Pn**	**22 07 46.3**	**-3.3**
OUZ	**Omahuta**	**7.52**	**248**	P	**Pn**	**22 07 55.9**	**+3.7**
MTHZ	**Maungataniwha**	**7.53**	**213**	P	**Pn**	**22 07 51.7**	**-0.7**
EIDS	**Eidsvold**	**28.01**	**277**	P	**P**	**22 11 53.1**	**-0.3**
EIDS				IAmb	IAmb	22 12 20.4	
	comp=Z,9.8nm,1.4s						
CTAO	**Charters Tower**	**34.30**	**282**	P	**P**	**22 12 48.2**	**-0.7**
AS31	**Alice Springs**	**43.12**	**269**	P	**P**	**22 14 02.5**	**-0.3**
ASAR	**Alice Springs**	**43.12**	**269**	P	**P**	**22 14 02.2**	**-0.7**
ASAR	**Alice Springs**	**43.12**	**269**	P	**P**	**22 14 02.9**	**0.0**
	comp=Z,2.5nm,0.6s,baz=109,slow=7.7,SNR=24						
	comp=Z,2.5nm,0.6s						
WR0	**Warramunga Arr**	**44.13**	**274**	P	**P**	**22 14 10.7**	**-0.3**
WR0				IAmb	IAmb	22 14 21.6	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**44.31**	**274**	P	**P**	**22 14 11.2**	**-1.2**
WRA	**Warramunga Arr**	**44.31**	**274**	P	**P**	**22 14 12.3**	**-0.2**
	comp=Z,2.5nm,0.3s,baz=114,slow=8.0,SNR=79						
	comp=Z,2.5nm,0.3s						
FORT	**Forrest**	**45.59**	**257**	P	**P**	**22 14 21.6**	**-0.9**
CASY	**Casey**	**53.21**	**209**	P	**P**	**22 15 21.7**	**+1.5**
CASY				IAmb	IAmb	22 15 24.7	
	comp=Z,5.9nm,1.2s						
QSPA	**South Pole Qui**	**57.48**	**180**		**P**	**22 15 54.1**	**+3.0**
QSPA				IAmb	IAmb	22 16 13.8	
	comp=Z,3.0nm,0.9s						
QSPA	**South Pole Qui**	**57.48**	**180**	P	**P**	**22 15 53.2**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=102,slow=1.2,SNR=6.1						
	comp=Z,1.3nm,0.8s						
TROLL	**Troll, Antarti**	**75.64**	**180**	⇑P	P	22 17 59.7	+13
	comp=Z,25nm,0.5s						
SNAA	**Sanae**	**75.92**	**178**	P	**P**	**22 17 50.4**	**+1.8**
SNAA				IAmb	IAmb	22 18 06.5	
	comp=Z,2.0nm,1.0s						
SNAA	**Sanae**	**75.92**	**178**	P	**P**	**22 17 50.5**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=184,slow=13,SNR=2.3						
	comp=Z,0.2nm,0.3s						
VNA3	**Neumayer Olymp**	**76.07**	**176**	⇑P	P	22 18 03.2	+14
	comp=Z,3.6nm,0.4s						
VNA2	**Neumayer-Watz**	**76.51**	**177**	⇑P	P	22 18 05.7	+14
	comp=Z,2.8nm,0.4s,baz=185,slow=6.0						
MKAR	**Makanchi Array**	**119.26**	**309**	PKP	**PKiKP**	**22 24 52.1**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=49,slow=5.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**122.67**	**313**	PKP	**PKiKP**	**22 24 57.6**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=115,slow=2.0,SNR=6.6						
FINES	**FINESS Array B**	**147.26**	**339**	PKPbc	**PKPab**	**22 25 46.1**	**-0.5**
	comp=Z,2.1nm,0.4s,baz=41,slow=4.5,SNR=27						
MMAI	**Mount Meron Ar**	**152.07**	**280**	PKPbc	**PKiKP**	**22 26 00.6**	**+2.5**
	comp=Z,0.9nm,0.5s,baz=71,slow=5.4,SNR=5.8						
BRTR	**Keskin Array B**	**153.67**	**295**	PKPbc	**PKiKP**	**22 26 03.4**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=129,slow=4.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**160.60**	**179**	PKPab	**PKPab**	**22 26 45.5**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=177,slow=3.3,SNR=6.8						

*IDC **24** 22:14:27.0±2.0, 16°.72S×174°.17W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=62.4km s-min=33.7km az=122.0*
ISC 24 22:14:39.7±1.4, 16°.9S±0°.3×174°.2W±0°.4, h100km, n11, σ0º78/8, mb3.7/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.58**	**198**	P	**P**	**22 19 31.4**	**-0.3**
	1.7nm,0.3s,baz=315,slow=20,SNR=1.4						
	1.7nm,0.3s						
WRA	**Warramunga Arr**	**48.75**	**258**	P	**P**	**22 23 14.4**	**-0.3**
	0.4nm,0.5s,baz=97,slow=7.1,SNR=13						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**48.91**	**253**	P	**P**	**22 23 16.1**	**+0.1**
	3.4nm,0.6s,baz=88,slow=8.7,SNR=51						
	3.4nm,0.6s						
ILAR	**Eielson Array**	**84.08**	**11**	P	**P**	**22 26 58.2**	**-0.7**
	0.2nm,0.3s,baz=207,slow=5.0,SNR=1.6						
	0.2nm,0.3s						
H03S2	**Juan Fernandez**	**85.02**	**124**	T	T	00 00 27.3	
	baz=250,slow=75,SNR=12						
H03S1	**Juan Fernandez**	**85.03**	**124**	T	T	00 00 28.0	
	baz=250,slow=75,SNR=11						
H03S3	**Juan Fernandez**	**85.03**	**124**	T	T	00 00 31.6	
	baz=250,slow=75,SNR=8.8						
BRTR	**Keskin Array B**	**146.81**	**319**	PKPbc	**PKPdf**	**22 34 10.3**	**+1.5**
	0.4nm,0.7s,baz=90,slow=2.7,SNR=3.9						
WATA	**Walderalm**	**149.30**	**352**	*i* PKP	**PKPbc**	**22 34 17.2**	**+0.2**
	0.6nm,0.3s						
WTTA	**Wattenberg**	**149.36**	**352**	*e*PKP	**PKPbc**	**22 34 17.4**	**+0.2**
	1.4nm,0.4s						
ABTA	**Abfaltersbach**	**149.74**	**351**	*e*PKP	**PKPbc**	**22 34 17.9**	**-0.2**
	1.3nm,0.5s						

*NEIC **24** 22:23:29.6±0.3, 19°.38N±0°.01×155°.505W±0°.009, h13km±3km, Error ellipse: s-maj=1.7km s-min=1.1km az=166.0*
HVO 24 22:23:29.9±0.5, 19°.363N±0°.010×155°.499W±0°.008, h10km±2km, ML2.5/13, ML2.5/54(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=185.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIN	**Ainahou**	**0.04**	**77**	Pg	Pg	22 23 32.3	+0.3
AIN				Sg	Sg	22 23 34.0	+0.5
MWH	**Moku'aweowe**	**0.15**	**323**		Pg	22 23 33.6	-0.1
MWH				IAML		22 23 37.2	
	comp=E,1μm,0.6s						
HTC	**Hot Caves**	**0.16**	**143**		Pg	22 23 33.8	+0.4
KHU	**Kahuku**	**0.16**	**223**		Pg	22 23 33.6	+0.1
KHU					Sg	22 23 36.5	+0.3
KHU				IAML		22 23 36.9	
	comp=E,1μm,0.2s						
MLH	**Mauna Loa**	**0.17**	**39**		Pg	22 23 33.7	0.0
MLH				Sg	Sg	22 23 36.6	+0.2
MLOA	**Mauna Loa Obse**	**0.19**	**337**		Pg	22 23 34.1	-0.1
MLOA					Sg	22 23 36.9	-0.1
MLOA				IAML		22 23 37.3	

comp=E,1μm,0.1s
HLP Hilina Pali 0.19 110 Pg 22 23 34.4 +0.3
HLP IAML 22 23 38.1
comp=E,987nm,0.5s
HLP IAML 22 23 39.9
comp=N,1μm,0.2s
WRMHI West Rim 0.19 77 Pg 22 23 34.2 +0.2
WRMHI Sg 22 23 37.4 +0.5
WRMHI IAML 22 23 37.6
comp=N,994nm,0.4s
SDHHI Sand Hill 0.20 82 Pg 22 23 34.2 +0.2
SDHHI Sg 22 23 37.3 +0.3
UWE Uwekahuna 0.20 73 Pg 22 23 34.3 +0.1
UWE Sg 22 23 38.2 +1.1
UWE IAML 22 23 40.5
comp=N,1μm,0.8s
OBL Observatory Le 0.21 75 Pg 22 23 34.4 0.0
OBL IAML 22 23 40.3
comp=N,1μm,0.2s
NPH North Pit 0.21 77 Pg 22 23 34.4 +0.1
RIM Rim 0.21 81 Pg 22 23 34.5 +0.1
RIM Rim 0.21 81 Sg 22 23 37.9 +0.3
UWB Uwekahuna B 0.22 74 Pg 22 23 34.5 0.0
KKO Keanakako`i 0.22 81 Pg 22 23 34.6 0.0
KKO Sg 22 23 38.0 +0.3
KKO IAML 22 23 41.4
comp=E,666nm,1.3s
KKO IAML 22 23 41.8
comp=N,691nm,1.1s
ALEP Alea Permanent 0.22 322 Pg 22 23 34.6 -0.2
ALEP Sg 22 23 38.1 +0.2
SBLHI Steaming Bluff 0.23 74 Pg 22 23 34.6 0.0
SBLHI Sg 22 23 38.0 +0.1
SBLHI IAML 22 23 40.9
comp=E,727nm,1.2s
BYL Byron's Ledge 0.23 78 Pg 22 23 34.9 +0.1
BYL Sg 22 23 38.6 +0.7
BYL IAML 22 23 42.0
comp=N,556nm,1.2s
RSD Rainshed 0.23 65 Pg Pg 22 23 35.2 +0.5
RSD IAML 22 23 39.9
comp=E,1μm,0.1s
RSD IAML 22 23 40.3
comp=N,834nm,0.1s
HATHI Halema'uma'u T 0.23 75 Pg 22 23 34.7 0.0
HATHI Sg 22 23 38.9 +0.9
HATHI IAML 22 23 39.1
comp=N,931nm,0.2s
HATHI IAML 22 23 39.5
comp=E,835nm,0.1s
HMH Humu'ula Sheep 0.24 4 Pg 22 23 35.1 +0.2
HMH Sg 22 23 38.8 +0.4
HMH IAML 22 23 39.2
comp=N,936nm,0.3s
HMH IAML 22 23 41.5
comp=E,637nm,0.1s
PUH Pauahi 0.27 88 Pg 22 23 35.2 -0.1
PUH IAML 22 23 38.4
comp=N,498nm,2.8s
KNHH Kane Nui o Ham 0.31 87 Pg 22 23 35.9 -0.3
STCH Steam Cracks 0.35 86 Pg 22 23 36.5 -0.4
STCH Sg 22 23 41.9 +0.3
STCH IAML 22 23 42.7
comp=E,500nm,0.1s
STCH IAML 22 23 42.9
comp=N,389nm,0.1s
NPOC North of Pu'u 0.37 85 Pg 22 23 37.0 -0.2
NPOC IAML 22 23 45.3
comp=N,333nm,0.6s
JCUZ Jacuzzi 0.38 87 Pg 22 23 36.9 -0.5
JCUZ IAML 22 23 38.9
comp=N,325nm,1.9s
JCUZ IAML 22 23 50.2
comp=E,348nm,0.6s
POHA Pohakuloa 0.39 355 Pg Pg 22 23 37.3 -0.5
POHA IAML 22 23 48.2
comp=E,612nm,0.2s
POHA IAML 22 23 49.4
comp=E,464nm,0.2s
CPH Captain Cook 0.41 288 Pg 22 23 37.7 -0.4
KHLU Kahalu`u 0.44 302 Pg 22 23 38.4 -0.1
KHLU Kahalu`u 0.44 302 Sg 22 23 44.9 +0.6
HUH Hualalai 0.45 315 Pg 22 23 38.9 +0.1
JOKA Jonika Flow 0.47 81 Pg 22 23 38.4 -0.7
JOKA Sg 22 23 45.6 +0.2
HPAH Hawaii Prepara 0.69 344 Pg Pg 22 23 41.6 -1.6
HPAH IAML 22 23 57.5
comp=E,255nm,1.9s
HPAH IAML 22 24 05.1
comp=N,252nm,4.0s

---

*IDC **24** 22:25:00.1±6.4, 5°.59S×128°.96E, h278km±69km, mb3.0/2, mbtmp3.9/5, Error ellipse: s-maj=66.1km s-min=21.4km az=50.0*
ISC 24 22:24:57.5±1.5, 5°.5S±0°.1×129°.1E±0°.1, h250km, n5, σ2§98/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.15**	**229**	P	**Pn**	**22 26 42.2**	**+2.1**
	38nm,0.4s,baz=114,slow=3.9,SNR=9.6						
BATI				S	**S**	**22 28 00.8**	**-1.7**
	7.2nm,0.3s,baz=117,slow=13,SNR=3.6						
WRA	**Warramunga Arr**	**15.20**	**161**	P	**P**	**22 28 20.2**	**+0.6**
	1.3nm,0.3s,baz=341,slow=12,SNR=37						
WRA				S	**S**	**22 31 10.2**	**+2.7**
	0.3nm,0.5s,baz=335,slow=21,SNR=2.6						
ASAR	**Alice Springs**	**18.61**	**166**	P	**P**	**22 28 57.3**	**+0.5**
	1.0nm,0.3s,baz=342,slow=11,SNR=12						
ASAR				S	**S**	**22 32 10.2**	**-5.3**
	1.2nm,1.0s,baz=346,slow=21,SNR=8.3						
MKAR	**Makanchi Array**	**66.53**	**327**	P	**P**	**22 35 20.1**	**-0.5**
	0.4nm,0.4s,baz=116,slow=8.1,SNR=6.2						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**70.81**	**329**	P	**P**	**22 35 46.1**	**-0.8**
	0.3nm,0.5s,baz=132,slow=4.6,SNR=2.3						
	0.3nm,0.5s						

IDC 24 22:35:09.3±7.2, 19°.42S×179°.88W, h570km±44km, mb2.6/3, mbtmp3.4/4, Error ellipse: s-maj=282.9km s-min=27.9km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.59**	**310**	P	P	22 36 23.9	0.0
	1.6nm,0.4s,baz=320,slow=22,SNR=4.0						
WRA	**Warramunga Arr**	**43.01**	**261**	P	P	22 42 19.4	-0.1
	0.3nm,0.4s,baz=98,slow=7.3,SNR=7.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**43.06**	**256**	P	P	22 42 19.8	-0.2
	0.3nm,0.4s,baz=87,slow=7.6,SNR=6.1						
	0.3nm,0.4s						
NVAR	**Mina Array Bea**	**81.47**	**44**	P	P	22 46 27.9	0.0
	0.4nm,0.7s,baz=241,slow=7.1,SNR=1.7						
	0.4nm,0.7s						

---

*NEIC **24** 23:12:04.3±1.9, 47°.43N±0°.02×122°.69W±0°.03, h27km, Error ellipse: s-maj=3.4km s-min=2.6km az=53.0*
SEA 24 23:12:05.0±1.8, 47°.42N±0°.02×122°.69W±0°.03, h22km±6km, ML2.4/36, ML2.4/36(NEIC), Error ellipse: s-maj=3.4km s-min=2.8km az=51.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMR	**Kitsap County**	**0.10**	**326**		Pb	23 12 08.8	-0.3
KIMR					Sb	23 12 12.1	+0.1
GMW	**Gold Mountain**	**0.14**	**332**		Pb	23 12 09.1	-1.6
GMW					Sb	23 12 12.4	-2.3
VVHS	**Vashon High Sc**	**0.16**	**90**		Pb	23 12 09.7	-0.9
GNW	**Green Mountain**	**0.17**	**326**		Pb	23 12 09.2	-1.4
GNW					Sb	23 12 12.5	-2.0
GNW				IAML		23 12 12.8	
	comp=E,555nm,0.3s						
GNW				IAML		23 12 13.0	
	comp=N,591nm,0.2s						
MNWA	**Manchester**	**0.18**	**36**		Pb	23 12 09.8	-1.0
KITP	**Kitsap County**	**0.25**	**9**		Pb	23 12 11.5	+0.3
SP2	**Seward Park 2**	**0.33**	**66**		Pb	23 12 12.7	+0.6
HDW	**Hoodsport**	**0.34**	**312**		Pb	23 12 11.6	-0.7
HDW					Sb	23 12 16.9	-0.5
PAYL	**Puyallup Schoo**	**0.34**	**132**		Pb	23 12 12.2	-0.2
PAYL					Sb	23 12 18.6	+1.2
C04A	**Brinnon**	**0.35**	**327**		Pb	23 12 11.8	-0.7
C04A					Sb	23 12 17.1	-0.6
SMNR	**Sumner High Sc**	**0.38**	**125**		Pb	23 12 12.9	-0.1
SMNR					Sb	23 12 19.9	+1.4
EGRN	**Evergreen Coll**	**0.40**	**210**		Pb	23 12 12.9	-0.4
B013	**Quilcene**	**0.42**	**339**		Pb	23 12 12.8	-0.8
B013					Sb	23 12 19.0	-0.5
B013	**Quilcene**	**0.42**	**339**		Pb	23 12 12.8	-0.8
SMW	**South Mountain**	**0.46**	**257**		Pb	23 12 14.0	-0.4
PCFR	**Pierce County**	**0.47**	**159**		Pb	23 12 13.8	-0.7
GHW	**Garrison Hill**	**0.48**	**143**		Pb	23 12 13.9	-0.7
D05A	**Enumclaw**	**0.53**	**116**	Pg	Pb	23 12 15.1	-0.6
D05A				IAML		23 12 24.2	
	comp=N,105nm,0.5s						
B941	**Kapowsin**	**0.54**	**144**		Pb	23 12 14.7	-1.1
B941					Sb	23 12 22.4	-0.8
CPW	**Capitol Peak**	**0.54**	**214**		Pb	23 12 15.0	-0.9
CPW					Sb	23 12 23.1	-0.3
RATT	**Rattlesnake La**	**0.60**	**90**		Pb	23 12 16.1	-0.9
SWID	**South Whidbey**	**0.61**	**17**		Pb	23 12 16.5	-0.6
BLN	**Blyn Mountain**	**0.61**	**342**		Pb	23 12 15.9	-1.3
GSM	**Grass Mountain**	**0.65**	**110**		Pb	23 12 16.9	-0.8
RVC	**Mount Rainier-**	**0.69**	**134**		Pb	23 12 17.3	-1.0
SQM	**Sequim**	**0.69**	**340**		Pb	23 12 17.7	-0.8
MBPA	**Monroe Substat**	**0.72**	**48**		Sb	23 12 27.8	-0.5
C05A	**Tolt Reservoir**	**0.73**	**68**		Pb	23 12 17.9	-1.2
HTW	**Haystack Looko**	**0.73**	**58**		Pb	23 12 17.9	-1.2
B017	**Montesano**	**0.73**	**235**		Pb	23 12 18.5	-0.5
OLQ	**Olympics--Lake**	**0.77**	**277**		Pn	23 12 21.2	+0.7
OBSR	**Observation Ro**	**0.79**	**131**		Pb	23 12 19.1	-1.2
OSD	**Olympics--Snow**	**0.79**	**300**		Pb	23 12 19.6	-0.7
WISH	**Wishkah**	**0.80**	**248**		Pb	23 12 19.8	-0.4
NLWA	**Neilton Lookou**	**0.80**	**268**	Pn	Pb	23 12 18.9	-1.4
REMR	**Mount Rainier-**	**0.84**	**136**		Pb	23 12 19.6	-1.4
B04A	**Port Angeles**	**0.84**	**319**		Pb	23 12 20.3	-0.7
B04A	**Port Angeles**	**0.84**	**319**	Pn	Pb	23 12 19.5	-1.4
B04A				Sn	Sb	23 12 30.9	-0.9
B04A				IAML		23 12 32.0	
	comp=N,80nm,0.3s						
B04A				IAML		23 12 36.7	
	comp=E,61nm,0.8s						
FMW	**Mount Fremont**	**0.85**	**125**		Pb	23 12 19.9	-1.3
RCS	**Mount Rainier-**	**0.86**	**130**		Pb	23 12 20.0	-1.4
RCM	**Mount Rainier-**	**0.88**	**132**		Pb	23 12 20.4	-1.4
LON	**Longmire**	**0.90**	**138**		Pb	23 12 20.6	-1.5
LON	**Longmire**	**0.90**	**138**	Pn	Pb	23 12 20.0	-2.0
LON				IAML		23 12 32.3	
	comp=N,144nm,0.1s						
LON				IAML		23 12 32.7	
	comp=E,170nm,0.1s						
LON				Sn	Sb	23 12 32.0	-1.6
JCW	**Jim Creek**	**0.92**	**33**		Pb	23 12 20.9	-1.5
SR41	**SR410 Landslid**	**0.95**	**124**		Pb	23 12 21.6	-1.3
SR41					Sb	23 12 34.3	-0.8
B019	**Raymond**	**1.01**	**221**		Pb	23 12 23.3	-0.6
BMW	**Boistfort Moun**	**1.02**	**202**		Pb	23 12 22.6	-1.4
VGZ	**Gonzales**	**1.08**	**337**		Pn	23 12 23.0	-1.8
TDL	**Tradedollar La**	**1.12**	**163**		Pn	23 12 24.2	-1.3
ERK	**Elk Rock**	**1.14**	**168**		Pn	23 12 24.2	-1.6
B201	**Coldwater, Mou**	**1.16**	**165**		Pn	23 12 24.5	-1.4
JRO	**Jston Ridge Ob**	**1.19**	**164**		Pn	23 12 25.4	-1.1
STD	**Studebaker Rid**	**1.23**	**165**		Pn	23 12 23.3	-3.7
B202	**Windy Ridge, M**	**1.24**	**162**		Pn	23 12 25.9	-1.2
SOSW	**Source of Smit**	**1.24**	**162**		Pn	23 12 26.2	-0.9
FL2	**Flat Top 2**	**1.25**	**169**		Pn	23 12 26.1	-1.2
GPW	**Glacier Peak**	**1.25**	**56**		Pn	23 12 26.9	-0.6
BOLM	**Sugar Bowl**	**1.26**	**164**		Pn	23 12 26.8	-0.7
RADR	**Rader Ridge**	**1.26**	**218**	Pn	Pn	23 12 26.2	-1.1
RADR				IAML		23 12 43.0	
	comp=E,58nm,3.9s						
RADR				IAML		23 13 02.0	
	comp=N,51nm,2.2s						
MCW	**Mount Constitu**	**1.26**	**356**		Pn	23 12 26.5	-0.9
SHW	**Mount Saint He**	**1.27**	**166**		Pn	23 12 26.8	-0.8
SEPW	**September Lobe**	**1.27**	**164**		Pn	23 12 27.1	-0.6
RVW	**Rose Valley**	**1.27**	**182**		Pn	23 12 26.6	-0.9
B203	**Quarry, Mount**	**1.28**	**169**		Pn	23 12 26.4	-1.2
ESD	**East Dome**	**1.28**	**163**		Pn	23 12 27.2	-0.5
SWF2	**Southwest Flan**	**1.29**	**165**		Pn	23 12 27.4	-0.4
RPW	**Rockport**	**1.29**	**37**		Pn	23 12 27.1	-0.7
WRW	**Wenatchee Ridg**	**1.30**	**70**		Pn	23 12 27.4	-0.6
B011	**North Saanich**	**1.33**	**338**		Pn	23 12 27.0	-1.2
JLK	**June Lake**	**1.33**	**164**		Pn	23 12 27.8	-0.6
PGC	**Sidney**	**1.33**	**338**	Pn	Pn	23 12 26.5	-1.7
B023	**Clatskanie**	**1.34**	**192**		Pn	23 12 27.6	-0.8
F04D	**Rainier, OR**	**1.36**	**190**	Pn	Pn	23 12 27.8	-0.9
SYMB	**Survey Mountai**	**1.36**	**327**		Pn	23 12 27.5	-1.2
B06A	**Marblemount**	**1.36**	**36**	Pn	Pn	23 12 27.6	-1.0
B06A				IAML		23 12 46.6	
	comp=N,84nm,0.3s						
LVP	**Lakeview Peak**	**1.37**	**172**		Pn	23 12 27.8	-1.1
CDFW	**Cedar Flats**	**1.38**	**161**		Pn	23 12 28.6	-0.5
LTY	**Liberty**	**1.38**	**96**	Pn	Pn	23 12 28.1	-0.9
LTY				IAML		23 12 47.3	
	comp=E,40nm,0.6s						
LTY				IAML		23 12 51.1	
	comp=N,29nm,0.3s						
SNB	**Saturna Island**	**1.39**	**347**		Pn	23 12 28.7	-0.4
MTMW	**Mount Mitchell**	**1.44**	**167**		Pn	23 12 29.5	-0.4
TBM	**Table Mountain**	**1.45**	**99**		Pb	23 12 31.6	+0.3
NAC	**Naches**	**1.45**	**118**		Pb	23 12 31.0	-0.3
MBW	**Mount Baker**	**1.46**	**21**		Pn	23 12 29.9	-0.3
ASR	**Mount Adams--S**	**1.48**	**149**		Pn	23 12 30.6	+0.1
F04A	**Amboy**	**1.50**	**173**	Pn	Pn	23 12 29.9	-0.8
F04A				IAML		23 12 50.9	
	comp=N,72nm,0.4s						
EBG	**Ellensburg**	**1.54**	**109**		Pb	23 12 32.2	-0.6
SHUK	**Shuksan-Mt. Ba**	**1.58**	**25**		Pn	23 12 32.2	+0.3
ETW	**Entiat**	**1.61**	**83**		Pb	23 12 33.5	-0.6
F03A	**Seaside**	**1.61**	**202**	Pn	Pn	23 12 31.9	-0.2
CLRS	**Cowichan Lake**	**1.70**	**326**	Pn	Pn	23 12 31.5	-1.9
NLW	**Nelson Butte**	**1.71**	**67**		Pn	23 12 34.8	+1.0
KMOR	**Kings Mountain**	**1.87**	**198**		Pn	23 12 36.1	+0.3
BIB	**Bowen Island**	**2.03**	**348**		Pn	23 12 38.6	+0.8
HIYU	**Hiyu Mountain**	**2.08**	**163**		Pb	23 12 40.7	-1.4
VLL	**Laurance Lake**	**2.08**	**160**		Pb	23 12 40.6	-1.6
G03D	**McMinnville, O**	**2.25**	**190**	Pn	Pn	23 12 41.9	+1.0
G03D				IAML		23 13 18.0	
	comp=N,33nm,2.4s						
G03D				IAML		23 13 36.9	
	comp=E,27nm,3.7s						
G05A	**Wamic**	**2.38**	**156**	Pn	Pn	23 12 43.6	+0.8
H04A	**Detroit Lake**	**2.76**	**173**	Pn	Pn	23 12 49.7	+1.6
H04A				IAML		23 13 26.6	
	comp=E,15nm,0.9s						
H04A				IAML		23 13 33.2	
	comp=N,18nm,0.8s						
LLLB	**Lillooet**	**3.23**	**9**	Pn	Pn	23 12 54.3	-0.1
LLLB				IAML		23 13 18.8	
	comp=N,13nm,4.8s						
LLLB				IAML		23 13 44.5	
	comp=E,14nm,3.5s						

JMA 24 23:19:47.1±0.2, 24°.8N±0°.7×124°.0E±0°.3, h6km, MV1.5/3, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.35**	**124**	*e*P	Pg	23 19 54.0	+0.2
JISG				*e*S	Sg	23 19 58.9	+0.4
JIJ	**Ishigaki jima**	**0.44**	**162**	P	Pg	23 19 55.7	+0.1
IRIF	**Iriomote-Funau**	**0.51**	**209**	*e*P	Pg	23 19 57.0	+0.1
IRIF				*e*S	Sg	23 20 03.6	+0.1

TAP 24 23:20:39.0, 24°.28N×121°.92E, h19km, ML2.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.17**	**282**	*e*P	Pg	23 20 43.8	+0.2
	baz=281						
EWUT	**Wuta**	**0.21**	**323**	*i* P	Pb	23 20 43.9	+0.2
	baz=322						
EWUT				*i* S	Sg	23 20 47.9	+0.1
	baz=322						
ENA	**Nanau**	**0.22**	**313**	*i* P	Pb	23 20 43.9	-0.1
	baz=313						
ENA				*i* S	Sg	23 20 47.9	-0.2
	baz=313						
ETL	**Fush Village**	**0.29**	**246**	*i* P	Pg	23 20 45.3	-0.3
	baz=246						
ETL				*e*S	Sb	23 20 50.8	+0.6
	baz=246						
NACB	**Ninganchiao**	**0.31**	**251**	P	Pg	23 20 45.2	-0.7
	baz=250						
NACB				S	Sb	23 20 50.8	0.0
	baz=250						
EOS2	**EOS2**	**0.32**	**64**	*i* P	Pb	23 20 46.3	+0.2
	baz=63						
TWC	**Suao**	**0.34**	**349**	P	Pg	23 20 45.8	-0.5
	baz=350						
TWC				S	Sg	23 20 51.1	-0.1
	baz=350						
TWD	**Chiawan**	**0.35**	**236**	P	Pg	23 20 46.0	-0.6
	baz=235						
TWD				*e*S	Sb	23 20 52.2	+0.2
	baz=235						
EOS3	**EOS3**	**0.36**	**88**	*e*P	Pb	23 20 47.5	+0.6
	baz=88						
EOS4	**EOS4**	**0.40**	**113**	*e*P	Pb	23 20 47.7	+0.3
	baz=113						
NDS	**Dongshan**	**0.40**	**333**	P	Pg	23 20 46.9	-0.5
	baz=332						
NDS				S	Sg	23 20 53.1	+0.1
	baz=332						
ETLH	**Xiulin Townshi**	**0.40**	**260**	P	Pg	23 20 46.8	-0.7
	baz=260						
ETLH				S	Sg	23 20 53.3	+0.1
	baz=260						
HWA	**Hwalien**	**0.41**	**224**	*e*P	Pg	23 20 46.6	-1.0
	baz=222						
LATG	**Datong**	**0.44**	**306**	P	Pg	23 20 47.5	-0.6
	baz=305						
LATG				*i* S	Sg	23 20 54.3	0.0
	baz=305						
ENTT	**Nioudou**	**0.48**	**318**	*i* P	Pg	23 20 48.4	-0.4
	baz=318						
ENTT				*i* S	Sb	23 20 55.6	-0.1
	baz=318						
NDT	**Datong Townshi**	**0.49**	**311**	P	Pg	23 20 48.5	-0.6
	baz=311						
NDT				S	Sg	23 20 55.7	0.0
	baz=311						
ETM	**Tongmen**	**0.50**	**231**	*e*P	Pg	23 20 48.6	-0.5
	baz=231						
ETM				*e*S	Sb	23 20 56.6	+0.5
	baz=231						
TWE	**Neicheng**	**0.50**	**333**	P	Pg	23 20 48.6	-0.5
	baz=334						
TWE				S	Sg	23 20 55.7	-0.2
	baz=334						
NNSB	**Datong**	**0.51**	**287**	*i* P	Pg	23 20 48.8	-0.6
	baz=287						
NNSB				S	Sg	23 20 56.2	-0.2
	baz=287						
NNSH	**Datong**	**0.51**	**287**	P	Pg	23 20 48.8	-0.6
	baz=287						
NNSH				S	Sg	23 20 56.4	0.0
	baz=287						
NNS	**Nan Shan**	**0.52**	**288**	P	Pg	23 20 48.9	-0.8
	baz=288						
NNS				S	Sg	23 20 56.5	-0.2
	baz=288						
LXIB	**Xiulin Townshi**	**0.53**	**241**	*e*P	Pg	23 20 48.6	-1.1
	baz=241						
LXIB				*e*S	Sb	23 20 57.0	0.0
	baz=241						
FUSB	**Fushanzhiwuyua**	**0.57**	**328**	P	Pb	23 20 49.9	-0.5
	baz=327						
FUSB				*e*S	Sb	23 20 57.8	-0.3
	baz=327						
WHF	**Hehuan Shan**	**0.61**	**258**	P	Pb	23 20 50.6	-0.6
	baz=257						
WHF				*e*S	Sb	23 20 59.6	0.0
	baz=257						
FUSS	**Fushou**	**0.62**	**267**	P	Pb	23 20 50.7	-0.6
	baz=267						
FUSS				*e*S	Sg	23 20 59.7	-0.1
	baz=267						
NWLT	**Wulai**	**0.62**	**323**	*e*P	Pb	23 20 51.0	-0.4
	baz=322						
NWLT				*e*S	Sb	23 20 59.7	0.0
	baz=322						
YHNB	**Yeheng**	**0.63**	**308**	*i* P	Pb	23 20 50.9	-0.6
	baz=308						
YHNB				S	Sb	23 20 59.9	0.0
	baz=308						
ESL	**Shilin**	**0.64**	**224**	*e*P	Pb	23 20 50.7	-0.9
	baz=223						
ESL				*e*S	Sg	23 21 00.7	+0.4
	baz=223						
NSK	**Sanguang**	**0.65**	**308**	P	Pb	23 20 51.0	-0.7
	baz=308						
NSK				*e*S	Sb	23 21 00.0	-0.3
	baz=308						
TDCB	**Techi**	**0.69**	**268**	*e*P	Pb	23 20 51.3	-1.3
	baz=267						
TDCB				*e*S	Sb	23 21 01.7	-0.1
	baz=267						
CHGB	**Renai**	**0.71**	**253**	*e*P	Pb	23 20 51.8	-1.2
	baz=252						
CHGB				*e*S	Sb	23 21 02.4	-0.1
	baz=252						
WARBT	**Fenglin Townsh**	**0.74**	**221**	*e*P	Pb	23 20 52.9	-0.5
	baz=221						
WARBT				*e*S	Sb	23 21 02.7	-0.4
	baz=221						
OWD	**Renai**	**0.75**	**245**	*e*P	Pb	23 20 52.6	-1.0
	baz=244						
OWD				*e*S	Sb	23 21 03.3	-0.3
	baz=244						
WUSB	**Renai**	**0.78**	**249**	*e*P	Pb	23 20 53.1	-1.0
	baz=248						
WFSB	**Wu-fen Shan**	**0.80**	**351**	*e*P	Pg	23 20 54.7	-0.1
	baz=351						
WFSB				*e*S	Sg	23 21 05.7	+0.3
	baz=351						
SXI1	**Grass Mountain**	**0.81**	**357**	*e*P	Pg	23 20 54.9	-0.1
	baz=357						
SXI1				*e*S	Sg	23 21 05.9	0.0
	baz=357						
VWDT	**VWDT**	**0.88**	**234**	*e*P	Pb	23 20 55.5	-0.2
	baz=233						
VWDT				*e*S	Sb	23 21 07.5	+0.4
	baz=233						
WHP	**Taichung City**	**0.89**	**270**	*e*P	Pb	23 20 56.0	+0.1
	baz=270						
LIOB	**Emei**	**0.90**	**294**	*e*P	Pb	23 20 55.9	-0.2
	baz=294						
YULB	**Yu-li**	**1.05**	**213**	*e*P	Pb	23 20 57.0	-1.6
	baz=212						
WHYT	**Xinyi Township**	**1.13**	**240**	*e*P	Pb	23 21 00.1	0.0
	baz=239						

---

*NEIC **24** 23:21:01.0±2.7, 15°.86N±0°.05×95°.10W±0°.04, h39km±8km, mb4.6/101, Md4.8/81(MEX), Error ellipse: s-maj=7.4km s-min=5.3km az=179.0*
*MEX **24** 23:21:03.9±0.8, 15°.83N×95°.10W, h30km±13km, MD4.8*
*IDC **24** 23:21:04.4±1.5, 16°.00N×94°.74W, h56km±12km, mb3.9/22, mbtmp4.2/23, MS3.7/26, Error ellipse: s-maj=20.1km s-min=11.3km az=59.0*
*GCG **24** 23:21:46.8±3.4, 14°.67N×92°.05W, h43km±128km, MD4.6*
ISC 24 23:21:01.8±0.6, 15°.84N±0°.03×95°.11W±0°.02, h48km±6km, n280, σ2§43/307, mb4.6/64, MS3.7/25, 5C-1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.86**	**33**	*e*P	**Pn**	**23 21 17.1**	**-0.5**
NILT				*i* S	**Sn**	**23 21 28.4**	**-0.7**
HUIG	**Huatulco**	**0.97**	**266**		**Pn**	**23 21 19.0**	**0.0**
HUIG					**Sn**	**23 21 31.1**	**-0.7**
HUIG	**Huatulco**	**0.97**	**266**	*e*P	**Pn**	**23 21 19.0**	**0.0**
HUIG				*i* S	**Sn**	**23 21 31.1**	**-0.7**
CARR	**Arriaga**	**1.22**	**70**	*e*P	**Pn**	**23 21 22.1**	**-0.3**
CARR				*i* S	**Sn**	**23 21 33.6**	**-4.1**
CMIG	**Matias Romero**	**1.26**	**10**	P	**Pn**	**23 21 23.1**	**+0.1**
	265nm,0.3s,baz=193,slow=10,SNR=1061						
CMIG				S	**Sn**	**23 21 38.1**	**-0.8**
	3μm,0.4s,baz=294,slow=20,SNR=35						
CMIG				LR	LR	23 21 55.8	
	comp=Z,1μm,21.1s,baz=160,slow=47						
CMIG	**Matias Romero**	**1.26**	**10**	*e*P	**Pn**	**23 21 23.1**	**+0.1**
CMIG				*i* S	**Sn**	**23 21 38.0**	**-0.8**
PCIG		**1.82**	**94**		**Pn**	**23 21 31.2**	**+0.5**
PCIG					**Sn**	**23 21 52.6**	**0.0**

PCIG 1.82 94 eP Pn 23 21 31.2 +0.5
PCIG eS Sn 23 21 52.6 0.0
OXLC Oaxaca 1.96 309 i P Pn 23 21 34.8 +2.1
OXLC i S Sn 23 21 57.6 +1.3
PEIG Puerto Escondi 1.97 275 Pn 23 21 32.8 0.0
PEIG Sn 23 21 54.4 -1.9
PEIG Puerto Escondi 1.97 275 eP Pn 23 21 32.8 0.0
PEIG eS Sn 23 21 54.4 -1.9
OXBJ Oaxaca 1.98 308 Pn 23 21 35.1 +2.1
OXBJ Sn 23 21 57.7 +1.0
OXBJ Oaxaca 1.98 308 i P Pn 23 21 35.1 +2.1
OXBJ i S Sn 23 21 57.7 +1.0
NEUV Arroyo Zacate 1.98 340 i P Pn 23 21 33.4 +0.5
NEUV i S Sn 23 21 48.7 -7.7
OXIG Oaxaca 1.98 308 Pn 23 21 35.0 +1.9
OXIG Sn 23 21 57.9 +0.9
VHO Vista Hermosa 1.98 308 eP Pn 23 21 35.0 +1.9
VHO eS Sn 23 21 57.9 +0.9
TGIG 2.12 64 Pn 23 21 35.5 +0.6
TGIG Sn 23 21 59.8 -0.3
TGIG 2.12 64 eP Pn 23 21 35.5 +0.6
TGIG eS Sn 23 21 59.8 -0.3
TGBT Tuxtla Gutierr 2.15 64 Pn 23 21 37.9 +2.7
TGBT Sn 23 22 00.9 +0.3
TGBT Tuxtla Gutierr 2.15 64 i P Pn 23 21 37.9 +2.7
TGBT i S Sn 23 22 00.9 +0.3
TUIG Tuzandepetl 2.27 17 eP Pn 23 21 38.0 +1.1
TUIG i S Sn 23 22 03.9 +0.2
YOIG Yosondua 2.55 294 Pn 23 21 42.7 +1.8
YOIG Sn 23 22 10.9 -0.1
YOIG Yosondua 2.55 294 eP Pn 23 21 42.7 +1.8
YOIG eS Sn 23 22 10.9 -0.1
PMUV Sontecomapan 2.69 360 i P Pn 23 21 30.8 -12
PMUV i S Sn 23 22 12.3 -1.7
PATR El Naranjo 2.86 104 eP Pn 23 21 45.9 +0.8
PATR i S Sn 23 22 18.7 +0.2
CCIG Comitan 2.89 81 eP Pn 23 21 47.3 +1.8
CCIG eS Sn 23 22 20.6 +1.5
THIG 2.89 108 Pn 23 21 46.7 +1.3
THIG Sn 23 22 18.9 0.0
THIG 2.89 108 eP Pn 23 21 46.7 +1.3
THIG eS Sn 23 22 18.9 0.0
PAVE Pavencul 2.90 102 eP Pn 23 21 46.8 +1.1
PAVE i S Sn 23 22 19.3 -0.1
TXIG Tlaxiaco 2.91 299 Pn 23 21 48.2 +2.3
TXIG Sn 23 22 19.2 -0.7
TXIG Tlaxiaco 2.91 299 eP Pn 23 21 48.2 +2.3
TXIG eS Sn 23 22 19.2 -0.7
TOIG Toxpalan 2.92 320 Pn 23 21 48.7 +2.7
TOIG Sn 23 22 21.2 +1.3
TOIG Toxpalan 2.92 320 eP Pn 23 21 48.7 +2.7
TOIG eS Sn 23 22 21.2 +1.3
PNIG Pinotepa 2.96 281 Pn 23 21 46.9 +0.6
PNIG Sn 23 22 16.9 -3.7
PNIG Pinotepa 2.96 281 eP Pn 23 21 46.9 +0.6
PNIG eS Sn 23 22 16.9 -3.7
CHUJ Union Juarez 2.98 104 eP Pn 23 21 48.0 +1.1
CHUJ i S Sn 23 22 20.6 -0.9
HLIG Huajuapan de L 3.25 308 Pn 23 21 53.0 +2.5
HLIG Sn 23 22 28.3 +0.2
HLIG Huajuapan de L 3.25 308 eP Pn 23 21 53.0 +2.5
HLIG i S Sn 23 22 28.3 +0.2
TPIG Tehuac#an 3.35 320 Pn 23 21 55.2 +3.3
TPIG Tehuac#an 3.35 320 eP Pn 23 21 55.2 +3.3
TPIG i S Sn 23 22 46.3 +16
HUEH Huehuetenango 3.51 98 Pn Pn 23 21 53.3 -0.8
RTAL Retalhuleu 3.54 111 Pn Pn 23 21 54.5 +0.1
FTIG Fresnillo de T 3.55 306 Pn 23 21 57.3 +2.7
FTIG Sn 23 22 33.4 -2.0
FTIG Fresnillo de T 3.55 306 eP Pn 23 21 57.3 +2.7
FTIG eS Sn 23 22 33.4 -2.0
STG3 Santiaguito 3, 3.59 108 i P Pn 23 21 57.8 +2.6
STG3 i S Sn 23 22 04.1 -32
TLIG Tlapa 3.73 298 eP Pn 23 21 59.8 +2.7
TLIG eS Sn 23 22 38.8 -1.1
SULM Suchitepequez, 3.75 114 i P Pn 23 21 58.9 +1.8
JAUV Jalcomulco 3.86 335 eP Pn 23 21 57.9 -0.9
JAUV eS Sn 23 22 39.4 -3.5
LVIG Laguna Verde 4.06 342 eP Pn 23 22 01.2 -0.2
LVIG eS Sn 23 22 39.2 -8.5
FUG Fuego 3 4.34 108 i P Pn 23 22 07.5 +2.0
FUG i S Sn 23 22 23.3 -32
DAIG Los Arroyos 4.52 286 Pn 23 22 08.9 +1.2
DAIG Sn 23 22 54.3 -4.7
DAIG Los Arroyos 4.52 286 eP Pn 23 22 08.9 +1.2
DAIG eS Sn 23 22 54.3 -4.7
PPM Popocatepetl 4.65 314 eP Pn 23 22 14.2 +4.3
PPM eS Sn 23 23 18.1 +15
PPIG Popocatepetl 4.65 314 Pn 23 22 14.2 +4.3
NBG Las Nubes 4.76 105 i P Pn 23 22 15.4 +4.1
MEIG Mezcala 4.79 296 Pn 23 22 14.4 +2.8
MEIG Sn 23 23 04.3 -1.6
MEIG Mezcala 4.79 296 eP Pn 23 22 14.4 +2.8
MEIG eS Sn 23 23 04.3 -1.6
AMVM AMECAMECA 4.80 313 eP Pn 23 22 12.4 +0.5
AMVM eS Sn 23 23 04.4 -2.0
YAIG Yautepec 4.83 309 Pn 23 22 15.6 +3.4
YAIG Sn 23 23 05.3 -1.7
YAIG Yautepec 4.83 309 eP Pn 23 22 15.6 +3.4
YAIG eS Sn 23 23 05.3 -1.7
SCIG Sabancuy 4.86 50 i P Pn 23 22 12.8 +0.3
SCIG eS Sn 23 23 02.7 -4.8
PLIG Platanillo 4.91 302 Pn 23 22 16.8 +3.6
PLIG Sn 23 23 22.2 -1.7
PLIG Platanillo 4.91 302 eP Pn 23 22 16.8 +3.6
PLIG eS Sn 23 23 07.2 -1.7
CXUV Coxquihui 4.91 332 eP Pn 23 22 13.5 +0.3
CXUV eS Sn 23 23 06.8 -2.0
MPVM San Francisco 5.00 312 eP Pn 23 22 18.6 +4.0
MPVM eS Sn 23 23 20.8 +9.5
THVM De Xico 5.05 314 eP Pn 23 22 22.6 +7.3
THVM eS Sn 23 23 18.8 +6.2
CAIG El Cayaco 5.10 284 Pn 23 22 17.0 +1.3
CAIG Sn 23 23 06.5 -6.8
CAIG El Cayaco 5.10 284 i P Pn 23 22 17.0 +1.3
CAIG eS Sn 23 23 06.5 -6.8
TLVM San Miguel Top 5.11 312 eP Pn 23 22 19.7 +3.5
TLVM eS Sn 23 23 09.8 -4.3
XCVM Xochimilco 5.11 312 eP Pn 23 22 20.0 +3.9
XCVM eS Sn 23 23 15.3 +1.2
PETF Flores 5.14 77 Pn Pn 23 22 17.1 +0.8
UNM Universidad Na 5.21 312 Pn Pn 23 22 16.7 -0.8
PBVM Pinon 5.22 314 eP Pn 23 22 20.9 +3.6
PBVM eS Sn 23 23 19.7 +3.6
VTVM Tizayuca 5.24 319 eP Pn 23 22 25.4 +7.5
VTVM eS Sn 23 23 26.2 +8.9
CJVM Cuajimalpa 5.30 312 eP Pn 23 22 14.2 -4.6
CJVM eS Sn 23 23 11.6 -7.2
INVM La Marquesa 5.33 311 eP Pn 23 22 23.1 +3.9
INVM eS Sn 23 23 17.2 -2.3
PTVM Pico Tres Padr 5.34 315 eP Pn 23 22 20.9 +1.6
PTVM eS Sn 23 23 15.7 -3.9
AZVM Cuida Lopez Ma 5.45 314 eP Pn 23 22 19.1 -1.7
AZVM eS Sn 23 23 31.9 +9.5
ZUVM ZUMPANGO 5.48 317 eP Pn 23 22 29.6 +8.5
ZUVM eS Sn 23 23 31.7 +8.6
ARIG Puente Sto Nin 5.57 297 Pn 23 22 25.6 +3.4
ARIG Sn 23 23 21.8 -3.1
ARIG Puente Sto Nin 5.57 297 eP Pn 23 22 25.6 +3.4
ARIG eS Sn 23 23 21.8 -3.1
ESQI Esquipulas 5.71 102 Pn Pn 23 22 23.3 -0.9
MTO3 Montecristo 5.73 104 Pn Pn 23 22 25.4 +0.8
ATVM ATLACOMULCO 5.96 312 eP Pn 23 22 29.2 +1.4
ATVM eS Sn 23 23 41.1 +6.1
SNET Serv Nac Est T 6.07 110 Pn Pn 23 22 26.0 -3.1
ACIG Acambay 6.13 313 eP Pn 23 22 32.0 +2.0
ACIG eS Sn 23 23 42.7 +3.7
ZIIG Zihuatanejo 6.34 287 Pn 23 22 35.3 +2.5
ZIIG Sn 23 23 36.6 -7.3
ZIIG Zihuatanejo 6.34 287 i P Pn 23 22 35.3 +2.5
ZIIG eS Sn 23 23 36.6 -7.3
RPIG Rio Verde 7.58 323 Pn 23 22 54.0 +4.1
RPIG Rio Verde 7.58 323 eP Pn 23 22 54.0 +4.1
TGUH Tegucigalpa,Un 7.77 102 Pn Pn 23 22 51.1 -1.4
TGUH Tegucigalpa,Un 7.77 102 eP Pn 23 22 54.2 +1.7
TEIG Tepich 7.82 55 Pn Pn 23 22 51.0 -2.1
TEIG Tepich 7.82 55 eP Pn 23 22 53.4 +0.4
TEIG Tepich 7.82 55 P Pn 23 22 51.5 -1.5
733nm,0.3s,baz=182,slow=2.6,SNR=45

TEIG S Sn 23 24 12.9 -7.4
747nm,0.3s,baz=138,slow=19,SNR=7.9
CRIN San Cristobal 8.41 111 Pn Pn 23 22 59.0 -2.2
COIG Colima 8.84 293 eP Pn 23 23 10.9 +3.8
COIG eS Sn 23 24 48.0 +2.6
JUBC Volcan de Coli 8.86 296 eP Pn 23 23 12.7 +5.1
JUBC eS Sn 23 24 46.1 -0.1
EZ5V 8.87 295 eP Pn 23 23 12.9 +5.2
EZ5V eS Sn 23 24 50.1 +3.6
MNGA Volcan de Coli 8.88 295 eP Pn 23 23 13.0 +5.2
MNGA eS Sn 23 24 46.6 -0.1
INCO Volcan de Coli 8.89 296 eP Pn 23 23 13.1 +5.0
INCO eS Sn 23 24 52.6 +5.4
SOMAC Volcano de Col 8.91 296 eP Pn 23 23 13.2 +4.8
SOMAC eS Sn 23 24 49.2 +1.6
CDAR Ciudad de Arme 9.04 291 eP Pn 23 23 12.2 +2.4
CDAR eS Sn 23 24 46.3 -4.0
CEGR Campo Tres 9.06 294 eP Pn 23 23 14.3 +4.1
CEGR eS Sn 23 24 50.3 -0.7
R15V 9.09 293 eP Pn 23 23 03.9 -6.6
R15V eS Sn 23 24 38.4 -13
MATN Matagalpa 9.35 107 Pn Pn 23 23 12.9 -1.2
BOAB BOACO BROADBAN 9.76 109 Pn Pn 23 23 18.0 -1.6
CIHU Emiliano Zapat 9.80 292 eP Pn 23 23 22.8 +2.7
CIHU eS Sn 23 25 02.5 -6.3
CJM Chamela 10.15 292 eP Pn 23 23 27.2 +2.2
CJM i S Sn 23 25 12.8 -4.5
ACON Acoyapa 10.38 111 eP Pn 23 23 28.0 -0.2
833A Chaparral WMA, 13.04 343 Pn Pn 23 24 06.3 +1.9
HNDO Hondo 14.15 345 Pn Pn 23 24 16.7 -2.9
DRIO Del Rio 14.44 340 Pn Pn 23 24 21.2 -2.2
435B Jarrell 15.04 352 Pn Pn 23 24 29.9 -1.5
435B IAmb IAmb 23 24 43.0
comp=Z,37nm,0.8s
JCT Junction City 15.19 344 Pn Pn 23 24 31.3 -2.0
JCT IAmb IAmb 23 25 03.9
comp=Z,18nm,0.9s
SAND Sanderson 15.46 337 Pn Pn 23 24 35.1 -1.6
SAND IAmb IAmb 23 24 49.8
comp=Z,4.9nm,0.9s
TXAR Lajitas Array 15.57 331 P P 23 24 40.9 -1.0
comp=Z,1.8nm,0.6s,baz=153,slow=14,SNR=12
TXAR LR LR 23 30 45.0
comp=Z,50nm,19.6s,baz=358,slow=37
TX31 Lajitas Ar. Si 15.57 331 Pn Pn 23 24 36.0 -2.4
BRDY Brady 15.78 348 IAmb IAmb 23 24 54.2
comp=Z,20nm,0.8s
OZNA Ozona 15.99 341 IAmb IAmb 23 24 54.0
comp=Z,26nm,0.8s
WHTX Lake Whitney, 16.22 353 Pn Pn 23 24 43.5 -3.0
WHTX IAmb IAmb 23 24 51.0
comp=Z,45nm,0.7s
ALPN Alpine 16.45 333 IAmb IAmb 23 24 52.8
comp=Z,15nm,0.7s
FW13 Cleburne 16.57 353 Pn Pn 23 24 49.5 -1.4
FW13 IAmb IAmb 23 25 03.5
comp=Z,30nm,0.8s
SGCY Sterling City 16.91 342 IAmb IAmb 23 25 04.5
comp=Z,20nm,0.8s
MNHN Monahans 16.94 337 Pn Pn 23 24 54.1 -1.4
MNHN IAmb IAmb 23 25 19.4
comp=Z,14nm,0.9s
FW07 Weatherford 16.96 352 Pn Pn 23 24 53.5 -2.3
FW07 IAmb IAmb 23 25 17.5
comp=Z,37nm,0.8s
PLPT Palo Pinto 17.15 351 Pn Pn 23 24 55.7 -2.3
PLPT IAmb IAmb 23 25 27.2
comp=Z,19nm,0.8s
FW06 Azle 17.20 353 Pn Pn 23 24 57.6 -1.1
FW06 IAmb IAmb 23 25 02.4
comp=Z,35nm,0.7s
ABTX Abilene, Hawle 17.21 347 Pn Pn 23 24 57.6 -1.3
ABTX IAmb IAmb 23 25 10.9
comp=Z,33nm,1.0s
Z38A Mt. Pleasant 17.34 0 IAmb IAmb 23 25 02.9
comp=Z,58nm,0.9s
Z41A Richland Creek 17.46 6 Pn Pn 23 24 59.9 -2.1
ODSA Odessa 17.56 339 Pn Pn 23 25 02.6 -0.7
ODSA IAmb IAmb 23 25 37.4
comp=Z,16nm,0.9s
POST Post 18.10 342 P P 23 25 08.6 -1.1
POST IAmb IAmb 23 25 26.8
comp=Z,9.5nm,0.8s
352A Blakely 18.12 29 IAmb IAmb 23 25 10.3
comp=Z,84nm,1.4s
LOOK Love County 18.17 354 P P 23 25 08.4 -2.0
LOOK IAmb IAmb 23 25 37.0
comp=Z,43nm,0.9s
Z47A Carrollton 18.42 19 IAmb IAmb 23 25 18.9
comp=Z,23nm,1.0s
DKNS Dickens 18.51 345 P P 23 25 13.4 -0.9
DKNS IAmb IAmb 23 25 24.4
comp=Z,17nm,1.0s
X37A Clayton 18.67 359 IAmb IAmb 23 25 27.3
comp=Z,19nm,0.8s
MIAR Mount Ida 18.68 4 P P 23 25 14.6 -1.4
UALR University of 19.02 7 P P 23 25 17.8 -1.9
UALR IAmb IAmb 23 25 22.1
comp=Z,20nm,0.8s
SMWD Samnorwood 19.73 347 IAmb IAmb 23 25 39.1
comp=Z,24nm,0.8s
OK029 Liberty Lake 19.98 354 IAmb IAmb 23 25 37.0
comp=Z,29nm,0.9s
TUL3 Leonard 20.00 358 P P 23 25 28.5 -1.9
OK052 Battle Ridge R 20.13 356 P P 23 25 31.1 -0.7
FCAR Ozark Folk Cen 20.14 7 IAmb IAmb 23 25 37.0
comp=Z,17nm,0.8s
GOGA Godfrey 20.41 29 P P 23 25 33.2 -1.8
LCAR Lake Charles 20.45 9 P P 23 25 33.5 -1.8
LCAR IAmb IAmb 23 25 34.8
comp=Z,12nm,0.6s
FPAL Fort Paine 20.48 23 P P 23 25 32.8 -2.9
U38A Gravette 20.52 2 IAmb IAmb 23 25 40.3
comp=Z,19nm,0.8s
OK048 Pawnee Station 20.56 356 IAmb IAmb 23 25 39.5
comp=Z,35nm,0.8s
CROK Carrier 20.74 353 P P 23 25 38.3 -0.2
CROK IAmb IAmb 23 25 44.0
comp=Z,40nm,1.1s
U32A Winter Ranch, 20.75 351 IAmb IAmb 23 25 42.9
comp=Z,29nm,0.7s
UREC San Jos de Ur 20.76 111 eP P 23 25 39.6 +0.7
SWET Sewanee 20.97 21 P P 23 25 38.0 -3.0
SWET IAmb IAmb 23 25 39.3
comp=Z,11nm,0.7s
NOKA Waynoka 20.99 351 P P 23 25 40.3 -0.9
OK032 Salt Plains WL 21.06 353 IAmb IAmb 23 25 45.8
comp=Z,25nm,0.8s
V48A Smith Brothers 21.15 19 IAmb IAmb 23 26 17.7
comp=Z,21nm,1.3s
PBMO Poplar Bluff 21.26 10 P P 23 25 42.0 -2.1
PBMO IAmb IAmb 23 25 43.9
comp=Z,18nm,1.0s
KAN01 Argonia South 21.36 354 P P 23 25 43.8 -1.3
MGMO Mountain Grove 21.38 6 IAmb IAmb 23 25 48.1
comp=Z,18nm,0.8s
PLMC San Jos del P 21.44 118 eP P 23 25 48.3 +2.0
ZARC Zaragoza, Cauc 21.48 110 eP P 23 25 44.8 -1.8
ANMO Albuquerque 21.58 334 P P 23 25 49.1 +1.4
comp=Z,1.0nm,0.6s,baz=200,slow=15,SNR=2.7
ANMO LR LR 23 35 55.5
comp=Z,58nm,21.1s,baz=249,slow=41
comp=Z,1.0nm,0.6s
TUC Tucson 21.72 322 P P 23 25 47.6 -1.5
S39A Bolivar 21.82 4 IAmb IAmb 23 25 53.6
comp=Z,27nm,1.2s
YOTC Yotoco, Valle 21.89 121⇧ eP P 23 25 55.2 +4.1
JAMC Jamundi, Valle 22.06 123 eP P 23 25 56.3 +3.3
GUY2C Guyana, Caldas 22.06 116 eP P 23 25 56.2 +2.8
TKL Tuckaleechee C 22.18 25 P P 23 25 51.2 -2.8
comp=Z,4.0nm,0.9s,baz=191,slow=15,SNR=2.7
TKL LR LR 23 35 27.4
comp=Z,56nm,20.8s,baz=214,slow=39
comp=Z,4.0nm,0.9s
U49A Red Boiling Sp 22.20 20 IAmb IAmb 23 26 06.9
comp=Z,10nm,0.8s
T47A Sharon Grove 22.23 17 IAmb IAmb 23 25 54.7
comp=Z,16nm,0.7s
PTBC PUERTO BERRIO, 22.24 112 eP P 23 25 55.3 +0.4
BBAC Balboa, Cauca 22.32 126 eP P 23 25 58.8 +2.9
NORC Norcasia 22.33 115 eP P 23 25 57.9 +2.1
CCM Cathedral Cave 22.39 8 P P 23 25 53.5 -2.6
CCM IAmb IAmb 23 25 57.5
comp=Z,19nm,1.1s
POPC Popayan, Colom 22.45 124 eP P 23 26 00.7 +3.4

R40A Maddies Statio 22.50 6 IAmb IAmb 23 25 59.9
comp=Z,16nm,0.7s
OTAV Otavalo 22.60 132 P P 23 25 59.1 +0.1
R32A Long Quarter, 22.72 353 P P 23 25 59.2 -0.5
R32A IAmb IAmb 23 26 02.3
comp=Z,32nm,0.9s
214A Organ Pipe Nat 22.74 318 P P 23 25 58.9 -1.1
ORTC Ortega, Tolima 22.85 119 eP P 23 26 04.4 +3.2
PIX Pinacate 22.91 316 P P 23 26 00.4 -1.3
ROSC El Rosal 23.16 116 P P 23 26 05.9 +1.1
ROSC El Rosal 23.16 116 eP P 23 26 06.8 +2.1
ROSC El Rosal 23.16 116 P P 23 26 08.5 +3.7
comp=Z,41nm,0.8s,baz=53,slow=2.6,SNR=20
KSU1 Kansas State U 23.21 357 IAmb IAmb 23 26 06.4
comp=Z,25nm,0.9s
CBKS Cedar Bluff 23.24 351 IAmb IAmb 23 26 06.9
comp=Z,30nm,0.9s
PRAC Prado 23.25 119 eP P 23 26 07.5 +2.2
BARC Barichara 23.36 111 eP P 23 26 09.3 +2.7
PAMC Pamplona, Colo 23.50 109 eP P 23 26 09.4 +1.3
WCI Wyandotte Cave 23.61 18 P P 23 26 05.4 -3.1
WCI IAmb IAmb 23 26 07.7
comp=Z,25nm,0.7s
OLIL Olney 23.62 14 IAmb IAmb 23 26 07.5
comp=Z,17nm,0.8s
P38A Dawn 23.73 3 IAmb IAmb 23 26 09.7
comp=Z,16nm,0.7s
P40A Paris 23.75 6 IAmb IAmb 23 26 09.6
comp=Z,34nm,1.3s
RUSC La Rusia 23.75 112 eP P 23 26 12.3 +1.7
CHIC Chingaza 23.77 116⇧ eP P 23 26 14.3 +3.7
SDV Santo Domingo 24.87 103 P P 23 26 17.6 -2.9
SDV IAmb IAmb 23 26 23.5
comp=Z,17nm,0.7s
SDV Santo Domingo 24.87 103 LR LR 23 37 03.1
comp=Z,103nm,21.4s,baz=298,slow=39
N35A Tabor 24.93 359 P P 23 26 19.5 -1.0
BOSC San Juan Bosco 25.02 138 P P 23 26 22.7 +0.9
PFO Pinyon Flats O 26.16 316 LR LR 23 36 30.8
comp=Z,177nm,20.6s,baz=143,slow=35
BAUV El Baul 27.29 101 IAmb IAmb 23 26 43.9
comp=Z,20nm,0.9s
ECSD EROS Data Cent 27.83 358 IAmb IAmb 23 26 48.0
comp=Z,13nm,0.8s
ATAH Atahualpa 28.20 143 LR LR 23 36 34.6
comp=Z,84nm,19.4s,baz=348,slow=33
PDAR Pinedale Array 29.55 338 P P 23 27 05.7 +3.4
comp=Z,1.0nm,1.2s,baz=142,slow=8.9,SNR=2.7
PDAR LR LR 23 40 49.6
comp=Z,42nm,20.8s,baz=184,slow=40
comp=Z,1.0nm,1.2s
ELK Elko 30.35 329 P P 23 27 11.5 +2.2
comp=Z,0.6nm,0.8s,baz=104,slow=15,SNR=2.4
comp=Z,0.6nm,0.8s
NVAR Mina Array Bea 30.37 322 P P 23 27 12.1 +2.6
NVAR Mina Array Bea 30.37 322 P P 23 27 12.9 +3.3
comp=Z,2.1nm,0.8s,baz=139,slow=8.7,SNR=15
NVAR LR LR 23 40 25.3
comp=Z,191nm,20.1s,baz=134,slow=38
comp=Z,2.1nm,0.8s
SADO Sadowa 31.84 22 LR LR 23 42 15.3
comp=Z,74nm,18.2s,baz=316,slow=40
ULM Lac du Bonnet 34.33 359 P P 23 27 42.9 -0.8
comp=Z,6.1nm,0.7s,baz=188,slow=9.6,SNR=6.4
comp=Z,6.1nm,0.7s
YBH Yreka Blue Hor 35.08 323 LR LR 23 43 18.7
comp=Z,200nm,21.4s,baz=150,slow=38
BOAV Boa Vista 36.58 108 P P 23 28 02.7 -0.9
BOAV IAmb IAmb 23 28 04.4
comp=Z,4.1nm,0.8s
NEW Newport 37.05 335 LR LR 23 45 25.2
comp=Z,113nm,19.9s,baz=158,slow=39
ETMB Extrema 38.32 130 P P 23 28 18.6 +0.4
ETMB IAmb IAmb 23 28 20.2
comp=Z,12nm,1.1s
SAML Samuel 40.08 126 P P 23 28 32.0 -0.9
SAML IAmb IAmb 23 28 33.6
comp=Z,10nm,1.1s
SAML Samuel 40.08 126⇧ eP P 23 28 32.4 -0.5
LPAZ La Paz 41.57 139 P P 23 28 47.0 +1.1
comp=Z,2.4nm,0.7s,baz=332,slow=9.8,SNR=9.2
comp=Z,2.4nm,0.7s
PB16 IPOC Station P 42.30 142 P P 23 28 52.1 +0.4
PB16 IAmb IAmb 23 29 13.5
comp=Z,6.2nm,0.8s
MDP Montagnes des 43.01 100 LR LR 23 47 38.7
comp=Z,67nm,19.5s,baz=290,slow=37
SCHQ Schefferville 44.62 23 P P 23 29 06.7 -2.8
comp=Z,2.8nm,0.8s,baz=225,slow=13,SNR=1.8
SCHQ LR LR 23 47 48.1
comp=Z,118nm,21.9s,baz=253,slow=36
VILB Vilhena 44.84 128 P P 23 29 11.6 -0.1
LVC Limon Verde 46.02 145 P P 23 29 22.6 +1.3
comp=Z,2.0nm,0.6s,baz=326,slow=11,SNR=2.6
comp=Z,2.0nm,0.6s
SIV San Ignacio 46.14 132 LR LR 23 47 58.2
comp=Z,82nm,18.7s,baz=346,slow=35
PTLB Pontes e Lacer 47.20 129 P P 23 29 30.1 -0.1
PTLB IAmb IAmb 23 29 35.4
comp=Z,7.5nm,0.8s
YKA Yellowknife Ar 48.58 348 P P 23 29 40.6 +0.4
comp=Z,1.5nm,0.7s,baz=155,slow=7.4,SNR=3.5
comp=Z,1.5nm,0.7s
FRB Frobisher Bay 51.25 15 LR LR 23 55 49.9
comp=Z,62nm,18.7s,baz=220,slow=41
CFA Coronel Fontan 53.76 151 P P 23 30 21.2 +1.7
comp=Z,4.5nm,0.8s,baz=319,slow=4.5,SNR=8.2
comp=Z,4.5nm,0.8s
CPUP Villa Florida 55.73 138 P P 23 30 33.2 -0.7
comp=Z,1.6nm,0.5s,baz=337,slow=5.7,SNR=4.4
CPUP LR LR 23 53 30.4
comp=Z,66nm,19.2s,baz=4.0,slow=35
comp=Z,1.6nm,0.5s
BDFB Brasilia 56.04 122 P P 23 30 36.9 +0.6
BDFB Brasilia 56.04 122 P P 23 30 36.8 +0.5
comp=Z,12nm,0.5s,baz=295,slow=8.9,SNR=19
BDFB LR LR 23 56 15.9
comp=Z,89nm,18.7s,baz=305,slow=38
comp=Z,12nm,0.5s
INK Inuvik 57.84 344 LR LR 23 59 28.0
comp=Z,131nm,19.3s,baz=200,slow=40
RES Resolute Bay 58.85 0 LR LR 23 58 53.8
comp=Z,80nm,18.4s,baz=312,slow=39
DY2G Dye2 59.82 20 i P P 23 31 00.6 -1.7
DY2G IAmb IAmb 23 31 02.0
comp=Z,18nm,0.9s
ILAR Eielson Array 59.98 337 P P 23 31 04.0 +0.9
ILAR Eielson Array 59.98 337 P P 23 31 03.6 +0.5
comp=Z,0.7nm,0.9s,baz=117,slow=3.0,SNR=5.9
comp=Z,0.7nm,0.9s
BMAR Burnt Mountain 60.55 340 P P 23 31 08.5 +1.5
PLCA Paso Flores 60.73 159 P P 23 31 09.8 +1.2
comp=Z,3.2nm,0.8s,baz=344,slow=7.1,SNR=5.6
comp=Z,3.2nm,0.8s
RCBR Riachuelo 62.42 105 LR LR 23 59 49.6
comp=Z,54nm,18.9s,baz=154,slow=37
PPT Papeete 63.12 241 LR LR 23 53 03.3
comp=Z,70nm,20.5s,baz=351,slow=30
ICESG Greenland Ices 63.31 19 i P P 23 31 24.4 -1.5
ICESG IAmb IAmb 23 31 28.9
comp=Z,25nm,0.9s
SUMG Summit 65.28 16 i P P 23 31 38.4 -0.4
PGAV Gavieira, Arco 77.27 50 eP P 23 32 51.6 +0.2
comp=Z,56nm,1.7s
PACT Alcochete 77.40 53 eP P 23 32 53.3 +1.2
PCAS Casmilo, Conde 77.43 52 eP P 23 32 52.6 +0.3
comp=Z,45nm,1.7s
PTEO Sao Teotonio 77.71 54 eP P 23 32 54.4 +0.6
comp=Z,68nm,1.4s
POLO Lamas de Olo 77.72 50 eP P 23 32 54.4 +0.4
PNCL Nicolau / Gran 77.75 54 eP P 23 32 54.9 +0.8
comp=Z,23nm,1.3s
PVIS Viseu 77.77 51 eP P 23 32 54.4 +0.2
PMTG Montargil 77.81 53 eP P 23 32 55.1 +0.7
comp=Z,23nm,2.0s
EVO Evora 78.08 53 eP P 23 32 53.5 -2.4
comp=Z,22nm,2.2s
MTE Manteigas 78.09 51 eP P 23 32 56.0 0.0
comp=Z,38nm,1.5s
MTE Manteigas 78.09 51 P P 23 32 55.8 -0.2
PCVE Castro Verde 78.22 54 eP P 23 32 57.5 +0.8
EKA Eskdalemuir Ar 78.23 36 P P 23 32 56.1 -0.3
comp=Z,5.2nm,0.6s,baz=284,slow=5.6,SNR=34
comp=Z,5.2nm,0.6s
PCBR Castelo Branco 78.24 52 eP P 23 32 57.5 +0.7
comp=Z,26nm,1.0s
PBEJ Beja 78.28 54 eP P 23 32 58.0 +1.0

comp=Z,27nm,1.7s
MVO Moncorvo 78.33 50 *e*P **P 23 32 57.4 +0.1**
comp=Z,28nm,1.3s
PBDV Barranco-do-Ve 78.38 54 *e*P **P 23 32 58.9 +1.3**
PMRV Marv??o 78.38 52 *e*P **P 23 32 57.8 +0.2**
PVAQ Vaqueiros 78.52 54 *e*P **P 23 32 59.1 +0.8**
SPITS Spitsbergen Ar 78.88 11 LR LR 00 14 16.6
comp=Z,92nm,18.0s,baz=192,slow=41
PBAR Barrancos 78.90 53 *e*P **P 23 33 01.1 +0.7**
comp=Z,23nm,1.7s
AVE Averroes 79.59 58 P **P 23 33 03.5 -0.7**
PAB San Pablo 80.66 52 P **P 23 33 09.7 -0.4**
ESDC Sonseca Array 80.93 51 P **P 23 33 10.4 -1.1**
ESDC IAmb IAmb 23 33 13.2
comp=Z,16nm,1.4s
ESDC Sonseca Array 80.93 51 P **P 23 33 11.4 0.0**
comp=Z,4.3nm,0.8s,baz=288,slow=6.0,SNR=25
comp=Z,4.3nm,0.8s
ESBB Sonseca Array 80.93 51 P **P 23 33 11.1 -0.4**
NB2 NORSAR Subarra 83.95 28 P **P 23 33 27.4 +0.6**
comp=Z,12nm,1.0s,baz=293,slow=4.8
NB2 NORSAR Subarra 83.95 28 P **P 23 33 27.4 +0.6**
baz=293,slow=4.8
NOA NORSAR Array B 83.95 28 P **P 23 33 27.6 +0.9**
comp=Z,3.7nm,0.7s,baz=293,slow=5.1,SNR=11
NOA LR LR 00 10 04.0
comp=Z,79nm,18.8s,baz=275,slow=35
comp=Z,3.7nm,0.7s
HFS Hagfors 85.43 28 P **P 23 33 35.6 +1.4**
comp=Z,2.1nm,0.8s,baz=201,slow=7.7,SNR=1.5
HFS LR LR 00 10 47.8
comp=Z,88nm,18.7s,baz=304,slow=35
comp=Z,2.1nm,0.8s
TIC Toumodi 88.29 84⇑*i*P **P 23 33 49.8 +0.8**
comp=Z,13nm,0.8s
LIC Lamto 88.40 84⇑*i*P **P 23 33 50.2 +0.7**
comp=Z,34nm,1.0s
DBIC Dimbokro 88.44 84 P **P 23 33 49.2 -0.5**
comp=Z,1.8nm,0.5s,baz=300,slow=3.3,SNR=6.3
DBIC LR LR 00 12 07.0
comp=Z,45nm,19.3s,baz=130,slow=35
comp=Z,1.8nm,0.5s
KIC Kosan Boka 88.64 84⇑*e*P **P 23 33 51.4 +0.8**
comp=Z,8.6nm,0.7s
GERES GERESS Array B 90.07 39 P **P 23 33 58.1 +1.3**
comp=Z,1.2nm,0.8s,baz=33,slow=3.2,SNR=3.7
comp=Z,1.2nm,0.8s
FINES FINESS Array B 90.09 24 P **P 23 33 56.3 -0.2**
comp=Z,1.4nm,0.9s,baz=320,slow=5.6,SNR=1.0
FINES LR LR 00 17 45.4
comp=Z,88nm,18.4s,baz=294,slow=38
comp=Z,1.4nm,0.9s
TORD Torodi Ar. Bea 92.85 76 P **P 23 34 10.5 +0.3**
comp=Z,0.6nm,0.5s,baz=292,slow=4.0,SNR=7.9
comp=Z,0.6nm,0.5s
WRA Warramunga Arr 132.90 257 PKP **PKiKP 23 40 14.0 +0.1**
comp=Z,0.4nm,0.9s,baz=87,slow=2.8,SNR=2.7
PZH PanZhiHua 134.84 339 PKP **PKiKP 23 40 17.8 0.0**

NNC 24 23:24:58.7±9.6, 37.00N×70.58E, h0km, mb3.9, mpv3.5, 1C-5D, Error ellipse: s-maj=75.0km s-min=66.1km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.66**	**24**	⇓P	Pn	23 26 25.0	+0.6
	0.8nm,0.3s						
AML				⇓S	Sn	23 27 31.9	+1.6
	4.6nm,0.7s						
KK31	**Karatay Array**	**6.09**	**360**	⇓P	Pn	23 26 31.0	+1.0
	2.4nm,0.4s,baz=176,slow=13,SNR=27						
KK31				⇓S	Sn	23 27 42.4	+2.0
	3.3nm,0.6s,baz=186,slow=23,SNR=10						
TKM2	**Tokmak 2**	**7.05**	**32**	⇑P	Pn	23 26 42.4	-1.0
	4.1nm,0.5s						
TKM2				⇓S	Sn	23 28 03.1	-1.4
	1.5nm,0.8s						

UPP ***24*** *23:28:46.4±0.1, 67.85N×20.21E, h0km, ML1.9, Suspected explosion*
HEL ***24*** *23:28:46.9±0.2, 67.83N×20.19E, h0km, ML1.8, Suspected explosion*
IDC ***24*** *23:28:47.9±1.4, 67.87N×20.69E, h0km, mbtmp2.9/3, ML2.0/3, Error ellipse: s-maj=19.8km s-min=7.7km az=117.0*
ISC 24 23:28:46.5±0.8, 67.84N±0.02×20.21E±0.03, h0km, n32, σ1°11/52, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**23**	P	**Pg**	**23 28 48.9**	**+0.1**
KUA				S	**Sg**	**23 28 50.6**	**+0.2**
KOVU	**Salmi**	**0.38**	**357**	P	**Pg**	**23 28 53.8**	**-0.1**
KOVU				S	**Sg**	**23 28 59.2**	**+0.4**
LANU	**Lannavaara**	**0.71**	**72**	P	**Pg**	**23 28 59.8**	**-0.1**
LANU	**Lannavaara**	**0.71**	**72**	PG	**Pg**	**23 28 59.7**	**-0.3**
LANU				SG	**Sg**	**23 29 09.2**	**+0.1**
DUNU	**Dundret**	**0.74**	**169**	P	**Pg**	**23 29 00.3**	**-0.2**
SALU	**Saltoluokta**	**0.80**	**235**	P	**Pg**	**23 29 01.5**	**-0.2**
KIF	**Kilpisjarvi**	**1.19**	**10**	*e*P	**Pg**	**23 29 09.2**	**0.0**
KIF	**Kilpisjarvi**	**1.19**	**10**	PG	**Pg**	**23 29 09.6**	**+0.4**
KIF				MSG		23 29 24.5	
	comp=Z,14nm,0.2s						
KIF				SB	**Sb**	**23 29 25.4**	**-0.4**
PAJU	**Pajala**	**1.39**	**125**	P	**Pg**	**23 29 11.9**	**-1.1**
PAJU	**Pajala**	**1.39**	**125**	PG	**Pg**	**23 29 11.8**	**-1.3**
	baz=304						
PAJU				SB	**Sg**	**23 29 30.5**	**-0.5**
HEF	**Hetta**	**1.41**	**65**	*e*P	**Pn**	**23 29 12.6**	**-0.8**
HEF	**Hetta**	**1.41**	**65**	PG	**Pn**	**23 29 12.6**	**-0.8**
HEF				MSG		23 29 29.9	
	comp=Z,8.7nm,0.2s						
HEF				SG	**Sg**	**23 29 31.3**	**-0.5**
ERTU	**Ertsjaerv**	**1.50**	**148**	PG	**Pn**	**23 29 13.9**	**-0.8**
ERTU				SN	**Sg**	**23 29 34.9**	**+0.1**
KLF	**Kolari**	**1.57**	**111**	PN	**Pn**	**23 29 15.4**	**-0.1**
	baz=296						
KLF				MSG		23 29 33.8	
	comp=Z,5.1nm,0.2s						
KLF				SN	**Sg**	**23 29 37.2**	**+0.5**
KTK1	**Kautokeino**	**1.62**	**42**	PG	**Pn**	**23 29 16.0**	**-0.3**
	baz=229						
KTK1				SN	**Sg**	**23 29 38.6**	**0.0**
TRO	**Tromso**	**1.86**	**346**	PG	**Pn**	**23 29 20.3**	**+0.8**
TRO				SG	**Sb**	**23 29 45.2**	**+0.2**
KALU	**Kalix**	**2.35**	**147**	PG	**Pn**	**23 29 27.2**	**+1.0**
KALU				SG	**Sb**	**23 29 58.3**	**-0.7**
TOF	**Tornio**	**2.40**	**136**	PB	**Pn**	**23 29 28.4**	**+1.5**
	baz=315						
TOF				MSG		23 29 57.6	
	comp=Z,4.3nm,0.2s						
TOF				SG	**Sb**	**23 30 00.6**	**+0.1**
SGF	**Sodankyl**	**2.45**	**96**	PB	**Pn**	**23 29 28.8**	**+1.2**
SGF				SB	**Sb**	**23 30 00.4**	**-1.5**
RNF	**Rovaniemi**	**2.58**	**116**	PB	**Pn**	**23 29 31.4**	**+2.0**
RNF				SG	**Sb**	**23 30 05.2**	**-0.3**
ARA0	**ARCESS Array S**	**2.58**	**46**	PB	**Pn**	**23 29 30.5**	**+1.1**
	baz=230						
ARA0				SG	**Sb**	**23 30 05.2**	**-0.5**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**23 29 29.9**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=226,slow=15,SNR=20						
ARCES				Lg	Lg	23 30 03.4	
	comp=Z,1.1nm,0.3s,baz=228,slow=25,SNR=12						
	comp=Z,1.2nm,0.3s						
KEV	**Kevo**	**3.13**	**49**	PN	**Pn**	**23 29 38.1**	**+1.2**
KEV				SN	**Sn**	**23 30 16.1**	**+1.2**
BURU	**Burvik**	**3.31**	**171**	PB	**Pn**	**23 29 42.1**	**+2.7**
VRF	**Varrio**	**3.57**	**87**	PG	**Pb**	**23 29 51.3**	**+0.9**
VRF				SG	**Sb**	**23 30 34.2**	**-0.1**
OUL	**Oulu**	**3.59**	**138**	PG	**Pb**	**23 29 51.4**	**+0.7**
	baz=325						
OUL				SG	**Sb**	**23 30 35.9**	**+1.2**
OLKF	**Oulanka, Finla**	**3.91**	**109**	PN	**Pn**	**23 29 48.9**	**+1.3**
OLKF				SG	**Sb**	**23 30 46.9**	**+3.0**
MSF	**Maaselka**	**3.98**	**115**	PN	**Pn**	**23 29 50.2**	**+1.4**
KU6	**Riekki**	**4.22**	**111**	PN	**Pn**	**23 29 53.9**	**+1.9**
FINES	**FINESS Array B**	**6.90**	**156**	Pn	**Pn**	**23 30 29.9**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=342,slow=18,SNR=1.5						
FINES				Sn	**Sn**	**23 31 46.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=342,slow=22,SNR=2.1						
FINES				Lg	Lg	23 32 23.4	
	comp=Z,0.4nm,0.3s,baz=340,slow=28,SNR=2.3						
	comp=Z,1.3nm,0.8s						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**23 30 42.3**	**+0.5**
	baz=24,slow=12,SNR=2.0						
NOA				Lg	Lg	23 32 59.0	
	baz=36,slow=21,SNR=4.0						
	comp=Z,0.9nm,1.0s						
DAG	**Danmarks Havn**	**14.44**	**325**	*i* P	**P**	**23 32 16.0**	**-2.8**
DAG				IAmb	IAmb	23 32 18.1	
	comp=Z,7.2nm,0.8s						

JSN ***24*** *23:42:57.6±0.8, 18.22N×75.90W, h0km±44km, MD3.2*
OSPL ***24*** *23:42:58.6±0.5, 19.00N×76.81W, h181km±14km, ML2.7*
SSNC ***24*** *23:43:02.6±2.3, 18.31N×76.12W, h5km, MD3.0, ML2.6, MW2.9*
ISC 24 23:42:55.8±1.8, 18.1N±0.1×75.92W±0.07, h13km±12km, n14, σ0°77/24, 2C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.77**	**267**⇑	*i*P	**Pn**	**23 43 12.4**	**-0.2**
HOJ	**Hope**	**0.80**	**262**	*i* P	**Pn**	**23 43 13.6**	**+0.8**
STH	**Stony Hill**	**0.85**	**267**⇑	*i*P	**Pn**	**23 43 13.9**	**+0.4**
MTDJ	**Mount Denham**	**1.54**	**274**	*e*P	**Pg**	**23 43 25.2**	**-0.2**
MTDJ				*e*S	**Sg**	**23 43 45.6**	**+0.1**
MTDJ				IAML		23 43 47.4	
	comp=Z,126nm,0.4s						
MTDJ				IAML		23 43 48.0	
	142nm,0.3s						
MTDJ	**Mount Denham**	**1.54**	**274**	*i* P	**Pg**	**23 43 25.2**	**-0.2**
MTDJ				*i* S	**Sg**	**23 43 45.7**	**+0.2**
MTDJ	**Mount Denham**	**1.54**	**274**	*i* P	**Pg**	**23 43 25.2**	**-0.2**
MTDJ				*e*S	**Sg**	**23 43 45.4**	**0.0**
MTDJ				IAML		23 43 47.8	
	comp=Z,60nm,0.7s						
RCC	**Rio Carpintero**	**1.87**	**6**	*e*P	**Pn**	**23 43 28.5**	**+0.9**
RCC				*e*S	**Sn**	**23 43 50.6**	**-0.4**
RCC				IAML		23 43 57.5	
	comp=E,12nm,0.3s						
RCC				IAML		23 43 57.6	
	comp=N,14nm,0.3s						
GTBY	**Guantanamo Bay**	**1.95**	**23**	*e*P	**Pb**	**23 43 31.9**	**+0.7**
GTBY				*e*S	**Sb**	**23 43 56.4**	**+1.0**
GTBY				IAML		23 43 57.5	
	comp=N,24nm,0.4s						
GTBY				IAML		23 43 59.3	
	comp=N,15nm,0.3s						
GTBY	**Guantanamo Bay**	**1.95**	**23**	*i* P	**Pg**	**23 43 32.7**	**-0.6**
GTBY				IAML		23 43 59.0	
	comp=Z,6.3nm,0.8s						
LMGC	**Las Mercedes**	**2.19**	**332**	*e*P	**Pn**	**23 43 32.5**	**+0.6**
LMGC				*e*S	**Sn**	**23 43 57.5**	**-1.3**
LMGC				IAML		23 44 01.2	
	comp=E,3μm,0.1s						
LMGC				IAML		23 44 02.0	
	comp=N,5μm,0.0s						
MASC	**Masc**	**2.59**	**38**	*e*P	**Pb**	**23 43 41.8**	**-0.3**
MASC				*e*S	**Sb**	**23 44 13.1**	**-0.8**
MASC				IAML		23 44 17.5	
	comp=E,48nm,0.3s						
MASC				IAML		23 44 17.8	
	comp=N,36nm,0.2s						
MASC	**Masc**	**2.59**	**38**	*i* P	**Pb**	**23 43 42.4**	**+0.2**
MASC				*e*S	**Sb**	**23 44 14.2**	**+0.3**
MASC				IAML		23 44 17.6	
	comp=Z,22nm,0.6s						
MOAC	**Moa**	**2.68**	**20**	*e*P	**Pb**	**23 43 43.1**	**-0.6**
MOAC				*e*S	**Sb**	**23 44 15.4**	**-1.1**
MOAC				IAML		23 44 19.2	
	comp=E,4.0nm,0.2s						
MOAC				IAML		23 44 19.2	
	comp=N,8.0nm,0.1s						
CCCC	**Cccc**	**3.52**	**331**	*e*P	**Pn**	**23 43 52.1**	**+1.9**
CCCC				*e*S	**Sn**	**23 44 31.3**	**-0.5**
CCCC				IAML		23 44 34.5	
	comp=N,0.6nm,0.1s						
CCCC				IAML		23 44 36.5	
	comp=E,2.2nm,0.5s						

DJA ***24*** *23:55:51.1±0.5, 4.3S±3.2×12.9E±.9, h88km±18km, M4.0/11, mb4.0/3, mB6.3/1, MLv4.1/11, Mw(mB)6.1/1*
IDC ***24*** *23:55:58.0±6.0, 3.53S×129.11E, h101km±58km, mb3.6/3, mbtmp3.9/4, MS3.0/1, Error ellipse: s-maj=134.2km s-min=14.4km az=72.0*
ISC 24 23:55:51.5±1.1, 3.63S±0.07×128.88E±0.08, h100km, n14, σ2°59/12, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.36**	**131**	P	**Pn**	**23 56 14.3**	**-1.7**
NLAI	**Namlea**	**1.82**	**282**	P	**Pn**	**23 56 20.7**	**-1.0**
LBMI	**Labuha**	**3.27**	**335**	P	**Pn**	**23 56 41.6**	**+0.6**
LBMI				S	**Sn**	**23 57 16.4**	**-2.7**
SANI	**Sanana**	**3.28**	**298**	P	**Pn**	**23 56 38.6**	**-2.5**
FAKI	**Fak Fak**	**3.44**	**78**	P	**Pn**	**23 56 44.0**	**+0.8**
SWI	**Sorong**	**3.63**	**41**	P	**Pn**	**23 56 46.3**	**+0.5**
RKPI	**Ransiki, Papua**	**5.70**	**68**	P	**Pn**	**23 57 11.7**	**-2.0**
GTOI	**Gorontalo**	**7.23**	**306**	P	**Pn**	**23 57 36.9**	**+2.3**
	14nm,0.9s,0.0nm						
BATI	**Baumata**	**8.34**	**218**	LR	LR	00 02 00.6	
	comp=Z,84nm,18.4s,baz=25,slow=42						
EDFI	**Ende, Flores**	**8.77**	**234**	P	**Pn**	**23 57 54.4**	**-1.3**
WRA	**Warramunga Arr**	**17.07**	**162**	P	**P**	**23 59 49.7**	**+5.4**
	0.5nm,0.4s,baz=341,slow=12,SNR=12						
WRA				S	**S**	**00 02 55.9**	**-1.3**
	0.3nm,0.8s,baz=351,slow=18,SNR=2.1						
ASAR	**Alice Springs**	**20.50**	**167**	P	Pn	00 00 28.5	+3.7
	2.6nm,0.6s,baz=350,slow=12,SNR=27						
ASAR				S	Sn	00 04 14.1	-2.2
	0.7nm,0.7s,baz=351,slow=23,SNR=4.5						
	2.6nm,0.6s						
MKAR	**Makanchi Array**	**64.81**	**327**	P	P	00 06 26.8	+7.0
	0.6nm,0.7s,baz=116,slow=8.2,SNR=4.8						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**69.07**	**328**	P	P	00 06 53.3	+6.8
	0.9nm,0.2s,baz=127,slow=5.6,SNR=6.4						
	0.9nm,0.2s						

IDC ***25*** *00:52:41.9±7.0, 24.95N×109.22W, h0km, mbtmp2.9/3, ML3.7/3, Error ellipse: s-maj=85.5km s-min=28.4km az=167.0*
MEX ***25*** *00:52:44.8±0.5, 25.11N×109.55W, h10km, MD3.9*
ISC 25 00:52:39.3±0.8, 24.89N±0.04×109.66W±0.03, h17km, n14, σ2°39/23, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.90**	**38**	*e*P	**Pb**	**00 52 55.7**	**-0.7**
TSIG				*e*S	**Sb**	**00 53 05.3**	**-2.7**
TSIG	**Topolobambo**	**0.90**	**38**	*i* P	**Pb**	**00 52 55.8**	**-0.7**
TSIG				*i* S	**Sb**	**00 53 05.4**	**-2.7**
EVAR0	**San Evaristo**	**0.96**	**271**	*e*P	**Pg**	**00 52 58.5**	**+0.6**
EVAR0				*e*S	**Sn**	**00 53 10.3**	**-0.9**
SLBS	**Sierra La Lagu**	**1.23**	**192**	*e*P	**Pg**	**00 53 05.2**	**+2.2**
SLBS				*e*S	**Sb**	**00 53 13.2**	**-4.5**
UAGRB	**Rancho Ultima**	**1.60**	**295**	*e*P	**Pn**	**00 53 05.7**	**-1.0**
NE80	**Navojoa**	**2.05**	**11**	*e*P	**Pn**	**00 53 12.3**	**-0.7**
NE80			⇑	*e*		00 53 38.8	
NE80				IAML		00 53 38.8	
	comp=N,235nm,0.1s						
NE80			⇑	*e*		00 53 44.5	
NE80				IAML		00 53 44.5	
	comp=E,233nm,0.5s						
SSIG	**Sanalona**	**2.29**	**91**	*i* P	**Pb**	**00 53 18.6**	**-1.5**
SSIG				*i* S	**Sb**	**00 53 45.2**	**-2.9**
GUYB	**Guaymas**	**3.19**	**340**	*e*P	**Pn**	**00 53 28.8**	**+0.2**
GUYB	**Guaymas**	**3.19**	**340**	*i* P	**Pb**	**00 53 32.5**	**-2.9**
GUYB				*i* S	**Sn**	**00 54 06.3**	**+0.1**
SRIG	**Santa Rosalia**	**3.35**	**317**	*i* P	**Pb**	**00 53 37.2**	**-1.1**
SRIG				*i* S	**Sn**	**00 54 11.7**	**+1.4**
HPIG		**4.13**	**60**	*i* P	**Pn**	**00 53 43.5**	**+1.7**
HPIG				*e*S	**Sn**	**00 54 28.4**	**-1.3**
TXAR	**Lajitas Array**	**6.93**	**49**	Pn	**Pn**	**00 54 20.9**	**+0.8**
	comp=E,0.3nm,0.3s,baz=228,slow=14,SNR=15						
TXAR				Pg	Pb	00 54 44.9	+5.6
	comp=E,0.1nm,0.3s,baz=229,slow=18,SNR=3.2						
TXAR				Sn	**Sn**	**00 55 36.8**	**-1.9**
	comp=E,0.1nm,0.3s,baz=223,slow=18,SNR=1.5						
TXAR				Lg	Lg	00 56 09.8	
	baz=214,slow=36,SNR=1.5						
	comp=E,0.4nm,0.4s						
NVAR	**Mina Array Bea**	**15.36**	**334**	Pn	**P**	**00 56 25.2**	**+5.1**
	comp=E,0.1nm,0.3s,baz=150,slow=18,SNR=1.8						
	comp=E,0.3nm,0.6s						
PDAR	**Pinedale Array**	**17.83**	**0**	P	**P**	**00 56 51.1**	**+3.6**
	comp=E,0.1nm,0.3s,baz=174,slow=11,SNR=1.7						
	comp=E,0.1nm,0.3s						

TAP ***25*** *01:06:05.7, 24.38N×122.90E, h44km±1km, ML3.0, C*
JMA ***25*** *01:06:05.7±0.1, 24.N±1.×123.0E±0.5, h48km, MV2.5/13, NW OFF ISHIGAKIJIMA IS*
ISC 25 01:06:05.6±1.2, 24.35N±0.05×122.96E±0.03, h47km±7km, n65, σ0°78/91, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.10**	**353**	P	**Pn**	**01 06 13.1**	**-0.1**
JYNG				S	**Sn**	**01 06 18.5**	**+0.1**
YOJ	**Yonaguni jima**	**0.12**	**22**	P	**Pn**	**01 06 13.2**	**0.0**
YOJ				S	**Sn**	**01 06 18.6**	**0.0**
YOJ	**Yonaguni jima**	**0.12**	**22**	⇓*i*P	**Pn**	**01 06 13.2**	**0.0**
	baz=44						
YOJ				*i* S	**Sn**	**01 06 18.5**	**0.0**
	baz=44						
EOS3	**EOS3**	**0.59**	**264**	P	**Pn**	**01 06 17.8**	**+0.1**
	baz=260						
EOS4	**EOS4**	**0.63**	**249**	*e*P	**Pn**	**01 06 18.4**	**+0.4**
	baz=244						
EOS2	**EOS2**	**0.67**	**276**	P	**Pn**	**01 06 18.7**	**0.0**
	baz=274						
EOS2				S	**Sn**	**01 06 28.8**	**+0.6**
	baz=274						
HATJ	**Hateruma jima**	**0.82**	**110**	P	**Pn**	**01 06 21.1**	**+0.2**
HATJ				S	**Sn**	**01 06 32.2**	**+0.1**
JKRS	**Kuro-shima**	**0.96**	**96**	P	**Pn**	**01 06 23.1**	**+0.3**
JKRS				S	**Sn**	**01 06 35.8**	**+0.3**
TWC	**Suao**	**1.04**	**285**	P	**Pn**	**01 06 23.1**	**-0.8**
	baz=283						
TWC				*e*S	**Sn**	**01 06 35.5**	**-1.9**
	baz=283						
JIJ	**Ishigaki jima**	**1.08**	**89**	P	**Pn**	**01 06 24.0**	**-0.4**
JIJ				S	**Sn**	**01 06 37.4**	**-0.8**
EWUT	**Wuta**	**1.08**	**275**	P	**Pn**	**01 06 24.1**	**-0.2**
	baz=273						
EWUT				S	**Sn**	**01 06 37.3**	**-1.0**
	baz=273						
TWB1	**Santiao Chiao**	**1.10**	**307**	*e*P	**Pn**	**01 06 24.6**	**-0.1**
	baz=307						
TWB1				*e*S	**Sn**	**01 06 37.8**	**-1.0**
	baz=307						
NDS	**Dongshan**	**1.17**	**284**	*e*P	**Pn**	**01 06 25.8**	**+0.2**
	baz=283						
NDS				*e*S	**Sn**	**01 06 39.8**	**-0.6**
	baz=283						
SXI1	**Grass Mountain**	**1.23**	**307**	*e*P	**Pn**	**01 06 26.8**	**+0.2**
	baz=307						
SXI1				*e*S	**Sn**	**01 06 41.8**	**-0.3**
	baz=307						
TWE	**Neicheng**	**1.23**	**288**	*e*P	**Pn**	**01 06 26.6**	**+0.2**
	baz=287						
TWE				*e*S	**Sn**	**01 06 41.3**	**-0.7**
	baz=287						
JISG	**Ishigakijimahi**	**1.25**	**79**	P	**Pn**	**01 06 26.7**	**-0.1**
JISG				*e*S	**Sn**	**01 06 41.9**	**-0.6**
NACB	**Ninganchiao**	**1.26**	**262**	*e*P	**Pn**	**01 06 26.8**	**0.0**
	baz=260						
NWF	**Wu-fen Shan**	**1.29**	**304**	*e*P	**Pn**	**01 06 27.3**	**-0.1**
	baz=304						
NWF				*e*S	**Sn**	**01 06 43.2**	**-0.4**
	baz=304						
WFSB	**Wu-fen Shan**	**1.29**	**304**	*e*S	**Sn**	**01 06 43.4**	**-0.1**
	baz=304						
ENTT	**Nioudou**	**1.30**	**283**	*e*P	**Pn**	**01 06 28.1**	**+0.7**
	baz=282						
FUSB	**Fushanzhiwuyua**	**1.31**	**288**	*e*P	**Pn**	**01 06 28.2**	**+0.6**
	baz=287						
FUSB				*e*S	**Sn**	**01 06 43.3**	**-0.8**
	baz=287						
NDT	**Datong Townshi**	**1.34**	**281**	*e*P	**Pn**	**01 06 28.1**	**+0.1**
	baz=280						
NDT				*e*S	**Sn**	**01 06 44.5**	**-0.2**
	baz=280						
ETLH	**Xiulin Townshi**	**1.36**	**264**	*e*P	**Pn**	**01 06 28.9**	**+0.6**
	baz=262						
ETLH				*e*S	**Sn**	**01 06 45.3**	**+0.2**
	baz=262						
ETM	**Tongmen**	**1.39**	**254**	*e*P	**Pn**	**01 06 28.7**	**+0.1**
	baz=252						
NWLT	**Wulai**	**1.39**	**288**	*e*P	**Pn**	**01 06 29.5**	**+0.8**
	baz=287						
NWLT				*e*S	**Sn**	**01 06 45.4**	**-0.6**
	baz=287						
NNSB	**Datong**	**1.44**	**273**	*e*P	**Pn**	**01 06 30.8**	**+1.4**
	baz=272						
LXIB	**Xiulin Townshi**	**1.45**	**257**	*e*P	**Pn**	**01 06 29.6**	**0.0**
	baz=255						
LXIB				*e*S	**Sn**	**01 06 47.3**	**-0.2**
	baz=255						
NNS	**Nan Shan**	**1.45**	**274**	*e*P	**Pn**	**01 06 29.9**	**+0.4**
	baz=272						
YHNB	**Yeheng**	**1.48**	**283**	*e*P	**Pn**	**01 06 30.7**	**+0.8**
	baz=281						
YHNB				*e*S	**Sn**	**01 06 47.6**	**-0.5**
	baz=281						
NSK	**Sanguang**	**1.50**	**283**	*e*P	**Pn**	**01 06 31.4**	**+1.2**
	baz=282						
NSK				*e*S	**Sn**	**01 06 48.4**	**-0.1**
	baz=282						
WHF	**Hehuan Shan**	**1.56**	**263**	*e*P	**Pn**	**01 06 32.0**	**+0.7**
	baz=261						
WARBT	**Fenglin Townsh**	**1.57**	**247**	*e*P	**Pn**	**01 06 30.2**	**-0.9**
	baz=244						
WARBT				*e*S	**Sn**	**01 06 49.0**	**-1.3**
	baz=244						
JTJ	**Tarama**	**1.61**	**79**	S	**Sn**	**01 06 51.4**	**+0.1**
HGSD	**Ruisui**	**1.64**	**239**	*e*P	**Pn**	**01 06 32.4**	**+0.3**
	baz=236						
TDCB	**Techi**	**1.65**	**267**	*e*P	**Pn**	**01 06 32.5**	**+0.3**
	baz=265						
CHGB	**Renai**	**1.66**	**260**	*e*P	**Pn**	**01 06 33.0**	**+0.5**
	baz=258						
OWD	**Renai**	**1.68**	**257**	*e*P	**Pn**	**01 06 32.8**	**+0.1**
	baz=255						
NFF	**Wufeng Townshi**	**1.70**	**280**	*e*P	**Pn**	**01 06 33.8**	**+0.8**
	baz=278						
EHY	**Hungye**	**1.72**	**241**	*e*P	**Pn**	**01 06 32.9**	**-0.3**
	baz=238						
WUSB	**Renai**	**1.72**	**258**	*e*P	**Pn**	**01 06 34.0**	**+0.7**
	baz=256						
VWDT	**VWDT**	**1.77**	**251**	*e*P	**Pn**	**01 06 34.0**	**+0.3**
	baz=248						
VWDT				*e*S	**Sn**	**01 06 54.9**	**-0.1**
	baz=248						
YULB	**Yu-li**	**1.79**	**238**	*e*P	**Pn**	**01 06 33.5**	**-0.7**
	baz=236						
YULB				*e*S	**Sn**	**01 06 54.2**	**-1.5**
	baz=236						
EYUL	**Yuli**	**1.80**	**237**	*e*P	**Pn**	**01 06 34.6**	**+0.3**
	baz=234						
TWF1	**Yuli**	**1.82**	**237**	*e*P	**Pn**	**01 06 34.5**	**0.0**
	baz=235						
WHP	**Taichung City**	**1.84**	**268**	*e*P	**Pn**	**01

CHN5	Tsauling	2.22	251	*e*P	Pn	01 06 41.1	+1.1
	baz=249						
STYH	Taoyuan	2.32	240	*e*P	Pn	01 06 42.2	+0.8
	baz=238						
TPUB	Ta-pu	2.38	244	*e*P	Pn	01 06 42.8	+0.7
	baz=242						
CHN4	Tsaushan	2.38	246	*e*P	Pn	01 06 44.0	+1.8
	baz=244						
WTP	Ta-pu	2.41	243	*e*P	Pn	01 06 43.9	+1.2
	baz=241						
CHN1	Nanshi	2.51	243	*e*P	Pn	01 06 45.2	+1.2
	baz=241						
SLGT	Liugui	2.51	238	*e*P	Pn	01 06 46.0	+2.0
	baz=236						
MASBT	Mashibuluo	2.75	231	*e*P	Pn	01 06 48.3	+1.1
	baz=229						

LDG ***25*** *01:31:20.4±0.1, 45°.42N×6°.34E, h2km, Md1.3/2, Ml2.0/2, Error ellipse: s-maj=1.5km s-min=1.1km az=95.0*

STR 25 01:31:20.4±0.3, 45°N±2°×°±°, h5km, MLv1.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=84.7, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	Grand'Maison	0.27	215	Pg	Pg	01 31 25.5	-0.2
GDM				Sg	Sg	01 31 28.9	-0.4
LPL	La Plagne	0.29	72	*e*Pg	Pg	01 31 26.2	+0.1
LPL				*e*Sg	Sg	01 31 30.1	+0.1
	7.3nm,0.3s						
LPG	La Plagne	0.30	76	*e*Pg	Pg	01 31 26.4	+0.1
LPG				*e*Sg	Sg	01 31 30.5	+0.2
	9.3nm,0.3s						
RSL	Roselend	0.33	37	Pg	Pg	01 31 26.5	-0.4
RSL				Sg	Sg	01 31 30.6	-0.7
LSD	Lago del Serru	0.56	86	Sg	Sg	01 31 38.4	-0.2
LSD	Lago del Serru	0.56	86	Pg	Pg	01 31 30.7	-0.5
RRL	Rocca Remolon	0.60	147	Pg	Pg	01 31 32.4	+0.5
RRL	Rocca Remolon	0.60	147	Sg	Sg	01 31 40.2	+0.5
ORIF	Oris-en-Rattie	0.60	213	*e*Pg	Pg	01 31 31.7	-0.2
ORIF				*e*Sg	Sg	01 31 38.9	-0.9
	5.0nm,0.2s						
ORIF	Oris-en-Rattie	0.60	213	Pg	Pg	01 31 31.4	-0.5
ORIF	Oris-en-Rattie	0.60	213	Sg	Sg	01 31 39.0	-0.7
RSP	Reno Superiore	0.71	113	Pg	Pg	01 31 34.3	+0.2
RSP	Reno Superiore	0.71	113	Sg	Sg	01 31 43.4	+0.1
MBDF	Montbardon	0.76	156	*e*Pg	Pg	01 31 34.9	-0.1
MBDF				*e*Sg	Sg	01 31 45.5	+0.6
	4.6nm,0.6s						
OG35	Corcelles	0.82	319	Pg	Pg	01 31 36.0	-0.1
OG35				Sg	Sg	01 31 46.9	+0.2
CREF	Crivoux	0.90	167	Pg	Pg	01 31 37.4	-0.2
CREF				Sg	Sg	01 31 49.5	+0.2
OGAG	Argentiere	0.98	171	Pg	Pg	01 31 33.0	-6.2
OGAG				Sg	Sg	01 31 42.1	-10
DIX	Grande Dixence	0.99	48	Pg	Pg	01 31 39.3	-0.1
DIX	Grande Dixence	0.99	48	Sg	Sg	01 31 53.1	+0.7
AIGLE	Aigle	1.01	25	Pg	Pg	01 31 39.2	-0.6
GIMEL	St. Georges /	1.11	357	Pg	Pb	01 31 42.2	0.0
GIMEL	St. Georges /	1.11	357	Sg	Sb	01 31 56.9	-0.1
CABF	La Chapelle	1.20	352	*e*Pg	Pg	01 31 42.6	-0.8
CABF	La Chapelle	1.20	352	*e*P	Pn	01 31 44.0	+0.1
VIVF	Saint-Julien-l	1.31	245	*e*Pg	Pn	01 31 44.3	-1.0
VIVF				*e*Sg	Sg	01 32 01.9	-0.5
	1.3nm,0.2s						
RIVEL	MONT RIVEL	1.36	348	Pg	Pg	01 31 46.7	+0.1
TURF	col de Turini	1.63	152	Pg	Pg	01 31 52.9	+1.3
SAOF	Saorge	1.68	148	Pg	Pg	01 31 54.0	+1.4
CALF	Calern	1.72	166	Pg	Pg	01 31 54.6	+1.2
BOUC	Bouclans	1.82	358	Pn	Pn	01 31 52.3	-0.1
BOUC				Pg	Pg	01 31 55.0	-0.3
CHMF	Charmoille	1.84	7	Pg	Pg	01 31 55.2	-0.4
CHMF				Sn	Sg	01 32 19.2	-0.2

STR ***25*** *01:31:33.7±0.4, 45°N±3°×°±°, h5km, MLv1.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=115.7, preliminary*

LDG 25 01:31:33.7±0.1, 45°.40N×6°.33E, h2km, Md1.7/2, Ml1.6/3, Error ellipse: s-maj=2.4km s-min=1.7km az=123.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	Grand'Maison	0.25	217	Pg	Pg	01 31 38.3	-0.2
GDM				Sg	Sg	01 31 43.1	+1.3
LPL	La Plagne	0.30	68	*e*Pg	Pg	01 31 40.2	+0.6
LPL				*e*Sg	Sg	01 31 44.2	+0.6
	6.7nm,0.3s						
LPG	La Plagne	0.31	72	*e*Pg	Pg	01 31 40.4	+0.7
LPG				*e*Sg	Sg	01 31 44.7	+0.9
	8.2nm,0.3s						
RSL	Roselend	0.35	36	Pg	Pg	01 31 40.6	+0.1
RSL				Sg	Sg	01 31 44.7	-0.4
LSD	Lago del Serru	0.57	84	Sg	Sg	01 31 52.5	+0.5
LSD	Lago del Serru	0.57	84	Pg	Pg	01 31 44.1	-0.5
ORIF	Oris-en-Rattie	0.58	214	*e*Pg	Pg	01 31 44.7	-0.1
ORIF				*e*Sg	Sg	01 31 53.0	+0.7
	3.5nm,0.2s						
ORIF	Oris-en-Rattie	0.58	214	Pg	Pg	01 31 44.4	-0.4
OGSI	Sixt	0.73	24	Pg	Pg	01 31 46.7	-0.9
OGSI				Sg	Sg	01 31 56.0	-1.0
MBDF	Montbardon	0.74	155	*e*Pg	Pg	01 31 47.2	-0.8
MBDF				*e*Sg	Sg	01 31 58.2	+0.6
	0.6nm,0.2s						
CABF	La Chapelle	1.22	352	*e*Pg	Pg	01 31 57.2	+0.1
CABF	La Chapelle	1.22	352	*e*P	Pn	01 31 58.1	+0.2
CABF				*e*Sg	Sg	01 32 12.5	-0.4
	1.0nm,0.3s						
CABF	La Chapelle	1.22	352	*e*Sg	Pn	01 31 58.1	+0.2
	3.5nm,0.2s						
VIVF	Saint-Julien-l	1.30	246	*e*Pg	Pg	01 31 57.5	-1.0
VIVF				*e*Sg	Sb	01 32 16.3	+0.4
	1.4nm,0.2s						
SMF	Signal de Mont	2.13	306	*e*Pg	Pb	01 32 12.1	-1.0
SMF				*e*Sg	Sb	01 32 39.3	-0.7
	0.3nm,0.2s						

IDC 25 01:43:02.1±6.7, 5°.88S×149°.14E, h122km±49km, mb3.1/2, mbtmp3.7/3, Error ellipse: s-maj=123.7km s-min=52.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.01	209	P	Pn	01 44 02.3	+0.4
	24nm,0.4s,baz=37,slow=8.4,SNR=12						
PMG				S	Sn	01 44 48.6	+0.4
	85nm,0.3s,baz=161,slow=22,SNR=15						
WRA	Warramunga Arr	20.06	224	P	P	01 47 26.4	+0.4
	1.6nm,0.4s,baz=50,slow=10,SNR=22						
	1.6nm,0.4s						
ASAR	Alice Springs	22.97	218	P	P	01 47 56.5	+0.2
	0.3nm,0.3s,baz=46,slow=9.1,SNR=5.8						
	0.3nm,0.3s						
TORD	Torodi Ar. Bea	147.12	285	PKPbc	PKPdf	02 02 30.8	+1.1
	0.1nm,0.4s,baz=87,slow=2.8,SNR=4.4						

IDC ***25*** *01:50:52.5±1.7, 37°.12N×99°.35W, h0km, mbtmp3.3/3, ML3.7/2, Error ellipse: s-maj=28.2km s-min=12.0km az=98.0*

NEIC ***25*** *01:50:54.0±0.7, 36°.96N±0°.02×99°.41W±0°.02, h3km±6km, Error ellipse: s-maj=4.0km s-min=1.2km az=208.0*

TUL ***25*** *01:50:53.1±1.3, 36°.98N±0°.02×99°.42W±0°.04, h8km±7km, ML2.9, mb_Lg3.1/102(NEIC), ML3.2/16(NEIC), Error ellipse: s-maj=4.6km s-min=1.3km az=67.0*

ANF ***25*** *01:50:54.0±0.3, 37°.00N×99°.40W, h8km, ML3.9/14, Error ellipse: s-maj=3.5km s-min=2.4km az=70.0*

ISC 25 01:50:53.5±1.3, 36°.99N±0°.03×99°.38W±0°.03, h4km±11km, n126, σ0.677/115, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	Waynoka	0.50	135	Pg	Pg	01 51 03.0	-0.1
NOKA				Sg	Sg	01 51 10.3	+0.7
NOKA				IAML		01 51 12.5	
	comp=N,2μm,0.7s						
NOKA				IAML		01 51 12.9	
	comp=E,2μm,0.5s						
OK035	E0210 Rd and N	0.60	118	Pg	Pg	01 51 04.7	-0.4
OK035				Sg	Sg	01 51 12.9	0.0
OK035				IAML		01 51 21.3	
	comp=E,1μm,0.3s						
U32A	Winter Ranch,	0.68	154	Pg	Pg	01 51 06.1	-0.4
U32A				Sg	Sg	01 51 15.5	+0.2
U32A				IAML		01 51 25.7	
	comp=E,1μm,0.8s						
U32A	Winter Ranch,	0.68	154	P	Pb	01 51 06.7	-1.2
	baz=330,SNR=16						
U32A				S	Sb	01 51 15.8	-1.8
	baz=330						
OK038	West end E0370	0.72	135	Pg	Pg	01 51 07.2	-0.1
OK038				Sg	Sg	01 51 17.2	+0.5
ELIS	Ellis County	0.92	182	Pg	Pg	01 51 10.5	-0.6
ELIS				IAML		01 51 34.8	
	comp=E,962nm,0.8s						
ELIS				IAML		01 51 41.0	
	comp=N,699nm,0.4s						
OK032	Salt Plains WL	0.95	101	Pg	Pg	01 51 11.4	-0.4
OK032				Sg	Sg	01 51 24.1	0.0
OK032				IAML		01 51 31.4	
	comp=N,671nm,0.2s						
OK032				IAML		01 51 38.2	
	comp=N,782nm,0.2s						
KAN10	Anthony SW Sta	1.03	82	Pg	Pg	01 51 12.9	-0.4
KAN10				Sg	Sg	01 51 27.3	+0.6
KAN14	Manchester OK	1.13	91	Pg	Pg	01 51 14.6	-0.6
KAN12	Harper NE Stat	1.14	74	Pg	Pg	01 51 15.1	-0.4
KAN12				Sg	Sb	01 51 31.1	+0.1
KAN08	Anthony NE Sta	1.15	78	Pg	Pg	01 51 15.2	-0.3
KAN08				Sg	Sg	01 51 31.0	+0.6
KAN05	Bluff City Nor	1.21	84	Pg	Pg	01 51 15.9	-0.8
KAN05				IAmb_Lg		01 51 35.2	
	comp=Z,106nm,0.7s						
CROK	Carrier	1.22	113	Pg	Pg	01 51 16.2	-0.7
GC02	Grant County #	1.22	96	Pg	Pg	01 51 16.3	-0.7
KAN06	Argonia West S	1.24	78	Pg	Pg	01 51 16.6	-0.6
KAN17	Caldwell West	1.29	87	Pg	Pg	01 51 17.5	-0.7
KS21	Milan North St	1.40	77		Pn	01 51 19.4	-0.4
KAN09	Caldwell North	1.41	84		Pn	01 51 19.8	-0.2
CSTR	Hydro, Custer	1.45	157		Pn	01 51 20.2	-0.3
KS20	Mayfield South	1.48	80		Pn	01 51 21.0	+0.1
KS20				IAmb_Lg		01 51 42.9	
	comp=Z,107nm,0.7s						
KAN13	South Haven SW	1.52	89		Pn	01 51 21.4	-0.1
KAN13				IAmb_Lg		01 51 42.5	
	comp=Z,150nm,0.7s						
R32A	Long Quarter,	1.52	20		Pn	01 51 21.4	-0.1
R32A	Long Quarter,	1.52	20	P	Pn	01 51 21.7	+0.2
	baz=202,SNR=69						
R32A				S	Sn	01 51 42.1	+0.3
	baz=202						
BLOK	Blackwell	1.75	97	Pn	Pn	01 51 25.2	+0.6
CBKS	Cedar Bluff	1.84	351	Pn	Pn	01 51 26.6	+0.6
CBKS	Cedar Bluff	1.84	351	P	Pn	01 51 26.7	+0.7
	baz=172,SNR=74						
CBKS				S	Sb	01 51 51.3	+0.1
	baz=172						
OK029	Liberty Lake	1.96	127	Pn	Pn	01 51 27.6	+0.2
SMWD	Samnorwood	2.01	201	Pn	Pn	01 51 27.2	-1.0
SMWD				IAmb_Lg		01 51 58.2	
	comp=Z,127nm,0.7s						
OK048	Pawnee Station	2.04	106	Pn	Pn	01 51 28.8	+0.3
OK048				IAmb_Lg		01 52 02.1	
	comp=Z,58nm,0.9s						
OK051	E0350 and S346	2.10	103	Pn	Pn	01 51 29.7	+0.3
OK051				IAmb_Lg		01 52 05.0	
	comp=Z,120nm,1.0s						
OK033	Mehan	2.18	115	Pn	Pn	01 51 31.2	+0.7
OK033				IAmb_Lg		01 52 05.7	
	comp=Z,78nm,0.8s						
OKCSW	OKLAHOMA CITY	2.23	135	Pn	Pn	01 51 32.1	+1.0
OKCSW				IAmb_Lg		01 52 04.1	
	comp=Z,80nm,0.8s						
OK031	S. Brethren Rd	2.29	116	Pn	Pn	01 51 32.5	+0.4
T35A	Sooner Cattle	2.29	91	Pn	Pn	01 51 32.8	+0.7
T35A				IAmb_Lg		01 52 07.7	
	comp=Z,84nm,0.7s						
T35B	Sooner Cattle	2.30	91	P	Pn	01 51 32.8	+0.7
	baz=272,SNR=21						
T35B				S	Sn	01 52 02.7	+1.9
	baz=272						
QUOK	Quay	2.30	110	Pn	Pn	01 51 32.4	+0.3
WMOK	Wichita Mounta	2.30	168	Pn	Pn	01 51 32.9	+0.8
WMOK				IAmb_Lg		01 52 07.7	
	comp=Z,122nm,1.1s						
WMOK	Wichita Mounta	2.30	168	P	Pn	01 51 32.5	+0.4
	baz=347,SNR=30						
WMOK				S	Sb	01 52 04.4	+0.1
	baz=347						
OK052	Battle Ridge R	2.30	115	Pn	Pn	01 51 32.5	+0.3
DEOK	Depew	2.59	115	Pn	Pn	01 51 37.0	+0.9
X34A	Smith Ranch, M	2.69	152	Pn	Pn	01 51 38.2	+0.6
X34A				IAmb_Lg		01 52 22.2	
	comp=Z,52nm,0.8s						
RTBA	Rita Blanca	2.76	259	Pn	Pn	01 51 38.7	+0.2
RTBA				IAmb_Lg		01 52 26.4	
	comp=Z,89nm,0.8s						
AMTX	Amarillo	2.81	222	Pn	Pn	01 51 39.8	+0.5
AMTX				IAmb_Lg		01 52 24.7	
	comp=Z,81nm,0.8s						
AMTX	Amarillo	2.81	222	Pb	Pb	01 51 44.3	0.0
	baz=40						
KS25	Jewell	2.85	19	Pn	Pn	01 51 39.7	0.0
KS22	Mankato Kansas	2.95	18	Pn	Pn	01 51 40.8	-0.3
KS23	Northwest Mank	2.98	17	Pn	Pn	01 51 40.7	-0.9
KSU1	Kansas State U	3.04	45	Pn	Pn	01 51 43.0	+0.8
KSU1				IAmb_Lg		01 52 38.2	
	comp=Z,44nm,0.8s						
TUL3	Leonard	3.08	109	Pn	Pn	01 51 43.2	+0.3
TUL3	Leonard	3.08	109	P	Pn	01 51 43.5	+0.6
	baz=291						
KSCO	Kaye Shedlock'	3.27	309	Pn	Pn	01 51 46.0	+0.4
KSCO				IAmb_Lg		01 52 37.4	
	comp=Z,52nm,0.7s						
KSCO	Kaye Shedlock'	3.27	309	P	Pn	01 51 45.8	+0.3
	baz=128,SNR=7.4						
KSCO				S	Sn	01 52 24.7	-0.2
	baz=128						
WTFS	Witchita Falls	3.30	167	IAmb_Lg		01 52 40.0	
	comp=Z,14nm,0.8s						
LOOK	Love County	3.49	148	IAmb_Lg		01 52 47.8	
	comp=Z,43nm,0.8s						
DKNS	Dickens	3.55	201	Pn	Pn	01 51 47.5	-1.9
DKNS				IAmb_Lg		01 52 48.5	
	comp=Z,32nm,0.7s						
RLO	Rose Lookout	3.60	102	Pn	Pn	01 51 50.7	+0.7
RLO				IAmb_Lg		01 52 47.3	
	comp=Z,26nm,0.8s						
APMT	Aspermont	3.71	190	Pn	Pn	01 51 51.2	-0.3
APMT				IAmb_Lg		01 52 52.4	
	comp=Z,26nm,0.7s						
T25A	Trinidad	4.03	274	Pn	Pn	01 51 56.0	-0.2
N33B	J Bar K, Exete	4.03	21	P	Pn	01 51 55.5	-0.5
	baz=203,SNR=26						
N33B				S	Sn	01 52 43.0	-0.6
	baz=203						
N33A	J Bar K, Exete	4.03	21	Pn	Pn	01 51 55.7	-0.3
X37A	Clayton	4.04	125	Pn	Pn	01 51 56.0	-0.1
X37A	Clayton	4.04	125	P	Pn	01 51 56.6	+0.5
	baz=307,SNR=6.0						
Z35A	Perchaven, San	4.04	154	Pn	Pn	01 51 57.1	+1.0
Z35A				IAmb_Lg		01 53 09.1	
	comp=Z,32nm,1.0s						
U38A	Gravette	4.05	96	Pn	Pn	01 51 56.9	+0.7
U38A	Gravette	4.05	96	P	Pn	01 51 57.0	+0.8
	baz=279,SNR=26						
FW03	Perrin-Whitt E	4.08	164	Pn	Pn	01 51 57.0	+0.3
FW03				IAmb_Lg		01 53 07.2	
	comp=Z,24nm,0.7s						
MSTX	Muleshoe	4.09	224	IAmb_Lg		01 53 05.9	
	comp=Z,34nm,0.9s						
PLPT	Palo Pinto	4.26	168	IAmb_Lg		01 53 19.7	
	comp=Z,25nm,0.8s						
FW06	Azle	4.28	159	IAmb_Lg		01 53 14.3	
	comp=Z,20nm,0.8s						
POST	Post	4.29	205	Pn	Pn	01 51 59.1	-0.4
POST				IAmb_Lg		01 53 19.0	
	comp=Z,30nm,0.7s						
SN01	Snyder 1	4.30	197	IAmb_Lg		01 53 14.9	
	comp=Z,33nm,0.8s						
ABTX	Abilene, Hawle	4.36	183	IAmb_Lg		01 53 13.8	
	comp=Z,46nm,1.2s						
HHAR	Hobbs	4.43	98	Pn	Pn	01 52 01.7	+0.3
HHAR				IAmb_Lg		01 53 24.2	
	comp=Z,40nm,0.8s						
OGNE	Ogallala	4.46	333	Pn	Pn	01 52 02.5	+0.6
FW07	Weatherford	4.47	163	IAmb_Lg		01 53 16.9	
	comp=Z,18nm,0.7s						
BGNE	Belgrade	4.51	12	Pn	Pn	01 52 01.0	-1.6
N35A	Tabor	4.84	36	Pn	Pn	01 52 05.2	-1.9
S39A	Bolivar	4.87	80	Pn	Pn	01 52 07.8	+0.3
S39A				IAmb_Lg		01 53 26.1	
	comp=Z,49nm,0.9s						
S39A	Bolivar	4.87	80	P	Pn	01 52 08.0	+0.5
	baz=264,SNR=19						
FW13	Cleburne	4.90	160	IAmb_Lg		01 53 34.6	
	comp=Z,17nm,0.8s						
FW14	Alvarado	4.92	158	IAmb_Lg		01 53 37.6	
	comp=Z,16nm,0.8s						
SDCO	Great Sand Dun	4.94	281	Pn	Pn	01 52 09.0	+0.3
SDCO				IAmb_Lg		01 53 36.0	
	comp=Z,26nm,1.1s						
FW16	Waxahatchie	4.94	155	IAmb_Lg		01 53 41.6	
	comp=Z,31nm,0.8s						
TREL	Terrell	5.04	147	IAmb_Lg		01 53 41.9	
	comp=Z,50nm,1.0s						
SGCY	Sterling City	5.26	196	IAmb_Lg		01 53 52.0	
	comp=Z,22nm,0.7s						
BRIGG	Briggsdale	5.27	314	IAmb_Lg		01 53 40.2	
	comp=Z,47nm,0.9s						
U40A	Yellville	5.28	95	P	Pn	01 52 13.4	+0.2
	baz=279						
U40A				P	Pn	01 52 13.4	+0.2
	baz=279						
P38A	Dawn	5.30	58	Pn	Pn	01 52 13.0	-0.4
P38A				IAmb_Lg		01 53 45.7	
	comp=Z,52nm,0.9s						
P38A	Dawn	5.30	58	P	Pn	01 52 13.4	+0.1
	baz=242						
MIAR	Mount Ida	5.31	116	Pn	Pn	01 52 14.4	+0.9
MIAR				IAmb_Lg		01 53 46.8	
	comp=Z,27nm,0.9s						
MIAR	Mount Ida	5.31	116	P	Pn	01 52 14.7	+1.2
	baz=299,SNR=7.1						
ISCO	Idaho Springs	5.64	302	Pn	Pn	01 52 18.3	-0.1
ISCO	Idaho Springs	5.64	302	P	Pn	01 52 18.3	-0.1
	baz=118						
K30B	Basset	5.68	358	Pn	Pn	01 52 19.3	+0.6
K30B	Basset	5.68	358	P	Pn	01 52 19.5	+0.9
	baz=178,SNR=9.5						
MGMO	Mountain Grove	5.69	86	Pn	Pn	01 52 18.4	-0.3
MGMO				IAmb_Lg		01 54 03.9	
	comp=Z,40nm,0.8s						
R40A	Maddies Statio	5.79	75	Pn	Pn	01 52 19.9	-0.2
R40A	Maddies Statio	5.79	75	P	Pn	01 52 20.2	+0.2
	baz=259,SNR=11						
X40A	Basin Creek Fa	5.88	113	Pn	Pn	01 52 21.9	+0.6
FCAR	Ozark Folk Cen	5.95	98	IAmb_Lg		01 54 04.1	
	comp=Z,35nm,0.8s						
WHAR	Wooly Hollow	5.98	104	Pn	Pn	01 52 22.8	+0.1
WHAR				IAmb_Lg		01 54 10.7	
	comp=Z,39nm,0.8s						
WLAR	White Oak Lake	6.09	121	IAmb_Lg		01 54 13.2	
	comp=Z,29nm,1.0s						
UALR	University of	6.12	109	IAmb_Lg		01 54 15.4	
	comp=Z,30nm,0.9s						
OZNA	Ozona	6.22	194	Pn	Pn	01 52 25.7	-0.5
MNHN	Monahans	6.29	207	Pn	Pn	01 52 27.2	0.0
P40A	Paris	6.30	64	P	Pn	01 52 27.0	-0.1
	baz=248						
435B	Jarrell	6.37	166	IAmb_Lg		01 54 32.7	
	comp=Z,30nm,0.8s						
PHWY	Pilot Hill	6.39	314	IAmb_Lg		01 54 17.8	
	comp=Z,38nm,1.0s						
JCT	Junction City	6.50	183	IAmb_Lg		01 54 34.0	
	comp=Z,42nm,1.0s						
LCAR	Lake Charles	6.68	95	IAmb_Lg		01 54 30.2	
	comp=Z,22nm,0.9s						
ECSD	EROS Data Cent	7.06	17	Pn	Pn	01 52 36.1	-1.4
ECSD	EROS Data Cent	7.06	17	P	Pn	01 52 36.0	-1.5
	baz=198						
FVM	French Village	7.18	79	IAmb_Lg		01 54 48.7	
	comp=Z,31nm,0.8s						
MVCO	Mesa Verde	7.29	274	IAmb_Lg		01 54 55.9	
	comp=Z,19nm,1.3s						
SAND	Sanderson	7.38	199	Pn	Pn	01 52 40.6	-1.5
RWWY	Rawlins	7.67	310	IAmb_Lg		01 55 00.4	
	comp=Z,18nm,0.8s						
CGM3	Cape Girardeau	7.77	85	IAmb_Lg		01 55 03.6	
	comp=Z,33nm,0.8s						
K22A	Casper	7.89	318	IAmb_Lg		01 55 11.9	
	comp=Z,19nm,0.7s						
RSSD	Black Hills	7.96	335	Pn	Pn	01 52 49.2	-0.8
RSSD				IAmb_Lg		01 55 17.9	
	comp=Z,21nm,0.8s						
TX31	Lajitas Ar. Si	8.44	206	Pn	Pn	01 52 54.8	-1.8
TX31	Lajitas Ar. Si	8.44	206	P	Pn	01 52 56.9	+0.3
	baz=24						
TX32	Lajitas Array	8.44	206	Pn	Pn	01 52 55.8	-0.8
TXAR	Lajitas Array	8.44	206	Pn	Pn	01 52 56.9	+0.3
	comp=Z,0.1nm,0.3s,baz=38,slow=11,SNR=9.6						
TXAR				Pg	Pb	01 53 23.6	+3.5
	comp=Z,0.3nm,0.3s,baz=30,slow=14,SNR=5.5						
TXAR				Lg	Lg	01 55 14.0	
	comp=Z,0.5nm,0.3s,baz=24,slow=26,SNR=4.1						
	comp=Z,0.8nm,0.7s						
Y45A	Yeager Farm, C	8.61	108	IAmb_Lg		01 55 34.7	
	comp=Z,27nm,0.9s						
PDAR	Pinedale Array	9.72	310	Pn	Pn	01 53 14.0	-0.3
	comp=Z,0.1nm,0.3s,baz=112,slow=15,SNR=2.0						
PDAR				Pg		01 53 50.0	
	comp=Z,0.2nm,0.3s,baz=123,slow=17,SNR=4.2						
PDAR				Lg	Lg	01 55 55.7	
	comp=Z,0.4nm,0.3s,baz=111,slow=33,SNR=3.9						
	comp=Z,0.1nm,0.3s						
ULM	Lac du Bonnet	13.49	10	Pn	Pn	01 53 57.4	-8.2
	comp=Z,1.8nm,0.4s,baz=197,slow=14,SNR=2.4						
ULM				Sn	Sn	01 56 21.6	-14
	comp=Z,0.3nm,0.3s,baz=276,slow=10,SNR=2.8						

IDC ***25*** *02:02:09.0±2.2, 14°.57N×93°.88W, h0km, mb3.7/7, mbtmp3.6/9, ML3.4/2, MS3.3/2, Error ellipse: s-maj=46.0km s-min=28.3km az=15.0*

MEX ***25*** *02:02:11.7±0.5, 14°.37N×94°.21W, h15km, MD4.1*

ISC 25 02:02:13.7±1.1, 14°.60N±0°.09×94°.07W±0°.06, h30km, n17, σ1.951/25, mb3.6/7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.37	37	*e*P	Pn	02 02 36.2	-0.6
PCIG				*i* S	Sb	02 02 57.0	+1.1
PATR	El Naranjo

EKA	**Eskdalemuir Ar**	78.65	36	P	P	02 14 12.8	0.0
	1.3nm,0.7s,baz=263,slow=5.7,SNR=2.3 1.3nm,0.7s						
ESDC	**Sonseca Array**	80.91	51	P	P	02 14 24.7	-0.8
	0.5nm,0.9s,baz=268,slow=3.7,SNR=3.5 0.5nm,0.9s						
CMAR	**Chiang Mai Arr**	144.73	338	PKP	PKPab	02 21 47.2	-0.1
	1.0nm,0.3s,baz=7.6,slow=2.7,SNR=4.5						

*IDC **25** 02:05:36.4±0.9, 37°.14N×75°.19E, h0km, mb3.8/11, mbtmp3.7/17, ML3.1/6, MS3.4/4, Error ellipse: s-maj=19.1km s-min=15.8km az=90.0*
*NNC **25** 02:05:41.5±6.3, 37°.30N×75°.17E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=57.6km s-min=45.6km az=92.0*
ISC 25 02:05:41.3±0.7, 37°.07N±0°.07×75°.23E±0°.10, h35km, n33, σ1§57/34, mb3.9/12, MS3.3/3, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	5.19	347	⇑Pn	Pn	02 06 57.5	+0.7
	0.8nm,0.5s						
AML				⇑Sn	Sn	02 07 59.3	+3.6
	3.7nm,0.6s						
AAK	**Ala-Archa**	5.59	354	Pn	Pn	02 07 04.4	+2.3
	1.1nm,0.3s,baz=204,slow=9.1,SNR=10						
AAK				Sn	Sn	02 08 07.9	+2.7
	baz=191,slow=18						
AAK				Lg	Lg	02 08 31.0	
	0.1nm,0.3s,baz=25,slow=16,SNR=1.7						
AAK				LR	LR	02 09 22.9	
	comp=Z,119nm,19.8s,baz=188,slow=41 4.2nm,0.5s						
TKM2	**Tokmak 2**	5.85	3	⇑Pn	Pn	02 07 07.5	+1.8
	6.8nm,0.6s						
TKM2				⇓Sn	Sn	02 08 12.0	+0.3
	17nm,0.8s						
TKM2				⇑Lg	Lg	02 08 36.6	
	16nm,0.7s						
KK31	**Karatay Array**	7.03	331	Pn	Pn	02 07 21.7	+0.1
	2.4nm,0.6s,baz=137,slow=12,SNR=21						
KK31				⇓Sn	Sn	02 08 40.6	+0.3
	7.5nm,0.6s,baz=168,slow=28,SNR=3.6						
MKAR	**Makanchi Array**	11.04	26	Pn	Pn	02 08 17.4	+0.7
	0.2nm,0.3s,baz=207,slow=15,SNR=3.3 0.3nm,0.4s						
PYUN	**Piuthan**	11.08	142	*e*P	Pn	02 08 17.4	0.0
	22nm,0.4s						
DANN	**Dangsing**	11.27	138	*e*P	Pn	02 08 21.3	+1.1
	23nm,0.6s						
GKN	**Gorkha**	12.02	136	*e*P	Pn	02 08 31.6	+1.3
	14nm,0.4s						
PKIN	**Phulchoki**	12.78	135	*e*P	Pn	02 08 41.5	+0.8
	10.0nm,0.5s						
PKI	**Pulchoki**	12.79	135	*e*P	Pn	02 08 41.8	+0.9
	4.5nm,0.3s						
JIRN	**Jiri**	13.18	132	*e*P	Pn	02 08 46.7	+0.5
	9.2nm,0.4s						
KURBB	**Kurchatov Arra**	13.76	9	Pn	Pn	02 08 51.8	-1.9
	baz=200,slow=12,SNR=5.0						
KURBB				Lg	Lg	02 12 50.0	
	baz=195,slow=24,SNR=2.0 0.4nm,0.7s						
RAMN	**Ramite**	13.95	133	*e*P	Pn	02 08 55.1	-1.5
	14nm,0.5s						
TAPN	**Taplejung**	14.32	129	*e*P	Pn	02 09 00.4	-1.4
	14nm,0.9s						
BVAR	**Borovoye Array**	16.31	350	Pn	Pn	02 09 23.2	-4.2
	baz=214,slow=39,SNR=3.1 0.7nm,0.7s						
ZALV	**Zalesovo Beam**	18.14	18	P	P	02 09 48.1	-2.1
	0.4nm,0.3s,baz=212,slow=11,SNR=6.0 1.4nm,0.5s						
AKTO	**Aktyubinsk**	18.19	323	P	Pn	02 09 48.5	-2.3
	0.2nm,0.3s,baz=60,slow=3.7,SNR=2.1 2.1nm,0.6s						
SONM	**Songino Array**	25.23	55	P	P	02 11 04.5	+0.6
	0.5nm,0.7s,baz=240,slow=8.4,SNR=2.7 0.5nm,0.7s						
BRTR	**Keskin Array B**	32.49	288	P	P	02 12 09.9	+1.2
	0.3nm,0.5s,baz=108,slow=9.1,SNR=2.5 0.3nm,0.5s						
FINES	**FINESS Array B**	38.95	325	P	P	02 13 03.4	-0.1
	3.0nm,0.8s,baz=115,slow=9.1,SNR=14 3.0nm,0.8s						
IDI	**Anoyia**	40.29	283	LR	LR	02 32 00.6	
	comp=Z,44nm,18.7s,baz=99,slow=39						
KSRS	**Korea Array**	41.48	73	LR	LR	02 32 46.3	
	comp=Z,36nm,20.4s,baz=35,slow=39						
ARCES	**ARCESS Array B**	41.95	336	P	P	02 13 27.8	-0.4
	3.7nm,0.9s,baz=97,slow=7.4,SNR=5.8 3.7nm,0.9s						
HFS	**Hagfors**	44.73	321	P	P	02 13 50.2	-0.6
	1.9nm,0.5s,baz=94,slow=11,SNR=8.9 1.9nm,0.5s						
NB2	**NORSAR Subarra**	45.98	323	P	P	02 13 59.9	-0.8
	comp=Z,1.2nm,0.7s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	45.98	323	P	P	02 14 00.0	-0.7
	comp=Z,0.9nm,0.7s,baz=100,slow=7.2,SNR=2.7 comp=Z,0.9nm,0.7s						
ESDC	**Sonseca Array**	60.17	299	P	P	02 15 45.8	+0.3
	comp=Z,0.3nm,0.6s,baz=54,slow=7.1,SNR=6.2 comp=Z,0.3nm,0.6s						
GUMO	**Guam**	65.75	91	LR	LR	02 48 22.0	
	comp=Z,88nm,18.1s,baz=135,slow=39						
SHEM	**Shemya Is, Ala**	66.33	41	P	P	02 16 26.4	+0.4
	comp=Z,88nm,0.6s,baz=258,slow=20,SNR=2.2						
TORD	**Torodi Ar. Bea**	69.11	271	P	P	02 16 43.9	-0.3
	comp=Z,0.9nm,0.6s,baz=47,slow=5.9,SNR=20 comp=Z,0.9nm,0.6s						
INK	**Inuvik**	72.76	11	P	P	02 17 05.1	-0.3
	comp=Z,1.9nm,0.9s,baz=225,slow=1.4,SNR=1.7 comp=Z,1.9nm,0.9s						
WRA	**Warramunga Arr**	79.47	125	P	P	02 17 44.8	+0.5
	comp=Z,0.2nm,0.6s,baz=327,slow=5.8,SNR=2.1 comp=Z,0.2nm,0.6s						
ASAR	**Alice Springs**	81.85	128	P	P	02 17 58.1	+1.1
	comp=Z,0.2nm,0.3s,baz=340,slow=5.2,SNR=2.5 comp=Z,0.2nm,0.3s						

ANF 25 02:23:11.4±0.3, 60°.93N×138°.57W, h10km±3km, Error ellipse: s-maj=2.3km s-min=1.4km az=92.0, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK6	**Outpost Mounta**	0.10	80	P	Pg	02 23 14.9	+0.6
	baz=260,SNR=552						
YUK6				S	Sg	02 23 16.6	+0.2
	baz=260						
YUK4	**Talbot Arm**	0.42	355	P	Pb	02 23 22.1	+1.0
	baz=182,SNR=9.2						
YUK4				S	Sb	02 23 28.8	+1.3
	baz=182						
HYT	**Haines Junctio**	0.53	100	P	Pg	02 23 21.8	+0.1
	baz=281,SNR=7.3						
HYT				S	Sg	02 23 28.9	+0.1
	baz=281						
O29M	**Mount Kennedy**	0.63	180	P	Pb	02 23 24.3	-0.1
	baz=0.1,SNR=11						
O29M				S	Sg	02 23 32.4	+0.7
	baz=0.1						
O28M	**Mount Upton**	0.81	260	S	Sb	02 23 38.4	-0.2
	baz=78						
N30M	**Aishikik Lake**	0.90	53	P	Pb	02 23 29.0	0.0
	baz=234,SNR=9.8						
O30N	**Mendenhall**	1.23	96	P	Pn	02 23 34.2	-0.3
	baz=278,SNR=8.9						

ANF 25 02:24:04.4±0.5, 59°.61N×139°.34W, h22km±3km, ML1.5/2, Error ellipse: s-maj=3.7km s-min=1.8km az=24.0, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	0.07	334	P	Pb	02 24 08.9	+0.4
	baz=142,SNR=236						
PNL				S	Sb	02 24 11.5	+0.3
	baz=142						
PINM	**Pinnacle**	0.67	317	P	Pb	02 24 17.6	0.0
	baz=135,SNR=25						
PINM				S	Sb	02 24 27.2	+0.7
	baz=135						
O29M	**Mount Kennedy**	0.80	28	P	Pb	02 24 20.0	+0.4
	baz=210,SNR=57						
O29M				S	Sn	02 24 30.9	-0.8
	baz=210						
P29M	**Windy Craggy**	0.81	88	P	Pb	02 24 19.9	+0.1
	baz=271						
P29M				S	Sb	02 24 30.8	+0.4
	baz=271						
O28M	**Mount Upton**	1.25	340	P	Pn	02 24 27.0	+0.3
	baz=159,SNR=13						
O28M				Sb	Sb	02 24 44.3	+1.2
	baz=159						
P30M	**Million Dollar**	1.31	66	Pb	Pb	02 24 28.4	+0.2
	baz=249						
P30M				Sb	Sb	02 24 45.8	+1.3
	baz=249						
YUK6	**Outpost Mounta**	1.43	19	Pb	Pb	02 24 30.6	+0.2
	baz=201,SNR=30						
YUK6				Sb	Sb	02 24 49.7	+1.4
	baz=201						
HYT	**Haines Junctio**	1.53	36	Sb	Sb	02 24 52.5	+1.5
	baz=218						
CTG	**Chitna Glacier**	1.69	325	Sb	Sb	02 24 56.7	+1.0
	baz=143						

*IDC **25** 02:34:43.6±3.2, 6°.26S×148°.91E, h24km±19km, mb4.0/9, mbtmp4.2/13, ML4.3/3, MS3.7/11, Error ellipse: s-maj=33.2km s-min=15.4km az=107.0*
*NEIC **25** 02:34:47.9±1.1, 6°.34S±0°.07×148°.8E±0°.1, h51km±8km, mb4.3/17, Error ellipse: s-maj=16.2km s-min=9.2km az=115.0*
*DJA **25** 02:34:47.3±0.4, 6°.S±.3°×.14°.9E±°, h53km±5km, M5.1/16, mB6.2/5, mb4.5/16, MLv5.0/3, Mw(mB)5.8/5, MwMwp5.2/2, Mwp5.4/2*
ISC 25 02:34:47.2±0.5, 6°.42S±0°.06×148°.86E±0°.08, h53km, n70, σ1§58/69, mb4.4/16, MS3.7/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.42	209		Pn	02 35 38.3	+0.3
PMG				Sn	Sn	02 36 18.9	+1.7
PMG	**Port Moresby**	3.42	209	P	Pn	02 35 39.2	+1.3
PMG	**Port Moresby**	3.42	209	Pn	Pn	02 35 39.3	+1.3
	252nm,0.5s,baz=37,slow=5.0,SNR=57						
PMG				Sn	Sn	02 36 13.9	-3.3
	6.8nm,0.3s,baz=25,slow=16,SNR=1.1						
KRVT	**Keravat (AS076**	3.79	57	Pn	Pn	02 35 39.5	-3.5
	28nm,0.3s,baz=139,slow=23,SNR=2.1						
KRVT				LR	LR	02 37 07.7	
	comp=Z,1μm,18.4s,baz=238,slow=39 132nm,0.5s						
RABL	**Rabaul**	3.96	56	Pn	Pn	02 35 46.2	+0.8
RABL	**Rabaul**	3.96	56	P	Pn	02 35 46.3	+0.8
MMPI	**Merauke**	8.65	256	P	Pn	02 36 50.3	+0.6
	479nm,0.5s						
JAY	**Jayapura**	9.01	295	P	Pn	02 36 55.1	+0.4
	20nm,1.1s						
COEN	**Coen**	9.35	216	Pn	Pn	02 36 59.5	+0.2
CTA	**Charters Tower**	13.82	190	Pn	Pn	02 38 00.0	-0.5
	0.2nm,0.3s,baz=219,slow=23,SNR=1.6						
CTA				LR	LR	02 43 26.3	
	comp=Z,200nm,18.5s,baz=69,slow=37 1.9nm,0.7s						
RKPI	**Ransiki, Papua**	15.43	288	P	Pn	02 38 22.1	+0.5
	86nm,0.4s,22μm						
QIS	**Mount Isa**	16.68	212	P	Pn	02 38 39.0	+1.6
RK1H	**Rockhampton Ha**	16.95	175	P	P	02 38 43.0	+1.0
	18nm,0.9s						
SAUI	**Saumlaki**	17.49	264	P	Pn	02 38 48.3	+0.8
	191nm,0.5s,14μm						
MTN	**Manton Dam**	18.60	249	P	P	02 38 60.0	-0.3
MTN				IAmb	IAmb	02 39 12.8	
	comp=Z,23nm,1.4s						
EIDS	**Eidsvold**	18.97	174	P	P	02 39 03.9	-0.3
EIDS	**Eidsvold**	18.97	174	P	P	02 39 04.8	+0.6
WB0	**Warramunga Arr**	19.33	225	P	P	02 39 08.7	+0.4
WB0				IAmb	IAmb	02 39 23.5	
	comp=Z,15nm,0.8s						
WR0	**Warramunga Arr**	19.36	225	P	P	02 39 09.0	+0.4
WR0				IAmb	IAmb	02 39 23.7	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	19.47	225	P	P	02 39 10.2	+0.4
WRAB				IAmb	IAmb	02 39 24.9	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	19.47	225	P	P	02 39 10.3	+0.5
WB2	**Warramunga Arr**	19.48	225	P	P	02 39 10.0	+0.2
WB2				IAmb	IAmb	02 39 25.0	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	19.49	225	P	P	02 39 09.4	-0.5
WRA	**Warramunga Arr**	19.49	225	P	P	02 39 10.5	+0.5
	comp=Z,1.7nm,0.3s,baz=51,slow=11,SNR=59						
WRA				Sn	S	02 42 41.9	-5.7
	comp=Z,0.1nm,0.3s,baz=43,slow=24,SNR=1.1						
WRA				ScP	ScP	02 47 04.2	+3.1
	comp=Z,1.1nm,0.8s,baz=46,slow=2.7,SNR=7.4 comp=Z,6.7nm,0.5s						
RMQ	**Roma**	19.96	180	P	P	02 39 15.7	+0.6
QLP	**Quilpie**	20.53	192	P	P	02 39 22.5	+1.2
KNRA	**Kununurra**	21.75	243	P	P	02 39 33.3	-1.0
KNRA				IAmb	IAmb	02 39 50.7	
	comp=Z,11nm,0.8s						
AS31	**Alice Springs**	22.38	218	P	P	02 39 40.0	-1.2
ASAR	**Alice Springs**	22.38	218	P	P	02 39 41.0	-0.3
ASAR	**Alice Springs**	22.38	218	P	P	02 39 41.8	+0.6
	comp=Z,5.7nm,0.7s,baz=47,slow=9.8,SNR=54						
ASAR				S	S	02 43 39.4	-4.6
	comp=Z,0.4nm,0.7s,baz=32,slow=20,SNR=1.7						
ASAR				ScP	ScP	02 47 12.1	+4.0
	comp=Z,0.4nm,0.5s,baz=78,slow=2.2,SNR=5.2						
ASAR				LR	LR	02 48 45.8	
	comp=Z,135nm,19.9s,baz=24,slow=37 comp=Z,5.7nm,0.7s						
DZM	**Mont Dzumac**	23.04	134	LR	LR	02 47 37.4	
	comp=Z,188nm,20.6s,baz=303,slow=34						
OOD	**Oodnadatta**	24.66	209	P	P	02 40 05.1	+2.0
CMSA	**Cobar Meteorol**	25.17	186	P	P	02 40 08.3	+0.7
LCRK	**Leigh Creek**	25.91	201	P	P	02 40 15.9	+1.5
STKA	**Stephens Creek**	26.23	194	P	P	02 40 18.6	+1.3
STKA	**Stephens Creek**	26.23	194	P	P	02 40 18.1	+0.9
	comp=Z,2.8nm,0.8s,baz=358,slow=6.9,SNR=5.7						
STKA				LR	LR	02 51 00.4	
	comp=Z,188nm,18.7s,baz=18,slow=37 comp=Z,8nm,0.8s						
MMRI	**Maurere**	26.48	264	P	P	02 40 19.7	-0.1
	comp=Z,31nm,0.8s						
LUWI	**Luwuk**	26.57	281	P	P	02 40 20.9	+0.4
WRKA	**Warakurna**	27.03	225	P	P	02 40 25.8	+1.2
EDFI	**Ende, Flores**	27.03	263	P	P	02 40 23.9	-0.9
	comp=Z,22nm,0.9s,comp=Z,6μmcomp=Z,2μm						
KAPI	**Kappang**	29.00	271	LR	LR	02 55 23.2	
	comp=Z,76nm,18.6s,baz=69,slow=43						
FORT	**Forrest**	31.12	216	P	P	02 41 01.1	+0.3
MBWA	**Marble Bar**	31.77	240	P	P	02 41 06.6	-0.1
MEEK	**Meekatharra**	35.12	232	P	P	02 41 37.3	+1.5
NWAO	**Narrogin (SRO)**	39.49	224	LR	LR	02 59 32.3	
	comp=Z,169nm,18.2s,baz=28,slow=38						
URZ	**Urewera**	40.74	145	LR	LR	02 58 16.5	
	comp=Z,105nm,18.0s,baz=30,slow=35						
BBJI	**Bungbulang**	40.91	266	P	P	02 42 24.4	-0.4
RPZ	**Rata Peaks**	41.95	156	LR	LR	02 58 40.1	
	comp=Z,110nm,19.2s,baz=278,slow=34						
KSRS	**Korea Array**	47.82	337	P	P	02 43 19.0	-0.5
	comp=Z,9.8nm,0.3s,baz=152,slow=10.0,SNR=2.4 comp=Z,9.8nm,0.3s						
ASAJ	**Asahikawa**	50.62	354	LR	LR	03 08 19.2	
	comp=Z,68nm,18.0s,baz=130,slow=40						
BJT	**Baijiatuau**	55.16	330	P	P	02 44 11.9	-2.5
PZH	**PanZhiHua**	56.17	308	P	P	02 44 23.8	+1.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
HHC	**Hu-ho-hao-te**	58.17	327	*e*P	P	02 44 38.3	+2.4
HHC				pmax	pmax		
	comp=Z,27nm,0.8s						
HHC				pmax	pmax		
	comp=Z,460nm,7.2s						
PETK	**Petropavlovsk-**	59.77	6	P	P	02 44 46.2	-0.4
PETK	**Petropavlovsk-**	59.77	6	P	P	02 44 45.8	-0.8
	comp=Z,4.9nm,0.8s,baz=184,slow=8.1,SNR=5.5 comp=Z,4.9nm,0.8s						
VNDA	**Vanda**	71.40	177	P	P	02 46 02.6	+1.3
VNDA				IAmb	IAmb	02 46 28.0	
	comp=Z,3.8nm,1.3s						
VNDA	**Vanda**	71.40	177	P	P	02 46 02.0	+0.8
	comp=Z,0.8nm,0.7s,baz=330,slow=5.8,SNR=5.5 comp=Z,0.8nm,0.7s						
WMQ	**Urumqi**	74.31	319	*e*P	P	02 46 20.3	+1.1
MKAR	**Makanchi Array**	79.00	320	P	P	02 46 44.9	-0.6
	comp=Z,0.4nm,0.7s,baz=118,slow=5.7,SNR=2.7 comp=Z,0.4nm,0.7s						
E19K	**Redstone River**	82.92	18	P	P	02 47 06.5	+0.6
E19K				IAmb	IAmb	02 47 19.6	
	comp=Z,4.1nm,1.0s						
C19K	**Lookout Ridge**	83.22	16	P	P	02 47 08.9	+1.4
D19K	**Kuna River**	83.27	17	P	P	02 47 07.5	-0.3
D19K				IAmb	IAmb	02 47 07.8	
	comp=Z,7.3nm,1.4s						
QSPA	**South Pole Qui**	83.55	180	P	P	02 47 10.1	+0.6
	comp=Z,1.9nm,0.6s,baz=318,slow=0.6,SNR=7.7 comp=Z,1.9nm,0.6s						
ILAR	**Eielson Array**	85.14	23	P	P	02 47 16.1	-1.2
	comp=Z,0.8nm,0.7s,baz=253,slow=5.0,SNR=13 comp=Z,0.8nm,0.7s						
BVAR	**Borovoye Array**	88.19	324	P	P	02 47 30.8	-1.6
	comp=Z,0.5nm,0.4s,baz=11,slow=2.9,SNR=2.2 comp=Z,0.5nm,0.4s						
ARU	**Arti**	95.46	326	LR	LR	03 33 52.1	
	comp=Z,48nm,18.6s,baz=344,slow=37						
NVAR	**Mina Array Bea**	96.16	52	PP	PP	02 52 02.0	-1.5
	comp=Z,0.2nm,0.7s,baz=246,slow=6.8,SNR=1.8						
GERES	**GERESS Array B**	123.29	326	PKP	PKPdf	02 53 37.8	-0.7
	comp=Z,0.9nm,0.6s,baz=85,slow=2.8,SNR=3.4						
LPAZ	**La Paz**	137.00	122	PKP	PKPdf	02 54 05.7	-0.3
	comp=Z,1.2nm,0.8s,baz=186,slow=2.9,SNR=2.4						
TORD	**Torodi Ar. Bea**	146.98	284	PKPbc	PKPbc	02 54 24.6	-0.5
	comp=Z,3.0nm,0.6s,baz=52,slow=3.6,SNR=50						

*IDC **25** 02:49:32.3±4.7, 5°.37S×148°.16E, h112km±43km, mb3.6/3, mbtmp4.2/6, Error ellipse: s-maj=66.1km s-min=29.6km az=122.0*
ISC 25 02:49:31.7±1.3, 5°.3S±0°.1×147°.5E±0°.2, h100km, n7, σ2§22/10, mb3.5/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	4.11	185	P	Pn	02 50 34.3	+1.9
	131nm,0.3s,baz=29,slow=6.9,SNR=83						
PMG				S	Sn	02 51 16.5	-3.0
	152nm,0.6s,baz=158,slow=20,SNR=6.9						
CTA	**Charters Tower**	14.77	185	P	Pn	02 52 55.5	0.0
	2.4nm,0.7s,baz=330,slow=8.9,SNR=1.9						
WRA	**Warramunga Arr**	19.42	220	P	Pn	02 53 53.1	+0.7
	10.0nm,0.7s,baz=50,slow=12,SNR=71						
WRA				S	S	02 57 21.1	-3.5
	0.6nm,0.9s,baz=39,slow=20,SNR=2.5						
ASAR	**Alice Springs**	22.51	214	P	P	02 54 25.1	+1.9
	5.9nm,0.5s,baz=50,slow=8.9,SNR=131						
ASAR				S	S	02 58 23.5	+0.3
	1.0nm,0.8s,baz=40,slow=22,SNR=5.8 5.9nm,0.5s						
STKA	**Stephens Creek**	27.04	191	P	P	02 55 05.8	+1.2
	0.7nm,0.4s,baz=6.3,slow=9.2,SNR=3.3 0.7nm,0.4s						
ILAR	**Eielson Array**	84.62	23	P	P	03 01 51.8	-1.9
	0.4nm,0.8s,baz=250,slow=4.5,SNR=7.0 0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	145.42	285	PKPbc	PKPab	03 08 59.7	+0.2
	0.7nm,1.1s,baz=103,slow=1.7,SNR=5.1						

IDC 25 03:20:52.4±3.9, 6°.34S×149°.42E, h0km, mb2.8/1, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=113.2km s-min=44.5km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.78	216	Pn	Pn	03 21 53.8	+1.8
	7.9nm,0.3s,baz=20,slow=11,SNR=6.1						
PMG				Sn	Sn	03 22 33.2	-4.0
	2.0nm,0.3s,baz=320,slow=19,SNR=1.9						
CTA	**Charters Tower**	14.01	192	Pn	Pn	03 24 13.2	+0.9
	0.4nm,0.3s,baz=356,slow=13,SNR=1.6 1.1nm,0.2s						
WRA	**Warramunga Arr**	19.93	226	P	P	03 25 26.3	+0.3
	0.1nm,0.3s,baz=52,slow=11,SNR=5.2 0.4nm,0.5s						
ASAR	**Alice Springs**	22.79	219	P	P	03 25 54.9	-1.9
	0.2nm,0.5s,baz=46,slow=10,SNR=1.9 0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	147.50	284	PKPbc	PKPbc	03 40 39.2	-0.4
	0.4nm,0.8s,baz=40,slow=4.3,SNR=2.1						

*IDC **25** 03:41:16.9±1.4, 45°.37N×6°.31E, h0km, mb3.3/3, mbtmp3.5/8, ML3.8/5, Error ellipse: s-maj=35.2km s-min=14.6km az=141.0*
*BGR **25** 03:41:17.6±0.4, 45°.51N×6°.08E, h5km, ML3.7/25, Error ellipse: s-maj=7.8km s-min=6.7km az=109.0*
*STR **25** 03:41:17.7±0.3, 45°.N±.1°×.°±°, h3km±.3km, MLv3.7/55, Error ellipse: s-maj=0.0km s-min=0.0km az=93.1, preliminary*
*GEN **25** 03:41:17.0, 45°.45N×6°.34E, h7km±2km, Ml3.3*
*ROM **25** 03:41:19.0±0.2, 45°.426N±0°.006×6°.45E±0°.02, h10km, ML3.2/66, Error ellipse: s-maj=1.2km s-min=0.6km az=282.0*
*PRU **25** 03:41:18.1, 45°.35N×6°.49E, h10km*
*LDG **25** 03:41:18.1±0.0, 45°.44N×6°.35E, h2km, Md3.7/2, Ml3.8/50, Error ellipse: s-maj=1.0km s-min=0.9km az=81.0*
ISC 25 03:41:17.3±0.9, 45°.48N±0°.01×6°.36E±0°.01, h11km±7km, n314, σ1§60/476, 2C-21D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	0.27	81	*e*Pg	Pb	03 41 23.4	-0.8
	SNR=1.0						
LPL				*e*Sg	Sg	03 41 27.5	+0.9
	3μm,0.3s						
LPG	**La Plagne**	0.28	85	*e*Pg	Pb	03 41 23.6	-0.9
	SNR=1.0						
LPG				*e*Sg	Sg	03 41 28.1	+1.2
	5μm,0.3s						
RSL	**Roselend**	0.28	41	P	Pb	03 41 24.0	-0.5
RSL				S	Sb	03 41 28.3	-1.0
RSL	**Roselend**	0.28	41	Pg	Pb	03 41 24.0	-0.5
RSL				Sg	Sb	03 41 28.1	-1.3
GDM	**Grand'Maison**	0.32	212	Pg	Pg	03 41 22.8	-1.0
GDM				Sg	Sg	03 41 26.4	-1.7
OGMO	**Fort Saint-Gob**	0.35	139	P	Pg	03 41 24.5	+0.2
OGMO				S	Sg	03 41 29.2	+0.1
OGMO	**Fort Saint-Gob**	0.35	139	Pg	Pg	03 41 24.5	+0.2
OGMO				Sg	Sg	03 41 29.1	+0.1
BNI	**Bardonecchia**	0.48	152	P	Pg	03 41 26.4	-0.2
BNI				S	Sg	03 41 32.6	-0.4
BNI	**Bardonecchia**	0.48	152	P	Pg	03 41 26.5	-0.2
BNI				S	Sg	03 41 32.6	-0.4
BNI				AML	AML		
	comp=E,1845μm,1.2s						
BNI				AML	AML		
	comp=N,1600μm,0.8s						
BNI				AML	AML		
	comp=E,2275μm,1.2s						
BNI				AML	AML		
	comp=N,1930μm,0.8s						
BNI				AML	AML		
	comp=N,1600μm,1.2s						
BNI				AML	AML		
	comp=E,2275μm,0.8s						
BNI				AML	AML		
	comp=E,1845μm,0.8s						
BNI		

MRGE AML AML
comp=E,1890µm,0.9s
MRGE AML AML
comp=N,2060µm,0.5s
MRGE AML AML
comp=E,1890µm,1.1s
RRL Rocca Remolon 0.63 151 P **Pg 03 41 29.2 -0.3**
RRL S **Sg 03 41 37.7 -0.2**
RRL Rocca Remolon 0.63 151 P **Pg 03 41 29.3 -0.3**
RRL S **Sb 03 41 38.6 -0.9**
RRL AML AML
comp=N,3455µm,0.6s
RRL AML AML
comp=E,6215µm,0.3s
RRL AML AML
comp=N,3455µm,1.4s
RRL Rocca Remolon 0.63 151 Pg **Pg 03 41 29.2 -0.3**
RRL Rocca Remolon 0.63 151 Sg **Sg 03 41 37.6 -0.4**
ORIF Oris-en-Rattie 0.65 211 *e*Pg **Pg 03 41 28.7 -1.2**
SNR=1.0
ORIF *e*Sg **Sg 03 41 36.0 -2.5**
SNR=1.0
ORIF Oris-en-Rattie 0.65 211 AML AML
comp=E,7125µm,0.4s
ORIF AML AML
comp=N,5835µm,0.3s
ORIF Oris-en-Rattie 0.65 211 Pg **Pg 03 41 28.9 -1.0**
OGSI Sixt 0.65 25 Pg **Pb 03 41 30.5 -0.3**
OGSI Sg **Sb 03 41 39.3 -0.5**
REMY Saint-Rhmy-en 0.67 57 P **Pb 03 41 31.1 0.0**
REMY S **Sb 03 41 41.3 +0.8**
REMY Saint-Rhmy-en 0.67 57 P **Pb 03 41 31.1 0.0**
REMY S **Sb 03 41 41.1 +0.6**
REMY AML AML
comp=N,2305µm,1.5s
REMY AML AML
comp=N,2305µm,0.5s
REMY AML AML
comp=E,2225µm,0.5s
REMY Saint-Rhmy-en 0.67 57 Pg **Pb 03 41 31.2 0.0**
REMY Saint-Rhmy-en 0.67 57 Sg **Sb 03 41 41.1 +0.6**
RSP Reno Superiore 0.72 117 P **Pb 03 41 31.3 -0.5**
RSP S **Sb 03 41 40.7 -1.1**
RSP Reno Superiore 0.72 117 P **Pb 03 41 31.4 -0.5**
RSP S **Sb 03 41 40.6 -1.2**
RSP AML AML
comp=E,2800µm,0.5s
RSP AML AML
comp=E,2650µm,0.5s
RSP AML AML
comp=N,2245µm,0.2s
RSP AML AML
comp=N,2370µm,0.2s
RSP Reno Superiore 0.72 117 Pg **Pb 03 41 31.7 -0.2**
RSP Reno Superiore 0.72 117 Sg **Sb 03 41 40.7 -1.1**
OG35 Corcelles 0.79 316 Pg **Pg 03 41 33.5 +0.9**
OG35 Sg **Sg 03 41 44.3 +1.4**
SALAN Lac Salanfe 0.80 33 P **Pb 03 41 33.3 0.0**
SALAN S **Sn 03 41 50.4 +3.7**
MBDF Montbardon 0.80 158 *e*Pg **Pg 03 41 31.9 -0.9**
SNR=1.0
MBDF *e*Sg **Sb 03 41 43.7 -0.6**
comp=N,836nm,0.4s,SNR=1.0
CIRO Champorcher 0.86 81 P **Pb 03 41 34.0 -0.3**
CIRO S **Sb 03 41 45.2 -0.9**
CIRO Champorcher 0.86 81 P **Pb 03 41 34.0 -0.3**
CIRO S **Sb 03 41 44.9 -1.1**
CIRO AML AML
comp=E,717µm,1.0s
CIRO AML AML
comp=N,1160µm,0.5s
CIRO AML AML
comp=E,717µm,1.0s
CIRO Champorcher 0.86 81 Pg **Pb 03 41 34.1 -0.3**
CIRO Champorcher 0.86 81 Sg **Sb 03 41 45.1 -0.9**
BHB Bricherasio 0.90 134 P **Pb 03 41 34.6 -0.4**
BHB Bricherasio 0.90 134 ⇑P **Pb 03 41 34.5 -0.4**
BHB S **Sb 03 41 46.6 -0.4**
BHB AML AML
comp=E,1385µm,0.4s
BHB AML AML
comp=N,1380µm,0.5s
BHB Bricherasio 0.90 134 Pg **Pb 03 41 34.5 -0.4**
CREF Crivoux 0.94 168 Pg **Pg 03 41 34.3 -1.1**
DIX Grande Dixence 0.95 50 P **Pn 03 41 36.1 -0.8**
DIX S **Sn 03 41 51.2 +0.7**
DIX Grande Dixence 0.95 50 P **Pn 03 41 36.1 -0.8**
DIX S **Sn 03 41 50.3 -0.3**
DIX AML AML
comp=N,9230µm,0.4s
DIX AML AML
comp=N,9230µm,0.4s
DIX AML AML
comp=E,5665µm,0.4s
DIX Grande Dixence 0.95 50 Pg **Pn 03 41 36.3 -0.6**
AIGLE Aigle 0.96 25 Pg **Pn 03 41 36.4 -0.4**
AIGLE Aigle 0.96 25 Sn **Sn 03 41 54.2 +3.7**
AIGLE Aigle 0.96 25 Pn **Pn 03 41 39.6 +2.8**
TRAV Traversella 0.98 87 P **Pn 03 41 36.3 -0.7**
TRAV S **Sb 03 41 48.5 -0.7**
TRAV Traversella 0.98 87 P **Pn 03 41 36.3 -0.7**
TRAV S **Sb 03 41 48.7 -0.5**
TRAV AML AML
comp=N,3095µm,0.5s
TRAV AML AML
comp=E,2580µm,0.4s
TRAV Traversella 0.98 87 Pg **Pn 03 41 36.5 -0.5**
OGAG Argentiere 1.03 173 P Pg 03 41 30.2 -6.8
OGAG S Sg 03 41 39.1 -11
OGAG Argentiere 1.03 173 Pg Pg 03 41 30.2 -6.9
GIMEL St. Georges / 1.06 357 P **Pn 03 41 39.3 +1.1**
GIMEL S **Sn 03 41 55.8 +2.7**
GIMEL AML AML
comp=E,2880µm,1.1s
GIMEL AML AML
comp=E,2880µm,0.9s
GIMEL AML AML
comp=N,1525µm,0.2s
GIMEL St. Georges / 1.06 357 Pg **Pn 03 41 38.7 +0.5**
SENIN Lac Senin/Sane 1.10 36 P **Pn 03 41 38.9 0.0**
SENIN S **Sn 03 41 58.1 +3.8**
PZZ Stroppo 1.11 151 P **Pg 03 41 37.6 -0.9**
PZZ Stroppo 1.11 151 P **Pg 03 41 37.7 -0.9**
PZZ S **Sb 03 41 52.5 -0.5**
PZZ AML AML
comp=E,2515µm,0.7s
PZZ AML AML
comp=N,2060µm,0.4s
PZZ AML AML
comp=N,2060µm,1.6s
PZZ AML AML
comp=E,2515µm,1.3s
PZZ Stroppo 1.11 151 Pg **Pg 03 41 37.7 -0.9**
SATI Passo dei Sala 1.13 69 P **Pn 03 41 38.9 -0.4**
SATI Passo dei Sala 1.13 69 P **Pn 03 41 39.0 -0.4**
SATI AML AML
comp=E,720µm,0.4s
SATI AML AML
comp=N,1001µm,0.5s
SATI Passo dei Sala 1.13 69 Pg **Pn 03 41 38.8 -0.6**
VANNI Vissoie, Val d 1.14 49 P **Pn 03 41 39.6 +0.3**
CABF La Chapelle 1.15 351 *e*Pg **Pn 03 41 40.2 +0.8**
SNR=1.0
CABF La Chapelle 1.15 351 *e*P **Pn 03 41 41.6 +2.2**
CABF *e*Sg **Sn 03 41 55.5 +0.3**
comp=N,673nm,0.4s,SNR=1.0
MONC Moncucco Torin 1.18 109 P **Pn 03 41 41.3 +1.6**
MONC Moncucco Torin 1.18 109 AML AML
comp=N,1620µm,1.0s
MONC AML AML
comp=E,1710µm,0.4s
MMK Mattmark 1.26 62 P **Pg 03 41 41.2 -0.4**
EMBD Embd, Matterta 1.27 54 P **Pg 03 41 41.4 -0.2**
EMBD Embd, Matterta 1.27 54 Pn **Pg 03 41 41.4 -0.2**
EMBD Embd, Matterta 1.27 54 Sg **Sn 03 42 01.7 +3.5**
SSB Saint Sauveur 1.29 262 Pn **Pn 03 41 41.5 +0.2**
SSB Sg **Sb 03 41 57.8 -0.5**
RIVEL MONT RIVEL 1.32 347 Pn **Pg 03 41 43.1 +0.5**
VIVF Saint-Julien-l 1.34 243 *e*Pn **Pn 03 41 42.0 0.0**
SNR=1.0
VIVF Saint-Julien-l 1.34 243 *e*Pg **Pn 03 41 42.7 +0.7**
SNR=1.0
VIVF *e*Sn **Sb 03 41 59.1 -0.6**
comp=E,2µm,0.4s,SNR=1.0

LAUCH Lauchernalp 1.36 46 P **Pg 03 41 43.5 +0.1**
TORNY Torny/Romont 1.36 18 Pn **Pg 03 41 44.3 +0.8**
OGDI Digne 1.37 182 P **Pg 03 41 43.6 +0.1**
OGDI Digne 1.37 182 Pn **Pg 03 41 43.6 +0.1**
ISO Isola 1.38 159 P **Pg 03 41 43.3 -0.5**
ISO Isola 1.38 159 Pn **Pb 03 41 42.7 -0.4**
SIMPL Simplonpass 1.39 56 P **Pg 03 41 44.0 0.0**
ENAUX Enaux 1.40 168 Pn **Pb 03 41 43.3 -0.1**
STV Sant Anna di V 1.41 150 P **Pb 03 41 43.4 -0.2**
STV Sant Anna di V 1.41 150 P **Pb 03 41 43.5 -0.2**
STV S **Sn 03 42 01.5 -0.1**
STV AML AML
comp=E,610µm,0.6s
STV AML AML
comp=N,554µm,0.6s
STV AML AML
comp=N,554µm,1.4s
STV AML AML
comp=E,610µm,1.4s
STV Sant Anna di V 1.41 150 Pn **Pb 03 41 43.6 0.0**
ENR Entracque 1.46 148 P **Pb 03 41 44.3 -0.2**
ENR Entracque 1.46 148 P **Pb 03 41 44.3 -0.2**
ENR S **Sg 03 42 03.4 -0.8**
ENR AML AML
comp=E,526µm,1.4s
ENR AML AML
comp=E,526µm,0.6s
ENR AML AML
comp=N,692µm,0.4s
ENR Entracque 1.46 148 Pn **Pb 03 41 44.2 -0.2**
BRANT Les Verrieres 1.47 3 Pn **Pg 03 41 45.3 -0.1**
BLAF les Blancs 1.54 188 Pn **Pb 03 41 46.2 +0.4**
MLYF Mely 1.55 196 Pn **Pb 03 41 46.5 +0.6**
SPIF crte de Spivo 1.55 156 Pn **Pb 03 41 46.2 +0.1**
SMRF Simiane la Rot 1.60 201 *e*Pn **Pn 03 41 45.6 +0.1**
SNR=1.0
SMRF Simiane la Rot 1.60 201 *e*Pg **Pb 03 41 47.3 +0.5**
SMRF *e*Sg **Sb 03 42 07.6 +0.5**
comp=N,356nm,0.4s,SNR=1.0
GBOS Grotte di Boss 1.62 139 P **Pb 03 41 47.0 -0.2**
GBOS AML AML
comp=E,389µm,0.4s
GBOS AML AML
comp=N,397µm,1.2s
GBOS Grotte di Boss 1.62 139 Pn **Pb 03 41 47.1 -0.2**
RUSF Rustrel 1.66 202 Pn **Pb 03 41 47.9 +0.1**
RUSF Pg **Pg 03 41 49.7 +0.7**
TURF col de Turini 1.67 153 Pn **Pg 03 41 48.8 -0.5**
TURF Pg **Pb 03 41 50.1 +2.0**
BSTF la Bastide-des 1.67 198 Pn **Pb 03 41 48.5 +0.4**
BSTF Sn **Sg 03 42 10.8 -0.3**
MVIF Mont Vial 1.68 160 Pn **Pg 03 41 49.5 0.0**
SAOF Saorge 1.72 150 P **Pb 03 41 49.0 +0.2**
SAOF AML AML
comp=N,694µm,0.5s
SAOF AML AML
comp=E,858µm,0.4s
SAOF AML AML
comp=E,858µm,1.6s
SAOF Saorge 1.72 150 Pn **Pb 03 41 48.9 +0.1**
TRIGF Trigance 1.73 179 Pn **Pb 03 41 48.9 -0.1**
VARE Varese 1.74 76 P **Pg 03 41 50.0 -0.6**
VARE S **Sb 03 42 10.4 -0.7**
VARE AML AML
comp=N,1077µm,0.6s
VARE AML AML
comp=E,902µm,0.5s
VARE AML AML
comp=N,1077µm,1.4s
MGRO Montegrosso 1.77 144 P **Pb 03 41 49.5 -0.3**
MGRO AML AML
comp=E,406µm,0.6s
MGRO AML AML
comp=N,436µm,0.4s
MGRO AML AML
comp=E,406µm,1.4s
MGRO Montegrosso 1.77 144 Pn **Pb 03 41 49.4 -0.3**
MGRO Montegrosso 1.77 144 Pg **Pg 03 41 51.1 -0.1**
CALF Calern 1.77 167 Pn **Pb 03 41 50.1 +0.3**
BOUC Bouclans 1.77 358 Pn **Pb 03 41 49.1 -0.7**
BOUC Pg **Pg 03 41 52.1 +0.9**
CHMF Charmoille 1.79 6 Pn **Pb 03 41 49.2 -0.8**
CHMF Pg **Pg 03 41 52.5 +1.0**
SBF Sospel 1.79 154 *e*Pn **Pn 03 41 47.9 -0.2**
SNR=1.0
SBF Sospel 1.79 154 *e*Pg **Pg 03 41 51.0 -0.5**
SBF *e*Sg **Sg 03 42 13.5 -1.2**
comp=E,796nm,0.4s,SNR=1.0
ESCA l'Escarene 1.80 156 Pn **Pg 03 41 51.2 -0.6**
PCP Piancastagn 1.81 120 P **Pb 03 41 50.5 +0.1**
PCP AML AML
comp=E,267µm,0.4s
PCP AML AML
comp=E,267µm,1.6s
PCP AML AML
comp=N,338µm,0.7s
PCP Piancastagn 1.81 120 Pn **Pb 03 41 50.5 +0.1**
QLNO Quiliano 1.82 128 P **Pb 03 41 50.5 -0.1**
QLNO AML AML
comp=N,558µm,0.5s
QLNO AML AML
comp=E,464µm,1.5s
RORO Rocca Rossa 1.83 138 P **Pb 03 41 50.6 -0.1**
RORO AML AML
comp=E,346µm,0.8s
RORO AML AML
comp=N,375µm,0.5s
RORO AML AML
comp=E,346µm,1.2s
RORO Rocca Rossa 1.83 138 Pn **Pb 03 41 50.6 -0.1**
CANO Canova, Maglio 1.84 133 P **Pb 03 41 51.0 0.0**
CANO AML AML
comp=E,1195µm,1.1s
CANO AML AML
comp=E,1195µm,0.9s
CANO AML AML
comp=N,838µm,0.8s
CANO Canova, Maglio 1.84 133 Pn **Pb 03 41 51.0 0.0**
PLYF Puligny Montra 1.86 323 Pg **Pg 03 41 53.3 +0.5**
COLF Collangettes 1.87 272 Pn **Pn 03 41 49.5 +0.2**
FUSIO Fusio 1.88 58 P **Pg 03 41 52.1 -1.3**
FUSIO AML AML
comp=N,450µm,0.6s
FUSIO AML AML
comp=E,428µm,0.7s
BURY Giardini Botan 1.90 153 P **Pb 03 41 52.1 +0.2**
BURY AML AML
comp=E,666µm,0.7s
BURY AML AML
comp=N,670µm,0.5s
BURY AML AML
comp=N,670µm,1.5s
BURY Giardini Botan 1.90 153 Pg **Pg 03 41 53.1 -0.6**
MON Monaco 1.90 156 Pn **Pg 03 41 52.7 -1.0**
MON Sg **Sg 03 42 20.2 +1.8**
IMI Imperia 1.91 144 P **Pb 03 41 52.2 0.0**
IMI AML AML
comp=E,640µm,1.3s
IMI AML AML
comp=N,955µm,0.5s
IMI AML AML
comp=E,640µm,0.7s
ARTF Artigues 1.93 192 Pn **Pn 03 41 50.9 +0.9**
ARTF Pg **Pg 03 41 53.9 -0.3**
MUGIO Muggio 1.93 76 P **Pb 03 41 52.2 -0.4**
MUGIO AML AML
comp=E,418µm,0.7s
MUGIO AML AML
comp=N,568µm,1.2s
MUGIO AML AML
comp=N,568µm,0.8s
MUGIO AML AML
comp=E,418µm,1.3s
BOURR Bourrignon 2.01 17 Pn **Pn 03 41 52.3 +1.1**
BOURR Bourrignon 2.01 17 Pg **Pg 03 41 56.6 +0.8**
BALST Balsthal 2.08 26 Pn **Pb 03 41 53.6 -1.4**
BALST Balsthal 2.08 26 Pg **Pg 03 41 57.8 +0.7**
BALST Balsthal 2.08 26 *e*Pn **Pn 03 41 53.4 +1.3**
BALST *e*Pg **Pg 03 41 57.8 +0.7**
BALST *e*Sg **Sg 03 42 26.2 +2.2**
FLAF Flassans-sur-l 2.09 182 Pn **Pn 03 41 53.7 +1.4**
RNCA Ronca, Sant'Ol 2.10 118 P **Pb 03 41 53.6 -1.7**
RNCA AML AML
comp=N,204µm,0.8s

RNCA AML AML
comp=E,260µm,1.1s
SMF Signal de Mont 2.11 305 *e*Pn **Pn 03 41 52.5 0.0**
SNR=1.0
SMF Signal de Mont 2.11 305 *e*Pg **Pb 03 41 57.2 +1.7**
SMF *e*Sn **Sn 03 42 18.2 -0.5**
SMF *e*Sg **Sg 03 42 24.8 -0.1**
comp=E,257nm,0.4s
LMR La Mourre 2.14 177 *e*Pn **Pn 03 41 54.0 +1.0**
SNR=1.0
LMR La Mourre 2.14 177 *e*Pg **Pg 03 41 57.5 -0.8**
LMR *e*Sn **Sn 03 42 17.4 -2.2**
comp=E,220nm,0.4s,SNR=1.0
LMR *e*Sg **Sb 03 42 21.9 -0.8**
comp=E,301nm,0.5s
LBL Lubilhac 2.21 265 Pn **Pn 03 41 54.0 +0.1**
RONF Ronchamp 2.25 5 Pn **Pn 03 41 55.1 +0.8**
RONF Pg **Pg 03 42 00.7 +0.4**
GORR Gorreto 2.25 112 Pn **Pb 03 41 58.1 0.0**
LASF Ste Croix 2.27 233 *e*Pn **Pn 03 41 54.8 +0.1**
SNR=1.0
LASF Ste Croix 2.27 233 *e*Pg **Pb 03 41 59.4 +1.2**
LASF *e*Sg **Sb 03 42 28.5 +2.3**
comp=E,238nm,0.5s
ILLF Illfurth 2.29 15 Pn **Pn 03 41 54.9 -0.1**
ILLF Pg **Pg 03 42 01.3 +0.1**
TUE Stuetta 2.31 63 AML AML
comp=N,194µm,0.4s
TUE AML AML
comp=E,184µm,0.4s
TUE AML AML
comp=N,235µm,0.4s
TUE AML AML
comp=E,220µm,0.4s
HINF Hinteralfeld 2.37 8 *e*Pn **Pn 03 41 56.3 +0.2**
SNR=1.0
HINF Hinteralfeld 2.37 8 *e*P **Pg 03 42 02.5 -0.1**
HINF *e*Sn **Sn 03 42 24.6 -0.6**
SNR=1.0
HINF *e*Sg **Sg 03 42 33.8 +0.5**
comp=E,271nm,0.3s,SNR=1.0
PYM Petit Puy Mans 2.37 278 Pn **Pn 03 41 56.4 +0.3**
MDI Monti di Nese 2.37 82 P **Pb 03 41 58.2 -1.8**
MDI AML AML
comp=E,352µm,0.6s
MDI AML AML
comp=E,364µm,0.6s
MDI AML AML
comp=N,472µm,0.6s
MDI AML AML
comp=E,352µm,1.4s
MDI AML AML
comp=N,486µm,0.6s
MDI AML AML
comp=E,364µm,1.4s
SULZ Cheisacher 2.38 30 Pn **Pn 03 41 57.4 +1.1**
SULZ Cheisacher 2.38 30 Pg **Pg 03 42 03.4 +0.5**
SULZ Cheisacher 2.38 30 *e*Pn **Pn 03 41 57.5 +1.1**
SULZ *e*Pg **Pg 03 42 03.2 +0.3**
SULZ *e*Sg **Sg 03 42 35.4 +1.6**
MOF Molkenrain 2.44 12 Pn **Pn 03 41 57.6 +0.5**
MOF Pg **Pg 03 42 04.2 +0.3**
ZUR Degenried 2.44 38 Pn **Pb 03 41 59.2 -2.0**
ZUR Degenried 2.44 38 Pg **Pg 03 42 04.2 +0.2**
AVF Avril sur Loir 2.47 303 *e*Pn **Pn 03 41 58.1 +0.7**
SNR=1.0
AVF Avril sur Loir 2.47 303 *e*Pg **Pg 03 42 04.1 -0.5**
AVF *e*Sg **Sg 03 42 35.6 -0.9**
comp=E,189nm,0.6s
LOR Lormes 2.49 317 *e*Pn **Pn 03 41 57.9 +0.1**
baz=128,SNR=1.0
LOR Lormes 2.49 317 *e*Pg **Pg 03 42 04.7 -0.3**
baz=133
LOR *e*Sn **Sn 03 42 27.9 -0.3**
LOR *e*Sg **Sg 03 42 36.9 -0.4**
comp=E,103nm,0.3s
LOR Lormes 2.49 317 Pn **Pn 03 41 58.6 +0.9**
HAU Haudompre 2.53 360 *e*Pn **Pn 03 41 58.8 +0.5**
SNR=1.0
HAU Haudompre 2.53 360 *e*Pg **Pg 03 42 05.8 +0.1**
HAU *e*Sn **Sn 03 42 28.9 -0.3**
HAU *e*Sg **Sg 03 42 38.3 -0.2**
comp=E,290nm,0.2s,SNR=1.0
SSF Saint Saulge 2.54 310 *e*Pn **Pn 03 41 58.6 +0.2**
SNR=1.0
SSF Saint Saulge 2.54 310 *e*Pg **Pg 03 42 05.4 -0.4**
SSF *e*Sg **Sg 03 42 37.6 -1.1**
comp=E,121nm,0.4s,SNR=1.0
WALT Westhalten 2.57 14 Pn **Pn 03 41 59.3 +0.5**
METMA Mettma DE 2.59 30 *e*Pn **Pn 03 41 59.8 +0.6**
METMA *e*Pg **Pg 03 42 06.6 -0.3**
METMA *e*Sg **Sg 03 42 41.0 +0.5**
WILA Wila 2.62 41 *e*Pn **Pn 03 42 01.6 +2.0**
WILA *e*Pg **Pg 03 42 07.5 0.0**
WILA *e*Sg **Sg 03 42 43.5 +2.1**
PLONS Plons/SG 2.62 52 *e*Pn **Pb 03 42 02.3 -2.0**
PLONS *e*Pg **Pg 03 42 07.7 +0.2**
PLONS *e*Sn **Sb 03 42 35.1 -1.4**
FELD Feldberg im Sc 2.65 25 Pg **Pg 03 42 08.4 +0.3**
FELD Feldberg im Sc 2.65 25 Pn **Pn 03 42 00.4 +0.2**
BGF Bois d'Agland 2.67 295 *e*Pn **Pn 03 42 01.3 +1.0**
SNR=1.0
BGF Bois d'Agland 2.67 295 *e*Pg **Pg 03 42 07.8 -0.7**
SNR=1.0
BGF *e*Sg **Sb 03 42 41.8 +3.8**
comp=E,326nm,0.5s,SNR=1.0
KIZ Kirchzarten 2.70 23 Pn **Pn 03 42 00.7 +0.1**
BERGE Lenzkirch (DE) 2.71 27 *e*Pn **Pn 03 42 01.1 +0.4**
BERGE *e*Sn **Sn 03 42 34.2 +0.6**
SLE Schleitheim 2.72 32 Pn **Pn 03 42 01.7 +0.8**
SLE Schleitheim 2.72 32 Pg **Pg 03 42 09.2 -0.2**
SLE Schleitheim 2.72 32 *e*Pn **Pn 03 42 01.5 +0.5**
SLE *e*Pg **Pg 03 42 09.0 -0.4**
SLE *e*Sg **Sg 03 42 44.6 -0.1**
DAVOX Davos/Dischmat 2.77 61 P **Pb 03 42 04.3 -2.7**
DAVOX Davos/Dischmat 2.77 61 Pn **Pb 03 42 05.8 -1.1**
comp=E,8.1nm,0.3s,baz=251,slow=15,SNR=39
DAVOX Sn **Sb 03 42 39.9 -1.1**
comp=E,6.6nm,0.3s,baz=359,slow=16,SNR=4.8
DAVOX Lg Lg 03 42 46.6
comp=E,11nm,0.3s,baz=32,slow=11,SNR=6.4
comp=E,24nm,0.4s
ECH Echery 2.80 11 Pn **Pn 03 42 02.4 +0.4**
ECH Echery 2.80 11 *e*Pn **Pn 03 42 02.4 +0.4**
ECH *e*Sn **Sn 03 42 34.8 -0.9**
ECH *e*Sg **Sg 03 42 46.8 -0.2**
GRAM Graiana 2.81 109 AML AML
comp=E,339µm,1.1s
GRAM AML AML
comp=N,314µm,1.0s
GRAM AML AML
comp=E,339µm,0.9s
GRAM AML AML
comp=N,314µm,1.0s
SFTF Sexfontaines 2.88 342 *e*Pn **Pn 03 42 03.2 +0.1**
SFTF Sexfontaines 2.88 342 *e*Pg **Pg 03 42 11.8 -0.6**
baz=147
SFTF *e*Sg **Sg 03 42 48.8 -0.8**
comp=N,205nm,0.4s
EMING Emmingen-Lipti 2.96 34 *e*Pn **Pn 03 42 04.8 +0.5**
EMING *e*Pg **Pg 03 42 13.4 -0.6**
EMING *e*Sg **Sg 03 42 51.8 -0.5**
WALHA Wallhausen, DE 2.97 39 *e*Pn **Pn 03 42 05.5 +1.2**
WALHA *e*Pg **Pg 03 42 13.6 -0.5**
CDF Champ du Feu 3.00 12 *e*Pn **Pn 03 42 05.1 +0.2**
SNR=1.0
CDF Champ du Feu 3.00 12 *e*Pg **Pg 03 42 14.3 -0.5**
CDF Champ du Feu 3.00 12 *e*Pg **Pg 03 42 15.0 +0.2**
CDF *e*Sn **Sn 03 42 41.1 +0.2**
CDF *e*Sg **Sg 03 42 53.7 0.0**
comp=N,138nm,0.4s,SNR=1.0
TCF Toulx Ste Croi 3.01 287 *e*Pn **Pn 03 42 05.1 +0.2**
SNR=1.0
TCF *e*Sn **Sn 03 42 39.2 -1.8**
SNR=1.0
TCF *e*Sg **Sg 03 42 52.6 -1.3**
comp=N,78nm,0.4s,SNR=1.0
DAVA Damuels 3.04 52 *i* Pn **Pn 03 42 07.7 +2.3**
comp=N,0.2nm,0.1s
DAVA Damuels 3.04 52 *e*Pn **Pn 03 42 07.8 +2.3**
DAVA *e*Pg **Pg 03 42 15.0 -0.4**
DAVA *e*Sn **Sn 03 42 43.8 +1.9**
CAF Calviac 3.08 261 *e*Pn **Pn 03 42 05.7 -0.2**
SNR=1.0
CAF *e*Sn **Sn 03 42 41.3 -1.5**

comp=N,91nm,0.6s,SNR=1.0
PAGF Fort de Pagny 3.11 352 *e*Pn **Pn 03 42 06.4 +0.1**
baz=168
PAGF Fort de Pagny 3.11 352 *e*Pn **Pn 03 42 07.3 +1.0**
PAGF Fort de Pagny 3.11 352 *e*Pg **Pg 03 42 16.2 -0.6**
PAGF *e*Sn **Sn 03 42 42.6 -0.8**
PAGF *e*Sg **Sg 03 42 56.7 -0.4**
comp=N,326nm,0.6s
HYF Humbligny 3.14 306 *e*Pn **Pn 03 42 06.6 0.0**
HYF *e*Sn **Sn 03 42 43.0 -1.1**
HYF *e*Sg **Sg 03 42 56.9 -1.1**
MEZF Maizieres J'vi 3.16 344 *e*Pn **Pn 03 42 07.2 +0.3**
SNR=1.0
MEZF Maizieres J'vi 3.16 344 *e*Pg **Pg 03 42 16.9 -0.8**
baz=162
MEZF *e*Sn **Sn 03 42 43.2 -1.3**
SNR=1.0
MEZF *e*Sg **Sg 03 42 57.7 -0.9**
comp=N,191nm,0.4s,SNR=1.0
BFO Black Forest 3.16 25 *e*Pn **Pn 03 42 06.7 -0.3**
BFO *e*Pg **Pg 03 42 17.1 -0.6**
BFO *e*Sn **Sn 03 42 45.1 +0.4**
BFO *e*Sg **Sg 03 43 00.5 +1.8**
SAVF Savonnieres en 3.25 345 *e*Pn **Pn 03 42 08.2 0.0**
SAVF Savonnieres en 3.25 345 *e*Pg **Pg 03 42 19.2 -0.3**
SAVF *e*Sn **Sn 03 42 46.4 -0.5**
SAVF *e*Sg **Sg 03 43 00.8 -0.9**
comp=N,202nm,0.7s
MAIM Mastiano 3.34 116 P **Pn 03 42 11.3 +2.0**
MAIM AML AML
comp=E,73μm,0.5s
MAIM AML AML
comp=N,53μm,1.2s
MAIM AML AML
comp=E,73μm,1.5s
MAIM AML AML
comp=N,53μm,0.8s
OBER Oberstdorf 3.34 53 *e*Pn **Pb 03 42 12.9 -3.5**
OBER *e*Pg **Pg 03 42 20.9 -0.2**
OBER *e*Sn **Sn 03 42 50.2 +1.0**
UBR Ueberruh 3.40 48 *e*Pn **Pn 03 42 12.4 +2.1**
UBR *e*Pg **Pg 03 42 22.0 -0.4**
UBR *e*Sn **Sn 03 42 53.4 +2.8**
UBR *e*Sg **Sg 03 43 08.2 +1.8**
FETA Feichten 3.40 61 *i* Pn **Pb 03 42 14.4 -3.3**
comp=N,1.6nm,0.2s,SNR=11
FETA *e*Sn **Sn 03 42 53.9 +3.0**
comp=N,9.6nm,0.2s
RJF Les Rejaudoux 3.42 269 *e*Pn **Pn 03 42 12.3 +1.8**
SNR=1.0
RJF Les Rejaudoux 3.42 269 *e*Pg **Pg 03 42 21.1 -1.6**
SNR=1.0
RJF *e*Sg **Sb 03 43 01.5 +2.2**
RJF *e*Sg **Sg 03 43 05.2 -1.7**
comp=N,82nm,0.4s
POPM Popiglio 3.44 113 AML AML
comp=E,96μm,1.4s
POPM AML AML
comp=E,96μm,0.6s
POPM AML AML
comp=N,72μm,0.5s
PII Pisa 3.46 119 AML AML
comp=N,78μm,0.4s
PII AML AML
comp=E,91μm,0.3s
ZCCA Zocca 3.47 107 AML AML
comp=E,85μm,1.3s
ZCCA AML AML
comp=N,116μm,0.9s
ZCCA AML AML
comp=N,116μm,1.1s
ZCCA AML AML
comp=E,85μm,0.7s
PGF Pioggiola 3.49 146 *e*Pn **Pn 03 42 10.7 -0.9**
SNR=1.0
PGF Pioggiola 3.49 146 *e*P **Pn 03 42 13.9 +2.3**
PGF *e*Sn **Sn 03 42 50.6 -2.4**
comp=E,14nm,0.4s,SNR=1.0
PGF Pioggiola 3.49 146 AML AML
comp=N,39μm,0.8s
PGF AML AML
comp=E,33μm,0.4s
PGF AML AML
comp=N,39μm,1.2s
RETA Reutte 3.65 55 *i* Pn **Pn 03 42 16.3 +2.5**
comp=N,5.0nm,0.2s,SNR=11
RETA *e*Sn **Sn 03 42 57.8 +1.0**
comp=N,24nm,0.3s
MTLF Montolieu 3.65 236 *e*Pn **Pn 03 42 14.7 +1.0**
SNR=1.0
MTLF Montolieu 3.65 236 *e*Pg **Pb 03 42 24.3 +2.5**
MTLF *e*Sn **Sn 03 42 54.2 -2.6**
comp=N,49nm,0.4s,SNR=1.0
MTLF *e*Sg **Sb 03 43 09.2 +3.0**
comp=N,114nm,0.7s
MOTA Moosalm 3.78 59 *i* Pn **Pn 03 42 18.5 +2.9**
comp=N,2.7nm,0.2s,SNR=7.7
MOTA *i* Sn **Sn 03 43 01.6 +1.5**
comp=N,10nm,0.2s
SQTA Sankt Quirin 3.79 61 *i* Pn **Pn 03 42 14.3 -1.3**
comp=N,3.3nm,0.1s
ROSI Rosskopf 3.80 66 AML AML
comp=N,193μm,0.7s
ROSI AML AML
comp=E,163μm,0.4s
STU Stuttgart 3.82 29 *e*Sg **Sg 03 43 22.6 +2.6**
PART Garmisch-Parte 3.86 57 *e*Sn **Sn 03 43 02.7 +0.8**
AJAC Base Areonaval 3.95 153 ⇑P **Pn 03 42 19.8 +2.0**
AJAC AML AML
comp=N,233μm,0.2s
AJAC AML AML
comp=E,186μm,0.3s
LFF La Frestale 4.01 264 *e*Pn **Pn 03 42 19.2 +0.6**
LFF *e*Sg **Sg 03 43 23.4 -2.4**
comp=E,134nm,0.5s
KTD Kalmit 4.02 16 *e*Pn **Pn 03 42 18.8 0.0**
WATA Walderalm 4.06 61 *i* Pn **Pn 03 42 22.4 +2.9**
comp=E,1.2nm,0.2s
WATA *e*Sn **Sn 03 43 08.9 +1.8**
comp=E,10nm,0.3s
WTTA Wattenberg 4.07 62 *i* Pn **Pn 03 42 23.2 +3.6**
comp=E,2.9nm,0.2s,SNR=6.7
WTTA *e*Sn **Sn 03 43 10.0 +2.7**
comp=E,15nm,0.2s
WTTA Wattenberg 4.07 62 P **Pn 03 42 22.3 +2.7**
WTTA AML AML
comp=N,98μm,0.9s
WTTA AML AML
comp=E,120μm,0.9s
WTTA Wattenberg 4.07 62 *e*Pn **Pn 03 42 23.2 +3.6**
WTTA *e*Sn **Sn 03 43 10.0 +2.7**
WLF Walferdange 4.19 358 *d*P **Pn 03 42 24.9 +3.8**
WLF *d*S **Sg 03 43 32.1 +0.3**
RIVT Riveris 4.24 4 *e*Pn **Pn 03 42 22.8 +1.0**
FUR Furstenfeldbru 4.32 50 *e*Sn **Sn 03 43 14.1 +0.9**
NORI Noerdlinger Ri 4.36 40 *e*Pg **Pg 03 42 39.6 -1.1**
ABTA Abfaltersbach 4.46 71 *e*Pn **Pn 03 42 28.5 +3.5**
comp=E,3.2nm,0.5s
ABTA *e*Sn **Sn 03 43 18.9 +2.0**
comp=E,11nm,0.5s
ABH Alteburg 4.48 10 *e*Pn **Pn 03 42 25.7 +0.6**
ABH *e*Pg **Pg 03 42 41.4 -1.6**
MFF Saint Martin d 4.67 286 *e*Pn **Pn 03 42 27.8 +0.2**
SNR=1.0
MFF Saint Martin d 4.67 286 *e*Pg **Pg 03 42 44.2 -2.4**
MFF *e*Sg **Sg 03 43 44.1 -2.9**
comp=E,33nm,0.5s
GIVF Givet 4.74 348 *e*Pn **Pn 03 42 29.3 +0.6**
SNR=1.0
GIVF *e*Sn **Sn 03 43 21.7 -1.9**
GIVF *e*Sg **Sg 03 43 47.4 -2.1**
comp=E,72nm,0.7s
RCHB Rochefort 4.75 351 *d*P **Pn 03 42 30.2 +1.6**
RCHB *d*S **Sn 03 43 21.4 -2.2**
DOU Dourbes 4.77 346 *d*P **Pn 03 42 30.9 +1.8**
DOU *d*S **Sn 03 43 23.4 -0.9**
LESA Schwarzleotal 4.78 64 *i* Pn **Pn 03 42 32.4 +3.1**
comp=E,0.4nm,0.1s
LESA *e*Sn **Sn 03 43 25.9 +1.2**
comp=E,10.0nm,0.3s
MILB Miltenberg 4.79 23 *e*Pn **Pn 03 42 28.4 -0.9**
MILB *e*Sg **Sg 03 43 53.1 +2.3**
BAIF Baives 4.81 343 *e*Pn **Pn 03 42 29.8 +0.2**
SNR=1.0
BAIF Baives 4.81 343 *e*Pg **Pg 03 42 48.0 -1.3**
BAIF *e*Sn **Sn 03 43 23.1 -2.2**
BAIF *e*Sg **Sg 03 43 49.2 -2.4**
comp=E,33nm,0.5s,SNR=1.0
BHOU Houvegnez 4.89 357 *d*P **Pn 03 42 32.6 +1.9**
BHOU *d*S **Sn 03 43 27.3 +0.1**
BMRD Maredsous 4.95 348 *d*P **Pn 03 42 33.3 +1.9**
BMRD *d*S **Sn 03 43 29.7 +1.0**
TNS Taunus Mts 4.95 16 *e*Pn **Pn 03 42 31.9 +0.3**
EPF Esparros 4.96 243 *e*Pn **Pn 03 42 31.2 -0.6**
SNR=1.0
EPF Esparros 4.96 243 *e*Pg **Pg 03 42 49.7 -2.6**
EPF *e*Sg **Sg 03 43 53.0 -3.6**
comp=E,25nm,0.3s
RJOB Jochberg 4.98 61 *e*Pn **Pn 03 42 34.8 +2.8**
RJOB *e*Sn **Sn 03 43 29.9 +0.3**
BGES Gesves 4.99 351 *d*P **Pn 03 42 33.6 +1.6**
BGES *d*S **Sn 03 43 28.1 -1.5**
BCLA Clavier 5.00 352 *d*P **Pn 03 42 33.5 +1.3**
BCLA *d*S **Sn 03 43 28.3 -1.6**
KBA Koelnbreinsper 5.10 69 *i* Pn **Pn 03 42 36.8 +3.0**
comp=E,0.6nm,0.1s
BTNL Ternell 5.12 358 *d*P **Pn 03 42 35.1 +1.3**
BTNL *d*S **Sn 03 43 33.0 +0.1**
BSTI Sart Tilman 5.14 354 *d*P **Pn 03 42 35.5 +1.4**
BSTI *d*S **Sn 03 43 32.2 -1.2**
MEM Membach 5.14 358 *d*P **Pn 03 42 35.4 +1.2**
MEM *d*S **Sn 03 43 32.8 -0.7**
MYKA Terra Mystica 5.20 75 *e*Pn Pb 03 42 42.0 -6.2
comp=E,2.6nm,0.3s
BEBN Eben Emael 5.34 355 *d*SgSg **Sg 03 44 10.0 +1.3**
GRFO Grafenberg 5.35 36 *e*Pg **Pg 03 42 58.9 -0.8**
GRF Grafenberg Arr 5.35 36 *e*Pg **Pg 03 42 58.7 -0.9**
LDF La Druitiere 5.42 307 *e*Pn **Pn 03 42 38.2 +0.3**
SNR=1.0
LDF *e*Sn **Sn 03 43 37.1 -3.1**
comp=E,10nm,0.3s
LDF *e*Sg **Sg 03 44 08.0 -3.1**
comp=E,13nm,0.4s
BIOA Bad Ischl, Aus 5.49 64 *e*Pn **Pn 03 42 41.0 +2.1**
comp=E,0.6nm,0.2s
BIOA *e*Sn **Sn 03 43 43.6 +1.6**
comp=E,6.2nm,0.3s
ETSF Etsaut 5.60 245 *e*Pn **Pn 03 42 39.8 -0.8**
SNR=1.0
ETSF *e*Sg **Sg 03 44 13.1 -3.9**
comp=E,28nm,0.5s,SNR=1.0
HROE Hohe Rhon--Fla 5.67 25 *e*Pg **Pg 03 43 03.9 -1.8**
SPAHL Spahl 5.70 23 *e*Pg **Pg 03 43 06.1 -0.2**
FLN La Foliniere 5.71 308 *e*Pn **Pn 03 42 42.2 +0.3**
SNR=1.0
FLN *e*Sn **Sn 03 43 44.2 -3.2**
comp=E,27nm,0.6s
FLN *e*Sg **Sg 03 44 16.7 -3.7**
comp=E,15nm,0.5s
GRR Gorron 5.74 303 *e*Pn **Pn 03 42 43.8 +1.5**
SNR=1.0
GRR *e*Sn **Sn 03 43 43.5 -4.6**
comp=E,32nm,0.4s,SNR=1.0
GRR *e*Sg **Sg 03 44 17.8 -3.5**
comp=E,17nm,0.6s
WET Wettzell 5.75 48 *e*Pn **Pn 03 42 44.3 +1.6**
OBKA Obir 5.80 77 *i* Pn **Pn 03 42 46.8 +3.5**
comp=E,2.6nm,0.5s
ROTZ Rotzenmuhle 5.84 41 *e*Pg **Pg 03 43 06.6 -2.3**
ROTZ *e*Sn **Sn 03 43 48.5 -2.1**
KASTN Kahler Asten 5.89 13 *e*Sn **Sn 03 43 50.5 -1.6**
CRUX Bergwerk Schwa 5.93 28 *e*Pg **Pg 03 43 08.8 -2.0**
SJPF Ste Jean 5.93 249 *e*Pn **Pn 03 42 46.4 +1.4**
SNR=1.0
SJPF Ste Jean 5.93 249 *e*Pg **Pg 03 43 07.2 -3.6**
SJPF *e*Sg **Sg 03 44 22.6 -5.0**
comp=E,27nm,0.5s
MOA Molln 5.94 64 *i* Pn **Pn 03 42 47.2 +2.1**
comp=E,0.2nm,0.1s
MOA *e*Sn **Sn 03 43 52.6 -0.5**
comp=E,13nm,0.4s
MOA Molln 5.94 64 *e*Pg **Pg 03 43 10.2 -0.7**
MOA *e*Sn **Sn 03 43 52.4 -0.7**
BBWF Bergwerk Finst 5.95 26 *e*Sg **Sg 03 44 29.1 +0.9**
MANZ Manzenberg 5.95 39 *e*Pg **Pg 03 43 09.6 -1.5**
VITZ Vitzeroda 5.96 23 *e*Pg **Pg 03 43 11.1 -0.3**
GEC2 GERESS Array S 6.04 53 *e*Pn **Pn 03 42 47.9 +1.4**
GEC2 *e*Sn **Sn 03 43 52.2 -3.4**
GERES GERESS Array B 6.04 53 Pn **Pn 03 42 47.9 +1.4**
comp=E,1.2nm,0.3s,baz=234,slow=14,SNR=18
GERES Pg **Pg 03 43 12.0 -0.8**
comp=E,3.1nm,0.3s,baz=243,slow=16,SNR=10
GERES Sn **Sn 03 43 52.6 -3.1**
comp=E,3.9nm,0.3s,baz=242,slow=23,SNR=11
GERES Lg Lg 03 44 32.8
baz=204,slow=19
comp=E,1.5nm,0.3s
KHC Kasperske Hory 6.12 51 *e*PN **Pn 03 42 48.6 +0.9**
KHC *e*PG **Pg 03 43 12.9 -1.5**
KHC *e*SN **Sn 03 43 53.8 -3.9**
KHC *ex* x 03 44 35.5
HWTS Hohenwarte Tal 6.16 32 *e*Pg **Pg 03 43 13.7 -1.4**
ROHR Rohrbach 6.22 38 *e*Pg **Pg 03 43 14.6 -1.7**
NKC Novy Kostel 6.28 39 *e*SG **Sg 03 44 41.1 +2.4**
NKC Novy Kostel 6.28 39 *e*Pg **Pg 03 43 16.0 -1.5**
WERN Wernitzgruen 6.29 38 *e*Pg **Pg 03 43 16.1 -1.5**
CKRC Cesky Krumlov 6.37 55 *e*PN **Pn 03 42 51.8 +0.7**
CKRC *e*SN **Sn 03 44 00.2 -3.6**
ARSA Arzberg 6.59 71 *e*Pn **Pn 03 42 56.7 +2.7**
comp=E,5.7nm,0.5s
ARSA *e*Sn **Sn 03 44 08.8 -0.3**
comp=E,4.4nm,0.6s
ZVC Zvikov 6.63 50 *e*SN **Sn 03 44 05.8 -4.3**
SGMF Saint Gilles 6.71 298 *e*Pn **Pn 03 42 55.2 -0.5**
SNR=1.0
SGMF *e*Sn **Sn 03 44 08.0 -4.2**
comp=E,10nm,0.4s
SGMF *e*Sg **Sg 03 44 48.5 -4.1**
comp=E,13nm,0.7s
CONA Conrad Observa 6.98 66 *e*Pn **Pn 03 43 00.8 +1.3**
comp=E,0.3nm,0.2s
QUIF Quistinic 6.99 294 *e*Pn **Pn 03 42 59.7 +0.2**
SNR=1.0
QUIF *e*Sn **Sn 03 44 14.6 -4.3**
QUIF *e*Sg **Sg 03 44 57.8 -3.6**
comp=E,30nm,0.9s
ROSF Rostrenen 7.19 297 *e*Pn **Pn 03 43 02.9 +0.6**
SNR=1.0
ROSF *e*Sn **Sn 03 44 19.4 -4.5**
comp=E,5.4nm,0.3s
ROSF *e*Sg **Sg 03 45 03.7 -4.2**
comp=E,26nm,0.7s
RONA Rosalia, Austr 7.20 68 *i* Pn **Pn 03 43 04.1 +1.7**
comp=E,1.4nm,0.2s
RONA *e*Sn **Sn 03 44 22.9 -1.4**
comp=E,2.2nm,0.2s
CLL Collm 7.32 35 *e*Pn Pn 03 42 59.0 -5.0
CLL *ex* x 03 43 03.0
CLL *e*Pg **Pg 03 43 35.0 -2.3**
CLL *ex* x 03 43 39.0
CLL *ex* x 03 43 44.0
CLL *e*Sn Sn 03 44 12.0 -15
CLL *e*Sg **Sg 03 45 10.0 -2.0**
comp=Z,17nm,1.0s
BRG Berggiesshubel 7.41 40 *e*P **Pg 03 43 38.3 -0.6**
BRG Amp 03 43 40.6
comp=Z,4.4nm,0.5s
BRG r 03 44 29.3
BRG Amp 03 44 32.1
comp=Z,2.5nm,0.6s
BRG r 03 45 19.5
BRG Amp 03 45 23.4
comp=Z,9.1nm,0.8s
KRUC Moravsky 7.71 59 *e*PN **Pn 03 43 10.3 +0.9**
KRUC *e*SN **Sn 03 44 33.2 -3.5**
VRAC Vranov 7.93 57 *e*SN **Sn 03 44 37.1 -5.1**
VRAC Vranov 7.93 57 Pn **Pn 03 43 14.2 +1.8**
comp=Z,0.4nm,0.3s,baz=255,slow=11,SNR=2.2
VRAC Sn **Sn 03 44 36.1 -6.1**
comp=Z,1.1nm,0.3s,baz=339,slow=23,SNR=10
comp=Z,0.7nm,0.3s
MODS Modra-Piesok 8.02 65 *e*PN **Pn 03 43 17.9 +4.2**
MODS *e*SN **Sn 03 44 42.1 -2.2**
KRLC Kraliky 8.39 53 *e*PN **Pn 03 43 19.7 +0.9**
MORC Moravsky Berou 8.69 56 *e*SN **Sn 03 44 54.8 -6.1**
VYHS Vyhne 9.05 66 *e*PN Pn 03 43 32.6 +4.8
VYHS *e*SN **Sn 03 45 05.8 -3.8**
ESDC Sonseca Array 9.56 236 Pn **Pn 03 43 35.8 +0.9**
comp=Z,0.1nm,0.3s,baz=50,slow=13,SNR=13
comp=Z,0.8nm,0.5s
EKA Eskdalemuir Ar 11.57 332 Pn **Pn 03 44 02.8 +0.5**
baz=139,slow=14
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 20.83 96 P **P 03 45 59.8 +0.8**
comp=Z,0.4nm,0.7s,baz=282,slow=7.2,SNR=1.6
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 32.46 188 P **P 03 47 47.6 -0.1**
comp=Z,0.2nm,0.6s,baz=3.0,slow=9.5,SNR=1.5
comp=Z,0.2nm,0.6s
KURBB Kurchatov Arra 46.77 56 P **P 03 49 47.8 +1.5**
comp=Z,0.4nm,0.2s,baz=297,slow=9.5,SNR=2.3
comp=Z,0.4nm,0.2s

PRU 25 03:58:01.8, 50.24N×18.95E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.55**	**92**	*e*Pg	Pg	03 58 11.3	-0.9
OJC				*e*Sg	Sg	03 58 19.1	-0.2
MORC	**Moravsky Berou**	**1.02**	**243**	*e*PG	Pb	03 58 21.9	-0.4
MORC				*e*SG	Sg	03 58 35.1	+0.6
MAUC	**Maruska**	**1.14**	**220**	*e*SG	Sg	03 58 38.8	+0.5
LANS	**Liptovska Anna**	**1.14**	**163**	*e*PG	Pg	03 58 23.2	-0.4
LANS				*e*SG	Sg	03 58 38.4	0.0
LANS				eLG	Lg	03 58 39.8	
KRLC	**Kraliky**	**1.40**	**264**	*e*PG	Pg	03 58 27.1	-1.6
KRLC				*e*SG	Sg	03 58 45.4	-1.5
KRLC	**Kraliky**	**1.40**	**264**	*e*PG	Pg	03 58 27.4	-1.3
KRLC				*e*SG	Sg	03 58 45.8	-1.1
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG	Pn	03 58 33.0	+0.4
DPC				*e*SG	Sb	03 58 55.7	+0.1
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*SG	Sg	03 58 56.2	+0.2

IDC 25 04:25:35.1±7.2, 6.40S×148.05E, h108km±61km, mb2.9/1, mbtmp3.3/3, Error ellipse: s-maj=109.9km s-min=58.2km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12**	**196**	P	Pn	04 26 21.7	-0.9
13nm,0.4s,baz=82,slow=23,SNR=3.4							
PMG				S	Sn	04 27 00.2	+0.9
44nm,0.7s,baz=35,slow=22,SNR=8.1							
WRA	**Warramunga Arr**	**18.94**	**223**	P	P	04 29 46.5	-1.2
0.3nm,0.5s,baz=50,slow=11,SNR=8.5							
ASAR	**Alice Springs**	**21.91**	**217**	P	P	04 30 19.9	+0.2
0.5nm,0.5s,baz=52,slow=8.8,SNR=10							
0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**146.20**	**284**	PKPbc	PKPbc	04 45 03.7	-0.3
0.2nm,0.6s,baz=54,slow=4.3,SNR=1.8							

---

*IDC **25** 04:33:56.7±1.5, 6.29S×148.75E, h48km±13km, mb4.1/13, mbtmp4.4/15, ML4.7/3, MS4.1/43, Error ellipse: s-maj=24.7km s-min=11.3km az=106.0*
*DJA **25** 04:33:56.8±0.5, 6.5S±3.14.9E±.°, h44km±5km, M5.0/27, mb4.9/27, mB5.2/7, MLv5.4/2, Mw(mB)4.6/7, MwMwp5.0/1, Mwp5.3/1*
*NEIC **25** 04:33:57.8±1.1, 6.34S±0.03×148.85E±0.08, h50km±7km, mb4.7/52, Error ellipse: s-maj=11.6km s-min=4.6km az=87.0*

ISC 25 04:33:57.2±0.4, 6.38S±0.05×148.83E±0.06, h53km, n137, σ1.9 28/116, mb4.7/48, MS4.2/39, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.43**	**209**	P	**Pn**	**04 34 49.1**	**+0.9**
425nm,0.3s,baz=25,slow=7.8,SNR=105							
PMG				S	**Sn**	**04 35 28.4**	**+0.8**
342nm,0.5s,baz=98,slow=6.0,SNR=3.1							
PMG				LR	LR	04 36 16.3	
comp=Z,2μm,18.6s,baz=355,slow=40							
KRVT	**Keravat (AS076**	**3.79**	**57**	P	**Pn**	**04 34 52.7**	**-0.5**
134nm,0.3s,baz=138,slow=23,SNR=20							
KRVT				LR	LR	04 36 18.3	
comp=Z,4μm,18.3s,baz=57,slow=37							
RABL	**Rabaul**	**3.97**	**57**		**Pn**	**04 34 55.5**	**-0.2**
COEN	**Coen**	**9.36**	**216**	Pn	**Pn**	**04 36 10.0**	**+0.4**
GENI	**Genyem**	**9.42**	**293**	P	**Pn**	**04 36 10.2**	**-0.2**
54nm,1.5s							
HNR	**Honiara**	**11.42**	**106**	LR	LR	04 40 31.2	
comp=Z,3μm,20.8s,baz=294,slow=34							
CTA	**Charters Tower**	**13.85**	**190**	P	**Pn**	**04 37 11.2**	**+0.3**
0.6nm,0.3s,baz=13,slow=12,SNR=5.1							
CTA				LR	LR	04 42 16.9	
comp=Z,942nm,19.9s,baz=14,slow=36							
5.3nm,0.8s							
CTAO	**Charters Tower**	**13.85**	**190**		**Pn**	**04 37 12.0**	**+1.0**
MTN	**Manton Dam**	**18.59**	**248**		**Pn**	**04 38 11.5**	**+0.6**
EIDS	**Eidsvold**	**19.00**	**174**		**P**	**04 38 15.5**	**+0.8**
WB0	**Warramunga Arr**	**19.34**	**225**		**P**	**04 38 18.9**	**+0.5**
WB0				IAmb	IAmb	04 38 32.7	
comp=Z,30nm,0.7s							
WR0	**Warramunga Arr**	**19.36**	**224**	P	**P**	**04 38 19.2**	**+0.6**
WR0				IAmb	IAmb	04 38 33.4	
comp=Z,49nm,0.9s							
WRAB	**Tennant Creek**	**19.48**	**225**	P	**P**	**04 38 20.1**	**+0.2**
WRAB				IAmb	IAmb	04 38 34.2	
comp=Z,30nm,0.8s							
WB2	**Warramunga Arr**	**19.48**	**225**	P	**P**	**04 38 20.8**	**+0.8**
WB2				IAmb	IAmb	04 38 34.3	
comp=Z,30nm,0.9s							
WRA	**Warramunga Arr**	**19.49**	**225**	P	**P**	**04 38 20.3**	**+0.2**
WRA	**Warramunga Arr**	**19.49**	**225**	P	**P**	**04 38 21.0**	**+0.9**
comp=Z,4.7nm,0.3s,baz=52,slow=11,SNR=181							
WRA				S	**S**	**04 41 51.3**	**-6.4**
comp=Z,2.1nm,0.7s,baz=47,slow=22,SNR=4.3							
WRA				ScP	**ScP**	**04 46 11.7**	**+0.5**
comp=Z,2.9nm,0.9s,baz=37,slow=2.2,SNR=7.5							
comp=Z,17nm,0.4s							
GUMO	**Guam**	**20.23**	**349**	LR	LR	04 45 32.2	
comp=Z,336nm,18.1s,baz=140,slow=35							
KNRA	**Kununurra**	**21.73**	**243**	P	**P**	**04 38 44.8**	**+0.5**
KNRA				IAmb	IAmb	04 39 01.4	
comp=Z,37nm,0.9s							
AS31	**Alice Springs**	**22.39**	**218**	P	**P**	**04 38 51.4**	**0.0**
ASAR	**Alice Springs**	**22.39**	**218**	P	**P**	**04 38 52.1**	**+0.7**
ASAR	**Alice Springs**	**22.39**	**218**	P	**P**	**04 38 52.4**	**+1.0**
comp=Z,11nm,0.6s,baz=51,slow=9.7,SNR=118							
ASAR				S	**S**	**04 42 48.5**	**-5.6**
comp=Z,1.4nm,0.8s,baz=33,slow=23,SNR=1.1							
ASAR				ScP	**ScP**	**04 46 19.2**	**+1.0**
comp=Z,1.9nm,1.0s,baz=34,slow=4.0,SNR=5.5							
ASAR				LR	LR	04 48 05.7	
comp=Z,708nm,18.6s,baz=32,slow=38							
comp=Z,11nm,0.6s							
DZM	**Mont Dzumac**	**23.08**	**134**	P	**P**	**04 38 58.5**	**-0.1**
DZM				IAmb	IAmb	04 39 10.5	
comp=Z,42nm,0.9s							
DZM	**Mont Dzumac**	**23.08**	**134**	LR	LR	04 46 26.1	
comp=Z,654nm,21.6s,baz=306,slow=32							
SANI	**Sanana**	**23.18**	**280**	P	**P**	**04 39 00.3**	**+0.7**
comp=Z,18nm,0.9s							
ARMA	**Armidale**	**24.05**	**174**	P	**P**	**04 39 08.3**	**+0.6**
SOEI	**Soe**	**24.55**	**261**	P	**P**	**04 39 13.3**	**+0.9**
SOEI	**Soe**	**24.55**	**261**	P	**P**	**04 39 13.7**	**+1.3**
comp=Z,54nm,1.2s							
BATI	**Baumata**	**25.19**	**260**	LR	LR	04 52 24.3	
comp=Z,476nm,19.5s,baz=90,slow=44							
STKA	**Stephens Creek**	**26.25**	**194**	P	**P**	**04 39 28.3**	**+0.8**
STKA	**Stephens Creek**	**26.25**	**194**	P	**P**	**04 39 27.8**	**+0.3**
comp=Z,7.5nm,0.8s,baz=346,slow=9.1,SNR=14							
STKA				LR	LR	04 50 29.7	
comp=Z,736nm,18.8s,baz=21,slow=38							
comp=Z,7.5nm,0.8s							
MMRI	**Maumere**	**26.46**	**263**	P	**P**	**04 39 30.0**	**+0.4**
comp=Z,65nm,1.2s							
EDFI	**Ende, Flores**	**27.00**	**263**	P	**P**	**04 39 33.9**	**-0.7**
comp=Z,49nm,1.0s,comp=Z,622nm							
BASI	**Baing, Sumba**	**28.21**	**260**	P	**P**	**04 39 47.1**	**+1.8**
comp=Z,137nm,0.8s							
BKSI	**Bulukumba**	**28.58**	**271**	P	**P**	**04 39 48.6**	**0.0**
comp=Z,8.2nm,0.9s							
MSVF	**Nonsavu**	**30.67**	**114**	P	**P**	**04 40 06.7**	**-0.4**
MSVF				IAmb	IAmb	04 40 38.4	
comp=Z,19nm,1.1s							
MSVF	**Nonsavu**	**30.67**	**114**	LR	LR	04 51 46.6	
comp=Z,218nm,18.4s,baz=268,slow=35							
PLAI	**Plampang**	**30.87**	**264**	P	**P**	**04 40 07.1**	**-1.8**
comp=Z,32nm,0.7s							
FORT	**Forrest**	**31.13**	**216**	P	**P**	**04 40 11.5**	**+0.6**
FORT				IAmb	IAmb	04 40 34.6	
comp=Z,21nm,0.8s							
MBWA	**Marble Bar**	**31.76**	**240**	P	**P**	**04 40 17.6**	**+0.9**
MBWA				IAmb	IAmb	04 40 30.6	

comp=Z,12nm,0.8s
PSA00 Pilbara Seismi 31.83 239 P **P 04 40 18.0 +0.7**
PSA00 IAmb IAmb 04 40 31.8
comp=Z,17nm,0.9s
JCJ Chichijima 33.90 349 LR LR 04 53 57.5
comp=Z,126nm,18.2s,baz=126,slow=36
JAGI Jajag, Banyuwa 34.44 264 P **P 04 40 38.9 -1.2**
WOJI Wonogiri, Jawa 37.63 265 P **P 04 41 07.6 +0.2**
comp=Z,46nm,1.1s
MORW Morawa 38.30 230 P **P 04 41 13.5 +0.6**
JOW Kunigami 38.56 330 LR LR 04 53 54.0
comp=Z,375nm,20.3s,baz=128,slow=31
NWAO Narrogin (SRO) 39.49 224 LR LR 04 59 11.3
comp=Z,536nm,18.7s,baz=48,slow=38
KPJI Karang Pucung 39.62 266 P **P 04 41 25.0 +0.9**
comp=Z,30nm,1.0s
JHJ Hachijo jima 2 40.21 348 LR LR 04 55 39.6
comp=Z,320nm,18.4s,baz=147,slow=32
URZ Urewera 40.79 145 LR LR 04 57 35.7
comp=Z,243nm,18.2s,baz=31,slow=35
LEM Lembang 40.93 267 P **P 04 41 35.6 +0.4**
comp=Z,36nm,0.8s
LEM Lembang 40.93 267 LR LR 05 02 02.0
comp=Z,63nm,18.3s,baz=103,slow=41
CNJI Cibinong 41.40 266 P **P 04 41 39.2 +0.4**
comp=Z,46nm,0.9s,comp=Z,1μmcomp=Z,1μm
TCW Tory Channel 41.44 151 P **P 04 41 39.0 +0.2**
RPZ Rata Peaks 42.00 156 LR LR 04 57 49.3
comp=Z,389nm,19.1s,baz=318,slow=34
GVZ Greta Valley S 42.23 153 P **P 04 41 45.3 +0.1**
CGJI Cibinong 42.85 267 P **P 04 41 51.0 +0.4**
MJAR Matsushiro Arr 43.84 348 P **P 04 41 56.8 -1.5**
comp=Z,2.5nm,0.6s,baz=173,slow=10,SNR=4.4
MJAR LR LR 05 00 20.7
comp=Z,223nm,18.1s,baz=155,slow=36
comp=Z,2.5nm,0.6s
KSRS Korea Array 47.78 337 P **P 04 42 29.2 0.0**
comp=Z,11nm,0.4s,baz=158,slow=9.2,SNR=3.7
comp=Z,11nm,0.4s
WHN Wuhan 49.38 320 P P 04 42 47.5 +5.8
ASAJ Asahikawa 50.58 354 LR LR 05 02 31.4
comp=Z,166nm,21.7s,baz=111,slow=34
USRK Ussuriysk Ar. 52.59 345 P **P 04 43 07.8 +2.2**
comp=Z,1.6nm,0.6s,baz=186,slow=12,SNR=3.4
USRK LR LR 05 04 34.4
comp=Z,125nm,18.6s,baz=130,slow=35
CMAR Chiang Mai Arr 55.03 298 LR LR 05 08 58.1
comp=Z,50nm,19.2s,baz=155,slow=38
KLR Kul'dur 57.36 347 LR LR 05 06 43.8
comp=Z,144nm,18.9s,baz=4.5,slow=34
XLT XiLinHaoTe 58.13 333 *e*P P 04 43 54.6 +9.0
XLT pP sP 04 44 07.5 +2.0
XLT sP pP 04 44 12.5 +13
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT pmax pmax
comp=Z,270nm,8.7s
BTO Baotou 58.80 326 *e*P **P 04 43 50.9 +0.6**
BTO pP **pP 04 44 03.8 -0.6**
BTO sP **sP 04 44 09.0 -1.3**
BTO PcP **PcP 04 44 39.1 -0.4**
BTO PP **PP 04 46 04.0 +3.1**
BTO S **S 04 51 53.5 +1.5**
BTO sS **sS 04 52 17.5 +1.1**
BTO Baotou 58.80 326 SS SS 04 55 48.5 +2.3
BTO pmax pmax
comp=Z,10.0nm,0.6s
BTO pmax pmax
comp=Z,1μm,6.2s
BTO LR LR
comp=N,940nm,8.2s
BTO LR LR
comp=E,480nm,6.4s
BTO LR LR
comp=Z,690nm,7.9s
PEA0B Petropavlovsk- 59.74 6 P **P 04 43 57.2 +0.8**
PETK Petropavlovsk- 59.74 6 P **P 04 43 57.0 +0.5**
PETK Petropavlovsk- 59.74 6 P **P 04 43 57.4 +0.9**
comp=Z,5.2nm,0.5s,baz=177,slow=6.1,SNR=11
PETK LR LR 05 04 34.3
comp=Z,170nm,20.0s,baz=144,slow=31
comp=Z,5.2nm,0.5s
PPT Papeete 61.04 106 LR LR 05 04 44.9
comp=Z,70nm,21.6s,baz=267,slow=30
CASY Casey 65.38 196 P **P 04 44 34.9 +1.0**
SONM Songino Array 65.63 330 P **P 04 44 34.9 -1.1**
comp=Z,0.5nm,0.6s,baz=126,slow=7.3,SNR=3.1
SONM LR LR 05 13 47.5
comp=Z,176nm,19.5s,baz=112,slow=36
comp=Z,0.5nm,0.6s
MA2 Magadan 65.77 1 LR LR 05 15 16.2
comp=Z,95nm,18.1s,baz=118,slow=38
SEY Seymchan 69.17 2 LR LR 05 17 06.9
comp=Z,125nm,18.6s,baz=146,slow=38
PALK Pallekele 69.30 280 P **P 04 44 58.4 -1.3**
PALK IAmb IAmb 04 45 11.1
comp=Z,7.5nm,0.9s
PALK Pallekele 69.30 280 LR LR 05 19 21.1
comp=Z,33nm,18.5s,baz=225,slow=39
VNDA Vanda 71.43 177 P **P 04 45 12.6 +1.1**
VNDA Vanda 71.43 177 P **P 04 45 12.6 +1.1**
comp=Z,2.3nm,0.7s,baz=332,slow=6.8,SNR=37
VNDA LR LR 05 12 04.8
comp=Z,78nm,21.2s,baz=284,slow=32
comp=Z,2.3nm,0.7s
SBA Scott Base 72.05 176 P **P 04 45 16.8 +1.6**
O14K Tigyukauivet M 76.46 24 P **P 04 45 40.8 -0.3**
L14K Kuka Creek 77.24 22 P **P 04 45 46.3 +0.8**
L16K Owhat River 78.67 22 P **P 04 45 53.3 -0.1**
L16K IAmb IAmb 04 46 03.3
comp=Z,24nm,1.4s
MKAR Makanchi Array 78.95 320 P **P 04 45 53.7 -1.6**
comp=Z,0.5nm,0.5s,baz=114,slow=5.3,SNR=4.8
MKAR LR LR 05 21 14.6
comp=Z,43nm,18.4s,baz=53,slow=36
comp=Z,0.5nm,0.5s
KDAK Kodiak Island 79.38 28 LR LR 05 13 49.9
comp=Z,143nm,20.0s,baz=259,slow=30
L18K Granite Mounta 80.04 23 P **P 04 46 01.4 +0.6**
L18K IAmb IAmb 04 46 29.6
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 80.31 327 P **P 04 46 01.7 -0.8**
comp=Z,1.7nm,0.6s,baz=118,slow=8.3,SNR=1.7
ZALV LR LR 05 20 08.7
comp=Z,180nm,21.9s,baz=80,slow=35
comp=Z,1.7nm,0.6s
L19K White Mountain 80.73 23 P **P 04 46 04.9 +0.3**
L19K IAmb IAmb 04 46 35.8
comp=Z,17nm,1.4s
CNPM China Poot 80.86 27 P **P 04 46 05.4 0.0**
G18K Tagagawik 81.50 19 P **P 04 46 08.8 +0.2**
G18K IAmb IAmb 04 46 14.1
comp=Z,8.5nm,1.2s
BOOM Boomskoye usch 81.84 314 P **P 04 46 09.4 -1.7**
J20K Nowinta River 82.09 22 P **P 04 46 12.9 +1.2**
J20K IAmb IAmb 04 46 29.3
comp=Z,11nm,1.4s
CAST Castle Rocks 82.47 23 P **P 04 46 13.0 -0.8**
CAST IAmb IAmb 04 46 41.2
comp=Z,12nm,1.4s
MAW Mawson 82.60 203 LR LR 05 21 02.1
comp=Z,132nm,20.3s,baz=16,slow=34
E19K Redstone River 82.89 18 P **P 04 46 17.2 +1.3**
E19K IAmb IAmb 04 46 37.7
comp=Z,7.5nm,1.1s
KTH Kantishna Hill 82.99 23 P **P 04 46 16.6 +0.1**
KTH IAmb IAmb 04 46 34.3
comp=Z,18nm,1.4s
C19K Lookout Ridge 83.19 16 P **P 04 46 18.5 +1.0**
SML Sawmill 83.21 25 P **P 04 46 18.1 +0.4**
IMAR Indian Mountai 83.21 20 P **P 04 46 18.9 +1.3**
D19K Kuna River 83.25 17 P **P 04 46 18.4 +0.6**
D19K IAmb IAmb 04 46 35.4
comp=Z,13nm,1.4s
HIN Hinchinbrook I 83.38 27 P **P 04 46 19.8 +1.2**
QSPA South Pole Qui 83.59 180 P **P 04 46 20.5 +0.8**
QSPA IAmb IAmb 04 46 21.2
comp=Z,8.9nm,0.9s
QSPA South Pole Qui 83.59 180 P **P 04 46 20.1 +0.4**
comp=Z,5.9nm,0.8s,baz=333,slow=1.1,SNR=34
QSPA LR LR 05 23 41.3
comp=Z,136nm,18.1s,baz=338,slow=36
comp=Z,5.9nm,0.8s
RND Reindeer 83.73 24 P **P 04 46 20.7 +0.4**
RND IAmb IAmb 04 46 48.7
comp=Z,19nm,1.5s

MLY Manley 83.79 22 P **P 04 46 21.3 +0.7**
MLY IAmb IAmb 04 46 22.7
comp=Z,8.2nm,1.3s
B20K Meade River 84.42 16 P **P 04 46 24.6 +1.0**
WRH Wood River Hil 84.52 23 P **P 04 46 24.7 +0.4**
CCB Clear Creek Bu 84.71 23 P **P 04 46 25.4 +0.2**
CCB IAmb IAmb 04 46 28.3
comp=Z,8.9nm,1.4s
HDA Harding Lake 84.94 23 P **P 04 46 26.4 0.0**
D22K Ayikyak River 85.10 18 P **P 04 46 28.5 +1.4**
IL31 85.12 23 P **P 04 46 27.2 0.0**
ILAR Eielson Array 85.12 23 P **P 04 46 27.1 -0.1**
comp=Z,2.5nm,0.8s,baz=254,slow=4.9,SNR=26
ILAR LR LR 05 21 54.8
comp=Z,102nm,20.5s,baz=239,slow=34
comp=Z,2.5nm,0.8s
H24K Noodor Dome 85.22 22 P **P 04 46 27.9 +0.1**
H24K IAmb IAmb 04 46 38.1
comp=Z,6.6nm,1.3s
MESA MESA 85.38 28 P **P 04 46 29.0 +0.1**
J25K Salcha River, 85.64 23 P **P 04 46 29.8 -0.2**
J25K IAmb IAmb 04 46 33.4
comp=Z,4.7nm,0.8s
BVAR Borovoye Array 88.15 324 P **P 04 46 40.8 -1.5**
comp=Z,0.5nm,0.4s,baz=117,slow=5.0,SNR=2.0
comp=Z,0.5nm,0.4s
BBB Bella Bella 90.75 38 LR LR 05 23 14.0
comp=Z,114nm,18.3s,baz=216,slow=33
YBH Yreka Blue Hor 93.05 49 LR LR 05 22 42.7
comp=Z,134nm,20.2s,baz=282,slow=31
AKTO Aktyubinsk 95.39 320 LR LR 05 29 50.7
comp=Z,103nm,21.9s,baz=251,slow=35
NVAR Mina Array Bea 96.17 52 P **P 04 47 18.3 -1.8**
comp=Z,0.6nm,0.8s,baz=80,slow=14,SNR=2.0
NVAR LR LR 05 28 35.4
comp=Z,71nm,18.0s,baz=284,slow=34
comp=Z,0.6nm,0.8s
PFO Pinyon Flats O 97.41 57 LR LR 05 24 13.2
comp=Z,179nm,20.1s,baz=266,slow=31
NEW Newport 97.41 42 LR LR 05 26 59.5
comp=Z,132nm,18.9s,baz=288,slow=33
YKA Yellowknife Ar 98.66 28 LR LR 05 29 56.4
comp=Z,75nm,19.6s,baz=315,slow=34
SNAA Sanae 99.91 189 LR LR 05 33 43.2
comp=Z,167nm,18.1s,baz=132,slow=36
GERES GERESS Array B 123.24 326 PKP **PKPdf 04 52 48.3 -0.1**
comp=Z,1.3nm,0.6s,baz=15,slow=5.5,SNR=4.4
EKA Eskdalemuir Ar 126.30 341 PKP **PKPdf 04 52 54.0 0.0**
comp=Z,2.6nm,1.0s,baz=17,slow=2.5,SNR=5.2
GUY2C Guyana, Caldas 136.03 89 *e*P **PKPdf 04 53 14.2 +0.1**
ORTC Ortega, Tolima 136.04 91 *e*P **PKPdf 04 53 14.5 +0.8**
LPAZ La Paz 137.05 122 PKP **PKPdf 04 53 14.9 -1.3**
comp=Z,1.4nm,0.5s,baz=262,slow=2.6,SNR=7.1
MACC Macarena, Meta 137.25 94 *e*P **PKPdf 04 53 16.8 +0.9**
SPBC San Pablo de B 137.34 89 *e*P PKPdf 04 53 08.2 -7.9
RUSC La Rusia 138.33 88 *e*P **PKPdf 04 53 13.6 -4.8**
CPUP Villa Florida 138.75 143 PKP **PKiKP 04 53 19.6 -0.9**
comp=Z,1.6nm,0.7s,baz=225,slow=5.0,SNR=2.9
SAML Samuel 144.64 115 *e*P **PKPab 04 53 27.4 -0.4**
TORD Torodi Ar. Bea 146.95 284 PKPbc **PKPdf 04 53 33.4 +0.4**
comp=Z,5.6nm,0.5s,baz=47,slow=3.8,SNR=151
BOAV Boa Vista 150.47 96 *e*P **PKPbc 04 53 44.4 +0.2**
BDFB Brasilia 152.48 143 PKPbc **PKiKP 04 53 49.2 +0.1**
comp=Z,2.6nm,0.4s,baz=257,slow=2.0,SNR=5.3
DBIC Dimbokro 153.86 272 PKPbc **PKPbc 04 53 51.6 -0.1**
comp=Z,4.8nm,0.9s,baz=132,slow=3.5,SNR=3.6

*NNC **25** 04:41:53.9±3.3, 39°.25N×63°.85E, h0km, mb3.2, mpv2.9,*
Error ellipse: s-maj=95.3km s-min=16.2km az=155.0
*ISU **25** 04:41:57.1, 40°.38N×63°.62E, h7km*
ISC 25 04:41:54.3±1.0, 40°.32N±0°.04×63°.46E±0°.04, h13km, n9,
σ1°29/14, 4C-2D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZLY	**Gazly**	**0.20**	**182**	P	**Pb**	**04 41 59.4**	**-0.4**
GZLY				S	**Sb**	**04 42 03.7**	**+0.3**
BUXR	**Bukhara**	**0.90**	**130**	P	**Pg**	**04 42 11.4**	**-0.3**
BUXR				S	**Sg**	**04 42 23.7**	**+0.3**
TMD	**Tamdy-Bulak**	**1.68**	**32**	P	**Pb**	**04 42 24.5**	**-0.6**
TMD				S	**Sb**	**04 42 45.5**	**-0.7**
NUT	**Nurota**	**1.71**	**82**	P	**Pb**	**04 42 24.7**	**-1.0**
NUT				S	**Sn**	**04 42 45.7**	**+0.1**
AGL	**Agalyk**	**2.75**	**106**	P	**Pb**	**04 42 44.1**	**+0.7**
BXML	**Bakhmal**	**3.57**	**99**	P	**Pb**	**04 42 54.5**	**-2.9**
GYA0B	**ALIBECK ARRAY**	**4.79**	**242**	⇑Pn	**Pn**	**04 43 06.9**	**+0.7**
GYA0B				⇑Pg	**Pb**	**04 43 16.3**	**-1.9**
GYA0B				⇑Sn	**Sn**	**04 44 02.4**	**+0.8**
GYA0B				⇓Lg	Lg	04 44 20.0	
KK31	**Karatay Array**	**5.96**	**60**	Pg	**Pg**	**04 43 50.0**	**+1.5**
0.3nm,0.3s,baz=233,slow=18,SNR=4.2							
KK31				⇓Lg	Lg	04 45 11.8	
2.2nm,0.6s,baz=243,slow=29,SNR=8.5							
AML	**Almayashu**	**7.92**	**74**	⇑Lg	Lg	04 46 09.2	
0.7nm,0.9s							

*JMA **25** 05:27:24.7±0.3, 34°.4N±0°.7×140°.3E±0°.9, h60km±3km,*
MV3.3/38, FAR S OFF BOSO PENINSULA
*IDC **25** 05:27:24.6±3.9, 34°.42N×140°.23E, h73km±21km, mb3.4/6,*
mbtmp3.7/7, Error ellipse: s-maj=70.0km s-min=6.6km
az=75.0
ISC 25 05:27:24.3±0.9, 34°.42N±0°.04×140°.30E±0°.05, h69km±7km,
n26, σ0°91/41, mb3.6/6, Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.42**	**25**	*i* P	**Pn**	**05 27 36.1**	**+0.1**
BSO3				X		05 27 46.4	
BSO4	**Boso 4**	**0.57**	**3**	*i* P	**Pn**	**05 27 37.9**	**+0.2**
BSO1	**Boso 1**	**0.61**	**67**	*i* P	**Pn**	**05 27 37.7**	**+0.2**
TATJ	**Tateyama 2**	**0.70**	**332**	P	**Pn**	**05 27 39.4**	**+0.3**
TATJ				S	**Sn**	**05 27 51.6**	**+1.6**
JMYK	**Miyake Tsubota**	**0.71**	**240**	*e*P	**Pn**	**05 27 39.5**	**+0.3**
JMYK				S	**Sn**	**05 27 50.7**	**+0.4**
KTR	**Katsuura**	**0.73**	**1**	P	**Pn**	**05 27 39.4**	**-0.1**
KTR				S	**Sn**	**05 27 50.8**	**+0.2**
JKUC	**kamogawauchiur**	**0.75**	**354**	*i* P	**Pn**	**05 27 39.5**	**-0.2**
JKUC				S	**Sn**	**05 27 51.6**	**+0.6**
JIM2	**Oshima 3**	**0.78**	**293**	P	**Pn**	**05 27 39.4**	**-0.6**
JIM2				S	**Sn**	**05 27 50.5**	**-1.2**
JMKN	**Mikurajimanish**	**0.79**	**228**	P	**Pn**	**05 27 39.9**	**-0.2**
JMKN				S	**Sn**	**05 27 51.4**	**-0.4**
JTHY	**Toshimahigashi**	**0.84**	**278**	P	**Pn**	**05 27 40.9**	**+0.1**
JTHY				S	**Sn**	**05 27 53.5**	**+0.6**
JKO	**Kozu shima**	**0.99**	**257**	*e*S	**Sn**	**05 27 55.8**	**-0.3**
KTJ3	**Kamata3**	**1.14**	**297**	*i* P	**Pn**	**05 27 43.7**	**-0.7**
KTJ3				S	**Sn**	**05 27 58.1**	**-1.4**
JIZS	**Izushimoda**	**1.21**	**285**	P	**Pn**	**05 27 45.8**	**+0.4**
JIZS				S	**Sn**	**05 28 01.0**	**-0.2**
JOD2	**Odawara 2**	**1.30**	**311**	P	**Pn**	**05 27 46.1**	**-0.6**
JOD2				*e*S	**Sn**	**05 28 02.7**	**-0.8**
JHJ2	**Mitsune**	**1.36**	**197**	P	**Pn**	**05 27 47.9**	**+0.5**
JHJ2				S	**Sn**	**05 28 05.0**	**+0.3**
JHJ	**Hachijo jima 2**	**1.36**	**198**	P	**Pn**	**05 27 47.9**	**+0.5**
226nm,0.3s,baz=100,slow=22,SNR=17							
JHJ				S	**Sn**	**05 28 05.0**	**+0.2**
487nm,0.2s,baz=287,slow=23,SNR=22							
JFNN	**Fujinakano**	**1.54**	**301**	P	**Pn**	**05 27 50.0**	**+0.3**
JFNN				S	**Sn**	**05 28 09.4**	**+0.5**
JYN	**Shimob**	**1.80**	**307**	P	**Pn**	**05 27 53.5**	**+0.2**
SHZ3	**Shizuoka 3**	**1.84**	**291**	P	**Pn**	**05 27 54.7**	**+1.0**
SHZ3				*e*S	**Sn**	**05 28 20.0**	**+3.8**
MJAR	**Matsushiro Arr**	**2.72**	**322**	P	**Pn**	**05 28 06.4**	**+0.7**
9.5nm,0.3s,baz=158,slow=12,SNR=79							
MJAR				S	**Sn**	**05 28 36.2**	**-1.3**
25nm,0.6s,baz=137,slow=26,SNR=12							
SONM	**Songino Array**	**28.59**	**308**	P	**P**	**05 33 14.5**	**+0.6**
0.3nm,0.4s,baz=101,slow=7.5,SNR=1.6							
0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**43.05**	**314**	P	**P**	**05 35 17.5**	**+0.6**
0.6nm,0.3s,baz=75,slow=12,SNR=1.3							
0.6nm,0.3s							
MKAR	**Makanchi Array**	**44.79**	**304**	P	**P**	**05 35 30.6**	**-0.5**
0.5nm,0.5s,baz=91,slow=9.9,SNR=5.5							
0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**46.94**	**310**	P	**P**	**05 35 47.5**	**-0.3**
0.4nm,0.6s,baz=93,slow=7.9,SNR=1.9							
0.4nm,0.6s							
WRA	**Warramunga Arr**	**54.35**	**187**	P	**P**	**05 36 42.7**	**-1.2**
1.5nm,0.6s,baz=2.8,slow=7.9,SNR=43							
1.5nm,0.6s							

ASAR	**Alice Springs**	**58.08**	**187**	P	**P**	**05 37 10.0**	**-0.5**
0.4nm,0.8s,baz=13,slow=13,SNR=5.2							
0.4nm,0.8s							

DJA 25 05:44:09.7±1.0, 11°S±11°×117°E±°, h10km, M4.0/10,
mb3.9/2, mB5.2/3, MLv3.9/10, Mw(mB)4.6/3, South of
Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**2.67**	**12**	P	Pn	05 44 52.6	-0.2
TWSI	**Taliwang, Sumb**	**2.71**	**353**	P	Pn	05 44 53.1	-0.3
IGBI	**Denpasar**	**3.31**	**322**	P	Pn	05 45 01.3	-0.2
SRBI	**Singaraja**	**3.88**	**329**	P	Pn	05 45 10.3	+0.9
JAGI	**Jajag, Banyuwa**	**4.22**	**314**	P	Pn	05 45 13.1	-1.0
ABJI	**Asem Bagus**	**4.66**	**321**	P	Pn	05 45 19.8	-0.4
GMJI	**Gumukmas**	**4.86**	**310**	P	Pn	05 45 22.6	-0.4
BLJI	**Banyuglugur**	**5.12**	**316**	P	Pn	05 45 26.4	-0.1
EDFI	**Ende, Flores**	**5.17**	**59**	P	Pn	05 45 27.1	-0.2
6.0nm,1.8s,525nm0.1nm							
BATI	**Baumata**	**6.47**	**80**	P	Pn	05 45 45.0	-0.1
33nm,0.8s,0.1nm							

*KRNET **25** 05:53:13.3±0.1, 41°.16N×69°.56E, mb2.6*
ISC 25 05:53:16.7±2.0, 41°.16N±0°.05×69°.8E±0°.1, h12km±16km, n7,
σ1°52/12, 10C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say**	**1.06**	**69**	⇑*e*P	**Pn**	**05 53 36.8**	**-0.8**
baz=76							
TRKS				⇑*e*S	**Sn**	**05 53 53.8**	**+1.4**
baz=76							
BTK	**Batken**	**1.34**	**145**	⇓⇓*e*P	**Pb**	**05 53 40.4**	**-1.4**
baz=39							
BTK				⇓⇓*e*S	**Sg**	**05 54 00.3**	**+0.5**
baz=39							
KK31	**Karatay Array**	**2.01**	**15**	⇑Pg	**Pg**	**05 53 56.2**	**+1.0**
0.6nm,0.5s,baz=198,slow=17,SNR=9.3							
KK31				⇑Lg	Lg	05 54 26.5	
5.2nm,0.6s,baz=196,slow=27							
DRK	**Karamyk**	**2.26**	**137**	⇑*e*P	**Pn**	**05 53 54.9**	**+0.7**
baz=34							
DRK				⇑*e*S	**Sb**	**05 54 25.5**	**-0.2**
baz=34							
OHH	**Osh**	**2.34**	**105**	⇑*e*P	**Pb**	**05 53 57.0**	**-1.8**
baz=4.0							
OHH				⇑*e*S	**Sb**	**05 54 28.4**	**+0.7**
baz=4.0							
ARSB	**Arslanbob**	**2.39**	**85**	⇑*e*P	**Pb**	**05 53 58.1**	**-1.7**
baz=85							
ARSB				⇑*e*S	**Sb**	**05 54 30.6**	**+1.3**
baz=85							
AML	**Almayashu**	**3.06**	**70**	⇓Pg	**Pb**	**05 54 09.4**	**-1.9**
0.1nm,0.6s							
AML				⇓Lg	Lg	05 54 57.6	
0.5nm,0.8s							

ISC 25 06:13:15.5±1.3, 49°.15N±0°.05×18°.84E±0°.04, h10km±12km,
n6, σ0°71/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.41**	**90**	*e*PG	**Pg**	**06 13 22.8**	**-0.8**
LANS				*e*SG	**Sg**	**06 13 28.8**	**-0.2**
VYHS	**Vyhne**	**0.66**	**180**	*e*PG	**Pg**	**06 13 27.7**	**-0.5**
VYHS				*e*SG	**Sn**	**06 13 41.1**	**-0.2**
JAVC	**Velka Javorina**	**0.82**	**250**	*e*PG	**Pb**	**06 13 32.8**	**+0.9**
JAVC				*e*SG	**Sn**	**06 13 44.9**	**-0.5**
MORC	**Moravsky Berou**	**1.05**	**307**	*e*PG	**Pg**	**06 13 35.6**	**-0.1**
MORC				*e*SG	**Sn**	**06 13 50.3**	**-0.8**
KECS	**Kecovo**	**1.28**	**121**	*e*PG	**Pn**	**06 13 39.1**	**-0.2**
KECS				*e*SG	**Sg**	**06 13 57.3**	**+0.8**
STHS	**Stebnicka Huta**	**1.59**	**80**	*e*PG	**Pg**	**06 13 46.5**	**+0.4**

*SOME **25** 06:48:46.5, 42°.25N×80°.97E, h15km*
*NNC **25** 06:48:52.6±0.7, 43°.10N×78°.59E, h0km, mb2.8, mpv2.6,*
Error ellipse: s-maj=10.7km s-min=2.6km az=175.0
ISC 25 06:48:54.2±0.9, 43°.10N±0°.05×78°.49E±0°.03, h10km, n13,
σ2°17/24, 4C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.07**	**241**	P	**Pg**	**06 48 55.7**	**-0.9**
53nm,0.1s							
SATY				S	**Sg**	**06 48 57.2**	**-1.1**
911nm,0.1s							
SATY	**Saty**	**0.07**	**241**	*e*P	**Pg**	**06 48 55.7**	**-0.9**
53nm,0.1s							
SATY				*e*S	**Sg**	**06 48 57.2**	**-1.1**
911nm,0.1s							
ZHN	**Zhinishke**	**0.09**	**329**	P	**Pg**	**06 48 56.5**	**-0.3**
8.6nm,0.1s							
ZHN				S	**Sg**	**06 48 58.7**	**+0.1**
157nm,0.1s							
ZHN	**Zhinishke**	**0.09**	**329**	*e*P	**Pg**	**06 48 56.5**	**-0.3**
8.6nm,0.1s							
ZHN				*e*S	**Sg**	**06 48 58.7**	**+0.1**
157nm,0.1s							
KURS	**Kuram**	**0.46**	**329**	P	**Pg**	**06 49 02.0**	**-1.2**
0.9nm,0.1s							
KURS				S	**Sg**	**06 49 08.1**	**-1.2**
2.3nm,0.2s							
KURS	**Kuram**	**0.46**	**329**	*e*P	**Pg**	**06 49 02.0**	**-1.2**
0.9nm,0.1s							
KURS				*e*S	**Sg**	**06 49 08.1**	**-1.2**
2.3nm,0.2s							
SHLS	**Shalkode**	**0.71**	**85**	P	**Pn**	**06 49 09.2**	**-1.3**
4.1nm,0.3s							
SHLS				S	**Sn**	**06 49 25.6**	**+4.0**
9.4nm,0.5s							
SHLS				S	**Sn**	**06 49 25.6**	**+4.0**
10.0nm,0.4s							
SHLS	**Shalkode**	**0.71**	**85**	*e*P	**Pn**	**06 49 09.2**	**-1.3**
4.1nm,0.3s							
SHLS				*e*S	**Sn**	**06 49 25.6**	**+4.0**
9.4nm,0.5s							
SHLS	**Shalkode**	**0.71**	**85**	*e*P	**Pn**	**06 49 12.2**	**+1.7**
1.6nm,0.1s							
SHLS				*e*S	**Sn**	**06 49 25.6**	**+4.0**
10.0nm,0.4s							
PDGK	**Podgornoye**	**0.77**	**72**	⇓P	**Pg**	**06 49 06.2**	**-2.8**
0.4nm,0.5s							
PDGK				⇑S	**Sg**	**06 49 15.9**	**-3.1**
0.8nm,0.6s							
KNDC	**Almaty**	**1.12**	**277**	⇑P	**Pb**	**06 49 15.6**	**-0.2**
14nm,0.3s							
KNDC				⇑S	**Sn**	**06 49 32.0**	**+0.4**
21nm,0.4s							
KTMS	**Ketmen**	**1.40**	**75**	*e*P	Pn	06 49 10.6	-9.4
KTMS				*e*S	Sb	06 49 28.0	-11
TKM2	**Tokmak 2**	**2.13**	**266**	⇓Pg	**Pn**	**06 49 30.5**	**+0.4**
1.0nm,0.7s							
TKM2				⇑Lg	Lg	06 49 59.0	
0.4nm,0.4s							

IDC 25 06:55:19.4±4.1, 17°.80S×178°.43W, h629km±24km,
mb2.8/3, mbtmp3.7/4, Error ellipse: s-maj=125.6km
s-min=63.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.36**	**271**	P	P	06 56 43.0	-0.1
3.8nm,0.7s,baz=106,slow=20,SNR=4.6							
STKA	**Stephens Creek**	**38.67**	**241**	P	P	07 01 51.8	+0.4
0.9nm,0.5s,baz=90,slow=8.1,SNR=2.9							
0.9nm,0.5s							
WRA	**Warramunga Arr**	**44.64**	**259**	P	P	07 02 38.1	-0.2
0.5nm,0.4s,baz=96,slow=6.8,SNR=28							
WRA				PcP	PcP	07 04 07.0	0.0
0.2nm,0.7s,baz=92,slow=3.3,SNR=1.8							
0.5nm,0.4s							
ASAR	**Alice Springs**	**44.80**	**254**	P	P	07 02 39.6	0.0
1.4nm,0.5s,baz=90,slow=8.0,SNR=20							
ASAR				PcP	PcP	07 04 07.1	-0.4
0.1nm,0.3s,baz=90,slow=3.1,SNR=2.0							
1.4nm,0.5s							

*JSN **25** 06:59:55.7±0.3, 18°.02N×76°.54W, h3km±24km, MD2.6*
*SSNC **25** 06:59:57.0±1.5, 18°.12N×76°.62W, h5km, MD3.0, ML2.3,*

MW2.2
ISC 25 06:59:56.0±1.2, 18.18N±0.10×76.64W±0.05, h13km±12km, n12, σ0.96/21, 2C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.13**	**220**	⇑*i*P	**Pg**	**06 59 59.7**	**+0.1**
STH	**Stony Hill**	**0.19**	**238**	⇑*i*P	**Pg**	**07 00 00.9**	**+0.5**
HOJ	**Hope**	**0.20**	**212**	*i* P	**Pg**	**06 59 59.7**	**-0.8**
MTDJ	**Mount Denham**	**0.85**	**273**	*e*P	**Pg**	**07 00 12.9**	**+0.3**
MTDJ				*e*S	**Sn**	**07 00 25.9**	**-0.3**
MTDJ				IAML		07 00 27.4	
	153nm,0.2s						
MTDJ				IAML		07 00 30.6	
	comp=Z,140nm,0.3s						
MTDJ	**Mount Denham**	**0.85**	**273**	*i* P	**Pb**	**07 00 13.1**	**+0.4**
MTDJ				*i* S	**Sn**	**07 00 26.2**	**0.0**
LMGC	**Las Mercedes**	**1.91**	**350**	*e*P	**Pn**	**07 00 27.6**	**-0.6**
LMGC				*e*S	**Sn**	**07 00 50.5**	**-1.6**
LMGC				IAML		07 00 53.2	
	comp=N,37nm,0.1s						
LMGC				IAML		07 00 53.9	
	comp=E,23nm,0.1s						
RCC	**Rio Carpintero**	**2.02**	**26**	*e*P	**Pn**	**07 00 29.3**	**-0.4**
RCC				*e*S	**Sn**	**07 00 53.7**	**-1.1**
RCC				IAML		07 00 55.7	
	comp=N,2.0nm,0.2s						
RCC				IAML		07 00 56.6	
	comp=E,2.0nm,0.2s						
GTBY	**Guantanamo Bay**	**2.26**	**39**	*e*P	**Pn**	**07 00 32.5**	**-0.6**
GTBY				*e*S	**Sn**	**07 00 59.7**	**-1.2**
GTBY				IAML		07 01 05.0	
	comp=E,4.0nm,0.2s						
GTBY				IAML		07 01 05.0	
	comp=E,5.0nm,0.1s						
GTMO	**Guantanamo**	**2.37**	**37**	*e*P	**Pn**	**07 00 34.1**	**-0.4**
GTMO				*e*S	**Sn**	**07 01 02.4**	**-0.9**
GTMO				IAML		07 01 02.6	
	comp=E,407nm,1.2s						
GTMO				IAML		07 01 03.6	
	comp=N,439nm,0.8s						
HLGC	**Holguin**	**2.75**	**11**	*e*P	**Pn**	**07 00 39.8**	**-0.2**
HLGC				*e*S	**Sn**	**07 01 14.2**	**+1.2**
MASC	**Masc**	**3.02**	**48**	*e*P	**Pn**	**07 00 44.5**	**+1.0**
MASC				*e*S	**Sn**	**07 01 21.7**	**+2.1**
MASC				IAML		07 01 28.4	
	comp=N,21nm,1.2s						
MASC				IAML		07 01 29.0	
	comp=E,8.2nm,0.7s						
CCCC	**Cccc**	**3.19**	**341**	*e*P	**Pn**	**07 00 45.6**	**-0.2**
CCCC				*e*S	**Sn**	**07 01 24.5**	**+0.7**
CCCC				IAML		07 01 33.3	
	comp=N,0.6nm,0.9s						
CCCC				IAML		07 01 34.4	
	comp=E,2.1nm,0.8s						

*CNRM **25** 07:02:52.2, 36.48N×7.18W, h94km, ml2.0*
*MDD **25** 07:02:55.9±0.8, 36.70N×7.01W, h17km±3km, mb_Lg2.6/15, Error ellipse: s-maj=6.3km s-min=2.6km az=12.0*
*SFS **25** 07:02:57.0, 36.76N×6.96W, h52km, ML2.3/8, ML2.3/6, MLv2.3/8*
*INMG **25** 07:02:57.4±1.5, 36.66N×6.97W, h32km±9km, ML2.0, Error ellipse: s-maj=4.5km s-min=3.8km az=0.0*
*IGIL **25** 07:02:57.0, 36.63N×6.98W, h32km, ML1.9*
ISC 25 07:02:55.3±1.4, 36.65N±0.05×6.98W±0.03, h59km±11km, n52, σ1.08/78, 1C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNO	**Arenosillo**	**0.49**	**24**	Sn	**Sn**	**07 03 16.1**	**+0.3**
ARNO				Pn	**Pn**	**07 03 06.6**	**-0.6**
ESPR	**Espera**	**0.93**	**76**	Pg	**Pn**	**07 03 13.4**	**+0.9**
ESPR				Sg	**Sn**	**07 03 24.3**	**-0.8**
ESPR				*i* Vmb_Lg		07 03 26.0	
ESPR	**Espera**	**0.93**	**76**	Pn	**Pn**	**07 03 13.1**	**+0.7**
ESPR				Sn	**Sn**	**07 03 25.1**	**+0.1**
PVAQ	**Vaqueiros**	**0.96**	**322**	⇓*e*P	**Pn**	**07 03 13.4**	**+0.6**
PVAQ				*e*S	**Sn**	**07 03 25.2**	**-0.5**
PVAQ				A	A	07 03 26.1	
	42nm,0.1s						
PVAQ	**Vaqueiros**	**0.96**	**322**	P	**Pn**	**07 03 13.5**	**+0.6**
PVAQ				S	**Sn**	**07 03 28.3**	**+2.6**
PVAQ	**Vaqueiros**	**0.96**	**322**	Pn	**Pn**	**07 03 13.4**	**+0.6**
PVAQ				Sn	**Sn**	**07 03 24.8**	**-0.9**
PBDV	**Barranco-do-Ve**	**0.97**	**308**	⇓*e*P	**Pn**	**07 03 13.4**	**+0.5**
PBDV				*e*S	**Sn**	**07 03 25.5**	**-0.4**
PBDV				A	A	07 03 26.4	
	14nm,0.1s						
EGRO	**El Granado**	**0.97**	**336**	Pg	**Pn**	**07 03 13.2**	**+0.2**
EGRO				Sg	**Sn**	**07 03 25.5**	**-0.6**
EGRO				*i* Vmb_Lg		07 03 26.3	
EGRO	**El Granado**	**0.97**	**336**	Pn	**Pn**	**07 03 13.6**	**+0.6**
EGRO				Sn	**Sn**	**07 03 25.5**	**-0.6**
EMIN	**Mina Concepcio**	**1.15**	**12**	Pg	**Pn**	**07 03 15.7**	**+0.4**
EMIN				Sg	**Sn**	**07 03 29.2**	**-0.9**
EMIN				*i* Vmb_Lg		07 03 32.0	
EMIN	**Mina Concepcio**	**1.15**	**12**	Sn	**Sn**	**07 03 29.3**	**-0.9**
EMIN				Pn	**Pn**	**07 03 15.7**	**+0.4**
PCVE	**Castro Verde**	**1.30**	**320**	*e*P	**Pn**	**07 03 17.9**	**+0.6**
PCVE				*e*S	**Sn**	**07 03 33.2**	**-0.5**
PCVE				A	A	07 03 35.2	
	6.2nm,0.2s						
PCVE	**Castro Verde**	**1.30**	**320**	Sn	**Sn**	**07 03 32.9**	**-0.8**
PCVE				Pn	**Pn**	**07 03 17.9**	**+0.6**
MORF	**Marmelete**	**1.49**	**297**	*e*S	**Sn**	**07 03 37.8**	**-0.6**
MORF				A	A	07 03 39.0	
	11nm,0.1s						
MORF	**Marmelete**	**1.49**	**297**	*e*P	**Pn**	**07 03 20.5**	**+0.6**
MORF				*e*S	**Sn**	**07 03 37.6**	**-0.8**
MORF				IAML		07 03 39.1	
	comp=N,12nm,0.1s						
PBAR	**Barrancos**	**1.53**	**358**	*e*P	**Pn**	**07 03 21.2**	**+0.8**
PBAR				*e*S	**Sn**	**07 03 38.8**	**-0.4**
PBAR				A	A	07 03 40.4	
	comp=N,8.4nm,0.2s						
PBAR	**Barrancos**	**1.53**	**358**	Sn	**Sn**	**07 03 38.6**	**-0.6**
PBAR				Pn	**Pn**	**07 03 21.2**	**+0.8**
PBEJ	**Beja**	**1.55**	**333**	*e*S	**Sn**	**07 03 39.6**	**-0.1**
PBEJ				A	A	07 03 40.4	
	comp=N,9.8nm,0.3s						
PFVI	**Vila Bisbo**	**1.56**	**289**	*e*S	**Sn**	**07 03 38.9**	**-1.0**
PTEO	**Sao Teotonio**	**1.66**	**303**	⇑*e*P	**Pn**	**07 03 22.9**	**+0.8**
PTEO				*e*S	**Sn**	**07 03 41.9**	**-0.5**
ECAB	**El Cabril**	**1.90**	**41**	Pn	**Pn**	**07 03 26.1**	**+0.8**
ECAB				Sn	**Sn**	**07 03 46.7**	**-1.5**
ECAB				*i* Vmb_Lg		07 03 49.4	
ECAB	**El Cabril**	**1.90**	**41**	Sn	**Sn**	**07 03 46.6**	**-1.5**
ECAB				Pn	**Pn**	**07 03 25.7**	**+0.3**
PNCL	**Nicolau / Gran**	**1.91**	**320**	*e*P	**Pn**	**07 03 26.4**	**+0.8**
PNCL				*e*S	**Sn**	**07 03 47.9**	**-0.7**
PNCL				A	A	07 03 49.1	
	comp=N,6.6nm,0.5s						
PNCL	**Nicolau / Gran**	**1.91**	**320**	Sn	**Sn**	**07 03 47.6**	**-0.9**
PNCL				Pn	**Pn**	**07 03 26.3**	**+0.8**
EVO	**Evora**	**2.05**	**337**	*e*S	**Sn**	**07 03 51.3**	**-0.7**
EVO				A	A	07 03 51.8	
	comp=N,19nm,0.1s						
EVO	**Evora**	**2.05**	**337**	Sn	**Sn**	**07 03 51.1**	**-0.9**
EBAD	**Badajoz**	**2.11**	**359**	Pn	**Pn**	**07 03 28.9**	**+0.7**
EBAD				Sn	**Sn**	**07 03 52.4**	**-0.9**
EBAD				*i* Vmb_Lg		07 03 54.6	
PESTR	**Estremoz**	**2.27**	**348**	*e*S	**Sn**	**07 03 56.4**	**-0.9**
PESTR				A	A	07 03 58.6	
	comp=N,2.8nm,0.2s						
EGOR	**Sierra Gorda,**	**2.35**	**78**	Sn	**Sn**	**07 04 00.7**	**+1.2**
EGOR				*i* Vmb_Lg		07 04 04.2	
EADA	**Adamuz**	**2.44**	**51**	Pn	**Pn**	**07 03 33.8**	**+0.9**
EADA				Sn	**Sn**	**07 04 01.1**	**-0.6**
EADA				*i* Vmb_Lg		07 04 03.0	
PMTG	**Montargil**	**2.61**	**338**	*e*S	**Sn**	**07 04 05.3**	**-0.3**
PMTG				A	A	07 04 07.7	
	comp=N,3.3nm,0.2s						
PMRV	**Marv??o**	**2.80**	**353**	*e*P	**Pn**	**07 03 38.6**	**+0.9**
PMRV				*e*S	**Sn**	**07 04 09.8**	**-0.4**
PMRV				A	A	07 04 10.6	
	comp=N,6.1nm,0.2s						
PSBE	**So Bento**	**3.20**	**334**	*e*S	**Sn**	**07 04 20.8**	**+0.7**
ZHG	**ZHG**	**3.20**	**175**	P	Pn	07 03 38.8	-4.5
ZHG				S	Sn	07 04 16.2	-4.1
PCBR	**Castelo Branco**	**3.21**	**353**	*e*P	**Pn**	**07 03 44.9**	**+1.6**
PCBR				*e*S	**Sn**	**07 04 18.9**	**-1.5**
PCBR				A	A	07 04 20.6	
	comp=N,2.7nm,0.2s						
EQES	**Quesada**	**3.33**	**69**	Sn	**Sn**	**07 04 23.2**	**-0.2**
EQES				*i* Vmb_Lg		07 04 28.3	
PSIM	**Granatula de C**	**3.35**	**49**	Pn	**Pn**	**07 03 46.1**	**+0.8**
PSIM				Sn	**Sn**	**07 04 23.9**	**-0.1**
EPLA	**Plasencia**	**3.49**	**11**	Pn	**Pn**	**07 03 48.6**	**+1.5**
EPLA				Sn	**Sn**	**07 04 26.2**	**-0.9**
EPLA				*i* Vmb_Lg		07 04 28.1	
PAB	**San Pablo**	**3.56**	**35**	Pn	**Pn**	**07 03 49.3**	**+1.1**
PAB				*i* Vmb_Lg		07 04 25.4	
PAB				Sn	**Sn**	**07 04 26.3**	**-2.8**
PCAS	**Casmilo, Conde**	**3.60**	**341**	*e*S	**Sn**	**07 04 29.5**	**-0.5**
MD31	**MD31**	**4.19**	**153**	P	Pn	07 03 51.9	-4.9
MD31				S	**Sn**	**07 04 42.5**	**-2.1**
MDT	**Midelt**	**4.29**	**152**	P	Pn	07 03 54.3	-4.0
MDT				S	**Sn**	**07 04 43.9**	**-3.2**
EZAR	**Zarzadilla de**	**4.39**	**72**	Sn	**Sn**	**07 04 51.2**	**+1.7**
EZAR				*i* Vmb_Lg		07 04 52.8	
MVO	**Moncorvo**	**4.51**	**360**	*e*S	**Sn**	**07 04 51.0**	**-1.4**
MVO				A	A	07 04 52.6	
	comp=N,2.0nm,0.2s						
PVRL	**Vila Real**	**4.66**	**353**	*e*P	**Pn**	**07 04 03.4**	**+0.2**
ETOB	**Tobarra**	**4.75**	**64**	Sn	**Sn**	**07 04 56.5**	**-1.8**
ETOB				*i* Vmb_Lg		07 04 58.3	
POLO	**Lamas de Olo**	**4.76**	**353**	*e*S	**Sn**	**07 04 55.9**	**-2.7**
POLO				A	A	07 04 59.2	
	comp=N,0.8nm,0.2s						
ELOB	**Lobios**	**5.28**	**351**	Sn	**Sn**	**07 05 10.5**	**-0.8**
ELOB				*i* Vmb_Lg		07 05 13.2	
PGAV	**Gavieira, Arco**	**5.41**	**350**	*e*S	**Sn**	**07 05 14.4**	**+0.1**
OUK	**Oukaimeden**	**5.47**	**188**	P	Pn	07 04 10.5	-4.2
OUK				S	Sn	07 05 11.4	-5.1
ETOR	**Torete**	**5.67**	**41**	Pn	**Pn**	**07 04 18.2**	**+1.0**
ETOR				Sn	**Sn**	**07 05 20.1**	**-0.8**
OUZM	**OUZ**	**5.72**	**178**	P	Pn	07 04 13.9	-3.9
OUZM				S	Sn	07 05 18.2	-4.1

*IDC **25** 07:09:24.3±1.1, 52.40N×110.66E, h0km, mb3.8/7, mbtmp3.7/12, ML3.3/5, MS3.3/5, Error ellipse: s-maj=24.9km s-min=17.6km az=147.0*
*MOS **25** 07:09:27.3±1.0, 52.29N×110.68E, h11km, mb4.2/3, Error ellipse: s-maj=10.6km s-min=7.1km az=82.4*
MOS Felt (IV) at Kuytun, Novoorlovsk, (III-IV) at Ulan-Ude, (III) at Chita.
*BYKL **25** 07:09:29.8±0.2, 52.33N×110.59E, FELT I=V MSK at Ust'-Ehgita, Tuzhinka; IV-V at Bulum, Oninoborsk, Zun-Huraj, Zagustaj, Glinka; IV at Sosnovo-Ozerskoe, Kujtun, Novoorlovsk; III-IV at Ust'-Orot, Kizhinga, Hojtobehe, Tarbagataj; III at Sulhara, Chita, Ulan-Ude*
ISC 25 07:09:27.3±1.0, 52.34N±0.02×110.71E±0.03, h2km±7km, n85, σ2.26/146, mb3.8/9, MS3.4/3, 18C-10D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVR	**Suvo**	**1.39**	**342**	⇑*i*Pg	**Pn**	**07 09 54.9**	**+1.2**
	6μm,0.7s						
SYVR				⇓*i*Pg	**Pn**	**07 09 54.9**	**+1.2**
	1μm,0.7s						
SYVR				⇑*i*Pg	**Pn**	**07 09 54.9**	**+1.2**
	7μm,0.7s						
SYVR				Pmax		07 09 55.1	
	6μm,0.4s						
SYVR				*e*Sg	**Sg**	**07 10 13.3**	**+1.5**
SYVR				Smax		07 10 14.7	
	10μm,0.3s						
SYVR				*e*		07 10 22.9	
SYVR	**Suvo**	**1.39**	**342**	⇑*i*PG	**Pn**	**07 09 54.8**	**+1.1**
SYVR				*e*		07 10 12.9	
SYVR				pmax	pmax		
	comp=Z,6μm,0.4s						
SYVR				smax	smax		
	comp=N,12μm,0.5s						
MXMB	**Maximikha**	**1.51**	**308**	⇓*i*Pg	**Pn**	**07 09 56.4**	**+1.0**
MXMB				*e*Sg	**Sn**	**07 10 15.6**	**0.0**
KELR	**Kotokel**	**1.66**	**286**	⇓*i*Pg	**Pn**	**07 09 58.7**	**+1.2**
KELR				*e*Sg	**Sn**	**07 10 20.1**	**+0.7**
UUDB	**Ulan-Yde**	**1.94**	**257**	⇑*i*Pn	**Pn**	**07 10 01.7**	**+0.4**
UUDB				*e*Pg	**Pb**	**07 10 03.3**	**-0.1**
UUDB				Pmax		07 10 03.6	
	comp=N,4μm,0.5s						
UUDB				*e*Sg	**Sb**	**07 10 28.7**	**+0.7**
UUDB				Smax		07 10 30.0	
	comp=N,21μm,0.6s						
ZRHB	**Zarechye**	**2.19**	**277**	*e*Pn	**Pn**	**07 10 05.8**	**+1.1**
ZRHB				*e*Pg	**Pb**	**07 10 07.9**	**+0.3**
ZRHB				Pmax		07 10 08.1	
	comp=N,4μm,0.5s						
ZRHB				*e*Sg	**Sb**	**07 10 35.7**	**+0.5**
ZRHB				Smax		07 10 40.0	
	comp=N,66μm,0.6s						
OGRR	**Ongureny**	**2.29**	**306**	⇑*i*Pn	**Pn**	**07 10 05.9**	**-0.2**
OGRR				*e*Pg	**Pb**	**07 10 09.2**	**-0.1**
OGRR				*e*		07 10 11.4	
OGRR				max		07 10 12.0	
	comp=N,828nm,0.4s						
OGRR				*e*		07 10 15.1	
OGRR				*e*Sg	**Sb**	**07 10 38.6**	**+0.5**
OGRR				Smax		07 10 40.2	
	comp=N,7μm,0.4s						
OGRR	**Ongureny**	**2.29**	**306**	⇑*i*PN	**Pn**	**07 10 05.8**	**-0.3**
OGRR				*e*		07 10 09.2	
OGRR				*e*		07 10 38.6	
OGRR				pmax	pmax		
	comp=Z,884nm,0.7s						
OGRR				smax	smax		
	comp=E,7μm,0.4s						
HRMR	**Khuramsha**	**2.43**	**254**	*e*Pn	**Pn**	**07 10 08.5**	**+0.4**
HRMR				*e*Pg	**Pb**	**07 10 11.8**	**0.0**
HRMR				Pmax		07 10 21.7	
	comp=E,2μm,0.5s						
HRMR				*e*Sn	**Sn**	**07 10 37.0**	**-1.4**
HRMR				*e*Sg	**Sb**	**07 10 44.0**	**+1.8**
HRMR				Smax		07 10 45.1	
	comp=E,25μm,0.3s						
FFNB	**Fofonovo**	**2.45**	**265**	*e*Pn	**Pn**	**07 10 08.8**	**+0.5**
FFNB				*e*Pg	**Pb**	**07 10 11.4**	**-0.6**
FFNB				*e*		07 10 13.6	
FFNB				*e*Sg	**Sb**	**07 10 43.0**	**+0.3**
KAB	**Kabansk**	**2.52**	**265**	*e*Pn	**Pn**	**07 10 09.5**	**+0.3**
KAB				*e*Pg	**Pb**	**07 10 13.0**	**-0.1**
KAB				Pmax		07 10 16.4	
	comp=E,2μm,1.1s						
KAB				*e*Sg	**Sb**	**07 10 46.1**	**+1.5**
KAB				*e*		07 10 54.4	
KAB				max		07 10 55.7	
	comp=E,23μm,0.6s						
KAB	**Kabansk**	**2.52**	**265**	*e*PN	**Pb**	**07 10 13.1**	**-0.1**
KAB				*e*		07 10 46.5	
KAB				pmax	pmax		
	comp=Z,2μm,1.2s						
KAB				smax	smax		
	comp=N,14μm,0.5s						
YLYR	**Ulyunkhan**	**2.55**	**6**	⇑*i*Pn	**Pn**	**07 10 11.2**	**+1.5**
YLYR				*e*Pg	**Pb**	**07 10 16.4**	**+2.6**
YLYR				Pmax		07 10 20.0	
	comp=N,794nm,0.6s						
YLYR				*e*Sn	**Sn**	**07 10 43.2**	**+1.9**
YLYR				*e*Sg	**Sg**	**07 10 49.3**	**+0.1**
YLYR				Smax		07 10 52.7	
	comp=N,7μm,1.5s						
YLYR	**Ulyunkhan**	**2.55**	**6**	⇑*i*PN	**Pn**	**07 10 11.2**	**+1.5**
YLYR				*e*		07 10 16.0	
YLYR				*e*S	**Sn**	**07 10 43.0**	**+1.7**
YLYR				*e*		07 10 49.2	
YLYR				pmax	pmax		
	comp=Z,797nm,0.5s						
YLYR				smax	smax		
	comp=N,5μm,0.5s						
STDB	**Stepnoy Dvoret**	**2.68**	**268**	*e*Pn	**Pn**	**07 10 12.2**	**+0.8**
STDB				*e*Pg	**Pb**	**07 10 16.4**	**+0.5**
STDB				*e*Sg	**Sb**	**07 10 50.7**	**+1.5**
TRG	**Tyrgan**	**2.70**	**281**	*e*Pn	**Pn**	**07 10 11.3**	**-0.5**
TRG				*e*Pg	**Pb**	**07 10 16.5**	**+0.2**
TRG				Pmax		07 10 28.0	
	comp=N,511nm,0.3s						
TRG				*e*Sn	**Sn**	**07 10 43.4**	**-1.6**
TRG				*e*Sg	**Sb**	**07 10 51.0**	**+1.2**
TRG				*e*		07 10 56.6	
TRG				max		07 10 57.9	
	comp=N,8μm,0.3s						
TRG	**Tyrgan**	**2.70**	**281**	*e*PN	**Pn**	**07 10 11.2**	**-0.5**
TRG				*e*		07 10 16.5	
TRG				*e*S	**Sn**	**07 10 45.8**	**+0.8**
TRG				*e*		07 10 53.4	
TRG				pmax	pmax		
	comp=Z,280nm,0.3s						
TRG				smax	smax		
	comp=N,8μm,0.3s						
KPC	**Khapcheranga**	**2.84**	**158**	⇑*i*Pn	**Pn**	**07 10 15.5**	**+1.7**
KPC				*e*Pg	**Pg**	**07 10 21.2**	**-0.6**
KPC				*e*		07 10 24.4	
KPC				max		07 10 25.8	
	comp=N,939nm,0.3s						
KPC				*e*Sg	**Sg**	**07 10 58.5**	**-0.1**
KPC				Smax		07 11 07.8	
	comp=N,3μm,0.6s						
KPC	**Khapcheranga**	**2.84**	**158**	⇑*i*PN	**Pn**	**07 10 15.5**	**+1.7**
KPC				*e*		07 10 20.8	
KPC				*e*		07 10 58.5	
KPC				pmax	pmax		
	comp=Z,940nm,0.2s						
KPC				smax	smax		
	comp=E,3μm,0.8s						
BGT	**Bolshoye Golou**	**3.28**	**267**	*e*Pn	**Pn**	**07 10 19.4**	**-0.3**
BGT				*e*Pg	**Pb**	**07 10 28.1**	**+1.9**
BGT				Pmax		07 10 29.5	
	comp=E,1μm,0.5s						
BGT				*e*Sn	**Sn**	**07 10 57.5**	**-1.8**
BGT				*e*Sg	**Sb**	**07 11 09.3**	**+2.8**
BGT				*e*		07 11 12.5	
BGT				max		07 11 13.1	
	comp=E,5μm,0.9s						
NIZB	**Nizh Angarsk**	**3.50**	**349**	*e*Pn	**Pn**	**07 10 24.3**	**+1.5**
NIZB				*e*Pg	**Pb**	**07 10 32.4**	**+2.4**
NIZB				Pmax		07 10 34.4	
	comp=E,619nm,0.6s						
NIZB				*e*Sg	**Sb**	**07 11 18.0**	**+5.0**
NIZB				Smax		07 11 21.7	
	comp=E,5μm,0.9s						
KMO	**Kumora**	**3.56**	**4**	⇑*i*Pn	**Pn**	**07 10 25.2**	**+1.6**
KMO				*e*Pg	**Pb**	**07 10 34.0**	**+3.0**
KMO				Pmax		07 10 35.7	
	comp=E,951nm,0.6s						
KMO				*e*Sg	**Sb**	**07 11 19.6**	**+4.9**
KMO				Smax		07 11 26.3	
	comp=E,8μm,1.1s						
KMO				*e*		07 11 32.4	
KMO	**Kumora**	**3.56**	**4**	⇑*i*PN	**Pn**	**07 10 25.2**	**+1.6**
KMO				*e*		07 10 33.9	
KMO				*e*		07 11 21.2	
KMO				pmax	pmax		
	comp=Z,949nm,0.6s						
KMO				smax	smax		
	comp=E,8μm,1.0s						
UKT	**Uakit**	**3.59**	**27**	⇓*i*Pn	**Pn**	**07 10 26.4**	**+2.3**
UKT				*e*		07 10 31.3	
UKT				*e*Pg	**Pg**	**07 10 35.3**	**-0.8**
UKT				Pmax		07 10 40.9	
	comp=E,329nm,0.7s						
UKT				*e*Sg	**Sg**	**07 11 21.5**	**-1.1**
UKT				Smax		07 11 25.9	
	comp=E,5μm,0.9s						
LSTR	**Listvyanka**	**3.66**	**265**	⇓*i*Pn	**Pn**	**07 10 24.5**	**-0.4**
LSTR				*e*Pg	**Pb**	**07 10 33.4**	**+0.8**
LSTR				Pmax		07 10 35.3	
	comp=E,388nm,0.8s						
LSTR				*e*Sn	**Sn**	**07 11 06.1**	**-2.5**
LSTR				*e*Sg	**Sb**	**07 11 19.6**	**+2.2**
LSTR				Smax		07 11 23.4	
	comp=E,2μm,1.2s						
YOA	**Uoyan**	**3.84**	**8**	*e*Pn	**Pg**	**07 10 40.1**	**-0.8**
YOA				*e*Pg	Pb	07 10 40.6	+4.8
YOA				Pmax		07 10 51.0	
	comp=E,816nm,0.5s						
YOA				*e*Sg	**Sg**	**07 11 31.0**	**+0.3**
YOA				Smax		07 11 39.4	
	comp=E,25μm,0.9s						
YOA	**Uoyan**	**3.84**	**8**	*e*PN	**Pg**	**07 10 40.2**	**-0.7**
YOA				*e*		07 11 30.9	
YOA				pmax	pmax		
	comp=Z,547nm,0.3s						
YOA				smax	smax		
	comp=N,25μm,1.0s						
IVK	**Ivanovka**	**3.92**	**265**	*e*Pn	**Pn**	**07 10 28.3**	**-0.3**
IVK				*e*Pg	**Pb**	**07 10 38.1**	**+0.9**
IVK				Pmax		07 10 40.0	
	comp=N,268nm,0.7s						
IVK				*e*		07 10 41.5	
IVK				*e*Sg	**Sb**	**07 11 27.5**	**+2.4**
IVK				Smax		07 11 31.9	
	comp=N,2μm,0.7s						
IRK	**Irkutsk**	**3.96**	**271**	*e*Pn	**Pn**	**07 10 29.8**	**+0.8**
IRK				*e*Pg	**Pb**	**07 10 39.8**	**+2.1**
IRK				Pmax		07 10 40.8	
	comp=N,1μm,0.4s						
IRK				*e*Sg	**Sb**	**07 11 29.7**	**+3.7**
IRK				Smax		07 11 34.2	
	comp=N,8μm,0.4s						
IRK	**Irkutsk**	**3.96**	**271**	*e*PN	**Pb**	**07 10 39.8**	**+2.1**
IRK				*e*		07 11 29.8	
IRK				pmax	pmax		
	comp=N,1μm,0.4s						
IRK				smax	smax		
	comp=N,8μm,0.4s						
SVKR	**Severomuysk**	**4.13**	**23**	*e*Pg	**Pg**	**07 10 46.3**	**-0.2**
SVKR				Pmax		07 11 02.3	
	comp=N,658nm,0.5s						
SVKR				*e*Sg	**Sg**	**07 11 41.3**	**+1.3**
SVKR				Smax		07 11 56.2	
	comp=N,13μm,1.0s						
TLY	**Talaya**	**4.42**	**264**	*e*Pn	**Pn**	**07 10 35.2**	**-0.1**
TLY				*e*		07 10 45.2	
TLY				*e*Pg	**Pb**	**07 10 48.1**	**+2.5**
TLY				Pmax		07 10 48.8	
	comp=N,93nm,0.5s						
TLY				*e*Sn	**Sn**	**07 11 24.8**	**-2.5**
TLY				*e*Sg	**Sb**	**07 11 44.2**	**+4.9**
TLY				Smax		07 11 51.4	
	comp=N,716nm,0.4s						
TLY	**Talaya**	**4.42**	**264**	*e*PN	**Pn**	**07 10 35.2**	**-0.1**
TLY				*e*		07 10 48.3	
TLY				*e*		07 11 44.2	
TLY				pmax	pmax		
	comp=Z,133nm,0.4s						
TLY				smax	smax		
	comp=E,722nm,0.8s						
ZAK	**Zakamensk**	**5.05**	**250**	*e*Pn	**Pn**	**07 10 44.4**	**+0.2**
ZAK				*e*Pg	**Pb**	**07 10 58.9**	**+2.4**
ZAK				Pmax		07 11 04.1	
	comp=E,192nm,0.5s						
ZAK				*e*Sg	**Sb**	**07 12 03.5**	**+5.8**
ZAK				Smax		07 12 11.1	
	comp=E,1μm,0.8s						
ZAK	**Zakamensk**	**5.05**	**250**	*e*PN	**Pn**	**07 10 44.2**	**0.0**
ZAK				*e*		07 10 58.7	
ZAK				*e*		07 12 03.6	
ZAK				pmax	pmax		
	comp=Z,193nm,0.5s						
ZAK				smax	smax		
	comp=N,1μm

ARS Smax 07 12 12.1
comp=E,4μm,0.8s
SONM Songino Array 5.30 213 PN **Pn 07 10 47.0 -0.6**
SONM Songino Array 5.30 213 Pn **Pn 07 10 47.0 -0.6**
comp=E,4.8nm,0.3s,baz=23,slow=14,SNR=125
SONM Pg **Pb 07 11 04.2 +3.5**
comp=E,45nm,0.3s,baz=21,slow=17,SNR=14
SONM Lg Lg 07 12 12.6
comp=E,225nm,0.3s,baz=25,slow=28,SNR=20
comp=E,22nm,0.6s
BOD Bodaibo 5.80 18 *e*Pn **Pn 07 10 55.4 +1.1**
BOD *e*Pg Pb 07 11 14.4 +5.3
BOD Pmax 07 11 25.2
comp=E,56nm,0.8s
BOD *e* 07 12 07.6
BOD *e*Sg **Sg 07 12 30.3 -3.2**
BOD Smax 07 12 33.8
comp=E,2μm,1.2s
BOD Bodaibo 5.80 18 *e*PN **Pn 07 10 56.0 +1.7**
BOD *e* 07 11 16.3
BOD *e* 07 12 30.2
BOD pmax pmax
comp=Z,33nm,0.7s
BOD smax smax
comp=E,2μm,1.2s
TUP Tupik 5.91 66 ⇓*i*Pn **Pn 07 10 58.1 +2.3**
TUP *e* 07 11 03.4
TUP *e*Pg **Pg 07 11 17.8 -2.6**
TUP Pmax 07 11 24.1
comp=E,107nm,0.5s
TUP *e*Sg **Sg 07 12 36.3 -0.7**
TUP Smax 07 12 44.9
comp=E,2μm,1.0s
TUP Tupik 5.91 66 *e*PN **Pn 07 10 57.9 +2.1**
TUP *e* 07 11 17.8
TUP *e* 07 12 34.0
TUP pmax pmax
comp=Z,107nm,0.7s
TUP smax smax
comp=N,2μm,1.0s
MOY Mondy 6.04 267 *e*PN **Pn 07 11 00.1 +2.4**
MOY *e* 07 11 17.8
MOY *e* 07 12 36.1
MOY pmax pmax
comp=Z,326nm,0.6s
MOY smax smax
comp=N,2μm,1.0s
CRS Chara 6.33 41 *e*Pn **Pn 07 11 04.0 +2.4**
CRS *e* 07 11 09.6
CRS *e*Pg Pb 07 11 24.3 +6.2
CRS Pmax 07 11 28.8
comp=N,146nm,1.1s
CRS *e*Sg **Sg 07 12 47.3 -3.1**
CRS Smax 07 12 58.5
comp=N,2μm,1.0s
HIA Hailar 6.50 115⇑*e*PN **Pn 07 11 03.9 0.0**
KHNR Khani 7.07 46 *e*Pg Pb 07 11 37.5 +6.9
KHNR *e*Sg **Sg 07 13 10.6 -3.4**
VTMR Vitim 7.19 8 *e*Sg **Sg 07 13 13.9 -4.0**
YKLR Yuktali 7.66 52 *e*Pn **Pn 07 11 21.7 +1.9**
YKLR *e* 07 11 26.9
YKLR *e*Pg Pb 07 11 48.3 +7.5
YKLR *e*Sg **Sg 07 13 28.2 -4.9**
XLT XiLinHaoTe 9.18 155 *e*P **Pn 07 11 42.0 +1.3**
XLT pP 07 11 46.8
XLT sP 07 11 49.0
XLT pmax pmax
comp=Z,10.0nm,0.5s
XLT pmax pmax
comp=Z,380nm,7.1s
CLNS Chul'man 9.38 56 *e*Pn Pn 07 11 48.8 +5.5
CLNS *e*Pg 07 12 20.8
CLNS *e*Sg Sn 07 14 22.2 +53
ZEA Zeya 10.06 75 *e*P Pn 07 12 01.3 +8.6
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=N,600nm,2.0s
ZEA MLR MLR
comp=E,400nm,2.0s
ZEA MLR MLR
comp=Z,600nm,2.0s
HEH HeiHe 10.67 95 *e*P Pn 07 12 10.8 +10
HEH S **Sn 07 14 02.0 +1.1**
HEH smax smax
comp=N,850nm,0.8s
HEH smax smax
comp=E,510nm,0.9s
BTO Baotou 11.75 183 *e*P **Pn 07 12 16.0 0.0**
BTO pP 07 12 19.5
BTO sP 07 12 21.8
BTO PP **PnPn 07 12 25.3 +1.7**
BTO S **Sn 07 14 30.0 +2.3**
BTO pmax pmax
comp=Z,8.0nm,0.7s
BTO pmax pmax
comp=Z,780nm,6.0s
BTO LR LR
comp=N,2μm,7.7s
BTO LR LR
comp=E,1μm,5.7s
BTO LR LR
comp=Z,640nm,9.6s
KLR Kul'dur 13.66 95⇓*e*P **Pn 07 12 43.8 +1.9**
KLR pmax pmax
comp=Z,1.0nm,0.9s
KLR Kul'dur 13.66 95 Pn **Pn 07 12 40.5 -1.4**
comp=Z,0.1nm,0.3s,baz=296,slow=22,SNR=1.6
comp=Z,0.4nm,0.4s
YAK Yakutsk 14.08 39⇑*e*P **Pn 07 12 48.2 +0.7**
YAK pmax pmax
comp=Z,13nm,0.4s
DGZ Jazzator, Alta 14.87 269⇑*e*P **Pn 07 12 59.7 +1.1**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
ZALV Zalesovo Beam 15.59 286 Pn **Pn 07 13 03.6 -4.4**
comp=Z,0.3nm,0.3s,baz=90,slow=12,SNR=1.6
comp=Z,1.0nm,0.4s
WMQ Urumqi 17.52 250 *e*P **P 07 13 37.8 +3.9**
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ LR LR
comp=Z,140nm,20.3s
KSRS Korea Array 19.17 134 LR LR 07 21 58.3
comp=Z,60nm,20.3s,baz=0.0,slow=39
MK31 Makanchi Array 19.18 265⇑*e*P **P 07 13 51.7 -0.3**
MKAR Makanchi Array 19.18 265 *i*P **P 07 13 52.2 +0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 19.18 265 P **P 07 13 47.0 -5.0**
baz=69,slow=9.7,SNR=1.9
MKAR LR LR 07 21 44.9
comp=Z,83nm,21.5s,baz=52,slow=39
comp=Z,0.5nm,0.7s
GOMU GeErMu 19.68 221 P **Pn 07 13 59.8 +0.5**
GOMU pP sP 07 14 11.8 +13
GOMU sP pP 07 14 19.0 +20
GOMU pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 19.95 278⇑*e*P **P 07 14 01.4 +1.0**
KURK pmax pmax
comp=Z,5.0nm,0.7s
KURBB Kurchatov Arra 20.03 278 P **P 07 13 59.2 -2.0**
comp=Z,0.1nm,0.3s,baz=79,slow=11,SNR=11
comp=Z,1.4nm,0.5s
TIXI Tiksi 20.98 16⇓*i*P **P 07 14 12.0 +0.6**
MA2 Magadan 23.25 56 LR LR 07 23 47.9
comp=Z,142nm,20.4s,baz=100,slow=37
BVAR Borovoye Array 24.23 288 P **P 07 14 40.4 -4.8**
comp=Z,0.5nm,0.6s,baz=52,slow=15,SNR=2.6
comp=Z,0.5nm,0.6s
SEY Seymchan 24.23 48⇑*e*P **P 07 14 46.1 +0.9**
SEY pmax pmax
comp=Z,6.0nm,0.9s
BRVK Borovoye 24.29 288⇓*e*P **P 07 14 45.9 +0.2**
BRVK pmax pmax
comp=Z,11nm,3.0s
AAK Ala-Archa 26.08 263 LR LR 07 25 21.6
comp=Z,72nm,19.6s,baz=51,slow=37
PETK Petropavlovsk- 28.07 70 P **P 07 15 16.7 -3.1**
comp=Z,4.2nm,1.0s,baz=283,slow=7.7,SNR=1.0
comp=Z,4.2nm,1.0s
ARU Arti 30.03 299 P **P 07 15 38.1 +0.9**
ARU 07 16 35.5
ARU S **S 07 20 42.4 +6.5**
ARU SS **ScP 07 22 15.2 -6.7**
CMAR Chiang Mai Arr 35.05 200 LR LR 07 30 31.9
comp=Z,56nm,18.1s,baz=265,slow=36
ARCES ARCESS Array B 40.78 328 P P 07 17 04.8 -4.5
comp=Z,1.1nm,0.7s,baz=350,slow=14,SNR=2.0
comp=Z,1.1nm,0.7s
FINES FINESS Array B 43.94 316 *i*P **P 07 17 37.4 +2.3**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 43.94 316 P **P 07 17 32.9 -2.2**
comp=Z,2.4nm,0.9s,baz=50,slow=9.5,SNR=1.8
comp=Z,2.4nm,0.9s
ILAR Eielson Array 48.93 34 P **P 07 18 10.7 -3.6**
comp=Z,0.3nm,0.9s,baz=297,slow=6.9,SNR=7.7
comp=Z,0.3nm,0.9s
NOA NORSAR Array B 50.16 321 P **P 07 18 21.9 -1.9**
comp=Z,1.0nm,0.8s,baz=58,slow=6.9,SNR=2.5
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 90.93 293 P **P 07 22 31.1 -1.8**
comp=Z,0.4nm,0.9s,baz=20,slow=4.6,SNR=1.8
comp=Z,0.4nm,0.9s
SNAA Sanae 145.76 211 PKPbc **PKPdf 07 29 02.5 -3.3**
comp=Z,0.4nm,0.7s,baz=204,slow=6.5,SNR=5.8

DJA 25 07:17:23.2±0.5, 9°S±4°×12°4E±°, h87km±7km, M3.7/8, mb3.9/3, MLv3.6/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.68**	**181**	P	Pn	07 17 40.2	+0.8
BATI	**Baumata**	**1.28**	**208**	P	Pn	07 17 46.7	+0.6
BATI				S	Sn	07 18 03.8	+0.4
MMRI	**Maumere**	**2.06**	**282**	P	Pn	07 17 55.6	-0.6
EDFI	**Ende, Flores**	**2.58**	**277**	P	Pn	07 18 02.5	-0.6
BASI	**Baing, Sumba**	**3.83**	**252**	P	Pn	07 18 20.4	+0.6
PLAI	**Plampang**	**6.43**	**272**	P	Pn	07 18 55.9	+0.6
	12nm,1.2s,0.1nm						

IDC 25 07:31:31.0±6.7, 18°19S×172°81W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=354.9km s-min=43.4km az=7.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.81**	**259**	P	P	07 40 25.6	-0.5
	0.2nm,0.3s,baz=95,slow=8.2,SNR=15						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**49.84**	**254**	P	P	07 40 26.7	+0.4
	0.3nm,0.4s,baz=93,slow=7.8,SNR=8.0						
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**172.71**	**133**	PKPab	PKPab	07 53 08.2	-0.5
	0.8nm,1.0s,baz=211,slow=5.0,SNR=3.5						

IDC 25 07:44:57.6±3.5, 6°38S×149°45E, h0km, mb3.3/1, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=122.6km s-min=41.0km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.77**	**217**	Pn	Pn	07 45 58.0	+1.0
	33nm,0.3s,baz=41,slow=5.0,SNR=15						
PMG				Sn	Sn	07 46 39.1	-3.0
	21nm,0.3s,baz=29,slow=18,SNR=8.8						
WRA	**Warramunga Arr**	**19.93**	**226**	P	P	07 49 30.7	-0.5
	0.4nm,0.3s,baz=51,slow=11,SNR=24						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**22.78**	**219**	P	P	07 50 01.5	-0.5
	0.9nm,0.8s,baz=56,slow=9.6,SNR=16						
	0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**147.54**	**284**	PKPbc	PKPbc	08 04 44.5	-0.4
	0.6nm,0.5s,baz=86,slow=3.7,SNR=7.7						

*SJA **25** 08:48:15.3±0.5, 30°.1S×73°.03W, h10km, ML4.2, MW4.4*
*IDC **25** 08:48:25.6±1.0, 30°.48S×72°.07W, h0km, mb3.7/4, mbtmp3.7/8, ML3.7/4, MS3.4/3, Error ellipse: s-maj=33.0km s-min=21.3km az=65.0*
*NEIC **25** 08:48:25.9±1.9, 30°.35S±0°.05×72°.20W±0°.06, h10km±1km, mb4.4/2, Mwr4.0/61, ML4.0(GUC), Error ellipse: s-maj=9.4km s-min=8.5km az=105.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.95; $M_{\theta\theta}$0.10; $M_{\phi\phi}$-1.04; $M_{r\theta}$0.05; $M_{r\phi}$-0.13; $M_{\theta\phi}$-0.43; Fault plane solution: $M_0$1.10000×10^{15} NP1:φs180.49000°, δ56.76000°, λ82.96000°. NP2:φs13.18000°, δ33.89000°, λ100.59000°. Principal axes: T 1.0456, Plg77.0000°, Azm68.0000°; N 0.1005, Plg6.0000°, Azm184.0000°; P -1.1462, Plg11.0000°, Azm276.0000°;*
*NEIC **25** 08:48:25.9, 30°.35S×72°.20W, h10km*
*GUC **25** 08:48:26.0±0.8, 30°.43S×72°.23W, h36km±4km, ML4.0*
ISC 25 08:48:24.7±1.1, 30°.48S±0°.03×72°.24W±0°.04, h4km±6km, n107, σ1°84/113, mb4.2/5, 4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.56**	**111**		**Pb**	**08 48 37.0**	**0.0**
CO06	**Fray Jorge**	**0.56**	**111**	⇓*i*P	**Pb**	**08 48 37.0**	**0.0**
CO06				IAML		08 48 48.1	
	comp=N,7μm,0.2s						
CO05	**La Serena**	**1.03**	**58**		**Pb**	**08 48 43.9**	**-1.1**
CO05	**La Serena**	**1.03**	**58**	⇓*i*P	**Pb**	**08 48 44.0**	**-1.1**
CO05				*e*S	**Sb**	**08 48 57.3**	**-1.7**
CO05				IAML		08 48 59.4	
	comp=E,4μm,0.6s						
GO04	**Tololo Observa**	**1.28**	**77**		**Pn**	**08 48 48.2**	**-1.4**
GO04	**Tololo Observa**	**1.28**	**77**	⇓*i*P	**Pn**	**08 48 48.2**	**-1.4**
GO04				*e*S	**Sg**	**08 49 05.4**	**-0.4**
GO04				IAML		08 49 10.9	
	comp=E,11μm,0.5s						
CO02	**Combarbal**	**1.29**	**125**		**Pg**	**08 48 49.4**	**0.0**
CO02	**Combarbal**	**1.29**	**125**	⇓*i*P	**Pg**	**08 48 49.4**	**0.0**
CO02				*e*S	**Sb**	**08 49 05.9**	**-0.7**
CO02				IAML		08 49 09.8	
	comp=N,6μm,0.2s						
CO02	**Combarbal**	**1.29**	**125**	*e*P	**Sg**	**08 49 06.7**	**+0.6**
CO03	**El Pedregal**	**1.38**	**106**		**Pb**	**08 48 50.3**	**-0.9**
CO03	**El Pedregal**	**1.38**	**106**	*i*P	**Pn**	**08 48 50.2**	**-0.8**
CO03				*e*S	**Sb**	**08 49 08.4**	**-0.9**
CO03				IAML		08 49 09.6	
	comp=N,2μm,0.3s						
CO03	**El Pedregal**	**1.38**	**106**	*e*P	**Sg**	**08 49 11.9**	**+2.8**
CO01	**Juntas del Tor**	**1.92**	**76**		**Pb**	**08 48 58.8**	**-1.7**
CO01	**Juntas del Tor**	**1.92**	**76**	*e*P	**Pb**	**08 48 58.7**	**-1.7**
CO01				*e*S	**Sn**	**08 49 22.2**	**-1.1**
LCO	**Las Campanas**	**1.98**	**43**		**Pn**	**08 48 58.3**	**-1.0**
LCO	**Las Campanas**	**1.98**	**43**	*e*P	**Pn**	**08 48 58.2**	**-1.0**
AC05	**El Transito**	**2.37**	**47**		**Pn**	**08 49 04.3**	**-0.2**
AC05	**El Transito**	**2.37**	**47**	*e*P	**Pn**	**08 49 04.2**	**-0.2**
AC05				IAML		08 49 50.2	
	comp=E,610nm,0.8s						
AROD	**Rodeo**	**2.41**	**83**	*e*P	**Pb**	**08 49 07.5**	**-1.4**
AC04	**Llanos de Chal**	**2.48**	**24**		**Pn**	**08 49 04.3**	**-1.6**
AC04	**Llanos de Chal**	**2.48**	**24**	*e*P	**Pn**	**08 49 04.1**	**-1.8**
AC04				IAML		08 49 53.3	
	comp=E,405nm,0.8s						
VA01	**Torpederas**	**2.59**	**169**	Pn	**Pn**	**08 49 08.1**	**+0.7**
VA01	**Torpederas**	**2.59**	**169**	*e*P	**Pn**	**08 49 07.4**	**0.0**
VA03	**San Esteban**	**2.70**	**148**		**Pn**	**08 49 10.6**	**+1.6**
VA03	**San Esteban**	**2.70**	**148**	*e*P	**Pn**	**08 49 10.5**	**+1.6**
VA03				IAML		08 49 55.5	
	comp=E,828nm,0.7s						
VA03	**San Esteban**	**2.70**	**148**	*e*P	**Pb**	**08 49 10.8**	**-2.9**
VA03				IAML		08 49 55.5	
	comp=Z,471nm,0.5s						
ROCH	**El Roble**	**2.70**	**158**	*e*P	**Pn**	**08 49 10.1**	**+0.9**
ROC1	**El Roble**	**2.70**	**158**		**Pn**	**08 49 10.4**	**+1.2**
ROC1	**El Roble**	**2.70**	**158**	*e*P	**Pn**	**08 49 10.5**	**+1.3**
ACDV	**Cuesta del Vie**	**2.71**	**84**	*e*P	**Pb**	**08 49 12.7**	**-1.2**
ACDV				IAML		08 49 55.6	
	comp=Z,287nm,0.8s						
ACCO	**Cerro Coronel**	**2.74**	**93**	*e*P	**Pb**	**08 49 13.1**	**-1.4**
ACCO				IAML		08 50 00.9	
	comp=Z,395nm,0.7s						
RTLS	**Leoncito**	**2.85**	**118**	*e*P	**Pb**	**08 49 14.8**	**-1.5**
RTLS				IAML		08 50 01.9	
	comp=Z,2μm,0.7s						
MT02	**Curacav**	**2.93**	**162**		**Pn**	**08 49 13.8**	**+1.7**
MT02	**Curacav**	**2.93**	**162**	*e*P	**Pn**	**08 49 12.5**	**+0.5**
PEL	**Peldehue**	**2.97**	**154**		**Pn**	**08 49 14.2**	**+1.5**
PEL	**Peldehue**	**2.97**	**154**	*e*P	**Pn**	**08 49 13.8**	**+1.1**
PEL				IAML		08 50 06.4	
	comp=N,373nm,0.4s						
PEL	**Peldehue**	**2.97**	**154**	*e*P	**Pn**	**08 49 14.5**	**+1.8**
AUSP	**Uspallata**	**3.00**	**126**	*e*P	**Pb**	**08 49 17.1**	**-1.7**
MT05	**Renca**	**3.17**	**157**		**Pb**	**08 49 18.5**	**-3.2**
MT05	**Renca**	**3.17**	**157**	*e*P	**Pn**	**08 49 16.6**	**+1.0**
MT05				IAML		08 50 11.4	
	comp=E,685nm,0.4s						
VA05	**Santo Domingo**	**3.22**	**171**		**Pn**	**08 49 16.4**	**+0.4**
VA05	**Santo Domingo**	**3.22**	**171**	*e*P	**Pn**	**08 49 16.3**	**+0.3**
VA05				IAML		08 50 32.2	
	comp=E,336nm,0.6s						
ZON	**Zonda**	**3.24**	**110**	Pn	**Pb**	**08 49 19.6**	**-3.1**
ZON	**Zonda**	**3.24**	**110**	*e*P	**Pb**	**08 49 19.9**	**-2.9**
ZON				IAML		08 50 17.6	
	comp=Z,286nm,1.3s						
MT14	**Cerro Cal¡n**	**3.25**	**154**	*e*P	**Pn**	**08 49 18.4**	**+1.8**
MT14				IAML		08 50 14.7	
	comp=N,611nm,0.5s						
FCH	**Farellones**	**3.29**	**150**	*e*P	**Pn**	**08 49 19.1**	**+1.8**
FCH				IAML		08 50 17.7	
	comp=E,168nm,0.4s						
MT03	**Universidad Ad**	**3.35**	**154**		**Pn**	**08 49 19.8**	**+1.8**
MT03	**Universidad Ad**	**3.35**	**154**	*e*P	**Pn**	**08 49 19.8**	**+1.8**
MT03				IAML		08 50 15.8	
	comp=E,652nm,0.5s						
GO03	**Copiap**	**3.37**	**32**		**Pn**	**08 49 17.3**	**-0.8**
GO03	**Copiap**	**3.37**	**32**	*e*P	**Pn**	**08 49 17.0**	**-1.1**
GO03				IAML		08 50 23.8	
	comp=N,203nm,0.6s						
GO03	**Copiap**	**3.37**	**32**	*e*P	**Pn**	**08 49 17.4**	**-0.8**
MT04	**Ro Olívares**	**3.42**	**149**	*e*P	**Pn**	**08 49 21.6**	**+2.5**
MT04				IAML		08 50 24.8	
	comp=E,183nm,0.6s						
MT09	**Talagante**	**3.46**	**162**		**Pn**	**08 49 21.2**	**+1.8**
MT09	**Talagante**	**3.46**	**162**	*e*P	**Pn**	**08 49 20.9**	**+1.5**
MT09				IAML		08 50 33.6	
	comp=N,210nm,0.6s						
MT01	**Popeta**	**3.48**	**166**	*e*P	**Pn**	**08 49 20.4**	**+0.8**
MT01				IAML		08 50 23.6	
	comp=E,121nm,0.4s						
MT08	**Bocatoma Ro**	**3.51**	**148**		**Pb**	**08 49 23.4**	**-4.1**
MT08	**Bocatoma Ro**	**3.51**	**148**	*e*P	**Pb**	**08 49 23.4**	**-4.2**
MT08				IAML		08 50 23.0	
	comp=E,147nm,0.3s						
AC06	**Mina Casimiro**	**3.52**	**28**	Pn	**Pn**	**08 49 19.2**	**-1.0**
AC06	**Mina Casimiro**	**3.52**	**28**	*e*P	**Pn**	**08 49 19.3**	**-1.0**
AC06				IAML		08 50 29.6	
	comp=E,207nm,0.6s						
MT12	**Pirque**	**3.55**	**157**	*e*P	**Pn**	**08 49 22.2**	**+1.5**
ASAL	**Salagasta**	**3.59**	**127**	*e*P	**Pb**	**08 49 25.6**	**-3.2**
ASAL				*e*S	Sg	08 50 34.1	+14
ASAL				IAML		08 50 35.1	
	comp=Z,182nm,0.9s						
CFA	**Coronel Fontan**	**3.61**	**109**	Pn	**Pn**	**08 49 23.1**	**+1.5**
	comp=Z,9.7nm,0.3s,baz=297,slow=11,SNR=79						
CFA				Sn	**Sn**	**08 50 05.4**	**+0.7**
	comp=Z,11nm,0.3s,baz=223,slow=10,SNR=3.6						
CFA				LR	LR	08 50 42.5	
	comp=Z,241nm,20.7s,baz=293,slow=39						
	comp=Z,25nm,0.4s						
CFA	**Coronel Fontan**	**3.61**	**109**	*e*P	**Pb**	**08 49 24.6**	**-4.6**
CFA				*e*S	**Sg**	**08 50 20.1**	**-0.7**
CFA				IAML		08 50 24.9	
	comp=Z,119nm,0.5s						
MT13	**San Alfonso**	**3.66**	**154**		**Pn**	**08 49 24.3**	**+2.1**
MT13	**San Alfonso**	**3.66**	**154**	*e*P	**Pn**	**08 49 24.4**	**+2.1**
ARCO	**CERRO ARCO**	**3.67**	**131**	*e*P	**Pb**	**08 49 27.5**	**-2.8**
ARCO				IAML		08 50 27.3	
	comp=Z,268nm,1.0s						
BO04	**La Punta**	**3.77**	**159**	*e*P	**Pn**	**08 49 25.1**	**+1.5**
LMEL	**Las Melosas**	**3.78**	**153**	*e*P	**Pn**	**08 49 26.1**	**+2.1**
AAGR	**Agrelo**	**3.90**	**133**	*e*P	**Pb**	**08 49 30.4**	**-3.7**
AAGR				IAML		08 50 45.6	
	comp=Z,142nm,0.9s						
VCA	**Vinchina**	**3.92**	**65**	*e*P	Pb	08 49 29.3	-5.1
VCA				*e*S	**Sg**	**08 50 33.6**	**+3.1**
VCA				IAML		08 50 34.3	
	comp=Z,330nm,0.6s						
BO03	**Pichilemu**	**4.02**	**177**	*e*P	**Pn**	**08 49 27.1**	**0.0**
BO01	**Tunca**	**4.03**	**166**	Pn	**Pn**	**08 49 28.0**	**+0.8**
BO01	**Tunca**	**4.03**	**166**	*e*P	**Pn**	**08 49 28.1**	**+0.9**
BO02	**Sierra Bellavi**	**4.48**	**164**	*e*P	**Pn**	**08 49 34.7**	**+1.3**
GO05	**Huala**	**4.53**	**177**	*e*P	**Pn**	**08 49 33.9**	**-0.2**
AC01	**Pan de Azucar**	**4.55**	**19**	Pn	**Pn**	**08 49 31.2**	**-3.2**
AC01	**Pan de Azucar**	**4.55**	**19**	*e*P	**Pn**	**08 49 31.6**	**-2.8**
ACLC	**CERRO LA CRUZ**	**4.71**	**78**	*e*P	**Pn**	**08 49 38.6**	**+1.9**
ACLC				*e*S	**Sb**	**08 50 40.1**	**-4.9**
ACLC				IAML		08 51 00.6	
	comp=Z,131nm,1.2s						
GO02	**Mina Guanaco**	**5.79**	**25**	Pn	**Pn**	**08 49 49.5**	**-2.1**
GO02	**Mina Guanaco**	**5.79**	**25**	*e*P	Pn	08 49 37.7	-14
MRA	**San Martin**	**5.90**	**111**	*e*P	**Pn**	**08 49 54.3**	**+1.3**
MRA				*e*S	**Sb**	**08 51 15.3**	**-4.0**
PB14	**IPOC Station P**	**6.05**	**16**	Pn	**Pn**	**08 49 52.5**	**-2.8**
H03N1	**Juan Fernandez**	**6.39**	**241**	Pn	**Pn**	**08 50 00.1**	**+0.7**
	baz=43,slow=21						
H03N1				T	T	08 57 09.3	
	baz=72,slow=72,SNR=333						
H03N2	**Juan Fernandez**	**6.41**	**241**	Pn	**Pn**	**08 50 00.7**	**+1.1**
	baz=43,slow=21						
H03N2				T	T	08 57 02.8	
	baz=72,slow=72,SNR=336						
H03N3	**Juan Fernandez**	**6.41**	**241**	Pn	**Pn**	**08 50 00.3**	**+0.6**
	baz=43,slow=21						
H03N3				T	T	08 57 05.6	
	baz=72,slow=72,SNR=243						
H03S3	**Juan Fernandez**	**6.57**	**238**	Pn	**Pn**	**08 50 01.8**	**0.0**
	baz=164,slow=74						
H03S1	**Juan Fernandez**	**6.58**	**238**	Pn	**Pn**	**08 50 01.6**	**-0.4**
	baz=164,slow=74						
H03S2	**Juan Fernandez**	**6.59**	**238**	Pn	**Pn**	**08 50 02.2**	**+0.1**
	baz=164,slow=74						
AHML	**Horco Molle**	**7.09**	**60**	*e*P	Pn	08 50 15.0	+5.6
AHML				IAML		08 52 05.1	
	comp=Z,16nm,1.3s						
PB04	**IPOC Station P**	**8.32**	**13**	Pn	**Pn**	**08 50 25.3**	**-1.0**
LVC	**Limon Verde**	**8.38**	**22**	Pn	**Pn**	**08 50 24.6**	**-2.8**
LVC	**Limon Verde**	**8.38**	**22**	Pn	**Pn**	**08 50 25.5**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=213,slow=13,SNR=2.1						
PLCA	**Paso Flores**	**10.33**	**173**	Pn	**Pn**	**08 50 54.2**	**+0.5**
PLCA	**Paso Flores**	**10.33**	**173**	Pn	**Pn**	**08 50 53.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=49,slow=14,SNR=2.5						
	comp=Z,0.9nm,0.5s						
TRQA	**Tornquist**	**11.36**	**134**	Pn	**Pn**	**08 51 09.9**	**+2.1**
CPUP	**Villa Florida**	**13.76**	**76**	LR	LR	08 57 15.5	
	comp=Z,101nm,21.1s,baz=232,slow=39						
LPAZ	**La Paz**	**14.62**	**16**	Pn	**Pn**	**08 51 52.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=154,slow=9.1,SNR=2.2						
	comp=Z,0.4nm,0.4s						
SIV	**San Ignacio**	**17.68**	**38**	P	**Pn**	**08 52 30.6**	**-1.3**
	baz=214,slow=10.0,SNR=26						
	comp=Z,5.8nm,0.9s						
SNAA	**Sanae**	**54.91**	**159**	P	**P**	**08 57 57.7**	**+1.4**
SNAA				IAmb	IAmb	08 58 06.6	
	comp=Z,5.8nm,1.4s						
SNAA	**Sanae**	**54.91**	**159**	P	**P**	**08 57 56.9**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=255,slow=10,SNR=16						
	comp=Z,1.4nm,0.8s						
QSPA	**South Pole Qui**	**59.75**	**180**	P	**P**	**08 58 32.0**	**+1.4**
QSPA				IAmb	IAmb	08 59 00.5	
	comp=Z,4.5nm,1.4s						
TXAR	**Lajitas Array**	**66.59**	**330**	P	**P**	**08 59 18.7**	**+2.4**
	comp=Z,0.2nm,0.7s,baz=132,slow=7.7,SNR=2.7						
	comp=Z,0.2nm,0.7s						
PDAR	**Pinedale Array**	**80.55**	**333**	P	**P**	**09 00 40.8**	**+2.4**
	comp=Z,0.3nm,0.9s,baz=140,slow=4.4,SNR=2.0						
	comp=Z,0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**83.18**	**71**	P	**P**	**09 00 52.4**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=269,slow=4.6,SNR=7.8						
	comp=Z,1.2nm,0.8s						
YBH	**Yreka Blue Hor**	**85.61**	**325**	LR	LR	09 35 08.0	
	comp=Z,66nm,20.5s,baz=294,slow=33						
KURBB	**Kurchatov Arra**	**150.33**	**39**	PKPbc	**PKiKP**	**09 08 18.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=300,slow=2.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**151.28**	**29**	PKPbc	**PKiKP**	**09 08 19.9**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=299,slow=3.2,SNR=5.3						
ZALV				PKPab	**sPKPab**	**09 08 28.9**	**+1.7**
	comp=Z,7.5nm,0.6s,baz=294,slow=2.9,SNR=11						

*IDC **25** 08:49:59.2±1.7, 17°.67S×178°.83W, h558km±18km, mb3.0/6, mbtmp3.9/8, Error ellipse: s-maj=40.4km s-min=18.5km az=148.0*
ISC 25 08:49:58.4±0.9, 17°.7S±0°.3×178°.8W±0°.2, h550km, n10, σ0°81/11, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.01**	**269**	P	**P**	**08 51 15.3**	**+1.7**
	27nm,0.7s,baz=221,slow=19,SNR=43						
DZM	**Mont Dzumac**	**14.55**	**250**	P	**P**	**08 53 02.7**	**-0.8**
	5.3nm,0.7s,baz=81,slow=13,SNR=2.4						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**08 56 33.6**	**+0.3**
	2.8nm,0.5s,baz=89,slow=9.3,SNR=18						
	2.8nm,0.5s						
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**08 57 19.4**	**-0.8**
	1.7nm,0.6s,baz=95,slow=7.2,SNR=35						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**44.50**	**254**	P	**P**	**08 57 21.5**	**-0.1**
	19nm,0.6s,baz=88,slow=8.1,SNR=292						
ASAR				PcP	**PcP**	**08 58 53.0**	**-0.1**
	0.5nm,0.4s,baz=102,slow=3.7,SNR=3.1						
QSPA	**South Pole Qui**	**72.37**	**180**	P	**P**	**09 00 28.5**	**-0.2**
	0.8nm,0.7s,baz=338,slow=1.3,SNR=2.0						
	0.8nm,0.7s						
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**09 01 08.7**	**0.0**
	0.2nm,0.5s,baz=224,slow=8.2,SNR=3.6						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**85.75**	**13**	P	**P**	**09 01 38.2**	**-1.0**
	1.3nm,1.2s,baz=221,slow=6.4,SNR=2.3						
	1.3nm,1.2s						
TXAR	**Lajitas Array**	**86.19**	**58**	P	**P**	**09 01 42.7**	**+0.5**
	0.2nm,0.7s,baz=232,slow=4.4,SNR=2.0						
	0.2nm,0.7s						
MMAI	**Mount Meron Ar**	**145.71**	**303**	PKPbc	**PKPbc**	**09 08 37.0**	**+0.3**
	0.5nm,0.3s,baz=101,slow=7.5,SNR=1.4						

IDC 25 08:52:43.2±2.1, 6°40'S×128°67'E, h0km, mb3.7/1, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=112.5km s-min=31.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.54**	**158**	Pn	Pn	08 56 12.7	+2.2
	0.2nm,0.3s,baz=337,slow=12,SNR=17						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**17.89**	**164**	P	Pn	08 56 52.2	-1.4
	0.1nm,0.3s,baz=351,slow=11,SNR=6.9						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**67.01**	**327**	P	P	09 03 38.1	+0.1
	0.3nm,0.4s,baz=125,slow=6.3,SNR=5.1						
	0.3nm,0.4s						

IDC 25 08:57:02.0±56.0, 16°63S×177°19W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1031.0km s-min=175.0km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.27**	**240**	P	P	09 04 42.0	+1.0
	1.4nm,0.9s,baz=63,slow=6.8,SNR=2.5						
	1.4nm,0.9s						
WRA	**Warramunga Arr**	**46.02**	**258**	P	P	09 05 27.1	-0.6
	0.2nm,0.5s,baz=96,slow=8.1,SNR=8.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**46.27**	**253**	P	P	09 05 29.2	-0.4
	1.3nm,0.4s,baz=88,slow=8.0,SNR=31						
	1.3nm,0.4s						

AFAD ***25*** *09:12:42.7±0.0, 39°33'N×24°04'E, h19km±4km, MW4.0*
IDC ***25*** *09:12:46.1±1.4, 39°09'N×24°46'E, h0km, mb3.5/2, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=29.8km s-min=19.6km az=114.0*
ISK ***25*** *09:12:47.3, 38°95'N×24°44'E, h8km, ML3.4/37*
ATH ***25*** *09:12:47.2, 39°12'N×24°24'E, h10km±1km, ML3.6/28, Error ellipse: s-maj=1.4km s-min=0.7km az=155.0*
THE ***25*** *09:12:47.3, 39°11'N×24°26'E, h12km±1km, ML3.8/10, Error ellipse: s-maj=1.0km s-min=0.6km az=155.0*
SOF ***25*** *09:12:47.2, 39°36'N×24°22'E, h1km, MD3.8*

ISC 25 09:12:46.6±1.0, 39°11'N±0°02'×24°25'E±0°02, h8km±8km, n143, σ0°91/179, 10C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNA	**Alonissos**	**0.30**	**277**	P	**Pg**	**09 12 52.5**	**-0.1**
ALNA				S	**Sg**	**09 12 57.3**	**+0.7**
ALNA				AML	AML	09 12 57.9	
	comp=N,53704μm,0.3s						
ALNA				AML	AML	09 12 59.3	
	comp=E,46607μm,0.6s						
SKY	**Skiros Island**	**0.33**	**135**	P	**Pb**	**09 12 54.0**	**-0.7**
SKY				S	**Sb**	**09 12 58.5**	**-1.7**
	comp=E,51μm,0.2s						
SKY	**Skiros Island**	**0.33**	**135**	P	**Pb**	**09 12 54.1**	**-0.7**
SKY				S	**Sg**	**09 12 57.8**	**+0.3**
SKY				AML	AML	09 12 59.2	
SKY				AML	AML	09 12 59.4	
	comp=N,92346μm,0.2s						
KYMI	**Kymi, Euboea I**	**0.49**	**194**	P	**Pg**	**09 12 56.8**	**+0.6**
KYMI				S	**Sb**	**09 13 04.0**	**-0.9**
	comp=N,3μm,0.3s						
KYMI	**Kymi, Euboea I**	**0.49**	**194**	P	**Pg**	**09 12 56.9**	**+0.6**
KYMI				S	**Sg**	**09 13 02.7**	**+0.1**
KYMI				AML	AML	09 13 07.9	
	comp=E,6428μm,0.2s						
KYMI				AML	AML	09 13 08.2	
	comp=N,6812μm,0.4s						
EFSA	**Agios Efstrati**	**0.71**	**53**	P	**Pb**	**09 13 01.1**	**-0.2**
EFSA				S	**Sb**	**09 13 11.2**	**0.0**
EFSA				AML	AML	09 13 11.6	
	comp=N,12808μm,0.5s						
EFSA				AML	AML	09 13 14.0	
	comp=E,24148μm,0.5s						
NEO	**Neokhori**	**0.82**	**284**	P	**Pg**	**09 13 02.2**	**-0.3**
NEO				S	**Sb**	**09 13 15.5**	**+1.1**
	comp=E,12μm,0.4s						
NEO	**Neokhori**	**0.82**	**284**	P	**Pg**	**09 13 01.9**	**-0.6**
NEO				S	**Sg**	**09 13 12.9**	**-0.2**
NEO				AML	AML	09 13 16.2	
	comp=N,27080μm,0.4s						
NEO				AML	AML	09 13 17.2	
	comp=E,19648μm,0.4s						
XOR	**Xorichti**	**0.86**	**287**	P	**Pg**	**09 13 02.7**	**-0.5**
XOR				S	**Sg**	**09 13 15.0**	**+0.6**
XOR				AML	AML	09 13 17.4	
	comp=E,9509μm,0.7s						
XOR				AML	AML	09 13 19.2	
	comp=N,9090μm,0.5s						
LIA	**Limnos Island**	**1.06**	**42**	P	**Pb**	**09 13 07.0**	**-0.3**
LIA				S	**Sb**	**09 13 21.6**	**+0.2**
	comp=N,12μm,0.4s						
LIA	**Limnos Island**	**1.06**	**42**	P	**Pb**	**09 13 07.1**	**-0.2**
LIA				S	**Sb**	**09 13 21.7**	**+0.3**
LIA				AML	AML	09 13 23.8	
	comp=E,24170μm,0.6s						
LIA				AML	AML	09 13 24.1	
	comp=N,24036μm,0.5s						
LKR	**Lokris**	**1.08**	**245**	P	**Pg**	**09 13 06.8**	**-0.6**
LKR				S	**Sg**	**09 13 21.3**	**-0.1**
LKR				AML	AML	09 13 24.5	
	comp=N,5333μm,0.4s						
LKR				AML	AML	09 13 25.2	
	comp=E,6487μm,0.7s						
PTL	**Penteli**	**1.10**	**196**	P	**Pn**	**09 13 08.6**	**+0.2**
PTL				S	**Sn**	**09 13 24.0**	**+0.2**
	comp=E,2μm,0.4s						
PTL	**Penteli**	**1.10**	**196**	P	**Pn**	**09 13 08.6**	**+0.2**
PTL				AML	AML	09 13 26.6	
	comp=N,4338μm,0.3s						
PTL				AML	AML	09 13 28.8	
	comp=E,4347μm,0.5s						
PSRA	**Psara**	**1.17**	**119**	P	**Pb**	**09 13 08.8**	**-0.3**
PSRA				AML	AML	09 13 28.2	
	comp=N,3988μm,0.3s						
PSRA				AML	AML	09 13 28.7	
	comp=E,6042μm,0.4s						
VIL2	**Platees**	**1.18**	**221**	P	**Pg**	**09 13 08.8**	**-0.6**
VIL2				S	**Sg**	**09 13 24.4**	**-0.4**
VIL2				AML	AML	09 13 29.7	
	comp=N,9966μm,0.6s						
VIL2				AML	AML	09 13 30.9	
	comp=E,8743μm,0.7s						
VILL	**Villia**	**1.20**	**218**	P	**Pg**	**09 13 08.8**	**-0.9**
VILL				S	**Sg**	**09 13 25.0**	**-0.2**
	comp=E,5μm,0.5s						
ATHU	**Athens Univers**	**1.20**	**198**	P	**Pg**	**09 13 09.0**	**-0.7**
ATHU				S	**Sb**	**09 13 25.7**	**+0.4**
ATHU	**Athens Univers**	**1.20**	**198**	P	**Pg**	**09 13 08.9**	**-0.8**
ATH	**Athens Observa**	**1.21**	**200**	P	**Pg**	**09 13 09.4**	**-0.5**
ATH				S	**Sb**	**09 13 26.0**	**+0.4**
ATH	**Athens Observa**	**1.21**	**200**	P	**Pg**	**09 13 09.1**	**-0.9**
ATH				AML	AML	09 13 29.4	
	comp=N,7673μm,0.4s						
ATH				AML	AML	09 13 31.5	
	comp=E,5650μm,0.5s						
OUR	**Ouranopolis**	**1.24**	**350**	P	**Pb**	**09 13 09.5**	**-0.7**
OUR				S	**Sn**	**09 13 27.1**	**0.0**
	comp=E,2μm,0.5s						
OUR	**Ouranopolis**	**1.24**	**350**	P	**Pb**	**09 13 09.7**	**-0.6**
OUR				AML	AML	09 13 28.9	
	comp=N,3821μm,0.6s						
OUR				AML	AML	09 13 29.2	
	comp=E,2767μm,0.4s						
SIGR	**SIGRI**	**1.25**	**85**	Pn	**Pg**	**09 13 09.6**	**-1.0**
SIGR	**SIGRI**	**1.25**	**85**	P	**Pg**	**09 13 09.8**	**-0.9**
SIGR				S	**Sn**	**09 13 27.4**	**0.0**
	comp=E,2μm,0.7s						
SIGR	**SIGRI**	**1.25**	**85**	P	**Pg**	**09 13 09.7**	**-0.9**
SIGR				AML	AML	09 13 29.6	
	comp=N,4032μm,0.8s						
SIGR				AML	AML	09 13 32.7	
	comp=E,3147μm,0.6s						
AXAR	**Agios Charalam**	**1.29**	**255**	P	**Pn**	**09 13 10.8**	**-0.1**
AXAR				S	**Sb**	**09 13 26.8**	**-1.1**
AXAR				AML	AML	09 13 33.8	
	comp=E,5791μm,0.9s						
AXAR				AML	AML	09 13 35.0	
	comp=N,6945μm,0.4s						
VLY	**Voula,Athens**	**1.31**	**196**	P	**Pn**	**09 13 10.6**	**-0.6**
VLY				S	**Sb**	**09 13 28.1**	**-0.3**
	comp=N,4μm,0.5s						
VLY	**Voula,Athens**	**1.31**	**196**	P	**Pn**	**09 13 10.5**	**-0.6**
VLY				AML	AML	09 13 32.9	
	comp=N,8053μm,0.4s						
VLY				AML	AML	09 13 33.4	
	comp=E,7152μm,0.7s						
AGG	**Agios Georgios**	**1.50**	**267**	P	**Pn**	**09 13 13.3**	**-0.6**
AGG				S	**Sn**	**09 13 33.4**	**-0.2**
AGG	**Agios Georgios**	**1.50**	**267**	P	**Pn**	**09 13 13.3**	**-0.6**
GPNR	**Gulpinar-Canak**	**1.50**	**76**	Pn	**Pn**	**09 13 13.5**	**-0.3**
LOUT	**Loutraki**	**1.50**	**222**	P	**Pn**	**09 13 13.6**	**-0.3**
DLFA	**Delphi**	**1.51**	**246**	P	**Pn**	**09 13 13.9**	**-0.1**
DLFA				AML	AML	09 13 36.7	
	comp=N,2704μm,0.6s						
DLFA				AML	AML	09 13 40.4	
	comp=E,3574μm,0.7s						
EAG1	**Polichnitos, L**	**1.53**	**90**	P	**Pn**	**09 13 14.2**	**-0.1**
THAS	**Thassos island**	**1.54**	**13**	P	**Pn**	**09 13 13.1**	**-1.2**
THAS				S	**Sn**	**09 13 33.4**	**-1.0**
THAS	**Thassos island**	**1.54**	**13**	P	**Pn**	**09 13 13.0**	**-1.2**
BOZC	**Bozcaada**	**1.57**	**62**	P	**Pn**	**09 13 14.0**	**-0.8**
BOZC				S	**Sg**	**09 13 36.3**	**-0.9**
BOZC				*i* AML	AML	09 13 38.0	
	comp=E,442nm,0.4s						
BOZC				*i* AML	AML	09 13 39.0	
	comp=E,445nm,0.8s						
PRK	**Paraskevi**	**1.57**	**85**	P	**Pn**	**09 13 14.6**	**-0.3**
PRK				S	**Sg**	**09 13 38.7**	**+1.4**
CHOS	**Chios island**	**1.58**	**117**	P	**Pn**	**09 13 15.1**	**0.0**
CHOS				S	**Sn**	**09 13 34.9**	**-0.9**
	comp=E,1μm,0.5s						
CHOS	**Chios island**	**1.58**	**117**	P	**Pn**	**09 13 15.1**	**0.0**
CHOS				AML	AML	09 13 43.2	
	comp=E,2946μm,0.4s						
CHOS				AML	AML	09 13 43.2	
	comp=N,2085μm,0.5s						
THAL	**Thalero**	**1.64**	**230**	P	**Pn**	**09 13 15.2**	**-0.6**
THAL				AML	AML	09 13 45.0	
	comp=E,9569μm,0.6s						
THAL				AML	AML	09 13 46.0	
	comp=N,6850μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.65**	**267**	P	**Pn**	**09 13 16.3**	**+0.4**
MAKR				AML	AML	09 13 44.9	
	comp=N,2696μm,0.5s						
MAKR				AML	AML	09 13 50.2	
	comp=E,2071μm,0.8s						
GADA	**Gvkgeada**	**1.67**	**49**	Pn	**Pb**	**09 13 17.6**	**+0.1**
TYRN	**Tyrnavos**	**1.68**	**292**	P	**Pn**	**09 13 15.8**	**-0.4**
SMTH	**Samothraki Isl**	**1.68**	**36**	P	**Pn**	**09 13 15.1**	**-1.2**
KOKK	**Kokkinochori,**	**1.71**	**354**	P	**Pn**	**09 13 16.1**	**-0.7**
HORT	**Hortiatis**	**1.73**	**329**	P	**Pn**	**09 13 16.8**	**-0.3**
HORT				S	**Sn**	**09 13 37.5**	**-1.9**
HORT				AML	AML	09 13 43.2	
	comp=N,565μm,0.5s						
HORT				AML	AML	09 13 45.5	
	comp=E,833μm,0.4s						
EPID	**Epidavros**	**1.74**	**211**	P	**Pn**	**09 13 16.4**	**-0.8**
KARB	**zmir-Karabur**	**1.74**	**104**	P	**Pn**	**09 13 17.3**	**+0.1**
KARB				S	**Sg**	**09 13 45.0**	**+2.3**
KARB				*i* AML	AML	09 13 47.0	
	comp=E,269nm,0.5s						
KARB				*i* AML	AML	09 13 50.0	
	comp=E,146nm,0.5s						
RFT1	**Sazli**	**1.75**	**75**	Pn	**Pn**	**09 13 17.1**	**-0.2**
EZN	**Ezine**	**1.76**	**65**	Pn	**Pn**	**09 13 17.8**	**+0.5**
CESE	**eme**	**1.78**	**115**	Pn	**Pn**	**09 13 15.8**	**-1.9**
THL	**Klokotos Trika**	**1.79**	**285**	P	**Pn**	**09 13 17.7**	**-0.1**
KALE	**Kalithea**	**1.80**	**247**	P	**Pn**	**09 13 18.1**	**+0.1**
KALE				AML	AML	09 13 51.1	
	comp=N,2487μm,0.6s						
KALE				AML	AML	09 13 52.9	
	comp=E,1551μm,0.7s						
KVLA	**Kavala**	**1.82**	**3**	P	**Pn**	**09 13 17.1**	**-1.2**
SOH	**Sokhos**	**1.84**	**338**	P	**Pn**	**09 13 18.4**	**-0.2**
SOH				AML	AML	09 13 52.6	
	comp=E,1595μm,0.7s						
SOH				AML	AML	09 13 53.0	
	comp=N,961μm,0.5s						
TRIZ	**Trizonia**	**1.86**	**247**	P	**Pn**	**09 13 19.0**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.89**	**70**	P	**Pn**	**09 13 17.6**	**-1.5**
BAYC				S	**Sn**	**09 13 43.0**	**-0.1**
BAYC				*i* AML	AML	09 13 48.0	
	comp=N,256nm,0.5s						
BAYC				*i* AML	AML	09 13 49.0	
	comp=N,168nm,0.9s						
ANX	**Ano Chora**	**1.89**	**255**	P	**Pn**	**09 13 19.8**	**+0.5**
ANX				AML	AML	09 13 53.7	
	comp=N,2129μm,0.5s						
ANX				AML	AML	09 13 57.2	
	comp=E,1347μm,0.5s						
KAVA	**Kavala**	**1.89**	**6**	P	**Pn**	**09 13 18.3**	**-0.9**
GUR	**Goura**	**1.90**	**232**	P	**Pn**	**09 13 19.1**	**-0.4**
GUR				AML	AML	09 13 52.9	
	comp=E,2931μm,0.4s						
GUR				AML	AML	09 13 54.0	
	comp=N,5338μm,0.5s						
AYVA	**Ayvalik**	**1.90**	**83**	P	**Pn**	**09 13 19.4**	**0.0**
AYVA				S	**Sg**	**09 13 47.2**	**-0.6**
AYVA				*i* AML	AML	09 13 50.0	
	comp=N,458nm,1.0s						
AYVA				*i* AML	AML	09 13 57.0	
	comp=N,285nm,0.6s						
EVR	**Evrytania**	**1.91**	**265**	P	**Pn**	**09 13 20.3**	**+0.7**
KRND	**KRANIDI**	**1.93**	**207**	P	**Pn**	**09 13 18.5**	**-1.3**
KRND				AML	AML	09 13 52.5	
	comp=E,1702μm,0.6s						
KRND				AML	AML	09 13 52.5	
	comp=N,1678μm,0.5s						
EFP	**Efpalio**	**1.96**	**250**	P	**Pn**	**09 13 20.1**	**0.0**
KLV	**Kalavryta, Ach**	**1.96**	**238**	P	**Pn**	**09 13 19.5**	**-0.7**
KLV				AML	AML	09 13 53.1	
	comp=E,716μm,0.6s						
KLV				AML	AML	09 13 58.5	
	comp=N,760μm,0.9s						
LAKA	**Lakka**	**1.98**	**245**	P	**Pn**	**09 13 20.6**	**+0.1**
LAKA				AML	AML	09 13 59.6	
	comp=N,2185μm,1.0s						
LAKA				AML	AML	09 14 01.3	
	comp=E,1692μm,0.6s						
URLA	**Izmir**	**1.98**	**112**	Pn	**Pn**	**09 13 18.8**	**-1.7**
URLA	**Izmir**	**1.98**	**112**	P	**Pn**	**09 13 20.6**	**+0.1**
RFT5	**Foca**	**2.00**	**102**	Pn	**Pn**	**09 13 19.3**	**-1.4**
RFT2	**Karaagac**	**2.05**	**81**	Pn	**Pn**	**09 13 21.0**	**-0.4**
DKL	**Dikili**	**2.06**	**90**	Pn	**Pn**	**09 13 20.8**	**-0.8**
SRS	**Serrai**	**2.06**	**346**	P	**Pn**	**09 13 21.0**	**-0.6**
RFT7	**Candarli**	**2.08**	**93**	Pn	**Pn**	**09 13 21.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**2.14**	**52**	Pn	**Pb**	**09 13 24.1**	**-1.5**
ENEZ	**Enez**	**2.18**	**41**	Pn	**Pb**	**09 13 25.3**	**-1.1**
ZEDA	**zmir-Bergama**	**2.21**	**93**	P	**Pn**	**09 13 23.6**	**+0.1**
ZEDA				S	**Sg**	**09 14 00.4**	**+3.0**
ZEDA				*i* AML	AML	09 14 02.0	
	comp=E,107nm,0.4s						
ZEDA				*i* AML	AML	09 14 12.0	
	comp=E,117nm,1.0s						
BUHA	**Balikesir, Bur**	**2.23**	**79**	P	**Pn**	**09 13 23.3**	**-0.5**
BUHA				S	**Sg**	**09 13 58.4**	**+0.2**
BUHA				*i* AML	AML	09 14 07.0	
	comp=E,175nm,0.7s						
BUHA				*i* AML	AML	09 14 08.0	
	comp=E,229nm,0.6s						
ALN	**Alexandroupoli**	**2.25**	**37**	P	**Pn**	**09 13 23.2**	**-1.0**
NVR	**Nevrokopi**	**2.25**	**353**	P	**Pn**	**09 13 24.8**	**+0.5**
RDO	**Rodhopi**	**2.26**	**25**	P	**Pn**	**09 13 23.2**	**-1.0**
APE	**Apeiranthos**	**2.28**	**153**	⇑P	**Pn**	**09 13 24.4**	**-0.1**
APE	**Apeiranthos**	**2.28**	**153**	Pn	**Pn**	**09 13 23.7**	**-0.8**
APE				Sn	**Sn**	**09 13 49.8**	**-3.0**
APE	**Apeiranthos**	**2.28**	**153**	P	**Pn**	**09 13 24.2**	**-0.3**
KNT	**Kendrikon**	**2.29**	**334**	P	**Pn**	**09 13 24.8**	**0.0**
LPK	**Lapseki**	**2.31**	**56**	Pn	**Pn**	**09 13 26.1**	**+1.2**
GRG	**Griva**	**2.33**	**323**	P	**Pn**	**09 13 25.6**	**+0.3**
ERIK	**Erikli-Kesan**	**2.33**	**47**	Pn	**Pb**	**09 13 27.0**	**-1.9**
MMB	**Musomishta**	**2.46**	**351**	*i* P	**Pn**	**09 13 26.9**	**-0.2**
SMG	**Samos**	**2.47**	**124**	P	**Pn**	**09 13 27.2**	**+0.1**
VAY	**Valandovo**	**2.55**	**330**	*i* Pn	**Pg**	**09 13 34.6**	**-1.0**
VAY				*i* Sn	**Sg**	**09 14 08.0**	**-0.7**
RZN	**Rozhen**	**2.60**	**8**	*i* P	**Pn**	**09 13 28.7**	**-0.5**
VLI	**Veliai**	**2.61**	**204**	P	**Pn**	**09 13 28.6**	**-0.4**
KRBG	**Karabiga-Canak**	**2.67**	**60**	Pn	**Pn**	**09 13 31.1**	**+1.2**
KRBG				Sn	**Sn**	**09 14 02.8**	**+0.3**
STEP	**BALIKESIR_Sava**	**2.70**	**83**	P	**Pn**	**09 13 31.1**	**+0.7**
FNA	**Florina**	**2.77**	**308**	P	**Pn**	**09 13 30.9**	**-0.5**
GONE	**Gonen-Balikesi**	**2.81**	**70**	Pn	**Pn**	**09 13 32.5**	**+0.6**
PEHC	**Pehcevo**	**2.86**	**339**	*i* Pn	**Pn**	**09 13 33.1**	**+0.6**
KKB	**Krupnik**	**2.86**	**343**	*i* P	**Pn**	**09 13 32.7**	**+0.2**
SANT	**Santorini**	**2.90**	**160**	Pn	**Pn**	**09 13 32.2**	**-0.9**
PYL	**PYLOS**	**2.97**	**223**	P	**Pn**	**09 13 35.5**	**+1.5**
KTHA	**Kythira Island**	**3.00**	**199**	P	**Pn**	**09 13 34.4**	**-0.2**
STIP	**Stip**	**3.02**	**329**	*i* Pn	**Pn**	**09 13 34.7**	**-0.1**
EDC	**Edincik**	**3.04**	**65**	Pn	**Pn**	**09 13 36.1**	**+1.0**
BODT	**Bodrum**	**3.16**	**129**	Pn	**Pn**	**09 13 35.3**	**-1.4**
MLSB	**Milas**	**3.32**	**122**	Pn	**Pn**	**09 13 38.5**	**-0.3**
OHR	**Ohrid**	**3.32**	**308**	*i* Pn	**Pn**	**09 13 36.8**	**-2.0**
KCTX	**Karacabey (Bur**	**3.37**	**69**	Pn	**Pn**	**09 13 40.3**	**+0.8**
RFTAA	**Mazikoy-Bodrum**	**3.47**	**126**	Pn	**Pn**	**09 13 39.7**	**-1.2**
KULA	**Kula-Manisa**	**3.50**	**98**	Pn	**Pn**	**09 13 40.8**	**-0.5**
RFTD	**Palamutbuku-Ka**	**3.53**	**132**	Pn	**Pn**	**09 13 40.7**	**-1.0**
DAT	**Datca**	**3.55**	**131**	Pn	**Pn**	**09 13 41.5**	**-0.6**
RODP	**Rodopos**	**3.57**	**186**	Pn	**Pn**	**09 13 42.1**	**-0.2**
VTS	**Vitosha**	**3.59**	**348**	⇑P	**Pn**	**09 13 43.0**	**+0.3**
VTS	**Vitosha**	**3.59**	**348**	*i* P	**Pn**	**09 13 42.4**	**-0.2**
IMMV	**Iera Moni Meta**	**3.65**	**183**	Pn	**Pn**	**09 13 43.3**	**-0.1**
SIMA	**Simav-Kutahya**	**3.68**	**89**	Pn	**Pn**	**09 13 43.7**	**-0.2**
YER	**Yerkesik**	**3.74**	**121**	Pn	**Pn**	**09 13 43.7**	**-1.0**
ARMT	**Armutlu**	**3.83**	**66**	Pn	**Pn**	**09 13 47.3**	**+1.4**
IDI	**Anoyia**	**3.85**	**172**	⇑P	**Pn**	**09 13 46.5**	**+0.2**
IDI	**Anoyia**	**3.85**	**172**	Pn	**Pn**	**09 13 45.6**	**-0.6**
IDI	**Anoyia**	**3.85**	**172**	Pn	**Pn**	**09 13 46.8**	**+0.6**
	comp=E,4.1nm,0.3s,baz=353,slow=12,SNR=14						
IDI				Sn	**Sn**	**09 14 29.1**	**-2.5**
	comp=E,4.7nm,0.3s,baz=349,slow=6.4,SNR=2.3						
	comp=E,16nm,0.5s						
KNDR	**Palaiochora Ch**	**3.90**	**187**	Pn	**Pn**	**09 13 46.9**	**+0.1**
TURN	**Turunc**	**3.92**	**125**	Pn	**Pn**	**09 13 46.2**	**-0.9**
GEDZ	**Gediz**	**4.01**	**89**	Pn	**Pn**	**09 13 48.5**	**0.0**
DALY	**Dalyan (Mula)**	**4.17**	**122**	Pn	**Pn**	**09 13 49.5**	**-0.9**
MDVR	**Moldovita**	**5.97**	**342**	⇓P	**Pn**	**09 14 15.2**	**-0.2**
ARR	**Arges**	**6.26**	**2**	⇑P	**Pn**	**09 14 19.6**	**+0.3**
LOT	**Lotru**	**6.34**	**357**	⇓P	**Pn**	**09 14 20.4**	**0.0**
VOIR		**6.35**	**5**	⇑P	**Pn**	**09 14 21.2**	**+0.6**
GZR	**Gura Zlata**	**6.37**	**351**	⇑P	**Pn**	**09 14 20.8**	**0.0**
NEHR	**Nehoiu**	**6.49**	**13**	⇑P	**Pn**	**09 14 22.9**	**+0.5**
MLR	**Muntele Rosu**	**6.50**	**11**	⇓P	**Pn**	**09 14 23.7**	**+1.1**
MLR	**Muntele Rosu**	**6.50**	**11**	Pn	**Pn**	**09 14 23.1**	**+0.5**
	comp=E,0.9nm,0.3s,baz=185,slow=9.8,SNR=9.2						
	comp=E,12nm,0.7s						
BZS	**Buzias**	**6.79**	**344**	⇓P	**Pn**	**09 14 25.6**	**-0.8**
VRI	**Vrincioaia**	**6.99**	**14**	⇑P	**Pn**	**09 14 30.0**	**+0.7**
OZUR		**7.07**	**9**	⇑P	**Pn**	**09 14 31.6**	**+1.2**
BRTR	**Keskin Array B**	**7.29**	**82**	Pn	**Pn**	**09 14 34.8**	**+1.2**
	comp=E,0.5nm,0.3s,baz=262,slow=12,SNR=8.2						
	comp=E,1.6nm,0.5s						
MARR	**Marisel-Cluj**	**7.61**	**354**	⇓P	**Pn**	**09 14 37.4**	**-0.4**
BURAR	**Bucovina Array**	**8.53**	**4**	⇑P	**Pn**	**09 14 51.6**	**+1.1**
ESDC	**Sonseca Array**	**21.78**	**280**	P	**P**	**09 17 43.1**	**+4.2**
	comp=E,0.9nm,0.8s,baz=76,slow=10,SNR=4.7						
	comp=E,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**32.66**	**224**	P	**P**	**09 19 19.5**	**+0.3**
	comp=E,0.6nm,0.6s,baz=35,slow=9.1,SNR=6.4						
	comp=E,0.6nm,0.6s						

WEL 25 09:19:02.6±0.3, 43°S±2°×17°2E±°, h5km±2km, M3.4/18, ML3.6/18, MLv3.4/18, Error ellipse: s-maj=0.0km s-min=0.0km az=177.8, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXZ	**Oxford**	**0.13**	**178**	P	Pg	09 19 05.6	+0.3
OXZ				S	Sg	09 19 08.1	+1.1
CSHS	**Castle Hill**	**0.23**	**262**	P	Pg	09 19 07.7	+0.6
CSHS

7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.42**	**276**	⇑Pg	**Pb**	**09 32 45.1**	**-0.5**
	3.7nm,0.8s						
ZAA0				⇓Lg	Lg	09 33 36.4	
	10nm,0.8s						
ZALV	**Zalesovo Beam**	**3.42**	**276**	Pn	**Pn**	**09 32 39.8**	**+1.1**
	0.3nm,0.3s,baz=96,slow=12,SNR=4.4						
ZALV				Sn	**Sn**	**09 33 18.7**	**-1.2**
	1.3nm,0.3s,baz=113,slow=12,SNR=2.1						
ZALV				Lg	Lg	09 33 31.1	
	1.3nm,0.3s,baz=94,slow=19,SNR=3.9						
	1.6nm,0.4s						
KURK	**Kurchatov**	**7.94**	**252**	⇑Sn	**Sn**	**09 35 13.0**	**+1.8**
	11nm,0.8s						
KURK				⇑Lg	Lg	09 35 59.8	
	29nm,1.0s						
KURBB	**Kurchatov Arra**	**8.03**	**252**	⇑Pn	**Pn**	**09 33 42.9**	**+0.9**
	9.5nm,1.1s						
KURBB				⇑Sn	**Sn**	**09 35 13.0**	**-0.5**
	32nm,0.8s						
KURBB				⇓Lg	Lg	09 36 03.9	
	73nm,0.9s						
KURBB	**Kurchatov Arra**	**8.03**	**252**	Pn	**Pn**	**09 33 41.3**	**-0.7**
	0.2nm,0.3s,baz=64,slow=14,SNR=12						
KURBB				Sn	**Sn**	**09 35 13.2**	**-0.4**
	baz=66,slow=25,SNR=6.0						
KURBB				Lg	Lg	09 35 59.5	
	0.1nm,0.3s,baz=60,slow=30,SNR=7.5						
	2.6nm,0.7s						
MK31	**Makanchi Array**	**8.74**	**221**	Pn	**Pn**	**09 33 52.2**	**+0.5**
	2.2nm,0.7s,baz=44,slow=13,SNR=8.5						
MK31				⇑Sn	**Sn**	**09 35 34.3**	**+3.3**
	5.0nm,0.8s						
MK31				⇓Lg	Lg	09 36 23.0	
	19nm,1.0s,baz=47,slow=32,SNR=5.4						
MKAR	**Makanchi Array**	**8.74**	**221**	Pn	**Pn**	**09 33 51.0**	**-0.8**
	0.2nm,0.3s,baz=28,slow=13,SNR=9.5						
MKAR				Sn	**Sn**	**09 35 28.3**	**-2.6**
	0.1nm,0.3s,baz=31,slow=20,SNR=1.9						
MKAR				Lg	Lg	09 36 17.4	
	0.1nm,0.3s,baz=34,slow=22,SNR=5.8						
	0.6nm,0.4s						
MAKZ	**Makanchi**	**8.85**	**222**	⇑Lg	Lg	09 36 26.2	
	20nm,1.1s						
I34MN	**SONGINO INFRAS**	**11.64**	**114**	I	I	10 38 40.0	
	baz=312,slow=323,SNR=1.7						

*VAO **25** 09:33:48.7±1.2,21°.19S×69°.03W,h144km,mb4.3*
*SJA **25** 09:33:54.5±3.6,21°.58S×68°.42W,h100km,ML3.6,MW3.7*
*GUC **25** 09:33:54.6±0.7,21°.63S×68°.43W,h119km±5km,ML3.7*

ISC 25 09:33:53.6±0.8,21°.59S±0°.03×68°.40W±0°.05,h128km±9km, n48,σ1°43/73,10C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.81**	**255**	⇑*i*P	**Pn**	**09 34 14.6**	**-0.3**
PB09				*e*S	**Sn**	**09 34 29.9**	**-1.0**
PB09	**IPOC Station P**	**0.81**	**255**	*e*P	**Pn**	**09 34 14.7**	**-0.3**
PB09				*e*S	**Sn**	**09 34 31.5**	**+0.6**
PB09				IAML		09 34 32.6	
	comp=Z,587nm,0.8s						
LVC	**Limon Verde**	**1.12**	**205**	*e*P	**Pn**	**09 34 17.2**	**-0.7**
LVC	**Limon Verde**	**1.12**	**205**	⇑*i*P	**Pn**	**09 34 17.4**	**-0.5**
LVC				*e*S	**Sn**	**09 34 34.6**	**-1.7**
LVC				IAML		09 34 37.3	
	comp=Z,2μm,0.4s						
LVC	**Limon Verde**	**1.12**	**205**	*e*P	**Pn**	**09 34 17.6**	**-0.3**
LVC				*e*S	**Sn**	**09 34 36.2**	**-0.1**
PB01	**IPOC Station P**	**1.16**	**298**	⇑*i*P	**Pn**	**09 34 17.4**	**-0.6**
PB01				*e*S	**Sn**	**09 34 35.0**	**-1.5**
PB01				IAML		09 34 37.0	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**1.16**	**298**	*e*P	**Pn**	**09 34 17.4**	**-0.6**
PB01				*e*S	**Sn**	**09 34 36.8**	**+0.3**
PB01				IAML		09 34 37.5	
	comp=Z,515nm,0.1s						
AF01	**San Pedro de A**	**1.37**	**172**	*e*P	**Pn**	**09 34 20.4**	**-0.1**
PB07	**IPOC Station P**	**1.39**	**264**	⇑*i*P	**Pn**	**09 34 19.8**	**-0.7**
PB07				*e*S	**Sn**	**09 34 39.6**	**-1.5**
PB07				IAML		09 34 41.3	
	comp=N,2μm,0.3s						
PB07	**IPOC Station P**	**1.39**	**264**	*e*P	**Pn**	**09 34 19.9**	**-0.7**
PB07				IAML		09 34 40.5	
	comp=Z,1μm,0.4s						
PB07				*e*S	**Sn**	**09 34 40.5**	**-0.6**
PB02	**IPOC Station P**	**1.42**	**281**	⇑*i*P	**Pn**	**09 34 20.1**	**-0.7**
PB02				*e*S	**Sn**	**09 34 40.2**	**-1.3**
PB02				IAML		09 34 41.8	
	comp=N,3μm,0.2s						
PB02	**IPOC Station P**	**1.42**	**281**	*e*P	**Pn**	**09 34 20.2**	**-0.7**
PB02				*e*S	**Sn**	**09 34 41.1**	**-0.4**
PB02				IAML		09 34 41.9	
	comp=Z,2μm,0.3s						
PB06	**IPOC Station P**	**1.55**	**224**	⇑*i*P	**Pn**	**09 34 21.9**	**-0.5**
PB06				*e*S	**Sn**	**09 34 43.1**	**-1.2**
PB06				IAML		09 34 44.7	
	comp=E,1μm,0.4s						
PB06	**IPOC Station P**	**1.55**	**224**	*e*P	Pn	09 34 16.2	-6.2
PB06				*e*P		09 34 21.8	
PB06				*e*S	**Sn**	**09 34 43.9**	**-0.4**
PB06				IAML		09 34 44.8	
	comp=Z,458nm,0.3s						
PB08	**IPOC Station P**	**1.61**	**334**	⇑*i*P	**Pn**	**09 34 23.8**	**+0.6**
PB08				*e*S	**Sn**	**09 34 45.9**	**+0.2**
PB08				IAML		09 34 48.4	
	comp=N,869nm,0.3s						
PB08	**IPOC Station P**	**1.61**	**334**	*e*P	**Pn**	**09 34 23.9**	**+0.6**
PB08				*e*S	**Sn**	**09 34 46.8**	**+1.0**
PB08				IAML		09 34 48.8	
	comp=Z,384nm,0.4s						
PB04	**IPOC Station P**	**1.79**	**245**	⇑*i*P	**Pn**	**09 34 24.1**	**-1.0**
PB04				*e*S	**Sn**	**09 34 47.1**	**-2.1**
PB04				IAML		09 34 50.1	
	comp=E,698nm,0.3s						
PB04	**IPOC Station P**	**1.79**	**245**	*e*P	**Pn**	**09 34 24.1**	**-1.0**
PB04				*e*S	**Sn**	**09 34 47.9**	**-1.2**
PB04				IAML		09 34 49.8	
	comp=Z,488nm,0.1s						
PATCX	**Punta Patache**	**1.81**	**295**	⇑*i*P	**Pn**	**09 34 24.7**	**-0.6**
PATCX				*e*S	**Sn**	**09 34 48.3**	**-1.2**
PATCX	**Punta Patache**	**1.81**	**295**	*e*P	**Pn**	**09 34 24.8**	**-0.5**
PATCX				*e*S	**Sn**	**09 34 49.1**	**-0.3**
PATCX				IAML		09 34 50.3	
	comp=Z,1μm,0.4s						
PB15	**IPOC Station P**	**1.89**	**212**	*e*P	**Pn**	**09 34 26.1**	**-0.3**
PB15				*e*S	**Sn**	**09 34 50.9**	**-0.6**
PB15	**IPOC Station P**	**1.89**	**212**	*e*P	**Pn**	**09 34 26.4**	**0.0**
PB15				*e*S	**Sn**	**09 34 51.1**	**-0.3**
PB15				IAML		09 34 53.9	
	comp=Z,2μm,0.3s						
TA01	**Diego Aracena**	**1.96**	**301**	*e*P	**Pn**	**09 34 26.0**	**-0.9**
TA01				*e*S	**Sn**	**09 34 50.8**	**-1.7**
TA01	**Diego Aracena**	**1.96**	**301**	*e*P	**Pn**	**09 34 26.1**	**-0.8**
TA01				*e*S	**Sn**	**09 34 51.6**	**-0.8**
TA01				IAML		09 34 52.1	
	comp=Z,628nm,0.3s						
GO01	**Chusmiza**	**2.06**	**339**	⇑*i*P	**Pn**	**09 34 28.8**	**+0.1**
GO01				IAML		09 34 59.0	
	comp=N,853nm,0.2s						
GO01	**Chusmiza**	**2.06**	**339**	*e*P	**Pn**	**09 34 29.2**	**+0.5**
GO01				*e*S	**Sn**	**09 34 57.5**	**+2.1**
GO01				IAML		09 35 00.0	
	comp=Z,185nm,0.4s						
TA02	**Huaiquique**	**2.09**	**309**	*e*P	**Pn**	**09 34 27.5**	**-1.1**
TA02				*e*S	**Sn**	**09 34 53.0**	**-2.4**
TA02	**Huaiquique**	**2.09**	**309**	*e*P	**Pn**	**09 34 28.1**	**-0.5**
TA02				*e*S	**Sn**	**09 34 54.9**	**-0.5**
TA02				IAML		09 34 58.5	
	comp=Z,485nm,0.1s						
YJA	**Yavi**	**2.74**	**103**	*e*P	**Pn**	**09 34 39.1**	**+1.9**
YJA				*e*S	**Sn**	**09 35 04.2**	**-6.5**
PB16	**IPOC Station P**	**3.41**	**342**	*e*P	**Pn**	**09 34 46.6**	**+0.6**
PB16	**IPOC Station P**	**3.41**	**342**	*e*P	**Pn**	**09 34 46.7**	**+0.6**
PB16				*e*S	Sn	09 35 16.2	-10
PB16				IAML		09 35 33.6	
	comp=Z,54nm,0.9s						
PB12	**IPOC Station P**	**3.48**	**328**	*e*P	**Pn**	**09 34 44.4**	**-2.1**
PB12	**IPOC Station P**	**3.48**	**328**	*e*P	**Pn**	**09 34 45.0**	**-1.5**
PB12				*e*S	Sn	09 35 18.1	-9.3
PB12				IAML		09 35 29.1	
	comp=Z,91nm,0.3s						
PB14	**IPOC Station P**	**3.54**	**211**	*e*P	**Pn**	**09 34 46.7**	**-0.8**
PB14	**IPOC Station P**	**3.54**	**211**	*e*P	**Pn**	**09 34 46.8**	**-0.8**
PB14				*e*S	Sn	09 35 18.1	-11
PB14				IAML		09 35 42.4	
	comp=Z,58nm,0.4s						
GO02	**Mina Guanaco**	**3.72**	**197**	*e*P	**Pn**	**09 34 49.0**	**-0.9**
GO02	**Mina Guanaco**	**3.72**	**197**	*e*P	**Pn**	**09 34 49.1**	**-0.8**
GO02				*e*S	Sn	09 35 24.2	-9.3
GO02				IAML		09 36 09.3	
	comp=Z,66nm,0.5s						
BBSD	**Serra de San D**	**8.55**	**61**	*e*P	**Pn**	**09 35 52.4**	**-2.2**
CRSM	**Crissiumal (Br**	**14.32**	**117**	*e*P	**P**	**09 37 14.4**	**+0.6**
FRBT	**Francisco Belt**	**14.70**	**110**	*e*P	**P**	**09 37 18.9**	**+0.8**
RODS	**Rosario do Sul**	**14.72**	**129**	*e*P	**Pn**	**09 37 18.1**	**+2.6**
ALGR	**Alto Alegre (B**	**15.64**	**120**	*e*P	**P**	**09 37 29.7**	**+1.1**
PCMB	**Pacaembu**	**15.94**	**93**	*e*P	**Pn**	**09 37 33.1**	**+2.3**
CPSB	**Cacapava Do Su**	**16.04**	**126**	*e*P	**Pn**	**09 37 33.1**	**+1.1**
LDASE	**Londrina, Braz**	**16.07**	**100**	*e*P	**P**	**09 37 35.2**	**+1.9**
CLDB	**Colider**	**16.11**	**51**	*e*P	**Pn**	**09 37 29.3**	**-3.6**
FRTB	**Fartura**	**17.49**	**99**	*e*P	**P**	**09 37 50.4**	**+1.4**
SNDB	**Serra Nova Dou**	**18.95**	**62**	*e*P	**P**	**09 38 04.3**	**-0.6**

*JMA **25** 09:55:43.6±0.3,27°.N±2°.×14°.0E±°,h376km,MV3.5/12,W OFF OGASAWARA*
*IDC **25** 09:55:48.3±10.0,27°.15N×140°.30E,h490km±132km, mb2.9/8,mbtmp3.7/8,Error ellipse: s-maj=35.1km s-min=24.8km az=56.0*

ISC 25 09:55:41.3±0.9,27°.28N±0°.09×140°.3E±0°.2,h400km,n13, σ1°41/16,mb3.1/8,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.67**	**96**	P	**Pn**	**09 56 36.8**	**+1.5**
CBIJ				*e*S	**S**	**09 57 18.4**	**-0.5**
BSO3	**Boso 3**	**7.50**	**1**	*e*S	**S**	**09 58 58.9**	**-0.4**
BSO4	**Boso 4**	**7.69**	**0**	*e*S	**S**	**09 59 02.5**	**-0.9**
JHO	**Hitachi**	**9.30**	**1**	*e*P	**Pn**	**09 57 52.5**	**+1.4**
JHO				*e*S	**S**	**09 59 35.3**	**-2.4**
JMM	**Marumori**	**10.56**	**2**	*e*P	**Pn**	**09 58 07.5**	**+1.9**
JMM				*e*S	**S**	**10 00 01.8**	**-1.7**
WRA	**Warramunga Arr**	**47.30**	**188**	P	**P**	**10 03 35.7**	**-1.0**
	0.2nm,0.8s,baz=0.8,slow=7.5,SNR=1.9						
	0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**48.27**	**319**	P	**P**	**10 03 46.0**	**+2.4**
	0.4nm,0.4s,baz=100,slow=10,SNR=1.3						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**51.73**	**314**	P	**P**	**10 04 08.7**	**-0.7**
	0.6nm,0.4s,baz=92,slow=7.5,SNR=4.9						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**56.79**	**317**	P	**P**	**10 04 45.2**	**-0.1**
	1.4nm,0.5s,baz=96,slow=6.5,SNR=5.8						
	1.4nm,0.5s						
ILAR	**Eielson Array**	**58.34**	**29**	P	**P**	**10 04 55.6**	**-0.2**
	0.6nm,1.1s,baz=259,slow=5.4,SNR=1.2						
	0.6nm,1.1s						
YKA	**Yellowknife Ar**	**72.76**	**28**	P	**P**	**10 06 26.8**	**-0.1**
	0.5nm,0.9s,baz=347,slow=5.3,SNR=4.5						
	0.5nm,0.9s						
FINES	**FINESS Array B**	**77.04**	**333**	P	**P**	**10 06 50.5**	**-0.6**
	1.1nm,0.3s,baz=64,slow=5.1,SNR=15						
	1.1nm,0.3s						
NVAR	**Mina Array Bea**	**81.70**	**51**	P	**P**	**10 07 16.1**	**-0.6**
	0.3nm,0.7s,baz=308,slow=7.3,SNR=2.5						
	0.3nm,0.7s						

*IDC **25** 10:07:58.9±2.0,21°.50S×177°.88W,h391km±19km, mb3.5/16,mbtmp4.3/19,Error ellipse: s-maj=16.5km s-min=12.1km az=108.0*
*NEIC **25** 10:07:58.4±1.6,21°.6S±0°.1×177°.77W±0°.09,h378km±5km, mb4.2/56,Error ellipse: s-maj=18.8km s-min=10.6km az=159.0*

ISC 25 10:08:00.9±0.4,21°.50S±0°.07×177°.87W±0°.09,h412km, n98,σ1°11/90,mb4.1/46,1C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.37**	**314**		**P**	**10 09 24.6**	**-2.7**
MSVF	**Nonsavu**	**5.37**	**314**	P	**P**	**10 09 24.4**	**-2.8**
	104nm,0.6s,baz=131,slow=8.6,SNR=191						
NIUE	**Niue**	**7.84**	**73**		P	10 09 47.8	-6.7
DZM	**Mont Dzumac**	**14.58**	**265**	P	**P**	**10 11 08.7**	**0.0**
	7.3nm,0.9s,baz=88,slow=13,SNR=2.7						
TOZ	**Tahuroa Road**	**17.16**	**198**	P	**P**	**10 11 35.8**	**-0.1**
TOZ				IAmb	IAmb	10 11 38.8	
	comp=Z,6.0nm,0.7s						
URZ	**Urewera**	**17.25**	**193**	P	**P**	**10 11 33.8**	**-3.1**
URZ	comp=Z,5.5nm,0.4s,baz=301,slow=23,SNR=11			S	**S**	**10 14 36.5**	**+0.9**
	comp=Z,6.4nm,0.6s,baz=40,slow=10,SNR=1.9						
EIDS	**Eidsvold**	**28.71**	**256**	P	**P**	**10 13 24.3**	**+1.6**
ARMA	**Armidale**	**28.75**	**246**	P	**P**	**10 13 24.1**	**+1.1**
CAN	**Canberra**	**32.06**	**237**	P	**P**	**10 13 53.7**	**+2.0**
CTAO	**Charters Tower**	**33.52**	**266**	P	**P**	**10 14 05.1**	**+0.7**
CTAO				IAmb	IAmb	10 14 05.2	
	comp=Z,7.9nm,0.8s						
TOO	**Toolangi**	**35.41**	**235**	P	**P**	**10 14 20.3**	**+0.1**
TAU	**Tasmania Unive**	**36.00**	**226**	P	**P**	**10 14 25.2**	**+0.3**
TAU				IAmb	IAmb	10 14 25.4	
	comp=Z,15nm,1.0s						
STKA	**Stephens Creek**	**37.47**	**245**	P	**P**	**10 14 37.7**	**+0.3**
STKA	**Stephens Creek**	**37.47**	**245**	P	**P**	**10 14 37.5**	**+0.1**
	comp=Z,7.6nm,0.8s,baz=90,slow=9.5,SNR=16						
	comp=Z,7.6nm,0.8s						
BBOO	**Buckleboo**	**42.22**	**244**	P	**P**	**10 15 15.4**	**-0.5**
BBOO				IAmb	IAmb	10 15 16.2	
	comp=Z,8.6nm,1.1s						
WR0	**Warramunga Arr**	**44.40**	**263**	P	**P**	**10 15 32.6**	**-0.6**
AS31	**Alice Springs**	**44.41**	**258**	P	**P**	**10 15 33.4**	**+0.1**
ASAR	**Alice Springs**	**44.41**	**258**	P	**P**	**10 15 33.3**	**-0.1**
ASAR	**Alice Springs**	**44.41**	**258**	P	**P**	**10 15 33.0**	**-0.4**
	comp=Z,9.4nm,0.7s,baz=99,slow=7.9,SNR=127						
ASAR				PcP	**PcP**	**10 17 08.2**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=100,slow=4.2,SNR=6.6						
	comp=Z,9.4nm,0.7s						
WB0	**Warramunga Arr**	**44.57**	**263**	P	**P**	**10 15 34.1**	**-0.5**
WB0				IAmb	IAmb	10 15 34.6	
	comp=Z,8.6nm,0.8s						
WB2	**Warramunga Arr**	**44.58**	**263**	P	**P**	**10 15 34.0**	**-0.6**
WB2				IAmb	IAmb	10 15 34.7	
	comp=Z,7.5nm,0.8s						
WRAB	**Tennant Creek**	**44.58**	**263**	P	**P**	**10 15 34.1**	**-0.6**
WRA	**Warramunga Arr**	**44.59**	**263**	P	**P**	**10 15 34.1**	**-0.6**
WRA	**Warramunga Arr**	**44.59**	**263**	P	**P**	**10 15 33.6**	**-1.1**
	comp=Z,5.4nm,0.8s,baz=93,slow=8.1,SNR=55						
WRA				PcP	**PcP**	**10 17 10.6**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=102,slow=3.6,SNR=4.5						
	comp=Z,5.4nm,0.8s						
FORT	**Forrest**	**49.02**	**247**	P	**P**	**10 16 08.1**	**-0.3**
FORT				IAmb	IAmb	10 16 08.5	
	comp=Z,15nm,0.8s						
MTN	**Manton Dam**	**49.30**	**271**	P	**P**	**10 16 10.4**	**-0.2**
KNRA	**Kununurra**	**50.72**	**267**	P	**P**	**10 16 21.4**	**+0.2**
VNDA	**Vanda**	**56.93**	**185**	P	**P**	**10 17 04.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=321,slow=6.3,SNR=2.7						
	comp=Z,0.3nm,0.7s						
PSA00	**Pilbara Seismi**	**57.56**	**258**	P	**P**	**10 17 09.4**	**-0.4**
PSA00				IAmb	IAmb	10 17 10.4	
	comp=Z,6.4nm,1.0s						
MBWA	**Marble Bar**	**57.76**	**258**	P	**P**	**10 17 11.0**	**-0.2**
MBWA				IAmb	IAmb	10 17 11.6	
	comp=Z,9.4nm,0.8s						
CASY	**Casey**	**63.11**	**205**	P	**P**	**10 17 46.5**	**+0.4**
CASY				IAmb	IAmb	10 17 47.5	
	comp=Z,4.3nm,1.1s						
QSPA	**South Pole Qui**	**68.57**	**180**	P	**P**	**10 18 21.5**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=33,slow=0.9,SNR=5.6						
	comp=Z,1.5nm,0.8s						
MJAR	**Matsushiro Arr**	**71.08**	**324**	P	**P**	**10 18 34.1**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=168,slow=4.1,SNR=1.8						
	comp=Z,1.1nm,0.6s						
KSM	**Kuching**	**73.67**	**278**	P	**P**	**10 18 52.1**	**+0.5**
TPUB	**Ta-pu**	**74.62**	**303**	P	**P**	**10 18 57.5**	**+0.7**
PETK	**Petropavlovsk-**	**77.27**	**345**	P	**P**	**10 19 10.9**	**0.0**
	comp=Z,3.8nm,0.8s,baz=109,slow=11,SNR=3.0						
	comp=Z,3.8nm,0.8s						
KSRS	**Korea Array**	**77.72**	**319**	P	**P**	**10 19 14.2**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=131,slow=6.6,SNR=5.5						
	comp=Z,0.9nm,0.7s						
BELA	**Belgrano 2**	**78.55**	**173**	P	**P**	**10 19 17.9**	**+0.2**
BELA				IAmb	IAmb	10 19 25.2	
	comp=Z,3.7nm,1.1s						
USRK	**Ussuriysk Ar.**	**79.86**	**326**	P	**P**	**10 19 25.1**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=90,slow=7.6,SNR=4.7						
	comp=Z,2.7nm,0.9s						
MAW	**Mawson**	**80.67**	**200**	P	**P**	**10 19 29.5**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=174,slow=9.2,SNR=2.3						
	comp=Z,1.5nm,0.6s						
NVAR	**Mina Array Bea**	**81.67**	**43**	P	**P**	**10 19 35.8**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=223,slow=8.5,SNR=23						
	comp=Z,2.6nm,0.8s						
J05D	**Fort Rock, OR**	**82.82**	**38**	P	**P**	**10 19 42.3**	**+1.7**
CN2	**Changchun**	**83.16**	**322**	*e*P	**P**	**10 19 43.8**	**+1.7**
X16A	**Lo Mia Camp, P**	**84.10**	**50**	IAmb	IAmb	10 19 50.0	
	comp=Z,2.4nm,0.9s						
319A	**Douglas**	**84.15**	**53**	P	**P**	**10 19 49.9**	**+2.4**
319A				IAmb	IAmb	10 19 50.4	
	comp=Z,6.5nm,0.9s						
CCUT	**Cedar City**	**84.41**	**46**	P	**P**	**10 19 50.6**	**+1.8**
J08A	**Circle Bar Ran**	**84.46**	**39**	IAmb	IAmb	10 19 50.8	
	comp=Z,5.5nm,1.2s						
U15A	**North Rim**	**84.55**	**48**	P	**P**	**10 19 51.5**	**+1.9**
U15A				IAmb	IAmb	10 19 52.0	
	comp=Z,5.3nm,0.8s						
G08A	**Pilot Rock**	**85.34**	**37**	IAmb	IAmb	10 19 55.0	
	comp=Z,6.3nm,1.0s						
MTPU	**Mount Pierson**	**85.46**	**46**	IAmb	IAmb	10 19 56.4	
	comp=Z,3.4nm,1.0s						
ELIB	**Princess Elisa**	**85.67**	**186**	*d*P	**P**	**10 19 54.2**	**-0.1**
	comp=Z,3.2nm,0.8s						
ELIB				*d*pP	**pP**	**10 21 23.9**	**-3.2**
HAWA	**Hanford**	**85.68**	**36**	IAmb	IAmb	10 19 56.7	
	comp=Z,4.6nm,0.9s						
LYN	**LuoYang**	**86.48**	**309**	⇑P	**P**	**10 20 01.3**	**+2.6**
LYN				pmax	pmax		
	comp=Z,18nm,0.6s						
TMUT	**Trail Mountain**	**86.77**	**46**	IAmb	IAmb	10 20 02.6	
	comp=Z,4.8nm,1.0s						
PLID	**Pearl Lake**	**86.92**	**39**	IAmb	IAmb	10 20 03.1	
	comp=Z,2.0nm,0.8s						
SNAA	**Sanae**	**87.01**	**178**	P	**P**	**10 19 59.6**	**-1.1**
	comp=Z,0.7nm,1.1s,baz=153,slow=4.0,SNR=1.7						
	comp=Z,0.7nm,1.1s						
MNTX	**Cornudas Mount**	**87.23**	**54**	P	**P**	**10 20 02.1**	**-0.3**
MNTX				IAmb	IAmb	10 20 04.7	
	comp=Z,4.3nm,1.1s						
TX32	**Lajitas Array**	**87.49**	**57**	P	**P**	**10 20 03.0**	**-0.7**
TX32				IAmb	IAmb	10 20 05.6	
	comp=Z,2.8nm,1.0s						
TXAR	**Lajitas Array**	**87.49**	**57**	P	**P**	**10 20 04.8**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=217,slow=6.4,SNR=19						
	comp=Z,1.4nm,0.7s						
CCB	**Clear Creek Bu**	**88.96**	**12**	IAmb	IAmb	10 20 11.0	
	comp=Z,4.2nm,0.7s						
COLA	**College**	**89.16**	**12**	P	**P**	**10 20 09.6**	**-0.8**
MDM	**Murphy Dome**	**89.16**	**12**	P	**P**	**10 20 10.0**	**-0.6**
MDM				IAmb	IAmb	10 20 12.3	
	comp=Z,3.8nm,0.9s						
ILAR	**Eielson Array**	**89.26**	**13**	P	**P**	**10 20 10.0**	**-1.0**
	comp=Z,1.6nm,0.9s,baz=218,slow=5.6,SNR=24						
	comp=Z,1.6nm,0.9s						
IMW	**Indian Meadow**	**89.31**	**42**	IAmb	IAmb	10 20 14.1	
	comp=Z,3.3nm,0.9s						
BW06	**Boulder Array**	**89.61**	**43**	IAmb	IAmb	10 20 14.6	
	comp=Z,2.9nm,1.0s						
PD31	**Pinedale Array**	**89.61**	**43**	IAmb	IAmb	10 20 14.6	
	comp=Z,2.8nm,1.0s						
PDAR	**Pinedale Array**	**89.61**	**43**	P	**P**	**10 20 13.7**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=218,slow=2.8,SNR=14						
	comp=Z,2.1nm,0.9s						
BOZ	**Bozeman (W)**	**89.78**	**40**	IAmb	IAmb	10 20 16.1	
	comp=Z,5.6nm,0.9s						
HHC	**Hu-ho-hao-te**	**90.14**	**314**	*e*P	**P**	**10 20 16.0**	**+0.2**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,380nm,6.0s						
CMAR	**Chiang Mai Arr**	**90.56**	**290**	P	**P**	**10 20 18.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**90.56**	**290**	P	**P**	**10 20 20.0**	**+1.8**
	comp=Z,2.1nm,0.7s,baz=124,slow=3.1,SNR=13						
	comp=Z,2.1nm,0.7s						
PZH	**PanZhiHua**	**91.28**	**298**	P	**P**	**10 20 23.3**	**+1.8**
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
ZALV	**Zalesovo Beam**	**111.34**	**321**	PKiKP	**PKiKP**	**10 25 45.4**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=67,slow=0.4,SNR=4.8						
MKAR	**Makanchi Array**	**111.97**	**313**	PKiKP	**PKiKP**	**10 25 47.1**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=57,slow=4.5,SNR=6.5						
KURBB	**Kurchatov Arra**	**114.86**	**317**	PKiKP	PKPdf	10 25 52.1	-1.2
	comp=Z,1.2nm,0.6s,baz=100,slow=1.9,SNR=13						
BVAR	**Borovoye Array**	**119.92**	**320**	PKP	**PKPdf**	**10 26 01.9**

6.4nm,0.3s
SATY eLg Lg 10 09 16.2
31nm,0.2s
UZB Uzynbulak 2.40 10 Pg **Pb 10 08 47.7 -0.5**
2.9nm,0.2s
UZB Lg Lg 10 09 20.4
34nm,0.3s
UZB Uzynbulak 2.40 10 ePg **Pb 10 08 47.7 -0.5**
2.9nm,0.2s
UZB eLg Lg 10 09 20.4
34nm,0.3s
SHLS Shalkode 2.48 18 Pg **Pg 10 08 51.4 -0.6**
9.9nm,0.3s
SHLS Lg Lg 10 09 26.7
46nm,0.4s
SHLS Shalkode 2.48 18 ePg **Pg 10 08 51.4 -0.6**
9.9nm,0.3s
SHLS eLg Lg 10 09 26.7
46nm,0.4s
TNSS Tian-Shan 2.50 334 Pg **Pb 10 08 49.8 -0.5**
24nm,0.3s
TNSS Lg Lg 10 09 24.5
10nm,0.6s
TNSS Tian-Shan 2.50 334 ePg **Pb 10 08 49.8 -0.5**
24nm,0.3s
TNSS eLg Lg 10 09 23.7
10nm,0.6s
BOOM Boomskoye usch 2.53 313⇓eP **Pn 10 08 47.3 +0.8**
baz=13
BOOM ⇓iS **Sb 10 09 21.0 -1.1**
baz=13
IZV Izvestkoviy 2.62 329 Pg **Pb 10 08 52.0 -0.2**
5.1nm,0.5s
IZV Lg Lg 10 09 28.1
33nm,0.5s
IZV Izvestkoviy 2.62 329 ePg **Pb 10 08 52.0 -0.2**
5.1nm,0.5s
IZV eLg Lg 10 09 27.6
33nm,0.5s
KOTS Kotyrbulak 2.63 338 Pg **Pb 10 08 52.1 -0.2**
15nm,0.3s
KOTS Lg Lg 10 09 27.6
33nm,0.3s
KOTS Kotyrbulak 2.63 338 ePg **Pb 10 08 52.1 -0.2**
15nm,0.3s
KOTS eLg Lg 10 09 27.6
33nm,0.3s
PDGK Podgornoye 2.66 17 Pg **Pn 10 08 49.8 +1.5**
2.8nm,0.4s
PDGK Lg Lg 10 09 24.4
17nm,0.6s
PDGK Podgornoye 2.66 17 ⇑Pn **Pn 10 08 49.6 +1.3**
3.8nm,0.6s
PDGK ⇑Lg Lg 10 09 27.9
30nm,0.6s
KPKS Kokpek 2.68 4 Pg **Pb 10 08 52.4 -0.7**
10nm,0.3s
KPKS Lg Lg 10 09 29.1
56nm,0.4s
KPKS Kokpek 2.68 4 ePg **Pb 10 08 52.8 -0.3**
10nm,0.3s
KPKS eLg Lg 10 09 29.1
56nm,0.4s
KURS Kuram 2.70 356 Pg **Pb 10 08 53.9 +0.4**
7.7nm,0.5s
KURS Lg Lg 10 09 30.6
12nm,0.7s
KURS Kuram 2.70 356 ePg **Pb 10 08 53.9 +0.4**
7.7nm,0.5s
KURS eLg Lg 10 09 30.6
12nm,0.7s
MTBS Maitube 2.78 328 Pg **Pb 10 08 54.0 -0.7**
9.5nm,0.3s
MTBS Lg Lg 10 09 30.8
26nm,0.3s
MTBS Maitube 2.78 328 ePg **Pb 10 08 54.0 -0.7**
9.5nm,0.3s
MTBS eLg Lg 10 09 30.8
26nm,0.3s
TKM2 Tokmak 2 3.00 316 ⇑Pg **Pb 10 08 58.2 -0.5**
2.9nm,0.5s
TKM2 ⇓Lg Lg 10 09 40.0
8.7nm,0.5s
TKM2 Tokmak 2 3.00 316⇓iP **Pn 10 08 54.3 +1.1**
baz=16
TKM2 ⇓iS **Sb 10 09 32.4 -3.5**
baz=16
KTMS Ketmen 3.01 28 Pg **Pb 10 08 57.6 -1.2**
2.0nm,0.3s
KTMS Lg Lg 10 09 37.9
10nm,0.5s
KTMS Ketmen 3.01 28 ePg **Pb 10 08 57.9 -0.9**
2.0nm,0.3s
KTMS eLg Lg 10 09 37.9
10nm,0.5s
DGS Degeres 3.15 322 Pg **Pb 10 09 01.1 -0.1**
6.7nm,0.5s
DGS Lg Lg 10 09 44.0
16nm,0.5s
DGS Degeres 3.15 322 ePg **Pb 10 09 01.6 +0.5**
6.7nm,0.5s
DGS eLg Lg 10 09 44.0
16nm,0.5s
KTBS Karatobe 3.20 337 Pg **Pb 10 09 01.9 +0.1**
6.7nm,0.5s
KTBS Lg Lg 10 09 44.5
16nm,0.3s
KTBS Karatobe 3.20 337 ePg **Pb 10 09 01.9 +0.1**
6.7nm,0.5s
KTBS eLg Lg 10 09 44.5
16nm,0.3s
CHKK Chushkaly 3.24 341 Pg **Pb 10 09 03.8 +1.1**
4.7nm,0.2s
CHKK Lg Lg 10 09 47.6
13nm,0.3s
CHKK Chushkaly 3.24 341 ePg **Pb 10 09 03.8 +1.1**
4.7nm,0.2s
CHKK eLg Lg 10 09 47.6
13nm,0.3s
BLB Baldybastay 3.30 1 Pg **Pb 10 09 03.9 +0.2**
7.1nm,0.3s
BLB Lg Lg 10 09 47.8
13nm,0.6s
ARXS Arharly 3.45 353 Pg **Pb 10 09 06.2 0.0**
2.8nm,0.2s
ARXS Lg Lg 10 09 52.6
9.7nm,0.4s
ARXS Arharly 3.45 353 ePg **Pb 10 09 06.7 +0.5**
2.8nm,0.2s
ARXS eLg Lg 10 09 52.6
9.7nm,0.4s
KUU Kurty 3.47 334 Pg **Pb 10 09 07.4 +1.0**
2.4nm,0.1s
KUU Lg Lg 10 09 53.3
9.6nm,0.5s
KUU Kurty 3.47 334 ePg **Pb 10 09 07.2 +0.7**
2.4nm,0.1s
KUU eLg Lg 10 09 53.7
9.6nm,0.5s
KRBS Karabastau 3.55 326 Pg **Pb 10 09 07.1 -0.9**
3.3nm,0.2s
KRBS Lg Lg 10 09 54.4
4.9nm,0.6s
KRBS Karabastau 3.55 326 ePg **Pb 10 09 07.5 -0.5**
3.3nm,0.2s
KRBS eLg Lg 10 09 54.4
4.9nm,0.6s
KNOS Konyrlen 3.61 8 Pg **Pb 10 09 08.7 -0.3**
1.3nm,0.1s
KNOS Lg Lg 10 09 56.0
4.8nm,0.5s
DJR Jarkent 3.68 15 Pg **Pb 10 09 10.2 +0.1**
1.2nm,0.2s
DJR Lg Lg 10 09 58.6
8.1nm,0.5s
DJR Jarkent 3.68 15 ePg **Pb 10 09 10.2 +0.1**
1.2nm,0.2s
DJR eLg Lg 10 09 58.6
8.1nm,0.5s
AML Almayashu 3.81 292 ⇑Pg **Pb 10 09 13.2 +0.8**
0.1nm,0.3s
AML ⇑Lg Lg 10 10 04.3
1.2nm,0.6s
MRKS Merke 4.36 298 ePg **Pb 10 09 23.5 +1.8**
3.7nm,0.4s
MRKS eLg Lg 10 10 21.5
4.4nm,0.4s
KK31 Karatay Array 6.34 294 ⇓Pg Pb 10 09 59.9 +4.4
0.4nm,0.4s,baz=118,slow=16
KK31 ⇑Lg Lg 10 11 24.8
0.8nm,0.5s,baz=113,slow=29,SNR=4.9

KRSC 25 10:08:26.4±1.4, 49°.42N×156°.39E, h18km±17km, Ml3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.28**	**352**	eP	Pn	10 08 49.1	-0.3
SKR				eS	Sb	10 09 05.9	-0.2
PAU	**Pauzhetka**	**2.07**	**7**	eP	Pb	10 09 02.4	-1.0
PAU				eS	Sb	10 09 27.9	-1.0
KDTR	**Khodutka, Kamc**	**2.63**	**24**	eP	Pn	10 09 09.8	+1.9
KDTR				eS	Sn	10 09 41.5	+2.1
ASAK	**Asacha**	**3.12**	**17**	eP	Pn	10 09 17.6	+2.8
MTVR	**Mutnovka**	**3.28**	**20**	eP	Pn	10 09 20.0	+3.0
MTVR				eS	Sn	10 09 59.5	+4.0
GRL	**Gorelyy**	**3.32**	**18**	eP	Pn	10 09 20.8	+3.3
KRMR	**Karymshinskiy**	**3.59**	**17**	eP	Pn	10 09 23.7	+2.6
DALK	**Dalny**	**3.92**	**21**	eP	Pn	10 09 28.6	+3.0
UGLR	**Uglovaya**	**4.10**	**21**	eP	Pn	10 09 32.0	+3.9
AVH	**Avacha**	**4.13**	**20**	eP	Pb	10 09 33.7	-4.8
KOK	**Koryaka**	**4.13**	**19**	eP	Pn	10 09 33.2	+4.5
SMAR	**Somma**	**4.14**	**21**	eP	Pn	10 09 33.4	+4.5
SDLR	**Sedlovina**	**4.17**	**21**	eP	Pn	10 09 32.7	+3.4
KRX	**Arik**	**4.20**	**19**	eP	Pn	10 09 34.1	+4.5
GNL	**Ganaly**	**4.39**	**12**	eP	Pn	10 09 35.7	+3.4
KII	**Karymskiy**	**5.00**	**21**	eP	Pn	10 09 45.8	+5.1

IDC 25 10:12:34.2±287.0, 54°.17N×43°.43E, h0km, Error ellipse: s-maj=122.5km s-min=90.6km az=141.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**4.36**	**308**	I	I	10 40 00.0	
baz=123,slow=330,SNR=1.3							
I31KZ	**AKTYUBINSK INF**	**9.71**	**107**	I	I	11 14 00.0	
baz=298,slow=313,SNR=0.7							
I46RU	**ZALESOVO INFRA**	**24.05**	**74**	I	I	12 37 50.0	
baz=284,slow=326							

*IDC **25** 10:21:07.0±1.4, 54°.47S×144°.24E, h0km, mb3.8/6, mbtmp3.9/6, MS3.7/9, Error ellipse: s-maj=124.4km s-min=16.6km az=83.0*

ISC 25 10:21:08.8±1.4, 54°.55±0°.1×144°.1E±0°.9, h11km, n32, σ0°.42/12, mb4.0/9, MS3.6/9, 5D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**20.56**	**69**	LR	LR	10 32 16.7	
comp=Z,283nm,19.0s,baz=213,slow=33							
STKA	**Stephens Creek**	**22.67**	**355**	P	**P**	**10 26 10.7**	**+0.7**
0.6nm,0.4s,baz=149,slow=17,SNR=2.2							
0.6nm,0.4s							
VNDA	**Vanda**	**24.00**	**171**	P	**P**	**10 26 22.4**	**-0.5**
0.9nm,0.9s,baz=347,slow=10,SNR=6.1							
0.9nm,0.9s							
URZ	**Urewera**	**27.64**	**68**	LR	LR	10 36 57.7	
comp=Z,150nm,19.5s,baz=211,slow=34							
H01W1	**Cape Leeuwin H**	**28.58**	**301**	T	T	10 56 58.4	
baz=143,slow=76,SNR=132							
H01W2	**Cape Leeuwin H**	**28.59**	**301**	T	T	10 56 58.5	
baz=143,slow=76,SNR=108							
H01W3	**Cape Leeuwin H**	**28.60**	**301**	T	T	10 56 59.7	
baz=143,slow=76,SNR=100							
NWAO	**Narrogin (SRO)**	**28.70**	**308**	LR	LR	10 35 52.2	
comp=Z,145nm,21.3s,baz=160,slow=31							
ASAR	**Alice Springs**	**31.71**	**342**	P	**P**	**10 27 32.1**	**-0.4**
1.0nm,0.7s,baz=165,slow=9.4,SNR=19							
1.0nm,0.7s							
CTA	**Charters Tower**	**34.38**	**4**	LR	LR	10 39 57.0	
comp=Z,48nm,19.6s,baz=270,slow=33							
WRA	**Warramunga Arr**	**35.28**	**344**	P	**P**	**10 28 03.0**	**-0.5**
2.3nm,0.7s,baz=168,slow=7.9,SNR=37							
2.3nm,0.7s							
QSPA	**South Pole Qui**	**35.62**	**180**	P	**P**	**10 28 06.5**	**+0.3**
3.0nm,0.7s,baz=2.9,slow=2.8,SNR=25							
3.0nm,0.7s							
DZM	**Mont Dzumac**	**36.49**	**36**	LR	LR	10 40 14.4	
comp=Z,73nm,19.9s,baz=212,slow=32							
MAW	**Mawson**	**38.34**	**218**	LR	LR	10 42 05.2	
comp=Z,102nm,21.8s,baz=26,slow=33							
MSVF	**Nonsavu**	**45.01**	**49**	LR	LR	10 43 49.2	
comp=Z,77nm,20.9s,baz=83,slow=30							
TROLL	**Troll, Antarti**	**50.95**	**194**	⇓P	**P**	**10 30 09.7**	**0.0**
comp=Z,58nm,0.6s							
SNAA	**Sanae**	**51.99**	**193**	⇓P	**P**	**10 30 17.7**	**+0.3**
comp=Z,40nm,0.9s							
SNAA	**Sanae**	**51.99**	**193**	P	**P**	**10 30 17.8**	**+0.4**
comp=Z,1.7nm,0.9s,baz=157,slow=12,SNR=7.4							
SNAA				LR	LR	10 52 04.4	
comp=Z,127nm,18.9s,baz=118,slow=36							
comp=Z,1.7nm,0.9s							
VNA3	**Neumayer Olymp**	**53.19**	**190**	⇓P	**P**	**10 30 25.9**	**-0.3**
comp=Z,1.5nm,0.8s							
VNA2	**Neumayer--Watz**	**53.24**	**191**	⇓P	**P**	**10 30 26.5**	**-0.1**
comp=Z,2.3nm,0.7s,baz=166,slow=8.0							
VNA1	**Neumayer--Stat**	**53.60**	**191**	⇓P	**P**	**10 30 29.4**	**+0.3**
comp=Z,5.5nm,1.2s							
H04S1	**CROZET ISLANDS**	**54.87**	**237**	T	T	11 30 34.2	
baz=134,slow=75,SNR=16							
H04S2	**CROZET ISLANDS**	**54.87**	**237**	T	T	11 30 33.2	
baz=134,slow=75,SNR=13							
H04S3	**CROZET ISLANDS**	**54.89**	**237**	T	T	11 30 32.9	
baz=134,slow=75,SNR=19							
H08S2	**Diego Garcia H**	**73.14**	**281**	T	T	11 52 38.8	
baz=150,slow=76							
H08S1	**Diego Garcia H**	**73.15**	**281**	T	T	11 52 39.8	
baz=150							
H08S3	**Diego Garcia H**	**73.16**	**281**	T	T	11 52 35.9	
baz=150,slow=76							
SUR	**Sutherland**	**80.67**	**226**	LR	LR	11 03 06.2	
comp=Z,52nm,18.9s,baz=359,slow=31							
H03S1	**Juan Fernandez**	**84.55**	**145**	T	T	12 07 42.7	
baz=201,slow=74,SNR=7.0							
H03S2	**Juan Fernandez**	**84.55**	**145**	T	T	12 07 41.4	
baz=201,slow=74,SNR=6.5							
H03S3	**Juan Fernandez**	**84.56**	**145**	T	T	12 07 47.6	
baz=201,slow=74,SNR=4.2							
FINES	**FINESS Array B**	**147.55**	**308**	PKPbc	**PKPbc**	**10 40 51.7**	**+0.1**
comp=Z,3.2nm,0.8s,baz=90,slow=5.6,SNR=1.9							

ISC 25 10:22:46.7±1.1, 49°.02N±0°.06×18°.12E±0°.05, h10km, n5, σ1°.24/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.34**	**241**	ePG	**Pg**	**10 22 52.0**	**-1.5**
JAVC				eSG	**Sg**	**10 22 58.5**	**+0.5**
VYHS	**Vyhne**	**0.71**	**138**	ePG	**Pg**	**10 22 59.0**	**-1.4**
VYHS				eSG	**Sb**	**10 23 12.1**	**+1.1**
MORC	**Moravsky Berou**	**0.84**	**334**	ePG	**Pg**	**10 23 02.1**	**-0.9**
MODS	**Modra-Piesok**	**0.86**	**221**	ePG	**Pb**	**10 23 04.0**	**+0.3**
MODS				eSG	**Sb**	**10 23 16.2**	**+1.0**
LANS	**Liptovska Anna**	**0.90**	**81**	ePG	**Pn**	**10 23 05.8**	**+0.4**

*IDC **25** 10:44:03.5±8.3, 7°.25S×129°.41E, h103km±88km, mb3.8/3, mbtmp4.2/6, ML4.3/3, MS4.0/1, Error ellipse: s-maj=72.8km s-min=27.1km az=29.0*

ISC 25 10:44:13.9±2.0, 8°.1S±0°.1×129°.26E±0°.07, h100km, n14, σ1°.88/12, mb4.0/3, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.03**	**86**	P	**Pn**	**10 44 45.3**	**-1.5**
KDU	**Kakadu**	**5.52**	**145**	P	**Pn**	**10 45 36.2**	**+2.5**
BATI	**Baumata**	**5.89**	**249**	P	**Pn**	**10 45 36.5**	**-2.3**
4.5nm,0.3s,baz=84,slow=9.2,SNR=1.7							
BATI				S	**Sn**	**10 46 46.0**	**+1.0**
37nm,0.4s,baz=82,slow=20,SNR=2.3							
19nm,0.3s							
SANI	**Sanana**	**6.87**	**332**	P	Pn	10 45 40.8	-11
KNRA	**Kununurra**	**7.51**	**184**	P	**Pn**	**10 46 04.0**	**+3.3**
WRA	**Warramunga Arr**	**12.73**	**158**	P	**Pn**	**10 47 09.6**	**-1.7**
2.0nm,0.3s,baz=346,slow=13,SNR=51							
WRA				S	**Sn**	**10 49 31.0**	**-0.3**
10nm,0.6s,baz=334,slow=23,SNR=14							
3.5nm,0.6s							
QIS	**Mount Isa**	**15.89**	**142**	P	**P**	**10 47 52.4**	**-1.2**
ASAR	**Alice Springs**	**16.07**	**164**	P	**P**	**10 47 54.9**	**-0.7**
1.1nm,0.3s,baz=336,slow=10,SNR=106							
ASAR				S	**Sn**	**10 50 51.4**	**-0.8**
1.2nm,0.6s,baz=343,slow=24,SNR=6.3							
3.9nm,0.6s							
WRKA	**Warakurna**	**16.83**	**183**	P	**P**	**10 48 04.2**	**+0.2**
OOD	**Oodnadatta**	**20.48**	**164**	P	**P**	**10 48 42.9**	**-0.8**
JOW	**Kunigami**	**34.77**	**358**	LR	LR	11 04 05.1	
comp=Z,259nm,18.9s,baz=128,slow=35							
CMAR	**Chiang Mai Arr**	**39.91**	**312**	P	P	10 51 24.1	-14
0.6nm,0.2s,baz=135,slow=7.0,SNR=4.6							
0.6nm,0.2s							
MKAR	**Makanchi Array**	**68.77**	**327**	P	P	10 54 52.8	-14
0.3nm,0.3s,baz=116,slow=6.6,SNR=6.4							
0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**73.09**	**329**	P	P	10 55 17.9	-15
1.0nm,0.2s,baz=134,slow=5.1,SNR=5.9							
1.0nm,0.2s							

*MOS **25** 10:50:20.3±0.8, 40°.49N×143°.82E, h12km, mb4.7/23, Error ellipse: s-maj=7.9km s-min=5.4km az=96.9*
*IDC **25** 10:50:20.3±0.7, 40°.42N×143°.81E, h0km, mb4.2/22, mbtmp4.2/29, ML3.7/6, MS3.8/21, Error ellipse: s-maj=16.4km s-min=14.6km az=147.0*
*BJI **25** 10:50:20.1±0.0, 40°.48N×143°.63E, h5km, mb4.7/58, mB5.2/29, Ms4.5/17, Ms7 4.4/20*
*JMA **25** 10:50:22.7±0.2, 40°.4N±0°.6×14°.4E±°, h29km, MD4.5/34, MV4.5/34, FAR E OFF SANRIKU*
*NEIC **25** 10:50:22.2±1.2, 40°.46N±0°.05×143°.81E±0°.10, h10km±1km, mb4.6/25, Error ellipse: s-maj=12.3km s-min=9.2km az=99.0*
*NIED **25** 10:50:22.7, 40°.44N×143°.74E, h29km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.41; $M_{\theta\theta}$1.32; $M_{\phi\phi}$-3.73; $M_{r\theta}$1.79; $M_{\theta\phi}$-1.62; $M_{\phi r}$1.77; Fault plane solution: $M_0$4.33000×10^{15} NP1:ϕ_s42.00000°, δ68.00000°, λ121.00000°. NP2:ϕ_s164.00000°, δ37.00000°, λ38.00000°.*

ISC 25 10:50:21.4±0.8, 40°.45N±0°.04×143°.88E±0°.04, h10km±4km, n219, σ1°.34/209, mb4.5/67, MS4.1/22, 13C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.62**	**253**	iP	**Pn**	**10 50 48.7**	**-1.4**
ERM	**Erimo**	**1.66**	**341**	Pn	**Pn**	**10 50 50.1**	**-0.6**
ERM	**Erimo**	**1.66**	**341**	P	**Pn**	**10 50 50.7**	**+0.1**
ERM	**Erimo**	**1.66**	**341**	ceP	**Pn**	**10 50 50.2**	**-0.4**
ERM				pmax	pmax		
comp=Z,1μm,1.3s							
JEM	**Erimo**	**1.66**	**341**	P	**Pn**	**10 50 50.4**	**-0.3**
JEM	**Erimo**	**1.66**	**341**	P	**Pn**	**10 50 50.3**	**-0.3**
JEM				S	**Sn**	**10 51 11.8**	**-0.3**
JEM	**Erimo**	**1.66**	**341**	A	A	10 50 50.3	
comp=E,6.0nm,4.8s,comp=N,4.0nm,4.3s							
JKEN	**Kujiedanarisaw**	**1.68**	**262**	iP	**Pn**	**10 50 49.3**	**-1.5**
JKEN	**Kujiedanarisaw**	**1.68**	**262**	A	A	10 50 49.3	
comp=E,10.0nm,1.4s,comp=N,7.0nm,0.9s							
MIYJ	**Miyakonagasawa**	**1.80**	**242**	iP	**Pn**	**10 50 51.4**	**-1.2**
MIYJ				eS	**Sn**	**10 51 12.4**	**-3.2**
JANG	**Nango**	**1.81**	**268**	iP	**Pn**	**10 50 51.4**	**-1.2**
JNBK	**Urakawa-nobuka**	**2.02**	**336**	P	**Pn**	**10 50 55.6**	**+0.1**
JNBK				eS	**Sn**	**10 51 20.6**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.02**	**336**	A	A	10 50 55.6	
comp=E,7.0nm,1.7s,comp=N,8.0nm,2.3s							
JAHD	**Aomorihigashid**	**2.10**	**294**	A	A	10 50 55.6	
comp=E,7.0nm,4.0s,comp=N,11nm,1.3s							
JTM	**Tenmabayashi**	**2.17**	**280**	Pn	**Pn**	**10 50 57.1**	**-0.5**
JTM	**Tenmabayashi**	**2.17**	**280**	P	**Pn**	**10 50 57.4**	**-0.2**
OFUJ	**Ofunato**	**2.18**	**232**	A	A	10 50 57.1	
comp=E,4.0nm,4.3s,comp=N,4.0nm,5.3s							
JCH	**Churui**	**2.20**	**350**	P	**Pn**	**10 50 57.9**	**-0.2**
JCH				eS	**Sn**	**10 51 23.9**	**-1.5**
JOM	**Ohasama**	**2.21**	**245**	iP	**Pn**	**10 50 57.9**	**-0.4**
JOM	**Ohasama**	**2.21**	**245**	A	A	10 50 57.9	
comp=E,4.0nm,0.7s,comp=N,6.0nm,0.5s							
JSHD	**Hidakashinhida**	**2.23**	**332**	A	A	10 50 58.3	
comp=E,11nm,1.8s,comp=N,10.0nm,1.6s							
JOT	**Ohata**	**2.34**	**294**	P	**Pn**	**10 50 59.6**	**-0.4**
JOT				eS	**Sn**	**10 51 26.6**	**-2.2**
JOT	**Ohata**	**2.34**	**294**	A	A	10 50 59.6	
comp=E,3.0nm,4.1s,comp=N,3.0nm,2.8s							
JSZI	**Iwateshizukuis**	**2.35**	**254**	A	A	10 50 59.2	
comp=E,11nm,2.5s,comp=N,11nm,2.0s							
JOB	**Onbets**	**2.46**	**359**	A	A	10 51 02.2	
comp=E,5.0nm,5.4s,comp=N,5.0nm,5.4s							
JAH	**Hinai**	**2.49**	**265**	A	A	10 51 01.2	
comp=E,6.0nm,1.2s,comp=N,5.0nm,3.8s							
JMK	**Ichinoseki**	**2.54**	**235**	iP	**Pn**	**10 51 02.4**	**-0.3**
JMK				eS	**Sn**	**10 51 31.2**	**-2.4**
JAK	**Akkeshi**	**2.62**	**13**	P	**Pn**	**10 51 04.0**	**+0.1**
JAK				eS	**Sn**	**10 51 33.6**	**-2.1**
JIAM	**Iburiatsuma**	**2.63**	**327**	A	A	10 51 03.8	
comp=E,10.0nm,1.3s,comp=N,11nm,5.3s							
JSI2	**Shiura 2**	**2.71**	**284**	A	A	10 51 04.3	
comp=E,6.0nm,2.3s,comp=N,7.0nm,1.0s							
JRG	**Rokugo**	**2.71**	**248**	A	A	10 51 04.4	
comp=E,6.0nm,2.3s,comp=N,5.0nm,3.4s							
JNTW	**Noshirotokiwa**	**2.85**	**268**	A	A	10 51 06.2	
comp=E,15nm,2.5s,comp=N,15nm,1.5s							
JAR	**Ashorobuto**	**2.85**	**358**	iP	**Pn**	**10 51 06.5**	**-0.5**
JAR				S	**Sn**	**10 51 39.3**	**-2.1**
JAR	**Ashorobuto**	**2.85**	**358**	A	A	10 51 06.5	
comp=E,3.0nm,0.5s,comp=N,4.0nm,0.7s							
JFR	**Furan**	**2.88**	**341**	A	A	10 51 07.8	
comp=E,3.0nm,3.0s,comp=N,5.0nm,4.1s							
JOFO	**Osakifurukawao**	**2.94**	**232**	A	A	10 51 07.9	
comp=E,18nm,2.8s,comp=N,15nm,2.0s							
JYW	**Yuwa**	**2.96**	**253**	A	A	10 51 08.0	
comp=E,7.0nm,1.4s,comp=N,10.0nm,2.9s							
JEW	**Eniwo**	**3.01**	**324**	P	**Pn**	**10 51 10.3**	**+1.1**
JEW				S	**Sn**	**10 51 45.7**	**+0.4**
JEW	**Eniwo**	**3.01**	**324**	A	A	10 51 10.3	
comp=E,8.0nm,4.1s,comp=N,8.0nm,2.7s							
JYK	**Kaneyama**	**3.12**	**242**	iP	**Pn**	**10 51 10.7**	**0.0**
JOMM	**Oshimamatsumae**	**3.12**	**291**	P	**Pn**	**10 51 11.9**	**+1.1**
NMR	**Nemuro--Hokkai**	**3.23**	**25**	⇑iP	**Pn**	**10 51 11.8**	**-0.4**
NMR				eS	**Sn**	**10 51 47.7**	**-3.0**
NEM2	**Nemuro 2**	**3.23**	**25**	P	**Pn**	**10 51 11.9**	**-0.4**
NEM2				S	**Sn**	**10 51 48.2**	**-2.6**
JOU	**Okura**	**3.24**	**231**	A	A	10 51 12.2	
comp=E,5.0nm,4.3s,comp=N,5.0nm,2.1s							
JAB	**Ashibetsu**	**3.30**	**339**	A	A	10 51 13.7	
comp=E,5.0nm,2.4s,comp=N,7.0nm,3.3s							
JMM	**Marumori**	**3.52**	**224**	Pn	**Pn**	**10 51 14.8**	**-1.4**
JTKR	**Abashiri--Toko**	**3.52**	**0**	iP	**Pn**	**10 51 16.2**	**0.0**
JTKR				S	**Sn**	**10 51 56.6**	**-1.3**
JKK2	**Kamakawa 2**	**3.53**	**347**	P	**Pn**	**10 51 16.6**	**+0.2**
JKK2				eS	**Sn**	**10 51 56.9**	**-1.2**
JHR	**Hokuryu**	**3.67**	**335**	P	**Pn**	**10 51 20.2**	**+2.0**
JOSM	**Okushiri--Mats**	**3.70**	**298**	eP	**Pn**	**10 51 18.9**	**+0.3**
JOSM				eS	**Sn**	**10 52 00.8**	**-1.6**
JYA	**Atsumi**	**3.71**	**241**	A	A	10 51 18.8	
comp=E,5.0nm,5.2s,comp=N,4.0nm,4.0s							
JKA	**Kamikawa-asahi**	**3.79**	**346**	Pn	**Pn**	**10 51 20.3**	**+0.4**
ASAJ	**Asahikawa**	**3.79**	**346**	Pn	**Pn**	**10 51 20.4**	**+0.5**
comp=N,8.2nm,0.3s,baz=200,slow=11,SNR=50							
ASAJ				Sn	**Sn**	**10 52 02.3**	**-2.3**
comp=N,11nm,0.3s,baz=175,slow=28,SNR=2.5							
comp=N,17nm,0.3s							
RUSJ	**Misakicho**	**3.79**	**15**	eP	**Pn**	**10 51 20.4**	**+0.4**
RUSJ				eS	**Sn**	**10 52 04.8**	**+0.1**
JYAR	**Yonezawaarcadi**	**3.85**	**230**	A	A	10 51 20.8	
comp=E,5.0nm,1.1s,comp=N,7.0nm,1.3s							
YUK	**Yuzh-Kuril'sk**	**3.88**	**22**	diP	**Pn**	**10 51 19.5**	**-1.6**
YUK				iS	**Sn**	**10 52 03.3**	**-3.4**
YUK				pmax	pmax		
comp=Z,174nm,0.3s							
YUK				pmax	pmax		
comp=N,23nm,0.2s							
YUK				pmax	pmax		
comp=E,50nm,0.2s							
YUK				smax	smax		
comp=N,1μm,0.4s							
YUK				smax	smax		
comp=E,591nm,0.3s							
SHO	**Shikotan**	**4.07**	**32**	⇑iP	**Pn**	**10 51 22.9**	**-0.8**
SHO				eS	**Sn**	**10 52 06.2**	**-5.1**
SHO				pmax	pmax		
comp=Z,64nm,0.4s							
SHO				pmax	pmax		
comp=E,36nm,0.3s							
SHO				smax	smax		

comp=E,391nm,0.4s
SHO smax smax
comp=N,233nm,0.3s
JSD Sado 4.98 243 Pn **Pn 10 51 36.1 -0.2**
KUR Kuril'sk 5.61 30 *i* P **Pn 10 51 43.7 -1.2**
KUR *i* S **Sn 10 52 46.6 -2.8**
MAJO Matsushiro 5.91 231 Pn **Pn 10 51 49.7 +0.6**
MAJO Matsushiro 5.91 231 P **Pn 10 51 49.2 +0.1**
MAJO Matsushiro 5.91 231 P **Pn 10 51 49.7 +0.6**
MJAR Matsushiro Arr 5.91 231 Pn **Pn 10 51 48.8 -0.3**
comp=N,0.7nm,0.3s,baz=39,slow=11,SNR=43
MJAR LR LR 10 54 13.4
comp=N,284nm,18.8s,baz=180,slow=40
comp=N,20nm,0.7s
MJB9 Matsu-Tunnel 5.91 231 **Pn 10 51 50.4 +1.2**
YSS Yuzh-Sakhalins 6.56 353 Pn **Pn 10 51 57.5 -0.4**
YSS Yuzh-Sakhalins 6.56 353 *e*P **Pn 10 51 55.5 -2.4**
YSS *e*S **Sn 10 53 07.8 -4.9**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS smax smax
comp=E,40nm,0.8s
YSS MLR MLR
comp=Z,1μm,11.0s
INU Inuyama 7.44 229 Pn **Pn 10 52 09.6 -0.4**
INU Inuyama 7.44 229 P **Pn 10 52 11.2 +1.2**
USA0B Ussuriysk Arra 9.57 297 Pn **Pn 10 52 39.2 -0.1**
USA0B Ussuriysk Arra 9.57 297*c i*P **Pn 10 52 40.8 +1.5**
USRK Ussuriysk Ar. 9.57 297 Pn **Pn 10 52 39.2 0.0**
USRK Ussuriysk Ar. 9.57 297 Pn **Pn 10 52 40.6 +1.4**
comp=Z,2.4nm,0.3s,baz=94,slow=14,SNR=42
USRK LR LR 10 56 22.4
comp=Z,338nm,19.1s,baz=107,slow=38
comp=Z,19nm,0.6s
JMN Monobe 10.42 233 Pn **Pn 10 52 49.8 -1.2**
MDJ Mudanjiang 11.34 296 P **Pn 10 53 04.0 +0.6**
MDJ pP 10 53 06.5
MDJ sP 10 53 08.3
MDJ PP **PnPn 10 53 11.0 0.0**
MDJ S **Sn 10 55 07.5 -2.6**
MDJ sS 10 55 15.5
MDJ pmax pmax
comp=Z,38nm,0.9s
MDJ pmax pmax
comp=Z,310nm,6.5s
MDJ LR LR
comp=Z,800nm,14.1s
MDJ LR LR
comp=Z,1μm,10.8s
MDJ LR LR
comp=Z,1μm,17.3s
MDJ Mudanjiang 11.34 296 Pn **Pn 10 53 03.0 -0.4**
KLR Kul'dur 12.29 320*c i*P **Pn 10 53 16.8 +0.4**
KLR Kul'dur 12.29 320 Pn **Pn 10 53 16.1 -0.3**
comp=Z,0.1nm,0.3s,baz=123,slow=12,SNR=8.4
KLR LR LR 10 58 16.3
comp=Z,131nm,20.1s,baz=130,slow=39
comp=Z,8.6nm,1.1s
JNU Nakatsue 12.72 239 Pn **Pn 10 53 22.1 -0.4**
JNU Nakatsue 12.72 239 Pn **Pn 10 53 21.8 -0.7**
comp=Z,0.4nm,0.3s,baz=336,slow=4.5,SNR=5.3
JNU LR LR 10 58 40.1
comp=Z,460nm,18.7s,baz=44,slow=40
comp=Z,6.1nm,0.8s
KSRS Korea Array 12.78 262 Pn **Pn 10 53 24.5 +1.4**
comp=Z,0.3nm,0.3s,baz=77,slow=12,SNR=12
KSRS LR LR 10 57 56.6
comp=Z,338nm,19.0s,baz=75,slow=36
comp=Z,2.9nm,0.9s
KS19 Wonju Array Si 12.80 262 Pn **Pn 10 53 22.8 -0.8**
KSAR Wonju Array Be 12.81 262 Pn **Pn 10 53 23.2 -0.3**
KSAR Wonju Array Be 12.81 262 P **Pn 10 53 23.3 -0.3**
BNX BinXian 13.15 299 ⇑P **Pn 10 53 28.5 +0.4**
BNX pmax pmax
comp=Z,20nm,1.1s
BNX pmax pmax
comp=Z,320nm,6.2s
CN2 Changchun 14.08 290 *e*P **Pn 10 53 39.3 -1.7**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,520nm,14.0s
CN2 LR LR
comp=Z,520nm,14.0s
CN2 LR LR
comp=Z,610nm,15.0s
PETK Petropavlovsk- 15.78 32 Pn **Pn 10 54 04.8 +1.2**
comp=Z,2.4nm,0.8s,baz=219,slow=8.7,SNR=1.9
ZEA Zeya 17.40 325 *e*P P 10 54 35.9 +10
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 19.18 305 P **P 10 54 43.5 -1.7**
HIA Hailar 19.18 305 P **P 10 54 43.5 -1.7**
HIA pmax pmax
comp=Z,13nm,0.7s
XLT XiLinHaoTe 20.85 289 *e*P **P 10 55 03.5 +0.1**
XLT pP pP 10 55 06.8 +1.5
XLT sP pwP 10 55 10.3 +0.7
XLT pmax pmax
comp=Z,8.0nm,1.0s
XLT pmax pmax
comp=Z,240nm,8.0s
BJI Beijing 21.12 278 P **P 10 55 04.0 -2.3**
BJI pP **pP 10 55 08.0 -0.1**
BJI pmax pmax
comp=Z,4.0nm,0.9s
BJI pmax pmax
comp=Z,170nm,6.0s
BJT Baijiatuau 21.13 278 P **P 10 55 03.1 -3.3**
BJT Baijiatuau 21.13 278 P **P 10 55 03.1 -3.3**
BJT pmax pmax
comp=Z,12nm,0.9s
TIA Tai'an 21.38 267 P **P 10 55 07.5 -1.6**
TIA pmax pmax
comp=Z,10.0nm,0.8s
NJ2 Nanjing 21.80 255 *e*P P 10 55 02.0 -12
NJ2 pP pP 10 55 14.3 -1.1
NJ2 pmax pmax
comp=Z,17nm,0.5s
NJ2 pmax pmax
comp=Z,290nm,4.3s
HNS HongShan 22.85 272 ⇓P **P 10 55 22.5 -2.3**
HNS pmax pmax
comp=Z,13nm,0.9s
SEY Seymchan 23.09 10⇑ *e*P **P 10 55 25.9 -1.1**
SEY pmax pmax
comp=Z,4.0nm,0.6s
SEY Seymchan 23.09 10 LR LR 11 03 57.2
comp=Z,134nm,18.4s,baz=152,slow=35
YAK Yakutsk 23.27 343 P **P 10 55 25.8 -3.0**
YAK Yakutsk 23.27 343 *e*P **P 10 55 26.5 -2.3**
YAK *e**PP **pP 10 55 29.4 -1.2**
YAK *e* 10 55 52.4
YAK *e*PPP PPP 10 56 16.1
YAK *e*S **S 10 59 39.8 -1.1**
YAK *e*SS **SnSn 11 00 14.9 +0.2**
YAK pmax pmax
comp=Z,8.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,911nm,7.7s
YAK pmax pmax
comp=N,907nm,8.4s
YAK pmax pmax
comp=E,943nm,7.4s
YAK smax smax
comp=N,1μm,7.3s
YAK smax smax
comp=E,529nm,7.0s
HHC Hu-ho-hao-te 24.45 282 *e*P **P 10 55 40.5 -0.1**
HHC pmax pmax
comp=E,11nm,0.8s
HHC pmax pmax
comp=E,590nm,6.0s
HHC LR LR
comp=E,580nm,17.0s
HHC LR LR
comp=E,910nm,17.0s
HHC LR LR
comp=E,940nm,17.9s
YULB Yu-li 25.51 235 P **P 10 55 50.0 -0.1**
LYN LuoYang 25.52 267 ⇓P **P 10 55 50.8 +0.7**
LYN S **S 11 00 20.3 +2.7**
LYN pmax pmax
comp=E,34nm,1.0s
LYN pmax pmax
comp=E,420nm,7.2s
LYN LR LR
comp=E,700nm,7.6s
LYN LR LR
comp=E,740nm,12.0s
LYN LR LR
comp=E,800nm,9.6s
BTO Baotou 25.65 281 *e*P **P 10 55 51.0 -0.4**
BTO pP **pP 10 55 55.5 +2.1**
BTO sP **pwP 10 55 58.0 +0.4**
BTO PP **PnPn 10 56 30.3 +3.0**
BTO S **S 11 00 21.5 +1.8**
BTO pmax pmax
comp=E,39nm,0.6s
BTO pmax pmax
comp=E,610nm,5.9s
BTO LR LR
comp=E,1μm,8.3s
BTO LR LR
comp=E,1μm,8.8s
BTO LR LR
comp=E,700nm,7.6s
BOD Bodaibo 25.84 322 *e*P **P 10 55 52.8 0.0**
BOD pmax pmax
comp=Z,36nm,1.0s
ULN Ulaanbaatar 27.24 298 P **P 10 56 05.6 -0.2**
ULN IAmb IAmb 10 56 10.3
comp=Z,11nm,1.1s
ULN Ulaanbaatar 27.24 298*c e*P **P 10 56 05.8 0.0**
ULN pmax pmax
comp=Z,10.0nm,1.1s
SONM Songino Array 27.68 298 P **P 10 56 08.9 -0.8**
SONM Songino Array 27.68 298 P **P 10 56 09.1 -0.6**
comp=Z,1.7nm,0.5s,baz=95,slow=8.9,SNR=12
SONM LR LR 11 07 59.8
comp=Z,194nm,18.5s,baz=62,slow=38
comp=Z,1.7nm,0.5s
XAN Xi'an 28.43 268 ⇑P **P 10 56 16.8 +0.5**
XAN pP pwP 10 56 22.8 +0.2
XAN pmax pmax
comp=Z,12nm,0.8s
H11N2 WAKE ISLAND Hy 28.53 130 T T 11 27 28.9
baz=318,slow=74,SNR=30
H11N1 WAKE ISLAND Hy 28.54 130 T T 11 27 20.6
baz=318,slow=74,SNR=30
H11N3 WAKE ISLAND Hy 28.55 130 T T 11 27 33.4
baz=318,slow=74,SNR=32
ADK Adak 29.26 54 P **P 10 56 24.0 +0.5**
ADK Adak 29.26 54 P **P 10 56 24.0 +0.5**
ADK pmax pmax
comp=Z,105nm,1.3s
ZAK Zakamensk 29.84 303 *e*P **P 10 56 25.9 -2.9**
ZAK pmax pmax
comp=Z,5.0nm,1.2s
MOY Mondy 31.37 305 *e*P **P 10 56 45.4 +3.1**
MOY pmax pmax
comp=Z,18nm,1.8s
TIXI Tiksi 32.18 351 P **P 10 56 48.9 -0.1**
TIXI Tiksi 32.18 351 P **P 10 56 48.9 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
GTA Gaotai 33.55 283 *e*P **P 10 57 02.3 +0.8**
GTA pmax pmax
comp=Z,16nm,1.1s
CD2 Chengdu 33.71 266 P **P 10 57 02.5 -0.4**
CD2 S **S 11 02 25.8 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,440nm,6.6s
CD2 LR LR
comp=Z,490nm,12.8s
CD2 LR LR
comp=Z,360nm,14.7s
CD2 LR LR
comp=Z,380nm,12.8s
GYA Guiyang 33.78 257⇓ *i*P **P 10 57 03.8 +0.1**
GYA pmax pmax
comp=Z,21nm,0.8s
GYA LR LR
comp=Z,590nm,12.4s
PZH PanZhiHua 37.45 261 P **P 10 57 35.3 +0.1**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
KMI Kunming 37.45 259 ⇓P **P 10 57 35.3 -0.1**
KMI pmax pmax
comp=Z,21nm,1.1s
KMI LR LR
comp=Z,410nm,14.1s
KMI LR LR
comp=Z,260nm,16.1s
KMI LR LR
comp=Z,330nm,17.4s
GOMU GeErMu 38.33 280 P **P 10 57 43.5 +0.6**
GOMU pmax pmax
comp=Z,6.0nm,0.9s
DGZ Jazzator, Alta 40.06 303*c i*P **P 10 57 57.8 +0.9**
DGZ pmax pmax
comp=Z,15nm,0.8s
WMQ Urumqi 41.12 294 *e*P **P 10 58 06.5 +0.8**
WMQ pP sP 10 58 11.0 +2.5
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=Z,190nm,16.1s
ZAA0 Zalesovo Array 41.14 310 P **P 10 58 05.9 +0.4**
ZAA0 IAmb IAmb 10 58 16.7
comp=Z,7.8nm,0.7s
ZALV Zalesovo Beam 41.14 310 P **P 10 58 06.1 +0.6**
ZALV Zalesovo Beam 41.14 310 P **P 10 58 05.4 -0.1**
comp=Z,5.8nm,0.6s,baz=89,slow=7.9,SNR=23
ZALV PcP **PcP 11 00 05.2 +0.5**
comp=Z,0.9nm,0.5s,baz=109,slow=1.5,SNR=1.7
comp=Z,5.8nm,0.6s
L18K Granite Mounta 41.17 38 P **P 10 58 05.7 -0.1**
L18K IAmb IAmb 10 58 29.4
comp=Z,20nm,1.2s
H19K Roundabout Mou 41.58 33 P **P 10 58 09.7 +0.7**
H19K IAmb IAmb 10 58 27.0
comp=Z,10nm,0.8s
CRAI Chiangrai 42.10 255 P **P 10 58 14.1 +0.2**
CRAI IAmb IAmb 10 58 19.2
comp=Z,9.3nm,0.9s
MK31 Makanchi Array 44.03 300 P **P 10 58 29.5 +0.3**
MK31 IAmb IAmb 10 58 30.1
comp=Z,10nm,0.9s
MK31 Makanchi Array 44.03 300 P **P 10 58 29.5 +0.3**
MK31 pmax pmax
comp=Z,10.0nm,0.9s
MKAR Makanchi Array 44.03 300 P **P 10 58 29.5 +0.3**
MKAR Makanchi Array 44.03 300 P **P 10 58 29.5 +0.3**
MKAR Makanchi Array 44.03 300 P **P 10 58 29.1 -0.1**
comp=Z,8.3nm,0.8s,baz=82,slow=9.9,SNR=33
MKAR LR LR 11 19 53.4
comp=Z,90nm,18.8s,baz=60,slow=40
comp=Z,8.3nm,0.8s
CHTO Chiang Mai 44.04 254 P **P 10 58 29.1 -0.4**
CHTO IAmb IAmb 10 58 54.0
comp=Z,7.3nm,1.2s
CHTO Chiang Mai 44.04 254 P **P 10 58 29.1 -0.4**
CHTO pmax pmax
comp=Z,7.0nm,1.2s
MAKZ Makanchi 44.23 300 P **P 10 58 30.7 -0.1**
MAKZ IAmb IAmb 10 58 32.4
comp=Z,12nm,0.9s
MAKZ Makanchi 44.23 300 P **P 10 58 30.7 -0.1**
MAKZ pmax pmax
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 44.26 254 P **P 10 58 30.3 -1.0**
CMAR Chiang Mai Arr 44.26 254 P **P 10 58 31.9 +0.5**
comp=Z,1.0nm,0.5s,baz=39,slow=7.8,SNR=6.8
comp=Z,1.0nm,0.5s
KURK Kurchatov 45.42 306 P **P 10 58 40.4 +0.2**
KURK Kurchatov 45.42 306 P **P 10 58 40.6 +0.4**
KURBB Kurchatov Arra 45.50 306 P **P 10 58 40.6 -0.2**
comp=Z,8.1nm,0.6s,baz=79,slow=8.6,SNR=40
comp=Z,8.1nm,0.6s
ILAR Eielson Array 45.59 34 P **P 10 58 42.8 +1.4**
comp=Z,0.5nm,0.6s,baz=257,slow=6.4,SNR=9.7
comp=Z,0.5nm,0.6s
JIRN Jiri 48.68 274 *e*P **P 10 59 09.6 +3.2**
comp=Z,15nm,0.6s
JIRN Jiri 48.68 274 *e*P **P 10 59 05.4 -1.0**
comp=Z,15nm,0.6s
TARG Taragay, Kyrgy 48.69 294 P **P 10 59 06.0 -0.3**
TARG IAmb IAmb 10 59 27.3
comp=Z,9.2nm,1.0s
TARG Taragay, Kyrgy 48.69 294 P **P 10 59 06.0 -0.3**
TARG pmax pmax
comp=Z,9.0nm,1.0s
RAMN Ramite 48.74 272 *e*P **P 10 59 07.2 +0.5**
comp=Z,27nm,0.7s
RAMN Ramite 48.74 272 *e*P **P 10 59 07.1 +0.4**
comp=Z,27nm,0.7s
GUN Gumba 48.79 274 *e*P **P 10 59 11.1 +3.9**
comp=Z,35nm,0.5s
GUN Gumba 48.79 274 *e*P **P 10 59 05.1 -2.1**
comp=Z,35nm,0.5s
PKI Pulchoki 49.32 274 *e*P **P 10 59 12.6 +1.3**
comp=Z,15nm,0.7s
PKI Pulchoki 49.32 274 *e*P **P 10 59 09.8 -1.5**
comp=Z,15nm,0.7s
BVAR Borovoye Array 49.76 311 P **P 10 59 14.3 +0.4**
comp=Z,5.9nm,0.8s,baz=80,slow=8.1,SNR=15
BVAR LR LR 11 22 00.1
comp=Z,178nm,19.1s,baz=35,slow=38
comp=Z,5.9nm,0.8s
BRVK Borovoye 49.81 311 P **P 10 59 14.3 +0.1**
BRVK Borovoye 49.81 311⇑ *i*P **P 10 59 14.8 +0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
DANN Dangsing 50.18 276 *e*P **P 10 59 18.0 +0.2**
comp=Z,52nm,0.6s
DANN Dangsing 50.18 276 *e*P **P 10 59 15.7 -2.1**
comp=Z,52nm,0.6s
HYT Haines Junctio 50.42 39 P **P 10 59 19.1 +0.1**
HYT IAmb IAmb 10 59 39.4
comp=Z,12nm,1.0s
INK Inuvik 50.47 29 P **P 10 59 20.5 +1.5**
INK IAmb IAmb 10 59 36.5
comp=Z,4.1nm,0.7s
INK Inuvik 50.47 29 P **P 10 59 20.5 +1.5**
INK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 50.62 297 P **P 10 59 20.9 +0.1**
AAK Ala-Archa 50.62 297 P **P 10 59 20.9 +0.1**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 50.62 297 LR LR 11 21 53.8
comp=Z,138nm,18.0s,baz=66,slow=37
KSH Kashi 50.83 292 P **P 10 59 25.8 +3.4**
KSH pmax pmax
comp=Z,5.0nm,0.7s
PYUN Piuthan 50.89 276 *e*P **P 10 59 22.9 -0.1**
comp=Z,37nm,1.0s
PYUN Piuthan 50.89 276 *e*P **P 10 59 21.1 -1.9**
comp=Z,37nm,1.0s
KK31 Karatay Array 53.13 299 P **P 10 59 39.1 -0.2**
KK31 Karatay Array 53.13 299 P **P 10 59 39.1 -0.2**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 53.13 299 P **P 10 59 38.8 -0.5**
KKAR Karatay Array 53.13 299 P **P 10 59 38.8 -0.5**
BATI Baumata 53.76 205 LR LR 11 21 09.7
comp=Z,46nm,21.4s,baz=50,slow=34
ARU Arti 55.12 318 LR LR 11 26 17.0
comp=Z,205nm,20.8s,baz=350,slow=39
NIL Nilore 55.42 287 P **P 10 59 56.1 +0.1**
NIL Nilore 55.42 287 P **P 10 59 56.2 +0.1**
NIL pmax pmax
comp=Z,21nm,0.8s
ABKAR Akbulak array 57.25 309 P **P 11 00 09.0 +0.1**
ABKAR IAmb IAmb 11 00 20.4
comp=Z,17nm,1.4s
SPITS Spitsbergen Ar 57.55 349 P **P 11 00 12.7 +2.0**
comp=Z,10nm,1.1s,baz=36,slow=13,SNR=1.5
SPITS LR LR 11 27 46.3
comp=Z,137nm,18.2s,baz=344,slow=39
comp=Z,10nm,1.1s
YKA Yellowknife Ar 59.90 32 P **P 11 00 28.0 +0.9**
comp=Z,0.7nm,0.8s,baz=305,slow=6.9,SNR=2.5
comp=Z,0.7nm,0.8s
WRA Warramunga Arr 60.73 190 *i* P **P 11 00 33.2 0.0**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 60.73 190 P **P 11 00 32.6 -0.7**
comp=Z,1.0nm,0.6s,baz=8.4,slow=6.8,SNR=6.8
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 61.49 339 LR LR 11 33 16.0
comp=Z,105nm,18.8s,baz=274,slow=42
DAG Danmarks Havn 62.54 356 *i* P **P 11 00 45.0 +0.2**
BELG Belogornoye 62.63 317⇑ *i*P **P 11 00 45.7 -0.1**
BELG pmax pmax
comp=Z,2.0nm,0.6s
BELG Belogornoye 62.63 317 LR LR 11 30 57.3
comp=Z,174nm,18.6s,baz=142,slow=39
GEYT Alibeck 63.89 299 P **P 11 00 54.4 0.0**
comp=Z,3.3nm,0.6s,baz=64,slow=4.3,SNR=6.5
comp=Z,3.3nm,0.6s
ASAR Alice Springs 64.45 190 P **P 11 00 58.7 +0.6**
comp=Z,0.7nm,0.7s,baz=3.5,slow=6.6,SNR=4.1
comp=Z,0.7nm,0.7s
PALK Pallekele 64.98 258 LR LR 11 32 03.6
comp=Z,49nm,18.9s,baz=59,slow=39
OBN Obninsk 66.52 323 *e*P **P 11 01 11.2 +0.1**
OBN pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 66.69 332 *i* P **P 11 01 12.5 +0.4**
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 66.69 332 P **P 11 01 11.6 -0.5**
comp=Z,4.5nm,0.7s,baz=20,slow=6.3,SNR=7.3
comp=Z,4.5nm,0.7s
ZEI Tsey 70.12 310 *e*P **P 11 01 33.6 -0.6**
ZEI pmax pmax
comp=Z,3.0nm,0.7s
KIV Kislovodsk 70.12 311 *e*P **P 11 01 35.0 +0.9**
KIV pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 70.14 311*c e*P **P 11 01 34.8 +0.8**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 70.14 311 P **P 11 01 34.5 +0.5**
comp=Z,4.3nm,0.8s,baz=50,slow=6.3,SNR=7.8
comp=Z,4.3nm,0.8s
NACGM Naroch 70.93 327 PP PP 11 04 20.4 +5.3
baz=46
NVAR Mina Array Bea 71.43 55 P **P 11 01 43.4 +1.1**
comp=Z,0.8nm,0.7s,baz=276,slow=4.8,SNR=6.9
comp=Z,0.8nm,0.7s
HFS Hagfors 71.76 336 P **P 11 01 42.9 -0.6**
comp=Z,4.8nm,0.8s,baz=104,slow=11,SNR=4.8
comp=Z,4.8nm,0.8s
NB2 NORSAR Subarra 71.77 338 P **P 11 01 43.8 +0.1**
comp=Z,4.8nm,0.9s,baz=37,slow=6.2
NOA NORSAR Array B 71.77 338 P **P 11 01 43.9 +0.1**
comp=Z,3.1nm,0.8s,baz=37,slow=6.0,SNR=11
comp=Z,3.1nm,0.8s
SFJD Kangerlussuaq 72.31 6 LR LR 11 38 26.2
comp=Z,64nm,18.4s,baz=358,slow=40
PDAR Pinedale Array 73.92 47 P **P 11 01 57.5 +0.4**
comp=Z,0.3nm,0.6s,baz=178,slow=0.1,SNR=3.9
comp=Z,0.3nm,0.6s
BRTR Keskin Array B 78.01 312 P **P 11 02 20.6 +0.3**
comp=Z,0.7nm,0.8s,baz=54,slow=3.7,SNR=2.3
comp=Z,0.7nm,0.8s
CLL Collm 79.07 331 *i* P **P 11 02 26.2 +0.5**
CLL *i* 11 02 38.5
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 79.08 331 *i* P Pg 11 02 26.2 +0.2
comp=Z,5.0nm,0.9s
VRAC Vranov 79.28 328 LR LR 11 41 47.0
comp=Z,141nm,18.0s,baz=16,slow=39
EKA Eskdalemuir Ar 80.53 342 P **P 11 02 34.0 +0.4**
comp=Z,2.5nm,0.8s,baz=21,slow=6.1,SNR=2.5
comp=Z,2.5nm,0.8s
GERES GERESS Array B 80.80 329 P **P 11 02 34.8 -0.5**
comp=Z,0.6nm,0.3s,baz=57,slow=4.9,SNR=4.1
comp=Z,0.6nm,0.3s
DAVOX Davos/Dischmat 83.97 330 LR LR 11 42 57.2
comp=Z,94nm,18.2s,baz=310,slow=38
PPT Papeete 84.50 118 LR LR 11 40 52.5
comp=Z,56nm,18.6s,baz=324,slow=36
TXAR Lajitas Array 86.53 54 P **P 11 03 06.0 +0.9**

TXAR	**Lajitas Array**	**86.53**	**54**	P	**P**	**11 03 06.0**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=295,slow=3.9,SNR=4.7						
	comp=Z,0.2nm,0.7s						
ESDC	**Sonseca Array**	**95.03**	**336**	LR	LR	11 50 52.9	
	comp=Z,94nm,18.1s,baz=27,slow=38						
QSPA	**South Pole Qui**	**130.18**	**180**	PKP	**PKiKP**	**11 09 31.3**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=301,slow=9.4,SNR=1.1						
SNAA	**Sanae**	**144.57**	**197**	PKP	**PKPdf**	**11 09 56.0**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=178,slow=8.5,SNR=8.4						

*IDC **25** 10:54:28.1±0.9, 0°.63N×126°.23E, h0km, mb3.9/8, mbtmp4.0/8, Error ellipse: s-maj=77.7km s-min=17.9km az=68.0*
*DJA **25** 10:54:35.1±0.5, 1°.N±5°.×12°.6E±°, h65km±16km, M3.7/8, MLv3.7/8*
ISC 25 10:54:34.3±0.8, **0°.67N**±0°.08×**126°.13E**±0°.07, **h44**km, **n14**, σ**1**§**31**/13, **mb3.9**/8, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.24**	**85**	P	**Pn**	**10 54 56.7**	**+1.5**
TNTI				S	**Sn**	**10 55 11.2**	**+0.4**
LBMI	**Labuha**	**1.89**	**133**	P	**Pn**	**10 55 03.7**	**-0.4**
KMSI	**Cibinong**	**2.15**	**267**	P	**Pn**	**10 55 08.7**	**+1.1**
SGSI	**Sangihe**	**3.06**	**349**	P	**Pn**	**10 55 18.5**	**-1.6**
GTOI	**Gorontalo**	**3.12**	**269**	P	Pn	10 55 25.6	+4.7
LUWI	**Luwuk**	**3.76**	**243**	P	Pn	10 55 34.2	+4.4
WRA	**Warramunga Arr**	**22.01**	**159**	P	**P**	**10 59 22.8**	**-2.2**
	4.1nm,0.8s,baz=338,slow=11,SNR=33						
	4.1nm,0.8s						
ASAR	**Alice Springs**	**25.34**	**163**	P	**P**	**10 59 56.8**	**-0.4**
	2.1nm,0.8s,baz=330,slow=9.1,SNR=27						
	2.1nm,0.8s						
STKA	**Stephens Creek**	**35.53**	**157**	P	**P**	**11 01 26.3**	**-0.9**
	1.6nm,0.8s,baz=323,slow=10,SNR=3.6						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**59.73**	**327**	P	**P**	**11 04 34.3**	**-0.4**
	0.5nm,0.6s,baz=141,slow=7.8,SNR=4.8						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**63.99**	**328**	P	**P**	**11 05 04.4**	**+1.3**
	2.0nm,0.2s,baz=133,slow=6.2,SNR=4.1						
	2.0nm,0.2s						
BVAR	**Borovoye Array**	**69.56**	**328**	P	**P**	**11 05 40.4**	**+1.8**
	1.0nm,0.8s,baz=114,slow=6.5,SNR=4.0						
	1.0nm,0.8s						
ILAR	**Eielson Array**	**88.11**	**25**	P	**P**	**11 07 20.3**	**+0.3**
	0.2nm,0.7s,baz=251,slow=4.3,SNR=1.3						
	0.2nm,0.7s						
QSPA	**South Pole Qui**	**90.60**	**180**	P	**P**	**11 07 31.7**	**-0.1**
	1.3nm,1.1s,baz=252,slow=4.9,SNR=5.6						
	1.3nm,1.1s						

*GEN **25** 11:00:04.6, 45°.45N×6°.38E, h4km±2km, Ml0.7*
*LDG **25** 11:00:05.4±0.1, 45°.42N×6°.35E, h2km, Md1.9/2, Ml2.1/9, Error ellipse: s-maj=1.2km s-min=1.0km az=68.0*
STR 25 11:00:05.2±0.3, **45°N**±2°×°±°, **h9**km±4km, **MLv1.6**/19, **Error ellipse: s-maj=0.0km s-min=0.0km az=60.8, preliminary, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	**La Plagne**	**0.30**	**71**	*e*Pg	Pg	11 00 11.0	-0.3
LPL				*e*Sg	Sg	11 00 14.8	-0.5
	22nm,0.3s						
LPG	**La Plagne**	**0.31**	**75**	*e*Pg	Pg	11 00 11.1	-0.3
LPG				*e*Sg	Sg	11 00 15.2	-0.4
	21nm,0.3s						
OGMO	**Fort Saint-Gob**	**0.33**	**130**	P	Pg	11 00 12.0	+0.3
OGMO				S	Sg	11 00 16.6	+0.6
OGMO	**Fort Saint-Gob**	**0.33**	**130**	Pg	Pg	11 00 11.9	+0.2
OGMO				Sg	Sg	11 00 16.8	+0.8
RSL	**Roselend**	**0.34**	**37**	P	Pg	11 00 11.4	-0.6
RSL				S	Sg	11 00 15.7	-0.9
RSL	**Roselend**	**0.34**	**37**	Pg	Pg	11 00 11.4	-0.6
RSL				Sg	Sg	11 00 15.7	-0.9
BNI	**Bardonecchia**	**0.44**	**146**	P	Pg	11 00 13.9	+0.1
BNI				S	Sg	11 00 20.1	+0.4
GRN	**Grenoble**	**0.45**	**247**	Pg	Pg	11 00 13.8	-0.1
GRN				Sg	Sg	11 00 20.7	+0.8
OGSM	**Saint Maurice**	**0.48**	**294**	Pg	Pg	11 00 14.6	0.0
LSD	**Lago del Serru**	**0.57**	**86**	P	Pg	11 00 16.3	0.0
LSD				S	Sg	11 00 23.0	-0.7
LSD	**Lago del Serru**	**0.57**	**86**	Pg	Pg	11 00 16.1	-0.2
ORIF	**Oris-en-Rattie**	**0.59**	**213**	*e*Pg	Pg	11 00 16.0	-0.7
ORIF				*e*Sg	Sg	11 00 23.5	-1.0
	10nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.59**	**213**	Pg	Pg	11 00 16.3	-0.4
ORIF	**Oris-en-Rattie**	**0.59**	**213**	Sg	Sg	11 00 24.0	-0.4
RRL	**Rocca Remolon**	**0.59**	**147**	P	Pg	11 00 17.2	+0.5
RRL				S	Sg	11 00 25.1	+0.5
RRL	**Rocca Remolon**	**0.59**	**147**	Pg	Pg	11 00 17.1	+0.4
RRL	**Rocca Remolon**	**0.59**	**147**	Sg	Sg	11 00 25.0	+0.4
MRGE	**Morge**	**0.62**	**55**	P	Pg	11 00 17.0	-0.3
RSP	**Reno Superiore**	**0.71**	**112**	Pg	Pg	11 00 19.1	+0.2
RSP	**Reno Superiore**	**0.71**	**112**	Sg	Sg	11 00 27.8	-0.5
REMY	**Saint-Rhmy-en**	**0.72**	**54**	P	Pg	11 00 18.6	-0.4
REMY				S	Sg	11 00 27.4	-1.1
REMY	**Saint-Rhmy-en**	**0.72**	**54**	Pg	Pg	11 00 18.8	-0.3
MBDF	**Montbardon**	**0.76**	**155**	*e*Pg	Pg	11 00 20.0	+0.2
MBDF				*e*Sg	Sg	11 00 29.7	0.0
	2.9nm,0.2s						
OG35	**Corcelles**	**0.82**	**320**	Pg	Pg	11 00 20.9	-0.2
OG35				Pn	Pn	11 00 23.2	+0.2
OG35				Sn	Sn	11 00 35.5	+0.2
SALAN	**Lac Salanfe**	**0.85**	**32**	P	Pg	11 00 21.1	-0.6
BHB	**Bricherasio**	**0.88**	**131**	Pn	Pn	11 00 23.5	-0.2
CREF	**Crivoux**	**0.89**	**166**	Pg	Pg	11 00 22.2	-0.2
CREF				Sg	Sg	11 00 34.4	+0.4
OGAG	**Argentiere**	**0.97**	**171**	P	Pg	11 00 17.8	-6.1
OGAG	**Argentiere**	**0.97**	**171**	Pg	Pg	11 00 17.8	-6.2
PZZ	**Stroppo**	**1.07**	**148**	Pg	Pg	11 00 24.9	-0.8
GIMEL	**St. Georges /**	**1.12**	**358**	Pg	Pg	11 00 26.6	-0.1
GIMEL	**St. Georges /**	**1.12**	**358**	Sg	Sn	11 00 43.5	+0.8
CABF	**La Chapelle**	**1.21**	**352**	*e*Pg	Pb	11 00 28.1	-0.1
CABF	**La Chapelle**	**1.21**	**352**	*e*P	Pg	11 00 29.1	+0.8
CABF				*e*Sg	Sg	11 00 44.1	+0.1
	1.4nm,0.2s						
SSB	**Saint Sauveur**	**1.27**	**264**	Pg	Pg	11 00 29.7	+0.1
SSB				Sg	Sb	11 00 45.6	0.0
VIVF	**Saint-Julien-l**	**1.30**	**245**	*e*Pg	Pb	11 00 29.9	+0.1
VIVF				*e*Sg	Sg	11 00 46.9	-0.1
	4.6nm,0.2s						
RIVEL	**MONT RIVEL**	**1.37**	**348**	Pn	Pg	11 00 32.0	+0.5
RIVEL				Sn	Sg	11 00 49.8	+0.5
BRANT	**Les Verrieres**	**1.52**	**4**	Pg	Pg	11 00 34.3	-0.1
SMRF	**Simiane la Rot**	**1.54**	**201**	*e*Pg	Pg	11 00 34.8	+0.1
SMRF				*e*Sg	Sg	11 00 55.3	+0.7
	1.8nm,0.3s						
TRIGF	**Trigance**	**1.67**	**178**	Pg	Pg	11 00 38.4	+1.2
BOUC	**Bouclans**	**1.83**	**358**	Pg	Pg	11 00 39.7	-0.6
CHMF	**Charmoille**	**1.84**	**7**	Pn	Pn	11 00 37.8	+0.8
CHMF				Pg	Pg	11 00 39.9	-0.6
CHMF				Sn	Sn	11 00 59.4	-1.1
CHMF				Sg	Sg	11 01 04.8	+0.4
SMF	**Signal de Mont**	**2.12**	**306**	*e*Pg	Pb	11 00 44.5	+0.7
SMF				*e*Sg	Sb	11 01 11.7	+1.4
	2.3nm,0.2s						
HINF	**Hinteralfeld**	**2.43**	**8**	*e*Sg	Sg	11 01 21.8	-1.3
	1.4nm,0.2s						
AVF	**Avril sur Loir**	**2.48**	**305**	*e*Pg	Pg	11 00 52.4	-0.4
AVF				*e*Sg	Sb	11 01 21.9	+1.3
	3.2nm,0.5s						
LOR	**Lormes**	**2.52**	**318**	*e*Pn	Pn	11 00 45.8	-0.5
LOR				*e*Sn	Sn	11 01 15.6	-1.5
LOR				*e*Sg	Sg	11 01 24.6	-1.5
	3.3nm,0.3s						
SSF	**Saint Saulge**	**2.56**	**311**	*e*Sg	Sg	11 01 25.5	-1.8
	1.2nm,0.3s						
HAU	**Haudompre**	**2.59**	**0**	*e*Pg	Pb	11 00 53.0	+1.3
	4.7nm,0.4s						
HAU				*e*Sg	Sg	11 01 26.2	-2.1

*IDC **25** 11:19:58.9±1.4, 37°.24N×74°.98E, h0km, mb3.8/7, mbtmp3.7/9, ML3.0/2, Error ellipse: s-maj=30.8km s-min=25.9km az=180.0*
*NNC **25** 11:20:02.4±2.9, 37°.13N×74°.82E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=26.9km s-min=22.0km az=87.0*
ISC 25 11:20:03.4±0.8, **36°.98N**±0°.08×**75°.1E**±0°.1, **h35**km, **n20**, σ**1**§**50**/23, **mb3.7**/7, **3C-2D, Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.25**	**349**	⇓Pn	**Pn**	**11 21 20.2**	**+0.5**
	0.7nm,0.7s						
AML				⇑Sn	**Sn**	**11 22 21.3**	**+2.2**
	2.2nm,0.6s						
TKM2	**Tokmak 2**	**5.95**	**4**	⇓Pn	**Pn**	**11 21 29.7**	**+0.6**
	3.9nm,0.5s						
TKM2				⇑Sn	**Sn**	**11 22 38.7**	**+2.6**
	12nm,0.7s						
KK31	**Karatay Array**	**7.04**	**332**	Pn	**Pn**	**11 21 44.2**	**+0.3**
	2.0nm,0.7s,baz=140,slow=13,SNR=17						
KK31				⇑Sn	**Sn**	**11 23 02.5**	**-0.2**
	6.5nm,0.7s,baz=155,slow=23,SNR=5.3						
PYUN	**Piuthan**	**11.10**	**141**	*e*P	**Pn**	**11 22 40.1**	**+0.3**
	11nm,0.4s						
MKAR	**Makanchi Array**	**11.18**	**26**	Pn	**Pn**	**11 22 39.5**	**-1.2**
	0.1nm,0.3s,baz=217,slow=14,SNR=2.2						
	0.2nm,0.4s						
DANN	**Dangsing**	**11.30**	**137**	*e*P	**Pn**	**11 22 43.4**	**+0.7**
	10nm,0.4s						
DANN	**Dangsing**	**11.30**	**137**	*e*P	**Pn**	**11 22 43.0**	**+0.3**
	10nm,0.4s						
GKN	**Gorkha**	**12.06**	**135**	*e*P	**Pn**	**11 22 52.9**	**0.0**
	22nm,0.3s						
GKN	**Gorkha**	**12.06**	**135**	*e*P	**Pn**	**11 22 52.4**	**-0.5**
	20nm,0.3s						
JIRN	**Jiri**	**13.22**	**132**	*e*P	**Pn**	**11 23 09.4**	**+0.5**
	8.6nm,0.4s						
JIRN	**Jiri**	**13.22**	**132**	*e*P	**Pn**	**11 23 08.1**	**-0.8**
	8.6nm,0.4s						
RAMN	**Ramite**	**13.99**	**132**	*e*P	**Pn**	**11 23 18.3**	**-1.0**
	6.9nm,0.5s						
ZALV	**Zalesovo Beam**	**18.26**	**19**	P	**P**	**11 24 11.9**	**-1.9**
	0.4nm,0.3s,baz=219,slow=12,SNR=8.2						
	2.4nm,0.6s						
SONM	**Songino Array**	**25.39**	**55**	P	**P**	**11 25 26.6**	**-0.9**
	0.6nm,0.6s,baz=246,slow=9.4,SNR=3.5						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**38.94**	**325**	P	**P**	**11 27 22.0**	**-3.6**
	0.6nm,0.4s,baz=126,slow=9.7,SNR=5.8						
	0.6nm,0.4s						
ARCES	**ARCESS Array B**	**41.98**	**336**	P	**P**	**11 27 48.0**	**-2.6**
	5.1nm,1.1s,baz=101,slow=7.4,SNR=1.9						
	5.1nm,1.1s						
HFS	**Hagfors**	**44.71**	**321**	P	**P**	**11 28 12.8**	**+0.1**
	1.5nm,0.6s,baz=96,slow=7.4,SNR=5.1						
	1.5nm,0.6s						
NOA	**NORSAR Array B**	**45.97**	**323**	P	**P**	**11 28 22.5**	**-0.3**
	0.3nm,0.5s,baz=96,slow=7.6,SNR=2.0						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**68.98**	**271**	P	**P**	**11 31 06.1**	**+0.6**
	0.5nm,0.6s,baz=50,slow=7.1,SNR=4.8						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**79.53**	**125**	P	**P**	**11 32 08.9**	**+2.1**
	0.3nm,0.7s,baz=322,slow=4.8,SNR=2.9						
	0.3nm,0.7s						

*IDC **25** 11:30:58.6±2.2, 36°.95N×75°.04E, h0km, mb3.7/5, mbtmp3.6/8, ML2.9/3, MS3.7/2, Error ellipse: s-maj=47.6km s-min=28.3km az=153.0*
*NNC **25** 11:31:05.9±3.3, 37°.30N×74°.90E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=29.7km s-min=23.8km az=95.0*
ISC 25 11:31:03.5±0.9, **36°.95N**±0°.08×**75°.1E**±0°.1, **h35**km, **n18**, σ**1**§**23**/19, **mb3.5**/5, **4C-2D, Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.29**	**349**	⇑Pn	**Pn**	**11 32 21.3**	**+0.9**
	1.0nm,0.8s						
AML				⇓Sn	**Sn**	**11 33 21.0**	**+0.7**
	2.7nm,0.8s						
AAK	**Ala-Archa**	**5.71**	**356**	LR	LR	11 34 40.4	
	comp=Z,69nm,20.1s,baz=216,slow=39						
TKM2	**Tokmak 2**	**5.98**	**4**	⇓Pn	**Pn**	**11 32 30.8**	**+1.0**
	3.7nm,0.7s						
TKM2				⇑Sn	**Sn**	**11 33 37.7**	**+0.6**
	3.5nm,0.7s						
TKM2				⇑Lg	Lg	11 34 03.9	
	18nm,1.5s						
KK31	**Karatay Array**	**7.08**	**332**	Pn	**Pn**	**11 32 45.9**	**+1.2**
	0.5nm,0.3s,baz=135,slow=14,SNR=6.9						
KK31				⇑Sn	**Sn**	**11 34 02.6**	**-1.3**
	4.5nm,0.6s,baz=156,slow=25,SNR=7.8						
PYUN	**Piuthan**	**11.05**	**141**	*e*P	**Pn**	**11 33 40.3**	**+1.1**
	11nm,0.4s						
MKAR	**Makanchi Array**	**11.20**	**26**	Pn	**Pn**	**11 33 41.2**	**+0.1**
	0.1nm,0.3s,baz=202,slow=15,SNR=2.3						
	0.2nm,0.4s						
DANN	**Dangsing**	**11.25**	**137**	*e*P	**Pn**	**11 33 42.1**	**0.0**
	13nm,0.7s						
GKN	**Gorkha**	**12.01**	**135**	*e*P	**Pn**	**11 33 52.2**	**-0.1**
	7.7nm,0.3s						
PKI	**Pulchoki**	**12.78**	**134**	*e*P	**Pn**	**11 34 02.0**	**-1.0**
	7.5nm,0.6s						
JIRN	**Jiri**	**13.17**	**131**	*e*P	**Pn**	**11 34 07.0**	**-1.4**
	4.8nm,0.3s						
BVAR	**Borovoye Array**	**16.41**	**350**	Pn	**Pn**	**11 34 48.8**	**-2.2**
	baz=152,slow=9.8,SNR=3.4						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**18.29**	**19**	P	**P**	**11 35 14.1**	**-0.1**
	0.2nm,0.3s,baz=206,slow=9.6,SNR=2.5						
	0.7nm,0.4s						
SONM	**Songino Array**	**25.38**	**55**	P	**P**	**11 36 26.6**	**-0.9**
	0.3nm,0.4s,baz=243,slow=9.5,SNR=2.2						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**38.99**	**325**	P	**P**	**11 38 25.4**	**-0.7**
	7.9nm,1.1s,baz=98,slow=12,SNR=4.8						
	7.9nm,1.1s						
NOA	**NORSAR Array B**	**46.02**	**323**	P	**P**	**11 39 21.7**	**-1.6**
	0.3nm,0.5s,baz=90,slow=7.6,SNR=2.0						
	0.3nm,0.5s						
GUMO	**Guam**	**65.85**	**91**	LR	LR	12 11 22.2	
	comp=Z,532nm,21.2s,baz=223,slow=37						
TORD	**Torodi Ar. Bea**	**69.01**	**271**	P	**P**	**11 42 06.4**	**+0.6**
	0.3nm,0.5s,baz=54,slow=7.3,SNR=2.1						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**73.41**	**17**	P	**P**	**11 42 33.9**	**+2.3**
	0.5nm,1.0s,baz=325,slow=4.5,SNR=4.2						
	0.5nm,1.0s						

*BJI **25** 11:35:26.9±0.0, 18°.76N×145°.74E, h230km, mb4.6/63, mB5.0/30*
*GCMT **25** 11:35:27.5±0.6, 18°.84N±0°.03×145°.59E±0°.04, h220km±3km, MW5.1/63, Moment Tensor Solution. s28,c37; s63,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.90±.24; $M_{\theta\theta}$-1.94±.26; $M_{\phi\phi}$4.84±.27; $M_{r\theta}$-2.44±.20; $M_{r\phi}$-1.20±.23; $M_{\theta\phi}$0.22±.24; Best double couple: $M_0$5.02200×10^{16} NP1:ϕ_s137.00000°, δ61.00000°, λ-137.00000°. NP2:ϕ_s23.00000°, δ53.00000°, λ-37.00000°. Principal axes: T 5.1010, Plg5.0000°, Azm259.0000°; N -0.1570, Plg40.0000°, Azm164.0000°; P -4.9440, Plg50.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **25** 11:35:28.5±0.8, 18°.82N×145°.45E, h240km, mb4.8/40 Error ellipse: s-maj=10.1km s-min=5.2km az=113.2*
*NEIC **25** 11:35:28.5±1.9, 18°.90N±0°.07×145°.5E±0°.1, h213km±5km, mb5.0/394, Error ellipse: s-maj=14.6km s-min=10.8km az=88.0*
*IDC **25** 11:35:29.7±1.0, 18°.81N×145°.50E, h237km±8km, mb4.3/29, mbtmp4.9/33, Error ellipse: s-maj=11.3km s-min=6.5km az=87.0*
*DJA **25** 11:35:31.3±0.6, 19°N±3°×14°5E±°, h245km±5km, M4.7/36, mB5.2/6, mb4.8/36, Mw(mB)4.6/6*
ISC 25 11:35:29.1±0.5, **18°.80N**±0°.04×**145°.55E**±0°.06, **h230**km±3km, **h229**km; **pP-P, n879**, σ**0**§**99**/747, **mb5.0**/277, **16C-14D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.22**	**187**		**Pn**	**11 36 46.5**	**-0.5**
GUMO	**Guam**	**5.22**	**187**	P	**Pn**	**11 36 45.7**	**-1.4**
GUMO	**Guam**	**5.22**	**187**	P	**Pn**	**11 36 46.4**	**-0.6**
	232nm,0.5s,baz=336,slow=19,SNR=27						
GUMO				S	**S**	**11 37 44.3**	**-4.6**
	255nm,0.4s,baz=12,slow=23,SNR=7.6						
JCJ	**Chichijima**	**8.82**	**340**	Pn	Pn	11 37 27.3	-5.6
JCJ	**Chichijima**	**8.82**	**340**	P	**Pn**	**11 37 32.4**	**-0.4**
JCJ	**Chichijima**	**8.82**	**340**	P	Pn	11 37 26.6	-6.3
	87nm,0.8s,baz=142,slow=19,SNR=5.2						
JCJ				S	S	11 39 00.1	-12
	57nm,0.5s,baz=143,slow=22,SNR=1.4						
JMZ	**Minamidaito 2**	**14.98**	**300**	Pn	**P**	**11 38 53.2**	**+3.3**
JSG	**Sagara**	**17.12**	**339**	P	**P**	**11 39 12.1**	**-1.2**
JSG	**Sagara**	**17.12**	**339**	P	**Pn**	**11 39 14.5**	**-0.7**
JOW	**Kunigami**	**17.81**	**300**		**Pn**	**11 39 23.2**	**-0.2**
JOW	**Kunigami**	**17.81**	**300**	P	**Pn**	**11 39 22.5**	**-0.9**
	162nm,0.4s,baz=130,slow=12,SNR=46						
INU	**Inuyama**	**18.14**	**337**	P	**P**	**11 39 24.4**	**0.0**
JMN	**Monobe**	**18.16**	**327**	P	**Pn**	**11 39 26.6**	**-0.9**
JMN	**Monobe**	**18.16**	**327**	P	**Pn**	**11 39 26.4**	**-1.1**
MJAR	**Matsushiro Arr**	**18.82**	**341**	P	**P**	**11 39 30.1**	**-1.7**
	36nm,0.5s,baz=173,slow=11,SNR=53						
MJAR				S	**S**	**11 42 53.0**	**-0.5**
	18nm,1.0s,baz=164,slow=15,SNR=7.3						
MAJO	**Matsushiro**	**18.82**	**341**		**P**	**11 39 31.5**	**-0.3**
MAJO	**Matsushiro**	**18.82**	**341**	P	**P**	**11 39 31.5**	**-0.3**
MAJO	**Matsushiro**	**18.82**	**341**	P	**P**	**11 39 31.5**	**-0.3**
MJB9	**Matsu-Tunnel**	**18.83**	**341**	P	**P**	**11 39 32.5**	**+0.6**
JNU	**Nakatsue**	**19.40**	**320**	P	**P**	**11 39 38.4**	**+0.4**
JNU	**Nakatsue**	**19.40**	**320**	P	**P**	**11 39 39.4**	**+1.4**
JNU	**Nakatsue**	**19.40**	**320**	P	**P**	**11 39 38.6**	**+0.6**
	7.1nm,0.5s,baz=71,slow=11,SNR=3.6						
JMM	**Marumori**	**19.45**	**349**		**P**	**11 39 38.9**	**+0.5**
JMM	**Marumori**	**19.45**	**349**	P	**P**	**11 39 39.6**	**+1.2**
JSD	**Sado**	**20.20**	**343**	P	**P**	**11 39 45.4**	**-1.1**
JSD	**Sado**	**20.20**	**343**	P	**P**	**11 39 46.1**	**-0.4**
MANU	**Manus Island**	**20.79**	**175**	P	**P**	**11 39 53.4**	**+0.4**
JTU	**Tsushima**	**21.25**	**321**	P	**P**	**11 39 59.1**	**+1.6**
JTU	**Tsushima**	**21.25**	**321**	P	**P**	**11 39 59.1**	**+1.6**
JTM	**Tenmabayashi**	**22.25**	**351**	P	**P**	**11 40 08.0**	**+1.0**
JTM	**Tenmabayashi**	**22.25**	**351**	P	**P**	**11 40 07.7**	**+0.7**
NACB	**Ninganchiao**	**22.91**	**288**	P	**P**	**11 40 14.1**	**+1.0**
YULB	**Yu-li**	**23.07**	**286**	P	**P**	**11 40 16.1**	**+1.4**
YHNB	**Yeheng**	**23.19**	**289**	P	**P**	**11 40 17.6**	**+1.8**
YHNB	**Yeheng**	**23.19**	**289**	P	**P**	**11 40 16.8**	**+1.1**
TWGBT	**Beinan**	**23.21**	**284**	P	**P**	**11 40 17.8**	**+1.9**
ERM	**Erimo**	**23.23**	**355**	P	**P**	**11 40 17.1**	**+1.3**
JEM	**Erimo**	**23.24**	**355**	P	**P**	**11 40 18.3**	**+2.5**
SSLB	**Suanglung**	**23.44**	**287**	P	**P**	**11 40 19.6**	**+1.6**
SSLB	**Suanglung**	**23.44**	**287**	P	**P**	**11 40 18.7**	**+0.7**
TPUB	**Ta-pu**	**23.68**	**285**	P	**P**	**11 40 22.9**	**+2.8**
TJN	**Taejon**	**23.73**	**321**	⇓*e*P	**P**	**11 40 21.2**	**+0.8**
KSRS	**Korea Array**	**24.16**	**324**	P	**P**	**11 40 23.3**	**-0.9**
	12nm,0.6s,baz=143,slow=9.0,SNR=52						
KSRS				PcP	**PcP**	**11 43 58.0**	**-0.5**
	1.2nm,0.8s,baz=123,slow=1.7,SNR=2.8						
KSRS				ScP	**ScP**	**11 47 13.8**	**-1.3**
	1.3nm,0.6s,baz=144,slow=4.0,SNR=6.6						
	12nm,0.6s						
KSAR	**Wonju Array Be**	**24.17**	**324**	P	**P**	**11 40 23.3**	**-1.1**
KSAR	**Wonju Array Be**	**24.17**	**324**	P	**P**	**11 40 23.3**	**-1.1**
KS19	**Wonju Array Si**	**24.22**	**324**	P	**P**	**11 40 23.6**	**-1.3**
TABU	**Tabubil**	**24.29**	**191**	P	**P**	**11 40 26.1**	**+0.3**
FAKI	**Fak Fak**	**25.24**	**213**	P	**P**	**11 40 37.6**	**+3.3**
FAKI				IAmb	IAmb	11 41 18.1	
	comp=Z,62nm,1.2s						
FAKI	**Fak Fak**	**25.24**	**213**	P	**P**	**11 40 36.8**	**+2.5**
FAKI	**Fak Fak**	**25.24**	**213**	P	**P**	**11 40 36.9**	**+2.6**
	comp=Z,17nm,0.7s						
JKA	**Kamikawa-asahi**	**25.37**	**355**	P	**P**	**11 40 36.5**	**+1.4**
ASAJ	**Asahikawa**	**25.37**	**355**	P	**P**	**11 40 36.5**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,79nm,0.9s						
ASAJ	**Asahikawa**	**25.37**	**355**	P	**P**	**11 40 36.2**	**+1.0**
	comp=Z,48nm,0.6s,baz=219,slow=9.6,SNR=42						
	comp=Z,48nm,0.6s						
KUR	**Kuril'sk**	**26.43**	**4**	*ce*P	**P**	**11 40 46.8**	**+2.2**
KUR				pmax	pmax		
	comp=Z,207nm,1.0s						
NJ2	**Nanjing**	**27.40**	**304**	*e*P	**P**	**11 40 54.5**	**+1.1**
NJ2				pP	**pwP**	**11 41 40.5**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,290nm,4.3s						
USA0B	**Ussuriysk Arra**	**27.77**	**339**	P	**P**	**11 40 57.1**	**+0.6**
USA0B	**Ussuriysk Arra**	**27.77**	**339**	P	**P**	**11 40 57.1**	**+0.6**
USA0B				pmax	pmax		
	comp=Z,6.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**27.77**	**339**	P	**P**	**11 40 55.8**	**-0.7**
	comp=Z,4.1nm,0.5s,baz=140,slow=8.4,SNR=14						
	comp=Z,4.1nm,0.5s						
YSS	**Yuzh-Sakhalins**	**28.18**	**356**	P	**P**	**11 41 00.5**	**+0.3**
YSS	**Yuzh-Sakhalins**	**28.18**	**356**	P	**P**	**11 41 00.3**	**+0.2**
YSS	**

PEA0B Petropavlovsk- 35.53 13⇓ *eP* **P 11 42 04.4 +0.3**
PETK Petropavlovsk- 35.53 13 P **P 11 42 04.2 +0.2**
PETK Petropavlovsk- 35.53 13 P **P 11 42 04.2 +0.2**
PETK Petropavlovsk- 35.53 13 P **P 11 42 04.6 +0.6**
comp=Z,20nm,0.7s,baz=144,slow=6.5,SNR=44
PETK PcP **PcP 11 44 27.4 -0.4**
comp=Z,2.2nm,0.6s,baz=155,slow=2.0,SNR=2.0
comp=Z,20nm,0.7s
PET Petropavlovsk 35.65 14 P **P 11 42 05.0 -0.1**
PET Petropavlovsk 35.65 14 P **P 11 42 06.2 +1.1**
PET Petropavlovsk 35.65 14⇑ *eP* **P 11 42 06.4 +1.4**
PET pmax pmax
comp=Z,38nm,1.7s
PET Petropavlovsk 35.65 14 P **P 11 42 06.1 +1.1**
EDFI Ende, Flores 36.10 223 P **P 11 42 08.6 -0.8**
comp=Z,8.1nm,1.0s
HHC Hu-ho-hao-te 36.43 314 *eP* **P 11 42 13.0 +1.0**
HHC pmax pmax
comp=Z,33nm,0.7s
HHC pmax pmax
comp=Z,410nm,6.1s
SBUM Sibu 36.45 248 P **P 11 42 12.4 0.0**
MTSU Mount Surprise 36.72 182 P **P 11 42 14.9 +0.4**
HIA Hailar 36.81 332 P **P 11 42 14.5 -0.5**
HIA Hailar 36.81 332 *ceP* **P 11 42 14.5 -0.5**
HIA pmax pmax
comp=Z,8.0nm,0.9s
BTO Baotou 37.38 313 *eP* **P 11 42 21.0 +1.0**
BTO pP **pP 11 43 06.3 +0.2**
BTO sP **sP 11 43 31.5 -0.4**
BTO PP **PnPn 11 43 54.3 0.0**
BTO S **S 11 47 52.5 +1.8**
BTO pmax pmax
comp=Z,20nm,0.8s
BTO pmax pmax
comp=Z,380nm,6.7s
BTO LR LR
comp=Z,940nm,7.1s
BTO LR LR
comp=Z,920nm,8.3s
BTO LR LR
comp=Z,530nm,7.1s
ZEA Zeya 37.63 342 *eP* **P 11 42 20.9 -0.9**
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.7s
KNRA Kununurra 38.03 207 P **P 11 42 26.6 +1.1**
KNRA Kununurra 38.03 207 P **P 11 42 26.2 +0.7**
CTAO Charters Tower 38.65 179 P **P 11 42 31.2 +0.6**
CTAO Charters Tower 38.65 179 P **P 11 42 31.1 +0.5**
CTAO Charters Tower 38.65 179 P **P 11 42 31.2 +0.6**
CTAO pmax pmax
comp=Z,25nm,1.7s
PLAI Plampang 38.78 227 P **P 11 42 32.0 +0.2**
PLAI Plampang 38.78 227 P **P 11 42 31.4 -0.4**
comp=Z,16nm,1.1s
SLVN Son La 39.12 281 P **P 11 42 34.4 -0.3**
TWSI Taliwang, Sumb 39.35 228 P **P 11 42 37.1 +0.6**
comp=Z,62nm,0.7s
QIS Mount Isa 39.54 189 P **P 11 42 39.3 +1.3**
CD2 Chengdu 39.58 296 P **P 11 42 38.5 +0.2**
CD2 pmax pmax
comp=Z,20nm,1.0s
WB0 Warramunga Arr 39.86 197 P **P 11 42 41.5 +0.9**
WR0 Warramunga Arr 40.00 196 P **P 11 42 42.4 +0.6**
WRAB Tennant Creek 40.03 197 P **P 11 42 42.7 +0.7**
WRAB Tennant Creek 40.03 197 P **P 11 42 42.5 +0.5**
WRAB Tennant Creek 40.03 197 *c iP* **P 11 42 42.7 +0.7**
WRAB pmax pmax
comp=Z,31nm,1.0s
WRAB Tennant Creek 40.03 197 P **P 11 42 42.6 +0.6**
WB2 Warramunga Arr 40.03 197 P **P 11 42 43.0 +0.9**
WRA Warramunga Arr 40.04 197 P **P 11 42 42.0 -0.1**
WRA Warramunga Arr 40.04 197 *i* P **P 11 42 42.4 +0.3**
WRA pmax pmax
comp=Z,12nm,0.4s
WRA Warramunga Arr 40.04 197 P **P 11 42 42.4 +0.3**
comp=Z,17nm,0.7s,baz=26,slow=8.7,SNR=141
WRA PcP **PcP 11 44 42.0 -0.2**
comp=Z,2.5nm,0.5s,baz=17,slow=3.4,SNR=6.7
WRA ScP **ScP 11 48 08.4 -0.9**
comp=Z,2.6nm,0.8s,baz=14,slow=4.1,SNR=10
WRA S **S 11 48 29.2 -1.3**
comp=Z,1.0nm,0.8s,baz=15,slow=14,SNR=5.1
comp=Z,17nm,0.7s
KMI Kunming 40.08 287 ⇑P **P 11 42 45.0 +2.3**
KMI pmax pmax
comp=Z,16nm,0.9s
LZH Lanzhou 40.48 304 *eP* **P 11 42 46.8 +1.0**
LZH pP pwP 11 43 40.3 +3.1
LZH pmax pmax
comp=Z,17nm,1.1s
MA2 Magadan 40.90 4 P **P 11 42 49.9 +1.2**
MA2 Magadan 40.90 4⇓ *eP* **P 11 42 50.0 +1.3**
MA2 pmax pmax
comp=Z,38nm,1.3s
MA2 Magadan 40.90 4 P **P 11 42 49.0 +0.4**
comp=Z,14nm,0.8s,baz=175,slow=11,SNR=7.5
comp=Z,14nm,0.8s
PZH PanZhiHua 40.99 289 P **P 11 42 51.0 +0.9**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.4s
JAGI Jajag, Banyuwa 41.15 232 P **P 11 42 51.3 0.0**
comp=Z,22nm,1.0s
CRAI Chiangrai 42.51 280 P **P 11 43 03.3 +1.0**
ULN Ulaanbaatar 42.61 322 P **P 11 43 02.6 -0.2**
ULN Ulaanbaatar 42.61 322 P **P 11 43 02.6 -0.2**
ULN pmax pmax
comp=Z,9.0nm,0.6s
ULN Ulaanbaatar 42.61 322 P **P 11 43 02.3 -0.5**
SONM Songino Array 42.98 321 P **P 11 43 05.6 -0.2**
SONM Songino Array 42.98 321 P **P 11 43 05.6 -0.2**
SONM pmax pmax
comp=Z,9.0nm,0.5s
SONM Songino Array 42.98 321 P **P 11 43 05.3 -0.5**
comp=Z,7.0nm,0.5s,baz=137,slow=9.3,SNR=43
SONM ScP **ScP 11 48 18.7 -2.2**
comp=Z,5.4nm,1.1s,baz=128,slow=1.9,SNR=10
comp=Z,7.0nm,0.5s
AS31 Alice Springs 43.71 196 P **P 11 43 13.0 +1.3**
ASAR Alice Springs 43.71 196 P **P 11 43 12.2 +0.5**
comp=Z,3.7nm,0.6s,baz=22,slow=7.2,SNR=50
ASAR PcP **PcP 11 44 54.4 0.0**
comp=Z,1.5nm,0.6s,baz=18,slow=4.2,SNR=1.6
ASAR ScP **ScP 11 48 23.3 -0.7**
comp=Z,1.7nm,0.6s,baz=16,slow=4.1,SNR=10.0
ASAR S **S 11 49 23.3 -1.0**
comp=Z,1.3nm,0.9s,baz=20,slow=20,SNR=7.7
comp=Z,3.7nm,0.6s
CHTO Chiang Mai 44.02 278 P **P 11 43 15.2 +0.9**
CHTO Chiang Mai 44.02 278 P **P 11 43 15.2 +0.9**
CHTO pmax pmax
comp=Z,15nm,1.6s
CM31 Chiang Mai Arr 44.07 277 P **P 11 43 16.3 +1.5**
CMAR Chiang Mai Arr 44.07 277 *i* P **P 11 43 16.2 +1.5**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR Chiang Mai Arr 44.07 277 P **P 11 43 15.8 +1.0**
comp=Z,6.9nm,0.9s,baz=68,slow=6.8,SNR=32
CMAR PcP **PcP 11 44 55.9 0.0**
comp=Z,3.2nm,0.8s,baz=79,slow=1.4,SNR=7.2
CMAR ScP **ScP 11 48 25.7 0.0**
comp=Z,0.3nm,0.4s,baz=85,slow=2.6,SNR=4.2
comp=Z,6.9nm,0.9s
MYKOM Kota Tinggi 44.20 253 P **P 11 43 17.7 +1.9**
SEY Seymchan 44.35 4⇓ *eP* **P 11 43 17.0 +0.7**
SEY pmax pmax
comp=Z,20nm,0.7s
SEY Seymchan 44.35 4 P **P 11 43 16.8 +0.5**
comp=Z,14nm,0.5s,baz=185,slow=7.9,SNR=42
comp=Z,14nm,0.5s
GTA Gaotai 44.38 308 *eP* **P 11 43 17.0 -0.1**
GTA PcP **PcP 11 44 57.5 +0.8**
GTA ScP **ScP 11 48 27.0 +0.2**
GTA pmax pmax
comp=Z,7.0nm,1.2s
KPJI Karang Pucung 44.47 238 P **P 11 43 18.1 +0.2**
comp=Z,24nm,0.9s
YAK Yakutsk 44.60 349 P **P 11 43 17.8 -0.4**
YAK Yakutsk 44.60 349 *eP* **P 11 43 17.7 -0.4**
YAK *e* 11 45 02.9
YAK *eS* **S 11 49 36.7 +0.6**
YAK *e* 11 52 48.2
YAK pmax pmax
comp=Z,169nm,1.1s
YAK pmax pmax
comp=N,38nm,1.3s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,1μm,7.6s
YAK pmax pmax
comp=N,719nm,7.6s
YAK pmax pmax
comp=E,1μm,7.6s
YAK smax smax
comp=N,2μm,9.9s
YAK smax smax
comp=E,1μm,9.9s
YAK Yakutsk 44.60 349 ⇑P **P 11 43 17.9 -0.4**
QLP Quilpie 45.12 182 P **P 11 43 21.8 -1.0**
DZM Mont Dzumac 45.47 152 P **P 11 43 26.2 +0.5**
ZAK Zakamensk 45.99 323 *eP* **P 11 43 27.0 -2.5**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
INKA Innaminka 46.49 186 P **P 11 43 33.3 -0.2**
WRKA Warakurna 46.70 202 P **P 11 43 35.7 +0.5**
CGJI Cibinong 46.70 241 P **P 11 43 33.5 -1.9**
comp=Z,52nm,0.5s
MBWA Marble Bar 47.08 214 P **P 11 43 38.6 +0.5**
KASI Kota Agung 47.12 243 P **P 11 43 38.6 0.0**
comp=Z,32nm,1.0s
OOD Oodnadatta 47.29 192 P **P 11 43 39.6 0.0**
PSA00 Pilbara Seismi 47.36 213 P **P 11 43 40.6 +0.3**
GOMU GeErMu 47.68 302 P **P 11 43 45.8 +2.7**
GOMU pmax pmax
comp=Z,31nm,0.7s
MOY Mondy 47.86 324 *eP* **P 11 43 43.2 -0.7**
XMIS Christmas Isla 48.94 237 P **P 11 43 52.3 -0.1**
XMIS IAmb IAmb 11 44 48.6
comp=Z,83nm,1.2s
NIKH Nikolski High 49.01 35 P **P 11 43 53.0 +0.5**
comp=Z,244
LCRK Leigh Creek 49.47 188 P **P 11 43 56.5 +0.4**
SHL Shillong 49.88 288 P **P 11 44 00.5 +0.8**
SHL Shillong 49.88 288 P **P 11 44 00.5 +0.8**
SHL pmax pmax
comp=Z,35nm,1.1s
MULG Mulgathing 50.03 193 P **P 11 44 00.5 +0.1**
GSI Gunungsitoli 50.11 255 P **P 11 44 02.2 +0.8**
GSI IAmb IAmb 11 44 03.3
comp=Z,36nm,0.8s
GSI Gunungsitoli 50.11 255 P **P 11 44 01.6 +0.2**
comp=Z,48nm,0.9s
SPIA Saint Paul Isl 50.32 30 P **P 11 44 03.9 +1.6**
SPIA Saint Paul Isl 50.32 30 P **P 11 44 02.8 +0.5**
baz=239
LSA Lhasa 50.38 293 P **P 11 44 05.5 +1.7**
LSA Lhasa 50.38 293 P **P 11 44 06.1 +2.3**
LSA pP **pP 11 44 51.1 -1.7**
STKA Stephens Creek 50.53 184 P **P 11 44 03.9 -0.2**
STKA Stephens Creek 50.53 184 P **P 11 44 03.7 -0.4**
STKA Stephens Creek 50.53 184 P **P 11 44 03.9 -0.2**
STKA pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 50.53 184 P **P 11 44 03.1 -0.9**
comp=Z,1.6nm,0.4s,baz=34,slow=7.3,SNR=11
comp=Z,1.6nm,0.4s
UNV Unalaska Valle 50.65 35 P **P 11 44 05.2 +0.4**
UNV Unalaska Valle 50.65 35 P **P 11 44 05.5 +0.7**
baz=246
AKUT Akutan 51.17 35 P **P 11 44 09.3 +0.6**
AKUT Akutan 51.17 35 P **P 11 44 09.2 +0.6**
GIRL Giralia 51.31 218 P **P 11 44 11.5 +1.4**
FORT Forrest 52.08 199 P **P 11 44 16.0 +0.4**
BBOO Buckleboo 52.11 190 P **P 11 44 16.8 +1.0**
HTT Hallett 52.32 187 P **P 11 44 18.2 +0.8**
FALS False Pass 52.72 34 P **P 11 44 20.7 +0.7**
FALS False Pass 52.72 34 P **P 11 44 20.9 +0.9**
baz=248,SNR=5.6
GAMB Gambell 53.42 22 P **P 11 44 25.8 +0.8**
baz=233
TAPN Taplejung 53.50 290 *eP* **P 11 44 27.2 +0.6**
comp=Z,20nm,0.5s
M11K Mekoryuk 53.75 27 P **P 11 44 28.8 +1.4**
baz=241
TIXI Tiksi 53.76 354 P **P 11 44 26.9 -0.4**
TIXI Tiksi 53.76 354 P **P 11 44 26.9 -0.4**
TIXI pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 53.76 354 P **P 11 44 26.4 -0.9**
ODAN Odare 53.82 290 *eP* **P 11 44 29.9 +1.1**
comp=Z,84nm,1.2s
WMQ Urumqi 54.14 311 *eP* **P 11 44 31.0 +0.3**
WMQ pmax pmax
comp=Z,44nm,0.9s
SDPT Sand Point 54.47 35 P **P 11 44 33.4 +0.7**
SDPT Sand Point 54.47 35 P **P 11 44 33.2 +0.5**
SDPT Sand Point 54.47 35 P **P 11 44 32.8 +0.1**
baz=250,SNR=6.1
RAMN Ramite 54.51 290 *eP* **P 11 44 34.2 +0.3**
comp=Z,43nm,1.0s
CHNA Chernabura Isl 54.78 35 P **P 11 44 35.7 +0.8**
baz=252
JIRN Jiri 54.82 291 *eP* **P 11 44 36.9 +0.7**
comp=Z,46nm,0.7s
M13K Dall Lake 55.02 28 P **P 11 44 38.6 +2.0**
M13K Dall Lake 55.02 28 P **P 11 44 38.5 +1.9**
baz=244
GUN Gumba 55.08 291 *eP* **P 11 44 38.7 +0.7**
comp=Z,21nm,0.6s
K13K Kusilvak Mount 55.15 26 P **P 11 44 39.0 +1.5**
baz=242,SNR=6.8
S14K Fog Glacier 55.27 34 P **P 11 44 39.3 +0.7**
baz=251
DGZ Jazzator, Alta 55.36 318 *d iP* **P 11 44 39.3 -0.1**
DGZ pmax pmax
comp=Z,19nm,1.0s
ARPS Mount Arapiles 55.38 184 P **P 11 44 39.8 +0.4**
MORW Morawa 55.46 212 P **P 11 44 40.8 +0.6**
MORW Morawa 55.46 212 P **P 11 44 41.0 +0.8**
O14K Tigyukauivet M 55.50 30 P **P 11 44 41.2 +1.2**
baz=247
PKI Pulchoki 55.52 291 *eP* **P 11 44 41.2 +0.1**
comp=Z,26nm,0.9s
PKIN Phulchoki 55.53 291 *eP* **P 11 44 41.2 +0.1**
comp=Z,11nm,0.4s
N14K Kuskokwak Cree 55.57 29 P **P 11 44 41.4 +0.9**
baz=246,SNR=7.9
KKN Kakani 55.62 291 *eP* **P 11 44 42.4 +0.7**
comp=Z,45nm,1.1s
L14K Kuka Creek 55.72 27 IAmb IAmb 11 44 43.8
comp=Z,38nm,0.7s
L14K Kuka Creek 55.72 27 P **P 11 44 42.8 +1.3**
baz=244,SNR=6.3
TNA Tin City 55.78 21 P **P 11 44 42.5 +0.7**
baz=236
M14K Bethel 55.79 28 P **P 11 44 43.5 +1.5**
baz=245,SNR=7.6
CHGN Chignik 55.88 34 P **P 11 44 43.2 +0.4**
baz=252
J14K Nanvaranak Lak 55.99 26 IAmb IAmb 11 44 45.7
comp=Z,40nm,0.8s
J14K Nanvaranak Lak 55.99 26 P **P 11 44 44.7 +1.4**
baz=243
O15K Ungalikthiuk R 56.16 30 P **P 11 44 45.1 +0.5**
baz=248,SNR=9.4
ANM Nome 56.16 23 P **P 11 44 45.6 +1.0**
baz=240
GKN Gorkha 56.17 292 *eP* **P 11 44 45.7 +0.2**
comp=Z,45nm,0.8s
F14K Arctic Creek 56.29 22 P **P 11 44 46.5 +1.0**
baz=238,SNR=5.1
M15K Kasigluk River 56.34 28 P **P 11 44 46.9 +1.0**
baz=247
N15K Kwethluk River 56.40 29 P **P 11 44 47.0 +0.6**
baz=248,SNR=6.9
BLDU Ballidu 56.42 210 P **P 11 44 47.5 +0.6**
K15K Wolf Creek Mou 56.63 27 P **P 11 44 49.3 +1.3**
baz=245,SNR=6.2
ZSN Zaisan 56.63 315 *eP* **P 11 44 48.4 +0.1**
baz=315
ZSN Zaisan 56.63 315 *eP* **P 11 44 48.4 +0.1**
KLBR Kellerberrin 56.76 208 P **P 11 44 49.9 +0.6**
G15K Niukluk 56.87 23 P **P 11 44 50.5 +0.9**
baz=241
DANN Dangsing 56.91 292 *eP* **P 11 44 51.5 +0.6**
P16K Nushagak River 56.99 31 P **P 11 44 51.7 +1.2**
baz=250
F15K North Star Dit 57.01 22 IAmb IAmb 11 44 52.7
comp=Z,44nm,1.1s
F15K North Star Dit 57.01 22 P **P 11 44 51.2 +0.6**
baz=240
KOLN Koldanda 57.10 291 *eP* **P 11 44 52.7 +0.6**
comp=Z,26nm,0.8s
N16K Nishlik Lake 57.13 29 P **P 11 44 52.5 +1.0**
baz=249,SNR=9.7
O16K Kokwok River B 57.13 30 P **P 11 44 52.1 +0.6**
baz=250,SNR=6.4
CHIR Chirikof Islan 57.24 35 P **P 11 44 53.3 +1.0**
baz=255
M16K Timber Creek 57.24 28 IAmb IAmb 11 44 54.3
comp=Z,52nm,1.0s
M16K Timber Creek 57.24 28 P **P 11 44 53.0 +0.7**
baz=248
L16K Owhat River 57.27 28 P **P 11 44 53.4 +1.0**
baz=247
R17K Ugashik Creek 57.35 33 P **P 11 44 53.5 +0.5**
baz=253
H16K Elim 57.38 24 P **P 11 44 54.1 +0.9**
baz=243
J16K Anvik River 57.43 26 P **P 11 44 54.0 +0.5**
J16K Anvik River 57.43 26 P **P 11 44 54.9 +1.3**
baz=245,SNR=8.9
PYUN Piuthan 57.61 292 *eP* **P 11 44 55.8 +0.1**
comp=Z,25nm,0.9s
I17K Unalakleet 57.65 25 P **P 11 44 56.3 +1.2**
baz=245
O17K Koliganek Bris 57.67 30 P **P 11 44 56.3 +1.1**
baz=251,SNR=10
G16K Koyuk River 57.69 23 P **P 11 44 56.1 +0.8**
baz=242
MUN Mundaring 57.79 209 P **P 11 44 57.4 +0.9**
ZAA0 Zalesovo Array 57.85 322 P **P 11 44 55.5 -1.1**
ZALV Zalesovo Beam 57.85 322 P **P 11 44 55.5 -1.1**
ZALV Zalesovo Beam 57.85 322 P **P 11 44 55.5 -1.1**
ZALV Zalesovo Beam 57.85 322 P **P 11 44 55.3 -1.3**
comp=Z,9.9nm,0.4s,baz=104,slow=7.1,SNR=39
ZALV PcP **pP 11 45 45.1 -1.9**
comp=Z,2.1nm,0.5s,baz=120,slow=4.2,SNR=2.0
ZALV ScP **ScP 11 49 23.9 -0.4**
comp=Z,4.2nm,1.0s,baz=102,slow=3.5,SNR=6.2
comp=Z,9.9nm,0.4s
N17K Nushagak Hills 57.88 29 P **P 11 44 57.9 +1.2**
baz=250,SNR=5.4
L17K Donlin 57.95 27 P **P 11 44 58.4 +1.2**
baz=248,SNR=6.5
M17K Holitna River 58.07 28 IAmb IAmb 11 45 00.6
comp=Z,50nm,1.0s
M17K Holitna River 58.07 28 P **P 11 44 59.6 +1.6**
baz=250
C16K Lisburne Hills 58.12 19 P **P 11 44 59.2 +1.0**
baz=238
NWAO Narrogin (SRO) 58.12 208 P **P 11 44 58.8 0.0**
NWAO Narrogin (SRO) 58.12 208 P **P 11 44 59.9 +1.2**
NWAO Narrogin (SRO) 58.12 208 P **P 11 44 58.8 0.0**
NWAO pmax pmax
comp=Z,66nm,1.1s
K17K Iditarod 58.17 27 P **P 11 45 00.2 +1.5**
K17K Iditarod 58.17 27 P **P 11 44 60.0 +1.3**
baz=248,SNR=12
SII Sitkinak Islan 58.21 34 P **P 11 44 59.8 +0.7**
baz=256
MK31 Makanchi Array 58.30 314 P **P 11 44 59.4 -0.5**
MK31 Makanchi Array 58.30 314 P **P 11 44 59.4 -0.5**
MK31 pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 58.30 314 P **P 11 44 59.7 -0.2**
MKAR Makanchi Array 58.30 314 P **P 11 44 59.7 -0.2**
MKAR Makanchi Array 58.30 314 P **P 11 44 59.4 -0.5**
comp=Z,16nm,0.5s,baz=89,slow=8.8,SNR=152
MKAR PcP **PcP 11 45 47.9 -0.5**
comp=Z,1.4nm,0.4s,baz=88,slow=6.2,SNR=3.5
MKAR ScP **ScP 11 49 25.6 -0.9**
comp=Z,2.1nm,0.9s,baz=97,slow=6.7,SNR=5.7
comp=Z,16nm,0.5s
R18K Karluk 58.33 33 P **P 11 45 00.0 +0.2**
baz=255
Q18K Katmai Hardscr 58.34 32 P **P 11 44 59.6 -0.5**
baz=254,SNR=6.3
G17K Kiwalik Mounta 58.37 23 P **P 11 45 00.7 +0.7**
baz=244,SNR=7.3
H17K Granite Mounta 58.41 24 P **P 11 45 01.4 +1.1**
H17K IAmb IAmb 11 45 02.5
comp=Z,47nm,0.9s
H17K Granite Mounta 58.41 24 P **P 11 45 01.2 +0.9**
baz=245,SNR=12
MAKZ Makanchi 58.51 314 P **P 11 45 01.2 -0.2**
MAKZ IAmb IAmb 11 45 02.7
comp=Z,24nm,0.7s
MAKZ Makanchi 58.51 314 P **P 11 45 01.2 -0.2**
MAKZ pmax pmax
comp=Z,24nm,0.7s
MAKZ Makanchi 58.51 314 P **P 11 45 01.1 -0.2**
N18K Kilae Creek 58.53 29 IAmb IAmb 11 45 03.6
comp=Z,56nm,1.1s
N18K Kilae Creek 58.53 29 P **P 11 45 02.3 +1.1**
baz=251,SNR=8.3
D17K Noatak River 58.55 20 P **P 11 45 01.9 +0.7**
baz=240,SNR=8.4
F17K Baldwin Pennin 58.58 22 P **P 11 45 02.5 +1.1**
baz=243,SNR=9.8
O18K Koktuh Hills 58.60 31 P **P 11 45 02.2 +0.4**
baz=253,SNR=7.5
E17K Hotham Inlet 58.67 21 P **P 11 45 03.1 +1.0**
baz=242,SNR=11
L18K Granite Mounta 58.69 28 IAmb IAmb 11 45 04.8
comp=Z,55nm,1.3s
L18K Granite Mounta 58.69 28 P **P 11 45 03.8 +1.5**
baz=250,SNR=7.3
SVW2 Sparrevohn 58.81 29 IAmb IAmb 11 45 05.4
comp=Z,37nm,0.9s
M18K Stony River 58.83 29 P **P 11 45 04.7 +1.4**
baz=251,SNR=9.4
C17K DeLong Mountai 58.91 20 P **P 11 45 04.8 +1.1**
baz=240,SNR=5.5
H18K Honhosa River 59.10 24 IAmb IAmb 11 45 06.6
comp=Z,49nm,1.1s
H18K Honhosa River 59.10 24 P **P 11 45 06.0 +0.9**
baz=246,SNR=10
N19K Bonanza Creek 59.23 30 P **P 11 45 07.5 +1.4**
baz=253,SNR=12
E18K Tukpahlearik C 59.25 21 IAmb IAmb 11 45 08.3
comp=Z,52nm,1.1s
E18K Tukpahlearik C 59.25 21 P **P 11 45 07.2 +1.2**
baz=243,SNR=13
G18K Tagagawik 59.29 23 P **P 11 45 07.0 +0.7**
G18K IAmb IAmb 11 45 08.0
comp=Z,45nm,0.9s
G18K Tagagawik 59.29 23 P **P 11 45 07.0 +0.7**
baz=246,SNR=14
KDAK Kodiak Island 59.35 33 P **P 11 45 07.5 +0.6**
baz=256
KDAK Kodiak Island 59.35 33⇑ *eP* **P 11 45 07.9 +1.0**
KDAK pmax pmax
comp=Z,40nm,0.9s
L19K White Mountain 59.48 28 IAmb IAmb 11 45 10.0
comp=Z,27nm,1.1s
L19K White Mountain 59.48 28 P **P 11 45 09.0 +1.2**
baz=252,SNR=6.9
P19K Oil Pt 59.50 31 P **P 11 45 08.0 +0.1**
baz=255
GCSA Galena City Sc 59.52 25 P **P 11 45 08.2 +0.3**
baz=248
M19K Big River Lodg 59.61 28 P **P 11 45 09.1 +0.5**
baz=252
C18K Utukok River 59.63 20 IAmb IAmb 11 45 10.2
comp=Z,33nm,0.7s
C18K Utukok River 59.63 20 P **P 11 45 08.9 +0.1**
baz=242,SNR=9.9
Q20K Shuyak Island 59.65 32 P **P 11 45 09.2 +0.3**
baz=256
J19K Poorman 59.76 26 IAmb IAmb 11 45 11.5
comp=Z,32nm,0.8s
J19K Poorman 59.76 26 P **P 11 45 10.5 +0.9**
baz=250,SNR=12
B18K Kokolik River 59.79 19 P **P 11 45 10.7 +1.1**
baz=241
G19K Purcell Mounta 59.98 23 IAmb IAmb 11 45 12.8
comp=Z,44nm,0.9s
G19K Purcell Mounta 59.98 23 P **P 11 45 11.5 +0.5**
baz=247,SNR=15
H19K Roundabout Mou 59.98 24 IAmb IAmb 11 45 13.2
comp=Z,42nm,0.8s
H19K Roundabout Mou 59.98 24 P **P 11 45 12.1 +1.1**
baz=248,SNR=16

F19K	Shaleruckik Mo	60.00	22	IAmb	IAmb	11 45 51.9	
	comp=Z,55nm,1.9s						
F19K	Shaleruckik Mo	60.00	22	P	P	11 45 12.1	+1.0
	baz=246						
L20K	Farewell, AK	60.01	28	P	P	11 45 11.9	+0.5
	baz=252						
SEM	Semipalatinsk	60.04	318	eP	P	11 45 11.8	-0.2
	baz=318						
SEM	Semipalatinsk	60.04	318	eP	P	11 45 11.8	-0.2
M20K	Styx River	60.17	29	P	P	11 45 13.6	+1.1
	baz=253						
K20K	Telida	60.20	27	P	P	11 45 14.0	+1.4
	baz=252						
C19K	Lookout Ridge	60.36	20	P	P	11 45 14.2	+0.6
	baz=243,SNR=14						
UZB	Uzynbulak	60.37	309	eP	P	11 45 14.4	+0.1
	baz=310						
UZB	Uzynbulak	60.37	309	eP	P	11 45 14.4	+0.1
N20K	Mount Spurr	60.41	30	P	P	11 45 14.6	+0.5
	baz=255						
SPCR	Spurr Chakacha	60.41	30	P	P	11 45 14.8	+0.7
	baz=255						
A19K	Wainwright	60.42	18	P	P	11 45 15.5	+1.5
	baz=241						
J20K	Nowinta River	60.43	26	P	P	11 45 15.4	+1.3
	baz=251,SNR=17						
E19K	Redstone River	60.44	22	IAmb	IAmb	11 45 16.9	
	comp=Z,61nm,1.3s						
E19K	Redstone River	60.44	22	P	P	11 45 15.1	+1.0
	baz=246,SNR=14						
CNPM	China Poot	60.45	32	P	P	11 45 14.5	+0.1
I20K	Naaghedeneel	60.50	25	P	P	11 45 15.9	+1.4
	baz=250						
D19K	Kuna River	60.57	21	IAmb	IAmb	11 45 16.8	
	comp=Z,41nm,0.8s						
D19K	Kuna River	60.57	21	P	P	11 45 15.9	+0.9
	baz=245						
H20K	Anotleneega Mo	60.58	24	P	P	11 45 16.0	+0.9
	baz=250,SNR=14						
KPKS	Kokpek	60.63	310	eP	P	11 45 15.8	-0.1
	comp=Z,7.7nm,0.5s,baz=310						
KPKS	Kokpek	60.63	310	eP	P	11 45 15.8	-0.1
KPKS				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BRSE	Bradley Lake S	60.75	31	P	P	11 45 16.8	+0.4
	baz=257,SNR=5.2						
SATY	Saty	60.82	309	eP	P	11 45 17.6	+0.3
	baz=309						
SATY	Saty	60.82	309	eP	P	11 45 17.6	+0.3
F20K	Avaraart Lake	60.83	23	IAmb	IAmb	11 45 18.8	
	comp=Z,24nm,0.8s						
F20K	Avaraart Lake	60.83	23	P	P	11 45 17.8	+1.1
	baz=248,SNR=15						
PPLA	Purkeypile	60.88	28	P	P	11 45 18.0	+0.6
	baz=254						
SKT	Skwentna	60.92	29	IAmb	IAmb	11 45 18.4	
	comp=Z,45nm,1.0s						
SKT	Skwentna	60.92	29	P	P	11 45 17.4	-0.1
	baz=255,SNR=12						
CAST	Castle Rocks	61.07	27	P	P	11 45 19.3	+0.8
	baz=254,SNR=44						
KURK	Kurchatov	61.11	318	P	P	11 45 18.0	-0.9
KURK				IAmb	IAmb	11 45 19.8	
	comp=Z,24nm,0.9s						
KURK	Kurchatov	61.11	318	d iP	P	11 45 17.6	-1.3
KURK				i *PP	pP	11 46 10.3	+0.5
KURK				pmax	pmax		
	comp=Z,41nm,1.3s						
KURK	Kurchatov	61.11	318	P	P	11 45 17.9	-0.9
CHUM	Lake Minchumin	61.11	27	P	P	11 45 19.5	+0.9
	baz=253,SNR=14						
E20K	Nigu River	61.13	21	P	P	11 45 19.7	+0.9
	baz=247,SNR=31						
KURBB	Kurchatov Arra	61.15	318	P	P	11 45 18.2	-1.0
	comp=Z,16nm,0.4s,baz=97,slow=7.4,SNR=91						
	comp=Z,16nm,0.4s						
SUA	Susitna One	61.15	29	P	P	11 45 19.9	+0.7
	baz=256,SNR=6.5						
D20K	Etivluk River	61.16	21	P	P	11 45 19.8	+0.7
	baz=246,SNR=30						
O22K	Cooper Landing	61.41	31	P	P	11 45 21.0	+0.3
O22K	Cooper Landing	61.41	31	P	P	11 45 21.0	+0.3
	baz=257,SNR=11						
H21K	Melozitna Rive	61.45	25	IAmb	IAmb	11 45 23.1	
	comp=Z,29nm,0.9s						
H21K	Melozitna Rive	61.45	25	P	P	11 45 22.1	+1.2
	baz=252,SNR=17						
G21K	Allakaket	61.46	24	IAmb	IAmb	11 45 23.1	
	comp=Z,26nm,0.9s						
G21K	Allakaket	61.46	24	P	P	11 45 22.1	+1.1
	baz=251,SNR=10						
SEW	Seward	61.46	31	P	P	11 45 20.9	-0.1
	baz=258						
M22K	Willow	61.51	29	P	P	11 45 20.9	-0.5
	baz=256,SNR=11						
B20K	Meade River	61.52	19	P	P	11 45 22.6	+1.2
	baz=245,SNR=9.8						
RC01	Rabbit Creek A	61.54	30	P	P	11 45 21.7	+0.1
RC01	Rabbit Creek A	61.54	30	P	P	11 45 21.7	+0.1
	baz=257,SNR=10						
CUT	Chulitna	61.60	28	IAmb	IAmb	11 45 45.4	
	comp=Z,56nm,1.2s						
CUT	Chulitna	61.60	28	P	P	11 45 21.8	-0.2
	baz=256						
I21K	Tanana	61.63	25	IAmb	IAmb	11 45 24.3	
	comp=Z,38nm,0.9s						
I21K	Tanana	61.63	25	P	P	11 45 23.2	+1.1
	baz=253,SNR=19						
F21K	Alatna River	61.70	23	P	P	11 45 23.2	+0.5
	baz=250,SNR=8.9						
BPAW	Bear Paw Mtn.	61.73	26	P	P	11 45 23.5	+0.6
	baz=254,SNR=17						
MDOK	Medeo	61.82	309	eP	P	11 45 24.2	+0.2
	baz=310						
MDOK	Medeo	61.82	309	eP	P	11 45 24.2	+0.2
TRF	Thorofare Moun	61.86	27	P	P	11 45 24.1	+0.2
	baz=255,SNR=15						
CHKK	Chushkaly	61.86	310	eP	P	11 45 23.4	-0.8
	baz=310						
CHKK	Chushkaly	61.86	310	eP	P	11 45 23.3	-0.8
TNSS	Tian-Shan	61.89	309	eP	P	11 45 24.8	0.0
	baz=309						
TNSS	Tian-Shan	61.89	309	eP	P	11 45 24.8	0.0
AAA	Alma-Ata	61.91	309	eP	P	11 45 24.9	+0.4
	comp=Z,19nm,0.7s,baz=310						
AAA	Alma-Ata	61.91	309	eP	P	11 45 24.9	+0.4
AAA				pmax	pmax		
	comp=Z,19nm,0.7s						
PMR	Palmer	61.94	30	IAmb	IAmb	11 45 25.1	
	comp=Z,46nm,1.1s						
PMR	Palmer	61.94	30	P	P	11 45 24.1	-0.1
PMR	Palmer	61.94	30	P	P	11 45 24.0	-0.3
	baz=257,SNR=9.5						
C21K	Knifeblade Rid	61.95	20	P	P	11 45 25.1	+0.9
	baz=248						
E21K	Killik River	61.96	21	P	P	11 45 24.9	+0.6
E21K				IAmb	IAmb	11 45 27.4	
	comp=Z,67nm,1.5s						
E21K	Killik River	61.96	21	P	P	11 45 24.5	+0.2
	baz=249,SNR=8.7						
H22K	Ishtalitna Cre	62.08	24	P	P	11 45 26.1	+0.9
	baz=253,SNR=7.7						
MLY	Manley	62.09	26	P	P	11 45 25.8	+0.5
	baz=254,SNR=23						
PWL	Port Wells	62.16	30	P	P	11 45 26.2	+0.5
	baz=258,SNR=7.9						
B21K	Ikpikpuk River	62.18	20	P	P	11 45 26.6	+0.9
	baz=248						
KNK	Knik Glacier	62.21	30	P	P	11 45 26.7	+0.6
	baz=258,SNR=10						
A21K	Barrow	62.25	18	P	P	11 45 26.9	+0.8
	baz=245						
F22K	John River	62.28	23	P	P	11 45 27.7	+1.2
	baz=251,SNR=29						
KUU	Kurty	62.33	310	eP	P	11 45 26.6	-0.7
	baz=310						
KUU	Kurty	62.33	310	eP	P	11 45 26.5	-0.7
G22K	Bettles	62.34	23	P	P	11 45 27.6	+0.8
	baz=252						
SML	Sawmill	62.35	29	P	P	11 45 27.5	+0.4
	baz=258,SNR=22						
P23K	Montague Islan	62.45	31	P	P	11 45 27.9	+0.2
	baz=260						
RND	Reindeer	62.47	28	IAmb	IAmb	11 45 29.2	
	comp=Z,25nm,0.8s						
WAT1	Susitna Watana	62.48	28	P	P	11 45 27.9	+0.1
	baz=257						
MCK	McKinley	62.52	27	P	P	11 45 28.3	+0.2
	baz=256,SNR=9.5						
D22K	Ayikyak River	62.55	21	P	P	11 45 29.2	+0.9
	baz=250,SNR=30						
A22K	Sinclair Lake	62.60	19	P	P	11 45 29.4	+1.0
	baz=247						
E22K	Anaktuvuk Pass	62.61	22	P	P	11 45 29.9	+1.2
	baz=251,SNR=22						
M23K	Glacier View	62.63	29	P	P	11 45 29.2	+0.3
	baz=259,SNR=10						
NEA2	Nenana	62.66	26	IAmb	IAmb	11 45 30.6	
	comp=Z,26nm,0.8s						
NEA2	Nenana	62.66	26	P	P	11 45 28.9	-0.1
	baz=256,SNR=14						
I23K	Minto, Yukon-K	62.69	26	P	P	11 45 29.8	+0.6
	baz=255,SNR=22						
KSH	Kashi	62.70	305	P	P	11 45 31.8	+1.9
KSH				pmax	pmax		
	comp=Z,11nm,1.2s						
GLI	Glacier Island	62.76	31	P	P	11 45 29.7	0.0
	baz=260						
H23K	Yukon River	62.79	25	P	P	11 45 30.7	+0.8
	baz=255						
WAT6	Susitna Watana	62.79	29	P	P	11 45 29.9	-0.2
	baz=258,SNR=14						
SCM	Sheep Creek Mo	62.83	29	P	P	11 45 30.4	+0.2
	baz=259,SNR=14						
B22K	Teshekpuk Lake	62.83	19	P	P	11 45 29.7	-0.2
	baz=249,SNR=5.9						
G23K	Bananza Creek	62.84	24	P	P	11 45 31.3	+1.1
	baz=254,SNR=17						
Q23K	Middleton Isla	62.88	32	P	P	11 45 31.3	+0.8
	baz=261						
COLD	Coldfoot	62.92	23	P	P	11 45 31.6	+1.0
	baz=254,SNR=14						
WRH	Wood River Hil	63.05	26	IAmb	IAmb	11 45 32.2	
	comp=Z,28nm,0.7s						
DHY	Denali Highway	63.05	28	IAmb	IAmb	11 45 33.1	
	comp=Z,15nm,0.7s						
DHY	Denali Highway	63.05	28	P	P	11 45 31.8	0.0
	baz=258,SNR=7.9						
COLA	College	63.24	26	P	P	11 45 32.6	-0.1
COLA	College	63.24	26	P	P	11 45 33.4	+0.6
COLA	College	63.24	26	P	P	11 45 33.7	+0.9
	baz=257						
COLA	College	63.24	26	P	P	11 45 32.6	-0.1
COLA				pmax	pmax		
	comp=Z,33nm,0.8s						
COLA	College	63.24	26	P	P	11 45 32.8	+0.1
D23K	Nanushuk River	63.27	21	P	P	11 45 34.4	+1.4
	baz=252,SNR=14						
HYB	Hyderabad	63.34	280	eP	P	11 45 34.7	+0.4
EYAK	Cordova Ski Ar	63.35	31	P	P	11 45 34.7	+1.1
EYAK	Cordova Ski Ar	63.35	31	P	P	11 45 34.6	+1.1
	baz=261						
E23K	Chandalar	63.37	22	P	P	11 45 35.1	+1.4
	baz=254,SNR=35						
M24K	Tolsona, Glenn	63.41	29	P	P	11 45 35.0	+0.9
	baz=260						
KLU	Klutina	63.42	30	IAmb	IAmb	11 45 36.0	
	comp=Z,28nm,0.6s						
KLU	Klutina	63.42	30	P	P	11 45 34.7	+0.6
	baz=260,SNR=8.9						
H24K	Noodor Dome	63.45	25	IAmb	IAmb	11 45 36.0	
	comp=Z,21nm,0.6s						
H24K	Noodor Dome	63.45	25	P	P	11 45 35.2	+0.9
	baz=256,SNR=26						
POKR	Poker Plat Res	63.47	26	IAmb	IAmb	11 45 35.0	
	comp=Z,21nm,1.1s						
POKR	Poker Plat Res	63.47	26	P	P	11 45 33.9	-0.4
	baz=257						
HDA	Harding Lake	63.52	27	IAmb	IAmb	11 45 34.8	
	comp=Z,30nm,0.8s						
HDA	Harding Lake	63.52	27	P	P	11 45 34.1	-0.5
	baz=258,SNR=21						
TOLK	Toolik Lake Re	63.55	22	P	P	11 45 36.2	+1.3
	baz=253,SNR=22						
C23K	Itkillik River	63.56	20	P	P	11 45 35.8	+1.0
	baz=252,SNR=18						
SGDS	Sogindy	63.58	310	eP	P	11 45 34.9	-0.7
	baz=310						
SGDS	Sogindy	63.58	310	eP	P	11 45 34.8	-0.7
ILAR	Eielson Array	63.62	26	P	P	11 45 34.5	-0.8
	comp=Z,27nm,0.8s,baz=254,slow=5.0,SNR=280						
	comp=Z,27nm,0.8s						
AAK	Ala-Archa	63.70	309	P	P	11 45 36.0	-0.4
AAK	Ala-Archa	63.70	309	c iP	P	11 45 36.6	+0.2
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
E24K	Your Creek	63.78	22	IAmb	IAmb	11 45 38.5	
	comp=Z,30nm,0.8s						
E24K	Your Creek	63.78	22	P	P	11 45 37.4	+1.0
	baz=255,SNR=24						
G24K	Hadweenzic Riv	63.82	24	IAmb	IAmb	11 45 38.6	
	comp=Z,27nm,0.8s						
G24K	Hadweenzic Riv	63.82	24	P	P	11 45 37.4	+0.8
	baz=256,SNR=20						
F24K	Squaw Lake	63.86	23	IAmb	IAmb	11 45 39.2	
	comp=Z,19nm,0.8s						
F24K	Squaw Lake	63.86	23	P	P	11 45 38.2	+1.3
	baz=256,SNR=15						
PAX	Paxson	63.89	28	P	P	11 45 37.3	+0.2
	baz=260,SNR=24						
K24K	Donnelly Dome	63.90	27	P	P	11 45 37.4	+0.2
	baz=259						
KAIM	Kaiyuk Island	63.92	32	P	P	11 45 38.1	+0.8
	baz=262						
HARP	HAARP	63.93	29	P	P	11 45 38.3	+0.9
	baz=261,SNR=10						
D24K	Happy Valley	63.96	21	P	P	11 45 38.9	+1.5
	baz=254						
BTLS	Baital	63.97	312	eP	P	11 45 37.4	-0.5
	comp=Z,7.8nm,0.4s,baz=312						
BTLS	Baital	63.97	312	eP	P	11 45 37.4	-0.5
BTLS				pmax	pmax		
	comp=Z,8.0nm,0.4s						
BMRM	Bremner River	63.97	31	P	P	11 45 38.6	+0.8
	baz=262,SNR=9.8						
URZ	Urewera	64.03	153	P	P	11 45 37.8	-0.4
N25K	Chitina, Valde	64.07	30	P	P	11 45 39.2	+0.9
	baz=262,SNR=8.0						
C24K	Franklin Bluff	64.16	21	P	P	11 45 39.5	+0.8
	baz=254,SNR=13						
J25K	Salcha River,	64.23	27	IAmb	IAmb	11 45 39.4	
	comp=Z,16nm,0.7s						
J25K	Salcha River,	64.23	27	P	P	11 45 38.7	-0.7
	baz=259,SNR=18						
RIDG	Independent Ri	64.30	28	P	P	11 45 39.5	-0.3
	baz=260,SNR=20						
PRP	Porcupine Dome	64.34	26	P	P	11 45 39.7	-0.4
	baz=259						
G25K	Bearman Lake	64.36	24	P	P	11 45 41.5	+1.4
	baz=258,SNR=8.2						
H25L	Birch Creek	64.37	25	P	P	11 45 41.0	+0.9
	baz=258						
QRZ	Quartz Range	64.40	158	P	P	11 45 40.9	+0.3
BKZ	Black Stump Fm	64.52	154	P	P	11 45 41.4	-0.1
VRDI	Verde Repeater	64.56	30	IAmb	IAmb	11 45 43.3	
	comp=Z,33nm,0.8s						
CRQE	Cirque	64.68	31	P	P	11 45 42.9	+0.5
	baz=263,SNR=11						
SCRK	Sand Creek	64.71	27	P	P	11 45 42.7	+0.2
	baz=261,SNR=28						
F25K	Christian Rive	64.72	23	P	P	11 45 43.4	+1.0
	baz=258,SNR=25						
MCARA	McCarthy VSAT	64.79	30	P	P	11 45 43.6	+0.7
	baz=263,SNR=14						
TGL	Tana Glacier	64.81	31	IAmb	IAmb	11 45 45.0	
	comp=Z,43nm,1.0s						
D25K	Kavik River	64.85	21	P	P	11 45 44.2	+1.0
	baz=256,SNR=26						
L26K	Log Cabin Wild	64.85	28	IAmb	IAmb	11 45 45.1	
	comp=Z,23nm,0.9s						
L26K	Log Cabin Wild	64.85	28	P	P	11 45 43.8	+0.5
	baz=262,SNR=12						
E25K	Arctic Village	64.86	23	IAmb	IAmb	11 45 45.7	
	comp=Z,40nm,1.1s						
E25K	Arctic Village	64.86	23	P	P	11 45 44.5	+1.2
	baz=258,SNR=6.1						
M26K	Nabesna, AK	64.93	29	P	P	11 45 44.4	+0.5
	baz=263,SNR=6.1						
J26L	Joseph Creek	64.98	27	P	P	11 45 44.2	0.0
	baz=261,SNR=39						
MESA	MESA	65.18	32	P	P	11 45 46.7	+0.9
	baz=265						
I26K	Coal Creek Min	65.28	26	P	P	11 45 45.6	-0.4
	baz=261						
G26K	Porcupine Rive	65.30	24	P	P	11 45 47.3	+1.2
	baz=260,SNR=32						
F26K	Sheenjek River	65.30	23	P	P	11 45 47.3	+1.1
	baz=259,SNR=36						
NIL	Nilore	65.36	299	P	P	11 45 47.2	0.0
NIL				IAmb	IAmb	11 45 48.8	
	comp=Z,42nm,1.0s						
NIL	Nilore	65.36	299	P	P	11 45 47.2	0.0
NIL				pmax	pmax		
	comp=Z,42nm,1.0s						
NIL	Nilore	65.36	299	P	P	11 45 47.4	+0.2
NIL				pP	pP	11 46 36.8	-1.8
BARN	Barnard Glacie	65.41	31	IAmb	IAmb	11 45 48.9	
	comp=Z,19nm,0.8s						
M27K	Edge Creek, AK	65.44	29	IAmb	IAmb	11 46 54.1	
	comp=Z,22nm,0.8s						
M27K	Edge Creek, AK	65.44	29	P	P	11 45 47.7	+0.4
	baz=264,SNR=7.0						
C26K	Camden Bay	65.48	21	P	P	11 45 49.1	+1.8
	baz=257,SNR=32						
L27K	Beaver Creek,	65.55	29	IAmb	IAmb	11 45 49.4	
	comp=Z,17nm,0.7s						
L27K	Beaver Creek,	65.55	29	P	P	11 45 48.5	+0.6
	baz=263,SNR=18						
CTG	Chitna Glacier	65.55	31	P	P	11 45 48.8	+0.8
	baz=265,SNR=7.1						
K27K	Chicken	65.55	27	P	P	11 45 48.6	+0.9
	baz=263						
CTGM	Chitina Glacie	65.56	31	IAmb	IAmb	11 45 50.1	
	comp=Z,33nm,0.8s						
LOGN	Logan Glacier	65.70	31	IAmb	IAmb	11 45 51.0	
	comp=Z,37nm,0.9s						
I27K	Kandik River	65.95	26	P	P	11 45 50.5	+0.1
	baz=262,SNR=12						
PINM	Pinnacle	66.02	32	P	P	11 45 51.7	+0.8
	baz=266,SNR=8.4						
YUK3	Moose Creek	66.05	30	P	P	11 45 51.9	+0.7
	baz=265,SNR=15						
H27K	Steamboat Moun	66.08	25	P	P	11 45 52.0	+0.8
	baz=262,SNR=41						
O28M	Mount Upton	66.10	31	P	P	11 45 52.9	+1.2
	baz=266,SNR=24						
G27K	Doyon Strip	66.11	24	P	P	11 45 52.3	+1.0
	baz=262,SNR=7.4						
BVAR	Borovoye Array	66.31	320	P	P	11 45 52.2	-0.6
	comp=Z,52nm,0.6s,baz=91,slow=7.5,SNR=189						
	comp=Z,52nm,0.6s						
BCPM	Bancas Point	66.32	32	IAmb	IAmb	11 45 54.9	
	comp=Z,34nm,0.9s						
E27K	Coleen River	66.33	23	P	P	11 45 53.8	+1.1
	baz=261,SNR=8.8						
YUK8	Steele Glacier	66.34	31	P	P	11 45 54.2	+1.0
	baz=266,SNR=15						
BRVK	Borovoye	66.38	320	P	P	11 45 52.7	-0.6
BRVK				IAmb	IAmb	11 45 53.9	
	comp=Z,30nm,0.8s						
BRVK	Borovoye	66.38	320	P	P	11 45 52.7	-0.6
BRVK				pmax	pmax		
	comp=Z,30nm,0.8s						
BRVK	Borovoye	66.38	320	P	P	11 45 52.6	-0.6
PNL	Peninsula	66.42	32	P	P	11 45 54.5	+1.1
PNL	Peninsula	66.42	32	P	P	11 45 54.1	+0.6
	baz=267,SNR=5.7						
KK31	Karatay Array	66.60	310	P	P	11 45 54.5	-0.4
KK31				IAmb	IAmb	11 45 55.9	
	comp=Z,21nm,0.7s						
KK31	Karatay Array	66.60	310	P	P	11 45 54.5	-0.4
KK31				pmax	pmax		
	comp=Z,21nm,0.7s						
KKAR	Karatay Array	66.60	310	P	P	11 45 54.6	-0.2
KKAR	Karatay Array	66.60	310	P	P	11 45 54.7	-0.2
I28M	Miner Creek	66.63	26	IAmb	IAmb	11 45 56.2	
	comp=Z,18nm,0.8s						
I28M	Miner Creek	66.63	26	P	P	11 45 55.1	+0.3
	baz=264,SNR=17						
D27M	Malcolm River	66.72	22	IAmb	IAmb	11 45 57.5	
	comp=Z,28nm,0.7s						
D27M	Malcolm River	66.72	22	P	P	11 45 56.2	+1.0
	baz=262,SNR=18						
DAWY	Dawson	66.73	28	IAmb	IAmb	11 45 57.1	
	comp=Z,20nm,0.8s						
DAWY	Dawson	66.73	28	P	P	11 45 55.7	+0.3
	baz=265,SNR=21						
O29M	Mount Kennedy	66.87	32	P	P	11 45 57.7	+1.3
	baz=268,SNR=19						
YUK4	Talbot Arm	66.88	31	P	P	11 45 58.0	+1.5
	baz=267,SNR=13						
F28M	Old Crow	66.90	24	IAmb	IAmb	11 45 58.3	
	comp=Z,25nm,0.9s						
F28M	Old Crow	66.90	24	P	P	11 45 57.2	+0.9
	baz=263,SNR=22						
YUK6	Outpost Mounta	67.00	31	P	P	11 45 58.8	+1.5
	baz=268,SNR=11						
IUG	Iuzhnay	67.03	309	eP	P	11 45 57.1	-0.7
	baz=309						
IUG	Iuzhnay	67.03	309	eP	P	11 45 57.0	-0.7
M29M	Somme Creek	67.03	29	IAmb	IAmb	11 45 59.7	
	comp=Z,37nm,0.8s						
M29M	Somme Creek	67.03	29	P	P	11 45 58.4	+1.1
	baz=267,SNR=32						
E28M	Babbage River	67.14	23	IAmb	IAmb	11 46 00.3	
	comp=Z,55nm,1.3s						
E28M	Babbage River	67.14	23	P	P	11 45 59.2	+1.4
	baz=263,SNR=15						
L29M	L29M	67.22	29	P	P	11 45 59.9	+1.5
	baz=267,SNR=42						
P29M	Windy Craggy	67.26	32	P	P	11 46 00.3	+1.6
	baz=269,SNR=18						
J29N	Klondike Camp	67.27	27	P	P	11 45 59.8	+1.0
	baz=266,SNR=5.2						
I29M	Ogilvie Camp,	67.30	26	IAmb	IAmb	11 46 00.4	
	comp=Z,26nm,1.0s						
I29M	Ogilvie Camp,	67.30	26	P	P	11 45 59.3	+0.5
	baz=266,SNR=14						
CHM	Chimkent	67.33	309	eP	P	11 45 58.9	-0.6
	baz=309						
CHM	Chimkent	67.33	309	eP	P	11 45 58.9	-0.6
H29M	Whitestone	67.35	25	IAmb	IAmb	11 46 00.8	
	comp=Z,26nm,0.8s						
H29M	Whitestone	67.35	25	P	P	11 45 59.9	+0.8
	baz=265,SNR=14						
HYT	Haines Junctio	67.42	31	P	P	11 46 01.2	+1.4
	baz=268,SNR=27						
D28M	Stokes Point	67.52	22	P	P	11 46 00.9	+0.8
	baz=264						
K29M	Barlow Dome	67.54	28	IAmb	IAmb	11 46 02.6	
	comp=Z,35nm,0.8s						
K29M	Barlow Dome	67.54	28	P	P	11 46 01.5	+1.0
	baz=267,SNR=21						
G29M	Pine Creek	67.54	25	IAmb	IAmb	11 46 02.5	
	comp=Z,36nm,0.9s						
G29M	Pine Creek	67.54	25	P	P	11 46 01.4	+1.0
	baz=265,SNR=14						
N30M	Aishikik Lake	67.64	30	IAmb	IAmb	11 46 03.4	
	comp=Z,36nm,0.8s						
N30M	Aishikik Lake	67.64	30	P	P	11 46 02.4	+1.3
	baz=268,SNR=14						
P30M	Million Dollar	67.67	32	P	P	11 46 02.8	+1.5
	baz=269						
E29M	Blow River	67.72	23	IAmb	IAmb	11 46 04.5	
	comp=Z,47nm,1.7s						
E29M	Blow River	67.72	23	P	P	11 46 02.3	+0.9
	baz=265,SNR=6.1						
M30M	Minto, Yukon	67.81	29	IAmb	IAmb	11 46 03.8	
	comp=Z,13nm,0.6s						
M30M	Minto, Yukon	67.81	29	P	P	11 46 03.3	+1.2
	baz=268,SNR=12						
PLBC	Pleasant Camp	67.96	33	P	P	11 46 04.2	+1.2
	baz=270,SNR=23						
EPYK	Eagle Plains	68.02	25	IAmb	IAmb	11 46 04.9	
	comp=Z,33nm,0.9s

baz=267,SNR=30
SKAG Skagway 68.49 33 IAmb IAmb 11 46 08.6
comp=Z,26nm,0.7s
SKAG Skagway 68.49 33 P **P 11 46 07.6 +1.3**
SKAG Skagway 68.49 33 P **P 11 46 07.6 +1.3**
baz=271,SNR=16
SIT Sitka 68.54 35 P **P 11 46 08.1 +1.5**
SIT Sitka 68.54 35 P **P 11 46 07.0 +0.4**
baz=272
KBL Kabul 68.70 301 P **P 11 46 08.1 -0.3**
KBL IAmb IAmb 11 46 09.3
comp=Z,21nm,0.7s
KBL Kabul 68.70 301 P **P 11 46 08.1 -0.3**
KBL pmax pmax
comp=Z,21nm,0.7s
WHY Whitehorse 68.70 31 IAmb IAmb 11 46 10.0
comp=Z,28nm,1.0s
WHY Whitehorse 68.70 31 P **P 11 46 09.1 +1.3**
baz=271,SNR=12
M31M Drury Creek, Y 68.93 30 P **P 11 46 09.8 +0.8**
baz=270,SNR=11
S32K Killisnoo 68.93 35 P **P 11 46 09.5 +0.5**
baz=272
R32K Eaglecrest 68.94 34 P **P 11 46 10.2 +1.1**
baz=272,SNR=7.5
H31M Peel River 68.97 26 P **P 11 46 09.9 +0.7**
baz=269,SNR=16
G31M Satah River 69.02 25 P **P 11 46 09.8 +0.4**
baz=269,SNR=27
F31M Tsiigehtchic 69.24 24 IAmb IAmb 11 46 11.8
comp=Z,58nm,1.4s
F31M Tsiigehtchic 69.24 24 P **P 11 46 10.8 +0.1**
baz=269,SNR=14
P32M Atlin 69.31 32 IAmb IAmb 11 46 13.5
comp=Z,26nm,0.8s
P32M Atlin 69.31 32 P **P 11 46 12.5 +1.0**
baz=272,SNR=9.7
INK Inuvik 69.34 23 IAmb IAmb 11 46 12.4
comp=Z,36nm,0.8s
INK Inuvik 69.34 23 P **P 11 46 11.4 +0.1**
baz=269,SNR=24
FARO Faro, Yukon 69.42 30 P **P 11 46 12.6 +0.6**
baz=271,SNR=12
N32M Quiet Lake 69.57 31 IAmb IAmb 11 46 15.0
comp=Z,35nm,0.9s
N32M Quiet Lake 69.57 31 P **P 11 46 13.8 +0.8**
baz=272,SNR=10
P33M Teslin, Yukon 69.74 32 P **P 11 46 14.9 +0.8**
baz=273,SNR=8.9
U33K Whale Pass 69.80 36 P **P 11 46 15.4 +1.1**
baz=274
Q32M Nakina River 70.08 33 P **P 11 46 17.5 +1.1**
baz=274,SNR=6.5
WRAK Wrangell Islan 70.21 36 IAmb IAmb 11 46 19.1
comp=Z,28nm,0.9s
WRAK Wrangell Islan 70.21 36 P **P 11 46 17.8 +0.9**
baz=274,SNR=5.5
MMPY Sheldon Lake, 70.37 29 P **P 11 46 19.0 +1.2**
baz=273,SNR=7.7
R33M Jennings River 70.72 33 P **P 11 46 21.3 +1.2**
baz=274,SNR=10
S34M Telegraph Cree 70.75 34 IAmb IAmb 11 46 22.6
comp=Z,32nm,0.8s
S34M Telegraph Cree 70.75 34 P **P 11 46 21.6 +1.4**
baz=275
DLBC Dease Lake 71.29 34 IAmb IAmb 11 46 25.9
comp=Z,28nm,0.8s
DLBC Dease Lake 71.29 34 P **P 11 46 24.7 +1.3**
baz=276,SNR=16
T35M Bob Quinn 71.31 35 IAmb IAmb 11 46 25.9
comp=Z,47nm,1.2s
T35M Bob Quinn 71.31 35 P **P 11 46 25.1 +1.5**
baz=276,SNR=7.4
SVE Sverdlovsk 71.72 325 *e*P **P 11 46 25.6 -0.3**
SVE pmax pmax
comp=Z,25nm,0.9s
WTLY Watson Lake, Y 71.75 32 P **P 11 46 27.2 +1.1**
baz=276,SNR=7.9
TGTN Hyland Airport 71.86 30 P **P 11 46 28.0 +1.2**
baz=276,SNR=18
A36M Sachs Harbour 72.03 19 P **P 11 46 28.2 +0.7**
baz=275
C36M Paulatuk 72.71 22 P **P 11 46 31.7 +0.2**
baz=277,SNR=6.9
ARU Arti 72.91 325 P **P 11 46 31.8 -1.2**
ARU IAmb IAmb 11 46 33.8
comp=Z,31nm,0.9s
ARU Arti 72.91 325*c i*P **P 11 46 32.2 -0.8**
ARU 11 46 47.9
ARU 11 49 14.9
ARU S **S 11 55 38.7 -1.4**
ARU pmax pmax
comp=Z,33nm,0.9s
ABKAR Akbulak array 73.17 317 P **P 11 46 33.8 -0.9**
LIRD Liard River Hi 73.19 32 P **P 11 46 35.9 +1.3**
baz=279,SNR=9.4
WRGLY Wrigley 73.85 28 P **P 11 46 39.5 +1.2**
baz=280,SNR=16
KOTAN Kotaneelee Air 74.10 31 P **P 11 46 40.8 +0.9**
baz=280,SNR=9.8
FLDN Fort Liard 74.36 31 IAmb IAmb 11 46 43.4
comp=Z,28nm,0.8s
FLDN Fort Liard 74.36 31 P **P 11 46 42.3 +1.0**
baz=280
CLRS Cowichan Lake 76.30 43 IAmb IAmb 11 46 54.8
comp=Z,23nm,1.0s
GEYT Alibeck 76.73 306 P **P 11 46 55.0 -0.3**
GEYT Alibeck 76.73 306 P **P 11 46 55.0 -0.3**
GEYT Alibeck 76.73 306 P **P 11 46 55.4 +0.1**
comp=Z,12nm,1.1s,baz=52,slow=9.3,SNR=13
comp=Z,12nm,1.1s
GYA0B ALIBECK ARRAY 76.73 306 P **P 11 46 55.3 0.0**
PGC Sidney 76.78 43 IAmb IAmb 11 46 57.4
comp=Z,22nm,0.8s
NLWA Neilton Lookou 76.79 44 IAmb IAmb 11 46 58.2
comp=Z,40nm,0.9s
B04A Port Angeles 76.88 44 IAmb IAmb 11 46 58.5
comp=Z,35nm,0.8s
WISH Wishkah 76.92 45 IAmb IAmb 11 46 59.1
comp=Z,41nm,0.8s
LLLB Lillooet 77.30 41 IAmb IAmb 11 47 00.3
comp=Z,18nm,0.7s
KIRV Kirov 77.30 328*de*P **P 11 46 57.7 -0.2**
GNW Green Mountain 77.44 44 IAmb IAmb 11 47 01.6
comp=Z,51nm,1.0s
G03D McMinnville, O 77.72 46 IAmb IAmb 11 47 03.0
comp=Z,31nm,0.8s
YKA Yellowknife Ar 77.97 28 P **P 11 47 00.8 -0.8**
comp=Z,16nm,0.6s,baz=290,slow=5.5,SNR=135
comp=Z,16nm,0.6s
I03D Drain, OR 78.04 48 IAmb IAmb 11 47 04.8
comp=Z,26nm,0.8s
B06A Marblemount 78.07 43 IAmb IAmb 11 47 04.2
comp=Z,32nm,1.2s
KMPM Mount Pierce 78.31 51 IAmb IAmb 11 47 06.7
comp=Z,31nm,0.9s
KHMM Horse Mountain 78.48 51 IAmb IAmb 11 47 07.8
comp=Z,24nm,0.8s
H04A Detroit Lake 78.59 47 IAmb IAmb 11 47 07.2
comp=Z,38nm,1.0s
HOOD Mount Hood Mea 78.79 46 IAmb IAmb 11 47 08.8
comp=Z,37nm,1.0s
LTY Liberty 78.93 44 IAmb IAmb 11 47 08.9
comp=Z,31nm,0.8s
YBH Yreka Blue Hor 79.00 50 IAmb IAmb 11 47 10.2
comp=Z,23nm,0.9s
BRLDA Berland Lookou 79.03 37 IAmb IAmb 11 47 09.3
comp=Z,38nm,0.9s
G05A Wamic 79.04 46 IAmb IAmb 11 47 15.9
comp=Z,20nm,0.8s
SPITS Spitsbergen Ar 79.05 351 P **P 11 47 06.5 -0.8**
comp=Z,2.5nm,0.4s,baz=107,slow=5.6,SNR=15
comp=Z,2.5nm,0.4s
RES Resolute Bay 79.36 14 P **P 11 47 09.2 +0.3**
RES IAmb IAmb 11 47 10.1
comp=Z,18nm,0.8s
RES Resolute Bay 79.36 14 P **P 11 47 09.2 +0.3**
RES pmax pmax
comp=Z,18nm,0.8s
E07A Sunnyside 79.66 44 IAmb IAmb 11 47 13.2
comp=Z,38nm,0.8s
PINE Pine Mountain 79.70 47 P **P 11 47 12.2 +0.6**
F07A Phinny Hill Vi 79.80 45 IAmb IAmb 11 47 13.9
comp=Z,27nm,1.1s
HAWA Hanford 79.92 44 IAmb IAmb 11 47 14.5
comp=Z,29nm,0.9s
BELG Belogornoye 80.04 322*c i*P **P 11 47 12.9 -0.1**
BELG pmax pmax
comp=Z,8.0nm,0.9s
D08A Wollman Farm, 80.14 44 IAmb IAmb 11 47 15.5
comp=Z,40nm,1.0s
C09A Chrisman Ranch 80.34 43 IAmb IAmb 11 47 16.4
comp=Z,27nm,0.8s
ORV Oroville 80.48 52 IAmb IAmb 11 47 17.2
comp=Z,23nm,0.9s
E09A Wood Farm, Sta 80.81 44 IAmb IAmb 11 47 19.1
comp=Z,30nm,0.8s
NEW Newport 80.94 42 IAmb IAmb 11 47 19.5
comp=Z,26nm,0.9s
NEW Newport 80.94 42 P **P 11 47 18.6 +0.7**
baz=288,SNR=23
AFDM Forest Hills D 81.04 52 IAmb IAmb 11 47 20.5
comp=Z,20nm,0.9s
KLMR Klimovskoe 81.31 332 *e*P **P 11 47 16.7 -2.8**
KLMR AMP 11 47 20.0
comp=Z,26nm,1.3s
KLMR Klimovskoe 81.31 332 *e*P **P 11 47 16.6 -2.9**
KLMR pmax pmax
comp=Z,26nm,1.3s
J08A Circle Bar Ran 81.54 47 IAmb IAmb 11 47 23.2
comp=Z,20nm,0.8s
EDM Edmonton 81.59 37 IAmb IAmb 11 47 22.7
comp=Z,57nm,1.2s
PLTX Planet X, Gerl 81.63 50 IAmb IAmb 11 47 23.9
comp=Z,29nm,0.9s
EMB Emerald Bay 81.68 52 IAmb IAmb 11 47 24.2
comp=Z,22nm,0.8s
WVOR Wild Horse Val 81.70 48 IAmb IAmb 11 47 24.0
comp=Z,20nm,0.9s
UOSS Minazif 81.71 293 P **P 11 47 21.8 -0.6**
CMB Columbia Colle 81.75 53 IAmb IAmb 11 47 24.2
comp=Z,28nm,0.8s
BMO Blue Mountains 81.88 45 IAmb IAmb 11 47 24.7
comp=Z,21nm,0.9s
PAHR Pah Rah Range 81.99 51 IAmb IAmb 11 47 25.5
comp=Z,21nm,0.9s
YERR Yerington 82.32 52 IAmb IAmb 11 47 27.4
comp=Z,34nm,0.8s
ARCES ARCESS Array B 82.36 342 P **P 11 47 24.8 -0.1**
comp=Z,3.3nm,0.4s,baz=85,slow=8.5,SNR=39
comp=Z,3.3nm,0.4s
SMMC Simmler 82.87 55 P **P 11 47 29.5 +1.2**
baz=288,SNR=5.2
VOG Valley Oaks Go 83.03 54 P **P 11 47 29.4 +0.4**
baz=288
MLAC Mammoth, Mammo 83.04 53 P **P 11 47 29.9 +0.6**
baz=288
LHV Little Huntoon 83.10 52 IAmb IAmb 11 47 31.7
comp=Z,25nm,0.8s
PKM Mcpherson Peak 83.14 56 P **P 11 47 30.7 +0.9**
baz=288,SNR=11
KVN Kaiserville 83.14 51 IAmb IAmb 11 47 31.6
comp=Z,30nm,0.7s
NVAR Mina Array Bea 83.19 52 P **P 11 47 31.1 +1.1**
comp=Z,37nm,0.7s,baz=267,slow=5.8,SNR=357
NV11 Mina Array Sit 83.30 52 IAmb IAmb 11 47 32.4
comp=Z,26nm,0.8s
MFID Camas Ranch 83.35 46 IAmb IAmb 11 47 32.5
comp=Z,26nm,0.8s
VES Vestal, Richgr 83.41 55 P **P 11 47 30.6 -0.3**
baz=288,SNR=12
BCW Bitter Crk WRg 83.44 55 IAmb IAmb 11 47 33.5
comp=Z,25nm,1.0s
MSO Missoula 83.44 43 P **P 11 47 31.4 +0.3**
baz=290
TIN Tinemaha, Big 83.68 53 P **P 11 47 33.2 +0.7**
baz=289
ARVC Arvin 83.83 55 P **P 11 47 33.0 -0.1**
baz=289
CHMT Chamberlain Mo 83.85 43 P **P 11 47 33.2 0.0**
ISA Isabella, Lake 83.94 55 P **P 11 47 33.6 -0.1**
baz=289,SNR=5.4
CWC Cottonwood Cre 83.99 54 P **P 11 47 34.5 +0.4**
baz=289
DAG Danmarks Havn 84.16 356 *i*P **P 11 47 32.0 -1.9**
HLID Hailey 84.27 46 P **P 11 47 36.1 +0.8**
baz=290,SNR=18
GMN Gold Mountain 84.33 53 IAmb IAmb 11 47 38.0
comp=Z,24nm,0.7s
GRAC Grapevine Rang 84.35 53 IAmb IAmb 11 47 37.6
comp=Z,15nm,0.7s
GRAC Grapevine Rang 84.35 53 P **P 11 47 36.8 +1.0**
baz=289,SNR=8.2
CCAC Calif City Air 84.46 55 IAmb IAmb 11 47 38.1
comp=Z,17nm,0.8s
DECC Green Verdugo 84.50 56 P **P 11 47 36.9 +0.4**
baz=289
EDW2 Edwards Air Fo 84.56 55 P **P 11 47 37.4 +0.5**
baz=289
MPMC Manual Prospec 84.57 54 P **P 11 47 37.8 +0.7**
baz=289,SNR=29
LRMC Laurel Mtn Rad 84.61 54 P **P 11 47 37.9 +0.7**
baz=289,SNR=24
CIS Catalina Islan 84.71 57 P **P 11 47 37.8 +0.2**
baz=289
DLMT Dillon 84.84 44 P **P 11 47 38.9 +0.7**
DLMT IAmb IAmb 11 47 40.3
comp=Z,15nm,0.7s
FURC Furnace Creek, 84.91 53 P **P 11 47 39.4 +1.0**
baz=290,SNR=19
WCT Wildcat Mounta 84.98 53 IAmb IAmb 11 47 40.6
comp=Z,28nm,0.7s
BFSC Mount Baldy Ra 85.03 56 P **P 11 47 39.7 +0.3**
baz=289
OBN Obninsk 85.12 327 *e*P **P 11 47 38.3 -0.8**
OBN pmax pmax
comp=Z,4.0nm,0.8s
TPNV Topopah Spring 85.21 53 IAmb IAmb 11 47 41.9
comp=Z,32nm,0.7s
TPNV Topopah Spring 85.21 53 P **P 11 47 40.9 +0.7**
baz=290,SNR=42
R11B Troy Canyon, C 85.23 51 P **P 11 47 40.9 +0.6**
baz=290,SNR=20
GSC Goldstone, Bar 85.34 54 P **P 11 47 41.5 +0.7**
baz=290,SNR=14
S11A Rachel 85.35 52 IAmb IAmb 11 47 42.8
comp=Z,27nm,0.9s
BOZ Bozeman (W) 85.38 43 IAmb IAmb 11 47 42.4
comp=Z,16nm,0.7s
BOZ Bozeman (W) 85.38 43 P **P 11 47 41.2 +0.3**
baz=292,SNR=26
MURC Murrieta 85.61 56 P **P 11 47 42.5 +0.4**
baz=290
EGMT Eagleton 85.64 41 IAmb IAmb 11 47 43.2
comp=Z,24nm,1.1s
EGMT Eagleton 85.64 41 P **P 11 47 42.2 +0.2**
baz=293,SNR=8.9
ZEI Tsey 85.64 314 *e*P **P 11 47 39.5 -2.8**
ZEI pmax pmax
comp=Z,6.0nm,0.9s
HEC Hector,Ludlow 85.87 55 P **P 11 47 43.7 +0.4**
baz=290
109C Camp Elliot, M 85.92 57 P **P 11 47 44.5 +1.0**
baz=290
SPR3 Spring Creek 3 85.93 50 IAmb IAmb 11 47 46.7
comp=Z,36nm,1.4s
PRN Pahroc Range 85.95 52 IAmb IAmb 11 47 45.8
comp=Z,22nm,1.0s
TUQ Turquoise Moun 85.98 54 P **P 11 47 44.1 +0.1**
baz=290
KBZ Khabaz 85.98 315*de*P **P 11 47 43.0 -0.5**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 85.98 315 P **P 11 47 42.6 -0.9**
comp=Z,5.0nm,0.9s,baz=68,slow=5.0,SNR=8.7
comp=Z,5.0nm,0.9s
HVU Hansel Valley 86.03 47 IAmb IAmb 11 47 46.2
comp=Z,54nm,1.4s
KIV Kislovodsk 86.03 315 *e*P **P 11 47 44.1 +0.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s
PFO Pinyon Flats O 86.18 56 P **P 11 47 45.3 +0.3**
PFO Pinyon Flats O 86.18 56 P **P 11 47 45.1 +0.1**
baz=290,SNR=7.8
PFO Pinyon Flats O 86.18 56 P **P 11 47 45.3 +0.3**
PFO pmax pmax
comp=Z,13nm,1.2s
TPFO Pinon Flats 86.19 56 P **P 11 47 45.2 +0.2**
baz=290,SNR=9.0
ID08 Devils Gate 86.26 46 IAmb IAmb 11 47 47.3
comp=Z,23nm,0.6s
GMRC Granite Mounta 86.40 55 P **P 11 47 46.6 +0.6**
baz=290,SNR=9.4
BELC Belle Mtn. Jos 86.41 55 P **P 11 47 46.2 +0.1**
baz=290,SNR=13
SPUT South Promonto 86.43 48 IAmb IAmb 11 47 47.8
comp=Z,51nm,1.4s
PSUT Pine Spring 86.44 51 IAmb IAmb 11 47 47.9
comp=Z,20nm,0.9s
MONP2 Monument Peak 86.46 57 P **P 11 47 47.6 +1.2**
baz=290,SNR=6.0
IMW Indian Meadow 86.49 45 IAmb IAmb 11 47 49.4
comp=Z,14nm,0.7s
FXWY Fox Creek 86.53 45 IAmb IAmb 11 47 48.6
comp=Z,35nm,1.6s
H17A Grant Village 86.53 44 P **P 11 47 49.0 +2.4**
baz=293,SNR=11
FLWY Flagg Ranch 86.57 45 IAmb IAmb 11 47 49.2
comp=Z,22nm,0.8s
DUG Dugway, Tooele 86.59 49 IAmb IAmb 11 47 48.5
comp=Z,18nm,0.7s
DUG Dugway, Tooele 86.59 49 P **P 11 47 47.4 +0.5**
baz=292,SNR=28
MOOW Moose Ponds 86.67 45 IAmb IAmb 11 47 49.2
comp=Z,33nm,1.8s
YMP Mirror Lake Pl 86.68 44 IAmb IAmb 11 47 50.1
comp=Z,30nm,1.1s
FINES FINESS Array B 86.74 335 P **P 11 47 44.4 -2.5**
comp=Z,15nm,0.4s,baz=69,slow=4.6,SNR=117
IKP In-Ko-Pah, Jac 86.79 57 P **P 11 47 48.1 +0.2**
baz=290
AHID Auburn Hatcher 86.81 46 IAmb IAmb 11 47 49.5
comp=Z,13nm,0.6s
SWSC Sam W. Stewart 86.93 56 P **P 11 47 48.6 +0.2**
baz=290
YUH Yuha Desert 86.94 57 IAmb IAmb 11 47 49.3
comp=Z,40nm,1.9s
HWUT Hardware Ranch 86.94 47 IAmb IAmb 11 47 50.1
comp=Z,17nm,0.8s
ID09 Alton 86.95 46 IAmb IAmb 11 47 50.7
comp=Z,29nm,1.4s
BC3 Big Chuckawall 86.95 56 P **P 11 47 49.1 +0.4**
baz=291,SNR=5.9
IRM Iron Mountain 87.02 55 P **P 11 47 49.7 +0.7**
baz=291,SNR=11
ID10 Lander Cutoff 87.05 46 IAmb IAmb 11 47 50.9
comp=Z,16nm,0.8s
FFC Flin Flon 87.09 32 P **P 11 47 49.3 +0.6**
FFC Flin Flon 87.09 32 P **P 11 47 49.3 +0.6**
FFC pmax pmax
comp=Z,40nm,0.9s
RLMT Red Lodge 87.10 43 IAmb IAmb 11 47 52.4
comp=Z,20nm,1.1s
RLMT Red Lodge 87.10 43 P **P 11 47 50.5 +1.2**
baz=294,SNR=12
CTU Camp Tracy 87.15 48 IAmb IAmb 11 47 51.0
comp=Z,25nm,1.3s
CCUT Cedar City 87.16 51 IAmb IAmb 11 47 51.9
comp=Z,13nm,0.8s
NLU North Lily Min 87.20 49 IAmb IAmb 11 47 51.5
comp=Z,25nm,1.2s
NEE2 Needles Airpor 87.21 54 P **P 11 47 50.7 +0.9**
baz=291
TCUT Toone Canyon 87.23 47 IAmb IAmb 11 47 51.4
comp=Z,18nm,0.6s
SZCU Shurtz Canyon 87.34 51 IAmb IAmb 11 47 52.4
comp=Z,13nm,0.7s
MPU Maple Canyon 87.49 49 IAmb IAmb 11 47 52.9
comp=Z,26nm,1.3s
BLYC Blythe 87.65 55 IAmb IAmb 11 47 53.6
comp=Z,12nm,0.7s
W13A Hualapai Mount 87.66 54 IAmb IAmb 11 47 53.9
comp=Z,14nm,0.7s
GLA Glamis 87.66 56 P **P 11 47 52.7 +0.7**
baz=291
PDMCI Parker Dam,Lak 87.75 55 P **P 11 47 53.2 +0.9**
baz=291,SNR=10
KNB Kanab 87.75 52 IAmb IAmb 11 47 54.9
comp=Z,39nm,1.0s
BW06 Boulder Array 87.86 45 P **P 11 47 52.8 -0.2**
baz=294,SNR=8.9
PDAR Pinedale Array 87.86 45 P **P 11 47 52.7 -0.3**
comp=Z,2.3nm,0.4s,baz=171,slow=1.0,SNR=84
comp=Z,2.3nm,0.4s
PKCU Pink Cliffs 87.97 51 IAmb IAmb 11 47 56.5
comp=Z,56nm,1.6s
SOC Sochi 88.16 316 *e*P **P 11 47 51.2 -2.8**
SOC *e* 11 51 23.7
SOC *e*PPP PPP 11 53 22.1
SOC *e*S **SKSac 11 57 55.9 -4.8**
SOC *e*SS **SS 12 04 12.7 +0.6**
SOC *e*SSS SSS 12 07 49.7
P17A Butcher Ranch, 88.34 49 IAmb IAmb 11 47 57.0
comp=Z,39nm,1.4s
U15A North Rim 88.37 52 IAmb IAmb 11 47 57.7
comp=Z,16nm,0.7s
LAO LASA Array 88.38 41 IAmb IAmb 11 47 56.6
comp=Z,40nm,1.4s
LAO LASA Array 88.38 41 P **P 11 47 55.6 +0.5**
baz=296,SNR=6.5
LAO LASA Array 88.38 41 P **P 11 47 55.4 +0.3**
baz=296
DGMT Dagmar 88.81 39 P **P 11 47 56.7 -0.3**
baz=297
DGMT Dagmar 88.81 39 P **P 11 47 57.2 +0.1**
baz=297
HMU Henry Mountain 88.94 50 IAmb IAmb 11 47 59.4
comp=Z,14nm,0.7s
WUAZ Wupatki 89.40 53 IAmb IAmb 11 48 03.1
comp=Z,25nm,0.8s
WUAZ Wupatki 89.40 53 P **P 11 48 01.4 +1.1**
baz=293,SNR=21
214A Organ Pipe Nat 89.64 56 IAmb IAmb 11 48 03.4
comp=Z,22nm,0.9s
214A Organ Pipe Nat 89.64 56 P **P 11 48 02.4 +1.2**
baz=292,SNR=11
X16A Lo Mia Camp, P 89.78 54 IAmb IAmb 11 48 04.3
comp=Z,29nm,1.7s
O20A White River Ci 89.83 47 P **P 11 48 02.2 0.0**
baz=295,SNR=8.0
K22A Casper 89.94 45 P **P 11 48 02.7 +0.1**
baz=296,SNR=5.2
NACGM Naroch 90.11 330 *e*P **P 11 48 02.4 -0.5**
comp=Z,38nm,0.9s,baz=56
MVCO Mesa Verde 90.86 50 IAmb IAmb 11 48 08.8
comp=Z,25nm,1.4s
MVCO Mesa Verde 90.86 50 P **P 11 48 07.6 +0.5**
baz=295,SNR=7.4
X18A Snowflake 90.87 53 IAmb IAmb 11 48 09.2
comp=Z,16nm,1.2s
RSSD Black Hills 90.90 42 P **P 11 48 06.4 -0.7**
RSSD Black Hills 90.90 42 P **P 11 48 06.9 -0.3**
baz=298
RSSD Black Hills 90.90 42 P **P 11 48 06.8 -0.3**
baz=298
RSSD Black Hills 90.90 42 P **P 11 48 06.4 -0.7**
RSSD pmax pmax
comp=Z,13nm,1.2s
N23A Red Feather La 91.09 46 IAmb IAmb 11 48 10.4
comp=Z,22nm,0.9s
N23A Red Feather La 91.09 46 P **P 11 48 09.3 +1.2**
baz=296,SNR=10
TUC Tucson 91.10 55 P **P 11 48 07.7 -0.4**
TUC IAmb IAmb 11 48 10.4
comp=Z,25nm,1.6s
TUC Tucson 91.10 55 P **P 11 48 09.3 +1.2**
baz=293
TUC Tucson 91.10 55 P **P 11 48 07.7 -0.4**
TUC pmax pmax
comp=Z,25nm,1.6s
SMCO Snowmass 91.12 48 IAmb IAmb 11 48 10.2
comp=Z,41nm,1.6s
AKASG Malin Array Be 91.15 325 P **P 11 48 07.6 -0.2**
comp=Z,0.6nm,0.4s,baz=54,slow=4.1,SNR=2.2
comp=Z,0.6nm,0.4s
PHWY Pilot Hill 91.24 45 IAmb IAmb 11 48 11.1
comp=Z,36nm,1.9s
E28A Huff 91.80 39 P **P 11 48 11.5 +0.6**
baz=300
MDND Maddock 91.80 38 IAmb IAmb 11 48 11.9
comp=Z,23nm,0.9s
MDND Maddock 91.80 38 P **P 11 48 10.7 -0.2**
baz=301
ISCO Idaho Springs 91.80 47 IAmb IAmb 11 48 13.4
comp=Z,17nm,1.4s
ISCO Idaho Springs 91.80 47 P **P 11 48 12.2 +0.7**
baz=296,SNR=7.8
ISCO Idaho Springs 91.80 47 P **P 11 48 12.4 +0.9**
baz=296
S22A 4UR Ranch, Cre 91.84 49 IAmb IAmb 11 48 14.3
comp=Z,22nm,1.4s
S22A 4UR Ranch, Cre 91.84 49 P **P 11 48 12.5 +0.9**
baz=296
HFS Hagfors 92.24 338 P **P 11 48 10.6 -2.1**

comp=Z,4.2nm,0.4s,baz=90,slow=3.0,SNR=32
comp=Z,4.2nm,0.4s
NB2 NORSAR Subarra 92.43 340 P **P 11 48 12.3 -1.3**
comp=Z,1.1nm,0.5s,baz=45,slow=4.4
NOA NORSAR Array B 92.43 340 P **P 11 48 12.5 -1.1**
comp=Z,0.7nm,0.5s,baz=27,slow=3.4,SNR=8.9
comp=Z,0.7nm,0.5s
ULM Lac du Bonnet 92.60 34 P **P 11 48 13.3 -1.2**
comp=Z,8.9nm,0.8s,baz=306,slow=6.1,SNR=8.5
comp=Z,8.9nm,0.8s
319A Douglas 92.64 56 IAmb IAmb 11 48 17.6
comp=Z,13nm,1.1s
SDCO Great Sand Dun 92.79 49 P **P 11 48 16.5 +0.4**
baz=296,SNR=7.5
SDCO Great Sand Dun 92.79 49 P **P 11 48 16.7 +0.6**
baz=296
ANMO Albuquerque 93.31 52 P **P 11 48 18.2 -0.2**
ANMO IAmb IAmb 11 48 20.3
comp=Z,16nm,1.4s
ANMO Albuquerque 93.31 52 P **P 11 48 19.3 +0.9**
baz=296
ANMO Albuquerque 93.31 52 P **P 11 48 19.5 +1.0**
baz=296
ANMO Albuquerque 93.31 52 P **P 11 48 18.2 -0.2**
ANMO pmax pmax
comp=Z,16nm,1.4s
121A Cookes Peak, D 93.33 54 IAmb IAmb 11 48 21.7
comp=Z,22nm,1.4s
121A Cookes Peak, D 93.33 54 P **P 11 48 19.7 +1.1**
baz=295,SNR=5.8
Y22A Socorro 93.36 53 P **P 11 48 19.8 +1.2**
baz=295
T25A Trinidad 93.83 49 P **P 11 48 21.4 +0.6**
baz=297
BR131 Keskin Array S 93.94 314 P **P 11 48 19.3 -1.8**
BR131 IAmb IAmb 11 48 20.8
comp=Z,8.4nm,0.9s
BR131 Keskin Array S 93.94 314 *de*P **P 11 48 19.8 -1.4**
BRTR Keskin Array B 93.94 314 *i* P **P 11 48 19.7 -1.4**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 93.94 314 P **P 11 48 19.1 -2.0**
comp=Z,4.1nm,0.8s,baz=81,slow=4.3,SNR=14
comp=Z,4.1nm,0.8s
KSCO Kaye Shedlock' 94.22 46 P **P 11 48 22.3 -0.1**
baz=298
MNTX Cornudas Mount 95.53 54 IAmb IAmb 11 48 29.9
comp=Z,4.2nm,0.6s
MNTX Cornudas Mount 95.53 54 P **P 11 48 28.9 +0.5**
baz=296,SNR=9.3
MNTX Cornudas Mount 95.53 54 P **P 11 48 28.9 +0.5**
baz=296
ECSD EROS Data Cent 95.74 40 P **P 11 48 29.5 +0.4**
baz=303
PECS Pecos 96.83 54 IAmb IAmb 11 48 35.5
comp=Z,3.8nm,0.6s
SPMN Marine on St. 97.16 37 P **P 11 48 34.8 -0.6**
baz=306
TX31 Lajitas Ar. Si 97.90 56 P **P 11 48 39.3 +0.1**
baz=297
TXAR Lajitas Array 97.90 56 P Pdif 11 48 39.6 +0.4
comp=Z,0.6nm,0.7s,baz=274,slow=2.4,SNR=9.1
comp=Z,0.6nm,0.7s
WMOK Wichita Mounta 98.99 49 P Pdif 11 48 43.5 -0.4
baz=300
MIAR Mount Ida 102.74 47 P **Pdif 11 48 59.5 -1.0**
baz=304
P52A Corning 106.80 37 P **PKiKP 11 53 27.2 -0.3**
baz=313
O53A New Philadelph 106.89 36 P **PKiKP 11 53 27.8 +0.2**
baz=314
TZTN Tazewell 108.04 40 P **PKiKP 11 53 29.9 0.0**
baz=311
QSPA South Pole Qui 108.61 180 PKiKP **PKiKP 11 53 28.6 -1.3**
comp=Z,0.5nm,0.4s,baz=303,slow=0.7,SNR=19
GOGA Godfrey 110.13 42 P **PKiKP 11 53 34.0 +0.2**
baz=311
PAL Palisades 110.13 31 P **PKiKP 11 53 33.9 +0.3**
baz=320
ESDC Sonseca Array 115.24 334 PP **PP 11 54 44.8 -1.5**
comp=Z,0.4nm,0.7s,baz=19,slow=6.0,SNR=5.0
ELIB Princess Elisa 117.50 197 *d*PKPdf **pPKPdf 11 53 45.8 -1.0**
ELIB *dp*PKPdf **pPKPdf 11 54 47.8 +3.0**
MDT Midelt 121.28 331 PKP **PKPdf 11 53 55.1 -0.3**
comp=Z,2.0nm,0.8s,baz=10,slow=2.0,SNR=5.4
TROLL Troll, Antarti 122.66 193 ⇑P **PKPdf 11 53 56.3 -0.5**
comp=Z,188nm,0.7s
SNAA Sanae 123.99 192 ⇑P **PKPdf 11 53 58.3 -1.0**
SNAA Sanae 123.99 192 PKP **PKPdf 11 53 57.8 -1.4**
comp=Z,2.0nm,0.5s,baz=187,slow=5.1,SNR=26
VNA2 Neumayer--Watz 125.44 191 ⇑P **PKPdf 11 54 01.3 -0.7**
baz=193,slow=1.0
VNA3 Neumayer Olymp 125.54 190 ⇑P **PKPdf 11 54 01.1 -1.1**
TORD Torodi Ar. Bea 132.29 309 PKP **PKPdf 11 54 15.4 -1.2**
comp=Z,0.7nm,0.4s,baz=20,slow=1.7,SNR=12
TORD SKPbc **SKPbc 11 57 18.8 -2.8**
comp=Z,3.6nm,0.9s,baz=42,slow=5.0,SNR=11
DBIC Dimbokro 141.38 308 PKhKP PKPpre 11 54 29.4
comp=Z,2.0nm,0.5s,baz=34,slow=4.1,SNR=5.0
DBIC SKPbc **SKPbc 11 57 48.0 -0.6**
comp=Z,2.9nm,0.6s,baz=52,slow=3.8,SNR=4.0
PLCA Paso Flores 142.17 133 PKhKP PKPpre 11 54 29.9
comp=Z,3.5nm,0.7s,baz=241,slow=3.9,SNR=7.4
BO01 Tunca 143.97 123 PKPdf PKPbc 11 54 36.6 +0.6
MT13 San Alfonso 144.78 122 PKPdf 11 54 39.7 +0.7
LCO Las Campanas 145.45 114 PKPab 11 54 41.8 +0.2
LCO Las Campanas 145.45 114 PKP2 **PKPab 11 54 41.8 +0.2**
TA01 Diego Aracena 146.35 99 PKPdf **PKPdf 11 54 42.5 +0.6**
TA01 PKPbc **PKPab 11 54 44.5 -0.4**
BOAV Boa Vista 146.81 53 PKPbc 11 54 45.4 +0.3
GO02 Mina Guanaco 146.87 107 PKPbc 11 54 45.8 +0.5
LVC Limon Verde 147.59 103 PKiKP 11 54 48.6 -0.7
LVC Limon Verde 147.59 103 PKP2 **PKiKP 11 54 48.6 -0.7**
LPAZ La Paz 147.81 91 PKP **PKPdf 11 54 45.2 0.0**
comp=Z,16nm,0.8s,baz=236,slow=3.5,SNR=26
LPAZ PKPbc **PKPbc 11 54 49.1 +0.7**
comp=Z,16nm,0.8s,baz=316,slow=3.0,SNR=30
ETMB Extrema 148.00 78 PKPbc 11 54 47.6 -0.6
SAML Samuel 150.48 75 PKPbc 11 54 54.3 -0.1
SAML PKPab **PKPab 11 55 01.6 -0.1**
SAML Samuel 150.48 75 PKIKP **PKPbc 11 54 54.3 -0.1**
SAML 11 55 01.6
CPUP Villa Florida 157.60 114 PKPab **PKPab 11 55 33.1 +1.3**
CPUP Villa Florida 157.60 114 PKP2 **PKPab 11 55 33.1 +1.3**
CPUP Villa Florida 157.60 114 PKPab **PKPab 11 55 32.1 +0.3**
comp=Z,5.9nm,0.9s,baz=271,slow=5.9,SNR=9.1

JMA 25 11:38:28.9±0.1,39°.0N±0°.6×140°.9E±0°.4,h10km±1km, MV0.4/13,SOUTHERN IWATE PREF,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMK	**Ichinoseki**	**0.28**	**103**	P	Pg	11 38 34.5	-0.1
JMK				S	Sg	11 38 38.3	0.0
JRG	**Rokugo**	**0.42**	**334**	*e*S	Sg	11 38 43.2	+0.3
OFUJ	**Ofunato**	**0.62**	**84**	*e*S	Sg	11 38 49.1	-0.1

---

*EAF **25** 11:49:47.7,22°.34S×26°.78E,h10km,MC3.3*
*BUL **25** 11:49:52.1±1.7,22°.76S×27°.17E,h10km,MD3.3*
PRE 25 11:49:50.4±0.7,24°.40S×27°.96E,h5km,ML1.9,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEPH	**Lephalale, Lim**	**0.56**	**345**	*e*P	Pg	11 50 00.7	-0.6
LEPH				*e*S	Sg	11 50 09.5	+0.9
LEPH				IAML		11 50 16.8	
comp=Z,166nm,0.6s							
LBTB	**Lobatse**	**2.23**	**254**	*i* P	Pg	11 50 33.2	-0.1
LBTB				*i* S	Sg	11 51 06.7	+4.4
LBTB	**Lobatse**	**2.23**	**254**	*e*P	Pn	11 50 29.1	+0.9
LBTB				*e*S	Sn	11 50 56.9	+0.6
LBTB				IAML		11 51 16.9	
comp=Z,6.7nm,0.4s							
LBTB	**Lobatse**	**2.23**	**254**	*i* P	Pg	11 50 33.2	-0.1
baz=205							
LBTB				*i* S	Sg	11 51 06.7	+4.4
baz=205							
MUSN	**Musina, Limpop**	**2.73**	**40**	*i* P	Pn	11 50 33.7	-1.4
MUSN				*i* S	Sn	11 51 03.2	-5.3
MUSN	**Musina, Limpop**	**2.73**	**40**	*e*P	Pn	11 50 35.9	+0.9
MUSN				*e*S	Sn	11 51 08.8	+0.3
MUSN				IAML		11 51 24.8	
comp=Z,5.6nm,0.6s							
MUSN	**Musina, Limpop**	**2.73**	**40**	*i* P	Pn	11 50 33.7	-1.4
baz=87							
MUSN				*i* S	Sn	11 51 03.2	-5.3
baz=87							
MOPA	**Mopani**	**3.27**	**75**	*i* P	Pg	11 50 56.8	+3.8
MOPA				*i* S	Sg	11 51 43.1	+7.7
MOPA	**Mopani**	**3.27**	**75**	*i* P	Pg	11 50 56.8	+3.8
baz=105							
MOPA				*i* S	Sg	11 51 43.1	+7.7
baz=105							
BOSA	**Boshof**	**4.84**	**209**	*i* P	Pg	11 51 22.0	-1.2
BOSA				*i* S	Sg	11 52 27.4	+1.4
BOSA	**Boshof**	**4.84**	**209**	*i* P	Pg	11 51 22.0	-1.2
baz=193							
BOSA				*i* S	Sg	11 52 27.4	+1.4
baz=193							

---

*IDC **25** 11:51:14.9±1.5,36°.19N×98°.51E,h0km,mb3.4/5, mbtmp3.4/7,ML3.2/1,Error ellipse: s-maj=43.4km s-min=22.8km az=43.0*
ISC 25 11:51:19.4±1.4,36°.2N±0°.2×98°.4E±0°.2,h35km,n7,σ1§49/7, mb3.4/3,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**13.02**	**25**	Pn	**Pn**	**11 54 22.5**	**+0.6**
0.1nm,0.3s,baz=215,slow=14,SNR=2.6							
0.4nm,0.4s							
MKAR	**Makanchi Array**	**15.97**	**316**	Pn	**Pn**	**11 54 59.5**	**-1.9**
0.1nm,0.3s,baz=126,slow=14,SNR=1.7							
ZALV	**Zalesovo Beam**	**20.06**	**336**	P	**P**	**11 55 49.9**	**+0.5**
0.3nm,0.3s,baz=144,slow=12,SNR=2.2							
0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**20.26**	**321**	P	**P**	**11 55 52.7**	**+1.0**
0.7nm,0.2s,baz=125,slow=12,SNR=3.1							
0.7nm,0.2s							
KSRS	**Korea Array**	**23.65**	**78**	P	**P**	**11 56 26.2**	**-1.3**
1.0nm,0.6s,baz=269,slow=9.1,SNR=5.6							
1.0nm,0.6s							
BVAR	**Borovoye Array**	**25.80**	**319**	P	**P**	**11 56 48.4**	**+1.4**
0.2nm,0.3s,baz=108,slow=8.2,SNR=1.8							
0.2nm,0.3s							
ASAR	**Alice Springs**	**68.40**	**145**	P	**P**	**12 02 18.0**	**+0.4**
0.2nm,0.6s,baz=329,slow=6.4,SNR=4.7							
0.2nm,0.6s							

---

*MOS **25** 11:58:11.4±0.8,4°.88S×131°.01E,h32km,mb5.4/43,Error ellipse: s-maj=9.4km s-min=4.6km az=115.0*
*BJI **25** 11:58:11.7±0.0,5°.12S×131°.30E,h57km,mb5.2/80, mB5.4/50,Ms4.9/35,Ms7 4.6/41*
*IDC **25** 11:58:13.2±3.0,4°.95S×130°.97E,h33km±22km,mb4.8/25, mbtmp5.0/27,ML3.6/1,MS4.4/42,Error ellipse: s-maj=15.4km s-min=9.2km az=65.0*
*NEIC **25** 11:58:14.8±1.7,4°.86S±0°.05×131°.09E±0°.06,h42km±4km, mb5.3/151,Ms_20 5.0/29,Mww5.5/18,Error ellipse: s-maj=9.2km s-min=7.7km az=98.0*
*NEIC **25** 11:58:15.3,4°.90S×131°.08E,h50km*
*DJA **25** 11:58:15.3±0.2,5°.S±2°×13°.1E±°,h62km±2km,M5.2/79, mb5.4/79,mB5.7/57,MLv6.0/15,Mw(mB)5.2/57, MwMwp5.1/28,Mwp5.4/28*
*NEIC **25** 11:58:15.3,4°.90S×131°.08E,h50km,Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17^Nm; M_{rr}0.37; $M_{\theta\theta}$-0.56; $M_{\phi\phi}$0.19; $M_{r\theta}$-0.07; $M_{\theta\phi}$-2.06; $M_{\phi r}$0.06; Fault plane solution: $M_0$2.10000×10^17^ NP1: ϕ_s275.16000°,δ87.92000°,λ177.39000°. NP2:ϕ_s5.25000°, δ87.40000°,λ2.09000°. Principal axes: T 1.9166, Plg3.0000°, Azm230.0000°; N 0.3663, Plg87.0000°, Azm57.0000°; P -2.2829, Plg0.0000°, Azm320.0000°;*
*GCMT **25** 11:58:16.8±0.1,4°.84S±0°.01×131°.10E±0°.01,h85km±1km, MW5.5/125,Moment Tensor Solution. s125,c208; s86,c103; Duration: 1s4 Moment tensor: Scale 10^17^Nm; M_{rr}0.43±.03; $M_{\theta\theta}$-0.71±.04; $M_{\phi\phi}$0.28±.04; $M_{r\theta}$0.05±.04; $M_{\theta\phi}$-2.38±.04; $M_{\phi r}$-0.22±.04; Best double couple: $M_0$2.44400×10^17^ NP1:ϕ_s186.00000°,δ87.00000°, λ6.00000°. NP2:ϕ_s96.00000°,δ84.00000°,λ177.00000°. Principal axes: T 2.2400, Plg6.0000°, Azm51.0000°; N 0.4090, Plg83.0000°, Azm214.0000°; P -2.6490, Plg2.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 11:58:15.6±0.3,4°.90S±0°.03×131°.09E±0°.03,h56km±2km, h57km:pP-P,n894,σ1§59/946,mb5.2/157,MS4.6/72, 13C-18D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.24**	**288**	P	**Pn**	**11 58 38.7**	**+2.0**
BNDI	**Bandanaira**	**1.24**	**288**	P	**Pn**	**11 58 38.0**	**+1.3**
BNDI				S	**Sn**	**11 58 54.5**	**+2.1**
FAKI	**Fak Fak**	**2.29**	**30**		**Pn**	**11 58 50.0**	**-0.9**
FAKI				Sn	**Sn**	**11 59 15.5**	**-2.4**
FAKI	**Fak Fak**	**2.29**	**30**	P	**Pn**	**11 58 50.4**	**-0.5**
FAKI	**Fak Fak**	**2.29**	**30**	P	**Pn**	**11 58 49.8**	**-1.1**
FAKI				S	**Sn**	**11 59 15.6**	**-2.3**
KMPI	**Kaimana, Papua**	**2.88**	**65**	P	**Pn**	**11 58 58.9**	**-0.2**
KMPI				S	**Sn**	**11 59 31.9**	**-0.7**
SAUI	**Saumlaki**	**3.07**	**176**		**Pn**	**11 59 02.8**	**+1.2**
SAUI	**Saumlaki**	**3.07**	**176**	P	**Pn**	**11 59 03.2**	**+1.6**
SAUI	**Saumlaki**	**3.07**	**176**	P	**Pn**	**11 59 02.6**	**+1.0**
SWI	**Sorong**	**4.02**	**2**	P	**Pn**	**11 59 12.9**	**-1.7**
NLAI	**Namlea**	**4.31**	**292**	P	**Pn**	**11 59 20.1**	**+1.5**
RKPI	**Ransiki, Papua**	**4.57**	**43**	P	**Pn**	**11 59 21.2**	**-1.0**
LBMI	**Labuha**	**5.55**	**320**	P	**Pn**	**11 59 35.0**	**-0.6**
1μm,0.5s,21μm6.8nm							
SANI	**Sanana**	**5.83**	**299**	P	**Pn**	**11 59 39.0**	**-0.4**
SANI	**Sanana**	**5.83**	**299**	P	**Pn**	**11 59 38.3**	**-1.1**
866nm,0.7s,14μm10μm4.1nm							
TNTI	**Ternate**	**6.75**	**326**	Pn	**Pn**	**11 59 52.1**	**0.0**
TNTI	**Ternate**	**6.75**	**326**	P	**Pn**	**11 59 52.4**	**+0.3**
TNTI	**Ternate**	**6.75**	**326**	P	**Pn**	**11 59 51.4**	**-0.7**
497nm,0.6s,6μm9μm2.1nm							
KDU	**Kakadu**	**7.85**	**170**	P	**Pn**	**12 00 05.2**	**-2.1**
baz=7.9,SNR=901							
KDU				S	**Sn**	**12 01 28.8**	**-6.0**
baz=7.9							
KDU	**Kakadu**	**7.85**	**170**	P	**Pn**	**12 00 06.0**	**-1.2**
MTN	**Manton Dam**	**7.89**	**180**	P	**Pn**	**12 00 06.6**	**-1.1**
baz=7.9,SNR=1000							
MTN				S	**Sn**	**12 01 30.5**	**-5.2**
baz=7.9							
MTN	**Manton Dam**	**7.89**	**180**	Pn	**Pn**	**12 00 07.6**	**-0.1**
MTN	**Manton Dam**	**7.89**	**180**	P	**Pn**	**12 00 07.8**	**+0.1**
SOEI	**Soe**	**8.31**	**234**	Pn	**Pn**	**12 00 15.4**	**+1.9**
SOEI	**Soe**	**8.31**	**234**	P	**Pn**	**12 00 16.7**	**+3.1**
SOEI	**Soe**	**8.31**	**234**	P	**Pn**	**12 00 14.1**	**+0.5**
745nm,0.9s,14μm10μm							
BBSI	**Bau Bau**	**8.51**	**266**	P	**Pn**	**12 00 19.7**	**+3.5**
276nm,1.0s,4μm3μm							
KMSI	**Cibinong**	**8.95**	**307**	P	**Pn**	**12 00 20.7**	**-1.5**
789nm,0.7s,9μm6μm							
BATI	**Baumata**	**9.05**	**234**	P	**Pn**	**12 00 24.3**	**+0.6**
753nm,1.0s,10μm7μm							
BATI	**Baumata**	**9.05**	**234**	Pn	**Pn**	**12 00 25.4**	**+1.7**
38nm,0.3s,baz=87,slow=7.0,SNR=30							
BATI				Sn	**Sn**	**12 02 05.8**	**+1.6**
18nm,0.3s,baz=90,slow=19,SNR=2.1							
LUWI	**Luwuk**	**9.15**	**295**		**Pn**	**12 00 23.9**	**-1.0**
LUWI	**Luwuk**	**9.15**	**295**	P	**Pn**	**12 00 27.5**	**+2.5**
LUWI	**Luwuk**	**9.15**	**295**	P	**Pn**	**12 00 24.7**	**-0.3**
501nm,0.7s,6μm							
GENI	**Genyem**	**9.34**	**76**	P	**Pn**	**12 00 28.0**	**+0.4**
GENI	**Genyem**	**9.34**	**76**	P	**Pn**	**12 00 26.9**	**-0.7**
906nm,0.5s,10μm8μm							
MMRI	**Maumere**	**9.54**	**247**	Pn	**Pn**	**12 00 34.4**	**+4.0**
MMRI	**Maumere**	**9.54**	**247**	P	**Pn**	**12 00 34.5**	**+4.2**
MMRI	**Maumere**	**9.54**	**247**	P	**Pn**	**12 00 32.2**	**+1.9**
529nm,1.0s,12μm9μm							
JAY	**Jayapura**	**9.88**	**76**	P	**Pn**	**12 00 33.6**	**-1.5**
190nm,1.0s,4μm							
MMPI	**Merauke**	**9.88**	**111**	P	**Pn**	**12 00 34.9**	**-0.1**
2μm,0.5s,27μm							
EDFI	**Ende, Flores**	**10.08**	**247**	P	**Pn**	**12 00 40.8**	**+2.9**
346nm,1.1s,9μm7μm							
TABU	**Tabubil**	**10.10**	**93**	P	**Pn**	**12 00 38.2**	**+0.2**
MRSI	**Marisa**	**10.59**	**300**	P	**Pn**	**12 00 44.4**	**-0.2**
229nm,0.6s,3μm4μm							
BKSI	**Bulukumba**	**10.93**	**267**	P	**Pn**	**12 00 52.1**	**+2.7**
167nm,0.8s,4μm3μm							
KNRA	**Kununurra**	**10.95**	**192**	P	**Pn**	**12 00 46.7**	**-2.8**
baz=11,SNR=1000							
KNRA	**Kununurra**	**10.95**	**192**	Pn	**Pn**	**12 00 47.3**	**-2.2**
KNRA	**Kununurra**	**10.95**	**192**	P	**Pn**	**12 00 48.2**	**-1.4**
KAPI	**Kappang**	**11.30**	**269**	Pn	Pn	12 00 59.2	+4.8
KAPI	**Kappang**	**11.30**	**269**	P	**Pn**	**12 00 58.4**	**+4.0**
KAPI	**Kappang**	**11.30**	**269**	P	Pn	12 00 59.5	+5.1
KAPI				P	Pn	12 00 59.5	+5.1
KAPI				S	**Sn**	**12 03 01.2**	**+2.0**
KAPI				S	**Sn**	**12 03 01.2**	**+2.0**
KAPI	**Kappang**	**11.30**	**269**	P	Pn	12 00 59.2	+4.8
KAPI	**Kappang**	**11.30**	**269**	Pn	**Pn**	**12 00 58.9**	**+4.6**
9.5nm,0.3s,baz=87,slow=6.3,SNR=22							
TTSI	**Tana Toraja**	**11.39**	**279**	P	**Pn**	**12 00 58.2**	**+2.5**
128nm,1.1s,2μm							
BASI	**Baing, Sumba**	**11.68**	**243**	P	**Pn**	**12 00 59.5**	**-0.1**
497nm,0.9s,6μm6μm							
TOLI2	**Tolitoli**	**11.90**	**300**	Pn	**Pn**	**12 01 01.3**	**-1.3**
TOLI2	**Tolitoli**	**11.90**	**300**	P	**Pn**	**12 01 07.0**	**+4.3**
MPSI	**Mapaga**	**12.33**	**295**	P	**Pn**	**12 01 09.5**	**+1.0**
64nm,0.7s,2μm4μm							
PLAI	**Plampang**	**13.78**	**253**	P	**Pn**	**12 01 29.2**	**+1.0**
PLAI	**Plampang**	**13.78**	**253**	P	**Pn**	**12 01 27.1**	**-1.1**
180nm,0.7s,3μm3μm							
TWSI	**Taliwang, Sumb**	**14.61**	**254**	P	**Pn**	**12 01 37.5**	**-1.7**
89nm,0.8s,3μm4μm							
COEN	**Coen**	**14.93**	**128**		**Pn**	**12 01 39.3**	**-4.0**
COEN	**Coen**	**14.93**	**128**	P	**Pn**	**12 01 41.0**	**-2.4**
WB0	**Warramunga Arr**	**15.12**	**168**		**Pn**	**12 01 40.0**	**-5.8**
WRAB	**Tennant Creek**	**15.27**	**168**		**Pn**	**12 01 42.3**	**-5.5**
WRAB				IAmb	IAmb	12 01 53.2	
comp=Z,190nm,0.8s							
WRAB	**Tennant Creek**	**15.27**	**168**	P	**Pn**	**12 01 42.3**	**-5.5**
WRAB				pmax	pmax		
comp=Z,190nm,0.8s							
WRA	**Warramunga Arr**	**15.28**	**168**	Pn	**Pn**	**12 01 41.9**	**-6.0**
WRA	**Warramunga Arr**	**15.28**	**168**	P	**Pn**	**12 01 41.9**	**-6.0**
WRA				pmax	pmax		
comp=Z,23nm,0.7s							
WRA	**Warramunga Arr**	**15.28**	**168**	Pn	**Pn**	**12 01 42.0**	**-6.0**
comp=Z,22nm,0.3s,baz=350,slow=13,SNR=243							
WRA				Sn	Sn	12 04 23.1	-13
comp=Z,37nm,0.3s,baz=359,slow=24,SNR=7.6							
WRA				LR	LR	12 08 27.9	
comp=Z,4μm,19.7s,baz=344,slow=40							
WB2	**Warramunga Arr**	**15.28**	**168**		**Pn**	**12 01 42.1**	**-5.8**
WB2				IAmb	IAmb	12 01 53.3	
comp=Z,190nm,0.8s							
MYLDM	**Lahad Datu**	**16.07**	**308**		**Pn**	**12 01 57.9**	**-0.2**
BBKI	**Banjar Baru**	**16.27**	**274**	P	**Pn**	**12 02 01.3**	**+0.8**
comp=Z,146nm,1.1s,comp=Z,6μm							
IGBI	**Denpasar**	**16.30**	**255**	P	**Pn**	**12 01 58.9**	**-2.0**
comp=Z,73nm,0.5s,comp=Z,2μm							
MANU	**Manus Island**	**16.49**	**81**	Pn	**Pn**	**12 02 02.7**	**-0.7**
MANU				IAmb	IAmb	12 02 09.4	
comp=Z,378nm,1.1s							
MANU	**Manus Island**	**16.49**	**81**	P	**Pn**	**12 02 04.2**	**+0.9**
PMG	**Port Moresby**	**16.56**	**107**		**Pn**	**12 02 03.4**	**-0.7**
PMG	**Port Moresby**	**16.56**	**107**	P	**P**	**12 02 05.2**	**-0.7**
PMG	**Port Moresby**	**16.56**	**107**	P	**Pn**	**12 02 03.4**	**-0.7**
PMG				pmax	pmax		
comp=Z,213nm,1.4s							
PMG	**Port Moresby**	**16.56**	**107**	Pn	**Pn**	**12 02 03.2**	**-1.0**
comp=Z,7.6nm,0.3s,baz=308,slow=11,SNR=14							
PMG				Sn	Sn	12 04 54.8	-12
comp=Z,5.7nm,0.3s,baz=244,slow=17,SNR=2.4							
PMG				LR	LR	12 10 46.9	
comp=Z,6μm,18.7s,baz=274,slow=45							
comp=Z,20nm,0.3s							
ABJI	**Asem Bagus**	**17.00**	**259**	P	**Pn**	**12 02 09.6**	**0.0**
comp=Z,187nm,0.9s,comp=Z,6μmcomp=Z,6μm							
JAGI	**Jajag, Banyuwa**	**17.19**	**257**	P	**Pn**	**12 02 10.1**	**-1.9**
JAGI	**Jajag, Banyuwa**	**17.19**	**257**	P	**Pn**	**12 02 11.4**	**-0.6**
JAGI	**Jajag, Banyuwa**	**17.19**	**257**	P	**Pn**	**12 02 10.3**	**-1.7**
comp=Z,66nm,0.6s,comp=Z,2μmcomp=Z,2μm							
BLJI	**Banyuglugur**	**17.61**	**260**	P	**Pn**	**12 02 17.0**	**-0.2**
comp=Z,245nm,0.9s,comp=Z,5μm							
QIS	**Mount Isa**	**17.63**	**153**	P	**Pn**	**12 02 13.6**	**-3.8**
baz=18,SNR=268							
QIS	**Mount Isa**	**17.63**	**153**	P	**Pn**	**12 02 15.0**	**-2.4**
GMJI	**Gumukmas**	**17.84**	**258**	P	**Pn**	**12 02 17.4**	**-2.7**
comp=Z,83nm,1.0s,comp=Z,1μm							
BWJI	**Bawean**	**18.38**	**266**	P	**P**	**12 02 24.5**	**-1.5**
comp=Z,339nm,1.4s							
KKM	**Kota Kinabalu**	**18.41**	**306**	P	**P**	**12 02 25.6**	**-0.8**
KKM				IAmb	IAmb	12 02 30.0	
comp=Z,130nm,0.7s							
KKM	**Kota Kinabalu**	**18.41**	**306**	P	**Pn**	**12 02 28.0**	**+1.0**
MTSU	**Mount Surprise**	**18.44**	**137**	P	**P**	**12 02 26.5**	**-0.2**
baz=18,SNR=304							
MTSU	**Mount Surprise**	**18.44**	**137**	P	**P**	**12 02 26.4**	**-0.3**
GRJI	**Gresik**	**18.62**	**263**	P	**P**	**12 02 26.9**	**-1.7**
comp=Z,369nm,1.1s,comp=Z,5μmcomp=Z,3μm							
AS31	**Alice Springs**	**18.85**	**172**	P	**P**	**12 02 30.0**	**-1.2**
AS31				IAmb	IAmb	12 02 33.7	
comp=Z,96nm,0.6s							
ASAR	**Alice Springs**	**18.85**	**172**	P	**P**	**12 02 30.6**	**-0.6**
ASAR	**Alice Springs**	**18.85**	**172**	P	**P**	**12 02 30.6**	**-0.6**
ASAR	**Alice Springs**	**18.85**	**172**	P	**P**	**12 02 30.4**	**-0.8**
comp=Z,220nm,0.7s,baz=345,slow=12,SNR=289							
ASAR				S	Sn	12 05 49.0	-14
comp=Z,17nm,0.6s,baz=353,slow=29,SNR=2.8							
ASAR				LR	LR	12 10 42.8	
comp=Z,3μm,19.1s,baz=349,slow=40							
MBWA	**Marble Bar**	**19.56**	**213**	P	**P**	**12 02 37.6**	**-1.3**
MBWA				IAmb	IAmb	12 02 38.5	
comp=Z,88nm,0.7s							
MBWA	**Marble Bar**	**19.56**	**213**	P	**P**	**12 02 37.8**	**-1.1**
MBWA	**Marble Bar**	**19.56**	**213**	P	**P**	**12 02 37.2**	**-1.7**
MBWA				S	**Sn**	**12 06 21.7**	**+1.9**
NGJI	**Ngawi**	**19.67**	**262**	P	**P**	**12 02 38.5**	**-1.6**
comp=Z,114nm,1.1s,comp=Z,4μm							
KAVG	**Kavieng**	**19.81**	**84**	P	**Pn**	**12 02 44.2**	**+0.6**
PSA00	**Pilbara Seismi**	**19.84**	**212**	P	**P**	**12 02 40.7**	**-1.2**
PSA00	**Pilbara Seismi**	**19.84**	**212**	P	**P**	**12 02 40.9**	**-1.0**
WRKA	**Warakurna**	**20.20**	**187**	P	**P**	**12 02 45.3**	**-0.5**
baz=20,SNR=895							
WRKA	**Warakurna**	**20.20**	**187**	P	**P**	**12 02 46.0**	**+0.1**
SBUM	**Sibu**	**20.22**	**291**	P	**P**	**12 02 46.3**	**+0.2**

baz=24,SNR=16
GIRL Giralia 24.01 221 P **P** **12 03 24.9 -0.3**
CBJI Citeko 24.17 265 P **P** **12 03 23.7 -3.1**
comp=Z,81nm,0.6s
INKA Innaminka 24.50 159 P **P** **12 03 31.9 +2.2**
MEEK Meekatharra 24.68 208 P **P** **12 03 30.0 -1.5**
baz=25,SNR=24
MEEK Meekatharra 24.68 208 P **P** **12 03 30.6 -0.8**
QLP Quilpie 24.95 151 P **P** **12 03 34.1 +0.3**
baz=25,SNR=72
QLP Quilpie 24.95 151 P **P** **12 03 34.9 +1.1**
PPBI Pangkal Pinang 25.05 275 P **P** **12 03 33.9 -1.0**
MULG Mulgathing 25.40 174 P **P** **12 03 39.5 +1.7**
FORT Forrest 25.90 186 P **P** **12 03 41.8 -0.5**
baz=26,SNR=61
FORT Forrest 25.90 186 P **P** **12 03 41.9 -0.5**
FORT Forrest 25.90 186 P **P** **12 03 42.9 +0.6**
RK1H Rockhampton Ha 26.23 136 P **P** **12 03 46.2 +0.7**
LCRK Leigh Creek 26.28 166 P **P** **12 03 46.9 +1.1**
RMQ Roma 27.31 144 P **P** **12 03 56.6 +1.4**
KMBL Kambalda 27.71 197 P **P** **12 03 57.8 -0.9**
baz=28,SNR=46
KMBL Kambalda 27.71 197 P **P** **12 03 58.1 -0.6**
MORW Morawa 27.95 209 P **P** **12 03 59.5 -1.4**
baz=28,SNR=8.3
MORW Morawa 27.95 209 P **P** **12 03 59.0 -1.8**
MORW Morawa 27.95 209 P **P** **12 03 59.4 -1.4**
EIDS Eidsvold 27.96 139 P **P** **12 04 00.2 -0.8**
baz=28,SNR=3.2
EIDS Eidsvold 27.96 139 P **P** **12 03 59.8 -1.2**
EIDS IAmb IAmb 12 04 51.0
comp=Z,63nm,1.2s
EIDS Eidsvold 27.96 139 P **P** **12 04 04.6 +3.6**
BBOO Buckleboo 28.15 171 P **P** **12 04 01.7 -0.9**
baz=28,SNR=55
BBOO Buckleboo 28.15 171 P **P** **12 04 02.2 -0.3**
BBOO IAmb IAmb 12 04 53.5
comp=Z,62nm,0.6s
BBOO Buckleboo 28.15 171 P **P** **12 04 02.2 -0.3**
STKA Stephens Creek 28.59 161 P **P** **12 04 06.1 -0.3**
baz=29,SNR=30
STKA Stephens Creek 28.59 161 P **P** **12 04 06.4 0.0**
STKA Stephens Creek 28.59 161 P **P** **12 04 07.0 +0.6**
STKA Stephens Creek 28.59 161 P **P** **12 04 06.4 0.0**
STKA pmax pmax
comp=Z,12nm,1.0s
STKA Stephens Creek 28.59 161 P **P** **12 04 05.8 -0.6**
comp=Z,24nm,0.7s,baz=337,slow=9.0,SNR=47
STKA LR LR 12 16 54.8
comp=Z,4μm,19.3s,baz=331,slow=39
comp=Z,24nm,0.7s
BLDU Ballidu 28.94 206 P **P** **12 04 08.5 -1.1**
baz=29,SNR=50
BLDU Ballidu 28.94 206 P **P** **12 04 08.9 -0.8**
HNR Honiara 28.97 101 P **P** **12 04 09.3 -0.8**
HNR IAMs_20 IAMs_20 12 16 42.9
comp=Z,1μm,20.0s
HNR Honiara 28.97 101 P **P** **12 04 10.1 0.0**
HNR Honiara 28.97 101 P **P** **12 04 09.3 -0.8**
HNR pmax pmax
comp=Z,151nm,0.9s
HNR MLR MLR
comp=Z,1μm,20.0s
HNR Honiara 28.97 101 LR LR 12 16 53.8
comp=Z,17μm,20.1s,baz=270,slow=38
AULRC Lightning Ridg 29.16 149 P **P** **12 04 11.6 0.0**
HTT Hallett 29.31 167 P **P** **12 04 12.9 0.0**
baz=29,SNR=30
HTT Hallett 29.31 167 P **P** **12 04 13.3 +0.4**
KLBR Kellerberrin 29.35 204 P **P** **12 04 12.3 -1.0**
baz=29,SNR=36
KLBR Kellerberrin 29.35 204 P **P** **12 04 12.3 -1.0**
CMSA Cobar Meteorol 29.83 154 P **P** **12 04 17.4 -0.1**
baz=30,SNR=102
CMSA Cobar Meteorol 29.83 154 P **P** **12 04 17.8 +0.3**
SDSI Sungai Dareh 29.88 277 P **P** **12 04 16.1 -2.0**
comp=Z,13nm,0.8s
MUN Mundaring 30.33 206 P **P** **12 04 20.7 -1.2**
baz=30,SNR=12
MUN Mundaring 30.33 206 P **P** **12 04 21.8 -0.1**
NWAO Narrogin (SRO) 30.74 203 P **P** **12 04 24.5 -1.0**
baz=31,SNR=19
NWAO P **P** **12 04 24.5 -1.0**
baz=31,SNR=19
NWAO Narrogin (SRO) 30.74 203 P **P** **12 04 24.5 -1.0**
NWAO IAmb IAmb 12 04 26.1
comp=Z,29nm,0.7s
NWAO Narrogin (SRO) 30.74 203 P **P** **12 04 24.7 -0.8**
NWAO IAmb IAmb 12 04 26.1
comp=Z,94nm,0.7s
NWAO Narrogin (SRO) 30.74 203 P **P** **12 04 25.7 +0.2**
NWAO Narrogin (SRO) 30.74 203 P **P** **12 04 24.8 -0.8**
NWAO S **S** **12 09 32.9 +8.3**
NWAO Narrogin (SRO) 30.74 203 P **P** **12 04 24.7 -0.8**
NWAO pmax pmax
comp=Z,94nm,0.7s
NWAO Narrogin (SRO) 30.74 203 P **P** **12 04 23.9 -1.6**
comp=Z,30nm,0.7s,baz=30,slow=8.2,SNR=19
comp=Z,30nm,0.7s
YHNB Yeheng 30.88 343 P **P** **12 04 26.6 -0.2**
YHNB IAmb IAmb 12 04 30.7
comp=Z,152nm,1.7s
JOW Kunigami 31.66 355 LR LR 12 15 28.7
comp=Z,1μm,21.6s,baz=144,slow=33
QIZ Qiongzhong 31.68 319 P **P** **12 04 35.8 +1.9**
QIZ PcP **PcP** **12 07 25.5 +0.6**
QIZ S **S** **12 09 42.5 +2.9**
QIZ LR LR
comp=Z,520nm,18.0s
QIZ LR LR
comp=Z,710nm,21.0s
QIZ LR LR
comp=Z,520nm,16.1s
ARMA Armidale 31.92 145 P **P** **12 04 36.9 +0.8**
baz=32,SNR=12
ARMA Armidale 31.92 145 P **P** **12 04 35.3 -0.8**
ARMA Armidale 31.92 145 P **P** **12 04 37.5 +1.4**
AUPHS Peel High Scho 32.03 147 P **P** **12 04 37.5 +0.6**
RKGY Rocky Gully 32.32 202 P **P** **12 04 39.9 +0.5**
baz=32,SNR=18
RKGY Rocky Gully 32.32 202 P **P** **12 04 40.5 +1.1**
PSI Prapat 33.03 283 P **P** **12 04 44.0 -2.1**
ARPS Mount Arapiles 33.21 164 P **P** **12 04 47.8 +0.7**
baz=33,SNR=23
ARPS Mount Arapiles 33.21 164 P **P** **12 04 48.0 +0.8**
YNG Young 33.37 153 P **P** **12 04 49.7 +1.1**
JCJ Chichijima 33.57 18 LR LR 12 16 05.7
comp=Z,805nm,20.6s,baz=191,slow=32
MGCD Mangrove Creek 33.78 149 P **P** **12 04 53.6 +1.4**
baz=34,SNR=16
MGCD Mangrove Creek 33.78 149 P **P** **12 04 53.8 +1.6**
GSI Gunungsitoli 34.04 280 P **P** **12 04 51.5 -3.2**
GSI IAmb IAmb 12 05 39.9
comp=Z,42nm,1.3s
SRIT Nakonsritamara 34.14 293 P **P** **12 04 55.7 +0.2**
CAN Canberra 34.49 154 P **P** **12 04 59.3 +0.9**
CAN IAmb IAmb 12 05 24.6
comp=Z,36nm,0.9s
CAN IAMs_20 IAMs_20 12 20 03.6
comp=Z,3μm,20.0s
CAN Canberra 34.49 154 P **P** **12 04 59.2 +0.9**
CAN Canberra 34.49 154 P **P** **12 04 59.3 +0.9**
CAN pmax pmax
comp=Z,36nm,0.9s
CAN MLR MLR
comp=Z,3μm,20.0s
CAN Canberra 34.49 154 P **P** **12 04 59.1 +0.7**
BRAT Ballarat 34.55 162 P **P** **12 05 00.3 +1.6**
CNB Canberra Magne 34.65 153 P **P** **12 05 00.5 +0.8**
baz=35,SNR=18
CNB Canberra Magne 34.65 153 P **P** **12 05 00.9 +1.1**
TOO Toolangi 35.08 160 P **P** **12 05 04.7 +1.3**
baz=35,SNR=17
TOO Toolangi 35.08 160 P **P** **12 05 04.8 +1.4**
TOO IAmb IAmb 12 05 30.6
comp=Z,53nm,1.4s
TOO Toolangi 35.08 160 P **P** **12 05 05.1 +1.7**
TOO Toolangi 35.08 160 P **P** **12 05 04.8 +1.4**
TOO pmax pmax
comp=Z,53nm,1.4s
NONG Nongkai 35.79 310 P **P** **12 05 09.5 -0.1**
KOUNC Koumac, New Ca 35.81 119 P **P** **12 05 09.9 +0.1**
KOUNC IAmb IAmb 12 05 11.2
comp=Z,34nm,0.9s
MLSI Meulaboh, Aceh 35.83 284 P **P** **12 05 09.2 -0.9**
comp=Z,43nm,0.6s
MILA Mila 36.02 155 P **P** **12 05 13.3 +1.8**
baz=36,SNR=7.4
SRDT SRDT 37.03 302 P **P** **12 05 21.8 +1.5**
JNU Nakatsue 37.82 360 P **P** **12 05 26.4 -0.4**
JNU IAmb IAmb 12 05 28.8
comp=Z,88nm,1.3s
JNU Nakatsue 37.82 360 P **P** **12 05 29.8 +3.1**
NOUC Port Laguerre 38.12 120 P **P** **12 05 30.1 +0.6**
NOUC Port Laguerre 38.12 120 P **P** **12 05 29.1 -0.4**
NOUC pP **pP** **12 05 41.2 -1.0**
DZM Mont Dzumac 38.23 120 *e*P **P** **12 05 27.6 -2.9**
comp=Z,64nm,1.0s
DZM *e*S S 12 11 07.2 -13
comp=Z,452nm,32.2s
DZM *e*SS **SS** **12 14 20.1 +10**
DZM *e*LR LR 12 15 56.1
comp=Z,2μm,29.7s
DZM Mont Dzumac 38.23 120 P **P** **12 05 29.9 -0.6**
DZM Mont Dzumac 38.23 120 P **P** **12 05 31.9 +1.4**
DZM Mont Dzumac 38.23 120 P **P** **12 05 30.2 -0.3**
comp=Z,24nm,0.8s,baz=284,slow=6.6,SNR=15
DZM LR LR 12 21 56.5
comp=Z,891nm,19.6s,baz=302,slow=37
comp=Z,24nm,0.8s
DZM Mont Dzumac 38.23 120 P **P** **12 05 30.4 -0.1**
DZM pP **pP** **12 05 41.9 -1.4**
ONTNC Ouen Toro 38.33 120 P **P** **12 05 31.9 +0.8**
JMN Monobe 38.51 4 P **P** **12 05 32.9 +0.3**
JMN IAmb IAmb 12 06 18.3
comp=Z,41nm,1.1s
NJ2 Nanjing 38.55 343 *e*P **P** **12 05 34.5 +1.6**
NJ2 pP **pP** **12 05 45.8 +0.2**
NJ2 sP **sP** **12 05 51.0 -0.5**
NJ2 pmax pmax
comp=Z,19nm,0.5s
NJ2 pmax pmax
comp=Z,320nm,3.8s
NJ2 LR LR
comp=Z,930nm,18.9s
NJ2 LR LR
comp=Z,790nm,18.0s
NJ2 LR LR
comp=Z,630nm,15.7s
YATNC Mamie plateau, 38.61 120 P **P** **12 05 36.0 +2.4**
JHJ Hachijo jima 2 38.70 12 LR LR 12 18 41.3
comp=Z,1μm,20.8s,baz=226,slow=32
WHN Wuhan 38.72 337 ⇑P **P** **12 05 35.0 +0.7**
WHN pP **pwP** **12 05 53.5 -0.5**
WHN S **S** **12 11 28.3 +0.9**
WHN pmax pmax
comp=Z,110nm,0.8s
WHN LR LR
comp=Z,3μm,25.9s
GYA Guiyang 39.14 324 ⇑*i*P **P** **12 05 38.0 0.0**
GYA pP sP 12 05 56.3 -0.4
GYA PP **PnPn** **12 07 13.5 +1.8**
GYA S **S** **12 11 34.5 +0.3**
GYA ScS **ScS** **12 15 39.0 -3.5**
GYA pmax pmax
comp=Z,43nm,0.8s
GYA LR LR
comp=Z,900nm,26.3s
CRAI Chiangrai 39.17 311 P **P** **12 05 37.6 -0.7**
JTU Tsushima 39.25 358 P **P** **12 05 38.8 +0.1**
JTU IAmb IAmb 12 05 59.4
comp=Z,74nm,1.1s
CM31 Chiang Mai Arr 39.28 307 P **P** **12 05 39.2 0.0**
CM31 IAmb IAmb 12 05 41.2
comp=Z,37nm,1.0s
CM31 Chiang Mai Arr 39.28 307 P **P** **12 05 39.6 +0.3**
SNR=16
CM31 S **S** **12 11 34.8 -1.5**
CMAR Chiang Mai Arr 39.28 307 P **P** **12 05 38.9 -0.3**
CMAR Chiang Mai Arr 39.28 307 P **P** **12 05 39.5 +0.3**
comp=Z,14nm,0.8s,baz=137,slow=7.5,SNR=92
CMAR PcP **PcP** **12 07 49.1 +1.8**
comp=Z,5.4nm,0.9s,baz=147,slow=1.8,SNR=4.8
CMAR ScP **ScP** **12 11 31.5 +0.2**
comp=Z,2.4nm,0.9s,baz=149,slow=3.1,SNR=7.7
comp=Z,14nm,0.8s
CHTO Chiang Mai 39.48 308 P **P** **12 05 40.4 -0.5**
CHTO Chiang Mai 39.48 308 P **P** **12 05 40.4 -0.5**
CHTO pmax pmax
comp=Z,1.0nm,0.9s
MOO Moorlands 40.03 161 P **P** **12 05 46.6 +1.5**
baz=40,SNR=4.3
MOO Moorlands 40.03 161 P **P** **12 05 47.6 +2.5**
KMI Kunming 40.62 319 ⇓P **P** **12 05 51.8 +1.3**
KMI PP **PnPn** **12 07 30.5 +1.1**
KMI S **S** **12 11 50.5 -6.1**
KMI pmax pmax
comp=Z,20nm,0.8s
KMI pmax pmax
comp=Z,160nm,4.0s
KMI LR LR
comp=Z,320nm,17.5s
KMI LR LR
comp=Z,430nm,15.0s
KMI LR LR
comp=Z,370nm,25.7s
TJN Taejon 41.21 355 P **P** **12 05 56.4 +1.5**
TJN Taejon 41.21 355 *d*P **P** **12 05 56.1 +1.2**
MAJO Matsushiro 41.76 9 P **P** **12 05 58.6 -0.8**
MAJO Matsushiro 41.76 9 P **P** **12 06 00.8 +1.4**
MAJO Matsushiro 41.76 9 P **P** **12 05 58.7 -0.8**
MAJO pmax pmax
comp=Z,14nm,0.6s
MJAR Matsushiro Arr 41.76 9 P **P** **12 05 58.6 -0.8**
comp=Z,2.1nm,0.5s,baz=196,slow=9.6,SNR=6.5
MJAR LR LR 12 20 46.5
comp=Z,857nm,21.5s,baz=186,slow=32
comp=Z,2.1nm,0.5s
MJB9 Matsu-Tunnel 41.77 9 P **P** **12 05 59.7 +0.3**
PZH PanZhiHua 42.22 319 P **P** **12 06 03.5 0.0**
PZH PP **PP** **12 07 47.3 +5.1**
PZH S **S** **12 12 11.8 -8.2**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,400nm,5.7s
KSAR Wonju Array Be 42.23 356 P **P** **12 06 03.4 +0.2**
KSAR Wonju Array Be 42.23 356 P **P** **12 06 03.4 +0.2**
KSRS Korea Array 42.24 356 P **P** **12 06 03.6 +0.4**
comp=Z,4.4nm,0.7s,baz=178,slow=9.9,SNR=23
KSRS PcP **PcP** **12 07 57.5 +1.0**
comp=Z,4.1nm,0.7s,baz=194,slow=3.3,SNR=8.7
KSRS LR LR 12 23 12.2
comp=Z,417nm,20.2s,baz=185,slow=36
comp=Z,4.4nm,0.7s
KS19 Wonju Array Si 42.29 356 P **P** **12 06 03.2 -0.5**
INCN Inchon 42.37 355 P **P** **12 06 07.2 +2.8**
INCN P **P** **12 06 07.2 +2.8**
INCN S **S** **12 12 22.5 +0.7**
INCN S **S** **12 12 22.5 +0.7**
TIA Tai'an 42.94 343 P **P** **12 06 09.0 0.0**
TIA S **S** **12 12 27.8 -2.4**
TIA pmax pmax
comp=Z,21nm,0.9s
TIA LR LR
comp=Z,380nm,21.6s
TIA LR LR
comp=Z,380nm,12.8s
TIA LR LR
comp=Z,470nm,22.6s
LYN LuoYang 42.99 337 ⇑P **P** **12 06 09.5 0.0**
LYN pP pP 12 06 24.8 +2.4
LYN S **S** **12 12 28.8 -2.1**
LYN SS **SS** **12 15 42.5 -2.4**
LYN pmax pmax
comp=Z,43nm,0.7s
LYN pmax pmax
comp=Z,650nm,7.9s
LYN LR LR
comp=Z,680nm,15.8s
LYN LR LR
comp=Z,360nm,15.5s
LYN LR LR
comp=Z,1μm,20.3s
TNCH TengChong 43.45 315 *e*P **P** **12 06 15.5 +2.0**
TNCH pP sP 12 06 30.0 -2.0
TNCH S **S** **12 12 38.0 -0.2**
TNCH ScS **ScS** **12 16 07.5 -1.3**
TNCH pmax pmax
comp=Z,22nm,0.6s
TNCH pmax pmax
comp=Z,230nm,6.3s
TNCH LR LR
comp=Z,230nm,15.0s
TNCH LR LR
comp=Z,280nm,15.0s
TNCH LR LR
comp=Z,250nm,20.9s
MND Mandalay 43.45 309 P **P** **12 06 13.3 0.0**
XAN Xi'an 44.03 333 ⇓P **P** **12 06 17.0 -1.0**
XAN pP pP 12 06 27.5 -3.5
XAN S **S** **12 12 37.5 -8.8**
XAN pmax pmax
comp=Z,60nm,1.0s
XAN pmax pmax
comp=Z,470nm,7.7s
XAN Xi'an 44.03 333 P **P** **12 06 16.9 -1.0**
XAN pP **pP** **12 06 29.2 -1.8**
CD2 Chengdu 44.16 325 P **P** **12 06 19.0 0.0**
CD2 pP pP 12 06 32.3 +0.2
CD2 S **S** **12 12 47.5 -0.7**
CD2 sS sS 12 13 09.5 -0.8
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,210nm,8.6s
CD2 LR LR
comp=Z,680nm,18.0s
CD2 LR LR
comp=Z,580nm,17.5s
CD2 LR LR
comp=Z,780nm,16.5s
DL2 Dalian 44.46 349 P **P** **12 06 22.3 +1.2**
DL2 S **S** **12 12 52.0 -0.2**
DL2 pmax pmax
comp=Z,32nm,1.0s
DL2 pmax pmax
comp=Z,310nm,5.7s
DL2 LR LR
comp=Z,500nm,12.8s
DL2 LR LR
comp=Z,550nm,16.3s
DL2 LR LR
comp=Z,700nm,21.6s
HNS HongShan 44.77 341 ⇓P **P** **12 06 23.3 -0.3**
HNS S **S** **12 12 58.0 +1.3**
HNS pmax pmax
comp=Z,39nm,1.1s
HNS LR LR
comp=Z,570nm,21.9s
HNS LR LR
comp=Z,490nm,16.0s
TIY Taiyuan 45.82 339 *e*P **P** **12 06 32.3 +0.3**
TIY S **S** **12 13 12.0 0.0**
TIY pmax pmax
comp=Z,41nm,0.8s
TIY pmax pmax
comp=Z,230nm,5.3s
TIY LR LR
comp=Z,240nm,17.9s
TIY LR LR
comp=Z,260nm,17.2s
TIY LR LR
comp=Z,380nm,22.0s
BJT Baijiatuau 46.76 344 P **P** **12 06 38.9 -0.4**
BJT IAmb IAmb 12 06 41.2
comp=Z,51nm,0.8s
BJT Baijiatuau 46.76 344 P **P** **12 06 39.6 +0.3**
BJT Baijiatuau 46.76 344 P **P** **12 06 38.9 -0.4**
BJT pmax pmax
comp=Z,51nm,0.8s
BJT Baijiatuau 46.76 344 P **P** **12 06 39.3 0.0**
BJT pP **pP** **12 06 51.7 -1.0**
BJT PcP **PcP** **12 08 13.3 +1.4**
BJI Beijing 46.78 344 P **P** **12 06 39.0 -0.5**
BJI S **S** **12 13 22.8 -2.8**
BJI pmax pmax
comp=Z,14nm,0.8s
BJI pmax pmax
comp=Z,230nm,8.9s
SNY Shenyang 47.01 352 P **P** **12 06 41.0 -0.2**
SNY pP **pP** **12 06 55.0 +0.6**
SNY sP **pwP** **12 07 00.8 -0.2**
SNY S **S** **12 13 23.0 -5.8**
SNY pmax pmax
comp=Z,260nm,9.0s
SNY LR LR
comp=Z,280nm,13.2s
SNY LR LR
comp=Z,660nm,25.0s
SNY LR LR
comp=Z,820nm,23.1s
MSHR Mys Shultsa 47.26 0 ⇑*e*P **P** **12 06 42.9 -0.2**
MSHR pmax pmax
comp=Z,24nm,1.2s
MSVF Nonsavu 47.64 109 P **P** **12 06 47.1 +0.4**
MSVF IAmb IAmb 12 08 00.9
comp=Z,74nm,1.9s
MSVF Nonsavu 47.64 109 P **P** **12 06 49.8 +3.2**
MSVF Nonsavu 47.64 109 P **P** **12 06 47.4 +0.8**
comp=Z,6.9nm,0.9s,baz=233,slow=7.2,SNR=6.6
MSVF LR LR 12 25 54.5
comp=Z,813nm,20.4s,baz=286,slow=35
comp=Z,6.9nm,0.9s
VLA Vladivostok 47.80 1 *ce*P **P** **12 06 48.4 +1.1**
VLA pmax pmax
comp=Z,31nm,1.0s
LZH Lanzhou 48.11 330 *e*P **P** **12 06 51.3 +1.2**
LZH pP pP 12 07 00.5 -2.9
LZH sP sP 12 07 07.0 -2.2
LZH PcP **PcP** **12 08 18.8 +1.8**
LZH S **S** **12 13 43.0 -1.9**
LZH sS sS 12 14 11.5 +4.3
LZH pmax pmax
comp=Z,39nm,1.1s
LZH pmax pmax
comp=Z,290nm,4.1s
SHL Shillong 48.63 310 P **P** **12 06 53.6 -0.7**
SHL IAmb IAmb 12 06 54.8
comp=Z,30nm,0.9s
SHL Shillong 48.63 310 P **P** **12 06 55.0 +0.7**
SNR=8.6
SHL Shillong 48.63 310 P **P** **12 06 53.6 -0.7**
SHL pmax pmax
comp=Z,30nm,0.9s
CN2 Changchun 48.75 355 *e*P **P** **12 06 53.8 -0.8**
CN2 *e*S **S** **12 13 52.3 -1.0**
CN2 *e*SS **SS** **12 17 17.8 -6.8**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,450nm,16.0s
CN2 LR LR
comp=Z,610nm,17.0s
USA0B Ussuriysk Arra 48.88 1 P **P** **12 06 55.6 -0.1**
USA0B IAmb IAmb 12 06 57.6
comp=Z,98nm,1.9s
USA0B Ussuriysk Arra 48.88 1 *de*P **P** **12 06 56.6 +0.9**
USRK Ussuriysk Ar. 48.88 1 P **P** **12 06 55.6 -0.1**
USRK Ussuriysk Ar. 48.88 1 P **P** **12 06 55.7 +0.1**
comp=Z,11nm,0.6s,baz=190,slow=7.5,SNR=6.9
USRK LR LR 12 27 12.1
comp=Z,378nm,20.3s,baz=180,slow=36
comp=Z,11nm,0.6s
HHC Hu-ho-hao-te 48.92 340 *e*P **P** **12 06 56.5 +0.3**
HHC sP pwP 12 07 16.5 +0.3
HHC S **S** **12 13 52.0 -4.2**
HHC pmax pmax
comp=Z,44nm,0.9s
HHC pmax pmax
comp=Z,310nm,5.1s
DGTI Dogotuki 49.02 107 P **P** **12 06 59.3 +2.1**
BTO Baotou 49.24 339 *e*P **P** **12 07 00.3 +1.7**
BTO pP **sP** **12 07 15.8 -2.0**
BTO sP **pwP** **12 07 22.5 +3.9**
BTO PP **PP** **12 08 54.8 +1.8**
BTO S **S** **12 14 03.8 +3.1**
BTO SS **SS** **12 17 30.5 -2.4**
BTO pmax pmax
comp=Z,19nm,0.7s
BTO pmax pmax
comp=Z,820nm,5.0s
BTO LR LR

comp=Z,610nm,9.4s
BTO LR LR
comp=Z,750nm,9.2s
BTO LR LR
comp=Z,680nm,9.0s
MDJ Mudanjiang 49.31 359 P **P** **12 07 00.3 +1.4**
MDJ pP pP 12 07 12.5 +0.3
MDJ sP pwP 12 07 18.3 -0.6
MDJ S **S** **12 14 04.5 +3.2**
MDJ pmax pmax
comp=Z,20nm,0.7s
MDJ pmax pmax
comp=Z,240nm,6.7s
MDJ LR LR
comp=Z,980nm,15.2s
MDJ LR LR
comp=Z,770nm,17.3s
MDJ LR LR
comp=Z,890nm,23.5s
MDJ Mudanjiang 49.31 359 P **P** **12 06 58.9 -0.1**
MDJ IAmb IAmb 12 07 20.0
comp=Z,26nm,0.9s
MDJ Mudanjiang 49.31 359 P **P** **12 07 00.4 +1.5**
ASAJ Asahikawa 49.88 11 P **P** **12 07 03.3 0.0**
ASAJ pmax pmax
comp=Z,222nm,2.0s
ASAJ Asahikawa 49.88 11 LR LR 12 26 59.0
comp=Z,347nm,21.2s,baz=183,slow=34
JKA Kamikawa-asahi 49.88 11 P **P** **12 07 03.3 0.0**
XLT XiLinHaoTe 50.43 346 *e*P **P** **12 07 07.5 -0.1**
XLT pP pP 12 07 22.0 +1.0
XLT sP pwP 12 07 29.8 +2.6
XLT PcP **PcP** **12 08 21.0 -4.2**
XLT PP **PP** **12 09 05.0 +1.2**
XLT pmax pmax
comp=Z,23nm,1.0s
XLT pmax pmax
comp=Z,190nm,6.0s
BNX BinXian 50.52 357 ⇓P **P** **12 07 08.8 +0.7**
BNX pmax pmax
comp=Z,8.0nm,0.7s
BNX pmax pmax
comp=Z,350nm,5.9s
DCZ Deep Cove 51.16 148 P **P** **12 07 13.8 +0.8**
DCZ IAmb IAmb 12 07 28.9
comp=Z,88nm,1.6s
LSA Lhasa 51.48 314 P **P** **12 07 16.8 +0.6**
LSA pmax pmax
comp=Z,35nm,0.8s
LSA Lhasa 51.48 314 IAmb IAmb 12 07 18.1
comp=Z,24nm,0.9s
LSA Lhasa 51.48 314 P **P** **12 07 16.9 +0.8**
QRZ Quartz Range 51.53 140 P **P** **12 07 16.6 +0.8**
PALK Pallekele 51.72 283 P **P** **12 07 16.9 -0.8**
PALK IAmb IAmb 12 07 21.4
comp=Z,44nm,1.8s
PALK Pallekele 51.72 283 P **P** **12 07 17.3 -0.4**
PALK S **S** **12 14 33.7 -2.0**
PALK Pallekele 51.72 283 P **P** **12 07 16.9 -0.8**
PALK pmax pmax
comp=Z,44nm,1.8s
PALK Pallekele 51.72 283 LR LR 12 30 42.3
comp=Z,358nm,19.8s,baz=214,slow=38
WHZ Wether Hill Ro 51.86 148 P **P** **12 07 18.9 +0.6**
WHZ IAmb IAmb 12 07 20.0
comp=Z,54nm,1.2s
TOZ Tahuroa Road 51.97 135 IAMs_20 IAMs_20 12 29 11.6
comp=Z,1μm,21.0s
LBZ Lake Benmore 52.15 145 P **P** **12 07 21.1 +0.7**
LBZ IAmb IAmb 12 07 23.1
comp=Z,47nm,0.9s
RPZ Rata Peaks 52.25 144 P **P** **12 07 22.1 +0.9**
comp=Z,24nm,0.9s,baz=211,slow=5.9,SNR=5.8
RPZ LR LR 12 30 45.9
comp=Z,706nm,18.6s,baz=311,slow=37
comp=Z,24nm,0.9s
NNZ Nelson 52.28 140 IAMs_20 IAMs_20 12 29 49.7
comp=Z,2μm,20.0s
YSS Yuzh-Sakhalins 52.66 10 P **P** **12 07 23.9 -0.1**
YSS Yuzh-Sakhalins 52.66 10 *e*P **P** **12 07 24.4 +0.4**
YSS pmax pmax
comp=Z,40nm,0.5s
GTA Gaotai 52.70 330 *e*P **P** **12 07 25.0 +0.4**
GTA sP sP 12 07 43.5 +0.1
GTA PcP **PcP** **12 08 35.0 +1.2**
GTA ScS ScS 12 17 08.5 -1.2
GTA pmax pmax
comp=Z,20nm,1.0s
ODAN Odare 52.74 309 *e*P **P** **12 07 24.9 -0.5**
comp=Z,117nm,1.0s
TAPN Taplejung 52.75 310 *e*P **P** **12 07 24.5 -0.9**
comp=Z,52nm,0.4s
GOMU GeErMu 53.14 323 Pn **P** **12 07 29.5 +1.2**
SNZO South Karori 53.18 140 IAMs_20 IAMs_20 12 29 58.5
comp=Z,2μm,21.0s
URZ Urewera 53.34 135 P **P** **12 07 30.2 +0.9**
comp=Z,8.2nm,0.8s,baz=307,slow=20,SNR=2.4
URZ LR LR 12 31 04.9
comp=Z,463nm,18.4s,baz=31,slow=37
comp=Z,8.2nm,0.8s
RAMN Ramite 53.40 309 *e*P **P** **12 07 30.0 -0.2**
comp=Z,81nm,0.6s
BFZ Birch Farm 53.88 138 IAMs_20 IAMs_20 12 31 26.0
comp=Z,2μm,19.0s
RAO Raoul Island 53.89 123 LR LR 12 29 25.0
comp=Z,327nm,20.9s,baz=277,slow=35
KLR Kul'dur 53.91 1⇓*e*P **P** **12 07 33.7 +0.5**
KLR pmax pmax
comp=Z,22nm,1.7s
KLR Kul'dur 53.91 1 LR LR 12 30 20.0
comp=Z,416nm,20.3s,baz=171,slow=36
JIRN Jiri 54.07 309 *e*P **P** **12 07 34.7 -0.5**
comp=Z,43nm,0.6s
GUN Gumba 54.43 309 *e*P **P** **12 07 37.2 -0.6**
comp=Z,77nm,0.6s
PKI Pulchoki 54.63 309 *e*P **P** **12 07 38.5 -0.8**
comp=Z,50nm,1.0s
PKIN Phulchoki 54.64 309 *e*P **P** **12 07 38.5 -0.8**
comp=Z,40nm,0.8s
KKN Kakani 54.84 309 *e*P **P** **12 07 39.9 -0.7**
comp=Z,128nm,1.3s
HIA Hailar 54.85 351⇑*e*P **P** **12 07 40.8 +0.8**
HIA pmax pmax
comp=Z,7.0nm,0.9s
DMN Daman 54.88 309 *e*P **P** **12 07 40.7 -0.3**
comp=Z,94nm,1.0s
HEH HeiHe 55.03 357 *e*P **P** **12 07 40.8 -0.5**
HEH pmax pmax
comp=Z,28nm,1.0s
HEH pmax pmax
comp=Z,470nm,5.0s
GKN Gorkha 55.44 309 *e*P **P** **12 07 44.4 -0.5**
comp=Z,102nm,0.9s
KOLN Koldanda 56.13 308 *e*P **P** **12 07 50.1 +0.2**
comp=Z,199nm,1.1s
DANN Dangsing 56.28 309 *e*P **P** **12 07 50.4 -0.7**
comp=Z,105nm,0.9s
HYB Hyderabad 56.40 295 *e*P **P** **12 07 51.7 -0.1**
HYB IVmB_BB 12 07 52.0
comp=Z,395nm,1.1s
HYB *es*P **sP** **12 08 08.8 -1.7**
ULN Ulaanbaatar 56.63 341 P **P** **12 07 53.2 +0.1**
ULN IAmb IAmb 12 07 55.2
comp=Z,19nm,0.8s
ULN Ulaanbaatar 56.63 341 P **P** **12 07 53.8 +0.8**
ULN S **S** **12 15 37.7 -3.5**
ULN Ulaanbaatar 56.63 341 *de*P **P** **12 07 53.5 +0.4**
ULN pmax pmax
comp=Z,22nm,0.8s
ULN Ulaanbaatar 56.63 341 P **P** **12 07 53.5 +0.4**
ULN pP **pP** **12 08 06.3 -0.4**
PYUN Piuthan 56.77 308 *e*P **P** **12 07 54.0 -0.4**
comp=Z,190nm,0.9s
SONM Songino Array 56.83 340 P **P** **12 07 54.1 -0.2**
SONM Songino Array 56.83 340 P **P** **12 07 54.5 +0.1**
comp=Z,11nm,0.7s,baz=146,slow=7.7,SNR=46
SONM LR LR 12 35 08.6
comp=Z,214nm,18.3s,baz=156,slow=39
comp=Z,11nm,0.7s
ZEA Zeya 58.51 357 *e*P **P** **12 08 06.9 +1.0**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZAK Zakamensk 60.07 340 *e*P **P** **12 08 16.1 -0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.2s
IRK Irkutsk 61.33 342 *e*P **P** **12 08 25.1 -0.2**
IRK pmax pmax
comp=Z,49nm,1.5s
MOY Mondy 61.94 339 *e*P **P** **12 08 30.6 +1.1**
MOY pmax pmax
comp=Z,48nm,1.8s
DRV Dumont d'Urvil 61.97 176 P **P** **12 08 29.4 +0.1**
DRV pP **pP** **12 08 43.0 +0.5**
PEA0B Petropavlovsk- 62.01 18 P **P** **12 08 30.4 +0.5**
PEA0B Petropavlovsk- 62.01 18⇓*e*P **P** **12 08 31.1 +1.3**
PETK Petropavlovsk- 62.01 18 P **P** **12 08 30.8 +0.9**
comp=Z,14nm,0.8s,baz=198,slow=7.2,SNR=24
PETK LR LR 12 31 48.5
comp=Z,229nm,21.9s,baz=209,slow=32
comp=Z,14nm,0.8s
PET Petropavlovsk 62.23 18 P **P** **12 08 31.3 0.0**
PET Petropavlovsk 62.23 18 *e*P **P** **12 08 32.7 +1.4**
PET pmax pmax
comp=Z,44nm,1.1s
WMQ Urumqi 62.26 326 *e*P **P** **12 08 32.5 +0.7**
WMQ pP pP 12 08 46.3 +1.0
WMQ sP pwP 12 08 52.0 -1.0
WMQ pmax pmax
comp=Z,83nm,1.1s
WMQ LR LR
comp=Z,430nm,27.9s
CASY Casey 62.93 189 P **P** **12 08 35.2 -0.5**
CASY Casey 62.93 189 P **P** **12 08 35.3 -0.5**
BOD Bodaibo 64.03 350 *e*P **P** **12 08 43.7 +0.6**
BOD pmax pmax
comp=Z,37nm,1.5s
ZSN Zaisan 66.08 328 *e*P **P** **12 08 57.2 +0.4**
comp=Z,18nm,0.9s,baz=328
ZSN *e*S **S** **12 17 42.3 +1.5**
baz=328
ZSN Zaisan 66.08 328 *e*P **P** **12 08 57.1 +0.4**
ZSN *e*S **S** **12 17 42.2 +1.5**
ZSN pmax pmax
comp=Z,18nm,0.9s
MA2 Magadan 66.15 11 *ce*P **P** **12 08 59.4 +2.6**
MA2 pmax pmax
comp=Z,58nm,2.5s
DGZ Jazzator, Alta 66.20 331 *d i*P **P** **12 08 58.0 +0.4**
DGZ pmax pmax
comp=Z,43nm,1.1s
NIL Nilore 66.70 310 P **P** **12 09 01.2 +0.3**
NIL IAmb IAmb 12 09 33.5
comp=Z,20nm,0.8s
NIL Nilore 66.70 310 P **P** **12 09 01.3 +0.3**
NIL pmax pmax
comp=Z,20nm,0.9s
SHLS Shalkode 66.75 321 *e*P **P** **12 08 59.7 -1.5**
comp=Z,13nm,0.7s,baz=322
SHLS Shalkode 66.75 321 *e*P **P** **12 08 59.7 -1.5**
SHLS pmax pmax
comp=Z,13nm,0.7s
YAK Yakutsk 66.75 359 **P** **12 09 01.6 +1.0**
YAK Yakutsk 66.75 359 P **P** **12 09 01.5 +1.0**
YAK IAmb IAmb 12 09 02.3
comp=Z,64nm,0.7s
YAK Yakutsk 66.75 359 *e*P **P** **12 09 01.6 +1.0**
YAK *e**PP **pP** **12 09 15.3 +0.7**
YAK *e* 12 09 24.7
YAK *e* 12 11 25.4
YAK *e*PPP PPP 12 13 05.6
YAK *e*S **S** **12 17 49.9 +1.7**
YAK *e**SS **sS** **12 18 16.1 +3.5**
YAK *e* 12 18 48.3
YAK *e*SS **SS** **12 22 08.3 +1.1**
YAK pmax pmax
comp=Z,69nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=Z,2μm,8.5s
YAK pmax pmax
comp=N,753nm,7.9s
YAK pmax pmax
comp=E,1μm,8.2s
YAK smax smax
comp=E,755nm,8.2s
YAK smax smax
comp=N,540nm,8.9s
YAK Yakutsk 66.75 359⇑P **P** **12 09 01.6 +1.0**
PDGK Podgornoye 66.82 322 P **P** **12 09 01.4 -0.3**
UZB Uzynbulak 67.02 321 *e*P **P** **12 09 03.0 0.0**
comp=N,18nm,0.9s,baz=321
UZB Uzynbulak 67.02 321 *e*P **P** **12 09 02.9 0.0**
UZB pmax pmax
comp=Z,17nm,0.9s
MK31 Makanchi Array 67.09 326 P **P** **12 09 03.6 +0.4**
MK31 IAmb IAmb 12 09 05.7
comp=Z,31nm,0.8s
MK31 Makanchi Array 67.09 326 P **P** **12 09 03.6 +0.4**
MK31 pmax pmax
comp=Z,31nm,0.8s
MKAR Makanchi Array 67.09 326 P **P** **12 09 03.5 +0.3**
comp=Z,28nm,0.6s,baz=119,slow=7.5,SNR=150
MKAR S **S** **12 17 51.3 -1.8**
comp=Z,0.2nm,0.5s,baz=134,slow=12,SNR=2.9
comp=Z,28nm,0.6s
KSH Kashi 67.23 317 P **P** **12 09 05.5 +1.1**
KSH pP pP 12 09 18.5 +0.4
KSH PcP **PcP** **12 09 33.3 +1.4**
KSH pmax pmax
comp=Z,17nm,0.9s
MAKZ Makanchi 67.28 326 P **P** **12 09 04.5 +0.2**
MAKZ IAmb IAmb 12 09 06.3
comp=Z,42nm,0.9s
MAKZ Makanchi 67.28 326 P **P** **12 09 04.5 +0.2**
MAKZ pmax pmax
comp=Z,42nm,1.0s
MAKZ Makanchi 67.28 326 P **P** **12 09 04.6 +0.2**
SATY Saty 67.36 321 *e*P **P** **12 09 05.3 +0.1**
comp=Z,23nm,1.0s,baz=321
SATY Saty 67.36 321 *e*P **P** **12 09 05.2 +0.1**
SATY pmax pmax
comp=Z,23nm,1.0s
KPKS Kokpek 67.39 321 *e*P **P** **12 09 05.3 0.0**
comp=Z,29nm,1.3s,baz=321
KPKS Kokpek 67.39 321 *e*P **P** **12 09 05.3 0.0**
KPKS pmax pmax
comp=Z,29nm,1.3s
ZHN Zhinishke 67.40 321 *e*P **P** **12 09 05.2 -0.2**
baz=321
ZHN Zhinishke 67.40 321 *e*P **P** **12 09 05.1 -0.2**
KDJ Kajisay 67.67 319 P **P** **12 09 06.9 -0.3**
KDJ Kajisay 67.67 319 P **P** **12 09 06.9 -0.3**
KDJ pmax pmax
comp=Z,14nm,0.8s
SHEM Shemya Is, Ala 67.93 27 LR LR 12 41 12.5
comp=Z,129nm,18.0s,baz=158,slow=38
NRN Naryn 68.11 318 P **P** **12 09 10.2 +0.1**
NRN Naryn 68.11 318 P **P** **12 09 10.2 +0.1**
NRN pmax pmax
comp=Z,9.0nm,0.8s
MDOK Medeo 68.27 320 *e*P **P** **12 09 11.3 +0.4**
baz=320
MDOK Medeo 68.27 320 *e*P **P** **12 09 11.3 +0.4**
TNSS Tian-Shan 68.27 320 *e*P **P** **12 09 11.8 +0.5**
baz=320
TNSS Tian-Shan 68.27 320 *e*P **P** **12 09 11.7 +0.5**
AAA Alma-Ata 68.38 320 *e*P **P** **12 09 11.6 +0.1**
baz=320
AAA Alma-Ata 68.38 320 *e*P **P** **12 09 11.5 +0.1**
CHKK Chushkaly 68.65 321 *e*P **P** **12 09 12.8 -0.3**
baz=321
CHKK Chushkaly 68.65 321 *e*P **P** **12 09 12.8 -0.3**
RAR Rarotonga 68.80 111 LR LR 12 36 50.0
comp=Z,84nm,21.6s,baz=282,slow=34
KUU Kurty 69.08 321 *e*P **P** **12 09 15.4 -0.3**
baz=321
KUU Kurty 69.08 321 *e*P **P** **12 09 15.4 -0.3**
TKM2 Tokmak 2 69.08 320 *i*P **P** **12 09 16.1 +0.1**
TKM2 pmax pmax
comp=Z,19nm,0.8s
SEY Seymchan 69.56 10⇓*e*P **P** **12 09 19.9 +1.7**
SEY pmax pmax
comp=Z,35nm,0.7s
SEY Seymchan 69.56 10 LR LR 12 37 27.3
comp=Z,204nm,21.9s,baz=182,slow=34
AAK Ala-Archa 69.67 319 P **P** **12 09 19.8 +0.2**
AAK Ala-Archa 69.67 319 P **P** **12 09 21.2 +1.6**
AAK P **P** **12 09 21.2 +1.6**
AAK S **S** **12 18 28.1 +3.9**
AAK S **S** **12 18 28.1 +3.9**
AAK Ala-Archa 69.67 319 *c i*P **P** **12 09 21.1 +1.6**
AAK pmax pmax
comp=Z,25nm,1.3s
AAK Ala-Archa 69.67 319 P **P** **12 09 21.2 +1.6**
AAK PcP **PcP** **12 09 41.5 -0.6**
SGDS Sogindy 69.96 320 *e*P **P** **12 09 21.4 +0.1**
baz=320
SGDS Sogindy 69.96 320 *e*P **P** **12 09 21.3 +0.1**
AML Almayashu 69.96 318 *i*P **P** **12 09 22.5 +0.8**
AML pmax pmax
comp=Z,7.0nm,1.0s
ZAA0 Zalesovo Array 70.21 333 P **P** **12 09 21.7 -0.7**
ZAA0 IAmb IAmb 12 09 23.9
comp=Z,41nm,0.8s
ZALV Zalesovo Beam 70.21 333 P **P** **12 09 21.7 -0.7**
comp=Z,32nm,0.6s,baz=115,slow=4.9,SNR=112
comp=Z,32nm,0.6s
KBL Kabul 70.27 309 P **P** **12 09 22.4 -1.1**
KBL Kabul 70.27 309 P **P** **12 09 24.3 +0.9**
SNR=5.4
KBL P **P** **12 09 24.3 +0.9**
SNR=5.4
KBL Kabul 70.27 309 P **P** **12 09 22.4 -1.1**
KBL pmax pmax
comp=Z,12nm,0.6s
SEM Semipalatinsk 70.28 328 *e*P **P** **12 09 23.6 +0.3**
baz=328
SEM Semipalatinsk 70.28 328 *e*P **P** **12 09 23.5 +0.3**
CCD Concordia, Ant 70.28 182 P **P** **12 09 23.5 +0.4**
BTK Batken 71.05 315 P **P** **12 09 27.4 -0.5**
BTK Batken 71.05 315 P **P** **12 09 27.4 -0.5**
BTK pmax pmax
comp=Z,12nm,0.9s
BTLS Baital 71.07 321 *e*P **P** **12 09 27.6 -0.3**
baz=321
BTLS Baital 71.07 321 *e*P **P** **12 09 27.6 -0.3**
KURBB Kurchatov Arra 71.31 328 P **P** **12 09 28.0 -1.2**
KURBB Kurchatov Arra 71.31 328 P **P** **12 09 29.3 +0.1**
comp=Z,52nm,0.9s,baz=128,slow=5.2,SNR=210
KURBB S **S** **12 18 41.8 -0.8**
comp=Z,0.4nm,0.6s,baz=130,slow=8.6,SNR=5.7
comp=Z,52nm,0.9s
KURK Kurchatov 71.32 328 P **P** **12 09 29.1 -0.1**
KURK Kurchatov 71.32 328 P **P** **12 09 30.3 +1.1**
KURK S **S** **12 18 42.1 -0.6**
KURK Kurchatov 71.32 328 *d i*P **P** **12 09 30.0 +0.8**
KURK pmax pmax
comp=Z,127nm,1.3s
KURK Kurchatov 71.32 328 P **P** **12 09 29.9 +0.8**
KURK PcP **sP** **12 09 48.2 -0.4**
SIMJ Simiganj 71.79 313 P **P** **12 09 33.0 +0.4**
IUG Iuzhnay 72.43 317 *e*P **P** **12 09 36.5 +0.2**
comp=Z,15nm,0.8s,baz=317
IUG Iuzhnay 72.43 317 *e*P **P** **12 09 36.4 +0.2**
IUG pmax pmax
comp=Z,15nm,0.8s
KK31 Karatay Array 72.50 318 P **P** **12 09 36.7 +0.1**
KK31 IAmb IAmb 12 09 38.9
comp=Z,29nm,1.1s
KK31 Karatay Array 72.50 318 *i*P **P** **12 09 37.0 +0.5**
KKAR Karatay Array 72.50 318 P **P** **12 09 36.5 0.0**
KKAR IAmb IAmb 12 09 38.9
comp=Z,29nm,1.1s
KKAR Karatay Array 72.50 318 P **P** **12 09 36.5 0.0**
OTUK Ortayu 73.60 323 P **P** **12 09 43.5 +0.6**
BRZS Berezniki 74.21 325 *e*P **P** **12 09 46.7 +0.3**
baz=325
BRZS Berezniki 74.21 325 *e*P **P** **12 09 46.7 +0.3**
VNDA Vanda 74.39 173 P **P** **12 09 47.2 +0.3**
VNDA Vanda 74.39 173 P **P** **12 09 47.3 +0.3**
VNDA pmax pmax
comp=Z,14nm,1.0s
VNDA Vanda 74.39 173 P **P** **12 09 47.1 +0.1**
comp=Z,2.5nm,0.6s,baz=317,slow=5.8,SNR=21
VNDA LR LR 12 42 53.1
comp=Z,383nm,19.5s,baz=341,slow=36
comp=Z,2.5nm,0.6s
JLN Jalan Bani Buh 75.02 294 P **P** **12 09 52.0 +0.4**
JLN P **P** **12 09 52.0 +0.4**
SBA Scott Base 75.26 173 P **P** **12 09 53.4 +1.4**
SBA Scott Base 75.26 173 P **P** **12 09 53.4 +1.4**
SBA pmax pmax
comp=Z,19nm,1.2s
WBK Wadi Bani Khal 75.51 295 P **P** **12 09 55.1 +0.6**
SNR=8.1
WBK P **P** **12 09 55.1 +0.6**
SNR=8.1
WBK S **S** **12 19 29.0 -2.3**
WBK S **S** **12 19 29.0 -2.3**
WSAR Wadi Sarin 75.94 295 P **P** **12 09 57.5 +0.6**
SNR=11
WSAR Wadi Sarin 75.94 295 LR LR 12 47 13.0
comp=Z,77nm,18.6s,baz=113,slow=39
MHTO MHTO 76.11 293 P **P** **12 09 57.7 -0.2**
SNR=10
MHTO P **P** **12 09 57.7 -0.2**
SNR=10
JMDO Jabal Madar 76.25 294 P **P** **12 09 59.2 +0.5**
SNR=7.7
JMDO P **P** **12 09 59.2 +0.5**
SNR=7.7
DQM DQM 76.31 292 P **P** **12 10 00.7 +1.6**
SNR=5.4
DQM P **P** **12 10 00.7 +1.6**
SNR=5.4
TIXI Tiksi 76.42 359 P **P** **12 09 58.6 0.0**
TIXI Tiksi 76.42 359 P **P** **12 09 58.6 0.0**
TIXI pmax pmax
comp=Z,13nm,0.8s
SMDO Samad 76.43 295 P **P** **12 10 00.5 +0.6**
SNR=9.9
SMDO P **P** **12 10 00.5 +0.6**
SNR=9.9
BIDO Bidbid 76.45 295 P **P** **12 10 01.0 +1.1**
SNR=15
BVA0 Borovoye Array 76.89 327 *i*P **P** **12 10 01.9 +0.2**
BVAR Borovoye Array 76.89 327 P **P** **12 10 01.7 +0.1**
comp=Z,36nm,0.8s,baz=120,slow=5.8,SNR=105
comp=Z,36nm,0.8s
BRVK Borovoye 76.96 327 P **P** **12 10 01.6 -0.4**
BRVK IAmb IAmb 12 10 04.1
comp=Z,42nm,0.9s
BRVK Borovoye 76.96 327 P **P** **12 10 02.8 +0.8**
BRVK S **S** **12 19 48.2 +2.3**
BRVK Borovoye 76.96 327 *i*P **P** **12 10 01.9 -0.2**
BRVK pmax pmax
comp=Z,40nm,0.9s
JASK Jask - Hormozg 77.16 298 P **P** **12 10 06.4 +2.6**
JASK S **S** **12 19 48.5 -0.7**
HOQ Hoqain 77.20 295 P **P** **12 10 05.1 +1.0**
SNR=9.7
HOQ P **P** **12 10 05.1 +1.0**
SNR=9.7
MAW Mawson 77.29 201 P **P** **12 10 03.8 +0.2**
MAW Mawson 77.29 201 P **P** **12 10 03.8 +0.2**
MAW pmax pmax
comp=Z,5.0nm,1.2s
MAW Mawson 77.29 201 P **P** **12 10 03.3 -0.3**
comp=Z,6.7nm,0.5s,baz=86,slow=6.0,SNR=25
MAW LR LR 12 43 27.3
comp=Z,359nm,19.7s,baz=59,slow=35
comp=Z,6.7nm,0.5s
SPIA Saint Paul Isl 77.82 28 P **P** **12 10 07.8 +1.1**
baz=240
ARQ Araqi 77.86 295 P **P** **12 10 09.6 +1.8**
SNR=5.2
ARQ P **P** **12 10 09.6 +1.8**
SNR=5.2
UNV Unalaska Valle 78.17 32 P **P** **12 10 10.1 +1.4**
baz=244
PPT2 Papeete2 78.38 107 *e*LR LR 12 35 00.1
comp=Z,418nm,25.0s
PPT Papeete 78.38 107 LR LR 12 42 37.0
comp=Z,120nm,19.6s,baz=264,slow=34
UOSS Minazif 78.45 297 P **P** **12 10 10.6 -0.4**
UOSS IAmb IAmb 12 10 12.7
comp=Z,29nm,1.2s
HATD Hatta, Dubai 78.49 296 P **P** **12 10 12.4 +1.2**
HATD P **P** **12 10 12.4 +1.2**
HATD S **S** **12 20 01.5 -2.1**
HATD S **S** **12 20 01.5 -2.1**
MASF Masafi 78.57 297 P **P** **12 10 13.4 +1.7**
SNR=5.7
ALNE Al Ain 78.69 296 P **P** **12 10 14.0 +1.7**

SNR=7.7
SHME Shamm 78.72 298 P **P** **12 10 14.2 +1.8**
SHME P **P** **12 10 14.2 +1.8**
SHME S **S** **12 20 03.5 -2.4**
SHME S **S** **12 20 03.5 -2.4**
FAQ Al Faqa, Dubai 78.96 296 P **P** **12 10 15.0 +1.2**
FAQ P **P** **12 10 15.0 +1.2**
FAQ S **S** **12 20 00.2 -8.4**
FAQ S **S** **12 20 00.2 -8.4**
DOK Doka 79.27 290 P **P** **12 10 15.0 -0.5**
DOK P **P** **12 10 15.0 -0.5**
DOK S **S** **12 20 08.4 -3.6**
DOK S **S** **12 20 08.4 -3.6**
GEYT Alibeck 79.70 310 P **P** **12 10 18.0 +0.3**
GEYT Alibeck 79.70 310 P **P** **12 10 18.1 +0.5**
comp=Z,5.9nm,0.9s,baz=151,slow=3.4,SNR=9.0
GEYT LR LR 12 50 53.8
comp=Z,114nm,21.1s,baz=104,slow=40
comp=Z,5.9nm,0.9s
GYA0B ALIBECK ARRAY 79.70 310 P **P** **12 10 17.8 +0.2**
ABTO Aybut 79.86 289 P **P** **12 10 19.1 +0.2**
ABTO P **P** **12 10 19.1 +0.2**
ABTO S **S** **12 20 17.6 -0.9**
ABTO S **S** **12 20 17.6 -0.9**
AB31 Akbulak array 81.56 321 *i P* **P** **12 10 26.8 -0.4**
ABKAR Akbulak array 81.56 321 P **P** **12 10 27.0 -0.2**
SDPT Sand Point 81.98 32 P **P** **12 10 30.0 +0.7**
baz=249
CHNA Chernabura Isl 82.28 33 P **P** **12 10 32.1 +1.3**
baz=250
M13K Dall Lake 82.48 27 P **P** **12 10 32.7 +1.0**
baz=246
K13K Kusilvak Mount 82.54 25 P **P** **12 10 33.9 +1.8**
baz=245
S14K Fog Glacier 82.80 32 P **P** **12 10 35.0 +1.3**
baz=250
TNA Tin City 82.89 22 P **P** **12 10 35.7 +1.9**
baz=241
VOI Vohitsoka 82.91 249 P **P** **12 10 34.3 -0.8**
VOI IAmb IAmb 12 10 36.5
comp=Z,25nm,0.6s
VOI Vohitsoka 82.91 249 P **P** **12 10 35.5 +0.4**
O14K Tigyukauivet M 83.00 29 P **P** **12 10 36.1 +1.5**
baz=248
AKTO Aktyubinsk 83.09 322 P **P** **12 10 34.7 -0.5**
AKTO Aktyubinsk 83.09 322 LR LR 12 51 14.8
comp=Z,109nm,21.1s,baz=126,slow=38
L14K Kuka Creek 83.15 26 P **P** **12 10 36.8 +1.6**
baz=247
SMRA Abu-Samra 83.23 296 P **P** **12 10 37.7 +1.2**
SMRA S **S** **12 20 48.3 -4.7**
M14K Bethel 83.24 27 P **P** **12 10 36.9 +1.2**
baz=247
F14K Arctic Creek 83.43 22 P **P** **12 10 38.1 +1.5**
baz=243
SVE Sverdlovsk 83.55 329 *de* P **P** **12 10 38.3 +0.9**
SVE pmax pmax
comp=Z,61nm,1.0s
O15K Ungalikthiuk R 83.66 29 P **P** **12 10 38.9 +0.9**
baz=249
M15K Kasigluk River 83.80 27 P **P** **12 10 39.8 +1.2**
baz=248
K15K Wolf Creek Mou 84.03 26 P **P** **12 10 40.9 +1.2**
baz=248
G15K Niukluk 84.09 23 P **P** **12 10 41.6 +1.6**
baz=245
F15K North Star Dit 84.16 22 P **P** **12 10 41.7 +1.3**
baz=244
P16K Nushagak River 84.50 29 P **P** **12 10 43.6 +1.4**
baz=251
ARU Arti 84.51 328 P **P** **12 10 42.3 0.0**
ARU IAmb IAmb 12 10 43.7
comp=Z,30nm,0.9s
ARU Arti 84.51 328 *c i P* **P** **12 10 42.5 +0.2**
ARU 12 13 52.5
ARU PPP PPP 12 15 56.9
ARU S **SKSac** **12 21 01.7 +0.3**
ARU pmax pmax
comp=Z,34nm,0.9s
ARU Arti 84.51 328 LR LR 12 51 00.5
comp=Z,106nm,18.1s,baz=97,slow=38
N16K Nishlik Lake 84.61 28 P **P** **12 10 43.8 +1.1**
baz=250
H16K Elim 84.64 23 P **P** **12 10 44.2 +1.4**
baz=247
M16K Timber Creek 84.71 27 P **P** **12 10 45.1 +1.9**
baz=250
L16K Owhat River 84.72 27 P **P** **12 10 44.8 +1.6**
baz=250
CHIR Chirikof Islan 84.74 33 P **P** **12 10 45.4 +1.9**
baz=253
J16K Anvik River 84.80 25 P **P** **12 10 45.9 +2.3**
baz=248,SNR=7.0
R17K Ugashik Creek 84.87 31 P **P** **12 10 46.4 +2.2**
baz=253
G16K Koyuk River 84.90 23 P **P** **12 10 46.1 +2.0**
baz=247
I17K Unalakleet 84.98 24 P **P** **12 10 46.8 +2.3**
baz=248
C16K Lisburne Hills 85.05 20 P **P** **12 10 45.7 +0.9**
baz=244
Q16K King Salmon 85.05 30 P **P** **12 10 46.1 +1.2**
baz=252
QSPA South Pole Qui 85.06 180 P **P** **12 10 44.6 -0.5**
QSPA South Pole Qui 85.06 180 P **P** **12 10 44.2 -0.9**
comp=Z,5.4nm,0.7s,baz=305,slow=1.4,SNR=39
QSPA LR LR 12 49 06.0
comp=Z,529nm,20.7s,baz=350,slow=36
comp=Z,5.4nm,0.7s
O17K Koliganek Bris 85.18 29 P **P** **12 10 46.6 +1.1**
baz=252
N17K Nushagak Hills 85.37 28 P **P** **12 10 48.4 +1.8**
baz=252
L17K Donlin 85.39 26 P **P** **12 10 48.6 +2.1**
baz=250
M17K Holitna River 85.53 27 P **P** **12 10 49.5 +2.2**
baz=251
D17K Noatak River 85.57 20 P **P** **12 10 49.0 +1.6**
baz=246
K17K Iditarod 85.58 26 P **P** **12 10 49.8 +2.3**
baz=250,SNR=8.0
G17K Kiwalik Mounta 85.60 23 P **P** **12 10 49.5 +1.9**
baz=248
H17K Granite Mounta 85.68 24 P **P** **12 10 49.5 +1.5**
baz=249
E17K Hotham Inlet 85.77 21 P **P** **12 10 50.0 +1.6**
baz=247
C17K DeLong Mountai 85.86 20 P **P** **12 10 49.9 +1.0**
baz=246
Q18K Katmai Hardscr 85.87 30 P **P** **12 10 49.3 +0.1**
baz=254
N18K Kilae Creek 86.03 28 P **P** **12 10 51.0 +1.2**
baz=253
O18K Koktuh Hills 86.11 29 P **P** **12 10 51.1 +0.8**
baz=253
L18K Granite Mounta 86.13 27 P **P** **12 10 51.9 +1.6**
baz=252
M18K Stony River 86.30 27 P **P** **12 10 53.1 +2.0**
baz=253
E18K Tukpahlearik C 86.34 21 P **P** **12 10 53.0 +1.8**
baz=248
H18K Honhosa River 86.37 24 P **P** **12 10 53.1 +1.7**
baz=250
J18K Innoko River 86.50 25 P **P** **12 10 53.8 +1.6**
baz=252
G18K Tagagawik 86.51 23 P **P** **12 10 53.8 +1.7**
baz=250
C18K Utukok River 86.60 20 P **P** **12 10 53.6 +1.1**
baz=248
Q19K Cape Douglas, 86.63 30 P **P** **12 10 54.1 +1.3**
baz=255
TTA Tatalina 86.64 26 P **P** **12 10 54.0 +1.2**
baz=252
B18K Kokolik River 86.67 19 P **P** **12 10 53.9 +1.1**
baz=247
N19K Bonanza Creek 86.72 28 P **P** **12 10 54.9 +1.5**
baz=254
GCSA Galena City Sc 86.84 24 P **P** **12 10 55.0 +1.3**
baz=252,SNR=5.1
KDAK Kodiak Island 86.88 31 P **P** **12 10 55.5 +1.5**
baz=256
L19K White Mountain 86.94 27 P **P** **12 10 56.0 +1.7**
baz=254,SNR=16
M19K Big River Lodg 87.07 27 P **P** **12 10 57.2 +2.3**
baz=254,SNR=9.5
J19K Poorman 87.13 25 P **P** **12 10 57.0 +1.8**
baz=253
G19K Purcell Mounta 87.20 23 P **P** **12 10 56.4 +0.9**
baz=251
A19K Wainwright 87.24 18 P **P** **12 10 56.7 +1.2**
baz=248
H19K Roundabout Mou 87.25 23 P **P** **12 10 55.8 +0.2**
H19K Roundabout Mou 87.25 23 P **P** **12 10 56.4 +0.8**
baz=252
C19K Lookout Ridge 87.31 20 P **P** **12 10 56.9 +0.9**
baz=249
L20K Fawell, AK 87.46 27 P **P** **12 10 58.7 +1.9**
baz=254
E19K Redstone River 87.57 21 IAmb IAmb 12 11 01.0
comp=Z,14nm,1.1s
E19K Redstone River 87.57 21 P **P** **12 10 58.1 +0.9**
baz=251
D19K Kuna River 87.60 20 IAmb IAmb 12 11 00.8
comp=Z,28nm,1.4s
D19K Kuna River 87.60 20 P **P** **12 10 58.4 +1.1**
baz=250
K20K Telida 87.61 26 IAmb IAmb 12 11 00.2
comp=Z,18nm,0.7s
K20K Telida 87.61 26 P **P** **12 10 59.5 +2.0**
baz=254
M20K Styx River 87.64 27 IAmb IAmb 12 11 00.1
comp=Z,21nm,0.8s
M20K Styx River 87.64 27 P **P** **12 10 59.3 +1.5**
baz=255
J20K Nowinta River 87.80 25 P **P** **12 10 59.9 +1.6**
baz=254,SNR=12
H20K Anotleneega Mo 87.87 24 P **P** **12 11 00.0 +1.3**
baz=253
N20K Mount Spurr 87.90 28 P **P** **12 11 00.0 +1.1**
baz=256
F20K Avaraart Lake 88.00 22 IAmb IAmb 12 13 06.9
comp=Z,7.8nm,0.5s
F20K Avaraart Lake 88.00 22 P **P** **12 11 00.1 +0.9**
baz=253
D20K Etivluk River 88.19 20 P **P** **12 11 01.2 +1.1**
baz=252
E20K Nigu River 88.20 21 P **P** **12 11 01.5 +1.2**
baz=252
BRSE Bradley Lake S 88.27 30 P **P** **12 11 02.7 +2.0**
baz=257
PPLA Purkeypile 88.32 26 P **P** **12 11 02.0 +1.0**
baz=256
SKT Skwentna 88.40 27 P **P** **12 11 02.4 +1.1**
baz=257
B20K Meade River 88.42 19 P **P** **12 11 02.1 +1.0**
baz=251
CAST Castle Rocks 88.49 26 P **P** **12 11 02.1 +0.5**
CAST IAmb IAmb 12 11 03.8
comp=Z,8.4nm,0.6s
CAST Castle Rocks 88.49 26 P **P** **12 11 03.2 +1.5**
baz=256,SNR=5.3
CHUM Lake Minchumin 88.50 26 P **P** **12 11 03.5 +1.8**
baz=256,SNR=12
SUA Susitna One 88.64 28 P **P** **12 11 03.5 +1.0**
baz=257
G21K Allakaket 88.69 23 P **P** **12 11 04.2 +1.6**
baz=255
H21K Melozitna Rive 88.74 24 P **P** **12 11 04.0 +1.2**
baz=255
F21K Alatna River 88.89 22 P **P** **12 11 04.9 +1.4**
baz=255
O22K Cooper Landing 88.92 29 P **P** **12 11 04.7 +1.0**
baz=258
C21K Knifeblade Rid 88.95 20 P **P** **12 11 05.6 +1.8**
baz=253
I21K Tanana 88.96 24 P **P** **12 11 06.0 +2.2**
baz=256
SEW Seward 88.98 30 P **P** **12 11 05.3 +1.3**
baz=258
M22K Willow 89.00 28 P **P** **12 11 05.2 +1.2**
baz=258
E21K Killik River 89.04 21 P **P** **12 11 04.9 +0.8**
baz=254
RC01 Rabbit Creek A 89.04 29 P **P** **12 11 04.7 +0.5**
RC01 Rabbit Creek A 89.04 29 P **P** **12 11 05.0 +0.7**
baz=258
CUT Chulitna 89.07 27 P **P** **12 11 04.7 +0.4**
baz=258
BPAW Bear Paw Mtn. 89.12 25 P **P** **12 11 06.2 +1.5**
baz=257
B21K Ikpikpuk River 89.14 20 P **P** **12 11 05.1 +0.5**
baz=254
TRF Thorofare Moun 89.28 26 P **P** **12 11 06.2 +0.6**
baz=258
H22K Ishtalitna Cre 89.37 24 P **P** **12 11 06.5 +0.7**
baz=257
A22K Sinclair Lake 89.42 18 P **P** **12 11 06.4 +0.6**
baz=253
PMR Palmer 89.43 28 P **P** **12 11 06.6 +0.6**
baz=259
MLY Manley 89.44 25 IAmb IAmb 12 11 09.8
comp=Z,7.6nm,0.7s
MLY Manley 89.44 25 P **P** **12 11 06.9 +0.8**
baz=257
F22K John River 89.45 22 P **P** **12 11 07.3 +1.2**
baz=256
G22K Bettles 89.56 23 P **P** **12 11 07.8 +1.2**
baz=256
D22K Ayikyak River 89.61 21 P **P** **12 11 07.5 +0.7**
baz=255
PWL Port Wells 89.67 29 P **P** **12 11 08.1 +0.8**
baz=259
KNK Knik Glacier 89.71 28 P **P** **12 11 08.3 +0.9**
baz=259
E22K Anaktuvuk Pass 89.73 21 IAmb IAmb 12 11 11.4
comp=Z,16nm,1.2s
E22K Anaktuvuk Pass 89.73 21 P **P** **12 11 08.1 +0.6**
baz=256
B22K Teshekpuk Lake 89.74 19 P **P** **12 11 07.6 +0.3**
baz=255
KIRV Kirov 89.81 329 LR LR 12 54 58.2
comp=Z,167nm,19.4s,baz=102,slow=38
SML Sawmill 89.84 28 P **P** **12 11 08.9 +0.8**
baz=259
RND Reindeer 89.91 26 P **P** **12 11 08.0 -0.4**
RND IAmb IAmb 12 11 08.8
comp=Z,12nm,0.7s
RND Reindeer 89.91 26 P **P** **12 11 08.0 -0.4**
RND pmax pmax
comp=Z,13nm,0.7s
WAT1 Susitna Watana 89.93 27 P **P** **12 11 09.2 +0.7**
baz=259
MCK McKinley 89.93 26 P **P** **12 11 08.6 +0.1**
baz=259
I23K Minto, Yukon-K 90.03 25 IAmb IAmb 12 11 11.8
comp=Z,34nm,1.3s
I23K Minto, Yukon-K 90.03 25 P **P** **12 11 09.6 +0.8**
baz=258,SNR=12
NEA2 Nenana 90.04 25 P **P** **12 11 09.7 +0.8**
baz=259
G23K Bananza Creek 90.09 23 P **P** **12 11 09.8 +0.7**
baz=258
H23K Yukon River 90.09 24 P **P** **12 11 10.1 +0.9**
baz=258
M23K Glacier View 90.12 28 P **P** **12 11 10.5 +1.2**
baz=260
COLD Coldfoot 90.13 22 P **P** **12 11 10.5 +1.2**
baz=258,SNR=9.3
WAT6 Susitna Watana 90.25 27 P **P** **12 11 10.9 +0.8**
baz=260
GLI Glacier Island 90.27 29 P **P** **12 11 10.9 +0.8**
baz=260
SCM Sheep Creek Mo 90.32 28 P **P** **12 11 11.0 +0.6**
baz=260
D23K Nanushuk River 90.33 21 P **P** **12 11 11.6 +1.4**
baz=257
GNI Garni 90.34 310 LR LR 12 59 42.6
comp=Z,58nm,18.9s,baz=90,slow=41
WRH Wood River Hil 90.44 25 IAmb IAmb 12 11 11.1
comp=Z,11nm,0.9s
DHY Denali Highway 90.50 27 P **P** **12 11 11.8 +0.6**
baz=260
E23K Chandalar 90.52 22 P **P** **12 11 12.5 +1.3**
baz=258,SNR=11
C23K Itkillik River 90.55 20 P **P** **12 11 11.7 +0.6**
baz=257
CCB Clear Creek Bu 90.59 25 IAmb IAmb 12 11 11.6
comp=Z,11nm,0.8s
TOLK Toolik Lake Re 90.66 21 P **P** **12 11 12.5 +0.8**
baz=258
H24K Noodor Dome 90.77 24 IAmb IAmb 12 11 16.1
comp=Z,22nm,1.3s
H24K Noodor Dome 90.77 24 P **P** **12 11 13.2 +0.9**
baz=260,SNR=8.1
ELIB Princess Elisa 90.80 197 *d* P **P** **12 11 12.9 +0.3**
EYAK Cordova Ski Ar 90.87 29 P **P** **12 11 13.3 +0.5**
baz=262
M24K Tolsona, Glenn 90.90 28 P **P** **12 11 13.6 +0.6**
baz=261
HDA Harding Lake 90.92 25 IAmb IAmb 12 11 52.3
comp=Z,25nm,1.5s
HDA Harding Lake 90.92 25 P **P** **12 11 13.2 +0.2**
baz=261,SNR=5.9
KLU Klutina 90.92 28 P **P** **12 11 13.6 +0.4**
baz=262
E24K Your Creek 90.94 22 P **P** **12 11 13.6 +0.5**
baz=259
IL31 91.00 25 IAmb IAmb 12 12 03.2
comp=Z,25nm,1.6s
ILAR Eielson Array 91.00 25 P **P** **12 11 12.3 -1.1**
comp=Z,4.4nm,0.6s,baz=265,slow=4.1,SNR=83
ILAR LR LR 12 46 26.9
comp=Z,180nm,20.9s,baz=254,slow=32
comp=Z,4.4nm,0.6s
D24K Happy Valley 91.02 21 P **P** **12 11 14.1 +0.8**
baz=259
F24K Squaw Lake 91.06 22 IAmb IAmb 12 11 15.5
comp=Z,8.4nm,0.8s
F24K Squaw Lake 91.06 22 P **P** **12 11 14.9 +1.3**
baz=260,SNR=6.5
G24K Hadweenzic Riv 91.08 23 IAmb IAmb 12 11 15.3
comp=Z,9.9nm,0.9s
G24K Hadweenzic Riv 91.08 23 P **P** **12 11 14.7 +0.9**
baz=260
C24K Franklin Bluff 91.17 20 P **P** **12 11 14.5 +0.5**
baz=259
ZEI Tsey 91.23 313 *e* P **P** **12 11 15.1 -0.1**
ZEI pmax pmax
comp=Z,7.0nm,1.4s
PAX Paxson 91.35 27 P **P** **12 11 15.5 +0.4**
baz=262
HARP HAARP 91.41 28 P **P** **12 11 15.7 +0.3**
baz=262
BMRM Bremner River 91.48 29 P **P** **12 11 16.1 +0.4**
baz=263
N25K Chitina, Valde 91.57 28 P **P** **12 11 17.0 +0.8**
baz=263
J25K Salcha River, 91.62 25 IAmb IAmb 12 11 18.2
comp=Z,6.4nm,0.7s
J25K Salcha River, 91.62 25 P **P** **12 11 16.6 +0.3**
baz=262
G25K Bearman Lake 91.63 23 P **P** **12 11 16.9 +0.7**
baz=262
H25L Birch Creek 91.67 24 P **P** **12 11 16.9 +0.5**
baz=262
PRP Porcupine Dome 91.68 24 P **P** **12 11 16.5 -0.2**
baz=262
RIDG Independent Ri 91.73 26 IAmb IAmb 12 11 17.8
comp=Z,9.9nm,0.7s
RIDG Independent Ri 91.73 26 P **P** **12 11 17.3 +0.4**
baz=262
F25K Christian Rive 91.93 22 P **P** **12 11 18.6 +0.9**
baz=262,SNR=6.0
E25K Arctic Village 92.03 22 IAmb IAmb 12 11 19.4
comp=Z,29nm,1.6s
E25K Arctic Village 92.03 22 P **P** **12 11 19.0 +0.9**
baz=262,SNR=7.3
KBZ Khabaz 92.05 314 LR LR 12 57 27.9
comp=Z,93nm,20.6s,baz=84,slow=39
SCRK Sand Creek 92.14 26 P **P** **12 11 18.9 +0.1**
baz=263
KIV Kislovodsk 92.22 314 *e* P **P** **12 11 19.2 -0.4**
KIV pmax pmax
KIV MLR MLR
comp=Z,4.0nm,0.7s
comp=Z,84nm,20.0s
MCARA McCarthy VSAT 92.29 29 P **P** **12 11 20.6 +1.2**
baz=264
L26K Log Cabin Wild 92.31 27 P **P** **12 11 20.3 +0.8**
baz=264
J26L Joseph Creek 92.38 26 P **P** **12 11 20.6 +0.7**
baz=264,SNR=12
M26K Nabesna, AK 92.41 28 P **P** **12 11 20.4 +0.4**
baz=264
C26K Camden Bay 92.50 20 P **P** **12 11 21.2 +1.0**
baz=263
F26K Sheenjek River 92.51 22 P **P** **12 11 21.3 +1.0**
baz=263,SNR=5.5
G26K Porcupine Rive 92.56 23 P **P** **12 11 21.4 +0.9**
baz=264,SNR=6.9
I26K Coal Creek Min 92.64 25 P **P** **12 11 21.8 +0.9**
baz=264
K27K Chicken 92.98 26 IAmb IAmb 12 11 24.9
comp=Z,14nm,0.9s
K27K Chicken 92.98 26 P **P** **12 11 24.0 +1.5**
baz=265
L27K Beaver Creek, 93.01 27 IAmb IAmb 12 11 24.5
comp=Z,8.9nm,0.7s
L27K Beaver Creek, 93.01 27 P **P** **12 11 23.6 +0.8**
baz=265,SNR=9.6
I27K Kandik River 93.31 25 P **P** **12 11 25.5 +1.4**
baz=266,SNR=11
G27K Doyon Strip 93.39 23 P **P** **12 11 25.2 +0.8**
baz=266
H27K Steamboat Moun 93.39 24 P **P** **12 11 25.8 +1.3**
baz=266,SNR=7.5
EGAK Eagle 93.44 25 IAmb IAmb 12 11 25.8
comp=Z,8.1nm,0.9s
EGAK Eagle 93.44 25 P **P** **12 11 25.6 +1.0**
baz=266
E27K Coleen River 93.51 22 P **P** **12 11 25.8 +0.8**
baz=266
YUK3 Moose Creek 93.55 28 P **P** **12 11 26.3 +0.8**
baz=266
KMBO Kilima Mbogo 93.73 269 P **P** **12 11 27.2 -0.2**
KMBO IAmb IAmb 12 11 57.4
comp=Z,16nm,1.6s
KMBO Kilima Mbogo 93.73 269 P **P** **12 11 27.2 -0.2**
KMBO pmax pmax
comp=Z,16nm,1.6s
D27M Malcolm River 93.82 21 P **P** **12 11 27.0 +0.6**
baz=266
I28M Miner Creek 94.00 25 IAmb IAmb 12 11 29.1
comp=Z,16nm,0.8s
I28M Miner Creek 94.00 25 P **P** **12 11 28.1 +0.8**
baz=267,SNR=15
F28M Old Crow 94.13 23 IAmb IAmb 12 11 28.8
comp=Z,11nm,1.1s
F28M Old Crow 94.13 23 P **P** **12 11 28.6 +0.8**
baz=267
DAWY Dawson 94.16 26 IAmb IAmb 12 11 29.7
comp=Z,12nm,0.8s
DAWY Dawson 94.16 26 P **P** **12 11 29.2 +1.2**
baz=267,SNR=12
E28M Babbage River 94.30 22 IAmb IAmb 12 11 36.9
comp=Z,24nm,1.7s
E28M Babbage River 94.30 22 P **P** **12 11 29.0 +0.5**
baz=268
M29M Somme Creek 94.52 28 IAmb IAmb 12 12 24.7
comp=Z,18nm,1.6s
M29M Somme Creek 94.52 28 P **P** **12 11 30.2 +0.4**
baz=268
D28M Stokes Point 94.61 21 P **P** **12 11 31.2 +1.3**
baz=268
H29M Whitestone 94.67 24 P **P** **12 11 30.8 +0.5**
baz=268
I29M Ogilvie Camp, 94.67 25 IAmb IAmb 12 11 31.7
comp=Z,13nm,0.8s
I29M Ogilvie Camp, 94.67 25 P **P** **12 11 31.1 +0.8**
baz=268,SNR=8.8
J29N Klondike Camp 94.69 26 P **P** **12 11 31.8 +1.3**
baz=268
L29M L29M 94.69 27 P **P** **12 11 31.7 +1.2**
baz=268
G29M Pine Creek 94.83 23 P **P** **12 11 31.9 +0.9**
baz=269,SNR=8.6
E29M Blow River 94.90 22 P **P** **12 11 31.7 +0.5**
baz=269
HYT Haines Junctio 94.93 29 P **P** **12 11 33.0 +1.3**
baz=269
K29M Barlow Dome 94.98 26 P **P** **12 11 32.3 +0.4**
baz=269
KLMR Klimovskoe 95.01 331 *e* P **P** **12 11 29.0 -3.0**
KLMR AMP 12 11 34.3
comp=Z,34nm,1.9s
KLMR *e* PP **PP** **12 15 17.6 -4.1**
KLMR Klimovskoe 95.01 331 *e* P **P** **12 11 28.9 -3.0**
KLMR *e* 12 15 17.5
KLMR pmax pmax
comp=Z,34nm,1.9s
M30M Minto, Yukon 95.30 28 P **P** **12 11 33.7 +0.4**
baz=270
EPYK Eagle Plains 95.34 24 P **P** **12 11 33.3 -0.1**

	baz=270							
I30M	Mount Dempster	95.48	25	P	P	12 11 34.2	0.0
	baz=270							
PLBC	Pleasant Camp	95.48	31	P	P	12 11 34.0	-0.1
	baz=270							
J30M	Hart River	95.50	26	P	P	12 11 34.5	+0.2
	baz=270							
G30M	tAoh Zraii Nji	95.53	23	IAmb	IAmb	12 11 34.8	
	comp=Z,12nm,0.9s							
G30M	tAoh Zraii Nji	95.53	23	P	P	12 11 34.3	+0.1
	baz=271,SNR=7.1							
F30M	Barrier River	95.69	23	P	P	12 11 35.3	+0.4
	baz=271							
MAYO	Mayo, Yukon	95.70	27	P	P	12 11 35.5	+0.5
	baz=270							
WHY	Whitehorse	96.22	30	P	P	12 11 37.7	+0.1
	baz=271							
G31M	Satah River	96.30	23	P	P	12 11 38.0	+0.4
	baz=272							
H31M	Peel River	96.32	24	P	P	12 11 38.1	+0.3
	baz=272							
F31M	Tsiigehtchic	96.49	23	IAmb	IAmb	12 11 38.9	
	comp=Z,12nm,0.9s							
F31M	Tsiigehtchic	96.49	23	P	P	12 11 38.6	+0.1
	baz=273,SNR=5.4							
INK	Inuvik	96.52	22	P	P	12 11 38.6	0.0
	baz=273							
OBN	Obninsk	96.58	325⇓	*e*P	P	12 11 38.1	-1.0
OBN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FARO	Faro, Yukon	96.91	28	P	P	12 11 40.5	0.0
	baz=273						
N32M	Quiet Lake	97.08	29	P	Pdif	12 11 42.0	+0.5
	baz=273						
P33M	Teslin, Yukon	97.26	30	P	P	12 11 41.9	-0.3
	baz=273						
U33K	Whale Pass	97.28	34	P	P	12 11 42.2	-0.1
	baz=272						
MMAI	Mount Meron Ar	97.41	303	LR	LR	13 03 39.0	
	comp=Z,157nm,19.7s,baz=84,slow=40						
APA	Apatity	97.44	337⇓	*i*P	Pdif	12 11 47.7	+4.8
APA				*i*		12 15 49.0	
APA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
APA				MLR	MLR		
	comp=Z,800nm,23.0s						
SNAA	Sanae	97.94	193	IAMs_20	IAMs_20	12 54 03.6	
	comp=Z,393nm,20.0s						
SNAA	Sanae	97.94	193	P	P	12 11 44.8	-0.4
	comp=Z,1.2nm,0.8s,baz=203,slow=5.8,SNR=2.1						
SNAA				LR	LR	12 54 47.0	
	comp=Z,395nm,21.9s,baz=137,slow=35						
	comp=Z,1.2nm,0.8s						
DLBC	Dease Lake	98.81	32	LR	LR	12 53 01.3	
	comp=Z,140nm,19.3s,baz=288,slow=33						
BR131	Keskin Array S	98.84	309⇑	*e*P	P	12 11 48.6	-1.3
BRTR	Keskin Array B	98.84	309	LR	LR	13 03 50.2	
	comp=Z,122nm,19.2s,baz=94,slow=40						
ANTO	Ankara	99.49	309	IAMs_20	IAMs_20	12 56 37.0	
	comp=Z,214nm,19.0s						
SPITS	Spitsbergen Ar	99.73	349	LR	LR	12 59 17.0	
	comp=Z,209nm,21.1s,baz=18,slow=37						
ARCES	ARCESS Array B	100.00	340	P	Pdif	12 11 54.3	0.0
	comp=Z,7.1nm,0.8s,baz=84,slow=6.3,SNR=10						
FINES	FINESS Array B	101.45	332	P	Pdif	12 12 00.0	-0.8
FINES	FINESS Array B	101.45	332	P	Pdif	12 11 60.0	-0.8
	comp=Z,1.6nm,0.6s,baz=46,slow=5.5,SNR=7.0						
FINES				PKiKP	PKiKP	12 16 25.0	+0.4
	comp=Z,3.5nm,0.9s,baz=150,slow=4.2,SNR=3.8						
YKA	Yellowknife Ar	105.40	26	PKiKP	PKiKP	12 16 31.9	0.0
	comp=Z,1.6nm,0.8s,baz=294,slow=1.7,SNR=6.3						
HFS	Hagfors	107.64	332	Pdiff	Pdif	12 12 27.1	-1.3
	comp=Z,7.5nm,1.1s,baz=97,slow=6.1,SNR=4.8						
SCZ2	Santa Cruz Isl	108.69	56	P	PKiKP	12 16 39.3	+0.4
	baz=277						
NVAR	Mina Array Bea	109.15	51	Pdiff	Pdif	12 12 38.0	+2.0
	comp=Z,1.8nm,1.0s,baz=270,slow=5.3,SNR=8.2						
NVAR				PKiKP	PKiKP	12 16 41.5	+1.6
	comp=Z,0.4nm,0.6s,baz=318,slow=2.0,SNR=4.5						
NVAR				PKKPab	PKKPab	12 27 58.5	-0.5
	comp=Z,0.5nm,0.6s,baz=100,slow=5.0,SNR=4.9						
CWC	Cottonwood Cre	109.63	53	P	PKiKP	12 16 41.0	+0.3
	baz=279						
CIS	Catalina Islan	109.78	56	P	PKiKP	12 16 41.2	+0.3
	baz=277						
EDW2	Edwards Air Fo	109.92	55	P	PKiKP	12 16 42.1	+0.8
	baz=278						
LRMC	Laurel Mtn Rad	110.09	54	P	PKiKP	12 16 41.9	+0.3
	baz=279						
TPNV	Topopah Spring	111.00	52	P	PKiKP	12 16 44.7	+1.4
	baz=280						
HLID	Hailey	111.02	45	P	PKiKP	12 16 44.2	+1.0
	baz=284						
ELK	Elko	111.05	48	IAMs_20	IAMs_20	13 00 02.2	
	comp=Z,408nm,18.0s						
CLL	Collm	111.13	324	*e*SP	SP	12 26 43.0	-4.1
CLL				*e*SPP	SPP	12 27 55.0	
CLL				*e*PPS	PPS	12 28 06.0	
CLL				AMS	AMS	13 04 00.0	
	comp=Z,200nm,21.0s						
R11B	Troy Canyon, C	111.26	51	P	PKiKP	12 16 44.9	+1.1
	baz=281						
HEC	Hector,Ludlow	111.28	55	P	PKiKP	12 16 44.9	+1.0
	baz=279						
PFO	Pinyon Flats O	111.37	56	P	PKiKP	12 16 45.2	+1.2
	baz=279						
TPFO	Pinon Flats	111.37	56	P	PKiKP	12 16 44.9	+0.8
	baz=279						
GERES	GERESS Array B	111.50	321	PKiKP	PKiKP	12 16 44.2	+0.3
	comp=Z,4.1nm,0.3s,baz=20,slow=3.1,SNR=1.7						
BELC	Belle Mtn. Jos	111.69	55	P	PKiKP	12 16 46.2	+1.5
	baz=279						
GMRC	Granite Mounta	111.84	55	P	PKiKP	12 16 46.2	+1.3
	baz=280						
IRM	Iron Mountain	112.36	55	P	PKiKP	12 16 45.6	-0.3
	baz=280						
EGMT	Eagleton	112.88	40	P	PKiKP	12 16 47.3	+0.8
	baz=289						
DUG	Dugway, Tooele	112.97	48	P	PKiKP	12 16 47.7	+0.7
	baz=284						
ID08	Devils Gate	113.00	45	IAMs_20	IAMs_20	12 48 13.7	
	comp=Z,421nm,21.0s						
H17A	Grant Village	113.47	43	P	PKiKP	12 16 48.8	+0.9
	baz=287						
ID09	Alton	113.64	46	IAMs_20	IAMs_20	13 13 56.6	
	comp=Z,388nm,18.0s						
ID10	Lander Cutoff	113.78	45	IAMs_20	IAMs_20	13 11 40.2	
	comp=Z,471nm,22.0s						
DAVOX	Davos/Dischmat	114.61	320	PKP	PKPdf	12 16 50.1	+0.2
	comp=Z,2.2nm,0.4s,baz=118,slow=2.8,SNR=2.7						
BW06	Boulder Array	114.65	45	P	PKPdf	12 16 50.5	+0.3
	baz=287						
PDAR	Pinedale Array	114.65	45	PKP	PKPdf	12 16 50.8	+0.6
	comp=Z,0.9nm,0.7s,baz=214,slow=0.9,SNR=9.9						
PDAR				PKKPbc	PKKPbc	12 27 27.4	-2.2
	comp=Z,0.7nm,0.7s,baz=110,slow=5.3,SNR=7.5						
WUAZ	Wupatki	115.14	53	P	PKPdf	12 16 52.2	+0.9
	baz=283						
LAO	LASA Array	115.59	40	P	PKPdf	12 16 52.4	+0.8
	baz=292						
DGMT	Dagmar	116.17	38	P	PKiKP	12 16 53.5	+0.8
	baz=294						
TUC	Tucson	116.29	56	P	PKiKP	12 16 54.8	+1.3
	baz=282						
BMRD	Maredsous	116.33	325	*d*PKP	PKiKP	12 16 53.5	+0.7
O20A	White River Ci	116.37	47	P	PKiKP	12 16 55.4	+1.8
	baz=287,SNR=6.3						
K22A	Casper	116.81	44	P	PKiKP	12 16 55.7	+1.4
	baz=290						
MVCO	Mesa Verde	116.99	51	P	PKiKP	12 16 56.3	+1.4
	baz=285						
N23A	Red Feather La	117.80	46	P	PKiKP	12 16 57.6	+1.2
	baz=289						
EKA	Eskdalemuir Ar	117.84	332	PKP	PKPdf	12 16 55.7	+0.1
	comp=Z,1.0nm,0.4s,baz=18,slow=2.7,SNR=7.5						
RSSD	Black Hills	117.98	42	PKPdf	PKPdf	12 16 56.3	-0.3
RSSD				IAMs_20	IAMs_20	12 56 19.1	
	comp=Z,353nm,21.0s						
RSSD	Black Hills	117.98	42	P	PKiKP	12 16 57.2	+0.6
	baz=292						
RSSD	Black Hills	117.98	42	P	PKPdf	12 16 56.5	-0.1
	baz=292						
RSSD	Black Hills	117.98	42	PKIKP	PKPdf	12 16 56.3	-0.3
S22A	4UR Ranch, Cre	118.12	50	P	PKiKP	12 16 59.2	+2.1
	baz=287						
ISCO	Idaho Springs	118.39	47	P	PKiKP	12 16 58.6	+0.9
	baz=289						
121A	Cookes Peak, D	118.72	56	P	PKiKP	12 16 59.4	+1.1
	baz=284						
Y22A	Socorro	119.04	54	P	PKiKP	12 17 00.3	+1.4
	baz=285						
SDCO	Great Sand Dun	119.12	49	P	PKiKP	12 17 00.4	+1.3
	baz=288						
SDCO	Great Sand Dun	119.12	49	P	PKiKP	12 17 01.0	+1.9
	baz=288						
ANMO	Albuquerque	119.19	53	PKPdf	PKPdf	12 16 59.2	+0.1
ANMO	Albuquerque	119.19	53	P	PKiKP	12 17 00.5	+1.3
	baz=286						
ANMO	Albuquerque	119.19	53	P	PKiKP	12 17 01.0	+1.8
	baz=286						
ANMO	Albuquerque	119.19	53	PKIKP	PKPdf	12 16 59.2	+0.1
MDND	Maddock	119.20	37	P	PKiKP	12 17 00.5	+1.9
	baz=298						
ULM	Lac du Bonnet	120.11	33	PKP	PKPdf	12 16 59.9	-0.2
	comp=Z,4.4nm,0.5s,baz=320,slow=2.9,SNR=8.6						
HOPE	Hope Point	120.12	188	*i*PKIKP	PKiKP	12 17 01.1	+1.0
T25A	Trinidad	120.13	50	P	PKiKP	12 17 02.3	+1.3
	baz=288						
MNTX	Cornudas Mount	120.90	56	P	PKiKP	12 17 03.8	+1.4
	baz=285						
MNTX	Cornudas Mount	120.90	56	P	PKiKP	12 17 02.9	+0.5
	baz=285						
MSTX	Muleshoe	122.38	53	P	PKiKP	12 17 06.2	+0.8
	baz=288						
TX31	Lajitas Ar. Si	122.92	58	P	PKiKP	12 17 06.7	+0.2
	baz=284						
TXAR	Lajitas Array	122.92	58	PKP	PKiKP	12 17 06.8	+0.3
	comp=Z,1.9nm,0.4s,baz=186,slow=2.7,SNR=58						
ECSD	EROS Data Cent	122.99	40	PKPdf	PKiKP	12 17 06.3	+0.1
ECSD	EROS Data Cent	122.99	40	P	PKiKP	12 17 06.3	+0.1
	baz=299,SNR=5.7						
ECSD	EROS Data Cent	122.99	40	P	PKiKP	12 17 06.2	+0.1
	baz=299						
CBKS	Cedar Bluff	123.00	46	P	PKiKP	12 17 07.2	+0.8
	baz=293						
BGNE	Belgrade	123.04	43	P	PKiKP	12 17 07.2	+0.9
	baz=296						
BGNE	Belgrade	123.04	43	P	PKiKP	12 17 07.2	+0.9
	baz=296						
EYMN	Ely	123.78	33	P	PKiKP	12 17 07.7	+0.1
	baz=306						
F36A	Milaca	123.81	36	P	PKiKP	12 17 08.0	+0.3
	baz=303						
R32A	Long Quarter,	123.90	46	P	PKiKP	12 17 09.1	+1.0
	baz=294						
SPMN	Marine on St.	124.58	37	P	PKiKP	12 17 09.7	+0.5
	baz=303						
WMOK	Wichita Mounta	125.24	50	P	PKiKP	12 17 11.6	+0.7
	baz=291						
WMOK	Wichita Mounta	125.24	50	P	PKiKP	12 17 11.5	+0.6
	baz=291						
ABTX	Abilene, Hawle	125.29	53	P	PKiKP	12 17 11.6	+0.5
	baz=289						
CART	Cartagena	125.60	314	IAMs_20	IAMs_20	13 04 35.8	
	comp=Z,226nm,20.0s						
JCT	Junction City	125.83	56	P	PKiKP	12 17 13.6	+1.3
	baz=288,SNR=14						
JCT	Junction City	125.83	56	P	PKiKP	12 17 12.6	+0.4
	baz=288						
ESDC	Sonseca Array	126.75	317	PKP	PKiKP	12 17 14.0	+0.2
	comp=Z,0.3nm,0.3s,baz=29,slow=2.9,SNR=2.7						
833A	Chaparral WMA,	126.80	58	P	PKiKP	12 17 15.0	+0.9
	baz=286						
P38A	Dawn	126.99	43	P	PKiKP	12 17 14.7	+0.5
	baz=299						
JFWS	Jewell Farm	127.39	38	P	PKPdf	12 17 14.7	+0.3
	baz=304						
U38A	Gravette	127.85	47		PKiKP	12 17 16.4	+0.4
U38A	Gravette	127.85	47	P	PKiKP	12 17 16.6	+0.5
	baz=296						
S39A	Bolivar	128.05	45	P	PKPdf	12 17 16.1	+0.4
	baz=298						
R40A	Maddies Statio	128.50	44	P	PKiKP	12 17 17.4	+0.1
	baz=299						
U40A	Yellville	128.99	46	P	PKPdf	12 17 18.1	+0.4
	baz=297						
U40A				P	PKPdf	12 17 18.1	+0.4
	baz=297						
MIAR	Mount Ida	129.26	49	P	PKiKP	12 17 18.8	-0.1
	baz=295						
CCM	Cathedral Cave	129.31	43	PKPdf	PKiKP	12 17 19.5	+0.6
CCM	Cathedral Cave	129.31	43	P	PKiKP	12 17 19.5	+0.6
	baz=300						
CCM	Cathedral Cave	129.31	43	PKIKP	PKiKP	12 17 19.5	+0.6
TORD	Torodi Ar. Bea	129.44	283		PKPdf	12 17 19.3	+0.3
TORD	Torodi Ar. Bea	129.44	283	PKP	PKPdf	12 17 18.9	-0.2
	comp=Z,4.2nm,0.6s,baz=64,slow=3.2,SNR=15						
T42A	Van Buren	129.92	44	P	PKiKP	12 17 20.1	0.0
	baz=299						
PLCA	Paso Flores	130.44	158	PKP	PKiKP	12 17 21.9	+0.6
	comp=Z,0.8nm,0.6s,baz=304,slow=3.6,SNR=8.2						
O48B	Farmland	132.04	38	P	PKiKP	12 17 24.5	+0.2
	baz=308						
WCI	Wyandotte Cave	132.52	40	P	PKiKP	12 17 25.8	+0.4
	baz=305						
P49A	Miami Univ. Ec	132.75	38	P	PKiKP	12 17 26.3	+0.5
	baz=308						
LRAL	Lakeview Retre	134.81	47	P	PKiKP	12 17 30.4	+0.2
	baz=300						
TZTN	Tazewell	135.28	41	P	PKiKP	12 17 31.4	+0.4
	baz=307						
MCWV	Mont Chateau	135.54	35	P	PKiKP	12 17 31.8	+0.4
	baz=313						
BINY	Binghamton	135.73	29	P	PKiKP	12 17 31.3	-0.4
	baz=320						
SSPA	Standing Stone	135.92	32	P	PKPdf	12 17 31.0	+0.4
	baz=316						
KIC	Kosan Boka	136.03	274⇓	*i*PKIKP	PKiKP	12 17 33.5	+0.3
	comp=Z,11nm,0.6s						
DBIC	Dimbokro	136.15	274	PKP	PKPdf	12 17 31.9	+0.2
	comp=Z,4.6nm,0.4s,baz=52,slow=1.4,SNR=8.3						
TIC	Toumodi	136.31	274⇑	*i*PKIKP	PKiKP	12 17 33.9	+0.2
	comp=Z,6.1nm,0.3s						
LIC	Lamto	136.31	274⇑	*i*PKIKP	PKiKP	12 17 34.0	+0.3
	comp=Z,26nm,0.4s						
GOGA	Godfrey	137.13	44	P	PKiKP	12 17 34.6	-0.2
	baz=304						
HRV	Adam Dziewonsk	137.49	25	P	PKiKP	12 17 35.6	+0.3
	baz=326						
KMSC	Kings Mountain	137.56	41	P	PKiKP	12 17 35.8	+0.1
	baz=308						
PB14	IPOC Station P	143.96	145	PKPdf	PKPdf	12 17 45.5	-0.6
GO02	Mina Guanaco	143.98	147	PKPdf	PKPdf	12 17 46.2	+0.1
PRVC	Isla de Provid	146.91	73	*e*P	PKiKP	12 17 55.0	-0.4
NNA	Nana	147.55	121	*i*P	PKiKP	12 17 56.0	-0.8
MCRA	Macar, Loja	147.65	106		PKPdf	12 17 53.5	+1.3
MCRA	Macar, Loja	147.65	106	*i*P	PKPbc	12 17 54.1	-0.9
CPUP	Villa Florida	147.90	166		PKiKP	12 17 56.4	-0.7
CPUP	Villa Florida	147.90	166	PKP	PKPdf	12 17 52.9	+0.7
	comp=Z,11nm,0.5s,baz=205,slow=1.7,SNR=15						
CPUP				PKPbc	PKPbc	12 17 55.9	+0.6
	comp=Z,11nm,0.5s,baz=211,slow=1.8,SNR=31						
ITAB	Concordia	147.90	175		PKiKP	12 17 56.5	-0.6
CACAO	El Cacao, Vera	148.14	84	*e*P	PKiKP	12 17 58.0	+0.1
AZU	Azuero	148.70	83	*e*P	PKPbc	12 17 56.9	-0.8
COHC	Cochancay	148.81	103	PKPdf	PKPdf	12 17 53.4	-0.6
COHC					PKiKP	12 17 59.3	-0.1
COHC	Cochancay	148.81	103	*e*P	PKPbc	12 17 58.5	+0.5
BCIP	Isla Barro Col	149.03	80	IAMs_20	IAMs_20	13 36 26.2	
	comp=Z,235nm,20.0s						
BCIP	Isla Barro Col	149.03	80	*e*P	PKPbc	12 17 58.9	+0.4
UPA	Univ. de Panam	149.34	81	*e*P	PKPbc	12 17 58.6	-0.7
BOSC	San Juan Bosco	149.38	105		PKiKP	12 18 02.0	+1.2
PAC1	Pacto, Paraso	149.80	98	*i*P	PKiKP	12 18 01.6	0.0
PIAT	Ana Tenorio	150.10	101	*e*P	PKiKP	12 18 03.3	+0.7
GTBY	Guantanamo Bay	150.45	57	*i*P	PKPbc	12 18 01.6	-0.2
UPD2	Meteti	150.88	81	*e*P	PKiKP	12 18 03.8	+0.1
GCUF	Volcan Galeras	151.38	96	*i*P	PKiKP	12 18 06.5	+1.2
BBAC	Balboa, Cauca	151.57	95	*e*P	PKiKP	12 18 05.9	+0.5
LPAZ	La Paz	151.63	138	*i*P	PKiKP	12 18 06.1	+0.2
LPAZ	La Paz	151.63	138	PKP	PKPdf	12 18 00.8	+1.7
	comp=Z,1.3nm,0.7s,baz=225,slow=1.4,SNR=3.6						
LPAZ				PKPbc	PKiKP	12 18 07.0	+1.1
	comp=Z,17nm,0.4s,baz=270,slow=4.0,SNR=8.1						
POPC	Popayan, Colom	152.20	94	*e*P	PKPbc	12 18 06.1	-0.2
JAMC	Jamundi, Valle	152.26	92	*i*P	PKiKP	12 18 06.8	+0.1
YOTC	Yotoco, Valle	152.63	91	*e*P	PKiKP	12 18 07.6	+0.2
CZSB	Cruzeiro do Su	153.15	118	*e*P	PKiKP	12 18 09.6	+1.2
GARC	Garzon, Huila	153.33	95	*e*P	PKPbc	12 18 08.3	-0.7
SJCC	San Jacinto, C	153.49	78	*e*P	PKPdf	12 18 01.4	+0.1
GUYZ	Guyana, Caldas	153.65	88	*i*P	PKiKP	12 18 10.2	+0.3
PTLC	Puerto Leguiza	153.72	100	*e*P	PKiKP	12 18 10.6	+1.1
ORTC	Ortega, Tolima	153.72	91	*i*P	PKPdf	12 18 02.0	+0.4
PRAC	Prado	154.07	92	*e*P	PKiKP	12 18 10.6	+0.3
ZARC	Zaragoza, Cauc	154.08	83	*e*P	PKPdf	12 18 00.8	-1.2
ROSC	El Rosal	154.68	89	PKPbc	PKiKP	12 18 13.2	+1.3
	comp=Z,16nm,0.4s,baz=301,slow=18,SNR=5.0						
CHIC	Chingaza	155.26	90	*e*P	PKPdf	12 18 13.1	+8.8
RUSC	La Rusia	155.91	87	*e*P	PKPdf	12 18 14.8	+10
SDV	Santo Domingo	158.08	78	*e*P	PKPdf	12 18 08.4	+0.8
SAML	Samuel	160.21	134	PKPdf	PKPdf	12 18 10.7	+0.9
SAML					PKPab	12 18 50.6	+0.5
SAML	Samuel	160.21	134	PKIKP	PKPdf	12 18 10.7	+0.9
SAML						12 18 50.6	

HEL 25 12:04:32.4±1.4, 55°.98N×24°.33E, h0km, ML2.0, Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OUL	Oulu	1.11	143	P	PN	Pn	12 04 55.3	+0.2
	baz=331							
OUL				SB	SB	Sb	12 05 08.7	-0.6
KU6	Riekki	2.28	86	SB	SB	Sn	12 05 39.2	-0.7
KU6				MSG			12 05 39.8	
	comp=Z,4.5nm,0.2s							
ARA0	ARCESS Array S	3.60	7	SN	SN	Sn	12 06 10.2	-2.4
LVZ	Lovozero	4.50	60	PN	PN	Pn	12 05 40.2	-1.5

*IDC **25** 12:04:41.5±0.6, 55°.16S×31°.47W, h0km, mb4.4/7, mbtmp4.5/8, ML3.8/1, MS3.9/12, Error ellipse: s-maj=26.1km s-min=19.1km az=49.0*
*NEIC **25** 12:04:44.1±1.1, 55°.26S±0°.09×31°.6W±0°.2, h10km±1km, mb4.8/39, Error ellipse: s-maj=18.6km s-min=14.0km az=55.0*

ISC 25 12:04:43.2±0.4, 55°.19S±0°.07×31°.44W±0°.08, h10km, n98, σ1§43/81, mb4.8/24, MS3.9/11, 6C, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HOPE	Hope Point	3.06	285	P	Pn	Pn	12 05 31.5	-0.2
ORCD	Orcadas	8.99	226	Pn	Pn	Pn	12 06 50.2	-2.7
EFI	East Falkland	16.21	271	Pn	Pn	Pn	12 08 31.9	+1.1
EFI				IAmb	IAmb	IAmb	12 08 41.1	
	comp=Z,49nm,1.1s							
VNA1	Neumayer--Stat	18.54	156	⇑P	Pn	Pn	12 09 02.1	+2.4
	comp=Z,15nm,0.9s							
VNA3	Neumayer Olymp	18.66	158	⇑P	Pn	Pn	12 09 03.2	+2.0
	comp=Z,23nm,0.8s							
PMSA	Palmer Station	18.70	226	P	P	P	12 09 00.9	-0.4
PMSA	Palmer Station	18.70	226	P	Pn	Pn	12 09 02.1	+0.4
	comp=Z,0.3nm,0.3s,baz=47,slow=7.3,SNR=2.4							
PMSA				LR	LR	LR	12 15 41.9	
	comp=Z,366nm,18.2s,baz=63,slow=35							
	comp=Z,11nm,0.7s							
VNA2	Neumayer--Watz	18.94	156	⇑P	Pn	Pn	12 09 06.2	+1.6
	comp=Z,13nm,0.7s,baz=315,slow=13							
SNAA	Sanae	20.54	154	P	Pn	Pn	12 09 23.5	-0.2
SNAA				IAmb	IAmb	IAmb	12 09 34.7	
	comp=Z,26nm,1.1s							
SNAA	Sanae	20.54	154	⇑P	Pn	Pn	12 09 23.4	-0.2
	comp=Z,218nm,0.8s							
SNAA	Sanae	20.54	154	P	Pn	Pn	12 09 23.0	-0.7
	comp=Z,8.2nm,0.7s,baz=307,slow=9.0,SNR=45							
	comp=Z,8.2nm,0.7s							
MG01	Puerto William	20.59	256	P	P	P	12 09 22.2	+0.2
MG01				IAmb	IAmb	IAmb	12 09 32.7	
	comp=Z,43nm,1.1s							
TROLL	Troll, Antarti	22.11	153	⇑P	P	P	12 09 40.8	+2.3
	comp=Z,724nm,0.7s							
BELA	Belgrano 2	22.82	182	P	P	P	12 09 47.3	+1.5
BELA				IAmb	IAmb	IAmb	12 10 09.1	
	comp=Z,36nm,1.6s							
GO10	Punta Arenas	23.07	259	P	P	P	12 09 48.8	+0.2
MG05	Puerto Natales	24.46	261	P	P	P	12 10 01.8	-0.1
MG05				IAmb	IAmb	IAmb	12 10 03.3	
	comp=Z,32nm,0.9s							
TRQA	Tornquist	26.77	297	P	P	P	12 10 24.2	+1.2
PLTB	Pedras Altas	28.17	317	P	P	P	12 10 36.4	+0.8
ELIB	Princess Elisa	28.18	147	P	P	P	12 10 36.3	+0.8
PLCA	Paso Flores	29.47	283	P	P	P	12 10 47.0	-0.2
PLCA	Paso Flores	29.47	283	P	P	P	12 10 46.1	-1.1
	comp=Z,2.4nm,0.8s,baz=210,slow=6.5,SNR=3.9							
PLCA				LR	LR	LR	12 22 18.5	
	comp=Z,199nm,21.4s,baz=139,slow=36							
	comp=Z,2.4nm,0.8s							
GO07	Milladeo Hill,	29.67	276	P	P	P	12 10 48.8	-0.1
LL05	Los Muermos	30.66	279	P	P	P	12 10 57.5	-0.1
BO04	La Punta	34.38	292	P	P	P	12 11 30.3	-0.1
BO04				IAmb	IAmb	IAmb	12 11 31.4	
	comp=Z,16nm,1.1s							
CPUP	Villa Florida	34.47	316	P	P	P	12 11 30.9	-0.1
CPUP	Villa Florida	34.47	316	P	P	P	12 11 29.4	-1.6
	comp=Z,4.5nm,0.9s,baz=155,slow=9.2,SNR=6.0							
CPUP				LR	LR	LR	12 23 33.3	
	comp=Z,121nm,21.2s,baz=191,slow=33							
	comp=Z,4.5nm,0.9s							
MT09	Talagante	34.75	291	P	P	P	12 11 33.1	-0.4
MT09				IAmb	IAmb	IAmb	12 11 39.1	
	comp=Z,16nm,0.8s							
CFA

SAML				IAmb	IAmb	12 13 58.2	
	comp=Z,11nm,1.1s						
ETMB	**Extrema**	**52.91**	**315**	P	**P**	**12 13 59.3**	**-0.1**
CASY	**Casey**	**55.50**	**162**	P	**P**	**12 14 18.7**	**+1.1**
CASY				IAmb	IAmb	12 14 20.0	
	comp=Z,8.5nm,0.9s						
BOAV	**Boa Vista**	**62.18**	**327**	P	**P**	**12 15 04.1**	**-0.6**
BOAV				IAmb	IAmb	12 15 05.5	
	comp=Z,8.2nm,1.1s						
MCRA	**Macar, Loja**	**63.84**	**304**	P	**P**	**12 15 16.5**	**+0.6**
COHC	**Cochancay**	**65.18**	**305**	P	**P**	**12 15 25.2**	**+0.8**
COHC				IAmb	IAmb	12 15 29.1	
	comp=Z,3.7nm,0.7s						
DBIC	**Dimbokro**	**65.48**	**29**	P	**P**	**12 15 27.8**	**+1.4**
DBIC	**Dimbokro**	**65.48**	**29**	P	**P**	**12 15 26.0**	**-0.4**
	comp=Z,5.7nm,0.9s,baz=153,slow=5.2,SNR=4.5						
	comp=Z,5.7nm,0.9s						
OTAV	**Otavalo**	**67.19**	**307**	P	**P**	**12 15 38.0**	**+0.1**
OTAV				IAmb	IAmb	12 15 43.8	
	comp=Z,8.2nm,1.0s						
TULM	**Tulcn-Chalpat**	**67.31**	**308**	P	**P**	**12 15 39.4**	**+0.7**
PCRV	**Puerto La Cruz**	**70.81**	**325**	LR	LR	12 46 47.6	
	comp=Z,73nm,21.9s,slow=36						
TORD	**Torodi Ar. Bea**	**73.58**	**34**	P	**P**	**12 16 16.6**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=196,slow=5.2,SNR=17						
TORD				LR	LR	12 41 48.0	
	comp=Z,164nm,19.6s,baz=136,slow=30						
	comp=Z,2.5nm,0.6s						
STKA	**Stephens Creek**	**93.08**	**174**	LR	LR	12 57 21.9	
	comp=Z,184nm,19.8s,baz=204,slow=34						
ESDC	**Sonseca Array**	**97.37**	**21**	LR	LR	12 57 16.7	
	comp=Z,134nm,20.4s,baz=31,slow=32						
ASAR	**Alice Springs**	**100.47**	**166**	P	**Pdif**	**12 18 28.7**	**-2.0**
	comp=Z,0.5nm,0.8s,baz=180,slow=3.9,SNR=3.2						
NVAR	**Mina Array Bea**	**118.85**	**296**	PKP	**PKPdf**	**12 23 30.2**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=165,slow=4.5,SNR=2.2						
G08A	**Pilot Rock**	**124.25**	**301**	PKPdf	**PKiKP**	**12 23 42.1**	**+0.4**
FINES	**FINESS Array B**	**124.78**	**30**	PKP	**PKPdf**	**12 23 41.6**	**-0.1**
	baz=180,slow=3.8,SNR=5.8						
CMAR	**Chiang Mai Arr**	**127.62**	**114**	PKP	**PKPdf**	**12 23 47.7**	**-0.8**
	baz=231,slow=3.5,SNR=13						
ABKAR	**Akbulak array**	**128.90**	**57**	PKPdf	**PKPdf**	**12 23 50.2**	**+0.3**
ARCES	**ARCESS Array B**	**131.06**	**23**	PKP	**PKPdf**	**12 23 53.3**	**-0.2**
	comp=Z,4.6nm,0.9s,baz=222,slow=1.2,SNR=2.6						
YKA	**Yellowknife Ar**	**133.94**	**320**	PKP	**PKPdf**	**12 23 58.2**	**-0.8**
	baz=115,slow=3.2,SNR=4.0						
PZH	**PanZhiHua**	**135.67**	**111**	PKP	**PKiKP**	**12 24 05.5**	**+0.3**
MKAR	**Makanchi Array**	**138.92**	**73**	PKP	**PKPdf**	**12 24 06.5**	**-2.4**
	comp=Z,0.5nm,0.9s,baz=230,slow=3.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**139.14**	**66**	PKP	**PKPdf**	**12 24 07.9**	**-1.2**
	baz=227,slow=2.7,SNR=4.6						
LZH	**Lanzhou**	**144.14**	**103**	*e*PKP	**PKiKP**	**12 24 21.5**	**-0.8**
LZH				pPKP	sPKPdf	12 24 30.3	+8.4
LZH				sPKP		12 24 34.5	
ZAA0	**Zalesovo Array**	**144.17**	**65**	PKPdf	**PKPdf**	**12 24 19.2**	**+1.2**
ZALV	**Zalesovo Beam**	**144.17**	**65**	PKPdf	**PKPdf**	**12 24 17.3**	**-0.7**
ZALV	**Zalesovo Beam**	**144.17**	**65**	PKP	**PKPdf**	**12 24 17.9**	**-0.1**
	baz=229,slow=4.1,SNR=19						
GTA	**Gaotai**	**144.19**	**95**	*e*PKPbc	**PKPdf**	**12 24 20.3**	**+1.6**
BCAR	**Beaver Creek A**	**145.10**	**312**		**PKPdf**	**12 24 19.4**	**0.0**
E27K	**Coleen River**	**146.48**	**321**		**PKPdf**	**12 24 21.7**	**+0.1**
PRP	**Porcupine Dome**	**147.38**	**315**		**PKPbc**	**12 24 25.1**	**-0.7**
LYN	**LuoYang**	**147.67**	**115**	⇑PKPbc	**PKPbc**	**12 24 28.0**	**+0.6**
ILAR	**Eielson Array**	**147.75**	**314**	PKPbc	**PKPbc**	**12 24 26.5**	**-0.2**
	baz=131,slow=1.6,SNR=49						
D25K	**Kavik River**	**148.39**	**322**		**PKPdf**	**12 24 26.5**	**+1.7**
TOLK	**Toolik Lake Re**	**149.47**	**321**		**PKiKP**	**12 24 31.6**	**-0.5**
E22K	**Anaktuvuk Pass**	**150.25**	**319**	PKPbc	**PKPab**	**12 24 36.7**	**-2.6**
BTO	**Baotou**	**150.77**	**104**	*e*PKPbc	**PKPdf**	**12 24 25.5**	**-4.0**
BTO				pPKP	**PKiKP**	**12 24 35.8**	**+0.1**
BTO				sPKP		12 24 41.5	
BTO				SKS	**SKSdf**	**12 31 29.3**	**-7.7**
SONM	**Songino Array**	**153.09**	**88**	PKPbc	**PKiKP**	**12 24 41.0**	**+0.6**
	baz=226,slow=3.1,SNR=13						
KSRS	**Korea Array**	**157.39**	**133**	PKPab	**PKPab**	**12 25 09.4**	**-0.8**
	baz=216,slow=4.3,SNR=4.8						

*KOLA **25** 12:04:48.1, 67°.54N×30°.53E, h0km, ML2.4, Error ellipse: s-maj=10.1km s-min=3.4km az=10.0, Kovdor City, Mines*

HEL 25 12:04:48.0±0.2, 67°.57N×30°.33E, h0km, ML1.8, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.33**	**304**	PG	Pg	12 04 53.8	-0.5
VRF				SG	Sg	12 04 58.2	-0.4
APA0	**Apatity Array**	**1.02**	**87**	P	Pg	12 05 04.9	-2.7
APA0				S	Sg	12 05 17.5	-3.2
OLKF	**Oulanka, Finla**	**1.30**	**197**	PG	Pg	12 05 11.5	-1.4
OLKF				SB	Sn	12 05 32.5	+1.0
OLKF				MSG		12 05 34.3	
	comp=Z,12nm,0.2s						
OLKF	**Oulanka, Finla**	**1.30**	**197**	PG	Pg	12 05 11.5	-1.4
OLKF				MSG		12 05 27.4	
	comp=Z,12nm,0.2s						
OLKF				SN	Sn	12 05 32.5	+1.0
SGF	**Sodankyl**	**1.47**	**267**	PN	Pn	12 05 14.9	-0.8
SGF				SN	Sn	12 05 36.2	+0.6
KU6	**Riekki**	**1.56**	**187**	PG	Pn	12 05 15.4	-1.6
KU6				MSG		12 05 34.7	
	comp=Z,5.4nm,0.2s						
KU6				SG	Sn	12 05 35.5	-2.3
LVZ	**Lovozero**	**1.68**	**77**	P	Pn	12 05 16.8	-1.9
LVZ				S	Sn	12 05 37.5	-3.4
LVZ	**Lovozero**	**1.68**	**77**	PG	Pn	12 05 17.9	-0.7
LVZ				SG	Sn	12 05 38.2	-2.6
MSF	**Maaselka**	**1.74**	**198**	PG	Pn	12 05 18.9	-0.5
MSF				SN	Sn	12 05 41.6	-0.7
RNF	**Rovaniemi**	**1.94**	**242**	PG	Pn	12 05 22.2	0.0
RNF				SG	Sb	12 05 49.3	+0.3
KLF	**Kolari**	**2.48**	**265**	PN	Pn	12 05 29.5	-0.1
KLF				MSG		12 06 01.3	
	comp=Z,4.7nm,0.2s						
KLF				SG	Sb	12 06 04.4	-0.1
KEV	**Kevo**	**2.51**	**333**	*e*P	Pn	12 05 30.3	+0.3
KEV	**Kevo**	**2.51**	**333**	PN	Pn	12 05 30.1	+0.1
KEV				MSG		12 06 02.1	
	comp=Z,4.4nm,0.2s						
KEV				SB	Sn	12 06 02.8	+1.5
VADS	**Vadso**	**2.59**	**353**	P	Pn	12 05 30.0	-1.1
VADS				S	Sn	12 06 04.2	+1.0
HEF	**Hetta**	**2.65**	**292**	*e*P	Pn	12 05 32.3	+0.3
HEF	**Hetta**	**2.65**	**292**	PN	Pn	12 05 31.8	-0.1
HEF				MSG		12 06 06.0	
	comp=Z,4.5nm,0.2s						
HEF				SG	Sb	12 06 08.6	-0.7
ARA0	**ARCESS Array S**	**2.66**	**320**	PN	Pn	12 05 32.4	+0.4
	baz=139						
ARA0				SB	Sn	12 06 06.5	+1.6
ARA0	**ARCESS Array S**	**2.66**	**320**	PN	Pn	12 05 32.4	+0.4
ARCES	**ARCESS Array B**	**2.66**	**320**	P	Pn	12 05 32.5	+0.5
ARCES				S	Sn	12 06 05.1	+0.3
TOF	**Tornio**	**2.81**	**241**	PN	Pn	12 05 33.4	-0.7
TOF				MSG		12 06 10.7	
	comp=Z,1.6nm,0.2s						
TOF				SG	Sb	12 06 15.4	+1.6
PAJU	**Pajala**	**2.85**	**262**	PN	Pn	12 05 34.3	-0.4
PAJU				SG	Sg	12 06 17.5	-2.1
KTK1	**Kautokeino**	**3.01**	**302**	PN	Pn	12 05 37.6	+0.7
KTK1				SB	Sb	12 06 18.6	-1.0
OUL	**Oulu**	**3.07**	**218**	PB	Pb	12 05 41.4	-2.0
LANU	**Lannavaara**	**3.20**	**283**	SN	Pn	12 05 39.0	-0.5
LANU	**Lannavaara**	**3.20**	**283**	PN	Pn	12 05 39.0	-0.5
KALU	**Kalix**	**3.26**	**241**	PN	Pn	12 05 40.2	0.0
KALU				SG	Sb	12 06 28.1	+1.4
ERTU	**Ertsjaerv**	**3.35**	**256**	PN	Pn	12 05 41.6	+0.1
ERTU				SB	Sn	12 06 24.5	+2.7
RMF	**Romuvaara**	**3.37**	**183**	PN	Pn	12 05 41.5	-0.3
OBF4	**Vikkela, Lumij**	**3.48**	**220**	PN	Pn	12 05 44.9	+1.5
KIF	**Kilpisjarvi**	**3.82**	**297**	PN	Pn	12 05 48.5	+0.5
KIF				SN	Sn	12 06 33.9	+0.4
OUF	**Merijarvi**	**3.94**	**218**	PN	Pn	12 05 50.1	+0.4
FAUS	**Fauske**	**5.79**	**275**	S	Sn	12 07 20.2	-1.7

JMA 25 12:04:48.3±0.1, 44°.0N±0°.3×142°.3E±0°.3, h6km±1km, MV1.2/20, KAMIKAWA-SORACHI REGION, Hokkaido region

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

ASAJ	**Asahikawa**	**0.25**	**56**	P	Pg	12 04 53.4	+0.2
JKK2	**Kamakawa 2**	**0.33**	**108**	*e*S	Sg	12 05 00.3	+1.1
JMP	**Maruseppu**	**0.76**	**88**	*e*P	Pg	12 05 02.8	0.0
JMP				*e*S	Sg	12 05 13.5	+0.8

*IDC **25** 12:42:51.7±0.6, 5°.30S×82°.80E, h0km, mb4.2/23, mbtmp4.2/24, MS3.6/5, Error ellipse: s-maj=20.1km s-min=15.6km az=53.0*

*NEIC **25** 12:42:54.2±1.5, 5°.3S±0°.1×83°.03E±0°.07, h10km±1km, mb4.6/30, Error ellipse: s-maj=17.5km s-min=11.7km az=188.0*

ISC 25 12:42:53.4±0.5, 5°.25S±0°.09×83°.00E±0°.08, h10km, n72, σ0s92/65, mb4.5/34, MS3.6/4, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**10.70**	**258**	Pn	**Pn**	**12 45 26.4**	**-0.5**
H08S2	**Diego Garcia H**	**10.71**	**257**	T	T	12 56 09.5	
	baz=74,slow=73,SNR=43						
H08S3	**Diego Garcia H**	**10.71**	**257**	T	T	12 56 09.5	
	baz=74,slow=73,SNR=215						
H08S1	**Diego Carcia H**	**10.73**	**257**	T	T	12 56 09.5	
	baz=74,slow=73,SNR=9.6						
PALK	**Pallekele**	**12.65**	**350**	Pn	**Pn**	**12 45 51.9**	**-1.7**
PALK	**Pallekele**	**12.65**	**350**	Pn	**Pn**	**12 45 51.7**	**-1.8**
	8.5nm,0.2s,baz=269,slow=13,SNR=21						
PALK				Sn	Sn	12 48 01.9	-13
	baz=72,slow=9.6						
PALK				LR	LR	12 50 07.2	
	comp=Z,251nm,19.8s,baz=265,slow=34						
HMDM	**Hanimaadhoo**	**15.45**	**321**	Pn	**Pn**	**12 46 31.5**	**-0.1**
HMDM				IAmb	IAmb	12 46 43.1	
	comp=Z,29nm,0.7s						
MNAI	**Manna**	**19.90**	**88**	P	**P**	**12 47 23.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**28.32**	**33**	P	**P**	**12 48 46.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**28.32**	**33**	P	**P**	**12 48 48.0**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=227,slow=9.4,SNR=8.3						
CMAR				PcP	**PcP**	**12 51 59.6**	**-1.0**
	baz=224,slow=4.4,SNR=4.1						
CMAR				LR	LR	12 59 33.2	
	comp=Z,41nm,20.3s,baz=250,slow=35						
	comp=Z,0.9nm,0.5s						
JAGI	**Jajag, Banyuwa**	**31.09**	**98**	P	**P**	**12 49 11.1**	**-1.0**
SHL	**Shillong**	**31.83**	**15**	P	**P**	**12 49 17.7**	**-1.0**
SHL				IAmb	IAmb	12 49 21.9	
	comp=Z,7.7nm,1.0s						
H01W3	**Cape Leeuwin H**	**41.19**	**140**	T	T	13 34 38.1	
	baz=310,slow=74,SNR=15						
H01W2	**Cape Leeuwin H**	**41.20**	**140**	T	T	13 34 39.2	
	baz=310,slow=74,SNR=14						
H01W1	**Cape Leeuwin H**	**41.20**	**140**	T	T	13 34 36.9	
	baz=310,slow=74,SNR=13						
NWAO	**Narrogin (SRO)**	**42.13**	**135**	LR	LR	13 05 18.0	
	comp=Z,51nm,20.6s,baz=262,slow=32						
BTK	**Batken**	**46.46**	**347**	P	**P**	**12 51 21.3**	**+0.6**
BTK				IAmb	IAmb	12 51 33.0	
	comp=Z,6.8nm,1.3s						
ARSB	**Arslanbob**	**47.25**	**350**	P	**P**	**12 51 27.5**	**+0.6**
AAK	**Ala-Archa**	**48.29**	**352**	P	**P**	**12 51 35.8**	**+0.8**
AAK				IAmb	IAmb	12 51 38.0	
	comp=Z,5.1nm,0.9s						
AAK	**Ala-Archa**	**48.29**	**352**	LR	LR	13 11 26.9	
	comp=Z,136nm,19.4s,baz=186,slow=36						
LODK	**Lodwar**	**48.36**	**279**	P	**P**	**12 51 36.4**	**+0.5**
LODK				IAmb	IAmb	12 51 38.5	
	comp=Z,5.1nm,1.1s						
GEYT	**Alibeck**	**48.80**	**334**	P	**P**	**12 51 40.4**	**+1.6**
GEYT				IAmb	IAmb	12 51 41.3	
	comp=Z,7.5nm,1.1s						
GEYT	**Alibeck**	**48.80**	**334**	P	**P**	**12 51 38.4**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=187,slow=12,SNR=7.5						
	comp=Z,3.0nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**48.80**	**334**	P	**P**	**12 51 39.9**	**+1.0**
GYA0B				IAmb	IAmb	12 51 42.1	
	comp=Z,13nm,1.5s						
H04N2	**CROZET ISLANDS**	**48.90**	**209**	T	T	13 44 11.5	
	baz=45						
H04N1	**CROZET ISLANDS**	**48.91**	**209**	T	T	13 44 11.5	
	baz=45						
H04N3	**CROZET ISLANDS**	**48.91**	**209**	T	T	13 44 09.8	
	baz=45						
KK31	**Karatay Array**	**49.45**	**348**	P	**P**	**12 51 44.6**	**+0.9**
KK31				IAmb	IAmb	12 51 45.6	
	comp=Z,9.5nm,1.5s						
KKAR	**Karatay Array**	**49.45**	**348**	P	**P**	**12 51 44.7**	**+1.1**
MK31	**Makanchi Array**	**51.82**	**359**	P	**P**	**12 52 02.9**	**+1.3**
MKAR	**Makanchi Array**	**51.82**	**359**	P	**P**	**12 52 02.3**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=181,slow=7.8,SNR=20						
	comp=Z,1.7nm,0.5s						
MAKZ	**Makanchi**	**51.84**	**359**	P	**P**	**12 52 02.9**	**+1.1**
MAKZ				IAmb	IAmb	12 52 03.4	
	comp=Z,4.6nm,0.7s						
WRA	**Warramunga Arr**	**51.97**	**111**	P	**P**	**12 52 05.1**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=286,slow=8.0,SNR=20						
WRA				PcP	**PcP**	**12 53 15.7**	**0.0**
	comp=Z,0.9nm,0.9s,baz=284,slow=2.5,SNR=2.7						
	comp=Z,1.3nm,0.7s						
WB0	**Warramunga Arr**	**51.99**	**111**	P	**P**	**12 52 03.4**	**+0.1**
WR0	**Warramunga Arr**	**52.16**	**111**	P	**P**	**12 52 04.4**	**-0.2**
WR0				IAmb	IAmb	12 52 21.1	
	comp=Z,8.5nm,1.3s						
ASAR	**Alice Springs**	**52.26**	**116**	P	**P**	**12 52 07.0**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=271,slow=6.1,SNR=7.6						
ASAR				PcP	**PcP**	**12 53 16.8**	**0.0**
	baz=314,slow=3.2,SNR=4.7						
	comp=Z,0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**55.79**	**357**	P	**P**	**12 52 30.9**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=182,slow=7.1,SNR=28						
KURBB				PcP	**PcP**	**12 53 29.7**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=183,slow=4.6,SNR=1.3						
	comp=Z,1.2nm,0.3s						
KURK	**Kurchatov**	**55.87**	**357**	P	**P**	**12 52 31.3**	**+0.2**
KURK				IAmb	IAmb	12 52 43.3	
	comp=Z,6.8nm,1.0s						
SONM	**Songino Array**	**56.73**	**19**	P	**P**	**12 52 37.9**	**+0.4**
SONM	**Songino Array**	**56.73**	**19**	P	**P**	**12 52 38.9**	**+1.4**
	comp=Z,2.6nm,0.7s,baz=204,slow=7.9,SNR=12						
	comp=Z,2.6nm,0.7s						
ZAA0	**Zalesovo Array**	**59.00**	**1**	P	**P**	**12 52 53.3**	**+0.2**
ZAA0				IAmb	IAmb	12 52 53.8	
	comp=Z,3.9nm,0.6s						
ZALV	**Zalesovo Beam**	**59.00**	**1**	P	**P**	**12 52 53.5**	**+0.4**
ZALV	**Zalesovo Beam**	**59.00**	**1**	P	**P**	**12 52 53.4**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=191,slow=8.0,SNR=20						
	comp=Z,3.4nm,0.6s						
BVAR	**Bovoye Array**	**59.03**	**351**	P	**P**	**12 52 53.4**	**0.0**
	comp=Z,1.0nm,0.7s,baz=163,slow=11,SNR=5.8						
	comp=Z,1.0nm,0.7s						
BOSA	**Boshof**	**59.30**	**240**	P	**P**	**12 52 55.8**	**-0.1**
BOSA				IAmb	IAmb	12 52 58.4	
	comp=Z,12nm,1.4s						
BOSA	**Boshof**	**59.30**	**240**	P	**P**	**12 52 54.6**	**-1.3**
	comp=Z,4.1nm,1.0s,baz=14,slow=6.2,SNR=3.1						
	comp=Z,4.1nm,1.0s						
AKTO	**Aktyubinsk**	**59.52**	**342**	P	**P**	**12 52 54.9**	**-1.9**
	comp=Z,2.2nm,0.9s,baz=152,slow=3.8,SNR=4.4						
	comp=Z,2.2nm,0.9s						
KSRS	**Korea Array**	**59.60**	**41**	P	**P**	**12 52 58.9**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=206,slow=8.3,SNR=5.1						
	comp=Z,0.5nm,0.4s						
KBZ	**Khabaz**	**60.69**	**328**	P	**P**	**12 53 05.3**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=118,slow=9.8,SNR=4.7						
	comp=Z,2.6nm,0.8s						
BRTR	**Keskin Array B**	**63.75**	**319**	P	**P**	**12 53 25.4**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=124,slow=6.1,SNR=5.5						
	comp=Z,1.0nm,0.7s						
ARU	**Arti**	**64.66**	**345**	P	**P**	**12 53 31.6**	**+0.4**
ARU				IAmb	IAmb	12 53 32.3	
	comp=Z,8.0nm,0.9s						
IDI	**Anoyia**	**67.79**	**311**	P	**P**	**12 53 52.3**	**+0.5**
KLR	**Kul'dur**	**68.79**	**32**	P	**P**	**12 53 58.5**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=284,slow=6.0,SNR=6.2						
	comp=Z,2.8nm,0.8s						
AKASG	**Malin Array Be**	**72.30**	**327**	P	**P**	**12 54 18.4**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=112,slow=4.9,SNR=8.3						
	comp=Z,1.1nm,0.6s						
BURAR	**Bucovina Array**	**73.01**	**323**	P	**P**	**12 54 23.6**	**+0.1**
FINES	**FINESS Array B**	**79.55**	**336**	P	**P**	**12 55 00.4**	**+0.2**
FINES	**FINESS Array B**	**79.55**	**336**	P	**P**	**12 55 00.1**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=113,slow=5.7,SNR=11						
	comp=Z,3.7nm,0.7s						
CLL	**Collm**	**81.78**	**323**	*e*P	**P**	**12 55 13.0**	**+0.6**
TIXI	**Tiksi**	**82.33**	**13**	P	**P**	**12 55 15.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**82.76**	**284**	P	**P**	**12 55 18.0**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=70,slow=4.9,SNR=9.7						
	comp=Z,1.5nm,0.8s						

SENIN	**Lac Senin/Sane**	**83.99**	**318**	P	**P**	**12 55 24.9**	**+0.5**
ARCES	**ARCESS Array B**	**84.08**	**343**	P	**P**	**12 55 24.9**	**+0.8**
ARCES	**ARCESS Array B**	**84.08**	**343**	P	**P**	**12 55 24.6**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=119,slow=4.3,SNR=9.6						
	comp=Z,3.1nm,0.6s						
HFS	**Hagfors**	**84.41**	**332**	P	**P**	**12 55 25.9**	**0.0**
	comp=Z,6.0nm,0.7s,baz=131,slow=6.8,SNR=6.0						
	comp=Z,6.0nm,0.7s						
QSPA	**South Pole Qui**	**84.75**	**180**	P	**P**	**12 55 28.8**	**+1.1**
QSPA				IAmb	IAmb	12 55 46.4	
	comp=Z,10nm,1.4s						
QSPA	**South Pole Qui**	**84.75**	**180**	P	**P**	**12 55 26.4**	**-1.3**
	comp=Z,1.1nm,1.0s,baz=262,slow=2.7,SNR=2.8						
QSPA				LR	LR	13 29 23.3	
	comp=Z,40nm,18.5s,baz=302,slow=33						
	comp=Z,1.1nm,1.0s						
SEY	**Seymchan**	**85.44**	**25**	P	**P**	**12 55 31.5**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=241,slow=7.5,SNR=7.1						
	comp=Z,1.5nm,0.7s						
ESDC	**Sonseca Array**	**90.98**	**310**	P	**P**	**12 55 58.0**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=86,slow=4.4,SNR=6.4						
	comp=Z,0.9nm,0.8s						
PDAR	**Pinedale Array**	**141.02**	**15**	PKP	**PKPdf**	**13 02 24.6**	**0.0**
	baz=104,slow=1.2,SNR=7.0						
NVAR	**Mina Array Bea**	**141.72**	**27**	PKP	**PKPdf**	**13 02 25.2**	**-0.7**
	baz=261,slow=3.3,SNR=5.6						
LPAZ	**La Paz**	**144.31**	**233**	PKP	**PKPab**	**13 02 29.4**	**-0.1**
	baz=90,slow=3.2,SNR=3.7						
TXAR	**Lajitas Array**	**155.23**	**14**	PKPbc	PKPdf	13 02 56.9	+9.0
	baz=318,slow=1.7,SNR=7.0						
TXAR				PKPab	**PKPab**	**13 03 10.2**	**-2.3**
	baz=328,slow=3.2,SNR=4.6						

*IDC **25** 12:53:55.6±0.8, 18°.66N×145°.46E, h221km±7km, mb3.9/23, mbtmp4.4/27, Error ellipse: s-maj=13.3km s-min=7.4km az=93.0*

*NEIC **25** 12:53:58.5±1.7, 18°.54N±0°.07×145°.41E±0°.09, h239km±7km, mb4.5/149, Error ellipse: s-maj=11.8km s-min=10.8km az=83.0*

ISC 25 12:53:58.7±0.3, 18°.58N±0°.04×145°.44E±0°.07, h250km, n410, σ1s00/367, mb4.5/99, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.99**	**186**	Pn	**Pn**	**12 55 12.9**	**-1.5**
GUMO	**Guam**	**4.99**	**186**	P	**Pn**	**12 55 12.4**	**-2.0**
	81nm,0.7s,baz=302,slow=5.7,SNR=21						
GUMO				S	**S**	**12 56 10.5**	**-4.3**
	72nm,0.6s,baz=348,slow=23,SNR=1.9						
JCJ	**Chichijima**	**8.99**	**341**	Pn	**Pn**	**12 56 04.5**	**0.0**
JCJ	**Chichijima**	**8.99**	**341**	P	**Pn**	**12 56 00.2**	**-4.3**
	34nm,0.5s,baz=197,slow=19,SNR=1.6						
JCJ				S	S	12 57 34.9	-11
	baz=73,slow=19,SNR=6.2						
PATS	**Pohnpei**	**17.12**	**131**	P	**Pn**	**12 57 41.7**	**-2.4**
JOW	**Kunigami**	**17.83**	**301**	P	**P**	**12 57 48.8**	**-0.7**
JOW	**Kunigami**	**17.83**	**301**	P	**P**	**12 57 48.5**	**-1.0**
	43nm,0.7s,baz=121,slow=27,SNR=1.6						
MJAR	**Matsushiro Arr**	**19.00**	**342**	P	**P**	**12 58 00.1**	**-1.8**
	2.9nm,0.5s,baz=166,slow=10,SNR=11						
MAJO	**Matsushiro**	**19.00**	**342**	P	**P**	**12 58 02.2**	**+0.2**
MAJO				IAmb	IAmb	12 58 23.6	
	comp=Z,9.7nm,0.8s						
MJB9	**Matsu-Tunnel**	**19.00**	**342**	P	**P**	**12 58 01.1**	**-1.0**
MJB9				IAmb	IAmb	12 58 24.1	
	comp=Z,8.5nm,0.7s						
JMM	**Marumori**	**19.64**	**349**	P	**Pn**	**12 58 09.4**	**-4.0**
JSD	**Sado**	**20.38**	**344**	P	**P**	**12 58 16.7**	**0.0**
JSD				IAmb	IAmb	12 58 23.0	
	comp=Z,15nm,1.0s						
MANU	**Manus Island**	**20.58**	**175**	P	**P**	**12 58 18.5**	**-0.5**
JTM	**Tenmabayashi**	**22.45**	**351**	P	**P**	**12 58 37.2**	**+0.6**
JTM				IAmb	IAmb	12 58 41.2	
	comp=Z,24nm,1.1s						
KSRS	**Korea Array**	**24.27**	**324**	P	**P**	**12 58 52.0**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=144,slow=9.1,SNR=11						
KSRS				pP	**pP**	**12 59 32.4**	**-5.7**
	comp=Z,5.4nm,1.1s,

comp=Z,13nm,0.5s
WB2 Warramunga Arr 39.80 196 P P 13 01 09.1 +1.2
WB2 IAmb IAmb 13 01 10.4
comp=Z,12nm,0.5s
WRA Warramunga Arr 39.80 196 P P 13 01 08.2 +0.2
WRA Warramunga Arr 39.80 196 P **P 13 01 08.7 +0.8**
comp=Z,5.2nm,0.4s,baz=18,slow=8.4,SNR=87
WRA ScP **ScP 13 06 35.1 +1.5**
baz=14,slow=4.3,SNR=9.5
WRA S **S 13 06 53.4 +0.2**
comp=Z,0.8nm,0.9s,baz=17,slow=17,SNR=5.0
comp=Z,5.2nm,0.4s
PZH PanZhiHua 40.97 289 P **P 13 01 19.8 +2.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
MA2 Magadan 41.13 4 P **P 13 01 19.5 +1.2**
SONM Songino Array 43.09 322 P **P 13 01 34.7 +0.3**
SONM Songino Array 43.09 322 P **P 13 01 34.1 -0.3**
comp=Z,0.7nm,0.4s,baz=131,slow=7.2,SNR=4.9
comp=Z,0.7nm,0.4s
AS31 Alice Springs 43.47 195 P **P 13 01 38.6 +1.1**
ASAR Alice Springs 43.47 195 P **P 13 01 39.1 +1.5**
ASAR Alice Springs 43.47 195 P **P 13 01 38.2 +0.6**
comp=Z,1.0nm,0.4s,baz=18,slow=7.6,SNR=22
ASAR ScP **ScP 13 06 49.5 +1.2**
baz=15,slow=3.1,SNR=5.8
ASAR S **S 13 07 49.0 +2.0**
baz=19,slow=20,SNR=7.8
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 43.99 278 P **P 13 01 43.0 +1.1**
comp=Z,0.7nm,0.3s,baz=66,slow=7.8,SNR=9.1
comp=Z,0.7nm,0.3s
EIDS Eidsvold 44.02 173 P **P 13 01 41.8 -0.1**
KIWB Kanaga Island 44.30 33 P **P 13 01 45.4 +1.6**
ADK Adak 44.56 33 P **P 13 01 46.7 +0.9**
SEY Seymchan 44.58 5 P **P 13 01 45.4 -0.4**
comp=Z,1.5nm,0.5s,baz=187,slow=8.1,SNR=9.5
comp=Z,1.5nm,0.5s
YAK Yakutsk 44.80 350 P **P 13 01 46.4 -1.1**
YAK IAmb IAmb 13 01 47.6
comp=Z,17nm,0.9s
DZM Mont Dzumac 45.32 152 P **P 13 01 52.5 +0.2**
OUENC Ouen Island, N 45.80 152 P **P 13 01 56.4 +0.5**
OUENC IAmb IAmb 13 01 56.6
comp=Z,16nm,0.7s
MBWA Marble Bar 46.84 214 P **P 13 02 04.2 +0.2**
MSVF Nonsavu 48.27 137 P **P 13 02 15.8 +0.7**
ARMA Armidale 49.07 173 P **P 13 02 23.2 +2.2**
STKA Stephens Creek 50.30 184 P **P 13 02 30.2 +0.1**
STKA Stephens Creek 50.30 184 P **P 13 02 29.6 -0.4**
comp=Z,1.1nm,0.5s,baz=356,slow=8.5,SNR=4.2
comp=Z,1.1nm,0.5s
UNV Unalaska Valle 50.90 35 P **P 13 02 35.0 +0.7**
baz=245
AKUT Akutan 51.41 34 P **P 13 02 37.9 -0.2**
GAMB Gambell 53.66 22 P **P 13 02 54.9 +0.6**
baz=233
WMQ Urumqi 54.20 311 *e*P **P 13 03 01.5 +2.7**
SDPT Sand Point 54.71 35 P **P 13 03 02.0 0.0**
SDPT Sand Point 54.71 35 P **P 13 03 02.1 0.0**
baz=250
M13K Dall Lake 55.27 28 P **P 13 03 06.4 +0.5**
baz=244
S14K Fog Glacier 55.52 34 P **P 13 03 08.2 +0.2**
baz=250
O14K Tigyukauivet M 55.74 30 P **P 13 03 10.1 +0.8**
baz=247
M14K Bethel 56.03 28 P **P 13 03 12.2 +0.8**
baz=245
CHGN Chignik 56.12 34 P **P 13 03 12.9 +0.8**
baz=252
J14K Nanvaranak Lak 56.23 25 P **P 13 03 12.3 -0.4**
baz=242
O15K Ungalikthiuk R 56.40 30 P **P 13 03 14.6 +0.6**
baz=248
G15K Niukluk 57.12 23 P **P 13 03 19.5 +0.6**
baz=241
P16K Nushagak River 57.23 31 P **P 13 03 20.2 +0.4**
baz=250
F15K North Star Dit 57.25 22 P **P 13 03 19.8 -0.1**
baz=240
N16K Nishlik Lake 57.37 29 P **P 13 03 21.4 +0.6**
baz=249
O16K Kokwok River B 57.37 30 P **P 13 03 21.1 +0.3**
baz=250
CHIR Chirikof Islan 57.48 35 P **P 13 03 21.9 +0.3**
baz=254
L16K Owhat River 57.52 28 P **P 13 03 21.9 +0.1**
baz=247
H16K Elim 57.62 24 P **P 13 03 21.8 -0.7**
baz=243
J16K Anvik River 57.68 26 P **P 13 03 23.4 +0.5**
baz=245
I17K Unalakleet 57.90 25 P **P 13 03 25.2 +0.9**
baz=245
O17K Koliganek Bris 57.91 30 P **P 13 03 25.0 +0.4**
baz=251
ZALV Zalesovo Beam 57.96 323 P **P 13 03 23.3 -1.7**
comp=Z,0.8nm,0.3s,baz=103,slow=6.7,SNR=7.5
ZALV pP **PcP 13 04 14.0 -0.2**
comp=Z,0.4nm,0.4s,baz=103,slow=7.2,SNR=1.5
comp=Z,0.8nm,0.3s
L17K Donlin 58.20 27 P **P 13 03 27.0 +0.5**
baz=248
MK31 Makanchi Array 58.37 314 P **P 13 03 28.8 +0.7**
MKAR Makanchi Array 58.37 314 P **P 13 03 28.7 +0.7**
MKAR Makanchi Array 58.37 314 P **P 13 03 27.9 -0.1**
comp=Z,1.4nm,0.7s,baz=89,slow=8.2,SNR=8.1
MKAR pP **PcP 13 04 16.6 +0.6**
comp=Z,0.7nm,0.5s,baz=90,slow=8.3,SNR=2.2
comp=Z,1.4nm,0.7s
K17K Iditarod 58.41 27 P **P 13 03 28.6 +0.7**
baz=248
SII Sitkinak Islan 58.45 34 P **P 13 03 28.2 -0.1**
MAKZ Makanchi 58.59 314 P **P 13 03 30.9 +1.4**
G17K Kiwalik Mounta 58.62 23 P **P 13 03 29.5 +0.2**
baz=244
H17K Granite Mounta 58.65 24 P **P 13 03 29.6 0.0**
baz=245
N18K Kilae Creek 58.78 29 P **P 13 03 31.3 +0.8**
baz=251
D17K Noatak River 58.79 20 P **P 13 03 31.4 +0.9**
baz=240
F17K Baldwin Pennin 58.82 22 P **P 13 03 31.2 +0.6**
baz=243
O18K Koktuh Hills 58.84 30 P **P 13 03 31.7 +0.7**
baz=252
E17K Hotham Inlet 58.92 21 P **P 13 03 32.5 +1.1**
baz=242
L18K Granite Mounta 58.93 28 P **P 13 03 32.3 +0.7**
baz=250
M18K Stony River 59.07 29 P **P 13 03 32.8 +0.3**
baz=251
H18K Honhosa River 59.34 24 P **P 13 03 35.3 +1.0**
baz=246
Q19K Cape Douglas, 59.34 32 P **P 13 03 35.0 +0.5**
baz=254
J18K Innoko River 59.36 26 P **P 13 03 35.0 +0.5**
baz=249
N19K Bonanza Creek 59.47 30 P **P 13 03 36.3 +0.9**
baz=253
E18K Tukpahlearik C 59.50 21 P **P 13 03 36.5 +1.2**
baz=243
G18K Tagagawik 59.53 23 P **P 13 03 36.1 +0.5**
baz=246
KDAK Kodiak Island 59.59 33 P **P 13 03 36.9 +0.8**
baz=256
L19K White Mountain 59.73 28 P **P 13 03 37.1 0.0**
baz=252
C18K Utukok River 59.87 20 P **P 13 03 38.8 +0.8**
baz=242
J19K Poorman 60.00 26 P **P 13 03 39.6 +0.8**
baz=250
B18K Kokolik River 60.03 19 P **P 13 03 39.8 +0.9**
baz=241
G19K Purcell Mounta 60.22 23 P **P 13 03 41.0 +0.7**
baz=247
H19K Roundabout Mou 60.23 24 P **P 13 03 40.8 +0.5**
baz=248
F19K Shaleruckik Mo 60.24 22 P **P 13 03 40.9 +0.5**
baz=246
M20K Styx River 60.41 29 P **P 13 03 42.4 +0.7**
baz=253
K20K Telida 60.44 27 P **P 13 03 42.6 +0.7**
baz=252
C19K Lookout Ridge 60.60 20 P **P 13 03 43.6 +0.7**
baz=243
J20K Nowinta River 60.67 26 P **P 13 03 44.1 +0.7**
J20K Nowinta River 60.67 26 P **P 13 03 43.8 +0.4**
baz=251
E19K Redstone River 60.69 22 P **P 13 03 43.9 +0.5**
baz=246
I20K Naaghedeneel 60.74 25 P **P 13 03 44.3 +0.5**
baz=250
D19K Kuna River 60.81 21 P **P 13 03 44.5 +0.2**
baz=245
H20K Anotleneega Mo 60.82 24 P **P 13 03 44.7 +0.3**
baz=250
F20K Avaraart Lake 61.07 23 P **P 13 03 46.9 +1.0**
F20K IAmb IAmb 13 03 47.4
comp=Z,5.4nm,0.7s
F20K Avaraart Lake 61.07 23 P **P 13 03 46.4 +0.5**
baz=248
SKT Skwentna 61.17 29 P **P 13 03 46.5 -0.2**
baz=255
KURBB Kurchatov Arra 61.25 318 P **P 13 03 46.0 -1.4**
comp=Z,1.3nm,0.3s,baz=96,slow=7.3,SNR=16
comp=Z,1.3nm,0.3s
CAST Castle Rocks 61.32 27 P **P 13 03 48.3 +0.7**
CAST Castle Rocks 61.32 27 P **P 13 03 48.4 +0.7**
baz=254
CHUM Lake Minchumin 61.35 27 P **P 13 03 48.6 +0.8**
baz=253
E20K Nigu River 61.37 21 P **P 13 03 48.8 +0.8**
baz=247,SNR=6.5
SUA Susitna One 61.40 29 P **P 13 03 48.8 +0.4**
SUA IAmb IAmb 13 04 07.2
comp=Z,9.5nm,1.0s
SUA Susitna One 61.40 29 P **P 13 03 48.6 +0.2**
baz=256
D20K Etivluk River 61.41 21 P **P 13 03 48.9 +0.7**
baz=246,SNR=8.0
O22K Cooper Landing 61.65 31 P **P 13 03 50.3 +0.3**
baz=257
H21K Melozitna Rive 61.69 25 IAmb IAmb 13 03 51.6
comp=Z,7.7nm,0.9s
H21K Melozitna Rive 61.69 25 P **P 13 03 50.6 +0.4**
baz=252
G21K Allakaket 61.70 23 P **P 13 03 50.3 +0.1**
baz=250
SEW Seward 61.70 31 P **P 13 03 49.7 -0.6**
baz=258
M22K Willow 61.76 29 P **P 13 03 50.7 +0.1**
baz=256
B20K Meade River 61.77 19 P **P 13 03 50.9 +0.4**
baz=245
RC01 Rabbit Creek A 61.78 30 P **P 13 03 50.7 -0.1**
RC01 Rabbit Creek A 61.78 30 P **P 13 03 50.4 -0.4**
baz=257
CUT Chulitna 61.85 28 P **P 13 03 51.3 +0.1**
baz=256
I21K Tanana 61.87 25 IAmb IAmb 13 03 52.4
comp=Z,7.8nm,0.6s
I21K Tanana 61.87 25 P **P 13 03 52.1 +0.8**
baz=253
F21K Alatna River 61.95 23 P **P 13 03 51.4 -0.5**
baz=250
BPAW Bear Paw Mtn. 61.97 26 P **P 13 03 52.3 +0.2**
BPAW Bear Paw Mtn. 61.97 26 P **P 13 03 52.1 +0.1**
baz=254
TRF Thorofare Moun 62.10 27 IAmb IAmb 13 03 53.0
comp=Z,11nm,0.7s
TRF Thorofare Moun 62.10 27 P **P 13 03 53.0 -0.1**
baz=255
PMR Palmer 62.18 29 P **P 13 03 52.9 -0.5**
baz=257
C21K Knifeblade Rid 62.19 20 P **P 13 03 53.9 +0.5**
baz=248
E21K Killik River 62.20 21 P **P 13 03 53.7 +0.1**
baz=249
GHO Glory Hole Cre 62.31 29 P **P 13 03 54.3 -0.2**
H22K Ishtalitna Cre 62.33 24 P **P 13 03 54.8 +0.4**
baz=253
MLY Manley 62.33 25 IAmb IAmb 13 03 55.5
comp=Z,11nm,0.7s
MLY Manley 62.33 25 P **P 13 03 55.0 +0.5**
baz=254,SNR=6.4
B21K Ikpikpuk River 62.42 20 P **P 13 03 54.8 -0.1**
baz=248
KNK Knik Glacier 62.46 30 P **P 13 03 55.5 +0.2**
baz=258
F22K John River 62.52 23 P **P 13 03 56.5 +0.9**
baz=251,SNR=10
G22K Bettles 62.58 23 P **P 13 03 56.1 +0.1**
baz=252
SML Sawmill 62.60 29 P **P 13 03 55.7 -0.6**
baz=258
RND Reindeer 62.72 27 IAmb IAmb 13 03 57.3
comp=Z,5.4nm,0.7s
WAT1 Susitna Watana 62.72 28 P **P 13 03 56.4 -0.6**
baz=257
MCK McKinley 62.76 27 P **P 13 03 56.7 -0.6**
baz=256
D22K Ayikyak River 62.80 21 P **P 13 03 58.4 +1.0**
baz=250,SNR=9.5
A22K Sinclair Lake 62.84 19 P **P 13 03 57.9 +0.3**
baz=247
E22K Anaktuvuk Pass 62.85 22 IAmb IAmb 13 03 58.9
comp=Z,8.3nm,0.6s
E22K Anaktuvuk Pass 62.85 22 P **P 13 03 58.7 +0.8**
baz=251,SNR=5.6
M23K Glacier View 62.88 29 P **P 13 03 58.1 0.0**
baz=258
NEA2 Nenana 62.91 26 IAmb IAmb 13 03 59.1
comp=Z,6.3nm,0.6s
NEA2 Nenana 62.91 26 P **P 13 03 58.0 -0.2**
baz=256
I23K Minto, Yukon-K 62.93 26 P **P 13 03 58.7 +0.4**
baz=255,SNR=8.4
H23K Yukon River 63.03 25 IAmb IAmb 13 04 00.3
comp=Z,8.3nm,0.8s
H23K Yukon River 63.03 25 P **P 13 03 59.4 +0.4**
baz=255
WAT6 Susitna Watana 63.03 29 P **P 13 03 59.1 -0.1**
baz=258
B22K Teshekpuk Lake 63.07 19 P **P 13 03 59.7 +0.6**
baz=249
SCM Sheep Creek Mo 63.07 29 P **P 13 03 59.7 +0.3**
baz=259
G23K Bananza Creek 63.08 24 P **P 13 03 59.8 +0.4**
baz=254
COLD Coldfoot 63.16 23 P **P 13 04 00.6 +0.8**
baz=253
WRH Wood River Hil 63.29 26 IAmb IAmb 13 04 00.7
comp=Z,7.5nm,0.7s
DHY Denali Highway 63.30 28 P **P 13 04 01.2 +0.3**
DHY Denali Highway 63.30 28 P **P 13 04 01.0 0.0**
baz=258
MDM Murphy Dome 63.35 26 P **P 13 04 01.5 +0.4**
COLA College 63.48 26 P **P 13 04 02.5 +0.6**
baz=257
D23K Nanushuk River 63.51 21 P **P 13 04 02.5 +0.5**
baz=252
EYAK Cordova Ski Ar 63.59 31 P **P 13 04 03.5 +0.8**
baz=261
E23K Chandalar 63.62 22 P **P 13 04 03.8 +0.9**
baz=254,SNR=7.9
M24K Tolsona, Glenn 63.66 29 P **P 13 04 03.8 +0.6**
baz=260
KLU Klutina 63.67 30 P **P 13 04 03.8 +0.5**
baz=260
H24K Noodor Dome 63.70 25 IAmb IAmb 13 04 04.7
comp=Z,5.5nm,0.7s
H24K Noodor Dome 63.70 25 P **P 13 04 03.9 +0.4**
baz=256,SNR=6.4
HDA Harding Lake 63.76 27 IAmb IAmb 13 04 03.3
comp=Z,9.4nm,0.8s
HDA Harding Lake 63.76 27 P **P 13 04 03.2 -0.6**
baz=258,SNR=5.4
TOLK Toolik Lake Re 63.80 22 P **P 13 04 04.9 +0.9**
baz=253,SNR=5.4
C23K Itkillik River 63.80 20 P **P 13 04 04.7 +0.8**
baz=252,SNR=5.4
IL31 63.86 26 IAmb IAmb 13 04 03.8
comp=Z,8.4nm,0.8s
ILAR Eielson Array 63.86 26 P **P 13 04 03.0 -1.5**
comp=Z,5.5nm,0.6s,baz=251,slow=5.3,SNR=86
comp=Z,5.5nm,0.6s
E24K Your Creek 64.03 22 IAmb IAmb 13 04 07.0
comp=Z,5.7nm,0.8s
E24K Your Creek 64.03 22 P **P 13 04 06.4 +0.8**
baz=255,SNR=5.7
G24K Hadweenzic Riv 64.06 24 IAmb IAmb 13 04 07.1
comp=Z,6.0nm,0.7s
G24K Hadweenzic Riv 64.06 24 P **P 13 04 06.1 +0.4**
baz=256
F24K Squaw Lake 64.10 23 IAmb IAmb 13 04 07.7
comp=Z,4.4nm,0.6s
F24K Squaw Lake 64.10 23 P **P 13 04 07.0 +1.0**
baz=256
PAX Paxson 64.13 28 P **P 13 04 06.4 +0.1**
baz=260,SNR=7.6
KAIM Kayak Island 64.16 32 P **P 13 04 07.5 +1.1**
baz=262
HARP HAARP 64.18 29 P **P 13 04 07.0 +0.5**
baz=260
D24K Happy Valley 64.20 21 P **P 13 04 07.6 +1.1**
baz=254,SNR=13
BMRM Bremner River 64.21 31 P **P 13 04 07.4 +0.5**
baz=262
N25K Chitina, Valde 64.31 30 P **P 13 04 07.4 -0.1**
baz=261
C24K Franklin Bluff 64.40 21 P **P 13 04 08.3 +0.5**
baz=254
J25K Salcha River, 64.47 27 IAmb IAmb 13 04 08.4
comp=Z,6.3nm,0.6s
J25K Salcha River, 64.47 27 P **P 13 04 07.5 -1.0**
baz=259,SNR=5.1
RIDG Independent Ri 64.54 28 P **P 13 04 08.8 -0.1**
baz=260
PRP Porcupine Dome 64.58 26 P **P 13 04 09.4 +0.2**
baz=259
G25K Bearman Lake 64.61 24 P **P 13 04 10.1 +0.9**
baz=258
H25L Birch Creek 64.61 25 P **P 13 04 10.0 +0.8**
baz=258
MENT Mentasta 64.92 28 IAmb IAmb 13 04 19.6
comp=Z,4.6nm,0.6s
CRQE Cirque 64.92 31 P **P 13 04 11.9 +0.4**
baz=263
SCRK Sand Creek 64.95 27 IAmb IAmb 13 04 12.7
comp=Z,7.0nm,0.8s
SCRK Sand Creek 64.95 27 P **P 13 04 11.3 -0.4**
baz=261,SNR=6.4
F25K Christian Rive 64.96 23 P **P 13 04 12.5 +0.9**
baz=258,SNR=7.5
MCARA McCarthy VSAT 65.03 30 P **P 13 04 12.6 +0.6**
baz=263
D25K Kavik River 65.09 21 P **P 13 04 13.1 +0.8**
baz=256,SNR=6.5
L26K Log Cabin Wild 65.10 28 IAmb IAmb 13 04 13.8
comp=Z,5.5nm,0.8s
L26K Log Cabin Wild 65.10 28 P **P 13 04 13.1 +0.6**
baz=262
E25K Arctic Village 65.10 23 P **P 13 04 13.7 +1.3**
baz=258
M26K Nabesna, AK 65.17 29 P **P 13 04 13.4 +0.4**
baz=262
J26L Joseph Creek 65.22 27 IAmb IAmb 13 04 13.4
comp=Z,7.6nm,0.6s
J26L Joseph Creek 65.22 27 P **P 13 04 13.0 -0.3**
baz=261,SNR=10.0
MESA MESA 65.42 32 P **P 13 04 15.2 +0.4**
baz=264
I26K Coal Creek Min 65.52 26 P **P 13 04 14.5 -0.6**
baz=261
F26K Sheenjek River 65.54 23 P **P 13 04 16.4 +1.2**
baz=259,SNR=8.1
G26K Porcupine Rive 65.54 24 P **P 13 04 16.1 +1.0**
baz=260,SNR=7.1
C26K Camden Bay 65.73 21 P **P 13 04 17.3 +1.0**
baz=257,SNR=6.5
L27K Beaver Creek, 65.79 28 IAmb IAmb 13 04 17.5
comp=Z,4.8nm,0.5s
L27K Beaver Creek, 65.79 28 P **P 13 04 17.1 +0.2**
baz=263,SNR=6.5
CTG Chitna Glacier 65.80 31 P **P 13 04 17.5 +0.4**
baz=265
K27K Chicken 65.80 27 P **P 13 04 17.3 +0.4**
baz=263
I27K Kandik River 66.20 26 P **P 13 04 19.4 -0.1**
baz=262
PINM Pinnacle 66.26 32 P **P 13 04 20.2 +0.2**
baz=266
EGAK Eagle 66.28 27 P **P 13 04 20.4 +0.4**
baz=263
YUK3 Moose Creek 66.29 30 P **P 13 04 20.5 +0.2**
baz=265
H27K Steamboat Moun 66.32 25 P **P 13 04 20.9 +0.7**
baz=262,SNR=9.7
O28M Mount Upton 66.34 31 P **P 13 04 21.3 +0.5**
baz=266,SNR=6.7
G27K Doyon Strip 66.35 24 P **P 13 04 20.7 +0.3**
baz=262
BVAR Borovoye Array 66.41 320 P **P 13 04 20.5 -0.5**
comp=Z,6.3nm,0.6s,baz=94,slow=8.2,SNR=26
comp=Z,6.3nm,0.6s
BRVK Borovoye 66.48 320 P **P 13 04 22.8 +1.4**
E27K Coleen River 66.58 23 P **P 13 04 22.6 +0.8**
E27K Coleen River 66.58 23 P **P 13 04 22.0 +0.2**
baz=261
YUK8 Steele Glacier 66.58 31 P **P 13 04 22.8 +0.5**
baz=266
KK31 Karatay Array 66.66 310 P **P 13 04 23.6 +0.9**
KKAR Karatay Array 66.66 310 P **P 13 04 23.7 +0.9**
PNL Peninsula 66.67 32 P **P 13 04 22.9 +0.4**
baz=267
I28M Miner Creek 66.87 26 P **P 13 04 23.8 0.0**
I28M IAmb IAmb 13 04 25.1
comp=Z,6.0nm,0.8s
I28M Miner Creek 66.87 26 P **P 13 04 23.6 -0.2**
baz=264
D27M Malcolm River 66.96 22 IAmb IAmb 13 04 25.9
comp=Z,6.9nm,0.5s
D27M Malcolm River 66.96 22 P **P 13 04 25.5 +1.2**
baz=261,SNR=6.5
DAWY Dawson 66.97 28 P **P 13 04 24.4 0.0**
DAWY IAmb IAmb 13 04 25.4
comp=Z,6.6nm,0.9s
DAWY Dawson 66.97 28 P **P 13 04 24.3 -0.1**
baz=265
O29M Mount Kennedy 67.11 32 IAmb IAmb 13 04 27.3
comp=Z,11nm,0.8s
O29M Mount Kennedy 67.11 32 P **P 13 04 26.2 +0.8**
baz=267
YUK4 Talbot Arm 67.13 30 P **P 13 04 27.1 +1.5**
baz=267,SNR=6.6
F28M Old Crow 67.14 24 IAmb IAmb 13 04 26.8
comp=Z,4.6nm,0.7s
F28M Old Crow 67.14 24 P **P 13 04 25.8 +0.4**
baz=263
YUK6 Outpost Mounta 67.24 31 P **P 13 04 27.1 +0.7**
baz=267
M29M Somme Creek 67.28 29 P **P 13 04 27.4 +1.0**
baz=267,SNR=9.5
E28M Babbage River 67.39 23 P **P 13 04 27.8 +0.9**
baz=263,SNR=5.0
L29M L29M 67.47 29 P **P 13 04 28.7 +1.2**
baz=267,SNR=10.0
P29M Windy Craggy 67.51 32 P **P 13 04 28.6 +0.8**
baz=268,SNR=6.4
I29M Ogilvie Camp, 67.55 26 IAmb IAmb 13 04 28.7
comp=Z,7.4nm,1.0s
I29M Ogilvie Camp, 67.55 26 P **P 13 04 28.1 +0.1**
baz=266
H29M Whitestone 67.59 25 IAmb IAmb 13 04 29.3
comp=Z,6.8nm,0.7s
H29M Whitestone 67.59 25 P **P 13 04 29.0 +0.9**
baz=265
HYT Haines Junctio 67.66 31 P **P 13 04 30.2 +1.4**
baz=268,SNR=8.6
D28M Stokes Point 67.76 22 P **P 13 04 30.4 +1.3**
baz=264
K29M Barlow Dome 67.78 28 IAmb IAmb 13 04 31.0
comp=Z,7.3nm,0.7s
K29M Barlow Dome 67.78 28 P **P 13 04 30.6 +1.0**
baz=267,SNR=8.4
G29M Pine Creek 67.79 24 IAmb IAmb 13 04 31.4
comp=Z,6.8nm,0.8s
G29M Pine Creek 67.79 24 P **P 13 04 30.0 +0.6**
baz=265
N30M Aishikik Lake 67.88 30 IAmb IAmb 13 04 31.8
comp=Z,8.5nm,0.8s
N30M Aishikik Lake 67.88 30 P **P 13 04 31.1 +1.0**
baz=268,SNR=6.3
P30M Million Dollar 67.91 32 P **P 13 04 31.4 +1.1**
baz=269
E29M Blow River 67.97 23 P **P 13 04 31.8 +1.3**
baz=265
M30M Minto, Yukon 68.06 29 IAmb IAmb 13 04 32.2
comp=Z,4.4nm,0.5s
M30M Minto, Yukon 68.06 29 P **P 13 04 31.8 +0.6**

	baz=268,SNR=5.1							
PLBC	Pleasant Camp	68.20	33	P	P	13 04 33.0	+0.9	
	baz=270,SNR=8.4							
EPYK	Eagle Plains	68.27	25	IAmb	IAmb	13 04 32.9		
	comp=Z,8.4nm,0.6s							
EPYK	Eagle Plains	68.27	25	P	P	13 04 32.9	+0.5	
	baz=267,SNR=5.5							
J30M	Hart River	68.34	27	IAmb	IAmb	13 04 34.4		
	comp=Z,8.1nm,1.1s							
O30N	Mendenhall	68.35	31	P	P	13 04 33.9	+0.9	
	baz=269							
MAYO	Mayo, Yukon	68.50	28	P	P	13 04 34.8	+1.0	
	baz=268,SNR=5.1							
G30M	tAoh Zraii Nji	68.50	24	P	P	13 04 34.3	+0.5	
	baz=267							
N31M	Braeburn, Yuko	68.51	30	IAmb	IAmb	13 04 35.8		
	comp=Z,9.8nm,0.8s							
N31M	Braeburn, Yuko	68.51	30	P	P	13 04 34.7	+0.7	
	baz=269,SNR=5.4							
F30M	Barrier River	68.70	24	P	P	13 04 35.8	+0.8	
	baz=267,SNR=6.6							
SKAG	Skagway	68.73	33	IAmb	IAmb	13 04 36.9		
	comp=Z,8.0nm,0.6s							
SKAG	Skagway	68.73	33	P	P	13 04 36.4	+1.2	
	baz=271							
SIT	Sitka	68.78	35	P	P	13 04 37.6	+2.0	
	baz=272							
WHY	Whitehorse	68.94	31	IAmb	IAmb	13 04 38.4		
	comp=Z,7.5nm,0.9s							
WHY	Whitehorse	68.94	31	P	P	13 04 38.1	+1.3	
	baz=270							
M31M	Drury Creek, Y	69.17	30	P	P	13 04 38.3	+0.3	
	baz=270							
S32K	Killisnoo	69.17	35	P	P	13 04 38.2	+0.2	
	baz=272							
R32K	Eaglecrest	69.18	34	P	P	13 04 38.8	+0.7	
	baz=272							
H31M	Peel River	69.21	26	IAmb	IAmb	13 04 39.3		
	comp=Z,10nm,0.7s							
H31M	Peel River	69.21	26	P	P	13 04 39.0	+0.8	
	baz=269							
G31M	Satah River	69.26	25	P	P	13 04 38.8	+0.3	
	baz=269							
F31M	Tsiigehtchic	69.48	24	P	P	13 04 39.5	-0.3	
	baz=269							
P32M	Atlin	69.55	32	P	P	13 04 41.1	+0.6	
	baz=272							
INK	Inuvik	69.58	23	IAmb	IAmb	13 04 40.8		
	comp=Z,7.9nm,0.7s							
INK	Inuvik	69.58	23	P	P	13 04 41.0	+0.7	
	baz=269							
FARO	Faro, Yukon	69.66	30	P	P	13 04 41.4	+0.4	
	baz=271							
N32M	Quiet Lake	69.81	31	P	P	13 04 42.4	+0.4	
	baz=272							
P33M	Teslin, Yukon	69.98	32	P	P	13 04 43.7	+0.7	
	baz=272							
U33K	Whale Pass	70.04	36	P	P	13 04 44.4	+1.1	
	baz=274							
T33K	Petersburg	70.09	35	P	P	13 04 44.7	+1.0	
	baz=274							
Q32M	Nakina River	70.32	33	P	P	13 04 45.8	+0.5	
	baz=273							
WRAK	Wrangell Islan	70.45	36	P	P	13 04 46.9	+1.1	
	baz=274							
MMPY	Sheldon Lake,	70.61	29	P	P	13 04 48.4	+1.6	
	baz=273							
R33M	Jennings River	70.96	33	P	P	13 04 49.3	+0.3	
	baz=274							
S34M	Telegraph Cree	70.99	34	P	P	13 04 50.1	+1.1	
	baz=275							
DLBC	Dease Lake	71.53	34	IAmb	IAmb	13 04 54.1		
	comp=Z,7.2nm,0.7s							
DLBC	Dease Lake	71.53	34	P	P	13 04 53.3	+0.9	
	baz=275							
T35M	Bob Quinn	71.55	35	P	P	13 04 53.5	+1.0	
	baz=276							
TGTN	Hyland Airport	72.10	30	P	P	13 04 56.3	+0.6	
	baz=276							
C36M	Paulatuk	72.95	22	P	P	13 05 00.5	0.0	
	baz=277							
ABKAR	Akbulak array	73.26	317	P	P	13 05 02.4	-0.3	
ABKAR	Akbulak array	73.26	317	IAmb	IAmb	13 05 03.4		
	comp=Z,2.4nm,0.6s							
WRGLY	Wrigley	74.09	28	P	P	13 05 07.8	+0.6	
	baz=280							
KOTAN	Kotaneelee Air	74.34	31	P	P	13 05 09.8	+1.1	
	baz=280							
GNW	Green Mountain	77.67	44	P	P	13 05 28.6	+0.9	
GNW				IAmb	IAmb	13 05 29.8		
	comp=Z,14nm,1.1s							
YKA	Yellowknife Ar	78.21	28	P	P	13 05 29.4	-1.0	
	comp=Z,5.3nm,0.7s,baz=290,slow=5.6,SNR=26							
	comp=Z,5.3nm,0.7s							
LTY	Liberty	79.16	44	IAmb	IAmb	13 05 37.0		
	comp=Z,9.7nm,0.8s							
E07A	Sunnyside	79.89	44	IAmb	IAmb	13 05 41.3		
	comp=Z,11nm,0.7s							
HAWA	Hanford	80.15	44	IAmb	IAmb	13 05 42.5		
	comp=Z,8.2nm,0.8s							
D08A	Wollman Farm,	80.37	44	IAmb	IAmb	13 05 43.6		
	comp=Z,12nm,1.1s							
ORV	Oroville	80.69	51	IAmb	IAmb	13 05 45.1		
	comp=Z,7.2nm,0.9s							
E09A	Wood Farm, Sta	81.04	44	IAmb	IAmb	13 05 47.1		
	comp=Z,7.9nm,0.7s							
NEW	Newport	81.17	42	IAmb	IAmb	13 05 47.6		
	comp=Z,7.0nm,0.7s							
NEW	Newport	81.17	42	P	P	13 05 47.0	+0.3	
	baz=286							
AFDM	Forest Hills D	81.26	52	P	P	13 05 47.5	+0.2	
J08A	Circle Bar Ran	81.76	47	IAmb	IAmb	13 05 51.2		
	comp=Z,5.5nm,0.7s							
EMB	Emerald Bay	81.90	52	IAmb	IAmb	13 05 52.1		
	comp=Z,4.8nm,0.7s							
CMB	Columbia Colle	81.97	53	IAmb	IAmb	13 05 52.1		
	comp=Z,8.4nm,0.7s							
PNTR	Pine Nut	82.24	51	P	P	13 05 53.4	+0.7	
ARCES	ARCESS Array B	82.53	342	P	P	13 05 53.0	-0.2	
	comp=Z,3.9nm,0.9s,baz=79,slow=7.5,SNR=6.1							
	comp=Z,3.9nm,0.9s							
YERR	Yerington	82.54	52	IAmb	IAmb	13 05 55.4		
	comp=Z,11nm,0.7s							
MLAC	Mammoth, Mammo	83.26	53	P	P	13 05 58.1	+0.2	
	baz=288							
LHV	Little Huntoon	83.31	52	IAmb	IAmb	13 05 59.5		
	comp=Z,6.3nm,0.8s							
PKM	Mcpherson Peak	83.35	56	P	P	13 05 59.0	+0.6	
	baz=288							
NVAR	Mina Array Bea	83.41	52	P	P	13 05 59.1	+0.5	
	baz=268,slow=5.8,SNR=147							
NV11	Mina Array Sit	83.52	52	IAmb	IAmb	13 06 00.4		
	comp=Z,8.1nm,0.8s							
SBC	Santa Barbara	83.57	56	P	P	13 06 00.3	+1.1	
	baz=288							
MFID	Camas Ranch	83.58	46	IAmb	IAmb	13 06 00.5		
	comp=Z,6.8nm,0.8s							
MSO	Missoula	83.67	43	P	P	13 05 59.8	+0.2	
	baz=290							
DSP	Deep Springs	83.99	53	IAmb	IAmb	13 06 02.5		
	comp=Z,4.0nm,0.7s							
ISA	Isabella, Lake	84.15	54	P	P	13 06 01.8	-0.4	
	baz=289							
CWC	Cottonwood Cre	84.21	54	P	P	13 06 02.3	-0.3	
	baz=289							
HLID	Hailey	84.49	46	P	P	13 06 04.0	+0.1	
	baz=290							
GMN	Gold Mountain	84.55	53	IAmb	IAmb	13 06 05.5		
	comp=Z,8.6nm,0.7s							
GRAC	Grapevine Rang	84.57	53	P	P	13 06 05.0	+0.8	
	baz=289							
EDW2	Edwards Air Fo	84.77	55	P	P	13 06 05.5	+0.2	
	baz=289							
MPMC	Manual Prospec	84.78	54	P	P	13 06 05.5	0.0	
	baz=289							
LRMC	Laurel Mtn Rad	84.82	54	P	P	13 06 06.7	+1.0	
	baz=289							
FURC	Furnace Creek,	85.13	53	P	P	13 06 07.5	+0.6	
	baz=289							
TPNV	Topopah Spring	85.43	53	P	P	13 06 09.3	+0.6	
	baz=290							
R11B	Troy Canyon, C	85.45	51	P	P	13 06 10.0	+1.2	
	baz=290							
GSC	Goldstone, Bar	85.56	54	P	P	13 06 09.6	+0.4	
	baz=290							
BOZ	Bozeman (W)	85.61	43	P	P	13 06 09.8	+0.4	
	baz=292							
EGMT	Eagleton	85.87	41	P	P	13 06 11.4	+0.8	
	baz=293							
HEC	Hector,Ludlow	86.08	55	P	P	13 06 12.5	+0.7	
	baz=290							
PFO	Pinyon Flats O	86.39	56	P	P	13 06 13.1	-0.3	
	baz=290							
TPFO	Pinon Flats	86.40	56	P	P	13 06 13.2	-0.3	
	baz=290							
GMRC	Granite Mounta	86.62	55	P	P	13 06 15.1	+0.7	
	baz=290							
BELC	Belle Mtn. Jos	86.62	55	P	P	13 06 14.7	+0.2	
	baz=290							
H17A	Grant Village	86.77	44	P	P	13 06 17.3	+2.1	
	baz=293							
DUG	Dugway, Tooele	86.81	49	P	P	13 06 15.7	+0.4	
	baz=292							
FINES	FINESS Array B	86.89	335	P	P	13 06 13.0	-2.0	
	comp=Z,1.6nm,0.3s,baz=71,slow=4.7,SNR=16							
	comp=Z,1.6nm,0.3s							
BC3	Big Chuckawall	87.17	56	P	P	13 06 16.8	-0.3	
	baz=290							
IRM	Iron Mountain	87.23	55	P	P	13 06 17.3	-0.1	
	baz=290							
GLA	Glamis	87.87	56	P	P	13 06 20.8	+0.5	
	baz=291							
PDMCI	Parker Dam,Lak	87.96	55	P	P	13 06 21.4	+0.7	
	baz=291							
BW06	Boulder Array	88.08	45	P	P	13 06 21.0	-0.4	
	baz=294							
PDAR	Pinedale Array	88.08	45	P	P	13 06 20.9	-0.6	
	comp=Z,1.3nm,0.5s,baz=144,slow=0.9,SNR=34							
	comp=Z,1.3nm,0.5s							
LAO	LASA Array	88.61	41	P	P	13 06 24.1	+0.5	
	baz=296							
WUAZ	Wupatki	89.62	53	P	P	13 06 29.9	+1.2	
	baz=293							
214A	Organ Pipe Nat	89.85	56	P	P	13 06 30.4	+0.7	
	baz=292							
O20A	White River Ci	90.06	47	P	P	13 06 31.2	+0.5	
	baz=294							
K22A	Casper	90.17	45	P	P	13 06 32.0	+0.9	
	baz=296							
W18A	Petrified Fore	91.01	52	P	P	13 06 36.3	+1.1	
	baz=294							
MVCO	Mesa Verde	91.08	50	P	P	13 06 35.4	-0.1	
	baz=294							
RSSD	Black Hills	91.14	42	P	P	13 06 35.5	-0.1	
	baz=297							
TUC	Tucson	91.31	55	P	P	13 06 36.8	+0.4	
	baz=293							
N23A	Red Feather La	91.32	46	P	P	13 06 36.9	+0.3	
	baz=296							
ISCO	Idaho Springs	92.03	47	P	P	13 06 40.9	+1.0	
	baz=296							
S22A	4UR Ranch, Cre	92.06	49	P	P	13 06 40.7	+0.6	
	baz=295							
HFS	Hagfors	92.41	338	P	P	13 06 39.2	-1.7	
	comp=Z,2.7nm,0.9s,baz=84,slow=7.4,SNR=5.2							
	comp=Z,2.7nm,0.9s							
SDCO	Great Sand Dun	93.01	49	P	P	13 06 44.5	0.0	
	baz=296							
ANMO	Albuquerque	93.53	51	P	P	13 06 47.2	+0.4	
	baz=296							
121A	Cookes Peak, D	93.54	54	P	P	13 06 47.9	+1.1	
	baz=295							
MNTX	Cornudas Mount	95.74	54	P	P	13 06 56.7	-0.1	
	baz=296							
TXAR	Lajitas Array	98.11	55	P	Pdif	13 07 07.4	-0.2	
	comp=Z,0.1nm,0.3s,baz=307,slow=3.3,SNR=1.6							
	comp=Z,0.1nm,0.3s							
PLCA	Paso Flores	142.10	133	PKhKP	PKPpre	13 12 54.9		
	comp=Z,0.7nm,0.7s,baz=234,slow=8.7,SNR=1.4							
LPAZ	La Paz	147.92	91	PKPbc	PKiKP	13 13 16.0	-1.7	
	baz=313,slow=3.4,SNR=12							
CPUP	Villa Florida	157.61	114	PKPab	PKPab	13 13 59.5	+0.4	
	baz=264,slow=5.0,SNR=4.3							

*JMA **25** 13:18:20.8±0.1,24°.8N±0°.9×122°.5E±0°.3,h123km±1km,*
MV2.3/15,NW OFF ISHIGAKIJIMA IS
*TAP **25** 13:18:20.5,24°.85N×122°.45E,h127km,ML3.1,D*
ISC 25 13:18:21.2±1.5,24°.80N±0°.05×122°.48E±0°.03,h121km±8km,
n95,σ0°75/158,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.44	211	*i* P	Pn	13 18 39.1	+0.3
EOS2	baz=207			*e*S	Sn	13 18 53.6	+1.5
TWB1	Santiao Chiao	0.49	295	P	Pn	13 18 39.4	+0.1
TWB1	baz=284			*e*S	Sn	13 18 51.3	-1.6
EOS3	EOS3	0.53	196	*i* P	Pn	13 18 39.9	+0.5
EOS3	baz=202			*e*S	Sn	13 18 54.9	+1.9
JYNG	Yonagunijimaku	0.55	129	P	Pn	13 18 39.4	-0.2
JYNG				*e*S	Sn	13 18 53.5	0.0
YOJ	Yonaguni jima	0.59	125	*e*P	Pn	13 18 39.7	-0.2
YOJ				S	Sn	13 18 54.1	+0.1
TWC	Suao	0.60	252	*i* P	Pn	13 18 39.7	-0.3
TWC	baz=244			*e*S	Sn	13 18 53.6	-0.5
SXI1	Grass Mountain	0.62	298	*i* P	Pn	13 18 40.2	0.0
SXI1	baz=295			*e*S	Sn	13 18 54.4	-0.2
EOS4	EOS4	0.69	192	P	Pn	13 18 40.1	-0.2
EOS4	baz=196			S	Sn	13 18 54.6	+0.1
NDS	Dongshan	0.71	257	*i* P	Pn	13 18 40.9	0.0
NDS	baz=250			S	Sn	13 18 55.4	-0.2
EWUT	Wuta	0.73	241	*i* P	Pn	13 18 41.0	0.0
EWUT	baz=237			S	Sn	13 18 55.7	-0.1
TWE	Neicheng	0.74	264	*i* P	Pn	13 18 41.0	0.0
TWE	baz=260			*e*S	Sn	13 18 56.1	+0.1
ENA	Nanau	0.77	241	P	Pn	13 18 41.3	0.0
ENA	baz=235			S	Sn	13 18 56.4	0.0
FUSB	Fushanzhiwuyua	0.81	267	*i* P	Pn	13 18 41.5	-0.3
FUSB	baz=269			S	Sn	13 18 56.3	-0.9
ENTT	Nioudou	0.85	259	P	Pn	13 18 42.2	+0.3
ENTT	baz=257			*e*S	Sn	13 18 58.7	+1.0
NHDH	Xindian Distri	0.88	281	*i* P	Pn	13 18 42.0	-0.3
NHDH	baz=278			S	Sn	13 18 57.0	-1.1
NWLT	Wulai	0.89	269	*i* P	Pn	13 18 42.0	-0.3
NWLT	baz=269			S	Sn	13 18 58.8	+0.4
NDT	Datong Townshi	0.90	258	*i* P	Pn	13 18 42.8	+0.4
NDT	baz=256			*i* S	Sn	13 18 59.0	+0.6
LATG	Datong	0.91	253	*i* P	Pn	13 18 42.8	+0.1
LATG	baz=245			S	Sn	13 18 59.3	+0.5
ETL	Fush Village	1.01	231	*i* P	Pn	13 18 42.9	-0.6
ETL	baz=223			*e*S	Sn	13 19 00.0	-0.3
TWS1	Kuangyinshan	1.01	288	*e*P	Pn	13 18 43.5	+0.1
TWS1	baz=285			*e*S	Sn	13 19 00.3	0.0
YHNB	Yeheng	1.01	263	*i* P	Pn	13 18 43.5	0.0
YHNB	baz=265			*i* S	Sn	13 19 00.4	-0.1
NACB	Ninganchiao	1.02	233	*i* P	Pn	13 18 43.0	-0.6
NACB	baz=225			*e*S	Sn	13 18 59.9	-0.5
NSK	Sanguang	1.03	263	*i* P	Pn	13 18 43.7	0.0
NSK	baz=266			S	Sn	13 19 00.6	-0.1
NNSB	Datong	1.06	250	*i* P	Pn	13 18 44.3	+0.2
NNSB	baz=243			S	Sn	13 19 01.9	+0.4
NNS	Nan Shan	1.07	251	P	Pn	13 18 44.3	+0.1
NNS	baz=247			S	Sn	13 19 01.8	+0.2
TWD	Chiawan	1.08	229	*e*P	Pn	13 18 43.6	-0.6
TWD	baz=224			*e*S	Sn	13 19 01.8	+0.3
ETLH	Xiulin Townshi	1.08	237	*i* P	Pn	13 18 43.9	-0.4
ETLH	baz=228			*e*S	Sn	13 19 00.9	-0.9
HWA	Hwalien	1.14	224	*e*P	Pn	13 18 45.1	+0.3
NCU	National Centr	1.19	279	*e*S	Sn	13 19 04.7	+1.2
NCUH	Zhongli	1.19	278	*e*S	Sn	13 19 04.3	+0.8
ETM	Tongmen	1.23	228	*i* P	Pn	13 18 45.0	-0.7
ETM	baz=233			*e*S	Sn	13 19 03.2	-1.0
IRIF	Iriomote-Funau	1.23	112	P	Pn	13 18 45.5	-0.2
IRIF				*e*S	Sn	13 19 04.0	-0.3
LXIB	Xiulin Townshi	1.24	232	*i* P	Pn	13 18 45.1	-0.9
NFF	Wufeng Townshi	1.25	263	*i* P	Pn	13 18 45.8	-0.3
NFF	baz=260			S	Sn	13 19 04.4	-0.4
WHF	Hehuan Shan	1.28	240	P	Pn	13 18 46.7	-0.1
WHF	baz=232			*e*S	Sn	13 19 06.2	0.0
TWT	Tachien	1.31	246	S	Sn	13 19 06.6	+0.5
TDCB	Techi	1.32	246	*i* P	Pn	13 18 47.5	+0.6
TDCB	baz=243			S	Sn	13 19 06.3	0.0
LIOB	Emei	1.34	264	*i* P	Pn	13 18 46.9	-0.1
LIOB	baz=261			S	Sn	13 19 06.1	-0.4
NSTT	Nanjuang	1.36	263	*e*P	Pn	13 18 47.2	0.0
NSTT	baz=261			*e*S	Sn	13 19 06.4	-0.4
ESL	Shilin	1.37	224	*i* P	Pn	13 18 46.2	-1.1
CHGB	Renai	1.40	239	P	Pn	13 18 48.0	+0.1
CHGB	baz=231			*e*S	Sn	13 19 08.2	+0.2
HATJ	Hateruma jima	1.42	121	*e*P	Pn	13 18 47.9	+0.2
HATJ				S	Sn	13 19 07.9	0.0
OWD	Renai	1.46	235	P	Pn	13 18 48.4	0.0
OWD	baz=229			*e*S	Sn	13 19 09.3	+0.3
WARBT	Fenglin Townsh	1.47	223	*i* P	Pn	13 18 47.1	-1.3
WARBT	baz=226			*e*S	Sn	13 19 07.9	-1.2
EGFH	Guangfu	1.48	221	*e*P	Pn	13 18 47.6	-0.9
WUSB	Renai	1.48	237	*i* P	Pn	13 18 48.9	+0.2
WHP	Taichung City	1.49	250	*i* P	Pn	13 18 49.2	+0.5
WHP	baz=255			S	Sn	13 19 09.8	+0.2
JKRS	Kuro-shima	1.50	112	P	Pn	13 18 48.9	+0.1
JKRS				*e*S	Sn	13 19 09.7	+0.1
NMLH	Miaoli	1.56	261	*i* P	Pn	13 18 49.6	+0.1
NMLH	baz=259			*i* S	Sn	13 19 10.7	-0.2
JIJ	Ishigaki jima	1.57	106	P	Pn	13 18 49.3	-0.3
JIJ				S	Sn	13 19 10.8	-0.4
VWDT	VWDT	1.60	230	*i* P	Pn	13 18 50.0	0.0
VWDT	baz=224			*e*S	Sn	13 19 12.7	+0.8
WCS	Beigang Elemen	1.61	243	P	Pn	13 18 50.9	+0.8
WCS	baz=248			S	Sn	13 19 12.5	+0.6
TWQ1	Liyutan	1.62	254	*e*P	Pn	13 18 50.3	+0.2
TWQ1	baz=252			*e*S	Sn	13 19 12.0	-0.2
HGSD	Ruisui	1.62	217	*i* P	Pn	13 18 49.5	-0.6
HGSD	baz=211			S	Sn	13 19 11.8	-0.3
EHY	Hungye	1.67	220	*e*P	Pn	13 18 49.5	-1.2
JISG	Ishigakijimahi	1.68	97	P	Pn	13 18 50.7	-0.1
JISG				S	Sn	13 19 12.7	-0.7
SMLT	Sun Moon Lake	1.71	238	P	Pn	13 18 52.1	+0.8
SMLT	baz=233			*e*S	Sn	13 19 16.3	+2.1
SSLB	Suanglung	1.72	234	P	Pn	13 18 52.0	+0.6
SSLB	baz=229			*e*S	Sn	13 19 15.5	+1.2
WDJ	Dajia District	1.73	255	S	Sn	13 19 14.5	-0.1
YULB	Yu-li	1.77	218	P	Pn	13 18 50.5	-1.5
EYUL	Yuli	1.79	217	P	Pn	13 18 51.6	-0.7
EYUL	baz=222			*e*S	Sn	13 19 16.8	+0.9
TWF1	Yuli	1.80	217	P	Pn	13 18 51.5	-0.8
WHYT	Xinyi Township	1.85	234	*i* P	Pn	13 18 53.6	+0.7
WHYT	baz=224			*e*S	Sn	13 19 18.2	+1.1
WJS	Zhushan	1.87	239	*i* P	Pn	13 18 53.7	+0.5
WJS	baz=237			*e*S	Sn	13 19 19.6	+2.0
WNT	Mingjian	1.88	241	*e*P	Pn	13 18 53.9	+0.6
WNT	baz=239			*e*S	Sn	13 19 18.6	+0.9
WCHH	Zhanghua	1.89	248	*e*P	Pn	13 18 52.9	-0.5
FULB	Fuli	1.93	215	*i* P	Pn	13 18 53.5	-0.4
CHKT	Chengkung	1.98	211	*e*P	Pn	13 18 53.5	-1.0
ALS	Alishan	2.00	230	P	Pn	13 18 55.5	+0.5
ALS	baz=222			*e*S	Sn	13 19 23.3	+2.5
EHD	Haiduan	2.01	216	*e*P	Pn	13 18 53.3	-1.6
EHD	baz=214			*e*S	Sn	13 19 20.8	0.0
JTJ	Tarama	2.03	94	P	Pn	13 18 55.5	+0.4
JTJ				S	Sn	13 19 21.2	+0.3
CHN5	Tsauling	2.04	234	*e*P	Pn	13 18 55.6	+0.3
CHN5	baz=232			*e*S	Sn	13 19 21.7	+0.4
ECS	Chishang	2.05	214	*e*P	Pn	13 18 54.9	-0.5
ELDTW	Lidau	2.09	220	P	Pn	13 18 55.1	-0.9
WRL	Guolierlin Hig	2.12	245	*e*P	Pn	13 18 55.8	-0.4
WRL	baz=244			*e*S	Sn	13 19 23.0	0.0
WCKO	Fanlu	2.19	232	*e*P	Pn	13 18 58.8	+1.7

baz=230
WCKO eS **Sn** **13 19 26.5 +2.0**
baz=230
WTK Tuku 2.21 240 eP **Pn** **13 18 57.2 -0.2**
baz=238
WTK eS **Sn** **13 19 24.7 -0.3**
baz=238
CHN4 Tsaushan 2.25 231 P **Pn** **13 18 58.1 +0.2**
baz=237
CHN4 eS **Sn** **13 19 26.2 +0.2**
baz=237
STYH Taoyuan 2.25 224 eP **Pn** **13 18 58.4 +0.5**
baz=222
LONT Longtian 2.25 214 eP **Pn** **13 18 56.8 -1.2**
baz=212
TPUB Ta-pu 2.26 229 eP **Pn** **13 18 58.2 +0.2**
baz=237
WTP Ta-pu 2.30 228 eP **Pn** **13 18 58.7 +0.1**
baz=237
TWGBT Beinan 2.35 213 eP **Pn** **13 18 58.1 -1.2**
baz=211
TWG Pinlang 2.35 214 eP **Pn** **13 18 58.2 -1.1**
baz=211
TWK Hsinying 2.38 230 eP **Pn** **13 19 00.1 +0.5**
baz=238
SNST Tainan City 2.40 229 eP **Pn** **13 18 59.5 -0.3**
baz=236
CHN1 Nanshi 2.40 228 eP **Pn** **13 18 59.9 0.0**
baz=236
SGST Jiashian 2.44 226 eP **Pn** **13 18 59.7 -0.6**
baz=224
SLGT Liugui 2.46 223 eP **Pn** **13 19 01.1 +0.5**
baz=229
JMJ2 Miyako jima3 2.59 91 P **Pn** **13 19 02.7 +0.5**
JMJ2 S **Sn** **13 19 34.0 +0.3**
SCST Cishan 2.63 224 eP **Pn** **13 19 03.4 +0.6**
baz=228
TSMG Majia 2.68 219 eP **Pn** **13 19 03.8 +0.4**
baz=217
TSCK Chigu Township 2.74 234 eP **Pn** **13 19 04.0 -0.2**
baz=232
MASBT Mashibuluo 2.76 218 eP **Pn** **13 19 05.0 +0.5**
baz=216
PHUB P'eng-hu 2.95 245 eP **Pn** **13 19 05.5 -1.5**
baz=243
PHUB eS **Sn** **13 19 39.2 -2.9**
baz=243

IDC 25 13:21:38.4±4.6, 5°.74S×147°.87E, h187km±50km, mb3.0/2, mbtmp3.5/4, MS3.3/1, Error ellipse: s-maj=98.6km s-min=30.1km az=130.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**191**	P	Pn	13 22 38.1	+1.9
	30nm,0.3s,baz=2.4,slow=5.6,SNR=43						
PMG				S	Sn	13 23 20.5	-1.0
	15nm,0.7s,baz=15,slow=7.8,SNR=1.3						
WRA	**Warramunga Arr**	**19.30**	**222**	P	P	13 25 49.4	+0.1
	0.7nm,0.7s,baz=49,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.32**	**216**	P	P	13 26 21.8	+0.8
	0.8nm,0.7s,baz=46,slow=8.9,SNR=6.9						
	0.8nm,0.7s						
DAV	**Davao City (W)**	**25.62**	**299**	LR	LR	13 37 11.2	
	comp=Z,65nm,19.2s,baz=346,slow=36						
ILAR	**Eielson Array**	**84.90**	**23**	P	P	13 33 51.9	-0.1
	0.5nm,0.9s,baz=227,slow=4.7,SNR=4.9						
	0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**145.86**	**285**	PKPbc	PKPdf	13 40 54.8	-1.1
	baz=57,slow=4.9,SNR=4.0						

---

*IDC **25** 13:27:22.9±1.2, 18°.63N×122°.36E, h0km, mb3.3/6, mbtmp3.3/7, ML3.3/1, MS3.3/2, Error ellipse: s-maj=43.8km s-min=20.1km az=68.0*

ISC 25 13:27:26.9±1.2, 18°.6N±0°.1×122°.4E±0°.2, h27km, n13, σ0°64/7, mb3.3/6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**19.37**	**13**	P	**P**	**13 31 50.4**	**0.0**
	0.1nm,0.3s,baz=207,slow=13,SNR=1.9						
KSRS				LR	LR	13 39 51.5	
	comp=Z,51nm,18.8s,baz=245,slow=39						
	0.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.20**	**273**	P	**P**	**13 32 21.1**	**-0.2**
	0.2nm,0.4s,baz=83,slow=7.4,SNR=1.6						
	0.2nm,0.4s						
SONM	**Songino Array**	**31.90**	**339**	P	**P**	**13 33 49.9**	**-0.2**
	0.3nm,0.5s,baz=152,slow=6.5,SNR=1.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**40.10**	**162**	P	**P**	**13 35 00.7**	**+0.3**
	0.4nm,0.9s,baz=344,slow=9.1,SNR=2.4						
	0.4nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**41.93**	**83**	T	T	14 20 17.2	
	baz=278,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**41.94**	**83**	T	T	14 20 15.8	
	baz=278,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**41.95**	**83**	T	T	14 20 15.6	
	baz=278,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**41.98**	**81**	T	T	14 20 17.6	
	baz=276,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hy**	**41.98**	**81**	T	T	14 20 19.7	
	baz=276,slow=75,SNR=25						
H11N3	**WAKE ISLAND Hy**	**42.00**	**81**	T	T	14 20 22.3	
	baz=276,slow=75,SNR=15						
MKAR	**Makanchi Array**	**43.17**	**320**	P	**P**	**13 35 26.4**	**+1.1**
	0.8nm,0.9s,baz=112,slow=10,SNR=2.5						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**43.53**	**165**	P	**P**	**13 35 28.1**	**-0.3**
	0.3nm,0.7s,baz=344,slow=6.5,SNR=10						
ASAR				LR	LR	13 54 10.4	
	comp=Z,60nm,18.8s,baz=340,slow=37						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**47.11**	**323**	P	**P**	**13 35 56.0**	**-0.5**
	0.3nm,0.3s,baz=124,slow=6.7,SNR=4.6						
	0.3nm,0.3s						

---

*IDC **25** 13:37:08.3±8.1, 18°.54N×108°.12W, h0km, mb3.3/4, mbtmp3.4/6, ML3.0/1, MS3.8/4, Error ellipse: s-maj=134.3km s-min=24.2km az=147.0*

ISC 25 13:37:13.7±6.1, 18°.6N±0°.6×108°.2W±0°.4, h35km, n15, σ0°87/9, mb3.3/4, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**2.56**	**274**	Pn	**Pn**	**13 37 51.6**	**-1.1**
H06E1				T	T	13 40 12.8	
	SNR=376						
H06S1	**SOCORRO T**	**2.58**	**273**	Pn	**Pn**	**13 37 52.8**	**-0.3**
H06S1				T	T	13 40 13.4	
	SNR=54						
H06N1	**SOCORRO T-PHAS**	**2.62**	**275**	Pn	**Pn**	**13 37 53.9**	**+0.4**
H06N1				T	T	13 40 18.3	
	SNR=22						
TXAR	**Lajitas Array**	**11.44**	**21**	Pn	**Pn**	**13 39 54.1**	**-0.7**
	1.7nm,0.8s,baz=200,slow=13,SNR=16						
ANMO	**Albuquerque**	**16.33**	**5**	Pn	**Pn**	**13 40 59.5**	**-1.0**
	0.1nm,0.3s,baz=205,slow=17,SNR=1.5						
	0.5nm,0.4s						
PFO	**Pinyon Flats O**	**16.64**	**335**	LR	LR	13 45 51.5	
	comp=Z,174nm,20.0s,baz=173,slow=31						
TEIG	**Tepich**	**18.89**	**82**	LR	LR	13 49 54.7	
	comp=Z,911nm,19.9s,baz=168,slow=41						
NVAR	**Mina Array Bea**	**21.59**	**338**	P	**P**	**13 42 01.3**	**+0.5**
	0.9nm,0.9s,baz=156,slow=13,SNR=7.3						
NVAR				LR	LR	13 49 00.2	
	comp=Z,113nm,19.5s,baz=104,slow=33						
	0.9nm,0.9s						
ELK	**Elko**	**22.85**	**346**	P	**P**	**13 42 15.0**	**+0.8**
	1.0nm,0.8s,baz=150,slow=20,SNR=4.1						
	1.0nm,0.8s						
PDAR	**Pinedale Array**	**24.09**	**358**	P	**P**	**13 42 26.6**	**+0.4**
	0.6nm,0.8s,baz=158,slow=9.6,SNR=5.3						
	0.6nm,0.8s						
DLBC	**Dease Lake**	**42.85**	**343**	LR	LR	14 01 50.0	
	comp=Z,91nm,18.1s,baz=222,slow=34						
ILAR	**Eielson Array**	**52.83**	**340**	P	**P**	**13 46 26.2**	**+0.7**
	0.5nm,0.6s,baz=144,slow=6.9,SNR=6.6						
	0.5nm,0.6s						
H03N2	**Juan Fernandez**	**58.85**	**151**	T	T	14 51 52.2	
	baz=329,slow=78,SNR=28						
H03N1	**Juan Fernandez**	**58.86**	**151**	T	T	14 51 51.7	
	baz=329,slow=78,SNR=30						
H03N3	**Juan Fernandez**	**58.87**	**151**	T	T	14 51 51.7	
	baz=329,slow=78,SNR=25						

---

*ROM **25** 13:55:38.6±0.1, 44°.223N×10°.005×10°.645E±0°.006, h17km±1km, ML1.1/8, Error ellipse: s-maj=0.6km s-min=0.1km az=178.0*

GEN 25 13:55:38.5, 44°.23N×10°.66E, h16km±1km, Ml0.5, 1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSCL	**Gusciola**	**0.13**	**338**	P	Pb	13 55 42.8	+0.1
GSCL				S	Sb	13 55 45.9	+0.5
GSCL	**Gusciola**	**0.13**	**338**	P	Pb	13 55 42.7	+0.1
GSCL				S	Sb	13 55 45.7	+0.2
GSCL				AML	AML		
	comp=E,67μm,0.3s						
GSCL				AML	AML		
	comp=N,64μm,0.2s						
BDI	**Bagni Di Lucca**	**0.17**	**194**	P	Pb	13 55 43.2	-0.2
BDI				S	Sb	13 55 46.5	-0.1
BDI	**Bagni Di Lucca**	**0.17**	**194**	P	Pb	13 55 43.1	-0.2
BDI				S	Sb	13 55 46.5	0.0
SARO	**Sassorosso**	**0.19**	**256**	P	Pb	13 55 43.5	-0.1
SARO				S	Sb	13 55 47.0	-0.1
SARO	**Sassorosso**	**0.19**	**256**	P	Pb	13 55 43.6	-0.1
SARO				S	Sb	13 55 47.0	-0.1
SARO	**Sassorosso**	**0.19**	**256**	P	Pb	13 55 43.5	-0.2
SARO				S	Sb	13 55 46.9	-0.2
POPM	**Popiglio**	**0.20**	**158**	P	Pb	13 55 43.6	-0.1
POPM				S	Sb	13 55 47.4	+0.2
POPM	**Popiglio**	**0.20**	**158**	||P	Pb	13 55 43.6	-0.1
POPM				S	Sb	13 55 47.5	+0.2
POPM				AML	AML		
	comp=E,140μm,1.1s						
POPM				AML	AML		
	comp=N,204μm,1.3s						
POPM				AML	AML		
	comp=E,140μm,0.9s						
POPM				AML	AML		
	comp=N,204μm,0.7s						
VLC	**Villacollemand**	**0.21**	**250**	P	Pg	13 55 43.6	+0.2
VLC				S	Sg	13 55 47.0	+0.3
VLC	**Villacollemand**	**0.21**	**250**	P	Pb	13 55 43.9	0.0
VLC				S	Sg	13 55 47.0	+0.4
VLC	**Villacollemand**	**0.21**	**250**	P	Pb	13 55 43.7	-0.2
VLC				S	Sb	13 55 47.4	-0.1
VLC				AML	AML		
	comp=N,32μm,0.2s						
VLC				AML	AML		
	comp=E,36μm,1.1s						
VLC				AML	AML		
	comp=E,36μm,0.9s						
CARD	**Cardoso**	**0.24**	**212**	P	Pg	13 55 44.0	+0.2
CARD				S	Sb	13 55 48.6	+0.2
CARD	**Cardoso**	**0.24**	**212**	P	Pg	13 55 44.0	+0.1
CARD				S	Sb	13 55 48.6	+0.2
CARD	**Cardoso**	**0.24**	**212**	P	Pg	13 55 44.0	+0.2
CARD				S	Sb	13 55 48.4	0.0
CARD				AML	AML		
	comp=N,75μm,0.6s						
CARD				AML	AML		
	comp=E,93μm,1.4s						
CARD				AML	AML		
	comp=E,93μm,0.6s						
ZCCA	**Zocca**	**0.26**	**62**	P	Pb	13 55 45.5	+0.6
ZCCA				S	Sn	13 55 52.1	-1.3
ZCCA	**Zocca**	**0.26**	**62**	P	Pb	13 55 45.5	+0.6
ZCCA				S	Sn	13 55 52.1	-1.4
ZCCA	**Zocca**	**0.26**	**62**	P	Pb	13 55 45.5	+0.7
MTCR	**Monte La Croce**	**0.32**	**129**	P	Pg	13 55 45.5	+0.2
MTCR				S	Sb	13 55 50.6	-0.2
MTCR	**Monte La Croce**	**0.32**	**129**	P	Pg	13 55 45.5	+0.2
MTCR				S	Sb	13 55 50.6	-0.3
MAIM	**Mastiano**	**0.34**	**201**	P	Pb	13 55 45.8	-0.3
MAIM				S	Sg	13 55 50.7	+0.4
MAIM	**Mastiano**	**0.34**	**201**	P	Pb	13 55 45.8	-0.3
MAIM				S	Sg	13 55 50.7	+0.4
MAIM	**Mastiano**	**0.34**	**201**	P	Pg	13 55 45.7	+0.3
MAIM				S	Sb	13 55 50.8	-0.4
FNVD	**Fontana Vidola**	**0.34**	**100**	P	Pg	13 55 45.8	+0.2
FNVD				S	Sb	13 55 51.4	-0.1
EQUI	**Equi**	**0.37**	**260**	P	Pb	13 55 46.6	-0.1
EQUI				S	Sg	13 55 51.1	-0.1
MOCL	**Monte Cuccoli**	**0.44**	**120**	P	Pg	13 55 47.5	+0.2

IDC 25 14:02:11.7±2.7, 4°.59N×128°.02E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=192.2km s-min=30.5km az=67.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.16**	**166**	P	P	14 07 38.6	-0.3
	0.5nm,0.7s,baz=346,slow=11,SNR=3.8						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**28.67**	**169**	P	P	14 08 10.7	+0.2
	0.1nm,0.8s,baz=343,slow=11,SNR=1.5						
	0.1nm,0.8s						
MKAR	**Makanchi Array**	**57.60**	**324**	P	P	14 12 03.6	0.0
	0.1nm,0.4s,baz=135,slow=7.5,SNR=1.6						
	0.1nm,0.4s						

DJA 25 14:10:43.1±0.6, 3°.S±8°.×10°.2E±°, h90km±12km, M3.8/7, mb4.2/1, MLv3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.49**	**156**	P	Pn	14 11 09.4	+0.7
MNAI				S	Sn	14 11 27.9	-0.1
SDSI	**Sungai Dareh**	**2.25**	**335**	P	Pn	14 11 18.0	-0.6
PPSI	**Pulau Pagai**	**2.36**	**275**	P	Pn	14 11 19.7	-0.3
PDSI	**Padang**	**2.80**	**317**	P	Pn	14 11 25.8	-0.2
KASI	**Kota Agung**	**3.30**	**140**	P	Pn	14 11 33.4	+0.7
SISI	**Saibi**	**3.66**	**297**	P	Pn	14 11 37.1	-0.5
PBSI	**Pulau Batu**	**5.01**	**305**	P	Pn	14 11 55.9	0.0

---

*EAF **25** 14:18:48.7, 26°.62S×29°.76E, h10km, MC3.2*

BUL 25 14:18:50.8±1.2, 26°.55S×29°.59E, h10km, MD3.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.44**	**29**	*i* P	Pn	14 19 40.4	-4.0
MOPA				*i* S	Sn	14 20 19.7	-5.6
MOPA	**Mopani**	**3.44**	**29**	*i* P	Pn	14 19 40.4	-4.0
	baz=27						
MOPA				*i* S	Sn	14 20 19.7	-5.6
	baz=27						
LBTB	**Lobatse**	**3.91**	**292**	*i* P	Pn	14 19 50.2	-0.9
LBTB				*i* S	Sn	14 20 33.9	-3.1
LBTB	**Lobatse**	**3.91**	**292**	*i* P	Pn	14 19 50.2	-0.9
	baz=292						
LBTB				*i* S	Sn	14 20 33.9	-3.1
	baz=292						
MUSN	**Musina, Limpop**	**4.25**	**3**	*i* P	Pn	14 19 55.7	0.0
MUSN				*i* S	Sn	14 20 42.4	-3.1
MUSN	**Musina, Limpop**	**4.25**	**3**	*i* P	Pn	14 19 55.7	0.0
	baz=2.0						
MUSN				*i* S	Sn	14 20 42.4	-3.1
	baz=2.0						
BOSA	**Boshof**	**4.36**	**241**	*i* P	Pn	14 19 57.0	-0.2
BOSA				*i* S	Sn	14 20 45.1	-3.1
BOSA	**Boshof**	**4.36**	**241**	*i* P	Pn	14 19 57.0	-0.2
	baz=242						
BOSA				*i* S	Sn	14 20 45.1	-3.1
	baz=242						

IDC 25 14:29:36.9±1.6, 30°.09N×105°.07E, h0km, mb3.3/3, mbtmp3.3/4, MS3.4/1, Error ellipse: s-maj=66.8km s-min=28.4km az=57.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.85**	**207**	Pn	Pn	14 32 41.9	+1.0
	0.3nm,0.3s,baz=13,slow=17,SNR=6.3						
MKAR	**Makanchi Array**	**24.29**	**320**	P	P	14 34 56.0	+0.1
	0.5nm,0.8s,baz=128,slow=7.9,SNR=5.6						
	0.5nm,0.8s						
JCJ	**Chichijima**	**32.63**	**86**	LR	LR	14 49 54.6	
	comp=Z,57nm,18.9s,baz=20,slow=37						
WRA	**Warramunga Arr**	**57.17**	**147**	P	P	14 39 26.0	+0.3
	0.5nm,0.7s,baz=330,slow=8.0,SNR=7.5						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**60.19**	**149**	P	P	14 39 45.9	-0.9
	0.2nm,0.8s,baz=332,slow=7.2,SNR=1.6						
	0.2nm,0.8s						

IDC 25 15:03:51.6±4.7, 11°.87S×167°.05E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=235.5km s-min=32.3km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.42**	**252**	P	P	15 10 23.9	+0.2
	0.2nm,0.4s,baz=84,slow=8.8,SNR=5.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**33.59**	**245**	P	P	15 10 33.6	-0.3
	0.3nm,0.5s,baz=68,slow=9.4,SNR=11						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**83.89**	**18**	P	P	15 16 23.0	0.0
	0.2nm,0.4s,baz=231,slow=5.7,SNR=7.7						
	0.2nm,0.4s						

IDC 25 15:04:02.6±13.0, 29°.11S×74°.74E, h0km, mb3.5/4, mbtmp3.5/4, MS3.6/2, Error ellipse: s-maj=364.3km s-min=41.5km az=142.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**21.46**	**354**	T	T	15 31 04.8	
	baz=175,slow=75,SNR=29						
H08S1	**Diego Carcia H**	**21.46**	**354**	T	T	15 31 03.9	
	baz=175,slow=75,SNR=18						
H08S3	**Diego Garcia H**	**21.48**	**354**	T	T	15 31 04.5	
	baz=175,slow=75,SNR=44						
H04N2	**CROZET ISLANDS**	**24.76**	**220**	T	T	15 35 11.1	
	baz=55,slow=74,SNR=448						
H04N1	**CROZET ISLANDS**	**24.77**	**220**	T	T	15 35 17.8	
	baz=55,slow=74,SNR=557						
H04N3	**CROZET ISLANDS**	**24.77**	**220**	T	T	15 35 11.2	
	baz=55,slow=74,SNR=433						
H04S1	**CROZET ISLANDS**	**25.09**	**219**	T	T	15 35 38.8	
	baz=53,slow=75,SNR=26						
H04S3	**CROZET ISLANDS**	**25.11**	**219**	T	T	15 35 38.5	
	baz=53,slow=75,SNR=53						
H04S2	**CROZET ISLANDS**	**25.11**	**219**	T	T	15 35 40.1	
	baz=53,slow=75,SNR=41						
H01W2	**Cape Leeuwin H**	**33.75**	**110**	T	T	15 46 07.4	
	baz=268,slow=74,SNR=30						
H01W3	**Cape Leeuwin H**	**33.75**	**110**	T	T	15 46 07.5	
	baz=268,slow=74,SNR=38						
H01W1	**Cape Leeuwin H**	**33.76**	**110**	T	T	15 46 08.6	
	baz=268,slow=74,SNR=32						
LEM	**Lembang**	**38.10**	**61**	LR	LR	15 22 14.6	
	comp=Z,48nm,21.0s,baz=128,slow=29						
ASAR	**Alice Springs**	**52.81**	**99**	P	P	15 13 20.4	+0.3
	0.3nm,0.6s,baz=250,slow=7.3,SNR=6.7						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**54.50**	**95**	P	P	15 13 32.4	-0.1
	0.2nm,0.5s,baz=249,slow=7.5,SNR=2.6						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**56.84**	**111**	P	P	15 13 48.6	-0.5
	1.4nm,0.8s,baz=271,slow=4.4,SNR=3.8						
	1.4nm,0.8s						
QSPA	**South Pole Qui**	**61.03**	**180**	P	P	15 14 17.8	0.0
	0.7nm,0.9s,baz=347,slow=2.0,SNR=7.2						
	0.7nm,0.9s						
URZ	**Urewera**	**81.32**	**129**	LR	LR	15 43 38.6	
	comp=Z,50nm,18.9s,baz=32,slow=29						

PGC 25 15:07:47.5±2.2, 50°.35N×130°.21W, h10km, MLSn3.1/15, Mw3.7/15, 201km west of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.36**	**77**	Pn	Pn	15 08 10.5	-2.0
HOLB				Sn	Sb	15 08 26.6	-3.8
PACB	**Port Alice, BC**	**1.74**	**86**	Pn	Pn	15 08 15.6	-2.2
PACB				Sn	Sn	15 08 35.6	-4.4
PHC	**Port Hardy**	**1.81**	**78**	Pn	Pn	15 08 17.0	-1.7
PHC				Sn	Sn	15 08 38.0	-3.7
HG4B	**Hotspring**	**2.04**	**343**	Pn	Pn	15 08 19.5	-2.4
HG4B				Sn	Sn	15 08 44.3	-3.2
EDB	**Eliza Dome**	**2.04**	**102**	Pn	Pn	15 08 19.7	-2.2
EDB				Sn	Sn	15 08 43.5	-4.0
BBB	**Bella Bella**	**2.26**	**35**	Pn	Pn	15 08 23.6	-1.3
BBB				Sn	Sn	15 08 48.5	-4.2
WOSB	**Woss**	**2.34**	**93**	Pn	Pn	15 08 24.8	-1.4
WOSB				Sn	Sn	15 08 52.2	-2.8
BNB	**Barry Inlet**	**2.43**	**337**	Pn	Pn	15 08 26.0	-1.3
BAIB	**Barry Inlet**	**2.43**	**337**	Pn	Pn	15 08 25.9	-1.4
NCRB	**Newcastle Ridg**	**2.66**	**87**	Pn	Pn	15 08 29.4	-1.2
NCRB				Sn	Sn	15 08 59.7	-3.2
GDR	**Gold River**	**2.75**	**100**	Pn	Pn	15 08 29.8	-1.8
BUTB	**Butedale**	**2.92**	**21**	Pn	Pn	15 08 33.4	-0.7
BUTB				Sn	Sn	15 09 06.8	-2.6
BNKB	**Banks Island**	**2.99**	**4**	Pn	Pn	15 08 33.4	-1.6
BNKB				Sn	Sn	15 09 07.3	-3.6
GRIB	**Gribbell Islan**	**3.06**	**12**	Pn	Pn	15 08 34.6	-1.3
GRIB				Sn	Sn	15 09 10.0	-2.7
BNAB	**Bonilla**	**3.16**	**355**	Pn	Pn	15 08 36.0	-1.3
BNAB				Sn	Sn	15 09 10.4	-4.5
DIB	**Dawson Inlet,**	**3.18**	**335**	Pn	Pn	15 08 35.9	-1.7
GRNB	**Grenville Isla**	**3.50**	**2**	Pn	Pn	15 08 40.8	-1.3
GRNB				Sn	Sn	15 09 20.0	-3.5
KITB	**Kitimat**	**3.85**	**14**	Pn	Pn	15 08 46.2	-0.6
KITB				Sn	Sn	15 09 30.0	-2.1
RUBB	**Prince Rupert**	**3.98**	**360**	Pn	Pn	15 08 47.5	-1.0
RUBB				Sn	Sn	15 09 33.0	-2.2
GOBB	**Galiano Island**	**4.57**	**105**	Pn	Pn	15 08 57.5	+0.8
UBRB	**Upper Baezaeko**	**4.59**	**54**	Pn	Pn	15 08 57.7	+0.7

---

*ANF **25** 15:17:47.5±0.4, 36°.28N×97°.49W, h5km, ML3.9/9, Error ellipse: s-maj=5.8km s-min=3.7km az=178.0*
*NEIC **25** 15:17:47.9±0.4, 36°.279N±0°.010×97°.50W±0°.01, h5km±3km, Error ellipse: s-maj=1.5km s-min=1.3km az=199.0*
*TUL **25** 15:17:48.2±0.5, 36°.282N±0°.010×97°.50W±0°.01, h7km±5km, ML3.1, mb_Lg3.1/89(NEIC), ML3.2/66(NEIC), Error ellipse: s-maj=1.4km s-min=1.4km az=210.0*

ISC 25 15:17:47.9±1.0, 36°.28N±0°.02×97°.51W±0°.02, h6km±9km, n120, σ0°63/101, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**301**		**Pg**	**15 17 56.8**	**+0.3**
CROK				Sg	**Sg**	**15 18 03.1**	**+0.8**
CROK				IAML		15 18 03.5	
	comp=E,2μm,0.4s						
OK048	**Pawnee Station**	**0.48**	**73**		**Pg**	**15 17 57.4**	**+0.2**
OK029	**Liberty Lake**	**0.48**	**175**		**Pg**	**15 17 57.6**	**+0.3**
OK029				Sg	**Sg**	**15 18 04.3**	**+0.7**
OK033	**Mehan**	**0.52**	**117**		**Pg**	**15 17 58.3**	**+0.3**
OK033				Sg	**Sg**	**15 18 05.3**	**+0.6**
OK033				IAML		15 18 06.7	
	comp=E,1μm,0.1s						
BLOK	**Blackwell**	**0.54**	**26**		**Pg**	**15 17 58.5**	**+0.2**
BLOK				Sg	**Sg**	**15 18 05.6**	**+0.3**
BLOK				IAML		15 18 14.4	
	comp=N,2μm,0.2s						
OK051	**E0350 and S346**	**0.59**	**67**		**Pg**	**15 17 59.4**	**+0.1**
OK051				Sg	**Sg**	**15 18 06.6**	**-0.4**
OK031	**S. Brethren Rd**	**0.63**	**121**		**Pg**	**15 18 00.4**	**+0.2**
OK031				Sg	**Sg**	**15 18 08.8**	**+0.4**
OK031				IAML		15 18 09.3	
	comp=N,2μm,0.3s						
OK031				IAML		15 18 09.3	
	comp=N,2μm,0.4s						
GC02	**Grant County #**	**0.64**	**334**	Pg	**Pg**	**15 18 00.3**	**+0.1**
GC02				Sg	**Sg**	**15 18 09.0**	**+0.5**
OK052	**Battle Ridge R**	**0.64**	**116**		**Pg**	**15 18 00.5**	**+0.2**
OK052				Sg	**Sg**	**15 18 09.0**	**+0.4**
OK052				IAML		15 18 09.4	
	comp=N,1μm,0.2s						
QUOK	**Quay**	**0.66**	**99**		**Pg**	**15 18 00.8**	**+0.1**
QUOK				Sg	**Sg**	**15 18 09.4**	**+0

KAN14	**Manchester OK**	**0.77 332**		**Pg**	**15 18 02.7**	**0.0**
KAN14			Sg	**Sg**	**15 18 13.5**	**+0.8**
KAN14			IAML		15 18 14.3	
	comp=N,1μm,0.1s					
OK032	**Salt Plains WL**	**0.77 313**		**Pg**	**15 18 02.8**	**0.0**
OK032			Sg	**Sg**	**15 18 12.8**	**0.0**
OK032			IAML		15 18 14.4	
	comp=N,1μm,0.1s					
KAN17	**Caldwell West**	**0.79 345**		**Pg**	**15 18 03.2**	**+0.1**
KAN17			IAML		15 18 23.0	
	comp=N,1μm,0.3s					
KAN09	**Caldwell North**	**0.86 354**		**Pg**	**15 18 04.3**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**0.87 176**		**Pg**	**15 18 04.5**	**-0.2**
OKCSW			IAML		15 18 19.9	
	comp=E,718nm,0.3s					
OKCSW			IAML		15 18 21.9	
	comp=N,1μm,0.5s					
KAN05	**Bluff City Nor**	**0.88 341**		**Pg**	**15 18 04.8**	**0.0**
KAN05			IAML		15 18 22.0	
	comp=N,861nm,0.2s					
KAN05			IAML		15 18 23.8	
	comp=E,982nm,0.1s					
KAN01	**Argonia South**	**0.90 347**		**Pg**	**15 18 05.0**	**-0.1**
DEOK	**Depew**	**0.93 118**		**Pg**	**15 18 05.5**	**-0.3**
DEOK			IAML		15 18 20.4	
	comp=E,826nm,0.3s					
KS20	**Mayfield South**	**0.95 358**		**Pg**	**15 18 06.0**	**-0.2**
KS20			IAML		15 18 24.1	
	comp=E,716nm,0.1s					
KS20			IAML		15 18 25.4	
	comp=E,749nm,0.1s					
KAN10	**Anthony SW Sta**	**0.96 331**		**Pg**	**15 18 06.2**	**-0.3**
KAN10			IAML		15 18 20.3	
	comp=E,857nm,0.1s					
KAN10			IAML		15 18 24.1	
	comp=N,821nm,0.1s					
KAN06	**Argonia West S**	**1.01 344**		**Pg**	**15 18 07.1**	**-0.2**
KAN06			IAML		15 18 21.2	
	comp=E,673nm,0.1s					
KAN06			IAML		15 18 21.5	
	comp=N,601nm,0.1s					
KS21	**Milan North St**	**1.01 353**	IAML		15 18 27.6	
	comp=N,593nm,0.1s					
KS21			IAML		15 18 29.6	
	comp=N,594nm,0.3s					
KS21	**Milan North St**	**1.01 353**		**Pg**	**15 18 07.2**	**-0.2**
OK038	**West end E0370**	**1.01 282**		**Pg**	**15 18 07.1**	**-0.3**
KAN08	**Anthony NE Sta**	**1.01 339**		**Pg**	**15 18 07.2**	**-0.2**
KAN08			IAML		15 18 25.7	
	comp=N,552nm,0.1s					
KAN08			IAML		15 18 27.7	
	comp=E,485nm,0.1s					
T35A	**Sooner Cattle**	**1.02 51**		**Pg**	**15 18 07.4**	**-0.2**
T35A			IAML		15 18 21.9	
	comp=N,645nm,0.3s					
T35B	**Sooner Cattle**	**1.02 51**	P	**Pg**	**15 18 07.4**	**-0.2**
	baz=232					
T35B			S	**Sg**	**15 18 20.8**	**-0.1**
	baz=232					
OK035	**E0210 Rd and N**	**1.06 294**		**Pg**	**15 18 07.9**	**-0.3**
OK035			IAML		15 18 25.0	
	comp=N,878nm,0.2s					
KAN12	**Harper NE Stat**	**1.09 339**		**Pg**	**15 18 08.5**	**-0.3**
KAN12			IAML		15 18 32.5	
	comp=E,804nm,0.4s					
CSTR	**Hydro, Custer**	**1.15 237**		**Pg**	**15 18 09.4**	**-0.5**
NOKA	**Waynoka**	**1.20 288**		**Pg**	**15 18 10.4**	**-0.6**
NOKA			IAML		15 18 33.7	
	comp=E,607nm,0.4s					
U32A	**Winter Ranch,**	**1.21 275**		**Pg**	**15 18 10.4**	**-0.7**
U32A			IAML		15 18 28.0	
	comp=N,513nm,0.1s					
U32A			IAML		15 18 30.9	
	comp=E,450nm,0.1s					
U32A	**Winter Ranch,**	**1.21 275**	P	**Pg**	**15 18 10.6**	**-0.6**
	baz=94					
U32A			S	**Sb**	**15 18 27.3**	**+0.2**
	baz=94					
TUL3	**Leonard**	**1.44 104**		**Pn**	**15 18 14.0**	**-0.5**
TUL3	**Leonard**	**1.44 104**	P	**Pn**	**15 18 14.3**	**-0.3**
	baz=286					
TUL3			S	**Sn**	**15 18 33.7**	**0.0**
	baz=286					
TUL3	**Leonard**	**1.44 104**	P	**Pn**	**15 18 14.1**	**-0.5**
	baz=286					
TUL3			S	**Sb**	**15 18 33.6**	**-0.2**
	baz=286					
ELIS	**Ellis County**	**1.56 263**		**Pn**	**15 18 16.3**	**+0.1**
X34A	**Smith Ranch, M**	**1.69 189**	Pg	**Pb**	**15 18 19.1**	**-0.4**
WMOK	**Wichita Mounta**	**1.85 214**	Pn	**Pn**	**15 18 21.0**	**+0.7**
WMOK	**Wichita Mounta**	**1.85 214**	P	**Pn**	**15 18 19.6**	**-0.7**
	baz=34					
WMOK			S	**Sn**	**15 18 45.0**	**+1.0**
	baz=34					
WMOK	**Wichita Mounta**	**1.85 214**	P	**Pn**	**15 18 21.0**	**+0.7**
	baz=34					
WMOK			S	**Sb**	**15 18 45.8**	**+0.1**
	baz=34					
RLO	**Rose Lookout**	**2.02 93**		**Pn**	**15 18 23.4**	**+1.0**
LOOK	**Love County**	**2.30 173**		**Pn**	**15 18 27.2**	**+0.9**
R32A	**Long County,**	**2.34 336**		**Pn**	**15 18 28.1**	**+1.1**
R32A	**Long County,**	**2.34 336**	P	**Pb**	**15 18 29.1**	**-1.5**
	baz=156					
R32A			S	**Sn**	**15 18 57.1**	**+1.0**
	baz=156					
X37A	**Clayton**	**2.43 133**		**Pn**	**15 18 29.0**	**+0.9**
X37A	**Clayton**	**2.43 133**	P	**Pn**	**15 18 29.2**	**+1.1**
	baz=315					
X37A			Sb	**Sg**	**15 19 03.9**	**-2.0**
	baz=315					
SMWD	**Samnorwood**	**2.51 243**	Pn	**Pn**	**15 18 30.3**	**+1.0**
SMWD			IAmb_Lg		15 19 09.5	
	comp=Z,55nm,0.8s					
U38A	**Gravette**	**2.53 85**		**Pn**	**15 18 30.7**	**+1.2**
U38A			IAmb_Lg		15 19 11.1	
	comp=Z,41nm,0.8s					
WTFS	**Witchita Falls**	**2.63 198**	Pn	**Pn**	**15 18 32.2**	**+1.4**
HHAR	**Hobbs**	**2.88 89**		**Pn**	**15 18 35.2**	**+0.7**
KSU1	**Kansas State U**	**2.91 14**		**Pn**	**15 18 35.5**	**+0.8**
Z35A	**Perchaven, San**	**2.95 176**	Pn	**Pn**	**15 18 33.8**	**-1.5**
CBKS	**Cedar Bluff**	**3.09 326**	Pn	**Pn**	**15 18 36.3**	**-0.9**
CBKS	**Cedar Bluff**	**3.09 326**	P	**Pn**	**15 18 37.1**	**-0.1**
	baz=144					
CBKS			S	**Sn**	**15 19 15.2**	**+0.7**
	baz=144					
FW03	**Perrin-Whitt E**	**3.26 188**	IAmb_Lg		15 19 32.8	
	comp=Z,20nm,0.7s					
FW06	**Azle**	**3.30 181**	Pn	**Pn**	**15 18 38.9**	**-1.2**
FW06			IAmb_Lg		15 19 40.7	
	comp=Z,14nm,0.7s					
PLPT	**Palo Pinto**	**3.52 191**	IAmb_Lg		15 19 42.4	
	comp=Z,13nm,0.8s					
FW07	**Weatherford**	**3.58 184**	IAmb_Lg		15 19 48.3	
	comp=Z,15nm,0.8s					
S39A	**Bolivar**	**3.64 66**	Pn	**Pn**	**15 18 44.5**	**-0.3**
S39A			IAmb_Lg		15 19 50.3	
	comp=Z,34nm,0.7s					
S39A	**Bolivar**	**3.64 66**	P	**Pn**	**15 18 45.4**	**+0.7**
	baz=248					
APMT	**Aspermont**	**3.65 217**	IAmb_Lg		15 19 47.7	
	comp=Z,17nm,0.7s					
MIAR	**Mount Ida**	**3.65 117**	Pn	**Pn**	**15 18 44.6**	**-0.3**
MIAR			IAmb_Lg		15 19 51.7	
	comp=Z,45nm,0.9s					
MIAR	**Mount Ida**	**3.65 117**	P	**Pn**	**15 18 44.7**	**-0.2**
	baz=300					
MIAR			S	**Sn**	**15 19 28.3**	**+0.1**
	baz=300					
MIAR	**Mount Ida**	**3.65 117**	P	**Pn**	**15 18 46.1**	**+1.2**
	baz=300					
MIAR			S	**Sn**	**15 19 28.7**	**+0.4**
	baz=300					
Z38A	**Mt. Pleasant**	**3.66 145**	Pn	**Pn**	**15 18 45.5**	**+0.5**
AMTX	**Amarillo**	**3.67 249**	IAmb_Lg		15 19 44.7	
	comp=Z,39nm,0.7s					
AMTX	**Amarillo**	**3.67 249**	P	**Pn**	**15 18 45.2**	**-0.2**
	baz=66					
AMTX			S	**Sn**	**15 19 30.3**	**+1.3**
	baz=66					
DKNS	**Dickens**	**3.83 228**	IAmb_Lg		15 19 52.8	
	comp=Z,20nm,0.8s					
FW14	**Alvarado**	**3.88 176**	IAmb_Lg		15 19 51.2	
	comp=Z,24nm,0.8s					
ABTX	**Abilene, Hawle**	**4.05 206**	IAmb_Lg		15 19 58.9	
	comp=Z,43nm,0.7s					
ABTX	**Abilene, Hawle**	**4.05 206**	P	**Pn**	**15 18 50.8**	**+0.3**
	baz=25					
ABTX			S	**Sn**	**15 19 38.5**	**+0.3**
	baz=25					
RTBA	**Rita Blanca**	**4.22 274**	IAmb_Lg		15 20 04.3	
	comp=Z,10nm,0.7s					
WHTX	**Lake Whitney,**	**4.28 179**	Pn	**Pn**	**15 18 53.9**	**+0.3**
WHTX	**Lake Whitney,**	**4.28 179**	P	**Pn**	**15 18 53.7**	**+0.2**
	baz=360					
WHTX			S	**Sn**	**15 19 44.4**	**+0.7**
	baz=360					
MGMO	**Mountain Grove**	**4.30 77**	IAmb_Lg		15 20 09.0	
	comp=Z,26nm,0.7s					
WHAR	**Wooly Hollow**	**4.36 102**	Pn	**Pn**	**15 18 54.4**	**-0.3**
WHAR			IAmb_Lg		15 20 13.1	
	comp=Z,42nm,0.9s					
FCAR	**Ozark Folk Cen**	**4.38 94**	IAmb_Lg		15 20 05.9	
	comp=Z,41nm,0.7s					
SN01	**Snyder 1**	**4.40 220**	IAmb_Lg		15 20 14.0	
	comp=Z,47nm,0.8s					
WLAR	**White Oak Lake**	**4.44 124**	IAmb_Lg		15 20 19.9	
	comp=Z,41nm,0.9s					
UALR	**University of**	**4.47 108**	IAmb_Lg		15 20 19.6	
	comp=Z,47nm,0.9s					
237A	**Washetta, Mont**	**4.50 161**	IAmb_Lg		15 20 17.6	
	comp=Z,22nm,0.7s					
P38A	**Dawn**	**4.59 42**	IAmb_Lg		15 20 15.5	
	comp=Z,55nm,0.8s					
POST	**Post**	**4.59 227**	IAmb_Lg		15 20 17.4	
	comp=Z,30nm,0.7s					
R40A	**Maddies Statio**	**4.64 63**	Pn	**Pn**	**15 18 58.1**	**-0.3**
KSCO	**Kaye Shedlock'**	**4.89 305**	IAmb_Lg		15 20 28.7	
	comp=Z,35nm,0.7s					
BRDY	**Brady**	**5.13 194**	Pn	**Pn**	**15 19 05.6**	**+0.3**
BRDY			IAmb_Lg		15 20 37.9	
	comp=Z,24nm,1.0s					
BGNE	**Belgrade**	**5.14 355**	P	**Pn**	**15 19 05.1**	**-0.4**
	baz=174					
LCAR	**Lake Charles**	**5.15 90**	IAmb_Lg		15 20 32.7	
	comp=Z,37nm,1.0s					
T42A	**Van Buren**	**5.21 80**	Pn	**Pn**	**15 19 05.8**	**-0.6**
T42A			IAmb_Lg		15 20 45.1	
	comp=Z,25nm,0.9s					
SGCY	**Sterling City**	**5.29 216**	IAmb_Lg		15 20 46.0	
	comp=Z,50nm,0.9s					
CCM	**Cathedral Cave**	**5.31 69**	Pn	**Pn**	**15 19 08.1**	**+0.4**
CCM			IAmb_Lg		15 20 35.8	
	comp=Z,30nm,0.7s					
CCM	**Cathedral Cave**	**5.31 69**	P	**Pn**	**15 19 07.6**	**-0.1**
	baz=252					
435B	**Jarrell**	**5.48 181**	IAmb_Lg		15 20 53.6	
	comp=Z,25nm,1.0s					
T25A	**Trinidad**	**5.61 281**	IAmb_Lg		15 20 56.9	
	comp=Z,28nm,0.8s					
T25A	**Trinidad**	**5.61 281**	P	**Pn**	**15 19 10.9**	**-1.1**
	baz=97					
OGNE	**Ogallala**	**5.85 324**	IAmb_Lg		15 21 02.6	
	comp=Z,37nm,0.8s					
FVM	**French Village**	**5.91 71**	IAmb_Lg		15 21 05.4	
	comp=Z,19nm,0.8s					
OZNA	**Ozona**	**6.14 210**	IAmb_Lg		15 21 16.7	
	comp=Z,26nm,0.9s					
CGM3	**Cape Girardeau**	**6.38 79**	IAmb_Lg		15 21 08.1	
	comp=Z,31nm,0.8s					
SCIA	**State Center**	**6.54 29**	IAmb_Lg		15 21 27.6	
	comp=Z,37nm,0.8s					
SDCO	**Great Sand Dun**	**6.56 285**	Pn	**Pn**	**15 19 25.0**	**-0.2**
SDCO			IAmb_Lg		15 21 18.2	
	comp=Z,20nm,1.1s					
MNHN	**Monahans**	**6.58 223**	IAmb_Lg		15 21 15.7	
	comp=Z,14nm,0.7s					
K30B	**Basset**	**6.59 346**	IAmb_Lg		15 21 35.0	
	comp=Z,26nm,0.8s					
SIUC	**Southern Illin**	**6.79 75**	IAmb_Lg		15 21 20.2	
	comp=Z,29nm,0.8s					
HNDO	**Hondo**	**6.89 193**	IAmb_Lg		15 21 30.2	
	comp=Z,24nm,0.8s					
PECS	**Pecos**	**7.21 229**	IAmb_Lg		15 21 55.4	
	comp=Z,15nm,1.0s					
ISCO	**Idaho Springs**	**7.29 301**	IAmb_Lg		15 21 45.6	
	comp=Z,15nm,0.8s					
DRIO	**Del Rio**	**7.32 202**	IAmb_Lg		15 21 40.7	
	comp=Z,14nm,0.8s					
SAND	**Sanderson**	**7.40 213**	IAmb_Lg		15 21 45.3	
	comp=Z,17nm,0.8s					
735A	**Kenedy**	**7.41 182**	IAmb_Lg		15 22 03.0	
	comp=Z,27nm,1.1s					
L40A	**Anamosa**	**7.56 38**	IAmb_Lg		15 21 53.4	
	comp=Z,31nm,1.0s					
ALPN	**Alpine**	**7.81 223**	IAmb_Lg		15 22 12.2	
	comp=Z,9.1nm,0.8s					
OLIL	**Olney**	**7.87 69**	IAmb_Lg		15 22 08.0	
	comp=Z,23nm,0.8s					
N23A	**Red Feather La**	**8.05 307**	IAmb_Lg		15 22 22.6	
	comp=Z,26nm,1.0s					
425A	**Indio Mountain**	**8.30 231**	IAmb_Lg		15 22 32.9	
	comp=Z,10nm,1.0s					
I37A	**Lemond, Waseca**	**8.34 21**	IAmb_Lg		15 22 18.9	
	comp=Z,27nm,0.9s					
JFWS	**Jewell Farm**	**8.68 38**	IAmb_Lg		15 22 33.9	
	comp=Z,22nm,0.7s					
K22A	**Casper**	**9.43 315**	IAmb_Lg		15 23 02.7	
	comp=Z,16nm,1.1s					

IDC 25 15:22:02.5±3.2, 1°72N×123°10E, h457km±30km, mb2.8/4, mbtmp3.6/4, Error ellipse: s-maj=233.3km s-min=22.0km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.18**	**153**	P	P	15 26 41.1	-0.3
	1.2nm,0.8s,baz=333,slow=9.7,SNR=17						
WRA				PcP	PcP	15 30 07.3	+0.1
	0.1nm,0.7s,baz=340,slow=1.6,SNR=1.3						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**27.33**	**158**	P	P	15 27 08.8	-0.5
	0.4nm,0.6s,baz=336,slow=7.9,SNR=12						
ASAR				PcP	PcP	15 30 14.2	-0.3
	baz=340,slow=1.8,SNR=4.9						
ASAR				ScP	ScP	15 33 10.2	-1.2
	baz=341,slow=2.5,SNR=5.5						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**37.74**	**154**	P	P	15 28 38.6	+0.6
	1.6nm,0.6s,baz=336,slow=10,SNR=6.2						
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**57.22**	**328**	P	P	15 31 04.7	-0.3
	0.2nm,0.7s,baz=126,slow=7.3,SNR=2.2						
	0.2nm,0.7s						

TAP 25 15:28:16.6, 24°03N×121°60E, h7km, ML2.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.05**	**359**	*i* P	Pg	15 28 18.4	+0.3
	baz=9.0						
TWD				*i* S	Sg	15 28 19.7	+0.5
	baz=9.0						
HWA	**Hwalien**	**0.05**	**172**	*i* S	Sg	15 28 20.5	+1.3
	baz=164						
ETM	**Tongmen**	**0.12**	**236**	*e*P	Pg	15 28 19.7	+0.6
	baz=235						
ETM				*e*S	Sg	15 28 21.6	+0.8
	baz=235						
ETL	**Fush Village**	**0.13**	**10**	*e*P	Pg	15 28 19.5	+0.1
	baz=11						
ETL				*e*S	Sg	15 28 21.5	+0.2
	baz=11						
NACB	**Ninganchiao**	**0.14**	**359**	*i* P	Pg	15 28 19.7	+0.1
	baz=9.0						
NACB				*e*S	Sg	15 28 21.8	+0.2
	baz=9.0						
ETLH	**Xiulin Townshi**	**0.20**	**329**	*e*P	Pg	15 28 21.0	+0.3
	baz=330						
ETLH				*e*S	Sg	15 28 23.7	+0.2
	baz=330						
WHF	**Hehuan Shan**	**0.32**	**291**	*e*P	Pg	15 28 22.9	-0.2
	baz=290						
CHGB	**Renai**	**0.39**	**275**	*e*P	Pg	15 28 23.7	-0.5
	baz=274						

*IDC **25** 15:34:06.4±0.7, 30°59N×142°13E, h0km, mb3.8/12, mbtmp3.8/14, Error ellipse: s-maj=24.7km s-min=16.9km az=85.0*

ISC 25 15:34:08.0±0.8, 30°6N±0°1×142°2E±0°1, h10km, n17, σ1°00/17, mb4.0/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.50**	**180**	Pn	Pn	15 34 55.7	-6.7
	2.1nm,0.3s,baz=321,slow=21,SNR=1.2						
JCJ				Sn	Sn	15 35 34.4	-9.4
	baz=302,slow=18						
MJAR	**Matsushiro Arr**	**6.79**	**332**	Pn	**Pn**	**15 35 49.0**	**+1.4**
	5.8nm,0.3s,baz=162,slow=12,SNR=118						
ASAJ	**Asahikawa**	**13.49**	**1**	Pn	**Pn**	**15 37 17.9**	**-1.5**
	3.5nm,0.7s,baz=220,slow=13,SNR=6.7						
KLR	**Kul'dur**	**20.21**	**340**	P	**P**	**15 38 42.8**	**-0.2**
	1.0nm,0.5s,baz=151,slow=19,SNR=1.9						
	1.0nm,0.5s						
SONM	**Songino Array**	**32.27**	**312**	P	**P**	**15 40 36.0**	**-0.9**
	0.2nm,0.5s,baz=115,slow=10.0,SNR=1.9						
	0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.92**	**263**	P	**P**	**15 41 49.0**	**-1.8**
	0.2nm,0.3s,baz=57,slow=6.6,SNR=1.3						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**46.88**	**317**	PcP	**PcP**	**15 44 11.1**	**+0.2**
	baz=99,slow=4.1,SNR=4.0						
MKAR	**Makanchi Array**	**48.30**	**307**	P	**P**	**15 42 50.0**	**+0.5**
	1.0nm,0.6s,baz=92,slow=9.2,SNR=9.3						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**50.82**	**190**	P	**P**	**15 43 08.3**	**-0.4**
	1.6nm,0.5s,baz=6.0,slow=7.6,SNR=30						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**54.54**	**189**	P	**P**	**15 43 36.0**	**-0.4**
	0.3nm,0.4s,baz=10,slow=6.8,SNR=21						
ASAR				PcP	**PcP**	**15 44 40.8**	**+1.2**
	baz=11,slow=6.6,SNR=4.1						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**54.66**	**30**	P	**P**	**15 43 36.3**	**-0.5**
	0.5nm,0.9s,baz=259,slow=5.8,SNR=5.7						
	0.5nm,0.9s						
BVAR	**Borovoye Array**	**55.50**	**316**	P	**P**	**15 43 43.5**	**+0.5**
	0.8nm,0.6s,baz=69,slow=8.1,SNR=4.0						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**74.81**	**333**	P	**P**	**15 45 47.4**	**-0.8**
	2.7nm,0.9s,baz=79,slow=4.1,SNR=5.1						
	2.7nm,0.9s						
NVAR	**Mina Array Bea**	**78.37**	**52**	P	**P**	**15 46 09.6**	**+0.5**
	0.7nm,0.5s,baz=299,slow=5.5,SNR=9.9						
	0.7nm,0.5s						
NOA	**NORSAR Array B**	**80.36**	**338**	P	**P**	**15 46 19.3**	**0.0**
	0.4nm,0.6s,baz=56,slow=1.6,SNR=1.3						
	0.4nm,0.6s						
BRG	**Berggiesshubel**	**86.92**	**330**	*e*P	**P**	**15 46 54.3**	**+1.2**
BRG				Amp		15 46 56.1	
	comp=Z,13nm,1.5s						
TXAR	**Lajitas Array**	**93.50**	**53**	P	**P**	**15 47 25.3**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=302,slow=1.4,SNR=4.9						
	comp=Z,0.4nm,0.6s						

IDC 25 15:52:04.7±10.0, 17°11S×176°40W, h438km±47km, mb2.9/3, mbtmp3.7/4, Error ellipse: s-maj=293.5km s-min=33.6km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.34**	**262**	P	P	15 53 32.0	0.0
	9.0nm,0.5s,baz=123,slow=18,SNR=19						
WRA	**Warramunga Arr**	**46.67**	**259**	P	P	15 59 51.7	-1.0
	0.2nm,0.4s,baz=96,slow=8.3,SNR=10						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**46.86**	**253**	P	P	15 59 54.6	+0.6
	1.7nm,0.6s,baz=88,slow=7.7,SNR=62						
	1.7nm,0.6s						
ILAR	**Eielson Array**	**84.69**	**12**	P	P	16 03 50.6	-0.1
	0.7nm,1.1s,baz=220,slow=4.6,SNR=4.9						
	0.7nm,1.1s						

*IDC **25** 16:17:21.2±1.1, 40°22S×91°60W, h0km, mb3.7/5, mbtmp3.7/5, MS3.6/7, Error ellipse: s-maj=150.7km s-min=24.7km az=78.0*

ISC 25 16:17:22.8±1.0, 40°2S±0°3×91°6W±0°8, h10km, n22, σ0°45/10, mb3.9/8, MS3.6/6, 5C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**11.95**	**62**	T	T	16 32 55.1	
	baz=233,slow=73,SNR=1042						
H03S1	**Juan Fernandez**	**11.96**	**62**	T	T	16 32 54.2	
	baz=233,slow=73,SNR=814						
H03S3	**Juan Fernandez**	**11.97**	**62**	T	T	16 32 40.6	
	baz=233,slow=73,SNR=645						
H03N3	**Juan Fernandez**	**12.18**	**60**	T	T	16 32 52.2	
	baz=235,slow=71,SNR=834						
H03N2	**Juan Fernandez**	**12.18**	**60**	T	T	16 33 01.3	
	baz=235,slow=71,SNR=1867						
H03N1	**Juan Fernandez**	**12.19**	**60**	T	T	16 32 52.9	
	baz=235,slow=71,SNR=657						
PLCA	**Paso Flores**	**16.01**	**99**	LR	LR	16 25 55.2	
	comp=Z,144nm,20.4s,baz=292,slow=32						
LVC	**Limon Verde**	**26.01**	**54**	LR	LR	16 30 09.3	
	comp=Z,97nm,21.0s,baz=206,slow=30						
PMSA	**Palmer Station**	**29.29**	**156**	LR	LR	16 31 44.0	
	comp=Z,152nm,19.3s,baz=326,slow=29						
LPAZ	**La Paz**	**31.37**	**47**	LR	LR	16 34 10.7	
	comp=Z,37nm,18.7s,baz=88,slow=32						
VNA3	**Neumayer Olymp**	**49.95**	**155**	⇑P	**P**	**16 26 16.3**	**0.0**
	comp=Z,1.4nm,0.8s						
QSPA	**South Pole Qui**	**50.00**	**180**	P	**P**	**16 26 16.8**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=140,slow=2.9,SNR=9.3						
	comp=Z,0.7nm,0.7s						
VNA1	**Neumayer--Stat**	**50.49**	**155**	⇑P	**P**	**16 26 21.0**	**+0.6**
	comp=Z,3.1nm,0.8s						
VNA2	**Neumayer--Watz**	**50.73**	**155**	⇑P	**P**	**16 26 22.4**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=258,slow=5.0						
SNAA	**Sanae**	**52.01**	**156**	⇑P	**P**	**16 26 31.7**	**-0.2**
	comp=Z,30nm,1.0s						
SNAA	**Sanae**	**52.01**	**156**	P	**P**	**16 26 32.0**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=278,slow=4.6,SNR=4.6						
SNAA				LR	LR	16 44 31.3	
	comp=Z,60nm,19.0s,baz=11,slow=31						
	comp=Z,1.0nm,0.8s						
TROLL	**Troll, Antarti**	**53.53**	**157**	⇑P	**P**	**16 26 43.3**	**+0.1**
	comp=Z,107nm,0.8s						
PPT	**Papeete**	**54.54**	**277**	LR	LR	16 43 11.0	
	comp=Z,64nm,21.8s,baz=300,slow=28						
RAR	**Rarotonga**	**60.21**	**267**	LR	LR	16 47 15.3	
	comp=Z,142nm,21.4s,baz=183,slow=30						
TXAR	**Lajitas Array**	**70.11**	**349**	P	**P**	**16 28 34.9**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=173,slow=8.1,SNR=2.2						
	comp=Z,0.6nm,0.9s						
NVAR	**Mina Array Bea**	**82.01**	**339**	P	**P**	**16 29 43.8**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=161,slow=5.7,SNR=3.9						
	comp=Z,0.3nm,0.5s						
PDAR	**Pinedale Array**	**84.20**	**347**	P	**P**	**16 29 53.9**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=160,slow=5.6,SNR=5.2						
	comp=Z,0.8nm,0.8s						

*KRSC **25** 16:18:35.0±0.7, 53°21N×158°38E, h156km±5km, Ml4.1*
*MOS **25** 16:18:34.2±0.7, 53°21N×158°14E, h166km, mb3.7/6, Error ellipse: s-maj=14.9km s-min=5.1km az=79.1*
*IDC **25** 16:18:35.2±0.4, 53°38N×157°93E, h156km±4km, mb3.4/15, mbtmp3.8/15, Error ellipse: s-maj=15.3km s-min=14.6km az=140.0*

**ISC 25 16:18:35.

SMAR	**Somma**	**0.28**	**81**	*i* P	**Pn**	**16 18 57.6**	**+0.1**
SMAR	**Somma**	**0.28**	**81**	PN	**Pn**	**16 18 57.6**	**+0.1**
UGLR	**Uglovaya**	**0.29**	**92**	*i* P	**Pn**	**16 18 57.8**	**+0.4**
UGLR	**Uglovaya**	**0.29**	**92**	PN	**Pn**	**16 18 57.8**	**+0.4**
DALK	**Dalny**	**0.31**	**127**	*e*P	**Pn**	**16 18 57.2**	**-0.1**
DALK				*e*S	**Sn**	**16 19 13.9**	**-0.2**
DALK	**Dalny**	**0.31**	**127**	PN	**Pn**	**16 18 57.2**	**-0.1**
DALK				S	**Sn**	**16 19 13.9**	**-0.2**
SDLR	**Sedlovina**	**0.33**	**80**	*i* P	**Pn**	**16 18 57.5**	**0.0**
SDLR	**Sedlovina**	**0.33**	**80**	PN	**Pn**	**16 18 57.5**	**0.0**
PEA0B	**Petropavlovsk-**	**0.40**	**254**	*c i*PN	**Pn**	**16 18 57.3**	**-0.3**
PETK	**Petropavlovsk-**	**0.40**	**254**	P	**Pn**	**16 18 56.5**	**-1.1**
	comp=E,33nm,0.3s,baz=86,slow=28,SNR=310						
PETK				S	**Sn**	**16 19 14.2**	**-0.5**
	comp=E,75nm,0.7s,baz=337,slow=14,SNR=9.5						
KRMR	**Karymshinskiy**	**0.41**	**198**	*i* P	**Pn**	**16 18 57.6**	**-0.1**
KRMR				*e*S	**Sn**	**16 19 14.6**	**-0.1**
KRMR	**Karymshinskiy**	**0.41**	**198**	PN	**Pn**	**16 18 57.6**	**-0.1**
KRMR				S	**Sn**	**16 19 14.6**	**-0.1**
GNL	**Ganaly**	**0.53**	**333**	*i* P	**Pn**	**16 18 58.2**	**-0.1**
GNL				*e*S	**Sn**	**16 19 15.5**	**-0.6**
GNL	**Ganaly**	**0.53**	**333**	PN	**Pn**	**16 18 58.2**	**-0.1**
GNL				S	**Sn**	**16 19 15.5**	**-0.6**
NLC	**Nalytchevo**	**0.60**	**94**	*e*P	**Pn**	**16 18 59.5**	**+1.0**
NLC				*e*S	**Sn**	**16 19 17.5**	**+1.2**
NLC	**Nalytchevo**	**0.60**	**94**	PN	**Pn**	**16 18 59.5**	**+1.0**
NLC				S	**Sn**	**16 19 17.5**	**+1.2**
GRL	**Gorelyy**	**0.69**	**194**	*i* P	**Pn**	**16 18 59.8**	**+0.6**
GRL	**Gorelyy**	**0.69**	**194**	PN	**Pn**	**16 18 59.8**	**+0.6**
MTVR	**Mutnovka**	**0.74**	**188**	*i* P	**Pn**	**16 19 00.0**	**+0.4**
MTVR	**Mutnovka**	**0.74**	**188**	PN	**Pn**	**16 19 00.0**	**+0.4**
APC	**Apacha**	**0.77**	**248**	*e*P	**Pn**	**16 18 59.9**	**+0.4**
APC				*e*S	**Sn**	**16 19 17.9**	**-0.2**
APC	**Apacha**	**0.77**	**248**	PN	**Pn**	**16 18 59.9**	**+0.4**
APC				S	**Sn**	**16 19 17.9**	**-0.2**
RUS	**Russkaya**	**0.80**	**173**	*e*P	**Pn**	**16 18 59.3**	**-0.4**
RUS				*e*S	**Sn**	**16 19 17.6**	**-0.8**
RUS	**Russkaya**	**0.80**	**173**	PN	**Pn**	**16 18 59.3**	**-0.4**
RUS				S	**Sn**	**16 19 17.6**	**-0.8**
ASAK	**Asacha**	**0.88**	**198**	*i* P	**Pn**	**16 19 01.0**	**+0.6**
ASAK	**Asacha**	**0.88**	**198**	PN	**Pn**	**16 19 01.0**	**+0.6**
SPN	**Mys Shipunski**	**1.02**	**96**	*e*P	**Pn**	**16 19 00.9**	**-0.4**
SPN				*e*S	**Sn**	**16 19 19.8**	**-1.5**
SPN	**Mys Shipunski**	**1.02**	**96**	PN	**Pn**	**16 19 00.9**	**-0.4**
SPN				S	**Sn**	**16 19 19.8**	**-1.5**
KII	**Karymskiy**	**1.05**	**38**	*e*P	**Pn**	**16 19 02.2**	**+0.5**
KII				*e*S	**Sn**	**16 19 23.3**	**+1.2**
KII	**Karymskiy**	**1.05**	**38**	PN	**Pn**	**16 19 02.2**	**+0.5**
KII				S	**Sn**	**16 19 23.3**	**+1.2**
KDTR	**Khodutka, Kamc**	**1.42**	**187**	*e*P	**Pn**	**16 19 04.4**	**-0.6**
KDTR				*e*S	**Sn**	**16 19 26.8**	**-1.0**
KDTR	**Khodutka, Kamc**	**1.42**	**187**	PN	**Pn**	**16 19 04.4**	**-0.6**
KDTR				S	**Sn**	**16 19 26.8**	**-1.0**
PAU	**Pauzhetka**	**1.99**	**209**	*e*P	**Pn**	**16 19 12.7**	**+1.7**
PAU	**Pauzhetka**	**1.99**	**209**	PN	**Pn**	**16 19 12.7**	**+1.7**
KZV	**Kizimen**	**2.22**	**30**	*e*P	**Pn**	**16 19 14.0**	**+0.3**
KZV	**Kizimen**	**2.22**	**30**	PN	**Pn**	**16 19 14.0**	**+0.3**
TUMR	**Tumrok**	**2.32**	**26**	*e*P	**Pn**	**16 19 16.1**	**+1.2**
TUMR	**Tumrok**	**2.32**	**26**	PN	**Pn**	**16 19 16.1**	**+1.2**
TUMD	**Tumrok D**	**2.33**	**30**	*e*P	**Pn**	**16 19 15.2**	**+0.3**
MKZ	**Mys Kozlova**	**2.41**	**55**	*e*P	**Pn**	**16 19 15.4**	**-0.4**
MKZ	**Mys Kozlova**	**2.41**	**55**	PN	**Pn**	**16 19 15.4**	**-0.4**
ESO	**Esso**	**2.72**	**4**	*e*P	**Pn**	**16 19 20.3**	**+0.7**
ESO	**Esso**	**2.72**	**4**	PN	**Pn**	**16 19 20.3**	**+0.7**
KMNR	**Kamenistaya**	**2.77**	**23**	*e*P	**Pn**	**16 19 21.6**	**+1.3**
KMNR	**Kamenistaya**	**2.77**	**23**	PN	**Pn**	**16 19 21.6**	**+1.3**
SKR	**Severo-Kuril's**	**2.89**	**209**	*e*P	**Pn**	**16 19 22.2**	**+0.5**
SKR				*e*S	**Sn**	**16 19 58.2**	**+0.5**
SKR	**Severo-Kuril's**	**2.89**	**209**	*e*PN	**Pn**	**16 19 20.4**	**-1.3**
SKR				*e*S	**Sn**	**16 19 58.3**	**+0.6**
SKR				smax	smax		
	comp=E,632nm,0.5s						
SKR				smax	smax		
	comp=N,834nm,0.4s						
KPT	**Kopyto**	**2.96**	**21**	*e*P	**Pn**	**16 19 23.5**	**+0.9**
KPT	**Kopyto**	**2.96**	**21**	PN	**Pn**	**16 19 23.5**	**+0.9**
KIRR	**Kirishev**	**2.98**	**22**	*e*P	**Pn**	**16 19 23.9**	**+1.0**
KIRR	**Kirishev**	**2.98**	**22**	PN	**Pn**	**16 19 23.9**	**+1.0**
KOZ	**Kozyrevsk**	**2.98**	**17**	*e*P	**Pn**	**16 19 23.6**	**+0.8**
KOZ	**Kozyrevsk**	**2.98**	**17**	PN	**Pn**	**16 19 23.6**	**+0.8**
BZP	**Bezymyannyi-Pe**	**2.98**	**24**	*e*P	**Pn**	**16 19 23.5**	**+0.5**
BZMR	**Bezymyannaya**	**2.99**	**24**	*e*P	**Pn**	**16 19 24.1**	**+1.0**
BZMR	**Bezymyannaya**	**2.99**	**24**	PN	**Pn**	**16 19 24.1**	**+1.0**
BZWR	**Bezymyannyi-We**	**3.02**	**24**	*e*P	**Pn**	**16 19 24.4**	**+0.9**
BZWR	**Bezymyannyi-We**	**3.02**	**24**	PN	**Pn**	**16 19 24.4**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**3.05**	**26**	*e*P	**Pn**	**16 19 24.9**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**3.05**	**26**	PN	**Pn**	**16 19 24.9**	**+1.2**
LGNR	**Loginova**	**3.18**	**24**	*e*P	**Pn**	**16 19 26.6**	**+1.1**
LGNR	**Loginova**	**3.18**	**24**	PN	**Pn**	**16 19 26.6**	**+1.1**
SRDR	**Sredinnyy**	**3.20**	**14**	*e*P	**Pn**	**16 19 26.3**	**+0.7**
SRDR	**Sredinnyy**	**3.20**	**14**	PN	**Pn**	**16 19 26.3**	**+0.7**
CIRR	**Tsirk**	**3.22**	**25**	*e*P	**Pn**	**16 19 25.4**	**-0.5**
CIRR	**Tsirk**	**3.22**	**25**	PN	**Pn**	**16 19 25.4**	**-0.5**
KLY	**Klyuchi**	**3.38**	**22**	*e*P	**Pn**	**16 19 29.6**	**+1.9**
KLY	**Klyuchi**	**3.38**	**22**	PN	**Pn**	**16 19 29.6**	**+1.9**
SMKR	**Semkarok**	**3.82**	**27**	*e*P	**Pn**	**16 19 35.6**	**+2.1**
SMKR	**Semkarok**	**3.82**	**27**	PN	**Pn**	**16 19 35.6**	**+2.1**
KBTR	**Krutoberegovo**	**3.96**	**39**	*e*P	**Pn**	**16 19 34.9**	**-0.3**
KBTR	**Krutoberegovo**	**3.96**	**39**	PN	**Pn**	**16 19 34.9**	**-0.3**
BKI	**Bering**	**4.90**	**63**	*e*S	**Sn**	**16 20 39.5**	**-4.3**
SEY	**Seymchan**	**10.23**	**344⇑**	*e*PN	**Pn**	**16 20 57.1**	**-0.7**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YAK	**Yakutsk**	**17.56**	**311**	*e*P	**Pn**	**16 22 28.3**	**-1.4**
YAK				pmax	pmax		
	comp=Z,28nm,0.6s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,12nm,1.7s						
ZEA	**Zeya**	**18.44**	**284**	*e*P	Pn	16 22 53.1	+13
TIXI	**Tiksi**	**22.53**	**336⇓**	*i*P	**P**	**16 23 21.2**	**+0.2**
ILAR	**Eielson Array**	**29.48**	**45**	*e*P	**P**	**16 24 24.8**	**+1.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**29.48**	**45**	P	**P**	**16 24 24.1**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=268,slow=6.2,SNR=20						
	comp=Z,0.9nm,0.7s						
DGZ	**Jazzator, Alta**	**42.66**	**295⇑**	*e*P	**P**	**16 26 13.1**	**-2.5**
DGZ				pmax	pmax		
	comp=Z,4.0nm,2.4s						
KURK	**Kurchatov**	**46.77**	**301⇑**	*e*P	**P**	**16 26 47.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**46.83**	**350**	P	**P**	**16 26 46.9**	**-1.1**
	comp=Z,50nm,1.3s,baz=61,slow=12,SNR=8.4						
KURBB	**Kurchatov Arra**	**46.87**	**301**	P	**P**	**16 26 46.9**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=61,slow=7.5,SNR=10						
	comp=Z,0.7nm,0.3s						
MKAR	**Makanchi Array**	**47.15**	**295**	P	**P**	**16 26 48.6**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=49,slow=6.4,SNR=11						
MKAR				PcP	**PcP**	**16 28 20.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=52,slow=5.1,SNR=1.6						
	comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**49.48**	**307**	P	**P**	**16 27 06.8**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=60,slow=6.8,SNR=9.6						
BVAR				PcP	**PcP**	**16 28 27.6**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=72,slow=4.7,SNR=2.7						
	comp=Z,0.8nm,0.4s						
ARU	**Arti**	**52.58**	**316⇑**	*e*P	**P**	**16 27 31.1**	**-0.5**
ARU				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ARCES	**ARCESS Array B**	**52.83**	**341**	P	**P**	**16 27 32.1**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=44,slow=7.4,SNR=6.9						
	comp=Z,2.8nm,0.8s						
AAK	**Ala-Archa**	**54.07**	**295⇑**	*e*P	**P**	**16 27 42.5**	**-0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**56.69**	**69**	P	**P**	**16 28 03.9**	**+2.2**
	comp=Z,0.7nm,0.6s,baz=298,slow=7.2,SNR=6.7						
	comp=Z,0.7nm,0.6s						
PDAR	**Pinedale Array**	**58.38**	**60**	P	**P**	**16 28 14.6**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=304,slow=6.4,SNR=2.1						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**59.58**	**336**	*e*P	**P**	**16 28 20.2**	**-0.9**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	**FINESS Array B**	**59.58**	**336**	P	**P**	**16 28 19.8**	**-1.3**
	comp=Z,4.7nm,0.9s,baz=101,slow=1.9,SNR=4.6						
	comp=Z,4.7nm,0.9s						
NB2	**NORSAR Subarra**	**63.12**	**343**	P	**P**	**16 28 44.2**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**63.12**	**343**	*e*P	**P**	**16 28 44.4**	**-0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**63.12**	**343**	P	**P**	**16 28 44.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=20,slow=7.3,SNR=6.6						
	comp=Z,0.3nm,0.3s						
HFS	**Hagfors**	**63.50**	**341**	P	**P**	**16 28 46.7**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=45,slow=6.3,SNR=9.6						
	comp=Z,0.9nm,0.4s						
EKA	**Eskdalemuir Ar**	**70.74**	**349**	P	**P**	**16 29 32.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=21,slow=5.3,SNR=10						
	comp=Z,0.5nm,0.3s						
TXAR	**Lajitas Array**	**71.55**	**66**	P	**P**	**16 29 40.5**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=288,slow=4.9,SNR=4.8						
	comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**75.77**	**203**	*e*P	**P**	**16 30 03.9**	**+1.0**
WRA	**Warramunga Arr**	**75.77**	**203**	P	**P**	**16 30 03.5**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=25,slow=6.3,SNR=8.6						
	comp=Z,0.2nm,0.3s						
ASAR	**Alice Springs**	**79.45**	**203**	P	**P**	**16 30 24.4**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=16,slow=5.1,SNR=22						
	comp=Z,0.3nm,0.4s						
ESDC	**Sonseca Array**	**86.22**	**346**	P	**P**	**16 30 58.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=2.5,slow=5.6,SNR=4.8						
	comp=Z,0.6nm,0.6s						

NEIC ***25*** *16:35:36.5±1.9, 9.°64S±0.°07×112.°93E±0.°05, h35km±1km, mb5.0/69, Error ellipse: s-maj=12.6km s-min=9.2km az=175.0*

MOS ***25*** *16:35:36.4±0.9, 9.°37S×113.°01E, h45km, mb5.2/53, Error ellipse: s-maj=9.4km s-min=5.0km az=118.8*

DJA ***25*** *16:35:37.8±0.2, 10.°S±2.°×11.°3E±.°, h45km±3km, M4.7/59, mb4.8/59, mB5.2/24, MLv5.1/22, Mw4.9/42, Mw(mB)4.7/24, MwMwp4.6/1, Mwp5.0/1*

IDC ***25*** *16:35:39.1±1.9, 9.°40S×113.°00E, h51km±16km, mb4.4/25, mbtmp4.7/28, ML4.6/3, MS4.1/46, Error ellipse: s-maj=13.9km s-min=8.8km az=40.0*

GCMT ***25*** *16:35:39.5±0.3, 9.°72S±0.°02×113.°09E±0.°03, h34km, MW4.9/72, Moment Tensor Solution. s45,c53; s72,c97; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.83±.17; $M_{\theta\theta}$-2.98±.10; $M_{\phi\phi}$0.15±.12; $M_{r\theta}$1.00±.10; $M_{\theta\phi}$0.49±.07; $M_{\phi r}$-0.09±.16; Best double couple: $M_0$3.10900×10^16 NP1:ϕ_s97.00000°, δ54.00000°, λ88.00000°. NP2: ϕ_s280.00000°, δ36.00000°, λ92.00000°. Principal axes: T 2.9970, Plg81.0000°, Azm1.0000°; N 0.2280, Plg1.0000°, Azm98.0000°; P -3.2200, Plg9.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 16:35:37.8±0.4, 9.°61S±0.°04×112.°95E±0.°04, h45km±3km, h45km:pP-P,n399,σ1§59/394, mb4.9/112, MS4.1/51, 27C-12D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.41**	**20**	P	**Pn**	**16 36 00.9**	**-0.1**
JAGI	**Jajag, Banyuwa**	**1.64**	**47**	Pn	**Pn**	**16 36 04.1**	**0.0**
JAGI	**Jajag, Banyuwa**	**1.64**	**47**	P	**Pn**	**16 36 05.4**	**+1.3**
JAGI	**Jajag, Banyuwa**	**1.64**	**47**	P	**Pn**	**16 36 04.7**	**+0.6**
BLJI	**Banyuglugur**	**1.95**	**19**	P	**Pn**	**16 36 10.2**	**+1.7**
ABJI	**Asem Bagus**	**2.20**	**35**	P	**Pn**	**16 36 14.6**	**+2.7**
ABJI				S	**Sn**	**16 36 41.5**	**+3.6**
IGBI	**Denpasar**	**2.30**	**70**	P	**Pn**	**16 36 14.5**	**+1.2**
WOJI	**Wonogiri, Jawa**	**2.66**	**311**	P	**Pn**	**16 36 18.8**	**+0.6**
NGJI	**Ngawi**	**2.67**	**326**	P	**Pn**	**16 36 21.3**	**+3.0**
GRJI	**Gresik**	**2.71**	**350**	P	**Pn**	**16 36 21.1**	**+2.2**
UGM	**Wanagama**	**2.93**	**305**		**Pn**	**16 36 21.8**	**-0.1**
UGM	**Wanagama**	**2.93**	**305**	P	**Pn**	**16 36 22.7**	**+0.8**
UGM	**Wanagama**	**2.93**	**305**	P	**Pn**	**16 36 22.3**	**+0.4**
UGM				S	**Sn**	**16 36 55.9**	**0.0**
YOGI	**Yogyakarta**	**3.17**	**304**	P	**Pn**	**16 36 29.3**	**+4.1**
SMRI	**Semarang**	**3.55**	**315**	Pn	**Pn**	**16 36 30.5**	**0.0**
SMRI	**Semarang**	**3.55**	**315**	P	**Pn**	**16 36 31.9**	**+1.4**
SMRI	**Semarang**	**3.55**	**315**	P	**Pn**	**16 36 30.8**	**+0.3**
BWJI	**Bawean**	**3.74**	**356**	P	**Pn**	**16 36 34.4**	**+1.4**
TWSI	**Taliwang, Sumb**	**3.98**	**78**	P	**Pn**	**16 36 38.6**	**+2.3**
KPJI	**Karang Pucung**	**4.57**	**299**	P	**Pn**	**16 36 45.0**	**+0.6**
CMJI	**Cimerak**	**4.80**	**292**	P	**Pn**	**16 36 46.8**	**-0.8**
PLAI	**Plampang**	**4.83**	**81**	P	**Pn**	**16 36 51.1**	**+3.1**
PLAI	**Plampang**	**4.83**	**81**	P	**Pn**	**16 36 49.1**	**+1.1**
BBJI	**Bungbulang**	**5.66**	**292**	P	**Pn**	**16 36 59.4**	**0.0**
LEM	**Lembang**	**5.96**	**297**	P	**Pn**	**16 37 04.5**	**+0.9**
	115nm,0.9s,2μm1.5nm						
LEM	**Lembang**	**5.96**	**297**	P	**Pn**	**16 37 04.6**	**+0.9**
	6.0nm,0.3s,baz=8.8,slow=14,SNR=10						
LEM				S	**Sn**	**16 38 13.4**	**+2.7**
	67nm,0.8s,baz=8.7,slow=13,SNR=1.2						
	18nm,0.5s						
CNJI	**Cibinong**	**6.19**	**291**	P	**Pn**	**16 37 07.7**	**+1.0**
	101nm,1.0s,1μm0.6nm						
BBKI	**Banjar Baru**	**6.38**	**17**	P	Pn	16 37 14.2	+4.8
XMI	**Christmas Isla**	**7.20**	**263**	P	**Pn**	**16 37 19.3**	**-1.3**
XMIS	**Christmas Isla**	**7.24**	**262**	Pn	**Pn**	**16 37 17.8**	**-3.3**
XMIS	**Christmas Isla**	**7.24**	**262**	P	**Pn**	**16 37 19.0**	**-2.1**
BASI	**Baing, Sumba**	**7.54**	**95**	P	**Pn**	**16 37 27.3**	**+2.1**
	150nm,0.9s,3μm1.5nm						
CGJI	**Cibinong**	**7.78**	**292**	P	**Pn**	**16 37 29.5**	**+1.1**
	194nm,0.5s,3μm0.8nm						
KAPI	**Kappang**	**8.14**	**56**	Pn	**Pn**	**16 37 31.8**	**-1.7**
KAPI	**Kappang**	**8.14**	**56**	P	**Pn**	**16 37 37.0**	**+3.5**
KAPI	**Kappang**	**8.14**	**56**	P	**Pn**	**16 37 33.1**	**-0.3**
	6.3nm,0.3s,baz=227,slow=11,SNR=15						
KAPI				S	**Sn**	**16 39 01.0**	**-3.3**
	9.4nm,0.6s,baz=229,slow=20,SNR=0.8						
KAPI				LR	LR	16 41 13.7	
	comp=Z,1μm,19.0s,baz=228,slow=42						
	11nm,0.3s						
BKSI	**Bulukumba**	**8.29**	**60**	P	**Pn**	**16 37 36.6**	**+1.2**
	79nm,0.6s,729nm						
EDFI	**Ende, Flores**	**8.67**	**85**	P	**Pn**	**16 37 40.4**	**-0.4**
	57nm,0.5s,846nm						
MTKI	**Muara Teweh, K**	**8.82**	**13**	P	**Pn**	**16 37 44.5**	**+1.7**
	79nm,0.9s,2μm						
MMRI	**Maumere**	**9.22**	**85**	Pn	**Pn**	**16 37 47.2**	**-1.1**
MMRI	**Maumere**	**9.22**	**85**	P	**Pn**	**16 37 51.3**	**+3.0**
MMRI	**Maumere**	**9.22**	**85**	P	**Pn**	**16 37 47.8**	**-0.5**
	101nm,1.2s,2μm						
KASI	**Kota Agung**	**9.31**	**295**	P	**Pn**	**16 37 49.1**	**-0.4**
	75nm,0.7s,1μm						
TTSI	**Tana Toraja**	**9.44**	**47**	P	**Pn**	**16 37 53.4**	**+2.2**
	68nm,1.2s						
STKI	**Sintang**	**9.72**	**351**	P	**Pn**	**16 37 56.8**	**+1.7**
	80nm,1.3s,3μm						
LWLI	**Liwa**	**9.93**	**297**	P	**Pn**	**16 37 58.5**	**+0.5**
	242nm,0.6s,3μm						
BBSI	**Bau Bau**	**10.38**	**67**	P	**Pn**	**16 38 04.1**	**0.0**
	46nm,1.4s,714nm						
BATI	**Baumata**	**10.57**	**94**	P	**Pn**	**16 38 07.1**	**+0.3**
	67nm,0.6s						
BATI	**Baumata**	**10.57**	**94**	P	**Pn**	**16 38 08.5**	**+1.7**
	14nm,0.3s,baz=24,slow=3.5,SNR=13						
BATI				S	**Sn**	**16 40 01.4**	**-2.5**
	12nm,0.3s,baz=319,slow=20,SNR=1.4						
	24nm,0.3s						
SOEI	**Soe**	**11.16**	**92**		**Pn**	**16 38 11.9**	**-3.0**
SOEI	**Soe**	**11.16**	**92**	P	**Pn**	**16 38 18.2**	**+3.3**
SOEI	**Soe**	**11.16**	**92**	P	**Pn**	**16 38 15.6**	**+0.7**
	127nm,0.8s,1μm						
MNAI	**Manna**	**11.20**	**297**	Pn	**Pn**	**16 38 13.9**	**-1.6**
MNAI	**Manna**	**11.20**	**297**	P	**Pn**	**16 38 15.1**	**-0.3**
MNAI	**Manna**	**11.20**	**297**	P	**Pn**	**16 38 14.5**	**-0.9**
	686nm,0.8s						
KSM	**Kuching**	**11.31**	**346**	Pn	**Pn**	**16 38 16.4**	**-0.5**
MPSI	**Mapaga**	**12.06**	**35**	P	**Pn**	**16 38 29.6**	**+2.5**
	31nm,1.5s						
DSRI	**Dabo**	**12.31**	**317**	P	**Pn**	**16 38 30.6**	**0.0**
	13nm,0.9s						
GIRL	**Giralia**	**13.02**	**175**	P	**Pn**	**16 38 38.1**	**-2.1**
TOLI2	**Tolitoli**	**13.20**	**37**	P	**Pn**	**16 38 46.3**	**+3.6**
MBWA	**Marble Bar**	**13.21**	**151**	Pn	Pn	16 38 37.9	-5.0
MRSI	**Marisa**	**13.43**	**42**	P	**Pn**	**16 38 46.9**	**+1.0**
	28nm,1.3s						
PSA00	**Pilbara Seismi**	**13.62**	**152**	Pn	Pn	16 38 43.2	-5.2
PSA00	**Pilbara Seismi**	**13.62**	**152**	P	**Pn**	**16 38 45.1**	**-3.3**
GTOI	**Gorontalo**	**14.28**	**45**	P	**P**	**16 39 01.5**	**-2.0**
	37nm,1.1s						
PPSI	**Pulau Pagai**	**14.54**	**297**	P	Pn	16 38 56.0	-4.9
KMSI	**Cibinong**	**14.93**	**48**	P	**P**	**16 39 10.6**	**-0.2**
	122nm,1.2s,2μm						
SANI	**Sanana**	**14.98**	**61**	P	**P**	**16 39 11.6**	**+0.3**
SANI	**Sanana**	**14.98**	**61**	P	**Pn**	**16 39 08.6**	**+2.0**
	36nm,1.3s						
NLAI	**Namlea**	**15.41**	**67**	P	**P**	**16 39 14.6**	**-1.6**
	27nm,1.3s						
BKNI	**Bangkinang**	**15.43**	**309**	Pn	**Pn**	**16 39 10.5**	**-2.0**
BKNI				IAmb	IAmb	16 39 13.8	
	comp=Z,80nm,1.2s						
SISI	**Saibi**	**16.05**	**300**	P	Pn	16 39 12.7	-7.8
KNRA	**Kununurra**	**16.56**	**113**		**Pn**	**16 39 26.6**	**-0.3**
KNRA				IAmb	IAmb	16 39 34.0	
	comp=Z,116nm,1.5s						
KNRA	**Kununurra**	**16.56**	**113**	P	**P**	**16 39 29.2**	**+0.3**
LBMI	**Labuha**	**17.00**	**59**	P	**P**	**16 39 34.5**	**+0.7**
	comp=Z,79nm,1.1s						
BNDI	**Bandanaira**	**17.56**	**74**	P	**P**	**16 39 41.7**	**+1.7**
BNDI	**Bandanaira**	**17.56**	**74**	P	**P**	**16 39 40.2**	**+0.2**
	comp=Z,310nm,1.1s,comp=Z,4μm						
TNTI	**Ternate**	**17.67**	**55**	Pn	**Pn**	**16 39 38.3**	**-2.5**
MEEK	**Meekatharra**	**17.77**	**163**	P	**Pn**	**16 39 41.6**	**-0.3**
MTN	**Manton Dam**	**18.12**	**102**		**P**	**16 39 45.1**	**-1.1**
SAUI	**Saumlaki**	**18.20**	**86**	P	**Pn**	**16 39 48.9**	**+1.6**
SAUI	**Saumlaki**	**18.20**	**86**	P	**P**	**16 39 45.1**	**-2.0**
	comp=Z,226nm,1.1s						
GSI	**Gununggsitoli**	**18.76**	**304**	P	**P**	**16 39 48.1**	**-5.1**
KDU	**Kakadu**	**19.40**	**101**	P	**Pn**	**16 40 01.0**	**-0.6**
MORW	**Morawa**	**19.58**	**172**		**P**	**16 39 59.4**	**-2.6**
MORW	**Morawa**	**19.58**	**172**	P	**Pn**	**16 40 04.3**	**+0.6**
SWI	**Sorong**	**20.18**	**66**	P	**P**	**16 40 09.5**	**+0.8**
	comp=Z,75nm,1.2s,comp=Z,1μm						
FAKI	**Fak Fak**	**20.29**	**72**	P	**P**	**16 40 09.0**	**-1.0**
FAKI				IAmb	IAmb	16 40 18.2	
	comp=Z,40nm,0.6s						
FAKI	**Fak Fak**	**20.29**	**72**	P	**P**	**16 40 08.9**	**-1.0**
	comp=Z,72nm,0.8s						
DAV	**Davao City (W)**	**20.80**	**38**	LR	LR	16 48 58.9	
	comp=Z,367nm,21.3s,baz=244,slow=39						
WRKA	**Warakurna**	**21.18**	**138**	P	**P**	**16 40 21.2**	**+1.7**
BLDU	**Ballidu**	**21.20**	**171**	P	**P**	**16 40 21.2**	**+1.6**
RKPI	**Ransiki, Papua**	**22.59**	**70**	P	**P**	**16 40 35.2**	**+0.5**
	comp=Z,121nm,0.7s						
WB0	**Warramunga Arr**	**23.04**	**118**	P	**P**	**16 40 37.4**	**-1.9**
WRA	**Warramunga Arr**	**23.07**	**119**	P	**P**	**16 40 38.9**	**-0.7**
WRA	**Warramunga Arr**	**23.07**	**119**	P	**P**	**16 40 40.1**	**+0.5**
	comp=Z,19nm,0.9s,baz=291,slow=11,SNR=64						
WRA				PcP	**PcP**	**16 44 29.4**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=302,slow=3.1,SNR=2.8						
WRA				S	**S**	**16 44 50.5**	**+3.1**
	comp=Z,1.1nm,0.7s,baz=321,slow=32,SNR=1.8						
WRA				LR	LR	16 50 38.2	
	comp=Z,336nm,

PZH pmax pmax
comp=Z,100nm,4.7s
GUMO Guam 39.17 54 LR LR 16 59 06.9
comp=Z,73nm,21.8s,baz=238,slow=36
H08S2 Diego Garcia H 40.03 270 T T 17 26 05.1
baz=95,slow=75
H08S3 Diego Garcia H 40.04 270 T T 17 26 00.1
baz=95,slow=75
H08S1 Diego Garcia H 40.05 270 T T 17 26 08.9
baz=95,slow=75
TOO Toolangi 40.43 139 P **P 16 43 15.7 +3.8**
SHL Shillong 40.53 330 P **P 16 43 12.0 -1.0**
SHL Shillong 40.53 330 P **P 16 43 12.0 -1.0**
SHL pmax pmax
comp=Z,48nm,0.9s
NJ2 Nanjing 41.80 8 *e*P **P 16 43 24.5 +1.4**
NJ2 pmax pmax
comp=Z,16nm,0.7s
XAN Xi'an 43.57 355 ⇑P **P 16 43 36.5 -1.0**
XAN pmax pmax
comp=Z,31nm,1.3s
LYN LuoYang 43.91 359 ⇑P **P 16 43 41.3 +1.2**
LYN pmax pmax
comp=Z,33nm,0.7s
ODAN Odare 43.92 326 *e*P **P 16 43 40.0 -0.7**
comp=Z,66nm,0.9s
TAPN Taplejung 44.14 327 *e*P **P 16 43 41.9 -0.5**
comp=Z,50nm,0.8s
LSA Lhasa 44.36 332 P **P 16 43 44.5 +0.1**
LSA pmax pmax
comp=Z,41nm,0.7s
LSA Lhasa 44.36 332 P **P 16 43 44.1 -0.3**
LSA IAmb IAmb 16 43 46.7
comp=Z,24nm,0.7s
LSA Lhasa 44.36 332 P **P 16 43 44.1 -0.3**
LSA pmax pmax
comp=Z,24nm,0.7s
RAMN Ramite 44.43 326 *e*P **P 16 43 43.4 -1.3**
comp=Z,36nm,1.2s
JIRN Jiri 45.21 326 *e*P **P 16 43 50.4 -0.7**
comp=Z,42nm,0.6s
GUN Gumba 45.58 326 *e*P **P 16 43 53.0 -1.0**
comp=Z,58nm,0.6s
PKI Pulchoki 45.58 325 *e*P **P 16 43 52.5 -1.5**
comp=Z,18nm,0.8s
PKIN Phulchoki 45.59 325 *e*P **P 16 43 52.7 -1.3**
comp=Z,23nm,0.8s
DMN Daman 45.78 325 *e*P **P 16 43 54.4 -1.1**
comp=Z,51nm,0.8s
KKN Kakani 45.82 325 *e*P **P 16 43 54.6 -1.1**
comp=Z,60nm,1.2s
JCJ Chichijima 46.20 37 LR LR 17 05 00.7
comp=Z,40nm,20.2s,baz=5.0,slow=38
LZH Lanzhou 46.25 350 *e*P **P 16 43 59.8 +0.9**
LZH PcP **PcP 16 45 34.5 +0.6**
LZH pmax pmax
comp=Z,45nm,1.2s
HNR Honiara 46.32 94 P **P 16 43 59.9 +0.2**
HNR Honiara 46.32 94 P **P 16 43 59.9 +0.2**
HNR pmax pmax
comp=Z,61nm,0.7s
HNR Honiara 46.32 94 LR LR 17 06 26.0
comp=Z,2μm,18.1s,baz=238,slow=40
GKN Gorkha 46.35 325 *e*P **P 16 43 59.1 -0.7**
comp=Z,18nm,0.4s
KOLN Koldanda 46.78 323 *e*P **P 16 44 02.1 -1.1**
comp=Z,53nm,0.7s
HNS HongShan 46.78 2 ⇓P **P 16 44 02.5 -0.3**
HNS pmax pmax
comp=Z,17nm,1.1s
DANN Dangsing 47.12 324 *e*P **P 16 44 04.8 -1.2**
comp=Z,50nm,0.6s
PYUN Piuthan 47.38 323 *e*P **P 16 44 06.3 -1.6**
comp=Z,38nm,1.0s
GOMU GeErMu 48.66 340 P **P 16 44 18.3 +0.5**
GOMU pmax pmax
comp=Z,4.0nm,0.9s
KSAR Wonju Array Be 48.85 16 P **P 16 44 18.4 -0.4**
KSAR Wonju Array Be 48.85 16 P **P 16 44 18.4 -0.4**
KSRS Korea Array 48.87 16 P **P 16 44 18.7 -0.3**
comp=Z,7.8nm,1.0s,baz=196,slow=7.7,SNR=24
KSRS LR LR 17 06 19.6
comp=Z,68nm,20.4s,baz=200,slow=38
comp=Z,7.8nm,1.0s
KS19 Wonju Array Si 48.90 16 P **P 16 44 18.6 -0.7**
KS19 IAmb IAmb 16 44 21.2
comp=Z,31nm,1.4s
BJT Baijiatuau 49.46 3 P **P 16 44 22.4 -1.0**
BJT Baijiatuau 49.46 3 P **P 16 44 22.5 -1.0**
BJT pmax pmax
comp=Z,52nm,1.6s
BJT Baijiatuau 49.46 3 P **P 16 44 23.3 -0.2**
BJI Beijing 49.48 3 P **P 16 44 23.0 -0.6**
BJI pmax pmax
comp=Z,4.0nm,0.9s
BJI pmax pmax
comp=Z,90nm,6.1s
BTO Baotou 50.03 357 *e*P **P 16 44 29.0 +1.1**
BTO pP **sP 16 44 47.0 +2.4**
BTO sP pwP 16 44 56.8 +13
BTO PcP **PcP 16 45 47.0 -0.3**
BTO PP **PP 16 46 25.8 +2.4**
BTO S **S 16 51 35.5 -0.3**
BTO sS sS 16 52 08.0 +12
BTO SS **SS 16 55 07.0 -2.6**
BTO pmax pmax
comp=Z,58nm,0.7s
BTO pmax pmax
comp=Z,690nm,4.2s
BTO LR LR
comp=Z,680nm,7.2s
BTO LR LR
comp=Z,900nm,8.6s
BTO LR LR
comp=Z,510nm,8.2s
INU Inuyama 50.16 26 P **P 16 44 27.9 -1.0**
INU Inuyama 50.16 26 P **P 16 44 27.0 -1.9**
INU sP **pwP 16 44 43.0 -1.5**
HHC Hu-ho-hao-te 50.22 359 *e*P **P 16 44 30.3 +1.0**
HHC pmax pmax
comp=Z,41nm,0.8s
HHC pmax pmax
comp=Z,260nm,4.9s
GTA Gaotai 50.27 347 *e*P **P 16 44 30.5 +0.7**
GTA PcP **PcP 16 45 51.0 +2.8**
GTA pmax pmax
comp=Z,12nm,1.2s
MAJO Matsushiro 51.68 26 P **P 16 44 38.7 -1.6**
MAJO Matsushiro 51.68 26 P **P 16 44 38.7 -1.6**
MAJO pmax pmax
comp=Z,71nm,1.8s
MAJO Matsushiro 51.68 26 P **P 16 44 38.7 -1.6**
MJAR Matsushiro Arr 51.68 26 P **P 16 44 38.5 -1.8**
comp=Z,16nm,0.8s,baz=203,slow=8.1,SNR=24
MJAR LR LR 17 08 24.7
comp=Z,90nm,19.0s,baz=171,slow=38
comp=Z,16nm,0.8s
MJB9 Matsu-Tunnel 51.69 26 P **P 16 44 39.8 -0.5**
SNY Shenyang 52.10 10 ⇓P **P 16 44 41.5 -1.8**
SNY pmax pmax
comp=Z,6.0nm,0.9s
DZM Mont Dzumac 52.69 110 *e*S **S 16 52 04.4 -8.8**
comp=Z,100nm,27.3s
DZM *e*LR LR 16 59 58.2
comp=Z,354nm,22.4s
DZM Mont Dzumac 52.69 110 LR LR 17 06 53.9
comp=Z,209nm,21.6s,baz=245,slow=36
JSD Sado 52.97 25 P **P 16 44 48.1 -1.7**
XLT XiLinHaoTe 53.33 3 *e*P **P 16 44 52.0 -0.4**
XLT pP sP 16 45 09.0 -0.2
XLT sP pwP 16 45 17.3 +9.2
XLT PcP **PcP 16 46 03.0 +3.5**
XLT PP **PP 16 46 54.5 +1.3**
XLT pmax pmax
comp=Z,22nm,1.2s
XLT pmax pmax
comp=Z,310nm,7.6s
CN2 Changchun 54.35 11 *e*P **P 16 44 59.0 -0.8**
CN2 *es*P sP 16 45 26.8 +10
CN2 *e*S **S 16 52 31.0 -3.7**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
MDJ Mudanjiang 56.03 14 P **P 16 45 12.5 +0.6**
MDJ pmax pmax
comp=Z,15nm,0.8s
MDJ pmax pmax
comp=Z,260nm,5.6s
USA0B Ussuriysk Arra 56.27 16 P **P 16 45 12.5 -1.1**
USA0B IAmb IAmb 16 45 30.6
comp=Z,23nm,1.1s
USA0B Ussuriysk Arra 56.27 16 *de*P **P 16 45 13.3 -0.3**
USRK Ussuriysk Ar. 56.27 16 P **P 16 45 12.4 -1.2**
USRK Ussuriysk Ar. 56.27 16 P **P 16 45 12.8 -0.8**
comp=Z,13nm,1.0s,baz=199,slow=5.6,SNR=18
USRK LR LR 17 11 33.6
comp=Z,103nm,18.2s,baz=167,slow=38
comp=Z,13nm,1.0s
BNX BinXian 56.60 12 ⇑P **P 16 45 16.3 +0.3**
BNX pmax pmax
comp=Z,6.0nm,0.5s
BNX pmax pmax
comp=Z,380nm,7.1s
CASY Casey 56.62 181 P **P 16 45 15.9 +0.1**
CASY Casey 56.62 181 P **P 16 45 17.4 +1.5**
NIL Nilore 57.21 321 P **P 16 45 18.1 -2.5**
NIL Nilore 57.21 321 P **P 16 45 18.1 -2.5**
NIL pmax pmax
comp=Z,26nm,0.8s
NIL Nilore 57.21 321 P **P 16 45 19.1 -1.6**
NIL pP **pP 16 45 29.2 -3.2**
ULN Ulaanbaatar 57.45 355 P **P 16 45 21.6 -0.6**
ULN IAmb IAmb 16 45 23.9
comp=Z,17nm,0.8s
ULN Ulaanbaatar 57.45 355 *c i*P **P 16 45 21.8 -0.3**
ULN pmax pmax
comp=Z,30nm,1.3s
ULN Ulaanbaatar 57.45 355 P **P 16 45 21.9 -0.3**
SONM Songino Array 57.48 355 P **P 16 45 21.5 -0.8**
SONM Songino Array 57.48 355 P **P 16 45 22.0 -0.3**
comp=Z,16nm,0.8s,baz=175,slow=8.4,SNR=70
comp=Z,16nm,0.8s
WMQ Urumqi 57.91 339 *e*P **P 16 45 25.0 -0.4**
WMQ pmax pmax
comp=Z,29nm,0.9s
WMQ LR LR
comp=Z,110nm,29.5s
WUS Wushi 59.33 331 P **P 16 45 35.3 -0.1**
KSH Kashi 59.71 327 P **P 16 45 36.0 -2.0**
KSH pmax pmax
comp=Z,9.0nm,0.7s
ZAK Zakamensk 60.33 353 *e*P **P 16 45 40.1 -1.9**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
KBL Kabul 60.47 319 P **P 16 45 41.6 -1.8**
KBL IAmb IAmb 16 45 43.7
comp=Z,11nm,0.7s
KBL Kabul 60.47 319 P **P 16 45 41.6 -1.8**
KBL pmax pmax
comp=Z,11nm,0.7s
RPZ Rata Peaks 60.53 135 LR LR 17 12 18.9
comp=Z,665nm,19.1s,baz=276,slow=36
PRZ Przheval'sk 60.71 331 P **P 16 45 43.8 -1.0**
PRZ IAmb IAmb 16 45 48.0
comp=Z,17nm,0.9s
PRZ Przheval'sk 60.71 331 P **P 16 45 43.8 -1.0**
PRZ pmax pmax
comp=Z,17nm,0.9s
SHLS Shalkode 60.73 332 ⇑ *i*P **P 16 45 43.9 -1.0**
baz=333
SHLS Shalkode 60.73 332 *c i*P **P 16 45 43.9 -1.0**
KLR Kul'dur 60.87 14 ⇓ *e*P **P 16 45 44.6 -1.0**
KLR pmax pmax
comp=Z,21nm,2.5s
KLR Kul'dur 60.87 14 LR LR 17 15 18.0
comp=Z,131nm,18.1s,baz=212,slow=39
UZB Uzynbulak 60.93 332 ⇑ *i*P **P 16 45 46.3 -0.1**
comp=Z,8.7nm,0.5s,baz=332
UZB Uzynbulak 60.93 332 *c i*P **P 16 45 46.2 -0.1**
UZB pmax pmax
comp=Z,9.0nm,0.5s
HEH HeiHe 60.93 11 *e*P **P 16 45 45.0 -0.9**
HEH pmax pmax
comp=Z,20nm,1.3s
HEH pmax pmax
comp=Z,540nm,7.4s
NRN Naryn 61.10 329 P **P 16 45 46.4 -1.3**
NRN IAmb IAmb 16 45 48.9
comp=Z,12nm,0.8s
NRN Naryn 61.10 329 P **P 16 45 46.4 -1.3**
NRN pmax pmax
comp=Z,13nm,0.8s
SATY Saty 61.15 332 ⇑ *i*P **P 16 45 47.7 0.0**
baz=332
SATY Saty 61.15 332 *c i*P **P 16 45 47.7 0.0**
ZHN Zhinishke 61.22 332 *e*P **P 16 45 47.8 -0.5**
baz=332
ZHN Zhinishke 61.22 332 *e*P **P 16 45 47.7 -0.5**
KPKS Kokpek 61.33 332 *e*P **P 16 45 48.8 -0.2**
comp=Z,14nm,1.2s,baz=332
KPKS Kokpek 61.33 332 *e*P **P 16 45 48.7 -0.2**
KPKS pmax pmax
comp=Z,14nm,1.2s
TNSS Tian-Shan 61.82 331 *e*P **P 16 45 53.0 +0.3**
baz=331
TNSS Tian-Shan 61.82 331 *e*P **P 16 45 52.9 +0.3**
MDOK Medeo 61.87 331 *e*P **P 16 45 52.5 -0.1**
baz=331
MDOK Medeo 61.87 331 *e*P **P 16 45 52.5 -0.1**
MOY Mondy 61.89 352 *e*P **P 16 45 52.6 0.0**
MOY pmax pmax
comp=Z,39nm,1.7s
BOOM Boomskoye usch 61.91 330 P **P 16 45 51.7 -1.3**
BOOM IAmb IAmb 16 45 54.5
comp=Z,21nm,1.2s
BOOM Boomskoye usch 61.91 330 P **P 16 45 51.7 -1.3**
BOOM pmax pmax
comp=Z,21nm,1.2s
ZSN Zaisan 62.05 339 *e*P **P 16 45 53.5 -0.1**
comp=Z,11nm,1.3s,baz=339
ZSN Zaisan 62.05 339 *e*P **P 16 45 53.5 -0.1**
ZSN pmax pmax
comp=Z,11nm,1.3s
YSS Yuzh-Sakhalins 62.26 23 *e*P P 16 45 49.7 -5.3
YSS pmax pmax
comp=Z,20nm,1.0s
WSAR Wadi Sarin 62.35 302 LR LR 17 14 11.2
comp=Z,76nm,18.3s,baz=120,slow=37
TKM2 Tokmak 2 62.40 330 P **P 16 45 56.0 -0.3**
SNR=29
CHKK Chushkaly 62.42 331 *e*P **P 16 45 55.4 -0.8**
baz=331
CHKK Chushkaly 62.42 331 *e*P **P 16 45 55.3 -0.8**
MK31 Makanchi Array 62.46 337 P **P 16 45 55.4 -1.0**
MK31 IAmb IAmb 16 45 57.1
comp=Z,10nm,0.6s
MK31 Makanchi Array 62.46 337 *c i*P **P 16 45 55.7 -0.7**
MKAR Makanchi Array 62.46 337 P **P 16 45 55.7 -0.7**
MKAR Makanchi Array 62.46 337 P **P 16 45 55.8 -0.5**
comp=Z,17nm,0.5s,baz=149,slow=7.5,SNR=207
comp=Z,17nm,0.5s
KBK Karagaybulak 62.53 329 P **P 16 45 57.5 +0.3**
SNR=19
MAKZ Makanchi 62.59 337 P **P 16 45 56.0 -1.2**
MAKZ IAmb IAmb 16 45 58.4
comp=Z,13nm,1.2s
MAKZ Makanchi 62.59 337 P **P 16 45 56.0 -1.2**
MAKZ pmax pmax
comp=Z,13nm,1.2s
MAKZ Makanchi 62.59 337 P **P 16 45 56.8 -0.4**
ARSB Arslanbob 62.60 327 P **P 16 45 56.4 -1.2**
ARSB IAmb IAmb 16 45 59.1
comp=Z,8.2nm,0.9s
ARSB Arslanbob 62.60 327 P **P 16 45 56.4 -1.2**
ARSB pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 62.74 329 P **P 16 45 58.6 0.0**
SNR=9.9
AAK Ala-Archa 62.74 329 P **P 16 45 58.2 -0.3**
AAK IAmb IAmb 16 46 01.1
comp=Z,22nm,1.1s
AAK Ala-Archa 62.74 329 *c i*P **P 16 45 58.3 -0.2**
AAK pmax pmax
comp=Z,26nm,1.3s
AAK Ala-Archa 62.74 329 LR LR 17 18 10.6
comp=Z,127nm,19.2s,baz=114,slow=41
AAK Ala-Archa 62.74 329 P **P 16 45 58.5 0.0**
KUU Kurty 62.76 331 *e*P **P 16 45 57.8 -0.7**
baz=331
KUU Kurty 62.76 331 *e*P **P 16 45 57.7 -0.7**
AML Almayashu 62.79 328 P **P 16 45 59.1 -0.1**
SNR=36
BTK Batken 62.93 325 P **P 16 45 58.9 -0.9**
BTK Batken 62.93 325 P **P 16 45 58.9 -0.9**
BTK pmax pmax
comp=Z,51nm,2.0s
SIMJ Simiganj 63.08 322 P **P 16 45 58.5 -2.3**
SIMJ sP **pP 16 46 13.3 +0.5**
EKS2 Erkin-Say 63.13 329 P **P 16 46 01.2 +0.1**
SNR=28
DGZ Jazzator, Alta 63.14 342 *c i*P **P 16 46 01.0 0.0**
DGZ pmax pmax
comp=Z,37nm,1.0s
USP Ospenovka 63.20 329 P **P 16 46 01.0 -0.4**
SNR=11
SGDS Sogindy 63.27 330 *e*P **P 16 46 01.3 -0.6**
baz=330
SGDS Sogindy 63.27 330 *e*P **P 16 46 01.2 -0.6**
MSVF Nonsavu 63.52 105 LR LR 17 13 34.5
comp=Z,160nm,19.6s,baz=253,slow=36
RTZ Ruatahuna 63.81 128 P **P 16 46 05.6 0.0**
RTZ IAmb IAmb 16 46 09.2
comp=Z,21nm,1.1s
URZ Urewera 63.86 128 LR LR 17 15 31.2
comp=Z,378nm,19.1s,baz=31,slow=37
ZEA Zeya 64.26 9 *e*P **P 16 46 08.3 +0.2**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
BTLS Baital 64.71 330 *e*P **P 16 46 10.9 -0.3**
baz=330
BTLS Baital 64.71 330 *e*P **P 16 46 10.9 -0.3**
IUG Iuzhnay 64.77 326 *e*P **P 16 46 11.6 -0.3**
comp=Z,8.6nm,0.5s,baz=326
IUG Iuzhnay 64.77 326 *e*P **P 16 46 11.5 -0.3**
IUG pmax pmax
comp=Z,9.0nm,0.5s
UOSS Minazif 65.08 303 P **P 16 46 12.9 -1.1**
UOSS IAmb IAmb 16 46 20.2
comp=Z,8.4nm,0.8s
KK31 Karatay Array 65.16 327 P **P 16 46 12.4 -1.8**
KK31 IAmb IAmb 16 46 16.2
comp=Z,6.7nm,0.7s
KK31 Karatay Array 65.16 327 P **P 16 46 12.4 -1.8**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 65.16 327 P **P 16 46 12.8 -1.4**
KKAR Karatay Array 65.16 327 P **P 16 46 12.9 -1.3**
KKAR IAmb IAmb 16 46 16.2
comp=Z,6.7nm,0.7s
KKAR Karatay Array 65.16 327 P **P 16 46 12.9 -1.3**
KKAR pmax pmax
comp=Z,7.0nm,0.7s
CCD Concordia, Ant 65.73 177 P **P 16 46 20.3 +2.4**
CCD pP **pwP 16 46 31.3 +0.8**
SEM Semipalatinsk 66.20 338 *e*P **P 16 46 21.1 0.0**
comp=Z,8.5nm,0.8s,baz=338
SEM Semipalatinsk 66.20 338 *e*P **P 16 46 21.0 0.0**
SEM pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 66.70 199 LR LR 17 12 38.7
comp=Z,193nm,19.1s,baz=26,slow=33
KURBB Kurchatov Arra 67.02 337 P **P 16 46 24.9 -1.1**
comp=Z,5.4nm,0.8s,baz=156,slow=5.7,SNR=22
comp=Z,5.4nm,0.8s
KURK Kurchatov 67.06 337 P **P 16 46 24.9 -1.3**
KURK IAmb IAmb 16 46 27.5
comp=Z,10nm,0.8s
KURK Kurchatov 67.06 337 ⇑ *e*P **P 16 46 26.9 +0.7**
KURK pmax pmax
comp=Z,6.0nm,1.0s
BOD Bodaibo 67.19 1 *e*P **P 16 46 26.5 -0.4**
BOD pmax pmax
comp=Z,20nm,1.6s
ZAA0 Zalesovo Array 67.64 342 P **P 16 46 28.5 -1.3**
ZALV Zalesovo Beam 67.64 342 P **P 16 46 27.8 -2.0**
ZALV Zalesovo Beam 67.64 342 P **P 16 46 28.8 -1.0**
comp=Z,15nm,0.5s,baz=154,slow=4.2,SNR=64
comp=Z,15nm,0.5s
BRZS Berezniki 68.95 333 *e*P **P 16 46 37.8 -0.4**
baz=333
BRZS Berezniki 68.95 333 *e*P **P 16 46 37.7 -0.4**
GEYT Alibeck 69.66 316 P **P 16 46 41.4 -1.4**
GEYT IAmb IAmb 16 46 45.7
comp=Z,26nm,1.1s
GEYT Alibeck 69.66 316 P **P 16 46 42.2 -0.6**
comp=Z,27nm,1.1s,baz=121,slow=7.1,SNR=36
GEYT LR LR 17 19 20.5
comp=Z,106nm,20.2s,baz=143,slow=38
comp=Z,27nm,1.1s
GYA0B ALIBECK ARRAY 69.66 316 P **P 16 46 42.5 -0.3**
BVAR Borovoye Array 72.14 335 P **P 16 46 56.9 -0.6**
comp=Z,4.9nm,0.7s,baz=144,slow=8.1,SNR=20
BVAR LR LR 17 23 28.1
comp=Z,135nm,18.3s,baz=125,slow=40
comp=Z,4.9nm,0.7s
BRVK Borovoye 72.21 335 P **P 16 46 56.5 -1.4**
BRVK Borovoye 72.21 335 *de*P **P 16 46 57.7 -0.2**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
VNDA Vanda 72.37 170 P **P 16 46 59.7 +1.1**
VNDA Vanda 72.37 170 P **P 16 47 00.2 +1.7**
comp=Z,3.0nm,1.0s,baz=297,slow=6.6,SNR=12
VNDA LR LR 17 18 20.7
comp=Z,252nm,18.3s,baz=314,slow=35
comp=Z,3.0nm,1.0s
YAK Yakutsk 72.60 8 P **P 16 46 58.8 -1.2**
YAK Yakutsk 72.60 8 *e*P **P 16 47 00.0 0.0**
YAK *e**PP **pP 16 47 11.5 -0.8**
YAK *e* 16 47 21.9
YAK *e* 16 49 38.4
YAK *e*PPP PPP 16 51 30.3
YAK *e*S **S 16 56 22.6 +1.4**
YAK *e**SS **sS 16 56 45.9 +3.9**
YAK *e* 16 57 13.6
YAK *e*SS **SS 17 01 02.0 +0.6**
YAK *e*SSS SSS 17 04 09.0
YAK pmax pmax
comp=Z,52nm,1.4s
YAK pmax pmax
comp=N,24nm,1.5s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK pmax pmax
comp=Z,880nm,10.4s
YAK pmax pmax
comp=N,1μm,8.7s
YAK pmax pmax
comp=E,745nm,6.8s
YAK smax smax
comp=E,971nm,7.6s
YAK smax smax
comp=N,400nm,7.6s
PETK Petropavlovsk- 73.14 26 P **P 16 47 02.9 -0.6**
comp=N,4.9nm,0.9s,baz=193,slow=6.1,SNR=5.9
comp=N,4.9nm,0.9s
SBA Scott Base 73.42 170 P **P 16 47 06.2 +1.4**
SBA Scott Base 73.42 170 P **P 16 47 06.2 +1.4**
SBA pmax pmax
comp=Z,5.0nm,1.2s
ABKAR Akbulak array 74.72 327 P **P 16 47 12.2 -0.5**
KIBK Kibwezi 74.73 270 P **P 16 47 12.8 -1.0**
MA2 Magadan 75.30 19 LR LR 17 24 07.6
comp=Z,69nm,18.0s,baz=120,slow=39
KMBO Kilima Mbogo 75.71 271 P **P 16 47 18.4 -1.2**
KMBO Kilima Mbogo 75.71 271 P **P 16 47 18.4 -1.2**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
AKTO Aktyubinsk 76.42 327 LR LR 17 24 51.7
comp=Z,81nm,20.6s,baz=40,slow=39
LODK Lodwar 78.36 276 P **P 16 47 33.5 -0.7**
SEY Seymchan 78.40 17 ⇓ *e*P **P 16 47 33.6 +0.3**
SEY pmax pmax
comp=Z,15nm,1.3s
SEY Seymchan 78.40 17 P **P 16 47 33.2 0.0**
comp=Z,6.0nm,0.7s,baz=216,slow=6.4,SNR=13
comp=Z,6.0nm,0.7s
SVE Sverdlovsk 78.87 334 ⇑ *e*P **P 16 47 36.6 +0.6**
SVE pmax pmax
comp=Z,39nm,1.4s
ARU Arti 79.56 333 P **P 16 47 38.9 -0.9**
ARU IAmb IAmb 16 47 41.6
comp=Z,22nm,1.0s
ARU Arti 79.56 333 *d i*P **P 16 47 39.8 0.0**
ARU S **S 16 57 42.8 +4.8**
ARU SS **SS 17 02 47.6 +0.6**
ARU pmax pmax
comp=Z,35nm,1.2s
ARU Arti 79.56 333 LR LR 17 25 35.5
comp=Z,82nm,19.3s,baz=130,slow=38

GNI	**Garni**	**79.97**	**314**	LR	LR	17 27 23.1	
	comp=Z,54nm,20.0s,baz=98,slow=39						
QSPA	**South Pole Qui**	**80.40**	**180**	P	**P**	**16 47 45.0**	**+0.6**
QSPA				IAmb	IAmb	16 48 01.6	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**80.40**	**180**	P	**P**	**16 47 45.8**	**+1.4**
	comp=Z,4.8nm,1.1s,baz=299,slow=4.0,SNR=8.1						
QSPA				LR	LR	17 22 04.0	
	comp=Z,228nm,19.8s,baz=326,slow=34						
	comp=Z,4.8nm,1.1s						
SHEM	**Shemya Is, Ala**	**80.92**	**33**	P	P	16 47 42.3	-4.8
	comp=Z,242nm,0.5s,baz=102,slow=13,SNR=5.8						
ZEI	**Tsey**	**81.53**	**316**	*eP*	**P**	**16 47 51.7**	**+0.8**
ZEI				pmax	pmax		
	comp=Z,14nm,1.5s						
TIXI	**Tiksi**	**81.77**	**5**	P	**P**	**16 47 49.9**	**-1.4**
TIXI				IAmb	IAmb	16 47 52.1	
	comp=Z,16nm,0.9s						
TIXI	**Tiksi**	**81.77**	**5**	*eP*	**P**	**16 47 50.1**	**-1.1**
MBAR	**Mbarara**	**82.22**	**271**	P	**P**	**16 47 55.9**	**+0.7**
MBAR				IAmb	IAmb	16 47 58.6	
	comp=Z,10nm,0.7s						
MBAR	**Mbarara**	**82.22**	**271**	*ceP*	**P**	**16 47 57.8**	**+2.6**
MBAR				pmax	pmax		
	comp=Z,12nm,1.1s						
MBAR				pmax	pmax		
	comp=Z,19nm,1.3s						
MBAR	**Mbarara**	**82.22**	**271**	LR	LR	17 21 43.9	
	comp=Z,77nm,18.1s,baz=128,slow=34						
LSZ	**Lusaka**	**82.51**	**256**	P	**P**	**16 47 56.4**	**-0.2**
LSZ				IAmb	IAmb	16 47 59.5	
	comp=Z,5.6nm,0.6s						
LSZ	**Lusaka**	**82.51**	**256**	P	**P**	**16 47 56.4**	**-0.2**
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KBZ	**Khabaz**	**82.55**	**317**	*ceP*	**P**	**16 47 58.4**	**+2.5**
KBZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KBZ	**Khabaz**	**82.55**	**317**	P	**P**	**16 47 56.0**	**+0.1**
	comp=Z,5.5nm,0.9s,baz=85,slow=1.3,SNR=7.6						
	comp=Z,5.5nm,0.9s						
KIV	**Kislovodsk**	**82.77**	**317**	*eP*	**P**	**16 47 55.3**	**-1.9**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BELG	**Belogornoye**	**83.03**	**326**	*deP*	**P**	**16 47 58.4**	**+0.2**
BELG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BELG	**Belogornoye**	**83.03**	**326**	LR	LR	17 33 39.7	
	comp=Z,73nm,18.3s,baz=158,slow=42						
BOSA	**Boshof**	**83.46**	**242**	P	**P**	**16 48 02.0**	**+0.7**
	comp=Z,6.6nm,1.1s,baz=56,slow=2.3,SNR=3.9						
BOSA				LR	LR	17 18 18.2	
	comp=Z,169nm,20.4s,baz=70,slow=31						
	comp=Z,6.6nm,1.1s						
EIL	**Elat**	**84.44**	**301**	LR	LR	17 27 21.7	
	comp=Z,79nm,19.1s,baz=62,slow=37						
KIRV	**Kirov**	**84.89**	**332**	||*eP*	**P**	**16 48 08.0**	**+0.4**
KIRV	**Kirov**	**84.89**	**332**	LR	LR	17 30 12.2	
	comp=Z,139nm,19.1s,baz=134,slow=39						
MMAI	**Mount Meron Ar**	**84.91**	**305**	P	**P**	**16 48 08.4**	**0.0**
	comp=Z,1.9nm,0.5s,baz=98,slow=9.0,SNR=7.4						
MMAI				LR	LR	17 29 14.5	
	comp=Z,49nm,19.6s,baz=82,slow=38						
	comp=Z,1.9nm,0.5s						
VRH	**Novokhopyorsk**	**85.94**	**323**	*eP*	**P**	**16 48 10.9**	**-2.1**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SUR	**Sutherland**	**86.72**	**238**	LR	LR	17 20 09.4	
	comp=Z,145nm,20.4s,baz=130,slow=31						
TROLL	**Troll, Antarti**	**87.10**	**197**	P	**P**	**16 48 21.3**	**+2.7**
	comp=Z,79nm,1.2s						
TROLL				⇑pP	**sP**	**16 48 35.3**	**-0.8**
	comp=Z,236nm,0.9s						
VORD	**Divnogorie**	**87.30**	**323**	*eP*	**P**	**16 48 18.3**	**-1.4**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VSR	**Storozhevoye**	**87.46**	**323**	*eP*	**P**	**16 48 17.6**	**-2.8**
VSR				pmax	pmax		
	comp=Z,20nm,0.8s						
VORR	**Voronezh**	**87.58**	**323**	*eP*	**P**	**16 48 21.4**	**+0.4**
VORR				pmax	pmax		
	comp=Z,38nm,1.6s						
PRGR	**Permogore**	**87.94**	**334**	*eP*	**P**	**16 48 22.5**	**0.0**
PRGR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BR131	**Keskin Array S**	**87.96**	**311**	P	**P**	**16 48 22.7**	**-0.5**
BR131	**Keskin Array S**	**87.96**	**311**	⇑*eP*	**P**	**16 48 23.2**	**-0.1**
BRTR	**Keskin Array B**	**87.96**	**311**	P	**P**	**16 48 22.1**	**-1.2**
BRTR	**Keskin Array B**	**87.96**	**311**	*i P*	**P**	**16 48 23.2**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**87.96**	**311**	P	**P**	**16 48 22.8**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=141,slow=6.1,SNR=16						
	comp=Z,4.2nm,0.8s						
LPSR	**Galich'ya Gora**	**88.04**	**324**	*eP*	**P**	**16 48 21.1**	**-2.0**
LPSR				pmax	pmax		
	comp=Z,20nm,1.0s						
SNAA	**Sanae**	**88.77**	**197**	P	**P**	**16 48 27.1**	**+0.7**
SNAA	**Sanae**	**88.77**	**197**	P	**P**	**16 48 29.0**	**+2.5**
	comp=Z,60nm,0.6s						
SNAA				⇑pP	**sP**	**16 48 43.4**	**-0.6**
	comp=Z,405nm,0.9s						
SNAA	**Sanae**	**88.77**	**197**	*deP*	**P**	**16 48 29.0**	**+2.5**
SNAA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SNAA	**Sanae**	**88.77**	**197**	P	**P**	**16 48 28.6**	**+2.1**
	comp=Z,3.3nm,0.7s,baz=171,slow=5.1,SNR=38						
SNAA				LR	LR	17 22 16.8	
	comp=Z,186nm,21.9s,baz=160,slow=31						
	comp=Z,3.3nm,0.7s						
MOS	**Moscow**	**89.74**	**327**	*eP*	**P**	**16 48 30.6**	**-0.4**
OBN	**Obninsk**	**90.13**	**326**	⇑*eP*	**P**	**16 48 34.4**	**+1.5**
OBN				*e*		16 52 06.3	
OBN				pmax	pmax		
	comp=Z,21nm,0.8s						
OBN				MLR	MLR		
	comp=Z,107nm,19.0s						
KLMR	**Klimovskoe**	**90.39**	**332**	*eP*	**P**	**16 48 32.6**	**-1.4**
KLMR				AMP		16 48 36.0	
	comp=Z,30nm,1.3s						
KLMR	**Klimovskoe**	**90.39**	**332**	*eP*	**P**	**16 48 32.6**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,30nm,1.3s						
VNA2	**Neumayer--Watz**	**90.42**	**196**	P	**P**	**16 48 36.5**	**+2.4**
	comp=Z,2.5nm,1.0s,baz=118,slow=3.0						
VNA2				⇑pP	**sP**	**16 48 51.3**	**-0.5**
	comp=Z,13nm,0.9s,baz=116,slow=3.0						
BELA	**Belgrano 2**	**90.80**	**187**	P	**P**	**16 48 36.8**	**+1.0**
BELA				IAmb	IAmb	16 48 52.9	
	comp=Z,10nm,1.0s						
VNA1	**Neumayer--Stat**	**90.81**	**197**	P	**P**	**16 48 39.2**	**+3.4**
	comp=Z,3.3nm,1.1s						
VNA1				⇑pP	**sP**	**16 48 53.1**	**-0.3**
	comp=Z,13nm,1.0s						
VNA3	**Neumayer Olymp**	**90.87**	**196**	P	**P**	**16 48 39.6**	**+3.4**
	comp=Z,1.0nm,0.8s						
VNA3				⇑pP	**sP**	**16 48 52.8**	**-1.1**
	comp=Z,9.6nm,0.9s						
TSUM	**Tsumeb**	**91.89**	**250**	LR	LR	17 23 39.0	
	comp=Z,88nm,21.7s,baz=108,slow=31						
AKASG	**Malin Array Be**	**93.41**	**321**	*i P*	**P**	**16 48 48.2**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**93.41**	**321**	P	**P**	**16 48 47.4**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=81,slow=4.2,SNR=5.6						
AKASG				LR	LR	17 35 27.0	
	comp=Z,59nm,21.8s,baz=168,slow=38						
	comp=Z,0.7nm,0.7s						
IDI	**Anoyia**	**93.90**	**305**	LR	LR	17 35 21.0	
	comp=Z,32nm,22.0s,baz=94,slow=38						
PPT	**Papeete**	**94.17**	**108**	LR	LR	17 26 27.9	
	comp=Z,122nm,20.2s,baz=280,slow=32						
MLR	**Muntele Rosu**	**94.68**	**315**	LR	LR	17 41 37.8	
	comp=Z,70nm,18.1s,baz=44,slow=42						
FINES	**FINESS Array B**	**96.86**	**331**	LR	LR	17 37 10.8	
	comp=Z,113nm,18.2s,baz=82,slow=38						
TORD	**Torodi Ar. Bea**	**112.69**	**280**	PKiKP	**PKiKP**	**16 54 10.7**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=45,slow=2.3,SNR=5.5						
YKA	**Yellowknife Ar**	**117.12**	**23**	PKP	**PKiKP**	**16 54 18.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=324,slow=2.0,SNR=5.8						
NVAR	**Mina Array Bea**	**125.97**	**49**	PKP	**PKiKP**	**16 54 36.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=275,slow=3.3,SNR=4.1						
PDAR	**Pinedale Array**	**130.35**	**41**	PKP	**PKiKP**	**16 54 45.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=15,slow=4.7,SNR=4.7						
TXAR	**Lajitas Array**	**140.53**	**55**	PKhKP	PKPpre	16 54 56.2	
	comp=Z,0.6nm,0.7s,baz=318,slow=1.7,SNR=5.4						
CCM	**Cathedral Cave**	**144.28**	**34**	PKPdf	PKPbc	16 55 07.6	+0.1
CCM	**Cathedral Cave**	**144.28**	**34**	PKIKP	PKPbc	16 55 07.6	0.0
L48A	**N Adams**	**144.34**	**22**	PKPdf	**PKPab**	**16 55 06.7**	**-0.6**
MGMO	**Mountain Grove**	**144.34**	**36**	PKPdf	**PKPab**	**16 55 07.3**	**-0.2**
OXF	**Oxford**	**147.84**	**36**	PKPbc	**PKPbc**	**16 55 17.3**	**-1.1**
OXF	**Oxford**	**147.84**	**36**	PKP2	**PKPbc**	**16 55 17.3**	**-1.1**
Y45A	**Yeager Farm, C**	**148.22**	**37**	PKPbc	**PKPbc**	**16 55 18.3**	**-1.1**
U49A	**Red Boiling Sp**	**148.28**	**29**	PKPdf	**PKPdf**	**16 55 14.0**	**-2.1**
T50A	**Nancy**	**148.31**	**28**	PKPbc	**PKPbc**	**16 55 18.3**	**-1.2**
S51A	**Beattyville**	**148.35**	**26**	PKPbc	**PKPdf**	**16 55 17.9**	**+1.7**
V48A	**Smith Brothers**	**148.36**	**32**	PKPbc	**PKPbc**	**16 55 18.9**	**-0.9**
R53A	**Hurricane**	**148.42**	**23**	PKPbc	**PKPbc**	**16 55 19.2**	**-0.6**

DNK ***25*** *16:48:21.8±0.9, 81°.57N×3°.35W, h13km±10km, ML1.4*
BER ***25*** *16:48:25.8±1.9, 81°.49N×3°.96W, h10km, mb(Pn)3.1, Confirmed Earthquake*
IEPN ***25*** *16:48:29.0, 81°.49N×1°.52W, h10km*
ISC 25 16:48:10.4±1.1, 82°.07N±0°.07×0°.13W±0°.04, h10km, n13, σ1§92/21, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.40**	**267**	*eP*	**Pg**	**16 48 55.8**	**-0.7**
NOR				*eS*	**Sn**	**16 49 18.4**	**-0.8**
NOR	**Nord**	**2.40**	**267**	*i P*	**Pb**	**16 48 55.0**	**+1.3**
NOR				*i S*	**Sn**	**16 49 18.7**	**-0.5**
NOR				IAML		16 49 20.0	
	comp=Z,5.0nm,0.6s						
KBS	**Kingsbay**	**3.73**	**142**	*eP*	**Pg**	**16 49 21.1**	**-0.7**
KBS				*eS*	**Sb**	**16 50 01.0**	**-0.5**
KBS	**Kingsbay**	**3.73**	**142**	*eP*	**Pg**	**16 49 21.4**	**-0.5**
KBS				IAML		16 49 22.4	
	comp=Z,4.5nm,0.2s						
KBS				*eS*	**Sb**	**16 50 01.2**	**-0.3**
KBS	**Kingsbay**	**3.73**	**142**	*i P*	**Pb**	**16 49 17.6**	**+1.3**
KBS				*i S*	**Sb**	**16 50 00.4**	**-1.1**
BRBB	**Barentsburg B**	**4.69**	**141**	*eP*	**Pb**	**16 49 35.1**	**+2.6**
SPA0	**Spitsbergen Ar**	**4.81**	**136**	*eP*	**Pb**	**16 49 36.8**	**+2.2**
SPA0				*eS*	**Sb**	**16 50 28.9**	**-3.5**
SPA0	**Spitsbergen Ar**	**4.81**	**136**	*eP*	**Pb**	**16 49 37.2**	**+2.5**
SPA0				IAML		16 49 39.2	
	comp=Z,2.7nm,0.3s						
SPA0				*eS*	**Sb**	**16 50 29.6**	**-2.8**
HSPB	**Hornsund (broa**	**5.81**	**143**	*eP*	**Pb**	**16 49 50.4**	**-1.2**
DAG	**Danmarks Havn**	**6.27**	**222**	*eS*	Sn	16 50 43.8	-11
DAG	**Danmarks Havn**	**6.27**	**222**	*i P*	**Pn**	**16 49 44.0**	**+1.2**
DAG				*i S*	Sn	16 50 44.2	-10
DAG				IAML		16 50 51.1	
	comp=Z,1.1nm,0.7s						
ZFI2	**Zemlya Franca-**	**7.05**	**76**	*eP*	**Pb**	**16 50 15.2**	**+2.4**
ZFI2				*eS*	**Sb**	**16 51 35.1**	**-1.8**
	comp=Z,23nm,2.5s						
OMEGA	**Omega**	**7.08**	**76**	*eP*	**Pb**	**16 50 15.4**	**+2.2**
OMEGA				*eS*	**Sb**	**16 51 35.5**	**-2.0**
	comp=Z,19nm,2.1s						

IDC ***25*** *17:16:22.6±1.6, 9°.60S×112°.74E, h0km, mb3.8/7, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=74.6km s-min=18.7km az=44.0*
NEIC ***25*** *17:16:27.7±1.3, 9°.73S±0°.05×112°.87E±0°.05, h35km±2km, mb4.0/6, Error ellipse: s-maj=11.8km s-min=4.3km az=223.0*
DJA ***25*** *17:16:28.2±0.4, 10°S±5°×11°3E±°, h35km, M3.8/17, mb3.7/4, MLv3.9/17*
ISC 25 17:16:27.9±0.6, 9°.64S±0°.06×112°.98E±0°.05, h36km, n43, σ1§82/46, mb4.0/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.44**	**19**	P	**Pn**	**17 16 51.9**	**+0.5**
GMJI				S	**Sn**	**17 17 04.0**	**-5.1**
JAGI	**Jajag, Banyuwa**	**1.65**	**45**		**Pn**	**17 16 55.6**	**+1.3**
JAGI	**Jajag, Banyuwa**	**1.65**	**45**	P	**Pn**	**17 16 55.4**	**+1.1**
JAGI				S	**Sn**	**17 17 11.5**	**-2.7**
BLJI	**Banyuglugur**	**1.98**	**18**	P	**Pn**	**17 17 00.9**	**+2.0**
BLJI				S	**Sn**	**17 17 26.8**	**+4.3**
ABJI	**Asem Bagus**	**2.22**	**34**	P	**Pn**	**17 17 03.0**	**+0.8**
IGBI	**Denpasar**	**2.29**	**69**	P	**Pn**	**17 17 05.8**	**+2.6**
DNP	**Denpasar**	**2.41**	**67**	P	**Pn**	**17 17 04.9**	**+0.1**
WOJI	**Wonogiri, Jawa**	**2.71**	**311**	P	**Pn**	**17 17 10.0**	**+1.1**
NGJI	**Ngawi**	**2.71**	**326**	P	**Pn**	**17 17 12.7**	**+3.7**
GRJI	**Gresik**	**2.75**	**350**	P	**Pn**	**17 17 11.4**	**+1.8**
UGM	**Wanagama**	**2.97**	**305**		**Pn**	**17 17 13.8**	**+1.2**
UGM	**Wanagama**	**2.97**	**305**	P	**Pn**	**17 17 13.8**	**+1.2**
YOGI	**Yogyakarta**	**3.21**	**304**	P	**Pn**	**17 17 17.2**	**+1.4**
SMRI	**Semarang**	**3.59**	**316**	P	**Pn**	**17 17 23.0**	**+1.9**
BWJI	**Bawean**	**3.78**	**355**	P	Pn	17 17 16.5	-7.2
TWSI	**Taliwang, Sumb**	**3.96**	**77**	P	**Pn**	**17 17 28.2**	**+2.0**
KPJI	**Karang Pucung**	**4.61**	**300**	P	**Pn**	**17 17 35.9**	**+0.8**
PLAI	**Plampang**	**4.81**	**81**	P	**Pn**	**17 17 39.2**	**+1.4**
CMJI	**Cimerak**	**4.84**	**292**	P	**Pn**	**17 17 40.8**	**+2.5**
WBSI	**Waikabubak, Su**	**6.33**	**91**	P	**Pn**	**17 17 57.5**	**-1.2**
	0.1nm,0.9s,0.0nm						
XMIS	**Christmas Isla**	**7.26**	**263**	Pn	**Pn**	**17 18 09.4**	**-2.1**
CGJI	**Cibinong**	**7.81**	**292**	P	**Pn**	**17 18 20.9**	**+1.8**
	27nm,0.9s,0.1nm						
BKSI	**Bulukumba**	**8.28**	**59**	P	**Pn**	**17 18 24.9**	**-0.7**
EDFI	**Ende, Flores**	**8.65**	**85**	P	**Pn**	**17 18 29.2**	**-1.5**
BATI	**Baumata**	**10.54**	**94**	Pn	**Pn**	**17 18 59.1**	**+2.5**
	1.4nm,0.3s,baz=252,slow=3.2,SNR=1.8						
BATI				Sn	**Sn**	**17 20 55.3**	**+1.7**
	1.0nm,0.3s,baz=0.0,slow=1.0,SNR=1.9						
	2.9nm,0.3s						
GIRL	**Giralia**	**12.98**	**175**	Pn	**Pn**	**17 19 29.7**	**-0.2**
MBWA	**Marble Bar**	**13.17**	**151**	Pn	**Pn**	**17 19 33.0**	**+0.5**
KNRA	**Kununurra**	**16.52**	**113**		**Pn**	**17 20 18.3**	**+1.2**
KNRA				IAmb	IAmb	17 20 46.5	
	comp=Z,14nm,1.1s						
MTN	**Manton Dam**	**18.09**	**102**		**Pn**	**17 20 36.9**	**+0.3**
MTN				IAmb	IAmb	17 21 15.8	
	comp=Z,11nm,1.1s						
FAKI	**Fak Fak**	**20.28**	**72**	P	**P**	**17 21 01.5**	**+0.9**
WRA	**Warramunga Arr**	**23.03**	**119**	P	**P**	**17 21 32.0**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=292,slow=11,SNR=4.5						
	comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	**24.37**	**127**	P	**P**	**17 21 43.2**	**+0.3**
ASAR	**Alice Springs**	**24.37**	**127**	P	**P**	**17 21 42.2**	**-0.7**
ASAR	**Alice Springs**	**24.37**	**127**	P	**P**	**17 21 44.6**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=304,slow=8.9,SNR=26						
	comp=Z,0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.17**	**334**	P	**P**	**17 22 42.9**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=178,slow=8.8,SNR=13						
	comp=Z,0.7nm,0.3s						
SONM	**Songino Array**	**57.52**	**355**	P	**P**	**17 26 13.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=169,slow=8.7,SNR=3.9						
	comp=Z,0.5nm,0.5s						
MK31	**Makanchi Array**	**62.50**	**337**	P	**P**	**17 26 47.1**	**-0.7**
MK31				IAmb	IAmb	17 26 47.6	
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**62.50**	**337**	P	**P**	**17 26 47.0**	**-0.8**
MKAR	**Makanchi Array**	**62.50**	**337**	P	**P**	**17 26 47.1**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=150,slow=8.2,SNR=14						
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**67.69**	**342**	P	**P**	**17 27 20.0**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=160,slow=4.6,SNR=2.8						
	comp=Z,0.5nm,0.4s						
SBA	**Scott Base**	**73.38**	**170**	P	**P**	**17 27 54.7**	**-1.0**
SBA				IAmb	IAmb	17 28 23.0	
	comp=Z,4.0nm,1.4s						
ABKAR	**Akbulak array**	**74.76**	**327**	P	**P**	**17 28 03.3**	**-0.9**
BRTR	**Keskin Array B**	**88.01**	**311**	P	**P**	**17 29 14.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=84,slow=5.9,SNR=2.5						
	comp=Z,0.7nm,0.8s						

DJA ***25*** *17:19:58.4±0.2, 10°S±2°×11°3E±°, h53km±3km, M4.7/54, mB5.2/19, mb4.9/54, MLv5.1/25, Mw(mB)4.6/19*
BJI ***25*** *17:19:58.0±0.0, 9°.70S×112°.90E, h60km, mb5.0/61, mB5.3/28, Ms5.0/7, Ms7 4.7/7*
NEIC ***25*** *17:19:59.9±1.4, 9°.48S±0°.09×113°.01E±0°.06, h54km±6km, mb4.9/73, Error ellipse: s-maj=12.5km s-min=8.8km az=186.0*
IDC ***25*** *17:20:02.0±1.8, 9°.41S×113°.06E, h71km±16km, mb4.4/21, mbtmp4.7/24, MS3.9/33, Error ellipse: s-maj=14.4km s-min=9.3km az=42.0*
ISC 25 17:19:59.3±0.4, 9°.51S±0°.04×112°.94E±0°.04, h51km±3km, h51km:pP-P, n297, σ1§66/296, mb4.9/74, MS4.0/32, 12C-6D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.33**	**22**	P	**Pn**	**17 20 21.8**	**+0.3**
JAGI	**Jajag, Banyuwa**	**1.58**	**49**	Pn	**Pn**	**17 20 24.8**	**-0.1**
JAGI				Sn	**Sn**	**17 20 45.7**	**+1.4**
JAGI	**Jajag, Banyuwa**	**1.58**	**49**	P	**Pn**	**17 20 26.9**	**+2.0**
JAGI	**Jajag, Banyuwa**	**1.58**	**49**	P	**Pn**	**17 20 25.4**	**+0.5**
BLJI	**Banyuglugur**	**1.87**	**20**	P	**Pn**	**17 20 31.1**	**+2.2**
ABJI	**Asem Bagus**	**2.13**	**37**	P	**Pn**	**17 20 35.6**	**+3.2**
IGBI	**Denpasar**	**2.28**	**73**	P	**Pn**	**17 20 35.7**	**+1.2**
DNP	**Denpasar**	**2.39**	**70**	P	**Pn**	**17 20 38.0**	**+2.0**
NGJI	**Ngawi**	**2.59**	**325**	P	**Pn**	**17 20 41.6**	**+2.9**
WOJI	**Wonogiri, Jawa**	**2.60**	**310**	P	**Pn**	**17 20 39.7**	**+0.8**
GRJI	**Gresik**	**2.62**	**350**	P	**Pn**	**17 20 41.8**	**+2.6**
UGM	**Wanagama**	**2.87**	**303**		**Pn**	**17 20 43.1**	**+0.5**
UGM				Sn	**Sn**	**17 21 14.7**	**-1.3**
UGM	**Wanagama**	**2.87**	**303**	P	**Pn**	**17 20 44.1**	**+1.4**
UGM	**Wanagama**	**2.87**	**303**	P	**Pn**	**17 20 43.2**	**+0.5**
YOGI	**Yogyakarta**	**3.11**	**303**	P	**Pn**	**17 20 46.3**	**+0.4**
SMRI	**Semarang**	**3.48**	**314**	Pn	**Pn**	**17 20 52.7**	**+1.7**
SMRI	**Semarang**	**3.48**	**314**	P	**Pn**	**17 20 52.9**	**+1.9**
SMRI	**Semarang**	**3.48**	**314**	P	**Pn**	**17 20 52.2**	**+1.2**
BWJI	**Bawean**	**3.65**	**356**	P	**Pn**	**17 20 55.9**	**+2.6**
TWSI	**Taliwang, Sumb**	**3.96**	**79**	P	**Pn**	**17 20 59.0**	**+1.4**
KPJI	**Karang Pucung**	**4.52**	**298**	P	**Pn**	**17 21 04.7**	**-0.6**
CMJI	**Cimerak**	**4.76**	**291**	P	**Pn**	**17 21 07.6**	**-1.0**
PLAI	**Plampang**	**4.82**	**82**	P	**Pn**	**17 21 12.5**	**+3.1**
PLAI	**Plampang**	**4.82**	**82**	P	**Pn**	**17 21 11.0**	**+1.6**
BBJI	**Bungbulang**	**5.62**	**291**	P	**Pn**	**17 21 22.1**	**+1.7**
	170nm,1.1s						
LEM	**Lembang**	**5.91**	**296**	P	**Pn**	**17 21 24.9**	**+0.4**
	133nm,0.8s,1μm0.9nm						
LEM	**Lembang**	**5.91**	**296**	P	**Pn**	**17 21 26.1**	**+1.7**
	39nm,0.6s,baz=59,slow=13,SNR=11						
LEM				S	**Sn**	**17 22 37.1**	**+6.1**
	171nm,1.0s,baz=315,slow=19,SNR=2.0						
LEM				LR	LR	17 23 58.4	
	comp=Z,597nm,21.9s,baz=132,slow=40						
CNJI	**Cibinong**	**6.15**	**290**	P	**Pn**	**17 21 27.9**	**+0.2**
	53nm,0.5s,916nm0.9nm						
BBKI	**Banjar Baru**	**6.30**	**18**	P	**Pn**	**17 21 33.2**	**+3.5**
	241nm,0.7s,2μm0.8nm						
XMIS	**Christmas Isla**	**7.25**	**262**	Pn	**Pn**	**17 21 40.4**	**-2.2**
BASI	**Baing, Sumba**	**7.55**	**96**	P	**Pn**	**17 21 46.7**	**-0.2**
	111nm,0.6s,2μm1.2nm						
CGJI	**Cibinong**	**7.74**	**291**	P	**Pn**	**17 21 49.3**	**-0.1**
	130nm,0.5s,3μm0.7nm						
KAPI	**Kappang**	**8.10**	**57**	Pn	**Pn**	**17 21 54.6**	**+0.2**
KAPI	**Kappang**	**8.10**	**57**	P	**Pn**	**17 21 56.7**	**+2.4**
	86nm,0.9s						
KAPI	**Kappang**	**8.10**	**57**	P	**Pn**	**17 21 56.0**	**+1.7**
	15nm,0.3s,baz=231,slow=11,SNR=20						
KAPI				S	**Sn**	**17 23 26.1**	**+1.5**
	15nm,0.6s,baz=60,slow=20,SNR=1.8						
KAPI				LR	LR	17 25 24.9	
	comp=Z,666nm,21.1s,baz=234,slow=41						
BKSI	**Bulukumba**	**8.25**	**60**	P	**Pn**	**17 21 58.0**	**+1.6**
	66nm,0.6s,793nm						
EDFI	**Ende, Flores**	**8.67**	**86**	P	**Pn**	**17 22 01.1**	**-1.2**
	60nm,1.1s,819nm						
MMRI	**Maumere**	**9.22**	**85**	Pn	**Pn**	**17 22 08.2**	**-1.5**
MMRI	**Maumere**	**9.22**	**85**	P	**Pn**	**17 22 11.6**	**+1.9**
	84nm,0.8s						
MMRI	**Maumere**	**9.22**	**85**	P	**Pn**	**17 22 08.0**	**-1.7**
	74nm,0.9s,1μm						
KASI	**Kota Agung**	**9.26**	**295**	P	**Pn**	**17 22 10.4**	**+0.1**
	51nm,0.5s,1μm						
TTSI	**Tana Toraja**	**9.38**	**47**	P	**Pn**	**17 22 15.2**	**+3.3**
	64nm,0.8s						
STKI	**Sintang**	**9.63**	**351**	P	**Pn**	**17 22 18.6**	**+3.3**
	55nm,0.9s						
LWLI	**Liwa**	**9.88**	**296**	P	**Pn**	**17 22 18.5**	**-0.3**
	153nm,0.7s,3μm						
BBSI	**Bau Bau**	**10.35**	**68**	P	**Pn**	**17 22 28.6**	**+3.4**
	38nm,1.1s						
BATI	**Baumata**	**10.59**	**95**	P	**Pn**	**17 22 29.1**	**+0.7**
	69

comp=Z,0.5nm,0.7s,baz=282,slow=24,SNR=1.3
WRA LR LR 17 35 09.1
comp=Z,181nm,20.1s,baz=322,slow=39
comp=Z,8.7nm,0.7s
WRAB Tennant Creek 23.12 119 P **P** **17 25 00.7 -0.5**
WB2 Warramunga Arr 23.13 119 P **P** **17 25 00.4 -0.8**
WB2 IAmb IAmb 17 25 03.2
comp=Z,44nm,1.4s
WR0 Warramunga Arr 23.30 119 P **P** **17 25 02.4 -0.6**
NWAO Narrogin (SRO) 23.64 171 P **P** **17 25 04.6 -1.4**
NWAO IAmb IAmb 17 25 28.1
comp=Z,56nm,1.7s
NWAO Narrogin (SRO) 23.64 171 P **P** **17 25 04.9 -1.1**
NWAO IAmb IAmb 17 25 28.1
comp=Z,188nm,1.7s
NWAO Narrogin (SRO) 23.64 171 LR LR 17 35 26.9
comp=Z,438nm,18.4s,baz=306,slow=39
ASAR Alice Springs 24.48 128 P **P** **17 25 14.2 +0.4**
ASAR Alice Springs 24.48 128 P **P** **17 25 14.6 +0.8**
comp=Z,13nm,0.6s,baz=304,slow=8.8,SNR=260
ASAR S **S** **17 29 37.5 +6.7**
comp=Z,1.2nm,0.9s,baz=306,slow=20,SNR=2.9
ASAR LR LR 17 35 38.1
comp=Z,121nm,20.0s,baz=236,slow=38
comp=Z,13nm,0.6s
AS31 Alice Springs 24.48 128 P **P** **17 25 13.2 -0.7**
FORT Forrest 25.42 148 P **P** **17 25 22.1 -0.2**
FORT IAmb IAmb 17 25 47.8
comp=Z,32nm,0.8s
FORT Forrest 25.42 148 P **P** **17 25 24.9 +2.7**
QIS Mount Isa 27.95 116 P **P** **17 25 46.7 +1.5**
OOD Oodnadatta 28.10 133 P **P** **17 25 47.4 +0.9**
CM31 Chiang Mai Arr 31.04 334 P **P** **17 26 11.6 -0.9**
CM31 IAmb IAmb 17 26 14.8
comp=Z,15nm,0.8s
CMAR Chiang Mai Arr 31.04 334 P **P** **17 26 12.6 +0.1**
CMAR **PcP** **17 29 08.3 +0.8**
CMAR Chiang Mai Arr 31.04 334 P **P** **17 26 13.5 +1.0**
comp=Z,9.4nm,0.8s,baz=169,slow=8.2,SNR=98
CMAR PcP **PcP** **17 29 08.6 +1.1**
comp=Z,1.5nm,0.9s,baz=192,slow=3.4,SNR=4.6
CMAR LR LR 17 39 52.0
comp=Z,232nm,18.4s,baz=160,slow=38
comp=Z,9.4nm,0.8s
CHTO Chiang Mai 31.35 334 P **P** **17 26 14.8 -0.5**
LCRK Leigh Creek 31.45 135 P **P** **17 26 17.2 +1.2**
INKA Innaminka 31.85 128 P **P** **17 26 21.8 +2.2**
CRAI Chiangrai 32.04 337 P **P** **17 26 21.7 +0.4**
PMG Port Moresby 33.74 93 LR LR 17 42 56.2
comp=Z,178nm,18.8s,baz=270,slow=41
CTA Charters Tower 33.81 112 LR LR 17 41 51.9
comp=Z,128nm,18.9s,baz=285,slow=39
CTAO Charters Tower 33.81 112 P **P** **17 26 38.6 +1.7**
CTAO pP **pP** **17 26 49.7 +0.4**
CTAO sP **pwP** **17 26 54.7 +1.9**
QLP Quilpie 34.11 124 P **P** **17 26 42.4 +3.0**
TV1H Townsville Har 34.13 110 P **P** **17 26 41.8 +2.2**
GHSS Government Hou 34.49 141 P **P** **17 26 44.5 +2.0**
STKA Stephens Creek 34.64 134 P **P** **17 26 44.9 +1.0**
STKA Stephens Creek 34.64 134 P **P** **17 26 45.4 +1.5**
STKA Stephens Creek 34.64 134 P **P** **17 26 44.9 +1.0**
comp=Z,5.9nm,0.7s,baz=310,slow=9.0,SNR=18
STKA LR LR 17 41 31.6
comp=Z,472nm,20.9s,baz=295,slow=37
comp=Z,5.9nm,0.7s
PALK Pallekele 36.19 296 LR LR 17 42 33.6
comp=Z,81nm,20.0s,baz=216,slow=37
TNCH TengChong 37.10 338 ⇑*i*P **P** **17 27 06.5 +1.3**
TNCH pP pP 17 27 19.5 +1.7
TNCH S **S** **17 32 46.8 -1.3**
TNCH pmax pmax
comp=Z,18nm,1.1s
TNCH pmax pmax
comp=Z,140nm,4.3s
TNCH LR LR
comp=Z,150nm,13.7s
TNCH LR LR
comp=Z,180nm,15.6s
TNCH LR LR
comp=Z,280nm,15.1s
PZH PanZhiHua 37.42 343 P **P** **17 27 10.5 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
CMSA Cobar Meteorol 37.45 131 P **P** **17 27 10.8 +2.8**
WHN Wuhan 39.85 2 P **P** **17 27 29.5 +1.6**
H08S2 Diego Garcia H 40.03 269 T T 18 10 41.4
baz=95,slow=74
H08S3 Diego Garcia H 40.04 269 T T 18 10 25.0
baz=95,slow=74
H08S1 Diego Carcia H 40.04 269 T T 18 10 35.8
baz=95
SHL Shillong 40.45 330 P **P** **17 27 33.1 -0.2**
TOO Toolangi 40.50 139 P **P** **17 27 35.9 +2.5**
TOO Toolangi 40.50 139 P **P** **17 27 36.7 +3.3**
CD2 Chengdu 41.15 348 P **P** **17 27 39.3 +0.6**
CD2 pP pP 17 27 53.3 +1.8
CD2 sP sP 17 27 59.0 +1.8
CD2 S **S** **17 33 52.3 +3.8**
CD2 pmax pmax
comp=Z,30nm,0.9s
NJ2 Nanjing 41.71 8 *e*P **P** **17 27 47.0 +3.7**
NJ2 pP **pP** **17 27 56.5 +0.4**
NJ2 sP **sP** **17 28 02.3 +0.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,220nm,4.5s
XAN Xi'an 43.48 355 ⇓P **P** **17 27 58.0 +0.3**
XAN pmax pmax
comp=Z,15nm,0.8s
LYN LuoYang 43.82 359 ⇑P **P** **17 28 01.0 +0.6**
LYN sP sP 17 28 27.5 +8.6
LYN pmax pmax
comp=Z,27nm,0.7s
ODAN Odare 43.84 326 *e*P **P** **17 28 00.7 -0.3**
comp=Z,44nm,0.6s
TAPN Taplejung 44.06 327 *e*P **P** **17 28 02.9 +0.2**
comp=Z,54nm,0.8s
LSA Lhasa 44.28 332 P **P** **17 28 05.0 +0.3**
LSA pmax pmax
comp=Z,33nm,0.8s
LSA Lhasa 44.28 332 P **P** **17 28 04.5 -0.2**
LSA IAmb IAmb 17 28 06.7
comp=Z,22nm,0.9s
LSA Lhasa 44.28 332 P **P** **17 28 06.0 +1.3**
LSA pP **pP** **17 28 17.6 +0.3**
RAMN Ramite 44.35 325 *e*P **P** **17 28 05.0 0.0**
comp=Z,12nm,0.7s
JIRN Jiri 45.13 326 *e*P **P** **17 28 11.2 -0.2**
comp=Z,34nm,0.5s
GUN Gumba 45.50 326 *e*P **P** **17 28 14.1 -0.2**
comp=Z,37nm,0.4s
PKI Pulchoki 45.50 325 *e*P **P** **17 28 13.5 -0.8**
comp=Z,14nm,0.7s
PKIN Phulchoki 45.51 325 *e*P **P** **17 28 13.5 -0.8**
comp=Z,9.3nm,0.4s
TIA Tai'an 45.65 5 *e*P **P** **17 28 13.8 -1.1**
TIA pmax pmax
comp=Z,12nm,1.1s
DMN Daman 45.70 325 *e*P **P** **17 28 15.7 -0.1**
comp=Z,41nm,0.7s
JNU Nakatsue 45.71 21 P **P** **17 28 14.7 -0.8**
comp=Z,9.4nm,1.0s,baz=196,slow=7.4,SNR=2.6
comp=Z,9.4nm,1.0s
KKN Kakani 45.74 325 *e*P **P** **17 28 15.5 -0.6**
LZH Lanzhou 46.16 350 *e*P **P** **17 28 20.5 +1.4**
LZH pP pP 17 28 33.5 +1.6
LZH sP sP 17 28 38.5 +1.0
LZH pmax pmax
comp=Z,45nm,1.0s
GKN Gorkha 46.27 325 *e*P **P** **17 28 19.7 -0.4**
comp=Z,12nm,0.3s
HNR Honiara 46.33 94 P **P** **17 28 21.2 +0.5**
HNR Honiara 46.33 94 LR LR 17 47 48.6
comp=Z,703nm,20.8s,baz=61,slow=36
HNR Honiara 46.33 94 P **P** **17 28 22.0 +1.3**
HNS HongShan 46.69 2 ⇑P **P** **17 28 23.0 0.0**
HNS pmax pmax
comp=Z,16nm,1.0s
KOLN Koldanda 46.70 323 *e*P **P** **17 28 23.0 -0.5**
DANN Dangsing 47.04 324 *e*P **P** **17 28 25.6 -0.7**
comp=Z,40nm,0.7s
PYUN Piuthan 47.30 323 *e*P **P** **17 28 27.5 -0.8**
comp=Z,16nm,0.6s
GOMU GeErMu 48.57 340 P **P** **17 28 39.0 +0.9**
GOMU pmax pmax
comp=Z,3.0nm,0.9s
KSAR Wonju Array Be 48.76 16 P **P** **17 28 40.1 +1.1**
KSRS Korea Array 48.78 16 P **P** **17 28 39.3 +0.1**
comp=Z,4.8nm,0.9s,baz=196,slow=7.5,SNR=15
KSRS LR LR 17 50 29.3
comp=Z,34nm,21.2s,baz=175,slow=38
comp=Z,4.8nm,0.9s
KS19 Wonju Array Si 48.81 16 P **P** **17 28 39.0 -0.5**
KS19 IAmb IAmb 17 28 41.0
comp=Z,32nm,1.4s
BJT Baijiatuau 49.37 3 P **P** **17 28 43.9 +0.2**
BJT IAmb IAmb 17 28 45.8
comp=Z,30nm,1.4s
BJI Beijing 49.39 3 P **P** **17 28 44.0 +0.2**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,100nm,6.3s
BTO Baotou 49.94 357 ⇓*i*P **P** **17 28 50.0 +1.8**
BTO pP **sP** **17 29 08.8 +2.2**
BTO S **S** **17 35 57.0 +2.0**
BTO SS **SS** **17 39 27.0 -1.7**
BTO pmax pmax
comp=Z,120nm,0.8s
BTO pmax pmax
comp=Z,600nm,5.0s
BTO LR LR
comp=Z,1μm,7.5s
BTO LR LR
comp=Z,400nm,5.7s
BTO LR LR
comp=Z,780nm,7.4s
INU Inuyama 50.08 26 P **P** **17 28 47.0 -2.2**
INU Inuyama 50.08 26 P **P** **17 28 48.5 -0.7**
INU pP **pP** **17 28 59.7 -2.4**
INU sP **pwP** **17 29 04.4 -1.4**
HHC Hu-ho-hao-te 50.12 359 *e*P **P** **17 28 50.5 +0.9**
HHC pmax pmax
comp=Z,54nm,0.6s
HHC pmax pmax
comp=Z,300nm,4.8s
GTA Gaotai 50.18 347 *e*P **P** **17 28 51.3 +1.3**
GTA PcP **PcP** **17 30 11.0 +2.2**
GTA pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 51.60 26 P **P** **17 28 58.9 -1.8**
MAJO IAmb IAmb 17 29 04.5
comp=Z,17nm,0.8s
MAJO Matsushiro 51.60 26 P **P** **17 28 59.5 -1.2**
MJAR Matsushiro Arr 51.60 26 P **P** **17 28 59.5 -1.2**
comp=Z,20nm,0.9s,baz=203,slow=7.9,SNR=32
comp=Z,20nm,0.9s
MJB9 Matsu-Tunnel 51.61 26 P **P** **17 28 59.4 -1.3**
MJB9 IAmb IAmb 17 29 05.5
comp=Z,16nm,0.8s
SNY Shenyang 52.01 10 ⇓P **P** **17 29 01.8 -1.8**
SNY pmax pmax
comp=Z,10.0nm,1.0s
SNY pmax pmax
comp=Z,150nm,6.2s
SNY LR LR
comp=Z,120nm,7.0s
SNY LR LR
comp=Z,340nm,7.0s
SNY LR LR
comp=Z,310nm,6.3s
DZM Mont Dzumac 52.73 110 LR LR 17 52 45.8
comp=Z,107nm,19.4s,baz=228,slow=37
JSD Sado 52.89 25 P **P** **17 29 09.1 -1.0**
XLT XiLinHaoTe 53.23 3 ⇓*i*P **P** **17 29 13.3 +0.6**
XLT pP pP 17 29 28.3 +2.6
XLT sP sP 17 29 37.5 +6.3
XLT PcP **PcP** **17 30 17.8 -2.2**
XLT PP **PP** **17 31 15.8 +2.4**
XLT pmax pmax
comp=Z,23nm,1.1s
CN2 Changchun 54.26 11 *e*P **P** **17 29 19.5 -0.6**
CN2 *es*P sP 17 29 47.5 +8.8
MDJ Mudanjiang 55.94 14 P **P** **17 29 32.0 -0.2**
MDJ pmax pmax
comp=Z,16nm,1.2s
MDJ pmax pmax
comp=Z,310nm,7.0s
MDJ Mudanjiang 55.94 14 P **P** **17 29 32.1 -0.2**
MDJ IAmb IAmb 17 29 33.2
comp=Z,13nm,0.9s
MDJ Mudanjiang 55.94 14 P **P** **17 29 32.2 0.0**
MDJ pP **pP** **17 29 43.7 -1.6**
USA0B Ussuriysk Arra 56.18 16 P **P** **17 29 33.4 -0.5**
USA0B IAmb IAmb 17 29 35.0
comp=Z,25nm,1.2s
USRK Ussuriysk Ar. 56.18 16 P **P** **17 29 33.7 -0.2**
USRK Ussuriysk Ar. 56.18 16 P **P** **17 29 33.4 -0.5**
comp=Z,13nm,0.9s,baz=185,slow=3.7,SNR=13
USRK LR LR 17 56 14.9
comp=Z,53nm,18.8s,baz=240,slow=39
comp=Z,13nm,0.9s
NIL Nilore 57.14 321 P **P** **17 29 39.2 -1.8**
ULN Ulaanbaatar 57.36 355 P **P** **17 29 41.6 -0.9**
ULN Ulaanbaatar 57.36 355 P **P** **17 29 42.9 +0.5**
SONM Songino Array 57.39 355 P **P** **17 29 42.6 0.0**
SONM Songino Array 57.39 355 P **P** **17 29 42.7 +0.1**
comp=Z,17nm,0.7s,baz=174,slow=8.2,SNR=70
comp=Z,17nm,0.7s
WMQ Urumqi 57.83 339 *e*P **P** **17 29 46.5 +0.8**
WMQ pmax pmax
comp=Z,35nm,0.7s
WUS Wushi 59.24 331 P **P** **17 29 56.0 +0.3**
KBL Kabul 60.39 319 P **P** **17 30 02.5 -1.3**
RPZ Rata Peaks 60.60 135 LR LR 17 56 58.9
comp=Z,248nm,18.9s,baz=276,slow=37
PRZ Przheval'sk 60.62 331 P **P** **17 30 04.6 -0.6**
SHLS Shalkode 60.65 332 ⇑*i*P **P** **17 30 04.8 -0.5**
baz=333
KLR Kudur 60.78 14 LR LR 17 58 14.0
comp=Z,98nm,18.1s,baz=134,slow=38
HEH HeiHe 60.84 11 *e*P **P** **17 30 05.5 -0.7**
HEH pmax pmax
comp=Z,21nm,1.1s
UZB Uzynbulak 60.84 332 ⇑*i*P **P** **17 30 07.1 +0.5**
comp=Z,11nm,0.5s,baz=332
NRN Naryn 61.02 329 P **P** **17 30 07.8 -0.2**
NRN IAmb IAmb 17 30 08.8
comp=Z,14nm,1.0s
SATY Saty 61.06 332 ⇑*i*P **P** **17 30 08.6 +0.5**
comp=Z,5.1nm,0.4s,baz=332
ZHN Zhinishke 61.13 332 *e*P **P** **17 30 08.7 +0.2**
baz=332
KPKS Kokpek 61.25 332 *e*P **P** **17 30 09.7 +0.4**
comp=Z,5.6nm,0.4s,baz=332
TNSS Tian-Shan 61.74 331 *e*P **P** **17 30 13.4 +0.4**
baz=331
MDOK Medeo 61.78 331 *e*P **P** **17 30 13.5 +0.5**
baz=331
ZSN Zaisan 61.96 339 *e*P **P** **17 30 14.3 +0.4**
baz=339
WSAR Wadi Sarin 62.30 302 LR LR 17 57 36.5
comp=Z,60nm,18.5s,baz=72,slow=36
TKM2 Tokmak 2 62.31 330 P **P** **17 30 16.8 +0.1**
SNR=26
CHKK Chushkaly 62.34 331 *e*P **P** **17 30 16.2 -0.3**
baz=331
MK31 Makanchi Array 62.37 337 P **P** **17 30 16.6 -0.1**
MKAR Makanchi Array 62.37 337 P **P** **17 30 16.5 -0.2**
MKAR Makanchi Array 62.37 337 P **P** **17 30 16.8 +0.1**
comp=Z,17nm,0.5s,baz=149,slow=7.7,SNR=241
comp=Z,17nm,0.5s
KBK Karagaybulak 62.44 329 P **P** **17 30 18.4 +0.9**
SNR=22
MAKZ Makanchi 62.51 337 P **P** **17 30 17.1 -0.5**
MAKZ IAmb IAmb 17 30 18.4
comp=Z,6.1nm,0.7s
MAKZ Makanchi 62.51 337 P **P** **17 30 17.5 -0.1**
MAKZ PcP **PcP** **17 30 56.5 +0.1**
MAKZ PP **PP** **17 32 33.8 -1.9**
ARSB Arslanbob 62.52 327 P **P** **17 30 17.7 -0.3**
ARSB IAmb IAmb 17 30 19.1
comp=Z,8.2nm,1.0s
TDK Taldyorghan 62.56 333 *e*P **P** **17 30 18.3 +0.3**
baz=333
AAK Ala-Archa 62.66 329 P **P** **17 30 19.6 +0.7**
SNR=8.0
AAK Ala-Archa 62.66 329 P **P** **17 30 18.7 -0.2**
AAK IAmb IAmb 17 30 20.5
comp=Z,17nm,0.9s
KUU Kurty 62.67 331 ⇑*i*P **P** **17 30 18.7 -0.1**
baz=331
AML Almayashu 62.71 328 P **P** **17 30 20.0 +0.4**
SNR=27
BTK Batken 62.85 325 P **P** **17 30 19.0 -1.2**
BTK IAmb IAmb 17 30 21.1
comp=Z,9.0nm,0.8s
SIMJ Simiganj 63.00 322 P **P** **17 30 19.4 -1.8**
EKS2 Erkin-Say 63.05 328 P **P** **17 30 22.2 +0.8**
SNR=28
USP Ospenovka 63.11 329 P **P** **17 30 21.9 +0.1**
SNR=12
SGDS Sogindy 63.18 330 *e*P **P** **17 30 22.1 -0.1**
comp=Z,7.9nm,0.7s,baz=330
URZ Urewera 63.92 128 LR LR 18 00 01.5
comp=Z,200nm,18.9s,baz=31,slow=38
BTLS Baital 64.63 330 *e*P **P** **17 30 31.2 -0.4**
baz=330
IUG Iuzhnay 64.69 326 *e*P **P** **17 30 32.6 +0.3**
comp=Z,14nm,0.8s,baz=326
UOSS Minazif 65.02 303 P **P** **17 30 34.1 -0.5**
UOSS IAmb IAmb 17 30 35.2
comp=Z,8.2nm,0.8s
KK31 Karatay Array 65.07 327 P **P** **17 30 34.0 -0.6**
KK31 IAmb IAmb 17 30 36.3
comp=Z,6.3nm,0.8s
KKAR Karatay Array 65.07 327 P **P** **17 30 34.0 -0.6**
KKAR IAmb IAmb 17 30 36.3
comp=Z,6.3nm,0.8s
KKAR Karatay Array 65.07 327 P **P** **17 30 33.2 -1.4**
MAW Mawson 66.78 199 LR LR 17 54 34.9
comp=Z,89nm,21.0s,baz=23,slow=31
KURBB Kurchatov Arra 66.93 337 P **P** **17 30 46.0 -0.3**
comp=Z,6.4nm,0.8s,baz=155,slow=5.4,SNR=25
comp=Z,6.4nm,0.8s
KURK Kurchatov 66.97 337 P **P** **17 30 46.0 -0.6**
KURK IAmb IAmb 17 30 47.5
comp=Z,12nm,0.8s
ZAA0 Zalesovo Array 67.55 342 P **P** **17 30 49.5 -0.7**
ZALV Zalesovo Beam 67.55 342 P **P** **17 30 49.4 -0.8**
ZALV Zalesovo Beam 67.55 342 P **P** **17 30 49.8 -0.4**
comp=Z,12nm,0.4s,baz=154,slow=4.4,SNR=76
comp=Z,12nm,0.4s
BRZS Berezniki 68.87 333 *e*P **P** **17 30 58.8 +0.3**
baz=333
GEYT Alibeck 69.58 316 P **P** **17 31 02.8 -0.5**
GEYT Alibeck 69.58 316 P **P** **17 31 03.5 +0.2**
comp=Z,14nm,0.9s,baz=147,slow=6.5,SNR=31
comp=Z,14nm,0.9s
GYA0B ALIBECK ARRAY 69.58 316 P **P** **17 31 03.0 -0.2**
GYA0B IAmb IAmb 17 31 05.7
comp=Z,26nm,1.1s
BVAR Borovoye Array 72.06 335 P **P** **17 31 17.8 -0.1**
comp=Z,4.0nm,0.6s,baz=142,slow=8.5,SNR=21
comp=Z,4.0nm,0.6s
BRVK Borovoye 72.12 335 P **P** **17 31 17.7 -0.6**
VNDA Vanda 72.47 170 P **P** **17 31 21.0 +1.0**
VNDA Vanda 72.47 170 P **P** **17 31 21.0 +1.0**
comp=Z,1.8nm,0.9s,baz=285,slow=6.1,SNR=12
VNDA LR LR 18 02 23.4
comp=Z,105nm,18.1s,baz=302,slow=35
comp=Z,1.8nm,0.9s
YAK Yakutsk 72.51 8 P **P** **17 31 19.7 -0.7**
PETK Petropavlovsk- 73.06 26 P **P** **17 31 23.2 -0.7**
comp=Z,11nm,1.1s,baz=113,slow=3.9,SNR=4.8
comp=Z,11nm,1.1s
ABKAR Akbulak array 74.64 327 P **P** **17 31 33.2 +0.1**
KIBK Kibwezi 74.72 270 P **P** **17 31 33.3 -1.3**
KMBO Kilima Mbogo 75.70 271 P **P** **17 31 40.7 +0.3**
FURI Furi 76.17 282 P **P** **17 31 43.2 +0.1**
AKTO Aktyubinsk 76.33 327 LR LR 18 12 30.5
comp=Z,93nm,18.3s,baz=166,slow=41
LODK Lodwar 78.34 275 P **P** **17 31 54.2 -0.9**
ARU Arti 79.48 333 P **P** **17 31 59.6 -0.6**
ARU IAmb IAmb 17 32 01.6
comp=Z,44nm,1.4s
QSPA South Pole Qui 80.49 180 P **P** **17 32 05.8 0.0**
QSPA IAmb IAmb 17 32 23.5
comp=Z,14nm,1.2s
QSPA South Pole Qui 80.49 180 P **P** **17 32 06.3 +0.5**
comp=Z,3.5nm,1.1s,baz=333,slow=3.9,SNR=5.4
QSPA LR LR 18 06 34.8
comp=Z,87nm,19.8s,baz=320,slow=35
comp=Z,3.5nm,1.1s
GURO Guroymak-BITLI 81.31 311 P **P** **17 32 10.3 -0.4**
GURO IAmb IAmb 17 32 13.1
comp=Z,17nm,1.6s
TIXI Tiksi 81.68 5 P **P** **17 32 10.8 -0.8**
TIXI IAmb IAmb 17 32 12.2
comp=Z,21nm,1.0s
MBAR Mbarara 82.21 271 P **P** **17 32 17.0 +1.0**
MBAR IAmb IAmb 17 32 19.1
comp=Z,8.5nm,0.9s
KBZ Khabaz 82.48 317 P **P** **17 32 17.4 +0.9**
comp=Z,4.1nm,1.0s,baz=142,slow=3.4,SNR=5.2
comp=Z,4.1nm,1.0s
BELG Belogornoye 82.95 326 LR LR 18 14 41.2
comp=Z,61nm,18.9s,baz=153,slow=40
BOSA Boshof 83.50 242 LR LR 18 05 41.2
comp=Z,70nm,19.1s,baz=50,slow=33
GHAJ Ghor Haditha 84.28 303 P **P** **17 32 26.9 +0.9**
GHAJ IAmb IAmb 17 32 28.8
comp=Z,17nm,1.1s
EIL Elat 84.39 301 LR LR 18 11 32.9
comp=Z,45nm,19.9s,baz=79,slow=37
KIRV Kirov 84.81 332 LR LR 18 18 29.1
comp=Z,63nm,19.9s,baz=33,slow=41
MMAI Mount Meron Ar 84.85 305 P **P** **17 32 30.6 +1.6**
comp=Z,5.7nm,0.9s,baz=119,slow=8.7,SNR=5.7
MMAI LR LR 18 16 03.9
comp=Z,28nm,18.1s,baz=80,slow=40
comp=Z,5.7nm,0.9s
SUR Sutherland 86.76 238 LR LR 18 07 03.3
comp=Z,64nm,18.4s,baz=120,slow=32
TROLL Troll, Antarti 87.18 197 ⇑pP pP 17 32 56.2 +2.5
comp=Z,125nm,0.7s
BR131 Keskin Array S 87.90 311 P **P** **17 32 43.2 -0.7**
BR131 IAmb IAmb 17 32 45.4
comp=Z,11nm,0.9s
BRTR Keskin Array B 87.90 311 P **P** **17 32 43.9 0.0**
BRTR Keskin Array B 87.90 311 P **P** **17 32 44.7 +0.8**
comp=Z,4.4nm,0.8s,baz=132,slow=6.8,SNR=21
BRTR LR LR 18 15 46.6
comp=Z,55nm,18.5s,baz=110,slow=38
comp=Z,4.4nm,0.8s
SNAA Sanae 88.85 197 P **P** **17 32 48.0 +0.2**
SNAA Sanae 88.85 197 ⇓P **P** **17 32 49.9 +2.2**
comp=Z,72nm,0.9s
SNAA ⇑pP **pP** **17 33 04.3 +2.7**
comp=Z,246nm,0.7s
SNAA Sanae 88.85 197 P **P** **17 32 49.2 +1.5**
comp=Z,3.0nm,0.8s,baz=165,slow=4.6,SNR=20
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 90.31 332 *e*P **P** **17 32 53.8 -0.7**
KLMR AMP 17 33 04.3
comp=Z,30nm,2.0s
VNA2 Neumayer--Watz 90.50 196 ⇓P **P** **17 32 57.7 +2.3**
comp=Z,1.8nm,0.9s,baz=116,slow=4.0
VNA2 ⇑pP **pP** **17 33 12.1 +2.8**
comp=Z,7.9nm,0.9s,baz=115,slow=3.0
BELA Belgrano 2 90.89 187 P **P** **17 32 57.6 +0.5**
BELA IAmb IAmb 17 33 14.3
comp=Z,5.7nm,0.8s
VNA1 Neumayer--Stat 90.89 197 ⇑pP pP 17 33 13.9 +2.9
comp=Z,6.0nm,0.8s
VNA3 Neumayer Olymp 90.95 196 P **P** **17 32 59.6 +2.2**
comp=Z,1.2nm,0.8s
VNA3 ⇑pP **pP** **17 33 13.9 +2.6**
comp=Z,5.2nm,0.8s
TSUM Tsumeb 91.91 250 LR LR 18 09 18.7
comp=Z,54nm,19.2s,baz=146,slow=32
AKASG Malin Array Be 93.33 321 LR LR 18 22 35.6
comp=Z,49nm,18.4s,baz=2.0,slow=40
PPT Papeete 94.20 108 LR LR 18 10 47.7
comp=Z,55nm,20.1s,baz=254,slow=32
YKA Yellowknife Ar 117.03 23 PKP **PKiKP** **17 38 38.9 +0.7**
comp=Z,0.9nm,0.7s,baz=310,slow=1.7,SNR=5.1
NVAR Mina Array Bea 125.92 49 PKP **PKiKP** **17 38 58.3 +1.5**
comp=Z,0.8nm,0.9s,baz=299,slow=0.9,SNR=4.5
TXAR Lajitas Array 140.48 55 PKhKP PKPpre 17 39 15.9
comp=Z,0.4nm,0.6s,baz=244,slow=2.3,SNR=5.8

AFAD ***25*** *17:22:13.6±0.0, 35.°76N×27.°85E, h17km±1km, ML2.5*
ISK ***25*** *17:22:13.3, 35.°72N×27.°96E, h9km, ML2.6/11*

ATH ***25*** *17:22:15.2, 35°.77N×27°.94E, h5km±2km, ML2.6/5, Error ellipse: s-maj=3.6km s-min=1.3km az=315.0*
THE ***25*** *17:22:17.3, 35°.90N×27°.86E, h2km±1km, ML2.6/4, Error ellipse: s-maj=1.7km s-min=0.6km az=122.0*
ISC 25 17:22:14.6±1.2, **35°.76N**±0°.03×**27°.96E**±0°.03, **h14**km±9km, **n48**, σ0°67/71, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.47**	**16**	Pg	**Pg**	**17 22 23.8**	**-0.2**
ARG				Sg	**Sb**	**17 22 31.5**	**-0.1**
ARG	**Arkhangelos**	**0.47**	**16**	P	**Pb**	**17 22 24.8**	**0.0**
ARG				S	**Sg**	**17 22 31.2**	**+0.9**
	2μm,0.8s						
ARG	**Arkhangelos**	**0.47**	**16**	P	**Pg**	**17 22 24.0**	**0.0**
ARG				S	**Sg**	**17 22 31.1**	**+0.7**
ARG				AML	AML	17 22 32.8	
	comp=N,2312μm,0.6s						
ARG				AML	AML	17 22 34.1	
	comp=E,3934μm,0.4s						
KARP	**Karpathos**	**0.69**	**252**	P	**Pg**	**17 22 27.2**	**-0.7**
KARP				S	**Sb**	**17 22 37.3**	**-0.4**
KARP	**Karpathos**	**0.69**	**252**	P	**Pg**	**17 22 27.2**	**-0.7**
KARP				S	**Sb**	**17 22 38.1**	**+0.4**
KARP				AML	AML	17 22 44.4	
	comp=N,1086μm,0.4s						
KARP				AML	AML	17 22 45.0	
	comp=E,1060μm,0.2s						
RFTD	**Palamutbuku-Ka**	**0.99**	**338**	Pg	**Pg**	**17 22 33.9**	**+0.1**
RFTD				Sg	**Sn**	**17 22 48.3**	**+0.3**
DAT	**Datca**	**1.02**	**342**	Pg	**Pb**	**17 22 34.0**	**-0.1**
DAT				Sg	**Sn**	**17 22 49.1**	**+0.4**
DAT	**Datca**	**1.02**	**342**	P	**Pn**	**17 22 34.3**	**-0.3**
DAT				S	**Sg**	**17 22 47.3**	**-0.2**
DAT	**Datca**	**1.02**	**342**	P	**Pb**	**17 22 33.3**	**-0.7**
TURN	**Turunc**	**1.04**	**13**	Pn	**Pb**	**17 22 34.4**	**0.0**
TURN				Sn	**Sn**	**17 22 49.9**	**+0.8**
TURN	**Turunc**	**1.04**	**13**	P	**Pb**	**17 22 33.2**	**-1.2**
TURN				S	**Sn**	**17 22 49.0**	**-0.1**
TURN				*i* AML	AML	17 22 53.0	
	comp=E,176nm,0.5s						
TURN				*i* AML	AML	17 22 53.0	
	comp=E,112nm,0.3s						
NIS1	**Nisyros Isl.**	**1.05**	**323**	P	**Pb**	**17 22 34.5**	**-0.1**
NIS1				S	**Sg**	**17 22 48.6**	**-0.1**
	comp=E,498nm,0.6s						
NIS1	**Nisyros Isl.**	**1.05**	**323**	P	**Pb**	**17 22 34.3**	**-0.3**
NIS1				S	**Sg**	**17 22 48.5**	**-0.1**
NIS1				AML	AML	17 22 58.8	
	comp=E,923μm,0.7s						
NIS1				AML	AML	17 23 00.4	
	comp=N,1064μm,0.6s						
NISR	**Nisiros**	**1.08**	**322**	P	**Pn**	**17 22 35.2**	**-0.2**
NISR				S	**Sb**	**17 22 48.6**	**-0.6**
	comp=N,238nm,1.6s						
NISR	**Nisiros**	**1.08**	**322**	P	**Pg**	**17 22 35.7**	**+0.2**
DALY	**Dalyan (Mula)**	**1.19**	**28**	Pn	**Pn**	**17 22 36.7**	**-0.2**
IZZE	**Mula-Seydike**	**1.23**	**56**	P	**Pb**	**17 22 38.4**	**+0.8**
RFTAA	**Mazikoy-Bodrum**	**1.25**	**352**	Pn	**Pb**	**17 22 38.2**	**+0.3**
RFTAA				Sn	**Sg**	**17 22 56.3**	**+1.4**
FETY	**Fethiye**	**1.26**	**46**	Pn	**Pn**	**17 22 37.9**	**+0.1**
RFTB	**Kemer-Bodrum**	**1.32**	**335**	Pn	**Pb**	**17 22 39.1**	**-0.1**
BDRM	**Kayabasi**	**1.37**	**342**	P	**Pn**	**17 22 39.1**	**-0.2**
BDRM				S	**Sb**	**17 22 57.4**	**+0.1**
BDRM				*i* AML	AML	17 23 03.0	
	comp=N,54nm,0.4s						
YER	**Yerkesik**	**1.40**	**11**	Pn	**Pb**	**17 22 40.2**	**-0.3**
YER	**Yerkesik**	**1.40**	**11**	P	**Pb**	**17 22 40.9**	**+0.4**
YER				S	**Sb**	**17 22 58.7**	**+0.5**
BODT	**Bodrum**	**1.40**	**338**	Pn	**Pb**	**17 22 40.0**	**-0.5**
BODT	**Bodrum**	**1.40**	**338**	P	**Pb**	**17 22 40.1**	**-0.5**
BODT				S	**Sn**	**17 22 57.5**	**-0.6**
AKAS	**Kas**	**1.41**	**70**	P	**Pn**	**17 22 39.0**	**-1.1**
MULA	**Mugla, Merkez-**	**1.52**	**11**	P	**Pn**	**17 22 41.3**	**-0.2**
MLSB	**Milas**	**1.54**	**354**	Pn	**Pn**	**17 22 42.2**	**+0.5**
ZKR	**Zakros**	**1.56**	**246**	P	**Pb**	**17 22 43.8**	**+0.5**
ZKR				S	**Sg**	**17 23 05.4**	**+0.5**
	comp=N,145nm,0.5s						
ZKR	**Zakros**	**1.56**	**246**	P	**Pb**	**17 22 42.8**	**-0.5**
ZKR				S	**Sb**	**17 23 03.4**	**+0.5**
ZKR				AML	AML	17 23 08.5	
	comp=N,192μm,0.6s						
ZKR				AML	AML	17 23 13.4	
	comp=E,391μm,0.5s						
CAME	**Cameli-Denizli**	**1.60**	**42**	Pn	**Pn**	**17 22 42.9**	**+0.2**
CAEL	**Denizli, Camel**	**1.75**	**38**	P	**Pb**	**17 22 46.0**	**-0.5**
DDIM	**Aydin, Didim**	**1.79**	**341**	P	**Pn**	**17 22 45.7**	**+0.6**
DDIM				S	**Sb**	**17 23 10.3**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.87**	**24**	P	**Pb**	**17 22 49.2**	**+0.7**
TAVA				S	**Sg**	**17 23 13.6**	**-1.0**
TAVA				*i* AML	AML	17 23 26.0	
	comp=E,44nm,0.5s						
AYDN	**Tasoluk**	**1.90**	**358**	P	**Pb**	**17 22 48.1**	**-0.9**
GOLH	**Golhisar**	**1.96**	**41**	P	**Pb**	**17 22 49.9**	**-0.2**
APMY	**Acipayam-Deniz**	**2.02**	**32**	Pn	**Pn**	**17 22 49.1**	**+0.7**
DNIZ	**Denizli-Tavas-**	**2.05**	**25**	P	**Pb**	**17 22 51.2**	**-0.5**
DNIZ				S	**Sg**	**17 23 19.6**	**-1.1**
DNIZ				*i* AML	AML	17 23 29.0	
	comp=E,189nm,0.4s						
SANT	**Santorini**	**2.12**	**287**	P	**Pn**	**17 22 50.9**	**+1.3**
SMG	**Samos**	**2.14**	**335**	P	**Pn**	**17 22 50.5**	**+0.5**
SMG	**Samos**	**2.14**	**335**	P	**Pn**	**17 22 50.4**	**+0.4**
SMG				AML	AML	17 23 29.5	
	comp=N,76μm,0.4s						
SMG				AML	AML	17 23 31.1	
	comp=E,108μm,0.5s						
THR3	**Thira Island,**	**2.17**	**288**	P	**Pn**	**17 22 51.1**	**+0.7**
SNT5	**Nea Kammeni, S**	**2.18**	**288**	P	**Pn**	**17 22 50.4**	**0.0**
APE	**Apeiranthos**	**2.36**	**304**	P	**Pn**	**17 22 53.5**	**+0.6**
APE	**Apeiranthos**	**2.36**	**304**	P	**Pn**	**17 22 53.5**	**+0.6**
IZMR	**zmir-demi**	**2.37**	**360**	P	**Pn**	**17 22 53.8**	**+0.6**
DGB	**zmir**	**2.45**	**340**	P	**Pb**	**17 22 56.1**	**-2.2**
IDI	**Anoyia**	**2.55**	**260**	P	**Pn**	**17 22 57.0**	**+1.4**
IDI				S	**Sn**	**17 23 25.6**	**-0.9**

TAP ***25*** *17:23:55.7, 23°.23N×120°.72E, h8km, ML4.3, C*
ASIES ***25*** *17:23:55.7, 23°.23N×120°.72E, h8km, ML4.3, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-1.06; $M_{\theta\theta}$5.17; $M_{\phi\phi}$-4.10; $M_{r\theta}$1.85; $M_{\theta\phi}$-7.34; $M_{\phi r}$-0.27; Fault plane solution: $M_0$8.93124×10^{21} NP1:ϕ_s73.71000°, δ87.13000°, λ169.51000°. NP2:ϕ_s164.24000°, δ79.52000°, λ2.92000°. Principal axes: T Plg9.4410°, Azm28.5240°; N Plg79.1250°, Azm238.5750°; P Plg5.3480°, Azm119.4160°;*
JMA ***25*** *17:23:57.2±0.1, 23°.2N±0°.2×120°.8E±0°.5, h6km±2km, MV4.2/17, TAIWAN REGION*
NIED ***25*** *17:23:57.2, 23°.23N×120°.77E, h6km, MW4.2, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.36; $M_{\theta\theta}$1.54; $M_{\phi\phi}$-0.18; $M_{r\theta}$1.23; $M_{\theta\phi}$0.12; $M_{\phi r}$0.74; Fault plane solution: $M_0$2.05000×10^{15} NP1: ϕ_s247.00000°, δ68.00000°, λ-106.00000°. NP2: ϕ_s105.00000°, δ27.00000°, λ-55.00000°.*
ISC 25 17:23:56.2±0.8, **23°.23N**±0°.01×**120°.72E**±0°.01, **h9**km±4km, **n154**, σ0°89/284, **43C-30D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.08**	**154**	⇓*i*P	**Pg**	**17 23 58.4**	**-0.2**
STYT	baz=144			*i* S	**Sg**	**17 24 00.2**	**+0.1**
	baz=144						
STYH	**Taoyuan**	**0.08**	**141**	⇓*i*P	**Pg**	**17 23 58.3**	**-0.2**
STYH	baz=135			*i* S	**Sg**	**17 23 60.0**	**-0.1**
	baz=135						
WTP	**Ta-pu**	**0.10**	**278**	⇓*i*P	**Pg**	**17 23 58.4**	**-0.4**
WTP	baz=280			S	**Sg**	**17 23 59.8**	**-0.9**
	baz=280						
TPUB	**Ta-pu**	**0.11**	**309**	⇓*i*P	**Pg**	**17 23 58.7**	**-0.2**
TPUB	baz=313			*i* S	**Sg**	**17 24 00.5**	**-0.3**
	baz=313						
CHN4	**Tsaushan**	**0.17**	**315**	⇓*i*P	**Pg**	**17 24 00.0**	**+0.2**
CHN4	baz=326			S	**Sg**	**17 24 03.1**	**+0.8**
	baz=326						
CHN1	**Nanshi**	**0.18**	**255**	P	**Pg**	**17 24 00.3**	**+0.2**
CHN1	baz=256			S	**Sg**	**17 24 03.5**	**+0.7**
	baz=256						
SGST	**Jiashian**	**0.20**	**220**	⇑*i*P	**Pg**	**17 23 59.5**	**-0.8**
SGST	baz=217			S	**Sg**	**17 24 03.0**	**-0.2**
	baz=217						
SNST	**Tainan City**	**0.21**	**267**	⇓*i*P	**Pg**	**17 24 00.8**	**+0.3**
SNST	baz=268			S	**Sg**	**17 24 04.3**	**+0.8**
	baz=268						
TWK	**Hsinying**	**0.22**	**279**	⇓*i*P	**Pg**	**17 24 00.9**	**+0.2**
TWK	baz=281			S	**Sg**	**17 24 04.8**	**+1.0**
	baz=281						
WCKO	**Fanlu**	**0.23**	**333**	⇑*i*P	**Pg**	**17 24 01.5**	**+0.5**
WCKO	baz=335			*i* S	**Sg**	**17 24 06.0**	**+1.8**
	baz=335						
SLGT	**Liugui**	**0.25**	**196**	⇑*i*P	**Pg**	**17 24 01.7**	**+0.5**
SLGT	baz=189			S	**Sg**	**17 24 05.4**	**+0.7**
	baz=189						
ELDTW	**Lidau**	**0.28**	**99**	⇓*i*P	**Pb**	**17 24 02.4**	**-1.1**
ELDTW	baz=98			S	**Sb**	**17 24 06.7**	**-1.5**
	baz=98						
ALS	**Alishan**	**0.29**	**16**	⇑*i*P	**Pg**	**17 24 02.4**	**+0.3**
ALS	baz=19			*i* S	**Sb**	**17 24 07.3**	**-1.5**
	baz=19						
CHN3	**Shinhua**	**0.36**	**245**	⇑*i*P	**Pb**	**17 24 05.0**	**+0.2**
CHN3	baz=257			S	**Sb**	**17 24 11.6**	**+1.0**
	baz=257						
CHN5	**Tsauling**	**0.37**	**354**	⇑P	**Pb**	**17 24 03.9**	**-1.1**
CHN5	baz=3.0			S	**Sb**	**17 24 09.7**	**-1.1**
	baz=3.0						
CHN2	**Minshiung**	**0.38**	**323**	⇓*i*P	**Pb**	**17 24 04.7**	**-0.4**
CHN2	baz=326			S	**Sb**	**17 24 11.4**	**+0.4**
	baz=326						
CHY	**Chiayi**	**0.38**	**314**	⇓P	**Pb**	**17 24 04.6**	**-0.5**
CHY	baz=317			S	**Sb**	**17 24 11.0**	**-0.1**
	baz=317						
SHHT	**Tainan City**	**0.40**	**239**	⇑*i*P	**Pb**	**17 24 05.9**	**+0.4**
SHHT	baz=256			*e*S	**Sb**	**17 24 12.5**	**+0.8**
	baz=256						
SCST	**Cishan**	**0.40**	**211**	⇑P	**Pb**	**17 24 05.2**	**-0.3**
SCST	baz=210			*e*S	**Sb**	**17 24 12.7**	**+1.0**
	baz=210						
ICHU	**Yijhu**	**0.43**	**288**	⇓P	**Pb**	**17 24 05.5**	**-0.5**
ICHU	baz=291			S	**Sb**	**17 24 13.5**	**+1.1**
	baz=291						
EHD	**Haiduan**	**0.45**	**100**	⇓*i*P	**Pg**	**17 24 05.2**	**0.0**
EHD	baz=99			*e*S	**Sg**	**17 24 11.9**	**+0.7**
	baz=99						
WGK	**Gukeng**	**0.47**	**342**	⇑*i*P	**Pb**	**17 24 06.6**	**-0.1**
WGK	baz=345			S	**Sb**	**17 24 14.4**	**+0.6**
	baz=345						
ECS	**Chishang**	**0.48**	**106**	⇓P	**Pb**	**17 24 06.3**	**-0.5**
ECS	baz=105			*e*S	**Sb**	**17 24 14.2**	**+0.2**
	baz=105						
WHYT	**Xinyi Township**	**0.48**	**15**	⇑*i*P	**Pb**	**17 24 05.8**	**-1.0**
WHYT	baz=22			*e*S	**Sb**	**17 24 13.4**	**-0.6**
	baz=22						
CHN8	**Yiju**	**0.48**	**284**	*e*P	**Pb**	**17 24 06.3**	**-0.6**
CHN8	baz=287			*e*S	**Sb**	**17 24 14.7**	**+0.6**
	baz=287						
WDLH	**Douliu**	**0.48**	**340**	⇑P	**Pb**	**17 24 07.0**	**+0.1**
WDLH	baz=342			*e*S	**Sb**	**17 24 14.8**	**+0.7**
	baz=342						
SCLT	**Jiali**	**0.49**	**263**	P	**Pb**	**17 24 07.0**	**+0.1**
SCLT	baz=265			*i* S	**Sb**	**17 24 15.8**	**+1.6**
	baz=265						
SSD	**Sandimen**	**0.49**	**190**	⇑P	**Pb**	**17 24 06.0**	**-1.0**
SSD	baz=177			S	**Sg**	**17 24 12.5**	**+0.3**
	baz=177						
TWM1	**Shoushan**	**0.49**	**214**	⇑*i*P	**Pb**	**17 24 07.6**	**+0.5**
TWM1	baz=212			S	**Sb**	**17 24 16.9**	**+2.6**
	baz=212						
TAI1	**Yung-k'ang**	**0.49**	**247**	*e*P	**Pb**	**17 24 07.4**	**+0.4**
LONT	baz=248						
	Longtian	**0.50**	**131**	⇓P	**Pb**	**17 24 06.5**	**-0.7**
LONT	baz=129			*e*S	**Sb**	**17 24 13.9**	**-0.6**
	baz=129						
TWG	**Pinlang**	**0.52**	**142**	⇓*i*P	**Pb**	**17 24 07.0**	**-0.5**
TWG	baz=129			*e*S	**Sb**	**17 24 14.7**	**-0.5**
	baz=129						
FULB	**Fuli**	**0.53**	**93**	⇓*i*P	**Pb**	**17 24 07.6**	**-0.1**
FULB	baz=85			*e*S	**Sg**	**17 24 14.0**	**+0.5**
	baz=85						
TWGBT	**Beinan**	**0.53**	**141**	⇓*i*P	**Pb**	**17 24 07.0**	**-0.7**
TWGBT	baz=129			S	**Sb**	**17 24 14.7**	**-0.7**
	baz=129						
TSMG	**Majia**	**0.53**	**188**	⇑P	**Pb**	**17 24 06.6**	**-1.0**
TSMG	baz=177			S	**Sb**	**17 24 13.9**	**-1.4**
	baz=177						
WSL	**Shuilin Townsh**	**0.54**	**303**	*e*P	**Pb**	**17 24 07.5**	**-0.3**
WSL	baz=306			S	**Sb**	**17 24 17.0**	**+1.3**
	baz=306						
TWF1	**Yuli**	**0.54**	**77**	⇓*i*P	**Pb**	**17 24 07.3**	**-0.6**
TWF1	baz=77			S	**Sg**	**17 24 14.6**	**+0.6**
	baz=77						
SGLT	**Jiouru**	**0.55**	**203**	⇑*i*P	**Pn**	**17 24 08.8**	**-1.3**
SGLT	baz=187			*e*S	**Sn**	**17 24 18.9**	**-0.5**
	baz=187						
WTK	**Tuku**	**0.55**	**326**	⇓*i*P	**Pb**	**17 24 07.8**	**-0.2**
WTK	baz=329			S	**Sb**	**17 24 17.2**	**+1.3**
	baz=329						
YULB	**Yu-li**	**0.55**	**73**	*e*P	**Pg**	**17 24 06.7**	**-0.3**
YULB	baz=73			*i* S	**Sg**	**17 24 14.2**	**-0.1**
	baz=73						
EYUL	**Yuli**	**0.56**	**78**	⇓*i*P	**Pb**	**17 24 07.8**	**-0.5**
EYUL	baz=77			S	**Sg**	**17 24 14.8**	**+0.3**
	baz=77						
WJS	**Zhushan**	**0.59**	**1**	⇑*i*P	**Pb**	**17 24 08.8**	**+0.1**
WJS	baz=348			S	**Sb**	**17 24 17.9**	**+0.8**
	baz=348						
TSCK	**Chigu Township**	**0.59**	**262**	*e*P	**Pb**	**17 24 08.4**	**-0.3**
TSCK	baz=263			*e*S	**Sn**	**17 24 19.0**	**-1.5**
	baz=263						
SSLB	**Suanglung**	**0.59**	**21**	⇑*i*P	**Pg**	**17 24 07.6**	**-0.2**
SSLB	baz=30			S	**Sg**	**17 24 15.8**	**+0.3**
	baz=30						
SNJT	**Kaohsiung City**	**0.59**	**217**	*e*P	**Pn**	**17 24 10.2**	**-0.6**
SNJT	baz=216			S	**Sn**	**17 24 19.8**	**-0.8**
	baz=216						
EDH	**Donghe**	**0.60**	**116**	⇓P	**Pb**	**17 24 08.4**	**-0.4**
EDH	baz=115			S	**Sb**	**17 24 16.8**	**-0.5**
	baz=115						
CHKT	**Chengkung**	**0.61**	**102**	⇓*i*P	**Pb**	**17 24 09.3**	**+0.3**
CHKT	baz=102			*e*S	**Sn**	**17 24 19.4**	**-1.5**
	baz=102						
WSF	**Szhu**	**0.61**	**312**	⇓*i*P	**Pb**	**17 24 08.6**	**-0.5**
WSF	baz=314			S	**Sb**	**17 24 18.4**	**+0.6**
	baz=314						
EHY	**Hungye**	**0.62**	**64**	⇑*i*P	**Pb**	**17 24 08.5**	**-0.6**
EHY	baz=69			*e*S	**Sg**	**17 24 16.7**	**+0.4**
	baz=69						
TTN	**Taitung**	**0.62**	**140**	P	**Pb**	**17 24 09.5**	**+0.4**
TTN	baz=139			S	**Sb**	**17 24 18.6**	**+0.7**
	baz=139						
MASBT	**Mashibuluo**	**0.62**	**188**	⇑*i*P	**Pb**	**17 24 08.4**	**-0.9**
MASBT	baz=181			S	**Sb**	**17 24 16.8**	**-1.3**
	baz=181						
WNT	**Mingjian**	**0.64**	**357**	⇑*i*P	**Pb**	**17 24 09.8**	**+0.2**
WNT	baz=359			*e*S	**Sb**	**17 24 19.1**	**+0.4**
	baz=359						
VWDT	**VWDT**	**0.65**	**37**	⇑*i*P	**Pb**	**17 24 09.1**	**-0.6**
VWDT	baz=40			*e*S	**Sb**	**17 24 18.2**	**-0.6**
	baz=40						
ECL	**Taimali**	**0.67**	**161**	⇓P	**Pb**	**17 24 09.5**	**-0.5**
ECL	baz=143			*e*S	**Sg**	**17 24 18.1**	**+0.2**
	baz=143						
SMLT	**Sun Moon Lake**	**0.67**	**14**	⇑*i*P	**Pb**	**17 24 09.7**	**-0.5**
SMLT	baz=23			*e*S	**Sb**	**17 24 20.4**	**+0.9**
	baz=23						
ECBN	**Changbin**	**0.68**	**83**	*e*P	**Pn**	**17 24 11.1**	**-0.9**
ECBN	baz=73			*e*S	**Sb**	**17 24 19.8**	**+0.1**
	baz=73						
TYC	**Yuchr**	**0.68**	**11**	⇑*i*P	**Pb**	**17 24 10.1**	**-0.2**
TYC	baz=12			S	**Sb**	**17 24 21.1**	**+1.3**
	baz=12						
HGSD	**Ruisui**	**0.70**	**68**	⇑*i*P	**Pb**	**17 24 10.6**	**+0.1**
HGSD	baz=74			*e*S	**Sg**	**17 24 18.7**	**-0.1**
	baz=74						
WSSB	**Gushan**	**0.72**	**216**	*e*P	**Pn**	**17 24 12.2**	**-0.4**
WSSB	baz=232			*e*S	**Sn**	**17 24 24.1**	**+0.3**
	baz=232						
WRL	**Guolierlin Hig**	**0.74**	**335**	P	**Pb**	**17 24 10.7**	**-0.6**
WRL	baz=325			*e*S	**Sb**	**17 24 21.6**	**+0.2**
	baz=325						
WTCT	**Ta-ch'eng**	**0.75**	**327**	*e*P	**Pb**	**17 24 11.2**	**-0.3**
WTCT	baz=330			*e*S	**Sb**	**17 24 22.5**	**+0.8**
	baz=330						
KAU	**Kaohsiung**	**0.76**	**210**	*e*P	**Pn**	**17 24 13.6**	**+0.5**
WARBT	**Fenglin Townsh**	**0.78**	**51**	⇑*i*P	**Pb**	**17 24 11.3**	**-0.6**
WARBT	baz=42			S	**Sb**	**17 24 22.0**	**-0.6**
	baz=42						
EGFH	**Guangfu**	**0.78**	**56**	⇑P	**Pb**	**17 24 11.4**	**-0.6**
EGFH	baz=66			*e*S	**Sb**	**17 24 22.7**	**+0.1**
	baz=66						
OWD	**Renai**	**0.83**	**30**	⇑*e*P	**Pg**	**17 24 12.1**	**-0.2**
WUSB	**Renai**	**0.84**	**26**	⇑*i*P	**Pg**	**17 24 12.0**	**-0.4**
WUSB	baz=26			*e*S	**Sn**	**17 24 25.9**	**-0.9**
	baz=26						
WCS	**Beigang Elemen**	**0.84**	**12**	⇑*e*P	**Pb**	**17 24 13.2**	**+0.2**
WCS	baz=13			*e*S	**Sn**	**17 24 25.8**	**-0.9**
	baz=13						
EAST	**Anshuo**	**0.85**	**172**	⇑P	**Pb**	**17 24 12.9**	**-0.3**
EAST	baz=164			S	**Sb**	**17 24 24.7**	**0.0**
	baz=164						
WCHH	**Zhanghua**	**0.86**	**350**	*e*P	**Pb**	**17 24 13.4**	**+0.2**
WCHH	baz=351			*e*S	**Sn**	**17 24 26.2**	**-0.9**
	baz=351						
SCZT	**Fangliau**	**0.86**	**186**	⇑P	**Pb**	**17 24 12.8**	**-0.5**
SCZT	baz=184			*e*S	**Sb**	**17 24 24.0**	**-0.9**
	baz=184						
ESL	**Shilin**	**0.87**	**48**	⇑P	**Pb**	**17 24 13.1**	**-0.5**
ESL	baz=49			*e*S	**Sb**	**17 24 25.5**	**+0.1**
	baz=49						
TAW	**Tawu**	**0.89**	**169**	*e*P	**Pb**	**17 24 13.6**	**-0.1**
TAW	baz=167			*e*S	**Sb**	**17 24 25.8**	**+0.2**
	baz=167						
LDUT	**Ludao**	**0.89**	**129**	⇓*e*P	**Pb**	**17 24 13.6**	**-0.2**
LDUT	baz=127			*e*S	**Sb**	**17 24 25.2**	**-0.5**
	baz=127						
TEGC	**Jichi Village**	**0.89**	**58**	*e*P	**Pb**	**17 24 13.8**	**-0.1**
TEGC	baz=51			*e*S	**Sn**	**17 24 27.2**	**-0.6**
	baz=51						
TAWH	**Dawu Township**	**0.90**	**170**	⇑*e*P	**Pb**	**17 24 13.8**	**-0.3**
TAWH	baz=168			*e*S	**Sb**	**17 24 26.5**	**+0.4**
	baz=168						
TCU	**Taichung**	**0.91**	**357**	*e*P	**Pn**	**17 24 14.5**	**-0.7**
TCU	baz=359			*e*S	**Sn**	**17 24 27.6**	**-0.8**
	baz=359						
CHGB	**Renai**	**0.92**	**27**	⇑*i*P	**Pg**	**17 24 13.7**	**-0.3**
CHGB	baz=36			S	**Sb**	**17 24 27.5**	**+0.5**
	baz=36						
WDGT	**Dungji**	**0.98**	**272**	*e*P	**Pg**	**17 24 14.4**	**-0.6**
WDGT	baz=274			S	**Sb**	**17 24 28.1**	**-0.2**
	baz=274						
LXIB	**Xiulin Townshi**	**1.01**	**39**	⇑*i*P	**Pg**	**17 24 15.3**	**-0.4**
LXIB	baz=53			*e*S	**Sb**	**17 24 30.0**	**+0.6**
	baz=53						
ETM	**Tongmen**	**1.02**	**44**	*e*P	**Pb**	**17 24 15.7**	**-0.3**
ETM	baz=52			*e*S	**Sb**	**17 24 29.5**	**0.0**
	baz=52						
WHF	**Hehuan Shan**	**1.04**	**29**	⇑P	**Pg**	**17 24 15.9**	**-0.3**
WHF	baz=37			*e*S	**Sn**	**17 24 32.1**	**0.0**
	baz=37						
WHP	**Taichung City**	**1.06**	**11**	⇑P	**Pn**	**17 24 17.0**	**-0.4**
WHP	baz=22			*e*S	**Sn**	**17 24 32.4**	**+0.1**
	baz=22						
PHUB	**P'eng-hu**	**1.09**	**285**	⇓*e*P	**Pg**	**17 24 15.9**	**-1.3**
PHUB	baz=288			*e*S	**Sg**	**17 24 30.3**	**-1.2**
	baz=288						
TDCB	**Techi**	**1.09**	**21**	⇑*e*P	**Pg**	**17 24 16.6**	**-0.7**
TDCB	baz=22			*e*S	**Sn**	**17 24 33.1**	**0.0**
	baz=22						
HWA	**Hwalien**	**1.10**	**47**	*e*P	**Pn**	**17 24 18.1**	**+0.3**
HWA	baz=48			*e*S	**Sn**	**17 24 33.6**	**+0.6**
	baz=48						
TWT	**Tachien**	**1.10**	**22**	*e*P	**Pg**	**17 24 16.8**	**-0.6**
TWT	baz=22			*e*S	**Sn**	**17 24 32.9**	**-0.4**
	baz=22						
TWQ1	**Liyutan**	**1.11**	**2**	⇑*e*P	**Pn**	**17 24 17.9**	**-0.1**
TWQ1	baz=4.0			*e*S	**Sn**	**17 24 34.0**	**+0.5**
	baz=4.0						
WDJ	**Dajia District**	**1.11**	**356**	*e*P	**Pn**	**17 24 18.2**	**+0.3**
WDJ	baz=357			*e*S	**Sn**	**17 24 34.4**	**+1.0**
	baz=357						
PNG	**Penghu**	**1.12**	**288**	⇓*i*P	**Pg**	**17 24 16.5**	**-1.3**
PNG	baz=290			*e*S	**Sg**	**17 24 31.8**	**-0.6**
	baz=290						
TWD	**Chiawan**	**1.17**	**43**	⇓P	**Pn**	**17 24 18.7**	**0.0**
TWD	baz=43			*e*S	**Sn**	**17 24 35.3**	**+0.6**
	baz=43						
NSY	**Sanyi**	**1.18**	**2**	*e*P	**Pn**	**17 24 19.6**	**+0.7**
NSY	baz=351			*e*S	**Sn**	**17 24 36.4**	**+1.3**
	baz=351						
VCHM	**Qimei**	**1.19**	**269**	⇓P	**Pg**	**17 24 17.4**	**-1.6**
	baz=272						

VCHM				S		Sg	17 24 33.2	-1.3
	baz=272							
ETLH	**Xiulin Townshi**	**1.20**	**36**	⇑*e*P		**Pg**	17 24 18.5	-0.7
ETLH	baz=36			*e*S		**Sn**	17 24 35.4	-0.2
SMST	**Manzhou Townsh**	**1.21**	**175**	*e*P		**Pn**	17 24 19.8	+0.5
SMST	baz=172			*e*S		**Sn**	17 24 37.0	+1.2
HEN	**Hengchun**	**1.22**	**179**	*e*P		**Pg**	17 24 20.1	+0.4
HEN	baz=176			*e*S		**Sn**	17 24 38.4	+2.4
NACB	**Ninganchiao**	**1.23**	**40**	⇑P		**Pn**	17 24 19.2	-0.5
NACB	baz=51			S		**Sn**	17 24 36.5	+0.1
ETL	**Fush Village**	**1.24**	**42**	*e*P		**Pg**	17 24 20.0	-0.1
ETL	baz=53			*e*S		**Sn**	17 24 37.7	+1.1
TWK1	**Hengchun**	**1.28**	**177**	⇓P		**Pg**	17 24 21.8	+0.9
TWK1	baz=174			*e*S		**Sn**	17 24 40.2	+2.6
TWKBT	**Hengchun**	**1.29**	**176**	*e*P		**Pg**	17 24 20.7	-0.3
TWKBT	baz=174			*e*S		**Sn**	17 24 38.6	+0.9
NMLH	**Miaoli**	**1.30**	**3**	*e*P		**Pg**	17 24 21.3	0.0
NMLH	baz=352			*e*S		**Sn**	17 24 39.9	+1.8
NNSB	**Datong**	**1.34**	**27**	⇑*i*P		**Pn**	17 24 20.9	-0.3
NNSB	baz=27			*e*S		**Sn**	17 24 40.2	+1.1
TSEB	**Hengchuen, Pin**	**1.34**	**173**	*e*P		**Pg**	17 24 22.0	+0.1
TSEB	baz=172			*e*S		**Sn**	17 24 41.4	+2.5
NNS	**Nan Shan**	**1.34**	**26**	⇑*i*P		**Pn**	17 24 21.0	-0.2
NNS	baz=27			*e*S		**Sn**	17 24 39.8	+0.5
LAY	**Lan-yu**	**1.41**	**147**	*e*P		**Pn**	17 24 21.6	-0.5
LAY	baz=145			*e*S		**Sb**	17 24 39.8	-1.1
NSTT	**Nanjuang**	**1.42**	**10**	*e*P		**Pb**	17 24 22.7	-0.2
NSTT	baz=360			*e*S		**Sg**	17 24 41.1	-0.7
LIOB	**Emei**	**1.43**	**11**	*e*P		**Pb**	17 24 22.7	-0.4
LIOB	baz=360			*e*S		**Sg**	17 24 43.6	+1.3
NFF	**Wufeng Townshi**	**1.44**	**15**	*e*P		**Pb**	17 24 23.2	-0.1
NFF	baz=356			*e*S		**Sg**	17 24 42.6	0.0
LYUB	**Lan-yu**	**1.46**	**147**	*e*P		**Pn**	17 24 20.5	-2.3
LYUB	baz=145			*e*S		**Sn**	17 24 40.0	-1.9
LATG	**Datong**	**1.49**	**29**	*e*P		**Pn**	17 24 23.4	+0.1
LATG	baz=29			*e*S		**Sg**	17 24 44.9	+0.6
ENA	**Nanau**	**1.51**	**38**	*e*P		**Pb**	17 24 24.4	-0.1
ENA	baz=49			*e*S		**Sg**	17 24 44.6	-0.4
NDT	**Datong Townshi**	**1.54**	**28**	*e*P		**Pb**	17 24 25.0	0.0
NDT	baz=28			*e*S		**Sg**	17 24 45.9	-0.1
EWUT	**Wuta**	**1.55**	**38**	*e*P		**Pb**	17 24 24.9	-0.1
EWUT	baz=49			*e*S		**Sg**	17 24 46.0	-0.1
NSK	**Sanguang**	**1.55**	**22**	*e*P		**Pg**	17 24 25.3	-0.7
NSK	baz=23			*e*S		**Sg**	17 24 45.5	-0.7
YHNB	**Yeheng**	**1.55**	**23**	*e*P		**Pb**	17 24 25.2	+0.1
YHNB	baz=23			*e*S		**Sg**	17 24 45.9	-0.3
SBCB	**Hsinchu**	**1.57**	**9**	*e*P		**Pb**	17 24 24.9	-0.6
SBCB	baz=351			*e*S		**Sg**	17 24 46.7	-0.2
HSN	**Hsinchu**	**1.58**	**8**	*e*P		**Pn**	17 24 24.6	+0.2
HSN	baz=352			*e*S		**Sg**	17 24 48.5	+1.4
ENTT	**Nioudou**	**1.60**	**29**	*e*P		**Pb**	17 24 25.9	-0.1
ENTT	baz=19			*e*S		**Sg**	17 24 48.8	+1.0
NDS	**Dongshan**	**1.67**	**33**	*e*P		**Pg**	17 24 27.6	-0.7
NDS	baz=33			*e*S		**Sg**	17 24 50.3	+0.5
NWLT	**Wulai**	**1.70**	**25**	P		**Pb**	17 24 27.5	-0.1
NWLT	baz=25			*e*S		**Sg**	17 24 50.4	-0.5
EOS4	**EOS4**	**1.71**	**59**	*e*P		**Pb**	17 24 26.9	-0.7
EOS4	baz=57			*e*S		**Sb**	17 24 48.5	-0.6
FUSB	**Fushanzhiwuyua**	**1.71**	**27**	*e*P		**Pb**	17 24 28.2	+0.2
FUSB	baz=17			*e*S		**Sg**	17 24 52.6	+1.2
TWC	**Suao**	**1.72**	**37**	*e*P		**Pb**	17 24 28.0	+0.1
TWC	baz=47			*e*S		**Sg**	17 24 50.6	-0.9
TWE	**Neicheng**	**1.72**	**30**	*e*P		**Pg**	17 24 28.6	-0.6
TWE	baz=30			*e*S		**Sg**	17 24 52.9	+1.4
NCUH	**Zhongli**	**1.78**	**14**	*e*P		**Pb**	17 24 27.9	-1.1
EOS3	**EOS3**	**1.80**	**54**	*e*P		**Pb**	17 24 28.9	-0.4
EGS	baz=54	**1.95**	**34**	*e*P		**Pg**	17 24 32.8	-0.9
TWS1	**Kuangyinshan**	**1.97**	**19**	*e*P		**Pb**	17 24 30.7	-1.5
NWF	**Wu-fen Shan**	**2.07**	**28**	*e*P		**Pb**	17 24 34.0	0.0
WFSB	**Wu-fen Shan**	**2.07**	**28**	*e*P		**Pb**	17 24 33.8	-0.2
ANP	**Anpu**	**2.08**	**20**	*e*P		**Pn**	17 24 32.2	+0.9
VWUC	**VWUC**	**2.10**	**327**	*e*P		**Pn**	17 24 30.4	-1.2
TWB1	**Santiao Chiao**	**2.11**	**33**	*e*P		**Pb**	17 24 34.2	-0.5
SXI1	**Grass Mountain**	**2.13**	**29**	*e*P		**Pb**	17 24 34.4	-0.7
TNOU	**National Taiwa**	**2.14**	**26**	*e*P		**Pb**	17 24 33.6	-1.5
PTMZ	**Houxiangcun**	**2.32**	**321**	*e*P		**Pn**	17 24 33.7	-0.9
JYNG	**Yonagunijimaku**	**2.37**	**59**	*e*P		**Pb**	17 24 37.3	-1.8
JYNG				*e*S		**Sb**	17 25 07.7	-0.8
KNM	**Kinmen**	**2.40**	**300**	*e*P		**Pn**	17 24 36.0	+0.3
YOJ	**Yonaguni jima**	**2.43**	**59**	P		**Pb**	17 24 38.2	-1.9
YOJ				*e*S		**Sb**	17 25 08.8	-1.2
YOJ	**Yonaguni jima**	**2.43**	**59**	*e*P		**Pn**	17 24 36.2	+0.2
YOJ	baz=57			*e*S		**Sb**	17 25 08.2	-1.8
KNMB	**Chin-men Tao**	**2.46**	**300**	*e*P		**Pn**	17 24 35.3	-1.2
HATJ	**Hateruma jima**	**2.94**	**73**	P		**Pn**	17 24 44.2	+1.0
HATJ				*e*S		**Sn**	17 25 19.2	+0.6
IRIF	**Iriomote-Funau**	**2.97**	**68**	P		**Pn**	17 24 45.7	+2.2
IRIF				*e*S		**Sn**	17 25 21.9	+2.7
AXDP	**Jialang**	**3.01**	**304**	*e*P		**Pn**	17 24 43.1	-1.0
	baz=305							
DSXP	**Dongshan**	**3.06**	**280**	*e*P		**Pn**	17 24 43.3	-1.4
	baz=282							
JKRS	**Kuro-shima**	**3.17**	**71**	P		**Pn**	17 24 48.4	+2.1
JKRS				*e*S		**Sn**	17 25 26.7	+2.4
MHZQ	**Yeshan**	**3.24**	**332**	*e*P		**Pn**	17 24 46.4	-0.8
	baz=330							
JIJ	**Ishigaki jima**	**3.33**	**70**	P		**Pn**	17 24 49.8	+1.3
JIJ				S		**Sn**	17 25 28.6	+0.4
LYJJ	**Jianjiangzhen**	**3.42**	**345**	*e*P		**Pn**	17 24 48.6	-1.0
	baz=346							
JISG	**Ishigakijimahi**	**3.55**	**67**	P		**Pn**	17 24 52.9	+1.4
JISG				*e*S		**Sn**	17 25 34.7	+1.1
JTJ	**Tarama**	**3.90**	**68**	P		**Pn**	17 24 58.0	+1.6
JTJ				S		**Sn**	17 25 44.9	+2.6
SXFK	**Yanhouchang**	**4.21**	**319**	*e*P		**Pn**	17 24 59.6	-1.1
	baz=318							
JIRB	**Irabujima**	**4.37**	**68**	P		**Pn**	17 25 04.8	+2.1
JMJ2	**Miyako jima3**	**4.47**	**69**	P		**Pn**	17 25 05.9	+1.7
JMJ2				*e*S		**Sn**	17 25 58.0	+1.7
XLT	**XiLinHaoTe**	**20.97**	**351**	*e*P		**P**	17 28 40.0	+0.4
XLT				pP		sP	17 28 44.3	+0.3
XLT				sP		Pn	17 28 47.5	+5.3
XLT				pmax		pmax		
	comp=Z,7.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,170nm,7.1s							

*IDC **25** 17:48:12.2±2.0, 9°.60S×112°.74E, h45km±19km, mb3.8/12, mbtmp4.1/15, ML4.3/2, MS3.2/2, Error ellipse: s-maj=20.1km s-min=11.7km az=36.0*
*NEIC **25** 17:48:12.1±1.7, 9°.655±0°.08×112°.90E±0°.05, h35km±2km, mb4.2/21, Error ellipse: s-maj=13.1km s-min=8.1km az=162.0*
*DJA **25** 17:48:13.7±0.4, 10°S±4°×11°3E±°, h35km, M4.3/15, mb4.2/6, mB5.0/1, MLv4.3/15, Mw(mB)4.3/1*
ISC 25 17:48:11.6±0.5, 9°.655±0°.05×112°.91E±0°.05, h36km, n101, σ1°96/105, mb4.1/19, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.47**	**21**	P	**Pn**	17 48 35.9	+0.4
GMJI				S	**Sn**	17 48 49.7	-3.8
JAGI	**Jajag, Banyuwa**	**1.69**	**46**		**Pn**	17 48 39.7	+1.0
JAGI	**Jajag, Banyuwa**	**1.69**	**46**	P	**Pn**	17 48 40.1	+1.4
JAGI	**Jajag, Banyuwa**	**1.69**	**46**	P	**Pn**	17 48 39.8	+1.0
JAGI				S	**Sn**	17 49 00.2	+1.0
BLJI	**Banyuglugur**	**2.01**	**20**	P	**Pn**	17 48 45.5	+2.5
ABJI	**Asem Bagus**	**2.26**	**35**	P	**Pn**	17 48 49.8	+3.3
IGBI	**Denpasar**	**2.35**	**70**	P	**Pn**	17 48 50.0	+2.2
DNP	**Denpasar**	**2.47**	**67**	P	**Pn**	17 48 51.9	+2.6
WOJI	**Wonogiri, Jawa**	**2.67**	**312**	P	**Pn**	17 48 53.9	+1.8
NGJI	**Ngawi**	**2.68**	**328**	P	**Pn**	17 48 57.0	+4.7
GRJI	**Gresik**	**2.75**	**351**	P	**Pn**	17 48 56.7	+3.5
SRBI	**Singaraja**	**2.75**	**56**	P	**Pn**	17 48 55.5	+2.2
UGM	**Wanagama**	**2.92**	**306**		**Pn**	17 48 57.4	+1.7
UGM	**Wanagama**	**2.92**	**306**	P	**Pn**	17 48 57.8	+2.1
UGM	**Wanagama**	**2.92**	**306**	P	**Pn**	17 48 57.6	+1.9
SMRI	**Semarang**	**3.56**	**316**	Pn	**Pn**	17 49 03.3	-1.1
SMRI	**Semarang**	**3.56**	**316**	P	**Pn**	17 49 07.5	+3.1
SMRI	**Semarang**	**3.56**	**316**	P	**Pn**	17 49 06.8	+2.4
TWSI	**Taliwang, Sumb**	**4.02**	**77**	P	**Pn**	17 49 13.5	+2.8
KPJI	**Karang Pucung**	**4.56**	**300**	P	**Pn**	17 49 21.6	+3.5
CMJI	**Cimerak**	**4.79**	**292**	P	**Pn**	17 49 22.5	+1.3
PLAI	**Plampang**	**4.87**	**81**	P	**Pn**	17 49 25.2	+2.8
PLAI	**Plampang**	**4.87**	**81**	P	**Pn**	17 49 25.0	+2.6
BBJI	**Bungbulang**	**5.64**	**292**	P	**Pn**	17 49 35.8	+2.8
	36nm,1.2s						
LEM	**Lembang**	**5.94**	**298**	P	**Pn**	17 49 36.2	-1.1
	5.6nm,0.3s,baz=180,slow=20,SNR=1.1						
LEM				S	**Sn**	17 50 40.7	-3.6
	18nm,0.7s,baz=308,slow=23,SNR=1.0						
CNJI	**Cibinong**	**6.17**	**292**	P	**Pn**	17 49 43.5	+3.2
	16nm,1.2s,1.3nm						
XMIS	**Christmas Isla**	**7.20**	**263**	Pn	**Pn**	17 49 54.4	0.0
XMIS	**Christmas Isla**	**7.20**	**263**	P	**Pn**	17 49 55.3	+0.9
CGJI	**Cibinong**	**7.76**	**292**	P	**Pn**	17 50 04.3	+2.2
	34nm,0.5s,846nm0.6nm						
KAPI	**Kappang**	**8.20**	**56**	Pn	**Pn**	17 50 08.8	+0.6
KAPI	**Kappang**	**8.20**	**56**	P	**Pn**	17 50 10.9	+2.7
	1.8nm,0.3s,baz=247,slow=14,SNR=6.6						
KAPI				S	**Sn**	17 51 42.2	+2.6
	2.2nm,0.3s,baz=68,slow=19,SNR=1.5						
	4.3nm,0.3s						
BKSI	**Bulukumba**	**8.34**	**59**	P	**Pn**	17 50 12.3	+2.2
	10nm,0.6s						
EDFI	**Ende, Flores**	**8.71**	**85**	P	**Pn**	17 50 15.2	-0.1
	10nm,0.7s						
MMRI	**Maumere**	**9.26**	**85**	Pn	**Pn**	17 50 21.9	-0.8
MMRI	**Maumere**	**9.26**	**85**	P	**Pn**	17 50 24.1	+1.3
MMRI	**Maumere**	**9.26**	**85**	P	**Pn**	17 50 20.4	-2.4
BATI	**Baumata**	**10.61**	**94**	P	**Pn**	17 50 43.1	+1.9
	11nm,0.6s						
BATI	**Baumata**	**10.61**	**94**	P	**Pn**	17 50 44.5	+3.3
	4.1nm,0.3s,baz=272,slow=3.6,SNR=5.5						
BATI				S	**Sn**	17 52 32.7	-6.1
	4.0nm,0.4s,baz=232,slow=17,SNR=1.5						
	8.1nm,0.3s						
MNAI	**Manna**	**11.19**	**297**	Pn	**Pn**	17 50 49.4	+0.3
MNAI	**Manna**	**11.19**	**297**	P	**Pn**	17 50 50.3	+1.1
SOEI	**Soe**	**11.20**	**91**	Pn	**Pn**	17 50 50.5	+1.2
SOEI	**Soe**	**11.20**	**91**	P	**Pn**	17 50 51.1	+1.7
SOEI	**Soe**	**11.20**	**91**	P	**Pn**	17 50 51.2	+1.8
SBUM	**Sibu**	**12.04**	**357**		**Pn**	17 51 03.6	+2.8
GIRL	**Giralia**	**12.98**	**175**	Pn	**Pn**	17 51 13.8	+0.1
GIRL	**Giralia**	**12.98**	**175**	P	**Pn**	17 51 13.7	+0.1
MBWA	**Marble Bar**	**13.19**	**151**	Pn	**Pn**	17 51 14.7	-1.9
MBWA	**Marble Bar**	**13.19**	**151**	P	**Pn**	17 51 15.0	-1.5
PSA00	**Pilbara Seismi**	**13.60**	**151**	Pn	**Pn**	17 51 20.0	-2.1
PSA00	**Pilbara Seismi**	**13.60**	**151**	P	**Pn**	17 51 21.3	-0.8
KNRA	**Kununurra**	**16.58**	**113**	P	**P**	17 52 04.2	+0.5
KNRA				IAmb	IAmb	17 52 44.9	
	comp=Z,31nm,1.4s						
KNRA	**Kununurra**	**16.58**	**113**	P	**P**	17 52 04.1	+0.5
BNDI	**Bandanaira**	**17.61**	**74**	P	**Pn**	17 52 14.5	+0.1
MEEK	**Meekatharra**	**17.74**	**163**	P	**P**	17 52 17.1	+0.6
MTN	**Manton Dam**	**18.15**	**102**	P	**P**	17 52 22.1	+1.1
MTN				IAmb	IAmb	17 52 54.1	
	comp=Z,31nm,1.5s						
MORW	**Morawa**	**19.54**	**172**	P	**P**	17 52 35.8	-0.4
MORW				IAmb	IAmb	17 53 05.3	
	comp=Z,28nm,1.5s						
FAKI	**Fak Fak**	**20.34**	**72**	P	**P**	17 52 42.7	-2.4
FAKI	**Fak Fak**	**20.34**	**72**	P	**P**	17 52 45.6	+0.5
WB0	**Warramunga Arr**	**23.06**	**118**	P	**P**	17 53 11.9	-2.2
WRA	**Warramunga Arr**	**23.08**	**119**	P	**P**	17 53 12.9	-1.4
WRA	**Warramunga Arr**	**23.08**	**119**	P	**P**	17 53 15.1	+0.7
	comp=Z,0.7nm,0.5s,baz=291,slow=12,SNR=9.0						
	comp=Z,0.7nm,0.5s						
WRAB	**Tennant Creek**	**23.08**	**119**	P	**P**	17 53 15.5	+1.1
WRAB				IAmb	IAmb	17 53 17.9	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**23.08**	**119**	P	**P**	17 53 17.7	+3.3
WB2	**Warramunga Arr**	**23.09**	**119**	P	**P**	17 53 15.4	+1.0
WB2				IAmb	IAmb	17 53 53.5	
	comp=Z,5.5nm,1.2s						
WR0	**Warramunga Arr**	**23.26**	**119**	P	**P**	17 53 16.9	+0.8
WR0				IAmb	IAmb	17 53 54.5	
	comp=Z,10.0nm,1.4s						
NWAO	**Narrogin (SRO)**	**23.51**	**171**	LR	LR	18 03 24.5	
	comp=Z,60nm,18.6s,baz=65,slow=39						
AS31	**Alice Springs**	**24.42**	**127**	P	**P**	17 53 27.5	+0.4
ASAR	**Alice Springs**	**24.42**	**127**	P	**P**	17 53 27.8	+0.7
ASAR	**Alice Springs**	**24.42**	**127**	P	**P**	17 53 28.9	+1.8
	comp=Z,1.6nm,0.6s,baz=304,slow=8.8,SNR=56						
ASAR				PcP	**PcP**	17 57 06.5	+0.8
	comp=Z,0.2nm,0.5s,baz=285,slow=1.8,SNR=2.6						
	comp=Z,1.6nm,0.6s						
FORT	**Forrest**	**25.32**	**148**	P	**P**	17 53 38.9	+3.8
OOD	**Oodnadatta**	**28.03**	**133**	P	**P**	17 54 01.9	+2.3
CMAR	**Chiang Mai Arr**	**31.15**	**334**	P	**P**	17 54 28.3	+1.0
CMAR	**Chiang Mai Arr**	**31.15**	**334**	P	**P**	17 54 26.2	-1.0
	comp=Z,1.4nm,0.8s,baz=167,slow=8.3,SNR=14						
	comp=Z,1.4nm,0.8s						
CRAI	**Chiangrai**	**32.15**	**337**	P	**P**	17 54 34.6	-1.4
CRAI				IAmb	IAmb	17 54 37.3	
	comp=Z,2.1nm,1.0s						
STKA	**Stephens Creek**	**34.57**	**134**	P	**P**	17 55 00.2	+3.2
STKA	**Stephens Creek**	**34.57**	**134**	P	**P**	17 54 59.0	+1.9
	comp=Z,1.1nm,0.5s,baz=312,slow=11,SNR=5.0						
	comp=Z,1.1nm,0.5s						
PALK	**Pallekele**	**36.22**	**297**	LR	LR	18 08 46.1	
	comp=Z,37nm,20.8s,baz=318,slow=34						
SHL	**Shillong**	**40.55**	**330**	P	**P**	17 55 47.6	-0.3
TAPN	**Taplejung**	**44.16**	**327**	*e*P	**P**	17 56 17.3	-0.1
	comp=Z,6.5nm,0.7s						
JIRN	**Jiri**	**45.23**	**326**	*e*P	**P**	17 56 25.7	-0.3
	comp=Z,4.9nm,0.4s						
GUN	**Gumba**	**45.59**	**326**	*e*P	**P**	17 56 28.6	-0.3
	comp=Z,7.8nm,0.4s						
PKIN	**Phulchoki**	**45.61**	**325**	*e*P	**P**	17 56 27.9	-1.0
	comp=Z,2.4nm,0.5s						
DANN	**Dangsing**	**47.13**	**324**	*e*P	**P**	17 56 39.9	-1.0
	comp=Z,8.9nm,0.7s						
MJAR	**Matsushiro Arr**	**51.74**	**26**	P	**P**	17 57 13.8	-1.8
	comp=Z,2.0nm,0.7s,baz=205,slow=8.1,SNR=4.4						
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**57.52**	**355**	P	**P**	17 57 57.5	+0.1
SONM				IAmb	IAmb	17 57 58.1	
	comp=Z,2.7nm,0.9s						
SONM	**Songino Array**	**57.52**	**355**	P	**P**	17 57 57.0	-0.4
	comp=Z,2.0nm,0.6s,baz=176,slow=8.7,SNR=12						
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**62.48**	**337**	P	**P**	17 58 31.1	-0.3
MKAR	**Makanchi Array**	**62.48**	**337**	P	**P**	17 58 30.9	-0.4
MKAR	**Makanchi Array**	**62.48**	**337**	P	**P**	17 58 31.0	-0.4
	comp=Z,3.0nm,0.4s,baz=150,slow=7.7,SNR=57						
	comp=Z,3.0nm,0.4s						
ARSB	**Arslanbob**	**62.62**	**327**	P	**P**	17 58 32.4	-0.2
MAKZ	**Makanchi**	**62.62**	**337**	P	**P**	17 58 31.8	-0.5
MAKZ				IAmb	IAmb	17 58 39.4	
	comp=Z,3.1nm,1.2s						
MAW	**Mawson**	**66.64**	**199**	P	**P**	17 58 56.1	-2.1
	comp=Z,2.0nm,0.5s,baz=32,slow=7.1,SNR=4.4						
	comp=Z,2.0nm,0.5s						
KURBB	**Kurchatov Arra**	**67.05**	**337**	P	**P**	17 58 59.5	-1.5
	comp=Z,0.8nm,0.5s,baz=157,slow=5.2,SNR=5.9						
	comp=Z,0.8nm,0.5s						
ZAA0	**Zalesovo Array**	**67.68**	**342**	P	**P**	17 59 04.5	-0.5
ZAA0				IAmb	IAmb	17 59 05.0	
	comp=Z,1.9nm,0.6s						
ZALV	**Zalesovo Beam**	**67.68**	**342**	P	**P**	17 59 03.7	-1.2
ZALV	**Zalesovo Beam**	**67.68**	**342**	P	**P**	17 59 03.1	-1.8
	comp=Z,1.9nm,0.4s,baz=149,slow=4.2,SNR=9.3						
	comp=Z,1.9nm,0.4s						
GEYT	**Alibeck**	**69.66**	**316**	P	**P**	17 59 16.1	-1.6
	comp=Z,0.9nm,0.4s,baz=190,slow=7.2,SNR=4.2						
	comp=Z,0.9nm,0.4s						
BVAR	**Borovoye Array**	**72.17**	**335**	P	**P**	17 59 32.0	-0.6
	comp=Z,0.5nm,0.5s,baz=148,slow=8.5,SNR=3.6						
	comp=Z,0.5nm,0.5s						
ABKAR	**Akbulak array**	**74.74**	**327**	P	**P**	17 59 47.7	-0.1
ABKAR	**Akbulak array**	**74.74**	**327**	P	**P**	17 59 47.9	+0.1
QSPA	**South Pole Qui**	**80.35**	**180**	P	**P**	18 00 19.3	+0.2
QSPA				IAmb	IAmb	18 00 28.3	
	comp=Z,3.3nm,1.4s						

*JMA **25** 17:48:43.3±0.1, 24°.N±2°.×122°.8E±0°.6, h53km±3km, MV1.8/12, NW OFF ISHIGAKIJIMA IS*
TAP 25 17:48:43.1, 24°.09N×122°.84E, h46km, ML2.4, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.37**	**15**	P	Pn	17 48 52.8	+0.1
JYNG				S	Sn	17 48 60.0	+0.6
YOJ	**Yonaguni jima**	**0.40**	**23**	P	Pn	17 48 53.3	+0.3
YOJ				S	Sn	17 49 00.2	+0.3
YOJ	**Yonaguni jima**	**0.40**	**23**	*i* P	Pn	17 48 53.3	+0.4
	baz=21						
YOJ				*i* S	Sn	17 49 00.7	+0.8
	baz=21						
EOS4	**EOS4**	**0.48**	**273**	*e*P	Pn	17 48 54.1	+0.6
	baz=267						
EOS3	**EOS3**	**0.52**	**292**	*i* P	Pn	17 48 55.1	+0.9
	baz=296						
EOS2	**EOS2**	**0.65**	**300**	*e*P	Pn	17 48 56.8	+0.9
	baz=290						
EOS2				*i* S	Sn	17 49 07.8	+2.7
	baz=290						
IRIF	**Iriomote-Funau**	**0.84**	**73**	P	Pn	17 48 59.4	+0.7
IRIF				S	Sn	17 49 11.4	+1.5
HATJ	**Hateruma jima**	**0.88**	**92**	P	Pn	17 49 00.6	+1.5
HATJ				S	Sn	17 49 13.4	+2.6
EWUT	**Wuta**	**1.03**	**290**	*i* P	Pn	17 49 01.4	+0.2
	baz=290						
ENA	**Nanau**	**1.06**	**289**	*i* P	Pn	17 49 01.9	+0.3
	baz=288						
JKRS	**Kuro-shima**	**1.07**	**82**	P	Pn	17 49 03.2	+1.5
JKRS				S	Sn	17 49 18.6	+3.1
TWD	**Chiawan**	**1.14**	**270**	*e*P	Pn	17 49 02.5	-0.2
	baz=269						
NACB	**Ninganchiao**	**1.14**	**274**	P	Pn	17 49 02.4	-0.3
	baz=274						
JIJ	**Ishigaki jima**	**1.22**	**77**	P	Pn	17 49 04.4	+0.7
JIJ				S	Sn	17 49 20.1	+1.0
TWE	**Neicheng**	**1.24**	**300**	*e*P	Pn	17 49 04.5	+0.5
	baz=300						
ETLH	**Xiulin Townshi**	**1.25**	**275**	*e*P	Pn	17 49 04.1	-0.1
	baz=274						
ETLH				*e*S	Sn	17 49 19.2	-0.8
	baz=274						
LATG	**Datong**	**1.28**	**290**	*i* P	Pn	17 49 05.4	+0.8
	baz=290						
ENTT	**Nioudou**	**1.28**	**295**	*e*P	Pn	17 49 05.4	+0.7
	baz=295						
LXIB	**Xiulin Townshi**	**1.31**	**267**	P	Pn	17 49 05.0	-0.1
	baz=266						
LXIB				*e*S	Sn	17 49 20.5	-1.0
	baz=266						
NDT	**Datong Townshi**	**1.31**	**293**	*e*P	Pn	17 49 05.8	+0.8
	baz=282						
ESL	**Shilin**	**1.32**	**258**	*e*P	Pn	17 49 04.2	-0.9
	baz=257						
FUSB	**Fushanzhiwuyua**	**1.32**	**300**	*e*P	Pn	17 49 06.1	+0.9
	baz=292						
SXI1	**Grass Mountain**	**1.33**	**319**	*e*P	Pn	17 49 05.9	+0.6
	baz=328						
EGFH	**Guangfu**	**1.36**	**252**	*i* P	Pn	17 49 05.2	-0.5
	baz=252						
NNSB	**Datong**	**1.37**	**284**	*e*P	Pn	17 49 06.6	+0.6
	baz=284						
WARBT	**Fenglin Townsh**	**1.39**	**255**	P	Pn	17 49 05.3	-0.7
	baz=245						
WARBT				*i* S	Sn	17 49 22.4	-0.8
	baz=245						
NWLT	**Wulai**	**1.40**	**299**	*e*P	Pn	17 49 07.0	+0.7
	baz=309						
JISG	**Ishigakijimahi**	**1.43**	**70**	P	Pn	17 49 07.1	+0.6
JISG				S	Sn	17 49 25.2	+1.1
HGSD	**Ruisui**	**1.43**	**246**	*e*P	Pn	17 49 06.0	-0.6
	baz=253						
WHF	**Hehuan Shan**	**1.44**	**272**	*i* P	Pn	17 49 07.2	+0.1
	baz=271						
WHF		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=228						
CHKT	**Chengkung**	**1.68**	**234**	*e*P	Pn	17 49 10.8	+0.7
	baz=225						
WHP	**Taichung City**	**1.74**	**276**	*e*P	Pn	17 49 12.6	+1.6
	baz=266						
WHP				*e*S	Sn	17 49 32.6	+0.5
	baz=266						
LIOB	**Emei**	**1.75**	**289**	*e*P	Pn	17 49 12.5	+1.4
	baz=288						
SSLB	**Suanglung**	**1.75**	**260**	*e*P	Pn	17 49 11.7	+0.6
	baz=260						
WCS	**Beigang Elemen**	**1.77**	**269**	*e*P	Pn	17 49 12.0	+0.8
	baz=268						
EHD	**Haiduan**	**1.77**	**238**	*e*P	Pn	17 49 10.8	-0.5
	baz=229						
EHD				*e*S	Sn	17 49 31.0	-1.7
	baz=229						
SMLT	**Sun Moon Lake**	**1.79**	**264**	*e*P	Pn	17 49 12.3	+0.6
	baz=263						
EDH	**Donghe**	**1.80**	**232**	*e*S	Sn	17 49 30.6	-2.7
	baz=225						
TYC	**Yuchr**	**1.83**	**264**	*e*P	Pn	17 49 12.4	+0.4
	baz=264						
WHYT	**Xinyi Township**	**1.86**	**258**	*e*P	Pn	17 49 13.6	+1.0
	baz=257						
WCKO	**Fanlu**	**2.15**	**253**	*e*P	Pn	17 49 17.4	+0.8
	baz=252						

TAP 25 17:48:55.4, 23°.23N×120°.72E, h8km, ML1.3, 1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.07**	**136**	P	Pg	17 48 58.1	+0.8
	baz=128						
STYH				*e*S	Sg	17 48 59.8	+1.0
	baz=128						
WTP	**Ta-pu**	**0.10**	**282**	*i* P	Pg	17 48 58.2	+0.5
	baz=281						
WTP				*e*S	Sg	17 49 00.1	+0.6
	baz=281						
TPUB	**Ta-pu**	**0.11**	**312**	⇓*i*P	Pg	17 48 58.5	+0.6
	baz=312						
TPUB				*e*S	Sg	17 49 00.6	+0.9
	baz=312						
CHN4	**Tsaushan**	**0.17**	**317**	*e*P	Pg	17 48 59.8	+0.8
	baz=317						
CHN4				*e*S	Sg	17 49 03.1	+1.7
	baz=317						
CHN1	**Nanshi**	**0.18**	**257**	P	Pg	17 49 00.2	+1.1
	baz=257						
CHN1				*e*S	Sg	17 49 03.4	+1.8
	baz=257						
SGST	**Jiashian**	**0.19**	**221**	*e*P	Pg	17 48 59.4	+0.1
	baz=219						
SNST	**Tainan City**	**0.20**	**269**	*e*P	Pg	17 49 00.6	+1.1
	baz=268						
SNST				*e*S	Sg	17 49 04.3	+2.0
	baz=268						
TWK	**Hsinying**	**0.22**	**281**	*e*P	Pg	17 49 00.8	+1.0
	baz=281						
WCKO	**Fanlu**	**0.24**	**334**	*e*P	Pg	17 49 01.5	+1.3
	baz=333						
WCKO				*e*S	Sg	17 49 05.6	+2.2
	baz=333						
SLGT	**Liugui**	**0.24**	**196**	*e*P	Pg	17 49 01.2	+1.0
	baz=196						
SLGT				*e*S	Sg	17 49 05.4	+1.9
	baz=196						
ELDTW	**Lidau**	**0.28**	**97**	*e*P	Pb	17 49 02.1	-0.6
	baz=97						
ELDTW				*e*S	Sb	17 49 06.6	-1.0
	baz=97						
ALS	**Alishan**	**0.29**	**16**	*e*P	Pg	17 49 02.2	+0.8
	baz=17						
ALS				*e*S	Sb	17 49 07.2	-1.2
	baz=17						
CHN5	**Tsauling**	**0.37**	**354**	*e*P	Pb	17 49 03.8	-0.6
	baz=354						
CHN5				*e*S	Sb	17 49 10.0	-0.4
	baz=354						
WHYT	**Xinyi Township**	**0.48**	**15**	*e*P	Pb	17 49 05.9	-0.4
	baz=14						

TAP 25 17:49:06.8, 23°.22N×120°.72E, h8km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYH	**Taoyuan**	**0.07**	**136**	*e*P	Pg	17 49 09.6	+0.8
	baz=128						
STYH				*e*S	Sg	17 49 11.2	+1.0
	baz=128						
WTP	**Ta-pu**	**0.10**	**283**	*e*P	Pg	17 49 09.7	+0.5
	baz=282						
WTP				*e*S	Sg	17 49 11.7	+0.8
	baz=282						
TPUB	**Ta-pu**	**0.11**	**313**	*e*P	Pg	17 49 10.1	+0.6
	baz=312						
TPUB				*e*S	Sg	17 49 12.2	+1.0
	baz=312						
CHN4	**Tsaushan**	**0.17**	**317**	*e*P	Pg	17 49 11.3	+0.9
	baz=317						
CHN4				*e*S	Sg	17 49 14.4	+1.6
	baz=317						
CHN1	**Nanshi**	**0.18**	**258**	*e*P	Pg	17 49 11.8	+1.2
	baz=257						
CHN1				*e*S	Sg	17 49 14.9	+1.8
	baz=257						
SGST	**Jiashian**	**0.19**	**222**	*e*P	Pg	17 49 10.7	0.0
	baz=219						
SNST	**Tainan City**	**0.20**	**269**	*e*P	Pg	17 49 12.0	+1.0
	baz=268						
SNST				*e*S	Sg	17 49 15.8	+2.0
	baz=268						
WCKO	**Fanlu**	**0.24**	**334**	*e*P	Pg	17 49 12.5	+0.9
	baz=333						
ELDTW	**Lidau**	**0.28**	**97**	*e*P	Pg	17 49 12.8	+0.5
	baz=97						
ALS	**Alishan**	**0.30**	**15**	*e*P	Pb	17 49 13.8	-0.8
	baz=16						

*IDC **25** 17:51:25.9±0.7, 9°.03S×106°.98E, h0km, mb3.9/11, mbtmp3.9/13, ML4.3/2, MS3.2/1, Error ellipse: s-maj=28.5km s-min=14.3km az=69.0*
*NEIC **25** 17:51:26.4±2.7, 9°.07S±0°.07×106°.75E±0°.06, h10km±1km, mb4.5/14, Error ellipse: s-maj=13.1km s-min=6.4km az=143.0*
*DJA **25** 17:51:27.5±0.3, 9°.S±3°×10°.7E±°, h10km, M4.5/16, mb5.0/7, mB5.1/1, MLv4.2/16, Mw4.1/5, Mw(mB)4.5/1*
ISC 25 17:51:30.0±0.5, 9°.05S±0°.05×106°.84E±0°.07, h35km, n62, σ1§41/53, mb4.2/17, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**1.75**	**9**	P	**Pn**	**17 51 57.6**	**-0.3**
XMIS	**Christmas Isla**	**1.84**	**219**		**Pn**	**17 51 58.8**	**-0.3**
CMJI	**Cimerak**	**2.03**	**52**	P	**Pn**	**17 52 00.1**	**-1.5**
LEM	**Lembang**	**2.34**	**19**	P	**Pn**	**17 52 07.1**	**+1.0**
LEM	**Lembang**	**2.34**	**19**	Pn	**Pn**	**17 52 06.5**	**+0.4**
	20nm,0.3s,baz=302,slow=23,SNR=9.3						
LEM				Sn	**Sn**	**17 52 35.5**	**+1.9**
	52nm,0.3s,baz=271,slow=13,SNR=11						
	64nm,0.5s						
CGJI	**Cibinong**	**2.67**	**335**	P	**Pn**	**17 52 11.5**	**+1.0**
KPJI	**Karang Pucung**	**2.68**	**51**	P	**Pn**	**17 52 10.6**	**0.0**
YOGI	**Yogyakarta**	**3.63**	**71**	P	**Pn**	**17 52 23.9**	**+0.2**
UGM	**Wanagama**	**3.81**	**73**	Pn	**Pn**	**17 52 25.3**	**-0.9**
UGM	**Wanagama**	**3.81**	**73**	P	**Pn**	**17 52 24.9**	**-1.4**
SMRI	**Semarang**	**4.08**	**61**	Pn	**Pn**	**17 52 28.8**	**-1.2**
KASI	**Kota Agung**	**4.20**	**326**	P	**Pn**	**17 52 32.7**	**+1.1**
WOJI	**Wonogiri, Jawa**	**4.21**	**74**	P	**Pn**	**17 52 31.8**	**+0.1**
LWLI	**Liwa**	**4.86**	**325**	P	**Pn**	**17 52 42.1**	**+1.3**
MNAI	**Manna**	**6.05**	**320**	Pn	**Pn**	**17 52 53.6**	**-3.4**
MNAI	**Manna**	**6.05**	**320**	P	**Pn**	**17 52 55.8**	**-1.2**
	195nm,0.9s,0.9nm						
GMJI	**Gumukmas**	**6.57**	**84**	P	**Pn**	**17 53 04.8**	**+0.6**
	36nm,0.7s,0.2nm						
BLJI	**Banyuglugur**	**6.81**	**80**	P	**Pn**	**17 53 06.7**	**-0.7**
	43nm,0.5s,0.2nm						
JAGI	**Jajag, Banyuwa**	**7.25**	**86**		**Pn**	**17 53 13.1**	**-0.4**
JAGI	**Jajag, Banyuwa**	**7.25**	**86**	P	**Pn**	**17 53 13.1**	**-0.4**
	100nm,0.6s,1μm0.4nm						
IGBI	**Denpasar**	**8.21**	**89**	P	**Pn**	**17 53 24.7**	**-1.9**
	66nm,0.5s						
TWSI	**Taliwang, Sumb**	**9.93**	**89**	P	**Pn**	**17 53 48.8**	**-1.4**
	26nm,0.6s						
PLAI	**Plampang**	**10.81**	**90**	P	**Pn**	**17 54 00.6**	**-1.7**
GSI	**Gunungsitoli**	**13.82**	**318**	Pn	**Pn**	**17 54 40.2**	**-3.3**
MMRI	**Maumere**	**15.22**	**90**	Pn	**Pn**	**17 55 02.2**	**-0.2**
MMRI				IAmb	IAmb	17 55 11.9	
	comp=Z,14nm,0.7s						
GIRL	**Giralia**	**15.27**	**153**	Pn	**Pn**	**17 55 01.9**	**-1.1**
BATI	**Baumata**	**16.63**	**95**	Pn	**Pn**	**17 55 19.2**	**-1.3**
	comp=Z,4.9nm,0.3s,baz=332,slow=18,SNR=6.1						
BATI				Sn	Sn	17 58 07.2	-17
	comp=Z,0.9nm,0.3s,baz=284,slow=8.3,SNR=2.0						
	comp=Z,8.7nm,0.4s						
SOEI	**Soe**	**17.21**	**94**		**Pn**	**17 55 25.2**	**-2.8**
MYLDM	**Lahad Datu**	**18.30**	**40**	P	**Pn**	**17 55 40.9**	**-0.3**
MTN	**Manton Dam**	**24.14**	**101**	P	**P**	**17 56 44.4**	**+1.4**
MTN				IAmb	IAmb	17 56 47.1	
	comp=Z,16nm,1.2s						
DAV	**Davao City (W)**	**24.60**	**50**	LR	LR	18 07 56.6	
	comp=Z,51nm,18.5s,baz=101,slow=40						
H01W3	**Cape Leeuwin H**	**26.57**	**167**	T	T	18 25 46.8	
	baz=341,slow=76						
H01W1	**Cape Leeuwin H**	**26.58**	**166**	T	T	18 25 44.7	
	baz=341,slow=76						
H01W2	**Cape Leeuwin H**	**26.58**	**167**	T	T	18 25 47.6	
	baz=341,slow=76						
CMAR	**Chiang Mai Arr**	**28.42**	**344**	P	**P**	**17 57 21.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=183,slow=9.2,SNR=4.7						
	comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**28.69**	**115**	P	**P**	**17 57 23.0**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=286,slow=11,SNR=7.1						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**29.68**	**123**	P	**P**	**17 57 32.5**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=310,slow=9.7,SNR=7.6						
	comp=Z,0.5nm,0.6s						
H08S2	**Diego Garcia H**	**34.01**	**270**	T	T	18 34 08.5	
	baz=94,slow=75						
H08S3	**Diego Garcia H**	**34.02**	**270**	T	T	18 34 10.2	
	baz=94						
H08S1	**Diego Carcia H**	**34.02**	**270**	T	T	18 34 27.6	
	baz=94,slow=75						
STKA	**Stephens Creek**	**39.42**	**130**	P	**P**	**17 58 57.5**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=314,slow=8.7,SNR=4.7						
	comp=Z,1.5nm,0.5s						
KSAR	**Wonju Array Be**	**50.27**	**22**	P	**P**	**18 00 21.9**	**-1.1**
KS19	**Wonju Array Si**	**50.32**	**22**	P	**P**	**18 00 22.0**	**-1.4**
KS19				IAmb	IAmb	18 00 23.1	
	comp=Z,8.0nm,0.8s						
SONM	**Songino Array**	**56.63**	**360**	P	**P**	**18 01 09.9**	**+0.3**
SONM	**Songino Array**	**56.63**	**360**	P	**P**	**18 01 10.8**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=171,slow=10,SNR=6.2						
	comp=Z,0.9nm,0.7s						
ULN	**Ulaanbaatar**	**56.66**	**0**	P	**P**	**18 01 10.1**	**+0.3**
ULN				IAmb	IAmb	18 01 12.6	
	comp=Z,1.7nm,0.6s						
MDJ	**Mudanjiang**	**57.24**	**19**	P	**P**	**18 01 13.3**	**-0.5**
H04N2	**CROZET ISLANDS**	**59.62**	**221**	T	T	19 06 18.1	
	baz=70,slow=75,SNR=4.6						
H04N1	**CROZET ISLANDS**	**59.64**	**221**	T	T	19 06 16.9	
	baz=70,slow=75,SNR=4.1						
H04N3	**CROZET ISLANDS**	**59.64**	**221**	T	T	19 06 15.2	
	baz=70,slow=75,SNR=4.1						
MK31	**Makanchi Array**	**59.75**	**341**	P	**P**	**18 01 32.2**	**+0.9**
MK31				IAmb	IAmb	18 01 48.2	
	comp=Z,1.8nm,0.8s						
MKAR	**Makanchi Array**	**59.75**	**341**	P	**P**	**18 01 32.6**	**+1.2**
MKAR	**Makanchi Array**	**59.75**	**341**	P	**P**	**18 01 32.8**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=154,slow=8.3,SNR=15						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**64.31**	**340**	P	**P**	**18 02 03.5**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=157,slow=6.1,SNR=5.0						
	comp=Z,0.5nm,0.3s						
BVAR	**Borovoye Array**	**69.18**	**337**	P	**P**	**18 02 34.6**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=140,slow=9.4,SNR=6.8						
	comp=Z,1.2nm,0.6s						
ABKAR	**Akbulak array**	**71.08**	**330**	P	**P**	**18 02 42.8**	**-1.7**
ABKAR				IAmb	IAmb	18 03 11.2	
	comp=Z,2.2nm,0.7s						
YAK	**Yakutsk**	**73.06**	**11**	P	**P**	**18 02 56.4**	**+0.3**
YAK				IAmb	IAmb	18 02 58.2	
	comp=Z,11nm,1.2s						
VNDA	**Vanda**	**74.00**	**169**	P	**P**	**18 03 03.1**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=264,slow=4.1,SNR=5.0						
	comp=Z,0.6nm,0.7s						
MBAR	**Mbarara**	**76.18**	**272**	P	**P**	**18 03 13.1**	**-2.4**
QSPA	**South Pole Qui**	**80.95**	**180**	P	**P**	**18 03 42.2**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=272,slow=2.7,SNR=8.2						
	comp=Z,1.1nm,0.6s						
SNAA	**Sanae**	**87.54**	**197**	P	**P**	**18 04 16.6**	**+2.5**
	comp=Z,1.3nm,1.0s,baz=172,slow=5.2,SNR=4.4						
	comp=Z,1.3nm,1.0s						
TXAR	**Lajitas Array**	**145.00**	**51**	PKP	**PKPdf**	**18 11 05.3**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=269,slow=3.8,SNR=3.8						

*IDC **25** 18:02:04.0±2.9, 22°.88N×11°.76W, h0km, mb3.9/4, mbtmp3.9/7, ML3.7/3, MS3.3/2, Error ellipse: s-maj=92.5km s-min=25.4km az=79.0*
ISC 25 18:02:07.4±1.4, 22°.95N±0°.09×11°.3W±0°.2, h10km, n12, σ1§18/12, mb3.9/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWA	**Kowa**	**10.88**	**139**	Pn	**Pn**	**18 04 44.7**	**+1.4**
	0.9nm,0.3s,baz=325,slow=11,SNR=8.0						
KOWA				Sn	**Sn**	**18 06 44.7**	**-0.6**
	0.5nm,0.3s,baz=182,slow=19,SNR=5.6						
	2.6nm,0.5s						
MDT	**Midelt**	**11.48**	**30**	Sn	**Sn**	**18 06 59.3**	**-0.6**
	0.1nm,0.3s,baz=248,slow=16,SNR=1.8						
MDT				Lg	Lg	18 08 18.4	
	0.2nm,0.3s,baz=332,slow=13,SNR=5.2						
TORD	**Torodi Ar. Bea**	**15.74**	**126**	Pn	**Pn**	**18 05 50.1**	**+0.8**
	0.1nm,0.3s,baz=314,slow=14,SNR=5.5						
TORD				Sn	**Sn**	**18 08 43.4**	**-0.6**
	0.1nm,0.3s,baz=309,slow=21,SNR=4.0						
TORD				LR	LR	18 12 34.7	
	comp=Z,48nm,21.3s,baz=137,slow=39						
	0.8nm,0.6s						
DBIC	**Dimbokro**	**17.34**	**158**	P	**Pn**	**18 06 07.8**	**-1.8**
	0.3nm,0.3s,baz=328,slow=8.9,SNR=1.8						
	2.8nm,0.7s						
I48TN	**KESRA INFRASON**	**22.03**	**50**	I	I	20 25 50.0	
	baz=242,slow=324,SNR=1.1						
GERES	**GERESS Array B**	**32.56**	**31**	P	**P**	**18 08 39.0**	**+0.1**
	0.6nm,0.6s,baz=235,slow=3.5,SNR=2.3						
	0.6nm,0.6s						
HFS	**Hagfors**	**41.09**	**19**	P	**P**	**18 09 50.0**	**-1.1**
	3.6nm,1.0s,baz=187,slow=5.8,SNR=5.4						
	3.6nm,1.0s						
FINES	**FINESS Array B**	**46.22**	**24**	P	**P**	**18 10 32.7**	**+0.2**
	5.9nm,1.1s,baz=242,slow=9.0,SNR=3.6						
	5.9nm,1.1s						
CPUP	**Villa Florida**	**66.20**	**225**	LR	LR	18 40 11.0	
	comp=Z,50nm,20.0s,baz=212,slow=35						
MKAR	**Makanchi Array**	**76.01**	**45**	P	**P**	**18 13 55.7**	**+0.8**
	0.3nm,0.5s,baz=290,slow=6.1,SNR=4.3						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**147.94**	**91**	PKPbc	**PKPdf**	**18 21 52.3**	**+1.6**
	0.5nm,0.9s,baz=285,slow=3.0,SNR=2.7						
ASAR	**Alice Springs**	**148.10**	**98**	PKPbc	**PKPbc**	**18 21 53.0**	**-1.1**
	0.4nm,0.7s,baz=303,slow=1.7,SNR=8.8						

*IDC **25** 18:02:17.0±1.4, 13°.44S×167°.54E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=45.0km s-min=32.2km az=126.0*
ISC 25 18:02:22.7±1.3, 13°.5S±0°.2×167°.5E±0°.3, h35km, n7, σ1§07/8, mb3.7/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.35**	**254**	P	**P**	**18 08 49.0**	**-0.1**
	0.3nm,0.7s,baz=84,slow=9.3,SNR=2.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**33.33**	**247**	P	**P**	**18 08 57.7**	**+0.1**
	0.6nm,0.5s,baz=75,slow=10.0,SNR=36						
ASAR				PcP	**PcP**	**18 11 37.5**	**-1.7**
	0.2nm,0.5s,baz=69,slow=2.1,SNR=5.1						
	0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**74.62**	**294**	P	**P**	**18 13 59.2**	**+0.4**
	0.6nm,0.7s,baz=125,slow=4.9,SNR=5.1						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**76.57**	**180**	P	**P**	**18 14 10.0**	**+0.6**
	0.8nm,0.6s,baz=360,slow=1.3,SNR=2.9						
	0.8nm,0.6s						
SONM	**Songino Array**	**81.59**	**323**	P	**P**	**18 14 38.2**	**+1.1**
	0.3nm,0.4s,baz=123,slow=5.3,SNR=2.8						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**85.25**	**18**	P	**P**	**18 14 55.2**	**-0.1**
	0.2nm,0.5s,baz=238,slow=5.2,SNR=4.8						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**96.42**	**316**	P	**P**	**18 15 47.3**	**-0.9**
	0.3nm,0.5s,baz=101,slow=4.2,SNR=4.1						
	0.3nm,0.5s						

*IDC **25** 18:20:41.5±0.5, 13°.58N×92°.87E, h0km, mb4.4/24, mbtmp4.4/26, ML4.3/2, MS3.8/31, Error ellipse: s-maj=18.0km s-min=12.1km az=58.0*
*NDI **25** 18:20:42.2±3.0, 13°.32N×92°.68E, h30km, ML4.2*
*BJI **25** 18:20:43.3±0.0, 13°.71N×92°.92E, h9km, mb4.3/44, mB4.9/17, Ms4.3/5, Ms7 3.9/7*
*NEIC **25** 18:20:47.8±1.9, 13°.72N±0°.06×92°.94E±0°.05, h33km±5km, mb4.7/70, Error ellipse: s-maj=8.8km s-min=7.0km az=149.0*
ISC 25 18:20:47.2±0.4, 13°.71N±0°.04×92°.85E±0°.05, h35km, n199, σ1§98/192, mb4.6/73, MS3.7/29, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.05**	**183**		**Pn**	**18 21 19.3**	**+0.1**
CM31	**Chiang Mai Arr**	**7.52**	**50**		**Pn**	**18 22 34.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**7.52**	**50**	Pn	**Pn**	**18 22 34.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**7.52**	**50**	Pn	**Pn**	**18 22 34.8**	**+0.3**
	1.4nm,0.3s,baz=241,slow=15,SNR=36						
CMAR				Sn	**Sn**	**18 23 55.1**	**-3.4**
	1.6nm,0.3s,baz=240,slow=29,SNR=6.9						
CMAR				LR	LR	18 26 13.5	
	comp=Z,414nm,20.4s,baz=235,slow=44						
	3.6nm,0.6s						
CHTO	**Chiang Mai**	**7.74**	**48**	Pn	**Pn**	**18 22 37.2**	**-0.3**
SRIT	**Nakonsritamara**	**8.35**	**127**	Pn	**Pn**	**18 22 44.8**	**-1.1**
SAIH	**SAIHA**	**8.73**	**1**	*e*P	**Pn**	**18 22 51.2**	**0.0**
SAIH				*e*S	**Sn**	**18 24 25.0**	**-3.4**
SAIH				IAML		18 24 27.4	
	comp=N,74nm,0.6s						
MND	**Mandalay**	**8.82**	**20**	Pn	**Pn**	**18 22 50.7**	**-1.5**
BRDH	**Bariadhala**	**8.99**	**353**	LR	LR	18 27 09.1	
	comp=N,590nm,21.7s,baz=85,slow=42						
BELO	**BELONIA**	**9.58**	**352**	*e*S	**Sn**	**18 24 45.4**	**-3.6**
CRAI	**Chiangrai**	**9.68**	**47**	Pn	**Pn**	**18 23 03.9**	**-0.2**
IMP	**Imphal**	**11.11**	**5**	*e*P	**Pn**	**18 23 24.3**	**+0.6**
IMP				*e*S	**Sn**	**18 25 23.5**	**-3.2**
IMP				IAML		18 25 28.1	
	comp=N,15nm,0.5s						
IMP				IAML		18 25 29.2	
	comp=E,11nm,0.5s						
KULM	**Kulim**	**11.36**	**137**		**Pn**	**18 23 28.5**	**+1.4**
SHL	**Shillong**	**11.83**	**356**	Pn	**Pn**	**18 23 30.9**	**-2.7**
SHL	**Shillong**	**11.83**	**356**	*e*P	**Pn**	**18 23 31.1**	**-2.5**
SHL				*e*S	**Sn**	**18 25 36.2**	**-8.3**
KOHI	**KOHIMA**	**12.00**	**5**	*e*P	**Pn**	**18 23 35.5**	**-0.5**
KOHI				*e*S	**Sn**	**18 25 43.6**	**-5.1**
TNCH	**TengChong**	**12.46**	**25**	*e*P	**Pn**	**18 23 45.0**	**+2.7**
DHUB	**DHUBRI**	**12.53**	**348**	*e*P	Pn	18 23 48.3	+5.2
DHUB				*e*S	**Sn**	**18 26 00.5**	**-0.9**
DHUB				IAML		18 26 06.1	
	comp=N,147nm,0.5s						
DHUB				IAML		18 26 10.4	
	comp=E,102nm,0.6s						
TEZP	**TEZPUR**	**12.84**	**360**	*e*P	**Pn**	**18 23 45.5**	**-1.7**
TEZP				*e*S	**Sn**	**18 26 01.8**	**-7.1**
GSI	**Gunungsitoli**	**13.19**	**159**	Pn	Pn	18 23 46.2	-5.9
ITAN	**ITANAGAR**	**13.39**	**3**	*e*P	**Pn**	**18 23 55.3**	**+0.6**
ITAN				*e*S	**Sn**	**18 26 13.4**	**-8.9**
PALK	**Pallekele**	**13.55**	**243**	Pn	**Pn**	**18 23 54.6**	**-2.5**
PALK	**Pallekele**	**13.55**	**243**	Pn	**Pn**	**18 23 56.1**	**-1.0**
	comp=E,1.2nm,0.3s,baz=159,slow=12,SNR=8.7						
PALK				Sn	Sn	18 26 14.7	-12
	comp=E,6.1nm,0.3s,baz=63,slow=17,SNR=10						
PALK				LR	LR	18 29 02.4	
	comp=E,315nm,19.2s,baz=165,slow=37						
	comp=E,2.9nm,0.4s						
ODAN	**Odare**	**14.04**	**339**	*e*P	**Pn**	**18 24 01.3**	**-2.6**
	comp=E,57nm,0.5s						
GTK	**Tadong**	**14.11**	**344**	*e*P	**Pn**	**18 24 06.1**	**+1.3**
GTK				*e*S	Sn	18 26 30.3	-10
GTK				IAML		18 26 38.9	
	comp=E,84nm,0.5s						
HYB	**Hyderabad**	**14.26**	**287**	*e*P	**P**	**18 24 15.0**	**+1.4**
TAPN	**Taplejung**	**14.39**	**341**	*e*P	**Pn**	**18 24 05.8**	**-3.0**
	comp=E,44nm,0.4s						
RAMN	**Ramite**	**14.41**	**337**	*e*P	**Pn**	**18 24 06.5**	**-2.5**
	comp=E,73nm,0.4s						
JIRN	**Jiri**	**15.21**	**337**	*e*P	**Pn**	**18 24 17.1**	**-2.6**
	comp=E,34nm,0.3s						
PZH	**PanZhiHua**	**15.21**	**32**	P	**Pn**	**18 24 20.3**	**+0.7**
PZH				pmax	pmax		
	comp=E,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=E,100nm,4.7s						
PKI	**Pulchoki**	**15.44**	**334**	*e*P	**Pn**	**18 24 20.6**	**-2.2**
	comp=E,46nm,0.4s						
PKIN	**Phulchoki**	**15.45**	**334**	*e*P	**Pn**	**18 24 20.6**	**-2.2**
	comp=E,56nm,0.4s						
GUN	**Gumba**	**15.55**	**336**	*e*P	**Pn**	**18 24 21.8**	**-2.4**
	comp=E,37nm,0.5s						
DMN	**Daman**	**15.60**	**334**	*e*P	**Pn**	**18 24 23.2**	**-1.6**
	comp=E,44nm,0.4s						
KKN	**Kakani**	**15.69**	**334**	*e*P	**Pn**	**18 24 23.6**	**-2.2**
	comp=E,25nm,0.3s						
LSA	**Lhasa**	**15.99**	**355**	P	**Pn**	**18 24 27.3**	**-2.6**
LSA				S	**Sn**	**18 27 17.8**	**-8.6**
LSA	**Lhasa**	**15.99**	**355**		**Pn**	**18 24 28.4**	**-1.5**
MYKOM	**Kota Tinggi**	**16.08**	**137**	P	**P**	**18 24 33.1**	**-0.7**
GKN	**Gorkha**	**16.15**	**333**	*e*P	**Pn**	**18 24 30.6**	**-1.1**
	comp=E,68nm,0.5s						
KOLN	**Koldanda**	**16.43**	**330**	*e*P	**Pn**	**18 24 35.4**	**0.0**
	comp=E,112nm,

baz=43,slow=76,SNR=39
KSH Kashi 29.70 333 P P 18 26 50.0 0.0
KSH pP pP 18 27 01.0 +1.1
KSH PP **PnPn 18 27 46.8 +0.7**
KSH S **S 18 31 43.5 -0.2**
KSH pmax pmax
comp=Z,3.0nm,1.0s
NJ2 Nanjing 29.99 48 *eP* **P 18 26 53.0 +0.5**
NJ2 sP **pP 18 27 04.0 +1.5**
NJ2 pmax pmax
comp=Z,11nm,0.7s
WMQ Urumqi 30.33 353 *eP* **P 18 26 58.8 +3.3**
WMQ LR LR
comp=Z,71nm,21.7s
JAGI Jajag, Banyuwa 30.54 135 P **P 18 26 55.7 -1.9**
JAGI IAmb IAmb 18 27 25.8
comp=Z,23nm,1.2s
BTO Baotou 30.72 26 *eP* **P 18 27 01.8 +2.8**
BTO pP **pP 18 27 06.8 -2.3**
BTO sP **sP 18 27 10.5 -2.8**
BTO PP **PnPn 18 28 01.3 +1.7**
BTO S **S 18 32 07.3 +7.6**
BTO sS **sS 18 32 17.5 +1.2**
BTO SS **SnSn 18 33 38.5 -1.0**
BTO pmax pmax
comp=Z,12nm,0.8s
BTO pmax pmax
comp=Z,660nm,6.0s
BTO LR LR
comp=Z,720nm,7.7s
BTO LR LR
comp=Z,660nm,6.9s
BTO LR LR
comp=Z,530nm,7.2s
HHC Hu-ho-hao-te 31.59 28 *eP* **P 18 27 08.5 +1.7**
HHC pmax pmax
comp=Z,28nm,0.8s
HHC pmax pmax
comp=Z,370nm,6.5s
ARSB Arslanbob 32.50 332 P **P 18 27 16.8 +2.0**
KAPI Kappang 32.54 123 LR LR 18 40 37.5
comp=Z,109nm,20.8s,baz=294,slow=37
BTK Batken 32.60 328 P **P 18 27 16.2 +0.6**
BTK IAmb IAmb 18 27 33.6
comp=Z,7.9nm,0.8s
AAK Ala-Archa 32.90 335 LR LR 18 42 28.6
comp=Z,181nm,19.9s,baz=150,slow=40
WSAR Wadi Sarin 33.74 291 LR LR 18 41 01.7
comp=Z,94nm,21.1s,baz=134,slow=36
MK31 Makanchi Array 34.15 347 P **P 18 27 28.5 -0.4**
MKAR Makanchi Array 34.15 347 P **P 18 27 28.6 -0.3**
MKAR Makanchi Array 34.15 347 P **P 18 27 30.2 +1.3**
comp=Z,3.2nm,0.7s,baz=165,slow=8.4,SNR=28
MKAR LR LR 18 45 06.6
comp=Z,121nm,19.1s,baz=132,slow=43
comp=Z,3.2nm,0.7s
MAKZ Makanchi 34.23 347 P **P 18 27 29.7 0.0**
KK31 Karatay Array 35.04 331 P **P 18 27 37.1 +0.4**
KKAR Karatay Array 35.04 331 P **P 18 27 37.8 +1.1**
KKAR Karatay Array 35.04 331 P **P 18 27 36.6 0.0**
KKAR IAmb IAmb 18 27 57.1
comp=Z,3.9nm,1.1s
JOW Kunigami 35.57 63 LR LR 18 43 06.9
comp=Z,167nm,20.0s,baz=100,slow=38
SONM Songino Array 35.84 16 P **P 18 27 45.1 +1.5**
SONM Songino Array 35.84 16 P **P 18 27 44.3 +0.7**
comp=Z,2.7nm,0.9s,baz=199,slow=9.3,SNR=11
SONM PcP **PcP 18 30 11.0 +0.4**
comp=Z,1.0nm,0.6s,baz=245,slow=1.9,SNR=4.3
comp=Z,2.7nm,0.9s
ULN Ulaanbaatar 36.04 16 P **P 18 27 46.3 +0.9**
XLT XiLinHaoTe 36.06 29 *eP* **P 18 27 47.5 +2.0**
XLT pP pP 18 27 53.8 -1.9
XLT sP sP 18 27 56.8 -3.1
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,210nm,7.1s
KURBB Kurchatov Arra 38.61 345 P **P 18 28 07.9 +1.0**
comp=Z,4.7nm,0.7s,baz=164,slow=7.9,SNR=40
KURBB PcP **PcP 18 30 18.7 -0.1**
comp=Z,0.3nm,0.4s,baz=160,slow=2.8,SNR=1.7
comp=Z,4.7nm,0.7s
KURK Kurchatov 38.67 346 P **P 18 28 07.9 +0.5**
GEYT Alibeck 39.13 314 P **P 18 28 13.6 +2.1**
GEYT Alibeck 39.13 314 P **P 18 28 11.5 0.0**
comp=Z,4.5nm,0.7s,baz=152,slow=8.0,SNR=12
GEYT LR LR 18 45 02.8
comp=Z,66nm,18.4s,baz=147,slow=37
comp=Z,4.5nm,0.7s
GYA0B ALIBECK ARRAY 39.13 314 P **P 18 28 12.4 +0.9**
GYA0B IAmb IAmb 18 28 25.3
comp=Z,15nm,1.4s
KSRS Korea Array 39.14 46 P **P 18 28 11.2 -0.2**
comp=Z,1.5nm,0.7s,baz=240,slow=9.3,SNR=7.9
KSRS LR LR 18 46 11.3
comp=Z,127nm,18.0s,baz=245,slow=39
comp=Z,1.5nm,0.7s
JNU Nakatsue 39.59 54 LR LR 18 46 50.8
comp=Z,85nm,18.0s,baz=242,slow=40
ZAA0 Zalesovo Array 40.64 353 P **P 18 28 24.4 +0.7**
ZALV Zalesovo Beam 40.64 353 P **P 18 28 24.6 +0.9**
ZALV Zalesovo Beam 40.64 353 P **P 18 28 24.4 +0.7**
comp=Z,4.8nm,0.6s,baz=179,slow=9.0,SNR=28
comp=Z,4.8nm,0.6s
BVAR Borovoye Array 43.09 340 P **P 18 28 43.9 +0.1**
comp=Z,1.2nm,0.5s,baz=134,slow=8.5,SNR=7.7
comp=Z,1.2nm,0.5s
ABKAR Akbulak array 44.56 330 P **P 18 28 57.3 +1.7**
ABKAR Akbulak array 44.56 330 P **P 18 28 57.5 +1.8**
ABKAR IAmb IAmb 18 29 09.6
comp=Z,8.8nm,1.1s
HEH HeiHe 46.02 30 *eP* P 18 29 18.3 +11
HEH pmax pmax
comp=Z,8.0nm,0.8s
MJAR Matsushiro Arr 46.40 52 LR LR 18 49 07.1
comp=Z,84nm,20.0s,baz=268,slow=37
KLR Kul'dur 47.65 34 LR LR 18 51 34.0
comp=Z,112nm,18.1s,baz=58,slow=39
JCJ Chichijima 47.83 66 LR LR 18 48 00.6
comp=Z,58nm,21.4s,baz=16,slow=34
GNI Garni 49.56 311 P **P 18 29 36.8 +1.7**
GNI Garni 49.56 311 LR LR 18 52 59.2
comp=Z,62nm,19.6s,baz=114,slow=39
GURO Guroymak-BITLI 51.12 309 P **P 18 29 48.9 +2.0**
GURO IAmb IAmb 18 30 03.9
comp=Z,9.3nm,1.3s
KIV Kislovodsk 52.23 315 P **P 18 29 54.5 -0.5**
KIV IAmb IAmb 18 30 13.5
comp=Z,11nm,1.0s
WB0 Warramunga Arr 52.71 128 P **P 18 29 56.6 -2.2**
WB0 IAmb IAmb 18 29 57.4
comp=Z,6.2nm,0.5s
WRA Warramunga Arr 52.77 128 P **P 18 29 58.3 -0.9**
WRA Warramunga Arr 52.77 128 P **P 18 29 57.5 -1.7**
comp=Z,4.2nm,0.4s,baz=296,slow=9.5,SNR=209
WRA PcP **PcP 18 31 08.0 -0.5**
comp=Z,1.8nm,0.5s,baz=318,slow=3.3,SNR=9.6
comp=Z,4.2nm,0.4s
WRAB Tennant Creek 52.77 128 P **P 18 29 57.4 -1.8**
WB2 Warramunga Arr 52.78 128 P **P 18 29 57.4 -1.9**
WR0 Warramunga Arr 52.93 128 P **P 18 29 58.5 -1.9**
WR0 IAmb IAmb 18 29 59.8
comp=Z,5.4nm,0.6s
GAZ Gaziantep 54.56 306 P **P 18 30 11.8 -0.5**
GAZ IAmb IAmb 18 30 14.5
comp=Z,7.9nm,0.9s
AS31 Alice Springs 54.69 132 P **P 18 30 11.1 -2.1**
AS31 IAmb IAmb 18 30 12.7
comp=Z,1.9nm,0.3s
ASAR Alice Springs 54.69 132 P **P 18 30 12.0 -1.3**
ASAR Alice Springs 54.69 132 P **P 18 30 11.7 -1.6**
comp=Z,3.0nm,0.4s,baz=308,slow=7.2,SNR=255
ASAR PcP **PcP 18 31 14.8 -1.0**
comp=Z,0.8nm,0.6s,baz=321,slow=4.0,SNR=1.7
comp=Z,3.0nm,0.4s
YAK Yakutsk 54.94 20 P **P 18 30 14.6 +0.3**
GHAJ Ghor Haditha 55.15 299 P **P 18 30 17.3 +0.8**
GHAJ IAmb IAmb 18 30 23.7
comp=Z,8.8nm,1.2s
MMAI Mount Meron Ar 55.45 301 LR LR 18 56 16.9
comp=Z,44nm,19.7s,baz=87,slow=38
EIL Elat 55.56 297 LR LR 18 55 57.1
comp=Z,54nm,20.3s,baz=68,slow=38
BRTR Keskin Array B 57.75 308 P **P 18 30 34.9 -0.2**
comp=Z,5.0nm,0.7s,baz=118,slow=7.9,SNR=30
comp=Z,5.0nm,0.7s
KLMR Klimovskoe 60.69 333 *eP* **P 18 30 53.1 -1.7**
KLMR AMP 18 31 01.9
comp=Z,31nm,2.1s
TIXI Tiksi 61.81 12 P **P 18 31 02.1 -0.1**
KARP Karpathos 62.45 303 P **P 18 31 07.4 +0.2**
AKASG Malin Array Be 62.85 320 P **P 18 31 09.1 -0.4**
comp=Z,0.4nm,0.6s,baz=81,slow=5.9,SNR=4.9
comp=Z,0.4nm,0.6s
MBAR Mbarara 63.12 262 LR LR 18 58 28.3
comp=Z,48nm,19.0s,baz=84,slow=36
IDI Anoyia 64.29 303 LR LR 19 03 21.2
comp=Z,38nm,18.1s,baz=118,slow=40
BURAR Bucovina Array 64.93 316 P **P 18 31 24.8 +1.3**
BUR08 Bucovina Ar. S 64.95 316 P **P 18 31 24.3 +0.8**
BUR08 IAmb IAmb 18 31 25.0
comp=Z,15nm,1.4s
STKA Stephens Creek 65.08 135 P **P 18 31 23.2 -1.2**
comp=Z,0.7nm,0.3s,baz=311,slow=4.5,SNR=9.4
comp=Z,0.7nm,0.3s
FINES FINESS Array B 67.00 331 P **P 18 31 36.5 +0.2**
comp=Z,4.2nm,0.7s,baz=119,slow=6.0,SNR=9.5
comp=Z,4.2nm,0.7s
CRVS Cervenica-Dubn 67.56 317 *eP* **P 18 31 41.8 +1.6**
VYHS Vyhne 69.27 317 *eP* **P 18 31 51.8 +0.9**
ARCES ARCESS Array B 69.38 340 P **P 18 31 51.4 +0.2**
comp=Z,2.1nm,0.5s,baz=101,slow=6.4,SNR=12
ARCES LR LR 19 05 28.7
comp=Z,102nm,20.7s,baz=200,slow=39
comp=Z,2.1nm,0.5s
H04N2 CROZET ISLANDS 70.12 209 T T 19 47 51.1
baz=43,slow=75,SNR=41
H04N1 CROZET ISLANDS 70.13 209 T T 19 47 54.0
baz=43,slow=75,SNR=40
H04N3 CROZET ISLANDS 70.14 209 T T 19 47 53.5
baz=43,slow=75,SNR=40
LSZ Lusaka 70.14 248 LR LR 18 59 07.7
comp=Z,161nm,19.8s,baz=108,slow=33
MORC Moravsky Berou 70.17 318 P **P 18 31 57.8 +1.3**
MORC IAmb IAmb 18 31 58.5
comp=Z,5.4nm,0.9s
KRLC Kraliky 70.68 318 *eP* **P 18 32 00.8 +1.3**
DPC Dobruska-Polom 70.98 319 *eP* **P 18 32 02.7 +1.4**
SOKA Soboth 71.82 315 *eP* **P 18 32 07.5 +1.0**
comp=Z,4.2nm,1.2s
ZVC Zvikov 72.35 318 *eP* **P 18 32 10.7 +1.1**
BRG Berggiesshubel 72.50 319 *eP* **P 18 32 12.4 +2.0**
BRG Amp 18 32 13.1
comp=Z,6.4nm,0.9s
GEC2 GERESS Array S 72.68 317 P **P 18 32 12.0 +0.4**
GEC2 IAmb IAmb 18 32 13.4
comp=Z,4.9nm,0.8s
GERES GERESS Array B 72.68 317 P **P 18 32 12.1 +0.4**
comp=Z,4.1nm,0.7s,baz=93,slow=6.7,SNR=10
comp=Z,4.1nm,0.7s
KHC Kasperske Hory 72.76 317 P **P 18 32 12.5 +0.5**
KHC Kasperske Hory 72.76 317 *eP* **P 18 32 12.6 +0.5**
HFS Hagfors 72.82 329 P **P 18 32 12.2 +0.2**
comp=Z,4.4nm,0.7s,baz=93,slow=5.9,SNR=7.1
HFS LR LR 19 10 22.2
comp=Z,80nm,18.2s,baz=36,slow=41
comp=Z,4.4nm,0.7s
PRED Cave del Predi 72.84 315 P **P 18 32 12.0 -0.6**
PRED IAmb IAmb 18 32 12.8
comp=Z,5.5nm,0.7s
CLUD Cludinico 73.31 315 P **P 18 32 15.6 +0.3**
CLUD IAmb IAmb 18 32 16.4
comp=Z,8.0nm,0.8s
STAL STALIGIAL 73.44 315 P **P 18 32 16.5 +0.4**
SPITS Spitsbergen Ar 73.90 348 P **P 18 32 18.5 +0.3**
comp=Z,16nm,1.1s,baz=72,slow=6.2,SNR=2.7
comp=Z,16nm,1.1s
NB2 NORSAR Subarra 74.06 330 P **P 18 32 19.4 -0.1**
comp=Z,1.3nm,0.6s,baz=89,slow=5.9
NOA NORSAR Array B 74.06 330 P **P 18 32 19.2 -0.2**
comp=Z,2.0nm,0.7s,baz=90,slow=5.7,SNR=8.3
NOA LR LR 19 08 27.9
comp=Z,49nm,18.0s,baz=355,slow=39
comp=Z,2.0nm,0.7s
WTTA Wattenberg 74.12 316 *eP* **P 18 32 20.0 -0.3**
comp=Z,2.1nm,0.5s
CTI Castel Tesino 74.18 314 P **P 18 32 21.2 +0.6**
CTI IAmb IAmb 18 32 22.0
comp=Z,5.7nm,0.8s
SQTA Sankt Quirin 74.42 316 *eP* **P 18 32 22.1 +0.2**
comp=Z,3.8nm,0.6s
MOTA Moosalm 74.48 316 *eP* **P 18 32 22.5 +0.1**
comp=Z,3.8nm,0.7s
FETA Feichten 74.76 315 *eP* **P 18 32 24.4 +0.4**
comp=Z,3.1nm,0.9s
DAVA Damuels 75.31 316 *eP* **P 18 32 27.7 +0.5**
comp=Z,5.4nm,0.7s
TUE Stuetta 75.75 315 P **P 18 32 30.2 +0.5**
MSSA Maissana 75.82 313 P **P 18 32 28.4 -1.6**
MSSA IAmb IAmb 18 32 56.5
comp=Z,8.3nm,1.0s
LBTB Lobatse 76.00 240 P **P 18 32 32.7 +1.3**
LBTB IAmb IAmb 18 32 57.4
comp=Z,17nm,1.2s
SENIN Lac Senin/Sane 77.17 315 P **P 18 32 38.5 +0.7**
SENIN IAmb IAmb 18 32 43.9
comp=Z,12nm,0.8s
BOSA Boshof 77.68 236 P **P 18 32 41.4 +0.6**
BOSA IAmb IAmb 18 32 42.0
comp=Z,9.8nm,0.8s
BOSA Boshof 77.68 236 P **P 18 32 40.9 +0.1**
comp=Z,11nm,0.7s,baz=73,slow=4.4,SNR=26
comp=Z,11nm,0.7s
BNI Bardonecchia 77.75 314 P **P 18 32 41.8 +0.8**
BNI IAmb IAmb 18 32 53.1
comp=Z,5.3nm,1.0s
TSUM Tsumeb 80.99 248 LR LR 19 05 24.8
comp=Z,77nm,20.0s,baz=79,slow=33
EKA Eskdalemuir Ar 82.23 325 P **P 18 33 05.2 +0.4**
comp=Z,1.4nm,0.6s,baz=94,slow=6.1,SNR=4.0
comp=Z,1.4nm,0.6s
SUR Sutherland 82.65 234 LR LR 19 05 13.1
comp=Z,77nm,18.4s,baz=108,slow=32
MAW Mawson 83.97 191 P **P 18 33 13.2 -0.1**
comp=Z,3.2nm,0.8s,baz=329,slow=8.1,SNR=5.2
MAW LR LR 19 07 28.0
comp=Z,78nm,18.1s,baz=6.5,slow=34
comp=Z,3.2nm,0.8s
F21K Alatna River 86.27 21 P **P 18 33 26.0 +0.9**
F21K IAmb IAmb 18 33 27.1
comp=Z,4.0nm,1.0s
ESDC Sonseca Array 86.52 310 P **P 18 33 26.5 -0.4**
ESDC Sonseca Array 86.52 310 P **P 18 33 27.1 +0.2**
comp=Z,1.3nm,0.7s,baz=55,slow=4.4,SNR=14
comp=Z,1.3nm,0.7s
IMAR Indian Mountai 86.73 22 P **P 18 33 28.3 +0.9**
H21K Melozitna Rive 87.23 22 P **P 18 33 31.1 +1.3**
BORG Borgarnes 87.59 337 LR LR 19 15 19.8
comp=Z,38nm,18.7s,baz=70,slow=37
I21K Tanana 87.76 22 P **P 18 33 33.0 +0.7**
K20K Telida 87.79 25 P **P 18 33 31.2 -1.4**
TOA0 Torodi Ar. Sit 88.05 283 P **P 18 33 34.6 -0.1**
TOA0 IAmb IAmb 18 33 35.8
comp=Z,3.8nm,0.9s
TORD Torodi Ar. Bea 88.05 283 P **P 18 33 35.1 +0.4**
TORD Torodi Ar. Bea 88.05 283 P **P 18 33 34.5 -0.2**
comp=Z,2.0nm,0.9s,baz=68,slow=5.2,SNR=11
comp=Z,2.0nm,0.9s
H23K Yukon River 88.33 21 P **P 18 33 36.2 +1.2**
H23K IAmb IAmb 18 34 05.7
comp=Z,7.3nm,1.4s
CAST Castle Rocks 88.56 24 P **P 18 33 37.2 +1.0**
D27M Malcolm River 89.11 17 P **P 18 33 40.0 +1.3**
D27M IAmb IAmb 18 34 23.7
comp=Z,4.0nm,1.1s
BMAR Burnt Mountain 89.12 19 P **P 18 33 40.4 +1.6**
MDM Murphy Dome 89.25 22 P **P 18 33 41.0 +1.6**
MDM IAmb IAmb 18 33 52.8
comp=Z,4.1nm,0.9s
ILAR Eielson Array 89.83 22 P **P 18 33 41.9 -0.3**
comp=Z,0.8nm,0.7s,baz=292,slow=4.1,SNR=9.6
ILAR LR LR 19 17 52.8
comp=Z,120nm,20.2s,baz=248,slow=38
comp=Z,0.8nm,0.7s
E28M Babbage River 89.91 17 P **P 18 33 43.6 +1.2**
E28M IAmb IAmb 18 33 57.8
comp=Z,6.7nm,1.4s
PVAQ Vaqueiros 89.97 308 P **P 18 33 43.9 +0.5**
PVAQ IAmb IAmb 18 34 00.5
comp=Z,8.5nm,1.1s
E29M Blow River 90.51 17 P **P 18 33 44.9 -0.3**
E29M IAmb IAmb 18 33 58.4
comp=Z,6.3nm,1.4s
BRLK Bradley Lake 90.83 27 P **P 18 33 46.8 -0.1**
I26K Coal Creek Min 90.83 20 P **P 18 33 47.2 +0.5**
I26K IAmb IAmb 18 34 16.1
comp=Z,6.7nm,1.4s
H29M Whitestone 91.80 18 P **P 18 33 51.7 +0.4**
I28M Miner Creek 91.81 19 P **P 18 33 52.5 +1.1**
I28M IAmb IAmb 18 34 14.2
comp=Z,2.0nm,0.8s
BCAR Beaver Creek A 92.66 22 P **P 18 33 57.1 +1.7**
GLB Gilahina Butte 92.87 24 P **P 18 33 57.9 +1.6**
KOWA Kowa 93.09 286 LR LR 19 18 45.6
comp=Z,53nm,18.4s,baz=128,slow=37
MCARA McCarthy VSAT 93.21 24 P **P 18 33 58.2 +0.4**
H31M Peel River 93.30 18 P **P 18 33 59.5 +1.3**
PDAR Pinedale Array 120.15 19 PKP **PKiKP 18 39 34.6 -0.5**
comp=Z,0.3nm,0.3s,baz=72,slow=2.3,SNR=4.2
NVAR Mina Array Bea 120.49 28 PKP **PKiKP 18 39 36.6 +0.7**
comp=Z,0.8nm,0.6s,baz=314,slow=1.6,SNR=8.7
TXAR Lajitas Array 134.33 20 PKP **PKPdf 18 40 01.9 -0.4**
comp=Z,0.4nm,0.5s,baz=195,slow=2.5,SNR=4.4

*IDC **25** 18:28:60.0±4.9, 14°.42S×167°.24E, h143km±42km, mb3.4/5, mbtmp3.8/6, Error ellipse: s-maj=33.4km s-min=29.0km az=1.0*

ISC 25 18:29:00.7±1.2, **14°.5S**±0°.1×**167°.3E**±0°.2, **h150**km, **n7, σ0s80/8, mb3.6/5, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.62**	**186**	P	**Pn**	**18 30 49.1**	**-0.1**
	4.1nm,0.7s,baz=342,slow=15,SNR=12						
DZM				S	**Sn**	**18 32 14.2**	**-0.2**
	2.8nm,0.6s,baz=163,slow=19,SNR=1.6						
STKA	**Stephens Creek**	**29.18**	**229**	P	**P**	**18 34 49.4**	**+1.3**
	1.2nm,0.4s,baz=48,slow=9.6,SNR=5.5						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**31.90**	**255**	P	**P**	**18 35 11.5**	**-0.7**
	0.3nm,0.4s,baz=85,slow=9.0,SNR=4.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**32.78**	**249**	P	**P**	**18 35 19.1**	**-0.8**
	0.5nm,0.5s,baz=77,slow=8.9,SNR=24						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**75.58**	**180**	P	**P**	**18 40 28.6**	**-0.2**
	0.5nm,0.4s,baz=338,slow=1.2,SNR=9.3						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**86.26**	**18**	P	**P**	**18 41 24.9**	**-0.1**
	0.4nm,0.8s,baz=234,slow=5.8,SNR=4.8						
	0.4nm,0.8s						
ARCES	**ARCESS Array B**	**119.98**	**345**	PKP	**PKiKP**	**18 47 33.4**	**+0.4**
	3.1nm,1.0s,baz=45,slow=3.6,SNR=5.0						

*SJA **25** 18:36:36.1±0.7, 32°.80S×68°.74W, h144km±2km, ML3.5, MW3.6*

ISC 25 18:36:35.1±1.5, **32°.82S**±0°.04×**68°.73W**±0°.04, **h156**km±8km, **n41, σ1s36/72, 11C, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.18**	**263**	*eP*	**Pn**	**18 36 56.4**	**+0.2**
ARCO				*eS*	**Sn**	**18 37 10.8**	**-1.5**
ARCO				IAML		18 37 12.9	
	comp=Z,1μm,0.3s						
ASAL	**Salagasta**	**0.25**	**338**	*eP*	**Pn**	**18 36 56.7**	**+0.4**
ASAL				*eS*	**Sn**	**18 37 11.1**	**-1.3**
ASAL				IAML		18 37 13.4	
	comp=Z,689nm,0.5s						
AAGR	**Agrelo**	**0.28**	**198**	*eP*	**Pn**	**18 36 57.0**	**+0.6**
AAGR				*eS*	**Sn**	**18 37 10.1**	**-2.7**
AVIZ	**Vizcacheras**	**0.67**	**165**	*eP*	**Pn**	**18 36 59.2**	**+1.1**
AVIZ				*eS*	**Sn**	**18 37 15.4**	**-0.4**
MT08	**Bocatoma Ro**	**1.25**	**240⇑**	*iP*	**Pn**	**18 37 04.0**	**+1.1**
MT08				*i S*	**Sn**	**18 37 25.4**	**+1.3**
MT08				IAML		18 37 30.0	
	comp=N,264nm,0.3s						
ZON	**Zonda**	**1.27**	**2**	*eP*	**Pn**	**18 37 03.5**	**+0.6**
ZON				*eS*	**Sn**	**18 37 23.1**	**-1.1**
ZON				IAML		18 37 23.9	
	comp=Z,360nm,0.5s						
MT04	**Ro Olivares**	**1.32**	**243⇑**	*iP*	**Pn**	**18 37 04.5**	**+1.0**
MT04				*i S*	**Sn**	**18 37 25.6**	**+0.2**
MT04				IAML		18 37 30.7	
	comp=N,94nm,0.2s						
FCH	**Farellones**	**1.41**	**249⇑**	*iP*	**Pn**	**18 37 05.5**	**+1.0**
FCH				*i S*	**Sn**	**18 37 27.8**	**+0.8**
FCH				IAML		18 37 32.5	
	comp=N,140nm,0.2s						
RTLL	**Cerro Villicun**	**1.50**	**8**	*eP*	**Pn**	**18 37 05.7**	**+0.5**
RTLL				*eS*	**Sn**	**18 37 27.0**	**-1.3**
RTLL				IAML		18 37 29.5	
	comp=Z,495nm,0.3s						
VA03	**San Esteban**	**1.54**	**272⇑**	*iP*	**Pn**	**18 37 06.3**	**+0.7**
VA03				*i S*	**Sn**	**18 37 29.0**	**0.0**
VA03				IAML		18 37 31.1	
	comp=E,880nm,0.3s						
VA03	**San Esteban**	**1.54**	**272**	*eP*	**Pn**	**18 37 06.3**	**+0.7**
VA03				*eS*	**Sn**	**18 37 28.5**	**-0.5**
VA03				IAML		18 37 30.6	
	comp=Z,374nm,0.4s						
MT13	**San Alfonso**	**1.60**	**234⇑**	*iP*	**Pn**	**18 37 07.3**	**+1.0**
MT13				*i S*	**Sn**	**18 37 30.8**	**+0.6**
MT13				IAML		18 37 36.0	
	comp=E,359nm,0.4s						
LMEL	**Las Melosas**	**1.61**	**230⇑**	*iP*	**Pn**	**18 37 07.7**	**+1.4**
MT14	**Cerro Calı́n**	**1.62**	**249⇑**	*iP*	**Pn**	**18 37 07.3**	**+0.8**
MT14				*i S*	**Sn**	**18 37 30.5**	**-0.1**
MT14				IAML		18 37 40.6	
	comp=E,260nm,0.3s						
MT03	**Universidad Ad**	**1.64**	**245⇑**	*iP*	**Pn**	**18 37 07.5**	**+0.9**
MT03				*i S*	**Sn**	**18 37 30.4**	**-0.5**
MT03				IAML		18 37 36.3	
	comp=E,561nm,0.2s						
MT03	**Universidad Ad**	**1.64**	**245**	*eP*	**Pn**	**18 37 07.6**	**+0.9**
MT03				*eS*	**Sn**	**18 37 30.8**	**-0.1**
MT03				IAML		18 37 38.2	
	comp=Z,192nm,0.3s						
PEL	**Peldehue**	**1.68**	**258⇑**	*iP*	**Pn**	**18 37 07.2**	**+0.2**
PEL				*i S*	**Sn**	**18 37 30.7**	**-0.8**
PEL				IAML		18 37 32.6	
	comp=E,388nm,0.4s						
PEL	**Peldehue**	**1.68**	**258**	*eP*	**Pn**	**18 37 07.5**	**+0.4**
PEL				*eS*	**Sn**	**18 37 31.1**	**-0.4**
MT12	**Pirque**	**1.78**	**239⇑**	*iP*	**Pn**	**18 37 09.1**	**+0.9**
MT12				*i S*	**Sn**	**18 37 33.7**	**+0.1**
MT12				IAML		18 37 43.0	
	comp=N,306nm,0.8s						
MT05	**Renca**	**1.78**	**251**	*eP*	**Pn**	**18 37 08.8**	**+0.6**
MT05				*eS*	**Sn**	**18 37 33.9**	**+0.3**
MT05				IAML		18 37 36.0	
	comp=Z,213nm,0.2s						
DOCA	**Reserva Natura**	**1.89**	**351**	*eP*	**Pn**	**18 37 10.4**	**+0.7**
DOCA				*eS*	**Sn**	**18 37 36.5**	**+0.1**
ROC1	**El Roble**	**1.93**	**265**	*eP*	**Pn**	**18 37 09.6**	**-0.4**
ROC1				*eS*	**Sn**	**18 37 36.3**	**-0.6**
RFA	**San Rafael**	**1.96**	**174**	*eP*	**Pn**	**18 37 11.5**	**+1.3**
MT02	**Curacav**	**2.07**	**257**	*eP*	**Pn**	**18 37 11.1**	**-0.3**
MT02				*eS*	**Sn**	**18 37 37.8**	**-1.5**
MT09	**Talagante**	**2.12**	**243⇑**	*iP*	**Pn**	**18 37 12.0**	**-0.1**
MT09				*i S*	**Sn**	**18 37 39.4**	**-1.2**
MT09				IAML		18 37 41.1	
	comp=N,246nm,0.2s						
ACCO	**Cerro Coronel**	**2.25**	**352**	*eP*	**Pn**	**18 37 15.3**	**+1.5**
ACCO				*eS*	**Sn**	**18 37 44.2**	**+0.6**
ACCO				IAML		18 37 46.9	
	comp=Z,148nm,0.5s						
MT01	**Popeta**	**2.36**	**243**	*eP*	**Pn**	**18 37 14.1**	**-0.6**
MT01				*eS*	**Sn**	**18 37 43.9**	**-1.4**
VA01	**Torpederas**	**2.47**	**265**	*eP*	**Pn**	**18 37 17.1**	**+1.1**
VA01				IAML		18 37 53.4	
	comp=Z,87nm,0.5s						
BO01	**Tunca**	**2.52**	**231**	*eP*	**Pn**	**18 37 16.6**	**0.0**
MRA	**San Martin**	**2.57**	**82**	*eP*	**Pn**	**18 37 19.1**	**+1.7**
MRA				*eS*	**Sn**	**18 37 50.7**	**+0.6**
MRA				IAML		18 37 52.0	
	comp=Z,376nm,0.3s						
CO03	**El Pedregal**	**2.59**	**319**	*eP*	**Pn**	**18 37 18.9**	**+1.2**
CO03				*eS*	**Sn**	**18 37 49.9**	**-0.6**
CO03				IAML		18 37 54.0	
	comp=Z,113nm,0.7s						
BO02	**Sierra Bellavi**	**2.61**	**220**	*eP*	**Pn**	**18 37 19.0**	**+1.1**
BO02				IAML		18 37 59.7	
	comp=Z,120nm,0.1s						

AROD	**Rodeo**	**2.72 346**	*e*P	**Pn**	**18 37 21.4**	**+1.8**
AROD			*e*S	**Sn**	**18 37 54.9**	**+1.0**
APLL	**PUNTA DE LOS L**	**3.06 38**	*e*P	**Pn**	**18 37 24.6**	**+1.0**
CO01	**Juntas del Tor**	**3.07 337**	*e*P	**Pn**	**18 37 26.4**	**+2.6**
GO04	**Tololo Observa**	**3.18 326**	*e*P	**Pn**	**18 37 25.9**	**+0.7**
GO04			*e*S	**Sn**	**18 38 03.2**	**-0.7**
GO05	**Huala**	**3.44 230**	*e*P	**Pn**	**18 37 27.1**	**-1.3**
GO05			*e*S	**Sn**	**18 38 07.3**	**-2.4**
ACLC	**CERRO LA CRUZ**	**3.71 25**	*e*P	**Pn**	**18 37 32.5**	**+0.5**
ACLC			*e*S	**Sn**	**18 38 09.1**	**-7.0**
ACLC			IAML		18 38 15.7	
	comp=Z,99nm,0.7s					
VCA	**Vinchina**	**4.10 6**	*e*P	**Pn**	**18 37 38.5**	**+1.5**
VCA			IAML		18 38 29.4	
	comp=Z,75nm,0.5s					
LCO	**Las Campanas**	**4.16 335**	*e*P	**Pn**	**18 37 37.7**	**-0.1**
LCO			IAML		18 38 37.9	
	comp=Z,99nm,0.3s					
AC05	**El Transito**	**4.19 341**	*e*P	**Pn**	**18 37 39.8**	**+1.7**
AC05			IAML		18 38 32.0	
	comp=Z,23nm,0.3s					

*IDC **25** 18:46:30.6±3.2, 9°.43S×112°.91E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=169.3km s-min=20.0km az=49.0*

ISC 25 18:46:36.4±3.1, **9°.3S**±0°.7×**113°.1E**±0°.8, **h36**km, **n6**, σ0s**83**/6, **mb3.6**/6, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.08**	**120**	P	**P**	**18 51 39.1**	**0.0**
	0.3nm,0.5s,baz=293,slow=11,SNR=5.3 0.3nm,0.5s						
ASAR	**Alice Springs**	**24.47**	**128**	P	**P**	**18 51 52.5**	**+0.2**
	0.6nm,0.6s,baz=303,slow=8.9,SNR=17 0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.95**	**333**	P	**P**	**18 52 51.0**	**+0.7**
	0.3nm,0.8s,baz=177,slow=9.6,SNR=4.5 0.3nm,0.8s						
SONM	**Songino Array**	**57.23**	**355**	P	**P**	**18 56 20.4**	**+0.2**
	0.8nm,0.6s,baz=177,slow=9.5,SNR=4.8 0.8nm,0.6s						
MKAR	**Makanchi Array**	**62.27**	**337**	P	**P**	**18 56 54.2**	**-0.5**
	0.9nm,0.4s,baz=148,slow=7.6,SNR=19 0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**67.43**	**342**	P	**P**	**18 57 27.1**	**-1.1**
	0.7nm,0.4s,baz=146,slow=5.1,SNR=4.1 0.7nm,0.4s						

*TAP **25** 19:03:23.9, 25°.31N×122°.75E, h194km, ML3.9, D*
*JMA **25** 19:03:25.1±0.2, 25°.N±2°.×122°.7E±0°.5, h185km±2km, MV3.6/20, NW OFF ISHIGAKIJIMA IS*

ISC 25 19:03:24.2±1.5, **25°.21N**±0°.05×**122°.72E**±0°.03, **h193**km±8km, **n123**, σ0s**80**/226, **23C-19D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.69**	**253**	P	**Pn**	**19 03 51.9**	**+0.5**
	baz=250						
PCYT	**Pengchaiyu**	**0.72**	**305**	*e*P	**Pn**	**19 03 52.3**	**+0.8**
	baz=297						
SXI1	**Grass Mountain**	**0.77**	**261**	⇓*i*P	**Pn**	**19 03 52.1**	**+0.1**
	baz=253						
JYNG	**Yonagunijimaku**	**0.79**	**165**	P	**Pn**	**19 03 51.9**	**-0.1**
JYNG				S	**Sn**	**19 04 13.2**	**-0.3**
YOJ	**Yonaguni jima**	**0.80**	**160**	P	**Pn**	**19 03 52.0**	**0.0**
YOJ				S	**Sn**	**19 04 13.0**	**-0.5**
YOJ	**Yonaguni jima**	**0.80**	**160**	P	**Pn**	**19 03 52.3**	**+0.3**
	baz=163						
YOJ				*e*S	**Sn**	**19 04 13.1**	**-0.4**
	baz=163						
NWF	**Wu-fen Shan**	**0.86**	**261**	P	**Pn**	**19 03 53.0**	**+0.6**
	baz=249						
WFSB	**Wu-fen Shan**	**0.86**	**261**	*i* P	**Pn**	**19 03 52.7**	**+0.4**
	baz=252						
WFSB				*e*S	**Sn**	**19 04 15.3**	**+1.3**
	baz=252						
EOS2	**EOS2**	**0.91**	**209**	⇑*i*P	**Pn**	**19 03 52.9**	**+0.4**
	baz=204						
EOS2				S	**Sn**	**19 04 15.5**	**+1.0**
	baz=204						
EOS3	**EOS3**	**0.99**	**202**	⇑*i*P	**Pn**	**19 03 53.6**	**+0.5**
	baz=204						
EOS3				S	**Sn**	**19 04 16.3**	**+0.9**
	baz=204						
TWC	**Suao**	**0.99**	**233**	P	**Pn**	**19 03 53.1**	**-0.2**
	baz=221						
TWC				S	**Sn**	**19 04 15.1**	**-0.6**
	baz=221						
TWY	**Chenhua**	**1.01**	**274**	P	**Pn**	**19 03 53.9**	**+0.5**
	baz=268						
TWY				S	**Sn**	**19 04 16.0**	**+0.1**
	baz=268						
TWE	**Neicheng**	**1.07**	**243**	⇑P	**Pn**	**19 03 54.0**	**+0.1**
	baz=230						
TWE				S	**Sn**	**19 04 16.1**	**-0.6**
	baz=230						
NDS	**Dongshan**	**1.08**	**238**	⇓P	**Pn**	**19 03 54.3**	**+0.4**
	baz=227						
NDS				S	**Sn**	**19 04 17.7**	**+0.9**
	baz=227						
ANP	**Anpu**	**1.08**	**269**	*i* P	**Pn**	**19 03 54.1**	**+0.1**
	baz=254						
NHDH	**Xindian Distri**	**1.11**	**257**	P	**Pn**	**19 03 54.0**	**-0.1**
	baz=244						
NHDH				S	**Sn**	**19 04 18.5**	**+1.4**
	baz=244						
FUSB	**Fushanzhiwuyua**	**1.12**	**246**	⇓P	**Pn**	**19 03 54.1**	**-0.1**
	baz=235						
FUSB				S	**Sn**	**19 04 17.9**	**+0.4**
	baz=235						
EWUT	**Wuta**	**1.15**	**228**	⇑*i*P	**Pn**	**19 03 54.8**	**+0.4**
	baz=219						
EWUT				S	**Sn**	**19 04 16.8**	**-0.9**
	baz=219						
EOS4	**EOS4**	**1.15**	**199**	P	**Pn**	**19 03 53.9**	**-0.1**
	baz=204						
EOS4				*i* S	**Sn**	**19 04 17.7**	**+0.6**
	baz=204						
ENA	**Nanau**	**1.18**	**229**	⇑P	**Pn**	**19 03 55.1**	**+0.4**
	baz=220						
ENA				*i* S	**Sn**	**19 04 18.2**	**0.0**
	baz=220						
NWLT	**Wulai**	**1.19**	**249**	⇓P	**Pn**	**19 03 54.6**	**-0.1**
	baz=239						
NWLT				S	**Sn**	**19 04 17.6**	**-0.6**
	baz=239						
ENTT	**Nioudou**	**1.19**	**242**	⇓*i*P	**Pn**	**19 03 55.0**	**+0.2**
	baz=232						
ENTT				S	**Sn**	**19 04 18.5**	**+0.2**
	baz=232						
NDT	**Datong Townshi**	**1.25**	**241**	⇑*i*P	**Pn**	**19 03 55.6**	**+0.4**
	baz=231						
NDT				S	**Sn**	**19 04 19.0**	**-0.2**
	baz=231						
IRIF	**Iriomote-Funau**	**1.27**	**133**	P	**Pn**	**19 03 55.5**	**+0.1**
IRIF				S	**Sn**	**19 04 18.2**	**-1.2**
LATG	**Datong**	**1.27**	**238**	⇑P	**Pn**	**19 03 56.3**	**+0.7**
	baz=234						
LATG				S	**Sn**	**19 04 20.1**	**+0.3**
	baz=234						
YHNB	**Yeheng**	**1.33**	**246**	⇓P	**Pn**	**19 03 56.0**	**0.0**
	baz=236						
YHNB				*e*S	**Sn**	**19 04 19.1**	**-1.4**
	baz=236						
NSK	**Sanguang**	**1.34**	**247**	⇑P	**Pn**	**19 03 56.2**	**+0.1**
	baz=235						
NSK				*e*S	**Sn**	**19 04 19.5**	**-1.2**
	baz=235						
NCU	**National Centr**	**1.41**	**260**	P	**Pn**	**19 03 57.0**	**+0.5**
	baz=263						
NCU				S	**Sn**	**19 04 22.1**	**+0.6**
	baz=263						
NCUH	**Zhongli**	**1.41**	**260**	⇑*i*P	**Pn**	**19 03 56.9**	**+0.4**
	baz=263						
NCUH				*i* S	**Sn**	**19 04 21.6**	**+0.1**
	baz=263						
NNSB	**Datong**	**1.44**	**237**	⇑P	**Pn**	**19 03 57.4**	**+0.4**
	baz=233						
NNSB				S	**Sn**	**19 04 22.0**	**-0.3**
	baz=233						
NNS	**Nan Shan**	**1.44**	**238**	P	**Pn**	**19 03 57.5**	**+0.5**
	baz=234						
NNS				S	**Sn**	**19 04 21.8**	**-0.5**
	baz=234						
ETL	**Fush Village**	**1.45**	**224**	⇑*e*P	**Pn**	**19 03 56.9**	**-0.1**
	baz=217						
ETL				*e*S	**Sn**	**19 04 21.5**	**-0.8**
	baz=217						
NACB	**Ninganchiao**	**1.45**	**225**	P	**Pn**	**19 03 56.9**	**0.0**
	baz=218						
NACB				*e*S	**Sn**	**19 04 21.6**	**-0.7**
	baz=218						
ETLH	**Xiulin Townshi**	**1.51**	**229**	⇑P	**Pn**	**19 03 57.6**	**0.0**
	baz=232						
ETLH				*e*S	**Sn**	**19 04 22.1**	**-1.2**
	baz=232						
HATJ	**Hateruma jima**	**1.52**	**139**	P	**Pn**	**19 03 58.2**	**+0.7**
HATJ				S	**Sn**	**19 04 23.0**	**-0.3**
TWD	**Chiawan**	**1.52**	**222**	⇑P	**Pn**	**19 03 57.6**	**+0.1**
	baz=218						
TWD				*e*S	**Sn**	**19 04 22.4**	**-1.0**
	baz=218						
JKRS	**Kuro-shima**	**1.52**	**129**	P	**Pn**	**19 03 58.2**	**+0.7**
JKRS				S	**Sn**	**19 04 22.6**	**-0.7**
JIJ	**Ishigaki jima**	**1.55**	**123**	*i* P	**Pn**	**19 03 57.9**	**+0.1**
JIJ				S	**Sn**	**19 04 22.0**	**-1.8**
NFF	**Wufeng Townshi**	**1.56**	**249**	⇓P	**Pn**	**19 03 57.9**	**-0.1**
	baz=237						
NFF				*e*S	**Sn**	**19 04 22.4**	**-1.8**
	baz=237						
JISG	**Ishigakijimahi**	**1.58**	**113**	P	**Pn**	**19 03 58.2**	**+0.1**
JISG				S	**Sn**	**19 04 23.3**	**-0.9**
HWA	**Hwalien**	**1.59**	**220**	P	**Pn**	**19 03 58.9**	**+0.7**
	baz=217						
HWA				*i* S	**Sn**	**19 04 24.6**	**0.0**
	baz=217						
SBCB	**Hsinchu**	**1.63**	**255**	*i* P	**Pn**	**19 03 58.9**	**+0.4**
	baz=244						
SBCB				*e*S	**Sn**	**19 04 24.0**	**-1.1**
	baz=244						
LIOB	**Emei**	**1.65**	**250**	⇓P	**Pn**	**19 03 59.0**	**+0.3**
	baz=239						
LIOB				*e*S	**Sn**	**19 04 24.6**	**-0.8**
	baz=239						
NSTT	**Nanjuang**	**1.66**	**250**	⇓P	**Pn**	**19 03 59.0**	**+0.1**
	baz=239						
NSTT				*e*S	**Sn**	**19 04 24.4**	**-1.3**
	baz=239						
ETM	**Tongmen**	**1.67**	**222**	⇑P	**Pn**	**19 03 58.8**	**-0.2**
	baz=227						
ETM				*e*S	**Sn**	**19 04 24.1**	**-1.8**
	baz=227						
LXIB	**Xiulin Townshi**	**1.68**	**225**	⇑P	**Pn**	**19 03 58.8**	**-0.4**
	baz=217						
LXIB				*e*S	**Sn**	**19 04 25.0**	**-1.3**
	baz=217						
WHF	**Hehuan Shan**	**1.70**	**231**	P	**Pn**	**19 04 00.5**	**+0.8**
	baz=232						
WHF				*e*S	**Sn**	**19 04 27.1**	**-0.1**
	baz=232						
TDCB	**Techi**	**1.71**	**236**	⇓P	**Pn**	**19 04 00.4**	**+0.9**
	baz=233						
TDCB				*i* S	**Sn**	**19 04 26.5**	**-0.3**
	baz=233						
CHGB	**Renai**	**1.81**	**231**	⇓P	**Pn**	**19 04 01.5**	**+0.9**
	baz=224						
CHGB				S	**Sn**	**19 04 28.8**	**0.0**
	baz=224						
ESL	**Shilin**	**1.82**	**220**	⇑P	**Pn**	**19 04 00.0**	**-0.4**
	baz=218						
ESL				*e*S	**Sn**	**19 04 26.6**	**-1.9**
	baz=218						
TEGC	**Jichi Village**	**1.84**	**216**	*i* P	**Pn**	**19 04 01.1**	**+0.4**
	baz=210						
TEGC				S	**Sn**	**19 04 29.2**	**+0.2**
	baz=210						
WHP	**Taichung City**	**1.86**	**240**	⇑P	**Pn**	**19 04 01.5**	**+0.6**
	baz=237						
WHP				S	**Sn**	**19 04 29.0**	**-0.4**
	baz=237						
NMLH	**Miaoli**	**1.88**	**249**	P	**Pn**	**19 04 01.3**	**+0.3**
	baz=252						
NMLH				S	**Sn**	**19 04 28.9**	**-0.6**
	baz=252						
OWD	**Renai**	**1.88**	**229**	⇓P	**Pn**	**19 04 02.2**	**+1.0**
	baz=223						
OWD				*i* S	**Sn**	**19 04 29.5**	**-0.4**
	baz=223						
JTJ	**Tarama**	**1.89**	**107**	P	**Pn**	**19 04 01.7**	**+0.6**
JTJ				S	**Sn**	**19 04 29.2**	**-0.5**
WUSB	**Renai**	**1.90**	**230**	⇑*e*P	**Pn**	**19 04 02.6**	**+1.3**
	baz=227						
WUSB				S	**Sn**	**19 04 30.4**	**+0.3**
	baz=227						
WARBT	**Fenglin Townsh**	**1.92**	**219**	⇓*e*P	**Pn**	**19 04 00.8**	**-0.7**
	baz=217						
WARBT				*e*S	**Sn**	**19 04 28.5**	**-1.9**
	baz=217						
EGFH	**Guangfu**	**1.94**	**218**	*e*P	**Pn**	**19 04 01.3**	**-0.3**
	baz=225						
EGFH				*e*S	**Sn**	**19 04 28.9**	**-1.7**
	baz=225						
NSY	**Sanyi**	**1.95**	**246**	P	**Pn**	**19 04 02.6**	**+0.8**
	baz=242						
NSY				S	**Sn**	**19 04 31.0**	**+0.2**
	baz=242						
TWQ1	**Liyutan**	**1.97**	**244**	⇑P	**Pn**	**19 04 02.2**	**+0.3**
	baz=240						
TWQ1				S	**Sn**	**19 04 30.6**	**-0.6**
	baz=240						
WCS	**Beigang Elemen**	**2.01**	**235**	⇓P	**Pn**	**19 04 03.1**	**+0.7**
	baz=232						
WCS				S	**Sn**	**19 04 31.2**	**-0.7**
	baz=232						
VWDT	**VWDT**	**2.04**	**225**	⇓P	**Pn**	**19 04 03.7**	**+1.0**
	baz=217						
VWDT				S	**Sn**	**19 04 32.9**	**+0.3**
	baz=217						
WDJ	**Dajia District**	**2.08**	**246**	*e*P	**Pn**	**19 04 04.3**	**+1.2**
	baz=242						
WDJ				*e*S	**Sn**	**19 04 32.1**	**-1.1**
	baz=242						
HGSD	**Ruisui**	**2.08**	**215**	⇓*i*P	**Pn**	**19 04 03.5**	**+0.4**
	baz=213						
HGSD				S	**Sn**	**19 04 33.3**	**-0.1**
	baz=213						
SMLT	**Sun Moon Lake**	**2.12**	**232**	⇑P	**Pn**	**19 04 04.6**	**+0.9**
	baz=229						
SMLT				*e*S	**Sn**	**19 04 35.6**	**+1.3**
	baz=229						
EHY	**Hungye**	**2.12**	**217**	*e*P	**Pn**	**19 04 03.3**	**-0.3**
	baz=215						
EHY				S	**Sn**	**19 04 34.1**	**-0.1**
	baz=215						
TYC	**Yuchr**	**2.14**	**233**	⇑P	**Pn**	**19 04 04.5**	**+0.8**
	baz=230						
TYC				*e*S	**Sn**	**19 04 34.7**	**+0.3**
	baz=230						
TCU	**Taichung**	**2.14**	**241**	*i* P	**Pn**	**19 04 04.3**	**+0.5**
	baz=242						
TCU				S	**Sn**	**19 04 34.5**	**0.0**
	baz=242						
SSLB	**Suanglung**	**2.14**	**229**	⇓P	**Pn**	**19 04 04.5**	**+0.7**
	baz=231						
SSLB				S	**Sn**	**19 04 34.1**	**-0.5**
	baz=231						
ECBN	**Changbin**	**2.21**	**212**	*i* P	**Pn**	**19 04 05.1**	**+0.6**
	baz=210						
ECBN				*i* S	**Sn**	**19 04 35.8**	**-0.2**
	baz=210						
YULB	**Yu-li**	**2.23**	**216**	*e*P	**Pn**	**19 04 04.1**	**-0.6**
	baz=214						
YULB				*e*S	**Sn**	**19 04 34.9**	**-1.4**
	baz=214						
EYUL	**Yuli**	**2.25**	**215**	P	**Pn**	**19 04 05.9**	**+0.9**
	baz=218						
JIRB	**Irabujima**	**2.26**	**99**	P	**Pn**	**19 04 05.5**	**+0.5**
JIRB				S	**Sn**	**19 04 35.5**	**-1.2**
TWF1	**Yuli**	**2.26**	**215**	*e*P	**Pn**	**19 04 04.7**	**-0.4**
	baz=214						
TWF1				*e*S	**Sn**	**19 04 35.8**	**-1.1**
	baz=214						
WCHH	**Zhanghua**	**2.27**	**241**	*i* P	**Pn**	**19 04 05.6**	**+0.5**
	baz=237						
WCHH				S	**Sn**	**19 04 37.1**	**+0.2**
	baz=237						
WHYT	**Xinyi Township**	**2.27**	**229**	⇓P	**Pn**	**19 04 06.0**	**+0.8**
	baz=233						
WHYT				S	**Sn**	**19 04 37.2**	**0.0**
	baz=233						
WNT	**Mingjian**	**2.28**	**235**	⇓P	**Pn**	**19 04 05.8**	**+0.6**
	baz=239						
WNT				S	**Sn**	**19 04 37.1**	**-0.1**
	baz=239						
WJS	**Zhushan**	**2.28**	**233**	*i* P	**Pn**	**19 04 05.9**	**+0.6**
	baz=230						
WJS				S	**Sn**	**19 04 36.6**	**-0.6**
	baz=230						
JIKM	**Ikemajima**	**2.31 97**	P	**Pn**	**19 04 06.4**	**+0.8**
JIKM			S	**Sn**	**19 04 37.3**	**-0.4**
FULB	**Fuli**	**2.39 213**	P	**Pn**	**19 04 07.2**	**+0.7**
	baz=212						
FULB				*e*S	**Sn**	**19 04 40.0**	**+0.5**
	baz=212						
JMJ2	**Miyako jima3**	**2.42 101**	P	**Pn**	**19 04 07.6**	**+0.8**
JMJ2			S	**Sn**	**19 04 39.2**	**-0.6**
ALS	**Alishan**	**2.43 226**	*e*P	**Pn**	**19 04 08.2**	**+1.0**
	baz=218						
ALS				*e*S	**Sn**	**19 04 40.8**	**0.0**
	baz=218						
CHKT	**Chengkung**	**2.44 211**	P	**Pn**	**19 04 07.2**	**+0.2**
	baz=205						
CHKT				*e*S	**Sn**	**19 04 38.3**	**-2.1**
	baz=205						
CHN5	**Tsauling**	**2.46 230**	P	**Pn**	**19 04 08.1**	**+0.7**
	baz=233						
CHN5				S	**Sn**	**19 04 40.9**	**-0.1**
	baz=233						
EHD	**Haiduan**	**2.48 214**	*e*P	**Pn**	**19 04 06.8**	**-0.6**
	baz=213						
EHD				*e*S	**Sn**	**19 04 39.1**	**-2.1**
	baz=213						
JOGS	**Gusukube**	**2.48 100**	P	**Pn**	**19 04 08.9**	**+1.4**
JOGS			S	**Sn**	**19 04 40.6**	**-0.6**
WRL	**Guolierlin Hig**	**2.50 239**	P	**Pn**	**19 04 07.9**	**+0.2**
	baz=236						
WRL				*e*S	**Sn**	**19 04 40.1**	**-1.5**
	baz=236						
WDLH	**Douliu**	**2.50 233**	*i* P	**Pn**	**19 04 08.2**	**+0.5**
	baz=230						
WDLH				S	**Sn**	**19 04 42.0**	**+0.4**
	baz=230						
ECS	**Chishang**	**2.51 213**	P	**Pn**	**19 04 08.8**	**+0.9**
	baz=212						
ELDTW	**Lidau**	**2.54 218**	*i* P	**Pn**	**19 04 08.8**	**+0.4**
	baz=212						
ELDTW				S	**Sn**	**19 04 41.8**	**-0.9**
	baz=212						
EDH	**Donghe**	**2.58 210**	P	**Pn**	**19 04 08.9**	**+0.3**
	baz=205						
EDH				S	**Sn**	**19 04 42.4**	**-0.8**
	baz=205						
WTK	**Tuku**	**2.61 235**	P	**Pn**	**19 04 09.0**	**+0.1**
	baz=232						
WTK				S	**Sn**	**19 04 43.0**	**-0.9**
	baz=232						
WCKO	**Fanlu**	**2.62 228**	P	**Pn**	**19 04 09.8**	**+0.7**
	baz=225						
WCKO				S	**Sn**	**19 04 44.1**	**+0.1**
	baz=225						
CHN4	**Tsaushan**	**2.68 227**	P	**Pn**	**19 04 10.5**	**+0.7**
	baz=224						
CHN4				*e*S	**Sn**	**19 04 46.0**	**+0.6**
	baz=224						
TPUB	**Ta-pu**	**2.69 225**	P	**Pn**	**19 04 10.4**	**+0.4**
	baz=223						
TPUB				S	**Sn**	**19 04 45.5**	**-0.1**
	baz=223						
STYH	**Taoyuan**	**2.70 221**	*e*P	**Pn**	**19 04 12.1**	**+2.1**
	baz=226						
CHY	**Chiayi**	**2.70 231**	*e*P	**Pn**	**19 04 10.4**	**+0.4**
	baz=228						
CHY				*e*S	**Sn**	**19 04 45.4**	**-0.3**
	baz=228						
WTP	**Ta-pu**	**2.74 225**	*e*P	**Pn**	**19 04 11.4**	**+0.9**
	baz=229						
WTP				*e*S	**Sn**	**19 04 48.0**	**+1.3**
	baz=229						
WSF	**Szhu**	**2.76 236**	*e*P	**Pn**	**19 04 10.9**	**+0.2**
	baz=233						
WSF				*e*S	**Sn**	**19 04 46.7**	**-0.3**
	baz=233						
LDUT	**Ludao**	**2.77 205**	P	**Pn**	**19 04 11.1**	**+0.2**
	baz=207						
LDUT				*e*S	**Sn**	**19 04 47.6**	**+0.2**
	baz=207						
TWK	**Hsinying**	**2.81 227**	*i* P	**Pn**	**19 04 11.9**	**+0.5**
	baz=224						
TWK				*e*S	**Sn**	**19 04 48.7**	**+0.5**
	baz=224						
TWGBT	**Beinan**	**2.82 212**	*e*P	**Pn**	**19 04 11.7**	**+0.3**
	baz=211						
TWG	**Pinlang**	**2.82 213**	P	**Pn**	**19 04 11.6**	**+0.2**
	baz=211						
SNST	**Tainan City**	**2.84 226**	*e*P	**Pn**	**19 04 12.1**	**+0.4**
	baz=224						
SNST				*e*S	**Sn**	**19 04 48.7**	**+0.1**
	baz=224						
CHN1	**Nanshi**	**2.84 225**	*e*P	**Pn**	**19 04 12.3**	**+0.6**
	baz=223						
CHN1				*e*S	**Sn**	**19 04 49.4**	**+0.7**
	baz=223						
XPSS	**Dashiqiu**	**2.84 307**	*e*P	**Pn**	**19 04 11.0**	**-0.6**
	baz=305						
SGST	**Jiashian**	**2.88 223**	*e*P	**Pn**	**19 04 12.4**	**+0.2**
	baz=227						
SGST				*e*S	**Sn**	**19 04 49.7**	**+0.1**
	baz=227						
ICHU	**Yijhu**	**2.89 231**	P	**Pn**	**19 04 12.5**	**+0.3**
	baz=222						
ICHU				S	**Sn**	**19 04 49.4**	**-0.3**
	baz=222						
SLGT	**Liugui**	**2.91 221**	P	**Pn**	**19 04 13.6**	**+1.1**
	baz=223						
SLGT				*e*S	**Sn**	**19 04 51.5**	**+1.3**
	baz=223						
CHN8	**Yiju**	**2.95 231**	*e*S	**Sn**	**19 04 51.2**	**+0.3**
	baz=223						
ECL	**Taimali**	**3.06 212**	*e*P	**Pn**	**19 04 16.8**	**+2.5**
	baz=211						
SCST	**Cishan**	**3.08 222**	P	**Pn**	**19 04 16.0**	**+1.4**
	baz=220						
SCST				*e*S	**Sn**	**19 04 54.9**	**+1.1**
	baz=220						
SSD	**Sandimen**	**3.11 218**	⇑P	**Pn**	**19 04 16.1**	**+1.2**
	baz=224						
TSMG	**Majia**	**3.13 218**	P	**Pn**	**19 04 16.3**	**+1.1**
	baz=216						
TSCK	**Chigu Township**	**3.16 230**	P	**Pn**	**19 04 16.0**	**+0.5**
	baz=221						
TSCK				S	**Sn**	**19 04 55.5**	**-0.1**
	baz=221						
MASBT	**Mashibuluo**	**3.22 217**	⇑P	**Pn**	**19 04 17.4**	**+1.2**
	baz=216						
PHUB	**P'eng-hu**	**3.33 240**	P	**Pn**	**19 04 17.3**	**-0.2**
	baz=237						
PHUB				*e*S	**Sn**	**19 04 57.0**	**-2.1**
	baz=237						
LYUB	**Lan-yu**	**3.36 198**	P	**Pn**	**19 04 18.2**	**+0.2**
	baz=198						
LYUB				*e*S	**Sn**	**19 04 57.6**	**-2.3**
	baz=198						
SCZT	**Fangliau**	**3.42 215**	P	**Pn**	**19 04 19.6**	**+1.0**
	baz=214						
MHZQ	**Yeshan**	**3.44 286**	*e*P	**Pn**	**19 04 18.8**	**-0.1**
	baz=280						
VCHM	**Qimei**	**3.60 237**	*e*P	**Pn**	**19 04 21.3**	**+0.4**
	baz=234						
VCHM				*e*S	**Sn**	**19 05 03.9**	**-1.3**
	baz=234						
JKE	**Kume jima 2**	**3.83 72**	P	**Pn**	**19 04 24.8**	**+1.1**
SXFK	**Yanhouchang**	**4.72 286**	*e*P	**Pn**	**19 04 34.5**	**-0.4**
	baz=280						

*PRE **25** 19:20:15.5±1.0, 26°.40S×27°.42E, h2km, ML1.9*
*BUL **25** 19:20:25.4±1.3, 26°.56S×26°.82E, h9km±14km, MD3.6*
*EAF **25** 19:20:25.4, 26°.56S×26°.82E, h8km, MC3.5*

ISC 25 19:20:13.6±1.3, **26°.38S**±0°.03×**27°.45E**±0°.03, **h1**km±12km, **n15**, σ1s**93**/30, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**0.99**	**50**	*e*P	**Pn**	**19 20 35.7**	**+0.9**
SLR				*e*S	**Sn**	**19 20 48.8**	**-0.7**
SLR				IAML		19 20 59.2	
	comp=Z,15nm,0.7s						
SNKL	**Senekal, Frees**	**1.91**	**171**	*e*P	**Pb**	**19 20 49.4**	**+0.1**
SNKL				*e*S	**Sg**	**19 21 14.8**	**-0.2**

SNKL				IAML		19 21 21.3
	comp=Z,17nm,0.4s					
SWZ	**Schweizer**	**2.05**	**247**	*e*P	**Pb**	**19 20 51.8 0.0**
SWZ				*e*S	**Sb**	**19 21 16.8 -1.0**
SWZ				IAML		19 21 20.4
	comp=Z,19nm,0.3s					
LBTB	**Lobatse**	**2.15**	**309**	*i* P	**Pg**	**19 20 57.4 +2.6**
LBTB				*i* S	**Sg**	**19 21 21.7 -1.0**
LBTB	**Lobatse**	**2.15**	**309**	*e*P	**Pb**	**19 20 53.5 +0.1**
LBTB				*e*S	**Sb**	**19 21 20.6 -0.1**
LBTB				IAML		19 21 25.7
	comp=Z,32nm,0.2s					
LBTB	**Lobatse**	**2.15**	**309**	*i* P	**Pg**	**19 20 57.4 +2.6**
	baz=324					
LBTB				*i* S	**Sg**	**19 21 21.7 -1.0**
	baz=324					
LEPH	**Lephalale, Lim**	**2.53**	**7**	*e*P	**Pb**	**19 20 59.0 -0.9**
LEPH				*e*S	**Sb**	**19 21 30.1 -1.5**
LEPH				IAML		19 21 40.9
	comp=Z,6.4nm,0.5s					
BOSA	**Boshof**	**2.96**	**221**	*i* P	**Pb**	**19 21 05.5 -1.7**
BOSA				*i* S	**Sn**	**19 21 34.9 -3.2**
BOSA	**Boshof**	**2.96**	**221**	*e*P	**Pb**	**19 21 04.6 -2.6**
BOSA				*e*S	**Sn**	**19 21 39.3 +1.3**
BOSA				IAML		19 21 48.6
	comp=Z,6.9nm,0.3s					
BOSA	**Boshof**	**2.96**	**221**	*i* P	**Pb**	**19 21 05.5 -1.7**
	baz=214					
BOSA				*i* S	**Sn**	**19 21 34.9 -3.2**
	baz=214					
KSTD	**Kokstad**	**4.53**	**159**	*e*P	**Pn**	**19 21 25.4 +1.9**
KSTD				*e*S	**Sn**	**19 22 18.0 +1.1**
KSTD				IAML		19 22 39.9
	comp=Z,2.2nm,0.6s					
MOPA	**Mopani**	**4.58**	**52**	*i* P	**Pg**	**19 21 42.7 +1.3**
MOPA				*i* S	**Sg**	**19 22 38.6 -2.3**
MOPA	**Mopani**	**4.58**	**52**	*i* P	**Pg**	**19 21 42.7 +1.3**
	baz=55					
MOPA				*i* S	**Sg**	**19 22 38.6 -2.3**
	baz=55					
MUSN	**Musina, Limpop**	**4.63**	**29**	*i* P	**Pg**	**19 21 40.8 -1.6**
MUSN				*i* S	**Sb**	**19 22 35.1 +3.1**
MUSN	**Musina, Limpop**	**4.63**	**29**	*i* P	**Pg**	**19 21 40.8 -1.6**
	baz=34					
MUSN				*i* S	**Sb**	**19 22 35.1 +3.1**
	baz=34					

DNK ***25*** *19:43:10.5±4.5, 81°.42N×3°.84W, h36km±49km, ML1.2*
BER 25 19:43:08.9±3.9, 81°.35N×4°.04W, h10km, mb(Pn)2.4, ML1.2(DNK), **Confirmed Earthquake, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.90**	**284**	*i* P	Pn	19 43 39.0	-2.3
NOR				*e*S	Sn	19 44 01.3	-3.8
NOR				IAML		19 44 05.2	
	comp=Z,2.9nm,0.3s						
NOR	**Nord**	**1.90**	**284**	*i* P	Pn	19 43 39.0	-2.3
NOR				*e*S	Sn	19 44 01.3	-3.8
NOR				IAML		19 44 05.2	
	comp=Z,2.9nm,0.3s						
KBS	**Kingsbay**	**3.66**	**124**	*e*P	Pn	19 44 04.1	-1.4
KBS				*e*S	Sn	19 44 42.6	-6.0
KBS	**Kingsbay**	**3.66**	**124**	*i* P	Pn	19 44 04.1	-1.4
KBS				*e*S	Sn	19 44 42.6	-6.0
SPA0	**Spitsbergen Ar**	**4.80**	**121**	*e*P	Pn	19 44 20.7	-0.4
DAG	**Danmarks Havn**	**5.36**	**219**	*e*	Pn	19 44 26.2	-2.5
	baz=47,slow=14						
DAG				*i* P	Pb	19 44 27.5	-15
DAG				*i* S	Sn	19 45 24.0	-6.3
DAG				IAML		19 45 31.8	
	comp=Z,0.8nm,0.3s						
DAG	**Danmarks Havn**	**5.36**	**219**	*e*	Pn	19 44 26.2	-2.5
	baz=47,slow=14						
DAG				*i* P	Pb	19 44 27.5	-15
DAG				*i* S	Sn	19 45 24.0	-6.3
DAG				IAML		19 45 31.8	
	comp=Z,0.8nm,0.3s						
HSPB	**Hornsund (broa**	**5.67**	**130**	*e*P	Pn	19 44 31.4	-1.7

DJA ***25*** *20:28:25.2±0.2, 9°.5S×3°.7E±°, h10km, M4.3/13, mb5.0/4, mB5.0/3, MLv4.0/13, Mw(mB)4.3/3*
NEIC ***25*** *20:28:27.7±2.5, 9°.27S±0°.07×106°.99E±0°.05, h10km±2km, mb4.1/7, Error ellipse: s-maj=12.1km s-min=7.3km az=334.0*
IDC ***25*** *20:28:36.2±3.3, 8°.76S×107°.39E, h77km±27km, mb3.5/10, mbtmp3.8/10, MS2.7/1, Error ellipse: s-maj=36.9km s-min=15.1km az=57.0*
ISC 25 20:28:26.8±0.6, 9°.06S±0°.05×107°.03E±0°.07, h10km, n57, σ1º52/48, **mb3.8**/11, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBJI	**Bungbulang**	**1.70**	**21**	P	**Pn**	**20 28 56.8**	**+0.2**
CNJI	**Cibinong**	**1.74**	**3**	P	**Pn**	**20 28 56.7**	**-0.4**
CMJI	**Cimerak**	**1.89**	**48**	P	**Pn**	**20 28 58.7**	**-0.4**
XMI	**Christmas Isla**	**1.91**	**224**	P	**Pn**	**20 28 58.7**	**-0.8**
XMIS	**Christmas Isla**	**1.96**	**224**	Pn	**Pn**	**20 28 58.6**	**-1.5**
XMIS	**Christmas Isla**	**1.96**	**224**	P	**Pn**	**20 28 58.9**	**-1.2**
LEM	**Lembang**	**2.29**	**15**	P	**Pn**	**20 29 05.7**	**+0.9**
LEM	**Lembang**	**2.29**	**15**	P	**Pb**	**20 29 08.6**	**+0.2**
	28nm,0.4s,baz=1.4,slow=8.9,SNR=7.0						
LEM				S	**Sn**	**20 29 31.1**	**-2.1**
	204nm,0.7s,baz=178,slow=23,SNR=6.1						
KPJI	**Karang Pucung**	**2.55**	**48**	P	**Pn**	**20 29 08.7**	**+0.5**
CGJI	**Cibinong**	**2.77**	**331**	P	**Pn**	**20 29 10.7**	**-0.5**
UGM	**Wanagama**	**3.64**	**72**	Pn	**Pn**	**20 29 23.9**	**+0.7**
UGM	**Wanagama**	**3.64**	**72**	P	**Pn**	**20 29 25.3**	**+2.0**
UGM	**Wanagama**	**3.64**	**72**	P	**Pn**	**20 29 22.6**	**-0.7**
WOJI	**Wonogiri, Jawa**	**4.04**	**73**	P	**Pn**	**20 29 30.3**	**+1.6**
KASI	**Kota Agung**	**4.32**	**324**	P	**Pn**	**20 29 33.2**	**+0.7**
LWLI	**Liwa**	**4.98**	**324**	P	**Pn**	**20 29 41.3**	**-0.5**
MNAI	**Manna**	**6.17**	**319**	Pn	**Pn**	**20 29 57.9**	**-0.2**
MNAI	**Manna**	**6.17**	**319**	P	**Pn**	**20 29 58.5**	**+0.4**
JAGI	**Jajag, Banyuwa**	**7.07**	**86**		**Pn**	**20 30 12.6**	**+2.2**
JAGI	**Jajag, Banyuwa**	**7.07**	**86**	P	**Pn**	**20 30 12.9**	**+2.5**
JAGI	**Jajag, Banyuwa**	**7.07**	**86**	P	**Pn**	**20 30 12.1**	**+1.7**
	81nm,0.6s,1μm0.4nm						
IGBI	**Denpasar**	**8.02**	**89**	P	**Pn**	**20 30 23.6**	**+0.1**
	52nm,0.5s,954nm						
TWSI	**Taliwang, Sumb**	**9.74**	**89**	P	**Pn**	**20 30 43.3**	**-3.8**
	26nm,0.7s						
PLAI	**Plampang**	**10.62**	**90**	P	**Pn**	**20 31 00.8**	**+1.6**
PLAI	**Plampang**	**10.62**	**90**	P	**Pn**	**20 30 58.7**	**-0.5**
KAPI	**Kappang**	**13.25**	**73**		**Pn**	**20 31 37.1**	**+2.0**
KAPI	**Kappang**	**13.25**	**73**	P	**Pn**	**20 31 37.6**	**+2.5**
KAPI	**Kappang**	**13.25**	**73**	LR	LR	20 38 03.0	
	comp=Z,32nm,19.7s,baz=205,slow=44						
IPM	**Ipoh**	**14.72**	**336**	Pn	**P**	**20 31 58.6**	**-2.8**
GIRL	**Giralia**	**15.18**	**154**	Pn	**Pn**	**20 31 59.2**	**-2.1**
GIRL	**Giralia**	**15.18**	**154**	P	**Pn**	**20 32 01.4**	**+0.1**
SOEI	**Soe**	**17.02**	**94**	Pn	**Pn**	**20 32 24.8**	**-0.5**
MBWA	**Marble Bar**	**17.16**	**136**		**Pn**	**20 32 26.4**	**-0.5**
MBWA				IAmb	IAmb	20 32 44.2	
	comp=Z,11nm,1.1s						
PSA00	**Pilbara Seismi**	**17.52**	**137**	Pn	**Pn**	**20 32 28.0**	**-3.4**
PSA00				IAmb	IAmb	20 32 29.3	
	comp=Z,11nm,1.2s						
LUWI	**Luwuk**	**17.58**	**64**	Pn	**Pn**	**20 32 32.7**	**+0.6**
LUWI				IAmb	IAmb	20 32 36.2	
	comp=Z,15nm,0.5s						
LUWI	**Luwuk**	**17.58**	**64**	P	**P**	**20 32 34.5**	**+1.4**
H01W3	**Cape Leeuwin H**	**26.52**	**167**	T	T	21 02 45.0	
	baz=341,slow=76,SNR=6.2						
H01W1	**Cape Leeuwin H**	**26.53**	**167**	T	T	21 02 44.6	
	baz=341,slow=76,SNR=5.9						
H01W2	**Cape Leeuwin H**	**26.53**	**167**	T	T	21 02 44.3	
	baz=341,slow=76,SNR=5.4						
CMAR	**Chiang Mai Arr**	**28.48**	**344**	P	**P**	**20 34 23.7**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=173,slow=8.2,SNR=2.6						
	comp=Z,0.3nm,0.6s						
WB0	**Warramunga Arr**	**28.52**	**115**	P	**P**	**20 34 22.7**	**0.0**
WB0				IAmb	IAmb	20 34 42.8	
	comp=Z,5.5nm,1.2s						
WRA	**Warramunga Arr**	**28.52**	**115**	P	**P**	**20 34 22.9**	**+0.1**
WRA	**Warramunga Arr**	**28.52**	**115**	P	**P**	**20 34 23.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=287,slow=11,SNR=8.0						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**29.52**	**123**	P	**P**	**20 34 31.9**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=309,slow=9.5,SNR=6.5						
	comp=Z,0.5nm,0.8s						
H08S2	**Diego Garcia H**	**34.19**	**270**	T	T	21 11 07.2	
	baz=94,slow=74						
H08S3	**Diego Garcia H**	**34.20**	**270**	T	T	21 11 06.2	
	baz=94,slow=74						
H08S1	**Diego Carcia H**	**34.21**	**270**	T	T	21 11 10.7	
	baz=94						
STKA	**Stephens Creek**	**39.27**	**130**	P	**P**	**20 35 56.8**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=316,slow=8.9,SNR=3.3						
	comp=Z,0.8nm,0.6s						
SONM	**Songino Array**	**56.64**	**359**	P	**P**	**20 38 10.3**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=161,slow=9.2,SNR=2.7						
	comp=Z,0.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**57.63**	**21**	P	**P**	**20 38 15.3**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=221,slow=17,SNR=3.3						
	comp=Z,1.9nm,0.8s						
H04N2	**CROZET ISLANDS**	**59.74**	**221**	T	T	21 43 16.8	
	baz=70,slow=74						
H04N1	**CROZET ISLANDS**	**59.75**	**221**	T	T	21 43 17.7	
	baz=70						
H04N3	**CROZET ISLANDS**	**59.76**	**221**	T	T	21 43 16.2	
	baz=70,slow=74						
MKAR	**Makanchi Array**	**59.82**	**341**	P	**P**	**20 38 32.2**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=157,slow=8.5,SNR=9.7						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**64.38**	**340**	P	**P**	**20 39 01.9**	**-1.0**
	comp=Z,0.6nm,0.2s,baz=152,slow=6.1,SNR=2.7						
	comp=Z,0.6nm,0.2s						
BVAR	**Borovoye Array**	**69.26**	**337**	P	**P**	**20 39 34.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=140,slow=7.5,SNR=2.8						
	comp=Z,0.6nm,0.5s						
BOSA	**Boshof**	**78.53**	**243**	P	**P**	**20 40 32.1**	**+3.0**
	comp=Z,7.7nm,1.1s,baz=119,slow=10,SNR=4.0						
	comp=Z,7.7nm,1.1s						

IDC ***25*** *20:38:46.7±3.3, 9°.30S×113°.15E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=178.6km s-min=20.3km az=49.0*
DJA ***25*** *20:38:51.3±1.0, 10°.5S±4°.×11°.3E±°, h11km±9km, M3.8/16, mb4.0/4, MLv3.7/16*
ISC 25 20:38:50.9±1.1, 9°.8S±0°.1×112°.90E±0°.07, h36km, n24, σ1º74/26, **mb3.5**/6, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.56**	**20**	P	**Pn**	**20 39 15.2**	**-0.9**
JAGI	**Jajag, Banyuwa**	**1.77**	**44**	P	**Pn**	**20 39 19.2**	**+0.2**
BLJI	**Banyuglugur**	**2.11**	**19**	P	**Pn**	**20 39 24.9**	**+1.3**
BLJI				S	**Sn**	**20 39 49.4**	**+0.8**
ABJI	**Asem Bagus**	**2.35**	**34**	P	**Pn**	**20 39 28.8**	**+1.9**
IGBI	**Denpasar**	**2.40**	**68**	P	**Pn**	**20 39 29.8**	**+2.1**
DNP	**Denpasar**	**2.52**	**65**	P	**Pn**	**20 39 31.0**	**+1.7**
WOJI	**Wonogiri, Jawa**	**2.72**	**314**	P	**Pn**	**20 39 33.1**	**+1.0**
WOJI				S	**Sn**	**20 40 04.5**	**+0.7**
NGJI	**Ngawi**	**2.76**	**329**	P	**Pn**	**20 39 34.1**	**+1.5**
SRBI	**Singaraja**	**2.82**	**54**	P	**Pn**	**20 39 35.6**	**+2.2**
GRJI	**Gresik**	**2.85**	**352**	P	**Pn**	**20 39 34.5**	**+0.7**
UGM	**Wanagama**	**2.97**	**308**	P	**Pn**	**20 39 36.7**	**+1.1**
TWSI	**Taliwang, Sumb**	**4.06**	**76**	P	**Pn**	**20 39 52.9**	**+2.4**
KPJI	**Karang Pucung**	**4.60**	**301**	P	**Pn**	**20 39 59.2**	**+1.3**
PLAI	**Plampang**	**4.90**	**80**	P	**Pn**	**20 40 05.1**	**+3.0**
CNJI	**Cibinong**	**6.20**	**293**	P	**Pn**	**20 40 22.2**	**+2.3**
	17nm,1.2s,0.1nm						
CGJI	**Cibinong**	**7.78**	**293**	P	**Pn**	**20 40 43.2**	**+1.5**
	27nm,1.4s,0.1nm						
BKSI	**Bulukumba**	**8.40**	**59**	P	**Pn**	**20 40 51.7**	**+1.5**
EDFI	**Ende, Flores**	**8.73**	**84**	P	**Pn**	**20 40 52.5**	**-2.3**
WRA	**Warramunga Arr**	**23.04**	**119**	P	**P**	**20 43 53.3**	**+0.1**
	0.3nm,0.3s,baz=292,slow=11,SNR=12						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**24.37**	**127**	P	**P**	**20 44 08.2**	**+2.3**
	0.3nm,0.7s,baz=299,slow=8.8,SNR=5.6						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.23**	**334**	P	**P**	**20 45 06.8**	**-0.4**
	0.5nm,0.9s,baz=180,slow=7.2,SNR=5.3						
	0.5nm,0.9s						
SONM	**Songino Array**	**57.62**	**355**	P	**P**	**20 48 36.3**	**-1.1**
	0.5nm,0.6s,baz=162,slow=6.6,SNR=2.4						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**62.57**	**337**	P	**P**	**20 49 10.2**	**-1.1**
	0.8nm,0.4s,baz=150,slow=7.5,SNR=17						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**67.77**	**343**	P	**P**	**20 49 42.3**	**-2.4**
	0.5nm,0.4s,baz=159,slow=5.8,SNR=2.5						
	0.5nm,0.4s						

IDC ***25*** *20:54:12.1±1.1, 35°.23S×54°.16E, h0km, mb3.7/6, mbtmp3.7/6, MS3.5/2, Error ellipse: s-maj=34.1km s-min=30.3km az=125.0*
ISC 25 20:54:13.8±1.1, 35°.2S±0°.2×54°.1E±0°.2, h10km, n17, σ0º90/6, **mb3.8**/6, **South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**11.07**	**188**	T	T	21 08 18.1	
	baz=11,slow=75,SNR=174						
H04N2	**CROZET ISLANDS**	**11.07**	**188**	T	T	21 08 16.9	
	baz=11,slow=75,SNR=171						
H04N3	**CROZET ISLANDS**	**11.08**	**188**	T	T	21 08 24.0	
	baz=11,slow=75,SNR=227						
H08S1	**Diego Carcia H**	**32.21**	**36**	T	T	21 34 32.9	
	baz=208,slow=76						
H08S2	**Diego Garcia H**	**32.22**	**36**	T	T	21 34 35.0	
	baz=208						
H08S3	**Diego Garcia H**	**32.23**	**36**	T	T	21 34 35.5	
	baz=208,slow=76						
MAW	**Mawson**	**32.81**	**174**	P	**P**	**21 00 48.0**	**+1.0**
	2.1nm,0.7s,baz=0.0,slow=6.1,SNR=2.0						
	2.1nm,0.7s						
MBAR	**Mbarara**	**40.76**	**323**	LR	LR	21 17 26.7	
	comp=Z,43nm,18.9s,baz=88,slow=34						
SNAA	**Sanae**	**46.69**	**201**	P	**P**	**21 02 41.5**	**-0.9**
	1.0nm,0.9s,baz=65,slow=6.2,SNR=3.7						
	1.0nm,0.9s						
H01W2	**Cape Leeuwin H**	**48.45**	**108**	T	T	21 55 01.7	
	baz=251						
H01W3	**Cape Leeuwin H**	**48.45**	**108**	T	T	21 55 00.5	
	baz=251						
H01W1	**Cape Leeuwin H**	**48.46**	**108**	T	T	21 55 01.8	
	baz=251						
QSPA	**South Pole Qui**	**54.96**	**180**	LR	LR	21 25 07.6	
	comp=Z,51nm,18.3s,baz=268,slow=34						
CMAR	**Chiang Mai Arr**	**68.26**	**46**	P	**P**	**21 05 15.2**	**+0.3**
	0.3nm,0.6s,baz=231,slow=6.8,SNR=4.5						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**68.76**	**105**	P	**P**	**21 05 18.0**	**-0.3**
	0.2nm,0.6s,baz=228,slow=5.6,SNR=6.5						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**69.11**	**304**	P	**P**	**21 05 20.5**	**+0.2**
	0.5nm,0.9s,baz=130,slow=4.3,SNR=2.9						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**71.00**	**101**	P	**P**	**21 05 31.4**	**-0.7**
	0.8nm,0.7s,baz=236,slow=5.6,SNR=5.8						
	0.8nm,0.7s						

NOU 25 20:54:25.0, 15°.77S×167°.73E, h87km, MLv4.5/13,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**2.12**	**162**	P	Pn	20 54 59.3	+0.6
KOUNC	**Koumac, New Ca**	**5.77**	**214**	P	Pn	20 55 48.4	+0.3
YATNC	**Mamie plateau,**	**6.31**	**187**	P	Pn	20 55 54.1	-1.3
DZM	**Mont Dzumac**	**6.38**	**191**	P	Pn	20 55 56.4	-0.2
NOUC	**Port Laguerre**	**6.44**	**192**	P	Pn	20 55 57.6	+0.3
ONTNC	**Ouen Toro**	**6.61**	**190**	P	Pn	20 55 59.8	+0.2
OUENC	**Ouen Island, N**	**6.67**	**187**	P	Pn	20 56 00.8	+0.5

IDC ***25*** *21:02:09.6±0.6, 37°.13N×75°.30E, h0km, mb4.0/22, mbtmp4.0/30, ML3.5/8, MS3.4/11, Error ellipse: s-maj=13.1km s-min=11.4km az=44.0*
BJI ***25*** *21:02:12.5±0.0, 37°.29N×75°.30E, h8km, mb4.3/30, mB4.9/18, ML4.1/7, Ms3.9/9, Ms7 3.6/6*
NNC ***25*** *21:02:15.0±2.4, 37°.29N×75°.24E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=20.6km s-min=17.5km az=48.0*
MOS ***25*** *21:02:15.2±0.9, 37°.21N×75°.32E, h48km, mb4.3/13, Error ellipse: s-maj=7.6km s-min=4.4km az=95.8*
NEIC ***25*** *21:02:16.7±1.6, 37°.24N±0°.06×75°.33E±0°.09, h41km±6km, mb4.5/37, Error ellipse: s-maj=10.2km s-min=9.2km az=113.0*
ISC 25 21:02:12.3±0.3, 37°.17N±0°.03×75°.20E±0°.04, h10km, n205, σ2º03/220, **mb4.3**/57, **MS3.6**/8, **19C-13D,**

Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.42**	**14**	Pg	Pn	21 02 45.0	-7.1
KSH				Sg	Sn	21 03 09.5	-12
KSH				smax	smax		
	comp=N,1μm,0.8s						
KSH				smax	smax		
	comp=E,870nm,0.7s						
CHCP	**Chirah Chowk**	**3.84**	**205**	P	**Pb**	**21 03 17.2**	**-3.0**
NIL	**Nilore**	**3.85**	**205**		**Pb**	**21 03 15.9**	**-4.5**
NIL	**Nilore**	**3.85**	**205**	PN	**Pb**	**21 03 15.9**	**-4.5**
CEP	**Cherat**	**4.28**	**220**	P	Pb	21 03 22.7	-5.0
NRN	**Naryn**	**4.31**	**8**		**Pn**	**21 03 20.5**	**+2.3**
NRN	**Naryn**	**4.31**	**8**	PN	**Pn**	**21 03 20.5**	**+2.3**
BTK	**Batken**	**4.48**	**311**	Pn	**Pn**	**21 03 23.2**	**+2.8**
BTK	**Batken**	**4.48**	**311**	PN	**Pn**	**21 03 23.2**	**+2.8**
ARSB	**Arslanbob**	**4.49**	**338**		**Pn**	**21 03 22.9**	**+2.3**
ARSB	**Arslanbob**	**4.49**	**338**	PN	**Pn**	**21 03 22.9**	**+2.3**
THN	**Thein Dam**	**4.74**	**175**	*e*P	Pn	21 03 28.5	+4.7
THN				IAML		21 04 38.1	
	comp=N,111nm,0.7s						
TARG	**Taragay, Kyrgy**	**4.98**	**23**		**Pn**	**21 03 28.9**	**+1.3**
TARG	**Taragay, Kyrgy**	**4.98**	**23**	PN	**Pn**	**21 03 28.9**	**+1.3**
DHRM	**DHARAMSHALA**	**4.99**	**169**	*e*P	Pn	21 03 31.7	+4.2
DHRM				*e*S	**Sn**	**21 04 31.9**	**+6.6**
DHRM				IAML		21 04 42.9	
	comp=E,216nm,0.7s						
AML	**Almayashu**	**5.09**	**347**	P	**Pn**	**21 03 31.8**	**+2.7**
	SNR=24						
AML	**Almayashu**	**5.09**	**347**	⇑Pn	**Pn**	**21 03 31.2**	**+2.1**
	comp=E,10nm,0.9s						
AML				⇓Sn	**Sn**	**21 04 33.1**	**+5.0**
	comp=E,14nm,0.7s						
KDJ	**Kajisay**	**5.19**	**17**	Pn	**Pn**	**21 03 31.9**	**+1.7**
KDJ	**Kajisay**	**5.19**	**17**	PN	**Pn**	**21 03 31.9**	**+1.7**
THW	**Thamme Wali**	**5.20**	**214**	P	**Pn**	**21 03 34.3**	**+4.1**
BOOM	**Boomskoye usch**	**5.35**	**6**	Pn	**Pn**	**21 03 34.2**	**+1.9**
BOOM	**Boomskoye usch**	**5.35**	**6**	PN	**Pn**	**21 03 34.2**	**+1.9**
KBK	**Karagaybulak**	**5.49**	**358**	P	Pn	21 03 40.5	+6.2
	SNR=11						
AAK	**Ala-Archa**	**5.49**	**355**	P	**Pn**	**21 03 38.2**	**+3.9**
	SNR=14						
AAK	**Ala-Archa**	**5.49**	**355**		**Pn**	**21 03 36.5**	**+2.1**
AAK	**Ala-Archa**	**5.49**	**355**	Pn	**Pn**	**21 03 37.2**	**+2.9**
	comp=E,3.9nm,0.3s,baz=159,slow=8.0,SNR=31						
AAK				Sn	**Sn**	**21 04 41.9**	**+4.3**
	comp=E,1.9nm,0.3s,baz=294,slow=4.0,SNR=1.3						
AAK				Lg	Lg	21 05 05.2	
	comp=E,0.4nm,0.3s,baz=59,slow=17,SNR=2.0						
AAK				LR	LR	21 06 00.2	
	comp=E,267nm,21.3s,baz=183,slow=42						
	comp=E,13nm,0.4s						
EKS2	**Erkin-Say**	**5.59**	**349**	P	**Pn**	**21 03 39.6**	**+3.9**
	SNR=8.1						
KBL	**Kabul**	**5.64**	**244**	Pn	**Pn**	**21 03 38.5**	**+2.1**
KBL	**Kabul**	**5.64**	**244**	PN	**Pn**	**21 03 38.5**	**+2.1**
FRU1	**Bishkek**	**5.65**	**356**	Pn	**Pn**	**21 03 38.5**	**+2.1**
FRU1	**Bishkek**	**5.65**	**356**	PN	**Pn**	**21 03 38.5**	**+2.1**
TKM2	**Tokmak 2**	**5.75**	**3**	P	**Pn**	**21 03 41.0**	**+3.0**
	SNR=55						
TKM2	**Tokmak 2**	**5.75**	**3**	⇓Pn	**Pn**	**21 03 40.8**	**+2.8**
	comp=E,24nm,0.6s						
TKM2				⇓Pg	**Pb**	**21 03 56.9**	**+4.0**
	comp=E,41nm,1.0s						
TKM2				⇑Sn	**Sn**	**21 04 46.4**	**+2.2**
	comp=E,32nm,0.8s						
TKM2				⇓Lg	Lg	21 05 12.9	
	comp=E,50nm,0.8s						
BHK	**Bhakra**	**5.83**	**170**	*e*P	**Pn**	**21 03 41.6**	**+2.8**
BHK				*e*S	Sn	21 04 53.8	+8.1
BHK				IAML		21 05 02.0	
	comp=N,138nm,1.1s						
CHMS	**Chumysh**	**5.83**	**357**	P	**Pn**	**21 03 40.1**	**+1.2**
	SNR=7.7						
CHMS	**Chumysh**	**5.83**	**357**	⇑Pn	**Pn**	**21 03 42.3**	**+3.4**
	comp=N,25nm,1.0s						
CHMS				⇑Pg	**Pb**	**21 03 58.2**	**+4.1**
	comp=N,26nm,0.8s						
CHMS				⇓Lg	Lg	21 05 14.8	
	comp=N,70nm,1.1s						
PRZ	**Przheval'sk**	**5.85**	**24**	Pn	**Pn**	**21 03 38.9**	**-0.5**
PRZ	**Przheval'sk**	**5.85**	**24**	PN	**Pn**	**21 03 38.9**	**-0.5**
USP	**Ussoyovka**	**6.12**	**355**	P	**Pn**	**21 03 45.7**	**+2.9**
	SNR=9.9						
KNDC	**Almaty**	**6.19**	**12**	⇑Pg	**Pb**	**21 04 03.3**	**+3.0**
	comp=N,47nm,0.7s						
KNDC				⇑Lg	Lg	21 05 29.4	
	comp=N,371nm,0.8s						
KK31	**Karatay Array**	**6.93**	**330**	Pn	**Pn**	**21 03 55.7**	**+1.8**
	comp=N,9.3nm,0.6s,baz=139,slow=12,SNR=84						
KK31				⇑Sn	**Sn**	**21 05 14.5**	**+1.7**
	comp=N,45nm,0.8s,baz=282,slow=42,SNR=3.6						
KK31	**Karatay Array**	**6.93**	**330**		**Pn**	**21 03 55.5**	**+1.6**
KK31	**Karatay Array**	**6.93**	**330**	PN	**Pn**	**21 03 55.5**	**+1.6**
KKAR	**Karatay

TAPN Taplejung 14.41 129 *eP* **Pn 21 05 32.4 -4.2**
GTK Tadong 14.99 127 *eP* **P 21 05 49.0 -1.0**
GTK IAmb IAmb 21 05 52.3
comp=Z,21nm,0.5s
LSA Lhasa 15.25 115 P **Pn 21 05 44.0 -4.2**
LSA Lhasa 15.25 115 Pn **Pn 21 05 46.9 -1.3**
LSA Lhasa 15.25 115 P **Pn 21 05 46.9 -1.3**
LSA pmax pmax
comp=Z,8.0nm,0.9s
DGZ Jazzator, Alta 15.33 31⇓ *eP* **Pn 21 05 49.1 +0.2**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
GOMU GeErMu 15.77 88 P **Pn 21 05 54.0 -0.9**
GOMU pP P 21 05 57.3 -1.6
GOMU sP pP 21 06 02.0 -0.9
GOMU pmax pmax
comp=Z,2.0nm,0.9s
BOK Bokaro 16.19 142 *eP* **P 21 06 01.8 -1.3**
BOK IAmb IAmb 21 06 05.8
comp=Z,43nm,1.0s
BVAR Borovoye Array 16.21 350 Pn **Pn 21 05 57.3 -2.7**
baz=158,slow=11,SNR=6.5
comp=Z,2.4nm,0.8s
BRVK Borovoye 16.26 349 **Pn 21 06 00.4 -0.2**
BRVK Borovoye 16.26 349⇑ *eP* **Pn 21 06 01.6 +1.0**
BRVK pmax pmax
comp=Z,38nm,2.5s
ABKAR Akbulak array 16.38 322 Pn **Pn 21 06 00.3 -1.9**
ABKAR Akbulak array 16.38 322 **Pn 21 06 00.3 -1.9**
ZAA0 Zalesovo Array 18.05 19 P **Pn 21 06 21.3 -1.8**
ZALV Zalesovo Beam 18.05 19 *i P* **Pn 21 06 22.2 -0.9**
ZALV pmax pmax
comp=Z,8.0nm,0.7s
ZALV Zalesovo Beam 18.05 19 P **Pn 21 06 21.7 -1.5**
comp=Z,0.6nm,0.3s,baz=211,slow=11,SNR=24
ZALV LR LR 21 13 21.2
comp=Z,51nm,20.5s,baz=209,slow=37
comp=Z,5.3nm,0.6s
AKTO Aktyubinsk 18.10 323 P **Pn 21 06 22.9 -0.8**
comp=Z,0.7nm,0.3s,baz=121,slow=11,SNR=20
comp=Z,8.9nm,0.8s
TEZP TEZPUR 18.25 120 *eP* **Pn 21 06 25.1 -0.6**
TEZP IAmb IAmb 21 06 27.1
comp=Z,26nm,1.3s
SHL Shillong 18.32 124 P **Pn 21 06 25.3 -1.5**
SHL IAmb IAmb 21 06 28.7
comp=Z,16nm,0.9s
SHL Shillong 18.32 124 *eP* **Pn 21 06 26.4 -0.4**
SHL IAmb IAmb 21 06 28.8
comp=Z,11nm,0.7s
SHL Shillong 18.32 124 P **Pn 21 06 25.3 -1.5**
SHL pmax pmax
comp=Z,16nm,0.9s
GTA Gaotai 19.44 76 *eP* **Pn 21 06 39.8 -0.4**
GTA pmax pmax
comp=Z,10.0nm,1.2s
MOKO MOKOCHONG 19.63 118 *eP* **P 21 06 41.5 +0.2**
MOKO IAmb IAmb 21 06 44.2
comp=Z,27nm,0.7s
KOHI KOHIMA 19.73 120 *eP* **P 21 06 41.6 -0.6**
KOHI IAmb IAmb 21 06 43.1
comp=Z,18nm,0.8s
HYB Hyderabad 19.90 171 *eP* **Pn 21 06 50.3 +4.7**
WSAR Wadi Sarin 19.90 230 P **P 21 06 44.0 0.0**
comp=Z,0.3nm,0.3s,baz=80,slow=12,SNR=7.1
comp=Z,4.0nm,0.8s
IMP Imphal 20.19 122 *eP* **P 21 06 47.5 +0.2**
IMP IAmb IAmb 21 06 50.7
comp=Z,38nm,0.7s
SAIH SAIHA 21.21 129 *eP* **P 21 06 58.6 +0.3**
SAIH IAmb IAmb 21 06 59.5
comp=Z,21nm,0.8s
SVE Sverdlovsk 21.94 338 *eP* **P 21 07 06.2 +0.4**
SVE pmax pmax
comp=Z,13nm,1.1s
ARU Arti 22.27 335 P **P 21 07 08.9 -0.4**
ARU IAmb IAmb 21 07 14.2
comp=Z,11nm,0.8s
ARU Arti 22.27 335 *c i P* **P 21 07 09.7 +0.4**
ARU 21 07 32.4
ARU S **S 21 11 15.2 +1.0**
ARU SS **SnSn 21 11 41.7 +0.3**
ARU pmax pmax
comp=Z,13nm,0.8s
ARU Arti 22.27 335 P **P 21 07 08.9 -0.4**
comp=Z,2.7nm,0.4s,baz=163,slow=5.7,SNR=12
comp=Z,2.7nm,0.4s
LZH Lanzhou 22.98 84 *eP* **P 21 07 21.8 +4.5**
LZH pmax pmax
comp=Z,15nm,1.0s
GNI Garni 23.91 287⇑ *eP* **P 21 07 27.8 +1.3**
GNI pmax pmax
comp=Z,5.0nm,1.1s
ZAK Zakamensk 24.03 48 *eP* **P 21 07 25.9 -1.6**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
ZEI Tsey 24.54 293 *eP* **P 21 07 34.7 +2.4**
ZEI pmax pmax
comp=Z,3.0nm,0.6s
BELG Belogornoye 24.59 317⇑ *eP* **P 21 07 32.4 0.0**
BELG pmax pmax
comp=Z,2.0nm,0.9s
PZH PanZhiHua 24.86 108 P **P 21 07 34.5 -0.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,5.0s
SONM Songino Array 25.19 55 P **P 21 07 36.3 -1.7**
SONM Songino Array 25.19 55 P **P 21 07 37.3 -0.8**
comp=Z,2.3nm,0.7s,baz=256,slow=10,SNR=11
SONM LR LR 21 18 44.2
comp=Z,171nm,20.3s,baz=238,slow=40
comp=Z,2.3nm,0.7s
KBZ Khabaz 25.33 295 P **P 21 07 40.6 +1.5**
comp=Z,1.9nm,0.6s,baz=96,slow=5.6,SNR=5.9
comp=Z,1.9nm,0.6s
KIV Kislovodsk 25.50 296 *eP* **P 21 07 39.7 -1.1**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,50nm,15.0s
ULN Ulaanbaatar 25.63 55 P **P 21 07 40.5 -1.6**
ULN Ulaanbaatar 25.63 55⇑ *eP* **P 21 07 41.8 -0.3**
ULN pmax pmax
comp=Z,4.0nm,1.0s
BTO Baotou 27.22 72 *eP* **P 21 07 55.5 -0.9**
BTO pP **sP 21 08 07.0 +4.4**
BTO PP **PnPn 21 08 39.5 -0.2**
BTO S **S 21 12 31.5 -3.9**
BTO SS **SnSn 21 13 44.3 +1.5**
BTO pmax pmax
comp=Z,3.0nm,0.6s
KIRV Kirov 27.23 330⇑ *eP* **P 21 07 55.8 -0.3**
CMAR Chiang Mai Arr 27.95 125 *i P* **P 21 08 04.8 +1.8**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 27.95 125 P **P 21 08 02.1 -1.0**
comp=Z,0.9nm,0.4s,baz=310,slow=10.0,SNR=9.5
CMAR LR LR 21 21 01.2
comp=Z,17nm,20.3s,baz=20,slow=41
comp=Z,0.9nm,0.4s
HHC Hu-ho-hao-te 28.37 71 *eP* **P 21 08 06.3 -0.4**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,300nm,4.9s
GYA Guiyang 28.67 103 P **P 21 08 06.8 -2.8**
GYA pmax pmax
comp=Z,9.0nm,0.6s
BRTR Keskin Array B 32.44 288 P **P 21 08 43.9 +1.1**
BRTR Keskin Array B 32.44 288 P **P 21 08 43.9 +1.1**
BRTR Keskin Array B 32.44 288 P **P 21 08 43.6 +0.8**
comp=Z,0.8nm,0.5s,baz=96,slow=9.5,SNR=6.3
comp=Z,0.8nm,0.5s
AKASG Malin Array Be 35.18 307 P **P 21 09 06.4 +0.2**
comp=Z,0.3nm,0.4s,baz=79,slow=6.9,SNR=2.3
comp=Z,0.3nm,0.4s
AKBB Malin Array Si 35.18 307⇑ *eP* **P 21 09 07.4 +1.1**
NJ2 Nanjing 36.05 85 *eP* **P 21 09 12.8 -1.2**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,180nm,3.6s
MLR Muntele Rosu 37.40 299 P **P 21 09 25.8 +0.3**
MLR IAmb IAmb 21 09 31.5
comp=Z,11nm,0.9s
MLR Muntele Rosu 37.40 299 P **P 21 09 25.8 +0.3**
MLR pmax pmax
comp=Z,11nm,0.9s
BURAR Bucovina Array 37.76 302 P **P 21 09 28.8 +0.3**
FINES FINESS Array B 38.85 325 P **P 21 09 37.2 -0.1**
FINES FINESS Array B 38.85 325 *i P* **P 21 09 37.2 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 38.85 325 P **P 21 09 36.5 -0.8**
comp=Z,2.8nm,0.4s,baz=115,slow=9.9,SNR=37
comp=Z,2.8nm,0.4s
HEH HeiHe 39.16 53 *eP* **P 21 09 40.0 0.0**
HEH pmax pmax
comp=Z,9.0nm,0.9s
GSI Gunungsitoli 41.23 145 P **P 21 09 57.5 0.0**
GSI IAmb IAmb 21 09 58.6
comp=Z,10nm,0.8s
YAK Yakutsk 41.47 35⇓ *eP* **P 21 09 58.1 -0.9**
YAK pmax pmax
comp=Z,3.0nm,0.8s
KSRS Korea Array 41.47 73 P **P 21 09 56.5 -2.8**
comp=Z,0.7nm,0.8s,baz=276,slow=6.0,SNR=2.4
KSRS LR LR 21 29 21.4
comp=Z,106nm,19.7s,baz=300,slow=39
comp=Z,0.7nm,0.8s
ARCES ARCESS Array B 41.85 336 P **P 21 10 01.7 -0.4**
ARCES IAmb IAmb 21 10 22.2
comp=Z,25nm,1.5s
ARCES ARCESS Array B 41.85 336 P **P 21 10 01.7 -0.4**
ARCES pmax pmax
comp=Z,25nm,1.5s
ARCES ARCESS Array B 41.85 336 P **P 21 10 01.0 -1.1**
comp=Z,5.3nm,0.7s,baz=112,slow=9.3,SNR=15
comp=Z,5.3nm,0.7s
VYHS Vyhne 41.97 304 *eP* **P 21 10 03.0 -0.3**
VYHS Vyhne 41.97 304 *eP* **P 21 10 03.0 -0.3**
KLR Kul'dur 42.02 55 LR LR 21 30 15.1
comp=Z,82nm,20.4s,baz=15,slow=40
USRK Ussuriysk Ar. 42.90 62 P **P 21 10 10.2 -0.7**
comp=Z,0.7nm,0.6s,baz=266,slow=30,SNR=2.1
USRK LR LR 21 30 28.5
comp=Z,88nm,21.8s,baz=9.8,slow=40
comp=Z,0.7nm,0.6s
TIXI Tiksi 43.91 22 P **P 21 10 17.8 -0.9**
TIXI Tiksi 43.91 22⇑ *eP* **P 21 10 18.0 -0.7**
HFS Hagfors 44.64 321 P **P 21 10 24.0 -0.6**
comp=Z,5.4nm,0.5s,baz=102,slow=11,SNR=25
comp=Z,5.4nm,0.5s
SOKA Soboth 44.77 302 *eP* **P 21 10 26.8 +0.7**
comp=Z,3.6nm,0.7s
MOA Molln 45.08 304 P **P 21 10 27.5 -0.9**
comp=Z,4.7nm,1.2s
OBKA Obir 45.13 302 *eP* **P 21 10 27.0 -2.0**
comp=Z,6.0nm,1.3s
GERES GERESS Array B 45.29 305 P **P 21 10 30.3 +0.1**
comp=Z,0.5nm,0.5s,baz=80,slow=11,SNR=1.8
comp=Z,0.5nm,0.5s
KHC Kasperske Hory 45.33 306⇓ *eP* **P 21 10 30.6 +0.2**
KHC pmax pmax
comp=Z,2.0nm,0.7s
CLL Collm 45.40 309 *i P* **P 21 10 30.2 -0.6**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 45.40 309 *i P* **P 21 10 30.2 -0.6**
comp=Z,8.0nm,1.2s
CLL *e*PP **PP 21 12 21.0 +4.2**
NC405 NORSAR Array S 45.65 323 P **P 21 10 32.4 -0.3**
SABO M.te Sabotino 45.88 301 P **P 21 10 34.8 0.0**
SABO IAmb IAmb 21 10 52.7
comp=Z,20nm,1.4s
NB2 NORSAR Subarra 45.89 322 P **P 21 10 33.8 -0.9**
comp=Z,1.5nm,0.6s,baz=90,slow=7.9
NOA NORSAR Array B 45.89 322 P **P 21 10 33.8 -0.9**
comp=Z,2.0nm,0.6s,baz=97,slow=7.2,SNR=12
NOA LR LR 21 31 01.1
comp=Z,30nm,19.3s,baz=345,slow=38
comp=Z,2.0nm,0.6s
KONO Kongsberg 46.70 321 P **P 21 10 40.8 -0.2**
KONO Kongsberg 46.70 321 P **P 21 10 40.8 -0.2**
KONO pmax pmax
comp=Z,38nm,1.5s
MOTA Moosalm 47.28 304 *eP* **P 21 10 44.2 -1.8**
comp=Z,3.0nm,0.9s
FETA Feichten 47.60 303 *eP* **P 21 10 45.5 -2.9**
comp=Z,4.4nm,1.4s
SPITS Spitsbergen Ar 47.63 346 P **P 21 10 48.2 +0.1**
SPITS pmax pmax
comp=Z,57nm,1.5s
SPITS Spitsbergen Ar 47.63 346 P **P 21 10 47.3 -0.8**
comp=Z,3.4nm,0.6s,baz=102,slow=11,SNR=4.9
comp=Z,3.4nm,0.6s
DAVA Damuels 48.11 304 *eP* **P 21 10 52.3 -0.1**
comp=Z,5.1nm,0.6s
MJAR Matsushiro Arr 49.57 71 P **P 21 11 01.4 -2.2**
comp=Z,1.0nm,0.5s,baz=266,slow=9.1,SNR=2.6
comp=Z,1.0nm,0.5s
SENIN Lac Senin/Sane 50.05 303 P **P 21 11 06.9 -0.4**
ASAJ Asahikawa 50.33 60 LR LR 21 34 58.3
comp=Z,106nm,19.4s,baz=34,slow=39
BCLA Clavier 50.35 309 *d*PcP **PcP 21 12 26.5 -1.2**
BMRD Maredsous 50.71 309 *d*P **P 21 11 13.0 +1.0**
KMBO Kilima Mbogo 51.82 231 P **P 21 11 21.5 +0.5**
KMBO IAmb IAmb 21 11 53.1
comp=Z,4.4nm,1.4s
KMBO Kilima Mbogo 51.82 231 P **P 21 11 21.5 +0.5**
KMBO pmax pmax
comp=Z,4.0nm,1.4s
EKA Eskdalemuir Ar 54.14 316 P **P 21 11 36.8 -0.6**
comp=Z,1.7nm,0.8s,baz=82,slow=7.2,SNR=4.0
comp=Z,1.7nm,0.8s
ESK Eskdalemuir 54.17 316 *i P* **P 21 11 40.0 +2.5**
ESDC Sonseca Array 60.10 299 P **P 21 12 18.5 -1.4**
comp=Z,0.6nm,0.5s,baz=52,slow=7.1,SNR=11
comp=Z,0.6nm,0.5s
VOI Vohitsoka 64.57 209 P **P 21 12 49.8 -0.1**
C19K Lookout Ridge 66.66 19 P **P 21 13 02.2 -0.5**
TOA0 Torodi Ar. Sit 69.09 271 P **P 21 13 18.1 -0.7**
TOA0 IAmb IAmb 21 13 19.9
comp=Z,3.4nm,0.7s
TORD Torodi Ar. Bea 69.09 271 P **P 21 13 17.9 -1.0**
TORD IAmb IAmb 21 13 19.9
comp=Z,2.1nm,0.7s
TORD Torodi Ar. Bea 69.09 271 P **P 21 13 17.5 -1.3**
comp=Z,2.7nm,0.6s,baz=45,slow=5.6,SNR=29
comp=Z,2.7nm,0.6s
TOLK Toolik Lake Re 69.39 16 P **P 21 13 19.1 -0.9**
TOLK IAmb IAmb 21 13 28.6
comp=Z,2.7nm,0.9s
IMAR Indian Mountai 70.48 19 P **P 21 13 25.2 -1.4**
BMAR Burnt Mountain 71.46 15 P **P 21 13 31.9 -0.8**
PSA00 Pilbara Seismi 72.00 137 P **P 21 13 37.0 +0.7**
PSA00 IAmb IAmb 21 14 09.7
comp=Z,4.1nm,1.1s
K20K Telida 72.43 21 P **P 21 13 37.8 -0.6**
K20K IAmb IAmb 21 14 11.0
comp=Z,8.5nm,1.2s
KNRA Kununurra 72.82 126 P **P 21 13 41.7 +0.4**
ILAR Eielson Array 73.18 17 P **P 21 13 41.1 -1.8**
comp=Z,0.6nm,0.8s,baz=306,slow=5.2,SNR=7.0
comp=Z,0.6nm,0.8s
H31M Peel River 74.83 12 P **P 21 13 51.1 -1.4**
H31M IAmb IAmb 21 14 34.3
comp=Z,12nm,1.5s
LBTB Lobatse 77.48 225 P **P 21 14 08.3 +0.1**
LBTB IAmb IAmb 21 14 25.1
comp=Z,10nm,1.2s
LBTB Lobatse 77.48 225 P **P 21 14 08.3 +0.1**
LBTB pmax pmax
comp=Z,10.0nm,1.3s
WB0 Warramunga Arr 79.45 125 P **P 21 14 17.9 -1.2**
WB0 IAmb IAmb 21 14 43.8
comp=Z,6.8nm,1.2s
WRA Warramunga Arr 79.55 125 P **P 21 14 18.5 -1.1**
WRA Warramunga Arr 79.55 125 *i P* **P 21 14 19.1 -0.5**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 79.55 125 P **P 21 14 17.5 -2.1**
comp=Z,0.8nm,0.7s,baz=328,slow=5.9,SNR=11
comp=Z,0.8nm,0.7s
YKA Yellowknife Ar 80.37 5 P **P 21 14 20.9 -2.5**
comp=Z,1.0nm,0.6s,baz=354,slow=5.8,SNR=2.0
comp=Z,1.0nm,0.6s
ASAR Alice Springs 81.94 128 P **P 21 14 31.1 -1.3**
ASAR Alice Springs 81.94 128 P **P 21 14 31.1 -1.3**
ASAR Alice Springs 81.94 128 P **P 21 14 30.9 -1.4**
comp=Z,0.9nm,0.9s,baz=334,slow=5.7,SNR=9.6
comp=Z,0.9nm,0.9s
FORT Forrest 83.76 136 P **P 21 14 42.7 +1.1**
BBOO Buckleboo 89.82 133 P **P 21 15 11.1 0.0**

WEL 25 21:02:57.5±0.7, 40°S±2°×17°7E±°, h26km±5km, M3.1/44, ML3.6/11, MLv3.1/44, Error ellipse: s-maj=0.0km s-min=0.0km az=89.1, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCHZ	**McNeill Hill**	**0.15**	**335**	P	Pn	21 03 04.0	-0.2
MCHZ				S	Sb	21 03 09.3	+3.1
KAHZ	**Kahuranaki**	**0.22**	**161**	P	Pn	21 03 04.8	-0.5
KAHZ				S	Sb	21 03 10.7	+3.0
CKHZ	**Cape Kidnapper**	**0.24**	**108**	P	Pn	21 03 04.8	-0.7
CKHZ				S	Sb	21 03 10.6	+2.5
KWHZ	**Kaweka Forest**	**0.32**	**300**	P	Pn	21 03 06.0	-0.6
KWHZ				S	Sn	21 03 12.6	+0.1
KRHZ	**Kereru**	**0.32**	**259**	P	Pn	21 03 05.9	-0.7
KRHZ				S	Sn	21 03 12.4	-0.1
ARHZ	**Aropaoanui**	**0.36**	**28**	P	Pn	21 03 06.9	-0.2
ARHZ				S	Sn	21 03 13.9	+0.6
PXZ	**Pawanui**	**0.45**	**172**	P	Pn	21 03 08.0	-0.3
PXZ				S	Sn	21 03 16.3	+0.7
BKZ	**Black Stump Fm**	**0.47**	**332**	P	Pn	21 03 08.3	-0.4
BKZ				S	Sn	21 03 16.3	+0.1
NMHZ	**Naumai**	**0.48**	**2**	P	Pn	21 03 08.8	-0.1
NMHZ				S	Sn	21 03 17.2	+0.7
WPHZ	**Waipukurau**	**0.55**	**208**	P	Pn	21 03 09.8	+0.1
WPHZ				S	Sn	21 03 19.2	+1.2
PNHZ	**Pukenui**	**0.56**	**233**	P	Pn	21 03 09.6	-0.2
PNHZ				S	Sn	21 03 18.8	+0.5
BHHZ	**Black Hill Sta**	**0.56**	**279**	P	Pn	21 03 09.7	-0.2
BHHZ				S	Sn	21 03 18.2	-0.3
WHHZ	**Waihua**	**0.62**	**35**	P	Pn	21 03 10.8	+0.2
WHHZ				S	Sn	21 03 21.2	+1.5
PRHZ	**Porangahau**	**0.69**	**189**	P	Pn	21 03 11.4	-0.3
PRHZ				S	Sn	21 03 22.2	+0.6
RAHZ	**Arahi**	**0.71**	**20**	P	Pn	21 03 12.0	+0.1
RAHZ				S	Sn	21 03 23.6	+1.7
MTHZ	**Maungataniwha**	**0.73**	**4**	P	Pn	21 03 12.3	+0.1
MTHZ				S	Sn	21 03 24.2	+1.6
TSZ	**Takapari Road**	**0.79**	**233**	P	Pn	21 03 13.0	0.0
TSZ				S	Sn	21 03 25.2	+1.2
MRHZ	**Matea Rd**	**0.80**	**339**	P	Pn	21 03 13.7	+0.5
MRHZ				S	Sn	21 03 25.6	+1.3
DVHZ	**Dannevirke**	**0.86**	**213**	P	Pb	21 03 13.5	-0.2
DVHZ				S	Sn	21 03 26.2	+0.5
HATZ	**Hinemaiaia**	**0.87**	**322**	P	Pn	21 03 15.3	+1.1
HATZ				S	Sn	21 03 28.4	+2.4
KNZ	**Kokohu**	**0.89**	**51**	P	Pb	21 03 13.6	-0.7
ANWZ	**Angora Road**	**0.91**	**195**	P	Pb	21 03 14.3	-0.3
ANWZ				S	Sn	21 03 28.2	+1.3
RITZ	**Rihia Road**	**0.94**	**310**	P	Pb	21 03 16.6	+1.5
MHGZ	**Mahia Peninsul**	**0.97**	**64**	P	Pn	21 03 14.6	-0.9
RTZ	**Ruatahuna**	**0.98**	**9**	P	Pb	21 03 16.2	+0.3
RTZ				S	Sn	21 03 31.5	+2.8
NGZ	**Ngauruhoe**	**1.00**	**294**	P	Pb	21 03 17.5	+1.3
NGZ				S	Sn	21 03 32.6	+3.2
KATZ	**Kakaramea**	**1.04**	**305**	P	Pb	21 03 18.4	+1.6
RATZ	**Rangitukua**	**1.06**	**312**	P	Pb	21 03 18.7	+1.5
PRGZ	**Paritu Road**	**1.08**	**53**	P	Pn	21 03 16.9	-0.2
MUGZ	**Murupara**	**1.10**	**360**	P	Pb	21 03 18.1	+0.2
WHTZ	**Whakaora**	**1.12**	**325**	P	Pb	21 03 19.6	+1.4
POWZ	**Post Office Ro**	**1.12**	**224**	P	Pn	21 03 17.7	+0.2
PRRZ	**Plateau Road**	**1.12**	**344**	P	Pb	21 03 19.4	+1.1
PKVZ	**Pokaka**	**1.15**	**284**	P	Pb	21 03 19.0	+0.3
PRWZ	**Pori Road**	**1.15**	**212**	P	Pn	21 03 18.2	+0.2
TWVZ	**Taurewa**	**1.16**	**296**	P	Pb	21 03 19.1	+0.2
RIGZ	**Rimuhau**	**1.16**	**41**	P	Pn	21 03 17.6	-0.6
BFZ	**Birch Farm**	**1.17**	**200**	P	Pn	21 03 17.4	-0.8
RAGZ	**Rawiri**	**1.19**	**25**	P	Pn	21 03 18.6	0.0
WATZ	**Wairara**	**1.19**	**317**	P	Pb	21 03 19.5	+0.1
HRRZ	**Handcock Road**	**1.25**	**342**	P	Pb	21 03 20.6	+0.2
RRRZ	**Republican Roa**	**1.26**	**350**	P	Pb	21 03 21.9	+1.4
KUTZ	**Kaahu Road**	**1.32**	**325**	P	Pb	21 03 21.3	-0.3
HSRZ	**Hossack Road**	**1.34**	**342**	P	Pb	21 03 23.3	+1.4
GRRZ	**Galatos Road**	**1.34**	**337**	P	Pb	21 03 23.1	+1.1
URZ	**Urewera**	**1.35**	**11**	P	Pn	21 03 20.4	-0.2
TARZ	**Mount Tarawera**	**1.36**	**351**	P	Pb	21 03 22.5	+0.1
TIWZ	**Tintock**	**1.38**	**210**	P	Pn	21 03 21.3	+0.2
MWZ	**Matawai**	**1.38**	**25**	P	Pn	21 03 20.6	-0.5
WAZ	**Wanganui**	**1.40**	**262**	P	Pb	21 03 23.2	+0.4
MRZ	**Mangatainoka R**	**1.42**	**220**	P	Pn	21 03 21.4	-0.2
OMRZ	**Omania**	**1.51**	**348**	P	Pb	21 03 26.5	+1.7
HOWZ	**Holdsworth Sta**	**1.63**	**216**	P	Pn	21 03 23.4	-1.2
VRZ	**Vera Road**	**1.63**	**286**	P	Pb	21 03 27.4	+0.5
TMWZ	**Te Maipa**	**1.67**	**204**	P	Pn	21 03 23.6	-1.4
TWGZ	**Tauwhareparae**	**1.69**	**34**	P	Pn	21 03 26.4	+1.0
OGWZ	**Otaki Gorge**	**1.74**	**224**	P	Pn	21 03 25.6	-0.5
RUGZ	**Raukumara Rang**	**1.76**	**24**	P	Pn	21 03 26.0	-0.4
HIZ	**Hauiti**	**1.84**	**305**	P	Pn	21 03 28.4	+1.0
MTW	**Mount Morrison**	**1.85**	**211**	P	Pn	21 03 26.1	-1.5
KIW	**Kapiti Island**	**1.92**	**228**	P	Pn	21 03 28.1	-0.5
PKGZ	**Pakihiroa**	**1.97**	**31**	P	Pn	21 03 28.6	-0.7
HAZ	**Te Kaha**	**1.99**	**24**	P	Pn	21 03 29.4	0.0
NEZ	**North Egmont**	**2.10**	**278**	P	Pb	21 03 37.0	+2.1
KHEZ	**Kahui Hut**	**2.16**	**277**	P	Pb	21 03 37.8	+1.8
WMGZ	**Waiomatatini S**	**2.18**	**37**	P	Pn	21 03 30.9	-1.1
PLWZ	**Palliser**	**2.30**	**210**	P	Pn	21 03 31.8	-2.0
QRZ	**Quartz Range**	**3.48**	**248**	P	Pn	21 03 48.6	-1.4
CTZ	**Chatham Island**	**6.45**	**132**	P	Pn	21 04 29.6	-1.2

---

*IDC **25** 21:23:18.6±9.3, 20°16N×146°97E, h78km±63km, mb3.4/6, mbtmp3.7/6, ML4.5/1, Error ellipse: s-maj=139.8km s-min=24.2km az=81.0*

ISC 25 21:23:15.4±2.4, 20°42N±0°10×146°5E±0°4, h34km, n8, σ2$00/10, mb3.8/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.97**	**193**	P	Pn	**21 24 55.7**	**+0.6**
	9.2nm,0.3s,baz=41,slow=15,SNR=2.4						
GUMO				S	Sn	**21 26 14.2**	**+0.9**
	18nm,0.3s,baz=246,slow=23,SNR=1.3						
JCJ	**Chichijima**	**7.73**	**330**	P	Pn	**21 25 05.2**	**-0.3**
	28nm,0.5s,baz=260,slow=15,SNR=1.3						
JCJ				S	Sn	**21 26 30.5**	**-1.5**
	70nm,0.9s,baz=311,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**41.84**	**197**	P	P	**21 30 59.8**	**-2.5**
	0.2nm,0.3s,baz=16,slow=8.5,SNR=5.3						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**45.51**	**196**	P	P	**21 31 29.5**	**-2.2**
	0.3nm,0.6s,baz=19,slow=8.8,SNR=3.0						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**57.13**	**322**	P	P	**21 33 00.5**	**+2.0**
	0.4nm,0.4s,baz=117,slow=8.3,SNR=2.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**57.84**	**313**	P	P	**21 33 05.7**	**+2.0**
	0.6nm,0.6s,baz=94,slow=6.9,SNR=5.4						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**60.56**	**317**	P	P	**21 33 24.1**	**+1.7**
	0.5nm,0.4s,baz=89,slow=7.3,SNR=4.6						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**65.65**	**320**	P	P	**21 33 57.6**	**+1.4**
	0.9nm,0.4s,baz=117,slow=8.3,SNR=3.3						
	0.9nm,0.4s						

---

*SJA **25** 21:29:20.7±0.9, 24°01S×66°97W, h220km±6km, ML4.2, MW4.2*

*NEIC **25** 21:29:21.9±2.1, 24°00S±0°07×67°0W±0°1, h202km±9km, mb4.1/12, Error ellipse: s-maj=14.6km s-min=9.6km az=99.0*

*IDC **25** 21:29:22.1±0.9, 23°94S×66°84W, h189km±9km, mb3.5/10, mbtmp4.1/17, MS2.6/1, Error ellipse: s-maj=14.0km s-min=10.9km az=80.0*

*VAO **25** 21:29:23.9±0.5, 23°77S×66°79W, h190km±5km, mb4.1*

ISC 25 21:29:21.6±0.6, 24°00S±0°04×66°96W±0°04, h194km±6km, n144, σ1$40/176, mb4.0/14, 11C-4D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.51**	**119**	*e*P	Pn	**21 29 57.2**	**+2.2**
SLA				*e*S	Sn	**21 30 23.0**	**+2.0**
AF01	**San Pedro de A**	**1.53**	**313**	P	Pn	**21 29 57.0**	**+1.6**
AF01				Sn	Sn	**21 30 24.4**	**+2.9**
AF01	**San Pedro de A**	**1.53**	**313⇑**	*e*P	Pn	**21 29 57.8**	**+2.4**
AF01				*e*S	Sn	**21 30 25.0**	**+3.4**
AZAP	**Zapla**	**1.75**	**98**	*e*P	Pn	**21 29 59.0**	**+1.6**

AZAP IAML 21 30 29.8
comp=Z,653nm,0.8s
YJA Yavi 2.25 37 *eP* **Pn 21 30 04.9 +2.0**
LVC Limon Verde 2.26 307 Pn **Pn 21 30 04.3 +1.4**
LVC Sn **Sn 21 30 35.3 +0.3**
LVC Limon Verde 2.26 307 *eP* **Pn 21 30 04.6 +1.6**
LVC Limon Verde 2.26 307 P **Pn 21 30 04.5 +1.6**
comp=Z,135nm,0.5s,baz=107,slow=8.2,SNR=253
LVC S **Sn 21 30 36.0 +1.1**
comp=Z,248nm,0.3s,baz=252,slow=23,SNR=9.8
LVC LR LR 21 30 53.7
comp=Z,111nm,19.1s,baz=186,slow=40
LVC Limon Verde 2.26 307⇑ *eP* **Pn 21 30 04.5 +1.6**
LVC *eS* **Sn 21 30 35.7 +0.7**
LVC IAML 21 30 38.5
comp=Z,4μm,0.8s
LVC Limon Verde 2.26 307 *eP* **Pn 21 30 04.3 +1.4**
LVC *eS* **Sn 21 30 36.3 +1.4**
LVC IAML 21 30 39.4
comp=Z,458nm,0.7s
FSA Cafayete 2.28 157 *eP* **Pn 21 30 04.2 +1.3**
FSA *eS* **Sn 21 30 32.8 -2.4**
ASTB Santa Barbara 2.29 89 *eP* **Pn 21 30 04.5 +1.4**
PB15 IPOC Station P 2.43 288 Pn 21 30 05.9 +1.3
PB15 IPOC Station P 2.43 288⇑ *iP* **Pn 21 30 06.2 +1.6**
PB15 *eS* **Sn 21 30 38.2 +0.2**
PB15 IAML 21 30 42.4
comp=E,8μm,0.3s
PB15 IPOC Station P 2.43 288 *eP* **Pn 21 30 06.1 +1.5**
PB15 *eS* **Sn 21 30 39.2 +1.2**
GO02 Mina Guanaco 2.66 244 Pn 21 30 08.4 +1.1
GO02 Mina Guanaco 2.66 244⇑ *iP* **Pn 21 30 08.5 +1.3**
GO02 *eS* **Sn 21 30 43.1 +0.3**
GO02 IAML 21 30 44.4
comp=E,3μm,0.8s
GO02 Mina Guanaco 2.66 244 *eP* **Pn 21 30 08.6 +1.3**
GO02 *eS* **Sn 21 30 43.8 +0.9**
PB06 IPOC Station P 2.72 298 Pn **Pn 21 30 08.9 +1.0**
PB06 IPOC Station P 2.72 298⇑ *iP* **Pn 21 30 09.3 +1.4**
PB06 *eS* **Sn 21 30 43.6 -0.3**
PB06 IAML 21 30 45.7
comp=N,2μm,0.3s
PB06 IPOC Station P 2.72 298 *eP* **Pn 21 30 09.0 +1.1**
PB06 *eS* **Sn 21 30 44.0 +0.1**
PB06 IAML 21 30 45.9
comp=Z,732nm,0.3s
ALOL LOMAS DE OLMED 2.73 87 *eP* **Pn 21 30 09.1 +1.2**
PB09 IPOC Station P 3.04 316 Pn 21 30 13.0 +1.4
PB09 IPOC Station P 3.04 316⇑ *iP* **Pn 21 30 13.2 +1.6**
PB09 *eS* **Sn 21 30 51.3 +0.6**
PB09 IAML 21 30 52.4
comp=N,378nm,0.7s
PB09 IPOC Station P 3.04 316 *eP* **Pn 21 30 12.8 +1.1**
PB09 *eS* **Sn 21 30 51.7 +1.1**
PB09 IAML 21 30 54.7
comp=Z,290nm,0.3s
AHML Horco Molle 3.14 152 *eP* **Pn 21 30 13.7 +1.1**
AHML *eS* **Sn 21 30 52.9 +0.3**
PB14 IPOC Station P 3.20 258 Pn **Pn 21 30 14.3 +0.6**
PB14 IPOC Station P 3.20 258 *eP* **Pn 21 30 14.3 +0.6**
PB14 *eS* **Sn 21 30 53.9 -0.4**
PB14 IAML 21 30 59.8
comp=Z,386nm,0.5s
PB04 IPOC Station P 3.37 299 Pn 21 30 16.1 +0.5
PB04 IPOC Station P 3.37 299⇑ *iP* **Pn 21 30 16.3 +0.7**
PB04 *eS* **Sn 21 30 56.2 -1.6**
PB04 IPOC Station P 3.37 299 *eP* **Pn 21 30 16.5 +0.9**
PB04 *eS* **Sn 21 30 56.7 -1.1**
PB04 IAML 21 30 59.5
comp=Z,605nm,0.3s
PB07 IPOC Station P 3.52 309 Pn 21 30 17.8 +0.3
PB07 IPOC Station P 3.52 309⇑ *iP* **Pn 21 30 18.1 +0.7**
PB07 *eS* **Sn 21 30 59.1 -2.0**
PB07 IPOC Station P 3.52 309 *eP* **Pn 21 30 17.9 +0.5**
PB07 *eS* **Sn 21 30 59.8 -1.4**
PB07 IAML 21 31 04.0
comp=Z,401nm,0.3s
PB01 IPOC Station P 3.76 321 Pn 21 30 20.3 0.0
PB01 IPOC Station P 3.76 321⇑ *eP* **Pn 21 30 20.8 +0.5**
PB01 *eS* **Sn 21 31 05.0 -1.3**
PB02 IPOC Station P 3.80 314 Pn 21 30 20.2 -0.7
PB02 IPOC Station P 3.80 314⇑ *iP* **Pn 21 30 21.2 +0.3**
PB02 *eS* **Sn 21 31 04.7 -2.6**
AC01 Pan de Azucar 3.93 236 Pn 21 30 22.1 -0.3
AC01 Pan de Azucar 3.93 236⇑ *eP* **Pn 21 30 22.0 -0.3**
AC01 *eS* **Sn 21 31 07.2 -2.8**
AC01 Pan de Azucar 3.93 236 *eP* **Pn 21 30 21.9 -0.4**
AC01 *eS* **Sn 21 31 07.3 -2.7**
AC01 IAML 21 31 08.5
comp=Z,303nm,0.6s
GUSE Guasayan 4.31 154 *eP* **Pn 21 30 28.0 +0.9**
PATCX Punta Patache 4.33 316 Pn 21 30 26.8 -0.6
PATCX Punta Patache 4.33 316 *eP* **Pn 21 30 27.0 -0.4**
PATCX *eS* **Sn 21 31 17.6 -1.5**
PB08 IPOC Station P 4.34 332 Pn 21 30 28.1 +0.1
AC06 Mina Casimiro 4.53 222 Pn **Pn 21 30 29.3 -0.6**
TA01 Diego Aracena 4.54 318 Pn **Pn 21 30 29.4 -0.5**
TA01 Diego Aracena 4.54 318 *eP* **Pn 21 30 29.8 -0.2**
TA01 *eS* **Sn 21 31 22.3 -1.4**
TA01 IAML 21 31 28.1
comp=Z,118nm,1.1s
GO03 Copiap 4.64 219 Pn 21 30 30.6 -0.7
GO03 Copiap 4.64 219 *eP* **Pn 21 30 30.9 -0.4**
GO03 *eS* **Sn 21 31 23.9 -2.3**
TA02 Huaiquique 4.73 321 Pn 21 30 32.0 -0.5
GO01 Chusmiza 4.78 334 Pn 21 30 34.1 +0.5
VCA Vinchina 4.85 193 *eP* **Pn 21 30 36.8 +2.7**
AC05 El Transito 5.66 211 Pn **Pn 21 30 44.2 -0.3**
LCO Las Campanas 6.01 213 Pn **Pn 21 30 48.1 -1.1**
PB16 IPOC Station P 6.12 337 Pn **Pn 21 30 50.6 -0.3**
PB12 IPOC Station P 6.21 329 Pn **Pn 21 30 49.8 -1.9**
CO01 Juntas del Tor 6.58 204 Pn 21 30 56.7 +0.2
PB18 Visviri 6.80 339 Pn **Pn 21 31 01.0 +1.2**
CO05 La Serena 7.02 212 Pn **Pn 21 30 59.7 -2.4**
GO04 Tololo Observa 7.04 208 Pn **Pn 21 31 00.5 -2.0**
CFA Coronel Fontan 7.66 188 P **Pn 21 31 09.9 -0.5**
comp=Z,5.0nm,0.3s,baz=1.8,slow=14,SNR=48
CFA S **Sn 21 32 31.4 -5.5**
comp=Z,22nm,0.3s,baz=190,slow=17,SNR=19
LPAZ La Paz 7.75 352 Pn **Pn 21 31 12.3 0.0**
LPAZ La Paz 7.75 352 *eP* **Pn 21 31 12.8 +0.5**
LPAZ La Paz 7.75 352 P **Pn 21 31 12.6 +0.3**
comp=Z,5.9nm,0.3s,baz=141,slow=9.0,SNR=26
LPAZ S **Sn 21 32 38.3 -1.7**
comp=Z,7.9nm,0.7s,baz=244,slow=23,SNR=9.3
BBRB Robore, Bolivi 8.77 51 *eP* **Pn 21 32 22.5 -2.6**
MURT Porto Murtinho 8.93 77 *eP* **Pn 21 32 25.4 -1.7**
BBSD Serra de San D 9.02 42 *eP* **Pn 21 32 27.1 -1.1**
CPUP Villa Florida 9.03 107 Pn 21 32 27.1 -1.2
CPUP Villa Florida 9.03 107 *eP* **Pn 21 32 28.0 -0.3**
CPUP Villa Florida 9.03 107 P **Pn 21 32 27.3 -1.0**
comp=Z,6.9nm,0.8s,baz=288,slow=12,SNR=14
SIV San Ignacio 9.70 36 P **Pn 21 31 35.8 -1.4**
comp=Z,10nm,0.5s,baz=210,slow=13,SNR=47
SIV S **Sn 21 33 20.7 -4.9**
comp=Z,1.5nm,0.7s,baz=216,slow=18,SNR=1.5
ANTJ Antonio Joao (10.29 81 *eP* **Pn 21 31 44.0 -0.7**
MT09 Talagante 10.36 199 Pn **Pn 21 31 43.2 -2.5**
BO04 La Punta 10.45 197 Pn **Pn 21 31 46.1 -0.7**
MT01 Popeta 10.52 200 Pn **Pn 21 31 46.1 -1.5**
AQDB Aquidauana 11.00 74 Pn **Pn 21 31 55.5 +1.5**
PTLB Pontes e Lacer 11.25 42 Pn **Pn 21 31 56.8 -0.3**
CRSM Crissiumal (Br 12.15 109 *eP* **P 21 32 11.2 -2.1**
VILB Vilhena 12.72 31 Pn **Pn 21 32 16.2 +0.3**
FRBT Francisco Belt 12.76 102 *eP* **P 21 32 19.1 -1.0**
SALV Santo Antonio 13.30 55 *eP* **Pn 21 32 23.1 -0.1**
PTGB Pitanga 13.60 96 *eP* **P 21 32 29.2 -0.3**
ITAB Concordia 13.76 107 Pn **P 21 32 28.8 -2.3**
PLTB Pedras Altas 14.11 126 Pn **Pn 21 32 32.4 -0.7**
ETMB Extrema 14.12 3 Pn **Pn 21 32 32.6 -0.9**
LDASE Londrina, Braz 14.53 91 *eP* **P 21 32 37.9 -1.9**
TRQA Tornquist 14.64 164 Pn 21 32 38.2 -1.5
TRQA Tornquist 14.64 164 *eP* **P 21 32 43.9 +3.0**
PCMB Pacaembu 14.67 84 *eP* **P 21 32 40.9 -0.5**
CNLB Canela 15.34 114 *eP* **P 21 32 49.7 +1.0**
SAML Samuel 15.40 14 P **Pn 21 32 48.2 -0.8**
SAML IAmb IAmb 21 32 50.2
comp=Z,6.3nm,0.7s
SAML Samuel 15.40 14 *eP* **Pn 21 32 48.3 -0.8**
PDRB Porto dos Gac 15.69 40 *eP* **P 21 32 52.3 -0.4**
FRTB Fartura 15.95 91 *eP* **Pn 21 32 56.2 +0.4**
ITRB Iturama 15.99 78 *eP* **Pn 21 32 55.2 -1.1**

GO06 Curarrehue 16.00 193 P **P 21 32 55.5 -0.5**
GO06 IAmb IAmb 21 32 59.1
comp=Z,12nm,1.1s
ARAG Araguaiana, MT 16.46 63 *eP* **Pn 21 33 02.4 +0.5**
CLDB Colider 16.83 41 *eP* **Pn 21 33 05.0 -1.4**
PLCA Paso Flores 16.95 189 P 21 33 06.4 -0.1
PLCA IAmb IAmb 21 33 14.9
comp=Z,5.4nm,0.8s
PLCA Paso Flores 16.95 189 P **Pn 21 33 07.6 0.0**
comp=Z,1.8nm,0.5s,baz=8.6,slow=10,SNR=7.0
IPMB Ipameri, GO 18.49 75 *eP* **Pn 21 33 24.0 -1.9**
LL01 San Ignacio de 18.88 193 P **P 21 33 27.6 +0.4**
SNDB Serra Nova Dou 19.08 54 *eP* **P 21 33 29.6 -0.2**
BDFB Brasilia 19.65 68 P **P 21 33 36.2 +0.2**
BDFB Brasilia 19.65 68 P **P 21 33 36.3 +0.2**
comp=Z,14nm,0.6s,baz=237,slow=11,SNR=18
PMNB Patos De Minas 19.88 78 *eP* **P 21 33 38.7 +0.3**
ITTB Itaituba 22.32 31 *eP* **P 21 34 01.9 -1.6**
SGCB São Gabriel d 23.74 360 *eP* **P 21 34 16.6 +0.3**
SMTB Santa Maria do 23.86 54 *eP* **P 21 34 17.7 +0.1**
SDBA SAO DESIDERIO 23.88 65 *eP* **P 21 34 16.4 -1.3**
BOAV Boa Vista 26.97 14 P **P 21 34 45.3 -0.2**
BOAV IAmb IAmb 21 34 47.2
comp=Z,3.6nm,1.1s
BOAV Boa Vista 26.97 14 *eP* **P 21 34 45.6 +0.2**
ABR01 Abrolhos, BA 27.04 83 *eP* **P 21 34 48.0 +2.0**
BELA Belgrano 2 56.04 172 P **P 21 38 40.2 +0.4**
VNA3 Neumayer Olymp 57.14 161⇓ P **P 21 38 49.0 +1.4**
comp=Z,4.1nm,0.6s
VNA1 Neumayer--Stat 57.34 160⇓ P **P 21 38 50.1 +1.2**
comp=Z,3.0nm,0.8s
VNA2 Neumayer--Watz 57.70 160 P **P 21 38 52.9 +1.4**
comp=Z,4.0nm,0.7s,baz=285,slow=8.0
SNAA Sanae 59.34 161 P **P 21 39 03.7 +0.8**
SNAA IAmb IAmb 21 39 04.7
comp=Z,2.6nm,0.7s
SNAA Sanae 59.34 161⇓ P **P 21 39 04.3 +1.4**
comp=Z,69nm,0.8s
SNAA Sanae 59.34 161 P **P 21 39 04.1 +1.2**
comp=Z,2.1nm,0.6s,baz=278,slow=7.9,SNR=35
comp=Z,2.1nm,0.6s
TROLL Troll, Antarti 61.05 161⇓ P **P 21 39 16.2 +1.6**
comp=Z,171nm,0.5s
TXAR Lajitas Array 63.70 324 P **P 21 39 33.4 +0.7**
comp=Z,0.4nm,0.8s,baz=171,slow=6.4,SNR=2.7
comp=Z,0.4nm,0.8s
QSPA South Pole Qui 66.20 180 P **P 21 39 49.8 +1.4**
QSPA IAmb IAmb 21 39 50.7
comp=Z,3.7nm,0.6s
QSPA South Pole Qui 66.20 180 P **P 21 39 50.1 +1.7**
comp=Z,3.1nm,0.5s,baz=202,slow=0.5,SNR=35
comp=Z,3.1nm,0.5s
VNDA Vanda 74.71 190 P **P 21 40 41.2 +1.7**
comp=Z,0.3nm,0.5s,baz=152,slow=2.4,SNR=3.7
comp=Z,0.3nm,0.5s
TOA0 Torodi Ar. Sit 76.53 69 P **P 21 40 50.0 -0.9**
TORD Torodi Ar. Bea 76.53 69 P **P 21 40 50.3 -0.6**
TORD Torodi Ar. Bea 76.53 69 P **P 21 40 50.8 -0.1**
comp=Z,1.4nm,0.7s,baz=264,slow=5.8,SNR=15
comp=Z,1.4nm,0.7s
PDAR Pinedale Array 77.17 329 P **P 21 40 54.6 +0.5**
comp=Z,0.4nm,0.6s,baz=122,slow=12,SNR=4.6
comp=Z,0.4nm,0.6s
NVAR Mina Array Bea 78.56 321 P **P 21 41 03.6 +1.8**
comp=Z,0.1nm,0.3s,baz=143,slow=6.7,SNR=2.7
comp=Z,0.1nm,0.3s
BOSA Boshof 80.70 117 P **P 21 41 13.1 -0.6**
MAW Mawson 81.42 163 P **P 21 41 17.8 +1.3**
comp=Z,2.4nm,0.7s,baz=246,slow=8.5,SNR=4.6
comp=Z,2.4nm,0.7s
ESDC Sonseca Array 86.37 44 P **P 21 41 42.4 +0.4**
comp=Z,0.7nm,0.8s,baz=257,slow=5.5,SNR=4.9
comp=Z,0.7nm,0.8s
YKA Yellowknife Ar 94.14 340 P **P 21 42 17.7 +0.1**
comp=Z,1.2nm,0.6s,baz=195,slow=1.6,SNR=3.4
comp=Z,1.2nm,0.6s
ASAR Alice Springs 128.47 205 PKP **PKPdf 21 48 06.4 +0.3**
comp=Z,1.1nm,0.7s,baz=127,slow=1.9,SNR=12
WRA Warramunga Arr 131.64 207 PKP **PKiKP 21 48 12.9 -0.2**
comp=Z,0.7nm,0.5s,baz=167,slow=1.6,SNR=18
BVAR Borovoye Array 136.77 37 PKP **PKPdf 21 48 20.7 +0.1**
comp=Z,0.4nm,0.5s,baz=285,slow=2.8,SNR=2.1
KURBB Kurchatov Arra 142.36 36 PKP **PKPdf 21 48 31.9 +1.1**
comp=Z,0.3nm,0.5s,baz=301,slow=2.4,SNR=2.4
ZALV Zalesovo Beam 143.38 28 PKP **PKPdf 21 48 31.2 -1.3**
comp=Z,2.5nm,0.6s,baz=313,slow=4.2,SNR=12
KSH Kashi 145.17 55 PKPbc **PKPab 21 48 36.5 -0.1**
KSH sPKP 21 48 53.5
MKAR Makanchi Array 146.50 40 PKPbc **PKPbc 21 48 39.8 -0.2**
comp=Z,4.1nm,0.7s,baz=304,slow=3.2,SNR=27
SONM Songino Array 155.63 11 PKPab **PKPab 21 49 19.8 +0.6**
comp=Z,0.5nm,0.5s,baz=328,slow=5.1,SNR=3.6
PZH PanZhiHua 169.47 74 PKP **PKPdf 21 49 04.0 -2.4**

*NNC **25** 21:40:26.5±0.5, 45°.49N×79°.98E, h0km, mb3.5, mpv3.4,*
Error ellipse: s-maj=7.3km s-min=2.9km az=131.0
*SOME **25** 21:40:29.3, 45°.42N×79°.83E, h15km*
ISC 25 21:40:27.2±1.8, 45°.47N±0°.05×79°.95E±0°.04, h5km±16km,
n50, σ0s88/58, 7C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.14**	**186**	P	**Pb**	**21 40 49.6**	**+0.2**
DJR	80nm,0.2s			S	**Sb**	**21 41 04.6**	**+0.1**
	121nm,0.3s						
DJR	**Jarkent**	**1.14**	**186**	*eP*	**Pb**	**21 40 49.6**	**+0.2**
DJR	80nm,0.2s			*eS*	**Sb**	**21 41 04.6**	**+0.1**
	121nm,0.3s						
TDK	**Taldyqorghan**	**1.19**	**248**	P	**Pb**	**21 40 50.1**	**-0.1**
TDK	72nm,0.1s			S	**Sb**	**21 41 05.2**	**-0.7**
	289nm,0.2s						
TDK	**Taldyqorghan**	**1.19**	**248**	*eP*	**Pb**	**21 40 50.1**	**-0.1**
TDK	72nm,0.1s			*eS*	**Sb**	**21 41 05.2**	**-0.7**
	289nm,0.2s						
KNOS	**Konyrlen**	**1.23**	**207**	P	**Pg**	**21 40 51.1**	**+0.3**
KNOS	128nm,0.1s			S	**Sb**	**21 41 07.0**	**-0.4**
	59nm,0.3s						
BLB	**Baldybastay**	**1.72**	**218**	P	**Pb**	**21 40 59.5**	**0.0**
BLB	35nm,0.2s			S	**Sb**	**21 41 21.6**	**+0.2**
	45nm,0.3s						
MAKZ	**Makanchi**	**1.95**	**46**	⇓Pn	**Pn**	**21 41 00.7**	**-0.3**
MAKZ	1.4nm,0.3s			⇑Sn	**Sn**	**21 41 25.6**	**-0.2**
	18nm,0.3s						
ARXS	**Arharly**	**1.96**	**231**	P	**Pb**	**21 41 03.5**	**0.0**
ARXS	6.0nm,0.2s			S	**Sb**	**21 41 28.0**	**-0.3**
	155nm,0.4s						
ARXS	**Arharly**	**1.96**	**231**	*eP*	**Pb**	**21 41 03.5**	**0.0**
ARXS	6.0nm,0.2s			*eS*	**Sb**	**21 41 28.0**	**-0.3**
	155nm,0.4s						
KTMS	**Ketmen**	**2.04**	**172**	P	**Pb**	**21 41 05.0**	**+0.2**
KTMS	1.9nm,0.1s			S	**Sb**	**21 41 30.7**	**+0.1**
	30nm,0.1s						
KTMS	**Ketmen**	**2.04**	**172**	*ePg*	**Pb**	**21 41 05.0**	**+0.2**
KTMS	1.9nm,0.1s			*eLg*	Lg	21 41 30.7	
	30nm,0.1s						
MK31	**Makanchi Array**	**2.10**	**50**	⇓Pn	**Pn**	**21 41 03.2**	**+0.1**
MK31	0.9nm,0.2s,baz=224,slow=14,SNR=153			⇓Sn	**Sn**	**21 41 29.1**	**-0.5**
	4.2nm,0.2s,baz=227,slow=26,SNR=6.7						
PDGK	**Podgornoye**	**2.16**	**189**	Pg	**Pb**	**21 41 07.2**	**+0.3**
PDGK	3.9nm,0.2s			Lg	Lg	21 41 34.5	
	12nm,0.3s						
PDGK	**Podgornoye**	**2.16**	**189**	⇑Pg	**Pb**	**21 41 07.6**	**+0.7**
PDGK	6.8nm,0.6s			⇑Lg	Lg	21 41 34.6	
	33nm,0.6s						
KPKS	**Kokpek**	**2.19**	**205**	Pg	**Pb**	**21 41 07.7**	**+0.3**
KPKS	14nm,0.2s			Lg	Lg	21 41 35.5	
	85nm,0.3s						
KPKS	**Kokpek**	**2.19**	**205**	*ePg*	**Pb**	**21 41 07.7**	**+0.3**
KPKS	14nm,0.2s			*eLg*	Lg	21 41 35.5	
	85nm,0.3s						
SHLS	**Shalkode**	**2.33**	**189**	*ePg*	**Pb**	**21 41 10.1**	**+0.2**
SHLS	6.9nm,0.2s			*eLg*	Lg	21 41 39.1	
	36nm,0.3s						
KURS	**Kuram**	**2.35**	**213**	Pg	**Pb**	**21 41 10.9**	**+0.8**
KURS	5.4nm,0.3s			Lg	Lg	21 41 40.5	
	18nm,0.2s						
KURS	**Kuram**	**2.35**	**213**	*ePg*	**Pb**	**21 41 10.9**	**+0.8**
KURS	5.4nm,0.3s			*eLg*	Lg	21 41 40.5	
	18nm,0.2s						
UZB	**Uzynbulak**	**2.41**	**196**	Pg	**Pb**	**21 41 11.4**	**+0.2**
UZB	5.3nm,0.3s			Lg	Lg	21 41 41.7	
	29nm,0.3s						
UZB	**Uzynbulak**	**2.41**	**196**	*ePg*	**Pb**	**21 41 11.4**	**+0.2**
UZB	5.3nm,0.3s			*eLg*	Lg	21 41 41.7	
	29nm,0.3s						
ZHN	**Zhinishke**	**2.54**	**206**	Pg	**Pb**	**21 41 13.8**	**+0.5**
ZHN	6.2nm,0.1s			Lg	Lg	21 41 45.6	
	76nm,0.3s						
ZHN	**Zhinishke**	**2.54**	**206**	*ePg*	**Pb**	**21 41 13.8**	**+0.5**
ZHN	6.2nm,0.1s			*eLg*	Lg	21 41 45.6	
	76nm,0.3s						
SATY	**Saty**	**2.65**	**205**	Pg	**Pb**	**21 41 16.2**	**+1.0**
SATY	3.7nm,0.1s			Lg	Lg	21 41 49.8	
	56nm,0.2s						
SATY	**Saty**	**2.65**	**205**	*ePg*	**Pb**	**21 41 16.2**	**+1.0**
SATY	3.7nm,0.1s			*eLg*	Lg	21 41 49.8	
	56nm,0.2s						
CHKK	**Chushkaly**	**2.66**	**234**	Pg	**Pb**	**21 41 16.2**	**+0.9**
CHKK	1.1nm,0.1s			Lg	Lg	21 41 49.8	
	39nm,0.2s						
CHKK	**Chushkaly**	**2.66**	**234**	*ePg*	**Pb**	**21 41 16.2**	**+0.9**
CHKK	1.1nm,0.1s			*eLg*	Lg	21 41 49.8	
	39nm,0.2s						
KTBS	**Karatobe**	**2.92**	**234**	Pg	**Pb**	**21 41 20.4**	**+0.7**
KTBS	3.4nm,0.2s			Lg	Lg	21 41 57.1	
	40nm,0.5s						
KTBS	**Karatobe**	**2.92**	**234**	*ePg*	**Pb**	**21 41 20.4**	**+0.7**
KTBS	3.4nm,0.2s			*eLg*	Lg	21 41 57.1	
	40nm,0.5s						
KUU	**Kurty**	**3.02**	**240**	Pg	**Pb**	**21 41 21.1**	**-0.3**
KUU	2.1nm,0.3s			Lg	Lg	21 41 57.6	
	28nm,0.4s						
KUU	**Kurty**	**3.02**	**240**	*ePg*	**Pb**	**21 41 21.7**	**+0.3**
KUU	2.0nm,0.2s			*eLg*	Lg	21 41 59.1	
	28nm,0.4s						
KOTS	**Kotyrbulak**	**3.02**	**223**	*ePg*	**Pb**	**21 41 23.0**	**+1.4**
KOTS	3.5nm,0.4s			*eLg*	Lg	21 42 01.6	
	35nm,0.4s						
MDOK	**Medeo**	**3.10**	**223**	Pg	**Pg**	**21 41 24.9**	**-1.7**
MDOK	3.6nm,0.3s			Lg	Lg	21 42 04.6	
	18nm,0.6s						
MDOK	**Medeo**	**3.10**	**223**	*ePg*	**Pg**	**21 41 24.9**	**-1.7**
MDOK	3.6nm,0.3s			*eLg*	Lg	21 42 04.6	
	18nm,0.6s						
TNSS	**Tian-Shan**	**3.25**	**223**	Pg	**Pb**	**21 41 27.5**	**+1.9**
TNSS	2.1nm,0.2s			*eLg*	Lg	21 42 09.0	
	6.5nm,0.5s						
TNSS	**Tian-Shan**	**3.25**	**223**	*ePg*	**Pb**	**21 41 27.2**	**+1.6**
TNSS	2.1nm,0.2s			*eLg*	Lg	21 42 22.5	
	24nm,0.6s						
MTBS	**Maitube**	**3.44**	**229**	*ePg*	**Pb**	**21 41 29.6**	**+0.9**
MTBS	1.1nm,0.1s			*eLg*	Lg	21 42 12.6	
	34nm,0.5s						
KRBS	**Karabastau**	**3.53**	**241**	Pg	**Pb**	**21 41 30.9**	**+0.7**
KRBS	1.2nm,0.2s			Lg	Lg	21 42 15.2	
	10nm,0.3s						
KRBS	**Karabastau**	**3.53**	**241**	*ePg*	**Pb**	**21 41 30.9**	**+0.7**
KRBS	1.2nm,0.2s			*eLg*	Lg	21 42 15.2	
	10nm,0.3s						
DGS	**Degeres**	**3.73**	**235**	Pg	**Pb**	**21 41 35.0**	**+1.4**
DGS	2.9nm,0.4s			Lg	Lg	21 42 22.5	
	24nm,0.6s						
DGS	**Degeres**	**3.73**	**235**	*ePg*	**Pb**	**21 41 35.0**	**+1.4**
DGS	2.9nm,0.4s			*eLg*	Lg	21 42 22.5	
	24nm,0.6s						
KST	**Kastek**	**3.75**	**231**	Pg	**Pb**	**21 41 35.6**	**+1.6**
KST	2.5nm,0.4s			Lg	Lg	21 42 23.3	
	16nm,0.7s						
KST	**Kastek**	**3.75**	**231**	*ePg*	**Pb**	**21 41 35.6**	**+1.6**
KST	2.5nm,0.4s			*eLg*	Lg	21 42 23.3	
	16nm,0.7s						
ZSN	**Zaisan**	**3.93**	**58**	*ePg*	**Pb**	**21 41 37.8**	**+0.8**
ZSN	2.7nm,0.4s			*eLg*	Lg	21 42 26.7	
	8.6nm,0.5s						
TKM2	**Tokmak 2**	**4.04**	**232**	⇑Pg	**Pg**	**21 41 45.6**	**+1.1**
TKM2	3.4nm,0.6s			⇑Lg	Lg	21 42 37.2	
	7.0nm,0.6s						
SGDS	**Sogindy**	**4.31**	**244**	Pg	**Pb**	**21 41 45.7**	**+2.2**
SGDS	0.6nm,0.1s			Lg	Lg	21 42 40.6	
	8.8nm,0.4s						
KURBB	**Kurchatov Arra**	**5.25**	**350**	⇑Lg	Lg	21 43 16.8	
	15nm,0.6s						
KURK	**Kurchatov**	**5.33**	**351**	⇓Lg	Lg	21 43 17.4	
	5.9nm,0.7s						
AML	**Almayashu**	**5.62**	**236**	⇑Pg	**Pg**	**21 42 14.3**	**-0.6**
AML	0.5nm,1.1s			⇓Lg	Lg	21 43 29.8	
	1.1nm,0.8s						
KK31	**Karatay Array**	**7.17**	**254**	⇓Lg	Lg	21 44 20.4	
	1.1nm,0.5s,baz=65,slow=28,SNR=4.3						

*NEIC **25** 21:49:42.5±1.6, 14°.72N±0°.06×94°.07W±0°.06, h10km±2km,*
mb3.9/5, Md4.0/26(MEX), Error ellipse: s-maj=11.7km
s-min=8.3km az=213.0
*MEX **25** 21:49:47.0±0.5, 14°.81N×93°.99W, h15km, MD4.0*
ISC 25 21:49:40.6±1.8, 14°.80N±0°.06×94°.11W±0°.03, h6km±11km,
n40, σ2s07/65, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.25**	**43**		**Pg**	**21 50 05.0**	**+0.4**
PCIG					**Sg**	**21 50 18.8**	**-2.0**
PCIG		**1.25**	**43**	*eP*	**Pg**	**21 50 05.0**	**+0.4**
PCIG				*eS*	**Sg**	**21 50 18.8**	**-2.0**
CARR	**Arriaga**	**1.46**	**7**	*eP*	**Pb**	**21 50 07.9**	**-0.3**
CARR				*eS*	**Sn**	**21 50 24.9**	**-2.0**
NILT	**Santiago Nilte**	**1.83**	**344**	*eP*	**Pn**	**21 50 12.6**	**-0.1**
NILT				*eS*	**Sn**	**21 50 35.4**	**-0.7**
PATR	**El Naranjo**	**1.84**	**80**	*eP*	**Pn**	**21 50 12.8**	**-0.2**
PATR				*eS*	**Sn**	**21 50 33.3**	**-3.4**
PAVE	**Pavencul**	**1.91**	**78**	*eP*	**Pn**	**21 50 14.3**	**+0.4**
PAVE				*eS*	**Sn**	**21 50 35.9**	**-2.5**
CHUJ	**Union Juarez**	**1.95**	**81**	*eP*	**Pn**	**21 50 15.0**	**+0.4**
CHUJ				*eS*	**Sn**	**21 50 38.3**	**-1.3**
HUIG	**Huatulco**	**2.16**	**297**		**Pn**	**21 50 16.4**	**-0.8**
HUIG					**Sn**	**21 50 39.1**	**-5.3**
HUIG	**Huatulco**	**2.16**	**297**	*eP*	**Pn**	**21 50 16.4**	**-0.8**
HUIG				*eS*	**Sn**	**21 50 38.6**	**-5.8**
TGIG		**2.19**	**26**		**Pb**	**21 50 20.1**	**-0.6**
TGIG					**Sb**	**21 50 47.2**	**-1.0**
TGIG		**2.19**	**26**	*eP*	**Pb**	**21 50 20.1**	**-0.6**
TGIG				*eS*	**Sb**	**21 50 47.2**	**-1.0**
RTAL	**Retalhuleu**	**2.35**	**96**	Pn	**Pn**	**21 50 20.1**	**+0.3**
RTAL				Sn	**Sn**	**21 50 48.1**	**-0.9**
CMIG	**Matias Romero**	**2.40**	**342**		**Pn**	**21 50 21.4**	**+0.8**
CMIG					**Sn**	**21 50 49.7**	**-0.6**
CMIG	**Matias Romero**	**2.40**	**342**	*eP*	**Pn**	**21 50 21.4**	**+0.8**

CMIG					*e*S		**Sn**	**21 50 49.7**	**-0.6**
CCIG	**Comitan**	**2.41**		**52**	Pn		**Pb**	**21 50 23.3**	**-1.2**
CCIG					Sn		**Sb**	**21 50 52.6**	**-2.0**
CCIG	**Comitan**	**2.41**		**52**	*e*P		**Pb**	**21 50 23.9**	**-0.6**
CCIG					*e*S		**Sb**	**21 50 54.0**	**-0.5**
UXUV	**UXUV**	**2.51**	**359**		*e*P		**Pb**	**21 50 24.5**	**-1.7**
UXUV					*e*S		**Sb**	**21 50 56.2**	**-1.1**
HUEH	**Huehuetenango**	**2.57**	**78**				**Pn**	**21 50 24.1**	**+1.0**
HUEH					Sn		**Sn**	**21 50 55.7**	**+0.9**
PEIG	**Puerto Escondi**	**3.17**	**293**		*e*P		**Pn**	**21 50 31.0**	**-0.2**
PEIG					*e*S		**Sn**	**21 51 14.4**	**+5.1**
NEUV	**Arroyo Zacate**	**3.33**	**331**		*e*P		**Pn**	**21 50 35.7**	**+2.4**
NEUV					*e*S		**Sn**	**21 51 12.8**	**-0.3**
VHO	**Vista Hermosa**	**3.39**	**312**		*e*P		**Pn**	**21 50 36.6**	**+2.3**
VHO					*e*S		**Sn**	**21 51 12.7**	**-2.4**
YOIG	**Yosondua**	**3.89**	**302**		*e*P		**Pn**	**21 50 45.7**	**+4.4**
YOIG					*e*S		**Sn**	**21 51 24.7**	**-2.9**
TOIG	**Toxpalan**	**4.34**	**320**				Pn	21 50 52.5	+5.2
TOIG							**Sn**	**21 51 37.4**	**-0.9**
TOIG	**Toxpalan**	**4.34**	**320**		*e*P		Pn	21 50 52.5	+5.2
TOIG					*e*S		**Sn**	**21 51 37.4**	**-0.9**
PETF	**Flores**	**4.59**		**62**	Pn		**Pn**	**21 50 51.9**	**+1.2**
ESQI	**Esquipulas**	**4.62**		**92**	Pn		**Pn**	**21 50 51.5**	**+0.4**
HLIG	**Huajuapan de L**	**4.66**	**311**		*e*P		**Pb**	**21 51 01.2**	**-1.8**
HLIG					*e*S		**Sn**	**21 51 45.5**	**-0.9**
FTIG	**Fresnillo de T**	**4.95**	**309**		*e*P		**Pn**	**21 50 59.3**	**+3.6**
FTIG					*e*S		**Sn**	**21 51 51.3**	**-2.1**
TLIG	**Tlapa**	**5.09**	**303**		Pn		**Pn**	**21 51 00.7**	**+3.0**
JAUV	**Jalcomulco**	**5.23**	**331**		*e*P		**Pn**	**21 51 02.5**	**+3.0**
JAUV					*e*S		**Sn**	**21 51 56.4**	**-3.8**
TGUH	**Tegucigalpa,Un**	**6.66**		**95**	Pn		**Pn**	**21 51 19.4**	**+0.1**
CNGN	**Cerro Negro**	**7.55**	**107**		Pn		**Pn**	**21 51 32.8**	**+1.3**
TEIG	**Tepich**	**7.75**		**45**	Pn		**Pn**	**21 51 35.4**	**+1.3**
833A	**Chaparral WMA,**	**14.33**	**341**		Pn		**Pn**	**21 53 07.9**	**+3.7**
HNDO	**Hondo**	**15.42**	**343**		Pn		**Pn**	**21 53 20.9**	**+2.0**
HNDO					IAmb		IAmb	21 53 36.5	
	comp=Z,6.1nm,0.8s								
TXAR	**Lajitas Array**	**16.95**	**330**		Pn		**P**	**21 53 40.9**	**+0.2**
OZNA	**Ozona**	**17.30**	**339**		Pn		**P**	**21 53 44.9**	**+0.4**
OZNA					IAmb		IAmb	21 53 47.7	
	comp=Z,8.8nm,1.2s								
MNHN	**Monahans**	**18.28**	**336**		P		**P**	**21 53 56.4**	**+1.1**
MNHN					IAmb		IAmb	21 54 06.2	
	comp=Z,6.0nm,0.9s								
AMTX	**Amarillo**	**21.14**	**343**		P		**P**	**21 54 26.1**	**-0.4**
121A	**Cookes Peak, D**	**21.61**	**327**		P		**P**	**21 54 32.0**	**+0.3**
121A					IAmb		IAmb	21 54 38.8	
	comp=Z,6.7nm,1.1s								

DJA ***25*** *22:04:05.4±0.4, 10°.S±4°.×11°.3E±°., h10km, M4.3/19, mb4.3/6, mB5.0/2, MLv4.3/19, Mw(mB)4.3/2*
NEIC ***25*** *22:04:06.4±2.0, 9°.70S±0°.08×113°.03E±0°.07, h42km±8km, mb4.4/15, Error ellipse: s-maj=11.9km s-min=9.3km az=171.0*
IDC ***25*** *22:04:13.0±2.3, 9°.41S×113°.11E, h91km±22km, mb3.7/14, mbtmp4.1/16, MS2.8/3, Error ellipse: s-maj=26.5km s-min=12.6km az=38.0*
ISC 25 22:04:05.7±0.6,**9.73S**±0°.07×**113°.02E**±0°.05,**h36**km,**n76,** σ**1**$\hat{s}$**78**/74,**mb4.3**/20,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.51**	**16**	P	**Pn**	**22 04 29.7**	**-0.5**
GMJI				S	**Sn**	**22 04 49.2**	**+0.6**
JAGI	**Jajag, Banyuwa**	**1.68**	**42**		**Pn**	**22 04 32.5**	**-0.1**
JAGI				Sn	**Sn**	**22 04 53.9**	**+1.0**
JAGI	**Jajag, Banyuwa**	**1.68**	**42**	P	**Pn**	**22 04 34.6**	**+2.0**
JAGI	**Jajag, Banyuwa**	**1.68**	**42**	P	**Pn**	**22 04 33.6**	**+1.0**
BLJI	**Banyuglugur**	**2.05**	**16**	P	**Pn**	**22 04 38.8**	**+1.1**
BLJI				S	**Sn**	**22 05 04.9**	**+2.8**
ABJI	**Asem Bagus**	**2.27**	**32**	P	Pn	22 04 44.4	+3.7
IGBI	**Denpasar**	**2.29**	**67**	P	**Pn**	**22 04 44.4**	**+3.4**
DNP	**Denpasar**	**2.40**	**64**	P	**Pn**	**22 04 44.9**	**+2.3**
WOJI	**Wonogiri, Jawa**	**2.80**	**312**	P	**Pn**	**22 04 47.9**	**-0.1**
NGJI	**Ngawi**	**2.81**	**327**	P	**Pn**	**22 04 50.5**	**+2.4**
GRJI	**Gresik**	**2.85**	**349**	P	**Pn**	**22 04 50.9**	**+2.2**
UGM	**Wanagama**	**3.06**	**306**		**Pn**	**22 04 52.4**	**+0.8**
UGM	**Wanagama**	**3.06**	**306**	P	**Pn**	**22 04 52.6**	**+1.0**
UGM	**Wanagama**	**3.06**	**306**	P	**Pn**	**22 04 51.8**	**+0.2**
YOGI	**Yogyakarta**	**3.29**	**305**	P	**Pn**	**22 04 57.9**	**+3.1**
SMRI	**Semarang**	**3.69**	**316**		**Pn**	**22 05 00.5**	**+0.2**
SMRI	**Semarang**	**3.69**	**316**	P	**Pn**	**22 05 01.1**	**+0.9**
BWJI	**Bawean**	**3.87**	**355**	P	**Pn**	**22 05 04.3**	**+1.6**
TWSI	**Taliwang, Sumb**	**3.94**	**76**	P	**Pn**	**22 05 07.7**	**+4.0**
KPJI	**Karang Pucung**	**4.69**	**300**	P	**Pn**	**22 05 14.4**	**+0.4**
PLAI	**Plampang**	**4.78**	**80**	P	Pn	22 05 20.4	+5.1
PLAI	**Plampang**	**4.78**	**80**	P	**Pn**	**22 05 19.3**	**+4.0**
CMJI	**Cimerak**	**4.91**	**293**	P	**Pn**	**22 05 16.6**	**-0.5**
BBJI	**Bungbulang**	**5.76**	**293**	P	**Pn**	**22 05 31.6**	**+2.7**
LEM	**Lembang**	**6.07**	**298**	P	Pn	22 05 39.5	+6.3
	14nm,0.4s,baz=354,slow=23,SNR=3.1						
LEM				S	**Sn**	**22 06 47.5**	**+6.0**
	14nm,0.4s,baz=10,slow=19,SNR=2.3						
LEM				LR	LR	22 08 26.3	
	comp=Z,34nm,21.0s,baz=174,slow=42						
CNJI	**Cibinong**	**6.30**	**292**	P	**Pn**	**22 05 37.9**	**+1.7**
	28nm,1.3s,0.1nm						
XMIS	**Christmas Isla**	**7.29**	**263**	Pn	**Pn**	**22 05 48.7**	**-1.1**
XMIS	**Christmas Isla**	**7.29**	**263**	P	**Pn**	**22 05 49.9**	**+0.1**
CGJI	**Cibinong**	**7.88**	**293**	P	**Pn**	**22 05 59.3**	**+1.4**
	27nm,1.2s,976nm0.2nm						
KAPI	**Kappang**	**8.16**	**55**	P	Pn	22 06 05.8	+4.1
	10nm,0.2s,baz=98,slow=21,SNR=1.7						
KAPI				LR	LR	22 09 40.6	
	comp=Z,57nm,18.6s,baz=248,slow=42						
BKSI	**Bulukumba**	**8.29**	**59**	P	Pn	22 06 09.8	+6.3
EDFI	**Ende, Flores**	**8.62**	**84**	P	**Pn**	**22 06 10.1**	**+2.0**
	7.8nm,0.6s,644nm						
MNAI	**Manna**	**11.32**	**297**	Pn	**Pn**	**22 06 43.8**	**-1.2**
MBWA	**Marble Bar**	**13.07**	**151**	Pn	**Pn**	**22 07 08.2**	**-0.8**
FAKI	**Fak Fak**	**20.27**	**72**	P	**P**	**22 08 34.8**	**-3.5**
WB0	**Warramunga Arr**	**22.93**	**118**	P	**P**	**22 09 07.0**	**+0.1**
WRA	**Warramunga Arr**	**22.95**	**119**	P	**P**	**22 09 07.0**	**-0.1**
WRA	**Warramunga Arr**	**22.95**	**119**	P	**P**	**22 09 09.9**	**+2.8**
	1.1nm,0.9s,baz=292,slow=12,SNR=6.7						
	1.1nm,0.9s						
NWAO	**Narrogin (SRO)**	**23.41**	**171**	LR	LR	22 19 27.0	
	comp=Z,72nm,18.5s,baz=70,slow=38						
ASAR	**Alice Springs**	**24.29**	**127**	P	**P**	**22 09 20.1**	**+0.1**
ASAR	**Alice Springs**	**24.29**	**127**	P	**P**	**22 09 23.6**	**+3.6**
	2.0nm,0.6s,baz=303,slow=9.0,SNR=33						
	2.0nm,0.6s						
AS31	**Alice Springs**	**24.29**	**127**	P	**P**	**22 09 20.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.26**	**334**	P	**P**	**22 10 21.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**31.26**	**334**	P	**P**	**22 10 22.6**	**+0.2**
	1.8nm,0.8s,baz=171,slow=8.3,SNR=18						
	1.8nm,0.8s						
STKA	**Stephens Creek**	**34.44**	**134**	P	**P**	**22 10 53.3**	**+3.3**
	0.7nm,0.4s,baz=307,slow=7.8,SNR=2.9						
	0.7nm,0.4s						
SHL	**Shillong**	**40.67**	**330**	P	**P**	**22 11 42.0**	**-1.0**
TAPN	**Taplejung**	**44.28**	**327**	*e*P	**P**	**22 12 11.7**	**-0.8**
	13nm,1.0s						
JIRN	**Jiri**	**45.35**	**326**	*e*P	**P**	**22 12 20.2**	**-0.9**
	11nm,0.8s						
GUN	**Gumba**	**45.72**	**326**	*e*P	**P**	**22 12 22.5**	**-1.5**
	6.9nm,0.5s						
PKI	**Pulchoki**	**45.72**	**325**	*e*P	**P**	**22 12 23.4**	**-0.6**
	2.7nm,0.5s						
PKIN	**Phulchoki**	**45.73**	**325**	*e*P	**P**	**22 12 22.5**	**-1.5**
	3.0nm,0.4s						
DMN	**Daman**	**45.92**	**325**	*e*P	**P**	**22 12 24.1**	**-1.4**
	8.6nm,0.6s						
DANN	**Dangsing**	**47.26**	**324**	*e*P	**P**	**22 12 34.1**	**-1.9**
	8.4nm,0.6s						
PYUN	**Piuthan**	**47.52**	**323**	*e*P	**P**	**22 12 36.5**	**-1.4**
	3.2nm,0.5s						
KSRS	**Korea Array**	**48.97**	**16**	P	**P**	**22 12 48.6**	**-0.1**
	0.5nm,0.4s,baz=221,slow=44,SNR=2.0						
	0.5nm,0.4s						
MJAR	**Matsushiro Arr**	**51.77**	**26**	P	**P**	**22 13 08.2**	**-1.7**
	2.6nm,0.6s,baz=186,slow=7.9,SNR=7.2						
	2.6nm,0.6s						
USRK	**Ussurisk Ar.**	**56.37**	**16**	P	**P**	**22 13 41.9**	**-1.4**
	1.5nm,0.7s,baz=123,slow=5.3,SNR=2.8						
	1.5nm,0.7s						
ULN	**Ulaanbaatar**	**57.58**	**355**	P	**P**	**22 13 50.8**	**-1.3**
ULN				IAmb	IAmb	22 13 53.0	
	comp=Z,3.4nm,0.9s						
SONM	**Songino Array**	**57.61**	**355**	P	**P**	**22 13 51.7**	**-0.4**
SONM				IAmb	IAmb	22 13 52.8	
	comp=Z,2.1nm,0.8s						
SONM	**Songino Array**	**57.61**	**355**	P	**P**	**22 13 52.1**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=173,slow=8.2,SNR=16						
	comp=Z,2.5nm,0.8s						
MK31	**Makanchi Array**	**62.60**	**337**	P	**P**	**22 14 25.6**	**-0.6**
MK31				IAmb	IAmb	22 14 26.3	
	comp=Z,1.4nm,0.6s						
MKAR	**Makanchi Array**	**62.60**	**337**	P	**P**	**22 14 25.4**	**-0.9**
MKAR	**Makanchi Array**	**62.60**	**337**	P	**P**	**22 14 25.8**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=149,slow=7.7,SNR=38						
	comp=Z,2.3nm,0.5s						
KKAR	**Karatay Array**	**65.29**	**327**	P	**P**	**22 14 42.8**	**-1.3**
KURBB	**Kurchatov Arra**	**67.16**	**337**	P	**P**	**22 14 54.9**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=152,slow=5.4,SNR=7.8						
	comp=Z,0.7nm,0.7s						
KURK	**Kurchatov**	**67.20**	**337**	P	**P**	**22 14 54.7**	**-1.4**
KURK				IAmb	IAmb	22 14 56.5	
	comp=Z,2.7nm,0.8s						
ZAA0	**Zalesovo Array**	**67.78**	**342**	P	**P**	**22 14 58.5**	**-1.2**
ZAA0				IAmb	IAmb	22 14 59.7	
	comp=Z,2.6nm,0.9s						
ZALV	**Zalesovo Beam**	**67.78**	**342**	P	**P**	**22 14 58.3**	**-1.4**
ZALV	**Zalesovo Beam**	**67.78**	**342**	P	**P**	**22 14 58.7**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=158,slow=5.2,SNR=12						
	comp=Z,1.9nm,0.4s						
GEYT	**Alibeck**	**69.79**	**316**	P	**P**	**22 15 12.6**	**-0.1**
GEYT				IAmb	IAmb	22 15 14.5	
	comp=Z,3.3nm,0.9s						
GEYT	**Alibeck**	**69.79**	**316**	P	**P**	**22 15 13.5**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=131,slow=4.0,SNR=4.0						
	comp=Z,2.1nm,0.8s						
BVAR	**Borovoye Array**	**72.28**	**335**	P	**P**	**22 15 27.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.5,SNR=3.7						
	comp=Z,0.4nm,0.4s						
ABKAR	**Akbulak array**	**74.86**	**327**	P	**P**	**22 15 42.2**	**-0.4**
ABKAR	**Akbulak array**	**74.86**	**327**	P	**P**	**22 15 42.1**	**-0.4**
ABKAR				IAmb	IAmb	22 15 43.2	
	comp=Z,5.7nm,0.8s						
BRTR	**Keskin Array B**	**88.09**	**311**	P	**P**	**22 16 53.6**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=116,slow=5.6,SNR=4.0						
	comp=Z,1.1nm,0.9s						
SNAA	**Sanae**	**88.67**	**197**	P	**P**	**22 16 56.2**	**+1.1**
SNAA				IAmb	IAmb	22 17 21.7	
	comp=Z,2.4nm,1.3s						

BUL ***25*** *22:16:56.8±1.0, 26°.61S×27°.61E, h10km, MD4.2*
PRE ***25*** *22:16:56.3±1.8, 26°.43S×27°.40E, h2km, ML2.8, Fault plane solution: NP1:*ϕ_s*16.00000°, δ47.00000°, λ-83.00000°.*
EAF ***25*** *22:16:56.7, 26°.62S×27°.62E, h10km, MC3.8*
ISC 25 22:16:56.4±0.9,**26°.43S**±0°.02×**27°.44E**±0°.03,**h14**km±6km,
n56, σ$\hat{s}$**85**/106,**3C-16D,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.02**	**277**	*e*P	**Pg**	**22 16 58.1**	**-1.1**
PRYS	**Parys**	**0.50**	**188**	⇓*i*P	**Pg**	**22 17 06.0**	**-0.4**
PRYS				*e*S	**Sg**	**22 17 12.3**	**-0.9**
PRYS				IAML		22 17 14.6	
	comp=Z,228nm,0.3s						
HRAO	**HartRAO**	**0.58**	**22**	⇑*i*P	**Pb**	**22 17 08.3**	**-0.1**
HRAO				*e*S	**Sb**	**22 17 16.0**	**-0.5**
HRAO				IAML		22 17 16.4	
	comp=Z,397nm,0.2s						
KSR	**Koster**	**0.75**	**319**	⇑*i*P	**Pb**	**22 17 11.4**	**0.0**
KSR				*e*S	**Sb**	**22 17 21.0**	**-0.6**
KSR				IAML		22 17 21.6	
	comp=Z,256nm,0.3s						
SLR	**Silverton**	**1.02**	**48**	⇑*i*P	**Pb**	**22 17 16.3**	**+0.3**
SLR				*e*S	**Sb**	**22 17 30.5**	**+1.2**
SLR				IAML		22 17 35.9	
	comp=Z,222nm,0.3s						
NYAT	**Nyati, Northwe**	**1.06**	**6**	*e*P	**Pb**	**22 17 17.0**	**+0.3**
NYAT				*e*S	**Sb**	**22 17 31.2**	**+0.8**
NYAT				IAML		22 17 36.0	
	comp=Z,223nm,0.4s						
NHAM	**Northam, North**	**1.51**	**356**	*e*P	**Pb**	**22 17 25.0**	**+0.8**
NHAM				*e*S	**Sg**	**22 17 45.8**	**+0.7**
NHAM				IAML		22 17 49.6	
	comp=Z,248nm,0.1s						
RUST	**Rust De Winter**	**1.53**	**40**	⇓*i*P	**Pb**	**22 17 25.3**	**+0.6**
RUST				*e*S	**Sg**	**22 17 47.0**	**+1.2**
RUST				IAML		22 17 47.8	
	comp=Z,241nm,0.3s						
SNKL	**Senekal, Frees**	**1.86**	**171**	⇓*i*P	**Pb**	**22 17 30.5**	**+0.1**
SNKL				*e*S	**Sb**	**22 17 54.0**	**+0.3**
SNKL				IAML		22 17 56.2	
	comp=Z,304nm,0.3s						
SWZ	**Schweizer**	**2.03**	**248**	*e*P	**Pn**	**22 17 31.9**	**+1.5**
SWZ				*e*S	**Sb**	**22 17 58.5**	**+0.1**
SWZ				IAML		22 17 59.9	
	comp=Z,129nm,0.4s						
LBTB	**Lobatse**	**2.18**	**310**	*i*P	**Pb**	**22 17 35.2**	**-0.5**
LBTB				*i*S	**Sb**	**22 18 04.9**	**+2.3**
LBTB	**Lobatse**	**2.18**	**310**	⇓*i*P	**Pb**	**22 17 35.0**	**-0.6**
LBTB				*e*S	**Sb**	**22 18 02.1**	**-0.5**
LBTB				IAML		22 18 05.1	
	comp=Z,264nm,0.2s						
LBTB	**Lobatse**	**2.18**	**310**	*i*P	**Pb**	**22 17 35.2**	**-0.5**
	baz=311						
LBTB				*i*S	**Sb**	**22 18 04.9**	**+2.3**
	baz=311						
CRLN	**Carolina, Mapu**	**2.36**	**80**	*e*P	**Pn**	**22 17 36.6**	**+1.7**
CRLN				*e*S	**Sb**	**22 18 06.2**	**-1.7**
CRLN				IAML		22 18 12.4	
	comp=Z,41nm,0.2s						
WTBG	**Waterberg Wild**	**2.56**	**31**	⇓*i*P	**Pn**	**22 17 40.5**	**+2.8**
WTBG				*e*S	**Sb**	**22 18 12.1**	**-1.6**
WTBG				IAML		22 18 18.2	
	comp=Z,100nm,0.5s						
LEPH	**Lephalale, Lim**	**2.58**	**7**	⇓*i*P	**Pb**	**22 17 41.2**	**-1.3**
LEPH				*e*S	**Sn**	**22 18 10.5**	**+1.5**
LEPH				IAML		22 18 18.6	
	comp=Z,49nm,0.3s						
MTLB	**Matlabas, Limp**	**2.62**	**352**	*e*P	**Pn**	**22 17 41.1**	**+2.6**
MTLB				*e*S	**Sb**	**22 18 14.5**	**-0.9**
MTLB				IAML		22 18 19.9	
	comp=Z,123nm,0.5s						
DULL	**Dullstroom, Mp**	**2.68**	**67**	⇓*i*P	**Pn**	**22 17 42.0**	**+2.6**
DULL				*e*S	**Sb**	**22 18 15.7**	**-1.5**
DULL				IAML		22 18 25.3	
	comp=Z,35nm,0.2s						
BOSA	**Boshof**	**2.92**	**221**	*i*P	**Pn**	**22 17 43.6**	**+1.0**
BOSA				*i*S	**Sn**	**22 18 16.1**	**-1.4**
BOSA	**Boshof**	**2.92**	**221**	⇓*i*P	**Pn**	**22 17 43.6**	**+1.0**
BOSA				*e*S	**Sn**	**22 18 19.4**	**+1.9**
BOSA				IAML		22 18 25.1	
	comp=Z,40nm,0.2s						
BOSA	**Boshof**	**2.92**	**221**	*i*P	**Pn**	**22 17 43.6**	**+1.0**
	baz=226						
BOSA				*i*S	**Sn**	**22 18 16.1**	**-1.4**
	baz=226						
PILG	**Pilgrimsrest,**	**3.30**	**64**	*e*P	**Pn**	**22 17 50.7**	**+2.7**
PILG				*e*S	**Sb**	**22 18 31.8**	**-3.3**
PILG				IAML		22 18 44.5	
	comp=Z,61nm,0.4s						
HOED	**Hoedspruit, Li**	**3.74**	**58**	⇓*i*P	**Pn**	**22 17 56.0**	**+2.2**
HOED				*e*S	**Sn**	**22 18 40.6**	**+2.9**
HOED				IAML		22 19 05.3	
	comp=Z,26nm,0.3s						
POGA	**Pongola**	**3.92**	**104**	*e*P	**Pn**	**22 17 58.2**	**+2.0**
POGA				*e*S	**Sn**	**22 18 43.9**	**+1.9**
POGA				IAML		22 18 59.2	
	comp=Z,5.5nm,0.4s						
MPHEP	**Siloam, Limpop**	**4.30**	**36**	*e*P	**Pn**	**22 18 03.6**	**+2.1**
MPHEP				*e*S	**Sn**	**22 18 53.9**	**+2.4**
MPHEP				IAML		22 19 14.6	
	comp=Z,35nm,0.3s						
KSTD	**Kokstad**	**4.49**	**159**	⇓*i*P	**Pn**	**22 18 07.9**	**+3.8**
KSTD				*e*S	**Sn**	**22 18 59.6**	**+3.3**
KSTD				IAML		22 19 21.1	
	comp=Z,19nm,0.4s						
HVD	**Gariep Dam**	**4.50**	**202**	*e*P	Pn	22 18 09.2	+4.8
HVD				*e*S	**Sn**	**22 18 57.2**	**+0.6**
HVD				IAML		22 19 22.9	
	comp=Z,16nm,0.5s						
MOPA	**Mopani**	**4.61**	**52**	*i*P	**Pn**	**22 18 04.9**	**-0.8**
MOPA				*i*S	**Sn**	**22 18 56.1**	**-3.1**
MOPA	**Mopani**	**4.61**	**52**	*e*P	**Pn**	**22 18 07.6**	**+1.8**
MOPA				*e*S	**Sn**	**22 19 00.1**	**+0.9**
MOPA	**Mopani**	**4.61**	**52**	*i*P	**Pn**	**22 18 04.9**	**-0.8**
	baz=49						
MOPA				*i*S	**Sn**	**22 18 56.1**	**-3.1**
	baz=49						
MUSN	**Musina, Limpop**	**4.67**	**29**	*i*P	**Pn**	**22 18 07.7**	**+1.1**
MUSN				*i*S	**Sn**	**22 19 00.7**	**0.0**
MUSN	**Musina, Limpop**	**4.67**	**29**	⇓*i*P	**Pn**	**22 18 09.5**	**+2.8**
MUSN				*e*S	**Sn**	**22 19 01.1**	**+0.4**
MUSN				IAML		22 19 21.1	
	comp=Z,19nm,0.7s						
MUSN	**Musina, Limpop**	**4.67**	**29**	*i*P	**Pn**	**22 18 07.7**	**+1.1**
	baz=26						
MUSN				*i*S	**Sn**	**22 19 00.7**	**0.0**
	baz=26						
PKA	**Prieska**	**5.25**	**231**	⇓*i*P	**Pn**	**22 18 14.7**	**+0.1**
PKA				*e*S	**Sn**	**22 19 13.7**	**-1.3**
PKA				IAML		22 19 50.8	
	comp=Z,32nm,0.3s						
UPI	**Upington**	**5.83**	**249**	*e*P	**Pn**	**22 18 23.5**	**+1.0**
UPI				*e*S	**Sn**	**22 19 27.1**	**-2.2**
UPI				IAML		22 19 57.9	
	comp=Z,18nm,0.4s						
MATP	**Matopo**	**6.05**	**9**	*i*P	**Pn**	**22 18 27.5**	**+1.8**
MATP				*i*S	**Sn**	**22 19 34.9**	**0.0**
MATP	**Matopo**	**6.05**	**9**	*i*P	**Pn**	**22 18 27.5**	**+1.8**
	baz=8.0						
MATP				*i*S	**Sn**	**22 19 34.9**	**0.0**
	baz=8.0						
KEIM	**Keimoes**	**6.18**	**247**	*e*P	**Pn**	**22 18 28.4**	**+1.1**
KEIM				*e*S	**Sn**	**22 19 36.3**	**-1.5**
KEIM				IAML		22 20 08.2	
	comp=Z,16nm,0.4s						
BFON	**Badsfontein, M**	**6.28**	**211**	*e*P	**Pn**	**22 18 30.7**	**+1.9**
BFON				*e*S	**Sn**	**22 19 39.9**	**-0.5**
BFON				IAML		22 20 17.6	
	comp=Z,14nm,0.5s						
GRAF	**Camdeboo Natio**	**6.38**	**203**	*e*P	**Pn**	**22 18 33.5**	**+3.4**
GRAF				*e*S	**Sn**	**22 19 41.5**	**-1.2**
GRAF				IAML		22 20 22.8	
	comp=Z,9.8nm,0.6s						
SOE	**Somerset East**	**6.47**	**194**	*e*P	**Pn**	**22 18 35.2**	**+3.9**
SOE				*e*S	**Sn**	**22 19 43.9**	**-1.2**
SOE				IAML		22 20 28.4	
	comp=Z,8.4nm,0.6s						
BRAK	**Brakfontein**	**6.66**	**216**	⇓*i*P	**Pn**	**22 18 36.2**	**+2.3**
BRAK				*e*S	**Sn**	**22 19 49.2**	**-0.4**
BRAK				IAML		22 20 24.1	
	comp=Z,10.0nm,0.5s						
GRHM	**Grahamstown, E**	**6.89**	**187**	*e*P	**Pn**	**22 18 39.4**	**+2.4**
GRHM				*e*S	**Sn**	**22 19 53.8**	**-1.5**
GRHM				IAML		22 20 42.9	
	comp=Z,9.4nm,0.5s						
ROOI	**Rooidraai Farm**	**6.93**	**208**	*e*P	**Pn**	**22 18 40.0**	**+2.3**
ROOI				*e*S	**Sn**	**22 19 55.5**	**-0.9**
ROOI				IAML		22 20 31.2	
	comp=Z,7.8nm,0.5s						
GRAN	**Grantham**	**7.44**	**217**	*e*P	**Pn**	**22 18 46.7**	**+1.9**
GRAN				*e*S	**Sn**	**22 20 07.4**	**-1.6**
GRAN				IAML		22 21 01.9	
	comp=Z,7.1nm,0.4s						
FRAZ	**Fraserburg**	**7.61**	**222**	⇓*i*P	**Pn**	**22 18 48.9**	**+1.9**
FRAZ				*e*S	**Sn**	**22 20 11.6**	**-1.5**
FRAZ				IAML		22 20 49.7	
	comp=Z,7.0nm,0.5s						
CHIPN	**CHIPINGE**	**7.80**	**39**	*i*P	**Pn**	**22 18 50.9**	**+1.2**
CHIPN				*i*S	**Sn**	**22 20 15.3**	**-2.6**
CHIPN	**CHIPINGE**	**7.80**	**39**	*e*P	**Pn**	**22 18 51.0**	**+1.3**
CHIPN				*e*S	**Sn**	**22 20 17.2**	**-0.7**
CHIPN	**CHIPINGE**	**7.80**	**39**	*i*P	**Pn**	**22 18 50.9**	**+1.2**
	baz=40						
CHIPN				*i*S	**Sn**	**22 20 15.3**	**-2.6**
	baz=40						
CVNA	**Calvinia**	**8.40**	**231**	⇓*i*P	**Pn**	**22 18 59.7**	**+1.8**
CVNA				*e*S	**Sn**	**22 20 30.2**	**-2.4**
CVNA				IAML		22 21 19.0	
	comp=Z,17nm,0.5s						
MATJ	**Matjiesfontein**	**9.05**	**220**	*e*P	**Pn**	**22 19 07.2**	**+0.5**
MATJ				*e*S	**Sn**	**22 20 45.2**	**-3.3**
MATJ				IAML		22 21 42.6	
	comp=Z,9.7nm,0.5s						
KOMG	**Komaggas**	**9.41**	**247**	*e*P	**Pn**	**22 19 13.2**	**+1.5**
KOMG				*

PEIG	Puerto Escondi	2.85 290			Pn	22 42 22.5	-0.1
PEIG	Puerto Escondi	2.85 290	eP		Pn	22 42 22.5	-0.1
PEIG			eS		Sn	22 42 51.0	-4.9
TUIG	Tuzandepetl	3.00 359	eP		Pn	22 42 24.9	+0.2
TUIG			eS		Sn	22 43 02.7	+3.3
NEUV	Arroyo Zacate	3.01 333	eP		Pn	22 42 24.1	-0.7
NEUV			i S		Sn	22 42 55.3	-4.4
OXBJ	Oaxaca	3.05 312			Pn	22 42 28.3	+2.8
OXBJ					Sn	22 42 59.4	-1.6
OXBJ	Oaxaca	3.05 312	i P		Pn	22 42 28.3	+2.8
OXBJ			i S		Sn	22 42 59.4	-1.6
OXIG	Oaxaca	3.06 312			Pn	22 42 27.3	+1.7
OXIG					Sn	22 43 00.8	-0.4
VHO	Vista Hermosa	3.06 312	eP		Pn	22 42 27.3	+1.7
VHO			eS		Sn	22 43 00.8	-0.4
FUG	Fuego 3	3.46 99	eP		Pn	22 42 33.7	+2.6
FUG			eS		Sn	22 43 10.5	-0.4
YOIG	Yosondua	3.56 301			Pn	22 42 36.0	+3.3
YOIG	Yosondua	3.56 301	eP		Pn	22 42 36.0	+3.3
YOIG			eS		Sn	22 43 11.7	-2.1
PMUV	Sontecomapan	3.58 348	eP		Pn	22 42 31.2	-1.5
PMUV			eS		Sn	22 43 09.8	-4.1
PCG	Pacaya	3.69 99	eP		Pn	22 42 38.3	+4.0
PCG			eS		Sn	22 43 19.2	+2.5
PNIG	Pinotepa	3.87 291			Pn	22 42 37.1	+0.5
PNIG	Pinotepa	3.87 291	i P		Pn	22 42 37.1	+0.5
PNIG			eS		Sn	22 43 16.2	-4.8
NBG	Las Nubes	3.91 96	eP		Pn	22 42 42.2	+4.8
NBG			eS		Sn	22 43 21.2	-1.0
TXIG	Tlaxiaco	3.95 305			Pn	22 42 41.3	+3.2
TXIG					Sn	22 43 24.1	+0.7
TXIG	Tlaxiaco	3.95 305	eP		Pn	22 42 41.3	+3.2
TXIG			eS		Sn	22 43 24.1	+0.7
TOIG	Toxpalan	4.01 320			Pn	22 42 41.8	+3.2
TOIG					Sn	22 43 23.1	-1.4
TOIG	Toxpalan	4.01 320	eP		Pn	22 42 41.8	+3.2
TOIG			eS		Sn	22 43 23.1	-1.4
HLIG	Huajuapan de L	4.33 311			Pn	22 42 46.7	+3.6
HLIG					Sn	22 43 31.8	-0.6
HLIG	Huajuapan de L	4.33 311	eP		Pn	22 42 46.7	+3.6
HLIG			eS		Sn	22 43 31.8	-0.6
TPIG	Tehuac#an	4.44 320			Pn	22 42 48.0	+3.4
TPIG					Sn	22 43 34.4	-0.7
TPIG	Tehuac#an	4.44 320	eP		Pn	22 42 48.0	+3.4
TPIG			eS		Sn	22 43 34.4	-0.7
FTIG	Fresnillo de T	4.62 309			Pn	22 42 50.3	+3.2
FTIG					Sn	22 43 37.9	-1.6
FTIG	Fresnillo de T	4.62 309	eP		Pn	22 42 50.3	+3.2
FTIG			eS		Sn	22 43 37.9	-1.6
PETF	Flores	4.72 66			Pn	22 42 49.5	+1.2
TLIG	Tlapa	4.76 303	Pn		Pn	22 42 51.4	+2.4
TLIG	Tlapa	4.76 303	eP		Pn	22 42 51.9	+2.9
TLIG			eS		Sn	22 43 39.1	-4.0
ESQI	Esquipulas	4.88 95			Pn	22 42 50.8	+0.2
MTO3	Montecristo	4.88 97			Pn	22 42 50.7	0.0
JAUV	Jalcomulco	4.91 332	eP		Pn	22 42 49.5	-1.5
JAUV			eS		Sn	22 43 42.6	-4.0
SCIG	Sabancuy	4.97 37	eP		Pn	22 42 51.8	+0.1
SCIG			eS		Sn	22 43 45.0	-3.0
LVIG	Laguna Verde	5.07 338	i P		Pn	22 42 51.7	-1.5
LVIG			i S		Sn	22 43 47.0	-3.5
SNET	Serv Nac Est T	5.15 104	Pn		Pn	22 42 55.4	+1.1
DAIG	Los Arroyos	5.46 292	eP		Pn	22 42 58.8	+0.3
DAIG			eS		Sn	22 43 53.6	-6.5
PPM	Popocatepetl	5.73 315	eP		Pn	22 43 00.7	-1.9
PPM			e			22 44 02.8	
PPIG	Popocatepetl	5.73 315			Pn	22 43 00.7	-2.0
MEIG	Mezcala	5.81 301			Pn	22 43 06.8	+3.4
MEIG	Mezcala	5.81 301	eP		Pn	22 43 06.8	+3.4
MEIG			eS		Sn	22 44 05.2	-3.7
YAIG	Yautepec	5.90 311			Pn	22 43 08.3	+3.5
YAIG	Yautepec	5.90 311	eP		Pn	22 43 08.3	+3.5
YAIG			eS		Sn	22 44 08.0	-3.3
PLIG	Platanillo	5.96 305			Pn	22 43 08.3	+2.9
PLIG	Platanillo	5.96 305	eP		Pn	22 43 08.3	+2.9
PLIG			eS		Sn	22 44 10.1	-2.5
CXUV	Coxquihui	5.98 330	eP		Pn	22 43 06.1	+0.4
CXUV			eS		Sn	22 44 14.4	+1.5
CAIG	El Cayaco	6.02 290	eP		Pn	22 43 07.5	+1.3
CAIG			eS		Sn	22 44 05.9	-8.1
MPVM	San Francisco	6.09 314	eP		Pn	22 43 07.8	+0.5
MPVM			eS		Sn	22 44 13.9	-2.0
TLVM	San Miguel Top	6.19 313	eP		Pn	22 43 14.1	+5.3
TLVM			eS		Sn	22 44 09.8	-8.9
XCVM	Xochimilco	6.19 314	eP		Pn	22 43 06.4	-2.4
XCVM			eS		Sn	22 44 14.2	-4.4
PBVM	Pinon	6.30 315	eP		Pn	22 43 11.4	+1.4
PBVM			eS		Sn	22 44 15.8	-5.0
VTVM	Tizayuca	6.33 319	eP		Pn	22 43 08.8	-1.9
VTVM			eS		Sn	22 44 27.0	+5.0
INVM	La Marquesa	6.41 312	eP		Pn	22 43 20.9	+9.1
INVM			eS		Sn	22 44 23.3	-0.7
PTVM	Pico Tres Padr	6.42 316	eP		Pn	22 43 15.1	+3.1
PTVM			eS		Sn	22 44 30.3	+6.1
ARIG	Puente Sto Nin	6.59 300			Pn	22 43 18.1	+4.1
ARIG	Puente Sto Nin	6.59 300	i P		Pn	22 43 18.1	+4.1
ARIG			eS		Sn	22 44 24.4	-3.6
TOVM	TOLUCA	6.62 311	eP		Pn	22 43 18.1	+3.5
TOVM			eS		Sn	22 44 23.9	-5.2
TGUH	Tegucigalpa,Un	6.93 97			Pn	22 43 17.9	-1.0
ZIIG	Zihuatanejo	7.29 292			Pn	22 43 25.9	+2.3
ZIIG	Zihuatanejo	7.29 292	eP		Pn	22 43 25.9	+2.3
ZIIG			e			22 44 36.1	
CTUV	Llano Grande	7.46 330	i P		Pn	22 42 29.4	+3.1
CTUV			eS		Sn	22 44 52.4	+3.1
TEIG	Tepich	7.78 47	Pn		Pn	22 43 29.0	-1.4
TEIG	Tepich	7.78 47	Pn		Pn	22 43 27.6	-2.7
	770nm,0.3s,baz=29,slow=1.1,SNR=105						
TEIG				Sn	Sn	22 44 51.7	-5.5
	597nm,0.3s,baz=175,slow=19,SNR=11						
TEIG				LR	LR	22 46 55.2	
	comp=Z,3μm,20.1s,baz=14,slow=43						
CNGN	Cerro Negro	7.86 108	Pn		Pn	22 43 31.6	+0.1
MATN	Matagalpa	8.45 103	Pn		Pn	22 43 39.7	0.0
ACON	Acoyapa	9.44 108			Pn	22 43 54.3	+1.1
COIG	Colima	9.83 296	eP		Pn	22 44 04.2	+5.6
ORTG	Ortega, Santa	9.84 117			Pn	22 44 01.9	+3.1
JUBC	Volcan de Coli	9.86 298	eP		Pn	22 44 05.6	+6.3
EZ5V		9.88 298	eP		Pn	22 44 04.8	+5.4
MNGA	Volcan de Coli	9.89 298	eP		Pn	22 44 04.9	+5.4
INCO	Volcan de Coli	9.90 298	eP		Pn	22 44 05.0	+5.2
SOMAC	Volcano de Col	9.92 298	eP		Pn	22 44 05.5	+5.5
DUNO	Dulce Nombre,	9.95 119			Pn	22 44 03.8	+3.6
CDAR	Ciudad de Arme	10.02 294	eP		Pn	22 44 00.3	-0.8
CEGR	Campo Tres	10.06 297	eP		Pn	22 44 06.2	+4.4
R15V		10.08 296	eP		Pn	22 43 55.5	-6.5
JTS	Las Juntas de	10.31 116			Pn	22 44 07.2	+2.0
JTS	Las Juntas de	10.31 116	Pn		Pn	22 44 00.0	-5.2
	0.5nm,0.3s,baz=330,slow=16,SNR=1.8						
JTS				Sn	Sn	22 45 55.4	-4.2
	0.4nm,0.3s,baz=258,slow=19,SNR=1.0 3.7nm,0.5s						
LCR2	La Lucha 2	11.39 116			Pn	22 44 20.7	+0.5
RIMA	Rio Macho	11.51 116			Pn	22 44 24.4	+2.7
HBVL	Hebbronville	12.64 342			Pn	22 44 38.6	+1.7
SOR	Soroa	13.23 53			Pn	22 44 42.0	-3.1
833A	Chaparral WMA,	14.04 341	Pn		Pn	22 44 56.9	+0.8
735A	Kenedy	14.13 348	Pn		Pn	22 44 57.5	+0.1
HNDO	Hondo	15.14 343	Pn		Pn	22 45 08.6	-2.2
DRIO	Del Rio	15.46 339	Pn		Pn	22 45 15.1	+0.1
DRIO			IAmb		IAmb	22 45 25.4	
	comp=Z,11nm,0.8s						
441A	DeRidder	15.70 4	Pn		Pn	22 45 17.4	-0.7
441A			IAmb		IAmb	22 45 22.4	
	comp=Z,49nm,1.0s						
435B	Jarrell	15.97 350	Pn		Pn	22 45 21.8	+0.2
JCT	Junction City	16.18 343			Pn	22 45 24.6	+0.2
JCT			IAmb		IAmb	22 45 35.0	
	comp=Z,20nm,0.8s						
SAND	Sanderson	16.49 336	Pn		Pn	22 45 28.9	+0.5
SAND			IAmb		IAmb	22 45 36.9	
	comp=Z,15nm,1.0s						
TX32	Lajitas Array	16.64 330	Pn		Pn	22 45 30.8	+0.6
TXAR	Lajitas Array	16.64 330			Pn	22 45 30.9	+0.7
TXAR	Lajitas Array	16.64 330	Pn		P	22 45 32.2	-0.1
	comp=Z,0.4nm,0.3s,baz=153,slow=14,SNR=27						
TXAR				LR	LR	22 52 41.7	
	comp=Z,108nm,19.0s,baz=142,slow=40 comp=Z,8.8nm,1.0s						
WHTX	Lake Whitney,	17.13 351	P		Pn	22 45 36.8	+0.5
WHTX			IAmb		IAmb	22 45 40.7	
	comp=Z,42nm,0.8s						
FW14	Alvarado	17.49 352	P		Pn	22 45 40.2	-0.6
FW14			IAmb		IAmb	22 45 46.1	
	comp=Z,54nm,0.8s						
PLPT	Palo Pinto	18.08 349	P		P	22 45 48.6	+0.4
PLPT			IAmb		IAmb	22 46 04.0	
	comp=Z,29nm,0.9s						
ABTX	Abilene, Hawle	18.17 346			P	22 45 49.6	+0.4
ABTX			IAmb		IAmb	22 45 55.7	
	comp=Z,29nm,0.8s						
Z41A	Richland Creek	18.21 4	P		P	22 45 49.6	-0.1
352A	Blakely	18.52 26	P		P	22 45 53.5	+0.5
352A			IAmb		IAmb	22 45 56.4	
	comp=Z,73nm,1.2s						
WLAR	White Oak Lake	18.62 3	P		Pn	22 45 54.8	+0.2
WLAR			IAmb		IAmb	22 46 02.7	
	comp=Z,18nm,0.7s						
Z47A	Carrollton	18.98 16	P		P	22 45 56.6	-1.4
Z47A			IAmb		IAmb	22 46 10.0	
	comp=Z,23nm,0.8s						
GTBY	Guantanamo Bay	19.00 72	P		P	22 45 56.1	-2.3
GTBY			IAmb		IAmb	22 46 02.0	
	comp=Z,35nm,0.9s						
MIAR	Mount Ida	19.46 2	P		P	22 46 01.9	-1.4
X34A	Smith Ranch, M	19.75 352			P	22 46 06.5	0.0
WMOK	Wichita Mounta	20.04 349	P		P	22 46 09.5	-0.1
WMOK			IAmb		IAmb	22 46 43.3	
	comp=Z,17nm,0.8s						
MSTX	Muleshoe	20.34 340	P		P	22 46 12.8	-0.3
MSTX			IAmb		IAmb	22 46 18.5	
	comp=Z,29nm,0.9s						
HSIG		20.71 315	P		Pn	22 46 19.0	-0.5
GOGA	Godfrey	20.81 26			P	22 46 16.9	-1.0
GOGA			IAmb		IAmb	22 46 56.1	
	comp=Z,27nm,1.4s						
TUL3	Leonard	20.85 357	P		P	22 46 17.7	-0.7
TUL3			IAmb		IAmb	22 46 44.7	
	comp=Z,32nm,1.0s						
FPAL	Fort Paine	20.98 21			P	22 46 18.5	-1.3
FPAL			IAmb		IAmb	22 46 35.4	
	comp=Z,23nm,1.0s						
HHAR	Hobbs	21.18 1	P		P	22 46 21.4	-0.6
HHAR			IAmb		IAmb	22 46 24.6	
	comp=Z,12nm,0.4s						
319A	Douglas	21.25 323	P		P	22 46 24.8	+2.0
121A	Cookes Peak, D	21.29 327	P		P	22 46 26.3	+2.9
121A			IAmb		IAmb	22 46 29.1	
	comp=Z,34nm,1.0s						
ELIS	Ellis County	21.44 349	P		P	22 46 25.1	+0.3
PULU	Pululahua	21.63 132	P		P	22 46 27.9	+0.5
T42A	Van Buren	22.12 7	P		P	22 46 29.7	-2.3
MGMO	Mountain Grove	22.13 4	P		P	22 46 30.1	-2.1
KAN17	Caldwell West	22.15 353	P		P	22 46 32.5	+0.2
KAN17			IAmb		IAmb	22 47 00.0	
	comp=Z,26nm,0.9s						
ROSC	El Rosal	22.16 115	P		P	22 46 35.1	+2.0
ROSC			IAmb		IAmb	22 46 51.5	
	comp=Z,14nm,0.7s						
ROSC	El Rosal	22.16 115	P		P	22 46 29.6	-3.4
	comp=Z,6.2nm,0.5s,baz=75,slow=23,SNR=1.2 comp=Z,6.2nm,0.5s						
S39A	Bolivar	22.60 2	P		P	22 46 36.1	-1.1
S39A			IAmb		IAmb	22 46 54.5	
	comp=Z,16nm,1.2s						
ANMO	Albuquerque	22.63 333	P		P	22 46 39.0	+1.2
ANMO	Albuquerque	22.63 333	P		P	22 46 39.4	+1.7
	comp=Z,2.9nm,0.6s,baz=229,slow=12,SNR=6.7 comp=Z,2.9nm,0.6s						
TKL	Tuckaleechee C	22.64 23	P		P	22 46 35.0	-2.7
	comp=Z,3.3nm,0.8s,baz=187,slow=13,SNR=2.7						
TKL			S		S	22 50 42.6	-0.7
	comp=Z,4.0nm,0.7s,baz=88,slow=7.0,SNR=2.7						
TKL			LR	LR		22 56 39.2	
	comp=Z,126nm,19.2s,baz=220,slow=40 comp=Z,3.3nm,0.8s						
S44A	Carbondale	23.04 10	P		P	22 46 40.1	-1.6
S44A			IAmb		IAmb	22 46 52.4	
	comp=Z,34nm,1.1s						
SIUC	Southern Illin	23.06 10	P		P	22 46 40.8	-1.2
SIUC			IAmb		IAmb	22 46 52.7	
	comp=Z,32nm,1.1s						
CCM	Cathedral Cave	23.11 6	P		P	22 46 40.6	-1.9
TZTN	Tazewell	23.51 22	P		P	22 46 44.7	-1.7
TZTN			IAmb		IAmb	22 46 47.5	
	comp=Z,36nm,1.4s						
T25A	Trinidad	23.77 340	P		P	22 46 49.8	+0.7
T25A			IAmb		IAmb	22 47 02.4	
	comp=Z,21nm,0.8s						
BOSC	San Juan Bosco	23.93 138	P		P	22 46 53.0	+2.2
SDV	Santo Domingo	23.99 102	P		P	22 46 50.5	-0.9
SDV			IAmb		IAmb	22 46 54.2	
	comp=Z,12nm,1.1s						
CBKS	Cedar Bluff	24.17 350	P		P	22 46 52.8	+0.1
SDCO	Great Sand Dun	24.70 339	P		P	22 46 58.5	+0.8
SDCO			IAmb		IAmb	22 47 11.7	
	comp=Z,13nm,0.8s						
WUAZ	Wupatki	25.48 326	P		P	22 47 04.5	-0.2
BAUV	El Baul	26.43 100	P		P	22 47 12.9	-0.4
BAUV			IAmb		IAmb	22 47 15.0	
	comp=Z,26nm,1.3s						
SCIA	State Center	26.81 2	P		P	22 47 14.9	-1.6
ATAH	Atahualpa	27.11 143	LR		LR	22 56 06.8	
	comp=Z,77nm,19.9s,baz=298,slow=32						
PFO	Pinyon Flats O	27.25 317	LR		LR	22 59 51.3	
	comp=Z,225nm,18.8s,baz=118,slow=40						
MTPU	Mount Pierson	27.83 329	P		P	22 47 26.6	+0.5
MSU	Marysvale	28.19 329	P		P	22 47 28.7	-0.5
ECSD	EROS Data Cent	28.68 357	P		P	22 47 32.7	-0.6
ECSD			IAmb		IAmb	22 48 16.6	
	comp=Z,6.4nm,0.8s						
PCRV	Puerto La Cruz	29.39 96	LR		LR	23 01 05.8	
	comp=Z,98nm,19.6s,slow=40						
SPMN	Marine on St.	30.14 2	P		P	22 47 44.5	-1.6
PDAR	Pinedale Array	30.58 338	P		P	22 47 51.5	+1.1
	comp=Z,0.3nm,0.5s,baz=131,slow=11,SNR=3.9 comp=Z,0.3nm,0.5s						
ELK	Elko	31.42 329	P		P	22 47 58.2	+0.5
ELK	Elko	31.42 329	P		P	22 47 59.3	+1.6
	comp=Z,1.2nm,0.8s,baz=110,slow=11,SNR=6.1 comp=Z,1.2nm,0.8s						
NVAR	Mina Array Bea	31.46 322	P		P	22 47 59.4	+1.3
NVAR	Mina Array Bea	31.46 322	P		P	22 48 01.1	+2.9
	comp=Z,1.0nm,0.8s,baz=136,slow=8.4,SNR=7.0						
NVAR			LR	LR		23 02 15.3	
	comp=Z,310nm,19.6s,baz=135,slow=39 comp=Z,1.0nm,0.8s						
E38A	The Farm, Brul	31.58 4	P		P	22 47 56.7	-2.0
E38A			IAmb		IAmb	22 48 02.7	
	comp=Z,11nm,0.9s						
SNOW	Snow King Moun	31.63 337	P		P	22 47 59.6	0.0
NNA	Nana	31.95 146	LR		LR	22 58 22.4	
	comp=Z,77nm,20.5s,baz=334,slow=32						
SADO	Sadowa	32.34 20	LR		LR	23 04 14.7	
	comp=Z,104nm,18.1s,baz=110,slow=42						
EYMN	Ely	32.92 4	P		P	22 48 08.1	-2.4
EYMN			IAmb		IAmb	22 48 16.9	
	comp=Z,6.5nm,0.8s						
HLID	Hailey	33.21 333	P		P	22 48 14.1	+0.7
HLID			IAmb		IAmb	22 48 29.3	
	comp=Z,3.4nm,0.8s						
J08A	Circle Bar Ran	34.97 329	P		P	22 48 30.1	+1.5
PLID	Pearl Lake	35.11 333	P		P	22 48 30.3	+0.4
PLID			IAmb		IAmb	22 48 43.3	
	comp=Z,5.9nm,1.1s						
ULM	Lac du Bonnet	35.16 358	P		P	22 48 29.1	-0.8
	comp=Z,2.9nm,0.4s,baz=183,slow=10,SNR=4.9 comp=Z,2.9nm,0.4s						
BOAV	Boa Vista	35.65 107	P		P	22 48 34.2	-0.4
BOAV			IAmb		IAmb	22 48 36.9	
	comp=Z,4.3nm,0.9s						
YBH	Yreka Blue Hor	36.17 323	P		P	22 48 42.0	+3.1
	comp=Z,2.6nm,0.9s,baz=133,slow=8.6,SNR=3.8						
YBH			LR	LR		23 05 45.5	
	comp=Z,114nm,19.6s,baz=148,slow=40 comp=Z,2.6nm,0.9s						
F10A	Beach Ranch, E	36.34 333	P		P	22 48 41.3	+1.1
ETMB	Extrema	37.25 130	P		P	22 48 48.4	+0.2
ETMB			IAmb		IAmb	22 48 50.0	
	comp=Z,12nm,1.3s						
SAML	Samuel	39.02 126	P		P	22 49 04.0	+0.9
FFC	Flin Flon	40.06 353	P		P	22 49 10.8	-0.5
FFC			IAmb		IAmb	22 49 22.2	
	comp=Z,7.5nm,0.7s						
LPAZ	La Paz	40.48 139	P		P	22 49 16.8	+0.9
LPAZ	La Paz	40.48 139	P		P	22 49 15.8	-0.2
	comp=Z,0.7nm,0.5s,baz=296,slow=5.3,SNR=4.0						
	comp=Z,0.7nm,0.5s						
MDP	Montagnes des	42.17 99	LR		LR	23 07 42.4	
	comp=Z,69nm,21.4s,baz=329,slow=38						
SIV	San Ignacio	45.06 132	LR		LR	23 07 34.9	
	comp=Z,83nm,19.5s,baz=30,slow=35						
SCHQ	Schefferville	45.11 22	LR		LR	23 10 53.3	
	comp=Z,169nm,18.4s,baz=258,slow=39						
PTLB	Pontes e Lacer	46.13 130	P		P	22 50 01.0	+0.1
YKA	Yellowknife Ar	49.53 348	P		P	22 50 26.8	+0.2
	comp=Z,0.7nm,0.6s,baz=162,slow=12,SNR=1.8 comp=Z,0.7nm,0.6s						
DLBC	Dease Lake	50.81 337	P		P	22 50 38.0	+1.5
	comp=Z,2.0nm,0.8s,baz=153,slow=19,SNR=3.3 comp=Z,2.0nm,0.8s						
CPUP	Villa Florida	54.65 138	P		P	22 51 04.1	-1.0
	comp=Z,2.2nm,0.9s,baz=262,slow=7.0,SNR=3.2 comp=Z,2.2nm,0.9s						
BDFB	Brasilia	55.00 122	P		P	22 51 06.6	-1.4
	comp=Z,2.0nm,0.7s,baz=301,slow=16,SNR=5.4 comp=Z,2.0nm,0.7s						
M29M	Somme Creek	56.59 337	P		P	22 51 19.8	+1.0
BCAR	Beaver Creek A	58.20 337	P		P	22 51 30.9	+0.9
INK	Inuvik	58.83 344	P		P	22 51 34.5	+0.3
INK			IAmb		IAmb	22 51 47.6	
	comp=Z,9.2nm,1.3s						
PLCA	Paso Flores	59.71 159	P		P	22 51 40.8	0.0
	comp=Z,1.4nm,0.8s,baz=350,slow=8.9,SNR=3.1 comp=Z,1.4nm,0.8s						
ILAR	Eielson Array	61.01 337	P		P	22 51 49.8	+0.5
ILAR	Eielson Array	61.01 337	P		P	22 51 50.1	+0.8
	comp=Z,0.6nm,0.6s,baz=125,slow=5.3,SNR=12 comp=Z,0.6nm,0.6s						
ANGG	Ammassalik, Gr	62.98 23	P		P	22 52 01.4	-1.0
F21K	Alatna River	64.51 338	P		P	22 52 13.9	+1.3
SUMG	Summit	65.88 16	P		P	22 52 21.0	-0.8
PMOZ	Porto Moniz, M	71.36 60	P		P	22 52 56.6	+0.2
JMIC	Jan Mayen	74.57 20	LR		LR	23 27 03.1	
	comp=Z,53nm,19.6s,baz=286,slow=37						
EKA	Eskdalemuir Ar	78.48 36	P		P	22 53 37.0	0.0
	comp=Z,7.9nm,0.9s,baz=275,slow=5.3,SNR=10 comp=Z,7.9nm,0.9s						
SPITS	Spitsbergen Ar	79.55 11	P		P	22 53 43.4	+0.9
	comp=Z,13nm,0.9s,baz=205,slow=3.7,SNR=5.1 comp=Z,13nm,0.9s						
ESDC	Sonseca Array	80.88 51	P		P	22 53 48.1	-2.3
	comp=Z,1.3nm,0.9s,baz=289,slow=5.8,SNR=9.4						
ESDC			LR		LR	23 24 41.6	
	comp=Z,71nm,20.2s,baz=232,slow=32 comp=Z,1.3nm,0.9s						
NB2	NORSAR Subarra	84.34 28	P		P	22 54 08.9	+0.9
	comp=Z,1.3nm,0.7s,baz=289,slow=5.3						
NOA	NORSAR Array B	84.34 28	P		P	22 54 08.8	+0.8
	comp=Z,1.9nm,0.8s,baz=291,slow=5.2,SNR=8.0						
NOA			LR		LR	23 31 43.2	
	comp=Z,19nm,18.2s,baz=5.0,slow=36 comp=Z,1.9nm,0.8s						
ARCES	ARCESS Array B	85.88 18	P		P	22 54 15.1	-0.4
ARCES	ARCESS Array B	85.88 18	P		P	22 54 14.9	-0.6
	comp=Z,2.3nm,0.7s,baz=328,slow=6.2,SNR=10 comp=Z,2.3nm,0.7s						
SEY	Seymchan	86.88 335	LR		LR	23 38 36.1	
	comp=Z,97nm,20.4s,baz=103,slow=39						
DBIC	Dimbokro	87.83 84	P		P	22 54 25.5	-0.5
DBIC	Dimbokro	87.83 84	P		P	22 54 25.9	-0.1
	comp=Z,7.2nm,0.9s,baz=218,slow=0.9,SNR=4.6 comp=Z,7.2nm,0.9s						
GERES	GERESS Array B	90.27 39	LR		LR	23 32 23.7	
	comp=Z,38nm,20.8s,baz=306,slow=34						
TORD	Torodi Ar. Bea	92.36 76	P		P	22 54 45.9	-1.3
	comp=Z,0.5nm,0.6s,baz=290,slow=6.6,SNR=5.2 comp=Z,0.5nm,0.6s						
WRA	Warramunga Arr	133.41 257	PKP		PKiKP	23 00 54.1	-0.1
	comp=Z,0.4nm,0.9s,baz=90,slow=2.5,SNR=2.4						
ASAR	Alice Springs	133.83 252	PKP		PKPdf	23 00 54.2	+0.5
	comp=Z,0.1nm,0.3s,baz=100,slow=2.8,SNR=1.9						
CMAR	Chiang Mai Arr	144.25 338	PKP		PKPbc	23 01 11.6	+0.6
	comp=Z,0.8nm,0.7s,baz=352,slow=2.7,SNR=7.9						

LDG ***25*** *22:45:56.3±0.7, 43°.72N×17°.82E, h5km, Ml4.5/23, Error ellipse: s-maj=13.6km s-min=9.6km az=127.0*
TIR ***25*** *22:45:58.7, 43°.49N×17°.41E, h10km±4km, Md4.2, Ml4.8*
IDC ***25*** *22:45:58.9±0.6, 43°.73N×17°.60E, h0km, mb4.0/18, mbtmp4.0/34, ML3.8/11, MS3.2/1, Error ellipse: s-maj=9.9km s-min=7.9km az=31.0*
MOS ***25*** *22:45:58.7±0.9, 43°.73N×17°.53E, h10km, mb4.8/5, Error ellipse: s-maj=5.2km s-min=3.4km az=89.8*
BGR ***25*** *22:45:59.7±0.5, 43°.48N×17°.86E, h10km, ML4.5, Error ellipse: s-maj=7.8km s-min=6.7km az=136.0*
PDG ***25*** *22:45:59.6±0.6, 43°.73N×17°.53E, h8km, MD4.3/10, ML4.2/12, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
RHSSO ***25*** *22:46:00.5±0.2, 43°.75N×17°.57E, h4km±1km, ML4.3/20*
BEO ***25*** *22:46:00.6±0.3, 43°.77N×17°.62E, h4km±2km, ML4.1/23*
NEIC ***25*** *22:46:01.1±1.6, 43°.73N±0°.05×17°.55E±0°.06, h10km±1km, mb4.4/18, Mwr4.1/40, ML4.2/2(BUC), Error ellipse: s-maj=9.0km s-min=7.5km az=175.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr-0.76; Mθθ-0.44; Mφφ 1.20; Mrθ-0.96; Mθφ 0.88; Mφr 0.45; Fault plane solution: M0 1.73000×10^15^ NP1:φs167.72000°, δ61.27000°, λ-144.78000°. NP2

A051A Mrakovica 1.37 340 ⇓iPg Pn 22 46 25.1 -0.4
A051A eSg Sb 22 46 42.7 -1.0
A052A Srbac 1.38 359 ePg **Pb 22 46 25.5 -0.5**
A052A eSg Sb 22 46 43.5 -0.3
PLE Pljevlja 1.39 106 ⇑iPg Pg 22 46 26.2 -0.3
PLE i Sg Sg 22 46 47.9 +3.4
PRIJ Prijedor 1.39 334 ⇑iPg Pb 22 46 25.7 -0.5
PRIJ eSg Sn 22 46 44.0 -0.3
ZIRJ Zirje 1.39 268 i Pn **Pn 22 46 25.1 -0.6**
ZIRJ Sn Sg 22 46 47.0 +2.2
NKME Niksic 1.40 133 ⇓iPg Pn 22 46 25.8 0.0
NKME i Sg Sg 22 46 48.1 +3.3
HCY Herceg Novi 1.45 152 ⇑iPg Pn 22 46 26.3 -0.1
HCY eSg Sg 22 46 47.9 +1.5
HCY Herceg Novi 1.45 152 ⇓iPg Pb 22 46 26.7 -0.4
HCY i Sg Sg 22 46 49.2 +2.8
UDBI Udbina 1.52 302 ePn **Pn 22 46 27.5 -0.1**
UDBI Sn Sg 22 46 52.2 +3.3
CEME Cevo 1.54 139 ⇑iPg Pb 22 46 28.2 -0.5
CEME i Sg Sg 22 46 51.4 +2.0
TEKS Tekeris 1.64 59 ePg **Pn 22 46 29.1 0.0**
TEKS eSg Sn 22 46 50.2 -0.2
TEKS Tekeris 1.64 59 ePn **Pn 22 46 29.1 0.0**
TEKS eSn Sb 22 46 50.8 -0.5
BUM Brajici-Budva 1.73 145 ⇑iPn Pb 22 46 32.1 +0.2
BUM i Sn Sg 22 46 56.1 +0.7
PDG Podgorica 1.79 136 ⇓iP Pn 22 46 31.8 +0.6
PDG Podgorica 1.79 136 Pn **Pn 22 46 31.6 +0.5**
PDG Podgorica 1.79 136 ePn **Pb 22 46 32.5 -0.5**
PDG eSn Sg 22 46 56.6 -0.9
PDG Podgorica 1.79 136 ePn **Pb 22 46 32.3 -0.7**
PDG eSn Sb 22 46 56.0 +0.4
PDG Podgorica 1.79 136 ⇑iPn Pb 22 46 32.3 -0.7
PDG i Sn Sg 22 46 57.7 +0.2
DIVS Divibare 1.80 77 Pn **Pb 22 46 32.1 -1.1**
DIVS Sn Sb 22 46 55.0 -0.8
DIVS Divibare 1.80 77 ePn **Pb 22 46 32.2 -1.0**
DIVS eSn Sn 22 46 54.6 +0.2
DIVS Divibare 1.80 77 ⇓iPn Pb 22 46 32.1 -1.1
DIVS eSn Sb 22 46 55.3 -0.5
PLIT Plitvice 1.81 310 ePn **Pb 22 46 32.8 -0.5**
PLIT Sn Sg 22 46 57.3 -0.8
SJES Sjenica 1.81 104 ePg **Pb 22 46 33.1 -0.4**
SJES eSg Sg 22 46 57.4 -0.9
SJES Sjenica 1.81 104 ⇑iPn Pb 22 46 32.9 -0.6
SJES eSn Sb 22 46 55.9 -0.5
DUGI Dugi Otok 1.83 279 ePn **Pb 22 46 33.4 -0.3**
DUGI Sg Sg 22 47 00.5 +1.6
VIRC Vir 1.90 288 i Pn **Pb 22 46 34.9 +0.1**
VIRC Sg Sg 22 47 02.9 +2.0
IVA Berane 1.90 116 ⇓iPn Pb 22 46 34.4 -0.6
IVA i Sn Sg 22 47 01.6 +0.5
DRME Dracevica, Mon 1.94 142 ePn **Pb 22 46 35.1 -0.5**
DRME eSn Sb 22 47 00.1 +0.1
DRME Dracevica, Mon 1.94 142 ⇑iPn Pb 22 46 36.0 +0.4
DRME i Sn Sg 22 47 01.2 -1.2
MOSL Moslavina 1.98 343 ePn **Pn 22 46 34.6 +0.8**
MOSL Sn Sn 22 46 59.4 +0.6
PVY Plav 2.08 122 ⇑iPn Pb 22 46 38.5 +0.4
PVY i Sn Sb 22 47 05.3 +1.1
NVLJ Novalja 2.11 294 ePn **Pb 22 46 37.7 -0.7**
NVLJ Sg Sg 22 47 08.4 +0.6
TRUS Trudelj 2.11 75 ePn **Pn 22 46 36.4 +0.8**
TRUS eSn Sn 22 47 02.7 +0.6
ULC Ulcinj 2.15 144 ⇑iPn Pb 22 46 38.8 -0.4
ULC i Sn Sb 22 47 06.5 +0.5
FRGS Fruska Gora 2.16 48 ⇓iP Pn 22 46 36.2 0.0
FRGS Fruska Gora 2.16 48 ePn **Pn 22 46 35.9 -0.3**
FRGS eSn Sn 22 47 03.2 +0.1
FRGS Fruska Gora 2.16 48 ⇓iPn Pn 22 46 36.1 -0.1
FRGS eSn Sn 22 47 03.3 +0.1
RABC Rab 2.25 298 ePn **Pb 22 46 39.8 -1.0**
RABC Sg Sg 22 47 12.3 +0.2
BCI Bajram Curri 2.28 126 P **Pg 22 46 42.6 -1.1**
baz=118
BCI S **Sg 22 47 16.9 +3.6**
baz=118
BCI AMP
comp=E,39nm,0.8s,baz=118
GRUS Gruza 2.29 85 ePn **Pn 22 46 39.2 +1.2**
GRUS eSn Sn 22 47 07.2 +0.8
BEO Beograd 2.36 62 eSn **Sn 22 47 06.4 -1.6**
SGRT San Giovanni R 2.38 215 Pn 22 46 39.2 -0.1
SGRT San Giovanni R 2.38 215 P **Pn 22 46 39.4 +0.1**
baz=216
SGRT S **Sb 22 47 12.6 -0.1**
baz=216
ZAG Zagreb 2.38 332 ePn **Pn 22 46 40.5 +1.2**
ZAG Sn Sb 22 47 11.0 -1.7
OZLJ Ozalj 2.41 322 ePn **Pn 22 46 41.3 +1.6**
OZLJ Sn Sb 22 47 11.9 -1.5
BOJS Bojanci 2.43 318 ⇑iPn Pn 22 46 40.6 +0.6
BOJS eSn Sn 22 47 10.5 +0.7
BOJS Bojanci 2.43 318 i Pn **Pn 22 46 40.5 +0.6**
BOJS eSn Sn 22 47 10.3 +0.5
BOJS IAML 22 47 18.6
comp=Z,2µm,0.9s
PTJ Puntijarka 2.46 333 ePn **Pn 22 46 41.3 +0.8**
PTJ Sn Sn 22 47 12.1 +1.3
KALN Kalnik 2.53 342 i Pn **Pn 22 46 41.9 +0.5**
KALN Sn Sn 22 47 13.4 +0.9
MORH Mrgy, Hungar 2.61 17 ⇓iP Pn 22 46 42.5 +0.1
MORH Mrgy, Hungar 2.61 17 ePn **Pn 22 46 42.3 -0.1**
MORH eSn Sn 22 47 15.3 +1.1
SELS Selova 2.64 100 ePn **Pn 22 46 43.7 +0.9**
SELS eSn Sn 22 47 14.9 -0.1
LOBO Lobor 2.65 337 ePn **Pn 22 46 44.2 +1.2**
LOBO Sn Sn 22 47 16.4 +1.1
SVIS Svilajnac 2.69 77 ePn **Pn 22 46 44.9 +1.4**
SVIS eSn Sn 22 47 16.5 +0.2
RIY Rijeka 2.72 307 i Pn **Pb 22 46 46.8 -2.1**
RIY Sn Sb 22 47 20.0 -2.4
SMRN Sveta Marina 2.77 299 ePn **Pn 22 46 46.5 +1.8**
SMRN Sn Sb 22 47 22.7 -1.1
BEHE Becsehely 2.80 349 ePn **Pn 22 46 45.9 +0.8**
BEHE eSn Sn 22 47 19.2 +0.1
TIR Tirane 2.92 144 ⇑P Pb 22 46 49.4 -2.9
TIR Tirane 2.92 144 P **Pb 22 46 49.5 -2.9**
TIR S **Sn 22 47 24.1 +2.1**
comp=Z,780nm,1.1s
TIR Tirane 2.92 144 Pn **Pn 22 46 47.9 +1.2**
TIR Tirane 2.92 144 P **Pb 22 46 49.4 -2.9**
baz=138
TIR S **Sb 22 47 28.5 +0.4**
baz=138
TIR AMP
comp=E,3.0nm,1.0s,baz=138
TIR Tirane 2.92 144 ePn **Pn 22 46 49.0 +2.3**
TIR eSn Sn 22 47 24.2 +2.2
TIR Tirane 2.92 144 P **Pn 22 46 47.9 +1.2**
NOCI Noci 2.96 187 P **Pn 22 46 47.5 +0.3**
baz=186
NOCI S **Sn 22 47 23.1 +0.2**
baz=186
BRJN Brijuni 2.98 295 ePn **Pn 22 46 49.6 +2.1**
BRJN Sn Sn 22 47 25.2 +1.8
BOVS Bovan 3.01 90 ⇑P Pn 22 46 48.4 +0.6
BOVS Bovan 3.01 90 Pn 22 46 48.4 +0.6
BOVS Bovan 3.01 90 ePn **Pn 22 46 48.5 +0.6**
BOVS eSn Sn 22 47 23.8 -0.3
CEY Cerknica 3.01 313 ePn **Pn 22 46 48.6 +0.6**
CEY eSn Sn 22 47 25.1 +0.9
KUBS Kucevo 3.04 75 ePn **Pn 22 46 48.0 -0.4**
KUBS eSn Sn 22 47 24.2 -0.8
GUMA Gualdo di Mace 3.15 259 Pn 22 46 50.6 +0.7
MDVR Moldovita 3.17 69 ⇓iP Pn 22 46 50.6 +0.5
BARS Barje 3.24 105 ePn **Pn 22 46 52.5 +1.5**
BARS eSn Sn 22 47 29.0 -0.8
CAMP Campotosto 3.26 250 Pn 22 46 52.6 +1.0
FDMO Fiordimonte 3.33 260 Pn 22 46 53.0 +0.6
AQU L'Aquila 3.34 247 Pn 22 46 53.3 +0.8
AQU L'Aquila 3.34 247 P **Pn 22 46 53.3 +0.8**
SKO Skopje 3.34 120 i Pn **Pn 22 46 55.4 +2.8**
SKO i Sn **Sb 22 47 41.7 +1.4**
TRI Trieste 3.36 308 Pn 22 46 53.5 +0.8
TRI Trieste 3.36 308 P **Pn 22 46 53.5 +0.8**
NRCA Norcia 3.37 256 Pn 22 46 53.6 +0.7
ZAGS Zajecar 3.38 87 ePn **Pn 22 46 53.7 +0.6**
ZAGS eSn Sn 22 47 32.3 -1.1
SOKA Soboth 3.45 330 i Pn **Pn 22 46 54.7 +0.6**
comp=E,30nm,0.2s,SNR=51
SOKA eSn **Sn 22 47 34.3 -0.9**
comp=E,242nm,0.7s
BZS Buzias 3.46 55 ⇓iP Pn 22 46 53.8 -0.3
BZS Buzias 3.46 55 P **Pn 22 46 53.8 -0.3**
PAOL Paolisi 3.49 221 Pn 22 46 55.5 +1.0
OBKA Obir 3.51 324 ePn **Pn 22 46 56.3 +1.5**
comp=E,3.0nm,0.2s
OBKA eSn **Sb 22 47 48.1 +2.9**
comp=E,881nm,0.7s
OBKA Obir 3.51 324 ePn **Pn 22 46 55.5 +0.6**
OBKA eSn **Sn 22 47 35.9 -0.7**
OBKA Obir 3.51 324 ePn **Pn 22 46 56.1 +1.2**
OHR Ohrid 3.54 136 i Pn **Pb 22 46 59.0 -3.9**
OHR i Sn **Sb 22 47 45.1 -0.9**
OHR eLg Lg 22 48 00.1
comp=E,2µm,0.9s
OHR eLg Lg 22 48 02.5
comp=N,3µm,1.2s
VLO Vlora 3.56 155 P **Pn 22 46 56.8 +1.4**
VLO S **Sn 22 47 38.9 +1.3**
comp=N,912nm,0.5s
VLO Vlora 3.56 155 Pn 22 46 57.0 +1.6
VLO Vlora 3.56 155 P **Pn 22 46 57.0 +1.6**
SABO M.te Sabotino 3.61 310 Pn 22 46 57.6 +1.4
HERR Herculane 3.67 70 ⇓iP Pn 22 46 57.9 +0.9
DJES Djerdap 3.69 73 ⇓iP Pn 22 46 58.7 +1.4
DJES Djerdap 3.69 73 Pn **Pn 22 46 58.3 +1.1**
MURB Monte Urbino 3.69 265 Pn **Pn 22 46 58.4 +0.9**
SCTE Santa Cesarea 3.71 169 Pn 22 46 57.7 +0.1
ZAPS Zavoj 3.72 95 ePn **Pn 22 46 58.7 +1.0**
ZAPS eSn **Sn 22 47 41.7 0.0**
RMGR Halanga-Turnu 3.81 74 ⇑P Pn 22 47 00.6 +1.8
RMGR Halanga-Turnu 3.81 74 Pn 22 47 00.6 +1.8
ARSA Arzberg 3.81 339 ePn **Pn 22 46 59.4 +0.6**
comp=N,172nm,0.4s,SNR=185
ARSA i Sn **Sn 22 47 42.4 -1.5**
comp=N,101nm,0.6s
ARSA Arzberg 3.81 339 ePn **Pn 22 46 59.5 +0.6**
ARSA eSn **Sn 22 47 44.0 +0.1**
ARSA Arzberg 3.81 339 ePn **Pn 22 46 59.5 +0.6**
ARSA eSn **Sn 22 47 43.7 -0.2**
CESX Cesi 3.81 255 Pn 22 47 00.2 +1.2
SURR Surduc 3.83 56 ⇓iP Pn 22 46 58.7 -0.5
SURR Surduc 3.83 56 Pn 22 46 58.7 -0.5
SIRR Siria 3.86 47 ⇓iP Pn 22 46 59.3 -0.4
PUNG Punghina 3.92 80 ⇑iP Pn 22 47 02.0 +1.7
KBN Korca 3.92 141 P **Pn 22 47 04.0 +3.5**
KBN S **Sn 22 47 48.6 +2.0**
comp=N,450nm,0.9s
KBN Korca 3.92 141 Pn 22 47 02.5 +2.0
KBN Korca 3.92 141 P **Pn 22 47 03.8 +3.4**
baz=137
KBN S **Sb 22 47 52.6 -4.2**
baz=137
KBN AMP
comp=N,6.1nm,0.9s,baz=137
KBN Korca 3.92 141 P **Pn 22 47 02.5 +2.0**
PRED Cave del Predi 3.93 315 Pn 22 47 01.4 +0.9
CUC Castrocucco 3.95 200 Pn 22 47 01.2 +0.4
STIP Stip 3.96 119 i Pn **Pn 22 47 04.1 +3.1**
STIP i Sn **Sb 22 47 56.1 -2.1**
MYKA Terra Mystica 4.02 318 i Pn **Pn 22 47 03.0 +1.2**
comp=N,7.2nm,0.3s
MYKA eSn **Sb 22 48 00.5 +0.8**
comp=N,148nm,0.8s
RONA Rosalia, Austr 4.08 348 i Pn **Pn 22 47 03.1 +0.5**
comp=N,45nm,0.5s,SNR=49
RONA eSn **Sn 22 47 49.1 -1.4**
comp=N,124nm,0.6s
FNA Florina 4.08 135 P **Pn 22 47 06.0 +3.4**
FNA S **Sn 22 47 55.6 +5.0**
comp=N,812nm,0.9s
FNA Florina 4.08 135 Pn 22 47 05.6 +2.9
FNA Florina 4.08 135 P **Pn 22 47 06.1 +3.4**
baz=131
FNA S **Sb 22 47 56.3 -5.2**
baz=131
FNA Florina 4.08 135 P **Pn 22 47 05.6 +2.9**
GZR Gura Zlata 4.08 64 ⇓iP Pn 22 47 03.2 +0.5
SRE Strehaia 4.17 75 ⇑iP Pn 22 47 05.9 +2.1
SRE Strehaia 4.17 75 P **Pn 22 47 05.9 +2.1**
NEST Nestorio 4.20 141 P **Pn 22 47 07.0 +2.6**
LSK Leskovik 4.23 147 P **Pn 22 47 06.5 +1.7**
LSK S **Sn 22 47 56.0 +1.7**
comp=N,648nm,0.6s
LSK Leskovik 4.23 147 P **Pn 22 47 06.7 +1.9**
baz=143
LSK AMP
comp=N,3.4nm,1.0s,baz=143
SRN Sarande 4.25 154 P **Pn 22 47 06.7 +1.7**
SRN S **Sn 22 47 55.5 +0.8**
comp=N,258nm,0.5s
SRN Sarande 4.25 154 P **Pn 22 47 06.3 +1.4**
baz=150
SRN AMP
comp=N,0.9nm,0.8s,baz=150
STAL STALIGIAL 4.28 308 Pn 22 47 06.6 +1.2
VTS Vitosha 4.29 103 ⇓iP Pn 22 47 07.1 +1.4
VTS Vitosha 4.29 103 i P **Pn 22 47 07.2 +1.4**
VTS Vitosha 4.29 103 P **Pn 22 47 07.1 +1.4**
CLUD Cludinico 4.30 311 Pn **Pn 22 47 06.7 +1.1**
KEK Kerkira 4.34 157 P **Pn 22 47 06.9 +0.7**
KEK S **Sn 22 47 57.6 +0.6**
comp=N,290nm,0.6s
KEK Kerkira 4.34 157 Pn 22 47 06.7 +0.4
CONA Conrad Observa 4.37 345 ePn **Pn 22 47 06.9 +0.2**
comp=N,26nm,0.4s,SNR=36
CONA i Sn **Sn 22 47 57.5 -0.4**
comp=N,112nm,0.5s
DEV Deva 4.37 59 ⇑iP Pn 22 47 07.0 +0.3
DEV Deva 4.37 59 P **Pn 22 47 06.9 +0.3**
PEHC Pehcevo 4.38 114 i Pn **Pn 22 47 09.5 +2.6**
PEHC i Sn **Sn 22 47 59.8 +1.5**
VAY Valandovo 4.41 121 ⇓iPn Pn 22 47 10.8 +3.6
VAY i Sn **Sn 22 48 03.4 +4.7**
VAY eLg Lg 22 48 30.8
comp=E,340nm,1.1s
VAY eLg Lg 22 48 36.8
comp=N,502nm,1.4s
KBA Koelnbreinsper 4.48 320 ePn **Pn 22 47 09.4 +1.1**
comp=N,13nm,0.3s
KBA eSn **Sn 22 48 01.8 +1.1**
comp=N,52nm,0.6s
KBA Koelnbreinsper 4.48 320 ePn **Pn 22 47 09.4 +1.1**
ZST Bratislava 4.49 356 ePN **Pn 22 47 09.0 +0.8**
ZST eSN **Sn 22 47 58.3 -2.2**
ZST Bratislava 4.49 356 eP **Pn 22 47 09.0 +0.8**
ZST e 22 47 58.3
PSZ Piszkesteto 4.50 20 ⇑iP Pn 22 47 08.5 0.0
PSZ Piszkesteto 4.50 20 Pn **Pn 22 47 08.5 0.0**
PSZ Piszkesteto 4.50 20 Pn 22 47 08.5 0.0
PSZ Piszkesteto 4.50 20 P **Pn 22 47 08.5 0.0**
MPEP Malo Peshtene 4.51 93 i P **Pn 22 47 10.4 +1.9**
KKB Krupnik 4.51 113 i P **Pn 22 47 11.0 +2.5**
TEOL Teolo 4.52 293 Pn 22 47 09.2 +0.6
OSSC Osservatorio P 4.59 270 Pn 22 47 10.7 +1.1
MODS Modra-Piesok 4.66 358 ePN **Pn 22 47 11.1 +0.5**
MODS eSN **Sn 22 48 02.1 -2.7**
MODS Modra-Piesok 4.66 358 eP **Pn 22 47 11.1 +0.5**
MODS e 22 48 02.1
IGT Igoumenitsa 4.67 153 P **Pn 22 47 11.9 +1.1**
IGT Igoumenitsa 4.67 153 P **Pn 22 47 11.9 +1.1**
baz=149
ABTA Abfaltersbach 4.68 312 i Pn **Pn 22 47 12.6 +1.7**
comp=N,8.3nm,0.2s,SNR=18
MOA Molln 4.73 332 i Pn **Pn 22 47 13.3 +1.7**
comp=N,28nm,0.3s,SNR=68
MOA i Sn **Sn 22 48 07.3 +0.8**
comp=N,204nm,0.6s
MOA Molln 4.73 332 ePn **Pn 22 47 13.2 +1.7**
MOA Molln 4.73 332 ePn **Pn 22 47 13.4 +1.9**
MOA eSn **Sn 22 48 07.1 +0.5**
LOT Lotru 4.76 67 ⇑iP Pn 22 47 13.8 +1.7
ZCCA Zocca 4.79 280 Pn 22 47 14.2 +1.8
SMOL Smolenice 4.79 359 eP **Pn 22 47 13.1 +0.7**
SMOL e 22 48 07.8
CTI Castel Tesino 4.80 301 Pn 22 47 13.7 +1.1
CTI Castel Tesino 4.80 301 P **Pn 22 47 13.7 +1.1**
BIOA Bad Ischl, Aus 4.83 327 ePn **Pn 22 47 14.4 +1.5**
comp=N,10nm,0.3s,SNR=20
BIOA eSn **Sn 22 48 09.8 +0.8**
comp=N,52nm,0.6s
VYHS Vyhne 4.85 10 ePN **Pn 22 47 13.5 +0.2**
VYHS eSN **Sn 22 48 09.4 -0.2**
VYHS Vyhne 4.85 10 eP **Pn 22 47 13.5 +0.2**
VYHS e 22 48 09.4
MARR Marisel-Cluj 4.91 51 ⇑iP Pn 22 47 14.3 +0.1
MARR Marisel-Cluj 4.91 51 Pn 22 47 14.3 +0.1
CASP Castiglione de 4.98 262 Pn 22 47 15.4 +0.4
PGB Panagyurishte 4.99 102 eP **Pn 22 47 16.9 +1.7**
LESA Schwarzleotal 5.05 319 ePn **Pn 22 47 19.1 +3.1**
comp=N,42nm,0.4s
LESA i Sn **Sn 22 48 19.1 +4.6**
comp=N,76nm,0.6s
MMB Musomishta 5.06 113 i P **Pg 22 47 32.6 -4.2**
JAVC Velka Javorina 5.14 1 ePN **Pn 22 47 17.7 +0.5**
JAVC Velka Javorina 5.14 1 eP **Pn 22 47 18.4 +1.2**
JAVC eSn **Sn 22 48 17.8 +1.1**
KECS Kecovo 5.18 22 ePN **Pn 22 47 18.3 +0.6**
KECS Kecovo 5.18 22 eP **Pn 22 47 18.3 +0.6**
CJR Cluj-Napoca 5.21 53 ⇑iP Pn 22 47 18.6 +0.4
CJR Cluj-Napoca 5.21 53 P **Pn 22 47 18.5 +0.4**
RJOB Jochberg 5.22 322 ePn **Pn 22 47 20.3 +2.0**
RJOB eSn **Sn 22 48 20.6 +1.8**
PRMA PARMA 5.31 284 Pn 22 47 20.9 +1.3
ARR Arges 5.32 70 ⇑iP Pn 22 47 21.9 +2.2
SALO Salr 5.37 293 Pn **Pn 22 47 20.7 +0.4**
KRUC Moravsky 5.40 352 ePN **Pn 22 47 20.8 0.0**
KRUC eSN **Sn 22 48 19.8 -3.3**
KRUC Moravsky 5.40 352 ePn **Pn 22 47 21.2 +0.4**
KRUC eSn **Sn 22 48 22.3 -0.8**
WTTA Wattenberg 5.47 312 i Pn **Pn 22 47 23.8 +2.0**
comp=N,22nm,0.2s,SNR=47
WTTA eSn **Sn 22 48 26.4 +1.5**
comp=N,214nm,0.7s
WTTA Wattenberg 5.47 312 ePn **Pn 22 47 23.8 +2.0**
WATA Walderalm 5.54 313 ePn **Pn 22 47 25.2 +2.3**
comp=N,33nm,0.2s,SNR=52
WATA eSn **Sn 22 48 31.1 +4.3**
comp=N,86nm,0.9s
CKRC Cesky Krumlov 5.57 337 ePN **Pn 22 47 24.4 +1.2**
CKRC eSN **Sn 22 48 25.5 -1.9**
CKRC AMS AMS 22 49 30.0
comp=N,1µm,6.2s
CKRC Cesky Krumlov 5.57 337 eP **Pn 22 47 24.4 +1.2**
CKRC e 22 48 25.5
CKRC MLR MLR
comp=Z,1µm,6.2s
CKRC Cesky Krumlov 5.57 337 ePn **Pn 22 47 24.8 +1.6**
CKRC eSn **Sn 22 48 25.7 -1.7**
LANS Liptovska Anna 5.59 13 ePN **Pn 22 47 24.7 +1.3**
LANS Liptovska Anna 5.59 13 eP **Pn 22 47 24.7 +1.3**
TRPA Tarpa 5.61 36 ⇓iP Pn 22 47 24.1 +0.5
VOIR 5.62 70 ⇑iP Pn 22 47 26.3 +2.5
VOIR 5.62 70 P **Pn 22 47 26.3 +2.5**
VRAC Vranov 5.63 354 ⇓iP Pn 22 47 25.0 +1.0
VRAC Vranov 5.63 354 ePN **Pn 22 47 24.2 +0.3**
VRAC eSN **Sn 22 48 25.3 -3.4**
VRAC Vranov 5.63 354 Pn **Pn 22 47 24.7 +0.8**
comp=Z,1.1nm,0.3s,baz=186,slow=12,SNR=12
VRAC Sn **Sn 22 48 25.7 -3.0**
comp=Z,4.8nm,0.3s,baz=128,slow=21,SNR=7.2
comp=Z,6.3nm,0.6s
VRAC Vranov 5.63 354 ePn **Pn 22 47 24.9 +1.0**
VRAC eSn **Sn 22 48 25.5 -3.2**
MAUC Maruska 5.65 2 ePN **Pn 22 47 25.6 +1.4**
MAUC eSN **Sn 22 48 27.3 -1.9**
RZN Rozhen 5.66 109 i P **Pn 22 47 26.5 +1.9**
TGMR Targu Mures 5.67 58 ⇑iP Pn 22 47 25.1 +0.7
TGMR Targu Mures 5.67 58 Pn 22 47 25.1 +0.7
SQTA Sankt Quirin 5.67 310 i Pn **Pn 22 47 26.6 +2.0**
comp=Z,19nm,0.2s,SNR=37
SQTA eSn **Sn 22 48 33.9 +3.9**
comp=Z,75nm,0.4s
TREC Trest 5.75 346 ePN **Pn 22 47 27.1 +1.4**
TREC eSN **Sn 22 48 29.5 -2.3**
TREC Trest 5.75 346 eP **Pn 22 47 27.1 +1.4**
TREC e 22 48 29.5
GEC2 GERESS Array S 5.78 334 Pn 22 47 27.2 +1.1
GEC2 GERESS Array S 5.78 334 ePn **Pn 22 47 27.3 +1.2**
GEC2 eSn **Sn 22 48 30.8 -1.8**
GERES GERESS Array B 5.78 334 Pn 22 47 27.1 +1.0
GERES GERESS Array B 5.78 334 Pn **Pn 22 47 27.2 +1.1**
comp=Z,3.0nm,0.3s,baz=153,slow=15,SNR=69
GERES Sn **Sn 22 48 31.6 -1.0**
comp=Z,9.1nm,0.3s,baz=150,slow=24,SNR=16
comp=Z,15nm,0.6s
MOTA Moosalm 5.80 311 i Pn **Pn 22 47 28.7 +2.2**
comp=Z,2.9nm,0.2s,SNR=50
MOTA eSn **Sn 22 48 37.0 +3.8**
comp=Z,123nm,0.7s
MSSA Maissana 5.83 279 Pn 22 47 27.6 +0.8
FETA Feichten 5.83 307 i Pn **Pn 22 47 29.1 +2.2**
comp=Z,49nm,0.6s,SNR=34
FETA i Sn **Sn 22 48 36.8 +2.8**
comp=Z,82nm,0.7s
CRVS Cervenica-Dubn 5.84 26 ePN **Pn 22 47 28.5 +1.7**
CRVS Cervenica-Dubn 5.84 26 eP **Pn 22 47 28.5 +1.7**
PART Garmisch-Parte 5.89 312 ePn **Pn 22 47 30.9 +3.4**
AGG Agios Georgios 5.91 141 Pn 22 47 29.0 +1.2
AGG Agios Georgios 5.91 141 P **Pn 22 47 29.0 +1.2**
FUORN Ofenpass-Fuorn 5.92 302 Pn 22 47 29.6 +1.5
NIE Niedzica 6.00 17 ePn **Pn 22 47 31.3 +2.2**
NIE Sn **Sn 22 48 41.2 +3.3**
NIE Niedzica 6.00 17 ePn **Pn 22 47 31.2 +2.2**
MORC Moravsky Berou 6.06 360 ⇓iP Pn 22 47 30.2 +0.3
MORC Moravsky Berou 6.06 360 Pn **Pn 22 47 29.5 -0.3**
MORC Moravsky Berou 6.06 360 ePN **Pn 22 47 29.8 0.0**
MORC eSN **Sn 22 48 37.4 -1.9**
MORC Moravsky Berou 6.06 360 P **Pn 22 47 29.5 -0.3**
MORC Moravsky Berou 6.06 360 ePn **Pn 22 47 30.3 +0.5**
MORC eSn **Sn 22 48 37.6 -1.8**
KHC Kasperske Hory 6.07 334 Pn **Pn 22 47 31.2 +1.3**
KHC Kasperske Hory 6.07 334 ePN **Pn 22 47 31.3 +1.3**
KHC eSN **Sn 22 48 36.3 -3.3**
KHC AMS AMS 22 49 50.0
comp=Z,900nm,6.8s
KHC Kasperske Hory 6.07 334 eP **Pn 22 47 31.3 +1.3**
KHC e 22 48 36.3
KHC MLR MLR
comp=Z,900nm,6.8s
KHC Kasperske Hory 6.07 334 ePn **Pn 22 47 31.4 +1.4**
KHC eSn **Sn 22 48 35.8 -3.8**
RETA Reutte 6.08 311 i Pn **Pn 22 47 32.4 +2.3**
comp=Z,11nm,0.2s,SNR=11
RETA i Sn **Sn 22 48 42.7 +2.9**
comp=Z,40nm,0.5s
OKC Ostrava-Krasne 6.13 4 ePN **Pn 22 47 32.1 +1.4**
OKC Ostrava-Krasne 6.13 4 eP **Pn 22 47 32.1 +1.4**
OKC Ostrava-Krasne 6.13 4 ePn **Pn 22 47 32.2 +1.4**
KOLS Kolonicke sedl 6.15 30 ePN **Pn 22 47 33.6 +2.6**
KOLS ePG Pg 22 48 07.6 +10
KOLS eSN **Sn 22 48 42.6 +1.1**
KOLS Kolonicke sedl 6.15 30 eP **Pn 22 47 33.6 +2.6**
KOLS e 22 48 42.6
ZVC Zvikov 6.17 339 ePN **Pn 22 47 32.8 +1.5**
ZVC eSN **Sn 22 48 39.9 -2.2**
DAVOX Davos/Dischmat 6.22 302 Pn **Pn 22 47 33.8 +1.5**
comp=Z,6.6nm,0.3s,baz=127,slow=11,SNR=121
DAVOX Sn **Sn 22 48 46.0 +2.4**
comp=Z,4.1nm,0.3s,baz=350,slow=23,SNR=9.1
DAVOX Lg Lg 22 49 18.2
comp=Z,2.4nm,0.3s,baz=190,slow=23,SNR=1.2
comp=Z,29nm,0.4s
STHS Stebnicka Huta 6.24 23 ePN **Pn 22 47 33.4 +1.2**
STHS Stebnicka Huta 6.24 23 eP **Pn 22 47 33.4 +1.2**
FUR Furstenfeldbru 6.24 318 ePn **Pn 22 47 34.4 +2.1**
MLR Muntele Rosu 6.24 71 ⇓iP Pn 22 47 33.9 +1.5
MLR Muntele Rosu 6.24 71 Pn **Pn 22 47 34.3 +1.9**
MLR Muntele Rosu 6.24 71 Pn **Pn 22 47 32.5 +0.1**
comp=Z,1.3nm,0.3s,baz=105,slow=5.0,SNR=13
MLR Sn **Sn 22 48 45.0 +1.0**
comp=Z,0.8nm,0.3s,baz=181,slow=17,SNR=1.9
MLR Lg Lg 22 49 17.5
comp=Z,0.3nm,0.3s,baz=47,slow=21,SNR=1.5
comp=Z,3.1nm,0.4s
OBER Oberstdorf 6.29 308 ePn **Pn 22 47 35.1 +2.0**
OZUR 6.30 65 ⇑iP Pn 22 47 35.0 +1.8
WET Wettzell 6.31 331 ePn **Pn 22 47 34.8 +1.4**
WET eSn **Sn 22 48 42.5 -3.1**
PGF Pioggiola 6.37 262 ePn **Pn 22 47 31.0 -3.2**
TUE Stuetta 6.43 298 Pn **Pn 22 47 37.0 +1.8**
RDO Rodhopi 6.44 111 Pn 22 47 37.3 +2.3
DAVA Damuels 6.47 306 i Pn **Pn 22 47 37.7 +2.2**
comp=Z,27nm,0.5s,SNR=19
DAVA eSn **Sn 22 48 52.4 +2.8**

comp=Z,73nm,0.8s
DAVA Damuels 6.47 306 *e*Pn **Pn 22 47 37.4 +1.9**
DAVA *e*Sn **Sn 22 48 51.3 +1.7**
UBR Ueberruh 6.55 310 *e*Pn **Pn 22 47 37.8 +1.2**
PRU Pruhonice 6.60 343 *e*PN **Pn 22 47 39.5 +2.3**
PRU Pruhonice 6.60 343 *e*P **Pn 22 47 39.5 +2.3**
BURAR Bucovina Array 6.62 51 ⇓P **Pn 22 47 39.7 +2.0**
BURAR Bucovina Array 6.62 51 Pn **Pn 22 47 39.8 +2.0**
BURAR Bucovina Array 6.62 51 P **Pn 22 47 39.7 +2.0**
BUR08 Bucovina Ar. S 6.63 51 **Pn 22 47 39.2 +1.5**
PLONS Plons/SG 6.65 303 *e*Pn **Pn 22 47 40.1 +2.1**
PLONS *e*Sn **Sn 22 48 54.7 +0.7**
OJC Ojcow 6.68 12 *e*Pn **Pn 22 47 39.4 +1.1**
OJC Sn **Sn 22 48 54.7 +0.2**
OJC Ojcow 6.68 12 Pn **Pn 22 47 38.1 -0.2**
OJC Ojcow 6.68 12 P **Pn 22 47 38.1 -0.2**
OJC Ojcow 6.68 12 *e*Pn **Pn 22 47 39.9 +1.6**
VAE Valguarnera 6.68 202 Pn **Pn 22 47 39.4 +0.9**
comp=Z,12nm,0.9s,baz=336,slow=22,SNR=2.1
VAE Sn **Sn 22 48 54.1 -0.6**
comp=Z,0.9nm,0.3s,baz=258,slow=13,SNR=1.1
DPC Dobruska-Polom 6.68 353 *e*PN **Pn 22 47 39.3 +0.9**
DPC *e*SN **Sn 22 48 51.5 -3.3**
DPC Dobruska-Polom 6.68 353 *e*P **Pn 22 47 39.3 +0.9**
DPC *e* 22 48 51.5
DPC Dobruska-Polom 6.68 353 *e*Pn **Pn 22 47 39.7 +1.2**
DPC *e*Sn **Sn 22 48 53.3 -1.5**
OSTC Ostas 6.90 353 *e*PN **Pn 22 47 44.2 +2.9**
OSTC Ostas 6.90 353 *e*P **Pn 22 47 44.2 +2.9**
RAFF Raffo Rosso 6.94 202 Pn **Pn 22 47 42.8 +0.9**
NORI Noerdlinger Ri 6.94 319 *e*Pn **Pn 22 47 43.0 +1.1**
CLTB Caltabellotta 6.97 210 **Pn 22 47 44.2 +1.8**
ROTZ Rotzenmuhle 7.08 331 *e*Pn **Pn 22 47 44.1 +0.3**
ROTZ *e*Sn **Sn 22 49 01.3 -3.0**
WILA Wila 7.11 304 *e*Pn **Pn 22 47 45.9 +1.7**
WALHA Wallhausen, DE 7.15 307 *e*Pn **Pn 22 47 45.9 +1.2**
MANZ Manzenberg 7.29 331 *e*Pn **Pn 22 47 48.2 +1.4**
MANZ *e*Sn **Sn 22 49 07.4 -2.3**
SBF Sospel 7.33 275 *e*Pn **Pn 22 47 43.8 -3.5**
SBF *e*Sn **Sn 22 49 03.8 -6.9**
comp=Z,111nm,0.5s
EMING Emmingen-Lipti 7.38 307 *e*Pn **Pn 22 47 48.7 +0.7**
GRA1 Grafenberg Arr 7.39 326 **Pn 22 47 48.0 -0.1**
GRF Grafenberg Arr 7.39 326 P **Pn 22 47 48.0 -0.1**
GRFO Grafenberg 7.39 326 **Pn 22 47 48.0 -0.1**
GRFO Grafenberg 7.39 326 P **Pn 22 47 48.0 -0.1**
HSKC Hora Svate Kat 7.44 339 *e*PN **Pn 22 47 50.7 +1.9**
MSS Messtetten 7.47 310 *e*P **Pn 22 47 47.6 -1.6**
SLE Schleitheim 7.52 306 *e*Pn **Pn 22 47 50.5 +0.6**
BRG Berggiesshubel 7.56 342 *e*P **Pn 22 47 54.5 +4.1**
BRG Amp 22 47 55.6
comp=Z,6.9nm,0.8s
BRG r 22 48 05.1
BRG Amp 22 48 05.9
comp=Z,9.9nm,0.9s
BRG r 22 49 05.0
BRG Amp 22 49 11.9
comp=Z,10.0nm,0.8s
BRG r 22 49 27.2
BRG Amp 22 49 28.4
comp=Z,18nm,0.9s
BRG r 22 49 34.4
BRG Amp 22 49 35.4
comp=Z,8.8nm,0.7s
BRG r 22 49 39.2
BRG Amp 22 49 45.6
comp=Z,34nm,0.7s
BRG Amp 22 50 20.0
comp=E,1.2nm,13.6s
BRG Amp 22 50 25.0
comp=N,0.5nm,10.5s
BRG Amp 22 50 46.0
comp=Z,0.6nm,9.2s
BRG Berggiesshubel 7.56 342 *e*P **Pn 22 47 54.5 +4.1**
BRG 22 49 27.2
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG pmax pmax
comp=Z,10.0nm,0.8s
BRG pmax pmax
comp=Z,18nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,0.7s
BRG pmax pmax
comp=Z,34nm,0.7s
BRG MLR MLR
comp=E,1μm,13.6s
BRG MLR MLR
comp=N,498nm,10.5s
BRG MLR MLR
comp=Z,624nm,9.2s
METMA Mettma DE 7.64 305 *e*Pn **Pn 22 47 52.0 +0.5**
METMA *e*Sn **Sn 22 49 14.7 -3.5**
SULZ Cheisacher 7.64 303 *e*Pn **Pn 22 47 52.3 +0.8**
STU Stuttgart 7.69 314 **Pn 22 47 52.6 +0.5**
STU Stuttgart 7.69 314 P **Pn 22 47 52.6 +0.5**
SENIN Lac Senin/Sane 7.73 294 **Pn 22 47 53.8 +0.8**
BERGE Lenzkirch (DE) 7.76 306 *e*Pn **Pn 22 47 53.7 +0.5**
BERGE *e*Sn **Sn 22 49 19.5 -1.8**
BALST Balsthal 7.81 301 *e*Pn **Pn 22 47 55.3 +1.4**
MBDF Montbardon 7.82 281 *e*Pn **Pn 22 47 52.7 -1.4**
SNR=1.0
MBDF *e*Sn **Sn 22 49 15.0 -7.8**
comp=Z,101nm,0.8s
TIRR Tirgusor 7.85 81 Pn **Pn 22 47 55.0 +0.7**
TIRR Tirgusor 7.85 81 P **Pn 22 47 55.0 +0.7**
BFO Black Forest 7.90 309 **Pn 22 47 55.5 +0.4**
BFO Black Forest 7.90 309 P **Pn 22 47 55.5 +0.4**
BFO Black Forest 7.90 309 *e*Pn **Pn 22 47 55.5 +0.4**
BNI Bardonecchia 7.91 283 **Pn 22 47 54.5 -0.8**
BNI Bardonecchia 7.91 283 P **Pn 22 47 54.5 -0.8**
LPG La Plagne 7.92 287 *e*Pn **Pn 22 47 55.0 -0.6**
SNR=1.0
LPL La Plagne 7.93 287 *e*Pn **Pn 22 47 55.2 -0.5**
SNR=1.0
LPL *e*Sn **Sn 22 49 18.7 -7.0**
comp=Z,261nm,0.7s
MOX Moxa 8.02 332 *e*Pn **Pn 22 47 57.6 +0.9**
MOX *e*Sn **Sn 22 49 24.4 -3.2**
LMR La Mourre 8.04 271 *e*Pn **Pn 22 47 53.6 -3.4**
LMR *e*Sn **Sn 22 49 19.9 -8.2**
comp=Z,34nm,0.8s
CLL Collm 8.19 339 Pn **Pn 22 47 58.9 -0.1**
CLL Collm 8.19 339 *e*P **Pn 22 48 00.0 +1.0**
CLL Collm 8.19 339 *e*Pn **Pn 22 48 00.0 +1.0**
CLL *e*Pg **Pg 22 48 33.0 -3.7**
CLL *e*Sn Sn 22 49 17.0 -15
CLL *e*x x 22 49 32.0
CLL *e*x x 22 49 43.0
CLL *e*Sb Sb 22 49 58.0 -1.6
CLL *e*Sglp 22 50 12.0
comp=N,500nm,16.0s
CLL *e*Sglp 22 50 12.0
comp=E,900nm,16.7s
CLL *e*Sglp 22 50 12.0
comp=Z,200nm,16.5s
CLL *e*Sg **Sg 22 50 21.0 -1.7**
comp=Z,106nm,1.3s
CLL *e*AMS AMS 22 50 49.0
ORIF Oris-en-Rattie 8.46 282 *e*Pn **Pn 22 48 01.7 -1.2**
SNR=1.0
ECH Echery 8.52 305 **Pn 22 48 04.0 +0.3**
ECH Echery 8.52 305 P **Pn 22 48 04.0 +0.3**
ECH Echery 8.52 305 *e*Pn **Pn 22 48 04.0 +0.3**
ECH *e*Sn **Sn 22 49 37.5 -2.5**
HINF Hinteralfeld 8.53 302 *e*Pn **Pn 22 48 05.7 +1.9**
SNR=1.0
HINF *e*Sn **Sn 22 49 33.1 -7.1**
comp=Z,167nm,1.4s
CDF Champ du Feu 8.55 307 *e*P **Pn 22 48 03.9 -0.2**
CABF La Chapelle 8.61 294 *e*Pn **Pn 22 48 04.6 -0.2**
SNR=1.0
CABF *e*Sn **Sn 22 49 37.4 -4.7**
comp=Z,156nm,1.1s
SMRF Simiane la Rot 8.67 276 *e*Pn **Pn 22 48 02.4 -3.3**
SMRF *e*Sn **Sn 22 49 34.9 -8.7**
comp=Z,57nm,1.1s
HAU Haudompre 8.92 303 *e*Pn **Pn 22 48 08.2 -0.9**
SNR=1.0
HAU *e*Sn **Sn 22 49 43.7 -6.0**
comp=Z,160nm,0.8s
TNS Taunus Mts 9.00 319 *e*Pn **Pn 22 48 12.1 +1.9**

APE Apeiranthos 9.00 135 ⇓P **Pn 22 48 11.8 +1.5**
APE Apeiranthos 9.00 135 **Pn 22 48 11.8 +1.5**
APE Apeiranthos 9.00 135 P **Pn 22 48 11.8 +1.5**
ABH Alteburg 9.22 315 *e*Pn **Pn 22 48 14.0 +0.8**
VIVF Saint-Julien-l 9.32 281 *e*Pn **Pn 22 48 13.5 -1.0**
SNR=1.0
VIVF *e*Sn **Sn 22 49 51.9 -7.6**
comp=Z,39nm,0.8s
SSB Saint Sauveur 9.44 284 **Pn 22 48 15.1 -1.1**
SSB Saint Sauveur 9.44 284 P **Pn 22 48 15.1 -1.1**
PAGF Fort de Pagny 9.53 305 *e*Pn **Pn 22 48 14.8 -2.6**
WLF Walferdange 9.83 311 Pn **Pn 22 48 21.8 +0.3**
WLF Walferdange 9.83 311 *d*P **Pn 22 48 25.5 +4.0**
WLF Walferdange 9.83 311 P **Pn 22 48 21.8 +0.3**
LASF Ste Croix 9.90 277 *e*Pn **Pn 22 48 21.7 -0.8**
LASF *e*Sn **Sn 22 50 06.5 -7.3**
comp=Z,13nm,0.6s
MEZF Maizieres J'vi 9.91 303 *e*Pn **Pn 22 48 21.7 -0.9**
baz=110
SAVF Savonnieres en 9.92 304 *e*Pn **Pn 22 48 20.3 -2.4**
SMF Signal de Mont 10.12 292 *e*Pn **Pn 22 48 23.7 -1.8**
SNR=1.0
SMF *e*Sn **Sn 22 50 11.1 -8.0**
comp=Z,86nm,0.8s
IDI Anoyia 10.14 144 Pn **Pn 22 48 25.0 -0.9**
IDI Anoyia 10.14 144 Pn **Pn 22 48 24.1 -1.9**
comp=Z,0.9nm,0.3s,baz=157,slow=8.1,SNR=12
IDI Sn **Sn 22 50 13.7 -6.2**
comp=Z,2.2nm,0.3s,baz=328,slow=20,SNR=7.6
comp=Z,1.8nm,0.3s
KEST Kesra 10.18 221 Pn **Pn 22 48 29.9 +3.5**
comp=Z,0.8nm,0.3s,baz=286,slow=4.6,SNR=9.3
LOR Lormes 10.25 295 *e*Pn **Pn 22 48 26.6 -0.7**
baz=112,SNR=1.0
LOR *e*Sn **Sn 22 50 16.4 -6.0**
comp=Z,35nm,0.5s
BHOU Houvegnez 10.30 314 *d*P **Pn 22 48 29.7 +1.7**
BTNL Terneli 10.37 315 *d*P **Pn 22 48 31.1 +2.1**
SSF Saint Saulge 10.44 294 *e*Pn **Pn 22 48 28.6 -1.2**
SNR=1.0
SSF *e*Sn **Sn 22 50 18.8 -8.1**
comp=Z,46nm,0.8s
MEM Membach 10.45 315 *d*P **Pn 22 48 33.2 +3.2**
AVF Avril sur Loir 10.48 292 *e*Pn **Pn 22 48 29.1 -1.3**
SNR=1.0
AVF *e*Sn **Sn 22 50 20.0 -7.9**
comp=Z,31nm,0.7s
AKASG Malin Array Be 10.56 45 Pn **Pn 22 48 30.7 -0.8**
comp=Z,0.2nm,0.3s,baz=233,slow=13,SNR=7.2
comp=Z,1.9nm,0.7s
AKBB Malin Array Si 10.56 45 *c*eP **Pn 22 48 34.2 +2.7**
RCHB Rochefort 10.60 312 *d*P **Pn 22 48 33.3 +1.2**
RCHB *d*S **Sn 22 50 28.2 -2.7**
RCHB *d*SbSb **SnSn 22 50 41.2 -1.3**
BSTI Sart Tilman 10.66 314 *d*P **Pn 22 48 35.4 +2.6**
BCLA Clavier 10.71 313 *d*P **Pn 22 48 37.1 +3.7**
BGF Bois d'Agland 10.78 290 *e*Pn **Pn 22 48 33.0 -1.5**
SNR=1.0
BGF *e*Sn **Sn 22 50 28.6 -6.6**
comp=Z,97nm,1.0s
GIVF Givet 10.79 311 *e*Pn **Pn 22 48 31.8 -2.9**
BGES Gesves 10.80 312 *d*P **Pn 22 48 37.4 +2.6**
BGES *d*S **Sn 22 50 32.0 -3.8**
DOU Dourbes 10.91 310 *d*P **Pn 22 48 37.1 +0.7**
BMRD Maredsous 10.93 311 *d*P **Pn 22 48 39.5 +2.9**
BMRD *d*S **Sn 22 50 38.4 -0.5**
KARP Karpathos 11.01 135 Pn **Pn 22 48 37.9 +0.1**
HYF Humbligny 11.06 294 *e*Sn **Sn 22 50 33.2 -8.9**
BAIF Baives 11.11 309 *e*Pn **Pn 22 48 36.4 -2.6**
MTLF Montolieu 11.15 273 *e*Pn **Pn 22 48 38.3 -1.3**
TCF Toulx Ste Croi 11.17 289 *e*Pn **Pn 22 48 39.3 -0.6**
SNR=1.0
TCF *e*Sn **Sn 22 50 36.5 -8.4**
comp=Z,50nm,1.0s
CAF Calviac 11.17 282 *e*Pn **Pn 22 48 39.1 -0.8**
SNR=1.0
CAF *e*Sn Sn 22 50 35.6 -9.4
comp=Z,32nm,1.2s
CLF Chambon-Foret 11.50 297 Pn **Pn 22 48 44.8 +0.4**
RJF Les Rejaudoux 11.57 283 *e*Pn **Pn 22 48 42.5 -2.8**
SNR=1.0
RJF *e*Sn Sn 22 50 45.1 -10
comp=Z,52nm,1.4s
LFF La Frestale 12.11 282 *e*Sn Sn 22 50 57.7 -10
comp=Z,32nm,1.1s
EPF Esparros 12.55 273 *e*Pn **Pn 22 48 55.7 -3.2**
BRTR Keskin Array B 12.66 103 Pn **Pn 22 49 00.7 +0.3**
comp=Z,0.3nm,0.4s,baz=321,slow=11,SNR=1.1
MFF Saint Martin d 12.82 289 *e*Sn Sn 22 51 15.4 -10
comp=Z,37nm,1.1s
LDF La Druitiere 13.18 298 *e*Pn **Pn 22 49 05.7 -1.7**
SNR=1.0
LDF *e*Sn **Sn 22 51 25.3 -8.8**
comp=Z,88nm,1.5s
GRR Gorron 13.61 296 *e*Pn **Pn 22 49 12.3 -0.9**
SNR=1.0
ANN Anapa 14.28 79 *e*P **P 22 49 28.1 -1.6**
ANN pmax pmax
comp=Z,44nm,0.8s
CSS Mathiatis 14.99 120 **Pn 22 49 34.6 +2.5**
CSS IAmb IAmb 22 49 45.6
comp=Z,11nm,0.8s
SOC Sochi 16.03 83 *e*P **P 22 49 47.8 -1.4**
SOC *e* 22 52 49.5
SOC pmax pmax
comp=Z,23nm,1.0s
SOC MLR MLR
comp=Z,187nm,20.0s
VSR Storozhevoye 16.38 55 *e*P **Pn 22 49 49.5 -0.6**
VSR pmax pmax
comp=Z,20nm,1.5s
VORR Voronezh 16.56 54 *e*P **Pn 22 49 52.8 +0.5**
VORR pmax pmax
comp=Z,10.0nm,0.4s
ESBB Sonseca Array 16.57 263 Pn **Pn 22 49 53.5 +1.0**
ESDC Sonseca Array 16.57 263 Pn **P 22 49 55.3 +0.1**
comp=Z,0.1nm,0.3s,baz=70,slow=11,SNR=12
ESDC LR LR 22 57 02.6
comp=Z,72nm,18.5s,baz=82,slow=40
HFS Hagfors 16.60 353 Pn **Pn 22 49 51.6 -1.3**
comp=Z,5.4nm,1.0s,baz=180,slow=16,SNR=2.6
LPSR Galich'ya Gora 16.74 50 *e*P **Pn 22 49 53.4 -1.3**
LPSR pmax pmax
comp=Z,20nm,1.3s
OBN Obninsk 16.75 40 *e*P **Pn 22 49 53.0 -1.8**
OBN *e*S **Sn 22 53 02.2 +1.4**
OBN pmax pmax
comp=Z,22nm,1.3s
OBN MLR MLR
comp=Z,135nm,16.0s
MMAI Mount Meron Ar 17.57 121 P **P 22 50 05.9 -0.4**
comp=Z,0.9nm,0.3s,baz=324,slow=9.6,SNR=8.4
comp=Z,4.7nm,0.7s
MOS Moscow 17.61 40 *e*P **Pn 22 50 05.1 -0.3**
MOS pmax pmax
comp=Z,37nm,1.4s
EKA Eskdalemuir Ar 17.69 318 P **P 22 50 07.2 -0.2**
baz=122,slow=10
comp=Z,0.3nm,0.4s
NOA NORSAR Array B 17.76 350 P **P 22 50 08.4 +0.2**
comp=Z,0.9nm,1.0s,baz=166,slow=12,SNR=1.7
VRH Novokhopyorsk 17.91 57 *e*P **Pn 22 50 07.7 -1.5**
VRH pmax pmax
comp=Z,6.0nm,0.7s
PBRG Braganca 17.93 272 *e*P **P 22 50 12.4 +2.1**
comp=Z,22nm,2.5s
KIV Kislovodsk 18.11 81 *e*P **P 22 50 13.3 +1.0**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,67nm,14.0s
KVAR Kislovodsk Arr 18.12 81 P **P 22 50 12.5 +0.1**
baz=257,slow=17
comp=Z,3.1nm,1.0s
KBZ Khabaz 18.30 81 P **P 22 50 16.9 +2.7**
comp=Z,1.9nm,0.8s,baz=44,slow=1.7,SNR=3.5
MVO Moncorvo 18.31 270 *e*P **P 22 50 20.6 +6.1**
comp=Z,22nm,1.3s
FINES FINESS Array B 18.46 13 P **P 22 50 14.7 -1.1**
comp=Z,0.2nm,0.3s,baz=189,slow=11,SNR=5.9
comp=Z,12nm,1.2s
PVRL Vila Real 18.78 271 *e*P **Pn 22 50 22.3 +2.3**
comp=Z,29nm,1.7s
MTE Manteigas 18.91 269 *e*P **Pn 22 50 22.8 +1.1**
MTE Manteigas 18.91 269 P **P 22 50 20.2 -0.9**
MTE IAmb IAmb 22 50 32.5

comp=Z,23nm,1.1s
PCBR Castelo Branco 19.05 267 *e*P **Pn 22 50 24.2 +1.0**
ASF Jabal al Asfar 19.07 121 P **P 22 50 21.7 -1.2**
comp=Z,0.6nm,0.4s,baz=338,slow=13,SNR=1.5
PVIS Viseu 19.07 270 *e*P **Pn 22 50 24.0 +0.5**
GURO Guroymak-BITLI 19.11 97 P **Pn 22 50 24.4 +0.3**
PMRV Marv??o 19.13 266 *e*P **Pn 22 50 24.3 +0.1**
ZEI Tsey 19.19 84 *e*P **Pn 22 50 25.6 +0.5**
ZEI pmax pmax
comp=Z,4.0nm,1.4s
PESTR Estremoz 19.48 264 *e*P **Pn 22 50 29.2 +0.8**
comp=Z,19nm,1.6s
EIL Elat 19.72 130 P **Pn 22 50 30.8 -0.6**
comp=Z,0.2nm,0.3s,baz=342,slow=12,SNR=3.5
comp=Z,2.9nm,0.8s
SIRT Sirnak 19.84 100 P **Pn 22 50 32.3 -0.6**
SIRT IAmb IAmb 22 50 56.5
comp=Z,32nm,0.9s
MDT Midelt 20.47 245 P **P 22 50 38.6 +0.5**
comp=Z,1.1nm,0.7s,baz=75,slow=14,SNR=7.0
comp=Z,1.1nm,0.7s
GNI Garni 20.50 91 P **P 22 50 38.5 0.0**
GNI IAmb IAmb 22 50 44.1
comp=Z,14nm,1.0s
GNI Garni 20.50 91 P **P 22 50 38.0 -0.4**
comp=Z,6.6nm,1.0s,baz=160,slow=23,SNR=4.7
comp=Z,6.6nm,1.0s
KLMR Klimovskoe 21.61 30 *e*P **P 22 50 48.8 -1.2**
KLMR AMP 22 50 55.4
comp=Z,35nm,1.3s
KLMR Klimovskoe 21.61 30 *e*P **P 22 50 48.8 -1.2**
KLMR pmax pmax
comp=Z,35nm,1.3s
BELG Belogornoye 21.75 56 P **P 22 50 52.6 +1.0**
comp=Z,34nm,0.7s,baz=353,slow=0.7,SNR=20
comp=Z,34nm,0.7s
PRGR Permogore 24.41 33 *e*P **P 22 51 17.7 -0.8**
PRGR pmax pmax
comp=Z,24nm,0.9s
KIRV Kirov 24.60 42 P **P 22 51 20.5 +0.2**
comp=Z,14nm,0.7s,baz=53,slow=22,SNR=6.2
comp=Z,14nm,0.7s
ARCES ARCESS Array B 26.20 6 P **P 22 51 35.1 +0.4**
ARCES ARCESS Array B 26.20 6 P **P 22 51 34.7 0.0**
comp=Z,2.0nm,0.8s,baz=215,slow=7.6,SNR=2.4
comp=Z,2.0nm,0.8s
ARU Arti 28.76 49 P **P 22 51 56.8 -1.0**
ARU IAmb IAmb 22 52 01.3
comp=Z,14nm,1.4s
ARU Arti 28.76 49 *d*iP **P 22 51 57.6 -0.2**
ARU S **S 22 56 48.9 +1.8**
ARU pmax pmax
comp=Z,13nm,1.4s
ARU Arti 28.76 49 P **P 22 51 57.9 +0.2**
comp=Z,2.2nm,0.5s,baz=240,slow=7.9,SNR=6.4
comp=Z,2.2nm,0.5s
GEYT Alibeck 31.00 87 P **P 22 52 19.4 +1.6**
comp=Z,2.7nm,1.0s,baz=266,slow=19,SNR=4.7
comp=Z,2.7nm,1.0s
TOA0 Torodi Ar. Sit 33.38 209 P **P 22 52 38.7 -0.2**
TOA0 IAmb IAmb 22 52 55.5
comp=Z,6.5nm,1.4s
TORD Torodi Ar. Bea 33.38 209 P **P 22 52 38.8 -0.1**
TORD Torodi Ar. Bea 33.38 209 P **P 22 52 39.9 +1.0**
comp=Z,1.6nm,0.7s,baz=18,slow=9.4,SNR=9.6
comp=Z,1.6nm,0.7s
BRVK Borovoye 35.49 56 P **P 22 52 57.1 +0.3**
BRVK IAmb IAmb 22 52 58.5
comp=Z,5.5nm,0.7s
BRVK Borovoye 35.49 56 P **P 22 52 57.1 +0.3**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BVAR Borovoye Array 35.56 56 P **P 22 52 57.7 +0.3**
comp=Z,2.4nm,0.7s,baz=274,slow=7.1,SNR=12
comp=Z,2.4nm,0.7s
KK31 Karatay Array 37.92 72 P **P 22 53 17.8 +0.2**
KK31 Karatay Array 37.92 72 P **P 22 53 17.8 +0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 37.92 72 P **P 22 53 18.1 +0.5**
KKAR Karatay Array 37.92 72 P **P 22 53 18.1 +0.5**
KURBB Kurchatov Arra 40.97 58 P **P 22 53 42.7 -0.2**
comp=Z,0.6nm,0.5s,baz=288,slow=9.3,SNR=7.0
comp=Z,0.6nm,0.5s
KURK Kurchatov 41.00 58 P **P 22 53 42.7 -0.5**
DBIC Dimbokro 41.82 215 P **P 22 53 49.5 -0.7**
DBIC Dimbokro 41.82 215 P **P 22 53 49.5 -0.7**
DBIC pmax pmax
comp=Z,22nm,1.4s
DBIC Dimbokro 41.82 215 P **P 22 53 50.2 -0.1**
comp=Z,4.7nm,0.7s,baz=20,slow=7.9,SNR=4.6
comp=Z,4.7nm,0.7s
KSH Kashi 43.09 75 P **P 22 54 00.5 -0.1**
KSH sP sP 22 54 06.5 +1.9
KSH pmax pmax
comp=Z,2.0nm,0.9s
ZALV Zalesovo Beam 43.84 52 P **P 22 54 06.2 -0.1**
ZALV Zalesovo Beam 43.84 52 P **P 22 54 06.2 -0.1**
ZALV Zalesovo Beam 43.84 52 P **P 22 54 06.5 +0.2**
comp=Z,1.5nm,0.6s,baz=285,slow=7.9,SNR=7.5
comp=Z,1.5nm,0.6s
NIL Nilore 43.88 84 P **P 22 54 07.9 +1.0**
NIL IAmb IAmb 22 54 20.3
comp=Z,7.5nm,1.0s
NIL Nilore 43.88 84 P **P 22 54 07.9 +1.0**
NIL pmax pmax
comp=Z,7.0nm,1.0s
MKAR Makanchi Array 44.51 62 P **P 22 54 11.5 -0.3**
MKAR Makanchi Array 44.51 62 P **P 22 54 11.5 -0.3**
MKAR Makanchi Array 44.51 62 P **P 22 54 11.7 -0.1**
comp=Z,0.7nm,0.6s,baz=293,slow=7.1,SNR=6.9
comp=Z,0.7nm,0.6s
WMQ Urumqi 49.19 64 *e*P **P 22 54 51.5 +3.0**
DRLN Deer Lake 50.00 304 P **P 22 54 54.3 -0.2**
SONM Songino Array 58.74 52 P **P 22 55 58.0 -0.3**
comp=Z,1.1nm,0.9s,baz=297,slow=8.7,SNR=6.5
comp=Z,1.1nm,0.9s
HHC Hu-ho-hao-te 65.77 56 *e*P **P 22 56 46.3 +0.8**
HHC pmax pmax
comp=Z,17nm,0.7s
HHC pmax pmax
comp=Z,83nm,5.5s
INK Inuvik 66.21 349 P **P 22 56 49.9 +2.3**
INK IAmb IAmb 22 57 16.0
comp=Z,6.0nm,1.4s
INK Inuvik 66.21 349 P **P 22 56 49.9 +2.3**
INK pmax pmax
comp=Z,6.0nm,1.5s
XLT XiLinHaoTe 66.53 51 *e*P P 22 56 43.3 -7.0
XLT pP sP 22 56 56.0 +1.5
XLT sP pP 22 57 02.0 +8.7
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,140nm,5.0s
PZH PanZhiHua 68.19 74 P **P 22 57 02.3 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,5.2s
IMAR Indian Mountai 70.42 356 P **P 22 57 14.9 +0.8**
CMAR Chiang Mai Arr 71.34 82 P **P 22 57 20.3 -0.1**
CMAR Chiang Mai Arr 71.34 82 P **P 22 57 19.6 -0.9**
comp=Z,1.4nm,0.7s,baz=307,slow=7.8,SNR=9.9
comp=Z,1.4nm,0.7s
BOSA Boshof 72.33 173 P **P 22 57 26.2 +0.1**
BOSA Boshof 72.33 173 P **P 22 57 25.3 -0.8**
comp=Z,2.1nm,0.8s,baz=81,slow=5.0,SNR=3.8
comp=Z,2.1nm,0.8s
PDAR Pinedale Array 81.73 324 P **P 22 58 19.9 +0.6**
comp=Z,0.3nm,0.6s,baz=57,slow=5.6,SNR=3.7
comp=Z,0.3nm,0.6s
TXAR Lajitas Array 89.57 312 P **P 22 58 59.0 +0.7**
comp=Z,0.6nm,0.9s,baz=23,slow=4.1,SNR=4.1
comp=Z,0.6nm,0.9s

BGR ***25*** *22:49:58.4±0.5, 43°.33N×18°.17E, h10km, ML4.7, Error ellipse: s-maj=10.0km s-min=7.8km az=112.0*
IDC ***25*** *22:50:00.9±0.5, 43°.68N×17°.48E, h0km, mb4.2/23, mbtmp4.1/41, ML4.1/15, MS3.6/24, Error ellipse: s-maj=8.3km s-min=7.6km az=51.0*
MOS ***25*** *22:50:01.1±0.9, 43°.71N×17°.49E, h10km, mb4.6/8, Error ellipse: s-maj=5.2km s-min=3.5km az=90.7*
RHSSO ***25*** *22:50:02.4±0.2, 43°.73N×17°.53E, h4km±1km, ML4.5/19*

*LDG **25** 22:50:02.0±0.1, 43.°71N×17.°47E, h5km, Ml4.6/20, Error ellipse: s-maj=4.9km s-min=2.9km az=15.0*
*PDG **25** 22:50:02.0±1.0, 43.°69N×17.°50E, h6km±2km, MD4.4/11, ML4.3/12, Error ellipse: s-maj=1.1km s-min=1.2km az=0.0*
*THE **25** 22:50:02.9, 43.°66N×17.°03E, h20km±38km, ML4.2/7, Error ellipse: s-maj=45.8km s-min=2.5km az=321.0*
*BEO **25** 22:50:02.1±0.3, 43.°77N×17.°57E, h4km±2km, ML4.3/24*
*MED_RC **25** 22:50:03.0±0.2, 43.°73N×17.°51E, h14km±2km, MW4.3/23, Moment Tensor Solution. Mantle waves: s23, c30; Duration: 1§1 Moment tensor: Scale 1015Nm; Mrr0.56±.26; Mθθ-2.00±.23; Mφφ1.44±.22; Mrθ-1.79±.47; Mθφ3.49±.20; Mφr0.09±.43; Best double couple: M0 4.26000×1015 NP1:φs77.00000°, δ89.00000°, λ-24.00000°. NP2:φs168.00000°, δ66.00000°, λ-179.00000°. Principal axes: T 3.8600, Plg16.0000°, Azm125.0000°; N 0.7900, Plg66.0000°, Azm256.0000°; P -4.6500, Plg17.0000°, Azm30.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **25** 22:50:03.8±2.0, 43.°75N±0.°04×17.°51E±0.°05, h12km±4km, mb4.2/18, Mwr4.3/41, ML4.6/1(BUC) Error ellipse: s-maj=6.1km s-min=4.5km az=130.0, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr1.22; Mθθ-1.95; Mφφ0.73; Mrθ-1.42; Mφφ2.22; Mφr-0.23; Fault plane solution: M0 3.15000×1015 NP1:φs261.80000°, δ75.53000°, λ37.45000°. NP2:φs160.97000°, δ53.93000°, λ161.99000°. Principal axes: T 2.6546, Plg36.0000°, Azm128.0000°; N 0.8300, Plg50.0000°, Azm280.0000°; P -3.4846, Plg14.0000°, Azm27.0000°;*
*NEIC **25** 22:50:04.7, 43.°72N×17.°52E, h19km*
*PRU **25** 22:50:05.9, 43.°92N×17.°62E, h1km, M4.7*

ISC 25 22:50:01.4±1.0, 43.°73N±0.°01×17.°57E±0.°01, h0km±6km, n481, σ1§55/606, mb4.3/36, MS3.7/17, 38C-33D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.40**	**234**	*e*Pg		**Pg**		**22 50 08.5**	**-0.4**
RICI					Sg		**Sg**	**22 50 13.7**	**-0.4**
SRKY	**Kupres RS**	**0.45**	**319**	⇑*i*Pg		**Pg**		**22 50 09.4**	**-0.6**
SRKY				*e*Sg		**Sg**		**22 50 16.4**	**+0.6**
NEVS	**Nevesinje**	**0.58**	**138**	*e*Pg		**Pg**		**22 50 13.2**	**+0.8**
NEVS				*e*Sg		**Sb**		**22 50 22.7**	**-0.5**
MAKA	**Makarska**	**0.60**	**222**	*i* Pg		**Pg**		**22 50 12.0**	**-0.7**
MAKA				Sg		**Sg**		**22 50 20.6**	**+0.1**
MGRS	**Mrkonjic Grad**	**0.77**	**333**	⇑*i*Pg		**Pg**		**22 50 15.8**	**-0.4**
MGRS				*e*Sg		**Sg**		**22 50 26.8**	**+0.6**
STON	**Ston**	**0.86**	**174**	*i* Pg		**Pg**		**22 50 17.0**	**-0.8**
STON				Sg		**Sg**		**22 50 29.7**	**+0.7**
STON	**Ston**	**0.86**	**174**	*e*Pg		**Pg**		**22 50 16.8**	**-1.1**
STON				*e*Sg		**Sg**		**22 50 29.6**	**+0.6**
STON	**Ston**	**0.86**	**174**	*e*Pg		**Pg**		**22 50 17.7**	**-0.2**
STON				*e*Sg		**Sg**		**22 50 29.8**	**+0.7**
KIJV	**Kijevo**	**0.89**	**289**	*e*Pg		**Pg**		**22 50 18.2**	**-0.2**
KIJV				Sg		**Sb**		**22 50 31.5**	**-0.6**
HVAR	**Hvar**	**0.98**	**236**	*e*Pg		**Pg**		**22 50 18.9**	**-1.3**
HVAR				Sg		**Sg**		**22 50 33.6**	**+0.6**
BLY	**Banja Luka**	**1.06**	**345**	*e*Pg		**Pg**		**22 50 21.6**	**-0.1**
BLY				*e*Sg		**Sg**		**22 50 34.3**	**-1.0**
BLY	**Banja Luka**	**1.06**	**345**	⇓*i*Pg		**Pg**		**22 50 21.5**	**-0.1**
BLY				*e*Sg		**Sg**		**22 50 35.9**	**+0.6**
DOB	**Doboj**	**1.07**	**21**	*e*Pg		**Pg**		**22 50 21.1**	**-0.8**
DOB				*e*Sg		**Sb**		**22 50 37.0**	**-0.4**
LSTV	**Lastovo**	**1.08**	**208**	*e*Pg		**Pg**		**22 50 20.2**	**-1.9**
BRY	**Bratogost**	**1.09**	**139**	*e*Pg		**Pg**		**22 50 22.4**	**+0.2**
BRY				*e*Sg		**Sb**		**22 50 37.8**	**-0.1**
BRY	**Bratogost**	**1.09**	**139**	⇑*i*Pg		**Pg**		**22 50 21.4**	**-0.8**
BRY				*i* Sg		**Sn**		**22 50 39.1**	**-0.7**
UPM	**Unac-Piva**	**1.10**	**118**	*e*Pg		**Pg**		**22 50 22.4**	**-0.1**
UPM				*e*Sg		**Sb**		**22 50 38.5**	**+0.1**
UPM	**Unac-Piva**	**1.10**	**118**	⇓*i*Pg		**Pg**		**22 50 22.6**	**+0.1**
UPM				*i* Sg		**Sn**		**22 50 40.4**	**+0.1**
DBRK	**Dubrovnik**	**1.14**	**158**	*i* Pg		**Pg**		**22 50 22.7**	**-0.5**
DBRK				Sn		**Sn**		**22 50 42.1**	**+1.3**
TREB	**Trebinje**	**1.16**	**150**	*e*Pg		**Pg**		**22 50 22.5**	**-1.1**
TREB				*e*Sg		**Sn**		**22 50 40.9**	**-0.5**
TREB	**Trebinje**	**1.16**	**150**	*e*Pg		**Pg**		**22 50 23.0**	**-0.6**
TREB				*e*Sg		**Sb**		**22 50 40.3**	**+0.4**
RUDO	**Rudo**	**1.31**	**94**	*e*Pg		**Pg**		**22 50 25.4**	**-1.1**
RUDO				*e*Sg		**Sn**		**22 50 45.1**	**0.0**
BBLS	**Lazići**	**1.33**	**83**	*e*Pg		**Pg**		**22 50 26.9**	**-0.1**
BBLS				*e*Sg		**Sb**		**22 50 44.7**	**-0.3**
BBLS	**Lazići**	**1.33**	**83**	Pg		**Pg**		**22 50 27.1**	**+0.1**
BBLS				*e*Sg		**Sn**		**22 50 46.1**	**+0.3**
MORI	**Morici**	**1.36**	**276**	*e*Pg		**Pg**		**22 50 26.3**	**-1.0**
MORI				Sg		**Sn**		**22 50 46.9**	**+0.7**
A051A	**Mrakovica**	**1.37**	**340**	⇑*i*Pg		**Pg**		**22 50 26.9**	**-0.7**
A051A				*e*Sg		**Sg**		**22 50 45.5**	**+0.1**
A052A	**Srbac**	**1.37**	**358**	*e*Pg		**Pg**		**22 50 27.5**	**-0.2**
A052A				*e*Sg		**Sn**		**22 50 46.4**	**-0.2**
PLE	**Pljevlja**	**1.38**	**106**	⇓*i*Pg		**Pg**		**22 50 27.5**	**-0.3**
PLE				*i* Sg		**Sn**		**22 50 48.8**	**+1.8**
PRIJ	**Prijedor**	**1.39**	**334**	⇑*i*Pg		**Pn**		**22 50 27.2**	**-0.8**
PRIJ				*e*Sg		**Sg**		**22 50 45.6**	**-0.4**
NKME	**Niksic**	**1.39**	**133**	⇑*i*Pg		**Pn**		**22 50 27.5**	**-0.6**
NKME				*i* Sg		**Sn**		**22 50 49.3**	**+2.1**
ZIRJ	**Zirje**	**1.40**	**268**	*e*Pg		**Pn**		**22 50 27.2**	**-0.9**
ZIRJ				Sg		**Sn**		**22 50 48.2**	**+1.0**
HCY	**Herceg Novi**	**1.45**	**152**	*e*Pg		**Pn**		**22 50 28.1**	**-0.7**
HCY				*e*Sg		**Sn**		**22 50 49.4**	**+0.9**
HCY	**Herceg Novi**	**1.45**	**152**	⇓*i*Pg		**Pn**		**22 50 28.6**	**-0.2**
HCY				*i* Sg		**Sn**		**22 50 51.0**	**+2.5**
UDBI	**Udbina**	**1.53**	**302**	*i* Pn		**Pn**		**22 50 29.2**	**-0.7**
UDBI				Sg		**Sn**		**22 50 53.4**	**+2.9**
CEME	**Cevo**	**1.54**	**140**	⇓*i*Pg		**Pb**		**22 50 30.6**	**-0.2**
CEME				*i* Sg		**Sg**		**22 50 54.1**	**+3.3**
TEKS	**Tekeris**	**1.63**	**59**	*e*Pg		**Pn**		**22 50 31.1**	**-0.2**
TEKS				*e*Sg		**Sb**		**22 50 53.6**	**+0.2**
TEKS	**Tekeris**	**1.63**	**59**	*e*Pn		**Pn**		**22 50 31.2**	**-0.1**
TEKS				*e*Sn		**Sg**		**22 50 54.4**	**+0.6**
BUM	**Brajici-Budva**	**1.73**	**145**	⇑*i*Pn		**Pb**		**22 50 34.0**	**0.0**
BUM				*i* Sn		**Sg**		**22 50 58.2**	**+1.4**
DIVS	**Divibare**	**1.79**	**77**	Pn		**Pn**		**22 50 33.9**	**+0.3**
DIVS				Sn		**Sn**		**22 50 57.2**	**+0.2**
DIVS	**Divibare**	**1.79**	**77**	*e*Pn		**Pn**		**22 50 33.9**	**+0.3**
DIVS				*e*Sn		**Sn**		**22 50 57.5**	**+0.5**
DIVS	**Divibare**	**1.79**	**77**	*e*Pn		**Pn**		**22 50 34.1**	**+0.6**
DIVS				*e*Sn		**Sb**		**22 50 58.1**	**+0.1**
PDG	**Podgorica**	**1.79**	**136**	⇓P		**Pb**		**22 50 34.4**	**-0.6**
PDG	**Podgorica**	**1.79**	**136**	Pn		**Pn**		**22 50 33.4**	**-0.1**
PDG				Sg		**Sg**		**22 51 01.2**	**+2.3**
PDG	**Podgorica**	**1.79**	**136**	*e*Pn		**Pn**		**22 50 34.2**	**+0.7**
PDG	**Podgorica**	**1.79**	**136**	*e*Pn		**Pn**		**22 50 33.9**	**+0.4**
PDG				*e*Sg		**Sg**		**22 51 00.6**	**+1.7**
PDG	**Podgorica**	**1.79**	**136**	⇑*i*Pn		**Pn**		**22 50 34.1**	**+0.6**
PDG				*i* Sn		**Sg**		**22 51 00.0**	**+1.1**
PLIT	**Plitvice**	**1.81**	**310**	*e*Pn		**Pn**		**22 50 34.2**	**+0.4**
PLIT				Sn		**Sg**		**22 51 00.3**	**+0.8**
SJES	**Sjenica**	**1.81**	**104**	*e*Pn		**Pb**		**22 50 34.9**	**-0.5**
SJES				*e*Sn		**Sn**		**22 50 57.5**	**-0.1**
SJES	**Sjenica**	**1.81**	**104**	⇑*i*Pn		**Pb**		**22 50 34.7**	**-0.7**
SJES				*e*Sn		**Sb**		**22 50 59.0**	**+0.3**
DUGI	**Dugi Otok**	**1.84**	**279**	*e*Pn		**Pb**		**22 50 35.1**	**-0.7**
DUGI				Sn		**Sg**		**22 51 02.1**	**+1.7**
IVA	**Berane**	**1.90**	**116**	⇑*i*Pn		**Pb**		**22 50 36.5**	**-0.4**
IVA				*i* Sn		**Sg**		**22 51 03.2**	**+0.8**
VIRC	**Vir**	**1.90**	**288**	*e*Pn		**Pb**		**22 50 36.4**	**-0.5**
VIRC				Sg		**Sg**		**22 51 04.4**	**+2.0**
DRME	**Dracevica, Mon**	**1.94**	**142**	⇑*i*Pn		**Pb**		**22 50 37.0**	**-0.6**
DRME				*e*Sn		**Sn**		**22 51 00.9**	**+0.2**
DRME	**Dracevica, Mon**	**1.94**	**142**	⇑*i*Pn		**Pb**		**22 50 37.1**	**-0.6**
DRME				*i* Sn		**Sg**		**22 51 03.7**	**-0.1**
MOSL	**Moslavina**	**1.97**	**343**	*e*Pn		**Pn**		**22 50 36.0**	**0.0**
MOSL				Sn		**Sg**		**22 51 04.1**	**-0.6**
PVY	**Plav**	**2.08**	**122**	⇑*i*Pn		**Pg**		**22 50 40.9**	**-0.4**
PVY				*i* Sn		**Sg**		**22 51 07.7**	**-0.6**
TRUS	**Trudelj**	**2.11**	**75**	*e*Pn		**Pn**		**22 50 38.2**	**+0.4**
TRUS				*e*Sn		**Sn**		**22 51 05.1**	**+0.4**
NVLJ	**Novalja**	**2.12**	**294**	*i* Pn		**Pb**		**22 50 39.9**	**-0.6**
NVLJ				Sn		**Sb**		**22 51 06.3**	**-1.0**
FRGS	**Fruska Gora**	**2.15**	**48**	⇓P		**Pn**		**22 50 38.4**	**0.0**
FRGS	**Fruska Gora**	**2.15**	**48**	*e*Pn		**Pn**		**22 50 37.7**	**-0.7**
FRGS				*e*Sn		**Sn**		**22 51 04.1**	**-1.7**
FRGS	**Fruska Gora**	**2.15**	**48**	*e*Pn		**Pn**		**22 50 38.1**	**-0.3**
FRGS				*e*Sn		**Sn**		**22 51 06.1**	**+0.3**
ULC	**Ulcinj**	**2.15**	**145**	⇑*i*Pn		**Pb**		**22 50 40.5**	**-0.7**
ULC				*i* Sn		**Sb**		**22 51 08.5**	**+0.1**
RABC	**Rab**	**2.25**	**298**	*i* Pn		**Pb**		**22 50 42.1**	**-0.7**
RABC				Sn		**Sb**		**22 51 10.4**	**-0.8**
GRUS	**Gruza**	**2.28**	**85**	*e*Pn		**Pn**		**22 50 41.1**	**+0.8**
GRUS				*e*Sn		**Sn**		**22 51 08.8**	**-0.2**
BEO	**Beograd**	**2.35**	**62**	*e*Pn		**Pn**		**22 50 39.8**	**-1.3**
BEO				*e*Sn		**Sn**		**22 51 08.3**	**-2.3**
ZAG	**Zagreb**	**2.38**	**332**	*e*Pn		**Pn**		**22 50 43.1**	**+1.5**
ZAG				Sn		**Sn**		**22 51 12.0**	**+0.5**
SGRT	**San Giovanni R**	**2.39**	**215**			**Pn**		**22 50 40.8**	**-1.0**
SGRT				Sg		**Sb**		**22 51 15.0**	**-0.3**
OZLJ	**Ozalj**	**2.41**	**322**	*e*Pn		**Pn**		**22 50 43.4**	**+1.4**
BOJS	**Bojanci**	**2.43**	**318**	⇓*i*Pn		**Pn**		**22 50 42.8**	**+0.5**
BOJS				*e*Sn		**Sn**		**22 51 13.0**	**+0.4**
BOJS	**Bojanci**	**2.43**	**318**	*i* Pn		**Pn**		**22 50 42.7**	**+0.5**
BOJS				*e*Sn		**Sb**		**22 51 16.6**	**+0.3**
BOJS				IAML				22 51 20.7	
	comp=Z,2μm,1.0s								
PTJ	**Puntijarka**	**2.46**	**333**	*e*Pn		**Pn**		**22 50 43.7**	**+0.9**
KALN	**Kalnik**	**2.53**	**342**	*i* Pn		**Pn**		**22 50 43.4**	**-0.3**
KALN				Sn		**Sn**		**22 51 16.0**	**+0.8**
MORH	**Mrgy, Hungar**	**2.60**	**17**	⇓P		**Pn**		**22 50 44.2**	**-0.4**
MORH	**Mrgy, Hungar**	**2.60**	**17**	*e*Pn		**Pn**		**22 50 44.7**	**+0.1**
MORH				*e*Sn		**Sn**		**22 51 17.2**	**+0.3**
SELS	**Selova**	**2.63**	**100**	*e*Pn		**Pn**		**22 50 45.8**	**+0.7**
LOBO	**Lobor**	**2.65**	**337**	*e*Pn		**Pn**		**22 50 45.8**	**+0.5**
SVIS	**Svilajnac**	**2.68**	**77**	*e*Pn		**Pn**		**22 50 46.9**	**+1.1**
SVIS				*e*Sn		**Sn**		**22 51 19.2**	**+0.3**
RIY	**Rijeka**	**2.72**	**307**	*e*Pn		**Pb**		**22 50 48.9**	**-2.0**
RIY				Sn		**Sn**		**22 51 22.0**	**+2.0**
SMRN	**Sveta Marina**	**2.78**	**299**	*e*Pn		**Pn**		**22 50 48.3**	**+1.1**
SMRN				Sn		**Sn**		**22 51 23.3**	**+2.2**
BEHE	**Becsehely**	**2.80**	**349**	*e*Pn		**Pn**		**22 50 47.4**	**0.0**
BEHE				*e*Sn		**Sn**		**22 51 21.6**	**-0.2**
TIR	**Tirane**	**2.92**	**144**	P		**Pn**		**22 50 51.3**	**+2.2**
TIR				S		**Sb**		**22 51 29.0**	**-1.5**
	comp=Z,1μm,0.9s								
TIR	**Tirane**	**2.92**	**144**	Pn		**Pn**		**22 50 51.0**	**+1.9**
TIR	**Tirane**	**2.92**	**144**	*e*Pn		**Pn**		**22 50 51.2**	**+2.2**
TIR	**Tirane**	**2.92**	**144**	P		**Pn**		**22 50 51.0**	**+1.9**
BRJN	**Brijuni**	**2.98**	**295**	*e*Pn		**Pn**		**22 50 51.2**	**+1.4**
BRJN				Sn		**Sn**		**22 51 28.1**	**+1.8**
BOVS	**Bovan**	**3.00**	**90**	⇓P		**Pn**		**22 50 50.7**	**+0.6**
BOVS	**Bovan**	**3.00**	**90**			**Pn**		**22 50 50.7**	**+0.6**
BOVS	**Bovan**	**3.00**	**90**	*e*Pn		**Pn**		**22 50 50.1**	**0.0**
BOVS				*e*Sn		**Sn**		**22 51 26.2**	**-0.6**
CEY	**Cerknica**	**3.01**	**313**	*e*Pn		**Pn**		**22 50 50.9**	**+0.6**
CEY				*e*Sn		**Sn**		**22 51 25.6**	**-1.5**
KUBS	**Kucevo**	**3.04**	**76**	*e*Pn		**Pn**		**22 50 50.0**	**-0.6**
KUBS				*e*Sn		**Sn**		**22 51 27.0**	**-0.7**
MATE	**Matera**	**3.14**	**192**	⇑P		**Pn**		**22 50 50.8**	**-1.2**
MATE	**Matera**	**3.14**	**192**			**Pn**		**22 50 50.8**	**-1.2**
MDVR	**Moldovita**	**3.16**	**69**	⇑P		**Pn**		**22 50 52.8**	**+0.5**
GUMA	**Gualdo di Mace**	**3.16**	**259**			**Pn**		**22 50 52.7**	**+0.4**
BARS	**Barje**	**3.23**	**105**	*e*Pn		**Pn**		**22 50 54.1**	**+0.8**
CAMP	**Campotosto**	**3.27**	**250**			**Pn**		**22 50 54.1**	**+0.1**
FDMO	**Fiordimonte**	**3.34**	**260**	Pn		**Pn**		**22 50 54.4**	**-0.4**
SKO	**Skopje**	**3.34**	**120**	*i* Pn		**Pb**		**22 50 58.7**	**-2.8**
AQU	**L'Aquila**	**3.35**	**247**	Pn		**Pn**		**22 50 55.3**	**+0.3**
AQU	**L'Aquila**	**3.35**	**247**	P		**Pn**		**22 50 55.3**	**+0.3**
TRI	**Trieste**	**3.36**	**307**			**Pn**		**22 50 56.3**	**+1.2**
TRI	**Trieste**	**3.36**	**307**	P		**Pn**		**22 50 56.3**	**+1.2**
NRCA	**Norcia**	**3.38**	**256**	Pn		**Pn**		**22 50 56.0**	**+0.7**
ZAGS	**Zajecar**	**3.38**	**87**	*e*Pn		**Pn**		**22 50 55.4**	**+0.1**
ZAGS				*e*Sn		**Sn**		**22 51 34.7**	**-1.4**
BZS	**Buzias**	**3.45**	**55**	P		**Pn**		**22 50 55.5**	**-0.8**
SOKA	**Soboth**	**3.45**	**330**	*e*Pn		**Pn**		**22 50 56.6**	**+0.2**
	comp=Z,122nm,0.4s,SNR=14								
SOKA				*i* Sn		**Sn**		**22 51 37.0**	**-1.1**
	comp=Z,269nm,0.6s								
PAOL	**Paolisi**	**3.50**	**221**	Pn		**Pn**		**22 50 57.4**	**+0.4**
OBKA	**Obir**	**3.51**	**323**	*e*Pn		**Pn**		**22 50 58.4**	**+1.2**
	comp=Z,24nm,0.5s								
OBKA				*e*Sn		**Sg**		**22 51 52.0**	**-2.0**
	comp=Z,1μm,0.8s								
OBKA	**Obir**	**3.51**	**323**	*e*Pn		**Pn**		**22 50 58.0**	**+0.8**
OBKA				*e*Sn		**Sn**		**22 51 39.1**	**-0.3**
OBKA	**Obir**	**3.51**	**323**	*e*Pn		**Pn**		**22 50 58.3**	**+1.1**
OHR	**Ohrid**	**3.54**	**136**	⇓*i*Pn		**Pb**		**22 51 01.3**	**-3.6**
OHR				*i* Sn		**Sb**		**22 51 46.9**	**-1.6**
VLO	**Vlora**	**3.56**	**156**	P		**Pn**		**22 50 59.3**	**+1.5**
VLO				S		**Sn**		**22 51 43.2**	**+2.7**
	comp=Z,1μm,0.6s								
VLO	**Vlora**	**3.56**	**156**			**Pn**		**22 50 59.9**	**+2.1**
VLO	**Vlora**	**3.56**	**156**	P		**Pn**		**22 50 59.9**	**+2.1**
SABO	**M.te Sabotino**	**3.61**	**310**	Pn		**Pn**		**22 50 59.0**	**+0.4**
HERR	**Herculane**	**3.66**	**70**	⇑P		**Pn**		**22 50 59.8**	**+0.6**
DJES	**Djerdap**	**3.68**	**74**	⇓P		**Pn**		**22 51 00.6**	**+1.1**
DJES	**Djerdap**	**3.68**	**74**	Pn		**Pn**		**22 51 00.5**	**+1.0**
DJES	**Djerdap**	**3.68**	**74**	*e*Pn		**Pn**		**22 51 00.0**	**+0.5**
MURB	**Monte Urbino**	**3.70**	**265**	Pn		**Pn**		**22 50 60.4**	**+0.6**
ZAPS	**Zavoj**	**3.71**	**95**	*e*Pn		**Pn**		**22 51 00.8**	**+0.9**
SCTE	**Santa Cesarea**	**3.71**	**169**	Pn		**Pn**		**22 50 60.0**	**0.0**
RMGR	**Halanga-Turnu**	**3.80**	**74**	⇑P		**Pn**		**22 51 02.5**	**+1.4**
RMGR	**Halanga-Turnu**	**3.80**	**74**			**Pn**		**22 51 02.5**	**+1.4**
BOSS	**Bosilegrad**	**3.80**	**107**	*e*Pn		**Pn**		**22 51 01.5**	**+0.4**
ARSA	**Arzberg**	**3.81**	**338**	*e*Pn		**Pn**		**22 51 01.6**	**+0.4**
	comp=Z,61nm,0.4s,SNR=71								
ARSA				*e*Sn		**Sn**		**22 51 48.8**	**+2.2**
	comp=Z,242nm,0.7s								
ARSA	**Arzberg**	**3.81**	**338**	⇑*i*Pn		**Pn**		**22 51 01.8**	**+0.6**
ARSA				*e*Sn		**Sn**		**22 51 45.3**	**-1.3**
ARSA	**Arzberg**	**3.81**	**338**	*e*Pn		**Pn**		**22 51 01.5**	**+0.3**
CESX	**Cesi**	**3.82**	**255**			**Pn**		**22 51 02.9**	**+1.5**
PUNG	**Punghina**	**3.91**	**80**	⇓P		**Pn**		**22 51 03.9**	**+1.3**
KBN	**Korca**	**3.92**	**141**	P		**Pn**		**22 51 05.6**	**+2.8**
KBN				S		**Sn**		**22 51 53.4**	**+3.9**
	comp=Z,658nm,0.7s								
KBN	**Korca**	**3.92**	**141**			**Pn**		**22 51 04.9**	**+2.1**
KBN	**Korca**	**3.92**	**141**	P		**Pn**		**22 51 04.9**	**+2.1**
PRED	**Cave del Predi**	**3.93**	**315**	Pn		**Pn**		**22 51 03.8**	**+0.9**
CUC	**Castrocucco**	**3.96**	**200**	Pn		**Pn**		**22 51 03.0**	**-0.3**
STIP	**Stip**	**3.96**	**119**	*i* Pn		**Pn**		**22 51 07.3**	**+4.0**
MYKA	**Terra Mystica**	**4.02**	**318**	*e*Pn		**Pn**		**22 51 08.2**	**+4.0**
	comp=Z,21nm,0.4s								
RONA	**Rosalia, Austr**	**4.07**	**348**	*i* Pn		**Pn**		**22 51 05.2**	**+0.4**
	comp=Z,121nm,0.5s,SNR=15								
RONA				*i* Sn		**Sn**		**22 51 56.8**	**+3.6**
	comp=Z,236nm,0.6s								
GZR	**Gura Zlata**	**4.08**	**64**	⇓P		**Pn**		**22 51 05.3**	**+0.3**
FNA	**Florina**	**4.08**	**135**	P		**Pn**		**22 51 07.8**	**+2.8**
FNA				S		**Sn**		**22 51 57.8**	**+4.3**
	comp=Z,1μm,0.5s								
FNA	**Florina**	**4.08**	**135**	Pn		**Pn**		**22 51 07.2**	**+2.2**
FNA	**Florina**	**4.08**	**135**	P		**Pn**		**22 51 07.2**	**+2.2**
SRE	**Strehaia**	**4.16**	**75**	⇑P		**Pn**		**22 51 07.7**	**+1.7**
SRE	**Strehaia**	**4.16**	**75**	P		**Pn**		**22 51 07.9**	**+1.9**
NEST	**Nestorio**	**4.20**	**141**	P		**Pn**		**22 51 09.1**	**+2.3**
NEST				S		**Sn**		**22 52 00.7**	**+4.1**
	comp=Z,420nm,0.5s								
LSK	**Leskovik**	**4.23**	**147**	P		**Pn**		**22 51 08.5**	**+1.4**
LSK				S		**Sn**		**22 52 00.5**	**+3.3**
	comp=Z,870nm,0.9s								
SRN	**Sarande**	**4.25**	**154**	P		**Pn**		**22 51 08.2**	**+0.9**
STAL	**STALIGIAL**	**4.28**	**308**	Pn		**Pn**		**22 51 08.3**	**+0.6**
VTS	**Vitosha**	**4.29**	**103**	⇓P		**Pn**		**22 51 09.1**	**+1.1**
VTS	**Vitosha**	**4.29**	**103**	*i* P		**Pn**		**22 51 09.5**	**+1.5**
VTS	**Vitosha**	**4.29**	**103**	P		**Pn**		**22 51 09.1**	**+1.1**
CLUD	**Cludinico**	**4.30**	**311**	Pn		**Pn**		**22 51 08.9**	**+0.9**
KEK	**Kerkira**	**4.34**	**157**	P		**Pn**		**22 51 09.1**	**+0.5**
KEK				S		**Sn**		**22 52 00.9**	**+1.0**
	comp=Z,418nm,0.5s								
KEK	**Kerkira**	**4.34**	**157**	Pn		**Pn**		**22 51 09.1**	**+0.5**
DEV	**Deva**	**4.36**	**59**	⇓P		**Pn**		**22 51 09.2**	**+0.4**
DEV	**Deva**	**4.36**	**59**	P		**Pn**		**22 51 09.2**	**+0.4**
CONA	**Conrad Observa**	**4.37**	**345**	*i* Pn		**Pn**		**22 51 09.9**	**+1.0**
	comp=Z,51nm,0.3s,SNR=9.3								
CONA				*i* Sn		**Sn**		**22 52 00.9**	**+0.4**
	comp=Z,104nm,0.4s								
PEHC	**Pehcevo**	**4.38**	**115**	*i* Pn		**Pn**		**22 51 11.7**	**+2.5**
VAY	**Valandovo**	**4.41**	**121**	*i* Pn		**Pn**		**22 51 12.3**	**+2.8**
KBA	**Koelnbreinsper**	**4.48**	**320**	*e*Pn		**Pn**		**22 51 13.7**	**+3.1**
	comp=Z,19nm,0.3s								
ZST	**Bratislava**	**4.48**	**356**	*e*PN		**Pn**		**22 51 11.0**	**+0.6**
ZST				*e*SN		**Sn**		**22 52 02.0**	**-1.2**
ZST	**Bratislava**	**4.48**	**356**	*e*P		**Pn**		**22 51 11.0**	**+0.6**
ZST				*e*				22 52 02.1	
PSZ	**Piszkesteto**	**4.49**	**20**	⇑P		**Pn**		**22 51 10.4**	**-0.3**
PSZ	**Piszkesteto**	**4.49**	**20**	Pn		**Pn**		**22 51 10.2**	**-0.5**
PSZ	**Piszkesteto**	**4.49**	**20**			**Pn**		**22 51 10.4**	**-0.3**
PSZ	**Piszkesteto**	**4.49**	**20**	P		**Pn**		**22 51 10.4**	**-0.3**
MPEP	**Malo Peshtene**	**4.50**	**93**	*i* P		**Pn**		**22 51 12.0**	**+1.2**
KKB	**Krupnik**	**4.50**	**113**	*i* P		**Pn**		**22 51 13.7**	**+2.9**
TEOL	**Teolo**	**4.52**	**293**	Pn		**Pn**		**22 51 10.9**	**-0.1**
OSSC	**Osservatorio P**	**4.60**	**270**	Pn		**Pn**		**22 51 12.8**	**+0.8**
MODS	**Modra-Piesok**	**4.65**	**358**	*e*PN		**Pn**		**22 51 13.0**	**+0.2**
MODS				*e*SN		**Sn**		**22 52 06.5**	**-1.0**
MODS	**Modra-Piesok**	**4.65**	**358**	*e*P		**Pn**		**22 51 13.0**	**+0.2**
MODS				*e*				22 52 06.5	
ABTA	**Abfaltersbach**	**4.68**	**312**	*i* Pn		**Pn**		**22 51 14.2**	**+0.9**
	comp=Z,35nm,0.3s,SNR=8.5								
MOA	**Molln**	**4.72**	**332**	*i* Pn		**Pn**		**22 51 15.4**	**+1.5**
	comp=Z,76nm,0.3s,SNR=15								
MOA				*e*Sn		**Sn**		**22 52 09.6**	**+0.3**
	comp=Z,322nm,0.7s								
MOA	**Molln**	**4.72**	**332**	*e*Pn		**Pn**		**22 51 15.1**	**+1.3**
MOA	**Molln**	**4.72**	**332**	*e*Pn		**Pn**		**22 51 15.3**	**+1.5**
MOA				*e*Sn		**Sn**		**22 52 09

DAVA Damuels 6.47 306 *e*Pn **Pn** **22 51 40.1 +2.2**
UBR Ueberruh 6.55 310 *e*Pn **Pn** **22 51 40.1 +1.2**
BURAR Bucovina Array 6.62 51 ⇑P **Pn** **22 51 41.2 +1.3**
BURAR Bucovina Array 6.62 51 **Pn** **22 51 41.8 +1.9**
BURAR Bucovina Array 6.62 51 P **Pn** **22 51 41.2 +1.3**
BUR08 Bucovina Ar. S 6.62 51 **Pn** **22 51 41.8 +1.8**
PLONS Plons/SG 6.65 303 *e*Pn **Pn** **22 51 42.6 +2.3**
PLONS *e*Sn **Sn** **22 52 58.6 +1.7**
OJC Ojcow 6.67 12 *e*Pn **Pn** **22 51 41.3 +0.8**
OJC *e*Sn **Sn** **22 52 56.4 -0.7**
OJC Ojcow 6.67 12 **Pn** **22 51 41.8 +1.3**
OJC Ojcow 6.67 12 P **Pn** **22 51 41.8 +1.3**
DPC Dobruska-Polom 6.68 353 *e*PN **Pn** **22 51 42.4 +1.7**
DPC AMS AMS 22 54 00.0
comp=Z,900nm,11.0s
DPC Dobruska-Polom 6.68 353 *e*P **Pn** **22 51 42.4 +1.7**
DPC MLR MLR
comp=Z,900nm,11.0s
DPC Dobruska-Polom 6.68 353 *e*Sn **Sn** **22 52 56.5 -1.0**
VAE Valguarnera 6.69 202 Pn **Pn** **22 51 41.7 +0.8**
comp=Z,7.1nm,0.7s,baz=169,slow=21,SNR=1.8
ALN Alexandroupoli 6.89 111 Pn **Pn** **22 51 45.0 +1.4**
ALN Alexandroupoli 6.89 111 P **Pn** **22 51 45.0 +1.4**
NORI Noerdlinger Ri 6.94 318 *e*Pn **Pn** **22 51 45.6 +1.5**
RAFF Raffo Rosso 6.94 202 Pn **Pn** **22 51 44.8 +0.4**
CLTB Caltabellotta 6.98 210 **Pn** **22 51 46.2 +1.3**
ROTZ Rotzenmuhle 7.07 331 *e*Pn **Pn** **22 51 46.7 +0.6**
ROTZ *e*Sn **Sn** **22 53 04.6 -2.5**
WILA Wila 7.11 304 *e*Pn **Pn** **22 51 48.0 +1.4**
WALHA Wallhausen, DE 7.15 307 *e*Pn **Pn** **22 51 48.5 +1.4**
KSP Ksiaz 7.17 353 *e*Pn **Pn** **22 51 50.8 +3.4**
KSP *e*Sn **Sn** **22 53 10.9 +1.4**
MANZ Manzenberg 7.29 331 *e*Pn **Pn** **22 51 50.3 +1.2**
MANZ *e*Sn **Sn** **22 53 12.1 -0.5**
SBF Sospel 7.34 275 *e*Pn **Pn** **22 51 49.1 -0.6**
SBF *e*Sn Sn 22 53 04.0 -10
comp=Z,124nm,0.5s
EMING Emmingen-Lipti 7.38 307 *e*Pn **Pn** **22 51 51.0 +0.6**
EMING *e*Sn **Sn** **22 53 13.8 -1.0**
GRA1 Grafenberg Arr 7.39 326 Pn **Pn** **22 51 50.9 +0.5**
GRF Grafenberg Arr 7.39 326 P **Pn** **22 51 50.9 +0.5**
GRFO Grafenberg 7.39 326 Pn **Pn** **22 51 50.8 +0.4**
GRFO Grafenberg 7.39 326 P **Pn** **22 51 50.8 +0.4**
NKC Novy Kostel 7.39 334 AMS AMS 22 54 40.0
comp=Z,2µm,6.8s
HSKC Hora Svate Kat 7.43 339 *e*PN **Pn** **22 51 52.7 +1.6**
SLE Schleitheim 7.52 306 *e*Pn **Pn** **22 51 52.5 +0.3**
BRG Berggiesshubel 7.56 342 *e*P **Pn** **22 51 56.4 +3.6**
BRG Amp 22 51 57.7
comp=Z,12nm,0.7s
BRG r 22 52 10.8
BRG Amp 22 52 12.1
comp=Z,10nm,0.6s
BRG r 22 53 04.1
BRG Amp 22 53 12.2
comp=Z,21nm,0.9s
BRG r 22 53 29.5
BRG Amp 22 53 33.1
comp=Z,30nm,0.8s
BRG r 22 53 40.0
BRG Amp 22 53 45.8
comp=Z,50nm,0.9s
BRG Amp 22 54 21.0
comp=N,2.1nm,12.7s
BRG Amp 22 54 22.0
comp=E,0.7nm,13.1s
BRG Amp 22 54 49.0
comp=Z,0.7nm,9.2s
BRG Berggiesshubel 7.56 342 *e*P **Pn** **22 51 56.3 +3.6**
BRG 22 53 29.5
BRG pmax pmax
comp=Z,12nm,0.7s
BRG pmax pmax
comp=Z,10.0nm,0.6s
BRG pmax pmax
comp=Z,21nm,0.9s
BRG pmax pmax
comp=Z,30nm,0.9s
BRG pmax pmax
comp=Z,50nm,1.0s
BRG MLR MLR
comp=N,2µm,12.7s
BRG MLR MLR
comp=E,684nm,13.1s
BRG MLR MLR
comp=Z,666nm,9.2s
METMA Mettma DE 7.64 305 *e*Pn **Pn** **22 51 54.2 +0.4**
STU Stuttgart 7.69 314 **Pn** **22 51 55.1 +0.6**
STU Stuttgart 7.69 314 P **Pn** **22 51 55.1 +0.6**
STU Stuttgart 7.69 314 *e*Pn **Pn** **22 51 55.6 +1.1**
SENIN Lac Senin/Sane 7.74 293 Pn **Pn** **22 51 57.0 +1.6**
BERGE Lenzkirch (DE) 7.76 306 *e*Pn **Pn** **22 51 55.7 +0.2**
BALST Balsthal 7.81 301 *e*Pn **Pn** **22 51 57.5 +1.2**
MBDF Montbardon 7.82 281 *e*Sn Sn 22 53 15.4 -10
comp=Z,108nm,0.6s
TIRR Tirgusor 7.84 81 Pn **Pn** **22 51 57.1 +0.5**
TIRR Tirgusor 7.84 81 P **Pn** **22 51 57.1 +0.5**
BFO Black Forest 7.91 309 *e*Pn **Pn** **22 51 58.0 +0.5**
BFO *e*Sn **Sn** **22 53 27.1 -0.5**
BNI Bardonecchia 7.91 283 Pn **Pn** **22 51 56.6 -1.2**
BNI Bardonecchia 7.91 283 P **Pn** **22 51 56.6 -1.2**
LPG La Plagne 7.92 287 *e*Pn **Pn** **22 51 56.8 -1.2**
LPG *e*Sn Sn 22 53 18.2 -10
comp=Z,273nm,0.8s
LPL La Plagne 7.94 287 *e*Pn **Pn** **22 51 57.3 -0.8**
LPL *e*Sn Sn 22 53 18.4 -10
comp=Z,360nm,0.9s
MOX Moxa 8.02 332 *e*Pn **Pn** **22 51 59.7 +0.7**
MOX *e*Sn **Sn** **22 53 27.5 -2.9**
LMR La Mourre 8.05 271 *e*Pn **Pn** **22 51 59.1 -0.3**
LMR *e*Sn Sn 22 53 20.6 -11
comp=Z,35nm,0.8s
CLL Collm 8.19 339 Pn **Pn** **22 52 02.4 +1.1**
CLL Collm 8.19 339 *e*P **Pn** **22 52 03.0 +1.7**
CLL Collm 8.19 339 *e*Pn **Pn** **22 52 03.0 +1.7**
CLL *i* Pg **Pg** **22 52 37.9 -0.2**
CLL *e*Sn Sn 22 53 20.0 -14
CLL *i* Sb Sb 22 54 00.2 -1.7
CLL *i* x x 22 54 10.9
CLL *e*Sglp 22 54 19.0
comp=N,600nm,18.1s
CLL *e*Sglp 22 54 19.0
comp=E,2µm,16.6s
CLL *e*Sglp 22 54 19.0
comp=Z,200nm,23.9s
CLL *e*Sg **Sg** **22 54 27.0 +2.9**
comp=Z,184nm,1.4s
CLL *e*AMS AMS 22 55 01.0
ORIF Oris-en-Rattie 8.47 282 *e*Pn **Pn** **22 52 04.4 -0.9**
ECH Echery 8.53 305 Pn **Pn** **22 52 06.0 0.0**
ECH Echery 8.53 305 P **Pn** **22 52 06.0 0.0**
ECH Echery 8.53 305 *e*Pn **Pn** **22 52 06.1 0.0**
ECH *e*Sn **Sn** **22 53 42.2 -0.7**
HINF Hinteralfeld 8.53 302 *e*Pn **Pn** **22 52 05.6 -0.5**
HINF *e*Sn Sn 22 53 32.8 -10
comp=Z,148nm,1.0s
CDF Champ du Feu 8.55 307 *e*Pn **Pn** **22 52 05.9 -0.5**
CABF La Chapelle 8.61 294 *e*Pn **Pn** **22 52 07.5 +0.3**
CABF *e*Sn Sn 22 53 34.6 -10
comp=Z,165nm,0.9s
SMRF Simiane la Rot 8.67 276 *e*Pn **Pn** **22 52 08.0 -0.1**
HAU Haudompre 8.92 303 *e*Pn **Pn** **22 52 10.8 -0.6**
HAU *e*Sn Sn 22 53 41.2 -11
comp=Z,225nm,0.9s
TNS Taunus Mts 9.00 319 *e*Pn **Pn** **22 52 13.9 +1.4**
TNS *e*Sn **Sn** **22 53 51.1 -3.5**
APE Apeiranthos 9.00 135 ⇑P **Pn** **22 52 13.2 +0.6**
APE Apeiranthos 9.00 135 **Pn** **22 52 13.2 +0.6**
APE Apeiranthos 9.00 135 P **Pn** **22 52 13.2 +0.6**
ABH Alteburg 9.22 315 *e*Pn **Pn** **22 52 17.1 +1.6**
ABH *e*Sn **Sn** **22 53 59.0 -1.0**
VIVF Saint-Julien-l 9.32 281 *e*Sn Sn 22 53 51.7 -11
comp=Z,43nm,0.7s
SSB Saint Sauveur 9.44 284 Pn **Pn** **22 52 17.1 -1.5**
SSB Saint Sauveur 9.44 284 P **Pn** **22 52 17.1 -1.5**
RIVT Riveris 9.53 313 *e*Pn **Pn** **22 52 23.0 +3.3**
RIVT *e*Sn **Sn** **22 54 07.4 0.0**
WLF Walferdange 9.83 311 Pn **Pn** **22 52 24.3 +0.4**
WLF Walferdange 9.83 311 P **Pn** **22 52 24.3 +0.4**
AHRW Bad Neuenahr-A 9.87 317 *e*Pn **Pn** **22 52 26.7 +2.3**
SMF Signal de Mont 10.12 292 *e*Pn **Pn** **22 52 27.6 -0.3**
SMF *e*Sn Sn 22 54 10.7 -11
comp=Z,63nm,0.6s

IDI Anoyia 10.15 144 Pn **Pn** **22 52 28.1 -0.2**
IDI Anoyia 10.15 144 Pn **Pn** **22 52 27.2 -1.1**
comp=Z,1.5nm,0.3s,baz=298,slow=18,SNR=3.0
IDI Sn **Sn** **22 54 15.2 -7.5**
comp=Z,1.9nm,0.3s,baz=122,slow=22,SNR=4.2
IDI LR LR 22 56 35.3
comp=Z,116nm,20.8s,baz=292,slow=39
comp=Z,5.2nm,0.5s
KEST Kesra 10.19 221 **Pn** **22 52 30.8 +1.9**
KEST Kesra 10.19 221 Pn **Pn** **22 52 29.0 +0.1**
comp=Z,3.0nm,0.3s,baz=320,slow=5.6,SNR=31
comp=Z,6.6nm,0.6s
LOR Lormes 10.26 295 *e*Pn **Pn** **22 52 29.8 +0.1**
LOR *e*Sn Sn 22 54 13.9 -11
comp=Z,120nm,1.0s
BTNL Ternell 10.37 315 *d*P **Pn** **22 52 34.3 +3.0**
BTNL *d*S **Sn** **22 54 25.6 -2.6**
SSF Saint Saulge 10.44 294 *e*Pn **Pn** **22 52 31.9 -0.3**
SSF *e*Sn Sn 22 54 18.4 -11
comp=Z,57nm,0.9s
MEM Membach 10.45 315 *d*P **Pn** **22 52 35.9 +3.6**
AVF Avril sur Loir 10.48 292 *e*Pn **Pn** **22 52 32.0 -0.8**
AVF *e*Sn Sn 22 54 19.0 -12
comp=Z,51nm,0.8s
AKASG Malin Array Be 10.55 45 Pn **Pn** **22 52 34.4 +0.7**
comp=Z,0.5nm,0.3s,baz=233,slow=13,SNR=4.9
AKASG Sn **Sn** **22 54 30.7 -1.8**
comp=Z,0.4nm,0.3s,baz=239,slow=29,SNR=1.5
AKASG LR LR 22 56 52.4
comp=Z,303nm,21.0s,baz=228,slow=39
comp=Z,2.0nm,0.8s
RCHB Rochefort 10.60 312 *d*P **Pn** **22 52 35.9 +1.5**
RCHB *d*S **Sn** **22 54 32.6 -1.1**
BSTI Sart Tilman 10.66 314 *d*P **Pn** **22 52 38.2 +3.0**
BCLA Clavier 10.71 313 *d*P **Pn** **22 52 38.6 +2.8**
BCLA *d*S **Sn** **22 54 34.2 -2.1**
BGF Bois d'Agland 10.78 290 *e*Pn **Pn** **22 52 36.0 -0.9**
BGF *e*Sn Sn 22 54 26.4 -12
comp=Z,95nm,0.7s
BGES Gesves 10.80 312 *d*P **Pn** **22 52 39.5 +2.4**
BGES *d*S **Sn** **22 54 35.0 -3.6**
DOU Dourbes 10.92 310 *d*P **Pn** **22 52 38.9 +0.2**
BMRD Maredsous 10.93 311 *d*P **Pn** **22 52 40.7 +1.8**
BMRD *d*S **Sn** **22 54 40.6 -1.2**
KARP Karpathos 11.01 135 Pn **Pn** **22 52 40.2 0.0**
HYF Humbligny 11.06 294 *e*Pn **Pn** **22 52 41.4 +0.7**
HYF *e*Sn Sn 22 54 33.2 -12
MTLF Montolieu 11.16 273 *e*Pn **Pn** **22 52 39.8 -2.2**
TCF Toulx Ste Croi 11.17 289 *e*Pn **Pn** **22 52 41.9 -0.4**
TCF *e*Sn Sn 22 54 35.6 -12
comp=Z,57nm,1.0s
CAF Calviac 11.18 282 *e*Pn **Pn** **22 52 40.1 -2.2**
CAF *e*Sn Sn 22 54 35.6 -12
comp=Z,18nm,0.8s
CLF Chambon-Foret 11.50 297 **Pn** **22 52 47.5 +0.8**
RJF Les Rejaudoux 11.57 283 *e*Pn **Pn** **22 52 46.3 -1.4**
ELL Elmali 11.72 122 **Pn** **22 52 52.9 +3.0**
ELL Elmali 11.72 122 P **Pn** **22 52 52.9 +3.0**
PABE Paberze 12.49 17 Pn **Pn** **22 53 02.6 +2.5**
EPF Esparros 12.56 273 *e*Pn **Pn** **22 53 00.4 -0.9**
BRTR Keskin Array B 12.65 103 Pn **Pn** **22 53 03.9 +1.3**
comp=Z,0.1nm,0.3s,baz=289,slow=15,SNR=1.2
BRTR LR LR 22 57 30.6
comp=Z,162nm,21.1s,baz=314,slow=35
comp=Z,0.3nm,0.3s
NACGM Naroch 12.68 25 *e*P **Pn** **22 53 06.8 +4.0**
comp=Z,42nm,0.8s,baz=211
MFF Saint Martin d 12.83 289 *e*Pn **Pn** **22 53 05.1 +0.2**
LDF La Druitiere 13.19 298 *e*Pn **Pn** **22 53 08.1 -1.6**
FLN La Foliniere 13.46 298 *e*Pn **Pn** **22 53 12.3 -1.2**
GRR Gorron 13.61 296 *e*Pn **Pn** **22 53 13.7 -1.8**
SJPF Ste Jean 13.68 274 *e*Pn **Pn** **22 53 14.4 -2.1**
SGMF Saint Gilles 14.69 295 *e*Pn **Pn** **22 53 29.7 -0.6**
CSS Mathiatis 14.99 120 **P** **22 53 37.5 -2.7**
QUIF Quistinic 15.04 293 *e*Pn **Pn** **22 53 33.3 -1.7**
ROSF Rostrenen 15.18 295 *e*Pn **Pn** **22 53 34.9 -2.0**
SOC Sochi 16.03 83 *e*P **Pn** **22 53 48.7 +0.7**
SOC *e* 22 56 50.0
SOC MLR MLR
comp=Z,132nm,16.0s
VSR Storozhevoye 16.37 55 *e*P **Pn** **22 53 52.3 0.0**
VSR pmax pmax
comp=Z,5.0nm,1.1s
VORR Voronezh 16.55 54 *e*P **P** **22 53 57.5 +0.2**
VORR pmax pmax
comp=Z,10.0nm,0.9s
ESBB Sonseca Array 16.57 263 Pn **Pn** **22 53 55.4 +0.4**
ESDC Sonseca Array 16.57 263 Pn **Pn** **22 53 55.0 -0.1**
comp=Z,0.1nm,0.3s,baz=71,slow=11,SNR=4.2
comp=Z,2.2nm,0.6s
HFS Hagfors 16.60 353 Pn **Pn** **22 53 53.7 -1.5**
comp=Z,6.7nm,1.0s,baz=149,slow=20,SNR=2.3
LPSR Galich'ya Gora 16.73 50 *e*P **P** **22 53 58.9 -0.4**
LPSR pmax pmax
comp=Z,9.0nm,1.0s
OBN Obninsk 16.75 40⇑ *e*P **P** **22 53 59.9 +0.5**
OBN *e*S **Sn** **22 57 08.1 +4.6**
OBN pmax pmax
comp=Z,61nm,2.8s
OBN MLR MLR
comp=Z,274nm,20.0s
OBN Obninsk 16.75 40 Pn **Pn** **22 53 55.5 -1.6**
comp=Z,2.1nm,0.3s,baz=171,slow=22,SNR=2.3
OBN LR LR 23 00 59.3
comp=Z,249nm,19.8s,baz=182,slow=39
comp=Z,5.8nm,0.4s
PAB San Pablo 16.90 263 Pn **Pn** **22 53 58.8 -0.4**
PAB San Pablo 16.90 263 P **Pn** **22 53 58.8 -0.4**
PAB pmax pmax
comp=Z,11nm,1.4s
NC602 NORSAR Array S 17.41 350 P **Pn** **22 54 04.7 -0.8**
NC602 IAmb IAmb 22 54 27.6
comp=Z,19nm,1.1s
MMAI Mount Meron Ar 17.57 122 P **Pn** **22 54 06.3 -1.4**
comp=Z,2.6nm,0.3s,baz=310,slow=9.7,SNR=16
MMAI LR LR 23 02 11.1
comp=Z,81nm,20.6s,baz=270,slow=42
comp=Z,2.7nm,0.6s
MOS Moscow 17.60 40 *e*P **P** **22 54 09.3 +0.5**
EKA Eskdalemuir Ar 17.69 318 P **Pn** **22 54 09.1 +0.1**
baz=130,slow=14
comp=Z,1.5nm,0.9s
NOA NORSAR Array B 17.75 350 LR LR 23 00 27.3
comp=Z,69nm,20.9s,baz=170,slow=35
PBRG Braganca 17.94 272 *e*P **P** **22 54 15.3 +2.5**
KIV Kislovodsk 18.10 81 *e*P **P** **22 54 17.9 +3.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 18.29 81 *ce*P P 22 54 23.9 +7.3
KBZ Khabaz 18.29 81 P **P** **22 54 16.9 +0.3**
comp=Z,2.5nm,1.0s,baz=233,slow=19,SNR=2.7
KBZ LR LR 23 02 36.7
comp=Z,176nm,18.2s,baz=293,slow=41
MVO Moncorvo 18.32 270 *e*P **P** **22 54 18.0 +1.0**
comp=Z,21nm,1.7s
FINES FINESS Array B 18.45 13 P **P** **22 54 18.5 +0.2**
FINES FINESS Array B 18.45 13 *ce*P P 22 54 26.8 +8.6
FINES pmax pmax
comp=Z,11nm,1.0s
FINES FINESS Array B 18.45 13 P **P** **22 54 18.7 +0.5**
comp=Z,0.5nm,0.3s,baz=196,slow=10,SNR=15
comp=Z,2.8nm,0.5s
PVRL Vila Real 18.79 271 *e*P **Pn** **22 54 25.1 +2.6**
POLO Lamas de Olo 18.82 272 *e*P **Pn** **22 54 26.2 +3.3**
comp=Z,16nm,1.9s
MTE Manteigas 18.92 269 *e*P **Pn** **22 54 25.0 +0.8**
comp=Z,27nm,1.8s
MTE Manteigas 18.92 269 P **P** **22 54 23.0 -0.6**
MTE IAmb IAmb 22 54 28.4
comp=Z,11nm,0.8s
PCBR Castelo Branco 19.05 267 *e*P **Pn** **22 54 26.1 +0.4**
ASF Jabal al Asfar 19.07 121 P **Pn** **22 54 26.6 +0.6**
comp=Z,0.2nm,0.3s,baz=291,slow=10,SNR=9.6
comp=Z,6.7nm,0.8s
PVIS Viseu 19.08 270 *e*P **Pn** **22 54 28.4 +2.4**
GURO Guroymak-BITLI 19.11 97 P **Pn** **22 54 28.1 +1.6**
PMRV Marv??o 19.14 266 *e*P **Pn** **22 54 27.8 +1.1**
comp=Z,19nm,1.7s
ZEI Tsey 19.18 84 *e*P **Pn** **22 54 27.9 +0.5**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
PBAR Barrancos 19.37 262 *e*P **Pn** **22 54 30.3 +0.8**
PESTR Estremoz 19.49 264 *e*P **Pn** **22 54 31.6 +0.6**
comp=Z,22nm,1.5s
PESTR Estremoz 19.49 264 P **P** **22 54 29.2 -0.6**

PESTR IAmb IAmb 22 54 33.9
comp=Z,8.1nm,0.7s
COI Coimbra 19.61 269 *e*P **P** **22 54 31.7 +0.6**
EIL Elat 19.72 130 P **P** **22 54 32.7 +0.3**
comp=Z,0.7nm,0.3s,baz=341,slow=11,SNR=8.5
comp=Z,8.2nm,0.7s
PCAS Casmilo, Conde 19.72 268 *e*P **Pn** **22 54 33.4 -0.4**
comp=Z,36nm,1.7s
SIRT Sirnak 19.84 100 P **P** **22 54 33.4 -0.4**
PMTG Montargil 19.87 265 *e*P **P** **22 54 33.6 -0.4**
EVO Evora 19.92 264 *e*P **P** **22 54 35.0 +0.5**
comp=Z,17nm,1.7s
PVAQ Vaqueiros 20.18 260 *e*P Pn 22 54 38.7 -0.5
MDT Midelt 20.48 245 P **P** **22 54 39.7 -1.0**
comp=Z,3.0nm,0.7s,baz=76,slow=11,SNR=9.2
MDT LR LR 23 01 38.3
comp=Z,127nm,18.8s,baz=64,slow=34
comp=Z,3.0nm,0.7s
GNI Garni 20.49 91 P Pn 22 54 42.2 -0.8
GNI IAmb IAmb 22 54 47.5
comp=Z,20nm,0.9s
GNI Garni 20.49 91 *ce*P Pn 22 54 47.3 +4.3
GNI pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 20.49 91 P Pn 22 54 42.1 -0.9
comp=Z,14nm,0.8s,baz=152,slow=7.7,SNR=5.3
GNI LR LR 23 05 04.8
comp=Z,98nm,18.1s,baz=303,slow=44
comp=Z,14nm,0.8s
KLMR Klimovskoe 21.60 30 *e*P **P** **22 54 50.9 -1.5**
KLMR AMP 22 54 59.1
comp=Z,29nm,1.5s
KLMR Klimovskoe 21.60 30 *e*P **P** **22 54 50.8 -1.6**
KLMR pmax pmax
comp=Z,29nm,1.5s
BELG Belogornoye 21.74 56 P **P** **22 54 54.6 +0.5**
comp=Z,21nm,0.6s,baz=289,slow=0.3,SNR=26
comp=Z,21nm,0.6s
ADZR Andozero 23.43 23 *e*P **P** **22 55 13.8 +2.0**
ADZR pmax pmax
comp=Z,14nm,0.6s
PRGR Permogore 24.40 33 *e*P **P** **22 55 21.5 +0.5**
PRGR pmax pmax
comp=Z,18nm,0.6s
KIRV Kirov 24.59 42 P **P** **22 55 24.1 +1.4**
comp=Z,19nm,0.7s,baz=248,slow=9.3,SNR=5.1
KIRV LR LR 23 05 32.5
comp=Z,244nm,20.1s,baz=247,slow=38
comp=Z,19nm,0.7s
ARCES ARCESS Array B 26.19 6 P **P** **22 55 37.6 +0.4**
comp=Z,1.9nm,0.5s,baz=187,slow=9.3,SNR=9.4
comp=Z,1.9nm,0.5s
ARU Arti 28.75 49 *d i*P **P** **22 56 00.2 -0.1**
ARU 22 56 47.1
ARU S **S** **23 00 51.6 +1.3**
ARU SS **SnSn** **23 02 10.2 -0.1**
ARU pmax pmax
comp=Z,11nm,1.5s
ARU Arti 28.75 49 P **P** **22 55 59.9 -0.4**
comp=Z,2.1nm,0.4s,baz=239,slow=11,SNR=5.2
ARU LR LR 23 08 25.7
comp=Z,159nm,18.7s,baz=264,slow=38
comp=Z,2.1nm,0.4s
GEYT Alibeck 30.99 87 P **P** **22 56 21.7 +1.3**
comp=Z,3.3nm,0.7s,baz=262,slow=10,SNR=6.3
GEYT LR LR 23 12 33.1
comp=Z,47nm,19.0s,baz=351,slow=44
comp=Z,2.3nm,0.7s
TOA0 Torodi Ar. Sit 33.39 209 P **P** **22 56 40.3 -1.2**
TOA0 IAmb IAmb 22 56 45.7
comp=Z,3.0nm,0.7s
TORD Torodi Ar. Bea 33.39 209 P **P** **22 56 40.6 -0.9**
TORD IAmb IAmb 22 56 45.8
comp=Z,1.9nm,0.8s
TORD Torodi Ar. Bea 33.39 209 P **P** **22 56 40.2 -1.3**
comp=Z,2.7nm,0.5s,baz=11,slow=8.9,SNR=13
TORD LR LR 23 12 23.7
comp=Z,76nm,18.9s,baz=241,slow=40
comp=Z,2.7nm,0.5s
KOWA Kowa 34.49 219 LR LR 23 12 25.7
comp=Z,66nm,18.8s,baz=90,slow=39
KBS Kingsbay 35.38 358 *ce*P P 22 57 05.5 +7.3
KBS pmax pmax
comp=Z,49nm,1.7s
BRVK Borovoye 35.48 56 P **P** **22 56 59.2 -0.1**
BRVK Borovoye 35.48 56 P **P** **22 56 59.2 -0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BVAR Borovoye Array 35.55 56 P **P** **22 57 00.2 +0.3**
comp=Z,2.5nm,0.6s,baz=274,slow=7.7,SNR=13
comp=Z,2.5nm,0.6s
KKAR Karatay Array 37.91 72 P **P** **22 57 20.7 +0.5**
KKAR IAmb IAmb 22 57 36.7
comp=Z,2.7nm,0.8s
KKAR Karatay Array 37.91 72 P **P** **22 57 20.6 +0.5**
KKAR Karatay Array 37.91 72 P **P** **22 57 20.7 +0.5**
KKAR 22 57 20.7
KKAR pmax pmax
comp=Z,3.0nm,0.8s
OMEGA Omega 38.66 7 P **P** **22 57 25.4 -0.7**
WSAR Wadi Sarin 39.37 108 LR LR 23 17 01.6
comp=Z,76nm,18.3s,baz=76,slow=41
KURBB Kurchatov Arra 40.96 58 P **P** **22 57 44.4 -1.1**
comp=Z,0.8nm,0.5s,baz=287,slow=9.5,SNR=9.5
comp=Z,0.8nm,0.5s
KURK Kurchatov 40.99 58 *ce*P **P** **22 57 45.6 -0.1**
KURK pmax pmax
comp=Z,2.0nm,0.7s
DBIC Dimbokro 41.83 215 P **P** **22 57 51.3 -1.6**
DBIC Dimbokro 41.83 215 P **P** **22 57 51.3 -1.6**
comp=Z,6.3nm,0.6s,baz=18,slow=7.9,SNR=15
DBIC LR LR 23 16 10.9
comp=Z,82nm,20.4s,baz=29,slow=38
comp=Z,6.3nm,0.6s
BOOM Boomskoye usch 41.86 71 P **P** **22 57 53.3 +0.1**
BOOM IAmb IAmb 22 58 22.4
comp=Z,9.1nm,1.5s
BOOM Boomskoye usch 41.86 71 P **P** **22 57 53.3 +0.1**
BOOM pmax pmax
comp=Z,9.0nm,1.5s
TIC Toumodi 41.92 215⇑ *i*P **P** **22 57 53.1 -0.6**
comp=Z,1.7nm,0.2s
KIC Kosan Boka 42.06 214⇑ *i*P **P** **22 57 53.7 -1.2**
comp=Z,14nm,0.7s
LIC Lamto 42.30 215⇑ *i*P **P** **22 57 55.6 -1.2**
comp=Z,28nm,0.7s
KSH Kashi 43.08 75 P **P** **22 58 06.5 +3.4**
KSH S **S** **23 04 30.3 +0.2**
KSH pmax pmax
comp=Z,6.0nm,0.9s
LODK Lodwar 43.12 154 P **P** **22 58 03.8 +0.2**
ZALV Zalesovo Beam 43.84 52 P **P** **22 58 08.6 -0.2**
comp=Z,1.4nm,0.5s,baz=282,slow=8.7,SNR=7.4
ZALV LR LR 23 18 13.6
comp=Z,152nm,18.1s,baz=282,slow=38
comp=Z,1.4nm,0.5s
NIL Nilore 43.88 84 P **P** **22 58 10.1 +0.6**
NIL IAmb IAmb 22 58 28.3
comp=Z,6.4nm,0.9s
NIL Nilore 43.88 84 P **P** **22 58 10.1 +0.6**
NIL pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 44.50 62 P **P** **22 58 13.6 -0.7**
MKAR Makanchi Array 44.50 62 *ce*P **P** **22 58 13.6 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 44.50 62 P **P** **22 58 13.1 -1.2**
comp=Z,1.0nm,0.7s,baz=279,slow=7.7,SNR=8.0
comp=Z,1.0nm,0.7s
WMQ Urumqi 49.18 64 *e*P **P** **22 58 55.0 +4.0**
WMQ pmax pmax
comp=Z,10.0nm,0.9s
SCHQ Schefferville 52.94 314 P **P** **22 59 17.8 -1.2**
comp=Z,6.2nm,1.0s,baz=50,slow=2.4,SNR=3.6
comp=Z,6.2nm,1.0s
TIXI Tiksi 55.25 21 *ce*P **P** **22 59 36.9 +1.3**
SONM Songino Array 58.73 52 P **P** **23 00 00.3 -0.6**
comp=Z,1.3nm,0.8s,baz=316,slow=10,SNR=3.8
SONM LR LR 23 25 56.2
comp=Z,71nm,21.6s,baz=352,slow=37
comp=Z,1.3nm,0.8s
YKA Yellowknife Ar 67.41 338 P **P** **23 00 59.2 +1.1**
comp=Z,1.3nm,0.6s,baz=45,slow=10.0,SNR=2.6
comp=Z,1.3nm,0.6s
ILAR Eielson Array 71.15 353 P **P** **23 01 21.8 +0.5**
comp=Z,0.6nm,0.9s,baz=2.6,slow=4.0,SNR=4.3
comp=Z,0.6nm,0.9s

CMAR Chiang Mai Arr 71.34 82 P P 23 01 22.2 -0.9
comp=Z,1.6nm,0.7s,baz=309,slow=7.6,SNR=8.8
comp=Z,1.6nm,0.7s
BOSA Boshof 72.33 173 P P 23 01 27.4 -1.4
comp=Z,2.3nm,0.7s,baz=8.6,slow=6.8,SNR=5.5
comp=Z,2.3nm,0.7s
TKL Tuckaleechee C 73.52 304 LR LR 23 33 45.5
comp=Z,80nm,18.3s,baz=24,slow=36
SUR Sutherland 75.80 177 LR LR 23 39 02.1
comp=Z,81nm,18.4s,baz=18,slow=39
KSRS Korea Array 77.50 50 P P 23 01 57.9 -0.8
comp=Z,0.4nm,0.3s,baz=332,slow=4.8,SNR=1.8
KSRS LR LR 23 38 08.1
comp=Z,40nm,21.8s,baz=265,slow=37
comp=Z,0.4nm,0.3s
PETK Petropavlovsk- 77.64 23 LR LR 23 39 19.1
comp=Z,68nm,19.5s,baz=31,slow=38
PDAR Pinedale Array 81.73 324 P P 23 02 22.4 +0.4
comp=Z,0.5nm,0.5s,baz=56,slow=3.7,SNR=6.5
comp=Z,0.5nm,0.5s
MJAR Matsushiro Arr 83.64 44 LR LR 23 41 45.2
comp=Z,70nm,18.8s,baz=32,slow=37
NVAR Mina Array Bea 88.99 327 P P 23 02 57.1 -1.1
comp=Z,0.2nm,0.5s,baz=251,slow=2.8,SNR=2.1
NVAR LR LR 23 47 20.5
comp=Z,42nm,19.5s,baz=34,slow=39
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 89.57 312 P P 23 02 59.5 -1.5
comp=Z,1.6nm,0.9s,baz=60,slow=4.7,SNR=11
comp=Z,1.6nm,0.9s
WRA Warramunga Arr 122.73 87 PKP **PKPdf 23 08 58.7 -0.6**
comp=Z,0.3nm,0.8s,baz=317,slow=1.7,SNR=2.6
ASAR Alice Springs 124.74 91 PKP **PKPdf 23 09 01.3 -1.8**
comp=Z,0.2nm,0.4s,baz=323,slow=1.8,SNR=5.8
QSPA South Pole Qui 133.58 180 PKP **PKPdf 23 09 18.8 +0.2**
comp=Z,1.5nm,1.0s,baz=259,slow=1.2,SNR=3.9

ISK 25 22:51:40.7,36°.93N×27°.61E,h12km,ML1.1/10,
Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTAA	**Mazikoy-Bodrum**	**0.13**	**59**	Pg	Pg	22 51 44.3	+0.3
RFTAA				Sg	Sg	22 51 46.9	+0.6
DAT	**Datca**	**0.20**	**186**	Pg	Pg	22 51 45.4	+0.2
DAT				Sg	Sg	22 51 48.9	+0.6
RFTD	**Palamutbuku-Ka**	**0.26**	**199**	Pg	Pg	22 51 46.5	+0.3
RFTD				Sg	Sg	22 51 50.8	+1.0
RFTB	**Kemer-Bodrum**	**0.27**	**277**	Pg	Pg	22 51 46.7	+0.4
RFTB				Sg	Sb	22 51 51.1	-0.9
BODT	**Bodrum**	**0.27**	**299**	Pg	Pg	22 51 46.7	+0.4
BODT				Sg	Sg	22 51 51.1	+1.0
MLSB	**Milas**	**0.39**	**20**	Pg	Pg	22 51 48.9	+0.4
TURN	**Turunc**	**0.54**	**107**	Pg	Pg	22 51 51.5	+0.3
YER	**Yerkesik**	**0.58**	**69**	Sg	Pb	22 51 52.5	-0.3
ARG	**Arkhangelos**	**0.83**	**149**	Pg	Pb	22 51 57.0	0.0
DALY	**Dalyan (Mula)**	**0.85**	**97**	Pg	Pb	22 51 57.4	+0.1

DNK ***25*** *22:55:34.5±3.3, 81°.73N×3°.64W, h29km±5.6km, ML2.5*
BER ***25*** *22:55:36.4±2.2, 81°.47N×4°.13W, h10km, mb(Pn)3.2, Confirmed Earthquake*
IEPN ***25*** *22:55:38.0, 81°.63N×2°.26W, h10km*
KOLA ***25*** *22:55:39.1, 81°.84N×0°.60W, h0km, ML2.1, Error ellipse: s-maj=89.5km s-min=19.8km az=50.0, Arctic Ocean, Knipovich ridge, north*

ISK 25 22:55:27.5±0.9, 80°.84N±0°.07×4°.28W±0°.03, h10km, n16,
σ2.9 30/27, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.05**	**298**	*e*P	**Pg**	**22 56 05.6**	**-1.1**
NOR	**Nord**	**2.05**	**298**	*i* P	**Pg**	**22 56 05.8**	**-1.0**
NOR				*e*S	**Sn**	**22 56 26.7**	**-0.8**
NOR				IAML		22 56 34.5	
	comp=Z,58nm,0.6s						
KBS	**Kingsbay**	**3.43**	**116**	*e*P	**Pg**	**22 56 31.6**	**-1.6**
KBS				*e*S	**Sb**	**22 57 11.1**	**+1.1**
KBS	**Kingsbay**	**3.43**	**116**	P	**Pg**	**22 56 31.9**	**-1.3**
KBS				S	**Sb**	**22 57 11.8**	**+1.7**
KBS	**Kingsbay**	**3.43**	**116**	*e*P	**Pg**	**22 56 32.4**	**-0.8**
KBS				*e*S	**Sb**	**22 57 11.7**	**+1.7**
KBS				IAML		22 57 19.3	
	comp=Z,6.4nm,0.4s						
KBS	**Kingsbay**	**3.43**	**116**	*i* P	**Pb**	**22 56 30.7**	**+2.4**
BRBB	**Barentsburg B**	**4.35**	**120**	P	**Pb**	**22 56 46.2**	**+2.4**
BRBB				S	**Sb**	**22 57 38.2**	**+2.0**
BRBB	**Barentsburg B**	**4.35**	**120**	*e*P	**Pb**	**22 56 46.4**	**+2.6**
BRBB				*e*S	**Sb**	**22 57 36.2**	**0.0**
SPA0	**Spitsbergen Ar**	**4.59**	**115**	*e*P	**Pb**	**22 56 47.4**	**-0.6**
SPA0				*e*S	**Sb**	**22 57 40.5**	**-2.8**
SPA0	**Spitsbergen Ar**	**4.59**	**115**	*e*P	**Pb**	**22 56 47.6**	**-0.4**
SPA0				*e*S	**Sb**	**22 57 40.9**	**-2.4**
SPITS	**Spitsbergen Ar**	**4.59**	**115**	P	**Pb**	**22 56 47.9**	**-0.2**
SPITS				S	**Sb**	**22 57 41.0**	**-2.4**
DAG	**Danmarks Havn**	**4.93**	**222**	*e*P	**Pb**	**22 56 56.3**	**+2.5**
DAG				*e*S	**Sb**	**22 57 53.1**	**+0.1**
DAG	**Danmarks Havn**	**4.93**	**222**	*i* P	**Pb**	**22 56 55.6**	**+1.9**
DAG				*i* S	**Sb**	**22 57 54.4**	**+1.4**
DAG				IAML		22 58 04.3	
	comp=Z,17nm,0.3s						
HSPB	**Hornsund (broa**	**5.38**	**125**	P	**Pb**	**22 57 00.9**	**-0.5**
DBG	**Daneborg**	**7.36**	**216**	*i* S	**Sb**	**22 58 55.2**	**-7.5**
ZFI2	**Zemlya Franca-**	**8.06**	**64**	*e*P	**Pn**	**22 57 25.3**	**+0.9**
ZFI2				*e*S	Sn	22 58 45.8	-10
	comp=Z,20nm,2.5s						

BGR ***25*** *22:58:08.3±0.5, 43°.41N×18°.00E, h10km, ML4.5, Error ellipse: s-maj=11.1km s-min=8.9km az=136.0*
IDC ***25*** *22:58:09.2±0.6, 43°.77N×17°.51E, h0km, mb3.9/17, mbtmp3.9/28, ML3.9/9, MS3.2/5, Error ellipse: s-maj=10.1km s-min=8.3km az=47.0*
PDG ***25*** *22:58:09.3±0.5, 43°.72N×17°.51E, h0km±11km, MD4.2/11, ML4.1/12, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0*
LDG ***25*** *22:58:09.1±0.3, 43°.56N×17°.84E, h5km, Ml4.5/23, Error ellipse: s-maj=8.7km s-min=6.2km az=17.0*
BEO ***25*** *22:58:10.6±0.3, 43°.76N×17°.59E, h3km±2km, ML4.1/24*
RHSSO ***25*** *22:58:10.2±0.2, 43°.72N×17°.54E, h4km±1km, ML4.3/19*
NEIC ***25*** *22:58:10.9±2.0, 43°.72N±0°.05×17°.53E±0°.06, h6km±5km, mb4.1/11, Mwr4.0/28, ML4.3/2(BUC), Error ellipse: s-maj=6.8km s-min=6.4km az=221.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}=0.43; $M_{\theta\theta}$=0.07; $M_{\phi\phi}$=0.36; $M_{r\theta}$=-0.73; $M_{\theta\phi}$=0.89; $M_{r\phi}$=0.17; Fault plane solution: M_0=1.23000×10^15^ NP1:ϕ_s=182.90000°, δ=50.99000°, λ=-158.32000°. NP2:ϕ_s=78.85000°, δ=73.32000°, λ=-41.08000°. Principal axes: T 1.2001, Plg14.0000°, Azm136.0000°; N 0.0571, Plg46.0000°, Azm241.0000°; P -1.2572, Plg40.0000°, Azm33.0000°;*
NEIC ***25*** *22:58:11.8, 43°.76N×17°.50E, h11km*
PRU ***25*** *22:58:12.2, 43°.78N×17°.59E, h1km, M4.1*

ISK 25 22:58:10.1±1.0, 43°.73N±0°.02×17°.57E±0°.02, h6km±6km,
n393, σ1.9 66/533, mb4.0/19, 32C-43D, Northwestern
Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RICI	**Ricice**	**0.40**	**234**	*i* Pg	**Pg**	**22 58 16.8**	**-0.9**
RICI				Sg	**Sg**	**22 58 23.0**	**0.0**
SRKY	**Kupres RS**	**0.45**	**319**	↑*i* Pg	**Pg**	**22 58 17.7**	**-1.1**
SRKY				*e*Sg	**Sg**	**22 58 24.6**	**-0.1**
NEVS	**Nevesinje**	**0.58**	**138**	*e*Pg	**Pg**	**22 58 21.0**	**-0.2**
NEVS				*e*Sg	**Sb**	**22 58 30.1**	**-1.0**
MAKA	**Makarska**	**0.60**	**223**	*i* Pg	**Pg**	**22 58 20.1**	**-1.4**
MAKA				Sg	**Sg**	**22 58 29.5**	**+0.2**
MGRS	**Mrkonjic Grad**	**0.77**	**333**	↑*i* Pg	**Pg**	**22 58 24.2**	**-0.7**
MGRS				*e*Sg	**Sg**	**22 58 34.4**	**-0.6**
STON	**Ston**	**0.86**	**174**	*e*Pg	**Pg**	**22 58 25.4**	**-1.2**
STON				Sg	**Sg**	**22 58 38.2**	**+0.4**
STON	**Ston**	**0.86**	**174**	*e*Pg	**Pg**	**22 58 25.0**	**-1.6**
STON				*e*Sg	**Sg**	**22 58 38.1**	**+0.4**
STON	**Ston**	**0.86**	**174**	↑*i* Pg	**Pg**	**22 58 24.8**	**-1.8**
STON				*e*Sg	**Sg**	**22 58 37.1**	**-0.7**
KIJV	**Kijevo**	**0.89**	**288**	*e*Pg	**Pg**	**22 58 26.2**	**-0.9**
KIJV				Sg	**Sg**	**22 58 39.5**	**+0.8**
HVAR	**Hvar**	**0.99**	**236**	*e*Pg	**Pg**	**22 58 27.4**	**-1.5**
HVAR				Sg	**Sb**	**22 58 43.0**	**+0.1**
BLY	**Banja Luka**	**1.06**	**345**	*e*Pg	**Pg**	**22 58 29.5**	**-0.9**
BLY				*e*Sg	**Sg**	**22 58 44.8**	**+0.7**
BLY	**Banja Luka**	**1.06**	**345**	↑*i*Pg	**Pg**	**22 58 29.5**	**-0.9**
BLY				*e*Sg	**Sg**	**22 58 44.0**	**-0.1**
LSTV	**Lastovo**	**1.08**	**208**	*i* Pg	**Pg**	**22 58 28.4**	**-2.4**
LSTV				Sg	**Sb**	**22 58 46.0**	**+0.4**
BRY	**Bratogost**	**1.09**	**139**	*e*Pg	**Pg**	**22 58 29.9**	**-1.0**
BRY				*e*Sg	**Sb**	**22 58 45.6**	**-0.3**
BRY	**Bratogost**	**1.09**	**139**	↑*i*Pg	**Pg**	**22 58 28.7**	**-2.2**
BRY				*i* Sg	**Sn**	**22 58 47.6**	**+0.2**
UPM	**Unac-Piva**	**1.10**	**118**	↑*i*Pg	**Pg**	**22 58 30.3**	**-1.0**
UPM				*e*Sg	**Sb**	**22 58 45.8**	**-0.6**
UPM	**Unac-Piva**	**1.10**	**118**	↑*i*Pg	**Pg**	**22 58 30.2**	**-1.0**
UPM				*i* Sg	**Sn**	**22 58 48.4**	**+0.5**
DBRK	**Dubrovnik**	**1.14**	**158**	*e*Pg	**Pg**	**22 58 30.7**	**-1.2**
DBRK				Sg	**Sn**	**22 58 48.2**	**-0.3**
TREB	**Trebinje**	**1.16**	**150**	*e*Pg	**Pg**	**22 58 31.0**	**-1.3**
TREB				*e*Sg	**Sn**	**22 58 49.5**	**+0.4**
TREB	**Trebinje**	**1.16**	**150**	*e*Pg	**Pg**	**22 58 30.6**	**-1.7**
TREB				*e*Sg	**Sb**	**22 58 47.7**	**-0.1**
RUDO	**Rudo**	**1.31**	**94**	⇓*i*Pg	**Pg**	**22 58 33.2**	**-1.9**
RUDO				*e*Sg	**Sn**	**22 58 52.9**	**+0.2**
BBLS	**Lazići**	**1.33**	**83**	*e*Pg	**Pg**	**22 58 35.0**	**-0.6**
BBLS				*e*Sg	**Sg**	**22 58 52.7**	**-0.2**
BBLS	**Lazići**	**1.33**	**83**	↑*i*Pg	**Pg**	**22 58 35.1**	**-0.6**
BBLS				*e*Sg	**Sn**	**22 58 53.4**	**0.0**
MORI	**Morici**	**1.36**	**276**	*i* Pg	**Pn**	**22 58 34.7**	**-0.9**
MORI				Sg	**Sn**	**22 58 55.4**	**+1.4**
A051A	**Mrakovica**	**1.37**	**340**	↑*i*Pg	**Pn**	**22 58 35.1**	**-0.8**
A051A				*e*Sg	**Sg**	**22 58 53.2**	**-0.9**
A052A	**Srbac**	**1.37**	**358**	*e*Pg	**Pn**	**22 58 35.4**	**-0.4**
A052A				*e*Sg	**Sg**	**22 58 53.9**	**-0.3**
PLE	**Pljevlja**	**1.38**	**106**	↑*i*Pg	**Pn**	**22 58 35.4**	**-0.6**
PLE				*i* Sg	**Sn**	**22 58 55.7**	**+1.1**
PRIJ	**Prijedor**	**1.39**	**334**	↑*i*Pg	**Pn**	**22 58 35.5**	**-0.6**
PRIJ				*e*Sg	**Sb**	**22 58 54.1**	**-0.4**
NKME	**Niksic**	**1.39**	**133**	⇓*i*Pg	**Pn**	**22 58 35.3**	**-0.8**
NKME				*i* Sg	**Sn**	**22 58 57.6**	**+2.7**
ZIRJ	**Zirje**	**1.40**	**268**	*e*Pg	**Pn**	**22 58 35.0**	**-1.1**
ZIRJ				Sg	**Sn**	**22 58 56.6**	**+1.6**
HCY	**Herceg Novi**	**1.45**	**152**	*e*Pg	**Pn**	**22 58 35.6**	**-1.2**
HCY				*e*Sg	**Sn**	**22 58 56.8**	**+0.6**
HCY	**Herceg Novi**	**1.45**	**152**	⇓*i*Pg	**Pn**	**22 58 35.2**	**-1.6**
HCY				*i* Sg	**Sn**	**22 58 58.4**	**+2.2**
UDBI	**Udbina**	**1.53**	**302**	*i* Pg	**Pn**	**22 58 37.6**	**-0.4**
UDBI				Sn	**Sg**	**22 59 00.3**	**+1.1**
CEME	**Cevo**	**1.54**	**140**	⇓*i*Pg	Pn	22 58 32.2	-5.9
CEME				*i* Sg	**Sg**	**22 59 02.7**	**+3.2**
TEKS	**Tekeris**	**1.63**	**59**	*e*Pg	**Pn**	**22 58 39.2**	**-0.2**
TEKS				*e*Sg	**Sb**	**22 59 01.4**	**0.0**
TEKS	**Tekeris**	**1.63**	**59**	*e*Pn	**Pn**	**22 58 39.1**	**-0.3**
TEKS				*e*Sn	**Sb**	**22 59 01.9**	**+0.5**
BUM	**Brajici-Budva**	**1.72**	**145**	↑*i*Pn	**Pn**	**22 58 41.3**	**+0.6**
BUM				*i* Sn	**Sg**	**22 59 07.2**	**+1.7**
DIVS	**Divibare**	**1.79**	**77**		**Pn**	**22 58 42.2**	**+0.6**
DIVS					**Sb**	**22 59 05.5**	**-0.5**
DIVS	**Divibare**	**1.79**	**77**	*e*Pn	**Pn**	**22 58 42.2**	**+0.6**
DIVS				*e*Sn	**Sb**	**22 59 05.8**	**-0.2**
DIVS	**Divibare**	**1.79**	**77**	↑*i*Pn	**Pn**	**22 58 42.1**	**+0.6**
DIVS				*e*Sn	**Sn**	**22 59 05.0**	**+0.4**
PDG	**Podgorica**	**1.79**	**136**	⇓P	**Pn**	**22 58 41.7**	**+0.1**
PDG	**Podgorica**	**1.79**	**136**		**Pn**	**22 58 41.8**	**+0.3**
PDG				Sg	**Sg**	**22 59 10.1**	**+2.6**
PDG	**Podgorica**	**1.79**	**136**	*e*Pn	**Pn**	**22 58 42.0**	**+0.5**
PDG				*e*Sn	**Sn**	**22 59 04.5**	**-0.1**
PDG	**Podgorica**	**1.79**	**136**	⇓*i*Pn	**Pn**	**22 58 41.6**	**+0.1**
PDG				*e*Sn	**Sb**	**22 59 05.9**	**0.0**
PDG	**Podgorica**	**1.79**	**136**	⇓*i*Pn	**Pn**	**22 58 41.8**	**+0.3**
PDG				*i* Sn	**Sg**	**22 59 10.1**	**+2.6**
SJES	**Sjenica**	**1.81**	**104**	*e*Pn	**Pn**	**22 58 42.8**	**+0.9**
SJES				*e*Sn	**Sb**	**22 59 07.1**	**+0.5**
SJES	**Sjenica**	**1.81**	**104**	↑*i*Pn	**Pb**	**22 58 42.9**	**-0.8**
SJES				*e*Sn	**Sb**	**22 59 06.7**	**+0.1**
PLIT	**Plitvice**	**1.81**	**310**	*i* Pn	**Pn**	**22 58 42.8**	**+0.9**
PLIT				Sn	**Sb**	**22 59 07.6**	**+0.9**
DUGI	**Dugi Otok**	**1.84**	**279**	*e*Pn	**Pn**	**22 58 43.4**	**+1.2**
DUGI				Sg	**Sg**	**22 59 10.2**	**+1.1**
IVA	**Berane**	**1.90**	**116**	↑*i*Pn	**Pb**	**22 58 44.8**	**-0.4**
IVA				*i* Sn	**Sg**	**22 59 12.3**	**+1.3**
VIRC	**Vir**	**1.90**	**288**	*e*Pn	**Pb**	**22 58 44.8**	**-0.4**
VIRC				Sg	**Sg**	**22 59 12.2**	**+1.0**
DRME	**Dracevica, Mon**	**1.94**	**142**	⇓*i*Pn	**Pn**	**22 58 44.7**	**+1.1**
DRME				*e*Sn	**Sn**	**22 59 08.9**	**+0.5**
DRME	**Dracevica, Mon**	**1.94**	**142**	↑*i*Pn	**Pb**	**22 58 45.5**	**-0.4**
DRME				*i* Sn	**Sg**	**22 59 13.1**	**+0.7**
MOSL	**Moslavina**	**1.97**	**343**	*e*Pn	**Pn**	**22 58 44.7**	**+0.6**
MOSL				Sn	**Sb**	**22 59 12.8**	**+1.5**
PVY	**Plav**	**2.08**	**122**	↑*i*Pn	**Pb**	**22 58 48.1**	**-0.2**
PVY				*i* Sn	**Sg**	**22 59 17.0**	**+0.1**
TRUS	**Trudelj**	**2.10**	**75**	*e*Pn	**Pn**	**22 58 46.6**	**+0.7**
NVLJ	**Novalja**	**2.12**	**294**	*e*Pn	**Pb**	**22 58 48.1**	**-0.7**
NVLJ				Sg	**Sg**	**22 59 18.1**	**+0.1**
FRGS	**Fruska Gora**	**2.15**	**47**	⇓P	**Pn**	**22 58 46.0**	**-0.4**
FRGS	**Fruska Gora**	**2.15**	**47**	*e*Pn	**Pn**	**22 58 46.1**	**-0.4**
FRGS				*e*Sn	**Sn**	**22 59 14.3**	**+0.9**
FRGS	**Fruska Gora**	**2.15**	**47**	*e*Pn	**Pn**	**22 58 47.1**	**+0.6**
FRGS				*e*Sn	**Sn**	**22 59 13.7**	**+0.3**
ULC	**Ulcinj**	**2.15**	**145**	⇓*i*Pn	**Pb**	**22 58 48.5**	**-0.9**
ULC				*i* Sn	**Sb**	**22 59 17.5**	**+1.1**
RABC	**Rab**	**2.25**	**298**	*i* Pn	**Pb**	**22 58 50.2**	**-0.9**
RABC				Sg	**Sg**	**22 59 22.8**	**+0.4**
GRUS	**Gruza**	**2.28**	**85**	*e*Pn	**Pn**	**22 58 49.1**	**+0.8**
GRUS				*e*Sn	**Sn**	**22 59 16.6**	**-0.1**
BEO	**Beograd**	**2.34**	**62**	*e*Pn	**Pn**	**22 58 49.6**	**+0.4**
ZAG	**Zagreb**	**2.38**	**332**	*e*Pn	**Pn**	**22 58 50.9**	**+1.2**
SGRT	**San Giovanni R**	**2.39**	**215**		**Pn**	**22 58 48.7**	**-1.1**
OZLJ	**Ozalj**	**2.41**	**322**	*e*Pn	**Pn**	**22 58 51.3**	**+1.2**
BOJS	**Bojanci**	**2.43**	**318**	↑*i*Pn	**Pn**	**22 58 50.5**	**+0.2**
BOJS				*e*Sn	**Sn**	**22 59 20.3**	**-0.1**
BOJS	**Bojanci**	**2.43**	**318**	*i* Pn	**Pn**	**22 58 50.5**	**+0.2**
BOJS				*e*Sn	**Sb**	**22 59 24.0**	**-0.4**
BOJS				IAML		22 59 38.1	
	comp=Z,499nm,0.4s						
PTJ	**Puntijarka**	**2.46**	**333**	*e*Pn	**Pn**	**22 58 51.5**	**+0.7**
KALN	**Kalnik**	**2.53**	**342**	*e*Pn	**Pn**	**22 58 51.9**	**+0.2**
MORH	**Mrgy, Hungar**	**2.60**	**17**	⇓P	**Pn**	**22 58 52.3**	**-0.3**
MORH	**Mrgy, Hungar**	**2.60**	**17**	*e*Sn	**Sn**	**22 59 25.5**	**+0.9**
SELS	**Selova**	**2.63**	**100**	*e*Pn	**Pn**	**22 58 53.9**	**+0.8**
LOBO	**Lobor**	**2.65**	**337**	*e*Pn	**Pn**	**22 58 54.3**	**+0.9**
SVIS	**Svilajnac**	**2.68**	**77**	*e*Pn	**Pn**	**22 58 54.9**	**+1.1**
SVIS				*e*Sn	**Sn**	**22 59 26.5**	**-0.1**
RIY	**Rijeka**	**2.73**	**307**	*e*Pn	**Pn**	**22 58 56.7**	**+2.3**
RIY				Sn	**Sn**	**22 59 29.8**	**+2.1**
BEHE	**Becsehely**	**2.80**	**349**	*e*Pn	**Pn**	**22 58 56.1**	**+0.7**
BEHE				*e*Sn	**Sn**	**22 59 30.1**	**+0.6**
TIR	**Tirane**	**2.92**	**144**	⇑P	**Pn**	**22 58 58.9**	**+1.9**
TIR	**Tirane**	**2.92**	**144**	Pn	**Pn**	**22 58 57.8**	**+0.7**
TIR	**Tirane**	**2.92**	**144**	*e*Pn	**Pn**	**22 58 59.0**	**+1.9**
BRJN	**Brijuni**	**2.99**	**295**	*i* Pn	**Pn**	**22 58 59.7**	**+1.7**
BRJN				Sn	**Sn**	**22 59 36.2**	**+2.1**
BOVS	**Bovan**	**3.00**	**90**	⇑P	**Pn**	**22 58 58.3**	**+0.1**
BOVS	**Bovan**	**3.00**	**90**		**Pn**	**22 58 58.3**	**+0.1**
BOVS	**Bovan**	**3.00**	**90**	*e*Pn	**Pn**	**22 58 58.2**	**+0.1**
BOVS				*e*Sn	**Sn**	**22 59 35.1**	**+0.7**
CEY	**Cerknica**	**3.01**	**313**	*e*Pn	**Pn**	**22 58 59.1**	**+0.7**
CEY				*e*Sn	**Sn**	**22 59 34.8**	**0.0**
KUBS	**Kucevo**	**3.03**	**76**	*e*Pn	**Pn**	**22 58 57.7**	**-1.0**
MATE	**Matera**	**3.15**	**192**	⇑P	**Pn**	**22 58 59.5**	**-0.6**
MATE	**Matera**	**3.15**	**192**		**Pn**	**22 58 59.5**	**-0.6**
MDVR	**Moldovita**	**3.15**	**69**	⇓P	**Pn**	**22 59 00.7**	**+0.3**
GUMA	**Gualdo di Mace**	**3.16**	**259**		**Pn**	**22 59 00.6**	**+0.2**
BARS	**Barje**	**3.23**	**105**	*e*Pn	**Pn**	**22 59 02.3**	**+1.0**
CAMP	**Campotosto**	**3.27**	**250**		**Pn**	**22 59 02.0**	**-0.1**
SKO	**Skopje**	**3.34**	**120**	*i* Pn	**Pn**	**22 59 06.2**	**+3.4**
FDMO	**Fiordimonte**	**3.34**	**260**		**Pn**	**22 59 03.1**	**+0.2**
AQU	**L'Aquila**	**3.35**	**247**		**Pn**	**22 59 03.0**	**-0.1**
TRI	**Trieste**	**3.36**	**307**		**Pn**	**22 59 04.7**	**+1.5**
ZAGS	**Zajecar**	**3.38**	**87**	*e*Pn	**Pn**	**22 59 03.6**	**+0.3**
ZAGS				*e*Sn	**Sn**	**22 59 44.3**	**+0.6**
NRCA	**Norcia**	**3.38**	**256**		**Pn**	**22 59 03.7**	**+0.2**
BZS	**Buzias**	**3.45**	**55**	⇓P	**Pn**	**22 59 03.8**	**-0.5**
BZS	**Buzias**	**3.45**	**55**	*e*Pn	**Pn**	**22 59 03.7**	**-0.6**
BZS				*e*Sn	**Sn**	**22 59 44.6**	**-0.9**
SOKA	**Soboth**	**3.45**	**330**	*i* Pn	**Pn**	**22 59 04.8**	**+0.3**
	comp=Z,93nm,0.5s,SNR=72						
SOKA				*i* Sn	**Sn**	**22 59 44.7**	**-1.1**
	comp=Z,205nm,0.5s						
PAOL	**Paolisi**	**3.50**	**221**	Pn	**Pn**	**22 59 04.9**	**-0.2**
OBKA	**Obir**	**3.51**	**323**	*e*Pn	**Pn**	**22 59 06.5**	**+1.2**
	comp=Z,12nm,0.3s						
OBKA				*i* Sn	**Sg**	**23 00 00.8**	**-2.0**
	comp=Z,382nm,0.8s						
OBKA	**Obir**	**3.51**	**323**	*e*Pn	**Pn**	**22 59 05.9**	**+0.6**
OBKA				*e*Sn	**Sn**	**22 59 46.3**	**-0.9**
OBKA	**Obir**	**3.51**	**323**	*e*Pn	**Pn**	**22 59 06.5**	**+1.2**
OHR	**Ohrid**	**3.54**	**137**	*e*Pn	**Pn**	**22 59 07.9**	**+2.2**
OHR	**Ohrid**	**3.54**	**137**	⇓*i*Pn	**Pb**	**22 59 09.6**	**-3.6**
OHR				*i* Sn	**Sb**	**22 59 54.9**	**-1.6**
VLO	**Vlora**	**3.56**	**156**		**Pn**	**22 59 06.9**	**+1.1**
SABO	**M.te Sabotino**	**3.61**	**310**		**Pn**	**22 59 07.5**	**+0.8**
HERR	**Herculane**	**3.66**	**70**	⇓P	**Pn**	**22 59 08.5**	**+1.2**
DJES	**Djerdap**	**3.68**	**74**	⇓P	**Pn**	**22 59 08.8**	**+1.3**
DJES	**Djerdap**	**3.68**	**74**	Pn	**Pn**	**22 59 08.4**	**+0.9**
DJES	**Djerdap**	**3.68**	**74**	*e*Sn	**Sn**	**22 59 50.3**	**-0.9**
MUHB	**Monte Urbino**	**3.70**	**265**	Pn	**Pn**	**22 59 08.6**	**+0.6**
ZAPS	**Zavoj**	**3.71**	**95**	*e*Pn	**Pn**	**22 59 08.5**	**+0.5**
SCTE	**Santa Cesarea**	**3.71**	**169**		**Pn**	**22 59 07.5**	**-0.5**
BOSS	**Bosilegrad**	**3.80**	**107**	*e*Pn	**Pn**	**22 59 10.3**	**+1.1**
RMGR	**Halanga-Turnu**	**3.80**	**74**	⇓P	**Pn**	**22 59 10.3**	**+1.2**
RMGR	**Halanga-Turnu**	**3.80**	**74**		**Pn**	**22 59 10.3**	**+1.2**
ARSA	**Arzberg**	**3.81**	**338**	*i* Pn	**Pn**	**22 59 09.9**	**+0.6**
	comp=Z,499nm,0.4s,SNR=366						
ARSA				*e*Sn	**Sn**	**22 59 54.6**	**+0.2**
	comp=Z,85nm,0.5s						
ARSA	**Arzberg**	**3.81**	**338**	↑*i* Pn	**Pn**	**22 59 09.6**	**+0.3**
ARSA				*e*Sn	**Sn**	**22 59 53.0**	**-1.4**
ARSA	**Arzberg**	**3.81**	**338**	*e*Pn	**Pn**	**22 59 09.6**	**+0.3**
CESX	**Cesi**	**3.82**	**255**		**Pn**	**22 59 09.8**	**+0.3**
SURR	**Surduc**	**3.82**	**56**	⇑P	**Pn**	**22 59 08.9**	**-0.6**
SURR	**Surduc**	**3.82**	**56**		**Pn**	**22 59 08.9**	**-0.6**
SIRR	**Siria**	**3.85**	**47**	⇑P	**Pn**	**22 59 09.5**	**-0.5**
PUNG	**Punghina**	**3.91**	**80**	⇑P	**Pn**	**22 59 11.7**	**+1.1**
KBN	**Korca**	**3.92**	**141**		**Pn**	**22 59 13.4**	**+2.5**
PRED	**Cave del Predi**	**3.93**	**315**	Pn	**Pn**	**22 59 11.7**	**+0.7**
CUC	**Castrocucco**	**3.96**	**200**	Pn	**Pn**	**22 59 11.1**	**-0.2**
STIP	**Stip**	**3.96**	**119**	*i* Pn	**Pn**	**22 59 15.6**	**+4.2**
MYKA	**Terra Mystica**	**4.02**	**318**	*e*Pn	**Pn**	**22 59 14.9**	**+2.6**
	comp=Z,15nm,0.4s						
MYKA				*e*Sn	**Sn**	**23 00 04.1**	**+4.4**
	comp=Z,61nm,0.4s						
BSZH	**Besenyszg**	**4.04**	**27**	⇑P	**Pn**	**22 59 13.0**	**+0.5**
RONA	**Rosalia, Austr**	**4.07**	**348**	*i* Pn	**Pn**	**22 59 13.6**	**+0.6**
	comp=Z,100nm,0.3s,SNR=84						
RONA				*i* Sn	**Sn**	**23 00 05.6**	**+4.7**
	comp=Z,160nm,0.5s						
GZR	**Gura Zlata**	**4.07**	**64**	⇓P	**Pn**	**22 59 13.3**	**+0.3**
FNA	**Florina**	**4.08**	**135**	Pn	**Pn**	**22 59 15.7**	**+2.7

AGG Agios Georgios 5.91 141 Pn **Pn 22 59 39.0 +0.8**
FUORN Ofenpass-Fuorn 5.92 302 Pn **Pn 22 59 39.5 +0.9**
NIE Niedzica 5.99 17 *e*Pn **Pn 22 59 41.8 +2.5**
NIE *e*Sn **Sn 23 00 49.7 +1.4**
NIE Niedzica 5.99 17 *e*Pn **Pn 22 59 41.4 +2.1**
MORC Moravsky Berou 6.05 360 ⇑P **Pn 22 59 40.2 +0.1**
MORC Moravsky Berou 6.05 360 Pn **Pn 22 59 40.6 +0.5**
MORC Moravsky Berou 6.05 360 *e*PN **Pn 22 59 40.0 -0.1**
MORC *e*SN **Sn 23 00 48.2 -1.5**
MORC Moravsky Berou 6.05 360 *e*Pn **Pn 22 59 40.8 +0.7**
MORC *e*Sn **Sn 23 00 48.3 -1.4**
KHC Kasperske Hory 6.07 334 Pn **Pn 22 59 41.4 +1.0**
KHC Kasperske Hory 6.07 334 *e*PN **Pn 22 59 41.3 +1.0**
KHC *e*SN **Sn 23 00 48.7 -1.4**
KHC AMS AMS 23 02 00.0
comp=Z,1μm,8.1s
KHC Kasperske Hory 6.07 334 *e*Pn **Pn 22 59 41.4 +1.0**
KHC *e*Sn **Sn 23 00 49.2 -0.9**
RETA Reutte 6.08 311 *i* Pn **Pn 22 59 42.4 +1.8**
comp=Z,14nm,0.3s,SNR=21
RETA *i* Sn **Sn 23 00 55.4 +4.9**
comp=Z,40nm,0.4s
OKC Ostrava-Krasne 6.12 3 *e*PN **Pn 22 59 42.4 +1.3**
OKC Ostrava-Krasne 6.12 3 *e*Pn **Pn 22 59 42.4 +1.3**
KOLS Kolonicke sedl 6.14 30 *e*PN **Pn 22 59 44.6 +3.3**
ZVC Zvikov 6.17 339 *e*Pn **Pn 22 59 43.0 +1.3**
ZVC *e*SN **Sn 23 00 50.0 -2.5**
STHS Stebnicka Huta 6.23 23 *e*PN **Pn 22 59 45.9 +3.4**
DAVOX Davos/Dischmat 6.23 302 Pn **Pn 22 59 43.4 +0.7**
comp=Z,25nm,0.3s,baz=116,slow=11,SNR=69
DAVOX Sn **Sn 23 00 55.5 +1.2**
comp=Z,2.8nm,0.3s,baz=300,slow=21,SNR=1.4
MLR Muntele Rosu 6.23 71 ⇓P **Pn 22 59 44.4 +1.7**
MLR Muntele Rosu 6.23 71 Pn **Pn 22 59 44.7 +2.0**
MLR Muntele Rosu 6.23 71 Pn **Pn 22 59 45.5 +2.8**
comp=Z,0.9nm,0.3s,baz=186,slow=3.9,SNR=7.1
MLR Sn **Sn 23 00 55.3 +1.1**
comp=Z,1.1nm,0.3s,baz=247,slow=9.1,SNR=3.2
MLR Lg Lg 23 01 29.0
comp=Z,0.6nm,0.3s,baz=313,slow=22,SNR=3.4
comp=Z,2.0nm,0.3s
FUR Furstenfeldbru 6.24 318 *e*Pn **Pn 22 59 44.5 +1.8**
OBER Oberstdorf 6.30 308 *e*Pn **Pn 22 59 45.3 +1.8**
WET Wettzell 6.31 331 *e*Pn **Pn 22 59 44.4 +0.6**
KRLC Kraliky 6.37 355 *e*PN **Pn 22 59 46.5 +2.0**
PGF Pioggiola 6.38 262 *e*Pn **Pn 22 59 43.9 -0.9**
SNR=1.0
RDO Rodhopi 6.43 111 Pn **Pn 22 59 47.1 +1.8**
TUE Stuetta 6.44 298 Pn **Pn 22 59 47.1 +1.5**
DAVA Damuels 6.47 306 *e*Pn **Pn 22 59 47.6 +1.6**
comp=Z,5.9nm,0.3s,SNR=19
DAVA *e*Sn **Sn 23 01 01.3 +1.0**
comp=Z,49nm,0.5s
DAVA Damuels 6.47 306 *e*Pn **Pn 22 59 47.3 +1.3**
GOPC GO Pecny, Ondr 6.48 344 *e*PN **Pn 22 59 47.5 +1.6**
UBR Ueberruh 6.55 310 *e*Pn **Pn 22 59 48.2 +1.1**
PRU Pruhonice 6.60 343 *e*PN **Pn 22 59 49.6 +2.0**
BURAR Bucovina Array 6.62 51 ⇑P **Pn 22 59 47.9 0.0**
BURAR Bucovina Array 6.62 51 Pn **Pn 22 59 50.0 +2.0**
BUR08 Bucovina Ar. S 6.62 51 Pn **Pn 22 59 49.7 +1.7**
PLONS Plons/SG 6.66 303 *e*Pn **Pn 22 59 50.0 +1.6**
PLONS *e*Sn **Sn 23 01 07.3 +2.7**
OJC Ojcow 6.67 12 *e*Pn **Pn 22 59 50.3 +1.7**
OJC *e*Sn **Sn 23 01 05.8 +1.0**
OJC Ojcow 6.67 12 **Pn 22 59 49.6 +1.1**
DPC Dobruska-Polom 6.68 353 *e*PN **Pn 22 59 50.3 +1.5**
DPC Dobruska-Polom 6.68 353 *e*Pn **Pn 22 59 49.9 +1.1**
VAE Valguarnera 6.69 202 Pn Pn 22 59 55.1 +6.2
comp=Z,1.6nm,0.3s,baz=352,slow=16,SNR=6.2
VAE Sn **Sn 23 01 09.1 +3.6**
baz=300,slow=16
VAE LR LR 23 02 44.4
comp=Z,320nm,19.0s,baz=348,slow=41
PRA Prague 6.70 342 *e*PN **Pn 22 59 51.1 +2.1**
ALN Alexandroupoli 6.89 111 Pn **Pn 22 59 53.3 +1.7**
NORI Noerdlinger Ri 6.94 318 *e*Pn **Pn 22 59 53.0 +0.8**
CHVC Chvalec 6.94 352 *e*PN **Pn 22 59 54.1 +1.8**
RAFF Raffo Rosso 6.94 202 Pn **Pn 22 59 53.0 +0.6**
CLTB Caltabellotta 6.98 210 **Pn 22 59 52.1 -0.9**
ROTZ Rotzenmuhle 7.07 330 *e*Sn **Sn 23 01 09.9 -5.0**
PVCC Panska Ves 7.10 344 *e*PN **Pn 22 59 56.3 +1.8**
WILA Wila 7.11 304 *e*Pn **Pn 22 59 55.6 +0.9**
WALHA Wallhausen, DE 7.15 307 *e*Pn **Pn 22 59 55.9 +0.7**
KSP Ksiaz 7.17 353 *e*Pn **Pn 22 59 58.5 +3.1**
MANZ Manzenberg 7.29 331 *e*Pn **Pn 22 59 57.3 +0.1**
SBF Sospel 7.34 275 *e*Pn **Pn 22 59 56.9 -0.9**
SNR=1.0
SBF *e*Sn **Sn 23 01 17.8 -3.7**
comp=Z,83nm,0.5s
EMING Emmingen-Lipti 7.38 307 *e*Pn **Pn 22 59 58.8 +0.4**
EMING *e*Sn **Sn 23 01 21.1 -1.4**
GRFO Grafenberg 7.39 326 **Pn 22 59 57.7 -0.8**
NKC Novy Kostel 7.39 334 *e*PN **Pn 22 59 59.5 +1.0**
GRA1 Grafenberg Arr 7.39 326 **Pn 22 59 58.0 -0.5**
SLE Schleitheim 7.53 306 *e*Pn **Pn 23 00 00.6 +0.2**
BRG Berggiesshubel 7.56 342 *e*P **Pn 23 00 04.1 +3.3**
BRG Amp 23 00 05.7
comp=Z,5.4nm,0.6s
BRG r 23 01 31.5
BRG Amp 23 01 58.5
comp=Z,29nm,0.7s
BRG Amp 23 02 30.0
comp=N,0.9nm,13.0s
BRG Amp 23 02 30.0
comp=E,0.4nm,11.5s
BRG Amp 23 02 52.0
comp=Z,0.4nm,9.8s
METMA Mettma DE 7.64 305 *e*Pn **Pn 23 00 02.0 0.0**
SULZ Cheisacher 7.64 303 *e*Pn **Pn 23 00 02.4 +0.4**
STU Stuttgart 7.69 314 **Pn 23 00 02.6 0.0**
STU Stuttgart 7.69 314 *e*Pn **Pn 23 00 02.8 +0.3**
SENIN Lac Senin/Sane 7.74 293 Pn **Pn 23 00 04.4 +1.0**
BERGE Lenzkirch (DE) 7.76 306 *e*Pn **Pn 23 00 03.7 +0.1**
BALST Balsthal 7.82 301 *e*Pn **Pn 23 00 05.4 +1.0**
MBDF Montbardon 7.82 281 *e*Pn **Pn 23 00 02.8 -1.8**
SNR=1.0
MBDF *e*Sn **Sn 23 01 31.9 -1.6**
comp=Z,78nm,0.7s
TIRR Tirgusor 7.84 81 Pn **Pn 23 00 05.3 +0.7**
BFO Black Forest 7.91 309 **Pn 23 00 05.4 -0.2**
BFO Black Forest 7.91 309 *e*Pn **Pn 23 00 05.6 0.0**
BFO *e*Sn **Sn 23 01 34.8 -0.6**
BNI Bardonecchia 7.92 283 Pn **Pn 23 00 04.8 -1.0**
LPG La Plagne 7.92 287 *e*Pn **Pn 23 00 05.9 -0.2**
SNR=1.0
LPG *e*Sn **Sn 23 01 33.1 -3.1**
comp=Z,108nm,0.6s
LPL La Plagne 7.94 287 *e*Pn **Pn 23 00 05.8 -0.4**
SNR=1.0
LPL *e*Sn **Sn 23 01 33.6 -2.9**
comp=Z,106nm,0.6s
MOX Moxa 8.02 332 *e*Pn **Pn 23 00 07.6 +0.5**
LMR La Mourre 8.05 271 *e*Pn **Pn 23 00 07.3 -0.2**
SNR=1.0
LMR *e*Sn **Sn 23 01 36.0 -2.9**
comp=Z,14nm,0.5s
CLL Collm 8.19 339 Pn **Pn 23 00 09.6 +0.2**
CLL Collm 8.19 339 *e*Pn **Pn 23 00 10.0 +0.6**
CLL *e*Sn Sn 23 01 28.0 -14
CLL *e*x x 23 01 36.0
CLL *e*x x 23 01 54.0
CLL *e*Sb Sb 23 02 09.0 -0.9
CLL *e*Sglp 23 02 24.0
comp=N,300nm,17.3s
CLL *e*Sglp 23 02 24.0
comp=E,600nm,16.0s
CLL *e*Sglp 23 02 24.0
comp=Z,100nm,25.9s
CLL *e*Sg **Sg 23 02 29.0 -3.7**
comp=Z,68nm,1.1s
MILB Miltenberg 8.34 320 *e*Pn **Pn 23 00 12.4 +0.9**
ORIF Oris-en-Rattie 8.47 282 *e*Pn **Pn 23 00 13.3 -0.1**
SNR=1.0
ORIF *e*Sn **Sn 23 01 46.1 -3.2**
comp=Z,79nm,0.6s,SNR=1.0
ECH Echery 8.53 305 Pn **Pn 23 00 13.8 -0.3**
ECH Echery 8.53 305 *e*Pn **Pn 23 00 13.8 -0.3**
HINF Hinteralfeld 8.54 302 *e*Pn **Pn 23 00 14.4 +0.2**
HINF *e*Sn **Sn 23 01 47.9 -2.9**
comp=Z,56nm,0.8s
CDF Champ du Feu 8.55 307 *e*Pn **Pn 23 00 14.1 -0.4**
CABF La Chapelle 8.61 294 *e*Pn **Pn 23 00 15.3 0.0**
SNR=1.0
CABF *e*Sn **Sn 23 01 48.8 -4.0**
comp=Z,98nm,1.0s,SNR=1.0
SMRF Simiane la Rot 8.68 276 *e*Pn **Pn 23 00 17.6 +1.4**
HAU Haudompre 8.92 303 *e*Pn **Pn 23 00 19.8 +0.3**
HAU *e*Sn **Sn 23 01 57.6 -2.7**
comp=Z,164nm,1.1s
TNS Taunus Mts 9.00 319 *e*Pn **Pn 23 00 22.3 +1.6**
TNS *e*Sn **Sn 23 01 59.2 -3.1**
ABH Alteburg 9.22 315 *e*Pn **Pn 23 00 25.1 +1.5**
ABH *e*Sn **Sn 23 02 08.2 +0.5**
VIVF Saint-Julien-l 9.32 281 *e*Pn **Pn 23 00 24.2 -0.8**
SNR=1.0
VIVF *e*Sn **Sn 23 02 06.1 -4.1**
comp=Z,24nm,0.6s
SSB Saint Sauveur 9.44 284 Pn **Pn 23 00 25.7 -1.0**
RIVT Riveris 9.53 313 *e*Pn **Pn 23 00 29.7 +2.0**
PAGF Fort de Pagny 9.53 305 *e*Pn **Pn 23 00 29.8 +1.9**
baz=106
SFTF Sexfontaines 9.81 302 *e*Pn **Pn 23 00 33.9 +2.3**
baz=119
WLF Walferdange 9.83 311 **Pn 23 00 33.7 +1.7**
WLF Walferdange 9.83 311 *d*P **Pn 23 00 35.7 +3.7**
WLF Walferdange 9.83 311 *e*Pn **Pn 23 00 35.3 +3.3**
LASF Ste Croix 9.91 277 *e*Pn **Pn 23 00 30.7 -2.4**
SNR=1.0
LASF *e*Sn **Sn 23 02 19.9 -4.7**
comp=Z,14nm,0.8s
MEZF Maizieres J'vi 9.92 303 *e*Pn **Pn 23 00 31.7 -1.4**
baz=110
SMF Signal de Mont 10.12 292 *e*Pn **Pn 23 00 34.2 -1.8**
SNR=1.0
SMF *e*Sn **Sn 23 02 25.2 -4.6**
comp=Z,72nm,0.8s,SNR=1.0
IDI Anoyia 10.14 144 Pn **Pn 23 00 34.8 -1.5**
IDI Anoyia 10.14 144 Pn **Pn 23 00 34.5 -1.8**
comp=Z,1.4nm,0.3s,baz=330,slow=12,SNR=11
IDI Sn **Sn 23 02 29.3 -1.1**
comp=Z,3.2nm,0.3s,baz=306,slow=19,SNR=12
KEST Kesra 10.19 221 Pn **Pn 23 00 40.6 +3.7**
KEST Kesra 10.19 221 Pn **Pn 23 00 40.2 +3.2**
comp=Z,0.9nm,0.3s,baz=302,slow=4.4,SNR=22
KEST Sn **Sn 23 02 36.7 +5.1**
comp=Z,0.1nm,0.3s,baz=0.8,slow=20,SNR=1.1
LOR Lormes 10.26 295 *e*Pn **Pn 23 00 37.2 -0.6**
baz=110,SNR=1.0
LOR *e*Sn **Sn 23 02 28.7 -4.4**
comp=Z,29nm,0.5s,SNR=1.0
BHOU Houvegnez 10.30 314 *d*P **Pn 23 00 39.2 +0.9**
BHOU *d*S **Sn 23 02 35.3 +1.2**
BTNL Ternell 10.38 315 *d*P **Pn 23 00 40.9 +1.5**
BTNL *d*S **Sn 23 02 35.0 -0.9**
SSF Saint Saulge 10.44 294 *e*Pn **Pn 23 00 38.7 -1.6**
SNR=1.0
SSF *e*Sn **Sn 23 02 33.4 -4.1**
comp=Z,34nm,0.8s
MEM Membach 10.45 315 *d*P **Pn 23 00 43.0 +2.6**
AVF Avril sur Loir 10.48 292 *e*Pn **Pn 23 00 39.7 -1.2**
SNR=1.0
AVF *e*Sn **Sn 23 02 34.2 -4.4**
comp=Z,19nm,0.6s
AKASG Malin Array Be 10.55 45 LR LR 23 05 19.8
comp=Z,144nm,19.4s,baz=191,slow=41
RCHB Rochefort 10.60 312 *d*P **Pn 23 00 44.9 +2.4**
BSTI Sart Tilman 10.66 314 *d*P **Pn 23 00 45.3 +2.0**
BCLA Clavier 10.71 313 *d*P **Pn 23 00 45.4 +1.5**
BCLA *d*S **Sn 23 02 43.8 -0.3**
BGF Bois d'Agland 10.78 290 *e*Pn **Pn 23 00 44.8 -0.2**
SNR=1.0
BGF *e*Sn **Sn 23 02 41.1 -4.8**
comp=Z,85nm,0.8s
GIVF Givet 10.80 311 *e*Pn **Pn 23 00 46.8 +1.7**
BGES Gesves 10.80 312 *d*P **Pn 23 00 47.4 +2.2**
BGES *d*S **Sn 23 02 46.5 +0.1**
DOU Dourbes 10.92 310 *d*P **Pn 23 00 47.3 +0.5**
BMRD Maredsous 10.93 311 *d*P **Pn 23 00 49.4 +2.4**
BMRD *d*S **Sn 23 02 51.3 +1.8**
KARP Karpathos 11.01 135 Pn **Pn 23 00 48.2 0.0**
ARG Arkhangelos 11.03 129 Pn **Pn 23 00 50.9 +2.5**
HYF Humbligny 11.06 294 *e*Pn **Pn 23 00 48.7 -0.1**
HYF *e*Sn **Sn 23 02 47.9 -4.9**
BAIF Baives 11.12 309 *e*Pn **Pn 23 00 49.2 -0.3**
MTLF Montolieu 11.16 273 *e*Pn **Pn 23 00 52.0 +1.9**
TCF Toulx Ste Croi 11.18 289 *e*Pn **Pn 23 00 49.9 -0.5**
SNR=1.0
TCF *e*Sn **Sn 23 02 50.0 -5.6**
comp=Z,24nm,0.8s
CAF Calviac 11.18 282 *e*Pn **Pn 23 00 49.4 -1.0**
SNR=1.0
CAF *e*Sn **Sn 23 02 50.2 -5.5**
comp=Z,42nm,1.4s
CLF Chambon-Foret 11.51 297 Pn **Pn 23 00 55.5 +0.7**
RJF Les Rejaudoux 11.58 283 *e*Pn **Pn 23 00 56.6 +0.8**
RJF *e*Sn **Sn 23 03 00.1 -5.3**
comp=Z,19nm,1.0s
MFF Saint Martin d 12.83 289 *e*Pn **Pn 23 01 13.2 +0.2**
SNR=1.0
MFF *e*Sn **Sn 23 03 29.4 -6.7**
GRR Gorron 13.61 296 *e*Pn **Pn 23 01 24.3 +0.7**
SNR=1.0
CSS Mathiatis 14.99 120 **Pn 23 01 44.9 +2.4**
CSS IAmb IAmb 23 01 52.0
comp=Z,11nm,0.5s
ROSF Rostrenen 15.18 295 *e*Pn **Pn 23 01 45.8 +0.8**
SNR=1.0
ESBB Sonseca Array 16.58 263 Pn **Pn 23 02 03.8 +0.7**
ESBB IAmb IAmb 23 02 26.6
comp=Z,12nm,1.4s
ESDC Sonseca Array 16.58 263 **Pn 23 02 04.6 +1.5**
ESDC Sonseca Array 16.58 263 Pn **Pn 23 02 03.9 +0.7**
comp=Z,0.1nm,0.3s,baz=68,slow=12,SNR=16
comp=Z,1.0nm,0.7s
HFS Hagfors 16.60 353 Pn **Pn 23 02 01.2 -2.0**
comp=Z,2.6nm,0.8s,baz=182,slow=16,SNR=4.2
PAB San Pablo 16.90 263 Pn **Pn 23 02 07.8 +0.5**
MMAI Mount Meron Ar 17.57 122 P **Pn 23 02 15.3 -0.3**
comp=Z,1.1nm,0.3s,baz=318,slow=9.4,SNR=8.3
MMAI LR LR 23 10 52.2
comp=Z,38nm,19.5s,baz=198,slow=43
comp=Z,1.9nm,0.4s
EKA Eskdalemuir Ar 17.69 318 P **Pn 23 02 16.4 -0.5**
baz=118,slow=15
comp=Z,0.4nm,0.6s
NOA NORSAR Array B 17.75 350 P **Pn 23 02 16.7 -1.0**
comp=Z,0.5nm,0.8s,baz=220,slow=16,SNR=1.4
PBRG Braganca 17.94 272 *e*P **P 23 02 22.0 +1.2**
comp=Z,20nm,1.6s
FINES FINESS Array B 18.45 13 P **Pn 23 02 26.7 +0.5**
FINES FINESS Array B 18.45 13 P **P 23 02 26.3 +0.1**
comp=Z,0.2nm,0.3s,baz=183,slow=10,SNR=7.2
comp=Z,5.4nm,0.9s
MTE Manteigas 18.92 269 *e*P **Pn 23 02 33.0 +0.8**
PGAV Gavieira, Arco 19.01 274 *e*P **Pn 23 02 38.0 +4.7**
comp=Z,38nm,1.6s
PCBR Castelo Branco 19.06 267 *e*P **P 23 02 33.7 +0.7**
comp=Z,18nm,1.6s
ASF Jabal al Asfar 19.06 121 P **Pn 23 02 34.9 +0.9**
comp=Z,0.2nm,0.3s,baz=260,slow=3.4,SNR=2.1
comp=Z,1.9nm,0.6s
GURO Guroymak-BITLI 19.11 97 P **Pn 23 02 35.2 +0.8**
GURO IAmb IAmb 23 02 58.8
comp=Z,4.9nm,1.1s
PMRV Marv??o 19.14 266 *e*P **Pn 23 02 36.4 +1.6**
comp=Z,21nm,1.7s
PESTR Estremoz 19.49 264 *e*P **Pn 23 02 39.9 +0.9**
comp=Z,18nm,2.1s
EIL Elat 19.72 130 P **Pn 23 02 41.8 +0.1**
comp=Z,0.4nm,0.3s,baz=314,slow=16,SNR=5.1
EIL LR LR 23 13 29.3
comp=Z,53nm,19.2s,baz=238,slow=46
comp=Z,3.3nm,0.6s
PCAS Casmilo, Conde 19.73 268 *e*P **Pn 23 02 42.6 +0.8**
MDT Midelt 20.48 245 P **P 23 02 49.7 +1.0**
comp=Z,1.5nm,0.7s,baz=79,slow=11,SNR=6.5
comp=Z,1.5nm,0.7s
GNI Garni 20.49 91 P Pn 23 02 50.3 -0.6
comp=Z,7.4nm,0.8s,baz=280,slow=19,SNR=2.8
comp=Z,7.4nm,0.8s
BELG Belogornoye 21.74 56 P **P 23 03 02.9 +0.8**
comp=Z,14nm,0.6s,baz=341,slow=1.0,SNR=14
BELG LR LR 23 12 12.3
comp=Z,102nm,19.6s,baz=122,slow=39
comp=Z,14nm,0.6s
ARCES ARCESS Array B 26.19 6 P **P 23 03 46.7 +1.6**
ARCES IAmb IAmb 23 03 50.1
comp=Z,16nm,1.4s
ARCES ARCESS Array B 26.19 6 P **P 23 03 45.7 +0.6**
comp=Z,1.1nm,0.5s,baz=185,slow=9.6,SNR=8.5
comp=Z,1.1nm,0.5s
GEYT Alibeck 30.99 87 P **P 23 04 27.5 -0.7**
comp=Z,1.2nm,0.7s,baz=267,slow=8.7,SNR=1.8
comp=Z,1.2nm,0.7s
TOA0 Torodi Ar. Sit 33.39 209 P **P 23 04 49.1 -0.3**
TOA0 IAmb IAmb 23 04 51.4
comp=Z,3.9nm,1.4s
TORD Torodi Ar. Bea 33.39 209 P **P 23 04 48.9 -0.5**
TORD IAmb IAmb 23 04 51.5
comp=Z,3.0nm,1.4s
TORD Torodi Ar. Bea 33.39 209 P **P 23 04 48.8 -0.7**
comp=Z,1.1nm,0.5s,baz=18,slow=9.3,SNR=13
comp=Z,1.1nm,0.5s
BVAR Borovoye Array 35.55 56 P **P 23 05 07.0 -0.7**
comp=Z,1.7nm,0.8s,baz=269,slow=5.9,SNR=8.4
comp=Z,1.7nm,0.8s
KKAR Karatay Array 37.91 72 P **P 23 05 28.7 +0.7**
KURBB Kurchatov Arra 40.96 58 P **P 23 05 52.1 -1.2**
comp=Z,0.4nm,0.4s,baz=287,slow=9.4,SNR=6.6
comp=Z,0.4nm,0.4s
DBIC Dimbokro 41.83 215 P **P 23 05 59.8 -1.1**
DBIC Dimbokro 41.83 215 P **P 23 05 59.7 -1.1**
comp=Z,3.6nm,0.5s,baz=17,slow=8.9,SNR=10
comp=Z,3.6nm,0.5s
ZALV Zalesovo Beam 43.83 52 P **P 23 06 16.2 -0.5**
comp=Z,0.7nm,0.5s,baz=265,slow=8.9,SNR=4.0
comp=Z,0.7nm,0.5s
MK31 Makanchi Array 44.50 62 P **P 23 06 22.1 -0.1**
MK31 IAmb IAmb 23 06 33.1
comp=Z,1.7nm,1.1s
MKAR Makanchi Array 44.50 62 P **P 23 06 21.7 -0.5**
MKAR Makanchi Array 44.50 62 P **P 23 06 20.8 -1.4**
comp=Z,0.6nm,0.7s,baz=285,slow=7.1,SNR=5.4
comp=Z,0.6nm,0.7s
WMQ Urumqi 49.18 64 *e*P **P 23 07 02.0 +3.1**
DRLN Deer Lake 50.01 304 P **P 23 07 04.6 -0.5**
SONM Songino Array 58.73 52 P **P 23 08 10.3 +1.6**
comp=Z,0.4nm,0.8s,baz=296,slow=10,SNR=4.2
comp=Z,0.4nm,0.8s
HHC Hu-ho-hao-te 65.76 56 *e*P **P 23 08 55.0 -0.9**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,260nm,5.7s
PZH PanZhiHua 68.18 74 P **P 23 09 13.5 +2.0**
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,90nm,4.7s
ILAR Eielson Array 71.15 353 P **P 23 09 29.1 0.0**
comp=Z,0.4nm,0.9s,baz=8.8,slow=6.5,SNR=3.3
comp=Z,0.4nm,0.9s
CMAR Chiang Mai Arr 71.33 82 P **P 23 09 30.7 -0.2**
comp=Z,0.6nm,0.4s,baz=307,slow=7.2,SNR=5.9
comp=Z,0.6nm,0.4s
BOSA Boshof 72.33 173 P **P 23 09 38.3 +1.7**
comp=Z,1.5nm,0.5s,baz=0.0,slow=8.1,SNR=1.5
comp=Z,1.5nm,0.5s
PDAR Pinedale Array 81.73 324 P **P 23 10 29.2 -0.6**
comp=Z,0.4nm,0.5s,baz=48,slow=6.6,SNR=2.2
comp=Z,0.4nm,0.5s
TXAR Lajitas Array 89.57 312 P **P 23 11 08.5 -0.3**
comp=Z,0.9nm,1.0s,baz=94,slow=3.8,SNR=5.3
comp=Z,0.9nm,1.0s
ASAR Alice Springs 124.73 91 PKP **PKPdf 23 17 09.2 -1.7**
comp=Z,0.3nm,0.3s,baz=318,slow=1.2,SNR=2.6

SJA ***25*** *23:03:54.1±1.2, 26°.37S×71°.26W, h20km, ML3.4, MW3.5*
GUC ***25*** *23:03:58.8±0.8, 26°.51S×70°.67W, h30km±4km, ML3.4*
ISC 25 23:03:55.2±1.6, 26°.44S±0°.02×71°.00W±0°.08, h7km±11km,
n27, σ2s01/47, 1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.47**	**51**	*e*P	**Pn**	**23 04 07.8**	**-0.5**
AC01				*i* S	**Sb**	**23 04 13.9**	**+1.1**
AC01	**Pan de Azucar**	**0.47**	**51**	*e*P	Pn	23 04 14.0	+5.7
AC06	**Mina Casimiro**	**1.08**	**148**	⇓*i*P	**Pb**	**23 04 16.1**	**0.0**
AC06				*i* S	**Sg**	**23 04 28.5**	**-1.4**
AC06				IAML		23 04 29.2	
comp=E,2μm,0.1s							
GO03	**Copiap**	**1.33**	**149**	*e*P	**Pn**	**23 04 20.4**	**+0.1**
GO03				*i* S	**Sb**	**23 04 35.7**	**-2.2**
GO03				IAML		23 04 40.2	
comp=E,656nm,0.3s							
GO03	**Copiap**	**1.33**	**149**	*e*P	**Pb**	**23 04 20.7**	**+0.1**
GO03				*e*S	**Sb**	**23 04 36.3**	**-1.7**
GO03				IAML		23 04 39.5	
comp=Z,742nm,0.5s							
GO02	**Mina Guanaco**	**1.80**	**45**	*e*P	**Pb**	**23 04 28.8**	**+0.1**
GO02				*i* S	**Sb**	**23 04 52.0**	**+0.4**
GO02				IAML		23 04 59.9	
comp=N,499nm,0.2s							
GO02	**Mina Guanaco**	**1.80**	**45**	*e*P	**Pb**	**23 04 29.0**	**+0.3**
GO02				*e*S	**Sn**	**23 04 47.2**	**-3.0**
GO02				*e*S	**Sg**	**23 04 53.3**	**+0.2**
GO02				IAML		23 05 01.8	
comp=Z,376nm,0.5s							
PB14	**IPOC Station P**	**1.89**	**17**	*e*P	**Pg**	**23 04 32.2**	**+0.8**
PB14				*i* S	**Sg**	**23 04 56.8**	**+0.8**
PB14	**IPOC Station P**	**1.89**	**17**	*e*P	**Pn**	**23 04 29.1**	**+1.0**
PB14				*e*S	**Sn**	**23 04 51.7**	**-0.7**
PB14				IAML		23 05 01.3	
comp=Z,189nm,0.8s							
AC05	**El Transito**	**2.47**	**165**	*e*P	**Pb**	**23 04 38.2**	**-1.8**
AC05	**El Transito**	**2.47**	**165**	*e*P	**Pb**	**23 04 38.3**	**-1.8**
AC05				IAML		23 05 22.4	
comp=Z,78nm,0.5s							
LCO	**Las Campanas**	**2.57**	**174**	*e*P	**Pn**	**23 04 39.0**	**+1.4**
LCO				*i* S	**Sn**	**23 05 10.0**	**+0.8**
LCO				IAML		23 05 24.1	
comp=Z,558nm,0.3s							
LCO	**Las Campanas**	**2.57**	**174**	*e*P	**Pn**	**23 04 38.5**	**+1.0**
LCO				*e*S	**Sn**	**23 05 06.2**	**-3.0**
LCO				IAML		23 05 24.0	
comp=Z,394nm,0.5s							
VCA	**Vinchina**	**3.37**	**133**	*e*P	**Pb**	**23 04 52.7**	**-2.7**
VCA				*e*P	**Pn**	**23 04 53.2**	**+4.8**
VCA				*e*S	**Sb**	**23 05 36.7**	**0.0**
VCA				IAML		23 05 49.0	
comp=Z,38nm,0.3s							
PB15	**IPOC Station P**	**3.51**	**24**	*e*P	**Pn**	**23 04 52.5**	**+2.1**
PB15	**IPOC Station P**	**3.51**	**24**	*e*P	**Pn**	**23 04 52.2**	**+1.9**
PB15				*e*S	**Sg**	**23 05 47.2**	**-0.7**
GO04	**Tololo Observa**	**3.72**	**177**	*e*P	**Pn**	**23 04 55.0**	**+1.7**
PB06	**IPOC Station P**	**3.94**	**20**	*i* P	**Pn**	**23 04 57.2**	**+0.9**
PB06	**IPOC Station P**	**3.94**	**20**	*e*P	**Pn**	**23 04 57.4**	**+1.1**
PB06				*e*S	**Sb**	**23 05 53.2**	**+0.1**
PB06				IAML		23 06 08.9	
comp=Z,47nm,1.2s							
PB04	**IPOC Station P**	**4.17**	**11**	*e*P	**Pn**	**23 04 59.5**	**+0.2**
PB04				*e*S	**Sn**	**23 05 48.0**	**-0.4**
PB04				IAML		23 06 13.9	
comp=Z,36nm,0.5s							
LVC	**Limon Verde**	**4.27**	**27**	*e*P	**Pn**	**23 05 02.6**	**+1.7**
LVC	**Limon Verde**	**4.27**	**27**	*e*P	**Pn**	**23 05 02.7**	**+1.8**
LVC				*e*S	**Sg**	**23 06 07.9**	**-4.4**
LVC				IAML		23 06 14.9	
comp=Z,27nm,0.6s							
ACCO	**Cerro Coronel**	**4.47**	**158**	*e*P	**Pn**	**23 05 07.6**	**+4.0**
ACLC	**CERRO LA CRUZ**	**4.65**	**131**	*e*P	**Pn**	**23 05 09.2**	**+3.1**
DOCA	**Reserva Natura**	**4.79**	**160**	*e*P	**Pn**	**23 05 11.2**	**+3.0**
DOCA				*e*P	**Pn**	**23 05 12.1**	**+3.9**
DOCA				*e*S	**Sb**	**23 06 20.7**	**+2.9**
DOCA				IAML		23 06 21.9	
comp=Z,37nm,0.8s							
PB09	**IPOC Station P**	**4.90**	**20**	*e*P	**Pn**	**23 05 10.6**	**+1.2**
PB09				*e*S	**Sb**	**23 06 20.7**	**+0.1**
PB09				IAML		23 06 45.9	
comp=Z,37nm,0.6s							
PB02	**IPOC Station P**	**5.20**	**11**	*e*P	**Pn**	**23 05 13.7**	**+0.1**
PB02				*e*S	**Sn**	**23 06 12.1**	**-1.7**
PB02				IAML		23 06 57.2	
comp=Z,23nm,0.3s							

IDC 25 23:10:35.3±15.0, 1°.76N×127°.37E, h547km±210km,
mb2.7/5, mbtmp3.6/5, Error ellipse: s-maj=148.7km
s-min=23.8km az=50.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.62**	**163**	P	P	23 14 55.0	-0.2
0.3nm,0.5s,baz=342,slow=10.0,SNR=12							

0.3nm,0.5s
ASAR Alice Springs 26.06 166 P P 23 15 25.8 +0.1
0.4nm,0.5s,baz=357,slow=7.4,SNR=5.1
0.4nm,0.5s
CMAR Chiang Mai Arr 32.44 303 P P 23 16 20.9 -0.2
0.5nm,0.6s,baz=114,slow=6.9,SNR=5.2
0.5nm,0.6s
MKAR Makanchi Array 59.53 326 P P 23 19 46.4 +0.1
0.6nm,0.5s,baz=115,slow=8.7,SNR=6.4
0.6nm,0.5s
KURBB Kurchatov Arra 63.73 328 P P 23 20 13.3 -0.2
1.0nm,0.6s,baz=127,slow=5.8,SNR=8.9
1.0nm,0.6s

THE 25 23:32:32.0, 37°.65N×20°.03E, h0km±5km, ML2.2/10, Error ellipse: s-maj=6.6km s-min=0.7km az=236.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.61**	**24**	P	Pg	23 32 43.8	+0.1
KEF3				S	Sg	23 32 52.5	+0.9
	852nm,0.5s						
KRI1	**kERI**	**0.62**	**88**	P	Pg	23 32 43.9	-0.1
KRI1				S	Sg	23 32 53.3	+1.2
	412nm,0.4s						
PSDA	**Pessada-Kefalo**	**0.64**	**43**	P	Pg	23 32 43.8	-0.5
PSDA				S	Sg	23 32 53.0	+0.4
	180nm,0.3s						
LXR1	**Lixouri, Cepha**	**0.64**	**30**	P	Pg	23 32 44.6	+0.3
LTHK	**Lithakia**	**0.64**	**84**	P	Pg	23 32 44.1	-0.2
LTHK				S	Sg	23 32 54.0	+1.3
	488nm,0.4s						
DMLN	**Damoulianata-K**	**0.65**	**25**	P	Pg	23 32 44.0	-0.5
DMLN				S	Sb	23 32 54.4	-1.5
	270nm,0.6s						
KEF4	**Livadi, Kephal**	**0.69**	**27**	P	Pg	23 32 44.7	-0.5
KEF4				S	Sg	23 32 55.0	+0.9
	1μm,0.4s						
VLS	**Valsamata**	**0.69**	**40**	P	Pg	23 32 44.6	-0.6
VLS				S	Sg	23 32 55.1	+0.9
	185nm,0.4s						
FSK	**Fiskardo**	**0.91**	**27**	P	Pg	23 32 49.0	-0.5
FSK				S	Sb	23 33 03.0	-0.4
	120nm,0.4s						
EVGI	**Lefkada island**	**1.09**	**27**	P	Pg	23 32 52.6	-0.3
EVGI				S	Sb	23 33 08.5	0.0
	78nm,0.3s						
DRAG	**Dragano-Lefkad**	**1.12**	**22**	P	Pg	23 32 53.4	-0.1
DRAG				S	Sb	23 33 09.4	0.0
NYDR	**Nydri-Lefkada**	**1.19**	**26**	P	Pg	23 32 54.5	-0.3
NYDR				S	Sn	23 33 12.2	-0.5
LKD2	**Lefkada island**	**1.24**	**23**	P	Pg	23 32 55.9	+0.1
LKD2				S	Sb	23 33 13.5	+0.6
	60nm,0.4s						
PVO	**Paravola**	**1.53**	**50**	P	Pn	23 32 59.7	-0.8

TIR 25 23:34:12.8, 41°.20N×19°.85E, h17km, Md2.6, Ml1.9, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.15**	**3**	P	Pb	23 34 17.6	+0.4
	baz=3.0						
TIR				S	Sb	23 34 20.3	+0.3
	baz=3.0						
TIR				AMP			
	comp=N,1.3nm,0.1s,baz=3.0						
KBN	**Korca**	**0.91**	**129**	P	Pg	23 34 30.6	0.0
	baz=128						
KBN				S	Sn	23 34 44.1	+0.4
	baz=128						
KBN				AMP			
	comp=N,0.1nm,0.6s,baz=128						
BCI	**Bajram Curri**	**1.18**	**8**	P	Pg	23 34 35.4	-0.2
	baz=7.0						
BCI				S	Sg	23 34 52.3	+1.3
	baz=7.0						
BCI				AMP			
	comp=N,0.1nm,0.6s,baz=7.0						
LSK	**Leskovik**	**1.19**	**151**	P	Pg	23 34 35.9	0.0
	baz=151						
FNA	**Florina**	**1.23**	**109**	P	Pg	23 34 36.5	0.0
	baz=109						
FNA				S	Sg	23 34 54.1	+1.6
	baz=109						
SRN	**Sarande**	**1.32**	**175**	P	Pg	23 34 38.9	+0.6
	baz=175						
SRN				S	Sg	23 34 56.9	+1.3
	baz=175						
IGT	**Igoumenitsa**	**1.71**	**167**	P	Pg	23 34 44.9	-0.7
	baz=167						
IGT				S	Sg	23 35 08.6	+0.8
	baz=167						

*ASIES **25** 23:51:32.6, 24°.60N×121°.69E, h45km, ML3.8, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.34; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$-1.34; $M_{r\theta}$1.13; $M_{\theta\phi}$0.54; $M_{\phi r}$-0.33; Fault plane solution: $M_0$1.86407×10^{21} NP1: ϕ_s132.77000°, δ64.35000°, λ62.18000°. NP2: ϕ_s3.40000°, δ37.14000°, λ134.18000°. Principal axes: T Plg60.4410°, Azm0.7650°; N Plg24.8830°, Azm145.6360°; P Plg14.9220°, Azm242.7370°;*
*TAP **25** 23:51:32.6, 24°.60N×121°.69E, h45km, ML3.8, B*
*JMA **25** 23:51:32.1±0.2, 24°.6N±0°.4×121°.7E±0°.8, h51km±1km, MV3.0/11, TAIWAN REGION*
ISC 25 23:51:33.3±1.2, 24°.62N±0°.02×121°.69E±0°.02, h42km±4km, n140, σ0°87/207, 27C-8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.03**	**51**	⇓iP	**Pn**	**23 51 40.1**	**+0.2**
	baz=36						
NDS				i S	**Sn**	**23 51 45.2**	**+0.5**
	baz=36						
TWE	**Neicheng**	**0.11**	**348**	⇓iP	Pn	23 51 40.5	+0.3
	baz=357						
TWE				i S	**Sn**	**23 51 45.9**	**+0.8**
	baz=357						
ENTT	**Nioudou**	**0.12**	**282**	⇑iP	Pn	23 51 40.5	+0.2
	baz=299						
ENTT				i S	**Sn**	**23 51 45.9**	**+0.7**
	baz=299						
TWC	**Suao**	**0.14**	**92**	⇓iP	**Pn**	**23 51 40.6**	**+0.2**
	baz=87						
TWC				i S	**Sn**	**23 51 45.9**	**+0.5**
	baz=87						
NDT	**Datong Townshi**	**0.16**	**266**	⇑iP	**Pn**	**23 51 40.7**	**+0.1**
	baz=278						
NDT				i S	**Sn**	**23 51 46.1**	**+0.4**
	baz=278						
LATG	**Datong**	**0.17**	**242**	⇑iP	**Pn**	**23 51 40.8**	**+0.1**
	baz=254						
LATG				i S	**Sn**	**23 51 46.3**	**+0.4**
	baz=254						
FUSB	**Fushanzhiwuyua**	**0.17**	**327**	⇑iP	**Pn**	**23 51 40.9**	**+0.2**
	baz=323						
FUSB				i S	**Sn**	**23 51 46.2**	**+0.3**
	baz=323						
EWUT	**Wuta**	**0.19**	**155**	⇑P	**Pn**	**23 51 40.4**	**-0.3**
	baz=152						
EWUT				eS	**Sn**	**23 51 45.7**	**-0.2**
	baz=152						
ENA	**Nanau**	**0.19**	**166**	⇑iP	**Pn**	**23 51 40.3**	**-0.4**
	baz=163						
ENA				S	**Sn**	**23 51 45.7**	**-0.2**
	baz=163						
NWLT	**Wulai**	**0.24**	**313**	⇑P	**Pn**	**23 51 41.3**	**+0.2**
	baz=316						
NWLT				S	**Sn**	**23 51 46.8**	**+0.1**
	baz=316						
NTC	**Toucheng**	**0.27**	**28**	P	**Pn**	**23 51 42.0**	**+0.6**
	baz=26						
NTC				eS	**Sn**	**23 51 48.3**	**+1.2**
	baz=26						
YHNB	**Yeheng**	**0.29**	**281**	⇓iP	**Pn**	**23 51 41.7**	**0.0**
	baz=279						
YHNB				i S	**Sn**	**23 51 47.6**	**-0.1**
	baz=279						
EHP	**Heping Village**	**0.31**	**172**	eP	**Pn**	**23 51 41.7**	**-0.1**
	baz=174						
NSK	**Sanguang**	**0.31**	**281**	⇓iP	**Pn**	**23 51 41.8**	**-0.1**
	baz=279						
NSK				S	**Sn**	**23 51 47.7**	**-0.2**
	baz=279						
EGS		**0.32**	**44**	eP	**Pn**	**23 51 42.3**	**+0.4**
	baz=40						
NNSB	**Datong**	**0.34**	**237**	⇑iP	**Pn**	**23 51 42.3**	**0.0**
	baz=243						
NNSB				S	**Sn**	**23 51 48.4**	**-0.2**
	baz=243						
NNS	**Nan Shan**	**0.34**	**239**	⇑iP	**Pn**	**23 51 42.3**	**0.0**
	baz=244						
NNS				S	**Sn**	**23 51 48.7**	**+0.1**
	baz=244						
TWA	**Mucha**	**0.38**	**345**	⇑P	**Pn**	**23 51 42.7**	**+0.1**
	baz=337						
TWA				i S	**Sn**	**23 51 49.5**	**+0.3**
	baz=337						
NHDH	**Xindian Distri**	**0.38**	**336**	⇑eP	**Pn**	**23 51 42.5**	**-0.1**
	baz=337						
NHDH				eS	**Sn**	**23 51 49.2**	**0.0**
	baz=337						
NHY	**Taipei**	**0.44**	**345**	P	**Pn**	**23 51 43.2**	**-0.1**
	baz=335						
NHY				S	**Sn**	**23 51 50.9**	**+0.6**
	baz=335						
NACB	**Ninganchiao**	**0.45**	**191**	⇑P	**Pn**	**23 51 42.0**	**-1.4**
	baz=198						
NACB				S	**Sn**	**23 51 49.7**	**-0.9**
	baz=198						
ETLH	**Xiulin Townshi**	**0.45**	**205**	⇑iP	**Pn**	**23 51 42.7**	**-0.8**
	baz=199						
ETLH				eS	**Sn**	**23 51 50.1**	**-0.7**
	baz=199						
ETL	**Fush Village**	**0.46**	**188**	eP	**Pn**	**23 51 42.4**	**-1.2**
	baz=188						
NWF	**Wu-fen Shan**	**0.46**	**10**	⇑iP	**Pn**	**23 51 43.9**	**+0.2**
	baz=10.0						
NWF				i S	**Sn**	**23 51 51.2**	**+0.2**
	baz=10.0						
WFSB	**Wu-fen Shan**	**0.46**	**10**	⇑iP	**Pn**	**23 51 43.9**	**+0.2**
	baz=10.0						
WFSB				i S	**Sn**	**23 51 51.4**	**+0.4**
	baz=10.0						
TWB1	**Santiao Chiao**	**0.48**	**35**	⇑P	**Pn**	**23 51 43.9**	**+0.1**
	baz=34						
TWB1				eS	**Sn**	**23 51 51.8**	**+0.6**
	baz=34						
SXI1	**Grass Mountain**	**0.51**	**19**	⇑iP	**Pn**	**23 51 44.3**	**0.0**
	baz=9.0						
SXI1				i S	**Sn**	**23 51 52.4**	**+0.3**
	baz=9.0						
NTY	**Taoyuan**	**0.52**	**317**	P	**Pn**	**23 51 44.4**	**0.0**
	baz=321						
NTY				S	**Sn**	**23 51 53.2**	**+0.9**
	baz=321						
EOS2	**EOS2**	**0.53**	**112**	⇓eP	**Pn**	**23 51 45.5**	**+1.1**
	baz=114						
TNOU	**National Taiwa**	**0.54**	**8**	⇑iP	**Pn**	**23 51 44.4**	**-0.3**
	baz=357						
TNOU				S	**Sn**	**23 51 52.3**	**-0.3**
	baz=357						
TWD	**Chiawan**	**0.54**	**189**	⇑P	**Pn**	**23 51 43.0**	**-1.6**
	baz=194						
TWD				eS	**Sn**	**23 51 51.5**	**-1.2**
	baz=194						
TWS1	**Kuangyinshan**	**0.54**	**333**	P	**Pn**	**23 51 44.6**	**-0.1**
	baz=334						
TWS1				S	**Sn**	**23 51 53.6**	**+0.8**
	baz=334						
FUSS	**Fushou**	**0.55**	**228**	⇑iP	**Pn**	**23 51 45.0**	**0.0**
	baz=229						
FUSS				S	**Sn**	**23 51 53.2**	**-0.1**
	baz=229						
NJD	**Zhudong**	**0.56**	**282**	eP	**Pn**	**23 51 45.4**	**+0.5**
	baz=284						
NJD				eS	**Sn**	**23 51 54.4**	**+1.2**
	baz=284						
NCU	**National Centr**	**0.58**	**308**	⇑P	**Pn**	**23 51 45.0**	**-0.1**
	baz=309						
NCU				S	**Sn**	**23 51 54.2**	**+0.6**
	baz=309						
NCUH	**Zhongli**	**0.58**	**307**	eP	**Pn**	**23 51 45.1**	**-0.1**
	baz=308						
NCUH				eS	**Sn**	**23 51 54.2**	**+0.5**
	baz=308						
NWRT	**Kuosheng**	**0.59**	**357**	eP	**Pn**	**23 51 44.8**	**-0.4**
	baz=357						
NTST	**Danshui**	**0.59**	**338**	eP	**Pn**	**23 51 45.2**	**-0.1**
	baz=347						
NTST				eS	**Sn**	**23 51 54.4**	**+0.6**
	baz=347						
ANP	**Anpu**	**0.59**	**345**	⇑iP	**Pn**	**23 51 44.8**	**-0.6**
	baz=345						
ANP				eS	**Sn**	**23 51 52.9**	**-1.1**
	baz=345						
TWT	**Tachien**	**0.59**	**233**	P	**Pn**	**23 51 45.9**	**+0.4**
	baz=234						
TWT				S	**Sn**	**23 51 54.8**	**+0.6**
	baz=234						
TDCB	**Techi**	**0.60**	**234**	⇓P	**Pn**	**23 51 45.8**	**+0.2**
	baz=235						
TDCB				S	**Sn**	**23 51 54.2**	**-0.2**
	baz=235						
WHF	**Hehuan Shan**	**0.61**	**220**	⇑eP	**Pn**	**23 51 45.6**	**-0.3**
	baz=213						
WHF				S	**Sn**	**23 51 54.9**	**-0.1**
	baz=213						
LIOB	**Emei**	**0.62**	**273**	eP	**Pn**	**23 51 45.7**	**+0.1**
	baz=279						
LIOB				eS	**Sn**	**23 51 55.2**	**+0.7**
	baz=279						
NSTT	**Nanjuang**	**0.63**	**272**	⇓P	**Pn**	**23 51 45.6**	**-0.2**
	baz=277						
NSTT				S	**Sn**	**23 51 54.9**	**+0.1**
	baz=277						
HSN1	**Hsinchu**	**0.63**	**285**	eP	**Pn**	**23 51 45.9**	**0.0**
	baz=297						
HSN1				eS	**Sn**	**23 51 55.3**	**+0.4**
	baz=297						
HWA	**Hwalien**	**0.64**	**187**	eP	**Pn**	**23 51 44.6**	**-1.3**
	baz=195						
LXIB	**Xiulin Townshi**	**0.64**	**203**	⇑P	**Pn**	**23 51 44.9**	**-1.3**
	baz=210						
LXIB				eS	**Sn**	**23 51 53.9**	**-1.5**
	baz=210						
EOS3	**EOS3**	**0.66**	**120**	eP	**Pn**	**23 51 46.9**	**+0.9**
	baz=122						
TWY	**Chenhua**	**0.66**	**353**	⇑iP	**Pn**	**23 51 46.3**	**0.0**
	baz=343						
TWY				eS	**Sn**	**23 51 56.1**	**+0.5**
	baz=343						
SBCB	**Hsinchu**	**0.67**	**286**	eP	**Pn**	**23 51 46.3**	**0.0**
	baz=297						
SBCB				eS	**Sn**	**23 51 56.2**	**+0.5**
	baz=297						
ETM	**Tongmen**	**0.67**	**196**	eP	**Pn**	**23 51 44.9**	**-1.5**
	baz=196						
NSM	**Shimen**	**0.68**	**352**	eP	**Pn**	**23 51 46.5**	**0.0**
	baz=342						
NSM				eS	**Sn**	**23 51 57.0**	**+1.1**
	baz=342						
HSN	**Hsinchu**	**0.68**	**286**	eP	**Pn**	**23 51 45.8**	**-0.7**
	baz=290						
HSN				eS	**Sn**	**23 51 55.4**	**-0.6**
	baz=290						
NHW	**Xinwu Township**	**0.70**	**304**	P	**Pn**	**23 51 46.6**	**-0.2**
	baz=312						
NHW				S	**Sn**	**23 51 57.0**	**+0.5**
	baz=312						
CHGB	**Renai**	**0.73**	**221**	⇑P	**Pn**	**23 51 47.2**	**-0.1**
	baz=214						
CHGB				S	**Sn**	**23 51 57.1**	**-0.3**
	baz=214						
NJN	**Zhunan**	**0.75**	**275**	eP	**Pn**	**23 51 47.8**	**+0.4**
	baz=285						
NJN				eS	**Sn**	**23 51 58.1**	**+0.5**
	baz=285						
EOS4	**EOS4**	**0.75**	**131**	eP	**Pn**	**23 51 47.6**	**+0.5**
	baz=130						
OWD	**Renai**	**0.81**	**216**	eP	**Pn**	**23 51 48.1**	**-0.3**
	baz=211						
OWD				eS	**Sn**	**23 51 58.5**	**-0.8**
	baz=211						
WUSB	**Renai**	**0.81**	**220**	⇑P	**Pn**	**23 51 48.5**	**+0.1**
	baz=221						
WUSB				eS	**Sn**	**23 51 58.8**	**-0.5**
	baz=221						
ESL	**Shilin**	**0.83**	**197**	eP	Pn	23 51 46.5	-2.1
	baz=185						
NSY	**Sanyi**	**0.87**	**257**	eP	**Pn**	**23 51 49.1**	**+0.1**
	baz=258						
NSY				eS	**Sn**	**23 52 01.8**	**+1.2**
	baz=258						
TWQ1	**Liyutan**	**0.88**	**253**	eP	**Pn**	**23 51 49.5**	**+0.4**
	baz=253						
TWQ1				eS	**Sn**	**23 52 01.6**	**+0.8**
	baz=253						
WCS	**Beigang Elemen**	**0.90**	**232**	eP	**Pn**	**23 51 49.8**	**+0.2**
	baz=233						
WCS				eS	**Sn**	**23 52 02.6**	**+1.2**
	baz=233						
TEGC	**Jichi Village**	**0.91**	**189**	eP	**Pn**	**23 51 50.0**	**+0.4**
	baz=197						
WARBT	**Fenglin Townsh**	**0.94**	**197**	eP	Pn	23 51 47.9	-2.1
	baz=189						
VWDT	**VWDT**	**0.99**	**210**	eP	**Pn**	**23 51 50.4**	**-0.4**
	baz=202						
VWDT				eS	**Sn**	**23 52 03.3**	**-0.3**
	baz=202						
WDJ	**Dajia District**	**0.99**	**255**	eP	**Pn**	**23 51 51.1**	**+0.3**
	baz=255						
WDJ				eS	**Sn**	**23 52 06.4**	**+2.8**
	baz=255						
SMLT	**Sun Moon Lake**	**1.03**	**225**	eP	**Pn**	**23 51 52.1**	**+0.8**
	baz=222						
SMLT				eS	**Sn**	**23 52 05.5**	**+0.9**
	baz=222						
TCU	**Taichung**	**1.04**	**244**	eP	**Pn**	**23 51 52.6**	**+1.3**
	baz=244						
TYC	**Yuchr**	**1.04**	**227**	eP	**Pn**	**23 51 52.2**	**+0.8**
	baz=228						
TYC				eS	**Sn**	**23 52 05.5**	**+0.8**
	baz=228						
SSLB	**Suanglung**	**1.06**	**219**	eP	**Pn**	**23 51 52.3**	**+0.5**
	baz=219						
SSLB				eS	**Sn**	**23 52 06.5**	**+1.1**
	baz=219						
PCYT	**Pengchaiyu**	**1.07**	**19**	eP	**Pn**	**23 51 51.5**	**-0.3**
	baz=18						
HGSD	**Ruisui**	**1.14**	**192**	eP	**Pn**	**23 51 52.9**	**+0.1**
	baz=193						
JYNG	**Yonagunijimaku**	**1.15**	**98**	P	**Pn**	**23 51 52.8**	**-0.1**
JYNG				S	**Sn**	**23 52 08.4**	**+0.9**
EHY	**Hungye**	**1.16**	**197**	eP	**Pn**	**23 51 52.1**	**-0.9**
	baz=187						
WNT1	**Nantou City**	**1.16**	**233**	eP	**Pn**	**23 51 53.8**	**+0.7**
	baz=246						
WNT	**Mingjian**	**1.18**	**232**	eP	**Pn**	**23 51 54.3**	**+1.1**
	baz=245						
WJS	**Zhushan**	**1.18**	**228**	eP	**Pn**	**23 51 55.0**	**+1.7**
	baz=243						
WJS				eS	**Sn**	**23 52 10.5**	**+2.3**
	baz=243						
YOJ	**Yonaguni jima**	**1.21**	**97**	P	**Pn**	**23 51 53.6**	**-0.1**
YOJ				S	**Sn**	**23 52 09.0**	**0.0**
YOJ	**Yonaguni jima**	**1.21**	**97**	eP	**Pn**	**23 51 53.2**	**-0.5**
	baz=88						
YULB	**Yu-li**	**1.27**	**197**	eP	**Pn**	**23 51 53.8**	**-0.7**
	baz=188						
EYUL	**Yuli**	**1.31**	**195**	eP	**Pn**	**23 51 55.8**	**+0.7**
	baz=195						
TWF1	**Yuli**	**1.31**	**196**	eP	**Pn**	**23 51 54.9**	**-0.2**
	baz=196						
ECBN	**Changbin**	**1.31**	**190**	eP	**Pn**	**23 51 54.4**	**-0.7**
	baz=190						
ALS	**Alishan**	**1.37**	**217**	eP	**Pn**	**23 51 56.9**	**+0.8**
	baz=217						
ALS				eS	**Sn**	**23 52 14.8**	**+1.6**
	baz=217						
CHN5	**Tsauling**	**1.37**	**223**	eP	**Pn**	**23 51 56.6**	**+0.5**
	baz=224						
CHN5				eS	**Sn**	**23 52 14.8**	**+1.7**
	baz=224						
WRL	**Guolierlin Hig**	**1.39**	**240**	eP	**Pn**	**23 51 56.1**	**-0.1**
	baz=240						
WDLH	**Douliu**	**1.40**	**229**	eP	**Pn**	**23 51 56.7**	**+0.4**
	baz=242						
RLNB	**Erlin**	**1.41**	**240**	eP	**Pn**	**23 51 56.5**	**0.0**
	baz=252						
RLNB				eS	**Sn**	**23 52 14.4**	**+0.5**
	baz=252						
FULB	**Fuli**	**1.46**	**195**	eP	**Pn**	**23 51 57.7**	**+0.6**
	baz=195						
WTK	**Tuku**	**1.51**	**232**	eP	**Pn**	**23 51 57.8**	**0.0**
	baz=233						
EHD	**Haiduan**	**1.53**	**197**	eP	**Pn**	**23 51 57.2**	**-0.9**
	baz=189						
CHKT	**Chengkung**	**1.54**	**191**	eP	**Pn**	**23 51 58.1**	**-0.1**
	baz=191						
ELDTW	**Lidau**	**1.55**	**204**	eP	**Pn**	**23 51 58.1**	**-0.4**
	baz=194						
CHN2	**Minshiung**	**1.55**	**226**	eP	**Pn**	**23 51 59.7**	**+1.3**
	baz=238						
CHY	**Chiayi**	**1.61**	**226**	eP	**Pn**	**23 51 59.1**	**-0.1**
	baz=238						
CHN4	**Tsaushan**	**1.61**	**219**	eP	**Pn**	**23 52 00.2**	**+1.0**
	baz=220						
CHN4				eS	**Sn**	**23 52 21.2**	**+2.4**
	baz=220						
TPUB	**Ta-pu**	**1.63**	**217**	eP	**Pn**	**23 52 00.1**	**+0.6**
	baz=218						
TPUB				eS	**Sn**	**23 52 20.9**	**+1.6**
	baz=218						
WSF	**Szhu**	**1.66**	**234**	eP	**Pn**	**23 52 00.7**	**+0.8**
	baz=234						
STYH	**Taoyuan**	**1.66**	**210**	eP	**Pn**	**23 52 00.5**	**+0.6**
	baz=200						
EDH	**Donghe**	**1.67**	**192**	eP	**Pn**	**23 51 59.7**	**-0.3**
	baz=193						
STYT	**Tauyuan**	**1.68**	**211**	eP	**Pn**	**23 52 01.1**	**+0.8**
	baz=200						
STYT				eS	**Sn**	**23 52 22.7**	**+2.1**
	baz=200						
WTP	**Ta-pu**	**1.68**	**216**	eP	**Pn**	**23 52 01.3**	**+1.0**
	baz=228						
TWK	**Hsinying**	**1.74**	**220**	eP	**Pn**	**23 52 01.9**	**+0.9**
	baz=220						
LONT	**Longtian**	**1.78**	**197**	eP	**Pn**	**23 52 00.9**	**-0.6**
	baz=187						
CHN1	**Nanshi**	**1.78**	**217**	eP	**Pn**	**23 52 02.7**	**+1.2**
	baz=218						
CHN1				eS	**Sn**	**23 52 24.6**	**+1.6**
	baz=218						
ICHU	**Yijhu**	**1.80**	**226**	eP	**Pn**	**23 52 01.9**	**+0.1**
	baz=226						
SGST	**Jiashian**	**1.83**	**214**	eP	**Pn**	**23 52 02.8**	**+0.5**
	baz=228						
TWG	**Pinlang**	**1.87**	**198**	eP	**Pn**	**23 52 02.7**	**-0.1**
	baz=187						
TWGBT	**Beinan**	**1.88**	**198**	eP	**Pn**	**23 52 02.9**	**0.0**
	baz=187						
SLGT	**Liugui**	**1.88**	**211**	eP	**Pn**	**23 52 04.4**	**+1.5**
	baz=211						
IRIF	**Iriomote-Funau**	**1.88**	**98**	S	**Sn**	**23 52 25.5**	**+0.1**
LDUT	**Ludao**	**1.94**	**186**	eP	**Pn**	**23 52 02.4**	**-1.4**
	baz=187						
SCST	**Cishan**	**2.04**	**213**	eP	**Pn**	**23 52 06.4**	**+1.3**
	baz=227						
VWUC	**VWUC**	**2.07**	**281**	eP	**Pn**	**23 52 04.2**	**-1.3**
	baz=280						
SSD	**Sandimen**	**2.10**	**208**	eP	**Pn**	**23 52 07.0**	**+1.1**
	baz=208						
ECL	**Taimali**	**2.12**	**199**	eP	**Pn**	**23 52 07.8**	**+1.6**
	baz=190						
TSMG	**Majia**	**2.13**	**207**	eP	**Pn**	**23 52 07.2**	**+0.9**
	baz=207						
JKRS	**Kuro-shima**	**2.15**	**100**	P	**Pn**	**23 52 06.7**	**+0.2**
JKRS				S	**Sn**	**23 52 32.1**	**+0.2**
MATB	**Ma-tsu**	**2.20**	**314**	eP	**Pn**	**23 52 06.0**	**-1.3**
	baz=313						
PNG	**Penghu**	**2.21**	**242**	eP	**Pn**	**23 52 06.4**	**-1.0**
	baz=241						
MASBT	**Mashibuluo**	**2.22**	**206**	eP	**Pn**	**23 52 08.5**	**+0.9**
	baz=222						
MASBT				eS	**Sn**	**23 52 34.0**	**+0.3**
	baz=222						
MSUT	**Lienchiang**	**2.23**	**314**	eP	**Pn**	**23 52 05.8**	**-1.8**
	baz=313						
PHUB	**P'eng-hu**	**2.23**	**241**	eP	**Pn**	**23 52 06.2**	**-1.4**
	baz=241						
PHUB				eS	**Sn**	**23 52 30.9**	**-3.0**
	baz=241						
JIJ	**Ishigaki jima**	**2.25**	**96**	P	**Pn**	**23 52 07.9**	**-0.1**
JIJ				S	**Sn**	**23 52 34.0**	**-0.5**
EAST	**Anshuo**	**2.35**	**199**	eP	**Pn**	**23 52 11.2**	**+1.7**
	baz=190						
PTMZ	**Houxiangcun**	**2.37**	**281**	eP	**Pn**	**23 52 08.7**	**-1.0**
	baz=280						
JISG	**Ishigakijimahi**	**2.38**	**90**	P	**Pn**	**23 52 09.9**	**+0.1**

SCZT	Fangliau	2.44 204	eP	Pn	23 52 12.8	+2.2
	baz=205					
VCHM	Qimei	2.50 236	eP	Pn	23 52 10.3	-1.2
	baz=235					
LYJJ	Jianjiangzhen	2.60 318	eP	Pn	23 52 11.7	-1.1
	baz=316					
LYUB	Lan-yu	2.60 182	eP	Pn	23 52 11.0	-1.9
	baz=184					
XPSS	Dashiqiu	2.67 330	eP	Pn	23 52 12.6	-1.2
	baz=328					
MHZQ	Yeshan	2.83 302	eP	Pn	23 52 15.4	-0.4
	baz=302					
KNM	Kinmen	2.97 267	eP	Pn	23 52 18.5	+0.6
	baz=265					
KNMB	Chin-men Tao	3.01 268	eP	Pn	23 52 17.2	-1.2
	baz=266					
AXDP	Jialang	3.40 276	eP	Pn	23 52 22.9	-0.8
	baz=274					
ZPLA	Ao Xicun	3.66 260	eP	Pn	23 52 24.9	-2.4
	baz=257					
DSXP	Dongshan	4.00 258	eP	Pn	23 52 30.9	-1.1
	baz=254					
SXFK	Yanhouchang	4.07 297	eP	Pn	23 52 31.9	-1.0
	baz=296					

*IDC **26** 00:13:51.0±0.7, 55°.36N×163°.28E, h0km, mb3.9/23, mbtmp3.9/25, ML3.8/2, MS3.2/4, Error ellipse: s-maj=20.6km s-min=12.1km az=157.0*
*KRSC **26** 00:13:52.3±1.3, 55°.05N×163°.64E, h49km±26km, Ml4.7*
*NEIC **26** 00:13:52.4±1.3, 55°.4N±0°.1×163°.3E±0°.2, h10km±1km, mb4.5/37, Error ellipse: s-maj=25.2km s-min=14.5km az=150.0*
*MOS **26** 00:13:54.4±0.9, 55°.12N×163°.62E, h48km, mb4.5/9, Error ellipse: s-maj=5.9km s-min=4.9km az=78.2*

ISC 26 00:13:52.6±0.7, 55°.17N±0°.03×163°.57E±0°.03, h16km±4km, n204, σ1$40/247, mb4.3/49, MS3.2/4, 8C-4D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	1.12 338		eP	Pg	00 14 13.6	-0.7
KBTR				eS	Sn	00 14 28.5	-0.2
KBTR	Krutoberegovo	1.12 338		PN	Pg	00 14 13.6	-0.7
KBTR				S	Sn	00 14 28.5	-0.2
KBG	Krutoberegovo	1.19 336		eP	Pg	00 14 14.5	-1.1
KBG				eS	Sg	00 14 30.7	-0.4
KBG	Krutoberegovo	1.19 336		PN	Pg	00 14 14.5	-1.1
KBG				S	Sg	00 14 30.7	-0.4
MKZ	Mys Kozlova	1.23 241		eP	Pn	00 14 14.7	-0.4
MKZ				eS	Sn	00 14 29.4	-2.0
MKZ	Mys Kozlova	1.23 241		PN	Pn	00 14 14.7	-0.4
MKZ				S	Sn	00 14 29.4	-2.0
BKI	Bering	1.38	88	eP	Pb	00 14 16.7	-1.2
BKI				eS	Sn	00 14 33.0	-2.0
BKI	Bering	1.38	88	PN	Pb	00 14 16.7	-1.2
BKI				S	Sn	00 14 33.0	-2.0
ZLN	Zelenaya	1.78 299		eP	Pb	00 14 24.9	-0.1
ZLN	Zelenaya	1.78 299		PN	Pb	00 14 24.9	-0.1
BZGR	Bezymyannyi-Gr	1.81 296		eP	Pb	00 14 25.0	-0.3
BZGR				eS	Sb	00 14 48.7	+1.0
BZGR	Bezymyannyi-Gr	1.81 296		PN	Pb	00 14 25.0	-0.3
BZGR				S	Sb	00 14 48.7	+1.0
TUMD	Tumrok D	1.82 272		eP	Pn	00 14 24.2	+1.0
SMKR	Semkarok	1.84 321		eP	Pb	00 14 25.5	-0.5
SMKR				eS	Sb	00 14 49.2	+0.4
SMKR	Semkarok	1.84 321		PN	Pb	00 14 25.5	-0.5
SMKR				S	Sb	00 14 49.2	+0.4
CIRR	Tsirk	1.86 302		eP	Pb	00 14 25.8	-0.5
CIRR				eS	Sb	00 14 49.8	+0.5
CIRR	Tsirk	1.86 302		PN	Pb	00 14 25.8	-0.5
CIRR				S	Sb	00 14 49.8	+0.5
LGNR	Loginova	1.87 300		eP	Pb	00 14 26.3	-0.2
LGNR	Loginova	1.87 300		PN	Pb	00 14 26.3	-0.2
BZP	Bezymyannyi-Pe	1.88 294		eP	Pb	00 14 25.9	-0.7
KZV	Kizimen	1.88 270		eP	Pn	00 14 25.3	+1.1
KZV	Kizimen	1.88 270		PN	Pn	00 14 25.3	+1.1
BZMR	Bezymyannaya	1.91 295		eP	Pb	00 14 26.5	-0.6
BZMR				eS	Sb	00 14 51.3	+0.5
BZMR	Bezymyannaya	1.91 295		PN	Pb	00 14 26.5	-0.6
BZMR				S	Sb	00 14 51.3	+0.5
BZWR	Bezymyannyi-We	1.92 296		eP	Pb	00 14 26.8	-0.5
BZWR	Bezymyannyi-We	1.92 296		PN	Pb	00 14 26.8	-0.5
BDR	Baidarnaya	1.93 317		eP	Pb	00 14 26.7	-0.8
BDR				eS	Sg	00 14 52.4	-2.3
BDR	Baidarnaya	1.93 317		PN	Pb	00 14 26.7	-0.8
BDR				S	Sg	00 14 52.4	-2.3
TUMR	Tumrok	1.96 275		eP	Pb	00 14 27.1	-1.0
TUMR	Tumrok	1.96 275		PN	Pb	00 14 27.1	-1.0
KMNR	Kamenistaya	1.99 288		eP	Pb	00 14 28.2	-0.2
KMNR	Kamenistaya	1.99 288		PN	Pb	00 14 28.2	-0.2
KIRR	Kirishev	1.99 294		eP	Pb	00 14 27.7	-0.9
KIRR				eS	Sb	00 14 54.0	+0.8
KIRR	Kirishev	1.99 294		PN	Pb	00 14 27.7	-0.9
KIRR				S	Sb	00 14 54.0	+0.8
KRSR	Krestovskiy	2.00 303		eP	Pb	00 14 27.2	-1.4
KRSR				eS	Sb	00 14 52.6	-0.7
KRSR	Krestovskiy	2.00 303		PN	Pb	00 14 27.2	-1.4
KRSR				S	Sb	00 14 52.6	-0.7
KLY	Klyuchi	2.01 306		eP	Pn	00 14 26.2	+0.4
KLY				eS	Sn	00 14 50.8	+0.2
KLY	Klyuchi	2.01 306		PN	Pn	00 14 26.2	+0.4
KLY				S	Sn	00 14 50.8	+0.2
SRKR	Sorokina	2.01 319		eP	Pb	00 14 28.4	-0.4
SRKR				eS	Sg	00 14 55.6	-1.6
SRKR	Sorokina	2.01 319		PN	Pb	00 14 28.4	-0.4
SRKR				S	Sg	00 14 55.6	-1.6
KPT	Kopyto	2.06 294		eP	Pb	00 14 29.0	-0.7
KPT	Kopyto	2.06 294		PN	Pb	00 14 29.0	-0.7
KOZ	Kozyrevsk	2.28 294		eP	Pb	00 14 32.1	-1.2
KOZ	Kozyrevsk	2.28 294		PN	Pb	00 14 32.1	-1.2
SRDR	Sredinnyy	2.46 299		eP	Pb	00 14 34.4	-2.1
SRDR	Sredinnyy	2.46 299		PN	Pb	00 14 34.4	-2.1
KII	Karymskiy	2.66 246		eP	Pn	00 14 36.0	+1.2
KII	Karymskiy	2.66 246		PN	Pn	00 14 36.0	+1.2
ESO	Esso	2.87 287		eP	Pn	00 14 39.2	+1.5
ESO	Esso	2.87 287		PN	Pn	00 14 39.2	+1.5
SPN	Mys Shipunski	2.95 227		eP	Pn	00 14 38.5	-0.2
SPN				eS	Sn	00 15 09.7	-4.0
SPN	Mys Shipunski	2.95 227		PN	Pn	00 14 38.5	-0.2
SPN				S	Sn	00 15 09.7	-4.0
NLC	Nalytchevo	3.19 233		eP	Pn	00 14 44.4	+2.3
NLC				eS	Sn	00 15 20.6	+0.9
NLC	Nalytchevo	3.19 233		PN	Pn	00 14 44.4	+2.3
NLC				S	Sn	00 15 20.6	+0.9
SDLR	Sedlovina	3.34 237		eP	Pn	00 14 45.5	+1.2
SDLR	Sedlovina	3.34 237		PN	Pn	00 14 45.5	+1.2
SMAR	Somma	3.39 238		eP	Pn	00 14 46.1	+1.1
SMAR				eS	Sn	00 15 24.0	-1.0
SMAR	Somma	3.39 238		PN	Pn	00 14 46.1	+1.1
SMAR				S	Sn	00 15 24.0	-1.0
KRER	Koryakskii	3.39 238		eP	Pn	00 14 46.6	+1.5
KRER				eS	Sn	00 15 25.2	+0.2
KRER	Koryakskii	3.39 238		PN	Pn	00 14 46.6	+1.5
KRER				S	Sn	00 15 25.2	+0.2
KRX	Arik	3.41 240		eP	Pn	00 14 46.9	+1.6
KRX	Arik	3.41 240		PN	Pn	00 14 46.9	+1.6
UGLR	Uglovaya	3.41 237		eP	Pn	00 14 46.6	+1.4
UGLR	Uglovaya	3.41 237		PN	Pn	00 14 46.7	+1.4
AVH	Avacha	3.42 238		eP	Pn	00 14 47.0	+1.7
AVH				eS	Sn	00 15 25.1	-0.4
AVH	Avacha	3.42 238		PN	Pn	00 14 47.0	+1.7
AVH				S	Sn	00 15 25.1	-0.4
KOK	Koryaka	3.46 239		eP	Pn	00 14 47.4	+1.6
KOK	Koryaka	3.46 239		PN	Pn	00 14 47.4	+1.6
DALK	Dalny	3.56 235		eP	Pn	00 14 48.0	+0.9
DALK				eS	Sn	00 15 26.0	-2.7
DALK	Dalny	3.56 235		PN	Pn	00 14 48.0	+0.9
DALK				S	Sn	00 15 26.0	-2.7
GNL	Ganaly	3.61 248		eP	Pn	00 14 49.6	+1.7
GNL	Ganaly	3.61 248		PN	Pn	00 14 49.6	+1.7
PET	Petropavlovsk	3.61 235			Pn	00 14 48.5	+0.7
PET	Petropavlovsk	3.61 235		eP	Pn	00 14 48.8	+1.0
PET				eS	Sn	00 15 28.2	-1.8
PET	Petropavlovsk	3.61 235		ePN	Pn	00 14 49.0	+1.2
PET				eS	Sn	00 15 27.5	-2.5
PET				pmax	pmax		
	comp=Z,99nm,0.6s						
PET				smax	smax		
	comp=N,819nm,0.6s						
PET				smax	smax		
	comp=E,704nm,0.6s						
KRMR	Karymshinskiy	3.98 236		eP	Pn	00 14 54.9	+2.0
KRMR				eS	Sn	00 15 37.2	-1.9
KRMR	Karymshinskiy	3.98 236		PN	Pn	00 14 54.9	+2.0
KRMR				S	Sn	00 15 37.2	-1.9
PEA0B	Petropavlovsk-	4.03 241		Pn	Pn	00 14 54.8	+1.3
PEA0B	Petropavlovsk-	4.03 241		PN	Pn	00 14 54.8	+1.3
PETK	Petropavlovsk-	4.03 241		Pn	Pn	00 14 54.1	+0.6
	comp=E,4.5nm,0.3s,baz=66,slow=15,SNR=27						
PETK				Sn	Sn	00 15 41.5	+1.1
	comp=E,14nm,0.3s,baz=61,slow=21,SNR=10						
	comp=E,9.4nm,0.5s						
RUS	Russkaya	4.07 230		eP	Pn	00 14 54.9	+0.8
RUS				eS	Sn	00 15 38.0	-3.3
RUS	Russkaya	4.07 230		PN	Pn	00 14 54.9	+0.8
MTVR	Mutnovka	4.18 232		eP	Pn	00 14 57.3	+1.5
MTVR				eS	Sn	00 15 42.8	-1.5
MTVR	Mutnovka	4.18 232		PN	Pn	00 14 57.3	+1.5
MTVR				S	Sn	00 15 42.8	-1.5
GRL	Gorelyy	4.18 233		eP	Pn	00 14 57.9	+2.1
GRL	Gorelyy	4.18 233		PN	Pn	00 14 57.9	+2.1
ASAK	Asacha	4.37 233		eP	Pn	00 15 00.7	+2.3
ASAK				eS	Sn	00 15 48.6	-0.4
ASAK	Asacha	4.37 233		PN	Pn	00 15 00.7	+2.3
ASAK				S	Sn	00 15 48.6	-0.4
APC	Apacha	4.40 242		eP	Pn	00 15 01.4	+2.7
APC				eS	Sn	00 15 49.4	-0.1
APC	Apacha	4.40 242		PN	Pn	00 15 01.4	+2.7
APC				S	Sn	00 15 49.4	-0.1
KDTR	Khodutka, Kamc	4.70 226		eP	Pn	00 15 02.9	+0.1
KDTR	Khodutka, Kamc	4.70 226		PN	Pn	00 15 02.9	+0.1
TILK	Tilichiki	5.46	14	eP	Pn	00 15 16.5	+3.2
TILK	Tilichiki	5.46	14	PN	Pn	00 15 16.5	+3.3
SKR	Severo-Kuril's	6.37 228		ePN	Pn	00 15 16.2	-9.4
SKR				pmax	pmax		
	comp=Z,81nm,0.8s						
SHEM	Shemya Is, Ala	6.68 107		LR	LR	00 17 42.2	
	comp=Z,196nm,18.5s,baz=300,slow=34						
JKA	Kamikawa-asahi	17.44 239		Pn	Pn	00 17 54.6	-0.4
JKA				IAmb	IAmb	00 17 58.0	
	comp=Z,29nm,1.2s						
ASAJ	Asahikawa	17.44 239		P	Pn	00 17 54.6	-0.4
	comp=Z,1.3nm,0.3s,baz=47,slow=8.5,SNR=5.6						
	comp=Z,8.4nm,0.5s						
ERM	Erimo	18.76 234		P	P	00 18 09.7	-1.1
ERM				IAmb	IAmb	00 18 26.8	
	comp=Z,59nm,1.3s						
ERM	Erimo	18.76 234		P	P	00 18 09.7	-1.1
ERM				pmax	pmax		
	comp=Z,59nm,1.3s						
YAK	Yakutsk	18.76 305		eP	Pn	00 18 11.3	+0.2
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.4s						
M14K	Bethel	18.95	59	P	Pn	00 18 13.4	0.0
M14K				IAmb	IAmb	00 18 14.5	
	comp=Z,30nm,1.4s						
K15K	Wolf Creek Mou	19.26	54	P	Pn	00 18 16.2	-0.9
K15K				IAmb	IAmb	00 18 20.5	
	comp=Z,51nm,1.5s						
N15K	Kwethluk River	19.88	61	P	Pn	00 18 24.1	-0.4
N15K				IAmb	IAmb	00 18 29.5	
	comp=Z,44nm,1.3s						
KLR	Kul'dur	20.27 266		P	P	00 18 26.6	-0.6
	comp=Z,1.5nm,0.6s,baz=82,slow=15,SNR=5.2						
KLR				LR	LR	00 27 39.2	
	comp=Z,68nm,18.9s,baz=60,slow=41						
	comp=Z,1.5nm,0.6s						
JTM	Tenmabayashi	20.70 235		P	P	00 18 32.5	+0.6
JTM				IAmb	IAmb	00 18 42.2	
	comp=Z,32nm,1.0s						
M17K	Holitna River	21.16	57	P	P	00 18 37.1	+0.4
M17K				IAmb	IAmb	00 18 42.2	
	comp=Z,17nm,1.0s						
J19K	Poorman	22.09	50		P	00 18 46.0	-0.6
TIXI	Tiksi	22.14	331⇑	eP	P	00 18 48.1	+1.0
USA0B	Ussuriysk Arra	22.99	255⇑	eP	P	00 19 00.0	+3.6
USRK	Ussuriysk Ar.	22.99	255	P	P	00 18 55.4	-0.9
	comp=Z,1.5nm,0.8s,baz=35,slow=12,SNR=2.3						
	comp=Z,1.5nm,0.8s						
IMAR	Indian Mountai	23.08	45	P	P	00 18 56.5	-0.6
JMM	Marumori	23.18	231	P	P	00 18 57.4	-0.9
JMM				IAmb	IAmb	00 19 01.1	
	comp=Z,23nm,1.0s						
CAST	Castle Rocks	23.64	52	P	P	00 19 03.1	+0.4
B22K	Teshekpuk Lake	24.12	34	P	P	00 19 06.8	-0.3
B22K				IAmb	IAmb	00 19 08.5	
	comp=Z,12nm,0.8s						
E22K	Anaktuvuk Pass	24.16	40	P	P	00 19 07.7	0.0
JSD	Sado	24.20	235	P	P	00 19 08.7	+0.5
JSD				IAmb	IAmb	00 19 32.3	
	comp=Z,13nm,0.9s						
MLY	Manley	24.25	48	P	P	00 19 08.4	-0.2
MLY				IAmb	IAmb	00 19 35.7	
	comp=Z,10nm,1.4s						
I23K	Minto, Yukon-K	24.84	47	P	P	00 19 13.6	-0.2
I23K				IAmb	IAmb	00 19 16.5	
	comp=Z,10nm,1.0s						
WRH	Wood River Hil	25.39	49	P	P	00 19 18.6	-0.1
WRH				IAmb	IAmb	00 19 20.1	
	comp=Z,7.6nm,0.7s						
MJA0	Matsu Arr-Jizo	25.42 233		eP	P	00 19 22.8	+3.5
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MAJO	Matsushiro	25.44 233		P	P	00 19 20.6	+1.1
MAJO	Matsushiro	25.44 233	↑	iP	P	00 19 21.1	+1.6
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MJAR	Matsushiro Arr	25.44 233		P	P	00 19 20.4	+0.9
	comp=Z,3.0nm,0.5s,baz=30,slow=9.0,SNR=9.0						
	comp=Z,3.0nm,0.5s						
CCB	Clear Creek Bu	25.51	49	P	P	00 19 19.5	-0.3
CCB				IAmb	IAmb	00 19 23.8	
	comp=Z,9.0nm,1.3s						
IL31		25.90	48	P	P	00 19 22.8	-0.5
IL31				IAmb	IAmb	00 19 25.0	
	comp=Z,9.5nm,1.2s						
ILAR	Eielson Array	25.90	48	P	P	00 19 23.4	+0.1
	comp=Z,2.8nm,0.7s,baz=271,slow=9.6,SNR=30						
	comp=Z,2.8nm,0.7s						
BMAR	Burnt Mountain	26.82	42	P	P	00 19 32.5	+0.7
D27M	Malcolm River	28.21	38	P	P	00 19 44.7	+0.5
BCAR	Beaver Creek A	28.31	52	P	P	00 19 45.6	+0.5
KSRS	Korea Array	29.89	249	LR	LR	00 31 54.1	
	comp=Z,30nm,19.6s,baz=50,slow=36						
INK	Inuvik	30.96	40	P	P	00 20 08.9	+0.5
INK				IAmb	IAmb	00 20 35.9	
	comp=Z,11nm,1.5s						
INK	Inuvik	30.96	40	P	P	00 20 08.9	+0.5
INK				pmax	pmax		
	comp=Z,11nm,1.5s						
C36M	Paulatuk	34.16	37	P	P	00 20 36.9	+0.5
ULN	Ulaanbaatar	35.05	282⇑	eP	P	00 20 46.1	+1.5
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	Songino Array	35.43	282	P	P	00 20 46.9	-1.0
SONM	Songino Array	35.43	282	eP	P	00 20 50.1	+2.3
SONM	Songino Array	35.43	282	P	P	00 20 46.6	-1.3
	comp=Z,0.5nm,0.6s,baz=64,slow=8.7,SNR=4.3						
	comp=Z,0.5nm,0.6s						
H11N2	WAKE ISLAND Hy	35.47	175	T	T	01 00 03.6	
	baz=358,slow=76,SNR=86						
H11N3	WAKE ISLAND Hy	35.49	175	T	T	01 00 03.1	
	baz=358,slow=76,SNR=55						
H11N1	WAKE ISLAND Hy	35.49	175	T	T	01 00 03.4	
	baz=358,slow=76,SNR=71						
H11S1	WAKE ISLAND Hy	36.68	175	T	T	01 01 34.1	
	baz=359,slow=74						
H11S3	WAKE ISLAND Hy	36.69	175	T	T	01 01 37.1	
	baz=359						
H11S2	WAKE ISLAND Hy	36.70	175	T	T	01 01 33.5	
	baz=359,slow=74						
HHC	Hu-ho-hao-te	36.72	269	eP	P	00 20 59.8	+0.9
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,370nm,5.3s						
BTO	Baotou	37.77	270	eP	P	00 21 08.0	+0.3
BTO				pP	sP	00 21 14.0	+1.3
BTO				sP	pwP	00 21 17.0	-0.3
BTO				PP	PP	00 22 34.5	+0.6
BTO				S	S	00 26 58.0	+0.4
BTO				SS	SnSn	00 29 23.3	-14
BTO				pmax	pmax		
	comp=Z,11nm,1.1s						
BTO				pmax	pmax		
	comp=Z,500nm,9.4s						
BTO				LR	LR		
	comp=N,390nm,7.5s						
BTO				LR	LR		
	comp=E,590nm,6.3s						
BTO				LR	LR		
	comp=Z,310nm,7.1s						
NJ2	Nanjing	38.85	252	eP	P	00 21 17.0	+0.2
NJ2				pP	pP	00 21 20.3	-0.2
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,210nm,4.2s						
EUNU	Eureka	39.42	15	P	P	00 21 21.4	+0.3
YKA	Yellowknife Ar	40.24	45	P	P	00 21 27.9	-0.2
	comp=Z,0.9nm,0.5s,baz=297,slow=8.3,SNR=5.8						
	comp=Z,0.9nm,0.5s						
ZALV	Zalesovo Beam	43.38	302	P	P	00 21 51.6	-2.2
ZALV	Zalesovo Beam	43.38	302	eP	P	00 21 52.4	-1.4
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	Zalesovo Beam	43.38	302	P	P	00 21 52.0	-1.9
	comp=Z,1.1nm,0.6s,baz=52,slow=7.7,SNR=5.2						
ZALV				LR	LR	00 42 27.0	
	comp=Z,62nm,21.9s,baz=53,slow=40						
	comp=Z,1.1nm,0.6s						
BRLDA	Berland Lookou	43.43	57	P	P	00 21 55.0	+0.6
LZH	Lanzhou	44.39	270	eP	P	00 22 00.0	-2.4
LZH				pP	pP	00 22 04.5	-1.5
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
DGZ	Jazzator, Alta	44.59	296⇓	eP	P	00 22 02.9	-0.9
DGZ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SPITS	Spitsbergen Ar	45.41	351	P	P	00 22 08.5	-1.3
SPITS				pmax	pmax		
	comp=Z,52nm,1.4s						
WMQ	Urumqi	48.20	290	eP	P	00 22 33.0	+0.9
KURK	Kurchatov	48.37	302	P	P	00 22 31.8	-1.3
KURK	Kurchatov	48.37	302	P	P	00 22 32.3	-0.9
KURBB	Kurchatov Arra	48.47	302	P	P	00 22 32.3	-1.7
	comp=Z,5.8nm,0.7s,baz=56,slow=7.9,SNR=46						
	comp=Z,5.8nm,0.7s						
MK31	Makanchi Array	49.09	296	P	P	00 22 37.2	-1.6
MK31	Makanchi Array	49.09	296	P	P	00 22 37.2	-1.6
MK31				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	Makanchi Array	49.09	296	P	P	00 22 36.9	-2.0
	comp=Z,1.5nm,0.8s,baz=53,slow=6.3,SNR=9.4						
	comp=Z,1.5nm,0.8s						
GYA	Guiyang	49.93	259	⇓P	P	00 22 47.0	+1.4
GYA				pmax	pmax		
	comp=Z,14nm,1.2s						
BVAR	Borovoye Array	50.69	309	P	P	00 22 49.1	-1.8
	comp=Z,1.4nm,0.6s,baz=46,slow=8.3,SNR=6.9						
	comp=Z,1.4nm,0.6s						
BRVK	Borovoye	50.71	309⇑	eP	P	00 22 50.1	-1.0
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	Mina Array Bea	53.15	74	P	P	00 23 11.3	+1.6
NVAR	Mina Array Bea	53.15	74	P	P	00 23 11.8	+2.1
	comp=Z,1.2nm,0.8s,baz=312,slow=7.3,SNR=7.7						
	comp=Z,1.2nm,0.8s						
PDAR	Pinedale Array	54.74	64	P	P	00 23 22.0	+0.6
PDAR	Pinedale Array	54.74	64	P	P	00 23 22.8	+1.5
	comp=Z,0.6nm,0.9s,baz=343,slow=3.1,SNR=5.0						
	comp=Z,0.6nm,0.9s						
AAK	Ala-Archa	55.97	297⇑	eP	P	00 23 30.1	0.0
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSH	Kashi	57.47	294	P	P	00 23 43.5	+2.8
KSH				pP	pwP	00 23 49.0	-1.3
KSH				sP	sP	00 23 52.0	+6.2
KSH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KK31	Karatay Array	57.64	300	P	P	00 23 40.6	-1.1
KK31				IAmb	IAmb	00 23 41.3	
	comp=Z,4.5nm,0.6s						
KK31	Karatay Array	57.64	300	P	P	00 23 40.6	-1.1
KK31				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KKAR	Karatay Array	57.64	300	P	P	00 23 40.5	-1.2
KKAR	Karatay Array	57.64	300	P	P	00 23 40.5	-1.2
ARSB	Arslanbob	57.70	297	P	P	00 23 41.4	-0.9
ARSB	Arslanbob	57.70	297	P	P	00 23 41.4	-0.9
ARSB				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ABKAR	Akbulak array	57.98	311	P	P	00 23 43.3	-0.7
FINES	FINESS Array B	58.99	338	eP	P	00 23 51.8	+1.0
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	58.99	338	P	P	00 23 51.3	+0.4
	comp=Z,2.0nm,0.7s,baz=46,slow=6.6,SNR=4.8						
	comp=Z,2.0nm,0.7s						
EYMN	Ely	59.54	49	P	P	00 23 55.6	+0.8
BTK	Batken	59.74	297	P	P	00 23 55.5	-0.9
BTK	Batken	59.74	297	P	P	00 23 55.5	-0.9
BTK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CMAR	Chiang Mai Arr	60.59	260	ceP	P	00 24 03.4	+1.0
CMAR	Chiang Mai Arr	60.59	260	P	P	00 24 02.0	-0.3
	comp=Z,0.5nm,0.4s,baz=34,slow=6.6,SNR=4.2						
	comp=Z,0.5nm,0.4s						
NOA	NORSAR Array B	62.08	345	P	P	00 24 11.8	-0.1
	comp=Z,0.8nm,0.6s,baz=18,slow=6.9,SNR=3.3						
	comp=Z,0.8nm,0.6s						
ANMO	Albuquerque	62.14	68⇑	eP	P	00 24 15.1	+2.1
ANMO				pmax	pmax		
	comp=Z,5.0nm,2.5s						
HFS	Hagfors	62.56	344	P	P	00 24 14.7	-0.4
	comp=Z,2.7nm,0.8s,baz=30,slow=8.9,SNR=1.9						
	comp=Z,2.7nm,0.8s						
NACGM	Naroch	64.71	334	eP	P	00 24 28.7	-0.6
MNK	Minsk	64.79	333	i P	P	00 24 22.7	-7.2
	comp=E,9.0nm,1.0s						
MNK				i P	P	00 24 22.7	-7.2
	comp=N,21nm,0.9s				

comp=Z,0.8nm,0.6s
WRA Warramunga Arr 78.86 208 P P 00 25 56.6 +1.9
comp=Z,0.3nm,0.7s,baz=20,slow=5.8,SNR=2.4
comp=Z,0.3nm,0.7s
ASAR Alice Springs 82.52 207 P P 00 26 15.7 +1.4
comp=Z,0.3nm,0.5s,baz=18,slow=5.5,SNR=2.4
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 84.92 350 P P 00 26 27.4 +0.8
comp=Z,0.8nm,0.9s,baz=15,slow=5.3,SNR=5.1
comp=Z,0.8nm,0.9s

---

*IDC **26** 00:16:03.7±0.5,8°.98S×106°.99E, h0km, mb4.2/16, mbtmp4.2/18, ML4.1/2, MS3.4/4, Error ellipse: s-maj=22.2km s-min=12.1km az=69.0*
*DJA **26** 00:16:06.9±0.2,9°.S±2°.×10°.7E±°, h52km±16km, M4.8/18, mB5.3/6, mb5.1/12, MLv4.6/18, Mw(mB)4.7/6*
*NEIC **26** 00:16:06.4±1.4,9°.14S±0°.06×106°.93E±0°.06, h20km±4km, mb4.4/25, Error ellipse: s-maj=10.1km s-min=7.1km az=123.0*
ISC 26 00:16:04.4±0.4,9°.09S±0°.04×106°.93E±0°.05, h10km, n109, σ1°56/110, mb4.4/30, MS3.2/3, 5C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBJI	**Bungbulang**	**1.77**	**24**	P	**Pb**	**00 16 35.2**	**-1.8**
CNJI	**Cibinong**	**1.78**	**6**	P	**Pb**	**00 16 35.2**	**-2.0**
CNJI				S	**Sn**	**00 16 55.3**	**-2.6**
XMI	**Christmas Isla**	**1.82**	**222**	P	**Pb**	**00 16 36.6**	**-1.3**
XMIS	**Christmas Isla**	**1.87**	**222**		**Pb**	**00 16 36.5**	**-2.2**
XMIS				Sn	**Sn**	**00 16 58.2**	**-2.1**
XMIS	**Christmas Isla**	**1.87**	**222**	P	**Pb**	**00 16 36.8**	**-1.9**
CMJI	**Cimerak**	**1.98**	**49**	P	**Pn**	**00 16 37.5**	**-0.6**
LEM	**Lembang**	**2.35**	**17**	P	**Pb**	**00 16 44.4**	**-2.6**
LEM	**Lembang**	**2.35**	**17**	Pn	**Pb**	**00 16 44.2**	**-2.8**
	43nm,0.3s,baz=128,slow=6.1,SNR=22						
LEM				Sn	**Sn**	**00 17 11.9**	**-0.3**
	52nm,0.3s,baz=156,slow=20,SNR=12						
	203nm,0.7s						
KPJI	**Karang Pucung**	**2.64**	**49**	P	**Pn**	**00 16 47.8**	**+0.7**
KPJI				S	**Sn**	**00 17 20.3**	**+1.1**
CGJI	**Cibinong**	**2.75**	**333**	P	**Pn**	**00 16 49.3**	**+0.7**
CGJI				S	**Sn**	**00 17 20.2**	**-1.7**
YOGI	**Yogyakarta**	**3.56**	**69**	P	**Pn**	**00 16 58.0**	**-1.8**
UGM	**Wanagama**	**3.74**	**72**		**Pn**	**00 17 01.7**	**-0.6**
UGM	**Wanagama**	**3.74**	**72**	P	**Pn**	**00 17 02.1**	**-0.2**
UGM	**Wanagama**	**3.74**	**72**	P	**Pn**	**00 17 02.2**	**-0.1**
SMRI	**Semarang**	**4.02**	**60**		**Pn**	**00 17 07.5**	**+1.3**
SMRI	**Semarang**	**4.02**	**60**	P	**Pn**	**00 17 08.2**	**+2.0**
SMRI	**Semarang**	**4.02**	**60**	P	**Pn**	**00 17 07.7**	**+1.5**
WOJI	**Wonogiri, Jawa**	**4.14**	**73**	P	**Pn**	**00 17 09.2**	**+1.4**
KASI	**Kota Agung**	**4.29**	**326**	P	**Pn**	**00 17 10.1**	**+0.3**
NGJI	**Ngawi**	**4.80**	**69**	P	**Pn**	**00 17 19.0**	**+2.2**
LWLI	**Liwa**	**4.95**	**325**	P	**Pg**	**00 17 38.9**	**-0.4**
GRJI	**Gresik**	**5.91**	**69**	P	**Pn**	**00 17 34.2**	**+2.2**
	119nm,0.5s,0.5nm						
MNAI	**Manna**	**6.13**	**320**	Pn	**Pn**	**00 17 35.8**	**+0.6**
MNAI	**Manna**	**6.13**	**320**	P	**Pn**	**00 17 36.2**	**+1.0**
MNAI	**Manna**	**6.13**	**320**	P	**Pn**	**00 17 35.8**	**+0.6**
	71nm,0.5s,4μm0.7nm						
BLJI	**Banyuglugur**	**6.73**	**79**	P	**Pn**	**00 17 44.7**	**+1.4**
	92nm,0.5s,4μm0.4nm						
JAGI	**Jajag, Banyuwa**	**7.17**	**86**		**Pn**	**00 17 49.8**	**+0.4**
JAGI	**Jajag, Banyuwa**	**7.17**	**86**	P	**Pn**	**00 17 50.8**	**+1.4**
JAGI	**Jajag, Banyuwa**	**7.17**	**86**	P	**Pn**	**00 17 50.5**	**+1.1**
	204nm,0.7s,2μm0.7nm						
ABJI	**Asem Bagus**	**7.34**	**80**	P	**Pn**	**00 17 54.9**	**+3.1**
	135nm,0.7s,0.5nm						
IGBI	**Denpasar**	**8.12**	**89**	P	**Pn**	**00 18 02.0**	**-0.5**
	125nm,0.8s						
SRBI	**Singaraja**	**8.25**	**84**	P	**Pn**	**00 18 04.9**	**+0.6**
	120nm,0.7s,1μm						
PPSI	**Pulau Pagai**	**9.32**	**312**	P	**Pn**	**00 18 17.1**	**-1.8**
	70nm,0.9s						
TWSI	**Taliwang, Sumb**	**9.84**	**89**	P	**Pn**	**00 18 26.2**	**+0.1**
	68nm,0.6s,709nm						
PLAI	**Plampang**	**10.72**	**89**	P	**Pn**	**00 18 38.5**	**+0.4**
PLAI	**Plampang**	**10.72**	**89**	P	**Pn**	**00 18 37.9**	**-0.2**
	154nm,0.7s,1μm						
KAPI	**Kappang**	**13.35**	**73**	Pn	**Pn**	**00 19 13.6**	**-0.5**
KAPI	**Kappang**	**13.35**	**73**	Pn	**Pn**	**00 19 14.6**	**+0.4**
	1.2nm,0.3s,baz=218,slow=17,SNR=2.3						
KAPI				LR	LR	00 25 11.2	
	comp=Z,119nm,19.8s,baz=221,slow=41						
	2.8nm,0.4s						
BKSI	**Bulukumba**	**13.61**	**75**	P	**Pn**	**00 19 17.9**	**+0.2**
	12nm,1.0s						
EDFI	**Ende, Flores**	**14.59**	**90**	P	**Pn**	**00 19 27.3**	**-3.9**
MMRI	**Maumere**	**15.13**	**89**	Pn	**Pn**	**00 19 35.8**	**-2.7**
GIRL	**Giralia**	**15.19**	**153**	Pn	**Pn**	**00 19 35.9**	**-3.2**
SOEI	**Soe**	**17.12**	**94**	P	**Pn**	**00 19 59.8**	**-4.3**
MBWA	**Marble Bar**	**17.21**	**136**	Pn	**Pn**	**00 20 02.8**	**-2.3**
PSA00	**Pilbara Seismi**	**17.57**	**136**	Pn	**Pn**	**00 20 06.9**	**-2.7**
PSA00	**Pilbara Seismi**	**17.57**	**136**	Pn	**Pn**	**00 20 07.2**	**-2.4**
PSA00				IAmb	IAmb	00 20 33.8	
	comp=Z,9.6nm,1.4s						
KNRA	**Kununurra**	**22.30**	**109**	P	**P**	**00 21 01.7**	**-0.5**
KNRA				IAmb	IAmb	00 21 29.4	
	comp=Z,13nm,1.0s						
DAV	**Davao City (W)**	**24.56**	**50**	LR	LR	00 33 38.5	
	comp=Z,73nm,18.4s,baz=218,slow=43						
CMAR	**Chiang Mai Arr**	**28.48**	**344**	P	**P**	**00 21 58.8**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=180,slow=8.5,SNR=4.2						
	comp=Z,0.5nm,0.3s						
WB0	**Warramunga Arr**	**28.59**	**115**	P	**P**	**00 22 01.2**	**+0.1**
WB0				IAmb	IAmb	00 22 25.5	
	comp=Z,5.2nm,1.1s						
WRA	**Warramunga Arr**	**28.60**	**115**	P	**P**	**00 22 00.9**	**-0.2**
WRA	**Warramunga Arr**	**28.60**	**115**	P	**P**	**00 22 01.2**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=285,slow=11,SNR=8.2						
WRA				PcP	**PcP**	**00 25 13.3**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=304,slow=2.1,SNR=3.6						
	comp=Z,0.9nm,0.8s						
ASAR	**Alice Springs**	**29.58**	**123**	P	**P**	**00 22 10.5**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=296,slow=8.1,SNR=13						
ASAR				PcP	**PcP**	**00 25 16.8**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=282,slow=1.7,SNR=4.2						
	comp=Z,1.7nm,0.9s						
H08S2	**Diego Garcia H**	**34.09**	**270**	T	T	00 58 45.7	
	baz=95,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**34.10**	**270**	T	T	00 58 47.9	
	baz=95,slow=75,SNR=32						
H08S1	**Diego Carcia H**	**34.11**	**270**	T	T	00 58 46.7	
	baz=95,slow=75,SNR=7.6						
BBOO	**Buckleboo**	**35.79**	**136**	P	**P**	**00 23 04.0**	**-0.1**
BBOO				IAmb	IAmb	00 23 08.7	
	comp=Z,12nm,1.5s						
SHL	**Shillong**	**37.43**	**337**	P	**P**	**00 23 17.8**	**-0.4**
STKA	**Stephens Creek**	**39.33**	**130**	P	**P**	**00 23 33.7**	**-0.3**
STKA	**Stephens Creek**	**39.33**	**130**	P	**P**	**00 23 35.3**	**+1.3**
	comp=Z,5.6nm,0.8s,baz=301,slow=8.4,SNR=11						
	comp=Z,5.6nm,0.8s						
WHN	**Wuhan**	**40.04**	**10**	P	**P**	**00 23 43.0**	**+3.1**
TAPN	**Taplejung**	**40.73**	**333**	*eP*	**P**	**00 23 47.0**	**+1.0**
RAMN	**Ramite**	**40.90**	**332**	*eP*	**P**	**00 23 47.7**	**+0.4**
	comp=Z,5.5nm,0.4s						
LSA	**Lhasa**	**41.45**	**339**	P	**P**	**00 23 52.1**	**0.0**
LSA				IAmb	IAmb	00 23 54.7	
	comp=Z,6.7nm,0.9s						
JIRN	**Jiri**	**41.69**	**332**	*eP*	**P**	**00 23 54.8**	**+0.8**
	comp=Z,17nm,0.7s						
PKI	**Pulchoki**	**41.98**	**331**	*eP*	**P**	**00 23 57.2**	**+0.9**
	comp=Z,6.5nm,0.5s						
PKIN	**Phulchoki**	**41.99**	**331**	*eP*	**P**	**00 23 56.6**	**+0.3**
	comp=Z,9.6nm,0.5s						
GUN	**Gumba**	**42.05**	**332**	*eP*	**P**	**00 23 57.4**	**+0.5**
	comp=Z,14nm,0.5s						
DANN	**Dangsing**	**43.44**	**330**	*eP*	**P**	**00 24 08.4**	**+0.3**
	comp=Z,18nm,0.7s						
PYUN	**Piuthan**	**43.62**	**329**	*eP*	**P**	**00 24 10.1**	**+0.6**
	comp=Z,20nm,0.8s						
HHC	**Hu-ho-hao-te**	**49.87**	**5**	*eP*	**P**	**00 25 01.5**	**+3.4**
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,270nm,6.2s						
KSRS	**Korea Array**	**50.30**	**22**	LR	LR	00 48 24.6	
	comp=Z,19nm,18.2s,baz=175,slow=39						
SONM	**Songino Array**	**56.67**	**360**	P	**P**	**00 25 48.5**	**+0.4**
SONM				IAmb	IAmb	00 26 01.6	
	comp=Z,3.1nm,1.1s						
SONM	**Songino Array**	**56.67**	**360**	P	**P**	**00 25 48.6**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=174,slow=7.1,SNR=9.1						
	comp=Z,1.2nm,0.6s						
ULN	**Ulaanbaatar**	**56.70**	**0**	P	**P**	**00 25 48.5**	**+0.2**
ULN				IAmb	IAmb	00 25 50.0	
	comp=Z,2.8nm,0.8s						
MK31	**Makanchi Array**	**59.82**	**341**	P	**P**	**00 26 10.2**	**+0.2**
MK31				IAmb	IAmb	00 26 23.1	
	comp=Z,3.8nm,0.8s						
MKAR	**Makanchi Array**	**59.82**	**341**	P	**P**	**00 26 09.5**	**-0.5**
MKAR	**Makanchi Array**	**59.82**	**341**	P	**P**	**00 26 10.2**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=148,slow=8.4,SNR=22						
	comp=Z,2.0nm,0.5s						
KLR	**Kul'dur**	**62.02**	**18**	P	**P**	**00 26 23.4**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=234,slow=3.0,SNR=4.3						
	comp=Z,1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**64.38**	**340**	P	**P**	**00 26 41.0**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=158,slow=5.5,SNR=14						
	comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**64.43**	**340**	P	**P**	**00 26 41.4**	**+0.6**
GEYT	**Alibeck**	**65.28**	**319**	P	**P**	**00 26 47.0**	**+0.3**
GEYT	**Alibeck**	**65.28**	**319**	P	**P**	**00 26 47.8**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=96,slow=13,SNR=5.4						
	comp=Z,2.3nm,0.7s						
MAW	**Mawson**	**65.36**	**197**	P	**P**	**00 26 46.7**	**0.0**
MAW				IAmb	IAmb	00 27 12.3	
	comp=Z,3.3nm,1.4s						
MAW	**Mawson**	**65.36**	**197**	P	**P**	**00 26 48.5**	**+1.8**
	comp=Z,2.0nm,0.6s,baz=38,slow=5.4,SNR=6.3						
	comp=Z,2.0nm,0.6s						
ZAA0	**Zalesovo Array**	**65.53**	**346**	P	**P**	**00 26 47.8**	**-0.1**
ZAA0				IAmb	IAmb	00 26 48.6	
	comp=Z,5.1nm,1.2s						
ZALV	**Zalesovo Beam**	**65.53**	**346**	P	**P**	**00 26 47.2**	**-0.7**
ZALV	**Zalesovo Beam**	**65.53**	**346**	P	**P**	**00 26 47.0**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=138,slow=6.9,SNR=5.0						
	comp=Z,0.6nm,0.3s						
BVAR	**Borovoye Array**	**69.25**	**337**	P	**P**	**00 27 11.9**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=142,slow=8.7,SNR=22						
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**69.32**	**337**	P	**P**	**00 27 12.3**	**+0.4**
BRVK				IAmb	IAmb	00 27 37.1	
	comp=Z,3.3nm,0.8s						
ABKAR	**Akbulak array**	**71.16**	**330**	P	**P**	**00 27 23.6**	**+0.3**
ABKAR	**Akbulak array**	**71.16**	**330**	P	**P**	**00 27 23.4**	**+0.1**
ABKAR				IAmb	IAmb	00 27 24.7	
	comp=Z,6.4nm,0.8s						
VNDA	**Vanda**	**73.94**	**169**	P	**P**	**00 27 40.2**	**+0.7**
VNDA	**Vanda**	**73.94**	**169**	P	**P**	**00 27 40.5**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=310,slow=7.3,SNR=10						
	comp=Z,1.5nm,0.8s						
GURO	**Guroymak-BITLI**	**76.64**	**313**	P	**P**	**00 27 55.9**	**0.0**
GURO				IAmb	IAmb	00 27 59.5	
	comp=Z,1.8nm,0.8s						
KBZ	**Khabaz**	**78.15**	**318**	P	**P**	**00 28 05.1**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=134,slow=2.0,SNR=5.2						
	comp=Z,3.4nm,0.9s						
QSPA	**South Pole Qui**	**80.91**	**180**	P	**P**	**00 28 19.8**	**+0.9**
QSPA				IAmb	IAmb	00 28 21.1	
	comp=Z,4.0nm,0.8s						
QSPA	**South Pole Qui**	**80.91**	**180**	P	**P**	**00 28 20.2**	**+1.4**
	comp=Z,3.0nm,0.7s,baz=300,slow=1.2,SNR=12						
	comp=Z,3.0nm,0.7s						
SUR	**Sutherland**	**81.94**	**238**	LR	LR	01 02 06.4	
	comp=Z,76nm,18.8s,baz=124,slow=34						
BRTR	**Keskin Array B**	**83.16**	**312**	P	**P**	**00 28 31.8**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=88,slow=7.8,SNR=5.6						
	comp=Z,1.1nm,0.9s						
TROLL	**Troll, Antarti**	**85.82**	**198**	⇑P	**P**	**00 28 46.4**	**+2.4**
	comp=Z,57nm,0.8s						
SNAA	**Sanae**	**87.53**	**197**	P	**P**	**00 28 52.9**	**+0.6**
SNAA				IAmb	IAmb	00 28 55.6	
	comp=Z,4.4nm,1.0s						
SNAA	**Sanae**	**87.53**	**197**	⇑P	**P**	**00 28 54.8**	**+2.5**
	comp=Z,52nm,0.8s						
VNA2	**Neumayer--Watz**	**89.17**	**197**	⇑P	**P**	**00 29 02.7**	**+2.6**
	comp=Z,4.0nm,0.7s,baz=100,slow=3.0						
VNA1	**Neumayer--Stat**	**89.55**	**198**	⇑P	**P**	**00 29 04.7**	**+2.9**
	comp=Z,4.0nm,0.9s						
VNA3	**Neumayer Olymp**	**89.69**	**197**	⇑P	**P**	**00 29 04.9**	**+2.4**
	comp=Z,2.3nm,0.7s						
PDAR	**Pinedale Array**	**133.70**	**37**	PKP	**PKiKP**	**00 35 24.3**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=56,slow=3.4,SNR=2.2						
TXAR	**Lajitas Array**	**144.96**	**51**	PKP	**PKiKP**	**00 35 43.5**	**-3.1**
	comp=Z,0.8nm,0.8s,baz=234,slow=1.9,SNR=10						
BDFB	**Brasilia**	**145.08**	**225**	PKPbc	**PKiKP**	**00 35 44.9**	**-2.3**
	comp=Z,3.1nm,0.8s,baz=188,slow=4.0,SNR=4.7						

---

*IDC **26** 00:22:18.2±0.7,48°.98S×124°.65E, h0km, mb4.2/10, mbtmp4.2/10, MS3.7/20, Error ellipse: s-maj=36.9km s-min=16.1km az=110.0*
*NEIC **26** 00:22:19.8±1.4,49°.1S±0°.1×124°.9E±0°.1, h10km±1km, mb4.4/16, Error ellipse: s-maj=19.7km s-min=9.1km az=338.0*
ISC 26 00:22:19.7±0.5,49°.07S±0°.08×124°.8E±0°.1, h10km, n67, σ0°82/48, mb4.4/19, MS3.6/21, 5D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.21**	**327**	T	T	00 42 42.5	
	baz=152,slow=79						
H01W2	**Cape Leeuwin H**	**16.21**	**327**	T	T	00 42 46.6	
	baz=152,slow=79						
H01W3	**Cape Leeuwin H**	**16.23**	**327**	T	T	00 42 51.1	
	baz=152,slow=79						
TAU	**Tasmania Unive**	**16.77**	**77**	Pn	**Pn**	**00 26 14.2**	**-0.3**
TAU				IAmb	IAmb	00 26 27.5	
	comp=Z,36nm,1.5s						
BBOO	**Buckleboo**	**18.29**	**32**	P	**Pn**	**00 26 33.4**	**-0.1**
FORT	**Forrest**	**18.43**	**9**	P	**P**	**00 26 33.4**	**-1.8**
FORT				IAmb	IAmb	00 26 45.3	
	comp=Z,32nm,0.9s						
CASY	**Casey**	**18.78**	**198**	P	**P**	**00 26 37.0**	**-1.8**
STKA	**Stephens Creek**	**21.31**	**42**		**P**	**00 27 06.8**	**+0.3**
STKA	**Stephens Creek**	**21.31**	**42**	P	**P**	**00 27 07.3**	**+0.8**
	comp=Z,7.1nm,0.9s,baz=197,slow=11,SNR=8.8						
STKA				LR	LR	00 33 54.7	
	comp=Z,224nm,20.6s,baz=206,slow=33						
	comp=Z,7.1nm,0.9s						
ASAR	**Alice Springs**	**26.35**	**19**	P	**P**	**00 27 54.5**	**-1.3**
ASAR	**Alice Springs**	**26.35**	**19**	P	**P**	**00 27 55.0**	**-0.9**
	comp=Z,4.9nm,0.8s,baz=190,slow=9.2,SNR=34						
ASAR				PcP	**PcP**	**00 31 21.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=198,slow=2.6,SNR=4.1						
ASAR				LR	LR	00 37 06.6	
	comp=Z,437nm,21.6s,baz=214,slow=34						
	comp=Z,4.9nm,0.8s						
AS31	**Alice Springs**	**26.35**	**19**	P	**P**	**00 27 54.4**	**-1.5**
WRA	**Warramunga Arr**	**30.05**	**18**	P	**P**	**00 28 27.4**	**-1.6**
	comp=Z,1.3nm,1.0s,baz=185,slow=8.4,SNR=5.3						
WRA				PcP	**PcP**	**00 31 29.9**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=203,slow=2.6,SNR=5.6						
	comp=Z,1.3nm,1.0s						
WB0	**Warramunga Arr**	**30.23**	**18**	P	**P**	**00 28 30.9**	**+0.4**
WB0				IAmb	IAmb	00 28 48.4	
	comp=Z,3.8nm,1.0s						
VNDA	**Vanda**	**31.84**	**166**	P	**P**	**00 28 44.8**	**+0.6**
VNDA				IAmb	IAmb	00 28 53.5	
	comp=Z,8.3nm,1.1s						
VNDA	**Vanda**	**31.84**	**166**	P	**P**	**00 28 45.3**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=304,slow=10,SNR=4.4						
VNDA				LR	LR	00 40 40.2	
	comp=Z,136nm,18.3s,baz=314,slow=34						
	comp=Z,1.1nm,0.9s						
RPZ	**Rata Peaks**	**31.93**	**98**	LR	LR	00 38 34.1	
	comp=Z,56nm,20.5s,baz=242,slow=30						
CTA	**Charters Tower**	**33.63**	**38**	LR	LR	00 42 04.8	
	comp=Z,203nm,20.1s,baz=258,slow=35						
MAW	**Mawson**	**35.48**	**216**	P	**P**	**00 29 17.2**	**+1.3**
	comp=Z,2.8nm,0.9s,baz=76,slow=6.4,SNR=1.9						
MAW				LR	LR	00 41 36.9	
	comp=Z,160nm,18.5s,baz=66,slow=33						
	comp=Z,2.8nm,0.9s						
URZ	**Urewera**	**38.62**	**94**	LR	LR	00 41 46.8	
	comp=Z,54nm,20.7s,baz=31,slow=30						
MMRI	**Maumere**	**40.36**	**356**	P	**P**	**00 29 57.8**	**+0.3**
QSPA	**South Pole Qui**	**41.05**	**180**	P	**P**	**00 30 02.8**	**-0.3**
QSPA				IAmb	IAmb	00 30 07.4	
	comp=Z,5.0nm,1.2s						
QSPA	**South Pole Qui**	**41.05**	**180**	LR	LR	00 46 04.3	
	comp=Z,191nm,20.8s,baz=340,slow=35						
DZM	**Mont Dzumac**	**42.48**	**66**	LR	LR	00 44 45.6	
	comp=Z,78nm,18.4s,baz=212,slow=32						
PMG	**Port Moresby**	**43.73**	**33**	LR	LR	00 48 59.1	
	comp=Z,74nm,19.2s,baz=219,slow=37						
KAPI	**Kappang**	**44.11**	**353**	P	**P**	**00 30 28.9**	**+0.8**
KAPI				IAmb	IAmb	00 30 37.9	
	comp=Z,10nm,1.1s						
KAPI	**Kappang**	**44.11**	**353**	LR	LR	00 46 58.5	
	comp=Z,53nm,21.8s,baz=165,slow=34						
LEM	**Lembang**	**44.54**	**335**	LR	LR	00 48 27.6	
	comp=Z,42nm,21.0s,baz=120,slow=35						
HNR	**Honiara**	**49.20**	**49**	LR	LR	00 48 56.9	
	comp=Z,1μm,21.8s,baz=69,slow=32						
TROLL	**Troll, Antarti**	**52.64**	**199**	⇓P	**P**	**00 31 33.5**	**0.0**
	comp=Z,124nm,0.5s						
BELA	**Belgrano 2**	**52.69**	**185**	P	**P**	**00 31 33.4**	**-0.2**
BELA				IAmb	IAmb	00 31 42.1	
	comp=Z,15nm,1.2s						
SNAA	**Sanae**	**54.02**	**198**	P	**P**	**00 31 43.3**	**-0.3**
SNAA	**Sanae**	**54.02**	**198**	⇓P	**P**	**00 31 43.8**	**+0.2**
	comp=Z,172nm,0.8s						
SNAA	**Sanae**	**54.02**	**198**	P	**P**	**00 31 43.6**	**0.0**
	comp=Z,11nm,1.0s,baz=145,slow=6.6,SNR=38						
SNAA				LR	LR	00 53 24.1	
	comp=Z,237nm,20.0s,baz=189,slow=34						
	comp=Z,11nm,1.0s						
VNA2	**Neumayer--Watz**	**55.52**	**197**	⇓P	**P**	**00 31 54.4**	**+0.1**
	comp=Z,6.3nm,0.8s,baz=153,slow=7.0						
VNA3	**Neumayer Olymp**	**55.69**	**196**	⇓P	**P**	**00 31 55.7**	**+0.2**
	comp=Z,6.2nm,0.7s						
DAV	**Davao City (W)**	**55.91**	**1**	LR	LR	00 55 31.4	
	comp=Z,50nm,20.1s,baz=154,slow=36						
VNA1	**Neumayer--Stat**	**55.91**	**197**	⇓P	**P**	**00 31 57.4**	**+0.3**
	comp=Z,16nm,1.2s						
H08S2	**Diego Garcia H**	**60.14**	**295**	T	T	01 37 32.6	
	baz=150,slow=78						
H08S1	**Diego Carcia H**	**60.15**	**295**	T	T	01 37 34.2	
	baz=150,slow=78						
H08S3	**Diego Garcia H**	**60.16**	**295**	T	T	01 37 31.7	
	baz=150,slow=78						
GUMO	**Guam**	**64.86**	**22**	LR	LR	01 01 24.2	
	comp=Z,30nm,19.7s,baz=140,slow=36						
PMSA	**Palmer Station**	**66.28**	**176**	LR	LR	01 00 41.6	
	comp=Z,58nm,20.8s,baz=200,slow=35						
CMAR	**Chiang Mai Arr**	**71.06**	**334**	P	**P**	**00 33 37.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**71.06**	**334**	P	**P**	**00 33 37.8**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=188,slow=5.5,SNR=13						
CMAR				LR	LR	01 03 33.6	
	comp=Z,20nm,19.9s,baz=5.0,slow=35						
	comp=Z,1.5nm,0.7s						
CRAI	**Chiangrai**	**72.35**	**336**	P	**P**	**00 33 45.8**	**+0.2**
CRAI				IAmb	IAmb	00 33 47.1	
	comp=Z,5.1nm,1.1s						
SUR	**Sutherland**	**74.53**	**238**	P	**P**	**00 33 58.9**	**+0.1**
BOSA	**Boshof**	**74.77**	**244**	P	**P**	**00 33 59.2**	**-0.9**
BOSA	**Boshof**	**74.77**	**244**	P	**P**	**00 33 59.0**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=130,slow=5.2,SNR=5.6						
	comp=Z,3.2nm,0.8s						
JNU	**Nakatsue**	**82.00**	**5**	LR	LR	01 09 26.6	
	comp=Z,31nm,21.9s,baz=62,slow=34						
MJAR	**Matsushiro Arr**	**86.06**	**11**	P	**P**	**00 35 00.1**	**0.0**
	comp=Z,2.9nm,0.6s,baz=187,slow=6.1,SNR=6.4						
	comp=Z,2.9nm,0.6s						
KSRS	**Korea Array**	**86.19**	**2**	P	**P**	**00 35 01.6**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=173,slow=4.6,SNR=6.1						
KSRS				LR	LR	01 12 27.4	
	comp=Z,19nm,21.7s,baz=330,slow=35						
	comp=Z,1.4nm,0.6s						
TSUM	**Tsumeb**	**86.44**	**245**	LR	LR	01 09 57.9	
	comp=Z,68nm,18.2s,baz=119,slow=33						
HHC	**Hu-ho-hao-te**	**90.30**	**350**	*eP*	**P**	**00 35 22.5**	**+2.1**
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,300nm,7.3s						
TORD	**Torodi Ar. Bea**	**121.36**	**253**	PKP	**PKPdf**	**00 41 12.2**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=158,slow=0.8,SNR=3.0						
TXAR	**Lajitas Array**	**138.39**	**100**	PKP	**PKPdf**	**00 41 45.1**	**-0.2**
	comp=Z,0.9nm,1.1s,baz=170,slow=3.8,SNR=3.6						
ESDC	**Sonseca Array**	**142.84**	**275**	PKP	**PKPdf**	**00 41 53.5**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=95,slow=1.4,SNR=2.5						
PESTR	**Estremoz**	**144.79**	**271**	*e*Pdif	PKPbc	00 41 55.6	+0.2
EVO	**Evora**	**144.89**	**271**	*e*Pdif	**PKPab**	**00 41 54.6**	**-1

Error ellipse: s-maj=58.0km s-min=37.0km az=11.0
ISC 26 01:14:12.2±3.6, 39°.1N±0°.2×67°.6E±0°.1, h10km, n7, σ2s02/10, 5C-1D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.52**	**30**	Pg	**Pn**	**01 15 09.8**	**+2.7**
	18nm,0.3s						
IUG				Lg	Lg	01 15 48.6	
	59nm,0.4s						
IUG	**Iuzhnay**	**3.52**	**30**	*e*Pg	**Pn**	**01 15 02.9**	**-4.2**
	2.0nm,0.3s						
IUG				*e*Lg	Lg	01 15 40.1	
	8.0nm,0.4s						
KK31	**Karatay Array**	**4.53**	**28**	⇑Pn	**Pn**	**01 15 20.8**	**0.0**
	2.8nm,0.6s,baz=219,slow=16,SNR=10						
KK31				⇑Pg	**Pb**	**01 15 32.7**	**+1.0**
	1.6nm,0.4s,baz=214,slow=15,SNR=6.0						
KK31				⇑Sn	**Sn**	**01 16 12.7**	**-0.8**
	6.5nm,0.5s,baz=215,slow=24,SNR=9.6						
AML	**Almayashu**	**5.50**	**55**	⇑Pn	**Pn**	**01 15 33.3**	**-1.2**
	0.2nm,0.5s						
AML				⇓Sn	**Sn**	**01 16 37.7**	**-0.2**
	1.0nm,0.6s						
MRKS	**Merke**	**5.56**	**48**	Pg	**Pn**	**01 15 35.7**	**+0.6**
	2.2nm,0.3s						
MRKS				Lg	Lg	01 16 33.6	
	4.8nm,0.2s						
MRKS	**Merke**	**5.56**	**48**	*e*Pg	**Pn**	**01 15 35.7**	**+0.6**
	2.2nm,0.3s						
MRKS				*e*Lg	Lg	01 16 33.6	
	4.8nm,0.2s						
AB31	**Akbulak array**	**11.53**	**334**	⇑Pn	**Pn**	**01 16 56.6**	**-0.1**
	0.2nm,0.4s,baz=154,slow=12,SNR=7.0						

*KRNET **26** 01:35:31.1±0.1, 39°.74N×72°.52E, h13km, mb3.3*
*ISU **26** 01:35:33.0, 39°.76N×72°.48E, h15km*
*NNC **26** 01:35:33.5±4.1, 39°.69N×72°.49E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=32.2km s-min=18.3km az=2.0
ISC 26 01:35:30.4±1.4, 39°.71N±0°.05×72°.60E±0°.03, h22km±6km, n45, σ2s84/59, 22C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.66**	**250**	⇑*e*P	**Pb**	**01 35 42.7**	**-0.7**
	baz=46						
DRK				⇑*e*S	**Sb**	**01 35 51.3**	**-1.0**
	baz=46						
SFK	**Sufi-Kurgan**	**0.76**	**66**	⇑*e*P	**Pb**	**01 35 46.4**	**+1.4**
	baz=69						
SFK				⇑*i*S	**Sn**	**01 35 57.7**	**+0.8**
	baz=69						
OHH	**Osh**	**0.82**	**10**	⇑*i*P	**Pn**	**01 35 46.6**	**-0.2**
	baz=15						
OHH				⇑*i*S	**Sn**	**01 35 58.0**	**-0.4**
	baz=15						
OHH	**Osh**	**0.82**	**10**	P	**Pn**	**01 35 46.6**	**-0.2**
OHH				S	**Sn**	**01 35 58.0**	**-0.4**
TSTA	**Tashata**	**0.87**	**354**	S	**Sn**	**01 35 58.7**	**-0.8**
FRG	**Fergana**	**0.91**	**317**	P	**Pn**	**01 35 47.6**	**-0.3**
FRG				S	**Sn**	**01 35 59.0**	**-1.4**
CHMI	**Chimion**	**1.00**	**304**	P	**Pn**	**01 35 49.7**	**+0.6**
CHMI				P	**Pn**	**01 35 49.7**	**+0.6**
CHMI				S	**Sn**	**01 36 02.1**	**-0.5**
CHMI				S	**Sn**	**01 36 02.1**	**-0.5**
BTK	**Batken**	**1.41**	**285**	⇑*i*P	**Pb**	**01 35 56.4**	**+0.3**
	baz=84						
BTK				⇑*i*S	**Sb**	**01 36 14.8**	**+1.1**
	baz=84						
BTK	**Batken**	**1.41**	**285**	P	**Pb**	**01 35 56.7**	**+0.6**
BTK				S	**Sb**	**01 36 14.8**	**+1.1**
MINT	**Mingtut**	**1.46**	**302**	P	Pb	01 36 19.1	+22
NAM	**Namangan**	**1.47**	**331**	P	**Pb**	**01 35 59.7**	**+2.7**
ARSB	**Arslanbob**	**1.64**	**10**	⇓*i*P	**Pb**	**01 36 01.5**	**+1.5**
	baz=12						
ARSB				⇓*e*S	**Sb**	**01 36 23.6**	**+3.4**
	baz=12						
ARSB	**Arslanbob**	**1.64**	**10**	P	**Pb**	**01 36 01.5**	**+1.5**
ARSB				S	**Sb**	**01 36 23.6**	**+3.4**
TRKS	**Terek-Say**	**2.13**	**329**	⇑*e*P	**Pb**	**01 36 07.9**	**-0.4**
	baz=30						
TRKS				⇑*e*S	**Sb**	**01 36 34.7**	**+0.3**
	baz=30						
ARLS	**Aral**	**2.52**	**31**	⇓*e*P	**Pb**	**01 36 15.1**	**+0.2**
	baz=32						
ARLS				⇓*e*S	**Sb**	**01 36 47.2**	**+1.7**
	baz=32						
AML	**Almayashu**	**2.56**	**19**	⇑Pn	**Pb**	**01 36 18.9**	**+3.2**
	5.4nm,1.1s						
AML				⇑Sn	**Sb**	**01 36 53.0**	**+6.1**
	10nm,0.6s						
AML	**Almayashu**	**2.56**	**19**	⇓*e*P	**Pb**	**01 36 15.7**	**-0.1**
	baz=20						
AML				⇓*e*S	**Sb**	**01 36 48.3**	**+1.4**
	baz=20						
CHMG	**Chimgan**	**2.69**	**314**	P	**Pb**	**01 36 20.0**	**+2.1**
MNAS	**Manas**	**2.77**	**359**	⇑*e*P	**Pb**	**01 36 18.3**	**-1.0**
	baz=60						
MNAS				⇑*e*S	**Sb**	**01 36 52.4**	**-0.5**
	baz=60						
CHRV	**Charvak**	**2.79**	**315**	P	**Pb**	**01 36 23.0**	**+3.5**
TGS	**TashGRES**	**2.90**	**307**	S	Sb	01 37 05.5	+9.0
MRKS	**Merke**	**3.07**	**9**	Pg	**Pb**	**01 36 28.3**	**+4.0**
	10nm,0.4s						
MRKS				Lg	Lg	01 37 05.4	
	59nm,0.3s						
EKS2	**Erkin-Say**	**3.08**	**16**	⇑*e*P	**Pb**	**01 36 22.5**	**-2.0**
	baz=18						
EKS2				⇑*e*S	**Sb**	**01 37 00.2**	**-1.5**
	baz=18						
IUG	**Iuzhnay**	**3.12**	**322**	Pg	**Pb**	**01 36 28.3**	**+3.2**
	36nm,0.4s						
IUG				Lg	Lg	01 37 05.4	
	33nm,0.4s						
AAK	**Ala-Archa**	**3.25**	**25**	⇓*e*P	**Pb**	**01 36 25.3**	**-2.2**
	baz=27						
AAK				⇓*e*S	**Sb**	**01 37 04.9**	**-1.9**
	baz=27						
KBK	**Karagaybulak**	**3.44**	**30**	⇓*e*P	**Pb**	**01 36 27.9**	**-2.7**
	baz=31						
KBK				⇓*e*S	**Sb**	**01 37 09.4**	**-2.6**
	baz=31						
FRU1	**Bishkek**	**3.45**	**26**	⇑*e*P	**Pb**	**01 36 28.2**	**-2.7**
	baz=27						
FRU1				⇑*e*S	**Sb**	**01 37 09.9**	**-2.5**
	baz=27						
CHMS	**Chumysh**	**3.66**	**26**	Pn	**Pb**	**01 36 34.0**	**-0.4**
CHMS				Sn	**Sb**	**01 37 26.4**	**+8.0**
CHMS	**Chumysh**	**3.66**	**26**	⇑*i*P	**Pb**	**01 36 31.0**	**-3.4**
	baz=27						
CHMS				⇑*e*S	**Sb**	**01 37 14.4**	**-4.0**
	baz=27						
KK31	**Karatay Array**	**3.73**	**336**	Pn	**Pb**	**01 36 31.9**	**-3.7**
	0.4nm,0.3s,baz=146,slow=13,SNR=8.8						
KK31				Pg	Pn	01 36 40.1	+13
	1.5nm,0.3s,baz=154,slow=15,SNR=14						
KK31				⇓Sn	**Sb**	**01 37 16.5**	**-3.9**
	2.3nm,0.4s,baz=146,slow=24,SNR=3.7						
KKAR	**Karatay Array**	**3.73**	**336**	⇑*e*P	**Pb**	**01 36 31.2**	**-4.4**
	baz=37						
KKAR				⇑*e*S	**Sb**	**01 37 14.8**	**-5.6**
	baz=37						
BOOM	**Boomskoye usch**	**3.75**	**41**	⇓*e*P	**Pb**	**01 36 32.4**	**-3.6**
	baz=42						
BOOM				⇓*e*S	**Sb**	**01 37 17.3**	**-3.8**
	baz=42						
USP	**Ospenovka**	**3.83**	**21**	⇓*e*P	**Pb**	**01 36 33.1**	**-4.1**
	baz=22						
USP				⇓*e*S	**Sb**	**01 37 18.5**	**-4.7**
	baz=22						
TKM2	**Tokmak 2**	**3.92**	**34**	Pn	**Pn**	**01 36 34.2**	**+4.8**
SGDS	**Sogindy**	**4.04**	**22**	Pg	Pb	01 36 46.1	+5.4
	4.7nm,0.5s						
SGDS				Lg	Lg	01 37 36.0	
	8.9nm,0.4s						
KST	**Kastek**	**4.18**	**36**	Pg	Pb	01 36 50.0	+6.7
	2.3nm,0.4s						
KST				Lg	Lg	01 37 42.7	
	13nm,0.4s						
DGS	**Degeres**	**4.26**	**33**	Pg	Pb	01 36 50.8	+6.2
	5.1nm,0.6s						
DGS				Lg	Lg	01 37 44.2	
	8.1nm,0.3s						
MTBS	**Maitube**	**4.47**	**39**	Pg	Pb	01 36 55.7	+7.5
	1.8nm,0.2s						
MTBS				Lg	Lg	01 37 52.3	
	5.4nm,0.2s						
KRBS	**Karabastau**	**4.60**	**29**	Pg	Pb	01 36 57.2	+6.8
	3.1nm,0.8s						
KRBS				Lg	Lg	01 37 54.9	
	5.8nm,0.3s						
TNSS	**Tian-Shan**	**4.66**	**43**	Pg	Pb	01 36 59.8	+8.1
	3.4nm,0.3s						
TNSS				Lg	Lg	01 37 59.5	
	3.4nm,0.2s						
MDOK	**Medeo**	**4.80**	**43**	Pg	Pb	01 37 02.2	+8.3
	4.5nm,0.4s						
MDOK				Lg	Lg	01 38 03.5	
KOTS	**Kotyrbulak**	**4.89**	**42**	Pg	Pb	01 37 03.9	+8.6
	4.3nm,0.4s						
KOTS				Lg	Lg	01 38 06.5	
	13nm,0.5s						
KUU	**Kurty**	**5.03**	**33**	Pg	Pb	01 37 05.4	+7.8
	1.5nm,0.2s						
KUU				Lg	Lg	01 38 09.1	
	7.0nm,0.4s						
KTBS	**Karatobe**	**5.03**	**36**	Pg	Pb	01 37 05.8	+8.1
	3.2nm,0.5s						
KTBS				Lg	Lg	01 38 09.9	
	9.7nm,0.4s						
CHKK	**Chushkaly**	**5.28**	**37**	Pg	Pb	01 37 10.7	+8.8
	1.1nm,0.1s						

IDC 26 01:50:21.9±3.8, 6°.42S×127°.05E, h418km±46km, mb3.2/1, mbtmp3.6/3, Error ellipse: s-maj=130.0km s-min=14.9km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.19**	**153**	P	P	01 53 35.2	-0.7
	1.1nm,0.5s,baz=331,slow=11,SNR=24						
WRA				S	S	01 56 13.7	-2.7
	0.7nm,0.7s,baz=338,slow=19,SNR=6.6						
ASAR	**Alice Springs**	**18.37**	**160**	P	P	01 54 10.2	+0.5
	0.2nm,0.3s,baz=347,slow=12,SNR=2.2						
ASAR				S	S	01 57 17.8	+0.7
	0.4nm,0.5s,baz=336,slow=17,SNR=5.5						
MKAR	**Makanchi Array**	**66.17**	**328**	P	P	02 00 26.4	0.0
	0.7nm,0.5s,baz=116,slow=6.6,SNR=10						
	0.7nm,0.5s						

IDC 26 01:54:25.5±2.3, 2°.47S×138°.51E, h0km, mb3.4/3, mbtmp3.5/4, ML3.6/1, MS2.9/3, Error ellipse: s-maj=185.9km s-min=31.7km az=105.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.15**	**21**	LR	LR	02 04 29.3	
	comp=Z,24nm,21.4s,baz=126,slow=35						
WRA	**Warramunga Arr**	**17.84**	**193**	P	Pn	01 58 34.6	-0.8
	0.2nm,0.3s,baz=14,slow=12,SNR=8.7						
WRA				S	Sn	02 01 42.5	-13
	0.7nm,0.7s,baz=10.0,slow=22,SNR=1.7						
	0.9nm,0.6s						
CTA	**Charters Tower**	**19.08**	**157**	LR	LR	02 06 07.7	
	comp=Z,42nm,21.3s,baz=266,slow=37						
ASAR	**Alice Springs**	**21.54**	**192**	P	P	01 59 16.9	+0.2
	0.6nm,0.7s,baz=22,slow=9.5,SNR=8.0						
ASAR				LR	LR	02 07 47.2	
	comp=Z,62nm,20.1s,baz=352,slow=37						
	0.6nm,0.7s						
VNDA	**Vanda**	**76.04**	**175**	P	P	02 06 14.4	+0.1
	0.6nm,0.7s,baz=324,slow=6.7,SNR=4.8						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**85.69**	**24**	P	P	02 07 06.1	0.0
	0.2nm,0.6s,baz=245,slow=3.9,SNR=2.0						
	0.2nm,0.6s						

*UCR **26** 02:04:21.6±1.1, 9°.47N×82°.93W, h18km±10km, MW3.6*
*UPA **26** 02:04:23.9±0.8, 9°.35N×82°.87W, h15km±6km, MD3.2, MW3.1*
ISC 26 02:04:21.1±1.2, 9°.34N±0°.04×83°.01W±0°.03, h4km±13km, n29, σ0s84/41, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POTG	**Potrero Grande**	**0.30**	**200**	*e*P	**Pb**	**02 04 29.9**	**+0.8**
EDBA	**Buenos Aires**	**0.31**	**236**	*e*P	**Pb**	**02 04 30.6**	**+1.3**
BRIBI	**Bribri**	**0.33**	**29**	*e*P	**Pg**	**02 04 27.6**	**+0.1**
BRIBI				*e*S	**Sg**	**02 04 33.1**	**+1.4**
RGM0	**Gandoca**	**0.47**	**58**	*e*P	**Pg**	**02 04 30.6**	**+0.3**
CTCR	**Cotoan**	**0.51**	**150**	*e*P	**Pb**	**02 04 32.8**	**+0.1**
CTCR				*e*S	**Sb**	**02 04 41.3**	**+0.8**
EDSV	**San Vito**	**0.52**	**176**	*e*P	**Pb**	**02 04 34.1**	**+1.3**
CNI2	**El Empalme, Bo**	**0.54**	**81**	*e*P	**Pg**	**02 04 30.7**	**-0.8**
CNI2				*e*S	**Sg**	**02 04 37.4**	**-1.1**
EDPN	**Palmar Norte**	**0.58**	**230**	*e*P	**Pn**	**02 04 35.7**	**-0.4**
EDAD	**Golfito**	**0.70**	**193**	*e*P	**Pn**	**02 04 36.9**	**-0.9**
FITO	**Golfito**	**0.72**	**191**	*e*P	**Pn**	**02 04 37.2**	**-0.9**
BUS1	**Rivas**	**0.76**	**287**	*e*P	**Pg**	**02 04 36.3**	**+0.6**
BUS1				*e*S	**Sb**	**02 04 47.1**	**-0.9**
CDITO	**Canoas**	**0.77**	**170**	*e*P	**Pn**	**02 04 38.8**	**0.0**
CDITO				*e*S	**Sn**	**02 04 49.6**	**-1.2**
CDM	**Cerro de Muert**	**0.77**	**286**	*e*P	**Pg**	**02 04 36.5**	**+0.5**
BCO2	**Palmira**	**0.78**	**142**	*e*P	**Pb**	**02 04 37.7**	**+0.4**
BCO2				*e*S	**Sb**	**02 04 48.9**	**+0.6**
BATAN	**Batan**	**0.84**	**335**	*e*P	**Pn**	**02 04 40.8**	**+1.1**
BATAN				*e*S	**Sg**	**02 04 48.5**	**+0.4**
BATAN	**Batan**	**0.84**	**335**	*e*P	**Pg**	**02 04 35.4**	**-1.8**
BATAN				*e*S	**Sg**	**02 04 47.0**	**-1.1**
JIME	**Puerto Jimenez**	**0.85**	**201**	*e*P	**Pn**	**02 04 39.7**	**-0.2**
JIME				*e*S	**Sn**	**02 04 54.0**	**+1.2**
VERB	**Verbena**	**0.90**	**312**	*e*P	**Pg**	**02 04 37.8**	**-0.7**
CHGR2	**Aguacate**	**0.94**	**115**	*e*P	**Pg**	**02 04 39.0**	**-0.2**
CHGR2				*e*S	**Sg**	**02 04 50.7**	**-0.8**
VTCV	**VTCV, Calle Va**	**0.95**	**312**	*e*P	**Pg**	**02 04 38.7**	**-0.7**
PIRO	**Carate, Puerto**	**0.98**	**199**	*e*P	**Pn**	**02 04 41.4**	**-0.3**
CVTV	**Tajo**	**0.98**	**312**	*e*P	**Pg**	**02 04 39.3**	**-0.7**
VTLO	**VTLO**	**0.99**	**315**	*e*P	**Pg**	**02 04 39.2**	**-1.0**
VTLA	**Turrialba Volc**	**1.00**	**311**	*e*P	**Pg**	**02 04 39.7**	**-0.7**
DVD	**David**	**1.05**	**148**	*e*P	**Pg**	**02 04 41.5**	**+0.2**
DVD				*e*S	**Sb**	**02 04 56.1**	**0.0**
LCR2	**La Lucha 2**	**1.06**	**292**	*e*P	**Pg**	**02 04 40.8**	**-0.6**
ABE2	**San Pablo**	**1.09**	**290**	*e*P	**Pg**	**02 04 41.4**	**-0.6**
PTPM	**Petroterminale**	**1.13**	**173**	*e*P	**Pn**	**02 04 43.7**	**-0.1**
PTPM				*e*S	**Sn**	**02 04 59.2**	**-0.6**
JACO	**JACO, Garabito**	**1.66**	**281**	*e*P	**Pn**	**02 04 50.9**	**-0.1**

IDC 26 02:09:43.4±1.3, 10°.13S×123°.73E, h0km, mb3.4/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=36.1km s-min=11.5km az=128.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.10**	**220**	Pn	Pg	02 09 52.4	+7.1
	659nm,0.3s,baz=64,slow=3.5,SNR=206						
BATI				Sn	Sg	02 09 58.1	+12
	826nm,0.3s,baz=73,slow=20,SNR=19						
WRA	**Warramunga Arr**	**14.14**	**135**	Pn	Pn	02 13 03.6	-1.5
	0.1nm,0.3s,baz=312,slow=14,SNR=4.7						
WRA				Sn	Sn	02 15 31.4	-12
	0.1nm,0.3s,baz=306,slow=23,SNR=2.1						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**16.60**	**145**	Pn	Pn	02 13 38.6	+0.9
	0.2nm,0.3s,baz=323,slow=12,SNR=4.0						
ASAR				Sn	Sn	02 16 36.4	-6.4
	0.1nm,0.3s,baz=315,slow=22,SNR=2.9						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**67.66**	**331**	P	P	02 20 42.1	-0.2
	0.2nm,0.6s,baz=134,slow=7.2,SNR=2.1						
	0.2nm,0.6s						

*NEIC **26** 02:18:19.7±1.6, 7°.81S±0°.08×108°.76E±0°.09, h94km±6km, mb4.1/10, Error ellipse: s-maj=14.6km s-min=9.3km az=127.0*
*DJA **26** 02:18:21.7±0.8, 8°.5S±3°.×10°.9E±°, h28km±9km, M4.4/17, mb4.4/4, mB5.1/2, MLv4.3/17, Mw(mB)4.5/2*
*IDC **26** 02:18:25.4±1.6, 7°.90S×109°.14E, h100km±17km, mb3.5/7, mbtmp3.9/7, Error ellipse: s-maj=53.5km s-min=14.1km az=45.0*
ISC 26 02:18:22.7±0.6, 8°.22S±0°.08×109°.05E±0°.06, h83km, n56, σ1s44/48, mb4.0/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.74**	**306**	P	**Pn**	**02 18 37.6**	**-1.3**
CMJI				S	**Sn**	**02 18 47.7**	**-3.3**
KPJI	**Karang Pucung**	**0.89**	**352**	P	**Pn**	**02 18 41.0**	**+0.4**
KPJI				S	**Sn**	**02 18 54.2**	**+0.2**
YOGI	**Yogyakarta**	**1.30**	**72**	P	**Pn**	**02 18 45.1**	**-0.4**
UGM	**Wanagama**	**1.49**	**78**		**Pn**	**02 18 48.0**	**-0.1**
UGM	**Wanagama**	**1.49**	**78**	P	**Pn**	**02 18 47.8**	**-0.2**
UGM	**Wanagama**	**1.49**	**78**	P	**Pn**	**02 18 47.9**	**-0.1**
UGM				S	**Sn**	**02 19 05.2**	**-2.0**
BBJI	**Bungbulang**	**1.58**	**298**	P	**Pn**	**02 18 48.8**	**-0.4**
SMRI	**Semarang**	**1.80**	**50**	Pn	**Pn**	**02 18 49.8**	**-2.3**
SMRI	**Semarang**	**1.80**	**50**	P	**Pn**	**02 18 53.8**	**+1.7**
SMRI	**Semarang**	**1.80**	**50**	P	**Pn**	**02 18 53.5**	**+1.4**
WOJI	**Wonogiri, Jawa**	**1.89**	**79**	P	**Pn**	**02 18 52.4**	**-0.9**
LEM	**Lembang**	**1.98**	**314**	P	**Pn**	**02 18 55.9**	**+1.3**
LEM	**Lembang**	**1.98**	**314**	P	**Pn**	**02 18 55.9**	**+1.3**
	86nm,0.4s,baz=75,slow=10,SNR=15						
LEM				S	**Sn**	**02 19 20.1**	**+1.2**
	180nm,0.4s,baz=198,slow=21,SNR=5.2						
CNJI	**Cibinong**	**2.11**	**295**	P	**Pn**	**02 18 55.6**	**-0.5**
NGJI	**Ngawi**	**2.54**	**71**	P	**Pn**	**02 19 03.3**	**+1.5**
GRJI	**Gresik**	**3.64**	**69**	P	**Pn**	**02 19 17.5**	**+0.8**
CGJI	**Cibinong**	**3.69**	**295**	P	**Pn**	**02 19 17.6**	**+0.1**
XMI	**Christmas Isla**	**3.99**	**236**	P	Pn	02 19 19.7	-1.8
XMIS	**Christmas Isla**	**4.04**	**236**		Pn	02 19 19.8	-2.4
XMIS	**Christmas Isla**	**4.04**	**236**	P	Pn	02 19 19.8	-2.4
BWJI	**Bawean**	**4.29**	**57**	P	**Pn**	**02 19 26.2**	**+0.7**
JAGI	**Jajag, Banyuwa**	**5.06**	**93**		**Pn**	**02 19 37.8**	**+1.8**
JAGI	**Jajag, Banyuwa**	**5.06**	**93**	P	**Pn**	**02 19 36.9**	**+0.8**
	34nm,0.8s,2μm0.5nm						
KASI	**Kota Agung**	**5.25**	**300**	P	**Pn**	**02 19 39.2**	**+0.5**
	28nm,0.8s,0.2nm						
MNAI	**Manna**	**7.17**	**302**	P	**Pn**	**02 20 07.2**	**+2.3**
TWSI	**Taliwang, Sumb**	**7.76**	**94**	P	**Pn**	**02 20 12.8**	**-0.2**
	14nm,0.7s,1μm0.1nm						
PLAI	**Plampang**	**8.65**	**95**	P	**Pn**	**02 20 26.3**	**+1.1**
PLAI	**Plampang**	**8.65**	**95**	P	**Pn**	**02 20 24.8**	**-0.4**
MBWA	**Marble Bar**	**16.49**	**142**	Pn	**Pn**	**02 22 09.3**	**+0.3**
MBWA				IAmb	IAmb	02 22 18.4	
	comp=Z,10nm,1.2s						
PSA00	**Pilbara Seismi**	**16.87**	**143**		**Pn**	**02 22 15.6**	**+1.9**
MORW	**Morawa**	**21.76**	**163**	P	**P**	**02 23 07.0**	**-0.6**
MORW				IAmb	IAmb	02 23 25.9	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**27.09**	**118**	P	**P**	**02 23 56.5**	**-1.5**
WB0				IAmb	IAmb	02 24 13.6	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**27.11**	**118**	P	**P**	**02 23 56.0**	**-2.0**
WRA	**Warramunga Arr**	**27.11**	**118**	P	**P**	**02 24 00.0**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=291,slow=11,SNR=17						
WRA				PcP	**PcP**	**02 27 18.1**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=302,slow=2.1,SNR=2.9						
	comp=Z,0.6nm,0.5s						
WB2	**Warramunga Arr**	**27.12**	**118**	P	**P**	**02 23 56.5**	**-1.6**
WB2				IAmb	IAmb	02 24 18.1	
	comp=Z,7.2nm,1.2s						
WR0	**Warramunga Arr**	**27.29**	**118**	P	**P**	**02 23 59.0**	**-0.7**
WR0				IAmb	IAmb	02 24 20.2	
	comp=Z,5.6nm,1.1s						
ASAR	**Alice Springs**	**28.33**	**126**	P	**P**	**02 24 10.9**	**+2.0**
	comp=Z,0.8nm,0.5s,baz=305,slow=9.1,SNR=11						
	comp=Z,0.8nm,0.5s						
BBOO	**Buckleboo**	**34.99**	**138**	P	**P**	**02 25 07.1**	**-0.1**
H08S2	**Diego Garcia H**	**36.20**	**268**	T	T	03 03 33.4	
	baz=94,slow=76,SNR=126						
H08S3	**Diego Garcia H**	**36.21**	**268**	T	T	03 03 34.8	
	baz=94,slow=76,SNR=161						
H08S1	**Diego Carcia H**	**36.22**	**268**	T	T	03 03 34.8	
	baz=94,slow=76,SNR=61						
STKA	**Stephens Creek**	**38.32**	**132**	P	**P**	**02 25 37.7**	**+2.1**
	comp=Z,1.0nm,0.4s,baz=316,slow=8.3,SNR=4.4						
	comp=Z,1.0nm,0.4s						
MJB9	**Matsu-Tunnel**	**52.27**	**30**	P	P	02 27 18.0	-7.7
MKAR	**Makanchi Array**	**59.73**	**339**	P	P	02 28 11.6	-7.1
MKAR	**Makanchi Array**	**59.73**	**339**	P	**P**	**02 28 17.4**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=151,slow=7.5,SNR=8.5						
	comp=Z,0.5nm,0.4s						
H04N2	**CROZET ISLANDS**	**61.69**	**222**	T	T	03 35 53.5	
	baz=71,slow=75,SNR=630						
H04N1	**CROZET ISLANDS**	**61.70**	**222**	T	T	03 35 53.7	
	baz=71,slow=75,SNR=648						
H04N3	**CROZET ISLANDS**	**61.70**	**222**	T	T	03 35 52.4	
	baz=71,slow=75,SNR=619						
H04S1	**CROZET ISLANDS**	**61.84**	**221**	T	T	03 35 50.0	
	baz=70,slow=74						
H04S3	**CROZET ISLANDS**	**61.85**	**221**	T	T	03 35 53.6	
	baz=70,slow=74						
H04S2	**CROZET ISLANDS**	**61.85**	**221**	T	T	03 35 52.4	
	baz=70						
KURBB	**Kurchatov Arra**	**64.30**	**339**	P	**P**	**02 28 47.7**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=150,slow=6.5,SNR=1.8						
KURBB				PcP	**PcP**	**02 29 23.6**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=148,slow=3.2,SNR=6.0						
	comp=Z,0.2nm,0.3s						
QSPA	**South Pole Qui**	**81.78**	**180**	P	**P**	**02 30 30.7**	**-1.6**
QSPA				IAmb	IAmb	02 30 56.2	
	comp=Z,4.3nm,1.4s						
QSPA	**South Pole Qui**	**81.78**	**180**	P	**P**	**02 30 34.3**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=245,slow=6.8,SNR=2.4						
	comp=Z,0.8nm,0.8s						
BRTR	**Keskin Array B**	**84.15**	**311**	P	**P**	**02 30 45.5**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=136,slow=6.8,SNR=5.8						
	comp=Z,1.1nm,0.8s						
TXAR	**Lajitas Array**	**142.79**	**51**	PKP	**PKPdf**	**02 37 44.4**	**-2.9**
	comp=Z,0.3nm,0.8s,baz=208,slow=2.3,SNR=4.8						

**IDC 26 02:19:43.9±2.5, 0°.20

22nm,0.1s
KTMS Ketmen 1.00 142 P **Pg 02 35 09.2 -0.7**
5.2nm,0.1s
KTMS S **Sg 02 35 22.3 -0.4**
3.5nm,0.1s
KTMS Ketmen 1.00 142 *eP* **Pg 02 35 09.2 -0.7**
5.2nm,0.1s
KTMS *eS* **Sg 02 35 22.3 -0.4**
3.5nm,0.1s
SHLS Shalkode 1.08 182 P **Pb 02 35 12.2 +0.3**
4.9nm,0.1s
SHLS S **Sn 02 35 27.6 -0.3**
22nm,0.2s
SHLS Shalkode 1.08 182 *eP* **Pb 02 35 12.2 +0.3**
4.9nm,0.1s
SHLS *eS* **Sn 02 35 27.6 -0.3**
22nm,0.2s
UZB Uzynbulak 1.14 198 P **Pg 02 35 12.6 0.0**
8.2nm,0.1s
UZB S **Sb 02 35 28.3 0.0**
16nm,0.3s
UZB Uzynbulak 1.14 198 *eP* **Pg 02 35 12.6 0.0**
8.2nm,0.1s
UZB *eS* **Sb 02 35 28.3 0.0**
16nm,0.3s
ARXS Arharly 1.21 270 *eP* **Pg 02 35 12.9 -1.0**
4.6nm,0.1s
ARXS *eS* **Sg 02 35 28.8 -0.8**
25nm,0.3s
KURS Kuram 1.22 233 P **Pg 02 35 13.6 -0.6**
3.0nm,0.2s
KURS S **Sg 02 35 29.9 -0.1**
4.1nm,0.1s
KURS Kuram 1.22 233 *eP* **Pg 02 35 13.6 -0.6**
3.0nm,0.2s
KURS *eS* **Sg 02 35 29.9 -0.1**
4.1nm,0.1s
SATY Saty 1.42 215 P **Pn 02 35 17.5 +0.2**
4.9nm,0.1s
SATY S **Sn 02 35 36.8 +0.4**
33nm,0.2s
SATY Saty 1.42 215 *eP* **Pn 02 35 17.5 +0.2**
4.9nm,0.1s
SATY *eS* **Sn 02 35 36.8 +0.4**
33nm,0.2s
CHKK Chushkaly 1.86 259 *eP* **Pb 02 35 24.7 -0.4**
1.3nm,0.1s
CHKK *eS* **Sb 02 35 48.9 +0.2**
20nm,0.1s
MDOK Medeo 2.08 240 *eP*g **Pb 02 35 29.1 +0.1**
1.5nm,0.2s
MDOK *eL*g Lg 02 35 56.6
8.5nm,0.3s
KTBS Karatobe 2.11 257 *eP*g **Pb 02 35 29.7 +0.3**
0.7nm,0.1s
KTBS *eL*g Lg 02 35 57.0
7.5nm,0.3s
TNSS Tian-Shan 2.21 238 *eP*g **Pb 02 35 31.5 +0.1**
1.3nm,0.1s
TNSS *eL*g Lg 02 36 00.5
2.1nm,0.3s
KUU Kurty 2.31 263 *eP*g **Pb 02 35 33.2 +0.3**
0.7nm,0.1s
KUU *eL*g Lg 02 36 03.0
5.6nm,0.3s
DGS Degeres 2.88 251 *eP*g **Pb 02 35 43.6 +0.9**
1.0nm,0.3s
DGS *eL*g Lg 02 36 21.2
3.4nm,0.4s

DJA 26 02:39:07.5±0.4,9°S±4°×11°1E±°,h10km,M3.8/13,mb4.0/3, mB5.7/1,MLv3.8/13,Mw(mB)5.2/1,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**0.63**	**338**	P	Pg	02 39 20.0	+0.3
WOJI	**Wonogiri, Jawa**	**0.68**	**14**	P	Pg	02 39 20.0	-0.6
YOGI	**Yogyakarta**	**0.82**	**326**	P	Pg	02 39 23.4	+0.1
NGJI	**Ngawi**	**1.32**	**32**	P	Pg	02 39 33.6	+0.7
SMRI	**Semarang**	**1.48**	**348**	P	Pn	02 39 34.6	+0.4
KPJI	**Karang Pucung**	**2.15**	**302**	P	Pn	02 39 43.6	+0.2
GRJI	**Gresik**	**2.32**	**47**	P	Pn	02 39 45.4	-0.4
CMJI	**Cimerak**	**2.40**	**287**	P	Pn	02 39 46.5	-0.3
GMJI	**Gumukmas**	**2.67**	**85**	P	Pn	02 39 51.0	+0.5
JAGI	**Jajag, Banyuwa**	**3.36**	**90**	P	Pn	02 40 00.4	+0.4
LEM	**Lembang**	**3.53**	**298**	P	Pn	02 40 02.6	0.0
PLAI	**Plampang**	**6.95**	**93**	P	Pn	02 40 49.3	-0.1
	15nm,2.0s,0.1nm						
PPBI	**Pangkal Pinang**	**7.80**	**324**	P	Pn	02 41 00.8	-0.3
EDFI	**Ende, Flores**	**10.81**	**92**	P	Pn	02 41 41.5	-1.1

*IDC **26** 02:49:39.5±3.4, 18°.68S×169°.27E, h239km±36km, mb3.6/7, mbtmp4.1/8, Error ellipse: s-maj=57.6km s-min=19.8km az=161.0*
*NEIC **26** 02:49:39.1±1.7, 18°.7S±0°.2×169°.4E±0°.1, h237km±10km, mb4.4/27, Error ellipse: s-maj=24.4km s-min=15.8km az=146.0*
*NOU **26** 02:49:42.8, 18°.91S×169°.18E, h212km, MLv4.0/11, Vanuatu Islands*
ISC 26 02:49:39.9±0.8,18°.92S±0°.09×169°.4E±0°.1,h250km,n54, σ0s92/54,mb4.3/19,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.44**	**321**	P	**Pn**	**02 50 17.0**	**-0.8**
LIFNC	**LIFOU**	**2.74**	**227**	Pn	**Pn**	**02 50 28.7**	**-0.8**
LIFNC	**LIFOU**	**2.74**	**227**	P	**Pn**	**02 50 28.4**	**-1.1**
MARNC	**Mare, Loyalty**	**2.85**	**206**	Pn	**Pn**	**02 50 30.2**	**-0.6**
MARNC	**Mare, Loyalty**	**2.85**	**206**	P	**Pn**	**02 50 30.1**	**-0.6**
YATNC	**Mamie plateau,**	**3.90**	**216**	P	**Pn**	**02 50 41.5**	**-1.0**
PINNC	**Pines Island,**	**4.10**	**206**		**Pn**	**02 50 44.9**	**0.0**
DZM	**Mont Dzumac**	**4.18**	**221**	Pn	**Pn**	**02 50 46.5**	**+0.7**
DZM	**Mont Dzumac**	**4.18**	**221**	P	**Pn**	**02 50 46.0**	**+0.2**
DZM	**Mont Dzumac**	**4.18**	**221**	P	**Pn**	**02 50 46.1**	**+0.3**
	30nm,0.5s,baz=46,slow=17,SNR=49						
OUENC	**Ouen Island, N**	**4.22**	**214**		**Pn**	**02 50 46.6**	**+0.4**
OUENC	**Ouen Island, N**	**4.22**	**214**	P	**Pn**	**02 50 46.6**	**+0.4**
NOUC	**Port Laguerre**	**4.29**	**222**	P	**Pn**	**02 50 47.5**	**+0.5**
ONTNC	**Ouen Toro**	**4.35**	**219**	Pn	**Pn**	**02 50 48.7**	**+0.9**
ONTNC	**Ouen Toro**	**4.35**	**219**	P	**Pn**	**02 50 48.6**	**+0.9**
KOUNC	**Koumac, New Ca**	**5.07**	**250**	Pn	**Pn**	**02 50 58.3**	**+1.8**
EIDS	**Eidsvold**	**18.12**	**246**	P	**Pn**	**02 53 35.9**	**-1.1**
EIDS				IAmb	IAmb	02 53 39.1	
	comp=Z,6.4nm,0.5s						
ARMA	**Armidale**	**19.76**	**231**	P	**Pn**	**02 53 53.6**	**-2.6**
ARMA				IAmb	IAmb	02 54 16.9	
	comp=Z,16nm,1.2s						
CTA	**Charters Tower**	**21.83**	**263**	P	**P**	**02 54 13.5**	**+1.0**
	comp=Z,4.5nm,0.4s,baz=83,slow=8.6,SNR=14						
	comp=Z,4.5nm,0.4s						
CTAO	**Charters Tower**	**21.83**	**263**	P	**P**	**02 54 13.1**	**+0.6**
CTAO				IAmb	IAmb	02 54 14.4	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**28.13**	**237**	P	**P**	**02 55 10.3**	**+1.2**
STKA	**Stephens Creek**	**28.13**	**237**	P	**P**	**02 55 10.1**	**+1.0**
	comp=Z,5.8nm,0.6s,baz=63,slow=8.5,SNR=23						
	comp=Z,5.8nm,0.6s						
WR0	**Warramunga Arr**	**32.84**	**262**	P	**P**	**02 55 49.6**	**-0.8**
WR0				IAmb	IAmb	02 55 50.4	
	comp=Z,9.4nm,1.1s						
BBOO	**Buckleboo**	**32.87**	**238**	P	**P**	**02 55 51.0**	**+0.4**
BBOO				IAmb	IAmb	02 56 08.9	
	comp=Z,9.6nm,1.4s						
WB0	**Warramunga Arr**	**32.99**	**263**	P	**P**	**02 55 51.1**	**-0.7**
WB2	**Warramunga Arr**	**33.02**	**262**	P	**P**	**02 55 51.1**	**-1.0**
WB2				IAmb	IAmb	02 55 53.3	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**33.02**	**262**	P	**P**	**02 55 51.2**	**-0.9**
WRAB				IAmb	IAmb	02 55 51.5	
	comp=Z,4.6nm,0.6s						
WRA	**Warramunga Arr**	**33.03**	**262**	P	**P**	**02 55 50.0**	**-2.1**
WRA	**Warramunga Arr**	**33.03**	**262**	P	**P**	**02 55 51.1**	**-1.1**
	comp=Z,4.4nm,0.5s,baz=97,slow=8.5,SNR=106						
	comp=Z,4.4nm,0.5s						
AS31	**Alice Springs**	**33.34**	**256**	P	**P**	**02 55 54.9**	**+0.1**
ASAR	**Alice Springs**	**33.34**	**256**	P	**P**	**02 55 54.6**	**-0.2**
	comp=Z,42nm,0.4s,baz=82,slow=8.9,SNR=776						
MTN	**Manton Dam**	**37.23**	**274**	P	**P**	**02 56 27.6**	**-0.3**
KNRA	**Kununurra**	**38.86**	**268**	P	**P**	**02 56 41.0**	**-0.5**
FORT	**Forrest**	**39.11**	**244**	P	**P**	**02 56 43.2**	**-0.2**
FORT				IAmb	IAmb	02 56 51.5	
	comp=Z,7.8nm,0.8s						
FAKI	**Fak Fak**	**39.64**	**289**	P	**P**	**02 56 47.2**	**-0.8**
FAKI				IAmb	IAmb	02 56 57.3	
	comp=Z,23nm,1.2s						
PSA00	**Pilbara Seismi**	**46.40**	**258**	P	**P**	**02 57 41.0**	**-0.9**
PSA00	**Pilbara Seismi**	**46.40**	**258**	P	**P**	**02 57 41.8**	**-0.1**
PSA00				IAmb	IAmb	02 57 42.9	
	comp=Z,12nm,0.6s						
MBWA	**Marble Bar**	**46.55**	**258**	P	**P**	**02 57 43.5**	**+0.5**
MBWA				IAmb	IAmb	02 57 44.0	
	comp=Z,14nm,0.8s						
NWAO	**Narrogin (SRO)**	**48.48**	**242**	P	**P**	**02 57 58.1**	**+0.4**
MORW	**Morawa**	**49.42**	**248**	P	**P**	**02 58 04.4**	**-0.5**
MORW				IAmb	IAmb	02 58 05.7	
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**78.50**	**294**	P	**P**	**03 01 14.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=140,slow=5.7,SNR=5.3						
	comp=Z,0.6nm,0.6s						
DSP	**Deep Springs**	**88.27**	**50**	P	**P**	**03 02 03.6**	**+0.5**
NVAR	**Mina Array Bea**	**88.48**	**48**	P	**P**	**03 02 05.7**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=230,slow=7.0,SNR=5.2						
	comp=Z,0.4nm,0.6s						
K05A	**Summer Lake**	**88.63**	**44**	P	**P**	**03 02 05.8**	**+0.9**
K05A				IAmb	IAmb	03 02 38.6	
	comp=Z,6.1nm,1.4s						
J05D	**Fort Rock, OR**	**88.67**	**43**	P	**P**	**03 02 06.6**	**+1.5**
KVN	**Kaiserville**	**88.90**	**48**	P	**P**	**03 02 06.0**	**-0.2**
IMAR	**Indian Mountai**	**89.08**	**14**	P	**P**	**03 02 05.7**	**-0.5**
MDM	**Murphy Dome**	**89.66**	**17**	P	**P**	**03 02 08.2**	**-0.8**
ILAR	**Eielson Array**	**89.88**	**17**	P	**P**	**03 02 09.8**	**-0.2**
ILAR	**Eielson Array**	**89.88**	**17**	P	**P**	**03 02 08.8**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=238,slow=5.5,SNR=7.6						
	comp=Z,0.4nm,0.6s						
F21K	**Alatna River**	**90.17**	**14**	P	**P**	**03 02 11.4**	**+0.1**
F21K				IAmb	IAmb	03 02 24.6	
	comp=Z,9.3nm,1.5s						
D19K	**Kuna River**	**90.29**	**11**	P	**P**	**03 02 11.4**	**-0.5**
TXAR	**Lajitas Array**	**96.49**	**61**	P	**P**	**03 02 42.7**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=220,slow=6.9,SNR=2.4						
	comp=Z,0.2nm,0.7s						
ARCES	**ARCESS Array B**	**124.79**	**345**	PKP	**PKPdf**	**03 08 08.5**	**-0.7**
	comp=Z,3.1nm,1.0s,baz=68,slow=2.4,SNR=5.6						

*SJA **26** 03:04:19.4±0.8, 29°.22S×68°.22W, h10km±3km, ML4.4, MW4.1*
*VAO **26** 03:04:20.9±0.4, 29°.44S×68°.23W, h44km±5km, mb4.3*
*NEIC **26** 03:04:23.6±1.6, 29°.16S±0°.05×68°.10W±0°.03, h42km±12km, mb4.3/9, Error ellipse: s-maj=7.7km s-min=1.2km az=151.0*
*IDC **26** 03:04:24.5±1.3, 29°.10S×68°.05W, h53km±12km, mb3.7/6, mbtmp3.8/12, ML3.8/6, MS3.3/12, Error ellipse: s-maj=19.2km s-min=9.3km az=97.0*
ISC 26 03:04:23.0±0.5,29°.13S±0°.03×68°.12W±0°.04,h40km±4km, n138,σ1s48/148,mb4.2/10,MS3.3/7,2C-4D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.40**	**349**	↑*i* P	Pn	03 04 28.9	-3.7
VCA				*i* S	**Sn**	**03 04 35.4**	**-3.9**
VCA	**Vinchina**	**0.40**	**349**	*i* P	Pn	03 04 28.9	-3.7
VCA				*e*S	**Sn**	**03 04 35.4**	**-3.9**
VCA				IAML		03 04 38.9	
	comp=Z,27μm,0.3s						
ACLC	**CERRO LA CRUZ**	**1.06**	**106**	*i* P	**Pn**	**03 04 41.3**	**-0.2**
ACLC				*i* S	**Sn**	**03 04 56.4**	**+1.2**
ACLC				IAML		03 04 58.9	
	comp=Z,8μm,0.3s						
TINO	**Tinogasta**	**1.17**	**25**	*i* P	**Pn**	**03 04 44.2**	**+1.2**
ACDV	**Cuesta del Vie**	**1.35**	**220**	*i* P	**Pn**	**03 04 43.0**	**-2.5**
AROD	**Rodeo**	**1.57**	**228**	*i* P	**Pn**	**03 04 46.9**	**-1.7**
ACCO	**Cerro Coronel**	**1.67**	**209**	*i* P	**Pn**	**03 04 49.0**	**-1.0**
AC05	**El Transito**	**1.91**	**278**		**Pn**	**03 04 54.0**	**+0.8**
AC05				Sn	**Sn**	**03 05 17.1**	**+1.0**
AC05	**El Transito**	**1.91**	**278**	*e*P	**Pn**	**03 04 53.7**	**+0.5**
AC05				*i* S	**Sn**	**03 05 16.9**	**+0.9**
AC05				IAML		03 05 25.7	
	comp=E,1μm,0.9s						
CO01	**Juntas del Tor**	**1.92**	**243**		**Pn**	**03 04 53.5**	**+0.1**
CO01	**Juntas del Tor**	**1.92**	**243**	↓*i* P	**Pn**	**03 04 53.4**	**+0.1**
CO01				*i* S	**Sn**	**03 05 16.4**	**+0.1**
CO01				IAML		03 05 25.2	
	comp=N,706nm,0.5s						
LCO	**Las Campanas**	**2.26**	**272**		**Pn**	**03 04 59.8**	**+1.7**
LCO	**Las Campanas**	**2.26**	**272**	↓*i* P	**Pn**	**03 04 59.8**	**+1.7**
LCO				*i* S	**Sn**	**03 05 27.0**	**+2.1**
GO03	**Copiap**	**2.41**	**309**		**Pn**	**03 05 01.2**	**+1.2**
GO03	**Copiap**	**2.41**	**309**	*e*P	**Pn**	**03 05 01.0**	**+1.0**
GO03				*e*S	**Sn**	**03 05 31.9**	**+3.5**
GO03				IAML		03 05 35.3	
	comp=N,1μm,0.2s						
GO03	**Copiap**	**2.41**	**309**	*i* P	**Pn**	**03 05 01.2**	**+1.2**
GO03				*i* S	**Sn**	**03 05 32.3**	**+4.0**
ZON	**Zonda**	**2.45**	**191**	Pn	**Pn**	**03 05 01.1**	**+0.5**
ZON	**Zonda**	**2.45**	**191**	*i* P	**Pn**	**03 05 00.6**	**0.0**
ZON				*i* S	**Sn**	**03 05 30.7**	**+1.3**
CFA	**Coronel Fontan**	**2.47**	**182**	P	**Pn**	**03 05 01.3**	**+0.6**
	comp=N,91nm,0.3s,baz=344,slow=12,SNR=829						
CFA				S	**Sn**	**03 05 33.2**	**+3.5**
	comp=N,1μm,0.3s,baz=270,slow=15,SNR=35						
CFA				LR	LR	03 06 24.9	
	comp=N,383nm,21.3s,baz=325,slow=48						
	comp=N,214nm,0.4s						
GO04	**Tololo Observa**	**2.55**	**245**		**Pn**	**03 05 03.4**	**+1.2**
GO04	**Tololo Observa**	**2.55**	**245**	↑*i* P	**Pn**	**03 05 03.3**	**+1.2**
GO04				*i* S	**Sn**	**03 05 36.7**	**+4.7**
GO04	**Tololo Observa**	**2.55**	**245**	*i* P	**Pn**	**03 05 02.0**	**-0.1**
GO04				*i* S	**Sn**	**03 05 33.2**	**+1.2**
AC06	**Mina Casimiro**	**2.65**	**311**	Pn	**Pn**	**03 05 04.0**	**+0.8**
AC06	**Mina Casimiro**	**2.65**	**311**	*e*P	**Pn**	**03 05 03.9**	**+0.7**
AC06				*i* S	**Sn**	**03 05 36.5**	**+2.4**
CO03	**El Pedregal**	**2.80**	**232**		**Pn**	**03 05 07.1**	**+1.7**
CO03	**El Pedregal**	**2.80**	**232**	*e*P	**Pn**	**03 05 07.2**	**+1.8**
CO03				*i* S	**Sn**	**03 05 43.1**	**+5.0**
CO03				IAML		03 05 47.1	
	comp=N,1μm,0.4s						
CO05	**La Serena**	**2.83**	**253**		**Pn**	**03 05 06.1**	**+0.5**
CO05	**La Serena**	**2.83**	**253**	IAML		03 05 46.6	
	comp=N,1μm,0.3s						
CO05				IAML		03 05 46.8	
	comp=E,753nm,0.2s						
CO05				IAML		03 05 48.9	
	comp=E,723nm,0.4s						
RTLS	**Leoncito**	**2.84**	**201**	*i* P	**Pn**	**03 05 07.0**	**+0.8**
RTLS				*i* S	**Sn**	**03 05 41.7**	**+2.3**
RTLS				IAML		03 05 46.8	
	comp=Z,2μm,0.5s						
CO06	**Fray Jorge**	**3.42**	**242**		**Pn**	**03 05 13.4**	**-0.3**
CO06	**Fray Jorge**	**3.42**	**242**	IAML		03 06 04.0	
	comp=N,975nm,0.3s						
CO06				IAML		03 06 04.1	
	comp=E,521nm,0.3s						
CO06				IAML		03 06 08.6	
	comp=E,505nm,0.2s						
FSA	**Cafayete**	**3.56**	**33**	*i* P	**Pn**	**03 05 19.8**	**+3.9**
AC01	**Pan de Azucar**	**3.70**	**323**		**Pn**	**03 05 18.7**	**+1.0**
AC01	**Pan de Azucar**	**3.70**	**323**	*e*P	**Pn**	**03 05 18.0**	**+0.4**
GO02	**Mina Guanaco**	**4.17**	**341**	Pn	**Pn**	**03 05 26.1**	**+1.7**
VA03	**San Esteban**	**4.18**	**209**		**Pn**	**03 05 25.2**	**+0.9**
PEL	**Peldehue**	**4.56**	**208**		**Pn**	**03 05 29.7**	**+0.2**
ROC1	**El Roble**	**4.57**	**212**		**Pn**	**03 05 29.4**	**-0.3**
MT08	**Bocatoma Ro**	**4.60**	**200**	Pn	**Pn**	**03 05 31.3**	**+1.1**
MT05	**Renca**	**4.80**	**207**		**Pn**	**03 05 33.1**	**+0.3**
MT03	**Universidad Ad**	**4.80**	**205**		**Pn**	**03 05 33.5**	**+0.6**
MT02	**Curacav**	**4.86**	**211**		**Pn**	**03 05 33.2**	**-0.4**
VA01	**Torpederas**	**4.92**	**217**		**Pn**	**03 05 33.3**	**-1.0**
PB14	**IPOC Station P**	**4.93**	**335**	Pn	**Pn**	**03 05 36.0**	**+1.2**
MT13	**San Alfonso**	**4.96**	**201**	Pn	**Pn**	**03 05 35.7**	**+0.7**
LMEL	**Las Melosas**	**5.03**	**200**		**Pn**	**03 05 36.6**	**+0.6**
MT09	**Talagante**	**5.24**	**207**		**Pn**	**03 05 37.8**	**-1.2**
BO04	**La Punta**	**5.29**	**203**		**Pn**	**03 05 39.5**	**0.0**
VA05	**Santo Domingo**	**5.41**	**213**		**Pn**	**03 05 40.1**	**-1.0**
MT01	**Popeta**	**5.42**	**209**		**Pn**	**03 05 39.5**	**-1.7**
BO01	**Tunca**	**5.82**	**205**	Pn	**Pn**	**03 05 45.3**	**-1.4**
PB15	**IPOC Station P**	**6.02**	**348**		**Pn**	**03 05 51.1**	**+1.3**
BO02	**Sierra Bellavi**	**6.08**	**201**		**Pn**	**03 05 50.0**	**-0.4**
PB06	**IPOC Station P**	**6.53**	**348**	Pn	**Pn**	**03 05 58.0**	**+1.2**
LVC	**Limon Verde**	**6.53**	**354**	*e*P	**Pn**	**03 05 58.5**	**+1.5**
LVC	**Limon Verde**	**6.53**	**354**	P	**Pn**	**03 05 58.1**	**+1.1**
	comp=E,1.7nm,0.3s,baz=149,slow=4.6,SNR=27						
LVC				S	**Sn**	**03 07 12.3**	**+1.9**
	comp=E,9.0nm,0.4s,baz=2.3,slow=23,SNR=1.5						
LVC				Lg	Lg	03 07 48.6	
	comp=E,4.9nm,0.3s,baz=53,slow=20,SNR=6.5						
	comp=E,4.8nm,0.3s						
GO05	**Huala**	**6.69**	**208**	Pn	**Pn**	**03 05 56.2**	**-2.5**
ML02	**Panimavida**	**7.17**	**202**		**Pn**	**03 06 02.8**	**-2.6**
PB09	**IPOC Station P**	**7.38**	**352**		**Pn**	**03 06 09.4**	**+1.1**
TICA	**Tres Isletas**	**7.38**	**70**	*e*P	**Pn**	**03 06 08.8**	**+0.6**
PB07	**IPOC Station P**	**7.54**	**347**		**Pn**	**03 06 10.1**	**-0.5**
PB02	**IPOC Station P**	**7.94**	**348**		**Pn**	**03 06 15.6**	**-0.5**
PB01	**IPOC Station P**	**8.15**	**351**		**Pn**	**03 06 18.3**	**-0.5**
PATCX	**Punta Patache**	**8.48**	**347**	Pn	**Pn**	**03 06 23.1**	**-0.2**
SCCA	**San Cayetano,**	**8.50**	**82**	*e*P	**Pn**	**03 06 23.6**	**0.0**
SCCA				*e*S	**Sn**	**03 07 59.9**	**+1.7**
MECA	**Mercedes**	**8.69**	**93**	*e*P	**Pn**	**03 06 26.4**	**+0.2**
MECA				*e*S	**Sn**	**03 08 03.3**	**+0.4**
GO01	**Chusmiza**	**9.47**	**354**		**Pn**	**03 06 35.9**	**-1.4**
ESFA	**Espinillo Form**	**9.54**	**66**	*e*P	**Pn**	**03 06 39.1**	**+1.3**
CPUP	**Villa Florida**	**9.96**	**76**	*e*P	**Pn**	**03 06 43.0**	**-0.6**
CPUP				*e*S	**Sn**	**03 08 36.8**	**+2.8**
CPUP	**Villa Florida**	**9.96**	**76**	P	**Pn**	**03 06 43.1**	**-0.5**
	comp=E,0.6nm,0.3s,baz=243,slow=13,SNR=10						
CPUP				S	**Sn**	**03 08 32.8**	**-1.2**
	comp=E,7.2nm,0.6s,baz=210,slow=17,SNR=1.3						
CPUP				Lg	Lg	03 09 36.6	
	comp=E,1.2nm,0.3s,baz=179,slow=14,SNR=3.3						
CPUP				LR	LR	03 10 18.0	
	comp=E,92nm,21.9s,baz=249,slow=36						
	comp=E,1.5nm,0.4s						
ITQB	**Itaqui**	**10.04**	**96**	Pn	**Pn**	**03 06 44.0**	**-0.7**
ITQB	**Itaqui**	**10.04**	**96**	*e*P	**Pn**	**03 06 43.7**	**-0.9**
ITQB				*e*S	**Sn**	**03 08 36.4**	**+0.3**
TRQA	**Tornquist**	**10.27**	**152**	Pn	**Pn**	**03 06 46.5**	**-1.3**
TRQA	**Tornquist**	**10.27**	**152**	*e*P	Pn	03 06 42.7	-5.0
RODS	**Rosario do Sul**	**11.30**	**99**	*e*P	**Pn**	**03 06 59.9**	**-1.9**
PLCA	**Paso Flores**	**11.74**	**189**	*e*P	Pn	03 07 01.6	-6.4
PLCA	**Paso Flores**	**11.74**	**189**	P	**Pn**	**03 07 08.2**	**+0.2**
	comp=E,0.2nm,0.3s,baz=332,slow=4.3,SNR=4.6						
PLCA				Lg	Lg	03 10 31.9	
	comp=E,0.2nm,0.3s,baz=246,slow=22,SNR=3.4						
PLCA				LR	LR	03 11 52.5	
	comp=E,111nm,18.4s,baz=356,slow=38						
	comp=E,0.7nm,0.4s						
MURT	**Porto Murtinho**	**12.06**	**54**	*e*P	**Pn**	**03 07 12.7**	**+0.3**
CRSM	**Crissiumal (Br**	**12.51**	**86**	*e*P	**Pn**	**03 07 17.7**	**-0.8**
LPAZ	**La Paz**	**12.78**	**360**	*e*P	**Pn**	**03 07 25.1**	**+2.3**
LPAZ	**La Paz**	**12.78**	**360**	P	**Pn**	**03 07 25.4**	**+2.7**
	comp=E,0.1nm,0.3s,baz=193,slow=6.2,SNR=1.7						
LPAZ				LR	LR	03 12 57.1	
	comp=E,226nm,18.1s,baz=186,slow=40						
	comp=E,0.4nm,0.3s						
PLTB	**Pedras Altas**	**12.80**	**105**	*e*P	**Pn**	**03 07 20.0**	**-2.3**
CPSB	**Cacapava Do Su**	**12.82**	**99**	*e*P	**Pn**	**03 07 20.7**	**-1.9**
ANTJ	**Antonio Joao (**	**13.03**	**60**	*e*P	**Pn**	**03 07 26.9**	**+1.2**
BBRB	**Robore, Bolivi**	**13.21**	**37**	*e*P	**Pn**	**03 07 30.0**	**+1.9**
ALGR	**Alto Alegre (B**	**13.22**	**92**	*e*P	**Pn**	**03 07 26.9**	**-1.3**
AMBA	**Amambai (Brazi**	**13.32**	**65**	*e*P	**Pn**	**03 07 30.2**	**+0.7**
MCR1	**Marechal Candi**	**13.41**	**73**	*e*P	**Pn**	**03 07 30.5**	**-0.3**
FRBT	**Francisco Belt**	**13.72**	**80**	*e*P	**Pn**	**03 07 34.7**	**-0.4**
AQDB	**Aquidauana**	**14.19**	**55**	*e*P	**Pn**	**03 07 42.5**	**+1.2**
ITAB	**Concordia**	**14.23**	**86**	*e*P	**Pn**	**03 07 40.7**	**-1.2**
ITAB				*e*S	**Sn**	**03 10 20.2**	**+1.8**
SIV	**San Ignacio**	**14.60**	**28**	P	**Pn**	**03 07 46.7**	**-0.3**
	baz=209,slow=10,SNR=2.4						
	comp=E,0.6nm,0.6s						
PTGB	**Pitanga**	**14.98**	**77**	*e*P	**Pn**	**03 07 53.4**	**+1.4**
LDASE	**Londrina, Braz**	**16.28**	**73**	*e*P	**P**	**03 08 11.0**	**-0.5**
COYC	**Coyhaique**	**16.71**	**190**		**Pn**	**03 08 14.8**	**+0.8**
COYC				IAmb	IAmb	03 08 18.0	
	comp=Z,16nm,1.0s						
PCMB	**Pacaembu**	**16.97**	**68**	*e*P	**P**	**03 08 18.8**	**-0.2**
C2SB	**Chapadao do Su**	**17.35**	**57**	*e*P	**P**	**03 08 24.9**	**+1.7**
FRTB	**Fartura**	**17.61**	**75**	*e*P	**Pn**	**03 08 25.3**	**-0.2**
NNA	**Nana**	**18.90**	**333**	LR	LR	03 14 56.5	
	comp=Z,80nm,20.7s,baz=158,slow=33						
ETMB	**Extrema**	**19.30**	**6**	P	**Pn**	**03 08 46.0**	**+0.1**
ETMB	**Extrema**	**19.30**	**6**	*e*P	**Pn**	**03 08 46.4**	**+0.4**
BB19B	**Bebedouro**	**19.46**	**70**	*e*P	**P**	**03 08 46.2**	**-0.3**
RCLB	**Rio Claro- Sao**	**19.70**	**75**	*e*P	**P**	**03 08 48.3**	**-0.7**
ARAG	**Araguaiana, MT**	**20.11**	**52**	*e*P	**P**	**03 08 53.4**	**-0.2**
PDRB	**Porto dos Gac**	**20.41**	**34**	*e*P	**P**	**03 08 56.1**	**-0.8**
SAML	**Samuel**	**20.61**	**14**	P	**P**	**03 08 58.9**	**0.0**
SAML	**Samuel**	**20.61**	**14**	*e*P	**P**	**03 08 58.9**	**0.0**
PARB	**Paraibuna**	**20.98**	**79**	*e*P	**P**	**03 09 01.9**	**-1.0**
IPMB	**Ipameri, GO**	**21.32**	**63**	*e*P	**P**	**03 09 06.1**	**-0.6**
CZSB	**Cruzeiro do Su**	**21.72**	**348**	*e*P	**P**	**03 09 11.5**	**+0.6**
BDFB	**Brasilia**	**22.88**	**58**	P	**P**	**03 09 21.7**	**-1.7**
BDFB				IAmb	IAmb	03 09 39.1	
	comp=Z,9.9nm,1.3s						
BDFB	**Brasilia**	**22.88**	**58**	P	**P**	**03 09 21.8**	**-1.7**
	comp=

RFTAA	**Mazikoy-Bodrum**	**0.10**	**89**	Pg	**Pg**	**03 16 34.2**	**-0.6**
RFTAA				Sg	**Sg**	**03 16 35.7**	**-0.7**
BDRM	**Kayabasi**	**0.16**	**296**	P	**Pg**	**03 16 36.6**	**+0.7**
BDRM				S	**Sg**	**03 16 39.5**	**+1.3**
BDRM				*i* AML	AML	03 16 41.0	
	comp=E,5μm,0.4s						
BODT	**Bodrum**	**0.26**	**285**	Pg	**Pb**	**03 16 38.5**	**-1.0**
BODT				Sg	**Sb**	**03 16 42.9**	**-1.2**
BODT	**Bodrum**	**0.26**	**285**	P	**Pg**	**03 16 38.3**	**+0.6**
DAT	**Datca**	**0.27**	**188**	Pg	**Pg**	**03 16 38.1**	**+0.2**
DAT				Sg	**Sb**	**03 16 42.9**	**-1.6**
DAT	**Datca**	**0.27**	**188**	P	**Pg**	**03 16 38.0**	**+0.2**
DAT				S	**Sb**	**03 16 42.9**	**-1.6**
DAT	**Datca**	**0.27**	**188**	P	**Pg**	**03 16 37.4**	**-0.5**
RFTB	**Kemer-Bodrum**	**0.28**	**264**	Pg	**Pb**	**03 16 38.9**	**-1.0**
MLSB	**Milas**	**0.32**	**22**	Pg	**Pg**	**03 16 38.7**	**-0.2**
MLSB				Sg	**Sg**	**03 16 44.2**	**+1.0**
RFTD	**Palamutbuku-Ka**	**0.33**	**198**	Pg	**Pg**	**03 16 39.2**	**+0.2**
KLNA	**Kalymnos**	**0.52**	**266**	P	**Pb**	**03 16 43.2**	**-0.7**
KLNA				S	**Sb**	**03 16 51.8**	**+0.2**
KLNA				AML	AML	03 16 56.5	
	comp=E,8357μm,0.2s						
KLNA				AML	AML	03 16 57.0	
	comp=N,4652μm,0.2s						
NIS1	**Nisyros Isl.**	**0.53**	**222**	P	**Pb**	**03 16 43.4**	**-0.7**
NIS1				S	**Sb**	**03 16 52.9**	**+1.0**
	comp=N,5μm,0.2s						
NIS1	**Nisyros Isl.**	**0.53**	**222**	P	**Pb**	**03 16 43.5**	**-0.6**
NIS1				S	**Sb**	**03 16 52.7**	**+0.7**
NIS1				AML	AML	03 16 54.0	
	comp=E,10579μm,0.3s						
NIS1				AML	AML	03 16 55.8	
	comp=N,9861μm,0.3s						
TURN	**Turunc**	**0.54**	**114**	Pg	**Pg**	**03 16 42.3**	**-0.7**
TURN	**Turunc**	**0.54**	**114**	P	**Pg**	**03 16 42.8**	**-0.2**
YER	**Yerkesik**	**0.55**	**75**	Pg	**Pg**	**03 16 42.6**	**-0.5**
YER	**Yerkesik**	**0.55**	**75**	P	**Pg**	**03 16 42.4**	**-0.7**
YER				S	**Sg**	**03 16 50.2**	**0.0**
DDIM	**Aydin, Didim**	**0.55**	**327**	P	**Pg**	**03 16 42.5**	**-0.8**
NISR	**Nisiros**	**0.55**	**226**	P	**Pb**	**03 16 44.1**	**-0.4**
NISR				S	**Sb**	**03 16 52.6**	**+0.1**
	comp=N,3μm,0.2s						
NISR	**Nisiros**	**0.55**	**226**	P	**Pb**	**03 16 44.1**	**-0.4**
NISR				S	**Sb**	**03 16 52.6**	**+0.1**
NISR				AML	AML	03 16 54.5	
	comp=E,7891μm,0.3s						
NISR				AML	AML	03 16 55.6	
	comp=N,583μm,3.3s						
KOSK	**Kos Island**	**0.57**	**245**	Pg	**Pg**	**03 16 43.6**	**0.0**
KOSK	**Kos Island**	**0.57**	**245**	P	**Pb**	**03 16 44.1**	**-0.7**
KOSK	**Kos Island**	**0.57**	**245**	P	**Pb**	**03 16 44.2**	**-0.6**
KOSK				S	**Sb**	**03 16 52.8**	**-0.3**
KOSK				AML	AML	03 16 58.9	
	comp=E,6856μm,0.4s						
KOSK				AML	AML	03 17 00.1	
	comp=N,8014μm,0.5s						
MULA	**Mugla, Merkez-**	**0.61**	**65**	P	**Pg**	**03 16 44.1**	**-0.3**
AYDN	**Tasoluk**	**0.69**	**17**	P	**Pg**	**03 16 45.9**	**-0.1**
DALY	**Dalyan (Mula)**	**0.84**	**102**	Pg	**Pg**	**03 16 48.4**	**-0.4**
ARG	**Arkhangelos**	**0.88**	**152**	Pg	**Pb**	**03 16 49.2**	**-0.8**
ARG	**Arkhangelos**	**0.88**	**152**	P	**Pg**	**03 16 48.9**	**-0.5**
ARG				S	**Sn**	**03 17 02.7**	**-1.4**
	comp=N,4μm,0.5s						
ARG	**Arkhangelos**	**0.88**	**152**	P	**Pg**	**03 16 48.7**	**-0.6**
ARG				S	**Sg**	**03 17 00.3**	**-0.4**
ARG				AML	AML	03 17 05.1	
	comp=E,7091μm,0.4s						
ARG				AML	AML	03 17 05.6	
	comp=N,9258μm,0.5s						
SMG	**Samos**	**0.95**	**319**	P	**Pg**	**03 16 50.7**	**-0.1**
SMG				S	**Sn**	**03 17 05.5**	**-0.4**
	comp=N,2μm,0.6s						
SMG	**Samos**	**0.95**	**319**	P	**Pg**	**03 16 50.4**	**-0.3**
SMG				S	**Sb**	**03 17 04.8**	**+0.8**
SMG				AML	AML	03 17 09.9	
	comp=E,4702μm,0.5s						
SMG				AML	AML	03 17 12.2	
	comp=N,4356μm,0.7s						
TAVA	**DENIZLI_Tavas**	**1.13**	**65**	P	**Pg**	**03 16 53.6**	**-0.6**
IZMR	**zmir-demi**	**1.17**	**13**	P	**Pb**	**03 16 54.6**	**-0.3**
IZMR				P	**Pb**	**03 16 54.6**	**-0.3**
IZMR				S	**Sg**	**03 17 09.6**	**-0.5**
IZMR				*i* AML	AML	03 17 14.0	
	comp=N,396nm,0.7s						
IZMR				*i* AML	AML	03 17 16.0	
	comp=N,683nm,0.6s						
DGB	**zmir**	**1.21**	**331**	P	**Pg**	**03 16 54.3**	**-1.4**
FETY	**Fethiye**	**1.23**	**107**	Pn	**Pn**	**03 16 56.0**	**0.0**
IKRA	**Agios-Kirikos-**	**1.23**	**300**	P	**Pn**	**03 16 56.0**	**0.0**
DNIZ	**Denizli-Tavas-**	**1.29**	**60**	P	**Pb**	**03 16 57.9**	**+0.7**
DNIZ				S	**Sn**	**03 17 14.8**	**+0.2**
CAME	**Cameli-Denizli**	**1.34**	**92**	Pn	**Pg**	**03 16 57.9**	**-0.4**
CAEL	**Denizli, Camel**	**1.36**	**84**	P	**Pn**	**03 16 57.2**	**-0.8**
CAEL				S	**Sn**	**03 17 17.5**	**+1.2**
CAEL				*i* AML	AML	03 17 27.0	
	comp=N,519nm,1.0s						
IZZE	**Mula-Seydike**	**1.40**	**113**	P	**Pg**	**03 17 00.6**	**+1.2**
IZZE				S	**Sg**	**03 17 18.2**	**+0.6**
APMY	**Acipayam-Deniz**	**1.42**	**70**	Pn	**Pg**	**03 16 59.6**	**-0.2**
KARP	**Karpathos**	**1.49**	**195**	Pn	**Pn**	**03 16 59.5**	**-0.2**
KARP	**Karpathos**	**1.49**	**195**	P	**Pn**	**03 16 59.3**	**-0.4**
KARP				S	**Sn**	**03 17 19.0**	**-0.4**
	comp=N,448nm,0.6s						
KARP	**Karpathos**	**1.49**	**195**	P	**Pn**	**03 16 57.9**	**-1.8**
KARP				S	**Sn**	**03 17 19.0**	**-0.4**
KARP	**Karpathos**	**1.49**	**195**	P	**Pn**	**03 16 58.9**	**-0.8**
KARP				AML	AML	03 17 25.5	
	comp=N,780μm,0.5s						
KARP				AML	AML	03 17 26.3	
	comp=E,1006μm,0.7s						
ZEYE	**Izmir, Urla-Ze**	**1.53**	**325**	P	**Pn**	**03 16 59.8**	**-0.3**
GOLH	**Golhisar**	**1.57**	**81**	P	**Pg**	**03 17 03.7**	**+1.1**
GOLH				S	**Sg**	**03 17 23.5**	**+0.6**
URLA	**Izmir**	**1.59**	**329**	Pn	**Pb**	**03 17 01.8**	**-0.4**
MANT	**Manisa**	**1.67**	**26**	P	**Pn**	**03 17 01.6**	**-0.6**
MANT				S	**Sn**	**03 17 22.3**	**-1.7**
MANT				*i* AML	AML	03 17 31.0	
	comp=E,116nm,0.3s						
APE	**Apeiranthos**	**1.68**	**273**	Pn	**Pn**	**03 17 01.9**	**-0.3**
APE	**Apeiranthos**	**1.68**	**273**	P	**Pn**	**03 17 01.9**	**-0.3**
KULA	**Kula-Manisa**	**1.72**	**28**	Pn	**Pn**	**03 17 02.7**	**-0.2**
KULA	**Kula-Manisa**	**1.72**	**28**	P	**Pn**	**03 17 02.7**	**-0.2**
KULA				S	**Sn**	**03 17 24.0**	**-1.2**
GOMA	**Golmarmara-Man**	**1.73**	**8**	Pn	**Pb**	**03 17 04.1**	**-0.4**
AKAS	**Kas**	**1.77**	**115**	Pn	**Pb**	**03 17 04.6**	**-0.7**
AKAS	**Kas**	**1.77**	**115**	P	**Pg**	**03 17 06.4**	**0.0**
RFT5	**Foca**	**1.80**	**338**	Pn	**Pb**	**03 17 05.0**	**-0.7**
ELL	**Elmali**	**1.85**	**97**	Pn	**Pb**	**03 17 06.2**	**-0.5**
CHOS	**Chios island**	**1.86**	**319**	P	**Pn**	**03 17 04.7**	**-0.1**
CHOS	**Chios island**	**1.86**	**319**	P	**Pn**	**03 17 04.8**	**-0.1**
CHOS				AML	AML	03 17 39.6	
	comp=E,930μm,1.0s						
CHOS				AML	AML	03 17 42.6	
	comp=N,720μm,0.9s						
AKS	**Akhisar**	**1.89**	**4**	Pn	**Pb**	**03 17 06.4**	**-0.8**
KARB	**zmir-Karabur**	**1.92**	**330**	P	**Pn**	**03 17 05.9**	**+0.4**
DEMR	**Demre-Antalya**	**1.99**	**112**	Pn	**Pb**	**03 17 07.5**	**-1.4**
ZEDA	**zmir-Bergama**	**2.01**	**348**	P	**Pg**	**03 17 11.0**	**-0.2**
RFT7	**Candarli**	**2.04**	**344**	Pn	**Pb**	**03 17 08.5**	**-1.3**
USAK	**Uak-Merkez**	**2.04**	**32**	P	**Pn**	**03 17 07.9**	**+0.6**
BRDR	**BURDUR-Merkez**	**2.06**	**69**	P	**Pb**	**03 17 08.7**	**-1.6**
BASM	**Basmaki-Afyon**	**2.14**	**64**	Pn	**Pn**	**03 17 09.4**	**+0.8**
DKL	**Dikili**	**2.15**	**345**	Pn	**Pn**	**03 17 08.8**	**+0.1**
KORT	**Korkueli**	**2.18**	**89**	Pn	**Pb**	**03 17 10.7**	**-1.7**
ZKR	**Zakros**	**2.20**	**212**	P	**Pn**	**03 17 10.5**	**+1.2**
ZKR				AML	AML	03 17 52.0	
	comp=N,98μm,0.7s						
ZKR				AML	AML	03 17 54.1	
	comp=E,247μm,1.0s						
DEMI	**Demirci**	**2.22**	**23**	P	**Pn**	**03 17 09.3**	**-0.4**
AKUM	**Antalya-Kumluc**	**2.29**	**106**	P	**Pb**	**03 17 14.3**	**+0.2**
AKUM				S	**Sb**	**03 17 42.9**	**+0.5**
EAG1	**Polichnitos, L**	**2.36**	**333**	P	**Pn**	**03 17 11.2**	**-0.4**
KZIL	**AFYON_Kizioren**	**2.36**	**57**	P	**Pn**	**03 17 11.1**	**-0.7**
PRK	**Paraskevi**	**2.49**	**335**	P	**Pn**	**03 17 13.4**	**+0.1**
PRK	**Paraskevi**	**2.49**	**335**	P	**Pn**	**03 17 13.3**	**0.0**
PRK				AML	AML	03 18 00.7	
	comp=E,1413μm,1.0s						
PRK				AML	AML	03 18 04.8	
	comp=N,1178μm,0.9s						
CSS	**Mathiatis**	**5.05**	**112**	P	**Pn**	**03 17 52.9**	**+4.3**
BRTR	**Keskin Array B**	**5.46**	**58**	Pn	**Pn**	**03 17 56.0**	**+1.8**
	comp=N,1.0nm,0.3s,baz=242,slow=16,SNR=30						
BRTR				Sn	**Sn**	**03 18 57.0**	**-0.3**
	comp=N,0.2nm,0.3s,baz=235,slow=27,SNR=4.0						
	comp=N,3.1nm,0.4s						
MMAI	**Mount Meron Ar**	**7.52**	**120**	Pn	**Pn**	**03 18 21.3**	**-1.2**
	comp=N,4.0nm,0.3s,baz=311,slow=11,SNR=9.0						
	comp=N,2.1nm,0.3s						
QRNJ	**Al-Qirein**	**8.03**	**123**	P	**Pn**	**03 18 31.5**	**+2.0**
HMDT	**Nahal Hemdat**	**8.05**	**124**	P	**Pn**	**03 18 31.7**	**+2.0**
KZIT	**Kziot**	**8.28**	**135**	P	**Pn**	**03 18 32.8**	**-0.1**
MLR	**Muntele Rosu**	**8.58**	**352**	LR	LR	03 22 45.3	
	comp=N,101nm,18.7s,baz=3.5,slow=43						
MBRI	**Mt Berech**	**9.42**	**138**	P	**Pn**	**03 18 49.2**	**+0.6**
ESDC	**Sonseca Array**	**24.86**	**286**	P	**P**	**03 21 56.3**	**+0.8**
	comp=N,0.7nm,0.8s,baz=77,slow=9.2,SNR=8.0						
	comp=N,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**33.20**	**231**	P	**P**	**03 23 09.7**	**-0.2**
	comp=N,0.7nm,0.7s,baz=29,slow=9.6,SNR=9.4						
	comp=N,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**38.42**	**53**	P	**P**	**03 23 54.7**	**+0.3**
	comp=N,0.1nm,0.3s,baz=271,slow=8.0,SNR=2.4						
	comp=N,0.1nm,0.3s						
DBIC	**Dimbokro**	**42.27**	**232**	LR	LR	03 45 20.4	
	comp=N,63nm,18.8s,baz=222,slow=41						
CMAR	**Chiang Mai Arr**	**64.41**	**86**	LR	LR	03 59 35.4	
	comp=N,13nm,18.4s,baz=210,slow=40						

*IDC **26** 03:18:22.4±1.3, 37.°11N×141.°56E, h0km, mb3.5/5, mbtmp3.5/6, ML2.4/1, MS3.2/5, Error ellipse: s-maj=31.1km s-min=24.9km az=159.0*
*NIED **26** 03:18:24.4, 37.°26N×141.°37E, h23km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=3.22; Mθθ1.91; Mφφ1.31; Mrθ1.43; Mθφ2.44; Mφr-1.06; Fault plane solution: Mo4.12000×1014 NP1: φs253.00000°, δ54.00000°, λ-55.00000°. NP2:φs24.00000°, δ48.00000°, λ-128.00000°.*
*JMA **26** 03:18:24.4±0.2, 37.°3N±0.°3×141.°4E±0.°9, h23km±1km, MV3.5/40, E OFF FUKUSHIMA PREF*
ISC 26 03:18:22.9±2.2, 37.°23N±0.°04×141.°46E±0.°08, h4km±13km, n27, σ0s76/26, mb3.5/5, MS3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**286**	*i* P	**Pg**	**03 18 32.7**	**+0.4**
JFK				S	**Sg**	**03 18 38.5**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.55**	**256**	*i* P	**Pg**	**03 18 33.9**	**+0.5**
ONAJ				S	**Sg**	**03 18 41.0**	**+0.5**
JMST	**Minamisoumatoc**	**0.67**	**317**	*i* P	**Pg**	**03 18 36.1**	**+0.3**
JMST				S	**Sg**	**03 18 45.0**	**+0.5**
JFFD	**Fukushimafurud**	**0.73**	**259**	*i* P	**Pg**	**03 18 37.1**	**+0.1**
JFFD				*e*S	**Sg**	**03 18 46.4**	**-0.1**
JMM	**Marumori**	**0.82**	**320**	*i* P	**Pg**	**03 18 38.8**	**0.0**
JMM				S	**Sg**	**03 18 49.4**	**0.0**
JHO	**Hitachi**	**0.95**	**229**	P	**Pg**	**03 18 40.5**	**-0.5**
JOTO	**OTAMA OYAMA**	**0.95**	**290**	*i* P	**Pg**	**03 18 41.2**	**0.0**
JOTO				S	**Sg**	**03 18 53.3**	**-0.3**
JIO	**Ouri**	**1.22**	**356**	P	**Pn**	**03 18 45.7**	**-1.1**
JIO				*e*S	**Sb**	**03 19 01.6**	**-1.1**
JSB	**Shiboa**	**1.26**	**258**	P	**Pn**	**03 18 46.7**	**-0.6**
JSB				S	**Sb**	**03 19 03.1**	**-0.7**
JOU	**Okura**	**1.29**	**331**	*i* P	**Pn**	**03 18 47.3**	**-0.6**
JOU				*e*S	**Sb**	**03 19 04.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.70**	**256**	Pn	**Pn**	**03 19 07.5**	**+0.4**
	0.6nm,0.3s,baz=81,slow=15,SNR=16						
MJAR				Sn	**Sb**	**03 19 43.8**	**-1.4**
	0.7nm,0.3s,baz=71,slow=21,SNR=1.9						
	3.4nm,0.3s						
KSRS	**Korea Array**	**10.78**	**275**	LR	LR	03 25 02.8	
	comp=Z,27nm,18.9s,baz=135,slow=37						
KLR	**Kul'dur**	**13.91**	**333**	LR	LR	03 26 45.1	
	comp=Z,72nm,18.8s,baz=82,slow=36						
SONM	**Songino Array**	**27.70**	**304**	P	**P**	**03 24 14.2**	**+1.9**
	0.3nm,0.4s,baz=114,slow=7.1,SNR=2.3						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	03 53 48.3	
	baz=314,slow=75,SNR=133						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	03 53 50.1	
	baz=314,slow=75,SNR=156						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	03 53 50.8	
	baz=314,slow=75,SNR=110						
H11S1	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	03 54 40.2	
	baz=316,slow=75,SNR=66						
H11S3	**WAKE ISLAND Hy**	**28.94**	**123**	T	T	03 54 42.6	
	baz=316,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	03 54 41.5	
	baz=316,slow=75,SNR=36						
ZALV	**Zalesovo Beam**	**41.81**	**312**	LR	LR	03 44 38.1	
	comp=Z,32nm,18.0s,baz=36,slow=38						
KURBB	**Kurchatov Arra**	**45.91**	**308**	P	**P**	**03 26 46.3**	**-0.2**
	0.9nm,0.8s,baz=80,slow=8.1,SNR=4.8						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**49.31**	**32**	P	**P**	**03 27 13.5**	**+0.8**
	0.3nm,0.8s,baz=268,slow=5.2,SNR=2.7						
	0.3nm,0.8s						
AAK	**Ala-Archa**	**50.43**	**298**	LR	LR	03 49 27.3	
	comp=Z,47nm,18.7s,baz=46,slow=37						
WRA	**Warramunga Arr**	**57.26**	**188**	P	**P**	**03 28 11.0**	**-0.7**
	0.7nm,0.8s,baz=6.5,slow=7.2,SNR=5.3						
	0.7nm,0.8s						
RAR	**Rarotonga**	**80.25**	**126**	LR	LR	04 01 06.1	
	comp=Z,43nm,20.7s,baz=173,slow=32						
TXAR	**Lajitas Array**	**89.97**	**52**	P	**P**	**03 31 24.2**	**+0.3**
	0.2nm,0.7s,baz=288,slow=3.7,SNR=2.1						
	0.2nm,0.7s						

*VIE **26** 03:20:35.8±1.0, 50.°13N×18.°37E, h0km, mb2.4/3, ml2.1/5, ms3.4/1, Error ellipse: s-maj=9.2km s-min=5.0km az=161.0 35 km NNE of Ostrava Suspected Mining induced.*
*IPEC **26** 03:20:36.4±0.2, 50.°08N×18.°47E, h1km, ML1.9/4, Error ellipse: s-maj=2.0km s-min=1.1km az=163.0*
*PRU **26** 03:20:39.2, 50.°07N×18.°26E, h0km*
ISC 26 03:20:36.4±0.8, 50.°07N±0.°04×18.°43E±0.°02, h0km, n29, σ1s00/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**276**	*e*PG	**Pg**	**03 20 40.7**	**+1.5**
RAC				*e*SG	**Sg**	**03 20 43.9**	**+2.7**
OKC	**Ostrava-Krasne**	**0.29**	**218**	*e*PG	**Pg**	**03 20 42.9**	**+1.0**
OKC				*e*SG	**Sg**	**03 20 47.4**	**+1.7**
	comp=Z,65nm,0.7s						
MORC	**Moravsky Berou**	**0.64**	**243**	*e*Pg	**Pg**	**03 20 49.0**	**+0.4**
	baz=63						
MORC				*e*Sg	**Sg**	**03 20 57.3**	**+0.4**
	18nm,0.4s,baz=63						
MAUC	**Maruska**	**0.80**	**209**	*e*PG	**Pb**	**03 20 53.5**	**+0.3**
MAUC				*e*SG	**Sb**	**03 21 03.9**	**-0.7**
	comp=Z,34nm,0.4s						
OJC	**Ojcow**	**0.90**	**80**	*e*Pg	**Pg**	**03 20 53.0**	**-0.5**
OJC				*e*Sg	**Sg**	**03 21 05.9**	**+0.8**
KRLC	**Kraliky**	**1.06**	**271**	*e*PG	**Pg**	**03 20 56.1**	**-0.5**
KRLC				*e*SG	**Sg**	**03 21 10.2**	**-0.2**
LANS	**Liptovska Anna**	**1.14**	**143**	*e*PG	**Pg**	**03 20 58.6**	**+0.4**
LANS				*e*SG	**Sn**	**03 21 15.9**	**-0.1**
LANS				*e*LG	Lg	03 21 17.6	
JAVC	**Velka Javorina**	**1.31**	**202**	*e*Pg	**Pb**	**03 21 01.8**	**0.0**
	baz=23						
JAVC	**Velka Javorina**	**1.31**	**202**	*e*PG	**Pb**	**03 21 01.9**	**+0.1**
NIE	**Niedzica**	**1.38**	**117**	*e*Pg	**Pb**	**03 21 03.4**	**+0.4**
NIE				*e*Sg	**Sn**	**03 21 22.9**	**+1.0**
DPC	**Dobruska-Polom**	**1.38**	**283**	*e*PG	**Pn**	**03 21 02.5**	**-0.4**
DPC				*e*SG	**Sb**	**03 21 21.0**	**-0.3**
	comp=Z,19nm,0.6s						
VRAC	**Vranov**	**1.41**	**238**	*e*Pg	**Pn**	**03 21 02.8**	**-0.5**
	baz=57						
VRAC				*e*Sg	**Sg**	**03 21 21.4**	**-0.3**
	9.2nm,0.3s,baz=57						
OSTC	**Ostas**	**1.50**	**290**	*e*PG	**Pn**	**03 21 03.8**	**-0.7**
OSTC				*e*SG	**Sn**	**03 21 25.5**	**+0.7**
	comp=Z,9.0nm,0.8s						
KSP	**Ksiaz**	**1.57**	**300**	*e*Pg	**Pn**	**03 21 04.6**	**-0.9**
KSP				*e*Sg	**Sn**	**03 21 25.8**	**-0.6**
VYHS	**Vyhne**	**1.60**	**170**	*e*PG	**Pn**	**03 21 05.2**	**-0.7**
VYHS				*e*SG	**Sn**	**03 21 27.4**	**+0.2**
CHVC	**Chvalec**	**1.61**	**290**	*e*PG	**Pn**	**03 21 05.6**	**-0.4**
KRUC	**Moravsky**	**1.66**	**233**	*e*Sg	**Sb**	**03 21 29.3**	**0.0**
	13nm,0.5s,baz=52						
STHS	**Stebnicka Huta**	**1.94**	**109**	*e*PN	**Pb**	**03 21 12.6**	**0.0**
GOPC	**GO Pecny, Ondr**	**2.35**	**268**	*e*SG	**Sb**	**03 21 48.9**	**-0.3**
PRU	**Pruhonice**	**2.51**	**270**	*e*SG	**Sb**	**03 21 54.0**	**+0.4**
	comp=Z,3.3nm,0.5s						
CONA	**Conrad Observa**	**2.73**	**219**	Pn	**Pn**	**03 21 22.3**	**+0.8**
	0.2nm,0.2s						
CONA				*e*Sn	**Sn**	**03 21 53.7**	**-1.5**
	0.9nm,0.3s						
ZVC	**Zvikov**	**2.82**	**259**	*e*SG	**Sg**	**03 22 05.4**	**-1.4**
CKRC	**Cesky Krumlov**	**2.96**	**247**	*e*SG	**Sg**	**03 22 09.0**	**-2.5**
	comp=Z,3.1nm,0.4s						
BRG	**Berggiesshubel**	**2.98**	**287**	Sg	**Sg**	**03 22 12.6**	**+0.7**
BRG				Amp		03 22 17.4	
	comp=Z,2.4nm,0.5s						
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PG	**Pb**	**03 21 36.4**	**+0.8**
KHC				*e*SG	**Sg**	**03 22 20.0**	**-2.0**
MOA	**Molln**	**3.53**	**233**	*e*Sg	**Sg**	**03 22 28.1**	**-1.5**
	comp=Z,3.0nm,0.5s						
LESA	**Schwarzleotal**	**4.63**	**237**	Sg	**Sg**	**03 23 04.3**	**-0.8**
	comp=Z,1.1nm,0.4s						
WTTA	**Wattenberg**	**5.30**	**241**	Sg	**Sg**	**03 23 26.3**	**-0.3**
	comp=Z,1.3nm,0.5s						
MOTA	**Moosalm**	**5.56**	**243**	Sg	**Sg**	**03 23 36.0**	**+1.1**
	comp=Z,2.3nm,0.6s						

JMA 26 03:58:09.7±0.2, 36.°9N±0.°8×14.°4E±.°, h42km, MV3.5/21, FAR E OFF CENTRAL HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.35**	**307**	P	Pn	03 58 47.1	+1.3
JFK	**Kawauchi**	**2.42**	**282**	*e*P	Pn	03 58 48.1	+1.3
JFK				*e*S	Sn	03 59 16.6	+1.5
ONAJ	**Iwakimizuishiy**	**2.45**	**275**	*e*P	Pn	03 58 48.4	+1.2
ONAJ				*e*S	Sn	03 59 17.3	+1.4
JIO	**Ouri**	**2.51**	**309**	P	Pn	03 58 49.5	+1.5
JIO				*e*S	Sn	03 59 18.6	+1.2
JOTO	**OTAMA OYAMA**	**2.88**	**284**	*e*P	Pn	03 58 55.4	+2.4
JOTO				*e*S	Sn	03 59 29.2	+2.7
JMK	**Ichinoseki**	**2.91**	**315**	*e*P	Pn	03 58 54.9	+1.5
JOM	**Ohasama**	**3.26**	**323**	*e*P	Pn	03 58 59.8	+1.6
JOM				S	Sn	03 59 36.7	+0.9
JYK	**Kaneyama**	**3.41**	**307**	*e*P	Pn	03 59 02.9	+2.5
JAG	**Ashikaga**	**3.57**	**264**	P	Pn	03 59 04.0	+1.6
JAG				*e*S	Sn	03 59 45.0	+1.6
JRY	**Ryogami san**	**4.08**	**259**	*e*P	Pn	03 59 10.7	+1.1
JRY				*e*S	Sn	03 59 56.7	+0.5
JHJ2	**Mitsune**	**5.03**	**222**	*e*S	Sn	04 00 19.9	+0.5
JCH	**Churui**	**5.71**	**356**	*e*P	Pn	03 59 31.1	-0.8
JCH				*e*S	Sn	04 00 32.2	-3.9
JTKR	**Abashiri--Toko**	**7.05**	**0**	*e*P	Pn	03 59 49.4	-0.9
JTKR				*e*S	Sn	04 01 04.9	-4.3

IDC 26 03:58:16.8±2.4, 19.°82S×178.°09W, h601km±23km, mb2.9/3, mbtmp3.9/5, Error ellipse: s-maj=41.7km s-min=29.8km az=127.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.20**	**299**	P	P	03 59 43.9	0.0
	12nm,0.4s,baz=168,slow=3.7,SNR=23						
URZ	**Urewera**	**18.85**	**192**	P	P	04 01 59.7	-0.2
	3.8nm,0.6s,baz=308,slow=20,SNR=1.6						
ASAR	**Alice Springs**	**44.60**	**256**	P	P	04 05 37.5	+0.3
	1.1nm,0.5s,baz=88,slow=8.6,SNR=15						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**44.62**	**261**	P	P	04 05 37.0	-0.5
	0.6nm,0.4s,baz=98,slow=8.0,SNR=23						
	0.6nm,0.4s						
ILAR	**Eielson Array**	**87.67**	**13**	P	P	04 10 01.9	0.0
	0.5nm,0.9s,baz=218,slow=5.7,SNR=5.1						
	0.5nm,0.9s						

*NEIC **26** 04:16:14.7±1.6, 15.°03N±0.°06×94.°27W±0.°04, h10km±2km, mb4.2/39, Md4.4/50(MEX), Error ellipse: s-maj=11.8km s-min=3.9km az=149.0*
*MEX **26** 04:16:17.2±0.5, 15.°03N×94.°27W, h16km±11km, MD4.4*
ISC 26 04:16:12.6±2.2, 14.°99N±0.°05×94.°28W±0.°03, h2km±14km, n106, σ2s34/133, mb4.2/6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.25**	**55**		Pn	04 16 35.6	-1.4

FTIG	**Fresnillo de T**	**4.70 309**			**Pn**	**04 17 27.4**	**+2.7**
FTIG					**Sn**	**04 18 17.9**	**-2.0**
FTIG	**Fresnillo de T**	**4.70 309**	*e*P		**Pn**	**04 17 27.4**	**+2.7**
FTIG			*e*S		**Sn**	**04 18 17.9**	**-2.0**
ESQI	**Esquipulas**	**4.79 94**			**Pn**	**04 17 26.6**	**+0.6**
MTO3	**Montecristo**	**4.79 96**		Pn	**Pn**	**04 17 27.4**	**+1.3**
TLIG	**Tlapa**	**4.85 302**		Pn	**Pn**	**04 17 28.6**	**+1.8**
TLIG	**Tlapa**	**4.85 302**	*e*P		**Pn**	**04 17 28.9**	**+2.2**
TLIG			*e*S		**Sn**	**04 18 19.7**	**-3.9**
SCIG	**Sabancuy**	**4.94 36**	*e*P		**Pn**	**04 17 27.3**	**-0.5**
SCIG			*e*S		Sn	04 18 18.6	-7.0
JAUV	**Jalcomulco**	**4.98 331**	*e*P		**Pn**	**04 17 27.6**	**-0.9**
JAUV			*e*S		Sn	04 18 20.1	-6.5
LVIG	**Laguna Verde**	**5.13 337**	*e*P		Pn	04 17 27.2	-3.3
LVIG			*e*S		Sn	04 18 18.6	-12
PPM	**Popocatepetl**	**5.81 315**	*e*P		Pn	04 17 45.6	+5.3
PPM			*e*S		Sn	04 18 40.9	-6.9
PPIG	**Popocatepetl**	**5.81 315**			Pn	04 17 45.6	+5.3
PPIG					Sn	04 18 40.9	-7.0
MEIG	**Mezcala**	**5.90 300**	*e*P		**Pn**	**04 17 44.7**	**+3.5**
MEIG			*e*S		**Sn**	**04 18 46.2**	**-3.2**
YAIG	**Yautepec**	**5.99 311**	*e*P		Pn	04 17 46.1	+3.7
YAIG			*e*S		**Sn**	**04 18 49.2**	**-2.5**
PLIG	**Platanillo**	**6.04 305**	*e*P		Pn	04 17 47.1	+4.0
PLIG			*e*S		**Sn**	**04 18 51.0**	**-2.0**
CXUV	**Coxquihui**	**6.05 329**	*e*P		**Pn**	**04 17 44.2**	**+1.1**
CXUV			*e*S		**Sn**	**04 18 49.0**	**-4.0**
CAIG	**El Cayaco**	**6.11 290**	*e*P		**Pn**	**04 17 46.2**	**+2.2**
CAIG			*e*S		Sn	04 18 46.6	-7.9
ARIG	**Puente Sto Nin**	**6.68 300**	*e*P		Pn	04 17 55.6	+3.8
ARIG			*e*S		**Sn**	**04 19 03.2**	**-5.3**
TEIG	**Tepich**	**7.74 47**		Pn	**Pn**	**04 18 06.0**	**-0.3**
MOIG	**Morelia**	**8.08 306**		Pn	**Pn**	**04 18 10.5**	**-0.8**
833A	**Chaparral WMA,**	**14.09 341**		Pn	**Pn**	**04 19 34.5**	**+1.1**
HNDO	**Hondo**	**15.19 343**			**Pn**	**04 19 48.9**	**+0.6**
HNDO				IAmb	IAmb	04 19 51.6	
comp=Z,8.5nm,0.9s							
435B	**Jarrell**	**16.01 350**		Pn	**Pn**	**04 19 59.3**	**+0.3**
SAND	**Sanderson**	**16.56 335**		Pn	**Pn**	**04 20 05.8**	**-0.3**
SAND				IAmb	IAmb	04 20 14.8	
comp=Z,5.9nm,1.0s							
TX32	**Lajitas Array**	**16.70 330**		Pn	**Pn**	**04 20 08.2**	**+0.2**
TX31	**Lajitas Ar. Si**	**16.70 330**			**Pn**	**04 20 09.9**	**+1.9**
BRDY	**Brady**	**16.79 346**			**Pn**	**04 20 09.9**	**+0.9**
BRDY				IAmb	IAmb	04 20 24.8	
comp=Z,9.0nm,0.8s							
OZNA	**Ozona**	**17.06 340**		Pn	**Pn**	**04 20 11.9**	**-0.5**
OZNA				IAmb	IAmb	04 20 15.8	
comp=Z,20nm,1.1s							
WHTX	**Lake Whitney,**	**17.17 351**		P	**Pn**	**04 20 13.9**	**+0.1**
WHTX				IAmb	IAmb	04 20 26.8	
comp=Z,9.4nm,0.6s							
ALPN	**Alpine**	**17.57 332**			**Pn**	**04 20 19.4**	**+0.5**
ALPN				IAmb	IAmb	04 20 28.5	
comp=Z,11nm,1.1s							
MNHN	**Monahans**	**18.04 336**		P	**Pn**	**04 20 24.5**	**0.0**
MNHN				IAmb	IAmb	04 20 32.7	
comp=Z,12nm,0.8s							
PLPT	**Palo Pinto**	**18.12 349**		P	**Pn**	**04 20 26.0**	**+0.5**
PLPT				IAmb	IAmb	04 20 45.2	
comp=Z,8.3nm,0.7s							
ABTX	**Abilene, Hawle**	**18.22 345**		P	**Pn**	**04 20 27.7**	**+0.9**
ABTX				IAmb	IAmb	04 20 29.3	
comp=Z,10nm,0.6s							
PECS	**Pecos**	**18.52 333**		P	**P**	**04 20 31.1**	**+0.7**
PECS				IAmb	IAmb	04 20 38.8	
comp=Z,12nm,1.4s							
425A	**Indio Mountain**	**18.54 330**			**P**	**04 20 30.2**	**-0.5**
APMT	**Aspermont**	**19.01 345**		P	**P**	**04 20 35.3**	**-0.4**
APMT				IAmb	IAmb	04 21 03.8	
comp=Z,13nm,1.2s							
POST	**Post**	**19.16 341**		P	**P**	**04 20 36.9**	**-0.5**
POST				IAmb	IAmb	04 20 40.4	
comp=Z,8.9nm,0.7s							
DKNS	**Dickens**	**19.55 343**		P	**P**	**04 20 41.1**	**-0.6**
DKNS				IAmb	IAmb	04 20 44.5	
comp=Z,9.8nm,0.5s							
W35A	**Tecumseh**	**20.21 354**			**P**	**04 20 49.0**	**+0.1**
W35A				IAmb	IAmb	04 20 52.4	
comp=Z,9.4nm,0.6s							
MSTX	**Muleshoe**	**20.40 339**		P	**P**	**04 20 50.7**	**-0.3**
MSTX				IAmb	IAmb	04 20 56.0	
comp=Z,18nm,1.0s							
YOTC	**Yotoco, Valle**	**20.77 120**	*e*P		**P**	**04 20 58.3**	**+3.1**
AMTX	**Amarillo**	**20.90 343**		P	**P**	**04 20 55.9**	**-0.5**
FCAR	**Ozark Folk Cen**	**20.90 5**		P	**P**	**04 20 57.7**	**+1.4**
FCAR				IAmb	IAmb	04 21 00.3	
comp=Z,14nm,1.4s							
GUY2C	**Guyana, Caldas**	**20.98 116**	*e*P		**P**	**04 20 59.8**	**+2.0**
OK031	**S. Brethren Rd**	**21.00 354**			**P**	**04 20 57.3**	**-0.1**
OK052	**Battle Ridge R**	**21.04 354**		P	**P**	**04 20 57.6**	**-0.2**
QUOK	**Quay**	**21.21 355**			**P**	**04 20 59.9**	**+0.2**
QUOK				IAmb	IAmb	04 21 11.6	
comp=Z,21nm,1.3s							
NORC	**Norcasia**	**21.25 114**	*e*P		**P**	**04 21 02.0**	**+1.7**
POPC	**Popayan, Colom**	**21.32 124**	*e*P		**P**	**04 21 03.2**	**+1.9**
121A	**Cookes Peak, D**	**21.36 327**		P	**P**	**04 21 02.7**	**+1.2**
121A				IAmb	IAmb	04 21 07.0	
comp=Z,10nm,0.9s							
OK048	**Pawnee Station**	**21.47 354**			**P**	**04 21 03.0**	**+0.6**
OK048				IAmb	IAmb	04 21 06.3	
comp=Z,14nm,1.1s							
CROK	**Carrier**	**21.68 352**			**P**	**04 21 05.1**	**+0.3**
ORTC	**Ortega, Tolima**	**21.74 119**	*e*P		**P**	**04 21 10.0**	**+4.4**
SPBC	**San Pablo de B**	**21.92 113**	*e*P		**P**	**04 21 09.1**	**+1.5**
NOKA	**Waynoka**	**21.95 350**			**P**	**04 21 08.4**	**+0.7**
OK032	**Salt Plains WL**	**22.01 352**			**P**	**04 21 08.6**	**+0.4**
PRAC	**Prado**	**22.14 118**	*e*P		**P**	**04 21 12.5**	**+2.6**
RTBA	**Rita Blanca**	**22.66 342**		P	**P**	**04 21 16.4**	**+1.0**
RTBA				IAmb	IAmb	04 21 43.1	
comp=Z,15nm,1.3s							
ANMO	**Albuquerque**	**22.69 333**		P	**P**	**04 21 16.6**	**+0.7**
RUSC	**La Rusia**	**22.70 111**	*e*P		**P**	**04 21 17.0**	**+0.7**
R32A	**Long Quarter,**	**23.67 351**		P	**P**	**04 21 24.6**	**-0.9**
T25A	**Trinidad**	**23.83 340**		P	**P**	**04 21 27.1**	**-0.3**
T25A				IAmb	IAmb	04 21 41.1	
comp=Z,5.4nm,0.9s							
X18A	**Snowflake**	**24.05 327**		P	**P**	**04 21 27.2**	**-2.2**
X16A	**Lo Mia Camp, P**	**24.78 324**		P	**P**	**04 21 36.0**	**-0.1**
X16A				IAmb	IAmb	04 21 41.7	
comp=Z,3.8nm,1.1s							

*PRU **26** 04:47:38.0,51.°40N×16.°19E,h0km*
*VIE **26** 04:47:38.5±2.4,51.°28N×16.°61E,h0km,mb2.3/4,ml2.5/5,*
Error ellipse: s-maj=27.2km s-min=11.7km az=127.0 35 km NW of Wroclaw Suspected Mining induced.

ISC 26 04:47:37.3±1.1,51.°39N±0.°05×16.°18E±0.°03,h0km,n29, σ0°98/54,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.55 173**		*e*Pg	**Pg**	**04 47 48.0**	**+0.1**
KSP				*e*Sg	**Sg**	**04 47 56.0**	**+1.1**
CHVC	**Chvalec**	**0.81 186**		*e*PG	**Pg**	**04 47 52.9**	**+0.2**
CHVC				*e*SG	**Sb**	**04 48 04.8**	**-0.8**
comp=Z,14nm,0.3s							
OSTC	**Ostas**	**0.83 178**		*e*PG	**Pg**	**04 47 53.5**	**+0.3**
OSTC				*e*SG	**Sb**	**04 48 05.5**	**-0.9**
comp=Z,15nm,0.3s							
UPC	**Upice**	**0.89 187**		*e*PG	**Pg**	**04 47 54.5**	**+0.2**
UPC				*e*SG	**Sg**	**04 48 06.6**	**+0.8**
DPC	**Dobruska-Polom**	**1.04 175**		*e*PG	**Pg**	**04 47 57.1**	**-0.1**
DPC				*e*SG	**Sb**	**04 48 11.8**	**-0.7**
comp=Z,19nm,0.4s							
PVCC	**Panska Ves**	**1.33 230**		*e*PG	**Pg**	**04 48 02.5**	**-0.3**
PVCC				*e*SG	**Sn**	**04 48 21.5**	**-0.1**
comp=Z,54nm,0.3s							
KRLC	**Kraliky**	**1.37 164**		*e*PG	**Pg**	**04 48 02.6**	**-0.9**
KRLC				*e*SG	**Sb**	**04 48 21.7**	**-0.1**
comp=Z,11nm,0.3s							
BRG	**Berggiesshubel**	**1.50 251**		Pg	**Pn**	**04 48 05.8**	**+0.4**
BRG				Sg	**Sn**	**04 48 25.8**	**+0.1**
BRG				Amp		04 48 27.5	
comp=Z,25nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.72 212**		*e*PG	**Pb**	**04 48 09.2**	**-0.6**
PRU	**Pruhonice**	**1.75 217**		*e*PG	**Pb**	**04 48 09.6**	**-0.6**
PRU				*e*SG	**Sg**	**04 48 32.9**	**-0.5**
comp=Z,18nm,0.4s							
MORC	**Moravsky Berou**	**1.83 151**		*e*PN	**Pn**	**04 48 07.3**	**-2.7**
MORC				*e*SG	**Sb**	**04 48 35.6**	**+0.4**
HSKC	**Hora Svate Kat**	**1.91 247**		*e*PG	**Pn**	**04 48 10.8**	**-0.2**
HSKC				*e*SG	**Sb**	**04 48 37.3**	**+0.1**
CLL	**Collm**	**2.00 269**		*e*Pg	**Pb**	**04 48 14.0**	**-0.4**
CLL				*e*Sg	**Sb**	**04 48 40.0**	**+0.2**
comp=Z,10.0nm,0.5s							
OKC	**Ostrava-Krasne**	**2.00 140**		*e*SG	**Sb**	**04 48 40.6**	**+0.8**
VRAC	**Vranov**	**2.10 173**		*e*PN	**Pn**	**04 48 12.9**	**-0.8**
VRAC				*e*SG	**Sg**	**04 48 44.2**	**-0.5**
TREC	**Trest**	**2.14 192**		*e*SG	**Sg**	**04 48 46.2**	**+0.1**
KRUC	**Moravsky**	**2.33 177**		*e*PN	**Pn**	**04 48 15.7**	**-1.2**
KRUC				*e*SG	**Sg**	**04 48 52.4**	**+0.2**
OJC	**Ojcow**	**2.58 116**		*e*Pg	**Pb**	**04 48 25.4**	**+1.1**
OJC				*e*Sg	**Sg**	**04 48 59.9**	**-0.1**
NKC	**Novy Kostel**	**2.64 245**		*e*PG	**Pb**	**04 48 26.4**	**+1.1**
NKC				*e*SG	**Sg**	**04 49 02.5**	**+0.6**
comp=Z,18nm,0.4s							
JAVC	**Velka Javorina**	**2.71 159**		*e*PN	**Pn**	**04 48 20.7**	**-1.4**
KHC	**Kasperske Hory**	**2.81 217**		*e*PN	**Pn**	**04 48 24.4**	**+0.9**
KHC				*e*PG	**Pb**	**04 48 28.7**	**+0.4**
KHC				*e*SN	**Sn**	**04 48 57.4**	**-0.7**
KHC				*e*SG	**Sg**	**04 49 05.9**	**-1.6**
comp=Z,5.5nm,0.4s							
CKRC	**Cesky Krumlov**	**2.84 206**		*e*PG	**Pb**	**04 48 30.0**	**+1.2**
MODS	**Modra-Piesok**	**3.10 166**		*e*PG	**Pg**	**04 48 39.3**	**+2.6**
MODS				*e*SG	**Sg**	**04 49 19.4**	**+2.6**
CONA	**Conrad Observa**	**3.47 184**		*e*Pn	**Pn**	**04 48 33.8**	**+1.2**
comp=Z,0.4nm,0.3s							
CONA				Sg	**Sg**	**04 49 28.0**	**-0.7**
comp=Z,4.0nm,0.3s							
RONA	**Rosalia, Austr**	**3.69 179**		Pg	**Pg**	**04 48 49.2**	**+1.2**
comp=Z,1.1nm,0.4s							
RONA				Sg	**Sg**	**04 49 35.2**	**-0.6**
comp=Z,1.4nm,0.4s							
MOA	**Molln**	**3.76 200**		*i* Pn	**Pn**	**04 48 36.1**	**-0.3**
comp=Z,0.6nm,0.2s							
MOA				Sg	**Sg**	**04 49 38.9**	**+1.1**
comp=Z,7.6nm,0.7s							
STHS	**Stebnicka Huta**	**3.79 119**		*e*PG	**Pg**	**04 48 49.2**	**-0.7**
STHS				*e*SG	**Sg**	**04 49 39.1**	**+0.1**
BIOA	**Bad Ischl, Aus**	**4.05 205**		Pg	**Pg**	**04 48 54.6**	**-0.3**
comp=Z,2.2nm,0.4s							
BIOA				Sg	**Sg**	**04 49 46.1**	**-1.4**
comp=Z,7.7nm,0.4s							
ARSA	**Arzberg**	**4.17 186**		Sg	**Sg**	**04 49 50.0**	**-1.0**
comp=Z,2.5nm,0.5s							

*MDD **26** 04:52:60.0±1.1,36.°86N×11.°10W,h16km±25km,*
mb_Lg2.5/7,Error ellipse: s-maj=29.6km s-min=6.5km az=55.0
*INMG **26** 04:53:00.7±1.0,36.°79N×11.°20W,h37km,ML1.9,Error ellipse: s-maj=5.5km s-min=3.3km az=93.0*
*IGIL **26** 04:53:00.0,36.°78N×11.°22W,h33km,ML1.9*
*CNRM **26** 04:53:07.9,36.°11N×10.°43W,h4km,ml3.1*

ISC 26 04:52:57.8±2.3,36.°76N±0.°05×11.°2W±0.°1,h35km,n41, σ1°82/70,1C-1D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.93 78**		⇑*i*P	**Pn**	**04 53 29.5**	**+1.4**
PFVI				*e*S	**Sn**	**04 53 51.6**	**+0.5**
PFVI				A	A	04 53 52.1	
5.8nm,0.2s							
PFVI	**Vila Bisbo**	**1.93 78**		P	**Pn**	**04 53 29.3**	**+1.2**
PFVI				S	**Sn**	**04 53 51.2**	**0.0**
MORF	**Marmelete**	**2.10 74**		*e*P	**Pn**	**04 53 32.0**	**+1.5**
MORF				*e*S	**Sn**	**04 53 55.7**	**+0.3**
MORF				A	A	04 54 03.6	
3.4nm,0.3s							
MORF	**Marmelete**	**2.10 74**		*e*P	**Pn**	**04 53 32.0**	**+1.5**
MORF				*e*S	**Sn**	**04 53 55.4**	**0.0**
MORF				IAML		04 53 56.6	
comp=E,7.8nm,0.1s							
PTEO	**Sao Teotonio**	**2.12 68**		*e*P	**Pn**	**04 53 32.2**	**+1.5**
PTEO				*e*S	**Sn**	**04 53 55.9**	**+0.1**
PTEO				A	A	04 53 57.8	
comp=E,6.0nm,0.4s							
PNCL	**Nicolau / Gran**	**2.51 57**		*e*P	**Pn**	**04 53 37.9**	**+1.8**
PNCL				*e*S	**Sn**	**04 54 05.6**	**+0.2**
PNCL				A	A	04 54 06.7	
comp=E,2.7nm,0.6s							
PBDV	**Barranco-do-Ve**	**2.65 79**		*e*P	**Pn**	**04 53 40.0**	**+1.9**
PBDV				*e*S	**Sn**	**04 54 10.1**	**+1.1**
PMAFR	**Mafra**	**2.66 34**		*e*S	**Sn**	**04 54 08.7**	**-0.5**
PMAFR				A	A	04 54 11.4	
comp=E,12nm,0.6s							
PMAFR	**Mafra**	**2.66 34**		S	**Sn**	**04 54 08.0**	**-1.1**
PCVE	**Castro Verde**	**2.66 70**		‖*e*P	**Pn**	**04 53 39.7**	**+1.5**
PCVE				*e*S	**Sn**	**04 54 09.2**	**0.0**
PCVE				A	A	04 54 12.6	
comp=E,1.1nm,0.3s							
PCVE	**Castro Verde**	**2.66 70**		S	**Sn**	**04 54 09.0**	**-0.2**
PCVE				P	**Pn**	**04 53 38.9**	**+0.7**
PVAQ	**Vaqueiros**	**2.85 76**		*e*P	**Pn**	**04 53 42.6**	**+1.8**
PVAQ				*e*S	**Sn**	**04 54 13.9**	**0.0**
PVAQ				A	A	04 54 17.0	
comp=E,2.1nm,0.3s							
PVAQ	**Vaqueiros**	**2.85 76**		P	**Pn**	**04 53 42.8**	**+2.0**
PVAQ				S	**Sn**	**04 54 13.6**	**-0.3**
PBEJ	**Beja**	**2.93 64**		*e*S	**Sn**	**04 54 15.4**	**-0.5**
PBEJ				A	A	04 54 21.2	
comp=E,1.7nm,0.3s							
EGRO	**El Granado**	**3.06 74**		S	**Sn**	**04 54 18.7**	**-0.3**
EGRO				*i* Vmb_Lg		04 54 27.0	
EGRO	**El Granado**	**3.06 74**		P	**Pn**	**04 54 43.3**	**+0.7**
EGRO				S	**Sn**	**04 54 18.5**	**-0.5**
EVO	**Evora**	**3.08 54**		*e*P	**Pn**	**04 53 45.1**	**+1.2**
EVO				*e*S	**Sn**	**04 54 18.4**	**-1.1**
EVO				A	A	04 54 19.4	
comp=E,3.5nm,0.1s							
EVO	**Evora**	**3.08 54**		P	**Pn**	**04 53 43.9**	**0.0**
EVO				S	**Sn**	**04 54 17.3**	**-2.2**
PMTG	**Montargil**	**3.28 45**		*e*P	**Pn**	**04 53 48.0**	**+1.2**
PMTG				*e*S	**Sn**	**04 54 23.7**	**-0.9**
PMTG				A	A	04 54 25.1	
comp=E,1.6nm,0.8s							
PSBE	**So Bento**	**3.33 34**		*e*S	**Sn**	**04 54 25.4**	**-0.4**
PESTR	**Estremoz**	**3.54 53**		*e*S	**Sn**	**04 54 30.6**	**-0.3**
PBAR	**Barrancos**	**3.59 66**		*e*P	**Pn**	**04 53 56.1**	**+2.1**
PBAR				*e*S	**Sn**	**04 54 31.7**	**-0.4**
PBAR				A	A	04 54 38.9	
comp=E,1.4nm,0.9s							
PBAR	**Barrancos**	**3.59 66**		P	**Pn**	**04 53 51.7**	**+0.8**
PBAR				S	**Sn**	**04 54 29.9**	**-2.2**
EMIN	**Mina Concepcio**	**3.74 73**		S	**Sn**	**04 54 34.9**	**-0.9**
EMIN				*i* Vmb_Lg		04 54 37.8	
EMIN	**Mina Concepcio**	**3.74 73**		S	**Sn**	**04 54 34.4**	**-1.4**
EMIN				P	**Pn**	**04 53 53.6**	**+0.5**
EBAD	**Badajoz**	**3.86 58**		P	**Pn**	**04 53 56.1**	**+1.4**
EBAD				S	**Sn**	**04 54 37.9**	**-0.9**
EBAD				*i* Vmb_Lg		04 54 40.7	
EBAD	**Badajoz**	**3.86 58**		P	**Pn**	**04 53 55.4**	**+0.7**
EBAD				S	**Sn**	**04 54 37.6**	**-1.2**
PCAS	**Casmilo, Conde**	**3.90 32**		*e*S	**Sn**	**04 54 38.6**	**-1.3**
PCAS				A	A	04 54 40.5	
comp=E,2.3nm,0.6s							
PMRV	**Marv??o**	**4.00 47**		*e*P	**Pn**	**04 53 57.8**	**+1.1**
PMRV				*e*S	**Sn**	**04 54 40.5**	**-1.9**
PMRV				A	A	04 54 44.0	
comp=E,1.6nm,0.8s							
ESPR	**Espera**	**4.28 87**		P	**Pn**	**04 54 02.2**	**+1.7**
ESPR				S	**Sn**	**04 54 49.6**	**+0.4**
ESPR				*i* Vmb_Lg		04 54 54.5	
MTE	**Manteigas**	**4.62 37**		*e*S	**Sn**	**04 54 55.2**	**-2.4**
MTE				A	A	04 54 57.6	
comp=E,1.7nm,0.5s							
PVIS	**Viseu**	**4.71 32**		*e*S	**Sn**	**04 54 57.5**	**-2.4**
PVIS				A	A	04 55 00.1	
comp=E,4.0nm,0.7s							
ECAB	**El Cabril**	**4.78 72**		P	**Pn**	**04 54 08.5**	**+1.2**
ECAB				S	**Sn**	**04 54 59.7**	**-1.7**
ECAB				*i* Vmb_Lg		04 55 02.5	
EPLA	**Plasencia**	**5.19 49**		S	**Sn**	**04 55 10.2**	**-1.5**
EPLA				*i* Vmb_Lg		04 55 19.7	
EADA	**Adamuz**	**5.44 73**		P	**Pn**	**04 54 18.1**	**+1.6**
EADA				*i* Vmb_Lg		04 55 14.3	
EADA				S	**Sn**	**04 55 16.2**	**-1.7**
MVO	**Moncorvo**	**5.46 35**		*e*S	**Sn**	**04 55 15.1**	**-3.2**
ELOB	**Lobios**	**5.64 24**		P	**Pn**	**04 54 20.1**	**+0.8**
ELOB				S	**Sn**	**04 55 19.5**	**-3.4**
OUK	**Oukaimeden**	**6.19 153**		P	**Pn**	**04 54 28.6**	**+1.6**
OUK				S	**Sn**	**04 55 32.4**	**-4.5**
MD31	**MD31**	**6.56 124**		P	**Pn**	**04 54 33.5**	**+1.6**
MD31				S	**Sn**	**04 55 40.1**	**-5.4**
MDT	**Midelt**	**6.70 124**		P	**Pn**	**04 54 35.4**	**+1.6**
MDT				S	**Sn**	**04 55 43.6**	**-5.3**
OUZM	**OUZ**	**6.90 146**		P	**Pn**	**04 54 38.2**	**+1.6**
OUZM				S	**Sn**	**04 55 49.6**	**-4.5**

IDC 26 04:55:39.5±3.1,6.°42S×147.°11E,h0km,mb3.1/1, mbtmp3.2/3,ML2.9/2,Error ellipse: s-maj=69.0km s-min=40.6km az=95.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.97 179**		Pn	Pn	04 56 29.0	+1.1
14nm,0.3s,baz=0.0,slow=8.1,SNR=16							
PMG				Sn	Sn	04 56 58.8	-5.5
5.0nm,0.3s,baz=18,slow=20,SNR=1.9							
PMG				Lg	Lg	04 57 07.6	
6.1nm,0.3s,baz=29,slow=21,SNR=3.0							
26nm,0.3s							
WRA	**Warramunga Arr**	**18.29 221**		P	Pn	04 59 54.7	-0.3
0.2nm,0.3s,baz=48,slow=11,SNR=10.0							
WRA				S	Sn	05 03 04.8	-15
0.1nm,0.6s,baz=44,slow=23,SNR=1.2							
0.2nm,0.7s							
ASAR	**Alice Springs**	**21.34 215**		P	P	05 00 27.6	-0.8
0.3nm,0.3s,baz=51,slow=8.8,SNR=5.1							
0.3nm,0.3s							
TORD	**Torodi Ar. Bea**	**145.30 284**		PKPbc	PKPbc	05 15 19.4	-0.7
0.1nm,0.5s,baz=76,slow=6.1,SNR=1.5							

*SJA **26** 05:12:42.8±0.7,22.°13S×67.°47W,h194km±5km,ML3.6, MW3.5*
*SCB **26** 05:12:45.0±0.8,22.°18S×67.°47W,h165km±7km,ML3.8/3, MW3.9,Error ellipse: s-maj=2.7km s-min=1.9km az=0.0*
*GUC **26** 05:12:45.0±0.6,22.°14S×67.°63W,h200km±6km,ML3.8*

ISC 26 05:12:43.8±1.7,22.°15S±0.°04×67.°50W±0.°04, h187km±14km,n54,σ0°83/81,8C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.39 250**		Pg	**Pn**	**05 13 16.0**	**+0.2**
LVC	**Limon Verde**	**1.39 250**		⇑*i*P	**Pn**	**05 13 16.7**	**+1.0**
LVC				*i* S	**S**	**05 13 40.5**	**+0.1**
LVC				IAML		05 13 42.1	
220nm,0.3s							
LVC	**Limon Verde**	**1.39 250**		*i* P	**Pn**	**05 13 16.1**	**+0.3**
PB09	**IPOC Station P**	**1.66 282**		Pg	**Pn**	**05 13 18.9**	**+0.8**
PB09	**IPOC Station P**	**1.66 282**		⇑*i*P	**Pn**	**05 13 19.3**	**+1.2**
PB09				*i* S	**S**	**05 13 45.0**	**+0.4**
PB09	**IPOC Station P**	**1.66 282**		*i* P	**Pn**	**05 13 18.2**	**+0.1**
PB09				*i* S	**S**	**05 13 44.7**	**+0.1**
YJA	**Yavi**	**1.84 91**		Pg	**Pn**	**05 13 20.2**	**+0.1**
YJA	**Yavi**	**1.84 91**		*i* P	**Pn**	**05 13 20.4**	**+0.2**
MOCB	**Mochara**	**1.95 63**		Pg	**Pn**	**05 13 21.6**	**+0.3**
MOCB				Sg	**S**	**05 13 48.8**	**-1.4**
MOCB				IAML		05 13 49.7	
404nm,0.4s							
PB06	**IPOC Station P**	**2.00 254**		Pg	**Pn**	**05 13 21.9**	**+0.4**
PB06	**IPOC Station P**	**2.00 254**		*e*P	**Pn**	**05 13 22.2**	**+0.6**
PB06				*e*S	**S**	**05 13 50.9**	**+0.2**
PB06				IAML		05 13 53.2	
comp=E,222nm,0.3s							
PB06	**IPOC Station P**	**2.00 254**		*i* P	**Pn**	**05 13 22.1**	**+0.5**
PB06				*i* S	**S**	**05 13 50.5**	**-0.3**
PB15	**IPOC Station P**	**2.11 240**		*i* S	**S**	**05 13 53.2**	**+0.3**
PB15	**IPOC Station P**	**2.11 240**		*i* P	**Pn**	**05 13 22.9**	**+0.2**
PB15				*i* S	**S**	**05 13 52.8**	**-0.1**
PB01	**IPOC Station P**	**2.16 300**		Pg	**Pn**	**05 13 23.8**	**+0.6**
PB01				Sg	**S**	**05 13 53.1**	**-0.6**
PB01				IAML		05 13 54.9	
comp=E,238nm,0.2s							
PB01	**IPOC Station P**	**2.16 300**		⇑*i*P	**Pn**	**05 13 23.8**	**+0.6**
PB01				*i* S	**S**	**05 13 53.4**	**-0.3**
PB01				IAML		05 13 55.0	
comp=E,475nm,0.4s							
PB01	**IPOC Station P**	**2.16 300**		*i* P	**Pn**	**05 13 23.3**	**+0.1**
PB01				*i* S	**S**	**05 13 53.2**	**-0.4**
PB01				IAML		05 13 54.9	
comp=Z,170nm,0.2s							
PB07	**IPOC Station P**	**2.26 280**		Pg	**Pn**	**05 13 25.1**	**+0.7**
PB07	**IPOC Station P**	**2.26 280**		⇑*i*P	**Pn**	**05 13 25.0**	**+0.7**
PB07				*i* S	**S**	**05 13 55.4**	**-0.5**
PB07				IAML		05 13 56.3	
comp=N,428nm,0.1s							
PB07	**IPOC Station P**	**2.26 280**		*i* P	**Pn**	**05 13 24.7**	**+0.3**
PB07				*i* S	**S**	**05 13 55.4**	**-0.5**
PB07

comp=Z,53nm,0.6s
AHML Horco Molle 5.02 157 *i* P **Pn 05 13 58.3 +0.2**
SOEJ Jacaque 5.19 353 Pg **Pn 05 14 02.4 +1.5**
BBOE La Paz, Chanca 5.33 355 Pg **Pn 05 14 04.6 +1.8**
BBOD La Paz, Gloria 5.58 349 Pg **Pn 05 14 07.6 +1.6**

WEL 26 05:27:03.3±0.8, 37°S±8″×17°7′E±1′1, h266km±9km, M3.0/9, mB4.3/1, ML2.8/6, MLv3.0/9, Mw(mB)3.4/1, Error ellipse: s-maj=0.0km s-min=0.0km az=121.7, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.21**	**159**	P	Pn	05 27 40.4	-0.7
HAZ				S	S	05 28 09.7	-1.4
KUZ	**Kuaotunu**	**1.23**	**264**	P	Pn	05 27 40.4	-0.9
RUGZ	**Raukumara Rang**	**1.38**	**166**	P	Pn	05 27 41.6	-0.8
RUGZ				S	S	05 28 11.3	-2.1
PKGZ	**Pakihiroa**	**1.43**	**152**	P	Pn	05 27 42.7	+0.1
PKGZ				S	S	05 28 13.7	-0.1
WMGZ	**Waiomatatini S**	**1.52**	**142**	P	Pn	05 27 42.9	-0.2
WMGZ				S	S	05 28 13.6	-1.2
PUZ	**Puketiti**	**1.66**	**151**	P	Pn	05 27 44.3	0.0
PUZ				S	S	05 28 15.5	-1.2
TWGZ	**Tauwhareparae**	**1.66**	**159**	P	Pn	05 27 44.8	+0.5
TWGZ				S	S	05 28 18.2	+1.4
MWZ	**Matawai**	**1.72**	**173**	P	Pn	05 27 45.3	+0.5
MWZ				S	S	05 28 17.0	-0.7
RIGZ	**Rimuhau**	**2.12**	**169**	P	Pn	05 27 48.7	+0.6
RIGZ				S	S	05 28 24.2	+0.5
NMHZ	**Naumai**	**2.49**	**188**	P	Pn	05 27 53.0	+1.3
NMHZ				S	S	05 28 33.3	+3.2
BKZ	**Black Stump Fm**	**2.61**	**193**	P	Pn	05 27 52.7	0.0
BKZ				S	S	05 28 33.3	+1.3
MCHZ	**McNeill Hill**	**2.85**	**189**	P	Pn	05 27 56.1	+1.0
MCHZ				S	S	05 28 38.9	+2.6
SNVZ	**South Ngauruho**	**2.85**	**206**	P	Pn	05 27 56.8	+1.5
KWHZ	**Kaweka Forest**	**2.87**	**193**	P	Pn	05 27 56.3	+0.9
KWHZ				S	S	05 28 38.3	+1.5
WNVZ	**Wahianoa**	**3.00**	**205**	P	Pn	05 27 58.0	+1.2
BHHZ	**Black Hill Sta**	**3.01**	**198**	P	Pn	05 27 57.1	+0.3
BHHZ				S	S	05 28 40.8	+1.4
KRHZ	**Kereru**	**3.09**	**193**	P	Pn	05 27 58.1	+0.4
KRHZ				S	S	05 28 41.9	+0.9
PNHZ	**Pukenui**	**3.38**	**194**	P	Pn	05 28 00.5	-0.3
PNHZ				S	S	05 28 47.1	+0.4
PXZ	**Pawanui**	**3.41**	**185**	P	Pn	05 27 57.4	-3.7
PXZ				S	S	05 28 47.6	+0.4
MRZ	**Mangatainoka R**	**4.24**	**197**	P	Pn	05 28 10.7	+0.3
MRZ				S	S	05 29 03.5	-0.6
HOWZ	**Holdsworth Sta**	**4.47**	**197**	P	Pn	05 28 13.4	+0.1
HOWZ				S	S	05 29 08.3	-0.8
OGWZ	**Otaki Gorge**	**4.49**	**201**	P	Pn	05 28 12.5	-0.8
OGWZ				S	S	05 29 10.0	+0.5
KIW	**Kapiti Island**	**4.61**	**203**	P	Pn	05 28 14.8	0.0
KIW				S	S	05 29 11.9	-0.1
CAW	**Cannon Point**	**4.79**	**200**	P	Pn	05 28 16.6	-0.3
CAW				S	S	05 29 16.2	+0.3
DUWZ	**D'Urville Isla**	**4.91**	**211**	P	Pn	05 28 18.2	-0.3
DUWZ				S	S	05 29 19.2	+0.6
TCW	**Tory Channel**	**5.13**	**206**	P	Pn	05 28 21.3	+0.3
TCW				S	S	05 29 22.8	-0.5
PLWZ	**Palliser**	**5.17**	**197**	P	Pn	05 28 21.2	-0.4
PLWZ				S	S	05 29 23.7	-0.6
TUWZ	**Tuamarina**	**5.44**	**207**	P	Pn	05 28 24.6	-0.2
TUWZ				S	S	05 29 29.3	-0.8
QRZ	**Quartz Range**	**5.58**	**220**	P	Pn	05 28 26.2	-0.3

---

*IDC **26** 06:22:20.4±0.7, 15°.99S×173°.54W, h0km, mb4.1/10, mbtmp4.1/11, ML3.8/1, MS3.6/15, Error ellipse: s-maj=34.0km s-min=16.6km az=140.0*
*NEIC **26** 06:22:21.8±2.2, 16°.09S±0°.03×173°.2W±0°.1, h10km±1km, mb4.4/24, Error ellipse: s-maj=20.5km s-min=5.6km az=90.0*
ISC 26 06:22:21.6±0.5, 16°.08S±0°.08×173°.32W±0°.10, h10km, n73, σ0°88/48, mb4.3/19, MS3.7/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.62**	**35**		**Pn**	**06 23 02.5**	**-1.6**
NIUE	**Niue**	**4.39**	**133**		**Pn**	**06 23 26.6**	**-1.9**
RAR	**Rarotonga**	**13.81**	**114**	LR	LR	06 29 36.4
	comp=Z,111nm,18.7s,baz=325,slow=31					
OUENC	**Ouen Island, N**	**19.76**	**248**	P	**P**	**06 26 51.2**	**-0.7**
OUENC				IAmb	IAmb	06 27 00.8
	comp=Z,27nm,1.0s					
DZM	**Mont Dzumac**	**20.03**	**250**	*e*P	Pn	06 27 00.6	+3.9
	comp=Z,37nm,1.1s					
DZM				*e*LR	LR	06 31 46.4
	comp=Z,401nm,26.6s					
DZM	**Mont Dzumac**	**20.03**	**250**	P	**P**	**06 26 55.1**	**+0.2**
DZM				IAmb	IAmb	06 27 01.9
	comp=Z,14nm,0.9s					
DZM	**Mont Dzumac**	**20.03**	**250**	P	**P**	**06 26 53.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=302,slow=19,SNR=2.0					
DZM				LR	LR	06 33 35.3
	comp=Z,170nm,18.8s,baz=72,slow=34					
	comp=Z,3.2nm,0.7s					
ONTNC	**Ouen Toro**	**20.08**	**249**	P	**P**	**06 26 56.1**	**+0.7**
PAE	**Paea**	**22.77**	**97**	*e*T	T	06 50 41.5
	comp=Z,3.4nm,0.3s					
PPT	**Papeete**	**22.77**	**97**	LR	LR	06 35 51.0
	comp=Z,55nm,18.1s,baz=270,slow=35					
PPT2	**Papeete2**	**22.77**	**97**	*e*T	T	06 50 40.5
	comp=Z,4.9nm,0.3s					
TVO	**Taravao**	**23.08**	**98**	*e*T	T	06 50 52.6
	comp=Z,2.2nm,0.4s					
URZ	**Urewera**	**23.65**	**199**	LR	LR	06 35 35.8
	comp=Z,126nm,18.6s,baz=30,slow=34					
BFZ	**Birch Farm**	**26.13**	**198**	P	**P**	**06 27 56.4**	**+0.5**
HNR	**Honiara**	**26.88**	**281**	LR	LR	06 37 23.9
	comp=Z,2μm,18.4s,baz=134,slow=34					
RPZ	**Rata Peaks**	**30.58**	**203**	LR	LR	06 39 00.3
	comp=Z,62nm,19.6s,baz=16,slow=33					
TAOE	**Nuku Hiva Isla**	**33.14**	**82**	*e*LR	LR	06 37 15.2
	comp=Z,149nm,28.2s					
TAOE	**Nuku Hiva Isla**	**33.14**	**82**	*e*T	T	07 03 33.2
	comp=Z,28nm,0.3s					
EIDS	**Eidsvold**	**34.47**	**249**	P	**P**	**06 29 11.0**	**+1.1**
EIDS				IAmb	IAmb	06 29 23.3
	comp=Z,9.2nm,1.1s					
ARMA	**Armidale**	**35.07**	**240**	P	**P**	**06 29 14.9**	**-0.2**
CTA	**Charters Tower**	**38.58**	**258**	LR	LR	06 44 02.3
	comp=Z,47nm,19.5s,baz=85,slow=34					
CTAO	**Charters Tower**	**38.58**	**258**	P	**P**	**06 29 45.2**	**+0.2**
CTAO				IAmb	IAmb	06 29 47.7
	comp=Z,7.5nm,1.1s					
H11S2	**WAKE ISLAND Hy**	**39.59**	**329**	T	T	07 11 57.6
	baz=149,slow=76,SNR=7.9					
H11S3	**WAKE ISLAND Hy**	**39.60**	**329**	T	T	07 11 57.9
	baz=149,slow=76,SNR=8.3					
H11S1	**WAKE ISLAND Hy**	**39.60**	**329**	T	T	07 11 55.3
	baz=149,slow=76,SNR=7.7					
H11N3	**WAKE ISLAND Hy**	**40.54**	**331**	T	T	07 13 10.7
	baz=150,slow=76,SNR=9.2					
H11N1	**WAKE ISLAND Hy**	**40.55**	**331**	T	T	07 13 15.7
	baz=150,slow=76,SNR=9.6					
H11N2	**WAKE ISLAND Hy**	**40.56**	**331**	T	T	07 13 13.0
	baz=150,slow=76,SNR=9.6					
STKA	**Stephens Creek**	**43.77**	**241**	P	**P**	**06 30 27.2**	**-0.5**
STKA	**Stephens Creek**	**43.77**	**241**	P	**P**	**06 30 26.6**	**-1.1**
	comp=Z,4.6nm,0.9s,baz=92,slow=12,SNR=11					
STKA				LR	LR	06 45 43.4
	comp=Z,59nm,18.6s,baz=28,slow=32					
	comp=Z,4.6nm,0.9s					
BBOO	**Buckleboo**	**48.55**	**240**	P	**P**	**06 31 03.9**	**-1.4**
BBOO				IAmb	IAmb	06 31 06.9
	comp=Z,6.8nm,1.1s					
WR0	**Warramunga Arr**	**49.58**	**257**	P	**P**	**06 31 14.2**	**+0.8**
WR0				IAmb	IAmb	06 31 43.3
	comp=Z,3.9nm,1.1s					
WB0	**Warramunga Arr**	**49.73**	**258**	P	**P**	**06 31 14.0**	**-0.6**
WB0				IAmb	IAmb	06 31 16.6
	comp=Z,4.2nm,1.1s					
WB2	**Warramunga Arr**	**49.76**	**257**	P	**P**	**06 31 15.6**	**+0.8**
WB2				IAmb	IAmb	06 31 21.9
	comp=Z,2.4nm,0.9s					
WRA	**Warramunga Arr**	**49.77**	**257**	P	**P**	**06 31 13.1**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=93,slow=6.8,SNR=18					
WRA				PcP	**PcP**	**06 32 36.0**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=95,slow=3.6,SNR=2.2					
	comp=Z,1.7nm,0.7s					
AS31	**Alice Springs**	**49.98**	**252**	P	**P**	**06 31 15.5**	**-0.9**
ASAR	**Alice Springs**	**49.98**	**252**	P	**P**	**06 31 14.7**	**-1.8**
ASAR	**Alice Springs**	**49.98**	**252**	P	**P**	**06 31 14.9**	**-1.5**
	comp=Z,7.4nm,0.7s,baz=89,slow=7.8,SNR=55					
ASAR				PcP	**PcP**	**06 32 36.8**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=91,slow=3.4,SNR=0.9					
ASAR				LR	LR	06 51 13.7
	comp=Z,78nm,20.6s,baz=80,slow=35					
	comp=Z,7.4nm,0.7s					
FORT	**Forrest**	**55.19**	**244**	P	**P**	**06 31 53.5**	**-1.4**
KNRA	**Kununurra**	**55.55**	**262**	P	**P**	**06 31 58.1**	**+0.5**
VNDA	**Vanda**	**62.71**	**186**	P	**P**	**06 32 47.6**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=28,slow=7.5,SNR=3.6					
	comp=Z,0.7nm,0.9s					
PSA00	**Pilbara Seismi**	**63.09**	**254**	P	**P**	**06 32 49.8**	**-0.1**
CASY	**Casey**	**69.83**	**205**	P	**P**	**06 33 32.4**	**+0.3**
CASY				IAmb	IAmb	06 33 40.5
	comp=Z,3.7nm,1.1s					
PFO	**Pinyon Flats O**	**73.32**	**47**	LR	LR	06 57 53.3
	comp=Z,72nm,20.8s,baz=256,slow=29					
QSPA	**South Pole Qui**	**73.97**	**180**	P	**P**	**06 33 56.9**	**-0.3**
QSPA				IAmb	IAmb	06 34 16.4
	comp=Z,4.5nm,1.1s					
QSPA	**South Pole Qui**	**73.97**	**180**	P	**P**	**06 33 58.1**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=340,slow=2.0,SNR=5.7					
	comp=Z,1.8nm,0.8s					
YBH	**Yreka Blue Hor**	**74.09**	**37**	LR	LR	06 58 12.6
	comp=Z,52nm,20.1s,baz=213,slow=29					
QSM	**Queen of Sheba**	**74.33**	**45**	IAmb	IAmb	06 34 01.2
	comp=Z,4.2nm,0.8s					
DSP	**Deep Springs**	**74.39**	**43**	P	**P**	**06 34 00.3**	**+0.5**
NVAR	**Mina Array Bea**	**74.78**	**42**	P	**P**	**06 34 03.5**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=229,slow=10,SNR=21					
	comp=Z,2.0nm,0.7s					
SHPR	**Sheep Range**	**75.78**	**45**	P	**P**	**06 34 08.6**	**+0.4**
SBUM	**Sibu**	**75.78**	**277**	P	**P**	**06 34 07.8**	**-0.6**
SBUM				IAmb	IAmb	06 34 30.1
	comp=Z,1.9nm,0.7s					
J05D	**Fort Rock, OR**	**75.91**	**36**	P	**P**	**06 34 08.1**	**-0.6**
PRN	**Pahroc Range**	**76.34**	**44**	P	**P**	**06 34 11.4**	**+0.1**
TXAR	**Lajitas Array**	**80.92**	**56**	P	**P**	**06 34 37.7**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=216,slow=6.2,SNR=7.1					
TXAR				LR	LR	07 01 57.2
	comp=Z,37nm,19.6s,baz=288,slow=29					
	comp=Z,0.8nm,0.9s					
ANMO	**Albuquerque**	**81.17**	**50**	LR	LR	07 01 09.3
	comp=Z,46nm,21.1s,baz=32,slow=29					
PDAR	**Pinedale Array**	**82.72**	**42**	P	**P**	**06 34 46.4**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=216,slow=2.9,SNR=15					
PDAR				LR	LR	07 04 56.5
	comp=Z,58nm,20.2s,baz=288,slow=31					
	comp=Z,1.6nm,0.8s					
ILAR	**Eielson Array**	**83.09**	**11**	P	**P**	**06 34 47.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=228,slow=5.8,SNR=24					
	comp=Z,0.7nm,0.6s					
CMIG	**Matias Romero**	**84.03**	**70**	LR	LR	07 04 14.9
	comp=Z,29nm,21.8s,baz=294,slow=30					
H03S2	**Juan Fernandez**	**84.76**	**124**	T	T	08 08 39.9
	baz=252,slow=75,SNR=3.4					
H03S1	**Juan Fernandez**	**84.77**	**124**	T	T	08 08 39.4
	baz=252,slow=75,SNR=3.3					
H03S3	**Juan Fernandez**	**84.78**	**124**	T	T	08 08 38.5
	baz=252,slow=75,SNR=3.8					
MAW	**Mawson**	**87.18**	**199**	P	**P**	**06 35 08.4**	**+0.6**
MAW	**Mawson**	**87.18**	**199**	P	**P**	**06 35 07.8**	**+0.1**
	comp=Z,2.9nm,1.0s,baz=90,slow=1.0,SNR=1.9					
	comp=Z,2.9nm,1.0s					
TKL	**Tuckaleechee C**	**98.83**	**55**	LR	LR	07 16 21.4
	comp=Z,36nm,18.4s,baz=332,slow=33					
BRTR	**Keskin Array B**	**146.73**	**320**	PKPbc	**PKPbc**	**06 42 04.8**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=141,slow=0.8,SNR=3.7					
CONA	**Conrad Observa**	**147.35**	**349**	*e*PKiKP	**PKPbc**	**06 42 06.7**	**+0.9**
	comp=Z,2.5nm,0.6s					
RONA	**Rosalia, Austr**	**147.49**	**348**	*e*PKP	**PKPab**	**06 42 08.1**	**0.0**
	comp=Z,2.3nm,0.7s					
MOTA	**Moosalm**	**148.61**	**354**	PKP	**PKPab**	**06 42 12.7**	**0.0**
	comp=Z,1.0nm,0.5s					
WTTA	**Wattenberg**	**148.64**	**354**	*e*PKP	**PKPbc**	**06 42 09.7**	**+0.4**
	comp=Z,3.5nm,0.5s					
SOKA	**Soboth**	**148.71**	**349**	*e*PKP	**PKPdf**	**06 42 05.6**	**0.0**
	comp=Z,6.6nm,1.4s					
FETA	**Feichten**	**148.97**	**355**	PKP	**PKPbc**	**06 42 10.6**	**+0.5**
	comp=Z,4.4nm,1.3s					
ABTA	**Abfaltersbach**	**149.04**	**352**	*e*PKP	**PKPbc**	**06 42 10.4**	**+0.2**
	comp=Z,3.0nm,0.6s					

---

*IDC **26** 06:28:28.4±1.7, 22°.53N×142°.21E, h215km±15km, mb3.5/11, mbtmp4.1/12, Error ellipse: s-maj=25.5km s-min=12.1km az=88.0*
ISC 26 06:28:32.7±0.8, 22°.68N±0°.10×142°.2E±0°.2, h260km, n13, σ1°95/13, mb3.6/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.40**	**360**	P	Pn	06 29 38.6	-3.0
	63nm,0.7s,baz=285,slow=22,SNR=5.8						
JCJ				S	**S**	**06 30 32.0**	**-4.5**
	90nm,0.3s,baz=277,slow=22,SNR=16						
WRA	**Warramunga Arr**	**43.05**	**191**	P	**P**	**06 36 05.8**	**-1.6**
	1.7nm,0.7s,baz=6.2,slow=7.8,SNR=33						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**46.77**	**190**	P	**P**	**06 36 35.0**	**-1.5**
	0.4nm,0.6s,baz=16,slow=11,SNR=11						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**53.37**	**312**	P	**P**	**06 37 26.6**	**+0.9**
	0.4nm,0.5s,baz=87,slow=8.5,SNR=4.7						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**54.25**	**181**	P	**P**	**06 37 30.8**	**-1.3**
	0.7nm,0.4s,baz=319,slow=9.3,SNR=2.9						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**56.19**	**317**	P	**P**	**06 37 46.8**	**+1.1**
	0.6nm,0.3s,baz=97,slow=7.4,SNR=5.1						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**61.34**	**319**	P	**P**	**06 38 22.6**	**+1.6**
	1.3nm,0.3s,baz=90,slow=5.2,SNR=5.3						
	1.3nm,0.3s						
ILAR	**Eielson Array**	**61.59**	**27**	P	**P**	**06 38 23.4**	**+0.9**
	0.6nm,0.8s,baz=252,slow=6.6,SNR=5.2						
	0.6nm,0.8s						
ARCES	**ARCESS Array B**	**77.71**	**341**	P	**P**	**06 40 02.3**	**+1.8**
	1.7nm,0.8s,baz=81,slow=7.9,SNR=1.7						
	1.7nm,0.8s						
FINES	**FINESS Array B**	**81.91**	**334**	P	**P**	**06 40 23.4**	**+0.4**
	1.8nm,0.3s,baz=60,slow=4.7,SNR=28						
	1.8nm,0.3s						
NVAR	**Mina Array Bea**	**83.24**	**51**	P	**P**	**06 40 31.9**	**+1.2**
	1.0nm,0.6s,baz=288,slow=5.7,SNR=12						
	1.0nm,0.6s						
HFS	**Hagfors**	**87.47**	**337**	P	**P**	**06 40 50.2**	**-0.6**
	3.2nm,0.8s,baz=182,slow=31,SNR=1.9						
	3.2nm,0.8s						
LPAZ	**La Paz**	**150.74**	**83**	PKPbc	**PKiKP**	**06 47 56.9**	**+0.6**
	1.0nm,0.6s,baz=303,slow=4.4,SNR=7.3						

---

*PRE **26** 06:33:55.6±0.8, 22°.59S×24°.83E, h5km, ML3.0*
*EAF **26** 06:34:02.1, 22°.57S×25°.34E, h10km, MC3.9*
*BUL **26** 06:34:03.6±1.5, 22°.66S×25°.54E, h10km, MD4.2*
ISC 26 06:33:55.0±1.3, 22°.57S±0°.07×24°.87E±0°.07, h10km, n31, σ2°58/56, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.53**	**165**	*i* P	**Pb**	**06 34 41.5**	**+0.9**
LBTB				*i* S	**Sb**	**06 35 10.7**	**-1.2**
LBTB	**Lobatse**	**2.53**	**165**	*e*P	**Pn**	**06 34 38.3**	**+2.0**
LBTB				*e*S	**Sn**	**06 35 09.5**	**+2.3**
LBTB				IAML		06 35 21.8
	comp=Z,88nm,0.3s					
LBTB	**Lobatse**	**2.53**	**165**	*i* P	**Pb**	**06 34 41.5**	**+0.9**
	baz=175						
LBTB				*i* S	**Sb**	**06 35 10.7**	**-1.2**
	baz=175						
LEPH	**Lephalale, Lim**	**2.99**	**116**	*e*P	**Pn**	**06 34 44.7**	**+2.1**
LEPH				*e*S	**Sn**	**06 35 19.9**	**+1.3**
LEPH				IAML		06 35 42.3
	comp=Z,101nm,0.3s					
KSR	**Koster**	**3.76**	**151**	*e*P	**Pn**	**06 34 55.5**	**+2.2**
KSR				*e*S	**Sn**	**06 35 38.7**	**+1.0**
KSR				IAML		06 35 56.9
	comp=Z,245nm,0.3s					
SLR	**Silverton**	**4.44**	**136**	*e*P	**Pn**	**06 35 05.5**	**+3.0**
SLR				*e*S	**Sn**	**06 35 54.6**	**+0.2**
SLR				IAML		06 36 21.7
	comp=Z,28nm,0.4s					
SWZ	**Schweizer**	**4.62**	**175**	*e*P	**Pn**	**06 35 06.8**	**+1.8**
SWZ				*e*S	**Sn**	**06 35 58.7**	**-0.1**
SWZ				IAML		06 36 31.6
	comp=Z,41nm,0.3s					
MUSN	**Musina, Limpop**	**4.63**	**88**	*i* P	**Pn**	**06 35 05.6**	**+0.5**
MUSN				*i* S	Sn	06 35 49.6	-9.4
MUSN	**Musina, Limpop**	**4.63**	**88**	*e*P	**Pn**	**06 35 08.2**	**+3.1**
MUSN				*e*S	**Sn**	**06 35 59.9**	**+1.0**
MUSN				IAML		06 36 25.7
	comp=Z,34nm,0.5s					
MUSN	**Musina, Limpop**	**4.63**	**88**	*i* P	**Pn**	**06 35 05.6**	**+0.5**
	baz=87						
MUSN				*i* S	Sn	06 35 49.6	-9.4
	baz=87						
PRYS	**Parys**	**4.90**	**153**	*e*P	**Pn**	**06 35 11.7**	**+2.8**
PRYS				*e*S	**Sn**	**06 36 05.9**	**+0.2**
PRYS				IAML		06 36 33.0
	comp=Z,63nm,0.5s					
PILG	**Pilgrimsrest,**	**5.85**	**115**	*e*P	**Pn**	**06 35 24.5**	**+2.5**
PILG				*e*S	**Sn**	**06 36 28.7**	**-0.6**
PILG				IAML		06 37 01.0
	comp=Z,30nm,0.4s					
BOSA	**Boshof**	**6.03**	**177**	*i* P	Pn	06 35 30.1	+5.6
BOSA				*i* S	**Sn**	**06 36 35.0**	**+1.2**
BOSA	**Boshof**	**6.03**	**177**	*e*P	**Pn**	**06 35 26.2**	**+1.7**
BOSA				*e*S	**Sn**	**06 36 32.4**	**-1.3**
BOSA				IAML		06 37 15.4
	comp=Z,31nm,0.5s					
BOSA	**Boshof**	**6.03**	**177**	*i* P	Pn	06 35 30.1	+5.6
	baz=181						
BOSA				*i* S	**Sn**	**06 36 35.0**	**+1.2**
	baz=181						
MOPA	**Mopani**	**6.09**	**100**	*i* P	**Pn**	**06 35 28.0**	**+2.8**
MOPA				*i* S	**Sn**	**06 36 30.1**	**-4.8**
MOPA	**Mopani**	**6.09**	**100**	*i* P	**Pn**	**06 35 28.0**	**+2.8**
	baz=101						
MOPA				*i* S	**Sn**	**06 36 30.1**	**-4.8**
	baz=101						
SNKL	**Senekal, Frees**	**6.26**	**156**	*e*P	**Pn**	**06 35 30.1**	**+2.4**
SNKL				*e*S	**Sn**	**06 36 38.6**	**-0.8**
SNKL				IAML		06 37 16.5
	comp=Z,75nm,0.4s					
UPI	**Upington**	**6.63**	**209**	*e*P	**Pn**	**06 35 34.0**	**+1.4**
UPI				*e*S	**Sn**	**06 36 46.0**	**-2.4**
UPI				IAML		06 37 36.8
	comp=Z,16nm,0.7s					
KEIM	**Keimoes**	**7.05**	**209**	*e*P	**Pn**	**06 35 39.3**	**+0.9**
KEIM				*e*S	**Sn**	**06 36 56.6**	**-2.1**
KEIM				IAML		06 37 49.5
	comp=Z,16nm,0.7s					
KRI	**Karoi**	**7.25**	**39**	*i* P	**Pn**	**06 35 42.1**	**+0.8**
KRI				*i* S	Sn	06 36 54.3	-9.4
KRI	**Karoi**	**7.25**	**39**	*i* P	**Pn**	**06 35 42.1**	**+0.8**
	baz=41						
KRI				*i* S	Sn	06 36 54.3	-9.4
	baz=41						
CHIPN	**CHIPINGE**	**7.61**	**74**	*i* P	**Pn**	**06 35 48.2**	**+2.0**
CHIPN				*i* S	**Sn**	**06 37 07.2**	**-5.4**
CHIPN	**CHIPINGE**	**7.61**	**74**	*i* P	**Pn**	**06 35 48.2**	**+2.0**
	baz=75						
CHIPN				*i* S	**Sn**	**06 37 07.2**	**-5.4**
	baz=75						
KSTD	**Kokstad**	**8.95**	**155**	*e*P	**Pn**	**06 36 06.7**	**+2.2**
KSTD				*e*S	**Sn**	**06 37 42.5**	**-3.1**
KSTD				IAML		06 38 44.2
	comp=Z,8.0nm,0.5s					
BFON	**Badsfontein, M**	**9.26**	**186**	*e*P	**Pn**	**06 36 11.0**	**+2.3**
BFON				*e*S	**Sn**	**06 37 49.4**	**-3.7**
BFON				IAML		06 38 34.7
	comp=Z,8.7nm,0.4s					
BRAK	**Brakfontein**	**9.35**	**190**	*e*P	**Pn**	**06 36 11.9**	**+2.0**
BRAK				*e*S	**Sn**	**06 37 51.1**	**-4.1**
BRAK				IAML		06 38 25.9
	comp=Z,6.0nm,0.3s					
GRAF	**Camdeboo Natio**	**9.68**	**182**	*e*P	**Pn**	**06 36 16.9**	**+2.3**
GRAF				*e*S	**Sn**	**06 37 60.0**	**-3.5**
GRAF				IAML		06 38 23.4
	comp=Z,5.3nm,0.5s					
FRAZ	**Fraserburg**	**9.82**	**198**	*e*P	**Pn**	**06 36 18.3**	**+1.8**
FRAZ				*e*S	**Sn**	**06 38 03.2**	**-3.7**
FRAZ				IAML		06 38 22.0
	comp=Z,3.7nm,0.3s					
CVNA	**Calvinia**	**9.98**	**206**	*e*P	**Pn**	**06 36 20.7**	**+2.1**
CVNA				*e*S	**Sn**	**06 38 06.7**	**-4.1**
CVNA				IAML		06 39 21.9
	comp=Z,11nm,0.5s					
SUR	**Sutherland**	**10.42**	**199**	*e*P	**Pn**	**06 36 26.9**	**+2.2**
SUR				*e*S	**Sn**	**06 38 17.2**	**-4.4**
SUR				IAML		06 38 28.2
	comp=Z,1.8nm,0.6s					

---

*IDC **26** 06:35:23.8±1.0, 5°.58N×146°.60E, h0km, mb3.8/9, mbtmp3.8/10, ML4.1/1, Error ellipse: s-maj=35.1km s-min=21.6km az=100.0*
ISC 26 06:35:29.5±1.0, 5°.73N±0°.10×146°.5E±0°.2, h35km, n14, σ1°45/12, mb3.8/9, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.97**	**349**	Pn	**Pn**	**06 37 22.6**	**-0.4**
	2.7nm,0.3s,baz=9.1,slow=18,SNR=1.7						
GUMO				Sn	**Sn**	**06 38 50.0**	**-2.1**
	6.1nm,0.3s,baz=223,slow=18,SNR=2.1						
	49nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**23.45**	**55**	T	T	07 05 10.2
	baz=242						
H11S2	**WA

PAMC	**Pamplona, Colo**	**3.36 205**	*e*P	**Pb**	**06 37 30.5**	**-1.8**
PAMC			*e*S	**Sb**	**06 38 12.7**	**-0.3**
PAMC			*i*		06 38 15.8	
	comp=Z,3.4nm,0.3s					
BAUV	**El Baul**	**3.52 114**	*e*P	**Pn**	**06 37 28.7**	**+1.9**
BAUV			*e*S	**Sn**	**06 38 05.2**	**-2.8**
SJCC	**San Jacinto, C**	**3.87 263**	*e*P	**Pn**	**06 37 31.6**	**-0.1**
SJCC			*e*S	**Sn**	**06 38 17.6**	**+0.9**

ROM 26 07:16:12.7±0.1, 42°.802N±0°.007×11°.800E±0°.003, h8km, Md0.7/3, ML0.6/13, Error ellipse: s-maj=0.8km s-min=0.1km az=168.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCIV	**Monte Civitell**	**0.09**	**256**	P	Pg	07 16 15.3	+0.3
MCIV				S	Sg	07 16 17.1	+0.5
MCIV				AML	AML		
	comp=N,67μm,0.4s						
MCIV				AML	AML		
	comp=E,100μm,1.0s						
MCIV				AML	AML		
	comp=N,67μm,1.6s						
MCIV				END			
SACS	**San Casciano d**	**0.09**	**60**	P	Pg	07 16 15.1	+0.1
SACS				S	Sg	07 16 17.2	+0.6
SACS				AML	AML		
	comp=N,55μm,1.0s						
SACS				AML	AML		
	comp=E,45μm,0.1s						
SACS				AML	AML		
	comp=N,29μm,0.2s						
SACS				AML	AML		
	comp=E,76μm,1.4s						
SACS				END			
SF04	**Casetta**	**0.11**	**288**	P	Pg	07 16 15.7	+0.5
SF04				S	Sg	07 16 17.6	+0.7
SF04				AML	AML		
	comp=N,70μm,0.1s						
SF04				AML	AML		
	comp=E,194μm,0.0s						
SF04				END			
ARCI	**Arcidosso**	**0.24**	**282**	P	Pg	07 16 18.3	+0.8
ARCI				S	Sg	07 16 22.2	+1.3
ARCI				AML	AML		
	comp=N,17μm,0.4s						
ARCI				AML	AML		
	comp=E,27μm,0.2s						
MGAB	**Montegabbione**	**0.26**	**64**	P	Pg	07 16 18.5	+0.7
MGAB				S	Sb	07 16 22.9	-1.4
MGAB				AML	AML		
	comp=N,20μm,0.1s						
MGAB				AML	AML		
	comp=E,17μm,0.0s						
MGAB				AML	AML		
	comp=N,13μm,0.1s						
MGAB				AML	AML		
	comp=E,17μm,0.1s						

ROM 26 07:16:47.0±0.1, 42°.795N±0°.006×11°.803E±0°.005, h7km, ML2.5/44, Error ellipse: s-maj=0.7km s-min=0.2km az=346.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SF03	**Valle Cupa**	**0.09**	**275**	P	Pg	07 16 49.7	+0.5
SF03				S	Sg	07 16 51.2	+0.5
MCIV	**Monte Civitell**	**0.10**	**260**	P	Pg	07 16 49.7	+0.4
MCIV				S	Sg	07 16 51.5	+0.7
MCIV				AML	AML		
	comp=E,9155μm,0.9s						
MCIV				AML	AML		
	comp=E,9155μm,1.1s						
MCIV				AML	AML		
	comp=N,5170μm,0.3s						
MCIV				AML	AML		
	comp=E,8494μm,0.3s						
SACS	**San Casciano d**	**0.10**	**56**	P	Pg	07 16 49.8	+0.5
SACS				S	Sg	07 16 51.7	+0.8
SACS				AML	AML		
	comp=E,5360μm,0.3s						
SACS				AML	AML		
	comp=N,3630μm,1.0s						
SACS				AML	AML		
	comp=N,3790μm,0.3s						
SACS				AML	AML		
	comp=E,5530μm,0.4s						
SACS				AML	AML		
	comp=N,3787μm,0.3s						
SACS				AML	AML		
	comp=N,3547μm,0.3s						
SF04	**Casetta**	**0.11**	**291**	P	Pg	07 16 50.1	+0.6
SF04				S	Sg	07 16 51.9	+0.6
SF04				AML	AML		
	comp=N,7175μm,0.8s						
SF04				AML	AML		
	comp=E,14850μm,0.2s						
SF04				AML	AML		
	comp=N,6377μm,0.1s						
SF11	**Podere del Sol**	**0.12**	**309**	P	Pg	07 16 50.0	+0.4
SF11				S	Sg	07 16 52.2	+0.8
SF13	**Bagnolo**	**0.14**	**280**	P	Pg	07 16 50.5	+0.6
SF13				S	Sg	07 16 52.7	+0.7
SF14	**Selvena**	**0.14**	**254**	P	Pg	07 16 50.1	+0.1
SF14				S	Sg	07 16 52.4	+0.3
SF01	**Poggio Pratacc**	**0.18**	**275**	P	Pg	07 16 51.3	+0.7
SF01				S	Sg	07 16 53.8	+0.7
SF01				AML	AML		
	comp=E,6280μm,0.5s						
SF01				AML	AML		
	comp=N,4775μm,0.9s						
SF01				AML	AML		
	comp=E,6280μm,1.5s						
SF01				AML	AML		
	comp=N,4775μm,1.1s						
SF01				AML	AML		
	comp=E,4538μm,0.4s						
SF01				AML	AML		
	comp=N,4681μm,0.4s						
ARCI	**Arcidosso**	**0.25**	**283**	P	Pg	07 16 52.7	+0.8
ARCI				S	Sg	07 16 56.6	+1.3
ARCI				AML	AML		
	comp=E,1965μm,0.2s						
ARCI				AML	AML		
	comp=N,1435μm,0.3s						
MGAB	**Montegabbione**	**0.26**	**63**	P	Pg	07 16 52.5	+0.4
MGAB				S	Sb	07 16 57.2	-1.4
MGAB				AML	AML		
	comp=E,1585μm,0.3s						
MGAB				AML	AML		
	comp=N,1310μm,0.2s						
MGAB				AML	AML		
	comp=N,1205μm,0.2s						
MGAB				AML	AML		
	comp=E,1710μm,0.3s						
CAFI	**Castiglion Fio**	**0.55**	**13**	P	Pg	07 16 57.9	+0.4
CAFI				S	Sb	07 17 06.4	-0.6
CAFI				AML	AML		
	comp=E,458μm,0.3s						
CAFI				AML	AML		
	comp=N,306μm,0.5s						
CAFI				AML	AML		
	comp=N,294μm,0.5s						
CAFI				AML	AML		
	comp=N,306μm,0.5s						
CAFI				AML	AML		
	comp=E,439μm,0.3s						
MOMA	**Monte Martano**	**0.56**	**89**	P	Pg	07 16 58.1	+0.2
MOMA				AML	AML		
	comp=E,429μm,1.2s						
MOMA				AML	AML		
	comp=N,312μm,0.4s						
MOMA				AML	AML		
	comp=E,429μm,0.8s						
MOMA				AML	AML		
	comp=E,374μm,0.2s						
ATTE	**AVT- Monte Tez**	**0.57**	**45**	P	Pg	07 16 58.1	+0.1
ATTE				S	Sb	07 17 07.0	-0.7
ATTE				AML	AML		
	comp=N,967μm,0.8s						
ATTE				AML	AML		
	comp=N,967μm,1.2s						
ATTE				AML	AML		
	comp=E,708μm,1.4s						
ATTE				AML	AML		
	comp=E,559μm,0.3s						
ATTE				AML	AML		
	comp=N,848μm,0.2s						
RIBO	**Ribolla Roccas**	**0.58**	**286**	P	Pb	07 16 59.0	-0.4
ATMI	**Monte Miggiano**	**0.64**	**32**	P	Pg	07 16 59.4	+0.1
ATMI				AML	AML		
	comp=N,1165μm,0.3s						
ATMI				AML	AML		
	comp=E,915μm,0.2s						
CASP	**Castiglione de**	**0.69**	**270**	P	Pb	07 17 00.8	-0.5
CASP				AML	AML		
	comp=E,97μm,0.6s						
CASP				AML	AML		
	comp=N,124μm,0.9s						
CASP				AML	AML		
	comp=N,124μm,1.1s						
CASP				AML	AML		
	comp=E,97μm,1.4s						
CASP				AML	AML		
	comp=N,98μm,0.4s						
CASP				AML	AML		
	comp=E,97μm,0.6s						
MURB	**Monte Urbino**	**0.71**	**48**	P	Pg	07 17 00.9	+0.3
MURB				AML	AML		
	comp=E,1790μm,0.3s						
MURB				AML	AML		
	comp=N,1845μm,1.4s						
MURB				AML	AML		
	comp=N,1795μm,1.4s						
MURB				AML	AML		
	comp=N,1795μm,0.6s						
MURB				AML	AML		
	comp=N,1845μm,0.6s						
MURB				AML	AML		
	comp=E,2090μm,0.3s						
MURB				AML	AML		
	comp=N,1779μm,0.3s						
MURB				AML	AML		
	comp=N,1730μm,0.3s						
ATCC	**AVT- Casa Cast**	**0.73**	**57**	P	Pg	07 17 01.3	+0.3
ATCC				AML	AML		
	comp=E,714μm,1.0s						
ATCC				AML	AML		
	comp=N,484μm,0.4s						
ATCC				AML	AML		
	comp=N,485μm,0.4s						
ATCC				AML	AML		
	comp=E,675μm,0.7s						
TRIF	**Trifonti**	**0.73**	**296**	P	Pb	07 17 01.8	-0.3
TRIF				AML	AML		
	comp=N,76μm,1.0s						
TRIF				AML	AML		
	comp=E,83μm,0.3s						
TRIF				AML	AML		
	comp=N,68μm,0.4s						
ATVO	**AVT- Monte Val**	**0.73**	**37**	P	Pg	07 17 01.2	+0.1
ATVO				AML	AML		
	comp=E,527μm,0.7s						
ATVO				AML	AML		
	comp=N,334μm,0.7s						
ATVO				AML	AML		
	comp=N,334μm,1.3s						
ATVO				AML	AML		
	comp=E,527μm,1.3s						
ATVO				AML	AML		
	comp=N,304μm,0.5s						
ATVO				AML	AML		
	comp=E,527μm,0.7s						
TOLF	**Tolfa**	**0.74**	**169**	P	Pb	07 17 01.9	-0.4
SRES	**S.Oreste - Sor**	**0.76**	**137**	P	Pb	07 17 02.6	0.0
CSNT	**Castellina Chi**	**0.77**	**331**	P	Pb	07 17 02.5	-0.3
CSNT				AML	AML		
	comp=N,49μm,1.2s						
CSNT				AML	AML		
	comp=N,49μm,0.8s						
CSNT				AML	AML		
	comp=E,36μm,0.3s						
CSNT				AML	AML		
	comp=N,39μm,0.2s						
ATPI	**Pietralunga -**	**0.79**	**34**	P	Pb	07 17 02.6	-0.4
ATPI				AML	AML		
	comp=N,236μm,0.4s						
ATPI				AML	AML		
	comp=E,225μm,0.5s						
PARC	**Parchiule**	**0.91**	**20**	P	Pb	07 17 05.0	-0.2
PARC				AML	AML		
	comp=N,176μm,0.9s						
PARC				AML	AML		
	comp=E,138μm,0.4s						
PARC				AML	AML		
	comp=N,175μm,0.4s						
PARC				AML	AML		
	comp=E,138μm,0.4s						
PIEI	**Pieia**	**0.91**	**36**	P	Pg	07 17 04.6	+0.1
PIEI				AML	AML		
	comp=N,93μm,0.7s						
PIEI				AML	AML		
	comp=E,162μm,0.3s						
VIVA	**Pratoni del Vi**	**1.27**	**145**	AML	AML		
VIVA				AML	AML		
	comp=N,308μm,0.5s						
VIVA				AML	AML		
	comp=E,396μm,0.1s						

IDC 26 07:23:34.4±2.4, 54°.01N×86°.48E, h0km, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=19.6km s-min=12.0km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**267**	I	I	07 29 29.7	
	baz=84,slow=345,SNR=4.3						
ZALV	**Zalesovo Beam**	**0.98**	**267**	Pg	Pg	07 23 51.9	-1.3
	1.1nm,0.3s,baz=86,slow=17,SNR=5.9						
ZALV				Lg	Lg	07 24 07.2	
	2.4nm,0.3s,baz=88,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**5.94**	**238**	Pn	Pn	07 25 04.4	+0.9
	0.1nm,0.3s,baz=56,slow=14,SNR=9.9						
KURBB				Lg	Lg	07 26 43.3	
	0.1nm,0.3s,baz=59,slow=32,SNR=2.4						
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**7.71**	**202**	Pn	Pn	07 25 28.8	+1.0
	0.1nm,0.3s,baz=24,slow=14,SNR=9.1						
MKAR				Lg	Lg	07 27 39.0	
	0.1nm,0.3s,baz=18,slow=24,SNR=2.9						
	0.3nm,0.2s						

*NNC **26** 07:27:57.9±0.3, 50°.04N×78°.62E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=6.1km s-min=2.1km az=88.0, Suspected Mining explosion.*
*IDC **26** 07:27:58.2±0.8, 50°.05N×78°.80E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=14.5km s-min=6.1km az=58.0.*
ISC 26 07:27:57.0±0.9, 49°.91N±0°.03×78°.55E±0°.05, h0km, n20, σ2°.21/25, 7C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.71**	**359**	Pg	**Pg**	**07 28 09.4**	**-1.3**
	1.8nm,0.3s,baz=166,slow=19,SNR=21						
KURBB				Lg	Lg	07 28 18.5	
	2.1nm,0.3s,baz=171,slow=32,SNR=6.6						
KURK	**Kurchatov**	**0.81**	**3**	⇑P	**Pg**	**07 28 10.5**	**-2.0**
	6.1nm,0.4s						
KURK				⇓S	**Sg**	**07 28 21.0**	**-2.0**
	60nm,0.8s						
MAKZ	**Makanchi**	**3.85**	**142**	⇑Pn	**Pn**	**07 29 00.8**	**+3.2**
	2.9nm,0.7s						
MAKZ				⇑Lg	Lg	07 30 01.3	
	14nm,0.7s						
MK31	**Makanchi Array**	**3.99**	**140**	Pn	**Pn**	**07 29 01.1**	**+1.7**
	0.1nm,0.1s,baz=320,slow=11,SNR=26						
MK31				⇑Pg	**Pg**	**07 29 12.8**	**-0.7**
	0.4nm,0.3s,baz=311,slow=15,SNR=5.3						
MK31				⇑Lg	Lg	07 30 05.0	
	14nm,0.6s,baz=332,slow=24						
MKAR	**Makanchi Array**	**3.99**	**140**	Pn	**Pn**	**07 29 01.3**	**+1.8**
	0.2nm,0.3s,baz=321,slow=9.9,SNR=24						
MKAR				Pg	**Pb**	**07 29 07.4**	**-0.8**
	0.3nm,0.3s,baz=319,slow=13,SNR=10						
MKAR				Sn	**Sn**	**07 29 49.0**	**+2.0**
	0.4nm,0.3s,baz=345,slow=21,SNR=5.4						
MKAR				Lg	Lg	07 30 00.8	
	1.6nm,0.3s,baz=329,slow=30,SNR=18						
	0.2nm,0.2s						

OTUK	**Ortayu**	**4.41**	**250**	⇓Pn	**Pn**	**07 29 08.2**	**+3.0**
	0.9nm,0.3s						
OTUK				⇑Pg	**Pg**	**07 29 19.8**	**-1.7**
	1.6nm,0.7s						
OTUK				⇑Lg	Lg	07 30 19.9	
	9.2nm,1.1s						
KNOS	**Konyrlen**	**5.57**	**175**	Pg	**Pg**	**07 29 41.5**	**-2.2**
	2.6nm,0.4s						
KNOS				Lg	Lg	07 30 57.5	
	4.8nm,0.4s						
ZALV	**Zalesovo Beam**	**5.60**	**41**	Pn	**Pn**	**07 29 21.7**	**+0.1**
	0.4nm,0.3s,baz=232,slow=14,SNR=4.3						
	1.3nm,0.3s						
I46RU	**ZALESOVO INFRA**	**5.60**	**41**	I	I	08 00 20.0	
	baz=222,slow=324,SNR=1.4						
DJR	**Jarkent**	**5.64**	**171**	Pg	**Pg**	**07 29 42.0**	**-3.2**
	1.1nm,0.2s						
DJR				Lg	Lg	07 30 57.6	
	6.2nm,0.4s						
ARXS	**Arharly**	**5.72**	**185**	Pg	**Pg**	**07 29 44.8**	**-1.8**
	1.8nm,0.5s						
ARXS				Lg	Lg	07 31 03.2	
	15nm,0.4s						
BLB	**Baldybastay**	**5.81**	**181**	Pg	**Pg**	**07 29 46.7**	**-1.8**
	2.7nm,0.3s						
BLB				Lg	Lg	07 31 06.7	
	18nm,0.6s						
BVAR	**Borovoye Array**	**5.98**	**305**	Pn	**Pn**	**07 29 27.7**	**+0.9**
	baz=218,slow=43,SNR=1.6						
BVAR				Sn	**Sn**	**07 30 37.4**	**+1.6**
	0.1nm,0.3s,baz=110,slow=23,SNR=14						
BVAR				Lg	Lg	07 31 05.4	
	baz=124,slow=29,SNR=1.5						
	0.2nm,0.3s						
CHKK	**Chushkaly**	**6.15**	**191**	Pg	**Pg**	**07 29 53.5**	**-1.3**
	0.9nm,0.1s						
CHKK				Lg	Lg	07 31 18.2	
	9.2nm,0.3s						
KUU	**Kurty**	**6.21**	**195**	Pg	**Pg**	**07 29 53.1**	**-2.8**
	1.1nm,0.3s						
KUU				Lg	Lg	07 31 17.6	
	6.4nm,0.3s						
KTBS	**Karatobe**	**6.33**	**192**	Pg	**Pg**	**07 29 56.3**	**-2.0**
	1.4nm,0.5s						
KTBS				Lg	Lg	07 31 22.6	
	12nm,0.4s						
KURS	**Kuram**	**6.43**	**182**	Pg	**Pg**	**07 29 58.0**	**-2.2**
	4.2nm,0.6s						
KURS				Lg	Lg	07 31 25.5	
	7.1nm,0.5s						
KPKS	**Kokpek**	**6.45**	**179**	Pg	**Pg**	**07 29 57.9**	**-2.6**
	2.2nm,0.3s						
KPKS				Lg	Lg	07 31 25.3	
	14nm,0.4s						
PDGK	**Podgornoye**	**6.61**	**174**	Pg	**Pg**	**07 30 01.6**	**-2.2**
	0.7nm,0.4s						
PDGK				Lg	Lg	07 31 31.0	
	2.6nm,0.5s						
DGS	**Degeres**	**6.94**	**197**	Pg	**Pg**	**07 30 07.0**	**-2.9**
	2.1nm,0.3s						
DGS				Lg	Lg	07 31 41.1	
	9.7nm,0.2s						

IDC 26 07:34:28.6±4.2, 10°.30N×126°.58E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=331.7km s-min=29.3km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.01**	**166**	P	P	07 40 47.8	-0.3
	0.4nm,0.8s,baz=346,slow=9.7,SNR=2.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**34.51**	**168**	P	P	07 41 18.9	+0.1
	0.2nm,0.5s,baz=354,slow=6.6,SNR=9.4						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**52.19**	**323**	P	P	07 43 41.1	-0.1
	0.7nm,0.8s,baz=111,slow=7.9,SNR=3.6						
	0.7nm,0.8s						

*EAF **26** 07:34:47.0, 21°.60S×33°.56E, h10km, MC3.3*
BUL 26 07:34:45.9±0.6, 21°.67S×33°.63E, h10km, MD3.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIPN	**CHIPINGE**	**1.70**	**327**	*i* P	Pn	07 35 10.1	-5.6
CHIPN	**CHIPINGE**	**1.70**	**327**	*i* P	Pn	07 35 10.1	-5.6
	baz=336						
MOPA	**Mopani**	**2.76**	**228**	*i* P	Pn	07 35 30.5	+0.3
MOPA				*i* S	Sn	07 36 04.2	+0.5
MOPA	**Mopani**	**2.76**	**228**	*i* P	Pn	07 35 30.5	+0.3
	baz=226						
MOPA				*i* S	Sn	07 36 04.2	+0.5
	baz=226						
MUSN	**Musina, Limpop**	**3.55**	**259**	*i* P	Pn	07 35 40.6	-0.5
MUSN				*i* S	Sn	07 36 20.7	-2.5
MUSN	**Musina, Limpop**	**3.55**	**259**	*i* P	Pn	07 35 40.6	-0.5
	baz=258						
MUSN				*i* S	Sn	07 36 20.7	-2.5
	baz=258						

*KRNET **26** 07:51:25.1±0.1, 40°.68N×78°.60E, mb2.8*
*SOME **26** 07:51:29.4, 40°.77N×78°.37E, h15km*
*NNC **26** 07:51:32.8±1.0, 40°.94N×78°.37E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=6.8km s-min=5.0km az=160.0*
ISC 26 07:51:29.0±2.2, 40°.79N±0°.09×78°.38E±0°.05, h2km±13km, n56, σ1°.47/65, 22C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.03**	**335**	⇑*e*P	**Pb**	**07 51 48.3**	**-1.6**
	baz=31						
TARG				⇑*e*S	**Sn**	**07 52 05.2**	**-1.0**
	baz=31						
PRZ	**Przheval'sk**	**1.69**	**1**	⇑*e*P	**Pn**	**07 51 59.3**	**-0.5**
	baz=55						
PRZ				⇑*e*S	**Sg**	**07 52 23.8**	**+0.4**
	baz=55						
NRN	**Naryn**	**1.91**	**290**	⇓*e*P	**Pb**	**07 52 03.8**	**-1.0**
	baz=91						
NRN				⇓*e*S	**Sg**	**07 52 32.0**	**+1.7**
	baz=91						
ANVS	**Anan'yevo**	**2.06**	**345**	⇑*e*P	**Pn**	**07 52 05.3**	**+0.4**
	baz=42						
ANVS				⇑*e*S	**Sg**	**07 52 34.7**	**-0.6**
	baz=42						
ULHL	**Ulahol**	**2.17**	**313**	⇓*e*P	**Pb**	**07 52 07.3**	**-1.8**
	baz=12						
ULHL				⇓*e*S	**Sg**	**07 52 38.1**	**-0.5**
	baz=12						
SATY	**Saty**	**2.27**	**1**	Pg	**Pg**	**07 52 12.0**	**-0.5**
	8.2nm,0.2s						
SATY				Lg	Lg	07 52 42.7	
	24nm,0.2s						
SATY	**Saty**	**2.27**	**1**	*e*Pg	**Pg**	**07 52 12.0**	**-0.5**
	8.2nm,0.2s						
SATY				*e*Lg	Lg	07 52 42.7	
	24nm,0.2s						
ZHN	**Zhinishke**	**2.38**	**1**	Pg	**Pb**	**07 52 12.9**	**+0.2**
	4.8nm,0.2s						
ZHN				Lg	Lg	07 52 44.0	
	46nm,0.2s						
ZHN	**Zhinishke**	**2.38**	**1**	*e*Pg	**Pb**	**07 52 12.8**	**+0.2**
	4.8nm,0.2s						
ZHN				*e*Lg	Lg	07 52 44.0	
	46nm,0.2s						
UZB	**Uzynbulak**	**2.40**	**11**	Pg	**Pb**	**07 52 13.8**	**+0.6**
	6.5nm,0.4s						
UZB				Lg	Lg	07 52 45.6	
	31nm,0.2s						
UZB	**Uzynbulak**	**2.40**	**11**	*e*Pg	**Pb**	**07 52 13.8**	**+0.6**
	6.5nm,0.4s						
UZB				*e*Lg	Lg	07 52 45.6	
	31nm,0.2s						
TNSS	**Tian-Shan**	**2.49**	**335**	Pg	**Pb**	**07 52 15.5**	**+0.9**
	19nm,0.2s						
TNSS				Lg	Lg	07 52 48.9	
	11nm,0.3s						
TNSS	**Tian-Shan**	**2.49**	**335**	*e*Pg	**Pb**	**07 52 15.6**	**+0.9**
	19nm,0.2s						
TNSS				*e*Lg	Lg	07 52 48.9	
	11nm,0.3s						
BOOM	**Boomskoye usch**	**2.50**	**314**	⇑*e*P	**Pn**	**07 52 11.9**	**+1.1**
	baz=13						
BOOM				⇑*e*S	**Sb**	**07 52 46.0**	**+0.1**

baz=13
SHLS Shalkode 2.50 19 Pg Pg 07 52 18.0 +1.1
15nm,0.1s
SHLS Lg Lg 07 52 52.9
39nm,0.2s
SHLS Shalkode 2.50 19 *e*Pg Pg 07 52 18.0 +1.1
15nm,0.1s
SHLS *e*Lg Lg 07 52 53.0
39nm,0.2s
MDOK Medeo 2.57 338 Pg Pb 07 52 16.7 +0.7
23nm,0.4s
MDOK Lg Lg 07 52 50.5
20nm,0.5s
MDOK Medeo 2.57 338 *e*Pg Pb 07 52 16.6 +0.7
23nm,0.4s
MDOK *e*Lg Lg 07 52 50.5
20nm,0.5s
IZV Izvestkoviy 2.60 330 Pg Pb 07 52 17.2 +0.7
11nm,0.3s
IZV Lg Lg 07 52 51.7
24nm,0.3s
IZV Izvestkoviy 2.60 330 *e*Pg Pb 07 52 17.2 +0.7
11nm,0.3s
IZV *e*Lg Lg 07 52 51.7
24nm,0.3s
KOTS Kotyrbulak 2.62 339 Pg Pb 07 52 17.7 +0.9
9.5nm,0.2s
KOTS Lg Lg 07 52 52.4
24nm,0.2s
KOTS Kotyrbulak 2.62 339 *e*Pg Pb 07 52 17.7 +0.9
9.5nm,0.2s
KOTS *e*Lg Lg 07 52 52.4
24nm,0.2s
PDGK Podgornoye 2.67 18 Pg Pb 07 52 18.7 +1.0
2.4nm,0.2s
PDGK Lg Lg 07 52 54.0
10nm,0.4s
PDGK Podgornoye 2.67 18 ⇑Pn Pb 07 52 15.4 -2.2
3.3nm,0.5s
PDGK ⇑Lg Lg 07 52 52.2
31nm,0.9s
KPKS Kokpek 2.68 5 Pg Pb 07 52 18.3 +0.4
9.9nm,0.2s
KPKS Lg Lg 07 52 53.6
38nm,0.2s
KPKS Kokpek 2.68 5 *e*Pg Pb 07 52 18.3 +0.4
9.9nm,0.2s
KPKS *e*Lg Lg 07 52 53.6
38nm,0.2s
KURS Kuram 2.70 357 Pg Pb 07 52 19.1 +1.0
6.2nm,0.6s
KURS Lg Lg 07 52 54.9
13nm,0.8s
KURS Kuram 2.70 357 *e*Pg Pb 07 52 19.1 +1.0
6.2nm,0.6s
KURS *e*Lg Lg 07 52 54.9
13nm,0.8s
MTBS Maitube 2.75 329 Pg Pb 07 52 19.8 +0.8
7.0nm,0.2s
MTBS Lg Lg 07 52 56.0
20nm,0.2s
MTBS Maitube 2.75 329 *e*Pg Pb 07 52 19.8 +0.8
7.0nm,0.2s
MTBS *e*Lg Lg 07 52 56.0
20nm,0.2s
KST Kastek 2.88 322 Pg Pb 07 52 22.4 +1.2
7.5nm,0.6s
KST Lg Lg 07 53 00.9
19nm,0.3s
KST Kastek 2.88 322 *e*Pg Pb 07 52 22.4 +1.2
7.5nm,0.6s
KST *e*Lg Lg 07 53 00.9
19nm,0.3s
TKM2 Tokmak 2 2.98 317 ⇑Pn Pb 07 52 21.2 -1.7
2.3nm,0.5s
TKM2 ⇑Lg Lg 07 53 06.0
8.5nm,0.5s
TKM2 Tokmak 2 2.98 317⇑*e*P Pn 07 52 18.5 +1.0
baz=16
TKM2 ⇑*e*S **Sb 07 52 57.5 -2.3**
baz=16
KTMS Ketmen 3.03 28 Pg Pg 07 52 26.0 -1.2
1.1nm,0.1s
KTMS Lg Lg 07 53 06.5
6.8nm,0.2s
KTMS Ketmen 3.03 28 *e*Pg Pg 07 52 26.0 -1.2
1.1nm,0.1s
KTMS *e*Lg Lg 07 53 06.5
6.8nm,0.2s
DGS Degeres 3.13 322 Pg Pb 07 52 26.4 +1.0
5.1nm,0.2s
DGS Lg Lg 07 53 07.3
20nm,0.2s
DGS Degeres 3.13 322 *e*Pg Pb 07 52 26.4 +1.0
5.1nm,0.2s
DGS *e*Lg Lg 07 53 07.3
20nm,0.2s
KTBS Karatobe 3.18 337 Pg Pb 07 52 27.4 +1.1
5.3nm,0.4s
KTBS Lg Lg 07 53 09.0
13nm,0.2s
KTBS Karatobe 3.18 337 *e*Pg Pb 07 52 27.4 +1.1
5.3nm,0.4s
KTBS *e*Lg Lg 07 53 08.9
13nm,0.2s
CHKK Chushkaly 3.23 342 Pg Pb 07 52 28.4 +1.2
3.5nm,0.1s
CHKK Lg Lg 07 53 10.7
17nm,0.3s
CHKK Chushkaly 3.23 342 *e*Pg Pb 07 52 28.4 +1.2
3.5nm,0.1s
CHKK *e*Lg Lg 07 53 10.7
17nm,0.3s
ARLS Aral 3.24 291⇑*e*P Pn 07 52 21.9 +0.9
baz=92
ARLS ⇑*e*S **Sb 07 53 03.5 -3.7**
baz=92
BLB Baldybastay 3.31 1 Pg Pb 07 52 29.9 +1.4
6.6nm,0.2s
BLB Lg Lg 07 53 13.5
5.4nm,0.4s
AAK Ala-Archa 3.44 304⇑*e*P Pn 07 52 25.1 +1.2
baz=4.0
AAK ⇑*e*S **Sb 07 53 08.8 -4.4**
baz=4.0
ARXS Arharly 3.44 353 Pg Pb 07 52 32.8 +1.9
3.3nm,0.2s
ARXS Lg Lg 07 53 18.4
8.6nm,0.3s
ARXS Arharly 3.44 353 *e*Pg Pb 07 52 32.8 +1.9
3.3nm,0.2s
ARXS *e*Lg Lg 07 53 18.4
8.6nm,0.3s
KUU Kurty 3.45 335 Pg Pb 07 52 32.7 +1.8
1.8nm,0.2s
KUU Lg Lg 07 53 18.2
7.2nm,0.2s
KUU Kurty 3.45 335 *e*Pg Pb 07 52 32.7 +1.8
1.8nm,0.2s
KUU *e*Lg Lg 07 53 18.2
7.2nm,0.2s
KRBS Karabastau 3.53 326 Pg Pb 07 52 33.7 +1.5
2.7nm,0.2s
KRBS Lg Lg 07 53 20.1
6.0nm,0.4s
KRBS Karabastau 3.53 326 *e*Pg Pb 07 52 33.7 +1.5
2.7nm,0.2s
KRBS *e*Lg Lg 07 53 20.1
6.0nm,0.4s
KNOS Konyrlen 3.62 9 Lg Lg 07 53 23.2
5.5nm,0.7s
AML Almayashu 3.77 292 ⇑Pn Pb 07 52 35.4 -1.1
0.1nm,0.3s
AML ⇑Lg Lg 07 53 33.3
0.8nm,0.6s
EKS2 Erkin-Say 3.92 300⇑*e*P Pn 07 52 31.6 +1.2
baz=0.0
EKS2 ⇑*e*S **Sn 07 53 20.1 +3.1**
baz=0.0
MRKS Merke 4.32 299 Pg Pb 07 52 48.0 +2.3
3.2nm,0.2s
MRKS Merke 4.32 299 *e*Pg Pb 07 52 48.0 +2.3
3.2nm,0.2s
MRKS *e*Lg Lg 07 53 44.6
4.4nm,0.4s

AUST 26 07:51:37.7±1.7, 30°.46S×117°.71E, h10km, Error ellipse:
s-maj=16.8km s-min=11.5km az=69.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLDU	**Ballidu**	**0.88**	**260**	P	Pb	07 51 54.9	-0.1
	baz=0.9						
BLDU				S	Sb	07 52 07.3	+0.5
	baz=0.9						
BLDU	**Ballidu**	**0.88**	**260**	P	Pb	07 51 54.9	-0.1
	baz=0.9						
BLDU				S	Sb	07 52 07.0	+0.2
	baz=0.9						
KLBR	**Kellerberrin**	**1.13**	**178**	P	Pn	07 51 59.5	-0.1
	baz=1.2						
KLBR				S	Sg	07 52 14.6	+0.5
	baz=1.2						
KLBR	**Kellerberrin**	**1.13**	**178**	P	Pn	07 51 59.5	-0.1
	baz=1.1						
KLBR				S	Sg	07 52 14.4	+0.3
	baz=1.1						
MUN	**Mundaring**	**1.99**	**220**	P	Pn	07 52 12.2	+0.8
	baz=2.0						
MORW	**Morawa**	**2.01**	**313**	P	Pn	07 52 10.9	-0.8
	baz=2.0						
MORW				S	Sn	07 52 36.8	0.0
	baz=2.0						
MORW	**Morawa**	**2.01**	**313**	P	Pn	07 52 10.9	-0.8
	baz=2.0						
MORW				S	Sn	07 52 36.7	-0.1
	baz=2.0						
KMBL	**Kambalda**	**3.70**	**105**	P	Pn	07 52 33.0	-1.9
	baz=3.7						
MEEK	**Meekatharra**	**3.89**	**12**	P	Pn	07 52 36.5	-1.1
	baz=3.9						
FORT	**Forrest**	**8.92**	**95**	P	Pn	07 53 45.4	-1.3
	baz=8.9						
FORT				S	Sn	07 55 19.9	-7.4
	baz=8.9						

*IDC **26** 07:59:29.6±0.4, 10°.08N×73°.64W, h89km±3km, mb4.2/27, mbtmp4.5/29, MS3.2/17, Error ellipse: s-maj=10.9km s-min=7.3km az=36.0*
*RSNC **26** 07:59:30.4±0.9, 10°.23N×73°.63W, h97km±6km, ML4.8, Mw4.9, Fault plane solution: NP1:φs79.00000°, δ65.00000°, λ16.00000°.*
*NEIC **26** 07:59:30.3±1.6, 10°.14N±0°.05×73°.56W±0°.07, h86km±8km, mb4.8/47, Error ellipse: s-maj=10.4km s-min=6.6km az=113.0*
*VAO **26** 07:59:32.1±0.4, 9°.82N×73°.64W, h93km±2km, mb4.7*
ISC 26 07:59:29.8±0.3, 10°.20N±0°.03×73°.59W±0°.03, h87km±2km, h87km:pP-P, n530, σ1§45/590, mb4.7/59, 10C-13D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARGC	**Ariguani, Magd**	**0.73**	**242**	⇓*i*P	**Pn**	**07 59 47.9**	**+1.6**
ARGC				*e*S	**Sn**	**08 00 00.4**	**+1.7**
ARGC				*i*		08 00 05.2	
	comp=Z,9μm,0.3s						
CRJC	**Cerrejon, Guaj**	**1.07**	**41**	⇓*i*P	**Pn**	**07 59 51.4**	**+1.1**
CRJC				*e*S	**Sn**	**08 00 06.5**	**+0.9**
CRJC				*i*		08 00 08.4	
	comp=Z,37μm,0.3s						
SMRC	**Santa Marta, M**	**1.14**	**327**	*e*P	**Pn**	**07 59 51.3**	**+0.3**
SMRC				*e*S	**Sn**	**08 00 07.0**	**+0.2**
SMRC				*i*		08 00 11.4	
	comp=Z,6μm,0.4s						
SJCC	**San Jacinto, C**	**1.59**	**259**	⇓*i*P	**Pn**	**07 59 57.3**	**+0.7**
SJCC				*e*S	**Sn**	**08 00 17.8**	**+0.9**
SJCC				*i*		08 00 20.2	
	comp=Z,7μm,0.4s						
URIC	**Uribia, Colomb**	**2.17**	**46**	⇓*e*P	**Pn**	**08 00 05.2**	**+1.0**
URIC				*e*S	**Sn**	**08 00 31.0**	**+0.6**
URIC				*i*		08 00 36.2	
	comp=Z,5μm,0.2s						
ZARC	**Zaragoza, Cauc**	**2.97**	**205**	⇓*e*P	**Pn**	**08 00 14.8**	**-0.1**
ZARC				*e*S	**Sn**	**08 00 49.6**	**0.0**
ZARC				*i*		08 00 59.3	
	comp=Z,5μm,0.5s						
PAMC	**Pamplona, Colo**	**2.98**	**163**	⇑*i*P	**Pn**	**08 00 16.9**	**+1.5**
PAMC				*e*S	**Sn**	**08 00 52.4**	**+1.9**
PAMC				*i*		08 01 01.6	
	comp=Z,2μm,0.4s						
LCBC	**Los crdobas,**	**3.04**	**244**	*e*P	**Pn**	**08 00 15.7**	**-0.2**
LCBC				*e*S	**Sn**	**08 00 47.2**	**-4.2**
LCBC				*i*		08 00 55.4	
	comp=Z,2μm,0.6s						
BRRC	**Barranca, Sant**	**3.08**	**182**	⇓*i*P	**Pn**	**08 00 17.2**	**+0.8**
BRRC				*e*S	**Sn**	**08 00 53.7**	**+1.6**
BRRC				*i*		08 01 01.7	
	comp=Z,2μm,0.4s						
UREC	**San Jos de Ur**	**3.10**	**218**	⇓*e*P	**Pn**	**08 00 15.9**	**-0.7**
UREC				*e*S	**Sn**	**08 00 51.0**	**-1.7**
UREC				*i*		08 01 06.5	
	comp=Z,2μm,0.3s						
SDV	**Santo Domingo**	**3.20**	**114**		**Pn**	**08 00 19.6**	**+1.5**
SDV	**Santo Domingo**	**3.20**	**114**	⇑*i*P	**Pn**	**08 00 20.0**	**+1.9**
SDV				*e*S	**Sn**	**08 00 56.0**	**+0.6**
SDV				*i*		08 00 57.2	
	comp=Z,4μm,0.4s						
SDV	**Santo Domingo**	**3.20**	**114**	*e*P	**Pn**	**08 00 20.1**	**+1.9**
SDV	**Santo Domingo**	**3.20**	**114**	P	**Pn**	**08 00 19.9**	**+1.7**
	comp=Z,2μm,0.3s,baz=293,slow=5.9,SNR=758						
SDV				S	**Sn**	**08 00 56.2**	**+0.8**
	comp=Z,4μm,0.4s,baz=353,slow=17,SNR=39						
SDV				LR	LR	08 01 31.3	
	comp=Z,178nm,18.9s,baz=278,slow=38						
BARC	**Barichara**	**3.61**	**173**	⇓*i*P	**Pn**	**08 00 25.0**	**+1.3**
BARC				*i*		08 01 12.8	
	comp=Z,3μm,0.4s						
APAC	**Apartado, Choc**	**3.73**	**232**	⇓*e*P	**Pn**	**08 00 25.1**	**-0.1**
APAC				*i*		08 01 39.8	
	comp=Z,536nm,0.5s						
PTBC	**PUERTO BERRIO,**	**3.73**	**193**	*e*P	**Pn**	**08 00 25.7**	**+0.4**
PTBC				*e*S	**Sn**	**08 01 09.3**	**+1.1**
PTBC				*i*		08 01 24.1	
	comp=Z,920nm,0.5s						
TAMC	**Tame, Arauca**	**4.14**	**154**	⇑*i*P	**Pn**	**08 00 32.2**	**+1.4**
TAMC				*e*S	**Sn**	**08 01 19.4**	**+1.3**
TAMC				*i*		08 01 20.6	
	comp=Z,1μm,0.4s						
RUSC	**La Rusia**	**4.31**	**173**	*e*P	**Pn**	**08 00 33.9**	**+0.4**
RUSC				*e*S	**Sn**	**08 01 25.9**	**+3.0**
RUSC				*i*		08 01 50.4	
	comp=Z,659nm,0.6s						
MEDEC	**Medelln, Ant**	**4.37**	**207**	*e*P	**Pn**	**08 00 34.1**	**+0.1**
MEDEC				*e*S	**Sn**	**08 01 23.2**	**-0.7**
SPBC	**San Pablo de B**	**4.54**	**186**	*e*P	**Pn**	**08 00 36.6**	**+0.3**
SPBC				*e*S	**Sn**	**08 01 27.8**	**-0.1**
SPBC				*i*		08 01 43.6	
	comp=Z,776nm,0.5s						
NORC	**Norcasia**	**4.78**	**195**	*e*P	**Pn**	**08 00 39.2**	**-0.3**
NORC				*e*S	**Sn**	**08 01 35.0**	**+1.4**
NORC				*i*		08 01 45.2	
	comp=Z,1μm,0.5s						
HATO	**Hato, Curacao**	**4.96**	**66**		**Pn**	**08 00 42.6**	**+0.8**
GUY2C	**Guyana, Caldas**	**5.25**	**200**	*e*P	**Pn**	**08 00 47.5**	**+1.3**
GUY2C				*e*S	**Sn**	**08 01 46.8**	**+1.1**
GUY2C				*i*		08 02 08.8	
	comp=Z,1μm,0.6s						
ROSC	**El Rosal**	**5.37**	**188**	Pn	**Pn**	**08 00 49.8**	**+1.9**
ROSC	**El Rosal**	**5.37**	**188**	*e*P	**Pn**	**08 00 50.0**	**+2.1**
ROSC				*e*S	**Sn**	**08 01 52.9**	**+4.2**
ROSC				*i*		08 02 10.7	
	comp=Z,683nm,0.7s						
ROSC	**El Rosal**	**5.37**	**188**	P	**Pn**	**08 00 50.0**	**+2.1**
	comp=Z,616nm,0.5s,baz=84,slow=3.3,SNR=76						
ROSC				S	**Sn**	**08 01 46.8**	**-1.9**
	comp=Z,292nm,0.5s,baz=146,slow=21,SNR=1.7						
NIZA	**Niza - Manizal**	**5.44**	**200**	*e*P	**Pn**	**08 00 52.6**	**+3.9**
NIZA				*e*S	**Sn**	**08 01 50.5**	**+0.4**
CMAN1	**Manizales, Cal**	**5.44**	**201**	*e*P	Pn	08 00 52.7	+4.0
SOLC	**Bahia Solano**	**5.46**	**224**	*e*P	**Pn**	**08 00 49.4**	**+0.7**
SOLC				*e*S	**Sn**	**08 01 48.6**	**-1.7**
CHIC	**Chingaza**	**5.54**	**181**	*e*P	**Pn**	**08 00 51.9**	**+1.8**
CHIC				*e*S	**Sn**	**08 01 57.8**	**+5.2**
CHIC				*i*		08 02 06.4	
	comp=Z,471nm,0.6s						
BAUV	**El Baul**	**5.62**	**102**	Pn	**Pn**	**08 00 50.5**	**-0.3**
BAUV	**El Baul**	**5.62**	**102**	*e*P	**Pn**	**08 00 50.9**	**+0.1**
PLMC	**San Jos del P**	**5.90**	**207**	⇓*e*P	**Pn**	**08 00 56.2**	**+1.4**
PLMC				*i*		08 02 36.7	
	comp=Z,346nm,0.6s						
ARMEC	**Armenia, Quind**	**5.97**	**200**	*e*P	**Pn**	**08 00 58.3**	**+2.4**
PTGC	**Puerto Gaitan,**	**6.13**	**166**	*e*P	**Pn**	**08 00 57.5**	**-0.4**
PTGC				*e*S	**Sn**	**08 02 04.5**	**-2.3**
PTGC				*i*		08 02 14.2	
	comp=Z,593nm,0.5s						
BCIP	**Isla Barro Col**	**6.24**	**261**	Pn	**Pn**	**08 00 58.4**	**-1.0**
BCIP	**Isla Barro Col**	**6.24**	**261**	*e*P	**Pn**	**08 00 58.3**	**-1.0**
BCIP				*e*S	**Sn**	**08 02 04.0**	**-5.3**
BCIP				*i*		08 02 09.9	
	comp=Z,392nm,0.4s						
ORTC	**Ortega, Tolima**	**6.46**	**195**	*e*P	**Pn**	**08 01 03.2**	**+0.8**
ORTC				*i*		08 02 50.5	
	comp=Z,467nm,0.6s						
PRAC	**Prado**	**6.57**	**191**	*e*P	**Pn**	**08 01 05.0**	**+1.1**
PRAC				*i*		08 02 50.5	
	comp=Z,551nm,0.7s						
YOTC	**Yotoco, Valle**	**6.75**	**204**	*e*P	**Pn**	**08 01 07.4**	**+0.9**
YOTC				*e*S	**Sn**	**08 02 19.0**	**-3.0**
JAMC	**Jamundi, Valle**	**7.58**	**204**	*e*P	**Pn**	**08 01 18.0**	**+0.1**
JAMC				*e*S	**Sn**	**08 02 41.0**	**-1.4**
JAMC				*i*		08 03 03.6	
	comp=Z,63nm,0.5s						
GUVC	**San Jose del G**	**7.67**	**173**	*e*P	**Pn**	**08 01 19.0**	**+0.2**
GUVC				*e*S	**Sn**	**08 02 41.7**	**-2.4**
GUVC				*i*		08 02 48.5	
	comp=Z,515nm,0.9s						
BETC	**Betania**	**7.69**	**194**	*e*P	**Pn**	**08 01 19.8**	**+0.6**
BETC				*i*		08 03 22.8	
	comp=Z,160nm,0.4s						
MACC	**Macarena, Meta**	**8.01**	**182**	*e*P	**Pn**	**08 01 22.7**	**-0.8**
GARC	**Garzon, Huila**	**8.18**	**193**	*e*P	**Pn**	**08 01 26.1**	**0.0**
GARC				*e*S	**Sn**	**08 02 57.0**	**-0.1**
GARC				*i*		08 03 07.0	
	comp=Z,88nm,0.4s						
POPC	**Popayan, Colom**	**8.20**	**202**	*e*P	**Pn**	**08 01 26.1**	**-0.3**
POPC				*e*S	**Sn**	**08 02 55.0**	**-2.5**
PRVC	**Isla de Provid**	**8.23**	**293**	*e*P	**Pn**	**08 01 23.0**	**-3.6**
PRVC				*e*S	Sn	08 02 49.3	-8.7
HOJ	**Hope**	**8.34**	**339**	*i* P	**Pn**	**08 01 29.2**	**+1.2**
PAPH	**Port-au-Prince**	**8.37**	**8**		**Pn**	**08 01 28.5**	**+0.2**
GWJ	**Greenwich**	**8.40**	**339**	*i* P	**Pn**	**08 01 30.3**	**+1.5**
GWJ				*i* P		08 01 32.3	
STH	**Stony Hill**	**8.43**	**339**	*i* P	**Pn**	**08 01 30.1**	**+0.9**
STH				*i* S	**Sn**	**08 02 55.4**	**-7.4**
FLOC	**Florencia**	**8.80**	**194**	*e*P	**Pn**	**08 01 33.7**	**-0.7**
FLOC				*e*S	**Sn**	**08 03 16.0**	**+4.1**
FLOC				*i*		08 03 25.4	
	comp=Z,63nm,0.6s						
PCRV	**Puerto La Cruz**	**8.82**	**89**	P	**Pn**	**08 01 36.5**	**+2.0**
	comp=Z,205nm,0.3s,baz=290,slow=2.6,SNR=300						
PCRV				S	**Sn**	**08 03 11.5**	**-0.8**
	comp=Z,40nm,0.5s,baz=266,slow=12,SNR=1.3						
PCRV				LR	LR	08 06 11.6	
	comp=Z,215nm,20.1s,slow=45						
MTDJ	**Mount Denham**	**8.85**	**335**		**Pn**	**08 01 35.6**	**+0.6**
MTDJ	**Mount Denham**	**8.85**	**335**	*e*P	**Pn**	**08 01 35.0**	**+0.1**
MTDJ				*e*S	**Sn**	**08 03 05.4**	**-7.6**
MTDJ				*i*		08 03 21.4	
	comp=Z,188nm,0.8s						
BBAC	**Balboa, Cauca**	**8.90**	**204**	*e*P	**Pn**	**08 01 35.3**	**-0.5**
BBAC				*e*S	**Sn**	**08 03 08.2**	**-6.3**
SDDR	**Presa de Saban**	**9.01**	**14**	Pn	**Pn**	**08 01 38.4**	**+1.2**
SDDR	**Presa de Saban**	**9.01**	**14**	*e*P	**Pn**	**08 01 39.0**	**+1.8**
SDDR				*e*S	**Sn**	**08 03 10.5**	**-6.5**
SDDR				*i*		08 03 23.0	
	comp=Z,144nm,0.5s						
CRUC	**La Cruz**	**9.20**	**201**	*e*P	**Pn**	**08 01 40.2**	**+0.1**
CDITO	**Canoas**	**9.30**	**261**		**Pn**	**08 01 42.0**	**+1.0**
BATAN	**Batan**	**9.63**	**270**		**Pn**	**08 01 44.7**	**-0.9**
GTBY	**Guantanamo Bay**	**9.78**	**352**		**Pn**	**08 01 48.5**	**+0.9**
GTBY	**Guantanamo Bay**	**9.78**	**352**	*e*P	**Pn**	**08 01 49.1**	**+1.5**
GTBY				*i*		08 03 45.9	
	comp=Z,18nm,0.6s						
TULM	**Tulcn-Chalpat**	**10.30**	**204**		**Pn**	**08 01 55.4**	**+0.2**
TULM	**Tulcn-Chalpat**	**10.30**	**204**	*e*P	**Pn**	**08 01 55.8**	**+0.6**
HDC	**Heredia**	**10.36**	**270**		**Pn**	**08 01 54.6**	**-1.1**
HDC	**Heredia**	**10.36**	**270**	*e*P	**Pn**	**08 01 56.1**	**+0.4**
SJG	**San Juan**	**10.67**	**42**		**Pn**	**08 01 56.1**	**-3.7**
SJG	**San Juan**	**10.67**	**42**	*e*P	**Pn**	**08 01 55.7**	**-4.0**
SJG				*i*		08 03 54.6	
	comp=Z,26nm,0.1s						
JACO	**JACO, Garabito**	**10.91**	**268**	Pn	**Pn**	**08 02 03.9**	**+0.8**
OTAV	**Otavalo**	**11.01**	**206**	Pn	**Pn**	**08 02 04.3**	**-0.6**
OTAV	**Otavalo**	**11.01**	**206**	*e*P	**Pn**	**08 02 04.7**	**-0.2**
OTAV	**Otavalo**	**11.01**	**206**	*e*P	**Pn**	**08 02 02.1**	**-2.8**
OTAV				*e*S	**Sn**	**08 04 01.0**	**-5.5**
JTS	**Las Juntas de**	**11.18**	**271**	Pn	**Pn**	**08 02 06.6**	**-0.1**
JTS	**Las Juntas de**	**11.18**	**271**	*e*P	**Pn**	**08 02 06.8**	**+0.1**
JTS	**Las Juntas de**	**11.18**	**271**	P	**Pn**	**08 02 05.7**	**-1.1**
	comp=Z,8.3nm,0.4s,baz=356,slow=6.8,SNR=13						
JTS				S	Sn	08 03 59.7	-10
	comp=Z,30nm,0.8s,baz=120,slow=7.5,SNR=4.0						
GRGR	**Grenville**	**11.87**	**80**	Pn	**Pn**	**08 02 13.4**	**-2.7**
GRGR	**Grenville**	**11.87**	**80**	*e*P	**Pn**	**08 02 13.5**	**-2.6**
GRHS	**Sauteurs**	**11.90**	**79**	*e*P	**Pn**	**08 02 13.7**	**-2.7**
SLOR	**San Lorenzo -**	**11.90**	**204**		**Pn**	**08 02 16.9**	**-0.1**
TRN	**Trinidad (W)**	**12.00**	**87**	*e*P	**Pn**	**08 02 13.5**	**-4.3**
PIAT	**Ana Tenorio**	**12.05**	**203**	*e*P	**Pn**	**08 02 20.4**	**+1.6**
GCMP	**Grenada, Carri**	**12.15**	**78**	*e*P	**Pn**	**08 02 15.4**	**-4.4**
SGCB	**SEo Gabriel d**	**12.16**	**147**	*e*P	**Pn**	**08 02 16.7**	**-3.2**
SVB	**Belmont**	**12.46**	**75**	*e*P	Pn	08 02 18.8	-5.3
SVOC	**Richmond Hill,**	**12.47**	**75**	*e*P	Pn	08 02 18.6	-5.5
CHSH	**Refugio Sur-Vo**	**12.75**	**205**	Pn	**Pn**	**08 02 31.2**	**+2.8**
SLB	**Belfond**	**12.80**	**72**	*e*P	**Pn**	**08 02 27.5**	**-1.0**
MBFL	**Flemmings, Mon**	**12.84**	**58**	*e*P	**Pn**	**08 02 24.7**	**-4.4**
MLYT	**Lee's Yard**	**12.84**	**58**	*e*P	**Pn**	**08 02 25.2**	**-4.0**
SLBI	**Saint Lucia, B**	**12.91**	**72**	*e*P	Pn	08 02 24.7	-5.3
FDF	**Fort de France**	**12.96**	**68**	Pn	Pn	08 02 25.0	-5.7
SVN	**Savane Anatole**	**12.98**	**68**	*e*P	Pn	08 02 25.7	-5.2
CBE	**Ff, Capester**	**13.05**	**62**	Pn	**Pn**	**08 02 28.7**	**-3.2**
MAGL	**Barre de l'ile**	**13.28**	**63**	*e*P	**Pn**	**08 02 30.8**	**-4.1**
ANBD	**Bethesda, Anti**	**13.36**	**58**	*e*P	Pn	08 02 30.1	-5.8
TBTG	**Tabatinga, AM**	**14.76**	**165**		**Pn**	**08 02 52.9**	**-1.2**
TBTG	**Tabatinga, AM**	**14.76**	**165**	*e*P	**Pn**	**08 02 51.5**	**-2.6**
BOAV	**Boa Vista**	**15.12**	**120**	Pn	**Pn**	**08 02 58.3**	**-0.5**
BOAV	**Boa Vista**	**15.12**	**120**	*e*P	**Pn**	**08 02 58.6**	**-0.2**
SOR	**Soroa**	**15.43**	**325**		**Pn**	**08 03 03.0**	**+0.4**
MCRA	**Macar, Loja**	**15.80**	**204**	Pn	**Pn**	**08 03 05.8**	**-1.5**
MCRA	**Macar, Loja**	**15.80**	**204**	*e*P	**Pn**	**08 03 05.4**	**-2.0**
TEFE	**Tefe**	**16.28**	**146**	*e*P	**Pn**	**08 03 11.7**	**-1.7**
TEIG	**Tepich**	**17.31**	**307**	P	**Pn**	**08 03 26.3**	**+0.4**
TEIG	**Tepich**	**17.31**	**307**	*e*P	**P**	**08 03 28.0**	**+1.9**
TEIG	**Tepich**	**17.31**	**307**	P	**Pn**	**08 03 26.0**	**+0.1**
	comp=Z,225nm,0.8s,baz=319,slow=2.4,SNR=8.6						
TEIG				LR	LR	08 09 43.0	
	comp=Z,250nm,21.4s,baz=12,slow=35						
CZSB	**Cruzeiro do Su**	**17.83**	**177**	P	**P**	**08 03 30.7**	**-1.3**
CZSB	**Cruzeiro do Su**	**17.83**	**177**	*e*P	**P**	**08 03 30.6**	**-1.3**
ATAH	**Atahualpa**	**17.87**	**196**	P	**P**	**08 03 31.8**	**-1.0**
	comp=Z,17nm,0.7s,baz=20,slow=5.6,SNR=14						
HUEH	**Huehuetenango**	**18.19**	**288**	P	**P**	**08 03 35.5**	**-0.6**
ETMB	**Extrema**	**21.20**	**160**	P	**P**	**08 04 06.5**	**-2.0**
ETMB	**Extrema**	**21.20**	**160**	*e*P	**P**	**08 04 05.7**	**-2.7**
ETMB				*e*pP	**pP**	**08 04 23.1**	**-3.1**
MDP	**Montagnes des**	**21.37**	**102**	P	**P**	**08 04 10.4**	**+0.1**
	comp=Z,9.1nm,0.9s,baz=125,slow=14,SNR=2.1						
MDP				LR	LR	08 13 37.1	
	comp=Z,50nm,18.8s,baz=347,slow=40						
	comp=Z,9.1nm,0.9s						
SAML	**Samuel**	**21.66**	**151**	P	**P**	**08 04 12.3**	**-1.1**
SAML	**Samuel**	**21.66**	**151**	*e*P	**P**	**08 04 11.8**	**-1.6**
CMIG	**Matias Romero**	**21.78**	**291**	P	**P**	**08 04 12.8**	**-1.9**
	comp=Z,4.5nm,0.5s,baz=132,slow=17,SNR=3.5						
CMIG				LR	LR	08 12 59.8	
	comp=Z,49nm,21.2s,baz=74,slow=37						
	comp=Z,4.5nm,0.5s						
NNA	**Nana**	**22.28**	**188**	LR	LR	08 14 51.8	
	comp=Z,51nm,18.8s,baz=7.0,slow=42						
MALB	**Monte Alegre**	**22.66**	**121**	*e*P	**P**	**08 04 24.7**	**+0.6**
MALB				*e*pP	**pP**	**08 04 42.9**	**+1.1**
ITTB	**Itaituba**	**22.93**	**128**	*e*P	**P**	**08 04 25.3**	**-1.6**
ITTB				*e*pP	**pP**	**08 04 46.1**	**+1.2**

GOGA Godfrey 24.82 340 P P 08 04 44.6 +0.8
GOGA Godfrey 24.82 340 P P 08 04 46.1 +2.2
baz=156,SNR=6.1
NPGB Novo Progresso 24.97 133 eP P 08 04 45.1 -0.4
NPGB epP pP 08 05 03.7 -1.8
JSC Jenkinsville 24.98 345 P P 08 04 45.8 +0.4
JSC IAmb IAmb 08 04 47.8
comp=Z,37nm,1.0s
HODGE Hodges 25.20 343 P P 08 04 48.4 +1.0
HODGE IAmb IAmb 08 04 49.9
comp=Z,53nm,1.5s
Z51A Franklin 25.36 337 P P 08 04 50.1 +1.3
Z51A IAmb IAmb 08 04 51.6
comp=Z,36nm,0.7s
PAULI Pauline 25.63 344 P P 08 04 52.5 +1.3
PAULI IAmb IAmb 08 04 53.4
comp=Z,16nm,0.6s
KMSC Kings Mountain 25.81 345 P P 08 04 54.6 +1.7
baz=162
LRAL Lakeview Retre 25.86 333 P P 08 04 54.7 +1.4
LRAL Lakeview Retre 25.86 333 P P 08 04 55.2 +1.9
baz=149,SNR=6.2
Y49A Blount Mountai 26.32 335 P P 08 04 58.5 +1.0
Z47A Carrollton 26.48 332 P P 08 05 00.4 +1.5
Z47A IAmb IAmb 08 05 05.0
comp=Z,26nm,0.8s
W52A Murphy 26.51 341 P P 08 05 00.2 +0.9
W52A IAmb IAmb 08 05 02.1
comp=Z,19nm,0.9s
VILB Vilhena 26.57 150 eP P 08 04 59.1 -0.9
VILB epP pP 08 05 21.0 +1.2
LPAZ La Paz 26.87 168 P P 08 05 02.2 -1.0
comp=Z,3.7nm,0.4s,baz=316,slow=7.3,SNR=22
LPAZ LR LR 08 17 50.1
comp=Z,7.6nm,18.6s,baz=344,slow=41
comp=Z,3.7nm,0.4s
T59A Double "B" Far 26.89 353 P P 08 05 03.1 +0.5
VBMS Vicksburg 26.92 327 P P 08 05 04.5 +1.6
baz=141
TKL Tuckaleechee C 26.98 342 P P 08 05 04.7 +1.2
TKL Tuckaleechee C 26.98 342 LR LR 08 16 29.9
comp=Z,87nm,19.9s,baz=171,slow=38
CPCT Cooper Cave 27.03 340 P P 08 05 05.2 +1.3
X48A Hartselle 27.10 335 P P 08 05 05.6 +1.2
U54A Nelsons Funny 27.24 345 P P 08 05 07.0 +1.1
U54A IAmb IAmb 08 05 08.6
comp=Z,35nm,1.1s
V51A Loudon 27.30 341 P P 08 05 07.7 +1.4
PDRB Porto dos Gac 27.40 142 epP pP 08 05 26.9 -0.4
CLDB Colider 27.41 139 eP P 08 05 07.7 +0.2
CLDB epP pP 08 05 26.9 -0.6
BLA Blacksburg 27.59 348 P P 08 05 10.8 +1.9
baz=165
TZTN Tazewell 27.73 343 P P 08 05 11.3 +1.1
TZTN IAmb IAmb 08 05 27.3
comp=Z,65nm,2.0s
TZTN Tazewell 27.73 343 P P 08 05 12.0 +1.9
baz=159
PLAL Pickwick Lake 27.99 334 P P 08 05 13.5 +1.1
PLAL IAmb IAmb 08 05 14.7
comp=Z,14nm,0.7s
OXF Oxford 28.19 332 P P 08 05 15.9 +1.7
baz=146
TMAB Tom-Au,PA,Br 28.29 115 eP P 08 05 16.2 +0.8
PRPB Paraúapebas 28.73 123 eP P 08 05 19.8 +0.6
PRPB epP pP 08 05 39.7 +0.3
SIV San Ignacio 28.82 154 LR LR 08 17 40.9
comp=Z,77nm,18.2s,baz=52,slow=38
HBVL Hebbronville 28.99 309 P P 08 05 21.5 +0.1
HBVL IAmb IAmb 08 05 23.1
comp=Z,19nm,1.1s
NATX Nacogdoches 29.00 321 P P 08 05 23.0 +1.7
baz=133
PTLB Pontes e Lacer 29.23 150 epP pP 08 05 43.7 +0.1
T47A Sharon Grove 29.33 338 P P 08 05 25.2 +0.9
T47A IAmb IAmb 08 05 26.1
comp=Z,16nm,0.6s
R50A Paris 29.57 343 P P 08 05 27.8 +1.3
R50A IAmb IAmb 08 05 29.5
comp=Z,21nm,1.1s
GNAR Gosnell 29.67 332 P P 08 05 28.3 +1.0
MCWV Mont Chateau 29.86 350 P P 08 05 31.2 +2.2
baz=168
GO01 Chusmiza 29.99 172 P P 08 05 28.4 -2.4
BBSD Serra de San D 30.09 155 epP pP 08 05 50.8 -0.4
WCI Wyandotte Cave 30.15 340 P P 08 05 33.1 +1.5
baz=155
WCI Wyandotte Cave 30.15 340 P P 08 05 32.9 +1.4
WCI PcP PcP 08 08 31.6 +0.6
833A Chaparral WMA, 30.19 310 P P 08 05 32.4 +0.4
baz=122
435B Jarrell 30.28 316 P P 08 05 34.4 +1.6
baz=128
P52A Corning 30.28 347 P P 08 05 33.7 +1.0
P52A IAmb IAmb 08 05 35.3
comp=Z,22nm,0.8s
P52A Corning 30.28 347 P P 08 05 34.5 +1.9
baz=163,SNR=8.7
MIAR Mount Ida 30.35 326 P P 08 05 34.4 +1.0
baz=138
SSPA Standing Stone 30.55 354 P P 08 05 37.2 +2.2
baz=172
SSPA Standing Stone 30.55 354 P P 08 05 36.9 +1.8
CGM3 Cape Girardeau 30.62 334 P P 08 05 35.7 0.0
O53A New Philadelph 30.68 349 P P 08 05 38.4 +2.2
baz=165
P49A Miami Univ. Ec 30.85 343 P P 08 05 39.4 +1.7
baz=158
WHTX Lake Whitney, 30.94 318 P P 08 05 39.8 +1.2
baz=129,SNR=5.3
ACSO Alum Creek Sta 31.05 346 P P 08 05 41.4 +2.0
baz=162
FVM French Village 31.53 334 P P 08 05 44.4 +0.7
O48B Farmland 31.64 343 P P 08 05 45.7 +1.0
baz=158
JCT Junction City 31.65 313 P P 08 05 45.8 +0.9
baz=124
BINY Binghamton 31.94 357 P P 08 05 49.2 +1.9
baz=176
CCM Cathedral Cave 31.95 333 P P 08 05 48.4 +1.0
baz=146
CCM Cathedral Cave 31.95 333 P P 08 05 48.2 +0.8
CCM PcP PcP 08 08 35.8 +0.1
SMTB Santa Maria do 32.07 125 eP P 08 05 48.5 -0.2
SMTB epP pP 08 06 10.0 +0.9
SFIN Lafayette 32.35 341 P P 08 05 52.0 +1.1
baz=155
P43A Skaggs, Pawnee 32.57 337 P P 08 05 53.4 +0.6
TUL3 Leonard 32.58 325 P P 08 05 53.2 +0.3
baz=136
ABTX Abilene, Hawle 32.78 317 P P 08 05 55.8 +1.0
baz=127,SNR=7.1
LVC Limon Verde 32.93 172 P P 08 05 54.5 -1.9
comp=Z,1.2nm,0.4s,baz=195,slow=9.7,SNR=1.7
comp=Z,1.2nm,0.4s
AAM Ann Arbor 33.17 346 P P 08 06 00.4 +2.4
baz=162
OK052 Battle Ridge R 33.21 324 P P 08 05 58.8 +0.3
P40A Paris 33.52 334 P P 08 06 01.1 0.0
P40A IAmb IAmb 08 06 02.2
comp=Z,14nm,0.8s
WMOK Wichita Mounta 33.55 321 P P 08 06 01.5 +0.1
WMOK IAmb IAmb 08 06 02.2
comp=Z,10nm,0.8s
WMOK Wichita Mounta 33.55 321 P P 08 06 01.2 -0.2
baz=131,SNR=9.6
TXAR Lajitas Array 33.94 308 P P 08 06 05.3 +0.3
comp=Z,2.1nm,0.7s,baz=129,slow=9.3,SNR=36
TXAR PcP PcP 08 08 42.4 +0.7
comp=Z,2.0nm,0.8s,baz=131,slow=5.8,SNR=9.5
TXAR LR LR 08 20 36.7
comp=Z,21nm,21.9s,baz=2.0,slow=37
comp=Z,2.1nm,0.7s
TX32 Lajitas Array 33.94 308 P P 08 06 05.1 +0.1
L44A Lake County Fo 34.24 341 P P 08 06 07.8 +0.5
baz=154
P38A Dawn 34.26 332 P P 08 06 08.0 +0.5
K43A Burlington 34.85 341 P P 08 06 12.7 +0.2
AMTX Amarillo 35.50 318 P P 08 06 19.7 +1.3
baz=127
JFWS Jewell Farm 35.69 339 P P 08 06 19.9 +0.2
baz=151,SNR=10
MSTX Muleshoe 35.69 316 P P 08 06 20.4 +0.3
baz=125,SNR=6.3
GLMI Grayling 35.79 347 P P 08 06 23.7 +3.2
baz=161

BDFB Brasilia 36.07 135 LR LR 08 22 00.1
comp=Z,60nm,19.0s,baz=339,slow=38
H43A Windswept, Lux 36.28 343 P P 08 06 25.2 +0.5
MNTX Cornudas Mount 36.37 311 P P 08 06 26.7 +1.0
baz=119,SNR=14
CBKS Cedar Bluff 36.85 325 P P 08 06 29.8 +0.1
baz=134
E46A Sault Ste Mari 37.18 348 P P 08 06 33.3 +0.9
BGNE Belgrade 37.87 329 P P 08 06 38.1 -0.2
baz=138
COWI Conover 38.16 342 P P 08 06 41.1 +0.5
121A Cookes Peak, D 38.56 310 P P 08 06 46.2 +1.8
baz=118,SNR=5.6
SPMN Marine on St. 38.61 338 P P 08 06 44.2 -0.2
baz=149
T25A Trinidad 38.62 319 P P 08 06 46.8 +1.9
baz=126,SNR=12
ANMO Albuquerque 38.78 315 P P 08 06 47.4 +1.1
baz=122
ANMO Albuquerque 38.78 315 P P 08 06 47.6 +1.4
ECSD EROS Data Cent 38.93 333 P P 08 06 46.9 -0.2
baz=142
OGNE Ogallala 39.60 326 P P 08 06 53.3 +0.5
baz=133
CPUP Villa Florida 39.60 157 LR LR 08 24 43.5
comp=Z,48nm,18.6s,baz=5.5,slow=38
SDCO Great Sand Dun 39.67 319 P P 08 06 55.7 +1.9
baz=126,SNR=25
EYMN Ely 40.53 341 P P 08 07 00.8 +0.4
baz=152
S22A 4UR Ranch, Cre 40.54 318 P P 08 07 02.9 +1.9
baz=124,SNR=23
SUSD Miller 40.54 332 P P 08 06 60.0 -0.6
baz=140
TUC Tucson 40.74 308 P P 08 07 03.5 +1.1
baz=114
TUC Tucson 40.74 308 P P 08 07 03.7 +1.2
TUC pP pP 08 07 24.9 +1.7
ISCO Idaho Springs 40.96 321 P P 08 07 05.6 +1.2
baz=127,SNR=5.5
W18A Petrified Fore 41.20 313 P P 08 07 07.9 +1.7
baz=118,SNR=8.2
MVCO Mesa Verde 41.37 316 P P 08 07 09.0 +1.3
baz=122,SNR=6.4
N23A Red Feather La 41.83 323 P P 08 07 12.3 +0.9
baz=128
214A Organ Pipe Nat 42.19 307 P P 08 07 15.4 +1.2
baz=112,SNR=10
WUAZ Wupatki 42.57 312 P P 08 07 18.9 +1.5
baz=117,SNR=12
O20A White River Ci 42.79 320 P P 08 07 20.9 +1.7
baz=125,SNR=7.7
RSSD Black Hills 42.84 328 P P 08 07 20.2 +0.7
baz=133
RSSD Black Hills 42.84 328 P P 08 07 20.6 +1.0
K22A Casper 43.25 324 P P 08 07 23.6 +0.8
baz=129
P18A Preston Nutter 43.80 318 P P 08 07 28.1 +0.6
P18A IAmb IAmb 08 07 29.5
comp=Z,8.0nm,0.8s
ULM Lac du Bonnet 43.97 339 P P 08 07 27.6 -0.7
comp=Z,14nm,0.8s,baz=131,slow=9.8,SNR=9.2
ULM LR LR 08 25 51.8
comp=Z,62nm,20.9s,baz=29,slow=36
comp=Z,14nm,0.8s
PDMCI Parker Dam,Lak 44.12 309 P P 08 07 30.9 +1.3
baz=113
GLA Glamis 44.17 307 P P 08 07 31.4 +1.2
baz=112
MTPU Mount Pierson 44.32 315 P P 08 07 32.7 +1.1
IRM Iron Mountain 44.83 309 P P 08 07 36.6 +1.2
baz=112,SNR=11
SCHQ Schefferville 44.84 6 P P 08 07 36.1 +1.0
comp=Z,10nm,0.7s,baz=193,slow=6.8,SNR=26
SCHQ LR LR 08 26 09.3
comp=Z,39nm,19.5s,baz=60,slow=36
comp=Z,10nm,0.7s
BC3 Big Chuckawall 44.88 308 P P 08 07 36.8 +0.9
baz=112,SNR=7.4
SWSC Sam W. Stewart 44.90 307 P P 08 07 36.9 +1.0
baz=111,SNR=7.8
IKP In-Ko-Pah, Jac 45.04 306 P P 08 07 38.0 +0.8
baz=110
BW06 Boulder Array 45.11 322 P P 08 07 38.5 +0.8
baz=125,SNR=17
PD31 Pinedale Array 45.11 322 P P 08 07 38.7 +0.9
PD31 IAmb IAmb 08 07 39.4
comp=Z,20nm,1.2s
PDAR Pinedale Array 45.11 322 P P 08 07 38.4 +0.6
comp=Z,7.2nm,0.6s,baz=123,slow=9.4,SNR=60
PDAR PcP PcP 08 09 16.4 -0.7
comp=Z,2.7nm,0.5s,baz=126,slow=6.1,SNR=14
comp=Z,7.2nm,0.6s
MONP2 Monument Peak 45.37 307 P P 08 07 40.7 +0.8
baz=110
BELC Belle Mtn. Jos 45.43 308 P P 08 07 41.2 +0.9
baz=111,SNR=9.1
GMRC Granite Mounta 45.46 309 P P 08 07 41.3 +0.8
baz=112
TPFO Pinon Flats 45.64 307 P P 08 07 42.6 +0.7
baz=111
PFO Pinyon Flats O 45.65 307 P P 08 07 42.6 +0.5
baz=111
LAO LASA Array 45.71 329 P P 08 07 43.7 +1.5
baz=132
DUG Dugway, Tooele 45.79 317 P P 08 07 44.3 +1.2
baz=120,SNR=8.2
TUQ Turquoise Moun 45.91 310 P P 08 07 45.0 +1.0
baz=113,SNR=16
109C Camp Elliot, M 45.91 306 P P 08 07 44.8 +0.9
baz=110
DGMT Dagmar 45.96 332 P P 08 07 45.3 +1.2
baz=136
HEC Hector,Ludlow 45.99 309 P P 08 07 46.0 +1.3
baz=112,SNR=7.0
MURC Murrieta 46.22 307 P P 08 07 47.3 +0.8
baz=110
BBRC Big Bear Solar 46.24 308 P P 08 07 47.5 +0.7
baz=111
RLMT Red Lodge 46.34 325 P P 08 07 48.0 +0.6
baz=128
TPAW Teton Pass 46.36 322 P P 08 07 48.0 +0.3
TPAW IAmb IAmb 08 07 51.9
comp=Z,8.2nm,0.8s
GSC Goldstone, Bar 46.52 309 P P 08 07 50.1 +1.3
baz=112,SNR=12
IMW Indian Meadow 46.58 323 P P 08 07 49.7 +0.3
IMW IAmb IAmb 08 07 51.2
comp=Z,9.5nm,0.7s
TPNV Topopah Spring 46.74 312 P P 08 07 52.1 +1.5
baz=114,SNR=19
BFSC Mount Baldy Ra 46.80 308 P P 08 07 51.5 +0.4
baz=110
R11B Troy Canyon, C 46.84 314 P P 08 07 52.9 +1.5
baz=116,SNR=18
FURC Furnace Creek, 47.01 311 P P 08 07 54.0 +1.6
baz=113,SNR=16
SCI2 San Clemente I 47.09 306 P P 08 07 53.9 +0.8
baz=108
CIS Catalina Islan 47.12 306 P P 08 07 54.0 +0.6
baz=109
LRMC Laurel Mtn Rad 47.26 309 P P 08 07 55.6 +1.0
baz=111,SNR=14
EDW2 Edwards Air Fo 47.28 308 P P 08 07 55.5 +0.8
baz=110,SNR=12
MPMC Manual Prospec 47.32 310 P P 08 07 55.9 +0.8
baz=112,SNR=8.1
CCAC Calif City Air 47.39 309 P P 08 07 56.5 +0.9
GRAC Grapevine Rang 47.58 311 P P 08 07 58.1 +1.1
baz=113
ELK Elko 47.68 317 P P 08 07 58.6 +0.7
comp=Z,3.0nm,0.6s,baz=98,slow=8.7,SNR=18
ELK PcP PcP 08 09 26.7 +0.6
comp=Z,1.7nm,0.8s,baz=82,slow=7.5,SNR=4.0
comp=Z,3.0nm,0.6s
CWC Cottonwood Cre 47.91 310 P P 08 08 00.6 +1.0
baz=112
ISA Isabella, Lake 47.92 309 P P 08 08 00.6 +1.0
baz=111
BOZ Bozeman (W) 47.96 324 P P 08 08 01.2 +1.3
baz=125,SNR=13
ARVC Arvin 48.01 308 P P 08 08 01.3 +1.1
baz=110,SNR=5.6
SCZ2 Santa Cruz Isl 48.27 307 P P 08 08 03.4 +1.1
baz=108
EGMT Eagleton 48.40 328 P P 08 08 03.9 +0.8
baz=129
VES Vestal, Richgr 48.45 309 P P 08 08 05.1 +1.5
baz=110

HLID Hailey 48.52 321 P P 08 08 05.3 +1.1
baz=121,SNR=11
PKM Mcpherson Peak 48.69 308 P P 08 08 06.7 +1.0
baz=109
NVAR Mina Array Bea 48.83 313 P P 08 08 07.7 +0.9
comp=Z,3.8nm,0.7s,baz=115,slow=7.2,SNR=34
NVAR PcP PcP 08 09 30.7 +0.4
comp=Z,2.9nm,0.6s,baz=122,slow=4.4,SNR=15
comp=Z,3.8nm,0.7s
KVN Kaiserville 48.92 314 P P 08 08 07.8 +0.4
KVN IAmb IAmb 08 08 09.2
comp=Z,9.1nm,1.0s
SMMC Simmler 48.97 308 P P 08 08 08.8 +1.1
baz=109,SNR=6.3
MSO Missoula 49.98 325 P P 08 08 16.0 +0.7
baz=124
PLID Pearl Lake 50.28 322 P P 08 08 17.6 -0.1
PLID IAmb IAmb 08 08 19.0
comp=Z,10.0nm,0.9s
PLCA Paso Flores 50.75 177 P P 08 08 19.1 -1.9
PLCA IAmb IAmb 08 08 42.9
comp=Z,9.0nm,0.9s
PLCA Paso Flores 50.75 177 P P 08 08 19.4 -1.6
comp=Z,2.4nm,0.4s,baz=344,slow=9.0,SNR=11
PLCA pP pP 08 08 41.5 -0.9
comp=Z,7.3nm,0.8s,baz=345,slow=7.8,SNR=8.5
PLCA LR LR 08 31 45.6
comp=Z,20nm,18.1s,baz=0.0,slow=38
comp=Z,2.4nm,0.4s
PLCA Paso Flores 50.75 177 P P 08 08 20.0 -1.1
PLCA pP pP 08 08 41.9 -0.5
NEW Newport 52.57 325 P P 08 08 35.0 +0.5
baz=122,SNR=5.2
NEW Newport 52.57 325 P P 08 08 34.3 -0.2
comp=Z,5.7nm,0.8s,baz=147,slow=7.1,SNR=11
comp=Z,5.7nm,0.8s
YBH Yreka Blue Hor 53.21 315 P P 08 08 38.3 -1.0
comp=Z,6.2nm,0.7s,baz=108,slow=3.5,SNR=18
comp=Z,6.2nm,0.7s
EDM Edmonton 53.44 331 P P 08 08 40.6 -0.2
EDM IAmb IAmb 08 08 41.4
comp=Z,14nm,1.0s
FRB Frobisher Bay 53.58 3 LR LR 08 31 12.6
comp=Z,41nm,20.1s,baz=10.0,slow=35
YKA Yellowknife Ar 59.95 339 P P 08 09 26.3 -0.3
comp=Z,9.3nm,0.7s,baz=106,slow=10,SNR=24
comp=Z,9.3nm,0.7s
BBB Bella Bella 60.63 325 LR LR 08 36 26.4
comp=Z,25nm,20.9s,baz=310,slow=36
WRGLY Wrigley 63.63 337 P P 08 09 51.8 +0.5
baz=123,SNR=5.7
PMAFR Mafra 63.71 52 eP P 08 09 52.8 +0.4
V35K Ketchikan 63.75 327 P P 08 09 53.1 +0.8
baz=112
DLBC Dease Lake 64.16 331 P P 08 09 55.8 +0.8
baz=114
WTLY Watson Lake, Y 64.30 333 P P 08 09 56.3 +0.5
baz=116
TGTN Hyland Airport 64.71 334 P P 08 09 59.7 +1.2
baz=117
USHA Ushuaia 64.93 177 P P 08 09 57.3 -2.5
comp=Z,42nm,0.3s,baz=16,slow=0.0,SNR=6.9
R33M Jennings River 64.99 332 P P 08 10 01.8 +1.3
baz=114
POLO Lamas de Olo 65.19 49 eP P 08 10 02.8 +0.7
comp=Z,14nm,1.9s
Q32M Nakina River 65.44 331 P P 08 10 04.8 +1.3
baz=112
MVO Moncorvo 65.74 49 eP P 08 10 06.3 +0.7
P33M Teslin, Yukon 66.17 332 P P 08 10 09.2 +1.1
baz=112
P32M Atlin 66.36 331 P P 08 10 10.2 +1.0
baz=111
N32M Quiet Lake 66.66 333 P P 08 10 12.0 +0.9
baz=113
FARO Faro, Yukon 67.19 334 P P 08 10 15.1 +0.7
baz=113
M31M Drury Creek, Y 67.63 334 P P 08 10 18.5 +1.3
baz=112,SNR=6.8
TIC Toumodi 67.83 87⇑ eP P 08 10 23.5 +4.2
comp=Z,7.3nm,0.3s
LIC Lamto 67.88 87⇑ eP P 08 10 18.7 -0.9
comp=Z,30nm,0.5s
O30N Mendenhall 67.89 332 P P 08 10 20.1 +1.2
baz=110
ESDC Sonseca Array 67.89 51 P P 08 10 19.7 +0.4
comp=Z,0.7nm,0.4s,baz=272,slow=6.6,SNR=7.3
ESDC pP pP 08 10 42.5 +0.7
comp=Z,0.6nm,0.5s,baz=266,slow=6.0,SNR=2.7
comp=Z,0.7nm,0.4s
DBIC Dimbokro 67.98 87 P P 08 10 19.5 -0.7
comp=Z,6.1nm,0.4s,baz=276,slow=5.1,SNR=22
comp=Z,6.1nm,0.4s
DBIC Dimbokro 67.98 87 P P 08 10 19.4 -0.7
DBIC pP pP 08 10 42.1 -0.6
DBIC sP sP 08 10 53.4 +1.1
N31M Braeburn, Yuko 67.99 333 P P 08 10 21.0 +1.6
baz=110,SNR=6.6
P30M Million Dollar 68.08 331 P P 08 10 21.7 +1.6
baz=108
KIC Kosan Boka 68.14 87⇑ eP P 08 10 20.6 -0.6
comp=Z,14nm,0.5s
HYT Haines Junctio 68.56 332 P P 08 10 24.4 +1.2
baz=108
N30M Aishikik Lake 68.57 333 P P 08 10 24.6 +1.4
baz=109
MAYO Mayo, Yukon 68.78 335 P P 08 10 26.1 +1.8
baz=111
M30M Minto, Yukon 68.81 334 P P 08 10 25.4 +0.9
baz=110,SNR=15
O29M Mount Kennedy 68.91 331 P P 08 10 26.8 +1.5
baz=107
H31M Peel River 68.99 337 P P 08 10 26.2 +0.6
baz=113
A36M Sachs Harbour 69.07 345 P P 08 10 26.3 +0.4
baz=124
YUK4 Talbot Arm 69.25 332 P P 08 10 29.3 +1.8
baz=108
G31M Satah River 69.41 338 P P 08 10 28.4 +0.4
baz=114
F31M Tsiigehtchic 69.43 339 P P 08 10 28.9 +0.7
baz=114,SNR=6.6
M29M Somme Creek 69.50 333 P P 08 10 29.7 +0.8
baz=108
K29M Barlow Dome 69.55 335 P P 08 10 30.1 +0.9
baz=109
I30M Mount Dempster 69.56 336 P P 08 10 30.0 +0.7
baz=111
L29M L29M 69.56 334 P P 08 10 29.5 +0.3
baz=108
INK Inuvik 69.72 340 P P 08 10 30.6 +0.7
baz=115
INK Inuvik 69.72 340 P P 08 10 30.1 +0.1
comp=Z,6.1nm,0.7s,baz=95,slow=5.1,SNR=22
comp=Z,6.1nm,0.7s
O28M Mount Upton 69.81 331 P P 08 10 31.9 +0.9
baz=106
J29N Klondike Camp 70.03 335 P P 08 10 33.3 +1.2
baz=109
EPYK Eagle Plains 70.10 338 P P 08 10 33.0 +0.5
baz=111,SNR=5.2
G30M tAoh Zraii Nji 70.14 338 P P 08 10 33.2 +0.5
baz=112
YUK3 Moose Creek 70.21 332 P P 08 10 34.5 +1.1
baz=106
F30M Barrier River 70.22 339 P P 08 10 33.9 +0.8
baz=112,SNR=11
I29M Ogilvie Camp, 70.37 336 P P 08 10 34.5 +0.5
baz=109
DAWY Dawson 70.40 335 P P 08 10 35.0 +0.7
baz=108
BVCY Beaver Creek 70.56 333 P P 08 10 36.6 +1.3
baz=106
EKA Eskdalemuir Ar 70.56 35 P P 08 10 35.4 -0.1
comp=Z,3.2nm,0.5s,baz=264,slow=5.7,SNR=14
comp=Z,3.2nm,0.5s
H29M Whitestone 70.67 337 P P 08 10 36.6 +0.7
baz=109,SNR=8.2
G29M Pine Creek 70.78 338 P P 08 10 37.4 +0.8
baz=110,SNR=6.0
M27K Edge Creek, AK 71.00 333 P P 08 10 39.5 +1.4
baz=105
I28M Miner Creek 71.04 336 P P 08 10 38.9 +0.7
baz=108
L27K Beaver Creek, 71.16 333 P P 08 10 40.0 +1.1
baz=105
E29M Blow River 71.24 339 P P 08 10 40.1 +0.8

baz=110,SNR=20
EGAK Eagle 71.34 335 P **P 08 10 41.1 +1.2**
baz=106
M26K Nabesna, AK 71.52 333 P **P 08 10 42.2 +1.1**
baz=104
K27K Chicken 71.52 334 P **P 08 10 42.4 +1.4**
baz=105
F28M Old Crow 71.69 338 P **P 08 10 42.5 +0.4**
baz=108,SNR=7.7
I27K Kandik River 71.76 336 P **P 08 10 43.1 +0.6**
baz=106,SNR=5.8
L26K Log Cabin Wild 71.83 333 P **P 08 10 44.2 +1.3**
baz=104
D28M Stokes Point 71.86 340 P **P 08 10 43.4 +0.5**
baz=110
E28M Babbage River 71.89 339 P **P 08 10 43.3 +0.2**
baz=109
H27K Steamboat Moun 71.90 337 P **P 08 10 43.5 +0.2**
baz=106
BMRM Bremner River 71.95 331 P **P 08 10 45.3 +1.5**
baz=102
N25K Chitina, Valde 72.08 332 P **P 08 10 45.8 +1.3**
baz=102
G27K Doyon Strip 72.11 337 P **P 08 10 44.5 0.0**
baz=106
J26L Joseph Creek 72.27 335 P **P 08 10 46.3 +0.7**
baz=104
I26K Coal Creek Min 72.30 336 P **P 08 10 46.1 +0.5**
baz=104
SCRK Sand Creek 72.33 334 P **P 08 10 47.1 +1.1**
baz=103,SNR=5.3
E27K Coleen River 72.48 339 P **P 08 10 47.4 +0.6**
baz=107,SNR=12
D27M Malcolm River 72.58 340 IAmb IAmb 08 10 48.3
comp=Z,7.1nm,0.8s
D27M P **P 08 10 48.4 +1.0**
D27M Malcolm River 72.58 340 P **P 08 10 47.9 +0.5**
baz=108,SNR=5.3
KLU Klutina 72.68 331 P **P 08 10 49.1 +1.0**
baz=101
PAX Paxson 72.76 333 P **P 08 10 49.6 +1.0**
baz=102
M24K Tolsona, Glenn 72.91 332 P **P 08 10 50.7 +1.2**
baz=101
G26K Porcupine Rive 72.96 337 P **P 08 10 49.4 -0.1**
baz=104
J25K Salcha River, 73.06 335 P **P 08 10 50.5 +0.2**
baz=102
F26K Sheenjek River 73.28 338 P **P 08 10 52.1 +0.6**
baz=104
PRP Porcupine Dome 73.31 336 P **P 08 10 52.8 +0.9**
baz=102
SCM Sheep Creek Mo 73.40 332 P **P 08 10 53.7 +1.4**
baz=100
TORD Torodi Ar. Bea 73.54 79 P **P 08 10 53.0 -1.0**
comp=Z,1.1nm,0.4s,baz=286,slow=6.9,SNR=18
TORD pP **pP 08 11 16.1 -0.6**
comp=Z,1.8nm,0.6s,baz=290,slow=6.3,SNR=6.0
comp=Z,1.1nm,0.4s
M23K Glacier View 73.58 332 P **P 08 10 54.3 +1.0**
baz=99
H25L Birch Creek 73.59 336 P **P 08 10 54.2 +0.9**
baz=102
HDA Harding Lake 73.68 334 P **P 08 10 54.5 +0.7**
baz=101
WAT6 Susitna Watana 73.71 332 P **P 08 10 55.1 +0.8**
baz=99
ILAR Eielson Array 73.72 335 P **P 08 10 54.0 -0.2**
comp=Z,3.4nm,0.9s,baz=108,slow=4.3,SNR=40
ILAR PP **PP 08 13 38.3 -1.1**
comp=Z,1.2nm,1.1s,baz=98,slow=6.3,SNR=4.3
comp=Z,3.4nm,0.9s
G25K Bearman Lake 73.81 337 P **P 08 10 55.3 +0.8**
baz=102
F25K Christian Rive 73.81 338 P **P 08 10 55.5 +0.9**
baz=103,SNR=7.3
KNK Knik Glacier 73.87 331 P **P 08 10 56.3 +1.3**
baz=98
E25K Arctic Village 73.90 338 P **P 08 10 55.8 +0.7**
baz=103
POKR Poker Plat Res 74.02 335 P **P 08 10 56.5 +0.7**
baz=100
C26K Camden Bay 74.10 340 P **P 08 10 57.2 +1.1**
baz=104
WAT1 Susitna Watana 74.12 333 P **P 08 10 57.3 +0.8**
baz=99
G24K Hadweenzic Riv 74.33 337 P **P 08 10 58.6 +1.0**
baz=101
H24K Noodor Dome 74.33 336 P **P 08 10 58.5 +0.8**
baz=100
MCK McKinley 74.43 333 P **P 08 10 59.5 +1.2**
baz=99
D25K Kavik River 74.46 339 P **P 08 10 59.0 +0.6**
baz=103
NEA2 Nenana 74.62 334 P **P 08 10 59.9 +0.6**
baz=99
F24K Squaw Lake 74.64 337 P **P 08 11 00.3 +0.9**
baz=101,SNR=5.7
M22K Willow 74.70 331 P **P 08 11 00.7 +0.9**
baz=97
I23K Minto, Yukon-K 74.83 335 P **P 08 11 01.2 +0.7**
baz=99,SNR=6.2
SUA Susitna One 74.96 331 P **P 08 11 02.4 +0.9**
baz=96
E24K Your Creek 74.97 338 P **P 08 11 01.9 +0.6**
baz=100
TRF Thorofare Moun 74.99 333 P **P 08 11 02.4 +0.7**
baz=97,SNR=6.2
H23K Yukon River 75.00 336 P **P 08 11 02.2 +0.7**
baz=99
D24K Happy Valley 75.28 339 P **P 08 11 03.9 +0.9**
baz=100
G23K Bananza Creek 75.33 336 P **P 08 11 04.6 +1.2**
baz=98
C24K Franklin Bluff 75.34 340 P **P 08 11 04.2 +0.9**
baz=100
BPAW Bear Paw Mtn. 75.38 334 P **P 08 11 04.5 +0.8**
baz=97,SNR=9.2
E23K Chandalar 75.38 338 P **P 08 11 04.7 +1.0**
baz=99
MLY Manley 75.39 335 P **P 08 11 04.5 +0.7**
baz=97,SNR=7.0
TOLK Toolik Lake Re 75.46 338 P **P 08 11 04.4 +0.2**
baz=99
COLD Coldfoot 75.47 337 P **P 08 11 05.1 +1.0**
baz=98
KDAK Kodiak Island 75.56 327 P **P 08 11 05.1 +0.2**
baz=94
KDAK Kodiak Island 75.56 327 P **P 08 11 04.5 -0.3**
comp=Z,12nm,1.0s,baz=319,slow=0.7,SNR=9.0
comp=Z,12nm,1.0s
N20K Mount Spurr 75.64 331 P **P 08 11 05.7 +0.4**
baz=95
SPCR Spurr Chakacha 75.64 331 P **P 08 11 05.6 +0.3**
baz=95
H22K Ishtalitna Cre 75.76 336 P **P 08 11 06.5 +0.6**
baz=97
PPLA Purkeypile 75.79 332 P **P 08 11 06.7 +0.5**
baz=96
CAST Castle Rocks 75.79 333 P **P 08 11 06.3 +0.3**
baz=96,SNR=5.8
D23K Nanushuk River 75.91 339 P **P 08 11 07.1 +0.5**
baz=98
I21K Tanana 75.93 335 P **P 08 11 07.5 +0.7**
baz=96
CHUM Lake Minchumin 75.94 333 P **P 08 11 07.6 +0.8**
baz=96,SNR=5.1
C23K Itkillik River 76.01 340 P **P 08 11 08.2 +1.0**
baz=99
M20K Styx River 76.14 331 P **P 08 11 08.5 +0.4**
baz=94
Q19K Cape Douglas, 76.19 328 P **P 08 11 08.7 +0.2**
baz=93
E22K Anaktuvuk Pass 76.21 338 P **P 08 11 08.7 +0.3**
baz=97
F22K John River 76.27 337 P **P 08 11 09.2 +0.5**
baz=97
H21K Melozitna Rive 76.32 335 P **P 08 11 09.4 +0.3**
baz=96,SNR=6.5
L20K Farewell, AK 76.53 332 P **P 08 11 10.5 +0.3**
baz=94
O19K Port Alsworth 76.61 330 P **P 08 11 10.4 -0.3**
baz=93
D22K Ayikyak River 76.61 339 P **P 08 11 11.2 +0.6**
baz=96
K20K Telida 76.67 333 P **P 08 11 11.6 +0.5**
baz=94
G21K Allakaket 76.69 336 P **P 08 11 12.0 +0.9**
baz=95
N19K Bonanza Creek 76.72 330 P **P 08 11 11.6 +0.2**
baz=93
M19K Big River Lodg 76.73 331 P **P 08 11 12.0 +0.6**
baz=93
F21K Alatna River 76.74 337 P **P 08 11 12.3 +0.9**
baz=95
J20K Nowinta River 76.77 334 P **P 08 11 12.0 +0.5**
baz=94,SNR=7.9
Q18K Katmai Hardscr 76.89 328 P **P 08 11 12.5 0.0**
baz=92
L19K White Mountain 76.97 332 P **P 08 11 13.0 +0.2**
baz=93
P18K Big Mountain, 77.03 329 P **P 08 11 12.7 -0.4**
baz=92
B22K Teshekpuk Lake 77.03 340 P **P 08 11 13.4 +0.5**
baz=96
O18K Koktuh Hills 77.04 329 P **P 08 11 13.3 +0.1**
baz=92
E21K Killik River 77.04 338 P **P 08 11 13.4 +0.3**
baz=95
H20K Anotleneega Mo 77.17 335 P **P 08 11 14.2 +0.4**
baz=94
B21K Ikpikpuk River 77.37 339 P **P 08 11 15.5 +0.6**
baz=95
C21K Knifeblade Rid 77.39 339 P **P 08 11 15.7 +0.7**
baz=95
M18K Stony River 77.40 331 P **P 08 11 15.2 +0.1**
baz=92
J19K Poorman 77.40 333 P **P 08 11 15.5 +0.4**
baz=93
N18K Kilae Creek 77.40 330 P **P 08 11 15.4 +0.2**
baz=92
TTA Tatalina 77.53 332 P **P 08 11 16.3 +0.3**
baz=92
F20K Avaraart Lake 77.60 337 P **P 08 11 16.9 +0.8**
baz=93
A22K Sinclair Lake 77.61 341 P **P 08 11 16.8 +0.6**
baz=95
Q16K King Salmon 77.75 328 P **P 08 11 17.3 +0.2**
baz=91
H19K Roundabout Mou 77.82 335 P **P 08 11 18.0 +0.6**
baz=92
L18K Granite Mounta 77.83 332 P **P 08 11 18.1 +0.6**
baz=91
E20K Nigu River 77.85 338 P **P 08 11 18.3 +0.7**
baz=93
J18K Innoko River 77.87 333 P **P 08 11 18.2 +0.4**
baz=92
GCSA Galena City Sc 77.98 334 P **P 08 11 17.9 -0.4**
baz=92
O17K Koliganek Bris 77.99 329 P **P 08 11 18.6 +0.2**
baz=90
D20K Etivluk River 78.03 338 P **P 08 11 19.1 +0.5**
baz=93
N17K Nushagak Hills 78.04 330 P **P 08 11 18.9 +0.2**
baz=90
G19K Purcell Mounta 78.11 336 P **P 08 11 19.6 +0.6**
baz=92
M17K Holitna River 78.17 331 P **P 08 11 20.1 +0.6**
baz=90
E19K Redstone River 78.21 337 P **P 08 11 20.2 +0.6**
baz=92
F19K Shaleruckik Mo 78.40 336 P **P 08 11 21.1 +0.6**
baz=91
P16K Nushagak River 78.45 328 P **P 08 11 21.6 +0.6**
baz=90
O16K Kokwok River B 78.49 329 P **P 08 11 21.9 +0.7**
baz=90
D19K Kuna River 78.57 338 P **P 08 11 22.7 +1.1**
baz=91
L17K Donlin 78.58 331 P **P 08 11 22.5 +0.9**
baz=90
K17K Iditarod 78.58 332 P **P 08 11 22.7 +1.0**
baz=90
H18K Honhosa River 78.62 335 P **P 08 11 23.0 +1.1**
baz=90
NB2 NORSAR Subarra 78.64 30 P **P 08 11 23.2 +1.2**
comp=Z,3.2nm,0.6s,baz=273,slow=5.9
NOA NORSAR Array B 78.64 30 P **P 08 11 23.3 +1.2**
comp=Z,3.7nm,0.8s,baz=272,slow=5.7,SNR=9.0
NOA pP **pP 08 11 45.0 -0.3**
comp=Z,2.0nm,0.9s,baz=272,slow=5.8,SNR=3.7
NOA sP **sP 08 11 55.9 +1.0**
comp=Z,1.8nm,0.7s,baz=274,slow=5.6,SNR=3.8
comp=Z,3.7nm,0.8s
G18K Tagagawik 78.74 335 P **P 08 11 23.5 +1.0**
baz=90
N16K Nishlik Lake 78.82 330 P **P 08 11 24.0 +0.9**
baz=89
M16K Timber Creek 78.91 330 P **P 08 11 24.3 +0.9**
baz=89
C19K Lookout Ridge 79.11 339 P **P 08 11 25.4 +0.9**
baz=90
L16K Owhat River 79.14 331 P **P 08 11 25.4 +0.7**
baz=89
H17K Granite Mounta 79.28 334 P **P 08 11 26.2 +0.8**
baz=89
S14K Fog Glacier 79.36 326 P **P 08 11 26.4 +0.3**
baz=88
E18K Tukpahlearik C 79.51 337 P **P 08 11 27.3 +0.7**
baz=89
G17K Kiwalik Mounta 79.57 335 P **P 08 11 27.9 +0.9**
baz=88
C18K Utukok River 79.70 338 P **P 08 11 28.8 +1.1**
baz=88
M15K Kasigluk River 79.76 330 P **P 08 11 29.2 +1.1**
baz=88
F17K Baldwin Pennin 79.79 336 P **P 08 11 28.9 +0.8**
baz=88
HFS Hagfors 79.89 31 P **P 08 11 29.2 +0.4**
comp=Z,2.3nm,0.5s,baz=301,slow=0.9,SNR=14
comp=Z,2.3nm,0.5s
B18K Kokolik River 79.90 339 P **P 08 11 30.0 +1.3**
baz=88
E17K Hotham Inlet 79.99 337 P **P 08 11 30.1 +0.8**
baz=88,SNR=5.2
SPITS Spitsbergen Ar 80.08 12 P **P 08 11 29.9 +0.3**
comp=Z,2.1nm,0.4s,baz=172,slow=2.4,SNR=11
comp=Z,2.1nm,0.4s
K15K Wolf Creek Mou 80.09 332 P **P 08 11 31.1 +1.2**
baz=87
L15K Ungalak Mounta 80.10 331 P **P 08 11 31.1 +1.2**
baz=87
H16K Elim 80.28 334 P **P 08 11 32.3 +1.5**
baz=87
G16K Koyuk River 80.29 335 P **P 08 11 31.9 +1.0**
baz=87
N14K Kuskokwak Cree 80.30 329 P **P 08 11 31.0 0.0**
baz=86
C17K DeLong Mountai 80.44 338 P **P 08 11 32.9 +1.2**
baz=87
GERES GERESS Array B 80.63 42 P **P 08 11 33.8 +0.5**
comp=Z,1.8nm,0.5s,baz=298,slow=2.9,SNR=6.5
GERES pP **pP 08 11 56.6 +0.2**
comp=Z,1.0nm,0.3s,baz=42,slow=16,SNR=1.0
GERES sP **sP 08 12 06.9 +1.0**
comp=Z,4.8nm,0.3s,baz=262,slow=9.3,SNR=7.7
comp=Z,1.8nm,0.5s
L14K Kuka Creek 80.69 331 P **P 08 11 34.1 +1.0**
baz=86
J14K Nanvaranak Lak 81.00 332 P **P 08 11 36.6 +2.0**
baz=85
F15K North Star Dit 81.22 335 P **P 08 11 37.2 +1.4**
baz=85
C16K Lisburne Hills 81.25 338 P **P 08 11 36.8 +0.8**
baz=85
ANM Nome 81.64 334 P **P 08 11 40.0 +2.0**
baz=84
UNV Unalaska Valle 83.56 323 P **P 08 11 49.4 +1.2**
baz=82
ARCES ARCESS Array B 83.69 20 P **P 08 11 48.9 +0.2**
comp=Z,5.1nm,0.8s,baz=289,slow=3.7,SNR=14
ARCES pP **pP 08 12 12.6 +0.6**
comp=Z,0.6nm,0.5s,baz=289,slow=3.7,SNR=1.1
comp=Z,5.1nm,0.8s
FINES FINESS Array B 85.71 28 P **P 08 11 59.2 +0.3**
comp=Z,4.8nm,1.0s,baz=253,slow=2.0,SNR=5.6
comp=Z,4.8nm,1.0s
VNA3 Neumayer Olymp 91.52 163 ⇓P **P 08 12 26.2 0.0**
comp=Z,2.8nm,0.7s
VNA3 ⇑pP **pP 08 12 49.9 +0.3**
comp=Z,6.0nm,0.8s
VNA1 Neumayer--Stat 91.66 162 ⇑pP pP 08 12 50.8 +0.6
comp=Z,3.0nm,0.6s
VNA2 Neumayer--Watz 92.04 162 ⇓P **P 08 12 28.6 0.0**
comp=Z,1.3nm,0.4s,baz=303,slow=5.0
VNA2 ⇑pP **pP 08 12 52.0 0.0**
comp=Z,4.4nm,0.7s,baz=312,slow=5.0
TROLL Troll, Antarti 95.39 162 ⇓P **P 08 12 44.1 0.0**
comp=Z,80nm,0.8s
TROLL ⇑pP **pP 08 13 07.8 +0.2**
comp=Z,100nm,0.6s
BRTR Keskin Array B 96.48 48 pP pP 08 13 13.7 +0.3
comp=Z,1.0nm,0.8s,baz=269,slow=5.8,SNR=3.0
KURBB Kurchatov Arra 114.75 19 PKP **PKiKP 08 17 58.8 -1.5**
comp=Z,0.3nm,0.5s,baz=346,slow=2.8,SNR=2.9
MKAR Makanchi Array 119.31 19 PKP **PKPdf 08 18 07.7 -1.6**
comp=Z,0.4nm,0.4s,baz=309,slow=2.0,SNR=5.4
SONM Songino Array 122.22 0 PKP **PKPdf 08 18 13.6 -1.3**
comp=Z,0.9nm,0.4s,baz=16,slow=40,SNR=2.2
KSRS Korea Array 128.48 338 PKP **PKPdf 08 18 26.4 -0.6**
comp=Z,1.2nm,0.5s,baz=14,slow=1.8,SNR=8.5
KSRS pPKP **pPKPdf 08 18 51.5 -0.1**
comp=Z,0.7nm,0.4s,baz=354,slow=0.8,SNR=2.8
BTO Baotou 129.34 356 *e*PKP **PKPdf 08 18 27.3 -1.4**
BTO sPKP 08 19 04.5
BTO PP **PP 08 20 43.5 +6.4**
BTO SKS **SKSac 08 25 28.5 -1.3**
BTO Baotou 129.34 356 SS SS 08 38 02.5 +12
BTO pmax pmax
comp=Z,19nm,0.8s
BTO pmax pmax
comp=Z,530nm,6.3s
BTO LR LR
comp=N,260nm,7.1s
BTO LR LR
comp=E,340nm,9.7s
BTO LR LR
comp=Z,260nm,5.6s
STKA Stephens Creek 140.98 231 PKP **PKPdf 08 18 49.8 -0.6**
comp=Z,2.3nm,0.7s,baz=97,slow=5.0,SNR=7.1
PZH PanZhiHua 143.24 7 PKP **PKPdf 08 18 54.3 -0.5**
ASAR Alice Springs 150.56 239 PKP **PKPdf 08 19 07.0 0.0**
comp=Z,4.7nm,0.5s,baz=112,slow=2.0,SNR=21
ASAR PKPbc **PKPbc 08 19 11.8 -0.6**
comp=Z,12nm,0.5s,baz=117,slow=3.3,SNR=76
ASAR pPKPbc **pPKPbc 08 19 36.3 -0.5**
comp=Z,3.4nm,0.8s,baz=119,slow=3.2,SNR=3.9
CMAR Chiang Mai Arr 150.59 15 PKP **PKPdf 08 19 06.6 -0.5**
comp=Z,0.3nm,0.3s,baz=295,slow=3.8,SNR=5.4
CMAR PKPbc **PKPbc 08 19 12.4 -0.2**
comp=Z,2.9nm,0.5s,baz=318,slow=3.5,SNR=14
CMAR PKPab **PKPab 08 19 19.2 -0.1**
comp=Z,3.1nm,0.7s,baz=332,slow=5.7,SNR=11
CMAR pPKPbc **pPKPbc 08 19 36.9 -0.1**
comp=Z,3.6nm,0.9s,baz=324,slow=3.7,SNR=5.4
CMAR pPKPab **pPKPab 08 19 42.9 -0.8**
comp=Z,3.4nm,0.7s,baz=325,slow=5.3,SNR=5.2
WRA Warramunga Arr 151.38 247 PKP **PKPdf 08 19 08.3 0.0**
comp=Z,2.1nm,0.8s,baz=99,slow=2.5,SNR=17
WRA PKPbc **PKPbc 08 19 13.8 -0.7**
comp=Z,19nm,0.5s,baz=104,slow=2.8,SNR=103
WRA pPKPbc **pPKPbc 08 19 38.4 -0.4**
comp=Z,7.6nm,0.8s,baz=104,slow=2.0,SNR=6.0

---

*ANF **26** 08:01:28.6±1.5, 55°.25N×134°.79W, h0km, ML4.0/16, Error ellipse: s-maj=16.1km s-min=5.2km az=16.0*
*AEIC **26** 08:01:29.9±2.9, 55°.19N±0°.03×134°.83W±0°.06, h10km±6km, ML3.6, mb3.9/4(NEIC), ML3.8(OTT), ML3.8/44(NEIC), Error ellipse: s-maj=5.2km s-min=4.2km az=66.0*
*PGC **26** 08:01:30.2±0.9, 55°.18N×134°.64W, h10km, mb3.9, ML3.8, ML3.8/22, 206km Wnw of Masset, Bc Southeastern Alaska*
*NEIC **26** 08:01:30.2±2.3, 55°.22N±0°.04×134°.74W±0°.05, h16km±6km, Error ellipse: s-maj=5.2km s-min=4.2km az=205.0*

ISC 26 08:01:27.6±1.7, 55°.18N±0°.02×134°.72W±0°.04, h2km±12km, n132, σ1§57/173, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**0.95**	**72**		**Pb**	**08 01 47.1**	**+0.2**
CRAG				IAML		08 02 00.7	
	comp=E,3μm,0.4s						
CRAG				IAML		08 02 00.8	
	comp=N,3μm,0.3s						
CRAG	**Craig**	**0.95**	**72**		**Sn**	**08 02 00.4**	**-1.8**
CRAG	**Craig**	**0.95**	**72**	P	**Pn**	**08 01 47.4**	**-0.7**
	baz=262,SNR=70						
CRAG				S	**Sn**	**08 02 00.5**	**-1.8**
	baz=262						
U33K	**Whale Pass**	**1.30**	**43**		**Pn**	**08 01 52.3**	**-0.5**
U33K				IAML		08 02 12.6	
	comp=N,1μm,0.5s						
U33K	**Whale Pass**	**1.30**	**43**		**Sn**	**08 02 09.7**	**-1.0**
U33K	**Whale Pass**	**1.30**	**43**	P	**Pn**	**08 01 52.6**	**-0.2**
	baz=232,SNR=74						
U33K				S	**Sg**	**08 02 10.0**	**+0.6**
	baz=232						
LIB	**Langara Island**	**1.34**	**133**		**Pb**	**08 01 53.8**	**+0.4**
LIB					**Sb**	**08 02 10.1**	**-0.8**
LIB	**Langara Island**	**1.34**	**133**	P	**Pb**	**08 01 53.8**	**+0.4**
LIB				S	**Sb**	**08 02 10.1**	**-0.8**
NDB	**Naden**	**1.61**	**139**		**Pb**	**08 01 57.8**	**-0.2**
NDB	**Naden**	**1.61**	**139**	Pn	**Pb**	**08 01 57.9**	**-0.2**
V35K	**Ketchikan**	**1.78**	**84**		**Pb**	**08 02 00.3**	**-0.6**
V35K				IAML		08 02 28.6	
	comp=E,1μm,0.3s						
V35K				IAML		08 02 29.1	
	comp=N,1μm,0.5s						
V35K	**Ketchikan**	**1.78**	**84**		**Sb**	**08 02 22.5**	**-1.2**
V35K					**Sg**	**08 02 25.9**	**+1.1**
V35K	**Ketchikan**	**1.78**	**84**	P	**Pn**	**08 01 59.6**	**+0.2**
	baz=271,SNR=87						
V35K				Sb	**Sg**	**08 02 26.0**	**+1.1**
	baz=271						
WRAK	**Wrangell Islan**	**1.82**	**46**		**Pn**	**08 02 00.2**	**+0.2**
WRAK				IAML		08 02 33.1	
	comp=N,992nm,0.4s						
WRAK	**Wrangell Islan**	**1.82**	**46**	P	**Pn**	**08 02 00.5**	**+0.5**
	baz=233,SNR=72						
WRAK	**Wrangell Islan**	**1.82**	**46**	Pn	**Pn**	**08 02 00.5**	**+0.5**
WRAK				Sn	**Sn**	**08 02 22.4**	**-1.2**
SIT	**Sitka**	**1.91**	**350**		**Pn**	**08 01 60.0**	**-1.2**
SIT				IAML		08 02 37.5	
	comp=E,665nm,0.6s						
SIT	**Sitka**	**1.91**	**350**		**Sn**	**08 02 23.6**	**-2.2**
SIT	**Sitka**	**1.91**	**350**	P	**Pn**	**08 01 59.8**	**-1.4**
	baz=171						
T33K	**Petersburg**	**1.91**	**30**		**Pn**	**08 02 01.7**	**+0.5**
T33K	**Petersburg**	**1.91**	**30**	P	**Pn**	**08 02 01.6**	**+0.4**
	baz=216,SNR=44						
MASB	**Masset**	**1.96**	**126**		**Pn**	**08 02 02.5**	**+0.7**
MASB	**Masset**	**1.96**	**126**	Pn	**Pn**	**08 02 02.4**	**+0.7**
S32K	**Killisnoo**	**2.29**	**2**		**Pn**	**08 02 05.6**	**-0.8**
S32K	**Killisnoo**	**2.29**	**2**	P	**Pn**	**08 02 06.1**	**-0.3**
	baz=184,SNR=20						
S32K				S	**Sn**	**08 02 33.1**	**-2.1**
	baz=184						
DIB	**Dawson Inlet,**	**2.38**	**146**	Sn	**Sn**	**08 02 36.0**	**-1.3**
DIB				Sg	**Sg**	**08 02 44.2**	**+0.1**
HG1B	**Mitchell Dam**	**2.72**	**145**	Pn	**Pn**	**08 02 13.5**	**+1.3**
HG1B				Sg	**Sg**	**08 02 54.0**	**-0.9**
RUBB	**Prince Rupert**	**2.73**	**107**		**Pn**	**08 02 13.7**	**+1.4**
RUBB	**Prince Rupert**	**2.73**	**107**	Pn	**Pn**	**08 02 12.6**	**+0.2**
RUBB				Sn	**Sn**	**08 02 45.4**	**-0.5**
RUBB				Sg	**Sg**	**08 02 53.2**	**-1.9**
U35K	**Hyder**	**2.77**	**73**		**Pn**	**08 02 13.8**	**+0.9**
S31K	**Pelican**	**2.91**	**344**		**Pn**	**08 02 14.5**	**-0.4**
S31K	**Pelican**	**2.91**	**344**	P	**Pn**	**08 02 14.2**	**-0.7**
	baz=164						
S31K				S	**Sn**	**08 02 49.3**	**-1.1**
	baz=164						
BNAB	**Bonilla**	**2.93**	**124**		**Pn**	**08 02 15.2**	**0.0**
BNAB	**Bonilla**	**2.93**	**124**	Pn	**Pn**	**08 02 15.3**	**+0.2**
BNAB				Sn	**Sn**	**08 02 48.8**	**-2.0**
GRNB	**Grenville Isla**	**3.08**	**114**		**Pn**	**08 02 17.3**	**0.0**
GRNB				IAML		08 03 16.1	
	comp=E,267nm,0.7s						
GRNB				IAML		08 03 16.7	
	comp=N,300nm,0.8s						
GRNB	**Grenville Isla**	**3.08**	**114**	Pn	**Pn**	**08 02 17.5**	**+0.2**
GRNB				Sn	**Sn**	**08 02 53.9**	**-0.7**
T35M	**Bob Quinn**	**3.08**	**52**		**Pn**	**08 02 18.3**	**+0.9**
T35M				IAML		08 03 15.3	
	comp=N,380nm,1.2s						
T35M	**Bob Quinn**	**3.08**	**52**	P	**Pn**	**08 02 18.9**	**+1.5**
	baz=239,SNR=22						
T35M	**Bob Quinn**	**3.08**	**52**	Pn	**Pn**	**08 02 18.7**	**+1.3**
T35M				Sg	**Sb**	**08 03 02.7**	**+1.4**
R32K	**Eaglecrest**	**3.10**	**2**		**Pn**	**08 02 17.1**	**-0.5**
R32K	**Eaglecrest**	**3.10**	**2**		**Sn**	**08 02 53.8**	**-1.4**
R32K	**Eaglecrest**	**3.10**	**2**	P	**Pn**	**08 02 17.4**	**-0.1**
	baz=184						

R32K				S	Sn	08 02 53.6	-1.6
	baz=184						
JIS	**Juneau Island**	**3.11**	**3**		**Pn**	**08 02 17.8**	**+0.2**
JIS				IAML		08 03 13.8	
	comp=E,218nm,0.7s						
BAIB	**Barry Inlet**	**3.15**	**145**	Pn	**Pn**	**08 02 18.9**	**+0.7**
BAIB				Sn	**Sn**	**08 02 54.4**	**-2.0**
BAIB				Sg	**Sg**	**08 03 07.5**	**-1.1**
BNB	**Barry Inlet**	**3.15**	**145**	Pn	**Pn**	**08 02 18.7**	**+0.5**
BNKB	**Banks Island**	**3.38**	**121**	Pn	**Pn**	**08 02 21.7**	**+0.3**
BNKB				Sn	**Sn**	**08 03 01.2**	**-0.8**
S34M	**Telegraph Cree**	**3.38**	**34**		**Pn**	**08 02 22.2**	**+0.8**
S34M				IAML		08 03 23.5	
	comp=N,229nm,0.7s						
S34M	**Telegraph Cree**	**3.38**	**34**	P	**Pn**	**08 02 23.0**	**+1.6**
	baz=220,SNR=18						
S34M	**Telegraph Cree**	**3.38**	**34**	Pn	**Pn**	**08 02 22.9**	**+1.5**
BESE	**Bessie Mountai**	**3.41**	**359**		**Pn**	**08 02 20.2**	**-1.6**
BESE	**Bessie Mountai**	**3.41**	**359**	Pn	**Pn**	**08 02 20.3**	**-1.6**
HG4B	**Hotspring**	**3.57**	**143**		**Pn**	**08 02 24.8**	**+0.8**
HG4B	**Hotspring**	**3.57**	**143**	Pn	**Pn**	**08 02 24.6**	**+0.6**
HG4B				Sn	**Sn**	**08 03 05.7**	**-1.0**
HG4B				Sg	**Sg**	**08 03 20.0**	**-2.2**
KITB	**Kitimat**	**3.70**	**105**	Pn	**Pn**	**08 02 26.7**	**+0.9**
KITB				Sn	**Sn**	**08 03 09.6**	**-0.3**
KITB				Sg	**Sg**	**08 03 25.5**	**-1.0**
MBLB	**Minette Bay Lo**	**3.73**	**105**	Sg	**Sg**	**08 03 26.8**	**-0.4**
GRIB	**Gribbell Islan**	**3.76**	**117**	Pn	**Pn**	**08 02 27.0**	**+0.5**
GRIB				Sn	**Sn**	**08 03 09.3**	**-2.0**
GRIB				Sg	**Sg**	**08 03 26.3**	**-1.9**
Q32M	**Nakina River**	**4.02**	**18**		**Pn**	**08 02 31.6**	**+1.3**
Q32M				IAML		08 03 43.1	
	comp=E,111nm,1.4s						
Q32M				IAML		08 03 45.4	
	comp=N,158nm,0.9s						
Q32M	**Nakina River**	**4.02**	**18**	P	**Pn**	**08 02 31.4**	**+1.1**
	baz=202						
Q32M	**Nakina River**	**4.02**	**18**	Pn	**Pn**	**08 02 31.4**	**+1.1**
Q32M				Sn	**Sn**	**08 03 17.6**	**-0.4**
Q32M				Sg	**Sg**	**08 03 37.4**	**+0.8**
DLBC	**Dease Lake**	**4.16**	**36**		**Pn**	**08 02 33.1**	**+1.0**
DLBC				IAML		08 03 44.9	
	comp=N,88nm,0.9s						
DLBC				IAML		08 03 48.2	
	comp=E,94nm,0.7s						
DLBC	**Dease Lake**	**4.16**	**36**	P	**Pn**	**08 02 33.5**	**+1.4**
	baz=222,SNR=8.4						
DLBC	**Dease Lake**	**4.16**	**36**	Pn	**Pn**	**08 02 33.3**	**+1.2**
DLBC				Sg	**Sg**	**08 03 37.6**	**-3.5**
BUTB	**Butedale**	**4.25**	**117**	Pn	**Pn**	**08 02 33.8**	**+0.4**
BUTB				Sn	**Sn**	**08 03 23.9**	**+0.4**
PLBC	**Pleasant Camp**	**4.38**	**349**	Pn	**Pn**	**08 02 36.1**	**+1.0**
P32M	**Atlin**	**4.45**	**7**		**Pn**	**08 02 36.0**	**-0.2**
P32M				IAML		08 03 56.8	
	comp=E,74nm,1.5s						
P32M	**Atlin**	**4.45**	**7**	P	**Pn**	**08 02 36.7**	**+0.6**
	baz=189						
P32M				S	**Sn**	**08 03 27.2**	**-1.3**
	baz=189						
P32M	**Atlin**	**4.45**	**7**	Pn	**Pn**	**08 02 36.8**	**+0.6**
P32M				Sn	**Sn**	**08 03 26.9**	**-1.7**
P32M				Sg	**Sg**	**08 03 48.8**	**-1.7**
R33M	**Jennings River**	**4.69**	**24**		**Pn**	**08 02 40.7**	**+1.2**
R33M				IAML		08 04 05.0	
	comp=E,80nm,0.8s						
R33M				IAML		08 04 06.1	
	comp=N,103nm,0.9s						
R33M	**Jennings River**	**4.69**	**24**	P	**Pn**	**08 02 40.9**	**+1.4**
	baz=209						
R33M	**Jennings River**	**4.69**	**24**	Pn	**Pn**	**08 02 40.6**	**+1.2**
P29M	**Windy Craggy**	**4.75**	**341**		**Pn**	**08 02 41.3**	**+1.1**
P29M				IAML		08 04 13.8	
	comp=E,52nm,1.2s						
P29M				IAML		08 04 17.2	
	comp=N,52nm,0.9s						
P29M	**Windy Craggy**	**4.75**	**341**	Pn	**Pn**	**08 02 40.0**	**-0.2**
BBB	**Bella Bella**	**4.94**	**125**	Pn	**Pn**	**08 02 43.4**	**+0.6**
BBB				Sn	**Sn**	**08 03 38.8**	**-1.6**
P30M	**Million Dollar**	**5.10**	**347**	Pn	**Pn**	**08 02 45.3**	**+0.3**
P33M	**Teslin, Yukon**	**5.15**	**11**		**Pn**	**08 02 46.6**	**+0.9**
P33M				IAML		08 04 19.7	
	comp=E,37nm,0.8s						
P33M	**Teslin, Yukon**	**5.15**	**11**	P	**Pn**	**08 02 47.2**	**+1.5**
	baz=194,SNR=7.1						
P33M	**Teslin, Yukon**	**5.15**	**11**	Pn	**Pn**	**08 02 46.9**	**+1.2**
P33M				Sg	**Sg**	**08 04 10.1**	**-2.6**
PNL	**Peninsula**	**5.16**	**333**	Pn	**Pn**	**08 02 47.9**	**+2.0**
WHY	**Whitehorse**	**5.50**	**359**		**Pn**	**08 02 51.0**	**+0.5**
WHY	**Whitehorse**	**5.50**	**359**	P	**Pn**	**08 02 51.7**	**+1.2**
	baz=180						
WHY	**Whitehorse**	**5.50**	**359**	Pn	**Pn**	**08 02 51.7**	**+1.2**
WHY				Sn	**Sn**	**08 03 51.2**	**-3.0**
O30N	**Mendenhall**	**5.65**	**353**		**Pn**	**08 02 53.6**	**+1.0**
O30N	**Mendenhall**	**5.65**	**353**	P	**Pn**	**08 02 53.9**	**+1.2**
	baz=173						
PINM	**Pinnacle**	**5.75**	**331**	P	**Pn**	**08 02 55.3**	**+1.3**
	baz=147						
PINM				S	**Sn**	**08 04 00.8**	**+0.2**
	baz=147						
PCA	**Pinnacle**	**5.75**	**331**	Pn	**Pn**	**08 02 55.7**	**+1.6**
HYT	**Haines Junctio**	**5.85**	**346**	Pn	**Pn**	**08 02 57.1**	**+1.7**
HOLB	**Holberg**	**6.04**	**136**	Pn	**Pn**	**08 02 58.5**	**+0.5**
HOLB				Sn	**Sn**	**08 04 04.8**	**-3.0**
N32M	**Quiet Lake**	**6.05**	**8**	P	**Pn**	**08 02 59.7**	**+1.6**
	baz=190						
N32M	**Quiet Lake**	**6.05**	**8**	Pn	**Pn**	**08 02 59.2**	**+1.1**
FSJB	**Fort St James**	**6.07**	**93**	Pn	**Pn**	**08 02 59.8**	**+1.5**
FSJB				Sg	**Sg**	**08 04 36.9**	**-5.5**
RKAV	**Rock Avalanche**	**6.24**	**328**	Pn	**Pn**	**08 03 02.9**	**+2.2**
PHC	**Port Hardy**	**6.28**	**133**	Pn	**Pn**	**08 03 01.3**	**+0.1**
PHC				Sn	**Sn**	**08 04 09.6**	**-3.8**
TABL	**Table Mountain**	**6.29**	**330**	Pn	**Pn**	**08 03 03.0**	**+1.5**
O28M	**Mount Upton**	**6.32**	**335**	Pn	**Pn**	**08 03 04.2**	**+2.3**
O28M				Sn	**Sn**	**08 04 12.9**	**-1.8**
N30M	**Aishikik Lake**	**6.42**	**350**	P	**Pn**	**08 03 04.9**	**+1.7**
	baz=168						
N30M	**Aishikik Lake**	**6.42**	**350**	Pn	**Pn**	**08 03 04.1**	**+0.9**
PACB	**Port Alice, BC**	**6.46**	**134**	Sn	**Sn**	**08 04 15.2**	**-2.7**
LOGN	**Logan Glacier**	**6.57**	**332**		**Pn**	**08 03 07.2**	**+1.9**
LOGN	**Logan Glacier**	**6.57**	**332**	Pn	**Pn**	**08 03 07.1**	**+1.8**
UBRB	**Upper Baezaeko**	**6.67**	**106**	Pn	**Pn**	**08 03 09.1**	**+2.5**
GRNC	**Granite Creek**	**6.71**	**329**		**Pn**	**08 03 09.5**	**+2.3**
GRNC	**Granite Creek**	**6.71**	**329**	Pn	**Pn**	**08 03 08.8**	**+1.6**
CTGM	**Chitina Glacie**	**6.78**	**332**		**Pn**	**08 03 10.3**	**+2.1**
CTGM	**Chitina Glacie**	**6.78**	**332**	Pn	**Pn**	**08 03 10.5**	**+2.4**
CTG	**Chitna Glacier**	**6.78**	**332**	P	**Pn**	**08 03 10.5**	**+2.3**
	baz=146						
KIAG	**Kiagna River**	**7.04**	**328**	Pn	**Pn**	**08 03 14.2**	**+2.5**
EDB	**Eliza Dome**	**7.05**	**136**	Pn	**Pn**	**08 03 14.3**	**+2.5**
WOSB	**Woss**	**7.06**	**132**	Pn	**Pn**	**08 03 13.7**	**+1.7**
WOSB				Sn	**Sn**	**08 04 31.6**	**-1.1**
NBC5	**NorthernBC 5**	**7.09**	**66**	Pn	**Pn**	**08 03 14.1**	**+1.7**
NCRB	**Newcastle Ridg**	**7.10**	**129**	Pn	**Pn**	**08 03 14.3**	**+1.7**
FARO	**Faro, Yukon**	**7.11**	**5**	Pn	**Pn**	**08 03 14.8**	**+2.3**
TGTN	**Hyland Airport**	**7.21**	**25**	P	**Pn**	**08 03 16.3**	**+2.4**
	baz=212						
TGTN	**Hyland Airport**	**7.21**	**25**	Pn	**Pn**	**08 03 16.5**	**+2.6**
M30M	**Minto, Yukon**	**7.50**	**353**	Pn	**Pn**	**08 03 19.7**	**+1.8**
M29M	**Somme Creek**	**7.54**	**347**	Pn	**Pn**	**08 03 19.9**	**+1.3**
M29M	**Somme Creek**	**7.54**	**347**	Pn	**Pn**	**08 03 20.1**	**+1.6**
MMPY	**Sheldon Lake,**	**7.67**	**12**	Pn	**Pn**	**08 03 20.4**	**+0.1**
L29M	**L29M**	**8.14**	**349**		**Pn**	**08 03 28.6**	**+1.9**
L29M	**L29M**	**8.14**	**349**	Pn	**Pn**	**08 03 29.0**	**+2.2**
K29M	**Barlow Dome**	**8.80**	**352**	Pn	**Pn**	**08 03 37.3**	**+1.4**
BDMTA	**Bald Mountain**	**9.09**	**86**	Pn	**Pn**	**08 03 42.2**	**+2.4**
DAWY	**Dawson**	**9.22**	**347**	Pn	**Pn**	**08 03 39.4**	**-2.1**
MNB	**Mounoet Dainar**	**10.14**	**100**	P	**Pn**	**08 03 57.9**	**+3.6**
SLEB	**Sale Mountain**	**10.73**	**105**	P	**Pn**	**08 04 06.2**	**+3.8**
J16K	**Anvik River**	**15.43**	**312**		**P**	**08 05 10.5**	**-0.3**
MSO	**Missoula**	**15.47**	**114**	Pn	**P**	**08 05 10.7**	**-0.8**
MSO				IAmb	IAmb	08 05 16.7	
	comp=Z,11nm,1.5s						
CHMT	**Chamberlain Mo**	**15.78**	**113**	Pn	**P**	**08 05 12.7**	**-2.3**
OVMT	**Ovando**	**15.82**	**112**	Pn	**P**	**08 05 14.1**	**-1.3**
HLID	**Hailey**	**17.53**	**123**	P	**P**	**08 05 35.7**	**+1.3**
YHH	**Holmes Hill**	**18.44**	**114**	P	**Pn**	**08 05 47.1**	**+2.5**
YMR	**Madison River**	**18.47**	**115**	P	**Pn**	**08 05 47.5**	**+2.7**
YMR				IAmb	IAmb	08 05 51.5	
	comp=Z,7.4nm,1.0s						
PDAR	**Pinedale Array**	**20.53**	**117**	P	Pn	08 06 11.9	+2.5

DJA 26 08:15:15.7±2.6, 3°S±4°×13°0E±°, h21km±26km, M4.5/9, mb4.9/3, MLv4.3/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.95**	**96**	P	Pn	08 15 48.0	+0.4
SWI	**Sorong**	**2.06**	**28**	P	Pn	08 15 49.3	+0.2
KMPI	**Kaimana, Papua**	**3.52**	**106**	P	Pn	08 16 09.2	0.0
RKPI	**Ransiki, Papua**	**4.04**	**73**	P	Pn	08 16 16.9	+0.5
KMSI	**Cibinong**	**7.11**	**297**	P	Pn	08 16 59.0	+0.4
	139nm,0.6s,0.7nm						

*EAF **26** 08:17:06.4, 21°.42S×33°.43E, h0km, MC3.0*
BUL 26 08:17:05.2±0.8, 21°.45S×33°.58E, h12km±24km, MD2.9, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIPN	**CHIPINGE**	**1.49**	**324**	*i* P	Pn	08 17 25.0	-6.8
CHIPN				*i* S	Sn	08 17 40.4	-11
CHIPN	**CHIPINGE**	**1.49**	**324**	*i* P	Pn	08 17 25.0	-6.8
	baz=342						
CHIPN				*i* S	Sn	08 17 40.4	-11
	baz=342						
MOPA	**Mopani**	**2.89**	**224**	*i* P	Pn	08 17 51.9	+0.9
MOPA				*i* S	Sn	08 18 26.4	+0.7
MOPA	**Mopani**	**2.89**	**224**	*i* P	Pn	08 17 51.9	+0.9
	baz=222						
MOPA				*i* S	Sn	08 18 26.4	+0.7
	baz=222						
MUSN	**Musina, Limpop**	**3.56**	**256**	*i* P	Pn	08 18 00.6	+0.3
MUSN				*i* S	Sn	08 18 39.6	-2.7
MUSN	**Musina, Limpop**	**3.56**	**256**	*i* P	Pn	08 18 00.6	+0.3
	baz=255						
MUSN				*i* S	Sn	08 18 39.6	-2.7
	baz=255						

*MOS **26** 08:38:26.8±1.1, 52°.53N×153°.97E, h426km, mb4.2/1, Error ellipse: s-maj=21.5km s-min=8.2km az=51.0*
*IDC **26** 08:38:27.3±0.8, 52°.73N×154°.08E, h428km±15km, mb3.2/4, mbtmp3.9/8, Error ellipse: s-maj=31.3km s-min=22.0km az=54.0*
*KRSC **26** 08:38:28.8±2.0, 52°.30N×155°.23E, h440km±29km, Ml4.6*
ISC 26 08:38:26.8±0.8, 52°.43N±0°.09×154°.70E±0°.09, h450km, n67, σ2°.19/76, mb3.4/4, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.94**	**68**	P	**P**	**08 39 26.9**	**+0.1**
	8.6nm,0.4s,baz=250,slow=4.2,SNR=70						
PETK				S	**S**	**08 40 16.0**	**+0.2**
	12nm,1.0s,baz=281,slow=16,SNR=2.5						
GRL	**Gorelyy**	**2.06**	**85**	*e*P	**P**	**08 39 29.3**	**+1.6**
GRL	**Gorelyy**	**2.06**	**85**	PN	**P**	**08 39 29.3**	**+1.6**
KRMR	**Karymshinskiy**	**2.13**	**78**	*e*P	**P**	**08 39 28.8**	**+0.9**
KRMR	**Karymshinskiy**	**2.13**	**78**	PN	**P**	**08 39 28.8**	**+0.9**
KDTR	**Khodutka, Kamc**	**2.17**	**105**	*e*P	**P**	**08 39 28.4**	**+0.2**
KDTR				*e*S	**S**	**08 40 15.8**	**-2.3**
KDTR	**Khodutka, Kamc**	**2.17**	**105**	PN	**P**	**08 39 28.4**	**+0.2**
KDTR				S	**S**	**08 40 15.8**	**-2.3**
GNL	**Ganaly**	**2.33**	**56**	*e*P	**P**	**08 39 29.8**	**+0.6**
GNL	**Ganaly**	**2.33**	**56**	PN	**P**	**08 39 29.8**	**+0.6**
RUS	**Russkaya**	**2.33**	**88**	*e*P	**P**	**08 39 30.0**	**+0.9**
RUS				*e*S	**S**	**08 40 18.0**	**-1.9**
RUS	**Russkaya**	**2.33**	**88**	PN	**P**	**08 39 30.0**	**+0.9**
RUS				S	**S**	**08 40 18.0**	**-1.9**
PET	**Petropavlovsk**	**2.48**	**75**	*e*P	**P**	**08 39 31.2**	**+1.2**
PET	**Petropavlovsk**	**2.48**	**75**	PN	**P**	**08 39 31.2**	**+1.2**
KOK	**Koryaka**	**2.54**	**69**	*e*P	**P**	**08 39 32.0**	**+1.5**
KOK	**Koryaka**	**2.54**	**69**	PN	**P**	**08 39 32.0**	**+1.5**
KRX	**Arik**	**2.56**	**67**	*e*P	**P**	**08 39 32.0**	**+1.2**
KRX	**Arik**	**2.56**	**67**	PN	**P**	**08 39 32.0**	**+1.2**
AVH	**Avacha**	**2.59**	**70**	*e*P	**P**	**08 39 32.9**	**+2.0**
AVH	**Avacha**	**2.59**	**70**	PN	**P**	**08 39 32.9**	**+2.0**
KRER	**Koryakskii**	**2.60**	**69**	*e*P	**P**	**08 39 33.0**	**+1.9**
KRER	**Koryakskii**	**2.60**	**69**	PN	**P**	**08 39 33.0**	**+1.9**
UGLR	**Uglovaya**	**2.62**	**71**	*e*P	**P**	**08 39 33.1**	**+2.0**
UGLR	**Uglovaya**	**2.62**	**71**	PN	**P**	**08 39 33.1**	**+2.0**
SMAR	**Somma**	**2.62**	**70**	*e*P	**P**	**08 39 32.9**	**+1.7**
SMAR	**Somma**	**2.62**	**70**	PN	**P**	**08 39 32.9**	**+1.7**
KII	**Karymskiy**	**3.27**	**59**	*e*P	**P**	**08 39 37.5**	**+1.7**
KII	**Karymskiy**	**3.27**	**59**	PN	**P**	**08 39 37.5**	**+1.7**
SPN	**Mys Shipunski**	**3.30**	**76**	*e*P	**P**	**08 39 36.7**	**+0.7**
SPN				*e*S	**S**	**08 40 29.2**	**-3.1**
SPN	**Mys Shipunski**	**3.30**	**76**	PN	**P**	**08 39 36.7**	**+0.7**
ESO	**Esso**	**4.21**	**32**	*e*P	**P**	**08 39 44.7**	**+1.1**
ESO	**Esso**	**4.21**	**32**	PN	**P**	**08 39 44.7**	**+1.1**
KZV	**Kizimen**	**4.27**	**49**	*e*P	**P**	**08 39 46.7**	**+2.4**
KZV	**Kizimen**	**4.27**	**49**	PN	**P**	**08 39 46.7**	**+2.4**
TUMR	**Tumrok**	**4.31**	**46**	*e*P	**P**	**08 39 47.1**	**+2.5**
TUMR	**Tumrok**	**4.31**	**46**	PN	**P**	**08 39 47.1**	**+2.5**
TUMD	**Tumrok D**	**4.37**	**48**	*e*P	**P**	**08 39 47.0**	**+1.9**
MKZ	**Mys Kozlova**	**4.71**	**60**	*e*P	**P**	**08 39 49.5**	**+1.4**
MKZ				*e*S	**S**	**08 40 50.5**	**-4.1**
MKZ	**Mys Kozlova**	**4.71**	**60**	PN	**P**	**08 39 49.5**	**+1.4**
SRDR	**Sredinnyy**	**4.87**	**35**	*e*P	**P**	**08 39 51.6**	**+1.8**
SRDR	**Sredinnyy**	**4.87**	**35**	PN	**P**	**08 39 51.6**	**+1.8**
BZMR	**Bezymyannaya**	**4.88**	**42**	*e*P	**P**	**08 39 52.9**	**+2.9**
BZMR	**Bezymyannaya**	**4.88**	**42**	PN	**P**	**08 39 52.9**	**+2.9**
BZP	**Bezymyannyi-Pe**	**4.89**	**42**	*e*P	**P**	**08 39 53.4**	**+3.4**
BZWR	**Bezymyannyi-We**	**4.91**	**42**	*e*P	**P**	**08 39 53.2**	**+3.0**
BZWR	**Bezymyannyi-We**	**4.91**	**42**	PN	**P**	**08 39 53.2**	**+3.0**
BZGR	**Bezymyannyi-Gr**	**4.97**	**43**	*e*P	**P**	**08 39 54.1**	**+3.3**
BZGR	**Bezymyannyi-Gr**	**4.97**	**43**	PN	**P**	**08 39 54.1**	**+3.3**
LGNR	**Loginova**	**5.07**	**41**	*e*P	**P**	**08 39 55.1**	**+3.2**
LGNR	**Loginova**	**5.07**	**41**	PN	**P**	**08 39 55.1**	**+3.2**
ZLN	**Zelenaya**	**5.07**	**42**	*e*P	**P**	**08 39 55.0**	**+3.3**
ZLN	**Zelenaya**	**5.07**	**42**	PN	**P**	**08 39 55.0**	**+3.3**
KRSR	**Krestovskiy**	**5.11**	**40**	*e*P	**P**	**08 39 54.7**	**+2.5**
KRSR	**Krestovskiy**	**5.11**	**40**	PN	**P**	**08 39 54.7**	**+2.5**
CIRR	**Tsirk**	**5.12**	**41**	*e*P	**P**	**08 39 55.2**	**+3.0**
CIRR	**Tsirk**	**5.12**	**41**	PN	**P**	**08 39 55.2**	**+3.0**
SMKR	**Semkarok**	**5.73**	**41**	*e*P	**P**	**08 40 00.9**	**+2.7**
SMKR	**Semkarok**	**5.73**	**41**	PN	**P**	**08 40 00.9**	**+2.7**
KBTR	**Krutoberegovo**	**6.07**	**48**	*e*P	**P**	**08 40 02.2**	**+0.6**
KBTR				*e*S	**S**	**08 41 16.5**	**-2.7**
KBTR	**Krutoberegovo**	**6.07**	**48**	PN	**P**	**08 40 02.2**	**+0.6**
KBTR				S	**S**	**08 41 16.5**	**-2.7**
ASAJ	**Asahikawa**	**11.57**	**229**	P	**P**	**08 41 00.7**	**-0.2**
	5.3nm,0.7s,baz=37,slow=6.3,SNR=5.2						
KLR	**Kul'dur**	**14.84**	**267**	P	**P**	**08 41 33.6**	**-2.4**
	0.8nm,0.6s,baz=16,slow=7.4,SNR=2.2						
MJAR	**Matsushiro Arr**	**19.69**	**223**	P	**P**	**08 42 27.2**	**+1.9**
	1.9nm,0.8s,baz=12,slow=10,SNR=5.1						
KURK	**Kurchatov**	**45.26**	**300**	P	**P**	**08 46 01.2**	**-0.9**
KURBB	**Kurchatov Arra**	**45.35**	**300**	P	**P**	**08 46 01.2**	**-1.7**
	1.8nm,0.2s,baz=61,slow=7.1,SNR=4.1						
	1.8nm,0.2s						
MKAR	**Makanchi Array**	**45.45**	**293**	P	**P**	**08 46 02.2**	**-1.6**
	0.5nm,0.5s,baz=56,slow=6.0,SNR=6.3						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**74.22**	**200**	P	**P**	**08 49 19.4**	**+3.0**
	0.4nm,0.5s,baz=15,slow=6.1,SNR=8.2						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**77.92**	**199**	P	**P**	**08 49 40.8**	**+3.8**
	0.5nm,0.3s,baz=14,slow=5.1,SNR=12						
	0.5nm,0.3s						

IDC 26 08:50:05.4±2.9, 53°.57N×90°.79E, h0km, mbtmp3.6/4, ML2.8/4, Error ellipse: s-maj=25.3km s-min=19.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.57**	**278**	I	I	09 16 10.0	
	baz=89,slow=339,SNR=2.3						
ZALV	**Zalesovo Beam**	**3.57**	**278**	Pn	Pn	08 51 03.1	+1.2
	1.0nm,0.3s,baz=97,slow=16,SNR=6.9						
ZALV				Lg	Lg	08 51 57.8	
	5.0nm,0.3s,baz=92,slow=26,SNR=11						
	9.3nm,0.5s						
KURBB	**Kurchatov Arra**	**8.11**	**254**	Pn	Pn	08 52 03.6	-0.7
	0.3nm,0.3s,baz=64,slow=14,SNR=14						
KURBB				Sn	Sn	08 53 34.9	-1.7
	0.1nm,0.3s,baz=66,slow=24,SNR=1.0						
KURBB				Lg	Lg	08 54 23.3	
	0.5nm,0.3s,baz=67,slow=34,SNR=8.7						
	5.4nm,0.6s						
MKAR	**Makanchi Array**	**8.70**	**222**	Pn	Pn	08 52 13.4	+0.9
	0.4nm,0.3s,baz=39,slow=13,SNR=18						
MKAR				Sn	Sn	08 53 50.0	-1.3
	0.2nm,0.3s,baz=32,slow=22,SNR=2.3						
MKAR				Lg	Lg	08 54 40.0	
	0.2nm,0.3s,baz=32,slow=27,SNR=4.0						
	1.8nm,0.6s						
I34MN	**SONGINO INFRAS**	**11.46**	**114**	I	I	09 56 30.0	
	baz=310,slow=325,SNR=1.4						
BVAR	**Borovoye Array**	**12.22**	**276**	Pn	Pn	08 52 59.2	-1.4
	baz=84,slow=7.4,SNR=2.2						
BVAR				Sn	Sn	08 55 11.4	-5.9
	0.1nm,0.3s,baz=225,slow=42,SNR=2.1						
	0.6nm,0.5s						

*IDC **26** 08:58:45.0±1.8, 59°.89N×153°.51W, h80km±22km, mb3.5/7, mbtmp3.8/10, Error ellipse: s-maj=23.8km s-min=16.1km az=78.0*
*NEIC **26** 08:58:47.3±0.9, 59°.85N±0°.03×152°.87W±0°.06, h108km±3km, Error ellipse: s-maj=4.8km s-min=4.6km az=124.0*
*AEIC **26** 08:58:48.7±1.3, 59°.84N±0°.03×152°.87W±0°.06, h99km±3km, ML3.2, ML3.4/136(NEIC), Error ellipse: s-maj=4.6km s-min=4.5km az=140.0*
ISC 26 08:58:47.4±0.7, 59°.85N±0°.03×152°.87W±0°.03, h108km±5km, n254, σ0°.74/259, mb3.9/7, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.18**	**337**				
IVE					**Sn**	**08 59 13.2**	**-0.8**
ILSW	**Iliamna Southw**	**0.19**	**315**		**Pn**	**08 59 01.6**	**-1.0**
ILSW	**Iliamna Southw**	**0.19**	**315**		**Sn**	**08 59 13.2**	**-0.8**
ILSW	**Iliamna Southw**	**0.19**	**315**	IAML		08 59 14.2	
	comp=N,2μm,0.7s						
ILSW				IAML		08 59 15.3	
	comp=E,2μm,0.7s						
O20K	**Slope Mountain**	**0.26**	**28**		**Pn**	**08 59 02.8**	**0.0**
O20K					**Sn**	**08 59 14.2**	**-0.2**
O20K	**Slope Mountain**	**0.26**	**28**	P	**Pn**	**08 59 02.8**	**0.0**
	baz=208						
O20K				S	**Sn**	**08 59 14.2**	**-0.2**
	baz=208						
P19K	**Oil Pt**	**0.27**	**223**		**Pn**	**08 59 02.1**	**-0.7**
P19K	**Oil Pt**	**0.27**	**223**		**Sn**	**08 59 13.5**	**-0.8**
P19K	**Oil Pt**	**0.27**	**223**	IAML		08 59 14.5	
	comp=E,6μm,0.5s						
P19K				IAML		08 59 14.7	
	comp=N,3μm,0.6s						
P19K	**Oil Pt**	**0.27**	**223**	P	**Pn**	**08 59 02.6**	**-0.2**
	baz=43						
P19K				S	**Sn**	**08 59 13.5**	**-0.8**
	baz=43						
AU22	**Augustine Moun**	**0.54**	**207**		**Pn**	**08 59 04.0**	**-0.2**
AU22					**Sn**	**08 59 16.6**	**-0.2**
AUL	**Augustine Lava**	**0.55**	**212**		**Pn**	**08 59 04.3**	**0.0**
AUL					**Sn**	**08 59 17.0**	**0.0**
AUQ	**Augustine Qik'**	**0.57**	**209**		**Pn**	**08 59 04.4**	**0.0**
AUCH	**Augustine Cone**	**0.57**	**211**		**Pn**	**08 59 04.4**	**-0.1**
RDSO	**Redoubt South**	**0.61**	**6**		**Pn**	**08 59 04.8**	**-0.1**
RDWB	**Redoubt West**	**0.64**	**2**		**Pn**	**08 59 04.9**	**-0.3**
HOM	**Homer**	**0.65**	**107**		**Pn**	**08 59 04.8**	**-0.2**
HOM	**Homer**	**0.65**	**107**		**Sn**	**08 59 18.9**	**+0.5**
HOM	**Homer**	**0.65**	**107**	IAML		08 59 20.2	
	comp=N,5μm,0.3s						
HOM				IAML		08 59 20.6	
	comp=E,5μm,0.3s						
HOM	**Homer**	**0.65**	**107**	P	**Pn**	**08 59 05.3**	**+0.3**
	baz=288						
RDJH	**Redoubt Jeurge**	**0.74**	**3**		**Pn**	**08 59 05.9**	**-0.1**
RDT	**Redoubt**	**0.76**	**18**		**Pn**	**08 59 06.0**	**-0.2**
O19K	**Port Alsworth**	**0.80**	**296**		**Pn**	**08 59 06.3**	**-0.1**
O19K					**Sn**	**08 59 20.1**	**-0.5**
O19K	**Port Alsworth**	**0.80**	**296**	P	**Pn**	**08 59 06.2**	**-0.2**
	baz=115						
O19K				S	**Sn**	**08 59 20.2**	**-0.

N18K				IAML			08 59 39.0
	comp=E,159nm,1.2s						
N18K	**Kilae Creek**	**1.72**	**300**	P	**Pn**	**08 59 16.5**	**-0.2**
	baz=118						
STLK	**Strandline Lak**	**1.73**	**17**		**Pn**	**08 59 17.2**	**+0.3**
SEW	**Seward**	**1.74**	**80**		**Pn**	**08 59 16.8**	**-0.1**
SEW	**Seward**	**1.74**	**80**	P	**Pn**	**08 59 16.9**	**0.0**
	baz=263						
SVW2	**Sparrevohn**	**1.83**	**314**	Pn	**Pn**	**08 59 17.8**	**-0.4**
SVW2	**Sparrevohn**	**1.83**	**314**		**Sn**	**08 59 40.4**	**-1.2**
SVW2	**Sparrevohn**	**1.83**	**314**	IAML		08 59 41.1	
	comp=N,179nm,1.2s						
SVW2				IAML		08 59 43.2	
	comp=E,94nm,0.5s						
SVW2	**Sparrevohn**	**1.83**	**314**	P	**Pn**	**08 59 17.9**	**-0.2**
KAKN	**Katmai Knife C**	**1.92**	**217**		**Pn**	**08 59 19.4**	**+0.1**
SUA	**Susitna One**	**1.93**	**32**		**Pn**	**08 59 19.8**	**+0.4**
SUA	**Susitna One**	**1.93**	**32**		**Sn**	**08 59 44.3**	**+0.5**
SUA	**Susitna One**	**1.93**	**32**	IAML		08 59 45.4	
	comp=E,885nm,0.7s						
SUA				IAML		08 59 46.5	
	comp=N,459nm,1.1s						
SUA	**Susitna One**	**1.93**	**32**	P	**Pn**	**08 59 20.0**	**+0.6**
	baz=214						
KCG	**Knife Ck. Glac**	**1.93**	**218**		**Pn**	**08 59 19.6**	**+0.2**
KVTA	**Katmai Vly 10**	**1.93**	**221**		**Pn**	**08 59 19.6**	**+0.2**
P17K	**Kvichak River**	**1.93**	**252**		**Pn**	**08 59 19.5**	**+0.2**
P17K	**Kvichak River**	**1.93**	**252**	P	**Pn**	**08 59 19.5**	**+0.2**
	baz=69						
RC01	**Rabbit Creek A**	**1.99**	**50**		**Pn**	**08 59 20.0**	**-0.1**
RC01				IAML		08 59 45.4	
	comp=E,326nm,0.3s						
RC01				IAML		08 59 45.7	
	comp=N,338nm,0.4s						
RC01	**Rabbit Creek A**	**1.99**	**50**	P	**Pn**	**08 59 20.2**	**+0.1**
	baz=233						
KCE	**Katmai Mt Cerb**	**2.00**	**218**		**Pn**	**08 59 21.4**	**+1.0**
KABU	**Katmai Buttres**	**2.02**	**219**		**Pn**	**08 59 20.8**	**+0.3**
KABR	**Katmai Barrier**	**2.04**	**213**		**Pn**	**08 59 20.9**	**+0.1**
M20K	**Styx River**	**2.04**	**357**		**Pn**	**08 59 21.0**	**+0.1**
M20K	**Styx River**	**2.04**	**357**	P	**Pn**	**08 59 21.4**	**+0.6**
	baz=176						
ACHA	**Angle Creek He**	**2.08**	**219**		**Pn**	**08 59 21.7**	**+0.5**
KDAK	**Kodiak Island**	**2.08**	**176**	Pn	**Pn**	**08 59 19.8**	**-1.5**
KDAK				IAML		08 59 47.7	
	comp=N,448nm,0.3s						
KDAK				IAML		08 59 49.5	
	comp=N,360nm,0.4s						
KDAK	**Kodiak Island**	**2.08**	**176**	P	**Pn**	**08 59 20.1**	**-1.1**
	comp=N,145nm,0.3s,baz=335,slow=17,SNR=237						
KDAK				S	**Sn**	**08 59 45.5**	**-1.6**
	comp=N,84nm,0.3s,baz=320,slow=23,SNR=22						
O17K	**Koliganek Bris**	**2.13**	**270**		**Pn**	**08 59 21.8**	**-0.1**
O17K	**Koliganek Bris**	**2.13**	**270**	P	**Pn**	**08 59 21.8**	**-0.1**
	baz=86						
ANCK	**Angle Creek**	**2.14**	**220**		**Pn**	**08 59 22.3**	**+0.2**
M19K	**Big River Lodg**	**2.19**	**341**		**Pn**	**08 59 22.9**	**+0.2**
M19K	**Big River Lodg**	**2.19**	**341**	P	**Pn**	**08 59 22.9**	**+0.2**
	baz=160						
M18K	**Stony River**	**2.19**	**320**		**Pn**	**08 59 22.5**	**-0.1**
M18K	**Stony River**	**2.19**	**320**	P	**Pn**	**08 59 22.5**	**-0.1**
	baz=137						
CNTC	**Contact Creek**	**2.22**	**226**		**Pn**	**08 59 23.3**	**+0.1**
Q17K	**Contact Creek**	**2.23**	**226**	P	**Pn**	**08 59 23.3**	**+0.1**
	baz=43						
SKT	**Skwentna**	**2.24**	**16**		**Pn**	**08 59 23.2**	**0.0**
SKT				IAML		08 59 54.2	
	comp=N,164nm,0.4s						
SKT				IAML		08 59 54.3	
	comp=E,118nm,0.4s						
SKT	**Skwentna**	**2.24**	**16**	P	**Pn**	**08 59 23.5**	**+0.3**
	baz=198						
N17K	**Nushagak Hills**	**2.26**	**289**		**Pn**	**08 59 22.4**	**-1.1**
N17K	**Nushagak Hills**	**2.26**	**289**	P	**Pn**	**08 59 23.4**	**-0.1**
	baz=106						
Q16K	**King Salmon**	**2.27**	**240**		**Pn**	**08 59 23.9**	**+0.3**
Q16K	**King Salmon**	**2.27**	**240**	P	**Pn**	**08 59 23.9**	**+0.3**
	baz=57						
M22K	**Willow**	**2.34**	**34**		**Pn**	**08 59 24.5**	**0.0**
M22K	**Willow**	**2.34**	**34**	P	**Pn**	**08 59 25.1**	**+0.6**
	baz=216						
R18K	**Karluk**	**2.43**	**200**		**Pn**	**08 59 25.1**	**-0.7**
R18K	**Karluk**	**2.43**	**200**	P	**Pn**	**08 59 25.1**	**-0.7**
	baz=19						
PWL	**Port Wells**	**2.47**	**64**		**Pn**	**08 59 25.8**	**-0.5**
PWL				IAML		08 59 57.5	
	comp=E,342nm,0.3s						
PWL	**Port Wells**	**2.47**	**64**	P	**Pn**	**08 59 25.6**	**-0.7**
	baz=248						
L19K	**White Mountain**	**2.53**	**338**		**Pn**	**08 59 27.0**	**-0.1**
L19K				IAML		08 59 59.1	
	comp=E,85nm,0.9s						
L19K	**White Mountain**	**2.53**	**338**	P	**Pn**	**08 59 27.2**	**+0.1**
	baz=157						
PMR	**Palmer**	**2.54**	**45**		**Pn**	**08 59 26.9**	**-0.2**
PMR				IAML		08 59 56.6	
	comp=N,122nm,0.3s						
PMR				IAML		08 59 59.7	
	comp=E,114nm,0.3s						
PMR	**Palmer**	**2.54**	**45**	P	**Pn**	**08 59 26.5**	**-0.6**
PMR	**Palmer**	**2.54**	**45**	P	**Pn**	**08 59 26.5**	**-0.6**
	baz=228						
O16K	**Kokwok River B**	**2.66**	**267**	Pn	**Pn**	**08 59 28.5**	**-0.1**
O16K	**Kokwok River B**	**2.66**	**267**	P	**Pn**	**08 59 28.8**	**+0.1**
	baz=82						
KNK	**Knik Glacier**	**2.68**	**52**		**Pn**	**08 59 28.3**	**-0.8**
KNK				IAML		09 00 01.5	
	comp=N,183nm,0.5s						
KNK				IAML		09 00 03.2	
	comp=E,240nm,0.3s						
KNK	**Knik Glacier**	**2.68**	**52**	P	**Pn**	**08 59 28.4**	**-0.6**
	baz=236						
L20K	**Farewell, AK**	**2.68**	**350**		**Pn**	**08 59 29.6**	**+0.5**
L20K	**Farewell, AK**	**2.68**	**350**	P	**Pn**	**08 59 29.6**	**+0.5**
	baz=169						
GHO	**Glory Hole Cre**	**2.73**	**43**		**Pn**	**08 59 29.1**	**-0.7**
GHO				IAML		09 00 01.8	
	comp=N,222nm,0.3s						
GHO				IAML		09 00 02.7	
	comp=E,213nm,0.6s						
M17K	**Holitna River**	**2.73**	**307**		**Pn**	**08 59 29.2**	**-0.5**
M17K				IAML		09 00 20.2	
	comp=N,99nm,0.7s						
M17K				IAML		09 00 20.3	
	comp=E,91nm,0.8s						
M17K	**Holitna River**	**2.73**	**307**	P	**Pn**	**08 59 29.8**	**0.0**
	baz=123						
P16K	**Nushagak River**	**2.74**	**255**		**Pn**	**08 59 30.4**	**+0.7**
P16K	**Nushagak River**	**2.74**	**255**	P	**Pn**	**08 59 30.4**	**+0.7**
	baz=70						
P23K	**Montague Islan**	**2.76**	**85**		**Pn**	**08 59 30.3**	**+0.3**
P23K	**Montague Islan**	**2.76**	**85**	P	**Pn**	**08 59 30.3**	**+0.3**
	baz=269						
CUT	**Chulitna**	**2.86**	**25**		**Pn**	**08 59 33.1**	**+1.8**
CUT				IAML		09 00 12.4	
	comp=N,207nm,0.4s						
CUT	**Chulitna**	**2.86**	**25**	P	**Pn**	**08 59 31.8**	**+0.5**
	baz=207						
R17K	**Ugashik Creek**	**2.88**	**221**	Pn	**Pn**	**08 59 31.9**	**+0.3**
R17K				IAML		09 00 10.9	
	comp=E,61nm,1.0s						
SML	**Sawmill**	**2.97**	**47**		**Pn**	**08 59 32.2**	**-0.6**
SML				IAML		09 00 07.8	
	comp=E,124nm,0.8s						
SML				IAML		09 00 08.1	
	comp=N,101nm,0.5s						
SML	**Sawmill**	**2.97**	**47**	P	**Pn**	**08 59 32.2**	**-0.6**
	baz=230						
N16K	**Nishlik Lake**	**3.01**	**285**		**Pn**	**08 59 33.9**	**+0.5**
N16K	**Nishlik Lake**	**3.01**	**285**	P	**Pn**	**08 59 33.9**	**+0.5**
	baz=100						
L18K	**Granite Mounta**	**3.02**	**324**	Pn	**Pn**	**08 59 33.0**	**-0.4**
L18K	**Granite Mounta**	**3.02**	**324**	P	**Pn**	**08 59 33.3**	**-0.2**
	baz=140						
GLI	**Glacier Island**	**3.05**	**68**		**Pn**	**08 59 32.9**	**-1.0**
GLI	**Glacier Island**	**3.05**	**68**	IAML		09 00 10.1	
	comp=E,172nm,0.4s						
GLI				IAML		09 00 12.0	
	comp=N,117nm,0.4s						
GLI	**Glacier Island**	**3.05**	**68**	P	**Pn**	**08 59 33.0**	**-1.0**
	baz=253						
PPLA	**Purkeypile**	**3.08**	**6**		**Pn**	**08 59 35.2**	**+0.9**
PPLA	**Purkeypile**	**3.08**	**6**	P	**Pn**	**08 59 35.2**	**+0.9**
	baz=186						
M23K	**Glacier View**	**3.19**	**50**		**Pn**	**08 59 35.3**	**-0.4**
M23K	**Glacier View**	**3.19**	**50**	P	**Pn**	**08 59 35.3**	**-0.4**
	baz=234						
M16K	**Timber Creek**	**3.24**	**294**	Pn	**Pn**	**08 59 36.7**	**+0.3**
M16K	**Timber Creek**	**3.24**	**294**	P	**Pn**	**08 59 36.5**	**+0.1**
	baz=109						
FID	**Port Fidalgo**	**3.31**	**71**		**Pn**	**08 59 35.6**	**-1.8**
Q23K	**Middleton Isla**	**3.34**	**94**		**Pn**	**08 59 37.9**	**+0.2**
Q23K	**Middleton Isla**	**3.34**	**94**	P	**Pn**	**08 59 37.9**	**+0.2**
	baz=280						
SCM	**Sheep Creek Mo**	**3.37**	**51**	Pn	**Pn**	**08 59 37.9**	**-0.2**
SCM				IAML		09 00 19.1	
	comp=E,92nm,0.7s						
SCM				IAML		09 00 23.4	
	comp=N,108nm,0.8s						
SCM	**Sheep Creek Mo**	**3.37**	**51**	P	**Pn**	**08 59 37.8**	**-0.4**
	baz=236						
SII	**Sitkinak Islan**	**3.37**	**192**		**Pn**	**08 59 36.6**	**-1.6**
SII	**Sitkinak Islan**	**3.37**	**192**	P	**Pn**	**08 59 38.0**	**-0.2**
TTA	**Tatalina**	**3.44**	**335**		**Pn**	**08 59 38.4**	**-0.8**
TTA	**Tatalina**	**3.44**	**335**	P	**Pn**	**08 59 38.8**	**-0.3**
TTA	**Tatalina**	**3.44**	**335**	P	**Pn**	**08 59 38.8**	**-0.3**
	baz=153						
L17K	**Donlin**	**3.50**	**313**		**Pn**	**08 59 39.5**	**-0.3**
L17K	**Donlin**	**3.50**	**313**	P	**Pn**	**08 59 39.5**	**-0.3**
	baz=129						
K20K	**Telida**	**3.57**	**351**		**Pn**	**08 59 41.1**	**+0.4**
K20K	**Telida**	**3.57**	**351**	P	**Pn**	**08 59 41.1**	**+0.4**
	baz=170						
WAT7	**Susitna Watana**	**3.57**	**31**		**Pn**	**08 59 40.8**	**-0.1**
CAST	**Castle Rocks**	**3.60**	**6**	Pn	**Pn**	**08 59 41.5**	**+0.3**
CAST	**Castle Rocks**	**3.60**	**6**	P	**Pn**	**08 59 41.4**	**+0.1**
	baz=186						
O15K	**Ungalikthiuk R**	**3.61**	**262**		**Pn**	**08 59 42.3**	**+1.0**
EYAK	**Cordova Ski Ar**	**3.62**	**76**		**Pn**	**08 59 40.5**	**-1.0**
EYAK	**Cordova Ski Ar**	**3.62**	**76**	P	**Pn**	**08 59 40.9**	**-0.6**
EYAK	**Cordova Ski Ar**	**3.62**	**76**	P	**Pn**	**08 59 40.8**	**-0.8**
	baz=262						
WAT1	**Susitna Watana**	**3.64**	**33**		**Pn**	**08 59 41.7**	**-0.1**
WAT1	**Susitna Watana**	**3.64**	**33**	P	**Pn**	**08 59 41.7**	**-0.1**
	baz=217						
WAT6	**Susitna Watana**	**3.70**	**40**		**Pn**	**08 59 42.4**	**-0.3**
WAT6	**Susitna Watana**	**3.70**	**40**	P	**Pn**	**08 59 42.4**	**-0.3**
	baz=224						
L16K	**Owhat River**	**3.74**	**303**		**Pn**	**08 59 42.8**	**-0.2**
DIV	**Divide**	**3.74**	**67**		**Pn**	**08 59 42.7**	**-0.4**
KLU	**Klutina**	**3.80**	**61**		**Pn**	**08 59 42.7**	**-1.2**
KLU				IAML		09 00 29.3	
	comp=E,103nm,0.4s						
KLU	**Klutina**	**3.80**	**61**	P	**Pn**	**08 59 43.2**	**-0.8**
	baz=247						
TRF	**Thorofare Moun**	**3.82**	**18**	Pn	**Pn**	**08 59 44.1**	**-0.1**
TRF				IAML		09 00 29.4	
	comp=N,85nm,0.9s						
TRF				IAML		09 00 32.0	
	comp=E,66nm,0.7s						
TRF	**Thorofare Moun**	**3.82**	**18**	P	**Pn**	**08 59 44.2**	**-0.1**
	baz=200						
KTH	**Kantishna Hill**	**3.83**	**13**		**Pn**	**08 59 44.5**	**+0.1**
KTH				IAML		09 00 29.9	
	comp=N,39nm,0.7s						
KTH				IAML		09 00 29.9	
	comp=E,36nm,0.6s						
K17K	**Iditarod**	**3.89**	**320**	Pn	**Pn**	**08 59 44.7**	**-0.4**
K17K				IAML		09 00 30.3	
	comp=N,31nm,1.1s						
K17K				IAML		09 00 55.0	
	comp=E,37nm,1.1s						
K17K	**Iditarod**	**3.89**	**320**	P	**Pn**	**08 59 45.1**	**0.0**
	baz=135						
M24K	**Tolsona, Glenn**	**3.97**	**52**		**Pn**	**08 59 45.6**	**-0.6**
M24K				IAML		09 00 36.6	
	comp=N,55nm,1.1s						
M24K				IAML		09 00 36.8	
	comp=E,82nm,0.6s						
M24K	**Tolsona, Glenn**	**3.97**	**52**	P	**Pn**	**08 59 46.2**	**-0.1**
	baz=238						
M15K	**Kasigluk River**	**3.98**	**286**		**Pn**	**08 59 46.6**	**+0.3**
M15K	**Kasigluk River**	**3.98**	**286**	P	**Pn**	**08 59 46.6**	**+0.3**
	baz=99						
RND	**Reindeer**	**4.05**	**27**	Pn	**Pn**	**08 59 47.1**	**-0.2**
RND				IAML		09 00 34.2	
	comp=N,44nm,0.4s						
RND				IAML		09 00 34.4	
	comp=E,58nm,0.3s						
CHUM	**Lake Minchumin**	**4.06**	**3**		**Pn**	**08 59 47.3**	**0.0**
J18K	**Innoko River**	**4.06**	**335**		**Pn**	**08 59 47.2**	**-0.2**
J18K	**Innoko River**	**4.06**	**335**	P	**Pn**	**08 59 47.4**	**-0.1**
	baz=152						
DHY	**Denali Highway**	**4.17**	**37**		**Pn**	**08 59 49.1**	**+0.1**
DHY	**Denali Highway**	**4.17**	**37**	IAML		09 00 38.0	
	comp=E,85nm,0.3s						
DHY				IAML		09 00 38.2	
	comp=N,74nm,0.2s						
DHY	**Denali Highway**	**4.17**	**37**	P	**Pn**	**08 59 49.1**	**+0.1**
	baz=222						
BMRM	**Bremner River**	**4.25**	**71**		**Pn**	**08 59 49.5**	**-0.5**
BMRM	**Bremner River**	**4.25**	**71**	P	**Pn**	**08 59 49.5**	**-0.5**
	baz=258						
CHIR	**Chirikof Islan**	**4.30**	**201**		**Pn**	**08 59 49.2**	**-1.4**
CHIR	**Chirikof Islan**	**4.30**	**201**	IAML		09 01 08.4	
	comp=E,76nm,1.2s						
CHIR	**Chirikof Islan**	**4.30**	**201**	P	**Pn**	**08 59 49.8**	**-0.8**
	baz=19						
O14K	**Tigyukauivet M**	**4.31**	**266**		**Pn**	**08 59 51.8**	**+1.0**
O14K	**Tigyukauivet M**	**4.31**	**266**	IAML		09 01 12.5	
	comp=N,23nm,1.0s						
O14K	**Tigyukauivet M**	**4.31**	**266**	P	**Pn**	**08 59 51.5**	**+0.7**
	baz=78						
MCK	**McKinley**	**4.32**	**24**		**Pn**	**08 59 51.4**	**+0.5**
MCK	**McKinley**	**4.32**	**24**	P	**Pn**	**08 59 51.4**	**+0.5**
	baz=207						
BPAW	**Bear Paw Mtn.**	**4.36**	**11**	Pn	**Pn**	**08 59 51.0**	**-0.4**
BPAW				IAML		09 00 39.4	
	comp=N,30nm,0.9s						
BPAW	**Bear Paw Mtn.**	**4.36**	**11**	P	**Pn**	**08 59 51.0**	**-0.4**
	baz=193						
J19K	**Poorman**	**4.36**	**344**		**Pn**	**08 59 51.3**	**-0.1**
J19K	**Poorman**	**4.36**	**344**	P	**Pn**	**08 59 51.1**	**-0.2**
	baz=162						
J20K	**Nowinta River**	**4.38**	**353**	Pn	**Pn**	**08 59 51.8**	**+0.1**
J20K				IAML		09 00 43.9	
	comp=E,21nm,0.9s						
J20K	**Nowinta River**	**4.38**	**353**	P	**Pn**	**08 59 52.1**	**+0.4**
	baz=172						
N25K	**Chitina, Valde**	**4.43**	**63**	Pn	**Pn**	**08 59 52.5**	**+0.1**
N25K				IAML		09 00 46.3	
	comp=E,32nm,0.5s						
N25K				IAML		09 00 47.9	
	comp=N,31nm,0.9s						
N25K	**Chitina, Valde**	**4.43**	**63**	P	**Pn**	**08 59 51.8**	**-0.6**
	baz=250						
N14K	**Kuskokwak Cree**	**4.44**	**275**		**Pn**	**08 59 53.5**	**+1.0**
N14K	**Kuskokwak Cree**	**4.44**	**275**	P	**Pn**	**08 59 53.1**	**+0.7**
	baz=87						
BWN	**Browne**	**4.62**	**19**		**Pn**	**08 59 55.3**	**+0.3**
BWN				IAML		09 01 08.9	
	comp=E,40nm,1.3s						
BWN				IAML		09 01 16.1	
	comp=N,43nm,1.4s						
WACK	**Wrangell Chich**	**4.69**	**59**		**Pn**	**08 59 55.8**	**-0.3**
PAX	**Paxson**	**4.74**	**45**		**Pn**	**08 59 56.5**	**-0.1**
PAX	**Paxson**	**4.74**	**45**	P	**Pn**	**08 59 57.4**	**+0.8**
	baz=232						
GLB	**Gilahina Butte**	**4.74**	**66**		**Pn**	**08 59 56.0**	**-0.6**
GLB				IAML		09 00 51.5	
	comp=N,30nm,0.5s						
GLB				IAML		09 01 06.2	
	comp=E,24nm,0.6s						
KHIT	**Khitrov Hills**	**4.85**	**79**		**Pn**	**08 59 57.7**	**-0.4**
VRDI	**Verde Repeater**	**4.85**	**69**	Pn	**Pn**	**08 59 57.6**	**-0.6**
VRDI				IAML		09 00 53.9	
	comp=E,15nm,1.3s						
VRDI				IAML		09 00 54.5	
	comp=N,22nm,1.1s						
I20K	**Naaghedeneel**	**5.02**	**352**		**Pn**	**09 00 00.5**	**+0.3**
I20K				IAML		09 01 59.3	
	comp=E,48nm,1.5s						
I20K	**Naaghedeneel**	**5.02**	**352**	P	**Pn**	**09 00 00.8**	**+0.6**
	baz=171						
WAX	**Waxell Ridge**	**5.04**	**79**		**Pn**	**08 59 59.5**	**-1.2**
J16K	**Anvik River**	**5.05**	**316**		**Pn**	**09 00 00.3**	**-0.4**
J16K	**Anvik River**	**5.05**	**316**	IAML		09 01 25.3	
	comp=E,14nm,1.3s						
J16K				IAML		09 01 25.7	
	comp=N,16nm,1.5s						
J16K	**Anvik River**	**5.05**	**316**	P	**Pn**	**09 00 00.3**	**-0.4**
	baz=130						
NEA2	**Nenana**	**5.08**	**19**	P	**Pn**	**09 00 00.8**	**-0.3**
	baz=202						
MCARA	**McCarthy VSAT**	**5.09**	**68**		**Pn**	**09 00 01.3**	**+0.1**
MCARA	**McCarthy VSAT**	**5.09**	**68**	IAML		09 01 02.0	
	comp=N,40nm,1.3s						
MCARA				IAML		09 01 02.0	
	comp=E,37nm,0.9s						
MCARA	**McCarthy VSAT**	**5.09**	**68**	P	**Pn**	**09 00 01.3**	**+0.1**
	baz=257						
WRH	**Wood River Hil**	**5.15**	**24**	Pn	**Pn**	**09 00 01.2**	**-0.8**
WRH				IAML		09 00 59.3	
	comp=E,20nm,0.5s						
WRH				IAML		09 00 59.4	
	comp=N,12nm,0.4s						
MLY	**Manley**	**5.29**	**10**		**Pn**	**09 00 03.7**	**-0.4**
KIAG	**Kiagna River**	**5.33**	**74**		**Pn**	**09 00 05.5**	**+0.9**
HDA	**Harding Lake**	**5.35**	**29**		**Pn**	**09 00 04.2**	**-0.6**
COLA	**College**	**5.56**	**23**	P	**Pn**	**09 00 07.2**	**-0.3**
GRNC	**Granite Creek**	**5.60**	**76**		**Pn**	**09 00 09.1**	**+0.7**
ILAR	**Eielson Array**	**5.67**	**27**	P	**Pn**	**09 00 08.6**	**-0.5**
	comp=N,4.6nm,0.5s,baz=220,slow=14,SNR=91						
ILAR				S	**Sn**	**09 01 07.8**	**-5.0**
	comp=N,2.1nm,0.4s,baz=215,slow=16,SNR=4.4						
H20K	**Anotleneega Mo**	**5.74**	**352**		**Pn**	**09 00 10.3**	**+0.3**
POKR	**Poker Plat Res**	**5.86**	**23**		**Pn**	**09 00 11.7**	**+0.1**
PNL	**Peninsula**	**6.81**	**86**	P	**Pn**	**09 00 24.7**	**+0.1**
SIT	**Sitka**	**9.61**	**99**	P	**Pn**	**09 01 03.7**	**+1.2**
	comp=N,22nm,1.4s						
CRAG	**Craig**	**11.44**	**104**	P	**Pn**	**09 01 28.9**	**+1.8**
DLBC	**Dease Lake**	**11.80**	**87**	P	**Pn**	**09 01 35.0**	**+2.9**
	comp=N,0.9nm,0.3s,baz=188,slow=13,SNR=2.7						
DLBC				S	**Sn**	**09 03 39.2**	**-2.5**
	comp=N,0.7nm,0.5s,baz=35,slow=13,SNR=1.6						
NVAR	**Mina Array Bea**	**30.59**	**119**	P	**P**	**09 04 53.9**	**+2.9**
	comp=N,0.2nm,0.5s,baz=308,slow=9.0,SNR=2.7						
	comp=N,0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**42.06**	**3**	P	**P**	**09 06 26.0**	**-1.7**
	comp=N,0.8nm,0.3s,baz=343,slow=9.5,SNR=5.6						
	comp=N,0.8nm,0.3s						
TXAR	**Lajitas Array**	**44.87**	**110**	P	**P**	**09 06 52.2**	**+1.3**
	comp=N,0.1nm,0.7s,baz=307,slow=6.6,SNR=2.2						
	comp=N,0.1nm,0.7s						
ZALV	**Zalesovo Beam**	**57.53**	**324**	P	**P**	**09 08 25.0**	**0.0**
	comp=N,2.4nm,0.4s,baz=22,slow=6.1,SNR=8.5						
	comp=N,2.4nm,0.4s						
BVAR	**Borovoye Array**	**62.23**	**332**	P	**P**	**09 08 57.0**	**-0.1**
	comp=N,1.8nm,0.6s,baz=32,slow=8.5,SNR=5.6						
	comp=N,1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**62.30**	**326**	P	**P**	**09 08 57.1**	**-0.4**
	comp=N,0.8nm,0.5s,baz=31,slow=6.2,SNR=3.2						
	comp=N,0.8nm,0.5s						
MKAR	**Makanchi Array**	**64.59**	**321**	P	**P**	**09 09 12.0**	**-0.8**
	comp=N,0.7nm,0.6s,baz=27,slow=5.6,SNR=5.8						
	comp=N,0.7nm,0.6s						

*DNK **26** 09:08:19.2±0.7, 59°.84N×22°.31E, h0km, ML2.7(UPP), Suspected explosion*
*HEL **26** 09:08:19.5±0.1, 59°.83N×22°.29E, h0km, ML1.9, Explosion*
*IDC **26** 09:08:20.1±1.6, 59°.99N×22°.21E, h0km, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=22.5km s-min=6.6km az=161.0*
*UPP **26** 09:08:20.1±1.2, 59°.84N×22°.16E, h0km, ML2.7*

ISC 26 09:08:18.2±0.7, 59°.88N±0°.03×22°.39E±0°.02, h0km, n41, σ0°78/58, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.92**	**136**	*e*P	**Pg**	**09 08 35.8**	**0.0**
EE01				*e*S	**Sg**	**09 08 48.1**	**+0.5**
MEF	**Metsahovi**	**1.07**	**70**	*e*P	**Pg**	**09 08 38.5**	**-0.1**
MEF	**Metsahovi**	**1.07**	**70**	*e*P	**Pb**	**09 08 39.7**	**+0.3**
MEF				*e*S	**Sb**	**09 08 53.5**	**-0.4**
MEF				MSG		09 08 55.5	
	comp=Z,15nm,0.1s						
RAF	**Rauma**	**1.19**	**345**	*e*P	**Pn**	**09 08 43.1**	**+1.0**
RAF	**Rauma**	**1.19**	**345**	*e*P	**Pg**	**09 08 41.7**	**+0.7**
AAL	**Aland**	**1.24**	**285**	P	**Pg**	**09 08 41.1**	**-0.8**
AAL				S	**Sg**	**09 08 57.3**	**-0.6**
AAL	**Aland**	**1.24**	**285**	*e*P	**Pg**	**09 08 40.6**	**-1.2**
AAL	**Aland**	**1.24**	**285**	*e*P	**Pg**	**09 08 41.0**	**-0.8**
AAL				*e*S	**Sg**	**09 08 57.3**	**-0.6**
AAL	**Aland**	**1.24**	**285**	P	**Pg**	**09 08 41.1**	**-0.8**
AAL				S	**Sg**	**09 08 57.3**	**-0.6**
HEL1	**Helsinki**	**1.29**	**75**	*e*P	**Pn**	**09 08 43.6**	**+0.2**
HEL1				*e*S	**Sn**	**09 09 01.6**	**+0.3**
HEL1				MSG		09 09 07.0	
	comp=Z,14nm,0.1s						
NUR	**Nurmijrvi**	**1.30**	**60**	*e*P	**Pn**	**09 08 44.0**	**+0.5**
NUR				*e*S	**Sn**	**09 09 01.5**	**0.0**
NUR				MSG		09 09 07.2	
	comp=Z,10nm,0.1s						
EE02	**Kiisa, Saku**	**1.36**	**119**	*e*P	**Pg**	**09 08 44.1**	**-0.1**
EE02				*e*SB	**Sn**	**09 09 03.1**	**0.0**
MTSE	**Matsula**	**1.38**	**147**	*e*P	**Pb**	**09 08 46.0**	**+1.3**
MTSE	**Matsula**	**1.38**	**147**	*e*P	**Pg**	**09 08 43.6**	**-0.9**
MTSE				*e*S	**Sg**	**09 09 01.4**	**-0.9**
PVF	**Pernaja**	**1.86**	**67**	*e*P	**Pb**	**09 08 53.5**	**+0.5**
PVF				*e*S	**Sg**	**09 09 17.6**	**-0.3**
ARBE	**Arbavere**

MV4.4/35, FAR E OFF CENTRAL HONSHU
*MOS **26** 09:41:28.7±1.0, 34°.51N×142°.08E, h41km, mb4.9/18, Error ellipse: s-maj=14.6km s-min=6.9km az=118.6*
*NEIC **26** 09:41:29.8±1.9, 34°.64N±0°.06×142°.04E±0°.10, h32km±2km, mb4.6/60, Error ellipse: s-maj=11.8km s-min=7.9km az=109.0*
ISC 26 09:41:28.9±0.7, 34°.65N±0°.05×142°.22E±0°.05, h29km±4km, n202, σ1°66/206, mb4.6/73, MS3.3/11, 9C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.02**	**270**	P	**Pb**	**09 41 46.7**	**-1.0**
BSO1				S	**Sb**	**09 42 00.5**	**0.0**
BSO2	**Boso 2**	**1.21**	**275**	*e*S	**Sb**	**09 42 06.2**	**+0.1**
BSO3	**Boso 3**	**1.42**	**277**	P	**Pb**	**09 41 52.8**	**-1.6**
BSO3				*e*S	**Sb**	**09 42 10.9**	**-1.1**
BSO4	**Boso 4**	**1.58**	**283**	P	**Pb**	**09 41 55.6**	**-1.9**
BSO4				*e*S	**Sb**	**09 42 16.0**	**-1.1**
KTR	**Katsuura**	**1.64**	**288**	*e*S	**Sb**	**09 42 16.4**	**-2.4**
JKUC	**kamogawauchiur**	**1.74**	**288**	P	**Pn**	**09 41 57.1**	**0.0**
JKUC				S	**Sb**	**09 42 18.8**	**-2.7**
JKUC	**kamogawauchiur**	**1.74**	**288**	A	A	09 41 57.1	
	comp=E,7.0nm,0.8s,comp=N,12nm,0.8s						
JSMT	**Sammumatsuo**	**1.76**	**305**	*e*P	**Pn**	**09 41 57.8**	**+0.4**
TATJ	**Tateyama 2**	**1.95**	**282**	A	A	09 42 00.0	
	comp=E,8.0nm,1.2s,comp=N,7.0nm,0.6s						
JMYK	**Miyake Tsubota**	**2.29**	**256**	*e*P	**Pn**	**09 42 03.5**	**-1.2**
JMYK				S	**Sn**	**09 42 30.1**	**-1.8**
JIM2	**Oshima 3**	**2.30**	**272**	P	**Pn**	**09 42 04.0**	**-0.8**
JIM2				*e*S	**Sn**	**09 42 30.8**	**-1.4**
JIM2	**Oshima 3**	**2.30**	**272**	A	A	09 42 04.0	
	comp=E,7.0nm,0.6s,comp=N,8.0nm,1.0s						
JMKN	**Mikurajimanish**	**2.30**	**252**	P	**Pn**	**09 42 03.7**	**-1.2**
JMKN				*e*S	**Sn**	**09 42 29.5**	**-2.8**
JHJ2	**Mitsune**	**2.52**	**233**	Pn	**Pn**	**09 42 06.8**	**-1.1**
JHJ2	**Mitsune**	**2.52**	**233**	P	**Pn**	**09 42 07.6**	**-0.3**
JHJ2				S	**Sn**	**09 42 36.4**	**-1.3**
JHJ	**Hachijo jima 2**	**2.54**	**234**	Pn	**Pn**	**09 42 06.2**	**-2.0**
	comp=N,113nm,0.3s,baz=108,slow=22,SNR=30						
JHJ				Sn	**Sn**	**09 42 35.5**	**-2.6**
	comp=N,702nm,0.3s,baz=54,slow=22,SNR=27						
	comp=N,209nm,0.3s						
JOD2	**Odawara 2**	**2.64**	**284**	P	**Pn**	**09 42 09.1**	**-0.5**
JOD2				*e*S	**Sn**	**09 42 40.0**	**-0.8**
JHTM	**Izuhatsuma**	**2.66**	**278**	A	A	09 42 09.9	
	comp=E,7.0nm,0.5s,comp=N,8.0nm,0.5s						
JIZS	**Izushimoda**	**2.75**	**272**	*e*P	**Pn**	**09 42 10.7**	**-0.4**
JAG	**Ashikaga**	**2.87**	**309**	P	**Pn**	**09 42 12.9**	**+0.2**
JFNN	**Fujinakano**	**2.95**	**282**	*e*P	**Pn**	**09 42 13.8**	**0.0**
JSG	**Sagara**	**3.32**	**272**	Pn	**Pn**	**09 42 17.3**	**-1.7**
JMM	**Marumori**	**3.41**	**341**		**Pn**	**09 42 19.2**	**-1.0**
JNY	**Yasuok**	**3.65**	**282**	A	A	09 42 23.9	
	comp=E,2.0nm,1.0s,comp=N,3.0nm,1.3s						
MJAR	**Matsushiro Arr**	**3.77**	**301**	Pn	**Pn**	**09 42 23.1**	**-2.1**
	comp=N,1.2nm,0.3s,baz=114,slow=25,SNR=76						
MJAR				Sn	**Sn**	**09 43 02.8**	**-5.8**
	comp=N,2.0nm,0.3s,baz=170,slow=14,SNR=3.8						
MJAR				LR	LR	09 44 15.7	
	comp=N,498nm,21.6s,baz=126,slow=45						
	comp=N,7.8nm,0.3s						
MAJO	**Matsushiro**	**3.77**	**301**		**Pn**	**09 42 26.3**	**+1.1**
MAJO	**Matsushiro**	**3.77**	**301**	P	**Pn**	**09 42 26.3**	**+1.1**
MJB9	**Matsu-Tunnel**	**3.78**	**301**		**Pn**	**09 42 27.1**	**+1.9**
INU	**Inuyama**	**4.33**	**281**	Pn	**Pn**	**09 42 33.4**	**+0.6**
JSD	**Sado**	**4.65**	**318**		**Pn**	**09 42 37.1**	**-0.1**
JTM	**Tenmabayashi**	**6.19**	**352**	Pn	**Pn**	**09 42 57.5**	**-0.9**
JMN	**Monobe**	**6.97**	**265**	Pn	**Pn**	**09 43 05.6**	**-3.5**
ERM	**Erimo**	**7.39**	**5**	Pn	**Pn**	**09 43 12.1**	**-2.6**
ERM	**Erimo**	**7.39**	**5**	P	**Pn**	**09 43 12.1**	**-2.6**
JCJ	**Chichijima**	**7.53**	**180**	Pn	**Pn**	**09 43 14.5**	**-2.3**
JCJ	**Chichijima**	**7.53**	**180**	Pn	Pn	09 43 10.0	-6.8
	comp=N,8.8nm,0.3s,baz=286,slow=18,SNR=2.0						
JCJ				Sn	Sn	09 44 28.0	-13
	comp=N,22nm,0.3s,baz=275,slow=22,SNR=2.4						
NMR	**Nemuro--Hokkai**	**9.12**	**16**	⇑*i*P	Pn	09 43 34.9	-3.6
ASAJ	**Asahikawa**	**9.46**	**2**	Pn	**Pn**	**09 43 40.6**	**-2.5**
	comp=N,5.2nm,0.3s,baz=228,slow=8.7,SNR=25						
ASAJ				Sn	**Sn**	**09 45 22.1**	**-6.3**
	comp=N,0.8nm,0.3s,baz=161,slow=31,SNR=4.9						
ASAJ				LR	LR	09 48 14.3	
	comp=N,181nm,19.4s,baz=175,slow=43						
JKA	**Kamikawa-asahi**	**9.46**	**2**	Pn	**Pn**	**09 43 40.1**	**-3.0**
JKA					**Sn**	**09 45 24.9**	**-3.5**
JNU	**Nakatsue**	**9.55**	**264**	Pn	**Pn**	**09 43 42.9**	**-1.6**
JNU	**Nakatsue**	**9.55**	**264**	Pn	**Pn**	**09 43 43.3**	**-1.2**
	comp=N,0.5nm,0.3s,baz=81,slow=2.2,SNR=4.6						
	comp=N,6.3nm,0.8s						
RUSJ	**Misakicho**	**9.73**	**13**	*e*P	**Pn**	**09 43 44.7**	**-2.1**
YUK	**Yuzh-Kuril'sk**	**9.79**	**16**	*e*P	**Pn**	**09 43 44.9**	**-2.7**
YUK				pmax	pmax		
	comp=Z,54nm,0.3s						
YUK				pmax	pmax		
	comp=N,27nm,0.2s						
YUK				pmax	pmax		
	comp=E,29nm,0.2s						
SHO	**Shikotan**	**9.87**	**20**	P	**Pn**	**09 43 45.9**	**-2.9**
KSRS	**Korea Array**	**11.90**	**288**	Pn	**Pn**	**09 44 14.2**	**-2.4**
	comp=E,0.2nm,0.3s,baz=102,slow=14,SNR=3.1						
KSRS				LR	LR	09 49 52.3	
	comp=E,174nm,18.1s,baz=90,slow=43						
YSS	**Yuzh-Sakhalins**	**12.30**	**2**	*e*P	**Pn**	**09 44 20.4**	**-1.6**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
USRK	**Ussuriysk Ar.**	**12.38**	**323**	Pn	**Pn**	**09 44 23.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=144,slow=18,SNR=3.3						
USRK				LR	LR	09 49 07.3	
	comp=Z,140nm,20.1s,baz=130,slow=37						
	comp=Z,2.4nm,0.8s						
JOW	**Kunigami**	**14.29**	**241**	LR	LR	09 49 54.6	
	comp=Z,154nm,21.3s,baz=147,slow=36						
CN2	**Changchun**	**15.86**	**310**	P	**P**	**09 45 14.0**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TYV	**Tymovskoe**	**16.21**	**1**	*e*P	**P**	**09 45 18.0**	**+0.7**
TYV				pmax	pmax		
	comp=Z,19nm,0.9s						
TYV				pmax	pmax		
	comp=Z,500nm,3.9s						
KLR	**Kul'dur**	**16.49**	**335**	*i*P	**P**	**09 45 19.5**	**-1.0**
KLR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZEA	**Zeya**	**21.81**	**336**	*e*P	**P**	**09 46 19.8**	**+1.3**
ZEA				pmax	pmax		
	comp=N,30nm,0.8s						
ZEA				pmax	pmax		
	comp=E,10.0nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,50nm,0.8s						
XLT	**XiLinHaoTe**	**22.17**	**302**	*e*P	**P**	**09 46 24.0**	**+1.4**
XLT				pmax	pmax		
	comp=Z,18nm,0.9s						
XLT				pmax	pmax		
	comp=Z,170nm,5.1s						
LYN	**LuoYang**	**24.45**	**278**	⇑P	**P**	**09 46 45.8**	**+0.5**
LYN				pmax	pmax		
	comp=Z,20nm,0.5s						
LYN				pmax	pmax		
	comp=Z,310nm,4.9s						
HHC	**Hu-ho-hao-te**	**24.94**	**293**	⇑P	**P**	**09 46 51.3**	**+1.6**
HHC				pmax	pmax		
	comp=Z,41nm,0.9s						
HHC				pmax	pmax		
	comp=Z,340nm,5.6s						
HHC				LR	LR		
	comp=Z,340nm,9.0s						
HHC				LR	LR		
	comp=Z,290nm,10.6s						
MA2	**Magadan**	**25.56**	**10**	LR	LR	09 58 43.1	
	comp=Z,61nm,18.4s,baz=114,slow=40						
BTO	**Baotou**	**26.09**	**293**	*e*P	**P**	**09 47 02.0**	**+1.8**
BTO				pP	**pP**	**09 47 06.3**	**+0.3**
BTO				sP	**sP**	**09 47 10.0**	**+1.4**
BTO				PP	**PnPn**	**09 47 43.5**	**+4.6**
BTO				PcP	**PcP**	**09 50 29.3**	**+2.0**
BTO				S	**S**	**09 51 37.0**	**+7.2**
BTO				SS	**SnSn**	**09 52 38.3**	**+9.5**
BTO				pmax	pmax		
	comp=Z,37nm,0.8s						
BTO				LR	LR		
	comp=Z,310nm,5.7s						
H11N2	**WAKE ISLAND Hy**	**26.41**	**118**	T	T	10 14 37.4	
	baz=309,slow=75,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**26.42**	**118**	T	T	10 14 37.5	
	baz=309,slow=75,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**26.43**	**118**	T	T	10 14 37.3	
	baz=309,slow=75,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**27.06**	**120**	T	T	10 15 31.0	
	baz=312,slow=75,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**27.06**	**120**	T	T	10 15 40.7	
	baz=312,slow=75,SNR=7.5						
H11S2	**WAKE ISLAND Hy**	**27.07**	**120**	T	T	10 15 33.9	
	baz=312,slow=75,SNR=6.4						
XAN	**Xi'an**	**27.43**	**278**	P	**P**	**09 47 10.3**	**-2.0**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YAK	**Yakutsk**	**28.53**	**348**	*e*P	**P**	**09 47 22.0**	**+0.3**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.9s						
ULN	**Ulaanbaatar**	**29.28**	**308**	*ce*P	**P**	**09 47 30.7**	**+2.0**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SONM	**Songino Array**	**29.70**	**307**	P	**P**	**09 47 30.5**	**-1.9**
SONM	**Songino Array**	**29.70**	**307**	*e*P	**P**	**09 47 34.6**	**+2.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**29.70**	**307**	P	**P**	**09 47 33.9**	**+1.5**
	comp=Z,3.4nm,0.9s,baz=108,slow=8.2,SNR=14						
SONM				LR	LR	10 00 04.0	
	comp=Z,44nm,20.6s,baz=40,slow=38						
	comp=Z,3.4nm,0.9s						
BOD	**Bodaibo**	**29.90**	**329**	*e*P	P	09 47 40.4	+6.5
BOD				pmax	pmax		
	comp=Z,21nm,1.3s						
GTA	**Gaotai**	**33.95**	**291**	*e*P	**P**	**09 48 11.0**	**+1.1**
GTA				pP	pP	09 48 15.0	-0.8
GTA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GOMU	**GeErMu**	**38.36**	**286**	P	**P**	**09 48 49.3**	**+1.4**
GOMU				pmax	pmax		
	comp=Z,11nm,1.2s						
TNCH	**TengChong**	**38.84**	**268**	*e*P	**P**	**09 48 52.5**	**+0.7**
CRAI	**Chiangrai**	**39.53**	**260**	P	**P**	**09 48 56.6**	**-0.8**
CRAI				IAmb	IAmb	09 48 58.9	
	comp=Z,8.8nm,0.8s						
CHTO	**Chiang Mai**	**41.41**	**259**	P	**P**	**09 49 12.2**	**-0.8**
CHTO	**Chiang Mai**	**41.41**	**259**	P	**P**	**09 49 12.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**41.60**	**259**	P	**P**	**09 49 12.7**	**-1.8**
	comp=Z,3.1nm,0.6s,baz=48,slow=7.9,SNR=23						
CMAR				PcP	**PcP**	**09 51 12.2**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=352,slow=3.9,SNR=4.5						
CMAR				LR	LR	10 10 00.5	
	comp=Z,33nm,18.4s,baz=50,slow=41						
	comp=Z,3.1nm,0.6s						
DGZ	**Jazzator, Alta**	**42.34**	**308**	*i*P	**P**	**09 49 21.8**	**+1.4**
DGZ				pmax	pmax		
	comp=Z,11nm,0.9s						
ZALV	**Zalesovo Beam**	**44.02**	**314**	P	**P**	**09 49 31.8**	**-1.9**
ZALV	**Zalesovo Beam**	**44.02**	**314**	P	**P**	**09 49 32.8**	**-0.9**
	comp=Z,3.0nm,0.5s,baz=95,slow=7.6,SNR=9.6						
ZALV				PcP	**PcP**	**09 51 19.0**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=50,slow=12,SNR=2.0						
ZALV				LR	LR	10 09 38.3	
	comp=Z,34nm,18.1s,baz=34,slow=38						
	comp=Z,3.0nm,0.5s						
MK31	**Makanchi Array**	**45.97**	**304**	P	**P**	**09 49 48.0**	**-1.3**
MK31	**Makanchi Array**	**45.97**	**304**	*i*P	**P**	**09 49 49.6**	**+0.3**
MKAR	**Makanchi Array**	**45.97**	**304**	P	**P**	**09 49 48.6**	**-0.8**
MKAR	**Makanchi Array**	**45.97**	**304**	P	**P**	**09 49 49.4**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=93,slow=9.4,SNR=8.8						
MKAR				PcP	**PcP**	**09 51 26.1**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=68,slow=8.0,SNR=4.2						
MKAR				LR	LR	10 10 07.7	
	comp=Z,34nm,18.8s,baz=56,slow=38						
	comp=Z,1.4nm,0.7s						
H18K	**Honhosa River**	**46.35**	**30**	P	**P**	**09 49 51.4**	**-0.7**
RAMN	**Ramite**	**47.88**	**277**	*e*P	**P**	**09 50 05.7**	**+0.9**
	comp=Z,30nm,0.7s						
JIRN	**Jiri**	**47.94**	**278**	*e*P	**P**	**09 50 06.6**	**+1.2**
	comp=Z,14nm,0.4s						
KURK	**Kurchatov**	**47.94**	**310**	P	**P**	**09 50 04.0**	**-0.6**
KURK				IAmb	IAmb	09 50 06.0	
	comp=Z,6.5nm,0.8s						
KURK	**Kurchatov**	**47.94**	**310**	P	**P**	**09 50 04.4**	**-0.2**
KURK						09 51 32.3	
KURBB	**Kurchatov Arra**	**48.00**	**310**	P	**P**	**09 50 04.4**	**-0.7**
	comp=Z,4.0nm,0.6s,baz=84,slow=7.4,SNR=34						
KURBB				PcP	**PcP**	**09 51 32.3**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=89,slow=3.6,SNR=5.5						
	comp=Z,4.0nm,0.6s						
GUN	**Gumba**	**48.09**	**278**	*e*P	**P**	**09 50 07.5**	**+0.9**
	comp=Z,27nm,0.8s						
IMAR	**Indian Mountai**	**48.38**	**29**	P	**P**	**09 50 07.2**	**-0.7**
PKI	**Pulchoki**	**48.61**	**278**	*e*P	**P**	**09 50 10.9**	**+0.4**
	comp=Z,12nm,0.7s						
PKIN	**Phulchoki**	**48.62**	**278**	*e*P	**P**	**09 50 11.0**	**+0.5**
	comp=Z,21nm,0.7s						
H21K	**Melozitna Rive**	**48.73**	**30**	P	**P**	**09 50 11.7**	**+1.2**
GKN	**Gorkha**	**49.07**	**279**	*e*P	**P**	**09 50 14.6**	**+0.8**
	comp=Z,60nm,0.9s						
D22K	**Ayikyak River**	**49.21**	**26**	P	**P**	**09 50 15.6**	**+1.4**
E22K	**Anaktuvuk Pass**	**49.42**	**27**	P	**P**	**09 50 16.9**	**+1.1**
MLY	**Manley**	**49.54**	**31**	P	**P**	**09 50 17.5**	**+0.7**
MLY				IAmb	IAmb	09 50 24.0	
	comp=Z,5.6nm,1.2s						
DANN	**Dangsing**	**49.65**	**280**	*e*P	**P**	**09 50 19.2**	**+0.8**
	comp=Z,66nm,0.8s						
KOLN	**Koldanda**	**50.00**	**279**	*e*P	**P**	**09 50 22.2**	**+1.2**
	comp=Z,67nm,2.2s						
TOLK	**Toolik Lake Re**	**50.30**	**26**	P	**P**	**09 50 23.4**	**+0.8**
TOLK				IAmb	IAmb	09 50 26.2	
	comp=Z,6.6nm,0.9s						
PYUN	**Piuthan**	**50.37**	**280**	*e*P	**P**	**09 50 24.5**	**+0.7**
	comp=Z,19nm,0.5s						
MDM	**Murphy Dome**	**50.60**	**31**	P	**P**	**09 50 26.3**	**+1.5**
MDM				IAmb	IAmb	09 50 27.8	
	comp=Z,8.0nm,0.9s						
H24K	**Noodor Dome**	**50.77**	**30**	P	**P**	**09 50 27.5**	**+1.4**
F24K	**Squaw Lake**	**50.84**	**28**	P	**P**	**09 50 28.0**	**+1.4**
ILAR	**Eielson Array**	**51.17**	**31**	P	**P**	**09 50 29.5**	**+0.5**
ILAR	**Eielson Array**	**51.17**	**31**	P	**P**	**09 50 29.8**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=260,slow=5.9,SNR=31						
ILAR				PcP	**PcP**	**09 51 43.8**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=276,slow=3.9,SNR=1.4						
	comp=Z,2.6nm,0.7s						
E25K	**Arctic Village**	**51.75**	**27**	P	**P**	**09 50 33.8**	**+0.4**
E25K				IAmb	IAmb	09 50 37.3	
	comp=Z,7.5nm,0.9s						
BMAR	**Burnt Mountain**	**52.11**	**28**	P	**P**	**09 50 37.8**	**+1.7**
AAK	**Ala-Archa**	**52.22**	**300**	LR	LR	10 14 26.0	
	comp=Z,73nm,18.4s,baz=56,slow=38						
BVAR	**Borovoye Array**	**52.67**	**314**	P	**P**	**09 50 40.5**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=75,slow=6.4,SNR=9.0						
BVAR				PcP	**PcP**	**09 51 49.2**	**-0.8**
	comp=Z,3.2nm,0.7s,baz=90,slow=3.3,SNR=6.6						
	comp=Z,2.3nm,0.7s						
BRVK	**Borovoye**	**52.73**	**314**	*ce*P	**P**	**09 50 41.4**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
E27K	**Coleen River**	**53.23**	**27**	P	**P**	**09 50 45.7**	**+1.3**
E27K				IAmb	IAmb	09 50 48.0	
	comp=Z,5.3nm,0.8s						
E28M	**Babbage River**	**53.98**	**26**	P	**P**	**09 50 50.0**	**+0.2**
E28M				IAmb	IAmb	09 50 53.0	
	comp=Z,5.3nm,0.9s						
I28M	**Miner Creek**	**54.07**	**30**	P	**P**	**09 50 52.0**	**+1.4**
I28M				IAmb	IAmb	09 50 53.7	
	comp=Z,6.8nm,0.9s						
WRAB	**Tennant Creek**	**54.80**	**189**	P	**P**	**09 50 55.8**	**-0.4**
WRAB	**Tennant Creek**	**54.80**	**189**	P	**P**	**09 50 55.8**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,13nm,0.9s						
WR0	**Warramunga Arr**	**54.80**	**189**	P	**P**	**09 50 55.9**	**-0.4**
WB2	**Warramunga Arr**	**54.80**	**189**	P	**P**	**09 50 56.2**	**-0.1**
WRA	**Warramunga Arr**	**54.81**	**189**	P	**P**	**09 50 55.8**	**-0.6**
	comp=Z,11nm,0.7s,baz=8.0,slow=7.6,SNR=31						
WRA				PcP	**PcP**	**09 51 59.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=5.5,slow=7.7,SNR=1.7						
	comp=Z,11nm,0.7s						
KK31	**Karatay Array**	**54.91**	**302**	P	**P**	**09 50 56.0**	**-1.0**
KK31	**Karatay Array**	**54.91**	**302**	P	**P**	**09 50 56.0**	**-1.0**
KK31				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KKAR	**Karatay Array**	**54.91**	**302**	P	**P**	**09 50 55.8**	**-1.2**
KKAR	**Karatay Array**	**54.91**	**302**	P	**P**	**09 50 56.4**	**-0.6**
KKAR	**Karatay Array**	**54.91**	**302**	P	**P**	**09 50 56.4**	**-0.6**
EPYK	**Eagle Plains**	**55.28**	**29**	P	**P**	**09 51 00.7**	**+1.4**
EPYK				IAmb	IAmb	09 51 02.1	
	comp=Z,6.5nm,0.8s						
AS31	**Alice Springs**	**58.53**	**189**	P	**P**	**09 51 23.0**	**+0.2**
ASAR	**Alice Springs**	**58.53**	**189**	P	**P**	**09 51 21.6**	**-1.2**
ASAR	**Alice Springs**	**58.53**	**189**	P	**P**	**09 51 22.1**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=2.1,slow=5.5,SNR=12						
	comp=Z,1.2nm,0.8s						
ARU	**Arti**	**58.59**	**320**	*ce*P	**P**	**09 51 23.5**	**+0.7**
ARU				pmax	pmax		
	comp=Z,12nm,1.7s						
ABKAR	**Akbulak array**	**59.99**	**311**	P	**P**	**09 51 31.0**	**-1.6**
ABKAR				IAmb	IAmb	09 51 33.8	
	comp=Z,4.3nm,0.8s						
KIRV	**Kirov**	**62.55**	**324**	*ce*P	**P**	**09 51 51.0**	**+1.3**
KIRV	**Kirov**	**62.55**	**324**	LR	LR	10 23 04.1	
	comp=Z,20nm,19.8s,baz=43,slow=40						
GEYT	**Alibeck**	**65.58**	**300**	P	**P**	**09 52 10.3**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=341,slow=3.6,SNR=3.6						
	comp=Z,1.2nm,0.3s						
BELG	**Belogornoye**	**66.00**	**318**	LR	LR	10 25 33.2	
	comp=Z,37nm,18.3s,baz=134,slow=40						
KLMR	**Klimovskoe**	**66.12**	**329**	*e*P	**P**	**09 52 12.5**	**-0.7**
KLMR				AMP		09 52 15.6	
	comp=Z,38nm,2.0s						
KLMR	**Klimovskoe**	**66.12**	**329**	*e*P	**P**	**09 52 12.4**	**-0.7**
KLMR				pmax	pmax		
	comp=Z,38nm,2.0s						
ARCES	**ARCESS Array B**	**66.45**	**340**	*e*P	**P**	**09 52 16.8**	**+1.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**66.45**	**340**	P	**P**	**09 52 15.2**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=52,slow=7.9,SNR=4.1						
	comp=Z,2.8nm,0.8s						
OBN	**Obninsk**	**70.40**	**324**	⇑*e*P	**P**	**09 52 41.1**	**+1.1**
OBN						09 52 58.0	
OBN				S	**S**	**10 01 49.0**	**-1.5**
OBN				*e*		10 02 28.9	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s						
FINES	**FINESS Array B**	**71.22**	**333**	*e*P	**P**	**09 52 46.0**	**+1.1**
FINES				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FINES	**FINESS Array B**	**71.22**	**333**	P	**P**	**09 52 43.6**	**-1.3**
	comp=Z,8.0nm,0.8s,baz=69,slow=10,SNR=13						
	comp=Z,8.0nm,0.8s						
NEW	**Newport**	**71.39**	**44**	IAmb	IAmb	09 52 48.9	
	comp=Z,6.0nm,1.0s						
KBZ	**Khabaz**	**72.96**	**312**	*e*P	**P**	**09 52 56.9**	**+1.3**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**72.96**	**312**	P	**P**	**09 52 56.4**	**+0.7**
	comp=Z,4.8nm,0.9s,baz=25,slow=5.9,SNR=7.3						
	comp=Z,4.8nm,0.9s						
KIV	**Kislovodsk**	**72.97**	**312**	*e*P	**P**	**09 52 55.2**	**-0.6**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
SUMG	**Summit**	**73.06**	**0**	P	**P**	**09 52 56.8**	**+0.6**
SUMG	**Summit**	**73.06**	**0**	P	**P**	**09 52 56.8**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,13nm,1.0s						
GNI	**Garni**	**73.66**	**308**	LR	LR	10 27 05.5	
	comp=Z,39nm,19.1s,baz=336,slow=37						
EMB	**Emerald Bay**	**74.41**	**53**	IAmb	IAmb	09 53 07.2	
	comp=Z,5.2nm,0.9s						
CMB	**Columbia Colle**	**74.72**	**54**	IAmb	IAmb	09 53 08.8	
	comp=Z,5.6nm,0.9s						
MNK	**Minsk**	**74.83**	**327**	*i*P	**P**	**09 53 04.6**	**-1.8**
MNK				*i*P	**P**	**09 53 04.6**	**-1.8**
	comp=N,17nm,0.8s						
MNK				*i*P	**P**	**09 53 04.6**	**-1.8**
	comp=Z,7.0nm,0.9s,baz=51						
MNK				*i*PcP	**sP**	**09 53 17.8**	**+2.3**
MNK				*i*PP	**PP**	**09 55 53.5**	**+0.1**
MNK				*i*PPP	PPP	09 57 35.8	
MNK				*i*S	**S**	**10 02 40.8**	**-0.5**
MNK				*i*SS	**SS**	**10 07 28.6**	**+0.1**
MNK				*i*SSS	SSS	10 10 47.7	
MNK				*i*LQ	LQ	10 20 57.0	
MNK				*i*LR	LR	10 24 56.9	
MNK				*i*LRM	MLR	10 32 23.9	
	comp=Z,80nm,20.4s						
MNK				*i*LRM	MLR	10 32 47.1	
	comp=E,106nm,21.7s						
MNK				*i*LRM	MLR	10 32 51.2	
	comp=N,233nm,18.7s						
MNK	**Minsk**	**74.83**	**327**	*i*P	**P**	**09 53 04.5**	**-1.8**
MNK				*i*		09 53 17.7	
MNK				*i*		09 55 53.4	
MNK				*i*PPP	PPP	09 57 35.7	
MNK				*i*S	**S**	**10 02 40.7**	**-0.5**
MNK				*i*SS	**SS**	**10 07 28.5**	**+0.1**
MNK				*i*SSS	SSS	10 10 47.7	
MNK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MNK				pm

	comp=Z,2.4nm,0.9s						
HMU	Henry Mountain	81.05	50	IAmb	IAmb	09 53 44.4	
	comp=Z,5.0nm,1.0s						
O20A	White River Ci	81.26	47	IAmb	IAmb	09 53 45.7	
	comp=Z,8.6nm,1.1s						
MMAI	Mount Meron Ar	83.88	306	P	P	09 53 56.0	-0.2
	comp=Z,1.0nm,0.3s,baz=357,slow=12,SNR=4.6						
	comp=Z,1.0nm,0.3s						
SDCO	Great Sand Dun	84.42	47	P	P	09 54 00.2	+1.1
GERES	GERESS Array B	85.08	329	*e*P	P	09 54 03.4	+1.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	GERESS Array B	85.08	329	P	P	09 54 02.6	+0.5
	comp=Z,1.3nm,0.6s,baz=14,slow=7.2,SNR=4.1						
	comp=Z,1.3nm,0.6s						
ANMO	Albuquerque	85.61	50	P	P	09 54 04.3	-0.8
ANMO				IAmb	IAmb	09 54 08.5	
	comp=Z,5.3nm,1.3s						
ANMO	Albuquerque	85.61	50	P	P	09 54 04.3	-0.8
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
WMOK	Wichita Mounta	90.46	46	P	P	09 54 29.1	+1.0
WMOK				IAmb	IAmb	09 54 29.4	
	comp=Z,5.0nm,1.3s						
WMOK	Wichita Mounta	90.46	46	P	P	09 54 29.1	+1.0
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TX32	Lajitas Array	91.04	53	IAmb	IAmb	09 54 35.5	
	comp=Z,1.7nm,0.8s						
TXAR	Lajitas Array	91.05	53	P	P	09 54 32.0	+1.0
TXAR	Lajitas Array	91.05	53	P	P	09 54 32.0	+1.0
	comp=Z,1.3nm,0.7s,baz=302,slow=3.4,SNR=22						
	comp=Z,1.3nm,0.7s						
TORD	Torodi Ar. Bea	119.47	315	PKP	PKPdf	10 00 15.7	-0.7
	comp=Z,0.9nm,0.9s,baz=353,slow=2.7,SNR=4.0						
QSPA	South Pole Qui	124.40	180	PKP	PKPdf	10 00 23.2	-1.0
	comp=Z,1.8nm,1.0s,baz=277,slow=0.8,SNR=12						
LPAZ	La Paz	147.25	64	PKPbc	PKPdf	10 01 09.9	+1.4
	comp=Z,7.8nm,0.7s,baz=316,slow=2.7,SNR=33						
PLCA	Paso Flores	153.47	113	PKPbc	PKPbc	10 01 22.9	-1.6
	comp=Z,1.2nm,0.8s,baz=210,slow=6.1,SNR=3.2						

IDC 26 09:59:46.1±1.3, 53°23S×141°80E, h0km, mb3.5/5, mbtmp3.6/5, MS3.4/4, Error ellipse: s-maj=147.9km s-min=20.2km az=83.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.34	360	P	P	10 04 35.7	+1.1
	2.0nm,1.0s,baz=178,slow=10.0,SNR=4.1						
	2.0nm,1.0s						
RPZ	Rata Peaks	21.47	76	LR	LR	10 11 32.9	
	comp=Z,97nm,18.6s,baz=227,slow=33						
VNDA	Vanda	25.47	170	P	P	10 05 15.6	+0.4
	0.6nm,0.9s,baz=332,slow=10,SNR=2.1						
	0.6nm,0.9s						
H01W1	Cape Leeuwin H	26.77	302	T	T	10 32 42.7	
	baz=143,slow=76,SNR=18						
H01W2	Cape Leeuwin H	26.77	302	T	T	10 32 43.1	
	baz=143,slow=76,SNR=18						
H01W3	Cape Leeuwin H	26.79	302	T	T	10 32 44.0	
	baz=143,slow=76,SNR=16						
ASAR	Alice Springs	30.12	345	P	P	10 05 56.9	-0.5
	0.3nm,0.4s,baz=165,slow=9.9,SNR=14						
	0.3nm,0.4s						
WRA	Warramunga Arr	33.72	347	P	P	10 06 28.9	-0.1
	0.4nm,0.5s,baz=170,slow=7.9,SNR=9.8						
	0.4nm,0.5s						
DZM	Mont Dzumac	36.35	41	LR	LR	10 18 21.0	
	comp=Z,88nm,18.8s,baz=358,slow=31						
QSPA	South Pole Qui	36.88	180	P	P	10 06 55.6	-0.4
	1.3nm,1.1s,baz=8.9,slow=3.8,SNR=2.4						
	1.3nm,1.1s						
BATI	Baumata	45.33	334	LR	LR	10 28 16.1	
	comp=Z,52nm,18.5s,baz=179,slow=38						
H04S1	CROZET ISLANDS	54.42	238	T	T	11 07 50.5	
	baz=131,slow=75,SNR=9.7						
H04S2	CROZET ISLANDS	54.42	238	T	T	11 07 43.7	
	baz=131,slow=75,SNR=12						
H04S3	CROZET ISLANDS	54.43	238	T	T	11 07 49.0	
	baz=131,slow=75,SNR=8.2						
CMAR	Chiang Mai Arr	80.40	319	LR	LR	10 47 32.2	
	comp=Z,8.3nm,18.8s,baz=215,slow=36						

WEL 26 10:03:09.6±1.0, 41°S±5°×17°3E±°, h92km±7km, M2.5/6, MLv2.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=143.2, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRNZ	Matariki Terra	0.03	235	P	Pn	10 03 23.8	+1.4
MRNZ				S	Sn	10 03 34.8	+2.7
TKNZ	Takaka Hill	0.37	20	P	Pn	10 03 24.9	+1.2
TKNZ				S	Sn	10 03 36.4	+2.2
THZ	Tophouse	0.39	167	P	Pn	10 03 25.0	+1.2
THZ				S	Sn	10 03 36.9	+2.5
NNZ	Nelson	0.47	70	P	Pn	10 03 25.2	+0.9
NNZ				S	Sn	10 03 37.6	+2.3
QRZ	Quartz Range	0.59	341	P	Pn	10 03 26.4	+1.1
QRZ				S	Sn	10 03 38.9	+1.9
DSZ	Denniston Nort	0.82	244	P	Pn	10 03 28.3	+0.8
DSZ				S	Sn	10 03 42.1	+1.1
TUWZ	Tuamarina	0.87	93	P	Pn	10 03 28.3	+0.3
TUWZ				S	Sn	10 03 43.0	+1.2
BSWZ	Blackbirch Sta	0.88	112	P	Pn	10 03 28.6	+0.5
BSWZ				S	Sn	10 03 43.8	+1.8
DUWZ	D'Urville Isla	1.03	56	P	Pn	10 03 30.5	+0.7
DUWZ				S	Sn	10 03 46.5	+1.5
TCW	Tory Channel	1.13	82	P	Pn	10 03 31.1	+0.1
KHZ	Kahutara	1.17	152	P	Pn	10 03 31.5	+0.1
LTZ	Lake Taylor	1.45	195	P	Pn	10 03 35.0	+0.1
GVZ	Greta Valley S	1.59	173	P	Pn	10 03 36.4	-0.3
INZ	Inchbonnie	1.67	216	P	Pn	10 03 37.6	-0.1
KIW	Kapiti Island	1.69	73	P	Pn	10 03 36.9	-0.9
CAW	Cannon Point	1.74	82	P	Pn	10 03 36.9	-1.6
PLWZ	Palliser	1.86	97	P	Pn	10 03 37.9	-2.2
OGWZ	Otaki Gorge	1.89	73	P	Pn	10 03 39.0	-1.4
OXZ	Oxford	2.02	196	P	Pn	10 03 42.2	0.0
MTW	Mount Morrison	2.06	85	P	Pn	10 03 40.4	-2.2
NBEZ	Newall Road No	2.27	22	P	Pn	10 03 45.8	+0.4
WVZ	Waitaha Valley	2.28	221	P	Pn	10 03 44.9	-0.5
KHEZ	Kahui Hut	2.29	25	P	Pn	10 03 46.2	+0.5
PREZ	Palmer Road	2.29	28	P	Pn	10 03 46.3	+0.5
MHCZ	Mount Hutt	2.33	202	P	Pn	10 03 45.4	-0.8
NEZ	North Egmont	2.33	26	P	Pn	10 03 46.6	+0.2
OKCZ	Okains Bay	2.35	175	P	Pn	10 03 45.1	-1.3
PKE	Pukeiti	2.37	23	P	Pn	10 03 47.2	+0.4
GCSZ	Gaunt Creek Bo	2.66	223	P	Pn	10 03 49.9	-0.6
FOZ	Fox Glacier	3.07	225	P	Pn	10 03 54.9	-1.2
TMZ	Timaru	3.27	203	P	Pn	10 03 57.2	-1.6
KAHZ	Kahuranaki	3.49	64	P	Pn	10 03 58.8	-3.0
TLZ	Tolley Road	3.71	36	P	Pn	10 04 04.1	-0.7
JCZ	Jackson Bay	3.99	226	P	Pn	10 04 07.0	-1.6

IDC 26 10:07:16.4±2.3, 17°09N×147°52E, h0km, mb3.8/6, mbtmp3.8/6, MS3.1/1, Error ellipse: s-maj=96.6km s-min=23.8km az=87.0

ISC 26 10:07:22.7±2.5, 17°1N±0°2×147°2E±0°8, h35km, n7, σ0°47/6, mb3.8/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	34.86	233	LR	LR	10 27 44.5	
	comp=Z,30nm,20.5s,baz=294,slow=35						
WRA	Warramunga Arr	38.87	199	P	P	10 14 44.4	-0.5
	0.7nm,0.8s,baz=26,slow=8.6,SNR=8.3						
	0.7nm,0.8s						
ASAR	Alice Springs	42.50	198	P	P	10 15 15.3	+0.5
	0.2nm,0.7s,baz=22,slow=9.0,SNR=2.0						
	0.2nm,0.7s						
ZALV	Zalesovo Beam	60.18	323	P	P	10 17 27.3	+0.4
	0.4nm,0.4s,baz=127,slow=12,SNR=2.2						
	0.4nm,0.4s						
MKAR	Makanchi Array	60.62	314	P	P	10 17 30.1	0.0
	0.4nm,0.6s,baz=86,slow=9.5,SNR=3.1						
	0.4nm,0.6s						
KURBB	Kurchatov Arra	63.48	318	P	P	10 17 49.0	-0.2
	0.5nm,0.3s,baz=98,slow=7.2,SNR=5.8						
	0.5nm,0.3s						
SPITS	Spitsbergen Ar	81.01	351	P	P	10 19 33.3	-0.1
	5.4nm,0.8s,baz=322,slow=6.6,SNR=6.4						
	5.4nm,0.8s						

NOU 26 10:12:54.2, 17°60S×177°74W, h558km, MLv4.1/6, Fiji Islands Region
IDC 26 10:13:07.1±8.3, 17°97S×178°49W, h483km±93km, mb3.0/7, mbtmp3.8/7, Error ellipse: s-maj=31.2km s-min=28.2km az=78.0

ISC 26 10:12:57.4±2.5, 17°5S±0°7×177°6W±0°2, h500km, n12, σ0°19/4, mb3.1/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	Taveuni	2.39	290	P	P	10 14 04.8	+0.2
DGTI	Dogotuki	2.87	295	P	P	10 14 07.5	-0.1
FUTU	Fugatoga	3.25	350	P	P	10 14 13.3	+3.0
MSVF	Nonsavu	4.20	267	P	P	10 14 17.5	0.0
AFI	Afiamalu	6.63	58	P	P	10 14 40.1	0.0
STKA	Stephens Creek	39.52	241	P	P	10 19 48.2	+3.7
	1.1nm,0.5s,baz=59,slow=10,SNR=6.4						
	1.1nm,0.5s						
WRA	Warramunga Arr	45.50	259	P	P	10 20 34.8	+3.0
	0.4nm,0.6s,baz=96,slow=7.5,SNR=11						
WRA				PcP	pP	10 22 09.0	+4.2
	0.2nm,0.7s,baz=92,slow=3.5,SNR=2.0						
	0.4nm,0.6s						
ASAR	Alice Springs	45.67	254	P	P	10 20 36.1	+3.0
	4.4nm,0.6s,baz=89,slow=8.3,SNR=100						
ASAR				PcP	pwP	10 22 08.3	-0.3
	0.4nm,0.9s,baz=92,slow=6.5,SNR=1.7						
	4.4nm,0.6s						
VNDA	Vanda	60.89	185	P	P	10 22 28.5	+8.0
	0.4nm,0.5s,baz=19,slow=6.1,SNR=2.5						
	0.4nm,0.5s						
QSPA	South Pole Qui	72.52	180	P	P	10 23 41.2	+8.4
	1.9nm,0.6s,baz=118,slow=0.1,SNR=27						
	1.9nm,0.6s						
NVAR	Mina Array Bea	78.59	44	P	P	10 24 22.7	+15
	0.3nm,0.8s,baz=212,slow=3.2,SNR=2.3						
	0.3nm,0.8s						
TXAR	Lajitas Array	85.11	57	P	P	10 24 57.7	+17
	0.2nm,0.7s,baz=224,slow=7.6,SNR=3.5						
	0.2nm,0.7s						

IDC 26 10:24:05.8±3.7, 42°98N×41°20E, h0km, mb3.3/2, mbtmp3.4/3, ML4.1/1, Error ellipse: s-maj=62.9km s-min=15.2km az=177.0
TIF 26 10:24:07.1, 43°36N×41°05E, h12km±1km
ISK 26 10:24:09.1, 43°20N×40°96E, h7km, ML3.6/10
NORS 26 10:24:09.6±0.0, 43°51N×41°35E, h1km, MPVA4.1
MOS 26 10:24:09.5±0.0, 43°45N×41°11E, h14km, MPVA4.2

ISC 26 10:24:08.6±1.1, 43°33N±0°02×41°10E±0°01, h2km±9km, n96, σ1°05/159, mb3.5/3, 1C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXR	Arkhyz	0.27	29	*i* Pg	Pg	10 24 14.7	+0.8
ARXR				*e*Sg	Sg	10 24 17.2	-0.2
ARXR	Arkhyz	0.27	29	*i* PG	Pg	10 24 14.7	+0.8
DOMR	Dombai	0.39	95	*e*Pg	Pg	10 24 16.0	0.0
DOMR				*e*Sg	Sg	10 24 21.5	+0.4
DOMR	Dombai	0.39	95	*i* PG	Pg	10 24 16.0	0.0
RPOR	Krasnaya Polya	0.71	302	*i* Pg	Pg	10 24 22.2	0.0
RPOR				*e*Sg	Sg	10 24 32.5	+1.0
RPOR	Krasnaya Polya	0.71	302	*i* PG	Pg	10 24 22.2	0.0
RPOR				*e*S	Sg	10 24 32.5	+1.0
VSLR	Vesyoloye	0.79	280	*e*Pg	Pg	10 24 23.5	-0.2
VSLR				*e*Sg	Sg	10 24 34.7	+0.7
VSLR	Vesyoloye	0.79	280	*e*PG	Pg	10 24 23.9	+0.2
VSLR				*e*S	Sg	10 24 34.7	+0.7
AHMR	Akhmetovskaya	0.83	357	*i* Pg	Pg	10 24 24.6	0.0
AHMR				*e*Sg	Sg	10 24 34.9	-0.6
AHMR	Akhmetovskaya	0.83	357	*i* PG	Pg	10 24 24.8	+0.2
AHMR				*e*S	Sg	10 24 35.3	-0.1
GUZR	Guzeripl'	0.98	314	*i* Pg	Pg	10 24 26.7	-0.7
GUZR				*e*Sg	Sg	10 24 40.0	0.0
GUZR	Guzeripl'	0.98	314	*i* PG	Pg	10 24 26.7	-0.7
GUZR				*e*S	Sg	10 24 40.0	0.0
SOC	Sochi	1.04	285	*e*Pg	Pg	10 24 29.0	+0.5
SOC				*i* Sg	Sg	10 24 42.6	+0.7
SOC	Sochi	1.04	285	*e*PG	Pg	10 24 27.8	-0.7
SOC				*e*		10 24 41.5	
SOC				pmax	pmax		
	comp=Z,89nm,0.2s						
SOC				smax	smax		
	comp=N,281nm,0.1s						
SOC				smax	smax		
	comp=E,384nm,0.2s						
SHA1	Shidzhatmaz	1.21	69	*e*Pg	Pg	10 24 31.1	-0.6
SHA1				*e*Sg	Sb	10 24 47.7	-0.8
SHA1	Shidzhatmaz	1.21	69	‖ *i*PG	Pg	10 24 31.1	-0.6
SHA1				*e*S	Sg	10 24 46.6	-0.8
KIV	Kislovodsk	1.31	61	*e*Pg	Pn	10 24 33.0	-1.1
KIV				*e*Sg	Sg	10 24 50.0	-0.9
KIV	Kislovodsk	1.31	61	*e*PG	Pn	10 24 33.0	-1.1
KIV				*e*S	Sg	10 24 50.0	-0.9
KVAR	Kislovodsk Arr	1.32	61	LR	LR	10 24 58.2	
	comp=E,87nm,20.9s,baz=78,slow=36						
KBZ	Khabaz	1.37	72	*i* Pg	Pn	10 24 33.8	-0.9
KBZ				*e*Sg	Sb	10 24 51.0	-1.8
KBZ	Khabaz	1.37	72	‖ *i*PG	Pn	10 24 33.8	-0.9
KBZ				*e*S	Sb	10 24 51.0	-1.8
KBZ	Khabaz	1.37	72	*e*Pg	Pn	10 24 33.8	-0.9
	comp=E,23nm,0.3s,baz=214,slow=3.6,SNR=150						
KBZ				Lg	Lg	10 24 52.0	
	comp=E,19nm,0.3s,baz=202,slow=19,SNR=6.3						
LZRR	Lazarevskoye	1.39	297	*e*Pg	Pn	10 24 29.0	-5.9
LZRR				*e*Sg	Sb	10 24 42.6	-11
LZRR	Lazarevskoye	1.39	297	*e*PG	Pn	10 24 29.0	-6.0
BEYR	Belyy Ugol+	1.42	61	*e*Pg	Pn	10 24 35.2	-0.3
BEYR				*e*Sg	Sn	10 24 54.0	-0.9
BEYR	Belyy Ugol+	1.42	61	*e*PG	Pn	10 24 35.2	-0.3
BEYR				*e*S	Sn	10 24 54.0	-0.9
NVNR	Nevinnomyssk	1.43	26	*i* Pg	Pb	10 24 35.4	-0.6
NVNR				*e*Sg	Sg	10 24 54.8	+0.1
NVNR	Nevinnomyssk	1.43	26	*i* PG	Pb	10 24 35.4	-0.6
NVNR				*e*S	Sg	10 24 54.8	+0.1
GOYR	Goytkh	1.55	307	*e*Pg	Pb	10 24 37.9	-0.1
GOYR				*e*Sg	Sg	10 24 58.7	+0.3
GOYR	Goytkh	1.55	307	‖ *i*PG	Pb	10 24 37.9	-0.1
GOYR				*e*S	Sg	10 24 58.7	+0.3
PYA1	Pyatigorsk	1.63	62	*e*Pg	Pb	10 24 38.9	-0.4
PYA1				*e*Sg	Sg	10 25 00.2	-0.6
PYA1	Pyatigorsk	1.63	62	*e*PN	Pb	10 24 38.9	-0.4
PYA1				*e*S	Sg	10 25 00.2	-0.6
TKB	Tkibuli	1.70	124	*e*Pg	Pn	10 24 40.2	+0.9
TKB				*e*Sg	Sg	10 25 03.8	+0.5
TKB	Tkibuli	1.70	124	P	Pn	10 24 40.2	+0.9
TKB				S	Sg	10 25 03.8	+0.5
TKB	Tkibuli	1.70	124	*e*PN	Pn	10 24 40.2	+0.9
TKB				*e*S	Sg	10 25 03.8	+0.5
KBTC	Kuba-Taba	1.75	73	*e*Pg	Pg	10 24 42.0	-0.1
KBTC				*e*Sg	Sg	10 25 04.9	0.0
KBTC	Kuba-Taba	1.75	73	*e*PN	Pg	10 24 42.0	-0.1
KBTC				*e*S	Sg	10 25 04.9	0.0
BATM	Batumi	1.78	165	Pn	Pn	10 24 39.9	-0.4
BATM	Batumi	1.78	165	*e*Pg	Pn	10 24 40.3	0.0
BATM				*e*Sg	Sb	10 25 05.1	+0.5
BATM	Batumi	1.78	165	P	Pn	10 24 40.3	0.0
BATM				S	Sb	10 25 05.1	+0.5
BATM	Batumi	1.78	165	*e*PN	Pn	10 24 40.3	0.0
NCK	Nalchik	1.83	84	*i* PN	Pb	10 24 42.2	-0.6
DIGR	Digorskoe uzhe	1.87	102	*e*Pg	Pg	10 24 44.5	+0.1
DIGR				*e*Sg	Sg	10 25 08.8	+0.2
DIGR	Digorskoe uzhe	1.87	102	*e*PN	Pg	10 24 44.5	+0.1
DIGR				*e*S	Sg	10 25 08.8	+0.2
ONI	Oni	1.88	112	Pn	Pb	10 24 43.2	-0.4
ONI				Sn	Sb	10 25 08.1	+0.5
ONI	Oni	1.88	112	*e*Pg	Pb	10 24 43.3	-0.4
ONI				*e*Sg	Sg	10 25 09.5	+0.5
ONI	Oni	1.88	112	P	Pb	10 24 43.3	-0.4
ONI				S	Sg	10 25 09.5	+0.5
ONI	Oni	1.88	112	*e*PN	Pb	10 24 43.3	-0.4
ONI				*e*S	Sg	10 25 09.5	+0.5
BCA	Borcka	1.92	168	Pn	Pn	10 24 41.6	-0.7
HOPA	Hopa-Artvin	1.95	172	Pn	Pn	10 24 41.9	-0.8
ABS	Abastumani	2.02	140	*e*Pg	Pn	10 24 43.5	-0.3
ABS				*e*Sg	Sb	10 25 12.7	+1.0
ABS	Abastumani	2.02	140	P	Pn	10 24 43.5	-0.3
ABS				S	Sb	10 25 12.7	+1.0
ABS	Abastumani	2.02	140	*e*PN	Pn	10 24 43.5	-0.3
ABS				*e*S	Sb	10 25 12.7	+1.0
ZEI	Tsey	2.12	104	*e*Pg	Pb	10 24 48.0	+0.1
ZEI				*e*Sg	Sn	10 25 13.0	+0.7
ZEI	Tsey	2.12	104	*e*PN	Pb	10 24 48.0	+0.1
ZEI				*e*S	Sn	10 25 13.0	+0.7
STDR	Stavd-Durt	2.16	88	*e*Pg	Pg	10 24 49.7	-0.4
STDR				*e*Sg	Sb	10 25 15.6	-0.2
STDR	Stavd-Durt	2.16	88	*e*PN	Pg	10 24 49.7	-0.4
STDR				*e*S	Sb	10 25 15.6	-0.2
KORR	Kora	2.19	95	*e*Pg	Pn	10 24 46.9	+0.9
KORR				*e*Sg	Sg	10 25 20.7	+1.9
KORR	Kora	2.19	95	*e*PN	Pn	10 24 46.9	+0.9
KORR				*e*S	Sg	10 25 20.7	+1.9
GOF	Gofitskoye	2.23	38	*e*PN	Pn	10 24 40.1	-6.4
ALIG	Mtskhetisjvari	2.24	122	P	Pn	10 24 47.3	+0.5
ALIG				S	Sb	10 25 19.1	+1.0
ALIG	Mtskhetisjvari	2.24	122	PN	Pn	10 24 47.2	+0.5
ALIG				S	Sb	10 25 19.0	+1.0
CHOM	Cayeli-Rize	2.24	187	Pn	Pn	10 24 45.7	-1.0
ARNR	Ardon	2.33	92	*e*Pn	Pb	10 24 50.7	-0.7
ARNR				*e*Sn	Sb	10 25 19.9	-0.7
ARNR	Ardon	2.33	92	*e*PN	Pb	10 24 50.7	-0.7
ARNR				*e*S	Sb	10 25 19.9	-0.7
LACR	Lac	2.40	101	*e*Pn	Pb	10 24 51.4	-1.1
LACR				*e*Sn	Sg	10 25 24.9	-0.7
LACR	Lac	2.40	101	*e*PN	Pb	10 24 51.4	-1.1
LACR				*e*S	Sg	10 25 24.9	-0.7
KTUT	Trabzon	2.54	203	Pn	Pn	10 24 49.5	-1.3
SPGR	Shapsug	2.60	304	*e*Pn	Pn	10 24 52.4	+0.8
SPGR				*e*Sn	Sn	10 25 23.4	-0.4
SPGR	Shapsug	2.60	304	*e*PN	Pn	10 24 52.4	+0.8
SPGR				*e*S	Sn	10 25 23.4	-0.4
AKH	Akhalkalaki	2.61	136	Pn	Pn	10 24 52.5	+0.6
AKH	Akhalkalaki	2.61	136	P	Pn	10 24 53.3	+1.4
AKH				S	Sg	10 25 32.1	-0.3
AKH	Akhalkalaki	2.61	136	PN	Pn	10 24 53.3	+1.4
AKH				S	Sg	10 25 32.1	-0.3
TRLG	Trialeti	2.85	128	P	Pn	10 24 57.3	+2.1
TRLG				S	Sg	10 25 40.7	+0.5
TRLG	Trialeti	2.85	128	PN	Pn	10 24 57.3	+2.1
TRLG				S	Sg	10 25 40.7	+0.5
SENK	Senkaya-Erzuru	2.92	161	Pn	Pn	10 24 55.9	-0.3
ESPY	Espiye-Giresun	2.98	217	Pn	Pn	10 24 55.7	-1.2
ESPY				Sn	Sn	10 25 30.1	-3.1
BAYT	Aydıntepe-Bayb	3.02	194	Pn	Pn	10 24 56.8	-0.7
BAYT				Sn	Sn	10 25 31.1	-3.2
ANN	Anapa	3.02	300	*e*Pn	Pn	10 24 59.3	+1.9
ANN				*e*Sn	Sb	10 25 37.3	-3.2
ANN	Anapa	3.02	300	*e*PN	Pn	10 24 59.3	+1.9
ANN				*e*S	Sn	10 25 35.8	+1.6
SHTL	Shatili	3.05	101	P	Pn	10 24 59.6	+1.7
SHTL	Shatili	3.05	101	PN	Pn	10 24 59.6	+1.7
GNI	Garni	4.18	138	*i* PN	Pb	10 25 19.0	-4.0
SUDU	Sudak	4.66	292	*e*Pn	Pn	10 25 19.9	0.0
SUDU				*e*Sn	Sn	10 26 15.0	+0.4
SUDU	Sudak	4.66	292	*e*PN	Pn	10 25 19.9	0.0
SUDU				*e*S	Sn	10 26 15.0	+0.4
SEV	Sevastopol'	5.50	285	*i* Pn	Pn	10 25 31.2	-0.3
SEV				*e*Sn	Sn	10 26 36.3	+1.0
SEV	Sevastopol'	5.50	285	‖ *i*P	Pn	10 25 31.2	-0.3
SEV				*e*S	Sn	10 26 36.3	+1.0
BRTR	Keskin Array B	6.65	240	*i* P	Pn	10 25 51.5	+4.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BELG	Belogornoye	10.07	23	*i* P	Pn	10 26 35.0	+0.9
AKASG	Malin Array Be	10.95	316	*i* P	Pn	10 26 49.2	+3.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	10.95	316	Pn	Pn	10 26 44.8	-1.4
	comp=Z,1.4nm,0.3s,baz=134,slow=12,SNR=2.9						
	comp=Z,0.5nm,0.3s						
ARU	Arti	17.21	34	*i* P	Pn	10 28 08.9	-1.0
ARU				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	Borovoye Array	21.67	53	P	P	10 29 01.3	+1.0
	comp=Z,0.4nm,0.4s,baz=253,slow=9.8,SNR=1.6						
	comp=Z,0.4nm,0.4s						
NOA	NORSAR Array B	25.15	325	P	P	10 29 35.0	+0.1
NOA	NORSAR Array B	25.15	325	P	P	10 29 35.0	+0.1
	comp=Z,0.6nm,0.6s,baz=124,slow=8.9,SNR=2.6						
	comp=Z,0.6nm,0.6s						
KURK	Kurchatov	26.40	61	*i* P	P	10 29 47.5	+1.3
KURK				pmax	pmax		
	comp=Z,5.0nm,1.9s						

EAF 26 10:39:00.5, 26°50S×28°77E, h3km, MC3.2

BUL 26 10:39:00.5±0.3, 26°50S×28°78E, h5km±3km, MD3.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	3.23	297	*i* P	Pn	10 39 51.5	-0.5
LBTB				*i* S	Sn	10 40 28.8	-2.1
LBTB	Lobatse	3.23	297	*i* P	Pn	10 39 51.5	-0.5
	baz=297						
LBTB				*i* S	Sn	10 40 28.8	-2.1
	baz=297						
BOSA	Boshof	3.77	235	*i*

comp=E,7μm,0.6s
UWE IAML 10 40 59.0
comp=N,10μm,0.7s
OBL Observatory Le 0.31 90 Pg Pg 10 40 51.6 +0.5
HLP Hilina Pali 0.31 113 Pg 10 40 51.7 +0.6
HLP Sb 10 40 57.4 -1.6
HLP Hilina Pali 0.31 113 IAML 10 41 00.9
comp=N,7μm,0.7s
UWB Uwekahuna B 0.32 89 Pg Pg 10 40 51.7 +0.5
RSD Rainshed 0.32 82 Pg 10 40 51.7 +0.4
RSD IAML 10 41 02.1
comp=N,5μm,0.6s
RSD IAML 10 41 02.4
comp=E,4μm,0.5s
RSD Rainshed 0.32 82 Sb 10 40 57.4 -1.9
RIM Rim 0.32 94 Pg 10 40 52.2 +0.9
RIM IAML 10 40 59.5
comp=E,4μm,0.4s
RIM IAML 10 41 00.0
comp=N,6μm,0.7s
SBLHI Steaming Bluff 0.33 89 Pg 10 40 51.7 +0.3
SBLHI Steaming Bluff 0.33 89 IAML 10 41 00.2
comp=E,5μm,0.8s
SBLHI IAML 10 41 00.5
comp=N,4μm,0.4s
KKO Keanakako`i 0.33 94 Pg 10 40 51.9 +0.4
KKO Sg 10 40 56.2 +0.4
KKO Keanakako`i 0.33 94 IAML 10 41 00.9
comp=N,8μm,0.6s
KKO IAML 10 41 02.1
comp=E,6μm,0.8s
HATHI Halema'uma'u T 0.33 89 Pg 10 40 51.8 +0.3
HATHI Halema'uma'u T 0.33 89 IAML 10 41 01.4
comp=N,5μm,0.8s
BYL Byron's Ledge 0.33 91 Pg 10 40 52.0 +0.5
BYL Byron's Ledge 0.33 91 IAML 10 41 02.0
comp=E,4μm,0.4s
BYL IAML 10 41 03.2
comp=N,5μm,0.5s
HUH Hualalai 0.34 321 Pb 10 40 53.2 -0.8
HUH Sg 10 40 56.7 +0.6
HUH Hualalai 0.34 321 IAML 10 41 03.6
comp=N,5μm,0.2s
HUH IAML 10 41 03.6
comp=E,6μm,0.5s
POHA Pohakuloa 0.34 13 Sb 10 40 58.6 -1.5
POHA Pohakuloa 0.34 13 Pg Pg 10 40 52.2 +0.4
POHA Pohakuloa 0.34 13 IAML 10 41 03.0
comp=E,3μm,0.3s
POHA IAML 10 41 03.8
comp=E,4μm,0.8s
PUH Pauahi 0.38 97 Pg 10 40 52.5 +0.1
PUH Sg 10 40 57.0 -0.3
PUH Pauahi 0.38 97 IAML 10 41 02.7
comp=E,2μm,0.6s
PUH IAML 10 41 04.7
comp=N,3μm,0.8s
KNHH Kane Nui o Ham 0.42 95 Pg 10 40 53.1 -0.1
KNHH Sg 10 40 59.1 +0.5
KKH Kailua Kona 0.45 302 Pg 10 40 54.5 +0.7
KKH Sb 10 41 01.7 -1.1
STCH Steam Cracks 0.46 94 Pg 10 40 53.9 -0.1
STCH Sg 10 41 01.4 +1.4
STCH Steam Cracks 0.46 94 IAML 10 41 07.7
comp=E,2μm,0.8s
NPOC North of Pu'u 0.47 93 Pg 10 40 54.5 +0.3
NPOC Sg 10 41 01.6 +1.1
NPOC North of Pu'u 0.47 93 IAML 10 41 02.2
comp=E,2μm,0.6s
NPOC IAML 10 41 03.1
comp=N,3μm,0.6s
JCUZ Jacuzzi 0.48 94 Pg 10 40 54.8 +0.4
JCUZ Sb 10 41 02.4 -1.6
JCUZ Jacuzzi 0.48 94 IAML 10 41 03.1
comp=E,2μm,0.9s
JCUZ IAML 10 41 10.0
comp=N,1μm,0.9s
JOKA Jonika Flow 0.57 88 Pg 10 40 55.7 -0.4
JOKA Sg 10 41 04.2 +0.6
HPAH Hawaii Prepara 0.61 353 Pg 10 40 56.5 -0.4
HPAH Sg 10 41 05.1 +0.2
HPAH Hawaii Prepara 0.61 353 IAML 10 41 05.5
comp=N,465nm,0.8s
HPAH IAML 10 41 16.5
comp=E,843nm,1.1s
MHA Mahukona 0.81 340 Pg 10 40 59.6 -1.0
HLK Haleakala 1.46 336 Pn Pn 10 41 12.1 -0.6
KHLH Kahului Airpor 1.66 333 Pn Pb 10 41 15.9 -0.4

*IDC **26** 11:17:24.7±1.4, 49°.42S×31°.34E, h0km, mb3.9/6, mbtmp4.0/6, MS2.8/1, Error ellipse: s-maj=41.7km s-min=27.4km az=101.0*
ISC 26 11:17:26.2±1.2, 49°.4S±0°.2×31°.3E±0°.3, h10km, n10, σ0°73/7, mb3.9/6, South of Africa

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**13.99**	**87**	T	T	11 35 36.9	
	baz=256,slow=74,SNR=7.9						
H04S3	**CROZET ISLANDS**	**13.99**	**87**	T	T	11 35 38.0	
	baz=256,slow=74,SNR=7.9						
H04S1	**CROZET ISLANDS**	**14.00**	**87**	T	T	11 35 38.7	
	baz=256,slow=74,SNR=8.7						
BOSA	**Boshof**	**21.29**	**345**	P	**P**	**11 22 12.8**	**-0.1**
	9.7nm,0.6s,baz=148,slow=15,SNR=3.1						
BOSA				LR	LR	11 29 29.2	
	comp=Z,22nm,18.6s,baz=28,slow=34						
	9.7nm,0.6s						
SNAA	**Sanae**	**27.19**	**203**	P	**P**	**11 23 10.5**	**+0.9**
	baz=56,slow=9.2						
QSPA	**South Pole Qui**	**40.79**	**180**	P	**P**	**11 25 06.4**	**-1.0**
	1.0nm,0.8s,baz=285,slow=5.8,SNR=7.5						
	1.0nm,0.8s						
VNDA	**Vanda**	**49.69**	**167**	P	**P**	**11 26 17.7**	**+0.1**
	0.7nm,0.8s,baz=225,slow=2.9,SNR=5.9						
	0.7nm,0.8s						
STKA	**Stephens Creek**	**78.15**	**125**	P	**P**	**11 29 25.8**	**+0.3**
	0.5nm,0.5s,baz=236,slow=7.3,SNR=1.7						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**80.12**	**115**	P	**P**	**11 29 36.9**	**+0.4**
	1.1nm,0.6s,baz=223,slow=4.2,SNR=13						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**83.21**	**113**	P	**P**	**11 29 52.6**	**-0.2**
	0.9nm,0.7s,baz=211,slow=4.1,SNR=11						
	0.9nm,0.7s						

*NIED **26** 11:26:55.8, 40°.43N×143°.76E, h4km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.99; $M_{\theta\theta}$0.35; $M_{\phi\phi}$-1.34; $M_{r\theta}$-0.16; $M_{\theta\phi}$-0.80; $M_{r\phi}$0.18; Fault plane solution: $M_0$1.38000×10^{14} NP1: ϕ_s359.00000°, δ53.00000°, λ57.00000°. NP2: ϕ_s226.00000°, δ48.00000°, λ126.00000°.*
JMA 26 11:26:55.8±0.2, 40°.4N±0°.6×14°.4E±°, h4km, MV3.5/34, FAR E OFF SANRIKU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.54**	**252**	P	Pn	11 27 24.1	+0.1
JKEN	**Kujiedanarisaw**	**1.59**	**262**	P	Pn	11 27 24.6	-0.1
JEM	**Erimo**	**1.65**	**344**	*e*P	Pn	11 27 26.1	+0.5
JANG	**Nango**	**1.72**	**269**	P	Pn	11 27 26.7	+0.2
MIYJ	**Miyakonagasawa**	**1.72**	**241**	P	Pn	11 27 26.8	+0.3
JNBK	**Urakawa-nobuka**	**2.00**	**338**	P	Pn	11 27 31.1	+0.8
JNBK				*e*S	Sn	11 27 56.0	+0.2
JTM	**Tenmabayashi**	**2.08**	**281**	P	Pb	11 27 32.9	-1.3
JOM	**Ohasama**	**2.13**	**244**	P	Pn	11 27 33.2	+1.1
JCH	**Churui**	**2.20**	**352**	P	Pn	11 27 33.5	+0.4
JCH				S	Sn	11 28 00.2	-0.6
JOT	**Ohata**	**2.27**	**296**	*e*P	Pn	11 27 35.3	+1.3
JMK	**Ichinoseki**	**2.46**	**234**	P	Pn	11 27 37.7	+1.1
JAK	**Akkeshi**	**2.66**	**15**	P	Pn	11 27 39.8	+0.5
JAK				S	Sn	11 28 10.5	-1.5
JAR	**Ashorobuto**	**2.86**	**0**	P	Pn	11 27 42.2	0.0
JAR				S	Sn	11 28 14.7	-2.4
JEW	**Eniwo**	**2.97**	**325**	*e*P	Pn	11 27 45.8	+2.1
JYK	**Kaneyama**	**3.03**	**241**	P	Pn	11 27 46.0	+1.5
NEM2	**Nemuro 2**	**3.28**	**26**	P	Pn	11 27 48.0	0.0
NEM2				S	Sn	11 28 24.3	-3.2

*IDC **26** 11:29:27.5±2.5, 22°.53N×143°.26E, h47km±22km, mb4.0/22, mbtmp4.3/25, ML4.2/3, MS2.7/3, Error ellipse: s-maj=17.3km s-min=12.6km az=98.0*
*NEIC **26** 11:29:35.5±1.8, 22°.66N±0°.09×143°.3E±0°.1, h103km±4km, mb4.6/117, Error ellipse: s-maj=19.2km s-min=12.8km az=75.0*
ISC 26 11:29:34.1±0.6, 22°.67N±0°.07×143°.2E±0°.1, h100km, n151, σ1°20/131, mb4.5/73, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.51**	**348**		**Pn**	**11 30 41.3**	**+1.2**
JCJ	**Chichijima**	**4.51**	**348**	P	Pn	11 30 35.6	-4.5
	105nm,0.3s,baz=187,slow=6.1,SNR=28						
JCJ				S	**Sn**	**11 31 27.7**	**-3.7**
	470nm,0.3s,baz=108,slow=23,SNR=21						
	263nm,0.4s						
INU	**Inuyama**	**13.75**	**338**		**Pn**	**11 32 44.3**	**-0.3**
MJAR	**Matsushiro Arr**	**14.49**	**344**	P	**Pn**	**11 32 51.7**	**-2.6**
	0.4nm,0.3s,baz=164,slow=9.9,SNR=13						
	5.3nm,0.5s						
MAJO	**Matsushiro**	**14.49**	**344**	Pn	**Pn**	**11 32 54.1**	**-0.2**
MJB9	**Matsu-Tunnel**	**14.50**	**344**	Pn	**Pn**	**11 32 54.5**	**+0.2**
JNU	**Nakatsue**	**15.07**	**316**	LR	LR	11 38 24.9	
	comp=Z,15nm,20.5s,baz=32,slow=35						
JMM	**Marumori**	**15.29**	**353**	Pn	**Pn**	**11 33 04.3**	**-0.1**
JMM				IAmb	IAmb	11 33 07.7	
	comp=Z,39nm,0.7s						
JSD	**Sado**	**15.90**	**346**	Pn	**Pn**	**11 33 09.9**	**-2.1**
JSD				IAmb	IAmb	11 33 21.5	
	comp=Z,14nm,0.5s						
KSRS	**Korea Array**	**19.77**	**322**	P	**P**	**11 33 55.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=123,slow=11,SNR=5.4						
KSRS				LR	LR	11 40 42.6	
	comp=Z,18nm,18.3s,baz=110,slow=34						
	comp=Z,1.6nm,0.7s						
KSAR	**Wonju Array Be**	**19.78**	**322**	P	**P**	**11 33 57.4**	**+1.1**
YHNB	**Yeheng**	**20.10**	**280**	P	**P**	**11 34 02.0**	**+2.0**
YHNB				IAmb	IAmb	11 34 05.3	
	comp=Z,34nm,0.8s						
YULB	**Yu-li**	**20.18**	**276**	P	Pn	11 34 03.8	+0.2
YULB				IAmb	IAmb	11 34 33.1	
	comp=Z,23nm,1.0s						
SSLB	**Suanglung**	**20.49**	**277**	P	Pn	11 34 07.2	0.0
SSLB				IAmb	IAmb	11 34 10.1	
	comp=Z,39nm,1.0s						
TPUB	**Ta-pu**	**20.80**	**276**	P	**P**	**11 34 09.4**	**+1.9**
TPUB				IAmb	IAmb	11 34 30.8	
	comp=Z,36nm,1.0s						
JKA	**Kamikawa-asahi**	**21.40**	**359**	P	**P**	**11 34 14.4**	**+0.7**
H11N1	**WAKE ISLAND Hy**	**22.27**	**93**	T	T	11 58 44.4	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**22.27**	**93**	T	T	11 58 33.4	
	baz=283,slow=74						
H11N3	**WAKE ISLAND Hy**	**22.28**	**93**	T	T	11 58 48.4	
	baz=283,slow=74						
H11S3	**WAKE ISLAND Hy**	**22.36**	**96**	T	T	11 57 49.7	
	baz=284,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**22.36**	**96**	T	T	11 57 52.6	
	baz=284,slow=75,SNR=9.6						
H11S2	**WAKE ISLAND Hy**	**22.37**	**96**	T	T	11 58 00.0	
	baz=284,slow=75,SNR=5.0						
USRK	**Ussuriysk Ar.**	**23.39**	**339**	P	**P**	**11 34 33.9**	**0.0**
USRK	**Ussuriysk Ar.**	**23.39**	**339**	P	**P**	**11 34 34.2**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=177,slow=12,SNR=10						
	comp=Z,5.0nm,0.8s						
MTN	**Manton Dam**	**37.22**	**200**	P	**P**	**11 36 36.6**	**+0.6**
SONM	**Songino Array**	**38.62**	**320**	P	**P**	**11 36 46.9**	**-0.7**
SONM	**Songino Array**	**38.62**	**320**	P	**P**	**11 36 47.8**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=134,slow=8.3,SNR=15						
	comp=Z,1.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.55**	**273**	P	**P**	**11 37 11.4**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=64,slow=7.8,SNR=8.3						
	comp=Z,0.8nm,0.6s						
WB0	**Warramunga Arr**	**43.05**	**192**	P	**P**	**11 37 24.1**	**+0.1**
WR0	**Warramunga Arr**	**43.20**	**192**	P	**P**	**11 37 24.4**	**-1.0**
WRAB	**Tennant Creek**	**43.22**	**192**	P	**P**	**11 37 24.3**	**-1.1**
WB2	**Warramunga Arr**	**43.23**	**192**	P	**P**	**11 37 23.8**	**-1.7**
WRA	**Warramunga Arr**	**43.23**	**192**	P	**P**	**11 37 23.2**	**-2.3**
	comp=Z,1.5nm,0.6s,baz=17,slow=9.2,SNR=40						
	comp=Z,1.5nm,0.6s						
ASAR	**Alice Springs**	**46.94**	**192**	P	P	11 37 51.8	-3.1
	comp=Z,0.5nm,0.6s,baz=18,slow=10,SNR=11						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**53.47**	**321**	P	**P**	**11 38 44.0**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=111,slow=6.6,SNR=3.0						
	comp=Z,1.2nm,0.3s						
M14K	**Bethel**	**53.48**	**30**	P	**P**	**11 38 43.5**	**-0.3**
MK31	**Makanchi Array**	**54.07**	**312**	P	**P**	**11 38 49.0**	**+0.6**
MKAR	**Makanchi Array**	**54.07**	**312**	P	**P**	**11 38 49.0**	**+0.6**
MKAR	**Makanchi Array**	**54.07**	**312**	P	**P**	**11 38 48.7**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=89,slow=9.5,SNR=15						
	comp=Z,1.4nm,0.5s						
N15K	**Kwethluk River**	**54.17**	**31**	P	**P**	**11 38 50.0**	**+1.2**
K15K	**Wolf Creek Mou**	**54.21**	**28**	P	**P**	**11 38 50.0**	**+0.9**
STKA	**Stephens Creek**	**54.26**	**182**	P	**P**	**11 38 49.2**	**-0.5**
STKA	**Stephens Creek**	**54.26**	**182**	P	**P**	**11 38 48.6**	**-1.1**
	comp=Z,2.3nm,0.4s,baz=5.7,slow=7.3,SNR=9.8						
	comp=Z,2.3nm,0.4s						
J16K	**Anvik River**	**54.96**	**27**	P	**P**	**11 38 54.6**	**+0.1**
K17K	**Iditarod**	**55.77**	**28**	P	**P**	**11 39 02.2**	**+1.9**
H17K	**Granite Mounta**	**55.83**	**26**	P	**P**	**11 39 02.2**	**+1.5**
F17K	**Baldwin Pennin**	**55.88**	**24**	P	**P**	**11 39 02.6**	**+1.7**
N18K	**Kilbuck Creek**	**56.31**	**31**	P	**P**	**11 39 05.5**	**+1.3**
N18K				IAmb	IAmb	11 39 06.8	
	comp=Z,4.8nm,0.8s						
SII	**Sitkinak Islan**	**56.33**	**36**	P	**P**	**11 39 04.5**	**+0.1**
H18K	**Honhosa River**	**56.52**	**26**	P	**P**	**11 39 07.0**	**+1.3**
G18K	**Tagagawik**	**56.66**	**25**	P	**P**	**11 39 07.8**	**+1.2**
G18K				IAmb	IAmb	11 39 41.0	
	comp=Z,12nm,1.4s						
KURK	**Kurchatov**	**56.79**	**317**	P	**P**	**11 39 08.0**	**+0.2**
KURK				IAmb	IAmb	11 39 13.1	
	comp=Z,3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**56.84**	**317**	P	**P**	**11 39 08.2**	**+0.1**
	comp=Z,3.4nm,0.4s,baz=92,slow=7.9,SNR=48						
	comp=Z,3.4nm,0.4s						
N19K	**Bonanza Creek**	**57.02**	**31**	P	**P**	**11 39 10.4**	**+1.1**
Q19K	**Cape Douglas,**	**57.04**	**33**	P	**P**	**11 39 08.6**	**-0.8**
L19K	**White Mountain**	**57.16**	**30**	P	**P**	**11 39 10.6**	**+0.4**
J19K	**Poorman**	**57.30**	**27**	P	**P**	**11 39 12.7**	**+1.6**
J19K				IAmb	IAmb	11 39 13.5	
	comp=Z,5.0nm,0.8s						
G19K	**Purcell Mounta**	**57.34**	**25**	P	**P**	**11 39 13.1**	**+1.6**
G19K				IAmb	IAmb	11 39 37.5	
	comp=Z,14nm,1.4s						
KDAK	**Kodiak Island**	**57.39**	**35**	P	**P**	**11 39 12.0**	**+0.2**
H19K	**Roundabout Mou**	**57.40**	**25**	P	**P**	**11 39 13.6**	**+1.8**
H19K				IAmb	IAmb	11 39 14.4	
	comp=Z,5.4nm,0.7s						
C19K	**Lookout Ridge**	**57.51**	**21**	P	**P**	**11 39 14.0**	**+1.4**
E19K	**Redstone River**	**57.72**	**23**	P	**P**	**11 39 15.2**	**+1.1**
E19K				IAmb	IAmb	11 39 32.0	
	comp=Z,13nm,1.5s						
D19K	**Kuna River**	**57.77**	**22**	P	**P**	**11 39 15.2**	**+0.8**
RSO	**Redoubt South**	**57.78**	**32**	P	**P**	**11 39 13.5**	**-1.3**
K20K	**Telida**	**57.80**	**28**	P	**P**	**11 39 15.6**	**+0.9**
K20K				IAmb	IAmb	11 39 17.6	
	comp=Z,7.6nm,1.0s						
J20K	**Nowinta River**	**57.97**	**27**	P	**P**	**11 39 17.6**	**+1.8**
BOOM	**Boomskoye usch**	**58.55**	**307**	P	**P**	**11 39 21.9**	**+1.4**
BOOM				IAmb	IAmb	11 39 23.6	
	comp=Z,10nm,1.3s						
IMAR	**Indian Mountai**	**58.60**	**25**	P	**P**	**11 39 21.7**	**+1.5**
B20K	**Meade River**	**58.64**	**20**	P	**P**	**11 39 21.8**	**+1.4**
SKT	**Skwentna**	**58.65**	**30**	P	**P**	**11 39 20.4**	**-0.1**
CAST	**Castle Rocks**	**58.68**	**28**	P	**P**	**11 39 22.2**	**+1.3**
CAST				IAmb	IAmb	11 39 23.1	
	comp=Z,6.0nm,1.0s						
H21K	**Melozitna Rive**	**58.89**	**26**	P	**P**	**11 39 24.0**	**+1.8**
H21K				IAmb	IAmb	11 39 27.4	
	comp=Z,11nm,1.4s						
F21K	**Alatna River**	**59.03**	**24**	P	**P**	**11 39 24.8**	**+1.6**
F21K				IAmb	IAmb	11 39 49.0	
	comp=Z,6.4nm,1.3s						
BPAW	**Bear Paw Mtn.**	**59.30**	**28**	P	**P**	**11 39 26.3**	**+1.2**
BPAW				IAmb	IAmb	11 39 26.8	
	comp=Z,5.3nm,0.7s						
MLY	**Manley**	**59.59**	**27**	P	**P**	**11 39 28.0**	**+0.9**
MLY				IAmb	IAmb	11 39 29.5	
	comp=Z,5.2nm,1.0s						
D22K	**Ayikyak River**	**59.78**	**22**	P	**P**	**11 39 30.5**	**+2.2**
GHO	**Glory Hole Cre**	**59.83**	**31**	P	**P**	**11 39 28.6**	**-0.2**
B22K	**Teshekpuk Lake**	**59.95**	**20**	P	**P**	**11 39 30.3**	**+0.9**
KNK	**Knik Glacier**	**60.00**	**31**	P	**P**	**11 39 30.6**	**+0.7**
SML	**Sawmill**	**60.11**	**31**	P	**P**	**11 39 31.1**	**+0.4**
H23K	**Yukon River**	**60.24**	**26**	P	**P**	**11 39 32.8**	**+1.2**
H23K				IAmb	IAmb	11 39 33.9	
	comp=Z,6.0nm,0.8s						
C23K	**Itkillik River**	**60.74**	**21**	P	**P**	**11 39 36.6**	**+1.8**
H24K	**Noodor Dome**	**60.92**	**26**	P	**P**	**11 39 37.6**	**+1.5**
H24K				IAmb	IAmb	11 39 39.0	
	comp=Z,10nm,1.2s						
E24K	**Your Creek**	**61.09**	**23**	P	**P**	**11 39 39.2**	**+1.9**
E24K				IAmb	IAmb	11 39 40.1	
	comp=Z,8.9nm,1.3s						
IL31		**61.17**	**27**	P	**P**	**11 39 37.5**	**-0.2**
IL31				IAmb	IAmb	11 39 38.2	
	comp=Z,5.2nm,0.8s						
ILAR	**Eielson Array**	**61.17**	**27**	P	**P**	**11 39 36.6**	**-1.2**
ILAR	**Eielson Array**	**61.17**	**27**	P	**P**	**11 39 37.5**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=259,slow=5.6,SNR=55						
	comp=Z,2.4nm,0.6s						
F24K	**Squaw Lake**	**61.21**	**24**	P	**P**	**11 39 39.7**	**+1.6**
F24K				IAmb	IAmb	11 39 40.9	
	comp=Z,4.4nm,0.9s						
J25K	**Salcha River,**	**61.80**	**28**	P	**P**	**11 39 41.7**	**-0.4**
BVAR	**Borovoye Array**	**61.96**	**319**	P	**P**	**11 39 43.4**	**+0.1**
	comp=Z,5.7nm,0.5s,baz=88,slow=7.1,SNR=24						
	comp=Z,5.7nm,0.5s						
BRVK	**Borovoye**	**62.02**	**319**	P	**P**	**11 39 44.6**	**+0.9**
BRVK				IAmb	IAmb	11 39 51.0	
	comp=Z,2.8nm,0.6s						
D25K	**Kavik River**	**62.08**	**22**	P	**P**	**11 39 45.6**	**+1.7**
E25K	**Arctic Village**	**62.18**	**24**	P	**P**	**11 39 45.7**	**+1.1**
E25K				IAmb	IAmb	11 39 47.2	
	comp=Z,3.2nm,0.7s						
SCRK	**Sand Creek**	**62.33**	**28**	P	**P**	**11 39 46.4**	**+0.7**
SCRK				IAmb	IAmb	11 39 47.5	
	comp=Z,10nm,1.2s						
BMAR	**Burnt Mountain**	**62.46**	**24**	P	**P**	**11 39 48.6**	**+2.2**
J26L	**Joseph Creek**	**62.56**	**28**	P	**P**	**11 39 47.5**	**+0.3**
J26L				IAmb	IAmb	11 39 48.9	
	comp=Z,6.4nm,0.8s						
I26K	**Coal Creek Min**	**62.80**	**27**	P	**P**	**11 39 48.4**	**-0.3**
I26K				IAmb	IAmb	11 40 31.5	
	comp=Z,8.3nm,1.5s						
L27K	**Beaver Creek,**	**63.24**	**30**	P	**P**	**11 39 52.2**	**+0.6**
BCAR	**Beaver Creek A**	**63.26**	**30**	P	**P**	**11 39 52.4**	**+0.5**
E27K	**Coleen River**	**63.66**	**24**	P	**P**	**11 39 54.7**	**+0.3**
D27M	**Malcolm River**	**63.98**	**23**	P	**P**	**11 39 57.9**	**+1.4**
D27M				IAmb	IAmb	11 39 59.2	
	comp=Z,7.6nm,0.8s						
I28M	**Miner Creek**	**64.16**	**27**	P	**P**	**11 39 58.2**	**+0.5**
I28M				IAmb	IAmb	11 39 59.5	
	comp=Z,2.8nm,0.7s						
F28M	**Old Crow**	**64.28**	**24**	P	**P**	**11 40 00.2**	**+1.8**
F28M				IAmb	IAmb	11 40 01.0	
	comp=Z,4.7nm,0.7s						
DAWY	**Dawson**	**64.36**	**28**	P	**P**	**11 39 60.0**	**+1.0**
E28M	**Babbage River**	**64.45**	**23**	P	**P**	**11 40 01.4**	**+1.9**
E28M				IAmb	IAmb	11 40 02.1	
	comp=Z,3.8nm,0.8s						
M29M	**Somme Creek**	**64.78**	**30**	P	**P**	**11 40 02.7**	**+0.9**
M29M				IAmb	IAmb	11 40 04.6	
	comp=Z,5.1nm,0.8s						
H29M	**Whitestone**	**64.82**	**26**	P	**P**	**11 40 03.0**	**+1.0**
I29M	**Ogilvie Camp,**	**64.84**	**27**	P	**P**	**11 40 02.7**	**+0.6**
I29M				IAmb	IAmb	11 40 35.7	
	comp=Z,6.1nm,1.4s						
L29M	**L29M**	**64.92**	**29**	P	**P**	**11 40 03.9**	**+1.2**
L29M				IAmb	IAmb	11 40 42.3	
	comp=Z,12nm,1.4s						
G29M	**Pine Creek**	**64.97**	**25**	P	**P**	**11 40 04.5**	**+1.6**
G29M				IAmb	IAmb	11 40 45.0	
	comp=Z,16nm,1.4s						
E29M	**Blow River**	**65.05**	**24**	P	**P**	**11 40 05.0**	**+1.6**
E29M				IAmb	IAmb	11 40 15.8	
	comp=Z,5.7nm,1.2s						
HYT	**Haines Junctio**	**65.28**	**32**	P	**P**	**11 40 07.0**	**+1.8**
HYT				IAmb	IAmb	11 40 08.4	
	comp=Z,9.6nm,1.2s						
EPYK	**Eagle Plains**	**65.49**	**26**	P	**P**	**11 40 06.9**	**+0.6**
EPYK				IAmb	IAmb	11 40 08.3	
	comp=Z,8.5nm,0.8s						
M30M	**Minto, Yukon**	**65.55**	**30**	P	**P**	**11 40 07.7**	**+1.0**
M30M				IAmb	IAmb	11 40 09.1	
	comp=Z,4.7nm,1.0s						
G30M	**tAoh Zraii Nji**	**65.68**	**25**	P	**P**	**11 40 08.3**	**+0.7**
G30M				IAmb	IAmb	11 40 10.8	
	comp=Z,14nm,1.3s						
J30M	**Hart River**	**65.69**	**28**	P	**P**	**11 40 08.5**	**+0.8**
J30M				IAmb	IAmb	11 40 09.8	
	comp=Z,7.4nm,1.3s						
G31M	**Satah River**	**66.45**	**25**	P	**P**	**11 40 13.5**	**+1.2**
H31M	**Peel River**	**66.47**	**26**	P	**P**	**11 40 13.4**	**+0.8**
H31M				IAmb	IAmb	11 40 14.1	
	comp=Z,11nm,1.2s						
INK	**Inuvik**	**66.67**	**24**	P	**P**	**11 40 13.2**	**-0.5**
INK				IAmb	IAmb	11 40 34.3	
	comp=Z,8.8nm,1.3s						
INK	**Inuvik**	**66.67**	**24**	P	**P**	**11 40 14.0**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=284,slow=5.4,SNR=15						
	comp=Z,2.8nm,0.6s						
FARO	**Faro, Yukon**	**67.17**	**30**	P	**P**	**11 40 17.7**	**+0.6**
ABKAR	**Akbulak array**	**68.88**	**316**	P	**P**	**11 40 27.6**	**-0.3**
DLBC	**Dease Lake**	**69.31**	**34**	P	**P**	**11 40 30.9**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=301,slow=5.9,SNR=4.6						
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**75.59**	**28**	P	**P**	**11 41 07.5**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=193,slow=3.8,SNR=14						
	comp=Z,2.0nm,0.4s						
RES	**Resolute Bay**	**76.13**	**13**	P	**P**	**11 41 11.1**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=344,slow=1.1,SNR=5.5						
	comp=Z,3.9nm,0.9s						
ARCES	**ARCESS Array B**	**78.02**	**341**	P	**P**	**11 41 20.7**	**-0.5**
	comp=Z,4.4nm,1.0s,baz=40,slow=9.6,SNR=3.5						
	comp=Z,4.4nm,1.0s						
PINE	**Pine Mountain**	**78.69**	**47**	IAmb	IAmb	11 41 28.0	
	comp=Z,6.8nm,0.8s						
NEW	**Newport**	**79.54**	**42**	P	**P**	**11 41 30.2**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=273,slow=11,SNR=3.9						
	comp=Z,2.3nm,0.7s						
MPK	**Martis Peak**	**80.94**	**51**	IAmb	IAmb	11 41 42.6	
	comp=Z,4.4nm,0.6s						
KBZ	**Khabaz**	**81.72**	**314**	P	**P**	**11 41 42.5**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=8.5,slow=6.3,

*UPP **26** 11:37:12.6±0.9, 67.°35N×26.°41E, h0km, ML1.5*
HEL 26 11:37:12.0±0.1, 67.°37N×26.°56E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGF	**Sodankyl**	**0.08**	**349**	PG	Pg	11 37 13.3	-0.2
RNF	**Rovaniemi**	**0.79**	**196**	PG	Pg	11 37 26.3	-0.8
	baz=20						
RNF				SG	Sg	11 37 35.9	-1.4
KLF	**Kolari**	**1.02**	**264**	PG	Pg	11 37 30.6	-0.9
KLF				MSG		11 37 43.1	
	comp=Z,1.4nm,0.2s						
KLF				SB	Sg	11 37 44.8	+0.2
VRF	**Varrio**	**1.23**	**70**	PG	Pg	11 37 34.4	-1.2
VRF				MSG		11 37 49.3	
	comp=Z,2.4nm,0.2s						
VRF				SN	Sb	11 37 52.9	+0.4
PAJU	**Pajala**	**1.39**	**257**	P	Pg	11 37 37.2	-1.3
PAJU				S	Sg	11 37 55.4	-1.2
PAJU	**Pajala**	**1.39**	**257**	PG	Pg	11 37 36.9	-1.7
PAJU				SG	Sg	11 37 55.3	-1.2
HEF	**Hetta**	**1.52**	**315**	*e*P	Pn	11 37 39.9	-0.5
HEF	**Hetta**	**1.52**	**315**	PG	Pn	11 37 39.8	-0.5
HEF				MSG		11 37 57.4	
	comp=Z,1.5nm,0.2s						
HEF				SN	Sg	11 38 00.0	-0.7
OLKF	**Oulanka, Finla**	**1.54**	**132**	PG	Pn	11 37 39.9	-0.7
OLKF				MSG		11 37 58.1	
	comp=Z,1.6nm,0.2s						
OLKF				SN	Sn	11 37 60.0	-1.3
TOF	**Tornio**	**1.57**	**216**	PG	Pn	11 37 40.4	-0.7
TOF				MSG		11 37 58.9	
	comp=Z,1.0nm,0.2s						
TOF				SN	Sg	11 38 02.5	+0.2
MSF	**Maaselka**	**1.76**	**145**	SN	Sb	11 38 07.4	-0.4
MASU	**Masugnsbyn**	**1.77**	**275**	P	Pn	11 37 43.9	+0.1
LANU	**Lannavaara**	**1.87**	**294**	P	Pn	11 37 45.5	+0.3
LANU	**Lannavaara**	**1.87**	**294**	PG	Pn	11 37 45.5	+0.2
LANU				SG	Sb	11 38 10.8	-0.1
KU6	**Riekki**	**1.89**	**134**	PG	Pn	11 37 46.0	+0.6
KU6				MSG		11 38 08.2	
	comp=Z,0.8nm,0.2s						
KU6				SG	Sn	11 38 10.4	+0.5
ERTU	**Ertsjaerv**	**1.90**	**247**	P	Pn	11 37 45.9	+0.2
ERTU	**Ertsjaerv**	**1.90**	**247**	PG	Pn	11 37 45.7	0.0
	baz=67						
ERTU				SG	Sb	11 38 11.5	-0.3
KALU	**Kalix**	**1.98**	**222**	P	Pn	11 37 47.0	+0.3
KALU	**Kalix**	**1.98**	**222**	PG	Pn	11 37 47.0	+0.3
KALU				SG	Sb	11 38 14.5	+0.5
KTK1	**Kautokeino**	**2.07**	**325**	SG	Sb	11 38 16.5	-0.1
ARA0	**ARCESS Array S**	**2.21**	**350**	PB	Pn	11 37 50.2	+0.2
	baz=169						
ARA0				SB	Sn	11 38 18.2	+0.2
KEV	**Kevo**	**2.41**	**4**	*e*P	Pn	11 37 54.1	+1.6
KEV	**Kevo**	**2.41**	**4**	PG	Pb	11 37 55.1	-1.0
KEV				MSG		11 38 23.3	
	comp=Z,0.9nm,0.2s						
KEV				SG	Sb	11 38 25.5	-0.8
HARU	**Harads**	**2.52**	**244**	P	Pn	11 37 54.1	0.0
KOVU	**Salmi**	**2.58**	**292**	P	Pn	11 37 55.3	+0.3
KIF	**Kilpisjarvi**	**2.71**	**310**	MSG		11 38 32.3	
	comp=Z,0.7nm,0.2s						
KIF				SG	Sb	11 38 34.8	-0.2

HEL 26 11:37:52.7±0.1, 62.°29N×27.°47E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	**Kangasniemi**	**0.57**	**253**	PG	Pg	11 38 03.2	-0.4
KAF				SG	Sg	11 38 10.0	-1.1
KAF				MSG		11 38 11.1	
	comp=Z,4.4nm,0.2s						
FIA0	**FINESS Array S**	**1.07**	**219**	PG	Pg	11 38 11.9	-1.3
	baz=37						
FIA0				SG	Sg	11 38 25.3	-1.8
FIA0				MSG		11 38 25.4	
	comp=Z,3.8nm,0.2s						
RUF	**Ruokolahti**	**1.11**	**140**	PG	Pg	11 38 12.9	-1.0
	baz=320						
RUF				MSG		11 38 26.7	
	comp=Z,2.6nm,0.2s						
RUF				SN	Sn	11 38 34.1	+2.7
NIF	**Nilsia**	**1.12**	**8**	PG	Pg	11 38 12.9	-1.3
NIF				SB	Sg	11 38 27.6	-1.0
KEF	**Keuruu**	**1.22**	**266**	PG	Pg	11 38 15.3	-0.8
KEF				MSG		11 38 29.8	
	comp=Z,2.6nm,0.2s						
KEF				SG	Sg	11 38 30.6	-1.4
VJF	**Virojoki**	**1.75**	**179**	MSG		11 38 45.1	
	comp=Z,2.3nm,0.2s						
VJF				SN	Sn	11 38 46.8	-0.5
JOF	**Joensuu**	**1.89**	**69**	PG	Pn	11 38 26.4	+0.2
JOF				SG	Sb	11 38 51.9	-0.1
PVF	**Pernaja**	**1.91**	**205**	PG	Pn	11 38 26.9	+0.5
PVF				MSG		11 38 49.5	
	comp=Z,3.1nm,0.2s						
PVF				SG	Sb	11 38 52.9	+0.2
RMF	**Romuvaara**	**2.24**	**29**	MSG		11 38 58.8	
	comp=Z,1.1nm,0.2s						
RMF				SG	Sb	11 39 02.1	0.0
NUR	**Nurmijrvi**	**2.24**	**219**	MSG		11 38 59.0	
	comp=Z,1.8nm,0.2s						
NUR				SG	Sb	11 39 02.0	-0.2
VAF	**Ylistaro**	**2.34**	**291**	PG	Pb	11 38 34.3	-1.4
VAF				MSG		11 39 02.1	
	comp=Z,1.5nm,0.2s						
VAF				SG	Sb	11 39 04.4	-0.7
OUF	**Merijarvi**	**2.43**	**331**	SN	Sn	11 38 36.0	-28
OUF				MSG		11 38 43.2	
	comp=Z,0.5nm,0.2s						
OUF	**Merijarvi**	**2.43**	**331**	PG	Pb	11 38 36.0	-1.2
OUF				MSG		11 39 04.5	
	comp=Z,1.2nm,0.2s						
OUF				SG	Sb	11 39 07.9	+0.2
ARBE	**Arbavere**	**2.95**	**195**	PN	Pn	11 38 40.4	-0.3
RAF	**Rauma**	**3.00**	**248**	MSG		11 39 21.1	
	comp=Z,1.3nm,0.2s						
RAF				SG	Sb	11 39 22.8	-1.3

*SJA **26** 12:05:53.9±0.7, 31.°49S×72.°01W, h16km±5km, ML3.5, MW3.6*
*GUC **26** 12:05:57.5±0.9, 31.°53S×71.°75W, h29km±4km, ML3.4*
ISC 26 12:05:54.6±1.5, 31.°54S±0.°02×71.°95W±0.°06, h6km±11km, n49, σ1°75/75, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.90**	**18**	*e*P	**Pg**	**12 06 13.4**	**+1.4**
CO06				*e*P	**Pb**	**12 06 13.6**	**+0.9**
CO06				*i* S	**Sg**	**12 06 24.6**	**+0.8**
CO06				IAML		12 06 26.9	
	comp=E,2μm,0.3s						
CO03	**El Pedregal**	**1.29**	**58⇑**	*e*P	**Pn**	**12 06 17.8**	**-1.5**
CO03				*i* S	**Sb**	**12 06 32.3**	**-3.9**
CO03				IAML		12 06 35.3	
	comp=N,782nm,0.5s						
CO03	**El Pedregal**	**1.29**	**58**	*e*P	**Pn**	**12 06 18.3**	**-1.0**
CO03				*e*S	**Sb**	**12 06 33.9**	**-2.3**
CO03				IAML		12 06 34.9	
	comp=Z,590nm,0.4s						
ROCH	**El Roble**	**1.64**	**151**	*e*P	**Pn**	**12 06 24.8**	**+0.6**
ROC1	**El Roble**	**1.64**	**151**	*e*P	**Pn**	**12 06 25.1**	**+0.9**
ROC1				*e*S	**Sn**	**12 06 45.4**	**-0.4**
GO04	**Tololo Observa**	**1.69**	**36**	*e*P	**Pn**	**12 06 24.8**	**0.0**
GO04				*e*S	**Sn**	**12 06 45.4**	**-1.4**
GO04	**Tololo Observa**	**1.69**	**36**	*e*P	**Pn**	**12 06 25.1**	**+0.3**
GO04				*e*S	**Sn**	**12 06 46.8**	**-0.1**
VA03	**San Esteban**	**1.71**	**136**	*e*P	**Pn**	**12 06 25.7**	**+0.7**
VA03				*i* S	**Sn**	**12 06 46.0**	**-1.1**
VA03	**San Esteban**	**1.71**	**136**	*e*P	**Pn**	**12 06 25.8**	**+0.8**
VA03				*e*S	**Sn**	**12 06 47.1**	**-0.1**
VA03				IAML		12 06 51.1	
	comp=Z,575nm,0.7s						
CO05	**La Serena**	**1.73**	**21**	*e*P	**Pn**	**12 06 25.8**	**+0.6**
CO05				*e*S	**Sn**	**12 06 47.9**	**+0.3**
CO05				IAML		12 06 54.2	
	comp=N,385nm,0.5s						
MT02	**Curacav**	**1.85**	**158**	*e*P	**Pn**	**12 06 27.4**	**+0.5**
PEL	**Peldehue**	**1.93**	**146**	*e*P	**Pn**	**12 06 29.0**	**+1.1**
PEL				*i* S	**Sn**	**12 06 52.8**	**+0.2**
PEL				IAML		12 06 56.0	
	comp=N,573nm,0.4s						
PEL	**Peldehue**	**1.93**	**146**	*e*P	**Pn**	**12 06 29.1**	**+1.1**
PEL				*e*S	**Sb**	**12 06 55.5**	**+1.0**
MT10	**Hacienda Santa**	**2.10**	**146**	*e*P	**Pn**	**12 06 31.8**	**+1.3**
MT10				*e*S	**Sn**	**12 06 57.9**	**+0.8**
MT05	**Renca**	**2.11**	**151**	*e*P	**Pn**	**12 06 31.2**	**+0.6**
MT05				IAML		12 07 01.9	
	comp=E,794nm,0.3s						
VA05	**Santo Domingo**	**2.13**	**172**	*e*P	**Pn**	**12 06 31.1**	**+0.3**
VA05				IAML		12 07 06.8	
	comp=E,565nm,0.3s						
MT14	**Cerro Calın**	**2.21**	**147**	*e*P	**Pn**	**12 06 33.5**	**+1.6**
CO01	**Juntas del Tor**	**2.23**	**46**	*e*P	**Pn**	**12 06 33.2**	**+0.8**
CO01				*i* S	**Sn**	**12 06 59.6**	**-0.8**
CO01				IAML		12 07 02.0	
	comp=E,215nm,0.3s						
FCH	**Farellones**	**2.27**	**142**	*e*P	**Pn**	**12 06 34.2**	**+1.3**
FCH				*i* S	**Sn**	**12 07 02.3**	**+0.8**
FCH				IAML		12 07 05.3	
	comp=E,226nm,0.4s						
RTLS	**Leoncito**	**2.28**	**97**	*e*P	**Pn**	**12 06 35.0**	**+1.9**
RTLS				*e*S	**Sb**	**12 07 03.6**	**-1.3**
RTLS				IAML		12 07 09.5	
	comp=Z,388nm,0.4s						
AUSP	**Uspallata**	**2.29**	**108**	*e*P	**Pb**	**12 06 35.6**	**-0.9**
AUSP				*e*S	**Sb**	**12 07 04.2**	**-0.9**
MT03	**Universidad Ad**	**2.30**	**148**	*e*P	**Pn**	**12 06 34.5**	**+1.4**
MT03				IAML		12 07 13.5	
	comp=E,557nm,0.2s						
MT09	**Talagante**	**2.38**	**160**	*e*P	**Pn**	**12 06 35.8**	**+1.6**
MT09				IAML		12 07 12.9	
	comp=E,308nm,0.3s						
MT01	**Popeta**	**2.39**	**166**	*e*P	**Pn**	**12 06 35.5**	**+1.1**
MT01				IAML		12 07 15.1	
	comp=E,226nm,0.3s						
MT04	**Ro Olivares**	**2.41**	**141**	*e*P	**Pn**	**12 06 36.5**	**+1.6**
MT04				*e*S	**Sb**	**12 07 07.3**	**-1.4**
MT04				IAML		12 07 14.0	
	comp=E,326nm,0.7s						
MT12	**Pirque**	**2.49**	**152**	*e*P	**Pn**	**12 06 37.2**	**+1.5**
MT12				IAML		12 07 19.7	
	comp=E,436nm,0.3s						
MT08	**Bocatoma Ro**	**2.51**	**140**	*e*P	**Pn**	**12 06 38.7**	**+2.5**
MT08				IAML		12 07 14.9	
	comp=N,232nm,0.5s						
AROD	**Rodeo**	**2.53**	**58**	*e*P	**Pn**	**12 06 39.1**	**+2.5**
MT13	**San Alfonso**	**2.61**	**148**	*e*P	**Pn**	**12 06 38.8**	**+1.3**
MT13				IAML		12 07 21.3	
	comp=N,316nm,0.4s						
ACCO	**Cerro Coronel**	**2.65**	**70**	*e*P	**Pb**	**12 06 41.1**	**-1.7**
ACCO				IAML		12 07 26.2	
	comp=Z,155nm,0.6s						
BO04	**La Punta**	**2.69**	**155**	*e*P	**Pn**	**12 06 40.1**	**+1.5**
BO04				*i* S	**Sn**	**12 07 10.5**	**-1.0**
BO04				IAML		12 07 23.4	
	comp=N,240nm,0.2s						
LMEL	**Las Melosas**	**2.73**	**148**	*e*P	**Pn**	**12 06 40.4**	**+1.2**
LCO	**Las Campanas**	**2.74**	**24**	*e*P	**Pn**	**12 06 39.7**	**+0.3**
ACDV	**Cuesta del Vie**	**2.79**	**61**	*e*P	**Pn**	**12 06 42.9**	**+2.9**
ACDV				IAML		12 07 23.3	
	comp=Z,118nm,0.4s						
ZON	**Zonda**	**2.80**	**91**	*e*P	**Pb**	**12 06 43.3**	**-1.7**
ZON				IAML		12 07 27.4	
	comp=Z,81nm,0.6s						
ASAL	**Salagasta**	**2.85**	**112**	*e*P	**Pb**	**12 06 44.4**	**-1.5**
ASAL				*e*S	**Sg**	**12 07 26.7**	**+0.5**
ASAL				IAML		12 07 31.1	
	comp=Z,84nm,1.3s						
ARCO	**CERRO ARCO**	**2.87**	**118**	*e*P	**Pb**	**12 06 45.1**	**-1.2**
ARCO				*e*P	**Pn**	**12 06 45.4**	**+4.3**
ARCO				IAML		12 07 33.0	
	comp=Z,82nm,1.0s						
BO01	**Tunca**	**2.94**	**166**	*e*P	**Pn**	**12 06 42.9**	**+1.0**
BO03	**Pichilemu**	**2.95**	**180**	*i* P	**Pn**	**12 06 42.5**	**+0.5**
RTLL	**Cerro Villicun**	**2.98**	**87**	*e*P	**Pn**	**12 06 45.1**	**+2.6**
RTLL				IAML		12 07 32.1	
	comp=Z,162nm,0.6s						
AC05	**El Transito**	**3.06**	**29**	*e*P	**Pn**	**12 06 44.8**	**+1.2**
AAGR	**Agrelo**	**3.06**	**121**	*e*P	**Pb**	**12 06 47.6**	**-2.0**
AAGR				*e*P	**Pn**	**12 06 47.8**	**+4.1**
AAGR				*e*S	**Sg**	**12 07 31.3**	**-1.7**
AAGR				IAML		12 07 36.8	
	comp=Z,88nm,0.6s						
CFA	**Coronel Fontan**	**3.17**	**92**	*e*P	**Pn**	**12 06 47.6**	**+2.5**
CFA				*e*P	**Pb**	**12 06 47.8**	**-3.6**
CFA				*e*S	**Sb**	**12 07 31.1**	**+0.7**
CFA				IAML		12 07 38.5	
	comp=Z,103nm,0.6s						
BO02	**Sierra Bellavi**	**3.39**	**163**	*e*P	**Pn**	**12 06 49.8**	**+1.7**
GO03	**Copiap**	**4.21**	**21**	*e*P	**Pn**	**12 07 00.3**	**+1.0**
GO03				*e*P	Pb	12 07 04.2	-4.9
GO03				*e*S	**Sg**	**12 08 06.7**	**-3.1**
VCA	**Vinchina**	**4.28**	**50**	*e*P	**Pn**	**12 07 04.9**	**+4.4**
VCA				*e*S	**Sb**	**12 08 04.3**	**+1.9**
VCA				IAML		12 08 08.1	
	comp=Z,108nm,0.4s						
ACLC	**CERRO LA CRUZ**	**4.80**	**65**	*e*P	**Pn**	**12 07 09.5**	**+1.8**
ACLC				*e*S	**Sn**	**12 08 06.0**	**+2.3**
ACLC				IAML		12 08 12.6	
	comp=Z,121nm,0.6s						
AHML	**Horco Molle**	**7.48**	**52**	*e*P	Pb	12 07 56.7	-8.1
FSA	**Cafayete**	**7.53**	**46**	*e*P	Pn	12 07 51.9	+6.7

*IDC **26** 12:32:31.2±1.1, 1.°40N×133.°11E, h0km, mb4.0/11, mbtmp4.1/12, ML4.0/1, MS3.7/30, Error ellipse: s-maj=58.8km s-min=15.3km az=72.0*
*NEIC **26** 12:32:33.8±2.7, 1.°25N±0.°08×133.°4E±0.°1, h10km±1km, mb4.6/14, Error ellipse: s-maj=17.4km s-min=13.4km az=276.0*
*DJA **26** 12:32:46.6±0.7, 1.°N±6.°×13.°2E±.°, h10km, M4.3/11, mb4.5/11, mB5.1/5, MLv4.1/8, Mw(mB)4.4/5*
ISC 26 12:32:34.8±0.6, 1.°19N±0.°06×133.°2E±0.°1, h10km, n80, σ2°26/47, mb4.6/25, MS3.7/27, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.83**	**224**	P	Pn	12 33 15.2	-4.9
SWI				S	Sn	12 33 44.5	-10
RKPI	**Ransiki, Papua**	**2.85**	**160**	P	**Pg**	**12 33 31.0**	**+1.6**
FAKI	**Fak Fak**	**4.20**	**193**	Pn	**Pn**	**12 33 39.3**	**+0.4**
FAKI	**Fak Fak**	**4.20**	**193**	P	**Pn**	**12 33 38.7**	**-0.2**
TNTI	**Ternate**	**5.87**	**266**	Pn	**Pn**	**12 34 03.4**	**+1.5**
LBMI	**Labuha**	**6.00**	**252**	P	**Pn**	**12 34 03.0**	**-0.8**
	67nm,0.9s,2μm0.3nm						
BNDI	**Bandanaira**	**6.57**	**210**	P	**Pn**	**12 34 11.7**	**+0.1**
	358nm,1.1s,5μm1.4nm						
SANI	**Sanana**	**7.92**	**246**	P	Pn	12 34 25.5	-4.6
	21nm,0.9s,1μm0.1nm						
GTOI	**Gorontalo**	**10.22**	**267**	P	**Pn**	**12 35 05.1**	**+3.3**
	6.5nm,1.5s						
LUWI	**Luwuk**	**10.68**	**258**	Pn	**Pn**	**12 35 08.2**	**+0.1**
TTSI	**Tana Toraja**	**14.04**	**253**	P	P	12 36 12.1	+10
SOEI	**Soe**	**14.06**	**219**	Pn	**Pn**	**12 35 53.6**	**-0.8**
SOEI	**Soe**	**14.06**	**219**	P	Pn	12 35 51.9	-2.5
	39nm,1.0s						
MTN	**Manton Dam**	**14.09**	**188**	Pn	**Pn**	**12 35 52.5**	**-2.2**
BKSI	**Bulukumba**	**14.60**	**244**	P	**Pn**	**12 36 02.7**	**+1.1**
	21nm,1.2s						
BATI	**Baumata**	**14.79**	**220**	Pn	Pn	12 36 01.3	-2.9
	0.7nm,0.3s,baz=92,slow=8.4,SNR=1.2						
BATI				LR	LR	12 42 09.2	
	comp=Z,202nm,21.5s,baz=74,slow=39						
	6.7nm,0.3s						
EDFI	**Ende, Flores**	**15.15**	**229**	P	**Pn**	**12 36 07.6**	**-1.6**
	13nm,1.4s,308nm						
GUMO	**Guam**	**16.87**	**43**	LR	LR	12 41 28.9	
	comp=Z,114nm,19.5s,baz=225,slow=32						
KNRA	**Kununurra**	**17.33**	**195**	Pn	**Pn**	**12 36 34.1**	**-2.8**
COEN	**Coen**	**17.99**	**147**		**Pn**	**12 36 43.5**	**-1.7**
COEN				IAmb	IAmb	12 36 57.6	
	comp=Z,38nm,1.1s						
PLAI	**Plampang**	**18.33**	**237**	P	**Pn**	**12 36 50.0**	**+0.6**
	comp=Z,29nm,1.1s						
TWSI	**Taliwang, Sumb**	**19.04**	**238**	P	**P**	**12 36 58.7**	**+1.4**
	comp=Z,54nm,1.1s,comp=Z,681nm						
KRVT	**Keravat (AS076**	**19.57**	**106**	LR	LR	12 43 33.7	
	comp=Z,250nm,18.6s,baz=5.6,slow=34						
SRBI	**Singaraja**	**20.18**	**243**	P	**P**	**12 37 12.9**	**+3.1**
WB0	**Warramunga Arr**	**20.86**	**177**	P	**P**	**12 37 17.0**	**-0.1**
WRAB	**Tennant Creek**	**21.02**	**177**	P	**P**	**12 37 18.7**	**-0.2**
WRAB				IAmb	IAmb	12 37 27.1	
	comp=Z,29nm,0.9s						
SBUM	**Sibu**	**21.03**	**274**	P	**P**	**12 37 19.1**	**+0.1**
WB2	**Warramunga Arr**	**21.03**	**177**	P	**P**	**12 37 18.2**	**-0.7**
WB2				IAmb	IAmb	12 37 27.2	
	comp=Z,31nm,0.9s						
WRA	**Warramunga Arr**	**21.03**	**177**	P	**P**	**12 37 18.5**	**-0.4**
	comp=Z,5.9nm,0.7s,baz=354,slow=11,SNR=48						
	comp=Z,5.9nm,0.7s						
WR0	**Warramunga Arr**	**21.06**	**177**	P	**P**	**12 37 18.9**	**-0.3**
JAGI	**Jajag, Banyuwa**	**21.29**	**243**	P	**P**	**12 37 20.6**	**-1.3**
JAGI				IAmb	IAmb	12 37 31.2	
	comp=Z,50nm,1.3s						
CTA	**Charters Tower**	**24.71**	**150**	LR	LR	12 49 05.6	
	comp=Z,286nm,18.4s,baz=314,slow=40						
AS31	**Alice Springs**	**24.71**	**179**	P	**P**	**12 37 58.0**	**+1.5**
AS31				IAmb	IAmb	12 38 06.5	
	comp=Z,13nm,0.9s						
ASAR	**Alice Springs**	**24.71**	**179**	P	**P**	**12 37 58.4**	**+2.0**
ASAR	**Alice Springs**	**24.71**	**179**	P	**P**	**12 37 58.0**	**+1.5**
	comp=Z,14nm,0.8s,baz=357,slow=9.7,SNR=53						
ASAR				LR	LR	12 48 39.8	
	comp=Z,169nm,20.5s,baz=2.0,slow=39						
	comp=Z,14nm,0.8s						
JOW	**Kunigami**	**25.94**	**350**	LR	LR	12 46 09.2	
	comp=Z,252nm,21.4s,baz=102,slow=32						
JCJ	**Chichijima**	**27.16**	**18**	LR	LR	12 46 19.9	
	comp=Z,202nm,20.6s,baz=104,slow=31						
HNR	**Honiara**	**28.63**	**112**	LR	LR	12 49 33.6	
	comp=Z,1μm,20.0s,baz=248,slow=36						
JNU	**Nakatsue**	**31.84**	**356**	LR	LR	12 50 11.4	
	comp=Z,115nm,20.8s,baz=166,slow=34						
JHJ	**Hachijo jima 2**	**32.36**	**10**	LR	LR	12 49 36.4	
	comp=Z,281nm,19.1s,baz=268,slow=32						
STKA	**Stephens Creek**	**33.83**	**167**	P	**P**	**12 39 16.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=314,slow=15,SNR=1.5						
STKA				LR	LR	12 54 37.5	
	comp=Z,214nm,18.1s,baz=14,slow=39						
	comp=Z,0.5nm,0.5s						
MJAR	**Matsushiro Arr**	**35.48**	**7**	LR	LR	12 51 00.2	
	comp=Z,202nm,21.4s,baz=182,slow=31						
NWAO	**Narrogin (SRO)**	**37.14**	**203**	LR	LR	12 57 25.1	
	comp=Z,41nm,18.4s,baz=201,slow=40						
CMAR	**Chiang Mai Arr**	**37.76**	**299**	P	P	12 39 47.1	-4.2
	comp=Z,0.3nm,0.3s,baz=125,slow=6.6,SNR=4.5						
CMAR				LR	LR	12 57 22.1	
	comp=Z,13nm,18.1s,baz=95,slow=40						
	comp=Z,0.3nm,0.3s						
KMI	**Kunming**	**37.84**	**311**	⇑P	**P**	**12 39 50.5**	**-1.7**
KMI				pmax	pmax		
	comp=Z,11nm,0.8s						
LYN	**LuoYang**	**38.44**	**332**	*e*P	P	12 40 05.8	+9.0
LYN				pmax	pmax		
	comp=Z,22nm,0.6s						
LYN				pmax	pmax		
	comp=Z,250nm,3.9s						
XAN	**Xi'an**	**39.81**	**328**	P	**P**	**12 40 06.0**	**-2.4**
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
DZM	**Mont Dzumac**	**39.81**	**127**	LR	LR	12 58 18.4	
	comp=Z,38nm,18.2s,baz=21,slow=39						
USRK	**Ussuriysk Ar.**	**42.84**	**359**	LR	LR	12 58 18.1	
	comp=Z,67nm,18.2s,baz=154,slow=36						
ASAJ	**Asahikawa**	**43.55**	**10**	LR	LR	12 55 50.8	
	comp=Z,116nm,20.7s,baz=168,slow=32						
HHC	**Hu-ho-hao-te**	**44.08**	**336**	*e*P	**P**	**12 40 43.3**	**0.0**
HHC				pmax	pmax		
	comp=Z,26nm,0.5s						
HHC				pmax	pmax		
	comp=Z,210nm,5.7s						
LZH	**Lanzhou**	**44.13**	**325**	*e*P	P	12 40 54.0	+10
LZH				pP	pwP	12 41 00.5	+10
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
BTO	**Baotou**	**44.52**	**335**	*e*P	**P**	**12 40 49.5**	**+2.7**
BTO				pP	**pwP**	**12 40 54.0**	**+0.2**
BTO				sP	**sP**	**12 40 56.8**	**+7.2**
BTO				PP	**PcP**	**12 42 29.5**	**-0.6**
BTO				S	**S**	**12 47 27.0**	**+4.6**
BTO				SS	**SS**	**12 50 37.3**	**-4.8**
BTO				pmax	pmax		
	comp=Z,20nm,0.7s						
BTO				pmax	pmax		
	comp=Z,420nm,4.6s						
BTO				LR	LR		
	comp=N,350nm,5.6s						
BTO				LR	LR		
	comp=E,300nm,4.9s						
BTO				LR	LR		
	comp=Z,260nm,5.4s						
KLR	**Kul'dur**	**47.88**	**359**	LR	LR	12 59 35.7	
	comp=Z,70nm,19.6s,baz=140,slow=34						
GTA	**Gaotai**	**48.73**	**325**	*e*P	**P**	**12 41 18.0**	**-1.9**
GTA				sP	pwP	12 41 41.8	+15
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**	**51.95**	**337**	P	**P**	**12 41 43.6**	**-0.5**
SONM	**Songino Array**	**51.95**	**337**	P	P	12 41 41.0	-3.2
	comp=Z,0.7nm,0.7s,baz=165,slow=6.0,SNR=5.5						
SONM				LR	LR	13 05 57.6	
	comp=Z,67nm,18.0s,baz=148,slow=39						
	comp=Z,0.7nm,0.7s						
PALK	**Pallekele**	**52.69**	**278**	LR	LR	13 05 28.4	
	comp=Z,31nm,19.5s,baz=309,slow=38						
RPZ	**Rata Peaks**	**56.06**	**148**	LR	LR	13 06 21.7	
	comp=Z,110nm,18.3s,baz=288,slow=36						
MA2	**Magadan**	**59.81**	**10**	LR	LR	13 05 24.2	
	comp=Z,46nm,20.9s,baz=160,slow=33						
SHEM	**Shemya Is, Ala**	**61.57**	**27**	LR	LR	13 10 58.7	
	comp=Z,51nm,18.0s,baz=290,slow=38						
SEY	**Seymchan**	**63.23**	**10**	LR	LR	13 07 42.5	
	comp=Z,59nm,21.4s,baz=138,slow=34						
MK31	**Makanchi Array**	**63.39**	**323**	P	**P**	**12 43 02.3**	**-2.3**
MK31				IAmb	IAmb	12 43 22.2	
	comp=Z,5.0nm,1.2s						
MKAR	**Makanchi Array**	**63.39**	**323**	P	**

I46RU	ZALESOVO INFRA	25.07 101	I	I	15 07 50.0
	baz=321,slow=326,SNR=0.9				
I18DK	QAANAAQ INFRAS	28.98 335	I	I	15 46 00.0
	baz=46,slow=331,SNR=2.2				

*IDC **26** 12:50:53.7±1.4, 40.°21N×142.°48E, h0km, mb3.9/10, mbtmp3.9/11, ML3.4/1, Error ellipse: s-maj=31.6km s-min=26.2km az=100.0*
*JMA **26** 12:51:00.1±0.1, 40.°3N±0.°3×142.°5E±0.°6, h34km±1km, MV3.8/39, NE OFF IWATE PREF*
*NEIC **26** 12:51:02.4±1.6, 40.°31N±0.°04×142.°4E±0.°1, h48km±10km, mb4.5/4, Error ellipse: s-maj=13.2km s-min=5.5km az=104.0*
ISC 26 12:50:58.9±0.7, 40.°25N±0.°04×142.°48E±0.°05, h26km, n47, σ1.9±46/54, mb4.2/12, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	Tanohata	0.56	237	⇓iP	Pn	12 51 11.6	+0.3
JTH				⇓S	Sn	12 51 19.9	+0.2
JKEN	Kujiedanarisaw	0.59	266	⇓iP	Pn	12 51 11.8	+0.2
JKEN				⇓S	Sn	12 51 20.1	-0.3
JANG	Nango	0.75	280	⇓iP	Pn	12 51 14.1	+0.4
JANG				⇓S	Sn	12 51 24.2	0.0
MIYJ	Miyakonagasawa	0.84	217	iP	Pn	12 51 15.5	+0.4
MIYJ				S	Sb	12 51 26.5	+0.7
JKZ	Kuzumaki	0.92	254	iP	Pb	12 51 17.0	+0.8
JKZ				S	Sn	12 51 29.0	+0.5
JARK	Aomorirokkasho	1.14	312	⇓iP	Pn	12 51 19.5	+0.4
JARK				⇓S	Sn	12 51 33.5	-0.3
JOM	Ohasama	1.20	230	⇓iP	Pb	12 51 21.3	+0.4
JOM				⇓S	Sb	12 51 36.8	+0.8
JTM	Tenmabayashi	1.20	297	Pn	Pb	12 51 21.1	+0.2
JTM	Tenmabayashi	1.20	297	⇓iP	Pb	12 51 20.9	0.0
JTM				⇓S	Sn	12 51 35.9	+0.5
JAH	Hinai	1.41	268	⇓iP	Pb	12 51 24.6	0.0
JAH				⇓eS	Sb	12 51 42.9	+0.8
JOT	Ohata	1.57	317	iP	Pn	12 51 25.8	+0.8
JOT				S	Sn	12 51 44.8	+0.3
JMK	Ichinoseki	1.62	217	iP	Pb	12 51 27.9	-0.1
JMK				S	Sb	12 51 48.5	+0.4
JRG	Rokugo	1.66	240	P	Pb	12 51 28.6	-0.1
JRG				eS	Sb	12 51 51.0	+1.9
ERM	Erimo	1.84	16		Pn	12 51 30.3	+1.6
JMM	Marumori	2.72	209	Pn	Pn	12 51 43.8	+3.0
JKA	Kamikawa-asahi	3.86	1		Pn	12 51 58.6	+2.0
ASAJ	Asahikawa	3.87	1	Pn	Pn	12 51 56.4	-0.2
	2.2nm,0.3s,baz=204,slow=15,SNR=20						
ASAJ				Sn	Sn	12 52 42.7	+1.6
	2.7nm,0.3s,baz=125,slow=31,SNR=2.0						
	4.7nm,0.5s						
JSD	Sado	3.96	237	Pn	Pn	12 52 00.6	+2.7
MJAR	Matsushiro Arr	5.00	224	Pn	Pn	12 52 16.0	+3.8
	0.2nm,0.3s,baz=29,slow=13,SNR=12						
MJB9	Matsu-Tunnel	5.00	224		Pn	12 52 15.8	+3.7
MAJO	Matsushiro	5.00	224		Pn	12 52 15.3	+3.2
YSS	Yuzh-Sakhalins	6.70	2	Pn	Pn	12 52 38.0	+2.4
USA0B	Ussuriysk Arra	8.72	300	Pn	Pn	12 53 06.1	+2.8
USRK	Ussuriysk Ar.	8.72	300	Pn	Pn	12 53 05.0	+1.8
	0.4nm,0.3s,baz=101,slow=15,SNR=6.4						
KSRS	Korea Array	11.69	261	Pn	Pn	12 53 44.8	+0.9
	0.1nm,0.3s,baz=74,slow=15,SNR=3.3						
SONM	Songino Array	26.83	298	P	P	12 56 35.0	-2.1
	0.4nm,0.4s,baz=104,slow=8.8,SNR=1.7						
	0.4nm,0.4s						
H11N2	WAKE ISLAND Hy	29.25	127	T	T	13 27 49.6	
	baz=319,slow=75,SNR=27						
H11N1	WAKE ISLAND Hy	29.26	127	T	T	13 27 56.1	
	baz=319,slow=75,SNR=21						
H11N3	WAKE ISLAND Hy	29.27	127	T	T	13 27 59.4	
	baz=319,slow=75,SNR=22						
H11S1	WAKE ISLAND Hy	30.07	129	T	T	13 29 38.5	
	baz=320,slow=74						
H11S3	WAKE ISLAND Hy	30.07	129	T	T	13 29 17.2	
	baz=320						
H11S2	WAKE ISLAND Hy	30.09	129	T	T	13 29 42.2	
	baz=320,slow=74						
ZALV	Zalesovo Beam	40.44	310	P	P	12 58 33.5	-1.3
	0.7nm,0.4s,baz=89,slow=9.1,SNR=1.4						
	0.7nm,0.4s						
H19K	Roundabout Mou	42.33	33	P	P	12 58 51.7	+1.6
MKAR	Makanchi Array	43.19	299	P	P	12 58 57.3	-0.2
MKAR	Makanchi Array	43.19	299	P	P	12 58 56.7	-0.8
	1.0nm,0.6s,baz=87,slow=9.4,SNR=8.7						
	1.0nm,0.6s						
IMAR	Indian Mountai	43.48	32	P	P	12 58 59.5	0.0
KURBB	Kurchatov Arra	44.74	306	P	P	12 59 08.4	-1.4
	1.5nm,0.3s,baz=78,slow=8.7,SNR=7.6						
	1.5nm,0.3s						
ILAR	Eielson Array	46.35	34	P	P	12 59 20.9	-1.4
	0.2nm,0.6s,baz=263,slow=6.7,SNR=5.6						
	0.2nm,0.6s						
BVAR	Borovoye Array	49.07	310	P	P	12 59 43.1	-0.5
	1.8nm,0.3s,baz=77,slow=9.9,SNR=9.9						
	1.8nm,0.3s						
M29M	Somme Creek	50.41	36	P	P	12 59 53.3	-0.5
INK	Inuvik	51.15	28	P	P	12 59 59.6	+0.5
INK				IAmb	IAmb	13 00 10.7	
	comp=Z,5.6nm,1.4s						
ABKAR	Akbulak array	56.54	309	P	P	13 00 38.4	-0.4
ABKAR				IAmb	IAmb	13 00 39.2	
	comp=Z,3.0nm,0.6s						
AKTO	Aktyubinsk	57.18	311	P	P	13 00 42.3	-1.0
	comp=Z,1.5nm,0.5s,baz=74,slow=10,SNR=6.4						
	comp=Z,1.5nm,0.5s						
WRA	Warramunga Arr	60.36	189	P	P	13 01 04.5	-1.1
	comp=Z,0.3nm,0.8s,baz=6.2,slow=7.1,SNR=2.0						
	comp=Z,0.3nm,0.8s						
FINES	FINESS Array B	66.37	332	P	P	13 01 43.1	-1.8
	comp=Z,3.4nm,0.9s,baz=46,slow=8.0,SNR=2.3						
	comp=Z,3.4nm,0.9s						
HFS	Hagfors	71.50	336	P	P	13 02 16.5	-0.4
	comp=Z,0.9nm,0.4s,baz=25,slow=8.8,SNR=4.4						
	comp=Z,0.9nm,0.4s						

*IDC **26** 12:51:36.7±0.8, 29.°01N×81.°54E, h0km, mb3.9/14, mbtmp3.9/16, ML3.7/2, Error ellipse: s-maj=28.4km s-min=15.9km az=50.0*
ISC 26 12:51:41.7±0.9, 29.°1N±0.°1×81.°5E±0.°1, h33km, n20, σ0.9±79/20, mb3.8/14, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	8.42	305	P	Pn	12 53 41.8	+0.3
THW	Thamme Wali	9.20	296	P	Pn	12 53 51.5	-0.6
CEP	Cherat	9.49	302	P	Pn	12 53 55.7	-0.5
MKAR	Makanchi Array	17.70	2	P	Pn	12 55 43.5	-2.1
	0.2nm,0.3s,baz=192,slow=12,SNR=4.1						
	0.7nm,0.6s						
CMAR	Chiang Mai Arr	19.09	120	P	P	12 56 00.9	-0.7
	0.1nm,0.3s,baz=317,slow=10.0,SNR=3.6						
	0.5nm,0.5s						
KURBB	Kurchatov Arra	21.64	355	P	P	12 56 28.2	-0.9
	1.2nm,0.6s,baz=180,slow=10,SNR=26						
	1.2nm,0.6s						
ZALV	Zalesovo Beam	24.97	5	P	P	12 57 02.5	+0.5
	4.0nm,0.6s,baz=194,slow=9.3,SNR=23						
	4.0nm,0.6s						
BVAR	Borovoye Array	25.30	344	P	P	12 57 04.9	-0.2
	1.5nm,0.6s,baz=146,slow=12,SNR=7.6						
	1.5nm,0.6s						
SONM	Songino Array	26.82	39	P	P	12 57 19.9	+0.9
	0.7nm,0.5s,baz=232,slow=11,SNR=3.1						
	0.7nm,0.5s						
BRTR	Keskin Array B	40.51	298	P	P	12 59 18.1	+0.3
	0.5nm,0.3s,baz=8.7,slow=10,SNR=2.3						
	0.5nm,0.3s						
FINES	FINESS Array B	48.52	328	P	P	13 00 21.8	+0.6
	2.2nm,0.5s,baz=107,slow=8.9,SNR=16						
	2.2nm,0.5s						
ARCES	ARCESS Array B	51.35	338	P	P	13 00 43.8	+1.2
	2.4nm,0.6s,baz=99,slow=7.5,SNR=11						
	2.4nm,0.6s						
HFS	Hagfors	54.29	325	P	P	13 01 05.1	+0.7
	3.4nm,0.6s,baz=100,slow=8.1,SNR=9.9						
	3.4nm,0.6s						
NB2	NORSAR Subarra	55.55	326	P	P	13 01 13.7	+0.1
	comp=Z,1.1nm,0.5s,baz=89,slow=7.4						
NOA	NORSAR Array B	55.55	326	P	P	13 01 13.8	+0.3
	comp=Z,1.3nm,0.5s,baz=92,slow=7.1,SNR=8.5						
	comp=Z,1.3nm,0.5s						
EKA	Eskdalemuir Ar	63.71	321	P	P	13 02 09.9	+0.1
	comp=Z,1.3nm,0.5s,baz=84,slow=7.0,SNR=8.5						
	comp=Z,1.3nm,0.5s						
WRA	Warramunga Arr	70.49	127	P	P	13 02 53.0	-0.3
	comp=Z,0.4nm,0.6s,baz=323,slow=6.0,SNR=6.6						
	comp=Z,0.4nm,0.6s						
ASAR	Alice Springs	72.71	130	P	P	13 03 06.7	0.0
	comp=Z,0.4nm,0.5s,baz=316,slow=5.7,SNR=8.1						
	comp=Z,0.4nm,0.5s						
TORD	Torodi Ar. Bea	74.95	277	P	P	13 03 19.7	-0.4
	comp=Z,0.3nm,0.6s,baz=53,slow=5.7,SNR=2.0						
	comp=Z,0.3nm,0.6s						
ILAR	Eielson Array	79.17	19	P	P	13 03 43.7	+0.8
	comp=Z,0.7nm,0.9s,baz=308,slow=6.3,SNR=5.2						
	comp=Z,0.7nm,0.9s						

*NEIC **26** 12:59:48.2±1.2, 47.°07N±0.°02×122.°23W±0.°02, h11km±6km, Error ellipse: s-maj=2.5km s-min=2.0km az=223.0*
*PGC **26** 12:59:49.2, 47.°06N×122.°17W, h9km, ML2.2, ML2.1/10, 61km Sse of Seattle, Wa Washington*
*SEA **26** 12:59:49.2±1.6, 47.°06N±0.°01×122.°17W±0.°02, h9km±6km, ML2.2/22, ML2.4/36(NEIC), Error ellipse: s-maj=2.0km s-min=1.6km az=129.0*
ISC 26 12:59:48.1±0.7, 47.°07N±0.°02×122.°22W±0.°02, h10km, n96, σ0.9±82/120, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHW	Garrison Hill	0.04	234		Pg	12 59 51.1	+1.0
PCEP	Pierce County	0.07	313		Pg	12 59 51.7	+1.4
D05A	Enumclaw	0.20	52		Pg	12 59 53.3	+1.0
D05A	Enumclaw	0.20	52	IAML		12 59 56.9	
	comp=E,2μm,0.8s						
D05A				IAML		12 59 57.0	
	comp=N,1μm,0.5s						
D05A	Enumclaw	0.20	52	P	Pg	12 59 53.3	+1.0
D05A				S	Sg	12 59 56.4	+1.2
RVC	Mount Rainier-	0.21	126		Pg	12 59 53.1	+0.5
GSM	Grass Mountain	0.32	65		Pg	12 59 54.9	+0.3
OBSR	Observation Ro	0.32	121		Pg	12 59 54.9	+0.2
REMR	Mount Rainier-	0.36	134		Pg	12 59 55.5	+0.1
RCS	Mount Rainier-	0.39	120		Pg	12 59 55.9	0.0
VVHS	Vashon High Sc	0.39	336		Pb	12 59 57.1	0.0
FMW	Mount Fremont	0.40	110		Pg	12 59 56.0	-0.1
FMW	Mount Fremont	0.40	110	P	Pg	12 59 56.0	-0.1
RCM	Mount Rainier-	0.41	124		Pg	12 59 56.2	0.0
LON	Longmire	0.42	138		Pg	12 59 56.4	-0.1
LON					Sg	13 00 01.6	-0.4
LON	Longmire	0.42	138		Pg	12 59 56.4	-0.1
LON	Longmire	0.42	138	IAML		13 00 01.8	
	comp=N,173nm,0.1s						
LON				IAML		13 00 01.9	
	comp=E,79nm,0.3s						
LON	Longmire	0.42	138	P	Pg	12 59 56.3	-0.2
LON				S	Sg	13 00 01.6	-0.4
RATT	Rattlesnake La	0.46	38		Pg	12 59 57.3	+0.2
RATT					Sg	13 00 03.8	+0.7
CDMR	Cedar Moraine	0.47	41		Pg	12 59 57.8	+0.4
CDMR					Sg	13 00 04.5	+0.8
SP2	Seward Park 2	0.49	358		Pb	12 59 59.0	+0.2
SP2					Sb	13 00 07.2	+1.1
SR41	SR410 Landslid	0.50	111		Pg	12 59 57.8	-0.2
GMW	Gold Mountain	0.62	322		Pg	13 00 00.5	+0.4
GNW	Green Mountain	0.65	321		Pg	13 00 00.8	+0.2
GNW	Green Mountain	0.65	321	P	Pg	13 00 00.8	+0.2
GNW				S	Sb	13 00 09.7	-0.8
TDL	Tradedollar La	0.72	180		Pg	13 00 02.0	0.0
C05A	Tolt Reservoir	0.72	30		Sg	13 00 11.7	+0.1
C05A	Tolt Reservoir	0.72	30	P	Pb	13 00 03.0	+0.2
C05A				S	Sg	13 00 11.4	-0.2
B201	Coldwater, Mou	0.77	182		Pg	13 00 02.7	-0.2
ERK	Elk Rock	0.77	186		Pg	13 00 02.9	-0.1
JRO	Jston Ridge Ob	0.79	180		Pg	13 00 03.3	-0.1
HTW	Haystack Looko	0.80	22		Pg	13 00 03.4	-0.2
B202	Windy Ridge, M	0.82	176		Pg	13 00 03.6	-0.4
SOSW	Source of Smit	0.82	176		Pg	13 00 03.8	-0.2
C04A	Brinnon	0.83	322		Pg	13 00 03.9	-0.1
STD	Studebaker Rid	0.83	180		Pg	13 00 03.9	-0.3
BOLM	Sugar Bowl	0.85	178		Pg	13 00 04.6	0.0
SEPW	September Lobe	0.87	179		Pg	13 00 05.0	+0.2
ESD	East Dome	0.87	177		Pg	13 00 05.0	+0.1
SHW	Mount Saint He	0.88	181		Pg	13 00 04.9	-0.1
FL2	Flat Top 2	0.88	186		Pg	13 00 04.8	-0.3
B013	Quilcene	0.88	328		Pg	13 00 04.9	-0.2
B013					Sb	13 00 17.3	0.0
B203	Quarry, Mount	0.90	185		Pg	13 00 05.1	-0.4
BMW	Boistfort Moun	0.91	230		Pg	13 00 05.8	+0.1
CDFW	Cedar Flats	0.96	173		Pg	13 00 06.2	-0.4
RVW	Rose Valley	0.99	202		Pg	13 00 06.6	-0.5
NAC	Naches	1.01	109		Pg	13 00 07.7	+0.1
ASR	Mount Adams--S	1.01	155		Pg	13 00 07.4	-0.3
B019	Raymond	1.07	248		Pn	13 00 09.0	-0.1
LTY	Liberty	1.07	79		Pg	13 00 07.7	-1.1
LTY				IAML		13 00 21.8	
	comp=E,124nm,0.5s						
LTY				IAML		13 00 22.5	
	comp=N,56nm,0.2s						
LTY	Liberty	1.07	79	P	Pg	13 00 07.7	-1.1
LTY				S	Sg	13 00 21.4	-1.4
B023	Clatskanie	1.12	212		Pb	13 00 09.3	-0.4
F04A	Amboy	1.14	187		Pb	13 00 09.6	-0.3
JCW	Jim Creek	1.14	10		Pb	13 00 09.3	-0.8
JCW	Jim Creek	1.14	10	P	Pb	13 00 09.2	-0.8
NLWA	Neilton Lookou	1.17	287		Pn	13 00 10.8	+0.3
RADR	Rader Ridge	1.26	240		Pn	13 00 11.9	0.0
RADR	Rader Ridge	1.26	240	IAML		13 00 29.0	
	comp=E,63nm,3.8s						
RADR				IAML		13 00 33.8	
	comp=N,51nm,1.4s						
GPW	Glacier Peak	1.28	34	P	Pn	13 00 11.7	-0.7
GPW				S	Sb	13 00 27.9	-1.2
SLFW	Sugar Loaf	1.34	58		Pn	13 00 13.2	+0.1
CMW	Cultus Mountai	1.36	3		Pn	13 00 12.7	-0.6
CMW					Sb	13 00 30.7	-0.5
ETW	Entiat	1.39	67		Pg	13 00 14.8	0.0
RPW	Rockport	1.46	19	P	Pn	13 00 14.8	+0.1
RPW				S	Sn	13 00 33.6	-0.3
F03A	Seaside	1.47	220	Pn	Pn	13 00 14.9	+0.3
B06A	Marblemount	1.54	19		Pb	13 00 16.5	-0.1
B06A	Marblemount	1.54	19	P	Pn	13 00 16.0	+0.4
B06A				S	Sb	13 00 36.0	-0.2
VGZ	Gonzales	1.54	331	P	Pn	13 00 14.9	-0.7
VGZ				S	Sn	13 00 34.5	-1.1
MCW	Mount Constitu	1.67	346	P	Pn	13 00 17.9	+0.5
MCW				S	Sn	13 00 39.3	+0.4
E07A	Sunnyside	1.70	107		Pn	13 00 18.1	+0.2
E07A				IAML		13 00 43.6	
	comp=N,28nm,0.5s						
E07A				IAML		13 00 46.2	
	comp=E,37nm,0.8s						
MBW	Mount Baker	1.73	7	P	Pb	13 00 19.3	-0.8
MBW				S	Sb	13 00 41.7	-0.3
B011	North Saanich	1.79	333	P	Pn	13 00 19.1	+0.1
B011				S	Sn	13 00 41.5	-0.2
B009	North Saanich	1.79	333	P	Pn	13 00 19.0	0.0
B009				S	Sn	13 00 42.3	+0.5
B010	North Saanich	1.79	333	P	Pn	13 00 19.1	+0.1
B010				S	Sn	13 00 42.4	+0.7
PGC	Sidney	1.79	333	Pn	Pn	13 00 18.6	-0.4
PGC	Sidney	1.79	333	P	Pn	13 00 19.1	0.0
PGC				S	Sn	13 00 42.2	+0.4
HOOD	Mount Hood Mea	1.79	167	Pn	Pb	13 00 20.6	-0.5
HOOD				IAML		13 00 39.7	
	comp=E,19nm,3.1s						
HOOD				IAML		13 00 48.7	
	comp=N,26nm,1.8s						
SNB	Saturna Island	1.82	340	P	Pn	13 00 20.5	+0.9
SNB				S	Sb	13 00 43.9	-0.6
SYMB	Survey Mountai	1.83	325	P	Pn	13 00 19.8	0.0
SYMB				S	Sn	13 00 43.3	+0.2
G05A	Wamic	1.93	161	Pn	Pb	13 00 22.9	-0.6
G05A				IAML		13 00 34.0	
	comp=E,32nm,5.0s						
G05A				IAML		13 01 27.5	
	comp=N,29nm,5.0s						
HAWA	Hanford	1.97	109	Pn	Pn	13 00 22.1	+0.5
HAWA				IAML		13 00 49.6	
	comp=N,18nm,0.9s						
G03D	McMinnville, O	1.99	202	Pn	Pn	13 00 23.0	+1.1
G03D				IAML		13 01 04.6	
	comp=E,42nm,2.6s						
G03D				IAML		13 01 18.3	
	comp=N,40nm,3.5s						
MJ2	May Junction 2	2.03	103		Pn	13 00 21.8	-0.5
GOBB	Galiano Island	2.07	336	P	Pb	13 00 24.4	-1.4
GOBB				S	Sb	13 00 51.1	-0.5
CLRS	Cowichan Lake	2.17	324	Pn	Pn	13 00 25.0	+0.7
CLRS				IAML		13 01 09.8	
	comp=N,21nm,4.5s						
CLRS				IAML		13 01 13.5	
	comp=E,16nm,4.0s						
CLRS	Cowichan Lake	2.17	324	P	Pn	13 00 25.0	+0.7
CLRS				S	Sn	13 00 52.4	+1.0
VTHM	Trough	2.21	148		Pg	13 00 30.7	+0.2
H04A	Detroit Lake	2.38	179	Pn	Pn	13 00 29.1	+1.8
H04A				IAML		13 01 05.0	
	comp=N,34nm,0.4s						
BIB	Bowen Island	2.45	343	P	Pn	13 00 30.0	+1.8
BIB				S	Sb	13 01 00.6	-1.8
NLLB	Nanaimo Lost L	2.46	332	S	Sb	13 01 00.9	-2.0
H04D	Lebanon	2.57	188	Pn	Pn	13 00 32.2	+2.4
SHB	Sechelt	2.76	337	P	Pn	13 00 34.2	+1.7
SHB				S	Sb	13 01 08.9	-2.7
C09A	Chrisman Ranch	2.78	73		Pn	13 00 32.8	+0.1
PNT	Penticton	2.85	37	Sg	Sb	13 01 15.9	+2.0
G08A	Pilot Rock	2.88	127	Pn	Pn	13 00 37.1	+2.9
TXB	Texada	3.02	332	P	Pn	13 00 37.7	+1.7
F10A	Beach Ranch, E	3.62	106	Pn	Pn	13 00 45.0	+0.7
F10A				IAML		13 02 35.6	
	comp=N,10nm,4.3s						

RSNC 26 13:13:12.6±1.3, 6.°84N×73.°10W, h156km±4km, ML3.3, Mw3.6, 4C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	199	⇓iP	Pn	13 13 33.7	-0.3
BARC				eS	Sn	13 13 49.0	-1.3
BARC				i		13 13 51.5	
	comp=Z,441nm,0.3s						
PAMC	Pamplona, Colo	0.64	39	⇑iP	Pn	13 13 36.5	+0.6
PAMC				eS	Sn	13 13 53.8	+0.1
PAMC				i		13 13 56.3	
	comp=Z,191nm,0.6s						
BRRC	Barranca, Sant	0.66	294	⇑iP	Pn	13 13 35.6	+0.1
BRRC				eS	Sn	13 13 53.1	+0.2
BRRC				i		13 13 55.1	
	comp=Z,142nm,0.5s						
RUSC	La Rusia	0.94	179	⇓iP	Pn	13 13 37.6	-0.4
RUSC				eS	Sn	13 13 56.0	-1.4
RUSC				i		13 13 57.3	
	comp=Z,270nm,0.6s						
TAMC	Tame, Arauca	1.36	107	⇓iP	Pn	13 13 41.8	+0.6
TAMC				eS	Sn	13 14 01.9	-1.3
TAMC				i		13 14 02.7	
	comp=Z,181nm,0.3s						
PTBC	PUERTO BERRIO,	1.38	258	eP	Pn	13 13 40.4	-1.0
PTBC				eS	Sn	13 14 02.1	-1.3
PTBC				i		13 14 09.2	
	comp=Z,266nm,0.5s						
SPBC	San Pablo de B	1.52	219	eP	Pn	13 13 42.6	-0.3
SPBC				eS	Sn	13 14 04.9	-1.4
SPBC				i		13 14 10.7	
	comp=Z,310nm,0.2s						
ZARC	Zaragoza, Cauc	1.86	291	eP	Pn	13 13 46.3	-0.2
ZARC				eS	Sn	13 14 12.0	-0.6
ZARC				i		13 14 18.2	
	comp=Z,308nm,0.3s						
NORC	Norcasia	2.17	234	eP	Pn	13 13 49.5	-0.6
NORC				eS	Sn	13 14 18.9	-0.1
NORC				i		13 14 21.5	
	comp=Z,252nm,0.2s						
CHIC	Chingaza	2.28	196	eP	Pn	13 13 51.6	-0.2
CHIC				eS	Sn	13 14 21.7	-0.4
CHIC				i		13 14 29.0	
	comp=Z,76nm,0.3s						
ROSC	El Rosal	2.33	212	eP	Pn	13 13 53.3	+1.0
ROSC				eS	Sn	13 14 24.1	+1.2
ROSC				i		13 14 31.8	
	comp=Z,306nm,0.4s						
UREC	San Jos de Ur	2.58	291	eP	Pn	13 13 53.8	-1.2
UREC				eS	Sn	13 14 25.9	-1.8
UREC				i		13 14 41.5	
	comp=Z,105nm,0.4s						
GUY2C	Guyana, Caldas	2.77	235	eP	Pn	13 13 58.0	+0.3
GUY2C				eS	Sn	13 14 32.9	+0.4
GUY2C				i		13 14 41.0	
	comp=Z,173nm,0.3s						
VILC	Villavicencio,	2.77	192	eP	Pn	13 13 57.2	-0.4
VILC				eS	Sn	13 14 30.9	-1.3
VILC				i		13 14 40.9	
	comp=Z,139nm,0.4s						
PTGC	Puerto Gaitan,	2.79	160	⇓iP	Pn	13 13 56.5	-1.1
PTGC				eS	Sn	13 14 29.7	-2.8
PTGC				i		13 14 38.3	
	comp=Z,103nm,0.3s						
DBBC	Dabeiba	3.09	273	eP	Pn	13 14 01.3	-0.2
DBBC				eS	Sn	13 14 38.3	-0.9
DBBC				i		13 14 45.2	
	comp=Z,49nm,0.2s						
SDV	Santo Domingo	3.18	50	eP	Pn	13 14 02.9	+0.3
SDV				eS	Sn	13 14 40.0	-1.5
SDV				i		13 14 42.4	
	comp=Z,44nm,0.4s						
ARGC	Ariguani, Magd	3.21	339	eP	Pn	13 14 04.2	+1.3
ARGC				eS	Sn	13 14 42.1	+0.2
ARGC				i		13 14 46.1	
	comp=Z,39nm,0.3s						
PRAC	Prado	3.58	210	eP	Pn	13 14 07.0	-0.6
PRAC				eS	Sn	13 14 49.4	-1.0
PRAC				i		13 14 54.5	
	comp=Z,100nm,0.5s						
APAC	Apartado, Choc	3.61	287	⇑iP	Pn	13 14 07.7	-0.3
APAC				eS	Sn	13 14 49.1	-1.9
APAC				i		13 14 59.3	
	comp=Z,38nm,0.5s						
ORTC	Ortega, Tolima	3.61	216	eP	Pn	13 14 07.7	-0.3
ORTC				eS	Sn	13 14 51.2	+0.1
ORTC				i		13 14 56.7	
	comp=Z,82nm,0.4s						
SJCC	San Jacinto, C	3.67	326	eP	Pn	13 14 08.0	-0.8
S

*IDC **26** 13:57:03.1±1.2,4.″48S×82.″21W,h0km,mb3.6/4, mbtmp3.7/5,ML3.8/1,MS3.1/4,Error ellipse: s-maj=93.3km s-min=24.3km az=63.0*
*IGQ **26** 13:57:04±1.2,4.″5±3.″×8.″1W±.″,h8km*
ISC 26 13:57:02.2±0.9,4.°02S±0.°06×80.°83W±0.°06,h10km,n18, σ0s68/18,mb3.7/4,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNL	**Arenillas**	**0.90**	**58**	P	**Pg**	**13 57 20.0**	**+0.5**
ARNL				S	**Sg**	**13 57 31.0**	**-0.3**
AMCR	**Ecuador-Macara**	**0.94**	**112**	P	**Pb**	**13 57 21.0**	**+0.3**
AMCR				S	**Sb**	**13 57 33.0**	**-0.3**
MCRA	**Macar, Loja**	**0.94**	**112**	P	**Pb**	**13 57 21.0**	**+0.3**
MCRA				S	**Sb**	**13 57 33.0**	**-0.3**
ACH1	**Ecuador-Univer**	**1.18**	**52**	P	**Pb**	**13 57 25.0**	**+0.4**
ACH1				S	**Sn**	**13 57 41.0**	**+0.2**
ISPG	**Isla Puna-Puer**	**1.24**	**32**	P	**Pb**	**13 57 26.0**	**+0.3**
ACH2	**Ecuador-Machal**	**1.27**	**54**	P	**Pb**	**13 57 26.0**	**-0.2**
MORR	**Playas El Morr**	**1.46**	**20**	P	**Pn**	**13 57 28.0**	**-0.6**
TAMH	**Tambohuasha Ch**	**3.20**	**40**	P	**Pn**	**13 57 53.0**	**-0.1**
ROSC	**El Rosal**	**10.95**	**37**	LR	LR	14 04 28.6	
	comp=Z,192nm,18.8s,baz=212,slow=37						
SDV	**Santo Domingo**	**16.36**	**38**	LR	LR	14 08 29.8	
	comp=Z,28nm,20.4s,baz=196,slow=39						
LPAZ	**La Paz**	**17.45**	**135**	P	P	14 01 17.8	+10
	0.1nm,0.3s,baz=315,slow=13,SNR=8.3						
LPAZ				LR	LR	14 09 17.0	
	comp=Z,65nm,21.4s,baz=354,slow=40						
	2.3nm,0.7s						
MDP	**Montagnes des**	**29.58**	**72**	LR	LR	14 15 36.3	
	comp=Z,48nm,21.8s,baz=76,slow=36						
TXAR	**Lajitas Array**	**39.75**	**328**	P	**P**	**14 04 36.2**	**+0.8**
	0.2nm,0.6s,baz=154,slow=11,SNR=2.3						
	0.2nm,0.6s						
PDAR	**Pinedale Array**	**53.34**	**334**	P	**P**	**14 06 21.8**	**-0.3**
	0.5nm,0.7s,baz=119,slow=7.4,SNR=5.1						
	0.5nm,0.7s						
NVAR	**Mina Array Bea**	**54.64**	**324**	P	**P**	**14 06 31.9**	**+0.2**
	0.6nm,0.7s,baz=130,slow=7.5,SNR=6.0						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**86.06**	**180**	P	**P**	**14 09 43.8**	**+0.7**
	1.5nm,0.7s,baz=164,slow=8.6,SNR=32						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**136.37**	**229**	PKP	**PKPdf**	**14 16 24.1**	**-1.2**
	0.3nm,0.6s,baz=123,slow=2.2,SNR=7.8						
WRA	**Warramunga Arr**	**138.03**	**234**	PKP	**PKPdf**	**14 16 26.7**	**-1.7**
	0.2nm,0.6s,baz=115,slow=2.2,SNR=6.6						

IDC 26 14:06:49.0±2.4,23.°85N×93.°35E,h0km,mb3.3/4, mbtmp3.3/4,Error ellipse: s-maj=104.6km s-min=25.3km az=70.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.55**	**342**	P	P	14 12 10.4	0.0
	0.2nm,0.5s,baz=145,slow=10,SNR=2.3						
	0.2nm,0.5s						
SONM	**Songino Array**	**26.09**	**20**	P	P	14 12 24.4	0.0
	0.3nm,0.5s,baz=206,slow=9.6,SNR=2.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**59.08**	**134**	P	P	14 16 51.1	-0.2
	0.2nm,0.5s,baz=316,slow=7.9,SNR=17						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**61.49**	**137**	P	P	14 17 07.9	+0.1
	0.1nm,0.3s,baz=317,slow=6.5,SNR=13						
	0.1nm,0.3s						

IDC 26 14:28:38.5±2.1,5.°94N×123.°53E,h0km,mb3.6/4, mbtmp3.6/4,Error ellipse: s-maj=258.2km s-min=23.4km az=64.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.83**	**158**	P	P	14 34 29.0	-0.9
	0.2nm,0.9s,baz=334,slow=11,SNR=1.7						
	0.2nm,0.9s						
ASAR	**Alice Springs**	**31.12**	**161**	P	P	14 34 59.6	+0.6
	0.2nm,0.3s,baz=340,slow=7.8,SNR=13						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**53.94**	**326**	P	P	14 38 04.4	+0.3
	0.3nm,0.4s,baz=130,slow=9.1,SNR=4.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**58.18**	**328**	P	P	14 38 33.7	-0.6
	1.2nm,0.3s,baz=117,slow=5.7,SNR=2.5						
	1.2nm,0.3s						

*NEIC **26** 14:56:44.5±2.4,3.°7S±0.°1×140.°2E±0.°1,h35km±1km, mb4.4/20,Error ellipse: s-maj=21.0km s-min=14.5km az=51.0*
*IDC **26** 14:56:46.6±3.5,3.°58S×140.°10E,h57km±34km,mb3.6/7, mbtmp4.0/10,ML4.1/2,MS3.2/10,Error ellipse: s-maj=26.2km s-min=14.6km az=87.0*
ISC 26 14:56:44.4±0.6,3.°64S±0.°07×139.°99E±0.°07,h35km,n61, σ1s77/54,mb4.1/11,MS3.2/8,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.05**	**10**	P	**Pn**	**14 57 03.0**	**+0.2**
TABU	**Tabubil**	**2.03**	**143**	P	**Pn**	**14 57 18.3**	**+2.0**
FAKI	**Fak Fak**	**7.76**	**275**	Pn	**Pn**	**14 58 37.5**	**+2.5**
PMG	**Port Moresby**	**9.14**	**129**	Pn	Pn	14 58 49.2	-4.7
PMG	**Port Moresby**	**9.14**	**129**	P	**Pn**	**14 58 58.5**	**+4.6**
PMG	**Port Moresby**	**9.14**	**129**	P	**Pn**	**14 58 58.6**	**+4.6**
PMG	**Port Moresby**	**9.14**	**129**	P	**Pn**	**14 58 56.0**	**+2.1**
	9.1nm,0.8s,baz=32,slow=3.8,SNR=5.6						
PMG				S	**Sn**	**15 00 36.6**	**+1.0**
	3.7nm,0.6s,baz=220,slow=22,SNR=0.8						
SAUI	**Saumlaki**	**9.66**	**243**	Pn	**Pn**	**14 58 59.1**	**-2.0**
COEN	**Coen**	**10.72**	**163**	Pn	Pn	14 59 09.5	-6.2
COEN	**Coen**	**10.72**	**163**	P	**Pn**	**14 59 19.2**	**+3.6**
KDU	**Kakadu**	**11.66**	**219**	P	**Pn**	**14 59 28.5**	**0.0**
MTN	**Manton Dam**	**12.66**	**223**		**Pn**	**14 59 42.9**	**+0.7**
MTN	**Manton Dam**	**12.66**	**223**	P	**Pn**	**14 59 42.3**	**+0.2**
TNTI	**Ternate**	**13.35**	**289**	Pn	**Pn**	**14 59 52.7**	**+1.1**
MTSU	**Mount Surprise**	**15.02**	**164**	P	**Pn**	**15 00 15.9**	**+1.7**
KNRA	**Kununurra**	**16.28**	**222**	Pn	**Pn**	**15 00 29.1**	**-1.4**
KNRA	**Kununurra**	**16.28**	**222**	P	**Pn**	**15 00 30.5**	**-0.1**
SOEI	**Soe**	**16.75**	**248**		**P**	**15 00 39.7**	**+1.1**
SOEI				IAmb	IAmb	15 01 02.3	
	comp=Z,18nm,0.8s						
QIS	**Mount Isa**	**16.82**	**181**	P	**Pn**	**15 00 39.1**	**+1.7**
WB0	**Warramunga Arr**	**16.93**	**198**	Pn	**Pn**	**15 00 37.6**	**-1.2**
WR0	**Warramunga Arr**	**17.07**	**198**	Pn	**Pn**	**15 00 39.4**	**-1.1**
WR0				IAmb	IAmb	15 00 52.1	
	comp=Z,8.8nm,0.6s						
WRAB	**Tennant Creek**	**17.10**	**198**		**Pn**	**15 00 40.3**	**-0.6**
WRAB				IAmb	IAmb	15 00 52.9	
	comp=Z,17nm,0.8s						
WRAB	**Tennant Creek**	**17.10**	**198**	P	**Pn**	**15 00 41.0**	**+0.1**
WB2	**Warramunga Arr**	**17.11**	**198**		**Pn**	**15 00 41.3**	**+0.3**
WB2				IAmb	IAmb	15 00 53.0	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**17.11**	**198**	P	**Pn**	**15 00 39.1**	**-1.9**
	comp=Z,1.6nm,0.5s,baz=18,slow=13,SNR=21						
WRA				S	**Sn**	**15 03 45.7**	**-4.8**
	comp=Z,0.4nm,0.6s,baz=99,slow=16,SNR=2.0						
CTA	**Charters Tower**	**17.45**	**160**	P	**Pn**	**15 00 45.7**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=354,slow=11,SNR=3.6						
CTA				LR	LR	15 07 48.9	
	comp=Z,96nm,18.4s,baz=340,slow=38						
	comp=Z,1.8nm,0.5s						
CTAO	**Charters Tower**	**17.45**	**160**		**Pn**	**15 00 46.0**	**+0.7**
BATI	**Baumata**	**17.46**	**247**	P	**P**	**15 00 48.5**	**+2.1**
	comp=Z,0.9nm,0.3s,baz=79,slow=5.2,SNR=1.7						
	comp=Z,2.8nm,0.3s						
DAV	**Davao City (W)**	**17.89**	**306**	LR	LR	15 07 01.6	
	comp=Z,25nm,21.3s,baz=202,slow=34						
HNR	**Honiara**	**20.64**	**107**	LR	LR	15 08 21.8	
	comp=Z,613nm,19.3s,baz=142,slow=34						
AS31	**Alice Springs**	**20.76**	**196**	P	**P**	**15 01 24.1**	**+1.6**
ASAR	**Alice Springs**	**20.76**	**196**	P	**P**	**15 01 23.4**	**+0.9**
ASAR	**Alice Springs**	**20.76**	**196**	P	**P**	**15 01 23.3**	**+0.8**
	comp=Z,7.2nm,0.6s,baz=25,slow=8.6,SNR=79						
ASAR				S	**S**	**15 05 13.9**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=22,slow=25,SNR=2.3						
ASAR				LR	LR	15 09 58.0	
	comp=Z,73nm,18.2s,baz=6.5,slow=38						
	comp=Z,7.2nm,0.6s						
RK1H	**Rockhampton Ha**	**22.11**	**154**	P	**P**	**15 01 36.6**	**-0.2**
WRKA	**Warakurna**	**24.07**	**207**	P	**P**	**15 01 56.9**	**+0.2**
EIDS	**Eidsvold**	**24.09**	**155**	P	**P**	**15 01 53.9**	**-3.0**
EIDS				IAmb	IAmb	15 02 07.2	
	comp=Z,5.1nm,0.8s						
STKA	**Stephens Creek**	**28.13**	**177**	LR	LR	15 14 54.8	
	comp=Z,79nm,19.5s,baz=25,slow=39						
LIFNC	**LIFOU**	**31.52**	**125**	P	**P**	**15 03 01.7**	**-1.7**
PINNC	**Pines Island,**	**32.60**	**128**	P	**P**	**15 03 11.2**	**-1.7**
JNU	**Nakatsue**	**37.57**	**347**	LR	LR	15 18 51.0	
	comp=Z,27nm,19.4s,baz=102,slow=35						
KSRS	**Korea Array**	**42.40**	**346**	LR	LR	15 20 35.0	
	comp=Z,16nm,21.7s,baz=105,slow=34						
GSI	**Gunungsitoli**	**42.67**	**276**	P	**P**	**15 04 39.4**	**+1.2**
GSI				IAmb	IAmb	15 04 41.5	
	comp=Z,25nm,1.3s						
CMAR	**Chiang Mai Arr**	**46.00**	**300**	P	**P**	**15 05 04.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=130,slow=6.3,SNR=5.1						
	comp=Z,0.4nm,0.6s						
ASAJ	**Asahikawa**	**47.60**	**3**	LR	LR	15 22 42.8	
	comp=Z,19nm,21.6s,baz=109,slow=33						
TUWZ	**Tuamarina**	**48.39**	**146**	P	**P**	**15 05 22.7**	**-0.3**
RTZ	**Ruatahuna**	**48.42**	**141**	P	**P**	**15 05 21.6**	**-1.8**
RTZ				IAmb	IAmb	15 05 32.4	
	comp=Z,6.0nm,1.0s						
BKZ	**Black Stump Fm**	**48.45**	**142**	P	**P**	**15 05 22.3**	**-1.3**
BKZ				IAmb	IAmb	15 05 36.3	
	comp=Z,14nm,1.4s						
RPZ	**Rata Peaks**	**48.45**	**150**	P	**P**	**15 05 24.0**	**+0.5**
PETK	**Petropavlovsk-**	**58.48**	**12**	LR	LR	15 29 00.7	
	comp=Z,32nm,21.4s,baz=103,slow=33						
MA2	**Magadan**	**63.60**	**6**	LR	LR	15 35 34.0	
	comp=Z,17nm,18.8s,baz=114,slow=37						
CASY	**Casey**	**65.84**	**193**	P	**P**	**15 07 25.2**	**-0.8**
CASY				IAmb	IAmb	15 07 51.2	
	comp=Z,3.5nm,1.2s						
MKAR	**Makanchi Array**	**71.30**	**322**	P	**P**	**15 08 01.1**	**+0.5**
MKAR	**Makanchi Array**	**71.30**	**322**	P	**P**	**15 08 00.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=100,slow=6.8,SNR=4.2						
	comp=Z,0.4nm,0.6s						
VNDA	**Vanda**	**74.75**	**175**	P	**P**	**15 08 18.0**	**-2.3**
KURBB	**Kurchatov Arra**	**75.22**	**325**	P	**P**	**15 08 23.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=118,slow=5.2,SNR=4.7						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**80.80**	**325**	P	**P**	**15 08 54.7**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=113,slow=3.9,SNR=3.7						
	comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**86.15**	**24**	P	**P**	**15 09 20.2**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=257,slow=4.6,SNR=8.1						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**86.31**	**180**	P	**P**	**15 09 21.7**	**-1.0**
QSPA				IAmb	IAmb	15 09 34.4	
	comp=Z,4.3nm,1.1s						
QSPA	**South Pole Qui**	**86.31**	**180**	P	**P**	**15 09 23.0**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=20,slow=4.1,SNR=20						
	comp=Z,1.6nm,0.7s						
TOLK	**Toolik Lake Re**	**86.35**	**20**	P	**P**	**15 09 22.1**	**-0.5**
C23K	**Itkillik River**	**86.41**	**19**	P	**P**	**15 09 21.8**	**-1.0**

DJA 26 15:25:49.3±0.4,1.°N±5.°×12.°3E±.°,h34km±9km,M4.0/11, mb4.4/1,MLv3.8/11,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.24**	**257**	P	Pb	15 25 59.5	+3.0
KMSI	**Cibinong**	**0.74**	**99**	P	Pb	15 26 04.4	+0.5
MRSI	**Marisa**	**1.33**	**261**	P	Pn	15 26 10.9	-0.5
LUWI	**Luwuk**	**1.79**	**196**	P	Pn	15 26 19.2	+1.4
MPSI	**Mapaga**	**3.37**	**264**	P	Pn	15 26 41.2	+1.6
SANI	**Sanana**	**3.86**	**135**	P	Pn	15 26 44.3	-2.0
LBMI	**Labuha**	**4.45**	**107**	P	Pn	15 26 53.6	-0.8
TTSI	**Tana Toraja**	**5.05**	**223**	P	Pn	15 27 03.2	+0.5

*IDC **26** 15:34:28.8±1.3,38.°08S×73.°36W,h0km,mb3.7/4, mbtmp3.7/6,ML3.8/2,MS3.3/3,Error ellipse: s-maj=37.9km s-min=16.9km az=65.0*
*NEIC **26** 15:34:31.1±2.1,38.°10S±0.°04×73.°62W±0.°04,h25km±8km, mb4.0/5,ML4.3(GUC),Error ellipse: s-maj=6.5km s-min=4.7km az=189.0*
*GUC **26** 15:34:33.8±0.8,38.°14S×73.°39W,h25km±9km,ML4.3*
ISC 26 15:34:30.7±1.2,38.°10S±0.°03×73.°40W±0.°05,h15km±8km, n69,σ0s98/78,mb3.8/4,4C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**0.49**	**231**	↑iP	**Pn**	**15 34 42.4**	**-0.8**
BI04				eS	**Sb**	**15 34 49.9**	**+1.8**
LC02	**Puerto Saavedr**	**0.69**	**179**		**Pn**	**15 34 45.7**	**-0.2**
LC02				Sn	**Sg**	**15 34 53.0**	**-0.3**
LC02	**Puerto Saavedr**	**0.69**	**179**	eP	**Pn**	**15 34 45.5**	**-0.4**
LC02				i S	**Sg**	**15 34 53.2**	**-0.1**
LC02				IAML		15 34 57.7	
	comp=N,44μm,0.4s						
CCSP	**San Pedro de C**	**1.28**	**11**	eP	**Pg**	**15 34 55.8**	**+0.5**
CCSP				i S	**Sg**	**15 35 12.7**	**+0.8**
BI05	**Punta Hualpn**	**1.36**	**7**	Pn	**Pn**	**15 34 55.4**	**+0.2**
BI05	**Punta Hualpn**	**1.36**	**7**	↑iP	**Pb**	**15 34 55.8**	**-0.2**
BI05				i S	**Sg**	**15 35 14.8**	**+0.1**
LR02	**Universidad Au**	**1.71**	**176**	i S	**Sn**	**15 35 20.0**	**-1.5**
LR02				IAML		15 35 31.7	
	comp=E,8μm,0.5s						
LR03	**Panguipulli**	**1.74**	**152**		**Pb**	**15 35 02.0**	**-0.3**
LR03				Sn	**Sb**	**15 35 24.5**	**+0.5**
LR03	**Panguipulli**	**1.74**	**152**	eP	**Pb**	**15 35 02.0**	**-0.3**
LR03				i S	**Sn**	**15 35 22.7**	**+0.4**
LR03				IAML		15 35 32.1	
	comp=E,7μm,0.6s						
LR04	**Corral**	**1.78**	**181**		**Pn**	**15 35 00.8**	**0.0**
LR04				Sn	**Sn**	**15 35 22.2**	**-1.0**
LR04	**Corral**	**1.78**	**181**	eP	**Pn**	**15 35 00.9**	**0.0**
LR04				i S	**Sn**	**15 35 23.8**	**+0.6**
LR04				IAML		15 35 35.2	
	comp=E,3μm,0.3s						
GO06	**Curarrehue**	**2.11**	**135**	Pn	**Pb**	**15 35 07.7**	**-1.1**
GO06	**Curarrehue**	**2.11**	**135**	↑iP	**Pb**	**15 35 07.7**	**-1.1**
GO06				i S	**Sb**	**15 35 34.2**	**-0.7**
LR05	**Currie**	**2.39**	**153**	↑iP	**Pb**	**15 35 11.7**	**-1.7**
LR05				i S	**Sn**	**15 35 40.7**	**+2.4**
LR05				IAML		15 35 51.9	
	comp=E,2μm,0.6s						
ML02	**Panimavida**	**2.83**	**35**		**Pn**	**15 35 16.0**	**+0.6**
ML02	**Panimavida**	**2.83**	**35**	eP	**Pn**	**15 35 16.4**	**+1.1**
ML02				i S	**Sb**	**15 35 53.5**	**-1.8**
ML02				IAML		15 36 16.8	
	comp=N,1μm,0.7s						
LL03	**Petrohue**	**3.13**	**166**	Pn	**Pn**	**15 35 18.4**	**-1.1**
LL05	**Los Muermos**	**3.30**	**181**		**Pn**	**15 35 21.6**	**-0.2**
GO05	**Huala**	**3.31**	**21**	Pn	**Pn**	**15 35 22.7**	**+0.7**
GO05	**Huala**	**3.31**	**21**	eP	**Pn**	**15 35 22.6**	**+0.7**
PLCA	**Paso Flores**	**3.43**	**141**	Pn	**Pn**	**15 35 25.8**	**+2.0**
PLCA	**Paso Flores**	**3.43**	**141**	Pn	**Pn**	**15 35 25.3**	**+1.5**
	comp=N,2.0nm,0.3s,baz=317,slow=11,SNR=72						
PLCA				Pg	**Pb**	**15 35 31.9**	**+0.6**
	comp=N,5.4nm,0.3s,baz=318,slow=15,SNR=29						
PLCA				Lg	Lg	15 36 16.9	
	comp=N,7.3nm,0.3s,baz=34,slow=19,SNR=4.8						
PLCA				LR	LR	15 36 57.3	
	comp=N,364nm,18.1s,baz=283,slow=43						
	comp=N,8.6nm,0.5s						
BO03	**Pichilemu**	**3.78**	**18**	eP	**Pn**	**15 35 28.4**	**-0.1**
BO02	**Sierra Bellavi**	**3.92**	**33**		**Pn**	**15 35 31.3**	**+0.8**
BO02	**Sierra Bellavi**	**3.92**	**33**	eP	**Pn**	**15 35 31.3**	**+0.8**
LL06	**Loncomilla**	**4.11**	**182**		**Pn**	**15 35 33.7**	**+0.7**
BO01	**Tunca**	**4.15**	**28**	Pn	**Pn**	**15 35 33.7**	**+0.1**
BO01	**Tunca**	**4.15**	**28**	eP	**Pn**	**15 35 33.6**	**+0.1**
LL01	**San Ignacio de**	**4.34**	**170**		**Pn**	**15 35 36.9**	**+0.8**
MT01	**Popeta**	**4.57**	**23**		**Pn**	**15 35 39.2**	**-0.2**
VA05	**Santo Domingo**	**4.67**	**19**		**Pn**	**15 35 40.9**	**+0.2**
BO04	**La Punta**	**4.69**	**30**		**Pn**	**15 35 41.0**	**+0.1**
LL07	**Hotel Espejo d**	**4.73**	**181**	Pn	**Pn**	**15 35 41.5**	**+0.1**
MT09	**Talagante**	**4.74**	**25**		**Pn**	**15 35 41.6**	**-0.2**
LMEL	**Las Melosas**	**4.97**	**32**		**Pn**	**15 35 46.1**	**+1.1**
MT13	**San Alfonso**	**5.03**	**31**	Pn	**Pn**	**15 35 46.1**	**+0.3**
MT03	**Universidad Ad**	**5.16**	**28**		**Pn**	**15 35 46.5**	**-1.0**
MT02	**Curacav**	**5.17**	**22**		**Pn**	**15 35 46.6**	**-1.0**
MT05	**Renca**	**5.17**	**26**	Pn	**Pn**	**15 35 47.0**	**-0.7**
LL02	**Futaleuf**	**5.22**	**167**	Pn	**Pn**	**15 35 46.1**	**-2.1**
VA01	**Torpederas**	**5.27**	**16**	Pn	**Pn**	**15 35 48.1**	**-0.7**
MT08	**Bocatoma Ro**	**5.40**	**32**	Pn	**Pn**	**15 35 51.4**	**+0.4**
PEL	**Peldehue**	**5.42**	**25**		**Pn**	**15 35 50.7**	**-0.3**
ROC1	**El Roble**	**5.47**	**22**		**Pn**	**15 35 51.0**	**-1.0**
VA03	**San Esteban**	**5.81**	**24**		**Pn**	**15 35 56.4**	**-0.1**
H03S1	**Juan Fernandez**	**6.16**	**312**	T	T	15 42 06.1	
	baz=134,slow=76,SNR=2142						
H03S3	**Juan Fernandez**	**6.18**	**312**	T	T	15 42 07.1	
	baz=134,slow=76,SNR=2060						
H03S2	**Juan Fernandez**	**6.18**	**312**	T	T	15 42 05.8	
	baz=134,slow=76,SNR=1354						
VA04	**Juan Fernndez**	**6.26**	**314**	Pn	**Pn**	**15 36 02.2**	**-0.3**
AY01	**Puyuhuapi**	**6.34**	**175**	Pn	**Pn**	**15 36 01.7**	**-1.8**
CO06	**Fray Jorge**	**7.55**	**12**	Pn	**Pn**	**15 36 18.7**	**-1.6**
CO03	**El Pedregal**	**7.58**	**18**	Pn	**Pn**	**15 36 20.1**	**-0.7**
GO04	**Tololo Observa**	**8.20**	**16**	Pn	**Pn**	**15 36 28.7**	**-0.7**
CO01	**Juntas del Tor**	**8.55**	**20**	Pn	**Pn**	**15 36 33.2**	**-1.1**
TRQA	**Tornquist**	**9.01**	**93**	Pn	**Pn**	**15 36 43.0**	**+2.8**
LCO	**Las Campanas**	**9.34**	**15**	Pn	**Pn**	**15 36 44.1**	**-1.0**
AC05	**El Transito**	**9.60**	**17**	Pn	**Pn**	**15 36 47.6**	**-0.9**
LVC	**Limon Verde**	**15.92**	**15**	LR	LR	15 43 40.2	
	comp=N,82nm,21.5s,baz=201,slow=35						
EFI	**East Falkland**	**17.34**	**146**		**P**	**15 38 34.0**	**+0.7**
PLTB	**Pedras Altas**	**17.41**	**75**	Pn	**Pn**	**15 38 33.1**	**0.0**
PLTB				IAmb	IAmb	15 38 39.9	
	comp=Z,15nm,1.5s						
CPUP	**Villa Florida**	**17.93**	**54**	P	**Pn**	**15 38 39.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=238,slow=14,SNR=2.4						
CPUP				LR	LR	15 46 17.9	
	comp=Z,175nm,19.0s,baz=224,slow=40						
	comp=Z,1.8nm,0.9s						
GO01	**Chusmiza**	**18.73**	**12**	P	**Pn**	**15 38 50.0**	**+0.2**
GO01				IAmb	IAmb	15 38 51.7	
	comp=Z,9.7nm,1.3s						
PB16	**IPOC Station P**	**19.99**	**11**	P	**P**	**15 39 01.7**	**-1.6**
LPAZ	**La Paz**	**22.22**	**13**	P	**P**	**15 39 27.0**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=186,slow=10,SNR=1.7						
	comp=Z,0.7nm,0.4s						
QSPA	**South Pole Qui**	**52.14**	**180**	P	**P**	**15 43 41.2**	**+0.9**
QSPA				IAmb	IAmb	15 43 57.3	
	comp=Z,4.3nm,1.4s						
QSPA	**South Pole Qui**	**52.14**	**180**	P	**P**	**15 43 40.0**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=154,slow=4.5,SNR=1.4						
	comp=Z,1.3nm,1.0s						
TXAR	**Lajitas Array**	**72.81**	**333**	P	**P**	**15 45 59.7**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=146,slow=6.6,SNR=3.5						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**86.63**	**71**	P	**P**	**15 47 13.5**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=213,slow=3.8,SNR=9.0						
	comp=Z,1.3nm,0.7s						
BVAR	**Borovoye Array**	**150.95**	**47**	PKPbc	**PKiKP**	**15 54 22.9**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=298,slow=3.2,SNR=5.2						

*KRNET **26** 15:43:55.4±0.1,40.°96N×72.°88E,h24km,mb3.8*
*ISU **26** 15:43:55.9,40.°98N×72.°87E,h17km*
*SOME **26** 15:43:55.4,40.°95N×73.°05E,h25km*
*KNET **26** 15:43:56.8±0.3,41.°09N×72.°92E,h14km±3km,ml3.6,Error ellipse: s-maj=6.7km s-min=2.5km az=102.0*
*NNC **26** 15:43:58.0±1.8,41.°08N×72.°98E,h0km,mb4.2,mpv4.0, Error ellipse: s-maj=14.7km s-min=6.4km az=174.0*
ISC 26 15:43:55.7±1.0,40.°94N±0.°02×72.°86E±0.°02,h10km±8km, n67,σ1s11/111,36C-28D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.40**	**14**	↑eP	**Pg**	**15 44 03.2**	**-0.4**
	baz=12						
ARSB				↑eS	**Sg**	**15 44 08.9**	**0.0**
	baz=12						
ARSB	**Arslanbob**	**0.40**	**14**	P	**Pg**	**15 44 03.2**	**-0.4**
ARSB				S	**Sg**	**15 44 08.9**	**0.0**
OHH	**Osh**	**0.42**	**188**	⇓eP	**Pg**	**15 44 04.4**	**+0.4**
	baz=90						
OHH				⇓eS	**Sb**	**15 44 10.7**	**-0.9**
	baz=90						
ANR	**Andizhan**	**0.42**	**244**	P	**Pb**	**15 44 05.4**	**+0.2**
ANR				S	**Sb**	**15 44 12.2**	**+0.6**
TSTA	**Tashata**	**0.46**	**219**	P	**Pb**	**15 44 05.5**	**-0.4**
TSTA				S	**Sb**	**15 44 12.9**	**+0.1**
NAM	**Namangan**	**0.91**	**274**	P	**Pn**	**15 44 15.0**	**+0.5**
NAM				S	**Sn**	**15 44 28.0**	**+0.3**
FRG	**Fergana**	**0.99**	**236**	P	**Pn**	**15 44 15.4**	**-0.3**
FRG				S	**Sn**	**15 44 29.7**	**0.0**
SFK	**Sufi-Kurgan**	**1.05**	**152**	⇓eP	**Pg**	**15 44 15.0**	**-0.9**
	baz=53		

IUG					Lg	Lg	15 45 12.0	
	389nm,0.3s							
IUG	**luzhnay**	**2.44**	**301**	*e*Pg		**Pb**	**15 44 40.1**	**+0.4**
	127nm,0.3s							
IUG				*e*Lg		Lg	15 45 12.0	
	389nm,0.3s							
CHMS	**Chumysh**	**2.50**	**34**	⇑P		**Pn**	**15 44 37.7**	**+1.3**
	30nm,0.3s,SNR=8.8							
CHMS				⇑S		**Sb**	**15 45 09.8**	**-1.6**
	244nm,0.6s							
CHMS	**Chumysh**	**2.50**	**34**	⇑Pn		**Pn**	**15 44 37.6**	**+1.2**
	14nm,0.3s							
CHMS				⇑Sn		**Sn**	**15 45 07.7**	**+0.8**
	91nm,0.7s							
CHMS	**Chumysh**	**2.50**	**34**	⇓*e*P		**Pn**	**15 44 36.7**	**+0.3**
	baz=34							
CHMS				⇓*e*S		**Sn**	**15 45 06.7**	**-0.2**
	baz=34							
TGS	**TashGRES**	**2.56**	**282**	P		**Pg**	**15 44 45.8**	**+0.9**
TGS				S		**Sg**	**15 45 21.6**	**+3.5**
USP	**Ospenovka**	**2.63**	**27**	⇑P		**Pn**	**15 44 39.3**	**+1.0**
	20nm,0.3s,SNR=13							
USP				⇑S		**Sn**	**15 45 12.5**	**+2.3**
	116nm,0.3s							
USP	**Ospenovka**	**2.63**	**27**	⇓*e*P		**Pn**	**15 44 38.5**	**+0.3**
	baz=27							
USP				⇓*e*S		**Sn**	**15 45 09.8**	**-0.4**
	baz=27							
TAS	**Tashkent**	**2.72**	**279**	S		**Sg**	**15 45 23.0**	**0.0**
BOOM	**Boomskoye usch**	**2.78**	**55**	⇓*e*P		**Pn**	**15 44 40.8**	**+0.4**
	baz=55							
BOOM				⇓*e*S		**Sn**	**15 45 13.7**	**-0.4**
	baz=55							
KK31	**Karatay Array**	**2.78**	**322**	Pn		**Pb**	**15 44 43.6**	**-1.9**
	1.6nm,0.2s,baz=131,slow=13,SNR=229							
KK31				⇓Pg		**Pg**	**15 44 48.8**	**-0.2**
	10nm,0.2s,baz=134,slow=17,SNR=31							
KK31				⇑Sn		**Sb**	**15 45 19.4**	**-0.2**
	98nm,0.4s,baz=130,slow=26,SNR=16							
KKAR	**Karatay Array**	**2.78**	**322**	⇓*e*P		**Pn**	**15 44 40.9**	**+0.6**
	baz=21							
KKAR				⇓*e*S		**Sn**	**15 45 14.0**	**+0.1**
	baz=21							
CHM	**Chimkent**	**2.80**	**301**	*e*Pg		**Pb**	**15 44 47.5**	**+1.6**
	90nm,0.1s							
CHM				*e*Lg		Lg	15 45 24.4	
	580nm,0.3s							
SGDS	**Sogindy**	**2.84**	**27**	Pg		**Pb**	**15 44 46.7**	**+0.2**
	6.6nm,0.3s							
SGDS				Lg		Lg	15 45 22.3	
	64nm,0.3s							
TKM2	**Tokmak 2**	**2.85**	**45**	⇑P		**Pn**	**15 44 42.7**	**+1.4**
	41nm,0.4s,SNR=20							
TKM2	**Tokmak 2**	**2.85**	**45**	⇓Pn		**Pb**	**15 44 44.4**	**-2.3**
	28nm,0.5s							
TKM2				⇓Sn		**Sn**	**15 45 16.4**	**+0.6**
	133nm,0.6s							
TKM2	**Tokmak 2**	**2.85**	**45**	⇑*e*P		**Pn**	**15 44 41.7**	**+0.3**
	baz=45							
TKM2				⇑*e*S		**Sn**	**15 45 15.2**	**-0.6**
	baz=45							
ULHL	**Ulahol**	**2.85**	**62**	⇑*e*P		**Pn**	**15 44 41.8**	**+0.3**
	baz=62							
ULHL				⇑*e*S		**Sn**	**15 45 15.5**	**-0.5**
	baz=62							
KST	**Kastek**	**3.13**	**47**	Pg		**Pb**	**15 44 52.6**	**+1.1**
	14nm,0.5s							
KST				Lg		Lg	15 45 32.1	
	75nm,0.2s							
KST	**Kastek**	**3.13**	**47**	*e*Pg		**Pb**	**15 44 51.2**	**-0.2**
	14nm,0.5s							
KST				*e*Lg		Lg	15 45 31.6	
	75nm,0.2s							
DGS	**Degeres**	**3.16**	**42**	Pg		**Pb**	**15 44 52.7**	**+0.7**
	38nm,0.5s							
DGS				Lg		Lg	15 45 32.5	
	125nm,0.5s							
DGS	**Degeres**	**3.16**	**42**	*e*Pg		**Pb**	**15 44 51.6**	**-0.5**
	38nm,0.5s							
DGS				*e*Lg		Lg	15 45 31.9	
	125nm,0.5s							
KRBS	**Karabastau**	**3.46**	**36**	Pg		**Pb**	**15 44 57.9**	**+0.8**
	6.9nm,0.2s							
KRBS				Lg		Lg	15 45 41.6	
	54nm,0.4s							
KRBS	**Karabastau**	**3.46**	**36**	*e*Pg		**Pb**	**15 44 57.4**	**+0.4**
	6.9nm,0.2s							
KRBS				*e*Lg		Lg	15 45 42.0	
	54nm,0.4s							
AAA	**Alma-Ata**	**3.78**	**52**	Pg		**Pb**	**15 45 04.4**	**+1.9**
	11nm,0.1s							
AAA				Lg		Lg	15 45 52.6	
	90nm,0.3s							
BXML	**Bakhmal**	**3.90**	**253**	P		**Sb**	**15 45 47.1**	**-4.7**
KOTS	**Kotyrbulak**	**3.91**	**53**	Pg		**Pb**	**15 45 06.9**	**+2.0**
	71nm,0.5s							
KOTS				Lg		Lg	15 45 57.0	
	103nm,0.3s							
KOTS	**Kotyrbulak**	**3.91**	**53**	*e*Pg		**Pb**	**15 45 05.6**	**+0.7**
	8.9nm,0.7s							
KOTS				*e*Lg		Lg	15 45 56.2	
	103nm,0.3s							
KTBS	**Karatobe**	**3.96**	**44**	Pg		**Pb**	**15 45 07.2**	**+1.5**
	15nm,0.3s							
KTBS				Lg		Lg	15 45 57.7	
	89nm,0.4s							
KTBS	**Karatobe**	**3.96**	**44**	*e*Pg		**Pb**	**15 45 06.4**	**+0.7**
	15nm,0.3s							
KTBS				*e*Lg		Lg	15 45 57.0	
	89nm,0.4s							
ANVS	**Anan'yevo**	**4.04**	**61**	⇑*e*P		**Pn**	**15 44 58.2**	**+0.5**
	baz=61							
ANVS				⇑*e*S		**Sn**	**15 45 43.9**	**-1.2**
	baz=61							
BTLS	**Baital**	**4.19**	**12**	Lg		Lg	15 46 05.0	
	0.2nm,0.5s							
AGL	**Agalyk**	**4.79**	**255**	P		**Pn**	**15 45 07.2**	**-0.7**
NUT	**Nurota**	**5.47**	**268**	S		**Sg**	**15 46 48.8**	**-2.4**
PDGK	**Podgornoye**	**5.48**	**62**	⇑Pn		**Pn**	**15 45 17.6**	**+0.1**
	4.1nm,1.4s							
PDGK				⇑Pg		**Pb**	**15 45 32.1**	**+0.6**
	6.3nm,0.9s							
PDGK				⇑Sn		**Sb**	**15 46 39.8**	**+2.5**
	31nm,0.8s							
ZRB	**Zarabog**	**5.82**	**243**	S		**Sn**	**15 46 26.5**	**-2.4**

*SOME **26** 15:58:15.7, 43°.35N×71°.88E, h5km*
*KRNET **26** 15:58:15.6±0.1, 43°.36N×71°.85E, h19km, mb2.2*
*NNC **26** 15:58:17.0±0.6, 43°.25N×71°.79E, h0km, mb2.6, mpv2.6,*
Error ellipse: s-maj=9.9km s-min=3.1km az=3.0
ISC 26 15:58:15.8±1.2, **43°.36N**±0°.04×**71°.88E**±0°.02, **h17**km±12km,
n28, σ1°.20/45, **14C-15D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**0.99**	**152**	⇓*e*P		**Pb**	**15 58 34.5**	**-0.1**
	baz=50						
MNAS				⇓*e*S		**Sg**	**15 58 48.0**	**+0.1**
	baz=50						
KK31	**Karatay Array**	**1.03**	**256**	P		**Pg**	**15 58 36.3**	**+0.4**
	0.2nm,0.2s,baz=74,slow=13,SNR=14						
KK31				⇓S		**Sb**	**15 58 47.8**	**-0.8**
	1.6nm,0.2s,baz=84,slow=20,SNR=19						
KKAR	**Karatay Array**	**1.03**	**256**	⇓*e*P		**Pn**	**15 58 34.8**	**-0.8**
	baz=56						
KKAR				⇓*e*S		**Sg**	**15 58 48.5**	**-0.9**
	baz=56						
MRKS	**Merke**	**1.16**	**122**	S		**Sg**	**15 58 54.6**	**+1.2**
	39nm,0.2s						
MRKS	**Merke**	**1.16**	**122**	*e*P		**Pg**	**15 58 39.0**	**+0.7**
	2.8nm,0.1s						
MRKS				*e*S		**Sg**	**15 58 56.0**	**+2.6**
	39nm,0.2s						
EKS2	**Erkin-Say**	**1.56**	**116**	⇑*e*P		**Pb**	**15 58 44.9**	**+0.6**
	baz=15						
EKS2				⇑*e*S		**Sg**	**15 59 06.2**	**+0.2**
	baz=15						
ARK	**Arkit**	**1.56**	**178**	⇓*e*P		**Pb**	**15 58 44.5**	**+0.1**
	baz=77						
ARK				⇓*e*S		**Sg**	**15 59 05.4**	**-0.8**
	baz=77						
AML	**Almayashu**	**1.81**	**132**	⇑Pn		**Pg**	**15 58 50.1**	**-0.6**
	0.1nm,0.3s						
AML				⇑Sn		**Sg**	**15 59 14.3**	**0.0**
	0.2nm,0.3s						
AML	**Almayashu**	**1.81**	**132**	⇓*e*P		**Pb**	**15 58 49.4**	**+0.6**
	baz=31						
AML				⇓*e*S		**Sg**	**15 59 14.0**	**-0.3**
	baz=31						
IUG	**luzhnay**	**1.82**	**229**	*e*P		**Pg**	**15 58 51.5**	**+0.7**
	1.9nm,0.2s						
IUG				*e*S		**Sg**	**15 59 17.4**	**+2.8**
	6.2nm,0.2s						
TRKS	**Terek-Say**	**1.91**	**197**	⇑*e*P		**Pg**	**15 58 51.3**	**-1.2**
	baz=95						
TRKS				⇑*e*S		**Sg**	**15 59 17.2**	**-0.1**
	baz=95						
USP	**Ospenovka**	**1.91**	**92**	⇑*e*P		**Pb**	**15 58 51.0**	**+0.7**
	baz=92						
USP				⇑*e*S		**Sg**	**15 59 16.8**	**-0.6**
	baz=92						
SGDS	**Sogindy**	**2.00**	**86**	Pg		**Pg**	**15 58 53.9**	**-0.3**
	1.1nm,0.1s						
SGDS				Lg		Lg	15 59 20.3	
	11nm,0.1s						
AAK	**Ala-Archa**	**2.05**	**110**	⇑*e*P		**Pb**	**15 58 53.0**	**+0.3**
	baz=9.0						
AAK				⇑*e*S		**Sb**	**15 59 20.1**	**+2.2**
	baz=9.0						
CHMS	**Chumysh**	**2.13**	**99**	⇑Pn		**Pg**	**15 58 55.7**	**-1.0**
	1.4nm,0.5s						
CHMS				⇑Sn		**Sg**	**15 59 23.6**	**-0.7**
	3.3nm,0.5s						
CHMS	**Chumysh**	**2.13**	**99**	⇓*e*P		**Pb**	**15 58 54.2**	**+0.2**
	baz=99						
CHMS				⇓*e*S		**Sb**	**15 59 21.9**	**+1.7**
	baz=99						
ARSB	**Arslanbob**	**2.19**	**158**	⇓*e*P		**Pb**	**15 58 54.9**	**-0.2**
	baz=57						
ARSB				⇓*e*S		**Sb**	**15 59 23.7**	**+1.6**
	baz=57						
ARLS	**Aral**	**2.34**	**129**	⇑*e*P		**Pb**	**15 58 57.1**	**-0.6**
	baz=28						
ARLS				⇑*e*S		**Sb**	**15 59 27.2**	**+0.8**
	baz=28						
TKM2	**Tokmak 2**	**2.75**	**98**	⇓*e*P		**Pb**	**15 59 02.9**	**-1.8**
	baz=98						
TKM2				⇓*e*S		**Sb**	**15 59 37.2**	**-1.1**
	baz=98						
KRBS	**Karabastau**	**2.78**	**82**	Pg		**Pg**	**15 59 08.4**	**-0.6**
	0.6nm,0.2s						
KRBS				Lg		Lg	15 59 45.1	
	2.4nm,0.3s						
KRBS	**Karabastau**	**2.78**	**82**	*e*Pg		**Pb**	**15 59 06.7**	**+1.6**
	0.6nm,0.2s						
KRBS				*e*Lg		Lg	15 59 43.7	
	2.4nm,0.3s						
DGS	**Degeres**	**2.84**	**91**	Pg		**Pg**	**15 59 09.0**	**-1.3**
	0.8nm,0.2s						
DGS				Lg		Lg	15 59 46.1	
	3.4nm,0.3s						
DGS	**Degeres**	**2.84**	**91**	*e*Pg		**Pb**	**15 59 08.1**	**+1.9**
	0.7nm,0.5s						
DGS				*e*Lg		Lg	15 59 46.0	
	3.0nm,0.3s						
KST	**Kastek**	**3.00**	**95**	Pg		**Pg**	**15 59 12.0**	**-1.3**
	1.0nm,0.2s						
KST				Lg		Lg	15 59 51.1	
	3.4nm,0.2s						
KST	**Kastek**	**3.00**	**95**	*e*Pg		**Pb**	**15 59 10.9**	**+2.0**
	1.0nm,0.2s						
KST				*e*Lg		Lg	15 59 51.1	
	3.4nm,0.2s						
KUU	**Kurty**	**3.28**	**79**	Pg		**Pg**	**15 59 17.6**	**-1.1**
	2.2nm,0.1s						
KUU				Lg		Lg	16 00 00.7	
	5.2nm,0.2s						
IZV	**Izvestkoviy**	**3.47**	**94**	Pg		**Pg**	**15 59 21.0**	**-1.4**
	0.5nm,0.1s						
IZV				Lg		Lg	16 00 06.5	
	4.2nm,0.2s						
KTBS	**Karatobe**	**3.51**	**83**	Pg		**Pg**	**15 59 22.3**	**-0.7**
	0.6nm,0.4s							
KTBS				Lg		Lg	16 00 09.1	
	4.1nm,0.3s							

*AEIC **26** 16:11:29.5±2.2, 65°.39N±0°.06×168°.13W±0°.07, h28km±7km,*
Error ellipse: s-maj=8.4km s-min=3.9km az=171.0
*NEIC **26** 16:11:30.6±1.9, 65°.35N±0°.05×167°.91W±0°.08, h17km±5km,*
ML3.5(AEIC), Error ellipse: s-maj=7.7km s-min=3.6km
az=147.0
ISC 26 16:11:30.8±1.0, **65°.37N**±0°.05×**167°.90W**±0°.05, **h17**km±8km,
n142, σ0°.83/155, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**0.19**	**357**	Pg	**Pg**	**16 11 35.4**	**-0.1**
TNA				Sg	**Sg**	**16 11 39.1**	**+0.4**
TNA	**Tin City**	**0.19**	**357**	P	**Pg**	**16 11 35.3**	**-0.1**
	baz=185						
TNA				S	**Sg**	**16 11 39.0**	**+0.4**
	baz=185						
F14K	**Arctic Creek**	**0.67**	**81**		**Pb**	**16 11 43.3**	**-0.5**
F14K					**Sb**	**16 11 53.0**	**+0.2**
F14K	**Arctic Creek**	**0.67**	**81**	P	**Pb**	**16 11 43.3**	**-0.5**
	baz=263						
F14K				S	**Sb**	**16 11 53.0**	**+0.2**
	baz=263						
ANM	**Nome**	**1.35**	**126**		**Pn**	**16 11 53.7**	**-1.0**
ANM				Sn	**Sn**	**16 12 12.7**	**+0.5**
ANM	**Nome**	**1.35**	**126**	P	**Pn**	**16 11 54.5**	**-0.2**
	baz=308						
ANM				S	**Sb**	**16 12 13.1**	**+0.7**
	baz=308						
F15K	**North Star Dit**	**1.40**	**75**		**Pn**	**16 11 54.4**	**-1.0**
F15K				Sn	**Sb**	**16 12 15.1**	**+1.3**
F15K	**North Star Dit**	**1.40**	**75**	P	**Pn**	**16 11 54.4**	**-1.0**
	baz=258						
F15K				S	**Sb**	**16 12 15.4**	**+1.7**
	baz=258						
G15K	**Niukluk**	**1.67**	**101**		**Pn**	**16 11 58.3**	**-0.9**
G15K					**Sn**	**16 12 20.9**	**+0.7**
G15K	**Niukluk**	**1.67**	**101**	P	**Pn**	**16 11 58.3**	**-0.9**
	baz=285						
G15K				S	**Sn**	**16 12 20.9**	**+0.7**
	baz=285						
GAMB	**Gambell**	**2.29**	**227**		**Pn**	**16 12 07.4**	**-0.3**
GAMB				Sn	**Sn**	**16 12 34.8**	**-0.6**
GAMB	**Gambell**	**2.29**	**227**	P	**Pn**	**16 12 07.3**	**-0.3**
	baz=43						
G16K	**Koyuk River**	**2.32**	**87**		**Pn**	**16 12 06.6**	**-1.5**
G16K					**Sg**	**16 12 43.8**	**-1.5**
G16K	**Koyuk River**	**2.32**	**87**	P	**Pn**	**16 12 07.6**	**-0.5**
	baz=272						
G16K				S	**Sn**	**16 12 36.8**	**+0.6**
	baz=272						
H16K	**Elim**	**2.52**	**105**		**Pn**	**16 12 10.1**	**-0.7**
H16K	**Elim**	**2.52**	**105**	P	**Pn**	**16 12 10.1**	**-0.7**
	baz=290						
F17K	**Baldwin Pennin**	**2.93**	**66**		**Pn**	**16 12 16.2**	**-0.2**
F17K	**Baldwin Pennin**	**2.93**	**66**	P	**Pn**	**16 12 16.2**	**-0.2**
	baz=252						
E17K	**Hotham Inlet**	**3.00**	**52**		**Pn**	**16 12 16.6**	**-0.8**
E17K	**Hotham Inlet**	**3.00**	**52**	P	**Pn**	**16 12 16.8**	**-0.6**
	baz=238						
G17K	**Kiwalik Mounta**	**3.03**	**84**		**Pn**	**16 12 17.1**	**-0.7**
G17K	**Kiwalik Mounta**	**3.03**	**84**	P	**Pn**	**16 12 17.1**	**-0.7**
	baz=271						
C16K	**Lisburne Hills**	**3.08**	**18**		**Pn**	**16 12 18.0**	**-0.6**
C16K	**Lisburne Hills**	**3.08**	**18**	P	**Pn**	**16 12 18.0**	**-0.6**
	baz=201						
J14K	**Nanvaranak Lak**	**3.25**	**142**		**Pn**	**16 12 20.0**	**-0.9**
J14K	**Nanvaranak Lak**	**3.25**	**142**	P	**Pn**	**16 12 19.9**	**-0.9**
	baz=326						
H17K	**Granite Mounta**	**3.40**	**94**		**Pn**	**16 12 22.5**	**-0.4**
H17K	**Granite Mounta**	**3.40**	**94**	P	**Pn**	**16 12 22.0**	**-0.9**
	baz=281						
I17K	**Unalakleet**	**3.44**	**112**		**Pn**	**16 12 23.7**	**+0.2**
I17K	**Unalakleet**	**3.44**	**112**	P	**Pn**	**16 12 22.9**	**-0.6**
	baz=299						
E18K	**Tukpahlearik C**	**3.58**	**52**		**Pn**	**16 12 25.2**	**-0.2**
E18K	**Tukpahlearik C**	**3.58**	**52**	P	**Pn**	**16 12 25.3**	**-0.2**
	baz=239						
C17K	**DeLong Mountai**	**3.63**	**29**		**Pn**	**16 12 26.3**	**+0.2**
C17K	**DeLong Mountai**	**3.63**	**29**	P	**Pn**	**16 12 26.3**	**+0.2**
	baz=213						
K13K	**Kusilvak Mount**	**3.75**	**156**		**Pn**	**16 12 26.4**	**-1.3**
K13K	**Kusilvak Mount**	**3.75**	**156**	P	**Pn**	**16 12 26.6**	**-1.1**
	baz=338						
J16K	**Anvik River**	**3.81**	**120**		**Pn**	**16 12 28.7**	**+0.2**
J16K	**Anvik River**	**3.81**	**120**	P	**Pn**	**16 12 28.5**	**0.0**
	baz=307						
G18K	**Tagagawik**	**3.87**	**78**		**Pn**	**16 12 28.8**	**-0.6**
G18K	**Tagagawik**	**3.87**	**78**	P	**Pn**	**16 12 28.8**	**-0.6**
	baz=267						
H18K	**Honhosa River**	**4.02**	**89**		**Pn**	**16 12 30.7**	**-0.7**
H18K	**Honhosa River**	**4.02**	**89**	P	**Pn**	**16 12 30.9**	**-0.5**
	baz=278						
K15K	**Wolf Creek Mou**	**4.18**	**135**		**Pn**	**16 12 33.6**	**-0.1**
K15K	**Wolf Creek Mou**	**4.18**	**135**	P	**Pn**	**16 12 33.5**	**-0.1**
	baz=320						
C18K	**Utukok River**	**4.21**	**36**		**Pn**	**16 12 34.5**	**+0.4**
F19K	**Shaleruckik Mo**	**4.37**	**66**		**Pn**	**16 12 34.6**	**-1.6**
G19K	**Purcell Mounta**	**4.53**	**75**		**Pn**	**16 12 37.6**	**-0.8**
G19K	**Purcell Mounta**	**4.53**	**75**	P	**Pn**	**16 12 37.7**	**-0.7**
	baz=265						
B18K	**Kokolik River**	**4.65**	**28**		**Pn**	**16 12 38.9**	**-1.1**
B18K	**Kokolik River**	**4.65**	**28**	P	**Pn**	**16 12 38.9**	**-1.1**
	baz=214						
L14K	**Kuka Creek**	**4.68**	**147**		**Pn**	**16 12 40.0**	**-0.5**
L14K	**Kuka Creek**	**4.68**	**147**	P	**Pn**	**16 12 40.1**	**-0.4**
	baz=332						
E19K	**Redstone River**	**4.77**	**59**		**Pn**	**16 12 41.8**	**+0.1**
E19K	**Redstone River**	**4.77**	**59**	P	**Pn**	**16 12 42.0**	**+0.3**
	baz=249						
H19K	**Roundabout Mou**	**4.78**	**83**		**Pn**	**16 12 41.6**	**-0.3**
H19K	**Roundabout Mou**	**4.78**	**83**	P	**Pn**	**16 12 41.5**	**-0.3**
	baz=274						
C19K	**Lookout Ridge**	**4.94**	**37**	Pn	**Pn**	**16 12 43.7**	**-0.5**
D19K	**Kuna River**	**4.96**	**46**		**Pn**	**16 12 44.4**	**0.0**
K17K	**Iditarod**	**4.99**	**118**		**Pn**	**16 12 44.5**	**-0.2**
K17K	**Iditarod**	**4.99**	**118**	P	**Pn**	**16 12 44.2**	**-0.6**
	baz=306						
M11K	**Mekoryuk**	**5.07**	**170**		**Pn**	**16 12 44.6**	**-1.2**
M11K	**Mekoryuk**	**5.07**	**170**	P	**Pn**	**16 12 44.6**	**-1.2**
	baz=352						
F20K	**Avaraart Lake**	**5.21**	**66**		**Pn**	**16 12 48.8**	**+1.1**
J18K	**Innoko River**	**5.21**	**106**		**Pn**	**16 12 47.3**	**-0.5**
J18K	**Innoko River**	**5.21**	**106**	P	**Pn**	**16 12 47.7**	**-0.1**
	baz=296						
L16K	**Owhat River**	**5.26**	**130**	Pn	**Pn**	**16 12 48.1**	**-0.4**
L16K	**Owhat River**	**5.26**	**130**	P	**Pn**	**16 12 48.4**	**0.0**
	baz=318						
L17K	**Donlin**	**5.36**	**123**		**Pn**	**16 12 50.4**	**+0.6**
L17K	**Donlin**	**5.36**	**123**	P	**Pn**	**16 12 50.4**	**+0.6**
	baz=312						
M14K	**Bethel**	**5.37**	**147**	Pn	**Pn**	**16 12 49.3**	**-0.6**
M14K	**Bethel**	**5.37**	**147**	P	**Pn**	**16 12 49.8**	**-0.1**
	baz=332						
M13K	**Dall Lake**	**5.39**	**155**	Pn	**Pn**	**16 12 49.9**	**-0.3**
M13K	**Dall Lake**	**5.39**	**155**	P	**Pn**	**16 12 50.2**	**-0.1**
	baz=339						
H20K	**Anotleneega Mo**	**5.43**	**83**		**Pn**	**16 12 50.6**	**-0.3**
H20K	**Anotleneega Mo**	**5.43**	**83**	P	**Pn**	**16 12 51.0**	**+0.1**
	baz=275						
J19K	**Poorman**	**5.45**	**99**		**Pn**	**16 12 49.5**	**-1.5**
J19K	**Poorman**	**5.45**	**99**	P	**Pn**	**16 12 51.2**	**+0.2**
	baz=290						
E20K	**Nigu River**	**5.46**	**53**		**Pn**	**16 12 51.6**	**+0.4**
E20K	**Nigu River**	**5.46**	**53**	P	**Pn**	**16 12 51.4**	**+0.2**
	baz=244						
I20K	**Naaghedeneel**	**5.71**	**90**	Pn	**Pn**	**16 12 52.4**	**-2.2**
M15K	**Kasigluk River**	**5.73**	**142**		**Pn**	**16 12 54.6**	**-0.2**
M15K	**Kasigluk River**	**5.73**	**142**	P	**Pn**	**16 12 54.7**	**-0.1**
	baz=328						
TTA	**Tatalina**	**5.75**	**110**	Pn	**Pn**	**16 12 55.6**	**+0.3**
IMAR	**Indian Mountai**	**5.88**	**78**		**Pn**	**16 12 55.1**	**-1.9**
L18K	**Granite Mounta**	**5.89**	**117**		**Pn**	**16 12 58.0**	**+1.0**
L18K	**Granite Mounta**	**5.89**	**117**	P	**Pn**	**16 12 57.9**	**+0.8**
	baz=307						
M16K	**Timber Creek**	**5.95**	**133**	Pn	**Pn**	**16 12 58.6**	**+0.7**
M16K	**Timber Creek**	**5.95**	**133**	P	**Pn**	**16 12 58.4**	**+0.5**
	baz=321						
G21K	**Allakaket**	**6.00**	**72**		**Pn**	**16 12 59.0**	**+0.4**
G21K	**Allakaket**	**6.00**	**72**	P	**Pn**	**16 12 59.2**	**+0.7**
	baz=266						
J20K	**Nowinta River**	**6.00**	**95**		**Pn**	**16 12 59.4**	**+0.8**
J20K	**Nowinta River**	**6.00**	**95**	P	**Pn**	**16 12 59.2**	**+0.6**
	baz=288						
F21K	**Alatna River**	**6.10**	**66**		**Pn**	**16 13 00.5**	**+0.5**
M17K	**Holitna River**	**6.16**	**125**	Pn	**Pn**	**16 13 02.2**	**+1.4**
N14K	**Kuskokwak Cree**	**6.17**	**150**		**Pn**	**16 13 00.9**	**0.0**
N14K	**Kuskokwak Cree**	**6.17**	**150**	P	**Pn**	**16 13 00.9**	**0.0**
	baz=335						
B20K	**Meade River**	**6.19**	**36**	Pn	**Pn**	**16 13 02.8**	**+1.7**
H21K	**Melozitna River**	**6.28**	**81**		**Pn**	**16 13 02.2**	**-0.3**
N15K	**Kwethluk River**	**6.33**	**142**	Pn	**Pn**	**16 13 02.3**	**-0.9**
K20K	**Telida**	**6.33**	**102**	Pn	**Pn**	**16 13 03.0**	**-0.2**
L19K	**White Mountain**	**6.61**	**113**	Pn	**Pn**	**16 13 07.3**	**+0.4**
B21K	**Ikpikpuk River**	**6.64**	**44**	Pn	**Pn**	**16 13 06.7**	**-0.5**
I21K	**Tanana**	**6.68**	**84**	Pn	**Pn**	**16 13 08.6**	**+0.7**
O14K	**Tigyukauivet M**	**6.87**	**150**	Pn	**Pn**	**16 13 10.4**	**-0.1**
D22K	**Ayikyak River**	**6.89**	**53**	Pn	**Pn**	**16 13 11.2**	**+0.4**
N17K	**Nushagak Hills**	**6.89**	**130**	Pn	**Pn**	**16 13 10.1**	**-0.7**
E22K	**Anaktuvuk Pass**	**6.94**	**59**	Pn	**Pn**	**16 13 12.0**	**+0.5**
M19K	**Big River Lodg**	**6.95**	**114**	Pn	**Pn**	**16 13 11.7**	**+0.2**
SVW2	**Sparrevohn**	**7.02**	**122**	Pn	**Pn**	**16 13 12.4**	**-0.2**
CAST	**Castle Rocks**	**7.13**	**99**	Pn	**Pn**	**16 13 13.8**	**-0.3**
N18K	**Kilae Creek**	**7.21**	**125**	Pn	**Pn**	**16 13 15.2**	**0.0**
PPLA	**Purkeypile**	**7.30**	**103**	Pn	**Pn**	**16 13 15.3**	**-1.3**
BPAW	**Bear Paw Mtn.**	**7.35**	**92**	Pn	**Pn**	**16 13 15.2**	**-1.9**
O16K	**Kokwok River B**	**7.36**	**137**	Pn	**Pn**	**16 13 17.4**	**+0.2**
B22K	**Teshekpuk Lake**	**7.38**	**41**	Pn	**Pn**	**16 13 16.0**	**-1.5**
M20K	**Styx River**	**7.45**	**111**	Pn	**Pn**	**16 13 19.9**	**+1.4**
KTH	**Kantishna Hill**

TA02	**Huaiquique**	**0.71 279**	*e*P	**Pn**	**16 13 13.8**	**-0.2**
TA02			*i* S	**Sn**	**16 13 26.8**	**+1.2**
TA02	**Huaiquique**	**0.71 279**	*e*P	**Pn**	**16 13 13.4**	**-0.6**
TA02			*e*P		16 13 13.6	
TA02			*e*S	**Sn**	**16 13 27.5**	**+1.9**
TA02			IAML		16 13 30.3	
	comp=Z,3μm,0.1s					
GO01	**Chusmiza**	**0.73 14**	⇓*i*P	**Pn**	**16 13 13.6**	**-1.2**
GO01			*i* S	**Sn**	**16 13 26.2**	**-0.6**
GO01	**Chusmiza**	**0.73 14**	*e*P	**Pn**	**16 13 13.6**	**-1.2**
GO01			*e*S	**Sn**	**16 13 27.0**	**+0.1**
GO01			IAML		16 13 27.5	
	comp=Z,3μm,0.2s					
TA01	**Diego Aracena**	**0.77 256**	⇑*i*P	**Pn**	**16 13 14.1**	**-0.6**
TA01			*i* S	**Sn**	**16 13 27.4**	**+0.6**
TA01	**Diego Aracena**	**0.77 256**	*e*P	**Pn**	**16 13 13.9**	**-0.8**
TA01			*e*S	**Sn**	**16 13 28.5**	**+1.7**
PATCX	**Punta Patache**	**0.84 238**	⇑*i*P	**Pn**	**16 13 15.2**	**-0.4**
PATCX			*i* S	**Sn**	**16 13 29.4**	**+1.0**
PATCX			IAML		16 13 30.0	
	comp=E,2μm,0.2s					
PATCX	**Punta Patache**	**0.84 238**	*e*P	**Pn**	**16 13 15.2**	**-0.4**
PATCX			*e*S	**Sn**	**16 13 29.6**	**+1.2**
PATCX			IAML		16 13 32.1	
	comp=Z,1μm,0.3s					
PB02	**IPOC Station P**	**1.05 207**	⇑*i*P	**Pn**	**16 13 17.5**	**-0.6**
PB02			*i* S	**Sn**	**16 13 33.0**	**+0.2**
PB02			IAML		16 13 40.2	
	comp=E,2μm,0.2s					
PB02	**IPOC Station P**	**1.05 207**	*e*P	**Pn**	**16 13 17.4**	**-0.6**
PB02			*e*S	**Sn**	**16 13 34.0**	**+1.2**
PB02			IAML		16 13 41.6	
	comp=Z,2μm,0.2s					
PB09	**IPOC Station P**	**1.42 175**	⇑*i*P	**Pn**	**16 13 22.2**	**-0.5**
PB09			*i* S	**Sn**	**16 13 41.9**	**+0.8**
PB09	**IPOC Station P**	**1.42 175**	*e*P	**Pn**	**16 13 22.2**	**-0.5**
PB09			*e*S	**Sn**	**16 13 42.9**	**+1.8**
PB09			IAML		16 13 45.2	
	comp=Z,521nm,0.3s					
PB07	**IPOC Station P**	**1.42 199**	*e*P	**Pn**	**16 13 21.8**	**-1.0**
PB07			*i* S	**Sn**	**16 13 40.6**	**-0.5**
PB07			IAML		16 13 44.3	
	comp=N,1μm,0.2s					
PB07	**IPOC Station P**	**1.42 199**	*e*P	**Pn**	**16 13 22.1**	**-0.7**
PB07			*e*S	**Sn**	**16 13 42.6**	**+1.5**
PB07			IAML		16 13 44.1	
	comp=Z,819nm,0.1s					
PB12	**IPOC Station P**	**1.97 333**	*e*P	**Pn**	**16 13 28.5**	**-1.4**
PB12			*i* S	**Sn**	**16 13 53.2**	**-0.7**
PB12			IAML		16 14 00.4	
	comp=N,591nm,0.2s					
PB12	**IPOC Station P**	**1.97 333**	*e*P	**Pn**	**16 13 28.5**	**-1.4**
PB12			*e*P		16 13 28.5	
PB12			*e*S	**Sn**	**16 13 54.2**	**+0.3**
PB12			IAML		16 14 01.0	
	comp=Z,334nm,0.3s					
PB16	**IPOC Station P**	**2.04 357**	*e*P	**Pn**	**16 13 31.1**	**-0.1**
PB16			*i* S	**Sn**	**16 13 58.2**	**+2.1**
PB16	**IPOC Station P**	**2.04 357**	*e*P	**Pn**	**16 13 30.8**	**-0.5**
PB16			IAML		16 14 03.4	
	comp=Z,226nm,0.5s					
PB04	**IPOC Station P**	**2.07 200**	*e*P	**Pn**	**16 13 30.4**	**-0.9**
PB04			*i* S	**Sn**	**16 13 56.3**	**-0.2**
PB04			IAML		16 14 05.6	
	comp=N,511nm,0.2s					
PB04	**IPOC Station P**	**2.07 200**	*e*P	**Pn**	**16 13 31.1**	**-0.2**
PB04			*e*S	**Sn**	**16 13 57.9**	**+1.4**
PB04			IAML		16 14 09.7	
	comp=Z,407nm,0.4s					
AP01	**Chacalluta**	**2.19 336**	*e*P	**Pn**	**16 13 31.5**	**-1.3**
AP01			*i* S	**Sn**	**16 13 59.2**	**+0.2**
AP01			IAML		16 14 09.7	
	comp=N,892nm,0.4s					
AP01	**Chacalluta**	**2.19 336**	*e*P	**Pn**	**16 13 31.5**	**-1.3**
AP01			IAML		16 14 06.1	
	comp=Z,579nm,0.1s					
LVC	**Limon Verde**	**2.27 169**	*e*P	**Pn**	**16 13 34.6**	**+0.5**
LVC			*e*S	**Sn**	**16 14 02.2**	**+0.9**
LVC			IAML		16 14 08.3	
	comp=Z,1μm,0.3s					
LVC	**Limon Verde**	**2.27 169**	*e*P	**Pn**	**16 13 33.9**	**-0.2**
LVC			*e*S	**Sn**	**16 14 04.7**	**+3.3**
LVC			IAML		16 14 05.1	
	comp=Z,204nm,0.4s					
PB06	**IPOC Station P**	**2.32 184**	*e*P	**Pn**	**16 13 33.6**	**-1.1**
PB06			*i* S	**Sn**	**16 14 00.5**	**-2.0**
PB06			IAML		16 14 07.2	
	comp=E,362nm,0.2s					
PB06	**IPOC Station P**	**2.32 184**	*e*P	**Pn**	**16 13 33.9**	**-0.8**
PB06			*e*P		16 13 34.0	
PB06			*e*S	**Sn**	**16 14 03.6**	**+1.2**
PB06			IAML		16 14 07.5	
	comp=Z,267nm,0.3s					
PB15	**IPOC Station P**	**2.82 182**	*e*P	**Pn**	**16 13 40.3**	**-1.1**
PB15			*i* S	**Sn**	**16 14 15.1**	**+0.6**
PB15	**IPOC Station P**	**2.82 182**	*e*P	**Pn**	**16 13 41.2**	**-0.2**
PB15			*e*S	**Sn**	**16 14 14.6**	**+0.1**
PB15			IAML		16 14 27.2	
	comp=Z,796nm,0.2s					
LPAZ	**La Paz**	**4.24 17**	*e*P	**Pn**	**16 14 03.3**	**+2.2**
GO02	**Mina Guanaco**	**4.77 182**	*e*P	**Pn**	**16 14 06.1**	**-1.8**
GO02			*e*S	**Sn**	**16 15 00.9**	**-1.2**
GO02			IAML		16 15 27.2	
	comp=Z,52nm,0.5s					

*IDC **26** 16:26:18.6±0.5, 53°.91N×128°.77E, h0^{km}, mb4.2/24, mbtmp4.3/29, ML3.9/3, MS4.1/65, Error ellipse: s-maj=12.2km s-min=10.6km az=55.0*

*MOS **26** 16:26:18.6±1.1, 53°.96N×128°.60E, h11^{km}, mb4.9/31, MS4.3/15, Error ellipse: s-maj=6.9km s-min=5.1km az=106.4*

*NEIC **26** 16:26:20.2±1.4, 53°.96N±0°.06×128°.6E±0°.1, h9^{km}±4^{km}, mb4.7/185, Error ellipse: s-maj=11.2km s-min=9.0km az=84.0*

*SKHL **26** 16:26:20.3±0.5, 53°.89N×128°.60E, h19^{km}±3^{km}, mb4.9/8, Ms4.7/4, msh4.7/4*

SKHL Felt (III) at Beregovoy, Nikolaevka, Aleksandrovka, Berezovka, Algach; (II) Magdagachy;(I-II) at Belogorsk, Blagoveshchensk. Felt (IV-V) at Ogoron; (IV) at Snezhnogorsky; (III-IV) at Tungala, Verhnezeysk, Zeya, Oktyabr'sky.

*BJI **26** 16:26:21.0±0.0, 53°.86N×128°.57E, h16^{km}, mb4.6/67, mB5.0/40, ML5.5/7, Ms5.1/67, Ms7 4.9/64*

*GCMT **26** 16:26:21.2±0.2, 53°.93N±0°.01×128°.69E±0°.02, h20^{km}±1^{km}, MW4.9/102, Moment Tensor Solution. s36,c43; s102,c164; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.53±.10; $M_{\theta\theta}$-0.06±.08; $M_{\phi\phi}$0.58±.08; $M_{r\theta}$-0.71±.17; $M_{\theta\phi}$2.50±.07; $M_{r\phi}$0.77±.16; Best double couple: $M_0$2.76700×10^{16} NP1:ϕ_s179.00000°, δ74.00000°, λ-160.00000°. NP2:ϕ_p83.00000°, δ71.00000°, λ-17.00000°. Principal axes: T 2.7880, Plg2.0000°, Azm311.0000°; N -0.0430, Plg65.0000°, Azm216.0000°; P -2.7450, Plg25.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 16:26:21.7±0.5, 54°.01N±0°.03×128°.54E±0°.03, h16^{km}±2^{km}, h16^{km}:pP-P, n705, σ1$:37/625, mb4.7/160, MS4.3/85, 15C-11D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMKR	**Bomnak**	**0.72**	**14**	*e*Pg	**Pg**	**16 26 35.7**	**-0.1**
BMKR				AMB	AMB	16 26 36.3	
	15μm,0.3s						
BMKR				*e*Sg	**Sb**	**16 26 46.8**	**+1.1**
BMKR				A	A	16 26 47.5	
	88μm,0.3s						
BMKR				A	A	16 26 47.5	
	71μm,0.3s						
ZEA	**Zeya**	**0.81**	**251**	⇓*i*Pg	**Pg**	**16 26 35.1**	**-2.4**
ZEA				AMB	AMB	16 26 36.1	
	4μm,0.4s						
ZEA				*e*Sg	**Sg**	**16 26 46.0**	**-2.2**
ZEA				A	A	16 26 46.6	
	74μm,0.8s						
ZEA	**Zeya**	**0.81**	**251**	*e*P	**Pg**	**16 26 35.2**	**-2.3**
ZEA				*e*		16 26 46.0	
ZEA				pmax	pmax		
	comp=Z,5μm,0.6s						
ZEA				pmax	pmax		
	comp=E,3μm,0.5s						
ZEA				pmax	pmax		
	comp=Z,3μm,0.4s						
ZEA				pmax	pmax		
	comp=E,4μm,0.5s						
ZEA				pmax	pmax		
	comp=N,2μm,0.6s						
ZEA				smax	smax		
	comp=N,63μm,0.3s						
ZEA				smax	smax		
	comp=E,39μm,0.2s						
ZEA				smax	smax		
	comp=E,26μm,0.3s						
ZEA				smax	smax		
	comp=N,74μm,0.8s						
EKMR	**Ekimchan**	**2.79**	**108**	*e*Pn	**Pn**	**16 27 04.2**	**-1.5**
EKMR				*e*Pg	**Pb**	**16 27 09.6**	**-1.6**
EKMR				AMB	AMB	16 27 10.6	
	comp=N,1μm,0.8s						
EKMR				*e*Sg	**Sb**	**16 27 46.0**	**+0.8**
EKMR				A	A	16 27 50.1	
	comp=N,10μm,1.0s						
EKMR				AMS	AMS	16 28 20.9	
	comp=N,4μm,3.0s						
EKMR				AMS	AMS	16 28 20.9	
	comp=N,4μm,3.0s						
EKMR				AMS	AMS	16 28 20.9	
	comp=N,3μm,3.0s						
HEH	**HeiHe**	**3.83**	**191**	*e*Pn	**Pn**	**16 27 16.5**	**-3.4**
HEH				Pg	**Pb**	**16 27 27.5**	**-1.3**
HEH				Sn	**Sn**	**16 27 58.5**	**-6.0**
HEH				Sg	**Sb**	**16 28 14.5**	**-0.4**
HEH				smax	smax		
	comp=N,10μm,0.6s						
HEH				smax	smax		
	comp=N,15μm,0.8s						
HEH				LR	LR		
	comp=N,11μm,7.1s						
HEH				LR	LR		
	comp=N,31μm,6.1s						
HEH				LR	LR		
	comp=N,12μm,7.0s						
TUP	**Tupik**	**5.06**	**278**	*e*Pn	**Pn**	**16 27 37.4**	**+0.5**
TUP				*e*Pg	**Pb**	**16 27 52.1**	**+2.3**
TUP				*e*Sg	**Sg**	**16 29 00.6**	**-3.3**
KLR	**Kul'dur**	**5.19**	**156**	*e*Pn	**Pn**	**16 27 37.3**	**-1.3**
KLR	**Kul'dur**	**5.19**	**156**	Pn	**Pn**	**16 27 36.4**	**-2.2**
	comp=N,166nm,0.3s,baz=330,slow=14,SNR=1029						
KLR				Sn	**Sn**	**16 28 34.6**	**-3.4**
	comp=N,60nm,0.3s,baz=321,slow=21,SNR=1.5						
KLR				Lg	Lg	16 28 57.4	
	comp=N,310nm,0.3s,baz=241,slow=22,SNR=20						
GRNR	**Gornyy**	**5.81**	**121**	*e*Pn	**Pn**	**16 27 45.3**	**-1.9**
GRNR				*e*Pg	**Pb**	**16 28 05.1**	**+2.5**
GRNR				AMB	AMB	16 28 08.8	
	comp=N,220nm,0.9s						
GRNR				*e*Sg	**Sb**	**16 29 17.2**	**+5.2**
GRNR				A	A	16 29 22.8	
	comp=N,1μm,1.2s						
GRNR	**Gornyy**	**5.81**	**121**	*e*P	**Pn**	**16 27 45.4**	**-1.8**
GRNR				*e*		16 28 54.0	
GRNR				pmax	pmax		
	comp=N,80nm,0.4s						
GRNR				pmax	pmax		
	comp=E,170nm,0.4s						
GRNR				pmax	pmax		
	comp=Z,120nm,0.4s						
GRNR				smax	smax		
	comp=E,640nm,0.3s						
GRNR				MLR	MLR		
	comp=E,2μm,13.0s						
GRNR				MLR	MLR		
	comp=N,2μm,15.0s						
GRNR				MLR	MLR		
	comp=Z,6μm,18.0s						
CRS	**Chara**	**6.52**	**300**	*e*Pn	**Pn**	**16 27 58.1**	**+1.1**
CRS				*e*Pg	Pg	16 28 20.9	-5.5
CRS				*e*Sg	**Sg**	**16 29 47.8**	**-3.0**
HIA	**Hailar**	**7.25**	**233**	Pn	**Pn**	**16 28 03.9**	**-3.0**
HIA	**Hailar**	**7.25**	**233**	P	**Pn**	**16 28 03.9**	**-3.0**
NKL	**Nikolayevsk**	**7.28**	**92**	*e*Pn	**Pn**	**16 28 06.3**	**-1.0**
NKL				AMB	AMB	16 28 10.6	
	comp=Z,76nm,0.6s						
NKL				*e*Sn	**Sn**	**16 29 29.3**	**-0.2**
NKL				*e*Sg	Sg	16 30 06.0	-9.0
NKL				AMS	AMS	16 31 53.0	
	comp=Z,1μm,4.0s						
NKL				AMS	AMS	16 31 53.0	
	comp=Z,1μm,4.0s						
NKL				AMS	AMS	16 31 53.0	
	comp=Z,2μm,3.0s						
NKL	**Nikolayevsk**	**7.28**	**92**	*e*P	**Pn**	**16 28 06.1**	**-1.2**
NKL				pmax	pmax		
	comp=N,180nm,1.1s						
NKL				pmax	pmax		
	comp=E,249nm,0.8s						
NKL				pmax	pmax		
	comp=Z,263nm,0.8s						
NKL				MLR	MLR		
	comp=E,23μm,7.0s						
NKL				MLR	MLR		
	comp=N,5μm,4.0s						
NKL				MLR	MLR		
	comp=Z,21μm,7.0s						
YAK	**Yakutsk**	**8.07**	**4**		**Pn**	**16 28 17.8**	**-0.3**
YAK	**Yakutsk**	**8.07**	**4**	Pn	**Pn**	**16 28 18.4**	**+0.4**
YAK	**Yakutsk**	**8.07**	**4**	*e*P	**Pn**	**16 28 17.0**	**-1.0**
YAK				*e*		16 29 42.9	
YAK				pmax	pmax		
	comp=Z,119nm,0.9s						
YAK				smax	smax		
	comp=N,157nm,0.8s						
YAK				smax	smax		
	comp=E,79nm,0.5s						
BNX	**BinXian**	**8.31**	**186**	⇓P	**Pn**	**16 28 20.0**	**-1.5**
BNX				smax	smax		
	comp=E,850nm,1.1s						
BNX				smax	smax		
	comp=E,1μm,1.0s						
OKH	**Okha**	**8.54**	**87**	*de*P	Pn	16 28 13.1	-11
OKH				pmax	pmax		
	comp=Z,100nm,12.0s						
OKH				MLR	MLR		
	comp=N,7μm,9.0s						
OKH				MLR	MLR		
	comp=E,7μm,11.0s						
OKH				MLR	MLR		
	comp=Z,3μm,11.0s						
BOD	**Bodaibo**	**9.01**	**301**	*e*P	**Pn**	**16 28 30.7**	**-0.3**
TYV	**Tymovskoe**	**9.18**	**104**	*e*Pn	**Pn**	**16 28 36.2**	**+2.9**
TYV				AMB	AMB	16 28 40.8	
	comp=Z,20nm,1.2s						
TYV	**Tymovskoe**	**9.18**	**104**	*e*P	Pn	16 28 37.4	+4.1
TYV				*e*S	Sn	16 30 26.8	+11
TYV				pmax	pmax		
	comp=Z,700nm,4.2s						
TYV				pmax	pmax		
	comp=Z,32nm,1.2s						
TYV				smax	smax		
	comp=N,24nm,1.4s						
TYV				smax	smax		
	comp=E,60nm,1.4s						
TYV				smax	smax		
	comp=N,700nm,5.2s						
TYV				smax	smax		
	comp=E,600nm,5.2s						
TYV				MLR	MLR		
	comp=Z,6μm,12.0s						
CIT	**Chita**	**9.26**	**264**	*e*P	**Pn**	**16 28 33.5**	**-0.9**
CIT				*e*		16 30 16.0	
CIT				pmax	pmax		
	comp=Z,285nm,1.2s						
MDJ	**Mudanjiang**	**9.43**	**175**	P	**Pn**	**16 28 34.8**	**-2.0**
MDJ				S	**Sn**	**16 30 22.8**	**+0.4**
MDJ				SS	**SnSn**	**16 30 36.5**	**+2.8**
MDJ				pmax	pmax		
	comp=Z,55nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.3s						
MDJ				LR	LR		
	comp=Z,5μm,6.4s						
MDJ				LR	LR		
	comp=Z,3μm,5.5s						
MDJ				LR	LR		
	comp=Z,4μm,7.8s						
MDJ	**Mudanjiang**	**9.43**	**175**	Pn	**Pn**	**16 28 33.9**	**-2.8**
USA0B	**Ussuriysk Arra**	**10.07**	**166**	Pn	**Pn**	**16 28 43.7**	**-1.9**
USA0B	**Ussuriysk Arra**	**10.07**	**166**	*i* P	**Pn**	**16 28 44.2**	**-1.4**
USRK	**Ussuriysk Ar.**	**10.07**	**166**	Pn	**Pn**	**16 28 44.4**	**-1.2**
USRK	**Ussuriysk Ar.**	**10.07**	**166**	P	**Pn**	**16 28 44.4**	**-1.2**
USRK	**Ussuriysk Ar.**	**10.07**	**166**	Pn	**Pn**	**16 28 43.8**	**-1.8**
	comp=Z,2.1nm,0.3s,baz=349,slow=14,SNR=71						
USRK				Lg	Lg	16 31 32.7	
	comp=Z,6.8nm,0.3s,baz=354,slow=30,SNR=9.8						
USRK				LR	LR	16 32 34.2	
	comp=Z,508nm,19.2s,baz=348,slow=38						
	comp=Z,7.5nm,0.4s						
TEY	**Ternei**	**10.39**	**147**	*e*P	Pn	16 28 45.3	-4.6
TEY				*e*		16 30 54.4	
CN2	**Changchun**	**10.42**	**192**	P	**Pn**	**16 28 50.8**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=Z,4μm,7.0s						
CN2				LR	LR		
	comp=Z,3μm,7.0s						
CN2				LR	LR		
	comp=Z,4μm,7.0s						
GRTR	**Gornotajezhnoj**	**10.58**	**166**	*e*P	**Pn**	**16 28 51.2**	**-1.4**
GRTR				*e*rx	rx	16 28 56.1	
VLA	**Vladivostok**	**11.12**	**167**	*i* P	**Pn**	**16 28 59.6**	**-0.3**
YSS	**Yuzh-Sakhalins**	**11.47**	**122**		**Pn**	**16 29 04.1**	**-0.6**
YSS	**Yuzh-Sakhalins**	**11.47**	**122**	*e*P	**Pn**	**16 29 04.2**	**-0.5**
YSS				AMB	AMB	16 29 07.2	
	comp=Z,30nm,1.1s						
YSS				AMS	AMS	16 33 56.6	
	comp=Z,1μm,14.0s						
YSS				AMS	AMS	16 33 56.6	
	comp=Z,2μm,14.0s						
YSS				AMS	AMS	16 33 56.6	
	comp=Z,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**11.47**	**122**	*e*P	**Pn**	**16 29 04.0**	**-0.6**
YSS				*e*		16 31 07.2	
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				smax	smax		
	comp=E,20nm,1.3s						
YSS				MLR	MLR		
	comp=Z,2μm,14.0s						
YSS				MLR	MLR		
	comp=E,2μm,15.0s						
XLT	**XiLinHaoTe**	**12.99**	**224**	*e*P	**P**	**16 29 33.5**	**-2.6**
XLT				pP	Pn	16 29 37.3	+12
XLT				sP		16 29 39.5	
XLT				SS	Sn	16 32 10.3	+20
XLT				pmax	pmax		
	comp=Z,29nm,1.1s						
XLT				pmax	pmax		
	comp=Z,190nm,4.7s						
XLT				LR	LR		
	comp=N,250nm,6.2s						
XLT				LR	LR		
	comp=E,3μm,5.2s						
XLT				LR	LR		
	comp=Z,3μm,7.0s						
MA2	**Magadan**	**13.36**	**56**	*e*P	**Pn**	**16 29 31.4**	**+1.0**
MA2	**Magadan**	**13.36**	**56**	*i* P	**Pn**	**16 29 31.4**	**+1.0**
MA2				pmax	pmax		
	comp=Z,61nm,1.9s						
MA2	**Magadan**	**13.36**	**56**	Pn	**Pn**	**16 29 30.7**	**+0.3**
	comp=Z,18nm,0.5s,baz=185,slow=13,SNR=9.7						
MA2				Lg	Lg	16 33 14.4	
	comp=Z,0.5nm,0.3s,baz=161,slow=15,SNR=3.8						
ASAJ	**Asahikawa**	**13.50**	**131**	P	**Pn**	**16 29 32.4**	**0.0**
ASAJ	**Asahikawa**	**13.50**	**131**	Pn	**Pn**	**16 29 34.5**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=291,slow=26,SNR=4.3						
ASAJ				LR	LR	16 34 53.9	
	comp=Z,1μm,18.6s,baz=345,slow=39						
JKA	**Kamikawa-asahi**	**13.50**	**131**	Pn	**Pn**	**16 29 32.4**	**0.0**
IRK	**Irkutsk**	**14.66**	**273**	*e*P	**Pn**	**16 29 49.7**	**+1.4**
ULN	**Ulaanbaatar**	**14.85**	**254**		**Pn**	**16 29 49.1**	**-1.9**
ULN	**Ulaanbaatar**	**14.85**	**254**	P	**Pn**	**16 29 49.1**	**-1.9**
SONM	**Songino Array**	**15.24**	**255**	Pn	**Pn**	**16 29 54.5**	**-1.7**
SONM				IAmb	IAmb	16 30 07.2	
	comp=Z,64nm,1.4s						
SONM	**Songino Array**	**15.24**	**255**	Pn	**Pn**	**16 29 55.8**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=54,slow=13,SNR=12						
SONM				Lg	Lg	16 34 20.4	
	comp=Z,5.3nm,0.3s,baz=41,slow=32,SNR=6.3						
SONM				LR	LR	16 36 35.8	
	comp=Z,600nm,19.6s,baz=56,slow=40						
	comp=Z,5.5nm,0.5s						
SEY	**Seymchan**	**15.25**	**45**	P	**Pn**	**16 29 57.6**	**+1.5**
SEY	**Seymchan**	**15.25**	**45**	*ce*P	**Pn**	**16 29 57.6**	**+1.5**
SEY				pmax	pmax		
	comp=Z,71nm,1.0s						
SEY	**Seymchan**	**15.25**	**45**	Pn	**Pn**	**16 29 56.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=249,slow=9.9,SNR=30						
SEY				Lg	Lg	16 34 22.3	
	comp=Z,0.9nm,0.3s,baz=231,slow=18,SNR=7.8						
SEY				LR	LR	16 36 06.3	
	comp=Z,1μm,20.2s,baz=240,slow=39						
DL2	**Dalian**	**15.83**	**200**	P	**P**	**16 30 10.8**	**+3.3**
DL2				S	**S**	**16 33 09.8**	**-3.3**
DL2				pmax	pmax		
	comp=Z,46nm,0.7s						
DL2				pmax	pmax		
	comp=Z,230nm,4.8s						
DL2				LR	LR		
	comp=N,2μm,8.9s						
DL2				LR	LR		
	comp=E,2μm,11.2s						
DL2				LR	LR		
	comp=Z,2μm,12.9s						
ZAK	**Zakamensk**	**15.88**	**267**	*e*P	**Pn**	**16 30 01.7**	**-2.7**
ZAK				pmax	pmax		
	comp=Z,38nm,1.4s						
BJI	**Beijing**	**16.29**	**216**	P	**Pn**	**16 30 10.3**	**+0.7**
BJI				SS	**S**	**16 33 25.0**	**+2.6**
BJI				pmax	pmax		
	comp=Z,12nm,1.0s						
BJI				LR	LR		
	comp=Z,1μm,9.0s						
BJI				LR	LR		
	comp=Z,1μm,9.5s						
BJI				LR	LR		
	comp=Z,1μm,8.4s						
BJT	**Baijiatuau**	**16.31**	**216**	P	**Pn**	**16 30 07.3**	**-2.6**
BJT	**Baijiatuau**	**16.31**	**216**	P	**Pn**	**16 30 07.3**	**-2.6**
BJT				pmax	pmax		
	comp=Z,19nm,0.9s						
KS19	**Wonju Array Si**	**16.52**	**182**	P	**Pn**	**16 30 13.6**	**+1.0**
KSRS	**Korea Array**	**16.56**	**182**	Pn	**Pn**	**16 30 14.3**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=4.1,slow=11,SNR=26						
KSRS				Lg	Lg	16 34 57.4	
	comp=Z,0.3nm,0.3s,baz=303,slow=32,SNR=9.9						
KSRS				LR	LR	16 36 26.6	
	comp=Z,822nm,18.6s,baz=0.0,slow=37						
KSAR	**Wonju Array Be**	**16.58**	**182**	P	**Pn**	**16 30 13.3**	**0.0**
KSAR	**Wonju Array Be**	**16.58**	**182**	P	**Pn**	**16 30 13.3**	**0.0**
INCN	**Inchon**	**16.58**	**185**	P	**Pn**	**16 30 14.1**	**+0.7**
INCN	**Inchon**	**16.58**	**185**	P	**Pn**	**16 30 14.1**	**+0.7**
INCN				pmax	pmax		
	comp=Z,22nm,0.8s						
MOY	**Mondy**	**16.77**	**273**	*e*P	**Pn**	**16 30 15.2**	**-0.6**
MOY				pmax	pmax		
	comp=Z,117nm,1.9s						
PETK	**Petropavlovsk-**	**17.29**	**81**	P	**Pn**	**16 30 20.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=258,slow=6.8,SNR=1.8						
PETK				LR	LR	16 36 41.4	
	comp=Z,721nm,20.6s,baz=283,slow=36						
	comp=Z,9.3nm,1.1s						
JSD	**Sado**	**17.31**	**153**	P	**Pn**	**16 30 21.7**	**-0.9**
HHC	**Hu-ho-hao-te**	**17.41**	**228**	⇓P	**P**	**16 30 29.8**	**+4.7**
HHC				sP	sP	16 30 40.5	+8.8
HHC				S	**Sn**	**16 33 39.3**	**+2.0**
HHC				sS	S	16 33 45.0	-0.6
HHC				SS	**SnSn**	**16 33 53.3**	**+2.9**
HHC				pmax	pmax		
	comp=Z,57nm,0.5s						
HHC				pmax	pmax		
	comp=Z,370nm,6.2s						
HHC				LR	LR		
	comp=N,3μm,7.7s						
HHC				LR	LR		
	comp=E,2μm,9.6s						
HHC				LR	LR		
	comp=Z,5μm,9.7s						
TJN	**Taejon**	**17.65**	**183**	P	**Pn**	**16 30 26.9**	**+0.1**
TJN				IAmb	IAmb	16 30 36.6	

comp=Z,88nm,1.1s
TJN Taejon 17.65 183 P **Pn 16 30 26.9 +0.1**
TJN pmax pmax
comp=Z,88nm,1.1s
TIXI Tiksi 17.71 0 P **P 16 30 27.9 -0.1**
TIXI Tiksi 17.71 0*c iP* **P 16 30 27.9 -0.1**
PET Petropavlovsk 17.87 81 P **P 16 30 30.6 +0.6**
PET Petropavlovsk 17.87 81 *eP* **Pn 16 30 28.7 -0.7**
PET *eS* **Sn 16 33 41.4 -6.7**
PET pmax pmax
comp=Z,86nm,1.0s
PET MLR MLR
comp=Z,1μm,13.0s
JMM Marumori 18.21 147 P **Pn 16 30 32.9 -0.7**
BTO Baotou 18.30 230 *eP* **P 16 30 35.0 +0.1**
BTO pP **pP 16 30 38.3 -1.1**
BTO sP **sP 16 30 42.5 +1.0**
BTO PP **PnPn 16 30 49.5 +3.5**
BTO S **Sn 16 33 56.0 -2.7**
BTO SS **SnSn 16 34 13.5 +1.3**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO pmax pmax
comp=Z,1μm,4.5s
BTO LR LR
comp=Z,9μm,7.6s
BTO LR LR
comp=Z,6μm,7.3s
BTO LR LR
comp=Z,8μm,6.6s
MJAR Matsushiro Arr 18.71 155 P **P 16 30 37.8 -1.6**
comp=Z,6.6nm,1.1s,baz=343,slow=11,SNR=3.2
HNS HongShan 19.16 215 ⇓P **Pn 16 30 47.5 +2.4**
HNS pmax pmax
comp=Z,28nm,1.2s
HNS pmax pmax
comp=Z,620nm,5.1s
HNS LR LR
comp=Z,1μm,8.8s
HNS LR LR
comp=Z,2μm,10.4s
HNS LR LR
comp=Z,2μm,12.2s
TIA Tai'an 19.49 209 P **Pn 16 30 51.0 +1.8**
TIA pmax pmax
comp=Z,15nm,1.1s
TIA pmax pmax
comp=Z,270nm,3.5s
TIA LR LR
comp=Z,1μm,11.6s
TIA LR LR
comp=Z,1μm,13.1s
TIA LR LR
comp=Z,2μm,11.3s
INU Inuyama 19.58 159 Pn **P 16 30 48.9 0.0**
INU IAmb IAmb 16 30 56.5
comp=Z,78nm,1.1s
TIY Taiyuan 19.71 221 *eP* **Pn 16 30 54.5 +2.7**
TIY PP **PnPn 16 31 12.0 +6.6**
TIY S **Sn 16 34 35.5 +2.8**
TIY pmax pmax
comp=Z,37nm,0.7s
TIY pmax pmax
comp=Z,220nm,3.7s
TIY LR LR
comp=Z,2μm,10.5s
TIY LR LR
comp=Z,2μm,11.2s
TIY LR LR
comp=Z,2μm,17.8s
JMN Monobe 20.62 167 P **P 16 30 59.6 -0.7**
JNU Nakatsue 20.95 175 P **P 16 31 02.9 -0.8**
comp=Z,12nm,0.9s,baz=14,slow=13,SNR=5.3
comp=Z,12nm,0.9s
LYN LuoYang 22.50 217 ⇑P **P 16 31 23.5 +3.1**
LYN sP sP 16 31 28.0 +0.9
LYN PP **PnPn 16 31 49.3 +5.6**
LYN S **S 16 35 25.5 -1.1**
LYN pmax pmax
comp=Z,33nm,0.9s
LYN pmax pmax
comp=Z,190nm,5.2s
LYN LR LR
comp=Z,3μm,8.6s
LYN LR LR
comp=Z,1μm,11.7s
LYN LR LR
comp=Z,2μm,10.3s
NJ2 Nanjing 23.02 201 *eP* **P 16 31 27.0 +1.2**
NJ2 sP **sP 16 31 35.3 +2.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,220nm,4.7s
NJ2 LR LR
comp=Z,1μm,9.5s
NJ2 LR LR
comp=Z,770nm,11.8s
NJ2 LR LR
comp=Z,2μm,11.8s
SSE Sheshan 23.51 196 P **P 16 31 34.0 +3.3**
SSE S **S 16 35 45.8 +2.0**
SSE pmax pmax
comp=Z,12nm,0.8s
SSE pmax pmax
comp=Z,110nm,4.1s
SSE LR LR
comp=Z,630nm,15.0s
SSE LR LR
comp=Z,2μm,15.2s
XAN Xi'an 24.30 223 ⇑P **P 16 31 39.0 +0.7**
XAN S **S 16 35 57.3 +0.8**
XAN sS sS 16 36 04.5 -0.1
XAN pmax pmax
comp=Z,66nm,1.0s
XAN pmax pmax
comp=Z,550nm,3.6s
XAN LR LR
comp=Z,4μm,12.0s
XAN LR LR
comp=Z,2μm,9.3s
XAN LR LR
comp=Z,4μm,13.1s
GTA Gaotai 24.30 245 ⇑P **P 16 31 38.5 +0.1**
GTA pP sP 16 31 44.0 -1.3
GTA S **S 16 36 00.8 +4.1**
GTA sS sS 16 36 09.3 +4.5
GTA pmax pmax
comp=Z,6.0nm,1.6s
GTA pmax pmax
comp=Z,330nm,4.0s
GTA LR LR
comp=Z,5μm,13.5s
GTA LR LR
comp=Z,6μm,13.5s
GTA LR LR
comp=Z,3μm,15.3s
LZH Lanzhou 24.81 234 *eP* **P 16 31 47.5 +4.4**
LZH pP sP 16 31 51.5 +1.6
LZH sP pP 16 31 54.8 +6.9
LZH sS sS 16 36 13.5 +0.4
LZH pmax pmax
comp=Z,35nm,1.1s
LZH LR LR
comp=Z,3μm,12.4s
LZH LR LR
comp=Z,3μm,12.7s
LZH LR LR
comp=Z,3μm,11.1s
ZAA0 Zalesovo Array 25.41 288 P **P 16 31 48.0 -0.2**
ZALV Zalesovo Beam 25.41 288 P **P 16 31 47.9 -0.3**
ZALV Zalesovo Beam 25.41 288 P **P 16 31 48.7 +0.5**
comp=Z,1.5nm,0.8s,baz=88,slow=3.6,SNR=4.6
ZALV Lg Lg 16 39 44.5
comp=Z,0.1nm,0.3s,baz=319,slow=24,SNR=4.2
ZALV LR LR 16 42 30.7
comp=Z,832nm,20.4s,baz=68,slow=38
comp=Z,1.5nm,0.8s
DGZ Jazzator, Alta 25.49 277 *i* P **P 16 31 50.5 +1.4**
DGZ pmax pmax
comp=Z,22nm,1.2s
WHN Wuhan 25.60 209 P **P 16 31 52.5 +2.5**
WHN sP **sP 16 31 59.0 +2.1**
WHN pmax pmax
comp=Z,41nm,0.9s
WHN LR LR
comp=Z,4μm,9.0s
WHN LR LR
comp=Z,1μm,11.1s
WHN LR LR
comp=Z,4μm,11.6s
SHEM Shemya Is, Ala 26.86 74 LR LR 16 42 36.5
comp=Z,307nm,20.5s,baz=314,slow=36
WMQ Urumqi 28.34 266 *eP* **P 16 32 16.5 +1.8**
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ LR LR
comp=Z,2μm,12.5s
WMQ LR LR
comp=Z,2μm,8.9s
WMQ LR LR
comp=Z,380nm,19.9s
GOMU GeErMu 29.34 246 P **P 16 32 27.0 +3.0**
GOMU pP sP 16 32 30.0 -0.9
GOMU sP pP 16 32 31.0 +2.1
GOMU S **S 16 37 15.8 -1.2**
GOMU sS sS 16 37 30.0 +4.8
GOMU pmax pmax
comp=Z,4.0nm,1.2s
GOMU LR LR
comp=Z,760nm,9.1s
GOMU LR LR
comp=Z,620nm,9.2s
GOMU LR LR
comp=Z,470nm,10.6s
SEM Semipalatinsk 29.35 283 *i* P **P 16 32 21.5 -2.3**
baz=283
MK31 Makanchi Array 29.89 275 P **P 16 32 28.0 -0.5**
MK31 Makanchi Array 29.89 275 ⇓*iP* **P 16 32 28.1 -0.3**
MKAR Makanchi Array 29.89 275 P **P 16 32 28.0 -0.4**
MKAR Makanchi Array 29.89 275 P **P 16 32 28.1 -0.4**
comp=Z,5.0nm,0.9s,baz=57,slow=7.6,SNR=21
MKAR LR LR 16 44 46.5
comp=Z,313nm,20.1s,baz=58,slow=37
comp=Z,5.0nm,0.9s
MAKZ Makanchi 30.07 275 P **P 16 32 29.6 -0.4**
MAKZ Makanchi 30.07 275 P **P 16 32 29.6 -0.4**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 30.15 284 P **P 16 32 30.8 +0.2**
KURK IAmb IAmb 16 32 32.2
comp=Z,16nm,1.2s
KURK Kurchatov 30.15 284 P **P 16 32 30.8 +0.2**
KURK Kurchatov 30.15 284 P **P 16 32 31.8 +1.2**
KURK 16 35 31.6
KURBB Kurchatov Arra 30.25 284 P **P 16 32 31.8 +0.3**
comp=Z,5.4nm,1.0s,baz=70,slow=8.4,SNR=14
KURBB PcP **PcP 16 35 31.6 0.0**
comp=Z,1.7nm,0.8s,baz=69,slow=2.2,SNR=2.8
KURBB LR LR 16 45 13.9
comp=Z,590nm,18.3s,baz=192,slow=37
comp=Z,5.4nm,1.0s
GYA Guiyang 31.93 219 ⇓P **P 16 32 49.8 +3.2**
GYA S **S 16 37 57.8 +0.7**
GYA pmax pmax
comp=Z,36nm,0.8s
GYA pmax pmax
comp=Z,320nm,4.3s
GYA LR LR
comp=Z,420nm,12.2s
GYA LR LR
comp=Z,330nm,10.5s
GYA LR LR
comp=Z,430nm,12.5s
TDK Taldyqorghan 33.15 275 *eP* **P 16 32 57.1 +0.1**
baz=275
TDK Taldyqorghan 33.15 275 *eP* **P 16 32 58.0 +1.0**
SPIA Saint Paul Isl 33.71 59 P **P 16 33 01.8 0.0**
baz=291
BVAR Borovoye Array 33.75 293 P **P 16 33 03.0 +0.8**
comp=Z,12nm,0.9s,baz=66,slow=8.3,SNR=25
BVAR PcP **PcP 16 35 42.1 +0.9**
comp=Z,2.4nm,0.6s,baz=66,slow=4.9,SNR=4.6
comp=Z,12nm,0.9s
F15K North Star Dit 33.79 43 P **P 16 33 00.9 -1.5**
baz=283
BRVK Borovoye 33.80 293 P **P 16 33 02.6 0.0**
BRVK IAmb IAmb 16 33 10.7
comp=Z,13nm,0.8s
BRVK Borovoye 33.80 293 P **P 16 33 03.9 +1.3**
BRVK Borovoye 33.80 293*ceP* **P 16 33 03.9 +1.3**
BRVK pmax pmax
comp=Z,15nm,1.1s
UZB Uzynbulak 33.85 272 *eP* **P 16 33 03.9 +0.6**
baz=272
UZB Uzynbulak 33.85 272 *eP* **P 16 33 03.9 +0.6**
KPKS Kokpek 33.86 273 *eP* **P 16 33 04.1 +0.7**
baz=273
KPKS Kokpek 33.86 273 *eP* **P 16 33 04.0 +0.7**
PZH PanZhiHua 33.86 226 P **P 16 33 01.8 -1.7**
PZH pmax pmax
comp=Z,7.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.4s
BRZS Berezniki 33.87 287 ⇑*iP* **P 16 33 03.8 +0.5**
comp=Z,9.6nm,1.2s,baz=287
BRZS Berezniki 33.87 287*c iP* **P 16 33 03.8 +0.5**
BRZS pmax pmax
comp=Z,10.0nm,1.2s
ZHN Zhinishke 34.18 272 *eP* **P 16 33 06.3 +0.1**
baz=273
ZHN Zhinishke 34.18 272 *eP* **P 16 33 06.3 +0.1**
G15K Niukluk 34.21 44 P **P 16 33 05.8 -0.2**
baz=284
SATY Saty 34.27 272 *eP* **P 16 33 07.4 +0.5**
comp=Z,11nm,1.2s,baz=272
SATY Saty 34.27 272 *eP* **P 16 33 07.4 +0.5**
SATY pmax pmax
comp=Z,11nm,1.2s
C18K Utukok River 34.50 37 P **P 16 33 07.9 -0.7**
baz=281
M11K Mekoryuk 34.58 53 P **P 16 33 09.1 -0.1**
baz=289
E17K Hotham Inlet 34.59 40 P **P 16 33 09.1 -0.2**
baz=283
CHKK Chushkaly 34.63 274 *eP* **P 16 33 10.2 +0.2**
baz=275
CHKK Chushkaly 34.63 274 *eP* **P 16 33 10.1 +0.2**
KMI Kunming 34.66 224 ⇑P **P 16 33 13.0 +2.4**
KMI sP sP 16 33 18.5 +1.0
KMI S **S 16 38 37.0 -2.8**
KMI pmax pmax
comp=Z,36nm,1.2s
KMI pmax pmax
comp=Z,130nm,5.3s
KMI LR LR
comp=Z,740nm,16.5s
KMI LR LR
comp=Z,720nm,16.1s
KMI LR LR
comp=Z,1μm,15.2s
K13K Kusilvak Mount 34.79 50 P **P 16 33 11.5 +0.4**
baz=288
C19K Lookout Ridge 34.98 36 P **P 16 33 12.5 -0.2**
baz=282
KUU Kurty 34.99 275 *eP* **P 16 33 12.7 -0.4**
baz=275
KUU Kurty 34.99 275 *eP* **P 16 33 12.7 -0.4**
MDOK Medeo 35.01 273 *eP* **P 16 33 13.8 +0.5**
baz=274
MDOK Medeo 35.01 273 *eP* **P 16 33 13.8 +0.5**
H16K Elim 35.04 45 P **P 16 33 12.6 -0.6**
baz=286
AAA Alma-Ata 35.06 274 *eP* **P 16 33 14.5 +0.8**
baz=274
AAA Alma-Ata 35.06 274 *eP* **P 16 33 14.5 +0.8**
G17K Kiwalik Mounta 35.45 43 P **P 16 33 16.0 -0.7**
baz=286
A21K Barrow 35.52 32 P **P 16 33 17.0 -0.2**
baz=281
D19K Kuna River 35.63 37 P **P 16 33 17.6 -0.8**
D19K IAmb IAmb 16 33 18.5
comp=Z,11nm,0.8s
D19K Kuna River 35.63 37 P **P 16 33 17.6 -0.8**
baz=284
L14K Kuka Creek 35.88 50 P **P 16 33 19.9 -0.5**
L14K Kuka Creek 35.88 50 P **P 16 33 20.5 +0.1**
baz=290
M13K Dall Lake 35.90 52 P **P 16 33 20.5 -0.1**
baz=291
I17K Unalakleet 35.91 45 P **P 16 33 20.2 -0.4**
baz=288
H17K Granite Mounta 35.91 44 P **P 16 33 20.5 -0.2**
baz=287
BOOM Boomskoye usch 36.06 273 P **P 16 33 20.9 -1.5**
BOOM Boomskoye usch 36.06 273 P **P 16 33 20.9 -1.5**
BOOM pmax pmax
comp=Z,8.0nm,1.1s
K15K Wolf Creek Mou 36.07 48 P **P 16 33 21.2 -0.9**
baz=290
D20K Etivluk River 36.11 37 P **P 16 33 22.1 -0.3**
baz=285
G18K Tagagawik 36.13 42 P **P 16 33 21.6 -1.0**
baz=287
J16K Anvik River 36.14 46 P **P 16 33 22.7 0.0**
baz=289
NIKH Nikolski High 36.18 65 P **P 16 33 22.9 -0.2**
baz=297
F19K Shaleruckik Mo 36.20 40 P **P 16 33 22.6 -0.5**
baz=286
E19K Redstone River 36.23 39 P **P 16 33 21.3 -2.1**
E19K IAmb IAmb 16 33 24.2
comp=Z,16nm,1.1s
E19K Redstone River 36.23 39 P **P 16 33 22.4 -0.9**
baz=286
SGDS Sogindy 36.26 276 *eP* **P 16 33 23.7 -0.3**
baz=276
SGDS Sogindy 36.26 276 *eP* **P 16 33 23.7 -0.3**
LSA Lhasa 36.30 243 P **P 16 33 24.4 -0.6**
LSA Lhasa 36.30 243 P **P 16 33 24.4 -0.6**
LSA pmax pmax
comp=Z,28nm,1.1s
E20K Nigu River 36.39 37 P **P 16 33 24.2 -0.6**
baz=286
M14K Bethel 36.42 51 P **P 16 33 24.8 -0.2**
baz=291
H18K Honhosa River 36.47 43 P **P 16 33 25.1 -0.4**
baz=288
TNCH TengChong 36.56 230 ⇓*iP* **P 16 33 30.8 +4.0**
TNCH sP sP 16 33 36.0 +2.2
TNCH S **S 16 39 13.0 +4.2**
TNCH pmax pmax
comp=Z,25nm,1.0s
TNCH pmax pmax
comp=Z,130nm,3.9s
TNCH LR LR
comp=Z,450nm,15.7s
TNCH LR LR
comp=Z,300nm,13.1s
TNCH LR LR
comp=Z,320nm,17.0s
B21K Ikpikpuk River 36.57 35 P **P 16 33 25.4 -0.8**
B21K IAmb IAmb 16 33 33.4
comp=Z,12nm,0.8s
B21K Ikpikpuk River 36.57 35 P **P 16 33 26.4 +0.2**
baz=285
C21K Knifeblade Rid 36.63 36 P **P 16 33 26.6 -0.3**
baz=286
G19K Purcell Mounta 36.67 41 P **P 16 33 26.6 -0.5**
baz=288
AAK Ala-Archa 36.82 275 P **P 16 33 28.6 -0.3**
AAK Ala-Archa 36.82 275 P **P 16 33 30.4 +1.5**
AAK Ala-Archa 36.82 275*ceP* **P 16 33 30.4 +1.5**
AAK pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 36.82 275 LR LR 16 49 20.3
comp=Z,373nm,20.1s,baz=40,slow=37
N14K Kuskokwak Cree 36.85 52 P **P 16 33 28.2 -0.6**
baz=292
F20K Avaraart Lake 36.91 39 P **P 16 33 27.4 -1.8**
F20K Avaraart Lake 36.91 39 P **P 16 33 28.6 -0.5**
baz=288
M15K Kasigluk River 37.02 50 P **P 16 33 30.1 0.0**
baz=292
H19K Roundabout Mou 37.11 42 P **P 16 33 29.3 -1.6**
H19K Roundabout Mou 37.11 42 P **P 16 33 30.5 -0.4**
baz=289,SNR=8.4
E21K Killik River 37.12 37 P **P 16 33 30.6 -0.4**
E21K IAmb IAmb 16 33 31.6
comp=Z,12nm,0.8s
E21K Killik River 37.12 37 P **P 16 33 30.7 -0.4**
baz=287
L16K Owhat River 37.18 49 P **P 16 33 31.4 -0.1**
baz=292
SVE Sverdlovsk 37.22 303 *eP* **P 16 33 33.8 +1.9**
SVE pmax pmax
comp=Z,15nm,1.0s
SVE MLR MLR
comp=Z,390nm,13.0s
K17K Iditarod 37.32 47 P **P 16 33 31.8 -0.9**
K17K Iditarod 37.32 47 P **P 16 33 32.4 -0.4**
baz=291
D22K Ayikyak River 37.44 36 P **P 16 33 33.1 -0.6**
baz=288
N15K Kwethluk River 37.50 51 P **P 16 33 34.1 -0.2**
baz=293
L17K Donlin 37.54 48 P **P 16 33 34.2 -0.3**
baz=292
SLVN Son La 37.61 220 P **P 16 33 35.4 -0.3**
M16K Timber Creek 37.67 49 P **P 16 33 35.4 -0.3**
baz=293
F21K Alatna River 37.68 39 P **P 16 33 34.8 -1.0**
F21K IAmb IAmb 16 33 36.6
comp=Z,14nm,0.9s
F21K Alatna River 37.68 39 P **P 16 33 35.6 -0.1**
baz=289
J18K Innoko River 37.72 45 P **P 16 33 34.5 -1.6**
J18K Innoko River 37.72 45 P **P 16 33 35.4 -0.7**
baz=291
H20K Anotleneega Mo 37.74 42 P **P 16 33 35.8 -0.4**
baz=290
QIZ Qiongzhong 37.77 210 P **P 16 33 32.8 -4.1**
QIZ S **S 16 39 31.3 +4.5**
QIZ LR LR
comp=Z,310nm,15.1s
QIZ LR LR
comp=Z,680nm,16.0s
QIZ LR LR
comp=Z,720nm,16.5s
KSH Kashi 37.90 269 P **P 16 33 42.5 +4.4**
KSH pP sP 16 33 47.0 +2.0
KSH sP pP 16 33 50.0 +7.0
KSH pmax pmax
comp=Z,12nm,1.5s
KSH LR LR
comp=Z,930nm,15.8s
KSH LR LR
comp=Z,2μm,13.5s
KSH LR LR
comp=Z,900nm,17.5s
G21K Allakaket 37.91 40 P **P 16 33 37.1 -0.6**
G21K IAmb IAmb 16 33 38.6
comp=Z,16nm,1.1s
G21K Allakaket 37.91 40 P **P 16 33 37.6 -0.1**
baz=290
N16K Nishlik Lake 37.98 50 P **P 16 33 38.1 -0.2**
baz=294
J19K Poorman 37.98 44 P **P 16 33 37.3 -1.0**
J19K IAmb IAmb 16 33 38.8
comp=Z,15nm,1.0s
J19K Poorman 37.98 44 P **P 16 33 37.5 -0.8**
baz=292,SNR=5.4
E22K Anaktuvuk Pass 37.98 37 P **P 16 33 37.5 -0.8**
baz=289
IMAR Indian Mountai 38.01 41 P **P 16 33 37.1 -1.3**
O15K Ungalikthiuk R 38.02 53 P **P 16 33 37.6 -1.1**
baz=294
D23K Nanushuk River 38.10 35 P **P 16 33 38.9 -0.3**
baz=289
M17K Holitna River 38.20 48 P **P 16 33 39.7 -0.5**
M17K Holitna River 38.20 48 P **P 16 33 39.9 -0.2**
baz=293,SNR=6.7
L18K Granite Mounta 38.20 47 P **P 16 33 39.4 -0.8**
L18K IAmb IAmb 16 33 49.9
comp=Z,19nm,1.1s
L18K Granite Mounta 38.20 47 P **P 16 33 39.5 -0.8**
baz=293
TTA Tatalina 38.22 46 P **P 16 33 39.7 -0.7**
baz=292
ARU Arti 38.42 303 P **P 16 33 41.5 -0.6**
ARU Arti 38.42 303 P **P 16 33 43.1 +1.0**
ARU Arti 38.42 303*c iP* **P 16 33 43.0 +1.0**
ARU 16 35 07.4
ARU 16 35 51.4
ARU S **S 16 39 41.9 +5.7**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU MLR MLR
comp=Z,163nm,11.0s

ARU	**Arti**	38.42	303	LR	LR	16 50 29.0		
	comp=Z,298nm,20.2s,baz=70,slow=38							
H21K	**Melozitna Rive**	38.48	41	P	P	16 33 41.4	-1.1	
H21K				IAmb	IAmb	16 33 43.1		
	comp=Z,18nm,1.2s							
H21K	**Melozitna Rive**	38.48	41	P	P	16 33 41.8	-0.7	
	baz=292,SNR=5.8							
C24K	**Franklin Bluff**	38.51	34	P	P	16 33 42.2	-0.4	
	baz=290							
J20K	**Nowinta River**	38.51	43	P	P	16 33 42.5	-0.3	
J20K				IAmb	IAmb	16 33 52.3		
	comp=Z,13nm,0.9s							
J20K	**Nowinta River**	38.51	43	P	P	16 33 41.9	-0.9	
	baz=292							
ARSB	**Arslanbob**	38.52	274	P	P	16 33 43.1	-0.2	
ARSB	**Arslanbob**	38.52	274	P	P	16 33 43.1	-0.2	
ARSB				pmax	pmax			
	comp=Z,5.0nm,1.4s							
TOLK	**Toolik Lake Re**	38.59	36	P	P	16 33 42.5	-0.9	
	baz=290							
O16K	**Kokwok River B**	38.65	51	P	P	16 33 43.5	-0.4	
	baz=295							
D24K	**Happy Valley**	38.66	35	P	P	16 33 43.2	-0.8	
	baz=290							
N17K	**Nushagak Hills**	38.67	50	P	P	16 33 43.7	-0.5	
	baz=295							
E23K	**Chandalar**	38.78	36	P	P	16 33 44.4	-0.7	
	baz=291							
K20K	**Telida**	38.86	45	P	P	16 33 45.2	-0.6	
K20K				IAmb	IAmb	16 33 46.5		
	comp=Z,17nm,1.1s							
K20K	**Telida**	38.86	45	P	P	16 33 45.1	-0.6	
	baz=293,SNR=5.4							
M18K	**Stony River**	38.87	48	P	P	16 33 46.0	+0.1	
	baz=294,SNR=5.8							
COLD	**Coldfoot**	38.88	38	P	P	16 33 45.0	-0.8	
	baz=292							
KK31	**Karatay Array**	38.88	278	P	P	16 33 45.8	-0.3	
KK31	**Karatay Array**	38.88	278	P	P	16 33 45.8	-0.3	
KK31				pmax	pmax			
	comp=Z,14nm,1.4s							
KKAR	**Karatay Array**	38.88	278	P	P	16 33 44.8	-1.3	
KKAR	**Karatay Array**	38.88	278	P	P	16 33 45.7	-0.4	
KKAR	**Karatay Array**	38.88	278	P	P	16 33 45.7	-0.4	
H22K	**Ishtalitna Cre**	38.94	40	P	P	16 33 45.9	-0.5	
	baz=292							
I21K	**Tanana**	38.98	41	P	P	16 33 44.8	-1.9	
I21K	**Tanana**	38.98	41	P	P	16 33 45.7	-1.0	
	baz=293							
L19K	**White Mountain**	39.01	46	P	P	16 33 45.5	-1.5	
L19K				IAmb	IAmb	16 33 55.9		
	comp=Z,25nm,1.1s							
L19K	**White Mountain**	39.01	46	P	P	16 33 47.0	0.0	
	baz=294							
O17K	**Koliganek Bris**	39.03	51	P	P	16 33 46.9	-0.2	
	baz=296							
G23K	**Bananza Creek**	39.14	39	P	P	16 33 47.4	-0.7	
	baz=292							
E24K	**Your Creek**	39.17	36	P	P	16 33 46.7	-1.6	
E24K	**Your Creek**	39.17	36	P	P	16 33 47.6	-0.7	
	baz=292							
N18K	**Kilae Creek**	39.19	49	P	P	16 33 48.8	+0.3	
	baz=295							
SHL	**Shillong**	39.27	238	P	P	16 33 49.1	-0.7	
SHL	**Shillong**	39.27	238	P	P	16 33 49.1	-0.7	
SHL				pmax	pmax			
	comp=Z,60nm,1.4s							
L20K	**Farewell, AK**	39.30	46	P	P	16 33 49.5	+0.1	
	baz=294							
M19K	**Big River Lodg**	39.32	47	P	P	16 33 48.7	-0.9	
	baz=295							
CHUM	**Lake Minchumin**	39.37	43	P	P	16 33 50.1	+0.2	
	baz=294							
SDPT	**Sand Point**	39.42	58	P	P	16 33 50.6	+0.1	
	baz=298							
S14K	**Fog Glacier**	39.44	57	P	P	16 33 50.2	-0.5	
	baz=298							
MLY	**Manley**	39.53	41	P	P	16 33 50.5	-0.8	
MLY	**Manley**	39.53	41	P	P	16 33 51.3	0.0	
	baz=294							
P17K	**Kvichak River**	39.59	51	P	P	16 33 52.1	+0.3	
	baz=296							
F24K	**Squaw Lake**	39.59	37	P	P	16 33 51.1	-0.8	
F24K	**Squaw Lake**	39.59	37	P	P	16 33 51.6	-0.2	
	baz=293							
CAST	**Castle Rocks**	39.65	44	P	P	16 33 52.0	-0.3	
CAST	**Castle Rocks**	39.65	44	P	P	16 33 52.2	-0.1	
	baz=295							
C26K	**Camden Bay**	39.66	33	P	P	16 33 51.9	-0.3	
	baz=293							
H23K	**Yukon River**	39.66	40	IAmb	IAmb	16 34 03.9		
	comp=Z,16nm,1.2s							
H23K	**Yukon River**	39.66	40	P	P	16 33 52.2	-0.2	
	baz=294							
N19K	**Bonanza Creek**	39.75	48	P	P	16 33 53.1	-0.2	
	baz=296							
R16K	**Pilot Point**	39.80	54	P	P	16 33 53.6	+0.1	
	baz=298							
BPAW	**Bear Paw Mtn.**	39.81	43	P	P	16 33 53.5	-0.2	
	baz=295							
PPLA	**Purkeypile**	39.83	45	P	P	16 33 53.2	-0.8	
	baz=295							
O18K	**Koktuh Hills**	39.85	50	P	P	16 33 53.3	-0.7	
O18K				IAmb	IAmb	16 33 54.9		
	comp=Z,20nm,0.8s							
O18K	**Koktuh Hills**	39.85	50	P	P	16 33 53.6	-0.4	
	baz=296							
M20K	**Styx River**	39.87	46	P	P	16 33 53.4	-0.9	
	baz=296							
CHGN	**Chignik**	39.99	56	P	P	16 33 54.6	-0.6	
	baz=298							
TAPN	**Taplejung**	39.99	245	*e*P	P	16 33 56.9	+1.0	
	comp=Z,74nm,1.1s							
CRAI	**Chiangrai**	40.00	224	P	P	16 33 54.8	-0.8	
I23K	**Minto, Yukon-K**	40.01	41	P	P	16 33 54.5	-0.7	
	baz=294							
P18K	**Big Mountain,**	40.05	51	P	P	16 33 55.1	-0.7	
	baz=297							
G24K	**Hadweenzic Riv**	40.07	38	P	P	16 33 55.4	-0.4	
G24K				IAmb	IAmb	16 33 56.7		
	comp=Z,11nm,0.8s							
G24K	**Hadweenzic Riv**	40.07	38	P	P	16 33 54.7	-1.0	
	baz=294							
O19K	**Port Alsworth**	40.10	49	P	P	16 33 56.1	+0.1	
	baz=297							
E25K	**Arctic Village**	40.16	35	P	P	16 33 55.6	-0.9	
	baz=294							
TGY	**Tagaytay City**	40.26	191	LR	LR	16 50 09.6		
	comp=Z,194nm,20.7s,baz=26,slow=36							
Q17K	**Contact Creek**	40.27	52	P	P	16 33 57.1	-0.5	
	baz=298							
H24K	**Noodor Dome**	40.28	39	P	P	16 33 56.9	-0.7	
H24K				IAmb	IAmb	16 33 58.8		
	comp=Z,16nm,1.2s							
H24K	**Noodor Dome**	40.28	39	P	P	16 33 57.1	-0.5	
	baz=295,SNR=5.2							
R17K	**Ugashik Creek**	40.33	53	P	P	16 33 58.0	0.0	
	baz=298							
F25K	**Christian Rive**	40.35	36	P	P	16 33 57.9	-0.3	
	baz=295							
NEA2	**Nenana**	40.36	41	P	P	16 33 57.1	-1.1	
NEA2	**Nenana**	40.36	41	P	P	16 33 57.6	-0.6	
	baz=295,SNR=5.2							
TRF	**Thorofare Moun**	40.37	43	P	P	16 33 57.4	-1.1	
TRF				IAmb	IAmb	16 33 59.2		
	comp=Z,21nm,1.0s							
TRF	**Thorofare Moun**	40.37	43	P	P	16 33 57.5	-0.9	
	baz=296							
Q18K	**Katmai Hardscr**	40.50	52	P	P	16 33 59.1	-0.4	
	baz=298							
SKT	**Skwentna**	40.51	46	P	P	16 33 59.1	-0.3	
	baz=296							
MDM	**Murphy Dome**	40.53	41	P	P	16 33 59.0	-0.5	
GUN	**Gumba**	40.54	247	*e*P	P	16 34 01.6	+1.2	
	comp=Z,18nm,0.8s							
G25K	**Bearman Lake**	40.54	37	P	P	16 33 59.2	-0.4	
	baz=295							
JIRN	**Jiri**	40.57	247	*e*P	P	16 34 01.5	+0.8	
	comp=Z,45nm,1.2s							
SPCR	**Spurr Chakacha**	40.57	47	P	P	16 33 59.5	-0.5	
	baz=297,SNR=6.1							
BTK	**Batken**	40.59	274	P	P	16 34 00.4	-0.1	
BTK				IAmb	IAmb	16 34 07.6		
	comp=Z,15nm,1.1s							
BTK	**Batken**	40.59	274	P	P	16 34 00.4	-0.1	
BTK				pmax	pmax			
	comp=Z,15nm,1.1s							
COLA	**College**	40.71	41	P	P	16 34 00.2	-0.8	
	baz=296							
POKR	**Poker Plat Res**	40.76	40	P	P	16 34 00.8	-0.7	
POKR	**Poker Plat Res**	40.76	40	P	P	16 34 00.9	-0.6	
	baz=296							
MCK	**McKinley**	40.79	42	P	P	16 34 01.9	+0.1	
	baz=296							
WRH	**Wood River Hil**	40.80	41	P	P	16 34 01.2	-0.5	
WRH				IAmb	IAmb	16 34 02.3		
	comp=Z,20nm,1.0s							
F26K	**Sheenjek River**	40.83	36	P	P	16 34 02.0	0.0	
	baz=296							
H25L	**Birch Creek**	40.86	38	P	P	16 34 02.3	0.0	
	baz=296							
RAMN	**Ramite**	40.91	246	*e*P	P	16 34 03.4	0.0	
	comp=Z,81nm,1.2s							
PKI	**Pulchoki**	41.06	248	*e*P	P	16 34 05.5	+0.8	
	comp=Z,26nm,1.2s							
PKIN	**Phulchoki**	41.06	248	*e*P	P	16 34 05.6	+0.9	
	comp=Z,25nm,1.1s							
SUA	**Susitna One**	41.08	46	P	P	16 34 04.5	+0.2	
	baz=298							
IL31		41.12	40	IAmb	IAmb	16 34 05.0		
	comp=Z,19nm,1.0s							
ILAR	**Eielson Array**	41.12	40	P	P	16 34 03.9	-0.6	
	comp=Z,11nm,0.9s,baz=291,slow=7.2,SNR=77							
ILAR				LR	LR	16 52 10.6		
	comp=Z,212nm,21.8s,baz=292,slow=38							
	comp=Z,11nm,0.9s							
GKN	**Gorkha**	41.15	249	*e*P	P	16 34 05.9	+0.7	
	comp=Z,60nm,0.9s							
DMN	**Daman**	41.20	248	*e*P	P	16 34 06.2	+0.4	
	comp=Z,19nm,0.8s							
M22K	**Willow**	41.21	46	P	P	16 34 05.4	+0.3	
	baz=298							
HDA	**Harding Lake**	41.27	41	IAmb	IAmb	16 34 11.4		
	comp=Z,9.3nm,0.9s							
HDA	**Harding Lake**	41.27	41	P	P	16 34 05.4	-0.3	
	baz=297							
G26K	**Porcupine Rive**	41.28	37	P	P	16 34 05.7	0.0	
	baz=297							
PRP	**Porcupine Dome**	41.30	39	P	P	16 34 05.4	-0.7	
PRP	**Porcupine Dome**	41.30	39	P	P	16 34 05.7	-0.3	
	baz=297							
ABKAR	**Akbulak array**	41.33	293	P	P	16 34 06.3	0.0	
ABKAR				IAmb	IAmb	16 34 14.8		
	comp=Z,12nm,0.8s							
ABKAR	**Akbulak array**	41.33	293	P	P	16 34 06.8	+0.5	
WAT1	**Susitna Watana**	41.36	44	P	P	16 34 06.2	-0.2	
	baz=298							
DANN	**Dangsing**	41.36	250	*e*P	P	16 34 08.2	+1.0	
	comp=Z,76nm,0.9s							
E27K	**Coleen River**	41.47	34	P	P	16 34 07.1	-0.3	
	baz=297							
RC01	**Rabbit Creek A**	41.68	46	P	P	16 34 09.4	+0.3	
	baz=298							
PMR	**Palmer**	41.70	45	P	P	16 34 08.8	-0.3	
	baz=298							
DHY	**Denali Highway**	41.72	43	P	P	16 34 08.6	-0.9	
	baz=298							
Q20K	**Shuyak Island**	41.72	51	P	P	16 34 07.8	-1.5	
	baz=299							
AKTO	**Aktyubinsk**	41.72	295	LR	LR	16 53 45.8		
	comp=Z,248nm,18.3s,baz=60,slow=39							
KIRV	**Kirov**	41.76	309	LR	LR	16 53 45.0		
	comp=Z,310nm,20.2s,baz=63,slow=39							
J25K	**Salcha River,**	41.78	40	P	P	16 34 08.7	-1.2	
	baz=298							
WAT6	**Susitna Watana**	41.80	44	P	P	16 34 09.1	-1.2	
	baz=298							
CHTO	**Chiang Mai**	41.85	225	P	P	16 34 11.0	+0.1	
CHTO				IAmb	IAmb	16 34 14.2		
	comp=Z,26nm,1.1s							
CHTO	**Chiang Mai**	41.85	225	P	P	16 34 11.0	+0.1	
CHTO				pmax	pmax			
	comp=Z,26nm,1.1s							
BRSE	**Bradley Lake S**	41.90	48	P	P	16 34 10.3	-0.6	
	baz=299							
SII	**Sitkinak Islan**	41.91	54	P	P	16 34 10.4	-0.6	
	baz=300							
PRGR	**Permogore**	41.93	315	*e*P	P	16 34 10.8	-0.2	
PRGR				pmax	pmax			
	comp=Z,12nm,0.8s							
SML	**Sawmill**	41.93	45	P	P	16 34 10.3	-0.9	
	baz=299,SNR=5.8							
SPITS	**Spitsbergen Ar**	41.93	343	LR	LR	16 51 31.8		
	comp=Z,484nm,19.6s,baz=6.0,slow=36							
E28M	**Babbage River**	41.95	33	P	P	16 34 10.3	-0.9	
	baz=298							
PYUN	**Piuthan**	41.98	251	*e*P	P	16 34 12.8	+0.6	
	comp=Z,220nm,1.0s							
KDAK	**Kodiak Island**	42.04	52	LR	LR	16 51 30.1		
	comp=Z,353nm,19.4s,baz=317,slow=36							
KNK	**Knik Glacier**	42.07	45	P	P	16 34 11.3	-1.0	
	baz=299							
G27K	**Doyon Strip**	42.09	36	P	P	16 34 11.6	-0.9	
G27K				IAmb	IAmb	16 34 13.9		
	comp=Z,19nm,1.5s							
G27K	**Doyon Strip**	42.09	36	P	P	16 34 12.6	+0.2	
	baz=298							
CMAR	**Chiang Mai Arr**	42.17	224	P	P	16 34 12.8	-0.7	
CMAR	**Chiang Mai Arr**	42.17	224	P	P	16 34 13.7	+0.2	
	comp=Z,8.5nm,1.0s,baz=15,slow=7.3,SNR=41							
CMAR				LR	LR	16 53 25.2		
	comp=Z,747nm,18.4s,baz=30,slow=39							
	comp=Z,8.5nm,1.0s							
M23K	**Glacier View**	42.19	45	P	P	16 34 12.9	-0.3	
	baz=299							
I26K	**Coal Creek Min**	42.28	39	IAmb	IAmb	16 34 14.1		
	comp=Z,13nm,0.9s							
I26K	**Coal Creek Min**	42.28	39	P	P	16 34 13.6	-0.2	
	baz=299							
SEW	**Seward**	42.29	47	P	P	16 34 13.5	-0.4	
	baz=300							
F28M	**Old Crow**	42.32	35	P	P	16 34 13.8	-0.5	
	baz=299							
GUMO	**Guam**	42.33	156	LR	LR	16 49 13.9		
	comp=Z,107nm,20.7s,baz=336,slow=33							
SCM	**Sheep Creek Mo**	42.34	44	P	P	16 34 13.9	-0.6	
	baz=299							
PWL	**Port Wells**	42.39	46	P	P	16 34 15.0	0.0	
	baz=300							
H27K	**Steamboat Moun**	42.42	37	P	P	16 34 14.4	-0.7	
	baz=299							
J26L	**Joseph Creek**	42.52	40	P	P	16 34 14.8	-1.1	
	baz=299							
PAX	**Paxson**	42.53	42	P	P	16 34 15.1	-0.9	
	baz=299							
SCRK	**Sand Creek**	42.61	41	P	P	16 34 15.9	-0.9	
	baz=299							
I27K	**Kandik River**	42.69	38	P	P	16 34 16.4	-0.9	
	baz=299							
HARP	**HAARP**	42.94	43	P	P	16 34 18.5	-0.8	
	baz=300							
KLU	**Klutina**	43.09	44	P	P	16 34 19.8	-0.8	
	baz=300							
MENT	**Mentasta**	43.24	42	IAmb	IAmb	16 34 22.4		
	comp=Z,13nm,0.9s							
EGAK	**Eagle**	43.28	39	P	P	16 34 21.7	-0.3	
	baz=300,SNR=6.3							
G29M	**Pine Creek**	43.29	35	IAmb	IAmb	16 34 34.3		
	comp=Z,19nm,1.1s							
G29M	**Pine Creek**	43.29	35	P	P	16 34 21.8	-0.3	
	baz=301							
K27K	**Chicken**	43.31	40	IAmb	IAmb	16 34 22.9		
	comp=Z,13nm,1.1s							
K27K	**Chicken**	43.31	40	P	P	16 34 21.2	-1.1	
	baz=301							
L26K	**Log Cabin Wild**	43.34	42	P	P	16 34 21.6	-1.0	
	baz=301							
I28M	**Miner Creek**	43.38	37	P	P	16 34 22.8	-0.1	
I28M				IAmb	IAmb	16 34 34.1		
	comp=Z,15nm,1.4s							
I28M	**Miner Creek**	43.38	37	P	P	16 34 22.3	-0.7	
	baz=301							
NIL	**Nilore**	43.48	265	P	P	16 34 24.3	+0.2	
NIL	**Nilore**	43.48	265	P	P	16 34 24.3	+0.2	
NIL				pmax	pmax			
	comp=Z,43nm,1.2s							
H29M	**Whitestone**	43.53	36	P	P	16 34 23.4	-0.7	
	baz=301							
N25K	**Chitina, Valde**	43.57	44	P	P	16 34 23.4	-1.1	
	baz=301							
EYAK	**Cordova Ski Ar**	43.65	46	P	P	16 34 24.1	-0.8	
	baz=302							
F30M	**Barrier River**	43.67	34	P	P	16 34 25.1	-0.1	
	baz=302							
M26K	**Nabesna, AK**	43.80	42	IAmb	IAmb	16 34 38.6		
	comp=Z,9.3nm,1.0s							
M26K	**Nabesna, AK**	43.80	42	P	P	16 34 25.0	-1.4	
	baz=302							
G30M	**tAoh Zraii Nji**	43.86	34	P	P	16 34 26.6	-0.1	
	baz=302							
BMRM	**Bremner River**	43.91	45	P	P	16 34 26.3	-0.9	
	baz=302							
L27K	**Beaver Creek,**	43.91	41	P	P	16 34 26.6	-0.5	
L27K	**Beaver Creek,**	43.91	41	P	P	16 34 26.0	-1.2	
	baz=302							
Q23K	**Middleton Isla**	43.98	47	P	P	16 34 26.9	-0.8	
	baz=302							
I29M	**Ogilvie Camp,**	44.01	37	P	P	16 34 26.9	-0.9	
	baz=302,SNR=6.4							
EPYK	**Eagle Plains**	44.02	35	P	P	16 34 27.7	-0.3	
	baz=302							
INK	**Inuvik**	44.02	32	P	P	16 34 27.2	-0.7	
	baz=303							
INK	**Inuvik**	44.02	32	LR	LR	16 55 31.4		
	comp=Z,334nm,18.5s,baz=345,slow=40							
A36M	**Sachs Harbour**	44.28	25	P	P	16 34 29.8	-0.1	
	baz=306							
DAWY	**Dawson**	44.30	39	P	P	16 34 29.8	-0.5	
	baz=302							
MCARA	**McCarthy VSAT**	44.33	44	P	P	16 34 29.8	-0.7	
	baz=302							
F31M	**Tsiigehtchic**	44.43	33	IAmb	IAmb	16 34 32.1		
	comp=Z,13nm,0.9s							
F31M	**Tsiigehtchic**	44.43	33	P	P	16 34 30.2	-0.9	
	baz=303							
G31M	**Satah River**	44.54	34	P	P	16 34 31.8	-0.3	
	baz=303							
KAIM	**Kayak Island**	44.54	46	P	P	16 34 32.3	+0.1	
	baz=303							
BVCY	**Beaver Creek**	44.64	41	P	P	16 34 32.5	-0.4	
	baz=303							
CRQE	**Cirque**	44.65	44	P	P	16 34 33.1	-0.1	
	baz=303							
I30M	**Mount Dempster**	44.76	37	P	P	16 34 33.6	-0.4	
	baz=303							
ARCES	**ARCESS Array B**	44.86	331	LR	LR	16 56 02.9		
	comp=Z,180nm,19.0s,baz=46,slow=40							
KLMR	**Klimovskoe**	44.86	316	*e*P	P	16 34 35.0	+0.2	
KLMR				AMP		16 34 42.5		
	comp=Z,25nm,1.1s							
KLMR				*e*PP	PP	16 36 20.0	+0.8	
KLMR				LR	LR	16 51 30.8		
KLMR				AMP		16 55 19.8		
	comp=Z,409nm,14.4s							
KLMR	**Klimovskoe**	44.86	316	*e*P	P	16 34 34.9	+0.2	
KLMR				*e*		16 36 20.0		
KLMR				pmax	pmax			
	comp=Z,25nm,1.1s							
KLMR				MLR	MLR			
	comp=Z,409nm,14.0s							
BGLC	**Bering Glacier**	44.91	45	P	P	16 34 35.0	-0.1	
	baz=303							
K29M	**Barlow Dome**	45.12	39	P	P	16 34 36.4	-0.5	
	baz=304							
J30M	**Hart River**	45.14	37	IAmb	IAmb	16 34 38.2		
	comp=Z,12nm,1.1s							
J30M	**Hart River**	45.14	37	P	P	16 34 36.9	-0.1	
	baz=304							
H31M	**Peel River**	45.14	35	P	P	16 34 36.5	-0.5	
	baz=304							
YUK3	**Moose Creek**	45.15	42	P	P	16 34 37.2	0.0	
	baz=304							
CTG	**Chitna Glacier**	45.24	43	P	P	16 34 37.6	-0.3	
	baz=304							
L29M	**L29M**	45.30	40	P	P	16 34 38.0	-0.3	
L29M	**L29M**	45.30	40	P	P	16 34 37.9	-0.3	
	baz=304,SNR=10.0							
KBL	**Kabul**	45.34	270	P	P	16 34 38.5	-0.7	
KBL	**Kabul**	45.34	270	P	P	16 34 38.5	-0.7	
KBL				pmax	pmax			
	comp=Z,19nm,1.2s							
MESA	**MESA**	45.44	45	P	P	16 34 39.2	-0.4	
	baz=304							
M29M	**Somme Creek**	45.55	41	P	P	16 34 40.6	+0.3	
M29M				IAmb	IAmb	16 34 42.0		
	comp=Z,8.6nm,0.8s							
M29M	**Somme Creek**	45.55	41	P	P	16 34 40.0	-0.3	
	baz=304							
BELG	**Belogornoye**	45.97	303	*i* P	P	16 34 42.8	-0.8	
BELG				pmax	pmax			
	comp=Z,4.0nm,1.4s							
BELG	**Belogornoye**	45.97	303	LR	LR	16 55 49.8		
	comp=Z,172nm,18.9s,baz=123,slow=38							
YUK4	**Talbot Arm**	46.11	42	P	P	16 34 44.3	-0.5	
	baz=305							
M30M	**Minto, Yukon**	46.11	40	P	P	16 34 44.6	-0.1	
	baz=305							
PINM	**Pinnacle**	46.18	44	P	P	16 34 45.2	-0.1	
	baz=305							
C36M	**Paulatuk**	46.20	28	P	P	16 34 45.0	-0.2	
	baz=309							
YUK6	**Outpost Mounta**	46.45	42	P	P	16 34 47.4	-0.2	
	baz=306							
N30M	**Aishikik Lake**	46.65	41	P	P	16 34 48.8	-0.1	
	baz=306							
O29M	**Mount Kennedy**	46.74	43	P	P	16 34 49.0	-0.8	
	baz=306							
HYT	**Haines Junctio**	46.86	42	P	P	16 34 50.2	-0.5	
	baz=306							
DAV	**Davao City (W)**	46.87	184	LR	LR	16 55 09.2		
	comp=Z,164nm,19.1s,baz=347,slow=37							
N31M	**Braeburn, Yuko**	47.14	41	P	P	16 34 52.5	-0.3	
	baz=307							
M31M	**Drury Creek, Y**	47.23	39	P	P	16 34 53.2	-0.3	
	baz=307							
O30N	**Mendenhall**	47.45	42	P	P	16 34 55.0	-0.2	
	baz=307							
P29M	**Windy Craggy**	47.48	43	P	P	16 34 55.4	0.0	
	baz=307							
P30M	**Million Dollar**	47.50	43	P	P	16 34 55.4	-0.2	
	baz=307							
FARO	**Faro, Yukon**	47.61	39	P	P	16 34 56.3	-0.1	
	baz=308,SNR=5.8							
DAG	**Danmarks Havn**	47.83	350	*i* P	P	16 35 03.0	+5.1	
MMPY	**Sheldon Lake,**	48.13	38	P	P	16 35 00.0	-0.4	
	baz=309,SNR=6.8							
PLBC	**Pleasant Camp**	48.14	43	P	P	16 35 00.4	-0.1	
	baz=308							
RES	**Resolute Bay**	48.37	14	LR	LR	16 57 20.1		
	comp=Z,129nm,18.6s,baz=20,slow=38							
MOS	**Moscow**	48.67	311	*e*P	P	16 35 02.4	-2.2	
MOS				*e*		16 36 56.5		
P33M	**Teslin, Yukon**	49.07	41	P	P	16 35 07.3	-0.5	
P33M	**Teslin, Yukon**	49.07	41	P	P	16 35 07.6	-0.1	
	baz=309,SNR=5.2							
P32M	**Atlin**	49.12	42	P	P	16 35 07.2	-0.8	
	baz=309							
S31K	**Pelican**	49.13	45	P	P	16 35 07.8	-0.2	
	baz=309							
GEYT	**Alibeck**	49.42	281	P	P	16 35 09.9	-0.7	
GEYT				IAmb	IAmb	16 35 16.8		
	comp=Z,12nm,0.9s							
GEYT	**Alibeck**	49.42	281	P	P	16 35 12.0	+1.4	
	comp=Z,9.7nm,0.9s,baz=49,slow

baz=310
Q32M Nakina River 50.09 42 P **P** **16 35 14.9 -0.7**
baz=311
S32K Killisnoo 50.13 44 P **P** **16 35 15.6 0.0**
baz=310
R33M Jennings River 50.31 41 IAmb IAmb 16 35 19.0
comp=Z,14nm,0.9s
R33M Jennings River 50.31 41 P **P** **16 35 17.2 -0.1**
baz=311,SNR=10
WRGLY Wrigley 50.42 34 P **P** **16 35 17.7 -0.1**
baz=313
VSR Storozhevoye 50.83 306 *e*P **P** **16 35 19.9 -1.2**
VSR pmax pmax
comp=Z,10,0nm,1.2s
VORD Divnogorie 50.93 305 *e*P **P** **16 35 20.1 -1.7**
VORD pmax pmax
comp=Z,9.0nm,0.9s
S34M Telegraph Cree 51.23 42 P **P** **16 35 24.6 +0.6**
baz=312
DLBC Dease Lake 51.32 41 IAmb IAmb 16 35 28.0
comp=Z,18nm,1.4s
DLBC Dease Lake 51.32 41 P **P** **16 35 25.2 +0.4**
baz=312
MAK Makhachkala 52.00 293 *e*P P 16 35 24.9 -5.0
MAK *e* 16 37 23.3
MAK *e*S **S** **16 42 45.4 -7.1**
MAK *e*SS **SS** **16 46 26.7 -2.3**
MAK *e*SSS SSS 16 48 08.5
MAK MLR MLR
comp=Z,205nm,12.0s
CRAG Craig 52.06 46 P **P** **16 35 29.6 -0.6**
baz=312
KOTAN Kotaneelee Air 52.38 37 P **P** **16 35 32.1 -0.5**
baz=315
KULM Kulim 53.60 215 P **P** **16 35 42.5 +0.4**
YKA Yellowknife Ar 53.76 31 LR LR 17 02 13.8
comp=Z,197nm,18.6s,baz=335,slow=40
NACGM Naroch 53.88 316 *e*P P 16 35 50.2 +6.5
comp=Z,33nm,0.9s,baz=46
KVAR Kislovodsk Arr 53.90 297 LR LR 17 01 00.2
comp=Z,207nm,19.6s,baz=258,slow=38
KIV Kislovodsk 53.90 297 P **P** **16 35 44.2 +0.1**
KIV Kislovodsk 53.90 297 P **P** **16 35 45.8 +1.7**
KIV Kislovodsk 53.90 297 *e*P **P** **16 35 45.4 +1.3**
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,112nm,17.0s
KBZ Khabaz 53.95 297 P **P** **16 35 45.7 +1.4**
KBZ Khabaz 53.95 297 *i* P **P** **16 35 45.7 +1.4**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 53.95 297 P **P** **16 35 44.4 +0.1**
comp=Z,3.0nm,0.9s,baz=67,slow=18,SNR=5.0
KBZ LR LR 17 01 47.1
comp=Z,334nm,18.9s,baz=44,slow=39
comp=Z,3.0nm,0.9s
ZEI Tsey 54.06 295 *e*P **P** **16 35 45.6 +0.2**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
HFS Hagfors 54.92 326 P **P** **16 35 51.9 +0.7**
comp=Z,2.0nm,0.9s,baz=66,slow=18,SNR=1.4
HFS LR LR 16 59 51.3
comp=Z,124nm,19.0s,baz=41,slow=36
comp=Z,2.0nm,0.9s
NB2 NORSAR Subarra 55.02 328 P **P** **16 35 52.5 +0.6**
comp=Z,0.8nm,0.5s,baz=39,slow=6.9
NOA NORSAR Array B 55.02 328 P **P** **16 35 52.3 +0.4**
comp=Z,0.6nm,0.7s,baz=35,slow=2.8,SNR=2.1
NOA LR LR 17 01 57.0
comp=Z,173nm,19.6s,baz=35,slow=39
comp=Z,0.6nm,0.7s
GNI Garni 55.44 292 *ce*P **P** **16 35 56.3 +0.9**
GNI pmax pmax
comp=Z,16nm,1.7s
STKI Sintang 55.59 201 P **P** **16 36 00.1 +3.7**
AKASG Malin Array Be 55.79 311 *i* P **P** **16 35 58.5 +1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 55.79 311 P **P** **16 35 57.5 0.0**
comp=Z,0.5nm,0.3s,baz=40,slow=7.1,SNR=7.0
AKASG LR LR 17 00 58.9
comp=Z,151nm,18.8s,baz=22,slow=37
comp=Z,0.5nm,0.3s
AKBB Malin Array Si 55.79 311 P **P** **16 35 57.6 +0.1**
AKBB IAmb IAmb 16 36 02.9
comp=Z,7.3nm,1.0s
AKBB Malin Array Si 55.79 311 *i* P **P** **16 35 57.8 +0.3**
AKBB pmax pmax
comp=Z,8.0nm,1.1s
ANN Anapa 56.03 301 *e*P P 16 35 52.7 -6.6
ANN pmax pmax
comp=Z,14nm,0.9s
ANN MLR MLR
comp=Z,238nm,10.0s
BBB Bella Bella 56.48 46 LR LR 17 00 39.0
comp=Z,95nm,20.6s,baz=332,slow=36
PSI Prapat 56.52 216 P **P** **16 36 03.7 +0.4**
PSI pmax pmax
comp=Z,19nm,1.0s
RPSI Rantau Prapat 56.62 216 P **P** **16 36 03.6 -0.1**
GSI Gunungsitoli 58.38 217 P **P** **16 36 15.4 -0.9**
SFJD Kangerlussuaq 59.31 360 LR LR 17 00 10.8
comp=Z,178nm,21.6s,baz=350,slow=34
BORG Borgarnes 59.32 346 LR LR 17 01 36.6
comp=Z,57nm,19.1s,baz=4.6,slow=36
WSAR Wadi Sarin 59.79 268 LR LR 17 06 10.1
comp=Z,229nm,18.3s,baz=64,slow=40
BUR08 Bucovina Ar. S 59.83 310 P **P** **16 36 26.0 -0.1**
BUR08 IAmb IAmb 16 36 35.2
comp=Z,6.3nm,1.1s
BURAR Bucovina Array 59.84 310 P **P** **16 36 25.4 -0.8**
UOSS Minazif 59.93 272 P **P** **16 36 26.6 -0.3**
UOSS IAmb IAmb 16 36 32.8
comp=Z,5.7nm,0.6s
KOLS Kolonicke sedl 60.15 313 *e*P P 16 36 33.1 +5.0
KOLS Kolonicke sedl 60.15 313 *e*P P 16 36 33.1 +5.0
STHS Stebnicka Huta 60.22 314 *e*P P 16 36 34.6 +6.0
STHS Stebnicka Huta 60.22 314 *e*P P 16 36 34.6 +6.0
STHS pmax pmax
comp=Z,6.0nm,1.0s
MLR Muntele Rosu 61.10 308 LR LR 17 05 25.1
comp=Z,318nm,18.3s,baz=56,slow=38
LANS Liptovska Anna 61.17 315 *e*P P 16 36 41.0 +5.8
LANS Liptovska Anna 61.17 315 *e*P P 16 36 41.0 +5.8
OKC Ostrava-Krasne 61.19 316 AMS AMS 17 05 10.0
comp=Z,400nm,20.9s
CHVC Chvalec 61.44 318 *e*P P 16 36 42.7 +5.8
CHVC *ex* x 16 36 48.0
CHVC Chvalec 61.44 318 *e*P P 16 36 42.7 +5.8
CHVC *e* 16 36 48.0
MORC Moravsky Berou 61.48 316 *e*P P 16 36 42.0 +4.8
UPC Upice 61.52 318 AMS AMS 17 05 10.0
comp=Z,400nm,18.3s
DPC Dobruska-Polom 61.52 318 *e*P P 16 36 43.9 +6.4
DPC AMS AMS 17 05 30.0
comp=Z,300nm,15.9s
DPC Dobruska-Polom 61.52 318 *e*P P 16 36 43.9 +6.4
DPC MLR MLR
comp=Z,300nm,15.9s
KRLC Kraliky 61.55 317 *e*P P 16 36 43.3 +5.6
KRLC Kraliky 61.55 317 *e*P P 16 36 43.3 +5.6
BRTR Keskin Array B 61.65 299 P **P** **16 36 38.4 -0.2**
BRTR Keskin Array B 61.65 299 *i* P **P** **16 36 39.7 +1.1**
BRTR pmax pmax
comp=Z,5.0nm,1.1s
BRTR Keskin Array B 61.65 299 P **P** **16 36 39.1 +0.5**
comp=Z,3.2nm,0.9s,baz=50,slow=4.5,SNR=4.5
BRTR LR LR 17 08 46.7
comp=Z,101nm,19.4s,baz=77,slow=41
comp=Z,3.2nm,0.9s
FRB Frobisher Bay 61.83 9 LR LR 17 03 38.3
comp=Z,126nm,20.6s,baz=321,slow=36
VYHS Vyhne 61.94 315 *e*P P 16 36 46.3 +6.0
VYHS Vyhne 61.94 315 *e*P P 16 36 46.3 +6.0
VYHS pmax pmax
comp=Z,9.0nm,1.4s
CLL Collm 62.05 320 *e*P **P** **16 36 45.0 +4.0**
CLL Collm 62.05 320 *e*Px Px 16 36 44.0
CLL *e*S **S** **16 45 06.0 +1.2**
CLL *e*PS **PnS** **16 45 24.0 +4.3**
CLL *e*SS **SS** **16 49 06.0 -0.5**
VRAC Vranov 62.23 317 *e*P P 16 36 47.4 +5.1
VRAC Vranov 62.23 317 LR LR 17 06 20.5
comp=Z,259nm,18.1s,baz=36,slow=38
KRUC Moravsky 62.51 317 *e*P P 16 36 49.2 +5.1

PRU Pruhonice 62.51 318 *e*P P 16 36 58.4 +14
PRU AMS AMS 17 06 10.0
comp=Z,500nm,17.8s
ZVC Zvikov 63.09 318 *e*P P 16 36 53.7 +5.8
LEM Lembang 63.12 203 LR LR 17 06 46.4
comp=Z,101nm,18.3s,baz=350,slow=38
CKRC Cesky Krumlov 63.53 318 *e*P P 16 36 56.1 +5.1
CKRC *ex* x 16 37 01.6
CKRC AMS AMS 17 06 40.0
comp=Z,300nm,14.9s
CKRC Cesky Krumlov 63.53 318 *e*P P 16 36 56.1 +5.1
CKRC *e* 16 37 01.6
CKRC MLR MLR
comp=Z,300nm,14.9s
KHC Kasperske Hory 63.57 318 P **P** **16 36 52.1 +0.9**
KHC IAmb IAmb 16 36 58.1
comp=Z,3.4nm,0.9s
KHC Kasperske Hory 63.57 318 *e*P P 16 36 56.5 +5.3
KHC *ex* x 16 37 02.3
KHC AMS AMS 17 07 10.0
comp=Z,300nm,16.1s
KHC Kasperske Hory 63.57 318 *e*P P 16 36 56.5 +5.3
KHC *e* 16 37 02.3
KHC MLR MLR
comp=Z,300nm,16.1s
CONA Conrad Observa 63.62 316 *e*pP pP 16 36 57.7 +0.9
comp=Z,4.6nm,1.0s
RONA Rosalia, Austr 63.62 316 *e*pP pP 16 36 57.8 +1.1
comp=Z,6.5nm,1.5s
GERES GERESS Array B 63.76 318 P **P** **16 36 54.0 +1.5**
comp=Z,1.0nm,0.8s,baz=51,slow=6.4,SNR=2.8
GERES LR LR 17 06 58.4
comp=Z,260nm,19.1s,baz=28,slow=38
comp=Z,1.0nm,0.8s
EKA Eskdalemuir Ar 64.02 332 P **P** **16 36 54.4 +0.4**
comp=Z,1.4nm,0.9s,baz=36,slow=6.1,SNR=2.1
comp=Z,1.4nm,0.9s
NEW Newport 64.02 43 LR LR 17 06 50.7
comp=Z,237nm,19.9s,baz=320,slow=38
SOKA Soboth 64.96 316 *e*pP pP 16 37 05.5 -0.1
comp=Z,4.1nm,1.2s
OBKA Obir 65.29 316 *e*pP pP 16 37 09.5 +1.8
comp=Z,4.4nm,0.8s
LESA Schwarzleotal 65.31 318 *e*pP pP 16 37 09.2 +1.4
comp=Z,4.2nm,1.1s
CSS Mathiatis 65.39 296 P **P** **16 37 03.9 +0.6**
MYKA Terra Mystica 65.56 317 *e*pP pP 16 37 10.5 +1.0
comp=Z,2.6nm,0.6s
PRED Cave del Predi 65.75 317 P **P** **16 37 04.4 -1.1**
PRED IAmb IAmb 16 37 15.8
comp=Z,3.8nm,0.8s
MMAI Mount Meron Ar 65.76 293 LR LR 17 07 28.1
comp=Z,108nm,20.7s,baz=16,slow=38
MOTA Moosalm 65.99 319 *e*pP pP 16 37 13.0 +0.7
comp=Z,3.1nm,1.1s
PINE Pine Mountain 65.99 48 P **P** **16 37 06.6 -0.6**
SQTA Sankt Quirin 66.05 319 *e*pP pP 16 37 14.0 +1.3
comp=Z,6.9nm,1.2s
J05D Fort Rock, OR 66.27 48 P **P** **16 37 09.1 +0.1**
FETA Feichten 66.40 319 *e*pP pP 16 37 15.8 +0.8
comp=Z,5.7nm,1.4s
MSO Missoula 66.44 42 IAmb IAmb 16 37 10.8
comp=Z,7.1nm,1.1s
MSO Missoula 66.44 42 P **P** **16 37 10.0 0.0**
baz=325
BMO Blue Mountains 66.69 45 IAmb IAmb 16 37 13.4
comp=Z,4.8nm,1.1s
YBH Yreka Blue Hor 66.84 50 LR LR 17 06 49.3
comp=Z,88nm,18.2s,baz=326,slow=36
FUORN Ofenpass-Fuorn 66.92 319 P **P** **16 37 13.4 +0.2**
FUORN IAmb IAmb 16 37 19.8
comp=Z,6.3nm,1.2s
DAVOX Davos/Dischmat 66.93 319 LR LR 17 10 38.3
comp=Z,172nm,18.2s,baz=37,slow=40
BPMT Black Pine Rid 66.96 42 P **P** **16 37 13.3 -0.2**
EGMT Eagleton 67.04 38 P **P** **16 37 13.7 -0.1**
baz=327
WVOR Wild Horse Val 68.09 47 IAmb IAmb 16 37 21.7
comp=Z,5.7nm,1.0s
DLMT Dillon 68.18 42 P **P** **16 37 20.8 -0.3**
BOZ Bozeman (W) 68.36 41 IAmb IAmb 16 37 22.5
comp=Z,6.6nm,1.1s
BOZ Bozeman (W) 68.36 41 P **P** **16 37 22.3 +0.1**
baz=327
MFID Camas Ranch 68.48 45 IAmb IAmb 16 37 31.1
comp=Z,6.3nm,1.2s
HNR Honiara 68.55 146 LR LR 17 05 10.1
comp=Z,783nm,21.1s,baz=104,slow=34
EIL Elat 68.57 291 LR LR 17 11 04.1
comp=Z,91nm,19.6s,baz=52,slow=39
DGMT Dagmar 68.61 35 P **P** **16 37 23.4 -0.2**
baz=330
HLID Hailey 68.94 44 P **P** **16 37 26.5 +0.5**
baz=326
YHL Hebgen Lake 69.16 41 IAmb IAmb 16 37 35.4
comp=Z,8.7nm,1.1s
LAO LASA Array 69.44 37 P **P** **16 37 29.0 +0.2**
baz=329
ULM Lac du Bonnet 69.62 29 LR LR 17 12 19.2
comp=Z,167nm,18.2s,baz=23,slow=40
RLMT Red Lodge 69.67 40 P **P** **16 37 30.1 -0.4**
RLMT Red Lodge 69.67 40 P **P** **16 37 30.9 +0.5**
baz=328
H17A Grant Village 69.78 41 P **P** **16 37 30.5 -0.7**
baz=327
FXWY Fox Creek 70.24 42 IAmb IAmb 16 37 35.5
comp=Z,8.9nm,1.4s
TPAW Teton Pass 70.39 42 IAmb IAmb 16 37 36.6
comp=Z,11nm,1.2s
MDND Maddock 70.65 32 P **P** **16 37 35.8 -0.3**
baz=332
SCHQ Schefferville 70.78 9 LR LR 17 09 55.2
comp=Z,120nm,19.1s,baz=351,slow=37
ELK Elko 70.93 46 P **P** **16 37 37.8 -0.5**
ELK Elko 70.93 46 P **P** **16 37 37.8 -0.5**
ELK pmax pmax
comp=Z,4.0nm,1.1s
ELK Elko 70.93 46 LR LR 17 09 51.7
comp=Z,72nm,20.1s,baz=328,slow=37
KVN Kaiserville 71.08 49 IAmb IAmb 16 37 40.2
comp=Z,7.2nm,0.9s
HVU Hansel Valley 71.10 44 IAmb IAmb 16 37 45.6
comp=Z,6.3nm,1.0s
NVAR Mina Array Bea 71.49 50 P **P** **16 37 41.5 -0.1**
comp=Z,2.3nm,0.7s,baz=304,slow=4.9,SNR=16
NVAR LR LR 17 08 16.2
comp=Z,82nm,18.4s,baz=327,slow=35
comp=Z,2.3nm,0.7s
LHV Little Huntoon 71.55 50 P **P** **16 37 41.9 +0.2**
BW06 Boulder Array 71.55 41 P **P** **16 37 41.4 -0.6**
baz=328
PDAR Pinedale Array 71.55 41 P **P** **16 37 40.8 -1.1**
comp=Z,1.5nm,0.8s,baz=29,slow=3.0,SNR=12
PDAR LR LR 17 12 05.2
comp=Z,164nm,18.8s,baz=336,slow=38
comp=Z,1.5nm,0.8s
NV11 Mina Array Sit 71.56 49 P **P** **16 37 40.8 -1.2**
DUG Dugway, Tooele 72.41 45 P **P** **16 37 46.9 -0.1**
baz=327
RSSD Black Hills 72.44 37 P **P** **16 37 46.4 -0.8**
RSSD Black Hills 72.44 37 P **P** **16 37 46.7 -0.6**
baz=331
RSSD Black Hills 72.44 37 P **P** **16 37 46.4 -0.8**
RSSD pmax pmax
comp=Z,11nm,0.9s
DSP Deep Springs 72.51 50 IAmb IAmb 16 37 49.1
comp=Z,8.7nm,1.2s
VAE Valguarnera 72.72 311 LR LR 17 13 33.4
comp=Z,129nm,18.4s,baz=324,slow=39
R11B Troy Canyon, C 72.77 48 P **P** **16 37 48.9 -0.4**
baz=326
K22A Casper 72.81 39 P **P** **16 37 47.7 -1.7**
K22A IAmb IAmb 16 37 55.6
comp=Z,8.3nm,0.9s
K22A Casper 72.81 39 P **P** **16 37 48.7 -0.7**
baz=330
NLU North Lily Min 72.92 44 IAmb IAmb 16 37 56.7
comp=Z,8.3nm,1.1s
BSUT Blindstream Ca 72.96 43 IAmb IAmb 16 37 58.7
comp=Z,9.1nm,1.0s
CWC Cottonwood Cre 73.23 51 P **P** **16 37 51.7 -0.3**
baz=326
PSUT Pine Spring 73.36 47 IAmb IAmb 16 37 53.2
comp=Z,5.1nm,1.0s
TPNV Topopah Spring 73.63 49 IAmb IAmb 16 38 06.7
comp=Z,8.7nm,0.9s
TPNV Topopah Spring 73.63 49 P **P** **16 37 54.6 +0.2**
baz=326
PKM Mcpherson Peak 73.70 53 P **P** **16 37 54.6 -0.2**
baz=325
PRN Pahroc Range 73.78 48 IAmb IAmb 16 37 56.5
comp=Z,8.2nm,1.0s
MPMC Manual Prospec 73.81 50 P **P** **16 37 55.2 -0.3**
baz=326
WRA Warramunga Arr 73.81 174 P **P** **16 37 53.3 -1.9**
comp=Z,2.1nm,0.7s,baz=352,slow=6.8,SNR=16
comp=Z,2.1nm,0.7s
TMUT Trail Mountain 73.83 44 IAmb IAmb 16 37 56.3
comp=Z,5.6nm,1.0s
SUSD Miller 73.88 33 P **P** **16 37 54.8 -0.7**
baz=333
P18A Preston Nutter 73.94 43 IAmb IAmb 16 37 57.1
comp=Z,6.2nm,0.8s
GWY Greenwater Val 74.08 50 P **P** **16 37 56.4 -0.5**
QSM Queen of Sheba 74.17 50 IAmb IAmb 16 37 58.4
comp=Z,8.9nm,1.0s
LRMC Laurel Mtn Rad 74.20 51 P **P** **16 37 57.3 -0.3**
baz=326
F36A Milaca 74.26 29 P **P** **16 37 55.1 -2.6**
F36A IAmb IAmb 16 38 02.9
comp=Z,10nm,0.8s
O20A White River Ci 74.31 42 P **P** **16 37 57.7 -0.6**
baz=329
MTPU Mount Pierson 74.48 46 IAmb IAmb 16 38 06.6
comp=Z,6.2nm,1.0s
N23A Red Feather La 74.54 40 P **P** **16 37 58.2 -1.6**
baz=330
EDW2 Edwards Air Fo 74.55 51 P **P** **16 37 59.5 -0.1**
baz=326
GSC Goldstone, Bar 74.75 50 P **P** **16 38 00.4 -0.4**
baz=326
TUQ Turquoise Moun 75.04 50 P **P** **16 38 02.6 +0.1**
baz=327
KNB Kanab 75.08 47 IAmb IAmb 16 38 04.3
comp=Z,11nm,1.0s
HMU Henry Mountain 75.18 45 IAmb IAmb 16 38 11.0
comp=Z,6.3nm,0.9s
SNCC San Nicolas Is 75.18 54 P **P** **16 38 03.1 -0.1**
baz=326
BFSC Mount Baldy Ra 75.24 52 P **P** **16 38 03.5 -0.2**
baz=326
ECSD EROS Data Cent 75.26 32 P **P** **16 38 01.9 -1.6**
ECSD IAmb IAmb 16 38 08.6
comp=Z,9.1nm,0.8s
ECSD EROS Data Cent 75.26 32 P **P** **16 38 03.0 -0.5**
baz=334
V12A Nelson 75.27 49 P **P** **16 38 03.4 -0.5**
V12A IAmb IAmb 16 38 05.2
comp=Z,6.1nm,0.8s
CTA Charters Tower 75.35 163 LR LR 17 08 38.2
comp=Z,30nm,20.5s,baz=342,slow=34
HEC Hector,Ludlow 75.36 50 P **P** **16 38 04.2 -0.1**
baz=326
FMP Fort Macarthur 75.38 52 P **P** **16 38 04.5 +0.2**
baz=326
ISCO Idaho Springs 75.62 40 IAmb IAmb 16 38 12.2
comp=Z,7.6nm,1.3s
ISCO Idaho Springs 75.62 40 P **P** **16 38 05.1 -0.9**
baz=330
SMCO Snowmass 75.63 41 IAmb IAmb 16 38 15.5
comp=Z,9.9nm,0.8s
GMRC Granite Mounta 75.70 50 P **P** **16 38 06.4 0.0**
baz=327
U15A North Rim 75.80 47 IAmb IAmb 16 38 08.2
comp=Z,4.9nm,1.0s
BELC Belle Mtn. Jos 76.20 51 P **P** **16 38 08.8 -0.4**
baz=327
W13A Hualapai Mount 76.23 48 IAmb IAmb 16 38 16.0
comp=Z,5.8nm,1.1s
PFO Pinyon Flats O 76.31 51 P **P** **16 38 09.6 -0.3**
baz=327
TPFO Pinon Flats 76.32 51 P **P** **16 38 09.8 0.0**
baz=327
IRM Iron Mountain 76.45 50 P **P** **16 38 10.8 +0.3**
baz=327
MVCO Mesa Verde 76.72 43 P **P** **16 38 12.0 -0.2**
baz=330
BC3 Big Chuckawall 76.73 50 P **P** **16 38 12.0 -0.2**
baz=327
PDMCI Parker Dam,Lak 76.78 49 P **P** **16 38 12.2 -0.1**
baz=328
S22A 4UR Ranch, Cre 76.93 42 IAmb IAmb 16 38 21.6
comp=Z,8.2nm,1.5s
S22A 4UR Ranch, Cre 76.93 42 P **P** **16 38 12.9 -0.6**
baz=330
MONP2 Monument Peak 76.93 51 P **P** **16 38 13.2 -0.2**
baz=327
WUAZ Wupatki 76.97 46 P **P** **16 38 12.8 -0.8**
baz=328
BLYC Blythe 77.08 50 IAmb IAmb 16 38 21.2
comp=Z,8.5nm,1.0s
SWSC Sam W. Stewart 77.17 51 P **P** **16 38 14.4 -0.1**
baz=327
IKP In-Ko-Pah, Jac 77.28 51 P **P** **16 38 15.2 0.0**
baz=327
CBX Cerro Bola 77.30 52 IAmb IAmb 16 38 16.3
comp=Z,4.0nm,0.8s
YUH Yuha Desert 77.36 51 P **P** **16 38 15.0 -0.6**
YUH IAmb IAmb 16 38 21.9
comp=Z,8.2nm,1.2s
KSCO Kaye Shedlock' 77.42 38 P **P** **16 38 15.8 -0.2**
baz=332
SDCO Great Sand Dun 77.45 41 P **P** **16 38 15.5 -0.8**
baz=331
ASAR Alice Springs 77.49 175 P **P** **16 38 14.7 -1.5**
comp=Z,2.1nm,0.9s,baz=4.7,slow=5.4,SNR=9.5
comp=Z,2.1nm,0.9s
X16A Lo Mia Camp, P 77.87 47 IAmb IAmb 16 38 25.1
comp=Z,4.6nm,0.8s
ESJX Sierra Juarez 77.89 52 IAmb IAmb 16 38 19.9
comp=Z,6.1nm,0.9s
W18A Petrified Fore 78.00 45 P **P** **16 38 18.6 -0.8**
baz=329
ESBB Sonseca Array 78.14 324 P **P** **16 38 19.0 -0.9**
ESBB IAmb IAmb 16 38 26.8
comp=Z,4.9nm,0.9s
ESDC Sonseca Array 78.14 324 P **P** **16 38 19.8 -0.1**
ESDC IAmb IAmb 16 38 26.7
comp=Z,5.0nm,1.1s
ESDC Sonseca Array 78.14 324 P **P** **16 38 20.7 +0.8**
comp=Z,2.0nm,1.0s,baz=27,slow=4.9,SNR=5.1
ESDC LR LR 17 14 54.8
comp=Z,152nm,20.6s,baz=20,slow=37
comp=Z,2.0nm,1.0s
T25A Trinidad 78.40 41 P **P** **16 38 20.6 -0.9**
baz=331
214A Organ Pipe Nat 79.36 49 P **P** **16 38 27.2 +0.5**
baz=328
ANMO Albuquerque 79.50 43 P **P** **16 38 27.0 -0.6**
baz=331
ANMO Albuquerque 79.50 43 *ce*P **P** **16 38 27.0 -0.6**
ANMO pmax pmax
comp=Z,5.0nm,1.7s
ANMO Albuquerque 79.50 43 LR LR 17 17 52.9
comp=Z,94nm,18.2s,baz=62,slow=39
LONY Lake Ozonia 79.78 17 P **P** **16 38 28.8 0.0**
baz=346
P40A Paris 80.50 31 IAmb IAmb 16 38 37.7
comp=Z,9.3nm,0.8s
LBNH Lisbon 80.57 15 P **P** **16 38 32.4 -0.6**
baz=348
ELIS Ellis County 81.20 38 P **P** **16 38 36.2 -0.4**
319A Douglas 81.41 47 IAmb IAmb 16 38 44.3
comp=Z,6.9nm,0.7s
T35A Sooner Cattle 81.45 35 P **P** **16 38 36.4 -1.5**
T35A IAmb IAmb 16 38 43.4
comp=Z,12nm,1.0s
O48B Farmland 81.73 25 P **P** **16 38 39.0 -0.3**
baz=341
SMWD Samnorwood 81.76 39 IAmb IAmb 16 38 45.7
comp=Z,13nm,1.0s
S39A Bolivar 81.79 32 IAmb IAmb 16 38 44.4
comp=Z,11nm,0.9s
BINY Binghamton 81.88 18 P **P** **16 38 38.4 -1.6**
baz=346
CCM Cathedral Cave 82.10 31 P **P** **16 38 39.8 -1.4**
baz=338
DZM Mont Dzumac 82.50 145 LR LR 17 14 26.5
comp=Z,46nm,19.3s,baz=262,slow=35
P49A Miami Univ. Ec 82.52 25 P **P** **16 38 42.5 -0.9**
baz=341
TUL3 Leonard 82.61 35 P **P** **16 38 43.9 -0.1**
baz=336
WMOK Wichita Mounta 82.62 38 IAmb IAmb 16 38 50.5
comp=Z,8.5nm,0.9s

WMOK	**Wichita Mounta**	**82.62**	**38**	P	**P**	**16 38 43.8**	**-0.3**
	baz=334						
O53A	**New Philadelph**	**82.68**	**23**	P	**P**	**16 38 42.8**	**-1.4**
	baz=343						
HHAR	**Hobbs**	**82.88**	**33**	P	**P**	**16 38 44.0**	**-1.4**
425A	**Indio Mountain**	**83.73**	**44**	P	**P**	**16 38 49.1**	**-0.9**
425A				IAmb	IAmb	16 38 59.7	
	comp=Z,5.2nm,1.2s						
MDT	**Midelt**	**84.52**	**322**	LR	LR	17 19 36.2	
	comp=Z,70nm,18.2s,baz=20,slow=38						
MIAR	**Mount Ida**	**84.59**	**34**	P	**P**	**16 38 53.4**	**-0.7**
	baz=337						
X40A	**Basin Creek Fa**	**84.89**	**33**	P	**P**	**16 38 54.1**	**-1.5**
TXAR	**Lajitas Array**	**85.55**	**44**	P	**P**	**16 38 58.7**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=335,slow=4.0,SNR=4.3						
TXAR				LR	LR	17 20 33.8	
	comp=Z,182nm,20.0s,baz=342,slow=38						
	comp=Z,0.4nm,0.8s						
STKA	**Stephens Creek**	**86.28**	**169**	P	**P**	**16 39 00.8**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=355,slow=19,SNR=1.9						
	comp=Z,1.8nm,0.8s						
TKL	**Tuckaleechee C**	**86.43**	**26**	LR	LR	17 22 19.5	
	comp=Z,134nm,18.3s,baz=343,slow=39						
LRAL	**Lakeview Retre**	**88.02**	**29**	P	**P**	**16 39 10.5**	**-0.4**
	baz=340						
MBAR	**Mbarara**	**95.08**	**276**	LR	LR	17 25 35.7	
	comp=Z,50nm,19.2s,baz=19,slow=37						
TORD	**Torodi Ar. Bea**	**99.34**	**308**	P	**Pdif**	**16 40 03.8**	**+0.5**
	comp=Z,0.8nm,1.1s,baz=28,slow=6.5,SNR=2.9						
TORD				LR	LR	17 28 37.6	
	comp=Z,36nm,20.0s,baz=52,slow=38						
	comp=Z,0.8nm,1.1s						
TEIG	**Tepich**	**99.57**	**35**	LR	LR	17 29 16.7	
	comp=Z,923nm,20.8s,baz=142,slow=38						
VNDA	**Vanda**	**132.89**	**171**	PKP	**PKPdf**	**16 45 34.1**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=358,slow=4.0,SNR=1.9						
QSPA	**South Pole Qui**	**143.76**	**180**	PKP	PKPab	16 45 51.0	-0.4
	comp=Z,1.5nm,0.7s,baz=334,slow=0.7,SNR=6.5						
ELIB	**Princess Elisa**	**144.61**	**211**	*d*PKPdf	**PKPab**	**16 45 54.0**	**-0.6**
ELIB				*d*PKP	**PKiKP**	**16 45 58.0**	**-1.6**
NVL	**N'lazarevskaya**	**148.16**	**214**	*e*PKHKP	PKPpre	16 45 58.9	
NVL				pmax	pmax		
	comp=Z,14nm,1.0s						
TROLL	**Troll, Antarti**	**151.06**	**211**	⇑P	**PKPbc**	**16 46 11.5**	**-0.9**
CPUP	**Villa Florida**	**152.01**	**11**	PKPbc	**PKPbc**	**16 46 13.1**	**-2.6**
	comp=Z,1.4nm,0.6s,baz=139,slow=3.3,SNR=4.1						
VNA1	**Neumayer--Stat**	**154.76**	**212**	⇑P	**PKPab**	**16 46 35.0**	**-0.6**

*NOU **26** 16:28:59.2, 43.°67S×173.°03E, h2km, MLv3.6/8, Off E. Coast of S. Island, N.Z.*
*WEL **26** 16:29:01.2±0.3, 44.°S±2.°×17.°3E±.°, h7km±2km, M3.3/18, mB4.8/1, ML3.6/25, MLv3.3/18, Mw(mB)4.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=109.6, confirmed*
ISC 26 16:29:01.3±0.9, 43.°58S±0.°03×172.°86E±0.°03, h16km±7km, n58, σ0s97/73, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MQZ	**McQueen's Vall**	**0.20**	**229**	P	**Pg**	**16 29 05.1**	**-0.9**
MQZ				S	**Sg**	**16 29 07.8**	**-1.2**
OKCZ	**Okains Bay**	**0.21**	**135**	P	**Pg**	**16 29 06.9**	**+0.7**
OKCZ				S	**Sg**	**16 29 11.4**	**+2.0**
AKCZ	**Akaroa Harbour**	**0.30**	**173**	P	**Pb**	**16 29 08.1**	**-0.3**
AKCZ				S	**Sb**	**16 29 12.8**	**-0.2**
AMCZ	**Amberley**	**0.43**	**339**	P	**Pb**	**16 29 10.2**	**-0.3**
AMCZ				S	**Sg**	**16 29 16.2**	**+0.4**
RACZ	**Rakaia**	**0.54**	**254**	P	**Pg**	**16 29 11.6**	**-0.4**
RACZ				S	**Sg**	**16 29 18.8**	**-0.5**
GVZ	**Greta Valley S**	**0.62**	**12**	P	**Pn**	**16 29 14.4**	**-1.2**
GVZ				S	**Sn**	**16 29 24.3**	**-1.0**
OXZ	**Oxford**	**0.65**	**293**	P	**Pg**	**16 29 13.1**	**-0.9**
OXZ				S	**Sg**	**16 29 23.0**	**+0.3**
WACZ	**Wakanui South**	**0.82**	**243**	P	**Pb**	**16 29 17.1**	**-0.2**
WACZ				S	**Sb**	**16 29 28.6**	**+0.5**
LTZ	**Lake Taylor**	**0.91**	**331**	P	**Pg**	**16 29 18.4**	**-0.5**
LTZ				S	**Sg**	**16 29 31.0**	**+0.3**
MHCZ	**Mount Hutt**	**0.94**	**272**	P	**Pg**	**16 29 18.7**	**-0.9**
MHCZ				S	**Sg**	**16 29 31.7**	**-0.1**
KHZ	**Kahutara**	**1.27**	**24**	P	**Pb**	**16 29 24.0**	**-0.8**
KHZ	**Kahutara**	**1.27**	**24**	P	**Pb**	**16 29 24.0**	**-0.8**
ARCZ	**Arundel**	**1.27**	**253**	P	**Pn**	**16 29 23.6**	**-1.0**
ARCZ				S	**Sb**	**16 29 41.9**	**+0.7**
RPZ	**Rata Peaks**	**1.32**	**263**	P	**Pn**	**16 29 24.6**	**-0.5**
RPZ	**Rata Peaks**	**1.32**	**263**	P	**Pn**	**16 29 24.1**	**-1.0**
RPZ				S	**Sb**	**16 29 43.0**	**+0.6**
INZ	**Inchbonnie**	**1.34**	**309**	P	**Pn**	**16 29 25.5**	**0.0**
TMZ	**Timaru**	**1.56**	**238**	P	**Pn**	**16 29 27.9**	**-0.6**
TMZ				S	**Sb**	**16 29 49.9**	**+0.5**
WVZ	**Waitaha Valley**	**1.63**	**287**	P	**Pn**	**16 29 30.2**	**+0.8**
THZ	**Tophouse**	**1.81**	**1**	P	**Pn**	**16 29 31.5**	**-0.6**
THZ				S	**Sg**	**16 29 59.8**	**+0.1**
GCSZ	**Gaunt Creek Bo**	**1.86**	**277**	P	**Pn**	**16 29 32.7**	**+0.1**
DSZ	**Denniston Nort**	**1.99**	**337**	P	**Pn**	**16 29 35.6**	**+1.2**
DSZ				S	**Sn**	**16 30 01.0**	**+2.0**
BSWZ	**Blackbirch Sta**	**2.01**	**22**	P	**Pn**	**16 29 34.6**	**0.0**
LBZ	**Lake Benmore**	**2.09**	**246**	P	**Pn**	**16 29 36.2**	**+0.4**
ODZ	**Otahua Downs**	**2.16**	**227**	P	**Pn**	**16 29 37.5**	**+0.8**
ODZ	**Otahua Downs**	**2.16**	**227**	P	**Pn**	**16 29 36.4**	**-0.3**
MRNZ	**Matariki Terra**	**2.18**	**358**	P	**Pn**	**16 29 37.1**	**+0.1**
FOZ	**Fox Glacier**	**2.21**	**270**	P	**Pn**	**16 29 38.2**	**+0.8**
TKNZ	**Takaka Hill**	**2.54**	**2**	P	**Pn**	**16 29 42.4**	**+0.4**
SNZO	**South Karori**	**2.65**	**32**	P	**Pn**	**16 29 42.7**	**-0.7**
WEL	**Wellington**	**2.69**	**32**	P	**Pn**	**16 29 43.5**	**-0.6**
QRZ	**Quartz Range**	**2.76**	**355**	P	**Pn**	**16 29 45.6**	**+0.6**
QRZ	**Quartz Range**	**2.76**	**355**	P	**Pn**	**16 29 44.9**	**0.0**
DUWZ	**D'Urville Isla**	**2.88**	**16**	P	**Pn**	**16 29 47.9**	**+1.2**
CAW	**Cannon Point**	**2.96**	**34**	P	**Pn**	**16 29 46.9**	**-0.8**
JCZ	**Jackson Bay**	**2.99**	**259**	P	**Pn**	**16 29 48.6**	**+0.4**
JCZ	**Jackson Bay**	**2.99**	**259**	P	**Pn**	**16 29 48.5**	**+0.4**
WKZ	**Wanaka**	**3.03**	**244**	P	**Pn**	**16 29 50.2**	**+1.5**
EAZ	**Earnscleugh**	**3.03**	**236**	P	**Pn**	**16 29 48.2**	**-0.5**
MTW	**Mount Morrison**	**3.11**	**40**	P	**Pn**	**16 29 48.3**	**-1.5**
KIW	**Kapiti Island**	**3.11**	**30**	P	**Pn**	**16 29 49.0**	**-0.8**
OGWZ	**Otaki Gorge**	**3.25**	**33**	P	**Pn**	**16 29 51.8**	**+0.1**
TUZ	**Tuapeka**	**3.31**	**223**	P	**Pn**	**16 29 53.2**	**+0.8**
MRZ	**Mangatainoka R**	**3.55**	**36**	P	**Pn**	**16 29 55.2**	**-0.6**
MLZ	**Mavora Lakes**	**3.83**	**241**	P	**Pn**	**16 29 59.6**	**-0.1**
BFZ	**Birch Farm**	**3.84**	**42**	P	**Pn**	**16 29 57.9**	**-1.8**
BFZ	**Birch Farm**	**3.84**	**42**	P	**Pn**	**16 29 58.0**	**-1.8**
WHZ	**Wether Hill Ro**	**4.20**	**235**	P	**Pn**	**16 30 04.0**	**-0.6**
PREZ	**Palmer Road**	**4.34**	**13**	P	**Pn**	**16 30 08.5**	**+1.7**
KHEZ	**Kahui Hut**	**4.37**	**12**	P	**Pn**	**16 30 08.9**	**+1.8**
KHEZ	**Kahui Hut**	**4.37**	**12**	P	**Pn**	**16 30 08.9**	**+1.8**
PKE	**Pukeiti**	**4.46**	**11**	P	**Pn**	**16 30 09.7**	**+1.3**
VRZ	**Vera Road**	**4.67**	**18**	P	**Pn**	**16 30 12.4**	**+1.1**
WNVZ	**Wahianoa**	**4.72**	**27**	P	**Pn**	**16 30 13.5**	**+1.5**
TUVZ	**Tukino**	**4.79**	**27**	P	**Pn**	**16 30 13.6**	**+0.6**
OTVZ	**Oturere**	**4.89**	**27**	P	**Pn**	**16 30 14.4**	**0.0**
NMHZ	**Naumai**	**5.37**	**35**	P	**Pn**	**16 30 19.1**	**-1.8**
HLRZ	**Highlands Stat**	**5.94**	**28**	P	**Pn**	**16 30 29.9**	**+1.2**
TKGZ	**Te Karaka**	**6.37**	**38**	P	**Pn**	**16 30 36.3**	**+1.7**

*MOS **26** 16:29:26.5±0.0, 42.°69N×45.°41E, h26km±1km, MPVA3.3*
*TIF **26** 16:29:29.5, 42.°63N×45.°23E, h13km±1km*
*DRS **26** 16:29:30.6±0.0, 42.°60N×45.°48E, h16km*
ISC 26 16:29:27.9±1.0, 42.°71N±0.°04×45.°40E±0.°02, h9km±8km, n22, σ0s64/43, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHTL	**Shatili**	**0.19**	**255**	P	**Pg**	**16 29 31.9**	**+0.1**
SHTL				S	**Sg**	**16 29 34.6**	**0.0**
KMGR	**Komgaron**	**0.53**	**312**	*e*Pg	**Pb**	**16 29 39.8**	**+0.4**
KMGR				*e*Sg	**Sb**	**16 29 45.1**	**-2.0**
DVE	**Vedeno**	**0.59**	**65**	*e*Pg	**Pb**	**16 29 40.3**	**-0.1**
DVE				*e*Sg	**Sb**	**16 29 48.9**	**-0.1**
BTLR	**Botlikh**	**0.61**	**94**	*e*Pg	**Pb**	**16 29 40.4**	**-0.3**
BTLR				*e*Sg	**Sg**	**16 29 48.1**	**+0.5**
MTEO	**Meteo**	**0.64**	**268**	P	**Pg**	**16 29 40.3**	**0.0**
MTEO				S	**Sg**	**16 29 49.1**	**+0.4**
LACR	**Lac**	**0.82**	**279**	*e*Pg	**Pg**	**16 29 43.8**	**+0.1**
LACR				*e*Sg	**Sg**	**16 29 54.3**	**-0.1**
DLMR	**Dylym**	**0.97**	**68**	*e*Pg	**Pn**	**16 29 47.9**	**+0.1**
	43nm,0.2s						
DLMR				*e*Sg	**Sn**	**16 30 01.3**	**-0.4**
	16nm,0.4s						
XNZR	**Khunzakh**	**0.98**	**99**	*e*Pg	**Pg**	**16 29 47.0**	**+0.3**
	4.0nm,0.3s						
XNZR				*e*Sg	**Sg**	**16 29 59.2**	**-0.1**
	45nm,0.6s						

UNCR	**Uncukul**	**1.03**	**89**	*e*Pg	**Pb**	**16 29 48.0**	**+0.1**
	7.0nm,0.2s						
UNCR				*e*Sg	**Sg**	**16 30 00.9**	**-0.1**
	87nm,0.3s						
KORR	**Kora**	**1.05**	**292**	*e*Pg	**Pg**	**16 29 47.8**	**-0.2**
KORR				*e*Sg	**Sn**	**16 30 04.0**	**+0.4**
LGD	**Lagodekhi**	**1.07**	**144**	P	**Pg**	**16 29 47.1**	**-1.3**
DBC	**Dubki**	**1.10**	**73**	*e*Pg	**Pn**	**16 29 50.6**	**+1.1**
	4.0nm,0.2s						
DBC				*e*Sg	**Sn**	**16 30 06.0**	**+1.1**
	35nm,0.1s						
ZEI	**Tsey**	**1.11**	**275**	*e*Pg	**Pg**	**16 29 48.7**	**-0.5**
ZEI				*e*Sg	**Sg**	**16 30 02.7**	**-0.8**
KRNR	**Karanay**	**1.12**	**83**	*i* Pg	**Pb**	**16 29 49.5**	**+0.1**
	4.0nm,0.9s						
KRNR				*e*Sg	**Sb**	**16 30 04.4**	**+0.3**
	30nm,0.4s						
ARKR	**Arakani**	**1.18**	**94**	*e*Pg	**Pb**	**16 29 50.6**	**+0.1**
	3.0nm,0.2s						
ARKR				*e*Sg	**Sg**	**16 30 05.8**	**-0.1**
	14nm,0.3s						
GNBR	**Gunib**	**1.20**	**105**	*e*Pg	**Pg**	**16 29 50.6**	**-0.2**
	4.0nm,0.1s						
GNBR				*e*Sg	**Sg**	**16 30 06.1**	**-0.3**
	37nm,0.2s						
DGRG	**David-gareji**	**1.25**	**181**	*e*Pg	**Pn**	**16 29 51.6**	**0.0**
DGRG				*e*Sg	**Sb**	**16 30 09.4**	**+1.4**
DGRG	**David-gareji**	**1.25**	**181**	P	**Pn**	**16 29 51.6**	**0.0**
DGRG				S	**Sb**	**16 30 09.4**	**+1.4**
DIGR	**Digorskoe uzhe**	**1.35**	**279**	*e*Pg	**Pn**	**16 29 53.4**	**+0.2**
DIGR				*e*Sg	**Sn**	**16 30 11.5**	**+0.2**
KMKR	**Kumukh**	**1.38**	**114**	*e*Pg	**Pn**	**16 29 53.3**	**-0.2**
	7.0nm,0.4s						
KMKR				*e*Sg	**Sb**	**16 30 10.9**	**-1.0**
	37nm,0.2s						
ALIG	**Mtskhetisjvari**	**1.43**	**246**	P	**Pn**	**16 29 54.5**	**+0.5**
ALIG				S	**Sn**	**16 30 12.9**	**-0.1**
DMNI	**Dmanisi**	**1.64**	**214**	P	**Pn**	**16 29 56.9**	**-0.2**
DMNI				S	**Sn**	**16 30 17.7**	**-0.7**

*SJA **26** 16:44:54.7±1.5, 27.°10S×69.°08W, h80km, ML3.6, MW3.6*
*GUC **26** 16:44:54.7±0.7, 27.°08S×69.°23W, h132km±9km, ML3.6*
ISC 26 16:44:53.8±1.4, 27.°07S±0.°03×69.°24W±0.°05, h141km±11km, n34, σ1s03/57, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**1.03**	**239**	*e*P	**Pn**	**16 45 17.8**	**-0.3**
GO03				*i* S	**Sn**	**16 45 35.4**	**-1.1**
GO03				IAML		16 45 36.5	
	comp=E,2μm,0.1s						
GO03	**Copiap**	**1.03**	**239**	*e*P	**Pn**	**16 45 17.9**	**-0.1**
GO03				*e*S	**Sn**	**16 45 36.0**	**-0.6**
GO03				IAML		16 45 39.5	
	comp=Z,930nm,0.3s						
AC06	**Mina Casimiro**	**1.03**	**254**	*e*P	**Pn**	**16 45 17.9**	**-0.1**
AC06				*i* S	**Sn**	**16 45 35.1**	**-1.4**
AC06				IAML		16 45 39.0	
	comp=N,1μm,0.1s						
AC01	**Pan de Azucar**	**1.52**	**307**	*e*P	**Pn**	**16 45 23.7**	**+0.7**
AC01				*i* S	**Sn**	**16 45 44.6**	**-0.6**
AC01				IAML		16 45 46.6	
	comp=E,829nm,0.6s						
AC01	**Pan de Azucar**	**1.52**	**307**	*e*P	**Pn**	**16 45 23.6**	**+0.7**
AC01				*e*S	**Sn**	**16 45 46.2**	**+0.9**
AC01				IAML		16 45 47.5	
	comp=Z,266nm,0.4s						
TINO	**Tinogasta**	**1.78**	**124**	*e*P	**Pn**	**16 45 27.7**	**+1.7**
VCA	**Vinchina**	**1.90**	**151**	*e*P	**Pn**	**16 45 27.1**	**-0.2**
VCA				*e*S	**Sn**	**16 45 52.5**	**-0.6**
GO02	**Mina Guanaco**	**1.93**	**351**	⇑*i*P	**Pn**	**16 45 28.6**	**+0.7**
GO02				*i* S	**Sn**	**16 45 54.1**	**+0.2**
GO02				IAML		16 45 56.4	
	comp=E,699nm,0.1s						
GO02	**Mina Guanaco**	**1.93**	**351**	*e*P	**Pn**	**16 45 28.4**	**+0.5**
GO02				*e*S	**Sn**	**16 45 54.5**	**+0.6**
GO02				IAML		16 45 56.1	
	comp=Z,425nm,0.1s						
AC05	**El Transito**	**1.98**	**207**	*e*P	**Pn**	**16 45 28.7**	**+0.4**
AC05				*i* S	**Sn**	**16 45 54.5**	**-0.4**
AC05				IAML		16 45 56.1	
	comp=E,537nm,0.1s						
AC05	**El Transito**	**1.98**	**207**	*e*P	**Pn**	**16 45 28.8**	**+0.4**
AC05				*e*S	**Sn**	**16 45 55.0**	**+0.1**
LCO	**Las Campanas**	**2.33**	**213**	*e*P	**Pn**	**16 45 32.6**	**0.0**
LCO				*i* S	**Sn**	**16 46 02.1**	**-0.3**
LCO	**Las Campanas**	**2.33**	**213**	*e*P	**Pn**	**16 45 32.9**	**+0.3**
LCO				*e*S	**Sn**	**16 46 02.5**	**0.0**
LCO				IAML		16 46 03.5	
	comp=Z,326nm,0.2s						
PB14	**IPOC Station P**	**2.65**	**336**	*e*P	**Pn**	**16 45 37.8**	**+1.1**
PB14	**IPOC Station P**	**2.65**	**336**	*e*P	**Pn**	**16 45 37.4**	**+0.6**
PB14				*e*S	**Sn**	**16 46 09.4**	**-0.4**
PB14				IAML		16 46 11.9	
	comp=Z,184nm,0.3s						
CO01	**Juntas del Tor**	**2.99**	**194**	*e*P	**Pn**	**16 45 42.1**	**+1.2**
CO01				*i* S	**Sn**	**16 46 18.7**	**+1.3**
CO01				IAML		16 46 21.0	
	comp=N,95nm,0.2s						
CO01	**Juntas del Tor**	**2.99**	**194**	*e*P	**Pn**	**16 45 41.6**	**+0.7**
CO01				*e*S	**Sn**	**16 46 19.0**	**+1.6**
AROD	**Rodeo**	**3.09**	**184**	*e*P	**Pn**	**16 45 44.1**	**+1.8**
AROD				*e*S	**Sn**	**16 46 21.0**	**+1.1**
ACLC	**CERRO LA CRUZ**	**3.10**	**140**	*e*P	**Pn**	**16 45 41.8**	**-0.5**
ACLC				*e*S	**Sn**	**16 46 16.7**	**-3.0**
GO04	**Tololo Observa**	**3.38**	**204**	*e*P	**Pn**	**16 45 45.7**	**-0.2**
GO04	**Tololo Observa**	**3.38**	**204**	*e*P	**Pn**	**16 45 45.8**	**-0.2**
GO04				*e*S	**Sn**	**16 46 26.9**	**+0.5**
GO04				IAML		16 46 31.5	
	comp=Z,154nm,0.3s						
AHML	**Horco Molle**	**3.50**	**86**	*e*P	**Pn**	**16 45 47.4**	**0.0**
ACCO	**Cerro Coronel**	**3.51**	**178**	*e*P	**Pn**	**16 45 48.6**	**+0.9**
ACCO				*e*S	**Sn**	**16 46 31.6**	**+2.2**
PB15	**IPOC Station P**	**3.85**	**357**	*e*P	**Pn**	**16 45 52.9**	**+0.8**
PB15	**IPOC Station P**	**3.85**	**357**	*e*P	**Pn**	**16 45 52.6**	**+0.5**
PB15				*e*S	**Sn**	**16 46 37.6**	**+0.3**
PB15				IAML		16 46 45.2	
	comp=Z,407nm,0.2s						
DOCA	**Reserva Natura**	**3.87**	**178**	*e*P	**Pn**	**16 45 52.5**	**0.0**
DOCA				*e*S	**Sn**	**16 46 37.7**	**-0.3**
CO03	**El Pedregal**	**3.96**	**198**	*e*P	**Pn**	**16 45 53.4**	**-0.1**
CO03	**El Pedregal**	**3.96**	**198**	*e*P	**Pn**	**16 45 53.5**	**+0.1**
CO03				*e*S	**Sn**	**16 46 40.0**	**+0.2**
CO03				IAML		16 46 42.0	
	comp=Z,48nm,0.1s						
APLL	**PUNTA DE LOS L**	**4.08**	**145**	*e*P	**Pn**	**16 45 53.0**	**-1.9**
SLA	**San Lorenzo**	**4.10**	**56**	*e*P	**Pn**	**16 45 56.9**	**+1.6**
CO06	**Fray Jorge**	**4.16**	**210**	*e*P	**Pn**	**16 45 54.4**	**-1.5**
PB06	**IPOC Station P**	**4.36**	**356**	⇑*e*P	**Pn**	**16 45 59.0**	**+0.2**
PB06				*i* S	**Sn**	**16 46 46.4**	**-2.7**
LVC	**Limon Verde**	**4.45**	**4**	*i* P	**Pn**	**16 46 00.4**	**+0.2**
PB04	**IPOC Station P**	**4.79**	**350**	*e*P	**Pn**	**16 46 03.6**	**-0.9**

*OSPL **26** 16:48:26.1±2.2, 18.°78N×68.°21W, h31km±668km, ML3.1*
*NEIC **26** 16:48:27.6±0.8, 17.°99N±0.°07×68.°91W±0.°05, h16km±6km, ML3.0/4, Md3.0/3(RSPR), Error ellipse: s-maj=11.8km s-min=4.2km az=154.0*
*SDD **26** 16:48:29.6±2.4, 18.°98N×68.°98W, h12km±30km, MD3.5, ML2.6*
*RSPR **26** 16:48:30.4, 19.°08N×68.°67W, h10km±31km, MD3.0/3*
ISC 26 16:48:27.8±1.1, 19.°04N±0.°05×68.°84W±0.°04, h24km±12km, n26, σ1s64/38, 13C-8D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMDR	**Samana, DR**	**0.41**	**308**	⇑*e*Pg	**Pb**	**16 48 36.1**	**-0.4**
SMDR				IAML	**Sb**	**16 48 42.9**	**+0.4**
	comp=N,276nm,1.2s						
SMDR				⇑*e*Sg	**Sb**	**16 48 42.9**	**+0.4**
SMDR				IAML		16 48 43.1	
	comp=E,253nm,0.5s						
HATOM	**Hato Mayor del**	**0.57**	**244**	⇓*e*Pg	**Pb**	**16 48 37.8**	**-1.3**
HATOM				⇑*e*Sg	**Sb**	**16 48 43.5**	**-3.4**
HATOM				IAML		16 48 45.1	
	comp=N,394nm,0.5s						
HATOM				IAML		16 48 45.1	
	comp=E,183nm,0.4s						
PCDR	**Punta Cana, DR**	**0.68**	**140**	⇓*i*P	**Pn**	**16 48 41.8**	**-0.1**
PCDR	**Punta Cana, DR**	**0.68**	**140**	*e*S	**Sn**	**16 48 51.3**	**-0.4**
PCDR	**Punta Cana, DR**	**0.68**	**140**		**Pn**	**16 48 41.8**	**-0.1**
PCDR					**Sn**	**16 48 51.3**	**-0.4**

PCDR	**Punta Cana, DR**	**0.68**	**140**	⇑*e*Pg	**Pn**	**16 48 41.7**	**-0.1**
PCDR				⇓*e*Sg	**Sn**	**16 48 52.4**	**+0.8**
PCDR				IAML		16 48 53.8	
	comp=N,359nm,0.3s						
PCDR				IAML		16 48 55.0	
	comp=Z,253nm,0.2s						
SADR	**Isla Saona**	**0.84**	**176**	⇓*e*Pg	**Pn**	**16 48 44.4**	**+0.3**
SADR				⇑*e*Pg	**Pb**	**16 48 44.6**	**+0.8**
SADR				⇑*e*Sg	**Sn**	**16 48 54.9**	**-0.8**
SADR				⇑*e*Sg	**Sb**	**16 48 56.4**	**+1.8**
SADR				IAML		16 48 57.1	
	comp=E,233nm,0.3s						
SADR				IAML		16 48 58.2	
	comp=N,234nm,0.2s						
NADR	**Nagua**	**1.01**	**288**	IAML		16 49 03.5	
	comp=E,448nm,0.5s						
NADR				IAML		16 49 04.4	
	comp=N,776nm,0.3s						
DR08	**Loma La Naviza**	**1.12**	**266**	⇑*e*Pg	**Pn**	**16 48 46.9**	**-1.1**
IDE	**Isla Desecheo**	**1.45**	**116**	⇑*e*P	**Pn**	**16 48 52.5**	**0.0**
IDE	**Isla Desecheo**	**1.45**	**116**	*e*S	**Sn**	**16 49 10.9**	**+0.2**
IDE	**Isla Desecheo**	**1.45**	**116**		**Pn**	**16 48 52.5**	**0.0**
IDE					**Sn**	**16 49 10.9**	**+0.2**
BANI	**BANI**	**1.57**	**246**	⇓*e*Pg	**Pn**	**16 48 54.4**	**+0.1**
ABDR	**Alto Bandera**	**1.70**	**263**	⇓*e*Pg	**Pb**	**16 48 57.5**	**-1.1**
ABDR				⇑*e*Sg	**Sn**	**16 49 17.2**	**-0.4**
ABDR				IAML		16 49 25.9	
	comp=N,112nm,0.2s						
ABDR				IAML		16 49 27.2	
	comp=E,71nm,0.8s						
SC01	**Santiago de lo**	**1.82**	**283**	*e*S	**Sb**	**16 49 28.6**	**+5.7**
SC01				IAML		16 49 39.3	
	comp=Z,88nm,0.2s						
LSP	**Las Mesas**	**1.87**	**117**	⇓*e*P	**Pn**	**16 48 58.1**	**-0.2**
LSP	**Las Mesas**	**1.87**	**117**		**Pn**	**16 48 58.1**	**-0.2**
SDDR	**Presa de Saban**	**2.31**	**269**	⇓*e*P	**Pb**	**16 49 08.4**	**-0.5**
SDDR	**Presa de Saban**	**2.31**	**269**	*e*S	**Sb**	**16 49 37.6**	**+0.5**
SDDR	**Presa de Saban**	**2.31**	**269**		**Pb**	**16 49 08.2**	**-0.7**
SDDR				IAML		16 49 42.9	
	comp=Z,83nm,0.7s						
SDDR	**Presa de Saban**	**2.31**	**269**	⇑*e*Pg	**Pb**	**16 49 09.4**	**+0.5**
SDDR				⇑*e*Sg	**Sb**	**16 49 39.6**	**+2.5**
SDDR				IAML		16 49 42.7	
	comp=E,73nm,0.6s						
SDDR				IAML		16 49 44.5	
	comp=N,75nm,0.6s						
SDDR	**Presa de Saban**	**2.31**	**269**	*i* P	**Pb**	**16 49 09.1**	**+0.2**
SDDR				*e*S	**Sb**	**16 49 40.1**	**+3.1**
SDDR				IAML		16 49 46.4	
	comp=Z,55nm,0.8s						
PODR	**Polo**	**2.47**	**250**	⇑*e*Pg	**Pb**	**16 49 10.6**	**-1.0**
PODR				IAML		16 49 47.7	
	comp=N,28nm,0.4s						
PODR	**Polo**	**2.47**	**250**	*i* P	**Pb**	**16 49 10.0**	**-1.6**
PODR				*e*S	**Sb**	**16 49 43.9**	**+2.2**
IGPR	**InterUniversit**	**2.81**	**112**	*e*S	**Sn**	**16 49 41.8**	**-2.5**
IGPR	**InterUniversit**	**2.81**	**112**		**Sn**	**16 49 41.8**	**-2.5**

*NEIC **26** 17:10:23.7±2.1, 0.°59N±0.°05×120.°73E±0.°07, h63km±7km, mb4.3/21, Error ellipse: s-maj=9.8km s-min=7.0km az=75.0*
*DJA **26** 17:10:24.3±0.5, 1.°N±2.°×12.°1E±.°, h26km±5km, M4.6/18, mB5.1/8, mb4.8/12, MLv4.7/18, Mw(mB)4.5/8*
*IDC **26** 17:10:26.1±2.1, 0.°51N×120.°91E, h95km±21km, mb3.7/13, mbtmp4.1/15, MS3.7/4, Error ellipse: s-maj=26.7km s-min=11.8km az=73.0*
ISC 26 17:10:25.2±0.5, 0.°60N±0.°05×120.°75E±0.°05, h89km, n66, σ2s06/68, mb4.2/25, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolit

HHC				LR	LR		
	comp=N,380nm,10.6s						
HHC				LR	LR		
	comp=E,290nm,11.8s						
HHC				LR	LR		
	comp=Z,490nm,11.0s						
BTO	**Baotou**	**41.00**	**348**	*e*P	P	17 18 08.8	+9.2
BTO				pP	pP	17 18 18.0	-2.6
BTO				sP	sP	17 18 21.8	-9.0
BTO				PP	**PnPn**	**17 19 49.5**	**+8.6**
BTO				S	S	17 24 23.5	+18
BTO				SS	**SnSn**	**17 27 20.0**	**-3.9**
BTO				pmax	pmax		
	comp=Z,11nm,0.5s						
BTO				pmax	pmax		
	comp=Z,190nm,4.5s						
BTO				LR	LR		
	comp=N,590nm,12.9s						
BTO				LR	LR		
	comp=E,560nm,8.4s						
BTO				LR	LR		
	comp=Z,230nm,7.2s						
MDJ	**Mudanjiang**	**44.53**	**9**	P	**P**	**17 18 28.5**	**+0.6**
MDJ				IAmb	IAmb	17 18 30.0	
	comp=Z,7.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.55**	**12**	P	**P**	**17 18 29.0**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=180,slow=6.8,SNR=8.8						
	comp=Z,3.5nm,0.6s						
SONM	**Songino Array**	**48.67**	**347**	P	**P**	**17 19 00.8**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=180,slow=8.6,SNR=2.4						
	comp=Z,1.8nm,0.9s						
MK31	**Makanchi Array**	**56.94**	**329**		**P**	**17 20 02.3**	**+1.1**
MKAR	**Makanchi Array**	**56.94**	**329**	P	**P**	**17 20 02.6**	**+1.3**
MKAR	**Makanchi Array**	**56.94**	**329**	P	**P**	**17 20 02.9**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=128,slow=8.6,SNR=14						
	comp=Z,1.6nm,0.7s						
MAKZ	**Makanchi**	**57.11**	**329**	P	**P**	**17 20 03.6**	**+1.2**
ZAA0	**Zalesovo Array**	**60.86**	**337**	P	**P**	**17 20 28.6**	**+0.4**
ZAA0				IAmb	IAmb	17 20 30.4	
	comp=Z,4.3nm,1.3s						
ZALV	**Zalesovo Beam**	**60.86**	**337**	P	**P**	**17 20 29.0**	**+0.8**
ZALV	**Zalesovo Beam**	**60.86**	**337**	P	**P**	**17 20 28.7**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=121,slow=5.7,SNR=7.8						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**61.34**	**331**	P	**P**	**17 20 33.0**	**+1.6**
	comp=Z,2.4nm,0.2s,baz=140,slow=5.9,SNR=1.7						
	comp=Z,2.4nm,0.2s						
KURK	**Kurchatov**	**61.35**	**331**	P	**P**	**17 20 32.5**	**+0.9**
YAK	**Yakutsk**	**61.65**	**5**	P	**P**	**17 20 33.2**	**-0.1**
BVAR	**Borovoye Array**	**66.82**	**330**	P	**P**	**17 21 08.6**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=110,slow=8.7,SNR=6.3						
	comp=Z,0.8nm,0.6s						
BRVK	**Borovoye**	**66.89**	**330**	P	**P**	**17 21 09.4**	**+1.6**
BRVK				IAmb	IAmb	17 21 31.1	
	comp=Z,3.2nm,1.1s						
ABKAR	**Abkulak array**	**70.89**	**323**	P	**P**	**17 21 33.7**	**+1.1**
TIXI	**Tiksi**	**71.13**	**3**	P	**P**	**17 21 33.3**	**-0.4**
TIXI				IAmb	IAmb	17 21 34.0	
	comp=Z,3.8nm,0.8s						
ARU	**Arti**	**74.47**	**329**	P	**P**	**17 21 53.5**	**-0.2**
ARU				IAmb	IAmb	17 21 55.2	
	comp=Z,6.3nm,1.1s						
GNI	**Garni**	**78.93**	**311**	LR	LR	18 03 39.0	
	comp=Z,18nm,20.6s,baz=12,slow=40						
GURO	**Guroymak-BITLI**	**80.80**	**309**	P	**P**	**17 22 31.0**	**+1.5**
BRTR	**Keskin Array B**	**87.39**	**310**	P	**P**	**17 23 03.7**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=114,slow=3.5,SNR=4.8						
	comp=Z,1.9nm,0.9s						
BOSA	**Boshof**	**95.11**	**241**	LR	LR	18 05 19.4	
	comp=Z,64nm,18.6s,baz=22,slow=35						
INK	**Inuvik**	**95.23**	**21**	LR	LR	18 11 33.6	
	comp=Z,159nm,19.2s,baz=218,slow=38						

IDC 26 17:14:14.8±5.0, 21°.71S×170°.65E, h0km, mb3.8/3, mbtmp3.8/3, ML1.7/1, MS3.0/1, Error ellipse: s-maj=125.7km s-min=68.8km az=3.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.92**	**264**	Pn	Pn	17 15 14.9	-1.5
	0.1nm,0.3s,baz=98,slow=20,SNR=1.3						
DZM				Sn	Sn	17 16 04.9	+1.8
	0.1nm,0.3s,baz=42,slow=22,SNR=1.5						
RAO	**Raoul Island**	**12.76**	**128**	LR	LR	17 20 38.8	
	comp=Z,67nm,20.4s,baz=70,slow=30						
STKA	**Stephens Creek**	**27.76**	**242**	P	P	17 20 04.7	-0.7
	0.8nm,0.6s,baz=86,slow=15,SNR=1.9						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**33.90**	**260**	P	P	17 20 59.9	+0.3
	1.1nm,0.8s,baz=103,slow=8.1,SNR=14						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**33.93**	**266**	P	P	17 21 00.3	+0.4
	0.4nm,0.5s,baz=95,slow=7.9,SNR=15						
	0.4nm,0.5s						

*CNRM **26** 17:16:11.3, 32°.47N×16°.22W, h102km, ml2.5*
*MDD **26** 17:16:15.1±0.7, 32°.02N×16°.15W, h10km, Mb4.1/9, M_mb3.4/9, Error ellipse: s-maj=7.3km s-min=4.3km az=71.0*
*INMG **26** 17:16:16.7±1.1, 32°.17N×16°.15W, h21km, ML2.7, Error ellipse: s-maj=4.6km s-min=1.9km az=84.0*

ISC 26 17:16:07.7±0.8, 32°.12N±0°.04×16°.09W±0°.04, h10km, n39, σ2°88/64, 10C-1D, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUL	**Funchal**	**0.86**	**308**	*e*P	**Pn**	**17 16 28.3**	**+2.4**
PMAR	**Madeira**	**0.92**	**311**	⇓*i*P	**Pn**	**17 16 29.3**	**+2.4**
PMAR				*e*S	**Sg**	**17 16 39.7**	**+2.1**
PMAR				A	A	17 16 43.0	
	155nm,0.2s						
PMAR	**Madeira**	**0.92**	**311**	P	**Pn**	**17 16 29.4**	**+2.5**
PMAR				S	**Sg**	**17 16 40.8**	**+3.2**
PMPST	**Porto Santo, M**	**0.98**	**348**	⇑*e*P	**Pn**	**17 16 30.2**	**+2.7**
PMPST				*e*S	**Sg**	**17 16 40.3**	**+1.0**
PMPST				A	A	17 16 42.1	
	179nm,0.2s						
PMOZ	**Porto Moniz, M**	**1.17**	**307**	*e*P	**Pn**	**17 16 32.8**	**+2.5**
PMOZ	**Porto Moniz, M**	**1.17**	**307**	P	**Pn**	**17 16 30.8**	**+0.5**
PMOZ				S	**Sb**	**17 16 45.2**	**-0.3**
EBAJ	**Bajamar**	**3.58**	**184**	S	**Sn**	**17 17 44.0**	**-1.7**
CPUN	**Puntallana, La**	**3.67**	**204**	P	**Pn**	**17 17 07.4**	**+2.8**
CPUN				⇑*i*Vmb_V		17 17 08.6	
	551nm,SNR=0.8						
CPUN				S	**Sn**	**17 17 45.0**	**-3.1**
TBT	**Taburiente**	**3.78**	**205**	P	**Pn**	**17 17 07.9**	**+1.9**
TBT				⇑*i*Vmb_V		17 17 09.0	
	324nm,SNR=1.1						
TBT				S	**Sn**	**17 17 45.8**	**-4.8**
CGUI	**Guimar, Teneri**	**3.80**	**185**	S	**Sn**	**17 17 49.8**	**-1.5**
CENR	**El Paso, La Pa**	**3.80**	**204**	S	**Sn**	**17 17 49.8**	**-1.6**
CVIE	**Villa de Mazo,**	**3.83**	**204**	P	**Pn**	**17 17 08.8**	**+2.0**
CVIE				S	**Sn**	**17 17 49.5**	**-2.5**
CNOR	**Icod de los Vi**	**3.83**	**188**	P	**Pn**	**17 17 09.5**	**+2.6**
CNOR				S	**Sn**	**17 17 50.8**	**-1.3**
CBOL	**Buenavista del**	**3.85**	**190**	P	**Pn**	**17 17 08.1**	**+1.0**
CBOL				S	**Sn**	**17 17 49.4**	**-3.1**
EHIG	**Higuera**	**3.85**	**203**	P	**Pn**	**17 17 10.1**	**+2.9**
EHIG				⇑*i*Vmb_V		17 17 11.0	
	1μm,SNR=1.4						
EHIG				S	**Sn**	**17 17 51.1**	**-1.4**
CDOS	**Garachico, Isl**	**3.86**	**189**	P	**Pn**	**17 17 09.5**	**+2.2**
CDOS				⇑*i*Vmb_V		17 17 11.0	
	433nm,SNR=0.6						
CDOS				S	**Sn**	**17 17 50.1**	**-2.7**
MACI	**Morro de la Ar**	**3.88**	**186**	P	**Pn**	**17 17 10.2**	**+2.6**
MACI				⇑*i*Vmb_V		17 17 13.4	
	62nm,SNR=0.2						
MACI				S	**Sn**	**17 17 50.4**	**-2.9**
GUIA	**Guia de Isora,**	**3.90**	**188**	S	**Sn**	**17 17 51.2**	**-2.7**
CCAN	**Las Canadas**	**3.91**	**187**	P	**Pn**	**17 17 09.8**	**+1.6**
CCAN				⇑*i*Vmb_V		17 17 11.5	
	134nm,SNR=0.8						
CCAN				S	**Sn**	**17 17 49.6**	**-4.6**
CFUE	**Fuerteventura**	**3.93**	**151**	P	**Pn**	**17 17 12.3**	**+4.2**
CFUE				⇑*i*Vmb_V		17 17 13.2	
	280nm,SNR=1.9						
CFUE				S	**Sn**	**17 17 52.5**	**-1.8**
GGC	**Guia, Gran Can**	**4.01**	**174**	S	**Sn**	**17 17 54.5**	**-1.9**
CGRA	**Granadilla de**	**4.02**	**186**	S	**Sn**	**17 17 55.1**	**-1.5**
EOSO	**Osorio**	**4.06**	**173**	S	**Sn**	**17 17 55.7**	**-2.1**
EGOM	**La Gomera**	**4.07**	**194**	P	**Pn**	**17 17 11.2**	**+1.2**
EGOM				⇑*i*Vmb_V		17 17 11.9	
	234nm,SNR=1.3						
EGOM				S	**Sn**	**17 17 53.3**	**-4.4**
CGIN	**Giniginamar, F**	**4.27**	**156**	P	**Pn**	**17 17 16.9**	**+4.0**
CGIN				⇑*i*Vmb_V		17 17 17.6	
	119nm,SNR=0.8						
CGIN				S	**Sn**	**17 17 59.5**	**-3.2**
CCUM	**Cumbre, El Hie**	**4.68**	**202**	S	**Sn**	**17 18 10.5**	**-2.3**
CMCL	**Mercadel, El H**	**4.70**	**201**	P	**Pn**	**17 17 22.6**	**+3.7**
CMCL				S	**Sn**	**17 18 11.3**	**-2.3**
OUK	**Oukaimeden**	**7.07**	**95**	P	**Pn**	**17 17 53.8**	**+2.2**
OUK				S	**Sn**	**17 19 16.6**	**+4.5**
PFVI	**Vila Bisbo**	**7.79**	**48**	*e*P	**Pn**	**17 18 05.6**	**+4.4**
PFVI				*e*S	**Sn**	**17 19 24.6**	**-4.9**
PFVI	**Vila Bisbo**	**7.79**	**48**	P	**Pn**	**17 17 59.3**	**-1.9**
PFVI				S	**Sn**	**17 19 25.1**	**-4.4**
OUZM	**OUZ**	**8.05**	**96**	P	**Pn**	**17 18 05.0**	**+0.1**
OUZM				S	**Sn**	**17 19 37.6**	**+1.5**
PCVE	**Castro Verde**	**8.60**	**48**	*e*S	**Sn**	**17 19 43.5**	**-5.7**
PNCL	**Nicolau / Gran**	**8.60**	**44**	*e*S	**Sn**	**17 19 46.5**	**-2.8**
PVAQ	**Vaqueiros**	**8.67**	**50**	*e*P	**Pn**	**17 18 17.9**	**+4.7**
PVAQ				*e*S	**Sn**	**17 19 47.3**	**-3.7**
PVAQ				A	A	17 19 51.0	
	1.4nm,0.3s						
PVAQ	**Vaqueiros**	**8.67**	**50**	P	**Pn**	**17 18 11.9**	**-1.3**
PVAQ				S	**Sn**	**17 19 49.0**	**-2.0**
PMAFR	**Mafra**	**8.78**	**37**	*e*S	**Sn**	**17 19 50.7**	**-3.2**
PMAFR				A	A	17 19 54.9	
	11nm,0.6s						
PBAR	**Barrancos**	**9.55**	**48**	*e*S	**Sn**	**17 20 08.9**	**-3.8**
MD31	**MD31**	**9.60**	**83**	P	**Pn**	**17 18 27.3**	**+1.3**
MD31				S	**Sn**	**17 20 13.9**	**0.0**
MDT	**Midelt**	**9.72**	**83**	P	**Pn**	**17 18 29.1**	**+1.4**
MDT				S	**Sn**	**17 20 16.0**	**-1.1**

*IDC **26** 17:16:57.0±0.6, 24°.95N×127°.93E, h0km, mb4.3/21, mbtmp4.2/25, ML3.6/4, MS3.6/22, Error ellipse: s-maj=20.0km s-min=12.5km az=80.0*
*BJI **26** 17:16:58.7±0.0, 25°.03N×127°.79E, h9km, mb4.3/40, mB4.7/19, Ms4.1/19, Ms7 3.8/20*
*NEIC **26** 17:16:59.3±1.9, 24°.97N±0°.07×127°.95E±0°.07, h10km±1km, mb4.7/48, Error ellipse: s-maj=12.4km s-min=10.6km az=146.0*
*JMA **26** 17:17:00.4±0.2, 25°.0N±0°.9×12°8E±°, h72km, MV4.3/28, NEAR OKINAWAJIMA ISLAND*
*NIED **26** 17:17:00.4, 25°.01N×127°.82E, h72km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=2.86; $M_{\theta\theta}$1.48; $M_{\phi\phi}$1.38; $M_{r\theta}$0.24; $M_{\theta r}$1.51; $M_{\phi r}$-0.79; Fault plane solution: $M_0$3.02000×10^{15} NP1:ϕ_s32.00000°, δ50.00000°, λ-108.00000°. NP2:ϕ_p239.00000°, δ43.00000°, λ-70.00000°.*

ISC 26 17:16:59.3±0.8, 24°.92N±0°.04×127°.91E±0°.04, h15km±4km, n159, σ2°04/184, mb4.6/50, MS3.8/27, 1C-1D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.22**	**355**	P	**Pg**	**17 17 21.1**	**-1.8**
JJT3				S	**Sg**	**17 17 36.0**	**-2.9**
JNTH	**Nagotoyohara**	**1.59**	**3**	P	**Pn**	**17 17 25.6**	**-1.4**
JNTH				*e*S	**Sn**	**17 17 44.2**	**-3.2**
JKE	**Kume jima 2**	**1.73**	**324**	P	**Pn**	**17 17 27.7**	**-1.2**
JKE				S	**Sn**	**17 17 47.5**	**-3.3**
JKE	**Kume jima 2**	**1.73**	**324**	A	A	17 17 27.7	
	comp=E,4.0nm,2.1s,comp=N,5.0nm,0.9s						
JAGN	**Aguni-jima**	**1.77**	**340**	P	**Pn**	**17 17 28.5**	**-0.9**
JAGN				S	**Sn**	**17 17 48.9**	**-2.7**
JOW	**Kunigami**	**1.93**	**10**	Pn	**Pn**	**17 17 30.6**	**-1.0**
JOW	**Kunigami**	**1.93**	**10**	P	**Pn**	**17 17 30.7**	**-1.0**
JOW				*e*S	**Sn**	**17 17 51.9**	**-3.9**
JOW	**Kunigami**	**1.93**	**10**	Pn	**Pn**	**17 17 30.5**	**-1.2**
	comp=N,161nm,0.3s,baz=159,slow=18,SNR=490						
JOW				LR	LR	17 17 47.7	
	comp=N,89nm,22.0s,baz=120,slow=27						
JOW				Sn	**Sn**	**17 17 51.8**	**-3.9**
	comp=N,159nm,0.3s,baz=81,slow=28,SNR=14						
JIH	**Iheya**	**2.11**	**1**	P	**Pn**	**17 17 33.5**	**-0.6**
JIH				*e*S	**Sn**	**17 17 57.9**	**-2.1**
JYRO	**Yoronjima**	**2.15**	**13**	P	**Pn**	**17 17 33.5**	**-1.2**
JYRO				*e*S	**Sn**	**17 17 56.8**	**-4.3**
JOGS	**Gusukube**	**2.28**	**267**	P	**Pn**	**17 17 35.7**	**-0.8**
JOGS				S	**Sn**	**17 18 01.4**	**-2.9**
JMJ2	**Miyako jima3**	**2.36**	**266**	P	**Pn**	**17 17 36.5**	**-1.0**
JMJ2				S	**Sn**	**17 18 02.5**	**-3.6**
JIKM	**Ikemajima**	**2.42**	**271**	P	**Pn**	**17 17 37.5**	**-0.9**
JIKM				S	**Sn**	**17 18 04.5**	**-3.3**
JIRB	**Irabujima**	**2.49**	**268**	P	**Pn**	**17 17 38.1**	**-1.3**
JIRB				S	**Sn**	**17 18 05.6**	**-3.9**
JOKE	**Okinoerabujima**	**2.50**	**14**	P	**Pn**	**17 17 38.5**	**-1.0**
JOKE				*e*S	**Sn**	**17 18 07.4**	**-2.4**
JTJ	**Tarama**	**2.93**	**265**	P	**Pn**	**17 17 44.1**	**-1.3**
JTJ				S	**Sn**	**17 18 15.8**	**-4.6**
JTK	**Tokunoshima**	**3.00**	**18**	P	**Pn**	**17 17 45.4**	**-0.9**
JTK				*e*S	**Sn**	**17 18 17.8**	**-4.3**
JMZ	**Minamidaito 2**	**3.12**	**73**	Pn	**Pn**	**17 17 46.6**	**-1.4**
JMZ	**Minamidaito 2**	**3.12**	**73**	P	**Pn**	**17 17 45.9**	**-2.1**
JMZ				*e*S	**Sn**	**17 18 20.9**	**-4.2**
JKDJ	**Kitadaitoujima**	**3.23**	**71**	P	**Pn**	**17 17 47.6**	**-1.8**
JKDJ				S	**Sn**	**17 18 23.8**	**-3.9**
JISG	**Ishigakijimahi**	**3.29**	**265**	P	**Pn**	**17 17 48.7**	**-1.6**
JISG				S	**Sn**	**17 18 24.4**	**-4.9**
JIJ	**Ishigaki jima**	**3.48**	**262**	*i* P	**Pn**	**17 17 51.2**	**-1.7**
JIJ				S	**Sn**	**17 18 28.1**	**-5.7**
JAMN	**Amaminishikomi**	**3.50**	**19**	P	**Pn**	**17 17 52.8**	**-0.4**
JAMN				*e*S	**Sn**	**17 18 31.0**	**-3.3**
JKRS	**Kuro-shima**	**3.62**	**260**	P	**Pn**	**17 17 54.0**	**-0.9**
JKRS				*e*S	**Sn**	**17 18 30.9**	**-6.5**
JAM	**Amami Oshima**	**3.79**	**23**	P	**Pn**	**17 17 56.5**	**-0.7**
HATJ	**Hateruma jima**	**3.84**	**258**	P	**Pn**	**17 17 57.7**	**-0.2**
HATJ				S	**Sn**	**17 18 35.9**	**-6.9**
JZK	**Kikaishima**	**3.85**	**28**	P	**Pn**	**17 17 58.1**	**0.0**
JZK				*e*S	**Sn**	**17 18 40.5**	**-2.5**
IRIF	**Iriomote-Funau**	**3.85**	**262**	P	**Pn**	**17 17 56.5**	**-1.6**
IRIF				*e*S	**Sn**	**17 18 36.9**	**-6.2**
YOJ	**Yonaguni jima**	**4.48**	**265**	Pn	**Pn**	**17 18 05.9**	**-0.9**
NACB	**Ninganchiao**	**5.80**	**264**		**Pn**	**17 18 22.3**	**-2.6**
TATO	**Taipei**	**5.83**	**272**	Pn	**Pn**	**17 18 25.8**	**+0.5**
YHNB	**Yeheng**	**5.95**	**269**	Pn	**Pn**	**17 18 26.4**	**-0.6**
YULB	**Yu-li**	**6.23**	**257**	Pn	Pn	17 18 26.7	-4.1
SSLB	**Suanglung**	**6.45**	**261**		**Pn**	**17 18 31.0**	**-2.8**
TPUB	**Ta-pu**	**6.85**	**258**		**Pn**	**17 18 37.4**	**-1.9**
JNU	**Nakatsue**	**8.57**	**17**	Pn	**Pn**	**17 19 02.4**	**-0.5**
JNU	**Nakatsue**	**8.57**	**17**	Pn	**Pn**	**17 19 02.9**	**-0.1**
	comp=N,2.3nm,0.3s,baz=205,slow=10,SNR=25						
JNU				Sn	**Sn**	**17 20 39.5**	**0.0**
	comp=N,0.5nm,0.3s,baz=182,slow=18,SNR=1.7						
	comp=N,8.4nm,0.5s						
KNMB	**Chin-men Tao**	**8.68**	**269**	Pn	**Pn**	**17 19 00.9**	**-3.5**
JMN	**Monobe**	**10.20**	**29**	Pn	**Pn**	**17 19 24.1**	**-1.2**
NJ2	**Nanjing**	**10.67**	**314**	*e*P	**Pn**	**17 19 29.3**	**-2.4**
NJ2				pP		17 19 32.0	
NJ2				sP		17 19 36.3	
NJ2				pmax	pmax		
	comp=N,11nm,0.5s						
NJ2				pmax	pmax		
	comp=N,200nm,3.6s						
NJ2				LR	LR		
	comp=N,450nm,9.5s						
NJ2				LR	LR		
	comp=N,260nm,6.2s						
NJ2				LR	LR		
	comp=N,350nm,11.4s						
KSRS	**Korea Array**	**12.49**	**0**	Pn	**Pn**	**17 19 56.3**	**-0.2**
	comp=N,0.1nm,0.3s,baz=180,slow=14,SNR=6.5						
KSRS				LR	LR	17 25 03.5	
	comp=N,77nm,18.7s,baz=175,slow=39						
	comp=N,1.3nm,0.7s						
JCJ	**Chichijima**	**13.02**	**77**	LR	LR	17 24 55.4	
	comp=N,73nm,18.8s,baz=219,slow=37						
MJAR	**Matsushiro Arr**	**14.57**	**35**	Pn	**Pn**	**17 20 23.8**	**-1.1**
	baz=233,slow=12,SNR=6.2						
	comp=N,1.1nm,1.0s						
MJB9	**Matsu-Tunnel**	**14.57**	**35**	Pn	Pn	17 20 17.4	-7.6
LYN	**LuoYang**	**16.48**	**309**	*e*P	**P**	**17 20 52.5**	**-0.1**
LYN				PP	**pwP**	**17 21 03.5**	**+0.7**
LYN				S	**Sn**	**17 23 54.0**	**+1.3**
LYN				pmax	pmax		
	comp=N,21nm,0.5s						
LYN				pmax	pmax		
	comp=N,220nm,5.6s						
LYN				LR	LR		
	comp=N,340nm,13.7s						
LYN				LR	LR		
	comp=N,320nm,10.3s						
LYN				LR	LR		
	comp=N,560nm,12.7s						
HNS	**HongShan**	**16.79**	**321**	⇑P	**P**	**17 20 57.0**	**+1.0**
HNS				pmax	pmax		
	comp=N,10.0nm,0.7s						
QIZ	**Qiongzhong**	**17.75**	**254**	P	**Pn**	**17 21 05.8**	**-0.2**
QIZ				S	**Sn**	**17 24 26.5**	**+2.8**
QIZ				LR	LR		
	comp=N,250nm,18.5s						
QIZ				LR	LR		
	comp=N,350nm,18.5s						
QIZ				LR	LR		
	comp=N,220nm,16.0s						
BJI	**Beijing**	**18.01**	**330**	P	**P**	**17 21 11.0**	**+1.5**
BJI				PP	**PnPn**	**17 21 21.5**	**+1.3**
BJI				pmax	pmax		
	comp=N,5.0nm,0.9s						
XAN	**Xi'an**	**18.84**	**303**	P	**Pn**	**17 21 19.3**	**-0.1**
XAN				pmax	pmax		
	comp=N,13nm,0.6s						
XAN				LR	LR		
	comp=N,260nm,12.5s						
XAN				LR	LR		
	comp=N,540nm,11.3s						
XAN				LR	LR		
	comp=N,630nm,12.0s						
CN2	**Changchun**	**18.94**	**354**	P	Pn	17 21 31.0	+11
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**19.52**	**9**	P	**P**	**17 21 26.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=195,slow=11,SNR=7.5						
	comp=Z,4.3nm,0.8s						
GUMO	**Guam**	**19.55**	**122**	LR	LR	17 29 05.1	
	comp=Z,59nm,18.2s,baz=334,slow=37						
MDJ	**Mudanjiang**	**19.70**	**4**	P	**Pn**	**17 21 28.5**	**-1.0**
MDJ				sP	pwP	17 21 33.5	-5.2
MDJ				S	**S**	**17 25 07.0**	**-2.7**
MDJ				sS	sS	17 25 10.5	-3.1
MDJ				PcP	**PcP**	**17 25 49.5**	**+2.8**
MDJ				ScP	**ScP**	**17 29 27.3**	**+4.9**
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,83nm,5.8s						
MDJ				LR	LR		
	comp=Z,140nm,10.7s						
MDJ				LR	LR		
	comp=Z,190nm,10.5s						
MDJ				LR	LR		
	comp=Z,240nm,10.4s						
HHC	**Hu-ho-hao-te**	**20.94**	**323**	*e*P	Pn	17 21 45.5	+1.2
HHC				*e*S	**S**	**17 25 36.5**	**+1.8**
HHC				pmax	pmax		
	comp=Z,22nm,0.5s						
HHC				pmax	pmax		
	comp=Z,210nm,5.6s						
HHC				LR	LR		
	comp=Z,530nm,10.8s						
HHC				LR	LR		
	comp=Z,320nm,9.8s						
HHC				LR	LR		
	comp=Z,570nm,14.1s						
BTO	**Baotou**	**21.64**	**321**	*e*P	**P**	**17 21 51.0**	**+1.8**
BTO				pP	**pwP**	**17 21 55.0**	**-5.5**
BTO				sP	**sP**	**17 21 58.0**	**+5.6**
BTO				PP	**PnPn**	**17 22 16.0**	**+6.0**
BTO				pmax	pmax		
	comp=Z,17nm,0.6s						
BTO				pmax	pmax		
	comp=Z,200nm,4.6s						
BTO				LR	LR		
	comp=Z,320nm,14.2s						
BTO				LR	LR		
	comp=Z,390nm,7.6s						
BTO				LR	LR		
	comp=Z,610nm,11.3s						
KMI	**Kunming**	**22.81**	**276**	⇓P	**P**	**17 22 03.8**	**+1.8**
KMI				pmax	pmax		
	comp=Z,23nm,0.8s						
KMI				LR	LR		
	comp=Z,150nm,11.7s						
KMI				LR	LR		
	comp=Z,180nm,11.7s						
KMI				LR	LR		
	comp=Z,180nm,16.6s						
LZH	**Lanzhou**	**23.47**	**304**	*e*P	**P**	**17 22 09.8**	**+1.2**
LZH				sP	pwP	17 22 18.0	-1.8
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
LZH				LR	LR		
	comp=Z,270nm,12.4s						
LZH				LR	LR		
	comp=Z,360nm,12.4s						
LZH				LR	LR		
	comp=Z,300nm,13.7s						
PZH	**PanZhiHua**	**23.62**	**279**	P	**P**	**17 22 11.3**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
TOLI2	**Tolitoli**	**24.65**	**197**	P	**P**	**17 22 19.6**	**0.0**
TOLI2				IAmb	IAmb	17 22 21.5	
	comp=Z,20nm,1.0s						
YSS	**Yuzh-Sakhalins**	**24.97**	**25**	P	**P**	**17 22 20.5**	**-1.7**
CRAI	**Chiangrai**	**25.83**	**265**	P	**P**	**17 22 31.0**	**+0.7**
TNCH	**TengChong**	**26.62**	**277**	*e*P	**P**	**17 22 37.8**	**+0.1**
CHTO	**Chiang Mai**	**27.53**	**263**	P	**P**	**17 22 45.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.64**	**262**	P	**P**	**17 22 47.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**27.64**	**262**	P	**P**	**17 22 48.0**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=68,slow=7.4,SNR=4.8						
CMAR				PcP	**PcP**	**17 26 03.9**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=71,slow=1.4,SNR=5.7						
CMAR				LR	LR	17 33 59.1	
	comp=Z,28nm,19.1s,baz=65,slow=37						
	comp=Z,0.5nm,0.3s						
GTA	**Gaotai**	**27.69**	**308**	*e*P	**P**	**17 22 46.0**	**-1.1**
GTA				pP	sP	17 22 52.0	+1.5
GTA				sP

comp=Z,27nm,0.6s
PYUN Piuthan 40.16 285 *e*P **P 17 24 35.7 +0.4**
comp=Z,20nm,0.6s
KNRA Kununurra 40.36 179 P **P 17 24 36.6 0.0**
KNRA IAmb IAmb 17 24 49.2
comp=Z,19nm,0.8s
MK31 Makanchi Array 42.20 313 P **P 17 24 50.5 -1.1**
MKAR Makanchi Array 42.20 313 P **P 17 24 50.7 -1.0**
MKAR Makanchi Array 42.20 313 P **P 17 24 50.8 -0.9**
comp=Z,3.0nm,0.6s,baz=96,slow=10,SNR=18
MKAR LR LR 17 44 09.2
comp=Z,53nm,21.6s,baz=68,slow=39
comp=Z,3.0nm,0.6s
MAKZ Makanchi 42.42 313 P **P 17 24 52.7 -0.7**
ZAA0 Zalesovo Array 43.12 324 P **P 17 24 58.7 -0.3**
ZALV Zalesovo Beam 43.12 324 P **P 17 24 58.8 -0.1**
ZALV Zalesovo Beam 43.12 324 P **P 17 24 58.5 -0.5**
comp=Z,2.4nm,0.5s,baz=114,slow=8.9,SNR=14
ZALV PcP **PcP 17 26 47.8 -0.7**
comp=Z,0.3nm,0.4s,baz=132,slow=4.2,SNR=3.6
ZALV LR LR 17 43 27.2
comp=Z,75nm,21.0s,baz=120,slow=37
comp=Z,2.4nm,0.5s
WB0 Warramunga Arr 44.86 171 P **P 17 25 12.8 -0.4**
WRAB Tennant Creek 45.02 171 P **P 17 25 14.8 +0.3**
WRA Warramunga Arr 45.03 171 P **P 17 25 14.5 -0.1**
comp=Z,7.9nm,0.8s,baz=351,slow=8.5,SNR=34
WRA PcP **PcP 17 26 55.5 +0.1**
comp=Z,0.6nm,0.7s,baz=341,slow=3.5,SNR=2.4
comp=Z,7.9nm,0.8s
KURBB Kurchatov Arra 45.61 317 P **P 17 25 18.3 -0.6**
comp=Z,1.2nm,0.4s,baz=105,slow=8.5,SNR=6.2
KURBB LR LR 17 45 54.8
comp=Z,90nm,20.3s,baz=173,slow=38
comp=Z,1.2nm,0.4s
KSH Kashi 45.69 302 P **P 17 25 23.3 +3.4**
KSH pP pwP 17 25 27.5 -3.5
KSH sP sP 17 25 33.8 +10
KSH pmax pmax
comp=Z,4.0nm,0.7s
KSH LR LR
comp=Z,230nm,17.5s
KSH LR LR
comp=Z,290nm,15.8s
KSH LR LR
comp=Z,100nm,14.4s
TIXI Tiksi 46.76 0 P **P 17 25 27.1 -0.5**
CTAO Charters Tower 48.16 157 P **P 17 25 38.5 -0.7**
CTAO IAmb IAmb 17 25 52.8
comp=Z,7.1nm,0.9s
AS31 Alice Springs 48.65 173 **P 17 25 43.1 +0.2**
ASAR Alice Springs 48.65 173 P **P 17 25 42.9 +0.1**
ASAR Alice Springs 48.65 173 P **P 17 25 43.0 +0.1**
comp=Z,3.0nm,0.7s,baz=2.4,slow=15,SNR=43
ASAR PcP **PcP 17 27 07.9 -0.3**
comp=Z,1.1nm,0.9s,baz=351,slow=3.9,SNR=4.2
comp=Z,3.0nm,0.7s
KK31 Karatay Array 49.94 306 P **P 17 25 53.5 +0.8**
KK31 IAmb IAmb 17 26 05.4
comp=Z,2.5nm,0.7s
KKAR Karatay Array 49.94 306 P **P 17 25 53.2 +0.6**
BVAR Borovoye Array 51.07 319 P **P 17 26 01.2 +0.2**
comp=Z,1.1nm,0.6s,baz=100,slow=9.2,SNR=6.8
BVAR PcP **PcP 17 27 16.6 -0.1**
comp=Z,1.7nm,0.7s,baz=132,slow=4.2,SNR=4.6
BVAR LR LR 17 49 08.9
comp=Z,91nm,18.4s,baz=79,slow=38
comp=Z,1.1nm,0.6s
BRVK Borovoye 51.13 319 P **P 17 26 01.8 +0.3**
ABKAR Akbulak array 57.34 314 P **P 17 26 47.2 +0.4**
ABKAR IAmb IAmb 17 26 47.9
comp=Z,5.0nm,0.7s
STKA Stephens Creek 57.97 166 P **P 17 26 51.6 +0.3**
STKA Stephens Creek 57.97 166 P **P 17 26 51.5 +0.2**
comp=Z,2.8nm,0.6s,baz=343,slow=6.5,SNR=6.7
STKA LR LR 17 53 28.5
comp=Z,36nm,18.5s,baz=17,slow=38
comp=Z,2.8nm,0.6s
ARU Arti 58.25 322 P **P 17 26 52.6 -0.4**
ARU IAmb IAmb 17 27 05.1
comp=Z,10nm,1.5s
ARU Arti 58.25 322 LR LR 17 54 40.7
comp=Z,120nm,18.1s,baz=90,slow=39
AKTO Aktyubinsk 58.55 315 LR LR 17 55 23.1
comp=Z,40nm,18.9s,baz=218,slow=39
GEYT Alibeck 59.70 301 P **P 17 27 02.2 -1.3**
GEYT IAmb IAmb 17 27 05.5
comp=Z,6.1nm,0.8s
GEYT Alibeck 59.70 301 P **P 17 27 04.3 +0.8**
comp=Z,4.8nm,0.8s,baz=355,slow=1.6,SNR=9.0
comp=Z,4.8nm,0.8s
KIRV Kirov 63.14 325 LR LR 17 57 50.8
comp=Z,59nm,19.8s,baz=51,slow=39
E22K Anaktuvuk Pass 63.51 24 P **P 17 27 30.4 +1.6**
E22K IAmb IAmb 17 27 43.5
comp=Z,8.9nm,1.1s
E24K Your Creek 64.76 24 P **P 17 27 38.7 +1.8**
E24K IAmb IAmb 17 27 39.2
comp=Z,3.3nm,0.7s
BELG Belogornoye 64.85 318 LR LR 17 59 29.7
comp=Z,44nm,19.0s,baz=136,slow=39
F24K Squaw Lake 65.03 25 P **P 17 27 40.3 +1.6**
F24K IAmb IAmb 17 27 41.3
comp=Z,6.9nm,0.8s
MDM Murphy Dome 65.13 28 P **P 17 27 40.9 +1.5**
MDM IAmb IAmb 17 28 01.0
comp=Z,5.9nm,0.9s
G24K Hadweenzic Riv 65.27 26 P **P 17 27 42.3 +2.1**
G24K IAmb IAmb 17 27 42.6
comp=Z,5.7nm,0.7s
D25K Kavik River 65.43 23 P **P 17 27 42.9 +1.6**
ILAR Eielson Array 65.72 28 P **P 17 27 43.1 0.0**
comp=Z,0.7nm,0.7s,baz=259,slow=6.3,SNR=8.5
comp=Z,0.7nm,0.7s
BMAR Burnt Mountain 66.31 25 P **P 17 27 48.1 +1.2**
KLMR Klimovskoe 67.80 328 *e*P **P 17 27 54.3 -2.1**
KLMR AMP 17 27 57.7
comp=Z,21nm,1.7s
E28M Babbage River 67.98 23 P **P 17 27 58.4 +1.0**
E28M IAmb IAmb 17 28 00.5
comp=Z,4.9nm,0.8s
F28M Old Crow 68.06 24 P **P 17 27 58.7 +0.7**
G29M Pine Creek 68.92 25 P **P 17 28 05.2 +1.8**
EPYK Eagle Plains 69.56 25 P **P 17 28 08.6 +1.2**
EPYK IAmb IAmb 17 28 08.9
comp=Z,6.5nm,0.8s
G30M tAoh Zraii Nji 69.59 25 P **P 17 28 08.6 +1.1**
ONI Oni 69.68 308 P **P 17 28 08.8 +0.2**
ONI IAmb IAmb 17 28 11.1
comp=Z,4.2nm,0.7s
KBZ Khabaz 69.77 310 P **P 17 28 09.8 +0.8**
comp=Z,8.1nm,0.8s,baz=110,slow=5.1,SNR=19
KBZ LR LR 18 02 54.4
comp=Z,47nm,18.7s,baz=58,slow=40
comp=Z,8.1nm,0.8s
L29M L29M 69.84 29 P **P 17 28 10.8 +1.6**
L29M IAmb IAmb 17 28 46.7
comp=Z,14nm,1.5s
KIV Kislovodsk 69.86 310 P **P 17 28 10.2 +0.6**
INK Inuvik 70.20 23 P **P 17 28 12.2 +1.0**
INK IAmb IAmb 17 28 32.0
comp=Z,5.8nm,1.0s
G31M Satah River 70.34 25 P **P 17 28 12.7 +0.6**
H31M Peel River 70.65 26 P **P 17 28 15.2 +1.1**
H31M IAmb IAmb 17 28 41.9
comp=Z,8.2nm,1.2s
ARCES ARCESS Array B 71.12 339 P **P 17 28 16.5 -0.3**
comp=Z,1.6nm,0.8s,baz=63,slow=5.6,SNR=3.6
comp=Z,1.6nm,0.8s
MMPY Sheldon Lake, 72.98 28 P **P 17 28 29.2 +1.0**
MMPY IAmb IAmb 17 28 30.5
comp=Z,5.4nm,1.2s
C36M Paulatuk 73.01 21 P **P 17 28 28.8 +0.7**
EUNU Eureka 73.60 6 P **P 17 28 31.5 -0.1**
EUNU IAmb IAmb 17 28 43.1
comp=Z,3.5nm,1.1s
FINES FINESS Array B 73.86 331 P **P 17 28 33.8 +0.6**
FINES FINESS Array B 73.86 331 P **P 17 28 33.3 0.0**
comp=Z,5.2nm,0.6s,baz=74,slow=6.0,SNR=29
comp=Z,5.2nm,0.6s
AKASG Malin Array Be 76.34 320 P **P 17 28 47.3 -0.5**
comp=Z,2.9nm,0.6s,baz=56,slow=6.4,SNR=12
comp=Z,2.9nm,0.6s
BRTR Keskin Array B 77.61 308 P **P 17 28 55.2 -0.2**
BRTR Keskin Array B 77.61 308 P **P 17 28 55.4 +0.1**
comp=Z,2.7nm,0.8s,baz=89,slow=4.1,SNR=12
comp=Z,2.7nm,0.8s

RPZ Rata Peaks 78.94 150 LR LR 18 04 28.0
comp=Z,34nm,18.0s,baz=305,slow=36
YKA Yellowknife Ar 79.83 25 P **P 17 29 07.0 +0.1**
comp=Z,1.5nm,0.7s,baz=326,slow=5.4,SNR=2.2
comp=Z,1.5nm,0.7s
HFS Hagfors 79.84 332 P **P 17 29 06.7 -0.3**
comp=Z,3.3nm,0.8s,baz=73,slow=6.7,SNR=4.5
HFS LR LR 18 06 42.1
comp=Z,54nm,19.0s,baz=44,slow=37
comp=Z,3.3nm,0.8s
BUR08 Bucovina Ar. S 80.00 318 **P 17 29 08.9 +0.6**
BUR08 IAmb IAmb 17 29 22.8
comp=Z,3.8nm,1.1s
BURAR Bucovina Array 80.01 318 P **P 17 29 09.1 +0.8**
NC405 NORSAR Array S 80.12 334 P **P 17 29 07.7 -0.8**
NB2 NORSAR Subarra 80.36 334 P **P 17 29 09.4 -0.5**
comp=Z,4.3nm,0.8s,baz=53,slow=5.6
NOA NORSAR Array B 80.36 334 P **P 17 29 09.3 -0.5**
comp=Z,2.9nm,0.7s,baz=53,slow=5.2,SNR=12
NOA LR LR 18 09 22.9
comp=Z,34nm,18.3s,baz=5.0,slow=39
comp=Z,2.9nm,0.7s
NC602 NORSAR Array S 80.40 333 P **P 17 29 10.0 0.0**
NC602 IAmb IAmb 17 29 17.2
comp=Z,12nm,1.1s
NC204 NORSAR Array S 80.40 334 P **P 17 29 10.2 +0.1**
VYHS Vyhne 83.37 321 *e*P **P 17 29 27.2 +1.3**
CLL Collm 85.06 325 *i* P **P 17 29 34.8 +0.4**
comp=Z,5.0nm,0.8s
CLL AMS AMS 18 10 00.0
comp=Z,100nm,19.8s
GERES GERESS Array B 86.07 323 P **P 17 29 39.3 -0.3**
comp=Z,1.9nm,0.9s,baz=46,slow=7.0,SNR=5.1
GERES LR LR 18 12 47.2
comp=Z,44nm,20.4s,baz=57,slow=39
comp=Z,1.9nm,0.9s
DAVOX Davos/Dischmat 89.36 323 LR LR 18 12 26.6
comp=Z,57nm,20.1s,baz=32,slow=37
NVAR Mina Array Bea 91.62 46 P **P 17 30 07.8 +1.5**
comp=Z,0.7nm,0.8s,baz=259,slow=5.2,SNR=4.9
comp=Z,0.7nm,0.8s
MBAR Mbarara 96.76 272 LR LR 18 17 59.2
comp=Z,53nm,18.9s,baz=206,slow=38

BJI ***26*** *17:32:42.9±0.0,5.˙25S×146.˚18E,h101km,mb4.8/62, mB5.1/29*
IDC ***26*** *17:32:45.9±2.1,5.˙26S×145.˙69E,h97km±21km,mb4.4/15, mbtmp4.9/21,MS3.6/13,Error ellipse: s-maj=19.5km s-min=8.7km az=102.0*
NEIC ***26*** *17:32:46.0±2.1,5.˙26S±0.˙06×145.˙61E±0.˙09,h90km±7km, mb5.0/82,Error ellipse: s-maj=12.7km s-min=9.4km az=88.0*
DJA ***26*** *17:32:46.5±0.4,5˚S±3˙×14˚6E±˚,h88km±4km,M4.8/55, mB5.3/22,mb5.0/55,MLv5.1/4,Mw(mB)4.7/22*
GCMT ***26*** *17:32:48.0±0.3,5.˙38S±0.˙02×145.˙63E±0.˙03,h91km±4km, MW4.8/69,Moment Tensor Solution. s16,c17; s69,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.03±.13; Mθθ1.80±.12; Mφφ~0.76±.12; Mrθ~1.45±.06; Mφθ~0.69±.16; Mφr~0.00±.08; Best double couple: M=2.13100×10^16 NP1:φ≈85.00000°,δ70.00000°,λ~112.00000°. NP2: φ≈315.00000°,δ30.00000°,λ~44.00000°. Principal axes: T 2.5350, Plg22.0000°, Azm192.0000°; N -0.8070, Plg21.0000°, Azm93.0000°; P -1.7270, Plg59.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 17:32:46.2±0.5,5˙30S±0˙04×145˙70E±0˙05,h92km±4km, h93km:pP-P,n361,σ1§11/337,mb5.0/90,7C-4D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.63**	**27**		**Pn**	**17 33 40.6**	**+0.3**
PMG	**Port Moresby**	**4.33**	**161**	Pn	**Pn**	**17 33 49.3**	**-0.5**
PMG	**Port Moresby**	**4.33**	**161**	P	**Pn**	**17 33 49.8**	**0.0**
962nm,0.3s,baz=345,slow=6.8,SNR=859							
PMG				S	**Sn**	**17 34 37.2**	**-2.0**
715nm,0.5s,baz=139,slow=20,SNR=8.9							
PMG				LR	LR	17 35 25.5	
comp=Z,1μm,20.9s,baz=22,slow=36							
JAY	**Jayapura**	**5.70**	**299**	P	**Pn**	**17 34 08.9**	**+0.5**
61nm,0.8s,0.5nm							
GENI	**Genyem**	**6.13**	**296**	P	**Pn**	**17 34 14.8**	**+0.5**
153nm,1.1s,3μm1.8nm							
KRVT	**Keravat (AS076**	**6.38**	**81**	P	**Pn**	**17 34 17.6**	**-0.1**
182nm,0.9s,baz=174,slow=24,SNR=1.3							
RABL	**Rabaul**	**6.54**	**81**	Pn	**Pn**	**17 34 21.2**	**+1.4**
COEN	**Coen**	**8.96**	**196**	P	**Pn**	**17 34 54.5**	**+1.7**
baz=9.1							
COEN	**Coen**	**8.96**	**196**	Pn	**Pn**	**17 34 53.7**	**+0.8**
MTSU	**Mount Surprise**	**12.83**	**186**	P	**Pn**	**17 35 45.4**	**+0.1**
baz=13,SNR=39							
FAKI	**Fak Fak**	**13.62**	**279**	Pn	**Pn**	**17 35 53.4**	**-2.2**
FAKI	**Fak Fak**	**13.62**	**279**	P	**P**	**17 36 02.4**	**+1.1**
CTA	**Charters Tower**	**14.71**	**178**	P	**Pn**	**17 36 11.4**	**+1.7**
26nm,0.7s,baz=358,slow=14,SNR=48							
CTA				S	**Sn**	**17 38 50.4**	**-1.6**
2.9nm,0.6s,baz=312,slow=17,SNR=1.4							
CTA				LR	LR	17 42 26.7	
comp=Z,175nm,18.2s,baz=1.5,slow=39							
CTAO	**Charters Tower**	**14.71**	**178**		**Pn**	**17 36 10.1**	**+0.4**
HNR	**Honiara**	**14.71**	**107**	P	**Pn**	**17 36 10.2**	**+0.5**
HNR	**Honiara**	**14.71**	**107**	P	**Pn**	**17 36 10.1**	**+0.4**
721nm,0.7s,baz=188,slow=16,SNR=5.7							
KDU	**Kakadu**	**14.98**	**240**	P	**Pn**	**17 36 13.6**	**+0.5**
baz=15,SNR=59							
SWI	**Sorong**	**15.07**	**287**	P	**Pn**	**17 36 11.8**	**-2.5**
143nm,0.8s,1μm							
BNDI	**Bandanaira**	**15.76**	**272**	P	**P**	**17 36 29.7**	**+4.7**
MTN	**Manton Dam**	**16.21**	**241**	P	**P**	**17 36 29.5**	**-0.5**
baz=16,SNR=32							
MTN	**Manton Dam**	**16.21**	**241**		**Pn**	**17 36 27.7**	**-0.9**
QIS	**Mount Isa**	**16.29**	**201**	P	**Pn**	**17 36 28.5**	**-1.0**
baz=16,SNR=13							
WB0	**Warramunga Arr**	**18.11**	**216**	P	**P**	**17 36 49.5**	**-1.5**
WR0	**Warramunga Arr**	**18.18**	**216**	P	**P**	**17 36 50.0**	**-1.6**
WRAB	**Tennant Creek**	**18.27**	**216**	P	**P**	**17 36 51.3**	**-1.4**
WB2	**Warramunga Arr**	**18.27**	**216**	P	**P**	**17 36 51.5**	**-1.2**
WRA	**Warramunga Arr**	**18.28**	**216**	P	**P**	**17 36 51.6**	**-1.2**
17nm,0.8s,baz=42,slow=12,SNR=58							
WRA				S	**S**	**17 40 16.7**	**-0.3**
2.4nm,0.9s,baz=38,slow=22,SNR=3.1							
WRA				LR	LR	17 45 31.1	
comp=Z,294nm,18.7s,baz=16,slow=42							
NLAI	**Namlea**	**18.66**	**276**	P	**Pn**	**17 36 58.4**	**0.0**
86nm,0.9s,4μm							
LBMI	**Labuha**	**18.75**	**284**	P	**Pn**	**17 36 58.9**	**-0.6**
90nm,1.1s,1μm							
GUMO	**Guam**	**18.78**	**357**	P	**P**	**17 36 57.5**	**-0.7**
114nm,1.0s,baz=186,slow=12,SNR=5.0							
GUMO				LR	LR	17 43 46.3	
comp=Z,107nm,21.1s,baz=174,slow=35							
KNRA	**Kununurra**	**19.57**	**237**	P	**P**	**17 37 06.2**	**-0.7**
baz=20,SNR=56							
KNRA	**Kununurra**	**19.57**	**237**	P	**P**	**17 37 05.6**	**-1.3**
SANI	**Sanana**	**19.93**	**279**	P	**P**	**17 37 09.9**	**-1.0**
77nm,1.0s,842nm							
EIDS	**Eidsvold**	**20.62**	**166**	P	**P**	**17 37 18.8**	**+0.6**
baz=21,SNR=17							
EIDS	**Eidsvold**	**20.62**	**166**	P	**P**	**17 37 18.5**	**+0.3**
QLP	**Quilpie**	**21.21**	**184**	P	**P**	**17 37 24.8**	**+0.2**
baz=21,SNR=13							
RMQ	**Roma**	**21.27**	**172**	P	**P**	**17 37 26.7**	**+1.5**
baz=21,SNR=39							
AS31	**Alice Springs**	**21.51**	**211**	P	**P**	**17 37 27.2**	**-0.6**
ASAR	**Alice Springs**	**21.51**	**211**	P	**P**	**17 37 26.5**	**-1.3**
ASAR	**Alice Springs**	**21.51**	**211**	P	**P**	**17 37 27.2**	**-0.6**
24nm,0.9s,baz=39,slow=9.8,SNR=68							
ASAR				S	**S**	**17 41 21.9**	**+0.6**
0.5nm,0.7s,baz=35,slow=19,SNR=1.8							
ASAR				LR	LR	17 46 21.0	
comp=Z,218nm,21.8s,baz=18,slow=38							
24nm,0.9s							
SOEI	**Soe**	**21.70**	**257**	P	**P**	**17 37 28.3**	**-1.6**
SOEI	**Soe**	**21.70**	**257**	P	**P**	**17 37 31.7**	**+1.7**
127nm,0.9s,1μm							
BATI	**Baumata**	**22.37**	**256**	P	**P**	**17 37 37.9**	**+0.9**
137nm,1.0s							
BATI	**Baumata**	**22.37**	**256**	LR	LR	17 46 38.6	
comp=Z,129nm,21.7s,baz=84,slow=37							
KMSI	**Cibinong**	**22.46**	**284**	P	**P**	**17 37 39.9**	**+2.0**
103nm,0.9s							

BBSI Bau Bau 23.03 268 P **P 17 37 46.0 +2.3**
59nm,1.2s,744nm
LUWI Luwuk 23.27 280 P **P 17 37 46.2 +0.2**
LUWI Luwuk 23.27 280 P **P 17 37 46.6 +0.6**
241nm,1.3s,3μm
MMRI Maumere 23.52 261 P **P 17 37 46.4 -1.9**
MMRI Maumere 23.52 261 P **P 17 37 49.7 +1.4**
38nm,0.6s
DAV Davao City (W) 23.54 301 LR LR 17 46 57.7
comp=Z,47nm,19.6s,baz=125,slow=36
EDFI Ende, Flores 24.07 260 P **P 17 37 52.0 -1.3**
32nm,0.7s
MRSI Marisa 24.41 283 P **P 17 37 56.3 0.0**
61nm,1.3s
BKSI Bulukumba 25.47 269 P **P 17 38 08.2 +2.3**
29nm,0.9s
ARMA Armidale 25.61 168 P **P 17 38 08.0 +0.9**
baz=26,SNR=13
ARMA Armidale 25.61 168 P **P 17 38 07.7 +0.6**
ARMA IAmb IAmb 17 38 08.9
comp=Z,51nm,0.9s
TOLI2 Tolitoli 25.69 284 P **P 17 38 06.2 -1.7**
WRKA Warakurna 25.77 219 P **P 17 38 08.6 0.0**
baz=26,SNR=25
KAPI Kappang 25.84 269 P **P 17 38 08.7 -0.6**
TTSI Tana Toraja 25.91 274 P **P 17 38 12.6 +2.7**
comp=Z,60nm,1.0s,comp=Z,606nm
DZM Mont Dzumac 26.10 132 P **P 17 38 11.0 -0.6**
DZM IAmb IAmb 17 38 16.9
comp=Z,18nm,0.8s
CMSA Cobar Meteorol 26.11 180 P **P 17 38 12.1 +0.7**
baz=26,SNR=4.9
STKA Stephens Creek 26.72 188 P **P 17 38 17.0 0.0**
baz=27,SNR=24
STKA Stephens Creek 26.72 188 P **P 17 38 16.5 -0.5**
STKA Stephens Creek 26.72 188 P **P 17 38 16.8 -0.2**
comp=Z,35nm,0.8s,baz=5.7,slow=10,SNR=71
comp=Z,35nm,0.8s
HTT Hallett 28.70 192 P **P 17 38 34.7 +0.1**
baz=29,SNR=19
BBOO Buckleboo 28.82 197 P **P 17 38 35.7 +0.1**
baz=29,SNR=6.2
BBOO Buckleboo 28.82 197 P **P 17 38 35.9 +0.2**
BBOO IAmb IAmb 17 38 36.5
comp=Z,42nm,1.1s
CAN Canberra 30.04 175 P **P 17 38 47.2 +0.7**
CAN Canberra 30.04 175 ⇑P **P 17 38 47.2 +0.7**
CNB Canberra Magne 30.07 174 P **P 17 38 48.1 +1.3**
baz=30,SNR=12
FORT Forrest 30.30 211 P **P 17 38 49.1 +0.3**
baz=30,SNR=13
FORT Forrest 30.30 211 P **P 17 38 48.5 -0.3**
H11S3 WAKE ISLAND Hy 31.42 41 T T 18 12 24.7
baz=223,slow=74
H11S2 WAKE ISLAND Hy 31.43 41 T T 18 12 22.6
baz=223,slow=74
H11S1 WAKE ISLAND Hy 31.44 41 T T 18 12 18.9
baz=223
ARPS Mount Arapiles 31.52 186 P **P 17 39 00.5 +1.0**
baz=32,SNR=8.6
MILA Mila 31.77 175 P **P 17 39 02.6 +0.8**
baz=32,SNR=5.1
TOO Toolangi 32.13 180 P **P 17 39 06.0 +1.2**
baz=32,SNR=22
TOO Toolangi 32.13 180 P **P 17 39 05.8 +1.0**
H11N1 WAKE ISLAND Hy 32.44 39 T T 18 13 47.5
baz=219,slow=75,SNR=4.0
H11N3 WAKE ISLAND Hy 32.45 39 T T 18 13 47.9
baz=219,slow=75,SNR=4.6
H11N2 WAKE ISLAND Hy 32.46 39 T T 18 13 48.4
baz=219,slow=75,SNR=6.7
MEEK Meekatharra 33.44 228 P **P 17 39 17.1 +0.5**
baz=34,SNR=19
MSVF Nonsavu 33.95 114 P **P 17 39 21.7 +0.6**
MSVF Nonsavu 33.95 114 P **P 17 39 22.2 +1.1**
MSVF sP **sP 17 39 53.9 +1.1**
KMBL Kambalda 34.23 218 P **P 17 39 23.6 +0.3**
baz=34,SNR=8.6
SBUM Sibu 34.32 282 P **P 17 39 24.2 0.0**
STKI Sintang 34.59 278 P **P 17 39 26.8 +0.3**
comp=Z,29nm,1.2s
KSM Kuching 35.98 280 P **P 17 39 38.0 -0.5**
MORW Morawa 36.69 226 P **P 17 39 44.7 +0.3**
baz=37,SNR=6.4
MORW Morawa 36.69 226 P **P 17 39 44.4 0.0**
KLBR Kellerberrin 37.01 222 P **P 17 39 47.6 +0.5**
baz=37,SNR=8.5
MOO Moorlands 37.01 178 P **P 17 39 48.6 +1.7**
baz=37,SNR=3.4
BLDU Ballidu 37.12 224 P **P 17 39 48.5 +0.5**
baz=37,SNR=7.5
LEM Lembang 37.89 266 LR LR 17 58 13.6
comp=Z,43nm,18.3s,baz=77,slow=40
YHNB Yeheng 38.05 323 P **P 17 39 56.5 +0.6**
NWAO Narrogin (SRO) 38.20 220 LR LR 17 56 32.5
comp=Z,212nm,18.0s,baz=20,slow=37
TATO Taipei 38.21 323 P **P 17 39 57.1 -0.1**
CGJI Cibinong 39.80 266 P **P 17 40 09.6 -1.1**
comp=Z,69nm,0.8s,comp=Z,4μm
JMN Monobe 40.39 345 P **P 17 40 14.7 -0.6**
KASI Kota Agung 41.01 268 P **P 17 40 19.5 -1.2**
comp=Z,106nm,1.0s
DSRI Dabo 41.33 275 P **P 17 40 23.7 +0.4**
LWLI Liwa 41.47 268 P **P 17 40 25.1 +0.6**
comp=Z,63nm,0.7s
TPRI Tanjung Pinang 41.58 277 P **P 17 40 26.3 +1.0**
MJAR Matsushiro Arr 42.20 351 P **P 17 40 28.1 -1.9**
comp=Z,14nm,1.0s,baz=180,slow=8.0,SNR=19
comp=Z,14nm,1.0s
MAJO Matsushiro 42.21 351 P **P 17 40 28.8 -1.3**
MAJO IAmb IAmb 17 40 29.8
comp=Z,47nm,1.4s
MAJO Matsushiro 42.21 351 P **P 17 40 28.7 -1.3**
MJB9 Matsu-Tunnel 42.21 351 IAmb IAmb 17 40 30.8
comp=Z,44nm,1.4s
RTZ Ruatahuna 43.64 144 IAmb IAmb 17 40 45.4
comp=Z,26nm,1.0s
JSD Sado 43.66 351 IAmb IAmb 17 40 46.7
comp=Z,32nm,1.4s
BKZ Black Stump Fm 43.73 145 P **P 17 40 43.3 +0.9**
BKZ IAmb IAmb 17 40 44.3
comp=Z,19nm,0.9s
MRZ Mangatainoka R 44.25 147 P **P 17 40 46.9 +0.4**
RPZ Rata Peaks 44.31 154 P **P 17 40 47.8 +0.9**
SDSI Sungai Dareh 44.40 274 P **P 17 40 47.5 -0.6**
comp=Z,43nm,1.4s
OXZ Oxford 44.45 152 IAmb IAmb 17 40 51.1
comp=Z,22nm,0.8s
BFZ Birch Farm 44.62 147 IAmb IAmb 17 40 51.9
comp=Z,21nm,0.8s
NJ2 Nanjing 45.09 327 ⇑P **P 17 40 53.5 +0.3**
NJ2 pP **pP 17 41 16.8 +1.4**
NJ2 sP **sP 17 41 26.3 +0.4**
NJ2 pmax pmax
comp=Z,21nm,0.5s
NJ2 pmax pmax
comp=Z,270nm,4.7s
PDSI Padang 45.37 274 P **P 17 40 56.6 +0.8**
comp=Z,18nm,0.6s
KSRS Korea Array 45.64 340 P **P 17 40 56.7 -0.8**
comp=Z,9.5nm,0.8s,baz=159,slow=9.1,SNR=4.4
comp=Z,9.5nm,0.8s
KS19 Wonju Array Si 45.71 340 IAmb IAmb 17 40 58.2
comp=Z,14nm,0.9s
WHN Wuhan 46.58 322 ⇑P **P 17 41 05.8 +0.8**
WHN pmax pmax
comp=Z,86nm,1.0s
GSI Gunungsitoli 48.51 276 P **P 17 41 17.0 -3.3**
GSI IAmb IAmb 17 41 22.3
comp=Z,15nm,0.7s
GSI Gunungsitoli 48.51 276 P **P 17 41 19.8 -0.5**
comp=Z,23nm,0.6s
KCSI Kotacane, Aceh 48.67 279 P **P 17 41 22.2 +0.7**
comp=Z,16nm,0.8s
GYA Guiyang 49.25 312 ⇓P **P 17 41 27.0 +1.2**
GYA pmax pmax
comp=Z,10.0nm,0.9s
USRK Ussuriysk Ar. 50.79 347 P **P 17 41 36.7 -0.3**
comp=Z,14nm,0.7s,baz=165,slow=5.1,SNR=22
comp=Z,14nm,0.7s
CRAI Chiangrai 51.25 301 P **P 17 41 40.4 -0.5**
HNS HongShan 51.36 328 ⇓P **P 17 41 40.5 -0.9**
HNS pmax pmax
comp=Z,36nm,0.8s
MDJ Mudanjiang 51.75 345 P **P 17 41 43.8 -0.3**
MDJ PcP **PcP 17 42 59.3 +3.0**

MDJ PP **PP** **17 43 40.3 -2.6**
MDJ S **S** **17 48 59.5 +0.5**
MDJ pmax pmax
comp=Z,13nm,0.9s
MDJ pmax pmax
comp=Z,79nm,3.6s
MDJ LR LR
comp=Z,130nm,10.2s
MDJ LR LR
comp=Z,220nm,10.1s
MDJ LR LR
comp=Z,200nm,10.5s
MDJ Mudanjiang 51.75 345 P **P** **17 41 43.9 -0.3**
CMAR Chiang Mai Arr 51.78 298 P **P** **17 41 44.5 -0.4**
CMAR Chiang Mai Arr 51.78 298 P **P** **17 41 45.0 +0.2**
comp=Z,5.3nm,1.1s,baz=121,slow=5.6,SNR=24
comp=Z,5.3nm,1.1s
CHTO Chiang Mai 51.91 299 P **P** **17 41 45.1 -0.7**
CHTO IAmb IAmb 17 41 46.3
comp=Z,22nm,1.9s
CHTO Chiang Mai 51.91 299 P **P** **17 41 45.7 -0.2**
YSS Yuzh-Sakhalins 52.09 357 P **P** **17 41 45.7 -0.9**
YSS IAmb IAmb 17 41 50.0
comp=Z,22nm,0.9s
YSS Yuzh-Sakhalins 52.09 357 P **P** **17 41 46.1 -0.5**
YSS pP **pP** **17 42 08.5 -0.5**
XAN Xi'an 52.32 321 ⇑P **P** **17 41 48.0 -0.7**
XAN pP pP 17 42 11.8 +0.5
XAN pmax pmax
comp=Z,38nm,1.2s
XAN pmax pmax
comp=Z,230nm,6.4s
BJT Baijiatuau 52.65 332 P **P** **17 41 50.1 -0.9**
BJT pP **pP** **17 42 13.1 -0.7**
BJI Beijing 52.66 332 P **P** **17 41 49.8 -1.2**
BJI pmax pmax
comp=Z,5.0nm,0.8s
PZH PanZhiHua 53.01 309 P **P** **17 41 55.5 +1.5**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.4s
BNX BinXian 53.37 344 ⇓P **P** **17 41 55.0 -1.1**
BNX pmax pmax
comp=Z,14nm,0.9s
BNX pmax pmax
comp=Z,220nm,4.7s
TNCH TengChong 54.87 306 *e*P **P** **17 42 08.8 +1.2**
RAR Rarotonga 55.10 112 LR LR 18 01 55.2
comp=Z,31nm,20.2s,baz=312,slow=32
HHC Hu-ho-hao-te 55.56 329 *e*P **P** **17 42 12.8 +0.6**
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,320nm,5.3s
BTO Baotou 56.19 328 *e*P **P** **17 42 21.0 +4.3**
BTO PP **PP** **17 44 29.5 +6.5**
BTO S **S** **17 50 05.8 +6.5**
BTO pmax pmax
comp=Z,9.0nm,0.7s
BTO pmax pmax
comp=Z,260nm,4.3s
BTO LR LR
comp=Z,200nm,5.8s
BTO LR LR
comp=Z,210nm,4.7s
BTO LR LR
comp=Z,200nm,6.8s
LZH Lanzhou 56.84 320 *e*P **P** **17 42 22.0 +0.5**
LZH pP pP 17 42 45.0 +0.6
LZH pmax pmax
comp=Z,23nm,1.0s
HEH HeiHe 57.54 346 *e*P **P** **17 42 24.3 -1.6**
HEH pmax pmax
comp=Z,9.0nm,1.3s
HEH pmax pmax
comp=Z,230nm,3.8s
HIA Hailar 58.85 340 P **P** **17 42 32.1 -3.0**
HIA IAmb IAmb 17 43 00.0
comp=Z,17nm,1.1s
PETK Petropavlovsk- 59.06 8 P **P** **17 42 35.5 -1.0**
comp=Z,6.6nm,0.8s,baz=176,slow=7.1,SNR=14
comp=Z,6.6nm,0.8s
SHL Shillong 60.55 303 P **P** **17 42 46.9 -0.6**
GTA Gaotai 61.38 321 ⇓P **P** **17 42 52.5 -0.2**
GTA pP pP 17 43 16.8 +0.6
GTA sP PcP 17 43 32.0 -2.2
GTA pmax pmax
comp=Z,9.0nm,0.6s
DRV Dumont d'Urvil 61.39 183 ⇑P **P** **17 42 52.6 +0.5**
ULN Ulaanbaatar 62.88 332 P **P** **17 43 01.6 -1.0**
ULN Ulaanbaatar 62.88 332 P **P** **17 43 02.6 0.0**
GOMU GeErMu 62.98 315 P **P** **17 43 04.3 +0.5**
GOMU pmax pmax
comp=Z,4.0nm,1.1s
SONM Songino Array 63.17 331 P **P** **17 43 04.0 -0.5**
comp=Z,1.7nm,0.5s,baz=149,slow=6.7,SNR=5.9
comp=Z,1.7nm,0.5s
TAPN Taplejung 64.68 303 *e*P **P** **17 43 14.7 -0.4**
comp=Z,31nm,1.2s
ODAN Odare 64.78 303 *e*P **P** **17 43 15.9 +0.3**
comp=Z,33nm,1.2s
RAMN Ramite 65.47 303 *e*P **P** **17 43 19.9 -0.2**
comp=Z,14nm,1.1s
CASY Casey 65.60 195 P **P** **17 43 19.6 -0.3**
CASY IAmb IAmb 17 43 20.9
comp=Z,15nm,0.8s
CASY Casey 65.60 195 P **P** **17 43 20.0 +0.1**
CASY pP **pP** **17 43 43.5 0.0**
JIRN Jiri 66.06 303 *e*P **P** **17 43 23.8 -0.2**
comp=Z,9.8nm,0.8s
GUN Gumba 66.40 303 *e*P **P** **17 43 25.7 -0.5**
comp=Z,25nm,0.8s
PKI Pulchoki 66.68 303 *e*P **P** **17 43 27.4 -0.6**
comp=Z,27nm,1.3s
PKIN Phulchoki 66.69 303 *e*P **P** **17 43 27.1 -0.9**
comp=Z,18nm,1.1s
KKN Kakani 66.86 303 *e*P **P** **17 43 28.4 -0.6**
comp=Z,21nm,0.8s
DMN Daman 66.94 303 *e*P **P** **17 43 29.3 -0.3**
comp=Z,13nm,0.6s
GKN Gorkha 67.47 303 *e*P **P** **17 43 31.9 -0.8**
comp=Z,6.3nm,0.2s
KOLN Koldanda 68.26 303 *e*P **P** **17 43 37.1 -0.7**
comp=Z,39nm,1.4s
YAK Yakutsk 68.26 352 P **P** **17 43 35.7 -1.1**
YAK IAmb IAmb 17 43 39.3
comp=Z,13nm,0.8s
YAK Yakutsk 68.26 352 P **P** **17 43 36.1 -0.7**
YAK PcP **PcP** **17 44 01.3 -0.6**
DANN Dangsing 68.31 303 *e*P **P** **17 43 36.7 -1.5**
comp=Z,16nm,0.7s
PYUN Piuthan 68.87 303 *e*P **P** **17 43 40.5 -1.1**
comp=Z,19nm,0.9s
HYB Hyderabad 70.00 291 *e*P **P** **17 43 47.5 -1.0**
CCD Concordia, Ant 70.93 186 ⇑P **P** **17 43 53.9 +0.3**
WMQ Urumqi 71.42 320 *e*P **P** **17 43 56.5 -0.2**
WMQ pP pP 17 44 20.8 +0.3
WMQ sP sP 17 44 31.8 +1.2
WMQ pmax pmax
comp=Z,12nm,0.7s
VNDA Vanda 72.69 176 P **P** **17 44 03.8 +0.3**
comp=Z,7.5nm,0.8s,baz=327,slow=6.6,SNR=59
VNDA LR LR 18 15 22.3
comp=Z,45nm,18.7s,baz=298,slow=35
comp=Z,7.5nm,0.8s
SBA Scott Base 73.36 175 P **P** **17 44 08.7 +1.2**
GAMB Gambell 75.91 18 P **P** **17 44 22.8 +0.4**
baz=224
MKAR Makanchi Array 76.13 321 P **P** **17 44 23.3 -0.8**
comp=Z,4.8nm,1.1s,baz=111,slow=6.9,SNR=18
comp=Z,4.8nm,1.1s
MAKZ Makanchi 76.34 321 P **P** **17 44 24.2 -1.0**
M13K Dall Lake 76.60 23 P **P** **17 44 26.1 -0.2**
baz=233
M14K Bethel 77.35 23 P **P** **17 44 31.2 +0.6**
M14K IAmb IAmb 17 44 53.7
comp=Z,30nm,1.1s
M14K Bethel 77.35 23 P **P** **17 44 30.3 -0.2**
baz=234
L14K Kuka Creek 77.42 23 P **P** **17 44 30.8 -0.2**
baz=233
ZAA0 Zalesovo Array 77.73 328 P **P** **17 44 31.2 -1.6**
ZALV Zalesovo Beam 77.73 328 P **P** **17 44 30.6 -2.2**
ZALV Zalesovo Beam 77.73 328 P **P** **17 44 31.0 -1.8**
comp=Z,2.9nm,0.7s,baz=98,slow=6.1,SNR=11
comp=Z,2.9nm,0.7s
N15K Kwethluk River 77.77 25 P **P** **17 44 32.8 -0.2**
baz=236
KSH Kashi 77.95 312 P **P** **17 44 36.0 +1.4**
KSH pmax pmax
comp=Z,4.0nm,0.6s
O16K Kokwok River B 78.30 26 P **P** **17 44 35.2 -0.7**
baz=238
K15K Wolf Creek Mou 78.43 22 P **P** **17 44 37.0 +0.4**
baz=234
NIL Nilore 78.47 306 P **P** **17 44 36.8 -0.6**
NIL IAmb IAmb 17 44 37.7
comp=Z,11nm,0.7s
N16K Nishlik Lake 78.49 25 P **P** **17 44 37.0 +0.1**
baz=237
M16K Timber Creek 78.72 24 P **P** **17 44 38.2 +0.1**
baz=237
O17K Koliganek Bris 78.83 26 P **P** **17 44 38.8 0.0**
baz=239
L16K Owhat River 78.89 23 P **P** **17 44 39.2 +0.2**
baz=236
Q18K Katmai Hardscr 79.18 27 P **P** **17 44 39.5 -1.3**
baz=241
N17K Nushagak Hills 79.18 25 P **P** **17 44 40.7 0.0**
baz=238
J16K Anvik River 79.36 22 P **P** **17 44 42.3 +0.7**
baz=235
F15K North Star Dit 79.44 19 P **P** **17 44 42.4 +0.3**
baz=231
M17K Holitna River 79.54 24 P **P** **17 44 43.5 +0.9**
baz=238
L17K Donlin 79.59 23 P **P** **17 44 42.4 -0.5**
baz=237
I17K Unalakleet 79.67 21 P **P** **17 44 43.8 +0.5**
baz=235
KURK Kurchatov 79.88 324 P **P** **17 44 43.2 -1.4**
KURBB Kurchatov Arra 79.89 323 P **P** **17 44 43.4 -1.3**
comp=Z,2.8nm,1.0s,baz=114,slow=4.4,SNR=12
comp=Z,2.8nm,1.0s
K17K Iditarod 79.91 23 P **P** **17 44 45.3 +0.7**
K17K Iditarod 79.91 23 P **P** **17 44 45.2 +0.6**
baz=237
AAK Ala-Archa 79.93 315 P **P** **17 44 44.9 -0.5**
G16K Koyuk River 79.99 20 P **P** **17 44 44.9 0.0**
baz=233
M18K Stony River 80.25 25 P **P** **17 44 45.4 -1.1**
baz=240
L18K Granite Mounta 80.28 24 P **P** **17 44 46.6 0.0**
baz=239
H17K Granite Mounta 80.56 21 IAmb IAmb 17 44 49.5
comp=Z,18nm,0.8s
H17K Granite Mounta 80.56 21 P **P** **17 44 48.7 +0.7**
baz=235
G17K Kiwalik Mounta 80.63 20 P **P** **17 44 48.8 +0.4**
baz=234
C16K Lisburne Hills 80.89 17 P **P** **17 44 50.1 +0.4**
baz=230
TTA Tatalina 80.91 23 P **P** **17 44 49.6 -0.5**
baz=239
J18K Innoko River 80.92 23 P **P** **17 44 50.0 0.0**
baz=238
F17K Baldwin Pennin 80.99 19 P **P** **17 44 51.0 +0.7**
baz=234
L19K White Mountain 81.00 24 P **P** **17 44 50.5 0.0**
baz=240
M19K Big River Lodg 81.05 24 P **P** **17 44 50.4 -0.3**
baz=241
E17K Hotham Inlet 81.19 18 P **P** **17 44 52.1 +0.7**
baz=233
G18K Tagagawik 81.54 20 P **P** **17 44 53.0 -0.3**
baz=236
M20K Styx River 81.56 25 P **P** **17 44 53.4 -0.2**
baz=242
F18K Selawik 81.60 19 P **P** **17 44 53.5 0.0**
baz=235
J19K Poorman 81.61 22 P **P** **17 44 53.5 -0.1**
baz=239
BRSE Bradley Lake S 81.63 27 P **P** **17 44 54.9 +1.0**
baz=244
C17K DeLong Mountai 81.64 17 P **P** **17 44 54.2 +0.4**
baz=232
E18K Tukpahlearik C 81.77 18 IAmb IAmb 17 44 55.6
comp=Z,9.5nm,0.8s
E18K Tukpahlearik C 81.77 18 P **P** **17 44 54.7 +0.2**
baz=234
K20K Telida 81.89 23 P **P** **17 44 55.2 +0.1**
baz=241
H19K Roundabout Mou 82.10 21 IAmb IAmb 17 44 56.9
comp=Z,13nm,0.9s
H19K Roundabout Mou 82.10 21 P **P** **17 44 56.6 +0.5**
baz=238
G19K Purcell Mounta 82.21 20 P **P** **17 44 56.9 +0.1**
baz=238
J20K Nowinta River 82.26 23 P **P** **17 44 57.0 0.0**
J20K IAmb IAmb 17 46 13.5
comp=Z,50nm,1.9s
J20K Nowinta River 82.26 23 P **P** **17 44 57.4 +0.3**
baz=241
MAW Mawson 82.40 203 P **P** **17 44 58.1 +0.4**
baz=82,SNR=7.3
MAW Mawson 82.40 203 P **P** **17 44 57.5 -0.3**
MAW Mawson 82.40 203 P **P** **17 44 57.4 -0.3**
comp=Z,8.5nm,0.9s,baz=64,slow=8.9,SNR=12
comp=Z,8.5nm,0.9s
B18K Kokolik River 82.58 16 P **P** **17 45 00.6 +2.0**
baz=233
H20K Anotleneega Mo 82.65 21 P **P** **17 44 59.2 +0.1**
baz=240,SNR=5.7
CAST Castle Rocks 82.71 24 P **P** **17 44 58.7 -0.7**
baz=243
CHUM Lake Minchumin 82.83 23 P **P** **17 44 59.5 -0.4**
baz=242,SNR=9.0
E19K Redstone River 82.87 19 P **P** **17 44 59.9 -0.2**
baz=237
KKAR Karatay Array 82.87 314 P **P** **17 44 58.9 -1.9**
KKAR Karatay Array 82.87 314 P **P** **17 44 59.2 -1.5**
CUT Chulitna 83.00 25 P **P** **17 45 01.0 +0.1**
baz=244
C19K Lookout Ridge 83.06 17 P **P** **17 45 01.3 +0.1**
baz=235
PMR Palmer 83.14 26 P **P** **17 45 01.9 +0.3**
baz=246
F20K Avaraart Lake 83.15 20 P **P** **17 45 01.8 +0.3**
baz=239
D19K Kuna River 83.16 18 P **P** **17 45 01.6 -0.1**
baz=236
TRF Thorofare Moun 83.44 24 P **P** **17 45 02.4 -1.0**
baz=244
BPAW Bear Paw Mtn. 83.45 23 P **P** **17 45 01.9 -1.4**
baz=244
H21K Melozitna Rive 83.48 22 P **P** **17 45 03.0 -0.4**
baz=242
SML Sawmill 83.58 26 P **P** **17 45 02.8 -1.2**
baz=246
E20K Nigu River 83.63 19 P **P** **17 45 04.4 +0.2**
baz=238
G21K Allakaket 83.64 21 P **P** **17 45 03.9 -0.2**
baz=241
D20K Etivluk River 83.74 18 P **P** **17 45 04.7 +0.1**
baz=238
WAT1 Susitna Watana 83.90 25 P **P** **17 45 04.7 -0.9**
baz=246
MLY Manley 83.96 22 IAmb IAmb 17 45 06.3
comp=Z,13nm,0.8s
MLY Manley 83.96 22 P **P** **17 45 05.7 -0.1**
baz=244,SNR=6.1
F21K Alatna River 84.00 20 P **P** **17 45 05.7 -0.3**
baz=241
SCM Sheep Creek Mo 84.02 26 P **P** **17 45 05.6 -0.7**
baz=247
H22K Ishtalitna Cre 84.11 22 P **P** **17 45 05.5 -1.1**
baz=243
MCK McKinley 84.11 24 P **P** **17 45 05.5 -1.2**
baz=246,SNR=6.0
NEA2 Nenana 84.42 23 IAmb IAmb 17 45 07.2
comp=Z,20nm,1.4s
NEA2 Nenana 84.42 23 P **P** **17 45 06.8 -1.3**
baz=245
E21K Killik River 84.43 19 P **P** **17 45 08.3 +0.2**
baz=240
I23K Minto, Yukon-K 84.54 23 P **P** **17 45 07.9 -0.7**
baz=245
QSPA South Pole Qui 84.67 180 P **P** **17 45 08.9 -0.7**
QSPA IAmb IAmb 17 45 10.1
comp=Z,11nm,0.8s
QSPA South Pole Qui 84.67 180 LR LR 18 23 40.8
comp=Z,45nm,18.2s,baz=355,slow=36
WRH Wood River Hil 84.75 23 IAmb IAmb 17 45 10.3
comp=Z,53nm,1.9s
H23K Yukon River 84.76 22 P **P** **17 45 09.2 -0.7**
baz=245
B21K Ikpikpuk River 84.83 18 P **P** **17 45 10.1 0.0**
baz=240
CCB Clear Creek Bu 84.94 23 IAmb IAmb 17 45 09.8
comp=Z,12nm,0.8s
G23K Bananza Creek 84.97 21 P **P** **17 45 10.6 -0.3**
baz=244
E22K Anaktuvuk Pass 84.99 19 IAmb IAmb 17 45 11.9
comp=Z,9.8nm,1.0s
E22K Anaktuvuk Pass 84.99 19 P **P** **17 45 10.8 -0.2**
baz=242
COLA College 85.01 23 P **P** **17 45 09.7 -1.4**
COLA IAmb IAmb 17 45 10.6
comp=Z,16nm,0.7s
D22K Ayikyak River 85.06 19 P **P** **17 45 11.3 0.0**
baz=242
COLD Coldfoot 85.13 21 P **P** **17 45 11.8 +0.1**
baz=244
A21K Barrow 85.14 16 P **P** **17 45 11.5 -0.1**
baz=238
HDA Harding Lake 85.18 24 IAmb IAmb 17 45 12.7
comp=Z,7.1nm,0.7s
PAX Paxson 85.25 25 P **P** **17 45 11.6 -0.8**
baz=249
POKR Poker Plat Res 85.27 23 P **P** **17 45 11.2 -1.2**
baz=247
IL31 85.35 23 IAmb IAmb 17 45 11.6
comp=Z,13nm,0.7s
ILAR Eielson Array 85.35 23 P **P** **17 45 10.6 -2.2**
comp=Z,11nm,0.7s,baz=251,slow=5.0,SNR=126
comp=Z,11nm,0.7s
H24K Noodor Dome 85.39 22 P **P** **17 45 12.2 -0.8**
baz=246
BVAR Borovoye Array 85.44 324 P **P** **17 45 12.1 -1.4**
comp=Z,2.9nm,0.7s,baz=111,slow=8.1,SNR=14
comp=Z,2.9nm,0.7s
BRVK Borovoye 85.51 324 P **P** **17 45 12.3 -1.6**
B22K Teshekpuk Lake 85.54 17 P **P** **17 45 13.4 -0.1**
baz=241
E23K Chandalar 85.69 20 P **P** **17 45 14.8 +0.3**
baz=245
D23K Nanushuk River 85.74 19 P **P** **17 45 15.3 +0.7**
baz=244
G24K Hadweenzic Riv 85.88 22 P **P** **17 45 15.3 -0.1**
baz=247
J25K Salcha River, 85.89 24 IAmb IAmb 17 45 15.3
comp=Z,16nm,0.7s
J25K Salcha River, 85.89 24 P **P** **17 45 14.3 -1.2**
baz=249,SNR=14
TOLK Toolik Lake Re 85.96 19 P **P** **17 45 15.6 -0.2**
baz=245
F24K Squaw Lake 86.07 21 P **P** **17 45 16.5 +0.1**
baz=246
E24K Your Creek 86.09 20 P **P** **17 45 16.7 +0.2**
baz=246
C23K Itkillik River 86.16 18 P **P** **17 45 17.2 +0.5**
baz=244
L26K Log Cabin Wild 86.18 26 P **P** **17 45 16.5 -0.5**
baz=251
SCRK Sand Creek 86.23 25 P **P** **17 45 16.4 -0.9**
baz=250
D24K Happy Valley 86.43 19 P **P** **17 45 18.8 +0.8**
baz=245
CTG Chitna Glacier 86.43 28 P **P** **17 45 17.7 -0.7**
baz=253
J26L Joseph Creek 86.59 24 P **P** **17 45 18.5 -0.5**
baz=250
M27K Edge Creek, AK 86.61 26 IAmb IAmb 17 45 21.5
comp=Z,10nm,0.8s
M27K Edge Creek, AK 86.61 26 P **P** **17 45 18.5 -0.7**
baz=252
C24K Franklin Bluff 86.70 19 P **P** **17 45 19.1 -0.2**
baz=245
L27K Beaver Creek, 86.85 26 IAmb IAmb 17 45 21.1
comp=Z,11nm,1.2s
L27K Beaver Creek, 86.85 26 P **P** **17 45 19.8 -0.4**
baz=252,SNR=5.3
F25K Christian Rive 86.89 21 P **P** **17 45 20.8 +0.4**
baz=248
O28M Mount Upton 86.91 28 P **P** **17 45 20.6 -0.3**
baz=254
I26K Coal Creek Min 87.02 23 P **P** **17 45 20.4 -0.6**
baz=251
K27K Chicken 87.05 25 P **P** **17 45 21.2 0.0**
baz=252
YUK3 Moose Creek 87.07 27 P **P** **17 45 20.3 -1.3**
baz=253
E25K Arctic Village 87.11 20 P **P** **17 45 21.9 +0.4**
baz=248
YUK8 Steele Glacier 87.25 28 P **P** **17 45 22.5 -0.1**
baz=254
D25K Kavik River 87.29 19 IAmb IAmb 17 45 22.9
comp=Z,14nm,0.9s
D25K Kavik River 87.29 19 P **P** **17 45 22.2 -0.1**
baz=248
G26K Porcupine Rive 87.33 22 P **P** **17 45 22.8 +0.4**
baz=250
F26K Sheenjek River 87.46 21 P **P** **17 45 23.9 +0.8**
baz=250
O29M Mount Kennedy 87.55 29 P **P** **17 45 23.3 -0.6**
baz=255
I27K Kandik River 87.72 23 P **P** **17 45 23.9 -0.5**
baz=252
P29M Windy Craggy 87.79 30 P **P** **17 45 24.2 -0.7**
baz=256
YUK4 Talbot Arm 87.79 28 P **P** **17 45 25.3 +0.2**
baz=255
H27K Steamboat Moun 87.95 23 P **P** **17 45 25.4 -0.1**
baz=252
C26K Camden Bay 87.99 19 P **P** **17 45 26.4 +0.9**
baz=249
G27K Doyon Strip 88.08 22 P **P** **17 45 26.4 +0.3**
baz=252
M29M Somme Creek 88.16 27 P **P** **17 45 26.6 0.0**
baz=255
DAWY Dawson 88.19 25 IAmb IAmb 17 45 28.8
comp=Z,12nm,1.1s
DAWY Dawson 88.19 25 P **P** **17 45 26.8 +0.2**
baz=254,SNR=6.4
HYT Haines Junctio 88.19 29 P **P** **17 45 26.9 0.0**
baz=256
I28M Miner Creek 88.35 24 P **P** **17 45 26.5 -1.0**
baz=254
PLBC Pleasant Camp 88.43 30 P **P** **17 45 27.4 -0.4**
baz=257
L29M L29M 88.48 26 IAmb IAmb 17 45 29.1
comp=Z,17nm,1.1s
L29M L29M 88.48 26 P **P** **17 45 28.2 +0.1**
baz=255,SNR=5.3
E27K Coleen River 88.53 21 P **P** **17 45 28.0 -0.2**
baz=252
K29M Barlow Dome 88.93 26 IAmb IAmb 17 45 31.0
comp=Z,10nm,0.8s
K29M Barlow Dome 88.93 26 P **P** **17 45 30.2 0.0**
baz=256,SNR=9.6
M30M Minto, Yukon 88.94 27 P **P** **17 45 29.8 -0.5**
baz=257
I29M Ogilvie Camp, 88.98 24 IAmb IAmb 17 45 32.1
comp=Z,7.8nm,1.1s
I29M Ogilvie Camp, 88.98 24 P **P** **17 45 29.6 -0.7**
baz=255
F28M Old Crow 88.99 22 P **P** **17 45 30.1 -0.2**
baz=254
G29M Pine Creek 89.49 23 P **P** **17 45 32.5 -0.2**
baz=255
J30M Hart River 89.61 25 IAmb IAmb 17 45 33.8
comp=Z,5.8nm,0.7s
J30M Hart River 89.61 25 P **P** **17 45 32.9 -0.5**
baz=257
EPYK Eagle Plains 89.86 23 P **P** **17 45 34.0 -0.5**
baz=257
G30M tAoh Zraii Nji 90.19 23 P **P** **17 45 34.9 -1.1**
baz=257
FARO Faro, Yukon 90.44 28 P **P** **17 45 37.4 +0.2**
baz=260
H31M Peel River 90.69 24 P **P** **17 45 37.6 -0.7**
baz=259
S34M Telegraph Cree 90.82 32 P **P** **17 45 39.9 +0.9**
baz=262
G31M Satah River 90.93 23 P **P** **17 45 38.4 -0.9**
baz=259
ABKAR Akbulak array 91.20 319 P **P** **17 45 38.4 -2.6**
INK Inuvik 91.48 22 P **P** **17 45 41.4 -0.4**
baz=260
KIRV Kirov 97.77 328 LR LR 18 32 18.9
comp=Z,24nm,20.0s,baz=34,slow=36

CWC	Cottonwood Cre	98.12	54	P		Pdif	17 46 14.0 +0.8
	baz=270						
TROLL	Troll, Antarti	99.24	191	⇑Pdiff		Pdif	17 46 16.8 -0.7
	comp=Z,71nm,0.7s						
TORD	Torodi Ar. Bea	143.66	285	PKP		PKPab	17 52 08.2 -0.1
	comp=Z,1.1nm,0.6s,baz=62,slow=4.3,SNR=7.3						
DBIC	Dimbokro	150.69	274	PKPbc		PKPbc	17 52 27.9 -0.8
	comp=Z,5.5nm,0.8s,baz=80,slow=2.5,SNR=5.0						
BDFB	Brasilia	155.16	147	PKPab		PKPab	17 52 53.5 -1.2
	comp=Z,1.6nm,0.4s,baz=212,slow=9.5,SNR=4.3						

*MOS **26** 17:53:36.6±0.9, 52°.53N×168°.04W, h13km, mb4.7/53, Error ellipse: s-maj=9.2km s-min=7.5km az=127.5*
*IDC **26** 17:53:36.4±0.6, 52°.44N×168°.10W, h0km, mb4.3/26, mbtmp4.3/27, ML3.3/1, MS3.7/17, Error ellipse: s-maj=18.9km s-min=12.9km az=180.0*
*AEIC **26** 17:53:38.2±2.7, 52°.32N±0°.05×167°.91W±0°.05, h7km±4km, Error ellipse: s-maj=7.2km s-min=3.8km az=159.0*
*NEIC **26** 17:53:38.3±2.6, 52°.35N±0°.04×167°.91W±0°.06, h10km±1km, mb4.4/234, ML3.7(AEIC), Error ellipse: s-maj=7.3km s-min=5.2km az=128.0*

ISC 26 17:53:37.0±1.4, 52°.38N±0°.06×167°.92W±0°.04, h7km±8km, n654, σ1°38/623, mb4.5/143, MS3.8/19, 11C-3D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op		Time h m s	Res ISC
NIKH	Nikolski High	0.83	317		Pn	17 53 54.8	-0.3
NIKH					Sn	17 54 08.8	+1.3
NIKH	Nikolski High	0.83	317	P	Pn	17 53 55.9	+0.8
	baz=138,SNR=42						
OKSP	Okmok Steeple	0.91	346		Pn	17 53 56.9	+0.7
OKFG	Magazine Ridge	1.04	0		Pn	17 53 59.1	+1.2
OKFG					Sn	17 54 14.3	+1.6
OKCE	Okmok Cone E	1.06	352		Pn	17 53 59.6	+1.3
OKCE					Sn	17 54 15.6	+2.2
OKER	Okmok East Rim	1.08	356		Pn	17 54 00.0	+1.4
OKNC	Okmok New Cone	1.09	353		Pn	17 54 00.4	+1.7
CLCO	Concord Point,	1.18	291		Pn	17 54 00.5	+0.7
CLCO					Sn	17 54 18.3	+2.2
CLES	Cleveland East	1.29	291		Pb	17 54 02.0	+0.5
MAPS	Pakushin South	1.55	22		Pb	17 54 05.9	-0.2
MGOD	Makushin Gods	1.56	23		Pb	17 54 06.0	-0.1
MGOD					Sg	17 54 27.4	+0.4
MNAT	Makushin Natee	1.68	26		Pb	17 54 08.4	+0.1
MSW	Makushin Switc	1.69	23		Pb	17 54 08.4	+0.1
UNV	Unalaska Valle	1.70	29		Pb	17 54 08.1	-0.4
UNV					Sg	17 54 30.9	-0.7
UNV	Unalaska Valle	1.70	29	P	Pg	17 54 09.3	-0.3
	baz=210						
MTBL	Makushin Table	1.76	25		Pb	17 54 09.5	-0.2
ZRO	Akutan Zero	2.08	33		Pb	17 54 13.9	-1.1
AKRB	Akutan Reef Bi	2.08	32		Pb	17 54 14.5	-0.5
AKLV	Akutan Long Va	2.14	33		Pb	17 54 15.0	-1.1
AKUT	Akutan	2.18	35	Pn	Pb	17 54 15.7	-1.1
AKSA	Akutan Strait	2.21	36		Pb	17 54 15.7	-1.6
WESE	West Dahl East	2.90	42		Pn	17 54 26.2	+2.6
FALS	False Pass	3.65	45		Pn	17 54 35.3	+1.4
FALS	False Pass	3.65	45	P	Pn	17 54 35.8	+1.9
	baz=228						
KOFP	Korovin Flat P	3.79	271		Pn	17 54 37.9	+2.0
ATKA	Atka Island	3.86	270		Pn	17 54 37.8	+1.1
SPIA	Saint Paul Isl	5.00	345	P	Pn	17 54 57.2	+4.9
	baz=163						
GSCK	Great Sitkin C	5.09	269		Pn	17 54 55.0	+1.4
SDPT	Sand Point	5.32	53		Pn	17 54 58.4	+1.7
ADK	Adak	5.42	268	Pn	Pn	17 54 59.4	+1.2
ADK	Adak	5.42	268	P	Pn	17 54 59.4	+1.2
CNBA	Chernabura Isl	5.53	60	Pn	Pn	17 55 00.9	+1.3
CHNA	Chernabura Isl	5.53	60	P	Pn	17 55 01.1	+1.5
	baz=246						
KIWB	Kanaga Island	5.71	268		Pn	17 55 03.9	+1.7
S14K	Fog Glacier	6.26	48	P	Pn	17 55 12.5	+2.6
	baz=234						
CHGN	Chignik	6.80	51	Pn	Pn	17 55 20.0	+2.9
CHGN	Chignik	6.80	51	P	Pn	17 55 19.8	+2.7
	baz=238						
O14K	Tigyukauivet M	7.84	26	Pn	Pn	17 55 34.4	+3.1
AMKA	Amchitka	7.98	268		Pn	17 55 34.2	+1.0
R17K	Ugashik Creek	8.46	47	P	Pn	17 55 41.6	+1.7
	baz=236						
N15K	Kwethluk River	8.94	26	P	Pn	17 55 51.2	+4.9
	baz=212						
M14K	Bethel	9.01	19	Pn	Pn	17 55 50.7	+3.3
M14K	Bethel	9.01	19	P	Pn	17 55 49.2	+1.8
	baz=204						
O16K	Kokwok River B	9.08	33	Pn	Pn	17 55 50.9	+2.5
O16K	Kokwok River B	9.08	33	P	Pn	17 55 51.9	+3.5
	baz=221						
M15K	Kasigluk River	9.24	23	P	Pn	17 55 56.4	+5.9
	baz=208						
R18K	Karluk	9.32	51	P	Pn	17 55 54.2	+2.6
	baz=242						
P17K	Kvichak River	9.40	39	P	Pn	17 55 57.3	+4.7
	baz=228						
L14K	Kuka Creek	9.43	16	Pn	Pn	17 55 55.6	+2.5
L14K	Kuka Creek	9.43	16	P	Pn	17 55 59.1	+6.0
	baz=200						
O17K	Koliganek Bris	9.56	35	P	Pn	17 56 01.0	+6.2
	baz=224						
N16K	Nishlik Lake	9.56	28	P	Pn	17 55 58.8	+3.9
	baz=216						
Q18K	Katmai Hardscr	9.64	44	P	Pn	17 55 56.7	+0.6
	baz=235						
K13K	Kusilvak Mount	9.74	9	Pn	Pn	17 55 58.8	+1.4
M16K	Timber Creek	9.96	26	Pn	Pn	17 56 01.8	+1.5
P18K	Big Mountain,	10.00	40	P	Pn	17 56 04.5	+3.6
	baz=231						
N17K	Nushagak Hills	10.09	32	Pn	Pn	17 56 01.6	-0.5
N17K	Nushagak Hills	10.09	32	P	Pn	17 56 03.5	+1.4
	baz=220						
O18K	Koktuh Hills	10.30	38	P	Pn	17 56 09.2	+4.1
	baz=229						
KDAK	Kodiak Island	10.31	52	Pn	Pn	17 56 05.1	-0.1
KDAK	Kodiak Island	10.31	52	P	Pn	17 56 05.1	-0.1
KDAK	Kodiak Island	10.31	52	Pn	Pn	17 56 06.1	+0.9
	1.9nm,0.3s,baz=202,slow=6.0,SNR=26						
KDAK				Sn	Sn	17 57 58.0	-2.9
	0.1nm,0.3s,baz=22,slow=16,SNR=1.6						
Q19K	Cape Douglas,	10.38	45	Pn	Pn	17 56 07.9	+1.7
K15K	Wolf Creek Mou	10.52	17	Pn	Pn	17 56 10.7	+2.7
K15K	Wolf Creek Mou	10.52	17	P	Pn	17 56 13.4	+5.4
	baz=202						
N18K	Kilae Creek	10.63	34	P	Pn	17 56 14.7	+5.2
	baz=224						
M17K	Holitna River	10.69	28	P	Pn	17 56 14.7	+4.3
	baz=217						
SYI	Shuyak Island	10.78	48	Pn	Pn	17 56 12.6	+1.0
L17K	Donlin	11.07	24	P	Pn	17 56 21.3	+5.8
	baz=212						
N19K	Bonanza Creek	11.22	36	Pn	Pn	17 56 19.9	+2.2
N19K	Bonanza Creek	11.22	36	P	Pn	17 56 22.7	+5.0
	baz=227						
M18K	Stony River	11.25	31	P	Pn	17 56 24.7	+6.6
	baz=221						
K17K	Iditarod	11.56	23	Pn	Pn	17 56 23.5	+1.2
L18K	Granite Mounta	11.56	27	Pn	Pn	17 56 22.1	-0.2
J16K	Anvik River	11.60	17	P	Pn	17 56 29.1	+6.4
	baz=203						
L19K	White Mountain	12.08	30	Pn	Pn	17 56 31.8	+2.4
L19K	White Mountain	12.08	30	P	Pn	17 56 35.4	+6.1
	baz=221						
M20K	Styx River	12.43	34	P	Pn	17 56 37.7	+3.6
	baz=226						
J18K	Innoko River	12.59	24	P	Pn	17 56 41.0	+4.8
	baz=213						
G15K	Niukluk	12.81	7	P	Pn	17 56 42.3	+3.0
	baz=191						
SKT	Skwentna	13.06	36	Pn	Pn	17 56 43.0	+0.3
SKT	Skwentna	13.06	36	P	Pn	17 56 46.3	+3.6
	baz=230						
K20K	Telida	13.21	28	P	Pn	17 56 49.4	+4.7
	baz=220						
J19K	Poorman	13.30	24	P	P	17 56 54.0	-1.8
	baz=214						
PPLA	Purkeypile	13.45	32	P	P	17 56 53.6	-4.1
	baz=225						
PWL	Port Wells	13.68	44	P	Pn	17 56 52.9	+1.8
	baz=240						
H18K	Honhosa River	13.71	17	P	Pn	17 56 53.8	+2.2
	baz=205						
J20K	Nowinta River	13.83	26		Pn	17 56 54.8	+1.7
J20K	Nowinta River	13.83	26	P	Pn	17 56 57.4	+4.2
	baz=218						
CAST	Castle Rocks	13.85	31	P	Pn	17 56 57.7	+4.1
	baz=224						
GHO	Glory Hole Cre	13.92	40	Pn	Pn	17 56 54.7	+0.2
Q23K	Middleton Isla	13.96	51	P	Pn	17 56 56.9	+1.9
	baz=249						
CHUM	Lake Minchumin	14.12	29	P	Pn	17 57 00.5	+3.4
	baz=222						
SML	Sawmill	14.17	41	P	Pn	17 57 00.5	+2.5
	baz=237						
KTH	Kantishna Hill	14.32	32		Pn	17 57 01.4	+1.5
G18K	Tagagawik	14.34	15	P	P	17 57 07.0	-0.5
G18K	Tagagawik	14.34	15	P	Pn	17 57 00.2	0.0
	baz=203						
M23K	Glacier View	14.41	41	P	Pn	17 57 00.7	-0.4
	baz=238						
FID	Port Fidalgo	14.43	46	Pn	Pn	17 57 01.2	-0.3
SCM	Sheep Creek Mo	14.59	41	Pn	Pn	17 57 03.3	-0.4
SCM	Sheep Creek Mo	14.59	41	P	Pn	17 57 05.1	+1.4
	baz=239						
SCM	Sheep Creek Mo	14.59	41	P	Pn	17 57 03.3	-0.4
BPAW	Bear Paw Mtn.	14.68	30		Pn	17 57 07.0	+2.1
BPAW	Bear Paw Mtn.	14.68	30	P	Pn	17 57 05.1	+0.2
	baz=225						
WAT6	Susitna Watana	14.83	39	P	Pn	17 57 07.0	-0.1
	baz=236						
KLU	Klutina	15.01	44		Pn	17 57 09.0	-0.3
KLU	Klutina	15.01	44	P	Pn	17 57 08.8	-0.6
	baz=242						
KAIM	Kayak Island	15.05	51	P	Pn	17 57 09.9	0.0
	baz=250						
MCK	McKinley	15.10	34	P	Pn	17 57 10.2	-0.4
	baz=230						
M24K	Tolsona, Glenn	15.20	42	Pn	Pn	17 57 11.0	-0.8
M24K	Tolsona, Glenn	15.20	42	P	Pn	17 57 10.8	-1.0
	baz=240						
BMRM	Bremner River	15.35	47	Pn	Pn	17 57 13.3	-0.6
BMRM	Bremner River	15.35	47	P	Pn	17 57 14.4	+0.5
	baz=246						
H21K	Melozitna Rive	15.36	24	P	P	17 57 18.7	+0.1
H21K	Melozitna Rive	15.36	24	P	P	17 57 18.9	+0.3
	baz=217,SNR=17						
IMAR	Indian Mountai	15.39	22	P	P	17 57 19.1	0.0
MLY	Manley	15.43	28		P	17 57 17.8	-1.7
MLY				IAmb	IAmb	17 57 34.1	
	comp=Z,46nm,1.3s						
MLY	Manley	15.43	28	P	P	17 57 20.7	+1.2
	baz=223,SNR=9.1						
N25K	Chitina, Valde	15.62	45	Pn	Pn	17 57 15.8	-1.6
N25K				IAmb	IAmb	17 57 35.1	
	comp=Z,21nm,1.2s						
N25K	Chitina, Valde	15.62	45	P	Pn	17 57 17.8	+0.3
	baz=244						
HARP	HAARP	15.76	42	P	Pn	17 57 19.5	+0.4
	baz=241						
WRH	Wood River Hil	15.86	33	Pn	Pn	17 57 21.2	+0.8
G21K	Allakaket	15.89	21		Pn	17 57 22.0	+1.2
G21K	Allakaket	15.89	21	P	P	17 57 25.9	+1.3
	baz=214						
F20K	Avaraart Lake	15.90	18	P	P	17 57 25.5	+0.9
F20K	Avaraart Lake	15.90	18	P	P	17 57 25.0	+0.4
	baz=208						
GLB	Gilahina Butte	15.90	46	Pn	Pn	17 57 20.8	-0.2
H22K	Ishtalitna Cre	15.91	25	P	P	17 57 24.5	-0.3
	baz=219,SNR=12						
I23K	Minto, Yukon-K	15.92	29		P	17 57 23.3	-1.6
I23K				IAmb	IAmb	17 57 40.0	
	comp=Z,33nm,1.3s						
I23K	Minto, Yukon-K	15.92	29	P	Pn	17 57 22.6	+1.5
	baz=225,SNR=8.6						
PAX	Paxson	15.92	39	P	P	17 57 25.5	+0.4
	baz=238						
CRQM	Cirque	15.94	49	Pn	Pn	17 57 22.9	+1.3
CRQE	Cirque	15.96	49	P	Pn	17 57 22.5	+0.6
	baz=249						
VRDI	Verde Repeater	15.97	47		Pn	17 57 20.7	-1.4
VRDI				IAmb	IAmb	17 57 31.4	
	comp=Z,57nm,1.5s						
E19K	Redstone River	16.01	15		Pn	17 57 21.9	-0.4
E19K	Redstone River	16.01	15	P	P	17 57 25.1	-0.8
	baz=204						
CCB	Clear Creek Bu	16.07	32	Pn	Pn	17 57 23.7	+0.5
TGL	Tana Glacier	16.08	49		Pn	17 57 21.5	-1.9
TGL				IAmb	IAmb	17 57 58.9	
	comp=Z,33nm,0.9s						
MDM	Murphy Dome	16.14	31	Pn	Pn	17 57 23.5	-0.6
HDA	Harding Lake	16.21	34	Pn	Pn	17 57 25.1	+0.2
HDA	Harding Lake	16.21	34	P	P	17 57 27.3	-0.8
	baz=232						
MCARA	McCarthy VSAT	16.22	46	Pn	Pn	17 57 24.9	-0.2
MCARA				IAmb	IAmb	17 57 51.5	
	comp=Z,30nm,1.1s						
MCARA	McCarthy VSAT	16.22	46	P	Pn	17 57 26.3	+1.2
	baz=247						
H23K	Yukon River	16.36	27		Pn	17 57 26.7	-0.1
H23K				IAmb	IAmb	17 57 33.5	
	comp=Z,41nm,1.4s						
H23K	Yukon River	16.36	27	P	P	17 57 31.3	+1.6
	baz=223,SNR=10						
ILAR	Eielson Array	16.45	33	Pn	Pn	17 57 28.3	+0.3
	comp=Z,0.1nm,0.3s,baz=235,slow=12,SNR=8.0						
	comp=Z,1.1nm,0.8s						
F21K	Alatna River	16.49	20		Pn	17 57 29.3	+0.8
F21K	Alatna River	16.49	20	P	P	17 57 31.8	+0.5
	baz=212						
POKR	Poker Plat Res	16.50	31	P	P	17 57 30.9	-0.4
	baz=229						
GRNC	Granite Creek	16.57	49	Pn	Pn	17 57 30.1	+0.4
GRNC				IAmb	IAmb	17 57 37.9	
	comp=Z,61nm,1.4s						
MENT	Mentasta	16.60	41		Pn	17 57 30.4	+0.5
C18K	Utukok River	16.64	9	P	P	17 57 31.8	-1.1
	baz=194						
M26K	Nabesna, AK	16.65	43		Pn	17 57 31.1	+0.4
M26K				IAmb	IAmb	17 57 48.1	
	comp=Z,26nm,1.1s						
M26K	Nabesna, AK	16.65	43	P	P	17 57 32.3	-0.8
	baz=244						
G22K	Bettles	16.68	23	P	Pn	17 57 31.8	+0.9
	baz=217						
L26K	Log Cabin Wild	16.79	41	P	P	17 57 35.1	+0.5
L26K				IAmb	IAmb	17 57 47.7	
	comp=Z,34nm,1.4s						
L26K	Log Cabin Wild	16.79	41	P	P	17 57 33.6	-1.0
	baz=242						
CTG	Chitna Glacier	16.84	49	P	P	17 57 35.1	-0.2
	baz=251						
D19K	Kuna River	16.84	13	Pn	Pn	17 57 33.4	+0.5
CTGM	Chitina Glacie	16.84	49		P	17 57 34.7	-0.6
CTGM				IAmb	IAmb	17 57 47.4	
	comp=Z,23nm,0.9s						
H24K	Noodor Dome	16.85	29	Pn	P	17 57 34.2	-1.0
H24K	Noodor Dome	16.85	29	P	P	17 57 35.9	+0.7
	baz=226,SNR=6.4						
J25K	Salcha River,	16.88	35		Pn	17 57 34.0	+0.5
J25K	Salcha River,	16.88	35	P	Pn	17 57 33.3	-0.1
	baz=234						
G23K	Bananza Creek	16.89	25	Pn	Pn	17 57 34.5	+0.9
G23K	Bananza Creek	16.89	25	P	P	17 57 36.5	+0.8
	baz=220						
E20K	Nigu River	16.90	15	P	P	17 57 36.0	+0.2
	baz=205						
LOGN	Logan Glacier	16.95	50		P	17 57 36.0	-0.5
LOGN				IAmb	IAmb	17 58 06.9	
	comp=Z,65nm,1.3s						
F22K	John River	17.01	21	P	P	17 57 37.5	+0.5
	baz=214						
SCRK	Sand Creek	17.02	38	Pn	Pn	17 57 36.1	+0.8
SCRK	Sand Creek	17.02	38	P	P	17 57 37.4	+0.2
	baz=238						
M27K	Edge Creek, AK	17.11	44		Pn	17 57 36.6	+0.2
M27K				IAmb	IAmb	17 57 53.6	
	comp=Z,27nm,1.1s						
M27K	Edge Creek, AK	17.11	44	P	P	17 57 39.4	+1.2
	baz=246						
C19K	Lookout Ridge	17.24	10	P	P	17 57 39.9	+0.3
	baz=197						
COLD	Coldfoot	17.24	24	P	P	17 57 40.5	+1.0
	baz=219						
D20K	Etivluk River	17.25	14	P	P	17 57 40.7	+1.0
	baz=204						
O28M	Mount Upton	17.32	50	P	Pn	17 57 39.5	+0.3
	baz=253						
PRP	Porcupine Dome	17.37	32	Pn	Pn	17 57 38.7	-1.1
L27K	Beaver Creek,	17.43	42	P	P	17 57 41.5	-0.1
	baz=244						
BCAR	Beaver Creek A	17.44	42	Pn	Pn	17 57 40.0	-0.5
J26L	Joseph Creek	17.46	37	P	P	17 57 42.3	+0.3
J26L	Joseph Creek	17.46	37	P	P	17 57 43.0	+1.0
	baz=237,SNR=9.4						
YUK3	Moose Creek	17.51	47	P	Pn	17 57 42.0	+0.4
	baz=250						
G24K	Hadweenzic Riv	17.57	27	P	P	17 57 43.5	+0.4
G24K	Hadweenzic Riv	17.57	27	P	P	17 57 44.0	+0.8
	baz=225						
E22K	Anaktuvuk Pass	17.61	20	Pn	Pn	17 57 42.3	-0.3
E22K	Anaktuvuk Pass	17.61	20	P	P	17 57 44.5	+0.9
	baz=214						
YUK8	Steele Glacier	17.66	49	P	Pn	17 57 43.8	+0.3
	baz=252						
H25L	Birch Creek	17.76	30	P	P	17 57 45.1	-0.1
	baz=229						
K27K	Chicken	17.77	39	P	Pn	17 57 44.7	+0.1
	baz=241						
C21K	Knifeblade Rid	17.94	15	P	P	17 57 47.7	+0.5
	baz=207						
O29M	Mount Kennedy	17.97	52		Pn	17 57 46.6	-0.5
O29M				IAmb	IAmb	17 58 09.3	
	comp=Z,16nm,0.8s						
O29M	Mount Kennedy	17.97	52	P	P	17 57 48.4	+0.7
	baz=257						
G25K	Bearman Lake	18.01	28	P	P	17 57 48.4	+0.4
	baz=227						
E23K	Chandalar	18.03	22	P	P	17 57 49.1	+0.8
	baz=218						
I26K	Coal Creek Min	18.05	35		Pn	17 57 46.9	-1.0
I26K	Coal Creek Min	18.05	35	P	Pn	17 57 47.8	-0.1
	baz=236						
F24K	Squaw Lake	18.05	25	Pn	Pn	17 57 47.9	-0.1
F24K	Squaw Lake	18.05	25	P	P	17 57 50.2	+1.8
	baz=222						
D22K	Ayikyak River	18.06	18	Pn	Pn	17 57 46.8	-1.3
YUK4	Talbot Arm	18.20	49	P	P	17 57 53.6	+3.3
	baz=253						
YUK6	Outpost Mounta	18.22	50	P	P	17 57 52.5	+1.9
	baz=255						
P29M	Windy Craggy	18.24	55	P	P	17 57 53.3	+2.6
	baz=260						
E24K	Your Creek	18.32	23		P	17 57 51.4	0.0
E24K	Your Creek	18.32	23	P	P	17 57 55.0	+3.6
	baz=220						
EGAK	Eagle	18.49	37	P	Pn	17 57 55.4	+2.0
EGAK	Eagle	18.49	37	P	Pn	17 57 55.8	+2.4
	baz=240						
TOLK	Toolik Lake Re	18.51	21	P	P	17 57 52.7	-0.8
TOLK	Toolik Lake Re	18.51	21	P	Pn	17 57 54.3	+0.7
	baz=217						
D23K	Nanushuk River	18.53	20	P	P	17 57 53.6	-0.1
	baz=215						
HYT	Haines Junctio	18.60	51	P	Pn	17 57 56.8	+1.9
HYT				IAmb	IAmb	17 58 14.9	
	comp=Z,22nm,0.8s						
HYT	Haines Junctio	18.60	51	P	Pn	17 57 58.5	+3.7
	baz=256						
M29M	Somme Creek	18.62	46	P	P	17 57 54.7	-0.1
M29M	Somme Creek	18.62	46	P	Pn	17 57 57.6	+2.5
	baz=251						
F25K	Christian Rive	18.71	27	P	Pn	17 57 57.4	+1.3
	baz=226						
P30M	Million Dollar	18.72	53	P	P	17 57 55.7	-0.2
	baz=259						
I27K	Kandik River	18.75	35	P	Pn	17 57 56.7	+0.2
	baz=238						
S31K	Pelican	18.82	60	P	Pn	17 58 00.5	+3.1
	baz=266						
G26K	Porcupine Rive	18.82	30	P	Pn	17 57 59.1	+1.7
	baz=231						
DAWY	Dawson	18.84	41	P	P	17 57 56.5	-0.7
DAWY	Dawson	18.84	41	P	Pn	17 57 57.7	0.0
	baz=245						
BMAR	Burnt Mountain	18.90	28		Pn	17 57 58.4	0.0
PLBC	Pleasant Camp	18.91	56	P	Pn	17 57 59.5	+1.0
	baz=262						
N30M	Aishikik Lake	18.95	49	P	Pn	17 57 59.2	+0.1
N30M				IAmb	IAmb	17 58 27.9	
	comp=Z,20nm,0.9s						
N30M	Aishikik Lake	18.95	49	P	Pn	17 58 00.2	+1.1
	baz=255						
L29M	L29M	18.99	44	P	Pn	17 58 00.1	+0.7
L29M				IAmb	IAmb	17 58 27.8	
	comp=Z,17nm,0.9s						
L29M	L29M	18.99	44	P	Pn	17 58 00.2	+0.7
	baz=249						
D24K	Happy Valley	19.08	21	P	Pn	17 58 00.4	-0.1
D24K				IAmb	IAmb	17 58 29.9	
	comp=Z,23nm,1.2s						
D24K	Happy Valley	19.08	21	P	Pn	17 58 01.1	+0.6
	baz=218						
E25K	Arctic Village	19.10	26		P	17 58 00.0	+0.1
E25K	Arctic Village	19.10	26	P	Pn	17 58 02.6	+1.8
	baz=225						
H27K	Steamboat Moun	19.12	33	P	Pn	17 58 01.0	-0.1
	baz=236						
F26K	Sheenjek River	19.20	28	P	Pn	17 58 02.9	+0.9
	baz=229						
O30N	Mendenhall	19.27	52	P	P	17 58 00.8	-1.0
O30N				IAmb	IAmb	17 58 20.7	
	comp=Z,18nm,0.8s						
O30N	Mendenhall	19.27	52	P	Pn	17 58 03.7	+0.8
	baz=258						
C23K	Itkillik River	19.27	18	P	P	17 58 02.1	+0.4
C23K				IAmb	IAmb	17 58 19.9	
	comp=Z,16nm,0.8s						
C23K	Itkillik River	19.27	18	P	P	17 58 02.2	+0.4
	baz=213						
I28M	Miner Creek	19.27	36		Pn	17 58 03.0	+0.1
I28M	Miner Creek	19.27	36	P	Pn	17 58 03.4	+0.5
	baz=240						
M30M	Minto, Yukon	19.40	46	P	Pn	17 58 05.3	+1.0
M30M	Minto, Yukon	19.40	46	P	Pn	17 58 06.5	+2.1
	baz=252						
G27K	Doyon Strip	19.41	32	P	P	17 58 03.9	+0.5
G27K	Doyon Strip	19.41	32	P	Pn	17 58 04.9	+0.5
	baz=235						
SKAG	Skagway	19.43	56	P	P	17 58 04.2	+0.6
SKAG				IAmb	IAmb	17 58 26.2	
	comp=Z,19nm,0.8s						
SKAG	Skagway	19.43	56	P	Pn	17 58 06.8	+2.0
	baz=263						
K29M	Barlow Dome	19.51	42	P	P	17 58 04.9	+0.2
K29M	Barlow Dome	19.51	42	P	Pn	17 58 05.4	-0.4
	baz=248						
C24K	Franklin Bluff	19.56	20	P	Pn	17 58 06.3	+0.1
	baz=217						
N31M	Braeburn, Yuko	19.57	50	P	P	17 58 04.5	-0.6
N31M	Braeburn, Yuko	19.57	50	P	Pn	17 58 09.8	+3.3
	baz=257						
S32K	Killisnoo	19.69	62	P	Pn	17 58 07.8	-0.1
	baz=269		

P32M	Atlin	20.26	56	P	Pn	17 58 17.2	+2.5
	baz=264						
M31M	Drury Creek, Y	20.38	48	P	Pn	17 58 16.3	+0.3
M31M	Drury Creek, Y	20.38	48	P	Pn	17 58 17.3	+1.3
	baz=256,SNR=13						
F28M	Old Crow	20.44	31	P	P	17 58 15.3	+0.7
F28M	Old Crow	20.44	31	P	P	17 58 15.7	+1.1
	baz=236						
I30M	Mount Dempster	20.50	39	P	P	17 58 15.5	+0.1
C26K	Camden Bay	20.56	23	P	Pn	17 58 17.0	-1.0
	baz=223						
G29M	Pine Creek	20.67	34	P	P	17 58 16.7	-0.4
G29M				IAmb	IAmb	17 58 30.3	
	comp=Z,32nm,0.9s						
G29M	Pine Creek	20.67	34	P	P	17 58 17.2	+0.1
	baz=240						
PEA0B	Petropavlovsk-	20.72	286	*ce*P	P	17 58 17.0	-0.7
PETK	Petropavlovsk-	20.72	286	P	P	17 58 17.1	-0.6
PETK	Petropavlovsk-	20.72	286	P	P	17 58 17.1	-0.6
PETK	Petropavlovsk-	20.72	286	P	P	17 58 17.2	-0.4
	comp=Z,12nm,0.6s,baz=80,slow=16,SNR=27						
	comp=Z,12nm,0.6s						
N32M	Quiet Lake	20.78	51	P	Pn	17 58 19.8	-0.9
N32M	Quiet Lake	20.78	51	P	Pn	17 58 22.0	+1.3
	baz=261						
P33M	Teslin, Yukon	20.78	54	P	Pn	17 58 21.1	+0.3
P33M				IAmb	IAmb	17 58 39.5	
	comp=Z,14nm,0.9s						
P33M	Teslin, Yukon	20.78	54	P	Pn	17 58 20.8	0.0
	baz=263						
FARO	Faro, Yukon	20.86	48	P	Pn	17 58 21.3	-0.3
FARO				IAmb	IAmb	17 58 31.5	
	comp=Z,25nm,1.0s						
FARO	Faro, Yukon	20.86	48	P	Pn	17 58 22.8	+1.2
	baz=258						
EPYK	Eagle Plains	20.87	36	P	P	17 58 18.5	-0.8
EPYK				IAmb	IAmb	17 58 30.4	
	comp=Z,21nm,0.8s						
EPYK	Eagle Plains	20.87	36	P	P	17 58 18.8	-0.5
	baz=243						
Q32M	Nakina River	20.96	58	P	Pn	17 58 22.3	-0.7
	baz=267						
D27M	Malcolm River	21.10	27	P	P	17 58 21.4	-0.4
D27M				IAmb	IAmb	17 58 42.4	
	comp=Z,11nm,0.8s						
D27M	Malcolm River	21.10	27	P	P	17 58 23.8	+2.0
	baz=230						
E28M	Babbage River	21.12	29	P	P	17 58 23.0	+1.1
	baz=234						
G30M	tAoh Zraii Nji	21.33	35	P	P	17 58 23.1	-1.1
G30M				IAmb	IAmb	17 58 34.8	
	comp=Z,21nm,1.2s						
G30M	tAoh Zraii Nji	21.33	35	P	P	17 58 24.7	+0.5
	baz=242						
V35K	Ketchikan	21.46	68	P	P	17 58 25.8	+0.1
V35K				IAmb	IAmb	17 59 02.4	
	comp=Z,40nm,1.4s						
V35K	Ketchikan	21.46	68	P	P	17 58 24.2	-1.4
	baz=277						
E29M	Blow River	21.49	30	P	P	17 58 25.7	-0.2
E29M	Blow River	21.49	30	P	P	17 58 26.0	+0.1
	baz=237						
H31M	Peel River	21.51	38	P	P	17 58 26.2	0.0
H31M				IAmb	IAmb	17 58 44.5	
	comp=Z,31nm,1.1s						
H31M	Peel River	21.51	38	P	P	17 58 26.6	+0.4
	baz=248,SNR=5.5						
S34M	Telegraph Cree	21.54	61	P	P	17 58 26.7	+0.2
S34M	Telegraph Cree	21.54	61	P	P	17 58 27.1	+0.6
	baz=271						
R33M	Jennings River	21.65	56	P	P	17 58 27.4	-0.3
R33M				IAmb	IAmb	17 58 46.8	
	comp=Z,28nm,1.4s						
R33M	Jennings River	21.65	56	P	P	17 58 29.7	+1.9
	baz=267						
F30M	Barrier River	21.77	33	P	P	17 58 30.4	+1.5
	baz=241						
MMPY	Sheldon Lake,	21.89	48	P	P	17 58 32.8	+2.6
MMPY				IAmb	IAmb	17 58 47.3	
	comp=Z,35nm,1.2s						
MMPY	Sheldon Lake,	21.89	48	P	P	17 58 32.8	+2.6
	baz=259,SNR=8.0						
G31M	Satah River	21.99	36	P	P	17 58 30.2	-0.9
G31M				IAmb	IAmb	17 58 48.1	
	comp=Z,12nm,0.8s						
G31M	Satah River	21.99	36	P	P	17 58 31.7	+0.5
	baz=245						
T35M	Bob Quinn	22.06	63	P	P	17 58 33.4	+1.3
T35M				IAmb	IAmb	17 58 49.2	
	comp=Z,15nm,1.1s						
T35M	Bob Quinn	22.06	63	P	P	17 58 32.1	0.0
	baz=274						
DLBC	Dease Lake	22.12	59	P	P	17 58 34.4	+1.6
DLBC				IAmb	IAmb	17 59 04.1	
	comp=Z,25nm,1.4s						
DLBC	Dease Lake	22.12	59	P	P	17 58 36.6	+3.8
	baz=270						
F31M	Tsiigehtchic	22.40	35	P	P	17 58 36.1	+0.5
	baz=244						
INK	Inuvik	22.86	33	P	P	17 58 39.8	-0.6
INK				IAmb	IAmb	17 58 54.0	
	comp=Z,10nm,0.8s						
INK	Inuvik	22.86	33	P	P	17 58 41.4	+1.0
	baz=243						
INK	Inuvik	22.86	33	P	P	17 58 39.8	-0.6
INK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TGTN	Hyland Airport	23.13	51	P	P	17 58 44.9	+1.6
	baz=265						
SEY	Seymchan	23.32	312	P	P	17 58 44.5	-0.8
	comp=Z,10.0nm,0.9s,baz=92,slow=9.1,SNR=7.7						
SEY				LR	LR	18 07 43.9	
	comp=Z,171nm,18.4s,baz=123,slow=36						
	comp=Z,10.0nm,0.9s						
WRGLY	Wrigley	25.50	47	P	P	17 59 06.4	+0.9
	baz=266						
YKA	Yellowknife Ar	29.57	49	LR	LR	18 13 32.1	
	comp=Z,381nm,18.3s,baz=282,slow=40						
H04A	Detroit Lake	30.80	86	P	P	17 59 54.1	+1.0
I04A	Tendick Farm,	31.13	88	P	P	17 59 55.8	-0.2
YSS	Yuzh-Sakhalins	31.87	280	*i*P	P	18 00 03.3	+0.9
KMPM	Mount Pierce	32.00	94	P	P	18 00 05.6	+1.9
YBH	Yreka Blue Hor	32.09	91	P	P	18 00 04.5	0.0
YBH				IAmb	IAmb	18 00 08.5	
	comp=Z,8.0nm,0.9s						
YBH	Yreka Blue Hor	32.09	91	P	P	18 00 04.5	0.0
YBH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
J05D	Fort Rock, OR	32.13	88	P	P	18 00 05.5	+0.6
NEW	Newport	32.14	77	P	P	18 00 05.2	+0.3
NEW				IAmb	IAmb	18 00 16.3	
	comp=Z,11nm,1.5s						
NEW	Newport	32.14	77	P	P	18 00 05.1	+0.2
	baz=297						
NEW	Newport	32.14	77	P	P	18 00 05.2	+0.3
NEW				pmax	pmax		
	comp=Z,11nm,1.5s						
E09A	Wood Farm, Sta	32.35	80	P	P	18 00 07.3	+0.7
E09A				IAmb	IAmb	18 00 09.7	
	comp=Z,10nm,1.4s						
KMRM	Mail Ridge	32.37	94	P	P	18 00 05.9	-1.0
G08A	Pilot Rock	32.46	83	P	P	18 00 09.3	+1.5
G08A				IAmb	IAmb	18 00 36.2	
	comp=Z,3.7nm,1.1s						
K05A	Summer Lake	32.64	88	P	P	18 00 11.7	+2.2
TIXI	Tiksi	33.19	329	*ce*P	P	18 00 14.2	+0.5
ASAJ	Asahikawa	33.40	276	LR	LR	18 12 18.6	
	comp=Z,133nm,21.1s,baz=78,slow=34						
J08A	Circle Bar Ran	33.78	85	P	P	18 00 21.5	+2.2
J08A				IAmb	IAmb	18 00 30.0	
	comp=Z,5.4nm,0.9s						
GDXM	Geysers	33.79	95	P	P	18 00 20.9	+1.4
YAK	Yakutsk	33.84	311	*e*P	P	18 00 17.4	-2.1
YAK				pmax	pmax		
	comp=Z,15nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,2.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
WVOR	Wild Horse Val	34.19	87	P	P	18 00 24.4	+1.5
WVOR				IAmb	IAmb	18 00 42.5	
	comp=Z,7.1nm,1.0s						
WVOR	Wild Horse Val	34.19	87	P	P	18 00 24.4	+1.5
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MSO	Missoula	34.72	77	P	P	18 00 28.4	+1.0
MSO				IAmb	IAmb	18 00 40.7	
	comp=Z,11nm,1.5s						
AFDM	Forest Hills D	34.82	94	P	P	18 00 29.5	+1.3
AFDM				IAmb	IAmb	18 00 31.0	
	comp=Z,7.1nm,1.2s						
CHMT	Chamberlain Mo	35.09	77	P	P	18 00 31.6	+0.8
OVMT	Ovando	35.17	76	P	P	18 00 30.6	-0.7
MPK	Martis Peak	35.18	92	P	P	18 00 33.0	+1.4
PAHR	Pah Rah Range	35.33	91	P	P	18 00 35.0	+2.2
MFID	Camas Ranch	35.36	83	P	P	18 00 34.0	+1.0
MFID				IAmb	IAmb	18 00 52.4	
	comp=Z,9.6nm,1.4s						
LYMT	Lyon Mountain	35.64	76	P	P	18 00 36.5	+1.0
ELMT	Elliston	35.74	77	P	P	18 00 36.0	-0.4
CMB	Columbia Colle	35.75	94	P	P	18 00 37.2	+1.0
CMB				IAmb	IAmb	18 00 40.4	
	comp=Z,6.2nm,1.1s						
CMB	Columbia Colle	35.75	94	P	P	18 00 37.3	+1.0
CMB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
YERR	Yerington	35.85	92	P	P	18 00 37.7	+0.3
WAKR	Walker	36.03	93	P	P	18 00 41.3	+2.4
WAKR				IAmb	IAmb	18 00 42.7	
	comp=Z,8.7nm,0.9s						
HLID	Hailey	36.14	82	P	P	18 00 41.6	+1.8
HLID				IAmb	IAmb	18 00 53.5	
	comp=Z,5.9nm,1.3s						
HLID	Hailey	36.14	82	P	P	18 00 39.4	-0.4
	baz=303						
BBGB	Big Mountain B	36.28	97	P	P	18 00 41.4	+0.4
KVN	Kaiserville	36.51	91	P	P	18 00 45.2	+2.2
KVN				IAmb	IAmb	18 00 46.4	
	comp=Z,8.0nm,1.1s						
KVN	Kaiserville	36.51	91	P	P	18 00 45.2	+2.2
KVN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
EGMT	Eagleton	36.61	73	P	P	18 00 42.0	-1.7
	baz=299						
BOZ	Bozeman (W)	36.73	78	P	P	18 00 45.4	+0.6
BOZ	Bozeman (W)	36.73	78	P	P	18 00 43.9	-0.8
	baz=302						
BOZ	Bozeman (W)	36.73	78	P	P	18 00 45.4	+0.6
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LHV	Little Huntoon	36.76	93	P	P	18 00 47.8	+2.9
LHV				IAmb	IAmb	18 00 49.0	
	comp=Z,7.6nm,1.1s						
NVAR	Mina Array Bea	36.77	92	P	P	18 00 47.4	+2.1
	comp=Z,4.9nm,0.8s,baz=294,slow=8.7,SNR=35						
NVAR				PcP	PcP	18 03 07.3	-0.1
	comp=Z,0.2nm,0.4s,baz=305,slow=3.2,SNR=2.3						
	comp=Z,4.9nm,0.8s						
NV11	Mina Array Sit	36.86	92	P	P	18 00 47.7	+1.7
NV11				IAmb	IAmb	18 01 06.6	
	comp=Z,6.7nm,1.1s						
ELK	Elko	37.24	87	P	P	18 00 49.4	+0.1
ELK	Elko	37.24	87	P	P	18 00 49.4	+0.1
ELK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KLR	Kul'dur	37.30	290	*ce*P	P	18 00 47.3	-2.0
KLR				pmax	pmax		
	comp=Z,21nm,2.5s						
KLR	Kul'dur	37.30	290	LR	LR	18 17 44.1	
	comp=Z,210nm,18.6s,baz=69,slow=39						
YHL	Hebgen Lake	37.39	78	P	P	18 00 50.5	0.0
YHL				IAmb	IAmb	18 01 04.3	
	comp=Z,12nm,1.4s						
YMR	Madison River	37.62	78	P	P	18 00 52.5	+0.1
YMR				IAmb	IAmb	18 01 13.6	
	comp=Z,5.3nm,1.0s						
YHH	Holmes Hill	37.62	78	P	P	18 00 54.4	+1.8
DSP	Deep Springs	37.65	93	P	P	18 00 52.9	+0.5
DSP				IAmb	IAmb	18 00 56.5	
	comp=Z,7.3nm,1.1s						
TPH	Tonopah	37.66	92	P	P	18 00 54.9	+2.1
TPH	Tonopah	37.66	92	P	P	18 00 54.9	+2.1
TPH				pmax	pmax		
	comp=Z,40nm,1.2s						
SMMC	Simmler	37.75	98	P	P	18 00 55.2	+1.8
	baz=312						
YNR	Norris Junctio	37.77	78	P	P	18 00 54.6	+1.0
YNR				IAmb	IAmb	18 01 08.1	
	comp=Z,10nm,1.0s						
H17A	Grant Village	38.00	79	P	P	18 00 57.3	+1.7
	baz=303						
H11N2	WAKE ISLAND Hy	38.03	221	T	T	18 42 04.0	
	baz=24,slow=75,SNR=42						
H11N3	WAKE ISLAND Hy	38.03	221	T	T	18 42 05.8	
	baz=24,slow=75,SNR=40						
H11N1	WAKE ISLAND Hy	38.04	221	T	T	18 41 53.0	
	baz=24,slow=75,SNR=34						
IMW	Indian Meadow	38.06	80	P	P	18 00 57.6	+1.4
IMW				IAmb	IAmb	18 01 12.1	
	comp=Z,5.6nm,1.1s						
YMP	Mirror Lake Pl	38.07	78	P	P	18 00 56.2	0.0
YMP				IAmb	IAmb	18 01 21.4	
	comp=Z,6.4nm,1.0s						
HVU	Hansel Valley	38.14	84	P	P	18 00 57.7	+0.9
HVU	Hansel Valley	38.14	84	P	P	18 00 57.7	+0.9
HVU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PKM	Mcpherson Peak	38.15	98	P	P	18 00 59.4	+2.4
	baz=312,SNR=5.8						
CWC	Cottonwood Cre	38.18	94	P	P	18 00 59.2	+2.0
	baz=311						
BCW	Bitter Crk WRg	38.36	97	P	P	18 00 59.0	+0.4
BCW				IAmb	IAmb	18 01 02.4	
	comp=Z,12nm,0.8s						
RLMT	Red Lodge	38.39	77	P	P	18 00 58.7	-0.2
RLMT				IAmb	IAmb	18 01 23.5	
	comp=Z,7.0nm,1.0s						
RLMT	Red Lodge	38.39	77	P	P	18 01 01.3	+2.4
	baz=303						
REDW	Red Top Meadow	38.41	80	P	P	18 00 58.9	-0.2
ISA	Isabella, Lake	38.45	96	P	P	18 01 00.9	+1.6
ISA				IAmb	IAmb	18 01 01.9	
	comp=Z,7.7nm,1.0s						
ISA	Isabella, Lake	38.45	96	P	P	18 01 01.9	+2.6
	baz=312						
ISA	Isabella, Lake	38.45	96	P	P	18 01 00.9	+1.6
ISA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BGU	Big Grassy Mou	38.49	85	P	P	18 01 00.8	+1.2
R11B	Troy Canyon, C	38.49	90	P	P	18 01 00.7	+0.9
R11B	Troy Canyon, C	38.49	90	P	P	18 01 02.0	+2.3
	baz=309,SNR=6.7						
SPUT	South Promonto	38.62	84	P	P	18 01 01.9	+1.1
MPMC	Manual Prospec	38.79	94	P	P	18 01 04.9	+2.6
	baz=311,SNR=5.3						
SCZ2	Santa Cruz Isl	38.86	99	P	P	18 01 04.4	+1.7
	baz=313						
TPNV	Topopah Spring	38.97	92	P	P	18 01 05.4	+1.6
TPNV				IAmb	IAmb	18 01 07.0	
	comp=Z,8.2nm,0.9s						
TPNV	Topopah Spring	38.97	92	P	P	18 01 06.0	+2.2
	baz=310,SNR=7.4						
TPNV	Topopah Spring	38.97	92	P	P	18 01 05.4	+1.6
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LRMC	Laurel Mtn Rad	39.05	95	P	P	18 01 04.2	-0.3
	baz=312						
DUG	Dugway, Tooele	39.05	86	P	P	18 01 06.5	+2.1
DUG				IAmb	IAmb	18 01 18.2	
	comp=Z,10nm,1.3s						
DUG	Dugway, Tooele	39.05	86	P	P	18 01 05.5	+1.0
	baz=307						
DUG	Dugway, Tooele	39.05	86	P	P	18 01 06.5	+2.1
DUG				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GWY	Greenwater Val	39.21	94	P	P	18 01 07.0	+1.2
H11S1	WAKE ISLAND Hy	39.21	220	T	T	18 42 49.3	
	baz=23						
H11S2	WAKE ISLAND Hy	39.22	220	T	T	18 42 58.9	
	baz=23,slow=74						
H11S3	WAKE ISLAND Hy	39.23	220	T	T	18 42 51.0	
	baz=23,slow=74						
QSM	Queen of Sheba	39.23	94	P	P	18 01 07.6	+1.8
QSM				IAmb	IAmb	18 01 08.8	
	comp=Z,5.7nm,0.9s						
EDW2	Edwards Air Fo	39.26	96	P	P	18 01 06.4	+0.3
	baz=312						
HEH	HeiHe	39.27	294	*e*P	P	18 01 04.0	-1.9
HEH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TCUT	Toone Canyon	39.36	83	P	P	18 01 08.3	+1.2
TCUT				IAmb	IAmb	18 01 42.2	
	comp=Z,4.5nm,0.6s						
PRN	Pahroc Range	39.41	91	P	P	18 01 09.6	+2.1
PRN				IAmb	IAmb	18 01 27.3	
	comp=Z,8.7nm,0.9s						
PSUT	Pine Spring	39.44	88	P	P	18 01 08.3	+0.6
BW06	Boulder Array	39.53	80	P	P	18 01 09.4	+1.0
BW06				IAmb	IAmb	18 01 21.6	
	comp=Z,5.7nm,0.9s						
BW06	Boulder Array	39.53	80	P	P	18 01 08.9	+0.5
	baz=305						
PD31	Pinedale Array	39.53	80	P	P	18 01 09.4	+1.0
PDAR	Pinedale Array	39.53	80	P	P	18 01 09.4	+1.0
PDAR	Pinedale Array	39.53	80	P	P	18 01 10.0	+1.6
	comp=Z,2.6nm,0.8s,baz=310,slow=5.7,SNR=19						
	comp=Z,2.6nm,0.8s						
JSD	Sado	39.60	271	P	P	18 01 07.9	-0.9
JSD				IAmb	IAmb	18 01 23.6	
	comp=Z,17nm,1.1s						
NLU	North Lily Min	39.65	85	P	P	18 01 08.7	-0.8
GSC	Goldstone, Bar	39.71	95	P	P	18 01 10.9	+1.0
GSC				IAmb	IAmb	18 01 12.9	
	comp=Z,10nm,0.8s						
GSC	Goldstone, Bar	39.71	95	P	P	18 01 12.5	+2.6
	baz=312						
GSC	Goldstone, Bar	39.71	95	P	P	18 01 10.9	+1.0
GSC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BFSC	Mount Baldy Ra	39.90	97	P	P	18 01 12.8	+1.3
	baz=313,SNR=6.4						
TUQ	Turquoise Moun	40.16	94	P	P	18 01 14.5	+0.9
	baz=312						
HEC	Hector,Ludlow	40.31	95	P	P	18 01 15.6	+0.7
	baz=312						
CCUT	Cedar City	40.35	89	P	P	18 01 16.2	+0.8
ELS	Elsinore Mount	40.44	97	P	P	18 01 16.1	+0.1
ELS				IAmb	IAmb	18 01 33.2	
	comp=Z,5.0nm,0.8s						
MSU	Marysvale	40.48	87	P	P	18 01 16.5	+0.1
MSU	Marysvale	40.48	87	P	P	18 01 16.5	+0.1
MJA0	Matsu Arr-Jizo	40.56	269	*e*P	P	18 01 17.3	+0.4
MJA0				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TMUT	Trail Mountain	40.58	86	P	P	18 01 19.7	+2.3
TMUT				IAmb	IAmb	18 01 38.9	
	comp=Z,14nm,1.3s						
MAJO	Matsushiro	40.59	269	P	P	18 01 16.6	-0.5
MAJO	Matsushiro	40.59	269	P	P	18 01 16.6	-0.5
MAJO				pmax	pmax		
	comp=Z,22nm,1.2s						
MJAR	Matsushiro Arr	40.59	269	P	P	18 01 17.3	+0.2
	comp=Z,4.3nm,0.8s,baz=38,slow=7.6,SNR=10.0						
MJAR				LR	LR	18 18 01.4	
	comp=Z,93nm,20.4s,baz=58,slow=36						
	comp=Z,4.3nm,0.8s						
MJB9	Matsu-Tunnel	40.59	269	P	P	18 01 17.2	+0.2
V12A	Nelson	40.62	93	P	P	18 01 19.4	+1.9
V12A				IAmb	IAmb	18 01 20.7	
	comp=Z,8.1nm,1.2s						
GMRC	Granite Mounta	40.75	94	P	P	18 01 20.4	+1.8
	baz=312,SNR=5.7						
P17A	Butcher Ranch,	40.76	85	P	P	18 01 19.3	+0.6
P17A				IAmb	IAmb	18 01 21.2	
	comp=Z,6.0nm,0.6s						
LCMT	Little Creek M	40.77	90	P	P	18 01 19.9	+1.2
LCMT				IAmb	IAmb	18 01 22.1	
	comp=Z,9.8nm,1.4s						
RDMU	Red Mountain	40.81	83	P	P	18 01 19.9	+0.8
RDMU				IAmb	IAmb	18 01 21.9	
	comp=Z,17nm,1.2s						
Q16A	Castle Valley	40.84	86	P	P	18 01 20.4	+1.0
Q16A				IAmb	IAmb	18 01 22.6	
	comp=Z,5.4nm,0.9s						
P18A	Preston Nutter	40.97	84	P	P	18 01 20.9	+0.4
P18A				IAmb	IAmb	18 01 35.0	
	comp=Z,14nm,1.2s						
PFO	Pinyon Flats O	41.05	96	P	P	18 01 20.9	-0.2
PFO				IAmb	IAmb	18 01 23.7	
	comp=Z,8.4nm,1.4s						
PFO	Pinyon Flats O	41.05	96	P	P	18 01 22.7	+1.6
	baz=313						
PFO	Pinyon Flats O	41.05	96	P	P	18 01 20.9	-0.2
PFO				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TPFO	Pinon Flats	41.06	96	P	P	18 01 22.7	+1.6
	baz=313						
PKCU	Pink Cliffs	41.07	89	P	P	18 01 21.8	+0.5
PKCU				IAmb	IAmb	18 01 24.2	
	comp=Z,6.8nm,1.2s						
BELC	Belle Mtn. Jos	41.07	96	P	P	18 01 22.3	+1.1
	baz=313						
PMD	Palm Desert	41.08	96	P	P	18 01 22.3	+1.1
K22A	Casper	41.42	78	P	P	18 01 24.6	+0.5
	baz=306						
IRM	Iron Mountain	41.49	95	P	P	18 01 25.7	+1.2
	baz=313						
MONP2	Monument Peak	41.57	97	P	P	18 01 26.0	+0.6
	baz=314						
W13A	Hualapai Mount	41.63	93	P	P	18 01 27.9	+2.0
BC3	Big Chuckawall	41.64	95	P	P	18 01 26.0	+0.2
	baz=313						
HMU	Henry Mountain	41.72	87	P	P	18 01 28.5	+1.9
HMU				IAmb	IAmb	18 01 40.3	
	comp=Z,12nm,1.2s						
U15A	North Rim	41.73	90	P	P	18 01 27.8	+1.0
U15A				IAmb	IAmb	18 01 46.1	
	comp=Z,8.8nm,1.1s						
CBX	Cerro Bola	41.82	98	P	P	18 01 28.8	+1.4
O20A	White River Ci	41.88	82	P	P	18 01 28.6	+0.8
O20A	White River Ci	41.88	82	P	P	18 01 28.8	+0.9
	baz=308,SNR=6.2						
IKP	In-Ko-Pah, Jac	41.93	97	P	P	18 01 28.4	+0.2
	baz=314						
PDMCI	Parker Dam,Lak	42.00	94	P	P	18 01 29.5	+0.8
	baz=312						
YUH	Yuha Desert	42.04	97	P	P	18 01 29.9	+0.9
YUH				IAmb	IAmb	18 01 31.6	
	comp=Z,6.4nm,1.1s						
BLYC	Blythe	42.14	95	P	P	18 01 30.9	+1.1
BLYC				IAmb	IAmb	18 01 32.6	
	comp=Z,5.6nm,0.8s						
GLA	Glamis	42.43	96	P	P	18 01 34.0	+1.7
GLA				IAmb	IAmb	18 01 56.3	
	comp=Z,9.3nm,1.4s						
GLA	Glamis	42.43	96	P	P	18 01 34.2	+2.0
	baz=314						
GLA	Glamis	42.43	96	P	P	18 01 34.0	+1.7
GLA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
ESJX	Sierra Juarez	42.47	98	P	P	18 01 34.1	+1.4
N23A	Red Feather La	42.81	80	P	P	18 01 35.5	-0.1
N23A				IAmb	IAmb	18 01 45.6	
	comp=Z,12nm,1.3s						
N23A	Red Feather La	42.81	80	P	P	18 01 35.9	+0.3
	baz=307						
WUAZ	Wupatki	42.89	90	P	P	18 01 37.9	+1.8
WUAZ				IAmb	IAmb	18 01 56.3	
	comp=Z,8.1nm,1.0s						
WUAZ	Wupatki	42.89	90	P	P	18 01 36.6	+0.5
	baz=311						
113A	Mohawk Valley,	43.27	95	P	P	18 01 40.3	+1.3
ULM	Lac du Bonnet	43.36	63	LR	LR	18 19 12.8	
	comp=Z,126nm,21.3s,baz=257,slow=35						
MVCO	Mesa Verde	43.55	86	P	P	18 01 42.1	+0.6
MVCO				IAmb	IAmb	18 02 02.8	
	comp

comp=Z,5.9nm,1.2s
SDCO Great Sand Dun 45.04 83 P **P 18 01 55.5 +2.0**
baz=310,SNR=5.4
TUC Tucson 45.41 93 P **P 18 01 57.6 +1.4**
TUC IAmb IAmb 18 01 59.1
comp=Z,3.3nm,0.9s
TUC Tucson 45.41 93 P **P 18 01 57.4 +1.1**
baz=314
TUC Tucson 45.41 93 P **P 18 01 57.6 +1.4**
TUC pmax pmax
comp=Z,3.0nm,1.0s
T25A Trinidad 46.09 83 P **P 18 02 02.9 +1.1**
T25A Trinidad 46.09 83 P **P 18 02 03.6 +1.8**
baz=310,SNR=7.0
ANMO Albuquerque 46.28 87 P **P 18 02 04.4 +1.2**
ANMO IAmb IAmb 18 02 33.8
comp=Z,2.6nm,0.8s
ANMO Albuquerque 46.28 87 P **P 18 02 03.7 +0.5**
baz=312
ANMO Albuquerque 46.28 87 *i* P **P 18 02 04.7 +1.5**
ANMO pmax pmax
comp=Z,7.0nm,1.5s
KSRS Korea Array 46.29 278 *e*P **P 18 02 03.8 +0.8**
KSRS pmax pmax
comp=Z,9.0nm,0.9s
KSRS Korea Array 46.29 278 P **P 18 02 03.5 +0.5**
comp=Z,9.2nm,0.9s,baz=55,slow=7.5,SNR=43
KSRS LR LR 18 21 46.4
comp=Z,48nm,19.6s,baz=55,slow=37
comp=Z,9.2nm,0.9s
KSAR Wonju Array Be 46.32 278 P **P 18 02 01.8 -1.4**
KSAR Wonju Array Be 46.32 278 P **P 18 02 01.8 -1.4**
Y22D IRIS PASSCAL I 46.58 88 P **P 18 02 07.1 +1.6**
baz=312
Y22F Passcal Instru 46.58 88 P **P 18 02 07.1 +1.6**
baz=312
ECSD EROS Data Cent 46.63 71 P **P 18 02 05.5 -0.1**
baz=307
INCN Inchon 47.05 279 P **P 18 02 09.2 +0.2**
INCN Inchon 47.05 279 P **P 18 02 09.2 +0.2**
INCN pmax pmax
comp=Z,37nm,1.0s
121A Cookes Peak, D 47.10 90 P **P 18 02 10.6 +1.0**
baz=314
TJN Taejon 47.33 277 P **P 18 02 11.1 -0.1**
TJN Taejon 47.33 277*ce*P **P 18 02 11.5 +0.4**
MNTX Cornudas Mount 49.15 89 P **P 18 02 26.6 +1.3**
MNTX IAmb IAmb 18 02 27.8
comp=Z,4.5nm,0.9s
MNTX Cornudas Mount 49.15 89 P **P 18 02 26.5 +1.2**
baz=314
MSTX Muleshoe 49.19 85 P **P 18 02 26.5 +0.8**
baz=313
DAG Danmarks Havn 49.65 9 *i* P **P 18 02 28.0 -0.5**
WMOK Wichita Mounta 51.10 81 **P 18 02 40.6 +0.5**
WMOK IAmb IAmb 18 03 00.1
comp=Z,5.9nm,1.1s
WMOK Wichita Mounta 51.10 81 P **P 18 02 40.7 +0.6**
baz=313
WMOK Wichita Mounta 51.10 81 P **P 18 02 40.6 +0.6**
WMOK pmax pmax
comp=Z,6.0nm,1.1s
ALPN Alpine 51.14 89 P **P 18 02 41.5 +0.9**
ALPN IAmb IAmb 18 02 58.8
comp=Z,4.7nm,1.0s
BJT Baijiatuau 51.64 288 P **P 18 02 43.0 -1.0**
BJT IAmb IAmb 18 02 44.9
comp=Z,5.5nm,0.8s
BJT Baijiatuau 51.64 288 P **P 18 02 43.0 -1.0**
BJT pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 51.70 301 P **P 18 02 43.3 -1.2**
ULN IAmb IAmb 18 02 45.5
comp=Z,6.5nm,0.9s
ULN Ulaanbaatar 51.70 301 *i* P **P 18 02 44.0 -0.5**
ULN pmax pmax
comp=Z,7.0nm,0.9s
TX31 Lajitas Ar. Si 51.86 90 P **P 18 02 46.8 +0.9**
TX32 Lajitas Array 51.86 90 P **P 18 02 46.6 +0.7**
TX32 IAmb IAmb 18 02 48.0
comp=Z,8.5nm,0.9s
TXAR Lajitas Array 51.86 90 P **P 18 02 46.4 +0.5**
TXAR Lajitas Array 51.86 90 P **P 18 02 46.4 +0.5**
TXAR Lajitas Array 51.86 90 P **P 18 02 47.0 +1.1**
comp=Z,5.3nm,0.8s,baz=298,slow=5.5,SNR=36
comp=Z,5.3nm,0.8s
P40A Paris 51.93 72 P **P 18 02 45.3 -0.9**
SONM Songino Array 52.06 302 P **P 18 02 45.4 -1.9**
SONM IAmb IAmb 18 02 48.1
comp=Z,5.8nm,1.0s
SONM Songino Array 52.06 302 P **P 18 02 47.3 +0.1**
comp=Z,3.6nm,0.8s,baz=63,slow=6.8,SNR=6.9
comp=Z,3.6nm,0.8s
SAND Sanderson 52.36 88 P **P 18 02 50.1 +0.5**
SAND IAmb IAmb 18 02 51.3
comp=Z,6.2nm,1.1s
BRDY Brady 53.34 85 P **P 18 02 57.7 +0.9**
BRDY IAmb IAmb 18 02 58.1
comp=Z,6.2nm,1.0s
MGMO Mountain Grove 53.38 75 P **P 18 02 55.5 -1.5**
DRIO Del Rio 53.66 88 P **P 18 02 58.9 -0.2**
DRIO IAmb IAmb 18 02 59.9
comp=Z,9.2nm,1.0s
HHC Hu-ho-hao-te 53.75 292 *e*P **P 18 02 58.5 -1.2**
HHC pmax pmax
comp=Z,32nm,0.5s
HHC pmax pmax
comp=Z,250nm,4.9s
HHC LR LR
comp=N,380nm,13.9s
HHC LR LR
comp=E,280nm,13.5s
HHC LR LR
comp=Z,310nm,17.3s
HNS HongShan 54.23 287 ⇑P **P 18 03 04.0 +0.8**
HNS pmax pmax
comp=Z,28nm,1.0s
BTO Baotou 54.78 293 *e*P **P 18 03 05.5 -1.8**
BTO PP **PP 18 05 14.8 +5.1**
BTO S **S 18 10 45.5 -2.7**
BTO Baotou 54.78 293 SS **SKiKP 18 14 22.8 +7.6**
BTO pmax pmax
comp=Z,41nm,0.9s
BTO pmax pmax
comp=Z,240nm,3.8s
BTO LR LR
comp=N,300nm,11.5s
BTO LR LR
comp=E,250nm,6.7s
BTO LR LR
comp=Z,380nm,12.3s
833A Chaparral WMA, 55.20 88 P **P 18 03 09.6 -0.7**
JMIC Jan Mayen 56.06 8 LR LR 18 30 26.5
comp=Z,42nm,18.2s,baz=264,slow=40
LYN LuoYang 57.51 286 ⇓P **P 18 03 27.5 +0.8**
LYN pmax pmax
comp=Z,17nm,0.7s
LYN pmax pmax
comp=Z,110nm,4.1s
ARCES ARCESS Array B 58.01 354 P **P 18 03 29.5 -0.2**
comp=Z,2.3nm,0.8s,baz=357,slow=8.5,SNR=1.9
comp=Z,2.3nm,0.8s
ZALV Zalesovo Beam 58.02 318 *e*P **P 18 03 30.2 +0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 58.02 318 P **P 18 03 29.8 -0.2**
comp=Z,0.6nm,0.4s,baz=44,slow=6.6,SNR=4.9
comp=Z,0.6nm,0.4s
XAN Xi'an 59.95 288 P **P 18 03 42.0 -1.8**
XAN pmax pmax
comp=Z,15nm,1.0s
DGZ Jazzator, Alta 59.99 313 *i* P **P 18 03 43.6 -0.4**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
GOGA Godfrey 61.15 72 P **P 18 03 51.0 -0.8**
baz=316
GTA Gaotai 61.27 298 ⇑P **P 18 03 52.0 -0.8**
GTA pP pwP 18 03 56.8 -1.9
GTA pmax pmax
comp=Z,8.0nm,0.9s
LZH Lanzhou 61.41 293 *e*P **P 18 03 54.3 +0.5**
LZH pP pwP 18 04 07.5 +7.8
LZH pmax pmax
comp=Z,40nm,1.2s
KURK Kurchatov 62.96 319*ce*P **P 18 04 03.3 -0.5**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURBB Kurchatov Arra 63.06 319 P **P 18 04 04.1 -0.4**
comp=Z,0.9nm,0.3s,baz=45,slow=7.4,SNR=8.6
comp=Z,0.9nm,0.3s
PRGR Permogore 63.25 343 *e*P **P 18 04 04.3 -1.2**
PRGR pmax pmax
comp=Z,21nm,1.5s
BVAR Borovoye Array 64.21 325 P **P 18 04 11.9 -0.1**
comp=Z,7.1nm,0.9s,baz=46,slow=6.8,SNR=26
comp=Z,7.1nm,0.9s
BRVK Borovoye 64.22 325 P **P 18 04 11.5 -0.6**
BRVK Borovoye 64.22 325 P **P 18 04 11.5 -0.6**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 64.44 314 P **P 18 04 12.6 -1.1**
MK31 Makanchi Array 64.44 314 P **P 18 04 12.6 -1.1**
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 64.44 314 P **P 18 04 12.2 -1.5**
MKAR Makanchi Array 64.44 314 *e*P **P 18 04 12.7 -1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 64.44 314 P **P 18 04 12.5 -1.2**
comp=Z,1.3nm,0.8s,baz=54,slow=6.2,SNR=13
comp=Z,1.3nm,0.8s
ARU Arti 65.02 334 P **P 18 04 15.6 -1.6**
ARU Arti 65.02 334*c i* P **P 18 04 17.1 -0.1**
ARU S **S 18 12 57.9 -1.2**
ARU SS **SS 18 17 09.2 -0.7**
ARU pmax pmax
comp=Z,13nm,1.1s
KIRV Kirov 65.31 340*ce*P **P 18 04 18.9 -0.2**
FIA1 FINESS Array S 65.98 353 P **P 18 04 22.8 -0.6**
FINES FINESS Array B 65.98 353 P **P 18 04 22.8 -0.6**
FINES FINESS Array B 65.98 353 *e*P **P 18 04 22.9 -0.5**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 65.98 353 P **P 18 04 22.3 -1.1**
comp=Z,5.7nm,0.8s,baz=20,slow=7.8,SNR=14
FINES LR LR 18 36 36.0
comp=Z,39nm,18.4s,baz=33,slow=39
comp=Z,5.7nm,0.8s
GOMU GeErMu 66.31 299 P **P 18 04 26.5 +0.1**
GOMU pP pwP 18 04 38.0 +5.7
GOMU sP PcP 18 04 43.0 -13
GOMU pmax pmax
comp=Z,12nm,0.9s
GOMU LR LR
comp=N,51nm,8.0s
GOMU LR LR
comp=E,84nm,7.3s
GOMU LR LR
comp=Z,85nm,8.4s
NB2 NORSAR Subarra 66.93 0 P **P 18 04 29.1 -0.5**
comp=Z,1.1nm,0.7s,baz=360,slow=6.2
NOA NORSAR Array B 66.93 0 *e*P **P 18 04 29.4 -0.1**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 66.93 0 P **P 18 04 29.0 -0.5**
comp=Z,2.3nm,0.8s,baz=0.7,slow=6.3,SNR=6.4
comp=Z,2.3nm,0.8s
HFS Hagfors 67.84 359 P **P 18 04 34.7 -0.5**
comp=Z,4.7nm,0.7s,baz=29,slow=3.3,SNR=12
comp=Z,4.7nm,0.7s
KMI Kunming 70.13 285 ⇓P **P 18 04 51.0 +0.7**
KMI pmax pmax
comp=Z,12nm,0.8s
DAV Davao City (W) 70.17 255 LR LR 18 31 17.3
comp=Z,70nm,20.9s,baz=77,slow=32
BOOM Boomskoye usch 70.62 315 P **P 18 04 51.3 -1.7**
BOOM IAmb IAmb 18 04 53.8
comp=Z,4.1nm,0.9s
BOOM Boomskoye usch 70.62 315 P **P 18 04 51.3 -1.7**
BOOM pmax pmax
comp=Z,4.0nm,0.9s
ABKAR Akbulak array 70.89 329 P **P 18 04 53.2 -1.1**
ABKAR Akbulak array 70.89 329 P **P 18 04 53.7 -0.6**
ABKAR IAmb IAmb 18 04 55.2
comp=Z,5.7nm,0.8s
OBN Obninsk 70.97 345 ⇓*e*P **P 18 04 53.3 -1.3**
OBN *e* 18 04 57.9
OBN pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 71.11 316 P **P 18 04 54.8 -1.2**
AAK IAmb IAmb 18 04 57.2
comp=Z,5.3nm,0.9s
AAK Ala-Archa 71.11 316*ce*P **P 18 04 55.9 -0.1**
AAK pmax pmax
comp=Z,6.0nm,1.7s
NRN Naryn 71.45 315 P **P 18 04 57.7 -0.5**
NRN IAmb IAmb 18 04 59.2
comp=Z,3.6nm,1.0s
NRN Naryn 71.45 315 P **P 18 04 57.7 -0.5**
NRN pmax pmax
comp=Z,4.0nm,1.0s
EKA Eskdalemuir Ar 71.92 9 P **P 18 05 00.7 +0.3**
comp=Z,2.6nm,0.9s,baz=8.6,slow=5.2,SNR=4.0
comp=Z,2.6nm,0.9s
SLVN Son La 72.31 282 P **P 18 05 03.3 0.0**
KK31 Karatay Array 72.37 319 P **P 18 05 02.8 -0.5**
KK31 Karatay Array 72.37 319 P **P 18 05 02.8 -0.5**
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KKAR Karatay Array 72.37 319 P **P 18 05 02.6 -0.8**
KKAR Karatay Array 72.37 319 P **P 18 05 02.6 -0.8**
KKAR 18 05 02.6
KKAR pmax pmax
comp=Z,7.0nm,1.0s
ARSB Arslanbob 72.83 316 P **P 18 05 05.8 -0.5**
ARSB Arslanbob 72.83 316 P **P 18 05 05.8 -0.5**
KSH Kashi 73.02 313 P **P 18 05 10.0 +2.6**
KSH sP PcP 18 05 22.8 -1.5
KSH pmax pmax
comp=Z,12nm,0.9s
LSA Lhasa 73.25 297 P **P 18 05 09.3 0.0**
LSA Lhasa 73.25 297 P **P 18 05 09.3 0.0**
LSA pmax pmax
comp=Z,13nm,1.1s
RAR Rarotonga 73.62 172 LR LR 18 28 21.3
comp=Z,47nm,21.7s,baz=231,slow=28
BTK Batken 74.80 317 P **P 18 05 17.3 -0.4**
BTK Batken 74.80 317 P **P 18 05 17.3 -0.4**
BTK pmax pmax
comp=Z,11nm,1.0s
CRAI Chiangrai 75.26 284 P **P 18 05 20.9 +0.2**
SHL Shillong 76.05 294 P **P 18 05 23.8 -1.5**
SHL Shillong 76.05 294 P **P 18 05 23.8 -1.5**
SHL pmax pmax
comp=Z,8.0nm,1.0s
AKASG Malin Array Be 76.28 349 *i* P **P 18 05 25.0 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 76.28 349 P **P 18 05 24.9 -0.9**
comp=Z,2.0nm,0.7s,baz=17,slow=6.2,SNR=8.1
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 76.28 349*ce*P **P 18 05 24.2 -1.7**
AKBB pmax pmax
comp=Z,9.0nm,1.8s
TAPN Taplejung 76.96 298 *e*P **P 18 05 30.3 -0.2**
comp=Z,26nm,1.3s
CHTO Chiang Mai 77.21 284 P **P 18 05 29.8 -1.9**
CHTO IAmb IAmb 18 05 32.0
comp=Z,5.6nm,1.2s
CHTO Chiang Mai 77.21 284 P **P 18 05 29.8 -1.9**
CHTO pmax pmax
comp=Z,6.0nm,1.3s
CM31 Chiang Mai Arr 77.48 284 P **P 18 05 32.7 -0.5**
CMAR Chiang Mai Arr 77.48 284 P **P 18 05 33.4 +0.2**
comp=Z,4.7nm,0.9s,baz=25,slow=6.0,SNR=30
CMAR LR LR 18 42 39.9
comp=Z,40nm,19.4s,baz=20,slow=38
comp=Z,4.7nm,0.9s
GUN Gumba 77.50 299 *e*P **P 18 05 33.5 -0.1**
comp=Z,28nm,1.1s
JIRN Jiri 77.53 299 *e*P **P 18 05 33.8 0.0**
comp=Z,14nm,0.8s
RAMN Ramite 77.87 298 *e*P **P 18 05 35.5 -0.1**
comp=Z,15nm,0.8s
PKI Pulchoki 78.02 300 *e*P **P 18 05 35.9 -0.6**
comp=Z,26nm,1.3s
PKIN Phulchoki 78.02 300 *e*P **P 18 05 36.6 +0.1**
GKN Gorkha 78.08 300 *e*P **P 18 05 36.7 0.0**
comp=Z,36nm,1.4s
MORC Moravsky Berou 78.12 356 P **P 18 05 35.2 -1.1**
MORC IAmb IAmb 18 05 49.8
comp=Z,4.9nm,1.1s
MORC Moravsky Berou 78.12 356 P **P 18 05 35.2 -1.1**
MORC pmax pmax
comp=Z,5.0nm,1.1s
DMN Daman 78.15 300 *e*P **P 18 05 37.1 -0.1**
comp=Z,33nm,1.3s
DANN Dangsing 78.27 301 *e*P **P 18 05 37.6 -0.2**
comp=Z,20nm,0.7s
LANS Liptovska Anna 78.66 355 *e*P **P 18 05 40.8 +1.5**
LANS Liptovska Anna 78.66 355 *e*P **P 18 05 40.8 +1.5**
LANS pmax pmax
comp=Z,4.0nm,1.1s
KHC Kasperske Hory 78.86 359 *i* P **P 18 05 41.2 +0.7**
KHC pmax pmax
comp=Z,16nm,2.0s
PYUN Piuthan 78.87 302 *e*P **P 18 05 40.2 -0.9**
comp=Z,21nm,1.0s
GERES GERESS Array B 79.15 359 *e*P **P 18 05 43.9 +1.8**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 79.15 359 P **P 18 05 42.7 +0.6**
comp=Z,1.3nm,0.8s,baz=357,slow=5.3,SNR=3.9
comp=Z,1.3nm,0.8s
VYHS Vyhne 79.34 355 *e*P **P 18 05 43.9 +0.8**
VYHS Vyhne 79.34 355 *e*P **P 18 05 43.9 +0.8**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
ECH Echery 79.70 3 P **P 18 05 45.1 +0.1**
ECH IAmb IAmb 18 05 46.7
comp=Z,4.6nm,1.0s
ECH Echery 79.70 3 P **P 18 05 45.1 +0.1**
ECH pmax pmax
comp=Z,5.0nm,1.0s
BURAR Bucovina Array 79.76 351 P **P 18 05 45.8 +0.4**
KBL Kabul 80.21 315 P **P 18 05 47.1 -1.2**
KBL Kabul 80.21 315 P **P 18 05 47.1 -1.2**
KBL pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 80.48 338 *e*P **P 18 05 50.7 +1.3**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 80.65 338 *i* P **P 18 05 50.7 +0.6**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 80.65 338 P **P 18 05 51.3 +1.2**
comp=Z,3.7nm,1.0s,baz=33,slow=1.5,SNR=4.9
KBZ LR LR 18 46 09.9
comp=Z,40nm,18.4s,baz=24,slow=39
comp=Z,3.7nm,1.0s
GEYT Alibeck 81.54 325 P **P 18 05 54.9 -0.2**
GEYT Alibeck 81.54 325 P **P 18 05 54.9 -0.2**
GEYT Alibeck 81.54 325 P **P 18 05 55.5 +0.4**
comp=Z,8.1nm,0.9s,baz=350,slow=4.4,SNR=16
comp=Z,8.1nm,0.9s
GYA0B ALIBECK ARRAY 81.54 325 P **P 18 05 55.2 0.0**
MLR Muntele Rosu 81.79 350 LR LR 18 45 16.5
comp=Z,51nm,20.0s,baz=27,slow=38
BNI Bardonecchia 82.84 4 P **P 18 06 03.6 +1.7**
BNI Bardonecchia 82.84 4 P **P 18 06 03.6 +1.7**
BNI pmax pmax
comp=Z,6.0nm,1.1s
HRA Herat 83.15 320 P **P 18 06 03.1 -0.7**
GEVA Gevas 85.74 336 P **P 18 06 17.8 +1.0**
RDO Rodhopi 86.13 350 P **P 18 06 19.5 +1.1**
BRTR Keskin Array B 86.38 344 P **P 18 06 21.0 +1.1**
BRTR Keskin Array B 86.38 344 *e*P **P 18 06 21.5 +1.6**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 86.38 344 P **P 18 06 20.8 +0.9**
comp=Z,2.8nm,0.9s,baz=13,slow=3.7,SNR=10
comp=Z,2.8nm,0.9s
MARD Mardin 87.24 337 P **P 18 06 22.4 -1.7**
ESDC Sonseca Array 87.27 12 P **P 18 06 23.8 -0.4**
ESDC IAmb IAmb 18 06 25.3
comp=Z,1.5nm,0.9s
ESDC Sonseca Array 87.27 12 P **P 18 06 24.6 +0.5**
comp=Z,1.2nm,0.7s,baz=345,slow=4.5,SNR=12
comp=Z,1.2nm,0.7s
WRA Warramunga Arr 87.71 233 P **P 18 06 25.2 -1.1**
comp=Z,1.1nm,0.9s,baz=39,slow=6.0,SNR=6.9
comp=Z,1.1nm,0.9s
ASAR Alice Springs 91.09 231 P **P 18 06 41.8 -0.3**
comp=Z,1.7nm,0.8s,baz=36,slow=5.3,SNR=13
comp=Z,1.7nm,0.8s
MMAI Mount Meron Ar 92.56 341 LR LR 18 57 09.9
comp=Z,33nm,18.0s,baz=46,slow=41
PALK Pallekele 97.03 291 LR LR 18 59 40.3
comp=Z,19nm,18.2s,baz=353,slow=41
QSPA South Pole Qui 142.14 180 PKP **PKiKP 18 13 10.2 -1.2**
comp=Z,1.4nm,0.9s,baz=48,slow=1.3,SNR=3.2
MAW Mawson 151.43 218 PKPbc **PKPbc 18 13 29.8 -0.2**
comp=Z,3.0nm,0.8s,baz=51,slow=14,SNR=5.2

---

*LDG **26** 18:03:32.0±0.1, 43°.02N×13°.07E, h9km, Ml2.3/4, Error ellipse: s-maj=4.0km s-min=3.0km az=41.0*
ROM 26 18:03:32.8±0.1, 43°.016N±0°.003×13°.012E±0°.004, h7km, ML2.8/128, 4C-4D, Error ellipse: s-maj=0.3km s-min=0.2km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
FDMO	**Fiordimonte**	**0.06**	**70**	P	Pg		18 03 34.7	+0.2
FDMO				S	Sg		18 03 35.8	0.0
FDMO				AML	AML			
	comp=E,65250μm,0.3s							
FDMO				AML	AML			
	comp=N,50950μm,0.8s							
FDMO				AML	AML			
	comp=E,65267μm,0.3s							
FDMO				AML	AML			
	comp=N,41286μm,0.2s							
FEMA	**Monte Fema**	**0.06**	**153**	⇓P	Pg		18 03 35.0	+0.3
FEMA				S	Sg		18 03 36.3	+0.3
FEMA				AML	AML			
	comp=E,73650μm,0.3s							
FEMA				AML	AML			
	comp=N,58100μm,0.5s							
FEMA				AML	AML			
	comp=N,58100μm,0.5s							
FEMA				AML	AML			
	comp=E,73700μm,0.3s							
FEMA				AML	AML			
	comp=N,44598μm,0.3s							
FEMA				AML	AML			
	comp=E,73668μm,0.3s							
CESI	**CESI - Serrava**	**0.08**	**262**	P	Pg		18 03 35.4	+0.5
CESI				S	Sg		18 03 37.0	+0.7
CESI				AML	AML			
	comp=E,27550μm,0.8s							
CESI				AML	AML			
	comp=N,29950μm,0.3s							
CESI				AML	AML			
	comp=N,29919μm,0.3s							
CESI				AML	AML			
	comp=E,17290μm,0.2s							
SEF1	**Sefro**	**0.14**	**340**	P	Pg		18 03 36.2	+0.4
SEF1				S	Sg		18 03 38.7	+0.9
SEF1				AML	AML			
	comp=E,12200μm,0.4s							
SEF1				AML	AML			
	comp=N,13000μm,0.5s							
SEF1				AML	AML			
	comp=E,12200μm,0.4s							
SEF1				AML	AML			
	comp=N,13000μm,0.5s							
SEF1				AML	AML			
	comp=N,9970μm,0.1s							
SEF1				AML	AML			
	comp=E,10257μm,0.3s							
CSP1	**Cessapalombo**	**0.16**	**62**	⇑P	Pg		18 03 36.7	+0.6
CSP1				S	Sg		18 03 39.6	+1.1
CSP1				AML	AML			
	comp=E,16550μm,0.5s							
CSP1				AML	AML			
	comp=E,16600μm,0.5s							
CSP1				AML	AML			
	comp=N,12350μm,1.1s							
CSP1				AML	AML			
	comp=E,16600μm,1.5s							
CSP1				AML	AML			
	comp=E,16570μm,0.5s							
CSP1				AML	AML			
	comp=N,10964μm,0.3s							
PIO1	**Pioraco**	**0.16**	**353**	P	Pg		18 03 36.8	+0.6
PIO1				S	Sg		18 03 39.5	+1.0
MC2	**Monte Cornacci**	**0.17**	**128**	P	Pg		18 03 37.0	+0.6

MC2			S	Sg	18 03 40.2	+1.5
FIU1	**Fiuminata**	**0.18 341**	P	Pg	18 03 37.1	+0.5
FIU1			S	Sg	18 03 40.1	+1.0
NRCA	**Norcia**	**0.20 158**	P	Pg	18 03 37.4	+0.6
NRCA			S	Sg	18 03 41.0	+1.5
NRCA			AML	AML		
	comp=N,8835µm,0.9s					
NRCA			AML	AML		
	comp=E,11900µm,0.4s					
NRCA			AML	AML		
	comp=E,11150µm,0.4s					
NRCA			AML	AML		
	comp=N,8840µm,0.9s					
NRCA			AML	AML		
	comp=N,9545µm,0.9s					
NRCA			AML	AML		
	comp=E,11879µm,0.4s					
NRCA			AML	AML		
	comp=E,11158µm,0.4s					
NRCA			AML	AML		
	comp=N,8808µm,0.1s					
NRCA			AML	AML		
	comp=N,8241µm,0.1s					
T1221	**Campello sul C**	**0.20 218**	⇑P	Pg	18 03 37.7	+0.9
T1221			S	Sg	18 03 41.2	+1.7
T1221			AML	AML		
	comp=E,7825µm,1.3s					
T1221			AML	AML		
	comp=N,8420µm,0.2s					
T1221			AML	AML		
	comp=E,7845µm,1.4s					
T1221			AML	AML		
	comp=N,8090µm,0.2s					
T1221			AML	AML		
	comp=E,7830µm,1.3s					
T1221			AML	AML		
	comp=E,7845µm,1.3s					
T1221			AML	AML		
	comp=N,8095µm,0.2s					
T1221			AML	AML		
	comp=E,7830µm,0.7s					
T1221			AML	AML		
	comp=E,7845µm,0.7s					
T1221			AML	AML		
	comp=N,8096µm,0.2s					
T1221			AML	AML		
	comp=N,8423µm,0.2s					
T1221			AML	AML		
	comp=E,5747µm,0.3s					
T1221			AML	AML		
	comp=E,5812µm,0.3s					
MDAR	**Monte D'Aria**	**0.20 28**	P	Pg	18 03 37.5	+0.6
MDAR			S	Sg	18 03 40.9	+1.2
MDAR			AML	AML		
	comp=E,4135µm,0.4s					
MDAR			AML	AML		
	comp=N,4740µm,0.5s					
MDAR			AML	AML		
	comp=E,4145µm,0.4s					
MDAR			AML	AML		
	comp=E,4140µm,0.4s					
MDAR			AML	AML		
	comp=N,4735µm,0.5s					
MDAR			AML	AML		
	comp=E,4140µm,1.6s					
MDAR			AML	AML		
	comp=N,4332µm,0.4s					
MDAR			AML	AML		
	comp=E,4141µm,0.5s					
GAG1	**Gagliole**	**0.23 10**	P	Pg	18 03 38.2	+0.8
GAG1			S	Sg	18 03 42.2	+1.8
MTL1	**Matelica**	**0.24 360**	P	Pg	18 03 38.5	+0.8
MTL1			S	Sg	18 03 42.7	+1.8
MTL1			AML	AML		
	comp=E,13700µm,0.6s					
MTL1			AML	AML		
	comp=N,9675µm,0.7s					
MTL1			AML	AML		
	comp=N,9675µm,1.3s					
MTL1			AML	AML		
	comp=E,13737µm,0.6s					
MTL1			AML	AML		
	comp=N,9652µm,0.7s					
GUMA	**Gualdo di Mace**	**0.24 79**	P	Pg	18 03 38.6	+0.9
GUMA			S	Sg	18 03 43.1	+2.2
GUMA			AML	AML		
	comp=E,41350µm,0.3s					
GUMA			AML	AML		
	comp=N,48250µm,0.3s					
GUMA			AML	AML		
	comp=E,64750µm,0.3s					
GUMA			AML	AML		
	comp=E,41350µm,0.3s					
GUMA			AML	AML		
	comp=N,31900µm,0.2s					
GUMA			AML	AML		
	comp=E,41313µm,0.3s					
GUMA			AML	AML		
	comp=E,64737µm,0.3s					
GUMA			AML	AML		
	comp=N,48249µm,0.3s					
GUMA			AML	AML		
	comp=N,31880µm,0.2s					
SNTG	**Esanatoglia**	**0.24 348**	P	Pg	18 03 38.1	+0.4
SNTG			S	Sg	18 03 42.5	+1.5
SNTG			AML	AML		
	comp=E,3160µm,0.8s					
SNTG			AML	AML		
	comp=N,3200µm,0.2s					
SNTG			AML	AML		
	comp=N,3680µm,0.2s					
SNTG			AML	AML		
	comp=E,3160µm,0.8s					
SNTG			AML	AML		
	comp=N,3200µm,0.2s					
SNTG			AML	AML		
	comp=E,3055µm,0.8s					
SNTG			AML	AML		
	comp=E,3160µm,1.2s					
SNTG			AML	AML		
	comp=E,3055µm,1.2s					
SNTG			AML	AML		
	comp=E,2838µm,0.2s					
SNTG			AML	AML		
	comp=E,2672µm,0.2s					
SNTG			AML	AML		
	comp=N,3196µm,0.2s					
SNTG			AML	AML		
	comp=N,3681µm,0.1s					
SSM1	**San Severino M**	**0.24 30**	P	Pg	18 03 38.3	+0.6
SSM1			S	Sg	18 03 42.6	+1.6
MMO1	**Montemonaco**	**0.26 117**	P	Pg	18 03 38.5	+0.6
MMO1			S	Sg	18 03 42.9	+1.5
ASSB	**Assisi San Ben**	**0.26 276**	⇑P	Pg	18 03 38.5	+0.6
ASSB			AML	AML		
	comp=E,3335µm,0.5s					
ASSB			AML	AML		
	comp=N,6000µm,0.4s					
ASSB			AML	AML		
	comp=E,3335µm,1.5s					
ASSB			AML	AML		
	comp=N,4058µm,0.2s					
ASSB			AML	AML		
	comp=E,2380µm,0.2s					
T1214	**Arquata del Tr**	**0.29 150**	⇓P	Pg	18 03 39.2	+0.5
T1214			S	Sb	18 03 44.3	-1.3
T1214			AML	AML		
	comp=N,3265µm,0.3s					
T1214			AML	AML		
	comp=N,3210µm,0.3s					
T1214			AML	AML		
	comp=E,3120µm,0.5s					
T1214			AML	AML		
	comp=E,3220µm,0.5s					
T1214			AML	AML		
	comp=N,3264µm,0.3s					
T1214			AML	AML		
	comp=N,3214µm,0.3s					
T1214			AML	AML		
	comp=E,2547µm,0.4s					
T1214			AML	AML		
	comp=E,2558µm,0.1s					
ATCC	**AVT- Casa Cast**	**0.32 302**	P	Pg	18 03 39.7	+0.6
ATCC			S	Sb	18 03 45.4	-0.9
EL6	**Elcito**	**0.32 12**	P	Pg	18 03 39.5	+0.4
EL6			S	Sb	18 03 45.0	-1.4
EL6			AML	AML		
	comp=E,5405µm,1.5s					
EL6			AML	AML		
	comp=N,6690µm,0.6s					
EL6			AML	AML		
	comp=E,5405µm,0.5s					
EL6			AML	AML		
	comp=E,4794µm,0.1s					
EL6			AML	AML		
	comp=N,5242µm,0.4s					
MF5	**Montefalcone A**	**0.33 95**	P	Pb	18 03 40.4	-0.7
MF5			S	Sb	18 03 46.4	-0.2
MF5			AML	AML		
	comp=E,6855µm,0.5s					
MF5			AML	AML		
	comp=N,8035µm,0.9s					
MF5			AML	AML		
	comp=E,6855µm,0.5s					
MF5			AML	AML		
	comp=N,8038µm,0.9s					
FOSV	**Fossato di Vic**	**0.33 327**	P	Pg	18 03 39.8	+0.4
FOSV			S	Sb	18 03 45.3	-1.4
FOSV			AML	AML		
	comp=E,1430µm,0.9s					
FOSV			AML	AML		
	comp=N,1945µm,0.3s					
FOSV			AML	AML		
	comp=E,1430µm,1.1s					
FOSV			AML	AML		
	comp=E,1217µm,0.2s					
GAVE	**Gavelli**	**0.34 195**	⇑P	Pb	18 03 40.4	-0.8
GAVE			AML	AML		
	comp=E,6035µm,1.4s					
GAVE			AML	AML		
	comp=E,6040µm,1.4s					
GAVE			AML	AML		
	comp=N,4680µm,0.4s					
GAVE			AML	AML		
	comp=N,1600µm,0.4s					
GAVE			AML	AML		
	comp=E,6035µm,0.6s					
GAVE			AML	AML		
	comp=E,6040µm,0.6s					
GAVE			AML	AML		
	comp=E,5499µm,0.5s					
GAVE			AML	AML		
	comp=N,1380µm,0.2s					
GAVE			AML	AML		
	comp=N,4207µm,0.2s					
GAVE			AML	AML		
	comp=E,5132µm,0.5s					
MNTP	**Montappone**	**0.36 70**	P	Pb	18 03 41.0	-0.5
MNTP			S	Sb	18 03 47.7	+0.4
CING	**Cingoli**	**0.38 20**	P	Pg	18 03 40.8	+0.4
CING			S	Sb	18 03 47.0	-1.1
CING			AML	AML		
	comp=E,5215µm,0.1s					
CING			AML	AML		
	comp=N,5025µm,0.5s					
CING			AML	AML		
	comp=N,4210µm,0.1s					
CING			AML	AML		
	comp=E,5214µm,0.1s					
MTRA	**Matera**	**0.38 132**	⇓P	Pg	18 03 40.8	+0.5
MTRA			S	Sb	18 03 47.1	-1.0
MTRA			AML	AML		
	comp=E,3390µm,0.6s					
MTRA			AML	AML		
	comp=N,3870µm,0.9s					
MTRA			AML	AML		
	comp=N,3885µm,0.9s					
MTRA			AML	AML		
	comp=N,3870µm,0.9s					
MTRA			AML	AML		
	comp=N,3870µm,1.1s					
MTRA			AML	AML		
	comp=N,3885µm,1.1s					
MTRA			AML	AML		
	comp=E,3335µm,0.6s					
MTRA			AML	AML		
	comp=N,3288µm,0.3s					
MTRA			AML	AML		
	comp=N,3269µm,0.3s					
MTRA			AML	AML		
	comp=E,3392µm,0.6s					
MTRA			AML	AML		
	comp=E,3336µm,0.6s					
MOMA	**Monte Martano**	**0.39 237**	P	Pg	18 03 40.9	+0.5
MOMA			S	Sb	18 03 47.6	-0.7
MOMA			AML	AML		
	comp=N,3180µm,1.6s					
MOMA			AML	AML		
	comp=E,1410µm,1.3s					
MOMA			AML	AML		
	comp=N,1275µm,0.8s					
MOMA			AML	AML		
	comp=N,3180µm,0.4s					
MOMA			AML	AML		
	comp=E,1410µm,0.7s					
MOMA			AML	AML		
	comp=E,1235µm,0.5s					
MOMA			AML	AML		
	comp=E,1036µm,0.3s					
MOMA			AML	AML		
	comp=E,1087µm,0.1s					
MOMA			AML	AML		
	comp=N,982µm,0.2s					
MOMA			AML	AML		
	comp=N,2474µm,0.7s					
LNSS	**Leonessa**	**0.41 177**	P	Pg	18 03 41.3	+0.4
LNSS			S	Sb	18 03 47.8	-1.2
LNSS			AML	AML		
	comp=E,4705µm,0.3s					
LNSS			AML	AML		
	comp=N,3175µm,1.0s					
LNSS			AML	AML		
	comp=E,4705µm,1.7s					
LNSS			AML	AML		
	comp=N,3175µm,1.0s					
LNSS			AML	AML		
	comp=E,4706µm,0.3s					
LNSS			AML	AML		
	comp=N,2739µm,0.1s					
MMUR	**Monte Murano**	**0.43 359**	P	Pg	18 03 41.6	+0.5
MMUR			S	Sb	18 03 49.0	-0.4
MURB	**Monte Urbino**	**0.43 305**	P	Pg	18 03 41.8	+0.5
MURB			S	Sb	18 03 49.5	-0.1
MURB			AML	AML		
	comp=E,3230µm,1.1s					
MURB			AML	AML		
	comp=E,3640µm,1.1s					
MURB			AML	AML		
	comp=N,3440µm,0.4s					
MURB			AML	AML		
	comp=N,3500µm,0.5s					
MURB			AML	AML		
	comp=N,3437µm,0.4s					
MURB			AML	AML		
	comp=N,2899µm,0.2s					
MURB			AML	AML		
	comp=E,3467µm,0.4s					
MURB			AML	AML		
	comp=E,3122µm,0.4s					
SSFR	**Montelago di S**	**0.45 338**	P	Pg	18 03 42.0	+0.4
SSFR			S	Sb	18 03 49.7	-0.5
SSFR			AML	AML		
	comp=E,4675µm,1.5s					
SSFR			AML	AML		
	comp=E,4350µm,0.8s					
SSFR			AML	AML		
	comp=E,4350µm,1.2s					
SSFR			AML	AML		
	comp=E,4675µm,0.5s					
SSFR			AML	AML		
	comp=N,3190µm,0.2s					
SSFR			AML	AML		
	comp=N,3045µm,0.6s					
SSFR			AML	AML		
	comp=E,4345µm,0.2s					
SSFR			AML	AML		
	comp=E,4580µm,0.2s					
SSFR			AML	AML		
	comp=N,3189µm,0.2s					
SSFR			AML	AML		
	comp=N,2914µm,0.2s					
SMA1	**SAN MARTINO**	**0.45 148**	P	Pg	18 03 41.9	+0.3
SMA1			S	Sb	18 03 49.6	-0.5
SMA1			AML	AML		
	comp=E,3215µm,0.4s					
SMA1			AML	AML		
	comp=N,2925µm,0.5s					
SMA1			AML	AML		
	comp=N,2925µm,1.5s					
SMA1			AML	AML		
	comp=E,3212µm,0.4s					
SMA1			AML	AML		
	comp=N,2923µm,0.5s					
ATSC	**Scheggia e Pas**	**0.47 330**	P	Pg	18 03 42.2	+0.2
ATSC			S	Sb	18 03 50.0	-0.7
ARRO	**Arrone**	**0.47 203**	P	Pg	18 03 42.5	+0.6
ARRO			S	Sb	18 03 50.0	-0.6
ARRO			AML	AML		
	comp=E,1166µm,1.3s					
ARRO			AML	AML		
	comp=N,1233µm,1.0s					
ARRO			AML	AML		
	comp=E,1166µm,0.7s					
ARRO			AML	AML		
	comp=E,942µm,0.2s					
ARRO			AML	AML		
	comp=N,1222µm,0.2s					
ATFO	**Monte Foce - G**	**0.48 318**	P	Pg	18 03 42.4	+0.4
ATFO			S	Sb	18 03 50.2	-0.6
ATFO			AML	AML		
	comp=E,890µm,0.8s					
ATFO			AML	AML		
	comp=N,860µm,1.2s					
ATFO			AML	AML		
	comp=E,890µm,1.2s					
ATFO			AML	AML		
	comp=N,860µm,0.8s					
ATFO			AML	AML		
	comp=E,817µm,0.5s					
ATFO			AML	AML		
	comp=N,743µm,0.5s					
ARVD	**Arcevia**	**0.48 354**	P	Pg	18 03 42.5	+0.3
ARVD			S	Sb	18 03 50.6	-0.4
ARVD			AML	AML		
	comp=N,912µm,0.5s					
ARVD			AML	AML		
	comp=E,1310µm,0.7s					
ARVD			AML	AML		
	comp=N,804µm,0.1s					
ARVD			AML	AML		
	comp=E,1245µm,0.2s					
OFFI	**Offida**	**0.50 99**	P	Pb	18 03 43.9	0.0
OFFI			S	Sn	18 03 53.8	-1.5
OFFI			AML	AML		
	comp=E,3010µm,0.3s					
OFFI			AML	AML		
	comp=N,4455µm,0.5s					
OFFI			AML	AML		
	comp=E,3013µm,0.3s					
OFFI			AML	AML		
	comp=N,4455µm,0.5s					
ATTE	**AVT- Monte Tez**	**0.52 291**	P	Pg	18 03 43.0	+0.3
ATTE			S	Sb	18 03 52.4	+0.4
ATTE			AML	AML		
	comp=E,460µm,1.3s					
ATTE			AML	AML		
	comp=N,406µm,0.6s					
ATTE			AML	AML		
	comp=E,460µm,0.7s					
ATTE			AML	AML		
	comp=E,435µm,0.6s					
CESX	**Cesi**	**0.52 218**	P	Pg	18 03 43.0	+0.3
CESX			AML	AML		
	comp=N,1590µm,0.3s					
CESX			AML	AML		
	comp=E,1880µm,0.4s					
CESX			AML	AML		
	comp=N,1588µm,0.3s					
CESX			AML	AML		
	comp=E,1882µm,0.4s					
RM33	**Pellescritta (**	**0.53 164**	P	Pg	18 03 43.2	+0.2
RM33			S	Sb	18 03 51.7	-0.6
RM33			AML	AML		
	comp=E,1170µm,1.0s					
RM33			AML	AML		
	comp=E,1235µm,1.0s					
RM33			AML	AML		
	comp=N,1325µm,0.2s					
RM33			AML	AML		
	comp=E,1235µm,1.0s					
RM33			AML	AML		
	comp=N,1370µm,0.2s					
RM33			AML	AML		
	comp=E,1137µm,0.6s					
RM33			AML	AML		
	comp=E,1129µm,0.6s					
ATLO	**AVT- Montelove**	**0.53 304**	P	Pg	18 03 43.4	+0.2
ATLO			S	Sb	18 03 51.9	-0.5
FRON	**Frontone**	**0.54 337**	P	Pg	18 03 43.5	+0.2
FRON			AML	AML		
	comp=E,914µm,0.5s					
FRON			AML	AML		
	comp=N,1360µm,1.1s					
FRON			AML	AML		
	comp=E,914µm,1.5s					
FRON			AML	AML		
	comp=N,1360µm,0.9s					
FRON			AML	AML		
	comp=N,1263µm,0.3s					
FRON			AML	AML		
	comp=E,899µm,0.2s					
CAMP	**Campotosto**	**0.56 149**	P	Pg	18 03 43.8	+0.1
CAMP			AML	AML		
	comp=E,742µm,1.0s					
CAMP			AML	AML		
	comp=N,680µm,0.4s					
CAMP			AML	AML		
	comp=E,742µm,1.0s					
CAMP			AML	AML		
	comp=E,719µm,0.2s					
CAMP			AML	AML		
	comp=N,680µm,0.4s					
CIMA	**Civitanova Mar**	**0.56 59**	P	Pb	18 03 45.2	+0.2
PP3	**Marolino**	**0.57 50**	P	Pb	18 03 45.0	0.0
PP3			AML	AML		
	comp=E,1635µm,0.7s					
PP3			AML	AML		
	comp=N,2105µm,0.6s					
PP3			AML	AML		
	comp=E,1540µm,0.5s					
PP3			AML	AML		
	comp=N,2105µm,0.6s					
PP3			AML	AML		
	comp=N,2160µm,0.6s					
PP3			AML	AML		
	comp=N,2105µm,1.4s					
PP3			AML	AML		
	comp=N,2160µm,1.4s					
PP3			AML	AML		
	comp=N,2159µm,0.6s					
PP3			AML	AML		
	comp=N,2107µm,0.6s					
PP3			AML	AML		
	comp=E,1637µm,0.7s					
PP3			AML	AML		
	comp=E,1539µm,0.5s					
ATBU	**Serra di Buran**	**0.57 324**	P	Pg	18 03 44.3	+0.4
ATVO	**AVT- Monte Val**	**0.57 310**	P	Pg	18 03 44.1	+0.2
ATVO			AML	AML		
	comp=E,460µm,0.4s					
ATVO			AML	AML		
	comp=N,496µm,0.8s					
ATVO			AML	AML		
	comp=N,496µm,1.2s					
ATVO			AML	AML		
	comp=E,460µm,0.4s					
ATVO			AML	AML		
	comp=N,422µm,0.4s					
CADA	**Capodarco di F**	**0.58 72**	P	Pb	18 03 45.9	+0.7
TERO	**Teramo**	**0.59 132**	P	Pg	18 03 44.3	+0.1
TERO			AML	AML		
	comp=E,599µm,0.7s					
TERO			AML	AML		
	comp=N,488µm,0.7s					
TERO			AML	AML		
	comp=E,814µm,0.7s					
TERO			AML	AML		
	comp=N,845µm,1.0s					
TERO			AML	AML		
	comp=N,845µm,1.0s					
TERO			AML	AML		

	comp=E,814μm,1.3s					
TERO			AML	AML		
	comp=E,599μm,1.3s					
TERO			AML	AML		
	comp=E,620μm,0.1s					
TERO			AML	AML		
	comp=N,703μm,0.3s					
TERO			AML	AML		
	comp=N,439μm,0.4s					
TERO			AML	AML		
	comp=E,430μm,0.3s					
ATVA	**AVT- Monte Val**	**0.59 297**	P	Pg	18 03 44.3	+0.1
T1247	**Pizzolo (AQ)**	**0.61 160**	P	Pg	18 03 44.7	+0.1
COR1	**Corinaldo**	**0.61 359**	P	Pb	18 03 45.9	0.0
COR1			AML	AML		
	comp=E,615μm,0.5s					
COR1			AML	AML		
	comp=E,614μm,0.5s					
COR1			AML	AML		
	comp=N,1351μm,0.9s					
COR1			AML	AML		
	comp=N,1351μm,1.1s					
COR1			AML	AML		
	comp=N,1338μm,0.6s					
COR1			AML	AML		
	comp=N,2654μm,0.9s					
COR1			AML	AML		
	comp=E,1716μm,0.5s					
COR1			AML	AML		
	comp=E,615μm,0.5s					
ATPC	**Poggio Castell**	**0.62 319**	P	Pg	18 03 45.1	+0.4
ATPI	**Pietralunga -**	**0.62 314**	P	Pg	18 03 45.0	+0.2
ATPI			AML	AML		
	comp=E,446μm,0.5s					
ATPI			AML	AML		
	comp=N,604μm,0.6s					
ATPI			AML	AML		
	comp=E,447μm,0.5s					
ATPI			AML	AML		
	comp=N,604μm,0.6s					
PIEI	**Pieia**	**0.62 326**	P	Pg	18 03 44.9	0.0
PIEI			AML	AML		
	comp=E,531μm,0.1s					
PIEI			AML	AML		
	comp=N,480μm,0.2s					
PIEI			AML	AML		
	comp=E,531μm,0.1s					
ATMI	**Monte Miggiano**	**0.63 301**	P	Pb	18 03 46.1	-0.1
ATMI			AML	AML		
	comp=N,990μm,1.5s					
ATMI			AML	AML		
	comp=E,912μm,0.4s					
ATMI			AML	AML		
	comp=N,990μm,0.5s					
ATMI			AML	AML		
	comp=E,911μm,0.4s					
ATMI			AML	AML		
	comp=N,988μm,0.4s					
MPAG	**Monte Paganucc**	**0.64 343**	P	Pg	18 03 45.7	+0.5
MPAG			AML	AML		
	comp=E,778μm,0.9s					
MPAG			AML	AML		
	comp=N,594μm,1.5s					
MPAG			AML	AML		
	comp=E,762μm,0.9s					
MPAG			AML	AML		
	comp=N,604μm,1.5s					
MPAG			AML	AML		
	comp=N,604μm,0.5s					
MPAG			AML	AML		
	comp=N,594μm,0.5s					
MPAG			AML	AML		
	comp=E,629μm,0.1s					
MPAG			AML	AML		
	comp=E,643μm,0.2s					
MPAG			AML	AML		
	comp=N,444μm,0.3s					
MPAG			AML	AML		
	comp=N,529μm,0.6s					
MGAB	**Montegabbione**	**0.67 261**	P	Pg	18 03 45.9	+0.2
MGAB			AML	AML		
	comp=E,664μm,0.6s					
MGAB			AML	AML		
	comp=E,682μm,0.6s					
MGAB			AML	AML		
	comp=N,813μm,0.5s					
MGAB			AML	AML		
	comp=N,761μm,0.5s					
MGAB			AML	AML		
	comp=N,813μm,0.5s					
MGAB			AML	AML		
	comp=N,761μm,0.5s					
MGAB			AML	AML		
	comp=E,682μm,0.6s					
MGAB			AML	AML		
	comp=E,664μm,0.6s					
AOI	**Ancona**	**0.69 39**	P	Pg	18 03 46.6	+0.5
APEC	**Apecchio**	**0.69 322**	P	Pg	18 03 46.5	+0.3
APEC			AML	AML		
	comp=E,490μm,1.4s					
APEC			AML	AML		
	comp=N,580μm,0.5s					
APEC			AML	AML		
	comp=E,490μm,0.6s					
APEC			AML	AML		
	comp=E,1174μm,1.3s					
APEC			AML	AML		
	comp=N,580μm,0.5s					
APEC			AML	AML		
	comp=E,452μm,0.6s					
APEC			AML	AML		
	comp=N,1052μm,0.8s					
FSSB	**Fossombrone**	**0.70 346**	P	Pg	18 03 46.4	+0.2
FSSB			AML	AML		
	comp=N,2500μm,0.4s					
FSSB			AML	AML		
	comp=E,1610μm,0.4s					
FSSB			AML	AML		
	comp=N,2379μm,0.2s					
FSSB			AML	AML		
	comp=E,1445μm,0.2s					
GIGS	**Gran Sasso**	**0.70 144**	P	Pg	18 03 45.9	-0.3
GIGS			AML	AML		
	comp=E,246μm,0.3s					
GIGS			AML	AML		
	comp=N,156μm,0.5s					
GIGS			AML	AML		
	comp=E,246μm,0.3s					
GIGS			AML	AML		
	comp=N,156μm,0.5s					
SENI	**Senigallia**	**0.71 13**	P	Pn	18 03 48.5	-0.8
AQU	**L'Aquila**	**0.72 156**	P	Pg	18 03 46.8	+0.1
ATMC	**Monte Cedrone**	**0.74 306**	P	Pn	18 03 49.1	-0.6
BADI	**Badiali**	**0.75 312**	P	Pg	18 03 47.3	+0.2
FIAM	**Fiamignano**	**0.75 174**	P	Pg	18 03 47.2	0.0
PE3	**Peglio**	**0.78 331**	P	Pb	18 03 48.9	+0.2
CAFI	**Castiglion Fio**	**0.83 293**	P	Pg	18 03 48.9	+0.2
SACS	**San Casciano d**	**0.83 259**	P	Pg	18 03 49.1	+0.4
SACS			AML	AML		
	comp=N,282μm,0.7s					
SACS			AML	AML		
	comp=E,223μm,1.3s					
SACS			AML	AML		
	comp=N,286μm,0.6s					
SACS			AML	AML		
	comp=N,282μm,1.3s					
SACS			AML	AML		
	comp=N,286μm,1.4s					
SACS			AML	AML		
	comp=E,247μm,0.8s					
SACS			AML	AML		
	comp=E,223μm,0.7s					
SACS			AML	AML		
	comp=N,282μm,0.7s					
SACS			AML	AML		
	comp=N,286μm,0.6s					
SACS			AML	AML		
	comp=E,247μm,0.8s					
SACS			AML	AML		
	comp=E,223μm,1.3s					
PARC	**Parchiule**	**0.85 319**	P	Pg	18 03 49.1	0.0
PARC			AML	AML		
	comp=E,282μm,0.8s					
PARC			AML	AML		
	comp=N,244μm,0.8s					
PARC			AML	AML		
	comp=N,244μm,1.2s					
PARC			AML	AML		
	comp=N,243μm,0.8s					
SSP9	**Sansepolcro**	**0.85 311**	P	Pn	18 03 51.9	+0.7
SRES	**S.Oreste - Sor**	**0.86 206**	P	Pg	18 03 49.5	+0.1
VCEL	**Villa Celiera**	**0.87 135**	P	Pg	18 03 49.5	-0.1
VCEL			AML	AML		
	comp=E,922μm,0.4s					
VCEL			AML	AML		
	comp=N,760μm,0.6s					
VCEL			AML	AML		
	comp=E,922μm,1.6s					
VCEL			AML	AML		
	comp=N,760μm,1.4s					
VCEL			AML	AML		
	comp=E,922μm,0.4s					
VCEL			AML	AML		
	comp=N,761μm,0.6s					
CPGN	**Carpegna, Ital**	**0.93 328**	P	Pb	18 03 51.4	0.0
PESA	**Pesaro**	**0.93 352**	P	Pg	18 03 50.8	+0.1
T0110	**Collepietro**	**0.97 144**	P	Pg	18 03 50.8	-0.6
T0110			AML	AML		
	comp=E,768μm,0.4s					
T0110			AML	AML		
	comp=N,748μm,0.4s					
T0110			AML	AML		
	comp=E,768μm,1.6s					
T0110			AML	AML		
	comp=N,748μm,1.6s					
T0110			AML	AML		
	comp=E,768μm,0.5s					
T0110			AML	AML		
	comp=N,748μm,0.4s					
SF11	**Podere del Sol**	**0.99 262**	P	Pb	18 03 52.6	+0.3
SF03	**Valle Cupa**	**1.00 258**	P	Pg	18 03 51.2	-0.8
RSM	**Repubblica di**	**1.00 336**	P	Pn	18 03 53.4	+0.1
MCIV	**Monte Civitell**	**1.01 257**	P	Pb	18 03 52.8	+0.2
SF04	**Casetta**	**1.01 260**	P	Pg	18 03 52.2	0.0
MTCE	**Montecelio**	**1.01 191**	P	Pg	18 03 51.9	-0.4
PTQR	**Pietraquaria**	**1.03 164**	P	Pg	18 03 51.4	-1.2
SF13	**Bagnolo**	**1.04 260**	P	Pb	18 03 53.5	+0.3
SF14	**Selvena**	**1.06 256**	P	Pg	18 03 52.9	-0.2
CERT	**Cerreto**	**1.07 181**	P	Pg	18 03 53.0	-0.3
SF01	**Poggio Pratacc**	**1.08 260**	P	Pn	18 03 54.3	-0.2
ARCI	**Arcidosso**	**1.14 262**	P	Pn	18 03 55.2	0.0
RCAV	**Rocca di Cave**	**1.17 182**	P	Pn	18 03 56.4	+0.7
TOLF	**Tolfa**	**1.21 218**	P	Pg	18 03 55.6	-0.4
VVLD	**Villa Vallelon**	**1.23 158**	P	Pn	18 03 56.6	+0.1
GUAR	**Guarcino**	**1.24 170**	P	Pg	18 03 59.5	+2.8
SAMA	**S.Maria delle**	**1.27 194**	P	Pg	18 04 03.0	+5.8
VIVA	**Pratoni del Vi**	**1.28 188**	P	Pn	18 03 47.8	-9.3
LPEL	**Lama dei Pelig**	**1.30 138**	P	Pn	18 03 56.5	-0.9
LPEL			AML	AML		
	comp=E,247μm,0.7s					
LPEL			AML	AML		
	comp=N,212μm,1.3s					
LPEL			AML	AML		
	comp=E,247μm,1.3s					
LPEL			AML	AML		
	comp=N,212μm,0.7s					
LPEL			AML	AML		
	comp=E,247μm,0.7s					
CSNT	**Castellina Chi**	**1.34 291**	P	Pg	18 03 58.5	+0.1
RUFI	**Rufina**	**1.37 307**	P	Pg	18 03 59.4	+0.4
OSSC	**Osservatorio P**	**1.39 292**	P	Pb	18 03 58.8	-0.2
POFI	**Posta Fibreno**	**1.40 158**	P	Pn	18 03 58.9	+0.1
LMD	**Lutirano**	**1.42 319**	P	Pn	18 03 59.0	-0.1
LRP	**Arpino**	**1.43 163**	P	Pg	18 04 01.8	+1.6
GIUL	**Giuliano Di Ro**	**1.47 173**	P	Pg	18 04 01.4	+0.5
LATB	**Latina**	**1.52 181**	P	Pg	18 04 01.8	-0.2
RNI2	**Rionero Sannit**	**1.56 147**	P	Pg	18 04 02.7	-0.1
BRIS	**BRISIGHELLA**	**1.57 317**	P	Pg	18 04 03.0	0.0
CERA	**Filignano**	**1.60 152**	P	Pg	18 04 04.0	+0.5
IMOL	**Imola, Italy**	**1.63 326**	⇓P	Pn	18 04 02.1	+0.2
IMOL			AML	AML		
	comp=N,1052μm,0.3s					
IMOL			AML	AML		
	comp=E,626μm,1.1s					
MIDA	**Miranda**	**1.65 146**	P	Pn	18 04 01.9	-0.4
BRJN	**Brijuni**	**1.96 16**	P	Pn	18 04 07.6	+1.1
PGF	**Pioggiola**	**2.99 262**	*e*Pn	Pn	18 04 19.0	-1.7
PGF			*e*Sn	Sn	18 04 54.0	-2.9
	comp=E,0.7nm,0.2s					
MYKA	**Terra Mystica**	**3.64 7**	*e*Pn	Pn	18 04 32.9	+3.2
	comp=E,1.5nm,0.4s					
OBKA	**Obir**	**3.66 17**	*e*Pn	Pg	18 04 42.1	-0.8
	comp=E,4.4nm,0.4s					
ABTA	**Abfaltersbach**	**3.75 355**	*e*Pn	Pn	18 04 33.0	+1.9
	comp=E,0.7nm,0.2s					
SOKA	**Soboth**	**3.93 21**	*e*Pn	Pb	18 04 39.6	-2.9
	comp=E,0.6nm,0.3s					
KBA	**Koelnbreinsper**	**4.07 3**	*e*Pn	Pn	18 04 37.9	+2.3
	comp=E,1.6nm,0.5s					
SBF	**Sospel**	**4.15 284**	*e*Pn	Pn	18 04 34.3	-2.3
SBF			*e*Sn	Sn	18 05 20.8	-4.6
	comp=E,2.3nm,0.3s					
FETA	**Feichten**	**4.32 339**	*e*Pn	Pn	18 04 42.6	+3.6
	comp=E,1.2nm,0.4s					
WTTA	**Wattenberg**	**4.36 348**	*e*Pn	Pn	18 04 43.8	+4.2
	comp=E,0.8nm,0.3s					
LESA	**Schwarzleotal**	**4.42 357**	*e*Pn	Pn	18 04 43.0	+2.7
	comp=E,0.5nm,0.2s					
WATA	**Walderalm**	**4.44 347**	*e*Pn	Pn	18 04 45.2	+4.6
	comp=E,1.7nm,0.4s					
MOTA	**Moosalm**	**4.53 343**	*e*Pn	Pn	18 04 46.0	+4.0
	comp=E,1.3nm,0.5s					
ARSA	**Arzberg**	**4.59 22**	*e*Pn	Pn	18 04 42.9	+0.2
	comp=E,0.7nm,0.3s					
LMR	**La Mourre**	**4.77 276**	*e*P	Pn	18 04 46.9	+1.9
DAVA	**Damuels**	**4.81 334**	*e*Pn	Pn	18 04 50.6	+4.9
	comp=E,1.5nm,0.5s					
MBDF	**Montbardon**	**4.83 293**	*e*P	Pn	18 04 48.5	+2.5
LPG	**La Plagne**	**5.13 301**	*e*P	Pn	18 04 53.5	+3.1
LPL	**La Plagne**	**5.16 301**	*e*P	Pn	18 04 51.4	+0.8
RONA	**Rosalia, Austr**	**5.22 25**	*e*Pn	Pn	18 04 54.0	+2.6
	comp=E,0.9nm,0.4s					
CONA	**Conrad Observa**	**5.30 21**	*e*Pn	Pn	18 04 53.5	+1.0
	comp=E,0.6nm,0.2s					
ORIF	**Oris-en-Rattie**	**5.49 293**	*e*P	Pn	18 04 57.7	+2.7
VIVF	**Saint-Julien-l**	**6.30 290**	*e*P	Pn	18 05 07.8	+1.7
CDF	**Champ du Feu**	**6.72 325**	*e*P	Pn	18 05 14.3	+2.3

LDG ***26*** *18:04:22.4±0.1, 43°.02N×13°.01E, h9km, Ml2.1/5, Error ellipse: s-maj=1.6km s-min=1.3km az=46.0*

ROM 26 18:04:23.2±0.0, 43°.019N±0°.002×13°.011E±0°.004, h7km, ML2.7/115, 4C-2D, Error ellipse: s-maj=0.2km s-min=0.2km az=60.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.06**	**72**	⇑P	Pg	18 04 25.1	+0.1
FDMO				S	Sg	18 04 26.3	+0.1
FDMO				AML	AML		
	comp=E,26800μm,0.2s						
FDMO				AML	AML		
	comp=N,22700μm,0.7s						
FDMO				AML	AML		
	comp=N,18350μm,0.1s						
FDMO				AML	AML		
	comp=E,26784μm,0.2s						
FEMA	**Monte Fema**	**0.06**	**153**	P	Pg	18 04 25.3	+0.2
FEMA				S	Sg	18 04 26.8	+0.4
FEMA				AML	AML		
	comp=E,28400μm,0.5s						
FEMA				AML	AML		
	comp=N,20800μm,0.6s						
FEMA				AML	AML		
	comp=E,27482μm,0.2s						
FEMA				AML	AML		
	comp=N,18818μm,0.1s						
CESI	**CESI - Serrava**	**0.08**	**260**	⇑P	Pg	18 04 25.8	+0.5
CESI				S	Sg	18 04 27.4	+0.7
CESI				AML	AML		
	comp=E,18200μm,0.7s						
CESI				AML	AML		
	comp=N,19750μm,0.3s						
CESI				AML	AML		
	comp=E,18200μm,1.3s						
CESI				AML	AML		
	comp=N,19711μm,0.3s						
CESI				AML	AML		
	comp=E,10103μm,0.3s						
SEF1	**Sefro**	**0.14**	**340**	P	Pg	18 04 26.6	+0.4
SEF1				S	Sg	18 04 29.0	+0.9
SEF1				AML	AML		
	comp=N,7830μm,0.6s						
SEF1				AML	AML		
	comp=N,7835μm,0.7s						
SEF1				AML	AML		
	comp=E,6370μm,0.4s						
SEF1				AML	AML		
	comp=E,6370μm,1.6s						
SEF1				AML	AML		
	comp=N,7835μm,0.6s						
SEF1				AML	AML		
	comp=N,7448μm,0.2s						
SEF1				AML	AML		
	comp=E,6371μm,0.4s						
CSP1	**Cessapalombo**	**0.16**	**63**	P	Pg	18 04 27.1	+0.5
CSP1				S	Sg	18 04 30.0	+1.1
CSP1				AML	AML		
	comp=E,6980μm,0.5s						
CSP1				AML	AML		
	comp=E,6985μm,0.5s						
CSP1				AML	AML		
	comp=N,8160μm,0.2s						
CSP1				AML	AML		
	comp=N,8160μm,0.2s						
CSP1				AML	AML		
	comp=E,6722μm,0.3s						
PIO1	**Pioraco**	**0.16**	**353**	P	Pg	18 04 27.0	+0.5
PIO1				S	Sg	18 04 29.7	+0.9
MC2	**Monte Cornacci**	**0.17**	**129**	⇓P	Pg	18 04 27.4	+0.7
MC2				S	Sg	18 04 30.6	+1.4
FIU1	**Fiuminata**	**0.18**	**341**	P	Pg	18 04 27.3	+0.4
FIU1				S	Sg	18 04 30.5	+1.1
MDAR	**Monte D'Aria**	**0.20**	**29**	P	Pg	18 04 27.8	+0.6
MDAR				S	Sg	18 04 31.2	+1.2
MDAR				AML	AML		
	comp=N,2780μm,0.5s						
MDAR				AML	AML		
	comp=E,3065μm,0.4s						
MDAR				AML	AML		
	comp=N,2785μm,0.5s						
MDAR				AML	AML		
	comp=E,2618μm,0.4s						
MDAR				AML	AML		
	comp=N,2505μm,0.3s						
T1221	**Campello sul C**	**0.20**	**217**	⇑P	Pg	18 04 28.1	+0.9
T1221				S	Sg	18 04 31.4	+1.5
T1221				AML	AML		
	comp=E,6180μm,0.4s						
T1221				AML	AML		
	comp=N,5990μm,0.2s						
T1221				AML	AML		
	comp=N,6090μm,0.2s						
T1221				AML	AML		
	comp=N,5985μm,0.2s						
T1221				AML	AML		
	comp=E,5955μm,0.4s						
T1221				AML	AML		
	comp=N,5985μm,1.8s						
T1221				AML	AML		
	comp=N,6090μm,1.8s						
T1221				AML	AML		
	comp=N,6088μm,0.2s						
T1221				AML	AML		
	comp=N,5987μm,0.2s						
T1221				AML	AML		
	comp=E,5955μm,0.4s						
T1221				AML	AML		
	comp=E,6181μm,0.4s						
NRCA	**Norcia**	**0.20**	**158**	P	Pg	18 04 27.8	+0.6
NRCA				S	Sg	18 04 31.5	+1.5
NRCA				AML	AML		
	comp=N,5790μm,0.4s						
NRCA				AML	AML		
	comp=E,8180μm,0.5s						
NRCA				AML	AML		
	comp=N,6275μm,0.1s						
NRCA				AML	AML		
	comp=N,5790μm,0.4s						
NRCA				AML	AML		
	comp=E,7660μm,0.5s						
NRCA				AML	AML		
	comp=E,7590μm,0.2s						
NRCA				AML	AML		
	comp=N,5772μm,0.1s						
NRCA				AML	AML		
	comp=E,8115μm,0.2s						
NRCA				AML	AML		
	comp=N,6277μm,0.1s						
GAG1	**Gagliole**	**0.22**	**11**	P	Pg	18 04 28.6	+0.9
GAG1				S	Sg	18 04 32.6	+1.9
MTL1	**Matelica**	**0.24**	**360**	P	Pg	18 04 28.7	+0.8
MTL1				S	Sg	18 04 33.1	+1.9
MTL1				AML	AML		
	comp=E,6350μm,0.6s						
MTL1				AML	AML		
	comp=E,6350μm,0.6s						
MTL1				AML	AML		
	comp=N,5010μm,1.1s						
MTL1				AML	AML		
	comp=N,5010μm,0.9s						
MTL1				AML	AML		
	comp=E,6350μm,1.4s						
MTL1				AML	AML		
	comp=N,4948μm,0.4s						
MTL1				AML	AML		
	comp=E,6348μm,0.5s						
GUMA	**Gualdo di Mace**	**0.24**	**79**	P	Pg	18 04 29.0	+1.0
GUMA				S	Sg	18 04 33.5	+2.2
GUMA				AML	AML		
	comp=E,19850μm,0.3s						
GUMA				AML	AML		
	comp=N,22700μm,0.3s						
GUMA				AML	AML		
	comp=N,19050μm,0.2s						
GUMA				AML	AML		
	comp=E,32400μm,0.2s						
GUMA				AML	AML		
	comp=N,22718μm,0.3s						
GUMA				AML	AML		
	comp=N,19044μm,0.2s						
GUMA				AML	AML		
	comp=E,19877μm,0.3s						
GUMA				AML	AML		
	comp=E,32390μm,0.2s						
SNTG	**Esanatoglia**	**0.24**	**348**	P	Pg	18 04 28.4	+0.4
SNTG				S	Sg	18 04 32.8	+1.5
SNTG				AML	AML		
	comp=E,1735μm,0.4s						
SNTG				AML	AML		
	comp=N,2625μm,0.1s						
SNTG				AML	AML		
	comp=E,1865μm,0.4s						
SNTG				AML	AML		
	comp=N,2450μm,0.7s						
SNTG				AML	AML		
	comp=N,2450μm,1.3s						
SNTG				AML	AML		
	comp=N,2628μm,0.1s						
SNTG				AML	AML		
	comp=N,2401μm,0.1s						
SNTG				AML	AML		
	comp=E,1586μm,0.2s						
SNTG				AML	AML		
	comp=E,1490μm,0.1s						
SSM1	**San Severino M**	**0.24**	**30**	P	Pg	18 04 28.6	+0.6
SSM1				S	Sg	18 04 32.7	+1.4
ASSB	**Assisi San Ben**	**0.26**	**275**	⇑P	Pg	18 04 28.9	+0.6
ASSB				S	Sb	18 04 33.5	-1.4
ASSB				AML	AML		
	comp=E,2125μm,0.5s						
ASSB				AML	AML		
	comp=N,3865μm,0.3s						
ASSB				AML	AML		
	comp=E,2017μm,0.2s						
ASSB				AML	AML		
	comp=N,3865μm,0.3s						
MMO1	**Montemonaco**	**0.26**	**117**	P	Pg	18 04 29.0	+0.6
MMO1				S	Sg	18 04 33.4	+1.5
T1214	**Arquata del Tr**	**0.30**	**151**	P	Pg	18 04 29.5	+0.5
T1214				S	Sb	18 04 34.6	-1.5
T1214				AML	AML		
	comp=E,1855μm,0.3s						
T1214				AML	AML		
	comp=N,1515μm,1.5s						
T1214				AML	AML		
	comp=N,1500μm,1.6s						
T1214				AML	AML		
	comp=E,1850μm,0.3s						

T1214				AML	AML	
	comp=N,1360μm,0.2s					
T1214				AML	AML	
	comp=E,1852μm,0.3s					
T1214				AML	AML	
	comp=E,1853μm,0.3s					
T1214				AML	AML	
	comp=N,1303μm,0.2s					
EL6	**Elcito**	**0.32**	**12**	P	Pg	18 04 30.1 +0.6
EL6				S	Sb	18 04 35.2 -1.4
EL6				AML	AML	
	comp=N,3587μm,0.3s					
ATCC	**AVT- Casa Cast**	**0.32**	**302**	P	Pg	18 04 30.1 +0.7
ATCC				S	Sb	18 04 35.6 -1.0
ATCC				AML	AML	
	comp=N,2205μm,0.2s					
ATCC				AML	AML	
	comp=E,2865μm,0.5s					
ATCC				AML	AML	
	comp=N,2208μm,0.2s					
ATCC				AML	AML	
	comp=E,2866μm,0.5s					
FOSV	**Fossato di Vic**	**0.33**	**327**	P	Pg	18 04 30.2 +0.5
FOSV				S	Sb	18 04 35.6 -1.4
FOSV				AML	AML	
	comp=E,1395μm,0.3s					
FOSV				AML	AML	
	comp=N,1430μm,0.6s					
FOSV				AML	AML	
	comp=E,978μm,0.2s					
FOSV				AML	AML	
	comp=N,1427μm,0.2s					
MF5	**Montefalcone A**	**0.33**	**95**	P	Pb	18 04 30.9 -0.6
MF5				S	Sb	18 04 36.7 -0.3
MF5				AML	AML	
	comp=N,3475μm,0.7s					
MF5				AML	AML	
	comp=N,3470μm,0.7s					
MF5				AML	AML	
	comp=E,3570μm,0.3s					
MF5				AML	AML	
	comp=N,3470μm,1.3s					
MF5				AML	AML	
	comp=E,3568μm,0.3s					
GAVE	**Gavelli**	**0.34**	**195**	P	Pg	18 04 30.2 +0.3
GAVE				S	Sb	18 04 36.2 -1.0
GAVE				AML	AML	
	comp=E,3305μm,1.4s					
GAVE				AML	AML	
	comp=N,738μm,1.0s					
GAVE				AML	AML	
	comp=E,3350μm,1.4s					
GAVE				AML	AML	
	comp=N,3080μm,0.6s					
GAVE				AML	AML	
	comp=N,738μm,1.0s					
GAVE				AML	AML	
	comp=N,3080μm,1.4s					
GAVE				AML	AML	
	comp=E,3305μm,0.6s					
GAVE				AML	AML	
	comp=E,3350μm,0.6s					
GAVE				AML	AML	
	comp=N,2470μm,0.3s					
GAVE				AML	AML	
	comp=E,3225μm,0.3s					
GAVE				AML	AML	
	comp=E,3261μm,0.3s					
GAVE				AML	AML	
	comp=N,737μm,0.2s					
MNTP	**Montappone**	**0.36**	**70**	P	Pb	18 04 31.5 -0.4
MNTP				S	Sb	18 04 37.9 +0.3
CING	**Cingoli**	**0.38**	**21**	P	Pg	18 04 31.1 +0.5
CING				S	Sb	18 04 37.5 -0.9
CING				AML	AML	
	comp=N,2465μm,0.5s					
CING				AML	AML	
	comp=E,2765μm,0.2s					
CING				AML	AML	
	comp=N,2465μm,1.5s					
CING				AML	AML	
	comp=E,2763μm,0.2s					
CING				AML	AML	
	comp=N,2056μm,0.2s					
MTRA	**Matera**	**0.39**	**133**	⇓P	Pg	18 04 31.2 +0.5
MTRA				S	Sb	18 04 37.5 -1.0
MTRA				AML	AML	
	comp=E,2100μm,1.3s					
MTRA				AML	AML	
	comp=N,2480μm,0.9s					
MTRA				AML	AML	
	comp=E,2100μm,1.3s					
MTRA				AML	AML	
	comp=E,2055μm,1.3s					
MTRA				AML	AML	
	comp=N,2395μm,0.9s					
MTRA				AML	AML	
	comp=E,2100μm,0.7s					
MTRA				AML	AML	
	comp=N,2480μm,1.0s					
MTRA				AML	AML	
	comp=E,2055μm,0.7s					
MTRA				AML	AML	
	comp=E,2012μm,0.2s					
MTRA				AML	AML	
	comp=N,1836μm,0.3s					
MTRA				AML	AML	
	comp=E,2055μm,0.2s					
MTRA				AML	AML	
	comp=N,1854μm,0.3s					
MOMA	**Monte Martano**	**0.39**	**237**	P	Pg	18 04 31.3 +0.5
MOMA				S	Sb	18 04 37.8 -0.8
MOMA				AML	AML	
	comp=N,997μm,0.5s					
MOMA				AML	AML	
	comp=E,1056μm,1.2s					
MOMA				AML	AML	
	comp=N,651μm,0.3s					
MOMA				AML	AML	
	comp=E,970μm,0.2s					
MOMA				AML	AML	
	comp=N,974μm,0.2s					
MOMA				AML	AML	
	comp=E,1015μm,0.2s					
LNSS	**Leonessa**	**0.42**	**177**	P	Pg	18 04 31.7 +0.4
LNSS				S	Sb	18 04 38.5 -0.9
LNSS				AML	AML	
	comp=N,1625μm,1.2s					
LNSS				AML	AML	
	comp=N,1625μm,0.8s					
LNSS				AML	AML	
	comp=E,2865μm,0.3s					
LNSS				AML	AML	
	comp=N,1511μm,0.5s					
LNSS				AML	AML	
	comp=E,2867μm,0.3s					
MMUR	**Monte Murano**	**0.42**	**359**	P	Pg	18 04 32.0 +0.6
MMUR				S	Sb	18 04 39.0 -0.7
MURB	**Monte Urbino**	**0.43**	**305**	P	Pg	18 04 32.2 +0.6
MURB				S	Sb	18 04 39.7 -0.2
MURB				AML	AML	
	comp=E,2550μm,0.5s					
MURB				AML	AML	
	comp=N,3085μm,0.2s					
MURB				AML	AML	
	comp=E,3060μm,0.3s					
MURB				AML	AML	
	comp=N,3110μm,0.3s					
MURB				AML	AML	
	comp=E,2550μm,1.5s					
MURB				AML	AML	
	comp=E,3062μm,0.3s					
MURB				AML	AML	
	comp=E,2529μm,0.3s					
MURB				AML	AML	
	comp=N,3110μm,0.3s					
MURB				AML	AML	
	comp=N,3087μm,0.2s					
SSFR	**Montelago di S**	**0.45**	**338**	P	Pg	18 04 32.4 +0.4
SSFR				S	Sb	18 04 39.7 -0.7
SSFR				AML	AML	
	comp=E,3475μm,1.1s					
SSFR				AML	AML	
	comp=N,2190μm,0.8s					
SSFR				AML	AML	
	comp=E,3110μm,1.1s					
SSFR				AML	AML	
	comp=N,1925μm,1.2s					
SSFR				AML	AML	
	comp=N,1925μm,0.8s					
SSFR				AML	AML	
	comp=N,2078μm,0.2s					
SSFR				AML	AML	
	comp=E,3009μm,0.2s					
SSFR				AML	AML	
	comp=N,1908μm,0.2s					
SMA1	**SAN MARTINO**	**0.46**	**148**	P	Pg	18 04 32.4 +0.3
SMA1				S	Sb	18 04 39.7 -0.9
SMA1				AML	AML	
	comp=E,1270μm,1.0s					
SMA1				AML	AML	
	comp=N,1395μm,0.6s					
ATSC	**Scheggia e Pas**	**0.47**	**330**	P	Pg	18 04 32.6 +0.3
ATSC				S	Sb	18 04 40.4 -0.6
ATFO	**Monte Foce - G**	**0.47**	**317**	P	Pg	18 04 32.8 +0.4
ATFO				S	Sb	18 04 40.8 -0.3
ATFO				AML	AML	
	comp=N,472μm,0.4s					
ATFO				AML	AML	
	comp=E,705μm,0.2s					
ARRO	**Arrone**	**0.47**	**202**	P	Pg	18 04 32.8 +0.5
ARRO				S	Sb	18 04 40.4 -0.6
ARRO				AML	AML	
	comp=N,759μm,0.3s					
ARRO				AML	AML	
	comp=E,953μm,0.3s					
ARRO				AML	AML	
	comp=N,759μm,0.3s					
ARRO				AML	AML	
	comp=E,953μm,0.3s					
ARVD	**Arcevia**	**0.48**	**354**	P	Pg	18 04 32.9 +0.4
ARVD				S	Sb	18 04 41.0 -0.3
ARVD				AML	AML	
	comp=N,551μm,0.3s					
ARVD				AML	AML	
	comp=E,911μm,0.7s					
ARVD				AML	AML	
	comp=N,551μm,1.7s					
ARVD				AML	AML	
	comp=E,810μm,0.2s					
ARVD				AML	AML	
	comp=N,539μm,0.2s					
OFFI	**Offida**	**0.50**	**99**	P	Pb	18 04 34.5 +0.2
OFFI				AML	AML	
	comp=N,1778μm,0.6s					
OFFI				AML	AML	
	comp=E,1410μm,0.2s					
ATTE	**AVT- Monte Tez**	**0.51**	**291**	P	Pb	18 04 34.0 -0.6
ATTE				S	Sb	18 04 42.4 +0.2
CESX	**Cesi**	**0.52**	**218**	P	Pg	18 04 33.5 +0.3
CESX				S	Sb	18 04 41.7 -0.5
CESX				AML	AML	
	comp=N,1360μm,0.8s					
CESX				AML	AML	
	comp=E,1875μm,0.3s					
CESX				AML	AML	
	comp=N,1360μm,1.2s					
CESX				AML	AML	
	comp=N,1355μm,0.3s					
CESX				AML	AML	
	comp=E,1875μm,0.3s					
RM33	**Pellescritta (**	**0.53**	**164**	P	Pg	18 04 33.6 +0.2
RM33				S	Sb	18 04 42.2 -0.5
RM33				AML	AML	
	comp=E,544μm,0.2s					
RM33				AML	AML	
	comp=N,516μm,0.2s					
RM33				AML	AML	
	comp=N,521μm,0.2s					
RM33				AML	AML	
	comp=E,566μm,0.2s					
ATLO	**AVT- Montelove**	**0.53**	**304**	P	Pg	18 04 33.7 +0.3
ATLO				S	Sb	18 04 42.5 -0.3
FRON	**Frontone**	**0.54**	**337**	P	Pg	18 04 33.9 +0.2
FRON				S	Sb	18 04 42.7 -0.3
FRON				AML	AML	
	comp=E,690μm,0.9s					
FRON				AML	AML	
	comp=N,1105μm,0.9s					
FRON				AML	AML	
	comp=E,690μm,1.1s					
FRON				AML	AML	
	comp=N,1105μm,1.1s					
FRON				AML	AML	
	comp=N,1090μm,0.3s					
FRON				AML	AML	
	comp=E,612μm,0.1s					
CIMA	**Civitanova Mar**	**0.56**	**59**	P	Pb	18 04 35.4 +0.1
CAMP	**Campotosto**	**0.56**	**149**	P	Pg	18 04 34.1 +0.1
CAMP				S	Sb	18 04 43.0 -0.7
CAMP				AML	AML	
	comp=E,315μm,0.2s					
CAMP				AML	AML	
	comp=N,257μm,0.4s					
PP3	**Marolino**	**0.57**	**50**	P	Pb	18 04 35.6 +0.2
ATBU	**Serra di Buran**	**0.57**	**324**	P	Pg	18 04 34.7 +0.5
ATVO	**AVT- Monte Val**	**0.57**	**310**	P	Pg	18 04 34.5 +0.3
ATVO				S	Sb	18 04 43.8 -0.1
ATVO				AML	AML	
	comp=E,296μm,0.4s					
ATVO				AML	AML	
	comp=N,396μm,0.4s					
CADA	**Capodarco di F**	**0.58**	**72**	P	Pb	18 04 36.3 +0.7
TERO	**Teramo**	**0.59**	**132**	P	Pg	18 04 34.7 +0.1
TERO				S	Sb	18 04 44.1 -0.3
TERO				AML	AML	
	comp=N,346μm,1.3s					
TERO				AML	AML	
	comp=E,552μm,0.9s					
TERO				AML	AML	
	comp=N,512μm,1.2s					
TERO				AML	AML	
	comp=N,346μm,0.7s					
TERO				AML	AML	
	comp=E,386μm,1.1s					
TERO				AML	AML	
	comp=E,552μm,1.1s					
TERO				AML	AML	
	comp=N,512μm,0.8s					
TERO				AML	AML	
	comp=N,447μm,0.2s					
TERO				AML	AML	
	comp=E,250μm,0.4s					
TERO				AML	AML	
	comp=E,478μm,0.2s					
TERO				AML	AML	
	comp=N,257μm,0.1s					
ATVA	**AVT- Monte Val**	**0.59**	**296**	P	Pg	18 04 34.6 0.0
COR1	**Corinaldo**	**0.61**	**359**	P	Pb	18 04 36.3 +0.1
COR1				AML	AML	
	comp=N,729μm,0.5s					
COR1				AML	AML	
	comp=E,438μm,0.4s					
ATPC	**Poggio Castell**	**0.61**	**319**	P	Pg	18 04 35.2 +0.2
T1247	**Pizzolo (AQ)**	**0.61**	**160**	P	Pg	18 04 35.4 +0.3
ATPI	**Pietralunga -**	**0.62**	**314**	P	Pg	18 04 35.5 +0.3
PIEI	**Pieia**	**0.62**	**326**	P	Pg	18 04 35.2 0.0
PIEI				AML	AML	
	comp=E,564μm,1.1s					
PIEI				AML	AML	
	comp=N,468μm,0.5s					
PIEI				AML	AML	
	comp=E,450μm,0.1s					
PIEI				AML	AML	
	comp=N,425μm,0.2s					
ATMI	**Monte Miggiano**	**0.63**	**300**	P	Pg	18 04 35.3 0.0
ATMI				S	Sb	18 04 46.3 +0.8
ATMI				AML	AML	
	comp=E,882μm,0.3s					
ATMI				AML	AML	
	comp=N,848μm,0.3s					
ATMI				AML	AML	
	comp=E,883μm,0.3s					
ATMI				AML	AML	
	comp=N,848μm,0.3s					
MPAG	**Monte Paganucc**	**0.64**	**343**	P	Pg	18 04 35.8 +0.3
MPAG				AML	AML	
	comp=E,497μm,0.2s					
MPAG				AML	AML	
	comp=N,426μm,1.0s					
MPAG				AML	AML	
	comp=E,525μm,0.2s					
MPAG				AML	AML	
	comp=E,497μm,0.2s					
MPAG				AML	AML	
	comp=N,397μm,0.2s					
MPAG				AML	AML	
	comp=N,381μm,0.2s					
MGAB	**Montegabbione**	**0.67**	**261**	P	Pg	18 04 36.2 +0.2
MGAB				AML	AML	
	comp=E,486μm,0.5s					
MGAB				AML	AML	
	comp=N,508μm,0.5s					
MGAB				AML	AML	
	comp=N,490μm,0.5s					
MGAB				AML	AML	
	comp=N,490μm,1.5s					
MGAB				AML	AML	
	comp=E,490μm,0.5s					
MGAB				AML	AML	
	comp=E,486μm,0.5s					
MGAB				AML	AML	
	comp=N,494μm,0.5s					
MGAB				AML	AML	
	comp=E,490μm,0.5s					
MGAB				AML	AML	
	comp=N,489μm,0.5s					
AOI	**Ancona**	**0.69**	**39**	P	Pg	18 04 36.1 -0.3
APEC	**Apecchio**	**0.69**	**322**	P	Pg	18 04 36.9 +0.4
FSSB	**Fossombrone**	**0.69**	**346**	P	Pg	18 04 36.8 +0.2
FSSB				AML	AML	
	comp=E,1335μm,0.3s					
FSSB				AML	AML	
	comp=N,3605μm,0.3s					
FSSB				AML	AML	
	comp=E,1335μm,1.7s					
FSSB				AML	AML	
	comp=N,3607μm,0.3s					
FSSB				AML	AML	
	comp=E,1335μm,0.3s					
TRTR	**Tortoreto Alta**	**0.70**	**107**	P	Pg	18 04 36.6 +0.1
GIGS	**Gran Sasso**	**0.70**	**144**	P	Pg	18 04 36.4 -0.3
GIGS				AML	AML	
	comp=E,118μm,0.3s					
GIGS				AML	AML	
	comp=N,80μm,0.5s					
AQU	**L'Aquila**	**0.72**	**156**	P	Pg	18 04 37.3 +0.2
ATMC	**Monte Cedrone**	**0.73**	**306**	P	Pb	18 04 38.2 -0.1
BADI	**Badiali**	**0.74**	**312**	P	Pg	18 04 37.8 +0.3
FIAM	**Fiamignano**	**0.75**	**174**	P	Pg	18 04 37.7 +0.1
PE3	**Peglio**	**0.77**	**331**	P	Pb	18 04 39.1 +0.1
CAFI	**Castiglion Fio**	**0.82**	**292**	P	Pg	18 04 39.3 +0.3
CAFI				AML	AML	
	comp=N,167μm,1.1s					
CAFI				AML	AML	
	comp=N,167μm,0.9s					
CAFI				AML	AML	
	comp=E,218μm,0.7s					
CAFI				AML	AML	
	comp=N,131μm,0.3s					
CAFI				AML	AML	
	comp=N,150μm,0.3s					
CAFI				AML	AML	
	comp=E,191μm,0.4s					
CAFI				AML	AML	
	comp=E,199μm,0.4s					
SACS	**San Casciano d**	**0.83**	**259**	P	Pg	18 04 39.4 +0.3
PARC	**Parchiule**	**0.84**	**318**	P	Pb	18 04 39.9 -0.3
SSP9	**Sansepolcro**	**0.85**	**311**	P	Pn	18 04 41.1 -0.4
SRES	**S.Oreste - Sor**	**0.86**	**205**	P	Pb	18 04 40.8 +0.4
VCEL	**Villa Celiera**	**0.87**	**135**	P	Pg	18 04 39.8 -0.1
VCEL				AML	AML	
	comp=E,523μm,0.4s					
VCEL				AML	AML	
	comp=N,368μm,0.5s					
CPGN	**Carpegna, Ital**	**0.93**	**327**	P	Pg	18 04 40.2 -0.8
PESA	**Pesaro**	**0.93**	**352**	P	Pg	18 04 41.1 0.0
T0110	**Collepietro**	**0.97**	**144**	P	Pg	18 04 41.2 -0.7
T0110				AML	AML	
	comp=N,341μm,0.4s					
T0110				AML	AML	
	comp=E,346μm,0.6s					
SF11	**Podere del Sol**	**0.99**	**262**	P	Pn	18 04 43.3 -0.2
SF03	**Valle Cupa**	**1.00**	**258**	P	Pn	18 04 43.3 -0.3
SF04	**Casetta**	**1.01**	**260**	P	Pn	18 04 43.6 -0.2
MCIV	**Monte Civitell**	**1.01**	**257**	P	Pg	18 04 42.2 -0.4
MTCE	**Montecelio**	**1.01**	**191**	P	Pg	18 04 42.2 -0.4
PTQR	**Pietraquaria**	**1.04**	**164**	P	Pn	18 04 45.5 +1.3
SF13	**Bagnolo**	**1.04**	**259**	P	Pg	18 04 43.1 0.0
SF14	**Selvena**	**1.06**	**256**	P	Pg	18 04 42.8 -0.7
CERT	**Cerreto**	**1.07**	**181**	P	Pg	18 04 43.2 -0.5
SF01	**Poggio Pratacc**	**1.08**	**260**	P	Pb	18 04 44.3 +0.1
ARCI	**Arcidosso**	**1.14**	**262**	P	Pn	18 04 45.5 -0.1
RCAV	**Rocca di Cave**	**1.17**	**182**	P	Pn	18 04 46.1 0.0
TOLF	**Tolfa**	**1.21**	**218**	P	Pn	18 04 47.2 +0.7
VVLD	**Villa Vallelon**	**1.23**	**158**	P	Pn	18 04 47.6 +0.7
LPEL	**Lama dei Pelig**	**1.30**	**138**	P	Pn	18 04 45.8 -2.0
RUFI	**Rufina**	**1.37**	**307**	P	Pg	18 04 49.6 +0.2
OSSC	**Osservatorio P**	**1.38**	**292**	P	Pn	18 04 48.3 -0.6
POFI	**Posta Fibreno**	**1.40**	**158**	P	Pg	18 04 50.6 +0.6
LMD	**Lutirano**	**1.42**	**319**	P	Pg	18 04 51.0 +0.6
LRP	**Arpino**	**1.44**	**163**	P	Pg	18 04 52.0 +1.3
GIUL	**Giuliano Di Ro**	**1.47**	**173**	P	Pg	18 04 51.5 +0.2
LATB	**Latina**	**1.52**	**181**	P	Pn	18 04 51.1 +0.4
MIDA	**Miranda**	**1.66**	**146**	P	Pb	18 04 54.3 +0.3
PGF	**Pioggiola**	**2.99**	**262**	*e*P	Pn	18 05 11.0 -0.1
PGF				*e*Sn	Sn	18 05 41.9 -5.3
	comp=E,1.6nm,0.5s					
SBF	**Sospel**	**4.15**	**284**	*e*Pn	Pn	18 05 24.2 -2.7
SBF				*e*Sn	Sn	18 06 09.6 -6.1
	comp=E,4.4nm,0.5s					
LMR	**La Mourre**	**4.76**	**276**	*e*P	Pn	18 05 35.0 -0.3
LMR				*e*Sn	Sn	18 06 23.5 -7.3
	comp=E,0.3nm,0.3s					
LMR	**La Mourre**	**4.76**	**276**	*e*Sn	Pn	18 05 35.2 -0.1
	comp=E,0.6nm,0.2s					
MBDF	**Montbardon**	**4.82**	**293**	*e*P	Pn	18 05 37.9 +1.6
LPG	**La Plagne**	**5.13**	**301**	*e*Pn	Pn	18 05 38.2 -2.5
LPL	**La Plagne**	**5.15**	**301**	*e*Pn	Pn	18 05 38.2 -2.7
ORIF	**Oris-en-Rattie**	**5.49**	**293**	*e*Pn	Pn	18 05 42.4 -2.9
CDF	**Champ du Feu**	**6.72**	**325**	*e*P	Pn	18 06 03.9 +1.6
CDF				*e*Sn	Sn	18 07 10.4 -8.7
	comp=E,0.4nm,0.2s					
PAGF	**Fort de Pagny**	**7.52**	**320**	*e*P	Pn	18 06 15.2 +2.0

IDC 26 18:22:01.4±2.4, 7°.38S×154°.50E, h0^{km}, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=148.4km s-min=32.0km az=132.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.19**	**235**	P	P	18 27 09.8	-0.3
	0.3nm,0.8s,baz=60,slow=9.9,SNR=5.4						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**25.55**	**228**	P	P	18 27 32.4	+0.3
	0.4nm,0.5s,baz=61,slow=9.4,SNR=2.9						
ILAR	**Eielson Array**	**83.91**	**22**	P	P	18 34 33.8	+0.9
	0.4nm,0.8s,baz=230,slow=5.6,SNR=2.0						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**152.64**	**284**	PKPbc	PKPbc	18 42 00.2	-1.0
	0.4nm,0.7s,baz=73,slow=2.8,SNR=3.6						

*IDC **26** 18:34:42.0±9.4, 39°.33N×141°.92E, h74^{km}±86^{km}, mb3.0/2, mbtmp3.3/3, ML2.3/1, Error ellipse: s-maj=219.0km s-min=68.4km az=137.0*

*JMA **26** 18:34:48.2±0.1, 38°.4N±0°.3×141°.9E±0°.6, h60^{km}, MV3.4/40, E OFF MIYAGI PREF*

ISC 26 18:34:46.9±1.7, 38°.35N±0°.05×142°.1E±0°.1, h52^{km}±13^{km}, n22, σ1^{s}.56/28, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.51**	**266**	*i* P	**Pn**	**18 34 59.0**	**+0.6**
JIKH				S	**Sn**	**18 35 06.7**	**0.0**
JIO	**Ouri**	**0.61**	**280**	*i* P	**Pn**	**18 34 60.0**	**+0.4**
JIO				S	**Sn**	**18 35 08.2**	**-0.6**
JKMT	**Kesennumamotoy**	**0.68**	**313**	*i* P	**Pn**	**18 35 01.1**	**+0.6**
JKMT				S	**Sn**	**18 35 10.2**	**-0.2**
OFUJ	**Ofunato**	**0.81**	**335**	*i* P	**Pn**	**18 35 03.1**	**+0.9**
OFUJ				S	**Sn**	**18 35 13.7**	**+0.4**
JMK	**Ichinoseki**	**0.92**	**311**	*i* P	**Pn**	**18 35 04.2**	**+0.5**
JMK				S	**Sn**	**18 35 15.7**	**-0.3**
JOU	**Okura**	**1.14**	**271**	⇓*i* P	**Pn**	**18 35 06.5**	**-0.1**
JOU				⇓S	**Sn**	**18 35 20.1**	**-1.0**

JMM	Marumori	1.14 246	⇓i P	Pn	18 35 06.3	-0.3
JMM			⇓S	Sn	18 35 19.9	-1.4
JOM	Ohasama	1.29 331	i P	Pn	18 35 09.4	+0.8
JFK	Kawauchi	1.38 225	⇓i P	Pn	18 35 10.0	+0.1
JFK			⇓S	Sn	18 35 25.9	-1.2
JYK	Kaneyama	1.48 293	⇓i P	Pn	18 35 11.3	+0.1
JYK			⇓S	Sn	18 35 28.6	-0.9
JRG	Rokugo	1.56 313	P	Pn	18 35 12.8	+0.6
JRG			eS	Sn	18 35 31.4	+0.1
JOTO	OTAMA OYAMA	1.61 241	i P	Pn	18 35 13.2	+0.2
JYS	Shirataka	1.61 266	P	Pn	18 35 13.2	+0.2
JYS			S	Sn	18 35 31.7	-1.0
MJAR	Matsushiro Arr	3.59 241	P	Pn	18 35 41.2	+1.2
	0.2nm,0.3s,baz=46,slow=11,SNR=6.1					
MJAR			S	Sn	18 36 28.0	+6.7
	0.8nm,0.5s,baz=76,slow=18,SNR=1.5					
	2.5nm,0.5s					
H11N2	WAKE ISLAND Hy 28.38 124		T	T	19 10 53.3	
	baz=316,slow=75,SNR=20					
H11N1	WAKE ISLAND Hy 28.39 124		T	T	19 10 59.7	
	baz=316,slow=75,SNR=28					
H11N3	WAKE ISLAND Hy 28.40 124		T	T	19 11 00.4	
	baz=316,slow=75,SNR=27					
H11S1	WAKE ISLAND Hy 29.14 126		T	T	19 11 54.2	
	baz=318,slow=76,SNR=35					
H11S3	WAKE ISLAND Hy 29.14 126		T	T	19 11 54.3	
	baz=318,slow=76,SNR=21					
H11S2	WAKE ISLAND Hy 29.16 126		T	T	19 11 57.3	
	baz=318,slow=76,SNR=18					
WRA	Warramunga Arr	58.44 189	P	P	18 44 36.5	-0.9
	0.2nm,0.4s,baz=6.4,slow=7.2,SNR=10					
	0.2nm,0.4s					
ASAR	Alice Springs	62.16 189	P	P	18 45 01.9	-1.0
	0.3nm,0.9s,baz=352,slow=5.6,SNR=2.1					
	0.3nm,0.9s					

*NEIC **26** 18:40:17.0±2.0,37°.10N±0°.02×121°.59W±0°.07,h17km±3km, Error ellipse: s-maj=7.8km s-min=2.8km az=100.0*

NCEDC 26 18:40:17.6±1.9,37°.12N±0°.04×121°.52W±0°.02,h7km±5km, Mwr3.4/3,ML3.2/70(NEIC),**Error ellipse: s-maj=6.3km s-min=2.8km az=190.0,Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHS	Gilroy Hot Spr	0.07	112		Pg	18 40 19.1	-0.4
CADM	Anderson Res.	0.09	298		Pg	18 40 19.7	-0.1
CDC	Canada Road	0.10	162		Pg	18 40 19.6	-0.3
HLPM	Lions Peak	0.12	228		Pg	18 40 20.0	-0.1
HLPM					Sg	18 40 22.3	+0.4
HFEM	San Felipe	0.17	144		Pg	18 40 20.7	-0.3
JLAB	Laurel Hill	0.17	281		Pg	18 40 21.1	0.0
CCOB	Coe Ranch Numb	0.18	319		Pg	18 40 21.4	+0.1
CCOB					Sg	18 40 24.7	+0.8
OCR	O'Connell Ranc	0.20	176		Pg	18 40 23.4	+1.7
HPCM	Pacheco Lake	0.21	107		Pg	18 40 21.4	-0.3
HCBM	Chamberlain	0.22	210		Pg	18 40 21.9	0.0
HCBM					Sg	18 40 25.1	+0.3
PACP	Pacheco Peak	0.22	121		Pg	18 40 21.7	-0.3
PACP					Sg	18 40 25.6	+0.6
ARN	Arnold Ranch	0.23	358		Pg	18 40 22.0	-0.2
ARN					Sg	18 40 25.8	+0.6
ANZ	Anzar Road	0.24	193		Pg	18 40 22.6	+0.3
MHC	Mount Hamilton	0.24	337		Pg	18 40 22.3	-0.1
MHC					Sg	18 40 26.7	+1.1
SLD	San Luis Dam	0.25	101		Pg	18 40 22.2	-0.3
SLD					Sg	18 40 26.2	+0.4
C072	Blauer Lane Sa	0.25	312		Pg	18 40 23.0	+0.5
C072					Sg	18 40 28.3	+2.5
HBTM	San Juan Bauti	0.27	185		Pg	18 40 23.3	+0.4
HCOM	Corn Cob Canyo	0.28	212		Pg	18 40 23.1	+0.1
C054	Valleyhaven Wa	0.28	302		Pg	18 40 23.1	-0.1
HLTM	Lone Tree Road	0.29	144		Pg	18 40 23.4	+0.1
C059	Quail Canyon R	0.30	318		Pg	18 40 23.7	+0.3
JTGM	Trout Gulch Ro	0.30	252		Pg	18 40 22.6	-0.8
HSFM	Saint Francis	0.31	176		Pg	18 40 23.4	-0.3
HTUM	Tustin Road	0.31	198		Pg	18 40 23.6	0.0
JELB	Ellicott, Sant	0.31	232		Pg	18 40 23.9	+0.3
JELB					Sg	18 40 28.9	+1.1
SCCB	Santa Clara Co	0.32	302		Pg	18 40 23.8	0.0
CMMM	Mount Mocho	0.34	4		Pg	18 40 24.1	-0.2
CMMM					Sg	18 40 29.5	+0.8
C041	El Campo Drive	0.35	317		Pg	18 40 25.1	+0.6
HERM	Elkhorn Road	0.35	205		Pg	18 40 24.6	+0.2
SAO	San Andreas Ge	0.36	170	Pg	Pg	18 40 24.6	0.0
FRP	Fremont Peak	0.37	176		Pg	18 40 24.8	+0.1
C046	N 16th Street	0.37	309		Pg	18 40 25.0	+0.2
BSLM	Silva Ranch	0.37	158		Pg	18 40 23.3	-1.5
CMLM	Mount Lewis	0.37	344		Pg	18 40 24.8	-0.1
JJOM	Saint Joseph's	0.37	283		Pg	18 40 24.5	-0.3
CALM	Calaveras Res.	0.40	326		Pg	18 40 25.1	-0.2
MTOS	Mt Oso, Westle	0.41	22		Pg	18 40 25.4	-0.2
BSRM	Salinas Radio	0.45	180		Pg	18 40 26.1	-0.3
JSJM	St Joseph	0.50	295		Pg	18 40 27.3	0.0
C017	S Grimmer Bl F	0.50	320		Pg	18 40 27.5	+0.2
JSCM	Stevens Creek	0.51	289		Pg	18 40 26.8	-0.6
C050	Festivo Court	0.52	322		Pg	18 40 27.7	+0.2
C001	Firth Court Fr	0.52	321		Pg	18 40 27.8	+0.2
CSTL	Corral Hollow	0.52	2		Pg	18 40 27.8	+0.2
CSTL	Corral Hollow	0.52	2		Pg	18 40 27.7	+0.1
BJOM	Mount Johnson	0.52	161		Pg	18 40 27.6	+0.1
SCZ	Santa Cruz	0.53	169		Pg	18 40 27.4	-0.4
WENL	Wente Vineyard	0.53	340		Pg	18 40 27.9	0.0
JBMM	Black Mountain	0.54	292		Pg	18 40 27.5	-0.5
BPCNC	Pine Canyon	0.55	189		Pg	18 40 28.1	-0.2
CVLM	Vallecito	0.56	334		Pg	18 40 28.5	+0.1
CSAM	Sandia	0.57	345		Pg	18 40 28.6	0.0
BEMM	Emmet	0.57	143		Pg	18 40 28.3	-0.3
C015	Bright Common	0.58	320		Pg	18 40 28.9	+0.2
BJCM	Johnson Can.	0.58	170		Pg	18 40 28.3	-0.5
JFP	Foothills Park	0.58	294		Pg	18 40 28.3	-0.5
C048	Posada Way Fre	0.59	321		Pg	18 40 29.0	+0.1
CBZL	Buffer Zone	0.59	345		Pg	18 40 29.3	+0.4
CBZL	Buffer Zone	0.59	345		Pg	18 40 29.0	+0.1
JSFB	Stanford Teles	0.59	299		Pg	18 40 28.8	-0.2
CNIC	Niles Canyon	0.60	324		Pg	18 40 28.9	-0.2
BVL	Bear Valley	0.61	154		Pg	18 40 29.1	-0.1
HMOM	Monterey	0.61	211		Pg	18 40 28.9	-0.4
BAVM	Antelope Valle	0.62	140		Pg	18 40 28.9	-0.5
C006	Lk Pillsbury D	0.64	318		Pg	18 40 29.8	0.0
CYD1	Coyote D'meter	0.64	314		Pg	18 40 29.2	-0.6
JRSC	Jasper Ridge	0.64	297		Pg	18 40 29.1	-0.7
JPSM		0.66	277		Pg	18 40 29.8	-0.6
BBGB	Big Mountain B	0.67	144		Pg	18 40 30.0	-0.4
BGH	Bear Gulch	0.69	289		Pg	18 40 30.3	-0.5
CBSNC	Byron Hot Spri	0.70	352		Pg	18 40 31.5	+0.4
C055	Cottonwood Ave	0.71	319		Pg	18 40 30.9	-0.4
C021	Meadowview Dri	0.72	323		Pg	18 40 31.6	+0.3
CMOB	Morgan Territo	0.72	342		Pg	18 40 31.9	+0.3
BPRM	Ponciano Ridge	0.73	193		Pg	18 40 31.1	-0.5
HAST	Hastings Reser	0.73	182		Pg	18 40 30.9	-0.7
BSGM	Shirttail Gulc	0.74	163		Pg	18 40 30.8	-0.9
BSMM	Soledad Missio	0.74	174		Pg	18 40 31.2	-0.6
CLCB	Lake Chabot	0.75	325		Pg	18 40 32.2	+0.2
CSLM	San Leandro Hi	0.77	322		Pg	18 40 32.0	-0.3
JCHM	Cahill Ridge	0.79	300		Pg	18 40 31.7	-1.0
JCPM	Coyote Point	0.79	307		Pg	18 40 32.0	-0.7
LRV	Little Rabbit	0.81	150		Pg	18 40 32.8	-0.2
BCWM	Chews Ridge	0.81	182		Pg	18 40 32.5	-0.7
BGC	Bolinger Road	0.82	328		Pg	18 40 33.1	-0.2
CMCM	Mills College	0.84	322		Pg	18 40 33.4	-0.3
C051	Centre Court A	0.85	318		Pg	18 40 33.5	-0.3
CRPB	Russellman Par	0.85	339		Pg	18 40 33.6	-0.2
SAC	San Andreas	0.85	303		Pg	18 40 32.9	-1.0
C026	Kell Court Ala	0.86	331		Pb	18 40 34.9	+0.1
C005	Mandana Bl Oak	0.89	321		Pg	18 40 34.2	-0.5
JSBM	San Bruno Moun	0.89	309		Pg	18 40 33.3	-1.4
BPOM	Post Ranch	0.91	192		Pg	18 40 34.1	-0.9
JMGM	Milagra Ridge	0.92	305		Pg	18 40 33.8	-1.4
BKS	Berkeley--Byer	0.94	323		Pg	18 40 34.9	-0.8
CVPM	Vollmer Peak	0.94	324		Pg	18 40 35.0	-0.7
BL67	Building 67, L	0.95	323		Pg	18 40 35.0	-0.8
VAK	Adit at Lawren	0.95	323		Pg	18 40 35.3	-0.5
BRK	Berkeley--Havi	0.95	322		Pg	18 40 35.2	-0.7
CYBM	Yerba Buena Is	0.96	316		Pg	18 40 34.9	-1.0
CTAM	Taylor	0.99	337		Pg	18 40 35.9	-0.6
C008	Spokane Avenue	0.99	322		Pg	18 40 35.3	-1.2
JPRM	Presidio of Sa	1.01	312		Pg	18 40 35.9	-1.1
CPIM	Pinole Ridge	1.03	328		Pg	18 40 36.3	-1.0
CSPM	San Pablo Ridg	1.04	323		Pg	18 40 36.7	-0.9
HMR	Hamilton Ranch	1.06	348		Pn	18 40 38.7	0.0
PCCM	Crazy Canyon	1.07	164		Pg	18 40 36.7	-1.4
PMPB	Monarch Peak	1.07	147		Pg	18 40 37.0	-1.1
CPMM	Point Molate	1.09	320		Pg	18 40 36.7	-1.7
HULI	Fort Hunter Li	1.12	168		Pg	18 40 37.3	-1.7
PJUM	Juniper Ridge	1.16	140		Pg	18 40 37.9	-2.0
PSAM	San Ardo	1.21	155		Pb	18 40 38.7	-2.0
PAPM	Alder Peak	1.21	174		Pg	18 40 39.0	-1.9
PDRM	Domengine Ranc	1.21	130		Pb	18 40 38.9	-1.9
PWMM	Westland Maint	1.26	123		Pn	18 40 41.1	-0.4
CMB	Columbia Colle	1.28	44	Pn	Pn	18 40 40.0	-1.9
CMB				IAML		18 41 01.3	
	comp=N,457nm,0.8s						
CMB				IAML		18 41 01.9	
	comp=E,368nm,0.9s						
PSMM	Smith Mountain	1.29	144		Pn	18 40 40.2	-1.8
FARB	Farallon Islan	1.31	297		Pn	18 40 39.0	-3.2
PHSB	Hesperia Broad	1.35	164		Pn	18 40 40.6	-2.2
NADM	Allendale	1.38	345		Pn	18 40 41.7	-1.5
NBRB	Beebe Ranch Br	1.40	325		Pn	18 40 41.6	-1.9
PKD	Bear Valley Ra	1.42	146		Pn	18 40 41.6	-2.1
PANM	San Antonio Re	1.43	159		Pn	18 40 41.9	-2.0
PVCM	Vineyard Canyo	1.44	146		Pn	18 40 42.0	-2.0
PSTM	Stockdale Moun	1.44	145		Pn	18 40 41.8	-2.3
PPO	Portuguese Can	1.45	149		Pn	18 40 42.4	-1.8
PHCM	Hearst Castle	1.47	168		Pn	18 40 42.4	-2.0
MCCM	Marconi Confer	1.48	314		Pn	18 40 42.0	-2.6
MCCM				IAML		18 41 12.8	
	comp=E,488nm,1.2s						
MCCM				IAML		18 41 14.1	
	comp=N,387nm,0.8s						
CTM	Castle Mountai	1.52	141		Pn	18 40 44.0	-1.3
PHFM	Heflinger Ranc	1.53	143		Pn	18 40 43.5	-1.8
PWKM	Work Ranch	1.54	148		Pn	18 40 43.5	-1.8
PKEM	Kettleman Hill	1.55	132		Pn	18 40 44.2	-1.4
NTYM	Taylor	1.56	325		Pn	18 40 43.5	-2.1
RAMR	Ramage Ranch	1.57	160		Pn	18 40 44.0	-1.8
GHC	Gold Hill	1.60	143		Pn	18 40 44.3	-1.8
PKLM	Kerr Lake	1.65	144		Pn	18 40 45.1	-1.8
PSNM	Stone Corral	1.66	143		Pn	18 40 45.1	-1.9
PMRM	Maxey Ranch	1.69	142		Pn	18 40 45.8	-1.7
TCHL	Shandon	1.69	147		Pn	18 40 46.0	-1.4
TCAS	Cass Winery, P	1.70	152		Pn	18 40 45.4	-2.1
ARDC	Alexander Ranc	1.71	165		Pn	18 40 45.5	-2.2
NHSM	Mount Saint He	1.76	331		Pn	18 40 46.1	-2.4
TRAM	Private Proper	1.76	145		Pn	18 40 46.8	-1.7
KCC	Kaiser Creek	1.77	83		Pn	18 40 48.1	-0.6
NMTM	Middletown	1.83	337		Pn	18 40 47.6	-1.8
PTAM	Tassajara Cree	1.85	159		Pn	18 40 47.5	-2.1
AFDM	Forest Hills D	1.88	13		Pn	18 40 49.0	-1.0
GCRM	Castle Rock Sp	1.90	331		Pn	18 40 48.1	-2.3
MNRC	McLaughlin Min	1.90	338		Pn	18 40 48.8	-1.6
FTR	Fort Ross	1.91	318		Pn	18 40 48.1	-2.4
GBGM	Boggs Mountain	1.92	332		Pn	18 40 48.5	-2.2
PBPM	Bitterwater Pu	1.93	142		Pn	18 40 49.0	-1.8
GGPM	Geyser Peak	1.94	328		Pn	18 40 49.0	-2.0
GDXM	Geysers	1.96	330		Pn	18 40 48.8	-2.5
DPD	Davis Peak	1.98	162		Pn	18 40 49.4	-2.0
GSGM	Seigler Mounta	1.98	332		Pn	18 40 49.8	-1.6
DCD	Diablo Creek	1.98	164		Pn	18 40 49.1	-2.4
GHCM	House Creek	1.99	319		Pn	18 40 49.2	-2.4
RCTC	Rector, Farmer	2.00	113		Pn	18 40 48.4	-3.4
MRDM	Red Cones	2.02	76		Pn	18 40 52.5	+0.2
MINS	Minaret Summit	2.03	74		Pn	18 40 52.8	+0.3
MMPM	Mammoth Pass	2.05	75		Pn	18 40 53.2	+0.6
MLIM	Lincoln Peak	2.06	75		Pn	18 40 53.9	+1.0
MDCM	Deadman Creek	2.06	73		Pn	18 40 53.0	+0.2
MDYM	Dry Creek	2.07	74		Pn	18 40 53.7	+0.7
MRHM	Rocky Hill	2.13	112		Pn	18 40 51.9	-1.6
MEMM	East Mammoth H	2.13	74		Pn	18 40 54.9	+1.1
MLCM	Laurel Creek C	2.13	76		Pn	18 40 54.7	+0.9
MGPM	Gravel Pit	2.15	76		Pn	18 40 55.1	+1.2
MCSM	Casa Diablo Ho	2.15	75		Pn	18 40 55.3	+1.3
MCBM	Casa Benchmark	2.16	75		Pn	18 40 55.5	+1.4
GBMM	Baldy Mountain	2.16	340		Pb	18 40 56.5	-0.5
EMB	Emerald Bay	2.17	31		Pn	18 40 54.7	+0.5
SMMC	Simmler	2.19	145		Pn	18 40 52.3	-2.0
MCVM	Convict Lake	2.20	77		Pn	18 40 55.5	+0.8
MDRNC	Doe Ridge	2.20	76		Pn	18 40 56.0	+1.3
HOPS	Hoyland Field	2.23	327		Pn	18 40 53.0	-1.9
GHLM	Highland Sprin	2.25	329		Pn	18 40 53.2	-2.0
RCCR	Rock Creek Can	2.26	80		Pn	18 40 56.4	+0.8
SCHCA	Scheelite	2.27	83		Pn	18 40 56.5	+0.8
ORC	Owens River	2.34	76		Pn	18 40 58.1	+1.4
PMLM	Mount Lospe	2.34	161		Pn	18 40 54.4	-2.1
MTUM	Tungsten Hills	2.37	83		Pn	18 40 58.1	+1.1
CASR	Casa Diablo Mo	2.41	78		Pn	18 40 58.8	+1.2
DONR	Donner Summit	2.42	23		Pn	18 40 58.4	+0.6
BENR	Benton	2.42	75		Pn	18 40 59.2	+1.4
ORV	Oroville	2.43	0		Pn	18 40 57.5	-0.1
BHPR	Bishop	2.43	85		Pn	18 40 59.0	+1.1
KPK	Kanaka Peak	2.46	4		Pn	18 40 57.8	-0.4
MRCM	Red Rock Canyo	2.46	76		Pb	18 41 00.4	-1.9
MPK	Martis Peak	2.47	28		Pn	18 40 58.7	+0.2
MFBM	Five Bridges	2.49	82		Pn	18 41 00.4	+1.9
OBHM	Bloomer Hill	2.53	1		Pn	18 40 56.2	-2.8
MLNR	Milner Canyon	2.58	78		Pn	18 41 01.9	+2.1
YERR	Yerington	2.59	43		Pn	18 41 00.4	+0.4
LHV	Little Huntoon	2.65	64		Pn	18 40 58.1	-2.5
LHV				IAML		18 41 49.3	
	comp=E,192nm,0.8s						
BCW	Bitter Crk WRg	2.77	141		Pn	18 41 02.0	-0.4
BCW				IAML		18 42 06.2	
	comp=N,109nm,0.8s						
BCW				IAML		18 42 09.3	
	comp=E,113nm,0.9s						
PEAR	Peavine Mounta	2.77	26		Pn	18 41 04.1	+1.5
DSP	Deep Springs	2.85	84	Pn	Pn	18 41 03.1	-0.2
DSP				IAML		18 41 53.6	
	comp=N,63nm,0.9s						
DSP				IAML		18 41 53.8	
	comp=E,75nm,1.0s						
ISA	Isabella, Lake	2.86	120	Pn	Pn	18 41 02.0	-1.6
ISA				IAML		18 41 57.6	
	comp=N,61nm,0.5s						
ISA				IAML		18 42 05.7	
	comp=E,75nm,1.1s						
NVAR	Mina Array Bea	2.87	62		Pn	18 41 03.0	-0.9
TEJ	El Tejon	2.97	129		Pn	18 41 03.3	-1.8
NV11	Mina Array Sit	2.97	63		Pn	18 41 07.5	+2.3
NV11				IAML		18 41 55.2	
	comp=N,102nm,1.5s						
PAHR	Pah Rah Range	3.08	32		Pb	18 41 10.8	-1.9
PAHR				IAML		18 42 00.8	
	comp=N,53nm,1.3s						
KVN	Kaiserville	3.32	53	Pn	Pn	18 41 09.3	-0.7
KVN				IAML		18 42 03.8	
	comp=N,66nm,0.8s						
KVN				IAML		18 42 04.2	
	comp=E,98nm,0.7s						
CCAC	Calif City Air	3.45	124		Pn	18 41 11.0	-0.7
CCAC				IAML		18 42 22.6	
	comp=E,84nm,1.1s						
CCAC				IAML		18 42 29.1	
	comp=N,79nm,0.9s						
TPH	Tonopah	3.55	73		Pn	18 41 10.3	-2.8
QSM	Queen of Sheba	3.92	106		Pn	18 41 17.0	-1.1
QSM				IAML		18 42 25.6	
	comp=N,23nm,1.0s						
QSM				IAML		18 42 29.4	
	comp=E,24nm,0.9s						
PLTX	Planet X, Gerl	3.92	23		Pn	18 41 17.1	-1.2
GWY	Greenwater Val	4.01	102		Pn	18 41 17.4	-2.1
GWY				IAML		18 42 40.3	
	comp=E,29nm,0.9s						
GWY				IAML		18 42 40.4	
	comp=N,28nm,1.1s						
TPNV	Topopah Spring	4.22	91		Pn	18 41 22.3	-0.1
TPNV				IAML		18 42 42.9	
	comp=N,46nm,1.1s						
TPNV				IAML		18 42 45.7	
	comp=N,48nm,1.2s						
GSC	Goldstone, Bar	4.22	114		Pn	18 41 22.0	-0.3
GSC				IAML		18 42 42.8	
	comp=E,33nm,0.9s						
GSC				IAML		18 42 51.0	
	comp=N,22nm,1.0s						
R11B	Troy Canyon, C	4.86	74		Pb	18 41 43.2	0.0
SHPR	Sheep Range	5.14	95		Pn	18 41 31.8	-3.3
PRN	Pahroc Range	5.17	85		Pn	18 41 32.8	-2.6
PRN				IAML		18 43 08.9	
	comp=E,26nm,0.9s						
PRN				IAML		18 43 09.4	
	comp=N,26nm,0.8s						
PFO	Pinyon Flats O	5.42	129		Pn	18 41 36.9	-1.9

*NOU **26** 18:41:46.5,39°.84S×173°.94E,h146km,MLv3.5/9,Off W. Coast of N. Island, N.Z.*
*WEL **26** 18:41:49.4±0.5,40°.S±2°.×17°.4E±°,h116km±4km,M3.3/67, ML3.5/50,MLv3.3/67,Error ellipse: s-maj=0.0km s-min=0.0km az=116.8,confirmed*

ISC 26 18:41:45.8±1.5,**39°.93S**±0°.03×**173°.98E**±0°.04,**h151**km±8km, **n124,**σ1§16/182,**Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	Namu Road	0.52	351	P	Pn	18 42 07.8	+0.4
NMEZ				S	Sn	18 42 22.9	-0.8
LREZ	Lake Rotokare	0.57	35	P	Pn	18 42 08.1	+0.5
LREZ				S	Sn	18 42 23.9	-0.3
PREZ	Palmer Road	0.60	13	P	Pn	18 42 08.3	+0.4
PREZ				S	Sn	18 42 24.1	-0.5
KHEZ	Kahui Hut	0.64	2	P	Pn	18 42 08.6	+0.5
KHEZ	Kahui Hut	0.64	2	P	Pn	18 42 08.6	+0.5
KHEZ				S	Sn	18 42 24.2	-0.9
NEZ	North Egmont	0.66	8	P	Pn	18 42 08.6	+0.2
NEZ				S	Sn	18 42 24.8	-0.6
NBEZ	Newall Road No	0.67	352	P	Pn	18 42 08.8	+0.6
NBEZ				S	Sn	18 42 24.8	-0.5
PKE	Pukeiti	0.73	0	P	Pn	18 42 09.2	+0.4
PKE				S	Sn	18 42 24.2	-2.0
DREZ	Durham Road	0.76	13	P	Pn	18 42 09.4	+0.6
DREZ				S	Sn	18 42 25.6	-0.8
WAZ	Wanganui	0.79	78	P	Pn	18 42 10.1	+1.0
WAZ				S	Sn	18 42 27.9	+1.1
DUWZ	D'Urville Isla	0.87	183	P	Pn	18 42 10.4	+0.8
DUWZ				S	Sn	18 42 27.1	-0.9
VRZ	Vera Road	1.00	37	P	Pn	18 42 11.2	+0.5
VRZ				S	Sn	18 42 28.8	-0.9
OHWZ	Ohakea	1.06	106	P	Pn	18 42 12.6	+1.5
OHWZ				S	Sn	18 42 30.8	+0.3
KIW	Kapiti Island	1.17	143	P	Pn	18 42 13.3	+1.1
KIW				S	Sn	18 42 30.2	-2.2
PKVZ	Pokaka	1.23	59	P	Pn	18 42 13.5	+0.7
PKVZ				S	Sn	18 42 32.9	-0.5
OGWZ	Otaki Gorge	1.27	135	P	Pn	18 42 14.3	+1.2
OGWZ				S	Sn	18 42 32.3	-1.7
MTVZ	Mangateitei	1.27	65	P	Pn	18 42 14.0	+0.8
MTVZ				S	Sn	18 42 33.5	-0.6
TCW	Tory Channel	1.30	170	P	Pn	18 42 14.9	+1.5
TCW				S	Sn	18 42 32.9	-1.6
TKNZ	Takaka Hill	1.35	215	P	Pn	18 42 14.9	+1.0
TKNZ				S	Sn	18 42 35.2	-0.3
TRVZ	Turoa	1.36	63	P	Pn	18 42 14.9	+0.6
TRVZ				S	Sn	18 42 35.1	-0.9
NNZ	Nelson	1.37	199	P	Pn	18 42 15.3	+1.3
NNZ				S	Sn	18 42 35.3	-0.4
WNVZ	Wahianoa	1.38	65	P	Pn	18 42 15.1	+0.7
WNVZ				S	Sn	18 42 35.2	-1.1
FWVZ	Far West T-bar	1.39	61	P	Pn	18 42 15.1	+0.6
FWVZ				S	Sn	18 42 35.2	-1.3
WHVZ	Whangaehu Hut	1.40	63	P	Pn	18 42 15.5	+0.9
WHVZ				S	Sn	18 42 35.4	-1.3
TWVZ	Taurewa	1.42	53	P	Pn	18 42 15.3	+0.6
TWVZ				S	Sn	18 42 35.8	-1.0
MRZ	Mangatainoka R	1.42	121	P	Pn	18 42 15.8	+1.2
MRZ				S	Sn	18 42 35.0	-1.7
QRZ	Quartz Range	1.43	231	P	Pn	18 42 15.4	+0.8
QRZ	Quartz Range	1.43	231	P	Pn	18 42 15.4	+0.8
CAW	Cannon Point	1.44	145	P	Pn	18 42 16.2	+1.5
CAW				S	Sn	18 42 35.7	-1.3
POWZ	Post Office Ro	1.44	109	P	Pn	18 42 15.9	+1.1
POWZ				S	Sn	18 42 35.2	-1.9
TUVZ	Tukino	1.45	63	P	Pn	18 42 16.1	+1.0
TUVZ				S	Sn	18 42 36.8	-0.7
NGZ	Ngauruhoe	1.46	59	P	Pn	18 42 15.9	+0.7
NGZ				S	Sn	18 42 36.9	-0.7
MOVZ	Moawhango	1.46	70	P	Pn	18 42 15.6	+0.5
MOVZ				S	Sn	18 42 35.8	-1.8
WEL	Wellington	1.48	156	P	Pn	18 42 16.7	+1.6
WEL				S	Sn

RTZ	Ruatahuna	2.67	62	P	Pn	18 42 29.4	+0.2
SNGZ	Shannon Statio	2.84	67	P	Pn	18 42 31.8	+0.5
URZ	Urewera	2.95	57	P	Pn	18 42 32.8	+0.3
URZ	Urewera	2.95	57	P	Pn	18 42 32.4	-0.1
MKAZ	Moumakai	2.97	18	P	Pn	18 42 34.4	+1.6
KNZ	Kokohu	3.00	74	P	Pn	18 42 33.2	+0.1
RAGZ	Rawiri	3.03	63	P	Pn	18 42 34.4	+0.8
LTZ	Lake Taylor	3.13	204	P	Pn	18 42 35.5	+0.7
MHGZ	Mahia Peninsul	3.13	77	P	Pn	18 42 35.3	+0.5
RIGZ	Rimuhau	3.17	69	P	Pn	18 42 36.0	+0.6
MWZ	Matawai	3.18	61	P	Pn	18 42 35.6	+0.1
PRGZ	Paritu Road	3.18	73	P	Pn	18 42 35.7	+0.2
INZ	Inchbonnie	3.38	214	P	Pn	18 42 39.0	+0.9
AMCZ	Amberley	3.40	197	P	Pn	18 42 38.6	+0.5
RUGZ	Raukumara Rang	3.48	57	P	Pn	18 42 39.0	-0.5
TWGZ	Tauwhareparae	3.57	62	P	Pn	18 42 41.3	+0.8
CNGZ	Carnagh Statio	3.58	68	P	Pn	18 42 41.2	+0.6
HAZ	Te Kaha	3.67	55	P	Pn	18 42 41.3	-0.5
OXZ	Oxford	3.69	203	P	Pn	18 42 42.4	+0.4
PKGZ	Pakihiroa	3.79	59	P	Pn	18 42 43.5	+0.2
OKCZ	Okains Bay	3.85	190	P	Pn	18 42 44.3	+0.2
MQZ	McQueen's Vall	3.90	194	P	Pn	18 42 43.9	-0.8
WVZ	Waitaha Valley	3.98	217	P	Pn	18 42 47.2	+1.5
AKCZ	Akaroa Harbour	4.02	191	P	Pn	18 42 46.0	-0.3
MHCZ	Mount Hutt	4.03	206	P	Pn	18 42 46.4	0.0
RACZ	Rakaia	4.04	199	P	Pn	18 42 46.2	-0.2
WACZ	Wakanui South	4.32	201	P	Pn	18 42 50.4	+0.3
GCSZ	Gaunt Creek Bo	4.35	218	P	Pn	18 42 51.8	+1.2
RPZ	Rata Peaks	4.37	209	P	Pn	18 42 52.4	+1.6
RPZ	Rata Peaks	4.37	209	P	Pn	18 42 51.8	+1.0
ARCZ	Arundel	4.53	207	P	Pn	18 42 53.4	+0.4
FOZ	Fox Glacier	4.76	220	P	Pn	18 42 56.8	+0.8
TMZ	Timaru	4.97	205	P	Pn	18 42 58.6	-0.1
JCZ	Jackson Bay	5.67	221	P	Pn	18 43 08.9	+0.8
JCZ	Jackson Bay	5.67	221	P	Pn	18 43 08.5	+0.4
TUZ	Tuapeka	6.81	207	P	Pn	18 43 27.5	+4.3
CTZ	Chatham Island	7.98	122	P	Pn	18 43 42.5	+3.7

*IDC **26** 18:44:11.9±1.7, 42°.55N×143°.60E, h0km, mb3.8/7, mbtmp3.7/10, ML3.0/3, Error ellipse: s-maj=40.5km s-min=26.6km az=89.0*
*SKHL **26** 18:44:21.7±0.4, 42°.20N×143°.10E, h47km±2km, mb4.6/3*
*JMA **26** 18:44:22.5±0.1, 42°.4N±0°.4×143°.0E±0°.4, h54km±1km, MD3.5/40, MV3.6/40, HIDAKA MOUNTAINS REGION*
JMA Felt I J1 at HIDAKA MOUNTAINS REGION .
*NIED **26** 18:44:22.5, 42°.35N×142°.99E, h54km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr2.69; Mθθ-1.53; Mφφ-1.16; Mrθ1.69; Mθφ-1.23; Mφr3.44; Fault plane solution: M0 4.64000×1014 NP1:φs31.00000°, δ73.00000°, λ80.00000°. NP2:φs242.00000°, δ19.00000°, λ120.00000°.*

ISC 26 18:44:21.8±0.8, 42°.32N±0°.06×142°.99E±0°.04, h61km±6km, n45, σ1§12/39, mb3.6/7, 7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.18	257	eP	Pn	18 44 30.9	-0.2
JNBK				eS	Sn	18 44 37.8	-0.2
JNBK	Urakawa-nobuka	0.18	257	A	A	18 44 30.9	
	comp=E,13nm,1.4s,comp=N,16nm,0.5s						
JTHR	Tokachihiroo	0.23	97	eP	Pn	18 44 31.5	0.0
JTHR				eS	Sn	18 44 38.7	+0.2
JEM	Erimo	0.33	157	eP	Pn	18 44 32.6	+0.4
JEM	Erimo	0.33	157	A	A	18 44 32.6	
	comp=E,4.0nm,1.6s,comp=N,6.0nm,0.7s						
JSHD	Hidakashinhida	0.40	283	⇓iP	Pn	18 44 33.0	+0.3
JSHD	Hidakashinhida	0.40	283	A	A	18 44 33.0	
	comp=E,10.0nm,0.7s,comp=N,12nm,0.8s						
JCH	Churui	0.40	43	eP	Pn	18 44 32.7	-0.1
JCH				eS	Sn	18 44 40.8	0.0
JCH	Churui	0.40	43	A	A	18 44 32.7	
	comp=E,4.0nm,0.6s,comp=N,11nm,0.5s						
JBT2	Biratori 2	0.65	315	⇓eP	Pn	18 44 35.5	0.0
JIAM	Iburiatsuma	0.84	291	⇓iP	Pn	18 44 39.0	+1.2
JIAM	Iburiatsuma	0.84	291	A	A	18 44 39.0	
	comp=E,5.0nm,1.3s,comp=N,6.0nm,0.9s						
JOB	Onbets	0.85	47	eP	Pn	18 44 38.8	+0.8
JOB	Onbets	0.85	47	A	A	18 44 38.8	
	comp=E,3.0nm,0.5s,comp=N,4.0nm,1.6s						
JFR	Furan	0.89	341	⇓eP	Pn	18 44 37.7	-0.8
JFR				⇓eS	Sn	18 44 49.5	-1.2
JAR	Ashorobuto	1.13	30	eP	Pn	18 44 41.5	-0.1
JAR				eS	Sn	18 44 56.2	-0.2
JEW	Eniwo	1.25	295	⇓eP	Pn	18 44 43.7	+0.6
JEW				⇓eS	Sn	18 45 00.1	+1.1
JAB	Ashibetsu	1.31	335	eP	Pn	18 44 44.6	+0.6
JAK	Akkeshi	1.43	61	eP	Pn	18 44 45.7	+0.2
JAK				eS	Sn	18 45 03.7	+0.3
JAK	Akkeshi	1.43	61	A	A	18 44 45.7	
	comp=E,2.0nm,1.5s,comp=N,2.0nm,1.4s						
JHR	Hokuryu	1.70	327	A	A	18 44 50.0	
	comp=E,2.0nm,1.7s,comp=N,2.0nm,1.7s						
NMR	Nemuro--Hokkai	2.27	62	eP	Pn	18 44 56.4	-0.5
NMR				eS	Sn	18 45 22.7	-1.1
YUK	Yuzh-Kuril'sk	2.71	50	iP	Pn	18 45 04.5	+1.6
YUK				AMB	AMB	18 45 05.4	
	comp=N,80nm,0.2s						
YUK				iS	Sn	18 45 34.7	+0.2
YUK				A	A	18 45 39.0	
	comp=N,300nm,0.3s						
YUK				A	A	18 45 39.0	
	comp=N,180nm,0.3s						
SHO	Shikotan	3.21	60	iP	Pn	18 45 09.8	0.0
SHO				AMB	AMB	18 45 14.0	
	comp=N,30nm,0.2s						
SHO				eS	Sn	18 45 47.0	+0.2
SHO				A	A	18 45 47.7	
	comp=N,100nm,0.3s						
SHO				A	A	18 45 47.7	
	comp=N,150nm,0.3s						
KUR	Kuril'sk	4.58	49	eP	Pn	18 45 31.6	+3.2
KUR				AMB	AMB	18 45 33.2	
	comp=N,70nm,0.7s						
KUR				eS	Sn	18 46 22.3	+2.0
KUR				A	A	18 46 28.3	
	comp=N,60nm,0.5s						
KUR				A	A	18 46 28.3	
	comp=N,40nm,0.5s						
YSS	Yuzh-Sakhalins	4.63	358	eP	Pn	18 45 32.0	+2.8
MJAR	Matsushiro Arr	6.85	214	Pn	Pn	18 46 00.8	+1.1
	comp=N,0.1nm,0.3s,baz=29,slow=13,SNR=4.2						
	comp=N,0.8nm,0.3s						
USRK	Ussuriysk Ar.	8.24	287	Pn	Pn	18 46 18.6	0.0
	comp=N,0.1nm,0.3s,baz=90,slow=13,SNR=2.2						
	comp=N,1.8nm,0.6s						
KSRS	Korea Array	12.55	252	Pn	Pn	18 47 19.2	+1.8
	comp=N,0.2nm,0.3s,baz=65,slow=15,SNR=2.1						
	comp=N,0.8nm,0.7s						
SONM	Songino Array	26.25	295	P	P	18 49 50.5	-0.8
	comp=N,0.7nm,0.6s,baz=90,slow=7.2,SNR=2.6						
	comp=N,0.7nm,0.6s						
H11N2	WAKE ISLAND Hy	30.25	131	T	T	19 21 58.8	
	baz=324,slow=75,SNR=51						
H11N1	WAKE ISLAND Hy	30.27	131	T	T	19 21 59.7	
	baz=324,slow=75,SNR=33						
H11N3	WAKE ISLAND Hy	30.27	131	T	T	19 22 00.2	
	baz=324,slow=75,SNR=52						
H11S1	WAKE ISLAND Hy	31.13	132	T	T	19 23 02.8	
	baz=325,slow=76,SNR=53						
H11S3	WAKE ISLAND Hy	31.14	132	T	T	19 23 04.6	
	baz=325,slow=76,SNR=35						
H11S2	WAKE ISLAND Hy	31.15	132	T	T	19 23 10.2	
	baz=325,slow=76,SNR=35						
ZALV	Zalesovo Beam	39.44	308	P	P	18 51 45.3	-0.4
	comp=N,1.2nm,0.5s,baz=95,slow=8.6,SNR=7.5						
	comp=N,1.2nm,0.5s						
MKAR	Makanchi Array	42.54	298	P	P	18 52 11.2	-0.2
	comp=N,1.2nm,0.8s,baz=81,slow=10,SNR=10						
	comp=N,1.2nm,0.8s						
WRA	Warramunga Arr	62.46	189	P	P	18 54 38.6	-0.1
	comp=N,0.3nm,0.9s,baz=6.7,slow=6.9,SNR=1.3						
	comp=N,0.3nm,0.9s						
FINES	FINESS Array B	64.72	332	P	P	18 54 51.6	-1.5
	comp=N,3.4nm,1.0s,baz=55,slow=6.3,SNR=12						
	comp=N,3.4nm,1.0s						
NOA	NORSAR Array B	69.78	337	P	P	18 55 23.5	-1.8
	comp=N,0.5nm,0.7s,baz=34,slow=6.4,SNR=1.9						
	comp=N,0.5nm,0.7s						
AKASG	Malin Array Be	70.87	322	P	P	18 55 31.4	-0.6
	comp=N,0.2nm,0.3s,baz=42,slow=6.6,SNR=2.1						
	comp=N,0.2nm,0.3s						
H03N2	Juan Fernandez	146.03	89	T	T	21 47 11.1	
	baz=297						
H03N3	Juan Fernandez	146.05	89	T	T	21 47 10.1	
	baz=297						
H03N1	Juan Fernandez	146.05	89	T	T	21 47 08.0	
	baz=297						

*SJA **26** 18:45:46.3±0.7, 30°.13S×72°.68W, h10km, ML3.2, MW3.5*
*GUC **26** 18:45:53.2±0.3, 30°.41S×72°.18W, h16km±22km, ML2.8*

ISC 26 18:45:50.2±2.5, 30°.15S±0°.06×72°.4W±0°.1, h28km±15km, n20, σ2§56/25, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.87	127	⇓iP	Pn	18 46 04.0	-2.6
CO05	La Serena	1.06	78	eP	Pb	18 46 10.7	+0.7
CO05				iS	Sb	18 46 23.9	+0.4
CO05				IAML		18 46 28.7	
	comp=N,438nm,0.2s						
GO04	Tololo Observa	1.42	92	eP	Pn	18 46 15.1	+0.8
GO04				iS	Sn	18 46 31.9	-0.2
CO03	El Pedregal	1.66	115	eP	Pn	18 46 17.2	-0.2
CO03				iS	Sn	18 46 35.4	-2.5
CO03				IAML		18 46 40.9	
	comp=E,387nm,0.1s						
CO01	Juntas del Tor	2.04	86	eP	Pb	18 46 25.9	-0.7
CO01				iS	Sn	18 46 48.6	+1.2
CO01				IAML		18 46 53.8	
	comp=N,118nm,0.3s						
AROD	Rodeo	2.57	91	eP	Pb	18 46 33.9	-1.8
ACDV	Cuesta del Vie	2.87	91	eP	Pn	18 46 35.2	+1.0
ACDV				IAML		18 47 57.8	
	comp=Z,62nm,0.4s						
ACCO	Cerro Coronel	2.95	99	eP	Pb	18 46 40.1	-2.1
ACCO				eS	Sb	18 47 19.0	+1.1
ACCO				IAML		18 47 20.9	
	comp=Z,56nm,0.5s						
VA03	San Esteban	3.07	149	eP	Pb	18 46 43.8	-0.3
VA03				IAML		18 47 32.2	
	comp=Z,41nm,0.6s						
ROC1	El Roble	3.07	157	eP	Pn	18 46 39.4	+2.4
RTLS	Leoncito	3.16	122	eP	Pb	18 46 42.5	-3.3
RTLS				IAML		18 47 30.3	
	comp=Z,137nm,0.7s						
AUSP	Upallata	3.33	129	eP	Pn	18 46 44.2	+3.5
RTLL	Cerro Villicun	3.61	110	eP	Pb	18 46 51.1	-2.2
CFA	Coronel Fontan	3.89	113	eP	Pn	18 46 51.5	+3.3
CFA				IAML		18 47 56.0	
	comp=Z,21nm,0.8s						
ASAL	Salagasta	3.93	129	eP	Pn	18 46 52.9	+4.2
ASAL				IAML		18 47 52.1	
	comp=Z,18nm,1.4s						
VCA	Vinchina	3.95	70	eP	Pb	18 46 57.9	-1.3
VCA				IAML		18 48 05.9	
	comp=Z,48nm,1.2s						
ARCO	CERRO ARCO	4.02	133	eP	Pb	18 46 57.2	-3.2
ARCO				IAML		18 47 59.1	
	comp=Z,24nm,0.6s						
AAGR	Agrelo	4.25	135	eP	Pb	18 47 04.6	+0.3
AAGR				IAML		18 48 18.5	
	comp=Z,24nm,0.9s						
ACLC	CERRO LA CRUZ	4.82	83	eP	Pn	18 47 05.4	+4.4
ACLC				IAML		18 48 21.3	
	comp=Z,21nm,1.0s						
GO02	Mina Guanaco	5.57	28	eS	Sn	18 48 10.5	-4.1

*SJA **26** 18:45:53.7±1.6, 20°.74S×66°.78W, h242km±13km, ML3.6, MW3.7*
*IDC **26** 18:45:54.0±1.0, 20°.69S×66°.62W, h220km±13km, mb3.2/5, mbtmp3.8/8, Error ellipse: s-maj=25.1km s-min=9.9km az=105.0*
*SCB **26** 18:45:55.1±1.3, 20°.74S×66°.81W, h230km±10km, ML4.1/3, MW4.1, Error ellipse: s-maj=4.3km s-min=3.8km az=0.0*

ISC 26 18:45:54.5±0.8, 20°.68S±0°.04×66°.76W±0°.04, h228km±7km, n67, σ1§40/91, mb3.5/4, 8C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.19	119	Pg	Pn	18 46 30.7	+1.7
MOCB				Sg	S	18 46 56.7	+0.9
MOCB				IAML		18 46 57.3	
	1μm,0.4s						
YJA	Yavi	1.89	142	Pg	Pn	18 46 36.0	+1.4
YJA	Yavi	1.89	142	iP	Pn	18 46 36.2	+1.6
YJA				eS	S	18 47 05.7	-0.2
YJA				IAML		18 47 07.5	
	comp=Z,68nm,0.3s						
AOVT	TarijaAcel	2.10	114	Pg	Pn	18 46 37.3	+0.9
PB08	IPOC Station P	2.31	283	Pg	Pn	18 46 39.9	+1.2
PB08	IPOC Station P	2.31	283	⇑iP	Pn	18 46 39.8	+1.1
PB08				iS	S	18 47 14.0	+1.0
PB08				IAML		18 47 19.1	
	comp=E,112nm,0.3s						
PB08	IPOC Station P	2.31	283	iP	Pn	18 46 39.2	+0.6
PB08				IAML		18 47 18.2	
	comp=Z,47nm,0.4s						
SOEO	Opoqueri	2.36	333	Pg	Pn	18 46 41.6	+2.3
GO01	Chusmiza	2.50	293	Pg	Pn	18 46 41.7	+0.9
GO01	Chusmiza	2.50	293	⇑iP	Pn	18 46 41.6	+0.9
GO01				iS	S	18 47 18.2	+1.5
GO01				IAML		18 47 25.2	
	comp=E,256nm,0.1s						
GO01	Chusmiza	2.50	293	iP	Pn	18 46 41.2	+0.5
GO01				IAML		18 47 23.0	
	comp=Z,52nm,0.1s						
PB09	IPOC Station P	2.57	244	Pg	Pn	18 46 42.0	+0.9
PB09	IPOC Station P	2.57	244	⇑iP	Pn	18 46 42.1	+1.0
PB09				iS	S	18 47 17.6	0.0
PB09				IAML		18 47 20.4	
	comp=E,88nm,0.2s						
PB09	IPOC Station P	2.57	244	iP	Pn	18 46 41.7	+0.6
PB09				IAML		18 47 19.8	
	comp=Z,74nm,0.4s						
PB01	IPOC Station P	2.58	261	Pg	Pn	18 46 41.5	+0.3
PB01	IPOC Station P	2.58	261	⇑iP	Pn	18 46 41.3	+0.2
PB01				iS	S	18 47 16.6	-0.9
PB01				IAML		18 47 19.4	
	comp=E,236nm,0.2s						
PB01	IPOC Station P	2.58	261	iP	Pn	18 46 41.5	+0.3
PB01				eS	S	18 47 17.8	+0.2
PB01				IAML		18 47 19.7	
	comp=Z,165nm,0.1s						
SOET	ToroToro	2.70	19	Pg	Pn	18 46 43.9	+1.1
LVC	Limon Verde	2.77	226	Pg	Pn	18 46 44.4	+0.9
LVC	Limon Verde	2.77	226	P	Pn	18 46 43.9	+0.3
	comp=Z,13nm,0.2s,baz=36,slow=9.4,SNR=25						
LVC				S	S	18 47 21.7	-0.2
	comp=Z,21nm,0.3s,baz=201,slow=20,SNR=17						
LVC	Limon Verde	2.77	226	eP	Pn	18 46 44.1	+0.6
LVC	Limon Verde	2.77	226	iP	Pn	18 46 43.7	+0.2
LVC				IAML		18 47 23.9	
	comp=Z,25nm,0.2s						
HMBC	Humberstone	2.96	277	Pg	Pn	18 46 45.7	+0.3
HMBC				Sg	S	18 47 23.7	-1.4
HMBC				IAML		18 47 24.8	
	comp=Z,221nm,0.2s						
HMBC	Humberstone	2.96	277	⇑iP	Pn	18 46 45.0	-0.3
HMBC				iS	S	18 47 23.4	-1.7
HMBC	Humberstone	2.96	277	iP	Pn	18 46 45.0	-0.3
HMBC				eS	S	18 47 24.1	-1.1
HMBC				IAML		18 47 25.6	
	comp=Z,181nm,0.2s						
PB02	IPOC Station P	3.00	257	Pg	Pn	18 46 46.4	+0.6
PB02				Sg	S	18 47 24.5	-1.4
PB02				IAML		18 47 27.7	
	comp=Z,378nm,0.2s						
PB02	IPOC Station P	3.00	257	eP	Pn	18 46 45.7	-0.1
PB02				iS	S	18 47 24.3	-1.6
PB02	IPOC Station P	3.00	257	iP	Pn	18 46 46.4	+0.6
PB02				eS	S	18 47 24.5	-1.4
PB02				IAML		18 47 27.8	
	comp=Z,441nm,0.1s						
SOTI	Planta Incahua	3.03	74	Pg	Pn	18 46 47.5	+1.3
PB07	IPOC Station P	3.10	250	Pg	Pn	18 46 47.4	+0.4
PB07	IPOC Station P	3.10	250	⇓iP	Pn	18 46 47.4	+0.4
PB07				iS	S	18 47 26.1	-1.9
PB07	IPOC Station P	3.10	250	iP	Pn	18 46 47.4	+0.4
PB07				eS	S	18 47 26.4	-1.7
PB07				IAML		18 47 27.0	
	comp=Z,193nm,0.3s						
PATCX	Punta Patache	3.18	267	⇑eP	Pn	18 46 47.8	0.0
PATCX	Punta Patache	3.18	267	iP	Pn	18 46 47.3	-0.5
PATCX				IAML		18 47 29.8	
	comp=Z,131nm,0.4s						
TA02	Huaiquique	3.19	277	eP	Pn	18 46 47.7	-0.1
TA02	Huaiquique	3.19	277	iP	Pn	18 46 47.4	-0.4
TA02				IAML		18 47 28.5	
	comp=Z,359nm,0.1s						
TA01	Diego Aracena	3.21	271	eP	Pn	18 46 47.6	-0.4
TA01	Diego Aracena	3.21	271	iP	Pn	18 46 47.0	-1.0
TA01				IAML		18 47 29.6	
	comp=Z,73nm,0.3s						
PB06	IPOC Station P	3.30	232	Pg	Pn	18 46 50.4	+1.1
PB06	IPOC Station P	3.30	232	eP	Pn	18 46 49.5	+0.2
PB06				iS	S	18 47 30.6	-1.6
PB16	IPOC Station P	3.49	312	Pg	Pn	18 46 53.6	+1.7
PB16	IPOC Station P	3.49	312	⇑iP	Pn	18 46 53.4	+1.5
PB16				iS	S	18 47 38.8	+2.0
PB16	IPOC Station P	3.49	312	iP	Pn	18 46 53.1	+1.2
PB16				IAML		18 47 47.3	
	comp=Z,30nm,0.5s						
PB04	IPOC Station P	3.56	242	Pg	Pn	18 46 52.5	+0.2
PB04	IPOC Station P	3.56	242	eP	Pn	18 46 52.3	+0.1
PB04				iS	S	18 47 35.1	-2.5
PB04	IPOC Station P	3.56	242	iP	Pn	18 46 52.2	-0.1
PB04				IAML		18 47 37.7	
	comp=Z,107nm,0.1s						
PB15	IPOC Station P	3.56	225	Pg	Pn	18 46 53.0	+0.7
PB15	IPOC Station P	3.56	225	eP	Pn	18 46 52.9	+0.6
PB15				iS	S	18 47 36.5	-1.3
AZAP	Zapla	3.86	156	iP	Pn	18 46 56.9	+0.9
AZAP				eS	S	18 47 42.1	-2.2
AZAP				IAML		18 47 48.8	
	comp=Z,42nm,0.6s						
SOEJ	Jacaque	3.93	340	Pg	Pn	18 46 59.4	+2.3
PB12	IPOC Station P	3.94	301	⇑iP	Pn	18 46 55.9	-0.9
PB12				iS	S	18 47 42.0	-3.8
AP01	Chacalluta	4.08	304	iP	Pn	18 46 57.8	-0.6
AP01				IAML		18 47 50.1	
	comp=Z,259nm,0.2s						
BBOD	La Paz, Gloria	4.38	336	Pg	Pn	18 47 04.7	+2.1
LPAZ	La Paz	4.56	343	Pg	Pn	18 47 06.3	+1.4
LPAZ	La Paz	4.56	343	P	Pn	18 47 05.4	+0.6
	comp=Z,2.6nm,0.4s,baz=134,slow=8.1,SNR=13						
LPAZ				S	S	18 48 01.6	+1.4
	comp=Z,15nm,0.9s,baz=302,slow=15,SNR=14						
LPAZ	La Paz	4.56	343	iP	Pn	18 47 07.0	+2.1
GO02	Mina Guanaco	5.17	210	Pg	Pn	18 47 11.9	-0.1
GO02	Mina Guanaco	5.17	210	iP	Pn	18 47 11.2	-0.8
GO02				IAML		18 48 12.2	
	comp=Z,98nm,0.4s						
GO02	Mina Guanaco	5.17	210	eP	Pn	18 47 11.9	-0.1
PB14	IPOC Station P	5.17	220	iP	Pn	18 47 11.6	-0.5
PB14				IAML		18 48 12.2	
	comp=Z,47nm,0.1s						
SIV	San Ignacio	7.13	50	P	Pn	18 47 36.1	-0.7
	comp=Z,3.7nm,0.5s,baz=246,slow=9.9,SNR=18						
SIV				S	S	18 48 51.8	-6.7
	comp=Z,0.4nm,0.3s,baz=264,slow=14,SNR=1.1						
PLCA	Paso Flores	20.25	188	P	P	18 50 14.3	+1.6
	comp=Z,2.5nm,0.6s,baz=5.0,slow=10,SNR=11						
	comp=Z,2.5nm,0.6s						
DBIC	Dimbokro	66.58	73	P	P	18 56 19.4	-1.4
	comp=Z,2.8nm,0.9s,baz=218,slow=4.3,SNR=1.7						
	comp=Z,2.8nm,0.9s						
QSPA	South Pole Qui	69.51	180	P	P	18 56 39.4	+1.1
	comp=Z,0.2nm,0.3s,baz=65,slow=9.7,SNR=1.2						
	comp=Z,0.2nm,0.3s						
PDAR	Pinedale Array	74.43	329	P	P	18 57 08.6	+0.7
	comp=Z,0.2nm,0.4s,baz=125,slow=9.3,SNR=2.0						
	comp=Z,0.2nm,0.4s						
TORD	Torodi Ar. Bea	75.19	70	P	P	18 57 11.3	-1.2
	comp=Z,0.6nm,0.4s,baz=258,slow=5.4,SNR=12						
	comp=Z,0.6nm,0.4s						
WRA	Warramunga Arr	134.65	208	PKP	PKPdf	19 04 46.7	0.0
	comp=Z,0.2nm,0.7s,baz=153,slow=1.8,SNR=2.0						

*IDC **26** 18:48:00.8±3.5, 17°.80N×81°.46W, h0km, mb3.2/2, mbtmp3.3/2, MS3.0/5, Error ellipse: s-maj=150.2km s-min=47.6km az=59.0*
*SSNC **26** 18:48:29.2±2.5, 18°.43N×79°.89W, h74km±165km, MS2.4*

ISC 26 18:48:06.8±1.5, 18°.0N±0°.3×81°.52W±0°.09, h35km, n15, σ0§46/11, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	Mount Denham	3.80	85	eP	Pn	18 49 03.6	+0.7
MTDJ				eS	Sn	18 49 46.1	-0.3
LMGC	Las Mercedes	4.76	63	eP	Pn	18 49 16.2	+0.2
RCC	Rio Carpintero	5.87	69	eP	Pn	18 49 31.3	-0.1
RCC				IVMs_BB	IVMs_BB	18 49 35.0	
	comp=N,79nm,2.2s						
GTBY	Guantanamo Bay	6.37	71	eP	Pn	18 49 38.6	+0.4
GTMO	Guantanamo	6.39	70	eP	Pn	18 49 39.0	+0.5
TEIG	Tepich	6.78	291	LR	LR	18 52 00.5	
	comp=N,947nm,21.6s,baz=114,slow=35						
MASC	Masc	7.24	71	eP	Pn	18 49 49.5	-0.5
JTS	Las Juntas de	8.31	204	LR	LR	18 53 41.7	
	comp=N,76nm,18.2s,baz=36,slow=42						
CMIG	Matias Romero	12.78	268	LR	LR	18 55 50.1	
	comp=N,34nm,21.4s,baz=26,slow=37						
SDV	Santo Domingo	13.89	129	LR	LR	18 57 36.8	
	comp=N,47nm,18.0s,baz=324,slow=42						
TXAR	Lajitas Array	23.20	303	P	P	18 53 11.1	+0.3
	comp=N,0.6nm,0.8s,baz=112,slow=9.8,SNR=5.7						
	comp=N,0.6nm,0.8s						
ANMO	Albuquerque	27.90	312	LR	LR	19 05 20.3	
	comp=N,13nm,21.6s,baz=108,slow=37						
PDAR	Pinedale Array	34.32	322	P	P	18 54 50.4	+0.1
	comp=N,0.4nm,0.8s,baz=125,slow=12,SNR=2.4						
	comp=N,0.4nm,0.8s						
WRA	Warramunga Arr	146.07	261	PKPbc	PKPb

PDAR Pinedale Array 82.64 348 P **P** **19 06 53.1 -0.4**
0.8nm,0.9s,baz=138,slow=6.1,SNR=5.3
0.8nm,0.9s
DBIC Dimbokro 92.82 84 LR LR 19 45 22.5
comp=Z,31nm,21.2s,baz=131,slow=33
TSUM Tsumeb 93.25 118 LR LR 19 46 05.8
comp=Z,26nm,19.8s,baz=112,slow=33
KOWA Kowa 98.30 78 LR LR 19 51 08.1
comp=Z,43nm,18.7s,baz=148,slow=35
KSRS Korea Array 147.86 281 PKPbc **PKPbc** **19 14 14.4 -0.8**
0.5nm,0.5s,baz=108,slow=4.0,SNR=4.7

*NEIC **26** 19:29:22.4±1.9, 3°.75S±0°.08×151°.19E±0°.05, h10km±1km, mb4.7/26, Error ellipse: s-maj=15.6km s-min=6.7km az=206.0*
*DJA **26** 19:29:24.2±0.5, 4°.5S±5°×15°1E±°, h10km, M4.7/14, mB5.2/6, mb4.8/14, MLv4.7/3, Mw(mB)4.5/6*
*GCMT **26** 19:29:26.4±0.4, 3°.81S±0°.02×151°.02E±0°.03, h18km±2km, MW4.8/70, Moment Tensor Solution. s9,c11; s70,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.88±.18; $M_{\theta\theta}$2.14±.12; $M_{\phi\phi}$-1.26±.10; $M_{r\theta}$0.06±.20; $M_{r\phi}$0.07±.08; $M_{\theta\phi}$-0.48±.28; Best double couple: $M_0$1.86400×10^{16} NP1:φs308.00000°, δ67.00000°, λ-26.00000°. NP2: φs49.00000°, δ66.00000°, λ-155.00000°. Principal axes: T 2.1420, Plg1.0000°, Azm359.0000°; N -0.5600, Plg56.0000°, Azm90.0000°; P -1.5860, Plg34.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **26** 19:29:28.6±1.2, 4°.01S×151°.38E, h54km±14km, mb3.8/14, mbtmp4.1/16, ML2.9/2, MS3.7/40 Error ellipse: s-maj=20.6km s-min=13.2km az=117.0*
ISC 26 19:29:26.3±0.4, 3°.83S±0°.06×151°.16E±0°.05, h35km, n98, σ2s90/70, mb4.5/33, MS3.8/38, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**0.97**	**119**	P	**Pn**	**19 29 43.2**	**-0.3**
	baz=283,slow=24						
KRVT	**Keravat (AS076**	**0.99**	**119**	P	**Pn**	**19 29 43.2**	**-0.5**
	991nm,0.3s,baz=50,slow=24,SNR=55						
KRVT				S	**Sn**	**19 29 54.4**	**-2.0**
	2μm,0.5s,baz=171,slow=0.4,SNR=7.0						
RABL	**Rabaul**	**1.06**	**110**		**Pn**	**19 29 44.3**	**-0.5**
MANU	**Manus Island**	**4.18**	**295**		**Pn**	**19 30 25.6**	**-2.1**
PMG	**Port Moresby**	**6.82**	**215**	Pn	**Pn**	**19 31 04.2**	**+0.2**
PMG	**Port Moresby**	**6.82**	**215**	P	**Pn**	**19 31 05.1**	**+1.2**
	2.1nm,0.3s,baz=39,slow=11,SNR=11						
PMG				S	**Sn**	**19 32 25.0**	**+4.6**
	20nm,0.8s,baz=19,slow=22,SNR=1.0						
PMG				LR	LR	19 33 59.0	
	comp=Z,922nm,18.5s,baz=23,slow=40						
	106nm,1.0s						
GENI	**Genyem**	**11.04**	**276**	P	**Pn**	**19 32 03.6**	**+1.7**
	34nm,1.1s						
COEN	**Coen**	**12.78**	**218**	Pn	**Pn**	**19 32 22.7**	**-3.0**
CTA	**Charters Tower**	**16.86**	**196**	P	**Pn**	**19 33 19.9**	**+0.2**
	0.2nm,0.3s,baz=19,slow=12,SNR=22						
CTA				LR	LR	19 39 27.4	
	comp=Z,264nm,19.5s,baz=14,slow=36						
	24nm,1.0s						
CTAO	**Charters Tower**	**16.86**	**196**	Pn	**Pn**	**19 33 19.7**	**-0.1**
CTAO				IAmb	IAmb	19 33 30.5	
	comp=Z,113nm,1.1s						
GUMO	**Guam**	**18.40**	**340**	LR	LR	19 40 31.7	
	comp=Z,126nm,18.8s,baz=154,slow=36						
FAKI	**Fak Fak**	**18.90**	**272**	P	**P**	**19 33 39.8**	**-4.4**
FAKI				IAmb	IAmb	19 33 49.8	
	comp=Z,42nm,1.0s						
FAKI	**Fak Fak**	**18.90**	**272**	P	**P**	**19 33 42.7**	**-1.4**
	comp=Z,52nm,1.3s						
SWI	**Sorong**	**20.10**	**278**	P	Pn	19 33 59.1	-0.1
	comp=Z,20nm,1.2s						
KOUNC	**Koumac, New Ca**	**20.97**	**144**	P	**P**	**19 34 07.8**	**+1.2**
KOUNC				IAmb	IAmb	19 34 26.4	
	comp=Z,27nm,1.1s						
BNDI	**Bandanaira**	**21.21**	**267**	P	**P**	**19 34 09.4**	**+0.2**
	comp=Z,103nm,1.0s,comp=Z,2μm						
EIDS	**Eidsvold**	**21.42**	**180**	P	**P**	**19 34 13.0**	**+1.7**
MTN	**Manton Dam**	**21.73**	**244**	P	**P**	**19 34 13.8**	**-1.0**
WRAB	**Tennant Creek**	**22.91**	**224**	P	**P**	**19 34 25.5**	**-1.9**
WRAB				IAmb	IAmb	19 34 49.9	
	comp=Z,20nm,0.9s						
WRA	**Warramunga Arr**	**22.93**	**224**	P	**P**	**19 34 26.1**	**-1.5**
	comp=Z,5.8nm,0.7s,baz=49,slow=10,SNR=51						
WRA				S	**S**	**19 38 32.9**	**-2.4**
	comp=Z,0.5nm,1.0s,baz=51,slow=19,SNR=1.4						
WRA				LR	LR	19 43 40.3	
	comp=Z,174nm,19.9s,baz=48,slow=37						
DZM	**Mont Dzumac**	**23.42**	**142**	*e*P	**P**	**19 34 33.6**	**+1.0**
	comp=Z,87nm,1.2s						
DZM				*e*LR	LR	19 40 23.3	
	comp=Z,604nm,24.6s						
DZM	**Mont Dzumac**	**23.42**	**142**	P	**P**	**19 34 35.1**	**+2.5**
DZM				IAmb	IAmb	19 34 41.7	
	comp=Z,55nm,1.3s						
DZM	**Mont Dzumac**	**23.42**	**142**	LR	LR	19 42 50.6	
	comp=Z,277nm,21.4s,baz=338,slow=35						
LBMI	**Labuha**	**23.85**	**277**	P	**P**	**19 34 42.6**	**+5.9**
AS31	**Alice Springs**	**25.82**	**219**	P	**P**	**19 34 54.0**	**-0.6**
ASAR	**Alice Springs**	**25.82**	**219**	P	**P**	**19 34 54.2**	**-0.3**
ASAR	**Alice Springs**	**25.82**	**219**	P	**P**	**19 34 54.1**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=52,slow=8.8,SNR=23						
ASAR				LR	LR	19 45 05.4	
	comp=Z,227nm,19.4s,baz=48,slow=36						
	comp=Z,1.8nm,0.7s						
SOEI	**Soe**	**27.33**	**256**	P	**P**	**19 35 07.3**	**-1.1**
SOEI				IAmb	IAmb	19 35 37.0	
	comp=Z,22nm,1.2s						
BATI	**Baumata**	**28.00**	**255**	LR	LR	19 48 35.8	
	comp=Z,141nm,20.8s,baz=86,slow=41						
STKA	**Stephens Creek**	**29.32**	**197**	P	**P**	**19 35 24.9**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=7.1,slow=12,SNR=6.7						
STKA				LR	LR	19 47 29.5	
	comp=Z,204nm,18.5s,baz=19,slow=37						
	comp=Z,2.6nm,0.8s						
EDFI	**Ende, Flores**	**29.69**	**259**	P	**P**	**19 35 27.4**	**-2.0**
KAPI	**Kappang**	**31.34**	**267**	LR	LR	19 50 28.4	
	comp=Z,50nm,21.2s,baz=103,slow=40						
JCJ	**Chichijima**	**31.94**	**345**	LR	LR	19 47 37.3	
	comp=Z,157nm,21.8s,baz=191,slow=34						
TGY	**Tagaytay City**	**34.87**	**301**	LR	LR	19 48 08.4	
	comp=Z,69nm,21.8s,baz=130,slow=32						
JOW	**Kunigami**	**37.66**	**325**	LR	LR	19 48 50.0	
	comp=Z,163nm,20.2s,baz=92,slow=31						
JHJ	**Hachijo jima 2**	**38.29**	**345**	LR	LR	19 49 02.2	
	comp=Z,141nm,21.5s,baz=227,slow=30						
JNU	**Nakatsue**	**41.47**	**334**	LR	LR	19 52 19.4	
	comp=Z,74nm,21.1s,baz=174,slow=33						
URZ	**Urewera**	**41.65**	**149**	LR	LR	19 52 25.0	
	comp=Z,191nm,18.3s,baz=30,slow=33						
MJAR	**Matsushiro Arr**	**41.94**	**344**	LR	LR	19 53 36.6	
	comp=Z,70nm,18.2s,baz=158,slow=34						
NWAO	**Narrogin (SRO)**	**42.93**	**224**	LR	LR	19 55 42.6	
	comp=Z,154nm,18.4s,baz=356,slow=37						
LEM	**Lembang**	**43.44**	**264**	LR	LR	19 59 12.1	
	comp=Z,26nm,19.1s,baz=57,slow=41						
RPZ	**Rata Peaks**	**43.45**	**159**	LR	LR	19 54 02.9	
	comp=Z,262nm,18.6s,baz=326,slow=34						
WKZ	**Wanaka**	**43.75**	**162**	P	**P**	**19 37 28.0**	**-0.3**
KSRS	**Korea Array**	**46.41**	**334**	P	**P**	**19 37 53.7**	**+4.2**
	comp=Z,0.9nm,0.8s,baz=151,slow=8.5,SNR=5.2						
KSRS				LR	LR	19 55 47.9	
	comp=Z,71nm,21.4s,baz=140,slow=34						
	comp=Z,0.9nm,0.8s						
KSAR	**Wonju Array Be**	**46.42**	**334**	P	P	19 37 43.9	-5.8
INCN	**Inchon**	**47.00**	**333**	P	**P**	**19 37 54.3**	**0.0**
NJ2	**Nanjing**	**47.07**	**322**	*e*P	**P**	**19 37 54.5**	**-0.3**
NJ2				pP	**pP**	**19 37 59.5**	**-5.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,280nm,4.0s						
ASAJ	**Asahikawa**	**48.34**	**352**	LR	LR	19 57 14.9	
	comp=Z,92nm,19.9s,baz=168,slow=34						
RAR	**Rarotonga**	**50.67**	**114**	LR	LR	19 57 12.5	
	comp=Z,40nm,19.7s,baz=345,slow=33						
USRK	**Ussuriysk Ar.**	**50.82**	**342**	LR	LR	19 58 37.3	
	comp=Z,75nm,20.0s,baz=143,slow=34						
GSI	**Gunungsitoli**	**53.79**	**274**	P	P	19 38 41.6	-4.5
XAN	**Xi'an**	**54.80**	**317**	P	P	19 39 00.3	+7.3
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
CRAI	**Chiangrai**	**55.28**	**298**	P	**P**	**19 38 54.9**	**-1.9**
CRAI				IAmb	IAmb	19 39 06.3	
	comp=Z,6.0nm,0.9s						
KLR	**Kul'dur**	**55.47**	**345**	LR	LR	19 59 38.3	
	comp=Z,78nm,21.6s,baz=152,slow=32						
CM31	**Chiang Mai Arr**	**55.99**	**295**	P	**P**	**19 39 00.7**	**-1.1**
CM31				IAmb	IAmb	19 39 11.3	
	comp=Z,5.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**55.99**	**295**	P	**P**	**19 38 60.0**	**-1.8**
CMAR	**Chiang Mai Arr**	**55.99**	**295**	P	**P**	**19 39 03.5**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=119,slow=5.1,SNR=7.1						
	comp=Z,1.0nm,0.8s						
CHTO	**Chiang Mai**	**56.09**	**296**	P	**P**	**19 39 00.5**	**-2.1**
PZH	**PanZhiHua**	**56.48**	**305**	P	**P**	**19 39 06.8**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
PETK	**Petropavlovsk-**	**56.99**	**5**	P	**P**	**19 39 10.2**	**+1.9**
	comp=Z,3.3nm,0.8s,baz=161,slow=6.5,SNR=5.0						
PETK				LR	LR	19 58 58.5	
	comp=Z,119nm,21.1s,baz=188,slow=31						
	comp=Z,3.3nm,0.8s						
HHC	**Hu-ho-hao-te**	**57.31**	**325**	*e*P	**P**	**19 39 10.8**	**-0.2**
HHC				pmax	pmax		
	comp=Z,39nm,0.5s						
HHC				pmax	pmax		
	comp=Z,190nm,5.2s						
HEH	**HeiHe**	**57.63**	**342**	*e*P	**P**	**19 39 14.0**	**+1.2**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LZH	**Lanzhou**	**59.40**	**316**	*e*P	P	19 39 17.0	-8.7
LZH				pP	pP	19 39 21.5	-14
LZH				pmax	pmax		
	comp=Z,19nm,1.3s						
SHEM	**Shemya Is, Ala**	**59.59**	**16**	LR	LR	20 00 42.5	
	comp=Z,78nm,20.6s,baz=290,slow=31						
MA2	**Magadan**	**63.21**	**360**	LR	LR	20 07 45.0	
	comp=Z,87nm,19.0s,baz=194,slow=36						
GTA	**Gaotai**	**63.84**	**318**	*e*P	**P**	**19 39 58.3**	**+2.7**
GTA				pP	pP	19 40 04.0	-1.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**64.64**	**328**	P	**P**	**19 40 02.9**	**+2.3**
	comp=Z,1.0nm,0.7s,baz=119,slow=6.9,SNR=2.1						
	comp=Z,1.0nm,0.7s						
SEY	**Seymchan**	**66.58**	**1**	LR	LR	20 09 45.0	
	comp=Z,61nm,19.0s,baz=174,slow=36						
TAOE	**Nuku Hiva Isla**	**68.38**	**98**	*e*LR	LR	20 01 01.5	
	comp=Z,95nm,28.6s						
CASY	**Casey**	**68.47**	**196**	P	**P**	**19 40 24.1**	**-0.5**
CASY				IAmb	IAmb	19 40 30.9	
	comp=Z,5.9nm,0.8s						
PALK	**Pallekele**	**71.17**	**279**	LR	LR	20 15 29.6	
	comp=Z,37nm,18.2s,baz=302,slow=39						
VNDA	**Vanda**	**73.86**	**178**	P	**P**	**19 40 56.4**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=331,slow=5.0,SNR=6.4						
	comp=Z,1.4nm,0.9s						
WMQ	**Urumqi**	**73.92**	**318**	*e*P	**P**	**19 40 58.5**	**+0.3**
L19K	**White Mountain**	**77.49**	**23**	P	**P**	**19 41 15.5**	**-2.6**
MK31	**Makanchi Array**	**78.52**	**319**	P	**P**	**19 41 22.4**	**-1.7**
MKAR	**Makanchi Array**	**78.52**	**319**	P	**P**	**19 41 24.8**	**+0.6**
MKAR	**Makanchi Array**	**78.52**	**319**	P	**P**	**19 41 25.6**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=104,slow=6.7,SNR=6.2						
MKAR				LR	LR	20 19 53.9	
	comp=Z,20nm,18.1s,baz=52,slow=38						
	comp=Z,1.0nm,0.9s						
MAKZ	**Makanchi**	**78.73**	**319**	P	**P**	**19 41 25.0**	**-0.3**
ZAA0	**Zalesovo Array**	**79.44**	**327**	P	**P**	**19 41 24.8**	**-4.2**
ZALV	**Zalesovo Beam**	**79.44**	**327**	P	**P**	**19 41 27.3**	**-1.7**
ZALV	**Zalesovo Beam**	**79.44**	**327**	P	**P**	**19 41 30.0**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=111,slow=8.1,SNR=6.2						
ZALV				LR	LR	20 16 11.6	
	comp=Z,49nm,21.2s,baz=86,slow=35						
	comp=Z,1.2nm,0.6s						
KTH	**Kantishna Hill**	**79.75**	**23**	P	**P**	**19 41 28.8**	**-1.7**
IMAR	**Indian Mountai**	**80.03**	**20**	P	**P**	**19 41 31.1**	**-0.8**
ILAR	**Eielson Array**	**81.89**	**22**	P	**P**	**19 41 41.4**	**-0.5**
ILAR	**Eielson Array**	**81.89**	**22**	P	**P**	**19 41 42.2**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=246,slow=5.7,SNR=7.2						
ILAR				LR	LR	20 14 33.6	
	comp=Z,39nm,19.6s,baz=246,slow=33						
	comp=Z,0.8nm,0.8s						
KURK	**Kurchatov**	**82.00**	**322**	P	**P**	**19 41 43.8**	**+1.0**
KURK				IAmb	IAmb	19 41 51.7	
	comp=Z,6.6nm,0.9s						
KURBB	**Kurchatov Arra**	**82.03**	**322**	P	**P**	**19 41 44.4**	**+1.5**
	comp=Z,0.8nm,0.7s,baz=106,slow=4.5,SNR=7.3						
KURBB				LR	LR	20 17 29.6	
	comp=Z,63nm,21.4s,baz=170,slow=35						
	comp=Z,0.8nm,0.7s						
J25K	**Salcha River,**	**82.40**	**23**	P	**P**	**19 41 41.0**	**-3.6**
J25K				IAmb	IAmb	19 41 52.1	
	comp=Z,4.6nm,0.8s						
AAK	**Ala-Archa**	**82.82**	**314**	LR	LR	20 18 32.1	
	comp=Z,28nm,21.9s,baz=107,slow=35						
KK31	**Karatay Array**	**85.78**	**314**	P	**P**	**19 42 01.5**	**-0.8**
KK31				IAmb	IAmb	19 42 22.4	
	comp=Z,6.6nm,1.4s						
KKAR	**Karatay Array**	**85.78**	**314**	P	**P**	**19 42 00.8**	**-1.5**
KKAR				IAmb	IAmb	19 42 22.4	
	comp=Z,6.6nm,1.4s						
MAW	**Mawson**	**85.83**	**203**	P	**P**	**19 42 02.6**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=106,slow=16,SNR=1.3						
MAW				LR	LR	20 16 51.9	
	comp=Z,81nm,22.0s,baz=94,slow=33						
	comp=Z,1.0nm,0.7s						
QSPA	**South Pole Qui**	**86.13**	**180**	P	**P**	**19 42 03.0**	**-0.6**
	comp=Z,3.5nm,1.1s,baz=352,slow=3.5,SNR=6.1						
QSPA				LR	LR	20 19 21.0	
	comp=Z,31nm,18.4s,baz=5.0,slow=35						
	comp=Z,3.5nm,1.1s						
BVAR	**Borovoye Array**	**87.49**	**323**	P	**P**	**19 42 11.2**	**+0.8**
	comp=Z,2.4nm,0.9s,baz=101,slow=4.8,SNR=8.8						
BVAR				LR	LR	20 23 17.3	
	comp=Z,41nm,19.5s,baz=83,slow=37						
	comp=Z,2.4nm,0.9s						
INK	**Inuvik**	**88.14**	**21**	LR	LR	20 21 43.8	
	comp=Z,53nm,19.8s,baz=202,slow=36						
ARU	**Arti**	**94.60**	**326**	LR	LR	20 25 19.0	
	comp=Z,67nm,20.7s,baz=84,slow=35						
AKTO	**Aktyubinsk**	**94.93**	**320**	LR	LR	20 26 02.7	
	comp=Z,41nm,21.1s,baz=219,slow=36						
TORD	**Torodi Ar. Bea**	**148.45**	**289**	PKPbc	**PKPbc**	**19 49 10.8**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=55,slow=3.9,SNR=12						

HEL 26 19:34:41.8±0.5, 67°.56N×33°.76E, h0km, ML1.2, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.48**	**44**	PG	Pg	19 34 51.1	+0.1
	baz=225						
LVZ				SG	Sg	19 34 54.0	-3.3
VRF	**Varrio**	**1.60**	**279**	PG	Pn	19 35 10.8	-0.5
VRF				MSG		19 35 29.8	
	comp=Z,1.8nm,0.2s						
VRF				SG	Sn	19 35 30.9	-1.7
OLKF	**Oulanka, Finla**	**2.12**	**236**	PG	Pb	19 35 20.4	-0.6
OLKF				MSG		19 35 44.5	
	comp=Z,1.0nm,0.2s						
KU6	**Riekki**	**2.17**	**227**	PG	Pb	19 35 20.5	-1.4
	baz=54						
KU6				MSG		19 35 46.1	
	comp=Z,0.6nm,0.2s						
KU6				SG	Sb	19 35 49.6	+0.4
MSF	**Maaselka**	**2.50**	**231**	PG	Pb	19 35 26.4	-1.1
	baz=58						
MSF				SG	Sg	19 36 00.6	-1.3
SGF	**Sodankyl**	**2.79**	**271**	SG	Sb	19 36 06.5	-0.5
KEV	**Kevo**	**3.31**	**315**	PN	Pn	19 35 33.8	-1.0
KEV				SN	Sn	19 36 13.0	-1.8
ARA0	**ARCESS Array S**	**3.63**	**307**	PN	Pn	19 35 37.5	-1.6
	baz=122						
ARA0				SN	Sn	19 36 20.1	-2.5
HEF	**Hetta**	**3.90**	**287**	SN	Sn	19 36 24.6	-4.7

HEL 26 19:35:46.4±0.4, 67°.88N×20°.04E, h0km, ML0.9, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.76**	**76**	PG	Pg	19 35 60.0	-0.9
LANU	**Lannavaara**	**0.76**	**76**	PG	Pg	19 35 59.6	-1.2
LANU				SG	Sg	19 36 09.5	-1.1
KIF	**Kilpisjarvi**	**1.16**	**14**	*e*P	Pn	19 36 09.7	-0.1
KIF	**Kilpisjarvi**	**1.16**	**14**	PN	Pn	19 36 09.8	-0.1
KIF				MSG		19 36 22.7	
	comp=Z,1.5nm,0.2s						
KIF				SB	Sb	19 36 24.6	-0.3
HEF	**Hetta**	**1.46**	**67**	*e*P	Pn	19 36 12.2	-1.8
HEF	**Hetta**	**1.46**	**67**	SG	Sg	19 36 27.5	-5.6
HEF				MSG		19 36 30.2	
	comp=Z,0.8nm,0.2s						
PAJU	**Pajala**	**1.46**	**125**	SN	Sg	19 36 30.9	-2.4
PAJU	**Pajala**	**1.46**	**125**	SG	Sg	19 36 30.9	-2.4
ERTU	**Ertsjaerv**	**1.57**	**147**	PG	Pn	19 36 14.9	-0.7
ERTU				SG	Sn	19 36 35.5	-1.1
KTK1	**Kautokeino**	**1.64**	**45**	SN	Sg	19 36 39.6	+0.6
KLF	**Kolari**	**1.64**	**112**	MSG		19 36 35.4	
	comp=Z,0.8nm,0.2s						
KLF				SG	Sn	19 36 36.8	-1.4
KALU	**Kalix**	**2.42**	**146**	SG	Sb	19 37 00.3	-0.6
TOF	**Tornio**	**2.47**	**135**	MSG		19 36 59.5	
	comp=Z,0.3nm,0.2s						
TOF				SG	Sb	19 37 01.5	-1.0
ARA0	**ARCESS Array S**	**2.60**	**48**	PG	Pb	19 36 33.8	+0.1
RNF	**Rovaniemi**	**2.65**	**116**	SG	Sb	19 37 05.9	-1.8

*IDC **26** 19:56:14.4±1.8, 4°.47S×145°.76E, h0km, mb4.0/5, mbtmp4.0/6, ML4.2/1, Error ellipse: s-maj=74.9km s-min=25.4km az=110.0*
ISC 26 19:56:17.3±0.9, 4°.4S±0°.2×145°.6E±0°.1, h10km, n11, σ1s37/11, mb3.9/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**4.46**	**259**	P	**Pb**	**19 57 37.8**	**+2.0**
BUKA	**Buka**	**9.09**	**97**	P	**Pn**	**19 58 30.1**	**+1.5**
KDU	**Kakadu**	**15.38**	**237**	P	**P**	**19 59 58.5**	**-0.7**
WRAB	**Tennant Creek**	**18.95**	**214**	P	**P**	**20 00 37.9**	**-0.8**
WRA	**Warramunga Arr**	**18.96**	**214**	P	**P**	**20 00 38.0**	**-0.9**
	0.7nm,0.3s,baz=39,slow=11,SNR=16						
	1.4nm,0.3s						
KNRA	**Kununurra**	**20.01**	**235**	P	**P**	**20 00 49.7**	**-0.6**
ASAR	**Alice Springs**	**22.25**	**209**	P	**P**	**20 01 12.7**	**-1.9**
	14nm,0.4s,baz=38,slow=7.8,SNR=8.7						
	14nm,0.4s						
MKAR	**Makanchi Array**	**75.39**	**321**	P	**P**	**20 08 01.9**	**+0.6**
	0.4nm,0.7s,baz=111,slow=3.6,SNR=3.3						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**76.92**	**328**	P	**P**	**20 08 08.8**	**-1.0**
	0.4nm,0.4s,baz=112,slow=6.9,SNR=1.9						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**84.56**	**23**	P	**P**	**20 08 49.6**	**-0.8**
	0.8nm,0.7s,baz=247,slow=5.4,SNR=8.8						
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**84.66**	**324**	P	**P**	**20 08 50.4**	**-0.9**
	0.4nm,0.5s,baz=104,slow=6.1,SNR=3.6						
	0.4nm,0.5s						

IDC 26 20:05:39.3±12.0, 38°.60S×91°.82W, h0km, mb3.6/4, mbtmp3.7/4, MS3.6/4, Error ellipse: s-maj=351.5km s-min=45.2km az=14.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**11.44**	**69**	T	T	20 20 51.5	
	baz=240						
H03S1	**Juan Fernandez**	**11.45**	**69**	T	T	20 20 56.0	
	baz=240						
H03S3	**Juan Fernandez**	**11.46**	**69**	T	T	20 20 54.6	
	baz=240						
H03N3	**Juan Fernandez**	**11.63**	**68**	T	T	20 21 03.3	
	baz=234						
H03N2	**Juan Fernandez**	**11.63**	**68**	T	T	20 21 03.6	
	baz=234						
H03N1	**Juan Fernandez**	**11.64**	**68**	T	T	20 21 01.3	
	baz=234						
CFA	**Coronel Fontan**	**20.48**	**77**	P	P	20 10 18.7	0.0
	2.5nm,0.8s,baz=270,slow=6.0,SNR=2.5						
CFA				LR	LR	20 16 15.2	
	comp=Z,82nm,18.3s,baz=60,slow=31						
	2.5nm,0.8s						
JTS	**Las Juntas de**	**49.06**	**9**	LR	LR	20 30 25.6	
	comp=Z,41nm,18.6s,baz=181,slow=30						
SDV	**Santo Domingo**	**51.20**	**27**	LR	LR	20 35 52.5	
	comp=Z,82nm,19.4s,baz=133,slow=35						
TXAR	**Lajitas Array**	**68.48**	**349**	P	P	20 16 43.4	+0.1
	0.5nm,0.8s,baz=168,slow=6.6,SNR=4.7						
	0.5nm,0.8s						
NVAR	**Mina Array Bea**	**80.43**	**339**	P	P	20 17 53.1	+0.3
	0.7nm,0.8s,baz=171,slow=6.3,SNR=3.9						
	0.7nm,0.8s						
PDAR	**Pinedale Array**	**82.58**	**347**	P	P	20 18 03.8	-0.3
	0.2nm,0.4s,baz=164,slow=7.4,SNR=4.5						
PDAR				LR	LR	20 46 54.2	
	comp=Z,90nm,19.3s,baz=243,slow=30						
	0.2nm,0.4s						

*IDC **26** 20:06:47.3±0.8, 38°.98S×92°.77W, h0km, mb4.0/7, mbtmp4.0/7, MS3.5/7, Error ellipse: s-maj=37.2km s-min=20.6km az=81.0*
ISC 26 20:06:48.8±0.8, 39°.0S±0°.1×92°.8W±0°.2, h10km, n23, σ1s28/10, mb4.0/7, MS3.4/5, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.27**	**70**	T	T	20 22 08.4	
	baz=237,slow=74,SNR=56						
H03S1	**Juan Fernandez**	**12.29**	**70**	T	T	20 22 09.5	
	baz=237,slow=74,SNR=74						
H03S3	**Juan Fernandez**	**12.29**	**70**	T	T	20 22 09.3	
	baz=237,slow=74,SNR=87						
H03N3	**Juan Fernandez**	**12.46**	**68**	T	T	20 22 20.4	
	baz=234,slow=71						
H03N2	**Juan Fernandez**	**12.46**	**68**	T	T	20 22 19.3	
	ba

MV4.1/39,NEAR HACHIJOJIMA ISLAND
*IDC **26** 20:21:31.1±0.4,32°.72N×139°.09E,h196km±4km,mb3.7/24, mbtmp4.3/30,MS2.9/2,Error ellipse: s-maj=14.6km s-min=8.1km az=69.0*
*NIED **26** 20:21:32.0,32°.86N×139°.25E,h201km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.19; $M_{\theta\theta}$-0.93; $M_{\phi\phi}$0.74; $M_{r\theta}$-1.59; $M_{\theta\phi}$-0.35; $M_{\phi r}$-1.35; Fault plane solution: $M_0$2.26000×10^{15} NP1: ϕ_s226.00000°,δ86.00000°,λ69.00000°. NP2: ϕ_s126.00000°,δ21.00000°,λ169.00000°.*

ISC 26 20:21:31.4±0.6,32°.80N±0°.05×139°.18E±0°.05,h201km±5km, n179,σ1$25/189,mb4.1/58,4C-7D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.59**	**62**	⇓P	**Pn**	**20 21 59.2**	**+0.2**
JHCJ				⇓*e*S	**S**	**20 22 20.0**	**-0.5**
JAOM	**Aogashimamukai**	**0.60**	**124**	⇓P	**Pn**	**20 21 59.8**	**+0.6**
JHJ	**Hachijo jima 2**	**0.60**	**58**	P	**Pn**	**20 21 59.5**	**+0.4**
	461nm,0.4s,baz=52,slow=2.7,SNR=21						
JHJ				S	**S**	**20 22 20.9**	**+0.2**
	634nm,0.4s,baz=56,slow=23,SNR=7.2						
JHJ2	**Mitsune**	**0.62**	**60**	Pn	**Pn**	**20 21 59.4**	**+0.2**
JHJ2	**Mitsune**	**0.62**	**60**	P	**Pn**	**20 21 59.5**	**+0.3**
JHJ2	**Mitsune**	**0.62**	**60**	P	**Pn**	**20 21 59.5**	**+0.3**
JMKN	**Mikurajimanish**	**1.15**	**17**	P	**Pn**	**20 22 02.4**	**+0.1**
JMKN				*e*S	**S**	**20 22 25.2**	**-1.1**
JMYK	**Miyake Tsubota**	**1.30**	**14**	*e*P	**Pn**	**20 22 03.8**	**+0.3**
JMYK				*e*S	**S**	**20 22 28.1**	**-0.2**
JKO	**Kozu shima**	**1.39**	**359**	P	**Pn**	**20 22 04.5**	**+0.2**
TK02	**Tokai 2**	**1.65**	**314**	P	**Pn**	**20 22 07.3**	**+0.9**
TTO4	**TONANKAI O.B.S**	**1.83**	**312**	*i* P	**Pn**	**20 22 08.7**	**+0.7**
TTO5	**TONANKAI O.B.S**	**1.90**	**320**	*i* P	**Pn**	**20 22 09.7**	**+0.9**
TK04	**Tokai 4**	**1.92**	**326**	*i* P	**Pn**	**20 22 10.1**	**+1.0**
JIM2	**Oshima 3**	**1.93**	**6**	P	**Pn**	**20 22 09.5**	**+0.2**
JIZS	**Izushimoda**	**1.93**	**353**	*i* P	**Pn**	**20 22 09.6**	**+0.3**
JIZS				S	**S**	**20 22 39.9**	**+1.4**
TTO2	**TONANKAI O.B.S**	**2.03**	**298**	P	**Pn**	**20 22 11.0**	**+1.0**
JSG	**Sagara**	**2.05**	**336**		**Pn**	**20 22 11.1**	**+0.6**
TTO1	**TONANKAI O.B.S**	**2.17**	**293**	*i* P	**Pn**	**20 22 12.3**	**+0.9**
BSO1	**Boso 1**	**2.38**	**39**	P	**Pn**	**20 22 12.9**	**-0.5**
BSO1				*e*S	**S**	**20 22 46.1**	**+0.2**
JFNN	**Fujinakano**	**2.42**	**350**	*e*P	**Pn**	**20 22 15.1**	**+0.6**
JOD2	**Odawara 2**	**2.46**	**358**	P	**Pn**	**20 22 15.4**	**+0.5**
JOD2				*e*S	**S**	**20 22 48.8**	**+0.3**
JIE	**Ise**	**2.60**	**308**	*i* P	**Pn**	**20 22 17.1**	**+0.6**
JIE				*e*S	**S**	**20 22 51.8**	**+0.6**
JYN	**Shimob**	**2.74**	**349**	P	**Pn**	**20 22 19.0**	**+0.7**
JYN				*e*S	**S**	**20 22 56.0**	**+1.7**
INU	**Inuyama**	**3.11**	**325**	Pn	**Pn**	**20 22 22.9**	**+0.4**
INU	**Inuyama**	**3.11**	**325**	P	**Pn**	**20 22 23.3**	**+0.9**
JTNC	**Tanabenakahech**	**3.16**	**290**	*i* P	**Pn**	**20 22 23.4**	**+0.5**
JRY	**Ryogami san**	**3.22**	**356**	*i* P	**Pn**	**20 22 24.2**	**+0.5**
JRY				S	**S**	**20 23 04.0**	**-0.2**
JWY	**Kouya**	**3.31**	**296**	*i* P	**Pn**	**20 22 25.8**	**+0.9**
JYTA	**Yamagatataniai**	**3.45**	**325**	P	**Pn**	**20 22 27.2**	**+0.8**
JYTA				*e*S	**S**	**20 23 10.2**	**+1.2**
JAG	**Ashikaga**	**3.63**	**4**	⇓*i*P	**Pn**	**20 22 27.2**	**-1.4**
MJAR	**Matsushiro Arr**	**3.82**	**348**	P	**Pn**	**20 22 30.6**	**-0.4**
	4.9nm,0.4s,baz=201,slow=6.7,SNR=51						
MJAR				S	**S**	**20 23 17.5**	**+0.2**
	8.5nm,0.4s,baz=149,slow=13,SNR=5.1						
MJAR				LR	LR	20 24 03.5	
	comp=Z,46nm,19.5s,baz=210,slow=39						
MAJO	**Matsushiro**	**3.82**	**348**	Pn	**Pn**	**20 22 31.3**	**+0.3**
MAJO	**Matsushiro**	**3.82**	**348**	P	**Pn**	**20 22 31.9**	**+0.9**
MAT	**Matsushiro**	**3.82**	**348**	P	**Pn**	**20 22 31.3**	**+0.2**
MJB9	**Matsu-Tunnel**	**3.83**	**348**		**Pn**	**20 22 31.3**	**+0.3**
JMN	**Monobe**	**4.54**	**283**	Pn	**Pn**	**20 22 40.4**	**+0.4**
JMN	**Monobe**	**4.54**	**283**	P	**Pn**	**20 22 40.6**	**+0.6**
JMM	**Marumori**	**5.23**	**14**	Pn	**Pn**	**20 22 46.8**	**-1.9**
JMM				Sn	**S**	**20 23 43.3**	**-6.0**
JMM	**Marumori**	**5.23**	**14**	P	**Pn**	**20 22 47.0**	**-1.7**
JSD	**Sado**	**5.28**	**352**	Pn	**Pn**	**20 22 48.0**	**-1.4**
JSD	**Sado**	**5.28**	**352**	P	**Pn**	**20 22 48.4**	**-1.0**
JCJ	**Chichijima**	**6.25**	**155**	Pn	Pn	20 22 57.4	-4.6
JCJ	**Chichijima**	**6.25**	**155**	P	Pn	20 22 57.5	-4.5
JCJ	**Chichijima**	**6.25**	**155**	P	Pn	20 22 53.5	-8.5
	74nm,0.3s,baz=346,slow=23,SNR=33						
JCJ				S	S	20 24 01.5	-12
	187nm,0.3s,baz=221,slow=21,SNR=15						
JNU	**Nakatsue**	**6.98**	**275**	Pn	**Pn**	**20 23 12.5**	**+1.0**
JNU	**Nakatsue**	**6.98**	**275**	P	**Pn**	**20 23 11.6**	**+0.1**
	8.9nm,1.1s,baz=55,slow=15,SNR=1.8						
JTM	**Tenmabayashi**	**8.12**	**10**	Pn	**Pn**	**20 23 22.8**	**-3.3**
JTM	**Tenmabayashi**	**8.12**	**10**	P	**Pn**	**20 23 25.3**	**-0.8**
ERM	**Erimo**	**9.73**	**18**	Pn	**Pn**	**20 23 45.2**	**-1.8**
ERM	**Erimo**	**9.73**	**18**	P	**Pn**	**20 23 45.8**	**-1.2**
JEM	**Erimo**	**9.73**	**18**	P	**Pn**	**20 23 46.1**	**-0.9**
KSRS	**Korea Array**	**10.32**	**300**	P	**Pn**	**20 23 56.2**	**+1.5**
	11nm,0.7s,baz=114,slow=13,SNR=57						
KSAR	**Wonju Array Be**	**10.34**	**300**	Pn	**Pn**	**20 23 54.1**	**-1.0**
TJN	**Taejon**	**10.37**	**293**	Pn	**Pn**	**20 23 54.1**	**-1.3**
KS19	**Wonju Array Si**	**10.38**	**300**		**Pn**	**20 23 56.3**	**+0.8**
ASAJ	**Asahikawa**	**11.61**	**12**	P	**Pn**	**20 24 08.4**	**-2.8**
	6.6nm,0.3s,baz=227,slow=13,SNR=19						
ASAJ				S	S	20 26 10.7	-10
	6.9nm,0.5s,baz=136,slow=34,SNR=3.0						
JKA	**Kamikawa-asahi**	**11.61**	**12**		**Pn**	**20 24 08.3**	**-2.9**
USRK	**Ussuriysk Ar.**	**12.69**	**336**	Pn	**Pn**	**20 24 22.0**	**-2.8**
USRK	**Ussuriysk Ar.**	**12.69**	**336**	P	**Pn**	**20 24 23.7**	**-1.2**
	2.9nm,0.6s,baz=144,slow=11,SNR=7.2						
USA0B	**Ussuriysk Arra**	**12.69**	**336**	Pn	**Pn**	**20 24 21.8**	**-3.1**
YSS	**Yuzh-Sakhalins**	**14.40**	**10**	P	**Pn**	**20 24 42.7**	**-3.4**
KLR	**Kul'dur**	**17.33**	**343**	P	**P**	**20 25 19.0**	**-0.7**
	4.2nm,0.4s,baz=146,slow=10,SNR=14						
YHNB	**Yeheng**	**17.57**	**247**	P	**P**	**20 25 22.0**	**-0.7**
NACB	**Ninganchiao**	**17.67**	**245**	P	**P**	**20 25 22.1**	**-1.5**
NACB				IAmb	IAmb	20 25 60.0	
	comp=Z,17nm,0.9s						
YULB	**Yu-li**	**18.33**	**244**	P	**P**	**20 25 29.8**	**-1.0**
SSLB	**Suanglung**	**18.37**	**245**	P	**P**	**20 25 31.1**	**-0.2**
TPUB	**Ta-pu**	**18.89**	**245**	P	**P**	**20 25 37.6**	**+0.7**
HEH	**HeiHe**	**19.50**	**337**	*e*P	**Pn**	**20 25 46.0**	**-0.8**
HEH				pmax	pmax		
	comp=Z,54nm,0.7s						
GUMO	**Guam**	**19.82**	**163**	P	**P**	**20 25 46.8**	**-0.1**
	comp=Z,49nm,0.6s,baz=357,slow=21,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**27.96**	**111**	T	T	20 56 33.1	
	baz=306,slow=74						
H11N1	**WAKE ISLAND Hy**	**27.96**	**111**	T	T	20 56 31.0	
	baz=306						
H11N3	**WAKE ISLAND Hy**	**27.98**	**111**	T	T	20 56 35.5	
	baz=306,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.49**	**113**	T	T	20 56 38.4	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**28.49**	**113**	T	T	20 56 06.7	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**28.51**	**113**	T	T	20 56 09.6	
	baz=304						
SONM	**Songino Array**	**28.90**	**311**	P	**P**	**20 27 11.1**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=115,slow=10,SNR=2.2						
	comp=Z,1.2nm,0.8s						
FAKI	**Fak Fak**	**36.12**	**192**	P	**P**	**20 28 14.4**	**0.0**
FAKI				IAmb	IAmb	20 28 47.9	
	comp=Z,8.4nm,0.8s						
GOMU	**GeErMu**	**36.48**	**288**	P	**P**	**20 28 18.0**	**+0.2**
GOMU				pP	pP	20 28 29.5	-29
GOMU				sP	pwP	20 28 34.0	-30
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.74**	**258**	P	**P**	**20 28 35.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=57,slow=6.6,SNR=2.2						
	comp=Z,0.2nm,0.4s						
TIXI	**Tiksi**	**39.30**	**355**	P	**P**	**20 28 40.5**	**+0.1**
TIXI				IAmb	IAmb	20 28 41.1	
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**43.54**	**316**	P	**P**	**20 29 14.9**	**0.0**
ZALV	**Zalesovo Beam**	**43.54**	**316**	P	**P**	**20 29 14.6**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=100,slow=8.3,SNR=12						
ZALV				PcP	**PcP**	**20 30 59.0**	**0.0**
	comp=Z,3.0nm,0.5s,baz=103,slow=2.5,SNR=14						
ZALV				ScP	**ScP**	**20 34 31.6**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=79,slow=7.7,SNR=3.6						
	comp=Z,1.8nm,0.5s						
TAPN	**Taplejung**	**44.52**	**277**	*e*P	**P**	**20 29 22.8**	**-0.7**
	comp=Z,4.0nm,0.3s						
MK31	**Makanchi Array**	**44.94**	**305**	P	**P**	**20 29 26.1**	**-0.2**
MKAR	**Makanchi Array**	**44.94**	**305**	P	**P**	**20 29 25.5**	**-0.8**
MKAR	**Makanchi Array**	**44.94**	**305**	P	**P**	**20 29 25.9**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=86,slow=8.8,SNR=28						
MKAR				PcP	**PcP**	**20 31 04.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=251,slow=3.7,SNR=4.0						
MKAR				ScP	**ScP**	**20 34 36.0**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=78,slow=5.3,SNR=8.0						
	comp=Z,1.1nm,0.5s						
MAKZ	**Makanchi**	**45.16**	**305**	P	**P**	**20 29 27.8**	**-0.1**
RAMN	**Ramite**	**45.58**	**277**	*e*P	**P**	**20 29 31.0**	**-0.9**
	comp=Z,21nm,0.6s						
JIRN	**Jiri**	**45.68**	**278**	*e*P	**P**	**20 29 32.3**	**-0.5**
	comp=Z,33nm,0.4s						
GUN	**Gumba**	**45.85**	**279**	*e*P	**P**	**20 29 33.8**	**-0.3**
	comp=Z,12nm,0.4s						
MTN	**Manton Dam**	**46.03**	**191**	P	**P**	**20 29 33.4**	**-1.6**
MTN				IAmb	IAmb	20 30 09.6	
	comp=Z,17nm,1.3s						
PKIN	**Phulchoki**	**46.37**	**278**	*e*P	**P**	**20 29 36.9**	**-1.1**
	comp=Z,7.7nm,0.5s						
DMN	**Daman**	**46.60**	**279**	*e*P	**P**	**20 29 38.6**	**-1.2**
	comp=Z,14nm,0.9s						
GKN	**Gorkha**	**46.86**	**279**	*e*P	**P**	**20 29 41.2**	**-0.5**
	comp=Z,4.7nm,0.3s						
KURK	**Kurchatov**	**47.21**	**311**	P	**P**	**20 29 42.2**	**-1.6**
KURBB	**Kurchatov Arra**	**47.27**	**311**	P	**P**	**20 29 44.1**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=86,slow=6.8,SNR=16						
	comp=Z,2.6nm,0.6s						
DANN	**Dangsing**	**47.47**	**280**	*e*P	**P**	**20 29 46.4**	**-0.1**
	comp=Z,9.4nm,0.3s						
PYUN	**Piuthan**	**48.19**	**280**	*e*P	**P**	**20 29 51.5**	**-0.5**
	comp=Z,16nm,0.5s						
F17K	**Baldwin Pennin**	**48.31**	**28**	P	**P**	**20 29 52.6**	**+0.6**
F17K				IAmb	IAmb	20 30 02.1	
	comp=Z,26nm,1.4s						
E18K	**Tukpahlearik C**	**48.79**	**26**	P	**P**	**20 29 58.6**	**+2.9**
C18K	**Utukok River**	**48.88**	**25**	P	**P**	**20 29 58.7**	**+2.3**
C18K				IAmb	IAmb	20 30 11.9	
	comp=Z,23nm,1.4s						
KNRA	**Kununurra**	**49.22**	**193**	P	**P**	**20 29 57.6**	**-1.9**
KNRA				IAmb	IAmb	20 30 00.5	
	comp=Z,7.2nm,0.8s						
C19K	**Lookout Ridge**	**49.56**	**24**	P	**P**	**20 30 03.8**	**+2.2**
C19K				IAmb	IAmb	20 30 30.0	
	comp=Z,18nm,1.4s						
E19K	**Redstone River**	**50.07**	**27**	P	**P**	**20 30 07.9**	**+2.5**
E19K				IAmb	IAmb	20 30 08.9	
	comp=Z,7.3nm,0.7s						
GSI	**Gunungsitoli**	**50.07**	**240**	P	**P**	**20 30 05.2**	**-0.9**
GSI				IAmb	IAmb	20 30 10.7	
	comp=Z,8.5nm,0.9s						
B20K	**Meade River**	**50.60**	**24**	P	**P**	**20 30 11.7**	**+2.5**
K20K	**Telida**	**50.87**	**32**	P	**P**	**20 30 14.1**	**+2.7**
K20K				IAmb	IAmb	20 30 42.0	
	comp=Z,9.4nm,1.4s						
J20K	**Nowinta River**	**50.90**	**31**	P	**P**	**20 30 14.2**	**+2.6**
J20K				IAmb	IAmb	20 30 49.5	
	comp=Z,11nm,1.4s						
BVAR	**Borovoye Array**	**52.14**	**315**	P	**P**	**20 30 21.1**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=103,slow=6.5,SNR=18						
BVAR				PcP	**PcP**	**20 31 29.9**	**0.0**
	comp=Z,2.0nm,0.4s,baz=90,slow=3.5,SNR=9.3						
	comp=Z,1.6nm,0.3s						
BRVK	**Borovoye**	**52.20**	**315**	P	**P**	**20 30 21.4**	**-0.1**
BRVK				IAmb	IAmb	20 30 22.9	
	comp=Z,4.7nm,0.9s						
WB0	**Warramunga Arr**	**52.47**	**186**	P	**P**	**20 30 22.4**	**-1.3**
WB0				IAmb	IAmb	20 30 40.4	
	comp=Z,15nm,1.5s						
WB2	**Warramunga Arr**	**52.65**	**186**	P	**P**	**20 30 23.7**	**-1.3**
WB2				IAmb	IAmb	20 31 02.9	
	comp=Z,13nm,1.5s						
WR0	**Warramunga Arr**	**52.65**	**185**	P	**P**	**20 30 23.8**	**-1.2**
WR0				IAmb	IAmb	20 30 24.9	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**52.65**	**186**	P	**P**	**20 30 23.6**	**-1.5**
	comp=Z,2.2nm,0.4s,baz=1.2,slow=7.6,SNR=48						
WRA				ScP	**ScP**	**20 35 09.6**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=5.7,slow=4.5,SNR=3.6						
	comp=Z,2.2nm,0.4s						
CTAO	**Charters Tower**	**53.02**	**172**	P	**P**	**20 30 28.5**	**+0.8**
CTAO				IAmb	IAmb	20 30 30.0	
	comp=Z,8.8nm,1.5s						
TOLK	**Toolik Lake Re**	**53.07**	**26**	P	**P**	**20 30 29.9**	**+2.3**
TOLK				IAmb	IAmb	20 30 31.6	
	comp=Z,10.0nm,1.2s						
E24K	**Your Creek**	**53.44**	**26**	P	**P**	**20 30 32.9**	**+2.6**
E24K				IAmb	IAmb	20 31 08.6	
	comp=Z,7.6nm,1.4s						
MDM	**Murphy Dome**	**53.48**	**30**	P	**P**	**20 30 33.3**	**+2.6**
H24K	**Noodor Dome**	**53.63**	**29**	P	**P**	**20 30 33.8**	**+2.1**
F24K	**Squaw Lake**	**53.65**	**27**	P	**P**	**20 30 34.0**	**+2.2**
KK31	**Karatay Array**	**53.74**	**302**	P	**P**	**20 30 31.9**	**-0.9**
KKAR	**Karatay Array**	**53.74**	**302**	P	**P**	**20 30 32.1**	**-0.8**
KKAR	**Karatay Array**	**53.74**	**302**	P	**P**	**20 30 31.9**	**-0.9**
KKAR				IAmb	IAmb	20 30 32.9	
	comp=Z,2.3nm,0.7s						
ILAR	**Eielson Array**	**54.06**	**31**	P	**P**	**20 30 35.8**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=248,slow=4.7,SNR=5.9						
	comp=Z,0.8nm,0.9s						
BMAR	**Burnt Mountain**	**54.92**	**27**	P	**P**	**20 30 44.3**	**+3.2**
ASAR	**Alice Springs**	**56.37**	**186**	P	**P**	**20 30 50.8**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=19,slow=12,SNR=32						
	comp=Z,0.9nm,0.3s						
I28M	**Miner Creek**	**56.94**	**29**	P	**P**	**20 30 57.6**	**+2.2**
I28M				IAmb	IAmb	20 30 58.1	
	comp=Z,2.4nm,0.5s						
ARU	**Arti**	**58.36**	**320**	P	**P**	**20 31 05.3**	**0.0**
EIDS	**Eidsvold**	**58.95**	**167**	P	**P**	**20 31 10.0**	**+0.4**
ABKAR	**Akbulak array**	**59.31**	**312**	P	**P**	**20 31 11.0**	**-1.0**
ABKAR				IAmb	IAmb	20 31 12.5	
	comp=Z,2.4nm,0.5s						
GEYT	**Alibeck**	**64.31**	**300**	P	**P**	**20 31 45.7**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=75,slow=1.6,SNR=2.7						
GEYT				LR	LR	21 00 41.0	
	comp=Z,30nm,18.1s,baz=56,slow=37						
	comp=Z,1.6nm,0.8s						
SPITS	**Spitsbergen Ar**	**64.31**	**349**	P	**P**	**20 31 45.9**	**+1.0**
	comp=Z,5.2nm,0.8s,baz=96,slow=10,SNR=6.7						
	comp=Z,5.2nm,0.8s						
STKA	**Stephens Creek**	**64.37**	**178**	P	**P**	**20 31 46.0**	**+0.3**
STKA	**Stephens Creek**	**64.37**	**178**	P	**P**	**20 31 45.6**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=9.1,slow=5.5,SNR=6.9						
	comp=Z,1.9nm,0.8s						
EUNU	**Eureka**	**64.63**	**8**	P	**P**	**20 31 48.1**	**+1.1**
EUNU				IAmb	IAmb	20 31 48.8	
	comp=Z,3.3nm,0.8s						
RES	**Resolute Bay**	**67.14**	**14**	P	**P**	**20 32 03.7**	**+0.8**
RES				IAmb	IAmb	20 32 15.3	
	comp=Z,14nm,1.4s						
ARCES	**ARCESS Array B**	**67.31**	**340**	P	**P**	**20 32 03.9**	**-0.2**
ARCES	**ARCESS Array B**	**67.31**	**340**	P	**P**	**20 32 05.0**	**+0.9**
	comp=Z,3.6nm,0.7s,baz=60,slow=6.8,SNR=13						
	comp=Z,3.6nm,0.7s						
FINES	**FINESS Array B**	**71.70**	**332**	P	**P**	**20 32 31.5**	**+0.5**
FINES	**FINESS Array B**	**71.70**	**332**	P	**P**	**20 32 31.4**	**+0.3**
	comp=Z,4.8nm,0.4s,baz=56,slow=6.2,SNR=68						
	comp=Z,4.8nm,0.4s						
KBZ	**Khabaz**	**72.27**	**311**	P	**P**	**20 32 35.5**	**+0.7**
	comp=Z,5.8nm,0.8s,baz=101,slow=5.9,SNR=12						
	comp=Z,5.8nm,0.8s						
KIV	**Kislovodsk**	**72.30**	**311**	P	**P**	**20 32 35.1**	**0.0**
KIV				IAmb	IAmb	20 32 37.4	
	comp=Z,6.4nm,0.7s						
AKASG	**Malin Array Be**	**76.51**	**322**	P	**P**	**20 32 59.0**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=48,slow=6.1,SNR=16						
	comp=Z,1.6nm,0.3s						
NC405	**NORSAR Array S**	**77.14**	**337**	P	**P**	**20 33 03.1**	**+0.7**
HFS	**Hagfors**	**77.17**	**335**	P	**P**	**20 33 03.0**	**+0.4**
	comp=Z,5.8nm,0.5s,baz=94,slow=4.6,SNR=37						
	comp=Z,5.8nm,0.5s						
NB201	**NORSAR Array S**	**77.33**	**337**	P	**P**	**20 33 04.0**	**+0.5**
NC204	**NORSAR Array S**	**77.34**	**337**	P	**P**	**20 33 04.1**	**+0.5**
NB2	**NORSAR Subarra**	**77.36**	**337**	P	**P**	**20 33 03.9**	**+0.2**
	comp=Z,4.7nm,0.6s,baz=43,slow=5.9						
NOA	**NORSAR Array B**	**77.36**	**337**	P	**P**	**20 33 04.0**	**+0.3**
	comp=Z,6.1nm,0.7s,baz=43,slow=5.5,SNR=26						
	comp=Z,6.1nm,0.7s						
SORM	**Soroca**	**78.48**	**320**	⇑P	**P**	**20 33 08.4**	**-1.6**
NVAR	**Mina Array Bea**	**79.03**	**51**	P	**P**	**20 33 14.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=281,slow=6.3,SNR=1.7						
	comp=Z,0.3nm,0.6s						
VLDR	**Vladesti**	**80.00**	**319**	⇓P	**P**	**20 33 17.1**	**-1.2**
BRTR	**Keskin Array B**	**80.26**	**311**	P	**P**	**20 33 20.4**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=113,slow=5.2,SNR=15						
	comp=Z,2.5nm,0.6s						
TESR	**Tescani**	**80.39**	**320**	⇑P	**P**	**20 33 19.6**	**-0.8**
BUR08	**Bucovina Ar. S**	**80.46**	**321**	P	**P**	**20 33 21.3**	**+0.4**
BUR08				IAmb	IAmb	20 33 22.4	
	comp=Z,4.2nm,1.1s						
BURAR	**Bucovina Array**	**80.47**	**321**	⇓P	**P**	**20 33 21.7**	**+0.8**
BURAR	**Bucovina Array**	**80.47**	**321**		**P**	**20 33 21.5**	**+0.6**
DOPR	**Dopca**	**81.41**	**320**	⇑P	**P**	**20 33 27.3**	**+1.4**
TRPA	**Tarpa**	**81.53**	**323**	⇑P	**P**	**20 33 26.4**	**0.0**
MORC	**Moravsky Berou**	**82.87**	**326**	*e*P	**P**	**20 33 34.0**	**+0.6**
MMAI	**Mount Meron Ar**	**82.89**	**305**	P	**P**	**20 33 34.2**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=18,slow=5.0,SNR=4.2						
	comp=Z,0.5nm,0.3s						
JAVC	**Velka Javorina**	**83.45**	**325**	*e*P	**P**	**20 33 38.2**	**+1.9**
VRAC	**Vranov**	**83.64**	**326**	*e*P	**P**	**20 33 38.0**	**+0.7**
CLL	**Collm**	**83.82**	**329**	⇓*i*P	**P**	**20 33 38.3**	**+0.2**
	comp=Z,11nm,1.0s						
KRUC	**Moravsky**	**83.91**	**326**	*e*P	**P**	**20 33 39.0**	**+0.4**
RONA	**Rosalia, Austr**	**84.91**	**325**	*e*PcP	**P**	**20 33 45.2**	**+1.5**
	comp=Z,0.4nm,0.2s						
GERES	**GERESS Array B**	**85.31**	**327**	P	**P**	**20 33 45.9**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=15,slow=6.9,SNR=4.7						
	comp=Z,0.9nm,0.6s						
ARSA	**Arzberg**	**85.60**	**325**	*e*PcP	**P**	**20 33 48.1**	**+1.0**
	comp=Z,0.6nm,0.3s						
SOKA	**Soboth**	**86.25**	**325**	*e*PcP	**P**	**20 33 50.3**	**-0.1**
	comp=Z,0.5nm,0.4s						
EKA	**Eskdalemuir Ar**	**86.48**	**340**	P	**P**	**20 33 52.0**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=43,slow=5.1,SNR=9.6						
	comp=Z,0.9nm,0.4s						
LESA	**Schwarzleotal**	**86.81**	**327**	*e*PcP	**P**	**20 33 53.2**	**+0.1**
	comp=Z,1.3nm,0.5s						
WTTA	**Wattenberg**	**87.41**	**327**	*e*PcP	**P**	**20 33 56.9**	**+0.8**
	comp=Z,0.9nm,0.4s						
MOTA	**Moosalm**	**87.59**	**328**	*e*PcP	**P**	**20 33 56.5**	**-0.4**
	comp=Z,0.3nm,0.2s						
FETA	**Feichten**	**88.00**	**328**	*e*PcP	**P**	**20 33 59.0**	**+0.2**
	comp=Z,0.3nm,0.4s						
DAVA	**Damuels**	**88.18**	**328**	*e*PcP	**P**	**20 34 00.1**	**+0.3**
	comp=Z,1.6nm,0.6s						
TXAR	**Lajitas Array**	**94.18**	**51**	P	**P**	**20 34 28.9**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=288,slow=3.7,SNR=4.5						
	comp=Z,0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**118.88**	**311**	PKP	**PKPdf**	**20 39 55.6**	**-0.8**
	comp=Z,0.6nm,1.0s,baz=2.6,slow=1.4,SNR=4.5						
QSPA	**South Pole Qui**	**122.55**	**180**	PKP	**PKPdf**	**20 40 02.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=64,slow=1.9,SNR=1.2						
LPAZ	**La Paz**	**150.34**	**63**	PKPbc	**PKPbc**	**20 41 00.9**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=186,slow=6.0,SNR=3.6						

*IDC **26** 20:38:51.0±0.6,34°.49N×120°.50W,h0km,mb4.3/18, mbtmp4.2/26,ML3.8/7,MS3.6/31,Error ellipse: s-maj=10.7km s-min=8.5km az=51.0*
*NEIC **26** 20:38:50.5±1.7,34°.40N±0°.04×120°.71W±0°.05,h12km±3km, Error ellipse: s-maj=5.9km s-min=5.3km az=137.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.12; $M_{\theta\theta}$-3.07; $M_{\phi\phi}$-0.05; $M_{r\theta}$1.13; $

comp=N,3µm,0.5s
FMP Fort Macarthur 2.02 110 P Pn 20 39 24.8 -1.4
baz=290,SNR=38
FMP S Sn 20 39 49.2 -2.1
baz=290
CIS Catalina Islan 2.06 119 P Pn 20 39 25.4 -1.5
baz=299,SNR=346
CIS S Sn 20 39 50.5 -2.0
baz=299
ISA Isabella, Lake 2.12 54 Pn 20 39 26.6 -1.1
ISA IAML 20 40 00.1
comp=N,1µm,0.6s
ISA Isabella, Lake 2.12 54 P Pn 20 39 26.6 -1.1
baz=236,SNR=426
ISA S Sn 20 39 53.8 0.0
baz=236
VOG Valley Oaks Go 2.12 27 P Pn 20 39 26.0 -1.7
baz=210,SNR=20
RCTC Rector, Farmer 2.16 30 Pn 20 39 26.9 -1.4
EDW2 Edwards Air Fo 2.17 77 P Pn 20 39 27.4 -1.0
baz=259,SNR=523
BBGB Big Mountain B 2.18 350 Pn 20 39 26.6 -2.0
SCI2 San Clemente I 2.22 130 Pn 20 39 28.5 -0.6
SCI2 San Clemente I 2.22 130 P Pn 20 39 28.4 -0.6
baz=310,SNR=456
SCI2 S Sb 20 39 56.5 -3.4
baz=310
CCAC Calif City Air 2.22 70 Pn 20 39 28.4 -0.7
BFSC Mount Baldy Ra 2.42 94 P Pn 20 39 31.0 -0.9
baz=275,SNR=337
BFSC S Sn 20 40 01.0 -0.3
baz=275
SAO San Andreas Ge 2.44 343 Pn Pn 20 39 28.8 -3.2
LRMC Laurel Mtn Rad 2.59 65 P Pn 20 39 33.2 -1.1
baz=248,SNR=237
ELS Elsinore Mount 2.72 106 Pn Pn 20 39 34.5 -1.6
ELS IAML 20 40 14.5
comp=N,611nm,0.5s
CWC Cottonwood Cre 2.86 45 P Pn 20 39 37.7 -0.2
baz=227
CWC S Sn 20 40 12.4 +0.2
baz=227
MURC Murrieta 2.92 105 P Pn 20 39 37.4 -1.3
baz=287,SNR=114
MURC S Sn 20 40 12.2 -1.5
baz=287
RRX Edison Barstow 2.98 80 P Pn 20 39 38.5 -0.9
baz=262,SNR=17
RRX S Sn 20 40 13.9 -1.2
baz=262
MPMC Manual Prospec 3.00 56 P Pn 20 39 39.2 -0.7
baz=239,SNR=145
BBRC Big Bear Solar 3.02 92 P Pn 20 39 39.5 -0.8
baz=274,SNR=22
BBRC S Sn 20 40 15.5 -1.0
baz=274
GSC Goldstone, Bar 3.22 73 Pn 20 39 41.7 -1.1
GSC IAML 20 40 38.3
comp=E,1µm,0.6s
GSC IAML 20 40 45.4
comp=N,741nm,1.0s
GSC Goldstone, Bar 3.22 73 P Pn 20 39 41.7 -1.1
baz=256,SNR=259
TIN Tinemaha, Big 3.24 35 P Pn 20 39 43.5 +0.4
baz=218,SNR=44
109C Camp Elliot, M 3.27 117 Pn Pn 20 39 41.6 -1.9
109C IAML 20 40 28.6
comp=E,715nm,0.5s
109C IAML 20 40 35.3
comp=N,759nm,0.6s
109C Camp Elliot, M 3.27 117 P Pn 20 39 41.6 -1.9
baz=298,SNR=26
109C S Sn 20 40 19.5 -2.7
baz=298
QSM Queen of Sheba 3.40 62 Pn 20 39 43.8 -1.4
QSM IAML 20 40 44.3
comp=N,582nm,1.0s
QSM IAML 20 40 54.2
comp=E,769nm,1.4s
MLAC Mammoth, Mammo 3.49 23 P Pn 20 39 47.0 +0.3
baz=205,SNR=42
TJX Tijuana 3.51 122 Pn 20 39 45.5 -1.2
PFO Pinyon Flats O 3.51 102 Pn 20 39 46.0 -0.9
PFO IAML 20 40 28.4
comp=E,572nm,0.8s
PFO IAML 20 40 28.5
comp=E,377nm,0.4s
PFO Pinyon Flats O 3.51 102 P Pn 20 39 46.1 -0.8
baz=284,SNR=212
PFO S Sn 20 40 27.5 -0.8
baz=284
PFO Pinyon Flats O 3.51 102 Pn Pn 20 39 46.3 -0.6
comp=E,203nm,0.4s,baz=279,slow=13,SNR=369
PFO Sn Sn 20 40 27.3 -0.9
comp=E,86nm,0.3s,baz=240,slow=23,SNR=18
PFO Lg Lg 20 40 41.0
comp=E,70nm,0.3s,baz=147,slow=2.1,SNR=4.2
HEC Hector,Ludlow 3.52 82 P Pn 20 39 45.7 -1.2
baz=265,SNR=90
HEC S Sn 20 40 27.5 -0.8
baz=265
TPFO Pinon Flats 3.52 102 P Pn 20 39 46.2 -0.7
baz=284,SNR=224
TPFO S Sn 20 40 27.7 -0.7
baz=284
PMD Palm Desert 3.57 101 Pn 20 39 46.6 -1.0
PMD IAML 20 40 58.8
comp=N,413nm,1.0s
CMB Columbia Colle 3.60 2 Pn Pn 20 39 46.8 -1.3
DSP Deep Springs 3.62 35 Pn 20 39 48.4 +0.3
DSP IAML 20 40 55.0
comp=N,337nm,1.0s
DSP IAML 20 40 59.6
comp=E,360nm,1.2s
GWY Greenwater Val 3.64 60 Pn 20 39 47.5 -1.2
GWY IAML 20 41 02.6
comp=N,394nm,1.0s
GWY IAML 20 41 16.2
comp=E,450nm,1.5s
FURC Furnace Creek, 3.65 55 P Pn 20 39 47.9 -0.7
baz=238,SNR=14
MONP2 Monument Peak 3.78 113 P Pn 20 39 49.6 -1.1
baz=294,SNR=151
MONP2 S Sn 20 40 33.2 -2.0
baz=294
BELC Belle Mtn. Jos 3.81 95 P Pn 20 39 50.0 -1.1
baz=278,SNR=170
CBX Cerro Bola 3.89 122 Pn 20 39 50.7 -1.4
CBX IAML 20 40 39.0
comp=E,780nm,0.7s
CBX IAML 20 40 39.8
comp=N,407nm,0.5s
TUQ Turquoise Moun 3.95 74 P Pn 20 39 51.8 -1.1
baz=257,SNR=121
GMRC Granite Mounta 4.07 84 P Pn 20 39 52.7 -1.8
baz=266,SNR=66
IKP In-Ko-Pah, Jac 4.13 114 P Pn 20 39 54.7 -0.6
baz=296,SNR=222
IKP S Sn 20 40 42.6 -0.9
baz=296
CCX Cicese 4.15 127 Pn 20 39 54.0 -1.6
CCX IAML 20 40 43.1
comp=E,314nm,0.4s
CCX IAML 20 40 43.4
comp=N,592nm,0.7s
LHV Little Huntoon 4.16 23 IAML 20 41 13.9
LHV IAML 20 41 24.1
comp=N,509nm,1.5s
RMX La Rumorosa 4.17 115 IAML 20 40 47.6
comp=E,645nm,0.7s
RMX IAML 20 40 47.9
comp=N,479nm,0.4s
SWSC Sam W. Stewart 4.24 109 P Pn 20 39 55.2 -1.7
baz=291,SNR=45
YUH Yuha Desert 4.27 113 IAML 20 40 51.2
comp=E,337nm,0.8s
YUH IAML 20 40 53.7
comp=N,211nm,0.8s
BC3 Big Chuckawall 4.32 99 P Pn 20 39 56.6 -1.3
baz=282,SNR=73
TPNV Topopah Spring 4.32 53 IAML 20 41 22.3
comp=N,311nm,1.0s
TPNV IAML 20 41 22.6
comp=N,266nm,1.1s
TPNV Topopah Spring 4.32 53 P Pn 20 39 58.0 -0.1
baz=236,SNR=78

NVAR Mina Array Bea 4.39 24 Pn Pn 20 39 59.0 -0.1
comp=N,3.6nm,0.3s,baz=210,slow=15,SNR=73
NVAR Pg Pb 20 40 06.9 -2.8
comp=N,17nm,0.3s,baz=211,slow=19,SNR=72
NVAR Lg Lg 20 41 03.2
comp=N,2.9nm,0.3s,baz=202,slow=36,SNR=1.9
NVAR LR LR 20 41 56.9
comp=N,862nm,19.6s,baz=190,slow=43
comp=N,3.9nm,0.3s
NV11 Mina Array Sit 4.45 25 IAML 20 41 30.5
comp=E,192nm,1.2s
IRM Iron Mountain 4.50 92 P Pn 20 39 58.5 -1.9
baz=275,SNR=49
IRM S Sn 20 40 49.8 -2.7
baz=275
AFDM Forest Hills D 4.52 356 Pn 20 39 59.4 -1.4
EMB Emerald Bay 4.55 5 Pn 20 40 00.8 -0.5
EMB IAML 20 41 20.4
comp=N,392nm,1.1s
EMB IAML 20 41 25.6
comp=E,236nm,1.3s
YERR Yerington 4.67 13 IAML 20 41 21.9
comp=E,372nm,0.8s
YERR IAML 20 41 23.2
comp=N,389nm,1.1s
V12A Nelson 4.87 73 IAML 20 41 41.8
comp=E,148nm,1.6s
V12A IAML 20 41 42.2
comp=N,152nm,1.2s
NEE2 Needles Airpor 4.92 84 P Pn 20 40 05.1 -1.0
baz=268,SNR=22
GLA Glamis 4.98 104 IAML 20 40 50.2
comp=E,184nm,0.8s
GLA IAML 20 41 56.4
comp=N,152nm,1.3s
GLA Glamis 4.98 104 P Pn 20 40 06.4 -0.5
baz=287
KVN Kaiserville 5.02 23 Pn 20 40 06.9 -0.8
KVN IAML 20 41 44.5
comp=N,108nm,1.2s
VTX Valle De La Tr 5.04 126 Pn 20 40 07.6 -0.2
VTX IAML 20 41 08.0
comp=E,128nm,0.6s
S11A Rachel 5.06 49 IAML 20 41 58.5
comp=N,314nm,1.2s
BLYC Blythe 5.06 96 IAML 20 41 44.9
comp=N,175nm,1.0s
BLYC IAML 20 41 47.2
comp=E,145nm,2.0s
PDMCI Parker Dam,Lak 5.32 90 P Pn 20 40 10.2 -1.4
baz=273,SNR=34
PAHR Pah Rah Range 5.35 10 IAML 20 41 43.2
comp=E,116nm,1.3s
PAHR IAML 20 41 48.6
comp=N,127nm,1.2s
R11B Troy Canyon, C 5.61 44 P Pn 20 40 16.7 +0.9
baz=228,SNR=24
214A Organ Pipe Nat 6.96 109 P Pn 20 40 35.0 +0.8
baz=293,SNR=15
YBH Yreka Blue Hor 7.48 348 Pn Pn 20 40 42.1 +0.6
comp=N,0.7nm,0.3s,baz=180,slow=8.8,SNR=10
YBH Sn Sn 20 42 08.6 +2.5
baz=326,slow=1.2,SNR=2.5
YBH Lg Lg 20 42 41.3
comp=N,0.1nm,0.3s,baz=98,slow=19,SNR=3.5
YBH LR LR 20 43 51.0
comp=N,173nm,20.1s,baz=142,slow=40
comp=N,2.4nm,0.4s
ELK Elko 7.59 32 Pn Pn 20 40 43.3 +0.2
comp=N,1.1nm,0.3s,baz=182,slow=7.3,SNR=49
ELK Lg Lg 20 42 41.0
comp=N,0.6nm,0.3s,baz=335,slow=18,SNR=1.5
ELK LR LR 20 43 52.4
comp=N,481nm,21.1s,baz=170,slow=40
comp=N,7.5nm,0.5s
WUAZ Wupatki 7.63 79 P Pn 20 40 44.1 +0.6
baz=264,SNR=10
DUG Dugway, Tooele 8.44 45 P Pn 20 40 55.9 +1.3
baz=230,SNR=18
TUC Tucson 8.45 102 Pn 20 40 55.4 +0.7
TUC Tucson 8.45 102 P Pn 20 40 54.7 -0.1
baz=287
W18A Petrified Fore 8.94 83 P Pn 20 41 01.7 +0.1
baz=269
MVCO Mesa Verde 10.19 71 Pn 20 41 18.1 -0.6
MVCO Mesa Verde 10.19 71 P Pn 20 41 17.4 -1.2
baz=258,SNR=7.3
HLID Hailey 10.30 26 P Pn 20 41 21.7 +1.6
baz=210,SNR=7.9
121A Cookes Peak, D 10.84 96 P Pn 20 41 27.9 +0.3
baz=284,SNR=8.7
O20A White River Ci 11.35 56 P Pn 20 41 35.4 +0.9
baz=244,SNR=8.3
S22A 4UR Ranch, Cre 11.60 69 P Pn 20 41 41.5 +3.4
baz=258
ANMO Albuquerque 11.63 83 P Pn 20 41 40.2 +1.8
baz=272
ANMO Albuquerque 11.63 83 Pn Pn 20 41 38.3 -0.1
comp=N,0.2nm,0.3s,baz=7.2,slow=17,SNR=2.1
ANMO Lg Lg 20 44 56.6
comp=N,0.1nm,0.3s,baz=238,slow=21,SNR=1.5
comp=N,1.1nm,0.6s
BW06 Boulder Array 11.97 43 P Pn 20 41 45.9 +2.8
baz=230
PDAR Pinedale Array 11.97 43 Pn Pn 20 41 46.3 +3.2
comp=N,0.1nm,0.3s,baz=232,slow=12,SNR=29
PDAR Lg Lg 20 45 04.2
comp=N,0.2nm,0.3s,baz=236,slow=24,SNR=1.9
comp=N,3.9nm,0.8s
SDCO Great Sand Dun 12.63 70 P Pn 20 41 51.5 -0.6
baz=259,SNR=6.6
MNTX Cornudas Mount 13.03 98 P Pn 20 41 58.0 +0.7
baz=286
BOZ Bozeman (W) 13.08 29 P Pn 20 42 01.1 +3.0
baz=215,SNR=14
ISCO Idaho Springs 13.08 61 P Pn 20 41 59.7 +1.4
baz=251
N23A Red Feather La 13.26 57 P Pn 20 42 02.2 +1.6
baz=246
MSO Missoula 13.36 20 P Pn 20 42 03.4 +1.5
baz=205
T25A Trinidad 13.40 74 P Pn 20 42 03.4 +0.9
baz=263
K22A Casper 13.71 49 P Pn 20 42 08.6 +1.9
baz=238,SNR=10
RLMT Red Lodge 13.76 36 P Pn 20 42 06.7 -0.7
baz=223
NEW Newport 14.06 10 Pn 20 42 11.5 +0.1
NEW Newport 14.06 10 P Pn 20 42 13.2 +1.8
baz=192
NEW Newport 14.06 10 Pn Pn 20 42 12.0 +0.6
comp=N,0.2nm,0.3s,baz=197,slow=14,SNR=3.9
NEW LR LR 20 47 59.5
comp=N,246nm,18.6s,baz=192,slow=39
comp=N,3.1nm,0.8s
MSTX Muleshoe 14.74 87 P Pn 20 42 20.8 0.0
baz=277
TX31 Lajitas Ar. Si 15.23 105 IAmb IAmb 20 42 36.0
comp=Z,32nm,0.9s
TX32 Lajitas Array 15.23 105 Pn 20 42 28.1 +0.8
TXAR Lajitas Array 15.23 105 P P 20 42 29.9 -2.4
TXAR Lajitas Array 15.23 105 Pn P 20 42 30.3 -2.0
comp=Z,0.3nm,0.3s,baz=278,slow=11,SNR=20
TXAR LR LR 20 48 36.7
comp=Z,190nm,18.1s,baz=290,slow=39
comp=Z,2.0nm,0.6s
EGMT Eagleton 15.81 28 Pn 20 42 35.1 +0.3
EGMT Eagleton 15.81 28 P Pn 20 42 35.7 +0.9
baz=215
RSSD Black Hills 16.02 48 P 20 42 40.5 -0.7
RSSD Black Hills 16.02 48 P Pn 20 42 38.0 +0.2
baz=239
OGNE Ogallala 16.04 61 P Pn 20 42 37.6 -0.2
OGNE Ogallala 16.04 61 P P 20 42 40.0 -1.2
baz=252,SNR=9.6
SAND Sanderson 16.24 101 P Pn 20 42 39.8 -0.6
SAND IAmb IAmb 20 42 47.0
comp=Z,11nm,1.0s
DKNS Dickens 16.31 87 Pn Pn 20 42 41.4 +0.2
DKNS IAmb IAmb 20 43 03.3
comp=Z,16nm,1.2s
LAO LASA Array 16.36 37 P Pn 20 42 41.4 -0.5
baz=227
OZNA Ozona 16.74 97 Pn 20 42 46.5 -0.2
OZNA IAmb IAmb 20 42 51.4
comp=Z,17nm,1.3s
WMOK Wichita Mounta 17.95 83 Pn Pn 20 43 01.3 -0.5
WMOK Wichita Mounta 17.95 83 P Pn 20 43 01.3 -0.5

baz=275
JCT Junction City 17.96 97 P P 20 43 03.3 +0.8
baz=288
BBB Bella Bella 18.56 345 LR LR 20 49 25.6
comp=Z,72nm,18.4s,baz=201,slow=34
DGMT Dagmar 18.59 36 P P 20 43 09.4 +0.2
baz=227
PLPT Palo Pinto 18.60 89 IAmb IAmb 20 43 17.2
comp=Z,15nm,1.0s
HNDO Hondo 18.70 99 IAmb IAmb 20 43 13.3
comp=Z,16nm,0.8s
BGNE Belgrade 18.98 62 P Pn 20 43 14.6 +0.2
baz=256
833A Chaparral WMA, 19.07 103 P Pn 20 43 16.0 +0.6
baz=294
BRLDA Berland Lookou 19.79 6 IAmb IAmb 20 43 25.7
comp=Z,19nm,0.7s
ECSD EROS Data Cent 20.73 56 P P 20 43 32.5 -0.2
ECSD IAmb IAmb 20 43 38.1
comp=Z,21nm,0.8s
ECSD EROS Data Cent 20.73 56 P P 20 43 33.7 +1.0
baz=252,SNR=10
NATX Nacogdoches 21.85 90 P P 20 43 45.3 +0.5
baz=284
P38A Dawn 22.16 69 P P 20 43 48.5 +0.4
P38A IAmb IAmb 20 43 52.0
comp=Z,24nm,1.1s
MIAR Mount Ida 22.23 82 P P 20 43 48.1 -0.8
MIAR IAmb IAmb 20 43 50.5
comp=Z,26nm,0.8s
MIAR Mount Ida 22.23 82 P P 20 43 49.3 +0.4
baz=278,SNR=12
S39A Bolivar 22.24 74 IAmb IAmb 20 43 52.8
comp=Z,18nm,1.2s
N38A Joes South For 22.52 66 IAmb IAmb 20 43 54.7
comp=Z,43nm,0.8s
R40A Maddies Statio 23.08 72 IAmb IAmb 20 44 00.7
comp=Z,27nm,1.3s
MGMO Mountain Grove 23.09 75 IAmb IAmb 20 44 00.9
comp=Z,31nm,1.2s
P40A Paris 23.30 69 IAmb IAmb 20 44 12.0
comp=Z,35nm,1.4s
F36A Milaca 23.50 53 IAmb IAmb 20 44 03.7
comp=Z,23nm,0.8s
SPMN Marine on St. 23.78 55 IAmb IAmb 20 44 06.4
comp=Z,31nm,1.2s
SPMN Marine on St. 23.78 55 P P 20 44 04.6 -0.2
baz=253
CCM Cathedral Cave 23.88 73 P P 20 44 06.2 +0.4
CCM IAmb IAmb 20 44 07.9
comp=Z,12nm,0.9s
CCM Cathedral Cave 23.88 73 P P 20 44 07.1 +1.3
baz=270
ULM Lac du Bonnet 23.99 41 IAmb IAmb 20 44 06.9
comp=Z,19nm,0.8s
ULM Lac du Bonnet 23.99 41 P P 20 44 05.3 -1.3
comp=Z,18nm,0.8s,baz=230,slow=9.1,SNR=13
comp=Z,18nm,0.8s
T42A Van Buren 24.03 75 IAmb IAmb 20 44 09.0
comp=Z,9.8nm,0.7s
FFC Flin Flon 24.09 27 P P 20 44 07.2 -0.3
FFC IAmb IAmb 20 44 09.0
comp=Z,12nm,0.8s
L40A Anamosa 24.19 63 IAmb IAmb 20 44 10.2
comp=Z,39nm,1.2s
DLBC Dease Lake 24.84 348 P P 20 44 12.8 -1.6
baz=161
DLBC Dease Lake 24.84 348 LR LR 20 55 28.9
comp=Z,234nm,19.4s,baz=192,slow=40
JFWS Jewell Farm 25.04 61 P P 20 44 16.1 -0.2
baz=260
VBMS Vicksburg 25.17 87 P P 20 44 17.1 -0.4
baz=283
LIRD Liard River Hi 25.26 353 P P 20 44 19.2 +1.1
baz=170
L42A Oliver, Polo 25.33 63 IAmb IAmb 20 44 20.1
comp=Z,32nm,1.0s
G40A Rib Lake 25.57 56 IAmb IAmb 20 44 28.1
comp=Z,36nm,1.2s
KOTAN Kotaneelee Air 25.82 356 P P 20 44 24.1 +1.0
baz=174
R33M Jennings River 25.90 348 P P 20 44 25.4 +1.3
baz=160
I42A Draeger Farm, 26.17 59 IAmb IAmb 20 44 27.6
comp=Z,27nm,1.0s
COWI Conover 26.50 54 P P 20 44 29.7 +0.2
COWI IAmb IAmb 20 44 30.8
comp=Z,24nm,0.8s
TGTN Hyland Airport 27.56 352 P P 20 44 39.9 +1.0
baz=166
YKA Yellowknife Ar 28.34 6 P P 20 44 46.1 +0.4
comp=Z,1.0nm,0.8s,baz=199,slow=7.4,SNR=5.4
comp=Z,1.0nm,0.8s
CMIG Matias Romero 28.74 120 LR LR 20 55 04.1
comp=Z,111nm,19.8s,baz=214,slow=34
MMPY Sheldon Lake, 29.01 350 P P 20 44 53.9 +2.1
baz=162,SNR=5.0
YUK8 Steele Glacier 29.56 341 P P 20 44 58.7 +1.7
baz=147
L29M L29M 30.73 344 P P 20 45 08.9 +1.9
baz=151
K29M Barlow Dome 31.25 346 P P 20 45 13.8 +2.2
baz=152
M26K Nabesna, AK 31.36 340 P P 20 45 13.6 +1.0
baz=143
J30M Hart River 31.67 347 P P 20 45 15.5 +0.1
baz=155
TEIG Tepich 31.83 108 LR LR 21 01 33.4
comp=Z,487nm,18.8s,baz=18,slow=43
DAWY Dawson 31.84 344 P P 20 45 18.1 +1.3
baz=150
I30M Mount Dempster 32.27 348 P P 20 45 21.7 +1.0
baz=155
H31M Peel River 32.47 349 P P 20 45 23.6 +1.3
baz=159
PMR Palmer 32.70 335 P P 20 45 25.7 +1.4
baz=133
EGAK Eagle 32.85 344 P P 20 45 27.6 +2.1
baz=148
SCRK Sand Creek 32.89 341 P P 20 45 27.6 +1.5
baz=143
I28M Miner Creek 33.16 345 P P 20 45 29.6 +1.2
baz=150
J26L Joseph Creek 33.21 342 P P 20 45 30.1 +1.3
baz=144
WAT1 Susitna Watana 33.37 337 P P 20 45 31.3 +1.1
baz=135
EPYK Eagle Plains 33.38 348 P P 20 45 31.5 +1.3
baz=156
G31M Satah River 33.51 350 P P 20 45 32.3 +1.0
baz=159
H29M Whitestone 33.53 347 P P 20 45 32.8 +1.3
baz=153,SNR=5.2
N20K Mount Spurr 33.57 333 P P 20 45 33.9 +1.9
baz=129
SPCR Spurr Chakacha 33.57 333 P P 20 45 33.9 +1.9
baz=129
I27K Kandik River 33.66 344 P P 20 45 35.2 +2.5
baz=148
I26K Coal Creek Min 33.76 343 P P 20 45 35.6 +2.1
I26K IAmb IAmb 20 45 36.9
comp=Z,11nm,0.8s
I26K Coal Creek Min 33.76 343 P P 20 45 35.9 +2.4
baz=145
J25K Salcha River, 33.77 341 P P 20 45 35.6 +1.9
J25K IAmb IAmb 20 45 36.3
comp=Z,9.1nm,1.1s
J25K Salcha River, 33.77 341 P P 20 45 35.9 +2.2
baz=142
O19K Port Alsworth 33.81 330 P P 20 45 35.5 +1.5
baz=125
G30M tAoh Zraii Nji 33.85 349 P P 20 45 36.6 +2.3
baz=157
F31M Tsiigehtchic 33.93 351 P P 20 45 36.3 +1.4
baz=160
Q16K King Salmon 34.02 327 P P 20 45 37.5 +1.7
baz=120
G29M Pine Creek 34.09 348 P P 20 45 38.2 +1.8
baz=154
MCK McKinley 34.14 338 P P 20 45 38.3 +1.5
baz=136
SSPA Standing Stone 34.16 67 P P 20 45 37.4 +0.2
baz=274
H27K Steamboat Moun 34.17 345 P P 20 45 38.5 +1.4
baz=148
N19K Bonanza Creek 34.23 331 P P 20 45 39.0 +1.3
baz=125
ILAR Eielson Array 34.31 340 P P 20 45 39.6 +1.4

comp=Z,2.9nm,0.8s,baz=157,slow=8.8,SNR=31
ILAR PcP **PcP** **20 48 15.2 +1.0**
comp=Z,0.7nm,0.8s,baz=174,slow=3.0,SNR=4.5
comp=Z,2.9nm,0.8s
S14K Fog Glacier 34.36 322 P **P** **20 45 41.7 +2.7**
baz=113
PRP Porcupine Dome 34.52 342 P **P** **20 45 40.9 +0.6**
baz=142
PPLA Purkeypile 34.65 335 P **P** **20 45 42.3 +0.9**
baz=130
G27K Doyon Strip 34.69 346 P **P** **20 45 42.8 +1.2**
baz=149
INK Inuvik 34.72 352 P **P** **20 45 42.9 +1.2**
baz=161
POKR Poker Plat Res 34.72 340 P **P** **20 45 43.7 +1.9**
baz=139
N18K Kilae Creek 34.73 330 P **P** **20 45 42.0 0.0**
baz=123
NEA2 Nenana 34.80 339 P **P** **20 45 43.5 +0.9**
baz=136
M19K Big River Lodg 34.83 333 P **P** **20 45 43.5 +0.7**
baz=126
CAST Castle Rocks 34.95 336 P **P** **20 45 44.7 +0.8**
baz=131
F28M Old Crow 35.05 347 P **P** **20 45 45.5 +0.8**
baz=152
BPAW Bear Paw Mtn. 35.05 337 P **P** **20 45 45.7 +1.0**
baz=133
O16K Kokwok River B 35.11 327 P **P** **20 45 47.0 +1.7**
baz=119
M18K Stony River 35.15 331 P **P** **20 45 47.7 +2.1**
baz=124
L19K White Mountain 35.17 333 P **P** **20 45 47.1 +1.3**
baz=126
N17K Nushagak Hills 35.19 329 P **P** **20 45 46.9 +0.9**
baz=121
H25L Birch Creek 35.19 343 P **P** **20 45 48.0 +2.2**
baz=142
G26K Porcupine Rive 35.27 344 P **P** **20 45 48.5 +2.0**
baz=146
I23K Minto, Yukon-K 35.29 339 P **P** **20 45 48.1 +1.3**
baz=137
CHUM Lake Minchumin 35.34 336 P **P** **20 45 47.8 +0.7**
baz=131
H24K Noodor Dome 35.39 341 P **P** **20 45 50.1 +2.4**
baz=139
E29M Blow River 35.41 349 P **P** **20 45 49.9 +2.2**
baz=155
K20K Telida 35.60 335 P **P** **20 45 50.6 +1.2**
baz=129
MLY Manley 35.62 339 P **P** **20 45 50.7 +1.0**
baz=135
G25K Bearman Lake 35.66 343 P **P** **20 45 51.4 +1.6**
baz=142
M17K Holitna River 35.75 330 P **P** **20 45 52.1 +1.4**
baz=122
N16K Nishlik Lake 35.84 328 P **P** **20 45 51.5 -0.1**
baz=119
H23K Yukon River 35.84 340 P **P** **20 45 53.5 +2.0**
baz=137
E27K Coleen River 35.87 347 P **P** **20 45 52.7 +1.0**
baz=150
E28M Babbage River 35.87 348 P **P** **20 45 53.3 +1.6**
baz=153
G24K Hadweenzic Riv 35.95 342 P **P** **20 45 54.1 +1.7**
baz=141
F26K Sheenjek River 35.97 345 P **P** **20 45 54.1 +1.5**
baz=146
TTA Tatalina 36.05 333 P **P** **20 45 54.4 +1.0**
baz=126
I21K Tanana 36.10 338 P **P** **20 45 53.9 +0.2**
baz=133
J20K Nowinta River 36.14 336 P **P** **20 45 55.1 +1.0**
baz=129
F25K Christian Rive 36.21 344 P **P** **20 45 57.1 +2.4**
baz=144
H22K Ishtalitna Cre 36.42 339 P **P** **20 45 58.4 +2.0**
baz=135
J19K Poorman 36.54 335 P **P** **20 45 58.6 +1.2**
baz=127
G23K Bananza Creek 36.62 341 P **P** **20 45 59.2 +1.0**
baz=137
E25K Arctic Village 36.62 345 P **P** **20 45 59.5 +1.3**
baz=144
I20K Naaghedeneel 36.65 336 P **P** **20 45 59.8 +1.4**
baz=130
H21K Melozitna Rive 36.68 338 P **P** **20 45 59.7 +1.0**
baz=133
L16K Owhat River 36.75 330 P **P** **20 46 00.9 +1.7**
baz=120
COLD Coldfoot 37.05 341 P **P** **20 46 04.6 +2.8**
baz=138
PAL Palisades 37.14 66 P **P** **20 46 04.4 +1.6**
baz=275
G22K Bettles 37.18 340 P **P** **20 46 04.5 +1.7**
baz=136
H20K Anotleneega Mo 37.22 337 P **P** **20 46 05.1 +1.8**
baz=130,SNR=8.3
E24K Your Creek 37.26 343 P **P** **20 46 04.8 +1.2**
baz=140
G21K Allakaket 37.47 339 P **P** **20 46 06.8 +1.4**
baz=133
E23K Chandalar 37.52 343 P **P** **20 46 07.4 +1.6**
baz=139
H19K Roundabout Mou 37.76 337 P **P** **20 46 08.6 +0.8**
baz=128
F22K John River 37.78 341 P **P** **20 46 09.5 +1.5**
baz=135
K15K Wolf Creek Mou 37.88 330 P **P** **20 46 10.9 +2.0**
baz=118
TOLK Toolik Lake Re 37.95 343 P **P** **20 46 12.4 +2.9**
baz=140
C26K Camden Bay 37.97 347 P **P** **20 46 11.7 +2.1**
baz=146
E22K Anaktuvuk Pass 38.14 342 P **P** **20 46 12.4 +1.4**
baz=136
G19K Purcell Mounta 38.34 337 P **P** **20 46 13.1 +0.4**
baz=128
G18K Tagagawik 38.71 336 P **P** **20 46 16.2 +0.4**
baz=126
D22K Ayikyak River 38.90 342 P **P** **20 46 19.1 +1.8**
baz=136
C23K Itkillik River 39.10 344 P **P** **20 46 19.6 +0.6**
baz=139
E19K Redstone River 39.20 339 P **P** **20 46 21.2 +1.3**
baz=129
E20K Nigu River 39.41 340 P **P** **20 46 23.6 +1.9**
baz=131
C21K Knifeblade Rid 39.63 342 P **P** **20 46 25.4 +2.0**
baz=133
D19K Kuna River 40.11 340 P **P** **20 46 28.4 +0.9**
baz=129
E18K Tukpahlearik C 40.22 337 P **P** **20 46 29.6 +1.2**
baz=125
JTS Las Juntas de 40.43 118 LR LR 21 02 42.0
comp=Z,54nm,20.6s,baz=174,slow=35
SCHQ Schefferville 42.11 44 P **P** **20 46 44.5 +0.4**
comp=Z,12nm,1.0s,baz=286,slow=7.6,SNR=3.7
SCHQ LR LR 21 06 14.5
comp=Z,48nm,19.5s,baz=184,slow=39
comp=Z,12nm,1.0s
RES Resolute Bay 42.22 10 LR LR 21 03 35.9
comp=Z,141nm,20.2s,baz=27,slow=35
FRB Frobisher Bay 43.09 31 LR LR 21 04 08.3
comp=Z,93nm,21.0s,baz=200,slow=35
TAOE Nuku Hiva Isla 46.88 207 *e*LR LR 21 00 36.2
comp=Z,103nm,23.8s
TAOE Nuku Hiva Isla 46.88 207 *e*T T 21 37 03.9
comp=Z,105nm,0.2s
SFJD Kangerlussuaq 51.03 28 LR LR 21 09 47.9
comp=Z,119nm,18.7s,baz=282,slow=36
PMOR Pomariorio Ree 55.60 213 *e*T T 21 48 13.2
comp=Z,311nm,0.2s
PCRV Puerto La Cruz 56.32 101 LR LR 21 14 28.8
comp=Z,23nm,20.4s,slow=38
TIAR Tiarei 58.50 213 *e*T T 21 51 50.2
comp=Z,2.2nm,0.2s
PPT Papeete 58.62 213 LR LR 21 07 44.1
comp=Z,51nm,19.9s,baz=5.5,slow=30
PETK Petropavlovsk- 58.62 316 P **P** **20 48 49.8 +0.8**
comp=Z,3.2nm,0.9s,baz=74,slow=11,SNR=1.4
comp=Z,3.2nm,0.9s
BORG Borgarnes 63.16 28 LR LR 21 16 23.4
comp=Z,85nm,19.2s,baz=300,slow=36
JMIC Jan Mayen 64.54 20 LR LR 21 20 27.5
comp=Z,34nm,18.3s,baz=288,slow=39
SPITS Spitsbergen Ar 64.78 9 LR LR 21 16 32.9
comp=Z,101nm,18.3s,baz=288,slow=35
H11N3 WAKE ISLAND Hy 65.00 277 T T 22 00 15.0
baz=60,slow=75,SNR=339
H11N2 WAKE ISLAND Hy 65.00 277 T T 22 00 14.7
baz=60,slow=75,SNR=286
H11N1 WAKE ISLAND Hy 65.01 277 T T 22 00 17.6
baz=60,slow=75,SNR=354
H11S1 WAKE ISLAND Hy 65.77 276 T T 22 01 13.7
baz=60,slow=75,SNR=376
H11S2 WAKE ISLAND Hy 65.77 276 T T 22 01 15.4
baz=60,slow=75,SNR=237
H11S3 WAKE ISLAND Hy 65.78 276 T T 22 01 20.4
baz=60,slow=75,SNR=222
RAR Rarotonga 66.72 220 LR LR 21 12 07.1
comp=Z,54nm,21.6s,baz=18,slow=30
LPAZ La Paz 70.91 126 P **P** **20 50 10.3 0.0**
comp=Z,0.7nm,0.4s,baz=163,slow=4.3,SNR=2.3
comp=Z,0.7nm,0.4s
ARCES ARCESS Array B 73.41 12 P **P** **20 50 23.3 -0.5**
comp=Z,4.8nm,0.8s,baz=354,slow=7.5,SNR=5.4
ARCES LR LR 21 24 17.9
comp=Z,32nm,18.8s,baz=304,slow=37
comp=Z,4.8nm,0.8s
NB2 NORSAR Subarra 77.08 22 P **P** **20 50 45.9 +0.7**
comp=Z,2.5nm,0.8s,baz=318,slow=5.9
NOA NORSAR Array B 77.08 22 P **P** **20 50 45.8 +0.7**
comp=Z,2.1nm,0.9s,baz=319,slow=5.5,SNR=6.4
NOA LR LR 21 24 08.9
comp=Z,24nm,18.7s,baz=40,slow=35
comp=Z,2.1nm,0.9s
HFS Hagfors 78.55 21 P **P** **20 50 52.7 -0.5**
comp=Z,3.1nm,0.7s,baz=117,slow=0.7,SNR=7.6
HFS LR LR 21 24 30.2
comp=Z,45nm,18.7s,baz=252,slow=35
comp=Z,3.1nm,0.7s
FINES FINESS Array B 80.69 16 P **P** **20 51 05.8 +1.0**
comp=Z,4.3nm,0.7s,baz=6.4,slow=3.1,SNR=15
FINES LR LR 21 25 26.4
comp=Z,45nm,20.1s,baz=11,slow=35
comp=Z,4.3nm,0.7s
CPUP Villa Florida 85.08 126 P **P** **20 51 27.8 -0.3**
comp=Z,1.3nm,0.7s,baz=269,slow=2.4,SNR=3.3
comp=Z,1.3nm,0.7s
ESDC Sonseca Array 85.86 44 P **P** **20 51 32.9 +0.8**
comp=Z,1.4nm,0.7s,baz=310,slow=5.3,SNR=16
comp=Z,1.4nm,0.7s
HNR Honiara 86.72 256 LR LR 21 21 30.0
comp=Z,442nm,21.6s,baz=58,slow=30
KIRV Kirov 86.96 5 LR LR 21 33 56.6
comp=Z,34nm,18.8s,baz=346,slow=38
GERES GERESS Array B 87.63 28 LR LR 21 31 41.4
comp=Z,49nm,18.4s,baz=306,slow=36
DAVOX Davos/Dischmat 87.69 32 LR LR 21 30 29.0
comp=Z,56nm,18.8s,baz=268,slow=35
PLCA Paso Flores 87.83 144 P **P** **20 51 41.7 +0.3**
comp=Z,1.0nm,0.6s,baz=70,slow=23,SNR=1.8
comp=Z,1.0nm,0.6s
SONM Songino Array 87.95 330 P **P** **20 51 43.1 +0.9**
comp=Z,0.9nm,0.6s,baz=347,slow=5.9,SNR=3.9
comp=Z,0.9nm,0.6s
VRAC Vranov 88.35 26 LR LR 21 34 09.0
comp=Z,31nm,18.5s,baz=284,slow=38
DZM Mont Dzumac 89.19 243 *e*LR LR 21 20 03.1
comp=Z,77nm,23.4s
ZALV Zalesovo Beam 89.28 345 P **P** **20 51 48.6 +0.5**
comp=Z,1.5nm,0.7s,baz=33,slow=5.7,SNR=7.3
comp=Z,1.5nm,0.7s
ARU Arti 89.50 0 LR LR 21 37 12.5
comp=Z,34nm,18.1s,baz=341,slow=39
HHC Hu-ho-hao-te 91.04 323 *e*P **P** **20 51 56.3 -0.5**
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,290nm,5.3s
AKASG Malin Array Be 91.14 19 P **P** **20 51 56.5 -0.3**
comp=Z,0.4nm,0.4s,baz=339,slow=5.0,SNR=2.0
comp=Z,0.4nm,0.4s
BVAR Borovoye Array 92.39 353 P **P** **20 52 03.3 +0.7**
comp=Z,1.4nm,0.7s,baz=352,slow=3.1,SNR=6.0
comp=Z,1.4nm,0.7s
BELG Belogornoye 92.93 7 LR LR 21 40 49.2
comp=Z,16nm,19.1s,baz=166,slow=40
KURBB Kurchatov Arra 93.65 348 P **P** **20 52 08.6 +0.2**
comp=Z,0.7nm,0.3s,baz=14,slow=4.7,SNR=6.5
comp=Z,0.7nm,0.3s
AKTO Aktyubinsk 95.50 1 LR LR 21 39 36.0
comp=Z,13nm,18.2s,baz=188,slow=38
WMQ Urumqi 97.97 340 *e*P Pdif 20 52 29.3 +0.9
ASAR Alice Springs 115.31 258 PKP **PKPdf** **20 57 34.2 0.0**
comp=Z,0.6nm,1.1s,baz=85,slow=2.0,SNR=2.0
QSPA South Pole Qui 124.25 180 PKP **PKiKP** **20 57 50.7 +0.4**
comp=Z,1.1nm,0.6s,baz=234,slow=0.5,SNR=13
MAW Mawson 146.72 182 PKPbc **PKPab** **20 58 34.1 -0.2**
comp=Z,10.0nm,1.0s,baz=167,slow=5.5,SNR=10
BOSA Boshof 150.39 88 PKPbc **PKPbc** **20 58 44.1 +0.1**
comp=Z,5.0nm,0.8s,baz=308,slow=2.3,SNR=7.8

IDC 26 21:02:60.0±4.0, 6°.03S×150°.80E, h0km, mb3.4/2, mbtmp3.5/2, Error ellipse: s-maj=151.1km s-min=52.2km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.14**	**228**	P	P	P	21 07 47.4	+0.7
	1.3nm,0.8s,baz=51,slow=9.9,SNR=10							
	1.3nm,0.8s							
ASAR	**Alice Springs**	**23.91**	**221**	P	P	P	21 08 15.1	-0.7
	1.4nm,0.9s,baz=57,slow=9.0,SNR=12							
	1.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**148.75**	**285**	PKPbc	PKPbc	PKPbc	21 22 50.1	-0.4
	0.5nm,0.8s,baz=80,slow=1.6,SNR=2.8							

---

*IDC **26** 21:30:21.6±3.0, 0°.77S×134°.45E, h0km, mb3.5/2, mbtmp3.6/3, ML3.7/1, MS3.5/2, Error ellipse: s-maj=143.7km s-min=27.2km az=77.0*
*DJA **26** 21:30:25.1±1.2, 1°.5±7°.×13°.5E±°, h10km, M4.3/6, mb4.5/1, MLv4.2/6*
ISC 26 21:30:20.2±1.8, 0°.5S±0°.1×135°.8E±0°.1, h10km, n9, σ1§59/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**1.88**	**237**	P	**Pn**	**Pn**	**21 30 52.0**	**-0.4**
RKPI				S	**Sn**	**Sn**	**21 31 17.0**	**+0.9**
KMPI	**Kaimana, Papua**	**3.76**	**213**	P	**Pn**	**Pn**	**21 31 20.6**	**+2.3**
FAKI	**Fak Fak**	**4.26**	**235**	P	**Pn**	**Pn**	**21 31 25.5**	**+0.4**
FAKI				S	**Sn**	**Sn**	**21 32 12.9**	**-2.0**
SWI	**Sorong**	**4.51**	**265**	P	**Pn**	**Pn**	**21 31 30.5**	**+1.9**
WRA	**Warramunga Arr**	**19.39**	**184**	P	**P**	**P**	**21 34 45.8**	**-0.6**
	0.2nm,0.3s,baz=359,slow=11,SNR=17							
	1.0nm,0.4s							
ASAR	**Alice Springs**	**23.11**	**184**	P	**P**	**P**	**21 35 25.9**	**-0.6**
	1.1nm,0.5s,baz=9.5,slow=11,SNR=18							
	1.1nm,0.5s							
SONM	**Songino Array**	**54.48**	**336**	LR	LR	LR	22 04 15.0	
	comp=Z,33nm,19.1s,baz=266,slow=38							
MKAR	**Makanchi Array**	**66.24**	**323**	P	**P**	**P**	**21 41 07.9**	**-0.6**
	0.2nm,0.5s,baz=112,slow=8.4,SNR=5.1							
	0.2nm,0.5s							
PPT	**Papeete**	**75.24**	**108**	LR	LR	LR	22 14 31.1	
	comp=Z,36nm,18.1s,baz=3.0,slow=35							

---

*IDC **26** 21:33:41.2±1.0, 34°.59N×24°.54E, h0km, mb3.8/9, mbtmp3.7/16, ML3.5/7, Error ellipse: s-maj=18.3km s-min=15.9km az=135.0*
*ISK **26** 21:33:43.7, 34°.59N×24°.47E, h8km, ML3.4/8*
*THE **26** 21:33:44.2, 34°.55N×24°.45E, h0km±1km, ML3.2/6, Error ellipse: s-maj=3.2km s-min=1.0km az=190.0*
*ATH **26** 21:33:44.1, 34°.56N×24°.42E, h18km±6km, ML3.6/9, Manual Solution by A.Fokaefs First location: 2019/04/09 10:55:49, This location: 2019/04/09 10:55:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 5 km*
*AFAD **26** 21:33:49.0±0.0, 34°.41N×24°.76E, h10.4km±.45km, ML3.4*
ISC 26 21:33:43.5±1.3, 34°.52N±0°.05×24°.47E±0°.03, h16km±7km, n68, σ1§61/98, mb3.8/9, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.45**	**316**	Pg	**Pg**	**Pg**	**21 33 52.2**	**-0.3**
GVD				Sg	**Sg**	**Sg**	**21 33 59.0**	**+0.4**
GVD	**Gavdhos**	**0.45**	**316**	P	**Pg**	**Pg**	**21 33 52.2**	**-0.3**
GVD				S	**Sb**	**Sb**	**21 33 59.7**	**+0.2**
	23µm,0.2s							
GVD	**Gavdhos**	**0.45**	**316**	P	**Pg**	**Pg**	**21 33 52.2**	**-0.3**
GVD				S	**Sg**	**Sg**	**21 33 58.4**	**-0.2**
GVDS	**Gavdos**	**0.45**	**316**	Pg	**Pg**	**Pg**	**21 33 52.5**	**0.0**
GVDS	**Gavdos**	**0.45**	**316**	P	**Pg**	**Pg**	**21 33 52.8**	**+0.3**
GVDS				S	**Sb**	**Sb**	**21 34 00.1**	**+0.5**
TMBK	**Timbaki Herakl**	**0.60**	**24**	P	**Pb**	**Pb**	**21 33 56.6**	**+0.9**
TMBK	**Timbaki Herakl**	**0.60**	**24**	P	**Pb**	**Pb**	**21 33 56.0**	**+0.3**
IDI	**Anoyia**	**0.84**	**24**	Pg	**Pg**	**Pg**	**21 33 59.3**	**-0.6**
IDI	**Anoyia**	**0.84**	**24**	P	**Pg**	**Pg**	**21 33 59.2**	**-0.6**
IDI				S	**Sn**	**Sn**	**21 34 12.9**	**0.0**
	2µm,0.7s							
IDI	**Anoyia**	**0.84**	**24**	Pn	**Pg**	**Pg**	**21 33 59.6**	**-0.3**
	41nm,0.3s,baz=211,slow=15,SNR=120							
IDI				Sn	**Sb**	**Sb**	**21 34 12.2**	**+1.3**
	109nm,0.3s,baz=319,slow=22,SNR=22							
IDI	**Anoyia**	**0.84**	**24**	P	**Pg**	**Pg**	**21 33 59.3**	**-0.6**
IDI				S	**Sb**	**Sb**	**21 34 11.5**	**+0.6**
PRNS	**Prines Rethymn**	**0.84**	**2**	P	**Pg**	**Pg**	**21 33 58.2**	**-1.7**
PRNS				S	**Sb**	**Sb**	**21 34 11.2**	**+0.2**
	1µm,0.5s							
PRNS	**Prines Rethymn**	**0.84**	**2**	P	**Pg**	**Pg**	**21 33 58.6**	**-1.4**
PRNS				S	**Sb**	**Sb**	**21 34 11.1**	**+0.2**
RTHF	**Rethymno-Limin**	**0.85**	**1**	P	**Pb**	**Pb**	**21 34 00.8**	**+0.9**
HRKL	**Herakleio**	**0.95**	**33**	Pg	**Pg**	**Pg**	**21 34 01.5**	**-0.4**
HRKL	**Herakleio**	**0.95**	**33**	P	**Pg**	**Pg**	**21 34 01.9**	**0.0**
HRKL				S	**Sn**	**Sn**	**21 34 16.0**	**+0.6**
HRKL	**Herakleio**	**0.95**	**33**	P	**Pg**	**Pg**	**21 34 01.5**	**-0.4**
IMMV	**Iera Moni Meta**	**1.02**	**337**	Pg	**Pg**	**Pg**	**21 34 01.9**	**-1.4**
IMMV				Sg	**Sb**	**Sb**	**21 34 16.4**	**+0.4**
IMMV	**Iera Moni Meta**	**1.02**	**337**	P	**Pg**	**Pg**	**21 34 01.6**	**-1.7**
IMMV				S	**Sn**	**Sn**	**21 34 17.7**	**+0.5**
	2µm,0.4s							
IMMV	**Iera Moni Meta**	**1.02**	**337**	P	**Pg**	**Pg**	**21 34 01.7**	**-1.6**
IMMV				S	**Sg**	**Sg**	**21 34 15.4**	**-1.3**
CHAN	**Chania**	**1.06**	**341**	P	**Pg**	**Pg**	**21 34 02.5**	**-1.4**
FRMA	**Ierapetra Chan**	**1.15**	**64**	P	**Pn**	**Pn**	**21 34 07.4**	**+2.4**
FRMA				S	**Sn**	**Sn**	**21 34 25.5**	**+5.1**
FRMA	**Ierapetra Chan**	**1.15**	**64**	P	**Pn**	**Pn**	**21 34 06.8**	**+1.8**
RODP	**Rodopos**	**1.19**	**331**	Pn	**Pg**	**Pg**	**21 34 05.4**	**-1.1**
RODP	**Rodopos**	**1.19**	**331**	P	**Pg**	**Pg**	**21 34 05.0**	**-1.5**
RODP				S	**Sn**	**Sn**	**21 34 23.1**	**+1.6**
RODP	**Rodopos**	**1.19**	**331**	P	**Pg**	**Pg**	**21 34 04.8**	**-1.7**
ZKR	**Zakros**	**1.56**	**67**	Pn	**Pn**	**Pn**	**21 34 11.9**	**+1.3**
ZKR	**Zakros**	**1.56**	**67**	P	**Pb**	**Pb**	**21 34 12.4**	**+0.4**
ZKR				S	**Sg**	**Sg**	**21 34 34.0**	**+0.3**
	482nm,0.6s							
ANKY	**Antikythira Is**	**1.65**	**325**	P	**Pb**	**Pb**	**21 34 13.7**	**+0.2**
ANKY				S	**Sb**	**Sb**	**21 34 35.4**	**+1.3**
ANKY	**Antikythira Is**	**1.65**	**325**	P	**Pn**	**Pn**	**21 34 11.8**	**0.0**
SANT	**Santorini**	**2.02**	**23**	Pn	**Pn**	**Pn**	**21 34 17.9**	**+1.0**
THR3	**Thira Island,**	**2.04**	**22**	P	**Pn**	**Pn**	**21 34 18.4**	**+1.3**
THR8	**Santorini-Mono**	**2.06**	**23**	P	**Pb**	**Pb**	**21 34 20.1**	**-0.4**
KTHA	**Kythira Island**	**2.08**	**327**	Pn	**Pn**	**Pn**	**21 34 18.9**	**+1.1**
KTHA	**Kythira Island**	**2.08**	**327**	P	**Pn**	**Pn**	**21 34 18.6**	**+0.8**
KTHA				S	**Sb**	**Sb**	**21 34 46.7**	**+0.2**
	265nm,0.6s							
MHLO	**Agia Marina, M**	**2.17**	**359**	P	**Pn**	**Pn**	**21 34 19.2**	**+0.2**
KARP	**Karpathos**	**2.44**	**64**	Pn	**Pn**	**Pn**	**21 34 24.6**	**+1.9**
KARP	**Karpathos**	**2.44**	**64**	P	**Pb**	**Pb**	**21 34 26.5**	**-0.5**
VLI	**Velíai**	**2.52**	**331**	P	**Pn**	**Pn**	**21 34 25.0**	**+1.1**
APE	**Apeiranthos**	**2.69**	**18**	Pn	**Pn**	**Pn**	**21 34 27.5**	**+1.3**
ARG	**Arkhangelos**	**3.44**	**59**	P	**Pn**	**Pn**	**21 34 39.3**	**+2.9**
TURN	**Turunc**	**3.81**	**53**	P	**Pn**	**Pn**	**21 34 44.4**	**+2.8**
TURN				S	**Sn**	**Sn**	**21 35 29.8**	**+3.8**
IZZE	**Mula-Seydike**	**4.33**	**62**	P	**Pn**	**Pn**	**21 34 50.1**	**+1.4**
IZZE				S	**Sn**	**Sn**	**21 35 39.3**	**+0.5**
AKAS	**Kas**	**4.53**	**66**	P	**Pn**	**Pn**	**21 34 53.7**	**+2.1**
AKAS				S	**Sn**	**Sn**	**21 35 44.3**	**+0.3**
AKAS				*i* AML	AML	AML	21 35 49.0	
	comp=N,46nm,1.7s							
TAVA	**DENIZLI_Tavas**	**4.65**	**50**	P	**Pn**	**Pn**	**21 34 55.8**	**+2.6**
TAVA				S	**Sn**	**Sn**	**21 35 48.5**	**+1.5**
CAEL	**Denizli, Camel**	**4.72**	**55**	P	**Pn**	**Pn**	**21 34 57.9**	**+3.7**
CAEL				S	**Sn**	**Sn**	**21 35 45.3**	**-3.5**
CAEL				*i* AML	AML	AML	21 36 02.0	
	comp=E,30nm,0.7s							
CAEL				*i* AML	AML	AML	21 36 21.0	
	comp=N,39nm,1.1s							
GOLH	**Golhisar**	**4.95**	**55**	P	**Pn**	**Pn**	**21 34 59.7**	**+2.4**
GOLH				S	**Sn**	**Sn**	**21 35 53.8**	**-0.3**
AKUM	**Antalya-Kumluc**	**5.12**	**68**	P	**Pn**	**Pn**	**21 35 01.5**	**+1.9**
AKUM				S	**Sn**	**Sn**	**21 35 54.4**	**-4.0**
KEPZ	**Antalya-Kepez**	**6.27**	**66**	P	**Pn**	**Pn**	**21 35 17.1**	**+1.6**
KEPZ				S	**Sn**	**Sn**	**21 36 24.3**	**-2.6**
KEPZ				*i* AML	AML	AML	21 36 26.0	
	comp=N,12nm,0.6s							
KEPZ				*i* AML	AML	AML	21 36 29.0	
	comp=E,15nm,1.2s							
SEDI	**Konya, Seydise**	**6.59**	**62**	P	**Pn**	**Pn**	**21 35 20.9**	**+1.0**
SEDI				S	**Sn**	**Sn**	**21 36 34.8**	**0.0**
GAZI	**Gazipasa**	**6.64**	**73**	P	**Pn**	**Pn**	**21 35 20.5**	**+0.1**
GAZI				S	**Sn**	**Sn**	**21 36 31.2**	**-4.5**
KKBE	**Karaman, Kazim**	**7.39**	**66**	P	**Pn**	**Pn**	**21 35 33.3**	**+2.6**
KKBE				S	**Sn**	**Sn**	**21 36 53.1**	**-1.2**
BRTR	**Keskin Array B**	**8.98**	**52**	Pn	**Pn**	**Pn**	**21 35 52.4**	**-0.3**
	0.1nm,0.3s,baz=229,slow=14,SNR=1.4							
	0.2nm,0.4s							
MMAI	**Mount Meron Ar**	**9.23**	**96**	Pn	**Pn**	**Pn**	**21 35 55.7**	**-0.3**
	0.8nm,0.3s,baz=269,slow=12,SNR=1.6							
MMAI				Sn	Sn	Sn	21 37 32.0	-7.5
	baz=268,slow=18							
	0.6nm,0.3s							
EIL	**Elat**	**10.12**	**116**	Pn	**Pn**	**Pn**	**21 36 07.3**	**-0.8**
	0.3nm,0.3s,baz=160,slow=0.5,SNR=9.1							
EIL				Sn	Sn	Sn	21 37 50.9	-10
	0.2nm,0.3s,baz=321,slow=10,SNR=1.3							
	2.0nm,0.6s							
ASF	**Jabal al Asfar**	**10.66**	**99**	Pn	**Pn**	**Pn**	**21 36 15.9**	**+0.3**
	0.2nm,0.3s,baz=137,slow=15,SNR=2.4							
ASF				Sn	**Sn**	**Sn**	**21 38 12.2**	**-2.5**
	0.2nm,0.3s,baz=57,slow=16,SNR=1.4							
	1.6nm,0.7s							
GERES	**GERESS Array B**	**16.39**	**334**	Pn	**Pn**	**Pn**	**21 37 32.9**	**-0.1**
	0.1nm,0.3s,baz=142,slow=15,SNR=1.3							
	0.7nm,0.7s							
AKASG	**Malin Array Be**	**16.54**	**11**	Pn	**Pn**	**Pn**	**21 37 32.8**	**-1.9**
	0.7nm,0.3s,baz=200,slow=10,SNR=4.2							
	0.3nm,0.3s							
KBZ	**Khabaz**	**16.97**	**52**	Pn	**P**	**P**	**21 37 43.6**	**+1.6**
	0.1nm,0.3s,baz=276,slow=10,SNR=4.0							
	2.4nm,0.9s							
ESDC	**Sonseca Array**	**23.20**	**291**	P	**P**	**P**	**21 38 50.9**	**+1.1**
	0.7nm,0.7s,baz=80,slow=9.5,SNR=8.2							
	0.7nm,0.7s							
HFS	**Hagfors**	**26.58**	**348**	P	**P**	**P**	**21 39 20.3**	**-0.3**
	1.4nm,0.7s,baz=150,slow=12,SNR=1.3							
	1.4nm,0.7s							
FINES	**FINESS Array B**	**26.96**	**2**	P	**P**	**P**	**21 39 22.4**	**-1.6**
	1.5nm,0.8s,baz=163,slow=9.8,SNR=1.6							
	1.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.64**	**230**	P	**P**	**P**	**21 39 49.2**	**+0.8**
	0.4nm,0.5s,baz=36,slow=9.2,SNR=6.2							
	0.4nm,0.5s							
ARCES	**ARCESS Array B**	**35.08**	**1**	P	**P**	**P**	**21 40 35.2**	**-0.2**
	2.0nm,0.8s,baz=178,slow=9.9,SNR=1.8							
	2.0nm,0.8s							
KURBB	**Kurchatov Arra**	**41.97**	**50**	P	**P**	**P**	**21 41 31.8**	**-1.7**
	1.1nm,0.3s,baz=270,slow=8.7,SNR=1.7							
	1.1nm,0.3s							
MKAR	**Makanchi Array**	**44.60**	**56**	P	**P**	**P**	**21 41 54.7**	**-0.2**
	0.7nm,0.5s,baz=272,slow=7.7,SNR=13							
	0.7nm,0.5s							
ZALV	**Zalesovo Beam**	**45.86**	**46**	P	**P**	**P**	**21 42 02.7**	**-2.0**
	0.6nm,0.4s,baz=278,slow=8.6,SNR=2.7							
	0.6nm,0.4s							
CMAR	**Chiang Mai Arr**	**67.21**	**83**	P	**P**	**P**	**21 44 37.2**	**-0.1**
	0.2nm,0.3s,baz=290,slow=5.3,SNR=1.8							
	0.2nm,0.3s							

---

*IDC **26** 21:36:32.9±3.1, 25°.57S×177°.71W, h165km±23km, mb3.7/7, mbtmp4.3/9, Error ellipse: s-maj=30.1km s-min=19.5km az=37.0*
*NEIC **26** 21:36:32.5±3.0, 25°.46S±0°.09×177°.4W±0°.2, h161km±12km, mb4.3/3, Error ellipse: s-maj=26.9km s-min=13.2km az=91.0*
ISC 26 21:36:32.0±0.7, 25°.49S±0°.07×177°.6W±0°.1, h160km, n27, σ1§20/23, mb4.1/12, 4C, South of Fiji Islands

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

171nm,0.2s,baz=66,slow=18,SNR=6.6
RAO S **Sn** **21 38 12.4 -1.7**
100nm,0.3s,baz=71,slow=22,SNR=1.2
MSVF Nonsavu 8.72 331 Pn 21 38 36.6 +1.5
NIUE Niue 9.54 50 Pn 21 38 45.4 -0.4
URZ Urewera 13.50 198 P **Pn 21 39 37.3 +0.2**
3.2nm,0.3s,baz=338,slow=4.0,SNR=5.7
URZ S Sn 21 41 52.0 -15
14nm,0.5s,baz=305,slow=18,SNR=8.3
STKA Stephens Creek 36.21 250 P **P 21 43 19.0 -0.6**
1.3nm,0.5s,baz=112,slow=12,SNR=5.0
1.3nm,0.5s
AS31 Alice Springs 43.96 262 P **P 21 44 23.7 +0.2**
AS31 IAmb IAmb 21 44 29.5
comp=Z,1.8nm,1.1s
ASAR Alice Springs 43.96 262 P **P 21 44 22.6 -0.9**
comp=Z,2.4nm,0.6s,baz=89,slow=6.8,SNR=44
comp=Z,2.4nm,0.6s
WRA Warramunga Arr 44.51 267 P **P 21 44 27.2 -0.7**
comp=Z,1.7nm,0.5s,baz=105,slow=7.9,SNR=23
comp=Z,1.7nm,0.5s
VNDA Vanda 53.00 185 P **P 21 45 32.5 +0.8**
comp=Z,0.8nm,0.6s,baz=5.9,slow=7.0,SNR=7.0
comp=Z,0.8nm,0.6s
CASY Casey 59.66 206 P **P 21 46 18.0 -1.0**
CASY IAmb IAmb 21 46 18.7
comp=Z,9.0nm,0.7s
QSPA South Pole Qui 64.60 180 P **P 21 46 52.7 +0.6**
QSPA IAmb IAmb 21 46 54.8
comp=Z,5.4nm,1.0s
QSPA South Pole Qui 64.60 180 P **P 21 46 51.7 -0.3**
comp=Z,2.9nm,0.6s,baz=16,slow=0.8,SNR=12
comp=Z,2.9nm,0.6s
MAW Mawson 77.02 200 P **P 21 48 06.5 -0.3**
comp=Z,3.8nm,0.5s,baz=136,slow=6.0,SNR=20
comp=Z,3.8nm,0.5s
TROLL Troll, Antarti 82.76 180 ⇑P **P 21 48 37.3 -0.5**
comp=Z,277nm,0.7s
H03S2 Juan Fernandez 82.88 124 T T 23 20 22.0
baz=244,slow=74
H03S1 Juan Fernandez 82.89 124 T T 23 20 17.8
baz=244,slow=74
H03S3 Juan Fernandez 82.89 124 T T 23 20 15.0
baz=244,slow=74
H03N3 Juan Fernandez 83.04 124 T T 23 20 40.2
baz=238,slow=72
H03N2 Juan Fernandez 83.04 124 T T 23 20 37.0
baz=238,slow=72
H03N1 Juan Fernandez 83.06 124 T T 23 20 36.0
baz=238,slow=72
VNA3 Neumayer Olymp 83.16 176 ⇑P **P 21 48 38.7 -1.0**
comp=Z,1.2nm,0.3s
VNA2 Neumayer--Watz 83.60 177 ⇑P **P 21 48 41.3 -0.7**
comp=Z,4.4nm,0.6s,baz=193,slow=4.0
VNA1 Neumayer--Stat 83.83 176 ⇑P **P 21 48 42.1 -0.9**
comp=Z,6.0nm,1.1s
NVAR Mina Array Bea 84.40 43 P **P 21 48 47.8 +1.1**
comp=Z,0.5nm,0.6s,baz=215,slow=7.6,SNR=3.7
comp=Z,0.5nm,0.6s
HFS Hagfors 144.50 350 PKP **PKPab 21 55 47.1 -0.5**
comp=Z,1.2nm,0.6s,baz=90,slow=8.0,SNR=4.2
TORD Torodi Ar. Bea 167.70 177 PKPab **PKPab 21 57 25.4 -1.4**
comp=Z,0.6nm,0.8s,baz=178,slow=4.8,SNR=3.9

IDC 26 21:45:44.0±3.7, 3°.26S×150°.38E, h0km, mb3.1/2, mbtmp3.2/2, Error ellipse: s-maj=139.9km s-min=48.4km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.80**	**222**	P	P	21 50 48.9	+0.3
	0.3nm,0.3s,baz=48,slow=10,SNR=9.1						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**25.79**	**217**	P	P	21 51 16.9	-0.1
	0.1nm,0.4s,baz=49,slow=8.6,SNR=1.5						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**147.53**	**289**	PKPbc	PKPbc	22 05 30.4	-0.9
	0.3nm,0.6s,baz=69,slow=2.4,SNR=4.1						

IDC 26 21:56:27.9±8.5, 6°.48S×128°.39E, h479km±119km, mb2.8/2, mbtmp3.8/4, Error ellipse: s-maj=123.8km s-min=48.4km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.58**	**157**	P	P	21 59 34.2	+0.2
	1.9nm,0.5s,baz=336,slow=11,SNR=34						
ASAR	**Alice Springs**	**17.89**	**163**	P	P	22 00 08.2	-0.2
	1.1nm,0.5s,baz=345,slow=11,SNR=17						
STKA	**Stephens Creek**	**28.12**	**156**	P	P	22 01 40.0	-0.1
	1.5nm,0.7s,baz=333,slow=14,SNR=1.5						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**66.92**	**327**	P	P	22 06 31.9	0.0
	0.1nm,0.4s,baz=118,slow=8.0,SNR=1.9						
	0.1nm,0.4s						

IDC 26 22:10:25.7±1.9, 1°.26N×126°.10E, h0km, mb3.4/4, mbtmp3.4/4, MS2.9/1, Error ellipse: s-maj=189.5km s-min=23.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**22.25**	**56**	LR	LR	22 23 59.2	
	comp=Z,31nm,18.0s,baz=308,slow=37						
WRA	**Warramunga Arr**	**22.57**	**159**	P	P	22 15 27.9	+0.2
	0.3nm,0.3s,baz=338,slow=11,SNR=9.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**25.91**	**163**	P	P	22 15 59.5	-0.3
	0.2nm,0.7s,baz=339,slow=9.9,SNR=1.5						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**59.23**	**326**	P	P	22 20 29.4	+0.5
	0.4nm,0.4s,baz=113,slow=7.9,SNR=3.6						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.48**	**328**	P	P	22 20 57.0	-0.5
	0.3nm,0.4s,baz=122,slow=7.0,SNR=2.3						
	0.3nm,0.4s						

*NNC **26** 22:15:32.2±1.1, 44°.45N×81°.77E, h2km±4km, mb3.6, mpv3.4, Error ellipse: s-maj=10.4km s-min=3.2km az=127.0*
*SOME **26** 22:15:32.5, 44°.60N×81°.78E, h15km*
ISC 26 22:15:30.8±2.0, 44°.49N±0°.06×81°.96E±0°.09, h2km±13km, n32, σ1°.49/39, 7C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.56**	**229**	S	**Sn**	**22 16 18.7**	**-1.8**
	60nm,0.3s						
KTMS	**Ketmen**	**1.56**	**229**	*e*P	**Pn**	**22 16 00.1**	**+0.4**
	18nm,0.1s						
KTMS				*e*S	**Sn**	**22 16 19.9**	**-0.7**
	61nm,0.2s						
DJR	**Jarkent**	**1.56**	**265**	S	**Sg**	**22 16 20.4**	**-0.6**
	120nm,0.2s						
DJR	**Jarkent**	**1.56**	**265**	*e*P	**Pb**	**22 15 59.2**	**-1.3**
	13nm,0.2s						
DJR				*e*S	**Sg**	**22 16 18.5**	**-2.6**
	110nm,0.3s						
PDGK	**Podgornoye**	**2.13**	**238**	S	**Sn**	**22 16 33.9**	**-0.6**
	31nm,0.3s						
PDGK	**Podgornoye**	**2.13**	**238**	⇓Pn	**Pn**	**22 16 07.6**	**0.0**
	7.0nm,0.4s						
PDGK				⇓Sn	**Sn**	**22 16 33.5**	**-1.1**
	50nm,0.8s						
MK31	**Makanchi Array**	**2.32**	**6**	⇑Pn	**Pb**	**22 16 12.3**	**-1.0**
	baz=186,slow=13,SNR=314						
MK31				⇓Pg	**Pg**	**22 16 17.9**	**+2.6**
	3.5nm,0.3s,baz=184,slow=16,SNR=31						
MK31				⇑Sn	**Sb**	**22 16 41.6**	**-0.8**
	10nm,0.4s,baz=182,slow=28,SNR=7.1						
MAKZ	**Makanchi**	**2.32**	**0**	⇑Pn	**Pb**	**22 16 12.3**	**-1.1**
	0.7nm,0.2s						
MAKZ				⇑Pg	**Pg**	**22 16 15.5**	**+0.2**
	4.6nm,0.5s						
MAKZ				⇑Sn	**Sg**	**22 16 41.9**	**-3.5**
	19nm,0.4s						
UZB	**Uzynbulak**	**2.51**	**239**	Pg	**Pb**	**22 16 14.5**	**-2.2**
	7.0nm,0.2s						
UZB				Lg	Lg	22 16 45.2	
	65nm,0.2s						
UZB	**Uzynbulak**	**2.51**	**239**	*e*Pg	**Pb**	**22 16 17.2**	**+0.4**
	4.3nm,0.2s						
UZB				*e*Lg	Lg	22 16 49.3	
	39nm,0.3s						
BLB	**Baldybastay**	**2.53**	**262**	Lg	Lg	22 16 48.8	
	70nm,0.3s						
KPKS	**Kokpek**	**2.58**	**248**	Pg	**Pb**	**22 16 16.5**	**-1.3**
	12nm,0.1s						
KPKS				Lg	Lg	22 16 48.5	
	102nm,0.2s						
KPKS	**Kokpek**	**2.58**	**248**	*e*Pg	**Pb**	**22 16 18.5**	**+0.7**
	11nm,0.1s						
KPKS				*e*Lg	Lg	22 16 51.4	
	129nm,0.2s						
TDK	**Taldyqorghan**	**2.58**	**283**	Pg	**Pb**	**22 16 17.1**	**-0.8**
	28nm,0.3s						
TDK				Lg	Lg	22 16 49.4	
	102nm,0.5s						
TDK	**Taldyqorghan**	**2.58**	**283**	*e*Pg	**Pb**	**22 16 17.1**	**-0.8**
	28nm,0.3s						
TDK				*e*Lg	Lg	22 16 49.4	
	102nm,0.5s						
SATY	**Saty**	**2.94**	**242**	Pg	**Pb**	**22 16 22.9**	**-1.2**
	4.8nm,0.1s						
SATY				Lg	Lg	22 16 59.4	
	100nm,0.3s						
SATY	**Saty**	**2.94**	**242**	*e*Pg	**Pb**	**22 16 24.8**	**+0.7**
	4.3nm,0.1s						
SATY				*e*Lg	Lg	22 17 02.4	
	106nm,0.1s						
ARXS	**Arharly**	**2.98**	**266**	Pg	**Pb**	**22 16 24.3**	**-0.3**
	3.0nm,0.1s						
ARXS	**Arharly**	**2.98**	**266**	*e*Pg	**Pb**	**22 16 24.3**	**-0.3**
	3.0nm,0.1s						
ARXS				*e*Lg	Lg	22 17 01.9	
	46nm,0.2s						
CHKK	**Chushkaly**	**3.63**	**262**	Pg	**Pb**	**22 16 35.6**	**-0.2**
	1.4nm,0.1s						
CHKK				Lg	Lg	22 17 21.0	
	29nm,0.2s						
CHKK	**Chushkaly**	**3.63**	**262**	*e*Pg	**Pb**	**22 16 35.9**	**+0.1**
	0.9nm,0.1s						
CHKK				*e*Lg	Lg	22 17 21.1	
	31nm,0.3s						
KOTS	**Kotyrbulak**	**3.72**	**252**	Pg	**Pb**	**22 16 37.5**	**+0.1**
	4.9nm,0.4s						
KOTS				Lg	Lg	22 17 24.1	
	60nm,0.5s						
KOTS	**Kotyrbulak**	**3.72**	**252**	*e*Pg	**Pb**	**22 16 38.5**	**+1.1**
	3.1nm,0.3s						
KOTS				*e*Lg	Lg	22 17 25.6	
	25nm,0.2s						
KTBS	**Karatobe**	**3.88**	**260**	Pg	**Pb**	**22 16 40.6**	**+0.6**
	2.7nm,0.4s						
KTBS				Lg	Lg	22 17 29.5	
	35nm,0.4s						
KTBS	**Karatobe**	**3.88**	**260**	*e*Pg	**Pb**	**22 16 40.6**	**+0.6**
	2.7nm,0.4s						
KTBS				*e*Lg	Lg	22 17 29.5	
	35nm,0.4s						
IZV	**Izvestkoviy**	**4.13**	**251**	Pg	**Pb**	**22 16 45.8**	**+1.4**
	3.0nm,0.3s						
IZV				Lg	Lg	22 17 38.8	
	22nm,0.3s						
IZV	**Izvestkoviy**	**4.13**	**251**	*e*Pg	**Pb**	**22 16 45.8**	**+1.4**
	3.0nm,0.3s						
IZV				*e*Lg	Lg	22 17 38.8	
	22nm,0.3s						
KRBS	**Karabastau**	**4.60**	**262**	Pg	**Pb**	**22 16 53.9**	**+1.7**
	1.3nm,0.2s						
KRBS				Lg	Lg	22 17 52.5	
	5.5nm,0.2s						
KRBS	**Karabastau**	**4.60**	**262**	*e*Pg	**Pb**	**22 16 53.9**	**+1.7**
	1.3nm,0.2s						
KRBS				*e*Lg	Lg	22 17 52.5	
	5.5nm,0.2s						
DGS	**Degeres**	**4.64**	**257**	Pg	**Pb**	**22 16 55.5**	**+2.4**
	1.9nm,0.3s						
DGS				Lg	Lg	22 17 55.3	
	16nm,0.3s						
DGS	**Degeres**	**4.64**	**257**	*e*Pg	**Pb**	**22 16 55.5**	**+2.4**
	1.9nm,0.3s						
DGS				*e*Lg	Lg	22 17 55.3	
	16nm,0.3s						
KURK	**Kurchatov**	**6.63**	**341**	⇓Pn	**Pn**	**22 17 11.8**	**+2.7**
	8.3nm,3.0s						
KURK				⇑Sn	**Sn**	**22 18 25.7**	**+0.5**
	1.1nm,0.8s						
KURK				⇑Lg	Lg	22 18 59.7	
	2.3nm,0.7s						

*NAO **26** 22:38:21.2, 38°.72N×15°.40E, h33km, mb3.5*
*IDC **26** 22:38:34.4±0.7, 40°.48N×15°.63E, h0km, mb4.0/19, mbtmp4.0/34, MLL3.7/14, MS3.0/4, Error ellipse: s-maj=11.5km s-min=9.9km az=77.0*
*ROM **26** 22:38:35.1±0.0, 40°.313N±0°.004×15°.704E±0°.005, h14km, MLL3.8/276, Mw3.8, Error ellipse: s-maj=0.4km s-min=0.1km az=235.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-5.07; $M_{\theta\theta}$1.59; $M_{\phi\phi}$3.48; $M_{r\theta}$-1.44; $M_{\theta\phi}$-3.14; $M_{r\phi}$0.18; Fault plane solution: $M_0$5.65068×10^{14} NP1:ϕ_s336.00000°, δ41.00000°, λ-71.00000°. NP2:ϕ_s131.00000°, δ52.00000°, λ-106.00000°.*
*PDG **26** 22:38:35.8±0.4, 40°.56N×15°.85E, h0km±11km, MLL3.9/11 Error ellipse: s-maj=2.2km s-min=1.5km az=90.0*
*RISSC **26** 22:38:35.3, 40°.33N×15°.65E, h7km, MLL4.0/15*
*LDG **26** 22:38:36.1±0.2, 40°.33N×15°.78E, h11km, MLl3.4/6, Error ellipse: s-maj=5.9km s-min=4.0km az=70.0*
*BEO **26** 22:38:37.3±0.5, 40°.54N×15°.88E, h0km, MLL3.7/17*
*THE **26** 22:38:38.0, 40°.35N×15°.93E, h1km±15km, MLL3.7/4, Error ellipse: s-maj=24.1km s-min=1.8km az=276.0*
*PRU **26** 22:38:38.5, 40°.49N×15°.48E, h10km*
ISC 26 22:38:36.4±0.6, 40°.35N±0°.02×15°.70E±0°.02, h18km±3km, n419, σ1°.78/486, mb4.1/16, 67C-34D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLCN	**Sala Consilina**	**0.07**	**309**	⇓P	**Pg**	**22 38 38.5**	**-1.3**
SLCN				S	**Sg**	**22 38 40.8**	**-1.3**
SLCN				AML	AML		
SLCN				AML	AML		
SLCN				AML	AML		
MCEL	**Monticello**	**0.08**	**106**	⇓P	**Pg**	**22 38 38.4**	**-1.5**
MCEL				S	**Sg**	**22 38 40.1**	**-2.2**
MCEL				AML	AML		
MCEL				AML	AML		
MCEL				AML	AML		
MCEL				AML	AML		
MRN3	**Marsico Nuovo**	**0.08**	**16**	⇑*i*P	**Pg**	**22 38 38.6**	**-1.3**
MRN3				*i* S	**Sg**	**22 38 41.2**	**-1.1**
MTSN	**Montesano sull**	**0.09**	**154**	⇓P	**Pg**	**22 38 38.3**	**-1.7**
MTSN				S	**Sg**	**22 38 40.4**	**-2.0**
VGG3	**Viggiano (Prot**	**0.15**	**94**	⇑*i*P	**Pg**	**22 38 40.3**	**-0.4**
VGG3				*i* S	**Sg**	**22 38 43.5**	**-0.1**
STN3	**Satriano di Lu**	**0.19**	**348**	⇑*i*P	**Pg**	**22 38 40.5**	**-0.6**
STN3				*i* S	**Sg**	**22 38 44.5**	**+0.1**
SIRI	**Monte Sirino -**	**0.21**	**142**	⇓P	**Pg**	**22 38 39.9**	**-1.6**
SIRI				S	**Sg**	**22 38 43.3**	**-1.6**
SIRI				AML	AML		
SIRI				AML	AML		
SIRI				AML	AML		
SIRI				AML	AML		
SRN3	**Sant'Arsenio**	**0.23**	**307**	⇑*i*P	**Pg**	**22 38 40.8**	**-1.1**
SRN3				*i* S	**Sg**	**22 38 45.3**	**-0.3**
CGG3	**Caggiano**	**0.24**	**325**	⇓*i*P	**Pg**	**22 38 41.0**	**-0.9**
CGG3				*i* S	**Sg**	**22 38 46.1**	**+0.4**
MGR	**Morigerati**	**0.24**	**208**	⇑P	**Pg**	**22 38 40.4**	**-1.4**
MGR				S	**Sg**	**22 38 44.2**	**-1.4**
MGR				AML	AML		
MGR				AML	AML		
MGR				AML	AML		
MGR				AML	AML		
MGR				AML	AML		
MGR				AML	AML		
MGR				AML	AML		
VDP3	**Vietri Di Pote**	**0.28**	**339**	*i* P	**Pg**	**22 38 41.7**	**-0.8**
CMPR	**Campora**	**0.30**	**265**	⇑P	**Pg**	**22 38 41.6**	**-1.4**
CMPR				S	**Sg**	**22 38 46.4**	**-1.1**
CMPR				AML	AML		
	comp=N,52500μm,0.4s						
CMPR				AML	AML		
	comp=N,52500μm,1.6s						
CMPR				AML	AML		
	comp=E,58300μm,1.2s						
PZUN	**Potenza**	**0.31**	**15**	⇑P	**Pg**	**22 38 42.5**	**-0.5**
PZUN				S	**Sg**	**22 38 48.5**	**+1.0**
PZUN				AML	AML		
	comp=E,54950μm,0.7s						
PZUN				AML	AML		
	comp=E,55050μm,1.5s						
PZUN				AML	AML		
	comp=N,86850μm,0.3s						
PZUN				AML	AML		
	comp=E,55050μm,0.5s						
PZUN				AML	AML		
	comp=N,88000μm,0.3s						
PTRP	**Pietrapertosa**	**0.33**	**58**	⇑P	**Pg**	**22 38 42.5**	**-0.8**
PTRP				S	**Sg**	**22 38 48.4**	**+0.3**
PTRP				AML	AML		
	comp=N,43900μm,0.5s						
PTRP				AML	AML		
	comp=E,33550μm,0.3s						
PTRP				AML	AML		
	comp=N,43900μm,1.5s						
CDRU	**Civita di Ruta**	**0.33**	**295**	⇑P	**Pg**	**22 38 42.2**	**-1.3**
CDRU				S	**Sg**	**22 38 47.6**	**-0.8**
CDRU				AML	AML		
	comp=E,74650μm,0.2s						
CDRU				AML	AML		
	comp=N,44250μm,0.3s						
CUC	**Castrocucco**	**0.36**	**166**	⇓P	**Pg**	**22 38 42.3**	**-1.7**
CUC				S	**Sg**	**22 38 47.6**	**-1.6**
CUC				AML	AML		
	comp=N,36350μm,0.4s						
CUC				AML	AML		
	comp=E,33900μm,0.4s						
CUC				AML	AML		
	comp=N,43850μm,0.4s						
CUC				AML	AML		
	comp=E,27750μm,0.3s						
BULG	**Bulgheria - Ca**	**0.37**	**223**	⇑P	**Pg**	**22 38 42.8**	**-1.2**
BULG				AML	AML		
	comp=N,81300μm,0.7s						
BULG				AML	AML		
	comp=E,40000μm,1.1s						
BULG				AML	AML		
	comp=N,79100μm,0.7s						
BULG				AML	AML		
	comp=E,42100μm,1.1s						
BULG				AML	AML		
	comp=N,81300μm,1.3s						
BULG				AML	AML		
	comp=N,79100μm,1.3s						
SCL3	**Muro Lucano (S**	**0.38**	**337**	⇓*i*P	**Pb**	**22 38 43.1**	**-1.5**
MRLC	**Muro Lucano**	**0.44**	**339**	⇑P	**Pb**	**22 38 44.3**	**-1.3**
MRLC				AML	AML		
	comp=E,13600μm,1.0s						
MRLC				AML	AML		
	comp=N,22050μm,0.7s						
MRLC				AML	AML		
	comp=E,8255μm,0.4s						
MRLC				AML	AML		
	comp=E,8255μm,1.6s						
MRLC				AML	AML		
	comp=N,10095μm,0.3s						
COL3	**Colliano**	**0.44**	**320**	*i* P	**Pg**	**22 38 44.0**	**-1.4**
VDS3	**Muro Lucano (V**	**0.45**	**332**	*i* P	**Pg**	**22 38 44.2**	**-1.2**
SFL3	**San Fele**	**0.45**	**348**	*i* P	**Pb**	**22 38 44.9**	**-1.0**
ACER	**Acerenza**	**0.48**	**23**	⇑P	**Pb**	**22 38 45.1**	**-1.2**
ACER				S	**Sb**	**22 38 53.0**	**0.0**
ACER				AML	AML		
	comp=E,51400μm,0.3s						
ACER				AML	AML		
	comp=N,42500μm,0.4s						
ACER				AML	AML		
	comp=N,44750μm,0.4s						
ACER				AML	AML		
	comp=E,54350μm,0.3s						
CSG3	**Toppo Di Caste**	**0.50**	**339**	*i* P	**Pb**	**22 38 45.9**	**-0.9**
MMN	**Mormanno**	**0.51**	**154**	⇓P	**Pg**	**22 38 44.6**	**-1.9**
MMN				AML	AML		
	comp=E,9395μm,0.3s						
MMN				AML	AML		
	comp=N,9830μm,0.3s						
RDM3	**Ruvo Del Monte**	**0.54**	**347**	⇑*i*P	**Pb**	**22 38 46.7**	**-0.7**
SNR3	**Senerchia**	**0.55**	**315**	⇑*i*P	**Pg**	**22 38 45.7**	**-1.7**
CRAC	**Craco**	**0.56**	**88**	⇑P	**Pg**	**22 38 46.2**	**-1.3**
CRAC				AML	AML		
	comp=N,24150μm,0.3s						
CRAC				AML	AML		
	comp=E,26350μm,1.3s						
MCRV	**Calabrutti - M**	**0.59**	**317**	P	**Pg**	**22 38 46.3**	**-1.9**
MCRV				AML	AML		
	comp=N,27350μm,0.6s						
MCRV				AML	AML		
	comp=E,23250μm,0.4s						
MCRV				AML	AML		
	comp=N,27350μm,1.4s						
VULT	**Monte Vulture**	**0.61**	**354**	⇑P	**Pb**	**22 38 47.0**	**-1.6**
VULT				S	**Sb**	**22 38 56.4**	**-0.5**
VULT				AML	AML		
	comp=E,17250μm,0.6s						
VULT				AML	AML		
	comp=N,23000μm,1.0s						
VULT				AML	AML		
	comp=E,17900μm,0.6s						
VULT				AML	AML		
	comp=N,23850μm,1.0s						
MIGL	**Miglionico**	**0.62**	**65**	⇑P	**Pg**	**22 38 46.8**	**-1.9**
MIGL				S	**Sn**	**22 38 57.3**	**-2.6**
MIGL				AML	AML		
	comp=E,47300μm,0.4s						
MIGL				AML	AML		
	comp=N,37350μm,1.1s						
PALZ	**Palazzo San Ge**	**0.63**	**18**	P	**Pb**	**22 38 47.1**	**-1.8**
PALZ				AML	AML		
	comp=E,18350μm,0.8s						
PALZ				AML	AML		
	comp=N,18800μm,0.3s						
PALZ				AML	AML		
	comp=E,18350μm,1.2s						
ORI	**Oriolo Calabro**	**0.64**	**116**	⇑P	**Pg**	**22 38 47.6**	**-1.3**
ORI				AML	AML		
	comp=E,22700μm,0.4s						
ORI				AML	AML		
	comp=N,26300μm,0.6s						
ORI				AML	AML		
	comp=N,26300μm,1.4s						
NSC3	**Nusco**	**0.67**	**319**	*i* P	**Pg**	**22 38 47.7**	**-1.8**
SALB	**San Lorenzo Be**	**0.68**	**133**	⇓P	**Pg**	**22 38 47.3**	**-2.5**
SALB				AML	AML		
	comp=N,9815μm,0.4s						
SALB				AML	AML		
	comp=E,13650μm,0.5s						
SNAL	**S. Angelo Dei**	**0.69**	**327**	⇓P	**Pg**	**22 38 48.5**	**-1.4**
SNAL				AML	AML		
	comp=E,13100μm,0.7s						
SNAL				AML	AML		
	comp=E,12000μm,0.8s						
SNAL				AML	AML		
	comp=N,15000μm,0.7s						
SNAL				AML	AML		
	comp=N,14600μm,0.7s						
RSF3	**Rocca San Feli**	**0.73**	**327**	*i* P	**Pg**	**22 38 49.0**	**-1.8**
CAFE	**Carife**	**0.77**	**333**	⇑P	**Pb**	**22 38 50.0**	**-1.2**
CAFE				AML	AML		
	comp=E,12950μm,1.6s						
CAFE				AML	AML		
	comp=E,13250μm,1.5s						
CAFE				AML	AML		
	comp=N,7920μm,0.7s						
CAFE				AML	AML		
	comp=E,12950μm,0.4s						
CAFE				AML	AML		
	comp=N,8180μm,0.7s						
CAFE				AML	AML		
	comp=E,13250μm,0.5s						
MTMR	**Montemarano**	**0.78**	**317**	P	**Pg**	**22 38 49.6**	**-2.0**
MTMR				AML	AML		
	comp=E,34850μm,0.5s						
MTMR				AML	AML		
	comp=N,27100μm,0.5s						
MRVN	**Minervino Murg**	**0.81**	**28**	S	**Sn**	**22 39 04.1**	**-0.4**
MATE	**Matera**	**0.82**	**68**	⇑P	**Pn**	**22 38 51.9**	**-1.2**
MATE				⇑S	**Sn**	**22 39 05.6**	**+0.8**
MATE	**Matera**	**0.82**	**68**	P	**Pg**	**22 38 49.6**	**-2.8**
MATE				AML	AML		
	comp=E,11450μm,0.4s						
MATE				AML	AML		
	comp=N,15550μm,0.3s						
SGTA	**Sant Agata di**	**0.83**	**342**	⇓P	**Pb**	**22 38 51.0**	**-1.2**

SGTA				AML	AML		
	comp=E,9245µm,0.6s						
SGTA				AML	AML		
	comp=E,9535µm,0.6s						
SGTA				AML	AML		
	comp=N,5940µm,1.1s						
SGTA				AML	AML		
	comp=N,5850µm,1.1s						
SGTA				AML	AML		
	comp=E,9245µm,1.4s						
SGTA				AML	AML		
	comp=E,9535µm,1.4s						
CET2	**Cetraro**	**0.84**	**166**	⇑P	**Pg**	**22 38 50.5**	**-2.2**
CET2				AML	AML		
	comp=E,8960µm,0.3s						
CET2				AML	AML		
	comp=N,20300µm,0.5s						
CET2				AML	AML		
	comp=N,20300µm,1.5s						
TDS	**Terranova Siba**	**0.84**	**144**	P	**Pg**	**22 38 50.7**	**-2.1**
TDS				AML	AML		
	comp=N,2865µm,1.1s						
TDS				AML	AML		
	comp=E,2410µm,0.8s						
AMUR	**Altamura**	**0.89**	**51**	P	**Pg**	**22 38 50.8**	**-2.8**
AMUR				AML	AML		
	comp=E,12400µm,0.4s						
AMUR				AML	AML		
	comp=N,14400µm,0.8s						
LTRZ	**Laterza**	**0.89**	**73**	P	**Pg**	**22 38 51.2**	**-2.5**
LTRZ				AML	AML		
	comp=N,13300µm,0.4s						
LTRZ				AML	AML		
	comp=E,9815µm,0.9s						
LTRZ				AML	AML		
	comp=N,846µm,1.2s						
LTRZ				AML	AML		
	comp=N,850µm,1.2s						
LTRZ				AML	AML		
	comp=N,850µm,0.8s						
LTRZ				AML	AML		
	comp=E,10250µm,0.9s						
BIOG	**Biogem**	**0.95**	**333**	P	**Pb**	**22 38 53.7**	**-0.7**
MRB1	**Monte Rocchett**	**0.95**	**325**	P	**Pg**	**22 38 53.4**	**-1.6**
MRB1				AML	AML		
	comp=N,16600µm,0.8s						
MRB1				AML	AML		
	comp=N,17000µm,0.8s						
MRB1				AML	AML		
	comp=E,12350µm,0.4s						
MRB1				AML	AML		
	comp=N,17000µm,1.2s						
MRB1				AML	AML		
	comp=E,12200µm,0.4s						
MRB1				AML	AML		
	comp=N,16600µm,1.2s						
VCRE	**Vesuvio Crater**	**1.07**	**296**	P	**Pg**	**22 38 55.6**	**-1.6**
VCRE				AML	AML		
	comp=E,16750µm,0.6s						
VCRE				AML	AML		
	comp=N,17050µm,1.0s						
VCRE				AML	AML		
	comp=N,17050µm,1.0s						
VTIR	**Vesuvio Tirone**	**1.07**	**296**	P	**Pg**	**22 38 55.5**	**-1.7**
VTIR				AML	AML		
	comp=N,4180µm,0.8s						
VTIR				AML	AML		
	comp=E,5805µm,0.4s						
VBKN	**Vesuvio Bunker**	**1.08**	**297**	P	**Pg**	**22 38 55.4**	**-1.9**
VBKN				AML	AML		
	comp=E,13800µm,0.5s						
VBKN				AML	AML		
	comp=N,12600µm,0.6s						
CRTO	**Cratere Ovest,**	**1.08**	**296**	P	**Pg**	**22 38 55.7**	**-1.7**
CRTO				AML	AML		
	comp=E,34100µm,0.5s						
CRTO				AML	AML		
	comp=N,27700µm,0.5s						
PAOL	**Paolisi**	**1.10**	**309**	P	**Pg**	**22 38 55.7**	**-2.0**
PAOL				AML	AML		
	comp=E,5400µm,1.6s						
PAOL				AML	AML		
	comp=N,6050µm,0.6s						
PAOL				AML	AML		
	comp=E,5630µm,1.6s						
PAOL				AML	AML		
	comp=N,6240µm,0.6s						
PAOL				AML	AML		
	comp=E,5630µm,0.4s						
PAOL				AML	AML		
	comp=E,5400µm,0.4s						
PAOL				AML	AML		
	comp=N,6240µm,1.4s						
PAOL				AML	AML		
	comp=N,6050µm,1.4s						
MOCO	**Biccari - m.te**	**1.10**	**338**	P	**Pb**	**22 38 56.3**	**-0.7**
MOCO				AML	AML		
	comp=E,3410µm,0.5s						
MOCO				AML	AML		
	comp=N,2245µm,0.4s						
MOCO				AML	AML		
	comp=E,3520µm,0.5s						
MOCO				AML	AML		
	comp=N,2365µm,0.4s						
MOCO				AML	AML		
	comp=E,3520µm,1.5s						
MOCO				AML	AML		
	comp=E,3410µm,1.5s						
OVO	**Vesuviano**	**1.10**	**296**	P	**Pg**	**22 38 56.0**	**-1.7**
OVO				AML	AML		
	comp=E,10100µm,0.5s						
OVO				AML	AML		
	comp=E,10100µm,1.5s						
OVO				AML	AML		
	comp=N,12750µm,0.7s						
NOCI	**Noci**	**1.13**	**67**	P	**Pg**	**22 38 55.5**	**-2.7**
NOCI				AML	AML		
	comp=E,13300µm,0.5s						
NOCI				AML	AML		
	comp=N,12700µm,0.4s						
CELI	**Celico**	**1.13**	**146**	P	**Pg**	**22 38 55.9**	**-2.3**
CELI				AML	AML		
	comp=N,3015µm,0.9s						
CELI				AML	AML		
	comp=E,4360µm,1.1s						
CELI				AML	AML		
	comp=N,3015µm,1.1s						
CELI				AML	AML		
	comp=N,6435µm,0.7s						
CELI				AML	AML		
	comp=E,9420µm,1.1s						
SPS2	**Spezzano della**	**1.16**	**155**	P	**Pn**	**22 38 55.9**	**-1.9**
SPS2				AML	AML		
	comp=E,1660µm,0.5s						
SPS2				AML	AML		
	comp=N,1730µm,0.3s						
SPS2				AML	AML		
	comp=N,1730µm,1.7s						
CAR1	**CAROLEI**	**1.16**	**160**	⇑P	**Pn**	**22 38 55.5**	**-2.3**
CAR1				AML	AML		
	comp=N,6315µm,1.3s						
CAR1				AML	AML		
	comp=E,7020µm,0.5s						
CAR1				AML	AML		
	comp=N,6710µm,1.3s						
CAR1				AML	AML		
	comp=E,6920µm,0.6s						
CAR1				AML	AML		
	comp=N,6710µm,0.7s						
CAR1				AML	AML		
	comp=N,6315µm,0.7s						
VITU	**Vitulano (BN)**	**1.17**	**316**	P	**Pg**	**22 38 57.3**	**-1.6**
VITU				AML	AML		
	comp=E,3190µm,0.5s						
VITU				AML	AML		
	comp=N,11450µm,0.5s						
VITU				AML	AML		
	comp=N,11100µm,0.5s						
VITU				AML	AML		
	comp=E,13450µm,0.7s						
PIPA	**Pietrapaola**	**1.22**	**135**	P	**Pn**	**22 38 56.8**	**-1.7**
PIPA				AML	AML		
	comp=N,2095µm,1.6s						
PIPA				AML	AML		
	comp=E,2625µm,0.7s						
PIPA				AML	AML		
	comp=N,2035µm,1.6s						
PIPA				AML	AML		
	comp=N,2095µm,0.4s						
PIPA				AML	AML		
	comp=N,2035µm,0.4s						
PIPA				AML	AML		
	comp=E,2690µm,0.7s						
TAR1	**Taranto**	**1.22**	**81**	P	**Pg**	**22 38 56.4**	**-3.6**
TAR1				AML	AML		
	comp=E,5065µm,1.1s						
TAR1				AML	AML		
	comp=N,5095µm,0.5s						
TAR1				AML	AML		
	comp=E,5065µm,0.9s						
COLB	**Campi Flegrei**	**1.27**	**292**	P	**Pn**	**22 38 58.7**	**-0.6**
CSFT	**Campi Flegrei**	**1.28**	**293**	P	**Pn**	**22 38 59.4**	**0.0**
SACR	**S. Croce Del S**	**1.29**	**325**	P	**Pb**	**22 38 59.6**	**-0.6**
SACR				AML	AML		
	comp=E,3305µm,0.8s						
SACR				AML	AML		
	comp=N,2655µm,1.2s						
SACR				AML	AML		
	comp=E,3380µm,0.7s						
SACR				AML	AML		
	comp=N,2725µm,1.2s						
SACR				AML	AML		
	comp=E,3380µm,1.3s						
SACR				AML	AML		
	comp=N,2725µm,0.8s						
SACR				AML	AML		
	comp=N,2655µm,0.8s						
CPOZ	**Campi Flegrei,**	**1.29**	**292**	P	**Pn**	**22 38 58.7**	**-0.9**
GATE	**Gambatesa**	**1.31**	**333**	P	**Pn**	**22 39 00.4**	**+0.6**
GATE				AML	AML		
	comp=E,2215µm,0.9s						
GATE				AML	AML		
	comp=N,2485µm,0.5s						
GATE				AML	AML		
	comp=E,2205µm,0.9s						
GATE				AML	AML		
	comp=E,2215µm,1.1s						
GATE				AML	AML		
	comp=N,2510µm,0.5s						
GATE				AML	AML		
	comp=E,2205µm,1.1s						
PTRJ	**Pietraroja**	**1.35**	**319**	P	**Pn**	**22 39 00.4**	**-0.1**
PTRJ				AML	AML		
	comp=E,3480µm,0.9s						
PTRJ				AML	AML		
	comp=N,3430µm,0.9s						
PTRJ				AML	AML		
	comp=E,18µm,0.6s						
PTRJ				AML	AML		
	comp=E,3480µm,1.1s						
PTRJ				AML	AML		
	comp=N,3270µm,0.9s						
SGRT	**San Giovanni R**	**1.41**	**1**	⇑P	**Pn**	**22 39 00.0**	**-1.2**
SGRT				AML	AML		
	comp=E,4255µm,1.2s						
SGRT				AML	AML		
	comp=N,3490µm,1.3s						
SGRT				AML	AML		
	comp=N,3490µm,0.7s						
APRC	**Apricena**	**1.41**	**355**	⇑P	**Pn**	**22 39 00.2**	**-1.1**
APRC				AML	AML		
	comp=E,5720µm,0.3s						
APRC				AML	AML		
	comp=N,7795µm,0.3s						
APRC				AML	AML		
	comp=N,7795µm,1.7s						
TIP	**Timpagrande**	**1.42**	**145**	P	**Pn**	**22 39 01.4**	**-0.1**
TIP				AML	AML		
	comp=E,942µm,0.9s						
TIP				AML	AML		
	comp=E,1112µm,0.9s						
TIP				AML	AML		
	comp=N,853µm,0.8s						
TIP				AML	AML		
	comp=N,702µm,0.9s						
TIP				AML	AML		
	comp=E,1112µm,1.1s						
TIP				AML	AML		
	comp=E,942µm,1.1s						
MELA	**Melanico ??? S**	**1.43**	**342**	P	**Pn**	**22 39 01.0**	**-0.4**
MELA				AML	AML		
	comp=E,5945µm,1.4s						
MELA				AML	AML		
	comp=E,6205µm,1.4s						
MELA				AML	AML		
	comp=N,5230µm,0.4s						
MELA				AML	AML		
	comp=N,5415µm,0.4s						
IOCA	**Ischia Osserva**	**1.43**	**287**	P	**Pn**	**22 39 00.7**	**-0.7**
IOCA				AML	AML		
	comp=E,5770µm,0.5s						
IOCA				AML	AML		
	comp=N,5210µm,0.5s						
IOCA				AML	AML		
	comp=E,5770µm,1.5s						
PIGN	**Pignataro Magg**	**1.44**	**307**	P	**Pn**	**22 39 01.7**	**+0.2**
PIGN				AML	AML		
	comp=E,1880µm,0.5s						
PIGN				AML	AML		
	comp=N,2415µm,0.6s						
PIGN				AML	AML		
	comp=E,1725µm,0.9s						
PIGN				AML	AML		
	comp=E,1880µm,1.5s						
PIGN				AML	AML		
	comp=N,2690µm,0.7s						
CIGN	**Sant'Elia a Pi**	**1.44**	**335**	P	**Pg**	**22 39 02.0**	**-2.1**
CIGN				AML	AML		
	comp=E,1735µm,1.5s						
CIGN				AML	AML		
	comp=N,1275µm,0.5s						
IMTC	**Ischia Forio M**	**1.44**	**286**	P	**Pn**	**22 39 01.0**	**-0.6**
IMTC				AML	AML		
	comp=E,2265µm,0.6s						
IMTC				AML	AML		
	comp=N,3620µm,0.7s						
IMTC				AML	AML		
	comp=E,2265µm,1.4s						
SGG	**Gregorio Mates**	**1.44**	**316**	⇑P	**Pn**	**22 39 01.9**	**+0.2**
SGG				AML	AML		
	comp=E,10.0nm,0.9s						
SGG				AML	AML		
	comp=N,12nm,0.5s						
SGG				AML	AML		
	comp=E,3310µm,0.9s						
SGG				AML	AML		
	comp=E,10.0nm,1.1s						
SGG				AML	AML		
	comp=E,3310µm,1.1s						
SGG				AML	AML		
	comp=N,3755µm,0.5s						
LADO	**San Nicola del**	**1.45**	**137**	P	**Pn**	**22 39 02.5**	**+0.8**
IFOR	**Ischia Forio P**	**1.45**	**285**	P	**Pn**	**22 39 00.9**	**-0.9**
IFOR				AML	AML		
	comp=E,11900µm,0.6s						
IFOR				AML	AML		
	comp=N,15850µm,0.8s						
BSSO	**Busso**	**1.46**	**325**	P	**Pb**	**22 39 02.3**	**-0.8**
BSSO				AML	AML		
	comp=N,2850µm,0.8s						
BSSO				AML	AML		
	comp=E,1410µm,0.6s						
BSSO				AML	AML		
	comp=N,1210µm,0.8s						
BSSO				AML	AML		
	comp=E,3405µm,0.7s						
SERS	**Sersale**	**1.52**	**149**	P	**Pn**	**22 39 02.1**	**-0.6**
SERS				AML	AML		
	comp=E,1445µm,1.1s						
SERS				AML	AML		
	comp=N,1945µm,1.2s						
SERS				AML	AML		
	comp=E,1820µm,1.2s						
SERS				AML	AML		
	comp=N,1430µm,1.1s						
SERS				AML	AML		
	comp=E,1820µm,0.8s						
SERS				AML	AML		
	comp=N,1430µm,0.9s						
SERS				AML	AML		
	comp=N,1945µm,0.8s						
SERS				AML	AML		
	comp=E,1445µm,0.9s						
VAGA	**Valle Agricola**	**1.54**	**314**	P	**Pn**	**22 39 03.0**	**0.0**
VAGA				AML	AML		
	comp=E,2410µm,0.7s						
VAGA				AML	AML		
	comp=N,3605µm,1.4s						
VAGA				AML	AML		
	comp=N,3705µm,1.4s						
VAGA				AML	AML		
	comp=N,3705µm,0.6s						
VAGA				AML	AML		
	comp=N,3605µm,0.6s						
VAGA				AML	AML		
	comp=E,2445µm,0.6s						
IST3	**Stromboli F**	**1.59**	**193**	P	**Pn**	**22 39 02.7**	**-0.9**
MODR	**Mondragone**	**1.60**	**301**	P	**Pn**	**22 39 03.7**	**-0.1**
ISTR	**Stromboli Gino**	**1.61**	**194**	P	**Pn**	**22 39 02.9**	**-1.0**
ISTR				AML	AML		
	comp=N,2365µm,0.5s						
ISTR				AML	AML		
	comp=E,2330µm,0.5s						
GRI	**Girifalco**	**1.62**	**160**	P	**Pn**	**22 39 03.2**	**-1.0**
MESG	**Mesagne**	**1.66**	**81**	P	**Pn**	**22 39 04.0**	**-0.5**
TRIV	**Trivento**	**1.66**	**329**	P	**Pb**	**22 39 05.5**	**-1.0**
TRIV				AML	AML		
	comp=E,2115µm,0.8s						
TRIV				AML	AML		
	comp=N,2270µm,1.0s						
MIDA	**Miranda**	**1.69**	**320**	P	**Pn**	**22 39 05.5**	**+0.4**
MIDA				AML	AML		
	comp=N,1345µm,0.8s						
MIDA				AML	AML		
	comp=E,1940µm,1.0s						
MIDA				AML	AML		
	comp=N,1305µm,0.6s						
MIDA				AML	AML		
	comp=N,1345µm,1.2s						
MIDA				AML	AML		
	comp=E,1855µm,1.0s						
JOPP	**Joppolo**	**1.74**	**175**	⇑P	**Pn**	**22 39 05.0**	**-0.8**
JOPP				AML	AML		
	comp=E,1355µm,0.6s						
JOPP				AML	AML		
	comp=E,1355µm,1.4s						
JOPP				AML	AML		
	comp=N,1190µm,0.8s						
CERA	**Filignano**	**1.78**	**315**	P	**Pn**	**22 39 06.7**	**+0.3**
CERA				AML	AML		
	comp=E,1900µm,0.6s						
CERA				AML	AML		
	comp=N,2395µm,0.7s						
CERA				AML	AML		
	comp=E,1945µm,0.6s						
CERA				AML	AML		
	comp=N,2510µm,0.7s						
CERA				AML	AML		
	comp=N,2395µm,1.3s						
CERA				AML	AML		
	comp=N,2510µm,1.3s						
CERA				AML	AML		
	comp=E,1945µm,1.4s						
CERA				AML	AML		
	comp=E,1900µm,1.4s						
RNI2	**Rionero Sannit**	**1.79**	**320**	⇑P	**Pn**	**22 39 07.2**	**+0.7**
RNI2				AML	AML		
	comp=E,1925µm,0.9s						
RNI2				AML	AML		
	comp=N,1460µm,1.3s						
RNI2				AML	AML		
	comp=N,1440µm,1.3s						
RNI2				AML	AML		
	comp=E,1915µm,0.9s						
RNI2				AML	AML		
	comp=N,1460µm,0.7s						
RNI2				AML	AML		
	comp=N,1440µm,0.7s						
VENT	**Ventotene**	**1.79**	**285**	P	**Pn**	**22 39 05.1**	**-1.3**
VENT				AML	AML		
	comp=E,1183µm,1.0s						
VENT				AML	AML		
	comp=N,956µm,1.1s						
VENT				AML	AML		
	comp=N,956µm,0.9s						
PLAC	**Placanica**	**1.98**	**163**	P	**Pn**	**22 39 08.2**	**-0.8**
PLAC				AML	AML		
	comp=E,1370µm,1.0s						
PLAC				AML	AML		
	comp=N,1395µm,1.0s						
PLAC				AML	AML		
	comp=E,1370µm,1.0s						
PLAC				AML	AML		
	comp=N,1395µm,1.0s						
PLAC				AML	AML		
	comp=N,1280µm,0.5s						
PLAC				AML	AML		
	comp=E,1315µm,0.5s						
IVGP	**Vulcano Grotta**	**2.03**	**197**	P	**Pn**	**22 39 08.5**	**-1.2**
IVGP				AML	AML		
	comp=N,912µm,0.6s						
IVGP				AML	AML		
	comp=N,912µm,1.4s						
IVGP				AML	AML		
	comp=E,976µm,0.5s						
VPL	**Vulcano Piano**	**2.04**	**196**	P	**Pn**	**22 39 08.4**	**-1.4**
VPL				AML	AML		
	comp=E,4145µm,0.6s						
VPL				AML	AML		
	comp=N,5080µm,0.5s						
VPL				AML	AML		
	comp=N,5080µm,1.5s						
VPL				AML	AML		
	comp=E,4145µm,1.4s						
LPEL	**Lama dei Pelig**	**2.05**	**326**	P	**Pn**	**22 39 10.9**	**+0.9**
LPEL				AML	AML		
	comp=N,828µm,0.6s						
LPEL				AML	AML		
	comp=E,844µm,1.0s						
LRP	**Arpino**	**2.06**	**310**	P	**Pn**	**22 39 10.2**	**0.0**
LRP				AML	AML		
	comp=N,468µm,0.7s						
LRP				AML	AML		
	comp=E,506µm,1.4s						
MSRU	**Castanea**	**2.09**	**184**	P	Pn	22 39 08.6	-1.9
MSRU				AML	AML		
	comp=E,1780µm,0.4s						
MSRU				AML	AML		
	comp=N,1525µm,0.5s						
IACL	**Alicudi**	**2.09**	**210**	P	**Pn**	**22 39 09.0**	**-1.5**
IACL				AML	AML		
	comp=E,570µm,1.1s						
IACL				AML	AML		
	comp=N,562µm,0.5s						
IACL				AML	AML		
	comp=E,570µm,0.9s						
MILZ	**Milazzo**	**2.10**	**190**	P	**Pn**	**22 39 09.1**	**-1.6**
MILZ				AML	AML		
	comp=N,1195µm,0.5s						
MILZ				AML	AML		
	comp=E,1470µm,0.6s						
SCTE	**Santa Cesarea**	**2.14**	**97**	P	**Pn**	**22 39 11.3**	**+0.1**
VVLD	**Villa Vallelon**	**2.19**	**315**	P	**Pn**	**22 39 11.8**	**-0.1**
VVLD				AML	AML		
	comp=E,732µm,0.5s						
VVLD				AML	AML		
	comp=E,732µm,1.5s						
VVLD				AML	AML		
	comp=N,768µm,0.7s						
GIUL	**Giuliano Di Ro**	**2.21**	**304**	P	**Pn**	**22 39 11.7**	**-0.6**
GIUL				AML	AML		
	comp=N,346µm,0.9s						
GIUL				AML	AML		
	comp=N,346µm,1.1s						
GIUL				AML	AML		
	comp=E,331µm,0.8s						
SOI	**Samo**	**2.29**	**173**	P	**Pn**	**22 39 11.9**	**-1.4**
SOI				AML	AML		
	comp=E,644µm,0.7s						
SOI				AML	AML		
	comp=E,644µm,1.3s						
SOI				AML	AML		
	comp=N,781µm,0.9s						
T0110	**Collepietro**	**2.37**	**323**	P	**Pn**	**22 39 15.3**	**+0.9**
T0110				AML	AML		
	comp=N,1255µm,0.5s						
T0110				AML	AML		
	comp=E,1230µm,0.7s						
MUCR	**Ucria**	**2.39**	**196**	P	**Pn**	**22 39 13.4**	**-1.4**
AIO	**Antillo**	**2.40**	**189**	P	**Pn**	**22 39 13.2**	**-1.6**
AIO				AML	AML		

comp=E,363µm,0.5s
AIO AML AML
comp=N,596µm,0.5s
AIO AML AML
comp=E,363µm,1.5s
MSFR San Fratello 2.47 201 P **Pn 22 39 14.4 -1.3**
MSFR AML AML
comp=E,170µm,0.9s
MSFR AML AML
comp=N,208µm,0.3s
FAGN Fagnano 2.49 321 P **Pn 22 39 16.9 +0.8**
FAGN AML AML
comp=N,1085µm,0.5s
FAGN AML AML
comp=E,1275µm,0.6s
MNO Monte Soro 2.54 198 P **Pn 22 39 16.5 -0.4**
MNO AML AML
comp=E,950µm,0.6s
MNO AML AML
comp=N,682µm,0.6s
CERT Cerreto 2.60 309 P **Pn 22 39 17.8 +0.2**
CERT AML AML
comp=N,182µm,1.0s
CERT AML AML
comp=E,321µm,0.5s
EPZF Pizzo Felice 2.60 195 P **Pn 22 39 17.5 -0.2**
PLLN Pollina 2.65 208 P **Pn 22 39 17.8 -0.4**
PLLN AML AML
comp=N,558µm,0.5s
PLLN AML AML
comp=E,590µm,0.7s
GIB Gibilmanna 2.69 209 P **Pn 22 39 18.5 -0.3**
GIB AML AML
comp=E,318µm,0.4s
GIB AML AML
comp=N,374µm,0.5s
CSLB Castelbuono 2.73 208 P **Pn 22 39 18.3 -1.0**
CSLB AML AML
comp=N,98µm,0.5s
CSLB AML AML
comp=E,89µm,0.5s
CSLB AML AML
comp=N,98µm,1.5s
GALF Gagliano Caste 2.78 199 P **Pn 22 39 19.8 -0.2**
GALF AML AML
comp=E,559µm,0.7s
GALF AML AML
comp=E,559µm,1.3s
GALF AML AML
comp=N,524µm,0.6s
PETRA Petralia Sopra 2.80 207 P **Pn 22 39 19.6 -0.8**
PETRA AML AML
comp=E,292µm,0.6s
PETRA AML AML
comp=N,317µm,0.6s
PETRA AML AML
comp=E,292µm,1.4s
RM33 Pellescritta (2.86 320 P **Pn 22 39 21.7 +0.6**
RM33 AML AML
comp=E,544µm,0.9s
RM33 AML AML
comp=N,284µm,1.2s
RM33 AML AML
comp=E,440µm,0.8s
RM33 AML AML
comp=N,356µm,1.1s
EPOZ Pozzillo 2.87 190 P Pn 22 39 19.0 -2.2
HVAR Hvar 2.88 11 P **Pn 22 39 20.3 -1.1**
SMA1 SAN MARTINO 2.89 323 P **Pn 22 39 23.3 +1.7**
SMA1 AML AML
comp=N,370µm,0.9s
SMA1 AML AML
comp=E,474µm,0.7s
VLO Vlora 2.90 86 P **Pn 22 39 22.4 +0.8**
VLO S **Sn 22 39 57.6 +1.6**
comp=E,2µm,0.4s
STON Ston 2.93 30 *e*Pn **Pn 22 39 20.7 -1.4**
STON *e*Sn **Sn 22 39 55.5 -1.4**
STON Ston 2.93 30 ⇑*i*Pn **Pn 22 39 20.6 -1.5**
HCY Herceg Novi 2.97 44 ⇑*i*Pn **Pn 22 39 21.1 -1.5**
HCY Herceg Novi 2.97 44 ⇓*i*Pn **Pn 22 39 21.5 -1.1**
OFFI Offida 2.99 330 P **Pn 22 39 24.7 +1.7**
LNSS Leonessa 3.01 319 P **Pn 22 39 24.6 +1.3**
LNSS AML AML
comp=E,288µm,0.8s
LNSS AML AML
comp=N,266µm,0.6s
VAE Valguarnera 3.04 200 Pn **Pn 22 39 25.9 +2.3**
comp=N,7.2nm,0.3s,baz=20,slow=7.4,SNR=24
comp=N,33nm,0.6s
T1214 Arquata del Tr 3.05 323 P **Pn 22 39 25.9 +2.0**
HLNI Lentini 3.06 192 P **Pn 22 39 23.5 -0.4**
HAGA Augusta 3.09 188 P **Pn 22 39 23.7 -0.5**
HAGA AML AML
comp=E,374µm,0.8s
HAGA AML AML
comp=N,370µm,1.3s
HAGA AML AML
comp=E,374µm,1.2s
TREB Trebinje 3.09 39 *e*Pn **Pn 22 39 23.5 -0.8**
TREB *e*Sn **Sn 22 39 59.4 -1.4**
TREB Trebinje 3.09 39 ⇑*i*Pn **Pn 22 39 23.4 -0.8**
BUM Brajici-Budva 3.10 50 ⇓*i*Pn **Pn 22 39 23.7 -0.7**
BUM *e*Sn **Sn 22 40 00.4 -0.6**
MMO1 Montemonaco 3.11 326 P **Pn 22 39 26.3 +1.7**
ULC Ulcinj 3.12 58 ⇑*i*Pn **Pn 22 39 24.4 -0.4**
ULC *e*Sn **Sn 22 40 01.6 -0.1**
MF5 Montefalcone A 3.13 328 P **Pn 22 39 26.3 +1.5**
MF5 AML AML
comp=N,506µm,0.6s
MF5 AML AML
comp=E,464µm,0.9s
NRCA Norcia 3.15 323 P **Pn 22 39 27.2 +2.0**
MC2 Monte Cornacci 3.18 325 P **Pn 22 39 27.3 +1.6**
DRME Dracevica, Mon 3.21 54 ⇑*i*Pn **Pn 22 39 25.1 -0.8**
DRME Dracevica, Mon 3.21 54 ⇑*i*Pn **Pn 22 39 25.3 -0.6**
DRME *e*Sn **Sn 22 40 04.1 +0.5**
KEK Kerkira 3.21 100 P **Pn 22 39 26.5 +0.6**
KEK S **Sn 22 40 04.0 +0.3**
comp=E,532nm,0.4s
KEK Kerkira 3.21 100 *e*P **Pn 22 39 26.7 +0.8**
GUMA Gualdo di Mace 3.24 328 P **Pn 22 39 27.6 +1.2**
GUMA AML AML
comp=E,778µm,0.5s
GUMA AML AML
comp=N,702µm,0.5s
GUMA AML AML
comp=E,778µm,1.5s
GUMA AML AML
comp=E,945µm,0.4s
GUMA AML AML
comp=N,760µm,0.5s
CEME Cevo 3.27 47 ⇓*i*Pn **Pn 22 39 26.3 -0.5**
CEME *e*Sn **Sn 22 40 05.4 +0.2**
RAFF Raffo Rosso 3.29 199 P **Pn 22 39 27.8 +0.7**
RAFF AML AML
comp=E,215µm,1.6s
RAFF AML AML
comp=N,188µm,0.7s
RAFF AML AML
comp=E,215µm,0.4s
MEU Monte Lauro 3.30 191 P **Pn 22 39 27.4 +0.2**
MEU AML AML
comp=E,395µm,1.1s
MEU AML AML
comp=N,456µm,0.5s
MEU AML AML
comp=E,395µm,0.9s
MEU AML AML
comp=N,456µm,1.5s
T1221 Campello sul C 3.30 320 P **Pn 22 39 29.2 +2.0**
TIR Tirane 3.31 71 ⇑P **Pn 22 39 28.1 +0.7**
TIR Tirane 3.31 71 P **Pn 22 39 27.7 +0.4**
TIR S **Sn 22 40 08.2 +1.9**
comp=N,172nm,0.7s
TIR Tirane 3.31 71 *e*P **Pn 22 39 26.6 -0.7**
TIR Tirane 3.31 71 *e*Pn **Pn 22 39 27.7 +0.4**
TIR *e*Sn **Sn 22 40 06.1 -0.2**
CSP1 Cessapalombo 3.32 327 P **Pn 22 39 29.0 +1.5**
CSP1 AML AML
comp=E,346µm,1.6s
CSP1 AML AML
comp=N,371µm,0.7s
CSP1 AML AML
comp=E,346µm,0.4s
CSP1 AML AML
comp=N,371µm,1.3s
BRY Bratogost 3.32 39 ⇑*i*Pn **Pn 22 39 27.2 -0.4**
BRY Bratogost 3.32 39 ⇑*i*Pn **Pn 22 39 26.8 -0.8**
BRY *e*Sn **Sn 22 40 06.2 -0.5**
FDMO Fiordimonte 3.32 325 P **Pn 22 39 28.9 +1.3**
SRN Sarande 3.33 97 P **Pn 22 39 28.2 +0.7**
CLTB Caltabellotta 3.38 216 P **Pn 22 39 29.9 +1.6**
CESI CESI - Serrava 3.38 323 P **Pn 22 39 29.8 +1.5**
CESI AML AML
comp=E,165µm,0.5s
CESI AML AML
comp=N,197µm,0.4s
CESI AML AML
comp=E,165µm,1.5s
CESI AML AML
comp=N,197µm,1.6s
PDG Podgorica 3.39 51 ⇑P **Pn 22 39 29.1 +0.8**
PDG Podgorica 3.39 51 *e*P **Pn 22 39 27.4 -0.9**
PDG Podgorica 3.39 51 *e*Pn **Pn 22 39 27.6 -0.7**
PDG *e*Sn **Sn 22 40 07.1 -1.0**
PDG Podgorica 3.39 51 ⇑*i*Pn **Pn 22 39 27.5 -0.9**
PDG Podgorica 3.39 51 P **Pn 22 39 28.0 -0.4**
PDG AML AML
comp=E,412µm,0.4s
PDG AML AML
comp=E,320µm,0.4s
PDG AML AML
comp=N,253µm,1.0s
PDG AML AML
comp=E,320µm,1.6s
PDG AML AML
comp=N,320µm,0.7s
PDG AML AML
comp=N,253µm,1.0s
PDG AML AML
comp=E,412µm,1.6s
PDG Podgorica 3.39 51 ⇓*i*Pn **Pn 22 39 27.7 -0.6**
PDG *e*Sn **Sn 22 40 08.8 +0.7**
MOMA Monte Martano 3.40 317 P **Pn 22 39 30.2 +1.7**
MOMA AML AML
comp=E,132µm,0.7s
MOMA AML AML
comp=N,168µm,0.5s
MOMA AML AML
comp=E,132µm,1.3s
MOMA AML AML
comp=N,168µm,1.5s
MMGO Monte Magaggia 3.42 219 P **Pn 22 39 29.4 +0.6**
MMGO AML AML
comp=E,66µm,0.8s
MMGO AML AML
comp=N,93µm,0.4s
MMGO AML AML
comp=E,66µm,1.2s
NKME Niksic 3.44 44 ⇓*i*Pn **Pn 22 39 28.5 -0.6**
NKME *e*Sn **Sn 22 40 08.3 -1.1**
NEVS Nevesinje 3.45 31 *e*Pn **Pn 22 39 29.0 -0.3**
ASSB Assisi San Ben 3.53 321 P **Pn 22 39 31.6 +1.2**
ASSB AML AML
comp=E,156µm,1.4s
ASSB AML AML
comp=N,143µm,1.3s
ASSB AML AML
comp=E,156µm,0.6s
EL6 Elcito 3.56 328 P **Pn 22 39 31.7 +1.0**
EL6 AML AML
comp=N,376µm,0.4s
EL6 AML AML
comp=E,236µm,0.9s
IGT Igoumenitsa 3.65 101 P **Pn 22 39 33.1 +1.1**
IGT S **Sn 22 40 14.9 +0.2**
comp=E,215nm,1.1s
FOSV Fossato di Vic 3.67 324 P **Pn 22 39 33.6 +1.2**
FOSV AML AML
comp=E,118µm,0.8s
FOSV AML AML
comp=E,118µm,1.2s
FOSV AML AML
comp=N,151µm,0.6s
MGAB Montegabbione 3.71 315 P **Pn 22 39 34.0 +1.1**
MGAB AML AML
comp=N,109µm,0.4s
MGAB AML AML
comp=E,119µm,0.5s
UPM Unac-Piva 3.73 39 ⇑*i*Pn **Pn 22 39 33.4 +0.2**
UPM Unac-Piva 3.73 39 ⇓*i*Pn **Pn 22 39 32.9 -0.3**
UPM *e*Sn **Sn 22 40 16.6 -0.1**
LSK Leskovik 3.75 91 P **Pn 22 39 34.2 +0.7**
LSK S **Sn 22 40 18.3 +1.0**
ARVD Arcevia 3.76 328 P **Pn 22 39 34.0 +0.5**
ARVD AML AML
comp=E,95µm,0.6s
ARVD AML AML
comp=N,84µm,1.3s
ARVD AML AML
comp=E,95µm,1.4s
ARVD AML AML
comp=N,84µm,0.7s
SACS San Casciano d 3.79 313 P **Pn 22 39 34.8 +0.9**
KBN Korca 3.89 84 P **Pn 22 39 36.0 +0.7**
ATVO AVT- Monte Val 3.90 322 P **Pn 22 39 36.2 +0.7**
PVY Plav 3.91 54 ⇑*i*Pn **Pn 22 39 36.1 +0.5**
PVY *e*Sn **Sn 22 40 21.5 +0.4**
ATMI Monte Miggiano 3.93 320 P **Pn 22 39 38.8 +2.9**
OHR Ohrid 3.95 77 *e*Pn **Pn 22 39 37.3 +1.2**
OHR Ohrid 3.95 77 *i*Pn **Pn 22 39 37.4 +1.2**
PIEI Pieia 3.96 324 P **Pn 22 39 37.5 +1.1**
NARO Abbazia di Nar 4.00 326 P **Pn 22 39 38.0 +1.2**
NARO AML AML
comp=E,90µm,0.4s
NARO AML AML
comp=N,63µm,1.6s
NARO AML AML
comp=E,90µm,1.6s
NARO AML AML
comp=N,63µm,0.4s
JAN Janina 4.01 98 P **Pn 22 39 39.0 +2.0**
MAON Monte Argentar 4.02 303 P **Pn 22 39 36.8 -0.2**
MAON AML AML
comp=E,71µm,0.6s
MAON AML AML
comp=N,52µm,1.1s
MAON AML AML
comp=N,52µm,0.9s
MAON AML AML
comp=E,71µm,1.4s
IVA Berane 4.03 50 ⇓*i*Pn **Pn 22 39 37.9 +0.6**
IVA *e*Sn **Sn 22 40 25.4 +1.3**
APEC Apecchio 4.03 324 P **Pn 22 39 39.3 +2.0**
APEC AML AML
comp=E,110µm,1.1s
APEC AML AML
comp=N,122µm,0.6s
APEC AML AML
comp=E,110µm,0.9s
APEC AML AML
comp=N,122µm,1.4s
PLE Pljevlja 4.06 42 ⇑*i*Pn **Pn 22 39 38.4 +0.7**
PLE *e*Sn **Sn 22 40 24.7 -0.1**
NEST Nestorio 4.08 87 P **Pn 22 39 40.0 +1.9**
TSLK Tsoukalades, L 4.12 110 P **Pn 22 39 39.7 +1.3**
LKD2 Lefkada island 4.13 111 P **Pn 22 39 39.9 +1.2**
LKD2 S **Sn 22 40 27.9 +1.3**
KEF3 Kipouria, Keph 4.19 119 P **Pn 22 39 41.7 +2.3**
KEF3 S **Sn 22 40 31.3 +3.3**
MGRS Mrkonjic Grad 4.19 14 ⇑*i*Pn **Pn 22 39 41.5 +2.0**
NYDR Nydri-Lefkada 4.20 111 P **Pn 22 39 40.4 +1.0**
EVGI Lefkada island 4.20 113 P **Pn 22 39 40.7 +1.1**
KEF4 Livadi, Kephal 4.22 118 P **Pn 22 39 41.5 +1.8**
RUDO Rudo 4.26 39 ⇑*i*Pn **Pn 22 39 40.1 -0.3**
SJES Sjenica 4.32 46 *e*Pn **Pn 22 39 41.9 +0.6**
SJES *e*Sn **Sn 22 40 27.4 -3.9**
SJES Sjenica 4.32 46 ⇑*i*Pn **Pn 22 39 41.9 +0.6**
FNA Florina 4.34 82 P **Pn 22 39 42.0 +0.5**
FNA Florina 4.34 82 *e*P **Pn 22 39 42.1 +0.5**
FNA Florina 4.34 82 *e*Pn **Pn 22 39 42.3 +0.7**
FNA *e*Sn **Sn 22 40 30.1 -1.7**
KPRO Kipourio 4.36 93 P **Pn 22 39 43.8 +2.0**
PSDA Pessada-Kefalo 4.40 119 P **Pn 22 39 43.1 +0.9**
BBLS Lazići 4.47 37 *e*Pn **Pn 22 39 43.3 0.0**
BBLS *e*Sn **Sn 22 40 30.5 -4.3**
BBLS Lazići 4.47 37 ⇑*i*Pn **Pn 22 39 43.3 0.0**
BLY Banja Luka 4.53 13 *e*Pn **Pn 22 39 44.7 +0.6**
BLY *e*Sn **Sn 22 40 35.9 -0.4**
BLY Banja Luka 4.53 13 ⇓*i*Pn **Pn 22 39 43.6 -0.5**
BLY Banja Luka 4.53 13 P **Pn 22 39 44.3 +0.2**
SKO Skopje 4.63 68 *i*Pn **Pn 22 39 46.1 +0.7**
A051A Mrakovica 4.75 10 ⇑*i*Pn **Pn 22 39 46.6 -0.5**
LMD Lutirano 4.76 323 P **Pn 22 39 49.5 +2.2**
BRJN Brijuni 4.78 343 P **Pn 22 39 46.3 -1.1**
BRIS BRISIGHELLA 4.91 322 P **Pn 22 39 49.4 +0.1**
THL Klokotos Trika 4.92 97 P **Pn 22 39 51.3 +2.0**
DIVS Divibare 4.92 39 ⇑*i*Pn **Pn 22 39 45.5 -4.0**
VSL Villasalto 4.94 262 P **Pn 22 39 47.1 -2.5**
SELS Selova 4.96 53 *e*Pn **Pn 22 39 49.4 -0.7**
SELS *e*Sn **Sn 22 40 43.4 -3.6**
CGL Cagliari Serpe 5.03 261 P **Pn 22 39 48.7 -2.2**
TEKS Tekeris 5.06 33 *e*Pn **Pn 22 39 50.5 -0.9**
TEKS *e*Sn **Sn 22 40 46.8 -2.7**
TEKS Tekeris 5.06 33 *e*Pn **Pn 22 39 50.3 -1.1**
STIP Stip 5.09 73 *i*Pn **Pn 22 39 54.4 +2.6**
GRG Griva 5.13 81 *e*P **Pn 22 39 52.7 +0.3**
GRUS Gruza 5.14 45 *e*Pn **Pn 22 39 51.7 -0.7**
GRUS *e*Sn **Sn 22 40 48.4 -2.9**
BOJS Bojanci 5.16 356 ⇑*i*Pn **Pn 22 39 52.9 +0.1**
BOJS Bojanci 5.16 356 P **Pn 22 39 52.8 0.0**
BARS Barje 5.21 60 *e*Pn **Pn 22 39 53.3 -0.1**
BARS *e*Sn **Sn 22 40 49.0 -4.0**
TRUS Trudelj 5.21 40 *e*Pn **Pn 22 39 52.6 -0.8**
TRUS *e*Sn **Sn 22 40 49.2 -3.9**
AGG Agios Georgios 5.28 102 *e*P **Pn 22 39 56.7 +2.3**
VAY Valandovo 5.30 77 *i*Pn **Pn 22 39 56.7 +2.0**
SKDS Skadanscina 5.34 347 *i*Pn **Pn 22 39 54.8 -0.5**
SKDS *i*Sn **Sn 22 40 51.5 -4.8**
SKDS IAML 22 40 59.9
comp=Z,72nm,0.6s
CEY Cerknica 5.47 351 ⇑*i*Pn **Pn 22 39 56.0 -1.0**
PGF Pioggiola 5.50 296 *e*Pn **Pn 22 39 57.9 +0.5**
PGF Pioggiola 5.50 296 *e*Pn **Pn 22 39 58.4 +1.0**
PGF Pioggiola 5.50 296 P **Pn 22 39 57.5 0.0**
KLV Kalavryta, Ach 5.51 113 P **Pn 22 39 59.6 +2.0**
KNT Kendrikon 5.53 79 *e*P **Pn 22 39 57.7 -0.1**
BOSS Bosilegrad 5.53 65 *e*Pn **Pn 22 39 58.3 +0.5**
BOVS Bovan 5.55 52 ⇓P **Pn 22 39 57.5 -0.5**
BOVS Bovan 5.55 52 *e*Pn **Pn 22 39 56.9 -1.2**
PEHC Pehcevo 5.63 73 *i*Pn **Pn 22 39 60.0 +0.8**
FRGS Fruska Gora 5.68 31 ⇑P **Pn 22 39 59.1 -0.8**
FRGS Fruska Gora 5.68 31 *e*Pn **Pn 22 39 58.4 -1.5**
FRGS *e*Sn **Sn 22 41 00.0 -4.6**
FRGS Fruska Gora 5.68 31 ⇑*i*Pn **Pn 22 39 57.8 -2.1**
KKB Krupnik 5.81 73 *i*P **Pn 22 40 01.8 +0.2**
SABO M.te Sabotino 5.83 345 P **Pn 22 40 01.2 -0.9**
XOR Xorichti 5.85 97 *e*P **Pn 22 40 03.3 +1.1**
ZAPS Zavoj 5.95 58 *e*Pn **Pn 22 40 03.8 +0.2**
ZAGS Zajecar 5.97 52 *e*Pn **Pn 22 40 03.0 -0.8**
KUBS Kucevo 6.00 45 *e*Pn **Pn 22 40 03.4 -0.9**
SRS Serrai 6.04 80 *e*P **Pn 22 40 04.6 -0.3**
SRS Serrai 6.04 80 *e*Pn **Pn 22 40 04.6 -0.3**
VTS Vitosha 6.10 66 ⇓P **Pn 22 40 06.2 +0.5**
VTS ⇑S **Sn 22 41 16.6 +1.5**
VTS Vitosha 6.10 66 *e*P **Pn 22 40 05.5 -0.2**
VTS Vitosha 6.10 66 *e*Pn **Pn 22 40 05.8 +0.1**
VTS Vitosha 6.10 66 *i*P **Pn 22 40 05.8 +0.1**
VTS Vitosha 6.10 66 P **Pn 22 40 05.8 +0.1**
KOGS Kog 6.11 4 P **Pn 22 40 05.0 -0.7**
POLC Polcenigo 6.14 339 P **Pn 22 40 05.6 -0.5**
BLKB Belogradchik 6.14 56 ⇓S **Sn 22 41 14.8 -1.2**
MMB Musomishta 6.21 76 P **Pn 22 40 07.6 +0.4**
OBKA Obir 6.22 353 *e*Pn **Pn 22 40 07.0 -0.3**
comp=Z,3.9nm,0.2s
OBKA Obir 6.22 353 *e*Pn **Pn 22 40 05.9 -1.4**
CGRP Cima Grappa 6.22 334 P **Pn 22 40 06.8 -0.7**
MORH Mrgy, Hungar 6.25 19 ⇓P **Pn 22 40 06.8 -0.8**
MDVR Moldovita 6.27 43 ⇓P **Pn 22 40 07.5 -0.5**
ROVR Rover Verones 6.29 329 P **Pn 22 40 07.2 -1.1**
PTCC Patocco-Chiusa 6.29 345 P **Pn 22 40 07.6 -0.7**
STAL STALIGIAL 6.30 341 P **Pn 22 40 07.0 -1.4**
OUR Ouranopolis 6.33 87 *e*P **Pn 22 40 08.6 -0.1**
SOKA Soboth 6.35 356 *i*Pn **Pn 22 40 08.3 -0.8**
comp=Z,2.0nm,0.2s,SNR=12
ACOM Acomizza, Ital 6.40 346 P **Pn 22 40 10.1 +0.2**
CIMO Cimolais 6.42 339 P **Pn 22 40 08.5 -1.5**
CTI Castel Tesino 6.42 334 P **Pn 22 40 09.2 -0.9**
MYKA Terra Mystica 6.46 347 *e*Pn **Pn 22 40 11.4 +0.8**
comp=Z,1.3nm,0.3s
ZOU Zoufplan 6.52 343 P **Pn 22 40 09.9 -1.6**
MAGA Magasa 6.57 327 P **Pn 22 40 11.3 -0.9**
LUSI Trento, Gardas 6.60 330 P **Pn 22 40 11.5 -1.0**
HERR Herculane 6.71 45 ⇓P **Pn 22 40 13.8 -0.2**
MPEP Malo Peshtene 6.71 61 P **Pn 22 40 14.0 0.0**
ABTA Abfaltersbach 6.80 341 *i*Pn **Pn 22 40 14.9 -0.5**
comp=Z,4.1nm,0.4s,SNR=9.0
KEST Kesra 6.81 229 Pn **Pn 22 40 16.9 +1.4**
comp=Z,3.5nm,0.3s,baz=320,slow=5.3,SNR=47
KEST Sn Sn 22 41 28.3 -4.3
baz=22,slow=16
comp=Z,11nm,0.5s
BZS Buzias 6.82 38 ⇑P **Pn 22 40 14.8 -0.7**
BZS ⇑S **Sn 22 41 28.2 -4.5**
BZS Buzias 6.82 38 *e*P **Pn 22 40 14.3 -1.3**
BZS Buzias 6.82 38 *e*Pn **Pn 22 40 14.2 -1.3**
BZS *e*Sn **Sn 22 41 27.9 -4.8**
ARSA Arzberg 6.90 359 *e*Pn **Pn 22 40 15.6 -1.1**
comp=Z,1.5nm,0.2s
ARSA Arzberg 6.90 359 P **Pn 22 40 15.4 -1.2**
SRE Strehaia 7.02 50 ⇓P **Pn 22 40 18.7 +0.4**
PLD Plovdiv 7.05 72 *e*Pn **Pn 22 40 17.5 -1.2**
SAOF Saorge 7.06 304 P **Pn 22 40 19.4 +0.6**
SBF Sospel 7.08 302 *e*Pn **Pn 22 40 19.5 +0.4**
KTHA Kythira Island 7.08 123 *e*P **Pn 22 40 21.6 +2.4**
SURR Surduc 7.16 39 ⇑P **Pn 22 40 19.2 -0.9**
GZR Gura Zlata 7.24 44 ⇑P **Pn 22 40 20.5 -0.8**
ROSI Rosskopf 7.28 336 P **Pn 22 40 22.1 +0.2**
SIRR Siria 7.34 34 ⇓P **Pn 22 40 23.9 +1.2**
RONA Rosalia, Austr 7.36 3 *i*Pn **Pn 22 40 22.9 -0.1**
comp=Z,3.4nm,0.3s,SNR=8.9
LESA Schwarzleotal 7.40 344 *e*Pn **Pn 22 40 23.9 +0.4**
comp=Z,4.7nm,0.3s
KDZ Kurdzhali 7.40 77 *e*P **Pn 22 40 24.5 +1.0**
KDZ Kurdzhali 7.40 77 P **Pn 22 40 24.3 +0.8**
LMR La Mourre 7.48 296 *e*Pn **Pn 22 40 23.8 -0.8**
BIOA Bad Ischl, Aus 7.49 349 *i*Pn **Pn 22 40 25.5 +0.8**
comp=Z,9.4nm,0.3s,SNR=14
WTTA Wattenberg 7.51 338 *i*Pn **Pn 22 40 26.6 +1.4**
comp=Z,1.6nm,0.2s,SNR=5.9
WTTA Wattenberg 7.51 338 P **Pn 22 40 25.7 +0.5**
RDO Rodhopi 7.51 81 *e*P **Pn 22 40 24.7 -0.3**
MOA Molln 7.57 353 *i*Pn **Pn 22 40 25.7 -0.1**
comp=Z,4.7nm,0.3s,SNR=18
MOA Molln 7.57 353 *e*Pn **Pn 22 40 25.3 -0.5**
CONA Conrad Observa 7.58 1 *i*Pn **Pn 22 40 26.2 +0.2**
comp=Z,3.7nm,0.4s,SNR=8.0
FETA Feichten 7.58 333 *e*Pn **Pn 22 40 27.7 +1.6**
comp=Z,2.4nm,0.4s,SNR=6.0
WATA Walderalm 7.59 338 *i*Pn **Pn 22 40 27.2 +1.0**
comp=Z,2.7nm,0.2s,SNR=7.4
SQTA Sankt Quirin 7.60 336 *i*Pn **Pn 22 40 27.6 +1.3**
comp=Z,5.6nm,0.4s,SNR=9.0
DAVOX Davos/Dischmat 7.69 329 Pn **Pn 22 40 28.0 +0.4**
comp=Z,1.5nm,0.3s,baz=152,slow=18,SNR=22
DAVOX Sn **Sn 22 41 48.6 -5.8**
comp=Z,0.6nm,0.3s,baz=137,slow=21,SNR=1.1
comp=Z,5.0nm,0.4s
MOTA Moosalm 7.74 336 *e*Pn **Pn 22 40 31.9 +3.6**
comp=Z,3.5nm,0.4s,SNR=7.0
LOT Lotru 7.81 47 ⇑P **Pn 22 40 29.4 +0.1**
ZST Bratislava 7.91 7 *e*PN **Pn 22 40 30.0 -0.4**
MBDF Montbardon 7.91 307 *e*P **Pn 22 40 32.7 +2.1**
RODP Rodopos 7.96 124 *e*P **Pn 22 40 30.6 -0.5**
ENEZ Enez 7.97 84 *e*P **Pn 22 40 31.2 -0.1**
RETA Reutte 7.98 335 *i*Pn **Pn 22 40 34.1 +2.7**
comp=Z,1.2nm,0.1s
COPA Copaceanca 8.01 59 ⇓P **Pn 22 40 33.2 +1.4**
MODS Modra-Piesok 8.10 7 *e*PN **Pn 22 40 32.4 -0.7**
MODS *e*SN **Sn 22 42 00.3 -4.0**
DAVA Damuels 8.11 331 *i*Pn **Pn 22 40 36.0 +2.6**
comp=Z,5.3nm,0.5s,SNR=5.0
PSZ Piszkesteto 8.15 20 ⇓P **Pn 22 40 33.9 +0.2**
EZN Ezine 8.16 90 *e*P **Pn 22 40 34.3 +0.4**
COMU Canakkale 8.25 88 *e*P **Pn 22 40 36.2 +1.1**
MARR Marisel-Cluj 8.31 38 ⇑P **Pn 22 40 36.7 +0.7**
UKOP Uzunkopru-Edir 8.34 81 *e*P **Pn 22 40 38.1 +1.8**
LPG La Plagne 8.34 311 *e*P **Pn 22 40 41.0 +4.4**
SMRF Simiane la Rot 8.35 299 *e*P **Pn 22 40 38.3 +1.8**
APE Apeiranthos 8.35 110 ⇑P **Pn 22 40 37.1 +0.5**

LPL La Plagne 8.36 311 *e*P **Pn 22 40 41.0 +4.1**
LPL *e*Sn **Sn 22 42 05.8 -5.1**
comp=Z,1.2nm,0.3s
VYHS Vyhne 8.45 14 *e*PN **Pn 22 40 38.3 +0.5**
VYHS *e*SN **Sn 22 42 07.4 -5.3**
CKRC Cesky Krumlov 8.53 354 *e*PN **Pn 22 40 38.9 -0.1**
CKRC *e*SN **Sn 22 42 09.8 -4.9**
VOIR 8.54 50 ⇑P **Pn 22 40 40.1 +0.9**
SGRR Singureni 8.54 60 ⇑P **Pn 22 40 40.0 +0.9**
ORIF Oris-en-Rattie 8.56 305 *e*P **Pn 22 40 43.7 +4.3**
GERES GERESS Array B 8.62 351 Pn **Pn 22 40 38.9 -1.3**
comp=Z,1.7nm,0.3s,baz=169,slow=15,SNR=20
GERES Sn **Sn 22 42 11.5 -5.5**
comp=Z,3.2nm,0.3s,baz=161,slow=23,SNR=14
comp=Z,2.5nm,0.3s
JAVC Velka Javorina 8.62 9 *e*PN **Pn 22 40 40.2 -0.1**
KRUC Moravsky 8.73 3 *e*PN **Pn 22 40 41.3 -0.3**
KRUC *e*SN **Sn 22 42 15.2 -4.4**
IDI Anoyia 8.85 122 Pn **Pn 22 40 43.9 +0.4**
comp=Z,2.6nm,0.3s,baz=326,slow=18,SNR=14
IDI Sn **Sn 22 42 20.3 -2.5**
comp=Z,1.8nm,0.3s,baz=352,slow=21,SNR=2.1
comp=Z,8.2nm,0.4s
KRBG Karabiga-Canak 8.85 86 *e*P **Pn 22 40 44.0 +0.6**
KHC Kasperske Hory 8.91 351 *e*PN **Pn 22 40 43.7 -0.5**
KHC *e*SN **Sn 22 42 18.3 -5.8**
VRAC Vranov 8.98 4 *e*PN **Pn 22 40 45.0 -0.2**
VRAC *e*SN **Sn 22 42 21.2 -4.6**
VRAC Vranov 8.98 4 Pn **Pn 22 40 44.5 -0.7**
comp=Z,0.3nm,0.3s,baz=184,slow=15,SNR=2.4
comp=Z,1.4nm,0.4s
DOPR Dopca 9.03 48 ⇓P **Pn 22 40 46.8 +0.9**
MLR Muntele Rosu 9.10 52 Pn **Pn 22 40 46.5 -0.4**
comp=Z,9.2nm,0.6s,baz=259,slow=16,SNR=22
MLR Sn **Sn 22 42 23.7 -5.3**
comp=Z,0.1nm,0.3s,baz=113,slow=18,SNR=1.1
MLR LR LR 22 45 49.2
comp=Z,103nm,19.4s,baz=246,slow=48
MAUC Maruska 9.14 9 *e*SN **Sn 22 42 25.9 -3.9**
ZVC Zvikov 9.15 354 *e*PN **Pn 22 40 46.7 -0.8**
ZVC *e*SN **Sn 22 42 24.4 -5.6**
TRPA Tarpa 9.20 30 ⇓P **Pn 22 40 48.6 +0.6**
VIVF Saint-Julien-I 9.29 303 *e*P **Pn 22 40 53.7 +4.2**
OZUR 9.34 49 ⇓P **Pn 22 40 50.6 +0.6**
CABF La Chapelle 9.38 315 *e*P **Pn 22 40 54.6 +3.9**
COVR Voineasa-Covas 9.44 51 ⇓P **Pn 22 40 52.0 +0.5**
CRVS Cervenica-Dubn 9.48 24 *e*PN **Pn 22 40 54.0 +2.0**
MORC Moravsky Berou 9.52 7 *e*SN **Sn 22 42 35.1 -3.9**
LASF Ste Croix 9.54 297 *e*P **Pn 22 40 57.1 +4.2**
LASF *e*Sn **Sn 22 42 33.9 -5.8**
comp=Z,0.4nm,0.4s
PRU Pruhonice 9.68 356 *e*SN **Sn 22 42 35.5 -7.3**
PLOR Plostina 9.71 52 ⇓P **Pn 22 40 56.0 +0.9**
VRI Vrincioaia 9.77 52 ⇑P **Pn 22 40 57.0 +1.1**
KOLS Kolonicke sedl 9.77 26 *e*PN **Pn 22 40 58.0 +2.0**
HINF Hinteralfeld 9.81 323 *e*Pn **Pn 22 40 55.6 -0.9**
HINF Hinteralfeld 9.81 323 *e*P **Pn 22 40 59.8 +3.3**
HINF *e*Sn **Sn 22 42 42.4 -3.7**
comp=Z,5.5nm,0.4s
BURAR Bucovina Array 9.98 40 ⇑P **Pn 22 40 59.8 +0.9**
CDF Champ du Feu 10.06 326 *e*Pn **Pn 22 40 58.5 -1.5**
CDF Champ du Feu 10.06 326 *e*P **Pn 22 41 04.1 +4.1**
CDF *e*Sn **Sn 22 42 47.2 -5.3**
comp=Z,1.3nm,0.3s
TESR Tescani 10.06 49 ⇑P **Pn 22 41 00.1 +0.1**
HAU Haudompre 10.18 322 *e*Pn **Pn 22 40 59.8 -1.8**
HAU Haudompre 10.18 322 *e*P **Pn 22 41 03.5 +1.9**
HAU *e*Sn **Sn 22 42 49.7 -5.5**
comp=Z,4.7nm,0.3s
CFR Carcaliu 10.34 58 ⇑P **Pn 22 41 03.9 +0.2**
TPGR Topolog 10.40 60 ⇑P **Pn 22 41 04.6 0.0**
PAGF Fort de Pagny 10.86 322 *e*P **Pn 22 41 13.8 +2.9**
SFTF Sexfontaines 10.95 319 *e*Sn **Sn 22 43 06.1 -8.0**
comp=Z,2.9nm,0.3s
RJF Les Rejaudoux 11.53 300 *e*P **Pn 22 41 23.9 +3.9**
BRTR Keskin Array B 13.76 87 Pn **Pn 22 41 51.2 +0.5**
comp=Z,0.1nm,0.3s,baz=266,slow=11,SNR=6.0
comp=Z,1.2nm,0.8s
AKASG Malin Array Be 14.01 38 Pn **Pn 22 41 52.6 -1.3**
comp=Z,0.4nm,0.3s,baz=231,slow=11,SNR=1.7
AKASG LR LR 22 47 06.6
comp=Z,41nm,19.1s,baz=179,slow=37
comp=Z,0.2nm,0.3s
ESDC Sonseca Array 15.09 274 Pn **P 22 42 15.7 +1.9**
baz=75,slow=12,SNR=2.1
MMAI Mount Meron Ar 17.40 109 P **P 22 42 40.3 +0.8**
comp=Z,0.8nm,0.3s,baz=302,slow=13,SNR=5.7
comp=Z,4.7nm,0.7s
MDT Midelt 17.94 252 P **Pn 22 42 46.0 +1.1**
baz=72,slow=11,SNR=4.2
comp=Z,2.2nm,1.1s
ASF Jabal al Asfar 18.91 109 P **Pn 22 42 58.6 +1.8**
baz=291,slow=7.7,SNR=2.6
comp=Z,2.2nm,0.8s
EIL Elat 18.99 118 P **P 22 42 57.6 +0.6**
comp=Z,0.4nm,0.3s,baz=338,slow=14,SNR=2.0
comp=Z,0.0nm,0.5s
EKA Eskdalemuir Ar 19.52 326 P **P 22 43 03.3 +0.7**
baz=140,slow=12
comp=Z,1.1nm,0.7s
HFS Hagfors 19.85 357 P **Pn 22 43 06.8 -0.9**
comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=6.6
comp=Z,1.6nm,0.6s
KVAR Kislovodsk Arr 20.30 71 P Pn 22 43 13.6 +0.3
comp=Z,2.6nm,0.9s,baz=131,slow=20,SNR=1.5
comp=Z,2.6nm,0.9s
KBZ Khabaz 20.45 72 P Pn 22 43 14.9 +0.1
comp=Z,8.4nm,0.9s,baz=271,slow=8.5,SNR=13
comp=Z,8.4nm,0.9s
NB2 NORSAR Subarra 20.90 354 P **P 22 43 17.1 -0.5**
comp=Z,2.5nm,1.0s,baz=171,slow=10
NOA NORSAR Array B 20.90 354 P **P 22 43 18.3 +0.7**
comp=Z,1.4nm,0.8s,baz=172,slow=12,SNR=2.9
NOA LR LR 22 52 28.8
comp=Z,27nm,19.0s,baz=180,slow=40
comp=Z,1.4nm,0.8s
FINES FINESS Array B 22.06 13 P **P 22 43 30.1 +0.2**
comp=Z,2.8nm,0.5s,baz=184,slow=11,SNR=17
comp=Z,2.8nm,0.5s
GNI Garni 22.13 81 P **P 22 43 33.0 +2.0**
comp=Z,4.8nm,0.8s,baz=194,slow=13,SNR=5.4
comp=Z,4.8nm,0.8s
BELG Belogornoye 24.89 50 P **P 22 44 00.2 +2.3**
comp=Z,11nm,0.9s,baz=337,slow=2.8,SNR=4.4
comp=Z,11nm,0.9s
KLMR Klimovskoe 25.23 28 *e*P **P 22 44 00.0 -0.9**
KLMR AMP 22 44 07.8
comp=Z,31nm,1.8s
ARCES ARCESS Array B 29.71 7 P **P 22 44 40.5 -0.5**
comp=Z,3.1nm,0.9s,baz=180,slow=4.9,SNR=4.3
comp=Z,3.1nm,0.9s
TORD Torodi Ar. Bea 29.76 208 P **P 22 44 42.1 +0.2**
comp=Z,0.5nm,0.6s,baz=21,slow=10,SNR=6.6
comp=Z,0.5nm,0.6s
AKTO Aktyubinsk 31.00 57 P **P 22 44 52.5 -0.2**
comp=Z,1.2nm,0.5s,baz=246,slow=7.7,SNR=4.4
comp=Z,1.2nm,0.5s
ARU Arti 32.06 45 P **P 22 45 01.5 -0.4**
comp=Z,1.1nm,0.4s,baz=118,slow=22,SNR=2.1
ARU LR LR 22 58 06.2
comp=Z,44nm,19.5s,baz=47,slow=37
comp=Z,1.1nm,0.4s
GEYT Alibeck 32.76 80 P **P 22 45 10.0 +1.7**
comp=Z,1.4nm,0.6s,baz=278,slow=4.0,SNR=5.2
comp=Z,1.4nm,0.6s
DBIC Dimbokro 38.26 214 P **P 22 45 55.8 +0.2**
comp=Z,5.3nm,1.0s,baz=0.0,slow=8.1,SNR=2.3
comp=Z,5.3nm,1.0s
BVAR Borovoye Array 38.67 52 P **P 22 45 59.6 +0.9**
comp=Z,3.1nm,0.7s,baz=264,slow=6.0,SNR=21
comp=Z,3.1nm,0.7s
KURBB Kurchatov Arra 43.99 55 P **P 22 46 43.0 +0.6**
comp=Z,1.1nm,0.8s,baz=289,slow=8.9,SNR=6.5
comp=Z,1.1nm,0.8s
ZALV Zalesovo Beam 47.06 49 P **P 22 47 07.5 +0.8**
comp=Z,2.4nm,0.8s,baz=290,slow=8.6,SNR=8.5
comp=Z,2.4nm,0.8s
MKAR Makanchi Array 47.37 59 P **P 22 47 09.8 +0.4**
comp=Z,1.7nm,0.8s,baz=282,slow=6.8,SNR=12
comp=Z,1.7nm,0.8s
PYUN Piuthan 55.75 80 *e*P **P 22 48 12.9 +0.5**
comp=Z,17nm,0.7s
DANN Dangsing 56.20 80 *e*P **P 22 48 16.3 +0.6**
comp=Z,30nm,0.8s
GKN Gorkha 57.04 80 *e*P **P 22 48 21.9 +0.3**
comp=Z,17nm,0.7s
DMN Daman 57.60 80 *e*P **P 22 48 25.7 +0.1**
comp=Z,24nm,0.4s
PKIN Phulchoki 57.83 80 *e*P **P 22 48 27.2 -0.1**
comp=Z,12nm,0.6s
PKI Pulchoki 57.85 80 *e*P **P 22 48 27.4 -0.1**
comp=Z,4.4nm,0.4s
GUN Gumba 58.02 79 *e*P **P 22 48 29.1 +0.4**
comp=Z,35nm,1.1s
JIRN Jiri 58.38 79 *e*P **P 22 48 31.7 +0.4**
comp=Z,9.1nm,0.9s
RAMN Ramite 59.07 80 *e*P **P 22 48 35.9 0.0**
comp=Z,20nm,0.8s
SONM Songino Array 61.95 50 P **P 22 48 56.3 +1.2**
comp=Z,2.4nm,0.8s,baz=288,slow=7.5,SNR=6.8
comp=Z,2.4nm,0.8s
CMAR Chiang Mai Arr 73.24 80 P **P 22 50 06.8 +0.1**
comp=Z,0.6nm,0.7s,baz=312,slow=7.5,SNR=4.7
comp=Z,0.6nm,0.7s
PDAR Pinedale Array 83.60 323 P **P 22 51 04.2 +0.3**
comp=Z,0.5nm,0.7s,baz=21,slow=5.2,SNR=4.7
comp=Z,0.5nm,0.7s

ISK ***26*** *22:42:22.2, 38°.38N×39°.05E, h5km, ML3.6/31*
AFAD ***26*** *22:42:23.2±0.0, 38°.41N×39°.03E, h16km±1km, MW3.8*
IDC ***26*** *22:42:23.9±1.0, 38°.51N×39°.06E, h0km, mb3.5/4,*
mbtmp3.5/8, ML3.2/4, MS2.7/4, Error ellipse: s-maj=18.3km
s-min=11.7km az=169.0
GII ***26*** *22:42:39.5±0.0, 37°.59N×38°.14E, h5km*
ISC 26 22:42:23.7±1.1, 38°.39N±0°.02×39°.05E±0°.02, h4km±9km,
n82, σ1°15/113, mb3.6/4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MAYA	**Malatya/Merkez**	**0.49**	**262**	P		**Pg**	**22 42 32.9**	**-0.3**
MAYA				S		**Sg**	**22 42 39.3**	**-0.3**
MAYA				*i* AML		AML	22 42 41.0	
	comp=N,1μm,0.3s							
MAYA				*i* AML		AML	22 42 41.0	
	comp=E,1μm,0.2s							
NARI	**Adyaman-Kaht**	**0.56**	**204**	P		**Pg**	**22 42 34.6**	**+0.3**
NARI				S		**Sg**	**22 42 40.8**	**-0.8**
PTK	**Pertek**	**0.57**	**28**	Pg		**Pg**	**22 42 34.3**	**-0.3**
KOVA	**Elazig, Kovanc**	**0.68**	**62**	P		**Pg**	**22 42 36.2**	**-0.5**
KOVA				S		**Sg**	**22 42 46.4**	**+0.9**
TNCL	**Tunceli-Merkez**	**0.82**	**28**	P		**Pg**	**22 42 38.7**	**-0.7**
TNCL				S		**Sg**	**22 42 49.1**	**-0.9**
HANM	**anlurfa/Hi**	**0.82**	**189**	P		**Pg**	**22 42 39.6**	**+0.1**
HANM				*i* AML		AML	22 42 54.0	
	comp=N,4μm,0.2s							
HANM				*i* AML		AML	22 42 54.0	
	comp=E,5μm,0.4s							
AZEY	**Adyaman-Merk**	**0.86**	**228**	P		**Pg**	**22 42 40.1**	**0.0**
AZEY				S		**Sg**	**22 42 51.5**	**+0.3**
AKCD	**Akcadag**	**0.89**	**264**	P		**Pg**	**22 42 40.2**	**-0.6**
AKCD				S		**Sg**	**22 42 52.3**	**-0.1**
ARPR	**Arapgir-MALATY**	**0.90**	**322**	Pg		**Pg**	**22 42 40.6**	**-0.3**
ARPR				Sg		**Sb**	**22 42 54.6**	**+0.3**
DYBB	**Diyarbakir**	**0.96**	**117**	Pg		**Pg**	**22 42 41.6**	**-0.6**
DYBB				Sg		**Sb**	**22 42 56.1**	**-0.1**
DIYA	**Diyarbakir**	**0.97**	**119**	P		**Pg**	**22 42 42.7**	**+0.5**
DIYA				S		**Sb**	**22 42 56.0**	**-0.2**
URFA	**Urfa**	**0.97**	**191**	Pg		**Pg**	**22 42 41.9**	**-0.3**
URFA				Sg		**Sg**	**22 42 55.9**	**+1.2**
KEMA	**Kemaliye**	**0.98**	**334**	P		**Pg**	**22 42 41.6**	**-0.9**
KEMA				S		**Sg**	**22 42 54.7**	**-0.4**
HANI	**Diyarbakir_Han**	**1.06**	**88**	P		**Pg**	**22 42 43.5**	**-0.6**
HANI				S		**Sg**	**22 42 57.8**	**-0.1**
ATAB	**Bozova**	**1.10**	**213**	P		**Pg**	**22 42 44.7**	**0.0**
ATAB				S		**Sb**	**22 43 00.5**	**+0.5**
ILIC	**ilic-Erzincan**	**1.12**	**341**	Pn		**Pg**	**22 42 44.6**	**-0.7**
SANL	**SANLIURFA_Merk**	**1.22**	**182**	P		**Pg**	**22 42 46.9**	**-0.1**
SANL				S		**Sg**	**22 43 03.0**	**+0.1**
AKCA	**Adyaman/G¶l**	**1.23**	**241**	P		**Pg**	**22 42 47.2**	**0.0**
AKCA				S		**Sb**	**22 43 04.0**	**+0.1**
DARE	**Darende-Malaty**	**1.24**	**279**	Pn		**Pg**	**22 42 46.1**	**-1.4**
ERZN	**Erzincan**	**1.30**	**24**	Pn		**Pg**	**22 42 48.5**	**-0.2**
EUZM	**Uzumlu**	**1.41**	**21**	P		**Pn**	**22 42 49.5**	**-0.8**
EUZM				S		**Sn**	**22 43 09.8**	**+0.4**
BNGB	**Bingl**	**1.41**	**64**	Pn		**Pn**	**22 42 50.2**	**-0.1**
BNGB				Sn		**Sn**	**22 43 10.9**	**+1.5**
CUGUR	**Gurin_SVAS**	**1.43**	**284**	P		**Pn**	**22 42 50.2**	**-0.4**
CUGUR				S		**Sn**	**22 43 11.1**	**+1.1**
MAZI	**Mazidag**	**1.45**	**130**	Pn		**Pn**	**22 42 50.4**	**-0.4**
ELBS	**KAHRAMANMARAS**	**1.51**	**268**	P		**Pg**	**22 42 53.4**	**+0.8**
ELBS				S		**Sg**	**22 43 12.6**	**+0.5**
CUKAN	**kangal_SIVAS**	**1.54**	**307**	P		**Pn**	**22 42 52.0**	**-0.2**
CUKAN				S		**Sg**	**22 43 13.7**	**+0.4**
SURC	**SANLIURFA_SURC**	**1.55**	**193**	P		**Pn**	**22 42 52.6**	**+0.5**
SURC				S		**Sn**	**22 43 12.6**	**-0.2**
YEDI	**Yedisu-Bingol**	**1.57**	**48**	Pn		**Pb**	**22 42 52.9**	**-0.5**
SLHN	**Bingol, Solhan**	**1.65**	**69**	P		**Pb**	**22 42 54.3**	**-0.4**
SLHN				S		**Sg**	**22 43 18.3**	**+1.7**
SVAN	**Silvan-Diyarba**	**1.71**	**97**	Pn		**Pn**	**22 42 53.8**	**-0.6**
SVAN				Sn		**Sb**	**22 43 17.7**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.71**	**97**	P		**Pn**	**22 42 53.7**	**-0.6**
SVAN				S		**Sb**	**22 43 17.5**	**-0.2**
NZIP	**Nizip/Gaziante**	**1.73**	**219**	P		**Pn**	**22 42 54.2**	**-0.5**
NZIP				S		**Sn**	**22 43 17.9**	**+0.6**
MARD	**Mardin**	**1.74**	**128**	P		**Pn**	**22 42 54.5**	**-0.4**
MARD				S		**Sn**	**22 43 16.9**	**-0.8**
KELT	**Kelkit**	**1.76**	**5**	P		**Pb**	**22 42 56.5**	**-0.2**
KELT				S		**Sg**	**22 43 19.7**	**-0.6**
KARO	**Karliova-Bingo**	**1.81**	**59**	Pn		**Pn**	**22 42 56.1**	**+0.2**
GAZ	**Gaziantep**	**1.90**	**231**	Pn		**Pn**	**22 42 56.4**	**-0.6**
KMRS	**Kahramanmaras**	**1.92**	**243**	Pn		**Pn**	**22 42 56.6**	**-0.6**
HCB	**Kahramanmara**	**1.99**	**239**	P		**Pn**	**22 42 57.6**	**-0.6**
HCB				S		**Sn**	**22 43 24.3**	**+0.7**
CUAYA	**Sivas-Altinyay**	**2.00**	**297**	P		**Pn**	**22 42 59.4**	**+1.0**
CUAYA				S		**Sg**	**22 43 27.4**	**-0.5**
VRTB	**Varto-Mus**	**2.03**	**67**	Pn		**Pn**	**22 42 58.1**	**-0.8**
VRTB	**Varto-Mus**	**2.03**	**67**	P		**Pn**	**22 42 59.6**	**+0.7**
SARI	**SarD1z-Kayseri**	**2.07**	**271**	Pn		**Pn**	**22 42 59.8**	**+0.4**
BAYB	**BAYBURT**	**2.09**	**26**	P		**Pg**	**22 43 04.0**	**+0.2**
SCER	**sogukcermik**	**2.09**	**315**	P		**Pb**	**22 43 01.9**	**-0.5**
SCER				S		**Sg**	**22 43 31.0**	**0.0**
MIDY	**Mardin/Midyat-**	**2.10**	**117**	P		**Pn**	**22 42 59.7**	**-0.1**
MIDY				S		**Sn**	**22 43 27.1**	**+0.6**
BAYT	**Aydıntepe-Bayb**	**2.17**	**23**	Pn		**Pn**	**22 43 00.9**	**0.0**
SVSK	**Karacayir**	**2.20**	**314**	Pn		**Pn**	**22 43 02.3**	**+1.2**
GURO	**Guroymak-BITLI**	**2.35**	**85**	Pn		**Pn**	**22 43 04.0**	**+0.8**
SAIM	**ADANA**	**2.37**	**261**	P		**Pn**	**22 43 03.7**	**+0.1**
RSDY	**Resadiye-TOKAT**	**2.41**	**327**	Pn		**Pn**	**22 43 04.4**	**+0.5**
BLIS	**Bitlis-Merkez**	**2.41**	**89**	P		**Pn**	**22 43 03.8**	**-0.3**
BLIS				S		**Sn**	**22 43 34.8**	**+0.6**
KRIK	**Erzurum-spir**	**2.43**	**36**	P		**Pn**	**22 43 03.0**	**-1.4**
ESPY	**Espiye-Giresun**	**2.53**	**354**	Pn		**Pn**	**22 43 06.3**	**+0.6**
BNN	**Bunyan**	**2.55**	**281**	Pn		**Pn**	**22 43 06.5**	**+0.5**
KTUT	**Trabzon**	**2.65**	**12**	Pn		**Pn**	**22 43 08.8**	**+1.5**
KOPR	**Koprukoy-ERZUR**	**2.70**	**53**	Pn		**Pn**	**22 43 08.9**	**+0.7**
TOKT	**Tokat**	**2.73**	**316**	Pn		**Pn**	**22 43 09.6**	**+1.1**
PERV	**Siirt/Pervari-**	**2.79**	**98**	P		**Pn**	**22 43 09.4**	**+0.1**
PERV				*i* AML		AML	22 44 01.0	
	comp=E,394nm,0.7s							
PERV				*i* AML		AML	22 44 10.0	
	comp=N,436nm,0.6s							
SIRT	**Sirnak**	**2.83**	**107**	Pn		**Pn**	**22 43 09.4**	**-0.4**
MLAZ	**Malazgirt-MUS**	**2.84**	**74**	Pn		**Pn**	**22 43 10.9**	**+0.9**
RHAN	**Hatay/Reyhanl**	**2.89**	**223**	P		**Pn**	**22 43 10.4**	**-0.1**
AKDM	**Akdamar-Van**	**3.09**	**90**	Pn		**Pn**	**22 43 14.4**	**+0.9**
SIRC	**Yozgat**	**3.19**	**288**	P		**Pn**	**22 43 15.9**	**+1.1**
AGRB	**Hanur-Agry**	**3.29**	**68**	Pn		**Pn**	**22 43 17.2**	**+0.9**
SENK	**Senkaya-Erzuru**	**3.35**	**49**	Pn		**Pn**	**22 43 17.9**	**+0.8**
VANB	**Van**	**3.41**	**85**	Pn		**Pn**	**22 43 18.9**	**+1.0**
CUKT	**Cukurca**	**3.79**	**106**	P		**Pn**	**22 43 30.6**	**-0.6**
BRTR	**Keskin Array B**	**4.42**	**289**	Pn		**Pn**	**22 43 33.3**	**+1.6**
	1.1nm,0.3s,baz=115,slow=13,SNR=23							
BRTR				Lg		Lg	22 44 47.1	
	0.5nm,0.3s,baz=122,slow=30,SNR=5.3							
	4.4nm,0.6s							
GNI	**Garni**	**4.75**	**67**	Pn		**Pn**	**22 43 38.3**	**+2.0**
	0.6nm,0.3s,baz=244,slow=1.3,SNR=5.5							
GNI				LR		LR	22 45 47.6	
	comp=Z,47nm,19.9s,baz=256,slow=43							
	6.9nm,0.8s							
CSS	**Mathiatis**	**5.73**	**235**	Pn		**Pn**	**22 43 51.1**	**+1.5**
GEM	**Giv'at Ha'Em**	**5.86**	**209**	Pn		**Pn**	**22 43 52.4**	**+1.1**
KBZ	**Khabaz**	**6.07**	**27**	LR		LR	22 46 38.1	
	comp=Z,44nm,18.9s,baz=320,slow=43							
MMA0	**Mount Meron ar**	**6.13**	**210**	Pn		**Pn**	**22 43 56.7**	**+1.5**
MMAI	**Mount Meron Ar**	**6.13**	**210**	Pn		**Pn**	**22 43 56.3**	**+1.2**
	1.6nm,0.3s,baz=29,slow=13,SNR=8.2							
MMAI				Lg		Lg	22 45 43.8	
	2.9nm,0.3s,baz=3.6,slow=27,SNR=2.1							
MMAI				LR		LR	22 46 15.2	
	comp=Z,22nm,19.0s,baz=334,slow=37							
	1.3nm,0.4s							
ASF	**Jabal al Asfar**	**6.45**	**196**	Pn		**Pn**	**22 44 01.1**	**+1.5**
	0.3nm,0.3s,baz=346,slow=17,SNR=1.4							
ASF				Lg		Lg	22 45 54.8	
	1.9nm,0.3s,baz=13,slow=22,SNR=7.7							
	1.0nm,0.3s							
HMDT	**Nahal Hemdat**	**6.77**	**206**	Pn		**Pn**	**22 44 05.4**	**+1.6**
MBRI	**Mt Berech**	**9.23**	**203**	Pn		**Pn**	**22 44 40.8**	**+3.0**
MBRI				Sn		**Sn**	**22 46 13.7**	**-8.5**
GERES	**GERESS Array B**	**21.02**	**308**	P		**P**	**22 47 09.1**	**+0.7**
	0.3nm,0.4s,baz=128,slow=11,SNR=2.8							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**30.33**	**53**	P		**P**	**22 48 36.2**	**0.0**
	0.7nm,0.6s,baz=264,slow=8.7,SNR=4.6							
	0.7nm,0.6s							
MKAR	**Makanchi Array**	**32.58**	**61**	P		**P**	**22 48 56.9**	**+0.8**
	0.7nm,0.8s,baz=265,slow=7.2,SNR=3.1							
	0.7nm,0.8s							
ESDC	**Sonseca Array**	**33.20**	**286**	P		**P**	**22 49 01.1**	**-0.5**
	0.7nm,0.8s,baz=72,slow=8.7,SNR=7.5							
	0.7nm,0.8s							
SONM	**Songino Array**	**48.63**	**56**	LR		LR	23 14 15.3	
	comp=Z,38nm,19.2s,baz=7.5,slow=39							

NEIC ***26*** *22:46:16.7±1.4, 18°.7N±0°.1×145°.4E±0°.2, h397km±12km,*
mb4.1/8, Error ellipse: s-maj=24.3km s-min=17.4km
az=77.0
IDC ***26*** *22:46:23.0±25.0, 18°.48N×145°.25E, h468km±304km,*
mb3.1/5, mbtmp3.9/5, Error ellipse: s-maj=94.4km
s-min=32.5km az=50.0
ISC 26 22:46:16.7±0.7, 18°.6N±0°.1×145°.4E±0°.1, h400km, n16,
σ0°61/16, mb3.7/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.01**	**186**			**Pn**	**22 47 39.8**	**+0.8**
JCJ	**Chichijima**	**8.96**	**341**	P		**Pn**	**22 48 22.8**	**+0.1**
JMZ	**Minamidaito 2**	**14.96**	**301**	P		**P**	**22 49 28.4**	**-0.4**
PATS	**Pohnpei**	**17.17**	**131**	P		**P**	**22 49 51.4**	**-1.1**
PATS				IAmb		IAmb	22 50 01.1	
	comp=Z,34nm,0.9s							
JOW	**Kunigami**	**17.79**	**300**	P		**P**	**22 49 58.0**	**-1.0**
WB0	**Warramunga Arr**	**39.63**	**196**	P		**P**	**22 53 11.2**	**-0.7**
WB0				IAmb		IAmb	22 53 13.5	
	comp=Z,4.7nm,1.1s							
WB2	**Warramunga Arr**	**39.81**	**196**	P		**P**	**22 53 13.3**	**0.0**
WRA	**Warramunga Arr**	**39.81**	**196**	P		**P**	**22 53 13.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=19,slow=8.5,SNR=17							
	comp=Z,0.9nm,0.3s							
MKAR	**Makanchi Array**	**58.33**	**314**	P		**P**	**22 55 31.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=86,slow=6.7,SNR=2.6							
	comp=Z,0.3nm,0.6s							
RC01	**Rabbit Creek A**	**61.77**	**30**	P		**P**	**22 55 54.2**	**-0.2**
F21K	**Alatna River**	**61.94**	**23**	P		**P**	**22 55 55.1**	**-0.3**
F21K				IAmb		IAmb	22 55 57.6	
	comp=Z,3.0nm,1.1s							
BVAR	**Borovoye Array**	**66.37**	**320**	P		**P**	**22 56 24.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=94,slow=8.1,SNR=6.2							
	comp=Z,0.8nm,0.5s							
ARU	**Arti**	**72.98**	**325**	P		**P**	**22 57 03.6**	**-0.3**
ARU				IAmb		IAmb	22 57 11.0	
	comp=Z,4.0nm,0.5s							
ABKAR	**Akbulak array**	**73.22**	**317**	P		**P**	**22 57 05.7**	**+0.4**
NVAR	**Mina Array Bea**	**83.42**	**52**	P		**P**	**22 58 01.8**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=270,slow=4.4,SNR=3.8							
	comp=Z,0.5nm,0.8s							
FINES	**FINESS Array B**	**86.86**	**335**	P		**P**	**22 58 17.2**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=57,slow=7.0,SNR=4.9							
	comp=Z,1.5nm,0.8s							

SDD ***26*** *22:54:58.4±2.3, 18°.34N×70°.46W, h31km±11km, MD3.2,*
ML1.9
OSPL ***26*** *22:55:00.5±0.8, 18°.39N×70°.57W, h79km±39km, ML1.7*
ISC 26 22:54:59.6±1.2, 18°.45N±0°.08×70°.45W±0°.05, h31km±8km,
n7, σ1°22/13, 8C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BANI	**BANI**	**0.10**	**125**	⇑*e*Pg		**Pb**	**22 55 05.0**	**-0.3**
BANI				⇑*e*Pg			22 55 05.5	
BANI				⇑*e*Sg		**Sb**	**22 55 09.5**	**+0.3**
BANI				IAML			22 55 10.3	
	comp=E,71nm,0.2s							
BANI				IAML			22 55 10.6	
	comp=N,80nm,0.1s							
ABDR	**Alto Bandera**	**0.40**	**335**	⇑*e*Pg		**Pb**	**22 55 08.8**	**-0.1**
ABDR				⇓*e*Sg		**Sb**	**22 55 15.6**	**+0.4**
ABDR				IAML			22 55 16.0	
	comp=E,131nm,0.3s							
ABDR				IAML			22 55 17.0	
	comp=N,183nm,0.2s							
PODR	**Polo**	**0.84**	**250**	*i* P		**Pb**	**22 55 15.7**	**-0.3**
SDDR	**Presa de Saban**	**0.95**	**304**	⇑*e*Pg		**Pb**	**22 55 15.2**	**-2.6**
SDDR				⇓*e*Sg		**Sb**	**22 55 31.4**	**+1.3**
SDDR				IAML			22 55 36.4	
	comp=N,22nm,0.2s							
SDDR				IAML			22 55 39.2	
	comp=E,16nm,0.5s							
SDDR	**Presa de

*REY **26** 23:02:07.4, 64°.68N×17°.46W, h4km*
*IDC **26** 23:02:08.3±0.9, 64°.50N×17°.80W, h0km, mb3.4/6, mbtmp3.5/7, ML4.3/1, MS2.9/3, Error ellipse: s-maj=27.4km s-min=11.8km az=17.0*
ISC 26 23:02:08.0±0.7, 64°.70N±0°.02×17°.56W±0°.02, h8km±4km, n72, σ1°75/89, mb3.6/7, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIS	**Kista** baz=257	**0.02**	**187**	P	**Pg**	**23 02 08.7**	**-1.0**
IKIS	baz=257			S	**Sg**	**23 02 10.1**	**-0.8**
IVON	**Vonarskard** baz=265	**0.09**	**255**	P	**Pg**	**23 02 10.2**	**-0.1**
IVON	baz=265			S	**Sg**	**23 02 13.1**	**+1.1**
IDYN	**Dyngjuhals** baz=20	**0.13**	**40**	P	**Pg**	**23 02 10.1**	**-0.7**
IDYN	baz=20			S	**Sg**	**23 02 13.1**	**+0.3**
IURH	**Urdarhals** baz=44	**0.21**	**54**	P	**Pg**	**23 02 11.4**	**-1.0**
IDJK	**Dyngjujokull** baz=152	**0.24**	**144**	P	**Pg**	**23 02 12.0**	**-0.8**
IGRF	**Grimsfjall** baz=163	**0.32**	**157**	P	**Pg**	**23 02 13.3**	**-1.0**
ISKR	**Skrokkalda** baz=253	**0.38**	**250**	P	**Pb**	**23 02 15.3**	**-1.7**
IHUS	**Husbondi** baz=192	**0.40**	**186**	P	**Pg**	**23 02 14.8**	**-1.1**
IBJK	**Bruarjokull** baz=125	**0.41**	**123**	P	**Pg**	**23 02 14.6**	**-1.5**
THOR	**Thorvaldshraun** baz=53	**0.45**	**57**	P	**Pg**	**23 02 15.5**	**-1.1**
THOR	baz=53			S	**Sg**	**23 02 22.1**	**-0.4**
IJOK	**Jokulheimar** baz=222	**0.48**	**217**	P	**Pb**	**23 02 16.5**	**-2.1**
IKRE	**Kreppuhraun** baz=77	**0.51**	**80**	P	**Pg**	**23 02 15.7**	**-2.1**
IKRE	baz=77			S	**Sg**	**23 02 23.4**	**-1.2**
IMKO	**Mokollar** baz=58	**0.59**	**61**	P	**Pg**	**23 02 17.5**	**-1.9**
IMKO	baz=58			S	**Sg**	**23 02 26.7**	**-0.5**
IIEY	**Innrieyrar** baz=206	**0.65**	**203**	P	**Pg**	**23 02 19.3**	**-1.2**
IIEY	baz=206			S	**Sb**	**23 02 28.7**	**-2.1**
ISVA	**Svartarkot** baz=7.5	**0.66**	**11**	P	**Pg**	**23 02 19.3**	**-1.3**
IKAL	**Kalfafell** baz=188	**0.75**	**184**	P	**Pg**	**23 02 20.2**	**-2.2**
IVAT	**Vatnsfell** baz=232	**0.78**	**230**	P	**Pb**	**23 02 22.3**	**-1.5**
IVSH	**V-Sauoahnukur** baz=80	**0.79**	**81**	P	**Pg**	**23 02 20.4**	**-2.8**
IFAL	**Falljokull** baz=159	**0.81**	**156**	P	**Pg**	**23 02 20.9**	**-2.6**
IKVI	**Kvisker** baz=147	**0.87**	**145**	P	**Pg**	**23 02 21.8**	**-2.8**
ISTE	**Stelbrattur** baz=282	**0.90**	**281**	P	**Pg**	**23 02 23.8**	**-1.5**
IADA	**Aoalbol** baz=66	**0.91**	**68**	P	**Pg**	**23 02 22.4**	**-3.0**
IFAG	**Fagurholsmyri** baz=156	**0.91**	**154**	P	**Pg**	**23 02 22.9**	**-2.6**
IMEL	**Melhnausar** baz=20	**0.96**	**23**	P	**Pg**	**23 02 24.1**	**-2.2**
IMEL	baz=20			S	**Sb**	**23 02 39.3**	**-0.3**
ISNB	**Snabyli** baz=209	**1.07**	**206**	P	**Pg**	**23 02 26.4**	**-2.1**
ISNB	baz=209			S	**Sb**	**23 02 41.1**	**-1.7**
IHES	**Hestalda** baz=236	**1.09**	**234**	P	**Pb**	**23 02 27.5**	**-1.5**
ILOD	**Lodnugiljahaus** baz=212	**1.11**	**210**	P	**Pn**	**23 02 28.8**	**-1.0**
ILOD	baz=212			S	**Sn**	**23 02 45.7**	**+0.6**
ISLY	**Slysaalda** baz=221	**1.11**	**219**	P	**Pg**	**23 02 27.2**	**-2.0**
ISLY	baz=221			S	**Sg**	**23 02 41.1**	**-2.5**
IGRS	**Grimsstaoir** baz=30	**1.12**	**32**	P	**Pg**	**23 02 26.7**	**-2.8**
IGRS	baz=30			S	**Sg**	**23 02 43.3**	**-0.8**
IFED	**Fedgar** baz=237	**1.15**	**235**	P	**Pb**	**23 02 28.4**	**-1.6**
IRJU	**Rjupnafell** baz=207	**1.19**	**205**	P	**Pg**	**23 02 28.4**	**-2.4**
IMJO	**Mjoaskard** baz=233	**1.20**	**231**	P	**Pb**	**23 02 29.4**	**-1.5**
ISKI	**Skildingahlsh** baz=8.5	**1.20**	**10**	P	**Pg**	**23 02 28.2**	**-2.7**
ISKI	baz=8.5			S	**Sg**	**23 02 45.9**	**-0.7**
IGHA	**Grjothals** baz=16	**1.21**	**18**	P	**Pg**	**23 02 28.7**	**-2.5**
IGYG	**Gygjarholskot** baz=252	**1.22**	**251**	P	**Pg**	**23 02 29.2**	**-2.2**
IAUS	**Austmannsbunga** baz=216	**1.23**	**214**	P	**Pg**	**23 02 29.2**	**-2.3**
IENT	**Enta** baz=218	**1.23**	**216**	P	**Pn**	**23 02 30.4**	**-1.1**
IGRA	**Granastaoir** baz=358	**1.23**	**360**	P	**Pg**	**23 02 28.8**	**-2.7**
IGRA	baz=358			S	**Sg**	**23 02 46.6**	**-0.8**
IHAU	**Haukadalur** baz=238	**1.28**	**236**	P	**Pg**	**23 02 30.1**	**-2.3**
IHAU	baz=238			S	**Sn**	**23 02 49.7**	**+0.4**
IDIM	**Dimmadalss** baz=9.6	**1.30**	**11**	P	**Pn**	**23 02 30.1**	**-2.2**
IHVO	**Lagu-Hvolar** baz=208	**1.30**	**206**	P	**Pg**	**23 02 30.6**	**-2.4**
IHED	**Heoinshofoi** baz=2.5	**1.40**	**4**	P	**Pn**	**23 02 31.6**	**-2.1**
IHED	baz=2.5			S	**Sb**	**23 02 51.0**	**-1.2**
ISAU	**Saurbar** baz=243	**1.43**	**242**	P	**Pn**	**23 02 32.2**	**-2.0**
IESK	**Eystri-Skogar** baz=218	**1.44**	**216**	P	**Pn**	**23 02 32.6**	**-1.7**
IBRE	**Brettingsstaoi** baz=353	**1.44**	**354**	P	**Pn**	**23 02 32.3**	**-2.0**
IMID	**Miomork** baz=227	**1.46**	**225**	P	**Pn**	**23 02 33.4**	**-1.1**
IMID	baz=227			S	**Sn**	**23 02 54.2**	**+0.5**
IMIM	**Midmork2** baz=227	**1.46**	**226**	P	**Pn**	**23 02 33.5**	**-1.1**
IMIM	baz=227			S	**Sn**	**23 02 54.4**	**+0.6**
IGIL	**Gilhagi** baz=18	**1.48**	**19**	P	**Pn**	**23 02 32.5**	**-2.3**
ISIG	**Siglufjorour** baz=338	**1.55**	**339**	P	**Pn**	**23 02 34.1**	**-1.7**
ISIG	baz=338			S	**Sn**	**23 02 55.7**	**-0.3**
IASM	**Asmuli** baz=240	**1.59**	**238**	P	**Pn**	**23 02 35.1**	**-1.2**
IASB	**`sbjarnarst** baz=274	**1.62**	**274**	P	**Pn**	**23 02 35.5**	**-1.2**
BORG	**Borgarnes** 20nm,0.3s,baz=108,slow=7.6,SNR=67	**1.62**	**274**	Pg	**Pn**	**23 02 35.6**	**-1.2**
BORG	10.0nm,0.3s,baz=35,slow=24,SNR=13			Lg	Lg	23 02 58.0	
IKRO	**Krokur** baz=251	**1.66**	**250**	P	**Pn**	**23 02 35.9**	**-1.4**
IKRO	baz=251			S	**Sg**	**23 03 00.0**	**-1.2**
ISOL	**Solvholt** baz=245	**1.67**	**244**	P	**Pn**	**23 02 36.0**	**-1.3**
IHEI	**Heioarbar** baz=255	**1.67**	**254**	P	**Pn**	**23 02 36.4**	**-1.1**
IBEY	**Bjarnarey** baz=224	**1.71**	**224**	P	**Pb**	**23 02 37.5**	**-2.0**
IVEY	**Vestmannaeyjar** baz=226	**1.75**	**224**	P	**Pn**	**23 02 37.8**	**-0.7**
IVEY	baz=226			S	**Sg**	**23 03 03.6**	**-0.6**
ILEI	**Leirhofn** baz=13	**1.77**	**14**	P	**Pn**	**23 02 37.2**	**-1.7**
IEDA	**Engidalur** baz=252	**1.78**	**251**	P	**Pn**	**23 02 38.1**	**-0.8**
SCO	**Scoresbysund**	**6.05**	**346**	*i* P	Pn	23 03 42.8	+5.3
EKA	**Eskdalemuir Ar** baz=321,slow=13 0.7nm,0.3s	**11.80**	**136**	Pn	**Pn**	**23 04 57.5**	**+1.3**
NOA	**NORSAR Array B** comp=Z,13nm,18.7s,baz=320,slow=38	**13.56**	**92**	LR	LR	23 10 54.1	
CLL	**Collm**	**20.74**	**116**	*e*Px	Px	23 06 52.0	
BRG	**Berggiesshubel**	**21.45**	**115**	*e*P	**P**	**23 06 58.0**	**+1.7**
BRG	comp=Z,3.7nm,1.0s			Amp		23 07 01.1	
GERES	**GERESS Array B** comp=Z,0.4nm,0.7s,baz=328,slow=3.6,SNR=1.8 comp=Z,0.4nm,0.7s	**22.99**	**119**	P	**P**	**23 07 13.8**	**+1.0**
ESDC	**Sonseca Array** comp=Z,0.6nm,0.9s,baz=347,slow=8.0,SNR=3.2	**26.29**	**156**	P	**P**	**23 07 44.2**	**+0.5**
ESDC	comp=Z,35nm,18.4s,baz=322,slow=39 comp=Z,0.6nm,0.9s			LR	LR	23 19 02.2	
BVAR	**Borovoye Array** comp=Z,1.0nm,0.8s,baz=336,slow=6.3,SNR=3.6 comp=Z,1.0nm,0.8s	**43.20**	**62**	P	**P**	**23 10 13.3**	**+4.4**
ILAR	**Eielson Array** comp=Z,0.6nm,1.0s,baz=32,slow=8.6,SNR=4.6 comp=Z,0.6nm,1.0s	**45.65**	**332**	P	**P**	**23 10 30.9**	**+2.6**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.3s,baz=328,slow=7.2,SNR=1.6	**48.16**	**58**	P	**P**	**23 10 49.8**	**+1.7**
GEYT	**Alibeck** comp=Z,25nm,18.9s,baz=182,slow=38	**50.45**	**84**	LR	LR	23 33 58.0	
PDAR	**Pinedale Array** comp=Z,0.7nm,0.9s,baz=39,slow=6.3,SNR=4.4 comp=Z,0.7nm,0.9s	**53.14**	**293**	P	**P**	**23 11 27.1**	**+1.1**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.8s,baz=344,slow=8.0,SNR=4.4 comp=Z,0.6nm,0.8s	**53.18**	**156**	P	**P**	**23 11 26.8**	**+0.5**

*IDC **26** 23:03:20.5±1.1, 64°.57N×17°.71W, h0km, mb3.4/4, mbtmp3.4/6, ML3.0/2, MS3.5/3, Error ellipse: s-maj=29.4km s-min=12.7km az=17.0*
*REY **26** 23:03:20.3, 64°.68N×17°.44W, h4km*
ISC 26 23:03:20.0±0.7, 64°.72N±0°.02×17°.47W±0°.02, h12km±4km, n64, σ1°64/79, mb3.6/5, MS3.4/3, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIS	**Kista** baz=269	**0.06**	**220**	P	**Pg**	**23 03 21.6**	**-0.9**
IKIS	baz=269			S	**Sg**	**23 03 22.8**	**-1.6**
IDYN	**Dyngjuhals** baz=16	**0.08**	**32**	P	**Pg**	**23 03 23.1**	**+0.4**
IDYN	baz=16			S	**Sg**	**23 03 25.8**	**+1.1**
IVON	**Vonarskard** baz=269	**0.13**	**249**	P	**Pb**	**23 03 23.2**	**-1.3**
IVON	baz=269			S	**Sg**	**23 03 25.6**	**-0.2**
IURH	**Urdarhals** baz=41	**0.17**	**54**	P	**Pb**	**23 03 24.4**	**-0.8**
IURH	baz=41			S	**Sg**	**23 03 28.1**	**+1.5**
IDJK	**Dyngjujokull** baz=152	**0.24**	**155**	P	**Pg**	**23 03 24.5**	**-0.6**
IGRF	**Grimsfjall** baz=164	**0.33**	**165**	S	**Sg**	**23 03 29.9**	**-1.2**
IBJK	**Bruarjokull** baz=124	**0.40**	**129**	P	**Pg**	**23 03 26.9**	**-1.1**
IBJK	baz=124			S	**Sg**	**23 03 31.7**	**-1.6**
THOR	**Thorvaldshraun** baz=51	**0.40**	**57**	P	**Pb**	**23 03 28.1**	**-1.0**
THOR	baz=51			S	**Sb**	**23 03 34.7**	**-0.4**
ISKR	**Skrokkalda** baz=255	**0.43**	**248**	P	**Pg**	**23 03 28.0**	**-0.4**
ISKR	baz=255			S	**Sg**	**23 03 34.0**	**-0.1**
IHUS	**Husbondi** baz=194	**0.44**	**191**	P	**Pg**	**23 03 27.9**	**-0.7**
IHUS	baz=194			S	**Sg**	**23 03 33.7**	**-0.7**
IKRE	**Kreppuhraun** baz=76	**0.47**	**82**	P	**Pb**	**23 03 28.5**	**-1.7**
IKRE	baz=76			S	**Sb**	**23 03 35.0**	**-2.1**
IASK	**Askja** baz=42	**0.48**	**46**	P	**Pb**	**23 03 29.4**	**-1.0**
IASK	baz=42			S	**Sb**	**23 03 36.6**	**-0.9**
IJOK	**Jokulheimar** baz=224	**0.52**	**219**	P	**Pg**	**23 03 29.1**	**-1.1**
IMKO	**Mokollar** baz=57	**0.55**	**61**	P	**Pb**	**23 03 30.5**	**-1.0**
IMKO	baz=57			S	**Sb**	**23 03 38.6**	**-0.8**
ISVA	**Svartarkot** baz=6.8	**0.62**	**8**	P	**Pn**	**23 03 32.4**	**-2.3**
ISVA	baz=6.8			S	**Sn**	**23 03 42.0**	**-2.6**
IIEY	**Innrieyrar** baz=207	**0.69**	**205**	P	**Pg**	**23 03 32.1**	**-1.2**
IVSH	**V-Sauoahnukur** baz=79	**0.75**	**83**	P	**Pb**	**23 03 33.4**	**-1.7**
IVSH	baz=79			S	**Sb**	**23 03 43.5**	**-1.7**
IKAL	**Kalfafell** baz=188	**0.78**	**187**	P	**Pg**	**23 03 33.5**	**-1.6**
IFAL	**Falljokull** baz=159	**0.82**	**160**	P	**Pg**	**23 03 33.9**	**-1.8**
IVAT	**Vatnsfell** baz=233	**0.83**	**230**	P	**Pg**	**23 03 35.1**	**-0.9**
IADA	**Aoalbol** baz=66	**0.86**	**69**	P	**Pb**	**23 03 35.4**	**-1.5**
IADA	baz=66			S	**Sn**	**23 03 47.4**	**-3.1**
IKVI	**Kvisker** baz=147	**0.87**	**148**	P	**Pg**	**23 03 34.6**	**-2.1**
IMEL	**Melhnausar** baz=20	**0.92**	**22**	P	**Pn**	**23 03 37.0**	**-1.7**
IFAG	**Fagurholsmyri** baz=156	**0.92**	**157**	P	**Pg**	**23 03 35.9**	**-1.8**
ISTE	**Stelbrattur** baz=282	**0.94**	**279**	P	**Pg**	**23 03 36.6**	**-1.4**
IKVO	**Krokottuvotn** baz=12	**1.03**	**14**	P	**Pn**	**23 03 38.8**	**-1.4**
IGRS	**Grimsstaoir** baz=29	**1.08**	**31**	P	**Pn**	**23 03 39.7**	**-1.3**
IGRS	baz=29			S	**Sn**	**23 03 55.0**	**-0.9**
ISNB	**Snabyli** baz=209	**1.11**	**208**	P	**Pb**	**23 03 39.2**	**-1.9**
IHES	**Hestalda** baz=236	**1.13**	**234**	P	**Pb**	**23 03 40.2**	**-1.3**
ILOD	**Lodnugiljahaus** baz=213	**1.15**	**211**	P	**Pg**	**23 03 41.1**	**-0.9**
ISLY	**Slysaalda** baz=221	**1.15**	**219**	P	**Pb**	**23 03 40.0**	**-1.9**
ISKI	**Skildingahlsh** baz=8.1	**1.17**	**9**	P	**Pn**	**23 03 41.2**	**-1.0**
ISKI	baz=8.1			S	**Sn**	**23 03 57.8**	**-0.2**
IGHA	**Grjothals** baz=15	**1.18**	**16**	P	**Pg**	**23 03 41.2**	**-1.4**
IFED	**Fedgar** baz=237	**1.19**	**235**	P	**Pn**	**23 03 41.0**	**-1.5**
IGRA	**Granastaoir** baz=357	**1.20**	**358**	P	**Pg**	**23 03 41.5**	**-1.6**
IGRA	baz=357			S	**Sn**	**23 03 58.7**	**-0.1**
IRJU	**Rjupnafell** baz=208	**1.23**	**206**	P	**Pn**	**23 03 40.5**	**-2.4**
IMJO	**Mjoaskard** baz=234	**1.25**	**231**	P	**Pn**	**23 03 41.9**	**-1.3**
IDIM	**Dimmadalss** baz=9.2	**1.27**	**10**	P	**Pg**	**23 03 42.6**	**-1.6**
IAUS	**Austmannsbunga** baz=216	**1.27**	**215**	P	**Pn**	**23 03 41.4**	**-2.2**
IGYG	**Gygjarholskot** baz=253	**1.27**	**251**	P	**Pn**	**23 03 42.1**	**-1.4**
IHAU	**Haukadalur** baz=238	**1.32**	**236**	P	**Pn**	**23 03 42.7**	**-1.5**
IHVO	**Lagu-Hvolar** baz=209	**1.34**	**207**	P	**Pn**	**23 03 43.0**	**-1.5**
IHED	**Heoinshofoi** baz=2.2	**1.37**	**3**	P	**Pg**	**23 03 44.4**	**-1.8**
IHED	baz=2.2			S	**Sg**	**23 04 03.0**	**-1.0**
IBRE	**Brettingsstaoi** baz=353	**1.42**	**353**	P	**Pg**	**23 03 45.0**	**-2.3**
IGIL	**Gilhagi** baz=18	**1.44**	**18**	P	**Pg**	**23 03 45.3**	**-2.3**
ISAU	**Saurbar** baz=243	**1.48**	**242**	P	**Pn**	**23 03 45.1**	**-1.2**
IESK	**Eystri-Skogar** baz=218	**1.48**	**217**	P	**Pn**	**23 03 45.5**	**-1.0**
IMID	**Miomork** baz=227	**1.50**	**226**	P	**Pn**	**23 03 45.9**	**-0.8**
ISIG	**Siglufjorour** baz=338	**1.54**	**338**	P	**Pb**	**23 03 46.9**	**-1.5**
ISIG	baz=338			S	**Sg**	**23 04 08.1**	**-1.3**
BORG	**Borgarnes** 15nm,0.3s,baz=91,slow=6.9,SNR=9.8	**1.66**	**273**	Pg	**Pn**	**23 03 47.8**	**-1.0**
BORG	5.9nm,0.3s,baz=84,slow=1.7,SNR=1.1			Lg	Lg	23 04 11.1	
IKRO	**Krokur** baz=252	**1.71**	**250**	P	**Pn**	**23 03 48.9**	**-0.6**
ISOL	**Solvholt** baz=245	**1.71**	**244**	P	**Pn**	**23 03 49.0**	**-0.5**
ILEI	**Leirhofn** baz=12	**1.74**	**13**	P	**Pb**	**23 03 50.1**	**-1.8**
EKA	**Eskdalemuir Ar** baz=320,slow=13 1.0nm,0.6s	**11.79**	**136**	Pn	**Pn**	**23 06 08.1**	**+0.3**
NOA	**NORSAR Array B** baz=305,slow=14,SNR=1.8 0.3nm,0.7s	**13.52**	**93**	Pn	**Pn**	**23 06 33.1**	**+1.7**
BRG	**Berggiesshubel**	**21.42**	**115**	*e*P	**P**	**23 08 12.2**	**+4.7**
BRG	comp=Z,5.4nm,1.3s			Amp		23 08 14.4	
GERES	**GERESS Array B** comp=Z,0.2nm,0.4s,baz=330,slow=9.1,SNR=1.4 comp=Z,0.2nm,0.4s	**22.97**	**119**	P	**P**	**23 08 27.8**	**+3.6**
ESDC	**Sonseca Array** comp=Z,0.8nm,1.0s,baz=345,slow=8.6,SNR=2.8 comp=Z,0.8nm,1.0s	**26.30**	**156**	P	**P**	**23 08 57.4**	**+2.2**
ARU	**Arti** comp=Z,17nm,18.6s,baz=21,slow=33	**36.05**	**66**	LR	LR	23 23 30.5	
ILAR	**Eielson Array** comp=Z,0.7nm,1.0s,baz=34,slow=6.7,SNR=4.5 comp=Z,0.7nm,1.0s	**45.64**	**332**	P	P	23 11 43.2	+3.6
KURBB	**Kurchatov Arra** comp=Z,1.1nm,0.7s,baz=324,slow=7.1,SNR=2.4	**48.12**	**58**	P	**P**	**23 12 02.0**	**+2.9**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.8s,baz=350,slow=7.0,SNR=3.7 comp=Z,0.7nm,0.8s	**53.19**	**156**	P	**P**	**23 12 38.4**	**+0.6**
AAK	**Ala-Archa** comp=Z,30nm,18.8s,baz=82,slow=38	**53.23**	**67**	LR	LR	23 37 24.1	
TGY	**Tagaytay City** comp=Z,100nm,18.3s,baz=174,slow=39	**95.33**	**40**	LR	LR	00 05 27.9	

*AEIC **26** 23:10:46.0±1.8, 55°.92N±0°.06×161°.2W±0°.1, h169km±5km, Error ellipse: s-maj=10.4km s-min=7.2km az=141.0*
NEIC 26 23:10:44.6±1.5, 55°.92N±0°.06×161°.16W±0°.10, h173km±7km, mb3.7/10, ML3.1/38, ML3.2(AEIC), Error ellipse: s-maj=9.3km s-min=6.9km az=137.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS1A	**Pavlof South-1**	**0.60**	**214**		Pn	23 11 09.0	-0.1
PS1A					Sn	23 11 27.3	-0.5
PN7A	**Pavlof North-7**	**0.68**	**225**		Pn	23 11 09.7	+0.1
SDPT	**Sand Point**	**0.69**	**146**		Pn	23 11 09.3	-0.2
SDPT					Sn	23 11 28.1	-0.5
SDPT	comp=E,329nm,0.2s			IAML		23 11 29.0	
SDPT	comp=N,334nm,0.3s			IAML		23 11 29.1	
HAG	**Hague Volcano**	**0.74**	**216**		Pn	23 11 10.0	+0.1
VNWF	**Veniaminof 8**	**0.93**	**75**		Pn	23 11 11.8	+0.6
VNFG	**Fog Glacier, M**	**0.97**	**67**		Pn	23 11 11.9	+0.4
VNFG					Sn	23 11 32.1	-0.1
VNFG	comp=N,148nm,0.7s			IAML		23 11 33.3	
VNFG	comp=E,159nm,0.8s			IAML		23 11 46.4	
VNSS	**Veniaminof 8**	**1.00**	**71**		Pn	23 11 12.3	+0.5
VNSS					Sn	23 11 32.9	+0.1
DT1	**Dutton Round H**	**1.03**	**219**		Pn	23 11 12.0	+0.2
CNBA	**Chernabura Isl**	**1.42**	**140**		Pn	23 11 14.9	-0.2
CNBA					Sn	23 11 35.1	-3.6
CHGN	**Chignik**	**1.58**	**75**	Pn	Pn	23 11 16.8	+0.1
CHGN				Sn	Sn	23 11 41.0	-0.5
CHGN	comp=N,217nm,0.4s			IAML		23 11 42.8	
ISLZ	**Isanotski Laza**	**1.89**	**232**		Pn	23 11 20.2	+0.2
ISLZ					Sn	23 11 47.0	-0.3
SSLN	**Shishaldin Nor**	**1.96**	**237**		Pn	23 11 21.4	+0.6
SSLS	**Shishaldin Sou**	**2.02**	**235**		Pn	23 11 21.7	+0.2
SSBA	**Shishaldin**	**2.05**	**237**		Pn	23 11 21.8	+0.1
WESE	**West Dahl East**	**2.44**	**235**		Pn	23 11 26.7	+0.4
CHIR	**Chirikof Islan**	**3.12**	**89**	Pn	Pn	23 11 34.0	-0.3
CHIR	comp=E,92nm,1.5s			IAML		23 12 23.2	
R17K	**Ugashik Creek**	**3.14**	**55**	Pn	Pn	23 11 34.2	-0.3
AKSA	**Akutan Strait**	**3.16**	**238**		Pn	23 11 35.4	+0.5
AKUT	**Akutan**	**3.20**	**238**	Pn	Pn	23 11 34.1	-1.2
AKUT	comp=N,31nm,1.0s			IAML		23 12 24.8	
AKUT	comp=E,55nm,1.3s			IAML		23 12 47.3	
AKLV	**Akutan Long Va**	**3.27**	**240**		Pn	23 11 36.7	+0.5
AKV	**Akutan Volcano**	**3.30**	**239**		Pn	23 11 37.1	+0.5
AKBBA	**Akutan Broad B**	**3.30**	**238**		Pn	23 11 36.8	+0.2
ZRO	**Akutan Zero**	**3.33**	**239**		Pn	23 11 37.4	+0.5
O14K	**Tigyukauivet M**	**3.35**	**359**		Pn	23 11 36.5	-0.6
O14K				IAML		23 12 17.8	
O14K	comp=N,34nm,1.2s			IAML		23 12 47.3	
O15K	**Ungalikthiuk R**	**3.35**	**12**		Pn	23 11 36.5	-0.6
P16K	**Nushagak River**	**3.56**	**27**		Pn	23 11 39.7	-0.1
SII	**Sitkinak Islan**	**3.94**	**78**	Pn	Pn	23 11 44.2	-0.5
O16K	**Kokwok River B**	**4.04**	**23**	Pn	Pn	23 11 45.0	-0.8
N15K	**Kwethluk River**	**4.30**	**7**	Pn	Pn	23 11 48.4	-0.8
N15K	comp=E,16nm,1.5s			IAML		23 12 44.3	
M13K	**Dall Lake**	**4.66**	**346**	Pn	Pn	23 11 53.5	-0.3
M13K	comp=E,14nm,1.3s			IAML		23 13 31.0	
M13K	comp=N,12nm,1.1s			IAML		23 13 50.0	
P18K	**Big Mountain,**	**4.72**	**40**	Pn	Pn	23 11 55.3	+0.6
P18K	comp=E,9.1nm,1.4s			IAML		23 13 03.3	
P18K	comp=N,13nm,1.3s			IAML		23 13 08.2	
M14K	**Bethel**	**4.87**	**355**	Pn	Pn	23 11 55.1	-1.4
M14K	comp=E,14nm,1.2s			IAML		23 12 52.3	
M14K	comp=N,12nm,1.3s			IAML		23 14 15.4	
Q19K	**Cape Douglas,**	**5.06**	**50**	Pn	Pn	23 11 59.5	+0.4
KDAK	**Kodiak Island**	**5.06**	**65**	Pn	Pn	23 11 58.7	-0.4
KDAK	comp=N,15nm,1.1s			IAML		23 12 56.5	
O18K	**Koktuh Hills**	**5.07**	**36**	Pn	Pn	23 11 58.8	-0.3
O18K	comp=E,7.8nm,1.4s			IAML		23 12 52.9	
O18K	comp=N,7.0nm,1.2s			IAML		23 14 42.8	
N17K	**Nushagak Hills**	**5.08**	**23**	Pn	Pn	23 11 58.8	-0.5
M16K	**Timber Creek**	**5.25**	**12**	Pn	Pn	23 12 01.2	-0.3
M16K	comp=N,9.0nm,1.4s			IAML		23 14 15.7	
SYI	**Shuyak Island**	**5.47**	**57**	Pn	Pn	23 12 04.1	-0.3
L14K	**Kuka Creek**	**5.50**	**352**	Pn	Pn	23 12 03.5	-1.2
N18K	**Kilae Creek**	**5.52**	**28**	Pn	Pn	23 12 05.3	+0.1
M17K	**Holitna River**	**5.83**	**18**	Pn	Pn	23 12 08.9	-0.2
N19K	**Bonanza Creek**	**6.03**	**33**	Pn	Pn	23 12 12.4	+0.5
K13K	**Kusilvak Mount**	**6.30**	**345**	Pn	Pn	23 12 14.6	-0.7
K15K	**Wolf Creek Mou**	**6.40**	**358**	Pn	Pn	23 12 15.8	-0.8
CNPM	**China Poot**	**6.43**	**52**	Pn	Pn	23 12 16.4	-0.6
L18K	**Granite Mounta**	**6.73**	**18**	Pn	Pn	23 12 17.9	-3.0
M19K	**Big River Lodg**	**6.95**	**27**	Pn	Pn	23 12 24.2	+0.4
K17K	**Iditarod**	**6.97**	**11**	Pn	Pn	23 12 23.0	-1.1
L19K	**White Mountain**	**7.07**	**25**	Pn	Pn	23 12 25.8	+0.4
M20K	**Styx River**	**7.28**	**31**	Pn	Pn	23 12 29.7	+1.4
SUA	**Susitna One**	**7.76**	**40**	Pn	Pn	23 12 34.8	+0.1

SKT	Skwentna	7.85	35	Pn	Pn	23 12 36.8	+1.0
J18K	Innoko River	7.90	15	Pn	Pn	23 12 36.4	+0.1
K20K	Telida	8.28	23	Pn	Pn	23 12 42.0	+0.6
PWL	Port Wells	8.35	48	Pn	Pn	23 12 41.4	-1.0
GHO	Glory Hole Cre	8.63	42	Pn	Pn	23 12 45.2	-0.9
CAST	Castle Rocks	8.80	28	Pn	Pn	23 12 48.3	0.0
SML	Sawmill	8.88	43	Pn	Pn	23 12 48.1	-1.2
J20K	Nowinta River	8.99	20	Pn	Pn	23 12 50.9	+0.1
SCM	Sheep Creek Mo	9.29	45	Pn	Pn	23 12 53.9	-0.8
BPAW	Bear Paw Mtn.	9.64	28	Pn	Pn	23 13 00.1	+0.8
KLU	Klutina	9.69	49	Pn	Pn	23 12 57.7	-2.2
DHY	Denali Highway	10.01	39	Pn	Pn	23 13 03.4	-0.9
N25K	Chitina, Valde	10.30	50	Pn	Pn	23 13 08.1	+0.1
M26K	Nabesna, AK	11.33	48	Pn	Pn	23 13 20.5	-0.9
M27K	Edge Creek, AK	11.78	49	Pn	Pn	23 13 27.5	+0.2
L27K	Beaver Creek,	12.11	46	Pn	Pn	23 13 31.2	-0.2
BCAR	Beaver Creek A	12.13	46	Pn	Pn	23 13 31.0	-0.7
J26L	Joseph Creek	12.22	38	Pn	Pn	23 13 32.6	-0.3
PRP	Porcupine Dome	12.25	32	Pn	Pn	23 13 34.6	+1.3
I26K	Coal Creek Min	12.86	36	P	P	23 13 44.0	-1.1
E21K	Killik River	12.99	12	Pn	Pn	23 13 42.9	+0.3
E22K	Anaktuvuk Pass	13.00	16	P	P	23 13 47.7	+1.0
M29M	Somme Creek	13.29	51	Pn	Pn	23 13 47.1	+0.6
HYT	Haines Junctio	13.31	59	Pn	Pn	23 13 45.7	-1.0
E24K	Your Creek	13.53	21	P	P	23 13 53.5	+0.9
DAWY	Dawson	13.54	44	P	P	23 13 53.7	+0.9
D22K	Ayikyak River	13.57	13	P	P	23 13 53.7	+0.7
L29M	L29M	13.67	49	P	P	23 13 56.8	+2.6
TOLK	Toolik Lake Re	13.82	18	P	P	23 13 57.3	+1.5
BMAR	Burnt Mountain	13.90	27	Pn	Pn	23 13 53.7	-0.3
I28M	Miner Creek	14.04	39		Pn	23 13 57.0	+1.2
B21K	Ikpikpuk River	14.06	9	P	P	23 13 59.3	+0.9
M30M	Minto, Yukon	14.07	52	P	P	23 14 01.0	+2.3
B20K	Meade River	14.26	6	Pn	Pn	23 13 57.5	-0.8
G27K	Doyon Strip	14.29	32	P	P	23 14 00.6	-0.4
D24K	Happy Valley	14.40	18	P	P	23 14 01.4	-0.8
I29M	Ogilvie Camp,	14.57	40		Pn	23 14 03.2	+0.9
J30M	Hart River	14.97	45	P	P	23 14 08.9	+0.2
H29M	Whitestone	15.00	37	P	P	23 14 08.7	-0.1
I30M	Mount Dempster	15.22	42	P	P	23 14 12.0	+0.5
I30M				IAmb	IAmb	23 14 13.5	
	comp=Z,2.8nm,0.6s						
F28M	Old Crow	15.34	32	P	P	23 14 13.0	+0.4
F28M				IAmb	IAmb	23 14 24.4	
	comp=Z,3.2nm,1.1s						
G29M	Pine Creek	15.49	35	P	P	23 14 14.6	+0.2
G29M				IAmb	IAmb	23 14 25.7	
	comp=Z,3.3nm,1.1s						
WRAK	Wrangell Islan	16.00	76		P	23 14 20.0	0.0
G30M	tAoh Żraii Nji	16.13	37		P	23 14 20.7	-0.6
H31M	Peel River	16.24	42	P	Pn	23 14 23.0	+0.3
H31M				IAmb	IAmb	23 14 23.6	
	comp=Z,1.9nm,0.8s						
MMPY	Sheldon Lake,	16.57	54	Pn	Pn	23 14 28.8	+2.0
MMPY				IAmb	IAmb	23 14 35.2	
	comp=Z,3.3nm,0.9s						
G31M	Satah River	16.77	38	P	P	23 14 27.7	-0.6
G31M				IAmb	IAmb	23 14 44.8	
	comp=Z,4.1nm,1.1s						
T35M	Bob Quinn	17.05	74	Pn	Pn	23 14 34.4	+1.9
F31M	Tsiigehtchic	17.20	37	P	P	23 14 32.4	-0.5

*ANF **26** 23:18:28.0±0.2, 33°.46N×118°.18W, h12km±1km, ML3.7/33, Error ellipse: s-maj=1.4km s-min=1.1km az=14.0*
*NEIC **26** 23:18:28.0±1.8, 33°.42N±0°.02×118°.20W±0°.02, h7km±6km, Error ellipse: s-maj=3.3km s-min=2.2km az=186.0*
*PAS **26** 23:18:28.7±1.5, 33°.46N±0°.02×118°.18W±0°.02, h11km±2km, ML3.7/325, ML3.4/84(NEIC), Error ellipse: s-maj=3.5km s-min=2.0km az=185.0*

ISC 26 23:18:28.1±0.8, 33°.46N±0°.02×118°.17W±0°.01, h15km±6km, n170, σ0°83/230, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIAC	Catalina I. Ai	0.21	254		Pg	23 18 32.9	-0.1
CIAC					Sg	23 18 36.2	0.0
CIS	Catalina Islan	0.21	254	P	Pg	23 18 32.9	-0.1
	baz=73,SNR=1000						
CIS				S	Sg	23 18 36.1	-0.1
	baz=73						
FMP	Fort Macarthur	0.27	338		Pg	23 18 33.7	-0.2
FMP					Sg	23 18 37.3	-0.6
FMP	Fort Macarthur	0.27	338	P	Pg	23 18 33.7	-0.2
	baz=160,SNR=356						
FMP				S	Sg	23 18 37.2	-0.6
	baz=160						
RPV	Rancho Palos V	0.34	326		Pg	23 18 35.1	-0.1
RPV					Sg	23 18 40.2	+0.2
SANC	Santa Ana	0.34	45		Pb	23 18 35.7	-0.2
SANC					Sb	23 18 41.6	+0.4
DLAC	Del Amo	0.39	10		Pb	23 18 36.9	+0.1
DLAC					Sb	23 18 43.8	+1.2
WTT2	Watts, South G	0.49	352		Pg	23 18 37.8	-0.1
BHPC	Baldwin Hills	0.55	344		Sb	23 18 47.8	+0.6
RHC	Rose Hills Cem	0.56	14		Sn	23 18 49.7	-0.8
LCGC	La Cienega, Cu	0.56	343		Pb	23 18 39.7	0.0
LCGC					Sb	23 18 48.0	+0.4
USC	University of	0.56	351		Pb	23 18 39.8	0.0
USC					Sb	23 18 48.5	+0.9
SCI2	San Clemente I	0.57	213		Pb	23 18 40.0	+0.2
SCI2					Sn	23 18 50.5	-0.4
SCI2	San Clemente I	0.57	213	P	Pb	23 18 39.9	0.0
	baz=32,SNR=182						
GVRC	Garvey Reservo	0.59	4		Pb	23 18 40.2	0.0
ELS	Elsinore Mount	0.65	73	Pg	Pg	23 18 40.5	-0.4
ELS				Sg	Sg	23 18 49.8	+0.2
ELS				IAML		23 18 51.8	
	comp=N,1μm,0.5s						
GR2C	Griffith Obs.	0.66	351		Pb	23 18 41.3	-0.2
CACC	Caltech Cellar	0.68	4		Pn	23 18 53.1	+10
GSA	Caltech--GSA	0.68	3		Sb	23 18 52.2	+1.4
CHNC	Chino	0.68	37		Pg	23 18 40.8	-0.6
CHNC					Sb	23 18 50.8	-0.1
CBCC	Caltech Broad	0.68	3		Sb	23 18 52.7	+1.8
DJJ	Donna J Jenkin	0.69	340		Pg	23 18 41.1	-0.4
DJJ					Pn	23 18 50.7	+7.4
PSRC	Puddingstone R	0.70	26		Sb	23 18 53.1	+1.6
PASC	Pasadena Art C	0.71	359		Pg	23 18 41.8	-0.2
PASC				Sg	Sb	23 18 51.7	-0.1
PASC				IAML		23 18 54.5	
	comp=N,3μm,0.4s						
SBI	Santa Barbara	0.71	272		Pg	23 18 42.0	-0.1
SBI					Sb	23 18 51.9	-0.1
HLLC	North Hollywoo	0.73	348		Pb	23 18 43.0	+0.4
MWC	Mount Wilson	0.77	7		Pg	23 18 42.5	-0.7
MWC					Sb	23 18 53.8	+0.1
DECC	Green Verdugo	0.80	350		Pg	23 18 43.5	-0.3
DECC					Sb	23 18 55.8	+1.3
DECC	Green Verdugo	0.80	350	P	Pg	23 18 43.5	-0.3
	baz=171,SNR=105						
DECC				S	Sb	23 18 55.0	+0.5
	baz=171						
MURC	Murrieta	0.83	80		Pg	23 18 43.9	-0.3
MURC					Sg	23 18 55.3	+0.1
MURC	Murrieta	0.83	80	P	Pg	23 18 43.9	-0.3
	baz=261,SNR=240						
MURC				S	Sg	23 18 55.4	+0.2
	baz=261						
GORC	Green Oak Ranc	0.85	111		Sb	23 18 56.2	+0.5
RVR	Riverside	0.85	51		Pg	23 18 44.2	-0.5
RVR					Sb	23 18 56.7	+0.8
RSBC	Riverside Bore	0.87	54		Sn	23 18 58.3	0.0
RSBC	Riverside Bore	0.87	54		Pg	23 18 44.7	-0.3
CHFC	Chilao Flat St	0.88	8		Sg	23 18 56.2	-0.7
BLCC	Black Canyon	0.88	332		Pg	23 18 44.8	-0.5
BLCC					Sg	23 18 56.6	-0.3
FON	Fontana	0.88	44		Pb	23 18 45.3	+0.1
FON					Sb	23 18 58.2	+1.4
BFSC	Mount Baldy Ra	0.89	29		Sg	23 18 56.9	-0.3
BFSC	Mount Baldy Ra	0.89	29	P	Pg	23 18 44.7	-0.6
BFSC				S	Sg	23 18 56.8	-0.3
	baz=209						
SS2	San Sevaine	0.93	37		Pg	23 18 44.3	-2.0
PEC	Perris	0.95	63		Pg	23 18 45.7	-0.8
OAT	Oat Mountain	0.95	338		Pb	23 18 46.6	+0.2
BACC	Bachelor Mtn.	0.96	81		Pg	23 18 46.1	-0.7
BACC					Sg	23 18 59.1	-0.2
DGR	Domenigoni Val	0.99	79		Pg	23 18 46.5	-0.8
DGR					Sg	23 18 59.9	-0.5
JNH	Juniper Hills	1.00	10		Sg	23 19 00.4	-0.3
HMTC	Hemet	1.01	75		Pg	23 18 46.6	-1.0
CFT	Crafton Hills	1.05	57		Pb	23 18 48.6	+0.4
109C	Camp Elliot, M	1.06	122		Pb	23 18 47.5	-0.7
109C				IAML		23 19 04.5	
	comp=E,1μm,0.2s						
109C				IAML		23 19 05.2	
	comp=N,883nm,0.6s						
109C	Camp Elliot, M	1.06	122	P	Pb	23 18 47.6	-0.7
	baz=303,SNR=52						
CPE	Camp Elliot	1.06	122		Pb	23 18 47.5	-0.8
CPE					Sg	23 19 02.0	-0.5
CJV	Casa Juvan	1.07	1		Pg	23 18 47.8	-1.1
POB	Polly Butte	1.07	78		Pg	23 18 47.9	-0.9
POB					Sg	23 19 02.4	-0.4
LRRC	Littlerock Res	1.07	6		Pb	23 18 47.8	-0.5
LRRC					Sg	23 19 02.5	-0.3
BBSC	Beaumont Base	1.10	65		Sn	23 19 04.3	+0.4
SDMC	San Diego Miss	1.10	128		Pb	23 18 48.3	-0.6
SDMC					Sg	23 19 03.8	0.0
SVD	Seven Oaks Dam	1.10	54		Pb	23 18 48.9	-0.1
DPP	Dos Picos Cty	1.13	114		Pb	23 18 48.5	-0.9
SNCC	San Nicolas Is	1.15	260		Pb	23 18 49.1	-0.6
SNCC				Sg	Sb	23 19 04.5	+0.1
SNCC				IAML		23 19 06.4	
	comp=N,1μm,0.6s						
SNCC	San Nicolas Is	1.15	260	P	Pb	23 18 49.1	-0.6
	baz=79,SNR=20						
SNCC				S	Sb	23 19 04.7	+0.2
	baz=79						
LEOC	Leona Valley	1.17	355		Pb	23 18 49.6	-0.6
STCC	Santa Clara	1.19	315		Pb	23 18 50.1	-0.3
PYR	Pyramid	1.20	337		Pb	23 18 50.2	-0.5
CRY	Cary Ranch	1.21	85		Pn	23 18 50.6	+0.1
CRY					Sb	23 19 06.7	+0.5
ALPC	Antelope	1.23	355		Pn	23 18 50.9	0.0
OSI	Osito Audit: C	1.24	339		Pn	23 18 51.1	+0.1
OSI					Sg	23 19 07.7	-0.5
OSI	Osito Audit: C	1.24	339	P	Pn	23 18 51.1	+0.1
	baz=159,SNR=30						
OSI				S	Sn	23 19 08.2	+0.7
	baz=159						
ADO	Adelanto Recei	1.25	29		Pn	23 18 51.4	+0.2
EML	El Monte Cty P	1.25	117		Sb	23 19 07.5	+0.2
SBB	Saddle Back Bu	1.26	13		Sb	23 19 07.8	+0.1
BZNA	Buzz No.'s Pla	1.26	88		Pn	23 18 51.4	0.0
BZNA					Sb	23 19 08.3	+0.5
BTPC	Burnt Peak	1.26	345		Pn	23 18 51.4	0.0
SDRC	San Diego Road	1.26	125		Sb	23 19 07.3	-0.4
DNR	Dunn Ranch,Anz	1.29	85		Pn	23 18 52.2	+0.4
DNR					Sn	23 19 09.6	+0.6
VTV	Victorville	1.30	32		Sb	23 19 08.8	-0.1
SNDA	J Saunders Pla	1.31	86		Pn	23 18 52.3	+0.3
SNDA					Sn	23 19 10.1	+0.8
BBRC	Big Bear Solar	1.31	52		Pn	23 18 52.6	+0.4
BBRC	Big Bear Solar	1.31	52	P	Pn	23 18 52.6	+0.4
	baz=233,SNR=35						
BBRC				S	Sg	23 19 10.6	-0.1
	baz=233						
FRD	Ford Ranch, An	1.31	88		Pn	23 18 52.1	+0.1
FRD	Ford Ranch, An	1.31	88		Pn	23 18 52.1	+0.1
FRD					Sb	23 19 09.6	+0.3
SCZ2	Santa Cruz Isl	1.33	294		Pg	23 18 53.2	-0.5
SCZ2	Santa Cruz Isl	1.33	294	P	Pn	23 18 52.6	+0.4
	baz=113,SNR=37						
SCZ2				S	Sg	23 19 11.0	-0.1
	baz=113						
TJX	Tijuana	1.34	135		Pg	23 18 53.8	-0.1
TJX				Sn	Sg	23 19 11.8	+0.5
OLP	Otay Lakes Par	1.35	129		Pn	23 18 52.0	-0.4
OLP					Sb	23 19 09.1	-1.0
JUEM	Julian Eagle M	1.37	106		Pn	23 18 52.5	-0.4
JUEM					Sb	23 19 11.6	+0.5
TPO	Tropico Hills	1.42	358		Pb	23 18 54.2	-0.1
TPO					Sn	23 19 12.4	+0.6
EDW2	Edwards Air Fo	1.42	6		Pn	23 18 54.3	+0.7
EDW2	Edwards Air Fo	1.42	6	P	Pn	23 18 54.1	+0.6
	baz=186,SNR=884						
EDW2				S	Sb	23 19 13.3	+0.8
	baz=186						
SIL	Silver Peak	1.43	51		Pb	23 18 54.5	-0.1
PFO	Pinyon Flats O	1.44	84		Pn	23 18 54.2	+0.4
PFO				Sn	Sn	23 19 13.4	+0.9
PFO				IAML		23 19 15.8	
	comp=N,649nm,0.8s						
PFO				IAML		23 19 16.3	
	comp=N,336nm,0.5s						
PFO	Pinyon Flats O	1.44	84		Pn	23 18 54.2	+0.4
PFO	Pinyon Flats O	1.44	84	P	Pn	23 18 54.2	+0.4
	baz=264,SNR=165						
PFO				S	Sn	23 19 13.3	+0.8
	baz=264						
XPFO	Pion Flat	1.44	84		Pn	23 18 54.3	+0.4
BORC	Borrego Spring	1.48	97		Pn	23 18 54.7	+0.4
THC	Tehachapi Micr	1.50	344		Pn	23 18 55.3	+0.6
PMD	Palm Desert	1.51	82		Pn	23 18 54.9	+0.2
PMD				Sn	Sg	23 19 16.2	-0.7
PMD				IAML		23 19 17.6	
	comp=N,851nm,0.7s						
PMD				IAML		23 19 19.1	
	comp=E,473nm,0.5s						
EW2	E Wide Canyon	1.55	72		Pn	23 18 56.1	+0.9
MONP2	Monument Peak	1.57	111		Pn	23 18 55.5	-0.2
MONP2	Monument Peak	1.57	111	P	Pn	23 18 55.5	-0.2
	baz=292,SNR=159						
MONP2				S	Sn	23 19 17.1	+1.1
	baz=292						
TKX	Tecate	1.59	124		Pn	23 18 55.8	+0.1
TKX				Sn	Sn	23 19 15.5	-0.6
TKX				IAML		23 19 19.7	
	comp=E,550nm,0.2s						
TKX				IAML		23 19 19.7	
	comp=N,789nm,0.3s						
BLAC	Blackrock camp	1.61	67		Pn	23 18 57.0	+0.9
SBC	Santa Barbara	1.61	308	Pb	Pb	23 18 57.9	+0.3
	baz=127						
CCAC	Calif City Air	1.69	4		Pn	23 18 58.1	+0.9
CBX	Cerro Bola	1.71	132		Pn	23 18 57.3	-0.3
CBX				IAML		23 19 24.5	
	comp=N,453nm,0.6s						
CBX				IAML		23 19 25.6	
	comp=E,474nm,0.8s						
RRX	Edison Barstow	1.71	34	P	Pn	23 18 58.3	+0.8
	baz=215,SNR=24						
RRX				S	Sb	23 19 20.9	+0.1
	baz=215						
ARVC	Arvin	1.75	342	P	Pn	23 18 58.6	+0.7
	baz=162,SNR=60						
ARVC				Sb	Sg	23 19 23.6	-0.8
	baz=162						
BCW	Bitter Crk WRg	1.80	326		Pn	23 18 59.4	+0.7
BELC	Belle Mtn. Jos	1.89	73	P	Pn	23 19 00.5	+0.5
	baz=254						
BELC				Sb	Sb	23 19 27.7	+1.7
	baz=254						
BSM	San Miguel Isl	1.90	288		Pn	23 18 59.7	-0.3
IKP	In-Ko-Pah, Jac	1.91	114	P	Pn	23 19 00.9	+0.6
	baz=296,SNR=99						
IKP				S	Sn	23 19 25.6	+1.5
	baz=296						
RMX	La Rumorosa	1.96	115		Pb	23 19 02.8	-0.8
RMX				IAML		23 19 33.9	
	comp=E,362nm,0.4s						
RMX				IAML		23 19 35.5	
	comp=N,352nm,0.6s						
PKM	Mcpherson Peak	1.97	317	P	Pn	23 19 01.1	0.0
	baz=136,SNR=51						
CCX	Cicese	2.04	141		Pn	23 19 03.1	+1.2
HEC	Hector,Ludlow	2.05	48	P	Pn	23 19 02.9	+0.8
	baz=229,SNR=110						
HEC				Sb	Sg	23 19 32.6	-1.4
	baz=229						
LRMC	Laurel Mtn Rad	2.05	11	P	Pn	23 19 03.0	+0.8
	baz=192,SNR=119						
LRMC				S	Sn	23 19 29.2	+1.5
	baz=192						
SWSC	Sam W. Stewart	2.06	104	P	Pn	23 19 01.8	-0.4
	baz=285						
SWSC				Sb	Sb	23 19 32.6	+2.0
	baz=285						
YUH	Yuha Desert	2.06	113		Pn	23 19 02.5	+0.3
YUH				IAML		23 19 32.4	
	comp=N,184nm,0.8s						
YUH				IAML		23 19 37.5	
	comp=E,155nm,1.1s						
GSC	Goldstone, Bar	2.16	31		Pn	23 19 04.1	+0.5
GSC				IAML		23 19 32.9	
	comp=N,351nm,0.9s						
GSC	Goldstone, Bar	2.16	31	P	Pn	23 19 04.7	+1.1
	baz=212,SNR=230						
GSC				S	Sn	23 19 31.8	+1.6
	baz=212						
ISA	Isabella, Lake	2.21	354		Pn	23 19 04.1	-0.3
ISA				IAML		23 19 42.6	
	comp=E,134nm,1.0s						
ISA	Isabella, Lake	2.21	354	P	Pn	23 19 05.1	+0.7
	baz=174,SNR=46						
ISA				S	Sn	23 19 32.6	+1.1
	baz=174						
BC3	Big Chuckawall	2.28	84	Pb	Pb	23 19 09.3	+0.2
	baz=266,SNR=73						
BC3				Sb	Sg	23 19 39.7	-1.8
	baz=266						
ESJX	Sierra Juarez	2.37	127		Pn	23 19 06.7	0.0
ESJX				IAML		23 19 45.3	
	comp=N,121nm,0.8s						
GMRC	Granite Mounta	2.47	57	Pb	Pb	23 19 12.1	-0.2
	baz=238,SNR=36						
IRM	Iron Mountain	2.62	74	P	Pn	23 19 10.6	+0.7
	baz=255,SNR=37						
CPBX	Cerro Prieto	2.63	113		Pb	23 19 16.1	+1.2
MPMC	Manual Prospec	2.65	12	P	Pn	23 19 11.5	+0.9
	baz=193,SNR=207						
TUQ	Turquoise Moun	2.71	43	P	Pn	23 19 12.2	+0.9
	baz=224,SNR=18						
QSM	Queen of Sheba	2.72	23		Pn	23 19 12.3	+0.9
QSM				IAML		23 20 00.1	
	comp=E,205nm,1.0s						
GLA	Glamis	2.83	97	IAML		23 20 08.2	
	comp=E,214nm,0.7s						
GLA				IAML		23 20 08.5	
	comp=N,110nm,0.6s						
GLA	Glamis	2.83	97	Pb	Pb	23 19 18.7	+0.2
	baz=279						
GWY	Greenwater Val	2.99	24		Pn	23 19 16.2	+1.1
GWY				IAML		23 20 09.5	
	comp=N,215nm,0.4s						
BLYC	Blythe	3.06	84		Pn	23 19 17.4	+1.4
BLYC				IAML		23 20 08.5	
	comp=N,187nm,0.8s						
BLYC				IAML		23 20 10.3	
	comp=E,125nm,0.7s						
FURC	Furnace Creek,	3.19	19	P	Pn	23 19 19.5	+1.8
	baz=200,SNR=20						
PMPB	Monarch Peak	3.50	323		Pn	23 19 22.7	+0.6
PMPB				IAML		23 20 22.0	
	comp=N,77nm,2.8s						
PMPB				IAML		23 20 57.3	
	comp=E,54nm,2.6s						
V12A	Nelson	3.55	50		Pn	23 19 23.5	+0.6
V12A				IAML		23 20 24.9	
	comp=N,71nm,0.9s						
V12A				IAML		23 20 29.5	
	comp=E,74nm,1.1s						
SFX	San Felipe	3.71	130		Pn	23 19 26.4	+1.5
SFX				IAML		23 20 26.1	
	comp=E,63nm,0.7s						
SFX				IAML		23 20 28.5	
	comp=N,78nm,0.7s						
113A	Mohawk Valley,	3.76	99		Pn	23 19 26.8	+1.2
WTNK	Soaring Height	3.77	43		Pn	23 19 26.1	+0.4
TPNV	Topopah Spring	3.82	24		Pn	23 19 27.0	+0.4
TPNV				IAML		23 20 31.0	
	comp=N,110nm,0.5s						
TPNV	Topopah Spring	3.82	24	P	Pn	23 19 27.9	+1.3
	baz=205,SNR=52						
BBGB	Big Mountain B	3.90	324		Pn	23 19 27.7	+0.1
BBGB				IAML		23 20 26.6	
	comp=E,71nm,0.7s						
DSP	Deep Springs	3.90	2		Pn	23 19 27.1	-0.5
DSP				IAML		23 20 40.8	
	comp=E,28nm,1.3s						
W13A	Hualapai Mount	3.91	64		Pn	23 19 28.3	+0.4
W13A				IAML		23 20 34.0	
	comp=N,32nm,1.7s						
W13A				IAML		23 20 43.4	
	comp=E,29nm,1.1s						
SHPR	Sheep Range	3.92	38		Pn	23 19 29.1	+1.1
SAO	San Andreas Ge	4.25	322	Pn	Pn	23 19 33.8	+1.4
SAO				Pg	Pg	23 19 49.0	-0.5
PIX	Pinacate	4.41	114	Pn	Pn	23 19 35.0	+0.5
S11A	Rachel	4.62	25		Pg	23 19 54.8	-1.9
TPH	Tonopah	4.67	9		Pn	23 19 37.6	-0.7
TPH				Pg	Pg	23 19 56.1	-1.5
PRN	Pahroc Range	4.69	32		Pn	23 19 39.6	+1.1
214A	Organ Pipe Nat	4.76	107		Pn	23 19 39.6	+0.1
LHV	Little Huntoon	4.79	357		Pn	23 19 40.2	+0.5
CMB	Columbia Colle	4.91	339		Pn	23 19 42.2	+0.8
NVAR	Mina Array Bea	4.96	359	Pg	Pg	23 19 59.9	-3.2
NV11	Mina Array Sit	4.96	0		Pg	23 19 59.1	-4.0
R11B	Troy Canyon, C	5.31	23	Pg	Pg	23 20 07.1	-2.8
R11B				IAML		23 21 28.3	
	comp=E,14nm,1.5s						
LCMT	Little Creek M	5.37	47		Pn	23 19 48.9	+1.0
KVN	Kaiserville	5.58	1	Pg	Pg	23 20 14.4	-0.6
YERR	Yerington	5.58	351		Pn	23 19 49.5	-1.3
KNB	Kanab	5.63	49		Pn	23 19 52.3	+0.7
CCUT	Cedar City	5.66	43	Pn	Pn	23 19 52.9	+0.9
U15A	North Rim	5.67	57	Pn	Pn	23 19 53.5	+1.5
X16A	Lo Mia Camp, P	5.68	78	Pn	Pn	23 19 53.0	+0.9
EMB	Emerald Bay	5.72	345	Pn	Pn	23 19 53.4	+0.7
SZCU	Shurtz Canyon	5.85	44		Pn	23 19 54.3	-0.2
AFDM	Forest Hills D	5.92	338	Pn	Pn	23 19 55.6	+0.3
WUAZ	Wupatki	5.98	68	Pn	Pn	23 19 58.3	+2.0
MPK	Martis Peak	6.01	346		Pn	23 19 57.4	+0.6
PSUT	Pine Spring	6.15	33		Pn	23 19 59.2	+0.5
PKCU	Pink Cliffs	6.22	49	Pn	Pn	23 20 00.6	+0.9

*NEIC **26** 23:26:16.3±2.8, 15°.92N±0°.04×95°.11W±0°.04, h23km±8km, mb4.0/16, Md3.9/18(MEX), Error ellipse: s-maj=7.5km s-min=2.3km az=48.0*
*MEX **26** 23:26:21.0±0.8, 15°.95N×95°.25W, h40km±39km, MD3.9*

ISC 26 23:26:16.0±1.2, 15°.99N±0°.04×95°.13W±0°.03, h19km±3km, n40, σ1°35/55, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.97	257		Pn	23 26 34.5	-0.1
HUIG	

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SAND	**Sanderson**	**15.32**	**336**	Pn	**Pn**	**23 29 52.8**	**+1.4**
SAND				IAmb	IAmb	23 30 05.6	
	comp=Z,1.4nm,0.9s						
553A	**Crawfordville**	**17.21**	**33**	Pn	**Pn**	**23 30 15.2**	**-0.2**
PAYG	**Puerto Ayora**	**17.23**	**163**		**Pn**	**23 30 14.9**	**-0.9**
425A	**Indio Mountain**	**17.27**	**330**		**P**	**23 30 18.3**	**+0.5**
DWPF	**Disney Wildern**	**17.49**	**44**		**P**	**23 30 19.6**	**-0.5**
352A	**Blakely**	**18.01**	**29**		**P**	**23 30 26.8**	**+1.0**
352A				IAmb	IAmb	23 30 31.2	
	comp=Z,17nm,1.2s						
LOOK	**Love County**	**18.03**	**354**		**Pn**	**23 30 25.5**	**0.0**
LOOK				IAmb	IAmb	23 30 51.2	
	comp=Z,6.3nm,0.7s						
LRAL	**Lakeview Retre**	**18.50**	**22**	P	**Pn**	**23 30 31.4**	**+0.1**
X34A	**Smith Ranch, M**	**18.70**	**353**	P	**P**	**23 30 33.2**	**-0.1**
X34A				IAmb	IAmb	23 30 37.9	
	comp=Z,40nm,1.3s						
WHAR	**Wooly Hollow**	**19.39**	**7**	Pn	**Pn**	**23 30 44.0**	**+1.9**
WHAR				IAmb	IAmb	23 31 15.0	
	comp=Z,11nm,1.4s						
Y49A	**Blount Mountai**	**19.45**	**22**	P	**Pn**	**23 30 43.4**	**+0.5**
Y49A				IAmb	IAmb	23 31 01.7	
	comp=Z,10nm,1.2s						
PLAL	**Pickwick Lake**	**19.95**	**17**	P	**P**	**23 30 45.0**	**-2.0**
QUOK	**Quay**	**20.15**	**356**	P	**P**	**23 30 49.0**	**-0.2**
QUOK				IAmb	IAmb	23 30 51.0	
	comp=Z,5.3nm,0.7s						
GOGA	**Godfrey**	**20.30**	**29**	P	**P**	**23 30 50.5**	**-0.3**
GOGA				IAmb	IAmb	23 31 05.8	
	comp=Z,8.6nm,1.4s						
BLOK	**Blackwell**	**20.78**	**355**	P	**P**	**23 30 54.9**	**-1.0**
X16A	**Lo Mia Camp, P**	**23.49**	**324**	P	**P**	**23 31 24.4**	**-0.6**
X16A				IAmb	IAmb	23 31 26.4	
	comp=Z,3.1nm,0.4s						

BGR ***26*** *23:26:28.0, 66.°00N×17.°54W, h10km, mb4.1*
REY ***26*** *23:26:31.7, 64.°67N×17.°42W, h4km*
IDC ***26*** *23:26:32.7±0.5, 64.°64N×17.°60W, h0km, mb4.0/22, mbtmp4.0/25, ML3.4/3, MS3.4/33, Error ellipse: s-maj=16.3km s-min=8.6km az=12.0*
MOS ***26*** *23:26:34.2±0.9, 64.°64N×17.°65W, h16km, mb4.6/54, Error ellipse: s-maj=11.3km s-min=6.8km az=118.3*
NEIC ***26*** *23:26:35.6±1.8, 64.°67N±0.°08×17.°6W±0.°1, h10km±1km, mb4.6/205, Error ellipse: s-maj=14.0km s-min=9.1km az=187.0*
INMG ***26*** *23:26:36.0, 64.°74N×18.°05W, h10km*
ISC 26 23:26:34.9±0.3, 64.°67N±0.°03×17.°46W±0.°03, h9km, n499, σ1.9 41/445, mb4.5/190, MS3.5/31, 3C-7D, Iceland

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IKIS	**Kista**	**0.04**	**272**	P	Pg	23 26 33.2	-3.7
IKIS	baz=278			S	**Sg**	**23 26 34.7**	**-3.6**
	baz=278						
IDYN	**Dyngjuhals**	**0.13**	**19**	P	**Pg**	**23 26 34.6**	**-3.3**
IDYN	baz=11			S	**Sg**	**23 26 37.1**	**-2.8**
	baz=11						
IVON	**Vonarskard**	**0.13**	**270**	P	**Pg**	**23 26 34.8**	**-3.1**
IVON	baz=273			S	**Sg**	**23 26 36.5**	**-3.4**
	baz=273						
IDJK	**Dyngjujokull**	**0.20**	**150**	P	Pg	23 26 35.6	-3.4
IURH	**Urdarhals**	**0.20**	**42**	P	**Pg**	**23 26 35.8**	**-3.3**
IGRF	**Grimsfjall**	**0.28**	**162**	P	Pg	23 26 37.0	-3.6
IBJK	**Bruarjokull**	**0.37**	**123**	P	Pg	23 26 38.4	-3.7
IHUS	**Husbondi**	**0.39**	**193**	P	Pg	23 26 39.2	-3.3
ISKR	**Skrokkalda**	**0.41**	**255**	P	Pg	23 26 39.7	-3.3
THOR	**Thorvaldshraun**	**0.43**	**52**	P	Pg	23 26 39.5	-3.7
THOR	baz=50			S	**Sg**	**23 26 46.3**	**-2.5**
	baz=50						
IKRE	**Kreppuhraun**	**0.48**	**76**	P	Pg	23 26 40.1	-4.0
IKRE	baz=75			S	**Sg**	**23 26 46.1**	**-4.3**
	baz=75						
IJOK	**Jokulheimar**	**0.49**	**223**	P	Pg	23 26 40.8	-3.5
IJOK	baz=225			S	**Sg**	**23 26 47.0**	**-3.8**
	baz=225						
IASK	**Askja**	**0.52**	**42**	P	Pg	23 26 41.0	-3.8
IMKO	**Mokollar**	**0.57**	**57**	P	Pg	23 26 41.9	-4.0
IMKO	baz=56			S	**Sg**	**23 26 49.9**	**-3.5**
	baz=56						
IIEY	**Innrieyrar**	**0.65**	**207**	P	Pg	23 26 43.4	-4.0
IIEY	baz=208			S	**Sg**	**23 26 51.6**	**-4.2**
	baz=208						
IKSK	**Karasker**	**0.67**	**140**	P	Pg	23 26 43.0	-4.7
ISVA	**Svartarkot**	**0.67**	**7**	P	Pg	23 26 43.8	-4.1
ISVA	baz=6.0			S	**Sg**	**23 26 52.3**	**-4.3**
	baz=6.0						
IKAL	**Kalfafell**	**0.73**	**188**	P	Pg	23 26 44.7	-4.3
IKAL	baz=189			S	**Sg**	**23 26 54.2**	**-4.4**
	baz=189						
IVSH	**V-Sauoahnukur**	**0.76**	**79**	P	Pg	23 26 44.7	-4.7
IFAL	**Falljokull**	**0.77**	**159**	P	Pg	23 26 45.0	-4.7
IFAL	baz=160			S	**Sg**	**23 26 56.2**	**-3.5**
	baz=160						
IVAT	**Vatnsfell**	**0.80**	**233**	P	Pg	23 26 46.3	-3.9
IKVI	**Kvisker**	**0.82**	**147**	P	Pg	23 26 45.6	-5.1
IFAG	**Fagurholsmyri**	**0.88**	**156**	P	Pg	23 26 46.9	-4.8
IADA	**Aoalbol**	**0.88**	**66**	P	Pg	23 26 46.7	-5.0
IADA	baz=65			S	**Sg**	**23 26 58.4**	**-4.8**
	baz=65						
ISTE	**Stelbrattur**	**0.95**	**282**	P	Pg	23 26 48.3	-4.8
ISTE	baz=282			S	**Sg**	**23 27 00.8**	**-4.5**
	baz=282						
IMEL	**Melhnausar**	**0.96**	**20**	P	Pg	23 26 48.4	-4.9
ISNB	**Snabyli**	**1.07**	**209**	P	Pg	23 26 50.8	-4.7
IKVO	**Krokottuvotn**	**1.07**	**13**	P	Pg	23 26 50.3	-5.2
ILOD	**Lodnugiljahaus**	**1.11**	**212**	P	Pg	23 26 52.7	-3.4
IHES	**Hestalda**	**1.11**	**236**	P	Pg	23 26 51.7	-4.4
ISLY	**Slysaalda**	**1.12**	**221**	P	Pg	23 26 51.7	-4.6
IGRS	**Grimsstaoir**	**1.12**	**30**	P	Pg	23 26 51.1	-5.3
IGRS	baz=29			S	**Sg**	**23 27 05.5**	**-5.5**
	baz=29						
IFED	**Fedgar**	**1.17**	**237**	P	Pb	23 26 52.7	-4.5
IRJU	**Rjupnafell**	**1.19**	**207**	P	Pb	23 26 52.8	-4.7
ISKI	**Skildingahlsh**	**1.22**	**8**	P	Pb	23 26 52.7	-5.3
IMJO	**Mjoaskard**	**1.22**	**233**	P	Pn	23 26 53.5	-4.6
IGHA	**Grjothals**	**1.22**	**16**	P	Pb	23 26 52.6	-5.5
IGRA	**Granastaoir**	**1.25**	**358**	P	Pn	23 26 53.2	-5.3
IGYG	**Gygjarholskot**	**1.26**	**253**	P	Pn	23 26 53.8	-4.7
IHAU	**Haukadalur**	**1.30**	**238**	P	Pn	23 26 54.6	-4.5
IHVO	**Lagu-Hvolar**	**1.30**	**209**	P	Pn	23 26 54.6	-4.6
IDIM	**Dimmadalss**	**1.31**	**9**	P	Pn	23 26 54.1	-5.2
IHED	**Heoinshofoi**	**1.42**	**2**	P	Pn	23 26 56.0	-4.8
	baz=1.9						

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IESK	**Eystri-Skogar**	**1.45**	**218**	P	Pn	23 26 57.0	-4.2
	baz=219						
ISAU	**Saurbar**	**1.46**	**243**	P	Pn	23 26 56.7	-4.6
	baz=244						
IBRE	**Brettingsstaoi**	**1.47**	**353**	P	Pn	23 26 56.7	-4.8
	baz=352						
IGIL	**Gilhagi**	**1.48**	**18**	P	Pn	23 26 56.8	-4.9
	baz=17						
ISIG	**Siglufjorour**	**1.59**	**338**	P	Pn	23 26 58.7	-4.4
	baz=338						
IASB	**`sbjarnarst**	**1.66**	**274**	P	Pn	23 27 00.0	-4.1
	baz=275						
BORG	**Borgarnes**	**1.66**	**274**		Pn	23 27 00.4	-3.7
BORG				Sn	**Sn**	**23 27 24.6**	**-0.9**
BORG	**Borgarnes**	**1.66**	**274**	Pg	Pn	23 27 00.1	-4.1
	57nm,0.3s,baz=81,slow=6.7,SNR=68						
BORG				Lg	Lg	23 27 24.4	
	28nm,0.3s,baz=77,slow=21,SNR=8.6						
IKRO	**Krokur**	**1.69**	**252**	P	Pn	23 27 00.5	-4.0
	baz=252						
ISOL	**Solvholt**	**1.69**	**245**	P	Pn	23 27 00.7	-3.9
	baz=246						
IHEI	**Heioarbar**	**1.71**	**256**	P	Pn	23 27 01.2	-3.6
	baz=256						
ILEI	**Leirhofn**	**1.79**	**13**	P	Pn	23 27 01.5	-4.4
	baz=12						
IHRN	**Hraun**	**1.82**	**324**	P	Pn	23 27 02.3	-4.1
	baz=323						
IBJA	**Bjarnastaoir**	**1.83**	**248**	P	Pn	23 27 02.9	-3.5
	baz=249						
SCO	**Scoresbysund**	**6.08**	**346**		**Pn**	**23 28 05.0**	**+0.2**
SCO	**Scoresbysund**	**6.08**	**346**	P	**Pn**	**23 28 05.0**	**+0.2**
SCO	**Scoresbysund**	**6.08**	**346**	*i* P	**Pn**	**23 28 05.5**	**+0.7**
JMIC	**Jan Mayen**	**7.18**	**24**	LR	LR	23 30 27.2	
	comp=Z,330nm,20.4s,baz=236,slow=32						
EKB	**Eskdalemuir**	**11.74**	**136**	Pn	**Pn**	**23 29 20.8**	**-1.6**
EKA	**Eskdalemuir Ar**	**11.75**	**136**	Pn	**Pn**	**23 29 20.6**	**-1.9**
	baz=322,slow=13						
	4.4nm,0.6s						
ESK	**Eskdalemuir**	**11.75**	**136**	Pn	**Pn**	**23 29 21.0**	**-1.5**
ESK	**Eskdalemuir**	**11.75**	**136**	P	**Pn**	**23 29 21.0**	**-1.5**
NC204	**NORSAR Array S**	**13.21**	**92**	Pn	**Pn**	**23 29 39.4**	**-3.0**
NBO00	**NORSAR Array S**	**13.33**	**93**	Pn	Pn	23 29 40.7	-3.4
NOA	**NORSAR Array B**	**13.52**	**92**	Pn	Pn	23 29 42.4	-4.2
	baz=299,slow=13,SNR=2.3						
NOA				LR	LR	23 34 52.5	
	comp=Z,59nm,19.9s,baz=300,slow=37						
SFJD	**Kangerlussuaq**	**13.68**	**295**	LR	LR	23 34 36.1	
	comp=Z,142nm,18.1s,baz=84,slow=35						
HFS	**Hagfors**	**15.03**	**93**	Pn	**Pn**	**23 30 04.9**	**-2.3**
	0.1nm,0.3s,baz=291,slow=12,SNR=1.4						
HFS				LR	LR	23 35 49.1	
	comp=Z,91nm,18.6s,baz=269,slow=37						
	2.4nm,0.9s						
ARCES	**ARCESS Array B**	**17.10**	**55**	LR	LR	23 35 53.7	
	comp=Z,187nm,18.9s,baz=254,slow=33						
BSEG	**Bad Segeberg**	**17.62**	**114**	*e*P	**P**	**23 30 44.7**	**+3.4**
	13nm,1.1s,baz=329,slow=10						
BUG	**Bochum--Univer**	**18.45**	**124**	*e*P	**Pn**	**23 30 53.8**	**+3.4**
	14nm,1.1s,baz=329,slow=10						
BMRD	**Maredsous**	**18.55**	**130**	*d*P	**P**	**23 30 52.7**	**+1.2**
	comp=Z,4.5nm,1.4s						
BGES	**Gesves**	**18.59**	**130**	*d*P	**P**	**23 30 52.8**	**+0.9**
BCLA	**Clavier**	**18.63**	**129**	*d*P	**P**	**23 30 51.6**	**-0.8**
MEM	**Membach**	**18.70**	**128**	*d*P	**P**	**23 30 54.9**	**+1.7**
	comp=Z,8.0nm,1.2s						
BTNL	**Ternell**	**18.77**	**128**	*d*P	**P**	**23 30 54.1**	**+0.2**
	comp=Z,11nm,1.4s						
BHOU	**Houwegnez**	**18.92**	**128**	*d*P	**P**	**23 30 56.0**	**+0.3**
	comp=Z,8.7nm,1.3s						
AHRW	**Bad Neuenahr-A**	**19.13**	**126**	*e*P	**Pn**	**23 31 02.0**	**+3.3**
	comp=Z,13nm,1.0s,baz=329,slow=10						
FLTG	**Flechtingen**	**19.21**	**116**	*e*P	**P**	**23 30 58.8**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=329,slow=10						
CLZ	**Clausthal**	**19.26**	**119**	*e*P	**P**	**23 31 01.3**	**+1.9**
	comp=Z,11nm,0.9s,baz=329,slow=10						
FINES	**FINESS Array B**	**19.69**	**79**	P	**P**	**23 31 04.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=317,slow=9.4,SNR=5.2						
FINES				LR	LR	23 38 33.7	
	comp=Z,76nm,19.6s,baz=296,slow=36						
	comp=Z,3.1nm,0.8s						
CLF	**Chambon-Foret**	**19.79**	**138**		**P**	**23 31 05.2**	**+0.1**
CLF				IAmb	IAmb	23 31 10.2	
	comp=Z,58nm,1.4s						
UBBA	**Unterbreizbach**	**19.95**	**121**	*e*P	**P**	**23 31 09.4**	**+2.6**
	comp=Z,9.4nm,1.2s,baz=329,slow=10						
NEUB	**Neuenburg**	**20.30**	**118**	*e*P	**P**	**23 31 12.5**	**+1.8**
	comp=Z,29nm,1.2s,baz=329,slow=10						
MOX	**Moxa**	**20.69**	**119**	*e*P	**P**	**23 31 15.3**	**+0.4**
	comp=Z,4.6nm,0.9s,baz=329,slow=10						
CLL	**Collm**	**20.69**	**116**	P	**P**	**23 31 13.4**	**-1.6**
CLL				IAmb	IAmb	23 31 18.1	
	comp=Z,29nm,1.4s						
CLL	**Collm**	**20.69**	**116**	*e*P	**P**	**23 31 10.0**	**-4.9**
CLL				*i*		23 31 16.0	
CLL	**Collm**	**20.69**	**116**	*e*P	**P**	**23 31 13.3**	**-1.6**
	comp=Z,7.7nm,1.1s,baz=329,slow=10						
CLL	**Collm**	**20.69**	**116**	*i* P	**P**	**23 31 14.1**	**-0.8**
CLL				*i* Pmax		23 31 16.0	
	comp=Z,44nm,1.6s						
CLL				*ex*	x	23 31 31.0	
CLL				AMS	AMS	23 38 00.0	
	comp=Z,100nm,19.3s						
WERD	**Werda**	**21.11**	**118**	*e*P	**P**	**23 31 19.5**	**0.0**
	comp=Z,8.2nm,1.0s,baz=329,slow=10						
FBE	**Freiberg**	**21.13**	**116**	*e*P	**P**	**23 31 20.0**	**+0.3**
	comp=Z,5.4nm,0.8s,baz=329,slow=10						
ECH	**Echery**	**21.14**	**129**	P	**P**	**23 31 19.9**	**+0.1**
ECH				IAmb	IAmb	23 31 22.7	
	comp=Z,32nm,1.5s						
ECH	**Echery**	**21.14**	**129**	P	**P**	**23 31 19.9**	**+0.1**
ECH				pmax	pmax		
	comp=Z,32nm,1.5s						
GUNZ	**Gunzen**	**21.19**	**118**	*e*P	**P**	**23 31 20.3**	**-0.1**
	comp=Z,10nm,1.1s,baz=329,slow=10						
TANN	**Tannenbergstha**	**21.20**	**118**	*e*P	**P**	**23 31 21.0**	**+0.6**
	comp=Z,6.4nm,1.0s,baz=329,slow=10						
WERN	**Wernitzgruen**	**21.27**	**118**	*e*P	**P**	**23 31 22.1**	**+0.9**
	comp=Z,11nm,1.0s,baz=329,slow=10						
GRA1	**Grafenberg Arr**	**21.32**	**121**	P	**P**	**23 31 22.4**	**+0.7**
GRA1				IAmb	IAmb	23 31 34.1	
	comp=Z,35nm,1.2s						
GRF	**Grafenberg Arr**	**21.32**	**121**	P	**P**	**23 31 22.4**	**+0.7**
GRF				pmax	pmax		
	comp=Z,35nm,1.2s						
GRF	**Grafenberg Arr**	**21.32**	**121**	*e*P	**P**	**23 31 23.1**	**+1.4**
	comp=Z,19nm,1.1s,baz=329,slow=10						
GRFO	**Grafenberg**	**21.32**	**121**	P	**P**	**23 31 22.3**	**+0.6**
GRFO				IAmb	IAmb	23 31 34.1	
	comp=Z,32nm,1.2s						
GRFO	**Grafenberg**	**21.32**	**121**	P	**P**	**23 31 22.3**	**+0.6**
GRFO				pmax	pmax		
	comp=Z,32nm,1.2s						
STU	**Stuttgart**	**21.36**	**125**	P	**P**	**23 31 22.8**	**+0.6**
STU				IAmb	IAmb	23 31 29.6	
	comp=Z,22nm,1.0s						
STU	**Stuttgart**	**21.36**	**125**	P	**P**	**23 31 22.8**	**+0.6**
STU				pmax	pmax		
	comp=Z,22nm,1.0s						
STU	**Stuttgart**	**21.36**	**125**	*e*P	**P**	**23 31 24.3**	**+2.1**
	comp=Z,28nm,0.8s,baz=329,slow=10						
BRG	**Berggiesshubel**	**21.40**	**115**	*e*P	**P**	**23 31 23.0**	**+0.5**
BRG						23 31 30.8	
BRG				pmax	pmax		
	comp=Z,26nm,1.4s						
BRG				pmax	pmax		
	comp=Z,20nm,1.3s						
BRG	**Berggiesshubel**	**21.40**	**115**	*e*P	**P**	**23 31 22.8**	**+0.3**
	comp=Z,4.7nm,0.8s,baz=329,slow=10						
BRG	**Berggiesshubel**	**21.40**	**115**	*e*P	**P**	**23 31 23.1**	**+0.5**
BRG				Amp		23 31 26.3	
	comp=Z,26nm,1.4s						
BRG	**Berggiesshubel**	**21.40**	**115**	P	P	23 31 30.8	+8.3
BRG				Amp		23 31 32.3	
	comp=Z,20nm,1.3s						
MANZ	**Manzenberg**	**21.41**	**119**	*e*P	**P**	**23 31 22.7**	**0.0**
	comp=Z,1.7nm,1.2s,baz=329,slow=10						
BFO	**Black Forest**	**21.44**	**127**	P	**P**	**23 31 23.6**	**+0.6**
BFO				IAmb	IAmb	23 31 26.0	
	comp=Z,38nm,1.5s						
BFO	**Black Forest**	**21.44**	**127**	P	**P**	**23 31 23.6**	**+0.6**
BFO				pmax	pmax		
	comp=Z,38nm,1.5s						
BFO	**Black Forest**	**21.44**	**127**	*e*P	**P**	**23 31 24.4**	**+1.4**
	comp=Z,8.9nm,1.0s,baz=329,slow=10						
ROTZ	**Rotzenmuhle**	**21.63**	**119**	*e*P	**P**	**23 31 25.5**	**+0.5**
	comp=Z,5.9nm,1.6s,baz=329,slow=10						

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PRU	**Pruhonice**	**22.34**	**116**	*e*P	**P**	**23 31 33.4**	**+0.8**
PRU	**Pruhonice**	**22.34**	**116**	*e*P	**P**	**23 31 33.4**	**+0.8**
KSP	**Ksiaz**	**22.35**	**112**	*e*P	**P**	**23 31 34.6**	**+1.8**
WET	**Wettzell**	**22.39**	**119**	*e*P	**P**	**23 31 35.2**	**+1.9**
	comp=Z,5.3nm,1.1s,baz=329,slow=10						
CHVC	**Chvalec**	**22.45**	**113**	*e*P	**P**	**23 31 35.7**	**+1.8**
CHVC	**Chvalec**	**22.45**	**113**	*e*P	**P**	**23 31 35.7**	**+1.8**
GOPC	**GO Pecny, Ondr**	**22.49**	**116**	*e*P	**P**	**23 31 35.3**	**+1.0**
GOPC	**GO Pecny, Ondr**	**22.49**	**116**	*e*P	**P**	**23 31 35.3**	**+1.0**
OSTC	**Ostas**	**22.54**	**113**	*e*P	**P**	**23 31 35.3**	**+0.5**
OSTC	**Ostas**	**22.54**	**113**	*e*P	**P**	**23 31 35.3**	**+0.5**
UBR	**Ueberruh**	**22.61**	**126**	*e*P	**P**	**23 31 37.1**	**+1.5**
	comp=Z,14nm,1.1s,baz=329,slow=10						
ZVC	**Zvikov**	**22.65**	**117**	*e*P	**P**	**23 31 37.5**	**+1.6**
KHC	**Kasperske Hory**	**22.66**	**118**	P	**P**	**23 31 36.2**	**+0.1**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P	**P**	**23 31 34.3**	**-1.8**
KHC				*e*pP	**pP**	**23 31 38.0**	**-1.2**
KHC	**Kasperske Hory**	**22.66**	**118**	*e*P	**P**	**23 31 34.3**	**-1.8**
KHC				*e*		23 31 38.0	
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P	**P**	**23 31 37.9**	**+0.9**
DPC	**Dobruska-Polom**	**22.75**	**113**	*e*P	**P**	**23 31 37.9**	**+0.9**
SENIN	**Lac Senin/Sane**	**22.82**	**132**	P	**P**	**23 31 39.0**	**+1.1**
SUW	**Suwalki**	**22.87**	**98**	*e*P	P	23 31 46.7	+8.5
DAVA	**Damuels**	**22.87**	**126**	*i* pP	**P**	**23 31 41.8**	**+3.3**
	comp=Z,17nm,1.7s,SNR=5.2						
SSB	**Saint Sauveur**	**22.94**	**137**	P	**P**	**23 31 38.4**	**-0.7**
SSB	**Saint Sauveur**	**22.94**	**137**	P	**P**	**23 31 38.4**	**-0.7**
SSB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GEC2	**GERESS Array S**	**22.94**	**119**	P	**P**	**23 31 39.2**	**+0.1**
GEC2	**GERESS Array S**	**22.94**	**119**	*e*P	**P**	**23 31 39.3**	**+0.1**
	comp=Z,9.7nm,1.2s,baz=329,slow=10						
GERES	**GERESS Array B**	**22.94**	**119**	P	**P**	**23 31 39.8**	**+0.6**
GERES	**GERESS Array B**	**22.94**	**119**	*e*P	**P**	**23 31 40.0**	**+0.8**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GERES	**GERESS Array B**	**22.94**	**119**	P	**P**	**23 31 39.4**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=326,slow=11,SNR=8.8						
GERES				LR	LR	23 40 53.3	
	comp=Z,69nm,19.2s,baz=340,slow=38						
	comp=Z,2.2nm,0.8s						
RETA	**Reutte**	**23.01**	**125**	*e*P	**P**	**23 31 40.8**	**+1.0**
	comp=Z,14nm,1.7s						
CKRC	**Cesky Krumlov**	**23.20**	**118**	*e*P	**P**	**23 31 41.5**	**-0.1**
CKRC	**Cesky Krumlov**	**23.20**	**118**	*e*P	**P**	**23 31 41.5**	**-0.1**
MOTA	**Moosalm**	**23.25**	**125**	*i* P	**P**	**23 31 43.3**	**+1.0**
	comp=Z,10nm,1.2s,SNR=7.5						
DAVOX	**Davos/Dischmat**	**23.31**	**127**	P	**P**	**23 31 42.8**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=345,slow=13,SNR=5.9						
DAVOX				LR	LR	23 41 33.9	
	comp=Z,36nm,19.0s,baz=85,slow=39						
	comp=Z,2.4nm,0.9s						
PGAV	**Gavieira, Arco**	**23.35**	**163**	*e*P	**P**	**23 31 46.0**	**+2.6**
	comp=Z,37nm,1.7s						
SQTA	**Sankt Quirin**	**23.39**	**125**	*i* P	**P**	**23 31 44.0**	**+0.2**
	comp=Z,12nm,1.6s,SNR=6.0						
FETA	**Feichten**	**23.40**	**126**	pP	**P**	**23 31 46.9**	**+3.0**
	comp=Z,3.7nm,1.0s						
TUE	**Stuetta**	**23.40**	**128**	P	**P**	**23 31 44.2**	**+0.3**
WATA	**Walderalm**	**23.43**	**124**	*e*P	**P**	**23 31 45.8**	**+1.7**
	comp=Z,12nm,1.2s						
BEL	**Belsk**	**23.43**	**105**	*e*P	**P**	**23 31 46.4**	**+2.4**
WTTA	**Wattenberg**	**23.51**	**124**	*i* P	**P**	**23 31 46.4**	**+1.4**
	comp=Z,16nm,1.4s,SNR=6.2						
RJOB	**Jochberg**	**23.53**	**122**	*e*P	**P**	**23 31 46.8**	**+1.7**
	comp=Z,2.6nm,0.8s,baz=329,slow=10						
FUORN	**Ofenpass-Fuorn**	**23.58**	**127**	P	**P**	**23 31 45.6**	**-0.2**
EUNU	**Eureka**	**23.67**	**336**	P	**P**	**23 31 45.8**	**-0.4**
EUNU				IAmb	IAmb	23 31 56.7	
	comp=Z,22nm,1.4s						
VRAC	**Vranov**	**23.68**	**114**	*e*P	**P**	**23 31 46.4**	**-0.1**
VRAC	**Vranov**	**23.68**	**114**	P	**P**	**23 31 46.4**	**-0.1**
	comp=Z,3.0nm,1.0s,baz=326,slow=12,SNR=8.9						
VRAC				LR	LR	23 41 20.5	
	comp=Z,53nm,18.2s,baz=332,slow=37						
	comp=Z,3.0nm,1.0s						
MORC	**Moravsky Berou**	**23.68**	**112**	P	**P**	**23 31 46.8**	**+0.3**
MORC	**Moravsky Berou**	**23.68**	**112**	*e*P	**P**	**23 31 46.2**	**-0.3**
MORC	**Moravsky Berou**	**23.68**	**112**	P	**P**	**23 31 46.8**	**+0.3**
MORC				pmax	pmax		
	comp=Z,12nm,1.5s						
PBRG	**Braganca**	**23.72**	**160**	*e*P	**P**	**23 31 48.3**	**+1.3**
	comp=Z,15nm,1.6s						
LESA	**Schwarzleotal**	**23.75**	**122**	*e*P	**P**	**23 31 47.3**	**+0.1**
	comp=Z,12nm,1.7s						
BNI	**Bardonecchia**	**23.79**	**134**	P	**P**	**23 31 48.3**	**+0.6**
BNI	**Bardonecchia**	**23.79**	**134**	P	**P**	**23 31 48.3**	**+0.6**
BNI				pmax	pmax		
	comp=Z,14nm,1.5s						
KRUC	**Moravsky**	**23.80**	**115**	*e*P	**P**	**23 31 47.3**	**-0.3**
NACGM	**Naroch**	**23.80**	**93**	*e*P	**P**	**23 31 51.6**	**+4.0**
	comp=Z,20nm,0.8s,baz=314						
BIOA	**Bad Ischl, Aus**	**23.88**	**120**	*e*P	**P**	**23 31 49.6**	**+1.2**
	comp=Z,6.2nm,1.4s						
MOA	**Molln**	**23.98**	**119**	*e*P	**P**	**23 31 47.0**	**-2.3**
	comp=Z,6.0nm,1.5s						
POLO	**Lamas de Olo**	**24.00**	**162**	*e*P	**P**	**23 31 51.8**	**+2.2**
	comp=Z,7.3nm,1.4s						
OJC	**Ojcow**	**24.25**	**109**	P	**P**	**23 31 50.9**	**-0.9**
OJC	**Ojcow**	**24.25**	**109**	P	**P**	**23 31 50.9**	**-0.9**
OJC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ABTA	**Abfaltersbach**	**24.26**	**123**	*e*P	**P**	**23 31 54.0**	**+1.9**
	comp=Z,5.0nm,1.1s						
MVO	**Moncorvo**	**24.31**	**161**	*e*P	**P**	**23 31 54.6**	**+2.1**
	comp=Z,22nm,1.4s						
JAVC	**Velka Javorina**	**24.47**	**113**	*e*P	**P**	**23 31 54.6**	**+0.7**
CONA	**Conrad Observa**	**24.52**	**117**	*e*P

SABO M.te Sabotino 25.31 123 P P 23 32 02.2 +0.8
SABO IAmb IAmb 23 32 43.6
comp=Z,12nm,1.3s
STHS Stebnicka Huta 25.46 108 *e*P **P 23 32 04.6 +1.8**
STHS Stebnicka Huta 25.46 108 *e*P **P 23 32 04.6 +1.8**
STHS pmax pmax
comp=Z,8.0nm,0.9s
PCBR Castelo Branco 25.55 162 *e*P **P 23 32 06.6 +3.0**
comp=Z,17nm,1.4s
KLMR Klimovskoe 25.59 72 *e*P **P 23 32 00.2 -3.6**
KLMR AMP 23 32 15.8
comp=Z,27nm,1.9s
KLMR Klimovskoe 25.59 72 *e*P **P 23 32 00.1 -3.7**
KLMR pmax pmax
comp=Z,27nm,1.9s
ZCCA Zocca 25.81 128 P **P 23 32 06.3 +0.3**
ZCCA IAmb IAmb 23 32 19.8
comp=Z,19nm,1.2s
KWP Kalwaria Pacla 25.90 106 P **P 23 32 06.0 -0.7**
KWP Kalwaria Pacla 25.90 106 P **P 23 32 06.0 -0.7**
CRVS Cervenica-Dubn 25.95 109 *e*P **P 23 32 08.4 +1.1**
CRVS Cervenica-Dubn 25.95 109 *e*P **P 23 32 08.4 +1.1**
CRVS pmax pmax
comp=Z,39nm,1.9s
PMRV Marv??o 25.96 162 *e*P **P 23 32 07.6 +0.2**
comp=Z,17nm,1.4s
SCHQ Schefferville 26.05 271 P **P 23 32 06.2 -1.9**
comp=Z,4.2nm,0.7s,baz=68,slow=17,SNR=2.4
comp=Z,4.2nm,0.7s
PSZ Piszkesteto 26.11 112 P **P 23 32 09.1 +0.4**
PSZ IAmb IAmb 23 32 13.4
comp=Z,19nm,1.3s
PSZ Piszkesteto 26.11 112 P **P 23 32 09.1 +0.4**
PSZ pmax pmax
comp=Z,19nm,1.3s
ESDC Sonseca Array 26.25 156 P **P 23 32 10.9 +0.8**
ESDC Sonseca Array 26.25 156 P **P 23 32 09.2 -0.9**
comp=Z,2.2nm,1.0s,baz=347,slow=9.1,SNR=16
ESDC LR LR 23 42 34.9
comp=Z,101nm,18.8s,baz=334,slow=37
comp=Z,2.2nm,1.0s
KOLS Kolonicke sedl 26.26 108 *e*P **P 23 32 11.1 +1.0**
KOLS Kolonicke sedl 26.26 108 *e*P **P 23 32 11.1 +1.0**
KOLS pmax pmax
comp=Z,10.0nm,1.4s
LVV L'vov 26.30 104 *e*P **P 23 32 10.7 +0.3**
RES Resolute Bay 26.47 324 LR LR 23 42 48.1
comp=Z,63nm,18.1s,baz=142,slow=37
OSSC Osservatorio P 26.63 129 P **P 23 32 13.2 -0.3**
OSSC IAmb IAmb 23 32 28.8
comp=Z,10nm,1.0s
MURB Monte Urbino 27.29 127 P **P 23 32 19.7 +0.3**
MURB IAmb IAmb 23 32 29.6
comp=Z,17nm,1.3s
AKASG Malin Array Be 27.83 98 *e*P **P 23 32 24.6 +0.5**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 27.83 98 P **P 23 32 22.6 -1.4**
comp=Z,0.2nm,0.3s,baz=319,slow=9.8,SNR=6.1
comp=Z,0.2nm,0.3s
MAHO Mahon 27.85 142 P **P 23 32 25.6 +1.2**
MAHO IAmb IAmb 23 32 28.5
comp=Z,21nm,1.0s
OBN Obninsk 27.86 84⇓ *e*P **P 23 32 26.1 +1.8**
OBN *PP **pP 23 32 29.0 +1.5**
OBN 23 33 12.0
OBN pmax pmax
comp=Z,11nm,1.3s
OBN MLR MLR
comp=Z,35nm,15.0s
NRCA Norcia 27.88 127 P **P 23 32 26.1 +1.4**
MOS Moscow 27.90 82 *e*P P 23 32 34.1 +9.4
MORF Marmelete 27.90 165 P **P 23 32 25.9 +1.0**
MORF Marmelete 27.90 165 P **P 23 32 25.9 +1.0**
MORF pmax pmax
comp=Z,37nm,1.4s
BUR08 Bucovina Ar. S 28.48 106 P **P 23 32 31.2 +1.1**
BURAR Bucovina Array 28.51 106 P **P 23 32 31.8 +1.4**
KIRV Kirov 30.96 69 LR LR 23 44 54.6
comp=Z,97nm,19.5s,baz=311,slow=36
HAL Halifax 32.33 254 P **P 23 33 02.8 -1.2**
HAL Halifax 32.33 254 P **P 23 33 02.8 -1.2**
HAL pmax pmax
comp=Z,51nm,1.0s
KBN Korca 32.58 119 P **P 23 33 07.6 +1.3**
KBN Korca 32.58 119 P **P 23 33 07.6 +1.3**
KBN pmax pmax
comp=Z,23nm,1.5s
CLTB Caltabellotta 32.63 131 P **P 23 33 07.3 +0.5**
FNA Florina 32.67 118 P **P 23 33 06.9 -0.1**
FNA Florina 32.67 118 P **P 23 33 06.9 -0.1**
FNA pmax pmax
comp=Z,3.0nm,1.2s
MDT Midelt 32.86 160 LR LR 23 46 39.6
comp=Z,66nm,19.3s,baz=344,slow=37
LMQ La Malbaie 32.86 264 P **P 23 33 08.8 +0.1**
KEST Kesra 33.15 138 P **P 23 33 10.1 -1.2**
comp=Z,1.9nm,0.8s,baz=333,slow=6.8,SNR=2.3
comp=Z,1.9nm,0.8s
RDO Rodhopi 33.97 113 P **P 23 33 18.9 +0.6**
RDO IAmb IAmb 23 33 19.9
comp=Z,13nm,1.2s
ALN Alexandroupoli 34.38 112 P **P 23 33 22.6 +0.7**
ALN Alexandroupoli 34.38 112 P **P 23 33 22.6 +0.7**
BELG Belogornoye 34.47 79 *i* P **P 23 33 24.2 +1.7**
BELG pmax pmax
comp=Z,3.0nm,1.3s
BELG Belogornoye 34.47 79 LR LR 23 47 25.8
comp=Z,37nm,18.9s,baz=272,slow=36
AGG Agios Georgios 34.56 118 P **P 23 33 22.4 -1.1**
AGG IAmb IAmb 23 33 25.1
comp=Z,12nm,1.2s
AGG Agios Georgios 34.56 118 P **P 23 33 22.4 -1.1**
AGG pmax pmax
comp=Z,12nm,1.2s
VLDQ Val d'Or 35.49 272 P **P 23 33 32.2 +0.9**
ARU Arti 36.06 66 P **P 23 33 36.1 -0.1**
ARU Arti 36.06 66 *i* P **P 23 33 35.4 -0.8**
ARU pmax pmax
comp=Z,9.0nm,1.4s
ARU Arti 36.06 66 LR LR 23 47 53.0
comp=Z,79nm,19.4s,baz=329,slow=35
I62A Tamworth 36.21 261 P **P 23 33 36.9 -0.7**
I62A IAmb IAmb 23 33 55.0
comp=Z,5.3nm,0.8s
SOC Sochi 37.85 96 *e*P **P 23 33 50.0 -1.5**
SOC *e* 23 35 18.0
SOC *e*S **S 23 39 40.9 -1.5**
SOC *e*SS **SnSn 23 42 21.7 -1.0**
SOC MLR MLR
comp=Z,69nm,18.0s
BR131 Keskin Array S 38.47 105 *i* P **P 23 33 58.5 +1.6**
BRTR Keskin Array B 38.47 105 P **P 23 33 57.7 +0.7**
BRTR Keskin Array B 38.47 105 *e*P **P 23 33 58.3 +1.4**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 38.47 105 P **P 23 33 57.2 +0.3**
comp=Z,1.9nm,1.0s,baz=305,slow=4.4,SNR=8.0
comp=Z,1.9nm,1.0s
IDI Anoyia 38.81 118 LR LR 23 51 10.6
comp=Z,22nm,21.9s,baz=264,slow=38
KBZ Khabaz 39.10 92 *i* P **P 23 34 04.0 +2.0**
KBZ pmax pmax
comp=Z,14nm,1.9s
KBZ Khabaz 39.10 92 P **P 23 34 03.0 +1.0**
comp=Z,3.9nm,0.9s,baz=325,slow=10,SNR=5.8
comp=Z,3.9nm,0.9s
KARP Karpathos 39.45 116 P **P 23 34 06.8 +1.7**
ELL Elmali 39.49 112 P **P 23 34 07.1 +1.6**
ELL Elmali 39.49 112 P **P 23 34 07.1 +1.6**
ELL pmax pmax
comp=Z,39nm,1.4s
E46A Sault Ste Mari 39.79 276 P **P 23 34 06.9 -0.8**
E46A IAmb IAmb 23 34 12.4
comp=Z,19nm,1.1s
MEDO Medina 39.83 268 P **P 23 34 08.9 +0.8**
MEDO IAmb IAmb 23 34 45.9
comp=Z,18nm,0.9s
AKTO Aktyubinsk 40.27 73 LR LR 23 50 52.8
comp=Z,96nm,19.7s,baz=16,slow=36
M57A Sunshine Farm, 40.75 265 P **P 23 34 15.7 -0.1**
GLMI Grayling 41.14 275 P **P 23 34 19.1 +0.2**
D25K Kavik River 41.59 335 P **P 23 34 20.6 -1.8**
D25K IAmb IAmb 23 34 26.4
comp=Z,28nm,1.4s

F28M Old Crow 41.79 331 P **P 23 34 23.5 -0.6**
ABKAR Akbulak array 41.97 73 P **P 23 34 25.8 +0.1**
ABKAR Akbulak array 41.97 73 P **P 23 34 26.1 +0.4**
ABKAR IAmb IAmb 23 34 28.3
comp=Z,6.3nm,1.4s
TIXI Tiksi 42.02 15*ce*P **P 23 34 26.6 +0.8**
H31M Peel River 42.07 327 P **P 23 34 27.7 +1.4**
GAZ Gaziantep 42.11 104 P **P 23 34 28.0 +0.9**
B35A Bob, Littlefor 42.20 285 P **P 23 34 28.1 +0.5**
B35A IAmb IAmb 23 34 47.3
comp=Z,26nm,1.4s
CSS Mathiatis 42.41 109 P **P 23 34 31.5 +2.1**
CSS IAmb IAmb 23 34 37.1
comp=Z,8.9nm,1.0s
E25K Arctic Village 42.48 334 P **P 23 34 31.3 +1.6**
R61A Willards 42.48 260 P **P 23 34 29.8 -0.2**
TOLK Toolik Lake Re 42.75 336 P **P 23 34 33.4 +1.6**
TOLK IAmb IAmb 23 34 43.5
comp=Z,13nm,1.2s
GNI Garni 42.81 94 **P 23 34 32.7 -0.2**
GNI Garni 42.81 94 P **P 23 34 31.7 -1.1**
GNI IAmb IAmb 23 34 36.8
comp=Z,38nm,1.5s
GNI Garni 42.81 94*ce*P **P 23 34 34.8 +1.9**
GNI pmax pmax
comp=Z,28nm,1.5s
G27K Doyon Strip 42.84 331 P **P 23 34 31.2 -1.4**
BMAR Burnt Mountain 42.90 333 P **P 23 34 33.1 0.0**
BRVK Borovoye 43.11 62 P **P 23 34 35.1 +0.2**
BRVK Borovoye 43.11 62 P **P 23 34 35.1 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BVAR Borovoye Array 43.18 62 P **P 23 34 35.1 -0.3**
comp=Z,3.7nm,0.9s,baz=331,slow=7.6,SNR=12
BVAR LR LR 23 52 02.3
comp=Z,59nm,19.5s,baz=345,slow=35
comp=Z,3.7nm,0.9s
BBSR BB Station 43.27 245 P **P 23 34 36.8 +0.4**
FYU Fort Yukon 43.78 333 P **P 23 34 41.1 +1.0**
FYU IAmb IAmb 23 34 54.0
comp=Z,25nm,1.4s
MMPY Sheldon Lake, 43.93 322 P **P 23 34 42.4 +1.0**
MMPY IAmb IAmb 23 34 54.6
comp=Z,9.3nm,1.3s
SIRT Sirnak 44.04 98 P **P 23 34 43.4 +0.7**
G24K Hadweenzic Riv 44.09 334 P **P 23 34 44.2 +1.6**
G24K IAmb IAmb 23 34 46.7
comp=Z,17nm,1.4s
N49A Columbus Grove 44.12 271 P **P 23 34 42.5 -0.7**
P52A Corning 44.30 268 P **P 23 34 43.5 -1.2**
K29M Barlow Dome 44.46 327 P **P 23 34 46.2 +0.4**
K29M IAmb IAmb 23 34 48.8
comp=Z,13nm,1.2s
TAM Tamanrasset 44.51 149 P **P 23 34 46.2 -0.4**
TAM Tamanrasset 44.51 149 P **P 23 34 46.2 -0.4**
TAM pmax pmax
comp=Z,5.0nm,1.3s
G23K Bananza Creek 44.55 335 P **P 23 34 47.1 +0.8**
G23K IAmb IAmb 23 34 50.7
comp=Z,9.0nm,1.2s
PRP Porcupine Dome 44.76 332 P **P 23 34 47.8 -0.3**
PRP IAmb IAmb 23 34 60.0
comp=Z,8.2nm,1.5s
E19K Redstone River 45.06 339 P **P 23 34 50.5 +0.1**
E19K IAmb IAmb 23 34 59.7
comp=Z,9.9nm,1.2s
F20K Avaraart Lake 45.21 338 P **P 23 34 51.4 -0.1**
F20K IAmb IAmb 23 34 55.0
comp=Z,17nm,1.3s
H23K Yukon River 45.26 335 P **P 23 34 51.8 -0.2**
H23K IAmb IAmb 23 34 56.0
comp=Z,18nm,1.4s
R53A Hurricane 45.31 267 P **P 23 34 50.7 -2.0**
Q51A Peebles 45.33 269 P **P 23 34 52.5 -0.3**
Q51A IAmb IAmb 23 34 57.4
comp=Z,10nm,0.9s
M30M Minto, Yukon 45.36 325 P **P 23 34 53.5 +0.6**
J25K Salcha River, 45.52 332 P **P 23 34 54.9 +0.8**
J25K IAmb IAmb 23 34 57.4
comp=Z,15nm,1.4s
IL31 45.69 332 P **P 23 34 56.2 +0.9**
IL31 IAmb IAmb 23 34 59.2
comp=Z,15nm,1.4s
ILAR Eielson Array 45.69 332 P **P 23 34 56.2 +0.9**
ILAR Eielson Array 45.69 332 P **P 23 34 54.5 -0.8**
comp=Z,2.4nm,1.1s,baz=31,slow=4.6,SNR=13
ILAR PcP **PcP 23 36 31.4 -1.7**
comp=Z,1.1nm,0.9s,baz=13,slow=4.3,SNR=6.0
ILAR LR LR 23 55 44.5
comp=Z,69nm,18.1s,baz=186,slow=38
comp=Z,2.4nm,1.1s
IMAR Indian Mountai 45.86 337 P **P 23 34 58.1 +1.4**
M29M Somme Creek 45.88 326 P **P 23 34 58.3 +1.3**
M29M IAmb IAmb 23 35 01.1
comp=Z,17nm,1.5s
H21K Melozitna Rive 45.99 336 P **P 23 34 59.3 +1.5**
BCAR Beaver Creek A 46.11 329 P **P 23 35 00.1 +1.3**
L27K Beaver Creek, 46.12 329 P **P 23 35 01.0 +2.1**
L27K IAmb IAmb 23 35 06.5
comp=Z,7.7nm,1.3s
L40A Anamosa 46.20 278 P **P 23 34 59.1 -0.6**
L40A IAmb IAmb 23 35 37.2
comp=Z,13nm,1.1s
NEA2 Nenana 46.27 333 P **P 23 35 01.1 +1.2**
M26K Nabesna, AK 46.97 329 P **P 23 35 07.3 +1.8**
M26K IAmb IAmb 23 35 26.1
comp=Z,15nm,1.4s
BPAW Bear Paw Mtn. 47.08 334 P **P 23 35 08.1 +1.7**
BPAW IAmb IAmb 23 35 48.7
comp=Z,4.8nm,1.1s
J20K Nowinta River 47.59 336 P **P 23 35 11.7 +1.5**
ZAA0 Zalesovo Array 47.62 51 P **P 23 35 11.7 +1.1**
ZALV Zalesovo Beam 47.62 51 P **P 23 35 11.0 +0.4**
ZALV Zalesovo Beam 47.62 51 *e*P **P 23 35 12.1 +1.5**
ZALV Zalesovo Beam 47.62 51 P **P 23 35 09.6 -1.0**
comp=Z,0.6nm,0.5s,baz=330,slow=8.6,SNR=4.6
ZALV LR LR 23 54 54.8
comp=Z,32nm,18.4s,baz=4.5,slow=36
comp=Z,0.6nm,0.5s
CTGM Chitina Glacie 47.85 327 P **P 23 35 14.3 +1.8**
MCARA McCarthy VSAT 47.87 328 P **P 23 35 14.4 +1.9**
Y58A Scranton 48.08 261 P **P 23 35 14.2 -0.2**
KURK Kurchatov 48.09 58 P **P 23 35 15.3 +1.0**
KURK IAmb IAmb 23 35 15.9
comp=Z,7.2nm,1.1s
KURK Kurchatov 48.09 58 P **P 23 35 15.3 +1.0**
KURK pmax pmax
comp=Z,7.0nm,1.1s
KURBB Kurchatov Arra 48.14 58 P **P 23 35 13.1 -1.6**
comp=Z,1.2nm,0.2s,baz=322,slow=7.5,SNR=14
comp=Z,1.2nm,0.2s
R32K Eaglecrest 48.47 321 P **P 23 35 16.5 -0.7**
V51A Loudon 48.47 267 P **P 23 35 16.7 -0.7**
CUT Chulitna 48.49 333 P **P 23 35 18.1 +0.9**
T47A Sharon Grove 48.65 270 P **P 23 35 18.8 0.0**
CPCT Cooper Cave 48.84 267 P **P 23 35 22.2 +2.0**
EGMT Eagleton 48.89 297 P **P 23 35 21.9 +1.3**
KNK Knik Glacier 49.02 331 P **P 23 35 23.0 +1.6**
FVM French Village 49.24 274 P **P 23 35 24.5 +1.2**
FVM IAmb IAmb 23 35 25.9
comp=Z,14nm,1.4s
FVM French Village 49.24 274 P **P 23 35 24.5 +1.2**
FVM pmax pmax
comp=Z,14nm,1.4s
FPAL Fort Paine 50.08 267 P **P 23 35 29.2 -0.6**
FPAL IAmb IAmb 23 35 47.8
comp=Z,16nm,1.4s
GOGA Godfrey 50.13 265 P **P 23 35 29.4 -0.7**
GOGA Godfrey 50.13 265 P **P 23 35 29.4 -0.7**
GOGA pmax pmax
comp=Z,23nm,1.5s
T42A Van Buren 50.33 274 P **P 23 35 31.8 +0.2**
GEYT Alibeck 50.41 84 P **P 23 35 33.5 +1.3**
GEYT IAmb IAmb 23 35 34.7
comp=Z,5.9nm,1.1s
GEYT Alibeck 50.41 84 P **P 23 35 33.5 +1.3**
GEYT pmax pmax
comp=Z,6.0nm,1.2s
GEYT Alibeck 50.41 84 P **P 23 35 31.9 -0.3**
comp=Z,1.9nm,0.8s,baz=338,slow=7.0,SNR=5.3
comp=Z,1.9nm,0.8s
GYA0B ALIBECK ARRAY 50.41 84 P **P 23 35 32.9 +0.7**
K15K Wolf Creek Mou 50.56 339 P **P 23 35 34.3 +1.3**
MGMO Mountain Grove 50.73 275 P **P 23 35 34.6 -0.1**

MGMO IAmb IAmb 23 35 39.4
comp=Z,9.5nm,1.4s
X48A Hartselle 50.77 269 P **P 23 35 35.4 +0.4**
KOWA Kowa 50.97 163 LR LR 23 58 44.2
comp=Z,42nm,18.1s,baz=296,slow=38
Y49A Blount Mountai 51.01 268 P **P 23 35 36.9 +0.1**
Y49A IAmb IAmb 23 36 10.3
comp=Z,17nm,1.4s
RLMT Red Lodge 51.10 295 P **P 23 35 37.7 +0.1**
RLMT IAmb IAmb 23 35 41.9
comp=Z,9.6nm,1.4s
KK31 Karatay Array 51.26 70 P **P 23 35 39.9 +1.4**
KK31 IAmb IAmb 23 35 41.2
comp=Z,9.5nm,1.4s
KK31 Karatay Array 51.26 70 P **P 23 35 39.9 +1.4**
KK31 pmax pmax
comp=Z,10.0nm,1.4s
KKAR Karatay Array 51.26 70 P **P 23 35 39.4 +0.8**
KKAR Karatay Array 51.26 70 P **P 23 35 39.6 +1.1**
KKAR IAmb IAmb 23 35 41.2
comp=Z,9.5nm,1.4s
KKAR Karatay Array 51.26 70 P **P 23 35 39.6 +1.1**
KKAR pmax pmax
comp=Z,10.0nm,1.4s
BOZ Bozeman (W) 51.62 297 P **P 23 35 42.3 +0.9**
BOZ IAmb IAmb 23 35 44.6
comp=Z,11nm,1.2s
BOZ Bozeman (W) 51.62 297 P **P 23 35 42.3 +0.9**
BOZ pmax pmax
comp=Z,11nm,1.3s
YMP Mirror Lake PI 51.77 295 P **P 23 35 42.5 -0.1**
DGZ Jazzator, Alta 52.06 53 *i* P **P 23 35 46.1 +1.5**
DGZ pmax pmax
comp=Z,2.0nm,0.8s
H17A Grant Village 52.22 295 P **P 23 35 46.6 +0.6**
H17A IAmb IAmb 23 35 52.8
comp=Z,12nm,1.3s
MAKZ Makanchi 52.58 59 P **P 23 35 48.6 +0.2**
MAKZ Makanchi 52.58 59 P **P 23 35 48.6 +0.2**
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 52.71 58 P **P 23 35 49.6 +0.3**
MK31 Makanchi Array 52.71 58 *i* P **P 23 35 50.0 +0.7**
MKAR Makanchi Array 52.71 58 P **P 23 35 48.9 -0.5**
MKAR Makanchi Array 52.71 58 *e*P **P 23 35 50.7 +1.4**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 52.71 58 P **P 23 35 48.0 -1.3**
comp=Z,1.4nm,0.9s,baz=324,slow=6.0,SNR=8.6
MKAR LR LR 23 58 27.3
comp=Z,51nm,18.1s,baz=32,slow=36
comp=Z,1.4nm,0.9s
UALR University of 52.78 274 P **P 23 35 50.7 +0.8**
UALR IAmb IAmb 23 35 59.1
comp=Z,11nm,1.3s
IMW Indian Meadow 52.78 295 P **P 23 35 50.2 0.0**
IMW IAmb IAmb 23 35 53.1
comp=Z,7.9nm,1.3s
LOHW Long Hollow 52.89 295 P **P 23 35 50.9 -0.1**
LOHW IAmb IAmb 23 35 54.2
comp=Z,8.6nm,1.5s
TPAW Teton Pass 53.13 295 P **P 23 35 51.5 -1.2**
TPAW IAmb IAmb 23 35 57.5
comp=Z,8.5nm,1.2s
TOA0 Torodi Ar. Sit 53.14 156 P **P 23 35 52.4 -0.3**
TOA0 IAmb IAmb 23 35 54.0
comp=Z,7.4nm,1.2s
TORD Torodi Ar. Bea 53.14 156 P **P 23 35 51.7 -1.0**
TORD Torodi Ar. Bea 53.14 156 P **P 23 35 50.5 -2.3**
comp=Z,3.3nm,1.1s,baz=351,slow=5.9,SNR=13
TORD LR LR 23 58 44.1
comp=Z,15nm,19.6s,baz=148,slow=36
comp=Z,3.3nm,1.1s
RWWY Rawlins 53.16 291 P **P 23 35 54.1 +1.1**
RWWY IAmb IAmb 23 36 14.2
comp=Z,6.9nm,1.2s
BW06 Boulder Array 53.19 293 P **P 23 35 53.4 +0.2**
BW06 IAmb IAmb 23 35 55.3
comp=Z,10nm,1.3s
PD31 Pinedale Array 53.19 293 P **P 23 35 52.7 -0.5**
PD31 IAmb IAmb 23 35 54.8
comp=Z,6.7nm,1.1s
PDAR Pinedale Array 53.19 293 P **P 23 35 52.2 -0.9**
PDAR Pinedale Array 53.19 293 P **P 23 35 51.8 -1.4**
comp=Z,3.1nm,0.9s,baz=56,slow=5.6,SNR=14
comp=Z,3.1nm,0.9s
REDW Red Top Meadow 53.20 295 P **P 23 35 53.9 +0.6**
AAK Ala-Archa 53.24 67 P **P 23 35 54.6 +1.1**
AAK IAmb IAmb 23 35 56.3
comp=Z,7.6nm,1.1s
AAK Ala-Archa 53.24 67 P **P 23 35 54.6 +1.1**
AAK pmax pmax
comp=Z,8.0nm,1.2s
AAK Ala-Archa 53.24 67 LR LR 23 58 28.4
comp=Z,71nm,19.7s,baz=352,slow=36
N23A Red Feather La 53.32 289 P **P 23 35 53.4 -0.8**
N23A IAmb IAmb 23 35 56.8
comp=Z,12nm,1.2s
PLID Pearl Lake 53.71 300 P **P 23 35 56.7 -0.3**
PLID IAmb IAmb 23 35 58.4
comp=Z,6.7nm,1.4s
BOOM Boomskoye usch 53.94 66 P **P 23 35 58.9 +0.3**
BOOM Boomskoye usch 53.94 66 P **P 23 35 58.9 +0.3**
BOOM pmax pmax
comp=Z,4.0nm,1.0s
BTK Batken 53.94 72 P **P 23 35 58.4 -0.2**
BTK IAmb IAmb 23 36 01.6
comp=Z,12nm,1.1s
BTK Batken 53.94 72 P **P 23 35 58.4 -0.2**
BTK pmax pmax
comp=Z,13nm,1.2s
HLID Hailey 54.40 297 P **P 23 36 02.6 +0.6**
NLWA Neilton Lookou 54.56 307 P **P 23 36 03.9 +1.0**
NLWA IAmb IAmb 23 36 11.8
comp=Z,7.4nm,1.1s
NRN Naryn 54.86 67 P **P 23 36 07.2 +1.8**
NRN IAmb IAmb 23 36 24.7
comp=Z,6.1nm,1.3s
NRN Naryn 54.86 67 P **P 23 36 07.3 +1.8**
NRN pmax pmax
comp=Z,6.0nm,1.3s
HWUT Hardware Ranch 54.96 294 P **P 23 36 06.3 +0.3**
HWUT IAmb IAmb 23 36 08.9
comp=Z,12nm,1.3s
HRA Herat 55.17 82 P **P 23 36 09.0 +1.3**
HRA IAmb IAmb 23 36 10.8
comp=Z,7.0nm,1.4s
HVU Hansel Valley 55.29 295 P **P 23 36 09.1 +0.7**
HVU Hansel Valley 55.29 295 P **P 23 36 09.1 +0.7**
HVU pmax pmax
comp=Z,3.0nm,1.1s
TCUT Toone Canyon 55.32 294 P **P 23 36 09.5 +0.7**
RTBA Rita Blanca 55.78 284 P **P 23 36 12.8 +0.9**
RTBA IAmb IAmb 23 36 14.1
comp=Z,21nm,1.4s
J08A Circle Bar Ran 56.11 300 P **P 23 36 15.8 +1.6**
J08A IAmb IAmb 23 36 19.1
comp=Z,7.5nm,1.5s
P18A Preston Nutter 56.13 292 P **P 23 36 14.0 -0.6**
MPU Maple Canyon 56.35 293 P **P 23 36 17.0 +0.9**
MPU IAmb IAmb 23 36 23.0
comp=Z,6.5nm,1.1s
S22A 4UR Ranch, Cre 56.35 288 P **P 23 36 16.7 +0.4**
KSH Kashi 56.48 68 P **P 23 36 17.3 +0.4**
KSH pP sP 23 36 24.0 +2.5
KSH pmax pmax
comp=Z,11nm,1.4s
NLU North Lily Min 56.58 293 P **P 23 36 18.2 +0.5**
NLU IAmb IAmb 23 36 23.9
comp=Z,8.1nm,1.4s
DUG Dugway, Tooele 56.66 294 P **P 23 36 16.5 -1.7**
DUG Dugway, Tooele 56.66 294 P **P 23 36 16.5 -1.7**
FW03 Perrin-Whitt E 56.71 278 P **P 23 36 19.0 +0.5**
FW03 IAmb IAmb 23 36 21.6
comp=Z,25nm,1.3s
PLPT Palo Pinto 57.01 278 P **P 23 36 20.9 +0.2**
PLPT IAmb IAmb 23 36 23.2
comp=Z,22nm,1.3s
ELK Elko 57.13 296 P **P 23 36 22.0 +0.4**
ELK Elko 57.13 296 P **P 23 36 22.0 +0.4**
ELK pmax pmax
comp=Z,2.0nm,1.2s
J05D Fort Rock, OR 57.18 302 P **P 23 36 22.5 +0.6**
WMQ Urumqi 57.22 56 *e*P **P 23 36 23.3 +1.3**
WMQ pmax pmax

comp=Z,49nm,0.9s
CNBA Chernabura Isl 57.34 335 P P 23 36 24.4 +1.8
MTPU Mount Pierson 58.26 292 P P 23 36 29.9 +0.2
MTPU IAmb IAmb 23 36 32.7
comp=Z,7.6nm,1.4s
PSUT Pine Spring 58.50 294 P P 23 36 31.8 +0.5
DBIC Dimbokro 58.59 165 P P 23 36 31.5 -0.3
DBIC Dimbokro 58.59 165 P P 23 36 31.5 -0.3
DBIC pmax pmax
comp=Z,17nm,1.2s
DBIC Dimbokro 58.59 165 P P 23 36 31.2 -0.6
comp=Z,9.7nm,1.1s,baz=341,slow=7.3,SNR=4.0
comp=Z,9.7nm,1.1s
ANMO Albuquerque 58.60 286 *ceP* **P 23 36 34.6 +2.6**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
BRDY Brady 58.62 277 P P 23 36 31.6 -0.4
BRDY IAmb IAmb 23 36 34.7
comp=Z,7.9nm,1.3s
KEBM Edson Butte 58.65 305 P P 23 36 33.7 +1.6
PKCU Pink Cliffs 58.83 292 P P 23 36 34.0 +0.3
PKCU IAmb IAmb 23 36 52.2
comp=Z,9.9nm,1.1s
SZCU Shurtz Canyon 59.01 293 P P 23 36 35.3 +0.5
R11B Troy Canyon, C 59.34 295 P P 23 36 36.9 -0.2
KNB Kanab 59.40 292 P P 23 36 37.2 -0.3
KNB IAmb IAmb 23 36 39.5
comp=Z,7.6nm,1.3s
KNB Kanab 59.40 292 P P 23 36 37.2 -0.3
KNB pmax pmax
comp=Z,8.0nm,1.3s
LCMT Little Creek M 59.57 293 P P 23 36 36.7 -2.0
LCMT IAmb IAmb 23 36 39.5
comp=Z,4.2nm,0.7s
SONM Songino Array 59.62 40 P P 23 36 38.7 -0.1
SONM Songino Array 59.62 40 *eP* **P 23 36 40.7 +1.9**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 59.62 40 P P 23 36 38.2 -0.7
comp=Z,1.2nm,0.9s,baz=322,slow=4.4,SNR=4.6
SONM LR LR 00 04 47.0
comp=Z,63nm,18.1s,baz=40,slow=38
comp=Z,1.2nm,0.9s
JCT Junction City 59.66 278 P P 23 36 39.5 +0.3
JCT IAmb IAmb 23 36 41.8
comp=Z,8.6nm,0.9s
JCT Junction City 59.66 278 P P 23 36 39.5 +0.3
JCT pmax pmax
comp=Z,9.0nm,1.0s
KVN Kaiserville 59.70 298 P P 23 36 39.1 -0.4
KVN IAmb IAmb 23 36 44.8
comp=Z,3.7nm,1.0s
KVN Kaiserville 59.70 298 P P 23 36 39.1 -0.4
KVN pmax pmax
comp=Z,4.0nm,1.0s
U15A North Rim 59.70 291 P P 23 36 39.8 +0.1
U15A IAmb IAmb 23 36 42.0
comp=Z,6.6nm,1.3s
ULN Ulaanbaatar 59.78 40 P P 23 36 41.5 +1.6
ULN IAmb IAmb 23 36 42.2
comp=Z,4.7nm,1.1s
ULN Ulaanbaatar 59.78 40 P P 23 36 41.5 +1.6
ULN pmax pmax
comp=Z,5.0nm,1.2s
PRN Pahroc Range 59.95 294 P P 23 36 42.2 +1.0
PRN IAmb IAmb 23 36 44.6
comp=Z,11nm,1.4s
S11A Rachel 60.01 295 P P 23 36 42.1 +0.5
S11A IAmb IAmb 23 36 56.6
comp=Z,12nm,1.5s
WUAZ Wupatki 60.12 290 P P 23 36 42.9 +0.5
WUAZ IAmb IAmb 23 36 46.3
comp=Z,10nm,1.3s
YERR Yerington 60.19 298 P P 23 36 42.6 -0.3
YERR IAmb IAmb 23 36 46.2
comp=Z,11nm,1.3s
NVAR Mina Array Bea 60.31 297 P P 23 36 43.5 -0.4
comp=Z,0.5nm,0.8s,baz=40,slow=3.0,SNR=4.1
comp=Z,0.5nm,0.8s
NIL Nilore 60.43 74 P P 23 36 43.9 -0.6
NIL Nilore 60.43 74 P P 23 36 43.9 -0.6
NIL pmax pmax
comp=Z,10.0nm,1.0s
EMB Emerald Bay 60.52 299 P P 23 36 45.6 +0.4
EMB IAmb IAmb 23 36 48.3
comp=Z,11nm,1.5s
SHPR Sheep Range 60.77 294 P P 23 36 47.0 +0.1
SHPR IAmb IAmb 23 36 53.0
comp=Z,5.1nm,1.3s
TPNV Topopah Spring 60.81 295 P P 23 36 47.3 +0.1
TPNV IAmb IAmb 23 37 01.2
comp=Z,7.2nm,1.5s
TPNV Topopah Spring 60.81 295 P P 23 36 47.3 +0.1
TPNV pmax pmax
comp=Z,7.0nm,1.5s
X16A Lo Mia Camp, P 61.10 290 P P 23 36 50.2 +1.0
X16A IAmb IAmb 23 36 51.8
comp=Z,6.6nm,1.3s
121A Cookes Peak, D 61.24 286 P P 23 36 51.0 +0.8
121A IAmb IAmb 23 36 56.1
comp=Z,7.3nm,1.2s
V12A Nelson 61.33 293 P P 23 36 50.6 +0.1
ALPN Alpine 61.38 281 P P 23 36 51.5 +0.4
ALPN IAmb IAmb 23 36 53.1
comp=Z,6.4nm,1.2s
CMB Columbia Colle 61.45 299 P P 23 36 52.1 +0.8
CMB Columbia Colle 61.45 299 P P 23 36 52.1 +0.8
CMB pmax pmax
comp=Z,4.0nm,1.3s
GWY Greenwater Val 61.64 295 P P 23 36 53.1 +0.3
GWY IAmb IAmb 23 36 55.5
comp=Z,7.1nm,1.2s
DUN6 Lazy B Ranch 61.76 287 P P 23 36 54.1 +0.5
TX31 Lajitas Ar. Si 62.30 280 P P 23 36 57.1 -0.1
TX32 Lajitas Array 62.30 280 P P 23 36 55.8 -1.4
TX32 IAmb IAmb 23 36 58.5
comp=Z,3.9nm,1.2s
TXAR Lajitas Array 62.30 280 P P 23 36 54.4 -2.8
TXAR Lajitas Array 62.30 280 P P 23 36 57.2 0.0
comp=Z,1.6nm,1.0s,baz=54,slow=6.4,SNR=7.5
comp=Z,1.6nm,1.0s
SHEM Shemya Is, Ala 62.59 352 LR LR 00 06 00.0
comp=Z,57nm,18.1s,baz=286,slow=38
TUC Tucson 62.67 288 P P 23 37 00.5 +0.9
TUC Tucson 62.67 288 P P 23 37 00.5 +0.9
TUC pmax pmax
comp=Z,2.0nm,0.9s
ISA Isabella, Lake 62.80 296 P P 23 37 01.4 +1.0
ISA IAmb IAmb 23 37 06.1
comp=Z,9.9nm,1.4s
ISA Isabella, Lake 62.80 296 P P 23 37 01.4 +1.0
ISA pmax pmax
comp=Z,10.0nm,1.5s
BLYC Blythe 62.92 292 P P 23 37 01.9 +0.7
BLYC IAmb IAmb 23 37 03.8
comp=Z,11nm,1.4s
113A Mohawk Valley, 63.48 291 P P 23 37 06.0 +1.2
PMD Palm Desert 63.75 293 P P 23 37 07.1 +0.5
214A Organ Pipe Nat 63.81 289 P P 23 37 07.2 +0.1
PFO Pinyon Flats O 63.82 293 LR LR 00 04 27.4
comp=Z,67nm,21.4s,baz=344,slow=36
PIX Pinacate 64.42 290 P P 23 37 10.9 -0.1
MDP Montagnes des 64.54 219 LR LR 23 59 11.2
comp=Z,38nm,19.1s,baz=20,slow=30
BAUV El Baul 65.84 237 P P 23 37 21.4 +1.0
HHC Hu-ho-hao-te 67.50 40 *eP* **P 23 37 29.5 -1.4**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,220nm,5.0s
MDJ Mudanjiang 68.03 25 P P 23 37 35.0 +0.9
MDJ pP pP 23 37 37.8 +0.4
MDJ PcP **PcP 23 38 02.0 +1.8**
MDJ S **S 23 46 35.0 +2.0**
MDJ sS pS 23 46 39.0 +1.7
MDJ ScS **ScS 23 47 35.3 +2.5**
MDJ pmax pmax
comp=Z,11nm,1.6s
MDJ pmax pmax
comp=Z,110nm,3.5s
MDJ LR LR
comp=N,220nm,12.9s
MDJ LR LR
comp=E,240nm,12.2s
MDJ LR LR

comp=Z,250nm,12.3s
CMIG Matias Romero 69.31 266 LR LR 00 08 29.3
comp=Z,20nm,18.7s,baz=148,slow=36
LZH Lanzhou 69.61 48 *eP* **P 23 37 44.0 -0.2**
LZH pP pP 23 37 49.0 +1.4
LZH sP sP 23 37 50.8 +2.0
LZH pmax pmax
comp=Z,9.0nm,0.9s
KSRS Korea Array 74.64 28 LR LR 00 14 33.0
comp=Z,22nm,18.3s,baz=85,slow=39
NJ2 Nanjing 77.72 37 *eP* **P 23 38 31.5 -0.2**
NJ2 pP **pP 23 38 35.5 +0.4**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,180nm,3.9s
PZH PanZhiHua 77.72 53 P P 23 38 32.5 +0.5
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
JNU Nakatsue 79.41 27 LR LR 00 19 14.1
comp=Z,27nm,19.5s,baz=46,slow=40
MNCI Minicoy 82.80 86 P P 23 39 01.3 +2.1
CHTO Chiang Mai 83.79 59 P P 23 39 03.9 -0.4
CMAR Chiang Mai Arr 84.11 59 P P 23 39 06.7 +0.7
CMAR Chiang Mai Arr 84.11 59 *eP* **P 23 39 07.0 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 84.11 59 P P 23 39 06.9 +0.9
comp=Z,0.5nm,0.3s,baz=321,slow=6.7,SNR=8.0
CMAR LR LR 00 18 43.0
comp=Z,10nm,18.1s,baz=120,slow=37
comp=Z,0.5nm,0.3s
BOSA Boshof 98.76 143 LR LR 00 27 40.1
comp=Z,39nm,18.4s,baz=16,slow=37
QSPA South Pole Qui 154.59 180 PKP PKPdf 23 46 25.1 -0.7
comp=Z,2.4nm,1.2s,baz=233,slow=2.1,SNR=3.7

NEIC ***27*** *00:00:51.6±2.2, 15°.22N±0°.10×93°.83W±0°.04, h41km±19km, mb4.0/2, Md4.4/45(MEX), Error ellipse: s-maj=14.9km s-min=4.5km az=195.0*
MEX ***27*** *00:00:52.2±0.8, 15°.13N×93°.84W, h32km±9km, MD4.4*
ISC 27 00:00:50.7±1.1, 15°.14N±0°.05×93°.85W±0°.03, h43km±20km, n51, σ1°.96/83, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.83**	**47**		**Pn**	**00 01 05.4**	**-0.6**
PCIG				*i* S	**Sn**	**00 01 16.0**	**-1.0**
PCIG		**0.83**	**47**	*i* P	**Pn**	**00 01 05.4**	**-0.6**
PCIG				*i* S	**Sn**	**00 01 16.0**	**-1.0**
CARR	**Arriaga**	**1.10**	**357**	*eP*	**Pn**	**00 01 09.4**	**-0.3**
CARR				*i* S	**Sn**	**00 01 22.8**	**-1.0**
THIG		**1.55**	**98**		**Pn**	**00 01 15.6**	**-0.2**
THIG					**Sn**	**00 01 34.0**	**-0.7**
THIG		**1.55**	**98**	*eP*	**Pn**	**00 01 15.6**	**-0.2**
THIG				*eS*	**Sn**	**00 01 34.0**	**-0.7**
PATR	**El Naranjo**	**1.56**	**91**	*eP*	**Pn**	**00 01 15.5**	**-0.7**
PATR				*i* S	**Sn**	**00 01 33.5**	**-1.8**
NILT	**Santiago Nilte**	**1.60**	**333**	*i* P	**Pn**	**00 01 17.1**	**+0.7**
NILT				*eS*	**Sn**	**00 01 35.7**	**-0.2**
PAVE	**Pavencul**	**1.62**	**88**	*eP*	**Pn**	**00 01 16.8**	**-0.2**
PAVE				*i* S	**Sn**	**00 01 35.9**	**-0.9**
CHUJ	**Union Juarez**	**1.68**	**91**	*eP*	**Pn**	**00 01 17.3**	**-0.6**
CHUJ				*i* S	**Sn**	**00 01 37.0**	**-1.4**
TGIG		**1.77**	**23**		**Pn**	**00 01 19.2**	**+0.2**
TGIG					**Sn**	**00 01 39.8**	**-0.5**
TGIG		**1.77**	**23**	*eP*	**Pn**	**00 01 19.2**	**+0.2**
TGIG				*eS*	**Sn**	**00 01 39.8**	**-0.5**
CCIG	**Comitan**	**2.00**	**55**	Pn	**Pn**	**00 01 21.7**	**-0.5**
CCIG	**Comitan**	**2.00**	**55**	*eP*	**Pn**	**00 01 23.4**	**+1.2**
CCIG				*eS*	**Sn**	**00 01 46.0**	**-0.2**
CMIG	**Matias Romero**	**2.18**	**333**		**Pn**	**00 01 24.8**	**+0.3**
CMIG					**Sn**	**00 01 47.6**	**-2.6**
CMIG	**Matias Romero**	**2.18**	**333**	*eP*	**Pn**	**00 01 24.8**	**+0.3**
CMIG				*eS*	**Sn**	**00 01 47.6**	**-2.6**
UXUV	**UXUV**	**2.18**	**353**	*eP*	**Pn**	**00 01 25.8**	**+1.2**
UXUV				*eS*	**Sn**	**00 01 51.5**	**+1.2**
HUIG	**Huatulco**	**2.26**	**286**		**Pn**	**00 01 26.3**	**+0.7**
HUIG					**Sn**	**00 01 49.7**	**-2.7**
HUIG	**Huatulco**	**2.26**	**286**	*eP*	**Pn**	**00 01 26.3**	**+0.7**
HUIG				*eS*	**Sn**	**00 01 49.7**	**-2.7**
HUEH	**Huehuetenango**	**2.27**	**85**		**Pn**	**00 01 27.3**	**+1.3**
HUEH				Sn	**Sn**	**00 01 56.0**	**+3.1**
NEUV	**Arroyo Zacate**	**3.17**	**324**	*eP*	**Pn**	**00 01 39.6**	**+1.6**
NEUV				*i* S	**Sn**	**00 02 13.5**	**-1.2**
PEIG	**Puerto Escondi**	**3.29**	**285**		**Pn**	**00 01 39.8**	**0.0**
PEIG					**Sn**	**00 02 14.9**	**-2.8**
PEIG	**Puerto Escondi**	**3.29**	**285**	*eP*	**Pn**	**00 01 40.7**	**+1.0**
PEIG				*i* S	**Sn**	**00 02 14.9**	**-2.8**
OXIG	**Oaxaca**	**3.37**	**305**		**Pn**	**00 01 42.1**	**+1.0**
OXIG					**Sn**	**00 02 21.7**	**+1.8**
VHO	**Vista Hermosa**	**3.37**	**305**	*eP*	Pn	00 01 46.0	+4.9
VHO				*i* S	**Sn**	**00 02 21.7**	**+1.8**
PETF	**Flores**	**4.22**	**65**	Pn	**Pn**	**00 01 53.1**	**+0.6**
TOIG	**Toxpalan**	**4.26**	**314**		**Pn**	**00 01 56.2**	**+3.1**
TOIG					**Sn**	**00 02 43.3**	**+1.6**
TOIG	**Toxpalan**	**4.26**	**314**	*eP*	**Pn**	**00 01 56.2**	**+3.1**
TOIG				*eS*	**Sn**	**00 02 41.9**	**+0.3**
PNIG	**Pinotepa**	**4.30**	**287**		**Pn**	**00 01 54.7**	**+1.1**
PNIG					**Sn**	**00 02 40.0**	**-2.6**
PNIG	**Pinotepa**	**4.30**	**287**	*eP*	**Pn**	**00 01 54.7**	**+1.1**
PNIG				*eS*	**Sn**	**00 02 40.0**	**-2.6**
ESQI	**Esquipulas**	**4.40**	**97**	Pn	**Pn**	**00 01 56.2**	**+1.1**
MTO3	**Montecristo**	**4.41**	**99**		**Pn**	**00 01 56.9**	**+1.6**
SCIG	**Sabancuy**	**4.58**	**33**	*eP*	**Pn**	**00 01 56.4**	**-1.1**
SCIG				*i* S	**Sn**	**00 02 45.2**	**-4.2**
HLIG	**Huajuapan de L**	**4.64**	**306**		Pn	00 02 04.4	+5.9
HLIG					**Sn**	**00 02 51.0**	**-0.2**
HLIG	**Huajuapan de L**	**4.64**	**306**	*i* P	Pn	00 02 04.4	+5.9
HLIG				*eS*	**Sn**	**00 02 51.0**	**-0.2**
TPIG	**Tehuac#an**	**4.68**	**315**	*e*	**Sn**	**00 02 47.1**	**-5.1**
FTIG	**Fresnillo de T**	**4.94**	**304**		**Pn**	**00 02 04.6**	**+2.0**
FTIG					**Sn**	**00 02 57.5**	**-1.0**
FTIG	**Fresnillo de T**	**4.94**	**304**	*i* P	**Pn**	**00 02 04.6**	**+2.0**
FTIG				*eS*	**Sn**	**00 02 57.5**	**-1.0**
JAUV	**Jalcomulco**	**5.06**	**327**	*eP*	**Pn**	**00 02 03.0**	**-1.2**
JAUV				*eS*	**Sn**	**00 02 55.5**	**-5.8**
TLIG	**Tlapa**	**5.13**	**299**	*eP*	Pn	00 02 10.4	+5.3
TLIG				*eS*	**Sn**	**00 03 05.5**	**+2.4**
PPM	**Popocatepetl**	**6.01**	**311**	*eP*	**Pn**	**00 02 20.5**	**+2.9**
PPM				*eS*	**Sn**	**00 03 28.1**	**+2.8**
CXUV	**Coxquihui**	**6.14**	**325**	*eP*	**Pn**	**00 02 22.4**	**+3.4**
CXUV				*eS*	**Sn**	**00 02 28.4**	**+0.4**
PLIG	**Platanillo**	**6.30**	**302**	*eP*	Pn	00 02 26.5	+5.3
PLIG				*eS*	**Sn**	**00 03 34.6**	**+2.5**
MYIG	**Mrida**	**6.98**	**33**	*eS*	**Sn**	**00 03 44.1**	**-4.5**
CRIN	**San Cristobal**	**7.04**	**109**	Pn	**Pn**	**00 02 31.3**	**+0.1**
TEIG	**Tepich**	**7.33**	**46**		**Pn**	**00 02 34.6**	**-0.7**
MATN	**Matagalpa**	**8.00**	**105**	Pn	**Pn**	**00 02 46.3**	**+1.7**
BOAB	**BOACO BROADBAN**	**8.39**	**108**	Pn	**Pn**	**00 02 49.8**	**0.0**
ORTG	**Ortega, Santa**	**9.46**	**119**	Pn	**Pn**	**00 03 04.2**	**-0.4**
SOR	**Soroa**	**12.77**	**52**	Pn	**Pn**	**00 03 54.0**	**+4.3**
LRAL	**Lakeview Retre**	**18.87**	**18**	P	**P**	**00 05 05.6**	**-1.8**
LRAL				IAmb	IAmb	00 05 47.3	
RDMU	**Red Mountain**	**28.80**	**335**	P	**P**	**00 06 45.0**	**0.0**
RDMU				IAmb	IAmb	00 06 51.6	

IDC ***27*** *00:16:39.7±0.6, 64°.47N×17°.69W, h0km, mb3.9/20, mbtmp3.9/24, ML2.7/3, MS3.4/33, Error ellipse: s-maj=18.5km s-min=8.7km az=12.0*
REY ***27*** *00:16:39.4, 64°.67N×17°.47W, h3km*
MOS ***27*** *00:16:40.8±1.2, 64°.60N×17°.80W, h10km, mb4.6/46, Error ellipse: s-maj=11.5km s-min=7.1km az=120.3*
NEIC ***27*** *00:16:43.1±1.6, 64°.61N±0°.08×17°.9W±0°.1, h10km±1km, mb4.6/189, Error ellipse: s-maj=14.4km s-min=10.5km az=192.0*
DNK ***27*** *00:16:44.2±5.0, 64°.89N×16°.99W, h6km±307km, ML3.6*
ISC 27 00:16:42.7±0.3, 64°.60N±0°.03×17°.71W±0°.03, h10km, n411, σ1°.46/390, mb4.5/157, MS3.3/33, 4C-9D, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVON	**Vonarskard**	**0.08**	**345**	P	**Pg**	**00 16 42.1**	**-3.1**
baz=270							
IKIS	**Kista**	**0.10**	**38**	P	Pg	00 16 40.5	-5.0
baz=271							
IDJK	**Dyngjujokull**	**0.22**	**114**	P	Pg	00 16 43.4	-4.0
baz=149							
IGRF	**Grimsfjall**	**0.27**	**134**	P	**Pg**	**00 16 45.0**	**-3.2**
baz=162							
ISKR	**Skrokkalda**	**0.29**	**264**	P	**Pg**	**00 16 47.0**	**-1.7**
baz=254							
IHUS	**Husbondi**	**0.30**	**176**	P	**Pg**	**00 16 46.9**	**-1.9**
baz=192							
IURH	**Urdarhals**	**0.33**	**46**	P	Pg	00 16 43.6	-5.8
baz=43							
IJOK	**Jokulheimar**	**0.36**	**219**	P	**Pg**	**00 16 48.2**	**-1.6**
baz=223							
IBJK	**Bruarjokull**	**0.43**	**107**	P	Pg	00 16 46.7	-4.5
baz=123							
IIEY	**Innrieyrar**	**0.53**	**200**	P	**Pg**	**00 16 51.0**	**-2.1**
baz=206							
THOR	**Thorvaldshraun**	**0.56**	**52**	P	Pg	00 16 47.6	-5.9
baz=52							
THOR				S	Sg	00 16 54.6	-6.3
baz=52							
IKRE	**Kreppuhraun**	**0.60**	**71**	P	Pg	00 16 48.0	-6.4
baz=76							
IASK	**Askja**	**0.65**	**44**	P	Pg	00 16 49.1	-6.2
baz=42							
IASK				S	Sg	00 16 57.6	-6.1
baz=42							
IKAL	**Kalfafell**	**0.65**	**179**	P	**Pg**	**00 16 52.4**	**-2.9**
baz=188							
IVAT	**Vatnsfell**	**0.67**	**233**	P	**Pg**	**00 16 53.8**	**-1.8**
baz=233							
IKSK	**Karasker**	**0.69**	**128**	S	**Sg**	**00 17 01.1**	**-4.0**
baz=140							
IKSK				P	Pg	00 16 51.4	-4.6
baz=140							
IMKO	**Mokollar**	**0.70**	**56**	P	Pg	00 16 49.7	-6.6
baz=57							
IMKO				S	Sg	00 16 58.7	-6.7
baz=57							
IFAL	**Falljokull**	**0.75**	**148**	P	**Pg**	**00 16 52.9**	**-4.2**
baz=158							
ISVA	**Svartarkot**	**0.77**	**14**	P	Pg	00 16 51.4	-6.2
baz=7.7							
IKVI	**Kvisker**	**0.83**	**137**	P	Pg	00 16 53.8	-4.9
baz=146							
IFAG	**Fagurholsmyri**	**0.86**	**147**	P	**Pg**	**00 16 54.8**	**-4.5**
baz=156							
ISTE	**Stelbrattur**	**0.86**	**289**	P	**Pg**	**00 16 55.6**	**-3.7**
baz=282							
IVSH	**V-Sauoahnukur**	**0.88**	**75**	P	Pg	00 16 52.5	-7.1
baz=79							
ISNB	**Snabyli**	**0.95**	**206**	P	**Pg**	**00 16 58.1**	**-3.0**
baz=209							
IHES	**Hestalda**	**0.98**	**237**	P	**Pg**	**00 16 59.2**	**-2.3**
baz=236							
ISLY	**Slysaalda**	**0.99**	**219**	P	**Pg**	**00 16 59.1**	**-2.6**
baz=221							
IADA	**Aoalbol**	**1.01**	**64**	P	Pb	00 16 54.6	-7.7
baz=66							
IFED	**Fedgar**	**1.04**	**237**	P	**Pg**	**00 17 00.0**	**-2.6**
baz=237							
IRJU	**Rjupnafell**	**1.07**	**204**	P	**Pg**	**00 17 00.2**	**-3.1**
baz=207							
IMEL	**Melhnausar**	**1.08**	**24**	P	Pb	00 16 56.3	-7.1
baz=20							
IMJO	**Mjoaskard**	**1.08**	**233**	P	**Pg**	**00 17 01.1**	**-2.4**
baz=233							
IAUS	**Austmannsbunga**	**1.10**	**214**	P	**Pg**	**00 17 01.2**	**-2.8**
baz=216							
IGRS	**Grimsstaoir**	**1.24**	**32**	P	Pn	00 16 59.0	-7.1
baz=30							
IGRS				S	Sb	00 17 15.2	-7.2
baz=30							
ISKI	**Skildingahlsh**	**1.31**	**12**	P	Pn	00 17 00.6	-6.5
baz=8.6							
IGHA	**Grjothals**	**1.33**	**19**	P	Pn	00 17 00.6	-6.7
baz=16							
BORG	**Borgarnes**	**1.56**	**277**		**Pn**	**00 17 08.0**	**-2.5**
BORG	**Borgarnes**	**1.56**	**277**	P	**Pn**	**00 17 08.0**	**-2.5**
BORG	**Borgarnes**	**1.56**	**277**	Pg	**Pn**	**00 17 07.7**	**-2.9**
116nm,0.3s,baz=92,slow=9.6,SNR=119							
BORG				Lg	Lg	00 17 30.5	
42nm,0.3s,baz=245,slow=20,SNR=11							
BORG				LR	LR	00 17 44.8	
comp=Z,390nm,19.4s,baz=106,slow=41							
SCO	**Scoresbysund**	**6.13**	**347**		**Pn**	**00 18 12.0**	**-1.2**
SCO	**Scoresbysund**	**6.13**	**347**	P	**Pn**	**00 18 12.0**	**-1.2**
SCO	**Scoresbysund**	**6.13**	**347**	*i* P	**Pn**	**00 18 11.0**	**-2.2**
SCO	**Scoresbysund**	**6.13**	**347**	*i* P	**Pn**	**00 18 10.5**	**-2.7**
SCO				*i* S	**Sn**	**00 19 21.7**	**-1.6**
SCO				IAML		00 19 27.1	
comp=Z,34nm,0.9s							
SOEG	**Soedalen**	**6.57**	**310**	*i* P	**Pn**	**00 18 20.8**	**+1.6**
JMIC	**Jan Mayen**	**7.30**	**24**	LR	LR	00 20 34.6	
comp=Z,214nm,18.2s,baz=220,slow=32							
SUMG	**Summit**	**10.95**	**326**	*i* P	**Pn**	**00 19 24.0**	**+4.4**
EKA	**Eskdalemuir Ar**	**11.77**	**135**	**Pn**	**Pn**	**00 19 27.2**	**-3.2**
comp=Z,2.6nm,0.5s,baz=324,slow=13,SNR=26							
ESK	**Eskdalemuir**	**11.77**	**135**	Pn	**Pn**	**00 19 30.0**	**-0.5**
ESK	**Eskdalemuir**	**11.77**	**135**	P	**Pn**	**00 19 30.0**	**-0.5**
DSB	**Dublin**	**12.77**	**148**	Pn	**Pn**	**00 19 45.5**	**+1.4**
SFJD	**Kangerlussuaq**	**13.62**	**295**	LR	LR	00 24 40.2	
comp=Z,233nm,19.1s,baz=62,slow=35							
NOA	**NORSAR Array B**	**13.62**	**92**	Pn	Pn	00 19 50.7	-5.0
baz=299,slow=13,SNR=2.3							
NOA				LR	LR	00 25 27.8	
comp=Z,62nm,18.9s,baz=295,slow=39							
comp=Z,0.6nm,0.8s							
HFS	**Hagfors**	**15.13**	**93**	Pn	**Pn**	**00 20 14.5**	**-1.7**
comp=Z,0.1nm,0.3s,baz=320,slow=13,SNR=1.2							
HFS				LR	LR	00 25 35.8	
comp=Z,104nm,18.8s,baz=252,slow=36							
NEEM	**North Greenlan**	**16.43**	**335**	*i* P	**Pn**	**00 20 33.4**	**+0.1**
NOR	**Nord**	**17.10**	**1**	*i* P	**Pn**	**00 20 40.8**	**-0.6**
ARCES	**ARCESS Array B**	**17.23**	**54**	P	**Pn**	**00 20 44.2**	**+1.1**
comp=Z,0.1nm,0.3s,baz=274,slow=14,SNR=2.3							
comp=Z,3.5nm,0.8s							
BMRD	**Maredsous**	**18.58**	**130**	*d*P	**P**	**00 20 60.0**	**+0.3**
BGES	**Gesves**	**18.62**	**129**	*dp*P	pP	00 21 11.5	+8.3
BGES				*d*S	**S**	**00 24 31.7**	**-0.2**
BCLA	**Clavier**	**18.66**	**129**	*d*P	**P**	**00 21 00.7**	**+0.2**
DOU	**Dourbes**	**18.70**	**130**	*d*S	**Sn**	**00 24 29.4**	**-0.8**
MEM	**Membach**	**18.74**	**127**	*d*P	**Pn**	**00 21 03.3**	**+1.5**
BTNL	**Ternell**	**18.80**	**127**	*d*P	**Pn**	**00 21 03.1**	**+0.6**
RCHB	**Rochefort**	**18.86**	**129**	*d*P	**Pn**	**00 21 04.8**	**+1.6**
BHOU	**Houvegnez**	**18.96**	**128**	*d*P	**Pn**	**00 21 04.8**	**+0.4**
CLF	**Chambon-Foret**	**19.80**	**137**		**P**	**00 21 12.4**	**-0.6**
CLF				IAmb	IAmb	00 21 18.1	
comp=Z,46nm,1.4s							
FINES	**FINESS Array B**	**19.81**	**79**	P	**P**	**00 21 11.9**	**-1.1**
comp=Z,0.1nm,0.3s,baz=321,slow=11,SNR=1.9							
FINES				LR	LR	00 27 58.3	
comp=Z,40nm,20.7s,baz=12,slow=34							
comp=Z,2.3nm,1.0s							
CLL	**Collm**	**20.75**	**115**	P	**P**	**00 21 22.6**	**-0.7**
CLL	**Collm**	**20.75**	**115**	*i* P	**P**	**00 21 22.3**	**-1.0**
CLL				*i*		00 21 24.8	
CLL				*eS*	Sn	00 25 20.0	+0.4
CLL				pmax	pmax		
comp=Z,8.0nm,1.1s							
CLL	**Collm**	**20.75**	**115**	*i* P	**P**	**00 21 22.3**	**-1.0**
comp=Z,8.0nm,1.1s							
CLL				*i* Pmax		00 21 24.8	
comp=Z,36nm,1.7s							
CLL				*i* x	x	00 21 33.4	
CLL				*eS*	Sn	00 25 20.0	+0.4
CLL				AMS	AMS	00 30 00.0	
comp=Z,100nm,19.6s							
ECH	**Echery**	**21.18**	**129**	P	**P**	**00 21 27.6**	**-0.4**
ECH	**Echery**	**21.18**	**129**	P	**P**	**00 21 27.6**	**-0.4**
ECH				pmax	pmax		
comp=Z,13nm,1.3s							
GRA1	**Grafenberg Arr**	**21.37**	**120**	P	**P**	**00 21 31.2**	**+1.2**
GRA1				IAmb	IAmb	00 21 42.1	
comp=Z,34nm,1.4s							
GRF	**Grafenberg Arr**	**21.37**	**120**	P	**P**	**00 21 31.2**	**+1.2**
GRF				pmax	pmax		
comp=Z,34nm,1.4s							
GRFO	**Grafenberg**	**21.37**	**120**	P	**P**	**00 21 31.0**	**+1.0**
GRFO				IAmb	IAmb	00 21 42.0	
comp=Z,38nm,1.5s							
GRFO	**Grafenberg**	**21.37**	**120**	P	**P**	**00 21 31.0**	**+1.0**
GRFO				pmax	pmax		
comp=Z,38nm,1.5s							
NKC	**Novy Kostel**	**21.39**	**118**	*eP*

STU	**Stuttgart**	**21.40**	**125**	P	**P**	**00 21 30.5 +0.2**
STU				IAmb	IAmb	00 21 38.0
	comp=Z,14nm,0.6s					
STU	**Stuttgart**	**21.40**	**125**	P	**P**	**00 21 30.5 +0.2**
STU				pmax	pmax	
	comp=Z,14nm,0.6s					
BRG	**Berggiesshubel**	**21.46**	**115**	*e*P	**P**	**00 21 31.1 +0.2**
BRG				pmax	pmax	
	comp=Z,7.0nm,1.0s					
BRG				pmax	pmax	
	comp=Z,21nm,1.4s					
BRG				MLR	MLR	
	comp=Z,175nm,17.1s					
BRG	**Berggiesshubel**	**21.46**	**115**	*e*P	**P**	**00 21 31.1 +0.2**
BRG				Amp		00 21 33.8
	comp=Z,7.2nm,1.0s					
BRG	**Berggiesshubel**	**21.46**	**115**	P	P	00 21 42.5 +12
BRG				Amp		00 21 43.5
	comp=Z,21nm,1.4s					
BRG				Amp		00 30 52.0
	comp=Z,0.2nm,17.1s					
BFO	**Black Forest**	**21.48**	**127**	P	**P**	**00 21 30.7 -0.5**
BFO	**Black Forest**	**21.48**	**127**	P	**P**	**00 21 30.7 -0.5**
BFO				pmax	pmax	
	comp=Z,21nm,1.5s					
FRB	**Frobisher Bay**	**21.69**	**291**	LR	LR	00 29 01.4
	comp=Z,127nm,18.7s,baz=12,slow=34					
PVCC	**Panska Ves**	**21.98**	**114**	*e*P	**P**	**00 21 39.4 +2.9**
PVCC	**Panska Ves**	**21.98**	**114**	*e*P	**P**	**00 21 39.4 +2.9**
PABE	**Paberze**	**22.29**	**94**	P	**P**	**00 21 41.3 +1.6**
PABE				IAmb	IAmb	00 22 04.7
	comp=Z,50nm,1.4s					
PRU	**Pruhonice**	**22.40**	**115**	*e*P	**P**	**00 21 40.0 -1.0**
PRU				*e*S	Sn	00 25 55.1 -4.0
PRU				AMS	AMS	00 34 50.0
	comp=Z,100nm,10.6s					
PRU	**Pruhonice**	**22.40**	**115**	*e*P	**P**	**00 21 40.0 -1.0**
PRU				MLR	MLR	
	comp=Z,100nm,10.6s					
KSP	**Ksiaz**	**22.42**	**112**	*e*P	**P**	**00 21 40.6 -0.6**
CHVC	**Chvalec**	**22.52**	**112**	*e*P	**P**	**00 21 43.3 +1.0**
CHVC	**Chvalec**	**22.52**	**112**	*e*P	**P**	**00 21 43.3 +1.0**
ZVC	**Zvikov**	**22.70**	**117**	*e*P	**P**	**00 21 44.7 +0.5**
KHC	**Kasperske Hory**	**22.72**	**118**	P	**P**	**00 21 43.7 -0.7**
KHC	**Kasperske Hory**	**22.72**	**118**	*e*P	**P**	**00 21 43.5 -1.0**
KHC				*e*S	**S**	**00 25 55.5 +2.8**
KHC	**Kasperske Hory**	**22.72**	**118**	*e*P	**P**	**00 21 43.5 -1.0**
KHC				*e*S	**S**	**00 25 55.5 +2.8**
DPC	**Dobruska-Polom**	**22.82**	**112**	*e*P	**P**	**00 21 44.0 -1.5**
DPC				*e*S	**S**	**00 26 01.2 +6.8**
DPC	**Dobruska-Polom**	**22.82**	**112**	*e*P	**P**	**00 21 44.0 -1.5**
SENIN	**Lac Senin/Sane**	**22.84**	**131**	P	**P**	**00 21 47.4 +1.4**
DAVA	**Damuels**	**22.91**	**126**	*i* pP	**P**	**00 21 48.4 +1.8**
	comp=Z,9.1nm,1.1s					
SSB	**Saint Sauveur**	**22.96**	**137**	P	**P**	**00 21 47.3 +0.3**
SSB	**Saint Sauveur**	**22.96**	**137**	P	**P**	**00 21 47.3 +0.3**
SSB				pmax	pmax	
	comp=Z,10.0nm,1.2s					
SUW	**Suwalki**	**22.96**	**98**	P	**P**	**00 21 47.6 +0.7**
SUW				IAmb	IAmb	00 21 59.1
	comp=Z,36nm,1.2s					
SUW	**Suwalki**	**22.96**	**98**	P	**P**	**00 21 47.6 +0.7**
SUW				pmax	pmax	
	comp=Z,36nm,1.2s					
GEC2	**GERESS Array S**	**23.00**	**118**	P	**P**	**00 21 47.8 +0.4**
GERES	**GERESS Array B**	**23.00**	**118**	P	**P**	**00 21 47.1 -0.4**
GERES	**GERESS Array B**	**23.00**	**118**	*e*P	**P**	**00 21 49.9 +2.5**
GERES				pmax	pmax	
	comp=Z,3.0nm,1.0s					
GERES	**GERESS Array B**	**23.00**	**118**	P	**P**	**00 21 44.6 -2.9**
	comp=Z,1.2nm,0.7s,baz=336,slow=11,SNR=2.8					
GERES				LR	LR	00 32 01.1
	comp=Z,65nm,19.0s,baz=260,slow=40					
	comp=Z,1.2nm,0.7s					
RETA	**Reutte**	**23.05**	**124**	*e*P	**P**	**00 21 48.4 +0.4**
	comp=Z,3.3nm,1.0s					
CKRC	**Cesky Krumlov**	**23.25**	**117**	*e*P	**P**	**00 21 49.2 -0.7**
CKRC				*e*S	**S**	**00 26 06.8 +4.9**
CKRC	**Cesky Krumlov**	**23.25**	**117**	*e*P	**P**	**00 21 49.2 -0.7**
CKRC				*e*S	**S**	**00 26 06.8 +4.9**
MOTA	**Moosalm**	**23.29**	**124**	*e*P	**P**	**00 21 51.5 +1.0**
	comp=Z,7.9nm,1.6s					
DAVOX	**Davos/Dischmat**	**23.35**	**127**	LR	LR	00 30 58.9
	comp=Z,42nm,18.1s,baz=284,slow=37					
TUE	**Stuetta**	**23.43**	**128**	P	**P**	**00 21 52.6 +0.6**
FETA	**Feichten**	**23.44**	**125**	*e*pP	**P**	**00 21 54.1 +2.1**
	comp=Z,8.5nm,1.4s					
SQTA	**Sankt Quirin**	**23.44**	**124**	*e*P	**P**	**00 21 52.5 +0.6**
	comp=Z,9.8nm,1.2s					
WATA	**Walderalm**	**23.47**	**123**	*e*P	**P**	**00 21 52.7 +0.4**
	comp=Z,3.9nm,0.8s					
WTTA	**Wattenberg**	**23.55**	**123**	*e*P	**P**	**00 21 52.6 -0.5**
	comp=Z,6.9nm,1.2s					
FUORN	**Ofenpass-Fuorn**	**23.62**	**126**	P	**P**	**00 21 54.4 +0.6**
EUNU	**Eureka**	**23.70**	**336**	P	**P**	**00 21 53.4 -0.8**
EUNU				IAmb	IAmb	00 22 17.9
	comp=Z,16nm,1.3s					
VRAC	**Vranov**	**23.75**	**114**	*e*P	**P**	**00 21 54.0 -0.8**
VRAC	**Vranov**	**23.75**	**114**	P	**P**	**00 21 53.1 -1.8**
	comp=Z,1.5nm,0.6s,baz=340,slow=8.5,SNR=5.2					
VRAC				LR	LR	00 32 42.5
	comp=Z,90nm,18.1s,baz=326,slow=41					
	comp=Z,1.5nm,0.6s					
MORC	**Moravsky Berou**	**23.75**	**112**	P	**P**	**00 21 54.0 -0.9**
MORC				IAmb	IAmb	00 22 13.1
	comp=Z,18nm,1.5s					
MORC	**Moravsky Berou**	**23.75**	**112**	*e*P	**P**	**00 21 54.0 -0.9**
MORC	**Moravsky Berou**	**23.75**	**112**	P	**P**	**00 21 54.0 -0.9**
MORC				pmax	pmax	
	comp=Z,18nm,1.5s					
LESA	**Schwarzleotal**	**23.80**	**122**	*e*P	**P**	**00 21 55.6 +0.2**
	comp=Z,2.7nm,0.9s					
BNI	**Bardonecchia**	**23.81**	**134**	P	**P**	**00 21 57.1 +1.5**
BNI	**Bardonecchia**	**23.81**	**134**	P	**P**	**00 21 57.1 +1.5**
BNI				pmax	pmax	
	comp=Z,7.0nm,1.3s					
KRUC	**Moravsky**	**23.87**	**114**	*e*P	**P**	**00 21 55.0 -0.9**
BIOA	**Bad Ischl, Aus**	**23.93**	**120**	*e*P	**P**	**00 21 56.5 -0.1**
	comp=Z,5.4nm,1.8s					
MOA	**Molln**	**24.03**	**119**	*e*P	**P**	**00 21 57.0 -0.6**
	comp=Z,4.1nm,1.1s					
OJC	**Ojcow**	**24.32**	**108**	P	**P**	**00 22 01.6 +1.4**
OJC	**Ojcow**	**24.32**	**108**	P	**P**	**00 22 01.6 +1.4**
OJC				pmax	pmax	
	comp=Z,9.0nm,1.3s					
JAVC	**Velka Javorina**	**24.53**	**113**	*e*P	**P**	**00 22 02.5 +0.3**
CONA	**Conrad Observa**	**24.58**	**117**	*e*P	**P**	**00 22 01.9 -0.8**
	comp=Z,5.1nm,0.8s					
CTI	**Castel Tesino**	**24.60**	**125**	P	**P**	**00 22 03.0 +0.1**
CTI	**Castel Tesino**	**24.60**	**125**	P	**P**	**00 22 03.0 +0.1**
CTI				pmax	pmax	
	comp=Z,7.0nm,1.1s					
MNK	**Minsk**	**24.65**	**92**	*i* P	**P**	**00 22 03.6 +0.5**
	comp=E,9.0nm,1.3s					
MNK				*i* P	**P**	**00 22 03.6 +0.5**
	comp=N,11nm,1.3s					
MNK				*i* P	**P**	**00 22 03.6 +0.5**
	comp=Z,9.0nm,1.0s,baz=313					
MNK				*i* PP	**PnPn**	**00 22 35.0 +0.7**
MNK				*i* PPP	PPP	00 22 44.4
MNK				*i* S	**S**	**00 26 25.3 +1.2**
MNK				*i* SS	**SnSn**	**00 27 14.4 +5.1**
MNK				*i* SSS	SSS	00 27 27.5
MNK				*i* LQ	LQ	00 29 36.0
MNK				*i* LR	LR	00 31 17.6
MNK				*i* LRM	MLR	00 32 21.1
	comp=N,50nm,12.7s					
MNK				*i* LRM	MLR	00 32 34.7
	comp=Z,59nm,13.2s					
MNK				*i* LRM	MLR	00 33 12.4
	comp=E,35nm,12.7s					
MNK	**Minsk**	**24.65**	**92**	*i* P	**P**	**00 22 03.5 +0.5**
MNK				*i*		00 22 34.9
MNK				*i* PPP	PPP	00 22 44.4
MNK				*i* S	**S**	**00 26 25.3 +1.2**
MNK				*i* SS	**SnSn**	**00 27 14.3 +5.1**
MNK				*i* SSS	SSS	00 27 27.5
MNK				pmax	pmax	
	comp=Z,9.0nm,1.0s					
MNK				pmax	pmax	
	comp=N,11nm,1.3s					
MNK				pmax	pmax	
	comp=E,9.0nm,1.3s					
MNK				MLR	MLR	
	comp=N,50nm,13.0s					
MNK				MLR	MLR	
	comp=Z,59nm,13.0s					
MNK				MLR	MLR	
	comp=E,35nm,13.0s					
CLUD	**Cludinico**	**24.69**	**123**	P	**P**	**00 22 04.3 +0.7**
CLUD				IAmb	IAmb	00 22 08.0
	comp=Z,9.6nm,1.0s					
SMOL	**Smolenice**	**24.71**	**114**	*e*P	**P**	**00 22 03.7 -0.1**
MODS	**Modra-Piesok**	**24.77**	**114**	*e*P	**P**	**00 22 04.4 +0.1**
MODS	**Modra-Piesok**	**24.77**	**114**	*e*P	**P**	**00 22 04.4 +0.1**
MODS				pmax	pmax	
	comp=Z,432nm,3.7s					
STAL	**STALIGIAL**	**24.80**	**123**	P	**P**	**00 22 04.2 -0.3**
RONA	**Rosalia, Austr**	**24.93**	**116**	*e*P	**P**	**00 22 05.4 -0.4**
	comp=Z,6.4nm,1.2s					
MTE	**Manteigas**	**24.95**	**161**	*e*P	**P**	**00 22 07.7 +1.7**
MTE	**Manteigas**	**24.95**	**161**	P	**P**	**00 22 07.0 +1.1**
MTE				IAmb	IAmb	00 22 40.2
	comp=Z,16nm,1.5s					
PRED	**Cave del Predi**	**24.95**	**122**	P	**P**	**00 22 05.5 -0.5**
COI	**Coimbra**	**25.02**	**163**	P	**P**	**00 22 06.0 -0.6**
COI				IAmb	IAmb	00 22 29.0
	comp=Z,16nm,1.2s					
COI	**Coimbra**	**25.02**	**163**	P	**P**	**00 22 06.0 -0.6**
COI				pmax	pmax	
	comp=Z,16nm,1.2s					
LANS	**Liptovska Anna**	**25.02**	**110**	*e*P	**P**	**00 22 09.8 +3.2**
LANS	**Liptovska Anna**	**25.02**	**110**	*e*P	**P**	**00 22 09.8 +3.2**
NIE	**Niedzica**	**25.15**	**109**	*e*P	**P**	**00 22 08.9 +1.2**
TEOL	**Teolo**	**25.20**	**126**	P	**P**	**00 22 08.0 -0.1**
OBKA	**Obir**	**25.26**	**120**	*e*P	**P**	**00 22 08.4 -0.4**
	comp=Z,4.9nm,1.1s					
VYHS	**Vyhne**	**25.29**	**112**	*e*P	**P**	**00 22 08.6 -0.4**
VYHS	**Vyhne**	**25.29**	**112**	*e*P	**P**	**00 22 08.6 -0.4**
VYHS				pmax	pmax	
	comp=Z,11nm,1.4s					
PCBR	**Castelo Branco**	**25.51**	**161**	*e*P	**P**	**00 22 15.8 +4.9**
	comp=Z,14nm,1.8s					
KLMR	**Klimovskoe**	**25.71**	**72**	*e*P	**P**	**00 22 10.9 -1.7**
KLMR				AMP		00 22 14.7
	comp=Z,22nm,1.6s					
KLMR	**Klimovskoe**	**25.71**	**72**	*e*P	**P**	**00 22 10.9 -1.7**
KLMR				pmax	pmax	
	comp=Z,22nm,1.6s					
PMRV	**Marv??o**	**25.92**	**162**	*e*P	**P**	**00 22 17.2 +2.4**
	comp=Z,18nm,1.8s					
SCHQ	**Schefferville**	**25.95**	**271**	P	**P**	**00 22 13.5 -1.4**
	comp=Z,9.7nm,0.8s,baz=51,slow=8.1,SNR=5.5					
SCHQ				LR	LR	00 30 16.0
	comp=Z,67nm,20.9s,baz=350,slow=31					
	comp=Z,9.7nm,0.8s					
KWP	**Kalwaria Pacla**	**25.98**	**106**	P	**P**	**00 22 16.4 +1.2**
KWP	**Kalwaria Pacla**	**25.98**	**106**	P	**P**	**00 22 16.4 +1.2**
KWP				pmax	pmax	
	comp=Z,43nm,1.5s					
PSZ	**Piszkesteto**	**26.18**	**111**	P	**P**	**00 22 18.8 +1.7**
PSZ				IAmb	IAmb	00 22 30.7
	comp=Z,18nm,1.4s					
PSZ	**Piszkesteto**	**26.18**	**111**	P	**P**	**00 22 18.8 +1.7**
PSZ				pmax	pmax	
	comp=Z,19nm,1.4s					
ESDC	**Sonseca Array**	**26.23**	**155**	P	**P**	**00 22 18.5 +0.9**
ESDC	**Sonseca Array**	**26.23**	**155**	P	**P**	**00 22 15.7 -1.9**
	comp=Z,1.5nm,0.8s,baz=348,slow=8.9,SNR=17					
ESDC				LR	LR	00 32 07.3
	comp=Z,44nm,20.1s,baz=326,slow=36					
	comp=Z,1.5nm,0.8s					
KOLS	**Kolonicke sedl**	**26.34**	**107**	*e*P	**P**	**00 22 19.3 +0.8**
KOLS	**Kolonicke sedl**	**26.34**	**107**	*e*P	**P**	**00 22 19.3 +0.8**
KOLS				pmax	pmax	
	comp=Z,6.0nm,0.9s					
LVV	**L'vov**	**26.38**	**104**	*e*P	**P**	**00 22 16.7 -2.1**
OSSC	**Osservatorio P**	**26.66**	**128**	P	**P**	**00 22 23.6 +2.2**
OSSC				IAmb	IAmb	00 22 40.2
	comp=Z,20nm,1.5s					
AKASG	**Malin Array Be**	**27.92**	**97**	P	**P**	**00 22 30.6 -2.1**
	comp=Z,0.2nm,0.3s,baz=319,slow=9.9,SNR=2.0					
AKASG				LR	LR	00 32 39.6
	comp=Z,58nm,21.1s,baz=3.5,slow=34					
	comp=Z,0.2nm,0.3s					
AKBB	**Malin Array Si**	**27.92**	**97**	*i* P	**P**	**00 22 34.8 +2.2**
AKBB				pmax	pmax	
	comp=Z,3.0nm,0.6s					
OBN	**Obninsk**	**27.98**	**84**	*i* P	**P**	**00 22 31.9 -1.2**
OBN				pmax	pmax	
	comp=Z,12nm,1.0s					
BURAR	**Bucovina Array**	**28.59**	**106**	P	**P**	**00 22 39.6 +0.8**
LPSR	**Galich'ya Gora**	**30.73**	**86**	*e*P	**P**	**00 22 54.5 -3.0**
LPSR				pmax	pmax	
	comp=Z,10.0nm,0.8s					
KIRV	**Kirov**	**31.09**	**69**	LR	LR	00 34 30.7
	comp=Z,59nm,19.1s,baz=329,slow=34					
CUC	**Castrocucco**	**31.37**	**125**	P	**P**	**00 23 04.3 +1.0**
CUC				IAmb	IAmb	00 23 09.0
	comp=Z,8.3nm,1.1s					
VSR	**Storozhevoye**	**31.82**	**87**	*e*P	P	00 23 02.5 -4.7
VSR				pmax	pmax	
	comp=Z,9.0nm,1.2s					
KBN	**Korca**	**32.64**	**119**	P	**P**	**00 23 15.6 +1.1**
KBN	**Korca**	**32.64**	**119**	P	**P**	**00 23 15.6 +1.1**
KBN				pmax	pmax	
	comp=Z,17nm,1.3s					
CLTB	**Caltabellotta**	**32.66**	**131**	P	**P**	**00 23 16.0 +1.3**
LMQ	**La Malbaie**	**32.75**	**264**	P	**P**	**00 23 15.5 +0.2**
MDT	**Midelt**	**32.82**	**159**	LR	LR	00 37 11.9
	comp=Z,14nm,18.4s,baz=352,slow=38					
F62A	**Pittston Farm,**	**33.89**	**262**	P	**P**	**00 23 24.1 -1.2**
RDO	**Rodhopi**	**34.04**	**112**	P	**P**	**00 23 25.8 -0.8**
ALN	**Alexandroupoli**	**34.45**	**112**	P	**P**	**00 23 30.1 -0.1**
ALN				IAmb	IAmb	00 23 32.5
	comp=Z,10nm,1.2s					
ALN	**Alexandroupoli**	**34.45**	**112**	P	**P**	**00 23 30.1 -0.1**
ALN				pmax	pmax	
	comp=Z,10.0nm,1.2s					
BELG	**Belogornoye**	**34.59**	**79**	LR	LR	00 36 49.9
	comp=Z,52nm,21.7s,baz=238,slow=35					
AGG	**Agios Georgios**	**34.62**	**118**	P	**P**	**00 23 32.6 +0.9**
AGG				IAmb	IAmb	00 23 34.3
	comp=Z,14nm,1.4s					
AGG	**Agios Georgios**	**34.62**	**118**	P	**P**	**00 23 32.6 +0.9**
AGG				pmax	pmax	
	comp=Z,14nm,1.4s					
WVL	**Waterville**	**34.82**	**260**	P	**P**	**00 23 33.3 0.0**
ARU	**Arti**	**36.19**	**66**	LR	LR	00 37 19.5
	comp=Z,61nm,18.5s,baz=332,slow=34					
BR131	**Keskin Array S**	**38.55**	**105**	P	**P**	**00 24 06.5 +1.2**
BR131				IAmb	IAmb	00 24 08.4
	comp=Z,15nm,1.5s					
BR131	**Keskin Array S**	**38.55**	**105**	*i* P	**P**	**00 24 07.9 +2.6**
BRTR	**Keskin Array B**	**38.55**	**105**	P	**P**	**00 24 05.7 +0.4**
BRTR	**Keskin Array B**	**38.55**	**105**	*e*P	**P**	**00 24 09.2 +3.9**
BRTR				pmax	pmax	
	comp=Z,2.0nm,0.7s					
BRTR	**Keskin Array B**	**38.55**	**105**	P	**P**	**00 24 03.8 -1.6**
	comp=Z,1.1nm,0.9s,baz=331,slow=6.0,SNR=4.1					
	comp=Z,1.1nm,0.9s					
IDI	**Anoyia**	**38.87**	**118**	LR	LR	00 41 05.5
	comp=Z,27nm,20.9s,baz=236,slow=38					
KIV	**Kislovodsk**	**38.93**	**92**	P	**P**	**00 24 08.9 +0.5**
KIV	**Kislovodsk**	**38.93**	**92**	*e*P	**P**	**00 24 08.5 +0.1**
KIV				pmax	pmax	
	comp=Z,7.0nm,1.1s					
KIV				MLR	MLR	
	comp=Z,26nm,16.0s					
YKA	**Yellowknife Ar**	**39.20**	**313**	P	**P**	**00 24 09.4 -0.9**
	comp=Z,1.0nm,0.9s,baz=34,slow=9.3,SNR=3.0					
YKA				LR	LR	00 39 03.3
	comp=Z,31nm,21.6s,baz=230,slow=34					
	comp=Z,1.0nm,0.9s					
KBZ	**Khabaz**	**39.20**	**92**	*ce*P	**P**	**00 24 11.7 +1.2**
KBZ				pmax	pmax	
	comp=Z,6.0nm,1.3s					
KBZ	**Khabaz**	**39.20**	**92**	P	**P**	**00 24 09.9 -0.7**
	comp=Z,2.2nm,0.9s,baz=291,slow=8.6,SNR=3.4					
KBZ				LR	LR	00 40 24.1
	comp=Z,52nm,18.6s,baz=340,slow=36					
	comp=Z,2.2nm,0.9s					
PAL	**Palisades**	**39.53**	**261**	P	**P**	**00 24 12.6 -0.7**
PAL	**Palisades**	**39.53**	**261**	P	**P**	**00 24 12.6 -0.7**
PAL				pmax	pmax	
	comp=Z,64nm,1.5s					
ELL	**Elmali**	**39.56**	**111**	P	**P**	**00 24 15.7 +1.9**
ELL	**Elmali**	**39.56**	**111**	P	**P**	**00 24 15.7 +1.9**
ELL				pmax	pmax	
	comp=Z,51nm,1.3s					
MMNY	**Mt. Morris Dam**	**39.83**	**267**	P	**P**	**00 24 15.1 -0.7**
MMNY				IAmb	IAmb	00 24 51.0
	comp=Z,34nm,1.5s					
L56A	**Greenwood**	**40.17**	**266**	P	**P**	**00 24 18.4 -0.2**
L56A				IAmb	IAmb	00 24 57.0
	comp=Z,23nm,1.3s					
BNN	**Bunyan**	**40.21**	**103**	P	**P**	**00 24 21.2 +2.1**
BNN				IAmb	IAmb	00 24 34.6
	comp=Z,10nm,0.9s					
AKTO	**Aktyubinsk**	**40.39**	**73**	P	**P**	**00 24 19.2 -1.2**
	comp=Z,1.8nm,0.8s,baz=338,slow=6.4,SNR=5.2					
AKTO				LR	LR	00 40 39.4
	comp=Z,50nm,18.1s,baz=80,slow=36					
	comp=Z,1.8nm,0.8s					
FFC	**Flin Flon**	**40.55**	**297**	P	**P**	**00 24 20.4 -1.2**
FFC	**Flin Flon**	**40.55**	**297**	P	**P**	**00 24 20.5 -1.2**
FFC				pmax	pmax	
	comp=Z,8.0nm,1.1s					
M57A	**Sunshine Farm,**	**40.63**	**265**	P	**P**	**00 24 21.5 -1.0**
M57A				IAmb	IAmb	00 24 40.6
	comp=Z,23nm,1.4s					
G31M	**Satah River**	**41.14**	**328**	P	**P**	**00 24 26.6 +0.2**
ULM	**Lac du Bonnet**	**41.54**	**289**	P	**P**	**00 24 30.1 +0.3**
ULM				IAmb	IAmb	00 24 33.1
	comp=Z,10nm,1.1s					
ULM	**Lac du Bonnet**	**41.54**	**289**	P	**P**	**00 24 30.1 +0.3**
ULM				pmax	pmax	
	comp=Z,10.0nm,1.2s					
G30M	**tAoh Zraii Nji**	**41.54**	**329**	P	**P**	**00 24 30.3 +0.6**
G30M				IAmb	IAmb	00 24 31.6
	comp=Z,24nm,1.5s					
ALLY	**Alegheny Colle**	**41.68**	**268**	P	**P**	**00 24 29.8 -1.3**
F28M	**Old Crow**	**41.81**	**331**	P	**P**	**00 24 31.5 -0.3**
ABKAR	**Akbulak array**	**42.10**	**73**		**P**	**00 24 34.4 0.0**
ABKAR	**Akbulak array**	**42.10**	**73**		**P**	**00 24 34.0 -0.4**
TIXI	**Tiksi**	**42.12**	**15**	*ce*P	**P**	**00 24 35.3 +1.0**
EPYK	**Eagle Plains**	**42.16**	**328**	P	**P**	**00 24 34.9 +0.2**
CSS	**Mathiatis**	**42.49**	**109**	P	**P**	**00 24 38.9 +1.2**
CSS				IAmb	IAmb	00 24 53.7
	comp=Z,16nm,1.3s					
E38A	**The Farm, Brul**	**42.59**	**282**	P	**P**	**00 24 35.6 -2.8**
TOLK	**Toolik Lake Re**	**42.78**	**336**	P	**P**	**00 24 38.4 -1.4**
TOLK				IAmb	IAmb	00 24 43.9
	comp=Z,16nm,1.2s					
GNI	**Garni**	**42.92**	**94**	P	**P**	**00 24 42.5 +1.2**
GNI				IAmb	IAmb	00 24 45.8
	comp=Z,15nm,1.3s					
GNI	**Garni**	**42.92**	**94**	*ce*P	**P**	**00 24 43.6 +2.2**
GNI				pmax	pmax	
	comp=Z,14nm,1.3s					
GNI	**Garni**	**42.92**	**94**	LR	LR	00 42 19.1
	comp=Z,44nm,20.2s,baz=335,slow=36					
BMAR	**Burnt Mountain**	**42.92**	**333**	P	**P**	**00 24 40.1 -0.9**
G40A	**Rib Lake**	**43.08**	**280**	P	**P**	**00 24 42.0 -0.5**
G40A				IAmb	IAmb	00 24 43.1
	comp=Z,28nm,1.5s					
GURO	**Guroymak-BITLI**	**43.08**	**97**	P	**P**	**00 24 45.4 +2.7**
BRVK	**Borovoye**	**43.24**	**62**	P	**P**	**00 24 44.5 +0.8**
BRVK	**Borovoye**	**43.24**	**62**	*ce*P	**P**	**00 24 45.2 +1.5**
BRVK				pmax	pmax	
	comp=Z,8.0nm,2.5s					
L48A	**N Adams**	**43.29**	**272**	P	**P**	**00 24 43.6 -0.6**
O53A	**New Philadelph**	**43.29**	**267**	P	**P**	**00 24 43.8 -0.4**
BVAR	**Borovoye Array**	**43.31**	**62**	P	**P**	**00 24 42.8 -1.4**
	comp=Z,3.4nm,1.0s,baz=318,slow=6.4,SNR=10					
BVAR				LR	LR	00 43 00.1
	comp=Z,45nm,19.7s,baz=336,slow=36					
	comp=Z,3.4nm,1.0s					
P53A	**Whipple**	**43.99**	**267**	P	**P**	**00 24 49.7 -0.1**
P53A				IAmb	IAmb	00 25 02.5
	comp=Z,20nm,1.4s					
F36A	**Milaca**	**44.01**	**283**	P	**P**	**00 24 49.1 -0.8**
F36A				IAmb	IAmb	00 24 52.0
	comp=Z,10nm,1.2s					
N49A	**Columbus Grove**	**44.02**	**271**	P	**P**	**00 24 49.3 -0.7**
ACSO	**Alum Creek Sta**	**44.06**	**269**	P	**P**	**00 24 50.3 -0.1**
ACSO				IAmb	IAmb	00 24 53.0
	comp=Z,12nm,0.9s					
Q54A	**Coxs Mills**	**44.17**	**266**	P	**P**	**00 24 51.3 0.0**
SPMN	**Marine on St.**	**44.22**	**282**	P	**P**	**00 24 50.5 -1.1**
SPMN				IAmb	IAmb	00 24 53.1
	comp=Z,21nm,1.4s					
S57A	**Dark Hollow, R**	**44.39**	**263**	P	**P**	**00 24 52.6 -0.4**
S57A				IAmb	IAmb	00 24 57.7
	comp=Z,11nm,1.3s					
E19K	**Redstone River**	**45.10**	**339**	P	**P**	**00 24 58.6 +0.2**
E19K				IAmb	IAmb	00 25 27.4
	comp=Z,7.5nm,1.1s					
M30M	**Minto, Yukon**	**45.37**	**325**	P	**P**	**00 25 00.5 -0.2**
M30M				IAmb	IAmb	00 25 17.9
	comp=Z,17nm,1.5s					
SSFO	**Shawnee State**	**45.43**	**268**	P	**P**	**00 25 00.1 -1.3**
J25K	**Salcha River,**	**45.54**	**331**	P	**P**	**00 25 03.2 +1.2**
J25K				IAmb	IAmb	00 25 05.9
	comp=Z,17nm,1.5s					
IL31		**45.71**	**332**	P	**P**	**00 25 04.1 +1.0**
IL31				IAmb	IAmb	00 25 12.0
	comp=Z,9.3nm,1.4s					
ILAR	**Eielson Array**	**45.71**	**332**	P	**P**	**00 25 03.7 +0.5**
ILAR	**Eielson Array**	**45.71**	**332**	P	**P**	**00 25 03.0 -0.2**
	comp=Z,3.2nm,1.1s,baz=14,slow=6.6,SNR=13					
ILAR				PcP	**PcP**	**00 26 40.2 -0.6**
	comp=Z,1.2nm,1.1s,baz=5.4,slow=2.9,SNR=6.0					
	comp=Z,3.2nm,1.1s					
MDM	**Murphy Dome**	**45.81**	**333**	P	**P**	**00 25 01.9 -2.1**
IMAR	**Indian Mountai**	**45.89**	**337**	P	**P**	**00 25 05.2 +0.6**
H21K	**Melozitna Rive**	**46.02**	**336**	P	**P**	**00 25 06.5 +0.8**
H21K				IAmb	IAmb	00 25 10.5
	comp=Z,13nm,1.2s					
BCAR	**Beaver Creek A**	**46.12**	**328**	P	**P**	**00 25 06.2 -0.4**
WRH	**Wood River Hil**	**46.21**	**333**	P	**P**	**00 25 07.6 +0.4**
WRH				IAmb	IAmb	00 25 27.6
	comp=Z,7.8nm,1.4s					
R50A	**Paris**	**46.27**	**269**	P	**P**	**00 25 08.1 +0.2**
R50A	

KKAR Karatay Array 51.38 70 P **P 00 25 47.7 +0.5**
KKAR Karatay Array 51.38 70 P **P 00 25 47.1 -0.1**
KKAR IAmb IAmb 00 25 50.2
comp=Z,4.3nm,1.1s
KKAR Karatay Array 51.38 70 P **P 00 25 47.7 +0.5**
BOZ Bozeman (W) 51.56 297 P **P 00 25 48.9 +0.3**
BOZ IAmb IAmb 00 25 52.5
comp=Z,13nm,1.2s
BOZ Bozeman (W) 51.56 297 P **P 00 25 48.9 +0.3**
BOZ pmax pmax
comp=Z,13nm,1.3s
FCAR Ozark Folk Cen 51.64 274 P **P 00 25 49.8 +0.6**
FCAR IAmb IAmb 00 25 51.3
comp=Z,9.6nm,1.3s
YMP Mirror Lake Pl 51.70 295 P **P 00 25 49.8 -0.1**
YMP IAmb IAmb 00 25 53.8
comp=Z,17nm,1.4s
H17A Grant Village 52.16 295 P **P 00 25 53.1 -0.2**
H17A IAmb IAmb 00 25 57.6
comp=Z,11nm,1.2s
Z47A Carrollton 52.18 269 P **P 00 25 53.5 +0.4**
Z47A IAmb IAmb 00 26 10.8
comp=Z,7.1nm,0.9s
DGZ Jazzator, Alta 52.20 52 *i* P **P 00 25 53.6 +0.3**
DGZ pmax pmax
comp=Z,7.0nm,1.4s
SEY Seymchan 52.57 6 LR LR 00 48 12.7
comp=Z,40nm,18.8s,baz=313,slow=36
MAKZ Makanchi 52.71 58 P **P 00 25 56.9 -0.1**
MAKZ IAmb IAmb 00 25 59.2
comp=Z,7.3nm,1.4s
MAKZ Makanchi 52.71 58 P **P 00 25 56.9 -0.1**
MAKZ pmax pmax
comp=Z,7.0nm,1.4s
IMW Indian Meadow 52.72 295 P **P 00 25 56.8 -0.6**
LOHW Long Hollow 52.82 294 P **P 00 25 56.5 -1.7**
MKAR Makanchi Array 52.84 58 *i* P **P 00 25 56.5 -1.5**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 52.84 58 P **P 00 25 55.9 -2.1**
comp=Z,1.2nm,0.9s,baz=269,slow=7.2,SNR=6.9
comp=Z,1.2nm,0.9s
KAN09 Caldwell North 52.94 280 P **P 00 25 58.2 -0.6**
FXWY Fox Creek 52.97 295 P **P 00 25 58.6 -0.6**
TPAW Teton Pass 53.06 295 P **P 00 25 59.8 -0.2**
TPAW IAmb IAmb 00 26 04.6
comp=Z,11nm,1.4s
TOA0 Torodi Ar. Sit 53.11 156 P **P 00 25 59.3 -0.9**
TOA0 IAmb IAmb 00 26 03.6
comp=Z,9.5nm,1.4s
TORD Torodi Ar. Bea 53.11 156 P **P 00 25 59.8 -0.5**
TORD Torodi Ar. Bea 53.11 156 P **P 00 25 57.3 -3.0**
comp=Z,1.5nm,0.8s,baz=350,slow=9.4,SNR=12
comp=Z,1.5nm,0.8s
BW06 Boulder Array 53.12 293 P **P 00 25 57.6 -2.8**
BW06 IAmb IAmb 00 26 02.6
comp=Z,6.9nm,1.1s
PD31 Pinedale Array 53.12 293 P **P 00 25 58.7 -1.7**
PD31 IAmb IAmb 00 26 02.6
comp=Z,5.5nm,1.0s
PDAR Pinedale Array 53.12 293 P **P 00 25 59.0 -1.4**
PDAR Pinedale Array 53.12 293 P **P 00 25 59.0 -1.4**
comp=Z,3.0nm,0.9s,baz=63,slow=7.5,SNR=17
PDAR LR LR 00 49 14.4
comp=Z,52nm,19.4s,baz=3.0,slow=37
comp=Z,3.0nm,0.9s
REDW Red Top Meadow 53.13 294 P **P 00 25 58.9 -1.6**
AAK Ala-Archa 53.37 67 P **P 00 26 02.1 0.0**
AAK Ala-Archa 53.37 67 *i* P **P 00 26 03.3 +1.2**
AAK pmax pmax
comp=Z,3.0nm,1.1s
CROK Carrier 53.62 279 P **P 00 26 04.1 +0.2**
PLID Pearl Lake 53.65 300 P **P 00 26 04.0 -0.2**
AHID Auburn Hatcher 53.73 294 P **P 00 26 04.5 -0.4**
AHID IAmb IAmb 00 26 10.1
comp=Z,7.8nm,1.4s
BTK Batken 54.07 71 P **P 00 26 08.1 +0.9**
BTK Batken 54.07 71 P **P 00 26 08.1 +0.9**
BTK pmax pmax
comp=Z,18nm,1.4s
HWUT Hardware Ranch 54.90 294 P **P 00 26 12.1 -1.2**
HWUT IAmb IAmb 00 26 17.4
comp=Z,10.0nm,1.2s
RDMU Red Mountain 54.98 292 P **P 00 26 12.9 -1.1**
RDMU IAmb IAmb 00 26 18.5
comp=Z,11nm,1.4s
NRN Naryn 54.99 66 P **P 00 26 14.1 0.0**
NRN Naryn 54.99 66 P **P 00 26 14.1 0.0**
NRN pmax pmax
comp=Z,5.0nm,1.3s
MFID Camas Ranch 55.01 298 P **P 00 26 13.3 -0.7**
X34A Smith Ranch, M 55.18 278 P **P 00 26 15.5 +0.3**
TCUT Toone Canyon 55.25 293 P **P 00 26 15.8 -0.2**
WMOK Wichita Mounta 55.47 279 P **P 00 26 16.3 -1.0**
WMOK IAmb IAmb 00 26 20.2
comp=Z,7.3nm,1.3s
WMOK Wichita Mounta 55.47 279 P **P 00 26 16.3 -1.0**
WMOK pmax pmax
comp=Z,7.0nm,1.3s
T25A Trinidad 55.79 285 P **P 00 26 19.8 0.0**
T25A IAmb IAmb 00 26 39.0
comp=Z,5.7nm,1.2s
BGU Big Grassy Mou 56.05 295 P **P 00 26 20.6 -1.0**
P18A Preston Nutter 56.06 292 P **P 00 26 22.1 +0.3**
P17A Butcher Ranch, 56.39 292 P **P 00 26 23.7 -0.4**
P17A IAmb IAmb 00 26 28.0
comp=Z,11nm,1.4s
NLU North Lily Min 56.51 293 P **P 00 26 25.1 +0.2**
NLU IAmb IAmb 00 26 29.0
comp=Z,9.6nm,1.4s
DUG Dugway, Tooele 56.59 294 P **P 00 26 25.8 +0.4**
DUG IAmb IAmb 00 26 29.0
comp=Z,7.3nm,1.3s
DUG Dugway, Tooele 56.59 294 P **P 00 26 25.8 +0.4**
DUG pmax pmax
comp=Z,7.0nm,1.3s
KSH Kashi 56.61 68 P **P 00 26 28.0 +2.5**
KSH pP sP 00 26 33.5 +2.9
KSH sP pP 00 26 38.3 +9.1
KSH pmax pmax
comp=Z,9.0nm,1.2s
FW03 Perrin-Whitt E 56.62 277 P **P 00 26 26.6 +1.1**
FW03 IAmb IAmb 00 26 28.9
comp=Z,17nm,1.2s
TMUT Trail Mountain 56.73 292 P **P 00 26 25.6 -0.9**
TMUT IAmb IAmb 00 26 30.0
comp=Z,5.5nm,1.3s
PLPT Palo Pinto 56.92 277 P **P 00 26 27.4 -0.2**
PLPT IAmb IAmb 00 26 30.3
comp=Z,12nm,1.1s
ELK Elko 57.07 296 P **P 00 26 28.8 -0.1**
ELK Elko 57.07 296 P **P 00 26 28.8 -0.1**
ELK pmax pmax
comp=Z,4.0nm,1.3s
APMT Aspermont 57.25 279 P **P 00 26 29.1 -0.9**
APMT IAmb IAmb 00 26 29.8
comp=Z,5.6nm,0.9s
WMQ Urumqi 57.35 56 *e*P **P 00 26 31.5 +0.9**
WMQ pmax pmax
comp=Z,21nm,0.7s
HNVL Huntsville, TX 57.47 274 P **P 00 26 32.2 +0.7**
HNVL IAmb IAmb 00 26 42.9
comp=Z,87nm,1.2s
I03D Drain, OR 57.54 304 P **P 00 26 32.5 +0.6**
I03D IAmb IAmb 00 27 15.2
comp=Z,10nm,1.2s
HMU Henry Mountain 57.70 291 P **P 00 26 34.0 +0.5**
HMU IAmb IAmb 00 26 45.7
comp=Z,8.4nm,1.0s
TCRU Three Creeks R 57.81 293 P **P 00 26 35.0 +0.8**
MTPU Mount Pierson 58.19 292 P **P 00 26 36.7 -0.3**
PSUT Pine Spring 58.43 294 P **P 00 26 38.5 0.0**
L04D Klamath Falls 58.45 302 P **P 00 26 37.9 -0.6**
ANMO Albuquerque 58.52 286 LR LR 00 51 46.1
comp=Z,63nm,19.4s,baz=102,slow=36
BRDY Brady 58.52 277 P **P 00 26 38.8 -0.2**
BRDY IAmb IAmb 00 26 41.9
comp=Z,9.1nm,1.3s
SZCU Shurtz Canyon 58.94 293 P **P 00 26 42.1 0.0**
CCUT Cedar City 59.09 293 P **P 00 26 43.4 +0.3**
CCUT IAmb IAmb 00 27 02.4
comp=Z,4.2nm,0.9s
R11B Troy Canyon, C 59.27 295 P **P 00 26 43.5 -0.8**
R11B IAmb IAmb 00 26 47.5
comp=Z,7.3nm,1.4s

KNB Kanab 59.33 292 P **P 00 26 44.4 -0.3**
KNB IAmb IAmb 00 26 57.2
comp=Z,5.8nm,1.3s
KNB Kanab 59.33 292 P **P 00 26 44.4 -0.3**
LCMT Little Creek M 59.51 292 P **P 00 26 46.4 +0.6**
LCMT IAmb IAmb 00 26 55.6
comp=Z,4.5nm,0.6s
PAHR Pah Rah Range 59.55 299 P **P 00 26 45.8 -0.4**
JCT Junction City 59.57 277 P **P 00 26 45.6 -0.7**
JCT Junction City 59.57 277 P **P 00 26 45.6 -0.7**
JCT pmax pmax
comp=Z,17nm,1.4s
U15A North Rim 59.63 291 P **P 00 26 46.7 -0.2**
U15A IAmb IAmb 00 26 49.9
comp=Z,9.7nm,1.5s
KVN Kaiserville 59.64 297 P **P 00 26 46.8 0.0**
KVN IAmb IAmb 00 26 50.1
comp=Z,3.6nm,1.1s
KVN Kaiserville 59.64 297 P **P 00 26 46.8 0.0**
KVN pmax pmax
comp=Z,4.0nm,1.1s
OZNA Ozona 59.75 279 P **P 00 26 46.8 -0.7**
OZNA IAmb IAmb 00 27 00.3
comp=Z,6.9nm,1.5s
SONM Songino Array 59.75 40 P **P 00 26 49.0 +1.6**
SONM Songino Array 59.75 40 *e*P **P 00 26 49.4 +2.0**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 59.75 40 P **P 00 26 47.6 +0.2**
comp=Z,0.4nm,0.3s,baz=264,slow=15,SNR=3.6
comp=Z,0.4nm,0.3s
PRN Pahroc Range 59.88 294 P **P 00 26 48.4 0.0**
PRN IAmb IAmb 00 26 53.9
comp=Z,8.0nm,1.5s
WUAZ Wupatki 60.05 290 P **P 00 26 49.7 +0.1**
WUAZ IAmb IAmb 00 26 54.2
comp=Z,7.6nm,1.2s
MPK Martis Peak 60.16 299 P **P 00 26 49.5 -0.9**
MPK IAmb IAmb 00 26 53.8
comp=Z,9.0nm,1.2s
HNDO Hondo 60.17 276 P **P 00 26 50.5 +0.2**
HNDO IAmb IAmb 00 27 11.7
comp=Z,4.1nm,0.6s
NVAR Mina Array Bea 60.26 297 P **P 00 26 51.0 -0.1**
NVAR Mina Array Bea 60.26 297 P **P 00 26 50.6 -0.5**
comp=Z,0.6nm,0.8s,baz=27,slow=5.0,SNR=3.7
comp=Z,0.6nm,0.8s
EMB Emerald Bay 60.46 299 P **P 00 26 53.2 +0.6**
EMB IAmb IAmb 00 26 59.4
comp=Z,9.1nm,1.5s
SHPR Sheep Range 60.71 294 P **P 00 26 54.4 +0.2**
MNTX Cornudas Mount 60.88 283 P **P 00 26 55.5 +0.4**
MNTX IAmb IAmb 00 26 58.2
comp=Z,4.1nm,1.3s
X16A Lo Mia Camp, P 61.03 289 P **P 00 26 55.7 -0.7**
X16A IAmb IAmb 00 27 00.6
comp=Z,4.3nm,1.3s
V12A Nelson 61.26 293 P **P 00 26 57.9 0.0**
V12A IAmb IAmb 00 27 01.6
comp=Z,8.3nm,1.4s
833A Chaparral WMA, 61.26 276 P **P 00 26 58.5 +0.7**
ALPN Alpine 61.29 281 P **P 00 26 57.9 -0.2**
ALPN IAmb IAmb 00 27 01.4
comp=Z,7.3nm,1.4s
W13A Hualapai Mount 61.42 292 P **P 00 26 59.0 -0.1**
GWY Greenwater Val 61.58 295 P **P 00 27 00.0 0.0**
GWY IAmb IAmb 00 27 03.4
comp=Z,7.5nm,1.3s
HBVL Hebbronville 62.05 274 P **P 00 27 03.1 0.0**
HBVL IAmb IAmb 00 27 43.8
comp=Z,21nm,1.3s
TXAR Lajitas Array 62.21 280 P **P 00 27 03.2 -1.1**
comp=Z,1.0nm,1.0s,baz=95,slow=4.8,SNR=3.6
TXAR LR LR 00 53 02.7
comp=Z,82nm,18.1s,baz=5.0,slow=35
comp=Z,1.0nm,1.0s
TUC Tucson 62.59 288 P **P 00 27 07.3 +0.5**
TUC IAmb IAmb 00 27 10.5
comp=Z,5.1nm,1.3s
TUC Tucson 62.59 288 P **P 00 27 07.3 +0.5**
TUC pmax pmax
comp=Z,5.0nm,1.3s
319A Douglas 62.79 286 P **P 00 27 08.4 +0.3**
319A IAmb IAmb 00 27 12.3
comp=Z,6.9nm,1.0s
BLYC Blythe 62.85 292 P **P 00 27 08.5 0.0**
BLYC IAmb IAmb 00 27 18.1
comp=Z,5.0nm,1.1s
TEIG Tepich 63.59 261 LR LR 00 55 33.6
comp=Z,188nm,18.2s,baz=184,slow=37
214A Organ Pipe Nat 63.73 289 P **P 00 27 14.3 0.0**
214A IAmb IAmb 00 27 19.0
comp=Z,3.8nm,1.1s
PFO Pinyon Flats O 63.75 293 LR LR 00 53 18.7
comp=Z,42nm,20.9s,baz=14,slow=34
PIX Pinacate 64.34 290 P **P 00 27 18.0 -0.3**
PIX IAmb IAmb 00 27 32.4
comp=Z,4.9nm,1.4s
YUH Yuha Desert 64.38 292 P **P 00 27 19.3 +0.8**
ESJX Sierra Juarez 64.96 292 P **P 00 27 23.0 +0.5**
ESJX IAmb IAmb 00 27 34.2
comp=Z,3.9nm,1.4s
BAUV El Baul 65.71 237 P **P 00 27 27.4 +0.2**
HHC Hu-ho-hao-te 67.62 39 *e*P **P 00 27 40.3 +0.9**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,130nm,5.2s
MTO3 Montecristo 69.24 260 P **P 00 27 50.5 +0.6**
MTO3 IAmb IAmb 00 27 55.0
comp=Z,7.9nm,1.1s
KSRS Korea Array 74.75 28 LR LR 01 07 13.2
comp=Z,12nm,18.5s,baz=90,slow=40
OTAV Otavalo 77.61 243 P **P 00 28 39.7 +0.2**
OTAV Otavalo 77.61 243 P **P 00 28 39.7 +0.2**
OTAV pmax pmax
comp=Z,5.0nm,1.4s
NJ2 Nanjing 77.85 37 *e*P **P 00 28 40.0 -0.1**
NJ2 pP **pP 00 28 43.0 -0.8**
NJ2 sP **sP 00 28 44.0 -1.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
NJ2 pmax pmax
comp=Z,350nm,3.7s
PZH PanZhiHua 77.86 53 P **P 00 28 40.5 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.0s
SALI Salinas 80.81 245 P **P 00 28 54.7 -1.7**
CMAR Chiang Mai Arr 84.25 58 *i* P **P 00 29 16.2 +1.8**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 84.25 58 P **P 00 29 12.6 -1.8**
comp=Z,1.4nm,0.3s,baz=322,slow=5.7,SNR=4.5
CMAR LR LR 01 07 44.4
comp=Z,10nm,18.6s,baz=245,slow=36
comp=Z,1.4nm,0.3s
NNA Nana 88.26 237 LR LR 01 10 45.2
comp=Z,12nm,18.1s,baz=15,slow=37

STR ***27*** *00:16:58.1±1.3, 40°.8N×8°.4E±°, h10km, MLv2.8/7, Error ellipse: s-maj=0.0km s-min=0.0km az=159.3, preliminary*
MDD ***27*** *00:16:58.0±0.7, 40°.19N×5°.98E, h6km±.7km, Mb3.6/14, M_mb2.8/14, Error ellipse: s-maj=7.3km s-min=3.1km az=137.0*
LDG ***27*** *00:17:00.7±0.3, 40°.24N×5°.92E, h10km, Ml2.2/14, Error ellipse: s-maj=6.4km s-min=3.7km az=156.0*
ISC 27 00:16:55.9±1.5, 40°.19N±0°.06×5°.98E±0°.05, h10km, n42, σ2.9 03/74, 11C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETOS	**Mallorca**	**2.47**	**261**	Pn	**Pn**	**00 17 37.7**	**+1.4**
ETOS				⇑*i*Vmb_V		00 17 38.5	
	145nm,SNR=1.4						
ETOS				Sn	**Sn**	**00 18 04.4**	**-2.0**
LMR	**La Mourre**	**3.17**	**7**	*e*Pn	**Pn**	**00 17 47.6**	**+1.8**
LMR				*e*Sn	**Sn**	**00 18 21.8**	**-1.9**
EJON	**La Jonquera**	**3.25**	**315**	Pn	**Pn**	**00 17 46.8**	**-0.1**
EJON				⇑*i*Vmb_V		00 17 47.9	
	112nm,SNR=3.0						
EJON				Sn	**Sn**	**00 18 23.3**	**-2.3**
PGF	**Pioggiola**	**3.27**	**43**	*e*Pn	**Pn**	**00 17 47.3**	**-0.1**
PGF				*e*Sn	**Sn**	**00 18 22.2**	**-4.2**
ARTF	**Artigues**	**3.40**	**358**	Pn	**Pn**	**00 17 51.9**	**+2.8**
ARTF				Sn	**Sn**	**00 18 28.4**	**-1.0**
FILF	**Fillols**	**3.50**	**314**	Pn	**Pn**	**00 17 52.8**	**+2.3**
FILF				Sn	**Sn**	**00 18 32.4**	**+0.5**
CALF	**Calern**	**3.63**	**11**	Pn	**Pn**	**00 17 54.2**	**+1.9**
CALF				Sn	**Sn**	**00 18 33.6**	**-1.7**
CLAF	**Gruissan**	**3.66**	**325**	Pn	**Pn**	**00 17 54.0**	**+1.5**
CLAF				Sn	**Sn**	**00 18 33.8**	**-1.9**
BSTF	**la Bastide-des**	**3.70**	**356**	Pn	**Pn**	**00 17 55.1**	**+2.0**
BSTF				Sn	**Sn**	**00 18 34.5**	**-2.3**
EIBI	**Ibiza**	**3.77**	**254**	Pn	**Pn**	**00 17 55.0**	**+1.0**
EIBI				⇑*i*Vmb_V		00 17 56.8	
	189nm,SNR=2.2						
EIBI				Sn	**Sn**	**00 18 35.6**	**-2.8**
SMRF	**Simiane la Rot**	**3.80**	**356**	*e*Pn	**Pn**	**00 17 56.3**	**+1.8**
SMRF				*e*Sn	**Sn**	**00 18 38.3**	**-1.0**
	1.0nm,0.3s						
SBF	**Sospel**	**3.83**	**16**	*e*Pn	**Pn**	**00 17 57.5**	**+2.5**
SBF				*e*Sn	**Sn**	**00 18 37.3**	**-2.8**
CARF	**Carcanieres**	**3.86**	**312**	Pn	**Pn**	**00 17 56.2**	**+0.9**
CARF				Sn	**Sn**	**00 18 38.1**	**-2.7**
EPOB	**Poblet**	**3.90**	**289**	Pn	**Pn**	**00 17 55.7**	**-0.3**
EPOB				⇑*i*Vmb_V		00 17 58.4	
	58nm,SNR=1.7						
EPOB				Sn	**Sn**	**00 18 40.1**	**-1.8**
FNEB	**Nbias**	**3.98**	**314**	Pn	**Pn**	**00 17 59.2**	**+2.2**
FNEB				Sn	**Sn**	**00 18 42.0**	**-1.7**
LASF	**Ste Croix**	**4.20**	**339**	*e*Pn	**Pn**	**00 18 02.1**	**+2.1**
LASF				*e*Sn	**Sn**	**00 18 47.4**	**-1.6**
	1.6nm,0.3s						
MTLF	**Montolieu**	**4.23**	**319**	*e*Pn	**Pn**	**00 18 01.5**	**+1.1**
MTLF				*e*Sn	**Sn**	**00 18 47.3**	**-2.5**
	1.9nm,0.2s						
JAUF	**Jausiers**	**4.28**	**7**	Pn	**Pn**	**00 18 04.2**	**+3.0**
JAUF				Sn	**Sn**	**00 18 49.6**	**-1.6**
ERTA	**Horta de San J**	**4.37**	**282**	Pn	**Pn**	**00 18 02.7**	**+0.3**
ERTA				⇑*i*Vmb_V		00 18 03.5	
	34nm,SNR=0.7						
ERTA				Sn	**Sn**	**00 18 52.1**	**-1.2**
SALF	**Salau**	**4.42**	**307**	Pn	**Pn**	**00 18 05.5**	**+2.4**
MBDF	**Montbardon**	**4.58**	**7**	*e*Pn	**Pn**	**00 18 08.3**	**+3.0**
MBDF				*e*Sn	**Sn**	**00 18 59.6**	**+1.1**
	0.2nm,0.2s						
ORIF	**Oris-en-Rattie**	**4.73**	**359**	*e*Sn	**Sn**	**00 19 00.4**	**-1.9**
	0.3nm,0.2s						
VIVF	**Saint-Julien-l**	**4.77**	**349**	*e*Pn	**Pn**	**00 18 10.2**	**+2.4**
VIVF				*e*Sn	**Sn**	**00 19 01.3**	**-1.8**
	1.5nm,0.2s						
EMOS	**Mosqueruela**	**4.94**	**274**	Pn	**Pn**	**00 18 11.9**	**+1.6**
EMOS				⇑*i*Vmb_V		00 18 13.3	
	16nm,SNR=0.2						
EMOS				Sn	**Sn**	**00 19 07.2**	**-0.4**
EBEN2	**Beniarda presa**	**5.01**	**254**	Pn	**Pn**	**00 18 13.3**	**+2.2**
EBEN2				⇑*i*Vmb_V		00 18 13.9	
	204nm,SNR=0.9						
EPF	**Esparros**	**5.10**	**306**	*e*Pn	**Pn**	**00 18 14.8**	**+2.5**
EPF				*e*Sn	**Sn**	**00 19 09.5**	**-1.8**
	0.4nm,0.2s						
ESAC	**San Caprasio**	**5.12**	**290**	Pn	**Pn**	**00 18 14.6**	**+1.9**
ESAC				⇑*i*Vmb_V		00 18 15.2	
	133nm,SNR=1.5						
LPG	**La Plagne**	**5.34**	**6**	*e*Pn	**Pn**	**00 18 17.8**	**+1.9**
LPL	**La Plagne**	**5.36**	**6**	*e*Pn	**Pn**	**00 18 18.3**	**+2.2**
LPL				*e*Sn	**Sn**	**00 19 16.3**	**-1.6**
	0.4nm,0.2s						
ECHE	**Chera**	**5.38**	**266**	Pn	**Pn**	**00 18 17.8**	**+1.5**
ECHE				⇑*i*Vmb_V		00 18 19.2	
	21nm,SNR=0.3						
LBL	**Lubilhac**	**5.43**	**339**	Pn	**Pn**	**00 18 19.3**	**+2.3**
MONQ	**Montcuq**	**5.48**	**321**	Pn	**Pn**	**00 18 19.2**	**+1.6**
MONQ				Sn	**Sn**	**00 19 17.9**	**-2.8**
CAF	**Calviac**	**5.55**	**330**	*e*Pn	**Pn**	**00 18 20.6**	**+2.0**
CAF				*e*Sn	**Sn**	**00 19 21.1**	**-1.3**
	0.8nm,0.3s						
EVIV	**Cofrentes, Val**	**5.55**	**263**	Pn	**Pn**	**00 18 20.7**	**+2.1**
EVIV				⇑*i*Vmb_V		00 18 21.4	
	43nm,SNR=0.6						
EVIV				Sn	**Sn**	**00 19 22.8**	**+0.3**
COLF	**Collangettes**	**5.59**	**343**	Pn	**Pn**	**00 18 21.3**	**+2.3**
ETSF	**Etsaut**	**5.61**	**301**	*e*Pn	**Pn**	**00 18 20.8**	**+1.4**
ETSF				*e*Sn	**Sn**	**00 19 21.2**	**-2.7**
	0.4nm,0.3s						
ETOB	**Tobarra**	**6.03**	**258**	Pn	**Pn**	**00 18 27.6**	**+2.3**
ETOB				⇑*i*Vmb_V		00 18 29.5	
	34nm,SNR=0.7						
ETOB				Sn	**Sn**	**00 19 32.3**	**-2.1**
RJF	**Les Rejaudoux**	**6.08**	**329**	*e*Pn	**Pn**	**00 18 27.7**	**+1.9**
RJF				*e*Sn	**Sn**	**00 19 32.6**	**-2.8**
	0.6nm,0.2s						
LFF	**La Frestale**	**6.13**	**323**	*e*Pn	**Pn**	**00 18 28.5**	**+2.1**
LFF				*e*Sn	**Sn**	**00 19 34.4**	**-2.1**
	0.7nm,0.3s						
SJPF	**Ste Jean**	**6.14**	**301**	*e*Pn	**Pn**	**00 18 28.1**	**+1.5**
SJPF				*e*Sn	**Sn**	**00 19 34.0**	**-2.9**
	0.8nm,0.4s						
TCF	**Toulx Ste Croi**	**6.69**	**337**	*e*Pn	**Pn**	**00 18 35.1**	**+0.9**
BGF	**Bois d'Agland**	**6.76**	**341**	*e*Pn	**Pn**	**00 18 36.8**	**+1.6**

GEN ***27*** *00:17:25.2, 44°.10N×10°.86E, h14km, Ml1.5*
ROM 27 00:17:25.5±0.1, 44°.102N±0°.006×10°.852E±0°.005, h11km, ML1.7/32, 7C, Error ellipse: s-maj=0.6km s-min=0.4km az=21.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POPM	**Popiglio**	**0.09**	**230**	P	Pg	00 17 28.6	+0.4
POPM				S	Sg	00 17 31.0	+0.9
POPM	**Popiglio**	**0.09**	**230**	P	Pg	00 17 28.7	+0.5
POPM				S	Sg	00 17 30.9	+0.8
POPM				AML	AML		
	comp=E,2900μm,0.2s						
POPM				AML	AML		
	comp=N,4270μm,0.3s						
MTCR	**Monte La Croce**	**0.13**	**125**	P	Pg	00 17 29.2	+0.4
MTCR				S	Sg	00 17 31.7	+0.6
MTCR	**Monte La Croce**	**0.13**	**125**	P	Pg	00 17 29.2	+0.5
MTCR				S	Sg	00 17 31.6	+0.5
MTCR				AML	AML		
	comp=N,641μm,1.4s						
MTCR				AML	AML		
	comp=E,498μm,0.3s						
MTCR				AML	AML		
	comp=N,641μm,0.6s						
BDI	**Bagni Di Lucca**	**0.19**	**258**	P	Pg	00 17 30.0	+0.4
BDI				S	Sg	00 17 33.4	+0.9
BDI	**Bagni Di Lucca**	**0.19**	**258**	⇑*i*P	Pg	00 17 30.0	+0.4
BDI				S	Sg	00 17 33.3	+0.8
BDI				AML	AML		
	comp=E,547μm,0.3s						
BDI				AML	AML		
	comp=N,396μm,1.0s						
BDI				AML	AML		
	comp=N,181μm,0.5s						
BDI				AML	AML		
	comp=E,230μm,0.3s						
BDI				AML	AML		
	comp=N,181μm,1.5s						
FNVD	**Fontana Vidola**	**0.21**	**71**	⇑P	Pg	00 17 30.1	+0.2
FNVD				S	Sg	00 17 33.5	+0.5
MPPT	**Montemurlo**	**0.22**	**130**	P	Pg	00 17 30.8	+0.5
MPPT				S	Sg	00 17 34.2	+0.7
MPPT				AML	AML		
	comp=E,257μm,0.3s						
MPPT				AML	AML		
	comp=N,236μm,0.5s						
MOCL	**Monte Cuccoli**	**0.26**	**112**	P	Pg	00 17 31.2	+0.4
MOCL				S	Sg	00 17 35.2	+0.8
MOCL				AML	AML		
	comp=E,388μm,0.7s						
MOCL				AML	AML		
	comp=E,388μm,1.3s						
MOCL				AML	AML		
	comp=N,315μm,0.2s						
ZCCA	**Zocca**	**0.27**	**20**	P	Pb	00 17 32.1	-0.2
ZCCA				S	Sb	00 17 38.4	+1.5
ZCCA	**Zocca**	**0.27**	**20**	⇑*i*P	Pb	00 17 32.1	-0.2
ZCCA				S	Sb	00 17 38.2	+1.3
ZCCA				AML	AML		
	comp=E,193μm,0.3s						
ZCCA				AML	AML		
	comp=E,193μm,1.7s						
ZCCA				AML	AML		

	comp=N,160μm,0.3s					
CARD	**Cardoso**	**0.28 254**	P	Pg	00 17 31.4	+0.2
CARD			S	Sg	00 17 36.0	+1.0
CARD	**Cardoso**	**0.28 254**	P	Pg	00 17 31.3	+0.1
CARD			S	Sb	00 17 36.1	-1.0
CARD			AML	AML		
	comp=E,886μm,0.2s					
CARD			AML	AML		
	comp=N,979μm,0.1s					
GSCL	**Gusciola**	**0.31 323**	P	Pg	00 17 32.3	+0.4
GSCL			S	Sb	00 17 37.4	-0.9
GSCL	**Gusciola**	**0.31 323** ⇑	*i* P	Pg	00 17 32.3	+0.4
GSCL			S	Sg	00 17 37.0	+0.9
GSCL			AML	AML		
	comp=E,106μm,1.3s					
GSCL			AML	AML		
	comp=N,88μm,0.5s					
GSCL			AML	AML		
	comp=E,106μm,0.7s					
MAIM	**Mastiano**	**0.32 234**	P	Pg	00 17 32.1	+0.2
MAIM			S	Sg	00 17 36.9	+0.6
MAIM	**Mastiano**	**0.32 234**	P	Pg	00 17 32.1	+0.2
MAIM			S	Sg	00 17 37.1	+0.8
MAIM			AML	AML		
	comp=E,106μm,0.2s					
MAIM			AML	AML		
	comp=E,106μm,1.8s					
MAIM			AML	AML		
	comp=N,134μm,1.5s					
CRMI	**Carmignano**	**0.32 165**	P	Pb	00 17 32.8	-0.5
SARO	**Sassorosso**	**0.34 284**	P	Pg	00 17 32.5	+0.2
SARO			S	Sg	00 17 37.7	+0.9
SARO	**Sassorosso**	**0.34 284** ⇑	*i* P	Pg	00 17 32.5	+0.2
SARO			S	Sb	00 17 37.9	-1.0
SARO			AML	AML		
	comp=E,414μm,0.4s					
SARO			AML	AML		
	comp=N,352μm,0.6s					
VLC	**Villacollemand**	**0.34 280**	P	Pg	00 17 32.6	+0.2
VLC			S	Sb	00 17 38.0	-1.0
VLC	**Villacollemand**	**0.34 280**	P	Pg	00 17 32.7	+0.4
VLC			S	Sb	00 17 38.0	-1.0
VLC			AML	AML		
	comp=E,117μm,0.6s					
VLC			AML	AML		
	comp=N,156μm,0.2s					
VLC			AML	AML		
	comp=E,103μm,0.9s					
VLC			AML	AML		
	comp=N,157μm,0.2s					
VLC			AML	AML		
	comp=E,117μm,1.4s					
SEI	**Scarperia**	**0.37 97**	P	Pg	00 17 33.0	+0.1
SEI			S	Sg	00 17 38.6	+0.9
SEI	**Scarperia**	**0.37 97** ⇑	*i* P	Pg	00 17 32.9	+0.1
SEI			S	Sg	00 17 38.5	+0.8
SEI			AML	AML		
	comp=E,208μm,0.4s					
SEI			AML	AML		
	comp=N,290μm,0.2s					
SEI			AML	AML		
	comp=E,208μm,0.4s					
PII	**Pisa**	**0.45 212**	P	Pg	00 17 34.5	+0.3
PII			S	Sg	00 17 40.6	+0.4
PII	**Pisa**	**0.45 212** ⇑	*i* P	Pg	00 17 34.6	+0.4
PII			S	Sg	00 17 40.3	+0.1
PII			AML	AML		
	comp=E,204μm,0.3s					
PII			AML	AML		
	comp=N,156μm,1.1s					
EQUI	**Equi**	**0.51 278**	P	Pg	00 17 35.3	-0.1
EQUI			S	Sg	00 17 42.6	+0.5
EQUI	**Equi**	**0.51 278**	P	Pg	00 17 35.3	-0.1
EQUI			S	Sg	00 17 42.7	+0.6
EQUI			AML	AML		
	comp=N,42μm,0.7s					
EQUI			AML	AML		
	comp=N,42μm,1.3s					
EQUI			AML	AML		
	comp=E,35μm,1.0s					
MTRZ	**Monterenzio**	**0.52 58**	P	Pg	00 17 36.1	+0.4
RUFI	**Rufina**	**0.54 119**	P	Pb	00 17 37.8	+0.8
RUFI			S	Sb	00 17 44.7	-0.1
RUFI	**Rufina**	**0.54 119**	P	Pb	00 17 36.6	-0.4
RUFI			S	Sb	00 17 44.2	-0.6
LMD	**Lutirano**	**0.62 92**	S	Sb	00 17 47.5	+0.6
GRAM	**Graiana**	**0.69 305**	P	Pg	00 17 39.1	+0.3
GRAM	**Graiana**	**0.69 305**	P	Pb	00 17 39.3	-0.2
CSNT	**Castellina Chi**	**0.70 153**	P	Pb	00 17 40.3	+0.5
CSNT			S	Sb	00 17 49.2	-0.2
CSNT	**Castellina Chi**	**0.70 153**	P	Pb	00 17 40.3	+0.5
CSNT			S	Sb	00 17 49.3	-0.2
PLMA	**Palmaria, Port**	**0.72 266**	P	Pb	00 17 39.8	-0.2
PLMA	**Palmaria, Port**	**0.72 266**	P	Pb	00 17 39.8	-0.2
PLMA			S	Sg	00 17 48.8	-0.2
MAGO	**Bibbona**	**0.84 190**	P	Pb	00 17 42.0	0.0
FROS	**Frosini**	**0.92 166**	P	Pb	00 17 43.6	+0.2
FROS			S	Sb	00 17 55.4	-0.2
MSSA	**Maissana**	**0.98 283**	P	Pn	00 17 45.7	+0.4

*NNC **27** 00:27:23.3±2.9, 36°.48N×72°.42E, h97km±75km, mb3.0, mpv3.4, Error ellipse: s-maj=36.8km s-min=23.4km az=87.0*
*IDC **27** 00:27:24.6±4.6, 36°.61N×72°.48E, h69km±39km, mb3.1/5, mbtmp3.6/11, ML3.0/6, Error ellipse: s-maj=39.8km s-min=23.5km az=165.0*
ISC 27 00:27:23.7±1.1, 36°.52N±0°.10×72°.5E±0°.1, h63km, n14, σ1§21/16, mb3.4/5, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.68**	**9**	⇓P	**Pn**	**00 28 46.2**	**+0.4**
	3.5nm,1.2s						
AML				⇑S	**Sn**	**00 29 51.3**	**+1.5**
	4.8nm,0.9s						
KK31	**Karatay Array**	**6.74**	**348**	P	**Pn**	**00 29 00.1**	**0.0**
	2.2nm,0.4s,baz=166,slow=12,SNR=40						
KK31				⇑S	**Sn**	**00 30 16.4**	**+1.1**
	4.3nm,0.8s,baz=177,slow=17,SNR=4.0						
GEYT	**Alibeck**	**11.53**	**281**	P	**Pn**	**00 30 06.0**	**+0.5**
	0.2nm,0.3s,baz=74,slow=21,SNR=2.3						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**12.60**	**32**	P	**Pn**	**00 30 19.6**	**-0.5**
	baz=224,slow=12,SNR=4.3						
	1.2nm,1.1s						
KURBB	**Kurchatov Arra**	**14.75**	**15**	P	**Pn**	**00 30 49.5**	**+0.8**
	baz=205,slow=9.9,SNR=7.8						
	2.3nm,1.0s						
AB31	**Akbulak array**	**15.66**	**328**	P	**Pn**	**00 30 58.5**	**-1.9**
	0.5nm,0.6s,baz=156,slow=9.9,SNR=5.9						
BVAR	**Borovoye Array**	**16.56**	**356**	P	**P**	**00 31 11.8**	**-1.5**
	baz=168,slow=11,SNR=6.0						
	0.9nm,0.5s						
AKTO	**Aktyubinsk**	**17.37**	**328**	P	**P**	**00 31 21.3**	**-0.9**
	0.3nm,0.3s,baz=133,slow=10,SNR=12						
	4.5nm,0.7s						
ZALV	**Zalesovo Beam**	**19.42**	**22**	P	**P**	**00 31 43.5**	**-1.1**
	0.1nm,0.3s,baz=218,slow=11,SNR=8.4						
	1.7nm,0.7s						
BRTR	**Keskin Array B**	**30.56**	**288**	P	**P**	**00 33 33.4**	**+2.0**
	0.3nm,0.6s,baz=120,slow=11,SNR=1.9						
	0.3nm,0.6s						
ESDC	**Sonseca Array**	**58.49**	**298**	P	**P**	**00 37 12.3**	**-1.1**
	0.2nm,0.7s,baz=55,slow=6.3,SNR=1.7						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**66.91**	**270**	P	**P**	**00 38 09.1**	**-0.6**
	0.2nm,0.5s,baz=48,slow=6.8,SNR=1.9						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**81.00**	**123**	P	**P**	**00 39 32.6**	**+0.8**
	0.3nm,0.5s,baz=344,slow=9.0,SNR=1.5						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**81.16**	**3**	P	**P**	**00 39 32.3**	**+0.3**
	0.3nm,0.6s,baz=352,slow=5.5,SNR=2.1						
	0.3nm,0.6s						

*SJA **27** 00:40:31.9±0.7, 30°.80S×71°.58W, h23km±3km, ML3.3, MW3.5*
*GUC **27** 00:40:35.5±0.6, 30°.78S×71°.37W, h42km±1km, ML3.5*
ISC 27 00:40:36.2±1.0, 30°.81S±0°.02×71°.37W±0°.04, h29km±9km, n39, σ2§07/63, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.27**	**301**	*i* P	**Pb**	**00 40 43.1**	**-0.1**
CO06				*e*S	**Sb**	**00 40 48.5**	**+0.5**
CO06				IAML		00 40 49.8	
	comp=E,6μm,0.1s						
CO03	**El Pedregal**	**0.58**	**93**	*i* P	**Pb**	**00 40 47.5**	**-0.6**
CO03				*e*S	**Sb**	**00 40 56.3**	**+0.2**
CO03				IAML		00 40 57.3	
	comp=E,4μm,0.1s						
CO03	**El Pedregal**	**0.58**	**93**	*e*P	**Pb**	**00 40 47.2**	**-0.9**
CO03				*e*S	**Sb**	**00 40 56.7**	**+0.6**
CO03				IAML		00 40 57.2	
	comp=Z,1μm,0.2s						
GO04	**Tololo Observa**	**0.80**	**38**	*i* P	**Pb**	**00 40 50.5**	**-1.3**
GO04				*e*S	**Sb**	**00 41 01.8**	**-0.7**
GO04				IAML		00 41 03.7	
	comp=N,6μm,0.3s						
GO04	**Tololo Observa**	**0.80**	**38**	*e*P	**Pb**	**00 40 50.3**	**-1.5**
GO04				*e*S	**Sb**	**00 41 02.8**	**+0.3**
GO04				IAML		00 41 03.4	
	comp=Z,3μm,0.2s						
CO05	**La Serena**	**0.90**	**7**	*i* P	**Pn**	**00 40 51.2**	**-1.6**
CO05				*e*S	**Sb**	**00 41 03.3**	**-1.5**
CO05				IAML		00 41 04.2	
	comp=N,976nm,0.2s						
CO01	**Juntas del Tor**	**1.38**	**53**	*i* P	**Pn**	**00 40 59.5**	**-0.2**
CO01				*e*S	**Sn**	**00 41 17.8**	**+0.8**
CO01				IAML		00 41 18.5	
	comp=N,1μm,0.2s						
CO01	**Juntas del Tor**	**1.38**	**53**	*e*P	**Pn**	**00 40 59.7**	**0.0**
CO01				*e*S	**Sn**	**00 41 18.1**	**+1.0**
CO01				IAML		00 41 18.4	
	comp=Z,474nm,0.2s						
AROD	**Rodeo**	**1.75**	**69**	*e*P	**Pn**	**00 41 06.4**	**+1.5**
AROD				*e*S	**Sb**	**00 41 30.0**	**+0.3**
LCO	**Las Campanas**	**1.88**	**18**	*e*P	**Pn**	**00 41 05.9**	**-0.8**
LCO				*e*S	**Sn**	**00 41 31.0**	**+1.5**
LCO				IAML		00 41 31.1	
	comp=Z,955nm,0.6s						
DOCA	**Reserva Natura**	**1.97**	**95**	*e*P	**Pn**	**00 41 09.2**	**+1.3**
ACCO	**Cerro Coronel**	**1.99**	**84**	*e*P	**Pn**	**00 41 10.0**	**+1.8**
ACCO				*e*S	Sn	00 41 23.0	-9.4
RTLS	**Leoncito**	**2.03**	**120**	*e*P	**Pn**	**00 41 10.3**	**+1.7**
RTLS				*e*S	Sn	00 41 24.0	-9.1
RTLS				*e*S	Sn	00 41 24.0	-9.1
RTLS				IAML		00 41 24.0	
	comp=Z,569nm,0.2s						
ACDV	**Cuesta del Vie**	**2.04**	**72**	*e*P	**Pb**	**00 41 11.1**	**-1.7**
ACDV				*e*S	Sn	00 41 24.0	-9.3
ACDV				IAML		00 41 24.5	
	comp=Z,87nm,0.1s						
VA03	**San Esteban**	**2.07**	**161**	*e*P	**Pn**	**00 41 08.6**	**-0.4**
VA03				IAML		00 41 40.1	
	comp=Z,228nm,0.3s						
ROC1	**El Roble**	**2.18**	**172**	*e*P	**Pn**	**00 41 09.7**	**-1.0**
AC05	**El Transito**	**2.19**	**26**	*i* P	**Pn**	**00 41 10.6**	**-0.1**
AC05				*e*S	**Sn**	**00 41 38.0**	**+1.1**
AC05	**El Transito**	**2.19**	**26**	*e*P	**Pn**	**00 41 10.8**	**+0.1**
AC05				*e*S	**Sn**	**00 41 39.2**	**+2.4**
AC05				IAML		00 41 41.8	
	comp=Z,181nm,0.1s						
VA01	**Torpederas**	**2.22**	**186**	*e*P	**Pn**	**00 41 09.8**	**-1.2**
PEL	**Peldehue**	**2.40**	**166**	*i* P	**Pn**	**00 41 14.7**	**+1.2**
PEL				*e*S	**Sn**	**00 41 44.0**	**+2.1**
PEL	**Peldehue**	**2.40**	**166**	*e*P	**Pn**	**00 41 13.4**	**-0.1**
PEL				IAML		00 41 50.0	
	comp=Z,103nm,0.8s						
ZON	**Zonda**	**2.42**	**108**	*e*P	**Pn**	**00 41 15.1**	**+1.3**
ZON				*e*S	**Sn**	**00 41 33.6**	**-8.8**
ZON				IAML		00 42 03.9	
	comp=Z,62nm,0.3s						
MT02	**Curacav**	**2.45**	**176**	*i* P	**Pn**	**00 41 14.7**	**+0.5**
MT02	**Curacav**	**2.45**	**176**	*e*P	**Pn**	**00 41 13.2**	**-1.0**
MT02				IAML		00 41 53.6	
	comp=Z,109nm,0.5s						
RTLL	**Cerro Villicun**	**2.53**	**103**	*e*P	**Pn**	**00 41 16.8**	**+1.4**
RTLL				*e*S	**Sb**	**00 41 50.5**	**-1.3**
MT10	**Hacienda Santa**	**2.55**	**164**	*i* P	**Pn**	**00 41 16.2**	**+0.4**
AC04	**Llanos de Chal**	**2.61**	**6**	*e*P	**Pn**	**00 41 15.4**	**-1.0**
AC04				*e*S	Sn	00 41 33.2	-14
AC04				*e*S	**Sb**	**00 41 55.7**	**+1.7**
AC04				IAML		00 42 01.8	
	comp=Z,65nm,0.5s						
MT05	**Renca**	**2.63**	**168**	*i* P	**Pn**	**00 41 17.4**	**+0.7**
MT05				*e*S	**Sn**	**00 41 49.7**	**+2.0**
MT05				IAML		00 41 56.2	
	comp=E,390nm,0.3s						
MT05	**Renca**	**2.63**	**168**	*e*P	**Pn**	**00 41 15.7**	**-1.0**
MT05				*e*S	Sn	00 41 30.9	-17
MT05				IAML		00 42 01.1	
	comp=Z,128nm,0.5s						
FCH	**Farellones**	**2.67**	**160**	*i* P	**Pn**	**00 41 18.6**	**+1.1**
MT03	**Universidad Ad**	**2.77**	**165**	*e*P	**Pn**	**00 41 17.7**	**-1.0**
MT03				IAML		00 42 11.9	
	comp=Z,114nm,0.2s						
ASAL	**Salagasta**	**2.79**	**130**	*e*P	**Pn**	**00 41 20.9**	**+1.9**
ASAL				*e*P	**Pn**	**00 41 21.2**	**+2.2**
ASAL				*e*S	**Sb**	**00 41 55.7**	**-3.6**
ASAL				IAML		00 42 14.3	
	comp=Z,50nm,1.1s						
CFA	**Coronel Fontan**	**2.79**	**107**	*e*P	**Pn**	**00 41 20.5**	**+1.5**
CFA				*e*S	**Sb**	**00 41 55.7**	**-3.6**
ARCO	**CERRO ARCO**	**2.90**	**135**	*e*P	**Pn**	**00 41 23.3**	**+2.8**
ARCO				*e*S	**Sb**	**00 42 08.5**	**+6.1**
ARCO				IAML		00 42 10.8	
	comp=Z,106nm,0.7s						
MT01	**Popeta**	**3.05**	**178**	*e*P	**Pn**	**00 41 21.2**	**-1.2**
MT01				*e*S	**Sb**	**00 42 07.8**	**+1.3**
MT01				IAML		00 42 09.5	
	comp=Z,73nm,0.2s						
AAGR	**Agrelo**	**3.13**	**137**	*e*P	**Pn**	**00 41 25.9**	**+2.2**
AAGR				IAML		00 42 16.9	
	comp=Z,60nm,0.6s						
GO03	**Copiap**	**3.35**	**17**	*e*P	**Pn**	**00 41 26.8**	**+0.1**
GO03				*e*S	**Sb**	**00 42 17.7**	**+2.2**
VCA	**Vinchina**	**3.44**	**54**	*e*P	**Pn**	**00 41 30.8**	**+2.9**
VCA				*e*P	**Pn**	**00 41 30.9**	**+2.9**
BO02	**Sierra Bellavi**	**4.00**	**173**	*e*P	**Pn**	**00 41 35.4**	**-0.2**
BO02				IAML		00 42 36.7	
	comp=Z,52nm,0.2s						

*MDD **27** 00:41:32.3±1.3, 35°.84N×17°.88W, h38km±77km, Mb4.5/6, M_mb4.0/6, Error ellipse: s-maj=26.5km s-min=4.0km az=120.0*
*INMG **27** 00:41:36.4±2.2, 35°.84N×17°.79W, h42km, ML2.8, Error ellipse: s-maj=14.5km s-min=2.8km az=108.0*
*CNRM **27** 00:41:37.6, 35°.45N×17°.15W, h17km, ml3.5*
ISC 27 00:41:32.6±1.2, 35°.80N±0°.05×17°.50W±0°.08, h35km, n51, σ3§16/70, 6C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	**Porto Santo, M**	**2.88**	**160**	*e*P	**Pn**	**00 42 18.2**	**+2.2**
PMPST				*e*S	**Sn**	**00 42 49.8**	**+0.4**
PMPST				A	A	00 42 51.0	
	31nm,0.2s						
PMOZ	**Porto Moniz, M**	**2.98**	**175**	*e*P	**Pn**	**00 42 19.0**	**+1.5**
PMOZ				*e*S	**Sn**	**00 42 51.4**	**-0.6**
PMOZ				A	A	00 42 58.8	
	76nm,0.4s						
PMOZ	**Porto Moniz, M**	**2.98**	**175**	P	**Pn**	**00 42 20.2**	**+2.7**
PMOZ				S	**Sn**	**00 42 53.3**	**+1.3**
PMOZ	**Porto Moniz, M**	**2.98**	**175**	Sn	**Sn**	**00 42 51.2**	**-0.8**
PMOZ				Pn	**Pn**	**00 42 18.5**	**+1.0**
PMAR	**Madeira**	**3.10**	**171**	*e*P	**Pn**	**00 42 21.1**	**+1.8**
PMAR				*e*S	**Sn**	**00 42 54.7**	**-0.6**
PMAR				A	A	00 43 00.0	
	113nm,0.2s						
PMAR	**Madeira**	**3.10**	**171**	P	**Pn**	**00 42 20.2**	**+0.9**
PMAR				S	**Sn**	**00 42 54.2**	**-1.1**
FUL	**Funchal**	**3.18**	**171**	*e*P	**Pn**	**00 42 21.7**	**+1.5**
FUL				*e*S	**Sn**	**00 42 55.9**	**-1.0**
FUL				A	A	00 43 01.5	
	62nm,0.3s						
CPUN	**Puntallana, La**	**7.05**	**182**	P	Pn	00 43 08.0	-5.4
CPUN				S	**Sn**	**00 44 24.3**	**-8.0**
TBT	**Taburiente**	**7.11**	**183**	P	**Pn**	**00 43 13.3**	**-0.8**
TBT				⇑*i*Vmb_V		00 43 22.4	
	266nm,SNR=1.3						
TBT				S	Sn	00 44 23.5	-10

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**7.11**	**77**	*e*S	**Sn**	**00 44 32.5**	**-1.2**
CVIE	**Villa de Mazo,**	**7.19**	**182**	S	**Sn**	**00 44 28.6**	**-7.4**
PMAFR	**Mafra**	**7.26**	**62**	*e*S	**Sn**	**00 44 37.2**	**-0.1**
PMAFR				A	A	00 44 39.6	
	13nm,0.6s						
PMAFR	**Mafra**	**7.26**	**62**	Sn	**Sn**	**00 44 35.6**	**-1.7**
PMAFR				Pn	Pn	00 43 21.3	+5.2
MORF	**Marmelete**	**7.27**	**75**	*e*S	**Sn**	**00 44 38.1**	**+0.3**
MORF				A	A	00 44 43.7	
	3.0nm,1.2s						
CNOR	**Icod de los Vi**	**7.50**	**174**	P	**Pn**	**00 43 21.8**	**+2.2**
CNOR				S	**Sn**	**00 44 38.7**	**-4.8**
CDOS	**Garachico, Isl**	**7.51**	**175**	P	**Pn**	**00 43 20.2**	**+0.4**
CDOS				⇑*i*Vmb_V		00 43 24.0	
	494nm,SNR=1.1						
CDOS				S	**Sn**	**00 44 37.8**	**-6.0**
PNCL	**Nicolau / Gran**	**7.54**	**70**	*e*P	**Pn**	**00 43 22.8**	**+2.8**
PNCL				*e*S	**Sn**	**00 44 44.3**	**+0.1**
PNCL				A	A	00 44 49.2	
	1.6nm,0.7s						
PNCL	**Nicolau / Gran**	**7.54**	**70**	Sn	**Sn**	**00 44 42.1**	**-2.2**
PNCL				Pn	**Pn**	**00 43 22.5**	**+2.5**
MACI	**Morro de la Ar**	**7.57**	**173**	S	**Sn**	**00 44 40.7**	**-4.7**
PSBE	**So Bento**	**7.83**	**59**	*e*S	**Sn**	**00 44 49.8**	**-1.7**
PVAQ	**Vaqueiros**	**8.03**	**76**	*e*P	**Pn**	**00 43 30.1**	**+3.4**
PVAQ				*e*S	**Sn**	**00 44 56.8**	**+0.6**
PVAQ				A	A	00 45 06.7	
	1.6nm,0.7s						
PVAQ	**Vaqueiros**	**8.03**	**76**	P	**Pn**	**00 43 28.5**	**+1.8**
PVAQ				S	**Sn**	**00 44 58.8**	**+2.6**
PVAQ	**Vaqueiros**	**8.03**	**76**	Pn	**Pn**	**00 43 29.6**	**+3.0**
EVO	**Evora**	**8.05**	**67**	*e*S	**Sn**	**00 44 55.2**	**-1.5**
EVO				A	A	00 45 02.1	
	1.2nm,0.2s						
EVO	**Evora**	**8.05**	**67**	Pn	**Pn**	**00 43 30.4**	**+3.4**
EVO				Sn	**Sn**	**00 44 54.5**	**-2.2**
PMTG	**Montargil**	**8.06**	**63**	*e*P	Pn	00 43 33.5	+6.3
PMTG				*e*S	**Sn**	**00 44 55.1**	**-2.0**
PMTG				A	A	00 45 05.3	
	1.5nm,0.6s						
EGRO	**El Granado**	**8.23**	**75**	Sn	**Sn**	**00 44 59.3**	**-1.9**
PCAS	**Casmilo, Conde**	**8.28**	**56**	*e*P	**Pn**	**00 43 33.5**	**+3.3**
PCAS				*e*S	**Sn**	**00 44 57.6**	**-4.8**
PCAS				A	A	00 45 06.4	
	1.6nm,0.5s						
PESTR	**Estremoz**	**8.46**	**66**	*e*S	**Sn**	**00 45 07.2**	**+0.2**
PESTR	**Estremoz**	**8.46**	**66**	P	Pn	00 43 37.4	+4.7
PESTR				S	Sn	00 45 14.5	+7.6
AVE	**Averroes**	**8.68**	**104**	Pn	Pn	00 43 40.6	+4.9
AVE				Sn	**Sn**	**00 45 11.9**	**-0.5**
PBAR	**Barrancos**	**8.70**	**71**	*e*S	**Sn**	**00 45 11.9**	**-0.8**
PBAR				A	A	00 45 20.1	
	1.2nm,1.0s						
PMRV	**Marv??o**	**8.80**	**63**	*e*P	Pn	00 43 42.6	+5.3
PMRV				*e*S	**Sn**	**00 45 10.8**	**-4.4**
PMRV				A	A	00 45 15.4	
	1.8nm,0.4s						
EBAD	**Badajoz**	**8.86**	**67**	Pn	Pn	00 43 42.6	+4.5
EBAD				Sn	**Sn**	**00 45 14.0**	**-2.7**
PCBR	**Castelo Branco**	**8.89**	**60**	*e*P	Pn	00 43 43.0	+4.4
PCBR				*e*S	**Sn**	**00 45 13.2**	**-4.3**
PCBR				A	A	00 45 29.7	
	1.1nm,0.4s						
PVIS	**Viseu**	**9.00**	**54**	*e*S	**Sn**	**00 45 15.2**	**-5.1**
MTE	**Manteigas**	**9.09**	**57**	*e*S	**Sn**	**00 45 17.4**	**-5.0**
MTE				A	A	00 45 25.4	
	2.1nm,0.5s						
OUK	**Oukaimeden**	**9.25**	**117**	P	**Pn**	**00 43 43.3**	**-0.5**
OUK				S	**Sn**	**00 45 25.1**	**-1.7**
PVRL	**Vila Real**	**9.41**	**52**	*e*S	**Sn**	**00 45 25.6**	**-4.6**
POLO	**Lamas de Olo**	**9.41**	**51**	*e*P	**Pn**	**00 43 47.4**	**+1.6**
POLO				*e*S	**Sn**	**00 45 24.5**	**-5.9**
POLO				A	A	00 45 30.6	
	0.6nm,0.3s						
PGAV	**Gavieira, Arco**	**9.46**	**47**	*e*P	**Pn**	**00 43 47.6**	**+1.1**
PGAV				*e*S	**Sn**	**00 45 26.3**	**-5.3**
PGAV				A	A	00 45 32.5	
	5.6nm,0.6s						
ELOB	**Lobios**	**9.53**	**48**	P	**Pn**	**00 43 48.3**	**+0.9**
ELOB				⇑*i*Vmb_V		00 43 51.3	
	150nm,SNR=1.8						
ELOB				S	**Sn**	**00 45 27.9**	**-5.3**
EMAZ	**Mazaricos**	**9.71**	**40**	⇑*i*Vmb_V		00 43 50.9	
	171nm,SNR=1.3						
EMAZ				P	**Pn**	**00 43 51.2**	**+1.3**
EMAZ				S	Sn	00 45 29.7	-8.0
TIO	**Tiouine**	**9.84**	**117**	Sn	**Sn**	**00 45 40.5**	**-0.5**
TIO				Pn	Pn	00 43 56.4	+4.7
OUZM	**OUZ**	**10.21**	**115**	P	**Pn**	**00 43 58.2**	**+1.4**
OUZM				S	**Sn**	**00 45 46.8**	**-3.4**
ECAL	**Calabor**	**10.39**	**51**	P	**Pn**	**00 44 01.0**	**+1.9**
ECAL				⇑*i*Vmb_V		00 44 06.4	
	69nm,SNR=1.6						
ECAL				S	**Sn**	**00 45 47.1**	**-7.1**
IFR	**Ifrane**	**10.44**	**99**	Sn	**Sn**	**00 45 51.9**	**-3.8**
MD31	**MD31**	**10.93**	**102**	P	**Pn**	**00 44 09.6**	**+3.1**
MDT	**Midelt**	**11.07**	**102**	P	Pn	00 44 12.6	+4.1
EARI	**Arriondas**	**12.08**	**48**	⇑*i*Vmb_V		00 44 24.2	
	67nm,SNR=1.1						
EARI				P	**Pn**	**00 44 24.9**	**+2.8**
HHC	**Hu-ho-hao-te**	**90.52**	**36**	*e*P	**P**	**00 54 31.8**	**+0.7**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,280nm,6.9s						

*IDC **27** 00:42:20.7±3.0, 21°.59N×143°.48E, h294km±29km, mb3.2/5, mbtmp3.9/6, Error ellipse: s-maj=108.9km s-min=19.9km az=79.0*
ISC 27 00:42:20.4±2.8, 21°.6N±0°.2×143°.7E±0°.8, h300km, n6, σ0§18/6, mb3.5/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.61**	**346**	P	**Pn**	**00 43 45.0**	**-0.1**
	25nm,0.3s,baz=139,slow=23,SNR=7.7						
KSRS	**Korea Array**	**20.87**	**322**	P	**P**	**00 46 39.9**	**0.0**
	1.0nm,0.5s,baz=155,slow=8.8,SNR=5.6						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**42.34**	**193**	P	**P**	**00 49 45.7**	**-0.1**
	0.2nm,0.3s,baz=5.8,slow=9.3,SNR=6.9						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**54.58**	**322**	P	**P**	**00 51 18.0**	**-0.1**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=2.5						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**63.05**	**320**	P	**P**	**00 52 16

comp=Z,23nm,19.3s,baz=84,slow=35
COEN Coen 21.73 138 P P 00 55 31.3 -7.1
WB0 Warramunga Arr 22.61 165 P **P** **00 55 48.7 +1.0**
WRA Warramunga Arr 22.76 165 P **P** **00 55 50.3 +0.9**
WRA Warramunga Arr 22.76 165 P **P** **00 55 48.8 -0.6**
comp=Z,3.8nm,0.7s,baz=343,slow=10,SNR=23
comp=Z,3.8nm,0.7s
WB2 Warramunga Arr 22.76 165 P **P** **00 55 50.2 +0.8**
WB2 IAmb IAmb 00 55 52.9
comp=Z,5.5nm,0.8s
WR0 Warramunga Arr 22.83 165 P **P** **00 55 52.3 +2.3**
WR0 IAmb IAmb 00 56 34.1
comp=Z,10nm,1.4s
ASAR Alice Springs 26.26 169 P **P** **00 56 22.8 +0.7**
ASAR Alice Springs 26.26 169 P **P** **00 56 21.7 -0.4**
comp=Z,0.8nm,0.6s,baz=344,slow=7.9,SNR=8.2
ASAR PcP **PcP** **00 59 46.4 -1.8**
comp=Z,0.4nm,0.5s,baz=348,slow=2.4,SNR=5.1
comp=Z,0.8nm,0.6s
GSI Gunungsitoli 30.82 269 P **P** **00 57 00.2 -2.7**
GSI IAmb IAmb 00 57 17.3
comp=Z,16nm,0.5s
CMAR Chiang Mai Arr 33.09 301 P **P** **00 57 23.6 +0.9**
comp=Z,1.8nm,0.3s,baz=120,slow=8.1,SNR=6.8
comp=Z,1.8nm,0.3s
MORW Morawa 33.27 200 P **P** **00 57 25.0 +0.9**
MJAR Matsushiro Arr 35.36 14 P **P** **00 57 39.8 -2.3**
comp=Z,1.1nm,0.4s,baz=172,slow=10,SNR=4.9
comp=Z,1.1nm,0.4s
STKA Stephens Creek 36.13 161 P **P** **00 57 48.0 -0.8**
comp=Z,2.4nm,0.6s,baz=341,slow=10,SNR=4.1
comp=Z,2.4nm,0.6s
H11S3 WAKE ISLAND Hy 40.85 64 T T 01 41 46.0
baz=251
H11S2 WAKE ISLAND Hy 40.87 64 T T 01 41 51.6
baz=251
H11S1 WAKE ISLAND Hy 40.87 64 T T 01 41 41.6
baz=251
H11N1 WAKE ISLAND Hy 41.44 62 T T 01 42 23.6
baz=250,slow=75
H11N2 WAKE ISLAND Hy 41.45 62 T T 01 42 39.0
baz=250,slow=75
H11N3 WAKE ISLAND Hy 41.46 62 T T 01 42 30.3
baz=250,slow=75
SHL Shillong 42.12 307 P **P** **00 58 39.8 +0.6**
SHL IAmb IAmb 00 58 40.5
comp=Z,9.2nm,0.4s
YSS Yuzh-Sakhalins 46.30 14 P **P** **00 59 11.5 -0.6**
RAMN Ramite 46.99 306 *e*P **P** **00 59 19.8 +1.6**
comp=Z,13nm,0.7s
JIRN Jiri 47.62 306 *e*P **P** **00 59 24.2 +1.0**
comp=Z,13nm,0.6s
GUN Gumba 47.97 306 *e*P **P** **00 59 26.4 +0.4**
comp=Z,18nm,0.5s
PKI Pulchoki 48.21 306 *e*P **P** **00 59 28.4 +0.6**
comp=Z,3.8nm,0.4s
SONM Songino Array 49.28 341 P **P** **00 59 35.4 0.0**
comp=Z,0.4nm,0.4s,baz=150,slow=7.7,SNR=2.7
comp=Z,0.4nm,0.4s
DANN Dangsing 49.86 306 *e*P **P** **00 59 41.1 +0.7**
comp=Z,20nm,0.5s
PYUN Piuthan 50.39 305 *e*P **P** **00 59 45.5 +1.2**
comp=Z,16nm,0.6s
THZ Tophouse 59.48 142 P **P** **01 00 50.2 +0.7**
MK31 Makanchi Array 59.76 325 P **P** **01 00 50.9 -0.6**
MK31 IAmb IAmb 01 00 53.9
comp=Z,1.7nm,0.8s
MKAR Makanchi Array 59.76 325 P **P** **01 00 53.1 +1.7**
MKAR Makanchi Array 59.76 325 P **P** **01 00 50.6 -0.8**
comp=Z,1.2nm,0.5s,baz=117,slow=7.8,SNR=15
comp=Z,1.2nm,0.5s
AAK Ala-Archa 62.61 318 P **P** **01 01 12.4 +1.4**
AAK IAmb IAmb 01 01 16.9
comp=Z,4.2nm,1.4s
KURBB Kurchatov Arra 63.92 327 P **P** **01 01 18.3 -1.0**
comp=Z,1.3nm,0.6s,baz=125,slow=6.1,SNR=21
comp=Z,1.3nm,0.6s
KURK Kurchatov 63.92 327 P **P** **01 01 20.3 +1.0**
KURK IAmb IAmb 01 01 21.5
comp=Z,2.5nm,0.8s
AMKA Amchitka 64.87 32 P **P** **01 01 28.4 +3.0**
KK31 Karatay Array 65.48 317 P **P** **01 01 29.4 -0.3**
KK31 IAmb IAmb 01 01 47.7
comp=Z,4.2nm,1.5s
KKAR Karatay Array 65.48 317 P **P** **01 01 30.3 +0.6**
BVAR Borovoye Array 69.51 327 P **P** **01 01 53.8 -1.1**
comp=Z,1.8nm,0.9s,baz=76,slow=6.0,SNR=7.0
comp=Z,1.8nm,0.9s
C19K Lookout Ridge 81.59 20 P **P** **01 03 04.0 +0.1**
VNDA Vanda 81.71 173 P **P** **01 03 03.0 -1.3**
VNDA Vanda 81.71 173 P **P** **01 03 03.1 -1.1**
comp=Z,0.2nm,0.4s,baz=295,slow=7.0,SNR=1.6
comp=Z,0.2nm,0.4s
G19K Purcell Mounta 81.76 23 P **P** **01 03 05.4 +0.6**
G19K IAmb IAmb 01 03 08.9
comp=Z,11nm,1.4s
ILAR Eielson Array 85.76 25 P **P** **01 03 23.2 -2.1**
comp=Z,0.2nm,0.5s,baz=239,slow=5.8,SNR=1.7
comp=Z,0.2nm,0.5s

IDC 27 01:06:34.4±2.0, 5°.41S×142°.03E, h0km, mb3.7/3, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=83.9km s-min=30.7km az=102.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.27**	**207**	Pn	Pn	01 10 22.5	-1.9
	0.2nm,0.3s,baz=24,slow=13,SNR=4.6						
WRA				Sn	Sn	01 13 13.5	-12
	0.3nm,0.3s,baz=27,slow=23,SNR=3.1						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**19.77**	**203**	P	Pn	01 11 07.0	-0.7
	0.2nm,0.3s,baz=30,slow=11,SNR=12						
ASAR				S	S	01 14 35.4	-15
	1.2nm,1.0s,baz=20,slow=28,SNR=2.4						
	3.2nm,0.9s						
MKAR	**Makanchi Array**	**73.94**	**322**	P	P	01 18 12.7	+1.1
	0.3nm,0.5s,baz=120,slow=5.7,SNR=2.9						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**83.41**	**325**	P	P	01 19 03.0	-0.7
	0.6nm,0.7s,baz=111,slow=6.9,SNR=4.2						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**86.92**	**24**	P	P	01 19 20.7	-0.4
	0.3nm,0.8s,baz=263,slow=4.4,SNR=1.7						
	0.3nm,0.8s						

---

*GEN **27** 01:09:50.5, 45°.46N×6°.33E, h8km±3km, MI3.3*
*IDC **27** 01:09:50.7±1.4, 45°.48N×6°.16E, h0km, mb3.3/3, mbtmp3.5/8, ML4.0/4, MS2.9/7, Error ellipse: s-maj=33.7km s-min=14.5km az=143.0*
*LDG **27** 01:09:51.8±0.1, 45°.44N×6°.32E, h2km, Md3.9/2, MI3.9/44, Error ellipse: s-maj=1.5km s-min=1.3km az=67.0*
*BGR **27** 01:09:51.8±0.4, 45°.45N×6°.27E, h10km, ML3.8/19, Error ellipse: s-maj=6.7km s-min=4.4km az=122.0*
*STR **27** 01:09:51.2±0.2, 45°N±1°×±°, h3km, MLv3.8/11, Error ellipse: s-maj=0.0km s-min=0.0km az=92.9, preliminary*
*ROM **27** 01:09:52.4±0.3, 45°.428N±0°.009×6°.41E±0°.03, h10km, ML3.3/82, Error ellipse: s-maj=2.3km s-min=1.0km az=271.0, Moment Tensor Solution. Moment tensor: Scale 10^13^Nm; Mrr=5.37; Mθθ=5.79; Mφφ=-0.42; Mrθ=6.38; Mθφ=-1.10; Mφr=2.68; Fault plane solution: M0=8.95647×1013 NP1:φs=88.00000°, δ=21.00000°, λ=-111.00000°. NP2: φs=290.00000°, δ=71.00000°, λ=-82.00000°.*
*PRU **27** 01:09:54.8, 45°.48N×6°.57E, h10km*
ISC 27 01:09:51.1±0.8, 45°.46N±0°.01×6°.30E±0°.01, h13km±6km, n313, σ1°91/474, 6C-24D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	**Grand'Maison**	**0.28**	**207**	Pg	**Pg**	01 09 56.5	-0.5
GDM				Sg	**Sg**	01 10 00.0	-1.0
LPL	**La Plagne**	**0.31**	**79**	*e*Pg	**Pg**	01 09 57.1	-0.5
LPL				*e*Sg	**Sg**	01 10 01.2	-0.8
	2μm,0.3s						
LPG	**La Plagne**	**0.32**	**83**	*e*Pg	**Pg**	01 09 57.3	-0.5
LPG				*e*Sg	**Sg**	01 10 01.8	-0.5
	2μm,0.2s						
RSL	**Roselend**	**0.33**	**45**	P	**Pg**	01 09 57.6	-0.2
RSL				S	**Sg**	01 10 02.1	-0.2
RSL	**Roselend**	**0.33**	**45**	Pg	**Pg**	01 09 57.6	-0.2
RSL				Sg	**Sg**	01 10 01.7	-0.7
OGMO	**Fort Saint-Gob**	**0.37**	**132**	P	**Pg**	01 09 58.1	-0.5
OGMO				S	**Sg**	01 10 02.9	-0.7
OGMO	**Fort Saint-Gob**	**0.37**	**132**	Pg	**Pg**	01 09 58.3	-0.3
OGMO				Sg	**Sg**	01 10 02.0	-1.6
GRN	**Grenoble**	**0.44**	**241**	Pg	**Pg**	01 10 00.6	+0.7
GRN				Sg	**Sg**	01 10 07.1	+1.3
OGSM	**Saint Maurice**	**0.45**	**290**	Pg	**Pb**	01 10 01.0	+0.2
BNI	**Bardonecchia**	**0.49**	**146**	P	**Pg**	01 10 00.1	-0.6
BNI				S	**Sg**	01 10 06.4	-0.9
BNI	**Bardonecchia**	**0.49**	**146**	⇑P	**Pg**	01 10 00.1	-0.6
BNI				S	**Sg**	01 10 06.1	-1.1
BNI				AML	AML		
	comp=E,2810μm,0.9s						
BNI				AML	AML		
	comp=N,2025μm,0.4s						
BNI				AML	AML		
	comp=N,1640μm,0.4s						
BNI				AML	AML		
	comp=N,1640μm,1.6s						
BNI				AML	AML		
	comp=E,2295μm,0.9s						
BNI				AML	AML		
	comp=N,2025μm,1.6s						
LSD	**Lago del Serru**	**0.59**	**90**	P	**Pg**	01 10 02.2	-0.5
LSD				S	**Sg**	01 10 09.3	-1.3
LSD	**Lago del Serru**	**0.59**	**90**	P	**Pg**	01 10 02.2	-0.5
LSD				AML	AML		
	comp=E,1790μm,1.1s						
LSD				AML	AML		
	comp=N,2250μm,1.5s						
LSD	**Lago del Serru**	**0.59**	**90**	Sg	**Sg**	01 10 09.4	-1.1
LSD	**Lago del Serru**	**0.59**	**90**	Pg	**Pg**	01 10 02.2	-0.5
ORIF	**Oris-en-Rattie**	**0.61**	**209**	*e*Pg	**Pg**	01 10 02.3	-0.8
ORIF				*e*Sg	**Sg**	01 10 09.7	-1.5
	comp=N,5μm,0.4s						
ORIF	**Oris-en-Rattie**	**0.61**	**209**	AML	AML		
	comp=E,7900μm,0.4s						
ORIF				AML	AML		
	comp=N,7985μm,0.4s						
ORIF	**Oris-en-Rattie**	**0.61**	**209**	Pg	**Pg**	01 10 02.5	-0.5
MRGE	**Morge**	**0.62**	**60**	P	**Pg**	01 10 02.9	-0.3
MRGE				S	**Sb**	01 10 12.0	-0.6
MRGE	**Morge**	**0.62**	**60**	⇑*i*P	**Pg**	01 10 02.9	-0.3
MRGE				S	**Sb**	01 10 11.8	-0.8
MRGE				AML	AML		
	comp=N,2880μm,0.9s						
MRGE				AML	AML		
	comp=E,2310μm,0.6s						
MRGE				AML	AML		
	comp=E,2310μm,1.4s						
RRL	**Rocca Remolon**	**0.64**	**147**	P	**Pg**	01 10 02.9	-0.7
RRL				S	**Sg**	01 10 11.2	-0.9
RRL	**Rocca Remolon**	**0.64**	**147**	P	**Pg**	01 10 03.0	-0.7
RRL				S	**Sg**	01 10 11.1	-1.1
RRL				AML	AML		
	comp=N,4400μm,0.5s						
RRL				AML	AML		
	comp=E,5000μm,0.5s						
RRL				AML	AML		
	comp=N,4400μm,1.5s						
RRL	**Rocca Remolon**	**0.64**	**147**	Pg	**Pg**	01 10 03.4	-0.2
RRL	**Rocca Remolon**	**0.64**	**147**	Sg	**Sg**	01 10 11.4	-0.7
OGSI	**Sixt**	**0.69**	**28**	Pg	**Pg**	01 10 04.1	-0.3
OGSI				Sg	**Sg**	01 10 13.0	-0.5
REMY	**Saint-Rhmy-en**	**0.71**	**58**	P	**Pg**	01 10 04.7	-0.2
REMY				S	**Sb**	01 10 15.7	+0.3
REMY	**Saint-Rhmy-en**	**0.71**	**58**	⇑*i*P	**Pg**	01 10 04.8	-0.2
REMY				AML	AML		
	comp=E,318μm,0.8s						
REMY				AML	AML		
	comp=N,321μm,0.7s						
REMY				AML	AML		
	comp=N,322μm,0.7s						
REMY	**Saint-Rhmy-en**	**0.71**	**58**	Pg	**Pg**	01 10 04.9	-0.1
RSP	**Reno Superiore**	**0.75**	**114**	P	**Pg**	01 10 05.1	-0.6
RSP				S	**Sg**	01 10 14.5	-1.0
RSP	**Reno Superiore**	**0.75**	**114**	P	**Pg**	01 10 05.1	-0.6
RSP				S	**Sg**	01 10 14.4	-1.2
RSP				AML	AML		
	comp=E,2170μm,0.4s						
RSP				AML	AML		
	comp=N,2780μm,0.4s						
RSP				AML	AML		
	comp=N,2890μm,0.8s						
RSP				AML	AML		
	comp=N,2885μm,0.8s						
RSP				AML	AML		
	comp=E,2245μm,0.4s						
RSP				AML	AML		
	comp=N,2785μm,0.4s						
RSP	**Reno Superiore**	**0.75**	**114**	Pg	**Pg**	01 10 05.3	-0.3
RSP	**Reno Superiore**	**0.75**	**114**	Sg	**Sg**	01 10 14.0	-1.5
OG35	**Corcelles**	**0.78**	**319**	Pg	**Pb**	01 10 07.1	+0.7
OG35				Sg	**Sb**	01 10 17.4	+0.5
MBDF	**Montbardon**	**0.81**	**155**	*e*Pg	**Pg**	01 10 05.7	-1.0
MBDF				*e*Sg	**Sg**	01 10 16.3	-1.0
	comp=N,882nm,0.5s						
SALAN	**Lac Salanfe**	**0.83**	**34**	P	**Pg**	01 10 06.9	-0.4
SALAN				S	**Sn**	01 10 24.1	+3.1
CIRO	**Champorcher**	**0.91**	**80**	P	**Pg**	01 10 07.8	-0.8
CIRO				S	**Sg**	01 10 18.9	-1.6
CIRO	**Champorcher**	**0.91**	**80**	⇑P	**Pg**	01 10 07.8	-0.8
CIRO				AML	AML		
	comp=N,1012μm,1.0s						
CIRO				AML	AML		
	comp=N,1012μm,1.0s						
CIRO				AML	AML		
	comp=E,728μm,0.4s						
CIRO	**Champorcher**	**0.91**	**80**	Pg	**Pg**	01 10 07.9	-0.8
CIRO	**Champorcher**	**0.91**	**80**	Sg	**Sg**	01 10 20.0	-0.5
BHB	**Bricherasio**	**0.92**	**132**	P	**Pg**	01 10 08.3	-0.5
BHB				S	**Sn**	01 10 22.0	-0.9
BHB	**Bricherasio**	**0.92**	**132**	P	**Pg**	01 10 08.3	-0.5
BHB				S	**Sb**	01 10 20.6	-0.5
BHB				AML	AML		
	comp=N,1775μm,0.6s						
BHB				AML	AML		
	comp=N,1775μm,1.4s						
BHB				AML	AML		
	comp=E,1530μm,0.6s						
BHB	**Bricherasio**	**0.92**	**132**	Sg	**Sg**	01 10 20.1	-0.8
BHB	**Bricherasio**	**0.92**	**132**	Pg	**Pg**	01 10 08.4	-0.5
CREF	**Crivoux**	**0.94**	**166**	Pg	**Pg**	01 10 08.4	-0.8
CREF				Sg	**Sg**	01 10 20.2	-1.3
AIGLE	**Aigle**	**0.99**	**27**	Pg	**Pg**	01 10 10.2	-0.1
AIGLE	**Aigle**	**0.99**	**27**	Sg	**Sb**	01 10 24.0	+0.7
DIX	**Grande Dixence**	**1.00**	**51**	P	**Pg**	01 10 09.7	-0.6
DIX				S	**Sn**	01 10 28.9	+3.8
DIX	**Grande Dixence**	**1.00**	**51**	⇑*i*P	**Pg**	01 10 09.9	-0.4
DIX				S	**Sb**	01 10 23.7	+0.2
DIX				AML	AML		
	comp=N,4870μm,1.2s						
DIX				AML	AML		
	comp=E,3440μm,0.7s						
DIX	**Grande Dixence**	**1.00**	**51**	Sg	**Sb**	01 10 24.0	+0.5
DIX	**Grande Dixence**	**1.00**	**51**	Pg	**Pg**	01 10 10.0	-0.4
OGAG	**Argentiere**	**1.02**	**170**	P	Pg	01 10 03.9	-6.8
OGAG				S	Sg	01 10 12.8	-11
OGAG	**Argentiere**	**1.02**	**170**	Pg	Pg	01 10 04.0	-6.7
OGAG				Sg	Sg	01 10 13.2	-11
TRAV	**Traversella**	**1.02**	**86**	P	**Pg**	01 10 10.0	-0.8
TRAV	**Traversella**	**1.02**	**86**	P	**Pg**	01 10 09.9	-0.8
TRAV				AML	AML		
	comp=N,1890μm,0.5s						
TRAV				AML	AML		
	comp=E,1730μm,0.4s						
TRAV				AML	AML		
	comp=N,1890μm,1.5s						
TRAV	**Traversella**	**1.02**	**86**	Pg	**Pg**	01 10 10.2	-0.6
TRAV	**Traversella**	**1.02**	**86**	Sg	**Sb**	01 10 23.7	-0.4
GIMEL	**St. Georges /**	**1.08**	**359**	⇑P	**Pn**	01 10 12.5	+0.5
GIMEL				S	**Sn**	01 10 29.5	+2.6
GIMEL				AML	AML		
	comp=E,2295μm,1.1s						
GIMEL				AML	AML		
	comp=N,1152μm,0.6s						
GIMEL				AML	AML		
	comp=E,2295μm,0.9s						
GIMEL	**St. Georges /**	**1.08**	**359**	Pg	**Pn**	01 10 12.2	+0.2
GIMEL	**St. Georges /**	**1.08**	**359**	Sg	**Sb**	01 10 26.6	+0.9
JAUF	**Jausiers**	**1.08**	**162**	Pg	**Pg**	01 10 11.2	-0.7
JAUF				Sg	**Sg**	01 10 25.6	-0.3
PZZ	**Stroppo**	**1.11**	**148**	P	**Pg**	01 10 11.3	-1.3
PZZ				S	**Sn**	01 10 28.4	+0.6
PZZ	**Stroppo**	**1.11**	**148**	P	**Pg**	01 10 11.3	-1.3
PZZ				AML	AML		
	comp=N,2405μm,0.6s						
PZZ				AML	AML		
	comp=E,3755μm,0.5s						
PZZ	**Stroppo**	**1.11**	**148**	Pg	**Pg**	01 10 11.6	-1.0
PZZ	**Stroppo**	**1.11**	**148**	Sg	**Sg**	01 10 26.2	-0.9
SENIN	**Lac Senin/Sane**	**1.14**	**37**	P	**Pg**	01 10 12.5	-0.6
SENIN				S	**Sn**	01 10 32.3	+3.6
CABF	**La Chapelle**	**1.16**	**353**	*e*Pn	**Pn**	01 10 13.8	+0.6
CABF	**La Chapelle**	**1.16**	**353**	*e*P	**Pn**	01 10 15.6	+2.4
CABF				*e*Sg	**Sg**	01 10 29.1	+0.5
	comp=E,506nm,0.4s						
SATI	**Passo dei Sala**	**1.18**	**69**	P	**Pg**	01 10 13.0	-0.8
SATI	**Passo dei Sala**	**1.18**	**69**	P	**Pg**	01 10 12.8	-1.1
SATI				AML	AML		
	comp=E,852μm,1.4s						
SATI				AML	AML		
	comp=N,921μm,0.6s						
SATI				AML	AML		
	comp=E,852μm,0.6s						
SATI	**Passo dei Sala**	**1.18**	**69**	Pg	**Pg**	01 10 13.2	-0.6
SATI	**Passo dei Sala**	**1.18**	**69**	Sg	**Sn**	01 10 29.4	-0.3
VANNI	**Vissoie, Val d**	**1.18**	**50**	P	**Pb**	01 10 13.3	-0.1
MONC	**Moncucco Torin**	**1.21**	**108**	P	**Pg**	01 10 15.2	+0.8
MONC	**Moncucco Torin**	**1.21**	**108**	P	**Pg**	01 10 14.8	+0.3
MONC				AML	AML		
	comp=E,2340μm,0.5s						
MONC				AML	AML		
	comp=N,2135μm,0.6s						
MONC				AML	AML		
	comp=E,2340μm,1.5s						
SSB	**Saint Sauveur**	**1.25**	**262**	Pg	**Pb**	01 10 15.4	+0.8
VIVF	**Saint-Julien-l**	**1.30**	**243**	*e*Pg	**Pn**	01 10 15.3	+0.3
VIVF				*e*Sg	**Sb**	01 10 32.1	+0.2
	comp=E,2μm,0.4s						
MMK	**Mattmark**	**1.31**	**63**	P	**Pn**	01 10 14.9	-0.4
EMBD	**Embd, Matterta**	**1.31**	**54**	P	**Pn**	01 10 15.0	-0.2
EMBD	**Embd, Matterta**	**1.31**	**54**	Sg	**Sn**	01 10 34.1	+1.4
EMBD	**Embd, Matterta**	**1.31**	**54**	Pg	**Pg**	01 10 16.4	0.0
OGDI	**Digne**	**1.35**	**180**	P	**Pg**	01 10 17.2	+0.2
OGDI	**Digne**	**1.35**	**180**	Pg	**Pg**	01 10 17.2	+0.2
OGDI				Sg	**Sg**	01 10 34.3	-0.2
ISO	**Isola**	**1.38**	**157**	P	**Pb**	01 10 16.9	0.0
ISO	**Isola**	**1.38**	**157**	Pg	**Pb**	01 10 16.8	0.0
ISO				Sg	**Sg**	01 10 35.4	-0.2
ENAUX	**Enaux**	**1.39**	**166**	Pg	**Pb**	01 10 17.0	0.0
ENAUX				Sg	**Sg**	01 10 35.3	-0.6
TORNY	**Torny/Romont**	**1.39**	**19**	Pn	**Pg**	01 10 18.1	+0.2
TORNY	**Torny/Romont**	**1.39**	**19**	Sn	**Sg**	01 10 36.5	+0.5
LAUCH	**Lauchernalp**	**1.41**	**47**	P	**Pb**	01 10 17.1	-0.2
STV	**Sant Anna di V**	**1.42**	**149**	P	**Pb**	01 10 17.3	-0.1
STV	**Sant Anna di V**	**1.42**	**149**	P	**Pb**	01 10 17.3	-0.1
STV				S	**Sg**	01 10 35.9	-0.9
STV				AML	AML		
	comp=E,826μm,0.7s						
STV				AML	AML		
	comp=N,800μm,0.6s						
SIMPL	**Simplonpass**	**1.44**	**56**	P	**Pn**	01 10 17.4	+0.4
ENR	**Entracque**	**1.47**	**147**	P	**Pb**	01 10 18.1	-0.3
ENR	**Entracque**	**1.47**	**147**	P	**Pb**	01 10 18.0	-0.3
ENR				S	**Sn**	01 10 36.6	+0.1
ENR				AML	AML		
	comp=E,686μm,0.9s						
ENR				AML	AML		
	comp=N,758μm,0.7s						
ENR				AML	AML		
	comp=N,758μm,1.3s						
ENR	**Entracque**	**1.47**	**147**	Pn	**Pb**	01 10 18.0	-0.3
ENR	**Entracque**	**1.47**	**147**	Sn	**Sb**	01 10 37.3	+0.3
BRANT	**Les Verrieres**	**1.48**	**5**	Pn	**Pb**	01 10 19.2	+0.6
BRANT	**Les Verrieres**	**1.48**	**5**	Sn	**Sg**	01 10 39.1	+0.1
BLAF	**les Blancs**	**1.52**	**187**	Pn	**Pb**	01 10 19.8	+0.7
BLAF				Sn	**Sg**	01 10 39.7	-0.3
MLYF	**Mely**	**1.52**	**195**	Pn	**Pg**	01 10 20.1	-0.2
MLYF				Sn	**Sg**	01 10 40.0	+0.1
SPIF	**crte de Spivo**	**1.55**	**154**	Pn	**Pb**	01 10 19.5	-0.3
SPIF				Sn	**Sb**	01 10 39.6	+0.1
SMRF	**Simiane la Rot**	**1.57**	**199**	*e*Pg	**Pb**	01 10 20.6	+0.6
SMRF				*e*Sg	**Sb**	01 10 40.3	+0.5
	comp=N,708nm,0.6s						
ROTM	**Rocchetta Tana**	**1.58**	**112**	P	**Pg**	01 10 21.8	+0.5
ROTM				AML	AML		
	comp=E,2115μm,0.6s						
ROTM				AML	AML		
	comp=N,2140μm,0.6s						
ROTM				AML	AML		
	comp=N,2140μm,1.4s						
ROTM	**Rocchetta Tana**	**1.58**	**112**	Sn	**Sg**	01 10 40.4	-1.4
ROTM	**Rocchetta Tana**	**1.58**	**112**	Pn	**Pb**	01 10 20.2	+0.1
RUSF	**Rustrel**	**1.62**	**201**	Pn	**Pb**	01 10 21.1	+0.1
GBOS	**Grotte di Boss**	**1.64**	**137**	P	**Pb**	01 10 20.6	-0.6
GBOS				S	**Sg**	01 10 42.9	-0.9
GBOS				AML	AML		
	comp=E,489μm,0.5s						
GBOS				AML	AML		
	comp=N,485μm,1.0s						
GBOS				AML	AML		
	comp=N,485μm,1.0s						
GBOS	**Grotte di Boss**	**1.64**	**137**	Pn	**Pb**	01 10 20.6	-0.6
GBOS	**Grotte di Boss**	**1.64**	**137**	Sn	**Sb**	01 10 42.1	+0.3
BSTF	**la Bastide-des**	**1.65**	**197**	Pn	**Pb**	01 10 22.1	+0.8
TURF	**col de Turini**	**1.68**	**152**	Pn	**Pb**	01 10 21.9	0.0
TRIGF	**Trigance**	**1.71**	**177**	Pn	**Pb**	01 10 22.7	+0.2
SAOF	**Saorge**	**1.72**	**148**	P	**Pb**	01 10 22.7	0.0
SAOF				AML	AML		
	comp=N,808μm,0.7s						
SAOF				AML	AML		
	comp=E,879μm,0.5s						
SAOF				AML	AML		
	comp=N,808μm,1.3s						
SAOF	**Saorge**	**1.72**	**148**	Pn	**Pb**	01 10 22.3	-0.3
CALF	**Calern**	**1.76**	**165**	Pn	**Pb**	01 10 22.8	-0.5
MGRO	**Montegrosso**	**1.78**	**142**	P	**Pb**	01 10 23.2	-0.5
MGRO				AML	AML		
	comp=N,556μm,0.5s						
MGRO				AML	AML		
	comp=E,628μm,0.5s						
MGRO	**Montegrosso**	**1.78**	**142**	Pn	**Pb**	01 10 23.1	-0.5
BOUC	**Bouclans**	**1.79**	**359**	Pn	**Pn**	01 10 22.6	+0.9
SBF	**Sospel**	**1.79**	**153**	*e*Pg	**Pb**	01 10 23.8	0.0
SBF				*e*Sg	**Sb**	01 10 46.4	+0.2
	comp=E,1μm,0.6s						
ESCA	**l'Escarene**	**1.80**	**154**	Pn	**Pb**	01 10 23.1	-0.8
CHMF	**Charmoille**	**1.81**	**8**	Pn	**Pn**	01 10 22.9	+0.8
COLF	**Collangettes**	**1.83**	**273**	P	**Pn**	01 10 23.0	+0.7
COLF				Pn	**Pb**	01 10 23.9	-0.5
PCP	**Piancastagn**	**1.84**	**119**	P	**Pb**	01 10 24.2	-0.4
PCP				AML	AML		
	comp=N,426μm,0.7s						
PCP				AML	AML		
	comp=E,306μm,0.9s						
PCP	**Piancastagn**	**1.84**	**119**	Pn	**Pb**	01 10 24.3	-0.3
RORO	**Rocca Rossa**	**1.84**	**136**	P	**Pb**	01 10 24.1	-0.5
RORO				AML	AML		
	comp=E,458μm,0.6s						
RORO				AML	AML		
	comp=N,561μm,0.5s						
RORO				AML	AML		
	comp=E,458μm,1.4s						
RORO	**Rocca Rossa**	**1.84**	**136**	Pn	**Pb**	01 10 24.1	-0.5
PLYF	**Puligny Montra**	**1.85**	**325**	Pn	**Pb**	01 10 25.0	+0.3
QLNO	**Quiliano**	**1.85**	**127**	AML	AML		
	comp=N,700μm,1.4s						
QLNO				AML	AML		
	comp=E,816μm,1.1s						
QLNO				AML	AML		

comp=N,1210µm,0.6s
IMI AML AML
comp=N,1210µm,1.4s
FUSIO Fusio 1.93 58 AML AML
comp=E,604µm,0.7s
FUSIO AML AML
comp=N,461µm,1.6s
FUSIO AML AML
comp=N,461µm,0.4s
MUGIO Muggio 1.98 75 P **Pb 01 10 26.8 -0.2**
MUGIO AML AML
comp=N,555µm,0.7s
MUGIO AML AML
comp=E,416µm,0.7s
LEPF PUYLOUBIER 1.98 193 Pn **Pn 01 10 25.6 +1.3**
BOURR Bourrignon 2.04 18 Pn **Pn 01 10 26.0 +0.8**
FLAF Flassans-sur-I 2.08 181 Pn **Pn 01 10 27.3 +1.7**
SMF Signal de Mont 2.08 306 *e*Pn **Pn 01 10 27.1 +1.4**
SMF Signal de Mont 2.08 306 *e*Pg **Pb 01 10 29.8 +1.1**
SMF *e*Sn **Sn 01 10 49.4 -2.1**
SMF *e*Sg **Sb 01 10 56.9 +2.4**
comp=E,304nm,0.4s
BALST Balsthal 2.11 27 Pn **Pn 01 10 27.5 +1.2**
BALST Balsthal 2.11 27 *e*Pn **Pn 01 10 27.2 +0.9**
BALST *e*Pg **Pg 01 10 31.6 0.0**
BALST *e*Sg **Sg 01 11 00.2 +1.2**
RNCA Ronca, Sant'Ol 2.13 117 P **Pb 01 10 29.9 +0.4**
RNCA AML AML
comp=N,254µm,1.6s
RNCA AML AML
comp=N,254µm,0.4s
RNCA AML AML
comp=E,339µm,1.0s
RNCA Ronca, Sant'Ol 2.13 117 Pn **Pn 01 10 27.6 +1.3**
LMR La Mourre 2.13 176 *e*Pg **Pn 01 10 27.9 +1.5**
LMR *e*Sg **Sb 01 10 55.0 -0.8**
comp=E,158nm,0.3s
LBL Lubilhac 2.16 265 Pn **Pn 01 10 27.7 +0.8**
LASF Ste Croix 2.22 232 *e*Pn **Pn 01 10 28.8 +1.2**
LASF Ste Croix 2.22 232 *e*Pg **Pb 01 10 31.7 +0.6**
LASF *e*Sn **Sn 01 10 50.7 -4.3**
LASF *e*Sg **Sb 01 10 59.0 +0.5**
comp=E,182nm,0.3s
RONF Ronchamp 2.27 6 Pn **Pn 01 10 29.4 +1.2**
GORR Gorreto 2.29 111 P **Pb 01 10 32.6 +0.3**
GORR AML AML
comp=N,450µm,0.5s
GORR AML AML
comp=E,354µm,1.6s
GORR Gorreto 2.29 111 Pn **Pn 01 10 29.9 +1.3**
AGO Saint Agoulin 2.29 286 Pn **Pn 01 10 30.4 +1.7**
PYM Petit Puy Mans 2.33 278 Pn **Pn 01 10 31.2 +2.0**
TUE Stuetta 2.36 63 P **Pb 01 10 32.8 -0.7**
TUE AML AML
comp=E,194µm,0.7s
TUE AML AML
comp=N,226µm,0.6s
TUE AML AML
comp=E,213µm,0.7s
TUE AML AML
comp=N,262µm,0.6s
TUE AML AML
comp=N,262µm,1.4s
TUE AML AML
comp=E,213µm,1.3s
TUE AML AML
comp=E,194µm,1.3s
TUE AML AML
comp=N,226µm,1.4s
HINF Hinteralfeld 2.39 9 *e*Pn **Pn 01 10 30.1 +0.1**
HINF Hinteralfeld 2.39 9 *e*Pg **Pg 01 10 36.0 -0.9**
HINF *e*Sg **Sg 01 11 07.1 -0.8**
comp=N,126nm,0.3s
MDI Monti di Nese 2.42 81 P **Pb 01 10 32.8 -1.7**
MDI AML AML
comp=E,405µm,0.9s
MDI AML AML
comp=N,376µm,0.6s
MDI AML AML
comp=N,383µm,1.0s
MDI AML AML
comp=E,399µm,0.6s
MDI AML AML
comp=E,405µm,1.1s
SULZ Cheisacher 2.42 31 Pn **Pn 01 10 31.1 +0.7**
SULZ Cheisacher 2.42 31 *e*Pn **Pn 01 10 31.3 +0.8**
SULZ *e*Pg **Pg 01 10 37.1 -0.3**
SULZ *e*Sg **Sg 01 11 09.3 +0.5**
AVF Avril sur Loir 2.44 304 *e*Pn **Pn 01 10 32.2 +1.5**
AVF Avril sur Loir 2.44 304 *e*Pg **Pg 01 10 37.0 -0.9**
AVF *e*Sn **Sn 01 10 57.1 -3.3**
AVF *e*Sg **Sg 01 11 08.8 -0.7**
comp=E,182nm,0.4s
MOF Molkenrain 2.46 13 P **Pn 01 10 31.3 +0.3**
MOF Pn **Pb 01 10 32.0 -3.2**
LOR Lormes 2.48 318 *e*Pn **Pn 01 10 32.4 +1.3**
baz=135
LOR Lormes 2.48 318 *e*Pg **Pb 01 10 37.3 +1.9**
LOR *e*Sn **Sn 01 11 00.2 -1.0**
LOR *e*Sg **Sb 01 11 09.0 +3.2**
comp=E,109nm,0.4s
LOR Lormes 2.48 318 Pn **Pn 01 10 32.5 +1.3**
ZUR Degenried 2.48 39 Pn **Pn 01 10 32.7 +1.5**
SSF Saint Saulge 2.51 311 *e*Pn **Pn 01 10 33.0 +1.4**
SSF *e*Sn **Sn 01 11 00.4 -1.8**
SSF *e*Sg **Sg 01 11 10.5 -1.3**
comp=E,80nm,0.3s
HAU Haudompre 2.55 1 *e*Pn **Pn 01 10 32.5 +0.3**
HAU Haudompre 2.55 1 *e*Pg **Pg 01 10 38.9 -1.0**
HAU *e*Sn **Sn 01 11 01.1 -2.0**
HAU *e*Sg **Sg 01 11 11.6 -1.3**
comp=E,254nm,0.4s
MSSA Maissana 2.56 115 P **Pb 01 10 35.7 -1.1**
MSSA AML AML
comp=E,204µm,0.8s
MSSA AML AML
comp=N,196µm,0.8s
WALT Westhalten 2.60 15 P **Pn 01 10 33.0 +0.2**
WALT Pn **Pb 01 10 33.9 -3.6**
METMA Mettma DE 2.63 30 *e*Pn **Pn 01 10 33.3 +0.1**
METMA *e*Pg **Pg 01 10 40.5 -0.9**
METMA *e*Sg **Sg 01 11 14.9 -0.6**
BGF Bois d'Agland 2.64 296 *e*Pn **Pn 01 10 34.9 +1.5**
BGF Bois d'Agland 2.64 296 *e*Pg **Pb 01 10 40.4 +2.1**
BGF *e*Sn **Sn 01 11 03.3 -2.1**
BGF *e*Sg **Sg 01 11 14.4 -1.6**
comp=N,388nm,0.6s
WILA Wila 2.66 42 *e*Pn **Pn 01 10 35.4 +1.6**
WILA *e*Pg **Pg 01 10 41.3 -0.8**
WILA *e*Sg **Sg 01 11 17.3 +0.7**
PLONS Plons/SG 2.67 52 *e*Pg **Pg 01 10 41.6 -0.5**
FELD Feldberg im Sc 2.69 25 P **Pn 01 10 34.1 -0.1**
FELD Feldberg im Sc 2.69 25 Pn **Pn 01 10 34.9 +0.7**
KIZ Kirchzarten 2.73 23 Pn **Pn 01 10 35.9 +1.2**
KIZ Kirchzarten 2.73 23 P **Pn 01 10 34.3 -0.4**
BERGE Lenzkirch (DE) 2.74 28 *e*Pn **Pn 01 10 34.8 0.0**
BERGE *e*Pg **Pg 01 10 42.5 -1.1**
BERGE *e*Sg **Sg 01 11 19.7 +0.6**
SLE Schleitheim 2.76 32 Pn **Pn 01 10 36.1 +1.0**
SLE Schleitheim 2.76 32 P **Pn 01 10 35.0 0.0**
SLE Schleitheim 2.76 32 *e*Pn **Pn 01 10 34.9 -0.2**
SLE *e*Pg **Pg 01 10 42.9 -1.0**
SLE *e*Sg **Sg 01 11 18.9 -0.7**
DAVOX Davos/Dischmat 2.82 61 P **Pb 01 10 39.8 -1.6**
DAVOX Davos/Dischmat 2.82 61 Pn **Pb 01 10 39.4 -2.0**
comp=N,5.4nm,0.3s,baz=264,slow=12,SNR=52
DAVOX Lg Lg 01 11 21.9
comp=N,6.5nm,0.3s,baz=357,slow=14,SNR=4.1
DAVOX LR LR 01 11 58.7
comp=N,154nm,18.1s,baz=260,slow=44
comp=N,12nm,0.3s
ECH Echery 2.82 12 P **Pn 01 10 35.9 +0.1**
ECH Pn Pb 01 10 36.6 -4.7
ECH Echery 2.82 12 P **Pn 01 10 35.8 -0.1**
ECH Pn **Pb 01 10 37.0 -4.3**
ECH Echery 2.82 12 *e*Pn **Pn 01 10 36.0 +0.1**
ECH *e*Pg **Pg 01 10 46.4 +1.3**
ECH *e*Sg **Sg 01 11 22.5 +0.8**
SFTF Sexfontaines 2.88 343 *e*Pn **Pn 01 10 37.8 +1.1**
SFTF Sexfontaines 2.88 343 *e*Pg **Pg 01 10 45.3 -0.9**
SFTF *e*Sn **Sn 01 11 08.5 -2.7**
SFTF *e*Sg **Sg 01 11 21.9 -1.7**
comp=N,109nm,0.4s
TCF Toulx Ste Croi 2.97 288 *e*Pn **Pn 01 10 39.4 +1.4**
TCF Toulx Ste Croi 2.97 288 *e*Pg **Pg 01 10 47.6 -0.4**
TCF *e*Sn **Sn 01 11 12.8 -0.7**
TCF *e*Sg **Sg 01 11 26.0 -0.5**
comp=N,168nm,0.6s
EMING Emmingen-Lipti 3.00 35 *e*Pn **Pn 01 10 38.7 +0.3**
EMING *e*Pg **Pg 01 10 47.6 -1.0**
EMING *e*Sg **Sg 01 11 27.0 -0.4**
WALHA Wallhausen, DE 3.01 39 *e*Pn **Pn 01 10 39.3 +0.8**
WALHA *e*Pg **Pg 01 10 47.7 -1.1**
WALHA *e*Sg **Sg 01 11 27.6 -0.2**
MABI Malga Bissina 3.01 77 AML AML
comp=N,160µm,1.6s
MABI AML AML
comp=E,437µm,1.0s
MABI AML AML
comp=N,160µm,0.4s
MABI AML AML
comp=E,437µm,1.0s
CDF Champ du Feu 3.03 12 *e*Pn **Pn 01 10 38.7 -0.1**
CDF Champ du Feu 3.03 12 *e*Pg **Pg 01 10 48.5 -0.6**
CDF *e*Sn **Sn 01 11 13.4 -1.6**
CDF *e*Sg **Sg 01 11 26.8 -1.6**
comp=E,84nm,0.5s
CAF Calviac 3.04 261 *e*Pn **Pn 01 10 40.6 +1.7**
CAF *e*Sg **Sb 01 11 26.2 +4.1**
comp=E,144nm,0.7s
WLS Welschbruch 3.04 13 P **Pn 01 10 39.0 0.0**
WLS Pn Pb 01 10 39.7 -5.4
DAVA Damuels 3.08 52 *e*Pn **Pn 01 10 41.7 +2.1**
comp=E,1.1nm,0.1s,SNR=28
DAVA *e*Sn **Sg 01 11 32.1 +2.1**
comp=E,162nm,0.6s
HYF Humbligny 3.11 307 *e*Pn **Pn 01 10 42.3 +2.4**
HYF Humbligny 3.11 307 *e*Pg **Pg 01 10 49.7 -1.0**
HYF *e*Sn **Sn 01 11 16.5 -0.4**
HYF *e*Sg **Sg 01 11 29.4 -1.6**
PAGF Fort de Pagny 3.12 353 *e*Pn **Pn 01 10 40.6 +0.6**
baz=169
PAGF Fort de Pagny 3.12 353 *e*Pg **Pg 01 10 51.1 +0.2**
PAGF *e*Sn **Sn 01 11 14.5 -2.7**
PAGF *e*Sg **Sg 01 11 30.1 -1.2**
comp=E,220nm,0.5s
MEZF Maizieres J'vi 3.16 345 *e*Pn **Pn 01 10 42.2 +1.7**
baz=158
MEZF Maizieres J'vi 3.16 345 *e*Pg **Pg 01 10 50.5 -1.1**
MEZF *e*Sn **Sn 01 11 15.7 -2.4**
MEZF *e*Sg **Sg 01 11 31.0 -1.6**
comp=E,192nm,0.5s
BFO Black Forest 3.19 25 *e*Pn **Pn 01 10 40.7 -0.4**
BFO *e*Pg **Pg 01 10 51.7 -0.5**
BFO *e*Sn **Sn 01 11 18.9 0.0**
BFO *e*Sg **Sg 01 11 34.2 +0.6**
SAVF Savonnieres en 3.26 346 *e*Pn **Pn 01 10 43.4 +1.5**
baz=172
SAVF Savonnieres en 3.26 346 *e*Pg **Pg 01 10 52.1 -1.4**
SAVF *e*Sn **Sn 01 11 18.1 -2.4**
SAVF *e*Sg **Sg 01 11 34.7 -1.0**
comp=E,214nm,0.7s
MAIM Mastiano 3.37 116 P **Pn 01 10 46.8 +3.5**
MAIM AML AML
comp=E,100µm,0.8s
MAIM AML AML
comp=N,63µm,0.7s
MAIM AML AML
comp=N,63µm,1.3s
MAIM AML AML
comp=E,100µm,1.2s
RJF Les Rejaudoux 3.37 269 *e*Pn **Pn 01 10 45.5 +2.0**
RJF Les Rejaudoux 3.37 269 *e*Pg **Pg 01 10 54.2 -1.4**
RJF *e*Sg **Sb 01 11 35.5 +3.9**
comp=E,84nm,0.5s
OBER Oberstdorf 3.38 53 *e*Pg **Pg 01 10 54.8 -1.1**
OBER *e*Sg **Sg 01 11 41.1 +1.4**
UBR Ueberruh 3.44 48 *e*Pn **Pn 01 10 46.1 +1.6**
UBR *e*Pg **Pg 01 10 56.5 -0.5**
UBR *e*Sg **Sg 01 11 43.2 +1.6**
FETA Feichten 3.45 61 *i* Pn **Pn 01 10 48.1 +3.4**
comp=E,7.2nm,0.5s,SNR=12
PII Pisa 3.48 118 P **Pn 01 10 48.0 +3.0**
PII AML AML
comp=E,80µm,0.8s
PII AML AML
comp=N,75µm,0.5s
PGF Pioggiola 3.50 145 *e*Pn **Pn 01 10 44.3 -1.0**
PGF *e*Sn **Sn 01 11 23.6 -3.1**
comp=N,18nm,0.4s
PGF Pioggiola 3.50 145 AML AML
comp=E,43µm,1.6s
PGF AML AML
comp=E,43µm,0.4s
PGF AML AML
comp=N,51µm,0.8s
ZCCA Zocca 3.50 107 AML AML
comp=N,140µm,1.0s
ZCCA AML AML
comp=E,149µm,1.5s
ZCCA AML AML
comp=N,140µm,1.0s
ZCCA AML AML
comp=E,149µm,0.5s
MTLF Montolieu 3.61 236 *e*Pn **Pn 01 10 47.3 +0.6**
MTLF *e*Sn **Sn 01 11 27.2 -2.0**
MTLF *e*Sg **Sg 01 11 43.6 -3.3**
comp=E,112nm,0.6s
RETA Reutte 3.69 55 *i* Pn **Pn 01 10 50.0 +2.1**
comp=E,1.5nm,0.3s,SNR=8.8
RETA *e*Pg **Pg 01 11 01.8 0.0**
comp=E,15nm,0.4s
RETA *i* Sn **Sn 01 11 31.9 +0.5**
comp=E,21nm,0.5s
RETA *e*Sg **Sg 01 11 50.8 +1.2**
comp=E,51nm,0.8s
MOTA Moosalm 3.82 59 *i* Pn **Pn 01 10 52.2 +2.4**
comp=E,1.1nm,0.1s
MOTA *e*Sn **Sn 01 11 35.0 +0.3**
comp=E,6.3nm,0.2s
SQTA Sankt Quirin 3.83 61 *i* Pn **Pn 01 10 52.8 +2.9**
comp=E,1.1nm,0.1s
SQTA *e*Sn **Sn 01 11 36.3 +1.5**
comp=E,25nm,0.3s
STU Stuttgart 3.86 30 *e*Pg **Pg 01 11 05.3 +0.3**
STU *e*Sg **Sg 01 11 56.5 +1.5**
SEI Scarperia 3.87 109 AML AML
comp=E,109µm,0.4s
SEI AML AML
comp=N,390µm,0.2s
CGRP Cima Grappa 3.88 82 P **Pn 01 10 53.8 +3.2**
CGRP AML AML
comp=E,234µm,1.2s
CGRP AML AML
comp=N,141µm,0.8s
CGRP AML AML
comp=E,234µm,0.8s
ROTT Steinweiler 3.88 18 *e*Pg **Pg 01 11 05.0 -0.4**
AJAC Base Areonaval 3.96 152 P **Pn 01 10 53.3 +1.9**
AJAC AML AML
comp=E,148µm,0.6s
AJAC AML AML
comp=N,234µm,0.4s
LFF La Frestale 3.96 264 *e*Pn **Pn 01 10 53.4 +1.9**
LFF *e*Sn **Sn 01 11 36.5 -1.3**
LFF *e*Sg **Sg 01 11 55.4 -2.8**
comp=N,122nm,0.5s
WATA Walderalm 4.11 61 *e*Pn **Pn 01 10 57.2 +3.5**
comp=N,1.8nm,0.2s
WATA *e*Sn **Sn 01 11 42.8 +1.1**
comp=N,3.8nm,0.2s
WTTA Wattenberg 4.11 62 *i* Pn **Pn 01 10 56.7 +2.9**
comp=N,1.9nm,0.3s,SNR=10
WLF Walferdange 4.21 359 *d*Pn **Pn 01 10 56.9 +2.0**
WLF *d*P **Pg 01 11 11.7 0.0**
WLF Walferdange 4.21 359 *e*Pn **Pn 01 10 56.9 +2.0**
WLF *e*Pg **Pg 01 11 11.1 -0.6**
WLF *e*Sg **Sg 01 12 03.8 -2.3**
NORI Noerdlinger Ri 4.40 41 *e*Pg **Pg 01 11 14.0 -1.4**
NORI *e*Sg **Sg 01 12 12.7 +0.3**
ABH Alteburg 4.50 10 *e*Pn **Pn 01 10 59.5 +0.5**
ABH *e*Pg **Pg 01 11 15.4 -1.9**
ABH *e*Sg **Sg 01 12 16.3 +0.7**
MFF Saint Martin d 4.63 287 *e*Pn **Pn 01 11 02.6 +1.9**
MFF Saint Martin d 4.63 287 *e*Pg **Pg 01 11 18.2 -1.5**
MFF *e*Sn **Sn 01 11 50.6 -3.7**
MFF *e*Sg **Sg 01 12 16.0 -3.7**
comp=N,71nm,0.6s
GIVF Givet 4.75 348 *e*Pn **Pn 01 11 04.1 +1.7**
GIVF Givet 4.75 348 *e*Pg **Pg 01 11 20.9 -1.1**
GIVF *e*Sn **Sn 01 11 53.3 -4.0**
GIVF *e*Sg **Sg 01 12 21.0 -2.5**
comp=N,46nm,0.6s
RCHB Rochefort 4.75 352 *d*Pn **Pn 01 11 03.9 +1.5**
RCHB *d*P **Pg 01 11 24.2 +2.2**
RCHB *d*S **Sn 01 11 59.5 +2.1**
DOU Dourbes 4.78 347 *d*Pn **Pn 01 11 04.5 +1.7**
DOU *d*S **Sn 01 11 58.4 +0.4**
BAIF Baives 4.81 344 *e*Pn **Pn 01 11 04.5 +1.3**
BAIF Baives 4.81 344 *e*P **Pn 01 11 06.7 +3.5**
BAIF Baives 4.81 344 *e*Pg **Pg 01 11 21.8 -1.4**
BAIF *e*Sn **Sn 01 11 54.9 -3.9**
BAIF *e*Sg **Sg 01 12 22.1 -3.4**
comp=N,50nm,0.6s
MILB Miltenberg 4.82 24 *e*Pn **Pn 01 11 02.2 -1.1**
MILB *e*Pg **Pg 01 11 23.8 +0.5**
MILB *e*Sg **Sg 01 12 24.5 -1.1**
LESA Schwarzleotal 4.83 64 *e*Pn **Pn 01 11 01.6 -1.9**
comp=N,0.4nm,0.2s
LESA *e*Sn **Sn 01 11 59.6 +0.2**
comp=N,6.7nm,0.3s
BHOU Houvegnez 4.90 358 *d*Pn **Pn 01 11 08.3 +3.8**
BHOU *d*P **Pg 01 11 26.2 +1.3**
EPF Esparros 4.92 243 *e*Pn **Pn 01 11 05.7 +0.9**
EPF Esparros 4.92 243 *e*Pg **Pg 01 11 22.5 -2.8**
EPF *e*Sn **Sn 01 11 56.6 -5.0**
EPF *e*Sg **Sg 01 12 24.4 -4.5**
comp=N,38nm,0.5s
BMRD Maredsous 4.96 349 *d*Pn **Pn 01 11 07.0 +1.8**
BMRD *d*S **Sn 01 12 03.5 +1.2**
TNS Taunus Mts 4.98 16 *e*Pn **Pn 01 11 06.4 +0.8**
TNS *e*Sg **Sg 01 12 31.1 +0.2**
BGES Gesves 5.00 351 *d*P **Pn 01 11 06.9 +1.1**
BGES *d*S **Sn 01 12 04.2 +0.9**
BCLA Clavier 5.01 353 *d*Pn **Pn 01 11 07.3 +1.4**
BCLA *d*Sn **Sn 01 12 05.0 +1.3**
BTNL Ternell 5.13 359 *d*Pn **Pn 01 11 08.6 +1.0**
BTNL *d*S **Sn 01 12 07.0 +0.3**
BSTI Sart Tilman 5.15 355 *d*Pn **Pn 01 11 09.5 +1.6**
BSTI *d*P **Pg 01 11 30.3 +0.7**
MEM Membach 5.16 358 *d*Pn **Pn 01 11 09.0 +1.0**
MEM *d*P **Pg 01 11 30.4 +0.6**
MEM *d*S **Sn 01 12 06.0 -1.3**
MYKA Terra Mystica 5.25 74 *e*Pn Pn 01 11 15.0 +5.8
comp=N,2.3nm,0.4s
BEBN Eben Emael 5.36 356 *d*P **Pg 01 11 33.2 -0.4**
BEBN *d*S **Sg 01 12 43.3 +0.4**
GRF Grafenberg Arr 5.39 36 *e*Pg **Pg 01 11 32.6 -1.6**
LDF La Druitiere 5.39 308 *e*Pn **Pn 01 11 12.4 +1.2**
LDF La Druitiere 5.39 308 *e*Pg **Pg 01 11 31.9 -2.4**
LDF *e*Sn **Sn 01 12 08.1 -5.0**
LDF *e*Sg **Sg 01 12 40.6 -3.5**
comp=N,48nm,0.7s
BIOA Bad Ischl, Aus 5.53 64 *e*Pn **Pn 01 11 15.0 +1.8**
comp=N,1.9nm,0.4s
ETSF Etsaut 5.55 245 *e*P **Pn 01 11 17.2 +3.7**
ETSF *e*Sn **Sn 01 12 12.7 -4.5**
ETSF *e*S Sb 01 12 22.8 -12
ETSF *e*Sg **Sg 01 12 45.4 -3.9**
comp=N,27nm,0.5s
FLN La Foliniere 5.69 308 *e*Pn **Pn 01 11 16.8 +1.6**
baz=132
FLN *e*Sn **Sn 01 12 16.6 -3.7**
FLN *e*Sg **Sg 01 12 50.0 -3.5**
comp=N,70nm,0.7s
GRR Gorron 5.71 303 *e*Pn **Pn 01 11 17.2 +1.7**
GRR *e*Sn **Sn 01 12 16.1 -4.8**
comp=N,39nm,0.5s
GRR *e*Sg **Sg 01 12 50.2 -4.0**
comp=N,25nm,0.6s
CEY Cerknica 5.71 84 *e*Pn **Pn 01 11 18.4 +2.8**
OBKA Obir 5.85 77 *e*Pn **Pn 01 11 20.7 +3.2**
comp=N,3.9nm,0.5s
OBKA Obir 5.85 77 *e*Pn Pn 01 11 22.8 +5.3
SJPF Ste Jean 5.89 249 *e*Pn **Pn 01 11 18.2 +0.2**
SJPF *e*Sn **Sn 01 12 18.9 -6.4**
SJPF *e*Sg **Sg 01 12 55.9 -4.0**
comp=N,33nm,0.6s
MOA Molln 5.99 64 *e*Sn **Sn 01 12 26.1 -1.6**
comp=N,6.4nm,0.4s
AQU L'Aquila 6.00 119 *e*Pn Pn 01 11 25.0 +5.4
GERES GERESS Array B 6.08 53 Pn **Pn 01 11 21.7 +1.0**
comp=N,1.7nm,0.3s,baz=235,slow=14,SNR=22
GERES Sn **Sn 01 12 26.1 -4.1**
comp=N,2.1nm,0.3s,baz=239,slow=24,SNR=6.1
GERES Lg Lg 01 13 06.2
baz=245,slow=26
comp=N,2.0nm,0.3s
KHC Kasperske Hory 6.17 51 *e*PN **Pn 01 11 22.8 +1.0**
KHC *e*SN **Sn 01 12 27.5 -4.7**
BOJS Bojanci 6.30 86 *e*Pn **Pn 01 11 26.2 +2.6**
CKRC Cesky Krumlov 6.42 56 *e*PN **Pn 01 11 25.5 +0.2**
CKRC *e*SN **Sn 01 12 32.9 -5.5**
ARSA Arzberg 6.63 71 *i* Pn **Pn 01 11 33.1 +4.8**
comp=N,7.0nm,0.4s,SNR=6.7
ARSA *e*Sn **Sn 01 12 43.8 +0.1**
comp=N,3.0nm,0.8s
ARSA Arzberg 6.63 71 *e*Pn **Pn 01 11 32.9 +4.6**
ZVC Zvikov 6.67 51 *e*PN **Pn 01 11 29.5 +0.8**
SGMF Saint Gilles 6.68 298 *e*Pn **Pn 01 11 30.1 +1.2**
SGMF *e*Sn **Sn 01 12 39.8 -5.1**
SGMF *e*Sg **Sg 01 13 21.6 -3.8**
comp=N,37nm,0.8s
QUIF Quistinic 6.96 294 *e*Pn **Pn 01 11 33.7 +1.1**
QUIF *e*Sn **Sn 01 12 46.3 -5.3**
QUIF *e*Sg **Sg 01 13 29.0 -5.2**
comp=N,31nm,0.7s
CONA Conrad Observa 7.03 66 *i* Pn **Pn 01 11 34.6 +0.9**
comp=N,1.1nm,0.3s
CONA *e*Sn **Sn 01 12 52.0 -1.5**
comp=N,2.2nm,0.2s
ROSF Rostrenen 7.16 297 *e*Pn **Pn 01 11 35.9 +0.5**
ROSF *e*Sn **Sn 01 12 52.0 -4.6**
comp=N,12nm,0.4s
ROSF *e*Sg **Sg 01 13 35.4 -5.3**
comp=N,28nm,0.7s
RONA Rosalia, Austr 7.25 68 *i* Pn **Pn 01 11 38.8 +2.1**
comp=N,4.1nm,0.4s,SNR=5.3
RONA *e*Sn **Sn 01 12 57.2 -1.6**
comp=N,2.3nm,0.3s
GOPC GO Pecny, Ondr 7.26 49 *e*PN **Pn 01 11 38.6 +1.8**
TREC Trest 7.32 55 *e*PN **Pn 01 11 38.7 +1.0**
CLL Collm 7.36 35 *i* Pg **Pg 01 12 12.7 +0.8**
CLL *e*Sg **Sg 01 13 48.0 +0.9**
comp=Z,23nm,1.1s
BRG Berggiesshubel 7.45 41 *e*P **Pg 01 12 13.0 -0.5**
BRG Amp 01 12 20.2
comp=Z,3.7nm,0.6s
BRG S **Sg 01 13 55.1 +5.2**
BRG Amp 01 13 57.2
comp=Z,15nm,1.0s
A051A Mrakovica 7.50 90 *e*Pn **Pn 01 11 42.4 +2.1**
MGRS Mrkonjic Grad 7.73 94 *e*Pn **Pn 01 11 47.0 +3.7**
BLY Banja Luka 7.74 91 *e*Pn **Pn 01 11 44.2 +0.8**
KRUC Moravsky 7.76 59 *e*PN **Pn 01 11 44.6 +1.0**
KRUC *e*SN **Sn 01 13 06.8 -4.5**
VRAC Vranov 7.98 57 *e*SN **Sn 01 13 11.4 -5.4**
VRAC Vranov 7.98 57 Pn **Pn 01 11 47.6 +1.0**
comp=Z,1.4nm,0.6s,baz=221,slow=7.7,SNR=3.2
VRAC Sn **Sn 01 13 11.5 -5.2**
comp=Z,0.6nm,0.3s,baz=158,slow=22,SNR=7.7
VRAC Lg Lg 01 14 07.1
comp=Z,0.2nm,0.3s,baz=146,slow=18,SNR=2.5
VRAC LR LR 01 15 31.8
comp=Z,46nm,20.2s,baz=258,slow=42
MODS Modra-Piesok 8.06 65 *e*PN **Pn 01 11 51.4 +3.5**
MODS *e*SN **Sn 01 13 11.5 -7.4**
STON Ston 8.60 103 *e*Pn **Pn 01 11 57.8 +2.7**
MORH Mrgy, Hungar 8.66 81 *e*Pn **Pn 01 11 58.3 +2.3**
MORC Moravsky Berou 8.74 56 *e*PN **Pn 01 11 58.9 +1.8**
MORC *e*SN **Sn 01 13 28.6 -6.9**
VYHS Vyhne 9.10 66 *e*PN **Pn 01 12 03.2 +1.2**
VYHS *e*SN **Sn 01 13 39.4 -4.8**
BRY Bratogost 9.16 102 *e*Pn **Pn 01 12 03.5 +0.4**
UPM Unac-Piva 9.31 100 *e*Pn **Pn 01 12 09.0 +3.8**
TEKS Tekeris 9.42 91 *e*Pn **Pn 01 12 10.5 +4.0**
BBLS Lazići 9.48 95 *e*Pn **Pn 01 12 09.0 +1.7**
RUDO Rudo 9.52 97 *e*Pn Pn 01 12 12.9 +5.1
ESDC Sonseca Array 9.52 236 Pn **Pn 01 12 08.8 +0.9**
comp=Z,0.4nm,0.3s,baz=50,slow=14,SNR=25
ESDC LR LR 01 15 55.2
comp=Z,45nm,19.0s,baz=48,slow=39
comp=Z,1.4nm,0.5s

KEST	Kesra	9.99	166	LR	LR	01 16 02.0	
	comp=Z,69nm,18.6s,baz=306,slow=37						
SJES	Sjenica	10.04	98	*e*Pn	Pn	01 12 19.0	+3.9
EKA	Eskdalemuir Ar	11.57	332	Pn	Pn	01 12 35.9	+0.1
	baz=140,slow=14						
EKA				Sn	Sn	01 14 37.8	-6.9
	baz=158,slow=18						
	comp=Z,2.4nm,0.5s						
HFS	Hagfors	15.35	14	LR	LR	01 19 20.5	
	comp=Z,33nm,18.4s,baz=291,slow=37						
NOA	NORSAR Array B	15.88	9	LR	LR	01 20 29.6	
	comp=Z,27nm,18.7s,baz=35,slow=40						
BRTR	Keskin Array B	20.88	96	P	Pn	01 14 35.9	+0.5
	comp=Z,1.1nm,0.7s,baz=286,slow=6.4,SNR=6.9						
	comp=Z,1.1nm,0.7s						
TORD	Torodi Ar. Bea	32.44	188	P	P	01 16 21.7	+0.8
	comp=Z,0.5nm,0.8s,baz=5.1,slow=10,SNR=2.7						
	comp=Z,0.5nm,0.8s						
KURBB	Kurchatov Arra	46.81	56	P	P	01 18 22.2	+2.0
	comp=Z,0.2nm,0.5s,baz=296,slow=8.4,SNR=1.7						
	comp=Z,0.2nm,0.5s						
MBAR	Mbarara	50.71	148	LR	LR	01 42 28.0	
	comp=Z,36nm,18.8s,baz=32,slow=39						

*UCR **27** 01:13:36.3±0.6, 8.°45N×83.°16W, h14km±6km, MW3.9*
*UPA **27** 01:13:37.0±1.5, 8.°55N×83.°13W, h10km±5km, ML3.6*
ISC 27 01:13:36.8±0.9, 8.°50N±0.°04×83.°16W±0.°03, h16km±6km, n27, σ0°78/37, 1C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITO	Golfito	0.13	4	*e*P	Pg	01 13 40.0	-0.5
PTJ1	Puerto Jimnez	0.14	286	*e*P	Pg	01 13 40.3	-0.4
PTJ1				*e*S	Sg	01 13 44.1	+0.8
EDAD	Golfito	0.16	359	*e*P	Pg	01 13 40.5	-0.5
JIME	Puerto Jimenez	0.17	285	*e*P	Pg	01 13 40.6	-0.4
JIME				*e*S	Sg	01 13 44.5	+0.7
PIRO	Carate, Puerto	0.19	242⇑	*e*P	Pg	01 13 40.5	-1.0
CDITO	Canoas	0.30	75⇓	*e*P	Pg	01 13 42.9	-0.2
CDITO				*e*S	Sb	01 13 48.7	+0.2
CDITO	Canoas	0.30	75	*e*P	Pg	01 13 42.9	-0.2
EDSV	San Vito	0.37	30	*e*P	Pb	01 13 45.1	-0.1
PTPM	Petroterminale	0.40	136	*e*P	Pb	01 13 45.2	-0.4
PTPM				AMP		01 13 46.0	
	comp=Z,6μm,0.3s						
PTPM				*e*S	Sb	01 13 53.6	+2.1
EDPN	Palmar Norte	0.55	328	*e*P	Pg	01 13 47.1	-0.5
POTG	Potrero Grande	0.56	4	*e*P	Pg	01 13 47.9	0.0
BCO2	Palmira	0.67	70⇓	*e*P	Pg	01 13 49.5	-0.4
BCO2				*e*S	Sb	01 13 59.8	+0.5
EDBA	Buenos Aires	0.67	351	*e*P	Pg	01 13 49.9	-0.2
DVD	David	0.71	95	*e*P	Pg	01 13 49.9	-0.7
DVD				*e*S	Sb	01 14 00.7	+0.4
LOCO3	Loma Colorada,	0.74	96	*e*P	Pg	01 13 50.5	-0.8
LOCO3				*e*S	Sb	01 14 02.0	+0.8
PSOM3	Paja de Sombre	0.85	77	*e*P	Pg	01 13 52.1	-1.3
PSOM3				*e*S	Sb	01 14 05.2	+0.6
CHGR2	Aguacate	1.10	66	*e*P	Pb	01 13 56.1	-1.4
CHGR2				*e*S	Sb	01 14 11.1	-0.5
BRIBI	Bribri	1.16	15	*e*P	Pg	01 13 59.5	+0.2
BUS1	Rivas	1.20	331	*e*P	Pb	01 13 58.5	-1.0
CDM	Cerro de Muert	1.21	331	*e*P	Pb	01 13 58.5	-1.1
RIMA	Rio Macho	1.44	331	*e*P	Pn	01 14 02.2	-0.3
VTCV	VTCV, Calle Va	1.58	339	*e*P	Pn	01 14 05.1	+0.7
RAFA	San Farael, Vo	1.59	336	*e*P	Pn	01 14 05.3	+0.7
BATAN	Batan	1.61	352⇓	*e*P	Pn	01 14 05.2	+0.7
BATAN				*e*S	Sn	01 14 24.3	-0.7
BATAN	Batan	1.61	352	*e*P	Pb	01 14 05.9	-0.2
CVTQ	Turrialba Volc	1.61	338	*e*P	Pn	01 14 05.8	+0.8
BCIP	Isla Barro Col	3.35	78	*e*P	Pn	01 14 29.2	+0.6

*NEIC **27** 01:28:51.5±2.0, 47.°66N±0.°02×122.°81W±0.°03, h20km±6km, Error ellipse: s-maj=3.0km s-min=2.5km az=57.0*
*PGC **27** 01:28:52.3, 47.°65N×122.°77W, h16km, ML2.8, ML2.2/20, 33km west of Seattle, Wa Washington*
*PNSN **27** 01:28:52.1, 47.°65N×122.°79W, h18km, MD2.8, Fault plane solution: NP1:φ$_b$220.00000°, δ75.00000°, λ-10.00000°.*
*SEA **27** 01:28:52.1±1.6, 47.°65N±0.°01×122.°791W±0.°009, h18km±1km, ML2.8/54, ML2.7/52(NEIC), Error ellipse: s-maj=2.1km s-min=0.7km az=197.0*
ISC 27 01:28:51.5±0.8, 47.°66N±0.°02×122.°81W±0.°02, h18km±3km, n168, σ0°91/200, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNW	Green Mountain	0.09	189	Pg	Pg	01 28 55.2	+0.2
GNW				Sg	Sg	01 28 57.8	+0.4
GNW	Green Mountain	0.09	189	S	Sg	01 28 57.7	+0.3
GMW	Gold Mountain	0.11	173		Pg	01 28 55.4	+0.1
GMW					Sg	01 28 58.1	+0.3
KITP	Kitsap County	0.12	81		Pg	01 28 56.0	+0.7
C04A	Brinnon	0.13	299		Pg	01 28 55.8	+0.4
C04A					Sg	01 28 58.8	+0.8
KINR	Kitsap County	0.14	49		Pg	01 28 56.1	+0.5
KINR					Sg	01 28 59.9	+1.5
KIMR	Kitsap County	0.15	171		Pg	01 28 56.1	+0.3
HDW	Hoodsport	0.17	268		Pg	01 28 56.5	+0.5
B013	Quilcene	0.17	336		Pg	01 28 56.2	+0.3
B013					Sg	01 28 59.5	+0.5
B013	Quilcene	0.17	336		Pg	01 28 56.3	+0.3
MNWA	Manchester	0.20	116		Pg	01 28 56.8	+0.2
HOLY	Holy Rosary Sc	0.30	107		Pb	01 28 59.1	+0.8
SCCW	Shoreline CC	0.31	72		Pb	01 28 58.8	+0.2
SCCW					Sb	01 29 04.7	+1.4
VVHS	Vashon High Sc	0.33	134		Pg	01 28 58.8	+0.2
VVHS					Sb	01 29 04.7	+0.8
BLN	Blyn Mountain	0.37	342		Pg	01 28 59.1	-0.1
NOWS	NOAA--Sand Poi	0.37	85		Pb	01 29 00.1	+0.5
NOWS					Sn	01 29 07.2	-1.5
LYNC	Lynnwood City	0.38	64		Pg	01 28 59.6	+0.2
SP2	Seward Park 2	0.39	105		Pb	01 29 00.2	+0.3
FINN	Finn Hill Juni	0.39	81		Pb	01 29 00.4	+0.5
FINN					Sb	01 29 06.2	+0.6
SWID	South Whidbey	0.44	37		Pg	01 29 00.7	+0.2
SWID					Sb	01 29 08.0	+0.9
BEVT	Boeing Everett	0.45	54		Sb	01 29 08.1	+0.9
SQM	Sequim	0.45	339		Pb	01 29 01.0	+0.1
LEOT	Leota Junior H	0.48	76		Pb	01 29 01.4	0.0
LEOT					Sb	01 29 09.1	+1.1
EVGW	Everett Gatewa	0.48	65		Sb	01 29 08.8	+0.6
SMW	South Mountain	0.50	227		Pb	01 29 01.8	+0.1
EARN	East Ridge Ele	0.52	80		Pg	01 29 02.1	+0.1
EVCC	Everett Colleg	0.54	49		Sb	01 29 10.7	+1.0
EGRN	Evergreen Coll	0.59	191		Pb	01 29 03.3	0.0
EGRN					Sg	01 29 12.2	+1.0
B04A	Port Angeles	0.62	311		Pb	01 29 03.5	-0.3
B04A					Sg	01 29 13.2	+1.2
B04A	Port Angeles	0.62	311		Pb	01 29 03.5	-0.3
OSD	Olympics--Snow	0.63	286		Pg	01 29 04.4	+0.5
OSD					Sg	01 29 13.3	+0.9
SVOH	Skagit Valley	0.64	10		Sb	01 29 12.7	-0.1
PCEP	Pierce County	0.65	147		Pb	01 29 03.7	-0.5
PCEP					Sg	01 29 13.0	+0.2
MBPA	Monroe Substat	0.66	68		Pb	01 29 03.9	-0.6
OLQ	Olympics--Lake	0.69	259		Pb	01 29 05.1	+0.1
PCFR	Pierce County	0.71	159		Pb	01 29 04.7	-0.6
GHW	Garrison Hill	0.71	149		Pb	01 29 04.5	-0.8
GHW					Sb	01 29 14.4	-0.4
HTW	Haystack Looko	0.71	78		Pb	01 29 04.5	-1.0
RATT	Rattlesnake La	0.72	108		Pb	01 29 04.6	-0.8
CPW	Capitol Peak	0.72	198		Pb	01 29 05.1	-0.4
D05A	Enumclaw	0.72	130		Pb	01 29 05.4	-0.2
D05A	Enumclaw	0.72	130	IAML		01 29 16.1	
	comp=E,255nm,0.5s						
D05A				IAML		01 29 16.2	
	comp=N,331nm,0.5s						
D05A	Enumclaw	0.72	130	S	Sb	01 29 14.4	-0.7
TTW	Tolt Reservoir	0.75	87		Pb	01 29 05.0	-1.1
C05A	Tolt Reservoir	0.76	87		Pb	01 29 05.0	-1.1
STW	Striped Peak	0.76	311		Pb	01 29 06.1	-0.1
NLWA	Neilton Lookou	0.77	250		Pb	01 29 06.3	0.0
NLWA	Neilton Lookou	0.77	250	IAML		01 29 22.5	
	comp=N,334nm,0.4s						
B941	Kapowsin	0.78	149		Pb	01 29 05.4	-1.1
B941					Sb	01 29 15.8	-0.8
JCW	Jim Creek	0.80	47		Pb	01 29 05.9	-0.9
GSM	Grass Mountain	0.82	123		Pb	01 29 06.5	-0.8
VGZ	Gonzales	0.83	336		Pb	01 29 06.2	-1.2
VGZ					Sb	01 29 17.6	-0.7
VGZ	Gonzales	0.83	336	P	Pb	01 29 06.2	-1.2
VGZ				S	Sb	01 29 17.2	-1.1
B017	Montesano	0.84	218		Pb	01 29 07.5	+0.1
WISH	Wishkah	0.85	231		Pg	01 29 08.2	+0.2
RRHS	Rochester High	0.87	191		Pb	01 29 07.9	-0.1
CMW	Cultus Mountai	0.90	31		Pb	01 29 07.8	-0.7
RVC	Mount Rainier-	0.91	141		Pb	01 29 07.9	-0.9
OBC	Olympics--Boni	0.94	294		Pn	01 29 10.3	+0.5
P403	Sandy Floe Qua	0.99	295		Pg	01 29 11.1	+0.5
MCW	Mount Constitu	1.02	359		Pb	01 29 09.9	-0.8
FMW	Mount Fremont	1.06	133		Pb	01 29 10.2	-1.2
REMR	Mount Rainier-	1.06	142		Pb	01 29 10.2	-1.2
RCS	Mount Rainier-	1.07	137		Pb	01 29 10.5	-1.2
B009	North Saanich	1.08	337	P	Pb	01 29 10.3	-1.4
B009				S	Sb	01 29 23.9	-1.6
B011	North Saanich	1.08	337		Pb	01 29 10.3	-1.4
B011	North Saanich	1.08	337	P	Pb	01 29 10.3	-1.4
B011				S	Sb	01 29 24.0	-1.5
B010	North Saanich	1.08	337	P	Pb	01 29 10.3	-1.4
B010				S	Sb	01 29 23.9	-1.6
PGC	Sidney	1.08	337		Pb	01 29 10.3	-1.3
PGC	Sidney	1.08	337	P	Pb	01 29 10.4	-1.3
PGC				S	Sb	01 29 24.4	-1.1
PA01	PA01 North	1.09	337	P	Pb	01 29 10.3	-1.4
PA01				S	Sb	01 29 24.4	-1.2
RCM	Mount Rainier-	1.10	138		Pb	01 29 10.8	-1.4
SYMB	Survey Mountai	1.12	324		Pn	01 29 10.8	-1.6
SYMB					Sb	01 29 25.5	-1.2
SYMB	Survey Mountai	1.12	324	P	Pn	01 29 10.8	-1.6
SYMB				S	Sb	01 29 25.2	-1.5
LON	Longmire	1.13	143		Pn	01 29 11.1	-1.3
LON				IAML		01 29 26.1	
	comp=E,165nm,0.2s						
LON				IAML		01 29 26.2	
	comp=N,113nm,0.4s						
LON	Longmire	1.13	143		Pn	01 29 11.2	-1.3
LON	Longmire	1.13	143	S	Sb	01 29 25.3	-1.7
SNB	Saturna Island	1.15	348		Pn	01 29 12.0	-0.7
SNB	Saturna Island	1.15	348	P	Pn	01 29 11.9	-0.7
SNB				S	Sb	01 29 27.2	-0.2
SR41	SR410 Landslid	1.16	131		Pn	01 29 11.8	-1.1
B019	Raymond	1.16	210		Pb	01 29 12.9	0.0
RPW	Rockport	1.17	47		Pn	01 29 12.3	-0.7
GPW	Glacier Peak	1.21	67		Pn	01 29 12.9	-0.9
BMW	Boistfort Moun	1.22	194		Pn	01 29 13.1	-0.5
C03A	Quillayute Air	1.22	284	Pn	Pb	01 29 14.5	+0.5
C03A				IAML		01 29 37.9	
	comp=E,103nm,1.1s						
B06A	Marblemount	1.24	45		Pn	01 29 13.6	-0.3
MBW	Mount Baker	1.28	28		Pn	01 29 14.4	-0.3
WRW	Wenatchee Ridg	1.31	80		Pn	01 29 14.3	-0.7
TDL	Tradedollar La	1.37	163		Pn	01 29 15.4	-0.4
GOBB	Galiano Island	1.38	340		Pn	01 29 15.4	-0.4
GOBB	Galiano Island	1.38	340	P	Pn	01 29 15.4	-0.4
GOBB				S	Sn	01 29 33.5	-0.1
ERK	Elk Rock	1.39	167		Pn	01 29 15.4	-0.7
PTRF	Port Renfrew	1.40	310		Pn	01 29 15.7	-0.3
PTRF	Port Renfrew	1.40	310	S	Sn	01 29 33.8	-0.3
B201	Coldwater, Mou	1.40	165		Pn	01 29 15.7	-0.5
RADR	Rader Ridge	1.41	209	Pn	Pn	01 29 16.4	+0.1
RADR				IAML		01 29 43.4	
	comp=E,91nm,0.7s						
SHUK	Shuksan-Mt. Ba	1.42	32		Pn	01 29 16.6	+0.1
PFB	Port Renfrew	1.43	311	P	Pn	01 29 16.2	-0.3
PFB				S	Sn	01 29 34.4	-0.5
JRO	Jston Ridge Ob	1.44	164		Pn	01 29 16.8	0.0
B926	Mesachie Lake	1.46	323		Pn	01 29 16.2	-0.8
B926	Mesachie Lake	1.46	323	P	Pn	01 29 16.2	-0.8
B926				S	Sn	01 29 35.0	-0.7
CLRS	Cowichan Lake	1.46	323		Pn	01 29 16.4	-0.6
CLRS	Cowichan Lake	1.46	323	P	Pn	01 29 16.2	-0.8
CLRS				S	Sn	01 29 34.9	-0.8
STD	Studebaker Rid	1.47	164		Pn	01 29 16.5	-0.8
B202	Windy Ridge, M	1.48	162		Pn	01 29 17.1	-0.3
FL2	Flat Top 2	1.49	168		Pn	01 29 17.2	-0.3
LTY	Liberty	1.50	105		Pn	01 29 17.8	+0.2
LTY				IAML		01 29 37.9	
	comp=N,109nm,0.4s						
LTY				IAML		01 29 38.0	
	comp=E,102nm,0.3s						
VALT	Mount Saint He	1.50	163		Pn	01 29 18.1	+0.4
BOLM	Sugar Bowl	1.50	163		Pn	01 29 17.9	+0.2
RVW	Rose Valley	1.51	178		Pn	01 29 17.6	0.0
SHW	Mount Saint He	1.52	165		Pn	01 29 18.0	+0.2
SEPW	September Lobe	1.52	164		Pn	01 29 18.3	+0.4
B203	Quarry, Mount	1.52	168		Pn	01 29 17.6	-0.2
ESD	East Dome	1.53	163		Pn	01 29 18.2	+0.2
SWF2	Southwest Flan	1.53	165		Pn	01 29 18.1	0.0
SLFW	Sugar Loaf	1.54	85		Pn	01 29 18.5	+0.3
HSR	South Ridge	1.54	164		Pn	01 29 18.5	+0.2
B023	Clatskanie	1.56	187		Pn	01 29 18.4	+0.2
TBM	Table Mountain	1.58	107		Pn	01 29 19.4	+0.8
F04D	Rainier, OR	1.58	185		Pn	01 29 19.1	+0.5
CDFW	Cedar Flats	1.63	161		Pn	01 29 19.7	+0.4
NAC	Naches	1.63	124		Pn	01 29 20.3	+0.9
ETW	Entiat	1.67	91		Pn	01 29 20.7	+0.7
MTMW	Mount Mitchell	1.68	166		Pn	01 29 20.8	+0.7
NLW	Nelson Butte	1.71	75		Pn	01 29 21.4	+0.8
ASR	Mount Adams--S	1.72	151		Pb	01 29 22.8	+0.2
F04A	Amboy	1.74	171		Pn	01 29 21.5	+0.7
F04A				IAML		01 29 48.0	
	comp=N,130nm,0.5s						
NLLB	Nanaimo Lost L	1.76	334	P	Pn	01 29 21.3	+0.3
NLLB				S	Sn	01 29 43.0	0.0
BIB	Bowen Island	1.78	349		Pn	01 29 22.0	+0.7
BIB	Bowen Island	1.78	349	P	Pn	01 29 21.8	+0.4
F03A	Seaside	1.80	197	Pn	Pb	01 29 23.0	-0.9
CBSW	Chelan Butte S	1.87	84		Pb	01 29 24.1	-1.1
YA2	Yakima	1.92	125		Pn	01 29 20.4	-2.9
WTV	Waterville	1.93	88		Pb	01 29 25.2	-0.9
B928	Bamfield	1.95	308	P	Pn	01 29 25.1	+1.4
BFSB	Bamfield	1.95	308	P	Pb	01 29 25.1	-1.3
BFSB				S	Sb	01 29 49.8	-0.7
VT2	Vantage 2	2.03	109		Pb	01 29 27.2	-0.5
B927	Port Alberni	2.06	320	P	Pn	01 29 26.1	+1.0
B927				S	Sn	01 29 51.8	+1.6
SHB	Sechelt	2.07	340		Pn	01 29 26.1	+0.7
SHB	Sechelt	2.07	340	P	Pn	01 29 26.1	+0.7
BVW	Beverly	2.16	112		Pb	01 29 29.6	-0.5
E07A	Sunnyside	2.29	118	Pn	Pn	01 29 29.4	+1.0
E07A				IAML		01 30 08.1	
	comp=N,68nm,0.6s						
TXB	Texada	2.31	333	P	Pn	01 29 29.9	+1.3
VLL	Laurance Lake	2.33	160		Pb	01 29 31.8	-1.2
FHE	Frenchman Hill	2.36	106		Pn	01 29 30.2	+0.9
WAH2	Wahluke Slope	2.38	111		Pn	01 29 30.9	+1.2
PALME	Palmer Lift, M	2.42	161		Pb	01 29 34.1	-0.6
G04A	Mulino	2.46	175		Pb	01 29 33.4	-1.8
HOOD	Mount Hood Mea	2.47	161		Pn	01 29 32.1	+1.2
HOOD				IAML		01 30 10.5	
	comp=N,39nm,0.8s						
HOOD				IAML		01 30 20.5	
	comp=E,28nm,0.7s						
LOCW	Locke Island	2.48	111		Pb	01 29 35.2	-0.4
HAWA	Hanford	2.57	118		Pn	01 29 33.1	+0.9
HAWA				IAML		01 30 15.8	
	comp=E,26nm,0.6s						
G05A	Wamic	2.62	156		Pn	01 29 34.9	+2.0
G05A				IAML		01 30 11.7	
	comp=E,40nm,1.9s						
G05A				IAML		01 31 00.2	
	comp=N,31nm,4.4s						
F07A	Phinny Hill Vi	2.65	131	Pn	Pn	01 29 33.3	0.0
F07A				IAML		01 30 19.8	
	comp=N,37nm,0.4s						
F07A				IAML		01 30 23.3	
	comp=E,37nm,0.6s						
PNT	Penticton	2.69	51	P	Pn	01 29 34.9	+0.9
D08A	Wollman Farm,	2.71	101	Pn	Pn	01 29 33.0	-1.1
D08A				IAML		01 30 20.0	
	comp=N,23nm,0.8s						
VBEM	Beaver Butte	2.73	162		Pb	01 29 39.1	-0.7
CBB	Campbell River	2.92	326	P	Pn	01 29 38.4	+1.4
H04A	Detroit Lake	3.00	172		Pn	01 29 38.4	+0.2
H04A				IAML		01 30 21.3	
	comp=E,36nm,0.3s						
C09A	Chrisman Ranch	3.06	86	Pn	Pn	01 29 38.8	-0.2
C09A	Chrisman Ranch	3.06	86	P	Pn	01 29 38.8	-0.2
H04D	Lebanon	3.13	179		Pn	01 29 39.7	-0.3
E09A	Wood Farm, Sta	3.38	108	Pn	Pn	01 29 44.4	+1.0
E09A				IAML		01 30 22.9	
	comp=E,12nm,4.9s						
E09A				IAML		01 30 40.9	
	comp=N,12nm,0.5s						
NCRB	Newcastle Ridg	3.48	323	P	Pn	01 29 48.7	+3.8
WOSB	Woss	3.53	317	P	Pn	01 29 48.3	+2.9
G08A	Pilot Rock	3.56	130	Pn	Pn	01 29 45.5	-0.4
G08A				IAML		01 30 47.7	
	comp=N,9.2nm,0.6s						
NEW	Newport	3.87	79	Pn	Pn	01 29 49.2	-0.9
NEW				IAML		01 31 11.1	
	comp=N,10nm,4.5s						
NEW				IAML		01 31 19.3	
	comp=N,8.9nm,3.7s						
F10A	Beach Ranch, E	4.18	112	Pn	Pn	01 29 54.1	-0.4
F10A				IAML		01 31 08.3	
	comp=N,14nm,0.3s						
BLMT	Blacktail Moun	5.70	83		Pn	01 30 16.3	+1.0

*SDD **27** 01:31:54.2±3.9, 19.°71N×70.°52W, h17km±24km, MD3.9, ML2.6, MW3.4*
*OSPL **27** 01:31:55.1±2.4, 19.°66N×70.°52W, h9km±9km, ML2.4*
ISC 27 01:31:54.3±1.0, 19.°64N±0.°04×70.°50W±0.°02, h15km±7km, n23, σ1°33/38, 1C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SODR	Sosua Marina B	0.14	327	*e*Pg	Pg	01 31 57.6	-0.5
SODR				IAML		01 32 07.4	
	comp=Z,3μm,0.5s						
SC02	Santiago aerop	0.25	204	*e*Pg	Pg	01 31 59.6	-0.2
SC02				*e*Sg	Sg	01 32 05.2	+1.6
SC01	Santiago de lo	0.30	226	*e*Pg	Pg	01 32 00.2	-0.5
SC01				*e*Sg	Sg	01 32 05.2	+0.2
SC01				IAML		01 32 10.6	
	comp=Z,424nm,0.2s						
SC01	Santiago de lo	0.30	226	*i* P	Pg	01 32 00.2	-0.5
SC01				*e*S	Sg	01 32 05.6	+0.6
SC01				IAML		01 32 10.6	
	comp=Z,424nm,0.2s						
LUDR	Luperon	0.50	301	*e*Pg	Pg	01 32 03.5	-0.8
LUDR				IAML		01 32 13.9	
	comp=Z,819nm,0.4s						
MADR	Mao Valverde	0.57	263	*e*Pg	Pg	01 32 04.4	-1.2
MADR				IAML		01 32 20.6	
	comp=Z,262nm,0.6s						
LONA1	Toro Cenizo, N	0.65	113	*e*S	Sg	01 32 17.2	+1.6
LONA1				IAML		01 32 21.6	
	comp=Z,1μm,3.7s						
NAG1	Nagua	0.66	115	*e*Pg	Pg	01 32 07.2	0.0
NAG1				*e*Sg	Sb	01 32 18.6	+2.1
NADR	Nagua	0.67	115	*e*Pg	Pg	01 32 05.8	-1.5
NADR				*e*Sg	Sg	01 32 17.3	+1.1
NADR				IAML		01 32 22.7	
	comp=Z,532nm,0.5s						
DR08	Loma La Naviza	0.81	146	*e*Pg	Pg	01 32 08.8	-1.3
DR08				*e*Sg	Sg	01 32 20.9	+0.3
ABDR	Alto Bandera	0.83	189	*e*Pg	Pg	01 32 08.9	-1.6
ABDR				*e*Sg	Sg	01 32 21.0	-0.4
ABDR				IAML		01 32 21.5	
	comp=Z,206nm,0.3s						
SDDR	Presa de Saban	0.99	229	*e*Pg	Pb	01 32 11.3	-1.9
SDDR				*e*Sg	Sb	01 32 24.9	-1.2
SDDR				IAML		01 32 26.6	
	comp=Z,97nm,0.2s						
SDDR	Presa de Saban	0.99	229	*i* P	Pb	01 32 11.2	-1.9
SDDR				*e*S	Sb	01 32 24.9	-1.2
SDDR				IAML		01 32 26.6	
	comp=Z,97nm,0.2s						
LODA1	ITESIL, Dajabo	1.14	266	*e*S	Sb	01 32 30.1	-0.2
LODA1				IAML		01 32 31.2	
	comp=Z,1μm,1.5s						
BANI	BANI	1.24	174	*e*Pg	Pn	01 32 13.7	-3.5
BANI				IAML		01 32 38.6	
	comp=Z,75nm,0.2s						
SMDR	Samana, DR	1.28	105	*e*Pg	Pn	01 32 17.1	-0.5
SMDR				*e*Sg	Sn	01 32 36.5	+1.9
SMDR				IAML		01 32 42.2	
	comp=Z,89nm,0.5s						
SDD	Santo Domingo	1.29	155⇓	*e*Pg	Pn	01 32 16.7	-1.1
SDD				IAML		01 32 18.0	
	comp=Z,43nm,0.6s						
SDD	Santo Domingo	1.29	155	*i* P	Pn	01 32 16.7	-1.1
SDD				*e*S	Sn	01 32 34.7	-0.1
NEDR	Neiba UASD	1.44	217	*e*Pg	Pn	01 32 20.4	+0.6
NEDR				*e*Sg	Sb	01 32 40.5	+1.6
NEDR				IAML		01 32 42.8	
	comp=Z,57nm,0.7s						
PODR	Polo	1.64	207	*e*Pg	Pn	01 32 23.4	+0.6
PODR				*e*Sg	Sg	01 32 49.6	+2.4
PODR				IAML		01 32 50.7	
	comp=Z,40nm,0.6s						
PODR	Polo	1.64	207	*i* P	Pn	01 32 23.7	+0.9
PODR				*e*S	Sn	01 32 44.8	+1.2
JIDR	Jimani	1.71	229⇑	*e*Pg	Pn	01 32 25.0	+1.4
JIDR				*e*Sg	Sb	01 32 48.7	+1.9
JIDR				*e*Sg	Sb	01 32 48.7	+1.9
JIDR				IAML		01 32 49.6	
	comp=Z

H08S1 Diego Carcia H 24.05 233 T T 02 08 21.7
baz=56,slow=75
MKAR Makanchi Array 40.42 350 P **P 01 44 43.7 -0.2**
0.3nm,0.6s,baz=152,slow=8.3,SNR=2.3
0.3nm,0.6s
KURBB Kurchatov Arra 44.80 348 P **P 01 45 19.8 +0.5**
0.3nm,0.5s,baz=173,slow=7.2,SNR=9.7
0.3nm,0.5s
ZALV Zalesovo Beam 47.10 354 LR LR 02 08 46.5
comp=Z,14nm,19.6s,baz=78,slow=40
WRA Warramunga Arr 49.83 123 P **P 01 45 58.9 -0.1**
0.5nm,0.7s,baz=304,slow=9.1,SNR=5.2
0.5nm,0.7s
ASAR Alice Springs 51.32 128 P **P 01 46 10.9 +0.7**
0.9nm,0.7s,baz=298,slow=7.2,SNR=8.7
0.9nm,0.7s
MBAR Mbarara 61.23 265 LR LR 02 09 53.2
comp=Z,36nm,19.9s,baz=26,slow=32
H04N2 CROZET ISLANDS 63.76 210 T T 02 57 47.3
baz=47,slow=75
H04N1 CROZET ISLANDS 63.77 210 T T 02 57 46.6
baz=47,slow=75
H04N3 CROZET ISLANDS 63.78 210 T T 02 57 45.3
baz=47,slow=75
H04S1 CROZET ISLANDS 64.18 209 T T 02 57 49.9
baz=46
H04S3 CROZET ISLANDS 64.19 209 T T 02 58 15.0
baz=46
H04S2 CROZET ISLANDS 64.20 209 T T 02 58 19.0
baz=46
HNR Honiara 69.98 103 LR LR 02 21 19.0
comp=Z,297nm,21.1s,baz=20,slow=38

---

*NOU **27** 01:42:26.5, 14.°59S×167.°29E, h142km, MLv4.4/8, Vanuatu Islands*
*IDC **27** 01:42:29.2±4.4, 14.°83S×167.°40E, h132km±36km, mb3.7/11, mbtmp4.1/12, MS3.7/1, Error ellipse: s-maj=28.0km s-min=21.6km az=66.0*
ISC 27 01:42:28.6±0.8, 14.°88S±0.°09×167.°5E±0.°2, h129km, n24, σ0§98/24, mb4.0/12, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**6.41**	**208**	P	**Pn**	**01 44 01.5**	**+0.9**
YATNC	**Mamie plateau,**	**7.17**	**184**	P	**Pn**	**01 44 10.9**	**0.0**
DZM	**Mont Dzumac**	**7.22**	**188**	P	**Pn**	**01 44 13.4**	**+1.7**
DZM	**Mont Dzumac**	**7.22**	**188**	P	**Pn**	**01 44 13.1**	**+1.4**
	4.9nm,0.3s,baz=344,slow=1.7,SNR=17						
DZM				S	**Sn**	**01 45 30.2**	**-2.2**
	4.3nm,0.8s,baz=111,slow=14,SNR=3.0						
CTA	**Charters Tower**	**20.88**	**253**	P	**P**	**01 47 00.7**	**0.0**
	1.8nm,0.4s,baz=55,slow=8.6,SNR=6.4						
	1.8nm,0.4s						
STKA	**Stephens Creek**	**29.05**	**230**	P	**P**	**01 48 17.6**	**+0.8**
	1.1nm,0.3s,baz=69,slow=11,SNR=4.3						
	1.1nm,0.3s						
WRA	**Warramunga Arr**	**31.98**	**256**	P	**P**	**01 48 42.5**	**-0.3**
	0.4nm,0.8s,baz=86,slow=8.8,SNR=1.8						
WRA				PcP	**PcP**	**01 51 29.1**	**-0.9**
	0.3nm,0.8s,baz=83,slow=3.7,SNR=1.9						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**32.80**	**249**	P	**P**	**01 48 49.0**	**-1.0**
	0.8nm,0.6s,baz=74,slow=9.2,SNR=8.1						
	0.8nm,0.6s						
TGY	**Tagaytay City**	**54.29**	**300**	LR	LR	02 13 58.1	
	comp=Z,81nm,21.1s,baz=194,slow=35						
VNDA	**Vanda**	**62.72**	**181**	P	**P**	**01 52 39.9**	**+0.5**
	1.1nm,0.5s,baz=352,slow=6.4,SNR=12						
	1.1nm,0.5s						
QSPA	**South Pole Qui**	**75.15**	**180**	P	**P**	**01 53 56.8**	**+0.1**
	3.8nm,0.7s,baz=54,slow=0.3,SNR=13						
	3.8nm,0.7s						
MAW	**Mawson**	**81.82**	**202**	P	**P**	**01 54 33.6**	**+0.6**
	1.0nm,0.6s,baz=162,slow=3.2,SNR=2.2						
	1.0nm,0.6s						
SONM	**Songino Array**	**82.73**	**324**	P	**P**	**01 54 39.1**	**+0.9**
	0.7nm,0.4s,baz=209,slow=9.1,SNR=2.2						
	0.7nm,0.4s						
ILAR	**Eielson Array**	**86.61**	**18**	P	**P**	**01 54 56.5**	**-0.5**
	0.5nm,0.8s,baz=232,slow=5.8,SNR=5.2						
	0.5nm,0.8s						
TROLL	**Troll, Antarti**	**92.73**	**185**	⇑P	**P**	**01 55 25.9**	**-0.1**
	comp=Z,147nm,0.5s						
VNA3	**Neumayer Olymp**	**94.07**	**181**	⇑P	**P**	**01 55 31.1**	**-0.9**
	comp=Z,4.1nm,0.7s						
VNA2	**Neumayer--Watz**	**94.34**	**182**	⇑P	**P**	**01 55 32.7**	**-0.5**
	comp=Z,2.8nm,0.5s,baz=183,slow=4.0						
MKAR	**Makanchi Array**	**97.44**	**316**	P	**P**	**01 55 46.7**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=106,slow=11,SNR=3.5						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**97.62**	**324**	P	**P**	**01 55 46.9**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=117,slow=5.4,SNR=2.3						
	comp=Z,0.8nm,0.6s						
ARCES	**ARCESS Array B**	**120.44**	**345**	PKP	**PKPdf**	**02 01 04.2**	**0.0**
	comp=Z,1.2nm,0.5s,baz=63,slow=1.8,SNR=12						
FINES	**FINESS Array B**	**125.93**	**338**	PKP	**PKPdf**	**02 01 14.9**	**0.0**
	comp=Z,3.7nm,1.0s,baz=111,slow=3.1,SNR=4.7						
DAVOX	**Davos/Dischmat**	**143.09**	**334**	PKP	PKPab	02 01 44.9	+1.6
	comp=Z,1.6nm,0.6s,baz=44,slow=7.4,SNR=6.7						
KEST	**Kesra**	**151.44**	**321**	PKPbc	**PKPbc**	**02 02 08.6**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=82,slow=1.5,SNR=9.9						
TORD	**Torodi Ar. Bea**	**166.09**	**265**	PKP	**PKPdf**	**02 02 20.3**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=197,slow=1.5,SNR=1.4						

---

*NIED **27** 01:54:27.9, 35.°36N×133.°88E, h11km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.04; $M_{\theta\theta}$=1.94; $M_{\phi\phi}$=0.10; $M_{r\theta}$=1.49; $M_{\theta\phi}$=-0.02; $M_{\phi r}$=0.30; Fault plane solution: M_0=2.50000×10^{14} NP1: ϕ_s=264.00000°, δ=64.00000°, λ=-96.00000°. NP2: ϕ_s=97.00000°, δ=27.00000°, λ=-78.00000°.*
JMA 27 01:54:27.9±0.0, 35.°4N±0.°1×133.°88E±0.°09, h11km, MV3.8/20, 2D, EASTERN TOTTORI PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKR	**Kurayoshi**	**0.05**	**287**	⇓*i*P	Pg	01 54 29.9	-0.1
JKR				⇓S	Sg	01 54 31.4	-0.2
JAD	**Aida**	**0.49**	**150**	*i* P	Pg	01 54 37.3	-0.1
JAD				S	Sg	01 54 43.9	0.0
JKSM	**Kasumi**	**0.68**	**71**	*i* P	Pg	01 54 40.8	-0.3
JKSM				S	Sg	01 54 49.8	-0.2
JNM	**Ikuma**	**0.70**	**281**	P	Pg	01 54 41.5	0.0
JNM				S	Sb	01 54 51.5	-0.4
JHS	**Saijyo**	**0.72**	**240**	*i* P	Pg	01 54 41.4	-0.5
JHS				S	Sg	01 54 51.0	-0.3
JISK	**Izumosakaura**	**0.85**	**279**	P	Pg	01 54 43.8	-0.5
JKS	**Kasai**	**0.88**	**115**	*i* P	Pg	01 54 44.3	-0.6
JKS				S	Sg	01 54 55.9	-0.4
JJS	**Sakaide**	**0.99**	**177**	*i* P	Pg	01 54 46.1	-0.9
JJS				S	Sg	01 54 59.3	-0.5
JKY	**Yasaka**	**1.04**	**75**	*i* P	Pg	01 54 47.3	-0.5
JOI	**OKI**	**1.06**	**331**	*i* P	Pb	01 54 47.1	-1.2
JOI				S	Sg	01 55 01.3	-0.7

IDC 27 02:06:15.4±11.0, 21.°60S×113.°28W, h0km, mb3.6/4, mbtmp3.6/4, MS3.2/2, Error ellipse: s-maj=347.5km s-min=43.2km az=38.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.57**	**148**	LR	LR	02 09 19.0	
	comp=Z,146nm,20.4s,baz=32,slow=28						
H03N2	**Juan Fernandez**	**32.52**	**119**	T	T	02 47 35.5	
	baz=281,slow=75,SNR=13						
H03N3	**Juan Fernandez**	**32.53**	**119**	T	T	02 47 36.7	
	baz=281,slow=75,SNR=11						
H03N1	**Juan Fernandez**	**32.54**	**119**	T	T	02 47 35.3	
	baz=281,slow=75,SNR=15						
CFA	**Coronel Fontan**	**41.24**	**114**	LR	LR	02 26 55.4	
	comp=Z,40nm,20.7s,baz=106,slow=30						
LPAZ	**La Paz**	**42.92**	**91**	P	P	02 14 16.9	0.0
	0.5nm,0.5s,baz=243,slow=2.3,SNR=2.9						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**59.90**	**355**	P	P	02 16 23.9	+0.6
	0.4nm,0.7s,baz=178,slow=9.9,SNR=4.5						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**64.14**	**3**	P	P	02 16 51.2	-0.6
	0.1nm,0.5s,baz=160,slow=8.2,SNR=2.3						
	0.1nm,0.5s						
YKA	**Yellowknife Ar**	**83.81**	**359**	P	P	02 18 46.0	-0.2
	0.8nm,0.8s,baz=186,slow=4.9,SNR=4.0						
	0.8nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**87.83**	**291**	T	T	03 54 46.3	
	baz=117,slow=75,SNR=60						
H11S1	**WAKE ISLAND Hy**	**87.85**	**291**	T	T	03 54 44.3	
	baz=117,slow=75,SNR=70						
H11S3	**WAKE ISLAND Hy**	**87.85**	**291**	T	T	03 54 44.7	
	baz=117,slow=75,SNR=47						
H11N3	**WAKE ISLAND Hy**	**88.14**	**292**	T	T	03 55 11.4	
	baz=122,slow=74,SNR=4.1						
H11N1	**WAKE ISLAND Hy**	**88.16**	**292**	T	T	03 55 15.2	
	baz=122,slow=74,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**88.16**	**292**	T	T	03 55 16.9	
	baz=122,slow=74,SNR=9.2						

---

*DRS **27** 02:07:07.4±0.0, 42.°15N×50.°09E, h30km*
TIF 27 02:07:04.6, 40.°38N×46.°03E, h29km±3km, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDFL	**Dedoflistskaro**	**1.07**	**4**	P	Pb	02 07 25.1	+0.6
DGRG	**David-gareji**	**1.18**	**335**	P	Pb	02 07 26.7	+0.4
DGRG				S	Sb	02 07 41.1	-0.2
LGD	**Lagodekhi**	**1.46**	**6**	P	Pn	02 07 29.8	+0.7
LGD				S	Sb	02 07 49.4	0.0
DMNI	**Dmanisi**	**1.68**	**305**	P	Pb	02 07 35.0	0.0
DMNI				S	Sb	02 07 59.5	+3.6
AKT	**Akhty**	**1.69**	**49**	*e*Pg	Pn	02 07 31.8	-0.6
	4.0nm,0.8s						
AKT				*e*Sg	Sn	02 07 53.2	+0.1
	12nm,0.2s						
TRLG	**Trialeti**	**1.86**	**309**	P	Pb	02 07 37.7	-0.4
TRLG				S	Sb	02 08 00.4	-0.5
KMKR	**Kumukh**	**1.93**	**24**	*e*Pg	Pn	02 07 37.3	+1.6
	3.0nm,0.1s						
KMKR				*e*Sg	Sb	02 08 02.6	-0.2
	12nm,0.2s						
URKR	**Urkarakh**	**2.15**	**34**	*e*Pg	Pn	02 07 30.6	-8.2
	8.0nm,0.1s						
URKR				*e*Sg	Sn	02 07 50.5	-14
	14nm,0.4s						
SHTL	**Shatili**	**2.37**	**344**	P	Pb	02 07 44.3	-2.3
SHTL				S	Sb	02 08 18.3	+2.9
DRN	**Derbent**	**2.40**	**46**	*e*Pg	Pn	02 07 24.1	-18
	32nm,0.7s						
DRN				*e*Sg	Pn	02 07 38.3	-3.5
	20nm,0.3s						

---

*SSNC **27** 02:14:59.1±3.6, 22.°13N×70.°91W, h120km±240km, MD3.7, ML3.0*
*OSPL **27** 02:15:00.8±2.3, 19.°66N×70.°51W, h9km±10km, ML2.4*
*SDD **27** 02:15:01.1±2.5, 19.°66N×70.°51W, h12km±28km, MD3.8, ML2.7, MW3.0*
ISC 27 02:14:59.7±1.1, 19.°66N±0.°04×70.°53W±0.°03, h18km±4km, n22, σ1§08/39, 1C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SODR	**Sosua Marina B**	**0.10**	**332**	*e*Pg	**Pg**	**02 15 03.5**	**+0.1**
SODR				IAML		02 15 13.3	
	comp=Z,4μm,0.4s						
SC01	**Santiago de lo**	**0.30**	**220**	*e*Pg	**Pg**	**02 15 06.0**	**-0.2**
SC01				*e*Pg	**Pb**	**02 15 06.2**	**-0.4**
SC01				⇑*e*Sg	**Sb**	**02 15 11.8**	**+0.7**
SC01				IAML		02 15 16.5	
	comp=Z,526nm,0.2s						
SC01	**Santiago de lo**	**0.30**	**220**	*i* P	**Pg**	**02 15 06.0**	**-0.2**
SC01				*e*S	**Sb**	**02 15 11.5**	**+0.4**
SC01				IAML		02 15 16.4	
	comp=Z,526nm,0.2s						
LUDR	**Luperon**	**0.47**	**300**	*e*Pg	**Pg**	**02 15 09.3**	**+0.1**
LUDR				*e*Sg	**Sn**	**02 15 18.0**	**-1.3**
LUDR				IAML		02 15 20.0	
	comp=Z,2μm,0.2s						
MAO1	**Mao**	**0.54**	**259**	*e*Pg	**Pb**	**02 15 11.0**	**+0.5**
MAO1				*e*Sg	**Sn**	**02 15 19.7**	**-1.3**
LOPP1	**Punta Rusia, P**	**0.66**	**287**	*e*S	**Sg**	**02 15 22.8**	**+1.1**
DR08	**Loma La Naviza**	**0.84**	**145**	*e*Pg	**Pb**	**02 15 14.7**	**-1.1**
DR08				*e*Sg	**Sb**	**02 15 27.4**	**+0.6**
DR08				*e*		02 15 41.9	
ABDR	**Alto Bandera**	**0.85**	**187**	*e*Pg	**Pb**	**02 15 14.8**	**-1.3**
ABDR				IAML		02 15 27.4	
	comp=Z,265nm,0.2s						
SDDR	**Presa de Saban**	**0.99**	**227**	*i* P	**Pb**	**02 15 17.0**	**-1.3**
SDDR				*e*S	**Sb**	**02 15 30.4**	**-0.5**
SDDR				IAML		02 15 32.6	
	comp=Z,101nm,0.7s						
LODA1	**ITESIL, Dajabo**	**1.12**	**264**	*e*S	**Sb**	**02 15 35.1**	**+0.4**
LODA1				IAML		02 15 37.8	
	comp=Z,903nm,1.1s						
BANI	**BANI**	**1.27**	**173**	*e*Pg	**Pn**	**02 15 22.2**	**-0.5**
BANI				IAML		02 15 44.5	
	comp=Z,128nm,0.3s						
SDD	**Santo Domingo**	**1.33**	**154**	*i* P	**Pn**	**02 15 22.5**	**-0.8**
SDD				*e*S	**Sn**	**02 15 40.5**	**-0.1**
HATOM	**Hato Mayor del**	**1.39**	**129**	*e*Pg	**Pn**	**02 15 23.5**	**-0.7**
HATOM				*e*Sg	**Sb**	**02 15 43.6**	**+1.1**
HATOM				IAML		02 15 44.2	
	comp=Z,50nm,0.2s						
NEDR	**Neiba UASD**	**1.44**	**216**	*e*Pg	**Pb**	**02 15 26.9**	**+0.9**
NEDR				*e*Sg	**Sg**	**02 15 46.6**	**+0.2**
NEDR				*e*Sg	**Sb**	**02 15 46.9**	**+2.8**
NEDR				IAML		02 15 48.7	
	comp=Z,55nm,0.6s						
NEDR				*e*		02 17 39.9	
MIDR	**Miches**	**1.55**	**116**	*e*Pg	**Pn**	**02 15 27.4**	**+1.0**
MIDR				*e*Sg	**Sb**	**02 15 48.5**	**+1.5**
MIDR				IAML		02 15 48.7	
	comp=Z,50nm,1.1s						
PODR	**Polo**	**1.65**	**206**	*e*Pg	**Pb**	**02 15 29.4**	**-0.3**
PODR				IAML		02 15 56.6	
	comp=Z,45nm,0.6s						
PODR	**Polo**	**1.65**	**206**	*i* P	**Pn**	**02 15 29.1**	**+1.1**
JIDR	**Jimani**	**1.71**	**227**	*e*Pg	**Pb**	**02 15 30.4**	**-0.2**
JIDR				IAML		02 15 55.4	
	comp=Z,145nm,0.3s						
PCDR	**Punta Cana, DR**	**2.33**	**119**	*e*Pg	**Pb**	**02 15 40.1**	**-1.0**
PCDR				*e*Sg	**Sb**	**02 16 11.4**	**+1.9**
PCDR				IAML		02 16 12.2	
	comp=Z,79nm,1.5s						
MASC	**Masc**	**3.52**	**279**	*e*P	**Pn**	**02 15 52.9**	**-0.7**
MASC				*e*S	**Sn**	**02 16 35.2**	**+0.4**
MASC				IAML		02 16 47.8	
	comp=E,15nm,0.4s						
MASC				IAML		02 16 49.6	
	comp=N,12nm,0.4s						
GTBY	**Guantanamo Bay**	**4.33**	**274**	*e*P	**Pn**	**02 16 04.6**	**0.0**
GTBY				*e*S	**Sn**	**02 16 54.5**	**-0.2**
RCC	**Rio Carpintero**	**4.88**	**275**	*e*P	**Pn**	**02 16 11.1**	**-1.1**
RCC				*e*S	**Sn**	**02 17 05.9**	**-2.4**
RCC				*e*Sg	**Sn**	**02 17 09.4**	**+1.1**

---

*IDC **27** 02:21:14.4±2.0, 4.°25N×94.°52E, h0km, mb3.4/5, mbtmp3.5/6, Error ellipse: s-maj=91.6km s-min=24.4km az=56.0*
ISC 27 02:21:19.8±1.6, 4.°3N±0.°2×94.°6E±0.°3, h35km, n12, σ0§28/6, mb3.4/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.69**	**16**	Pn	**Pn**	**02 24 45.4**	**+0.1**
	0.7nm,0.3s,baz=204,slow=11,SNR=4.1						
H08S2	**Diego Garcia H**	**25.05**	**242**	T	T	02 53 36.9	
	baz=62,slow=75,SNR=9.3						
H08S3	**Diego Garcia H**	**25.05**	**242**	T	T	02 53 36.9	
	baz=62,slow=75,SNR=24						
H08S1	**Diego Carcia H**	**25.07**	**242**	T	T	02 53 36.9	
	baz=62,slow=75,SNR=4.4						
MKAR	**Makanchi Array**	**43.65**	**348**	P	**P**	**02 29 20.9**	**-0.2**
	0.2nm,0.4s,baz=164,slow=8.3,SNR=1.7						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**45.88**	**123**	P	**P**	**02 29 39.0**	**-0.2**
	0.4nm,0.8s,baz=302,slow=9.2,SNR=4.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**47.33**	**128**	P	**P**	**02 29 50.8**	**+0.2**
	0.1nm,0.4s,baz=299,slow=7.7,SNR=1.6						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**48.10**	**346**	P	**P**	**02 29 55.8**	**-0.3**
	0.2nm,0.5s,baz=159,slow=8.0,SNR=3.0						
	0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**62.94**	**212**	T	T	03 39 05.7	
	baz=66						
H04N1	**CROZET ISLANDS**	**62.95**	**212**	T	T	03 39 04.3	
	baz=66,slow=75,SNR=12						
H04N3	**CROZET ISLANDS**	**62.96**	**212**	T	T	03 39 00.9	
	baz=66,slow=75,SNR=10						
FINES	**FINESS Array B**	**76.07**	**333**	P	**P**	**02 33 03.8**	**+0.2**
	1.1nm,0.7s,baz=110,slow=8.0,SNR=1.3						
	1.1nm,0.7s						

---

*ISK **27** 02:22:54.6, 36.°30N×35.°61E, h8km, ML3.0/22*
*NIC **27** 02:22:56.0, 36.°27N×35.°94E, h15km±31km, Ml3.1/8*
*AFAD **27** 02:22:56.2±0.0, 36.°33N×35.°70E, h13km±1km, MW3.2*
ISC 27 02:22:55.7±0.9, 36.°31N±0.°02×35.°65E±0.°02, h15km±6km, n55, σ0§96/83, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASUZ	**Hatay-Arsuz**	**0.11**	**101**	P	**Pg**	**02 22 58.9**	**-0.1**
ASUZ				S	**Sg**	**02 23 01.5**	**+0.3**
ASUZ				*i* AML	AML	02 23 02.0	
	comp=Z,4μm,0.5s						
ASUZ				*i* AML	AML	02 23 02.0	
	comp=N,8μm,0.2s						
ASUZ				*i* AML	AML	02 23 02.0	
	comp=E,1μm,0.3s						
TAHT	**Tahtakopru-Hat**	**0.44**	**82**	Pg	**Pb**	**02 23 04.5**	**-0.7**
YURE	**YUREGIR**	**0.51**	**358**	P	**Pg**	**02 23 06.1**	**+0.2**
YURE				S	**Sb**	**02 23 15.2**	**+1.4**
YURE				*i* AML	AML	02 23 18.0	
	comp=Z,234nm,0.4s						
CEYT	**Ceyhan**	**0.70**	**6**	Pg	**Pg**	**02 23 08.7**	**-0.7**
CEYT				Sg	**Sg**	**02 23 19.4**	**+0.8**
RHAN	**Hatay/Reyhanl**	**0.77**	**94**	P	**Pb**	**02 23 10.8**	**-0.1**
RHAN				S	**Sb**	**02 23 21.1**	**0.0**
RHAN				*i* AML	AML	02 23 30.0	
	comp=Z,439nm,0.2s						
KARA	**Karaisali**	**1.06**	**333**	Pg	**Pb**	**02 23 13.9**	**-1.9**
KARA				Sg	**Sb**	**02 23 30.8**	**+1.3**
KOZT	**Kozan**	**1.17**	**7**	Pn	**Pn**	**02 23 17.8**	**+0.1**
KOZT				Sn	**Sn**	**02 23 34.6**	**+1.1**
KIZK	**Mersin**	**1.23**	**278**	Pn	**Pn**	**02 23 17.5**	**-0.9**
KIZK				Sn	**Sb**	**02 23 34.6**	**+0.3**
KIZK	**Mersin**	**1.23**	**278**	P	**Pn**	**02 23 17.2**	**-1.2**
KIZK				S	**Sb**	**02 23 34.0**	**-0.3**
KIZK				*i* AML	AML	02 23 41.0	
	comp=Z,93nm,0.5s						
ANDN	**Andirin**	**1.38**	**24**	P	**Pb**	**02 23 21.5**	**+0.2**
ANDN				S	**Sb**	**02 23 39.5**	**+0.6**
ANDN				*i* AML	AML	02 23 48.0	
	comp=Z,137nm,0.7s						
EREN	**Erenkoy**	**1.43**	**237**	Pn	**Pn**	**02 23 21.2**	**0.0**
EREN				Sn	**Sn**	**02 23 40.3**	**+0.5**
EREN	**Erenkoy**	**1.43**	**237**	P	**Pb**	**02 23 22.5**	**+0.4**
EREN				S	**Sb**	**02 23 41.8**	**+1.6**
EREN				*i* AML	AML	02 23 50.0	
	comp=Z,133nm,0.5s						
HCB	**Kahramanmara**	**1.44**	**44**	P	**Pn**	**02 23 20.8**	**-0.6**
HCB				S	**Sn**	**02 23 39.2**	**-0.9**
HCB				*i* AML	AML	02 23 47.0	
	comp=Z,135nm,0.5s						
KHMR	**Kahramanmara**	**1.44**	**44**	P	**Pn**	**02 23 20.7**	**-0.6**
KHMR				P	**Pb**	**02 23 21.1**	**-1.2**
KHMR				S	**Sn**	**02 23 40.1**	**0.0**
KHMR				S	**Sb**	**02 23 40.6**	**+0.1**
KHMR				*i* AML	AML	02 23 44.0	
	comp=Z,156nm,0.6s						
KHMR				*i* AML	AML	02 23 47.0	
	comp=Z,148nm,0.5s						
CMRD	**Camardi-Nigde**	**1.45**	**339**	Pn	**Pn**	**02 23 21.6**	**+0.1**
GAZ	**Gaziantep**	**1.52**	**55**	Pn	**Pn**	**02 23 22.3**	**-0.2**
KMRS	**Kahramanmaras**	**1.56**	**40**	Pn	**Pn**	**02 23 23.3**	**+0.3**
KEBE	**Keben-Mersin**	**1.57**	**275**	Pn	**Pn**	**02 23 23.3**	**+0.1**
KARG	**Kargicak-Mersi**	**1.57**	**267**	Pn	**Pn**	**02 23 23.4**	**+0.2**
IKL	**Isikli**	**1.59**	**268**	Pn	**Pn**	**02 23 22.7**	**-0.7**
TISA	**Tisan-Mersin**	**1.60**	**265**	Pn	**Pn**	**02 23 23.1**	**-0.4**
YESI	**Yesilovacik-Me**	**1.63**	**266**	Pn	**Pn**	**02 23 23.8**	**-0.1**
KERG	**Konya-Eregli**	**1.65**	**312**	P	**Pn**	**02 23 24.1**	**-0.2**
KERG				S	**Sb**	**02 23 47.5**	**+1.0**
KERG				*i* AML	AML	02 23 53.0	
	comp=Z,49nm,0.5s						
SAIM	**ADANA**	**1.70**	**12**	P	**Pn**	**02 23 25.5**	**+0.6**
SAIM				S	**Sb**	**02 23 47.9**	**-0.1**
SAIM				*i* AML	AML	02 23 57.0	
	comp=Z,35nm,0.3s						
AKKU	**Akkuyu-Mersin**	**1.71**	**265**	Pn	**Pn**	**02 23 24.2**	**-0.7**
AKK2	**Akkuyu-Mersin**	**1.71**	**265**	Pn	**Pn**	**02 23 25.1**	**+0.1**
NZIP	**Nizip/Gaziante**	**1.78**	**65**	P	**Pn**	**02 23 25.6**	**-0.6**
NZIP				S	**Sg**	**02 23 51.5**	**-1.6**
NZIP				*i* AML	AML	02 24 02.0	
	comp=Z,120nm,0.5s						
TEVE	**Tevekalti-Mers**	**1.79**	**275**	Pn	**Pn**	**02 23 25.6**	**-0.5**
YAHY	**KAYSERI_Yahyal**	**1.79**	**353**	P	**Pn**	**02 23 26.3**	**0.0**
YAHY				S	**Sn**	**02 23 50.4**	**+1.5**
YAHY				*i* AML	AML	02 23 54.0	
	comp=Z,33nm,0.8s						
BEIL	**Beino**	**1.82**	**166**	*e*P	**Pn**	**02 23 26.7**	**+0.2**
PARAL	**Paralimni**	**1.86**	**225**	P	**Pb**	**02 23 30.0**	**+0.6**
PARAL				S	**Sg**	**02 23 57.6**	**+2.1**
PARAL				AML	AML	02 24 03.5	
	0.5nm,0.7s						
PARAL				AML	AML	02 24 09.5	
	0.4nm,1.0s						
BERE	**Bereket-Mersin**	**1.96**	**272**	Pn	**Pn**	**02 23 29.1**	**+0.5**
LFK	**Lefkose**	**2.01**	**240**	Pn	**Pn**	**02 23 29.8**	**+0.6**
HWQ	**Hawqa**	**2.04**	**173**	*e*P	**Pn**	**02 23 29.8**	**0.0**
TEKE	**Tekeli-Mersin**	**2.06**	**266**	Pn	**Pn**	**02 23 29.7**	**-0.1**
MVOU	**Mavrovouni**	**2.09**	**232**	P	**Pn**	**02 23 29.5**	**-0.8**
MVOU				S	**Sb**	**02 24 00.4**	**+1.2**
MVOU				AML	AML	02 24 09.4	
	0.2nm,0.8s						
MVOU				AML	AML	02 24 10.4	
	0.1nm,0.7s						
KRMN	**Karaman**	**2.10**	**295**	Pn	**Pn**	**02 23 31.2**	**+0.7**
YESY	**Yesilyurt**	**2.12**	**314**	Pn	**Pn**	**02 23 31.4**	**+0.7**
SARI	**SarD1z-Kayseri**	**2.18**	**16**	Pn	**Pn**	**02 23 32.4**	**+0.8**
GULA	**Gulagac**	**2.32**	**331**	Pn	**Pn**	**02 23 34.1**	**+0.6**
CSS	**Mathiatis**	**2.32**	**235**	P	**Pn**	**02 23 35.8**	**+2.3**
CSS				S	**Sb**	**02 24 05.4**	**-0.4**
CSS				AML	AML	02 24 13.6	
	0.2nm,0.6s						
CSS				AML	AML	02 24 19.1	
	0.1nm,1.0s						
BHL	**Bhannes**	**2.40**	**180**	*e*P	**Pn**	**02 23

mbtmp3.9/18, Error ellipse: s-maj=16.7km s-min=13.9km az=71.0
*JMA **27** 02:26:16.0±0.1, 32.°7N±0.°4×14.°0E±.°, h133km±1km, MV3.5/32, E OFF HACHIJOJIMA ISLAND*
*NEIC **27** 02:26:17.7±1.4, 32.°9N±0.°1×140.0E±0.°1, h140km±6km, mb4.0/10, Error ellipse: s-maj=20.0km s-min=15.2km az=159.0*
ISC 27 02:26:15.7±0.8, **32.°65N**±0.°06×**140.°12E**±0.°07, **h142**km±5km, **n64**, σ0.**98**/68, **mb3.9**/22, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.36**	**238**	P	**Pn**	**02 26 35.4**	**-0.1**
JHCJ	**Hachijojimakas**	**0.50**	**327**	P	**Pn**	**02 26 36.0**	**0.0**
JHCJ				S	**Sn**	**02 26 50.6**	**-0.9**
JHJ2	**Mitsune**	**0.53**	**331**	Pn	**Pn**	**02 26 36.3**	**+0.1**
JHJ2	**Mitsune**	**0.53**	**331**	P	**Pn**	**02 26 36.3**	**+0.1**
JHJ2				S	**Sn**	**02 26 51.4**	**-0.4**
JHJ	**Hachijo jima 2**	**0.55**	**328**	P	**Pn**	**02 26 36.4**	**+0.1**
	2μm,0.3s,baz=76,slow=23,SNR=210						
JHJ				S	**Sn**	**02 26 51.6**	**-0.4**
	2μm,0.3s,baz=81,slow=22,SNR=39						
JMKN	**Mikurajimanish**	**1.31**	**340**	*e*P	**Pn**	**02 26 42.7**	**+0.1**
JMKN				*e*S	**Sn**	**02 27 02.6**	**-0.6**
JKO	**Kozu shima**	**1.74**	**332**	*e*P	**Pn**	**02 26 48.0**	**+0.8**
JKO				S	**Sn**	**02 27 12.6**	**+1.1**
BSO1	**Boso 1**	**2.12**	**19**	P	**Pn**	**02 26 51.1**	**0.0**
BSO1				*e*S	**Sn**	**02 27 18.4**	**-0.1**
JIM2	**Oshima 3**	**2.14**	**345**	P	**Pn**	**02 26 52.4**	**+0.5**
JIM2				*e*S	**Sn**	**02 27 18.9**	**-1.0**
BSO3	**Boso 3**	**2.17**	**8**	P	**Pn**	**02 26 52.2**	**+0.2**
BSO3				*e*S	**Sn**	**02 27 19.7**	**-0.3**
JIZS	**Izushimoda**	**2.31**	**334**	*e*P	**Pn**	**02 26 54.8**	**+0.9**
TK02	**Tokai 2**	**2.37**	**304**	P	**Pn**	**02 26 55.7**	**+1.3**
JOD2	**Odawara 2**	**2.74**	**342**	P	**Pn**	**02 27 00.2**	**+0.8**
JOD2				S	**Sn**	**02 27 33.4**	**+0.2**
JYN	**Shimob**	**3.13**	**336**	P	**Pn**	**02 27 06.0**	**+1.7**
JIE	**Ise**	**3.34**	**302**	P	**Pn**	**02 27 08.0**	**+1.0**
JRY	**Ryogami san**	**3.50**	**344**	P	**Pn**	**02 27 10.0**	**+0.8**
JRY				*e*S	**Sn**	**02 27 51.3**	**+0.6**
INU	**Inuyama**	**3.73**	**317**	Pn	**Pn**	**02 27 09.9**	**-2.2**
JAG	**Ashikaga**	**3.80**	**352**	P	**Pn**	**02 27 12.4**	**-0.7**
MJAR	**Matsushiro Arr**	**4.19**	**338**	P	**Pn**	**02 27 18.6**	**+0.5**
	2.2nm,0.3s,baz=168,slow=13,SNR=7.5						
MJAR				S	**Sn**	**02 28 04.4**	**-2.3**
	5.6nm,0.5s,baz=157,slow=12,SNR=5.6						
MAJO	**Matsushiro**	**4.19**	**338**	Pn	**Pn**	**02 27 17.1**	**-1.0**
JMM	**Marumori**	**5.23**	**6**		**Pn**	**02 27 30.6**	**-1.3**
JMN	**Monobe**	**5.34**	**283**		**Pn**	**02 27 33.7**	**+0.2**
JSD	**Sado**	**5.58**	**345**	Pn	**Pn**	**02 27 33.6**	**-3.0**
JCJ	**Chichijima**	**5.82**	**162**	P	Pn	02 27 31.9	-8.0
	22nm,0.4s,baz=93,slow=23,SNR=8.7						
JCJ				S	Sn	02 28 33.2	-12
	87nm,0.3s,baz=116,slow=24,SNR=12						
JNU	**Nakatsue**	**7.79**	**276**	P	**Pn**	**02 28 05.7**	**-0.6**
	9.1nm,0.8s,baz=95,slow=7.1,SNR=3.3						
KSRS	**Korea Array**	**11.09**	**299**	P	**Pn**	**02 28 50.6**	**+0.5**
	1.0nm,0.5s,baz=115,slow=14,SNR=5.3						
KLR	**Kul'dur**	**17.71**	**342**	P	**P**	**02 30 12.2**	**+0.1**
	0.8nm,0.5s,baz=152,slow=9.9,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**27.17**	**112**	T	T	03 00 53.5	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**27.17**	**112**	T	T	03 00 53.3	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**27.18**	**112**	T	T	03 00 29.8	
	baz=305						
H11S3	**WAKE ISLAND Hy**	**27.70**	**114**	T	T	03 01 07.2	
	baz=305,slow=75,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**27.70**	**114**	T	T	03 01 07.1	
	baz=305,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy**	**27.72**	**114**	T	T	03 01 04.9	
	baz=305,slow=75,SNR=6.5						
MKAR	**Makanchi Array**	**45.67**	**306**	P	**P**	**02 34 22.4**	**+0.3**
	0.9nm,0.4s,baz=86,slow=9.3,SNR=11						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**47.97**	**311**	P	**P**	**02 34 39.6**	**-0.2**
	0.8nm,0.6s,baz=90,slow=7.8,SNR=11						
	0.8nm,0.6s						
AAK	**Ala-Archa**	**51.74**	**301**	P	**P**	**02 35 08.8**	**+0.1**
AAK				IAmb	IAmb	02 35 26.3	
	comp=Z,1.2nm,0.6s						
WRA	**Warramunga Arr**	**52.59**	**187**	P	**P**	**02 35 13.3**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=4.4,slow=7.4,SNR=23						
	comp=Z,0.5nm,0.3s						
BVAR	**Borovoye Array**	**52.81**	**315**	P	**P**	**02 35 16.5**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=70,slow=4.7,SNR=3.7						
	comp=Z,0.9nm,0.5s						
ILAR	**Eielson Array**	**53.78**	**31**	P	**P**	**02 35 23.1**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=263,slow=6.6,SNR=14						
	comp=Z,1.0nm,0.7s						
KK31	**Karatay Array**	**54.49**	**302**	P	**P**	**02 35 27.3**	**-1.3**
KKAR	**Karatay Array**	**54.49**	**302**	P	**P**	**02 35 26.8**	**-1.8**
KKAR				IAmb	IAmb	02 35 32.7	
	comp=Z,1.8nm,1.4s						
ASAR	**Alice Springs**	**56.32**	**187**	P	**P**	**02 35 40.6**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=0.7,slow=6.2,SNR=12						
	comp=Z,0.5nm,0.4s						
ABKAR	**Akbulak array**	**60.01**	**312**	P	**P**	**02 36 06.9**	**-0.3**
ABKAR				IAmb	IAmb	02 36 08.1	
	comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**72.20**	**333**	P	**P**	**02 37 24.7**	**0.0**
	comp=Z,2.1nm,0.7s,baz=98,slow=4.2,SNR=9.4						
	comp=Z,2.1nm,0.7s						
KBZ	**Khabaz**	**72.97**	**311**	P	**P**	**02 37 29.5**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=82,slow=4.5,SNR=4.2						
	comp=Z,1.9nm,0.7s						
NEW	**Newport**	**74.03**	**43**	P	**P**	**02 37 37.7**	**+1.8**
GURO	**Guroymak-BITLI**	**76.10**	**307**	P	**P**	**02 37 48.0**	**0.0**
AKASG	**Malin Array Be**	**77.11**	**322**	P	**P**	**02 37 53.1**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=51,slow=5.5,SNR=8.6						
	comp=Z,1.5nm,0.5s						
HFS	**Hagfors**	**77.63**	**336**	P	**P**	**02 37 56.0**	**0.0**
	comp=Z,2.3nm,0.7s,baz=97,slow=6.4,SNR=6.1						
	comp=Z,2.3nm,0.7s						
NB2	**NORSAR Subarra**	**77.81**	**337**	P	**P**	**02 37 56.9**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**77.81**	**337**	P	**P**	**02 37 57.0**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=43,slow=5.5,SNR=5.2						
	comp=Z,1.8nm,0.8s						
NVAR	**Mina Array Bea**	**78.49**	**52**	P	**P**	**02 38 01.7**	**+0.3**
NVAR	**Mina Array Bea**	**78.49**	**52**	P	**P**	**02 38 02.8**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=290,slow=5.7,SNR=12						
	comp=Z,0.9nm,0.5s						
TPNV	**Topopah Spring**	**80.67**	**52**	P	**P**	**02 38 14.6**	**+1.4**
TPNV				IAmb	IAmb	02 38 15.3	
	comp=Z,5.1nm,1.4s						
QSM	**Queen of Sheba**	**80.80**	**53**	P	**P**	**02 38 15.1**	**+1.4**
QSM				IAmb	IAmb	02 38 15.2	
	comp=Z,2.6nm,0.6s						
GWY	**Greenwater Val**	**80.81**	**53**	P	**P**	**02 38 15.3**	**+1.4**
GWY				IAmb	IAmb	02 38 15.6	
	comp=Z,2.2nm,0.6s						
BRTR	**Keskin Array B**	**80.95**	**312**	P	**P**	**02 38 14.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=134,slow=4.7,SNR=5.5						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**81.51**	**44**	P	**P**	**02 38 17.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=15,slow=4.2,SNR=5.5						
	comp=Z,0.3nm,0.5s						
CLL	**Collm**	**84.35**	**330**	*i*P	**P**	**02 38 32.1**	**+0.4**
	comp=Z,6.0nm,0.9s						
TX31	**Lajitas Ar. Si**	**93.64**	**52**	P	**P**	**02 39 17.6**	**+1.3**
TX32	**Lajitas Array**	**93.65**	**52**	P	**P**	**02 39 17.7**	**+1.3**
TXAR	**Lajitas Array**	**93.65**	**52**	P	**P**	**02 39 17.5**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=289,slow=2.6,SNR=22						
TORD	**Torodi Ar. Bea**	**119.57**	**312**	PKP	**PKPdf**	**02 44 48.2**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=38,slow=1.8,SNR=1.4						
LPAZ	**La Paz**	**149.69**	**64**	PKPbc	**PKPbc**	**02 45 50.0**	**0.0**
	comp=Z,1.1nm,0.6s,baz=328,slow=6.4,SNR=6.4						

*MDD **27** 02:28:21.6±0.8, 35.°31N×0.°72W, h18km±6km, Mb3.7/11, M_mb3.0/11, Error ellipse: s-maj=11.3km s-min=5.1km az=167.0*
*CNRM **27** 02:28:23.5, 35.°88N×1.°32W, h86km, ml2.2*
ISC 27 02:28:20.5±1.6, **35.°52N**±0.°03×**0.°91W**±0.°04, **h6**km±11km, **n38**, σ1.**73**/64, **11C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHAS	**Isla Isabel II**	**1.29**	**255**	Pn	**Pg**	**02 28 45.5**	**+0.3**
TAF	**Taforalt**	**1.42**	**241**	P	**Pn**	**02 28 46.5**	**-0.3**
TAF				S	**Sg**	**02 29 06.1**	**+0.1**
GOG	**Mont Gurugu**	**1.73**	**261**	P	**Pn**	**02 28 51.5**	**+0.4**
GOG				S	**Sn**	**02 29 10.8**	**-2.8**
ENIJ	**Nijar**	**1.79**	**325**	P	**Pb**	**02 28 53.9**	**+0.2**
ENIJ				⇑*i*Vmb_V		02 28 57.8	
	371nm,SNR=3.9						
ENIJ				S	**Sg**	**02 29 18.5**	**+0.6**
ENIJ	**Nijar**	**1.79**	**325**	Sn	**Sg**	**02 29 17.7**	**-0.2**
ENIJ				Pn	**Pb**	**02 28 53.7**	**+0.1**
JBK	**JBK**	**1.80**	**229**	P	**Pn**	**02 28 52.6**	**+0.3**
JBK				S	**Sb**	**02 29 19.0**	**+2.0**
CART	**Cartagena**	**2.06**	**358**	Sn	**Sn**	**02 29 18.8**	**-2.9**
CART				Pn	**Pn**	**02 28 55.9**	**+0.3**
EBER	**Berja**	**2.11**	**311**	P	**Pb**	**02 28 58.6**	**-0.5**
EBER				⇑*i*Vmb_V		02 29 02.2	
	176nm,SNR=1.6						
EBER				S	**Sg**	**02 29 26.7**	**-1.5**
EBER	**Berja**	**2.11**	**311**	Pn	**Pb**	**02 28 58.7**	**-0.5**
EMUR	**La Murta**	**2.33**	**354**	P	**Pn**	**02 29 00.6**	**+1.2**
EMUR				⇑*i*Vmb_V		02 29 06.0	
	130nm,SNR=2.4						
EMUR				S	**Sn**	**02 29 28.6**	**+0.2**
EMUR	**La Murta**	**2.33**	**354**	Sn	**Sn**	**02 29 27.7**	**-0.7**
EMUR				Pn	**Pn**	**02 29 00.4**	**+1.0**
EZAR	**Zarzadilla de**	**2.43**	**345**	P	**Pn**	**02 29 02.9**	**+2.1**
EZAR				⇑*i*Vmb_V		02 29 05.9	
	146nm,SNR=2.0						
EZAR				S	**Sb**	**02 29 33.3**	**-1.7**
ELGU	**Los Guajares,**	**2.57**	**302**	P	**Pn**	**02 29 04.1**	**+1.3**
ELGU				⇑*i*Vmb_V		02 29 09.1	
	167nm,SNR=2.2						
ELGU				S	**Sb**	**02 29 36.3**	**-2.8**
ELGU	**Los Guajares,**	**2.57**	**302**	Pn	**Pn**	**02 29 04.1**	**+1.3**
ELGU				Sn	**Sn**	**02 29 36.0**	**+1.5**
EQUE	**Quentar**	**2.64**	**310**	P	**Pb**	**02 29 07.2**	**-1.1**
EQUE				⇑*i*Vmb_V		02 29 10.1	
	128nm,SNR=3.7						
EQUE				S	**Sb**	**02 29 38.8**	**-2.2**
EQTA	**Presa de Quent**	**2.65**	**310**	Pn	**Pb**	**02 29 07.1**	**-1.2**
EQTA				Sn	**Sb**	**02 29 39.1**	**-2.1**
EQES	**Quesada**	**2.86**	**323**	P	**Pb**	**02 29 11.5**	**-0.6**
EGOR	**Sierra Gorda,**	**3.03**	**302**	Sn	**Sb**	**02 29 48.6**	**-3.6**
EMAL	**Malaga-Limoner**	**3.10**	**295**	Pn	**Pn**	**02 29 11.5**	**+1.5**
EMAL				Sn	**Sn**	**02 29 49.4**	**+2.0**
ETOB	**Tobarra**	**3.16**	**351**	P	**Pn**	**02 29 13.7**	**+2.9**
ETOB				⇑*i*Vmb_V		02 29 14.6	
	158nm,SNR=4.0						
ETOB				S	**Sn**	**02 29 50.5**	**+1.6**
ETOB	**Tobarra**	**3.16**	**351**	Pn	**Pn**	**02 29 13.0**	**+2.2**
ETOB				Sn	**Sn**	**02 29 50.5**	**+1.6**
EBEN2	**Beniarda presa**	**3.20**	**10**	P	**Pn**	**02 29 12.2**	**+0.8**
EBEN2				⇑*i*Vmb_V		02 29 16.2	
	186nm,SNR=1.1						
EBEN2				S	**Sn**	**02 29 49.5**	**-0.4**
EMIJ	**Mijas**	**3.30**	**290**	P	**Pn**	**02 29 13.4**	**+0.8**
EMIJ				S	**Sn**	**02 29 53.1**	**+0.9**
EMIJ	**Mijas**	**3.30**	**290**	Pn	**Pn**	**02 29 13.8**	**+1.2**
FIGM	**Figuig**	**3.39**	**185**	P	Pn	02 29 20.0	+6.0
FIGM				S	**Sb**	**02 30 04.2**	**+1.6**
EIBI	**Ibiza**	**3.94**	**27**	P	**Pn**	**02 29 22.2**	**+0.7**
EIBI				⇑*i*Vmb_V		02 29 30.0	
	138nm,SNR=2.0						
EIBI				S	**Sn**	**02 30 05.7**	**-2.2**
EIBI	**Ibiza**	**3.94**	**27**	Pn	**Pn**	**02 29 22.3**	**+0.8**
EIBI				Sn	**Sn**	**02 30 05.7**	**-2.2**
EADA	**Adamuz**	**3.95**	**313**	Pn	**Pn**	**02 29 25.4**	**+3.7**
PSIM	**Granatula de C**	**4.00**	**326**	P	**Pn**	**02 29 24.7**	**+2.3**
PSIM				S	**Sn**	**02 30 11.7**	**+2.0**
ECHE	**Chera**	**4.06**	**359**	Pn	**Pn**	**02 29 24.7**	**+1.5**
MDT	**Midelt**	**4.08**	**230**	P	**Pn**	**02 29 23.6**	**0.0**
MDT				S	**Sn**	**02 30 11.7**	**0.0**
MD31	**MD31**	**4.14**	**231**	P	**Pn**	**02 29 24.3**	**-0.1**
MD31				S	**Sn**	**02 30 12.1**	**-1.1**
ECAB	**El Cabril**	**4.42**	**307**	Pn	**Pn**	**02 29 30.1**	**+1.9**
EMOS	**Mosqueruela**	**4.85**	**4**	P	**Pn**	**02 29 36.5**	**+2.3**
EMOS				⇑*i*Vmb_V		02 29 40.9	
	86nm,SNR=1.7						
EMOS				S	**Sn**	**02 30 31.2**	**+0.5**
PAB	**San Pablo**	**4.86**	**327**	P	**Pn**	**02 29 37.2**	**+3.1**
PAB				⇑*i*Vmb_V		02 29 41.1	
	73nm,SNR=2.2						
PAB				S	**Sn**	**02 30 30.4**	**-0.3**
UCM	**Universidad Co**	**5.12**	**340**	Pn	**Pn**	**02 29 40.9**	**+3.1**
PVAQ	**Vaqueiros**	**5.80**	**291**	Pn	**Pn**	**02 29 49.2**	**+2.2**
EBAD	**Badajoz**	**5.84**	**305**	Pn	**Pn**	**02 29 49.8**	**+2.1**

*IDC **27** 02:37:40.1±0.8, 31.°62N×77.°67E, h0km, mb4.0/16, mbtmp4.0/20, ML3.6/4, MS3.2/4, Error ellipse: s-maj=22.0km s-min=14.7km az=48.0*
*NDI **27** 02:37:42.7±3.4, 31.°47N×77.°29E, h10km, ML4.1, mb4.1(NEIC)*
*NEIC **27** 02:37:45.6±1.5, 32.°0N±0.°1×77.°43E±0.°06, h15km±6km, mb4.1/7, Error ellipse: s-maj=21.2km s-min=6.3km az=191.0*
*NNC **27** 02:37:52.5±3.0, 32.°05N×77.°04E, h66km±23km, mb3.9, Error ellipse: s-maj=33.1km s-min=22.7km az=55.0*
ISC 27 02:37:43.6±1.4, **31.°58N**±0.°04×**77.°29E**±0.°05, **h25**km±11km, **n71**, σ2.**28**/85, **mb4.1**/25, **5C-4D, Northern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHK	**Bhakra**	**0.76**	**258**	*e*P	**Pb**	**02 37 56.1**	**-2.1**
BHK				*e*S	**Sb**	**02 38 05.8**	**-2.3**
DHRM	**DHARAMSHALA**	**1.07**	**309**	*e*P	**Pn**	**02 38 02.9**	**-0.4**
DHRM				*e*S	**Sb**	**02 38 21.1**	**+3.6**
DHRM				IAML		02 38 23.9	
	comp=E,5μm,0.3s						
DHRM				IAML		02 38 26.4	
	comp=N,5μm,0.5s						
DDI	**Dehra Dun**	**1.41**	**152**	*e*P	**Pn**	**02 38 06.2**	**-1.6**
DDI				*e*S	**Sn**	**02 38 25.6**	**-0.1**
THN	**Thein Dam**	**1.58**	**303**	*e*P	**Pn**	**02 38 11.7**	**+1.6**
THN				*e*S	**Sb**	**02 38 34.1**	**+2.3**
THN				IAML		02 38 37.0	
	comp=N,2μm,0.3s						
JMU	**Jammu**	**2.32**	**300**	*e*P	**Pb**	**02 38 24.0**	**-0.8**
JMU				*e*S	**Sb**	**02 38 55.7**	**+2.6**
SONA	**Sohna**	**3.32**	**183**	*e*P	**Pn**	**02 38 33.4**	**-0.5**
SONA				*e*S	**Sn**	**02 39 11.2**	**-1.4**
KUDL	**Kundal**	**3.49**	**192**	*e*P	**Pn**	**02 38 35.1**	**-1.2**
KUDL				*e*S	**Sn**	**02 39 15.6**	**-1.2**
KHET	**Khetri**	**3.72**	**201**	*e*P	**Pn**	**02 38 37.5**	**-2.0**
KHET				*e*S	**Sn**	**02 39 21.7**	**-0.9**
SARP	**Sargodha**	**3.95**	**276**	P	**Pn**	**02 38 42.1**	**-0.5**
CHCP	**Chirah Chowk**	**3.98**	**303**	P	**Pn**	**02 38 45.9**	**+2.8**
NIL	**Nilore**	**3.98**	**302**		**Pn**	**02 38 45.3**	**+2.2**
THW	**Thamme Wali**	**4.86**	**286**	P	**Pn**	**02 38 55.5**	**+0.4**
CEP	**Cherat**	**5.06**	**298**	P	**Pn**	**02 38 59.0**	**+1.0**
AJM	**Ajmer**	**5.58**	**205**	*e*P	**Pn**	**02 39 04.6**	**-0.5**
AJM				*e*S	**Sn**	**02 40 07.8**	**-0.7**
KBL	**Kabul**	**7.53**	**295**		**Pn**	**02 39 34.5**	**+2.5**
KSH	**Kashi**	**8.00**	**353**	P	**Pn**	**02 39 36.8**	**-1.5**
KSH				pP	Pn	02 39 39.5	+1.2
KSH				sP	Pn	02 39 42.5	+4.2
KSH				S	**Sn**	**02 41 02.3**	**-5.7**
KSH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSH				smax	smax		
	comp=N,50nm,0.7s						
KSH				smax	smax		
	comp=E,72nm,0.5s						
KSH				LR	LR		
	comp=N,380nm,8.4s						
KSH				LR	LR		
	comp=E,120nm,6.2s						
KSH				LR	LR		
	comp=Z,350nm,9.1s						
BHPL	**Bhopal**	**8.30**	**179**	*e*P	**Pn**	**02 39 40.5**	**-2.1**
BHPL				*e*S	Sn	02 41 06.5	-9.1
NRN	**Naryn**	**9.89**	**354**		**Pn**	**02 40 02.1**	**-2.4**
BTK	**Batken**	**9.96**	**330**		**Pn**	**02 40 04.2**	**-1.0**
TARG	**Taragay, Kyrgy**	**10.14**	**2**		**Pn**	**02 40 07.1**	**-0.9**
AML	**Almayashu**	**10.92**	**346**	⇑P	**Pn**	**02 40 18.6**	**-0.1**
	comp=Z,0.8nm,0.7s						
AML				⇑S	**Sn**	**02 42 13.9**	**-6.3**
	comp=Z,1.9nm,0.7s						
BOOM	**Boomskoye usch**	**10.95**	**355**	Pn	**Pn**	**02 40 17.9**	**-0.9**
AAK	**Ala-Archa**	**11.26**	**349**		**Pn**	**02 40 21.9**	**-1.2**
AAK	**Ala-Archa**	**11.26**	**349**	Pn	**Pn**	**02 40 23.1**	**0.0**
	comp=Z,0.6nm,0.3s,baz=188,slow=8.7,SNR=5.7						
AAK				Sn	**Sn**	**02 42 26.4**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=22,slow=18,SNR=1.9						
AAK				LR	LR	02 45 20.4	
	comp=Z,57nm,18.4s,baz=160,slow=41						
	comp=Z,1.7nm,0.4s						
TKM2	**Tokmak 2**	**11.40**	**354**	⇑P	**Pn**	**02 40 27.0**	**+1.9**
	comp=Z,2.0nm,0.6s						
PDGK	**Podgornoye**	**11.86**	**8**	⇓P	**Pn**	**02 40 34.8**	**+3.5**
	comp=Z,6.3nm,0.5s						
KK31	**Karatay Array**	**12.70**	**337**	P	**Pn**	**02 40 41.1**	**-1.5**
	comp=Z,9.6nm,0.8s,baz=142,slow=12,SNR=55						
KK31				⇓S	**Sn**	**02 42 58.9**	**-4.3**
	comp=Z,8.7nm,0.6s,baz=160,slow=24,SNR=12						
KK31	**Karatay Array**	**12.70**	**337**	Pn	**Pn**	**02 40 40.8**	**-1.8**
KKAR	**Karatay Array**	**12.70**	**337**		**Pn**	**02 40 40.8**	**-1.8**
HYB	**Hyderabad**	**14.14**	**175**	*e*P	**P**	**02 41 10.3**	**+0.5**
HYB				*e*S	S	02 44 11.2	+12
HYB				IVMs_BB	IVMs_BB	02 46 08.6	
	comp=Z,182nm,12.2s						
WMQ	**Urumqi**	**14.72**	**31**	*e*P	**Pn**	**02 41 09.5**	**-0.8**
WMQ				pP	P	02 41 11.8	-4.4
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
GOMU	**GeErMu**	**15.27**	**68**	P	**P**	**02 41 24.5**	**+1.9**
GOMU				pP	pP	02 41 28.3	-1.8
GOMU				sP	sP	02 41 30.0	-3.7
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**15.68**	**13**	P	**Pn**	**02 41 22.9**	**+0.1**
	comp=Z,6.2nm,0.8s,baz=190,slow=12,SNR=28						
MK31	**Makanchi Array**	**15.68**	**13**	Pn	**Pn**	**02 41 20.8**	**-2.0**
MKAR	**Makanchi Array**	**15.68**	**13**	Pn	**Pn**	**02 41 20.0**	**-2.8**
MKAR	**Makanchi Array**	**15.68**	**13**	Pn	**Pn**	**02 41 20.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=190,slow=12,SNR=8.0						
MKAR				Sn	**Sn**	**02 44 07.8**	**-7.9**
	comp=Z,0.2nm,0.3s,baz=211,slow=25,SNR=3.0						
MKAR				LR	LR	02 47 59.3	
	comp=Z,24nm,18.8s,baz=142,slow=40						
	comp=Z,2.0nm,0.6s						
GEYT	**Alibeck**	**16.97**	**297**	P	**Pn**	**02 41 41.0**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=133,slow=7.7,SNR=2.5						
	comp=Z,1.7nm,0.4s						
KURBB	**Kurchatov Arra**	**19.05**	**2**	P	**P**	**02 42 03.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=191,slow=10,SNR=16						
	comp=Z,2.3nm,0.7s						
KURK	**Kurchatov**	**19.15**	**3**	⇓P	**P**	**02 42 04.1**	**-0.8**
	comp=Z,4.6nm,0.8s						
KURK	**Kurchatov**	**19.15**	**3**	P	**P**	**02 42 02.0**	**-2.9**
KURK				IAmb	IAmb	02 42 06.7	
	comp=Z,5.7nm,0.9s						
TNCH	**TengChong**	**19.79**	**104**	*e*P	**Pn**	**02 42 15.5**	**+1.6**
PZH	**PanZhiHua**	**21.95**	**97**	P	**P**	**02 42 36.8**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
AB31	**Akbulak array**	**21.96**	**329**	P	**P**	**02 42 35.6**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=133,slow=11,SNR=47						
AB31				⇑S	**S**	**02 46 30.6**	**-5.9**
	comp=Z,1.2nm,0.6s,baz=138,slow=24,SNR=3.1						
ABKAR	**Akbulak array**	**21.96**	**329**	P	**P**	**02 42 34.8**	**-0.6**
ABKAR				IAmb	IAmb	02 42 40.5	
	comp=Z,4.0nm,0.7s						
BVA0	**Borovoye Array**	**22.01**	**349**	⇑P	**P**	**02 42 35.7**	**-0.2**
	comp=Z,10nm,1.1s,baz=166,slow=11,SNR=21						
BVAR	**Borovoye Array**	**22.01**	**349**	P	**P**	**02 42 36.1**	**+0.2**
	comp=Z,4.2nm,0.5s,baz=160,slow=12,SNR=25						
	comp=Z,4.2nm,0.5s						
BRVK	**Borovoye**	**22.06**	**349**	P	**P**	**02 42 35.2**	**-1.2**
LZH	**Lanzhou**	**22.48**	**71**	*e*P	**P**	**02 42 42.0**	**+0.6**
LZH				pP	pP	02 42 47.0	-2.0
LZH				sP	sP	02 42 49.0	-3.6
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
ZAA0	**Zalesovo Array**	**23.01**	**11**	P	**P**	**02 42 45.2**	**-1.3**
ZAA0				IAmb	IAmb	02 42 48.7	
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**23.01**	**11**	P	**P**	**02 42 45.2**	**-1.3**
ZALV	**Zalesovo Beam**	**23.01**	**11**	P	**P**	**02 42 46.0**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=212,slow=11,SNR=19						
	comp=Z,4.9nm,0.7s						
CMAR

41nm,1.3s

IDC 27 03:31:47.6±5.4, 19°29S×174°92W, h0km, mb4.4/3, mbtmp4.4/3, 2C, Error ellipse: s-maj=175.0km s-min=106.8km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.92**	**243**	P	P	03 39 32.1	+0.1
	1.6nm,0.6s,baz=63,slow=12,SNR=3.5 1.6nm,0.6s						
ASAR	**Alice Springs**	**47.62**	**255**	P	P	03 40 25.6	-0.2
	6.9nm,0.5s,baz=95,slow=7.6,SNR=95						
ASAR				PcP	PcP	03 41 55.4	-0.3
	0.3nm,0.5s,baz=103,slow=3.6,SNR=2.1 6.9nm,0.5s						
WRA	**Warramunga Arr**	**47.65**	**260**	P	P	03 40 25.8	-0.3
	2.5nm,0.5s,baz=98,slow=8.1,SNR=43 2.5nm,0.5s						
VNA3	**Neumayer Olymp**	**89.13**	**175**	⇑P	P	03 44 53.2	+8.5
VNA2	**Neumayer--Watz**	**89.61**	**176**	⇑P	P	03 44 55.5	+8.6
	baz=196,slow=4.0						

*IDC **27** 03:48:22.7±0.6, 8°34S×80°06W, h0km, mb4.2/16, mbtmp4.2/20, ML4.4/3, MS3.7/27, Error ellipse: s-maj=19.8km s-min=13.4km az=55.0*
*NEIC **27** 03:48:28.1±1.6, 8°46S±0°05×79°97W±0°06, h30km±5km, mb4.7/102, Error ellipse: s-maj=10.1km s-min=4.6km az=128.0*

ISC 27 03:48:28.6±0.4, 8°43S±0°05×79°95W±0°06, h39km, n176, σ1°50/121, mb4.6/63, MS3.6/19, 3C, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.01**	**50**	Pn	Pn	03 49 00.7	+0.3
	188nm,0.3s,baz=272,slow=1.0,SNR=801						
ATAH				Sn	Sn	03 49 25.8	+1.3
	214nm,0.3s,baz=239,slow=18,SNR=4.8						
ATAH				LR	LR	03 50 06.1	
	comp=Z,1μm,19.8s,baz=232,slow=51 371nm,0.3s						
MCRA	**Macar, Loja**	**4.04**	**360**	Pn	Pn	03 49 27.9	0.0
MCRA	**Macar, Loja**	**4.04**	**360**	*eP*	Pn	03 49 28.2	+0.3
NNA	**Nana**	**4.67**	**139**		Pn	03 49 36.8	+0.2
NNA	**Nana**	**4.67**	**139**	*eP*	Pn	03 49 37.0	+0.4
NNA	**Nana**	**4.67**	**139**	Pn	Pn	03 49 37.0	+0.4
	44nm,0.3s,baz=297,slow=6.8,SNR=41						
NNA				Sn	Sn	03 50 29.7	0.0
	115nm,0.3s,baz=330,slow=21,SNR=8.5						
NNA				LR	LR	03 51 36.0	
	comp=Z,552nm,19.0s,baz=306,slow=40 136nm,0.3s						
ARNL	**Arenillas**	**4.86**	**359**		Pn	03 49 39.9	+0.8
BOSC	**San Juan Bosco**	**5.44**	**15**	Pn	Pn	03 49 48.1	+0.7
COHC	**Cochancay**	**5.97**	**7**		Pn	03 49 55.9	+1.4
COHC	**Cochancay**	**5.97**	**7**	*eP*	Pn	03 49 55.8	+1.4
PPLP	**Puerto Lpez**	**6.89**	**353**	*eP*	Pn	03 50 07.4	+0.2
CHSH	**Refugio Sur-Vo**	**6.98**	**9**		Pn	03 50 09.9	+1.0
CZSB	**Cruzeiro do Su**	**7.21**	**85**	Pn	Pn	03 50 11.4	-0.1
CZSB	**Cruzeiro do Su**	**7.21**	**85**	*eP*	Pn	03 50 11.4	-0.1
PIAT	**Ana Tenorio**	**7.58**	**13**	*eP*	Pn	03 50 18.3	+1.4
SLOR	**San Lorenzo -**	**7.79**	**11**	Pn	Pn	03 50 21.0	+1.1
PULU	**Pululahua**	**8.52**	**10**		Pn	03 50 31.0	+1.1
PAC1	**Pacto, Paraso**	**8.72**	**8**	*eP*	Pn	03 50 33.3	+0.9
OTAV	**Otavalo**	**8.74**	**10**	Pn	Pn	03 50 33.5	+0.6
OTAV	**Otavalo**	**8.74**	**10**	*eP*	Pn	03 50 34.2	+1.3
CUSE	**Cuicocha Este**	**8.82**	**10**	*eP*	Pn	03 50 37.1	+3.1
IMBA	**Imbabura, San**	**8.83**	**11**	Pn	Pn	03 50 34.0	-0.1
TULM	**Tulcn-Chalpat**	**9.34**	**13**		Pn	03 50 41.0	-0.2
GCUF	**Volcan Galeras**	**9.94**	**15**	*eP*	Pn	03 50 50.6	+1.1
PTLC	**Puerto Leguiza**	**9.97**	**31**	*eP*	Pn	03 50 42.9	-6.5
BBAC	**Balboa, Cauca**	**10.73**	**15**	*eP*	Pn	03 51 02.4	+2.5
FLOC	**Florencia**	**10.83**	**23**	*eP*	Pn	03 50 58.7	-2.5
TBTG	**Tabatinga, AM**	**10.83**	**68**	Pn	Pn	03 51 00.4	-0.8
TBTG	**Tabatinga, AM**	**10.83**	**68**	*eP*	Pn	03 51 05.1	+3.9
GARC	**Garzon, Huila**	**11.45**	**23**	*eP*	Pn	03 51 04.6	-5.3
MACC	**Macarena, Meta**	**12.14**	**30**	*eP*	Pn	03 51 20.2	+1.1
YOTC	**Yotoco, Valle**	**12.85**	**16**	*eP*	P	03 51 42.6	+3.6
PAYG	**Puerto Ayora**	**12.86**	**306**	Pn	Pn	03 51 29.3	+0.3
PAYG	**Puerto Ayora**	**12.86**	**306**	*eP*	Pn	03 51 31.4	+2.4
ETMB	**Extrema**	**13.63**	**97**	Pn	Pn	03 51 34.2	-5.3
PB18	**Visviri**	**13.66**	**133**	Pn	Pn	03 51 40.6	+0.2
LPAZ	**La Paz**	**13.93**	**125**	Pn	Pn	03 51 43.9	-0.1
LPAZ	**La Paz**	**13.93**	**125**	*eP*	Pn	03 51 45.8	+1.7
LPAZ	**La Paz**	**13.93**	**125**	Pn	Pn	03 51 45.4	+1.3
	0.4nm,0.3s,baz=296,slow=7.7,SNR=16						
LPAZ				LR	LR	03 56 50.5	
	comp=Z,61nm,18.3s,baz=304,slow=36 2.0nm,0.6s						
VILC	**Villavicencio,**	**13.94**	**27**	*eP*	P	03 51 53.8	+2.6
PB16	**IPOC Station P**	**14.13**	**135**	Pn	Pn	03 51 46.6	-0.2
GUY2C	**Guyana, Caldas**	**14.32**	**19**	*eP*	P	03 51 57.7	+1.9
ROSC	**El Rosal**	**14.33**	**23**	Pn	Pn	03 51 45.8	-3.5
	2.8nm,0.4s,baz=154,slow=24,SNR=1.3						
ROSC				LR	LR	03 58 04.9	
	comp=Z,408nm,18.2s,baz=224,slow=41						
CHIC	**Chingaza**	**14.38**	**26**	*eP*	Pn	03 51 48.6	-1.4
NORC	**Norcasia**	**14.80**	**20**	*eP*	P	03 52 03.0	+2.4
TA01	**Diego Aracena**	**15.31**	**143**	Pn	Pn	03 52 02.0	0.0
TA01				IAmb	IAmb	03 52 11.1	
	comp=Z,48nm,1.2s						
PB08	**IPOC Station P**	**15.64**	**139**	Pn	Pn	03 52 05.3	-1.3
PB08				IAmb	IAmb	03 52 14.1	
	comp=Z,23nm,0.7s						
RUSC	**La Rusia**	**15.79**	**26**	*eP*	P	03 52 14.8	+2.7
BARC	**Barichara**	**16.38**	**25**	*eP*	P	03 52 19.1	+0.7
APAC	**Apartado, Choc**	**16.57**	**12**	*eP*	P	03 52 24.4	+4.2
SAML	**Samuel**	**16.58**	**93**	Pn	Pn	03 52 12.7	-5.6
SAML	**Samuel**	**16.58**	**93**	*eP*	Pn	03 52 13.2	-5.1
ZARC	**Zaragoza, Cauc**	**16.61**	**18**	*eP*	P	03 52 21.9	+1.1
LVC	**Limon Verde**	**17.64**	**144**	P	P	03 52 35.3	+2.8
	comp=Z,11nm,0.8s,baz=327,slow=11,SNR=1.7						
LVC				LR	LR	03 58 56.4	
	comp=Z,179nm,22.0s,baz=295,slow=36						
RGM0	**Gandoca**	**18.10**	**352**	P	Pn	03 52 35.4	-1.8
RGM0				IAmb	IAmb	03 52 43.2	
	comp=Z,136nm,1.2s						
SJCC	**San Jacinto, C**	**18.82**	**15**	*eP*	Pn	03 52 47.7	+1.7
JTS	**Las Juntas de**	**19.26**	**345**	LR	LR	03 58 52.3	
	comp=Z,190nm,21.9s,baz=164,slow=33						
SDV	**Santo Domingo**	**19.55**	**29**	P	P	03 52 52.0	-1.3
SDV	**Santo Domingo**	**19.55**	**29**	LR	LR	04 01 55.3	
	comp=Z,221nm,19.7s,baz=188,slow=42						
SIV	**San Ignacio**	**19.91**	**114**	P	P	03 52 56.6	-0.5
	comp=Z,5.5nm,0.5s,baz=300,slow=10,SNR=33						
SIV				LR	LR	04 01 07.4	
	comp=Z,367nm,19.6s,baz=287,slow=38 comp=Z,5.5nm,0.5s						
VILB	**Vilhena**	**19.91**	**105**		P	03 52 56.9	-0.3
VILB				IAmb	IAmb	03 52 59.5	
	comp=Z,46nm,0.6s						
BAUV	**El Baul**	**20.95**	**35**	P	P	03 53 08.0	-0.3
PTLB	**Pontes e Lacer**	**21.51**	**111**	P	P	03 53 14.1	-0.2
PTLB				IAmb	IAmb	03 53 16.1	
	comp=Z,36nm,0.9s						
BOAV	**Boa Vista**	**22.16**	**62**	P	P	03 53 20.9	-0.5
BOAV	**Boa Vista**	**22.16**	**62**	*eP*	P	03 53 21.2	-0.1
PCRV	**Puerto La Cruz**	**23.96**	**40**	LR	LR	04 04 33.3	
	comp=Z,233nm,20.4s,slow=40						
H03N2	**Juan Fernandez**	**24.90**	**178**	T	T	04 19 40.8	
	baz=357,slow=76,SNR=254						
H03N1	**Juan Fernandez**	**24.90**	**178**	T	T	04 19 42.0	
	baz=357,slow=76,SNR=342						
H03N3	**Juan Fernandez**	**24.92**	**178**	T	T	04 19 40.8	
	baz=357,slow=76,SNR=276						
CPUP	**Villa Florida**	**27.89**	**132**	P	P	03 54 15.4	+0.5
	comp=Z,1.7nm,1.0s,baz=225,slow=19,SNR=2.2						
CPUP				LR	LR	04 07 33.8	
	comp=Z,150nm,19.0s,baz=318,slow=41 comp=Z,1.7nm,1.0s						
CMIG	**Matias Romero**	**29.35**	**330**	LR	LR	04 03 53.8	
	comp=Z,70nm,18.9s,baz=192,slow=32						
TEIG	**Tepich**	**29.64**	**344**	LR	LR	04 05 25.5	
	comp=Z,809nm,19.7s,baz=306,slow=35						
MDP	**Montagnes des**	**30.37**	**65**	LR	LR	04 07 29.6	
	comp=Z,75nm,20.0s,baz=211,slow=38						
BDFB	**Brasilia**	**32.01**	**106**	P	P	03 54 51.5	-0.2
	comp=Z,3.2nm,0.6s,baz=266,slow=6.5,SNR=5.5						
BDFB				LR	LR	04 08 35.1	
	comp=Z,343nm,19.6s,baz=311,slow=38 comp=Z,3.2nm,0.6s						
PLCA	**Paso Flores**	**33.23**	**167**	P	P	03 55 03.2	+1.1
	comp=Z,1.3nm,0.8s,baz=342,slow=14,SNR=3.7						
PLCA				LR	LR	04 05 25.4	
	comp=Z,56nm,22.0s,baz=359,slow=31 comp=Z,1.3nm,0.8s						
344A	**Westbrook Farm**	**40.98**	**346**	P	P	03 56 07.2	-0.6
344A				IAmb	IAmb	03 56 09.4	
	comp=Z,16nm,0.8s						
SAND	**Sanderson**	**43.72**	**332**	P	P	03 56 31.2	+1.0
SAND				IAmb	IAmb	03 56 31.5	
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**43.96**	**330**	P	P	03 56 30.2	-2.0
	comp=Z,0.5nm,0.8s,baz=154,slow=8.5,SNR=5.2						
TXAR				PcP	PcP	03 58 17.1	-0.5
	comp=Z,0.3nm,0.7s,baz=163,slow=5.2,SNR=2.3 comp=Z,0.5nm,0.8s						
TKL	**Tuckaleechee C**	**44.00**	**356**	LR	LR	04 14 54.5	
	comp=Z,74nm,18.2s,baz=172,slow=36						
MIAR	**Mount Ida**	**44.65**	**344**	P	P	03 56 36.9	-0.6
MIAR				IAmb	IAmb	03 56 38.7	
	comp=Z,6.7nm,0.8s						
WHAR	**Wooly Hollow**	**45.02**	**346**	IAmb	IAmb	03 56 41.6	
	comp=Z,12nm,1.0s						
LCAR	**Lake Charles**	**45.51**	**347**	IAmb	IAmb	03 56 44.9	
	comp=Z,9.3nm,1.0s						
FCAR	**Ozark Folk Cen**	**45.55**	**346**	IAmb	IAmb	03 56 45.4	
	comp=Z,12nm,0.8s						
425A	**Indio Mountain**	**45.80**	**329**	P	P	03 56 45.9	-1.0
U38A	**Gravette**	**46.65**	**344**		P	03 56 53.0	-0.3
U38A				IAmb	IAmb	03 56 54.3	
	comp=Z,7.5nm,0.8s						
MGMO	**Mountain Grove**	**46.80**	**346**	IAmb	IAmb	03 56 56.0	
	comp=Z,15nm,1.1s						
SMWD	**Samnorwood**	**47.36**	**337**	IAmb	IAmb	03 56 59.9	
	comp=Z,15nm,0.8s						
CCM	**Cathedral Cave**	**47.44**	**348**	P	P	03 56 59.4	0.0
CCM				IAmb	IAmb	03 57 00.5	
	comp=Z,11nm,0.8s						
214A	**Organ Pipe Nat**	**50.98**	**324**		P	03 57 26.6	-0.1
PIX	**Pinacate**	**51.08**	**323**	P	P	03 57 27.1	-0.3
WUAZ	**Wupatki**	**52.81**	**328**	IAmb	IAmb	03 57 42.2	
	comp=Z,9.6nm,1.1s						
PKCU	**Pink Cliffs**	**54.77**	**329**	IAmb	IAmb	03 57 56.4	
	comp=Z,7.7nm,0.9s						
V12A	**Nelson**	**54.87**	**325**	IAmb	IAmb	03 57 56.8	
	comp=Z,6.0nm,1.1s						
Q16A	**Castle Valley**	**55.33**	**331**	IAmb	IAmb	03 58 00.5	
	comp=Z,3.8nm,0.8s						
P17A	**Butcher Ranch,**	**55.56**	**331**	P	P	03 57 59.8	-0.6
P17A				IAmb	IAmb	03 58 01.6	
	comp=Z,6.7nm,1.1s						
RWWY	**Rawlins**	**55.80**	**335**	IAmb	IAmb	03 58 01.8	
	comp=Z,14nm,1.4s						
RDMU	**Red Mountain**	**55.89**	**333**	IAmb	IAmb	03 58 03.2	
	comp=Z,5.0nm,0.8s						
DUG	**Dugway, Tooele**	**57.12**	**330**	IAmb	IAmb	03 58 13.2	
	comp=Z,6.6nm,1.1s						
HWUT	**Hardware Ranch**	**57.63**	**332**	IAmb	IAmb	03 58 15.8	
	comp=Z,1.1nm,1.0s						
PDAR	**Pinedale Array**	**57.67**	**334**	P	P	03 58 14.0	-1.3
PDAR	**Pinedale Array**	**57.67**	**334**	P	P	03 58 14.2	-1.2
	comp=Z,0.8nm,0.6s,baz=129,slow=9.5,SNR=11						
PDAR				PcP	PcP	03 59 06.5	-1.6
	comp=Z,0.4nm,0.6s,baz=129,slow=6.7,SNR=2.4						
PDAR				LR	LR	04 22 17.3	
	comp=Z,41nm,19.3s,baz=298,slow=35 comp=Z,0.8nm,0.6s						
HVU	**Hansel Valley**	**58.33**	**332**	IAmb	IAmb	03 58 20.6	
	comp=Z,4.3nm,1.0s						
NVAR	**Mina Array Bea**	**58.73**	**325**	P	P	03 58 22.9	+0.1
	comp=Z,2.9nm,0.8s,baz=132,slow=6.7,SNR=20						
NVAR				PcP	PcP	03 59 12.3	-0.1
	comp=Z,0.5nm,0.8s,baz=115,slow=4.5,SNR=3.5 comp=Z,2.9nm,0.8s						
FLWY	**Flagg Ranch**	**59.22**	**335**		P	03 58 25.6	-0.5
FLWY				IAmb	IAmb	03 58 27.5	
	comp=Z,8.5nm,1.2s						
RLMT	**Red Lodge**	**59.48**	**336**	IAmb	IAmb	03 58 34.3	
	comp=Z,6.6nm,1.4s						
YERR	**Yerington**	**59.64**	**325**	IAmb	IAmb	03 58 30.6	
	comp=Z,5.1nm,0.9s						
YMR	**Madison River**	**59.81**	**335**	IAmb	IAmb	03 58 31.8	
	comp=Z,4.1nm,1.0s						
ULM	**Lac du Bonnet**	**60.06**	**348**	P	P	03 58 30.2	-1.3
	comp=Z,6.2nm,0.9s,baz=179,slow=4.9,SNR=3.1 comp=Z,6.2nm,0.9s						
PAHR	**Pah Rah Range**	**60.22**	**326**	IAmb	IAmb	03 58 34.7	
	comp=Z,6.6nm,1.0s						
HLID	**Hailey**	**60.47**	**332**		P	03 58 35.0	+0.3
HLID				IAmb	IAmb	03 58 36.1	
	comp=Z,4.1nm,1.0s						
BOZ	**Bozeman (W)**	**60.83**	**335**	IAmb	IAmb	03 58 38.7	
	comp=Z,8.7nm,1.4s						
MFID	**Camas Ranch**	**61.03**	**331**	IAmb	IAmb	03 58 40.0	
	comp=Z,10.0nm,1.1s						
DLMT	**Dillon**	**61.06**	**334**	IAmb	IAmb	03 58 39.8	
	comp=Z,8.0nm,1.1s						
ORV	**Oroville**	**61.32**	**324**		P	03 58 40.5	+0.2
ORV				IAmb	IAmb	03 58 42.1	
	comp=Z,10nm,0.9s						
WVOR	**Wild Horse Val**	**61.72**	**328**	IAmb	IAmb	03 58 44.2	
	comp=Z,5.1nm,1.1s						
PLID	**Pearl Lake**	**62.37**	**332**	IAmb	IAmb	03 58 48.1	
	comp=Z,5.0nm,1.1s						
MSO	**Missoula**	**62.79**	**334**		P	03 58 49.7	-0.5
MSO				IAmb	IAmb	03 58 51.5	
	comp=Z,11nm,1.1s						
K05A	**Summer Lake**	**63.12**	**327**	IAmb	IAmb	03 58 57.0	
	comp=Z,8.5nm,1.0s						
YBH	**Yreka Blue Hor**	**63.45**	**325**		P	03 58 53.7	-0.9
YBH				IAmb	IAmb	03 58 55.0	
	comp=Z,5.3nm,0.8s						
F10A	**Beach Ranch, E**	**63.60**	**332**	IAmb	IAmb	03 59 00.3	
	comp=Z,5.8nm,1.0s						
PINE	**Pine Mountain**	**63.88**	**328**	IAmb	IAmb	03 59 00.1	
	comp=Z,8.3nm,0.8s						
G08A	**Pilot Rock**	**63.93**	**330**	IAmb	IAmb	03 58 59.1	
	comp=Z,8.9nm,1.1s						
SCHQ	**Schefferville**	**63.98**	**8**	P	P	03 58 57.0	-0.8
	comp=Z,2.5nm,0.7s,baz=280,slow=16,SNR=1.8 comp=Z,2.5nm,0.7s						
E09A	**Wood Farm, Sta**	**64.43**	**332**	IAmb	IAmb	03 59 01.6	
	comp=Z,4.2nm,1.0s						
NEW	**Newport**	**65.27**	**334**	IAmb	IAmb	03 59 07.3	
	comp=Z,5.8nm,0.9s						
E07A	**Sunnyside**	**65.28**	**331**	IAmb	IAmb	03 59 07.6	
	comp=Z,6.7nm,0.8s						
PPT	**Papeete**	**68.14**	**254**	LR	LR	04 22 14.6	
	comp=Z,104nm,20.2s,baz=29,slow=30						
FRB	**Frobisher Bay**	**72.50**	**5**	LR	LR	04 34 09.3	
	comp=Z,29nm,19.4s,baz=276,slow=38						
BELA	**Belgrano 2**	**73.17**	**171**	P	P	03 59 53.1	-1.8
YKA	**Yellowknife Ar**	**75.59**	**344**	P	P	04 00 08.1	-0.9
	comp=Z,1.7nm,0.7s,baz=115,slow=9.4,SNR=8.0 comp=Z,1.7nm,0.7s						
VNA3	**Neumayer Olymp**	**75.77**	**162**	⇑P	P	04 00 10.8	+0.8
	comp=Z,3.7nm,0.8s						
VNA1	**Neumayer--Stat**	**76.06**	**161**	P	P	04 00 13.0	+1.4
	comp=Z,3.8nm,0.9s						
DBIC	**Dimbokro**	**76.35**	**81**	P	P	04 00 15.3	+0.9
	comp=Z,2.7nm,0.7s,baz=241,slow=7.7,SNR=1.9						
DBIC				LR	LR	04 31 49.7	
	comp=Z,65nm,21.6s,baz=239,slow=34 comp=Z,2.7nm,0.7s						
VNA2	**Neumayer--Watz**	**76.40**	**161**	⇑P	P	04 00 14.3	+0.7
	comp=Z,4.0nm,0.6s,baz=294,slow=6.0						
KOWA	**Kowa**	**78.66**	**73**	LR	LR	04 33 21.4	
	comp=Z,35nm,20.8s,baz=60,slow=34						
TROLL	**Troll, Antarti**	**79.70**	**162**	⇑P	P	04 00 33.0	+0.9
	comp=Z,205nm,0.7s						
QSPA	**South Pole Qui**	**81.67**	**180**	P	P	04 00 43.5	+0.8
QSPA				IAmb	IAmb	04 00 45.0	
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**81.67**	**180**	P	P	04 00 43.6	+0.8
	comp=Z,9.6nm,0.9s,baz=152,slow=1.6,SNR=34 comp=Z,9.6nm,0.9s						
ICESG	**Greenland Ices**	**82.25**	**14**	*i* P	P	04 00 55.8	+10
MDT	**Midelt**	**82.40**	**55**	LR	LR	04 35 09.0	
	comp=Z,24nm,19.5s,baz=240,slow=34						
N30M	**Aishikik Lake**	**82.53**	**336**	P	P	04 00 47.8	+0.7
TOA0	**Torodi Ar. Sit**	**83.85**	**76**	P	P	04 00 56.0	+1.2
TOA0				IAmb	IAmb	04 01 11.4	
	comp=Z,5.3nm,1.2s						
TORD	**Torodi Ar. Bea**	**83.85**	**76**	P	P	04 00 55.0	+0.1
TORD	**Torodi Ar. Bea**	**83.85**	**76**	P	P	04 00 55.5	+0.6
	comp=Z,2.1nm,0.9s,baz=294,slow=4.0,SNR=11						
TORD				PKKPbc	PKKPbc	04 19 14.0	+3.4
	comp=Z,0.6nm,1.1s,baz=294,slow=6.8,SNR=5.1 comp=Z,2.1nm,0.9s						
J30M	**Hart River**	**83.97**	**339**	IAmb	IAmb	04 00 55.9	
	comp=Z,8.2nm,0.8s						
ESDC	**Sonseca Array**	**84.71**	**49**	P	P	04 00 59.0	+0.3
ESDC	**Sonseca Array**	**84.71**	**49**	P	P	04 00 59.4	+0.7
	comp=Z,0.5nm,0.7s,baz=273,slow=4.7,SNR=5.0						
ESDC				LR	LR	04 36 43.1	
	comp=Z,28nm,19.0s,baz=245,slow=34 comp=Z,0.5nm,0.7s						
F31M	**Tsiigehtchic**	**84.78**	**342**	IAmb	IAmb	04 01 00.2	
	comp=Z,4.3nm,0.8s						
I29M	**Ogilvie Camp,**	**85.11**	**339**	IAmb	IAmb	04 01 00.9	
	comp=Z,7.4nm,1.0s						
SUMG	**Summit**	**85.16**	**12**	*i* P	P	04 01 00.0	-0.8
EGAK	**Eagle**	**85.84**	**338**	P	P	04 01 03.6	-0.1
E29M	**Blow River**	**86.61**	**342**	IAmb	IAmb	04 01 09.1	
	comp=Z,7.8nm,0.9s						
NEEM	**North Greenlan**	**87.29**	**6**	*i* P	P	04 01 09.9	-1.1
VNDA	**Vanda**	**87.68**	**191**	P	P	04 01 13.4	+0.8
VNDA	**Vanda**	**87.68**	**191**	P	P	04 01 13.5	+0.8
	comp=Z,1.2nm,0.9s,baz=62,slow=3.2,SNR=3.7 comp=Z,1.2nm,0.9s						
ILAR	**Eielson Array**	**88.03**	**337**	P	P	04 01 13.9	-0.5
	comp=Z,2.4nm,0.9s,baz=162,slow=3.1,SNR=12 comp=Z,2.4nm,0.9s						
BMAR	**Burnt Mountain**	**88.33**	**340**	P	P	04 01 15.4	-0.4
TSUM	**Tsumeb**	**94.30**	**110**	LR	LR	04 42 36.0	
	comp=Z,59nm,18.9s,baz=312,slow=34						
URZ	**Urewera**	**94.85**	**230**	LR	LR	04 36 10.3	
	comp=Z,62nm,18.9s,baz=31,slow=30						
DAVOX	**Davos/Dischmat**	**95.96**	**44**	LR	LR	04 44 30.1	
	comp=Z,20nm,20.1s,baz=266,slow=35						
MAW	**Mawson**	**99.64**	**166**	LR	LR	04 44 53.6	
	comp=Z,30nm,19.2s,baz=90,slow=34						
H11N3	**WAKE ISLAND Hyl**	**14.53**	**288**	T	T	06 11 32.9	
	baz=91,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hyl**	**14.54**	**288**	T	T	06 11 33.0	
	baz=91,slow=74,SNR=18						
H11N1	**WAKE ISLAND Hyl**	**14.55**	**288**	T	T	06 11 32.8	
	baz=91,slow=74,SNR=15						
H11S2	**WAKE ISLAND Hyl**	**14.71**	**286**	T	T	06 11 40.2	
	baz=97,slow=28,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**14.71**	**286**	T	T	06 11 40.2	
	baz=97,slow=28,SNR=8.4						
H11S3	**WAKE ISLAND Hyl**	**14.72**	**286**	T	T	06 11 40.2	
	baz=97,slow=28,SNR=7.4						
ZALV	**Zalesovo Beam**	**132.98**	**12**	PKP	PKPdf	04 07 38.6	-1.1
	comp=Z,1.0nm,0.5s,baz=347,slow=4.6,SNR=4.7						
ASAR	**Alice Springs**	**134.04**	**225**	PKP	PKPdf	04 07 42.3	-0.5
	comp=Z,1.0nm,0.7s,baz=108,slow=2.1,SNR=5.7						
KURBB	**Kurchatov Arra**	**134.31**	**19**	PKP	PKPdf	04 07 42.4	+0.1
	comp=Z,0.3nm,0.4s,baz=325,slow=2.4,SNR=4.3						
WRA	**Warramunga Arr**	**136.02**	**230**	PKP	PKPdf	04 07 45.7	-0.8
	comp=Z,2.8nm,0.8s,baz=132,slow=1.5,SNR=18						
MKAR	**Makanchi Array**	**138.87**	**19**	PKP	PKPdf	04 07 50.6	-0.3
	comp=Z,0.3nm,0.3s,baz=309,slow=2.9,SNR=2.8						
NIL	**Nilore**	**144.78**	**41**	PKPdf	PKPab	04 08 01.0	+0.1
SOEI	**Soe**	**149.87**	**234**	PKPbc	PKPbc	04 08 14.3	-1.6
PZH	**PanZhiHua**	**161.96**	**355**	PKP	PKPdf	04 08 25.0	-1.6
CMAR	**Chiang Mai Arr**	**169.98**	**6**	PKP	PKPdf	04 08 33.4	+0.3
	comp=Z,0.8nm,0.5s,baz=288,slow=2.3,SNR=6.1						
CMAR				PKPab	PKPab	04 09 46.8	-1.0
	comp=Z,1.8nm,0.5s,baz=327,slow=6.1,SNR=9.1						

*NEIC **27** 03:49:34.9±2.0, 4°6S±0°1×149°56E±0°07, h534km±6km, mb4.5/48, Error ellipse: s-maj=16.8km s-min=9.0km az=155.0*
*IDC **27** 03:49:35.4±0.8, 4°64S×149°47E, h539km±9km, mb3.7/14, mbtmp4.6/17, Error ellipse: s-maj=15.3km s-min=8.6km az=112.0*
*DJA **27** 03:49:35.6±0.4, 5°S±5°×15°0E±°, h542km±5km, M4.7/13, mB4.9/4, mb4.6/13, MLv4.9/3, Mw(mB)4.2/4*

ISC 27 03:49:36.0±0.3, 4°64S±0°05×149°54E±0°06, h550km, n381, σ0°92/375, mb4.4/43, 1C, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.50**	**82**	P	P	03 50 45.9	-2.3
	202nm,0.6s,baz=311,slow=24,SNR=11						
RABL	**Rabaul**	**2.65**	**80**	P	P	03 50 46.0	-3.0
MANU	**Manus Island**	**3.37**	**320**	P	P	03 50 51.9	-1.6
MANU	**Manus Island**	**3.37**	**320**	P	P	03 50 53.5	0.0
PMG	**Port Moresby**

STKA	Stephens Creek	28.10	194	P	P	03 54 42.8	-1.1
STKA	Stephens Creek	28.10	194	P	P	03 54 43.9	-0.1
STKA	Stephens Creek	28.10	194	P	P	03 54 43.6	-0.4
	comp=Z,9.7nm,0.6s,baz=3.5,slow=8.8,SNR=22						
STKA				ScP	ScP	04 00 31.1	+1.5
	comp=Z,3.3nm,0.8s,baz=308,slow=5.1,SNR=3.4						
	comp=Z,9.7nm,0.6s						
MGCD	Mangrove Creek	28.46	177	P	P	03 54 48.1	+1.0
	baz=28,SNR=4.3						
MGCD	Mangrove Creek	28.46	177	P	P	03 54 48.6	+1.5
WRKA	Warakurna	28.77	223	P	P	03 54 49.5	-0.5
	baz=29,SNR=44						
WRKA	Warakurna	28.77	223	P	P	03 54 49.7	-0.3
MULG	Mulgathing	29.40	208	P	P	03 54 55.0	-0.2
YNG	Young	29.53	182	P	P	03 54 57.5	+1.2
	baz=30						
YNG	Young	29.53	182	P	P	03 54 57.7	+1.3
NFK	Norfolk Island	29.89	146	P	P	03 55 01.7	+2.2
	baz=30						
HTT	Hallett	30.31	198	P	P	03 55 03.3	+0.2
	baz=30,SNR=24						
HTT	Hallett	30.31	198	P	P	03 55 03.3	+0.2
CNB	Canberra Magne	30.52	180	P	P	03 55 06.1	+1.1
	baz=31,SNR=7.1						
CNB	Canberra Magne	30.52	180	P	P	03 55 06.3	+1.3
BBOO	Buckleboo	30.73	203	P	P	03 55 06.4	-0.3
	baz=31,SNR=8.8						
BBOO	Buckleboo	30.73	203	P	P	03 55 06.4	-0.3
ARPS	Mount Arapiles	32.75	191	P	P	03 55 24.5	+0.7
	baz=33,SNR=7.7						
ARPS	Mount Arapiles	32.75	191	P	P	03 55 24.7	+0.9
FORT	Forrest	32.95	215	P	P	03 55 25.5	-0.2
	baz=33,SNR=11						
FORT	Forrest	32.95	215	P	P	03 55 25.4	-0.2
TOO	Toolangi	32.99	186	P	P	03 55 27.0	+1.1
	baz=33,SNR=13						
TOO	Toolangi	32.99	186	P	P	03 55 25.2	-0.6
TOO	Toolangi	32.99	186	P	P	03 55 27.3	+1.4
BRAT	Ballarat	33.16	188	P	P	03 55 27.7	+0.5
MEEK	Meekatharra	36.76	230	P	P	03 55 57.0	-0.5
	baz=37,SNR=6.0						
MEEK	Meekatharra	36.76	230	P	P	03 55 57.3	-0.2
KMBL	Kambalda	37.17	221	P	P	03 56 00.2	-0.6
	baz=37,SNR=5.1						
KMBL	Kambalda	37.17	221	P	P	03 56 00.3	-0.5
MOO	Moorlands	37.70	183	P	P	03 56 06.3	+1.4
	baz=38,SNR=3.5						
TAU	Tasmania Unive	38.16	183	P	P	03 56 10.4	+1.8
KLBR	Kellerberrin	40.10	224	P	P	03 56 23.5	-1.0
RTZ	Ruatahuna	42.02	147	P	P	03 56 39.3	-0.3
BKZ	Black Stump Fm	42.16	148	P	P	03 56 41.6	+0.9
KSRS	Korea Array	46.47	336	PcP	PcP	03 58 38.1	+1.0
	comp=Z,0.9nm,0.7s,baz=160,slow=4.0,SNR=4.3						
NJ2	Nanjing	46.73	323	eP	P	03 57 17.0	+1.1
NJ2				pP	pP	03 58 55.8	-0.5
NJ2				sP	sP	03 59 56.5	-0.4
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,250nm,4.2s						
MDJ	Mudanjiang	52.20	342	P	P	03 57 57.0	+1.1
MDJ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,230nm,5.2s						
KMI	Kunming	54.23	305	⇑P	P	03 58 09.0	-2.0
KMI				pmax	pmax		
	comp=Z,12nm,0.8s						
CMAR	Chiang Mai Arr	54.88	296	P	P	03 58 14.9	-0.6
	comp=Z,0.9nm,0.3s,baz=124,slow=5.6,SNR=4.5						
	comp=Z,0.9nm,0.3s						
PZH	PanZhiHua	55.65	306	P	P	03 58 21.8	+1.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,150nm,4.7s						
HHC	Hu-ho-hao-te	57.07	326	eP	P	03 58 32.8	+2.6
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,6.4s						
PETK	Petropavlovsk-	57.94	6	P	P	03 58 36.4	+0.6
	comp=Z,5.7nm,0.6s,baz=156,slow=6.1,SNR=12						
	comp=Z,5.7nm,0.6s						
SONM	Songino Array	64.50	329	P	P	03 59 20.4	+1.4
	comp=Z,2.9nm,0.6s,baz=162,slow=4.7,SNR=3.0						
	comp=Z,2.9nm,0.6s						
CASY	Casey	67.24	196	P	P	03 59 35.4	-0.2
VNDA	Vanda	73.13	177	P	P	04 00 10.5	+0.3
VNDA	Vanda	73.13	177	P	P	04 00 11.0	+0.7
	comp=Z,2.1nm,0.5s,baz=332,slow=7.0,SNR=17						
	comp=Z,2.1nm,0.5s						
WMQ	Urumqi	73.44	318	eP	P	04 00 13.8	+1.0
S14K	Fog Glacier	73.51	27	P	P	04 00 13.4	+0.5
	baz=234						
GAMB	Gambell	74.14	17	P	P	04 00 17.2	+1.1
	baz=220						
M13K	Dall Lake	74.52	22	P	P	04 00 19.6	+1.2
	baz=229						
O14K	Tigyukauivet M	74.59	24	P	P	04 00 20.1	+1.3
	baz=231						
O15K	Ungalikthiuk R	75.13	24	P	P	04 00 22.7	+0.9
	baz=233						
M14K	Bethel	75.26	22	IAmb	IAmb	04 00 24.8	
	comp=Z,24nm,1.0s						
M14K	Bethel	75.26	22	P	P	04 00 23.5	+1.0
	baz=230						
L14K	Kuka Creek	75.37	22	P	P	04 00 24.5	+1.4
	baz=230						
N15K	Kwethluk River	75.62	23	P	P	04 00 25.9	+1.3
	baz=232						
R17K	Ugashik Creek	75.71	27	P	P	04 00 25.5	+0.4
	baz=236						
M15K	Kasigluk River	75.71	23	P	P	04 00 26.1	+1.1
	baz=232						
P16K	Nushagak River	75.80	25	P	P	04 00 26.0	+0.4
	baz=235						
J14K	Nanvaranak Lak	75.99	20	P	P	04 00 28.1	+1.6
	baz=229						
O16K	Kokwok River B	76.09	25	P	P	04 00 27.6	+0.4
	baz=234						
Q17K	Contact Creek	76.28	26	P	P	04 00 28.2	-0.1
	baz=237						
N16K	Nishlik Lake	76.33	24	P	P	04 00 29.7	+1.2
	baz=234						
K15K	Wolf Creek Mou	76.41	21	P	P	04 00 30.0	+1.2
	baz=231						
P17K	Kvichak River	76.56	25	P	P	04 00 29.9	+0.2
	baz=236						
M16K	Timber Creek	76.59	23	P	P	04 00 31.2	+1.3
	baz=233						
O17K	Koliganek Bris	76.61	25	P	P	04 00 30.7	+0.8
	baz=235						
L16K	Owhat River	76.80	22	P	P	04 00 31.7	+0.7
	baz=233						
Q18K	Katmai Hardscr	76.88	26	P	P	04 00 32.0	+0.3
	baz=237						
N17K	Nushagak Hills	77.00	24	P	P	04 00 31.8	-0.4
	baz=235						
J16K	Anvik River	77.36	21	P	P	04 00 34.9	+0.8
	baz=231						
M17K	Holitna River	77.41	23	P	P	04 00 35.5	+1.2
	baz=235						
L17K	Donlin	77.50	22	P	P	04 00 36.3	+1.5
	baz=234						
KDAK	Kodiak Island	77.52	28	P	P	04 00 36.3	+1.3
	baz=240						
H16K	Elim	77.67	19	P	P	04 00 36.8	+1.1
	baz=230						
I17K	Unalakleet	77.71	20	P	P	04 00 37.3	+1.4
	baz=231						
K17K	Iditarod	77.85	22	P	P	04 00 38.0	+1.4
	baz=234						
Q20K	Shuyak Island	78.02	27	P	P	04 00 38.4	+0.7
	baz=240						
MK31	Makanchi Array	78.09	320	P	P	04 00 38.3	-0.1
MKAR	Makanchi Array	78.09	320	P	P	04 00 38.3	-0.1
MKAR	Makanchi Array	78.09	320	P	P	04 00 38.6	+0.2
	comp=Z,1.6nm,0.7s,baz=102,slow=7.7,SNR=8.5						
	comp=Z,1.6nm,0.7s						
M18K	Stony River	78.09	24	P	P	04 00 39.1	+1.1
	baz=236						
G16K	Koyuk River	78.13	19	P	P	04 00 39.0	+0.9
	baz=229						
L18K	Granite Mounta	78.17	23	IAmb	IAmb	04 00 40.5	
	comp=Z,10nm,0.8s						
L18K	Granite Mounta	78.17	23	P	P	04 00 39.7	+1.3
	baz=235						
P19K	Oil Pt	78.18	26	P	P	04 00 39.5	+0.8
	baz=239						
N19K	Bonanza Creek	78.27	25	P	P	04 00 39.8	+0.7
	baz=238						
H17K	Granite Mounta	78.63	20	P	P	04 00 41.9	+1.0
	baz=232						
O20K	Slope Mountain	78.67	26	P	P	04 00 42.1	+0.9
	baz=239						
G17K	Kiwalik Mounta	78.74	19	P	P	04 00 42.3	+0.8
	baz=231						
TTA	Tatalina	78.83	22	P	P	04 00 42.8	+0.8
	baz=236						
L19K	White Mountain	78.86	23	IAmb	IAmb	04 00 44.3	
	comp=Z,14nm,0.9s						
L19K	White Mountain	78.86	23	P	P	04 00 43.1	+0.9
	baz=237,SNR=6.6						
J18K	Innoko River	78.87	22	P	P	04 00 42.8	+0.6
	baz=235						
M19K	Big River Lodg	78.89	24	P	P	04 00 43.1	+0.8
	baz=237						
F17K	Baldwin Pennin	79.15	18	P	P	04 00 44.8	+1.2
	baz=230						
ZALV	Zalesovo Beam	79.24	327	P	P	04 00 43.6	-0.6
	comp=Z,2.4nm,0.6s,baz=116,slow=7.6,SNR=9.8						
	comp=Z,2.4nm,0.6s						
BRSE	Bradley Lake S	79.32	26	P	P	04 00 44.7	0.0
	baz=241						
M20K	Styx River	79.39	24	P	P	04 00 45.6	+0.6
	baz=239						
E17K	Hotham Inlet	79.39	17	P	P	04 00 46.2	+1.3
	baz=230						
L20K	Farewell, AK	79.40	23	P	P	04 00 46.4	+1.3
	baz=238						
N20K	Mount Spurr	79.42	25	P	P	04 00 46.2	+1.0
	baz=240						
SPCR	Spurr Chakacha	79.42	25	P	P	04 00 46.3	+1.1
	baz=240						
J19K	Poorman	79.58	21	P	P	04 00 46.7	+0.9
	baz=236						
G18K	Tagagawik	79.64	19	P	P	04 00 46.8	+0.7
	baz=233						
CAPN	Captain Cook N	79.64	25	P	P	04 00 47.0	+0.8
	baz=241						
K20K	Telida	79.80	22	P	P	04 00 48.2	+1.1
	baz=238						
C17K	DeLong Mountai	79.93	16	P	P	04 00 48.5	+0.9
	baz=228						
E18K	Tukpahlearik C	79.98	17	P	P	04 00 48.5	+0.6
	baz=231						
SEW	Seward	80.07	26	P	P	04 00 48.9	+0.4
	baz=242						
SKT	Skwentna	80.09	24	P	P	04 00 47.8	-0.9
	baz=240						
H19K	Roundabout Mou	80.16	20	IAmb	IAmb	04 00 53.9	
	comp=Z,21nm,1.4s						
H19K	Roundabout Mou	80.16	20	P	P	04 00 49.8	+0.9
	baz=235						
J20K	Nowinta River	80.22	22	P	P	04 00 50.4	+1.2
	baz=237						
G19K	Purcell Mounta	80.30	19	P	P	04 00 50.5	+0.9
	baz=234						
RC01	Rabbit Creek A	80.41	25	P	P	04 00 50.6	+0.4
	baz=242						
F19K	Shaleruckik Mo	80.49	19	P	P	04 00 51.1	+0.6
	baz=234						
M22K	Willow	80.56	25	P	P	04 00 50.9	-0.1
	baz=241						
C18K	Utukok River	80.59	16	P	P	04 00 51.7	+0.5
	baz=230						
CAST	Castle Rocks	80.60	23	P	P	04 00 51.0	-0.2
CAST				IAmb	IAmb	04 00 52.2	
	comp=Z,17nm,1.1s						
CAST	Castle Rocks	80.60	23	P	P	04 00 51.4	+0.2
	baz=239,SNR=6.5						
H20K	Anotleneega Mo	80.68	20	P	P	04 00 52.2	+0.6
	baz=236						
CHUM	Lake Minchumin	80.75	22	P	P	04 00 52.6	+0.6
	baz=239,SNR=6.1						
PMR	Palmer	80.90	25	P	P	04 00 52.7	0.0
	baz=242						
PWL	Port Wells	80.91	26	P	P	04 00 53.4	+0.6
	baz=243						
E19K	Redstone River	81.03	18	P	P	04 00 53.9	+0.5
E19K				IAmb	IAmb	04 00 55.4	
	comp=Z,13nm,0.8s						
E19K	Redstone River	81.03	18	P	P	04 00 54.0	+0.7
	baz=234						
KNK	Knik Glacier	81.10	25	P	P	04 00 54.5	+0.6
	baz=243						
Q23K	Middleton Isla	81.17	28	P	P	04 00 53.7	-0.5
	baz=245						
NIL	Nilore	81.22	305	P	P	04 00 55.5	+0.4
NIL				IAmb	IAmb	04 00 56.5	
	comp=Z,8.2nm,0.7s						
F20K	Avaraart Lake	81.27	19	P	P	04 00 55.9	+1.4
	baz=235						
TRF	Thorofare Moun	81.31	23	P	P	04 00 55.9	+0.8
	baz=241						
C19K	Lookout Ridge	81.33	16	P	P	04 00 56.1	+1.1
	baz=231						
IMAR	Indian Mountai	81.34	20	P	P	04 00 55.4	+0.4
SML	Sawmill	81.34	25	P	P	04 00 55.8	+0.6
	baz=243						
BPAW	Bear Paw Mtn.	81.36	22	P	P	04 00 55.0	-0.2
	baz=240						
D19K	Kuna River	81.38	17	P	P	04 00 55.7	+0.5
	baz=233						
GLI	Glacier Island	81.46	26	P	P	04 00 55.7	0.0
	baz=244						
H21K	Melozitna Rive	81.49	21	P	P	04 00 56.6	+0.8
	baz=238						
I21K	Tanana	81.54	21	P	P	04 00 56.5	+0.5
	baz=239						
A19K	Wainwright	81.63	15	P	P	04 00 56.9	+0.6
	baz=230						
KURK	Kurchatov	81.66	323	P	P	04 00 56.1	-0.8
KURBB	Kurchatov Arra	81.68	323	P	P	04 00 57.1	+0.1
	comp=Z,2.8nm,0.8s,baz=110,slow=4.0,SNR=25						
	comp=Z,2.8nm,0.8s						
G21K	Allakaket	81.71	20	P	P	04 00 58.2	+1.3
	baz=238						
WAT1	Susitna Watana	81.72	24	P	P	04 00 57.7	+0.7
	baz=243						
SCM	Sheep Creek Mo	81.78	25	P	P	04 00 57.9	+0.5
	baz=244						
E20K	Nigu River	81.82	18	P	P	04 00 58.6	+1.1
	baz=235						
RND	Reindeer	81.86	24	P	P	04 00 56.5	-1.3
MLY	Manley	81.92	22	IAmb	IAmb	04 00 59.4	
	comp=Z,11nm,1.0s						
MLY	Manley	81.92	22	P	P	04 00 58.4	+0.4
	baz=240,SNR=5.9						
WAT6	Susitna Watana	81.94	25	P	P	04 00 58.7	+0.4
	baz=243						
D20K	Etivluk River	81.96	17	P	P	04 00 58.4	+0.3
	baz=234						
MCK	McKinley	81.98	23	P	P	04 00 58.0	-0.4
	baz=242,SNR=7.2						
F21K	Alatna River	82.10	19	P	P	04 00 58.3	-0.6
	baz=238						
KLU	Klutina	82.23	26	P	P	04 01 00.6	+0.9
	baz=245						
KAIM	Kayak Island	82.27	28	P	P	04 00 59.9	+0.1
	baz=247						
DHY	Denali Highway	82.31	24	IAmb	IAmb	04 01 01.9	
	comp=Z,11nm,0.8s						
DHY	Denali Highway	82.31	24	P	P	04 01 01.0	+0.8
	baz=244						
NEA2	Nenana	82.33	22	IAmb	IAmb	04 01 19.2	
	comp=Z,13nm,0.9s						
NEA2	Nenana	82.33	22	P	P	04 01 00.0	-0.1
	baz=242,SNR=5.2						
M24K	Tolsona, Glenn	82.39	25	P	P	04 01 01.3	+0.8
	baz=245						
I23K	Minto, Yukon-K	82.49	22	P	P	04 01 01.0	+0.2
	baz=242						
B20K	Meade River	82.56	16	P	P	04 01 01.2	+0.2
	baz=234						
G22K	Bettles	82.60	20	P	P	04 01 02.4	+1.1
	baz=239						
E21K	Killik River	82.60	18	IAmb	IAmb	04 01 03.2	
	comp=Z,12nm,0.8s						
E21K	Killik River	82.60	18	P	P	04 01 02.2	+0.8
	baz=237						
WRH	Wood River Hil	82.65	23	IAmb	IAmb	04 01 02.1	
	comp=Z,13nm,1.0s						
F22K	John River	82.68	19	P	P	04 01 02.6	+0.8
	baz=239						
H23K	Yukon River	82.74	21	P	P	04 01 02.5	+0.4
	baz=241						
C21K	Knifeblade Rid	82.75	17	P	P	04 01 02.4	+0.3
	baz=236						
CCB	Clear Creek Bu	82.84	23	IAmb	IAmb	04 01 02.9	
	comp=Z,9.4nm,0.8s						
N25K	Chitina, Valde	82.86	26	P	P	04 01 03.3	+0.4
	baz=246						
BGLC	Bering Glacier	82.87	28	P	P	04 01 02.8	0.0
	baz=248						
HARP	HAARP	82.94	25	P	P	04 01 03.8	+0.6
	baz=246						
G23K	Bananza Creek	83.00	20	P	P	04 01 03.5	0.0
G23K				IAmb	IAmb	04 01 05.3	
	comp=Z,10nm,0.8s						
G23K	Bananza Creek	83.00	20	P	P	04 01 04.6	+1.2
	baz=241						
ARSB	Arslanbob	83.01	312	P	P	04 01 04.6	+0.4
PAX	Paxson	83.05	25	P	P	04 01 04.6	+0.8
	baz=246						
B21K	Ikpikpuk River	83.06	17	P	P	04 01 04.3	+0.7
	baz=236						
HDA	Harding Lake	83.07	23	P	P	04 01 04.0	+0.3
	baz=244						
COLD	Coldfoot	83.19	20	P	P	04 01 05.1	+0.8
	baz=241						
POKR	Poker Plat Res	83.19	22	P	P	04 01 04.6	+0.1
	baz=243						
CRQE	Cirque	83.20	27	P	P	04 01 04.9	+0.2
	baz=248						
D22K	Ayikyak River	83.24	18	P	P	04 01 05.9	+1.4
	baz=238						
IL31		83.25	23	IAmb	IAmb	04 01 04.7	
	comp=Z,10nm,0.7s						
ILAR	Eielson Array	83.25	23	P	P	04 01 03.9	-0.8
	comp=Z,7.7nm,0.6s,baz=252,slow=4.9,SNR=140						
	comp=Z,7.7nm,0.6s						
K24K	Donnelly Dome	83.27	24	P	P	04 01 05.8	+1.0
	baz=245						
H24K	Noodor Dome	83.36	22	P	P	04 01 05.5	+0.2
	baz=243						
MCARA	McCarthy VSAT	83.47	27	P	P	04 01 05.8	-0.1
	baz=248						
RIDG	Independent Ri	83.62	24	IAmb	IAmb	04 01 10.8	
	comp=Z,18nm,1.0s						
RIDG	Independent Ri	83.62	24	P	P	04 01 06.9	+0.3
	baz=246						
J25K	Salcha River,	83.77	23	P	P	04 01 06.5	-0.8
J25K	Salcha River,	83.77	23	P	P	04 01 07.5	+0.1
	baz=245,SNR=10						
E23K	Chandalar	83.80	19	P	P	04 01 08.6	+1.1
	baz=241						
G24K	Hadweenzic Riv	83.89	21	P	P	04 01 08.3	+0.5
	baz=243						
D23K	Nanushuk River	83.90	18	P	P	04 01 09.3	+1.5
	baz=240						
L26K	Log Cabin Wild	83.96	25	P	P	04 01 09.2	+0.9
	baz=247						
SCRK	Sand Creek	84.06	24	IAmb	IAmb	04 01 08.0	
	comp=Z,7.9nm,1.1s						
CTG	Chitna Glacier	84.08	27	P	P	04 01 09.9	+0.8
	baz=249						
PRP	Porcupine Dome	84.09	22	P	P	04 01 09.0	0.0
	baz=245						
TOLK	Toolik Lake Re	84.09	19	P	P	04 01 10.0	+1.2
	baz=241						
F24K	Squaw Lake	84.12	20	IAmb	IAmb	04 01 11.3	
	comp=Z,13nm,0.8s						
F24K	Squaw Lake	84.12	20	P	P	04 01 10.0	+1.1
	baz=243						
E24K	Your Creek	84.18	19	P	P	04 01 10.1	+0.8
	baz=242						
M27K	Edge Creek, AK	84.33	26	P	P	04 01 11.3	+1.0
	baz=249						
C23K	Itkillik River	84.36	18	P	P	04 01 11.3	+1.3
	baz=240						
J26L	Joseph Creek	84.44	24	P	P	04 01 12.1	+1.5
	baz=247						
O28M	Mount Upton	84.54	28	P	P	04 01 12.2	+0.8
	baz=250						
PNL	Peninsula	84.55	29	P	P	04 01 12.3	+1.0
	baz=251						
D24K	Happy Valley	84.58	18	P	P	04 01 12.5	+1.4
	baz=242						
L27K	Beaver Creek,	84.61	25	IAmb	IAmb	04 01 14.1	
	comp=Z,19nm,1.2s						
L27K	Beaver Creek,	84.61	25	P	P	04 01 12.5	+1.0
	baz=249						
YUK3	Moose Creek	84.76	27	P	P	04 01 13.0	+0.5
	baz=250						
BVCY	Beaver Creek	84.80	26	P	P	04 01 14.0	+1.6
	baz=250						
K27K	Chicken	84.86	24	IAmb	IAmb	04 01 15.3	
	comp=Z,15nm,1.1s						
K27K	Chicken	84.86	24	P	P	04 01 13.8	+1.2
	baz=248						
C24K	Franklin Bluff	84.89	18	P	P	04 01 13.8	+1.2
	baz=242						
YUK8	Steele Glacier	84.91	27	P	P	04 01 13.8	+0.6
	baz=251						
I26K	Coal Creek Min	84.91	23	P	P	04 01 13.3	+0.5
	baz=247						
F25K	Christian Rive	84.93	20	P	P	04 01 13.7	+0.8
	baz=245						
O29M	Mount Kennedy	85.14	28	P	P	04 01 15.4	+1.1
	baz=252						
KK31	Karatay Array	85.17	314	P	P	04 01 13.9	-0.8
KKAR	Karatay Array	85.17	314	P	P	04 01 14.9	+0.3
E25K	Arctic Village	85.18	20	P	P	04 01 15.5	+1.4
	baz=245						
G26K	Porcupine Rive	85.32	21	P	P	04 01 15.6	+0.8
	baz=247						
P29M	Windy Craggy	85.34	29	P	P	04 01 15.8	+0.7
	baz=253						
D25K	Kavik River	85.43	19	IAmb	IAmb	04 01 16.6	
	comp=Z,8.3nm,0.8s						
D25K	Kavik River	85.43	19	P	P	04 01 16.4	+1.0
	baz=244						
YUK4	Talbot Arm	85.44	27	P	P	04 01 17.0	+1.3
	baz=252						
YUK6	Outpost Mounta	85.44	28	P	P	04 01 16.0	+0.2
	baz=252						
F26K	Sheenjek River	85.49	21	P	P	04 01 16.4	+0.8
	baz=246						
I27K	Kandik River	85.62	23	P	P	04 01 17.1	+0.8
	baz=249						
HYT	Haines Junctio	85.81	28	P	P	04 01 18.4	+1.0
	baz=253						
P30M	Million Dollar	85.86	29	P	P	04 01 19.1	+1.5
	baz=253						
M29M	Somme Creek	85.86	26	P	P	04 01 18.7	+1.1
	baz=252						
H27K	Steamboat Moun	85.88	22	P	P	04 01 18.4	+0.8
	baz=249						
PLBC	Pleasant Camp	85.96	29	P	P	04 01 17.9	-0.1
	baz=254						
DAWY	Dawson	85.98	25	P	P	04 01 19.4	+1.3
	baz=251						
G27K	Doyon Strip	86.05	22	P	P	04 01 19.1	+0.8
	baz=249						
C26K	Camden Bay	86.15	18	P	P	04 01 20.0	+1.3
	baz=245						
N30M	Aishikik Lake	86.19	27	P	P	04 01 19.9	+0.8
	baz=253						
L29M	L29M	86.21	26	P	P	04 01 20.5	+1.3
	baz=252						
I28M	Miner Creek	86.22	23	P	P	04 01 20.3	+1.1
	baz=250						
O30N	Mendenhall	86.45	28	P	P	04 01 21.7	+1.3
	baz=254						
E27K	Coleen River	86.57	20	P	P	04 01 21.7	+0.9
E27K				IAmb	IAmb	04 01 23.1	
	comp=Z,13nm,0.9s						
E27K	Coleen River	86.57	20	P	P	04 01 21.7	+0.9
	baz=249						
M30M	Minto, Yukon	86.64	26	P	P	04 01 22.1	+0.9
	baz=253						
K29M	Barlow Dome	86.70	25	P	P	04 01 23.0	+1.4
	baz=253						
N31M	Braeburn, Yuko	86.80	28	P	P	04 01 23.0	+1.0
	baz=254						
U33K	Whale Pass	86.80	33	P	P	04 01 23.3	+1.3
	baz=257						
I29M	Ogilvie Camp,	86.84	24	P	P	04 01 22.5	+0.4
	baz=252						
F28M	Old Crow	86.98	21	P	P	04 01 23.2	+0.5
	baz=250						

WHY	Whitehorse baz=255	87.00	29	P	P	04 01 23.7	+0.6
BVAR	Borovoye Array comp=Z,2.1nm,0.7s,baz=120,slow=5.8,SNR=7.9 comp=Z,2.1nm,0.7s	87.18	324	P	P	04 01 23.0	-0.9
P32M	Atlin baz=256	87.30	30	P	P	04 01 24.8	+0.5
J30M	Hart River comp=Z,8.0nm,0.7s	87.41	25	IAmb	IAmb	04 01 27.1	
J30M	Hart River baz=254	87.41	25	P	P	04 01 26.0	+1.1
E28M	Babbage River baz=250	87.43	20	P	P	04 01 25.6	+0.9
G29M	Pine Creek baz=252	87.43	22	P	P	04 01 25.3	+0.5
I30M	Mount Dempster baz=254	87.57	24	P	P	04 01 25.5	-0.2
M31M	Drury Creek, Y baz=256	87.62	27	P	P	04 01 26.1	+0.3
EPYK	Eagle Plains baz=253	87.77	23	P	P	04 01 26.9	+0.5
FARO	Faro, Yukon baz=256	88.10	27	P	P	04 01 28.3	+0.3
G30M	tAoh Zraii Nji baz=254	88.13	22	P	P	04 01 29.0	+0.9
F30M	Barrier River baz=254	88.47	22	P	P	04 01 29.9	+0.2
H31M	Peel River baz=255	88.55	24	P	P	04 01 30.2	+0.2
R33M	Jennings River baz=259	88.62	30	P	P	04 01 31.2	+0.5
G31M	Satah River baz=256,SNR=5.4	88.86	23	P	P	04 01 31.8	+0.5
F31M	Tsiigehtchic baz=256	89.18	22	P	P	04 01 33.4	+0.5
INK	Inuvik baz=256	89.47	21	P	P	04 01 35.3	+1.1
TGTN	Hyland Airport baz=261	90.32	28	P	P	04 01 38.9	+0.5
LIRD	Liard River Hi baz=263	91.08	31	P	P	04 01 42.3	+0.4
WRGLY	Wrigley baz=265	92.75	27	P	P	04 01 50.0	+0.6
PKM	Mcpherson Peak baz=267	93.15	55	P	P	04 01 52.2	-0.1
ISA	Isabella, Lake baz=267	94.29	55	P	P	04 01 56.8	-0.4
NVAR	Mina Array Bea comp=Z,0.6nm,0.7s,baz=250,slow=5.9,SNR=4.4 comp=Z,0.6nm,0.7s	94.54	52	P	P	04 01 59.1	+0.6
CWC	Cottonwood Cre baz=268	94.64	54	P	P	04 01 58.6	-0.3
EDW2	Edwards Air Fo baz=268	94.64	55	P	P	04 01 58.8	-0.1
BFSC	Mount Baldy Ra baz=268	94.89	56	P	P	04 02 00.3	+0.2
MPMC	Manual Prospec baz=268	95.10	54	P	P	04 02 01.0	-0.1
NEW	Newport baz=269	95.65	42	P	P	04 02 03.6	+0.5
PFO	Pinyon Flats O baz=268	95.87	57	P	P	04 02 05.7	+1.2
TPFO	Pinon Flats baz=268	95.87	57	P	P	04 02 05.9	+1.3
MONP2	Monument Peak baz=268	95.88	58	P	P	04 02 05.6	+0.9
TPNV	Topopah Spring baz=269	96.12	53	P	P	04 02 06.2	+0.6
BELC	Belle Mtn. Jos baz=269	96.26	56	P	P	04 02 06.7	+0.4
YKA	Yellowknife Ar comp=Z,2.3nm,1.1s,baz=279,slow=4.3,SNR=5.0 comp=Z,2.3nm,1.1s	96.80	28	P	P	04 02 08.6	+0.8
BW06	Boulder Array baz=274	101.14	47	P	Pdif	04 02 27.0	-0.9
PDAR	Pinedale Array comp=Z,0.5nm,0.6s,baz=223,slow=1.9,SNR=5.3	101.14	47	P	Pdif	04 02 27.4	-0.5
ISCO	Idaho Springs baz=276	104.36	50	P	Pdif	04 02 41.2	-1.2
ECSD	EROS Data Cent baz=284	110.33	45	P	PKiKP	04 07 05.8	-0.3
JFWS	Jewell Farm baz=288	115.02	44	P	PKiKP	04 07 14.9	-0.2
CCM	Cathedral Cave baz=285	115.68	50	P	PKiKP	04 07 15.8	-0.7
WCI	Wyandotte Cave baz=289	119.36	48	P	PKiKP	04 07 22.8	-0.8
LRAL	Lakeview Retre baz=286	120.35	54	P	PKiKP	04 07 25.0	-0.7
CONA	Conrad Observa comp=Z,3.0nm,1.2s	121.50	325	*e*PKiKP	PKiKP	04 07 27.7	0.0
PLCA	Paso Flores comp=Z,0.4nm,0.4s,baz=170,slow=6.1,SNR=3.3	121.82	145	PKP	PKiKP	04 07 29.5	+1.0
M53A	WI Miller and baz=295	122.18	43	P	PKiKP	04 07 28.3	-0.8
GEC2	GERESS Array S	122.19	327		PKiKP	04 07 28.5	-0.5
GERES	GERESS Array B comp=Z,2.2nm,0.6s,baz=87,slow=1.2,SNR=8.9	122.19	327	PKP	PKiKP	04 07 29.1	+0.1
O53A	New Philadelph baz=294	122.30	45	P	PKiKP	04 07 29.0	-0.4
GOGA	Godfrey baz=288	123.07	53	P	PKiKP	04 07 30.3	-0.8
MCWV	Mont Chateau baz=295	123.50	45	P	PKiKP	04 07 31.2	-0.6
LESA	Schwarzleotal comp=Z,1.5nm,0.5s	123.57	326	*i* PKiKP	PKiKP	04 07 31.2	-0.5
ABTA	Abfaltersbach comp=Z,2.0nm,0.6s	124.05	326	*i* PKP	PKiKP	04 07 32.1	-0.7
BLA	Blacksburg baz=293	124.08	48	P	PKiKP	04 07 32.1	-0.9
KMSC	Kings Mountain baz=291	124.16	50	P	PKiKP	04 07 32.3	-0.9
STAL	STALIGIAL	124.21	325		PKiKP	04 07 31.7	-1.3
WTTA	Wattenberg comp=Z,4.0nm,0.8s	124.23	326	*e*PKiKP	PKiKP	04 07 32.9	-0.4
SSPA	Standing Stone baz=297	124.42	43	P	PKiKP	04 07 33.3	-0.2
MOTA	Moosalm comp=Z,2.9nm,0.6s	124.48	327	*e*PKiKP	PKiKP	04 07 33.4	-0.3
SQTA	Sankt Quirin comp=Z,2.5nm,0.6s	124.50	327	*e*PKiKP	PKiKP	04 07 33.5	-0.2
LONY	Lake Ozonia baz=303	124.56	37	P	PKiKP	04 07 33.6	-0.1
RETA	Reutte comp=Z,1.2nm,0.5s	124.58	327	*e*PKiKP	PKiKP	04 07 34.2	+0.4
FETA	Feichten comp=Z,5.3nm,1.2s	124.88	327	*e*PKiKP	PKiKP	04 07 34.5	+0.1
EKA	Eskdalemuir Ar comp=Z,1.1nm,0.5s,baz=12,slow=2.2,SNR=11	124.89	341	PKP	PKiKP	04 07 33.7	-0.3
DAVA	Damuels comp=Z,4.5nm,0.7s	125.18	327	*e*PKiKP	PKiKP	04 07 35.0	0.0
LBNH	Lisbon baz=305	126.35	36	P	PKiKP	04 07 36.6	-0.7
L61B	Northampton baz=303	126.89	38	P	PKiKP	04 07 37.7	-0.7
ROSC	El Rosal comp=Z,4.6nm,0.4s,baz=277,slow=2.7,SNR=5.1	136.29	88	PKP	PKiKP	04 07 58.2	-0.5
LPAZ	La Paz comp=Z,0.5nm,0.5s,baz=182,slow=1.9,SNR=2.1	137.33	120	PKhKP	PKPpre	04 07 52.1	
CPUP	Villa Florida comp=Z,1.4nm,0.7s,baz=315,slow=7.1,SNR=4.8	139.68	141	PKP	PKiKP	04 08 03.5	-1.3
BAUV	El Baul	142.45	81	PKPdf	PKPdf	04 08 04.0	-3.5
SIV	San Ignacio comp=Z,2.1nm,0.6s,baz=270,slow=4.2,SNR=15	143.42	125	PKP	PKPdf	04 08 07.9	-1.3
SAML	Samuel	144.69	112	PKPdf	PKPab	04 08 12.1	-0.4
PTLB	Pontes e Lacer	145.29	126	PKPbc	PKPbc	04 08 12.6	-0.9
VILB	Vilhena	145.67	121	PKPbc	PKPab	04 08 15.1	-1.2
TOA0	Torodi Ar. Sit	147.16	287	PKPbc	PKPbc	04 08 18.2	-0.5
TORD	Torodi Ar. Bea	147.16	287		PKPbc	04 08 17.0	-1.7
TORD	Torodi Ar. Bea comp=Z,10nm,0.6s,baz=58,slow=3.0,SNR=113	147.16	287	PKPbc	PKiKP	04 08 18.6	-1.8
BOAV	Boa Vista	149.91	93	PKPdf	PKPdf	04 08 18.2	-1.8
BOAV				PKPbc	PKiKP	04 08 24.9	-1.3
BDFB	Brasilia comp=Z,0.8nm,0.4s,baz=235,slow=1.2,SNR=6.8	153.39	140	PKPbc	PKiKP	04 08 33.6	+0.2
DBIC	Dimbokro comp=Z,2.1nm,0.5s,baz=96,slow=4.7,SNR=4.8	154.45	276	PKPab	PKPab	04 08 53.2	+0.4

*IDC **27** 03:50:53.5±2.4, 7°.54S×148°.57E, h244km±31km, mb3.2/6, mbtmp3.9/8, Error ellipse: s-maj=56.8km s-min=20.6km az=123.0*

ISC 27 03:50:54.0±1.3, 7°.5S±0°.2×148°.6E±0°.2, h250km, n9, σ1§47/9, mb3.5/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	4.68	47	P	Pn	03 52 05.5	-0.6
	188nm,0.6s,baz=294,slow=22,SNR=2.4						
WRA	Warramunga Arr 1.5nm,0.5s,baz=44,slow=11,SNR=1.6	18.53	227	P	P	03 54 50.8	-1.7
ASAR	Alice Springs 2.1nm,0.8s,baz=56,slow=8.8,SNR=2.6 2.1nm,0.8s	21.36	220	P	P	03 55 22.8	+0.6
CMAR	Chiang Mai Arr 0.9nm,0.3s,baz=110,slow=5.2,SNR=1.5 0.9nm,0.3s	55.38	298	P	P	04 00 03.8	+0.9
SONM	Songino Array 1.0nm,0.3s,baz=153,slow=9.7,SNR=2.6 1.0nm,0.3s	66.52	330	P	P	04 01 15.3	-2.0
MKAR	Makanchi Array 0.7nm,0.9s,baz=131,slow=6.5,SNR=2.5 0.7nm,0.9s	79.70	320	P	P	04 02 35.8	+1.7
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=78,slow=9.7,SNR=3.2 0.1nm,0.3s	83.42	323	P	P	04 02 52.7	-0.7
ILAR	Eielson Array 0.4nm,0.7s,baz=240,slow=5.1,SNR=2.7 0.4nm,0.7s	86.27	23	P	P	04 03 08.5	+1.2
TORD	Torodi Ar. Bea 0.3nm,0.9s,baz=59,slow=3.6,SNR=2.1	147.00	282	PKPbc	PKPdf	04 10 06.5	+0.5

*IDC **27** 04:06:47.1±1.4, 31°.77S×68°.66W, h94km±13km, mb3.3/2, mbtmp3.6/4, MS3.7/1, Error ellipse: s-maj=51.6km s-min=28.6km az=93.0*

*SJA **27** 04:06:47.4±0.8, 31°.74S×68°.29W, h107km±3km, ML3.4, MW3.6*

ISC 27 04:06:48.9±0.8, 31°.75S±0°.04×68°.31W±0°.04, h106km±6km, n20, σ1§00/33, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFA	Coronel Fontan 879nm,0.3s,baz=180,slow=3.7,SNR=7.748	0.15	22	P	Pn	04 07 02.7	-1.1
CFA				LR	LR	04 07 03.2	
	comp=Z,35nm,21.6s,baz=106,slow=40						
CFA				S	Sn	04 07 14.1	-0.8
	278nm,0.3s,baz=263,slow=23,SNR=10						
CFA	Coronel Fontan	0.15	22	*i* P	Pn	04 07 03.0	-0.8
CFA				*i* S	Sn	04 07 14.4	-0.5
ZON	Zonda	0.38	302	*i* P	Pn	04 07 03.5	-1.2
ZON				*i* S	Sn	04 07 16.4	-0.1
ZON				IAML		04 07 16.9	
	comp=Z,1μm,0.3s						
RTLS	Leoncito	0.85	266	*i* P	Pn	04 07 07.9	-0.7
RTLS				*i* S	Sn	04 07 24.3	+0.9
RTLS				IAML		04 07 25.0	
	comp=Z,634nm,0.3s						
ASAL	Salagasta	0.95	208	*i* P	Pn	04 07 09.0	-0.4
ASAL				*i* S	Sn	04 07 24.9	0.0
ASAL				IAML		04 07 25.7	
	comp=Z,1μm,0.4s						
AUSP	Uspallata	1.03	242	*i* P	Pn	04 07 09.8	-0.7
AUSP				*i* S	Sn	04 07 27.9	+1.2
ARCO	CERRO ARCO	1.21	206	*i* P	Pn	04 07 11.8	-0.5
ARCO				*i* S	Sn	04 07 30.1	+0.1
ARCO				IAML		04 07 30.8	
	comp=Z,657nm,0.7s						
ACCO	Cerro Coronel	1.33	330	*i* P	Pn	04 07 13.7	-0.2
ACCO				*i* S	Sn	04 07 33.6	+1.0
ACCO				IAML		04 07 33.6	
	comp=Z,359nm,0.3s						
AAGR	Agrelo	1.41	198	*i* P	Pn	04 07 14.3	-0.2
AAGR				*i* S	Sn	04 07 34.1	+0.3
AAGR				IAML		04 07 34.7	
	comp=Z,339nm,0.5s						
AROD	Rodeo	1.87	327	*i* P	Pn	04 07 20.3	-0.1
AROD				*i* S	Sn	04 07 44.8	+0.5
APLL	PUNTA DE LOS L	2.04	49	*i* P	Pn	04 07 22.2	0.0
APLL				*i* S	Sn	04 07 47.2	-0.5
VA03	San Esteban	2.16	241	*i* P	Pn	04 07 23.6	-0.3
VA03				*i* S	Sn	04 07 50.9	+0.4
VA03				IAML		04 07 53.1	
	comp=Z,108nm,0.7s						
MRA	San Martin	2.30	108	*i* P	Pn	04 07 25.8	+0.1
MRA				*i* S	Sn	04 07 53.3	-0.5
ACLC	CERRO LA CRUZ	2.59	27	*i* P	Pn	04 07 28.9	-0.7
ACLC				*i* S	Sn	04 07 59.9	-1.0
ACLC				IAML		04 08 04.7	
	comp=Z,151nm,0.4s						
CPUP	Villa Florida comp=Z,1.0nm,0.6s,baz=246,slow=14,SNR=3.6	11.01	63	P	Pn	04 09 26.8	+3.4
SIV	San Ignacio comp=Z,0.8nm,0.5s,baz=202,slow=9.9,SNR=3.0	17.01	24	P	Pn	04 10 40.1	-0.3
RPN	Rapa Nui comp=Z,111nm,20.1s,baz=18,slow=31	35.88	267	LR	LR	04 25 22.9	
QSPA	South Pole Qui comp=Z,1.5nm,0.7s,baz=158,slow=6.8,SNR=8.7 comp=Z,1.5nm,0.7s	58.49	180	P	P	04 16 33.3	-0.4
TXAR	Lajitas Array comp=Z,0.2nm,0.6s,baz=159,slow=8.4,SNR=3.1 comp=Z,0.2nm,0.6s	69.42	327	P	P	04 17 44.9	-0.8
WRA	Warramunga Arr comp=Z,0.2nm,0.4s,baz=171,slow=1.7,SNR=6.1	124.21	206	PKP	PKPdf	04 25 33.6	-2.2

*MDD **27** 04:06:55.2±1.4, 35°.27N×0°.71W, h17km±6km, Mb3.6/8, M_mb2.8/8, Error ellipse: s-maj=18.3km s-min=9.4km az=170.0*

*CNRM **27** 04:06:57.9, 35°.52N×1°.22W, h97km, ml1.6*

ISC 27 04:06:55.7±2.8, 35°.36N±0°.07×0°.71W±0°.07, h33km±7km, n21, σ1§56/32, 8C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAF	Taforalt	1.50	249	P	Pn	04 07 21.1	+0.7
TAF				S	Sn	04 07 37.7	-1.1
JBK	JBK	1.84	237	P	Pn	04 07 26.1	+1.0
JBK				S	Sb	04 07 50.3	-1.2
GOG	Mont Gurugu	1.87	266	P	Pn	04 07 24.3	-1.2
GOG				S	Sn	04 07 43.7	-4.3
ENIJ	Nijar	2.01	323	P	Pn	04 07 27.7	+0.3
ENIJ				⇑*i*Vmb_V		04 07 28.6	
	371nm,SNR=3.6						
ENIJ				S	Sn	04 07 52.2	+0.8
ENIJ	Nijar	2.01	323	Sn	Sn	04 07 50.3	-1.0
ENIJ				Pn	Pn	04 07 27.7	+0.3
CART	Cartagena	2.23	354	Sn	Sn	04 07 53.9	-2.9
CART				Pn	Pn	04 07 29.6	-0.8
EBER	Berja	2.34	312	P	Pn	04 07 32.4	+0.5
EBER				⇑*i*Vmb_V		04 07 36.1	
	153nm,SNR=1.3						
EBER				S	Sn	04 08 00.7	+1.1
EBER	Berja	2.34	312	Sn	Sn	04 07 59.2	-0.4
EBER				Pn	Pn	04 07 32.3	+0.3
EMUR	La Murta	2.51	350	P	Pn	04 07 34.8	+0.6
EMUR				S	Sn	04 08 02.5	-1.3
EMUR	La Murta	2.51	350	Sn	Sn	04 08 00.6	-3.1
EMUR				Pn	Pn	04 07 34.5	+0.2
EZAR	Zarzadilla de	2.63	343	P	Pn	04 07 36.7	+0.8
EZAR				⇑*i*Vmb_V		04 07 38.1	
	90nm,SNR=1.3						
EZAR				S	Sn	04 08 07.8	+1.0
ELGU	Los Guajares,	2.80	303	P	Pn	04 07 37.8	-0.4
ELGU				⇑*i*Vmb_V		04 07 43.5	
	113nm,SNR=1.5						
ELGU				S	Sn	04 08 10.4	-0.5
ELGU	Los Guajares,	2.80	303	Sn	Sn	04 08 08.8	-2.0
ELGU				Pn	Pn	04 07 37.7	-0.4
EQUE	Quentar	2.87	311	P	Pn	04 07 41.0	+1.8
EQUE				⇑*i*Vmb_V		04 07 43.8	
	75nm,SNR=2.1						
EQTA	Presa de Quent	2.87	311	Pn	Pn	04 07 40.7	+1.4
EQES	Quesada	3.09	323	P	Pn	04 07 45.0	+2.8
EQES				⇑*i*Vmb_V		04 07 46.0	
	142nm,SNR=3.3						
ETOB	Tobarra	3.34	349	P	Pn	04 07 47.6	+1.9
ETOB				⇑*i*Vmb_V		04 07 48.4	
	75nm,SNR=1.5						
ETOB				S	Sn	04 08 25.6	+1.3
ETOB	Tobarra	3.34	349	Sn	Sn	04 08 21.5	-2.8
ETOB				Pn	Pn	04 07 46.1	+0.3
EIBI	Ibiza	4.01	24	P	Pn	04 07 56.0	+1.2
EIBI				⇑*i*Vmb_V		04 07 56.5	
	128nm,SNR=1.6						
EIBI	Ibiza	4.01	24	Pn	Pn	04 07 56.4	+1.6
EIBI				Sn	Sn	04 08 39.2	-1.4
ETOS	Mallorca	5.21	31	Pn	Pn	04 08 12.9	+1.5

NOU 27 04:14:25.9, 16°.83S×167°.53E, h3km, MLv4.0/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	1.28	138	P	Pg	04 14 50.0	-0.5
YATNC	Mamie plateau,	5.24	187	P	Pn	04 15 44.8	-0.4
DZM	Mont Dzumac	5.31	191	P	Pn	04 15 45.4	-0.9
NOUC	Port Laguerre	5.37	192	P	Pn	04 15 48.3	+1.3

*UCR **27** 04:14:40.8±0.7, 8°.44N×83°.16W, h9km±2km, MW4.3*

*UPA **27** 04:14:42.2±1.7, 8°.53N×83°.11W, h15km±4km, ML4.2*

ISC 27 04:14:41.5±0.8, 8°.50N±0°.03×83°.16W±0°.03, h15km±6km, n70, σ1§11/90, 4C-14D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITO	Golfito	0.13	2	⇓*i*P	Pg	04 14 44.6	-0.4
FITO				*e*S	Sg	04 14 47.7	+0.3
PTJ1	Puerto Jimnez	0.15	286	⇑*e*P	Pg	04 14 44.9	-0.3
PTJ1				*e*S	Sg	04 14 48.5	+0.6
EDAD	Golfito	0.16	358	⇓*e*P	Pg	04 14 45.1	-0.4
JIME	Puerto Jimenez	0.17	285	⇑*e*P	Pg	04 14 45.2	-0.4
JIME				*e*S	Sg	04 14 49.2	+0.8
PIRO	Carate, Puerto	0.20	243	⇑*e*P	Pg	04 14 45.0	-1.0
CDITO	Canoas	0.29	75	⇓*i*P	Pg	04 14 47.5	-0.1
CDITO				AMP		04 14 49.3	
	comp=Z,24μm,0.2s						
CDITO				*e*S	Sb	04 14 52.5	-0.6
CDITO	Canoas	0.29	75	⇓*e*P	Pg	04 14 47.5	-0.1
EDSV	San Vito	0.37	30	⇓*i*P	Pb	04 14 49.7	-0.2
PTPM	Petroterminale	0.40	136	*e*P	Pb	04 14 49.6	-0.7
PTPM				AMP		04 14 50.8	
	comp=Z,28μm,0.3s						
PTPM				*e*S	Sb	04 14 58.2	+2.0
EDPN	Palmar Norte	0.55	328	⇓*i*P	Pg	04 14 51.7	-0.6
POTG	Potrero Grande	0.56	4	⇓*i*P	Pg	04 14 52.5	+0.1
BCO2	Palmira	0.66	70	⇓*i*P	Pg	04 14 54.2	-0.3
BCO2				*e*S	Sb	04 15 04.2	+0.2
EDBA	Buenos Aires	0.67	350	*e*P	Pg	04 14 54.5	-0.1
PTAR3	Potrerillos Ar	0.69	73	*e*P	Pg	04 14 54.4	-0.5
PTAR3				*e*S	Sb	04 15 05.2	+0.6
DVD	David	0.70	95	*e*P	Pg	04 14 54.3	-0.9
DVD				*e*S	Sb	04 15 05.3	+0.4
PEDE3	Pedregal, Chir	0.74	99	*e*P	Pg	04 14 54.8	-1.0
PEDE3				*e*S	Sb	04 15 05.8	-0.2
LOCO3	Loma Colorada,	0.74	97	⇓*e*P	Pg	04 14 55.0	-0.9
LOCO3				*e*S	Sb	04 15 05.9	0.0
PSOM3	Paja de Sombre	0.85	77	*e*P	Pg	04 14 56.6	-1.4
PSOM3				*e*S	Sg	04 15 08.7	-0.5
EDDO	Dominical	1.03	317	*e*P	Pb	04 15 00.4	-0.6
ZELE	Perez Zeledon	1.03	328	*e*P	Pb	04 15 00.4	-0.7
CHGR2	Aguacate	1.10	66	*e*P	Pb	04 15 00.7	-1.5
CHGR2				*e*S	Sb	04 15 14.2	-2.1
CNI2	El Empalme, Bo	1.15	36	⇓*e*P	Pb	04 15 01.9	-1.2
CNI2				*e*S	Sb	04 15 15.2	-2.6
BRIBI	Bribri	1.16	15	*e*P	Pg	04 15 04.0	+0.1
BUS1	Rivas	1.20	331	⇓*e*P	Pb	04 15 02.7	-1.5
CDM	Cerro de Muert	1.21	330	⇓*e*P	Pn	04 15 02.8	-1.5
RGM0	Gandoca	1.22	27	⇓*e*P	Pg	04 15 04.9	0.0
RIMA	Rio Macho	1.44	331	*e*P	Pn	04 15 06.8	-0.5
LCR2	La Lucha 2	1.49	326	*e*P	Pn	04 15 07.5	-0.5
TURIB	Turrialba	1.50	340	⇑*e*P	Pn	04 15 08.4	+0.4
VINA	Juan Vinas	1.51	337	*e*P	Pn	04 15 08.4	+0.3
RVSTA	Santa Teresita	1.55	342	*e*P	Pn	04 15 09.4	+0.7
VTCV	VTCV, Calle Va	1.58	339	*e*P	Pn	04 15 09.7	+0.4
RAFA	San Farael, Vo	1.59	336	*e*P	Pn	04 15 09.8	+0.3
TAAN	Batan	1.59	353	*e*P	Pn	04 15 10.3	+1.2
TAAN				*e*S	Sg	04 15 33.2	+0.4
BATAN	Batan	1.61	352	*e*P	Pn	04 15 10.2	+0.8
BATAN				*e*S	Sn	04 15 28.6	-1.3
BATAN	Batan	1.61	352	*e*P	Pb	04 15 10.7	-0.1
BATAN				*e*S	Sg	04 15 33.3	0.0
CVTV	Tajo	1.61	339	*e*P	Pn	04 15 10.2	+0.5
CVTQ	Turrialba Volc	1.62	338	*e*P	Pn	04 15 10.2	+0.4
ICR3	Volcano Irazu	1.62	336	*e*P	Pn	04 15 11.1	+1.2
VTLA	Turrialba Volc	1.62	338	*e*P	Pn	04 15 10.6	+0.8
VTR0	Volcan Turrial	1.62	339	*e*P	Pn	04 15 10.9	+0.9
CVTR	Volcan Turrial	1.63	339	*e*P	Pn	04 15 10.7	+0.7
IRES	Siquirres	1.63	348	*e*P	Pb	04 15 11.1	-0.1
LCOCO	El Coco	1.63	346	*e*P	Pn	04 15 10.7	+1.0
LCOCO				*e*S	Sg	04 15 33.6	-0.4
ACOS	Acosta	1.63	323	*e*P	Pn	04 15 10.5	+0.7
RVLA	Villa Bonita	1.66	345	*e*P	Pn	04 15 11.3	+1.2
HDC	Heredia	1.77	328	*e*P	Pn	04 15 13.2	+1.4
JACO	JACO, Garabito	1.88	308	*e*P	Pn	04 15 12.8	-0.3
RIFO	Rio Frio, Sara	1.96	337	*e*P	Pn	04 15 15.4	+1.1
GMAL	Guarumal, Vera	2.04	111	*e*P	Pn	04 15 14.6	-0.8
SRA1	San Ramn	2.05	321	*e*P	Pn	04 15 16.4	+0.9
CPMI	Catarata Coope	2.15	326	*e*P	Pn	04 15 18.9	+1.9
JTS	Las Juntas de	2.51	315	*e*P	Pn	04 15 23.9	+2.1
JTS				*i*		04 16 06.3	
	comp=Z,106nm,0.7s						
CACAO	El Cacao, Vera	2.55	116	*e*P	Pn	04 15 23.0	+0.7
CACAO				*e*S	Sn	04 15 52.9	-0.2
CACAO	El Cacao, Vera	2.55	116	*e*P	Pn	04 15 23.0	+0.7
NARJA	Naranjal	2.77	302	*e*P	Pn	04 15 26.0	+0.5
DUNO	Dulce Nombre,	2.79	305	*e*P	Pn	04 15 26.5	+0.9
JUD3	Juan Diaz 3	2.88	305	⇓*e*P	Pn	04 15 28.0	+1.1
CUI	Cuipilapa	2.92	318	*e*P	Pn	04 15 30.4	+2.9
AZU	Azuero	2.94	104	*e*P	Pn	04 15 29.0	+1.2
AZU	Azuero	2.94	104	*e*P	Pn	04 15 28.9	+1.2
BCIP	Isla Barro Col	3.35	78	*e*P	Pn	04 15 34.1	+0.8
BCIP	Isla Barro Col	3.35	78	*e*P	Pb	04 15 33.9	+0.5
UPA	Univ. de Panam	3.62	82	*e*P	Pb	04 15 44.1	-1.0
UPA				*e*S	Sb	04 16 31.4	+2.5
UPA				*i*		04 16 47.0	
	comp=Z,1μm,0.6s						
ACON	Acoyapa	3.98	330	*e*P	Pn	04 15 43.9	+1.9
ACON	Acoyapa	3.98	330	*e*P	Pn	04 15 43.8	+1.8
UPD2	Meteti	5.09	89	*e*P	Pn	04 15 59.0	+1.7
PRVC	Isla de Provid	5.16	20	*e*P	Pn	04 15 58.6	+0.3
PRVC				*e*S	Sn	04 16 58.7	+1.1
PRVC				*i*		04 17 03.5	
	comp=Z,11nm,0.5s						
UREC	San Jos de Ur	7.59	95	*e*P	Pn	04 16 34.6	+3.0
SJCC	San Jacinto, C	8.00	79	*e*P	Pn	04 16 39.4	+2.0

*IDC **27** 04:32:58.1±1.7, 3°.30S

WRA				Lg	Lg	05 06 15.1	
	baz=98,slow=28,SNR=3.9						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**13.30**	**257**	Lg	Lg	05 06 26.8	
	0.1nm,0.3s,baz=77,slow=27,SNR=4.4						
I22FR	**PORTLAGUERRE I**	**17.46**	**96**	I	I	06 43 40.0	
	baz=264,slow=318,SNR=1.0						
TORD	**Torodi Ar. Bea**	**146.93**	**261**	PKPbc	PKPbc	05 19 08.6	-0.8
	0.2nm,0.5s,baz=91,slow=3.3,SNR=1.8						

KRSC 27 04:59:41.2±2.1, 48°.11N×156°.86E, h15km±52km, MI4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**3.36**	**360**	*e*P	Pb	05 00 37.1	-3.3
PAU				*e*S	Sb	05 01 17.7	-3.4
KDTR	**Khodutka, Kamc**	**3.79**	**12**	*e*P	Pn	05 00 42.2	+3.3
KDTR				*e*S	Sb	05 01 29.3	-4.0
ASAK	**Asacha**	**4.33**	**8**	*e*P	Pn	05 00 50.4	+3.9
RUS	**Russkaya**	**4.46**	**13**	*e*P	Pn	05 00 51.2	+3.1
RUS				*e*S	Sn	05 01 45.7	+6.0
MTVR	**Mutnovka**	**4.46**	**10**	*e*P	Pn	05 00 51.8	+3.5
MTVR				*e*S	Sn	05 01 45.7	+5.7
GRL	**Gorelyy**	**4.52**	**9**	*e*P	Pn	05 00 52.6	+3.6
KOK	**Koryaka**	**5.31**	**12**	*e*P	Pn	05 01 04.6	+4.6
KRX	**Arik**	**5.38**	**12**	*e*P	Pn	05 01 05.8	+4.9

*SJA **27** 05:11:29.7±0.6, 20°.86S×69°.06W, h112km±3km, ML3.7, MW3.6*
*GUC **27** 05:11:31.0±0.7, 20°.88S×68°.99W, h105km±3km, ML3.5*
ISC 27 05:11:31.8±1.3, 20°.88S±0°.03×69°.09W±0°.05, h103km±8km, n35, σ0°87/69, 8C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.40**	**247⇑**	*e*P	**Pn**	**05 11 46.7**	**-0.8**
PB01				*e*S	**Sn**	**05 11 59.1**	**-0.1**
PB01				IAML		05 11 59.6	
	comp=N,6μm,0.2s						
PB01	**IPOC Station P**	**0.40**	**247**	*e*P	**Pn**	**05 11 46.7**	**-0.8**
PB01				*e*S	**Sn**	**05 11 59.5**	**+0.3**
PB01				IAML		05 12 00.2	
	comp=Z,5μm,0.2s						
PB08	**IPOC Station P**	**0.74**	**355⇑**	*e*P	**Pn**	**05 11 49.7**	**-0.7**
PB08				*e*S	**Sn**	**05 12 03.8**	**-0.5**
PB08				IAML		05 12 05.1	
	comp=E,2μm,0.2s						
PB08	**IPOC Station P**	**0.74**	**355**	*e*P	**Pn**	**05 11 49.5**	**-0.8**
PB08				*e*S	**Sn**	**05 12 04.3**	**+0.1**
PB08				IAML		05 12 05.3	
	comp=Z,690nm,0.2s						
PB02	**IPOC Station P**	**0.87**	**240⇑**	*e*P	**Pn**	**05 11 51.0**	**-0.3**
PB02				*e*S	**Sn**	**05 12 06.1**	**+0.2**
PB02				IAML		05 12 07.5	
	comp=N,4μm,0.1s						
PB02	**IPOC Station P**	**0.87**	**240**	*e*P	**Pn**	**05 11 51.0**	**-0.3**
PB02				*e*S	**Sn**	**05 12 06.8**	**+0.9**
PB02				IAML		05 12 07.3	
	comp=Z,2μm,0.3s						
PB09	**IPOC Station P**	**0.92**	**189**	*e*P	**Pn**	**05 11 51.5**	**-0.4**
PB09				*e*S	**Sn**	**05 12 07.2**	**+0.2**
PB09				IAML		05 12 09.1	
	comp=N,1μm,0.8s						
PB09	**IPOC Station P**	**0.92**	**189**	*e*P	**Pn**	**05 11 51.6**	**-0.3**
PB09				*e*S	**Sn**	**05 12 08.0**	**+1.1**
PB09				IAML		05 12 08.8	
	comp=Z,1μm,0.7s						
HMBC	**Humberstone**	**0.96**	**309⇑**	*e*P	**Pn**	**05 11 51.6**	**-0.6**
HMBC				*e*S	**Sn**	**05 12 07.7**	**+0.2**
HMBC				IAML		05 12 10.0	
	comp=N,1μm,0.3s						
HMBC	**Humberstone**	**0.96**	**309**	*e*P	**Pn**	**05 11 51.6**	**-0.6**
HMBC				*e*S	**Sn**	**05 12 08.7**	**+1.1**
HMBC				IAML		05 12 11.5	
	comp=Z,961nm,0.3s						
PATCX	**Punta Patache**	**1.00**	**273⇑**	*e*P	**Pn**	**05 11 52.2**	**-0.3**
PATCX				*e*S	**Sn**	**05 12 08.8**	**+0.6**
PATCX				IAML		05 12 12.0	
	comp=E,965nm,0.2s						
PATCX	**Punta Patache**	**1.00**	**273**	*e*P	**Pn**	**05 11 52.1**	**-0.4**
PATCX				*e*S	**Sn**	**05 12 09.9**	**+1.8**
TA01	**Diego Aracena**	**1.07**	**287**	*e*P	**Pn**	**05 11 52.6**	**-0.6**
TA01				*e*S	**Sn**	**05 12 10.0**	**+0.6**
TA01	**Diego Aracena**	**1.07**	**287**	*e*P	**Pn**	**05 11 52.8**	**-0.5**
TA01				*e*S	**Sn**	**05 12 11.0**	**+1.6**
PB07	**IPOC Station P**	**1.12**	**221⇑**	*e*P	**Pn**	**05 11 53.5**	**-0.5**
PB07				*e*S	**Sn**	**05 12 10.5**	**-0.3**
PB07				IAML		05 12 12.5	
	comp=N,2μm,0.3s						
PB07	**IPOC Station P**	**1.12**	**221**	*e*P	**Pn**	**05 11 53.5**	**-0.5**
PB07				*e*S	**Sn**	**05 12 11.4**	**+0.6**
PB07				IAML		05 12 12.7	
	comp=Z,704nm,0.1s						
TA02	**Huaiquique**	**1.15**	**302**	*i*P	**Pn**	**05 11 53.5**	**-0.6**
TA02				*i*S	**Sn**	**05 12 11.5**	**+0.5**
TA02				IAML		05 12 15.7	
	comp=N,2μm,0.1s						
TA02	**Huaiquique**	**1.15**	**302**	*e*P	**Pn**	**05 11 53.6**	**-0.5**
TA02				*e*S	**Sn**	**05 12 13.1**	**+2.1**
TA02				IAML		05 12 14.6	
	comp=Z,1μm,0.1s						
GO01	**Chusmiza**	**1.21**	**355⇑**	*e*P	**Pn**	**05 11 54.7**	**-0.7**
GO01				*e*S	**Sn**	**05 12 12.8**	**-0.3**
GO01				IAML		05 12 14.9	
	comp=N,3μm,0.1s						
GO01	**Chusmiza**	**1.21**	**355**	*e*P	**Pn**	**05 11 54.4**	**-1.0**
GO01				*e*S	**Sn**	**05 12 13.8**	**+0.7**
GO01				IAML		05 12 15.0	
	comp=Z,499nm,0.3s						
LVC	**Limon Verde**	**1.73**	**174**	*e*P	**Pn**	**05 12 00.8**	**-0.7**
LVC				*e*S	**Sn**	**05 12 23.4**	**-0.5**
LVC				IAML		05 12 28.1	
	comp=Z,517nm,0.3s						
LVC	**Limon Verde**	**1.73**	**174**	*e*P	**Pn**	**05 12 01.0**	**-0.4**
LVC				*e*P	**Pn**	**05 12 01.2**	**-0.2**
LVC				*e*S	**Sn**	**05 12 25.6**	**+1.7**
PB04	**IPOC Station P**	**1.75**	**214**	*e*P	**Pn**	**05 12 01.0**	**-0.5**
PB04				*e*S	**Sn**	**05 12 23.9**	**-0.2**
PB04				IAML		05 12 31.1	
	comp=N,402nm,0.2s						
PB04	**IPOC Station P**	**1.75**	**214**	*e*P	**Pn**	**05 12 01.2**	**-0.3**
PB04				*e*S	**Sn**	**05 12 25.4**	**+1.4**
PB04				IAML		05 12 28.3	
	comp=Z,304nm,0.1s						
PB06	**IPOC Station P**	**1.87**	**194**	*e*P	**Pn**	**05 12 02.4**	**-0.6**
PB06				*e*S	**Sn**	**05 12 26.4**	**-0.3**
PB06				IAML		05 12 31.1	
	comp=E,278nm,0.2s						
PB06	**IPOC Station P**	**1.87**	**194**	*e*P	**Pn**	**05 12 02.6**	**-0.4**
PB06				*e*S	**Sn**	**05 12 27.2**	**+0.5**
PB15	**IPOC Station P**	**2.34**	**189**	*e*P	**Pn**	**05 12 08.8**	**-0.4**
PB15				*e*S	**Sn**	**05 12 38.1**	**+0.3**
PB15	**IPOC Station P**	**2.34**	**189**	*e*P	**Pn**	**05 12 08.8**	**-0.4**
PB15				*e*S	**Sn**	**05 12 38.2**	**+0.5**
PB15				IAML		05 12 47.0	
	comp=Z,476nm,0.2s						
PB12	**IPOC Station P**	**2.54**	**332⇑**	*e*P	**Pn**	**05 12 09.8**	**-1.9**
PB12				*e*S	**Sn**	**05 12 41.8**	**-0.5**
PB12				IAML		05 12 46.3	
	comp=E,139nm,0.5s						
PB12	**IPOC Station P**	**2.54**	**332**	*e*P	**Pn**	**05 12 09.8**	**-1.9**
PB12				*e*S	**Sn**	**05 12 41.2**	**-1.0**
PB16	**IPOC Station P**	**2.56**	**351**	*e*P	**Pn**	**05 12 12.3**	**-0.1**
PB16				*e*S	**Sn**	**05 12 42.6**	**-1.0**
PB16				IAML		05 12 46.8	
	comp=E,56nm,0.3s						
PB16	**IPOC Station P**	**2.56**	**351**	*e*P	**Pn**	**05 12 12.3**	**-0.1**
PB16				*e*S	**Sn**	**05 12 45.0**	**+1.5**
YJA	**Yavi**	**3.57**	**112**	*e*P	**Pn**	**05 12 25.4**	**-0.3**
GO02	**Mina Guanaco**	**4.29**	**186**	*e*P	**Pn**	**05 12 34.7**	**-0.5**
GO02				*e*S	**Sn**	**05 13 23.2**	**-1.1**
LPAZ	**La Paz**	**4.66**	**11**	*e*P	**Pn**	**05 12 43.1**	**+2.5**

*DNK **27** 05:12:12.8±0.8, 51°.38N×16°.05E, h26km±19km, ML2.2*
*IPEC **27** 05:12:13.8±0.2, 51°.59N×16°.17E, h1km, ML3.6/5, Error ellipse: s-maj=2.0km s-min=1.1km az=37.0*
*LDG **27** 05:12:13.4±0.1, 51°.55N×16°.12E, h1km, Ml3.9/29, Error ellipse: s-maj=3.2km s-min=1.8km az=10.0, Suspected Mining induced.*
*IDC **27** 05:12:14.1±0.6, 51°.56N×15°.99E, h0km, mb3.7/9, mbtmp3.7/16, ML2.8/6, MS3.1/1, Error ellipse: s-maj=10.4km s-min=8.0km az=107.0*
*BGR **27** 05:12:15.3±0.3, 51°.52N×16°.12E, h1km, ML3.7/16, Error ellipse: s-maj=3.3km s-min=2.2km az=17.0*
*BNS **27** 05:12:16.5±0.5, 51°.99N×15°.81E, h1km, ML3.5*
*UPP **27** 05:12:16.0±3.0, 51°.72N×15°.92E, h0km, ML2.5*
*PRU **27** 05:12:17.6, 51°.44N×16°.08E, h0km*
ISC 27 05:12:13.0±0.5, 51°.59N±0°.02×16°.09E±0°.02, h0km, n116, σ1°80/225, mb3.6/9, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**170**	*i*Pg	**Pb**	**05 12 28.6**	**-0.4**
KSP				*i*Sg	**Sg**	**05 12 38.1**	**+0.8**
KSP	**Ksiaz**	**0.76**	**170**	*e*Pg	**Pb**	**05 12 28.6**	**-0.4**
KSP				*e*Sg	**Sg**	**05 12 38.1**	**+0.8**
CHVC	**Chvalec**	**1.00**	**181**	*e*PG	**Pb**	**05 12 33.3**	**0.0**
CHVC				*e*SG	**Sb**	**05 12 46.4**	**-0.6**
	comp=Z,495nm,0.6s						
OSTC	**Ostas**	**1.04**	**176**	*e*PG	**Pb**	**05 12 34.0**	**+0.2**
OSTC				*e*SG	**Sg**	**05 12 46.8**	**+0.5**
	comp=Z,599nm,0.7s						
UPC	**Upice**	**1.08**	**183**	*e*PG	**Pb**	**05 12 34.7**	**+0.1**
UPC				*e*SG	**Sg**	**05 12 48.1**	**+0.3**
DPC	**Dobruska-Polom**	**1.25**	**173**	*e*PG	**Pb**	**05 12 37.3**	**-0.2**
DPC				*e*SG	**Sg**	**05 12 53.2**	**+0.1**
	comp=Z,440nm,0.8s						
DPC	**Dobruska-Polom**	**1.25**	**173**	*e*Pg	**Pb**	**05 12 37.4**	**0.0**
DPC				*e*Sg	**Sg**	**05 12 53.2**	**+0.1**
PVCC	**Panska Ves**	**1.43**	**223**	*e*PG	**Pb**	**05 12 41.1**	**+0.5**
PVCC				*e*SG	**Sn**	**05 13 00.6**	**+0.9**
	comp=Z,454nm,0.3s						
BRG	**Berggiesshubel**	**1.53**	**243**	*e*Pn	**Pg**	**05 12 42.9**	**+0.6**
BRG				*e*Pg	**Pb**	**05 12 44.0**	**+1.9**
BRG				*e*Sg	**Sn**	**05 13 04.6**	**+2.4**
BRG	**Berggiesshubel**	**1.53**	**243**	Pn	**Pg**	**05 12 42.5**	**+0.3**
BRG				Pg	**Pb**	**05 12 44.1**	**+1.9**
BRG				Sg	**Sn**	**05 13 04.5**	**+2.4**
BRG				Amp		05 13 05.7	
	comp=Z,370nm,0.6s						
KRLC	**Kraliky**	**1.58**	**164**	*e*PG	**Pn**	**05 12 42.5**	**+0.2**
KRLC				*e*SG	**Sn**	**05 13 03.3**	**-0.1**
FBE	**Freiberg**	**1.84**	**250**	*e*Pn	**Pb**	**05 12 46.7**	**+0.8**
FBE				*e*Pg	**Pg**	**05 12 49.4**	**+1.1**
FBE				*e*Sg	**Sg**	**05 13 13.5**	**+1.3**
PRA	**Prague**	**1.85**	**215**	*e*SG	**Sg**	**05 13 12.1**	**-0.2**
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	*e*PN	**Pn**	**05 12 46.7**	**+0.4**
GOPC				*e*PG	**Pg**	**05 12 49.1**	**+0.3**
GOPC				*e*SG	**Sn**	**05 13 11.1**	**+0.5**
PRU	**Pruhonice**	**1.88**	**212**	*e*PN	**Pn**	**05 12 46.9**	**+0.5**
PRU				*e*PG	**Pg**	**05 12 49.9**	**+0.9**
PRU				*e*SG	**Sb**	**05 13 12.6**	**+0.4**
	comp=Z,251nm,0.6s						
HSKC	**Hora Svate Kat**	**1.94**	**241**	*e*PN	**Pb**	**05 12 48.7**	**-0.6**
HSKC				*e*SG	**Sg**	**05 13 16.0**	**+0.6**
	comp=Z,793nm,0.8s						
CLL	**Collm**	**1.95**	**263**	*i*Pn	**Pn**	**05 12 47.9**	**+0.5**
CLL				*i*Pg	**Pg**	**05 12 51.6**	**+1.2**
CLL				*i*x	*x*	05 12 54.8	
CLL				*e*Sg	**Sg**	**05 13 17.0**	**+1.3**
	comp=Z,199nm,0.8s						
CLL	**Collm**	**1.95**	**263**	*e*Pn	**Pn**	**05 12 48.0**	**+0.6**
CLL				*e*Pg	**Pg**	**05 12 52.1**	**+1.6**
CLL				*e*Sg	**Sg**	**05 13 17.7**	**+2.0**
RAC	**Raciborz**	**2.01**	**138**	*e*PG	**Pg**	**05 12 51.7**	**+0.1**
RAC				*e*SG	**Sg**	**05 13 18.4**	**+0.8**
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	**Pn**	**05 12 48.7**	**+0.1**
	baz=335						
MORC				*e*Sg	**Sb**	**05 13 16.9**	**+0.1**
	comp=Z,323nm,0.9s,baz=335						
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	**Pn**	**05 12 49.0**	**+0.4**
MORC				*e*Sg	**Sb**	**05 13 17.2**	**+0.5**
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*PG	**Pg**	**05 12 54.8**	**-0.1**
OKC				*e*SG	**Sb**	**05 13 21.4**	**+0.4**
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*Pn	**Pn**	**05 12 50.5**	**-0.1**
OKC				*e*Pg	**Pg**	**05 12 55.2**	**+0.3**
OKC				*e*Sg	**Sb**	**05 13 21.7**	**+0.7**
VRAC	**Vranov**	**2.31**	**172**	*e*Pn	**Pn**	**05 12 52.9**	**+0.6**
	baz=353						
VRAC				*e*Sg	**Sb**	**05 13 25.7**	**+1.2**
	comp=Z,329nm,0.9s,baz=353						
VRAC	**Vranov**	**2.31**	**172**	Pn	**Pn**	**05 12 52.6**	**+0.3**
	comp=Z,4.8nm,0.3s,baz=350,slow=13,SNR=25						
VRAC				Lg	Lg	05 13 27.9	
	comp=Z,16nm,0.3s,baz=254,slow=19,SNR=16						
	comp=Z,47nm,0.9s						
TREC	**Trest**	**2.33**	**190**	*e*SG	**Sg**	**05 13 27.3**	**-0.5**
ZVC	**Zvikov**	**2.47**	**210**	*e*PN	**Pn**	**05 12 55.1**	**+0.6**
ZVC				*e*SG	**Sg**	**05 13 31.8**	**-0.5**
	comp=Z,197nm,0.6s						
MAUC	**Maruska**	**2.49**	**153**	*e*PG	**Pg**	**05 13 00.2**	**-0.5**
MAUC				*e*SG	**Sg**	**05 13 31.5**	**-1.4**
KRUC	**Moravsky**	**2.54**	**175**	*e*Pn	**Pn**	**05 12 55.9**	**+0.5**
	baz=357						
KRUC				*e*Sg	**Sg**	**05 13 33.2**	**-1.3**
	comp=Z,310nm,1.3s,baz=357						
TANN	**Tannenbergstha**	**2.58**	**244**	*e*Pn	**Pn**	**05 12 57.1**	**+1.1**
TANN				*e*Pg	**Pg**	**05 13 03.5**	**+1.2**
TANN				*e*Sg	**Sg**	**05 13 36.9**	**+1.2**
WERD	**Werda**	**2.65**	**246**	*e*Pn	**Pn**	**05 12 58.1**	**+1.1**
WERD				*e*Pg	**Pg**	**05 13 04.4**	**+0.7**
WERD				*e*Sg	**Sg**	**05 13 39.4**	**+1.3**
OJC	**Ojcow**	**2.72**	**119**	*e*Pn	**Pn**	**05 12 56.8**	**-1.1**
OJC				*e*Pg	**Pg**	**05 13 05.4**	**+0.3**
OJC				*e*Sg	**Sg**	**05 13 41.0**	**+0.7**
OJC	**Ojcow**	**2.72**	**119**	*e*Pg	**Pg**	**05 13 04.7**	**-0.4**
OJC				*e*Sg	**Sg**	**05 13 40.9**	**+0.6**
JAVC	**Velka Javorina**	**2.92**	**159**	*e*Pn	**Pn**	**05 13 01.2**	**+0.5**
	baz=341						
JAVC				*e*Sg	**Sg**	**05 13 44.9**	**-1.7**
	comp=Z,317nm,0.9s,baz=341						
KHC	**Kasperske Hory**	**2.94**	**214**	*e*PN	**Pn**	**05 13 01.5**	**+0.5**
KHC				*e*PG	**Pg**	**05 13 08.2**	**-1.1**
KHC				*e*SG	**Sg**	**05 13 46.5**	**-0.9**
	comp=Z,58nm,0.4s						
MOX	**Moxa**	**2.97**	**253**	*e*Pn	**Pn**	**05 13 02.3**	**+0.8**
MOX				*e*Pg	**Pg**	**05 13 11.0**	**+1.0**
MOX				*e*Sg	**Sg**	**05 13 51.0**	**+2.5**
MANZ	**Manzenberg**	**2.99**	**239**	*e*Pn	**Pn**	**05 13 03.4**	**+1.7**
MANZ				*e*Pg	**Pg**	**05 13 11.8**	**+1.5**
MANZ				*e*Sg	**Sg**	**05 13 49.7**	**+0.6**
CKRC	**Cesky Krumlov**	**3.00**	**203**	*e*PN	**Pn**	**05 13 02.7**	**+0.9**
CKRC				*e*PG	**Pg**	**05 13 09.4**	**-1.1**
CKRC				*e*SG	**Sg**	**05 13 47.8**	**-1.5**
	comp=Z,139nm,0.6s						
ROTZ	**Rotzenmuhle**	**3.07**	**235**	*e*Pn	**Pn**	**05 13 03.8**	**+1.1**
ROTZ				*e*Pg	**Pg**	**05 13 13.7**	**+1.8**
ROTZ				*e*Sg	**Sg**	**05 13 51.2**	**-0.4**
GEC2	**GERESS Array S**	**3.15**	**210**	*e*Pn	**Pn**	**05 13 04.8**	**+0.9**
GEC2				*e*Pg	**Pg**	**05 13 13.3**	**+0.1**
GEC2				*e*Sg	**Sg**	**05 13 52.6**	**-1.4**
GERES	**GERESS Array B**	**3.15**	**210**	Pn	**Pn**	**05 13 04.2**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=31,slow=13,SNR=25						
GERES				Lg	Lg	05 13 54.9	
	comp=Z,18nm,0.3s,baz=35,slow=25,SNR=12						
	comp=Z,13nm,0.5s						
WET	**Wettzell**	**3.20**	**221**	*e*Pn	**Pn**	**05 13 05.8**	**+1.2**
WET				*e*Sg	**Sg**	**05 13 55.4**	**-0.3**
LANS	**Liptovska Anna**	**3.26**	**137**	*e*PN	**Pn**	**05 13 06.8**	**+1.4**
LANS				*e*PG	**Pg**	**05 13 15.7**	**+0.2**
LANS				*e*SG	**Sg**	**05 13 59.0**	**+1.3**
MODS	**Modra-Piesok**	**3.31**	**166**	*e*PN	**Pn**	**05 13 08.5**	**+2.4**
MODS				*e*PG	**Pg**	**05 13 16.3**	**-0.1**
MODS				*e*SG	**Sg**	**05 14 00.3**	**+1.1**
NIE	**Niedzica**	**3.46**	**127**	*e*Pn	**Pn**	**05 13 11.3**	**+3.2**
NIE				*e*Pg	**Pg**	**05 13 20.2**	**+1.0**
NIE				*e*Sg	**Sg**	**05 14 05.2**	**+1.3**
ZST	**Bratislava**	**3.46**	**169**	*e*PG	**Pg**	**05 13 19.6**	**+0.3**
CLZ	**Clausthal**	**3.57**	**276**	*e*Pn	**Pn**	**05 13 11.6**	**+2.0**
CLZ				*e*Pg	**Pg**	**05 13 21.8**	**+0.4**
CLZ				*e*Sg	**Sg**	**05 14 08.9**	**+1.4**
VYHS	**Vyhne**	**3.57**	**149**	*e*PN	**Pn**	**05 13 10.0**	**+0.4**
VYHS				*e*PG	**Pg**	**05 13 22.8**	**+1.4**
VYHS				*e*SG	**Sg**	**05 14 05.2**	**-2.4**
BSD	**Bornholm Skovb**	**3.60**	**349**	*i*P	**Pn**	**05 13 10.0**	**0.0**
BSD				*i*S	**Sn**	**05 13 52.0**	**-1.2**
BSD				IAML		05 13 53.4	
	comp=Z,2.6nm,0.2s						
GRF	**Grafenberg Arr**	**3.63**	**240**	*e*Pn	**Pn**	**05 13 12.0**	**+1.5**
GRF				*e*Sg	**Sg**	**05 14 10.1**	**+0.4**
CONA	**Conrad Observa**	**3.67**	**182**	*i*Pn	**Pn**	**05 13 12.1**	**+1.1**
	comp=Z,14nm,1.0s,SNR=20						
CONA				Sg	**Sg**	**05 14 10.8**	**0.0**
	comp=Z,87nm,0.6s						
RONA	**Rosalia, Austr**	**3.90**	**178**	*i*Pn	**Pn**	**05 13 14.9**	**+0.8**
	comp=Z,2.8nm,0.5s						
RONA				*e*Pg	**Pg**	**05 13 26.4**	**-1.2**
	comp=Z,17nm,0.6s						
RONA				*e*Sn	**Sg**	**05 14 17.1**	**-1.0**
	comp=Z,58nm,0.6s						
MOA	**Molln**	**3.93**	**198**	*e*Pn	**Pn**	**05 13 15.9**	**+1.4**
	comp=Z,19nm,0.5s						
MOA				Sg	**Sg**	**05 14 19.7**	**+0.7**
	comp=Z,157nm,0.8s						
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*PN	**Pn**	**05 13 15.6**	**+0.8**
STHS				*e*PG	**Pg**	**05 13 29.0**	**+0.5**
STHS				*e*SG	**Sg**	**05 14 20.0**	**+0.4**
BIOA	**Bad Ischl, Aus**	**4.21**	**203**	*e*Pn	**Pn**	**05 13 19.3**	**+0.8**
	comp=Z,14nm,0.6s,SNR=7.6						
LUNU	**Lund**	**4.35**	**340**	P	**Pn**	**05 13 20.7**	**+0.5**
LUNU				S	**Sn**	**05 14 09.7**	**-1.9**
LUNU	**Lund**	**4.35**	**340**	*i*P	**Pn**	**05 13 20.0**	**-0.2**
LUNU				P	**Pn**	**05 13 20.7**	**+0.5**
LUNU				S	**Sn**	**05 14 09.7**	**-1.9**
LUNU				*i*S	**Sn**	**05 14 10.2**	**-1.3**
ARSA	**Arzberg**	**4.36**	**185**	*e*Pn	**Pn**	**05 13 22.5**	**+2.1**
	comp=Z,5.1nm,0.7s						
ARSA				Sg	**Sg**	**05 14 36.1**	**+3.1**
	comp=Z,106nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.37**	**126**	*e*PN	**Pn**	**05 13 21.2**	**+0.6**
CRVS				*e*PG	**Pg**	**05 13 39.1**	**+2.4**
CRVS				*e*SG	**Sg**	**05 14 33.8**	**+0.4**
LESA	**Schwarzleotal**	**4.72**	**209**	*e*Pn	**Pn**	**05 13 26.5**	**+0.9**
	comp=Z,1.4nm,0.2s						
LESA				Sg	**Sg**	**05 14 45.5**	**+0.8**
	comp=Z,37nm,0.5s						
BLEU	**Blekinge**	**4.73**	**358**	*i*P	**Pn**	**05 13 26.3**	**+0.8**
BLEU				*i*S	**Sn**	**05 14 19.4**	**-1.6**
KOLS	**Kolonicke sedl**	**4.77**	**121**	*e*PN	**Pn**	**05 13 26.9**	**+0.7**
KOLS				*e*PG	**Pg**	**05 13 46.4**	**+1.9**
BJUU	**Bjuv**	**4.85**	**339**	P	**Pn**	**05 13 27.3**	**+0.2**
BJUU				S	**Sn**	**05 14 21.3**	**-2.6**
BJUU	**Bjuv**	**4.85**	**339**	P	**Pn**	**05 13 27.3**	**+0.2**
BJUU				S	**Sn**	**05 14 21.3**	**-2.6**
BJUU				*i*S	**Sn**	**05 14 21.8**	**-2.1**
KBA	**Koelnbreinsper**	**4.86**	**203**	*i*Pn	**Pn**	**05 13 29.0**	**+1.5**
	comp=Z,20nm,0.6s						
SOKA	**Soboth**	**4.96**	**188**	*e*Pn	**Pn**	**05 13 30.8**	**+1.9**
	comp=Z,1.3nm,0.2s,SNR=6.3						
SOKA				Sg	**Sg**	**05 14 49.9**	**-2.5**
	comp=Z,18nm,0.7s						
DEL	**Delary**	**5.06**	**346**	P	**Pn**	**05 13 30.2**	**+0.1**
DEL				S	**Sn**	**05 14 26.9**	**-2.3**
DEL	**Delary**	**5.06**	**346**	*i*P	**Pn**	**05 13 29.9**	**-0.2**
DEL				P	**Pn**	**05 13 30.2**	**+0.1**
DEL				*e*S	**Sn**	**05 14 26.2**	**-3.0**
DEL				S	**Sn**	**05 14 26.9**	**-2.3**
WATA	**Walderalm**	**5.17**	**216**	*e*Pn	**Pn**	**05 13 33.4**	**+1.6**
	comp=Z,20nm,0.7s,SNR=8.2						
WATA				Sg	**Sg**	**05 14 57.5**	**-1.7**
	comp=Z,31nm,0.7s						
OBKA	**Obir**	**5.18**	**192**	*e*Pn	**Pn**	**05 13 32.1**	**+0.2**
	comp=Z,3.6nm,0.5s						
WTTA	**Wattenberg**	**5.21**	**216**	*e*Pn	**Pn**	**05 13 33.8**	**+1.4**
	comp=Z,8.9nm,0.6s,SNR=8.9						
WTTA				Sg	**Sg**	**05 15 04.9**	**+4.5**
	comp=Z,24nm,0.5s						
MYKA	**Terra Mystica**	**5.22**	**199**	*e*Pn	**Pn**	**05 13 33.1**	**+0.7**
	comp=Z,1.2nm,0.3s						
MYKA				Sg	**Sg**	**05 15 01.1**	**+0.5**
	comp=Z,68nm,0.8s						
MOTA	**Moosalm**	**5.35**	**219**	*e*Pn	**Pn**	**05 13 34.0**	**-0.2**
	comp=Z,6.9nm,0.6s						
ABTA	**Abfaltersbach**	**5.38**	**207**	*e*Pn	**Pn**	**05 13 36.5**	**+1.9**
	comp=Z,7.1nm,0.6s,SNR=13						
ABTA				Sg	**Sg**	**05 15 05.8**	**0.0**
	comp=Z,41nm,0.7s						
KOE	**Koeppel**	**5.41**	**261**	*e*Pn	**Pn**	**05 13 35.3**	**+0.5**
HOBG	**Hohbusch**	**5.53**	**267**	*e*Pn	**Pn**	**05 13 36.9**	**+0.4**
BGG	**Burgeitz**	**5.71**	**259**	*e*Pn	**Pn**	**05 13 40.3**	**+1.3**
BGG				*e*Sn	**Sn**	**05 14 43.4**	**-1.8**
	comp=Z,24nm,1.5s						
FETA	**Feichten**	**5.76**	**

BVAR	Borovoye Array	32.57	66	P		P	05 18 46.8	+1.2
	comp=Z,1.0nm,0.5s,baz=308,slow=7.3,SNR=6.5							
	comp=Z,1.0nm,0.5s							
KURBB	Kurchatov Arra	38.16	66	P		P	05 19 34.1	+0.4
	comp=Z,0.6nm,0.2s,baz=295,slow=8.6,SNR=6.0							
	comp=Z,0.6nm,0.2s							
TORD	Torodi Ar. Bea	40.07	202	P		P	05 19 50.0	0.0
	comp=Z,0.8nm,0.8s,baz=15,slow=9.4,SNR=5.3							
	comp=Z,0.8nm,0.8s							
ZALV	Zalesovo Beam	40.17	59	P		P	05 19 51.7	+1.2
	comp=Z,0.5nm,0.4s,baz=305,slow=10,SNR=4.2							
	comp=Z,0.5nm,0.4s							
MKAR	Makanchi Array	42.20	69	P		P	05 20 09.3	+1.9
	comp=Z,0.6nm,0.8s,baz=279,slow=12,SNR=1.9							
	comp=Z,0.6nm,0.8s							
YKA	Yellowknife Ar	59.78	336	P		P	05 22 20.1	+0.9
	comp=Z,1.0nm,0.8s,baz=20,slow=6.5,SNR=3.7							
	comp=Z,1.0nm,0.8s							
ILAR	Eielson Array	63.23	352	P		P	05 22 44.2	+1.6
	comp=Z,0.3nm,0.9s,baz=355,slow=4.1,SNR=2.8							
	comp=Z,0.3nm,0.9s							
PDAR	Pinedale Array	74.87	322	P		P	05 23 56.9	+1.4
	comp=Z,0.4nm,0.7s,baz=58,slow=5.6,SNR=4.1							
	comp=Z,0.4nm,0.7s							
TXAR	Lajitas Array	83.65	310	P		P	05 24 46.2	+2.6
	comp=Z,0.6nm,1.0s,baz=87,slow=5.1,SNR=4.1							
	comp=Z,0.6nm,1.0s							

*IDC **27** 05:22:33.5±1.0, 44°.14N×147°.97E, h0km, mb3.9/14, mbtmp3.9/15, ML2.9/1, MS3.0/5, Error ellipse: s-maj=27.8km s-min=20.6km az=149.0*
*MOS **27** 05:22:34.4±1.3, 43°.84N×148°.23E, h23km, mb4.3/4, Error ellipse: s-maj=10.2km s-min=9.6km az=147.0*
*NEIC **27** 05:22:35.0±2.5, 43°.9N±0°.1×148°.26E±0°.08, h10km±1km, mb4.4/18, Error ellipse: s-maj=19.1km s-min=8.5km az=163.0*
*SKHL **27** 05:22:37.7±0.1, 43°.90N×148°.20E, h51km±7km, mb4.8/3*
*JMA **27** 05:22:38.2±0.4, 44°N±1°×14°8E±°, h0km, MV4.1/23, E OFF HOKKAIDO*
*NIED **27** 05:22:38.2, 43°.74N×147°.69E, h0km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr3.33; Mθθ-1.34; Mφφ-1.99; Mrθ3.49; Mrφ-1.71; Mθφ4.20; Fault plane solution: M0 6.41000×10^14^ NP1:φs40.00000°, δ74.00000°, λ90.00000°. NP2:φs220.00000°, δ16.00000°, λ90.00000°.*

ISC 27 05:22:35.8±1.6, 43°.92N±0°.06×148°.06E±0°.05, h17km±9km, n94, σ1°.46/96, mb4.2/25, MS3.7/3, 4D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.89	267	*i* P		Pg	05 22 53.2	+0.2
SHO					AMB	AMB	05 22 53.8	
	210nm,0.3s							
SHO				*i* S		Sg	05 23 04.4	-0.3
SHO				A		A	05 23 05.6	
	3μm,0.4s							
SHO				A		A	05 23 05.6	
	3μm,0.4s							
SHO	Shikotan	0.89	267	||*i* PN		Pg	05 22 53.2	+0.2
SHO				*i* S		Sg	05 23 03.6	-1.1
SHO				pmax		pmax		
	comp=Z,462nm,0.3s							
SHO				pmax		pmax		
	comp=N,101nm,0.2s							
SHO				smax		smax		
	comp=N,3μm,0.5s							
SHO				smax		smax		
	comp=E,3μm,0.3s							
KUR	Kuril'sk	1.32	354	*i* P		Pb	05 23 00.2	+0.1
KUR					AMB	AMB	05 23 01.5	
	comp=E,560nm,0.3s							
KUR				*i* S		Sb	05 23 15.8	-1.0
KUR				A		A	05 23 17.0	
	comp=E,2μm,0.6s							
KUR				A		A	05 23 17.0	
	comp=E,2μm,0.6s							
KUR	Kuril'sk	1.32	354	*e*PN		Pb	05 23 00.2	+0.1
YUK	Yuzh-Kuril'sk	1.59	275	*e*P		Pn	05 23 03.4	+0.3
YUK					AMB	AMB	05 23 04.6	
	comp=E,640nm,0.5s							
YUK				*i* S		Sn	05 23 21.5	-1.7
YUK				A		A	05 23 24.6	
	comp=E,2μm,0.3s							
YUK				A		A	05 23 24.6	
	comp=E,2μm,0.3s							
YUK	Yuzh-Kuril'sk	1.59	275	*de*PN		Pn	05 23 03.2	+0.1
NEM2	Nemuro 2	1.77	253	*e*P		Pn	05 23 05.7	+0.1
NEM2				*e*S		Sn	05 23 25.6	-2.1
NMR	Nemuro--Hokkai	1.78	253	*i* P		Pn	05 23 05.5	-0.2
NMR				*e*S		Sn	05 23 29.9	+2.0
NMR	Nemuro--Hokkai	1.78	253	||*i* PN		Pn	05 23 05.5	-0.2
NMR				*e*S		Sn	05 23 29.9	+2.0
RUSJ	Misakicho	2.03	276	||*i* PN		Pn	05 23 10.8	+1.6
RUSJ				*e*S		Sn	05 23 35.0	+0.8
JRA	Rausu	2.12	272	*e*P		Pn	05 23 11.8	+1.4
JKHN	Kushirohamanak	2.27	249	*e*P		Pn	05 23 13.0	+0.6
JKHN				*e*S		Sn	05 23 39.0	-0.9
JNK	Nakash	2.44	263	*e*P		Pn	05 23 15.8	+1.0
JNK				*e*S		Sn	05 23 43.9	-0.4
JAK	Akkeshi	2.61	251	*e*S		Sn	05 23 47.9	-0.6
JTKR	Abashiri--Toko	3.00	272	*e*P		Pn	05 23 24.1	+1.7
JAR	Ashorobuto	3.17	260	*e*P		Pn	05 23 27.1	+2.2
JAR				*e*S		Sn	05 24 03.1	+0.7
JOB	Onbets	3.24	253	*e*P		Pn	05 23 27.3	+1.5
JOB				*e*S		Sn	05 24 04.3	+0.4
JMP	Maruseppu	3.39	273	*e*P		Pn	05 23 29.8	+1.9
JCH	Churui	3.67	251	*e*P		Pn	05 23 33.4	+1.8
JCH				*e*S		Sn	05 24 13.5	-1.0
JKK2	Kamakawa 2	3.84	271	*e*P		Pn	05 23 37.9	+3.8
JKA	Kamikawa-asahi	3.94	275			Pn	05 23 38.9	+3.5
JKA	Kamikawa-asahi	3.94	275	*e*P		Pn	05 23 38.9	+3.5
ASAJ	Asahikawa	3.94	275	PN		Pn	05 23 38.9	+3.4
ASAJ	Asahikawa	3.94	275	Pn		Pn	05 23 37.9	+2.4
	comp=E,2.1nm,0.3s,baz=82,slow=17,SNR=4.6							
ASAJ				Sn		Sb	05 24 30.1	-2.0
	comp=E,2.9nm,0.3s,baz=169,slow=29,SNR=3.7							
ASAJ				LR		LR	05 24 38.2	
	comp=E,39nm,18.9s,baz=117,slow=32							
ERM	Erimo	4.07	244			Pn	05 23 39.2	+2.1
ERM	Erimo	4.07	244	*i* PN		Pn	05 23 40.6	+3.4
JNBK	Urakawa-nobuka	4.21	249	*e*P		Pn	05 23 41.6	+2.4
YSS	Yuzh-Sakhalins	4.81	311	*e*P		Pn	05 23 48.9	+1.5
YSS	Yuzh-Sakhalins	4.81	311	*i* PN		Pn	05 23 48.8	+1.4
JTM	Tenmabayashi	6.05	241			Pn	05 24 05.7	+1.3
JMM	Marumori	8.17	225	Pn		Pn	05 24 34.1	+0.6
SKR	Severo-Kuril's	8.70	36	*e*P		Pn	05 24 40.6	-0.2
SKR	Severo-Kuril's	8.70	36	*i* PN		Pn	05 24 40.7	-0.1
JSD	Sado	9.45	235	Pn		Pn	05 24 51.9	+0.8
MAJO	Matsushiro	10.53	229	*i* PN		Pn	05 25 05.2	-0.7
MJAR	Matsushiro Arr	10.53	229	Pn		Pn	05 25 06.5	+0.6
	comp=E,0.1nm,0.3s,baz=34,slow=12,SNR=1.5							
	comp=E,1.0nm,0.3s							
KLR	Kul'dur	12.41	301	LR		LR	05 30 20.7	
	comp=E,50nm,18.1s,baz=174,slow=38							
MA2	Magadan	15.77	5	LR		LR	05 31 13.4	
	comp=E,43nm,20.1s,baz=126,slow=33							
JCJ	Chichijima	17.44	198	P		Pn	05 26 37.7	-0.5
GSTR	Great Sitkin T	25.15	58	P		P	05 27 58.0	-1.9
H11N2	WAKE ISLAND Hy	28.81	141	T		T	05 59 11.0	
	baz=332,slow=76,SNR=209							
H11N1	WAKE ISLAND Hy	28.82	141	T		T	05 59 12.0	
	baz=332,slow=76,SNR=259							
H11N3	WAKE ISLAND Hy	28.82	141	T		T	05 59 10.7	
	baz=332,slow=76,SNR=249							
H11S1	WAKE ISLAND Hy	29.79	142	T		T	06 00 24.0	
	baz=333,slow=76,SNR=674							
H11S3	WAKE ISLAND Hy	29.80	142	T		T	06 00 22.9	
	baz=333,slow=76,SNR=534							
H11S2	WAKE ISLAND Hy	29.81	142	T		T	06 00 27.9	
	baz=333,slow=76,SNR=378							
C18K	Utukok River	35.84	29	P		P	05 29 32.2	-2.0
C18K				IAmb		IAmb	05 29 44.8	
	comp=Z,17nm,1.4s							
G18K	Tagagawik	36.14	34	P		P	05 29 36.7	+0.1
G18K				IAmb		IAmb	05 29 39.1	
	comp=Z,8.2nm,1.2s							
C19K	Lookout Ridge	36.53	29	P		P	05 29 40.1	0.0
IMAR	Indian Mountai	38.14	34	P		P	05 29 53.9	+0.3
B21K	Ikpikpuk River	38.37	28	P		P	05 29 56.1	+0.6
B21K				IAmb		IAmb	05 30 17.3	
	comp=Z,23nm,1.4s							
B22K	Teshekpuk Lake	38.91	27	P		P	05 29 59.6	-0.4
D22K	Ayikyak River	38.92	30	P		P	05 30 00.5	+0.4
D22K				IAmb		IAmb	05 30 19.7	
	comp=Z,19nm,1.4s							
H23K	Yukon River	39.85	35	P		P	05 30 08.5	+0.5
H23K				IAmb		IAmb	05 30 34.9	
	comp=Z,6.0nm,1.4s							
I23K	Minto, Yukon-K	39.91	36	P		P	05 30 09.9	+1.5
TOLK	Toolik Lake Re	40.01	30	P		P	05 30 10.4	+1.1
TOLK				IAmb		IAmb	05 30 36.4	
	comp=Z,17nm,1.5s							
NEA2	Nenana	40.03	37	P		P	05 30 10.7	+1.3
E24K	Your Creek	40.37	31	P		P	05 30 13.5	+1.2
E24K				IAmb		IAmb	05 30 28.6	
	comp=Z,6.8nm,1.2s							
F24K	Squaw Lake	40.57	32	P		P	05 30 14.5	+0.5
ILAR	Eielson Array	40.97	36	P		P	05 30 17.8	+0.6
ILAR	Eielson Array	40.97	36	*e*P		P	05 30 18.1	+0.9
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ILAR	Eielson Array	40.97	36	P		P	05 30 16.3	-0.9
	comp=Z,0.8nm,0.5s,baz=271,slow=8.1,SNR=17							
	comp=Z,0.8nm,0.5s							
MK31	Makanchi Array	45.09	298	P		P	05 30 50.9	+0.1
MK31				IAmb		IAmb	05 30 53.7	
	comp=Z,4.5nm,1.3s							
MK31	Makanchi Array	45.09	298	*i* P		P	05 30 52.3	+1.5
MKAR	Makanchi Array	45.09	298	P		P	05 30 52.0	+1.2
MKAR	Makanchi Array	45.09	298	*e*P		P	05 30 53.8	+3.0
MKAR	Makanchi Array	45.09	298	*e*P		P	05 30 53.8	+3.0
MKAR	Makanchi Array	45.09	298	P		P	05 30 51.1	+0.3
	comp=Z,0.4nm,0.5s,baz=76,slow=4.5,SNR=4.1							
	comp=Z,0.4nm,0.5s							
KURK	Kurchatov	45.98	304	*e*P		P	05 30 58.2	+0.5
KURK	Kurchatov	45.98	304	P		P	05 30 58.2	+0.5
CRAI	Chiangrai	46.02	255	P		P	05 30 59.1	+0.7
CRAI				IAmb		IAmb	05 31 01.1	
	comp=Z,5.2nm,1.1s							
KURBB	Kurchatov Arra	46.06	304	P		P	05 30 58.2	-0.3
	comp=Z,1.0nm,0.2s,baz=74,slow=8.8,SNR=3.2							
	comp=Z,1.0nm,0.2s							
CMAR	Chiang Mai Arr	48.20	254	P		P	05 31 15.9	+0.4
	comp=Z,0.7nm,0.3s,baz=38,slow=8.0,SNR=4.1							
	comp=Z,0.7nm,0.3s							
ARSB	Arslanbob	53.50	295	P		P	05 31 56.0	+0.7
ARSB	Arslanbob	53.50	295	P		P	05 31 56.0	+0.7
ARSB				pmax		pmax		
	comp=Z,2.0nm,1.1s							
HNR	Honiara	54.18	165	LR		LR	05 52 16.0	
	comp=Z,264nm,21.6s,baz=15,slow=33							
ABKAR	Akbulak array	57.47	309	P		P	05 32 23.2	-0.4
ABKAR				IAmb		IAmb	05 32 23.6	
	comp=Z,4.7nm,1.4s							
SUMG	Summit	63.72	2	P		P	05 33 06.5	+0.2
SUMG	Summit	63.72	2	P		P	05 33 06.5	+0.2
SUMG				pmax		pmax		
	comp=Z,17nm,1.4s							
WRA	Warramunga Arr	64.78	194	P		P	05 33 14.5	+1.2
	comp=Z,0.5nm,0.8s,baz=9.6,slow=6.6,SNR=3.3							
	comp=Z,0.5nm,0.8s							
FINES	FINESS Array B	65.02	333	P		P	05 33 12.5	-2.0
FINES	FINESS Array B	65.02	333	P		P	05 33 12.6	-1.9
	comp=Z,1.6nm,0.6s,baz=35,slow=7.0,SNR=6.4							
	comp=Z,1.6nm,0.6s							
NVAR	Mina Array Bea	66.93	58	P		P	05 33 27.9	+0.4
	comp=Z,0.8nm,0.9s,baz=262,slow=11,SNR=3.6							
	comp=Z,0.8nm,0.9s							
NOA	NORSAR Array B	69.68	339	P		P	05 33 42.1	-2.0
	comp=Z,0.3nm,0.4s,baz=33,slow=6.5,SNR=4.2							
	comp=Z,0.3nm,0.4s							
HFS	Hagfors	69.79	338	P		P	05 33 43.2	-1.5
	comp=Z,0.7nm,0.3s,baz=72,slow=14,SNR=1.6							
HFS				LR		LR	06 07 14.6	
	comp=Z,24nm,20.6s,baz=72,slow=38							
	comp=Z,0.7nm,0.3s							
KBZ	Khabaz	70.18	312	P		P	05 33 47.5	+0.2
	comp=Z,2.0nm,0.8s,baz=27,slow=19,SNR=3.0							
KBZ				LR		LR	06 06 09.7	
	comp=Z,39nm,19.0s,baz=64,slow=37							
	comp=Z,2.0nm,0.8s							
AKASG	Malin Array Be	71.83	324	P		P	05 33 56.0	-1.3
AKASG	Malin Array Be	71.83	324	P		P	05 33 56.0	-1.3
	comp=Z,0.5nm,0.4s,baz=7.9,slow=14,SNR=2.4							
	comp=Z,0.5nm,0.4s							
EKA	Eskdalemuir Ar	78.15	344	P		P	05 34 32.9	-0.8
	comp=Z,0.6nm,0.5s,baz=19,slow=5.4,SNR=4.3							
	comp=Z,0.6nm,0.5s							
MMAI	Mount Meron Ar	81.89	308	P		P	05 34 54.4	0.0
	comp=Z,0.6nm,0.2s,baz=29,slow=3.3,SNR=1.5							
	comp=Z,0.6nm,0.2s							
TXAR	Lajitas Array	82.01	57	P		P	05 34 56.1	+1.0
	comp=Z,0.4nm,0.8s,baz=277,slow=2.9,SNR=5.4							
	comp=Z,0.4nm,0.8s							
H03N2	Juan Fernandez	142.31	90	T		T	08 21 10.4	
	baz=305,slow=77,SNR=98							
H03N3	Juan Fernandez	142.32	90	T		T	08 21 11.3	
	baz=305,slow=77,SNR=105							
H03N1	Juan Fernandez	142.32	90	T		T	08 21 12.2	
	baz=305,slow=77,SNR=83							

DJA 27 05:53:57.7±0.6, 9°S±7°×11°1E±°, h90km±8km, M3.8/7, mb4.0/1, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UGM	Wanagama	0.89	342	P		Pn	05 54 16.7	+0.5
UGM				S		Sn	05 54 31.6	+1.6
WOJI	Wonogiri, Jawa	0.93	8	P		Pn	05 54 16.5	-0.1
WOJI				S		Sn	05 54 31.0	+0.3
YOGI	Yogyakarta	1.06	332	P		Pn	05 54 18.2	+0.1
YOGI				S		Sn	05 54 34.4	+0.9
SMRI	Semarang	1.74	348	P		Pn	05 54 27.1	+0.6
KPJI	Karang Pucung	2.33	307	P		Pn	05 54 35.4	+1.1
GRJI	Gresik	2.48	42	S		Sn	05 55 05.9	+0.1
CMJI	Cimerak	2.52	292	P		Pn	05 54 36.6	-0.2
GMJI	Gumukmas	2.66	80	P		Pn	05 54 38.9	+0.2
PLAI	Plampang	6.90	91	P		Pn	05 55 36.8	+0.6

*PRE **27** 06:04:39.9±0.8, 26°.42S×27°.58E, h2km, ML2.4*
*BUL **27** 06:04:47.4±0.7, 26°.55S×27°.26E, h10km±9km, MD3.6*
*EAF **27** 06:04:47.3, 26°.55S×27°.26E, h21km, MC3.5*

ISC 27 06:04:39.5±1.2, 26°.41S±0°.02×27°.63E±0°.03, h8km±10km, n29, σ2°.14/54, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.57	205	*e*P		Pg	06 04 50.4	-0.2
PRYS				*e*S		Sg	06 04 58.3	+0.3
PRYS				IAML			06 05 01.1	
	comp=Z,160nm,0.2s							
KSR	Koster	0.86	310	*e*P		Pg	06 04 55.7	-0.5
KSR				*e*S		Sg	06 05 08.0	+0.6
KSR				IAML			06 05 16.3	
	comp=Z,355nm,0.2s							
SLR	Silverton	0.89	41	*e*P		Pb	06 04 57.6	+0.3
SLR				*e*S		Sb	06 05 10.4	+1.0
SLR				IAML			06 05 20.2	
	comp=Z,36nm,0.2s							
SNKL	Senekal, Frees	1.86	176	*e*P		Pb	06 05 14.2	+0.3
SNKL				*e*S		Sb	06 05 37.8	+0.4
SNKL				IAML			06 05 43.1	
	comp=Z,94nm,0.2s							
CRLN	Carolina, Mapu	2.19	80	*e*P		Pb	06 05 18.8	-0.6
CRLN				*e*S		Sb	06 05 47.5	+0.8
CRLN				IAML			06 05 51.4	
	comp=Z,20nm,0.2s							
SWZ	Schweizer	2.20	249	*e*P		Pn	06 05 17.2	+0.7
SWZ				*e*S		Sb	06 05 45.9	-1.1
SWZ				IAML			06 05 50.6	
	comp=Z,90nm,0.6s							
LBTB	Lobatse	2.30	307	*i* P		Pb	06 05 22.0	+0.6
LBTB				*i* S		Sn	06 05 46.9	+0.4
LBTB	Lobatse	2.30	307	*e*P		Pn	06 05 18.9	+1.0
LBTB				*e*S		Sn	06 05 47.9	+1.4
LBTB				IAML			06 05 54.7	
	comp=Z,65nm,0.3s							
LBTB	Lobatse	2.30	307	*i* P		Pb	06 05 22.0	+0.6
	baz=315							
LBTB				*i* S		Sn	06 05 46.9	+0.4
	baz=315							
LEPH	Lephalale, Lim	2.55	3	*e*P		Pn	06 05 22.8	+1.6
LEPH				*e*S		Sb	06 05 55.0	-2.0
LEPH				IAML			06 06 06.3	
	comp=Z,20nm,0.3s							
BOSA	Boshof	3.04	223	*i* P		Pn	06 05 29.9	+1.8
BOSA				*i* S		Sn	06 06 00.5	-4.3
BOSA	Boshof	3.04	223	*e*P		Pn	06 05 30.3	+2.2
BOSA				*e*S		Sn	06 06 05.5	+0.7
BOSA				IAML			06 06 16.7	
	comp=Z,16nm,0.3s							
BOSA	Boshof	3.04	223	*i* P		Pn	06 05 29.9	+1.8
	baz=220							
BOSA				*i* S		Sn	06 06 00.5	-4.3
	baz=220							
PILG	Pilgrimsrest,	3.14	63	*e*P		Pb	06 05 32.7	-3.0
PILG				*e*S		Sn	06 06 10.1	+2.7
PILG				IAML			06 06 26.7	
	comp=Z,28nm,0.5s							
KSTD	Kokstad	4.44	161	*e*P		Pn	06 05 49.8	+2.5
KSTD				*e*S		Sn	06 06 39.9	+0.6
KSTD				IAML			06 07 05.6	
	comp=Z,11nm,0.4s							
MOPA	Mopani	4.47	51	*i* P		Pb	06 05 58.0	-0.3
MOPA	Mopani	4.47	51	*i* P		Pb	06 05 58.0	-0.3
	baz=52							
MUSN	Musina, Limpop	4.58	27	*i* P		Pb	06 05 59.1	-1.0
MUSN				*i* S		Sb	06 06 51.0	-4.5
MUSN	Musina, Limpop	4.58	27	*i* P		Pb	06 05 59.1	-1.0
	baz=30							
MUSN				*i* S		Sb	06 06 51.0	-4.5
	baz=30							
UPI	Upington	6.00	250	*e*P		Pn	06 06 09.8	+1.1
UPI				*e*S		Sn	06 07 15.5	-2.1
UPI				IAML			06 07 56.1	
	comp=Z,5.5nm,0.3s							
MATP	Matopo	6.01	8	*i* P		Pn	06 06 16.2	+7.3
MATP				*i* S		Sn	06 07 22.7	+4.8
MATP	Matopo	6.01	8	*i* P		Pn	06 06 16.2	+7.3
	baz=11							
MATP				*i* S		Sn	06 07 22.7	+4.8
	baz=11							
BFON	Badsfontein, M	6.38	212	*e*P		Pn	06 06 15.1	+1.2
BFON				*e*S		Sn	06 07 25.7	-1.4
BFON				IAML			06 08 00.2	
	comp=Z,8.0nm,0.5s							
GRAF	Camdeboo Natio	6.46	204	*e*P		Pn	06 06 16.5	+1.6
GRAF				*e*S		Sn	06 07 28.0	-1.0
GRAF				IAML			06 08 14.4	
	comp=Z,5.7nm,0.6s							
BRAK	Brakfontein	6.77	217	*e*P		Pn	06 06 20.5	+1.2
BRAK				*e*S		Sn	06 07 34.4	-2.1
BRAK				IAML			06 08 21.4	
	comp=Z,6.9nm,0.6s							
ROOI	Rooidraai Farm	7.03	209	*e*P		Pn	06 06 24.0	+1.2
ROOI				*e*S		Sn	06 07 41.1	-1.9
ROOI				IAML			06 08 25.6	
	comp=Z,4.2nm,0.4s							
GRAN	Grantham	7.56	218	*e*P		Pn	06 06 32.1	+2.0
GRAN				*e*S		Sn	06 07 54.1	-2.0
GRAN				IAML			06 08 49.3	
	comp=Z,5.9nm,0.6s							
FRAZ	Fraserburg	7.74	223	*e*P		Pn	06 06 34.2	+1.6
FRAZ				*e*S		Sn	06 07 57.7	-2.7
FRAZ				IAML			06 08 44.8	
	comp=Z,3.4nm,0.7s							
MERW	Merweville	8.20	219	*e*P		Pn	06 06 40.9	+2.0
MERW				*e*S		Sn	06 08 08.8	-3.0
MERW				IAML			06 08 27.1	
	comp=Z,3.5nm,0.4s							

*NEIC **27** 06:34:48.3±1.6, 31°.97S±0°.03×176°.5W±0°.2, h10km±2km, mb4.6/16, Error ellipse: s-maj=22.9km s-min=3.8km az=83.0*
*NOU **27** 06:34:54.0, 31°.90S×177°.15W, h47km, mb4.6/9, Kermadec Islands Region*
*IDC **27** 06:34:56.7±0.6, 31°.45S×178°.13W, h0km, mb4.4/8, mbtmp4.5/9, ML4.7/1, MS3.6/23, Error ellipse: s-maj=20.1km s-min=17.0km az=113.0*

ISC 27 06:34:54.9±0.8, 32°.01S±0°.06×177°.0W±0°.1, h35km, n149, σ2°.00/128, mb4.8/19, MS3.6/19, 4D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.85	344	P		Pn	06 35 35.4	-2.4
RAO	Raoul Island	2.86	344	Pn		Pn	06 35 34.6	-3.3
RAO	Raoul Island	2.86	344	Pn		Pn	06 35 35.1	-2.8
	237nm,0.3s,baz=118,slow=11,SNR=16							
RAO				Sn		Sn	06 36 03.6	-7.5
	574nm,0.3s,baz=108,slow=22,SNR=5.5							
RAO				LR		LR	06 36 19.8	
	comp=Z,240nm,18.1s,baz=212,slow=38							
	598nm,0.2s							
MXZ	Matakaoa Point	6.74	213	Pn		Pn	06 36 31.0	-0.4
MXZ	Matakaoa Point	6.74	213	P		Pn	06 36 31.4	+0.1
MXZ	Matakaoa Point	6.74	213	P		Pn	06 36 31.5	+0.1
MXZ				S		Sn	06 37 49.6	+2.7
WMGZ	Waiomatatini S	6.90	212	P		Pn	06 36 35.2	+1.6
WMGZ				S		Sn	06 37 53.2	+2.3
PKGZ	Pakihiroa	7.11	213	P		Pn	06 36 36.7	+0.2
PKGZ				S		Sn	06 37 55.2	-0.9
HAZ	Te Kaha	7.15	215	P		Pn	06 36 37.5	+0.6
HAZ				S		Sn	06 37 57.2	+0.3
PUZ	Puketiti	7.18	211	P		Pn	06 36 37.9	+0.5
PUZ				S		Sn	06 37 55.4	-2.4
RUGZ	Raukumara Rang	7.37	215	P		Pn	06 36 40.2	+0.2
RUGZ				S		Sn	06 37 57.9	-4.5
TWGZ	Tauwhareparae	7.39	212	P		Pn	06 36 42.0	+1.7
TWGZ				S		Sn	06 38 03.6	+0.6
KUZ	Kuaotunu	7.64	230	P		Pn	06 36 43.2	-0.4
KUZ	Kuaotunu	7.64	230	P		Pn	06 36 45.6	+2.0
MYRZ	Mayor Island	7.65	225	P		Pn	06 36 51.1	+7.3
TKGZ	Te Karaka	7.67	212

OTVZ	Oturere	9.30	218	P	Pn	06 37 07.1 +0.6
NNVZ	North Ngauruho	9.30	218	P	Pn	06 37 08.1 +1.5
WTVZ	West Tongariro	9.30	218	P	Pn	06 37 07.7 +1.2
KRHZ	Kereru	9.32	213	P	Pn	06 37 06.1 -0.6
NGZ	Ngauruhoe	9.34	218	P	Pn	06 37 08.2 +1.1
BHHZ	Black Hill Sta	9.34	215	P	Pn	06 37 08.4 +1.3
FWVZ	Far West T-bar	9.42	218	P	Pn	06 37 08.7 +0.4
WNVZ	Wahianoa	9.45	217	P	Pn	06 37 09.4 +0.8
PNHZ	Pukenui	9.61	213	P	Pn	06 37 09.5 -1.2
PRHZ	Porangahau	9.71	210	P	Pn	06 37 10.2 -1.8
BFZ	Birch Farm	10.21	210	P	Pn	06 37 18.8 -0.1
BFZ	Birch Farm	10.21	210	P	Pn	06 37 17.3 -1.6
MRZ	Mangatainoka R	10.49	213	P	Pn	06 37 20.5 -2.3
TMWZ	Te Maipa	10.72	210	P	Pn	06 37 25.1 -0.8
KIW	Kapiti Island	10.96	214	P	Pn	06 37 25.5 -3.7
PLWZ	Palliser	11.37	211	Pn	Pn	06 37 32.2 -2.6
TCW	Tory Channel	11.54	215	P	Pn	06 37 34.2 -2.8
TUWZ	Tuamarina	11.87	215	P	Pn	06 37 39.0 -2.5
RPZ	Rata Peaks	14.99	215	P	Pn	06 38 24.3 +0.2
RPZ	Rata Peaks	14.99	215	Pn	Pn	06 38 21.5 -2.6
	1.4nm,0.3s,baz=93,slow=5.5,SNR=5.7					
RPZ				Sn	Sn	06 40 56.0 -13
	1.2nm,0.3s,baz=56,slow=18,SNR=1.6					
RPZ				LR	LR	06 45 01.9
	comp=Z,383nm,18.5s,baz=44,slow=41					
ODZ	Otahua Downs	16.18	213	P	Pn	06 38 38.1 -1.4
JCZ	Jackson Bay	16.41	219	P	Pn	06 38 40.6 -1.9
ONTNC	Ouen Toro	17.58	299	P	P	06 38 59.0 +1.0
DZM	Mont Dzumac	17.73	300	*e*Pn	P	06 39 01.5 +1.8
	50nm,1.4s					
DZM	Mont Dzumac	17.73	300	P	P	06 39 00.8 +1.1
DZM				IAmb	IAmb	06 39 12.6
	comp=Z,45nm,1.5s					
DZM	Mont Dzumac	17.73	300	LR	LR	06 43 54.9
	comp=Z,420nm,21.4s,baz=204,slow=32					
LIFNC	LIFOU	17.98	305	P	Pn	06 39 00.8 -1.2
LIFNC				IAmb	IAmb	06 39 25.7
	comp=Z,89nm,1.2s					
RAR	Rarotonga	18.77	59	LR	LR	06 45 51.8
	comp=Z,101nm,19.3s,baz=184,slow=34					
KOUNC	Koumac, New Ca	20.25	300	P	P	06 39 27.4 +0.2
ARMA	Armidale	26.82	265	P	P	06 40 32.9 +0.8
ARMA				IAmb	IAmb	06 40 58.5
	comp=Z,21nm,1.3s					
PAE	Paea	28.60	67	*e*T	T	07 11 12.9
	comp=Z,6.4nm,0.3s					
PPT2	Papeete2	28.65	66	*e*T	T	07 11 29.3
	comp=Z,3.8nm,0.3s					
PPT	Papeete	28.66	66	LR	LR	06 51 00.0
	comp=Z,420nm,20.9s,baz=254,slow=33					
TVO	Taravao	28.79	67	*e*T	T	07 11 38.6
	comp=Z,1.5nm,0.3s					
CTA	Charters Tower	34.91	281	LR	LR	06 53 06.6
	comp=Z,146nm,21.0s,baz=90,slow=32					
CTAO	Charters Tower	34.91	281	P	P	06 41 44.3 +1.0
STKA	Stephens Creek	34.97	259	P	P	06 41 44.5 +0.8
STKA	Stephens Creek	34.97	259	P	P	06 41 44.5 +0.8
	comp=Z,4.4nm,0.5s,baz=104,slow=11,SNR=12					
STKA				LR	LR	06 55 13.4
	comp=Z,92nm,18.9s,baz=54,slow=36					
	comp=Z,4.4nm,0.5s					
BBOO	Buckleboo	39.37	256	P	P	06 42 20.7 -0.4
BBOO				IAmb	IAmb	06 42 47.4
	comp=Z,21nm,1.1s					
COEN	Coen	40.53	287	P	P	06 42 30.8 -0.2
COEN				IAmb	IAmb	06 42 37.6
	comp=Z,8.1nm,0.7s					
TAOE	Nuku Hiva Isla	41.21	64	*e*LR	LR	06 53 31.9
	comp=Z,67nm,23.0s					
AS31	Alice Springs	43.88	268	P	P	06 42 57.9 -0.3
AS31				IAmb	IAmb	06 43 02.4
	comp=Z,5.1nm,0.4s					
ASAR	Alice Springs	43.88	268	P	P	06 42 57.6 -0.6
ASAR	Alice Springs	43.88	268	P	P	06 42 58.3 +0.1
	comp=Z,8.1nm,0.5s,baz=105,slow=7.5,SNR=57					
ASAR				S	S	06 49 22.8 -4.5
	comp=Z,1.1nm,1.0s,baz=111,slow=18,SNR=4.2					
ASAR				LR	LR	07 01 09.9
	comp=Z,29nm,18.6s,baz=184,slow=37					
	comp=Z,8.1nm,0.5s					
WR0	Warramunga Arr	44.84	273	P	P	06 43 05.3 -0.6
WRA	Warramunga Arr	45.01	273	P	P	06 43 07.1 -0.1
WRA	Warramunga Arr	45.01	273	P	P	06 43 07.1 -0.1
	comp=Z,16nm,0.5s,baz=113,slow=7.9,SNR=125					
WRA				S	S	06 49 32.6 -11
	comp=Z,1.3nm,0.9s,baz=112,slow=13,SNR=3.0					
	comp=Z,16nm,0.5s					
FORT	Forrest	46.47	256	P	P	06 43 19.3 +0.7
VNDA	Vanda	46.59	186	P	P	06 43 16.4 -2.5
VNDA				IAmb	IAmb	06 43 41.6
	comp=Z,3.9nm,1.2s					
VNDA	Vanda	46.59	186	P	P	06 43 29.3 +10
	comp=Z,0.7nm,0.6s,baz=19,slow=5.9,SNR=6.2					
	comp=Z,0.7nm,0.6s					
JAY	Jayapura	49.38	298	LR	LR	07 02 04.7
	comp=Z,61nm,18.7s,baz=1.5,slow=34					
KNRA	Kununurra	51.67	275	P	P	06 43 58.9 +0.3
KNRA				IAmb	IAmb	06 44 07.3
	comp=Z,10.0nm,0.7s					
CASY	Casey	54.12	208	P	P	06 44 15.5 -0.4
RKPI	Ransiki, Papua	55.03	293	P	P	06 44 36.7 +13
QSPA	South Pole Qui	58.11	180	P	P	06 44 55.5 +11
	comp=Z,11nm,1.0s,baz=42,slow=1.5,SNR=24					
	comp=Z,11nm,1.0s					
RPN	Rapa Nui	58.21	104	LR	LR	07 06 29.9
	comp=Z,47nm,19.3s,baz=12,slow=32					
BATI	Baumata	58.70	278	LR	LR	07 09 30.3
	comp=Z,72nm,19.3s,baz=146,slow=36					
KAPI	Kappang	64.72	280	LR	LR	07 12 10.0
	comp=Z,60nm,20.7s,baz=87,slow=35					
MAW	Mawson	71.10	201	P	P	06 46 19.3 +10
	comp=Z,0.9nm,0.5s,baz=184,slow=12,SNR=2.4					
MAW				LR	LR	07 18 00.7
	comp=Z,86nm,18.0s,baz=94,slow=36					
	comp=Z,0.9nm,0.5s					
TROLL	Troll, Antarti	76.27	180	⇓P	P	06 46 49.2 +10
	comp=Z,298nm,1.0s					
VNA3	Neumayer Olymp	76.65	176	⇓P	P	06 46 51.2 +10
	comp=Z,11nm,0.6s					
VNA2	Neumayer--Watz	77.09	177	⇓P	P	06 46 53.7 +10
	comp=Z,7.4nm,0.7s,baz=188,slow=4.0					
VNA1	Neumayer--Stat	77.31	176	⇓P	P	06 46 55.0 +10
	comp=Z,9.9nm,1.3s					
H03S2	Juan Fernandez	78.88	123	T	T	08 15 51.7
	baz=238,slow=74,SNR=13					
H03S1	Juan Fernandez	78.89	123	T	T	08 15 51.7
	baz=238,slow=74,SNR=16					
H03S3	Juan Fernandez	78.90	123	T	T	08 15 51.7
	baz=238,slow=74,SNR=16					
H03N3	Juan Fernandez	79.08	123	T	T	08 16 09.9
	baz=240,slow=72,SNR=21					
H03N2	Juan Fernandez	79.08	123	T	T	08 16 08.6
	baz=240,slow=72,SNR=18					
H03N1	Juan Fernandez	79.09	123	T	T	08 16 10.3
	baz=240,slow=72,SNR=29					
MJAR	Matsushiro Arr	80.04	325	LR	LR	07 17 28.9
	comp=Z,24nm,20.4s,baz=144,slow=32					
PLCA	Paso Flores	80.80	132	LR	LR	07 16 19.4
	comp=Z,24nm,20.4s,baz=240,slow=30					
ASAJ	Asahikawa	84.25	332	LR	LR	07 17 06.6
	comp=Z,40nm,21.2s,baz=160,slow=30					
KSRS	Korea Array	86.11	319	LR	LR	07 20 21.4
	comp=Z,23nm,21.7s,baz=50,slow=32					
PETK	Petropavlovsk-	87.58	345	P	P	06 47 43.4 +4.6
	comp=Z,4.3nm,0.9s,baz=138,slow=8.9,SNR=1.9					
	comp=Z,4.3nm,0.9s					
NJ2	Nanjing	87.92	310	*e*P	P	06 47 41.0 0.0
NJ2				pP	PcP	06 47 44.3 +1.5
NJ2				pmax	pmax	
	comp=Z,9.0nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,130nm,4.6s					
NVAR	Mina Array Bea	88.85	42	P	P	06 47 53.8 +8.3
	comp=Z,0.4nm,0.8s,baz=198,slow=2.7,SNR=2.5					
	comp=Z,0.4nm,0.8s					
NNA	Nana	92.18	105	LR	LR	07 21 33.3
	comp=Z,29nm,20.1s,baz=261,slow=30					
LVC	Limon Verde	92.43	118	LR	LR	07 21 19.1
	comp=Z,18nm,19.5s,baz=236,slow=30					
CMIG	Matias Romero	92.46	71	LR	LR	07 21 08.2
	comp=Z,32nm,21.4s,baz=281,slow=30					
TXAR	Lajitas Array	92.55	57	LR	LR	07 22 36.7
	comp=Z,36nm,20.3s,baz=322,slow=31					
MA2	Magadan	95.06	344	LR	LR	07 25 21.1
	comp=Z,73nm,19.9s,baz=173,slow=32					
PZH	PanZhiHua	96.79	297	P	P	06 48 23.0 +0.7
PZH				pmax	pmax	
	comp=Z,10.0nm,0.6s					
PZH				pmax	pmax	
	comp=Z,70nm,5.0s					
HHC	Hu-ho-hao-te	97.95	313	*e*P	Pdif	06 48 28.0 +0.7
HHC				pmax	pmax	
	comp=Z,18nm,0.6s					
HHC				pmax	pmax	
	comp=Z,200nm,4.5s					
MKAR	Makanchi Array	119.44	309	PKP	PKiKP	06 53 45.0 +4.5
	comp=Z,0.8nm,0.6s,baz=97,slow=0.7,SNR=4.3					
KURBB	Kurchatov Arra	122.80	313	PKP	PKiKP	06 53 51.1 +4.3
	comp=Z,2.0nm,0.6s,baz=104,slow=1.9,SNR=15					
BVAR	Borovoye Array	128.14	315	PKP	PKiKP	06 54 02.0 +4.6
	comp=Z,2.4nm,0.6s,baz=108,slow=1.9,SNR=9.8					
ARU	Arti	134.86	320	PKP	PKiKP	06 54 12.7 +1.9
	comp=Z,2.5nm,0.3s,baz=140,slow=14,SNR=3.1					
AKTO	Aktyubinsk	135.80	311	PKP	PKiKP	06 54 16.7 +3.7
	comp=Z,2.7nm,1.0s,baz=45,slow=2.9,SNR=4.5					
ARCES	ARCESS Array B	140.34	348	PKhKP	PKPpre	06 54 19.1
	comp=Z,4.9nm,0.9s,baz=32,slow=2.9,SNR=5.2					
FINES	FINESS Array B	146.94	340	PKPbc	PKiKP	06 54 37.5 +2.0
	comp=Z,5.4nm,0.3s,baz=52,slow=4.3,SNR=73					
NB2	NORSAR Subarra	150.46	352	PKP	PKPab	06 54 48.5 -0.2
	comp=Z,4.3nm,0.9s,baz=16,slow=4.1					
NOA	NORSAR Array B	150.46	352	PKPbc	PKPab	06 54 47.8 -0.9
	comp=Z,1.6nm,0.7s,baz=14,slow=4.1,SNR=7.3					
HFS	Hagfors	150.98	349	PKPbc	PKPab	06 54 49.5 -1.3
	comp=Z,8.3nm,0.7s,baz=90,slow=3.7,SNR=9.9					
NACGM	Naroch	151.59	331	*e*PKP	PKPdf	06 54 35.5 -3.0
MMAI	Mount Meron Ar	152.70	281	PKPbc	PKPab	06 54 54.1 -4.8
	comp=Z,3.4nm,0.4s,baz=75,slow=7.0,SNR=8.2					
AKASG	Malin Array Be	153.08	322	PKPbc	PKiKP	06 54 51.0 +2.5
	comp=Z,2.2nm,0.6s,baz=51,slow=2.6,SNR=10					
BRTR	Keskin Array B	154.08	296	PKPbc	PKiKP	06 54 55.8 +4.7
	comp=Z,1.3nm,0.5s,baz=135,slow=4.4,SNR=7.7					
TORD	Torodi Ar. Bea	161.19	176	PKP	PKPdf	06 55 00.4 +8.1
	comp=Z,0.9nm,1.1s,baz=333,slow=2.0,SNR=3.7					
TORD				PKPab	pPKPab	06 55 43.8 -0.6
	comp=Z,1.6nm,0.9s,baz=161,slow=2.9,SNR=6.5					

*IDC **27** 06:39:40.9±3.1, 43°.94N×128°.93W, h0km, mb2.8/3, mbtmp3.0/7, ML3.1/4, MS3.4/9, Error ellipse: s-maj=61.6km s-min=20.8km az=49.0*

*PGC **27** 06:39:49.0±0.2, 43°.86N×128°.13W, h10km, ML3.2, MLSn3.3/4, Mw3.9/4, 600km Ssw of Ucluelet, Bc Off Coast Of Oregon*

*NEIC **27** 06:39:51.8±1.9, 43°.94N±0°.06×127°.9W±0°.2, h10km±2km, ML3.1/36, Error ellipse: s-maj=24.0km s-min=3.1km az=244.0*

ISC 27 06:39:48.6±1.7, **43°.93N**±0°.07×**128°.3W**±0°.1, **h10**km, **n65**, σ1.9**44**/60, **Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.05	109	Pn	Pn	06 40 34.9	-2.0
KEBM				IAML		06 41 17.3	
	comp=E,76nm,1.9s						
KEBM				IAML		06 41 57.1	
	comp=N,56nm,4.3s						
J01E	Myrtle Point	3.24	102	Pn	Pn	06 40 38.8	-0.6
J01E				IAML		06 41 23.1	
	comp=E,49nm,2.4s						
HEBO	Mount Hebo	3.46	67	Pn	Pn	06 40 42.5	-0.1
HEBO				IAML		06 41 58.0	
	comp=N,61nm,2.2s						
I03D	Drain, OR	3.56	92		Pn	06 40 43.9	0.0
K02D	Willamette Mer	3.57	109	Pn	Pn	06 40 42.9	-1.2
COR	Corvallis	3.62	78	Pn	Pn	06 40 44.3	-0.3
COR				IAML		06 42 45.8	
	comp=N,34nm,4.1s						
DBO	Dodson Butte	3.73	101		Pn	06 40 46.4	0.0
G03D	McMinnville, O	3.79	68	Pn	Pn	06 40 47.1	+0.1
G03D				IAML		06 41 34.5	
	comp=N,41nm,2.3s						
G03D				IAML		06 42 53.3	
	comp=E,41nm,2.5s						
BUCK	Buck Mountain	3.81	84	Pn	Pn	06 40 48.4	+1.1
BUCK				IAML		06 41 40.5	
	comp=N,26nm,3.3s						
BUCK				IAML		06 42 33.4	
	comp=E,33nm,2.6s						
F03A	Seaside	3.89	57	Pn	Pn	06 40 48.6	+0.2
H04D	Lebanon	4.01	80	Pn	Pn	06 40 50.0	-0.1
I04A	Tendick Farm,	4.23	90		Pn	06 40 53.7	+0.5
H04A	Detroit Lake	4.42	78	Pn	Pn	06 40 56.5	+0.7
WISH	Wishkah	4.48	43	Pn	Pn	06 40 57.4	+0.9
NLWA	Neilton Lookou	4.63	40	Pn	Pn	06 40 59.9	+1.3
NLWA				IAML		06 41 56.6	
	comp=E,15nm,4.3s						
NLWA				IAML		06 43 08.7	
	comp=E,15nm,4.5s						
YBH	Yreka Blue Hor	4.63	116	Pn	Pn	06 40 59.1	+0.4
	comp=E,0.1nm,0.3s,baz=315,slow=9.9,SNR=2.4						
YBH				LR	LR	06 42 51.0	
	comp=E,665nm,21.3s,baz=329,slow=37						
	comp=E,0.6nm,0.6s						
L04D	Klamath Falls	4.68	109	Pn	Pn	06 40 58.9	-0.6
HOOD	Mount Hood Mea	4.91	71		Pn	06 41 02.7	+0.1
HOOD				IAML		06 41 38.3	
	comp=N,22nm,2.4s						
HOOD				IAML		06 43 02.8	
	comp=E,20nm,3.1s						
G05A	Wamic	5.13	73		Pn	06 41 06.5	+1.1
J05D	Fort Rock, OR	5.14	95	Pn	Pn	06 41 05.7	0.0
PINE	Pine Mountain	5.29	89	Pn	Pn	06 41 08.5	+0.6
PINE				IAML		06 42 45.2	
	comp=E,16nm,4.8s						
PINE				IAML		06 43 42.8	
	comp=N,20nm,4.4s						
PTRF	Port Renfrew	5.33	29	Sn	Sn	06 42 08.6	-1.0
PFB	Port Renfrew	5.34	28	Sn	Sn	06 42 08.2	-1.7
LON	Longmire	5.35	56		Pn	06 41 08.9	+0.4
LON				IAML		06 42 55.0	
	comp=N,7.8nm,4.8s						
LON				IAML		06 43 42.2	
	comp=E,7.9nm,4.1s						
B928	Bamfield	5.36	23	Sn	Sn	06 42 09.5	-0.8
BFSB	Bamfield	5.36	23	Sn	Sn	06 42 08.6	-1.6
D05A	Enumclaw	5.47	51	Pn	Pn	06 41 11.1	+0.9
K05A	Summer Lake	5.50	100	Pn	Pn	06 41 10.9	+0.1
B926	Mesachie Lake	5.66	29	Sn	Sn	06 42 16.2	-1.6
CLRS	Cowichan Lake	5.66	29	Pn	Pn	06 41 13.5	+0.8
CLRS	Cowichan Lake	5.66	29	Pn	Pn	06 41 13.9	+1.1
CLRS				Sn	Sn	06 42 16.7	-1.1
NLLB	Nanaimo Lost L	6.06	28	Sn	Sn	06 42 27.2	-0.4
LTY	Liberty	6.28	55	Pn	Pn	06 41 21.4	+0.1
TXB	Texada	6.34	23	Pn	Pn	06 41 22.6	+0.6
TXB				Sn	Sn	06 42 33.8	-0.6
WOSB	Woss	6.34	10	Pn	Pn	06 41 22.8	+0.7
CBB	Campbell River	6.42	17	Pn	Pn	06 41 24.4	+1.3
CBB	Campbell River	6.42	17	Pn	Pn	06 41 23.9	+0.8
CBB				Sn	Sn	06 42 36.4	+0.1
SHB	Sechelt	6.42	26	Pn	Pn	06 41 24.2	+1.0
SHB				Sn	Sn	06 42 37.2	+0.7
PACB	Port Alice, BC	6.53	4	Pn	Pn	06 41 25.6	+1.0
MBW	Mount Baker	6.55	40	Pn	Pn	06 41 26.3	+1.2
NCRB	Newcastle Ridg	6.65	12	Pn	Pn	06 41 28.1	+1.6
HOLB	Holberg	6.71	1	Pn	Pn	06 41 28.8	+1.5
G08A	Pilot Rock	6.77	75		Pn	06 41 29.1	+0.9
PHC	Port Hardy	6.80	4	Pn	Pn	06 41 30.6	+2.2
NEW	Newport	8.87	57	LR	LR	06 45 00.6	
	comp=E,144nm,21.8s,baz=261,slow=34						
NVAR	Mina Array Bea	9.30	123	Pn	Pn	06 42 04.3	+1.5
	baz=295,slow=13,SNR=5.7						
NVAR				LR	LR	06 45 45.2	
	comp=E,264nm,20.9s,baz=298,slow=37						
	comp=E,0.8nm,0.8s						
ELK	Elko	10.15	104	Pn	Pn	06 42 17.2	+2.7
	comp=E,0.1nm,0.3s,baz=337,slow=16,SNR=4.2						
ELK				LR	LR	06 46 23.5	
	comp=E,261nm,18.7s,baz=332,slow=38						
	comp=E,0.6nm,0.8s						
ISA	Isabella, Lake	11.16	134		Pn	06 42 31.7	+3.4
QSM	Queen of Sheba	11.81	128	Pn	Pn	06 42 39.9	+2.9
MVU	Marysvale	13.23	109	Pn	Pn	06 42 59.7	+3.0
MSU	Marysvale	13.25	109	Pn	Pn	06 42 57.4	+0.4
PDAR	Pinedale Array	13.66	88	Pn	Pn	06 43 06.0	+3.4
	comp=E,0.1nm,0.3s,baz=279,slow=13,SNR=4.9						
PDAR				LR	LR	06 48 37.8	
	comp=E,202nm,18.1s,baz=298,slow=38						
	comp=E,0.7nm,1.0s						
PFO	Pinyon Flats O	13.80	134	LR	LR	06 48 48.5	
	comp=E,31nm,19.1s,baz=319,slow=39						
W13A	Hualapai Mount	14.15	124	Pn	Pn	06 43 10.9	+1.6
U15A	North Rim	14.31	116	Pn	Pn	06 43 12.8	+1.4
ANMO	Albuquerque	19.03	111	P	Pn	06 44 13.6	+1.9
	comp=E,0.6nm,0.6s,baz=53,slow=6.5,SNR=4.1						
ANMO				LR	LR	06 52 03.1	
	comp=E,229nm,20.7s,baz=46,slow=38						
YKA	Yellowknife Ar	20.23	18	P	P	06 44 20.4	-3.1
	comp=E,0.6nm,0.8s,baz=202,slow=11,SNR=5.0						
	comp=E,0.6nm,0.8s						
ILAR	Eielson Array	23.36	340	P	P	06 44 47.9	-8.9
	comp=E,0.1nm,0.6s,baz=150,slow=10,SNR=1.6						
ILAR				LR	LR	06 52 18.3	
	comp=E,82nm,18.4s,baz=127,slow=33						
	comp=E,0.1nm,0.6s						
TXAR	Lajitas Array	24.41	118	P	P	06 45 04.8	-2.5
	comp=E,0.4nm,1.1s,baz=305,slow=6.4,SNR=2.1						
TXAR				LR	LR	06 54 58.8	
	comp=E,85nm,20.0s,baz=308,slow=37						
	comp=E,0.4nm,1.1s						
H11N3	WAKE ISLAND Hy	58.58	268	T	T	07 52 46.1	
	baz=49,slow=75,SNR=78						
H11N2	WAKE ISLAND Hy	58.58	268	T	T	07 52 45.3	
	baz=49,slow=75,SNR=53						
H11N1	WAKE ISLAND Hy	58.60	268	T	T	07 52 47.9	
	baz=49,slow=75,SNR=50						
H11S1	WAKE ISLAND Hy	59.51	267	T	T	07 53 59.8	
	baz=48,slow=75,SNR=13						
H11S2	WAKE ISLAND Hy	59.52	267	T	T	07 53 57.6	
	baz=48,slow=75,SNR=9.5						
H11S3	WAKE ISLAND Hy	59.53	267	T	T	07 53 59.2	
	baz=48,slow=75,SNR=8.6						

*IDC **27** 06:58:53.6±4.4, 24°.16S×179°.67E, h503km±59km, mb3.1/5, mbtmp4.0/5, Error ellipse: s-maj=96.4km s-min=22.6km az=175.0*

ISC 27 06:58:53.5±1.1, **24°.6S**±0°.1×**179°.8E**±0°.1, **h500**km, **n21**, σ2.5**20**/23, **mb3.7/5, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.13	157	P	P	07 00 24.9	+3.4
	115nm,0.2s,baz=265,slow=22,SNR=2.6						
GLKZ	Green Lake	5.14	157	P	P	07 00 23.5	+1.9
OUZ	Omahuta	11.89	205	P	P	07 01 32.9	+2.1
WCZ	Waipu Caves	12.27	201	P	P	07 01 37.2	+2.4
KUZ	Kuaotunu	12.64	195	P	P	07 01 39.8	+1.1
WIAZ	Waiheke Island	12.83	197	P	P	07 01 42.6	+1.9
MXZ	Matakana Point	13.03	185	P	P	07 01 43.0	+0.2
ETAZ	East Tamaki Re	13.04	197	P	P	07 01 47.3	+4.5
MKAZ	Moumakai	13.12	196	P	P	07 01 46.5	+2.8
HAZ	Te Kaha	13.27	187	P	P	07 01 44.6	-0.7
HAZ				S	S	07 04 03.9	-3.1
PKGZ	Pakihiroa	13.37	186	P	P	07 01 46.7	+0.2
RUGZ	Raukumara Rang	13.49	187	P	P	07 01 48.8	+1.0
PUZ	Puketiti	13.54	185	P	P	07 01 50.7	+2.5
URZ	Urewera	13.85	189	P	P	07 01 51.3	-0.2
URZ				S	S	07 04 15.5	-2.7
MWZ	Matawai	13.87	187	P	P	07 01 52.7	+1.0
CTA	Charters Tower	31.25	271	P	P	07 04 32.0	+0.2
	2.4nm,0.4s,baz=94,slow=11,SNR=7.6						
	2.4nm,0.4s						
STKA	Stephens Creek	34.27	249	P	P	07 04 57.2	-0.1
	0.9nm,0.4s,baz=79,slow=10,SNR=4.5						
	0.9nm,0.4s						
ASAR	Alice Springs	41.70	261	P	P	07 05 58.0	-0.3
	0.4nm,0.3s,baz=91,slow=6.6,SNR=7.0						
	0.4nm,0.3s						
WRA	Warramunga Arr	42.13	267	P	P	07 06 01.0	-0.7
	1.2nm,0.4s,baz=99,slow=8.2,SNR=9.6						
	1.2nm,0.4s						
TXAR	Lajitas Array	90.97	58	P	P	07 11 04.3	+0.2
	0.4nm,0.8s,baz=214,slow=6.0,SNR=4.7						
	0.4nm,0.8s						
HFS	Hagfors	143.13	348	PKP	PKPdf	07 17 26.1	-3.5
	3.3nm,1.0s,baz=354,slow=1.4,SNR=4.7						

*IDC **27** 07:00:51.5±1.8, 4°.40S×144°.71E, h147km±17km, mb3.6/3, mbtmp4.1/6, Error ellipse: s-maj=26.1km s-min=12.5km az=53.0*

ISC 27 07:00:51.7±1.1, **4°.4S**±0°.1×**144°.73E**±0°.10, **h150**km, **n13**, σ0.9**98**/15, **mb3.9/3, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	Tabubil	3.61	256	P	Pn	07 01 48.6	+1.6
JAY	Jayapura	4.42	295	P	Pn	07 01 57.8	+0.1
	22nm,0.4s,baz=174,slow=4.4,SNR=15						
JAY				S	Sn	07 02 48.3	-0.6
	8.8nm,0.6s,baz=162,slow=20,SNR=1.9						
PMG	Port Moresby	5.55	154	P	Pn	07 02 14.0	+1.5
PMG	Port Moresby	5.55	154	P	Pn	07 02 13.7	+1.3
	13nm,0.3s,baz=69,slow=4.7,SNR=7.3						
PMG				S	Sn	07 03 14.1	-1.5
	9.3nm,0.3s,baz=30,slow=23,SNR=8.1						
KDU	Kakadu	14.66	235	P	Pn	07 04 11.7	-0.3
WRAB	Tennant Creek	18.48	212	P	P	07 04 56.4	+0.1
WRA	Warramunga Arr	18.49	212	P	P	07 04 56.0	-0.5
	1.6nm,0.4s,baz=34,slow=11,SNR=57						
KNRA	Kununurra	19.30	233	P	P	07 05 04.4	-0.9
ASAR	Alice Springs	21.84	208	P	P	07 05 32.3	-0.2
	2.7nm,0.6s,baz=35,slow=10.0,SNR=48						
	2.7nm,0

MRSI	**Marisa**	**2.01 262**	P	**Pn**	**08 41 46.8**	**-0.7**
LUWI	**Luwuk**	**2.13 213**		**Pn**	**08 41 47.1**	**-1.4**
TOLI2	**Tolitoli**	**3.17 276**	Pn	**Pn**	**08 41 57.8**	**-1.0**
TNTI	**Ternate**	**3.44 90**	Pn	**Pn**	**08 42 00.7**	**-0.9**
TNTI	**Ternate**	**3.44 90**	P	**Pn**	**08 42 01.1**	**-0.6**
SANI	**Sanana**	**3.46 144**	P	**Pn**	**08 42 00.4**	**-1.5**
LBMI	**Labuha**	**3.83 111**	P	**Pn**	**08 42 05.5**	**-0.5**
MPSI	**Mapaga**	**4.05 264**	P	**Pn**	**08 42 08.9**	**+0.3**
MYLDM	**Lahad Datu**	**6.98 309**	Pn	**Pn**	**08 42 45.8**	**+1.9**
SIJI	**Sorong**	**7.51 102**	P	**Pn**	**08 42 51.1**	**+0.7**
	31nm,0.8s,baz=305,slow=12,SNR=5.7					
FAKI	**Fak Fak**	**9.08 114**	Pn	**Pn**	**08 43 09.4**	**-0.6**
BATI	**Baumata**	**10.89 181**	P	**P**	**08 43 36.9**	**+0.6**
	56nm,0.4s,baz=270,slow=2.0,SNR=4.6					
SBUM	**Sibu**	**11.83 278**	Pn	**Pn**	**08 43 44.0**	**-0.1**
MTN	**Manton Dam**	**15.28 152**	P	**P**	**08 44 25.0**	**+0.1**
MTN			IAmb	IAmb	08 44 26.7	
	comp=Z,9.6nm,0.7s					
MTN	**Manton Dam**	**15.28 152**	P	**Pn**	**08 44 26.5**	**+0.6**
KNRA	**Kununurra**	**17.01 164**	P	**P**	**08 44 44.8**	**+1.0**
KNRA			IAmb	IAmb	08 44 46.2	
	comp=Z,16nm,0.8s					
MBWA	**Marble Bar**	**22.16 190**	P	**P**	**08 45 36.4**	**-0.5**
MBWA			IAmb	IAmb	08 46 13.6	
	comp=Z,23nm,1.4s					
MBWA	**Marble Bar**	**22.16 190**	P	**P**	**08 45 37.1**	**+0.2**
PSA00	**Pilbara Seismi**	**22.54 190**	P	**P**	**08 45 40.3**	**-0.1**
PSA00			IAmb	IAmb	08 45 41.4	
	comp=Z,21nm,0.7s					
PSA00	**Pilbara Seismi**	**22.54 190**	P	**P**	**08 45 40.8**	**+0.4**
TPUB	**Ta-pu**	**22.64 352**	P	**P**	**08 45 40.7**	**-0.6**
WB0	**Warramunga Arr**	**22.83 154**	P	**P**	**08 45 43.1**	**+0.1**
WRA	**Warramunga Arr**	**22.96 154**	P	**P**	**08 45 43.2**	**-1.0**
WRA	**Warramunga Arr**	**22.96 154**	P	**P**	**08 45 44.4**	**+0.2**
	comp=Z,11nm,0.4s,baz=336,slow=9.8,SNR=308					
WRA			PcP	**PcP**	**08 49 25.7**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=327,slow=1.9,SNR=1.9					
WRA			ScP	**ScP**	**08 52 34.2**	**-3.2**
	comp=Z,0.3nm,0.8s,baz=337,slow=2.5,SNR=1.3					
	comp=Z,11nm,0.4s					
WR0	**Warramunga Arr**	**23.06 154**	P	**P**	**08 45 45.2**	**+0.1**
WR0			IAmb	IAmb	08 45 47.8	
	comp=Z,17nm,0.8s					
SSLB	**Suanglung**	**23.08 353**	P	**P**	**08 45 46.4**	**+1.2**
SSLB			IAmb	IAmb	08 45 55.5	
	comp=Z,28nm,1.1s					
COEN	**Coen**	**24.02 128**	P	**P**	**08 45 53.8**	**-0.1**
COEN			IAmb	IAmb	08 45 56.7	
	comp=Z,6.0nm,0.8s					
WRKA	**Warakurna**	**25.98 171**	P	**P**	**08 46 12.8**	**+1.3**
AS31	**Alice Springs**	**26.14 159**	P	**P**	**08 46 13.2**	**+0.3**
ASAR	**Alice Springs**	**26.14 159**	P	**P**	**08 46 13.5**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=340,slow=6.8,SNR=43					
ASAR			PcP	**PcP**	**08 49 32.5**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=350,slow=2.0,SNR=9.0					
ASAR			ScP	**ScP**	**08 52 44.5**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=345,slow=3.1,SNR=7.4					
	comp=Z,2.2nm,0.7s					
MEEK	**Meekatharra**	**27.71 190**	P	**P**	**08 46 27.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.19 307**	P	**P**	**08 46 49.0**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=133,slow=7.4,SNR=12					
	comp=Z,1.3nm,0.5s					
FORT	**Forrest**	**31.60 173**	P	**P**	**08 47 01.2**	**+0.3**
FORT	**Forrest**	**31.60 173**	P	**P**	**08 47 02.1**	**+1.2**
BLDU	**Ballidu**	**31.94 192**	P	**P**	**08 47 04.1**	**+0.2**
NWAO	**Narrogin (SRO)**	**34.09 190**	P	**P**	**08 47 21.9**	**-0.5**
BBOO	**Buckleboo**	**35.29 162**	P	**P**	**08 47 32.3**	**-0.4**
STKA	**Stephens Creek**	**36.51 154**	P	**P**	**08 47 43.3**	**+0.3**
STKA	**Stephens Creek**	**36.51 154**	P	**P**	**08 47 43.8**	**+0.8**
	comp=Z,6.4nm,0.5s,baz=335,slow=9.3,SNR=22					
	comp=Z,6.4nm,0.5s					
MJAR	**Matsushiro Arr**	**37.99 19**	P	**P**	**08 47 55.5**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=238,slow=8.7,SNR=2.2					
	comp=Z,1.1nm,0.6s					
LZH	**Lanzhou**	**39.80 334**	*e*P	**P**	**08 48 12.5**	**+2.1**
LZH			sP	sP	08 49 35.0	+0.4
LZH			pmax	pmax		
	comp=Z,27nm,0.9s					
HHC	**Hu-ho-hao-te**	**41.46 346**	*e*P	**P**	**08 48 26.0**	**+2.2**
HHC			pmax	pmax		
	comp=Z,31nm,0.6s					
HHC			pmax	pmax		
	comp=Z,210nm,5.3s					
CAN	**Canberra**	**42.85 149**	P	**P**	**08 48 36.4**	**+1.3**
CAN			IAmb	IAmb	08 48 38.0	
	comp=Z,15nm,0.8s					
TOO	**Toolangi**	**43.03 155**	P	**P**	**08 48 37.5**	**+1.1**
USRK	**Ussuriysk Ar.**	**43.85 8**	P	**P**	**08 48 42.2**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=191,slow=6.0,SNR=4.1					
	comp=Z,1.4nm,0.4s					
SONM	**Songino Array**	**49.31 344**	P	**P**	**08 49 25.6**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=152,slow=6.7,SNR=2.4					
	comp=Z,1.9nm,0.8s					
WMQ	**Urumqi**	**53.65 328**	*e*P	**P**	**08 49 58.5**	**+1.4**
WMQ			pmax	pmax		
	comp=Z,16nm,0.7s					
MK31	**Makanchi Array**	**58.47 328**	P	**P**	**08 50 29.8**	**-1.2**
MKAR	**Makanchi Array**	**58.47 328**	P	**P**	**08 50 29.9**	**-1.1**
MKAR	**Makanchi Array**	**58.47 328**	P	**P**	**08 50 29.6**	**-1.3**
	comp=Z,1.5nm,0.3s,baz=126,slow=8.2,SNR=21					
	comp=Z,1.5nm,0.3s					
RPZ	**Rata Peaks**	**61.03 143**	P	**P**	**08 50 49.5**	**+1.1**
RPZ			IAmb	IAmb	08 51 25.2	
	comp=Z,33nm,1.4s					
THZ	**Tophouse**	**61.16 140**	P	**P**	**08 50 49.9**	**+0.6**
KBL	**Kabul**	**61.17 310**	P	**P**	**08 50 49.9**	**+0.1**
KBL			IAmb	IAmb	08 50 51.5	
	comp=Z,6.3nm,0.7s					
TUWZ	**Tuamarina**	**61.67 139**	P	**P**	**08 50 52.8**	**+0.1**
KURBB	**Kurchatov Arra**	**62.79 329**	P	**P**	**08 50 58.0**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=133,slow=6.8,SNR=12					
	comp=Z,0.7nm,0.3s					
KURK	**Kurchatov**	**62.80 329**	P	**P**	**08 50 58.6**	**-1.4**
KURK			IAmb	IAmb	08 51 01.7	
	comp=Z,4.1nm,0.7s					
CASY	**Casey**	**67.57 186**	P	**P**	**08 51 30.8**	**+0.7**
CASY			IAmb	IAmb	08 51 31.6	
	comp=Z,2.5nm,0.8s					
BVAR	**Borovoye Array**	**68.33 328**	P	**P**	**08 51 33.5**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=132,slow=10,SNR=3.0					
	comp=Z,0.6nm,0.3s					
ABKAR	**Akbulak array**	**72.71 322**	P	**P**	**08 51 59.9**	**-1.7**
AKTO	**Aktyubinsk**	**74.28 323**	P	**P**	**08 52 09.7**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=111,slow=8.8,SNR=5.8					
	comp=Z,1.9nm,0.5s					
MAW	**Mawson**	**80.02 200**	P	**P**	**08 52 41.8**	**-0.3**
VNDA	**Vanda**	**80.86 172**	P	**P**	**08 52 46.2**	**-0.2**
VNDA			IAmb	IAmb	08 52 47.9	
	comp=Z,8.2nm,1.4s					
VNDA	**Vanda**	**80.86 172**	P	**P**	**08 52 47.3**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=316,slow=7.8,SNR=9.8					
	comp=Z,1.5nm,0.8s					
L16K	**Owhat River**	**83.00 28**	P	**P**	**08 52 58.3**	**+0.5**
L16K			IAmb	IAmb	08 53 35.1	
	comp=Z,14nm,1.4s					
PPT	**Papeete**	**86.88 108**	P	**P**	**08 53 17.2**	**-0.8**
	comp=Z,15nm,0.6s,baz=233,slow=20,SNR=2.3					
ILAR	**Eielson Array**	**88.97 25**	P	**P**	**08 53 25.9**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=256,slow=4.5,SNR=1.6					
	comp=Z,0.1nm,0.5s					
BMAR	**Burnt Mountain**	**89.89 23**	P	**P**	**08 53 30.8**	**-0.3**
QSPA	**South Pole Qui**	**90.68 180**	P	**P**	**08 53 35.4**	**+0.5**
	comp=Z,2.0nm,1.1s,baz=278,slow=1.0,SNR=11					
	comp=Z,2.0nm,1.1s					
ARCES	**ARCESS Array B**	**92.25 340**	P	**P**	**08 53 40.7**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=312,slow=13,SNR=0.8					
	comp=Z,2.2nm,0.8s					

IDC ***27*** *08:54:17.6±1.2, 32°.21N×76°.16E, h0km, mb3.6/6, mbtmp3.6/9, ML3.5/3, Error ellipse: s-maj=38.1km s-min=20.0km az=69.0*
NDI ***27*** *08:54:22.7±2.5, 32°.29N×76°.33E, h5km, ML3.6*
NNC ***27*** *08:54:26.2±4.7, 32°.61N×75°.49E, h0km, mb3.9, Error ellipse: s-maj=92.7km s-min=37.4km az=70.0*
ISC 27 08:54:20.6±1.0, 32°.32N±0°.04×76.42E±0°.05, h12km±7km, n33, σ2°32/46, mb3.6/6, 2C-2D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**0.12**	**237**	*e*P	**Pg**	**08 54 23.0**	**-1.1**
DHRM				*e*S	**Sg**	**08 54 24.9**	**-1.7**
THN	**Thein Dam**	**0.61**	**281**	*e*P	**Pg**	**08 54 32.1**	**-0.4**
THN				*e*S	**Sg**	**08 54 39.9**	**-0.7**
THN				IAML		08 54 43.3	
	comp=N,2μm,0.3s						
THN				IAML		08 54 43.8	
	comp=E,2μm,0.4s						
BHK	**Bhakra**	**0.90**	**180**	*e*P	**Pn**	**08 54 39.2**	**+0.1**
BHK				*e*S	**Sn**	**08 54 53.4**	**+1.4**
JMU	**Jammu**	**1.35**	**288**	*e*P	**Pg**	**08 54 48.9**	**+2.4**
JMU				*e*S	**Sg**	**08 55 09.3**	**+5.3**
DDI	**Dehra Dun**	**2.43**	**145**	*e*P	**Pg**	**08 55 06.6**	**-0.7**
DDI				*e*S	**Sb**	**08 55 35.8**	**+1.5**
DDI				IAML		08 55 44.5	
	comp=N,579nm,0.5s						
DDI				IAML		08 55 46.4	
	comp=E,772nm,0.3s						
NDI	**New Delhi**	**3.69**	**169**	*e*P	**Pn**	**08 55 20.0**	**+2.6**
SONA	**Sohna**	**4.10**	**172**	*e*P	**Pn**	**08 55 24.2**	**+1.2**
SONA				*e*S	**Sn**	**08 56 12.3**	**+1.5**
KUDL	**Kundal**	**4.16**	**179**	*e*P	**Pn**	**08 55 26.7**	**+2.8**
KHET	**Khetri**	**4.26**	**187**	*e*P	**Pn**	**08 55 27.7**	**+2.3**
KHET				*e*S	**Sn**	**08 56 15.6**	**+0.5**
PTH	**Pithoragarh**	**4.27**	**129**	*e*P	**Pn**	**08 55 28.3**	**+2.7**
PTH				*e*S	**Sn**	**08 56 18.4**	**+2.9**
PYUN	**Piuthan**	**7.07**	**125**	*e*P	**Pn**	**08 56 07.3**	**+3.2**
	comp=E,47nm,0.3s						
JHNI	**Jhansi**	**7.08**	**164**	*e*P	**Pn**	**08 56 05.3**	**+1.3**
JHNI				*e*S	**Sn**	**08 57 22.8**	**-1.5**
DANN	**Dangsing**	**7.47**	**120**	*e*P	**Pn**	**08 56 12.4**	**+2.7**
	comp=E,14nm,0.3s						
GKN	**Gorkha**	**8.31**	**119**	*e*P	**Pn**	**08 56 23.8**	**+2.7**
	comp=E,24nm,0.3s						
DMN	**Daman**	**8.87**	**120**	*e*P	**Pn**	**08 56 31.4**	**+2.5**
	comp=E,16nm,0.2s						
BHPL	**Bhopal**	**9.09**	**174**	*e*P	**Pn**	**08 56 32.3**	**+0.7**
BHPL				*e*S	**Sn**	**08 58 10.7**	**-3.2**
PKIN	**Phulchoki**	**9.10**	**119**	*e*P	**Pn**	**08 56 34.3**	**+2.2**
	comp=E,36nm,0.5s						
PKI	**Pulchoki**	**9.12**	**119**	*e*P	**Pn**	**08 56 34.1**	**+1.8**
	comp=E,13nm,0.2s						
GUN	**Gumba**	**9.29**	**116**	*e*P	**Pn**	**08 56 36.5**	**+1.8**
JIRN	**Jiri**	**9.66**	**116**	*e*P	**Pn**	**08 56 41.5**	**+1.8**
	comp=E,17nm,0.3s						
AML	**Almayashu**	**10.03**	**348**	⇑P	**Pn**	**08 56 46.4**	**+1.5**
	comp=E,0.8nm,0.7s						
AML				⇓S	**Sn**	**08 58 37.4**	**-0.1**
	comp=E,1.4nm,0.7s						
RAMN	**Ramite**	**10.34**	**119**	*e*P	**Pn**	**08 56 50.4**	**+1.4**
	comp=E,28nm,0.5s						
AAK	**Ala-Archa**	**10.41**	**352**	Pn	**Pn**	**08 56 51.9**	**+2.0**
	comp=E,0.8nm,0.3s,baz=175,slow=8.2,SNR=4.6						
	comp=E,1.6nm,0.3s						
TKM2	**Tokmak 2**	**10.60**	**357**	⇑P	**Pn**	**08 56 54.4**	**+1.9**
	comp=E,1.5nm,0.4s						
KK31	**Karatay Array**	**11.73**	**338**	P	**Pn**	**08 57 08.2**	**+0.4**
	comp=E,2.7nm,0.6s,baz=152,slow=11,SNR=25						
KK31				⇓S	**Sn**	**08 59 13.1**	**-5.6**
	comp=E,2.1nm,0.5s,baz=160,slow=24,SNR=8.1						
MKAR	**Makanchi Array**	**15.14**	**16**	Pn	**Pn**	**08 57 55.1**	**+0.9**
	comp=E,0.4nm,0.3s,baz=187,slow=13,SNR=9.8						
MKAR				Sn	**Sn**	**09 00 36.5**	**-5.3**
	comp=E,0.3nm,0.3s,baz=190,slow=21,SNR=3.9						
	comp=E,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**18.36**	**4**	P	**Pn**	**08 58 33.7**	**-1.1**
	baz=194,slow=11,SNR=2.8						
	comp=E,0.5nm,0.6s						
BVAR	**Borovoye Array**	**21.15**	**350**	P	**P**	**08 59 04.0**	**-1.4**
	comp=E,1.4nm,0.4s,baz=163,slow=10,SNR=6.7						
	comp=E,1.4nm,0.4s						
ZALV	**Zalesovo Beam**	**22.44**	**13**	P	**P**	**08 59 19.3**	**+0.1**
	comp=E,1.0nm,0.6s,baz=274,slow=21,SNR=3.4						
	comp=E,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**24.52**	**119**	P	**P**	**08 59 39.4**	**-0.7**
	comp=E,0.9nm,0.4s,baz=226,slow=9.7,SNR=1.4						
	comp=E,0.9nm,0.4s						
TORD	**Torodi Ar. Bea**	**70.28**	**273**	P	**P**	**09 05 31.7**	**-2.5**
	comp=E,0.4nm,0.7s,baz=36,slow=6.8,SNR=2.6						
	comp=E,0.4nm,0.7s						
WRA	**Warramunga Arr**	**75.95**	**125**	P	**P**	**09 06 06.8**	**-0.8**
	comp=E,0.4nm,0.9s,baz=323,slow=5.9,SNR=8.1						
	comp=E,0.4nm,0.9s						
ASAR	**Alice Springs**	**78.17**	**128**	P	**P**	**09 06 21.0**	**+1.0**
	comp=E,0.3nm,0.6s,baz=339,slow=2.4,SNR=4.4						
	comp=E,0.3nm,0.6s						

SCB ***27*** *09:18:32.7±1.4, 16°.55S×59°.64W, h28km±8km, ML3.2/2, Error ellipse: s-maj=5.4km s-min=3.6km az=1.0*
VAO ***27*** *09:18:52.9±0.2, 15°.74S×58°.86W, h0km, mbR2.9*
ISC 27 09:18:33.2±0.9, 16°.53S±0°.04×59°.63W±0°.04, h10km, n15, σ2°57/14, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSD	**Serra de San D**	**1.15**	**235**	Pg	**Pn**	**09 18 55.1**	**-0.3**
BBSD				Sg	**Sn**	**09 19 10.1**	**-1.0**
BBSD				IAML		09 19 14.9	
	220nm,0.3s						
PTLB	**Pontes e Lacer**	**1.17**	**24**	Pg	**Pb**	**09 18 55.2**	**-0.4**
SIV	**San Ignacio**	**1.49**	**291**	Pg	**Pg**	**09 19 01.5**	**-0.3**
SIV				Sg	**Sg**	**09 19 21.0**	**-0.1**
SIV				IAML		09 19 24.0	
	738nm,0.2s						
BBRB	**Robore, Bolivi**	**1.75**	**186**	Pg	**Pb**	**09 19 04.7**	**-0.7**
VILB	**Vilhena**	**3.60**	**351**	Pn	**Pn**	**09 19 32.2**	**+3.1**
SOET	**ToroToro**	**6.11**	**254**	Pn	**Pn**	**09 20 06.4**	**+2.4**
ANTJ	**Antonio Joao (**	**6.43**	**148**	*e*P	**Pg**	**09 20 34.0**	**-2.4**
CLDB	**Colider**	**6.74**	**34**	*e*P	Pn	09 20 18.8	+6.4
CLDB				*e*S	**Sn**	**09 21 25.1**	**-4.2**
ARAG	**Araguaiana, MT**	**7.56**	**85**	*e*P	Pn	09 20 33.6	+10
ARAG				*e*S	**Sn**	**09 21 52.0**	**+2.6**
AMBA	**Amambai (Brazi**	**7.72**	**146**	*e*P	**Pb**	**09 20 50.7**	**+3.5**
LPAZ	**La Paz**	**8.16**	**270**	*e*P	Pg	09 21 03.8	-5.9
SAML	**Samuel**	**8.29**	**335**	*e*P	Pb	09 20 49.2	-7.8
SAML				*e*S	Sn	09 22 21.1	+14
ETMB	**Extrema**	**9.25**	**315**	*e*P	Pn	09 21 08.2	+21
ETMB				*e*S	Sn	09 22 54.0	+23
SNDB	**Serra Nova Dou**	**9.26**	**62**	*e*P	Pn	09 20 53.3	+6.3
SNDB				*e*S	**Sn**	**09 22 28.8**	**-2.5**
NPGB	**Novo Progresso**	**10.31**	**24**	*e*P	Pn	09 21 08.2	+6.9
NPGB				*e*S	**Sn**	**09 22 54.5**	**-2.6**

NNC ***27*** *09:38:34.8±2.4, 43°.57N×83°.81E, h6km±12km, mb4.1, mpv4.0, Error ellipse: s-maj=19.2km s-min=9.3km az=130.0*
SOME ***27*** *09:38:36.3, 44°.05N×83°.48E, h0km*
ISC 27 09:38:38.1±2.6, 44°.0N±0°.1×84°.4E±0°.2, h10km, n20, σ0°94/22, 5C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.16**	**333**	⇓Pn	**Pn**	**09 39 29.3**	**+1.3**
	1.4nm,0.3s,baz=149,slow=14,SNR=373						
MK31				Pg	**Pg**	**09 39 37.4**	**-1.3**
	5.4nm,0.2s,baz=145,slow=18,SNR=35						
MK31				⇓Lg	Lg	09 40 21.2	
	122nm,0.5s,baz=152,slow=30,SNR=12						
MAKZ	**Makanchi**	**3.28**	**330**	⇓Pn	**Pn**	**09 39 30.3**	**+0.7**
	4.5nm,0.8s						
MAKZ				⇓Pg	**Pg**	**09 39 39.4**	**-1.5**
	9.4nm,0.4s						
MAKZ				⇑Lg	Lg	09 40 26.1	
	127nm,0.6s						
ZSN	**Zaisan**	**3.48**	**6**	Pg	**Pn**	**09 39 33.1**	**+0.8**
	8.4nm,0.2s						
ZSN				Lg	Lg	09 40 18.4	
	18nm,0.3s						
ZSN	**Zaisan**	**3.48**	**6**	*e*Pg	**Pb**	**09 39 39.9**	**+0.1**
	42nm,0.3s						
ZSN				*e*Lg	Lg	09 40 30.8	
	52nm,0.2s						
PDGK	**Podgornoye**	**3.59**	**261**	Pg	**Pn**	**09 39 34.1**	**+0.2**
	16nm,0.3s						
PDGK				Lg	Lg	09 40 20.5	
	40nm,0.5s						
PDGK	**Podgornoye**	**3.59**	**261**	⇑Pg	**Pn**	**09 39 33.4**	**-0.5**
	19nm,0.3s						
PDGK				⇓Lg	Lg	09 40 14.7	
	64nm,0.5s						
KNOS	**Konyrlen**	**3.74**	**278**	Pg	**Pn**	**09 39 37.4**	**+1.3**
	21nm,0.2s						
KNOS				Lg	Lg	09 40 26.4	
	43nm,0.5s						
UZB	**Uzynbulak**	**3.96**	**260**	Pg	**Pn**	**09 39 39.3**	**+0.2**
	38nm,0.4s						
UZB				Lg	Lg	09 40 29.7	
	42nm,0.6s						
UZB	**Uzynbulak**	**3.96**	**260**	*e*Pg	**Pn**	**09 39 39.3**	**+0.2**
	37nm,0.2s						
UZB				*e*Lg	Lg	09 40 29.7	
	40nm,0.2s						
KPKS	**Kokpek**	**4.14**	**265**	Pg	**Pn**	**09 39 41.9**	**+0.4**
	12nm,0.2s						
KPKS				Lg	Lg	09 40 34.3	
	64nm,0.5s						
KPKS	**Kokpek**	**4.14**	**265**	*e*Pg	**Pn**	**09 39 41.9**	**+0.4**
	12nm,3.1s						
KPKS				*e*Lg	Lg	09 40 34.3	
	90nm,0.2s						
BLB	**Baldybastay**	**4.24**	**274**	Pg	**Pn**	**09 39 43.7**	**+0.9**
	51nm,0.2s						
BLB				Lg	Lg	09 40 37.0	
	92nm,0.3s						
ZHN	**Zhinishke**	**4.38**	**261**	Pg	**Pn**	**09 39 45.0**	**+0.3**
	9.6nm,0.3s						
ZHN				Lg	Lg	09 40 39.9	
	70nm,0.3s						
ZHN	**Zhinishke**	**4.38**	**261**	*e*Pg	**Pn**	**09 39 45.9**	**+1.1**
	6.0nm,0.1s						
ZHN				*e*Lg	Lg	09 40 41.4	
	83nm,0.2s						
SATY	**Saty**	**4.42**	**260**	Pg	**Pn**	**09 39 45.6**	**+0.2**
	10nm,0.2s						
SATY				Lg	Lg	09 40 41.1	
	42nm,0.3s						
SATY	**Saty**	**4.42**	**260**	*e*Pg	**Pn**	**09 39 46.9**	**+1.5**
	17nm,0.2s						
SATY				*e*Lg	Lg	09 40 43.2	
	55nm,0.1s						
KURS	**Kuram**	**4.51**	**266**	Pg	**Pn**	**09 39 47.0**	**+0.5**
	15nm,0.5s						
KURS				Lg	Lg	09 40 43.3	
	24nm,0.6s						
ARXS	**Arharly**	**4.71**	**275**	Pg	**Pn**	**09 39 50.1**	**+0.9**
	9.3nm,0.3s						
ARXS				Lg	Lg	09 40 48.5	
	62nm,0.5s						
KURK	**Kurchatov**	**7.78**	**332**	⇑Pn	**Pn**	**09 40 30.8**	**-0.5**
	2.5nm,0.8s						
KURK				⇑Sn	**Sn**	**09 42 00.6**	**+1.4**
	4.3nm,0.5s						
KURK				⇑Lg	Lg	09 42 46.5	
	41nm,0.6s						
KK31	**Karatay Array**	**10.09**	**270**	Lg	Lg	09 43 42.6	
	4.0nm,0.6s,baz=75,slow=27,SNR=4.5						

BGR ***27*** *09:38:35.9, 45°.97N×151°.16E, h33km, mb5.2*
IDC ***27*** *09:38:37.6±2.5, 45°.72N×150°.96E, h55km±22km, mb4.4/28, mbtmp4.6/32, ML3.8/4, MS3.5/39, Error ellipse: s-maj=14.2km s-min=10.6km az=151.0*
MOS ***27*** *09:38:37.8±0.9, 45°.55N×151°.13E, h75km, mb5.4/39, MS3.3/4, Error ellipse: s-maj=5.9km s-min=4.5km az=114.3*
SKHL ***27*** *09:38:38.0±0.3, 45°.50N×151°.30E, h74km±3km, mb5.6/9*
BJI ***27*** *09:38:38.3±0.0, 45°.74N×151°.15E, h81km, mb4.8/53, mB4.8/28, Ms4.2/9, Ms7 3.9/11*
NIED ***27*** *09:38:40.0, 45°.57N×150°.94E, h30km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.01; Mθθ1.02; Mφφ-1.03; Mrθ1.00; Mφθ-0.28; Mφr0.61; Fault plane solution: M0 1.58000×10^16 NP1:φs53.00000°, δ89.00000°, λ132.00000°. NP2:φs144.00000°, δ42.00000°, λ1.00000°.*
JMA ***27*** *09:38:40.0±0.8, 46°N±3°×15°1E±°, h30km, MV5.5/18, KURILE ISLANDS REGION*
NEIC ***27*** *09:38:40.1±1.6, 45°.66N±0°.10×150°.9E±0°.1, h70km±7km, mb5.0/259, Error ellipse: s-maj=16.0km s-min=10.4km az=144.0*
ISC 27 09:38:39.5±0.4, 45°.56N±0°.04×151°.07E±0°.04, h76km±3km, h75km: pP-P, n986, σ1s20/952, mb5.0/268, 40C-60D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.28**	**263**	*i* P	**Pn**	**09 39 16.4**	**+1.4**
KUR				AMB	AMB	09 39 17.1	
	6μm,0.4s						
KUR				*i* S	**Sn**	**09 39 43.1**	**+1.0**
KUR				A	A	09 39 45.1	
	8μm,0.6s						
KUR				A	A	09 39 45.1	
	10μm,0.6s						
KUR	**Kuril'sk**	**2.28**	**263**	*d* iPN	**Pn**	**09 39 16.4**	**+1.4**
KUR				*i* S	**Sn**	**09 39 43.1**	**+1.0**
KUR				pmax	pmax		
	comp=N,2μm,0.4s						
KUR				pmax	pmax		
	comp=Z,6μm,0.4s						
KUR				pmax	pmax		
	comp=E,742nm,0.3s						
KUR				smax	smax		
	comp=E,10μm,0.5s						
KUR				smax	smax		
	comp=N,8μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**4.01**	**250**	*e*P	**Pn**	**09 39 39.4**	**+1.0**
YUK				AMB	AMB	09 39 40.2	
	comp=N,2μm,0.2s						
YUK				*e*S	**Sn**	**09 40 24.2**	**+0.1**
YUK				A	A	09 40 29.5	
	comp=N,4μm,0.5s						
YUK				A	A	09 40 29.5	
	comp=N,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.01**	**250**	*e*PN	**Pn**	**09 39 39.4**	**+1.0**
YUK				*e*S	**Sn**	**09 40 23.1**	**-1.0**
YUK				pmax	pmax		
	comp=E,217nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YU

SKR				A	A		09 41 17.0
	comp=E,240nm,0.6s						
SKR				A	A		09 41 17.0
	comp=E,370nm,0.6s						
SKR	**Severo-Kuril's**	**6.14**	**32**	*c*ePN	**Pn**		**09 40 07.7 +0.2**
JKK2	**Kamakawa 2**	**6.17**	**257**	*e*P	**Pn**		**09 40 09.9 +2.0**
JKA	**Kamikawa-asahi**	**6.19**	**260**	Pn	**Pn**		**09 40 09.0 +0.7**
JKA	**Kamikawa-asahi**	**6.19**	**260**	*e*P	**Pn**		**09 40 09.0 +0.7**
ASAJ	**Asahikawa**	**6.20**	**260**	PN	**Pn**		**09 40 09.0 +0.7**
ASAJ	**Asahikawa**	**6.20**	**260**	P	**Pn**		**09 40 09.8 +1.5**
	comp=E,89nm,0.6s,baz=79,slow=20,SNR=112						
ASAJ				S	**Sn**		**09 41 21.7 +4.1**
	comp=E,42nm,0.7s,baz=345,slow=33,SNR=1.3						
JCH	**Churui**	**6.28**	**245**	*e*P	**Pn**		**09 40 09.0 -0.5**
JCH				*e*S	**Sn**		**09 41 15.4 -4.4**
JWK2	**Keihoku**	**6.46**	**271**	*e*P	**Pn**		**09 40 16.1 +4.2**
JAB	**Ashibetsu**	**6.65**	**255**	*e*P	**Pn**		**09 40 16.9 +2.5**
ERM	**Erimo**	**6.73**	**241**	Pn	**Pn**		**09 40 16.1 +0.5**
ERM				Sn	**Sn**		**09 41 28.9 -1.8**
ERM	**Erimo**	**6.73**	**241**	P	**Pn**		**09 40 17.2 +1.6**
ERM	**Erimo**	**6.73**	**241**	PN	**Pn**		**09 40 16.1 +0.5**
JEM	**Erimo**	**6.73**	**241**	P	**Pn**		**09 40 17.1 +1.5**
JNBK	**Urakawa-nobuka**	**6.84**	**244**	*e*P	**Pn**		**09 40 16.4 -0.7**
JNBK				*e*S	**Sn**		**09 41 27.8 -5.7**
JRBN	**Rebuntou**	**7.04**	**272**	*e*P	**Pn**		**09 40 22.8 +3.1**
UGL	**Uglegorsk**	**7.06**	**303**	*e*P	**Pn**		**09 40 23.6 +3.5**
UGL				AMB	AMB		09 40 26.0
	comp=E,190nm,0.5s						
UGL				*e*S	**Sn**		**09 41 41.9 +3.1**
UGL				A	A		09 41 45.0
	comp=E,210nm,0.8s						
UGL				A	A		09 41 45.0
	comp=E,200nm,0.8s						
UGL	**Uglegorsk**	**7.06**	**303**	*e*PN	**Pn**		**09 40 23.6 +3.5**
UGL				*e*S	**Sn**		**09 41 41.9 +3.1**
UGL				pmax	pmax		
	comp=Z,199nm,0.5s						
UGL				smax	smax		
	comp=E,206nm,0.7s						
UGL				smax	smax		
	comp=N,205nm,0.8s						
TYV	**Tymovskoe**	**7.73**	**316**	*e*P	**Pn**		**09 40 31.6 +2.4**
TYV				AMB	AMB		09 40 32.8
	comp=N,50nm,0.8s						
TYV				AMB	AMB		09 40 33.7
	comp=N,100nm,2.5s						
TYV				*e*S	**Sn**		**09 41 57.4 +2.3**
TYV				A	A		09 41 59.7
	comp=N,700nm,5.6s						
TYV				A	A		09 41 59.7
	comp=N,500nm,5.6s						
TYV				A	A		09 42 01.4
	comp=N,100nm,0.7s						
TYV				A	A		09 42 01.4
	comp=N,90nm,0.7s						
TYV	**Tymovskoe**	**7.73**	**316**	*e*PN	**Pn**		**09 40 31.6 +2.4**
TYV				pmax	pmax		
	comp=Z,49nm,0.8s						
TYV				pmax	pmax		
	comp=Z,100nm,2.5s						
PEA0B	**Petropavlovsk-**	**8.71**	**27**		**Pn**		**09 40 41.6 -1.0**
PEA0B	**Petropavlovsk-**	**8.71**	**27**⇓	*e*PN	**Pn**		**09 40 42.2 -0.3**
PETK	**Petropavlovsk-**	**8.71**	**27**		**Pn**		**09 40 41.7 -0.8**
PETK	**Petropavlovsk-**	**8.71**	**27**	PN	**Pn**		**09 40 41.7 -0.8**
PETK	**Petropavlovsk-**	**8.71**	**27**	P	Pn		09 40 38.0 -4.6
	comp=Z,4.6nm,0.3s,baz=191,slow=13,SNR=48						
PETK				S	**Sn**		**09 42 16.9 -2.1**
	comp=Z,6.1nm,0.8s,baz=135,slow=15,SNR=1.1						
PETK				LR	LR		09 43 55.9
	comp=Z,257nm,21.8s,baz=196,slow=37						
	comp=Z,13nm,0.6s						
JANG	**Nango**	**8.71**	**237**	*e*P	**Pn**		**09 40 39.7 -3.0**
JANG				*e*S	Sn		09 42 09.6 -10
JTM	**Tenmabayashi**	**8.72**	**240**		**Pn**		**09 40 41.7 -1.1**
JTH	**Tanohata**	**8.79**	**234**	*e*P	**Pn**		**09 40 40.2 -3.5**
PET	**Petropavlovsk**	**8.96**	**31**	*e*P	**Pn**		**09 40 44.0 -2.0**
PET				*e*S	**Sn**		**09 42 20.2 -5.0**
PET	**Petropavlovsk**	**8.96**	**31**	*e*PN	**Pn**		**09 40 44.0 -2.0**
PET				MLR	MLR		
	comp=Z,100nm,12.0s						
NKL	**Nikolayevsk**	**10.18**	**322**	*e*P	**Pn**		**09 41 04.0 +1.5**
NKL				AMB	AMB		09 41 07.5
	comp=Z,20nm,0.6s						
NKL				*e*S	**Sn**		**09 42 54.8 0.0**
NKL				A	A		09 43 01.7
	comp=Z,20nm,0.8s						
NKL				A	A		09 43 01.7
	comp=Z,20nm,0.8s						
TEY	**Ternei**	**10.21**	**272**	*e*P	**Pn**		**09 41 05.6 +2.5**
TEY				AMB	AMB		09 41 06.3
	comp=Z,40nm,0.5s						
TEY	**Ternei**	**10.21**	**272**⇓	*e*PN	**Pn**		**09 41 05.6 +2.5**
TEY				pmax	pmax		
	comp=E,40nm,0.7s						
TEY				pmax	pmax		
	comp=N,10.0nm,0.4s						
TEY				pmax	pmax		
	comp=Z,40nm,0.7s						
JMM	**Marumori**	**10.86**	**229**	Pn	**Pn**		**09 41 09.8 -2.1**
JMM	**Marumori**	**10.86**	**229**	P	**Pn**		**09 41 09.5 -2.4**
JSD	**Sado**	**12.15**	**236**	Pn	**Pn**		**09 41 27.1 -2.4**
JSD	**Sado**	**12.15**	**236**	P	**Pn**		**09 41 28.3 -1.2**
MJAR	**Matsushiro Arr**	**13.22**	**232**	P	**Pn**		**09 41 42.1 -2.0**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=21						
MJAR				S	Sn		09 43 55.8 -14
	comp=Z,1.6nm,0.6s,baz=85,slow=27,SNR=2.0						
MJAR				LR	LR		09 47 17.6
	comp=Z,91nm,20.5s,baz=55,slow=39						
	comp=Z,4.1nm,0.7s						
MJB9	**Matsu-Tunnel**	**13.22**	**232**		**Pn**		**09 41 43.6 -0.4**
MAJO	**Matsushiro**	**13.23**	**232**	Pn	**Pn**		**09 41 42.7 -1.4**
MAJO	**Matsushiro**	**13.23**	**232**	PN	**Pn**		**09 41 42.7 -1.4**
KLR	**Kul'dur**	**13.59**	**293**⇓	*e*P	**Pn**		**09 41 51.1 +2.3**
KLR				MLR	MLR		
	comp=Z,88nm,14.0s						
USA0B	**Ussuriysk Arra**	**13.60**	**271**		**Pn**		**09 41 49.0 0.0**
USA0B	**Ussuriysk Arra**	**13.60**	**271**	P	**Pn**		**09 41 49.0 0.0**
USRK	**Ussuriysk Ar.**	**13.60**	**271**	Pn	**Pn**		**09 41 49.1 +0.2**
USRK	**Ussuriysk Ar.**	**13.60**	**271**	P	**Pn**		**09 41 49.2 +0.2**
USRK	**Ussuriysk Ar.**	**13.60**	**271**	P	**Pn**		**09 41 47.0 -1.9**
	comp=Z,1.7nm,0.3s,baz=81,slow=13,SNR=20						
USRK				LR	LR		09 46 48.1
	comp=Z,144nm,21.5s,baz=66,slow=36						
	comp=Z,8.5nm,0.5s						
VLA	**Vladivostok**	**13.95**	**267**	*d i*P	**Pn**		**09 41 54.6 +1.1**
VLA				pmax	pmax		
	comp=Z,25nm,0.7s						
MA2	**Magadan**	**14.05**	**359**		**Pn**		**09 41 53.3 -1.4**
MA2	**Magadan**	**14.05**	**359**	*e*P	**Pn**		**09 41 53.3 -1.4**
MA2	**Magadan**	**14.05**	**359**	P	**Pn**		**09 41 53.3 -1.4**
JGF	**Kuroka**	**14.38**	**231**	Pn	**Pn**		**09 42 00.0 +0.7**
MSHR	**Mys Shultsa**	**14.62**	**265**	*d i*P	**Pn**		**09 42 02.4 +0.2**
MSHR				pmax	pmax		
	comp=Z,12nm,0.8s						
MDJ	**Mudanjiang**	**15.20**	**274**	P	**Pn**		**09 42 09.3 -0.4**
MDJ				pP	pP		09 42 26.5 -1.4
MDJ				sP	sP		09 42 29.5 -8.0
MDJ				S	**Sn**		**09 44 56.0 -1.0**
MDJ				PcP	**PcP**		**09 47 15.0 +3.9**
MDJ				PcS	**PcS**		**09 50 47.3 +1.1**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,210nm,5.2s						
MDJ				LR	LR		
	comp=Z,270nm,14.1s						
MDJ				LR	LR		
	comp=Z,200nm,20.1s						
MDJ				LR	LR		
	comp=Z,410nm,21.1s						
MDJ	**Mudanjiang**	**15.20**	**274**		**Pn**		**09 42 07.9 -1.8**
JWT	**Wachi**	**15.71**	**235**	Pn	**Pn**		**09 42 16.4 +0.1**
HEH	**HeiHe**	**16.52**	**295**	*e*P	**Pn**		**09 42 26.8 +0.6**
HEH				pmax	pmax		
	comp=Z,22nm,0.6s						
BNX	**BinXian**	**16.54**	**279**	⇑P	P		09 42 41.3 +13
BNX				pmax	pmax		
	comp=Z,13nm,0.8s						
BNX				pmax	pmax		
	comp=Z,210nm,4.8s						
ZEA	**Zeya**	**17.40**	**307**	*e*P	**P**		**09 42 37.5 +0.2**
ZEA	**Zeya**	**17.40**	**307**	*e*P	**P**		**09 42 37.5 +0.2**
ZEA				pmax	pmax		
	comp=E,20nm,0.7s						
ZEA				pmax	pmax		
	comp=N,20nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.1s						
CN2	**Changchun**	**18.29**	**274**	P	**P**		**09 42 47.3 +0.2**
CN2				pP	pP		09 43 00.0 -2.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**19.09**	**253**	P	**P**		**09 42 56.5 +0.6**
	comp=Z,0.4nm,0.3s,baz=61,slow=11,SNR=16						
KSRS				LR	LR		09 50 11.5
	comp=Z,45nm,19.4s,baz=55,slow=36						
	comp=Z,4.9nm,0.6s						
KS19	**Wonju Array Si**	**19.10**	**253**	P	**Pn**		**09 42 57.2 -0.5**
KSAR	**Wonju Array Be**	**19.12**	**253**	P	**P**		**09 42 56.2 -0.1**
KSAR	**Wonju Array Be**	**19.12**	**253**	P	**P**		**09 42 56.2 -0.1**
JCJ	**Chichijima**	**19.74**	**204**	LR	LR		09 49 53.2
	comp=Z,89nm,21.6s,baz=96,slow=34						
YAK	**Yakutsk**	**20.62**	**331**	P	**P**		**09 43 11.7 -0.6**
YAK	**Yakutsk**	**20.62**	**331**	*e*P	**P**		**09 43 11.4 -0.9**
YAK	**Yakutsk**	**20.62**	**331**	*e*P	**P**		**09 43 11.4 -0.9**
YAK				*e*			09 43 31.1
YAK				*e*S	**S**		**09 46 57.2 -1.0**
YAK				*e*SS	**SnSn**		**09 47 22.3 -0.8**
YAK				*e*			09 47 23.0
YAK				*e*			09 54 33.2
YAK				pmax	pmax		
	comp=Z,206nm,0.9s						
YAK				pmax	pmax		
	comp=E,21nm,0.9s						
YAK				pmax	pmax		
	comp=N,22nm,1.0s						
YAK				pmax	pmax		
	comp=Z,171nm,3.0s						
YAK				pmax	pmax		
	comp=N,164nm,3.3s						
YAK				smax	smax		
	comp=N,107nm,2.3s						
YAK				smax	smax		
	comp=E,44nm,1.8s						
XLT	**XiLinHaoTe**	**24.80**	**279**	*e*P	**P**		**09 43 53.3 -1.1**
XLT				sP	sP		09 44 20.3 -0.2
XLT				pmax	pmax		
	comp=E,15nm,0.8s						
XLT				pmax	pmax		
	comp=E,250nm,5.4s						
BOD	**Bodaibo**	**25.69**	**312**	*e*P	**P**		**09 43 59.4 -2.8**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BJI	**Beijing**	**26.05**	**270**	P	**P**		**09 44 09.0 +3.4**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TIXI	**Tiksi**	**28.24**	**345**	P	**P**		**09 44 22.3 -2.5**
TIXI				IAmb	IAmb		09 44 23.0
	comp=Z,23nm,0.5s						
TIXI	**Tiksi**	**28.24**	**345**	*d i*P	**P**		**09 44 22.5 -2.4**
NJ2	**Nanjing**	**28.29**	**253**	*e*P	**P**		**09 44 27.3 +1.6**
NJ2				pP	**pP**		**09 44 42.0 -1.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,290nm,6.3s						
H11N2	**WAKE ISLAND Hy**	**28.89**	**148**	T	T		10 15 26.0
	baz=336,slow=75,SNR=919						
H11N1	**WAKE ISLAND Hy**	**28.90**	**148**	T	T		10 15 26.5
	baz=336,slow=75,SNR=643						
H11N3	**WAKE ISLAND Hy**	**28.90**	**148**	T	T		10 15 29.5
	baz=336,slow=75,SNR=854						
HHC	**Hu-ho-hao-te**	**28.97**	**275**	*e*P	**P**		**09 44 33.3 +1.5**
HHC				pP	pP		09 44 51.5 +2.2
HHC				S	**S**		**09 49 19.0 +1.7**
HHC				pmax	pmax		
	comp=Z,31nm,0.6s						
HHC				pmax	pmax		
	comp=Z,200nm,5.9s						
HHC				LR	LR		
	comp=Z,310nm,12.6s						
HHC				LR	LR		
	comp=Z,310nm,14.5s						
TNA	**Tin City**	**29.81**	**33**	P	**P**		**09 44 39.9 +1.1**
	baz=248						
H11S1	**WAKE ISLAND Hy**	**29.93**	**149**	T	T		10 16 48.1
	baz=337,slow=76,SNR=586						
H11S3	**WAKE ISLAND Hy**	**29.94**	**149**	T	T		10 16 38.0
	baz=337,slow=76,SNR=437						
H11S2	**WAKE ISLAND Hy**	**29.95**	**149**	T	T		10 16 44.9
	baz=337,slow=76,SNR=540						
ULN	**Ulaanbaatar**	**29.97**	**290**	P	**P**		**09 44 40.3 -0.4**
ULN	**Ulaanbaatar**	**29.97**	**290**	*e*P	**P**		**09 44 41.6 +0.9**
ULN	**Ulaanbaatar**	**29.97**	**290**	*c i*P	**P**		**09 44 41.6 +0.9**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BTO	**Baotou**	**30.15**	**275**	*e*P	**P**		**09 44 43.5 +1.3**
BTO				pP	**pP**		**09 45 00.3 +0.6**
BTO				sP	**sP**		**09 45 10.5 +2.0**
BTO				PP	**PP**		**09 45 47.5 -3.9**
BTO				S	**S**		**09 49 38.0 +2.3**
BTO				SS	**ScP**		**09 51 17.0 -0.1**
BTO				pmax	pmax		
	comp=Z,17nm,0.6s						
BTO				pmax	pmax		
	comp=Z,480nm,5.2s						
BTO				LR	LR		
	comp=Z,290nm,7.6s						
BTO				LR	LR		
	comp=Z,300nm,5.9s						
BTO				LR	LR		
	comp=Z,190nm,10.3s						
SONM	**Songino Array**	**30.41**	**291**	P	**P**		**09 44 44.3 -0.2**
SONM	**Songino Array**	**30.41**	**291**	P	**P**		**09 44 44.3 -0.2**
	comp=Z,2.0nm,0.7s,baz=78,slow=9.1,SNR=6.8						
SONM				LR	LR		09 57 36.1
	comp=Z,103nm,19.4s,baz=78,slow=38						
	comp=Z,2.0nm,0.7s						
J14K	**Nanvaranak Lak**	**30.81**	**40**	P	**P**		**09 44 48.5 +0.9**
	baz=258						
L14K	**Kuka Creek**	**30.94**	**43**	P	**P**		**09 44 50.0 +1.1**
	baz=261						
M14K	**Bethel**	**31.21**	**44**	P	**P**		**09 44 52.5 +1.4**
M14K				IAmb	IAmb		09 44 53.0
	comp=Z,13nm,0.7s						
M14K	**Bethel**	**31.21**	**44**	P	**P**		**09 44 52.0 +0.9**
	baz=263						
O14K	**Tigyukauivet M**	**31.40**	**47**	P	**P**		**09 44 54.3 +1.4**
	baz=266						
C16K	**Lisburne Hills**	**31.80**	**29**	P	**P**		**09 44 58.5 +2.2**
	baz=247						
M15K	**Kasigluk River**	**31.82**	**44**	P	**P**		**09 44 57.7 +1.1**
	baz=264						
N15K	**Kwethluk River**	**32.06**	**45**	P	**P**		**09 44 60.0 +1.2**
	baz=265						
O15K	**Ungalikthiuk R**	**32.13**	**47**	P	**P**		**09 45 00.6 +1.2**
	baz=267						
GUMO	**Guam**	**32.29**	**191**	LR	LR		09 57 04.2
	comp=Z,64nm,19.0s,baz=352,slow=34						
D17K	**Noatak River**	**32.38**	**31**	P	**P**		**09 45 02.4 +1.0**
	baz=250						
L16K	**Owhat River**	**32.52**	**42**	P	**P**		**09 45 03.0 +0.3**
	baz=264						
C17K	**DeLong Mountai**	**32.62**	**29**	P	**P**		**09 45 03.5 0.0**
	baz=249						
E17K	**Hotham Inlet**	**32.65**	**32**	P	**P**		**09 45 04.4 +0.7**
	baz=253						
G17K	**Kiwalik Mounta**	**32.68**	**35**	P	**P**		**09 45 04.3 +0.2**
	baz=256						
F17K	**Baldwin Pennin**	**32.68**	**33**	IAmb	IAmb		09 45 14.4
	comp=Z,44nm,1.4s						
F17K	**Baldwin Pennin**	**32.68**	**33**	P	**P**		**09 45 04.6 +0.5**
	baz=254						
M16K	**Timber Creek**	**32.69**	**44**	P	**P**		**09 45 05.2 +0.9**
M16K				IAmb	IAmb		09 45 06.4
	comp=Z,31nm,1.5s						
M16K	**Timber Creek**	**32.69**	**44**	P	**P**		**09 45 04.5 +0.3**
	baz=265						
N16K	**Nishlik Lake**	**32.74**	**45**	P	**P**		**09 45 05.4 +0.7**
	baz=266						
H17K	**Granite Mounta**	**32.85**	**36**	P	**P**		**09 45 06.2 +0.6**
	baz=258						
L17K	**Donlin**	**33.12**	**42**	P	**P**		**09 45 08.7 +0.7**
	baz=264						
K17K	**Iditarod**	**33.19**	**41**	P	**P**		**09 45 09.7 +1.1**
	baz=263						
E18K	**Tukpahlearik C**	**33.20**	**32**	P	**P**		**09 45 09.5 +0.9**
	baz=254						
C18K	**Utukok River**	**33.36**	**30**	IAmb	IAmb		09 45 12.7
	comp=Z,32nm,1.2s						
C18K	**Utukok River**	**33.36**	**30**	P	**P**		**09 45 10.5 +0.4**
	baz=251						
M17K	**Holitna River**	**33.46**	**43**	P	**P**		**09 45 12.1 +1.2**
	baz=266						
N17K	**Nushagak Hills**	**33.53**	**45**	P	**P**		**09 45 12.3 +0.8**
	baz=267						
H18K	**Honhosa River**	**33.54**	**36**	IAmb	IAmb		09 45 13.2
	comp=Z,24nm,1.2s						
H18K	**Honhosa River**	**33.54**	**36**	P	**P**		**09 45 12.5 +0.9**
	baz=259						
O17K	**Koliganek Bris**	**33.55**	**46**	P	**P**		**09 45 12.9 +1.2**
	baz=269						
G18K	**Tagagawik**	**33.57**	**35**	IAmb	IAmb		09 45 17.6
	comp=Z,29nm,1.3s						
G18K	**Tagagawik**	**33.57**	**35**	P	**P**		**09 45 12.6 +0.7**
	baz=258						
P17K	**Kvichak River**	**33.87**	**47**	P	**P**		**09 45 15.5 +1.0**
	baz=270						
L18K	**Granite Mounta**	**33.88**	**42**	P	**P**		**09 45 16.0 +1.4**
	baz=265						
J18K	**Innoko River**	**33.99**	**39**	P	**P**		**09 45 15.8 +0.3**
J18K				IAmb	IAmb		09 45 17.2
	comp=Z,7.7nm,0.8s						
J18K	**Innoko River**	**33.99**	**39**	P	**P**		**09 45 16.4 +0.9**
	baz=264						
C19K	**Lookout Ridge**	**34.06**	**29**	P	**P**		**09 45 16.6 +0.5**
	baz=252						
GCSA	**Galena City Sc**	**34.09**	**37**	P	**P**		**09 45 16.2 -0.1**
	baz=261						
F19K	**Shaleruckik Mo**	**34.12**	**33**	IAmb	IAmb		09 45 24.6
	comp=Z,9.2nm,0.7s						
F19K	**Shaleruckik Mo**	**34.12**	**33**	P	**P**		**09 45 16.8 +0.2**
	baz=258						
N18K	**Kilae Creek**	**34.17**	**44**	P	**P**		**09 45 18.5 +1.4**
N18K				IAmb	IAmb		09 45 19.7
	comp=Z,18nm,1.1s						
N18K	**Kilae Creek**	**34.17**	**44**	P	**P**		**09 45 17.7 +0.5**
	baz=268						
M18K	**Stony River**	**34.24**	**43**	P	**P**		**09 45 18.7 +1.0**
	baz=267						
G19K	**Purcell Mounta**	**34.25**	**35**	IAmb	IAmb		09 45 27.3
	comp=Z,7.9nm,0.7s						
G19K	**Purcell Mounta**	**34.25**	**35**	P	**P**		**09 45 18.4 +0.6**
	baz=259						
H19K	**Roundabout Mou**	**34.40**	**36**	P	**P**		**09 45 19.8 +0.8**
H19K	**Roundabout Mou**	**34.40**	**36**	P	**P**		**09 45 19.9 +1.0**
	baz=261,SNR=18						
D19K	**Kuna River**	**34.40**	**30**	P	**P**		**09 45 19.8 +0.8**
	baz=255						
E19K	**Redstone River**	**34.47**	**32**	IAmb	IAmb		09 45 26.9
	comp=Z,14nm,0.7s						
E19K	**Redstone River**	**34.47**	**32**	P	**P**		**09 45 20.5 +0.9**
	baz=257						
O18K	**Koktuh Hills**	**34.50**	**46**	P	**P**		**09 45 20.9 +0.9**
	baz=270						
J19K	**Poorman**	**34.54**	**39**	P	**P**		**09 45 20.9 +0.7**
J19K				IAmb	IAmb		09 45 21.6
	comp=Z,14nm,0.8s						
J19K	**Poorman**	**34.54**	**39**	P	**P**		**09 45 21.1 +0.9**
	baz=264,SNR=6.1						
Q18K	**Katmai Hardscr**	**34.62**	**48**	P	**P**		**09 45 21.9 +0.8**
	baz=272						
N19K	**Bonanza Creek**	**34.87**	**44**	P	**P**		**09 45 22.6 -0.6**
	baz=269						
M19K	**Big River Lodg**	**34.94**	**42**	P	**P**		**09 45 22.7 -1.0**
	baz=268						
O19K	**Port Alsworth**	**34.95**	**45**	P	**P**		**09 45 24.5 +0.7**
	baz=270						
F20K	**Avaraart Lake**	**34.95**	**33**	P	**P**		**09 45 24.0 +0.3**
F20K	**Avaraart Lake**	**34.95**	**33**	P	**P**		**09 45 24.2 +0.4**
	baz=259						
R18K	**Karluk**	**34.98**	**50**	P	**P**		**09 45 24.1 +0.1**
	baz=274						
D20K	**Etivluk River**	**34.99**	**30**	P	**P**		**09 45 24.4 +0.3**
	baz=256						
E20K	**Nigu River**	**35.03**	**31**	P	**P**		**09 45 25.0 +0.5**
	baz=257						
H20K	**Anotleneega Mo**	**35.04**	**36**	P	**P**		**09 45 25.4 +0.8**
	baz=262,SNR=9.8						
I20K	**Naaghedeneel**	**35.12**	**37**	P	**P**		**09 45 25.9 +0.7**
	baz=264						
B20K	**Meade River**	**35.15**	**28**	P	**P**		**09 45 26.3 +0.9**
	baz=254						
K20K	**Telida**	**35.17**	**40**	P	**P**		**09 45 26.1 +0.4**
	baz=266						
J20K	**Nowinta River**	**35.20**	**38**	IAmb	IAmb		09 45 27.8
	comp=Z,11nm,0.7s						
J20K	**Nowinta River**	**35.20**	**38**	P	**P**		**09 45 26.6 +0.7**
	baz=265,SNR=10						
L20K	**Farewell, AK**	**35.20**	**41**	P	**P**		**09 45 27.0 +1.0**
	baz=268						
M20K	**Styx River**	**35.53**	**42**	P	**P**		**09 45 29.5 +0.5**
	baz=269						
IMAR	**Indian Mountai**	**35.57**	**35**	P	**P**		**09 45 29.5 +0.4**
C21K	**Knifeblade Rid**	**35.73**	**30**	P	**P**		**09 45 31.5 +1.0**
	baz=257						
G21K	**Allakaket**	**35.73**	**34**	IAmb	IAmb		09 45 32.4
	comp=Z,14nm,0.8s						
G21K	**Allakaket**	**35.73**	**34**	P	**P**		**09 45 31.3 +0.8**
	baz=262						
F21K	**Alatna River**	**35.85**	**33**	IAmb	IAmb		09 45 41.9
	comp=Z,9.1nm,0.8s						
F21K	**Alatna River**	**35.85**	**33**	P	**P**		**09 45 32.8 +1.3**
	baz=261						
E21K	**Killik River**	**35.88**	**31**	IAmb	IAmb		09 45 37.4
	comp=Z,16nm,0.8s						
E21K	**Killik River**	**35.88**	**31**	P	**P**		**09 45 32.9 +1.2**
	baz=259						
B21K	**Ikpikpuk River**	**35.90**	**29**	P	**P**		**09 45 33.1 +1.3**
	baz=257						
H21K	**Melozitna Rive**	**35.91**	**36**	P	**P**		**09 45 33.0 +1.0**
H21K				IAmb	IAmb		09 45 33.4
	comp=Z,12nm,0.8s						
H21K	**Melozitna Rive**	**35.91**	**36**	P	**P**		**09 45 33.0 +1.0**
	baz=264,SNR=8.6						
KDAK	**Kodiak Island**	**35.96**	**49**	P	**P**		**09 45 33.2 +0.7**
	baz=275						
N20K	**Mount Spurr**	**35.98**	**44**	P	**P**		**09 45 33.4 +0.7**
	baz=271						
SPCR	**Spurr Chakacha**	**35.98**	**44**	P	**P**		**09 45 33.5 +0.8**
	baz=271						
CHUM	**Lake Minchumin**	**35.98**	**39**	P	**P**		**09 45 33.7 +1.1**
	baz=267						
PPLA	**Purkeypile**	**36.00**	**41**	P	**P**		**09 45 34.1 +1.1**
	baz=269						
CAST	**Castle Rocks**	**36.06**	**40**	P	**P**		**09 45 34.7 +1.3**
CAST				IAmb	IAmb		09 45 35.5
	comp=Z,14nm,0.8s						
CAST	**Castle Rocks**	**36.06**	**40**	P	**P**		**09 45 34.2 +0.9**
	baz=268,SNR=7.9						
A22K	**Sinclair Lake**	**36.13**	**27**	P	**P**		**09 45 34.8 +1.0**
	baz=255						
F22K	**John River**	**36.39**	**33**	P	**P**		**09 45 36.8 +0.8**
	baz=262						
D22K	**Ayikyak River**	**36.42**	**31**	IAmb	IAmb		09 45 44.7
	comp=Z,29nm,1.1s						
D22K	**Ayikyak River**	**36.42**	**31**	P	**P**		**09 45 37.1 +0.7**
	baz=260						

G23K	Bananza Creek	37.14	34	P	P	09 45 43.2	+0.7
	baz=265						
D23K	Nanushuk River	37.15	31	P	P	09 45 43.0	+0.5
	baz=262						
RC01	Rabbit Creek A	37.18	44	P	P	09 45 43.2	+0.4
	baz=273						
H23K	Yukon River	37.27	36	IAmb	IAmb	09 45 45.9	
	comp=Z,16nm,0.8s						
H23K	Yukon River	37.27	36	P	P	09 45 44.6	+1.0
	baz=267						
C23K	Itkillik River	37.31	29	P	P	09 45 44.8	+1.0
	baz=261						
I23K	Minto, Yukon-K	37.32	37	IAmb	IAmb	09 45 48.0	
	comp=Z,6.8nm,0.7s						
I23K	Minto, Yukon-K	37.32	37	P	P	09 45 45.0	+1.1
	baz=268,SNR=9.4						
E23K	Chandalar	37.42	32	P	P	09 45 45.6	+0.7
	baz=264,SNR=14						
NEA2	Nenana	37.43	38	IAmb	IAmb	09 45 46.6	
	comp=Z,16nm,0.8s						
NEA2	Nenana	37.43	38	P	P	09 45 45.8	+0.9
	baz=269,SNR=16						
PMR	Palmer	37.44	43	P	P	09 45 45.6	+0.6
	baz=273						
MCK	McKinley	37.48	39	P	P	09 45 46.2	+0.9
	baz=270,SNR=6.3						
TOLK	Toolik Lake Re	37.51	31	IAmb	IAmb	09 45 55.4	
	comp=Z,15nm,0.9s						
TOLK	Toolik Lake Re	37.51	31	P	P	09 45 46.0	+0.4
	baz=263						
RND	Reindeer	37.52	40	P	P	09 45 46.2	+0.4
RND				IAmb	IAmb	09 45 46.9	
	comp=Z,18nm,1.0s						
RND	Reindeer	37.52	40	P	P	09 45 46.2	+0.4
RND				pmax	pmax		
	comp=Z,18nm,1.0s						
WAT1	Susitna Watana	37.67	41	P	P	09 45 47.3	+0.3
	baz=272						
GTA	Gaotai	37.76	279	eP	P	09 45 49.5	+1.3
GTA				pmax	pmax		
	comp=Z,22nm,0.9s						
KNK	Knik Glacier	37.78	43	P	P	09 45 48.2	+0.3
	baz=274						
MDM	Murphy Dome	37.79	37	P	P	09 45 49.2	+1.2
MDM				IAmb	IAmb	09 45 49.9	
	comp=Z,18nm,0.8s						
SML	Sawmill	37.81	42	P	P	09 45 49.2	+0.9
SML	Sawmill	37.81	42	P	P	09 45 48.8	+0.6
	baz=273,SNR=6.9						
D24K	Happy Valley	37.84	30	IAmb	IAmb	09 45 52.1	
	comp=Z,25nm,0.8s						
D24K	Happy Valley	37.84	30	P	P	09 45 49.0	+0.7
	baz=263						
E24K	Your Creek	37.85	32	P	P	09 45 49.2	+0.7
	baz=265,SNR=20						
WRH	Wood River Hil	37.85	38	IAmb	IAmb	09 46 01.2	
	comp=Z,12nm,0.7s						
PWL	Port Wells	37.87	44	P	P	09 45 48.8	+0.1
	baz=275						
C24K	Franklin Bluff	37.95	29	P	P	09 45 50.9	+1.7
	baz=263						
COLA	College	37.95	37	P	P	09 45 50.2	+0.9
COLA	College	37.95	37	P	P	09 45 50.7	+1.5
	baz=270						
COLA	College	37.95	37	P	P	09 45 50.2	+0.9
COLA				pmax	pmax		
	comp=Z,30nm,0.7s						
COLA	College	37.95	37	P	P	09 45 50.3	+1.1
H24K	Noodor Dome	37.96	36	IAmb	IAmb	09 45 51.2	
	comp=Z,8.8nm,0.8s						
H24K	Noodor Dome	37.96	36	P	P	09 45 50.4	+1.0
	baz=269,SNR=7.4						
CCB	Clear Creek Bu	37.97	38	P	P	09 45 50.5	+1.0
F24K	Squaw Lake	38.03	33	IAmb	IAmb	09 45 57.2	
	comp=Z,11nm,0.8s						
F24K	Squaw Lake	38.03	33	P	P	09 45 50.9	+0.9
	baz=266						
WAT6	Susitna Watana	38.05	41	P	P	09 45 51.2	+0.8
	baz=273						
M23K	Glacier View	38.10	42	P	P	09 45 52.1	+1.4
	baz=274						
POKR	Poker Plat Res	38.13	37	P	P	09 45 52.0	+1.1
	baz=270,SNR=14						
G24K	Hadweenzic Riv	38.15	34	IAmb	IAmb	09 45 52.9	
	comp=Z,17nm,0.8s						
G24K	Hadweenzic Riv	38.15	34	P	P	09 45 52.4	+1.5
	baz=268						
DHY	Denali Highway	38.19	40	P	P	09 45 52.1	+0.6
DHY				IAmb	IAmb	09 45 52.8	
	comp=Z,31nm,1.4s						
DHY	Denali Highway	38.19	40	P	P	09 45 52.2	+0.6
	baz=273,SNR=8.1						
SCM	Sheep Creek Mo	38.29	42	P	P	09 45 53.4	+1.1
	baz=274						
HDA	Harding Lake	38.34	38	P	P	09 45 52.7	+0.1
HDA				IAmb	IAmb	09 45 54.1	
	comp=Z,17nm,0.9s						
HDA	Harding Lake	38.34	38	P	P	09 45 53.2	+0.6
	baz=271,SNR=11						
IL31		38.37	38	P	P	09 45 52.7	0.0
IL31				IAmb	IAmb	09 45 54.8	
	comp=Z,14nm,1.1s						
ILAR	Eielson Array	38.37	38	P	P	09 45 52.4	-0.4
ILAR	Eielson Array	38.37	38	P	P	09 45 52.4	-0.4
ILAR	Eielson Array	38.37	38	P	P	09 45 52.3	-0.5
	comp=Z,5.1nm,0.9s,baz=263,slow=7.5,SNR=59						
	comp=Z,5.1nm,0.9s						
G25K	Bearman Lake	38.70	34	P	P	09 45 56.8	+1.3
	baz=269						
D25K	Kavik River	38.72	30	P	P	09 45 56.2	+0.5
	baz=266						
H25L	Birch Creek	38.80	35	P	P	09 45 57.7	+1.3
	baz=270						
M24K	Tolsona, Glenn	38.81	42	P	P	09 45 58.0	+1.4
	baz=275						
K24K	Donnelly Dome	38.88	39	P	P	09 45 57.4	+0.3
	baz=273						
F25K	Christian Rive	38.90	33	P	P	09 45 58.3	+1.1
	baz=268						
PRP	Porcupine Dome	38.93	36	IAmb	IAmb	09 45 59.5	
	comp=Z,9.8nm,0.8s						
PRP	Porcupine Dome	38.93	36	P	P	09 45 58.5	+0.8
	baz=271,SNR=5.0						
E25K	Arctic Village	38.94	32	IAmb	IAmb	09 46 05.6	
	comp=Z,14nm,1.1s						
E25K	Arctic Village	38.94	32	P	P	09 45 58.5	+0.9
	baz=268						
KLU	Klutina	38.98	43	P	P	09 45 59.0	+1.0
KLU				IAmb	IAmb	09 46 00.4	
	comp=Z,25nm,1.1s						
KLU	Klutina	38.98	43	P	P	09 45 58.9	+0.8
	baz=276						
J25K	Salcha River,	39.02	38	P	P	09 45 57.9	-0.5
J25K				IAmb	IAmb	09 45 59.6	
	comp=Z,8.6nm,0.8s						
J25K	Salcha River,	39.02	38	P	P	09 45 57.9	-0.5
	baz=272,SNR=9.4						
FYU	Fort Yukon	39.04	35	IAmb	IAmb	09 46 05.6	
	comp=Z,18nm,0.8s						
PAX	Paxson	39.07	40	P	P	09 45 59.3	+0.5
	baz=274						
EYAK	Cordova Ski Ar	39.17	44	P	P	09 46 00.8	+1.3
	baz=277						
HARP	HAARP	39.26	41	P	P	09 46 01.0	+0.7
	baz=275						
C26K	Camden Bay	39.28	29	P	P	09 46 02.1	+1.9
	baz=266						
RIDG	Independent Ri	39.30	39	P	P	09 46 00.1	-0.5
	baz=274						
BMAR	Burnt Mountain	39.30	33	P	P	09 46 02.1	+1.5
CD2	Chengdu	39.36	265	eP	P	09 46 00.5	-1.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
F26K	Sheenjek River	39.47	33	P	P	09 46 03.5	+1.5
	baz=270						
N25K	Chitina, Valde	39.60	43	P	P	09 46 04.3	+1.0
	baz=277						
G26K	Porcupine Rive	39.61	34	P	P	09 46 04.7	+1.6
	baz=271						
SCRK	Sand Creek	39.66	39	P	P	09 46 03.5	-0.2
SCRK	Sand Creek	39.66	39	P	P	09 46 03.8	+0.1
	baz=274						
BMRM	Bremner River	39.68	44	P	P	09 46 04.8	+1.0
	baz=278						
J26L	Joseph Creek	39.81	38	P	P	09 46 05.4	+0.5
	baz=274						
MENT	Mentasta	39.87	40	IAmb	IAmb	09 46 14.5	
	comp=Z,10nm,1.0s						
I26K	Coal Creek Min	39.93	37	P	P	09 46 06.7	+0.9
	baz=274						
L26K	Log Cabin Wild	40.03	40	IAmb	IAmb	09 46 09.6	
	comp=Z,27nm,1.2s						
L26K	Log Cabin Wild	40.03	40	P	P	09 46 07.9	+1.2
	baz=276,SNR=10						
GYA	Guiyang	40.07	257	⇓P	P	09 46 08.8	+1.3
GYA				pmax	pmax		
	comp=Z,11nm,1.2s						
M26K	Nabesna, AK	40.26	41	IAmb	IAmb	09 46 11.3	
	comp=Z,33nm,0.9s						
M26K	Nabesna, AK	40.26	41	P	P	09 46 09.9	+1.3
	baz=277,SNR=13						
TGY	Tagaytay City	40.37	229	LR	LR	10 01 20.7	
	comp=Z,47nm,20.7s,baz=338,slow=34						
MCARA	McCarthy VSAT	40.38	43	P	P	09 46 10.8	+1.2
	baz=278						
E27K	Coleen River	40.43	32	IAmb	IAmb	09 46 11.8	
	comp=Z,8.2nm,0.8s						
E27K	Coleen River	40.43	32	P	P	09 46 11.0	+1.1
	baz=271						
CRQE	Cirque	40.44	44	P	P	09 46 11.7	+1.4
	baz=279						
G27K	Doyon Strip	40.46	34	P	P	09 46 11.7	+1.5
	baz=273						
K27K	Chicken	40.49	39	IAmb	IAmb	09 46 12.7	
	comp=Z,25nm,0.9s						
H27K	Steamboat Moun	40.54	35	P	P	09 46 12.3	+1.4
	baz=274,SNR=11						
D27M	Malcolm River	40.64	30	IAmb	IAmb	09 46 16.2	
	comp=Z,24nm,1.1s						
D27M	Malcolm River	40.64	30	P	P	09 46 12.8	+1.1
	baz=271						
L27K	Beaver Creek,	40.71	40	P	P	09 46 14.1	+1.8
L27K				IAmb	IAmb	09 46 15.0	
	comp=Z,23nm,0.7s						
L27K	Beaver Creek,	40.71	40	P	P	09 46 13.7	+1.4
	baz=277,SNR=21						
BCAR	Beaver Creek A	40.73	40	P	P	09 46 14.1	+1.6
M27K	Edge Creek, AK	40.78	41	P	P	09 46 14.1	+1.1
M27K				IAmb	IAmb	09 46 16.2	
	comp=Z,31nm,1.2s						
M27K	Edge Creek, AK	40.78	41	P	P	09 46 13.7	+0.7
	baz=278						
EGAK	Eagle	40.81	37	P	P	09 46 13.7	+0.6
EGAK				IAmb	IAmb	09 46 14.4	
	comp=Z,15nm,0.8s						
EGAK	Eagle	40.81	37	P	P	09 46 13.7	+0.6
	baz=276,SNR=9.3						
BARN	Barnard Glacie	41.08	43	IAmb	IAmb	09 46 18.0	
	comp=Z,18nm,0.7s						
F28M	Old Crow	41.11	33	P	P	09 46 17.1	+1.6
F28M				IAmb	IAmb	09 46 25.5	
	comp=Z,9.8nm,0.7s						
F28M	Old Crow	41.11	33	P	P	09 46 16.9	+1.4
	baz=274,SNR=6.3						
E28M	Babbage River	41.18	31	IAmb	IAmb	09 46 24.9	
	comp=Z,13nm,0.7s						
E28M	Babbage River	41.18	31	P	P	09 46 17.1	+1.1
	baz=273						
CTG	Chitna Glacier	41.25	43	P	P	09 46 18.3	+1.4
	baz=280,SNR=5.1						
I28M	Miner Creek	41.26	36	IAmb	IAmb	09 46 18.9	
	comp=Z,13nm,0.7s						
I28M	Miner Creek	41.26	36	P	P	09 46 17.5	+0.6
	baz=276,SNR=12						
YUK3	Moose Creek	41.53	42	P	P	09 46 20.3	+1.1
	baz=280						
DAWY	Dawson	41.66	38	P	P	09 46 20.7	+0.6
DAWY	Dawson	41.66	38	P	P	09 46 21.2	+1.1
	baz=278						
E29M	Blow River	41.79	32	IAmb	IAmb	09 46 23.9	
	comp=Z,25nm,1.1s						
E29M	Blow River	41.79	32	P	P	09 46 22.3	+1.3
	baz=275						
H29M	Whitestone	41.82	35	P	P	09 46 22.7	+1.4
H29M				IAmb	IAmb	09 46 23.8	
	comp=Z,15nm,0.9s						
H29M	Whitestone	41.82	35	P	P	09 46 22.9	+1.5
	baz=277						
O28M	Mount Upton	41.84	43	P	P	09 46 22.9	+1.0
	baz=281						
G29M	Pine Creek	41.88	34	IAmb	IAmb	09 46 24.2	
	comp=Z,19nm,0.8s						
G29M	Pine Creek	41.88	34	P	P	09 46 23.5	+1.7
	baz=276						
I29M	Ogilvie Camp,	41.95	36	IAmb	IAmb	09 46 24.3	
	comp=Z,17nm,0.8s						
I29M	Ogilvie Camp,	41.95	36	P	P	09 46 23.4	+1.0
	baz=278,SNR=13						
DGZ	Jazzator, Alta	41.95	300	⇑iP	P	09 46 22.2	-0.6
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZALV	Zalesovo Beam	42.17	306	P	P	09 46 21.5	-2.7
	comp=Z,1.6nm,0.4s,baz=67,slow=5.0,SNR=5.0						
ZALV				PcP	PcP	09 48 16.9	-0.2
	comp=Z,2.9nm,0.6s,baz=66,slow=2.2,SNR=6.8						
ZALV				LR	LR	10 04 49.9	
	comp=Z,91nm,18.4s,baz=62,slow=37						
	comp=Z,1.6nm,0.4s						
M29M	Somme Creek	42.34	41	P	P	09 46 27.3	+1.6
M29M	Somme Creek	42.34	41	P	P	09 46 26.9	+1.2
	baz=281,SNR=5.3						
L29M	L29M	42.37	40	P	P	09 46 27.8	+1.9
L29M				IAmb	IAmb	09 46 28.8	
	comp=Z,16nm,0.8s						
L29M	L29M	42.37	40	P	P	09 46 27.7	+1.8
	baz=280,SNR=9.9						
EPYK	Eagle Plains	42.46	35	P	P	09 46 28.2	+1.6
EPYK				IAmb	IAmb	09 46 28.8	
	comp=Z,23nm,0.9s						
EPYK	Eagle Plains	42.46	35	P	P	09 46 28.6	+2.0
	baz=278,SNR=8.7						
YUK4	Talbot Arm	42.46	42	P	P	09 46 28.3	+1.4
	baz=282						
K29M	Barlow Dome	42.51	38	P	P	09 46 28.5	+1.4
K29M				IAmb	IAmb	09 46 30.2	
	comp=Z,15nm,1.1s						
K29M	Barlow Dome	42.51	38	P	P	09 46 28.8	+1.7
	baz=280,SNR=5.9						
G30M	tAoh Zraii Nji	42.58	34	IAmb	IAmb	09 46 37.5	
	comp=Z,16nm,0.7s						
G30M	tAoh Zraii Nji	42.58	34	P	P	09 46 28.6	+1.1
	baz=278						
F30M	Barrier River	42.66	33	P	P	09 46 30.1	+2.0
	baz=277						
YUK6	Outpost Mounta	42.68	43	P	P	09 46 29.5	+0.8
	baz=282						
GOMU	GeErMu	42.77	278	P	P	09 46 30.5	+0.6
GOMU				pmax	pmax		
	comp=Z,21nm,0.9s						
I30M	Mount Dempster	42.77	36	IAmb	IAmb	09 46 31.2	
	comp=Z,33nm,0.8s						
I30M	Mount Dempster	42.77	36	P	P	09 46 30.5	+1.3
	baz=279,SNR=15						
J30M	Hart River	42.90	37	P	P	09 46 31.8	+1.5
	baz=280,SNR=6.2						
M30M	Minto, Yukon	43.07	40	P	P	09 46 33.3	+1.7
	baz=282						
HYT	Haines Junctio	43.12	43	P	P	09 46 34.5	+2.4
HYT				IAmb	IAmb	09 46 35.2	
	comp=Z,48nm,1.2s						
HYT	Haines Junctio	43.12	43	P	P	09 46 34.1	+2.0
	baz=283,SNR=8.7						
N30M	Aishikik Lake	43.17	42	P	P	09 46 33.9	+1.5
	baz=283						
MAYO	Mayo, Yukon	43.27	39	P	P	09 46 35.2	+2.1
MAYO				IAmb	IAmb	09 46 46.9	
	comp=Z,28nm,0.9s						
MAYO	Mayo, Yukon	43.27	39	P	P	09 46 34.6	+1.5
	baz=282						
P29M	Windy Craggy	43.28	45	IAmb	IAmb	09 46 36.4	
	comp=Z,26nm,0.8s						
P29M	Windy Craggy	43.28	45	P	P	09 46 35.3	+2.0
	baz=284						
G31M	Satah River	43.35	34	P	P	09 46 34.4	+0.8
G31M				IAmb	IAmb	09 46 44.2	
	comp=Z,12nm,0.6s						
G31M	Satah River	43.35	34	P	P	09 46 34.7	+1.1
	baz=279						
INK	Inuvik	43.41	32	IAmb	IAmb	09 46 43.1	
	comp=Z,14nm,0.6s						
INK	Inuvik	43.41	32	P	P	09 46 35.3	+1.1
	baz=278,SNR=9.9						
PZH	PanZhiHua	43.43	261	P	P	09 46 35.5	+0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,4.3s						
F31M	Tsiigehtchic	43.47	33	IAmb	IAmb	09 46 44.2	
	comp=Z,23nm,0.7s						
F31M	Tsiigehtchic	43.47	33	P	P	09 46 35.7	+1.1
	baz=279,SNR=8.2						
H31M	Peel River	43.51	35	IAmb	IAmb	09 46 46.0	
	comp=Z,24nm,1.0s						
H31M	Peel River	43.51	35	P	P	09 46 36.2	+1.2
	baz=280,SNR=8.9						
N31M	Braeburn, Yuko	43.78	42	IAmb	IAmb	09 46 40.5	
	comp=Z,25nm,0.9s						
N31M	Braeburn, Yuko	43.78	42	P	P	09 46 38.8	+1.6
	baz=284,SNR=5.1						
O30N	Mendenhall	43.80	43	P	P	09 46 38.7	+1.3
	baz=284						
PLBC	Pleasant Camp	44.00	45	P	P	09 46 40.8	+1.8
	baz=285						
WMQ	Urumqi	44.04	291	eP	P	09 46 41.5	+1.9
WMQ				pmax	pmax		
	comp=Z,24nm,0.9s						
DAV	Davao City (W)	44.24	218	LR	LR	10 05 19.1	
	comp=Z,48nm,19.4s,baz=360,slow=36						
M31M	Drury Creek, Y	44.25	40	IAmb	IAmb	09 46 44.1	
	comp=Z,18nm,1.2s						
M31M	Drury Creek, Y	44.25	40	P	P	09 46 42.5	+1.6
	baz=284,SNR=6.9						
WHY	Whitehorse	44.41	43	P	P	09 46 43.5	+1.2
	baz=285						
SKAG	Skagway	44.51	44	P	P	09 46 45.1	+2.1
	baz=286						
FARO	Faro, Yukon	44.71	40	P	P	09 46 46.5	+1.8
FARO	Faro, Yukon	44.71	40	P	P	09 46 46.0	+1.3
	baz=285						
P33M	Teslin, Yukon	45.52	43	P	P	09 46 52.9	+1.8
P33M				IAmb	IAmb	09 46 54.6	
	comp=Z,27nm,1.2s						
P33M	Teslin, Yukon	45.52	43	P	P	09 46 53.3	+2.2
	baz=287,SNR=5.5						
A36M	Sachs Harbour	45.55	26	P	P	09 46 53.1	+2.0
A36M	Sachs Harbour	45.55	26	P	P	09 46 52.8	+1.7
	baz=282						
MK31	Makanchi Array	46.23	298	P	P	09 46 56.2	-0.7
MK31	Makanchi Array	46.23	298	P	P	09 46 56.2	-0.7
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	Makanchi Array	46.23	298	P	P	09 46 56.3	-0.6
MKAR	Makanchi Array	46.23	298	P	P	09 46 55.8	-1.1
	comp=Z,3.2nm,0.5s,baz=79,slow=6.2,SNR=12						
MKAR				PcP	PcP	09 48 29.4	-1.9
	comp=Z,2.8nm,0.8s,baz=62,slow=3.6,SNR=3.7						
MKAR				LR	LR	10 07 07.0	
	comp=Z,135nm,21.5s,baz=63,slow=37						
	comp=Z,3.2nm,0.5s						
C36M	Paulatuk	46.56	29	P	P	09 46 59.9	+0.8
C36M				IAmb	IAmb	09 47 01.2	
	comp=Z,19nm,0.7s						
C36M	Paulatuk	46.56	29	P	P	09 47 01.0	+1.9
	baz=286						
TNCH	TengChong	46.61	262	eP	P	09 47 01.0	+0.7
R33M	Jennings River	46.66	43	P	P	09 47 02.2	+2.0
	baz=289						
KURK	Kurchatov	46.85	304	P	P	09 47 00.4	-1.2
KURK				IAmb	IAmb	09 47 00.8	
	comp=Z,14nm,0.7s						
KURK	Kurchatov	46.85	304	eP	P	09 47 00.7	-0.9
KURK	Kurchatov	46.85	304	P	P	09 47 00.7	-0.9
KURK						09 48 33.7	
KURK	Kurchatov	46.85	304	P	P	09 47 00.0	-1.6
KURBB	Kurchatov Arra	46.94	304	P	P	09 47 00.7	-1.6
	comp=Z,11nm,0.7s,baz=69,slow=8.4,SNR=21						
KURBB				PcP	PcP	09 48 33.7	0.0
	comp=Z,1.2nm,0.7s,baz=72,slow=8.8,SNR=4.0						
	comp=Z,11nm,0.7s						
WRAK	Wrangell Islan	46.98	48	P	P	09 47 03.7	+1.1
	baz=291						
TGTN	Hyland Airport	47.22	40	P	P	09 47 06.2	+1.8
	baz=289						
DLBC	Dease Lake	47.44	44	P	P	09 47 08.6	+2.3
	baz=291						
V35K	Ketchikan	47.77	49	P	P	09 47 09.6	+0.9
	baz=292						
T35M	Bob Quinn	47.86	46	P	P	09 47 11.3	+1.9
	baz=292						
U35K	Hyder	48.38	48	P	P	09 47 15.2	+1.9
U35K	Hyder	48.38	48	P	P	09 47 15.1	+1.9
	baz=293						
CRAI	Chiangrai	48.51	256	P	P	09 47 16.3	+1.5
WRGLY	Wrigley	48.73	37	P	P	09 47 17.7	+1.7
	baz=291						
LIRD	Liard River Hi	48.98	42	P	P	09 47 19.4	+1.5
	baz=293						
SIJI	Sorong	49.44	206	LR	LR	10 07 11.4	
	comp=Z,15nm,20.6s,baz=168,slow=35						
UZB	Uzynbulak	49.96	295	eP	P	09 47 26.0	+0.2
	baz=295						
UZB	Uzynbulak	49.96	295	eP	P	09 47 26.0	+0.2
KPKS	Kokpek	50.02	295	eP	P	09 47 26.9	+0.6
	baz=295						
KPKS	Kokpek	50.02	295	eP	P	09 47 26.8	+0.6
ZHN	Zhinishke	50.32	295	eP	P	09 47 29.1	+0.6
	baz=295						
ZHN	Zhinishke	50.32	295	eP	P	09 47 29.1	+0.6
SATY	Saty	50.39	295	eP	P	09 47 29.8	+0.7
	baz=295						
SATY	Saty	50.39	295	eP	P	09 47 29.8	+0.7
BVAR	Borovoye Array	50.52	309	P	P	09 47 28.4	-1.3
	comp=Z,3.7nm,0.6s,baz=61,slow=8.2,SNR=12						
BVAR				PcP	PcP	09 48 46.7	+0.1
	comp=Z,2.6nm,0.6s,baz=81,slow=4.7,SNR=4.0						
BVAR				LR	LR	10 10 19.6	
	comp=Z,55nm,18.2s,baz=60,slow=38						
	comp=Z,3.7nm,0.6s						
BRVK	Borovoye	50.56	310	P	P	09 47 29.0	-1.0
BRVK				IAmb	IAmb	09 47 29.4	
	comp=Z,6.0nm,0.8s						
BRVK	Borovoye	50.56	310	eP	P	09 47 29.0	-1.0
BRVK	Borovoye	50.56	310	P	P	09 47 29.0	-1.0
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
EUNU	Eureka	50.58	11	P	P	09 47 30.2	+0.4
CMAR	Chiang Mai Arr	50.70	256	P	P	09 47 32.7	+1.2
	comp=Z,1.0nm,0.3s,baz=35,slow=7.2,SNR=9.5						
CMAR				LR	LR	10 11 27.7	
	comp=Z,22nm,18.3s,baz=195,slow=39						
	comp=Z,1.0nm,0.3s						
WUS	Wushi	50.80	292	P	P	09 47 32.7	+0.6
WUS				pP	pP	09 47 50.5	-0.2
CHKK	Chushkaly	50.90	296	eP	P	09 47 32.7	-0.1
	baz=296						
CHKK	Chushkaly	50.90	296	eP	P	09 47 32.6	-0.1
SHL	Shillong	50.91	268	P	P	09 47 33.8	+0.5
SHL				IAmb	IAmb	09 47 34.2	
	comp=Z,16nm,0.8s						
SHL	Shillong	50.91	268	P	P	09 47 33.8	+0.5
SHL				pmax	pmax		
	comp=Z,16nm,0.8s						
ALE	Alert	51.07	5	P	P	09 47 32.7	-0.8
MDOK	Medeo	51.20	296	eP	P	09 47 35.9	+0.6
	baz=296						
MDOK	Medeo	51.20	296	eP	P	09 47 35.8	+0.6
KUU	Kurty	51.29	297	iP	P	09 47 35.4	-0.3
	comp=Z,8.3nm,0.5s,baz=297						
KUU	Kurty	51.29	297	iP	P	09 47 35.4	-0.3
KUU				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TNSS	Tian-Shan	51.33	295	eP	P	09 47 37.2	+0.7
	baz=296						
TNSS	Tian-Shan	51.33	295	eP	P	09 47 37.2	+0.7
TARG	Taragay, Kyrgy	51.44	294	IAmb	IAmb	09 47 39.9	
	comp=Z,12nm,0.7s						
BTLS	Baital	52.15	299	eP	P	09 47 41.9	-0.1
	baz=299						
B

NRN	**Naryn**	52.76 294		IAmb	IAmb	09 48 14.1
	comp=Z,8.6nm,0.8s					
USP	**Ospenovka**	52.76 297		P	P	09 47 47.0 +0.4
	SNR=23					
KBK	**Karagaybulak**	52.79 296		P	P	09 47 47.7 +0.7
	SNR=9.6					
NOR	**Nord**	52.92 358	*i*	P	P	09 47 45.4 -1.8
NOR				IAmb	IAmb	09 47 48.9
	comp=Z,8.2nm,0.9s					
AAK	**Ala-Archa**	53.09 296		P	P	09 47 49.9 +0.7
	SNR=8.5					
AAK	**Ala-Archa**	53.09 296		P	P	09 47 49.9 +0.7
AAK				IAmb	IAmb	09 47 51.1
	comp=Z,16nm,0.8s					
AAK	**Ala-Archa**	53.09 296	*i*	P	P	09 47 49.6 +0.4
	SNR=9.3					
AAK	**Ala-Archa**	53.09 296	*e*	P	P	09 47 49.9 +0.7
AAK	**Ala-Archa**	53.09 296		P	P	09 47 49.9 +0.7
AAK				pmax	pmax	
	comp=Z,16nm,0.8s					
AAK	**Ala-Archa**	53.09 296		LR	LR	10 12 59.0
	comp=Z,55nm,19.1s,baz=56,slow=39					
AAK	**Ala-Archa**	53.09 296		P	P	09 47 49.6 +0.4
AAK				sP	sP	09 48 15.4 -0.8
KBS	**Kingsbay**	53.46 351		P	P	09 47 51.6 +0.4
KBS	**Kingsbay**	53.46 351		P	P	09 47 51.6 +0.4
KBS				pmax	pmax	
	comp=Z,31nm,0.8s					
KBS	**Kingsbay**	53.46 351	*i*	P	P	09 47 50.2 -0.9
KBS	**Kingsbay**	53.46 351		P	P	09 47 51.1 0.0
EKS2	**Erkin-Say**	53.53 297		P	P	09 47 52.7 +0.4
	SNR=19					
SPITS	**Spitsbergen Ar**	53.53 349		P	P	09 47 49.6 -2.2
	comp=Z,1.4nm,0.4s,baz=66,slow=6.5,SNR=8.0					
SPITS				LR	LR	10 11 09.4
	comp=Z,28nm,20.3s,baz=360,slow=37					
	comp=Z,1.4nm,0.4s					
JIRN	**Jiri**	53.62 274	*e*	P	P	09 47 54.3 +0.8
	comp=Z,25nm,0.7s					
GUN	**Gumba**	53.69 274	*e*	P	P	09 47 54.5 +0.5
	comp=Z,14nm,0.5s					
SVE	**Sverdlovsk**	53.74 317⇑	*e*	P	P	09 47 52.6 -0.9
SVE				pmax	pmax	
	comp=Z,41nm,0.8s					
RAMN	**Ramite**	53.77 273	*e*	P	P	09 47 55.2 +0.8
	comp=Z,22nm,0.5s					
KSH	**Kashi**	53.79 292		P	P	09 47 58.0 +3.7
KSH				pP	pP	09 48 14.8 +1.8
KSH				pmax	pmax	
	comp=Z,27nm,0.7s					
KSH				LR	LR	
	comp=Z,360nm,18.0s					
KSH				LR	LR	
	comp=Z,290nm,15.8s					
KSH				LR	LR	
	comp=Z,110nm,14.4s					
AML	**Almayashu**	53.86 296		P	P	09 47 56.0 +0.9
	SNR=9.6					
PKI	**Pulchoki**	54.22 274	*e*	P	P	09 47 58.2 +0.4
	comp=Z,9.5nm,0.5s					
PKIN	**Phulchoki**	54.23 274	*e*	P	P	09 47 58.6 +0.8
	comp=Z,14nm,0.5s					
GKN	**Gorkha**	54.50 275	*e*	P	P	09 48 00.7 +1.1
	comp=Z,20nm,0.4s					
ARSB	**Arslanbob**	54.74 296		IAmb	IAmb	09 48 03.8
	comp=Z,9.3nm,0.9s					
DANN	**Dangsing**	54.90 276	*e*	P	P	09 48 03.8 +1.1
	comp=Z,57nm,0.9s					
ARU	**Arti**	54.93 317		P	P	09 48 00.7 -1.5
ARU	**Arti**	54.93 317	*c i*	P	P	09 48 00.3 -1.8
ARU						09 49 01.8
ARU				S	S	09 55 35.1 -2.7
ARU				SS	SS	09 59 16.4 -5.1
ARU				pmax	pmax	
	comp=Z,25nm,0.6s					
ARU	**Arti**	54.93 317		LR	LR	10 12 52.2
	comp=Z,70nm,21.7s,baz=53,slow=38					
DZA	**Taraz**	54.93 298	*e*	P	P	09 48 02.6 +0.1
	baz=298					
DZA	**Taraz**	54.93 298	*e*	P	P	09 48 02.5 +0.1
HNR	**Honiara**	55.31 169		LR	LR	10 09 40.3
	comp=Z,425nm,20.8s,baz=244,slow=34					
KK31	**Karatay Array**	55.33 299		P	P	09 48 05.0 -0.3
KK31				IAmb	IAmb	09 48 06.2
	comp=Z,14nm,0.7s					
KK31	**Karatay Array**	55.33 299		P	P	09 48 05.0 -0.3
KK31				pmax	pmax	
	comp=Z,14nm,0.7s					
KKAR	**Karatay Array**	55.33 299		P	P	09 48 04.9 -0.3
KKAR				IAmb	IAmb	09 48 06.3
	comp=Z,14nm,0.7s					
KKAR	**Karatay Array**	55.33 299		P	P	09 48 04.9 -0.3
KKAR				pmax	pmax	
	comp=Z,14nm,0.7s					
TULEG	**Thule**	55.57 10	*i*	P	P	09 48 06.2 -0.2
PYUN	**Piuthan**	55.59 277	*e*	P	P	09 48 08.6 +1.0
	comp=Z,10nm,0.3s					
BRLDA	**Berland Lookou**	55.67 45		P	P	09 48 08.6 +1.0
BRLDA				IAmb	IAmb	09 48 09.3
	comp=Z,12nm,0.8s					
IUG	**Iuzhnay**	56.15 298⇑	*i*	P	P	09 48 12.1 +0.9
	comp=Z,14nm,0.7s,baz=298					
IUG	**Iuzhnay**	56.15 298	*c i*	P	P	09 48 12.1 +0.9
IUG				pmax	pmax	
	comp=Z,14nm,0.7s					
CHM	**Chimkent**	56.32 298	*e*	P	P	09 48 12.6 +0.2
	baz=298					
CHM	**Chimkent**	56.32 298	*e*	P	P	09 48 12.5 +0.2
NEEM	**North Greenlan**	56.50 6	*i*	P	P	09 48 12.1 -1.4
NEEM				IAmb	IAmb	09 48 14.5
	comp=Z,43nm,0.7s					
PRGR	**Permogore**	57.60 327	*e*	P	P	09 48 18.1 -2.9
PRGR				pmax	pmax	
	comp=Z,24nm,0.6s					
BKSI	**Bulukumba**	57.69 217		P	P	09 48 24.1 +1.9
	comp=Z,6.8nm,0.4s					
DAG	**Danmarks Havn**	57.78 357	*i*	P	P	09 48 21.0 -1.1
DAG				IAmb	IAmb	09 48 22.5
	comp=Z,11nm,0.7s					
APA	**Apatity**	57.87 336⇓	*i*	P	P	09 48 21.5 -1.3
APA				pmax	pmax	
	comp=Z,8.0nm,0.6s					
KIRV	**Kirov**	57.87 323	*de*	P	P	09 48 20.9 -2.1
KIRV	**Kirov**	57.87 323		LR	LR	10 15 11.5
	comp=Z,50nm,18.3s,baz=48,slow=38					
ABKAR	**Akbulak array**	58.10 309		P	P	09 48 24.0 -0.7
EDM	**Edmonton**	58.16 45		IAmb	IAmb	09 48 26.6
	comp=Z,15nm,0.7s					
AKTO	**Aktyubinsk**	58.46 311		P	P	09 48 25.6 -1.7
	comp=Z,6.7nm,0.5s,baz=55,slow=6.2,SNR=13					
AKTO				LR	LR	10 17 42.0
	comp=Z,97nm,19.6s,baz=67,slow=40					
	comp=Z,6.7nm,0.5s					
ARCES	**ARCESS Array B**	58.51 340		P	P	09 48 25.2 -2.1
	comp=Z,3.0nm,0.7s,baz=38,slow=8.5,SNR=7.9					
ARCES				LR	LR	10 16 34.2
	comp=Z,28nm,18.0s,baz=82,slow=39					
	comp=Z,3.0nm,0.7s					
SIMJ	**Simiganj**	58.76 295		P	P	09 48 29.7 0.0
NIL	**Nilore**	58.93 288		P	P	09 48 32.0 +1.2
NIL	**Nilore**	58.93 288		P	P	09 48 32.0 +1.2
NIL				pmax	pmax	
	comp=Z,38nm,1.1s					
NIL	**Nilore**	58.93 288		P	P	09 48 32.0 +1.2
NEW	**Newport**	59.03 51		P	P	09 48 32.3 +1.0
	baz=305					
PINE	**Pine Mountain**	59.43 57		P	P	09 48 35.3 +1.0
KTK1	**Kautokeino**	59.44 341	*e*	P	P	09 48 32.5 -1.2
L04D	**Klamath Falls**	59.53 59		P	P	09 48 35.8 +0.9
JETT	**Jettan, Norway**	59.65 342	*e*	P	P	09 48 34.5 -0.7
TRO	**Tromso**	59.90 343	*e*	P	P	09 48 35.8 -1.0
KLMR	**Klimovskoe**	60.39 328	*e*	P	P	09 48 37.1 -3.2
KLMR				AMP		09 48 40.3
	comp=Z,20nm,0.9s					
KLMR	**Klimovskoe**	60.39 328	*e*	P	P	09 48 37.1 -3.2
KLMR				pmax	pmax	
	comp=Z,20nm,0.9s					
UPNV	**Upernavik**	60.45 9	*i*	P	P	09 48 39.1 -1.5
UPNV				IAmb	IAmb	09 48 42.1
	comp=Z,34nm,0.9s					
KBL	**Kabul**	61.18 291		P	P	09 48 46.3 -0.1
KBL	**Kabul**	61.18 291		P	P	09 48 46.3 -0.1
KBL				pmax	pmax	
	comp=Z,40nm,1.3s					
PLID	**Pearl Lake**	61.52 54		P	P	09 48 49.7 +1.1
PLID				IAmb	IAmb	09 48 54.4
	comp=Z,8.0nm,1.1s					
WVOR	**Wild Horse Val**	61.59 57		P	P	09 48 50.6 +1.6
WVOR	**Wild Horse Val**	61.59 57		P	P	09 48 50.6 +1.6
WVOR				pmax	pmax	
	comp=Z,3.0nm,0.9s					
MSO	**Missoula**	61.62 51		P	P	09 48 49.6 +0.6
MSO				IAmb	IAmb	09 48 50.8
	comp=Z,5.2nm,0.8s					
MSO	**Missoula**	61.62 51		P	P	09 48 49.1 0.0
	baz=308					
SUMG	**Summit**	61.98 3		IAmb	IAmb	09 48 53.3
	comp=Z,68nm,0.8s					
SUMG	**Summit**	61.98 3	*i*	P	P	09 48 51.0 -0.4
SUMG				IAmb	IAmb	09 48 53.7
	comp=Z,43nm,0.6s					
LOF	**Lofoten**	62.25 343	*eP*	P	P	09 48 51.6 -1.1
BELG	**Belogornoye**	62.47 318	*deP*	P	P	09 48 53.0 -1.5
BELG	**Belogornoye**	62.47 318		LR	LR	10 17 14.2
	comp=Z,49nm,19.0s,baz=63,slow=37					
FAUS	**Fauske**	62.52 342	*eP*	P	P	09 48 53.6 -1.0
ABJI	**Asem Bagus**	62.53 222		P	P	09 48 56.1 +0.8
	comp=Z,34nm,0.8s					
FFC	**Flin Flon**	62.56 39		P	P	09 48 55.5 +0.4
FFC				IAmb	IAmb	09 48 56.7
	comp=Z,12nm,0.8s					
FFC	**Flin Flon**	62.56 39		P	P	09 48 55.5 +0.4
FFC				pmax	pmax	
	comp=Z,13nm,0.8s					
FFC	**Flin Flon**	62.56 39		P	P	09 48 55.9 +0.8
LRM	**Limekiln Ridge**	63.05 51		P	P	09 49 00.1 +1.3
EGMT	**Eagleton**	63.12 48		IAmb	IAmb	09 49 01.1
	comp=Z,14nm,1.2s					
EGMT	**Eagleton**	63.12 48		P	P	09 48 59.2 +0.2
	baz=309					
HLID	**Hailey**	63.36 54		P	P	09 49 01.1 +0.3
	baz=309					
BOZ	**Bozeman (W)**	63.64 51		P	P	09 49 03.7 +1.1
	baz=309					
MOR8	**Moi Rana**	63.73 342	*eP*	P	P	09 49 00.5 -2.2
SCO	**Scoresbysund**	64.17 357	*i*	P	P	09 49 05.4 +0.1
SCO				IAmb	IAmb	09 49 07.7
	comp=Z,21nm,0.8s					
NVAR	**Mina Array Bea**	64.25 61		P	P	09 49 07.6 +0.8
	comp=Z,1.1nm,0.8s,baz=290,slow=7.1,SNR=12					
	comp=Z,1.1nm,0.8s					
ILULI	**Ilulissat**	64.38 9	*i*	P	P	09 49 07.2 +0.4
ILULI				IAmb	IAmb	09 49 08.9
	comp=Z,40nm,0.8s					
FINES	**FINESS Array B**	64.51 334		P	P	09 49 06.1 -1.6
	comp=Z,14nm,0.7s,baz=39,slow=7.1,SNR=46					
FINES				LR	LR	10 19 13.5
	comp=Z,46nm,18.6s,baz=20,slow=38					
	comp=Z,14nm,0.7s					
H17A	**Grant Village**	64.98 52		P	P	09 49 13.2 +1.7
	baz=310					
IMW	**Indian Meadow**	65.10 52		P	P	09 49 13.7 +1.4
FXWY	**Fox Creek**	65.22 52		P	P	09 49 14.7 +1.6
RLMT	**Red Lodge**	65.22 50		P	P	09 49 13.8 +0.8
	baz=310					
ICESG	**Greenland Ices**	65.40 4	*i*	P	P	09 49 13.8 -0.1
ICESG				IAmb	IAmb	09 49 16.2
	comp=Z,69nm,0.8s					
CTA	**Charters Tower**	65.47 185		LR	LR	10 15 22.4
	comp=Z,25nm,20.6s,baz=62,slow=34					
OBN	**Obninsk**	65.48 325	*i*	P	P	09 49 12.0 -2.2
OBN			*i*			09 49 43.9
OBN				pmax	pmax	
	comp=Z,10.0nm,0.6s					
OBN				MLR	MLR	
	comp=Z,33nm,18.0s					
HYB	**Hyderabad**	65.59 270	*eP*	P	P	09 49 16.0 +0.5
CWC	**Cottonwood Cre**	65.64 62		P	P	09 49 16.7 +0.9
	baz=310					
DGMT	**Dagmar**	65.66 45		P	P	09 49 15.8 +0.3
	baz=312					
NSS	**Namsos**	65.67 342	*eP*	P	P	09 49 14.5 -0.8
HRA	**Herat**	65.67 295		IAmb	IAmb	09 49 17.9
	comp=Z,11nm,0.7s					
GRAC	**Grapevine Rang**	65.73 61		P	P	09 49 17.1 +0.9
	baz=310					
LAO	**LASA Array**	65.81 47		P	P	09 49 18.0 +1.4
	baz=312					
R11B	**Troy Canyon, C**	65.96 59		P	P	09 49 19.1 +1.3
R11B	**Troy Canyon, C**	65.96 59		P	P	09 49 19.3 +1.5
	baz=310					
MEF	**Metsahovi**	65.98 334	*eP*	P	P	09 49 16.7 -0.6
GEYT	**Alibeck**	65.99 300		P	P	09 49 18.9 +1.1
GEYT	**Alibeck**	65.99 300		P	P	09 49 18.9 +1.1
GEYT				pmax	pmax	
	comp=Z,29nm,0.9s					
GEYT	**Alibeck**	65.99 300		P	P	09 49 18.5 +0.7
	comp=Z,24nm,0.8s,baz=8.5,slow=3.0,SNR=37					
	comp=Z,24nm,0.8s					
GYA0B	**ALIBECK ARRAY**	65.99 300		P	P	09 49 18.8 +1.0
GYA0B				IAmb	IAmb	09 49 19.5
	comp=Z,26nm,0.9s					
RAF	**Rauma**	66.12 336	*eP*	P	P	09 49 17.5 -0.7
DUG	**Dugway, Tooele**	66.42 56		P	P	09 49 22.1 +1.5
	baz=311					
TPNV	**Topopah Spring**	66.45 61		P	P	09 49 23.0 +2.0
	baz=310					
SOEG	**Soedalen**	66.55 1	*i*	P	P	09 49 20.0 -0.8
SOEG				IAmb	IAmb	09 49 22.4
	comp=Z,24nm,0.7s					
SFJD	**Kangerlussuaq**	66.56 9	*i*	P	P	09 49 20.7 -0.2
SFJD				IAmb	IAmb	09 49 23.6
	comp=Z,26nm,0.7s					
SFJD	**Kangerlussuaq**	66.56 9	LR		LR	10 19 02.8
	comp=Z,53nm,20.9s,baz=334,slow=36					
SFJD	**Kangerlussuaq**	66.56 9		P	P	09 49 22.2 +1.3
BW06	**Boulder Array**	66.60 52		P	P	09 49 22.8 +0.9
BW06	**Boulder Array**	66.60 52		P	P	09 49 23.0 +1.1
	baz=311					
PD31	**Pinedale Array**	66.60 52		P	P	09 49 22.3 +0.4
PDAR	**Pinedale Array**	66.60 52		P	P	09 49 22.7 +0.8
	comp=Z,2.2nm,0.7s,baz=289,slow=1.9,SNR=27					
	comp=Z,2.2nm,0.7s					
VSU	**Vasula**	66.61 332⇓	*eP*	P	P	09 49 20.2 -1.1
WRAB	**Tennant Creek**	66.92 197⇓	*i*	P	P	09 49 24.0 +0.3
WRAB				pmax	pmax	
	comp=Z,4.0nm,0.9s					
WRAB	**Tennant Creek**	66.92 197		P	P	09 49 24.0 +0.3
WRAB				pP	pP	09 49 42.8 +0.3
WRAB				sP	PcP	09 49 50.2 -1.6
WB2	**Warramunga Arr**	66.93 197		P	P	09 49 24.1 +0.3
WRA	**Warramunga Arr**	66.94 197		P	P	09 49 24.5 +0.7
WRA	**Warramunga Arr**	66.94 197		P	P	09 49 24.5 +0.7
WRA	**Warramunga Arr**	66.94 197		P	P	09 49 24.1 +0.3
	comp=Z,2.9nm,0.8s,baz=16,slow=6.7,SNR=17					
	comp=Z,2.9nm,0.8s					
NLU	**North Lily Min**	67.00 56		P	P	09 49 25.9 +1.4
AAL	**Aland**	67.32 336	*eP*	P	P	09 49 24.8 -1.0
MTSE	**Matsula**	67.36 333	*eP*	P	P	09 49 25.8 -0.2
DY2G	**Dye2**	67.51 7	*i*	P	P	09 49 27.3 0.0
DY2G				IAmb	IAmb	09 49 29.6
	comp=Z,51nm,0.7s					
RDMU	**Red Mountain**	68.04 54		P	P	09 49 31.9 +0.9
RDMU				IAmb	IAmb	09 49 33.5
	comp=Z,9.2nm,1.0s					
UPP	**Uppsala**	68.26 337	*eP*	P	P	09 49 30.6 -1.1
MOL	**Molde**	68.34 343	*eP*	P	P	09 49 33.5 +1.3
K22A	**Casper**	68.35 51		P	P	09 49 33.0 +0.2
	baz=313					
ULM	**Lac du Bonnet**	68.35 39		P	P	09 49 32.5 0.0
	comp=Z,7.2nm,0.8s,baz=311,slow=7.3,SNR=5.7					
	comp=Z,7.2nm,0.8s					
DOMB	**Dombas**	68.49 342	*eP*	P	P	09 49 32.7 -0.5
RSSD	**Black Hills**	68.68 48		P	P	09 49 35.3 +0.3
RSSD	**Black Hills**	68.68 48		P	P	09 49 35.3 +0.3
	baz=313					
RSSD	**Black Hills**	68.68 48		P	P	09 49 35.3 +0.3
RSSD				pmax	pmax	
	comp=Z,5.0nm,0.7s					
RSSD	**Black Hills**	68.68 48		P	P	09 49 35.1 +0.1
NC405	**NORSAR Array S**	68.70 340		P	P	09 49 34.0 -0.5
NC204	**NORSAR Array S**	68.79 341		P	P	09 49 34.9 -0.2
AKN	**Aaknes**	68.81 343	*eP*	P	P	09 49 35.4 +0.2
NB2	**NORSAR Subarra**	68.89 340		P	P	09 49 34.7 -1.0
	comp=Z,28nm,0.7s,baz=27,slow=6.5					
NB2	**NORSAR Subarra**	68.89 340		P	P	09 49 34.7 -1.0
	baz=27,slow=6.5					
NOA	**NORSAR Array B**	68.89 340		P	P	09 49 34.8 -1.0
	comp=Z,26nm,0.6s,baz=28,slow=6.4,SNR=112					
NOA				LR	LR	10 22 47.0
	comp=Z,19nm,19.7s,baz=15,slow=39					
	comp=Z,26nm,0.6s					
IRM	**Iron Mountain**	68.95 62		P	P	09 49 37.4 +0.9
	baz=312					
NBO00	**NORSAR Array S**	69.00 341		IAmb	IAmb	09 49 36.9
	comp=Z,22nm,1.1s					
HFS	**Hagfors**	69.07 339		P	P	09 49 35.8 -1.0
	comp=Z,48nm,0.6s,baz=45,slow=4.8,SNR=129					
HFS				LR	LR	10 23 01.0
	comp=Z,35nm,21.8s,baz=41,slow=39					
NC602	**NORSAR Array S**	69.08 340		IAmb	IAmb	09 49 37.5
	comp=Z,21nm,0.8s					
NC602	**NORSAR Array S**	69.08 340	*eP*	P	P	09 49 35.9 -0.9
ISAL	**Salakas**	69.08 330	*eP*	P	P	09 49 37.7 +0.8
BC3	**Big Chuckawall**	69.08 63		P	P	09 49 37.6 +0.1
	baz=312					
O20A	**White River Ci**	69.09 54		P	P	09 49 37.5 0.0
	baz=313					
NUUK	**Nuuk**	69.14 10	*i*	P	P	09 49 38.0 +0.9
NUUK				IAmb	IAmb	09 49 40.8
	comp=Z,24nm,0.9s					
IIGN	**Ignalina**	69.22 330	*eP*	P	P	09 49 38.8 +1.0
MNK	**Minsk**	69.29 329	*i*	P	P	09 49 35.1 -3.2
	comp=N,31nm,1.5s,baz=39					
MNK			*i*	P	P	09 49 35.8 -2.4
	comp=E,10.0nm,1.3s					
MNK			*i*	P	P	09 49 35.8 -2.4
	comp=Z,49nm,0.8s					
MNK			*i*	pP	pP	09 49 56.2 -1.5
MNK			*i*	PP	PP	09 52 11.7 +0.2
MNK			*i*	PPP	PPP	09 53 49.6
MNK			*i*	S	S	09 58 35.8 -2.6
MNK			*i*	sS	sS	09 59 11.2 -0.8
MNK			*i*	SS	SS	10 03 03.2 -2.1
MNK			*i*	SSS	SSS	10 06 21.5
MNK			*i*	LQ	LQ	10 15 16.3
MNK			*i*	LR	LR	10 20 18.4
MNK			*i*	LRM	MLR	10 23 19.9
	comp=Z,56nm,13.8s					
MNK			*i*	LRM	MLR	10 24 11.5
	comp=E,63nm,13.3s					
MNK			*i*	LRM	MLR	10 24 24.8
	comp=N,191nm,17.2s					
MNK	**Minsk**	69.29 329	*eP*	P	P	09 49 35.0 -3.2
IKP	**In-Ko-Pah, Jac**	69.33 64		P	P	09 49 39.9 +0.9
	baz=312					
NACGM	**Naroch**	69.37 329⇓	*i P*	P	P	09 49 38.0 -0.8
PDMCI	**Parker Dam,Lak**	69.47 62		P	P	09 49 41.1 +1.4
	baz=312					
VSVD	**Vaisvydziai**	69.51 331	*eP*	P	P	09 49 39.4 -0.1
GOF	**Gofitskoye**	69.64 314	*ceP*	P	P	09 49 41.0 +0.4
VIKU	**Vikbolandet**	69.66 336	*eP*	P	P	09 49 39.4 -1.0
N23A	**Red Feather La**	69.86 52		P	P	09 49 42.7 +0.4
	baz=313					
PABE	**Paberze**	69.88 331	*eP*	P	P	09 49 41.9 +0.1
BORG	**Borgarnes**	69.88 357		P	P	09 49 43.8 +2.1
WUAZ	**Wupatki**	70.36 59		P	P	09 49 46.2 +0.8
	baz=312					
SMCO	**Snowmass**	70.45 54		P	P	09 49 46.8 +0.6
NCK	**Nalchik**	70.46 313⇑	*eP*	P	P	09 49 45.7 +0.1
NCK				pmax	pmax	
	comp=Z,64nm,0.6s					
KONO	**Kongsberg**	70.50 340		P	P	09 49 45.7 +0.2
KONO	**Kongsberg**	70.50 340		P	P	09 49 44.9 -0.6
KONO				pP	PcP	09 50 03.8 -2.6
KONO				sP	sP	09 50 11.1 -2.2
KIV	**Kislovodsk**	70.60 313		⇑P	P	09 49 47.1 +0.6
KIV	**Kislovodsk**	70.60 313		P	P	09 49 47.4 +0.8
KIV	**Kislovodsk**	70.60 313	*i*	P	P	09 49 47.2 +0.6
	SNR=15					
KIV	**Kislovodsk**	70.60 313	*eP*	P	P	09 49 46.9 +0.3
KIV	**Kislovodsk**	70.60 313	*eP*	P	P	09 49 46.9 +0.3
KIV				pmax	pmax	
	comp=Z,101nm,1.1s					
KIV				MLR	MLR	
	comp=Z,38nm,18.0s					
KIV	**Kislovodsk**	70.60 313		P	P	09 49 46.9 +0.3
KIV				pP	PcP	09 50 05.5 -1.8
AS31	**Alice Springs**	70.64 197		P	P	09 49 48.7 +1.9
ASAR	**Alice Springs**	70.64 197		P	P	09 49 48.3 +1.5
	comp=Z,2.8nm,0.8s,baz=14,slow=5.4,SNR=17					
	comp=Z,2.8nm,0.8s					
KBZ	**Khabaz**	70.65 313	*eP*	P	P	09 49 47.3 +0.6
KBZ	**Khabaz**	70.65 313	*c i*	P	P	09 49 47.3 +0.6
KBZ				pmax	pmax	
	comp=Z,82nm,0.9s					
KBZ	**Khabaz**	70.65 313		P	P	09 49 46.9 +0.1
	comp=Z,64nm,0.8s,baz=62,slow=4.4,SNR=114					
KBZ				LR	LR	10 25 59.4
	comp=Z,89nm,19.4s,baz=40,slow=40					
ASK	**Askoy**	70.72 343	*eP*	P	P	09 49 47.3 +0.4
ISCO	**Idaho Springs**	70.79 53		P	P	09 49 48.7 +0.6
ISCO	**Idaho Springs**	70.79 53		P	P	09 49 48.7 +0.6
	baz=314					
ISCO	**Idaho Springs**	70.79 53		P	P	09 49 48.7 +0.6
ISCO				pmax	pmax	
	comp=Z,4.0nm,1.3s					
ZEI	**Tsey**	70.80 312	*eP*	P	P	09 49 47.3 -0.6
ZEI				pmax	pmax	
	comp=Z,37nm,0.9s					
MVCO	**Mesa Verde**	70.92 56		P	P	09 49 49.6 +0.8
	baz=313					
SUW	**Suwalki**	71.35 331	*eP*	P	P	09 49 50.2 -0.6
SUW	**Suwalki**	71.35 331	*eP*	P	P	09 49 50.5 -0.3
S22A	**4UR Ranch, Cre**	71.52 55		P	P	09 49 53.1 +0.6
	baz=314					
AKASG	**Malin Array Be**	71.74 325		P	P	09 49 52.5 -0.7
AKASG				IAmb	IAmb	09 49 53.7
	comp=Z,9.9nm,0.8s					
AKASG	**Malin Array Be**	71.74 325		P	P	09 49 52.5 -0.7
AKASG				pmax	pmax	
	comp=Z,10.0nm,0.8s					
AKASG	**Malin Array Be**	71.74 325		P	P	09 49 52.1 -1.1
	comp=Z,19nm,0.5s,baz=34,slow=6.2,SNR=65					
AKASG				LR	LR	10 23 32.1
	comp=Z,52nm,18.7s,baz=1.0,slow=38					
	comp=Z,19nm,0.5s					
AKBB	**Malin Array Si**	71.74 325		P	P	09 49 52.2 -1.0
AKBB	**Malin Array Si**	71.74 325		P	P	09 49 52.2 -1.0
AKBB				pmax	pmax	
	comp=Z,38nm,0.8s					
KLNR	**Kaliningrad**	71.86 332⇓	*eP*	P	P	09 49 51.0 -2.8
KLNR				pmax	pmax	
	comp=Z,123nm,0.7s					
OGNE	**Ogallala**	71.95 50		IAmb	IAmb	09 49 56.5
	comp=Z,19nm,0.8s					
OGNE	**Ogallala**	71.95 50		P	P	09 49 54.9 +0.1
	baz=315					
GNI	**Garni**	72.21 309		P	P	09 49 56.9 +0.4
GNI	**Garni**	72.21 309	*c i*	P	P	09 49 58.2 +1.8
GNI				pmax	pmax	
	comp=Z,44nm,1.0s					
GNI	**Garni**	72.21 309		LR	LR	10 26 30.9
	comp=Z,41nm,20.7s,baz=46,slow=40					
SNART	**Snartemo**	72.23 341	*eP*	P	P	09 49 56.1 +0.2
SDCO	**Great Sand Dun**	72.28 54		P	P	09 49 57.4 +0.3
	baz=314					
SOC	**Sochi**	72.37 315	*eP*	P	P	09 49 56.5 -0.6
SOC			*e**PP	P	PcP	09 50 13.3 -1.4
SOC			*e**SP	P	sP	09 50 28.8 +3.9

baz=315
SPMN Marine on St. 73.45 41 P **P 09 50 03.8 +0.3**
baz=319
ANMO Albuquerque 73.67 57 P **P 09 50 05.8 +0.6**
baz=315
GKP Gorka Klasztor 73.94 333 *eP* **P 09 50 06.3 +0.2**
GKP Gorka Klasztor 73.94 333 *eP* **P 09 50 06.4 +0.2**
BEL Belsk 73.97 330 *eP* **P 09 50 05.1 -1.3**
I37A Lemond, Waseca 74.08 43 IAmb IAmb 09 50 08.5
comp=Z,22nm,0.7s
SORM Soroca 74.10 324 ⇑P **P 09 50 06.3 -0.9**
SORM Soroca 74.10 324 P **P 09 50 06.3 -0.9**
LVV L'vov 74.46 328 *eP* **P 09 50 09.3 0.0**
KIS Kishinev 74.81 323 *eP* **P 09 50 11.0 -0.3**
comp=Z,90nm,0.4s
KIS Kishinev 74.81 323 *eP* **P 09 50 11.0 -0.3**
KIS pmax pmax
comp=Z,90nm,0.4s
GURO Guroymak-BITLI 74.82 310 P **P 09 50 12.9 +1.2**
GURO IAmb IAmb 09 50 14.9
comp=Z,27nm,1.0s
SCHQ Schefferville 74.95 22 P **P 09 50 12.2 +0.2**
SCHQ IAmb IAmb 09 50 13.2
comp=Z,12nm,0.8s
SCHQ Schefferville 74.95 22 P **P 09 50 12.1 0.0**
comp=Z,10nm,0.8s,baz=283,slow=10,SNR=9.2
SCHQ LR LR 10 26 19.2
comp=Z,37nm,18.1s,baz=306,slow=38
comp=Z,10nm,0.8s
KWP Kalwaria Pacla 75.11 328 *eP* **P 09 50 13.3 +0.3**
KWP Kalwaria Pacla 75.11 328 P **P 09 50 14.1 +1.1**
KWP Kalwaria Pacla 75.11 328 P **P 09 50 14.1 +1.1**
KWP pmax pmax
comp=Z,91nm,0.9s
SHME Shamm 75.14 292 P **P 09 50 13.7 +0.1**
BSEG Bad Segeberg 75.40 337 *eP* **P 09 50 15.1 +0.6**
comp=Z,49nm,1.2s,baz=27,slow=5.5
VASR Vaslui 75.52 323 ⇑P **P 09 50 16.1 +0.7**
MDH Madha 75.55 291 P **P 09 50 15.6 -0.3**
MSFE Esma-Masafi 75.60 291 P **P 09 50 16.2 -0.1**
OJC Ojcow 75.67 330 *eP* **P 09 50 16.4 +0.2**
OJC Ojcow 75.67 330 P **P 09 50 16.7 +0.5**
OJC Ojcow 75.67 330 P **P 09 50 16.7 +0.5**
OJC pmax pmax
comp=Z,42nm,0.8s
BUR08 Bucovina Ar. S 75.77 326 P **P 09 50 17.3 +0.3**
BURAR Bucovina Array 75.79 326 ⇑P **P 09 50 17.2 +0.1**
BURAR Bucovina Array 75.79 326 P **P 09 50 17.4 +0.4**
BURAR Bucovina Array 75.79 326 P **P 09 50 17.1 +0.1**
STHS Stebnicka Huta 75.82 329 *eP* **P 09 50 17.2 +0.1**
STHS Stebnicka Huta 75.82 329 *eP* **P 09 50 17.2 +0.1**
STHS pmax pmax
comp=Z,30nm,0.7s
KOLS Kolonicke sedl 75.84 328 *eP* **P 09 50 18.1 +0.8**
KOLS Kolonicke sedl 75.84 328 *eP* **P 09 50 18.1 +0.8**
KOLS pmax pmax
comp=Z,41nm,0.8s
UOSS Minazif 75.86 291 P **P 09 50 18.0 +0.3**
UOSS IAmb IAmb 09 50 20.3
comp=Z,10.0nm,0.8s
UOSS Minazif 75.86 291 *i* P **P 09 50 17.7 0.0**
SNR=12
GORT1 Trebel 75.96 336 *eP* **P 09 50 18.4 +0.7**
comp=Z,50nm,1.2s,baz=27,slow=5.5
BIZ Bicaz 75.98 325 ⇑P **P 09 50 18.9 +0.9**
HATD Hatta, Dubai 75.99 291 *i* P **P 09 50 18.7 +0.3**
SNR=10
DIKM Dikmen 76.01 316 ⇑P **P 09 50 18.5 +0.2**
TESR Tescani 76.10 324 ⇑P **P 09 50 18.8 +0.1**
ASHO Ashiyiah 76.13 291 *i* P **P 09 50 19.8 +0.5**
SNR=7.4
NIE Niedzica 76.16 329 *eP* **P 09 50 19.8 +0.7**
CRVS Cervenica-Dubn 76.17 328 *eP* **P 09 50 19.3 +0.2**
CRVS Cervenica-Dubn 76.17 328 *eP* **P 09 50 19.3 +0.2**
CRVS pmax pmax
comp=Z,32nm,0.9s
SOHO SOHO 76.20 290 P **P 09 50 20.0 +0.3**
TLCR 76.24 322 ⇓P **P 09 50 20.0 +0.4**
TLCR 76.24 322 P **P 09 50 19.9 +0.4**
KSP Ksiaz 76.32 332 *eP* **P 09 50 19.6 -0.3**
FAQ Al Faqa, Dubai 76.40 291 P **P 09 50 20.5 -0.3**
PANC Panciu 76.40 323 ⇓P **P 09 50 21.8 +1.4**
TRPA Tarpa 76.41 327 ⇓P **P 09 50 21.5 +1.1**
AMTX Amarillo 76.48 54 P **P 09 50 21.9 +0.7**
baz=317
MSTX Muleshoe 76.51 55 P **P 09 50 22.6 +1.2**
baz=316
ODBI Odobesti 76.53 323 ⇑P **P 09 50 21.4 +0.3**
CFR Carcaliu 76.54 322 ⇑P **P 09 50 20.8 -0.4**
CFR Carcaliu 76.54 322 P **P 09 50 20.8 -0.4**
JURR Jurilovca 76.54 322 ⇓P **P 09 50 21.5 +0.3**
ARCR ARCALIA 76.56 326 ⇓P **P 09 50 22.9 +1.5**
FLTG Flechtingen 76.57 336 *eP* **P 09 50 21.2 0.0**
comp=Z,30nm,0.9s,baz=27,slow=5.5
VRI Vrincioaia 76.58 324 ⇓P **P 09 50 21.8 +0.3**
VRI Vrincioaia 76.58 324 P **P 09 50 21.8 +0.3**
OSTC Ostas 76.59 332 *eP* **P 09 50 21.4 -0.1**
OSTC Ostas 76.59 332 *eP* **P 09 50 21.4 -0.1**
CHVC Chvalec 76.62 332 *eP* **P 09 50 21.6 0.0**
CHVC Chvalec 76.62 332 *eP* **P 09 50 21.6 0.0**
PLOR Plostina 76.63 324 ⇓P **P 09 50 22.3 +0.5**
PLOR Plostina 76.63 324 P **P 09 50 22.3 +0.5**
TPGR Topolog 76.67 322 ⇓P **P 09 50 22.9 +0.8**
LANS Liptovska Anna 76.68 330 *eP* **P 09 50 23.0 +1.0**
LANS Liptovska Anna 76.68 330 *eP* **P 09 50 23.0 +1.0**
LANS pmax pmax
comp=Z,27nm,0.8s
UPC Upice 76.70 332 *eP* **P 09 50 22.2 +0.1**
UPC Upice 76.70 332 *eP* **P 09 50 22.2 +0.1**
RETH Rethem/Aller, 76.73 337 *eP* **P 09 50 22.8 +0.7**
comp=Z,30nm,1.1s,baz=27,slow=5.5
DPC Dobruska-Polom 76.73 332 *eP* **P 09 50 22.7 +0.4**
DPC Dobruska-Polom 76.73 332 *eP* **P 09 50 22.7 +0.4**
NRDL Niedersach Rie 76.74 337 *eP* **P 09 50 22.7 +0.5**
comp=Z,20nm,0.9s,baz=27,slow=5.5
OZUR 76.79 324 ⇓P **P 09 50 23.7 +1.0**
COVR Voineasa-Covas 76.81 324 ⇓P **P 09 50 23.4 +0.5**
MORC Moravsky Berou 76.82 331 ⇓P **P 09 50 23.5 +0.7**
MORC Moravsky Berou 76.82 331 *eP* **P 09 50 22.9 +0.1**
MORC Moravsky Berou 76.82 331 P **P 09 50 23.5 +0.7**
ASSE Asse, Remlinge 76.91 336 *eP* **P 09 50 23.6 +0.5**
comp=Z,12nm,1.0s,baz=27,slow=5.5
TIRR Tirgusor 76.99 322 ⇑P **P 09 50 24.0 +0.3**
TIRR Tirgusor 76.99 322 P **P 09 50 23.5 -0.3**
TIRR Tirgusor 76.99 322 P **P 09 50 24.0 +0.3**
HARR Harsova 77.01 322 ⇑P **P 09 50 24.2 +0.3**
HARR Harsova 77.01 322 P **P 09 50 24.2 +0.3**
BRG Berggiesshubel 77.04 334 *eP* **P 09 50 24.2 +0.2**
BRG pmax pmax
comp=Z,24nm,1.2s
BRG Berggiesshubel 77.04 334 *eP* **P 09 50 24.7 +0.7**
comp=Z,20nm,1.1s,baz=27,slow=5.5
BRG Berggiesshubel 77.04 334 *eP* **P 09 50 24.2 +0.2**
BRG Amp 09 50 26.2
comp=Z,24nm,1.2s
MESR Meseseni 77.06 327 ⇑P **P 09 50 25.2 +1.1**
MAUC Maruska 77.07 331 *eP* **P 09 50 24.6 +0.4**
TLBR Topalu 77.08 322 ⇑P **P 09 50 24.7 +0.4**
PVCC Panska Ves 77.14 333 *eP* **P 09 50 24.7 +0.1**
PVCC Panska Ves 77.14 333 *eP* **P 09 50 24.7 +0.1**
EKA Eskdalemuir Ar 77.15 345 P **P 09 50 24.1 -0.4**
comp=Z,2.8nm,0.3s,baz=16,slow=5.2,SNR=41
comp=Z,2.8nm,0.3s
CJR Cluj-Napoca 77.16 326 ⇑P **P 09 50 25.5 +0.6**
CJR Cluj-Napoca 77.16 326 P **P 09 50 25.4 +0.6**
FBE Freiberg 77.18 334 *eP* **P 09 50 25.2 +0.5**
comp=Z,25nm,0.9s,baz=27,slow=5.5
MFTR Murfatlar 77.21 322 ⇓P **P 09 50 24.7 -0.3**
MLR Muntele Rosu 77.21 324 ⇓P **P 09 50 25.9 +0.6**
MLR Muntele Rosu 77.21 324 IAmb IAmb 09 50 27.3
comp=Z,31nm,1.0s
MLR Muntele Rosu 77.21 324 P **P 09 50 25.8 +0.6**
CLZ Clausthal 77.25 336 *eP* **P 09 50 25.9 +0.8**
comp=Z,38nm,1.0s,baz=27,slow=5.5
ISR Istrita 77.26 323 ⇓P **P 09 50 26.4 +1.0**
ISR Istrita 77.26 323 P **P 09 50 26.4 +1.0**
MARR Marisel-Cluj 77.38 326 ⇓P **P 09 50 26.2 +0.1**
NEUB Neuenburg 77.40 335 *eP* **P 09 50 26.3 +0.3**
comp=Z,31nm,0.9s,baz=27,slow=5.5
HSKC Hora Svate Kat 77.43 334 *eP* **P 09 50 26.2 0.0**
VYHS Vyhne 77.46 330 *eP* **P 09 50 26.9 +0.5**
VYHS Vyhne 77.46 330 *eP* **P 09 50 26.9 +0.5**
VYHS pmax pmax
comp=Z,24nm,1.0s
VLDQ Val d'Or 77.51 31 P **P 09 50 25.4 -1.2**
VLDQ IAmb IAmb 09 50 37.4
comp=Z,16nm,0.6s
ICOR Ion Corvin 77.53 322 ⇑P **P 09 50 27.6 +0.8**
VRAC Vranov 77.54 331 ⇑P **P 09 50 27.8 +0.9**
VRAC Vranov 77.54 331 *eP* **P 09 50 27.4 +0.6**
VRAC Vranov 77.54 331 P **P 09 50 27.7 +0.9**
VRAC Vranov 77.54 331 LR LR 10 28 05.7
comp=Z,33nm,21.5s,baz=22,slow=38
IBBN Ibbenburen 77.54 338 *eP* **P 09 50 27.2 +0.4**
comp=Z,36nm,0.8s,baz=27,slow=5.5
JAVC Velka Javorina 77.56 331 *eP* **P 09 50 28.2 +1.2**
PSZ Piszkesteto 77.56 329 ⇑P **P 09 50 27.9 +0.9**
PSZ Piszkesteto 77.56 329 P **P 09 50 27.6 +0.6**
PSZ IAmb IAmb 09 50 28.7
comp=Z,25nm,0.9s
PSZ Piszkesteto 77.56 329 P **P 09 50 27.9 +0.9**
GOPC GO Pecny, Ondr 77.61 333 *eP* **P 09 50 27.5 +0.3**
GOPC GO Pecny, Ondr 77.61 333 *eP* **P 09 50 27.5 +0.3**
VOIR 77.62 324 ⇓P **P 09 50 28.0 +0.6**
VOIR 77.62 324 P **P 09 50 28.0 +0.6**
PRU Pruhonice 77.62 333 *eP* **P 09 50 27.2 0.0**
PRU Pruhonice 77.62 333 *eP* **P 09 50 27.2 0.0**
GTTG Gottingen 77.63 336 *eP* **P 09 50 27.8 +0.6**
comp=Z,26nm,1.0s,baz=27,slow=5.5
KRUC Moravsky 77.82 331 *eP* **P 09 50 28.4 +0.1**
BNN Bunyan 77.83 314 P **P 09 50 30.1 +1.3**
ARR Arges 77.85 325 ⇑P **P 09 50 29.5 +0.9**
TANN Tannenbergstha 77.90 334 *eP* **P 09 50 29.2 +0.3**
comp=Z,7.9nm,0.9s,baz=27,slow=5.5
WERD Werda 77.92 334 *eP* **P 09 50 29.3 +0.4**
comp=Z,19nm,1.1s,baz=27,slow=5.5
TREC Trest 77.92 332 *eP* **P 09 50 29.2 +0.3**
TREC Trest 77.92 332 *eP* **P 09 50 29.2 +0.3**
PLN Plauen 77.93 335 *eP* **P 09 50 29.3 +0.4**
comp=Z,18nm,1.2s,baz=27,slow=5.5
SMOL Smolenice 77.94 331 *eP* **P 09 50 29.8 +0.8**
MOX Moxa 77.95 335 *eP* **P 09 50 29.4 +0.3**
comp=Z,28nm,1.2s,baz=27,slow=5.5
GUNZ Gunzen 77.98 334 *eP* **P 09 50 29.8 +0.5**
comp=Z,23nm,1.1s,baz=27,slow=5.5
WERN Wernitzgruen 78.04 334 *eP* **P 09 50 30.1 +0.5**
comp=Z,29nm,1.1s,baz=27,slow=5.5
NKC Novy Kostel 78.06 334 *eP* **P 09 50 30.0 +0.3**
NKC Novy Kostel 78.06 334 *eP* **P 09 50 30.0 +0.3**
MODS Modra-Piesok 78.11 331 *eP* **P 09 50 30.9 +0.9**
MODS Modra-Piesok 78.11 331 *eP* **P 09 50 30.9 +0.9**
MODS pmax pmax
comp=Z,77nm,1.2s
ZVC Zvikov 78.21 333 *eP* **P 09 50 30.9 +0.4**
UBBA Unterbreizbach 78.27 336 *eP* **P 09 50 31.0 +0.4**
comp=Z,10nm,0.7s,baz=27,slow=5.5
BR131 Keskin Array S 78.27 316 *eP* **P 09 50 31.4 +0.2**
BRTR Keskin Array B 78.27 316 P **P 09 50 32.1 +0.9**
BRTR Keskin Array B 78.27 316 P **P 09 50 32.1 +0.9**
BRTR Keskin Array B 78.27 316 P **P 09 50 31.9 +0.7**
comp=Z,5.5nm,0.9s,baz=64,slow=3.1,SNR=26
comp=Z,5.5nm,0.9s
SIRR Siria 78.28 327 ⇓P **P 09 50 31.5 +0.5**
ZST Bratislava 78.32 331 *eP* **P 09 50 32.3 +1.2**
ZST Bratislava 78.32 331 *eP* **P 09 50 32.3 +1.2**
ZST pmax pmax
comp=Z,111nm,1.4s
KASTN Kahler Asten 78.36 337 *eP* **P 09 50 32.1 +0.7**
comp=Z,31nm,1.1s,baz=27,slow=5.5
OK031 S. Brethren Rd 78.37 50 P **P 09 50 31.8 +0.1**
OK031 IAmb IAmb 09 50 32.8
comp=Z,18nm,1.2s
MANZ Manzenberg 78.38 334 *eP* **P 09 50 32.0 +0.5**
comp=Z,4.7nm,1.1s,baz=27,slow=5.5
BUG Bochum--Univer 78.46 338 *eP* **P 09 50 32.2 +0.4**
comp=Z,20nm,0.7s,baz=27,slow=5.5
APMT Aspermont 78.50 54 P **P 09 50 32.9 +0.5**
APMT IAmb IAmb 09 50 34.9
comp=Z,5.5nm,0.8s
SURR Surduc 78.53 326 ⇓P **P 09 50 32.8 +0.5**
ROTZ Rotzenmuhle 78.55 334 *eP* **P 09 50 33.1 +0.7**
comp=Z,4.4nm,0.9s,baz=27,slow=5.5
ANTO Ankara 78.57 316 P **P 09 50 33.6 +0.8**
ANTO Ankara 78.57 316 P **P 09 50 33.6 +0.8**
ANTO pmax pmax
comp=Z,50nm,1.4s
GZR Gura Zlata 78.57 326 ⇑P **P 09 50 32.7 0.0**
GZR Gura Zlata 78.57 326 P **P 09 50 32.6 0.0**
COPA Copaceanca 78.61 323 ⇑P **P 09 50 32.3 -0.5**
KHC Kasperske Hory 78.68 333 P **P 09 50 33.2 +0.1**
KHC Kasperske Hory 78.68 333 *eP* **P 09 50 33.3 +0.1**
KHC Kasperske Hory 78.68 333 *eP* **P 09 50 33.3 +0.1**
CKRC Cesky Krumlov 78.72 333 *eP* **P 09 50 33.3 0.0**
CKRC Cesky Krumlov 78.72 333 *eP* **P 09 50 33.3 0.0**
BZS Buzias 78.84 326 ⇓P **P 09 50 34.2 +0.1**
BZS Buzias 78.84 326 P **P 09 50 34.1 +0.1**
MDUB Mudurnu 78.87 318 P **P 09 50 35.4 +1.0**
WET Wettzell 78.89 334 *eP* **P 09 50 35.2 +0.9**
comp=Z,39nm,1.2s,baz=27,slow=5.5
GEC2 GERESS Array S 78.89 333 P **P 09 50 34.5 +0.1**
GEC2 IAmb IAmb 09 50 35.4
comp=Z,26nm,1.3s
GEC2 GERESS Array S 78.89 333 *eP* **P 09 50 34.7 +0.3**
comp=Z,27nm,1.3s,baz=27,slow=5.5
GERES GERESS Array B 78.89 333 P **P 09 50 34.3 -0.1**
GERES GERESS Array B 78.89 333 P **P 09 50 34.4 +0.1**
comp=Z,8.4nm,0.6s,baz=28,slow=6.0,SNR=23
GERES LR LR 10 28 34.8
comp=Z,24nm,20.2s,baz=42,slow=38
comp=Z,8.4nm,0.6s
GRA1 Grafenberg Arr 78.91 335 P **P 09 50 35.5 +1.1**
GRF Grafenberg Arr 78.91 335 P **P 09 50 35.5 +1.1**
GRF pmax pmax
comp=Z,76nm,1.3s
GRF Grafenberg Arr 78.91 335 *eP* **P 09 50 35.4 +1.0**
comp=Z,83nm,1.3s,baz=27,slow=5.5
GRFO Grafenberg 78.91 335 P **P 09 50 34.9 +0.5**
GRFO Grafenberg 78.91 335 P **P 09 50 34.9 +0.5**
GRFO pmax pmax
comp=Z,44nm,1.0s
CONA Conrad Observa 78.97 331 *i* P **P 09 50 35.7 +0.9**
comp=Z,8.3nm,0.5s,SNR=11
MZR Muzera 78.99 291 *i* P **P 09 50 35.6 +0.3**
SNR=6.2
SZH Strazhitsa 79.00 322 *i* P **P 09 50 35.4 +0.5**
RONA Rosalia, Austr 79.02 331 *i* P **P 09 50 36.1 +1.1**
comp=Z,7.0nm,0.6s,SNR=9.5
HERR Herculane 79.14 326 ⇓P **P 09 50 35.2 -0.5**
TNS Taunus Mts 79.24 337 *eP* **P 09 50 36.8 +0.6**
comp=Z,16nm,0.8s,baz=27,slow=5.5
DJES Djerdap 79.28 325 P **P 09 50 36.1 -0.4**
TX31 Lajitas Ar. Si 79.32 59 P **P 09 50 38.1 +1.0**
TX31 IAmb IAmb 09 50 40.1
comp=Z,9.8nm,0.7s
TX32 Lajitas Array 79.32 59 P **P 09 50 38.1 +1.0**
TXAR Lajitas Array 79.32 59 P **P 09 50 37.9 +0.8**
TXAR Lajitas Array 79.32 59 P **P 09 50 37.9 +0.8**
TXAR Lajitas Array 79.32 59 P **P 09 50 37.5 +0.5**
comp=Z,2.6nm,0.5s,baz=301,slow=3.9,SNR=12
comp=Z,2.6nm,0.5s
AHRW Bad Neuenahr-A 79.33 338 *eP* **P 09 50 37.3 +0.7**
comp=Z,17nm,0.8s,baz=27,slow=5.5
MORH Mrgy, Hungar 79.46 329 ⇓P **P 09 50 36.9 -0.5**
MDVR Moldovita 79.50 326 ⇑P **P 09 50 37.6 -0.2**
BTNL Ternell 79.54 338 *dP* **P 09 50 37.8 +0.1**
MEM Membach 79.55 338 *dP* **P 09 50 37.5 -0.3**
comp=Z,16nm,1.0s
MOA Molln 79.58 332 *eP* **P 09 50 38.5 +0.5**
comp=Z,2.2nm,0.5s
CCM Cathedral Cave 79.68 45 P **P 09 50 39.2 +0.4**
baz=321
BSTI Sart Tilman 79.69 338 *dP* **P 09 50 39.2 +0.7**
BHOU Houvegnez 79.78 338 *dP* **P 09 50 39.4 +0.3**
SFIN Lafayette 79.86 41 P **P 09 50 39.6 -0.1**
baz=323
MPEP Malo Peshtene 79.86 324 *i* P **P 09 50 41.0 +1.3**
BCLA Clavier 79.90 339 *dP* **P 09 50 39.8 +0.1**
FRGS Fruska Gora 79.92 327 ⇑P **P 09 50 40.1 +0.1**
BGES Gesves 79.99 339 *dP* **P 09 50 39.7 -0.5**
BMRD Maredsous 80.15 339 *dP* **P 09 50 41.2 +0.2**
RCHB Rochefort 80.16 338 *dP* **P 09 50 41.1 -0.1**
SOKA Soboth 80.34 331 *eP* **P 09 50 42.7 +0.4**
comp=Z,1.3nm,0.2s,SNR=9.7
PERS Pernice 80.35 331 *i* P **P 09 50 42.5 +0.2**
WLF Walferdange 80.37 338 *dPcP* **PcP 09 50 48.4 -0.8**
DOU Dourbes 80.38 339 *dP* **P 09 50 42.3 0.0**
BOVS Bovan 80.46 325 ⇑P **P 09 50 42.5 -0.4**
LESA Schwarzleotal 80.47 333 *i* P **P 09 50 43.6 +0.7**
comp=Z,3.6nm,0.4s
VTS Vitosha 80.68 324 ⇓P **P 09 50 44.5 +0.2**
VTS Vitosha 80.68 324 *i* P **P 09 50 44.9 +0.6**
VTS Vitosha 80.68 324 P **P 09 50 44.4 +0.2**
DIVS Divibare 80.75 327 IAmb IAmb 09 50 46.0
comp=Z,10.0nm,1.0s
JCT Junction City 80.77 56 P **P 09 50 45.0 +0.2**
baz=318
O48B Farmland 80.84 40 P **P 09 50 44.8 -0.2**
baz=324
MYKA Terra Mystica 80.85 332 *eP* **P 09 50 45.1 +0.1**
comp=Z,2.6nm,0.5s
ALN Alexandroupoli 80.89 321 IAmb IAmb 09 50 47.3
comp=Z,18nm,1.3s
WATA Walderalm 80.89 333 *i* P **P 09 50 45.6 +0.3**
comp=Z,10nm,0.5s,SNR=7.0
FCAR Ozark Folk Cen 80.91 47 P **P 09 50 45.2 -0.2**
RDO Rodhopi 80.91 322 IAmb IAmb 09 50 47.6
comp=Z,11nm,0.8s
CRES Cresnjev 80.93 330 *i* P **P 09 50 45.0 -0.4**
WTTA Wattenberg 80.94 333 *i* P **P 09 50 46.2 +0.7**
comp=Z,12nm,0.4s,SNR=10
BFO Black Forest 80.98 336 P **P 09 50 44.9 -0.7**
BFO IAmb IAmb 09 50 50.2
comp=Z,13nm,0.9s
BFO Black Forest 80.98 336 P **P 09 50 44.9 -0.7**
BFO pmax pmax
comp=Z,13nm,0.9s
BFO Black Forest 80.98 336 *eP* **P 09 50 45.9 +0.4**
comp=Z,16nm,1.3s,baz=27,slow=5.5
RETA Reutte 81.01 334 *eP* **P 09 50 46.7 +0.8**
comp=Z,2.2nm,0.5s,SNR=5.2
MOTA Moosalm 81.03 334 *i* P **P 09 50 46.4 +0.3**
comp=Z,7.7nm,0.7s,SNR=9.7
UBR Ueberruh 81.04 334 *eP* **P 09 50 46.3 +0.3**
comp=Z,11nm,1.2s,baz=27,slow=5.5
DRIO Del Rio 81.07 57 IAmb IAmb 09 50 47.9
comp=Z,5.7nm,0.7s
SQTA Sankt Quirin 81.11 334 *eP* **P 09 50 47.5 +1.1**
comp=Z,3.8nm,0.5s
MIAR Mount Ida 81.18 49 P **P 09 50 46.7 -0.2**
baz=320
MMB Musomishta 81.35 323 *i* P **P 09 50 48.3 +0.6**
CEY Cerknica 81.36 331 *i* P **P 09 50 47.0 -0.7**
ECH Echery 81.42 337 IAmb IAmb 09 50 49.7
comp=Z,26nm,1.3s
FETA Feichten 81.44 334 *eP* **P 09 50 49.0 +0.8**
comp=Z,2.9nm,0.6s
DAVA Damuels 81.46 334 *eP* **P 09 50 49.0 +0.7**
comp=Z,3.4nm,0.4s
STAL STALIGIAL 81.48 332 P **P 09 50 47.4 -0.9**
TRI Trieste 81.62 331 P **P 09 50 48.2 -0.7**
TRI IAmb IAmb 09 50 49.8
comp=Z,6.3nm,0.6s
TRI Trieste 81.62 331 P **P 09 50 48.3 -0.7**
TRI pmax pmax
comp=Z,6.0nm,0.6s
PMOR Pomariorio Ree 81.62 121 *eT* T 11 20 57.1
comp=Z,10nm,0.2s
P49A Miami Univ. Ec 81.63 40 P **P 09 50 49.2 +0.1**
baz=324
MANT Manisa 81.68 318 P **P 09 50 50.2 +0.5**
MANT IAmb IAmb 09 50 51.2
comp=Z,17nm,0.6s
TAOE Nuku Hiva Isla 81.81 111 *eLR* LR 10 15 58.2
comp=Z,83nm,26.4s
M53A Wl Miller and 81.83 37 P **P 09 50 50.0 -0.2**
baz=326
FUORN Ofenpass-Fuorn 81.94 334 P **P 09 50 51.5 +0.5**
FUORN IAmb IAmb 09 50 59.5
comp=Z,6.9nm,0.8s
WCI Wyandotte Cave 81.95 42 P **P 09 50 51.0 +0.2**
baz=324
CTI Castel Tesino 82.01 333 P **P 09 50 50.8 -0.4**
CTI IAmb IAmb 09 50 52.0
comp=Z,13nm,1.1s
CTI Castel Tesino 82.01 333 P **P 09 50 50.8 -0.4**
CTI pmax pmax
comp=Z,13nm,1.1s
TUE Stuetta 82.35 334 P **P 09 50 53.5 +0.4**
TUE IAmb IAmb 09 50 57.7
comp=Z,16nm,0.8s
PDG Podgorica 82.44 326 ⇓P **P 09 50 52.4 -0.9**
PDG Podgorica 82.44 326 P **P 09 50 53.4 +0.1**
PDG IAmb IAmb 09 50 54.2
comp=Z,16nm,0.6s
MMAI Mount Meron Ar 82.52 310 P **P 09 50 54.5 +0.5**
comp=Z,11nm,0.6s,baz=45,slow=7.2,SNR=18
MMAI LR LR 10 30 12.1
comp=Z,55nm,20.9s,baz=7.5,slow=38
comp=Z,11nm,0.6s
PPT Papeete 82.64 124 LR LR 10 17 41.7
comp=Z,33nm,21.7s,baz=312,slow=28
PPT2 Papeete2 82.65 124 *eT* T 11 22 24.8
comp=Z,3.4nm,0.3s
P52A Corning 82.70 39 P **P 09 50 54.7 -0.1**
baz=326
SALO Salr 82.75 333 P **P 09 50 54.9 -0.1**
SALO IAmb IAmb 09 50 57.0
comp=Z,22nm,0.9s
TIAR Tiarei 82.76 124 *eT* T 11 22 33.1
comp=Z,0.9nm,0.2s
PKME Peaks-Kenny Pk 82.78 27 P **P 09 50 54.5 -0.6**
baz=333
SSFO Shawnee State 83.00 40 P **P 09 50 56.8 +0.5**
OXF Oxford 83.37 46 P **P 09 50 57.8 -0.5**
baz=322
SSPA Standing Stone 83.66 35 P **P 09 50 59.0 -0.7**
baz=328
GHAJ Ghor Haditha 83.75 309 IAmb IAmb 09 51 02.7
comp=Z,17nm,1.0s
FDMO Fiordimonte 84.20 330 P **P 09 51 03.0 +0.6**
FDMO IAmb IAmb 09 51 04.1
comp=Z,18nm,0.7s
NRCA Norcia 84.36 330 P **P 09 51 03.7 +0.4**
NRCA IAmb IAmb 09 51 06.1
comp=Z,17nm,0.7s
OSSC Osservatorio P 84.39 332 P **P 09 51 03.8 +0.5**
OSSC IAmb IAmb 09 51 04.5
comp=Z,8.3nm,0.6s
BNI Bardonecchia 84.43 336 P **P 09 51 04.6 +0.9**
BNI IAmb IAmb 09 51 05.9
comp=Z,9.2nm,0.8s
BNI Bardonecchia 84.43 336 P **P 09 51 04.6 +0.9**
BNI pmax pmax
comp=Z,9.0nm,0.8s
CAMP Campotosto 84.52 330 P **P 09 51 04.6 +0.5**
CAMP IAmb IAmb 09 51 05.3
comp=Z,14nm,1.0s
KARP Karpathos 84.71 317 P **P 09 51 05.7 +0.6**
SCTE Santa Cesarea 84.76 325 P **P 09 51 05.1 -0.1**
SSB Saint Sauveur 84.83 337 P **P 09 51 05.4 -0.2**
SSB IAmb IAmb 09 51 08.6
comp=Z,14nm,0.8s
SSB Saint Sauveur 84.83 337 P **P 09 51 05.4 -0.2**
SSB pmax pmax
comp=Z,14nm,0.8s
MATE Matera 84.96 327 ⇑P **P 09 51 04.8 -1.4**
EIL Elat 85.34 308 LR LR 10 31 57.9
comp=Z,27nm,20.6s,baz=63,slow=38
BLA Blacksburg 85.46 39 P **P 09 51 08.9 +0.1**
baz=327
URZ Urewera 86.66 160 LR LR 10 24 41.9
comp=Z,24nm,20.1s,baz=47,slow=32
KMSC Kings Mountain 86.77 41 P **P 09 51 14.9 -0.3**
baz=326
GOGA Godfrey 87.19 43 P **P 09 51 17.2 -0.2**
baz=325
POLO Lamas de Olo 91.42 344 *eP* **P 09 51 36.0 -1.2**
comp=Z,7.9nm,1.3s
KEST Kesra 92.01 330 P **P 09 51 40.6 +0.6**
KEST Kesra 92.01 330 P **P 09 51 39.2 -0.8**
comp=Z,12nm,0.9s,baz=297,slow=0.8,SNR=10
comp=Z,12nm,0.9s
ESDC Sonseca Array 92.24 341 P **P 09 51 40.0 -1.0**
comp=Z,1.1nm,0.7s,baz=8.3,slow=3.4,SNR=7.1
ESDC LR LR 10 39 33.9
comp=Z,30nm,19.3s,baz=336,slow=40
comp=Z,1.1nm,0.7s
MTE Manteigas 92.31 344 *eP* **P 09 51 42.3 +1.0**
PMRV Marv??o 93.22 343 *eP* **P 09 51 47.1 +1.7**
comp=Z,16nm,1.6s
MDT Midelt 98.94 339 LR LR 10 44 54.8
comp=Z,19nm,18.8s,baz=54,slow=40
TORD Torodi Ar. Bea 115.35 327 PKP **PKiKP 09 57 11.8 -0.9**
comp=Z,0.3nm,0.5s,baz=19,slow=2.9,SNR=4.8

SGCB	S.o Gabriel d	123.67	48	eP		PKiKP	09 57 29.8	+0.8
TBTG	Tabatinga, AM	125.50	53	eP		PKiKP	09 57 36.1	+3.5
CZSB	Cruzeiro do Su	126.72	59	eP		PKiKP	09 57 36.1	+1.1
ITTB	Itaituba	132.78	38	eP		PKiKP	09 57 49.0	+1.8
H03N2	Juan Fernandez	140.16	90	T		T	12 34 56.2	
	baz=306,slow=77,SNR=43							
H03N1	Juan Fernandez	140.18	90	T		T	12 35 08.7	
	baz=306,slow=77,SNR=47							
H03N3	Juan Fernandez	140.18	90	T		T	12 35 16.0	
	baz=306,slow=77,SNR=37							
ELIB	Princess Elisa	144.11	205	dPKPdf		PKPdf	09 58 05.0	-0.2
ELIB				dpPKPdf		pPKPdf	09 58 24.3	-1.5
SDBA	SAO DESIDERIO	144.28	27	eP		PKPdf	09 58 08.3	+1.3
ARAG	Araguaiana, MT	144.58	40	eP		PKiKP	09 58 11.1	-0.1
BDFB	Brasilia	146.14	34	PKPbc		PKPbc	09 58 11.6	+0.3
	comp=Z,1.7nm,0.4s,baz=255,slow=12,SNR=3.5							
ITRB	Iturama	148.73	42	eP		PKPbc	09 58 18.0	-0.2
AMBA	Amambai (Brazi	149.04	52	eP		PKPbc	09 58 18.6	-0.4
PLCA	Paso Flores	149.50	96	PKPbc		PKPbc	09 58 18.2	-1.4
	comp=Z,2.2nm,0.7s,baz=344,slow=1.8,SNR=5.1							
TROLL	Troll, Antarti	149.61	199	⇓PKPbc		PKiKP	09 58 19.8	-0.3
	comp=Z,73nm,0.6s							
CPUP	Villa Florida	150.29	59	PKPbc		PKPbc	09 58 21.4	-0.5
	comp=Z,1.7nm,0.9s,baz=317,slow=8.6,SNR=4.0							
VNA2	Neumayer--Watz	152.48	195	⇓PKPbc		PKiKP	09 58 26.4	+0.5
	comp=Z,3.0nm,0.6s,baz=146,slow=1.0							
VNA3	Neumayer Olymp	152.61	193	⇓PKPbc		PKiKP	09 58 26.3	+0.2
	comp=Z,1.4nm,0.7s							

*SFS **27** 09:45:35.5, 32.°58N×6.°70W, h22km, ML3.2/6, ML3.1/4, MLv3.2/6*
*MDD **27** 09:45:36.5±1.6, 32.°69N×6.°66W, h7km±11km, Mb3.9/4, M_mb3.2/4, Error ellipse: s-maj=7.1km s-min=5.1km az=98.0*
ISC 27 09:45:33.3±1.2, 32.°62N±0.°05×6.°77W±0.°06, h10km, n10, σ2°9°02/15, 4C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVE	Averroes	0.87	321	Pg	Pn	09 45 51.5	-0.1
AVE				Sg	Sn	09 46 05.6	+1.3
IFR	Ifrane	1.64	57	Pg	Pn	09 46 02.4	0.0
IFR				Sn	Sn	09 46 22.6	-1.0
TIO	Tiouine	1.74	194	Pn	Pn	09 46 03.3	-0.4
TIO				Sg	Sb	09 46 28.2	+0.8
EMIJ	Mijas	4.26	22	⇑iVmb_V		09 46 39.3	
	66nm,SNR=1.1						
EMIJ				S	Sn	09 47 29.7	+1.6
PFVI	Vila Bisbo	4.81	340	Pn	Pn	09 46 46.5	+0.7
PVAQ	Vaqueiros	4.83	351	Pn	Pn	09 46 46.7	+0.7
EGRO	El Granado	4.94	353	P	Pn	09 46 48.7	+1.2
EGRO				⇑iVmb_V		09 46 48.7	
	111nm,SNR=1.1						
EGRO	El Granado	4.94	353	Pn	Pn	09 46 47.9	+0.4
EGRO				Sn	Sn	09 47 41.4	-3.2
EADA	Adamuz	5.81	17	P	Pn	09 47 00.5	+0.9
EADA				⇑iVmb_V		09 47 03.0	
	45nm,SNR=1.4						
EADA				S	Sn	09 48 01.5	-4.8
EZAR	Zarzadilla de	6.68	37	P	Pn	09 47 14.0	+2.4
EZAR				⇑iVmb_V		09 47 14.7	
	140nm,SNR=1.7						

IDC 27 09:51:57.7±752.0, 52.°76N×5.°20E, h0km, Error ellipse: s-maj=316.0km s-min=138.7km az=121.0, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	FREYUNG INFRAS	6.66	123	I	I	10 30 00.0	
	0.1nm,0.6s,baz=308,slow=313,SNR=0.9						
I48TN	KESRA INFRASON	17.20	169	I	I	11 39 30.0	
	baz=349,slow=316,SNR=4.5						
I43RU	DUBNA INFRASON	18.80	65	I	I	11 43 00.0	
	baz=270,slow=330,SNR=1.6						

*NNC **27** 10:06:10.3±2.9, 53.°72N×90.°85E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=24.4km s-min=20.5km az=172.0, Suspected Mining explosion.*
*IDC **27** 10:06:16.4±3.8, 53.°53N×90.°61E, h0km, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=36.0km s-min=25.5km az=31.0*
ISC 27 10:06:11.1±4.4, 54.°1N±0.°2×90.°6E±0.°2, h0km, n8, σ1°9°35/9, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.42	270	⇓Pg	Pg	10 07 15.1	-1.5
	2.2nm,0.8s						
ZAA0				⇓Lg	Lg	10 08 04.4	
	10nm,1.2s						
ZALV	Zalesovo Beam	3.42	270	Pn	Pb	10 07 13.0	+0.5
	2.3nm,0.3s,baz=92,slow=16,SNR=12						
ZALV				Lg	Lg	10 08 03.9	
	1.5nm,0.3s,baz=97,slow=23,SNR=3.1						
	3.4nm,0.3s						
KURK	Kurchatov	8.08	250	⇑Pn	Pn	10 08 10.2	+0.6
	3.2nm,0.9s						
KURK				⇓Sn	Sn	10 09 42.0	+0.5
	7.9nm,0.9s						
KURK				⇓Lg	Lg	10 10 30.4	
	31nm,1.1s						
KURBB	Kurchatov Arra	8.18	250	⇑Pn	Pn	10 08 10.1	-0.8
	3.9nm,0.8s,baz=65,slow=14						
KURBB				⇑Sn	Sn	10 09 44.3	+0.4
	30nm,1.1s						
KURBB				⇑Lg	Lg	10 10 33.4	
	41nm,1.2s						
KURBB	Kurchatov Arra	8.18	250	Pn	Pn	10 08 13.5	+2.6
	0.1nm,0.3s,baz=66,slow=15,SNR=5.2						
KURBB				Sn	Sn	10 09 44.0	+0.1
	baz=66,slow=25,SNR=1.5						
KURBB				Lg	Lg	10 10 32.1	
	baz=68,slow=33,SNR=3.8						
	1.2nm,0.4s						
MK31	Makanchi Array	9.04	219	⇓Lg	Lg	10 10 49.5	
	11nm,1.1s,baz=248,slow=13,SNR=6.9						
MKAR	Makanchi Array	9.04	219	Pn	Pn	10 08 22.6	-0.2
	0.3nm,0.3s,baz=31,slow=12,SNR=5.5						
MKAR				Lg	Lg	10 10 48.5	
	0.1nm,0.3s,baz=28,slow=25,SNR=1.6						
	0.4nm,0.3s						
I34MN	SONGINO INFRAS	11.78	116	I	I	11 14 20.0	
	baz=310,slow=328,SNR=0.8						

*IDC **27** 10:14:50.7±0.7, 2.°09N×96.°67E, h0km, mb4.4/18, mbtmp4.4/19, ML4.4/1, MS3.6/21, Error ellipse: s-maj=24.2km s-min=14.6km az=55.0*
*DJA **27** 10:14:54.0±0.7, 2.°N±4.°×9.°7E±.°, h10km, M4.6/8, mb4.7/3, mB5.0/1, MLv4.5/8, Mw(mB)4.3/1*
*NEIC **27** 10:14:54.3±1.9, 2.°08N±0.°06×96.°53E±0.°06, h21km±6km, mb4.6/51, Error ellipse: s-maj=11.1km s-min=7.3km az=45.0*
*BJI **27** 10:14:57.9±0.0, 2.°01N×96.°65E, h75km, mb4.8/49, mB5.0/21, Ms4.0/5, Ms7 3.8/4*
ISC 27 10:14:52.2±0.5, 2.°05N±0.°05×96.°56E±0.°07, h10km, n136, σ1°9°05/109, mb4.6/58, MS3.7/22, 1C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.26	126	Pn	Pn	10 15 16.4	+0.5
GSI	Gunungsitoli	1.26	126	P	Pn	10 15 16.1	+0.2
KCSI	Kotacane, Aceh	1.90	40	P	Pn	10 15 24.9	+0.3
MLSI	Meulaboh, Aceh	2.20	356	P	Pn	10 15 29.9	+1.0
MLSI				S	Sn	10 15 57.7	+1.5
RPSI	Rantau Prapat	2.45	75	Pn	Pn	10 15 32.8	+0.6
PBSI	Pulau Batu	2.71	141	P	Pn	10 15 36.3	+0.5
LHMI	Lhok Sumawe	3.18	7	Pn	Pn	10 15 40.5	-1.7
LHMI	Lhok Sumawe	3.18	7	P	Pn	10 15 43.5	+1.2
KULM	Kulim	5.20	52	Pn	Pn	10 16 10.4	+0.4
PPSI	Pulau Pagai	5.90	144	P	Pn	10 16 23.0	+3.3
	97nm,1.2s,0.5nm						
SRIT	Nakonsritamara	7.17	25	Pn	Pn	10 16 37.3	+0.2
MYKOM	Kota Tinggi	7.29	92	Pn	Pn	10 16 39.7	+0.8
SBUM	Sibu	15.65	88	Pn	Pn	10 18 32.5	-0.6
CM31	Chiang Mai Arr	16.47	8	Pn	Pn	10 18 43.5	-0.1
CMAR	Chiang Mai Arr	16.47	8	Pn	Pn	10 18 43.0	-0.6
	0.5nm,0.3s,baz=197,slow=12,SNR=75						
CMAR				LR	LR	10 25 37.0	
	comp=Z,130nm,18.5s,baz=185,slow=39						
	16nm,0.8s						
PALK	Pallekele	16.63	289		Pn	10 18 44.0	-1.6
PALK	Pallekele	16.63	289	LR	LR	10 24 46.5	
	comp=Z,181nm,20.0s,baz=228,slow=36						
UGM	Wanagama	17.09	126	Pn	Pn	10 18 50.4	-1.1
CRAI	Chiangrai	18.44	11	P	P	10 19 06.9	-1.2
JAGI	Jajag, Banyuwa	20.42	121	P	P	10 19 29.0	-0.7
JAGI				IAmb	IAmb	10 19 29.2	
	comp=Z,41nm,1.4s						
SLVN	Son La	20.46	20	P	P	10 19 30.0	-0.1
QIZ	Qiongzhong	21.30	37	P	P	10 19 40.8	+1.5
QIZ				LR	LR		
	comp=Z,290nm,12.6s						
QIZ				LR	LR		
	comp=Z,220nm,10.4s						
MYLDM	Lahad Datu	22.11	81	P	P	10 19 48.7	+0.7
MYLDM				IAmb	IAmb	10 19 51.5	
	comp=Z,19nm,0.8s						
TNCH	TengChong	22.92	5	eP	P	10 19 58.0	+1.3
KAAM	Kaadhehdhoo	23.61	267	P	P	10 20 03.3	-0.3
KMI	Kunming	23.70	14	⇑P	P	10 20 04.5	-0.1
KMI				pmax	pmax		
	comp=Z,13nm,1.4s						
KMI				LR	LR		
	comp=Z,130nm,18.2s						
KMI				LR	LR		
	comp=Z,190nm,16.2s						
KMI				LR	LR		
	comp=Z,250nm,17.4s						
SHL	Shillong	23.81	349	P	P	10 20 03.4	-2.2
MNCI	Minicoy	24.20	286	P	P	10 20 08.2	-1.0
MNCI				IAmb	IAmb	10 20 36.3	
	comp=Z,24nm,1.3s						
PZH	PanZhiHua	24.81	11	P	P	10 20 16.3	+1.5
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,130nm,5.1s						
H08S2	Diego Garcia H	25.87	248	T	T	10 47 10.9	
	baz=69,slow=76,SNR=423						
H08S3	Diego Garcia H	25.87	248	T	T	10 47 11.1	
	baz=69,slow=76,SNR=2273						
H08S1	Diego Carcia H	25.89	248	T	T	10 47 12.2	
	baz=69,slow=76,SNR=74						
GYA	Guiyang	26.14	21	⇓P	P	10 20 28.5	+1.7
GYA				pmax	pmax		
	comp=Z,22nm,0.8s						
LSA	Lhasa	27.97	350	P	P	10 20 44.6	+1.0
LSA				IAmb	IAmb	10 20 45.6	
	comp=Z,15nm,1.0s						
BATI	Baumata	29.61	115	LR	LR	10 34 44.6	
	comp=Z,184nm,20.5s,baz=266,slow=40						
YULB	Yu-li	32.01	47	P	P	10 21 17.1	-1.9
XAN	Xi'an	33.85	19	P	P	10 21 33.3	-1.7
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GOMU	GeErMu	34.01	357	P	P	10 21 36.5	-0.3
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LZH	Lanzhou	34.53	10	eP	P	10 21 44.0	+3.0
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				LR	LR		
	comp=Z,190nm,17.5s						
KNRA	Kununurra	36.39	120	P	P	10 21 55.9	-1.2
KNRA				IAmb	IAmb	10 21 58.5	
	comp=Z,20nm,1.4s						
NJ2	Nanjing	36.49	33	eP	P	10 22 00.5	+2.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,240nm,3.8s						
GTA	Gaotai	37.30	4	⇓P	P	10 22 05.0	+0.3
GTA				pmax	pmax		
	comp=Z,23nm,0.8s						
MTN	Manton Dam	37.38	114	P	P	10 22 05.3	-0.2
MTN				IAmb	IAmb	10 22 28.4	
	comp=Z,15nm,1.2s						
NIL	Nilore	38.26	328	P	P	10 22 13.9	+1.2
NWAO	Narrogin (SRO)	39.91	152	LR	LR	10 37 57.6	
	comp=Z,94nm,19.0s,baz=272,slow=35						
H01W3	Cape Leeuwin H	40.27	157	T	T	11 05 16.9	
	baz=333,slow=76,SNR=38						
H01W2	Cape Leeuwin H	40.29	157	T	T	11 05 17.9	
	baz=333,slow=76,SNR=36						
H01W1	Cape Leeuwin H	40.29	157	T	T	11 05 18.2	
	baz=333,slow=76,SNR=35						
HHC	Hu-ho-hao-te	40.93	17	eP	P	10 22 34.3	-0.8
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,5.2s						
KSH	Kashi	41.73	336	P	P	10 22 43.0	+1.3
KSH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BJT	Baijiatuau	41.77	23	P	P	10 22 41.6	-0.2
BJI	Beijing	41.80	23	P	P	10 22 42.0	0.0
BJI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WMQ	Urumqi	42.33	350	eP	P	10 22 48.3	+1.9
TARG	Taragay, Kyrgy	42.95	339	P	P	10 22 51.2	-0.7
TARG				IAmb	IAmb	10 22 56.3	
	comp=Z,14nm,1.0s						
WB0	Warramunga Arr	43.00	122	P	P	10 22 51.5	-0.7
WB0				IAmb	IAmb	10 22 52.4	
	comp=Z,5.8nm,0.6s						
WRA	Warramunga Arr	43.03	122	P	P	10 22 52.8	+0.4
WRA	Warramunga Arr	43.03	122	P	P	10 22 51.8	-0.6
	comp=Z,2.7nm,0.6s,baz=300,slow=9.3,SNR=38						
WRA				PcP	PcP	10 24 42.3	-0.4
	comp=Z,0.5nm,0.7s,baz=315,slow=2.6,SNR=2.3						
	comp=Z,2.7nm,0.6s						
WRAB	Tennant Creek	43.03	122	P	P	10 22 52.1	-0.3
WRAB				IAmb	IAmb	10 22 53.1	
	comp=Z,22nm,1.5s						
WB2	Warramunga Arr	43.04	122	P	P	10 22 52.1	-0.4
WB2				IAmb	IAmb	10 22 53.0	
	comp=Z,8.2nm,1.1s						
WR0	Warramunga Arr	43.21	122	P	P	10 22 53.3	-0.5
WR0				IAmb	IAmb	10 23 10.6	
	comp=Z,7.4nm,0.9s						
NRN	Naryn	43.36	337	P	P	10 22 56.3	+1.2
NRN				IAmb	IAmb	10 22 57.4	
	comp=Z,6.5nm,0.8s						
BOOM	Boomskoye usch	44.29	338	P	P	10 23 03.6	+1.1
BOOM				IAmb	IAmb	10 23 04.6	
	comp=Z,4.9nm,0.7s						
AS31	Alice Springs	44.42	127	P	P	10 23 03.3	-0.3
ASAR	Alice Springs	44.42	127	P	P	10 23 03.3	-0.3
ASAR	Alice Springs	44.42	127	P	P	10 23 03.5	0.0
	comp=Z,2.8nm,0.8s,baz=302,slow=8.0,SNR=28						
ASAR				PcP	PcP	10 24 47.3	-0.1
	comp=Z,0.4nm,0.7s,baz=292,slow=3.7,SNR=2.6						
	comp=Z,2.8nm,0.8s						
TJN	Taejon	44.46	36	P	P	10 23 02.5	-1.1
BTK	Batken	44.46	332	P	P	10 23 06.0	+2.2
ARSB	Arslanbob	44.50	335	P	P	10 23 05.7	+1.6
ARSB				IAmb	IAmb	10 23 08.6	
	comp=Z,5.8nm,1.1s						
JNU	Nakatsue	44.60	42	LR	LR	10 43 17.3	
	comp=Z,64nm,18.8s,baz=230,slow=38						
AAK	Ala-Archa	44.97	337	P	P	10 23 07.9	+0.1
AAK				IAmb	IAmb	10 23 12.8	
	comp=Z,6.1nm,1.0s						
XLT	XiLinHaoTe	45.13	20	eP	P	10 23 20.5	+12
XLT				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,110nm,5.4s						
KSAR	Wonju Array Be	45.49	35	P	P	10 23 10.4	-1.4
KS19	Wonju Array Si	45.52	35	P	P	10 23 11.4	-0.7
KS19				IAmb	IAmb	10 23 12.0	
	comp=Z,7.4nm,0.8s						
KSRS	Korea Array	45.52	35	P	P	10 23 10.5	-1.5
	comp=Z,4.3nm,0.8s,baz=225,slow=9.5,SNR=22						
KSRS				LR	LR	10 42 48.8	
	comp=Z,81nm,19.7s,baz=225,slow=37						
	comp=Z,4.3nm,0.8s						
MK31	Makanchi Array	46.27	346	P	P	10 23 18.5	+0.7
MKAR	Makanchi Array	46.27	346	P	P	10 23 18.6	+0.8
MKAR	Makanchi Array	46.27	346	P	P	10 23 17.6	-0.2
	comp=Z,17nm,0.7s,baz=159,slow=7.8,SNR=52						
MKAR				LR	LR	10 46 54.7	
	comp=Z,64nm,18.1s,baz=109,slow=42						
	comp=Z,17nm,0.7s						
MAKZ	Makanchi	46.35	346	P	P	10 23 18.2	-0.3
SONM	Songino Array	46.39	9	P	P	10 23 19.6	+0.6
SONM				IAmb	IAmb	10 23 20.4	
	comp=Z,7.4nm,0.9s						
SONM	Songino Array	46.39	9	P	P	10 23 19.5	+0.6
	comp=Z,7.5nm,0.8s,baz=189,slow=8.8,SNR=27						
	comp=Z,7.5nm,0.8s						
ULN	Ulaanbaatar	46.53	10	P	P	10 23 19.3	-0.8
ULN				IAmb	IAmb	10 23 21.2	
	comp=Z,5.8nm,0.8s						
JMN	Monobe	47.00	44	P	P	10 23 23.7	-0.1
KK31	Karatay Array	47.01	334	P	P	10 23 25.3	+1.5
KK31				IAmb	IAmb	10 23 29.4	
	comp=Z,4.4nm,0.9s						
KKAR	Karatay Array	47.01	334	P	P	10 23 24.7	+0.9
CN2	Changchun	48.84	28	P	P	10 23 37.8	-0.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GUMO	Guam	49.11	74	LR	LR	10 43 54.2	
	comp=Z,28nm,21.5s,baz=278,slow=36						
GEYT	Alibeck	50.15	320	P	P	10 23 48.2	+0.2
	comp=Z,3.0nm,0.6s,baz=128,slow=9.6,SNR=6.1						
	comp=Z,3.0nm,0.6s						
KURBB	Kurchatov Arra	50.75	345	P	P	10 23 53.0	+0.8
	comp=Z,6.4nm,0.7s,baz=166,slow=7.0,SNR=50						
	comp=Z,6.4nm,0.7s						
KURK	Kurchatov	50.81	345	P	P	10 23 53.6	+0.9
KURK				IAmb	IAmb	10 23 54.5	
	comp=Z,8.0nm,0.9s						
BNX	BinXian	51.22	27	⇓P	P	10 23 55.5	-0.4
BNX				pmax	pmax		
	comp=Z,15nm,0.8s						
BNX				pmax	pmax		
	comp=Z,120nm,4.7s						
MDJ	Mudanjiang	51.44	30	P	P	10 23 58.0	+0.4
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,210nm,4.6s						
MJAR	Matsushiro Arr	51.50	43	P	P	10 23 57.9	-0.3
	comp=Z,1.8nm,0.8s,baz=213,slow=5.7,SNR=4.9						
	comp=Z,1.8nm,0.8s						
USA0B	Ussuriysk Arra	52.38	32	P	P	10 24 04.3	-0.2
USA0B				IAmb	IAmb	10 24 06.1	
	comp=Z,13nm,1.4s						
USRK	Ussuriysk Ar.	52.38	32	P	P	10 24 04.6	0.0
USRK	Ussuriysk Ar.	52.38	32	P	P	10 24 03.1	-1.5
	comp=Z,3.4nm,0.8s,baz=231,slow=6.6,SNR=9.6						
	comp=Z,3.4nm,0.8s						
ZAA0	Zalesovo Array	52.62	351	P	P	10 24 06.8	+0.6
ZALV	Zalesovo Beam	52.62	351	P	P	10 24 06.8	+0.6
	comp=Z,26nm,0.8s,baz=176,slow=7.0,SNR=62						
ZALV				LR	LR	10 49 22.0	
	comp=Z,31nm,18.1s,baz=51,slow=39						
	comp=Z,26nm,0.8s						
CTA	Charters Tower	53.46	117	LR	LR	10 48 07.5	
	comp=Z,67nm,20.6s,baz=268,slow=37						
CTAO	Charters Tower	53.46	117	P	P	10 24 13.1	+0.1
CTAO				IAmb	IAmb	10 24 23.1	
	comp=Z,7.7nm,1.2s						
JMM	Marumori	53.95	43	P	P	10 24 15.8	-0.5
HEH	HeiHe	54.69	24	eP	P	10 24 21.3	-0.1
HEH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BVAR	Borovoye Array	55.24	341	P	P	10 24 25.4	0.0
	comp=Z,4.2nm,0.6s,baz=143,slow=8.6,SNR=25						
	comp=Z,4.2nm,0.6s						
BRVK	Borovoye	55.30	341	P	P	10 24 25.9	+0.1
BRVK				IAmb	IAmb	10 24 30.3	
	comp=Z,4.9nm,0.8s						
KLR	Kul'dur	55.79	27	LR	LR	10 52 05.3	
	comp=Z,102nm,18.9s,baz=206,slow=40						
ABKAR	Akbulak array	56.46	332	P	P	10 24 35.1	+0.9
ASAJ	Asahikawa	58.37	38	LR	LR	10 49 42.5	
	comp=Z,55nm,20.5s,baz=103,slow=36						
H04N2	CROZET ISLANDS	62.12	214	T	T	11 32 39.2	
	baz=52,slow=75,SNR=3768						
H04N1	CROZET ISLANDS	62.13	214	T	T	11 32 38.1	
	baz=52,slow=75,SNR=3847						
H04N3	CROZET ISLANDS	62.14	214	T	T	11 32 39.9	
	baz=52,slow=75,SNR=3918						
ARU	Arti	62.15	337	LR	LR	10 54 37.5	
	comp=Z,47nm,20.4s,baz=76,slow=38						
H04S1	CROZET ISLANDS	62.47	213	T	T	11 33 26.4	
	baz=51,slow=75,SNR=695						
H04S3	CROZET ISLANDS	62.48	213	T	T	11 33 23.8	
	baz=51,slow=75,SNR=1036						
H04S2	CROZET ISLANDS	62.49	213	T	T	11 33 26.7	
	baz=51,slow=75,SNR=798						
KBZ	Khabaz	63.01	319	P	P	10 25 20.0	+0.6
	comp=Z,2.2nm,0.8s,baz=131,slow=3.7,SNR=5.0						
	comp=Z,2.2nm,0.8s						
KIRV	Kirov	67.27	335	LR	LR	10 57 04.1	
	comp=Z,39nm,19.1s,baz=44,slow=38						
BRTR	Keskin Array B	68.07	312	P	P	10 25 52.8	+0.3
	comp=Z,1.1nm,0.7s,baz=127,slow=7.9,SNR=5.5						
	comp=Z,1.1nm,0.7s						
LSZ	Lusaka	69.75	253	LR	LR	10 52 19.5	
	comp=Z,71nm,21.3s,baz=88,slow=32						
DZM	Mont Dzumac	72.21	114	LR	LR	10 59 27.8	
	comp=Z,48nm,19.6s,baz=216,slow=37						
TIXI	Tiksi	72.46	10	P	P	10 26 17.7	-0.8
TIXI				IAmb	IAmb	10 26 18.6	
	comp=Z,4.3nm,0.8s						
MAW	Mawson	73.40	193	P	P	10 26 24.7	+0.6
	comp=Z,1.9nm,0.9s,baz=331,slow=10,SNR=3.8						
	comp=Z,1.9nm,0.9s						
AKASG	Malin Array Be	74.19	322	P	P	10 26 29.0	-0.2
	comp=Z,0.2nm,0.3s,baz=90,slow=5.3,SNR=4.8						
	comp=Z,0.2nm,0.3s						
BOSA	Boshof	74.65	240	LR	LR	10 54 46.6	
	comp=Z,46nm,18.1s,baz=20,slow=32						
BURAR	Bucovina Array	75.96	319	P	P	10 26 39.7	+0.1
NACGM	Naroch	76.79	326	eP	P	10 26 41.9	-2.1
	comp=Z,8.0nm,0.6s,baz=106						
FINES	FINESS Array B	78.95	333	P	P	10 26 55.9	+0.1
	comp=Z,3.1nm,0.7s,baz=112,slow=6.2,SNR=9.3						
	comp=Z,3.1nm,0.7s						
RPZ	Rata Peaks	80.26	135	LR	LR	11 02 40.9	
	comp=Z,45nm,20.3s,baz=280,slow=36						
ARCES	ARCESS Array B	81.52	340	P	P	10 27 10.6	+0.9
	comp=Z,6.3nm,1.0s,baz=77,slow=5.5,SNR=7.9						
	comp=Z,6.3nm,1.0s						
PRED	Cave del Predi	83.68	316	P	P	10 27 20.8	-0.6
PRED				IAmb	IAmb	10 27 23.0	
	comp=Z,3.3nm,0.9s						
GEC2	GERESS Array S	83.75	319	P	P	10 27 20.7	-1.0
GEC2				IAmb	IAmb	10 27 32.7	
	comp=Z,5.7nm,1.2s						
GERES	GERESS Array B	83.75	319	P	P	10 27 21.8	0.0
GERES	GERESS Array B	83.75	319	P	P

KRMR	**Karymshinskiy**	**6.36 265**	*e*P	Pn	10 20 30.0	+4.1
KRMR			*e*S	Sn	10 21 43.1	+5.4
MTVR	**Mutnovka**	**6.42 262**	*e*P	Pn	10 20 32.1	+5.3
MTVR			*e*S	Sn	10 21 43.5	+4.1

*NNC **27** 10:37:37.2±1.1,51.°48N×75.°21E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=63.7km s-min=5.4km az=24.0, Suspected Mining explosion.*
*IDC **27** 10:37:44.7±1.0,51.°71N×75.°78E, h0km, mbtmp2.7/4, ML1.9/4, Error ellipse: s-maj=26.5km s-min=8.8km az=29.0.*

ISC 27 10:37:43.5±1.5,51.°7N±0.°2×75.°8E±0.°1, h0km, n10, σ1§33/8, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov** 4.9nm,0.9s	**2.05 119**		⇑Pg	**Pn**	**10 38 18.7**	**-0.5**
KURK	12nm,0.7s			⇑Lg	Lg	10 38 48.0	
KURBB	**Kurchatov Arra** 4.9nm,0.6s	**2.05 122**		⇓Pg	**Pn**	**10 38 19.2**	**-0.1**
KURBB	36nm,0.6s			⇑Lg	Lg	10 38 50.1	
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=305,slow=18,SNR=23	**2.05 122**		Pn	**Pn**	**10 38 20.7**	**+1.5**
KURBB	0.2nm,0.3s,baz=305,slow=32,SNR=6.6 4.6nm,0.9s			Lg	Lg	10 38 50.2	
BVA0	**Borovoye Array** 3.4nm,1.0s,baz=103,slow=15,SNR=6.5	**3.55 293**		⇑Pg	**Pn**	**10 38 37.8**	**-2.0**
BVA0	6.7nm,0.8s,baz=119,slow=27,SNR=6.9			⇑Lg	Lg	10 39 24.4	
BVAR	**Borovoye Array** baz=112,slow=16,SNR=6.7	**3.55 293**		Pn	**Pn**	**10 38 41.1**	**+1.2**
BVAR	0.1nm,0.3s,baz=110,slow=25,SNR=5.2 1.8nm,0.8s			Sn	**Sn**	**10 39 22.6**	**0.0**
BRVK	**Borovoye** 12nm,1.1s	**3.62 293**		⇑Lg	Lg	10 39 24.7	
I46RU	**ZALESOVO INFRA** baz=251,slow=317,SNR=1.9	**5.90 64**		I	I	11 14 00.0	
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=247,slow=29,SNR=3.2 0.5nm,0.4s	**5.90 64**		Pn	**Pn**	**10 39 12.5**	**+0.5**
MK31	**Makanchi Array** 3.5nm,0.8s,baz=326,slow=24,SNR=4.7	**6.53 137**		⇓Lg	Lg	10 41 04.9	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=321,slow=14,SNR=1.7	**6.53 137**		Pn	**Pn**	**10 39 19.9**	**-0.8**
MKAR	0.2nm,0.3s,baz=323,slow=31,SNR=6.1 0.9nm,0.9s			Lg	Lg	10 41 09.2	

*IDC **27** 11:51:37.9±1.5,36.°51N×141.°13E, h0km, mb3.4/2, mbtmp3.4/3, ML2.7/1, MS2.6/1, Error ellipse: s-maj=31.4km s-min=27.0km az=140.0*
*JMA **27** 11:51:43.5±0.1,36.°6N±0.°3×140.°9E±0.°7, h49km±1km, MV3.5/40, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
*NIED **27** 11:51:43.5,36.°64N×140.°93E, h49km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.50; $M_{\theta\theta}$-0.84; $M_{\phi\phi}$-0.66; $M_{r\theta}$0.19; $M_{\phi\theta}$-0.91; $M_{\phi r}$1.57; Fault plane solution: $M_0$2.23000×10^{14} NP1:ϕ_s22.00000°, δ68.00000°, λ68.00000°. NP2:ϕ_s249.00000°, δ30.00000°, λ133.00000°.*

ISC 27 11:51:43.1±1.2,36.°63N±0.°05×141.°0E±0.°1, h40km±10km, n21, σ0§67/23, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.38 267**		⇓*i*P	**Pn**	**11 51 52.6**	**+0.3**
JHO				⇓S	**Sn**	**11 51 58.6**	**-0.1**
JHYU	**Hitachinakayam**	**0.46 231**		⇓*i*P	**Pn**	**11 51 53.8**	**+0.4**
JHYU				⇓S	**Sn**	**11 52 00.7**	**+0.1**
ONAJ	**Iwakimizuishiy**	**0.51 338**		⇓*i*P	**Pn**	**11 51 54.1**	**+0.1**
ONAJ				⇓S	**Sn**	**11 52 01.4**	**-0.3**
JFFD	**Fukushimafurud**	**0.60 321**		⇓*i*P	**Pn**	**11 51 55.2**	**0.0**
JFFD				⇓S	**Sn**	**11 52 02.9**	**-0.9**
JFK	**Kawauchi**	**0.75 350**		⇓*i*P	**Pn**	**11 51 57.0**	**-0.2**
JFK				⇓S	**Sn**	**11 52 06.8**	**-0.6**
JYT	**Yasato**	**0.79 240**		*i* P	**Pn**	**11 51 57.4**	**-0.4**
JYT				S	**Sn**	**11 52 06.9**	**-1.4**
JOTO	**OTAMA OYAMA**	**1.08 329**		*i* P	**Pn**	**11 52 02.4**	**+0.5**
JOTO				S	**Sn**	**11 52 15.6**	**-0.1**
JMM	**Marumori**	**1.25 351**		⇓*i*P	**Pn**	**11 52 04.2**	**+0.1**
JMM				⇓S	**Sn**	**11 52 19.1**	**-0.6**
JAG	**Ashikaga**	**1.29 261**		⇓*i*P	**Pn**	**11 52 04.2**	**-0.4**
JFY	**Yanaizu**	**1.32 306**		*i* P	**Pn**	**11 52 04.9**	**-0.2**
JKT	**Katashina**	**1.44 276**		*i* P	**Pn**	**11 52 06.7**	**-0.1**
MJAR	**Matsushiro Arr** 2.0nm,0.3s,baz=89,slow=15,SNR=80	**2.28 269**		Pn	**Pn**	**11 52 18.5**	**+0.3**
MJAR	1.0nm,0.3s,baz=85,slow=26,SNR=2.3 17nm,0.4s			Sn	**Sn**	**11 52 46.5**	**+1.4**
KSRS	**Korea Array** comp=Z,32nm,18.8s,baz=85,slow=36	**10.52 278**		LR	LR	11 58 01.4	
H11N2	**WAKE ISLAND Hy 28.21 120** baz=313,slow=75,SNR=16			T	T	12 27 31.6	
H11N1	**WAKE ISLAND Hy 28.21 120** baz=313,slow=75,SNR=20			T	T	12 27 32.2	
H11N3	**WAKE ISLAND Hy 28.23 120** baz=313,slow=75,SNR=13			T	T	12 27 33.0	
H11S1	**WAKE ISLAND Hy 28.90 122** baz=314,slow=75,SNR=42			T	T	12 28 21.4	
H11S3	**WAKE ISLAND Hy 28.90 122** baz=314,slow=75,SNR=32			T	T	12 28 20.2	
H11S2	**WAKE ISLAND Hy 28.92 122** baz=314,slow=75,SNR=34			T	T	12 28 26.4	
ILAR	**Eielson Array** 0.2nm,0.7s,baz=266,slow=5.7,SNR=4.2 0.2nm,0.7s	**50.00 32**		P	**P**	**12 00 34.1**	**+1.1**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=3.7,slow=7.4,SNR=9.9 0.5nm,0.7s	**56.62 188**		P	**P**	**12 01 21.4**	**-0.8**

*NEIC **27** 12:03:57.9±0.6,56.°10S±0.°07×27.°5W±0.°2, h86km±9km, mb4.6/29, Error ellipse: s-maj=13.5km s-min=9.1km az=62.0*
*IDC **27** 12:04:04.0±6.5,56.°16S×27.°33W, h150km±57km, mb3.9/6, mbtmp4.3/7, Error ellipse: s-maj=27.6km s-min=17.6km az=65.0*

ISC 27 12:03:59.7±0.5,56.°11S±0.°08×27.°55W±0.°07, h112km, n48, σ0§82/50, mb4.5/18, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.43 286**		Pn	**Pn**	**12 05 16.1**	**-2.1**
HOPE				Sn	**Sn**	**12 06 17.7**	**-1.7**
ORCD	**Orcadas**	**10.12 236**		Pn	**Pn**	**12 06 21.0**	**-0.6**
VNA3	**Neumayer Olymp** comp=Z,8.5nm,0.8s	**17.00 160**		⇑P	**P**	**12 07 50.3**	**0.0**
VNA2	**Neumayer--Watz** comp=Z,7.0nm,0.6s,baz=318,slow=13	**17.21 157**		⇑P	**P**	**12 07 52.1**	**-0.5**
EFI	**East Falkland** comp=Z,70nm,1.4s	**18.43 271**		P	**P**	**12 08 06.7**	**+0.6**
EFI				IAmb	IAmb	12 08 15.9	
PMSA	**Palmer Station**	**19.71 229**		P	**P**	**12 08 20.3**	**+0.5**
PMSA	**Palmer Station** comp=Z,2.8nm,0.5s,baz=38,slow=5,1,SNR=5.6	**19.71 229**		P	**Pn**	**12 08 22.8**	**+0.5**
TROLL	**Troll, Antarti** comp=Z,742nm,0.6s	**20.29 153**		⇑P	**P**	**12 08 25.7**	**-0.5**
SMAI	**San Martin Ant**	**21.59 220**		P	**P**	**12 08 40.4**	**+0.4**
TRQA	**Tornquist** comp=Z,18nm,1.5s	**29.16 294**		P	**P**	**12 09 50.0**	**-0.1**
TRQA				IAmb	IAmb	12 10 11.9	
PLTB	**Pedras Altas** comp=Z,7.8nm,1.1s	**30.39 312**		P	**P**	**12 10 01.8**	**+0.8**
PLTB				IAmb	IAmb	12 10 15.7	
AY01	**Puyuhuapi** comp=Z,10nm,1.1s	**30.55 273**		P	**P**	**12 10 03.4**	**+1.2**
AY01				IAmb	IAmb	12 10 27.6	
QSPA	**South Pole Qui** comp=Z,3.9nm,0.6s	**34.14 180**		P	**P**	**12 10 34.1**	**+0.5**
QSPA				IAmb	IAmb	12 10 36.1	
QSPA	**South Pole Qui** comp=Z,2.6nm,0.4s,baz=146,slow=0.8,SNR=13	**34.14 180**		P	**P**	**12 10 33.6**	**+0.1**
QSPA				PcP	**PcP**	**12 13 07.1**	**-0.7**
BO02	**Sierra Bellavi**	**36.25 288**		P	**P**	**12 10 52.5**	**+0.6**
BO02	comp=Z,16nm,1.5s			IAmb	IAmb	12 11 15.6	
CPUP	**Villa Florida**	**36.70 312**		P	**P**	**12 10 55.9**	**+0.3**
CO01	**Juntas del Tor**	**39.65 293**		P	**P**	**12 11 21.4**	**+0.8**
CO01	comp=Z,6.0nm,1.1s			IAmb	IAmb	12 11 25.6	
MAW	**Mawson**	**40.22 144**		P	**P**	**12 11 24.7**	**+0.1**
MAW	**Mawson** comp=Z,2.3nm,0.6s,baz=227,slow=8.1,SNR=7.9 comp=Z,2.3nm,0.6s	**40.22 144**		P	**P**	**12 11 23.6**	**-1.0**
AC04	**Llanos de Chal**	**41.58 294**		P	**P**	**12 11 36.8**	**+0.5**
GO02	**Mina Guanaco**	**43.34 298**		P	**P**	**12 11 51.5**	**+0.6**
LVC	**Limon Verde**	**45.15 301**		P	**P**	**12 12 06.5**	**+1.1**
LVC	comp=Z,8.6nm,0.7s			IAmb	IAmb	12 12 35.8	
BOSA	**Boshof**	**46.18 76**		P	**P**	**12 12 13.3**	**+0.1**
PB07	**IPOC Station P**	**46.38 300**		P	**P**	**12 12 15.5**	**+0.7**
VNDA	**Vanda**	**46.51 183**		P	**P**	**12 12 15.8**	**+0.9**
VNDA	**Vanda** comp=Z,2.3nm,0.7s,baz=188,slow=6.6,SNR=22 comp=Z,2.3nm,0.7s	**46.51 183**		P	**P**	**12 12 15.2**	**+0.2**
PB02	**IPOC Station P**	**46.73 300**		P	**P**	**12 12 18.3**	**+0.8**
PB08	**IPOC Station P**	**47.38 302**		P	**P**	**12 12 23.6**	**+0.8**
PB08	comp=Z,16nm,1.5s			IAmb	IAmb	12 12 26.1	
GO01	**Chusmiza**	**47.80 302**		P	**P**	**12 12 26.9**	**+0.6**
GO01	comp=Z,9.4nm,0.8s			IAmb	IAmb	12 12 27.8	
PB16	**IPOC Station P**	**49.10 303**		P	**P**	**12 12 37.5**	**+1.2**
PB16	comp=Z,11nm,1.5s			IAmb	IAmb	12 12 57.3	
LBTB	**Lobatse**	**49.22 73**		P	**P**	**12 12 36.5**	**-0.1**
TSUM	**Tsumeb**	**49.89 61**		P	**P**	**12 12 41.9**	**+0.2**
TSUM	comp=Z,11nm,1.4s			IAmb	IAmb	12 12 44.7	
LPAZ	**La Paz**	**50.24 306**		P	**P**	**12 12 46.1**	**+1.1**
LPAZ	comp=Z,2.9nm,0.5s			IAmb	IAmb	12 12 46.6	
LPAZ	**La Paz** comp=Z,1.9nm,0.3s,baz=122,slow=4.1,SNR=12 comp=Z,1.9nm,0.3s	**50.24 306**		P	**P**	**12 12 45.7**	**+0.7**
DBIC	**Dimbokro**	**65.31 25**		P	**P**	**12 14 29.8**	**+0.3**
DBIC	comp=Z,14nm,1.4s			IAmb	IAmb	12 14 48.6	
MCRA	**Macar, Loja**	**66.20 300**		P	**P**	**12 14 35.6**	**+0.1**
AIS	**Amsterdam Isla**	**67.06 124**		P	**P**	**12 14 40.7**	**+0.2**
TOA0	**Torodi Ar. Sit**	**73.21 30**		P	**P**	**12 15 18.6**	**+0.4**
TOA0	comp=Z,12nm,1.5s			IAmb	IAmb	12 15 18.9	
TORD	**Torodi Ar. Bea**	**73.21 30**		P	**P**	**12 15 18.6**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,3.7nm,0.7s,baz=201,slow=6.0,SNR=25 comp=Z,3.7nm,0.7s	**73.21 30**		P	**P**	**12 15 18.5**	**+0.4**
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,baz=187,slow=4.0,SNR=12 comp=Z,0.3nm,0.5s	**98.99 163**		P	**P**	**12 17 25.9**	**-1.7**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.6s,baz=197,slow=4.3,SNR=1.3	**102.71 163**		P	**Pdif**	**12 17 42.9**	**-1.3**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.5s,baz=172,slow=3.2,SNR=2.5	**121.23 293**		PKP	**PKiKP**	**12 22 39.6**	**+0.5**
FINES	**FINESS Array B** comp=Z,1.7nm,0.8s,baz=270,slow=1.9,SNR=4.8	**124.53 28**		PKP	**PKPdf**	**12 22 42.7**	**-1.4**
BVAR	**Borovoye Array** comp=Z,0.5nm,0.4s,baz=255,slow=2.8,SNR=2.3	**134.99 58**		PKP	**PKPdf**	**12 23 04.1**	**-0.2**
MKAR	**Makanchi Array** comp=Z,1.4nm,1.0s,baz=250,slow=0.6,SNR=2.5	**137.10 72**		PKP	**PKPdf**	**12 23 08.8**	**+0.3**
ILAR	**Eielson Array** comp=Z,3.9nm,0.8s,baz=138,slow=3.1,SNR=42	**150.00 312**		PKPbc	**PKPbc**	**12 23 34.8**	**-0.6**
SONM	**Songino Array** comp=Z,3.0nm,0.6s,baz=224,slow=4.1,SNR=15	**150.94 87**		PKPbc	**PKPbc**	**12 23 37.6**	**-0.7**

*NOU **27** 12:14:39.5,34.°13S×179.°43W, h362km, mb3.9/8, South of Kermadec Islands*
*WEL **27** 12:14:57.8±1.4,35.°S±7.°×17.°9E±1.°0, h106km±81km, M4.1/11, ML4.3/10, MLv4.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=117.6, confirmed*

ISC 27 12:14:51.8±1.4,34.°64S±0.°08×179.°3E±0.°1, h250km, n52, σ2§53/53, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.04 196**		P	**Pn**	**12 15 48.3**	**+3.7**
MXZ	**Matakaoa Point**	**3.04 196**		P	**Pn**	**12 15 46.7**	**+2.2**
WMGZ	**Waiomatatini S**	**3.26 193**		P	**Pn**	**12 15 50.0**	**+2.9**
HAZ	**Te Kaha**	**3.36 202**		P	**Pn**	**12 15 50.3**	**+2.2**
HAZ				S	**S**	**12 16 29.4**	**-3.4**
PKGZ	**Pakihiroa**	**3.40 197**		P	**Pn**	**12 15 50.9**	**+2.2**
PUZ	**Puketiti**	**3.54 194**		P	**Pn**	**12 15 52.2**	**+2.0**
RUGZ	**Raukumara Rang**	**3.58 202**		P	**Pn**	**12 15 53.4**	**+2.6**
KUZ	**Kuaotunu**	**3.62 233**		P	**Pn**	**12 15 52.8**	**+1.7**
TWGZ	**Tauwhareparae**	**3.70 197**		P	**Pn**	**12 15 55.1**	**+3.1**
CNGZ	**Carnagh Statio**	**3.95 193**		P	**Pn**	**12 15 57.4**	**+2.6**
MWZ	**Matawai**	**3.97 201**		P	**Pn**	**12 15 57.1**	**+1.9**
TKGZ	**Te Karaka**	**3.98 197**		P	**Pn**	**12 15 57.2**	**+2.0**
URZ	**Urewera**	**4.04 206**		P	**Pn**	**12 15 58.5**	**+2.6**
URZ	**Urewera**	**4.04 206**		P	**Pn**	**12 15 57.8**	**+1.9**
URZ				S	**S**	**12 16 44.0**	**-3.0**
RAGZ	**Rawiri**	**4.15 201**		P	**Pn**	**12 15 59.4**	**+2.0**
RIGZ	**Rimuhau**	**4.25 197**		P	**Pn**	**12 16 00.1**	**+1.6**
WCZ	**Waipu Caves**	**4.29 251**		P	**Pn**	**12 16 00.2**	**+1.3**
MUGZ	**Murupara**	**4.36 208**		P	**Pn**	**12 16 01.7**	**+2.0**
RTZ	**Ruatahuna**	**4.40 205**		P	**Pn**	**12 16 02.0**	**+1.7**
PRGZ	**Paritu Road**	**4.43 195**		P	**Pn**	**12 16 04.3**	**+3.6**
SNGZ	**Shannon Statio**	**4.44 201**		P	**Pn**	**12 16 02.8**	**+2.1**
RAHZ	**Arahi**	**4.64 202**		P	**Pn**	**12 16 05.0**	**+1.9**
MHGZ	**Mahia Peninsul**	**4.65 194**		P	**Pn**	**12 16 06.9**	**+3.7**
MTHZ	**Maungataniwha**	**4.66 205**		P	**Pn**	**12 16 06.3**	**+2.9**
WHHZ	**Waihua**	**4.74 200**		P	Pn	12 16 01.7	-2.6
OUZ	**Omahuta**	**4.76 261**		P	**Pn**	**12 16 05.8**	**+1.3**
TLZ	**Tolley Road**	**4.79 219**		P	**Pn**	**12 16 09.6**	**+4.6**
MRHZ	**Matea Rd**	**4.80 208**		P	**Pn**	**12 16 07.6**	**+2.5**
NMHZ	**Naumai**	**4.89 204**		P	**Pn**	**12 16 08.7**	**+2.5**
ARHZ	**Aropaoanui**	**4.99 201**		P	**Pn**	**12 16 09.8**	**+2.6**
BKZ	**Black Stump Fm**	**5.06 206**		P	**Pn**	**12 16 10.3**	**+2.0**
BKZ	**Black Stump Fm**	**5.06 206**		P	**Pn**	**12 16 10.6**	**+2.3**
MCHZ	**McNeill Hill**	**5.24 203**		P	**Pn**	**12 16 12.6**	**+2.2**
HIZ	**Hauiti**	**5.29 222**		P	**Pn**	**12 16 15.8**	**+4.8**
HIZ	**Hauiti**	**5.29 222**		P	**Pn**	**12 16 15.7**	**+4.7**
KWHZ	**Kaweka Forest**	**5.32 205**		P	**Pn**	**12 16 13.6**	**+2.1**
TMVZ	**Te Maari**	**5.34 212**		P	**Pn**	**12 16 14.2**	**+2.5**
ETVZ	**East Tongariro**	**5.35 212**		P	**Pn**	**12 16 14.3**	**+2.4**
OTVZ	**Oturere**	**5.39 212**		P	**Pn**	**12 16 14.8**	**+2.3**
TUVZ	**Tukino**	**5.49 212**		P	**Pn**	**12 16 15.8**	**+2.2**
KRHZ	**Kereru**	**5.53 205**		P	**Pn**	**12 16 14.7**	**+0.7**
PNHZ	**Pukenui**	**5.83 205**		P	**Pn**	**12 16 18.8**	**+1.0**
GLKZ	**Green Lake**	**5.84 24**		S	**S**	**12 17 25.5**	**-1.4**
PRHZ	**Porangahau**	**6.02 200**		P	**Pn**	**12 16 21.7**	**+1.7**
NEZ	**North Egmont**	**6.25 221**		P	**Pn**	**12 16 27.0**	**+4.0**
POWZ	**Post Office Ro**	**6.41 205**		P	**Pn**	**12 16 26.4**	**+1.5**
BFZ	**Birch Farm**	**6.51 201**		P	**Pn**	**12 16 27.6**	**+1.4**
BFZ	**Birch Farm**	**6.51 201**		P	**Pn**	**12 16 27.4**	**+1.2**
MRZ	**Mangatainoka R**	**6.71 205**		P	**Pn**	**12 16 28.8**	**+0.1**
SNZO	**South Karori**	**7.60 207**		P	**Pn**	**12 16 39.7**	**-0.2**
QRZ	**Quartz Range**	**8.20 219**		P	**Pn**	**12 16 47.8**	**+0.3**
KHZ	**Kahutara**	**9.00 209**		P	**Pn**	**12 16 56.7**	**-0.8**

*SOME **27** 12:29:20.7,39.°35N×76.°00E, h10km*
*KRNET **27** 12:29:21.7±0.1,39.°02N×76.°12E, mb3.1*
*NNC **27** 12:29:23.7±1.1,39.°48N×75.°95E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=8.3km s-min=6.1km az=155.0*

ISC 27 12:29:22.8±2.0,39.°2N±0.°1×75.°97E±0.°06, h10km, n33, σ1§25/44, 27C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan** baz=97	**2.05 293**		⇑*e*P	**Pn**	**12 29 57.5**	**-0.1**
SFK				⇑*e*S	**Sn**	**12 30 23.8**	**+0.4**
NRN	**Naryn** baz=57	**2.19 1**		⇑*e*P	**Pn**	**12 29 59.6**	**0.0**
NRN				⇑*e*S	**Sn**	**12 30 27.4**	**+0.5**
OHH	**Osh** baz=1.0	**2.76 299**		⇑*e*P	**Pn**	**12 30 07.6**	**+0.4**
OHH				⇑*e*S	**Sn**	**12 30 41.4**	**+0.7**
ARLS	**Aral** baz=35	**2.90 335**		⇑*e*P	**Pn**	**12 30 10.4**	**+1.2**
ARLS				⇑*e*S	**Sn**	**12 30 45.8**	**+1.6**
ARSB	**Arslanbob** baz=15	**3.09 313**		⇑*e*P	**Pn**	**12 30 13.0**	**+1.3**
ARSB				⇑*e*S	**Sn**	**12 30 50.1**	**+1.3**
DRK	**Karamyk** baz=79	**3.24 276**		⇑*e*P	**Pn**	**12 30 13.7**	**-0.2**
DRK				⇑*e*S	**Sn**	**12 30 51.5**	**-1.2**
BOOM	**Boomskoye usch** baz=58	**3.25 360**		⇑*e*P	**Pn**	**12 30 14.8**	**+0.9**
BOOM				⇑*e*S	**Sn**	**12 30 53.3**	**+0.6**
AML	**Almayashu** 0.1nm,0.3s	**3.37 330**		⇓Pn	**Pn**	**12 30 14.8**	**-1.0**
AML	1.7nm,0.5s			⇑Pg	**Pb**	**12 30 20.8**	**-2.0**
AML	5.1nm,0.7s			⇑Lg	Lg	12 31 05.3	
TKM2	**Tokmak 2** 1.4nm,0.5s	**3.69 356**		⇑Pn	**Pn**	**12 30 20.2**	**+0.1**
TKM2	5.7nm,0.5s			⇑Pg	**Pb**	**12 30 27.5**	**-0.6**
TKM2	17nm,0.5s			⇑Lg	Lg	12 31 14.5	
ANVS	**Anan'yevo** baz=17	**3.77 19**		⇑*e*P	**Pn**	**12 30 21.3**	**+0.2**
ANVS				⇑*e*S	**Sn**	**12 31 04.9**	**-0.7**
KST	**Kastek** 3.7nm,0.4s	**3.80 360**		Pg	**Pb**	**12 30 27.3**	**-2.7**
KST	21nm,0.7s			Lg	Lg	12 31 15.6	
KST	**Kastek** 3.7nm,0.4s	**3.80 360**		*e*Pg	**Pb**	**12 30 27.3**	**-2.7**
KST	21nm,0.7s			*e*Lg	Lg	12 31 15.6	
CHMS	**Chumysh** 5.7nm,0.7s	**3.87 347**		⇑Pg	**Pb**	**12 30 29.4**	**-1.7**
CHMS	13nm,0.6s			⇑Lg	Lg	12 31 19.3	
TNSS	**Tian-Shan** 5.3nm,0.5s	**3.87 11**		Pg	**Pb**	**12 30 30.0**	**-1.3**
TNSS	7.4nm,0.9s			Lg	Lg	12 31 20.0	
TNSS	**Tian-Shan** 5.3nm,0.5s	**3.87 11**		*e*Pg	**Pb**	**12 30 30.0**	**-1.3**
TNSS	7.4nm,0.9s			*e*Lg	Lg	12 31 20.1	
MTBS	**Maitube** 6.3nm,0.5s	**3.90 5**		Pg	**Pb**	**12 30 30.1**	**-1.6**
MTBS	9.0nm,0.4s			Lg	Lg	12 31 20.5	
MTBS	**Maitube** 6.3nm,0.5s	**3.90 5**		*e*Pg	**Pb**	**12 30 30.1**	**-1.6**
MTBS	9.0nm,0.4s			*e*Lg	Lg	12 31 20.5	
BTK	**Batken** baz=86	**4.06 283**		⇑*e*P	**Pn**	**12 30 25.2**	**+0.2**
BTK				⇑*e*S	**Sn**	**12 31 11.3**	**-1.3**
MRKS	**Merke** 4.7nm,0.6s	**4.07 330**		Pg	**Pb**	**12 30 32.9**	**-1.7**
MRKS	9.1nm,0.4s			Lg	Lg	12 31 24.8	
MRKS	**Merke** 4.7nm,0.6s	**4.07 330**		*e*Pg	**Pb**	**12 30 32.9**	**-1.7**
MRKS	9.1nm,0.4s			*e*Lg	Lg	12 31 24.8	
SATY	**Saty** 5.2nm,0.5s	**4.24 25**		Pg	**Pb**	**12 30 37.1**	**-0.4**
SATY	11nm,0.6s			Lg	Lg	12 31 33.1	
SATY	**Saty** 5.2nm,0.5s	**4.24 25**		*e*Pg	**Pb**	**12 30 37.1**	**-0.4**
SATY	11nm,0.6s			*e*Lg	Lg	12 31 33.0	
KRBS	**Karabastau** 3.3nm,0.5s	**4.46 357**		Pg	**Pb**	**12 30 40.1**	**-1.1**
KRBS	14nm,0.7s			Lg	Lg	12 31 37.6	
KRBS	**Karabastau** 3.3nm,0.5s	**4.46 357**		*e*Pg	**Pb**	**12 30 40.1**	**-1.1**
KRBS	14nm,0.7s			*e*Lg	Lg	12 31 37.6	
KTBS	**Karatobe** 1.7nm,0.3s	**4.50 7**		Pg	**Pb**	**12 30 41.6**	**-0.3**
KTBS	10nm,0.6s			Lg	Lg	12 31 39.6	
KTBS	**Karatobe** 1.7nm,0.3s	**4.50 7**		*e*Pg	**Pb**	**12 30 41.5**	**-0.3**
KTBS	10nm,0.6s			*e*Lg	Lg	12 31 39.6	
CHKK	**Chushkaly** 2.5nm,0.2s	**4.67 9**		Pg	**Pb**	**12 30 45.0**	**+0.1**
CHKK	8.9nm,0.4s			Lg	Lg	12 31 45.3	
CHKK	**Chushkaly** 2.5nm,0.2s	**4.67 9**		*e*Pg	**Pb**	**12 30 45.0**	**+0.1**
CHKK	8.9nm,0.4s			*e*Lg	Lg	12 31 45.3	
PDGK	**Podgornoye** 1.4nm,0.5s	**4.87 32**		Pg	**Pb**	**12 30 48.9**	**+0.6**
PDGK	2.8nm,0.6s			Lg	Lg	12 31 52.3	
ARXS	**Arharly** 3.1nm,0.6s	**5.16 15**		Pg	**Pb**	**12 30 53.1**	**-0.1**
ARXS	7.3nm,0.7s			Lg	Lg	12 31 59.3	
ARXS	**Arharly** 3.1nm,0.6s	**5.16 15**		*e*Pg	**Pb**	**12 30 53.1**	**-0.1**
ARXS	7.3nm,0.7s			*e*Lg	Lg	12 31 59.3	
KK31	**Karatay Array** 0.8nm,0.6s,baz=148,slow=18,SNR=3.9	**5.64 315**		⇑Pg	**Pb**	**12 31 04.7**	**+3.4**
KK31	2.7nm,0.6s,baz=139,slow=17,SNR=4.1			⇑Lg	Lg	12 32 18.0	
KNOS	**Konyrlen** 2.1nm,0.4s	**5.65 24**		Pg	**Pb**	**12 31 01.4**	**-0.1**
KNOS	2.6nm,0.6s			Lg	Lg	12 32 14.1	

*NEIC **27** 12:34:33.0±1.4,20.°9S±0.°1×175.°17W±0.°08, h185km±7km, mb4.9/40, Error ellipse: s-maj=16.2km s-min=10.4km az=162.0*
*NOU **27** 12:34:33.3,20.°82S×175.°26W, h178km, mb5.3/71, Tonga Islands*
*IDC **27** 12:34:34.3±0.7,20.°78S×175.°93W, h146km±6km, mb4.2/18, mbtmp4.6/18, MS3.5/7, Error ellipse: s-maj=14.1km s-min=11.7km az=141.0*
*GCMT **27** 12:34:37.0±0.3,21.°00S±0.°03×175.°46W±0.°02, h189km±3km, MW5.1/91, Moment Tensor Solution. s19,c23; s91,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.94±.21; $M_{\theta\theta}$-1.68±.26; $M_{\phi\phi}$0.74±.21; $M_{r\theta}$-1.39±.20; $M_{\theta\phi}$4.37±.22; $M_{\phi r}$-3.97±.15; Best double couple: $M_0$6.10600×10^{16} NP1:ϕ_s170.00000°, δ78.00000°, λ143.00000°. NP2:ϕ_s269.00000°, δ54.00000°, λ15.00000°. Principal axes: T 6.8440, Plg35.0000°, Azm123.0000°; N -1.4770, Plg51.0000°, Azm334.0000°; P -5.3680, Plg16.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 12:34:34.2±0.4,20.°94S±0.°05×175.°40W±0.°04, h169km±3km, h169km: pP-P, n372, σ2§08/381, mb4.9/63, 18C-15D, Tonga Islands

| Code | Station Name | Δ°

RAO	Raoul Island	8.58 195	Pn	Pn	12 36 33.3	-1.8	
RAO	Raoul Island	8.58 195	P	Pn	12 36 31.8	-3.3	
	148nm,0.3s,baz=158,slow=22,SNR=5.1						
RAO			S	Sn	12 38 04.7	-6.2	
	568nm,0.4s,baz=59,slow=24,SNR=11						
GLKZ	Green Lake	8.59 195	P	Pn	12 36 33.0	-2.2	
RAR	Rarotonga	14.59 94		Pn	12 37 48.5	-4.2	
RAR	Rarotonga	14.59 94	P	P	12 37 57.5	+3.0	
	60nm,0.7s,baz=259,slow=5.0,SNR=14						
RAR			S	Sn	12 40 31.5	-3.6	
	40nm,0.7s,baz=132,slow=21,SNR=4.7						
MARNC	Mare, Loyalty	15.46 265		Pn	12 38 03.2	-0.3	
MARNC	Mare, Loyalty	15.46 265	P	Pn	12 38 03.5	0.0	
RTV	Rentapao	15.58 279	P	P	12 38 06.3	+0.7	
PINNC	Pines Island,	16.02 261	P	P	12 38 09.6	-0.8	
PINNC	Pines Island,	16.02 261	P	Pn	12 38 11.8	+1.5	
LIFNC	LIFOU	16.23 267		P	12 38 11.8	-0.9	
LIFNC	LIFOU	16.23 267	P	P	12 38 12.2	-0.5	
YATNC	Mamie plateau,	16.52 263	P	P	12 38 15.9	0.0	
OUENC	Ouen Island, N	16.57 262	P	P	12 38 16.1	-0.4	
OUENC	Ouen Island, N	16.57 262	P	Pn	12 38 17.9	+0.9	
ONTNC	Ouen Toro	16.93 262	P	P	12 38 19.5	-0.9	
ONTNC	Ouen Toro	16.93 262	P	Pn	12 38 22.8	+1.6	
DZM	Mont Dzumac	16.94 263	eP	P	12 38 20.2	-0.4	
	556nm,1.1s						
DZM			eS	S	12 41 28.2	-0.4	
	392nm,27.1s						
DZM	Mont Dzumac	16.94 263	Pn	Pn	12 38 21.5	+0.1	
DZM	Mont Dzumac	16.94 263	P	Pn	12 38 21.8	+0.3	
DZM	Mont Dzumac	16.94 263	P	Pn	12 38 21.7	+0.3	
	156nm,0.8s,baz=86,slow=16,SNR=101						
DZM			LR	LR	12 43 30.3		
	comp=Z,215nm,20.3s,baz=39,slow=33						
NOUC	Port Laguerre	17.07 263	P	Pn	12 38 23.2	+0.3	
NFK	Norfolk Island	17.11 239	P	P	12 38 20.6	-1.7	
	baz=17,SNR=5.0						
NFK	Norfolk Island	17.11 239	P	Pn	12 38 24.5	+1.2	
OUZ	Omahuta	17.20 212	P	Pn	12 38 24.4	+0.1	
GRZ	Great Barrier	17.22 206	P	P	12 38 24.1	+0.7	
WCZ	Waipu Caves	17.43 209	P	Pn	12 38 27.1	0.0	
MXZ	Matakaoa Point	17.44 197	P	P	12 38 24.3	-1.5	
MXZ	Matakaoa Point	17.44 197	P	P	12 38 24.3	-1.5	
KUZ	Kuaotunu	17.55 204	P	P	12 38 27.7	+0.7	
KUZ	Kuaotunu	17.55 204	P	P	12 38 27.7	+0.7	
WMGZ	Waiomatatini S	17.65 196	P	P	12 38 28.1	-0.1	
HAZ	Te Kaha	17.77 198	P	P	12 38 26.7	-2.7	
PKGZ	Pakihiroa	17.81 197	P	P	12 38 23.8	-6.1	
RUGZ	Raukumara Rang	17.99 198	P	P	12 38 31.0	-1.0	
TWGZ	Tauwhareparae	18.10 197	P	Pn	12 38 34.6	-0.5	
TWGZ			S	S	12 41 38.6	-13	
OPRZ	Ohinepanea	18.23 201	P	P	12 38 35.4	+0.9	
MARZ	Manawahe	18.32 200	P	Pn	12 38 37.2	-0.3	
TKGZ	Te Karaka	18.39 197	P	P	12 38 36.5	+0.3	
TKGZ			S	S	12 41 43.0	-14	
URZ	Urewera	18.43 199	P	P	12 38 34.5	-2.2	
	104nm,0.6s,baz=328,slow=2.4,SNR=100						
URZ			S	S	12 41 45.6	-13	
	12nm,0.4s,baz=178,slow=20,SNR=2.2						
RAGZ	Rawiri	18.56 198	P	P	12 38 36.8	-1.3	
RAGZ			S	S	12 41 49.2	-12	
TARZ	Mount Tarawera	18.60 200	P	Pn	12 38 40.4	-0.5	
MUGZ	Murupara	18.74 199	P	P	12 38 38.2	-1.8	
MUGZ			S	S	12 41 52.2	-12	
RTZ	Ruatahuna	18.80 199	P	P	12 38 38.9	-1.9	
PRGZ	Paritu Road	18.83 196	P	P	12 38 42.0	+1.0	
PRGZ			S	S	12 41 55.6	-11	
SNGZ	Shannon Statio	18.85 198	P	P	12 38 41.2	0.0	
SNGZ			S	S	12 41 54.4	-12	
KOUNC	Koumac, New Ca	19.00 268	P	P	12 38 42.9	-0.2	
KOUNC	Koumac, New Ca	19.00 268	P	P	12 38 44.1	+1.0	
TLZ	Tolley Road	19.01 202	P	P	12 38 44.6	+1.5	
MHGZ	Mahia Peninsul	19.04 196	P	P	12 38 43.3	+0.1	
RATZ	Rangitukua	19.41 201	P	P	12 38 47.4	0.0	
HIZ	Hauiti	19.43 204	P	P	12 38 48.3	+0.9	
HIZ	Hauiti	19.43 204	P	P	12 38 48.4	+1.0	
BKZ	Black Stump Fm	19.45 199	P	P	12 38 46.2	-1.6	
BKZ	Black Stump Fm	19.45 199	P	P	12 38 45.2	-2.6	
RITZ	Rihia Road	19.48 201	P	P	12 38 48.0	-0.2	
NTVZ	North Tongarir	19.66 201	P	P	12 38 49.3	-0.8	
NTVZ			S	S	12 42 16.9	-5.7	
TMVZ	Te Maari	19.66 201	P	P	12 38 48.7	-1.4	
KRVZ	Karewarewa	19.66 201	P	P	12 38 49.5	-0.6	
ETVZ	East Tongariro	19.68 201	P	P	12 38 49.3	-1.0	
ETVZ			S	S	12 42 16.6	-6.5	
WTVZ	West Tongariro	19.70 201	P	P	12 38 49.9	-0.7	
NNVZ	North Ngauruho	19.70 201	P	P	12 38 49.7	-1.0	
OTVZ	Oturere	19.72 201	P	P	12 38 48.4	-2.3	
SNVZ	South Ngauruho	19.75 201	P	P	12 38 50.6	-0.5	
NGZ	Ngauruhoe	19.75 201	P	P	12 38 49.9	-1.2	
COVZ	Chateau Observ	19.79 201	P	P	12 38 50.6	-0.9	
TUVZ	Tukino	19.82 201	P	P	12 38 50.6	-1.2	
FWVZ	Far West T-bar	19.84 201	P	P	12 38 50.4	-1.7	
WHVZ	Whangaehu Hut	19.85 201	P	P	12 38 50.6	-1.7	
TRVZ	Turoa	19.88 201	P	P	12 38 51.6	-1.0	
BHHZ	Black Hill Sta	19.88 200	P	P	12 38 49.6	-2.8	
WNVZ	Wahianoa	19.89 201	P	P	12 38 50.4	-2.2	
MOVZ	Moawhango	19.91 200	P	P	12 38 50.3	-2.5	
KRHZ	Kereru	19.93 199	P	P	12 38 50.5	-2.4	
PKVZ	Pokaka	19.94 201	P	P	12 38 51.7	-1.4	
MTVZ	Mangateitei	19.98 201	P	P	12 38 52.6	-0.9	
VRZ	Vera Road	20.00 203	P	P	12 38 53.6	0.0	
PXZ	Pawanui	20.14 197	P	P	12 38 53.9	-1.3	
PNHZ	Pukenui	20.23 199	P	P	12 38 54.2	-1.9	
DREZ	Durham Road	20.26 204	P	P	12 38 58.7	+2.3	
WPHZ	Waipukurau	20.30 198	P	P	12 38 55.8	-1.0	
PKE	Pukeiti	20.35 204	P	P	12 38 59.2	+1.8	
NEZ	North Egmont	20.37 204	P	P	12 38 59.2	+1.5	
KHEZ	Kahui Hut	20.43 204	P	P	12 39 00.1	+1.8	
LREZ	Lake Rotokare	20.43 203	P	P	12 38 59.8	+1.6	
PRHZ	Porangahau	20.43 198	P	P	12 38 57.7	-0.5	
TSZ	Takapari Road	20.43 199	P	P	12 38 56.8	-1.5	
WAZ	Wanganui	20.48 202	P	P	12 38 56.9	-1.8	
DVHZ	Dannevirke	20.59 199	P	P	12 38 59.0	-1.0	
ANWZ	Angora Road	20.65 198	P	P	12 38 59.7	-0.8	
POWZ	Post Office Ro	20.80 199	P	P	12 39 01.2	-1.0	
BFZ	Birch Farm	20.92 198	P	P	12 39 01.9	-1.6	
MRZ	Mangatainoka R	21.10 199	P	P	12 39 02.5	-2.9	
BHW	Baring Head	22.00 200	P	P	12 39 12.7	-2.0	
QRZ	Quartz Range	22.32 205	P	P	12 39 16.6	-1.2	
PAE	Paea	24.58 87	eT	T	13 05 06.0		
	22nm,0.5s						
PPT2	Papeete2	24.59 87	esS	sS	12 44 35.7	-13	
	309nm,26.2s						
PPT2	Papeete2	24.59 87	eT	T	13 05 09.8		
	14nm,0.4s						
PPT	Papeete	24.60 87	P	P	12 39 44.4	+5.5	
	70nm,0.8s,baz=249,slow=8.6,SNR=9.1						
	70nm,0.8s						
TVO	Taravao	24.86 87	eT	T	13 05 17.3		
	4.7nm,0.4s						
RPZ	Rata Peaks	25.36 203	P	P	12 39 47.1	+1.6	
MEH	Mehetia	25.95 88	eT	T	13 06 12.5		
	20nm,0.2s						
JCZ	Jackson Bay	26.55 206	P	P	12 39 56.7	+0.4	
ODZ	Otahua Downs	26.66 202	P	P	12 39 58.9	+1.8	
ARMA	Armidale	31.08 246	P	P	12 40 36.3	-0.3	
	baz=31,SNR=13						
ARMA	Armidale	31.08 246	P	P	12 40 34.8	-1.9	
ARMA			IAmb	IAmb	12 40 38.0		
	comp=Z,58nm,1.6s						
ARMA	Armidale	31.08 246	P	P	12 40 36.2	-0.5	
EIDS	Eidsvold	31.08 255	P	P	12 40 35.4	-1.2	
	baz=31,SNR=19						
EIDS	Eidsvold	31.08 255	P	P	12 40 35.1	-1.5	
EIDS	Eidsvold	31.08 255	P	P	12 40 35.5	-1.1	
AUPHS	Peel High Scho	31.83 245	P	P	12 40 43.6	+0.5	
MGCD	Mangrove Creek	32.09 241	P	P	12 40 45.0	-0.3	
	baz=32,SNR=23						
RMQ	Roma	33.20 253	P	P	12 40 54.8	-0.3	
	baz=33,SNR=11						
RMQ	Roma	33.20 253	P	P	12 40 54.8	-0.3	
CNB	Canberra Magne	34.02 238	P	P	12 41 01.5	-0.6	
	baz=34,SNR=22						
CNB	Canberra Magne	34.02 238	P	P	12 41 01.5	-0.6	
AULRC	Lightning Ridg	34.09 248	P	P	12 41 01.8	-0.9	
	comp=Z,73nm,1.2s						
CAN	Canberra	34.31 238	P	P	12 41 02.9	-1.7	
CAN			IAmb	IAmb	12 41 06.2		
	comp=Z,23nm,0.8s						
CAN	Canberra	34.31 238	P	P	12 41 03.7	-0.9	
CAN	Canberra	34.31 238	P	P	12 41 03.9	-0.6	
MILA	Mila	34.67 235	P	P	12 41 07.1	-0.6	
	baz=35,SNR=8.4						
TV1H	Townsville Har	35.49 266	P	P	12 41 14.0	-0.8	
CTA	Charters Tower	35.87 264	P	P	12 41 17.0	-1.1	
CTA	Charters Tower	35.87 264	LR	LR	12 53 42.3		
	comp=Z,116nm,19.0s,baz=90,slow=32						
CTAO	Charters Tower	35.87 264	P	P	12 41 16.7	-1.3	
CTAO	Charters Tower	35.87 264	P	P	12 41 17.0	-1.1	
CTAO	Charters Tower	35.87 264	⇓P	P	12 41 16.9	-1.1	
CTAO			pP	pP	12 41 53.2	-0.1	
CTAO			PcP	PcP	12 43 43.6	+1.9	
TAOE	Nuku Hiva Isla	36.03 76	eSS	SS	12 49 24.3	-5.9	
	comp=Z,173nm,24.0s						
CMSA	Cobar Meteorol	36.29 245	P	P	12 41 20.3	-1.2	
	baz=36,SNR=110						
CMSA	Cobar Meteorol	36.29 245	P	P	12 41 20.3	-1.2	
QLP	Quilpie	37.26 253	P	P	12 41 28.4	-1.3	
	baz=37,SNR=44						
QLP	Quilpie	37.26 253	P	P	12 41 28.6	-1.1	
TOO	Toolangi	37.62 235	P	P	12 41 31.9	-0.9	
	baz=38,SNR=47						
TOO	Toolangi	37.62 235	P	P	12 41 31.6	-1.1	
TOO			IAmb	IAmb	12 41 32.6		
	comp=Z,22nm,0.6s						
TOO	Toolangi	37.62 235	P	P	12 41 31.8	-0.9	
PMG	Port Moresby	37.81 282	P	P	12 41 32.7	-1.8	
PMG	Port Moresby	37.81 282	P	P	12 41 33.5	-1.0	
PMG	Port Moresby	37.81 282	⇓P	P	12 41 33.4	-1.2	
PMG			pP	pP	12 42 10.5	+0.5	
MTSU	Mount Surprise	38.00 267	P	P	12 41 34.9	-1.2	
	baz=38,SNR=109						
MTSU	Mount Surprise	38.00 267	P	P	12 41 35.3	-0.8	
BRAT	Ballarat	38.82 236	P	P	12 41 42.5	-0.1	
STKA	Stephens Creek	39.80 245	P	P	12 41 50.0	-0.9	
	baz=40,SNR=78						
STKA	Stephens Creek	39.80 245	P	P	12 41 49.4	-1.4	
STKA	Stephens Creek	39.80 245	P	P	12 41 49.8	-1.1	
STKA	Stephens Creek	39.80 245	P	P	12 41 49.8	-1.1	
	comp=Z,32nm,0.5s,baz=93,slow=11,SNR=126						
STKA			PcP	PcP	12 43 56.4	+2.7	
	comp=Z,1.7nm,0.5s,baz=66,slow=3.3,SNR=2.9						
STKA			LR	LR	12 57 55.9		
	comp=Z,55nm,18.1s,baz=59,slow=36						
	comp=Z,32nm,0.5s						
COEN	Coen	40.04 273	P	P	12 41 51.7	-1.3	
COEN			IAmb	IAmb	12 41 53.4		
	comp=Z,30nm,0.8s						
COEN	Coen	40.04 273	P	P	12 41 52.3	-0.7	
ARPS	Mount Arapiles	40.28 237	P	P	12 41 53.6	-1.2	
	baz=40,SNR=23						
ARPS	Mount Arapiles	40.28 237	P	P	12 41 53.6	-1.2	
INKA	Innaminka	40.36 251	P	P	12 41 55.3	-0.2	
QIS	Mount Isa	41.97 262	P	P	12 42 06.7	-2.1	
	baz=42,SNR=16						
QIS	Mount Isa	41.97 262	P	P	12 42 06.9	-1.9	
HTT	Hallett	42.18 243	P	P	12 42 08.9	-1.4	
	baz=42,SNR=9.3						
HTT	Hallett	42.18 243	P	P	12 42 09.0	-1.4	
LCRK	Leigh Creek	42.61 247	P	P	12 42 12.6	-1.2	
BBOO	Buckleboo	44.54 244	P	P	12 42 27.3	-1.9	
	baz=44,SNR=38						
BBOO	Buckleboo	44.54 244	P	P	12 42 27.3	-1.9	
BBOO			IAmb	IAmb	12 42 27.7		
	comp=Z,26nm,0.5s						
OOD	Oodnadatta	44.84 251	P	P	12 42 31.0	-0.6	
TABU	Tabubil	44.85 284	P	P	12 42 31.8	-0.1	
MULG	Mulgathing	46.20 248	P	P	12 42 40.7	-1.6	
JAY	Jayapura	46.50 287	P	P	12 42 43.7	-1.1	
	comp=Z,191nm,0.9s,comp=Z,2μm						
WR0	Warramunga Arr	46.76 262	P	P	12 42 44.4	-2.4	
WR0			IAmb	IAmb	12 42 46.2		
	comp=Z,16nm,0.5s						
AS31	Alice Springs	46.79 257	P	P	12 42 45.3	-1.7	
ASAR	Alice Springs	46.79 257	P	P	12 42 45.2	-1.8	
	comp=Z,21nm,0.8s,baz=93,slow=9.1,SNR=194						
ASAR			pP	pP	12 43 20.2	-3.6	
	comp=Z,9.7nm,0.8s,baz=88,slow=8.3,SNR=3.0						
ASAR			PcP	PcP	12 44 18.9	+1.4	
	comp=Z,20nm,0.5s,baz=105,slow=3.9,SNR=26						
ASAR			ScP	ScP	12 47 59.8	+4.6	
	comp=Z,3.0nm,0.8s,baz=100,slow=4.2,SNR=10						
ASAR			LR	LR	13 00 08.6		
	comp=Z,97nm,20.0s,baz=114,slow=33						
	comp=Z,21nm,0.8s						
WB0	Warramunga Arr	46.93 262	P	P	12 42 45.7	-2.4	
WB0			IAmb	IAmb	12 42 47.5		
	comp=Z,26nm,0.7s						
WB2	Warramunga Arr	46.94 262	P	P	12 42 46.0	-2.2	
	baz=47						
WB2	Warramunga Arr	46.94 262	P	P	12 42 46.0	-2.2	
WB2			IAmb	IAmb	12 42 47.2		
	comp=Z,62nm,1.3s						
GENI	Genyem	46.94 287	P	P	12 42 48.2	0.0	
GENI	Genyem	46.94 287	P	P	12 42 47.8	-0.4	
	comp=Z,138nm,0.7s						
WRAB	Tennant Creek	46.94 262	P	P	12 42 45.8	-2.4	
WRAB			IAmb	IAmb	12 42 47.1		
	comp=Z,53nm,1.3s						
WRAB	Tennant Creek	46.94 262	P	P	12 42 46.0	-2.3	
WRAB	Tennant Creek	46.94 262	⇓P	P	12 42 45.9	-2.3	
WRA	Warramunga Arr	46.95 262	P	P	12 42 45.8	-2.5	
WRA	Warramunga Arr	46.95 262	P	P	12 42 46.0	-2.3	
	comp=Z,11nm,0.5s,baz=100,slow=8.6,SNR=323						
WRA			PcP	PcP	12 44 19.4	+1.4	
	comp=Z,6.8nm,0.6s,baz=94,slow=3.5,SNR=9.9						
WRA			ScP	ScP	12 47 58.9	+2.9	
	comp=Z,0.3nm,0.6s,baz=98,slow=4.4,SNR=5.1						
	comp=Z,11nm,0.5s						
KDU	Kakadu	50.39 271	P	P	12 43 12.7	-1.8	
	baz=50,SNR=52						
KDU	Kakadu	50.39 271	P	P	12 43 13.3	-1.2	
FORT	Forrest	51.36 247	P	P	12 43 19.8	-1.8	
	baz=51,SNR=33						
FORT	Forrest	51.36 247	P	P	12 43 20.1	-1.5	
FORT	Forrest	51.36 247	P	P	12 43 19.8	-1.8	
MTN	Manton Dam	51.60 270	P	P	12 43 22.3	-1.3	
	baz=52,SNR=11						
MTN	Manton Dam	51.60 270	P	P	12 43 21.8	-1.7	
MTN			IAmb	IAmb	12 43 22.7		
	comp=Z,43nm,1.1s						
MTN	Manton Dam	51.60 270	P	P	12 43 22.3	-1.3	
WRKA	Warakurna	51.69 254	P	P	12 43 22.6	-1.6	
	baz=52,SNR=272						
WRKA	Warakurna	51.69 254	P	P	12 43 22.6	-1.6	
KNRA	Kununurra	53.06 266	P	P	12 43 32.9	-1.4	
	baz=53,SNR=40						
KNRA	Kununurra	53.06 266	P	P	12 43 32.8	-1.4	
KNRA			IAmb	IAmb	12 43 34.0		
	comp=Z,29nm,0.8s						
KNRA	Kununurra	53.06 266	P	P	12 43 32.8	-1.4	
DRV	Dumont d'Urvil	53.77 200	⇓P	P	12 43 41.0	+2.4	
FAKI	Fak Fak	53.97 282	P	P	12 43 37.9	-3.1	
FAKI			IAmb	IAmb	12 43 41.6		
	comp=Z,64nm,1.2s						
FAKI	Fak Fak	53.97 282	P	P	12 43 39.9	-1.1	
FAKI	Fak Fak	53.97 282	P	P	12 43 39.6	-1.4	
	comp=Z,53nm,1.2s						
BNDI	Bandanaira	55.50 279	P	P	12 43 50.9	-1.1	
BNDI	Bandanaira	55.50 279	P	P	12 43 50.3	-1.7	
	comp=Z,123nm,1.1s,comp=Z,2μm						
SWI	Sorong	55.71 284	P	P	12 43 52.1	-1.4	
	comp=Z,197nm,0.9s,comp=Z,2μm						
KMBL	Kambalda	56.60 246	P	P	12 43 58.1	-1.4	
	baz=56,SNR=8.2						
SBA	Scott Base	57.60 184	P	P	12 44 11.3	+5.5	
VNDA	Vanda	57.70 186	P	P	12 44 10.2	+3.7	
	comp=Z,2.0nm,0.7s,baz=330,slow=3.4,SNR=3.3						
	comp=Z,2.0nm,0.7s						
VNDA	Vanda	57.70 186	P	P	12 44 10.8	+4.3	
NLAI	Namlea	58.58 279	P	P	12 44 12.8	-0.8	
	comp=Z,29nm,0.8s						
SOEI	Soe	58.95 271	P	P	12 44 14.4	-1.9	
SOEI	Soe	58.95 271	P	P	12 44 17.1	+0.8	
SOEI	Soe	58.95 271	P	P	12 44 16.3	0.0	
	comp=Z,45nm,1.4s						
LBMI	Labuha	59.23 282	P	P	12 44 18.2	+0.1	
	comp=Z,84nm,1.0s,comp=Z,1μm						
BATI	Baumata	59.37 270	P	P	12 44 18.7	-0.4	
	comp=Z,32nm,1.1s						
TNTI	Ternate	59.93 284	P	P	12 44 20.7	-2.2	
TNTI			IAmb	IAmb	12 44 24.2		
	comp=Z,37nm,0.9s						
TNTI	Ternate	59.93 284	P	P	12 44 23.1	+0.2	
TNTI	Ternate	59.93 284	P	P	12 44 23.3	+0.4	
	comp=Z,47nm,1.4s						
PSA00	Pilbara Seismi	59.94 257	P	P	12 44 21.5	-1.3	
PSA00			IAmb	IAmb	12 44 21.6		
	comp=Z,54nm,1.4s						
PSA00	Pilbara Seismi	59.94 257	P	P	12 44 20.6	-2.2	
PSA00			IAmb	IAmb	12 44 21.6		
	comp=Z,17nm,1.2s						
RPN	Rapa Nui	60.06 110	LR	LR	13 04 12.7		
	comp=Z,46nm,21.6s,baz=40,slow=29						
SANI	Sanana	60.06 280	P	P	12 44 23.3	-0.5	
SANI	Sanana	60.06 280	P	P	12 44 23.4	-0.4	
	comp=Z,51nm,1.3s						
MEEK	Meekatharra	60.07 251	P	P	12 44 21.9	-1.8	
	baz=60,SNR=13						
KLBR	Kellerberrin	60.07 245	P	P	12 44 22.6	-1.0	
	baz=60,SNR=44						
KLBR	Kellerberrin	60.07 245	P	P	12 44 22.7	-1.0	
MBWA	Marble Bar	60.13 257	P	P	12 44 22.5	-1.7	
MBWA	Marble Bar	60.13 257	P	P	12 44 22.7	-1.5	
MBWA	Marble Bar	60.13 257	⇓P	P	12 44 22.5	-1.7	
NWAO	Narrogin (SRO)	60.35 243	P	P	12 44 25.0	-0.5	
	baz=60,SNR=10						
NWAO			P	P	12 44 25.0	-0.5	
	baz=60,SNR=10						
NWAO	Narrogin (SRO)	60.35 243	P	P	12 44 23.7	-1.8	
BLDU	Ballidu	61.10 246	P	P	12 44 29.5	-1.1	
	baz=61,SNR=58						
MMRI	Maumere	61.20 272	P	P	12 44 30.2	-1.3	
	comp=Z,27nm,0.8s						
MUN	Mundaring	61.33 244	P	P	12 44 31.5	-0.6	
	baz=61,SNR=11						
EDFI	Ende, Flores	61.67 271	P	P	12 44 33.3	-1.5	
MORW	Morawa	61.91 247	P	P	12 44 34.9	-1.2	
	baz=62,SNR=5.3						
MORW	Morawa	61.91 247	P	P	12 44 35.0	-1.1	
CCD	Concordia, Ant	62.65 195	P	P	12 44 44.0	+3.3	
CCD			PcP	pP	12 45 20.7	+0.6	
LUWI	Luwuk	63.41 280	P	P	12 44 38.0	-8.2	
GTOI	Gorontalo	63.85 282	P	P	12 44 49.4	+0.4	
	comp=Z,14nm,0.8s						
CASY	Casey	64.61 206	P	P	12 44 55.5	+2.4	
CASY			IAmb	IAmb	12 45 03.3		
	comp=Z,19nm,0.8s						
CASY	Casey	64.61 206	⇓P	P	12 44 55.6	+2.5	
GIRL	Giralia	64.78 254	P	P	12 44 55.2	+0.2	
	baz=65,SNR=4.7						
PLAI	Plampang	65.31 270	P	P	12 44 57.7	-0.8	
	comp=Z,23nm,1.0s						
TOLI2	Tolitoli	66.08 281	P	P	12 45 01.6	-1.9	
TOLI2			IAmb	IAmb	12 45 03.5		
	comp=Z,14nm,0.9s						
MPSI	Mapaga	66.59 280	P	P	12 45 06.0	-0.7	
	comp=Z,24nm,1.0s,comp=Z,600nm						
QSPA	South Pole Qui	69.13 180	P	P	12 45 25.7	+3.8	
	comp=Z,5.2nm,0.7s,baz=329,slow=0.3,SNR=46						
	comp=Z,5.2nm,0.7s						
QSPA	South Pole Qui	69.13 180	P	P	12 45 26.1	+4.2	
MJAR	Matsushiro Arr	72.03 322	P	P	12 45 39.0	-0.7	
	comp=Z,2.5nm,0.6s,baz=161,slow=6.2,SNR=14						
	comp=Z,2.5nm,0.6s						
PETK	Petropavlovsk-	77.35 344	P	P	12 46 11.3	+1.5	
	comp=Z,9.7nm,0.6s,baz=108,slow=7.1,SNR=37						
	comp=Z,9.7nm,0.6s						
BELA	Belgrano 2	78.80 172	P	P	12 46 14.9	-2.7	
KSRS	Korea Array	78.85 317	P	P	12 46 19.3	+0.9	
	comp=Z,1.1nm,0.6s,baz=127,slow=5.8,SNR=6.3						
KSRS			LR	LR	13 14 16.5		
	comp=Z,12nm,21.1s,baz=140,slow=30						
	comp=Z,1.1nm,0.6s						
YBH	Yreka Blue Hor	79.14 37	P	P	12 46 14.8	-5.3	
YBH			IAmb	IAmb	12 47 04.5		
	comp=Z,30nm,1.8s						
DSP	Deep Springs	79.27 43	P	P	12 46 16.0	-4.8	
YERR	Yerington	79.45 41	P	P	12 46 16.4	-5.6	
NVAR	Mina Array Bea	79.70 42	P	P	12 46 28.1	+4.8	
	comp=Z,1.9nm,0.7s,baz=226,slow=7.4,SNR=18						
NVAR			pP	pP	12 47 03.4	-1.5	
	comp=Z,3.0nm,0.8s,baz=223,slow=9.1,SNR=4.7						
	comp=Z,1.9nm,0.7s						
USRK	Ussuriysk Ar.	80.72 325	P	P	12 46 28.2	-0.1	
	comp=Z,2.0nm,0.5s,baz=137,slow=4.3,SNR=7.0						
	comp=Z,2.0nm,0.5s						
TPRI	Tanjung Pinang	81.06 274	P	P	12 46 33.6	+2.7	
MAW	Mawson	81.96 199	P	P	12 46 37.7	+3.0	
	baz=82,SNR=18						
MAW	Mawson	81.96 199	P	P	12 46 37.1	+2.4	
	comp=Z,6.2nm,0.6s,baz=139,slow=5.7,SNR=29						
	comp=Z,6.2nm,0.6s						
NJ2	Nanjing	82.05 309	eP	P	12 46 34.0	-1.6	
NJ2			pP	pwP	12 47 19.8	+0.2	
NJ2			sP	sP	12 47 41.0	+6.8	
NJ2			pmax	pmax			
	comp=Z,11nm,0.6s						
NJ2			pmax	pmax			
	comp=Z,200nm,6.3s						
MDJ	Mudanjiang	82.30 324	P	P	12 46 38.0	+1.4	
MDJ			pP	pwP	12 47 25.5	+4.9	
MDJ			sP	sP	12 47 45.5	+10	
MDJ			PP	PP	12 49 50.0	+2.0	
MDJ	Mudanjiang	82.30 324	S	S	12 56 40.0	+2.0	
MDJ	Mudanjiang	82.30 324	ScS	ScS	12 56 51.8	-0.8	
MDJ			pmax	pmax			

BTO			sP	**sP**	**12 48 32.3**	**+7.6**
BTO			PP	**PP**	**12 51 04.5**	**-4.5**
BTO	**Baotou**	**92.36 313**	S	**S**	**12 58 09.3**	**-5.2**
BTO	**Baotou**	**92.36 313**	SS	SS	13 04 32.8	+2.8
BTO			pmax	pmax		
	comp=Z,8.0nm,0.7s					
BTO			pmax	pmax		
	comp=Z,330nm,4.3s					
BTO			LR	LR		
	comp=N,380nm,12.2s					
BTO			LR	LR		
	comp=E,340nm,11.0s					
BTO			LR	LR		
	comp=Z,310nm,10.7s					
CMAR	**Chiang Mai Arr**	**92.56 289**	P	**P**	**12 47 25.3**	**-1.6**
CMAR	**Chiang Mai Arr**	**92.56 289**	P	**P**	**12 47 27.3**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=122,slow=2.8,SNR=19					
CMAR			PP	**PP**	**12 51 09.8**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=127,slow=5.6,SNR=4.7					
	comp=Z,2.8nm,0.8s					
PZH	**PanZhiHua**	**93.07 297**	P	**P**	**12 47 27.5**	**-1.7**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,60nm,4.4s					
CD2	**Chengdu**	**93.08 302**	*e*P	**P**	**12 47 25.5**	**-3.5**
YAK	**Yakutsk**	**93.45 337**	P	**P**	**12 47 25.4**	**-4.4**
ATAH	**Atahualpa**	**93.97 99**	LR	LR	13 20 56.3	
	comp=Z,28nm,20.3s,baz=179,slow=29					
F33A	**5 Mile Ranch,**	**97.50 44**	P	**P**	**12 47 46.4**	**-2.4**
SONM	**Songino Array**	**97.69 318**	P	Pdif	12 47 51.2	+1.4
	comp=Z,0.4nm,0.6s,baz=126,slow=3.7,SNR=2.8					
	comp=Z,0.4nm,0.6s					
ZALV	**Zalesovo Beam**	**112.36 321**	PKiKP	**PKiKP**	**12 52 50.6**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=174,slow=0.7,SNR=8.3					
MKAR	**Makanchi Array**	**113.27 313**	PKiKP	**PKiKP**	**12 52 52.1**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=143,slow=1.2,SNR=16					
KURBB	**Kurchatov Arra**	**116.03 317**	PKP	**PKiKP**	**12 52 57.2**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=88,slow=1.8,SNR=17					
BVAR	**Borovoye Array**	**120.98 320**	PKP	**PKiKP**	**12 53 07.8**	**+1.4**
	comp=Z,5.0nm,0.5s,baz=109,slow=1.1,SNR=24					
ARCES	**ARCESS Array B**	**129.77 351**	PKP	**PKiKP**	**12 53 24.4**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=339,slow=1.9,SNR=15					
FINES	**FINESS Array B**	**136.85 345**	PKhKP	PKPpre	12 53 27.3	
	comp=Z,2.9nm,1.0s,baz=24,slow=3.8,SNR=4.4					
FINES			PKP	**PKiKP**	**12 53 36.8**	**-1.1**
	comp=Z,4.9nm,1.0s,baz=98,slow=2.8,SNR=3.8					
HFS	**Hagfors**	**140.32 353**	PKhKP	PKPpre	12 53 35.6	
	comp=Z,1.0nm,0.3s,baz=84,slow=4.6,SNR=14					
NACGM	**Naroch**	**142.18 339**	*e*PKP	**PKPdf**	**12 53 43.3**	**-2.6**
	comp=E,786nm,0.9s					
AKASG	**Malin Array Be**	**144.55 333**	PKP	**PKPdf**	**12 53 50.4**	**+0.1**
	comp=E,15nm,0.5s,baz=41,slow=4.1,SNR=54					
AKBB	**Malin Array Si**	**144.55 333**		**PKPdf**	**12 53 50.3**	**+0.1**
EKA	**Eskdalemuir Ar**	**145.17 8**	PKPbc	**PKiKP**	**12 53 53.3**	**-1.8**
	comp=E,2.3nm,0.4s,baz=319,slow=2.5,SNR=20					
SORM	**Soroca**	**146.82 330**	⇑P	**PKiKP**	**12 53 58.3**	**-0.5**
BNN	**Bunyan**	**147.78 311**		**PKPab**	**12 54 01.3**	**-1.0**
OJC	**Ojcow**	**148.41 341**	*e*PKP	**PKPab**	**12 54 02.9**	**-1.3**
BURAR	**Bucovina Array**	**148.60 333**	⇑P	**PKPab**	**12 54 04.6**	**-0.6**
BURAR	**Bucovina Array**	**148.60 333**		**PKPdf**	**12 53 55.5**	**-1.9**
BURAR				**PKPab**	**12 54 04.0**	**-1.2**
STHS	**Stebnicka Huta**	**148.65 339**	*e*PKP	**PKPab**	**12 54 03.2**	**-2.0**
KOLS	**Kolonicke sedl**	**148.70 337**	*e*PKP	**PKPab**	**12 54 04.2**	**-1.2**
KSP	**Ksiaz**	**148.77 346**	*e*PKP	**PKPab**	**12 54 04.3**	**-1.3**
BRTR	**Keskin Array B**	**148.92 314**	PKPbc	**PKiKP**	**12 54 03.9**	**+0.3**
	comp=E,9.0nm,0.8s,baz=137,slow=4.8,SNR=39					
CLL	**Collm**	**148.99 350**		**PKPab**	**12 54 04.6**	**-1.9**
CLL	**Collm**	**148.99 350**	*e*(PKPbc)	**PKPab**	**12 54 04.0**	**-2.5**
CLL	comp=Z,17nm,0.9s		*i* x	x	12 54 12.3	
	comp=Z,10.0nm,0.9s					
CLL			*e*pPKPbc	**pPKPbc**	**12 54 47.0**	**+1.3**
CRVS	**Cervenica-Dubn**	**149.01 338**	*e*PKP	**PKPab**	**12 54 05.0**	**-1.7**
CHVC	**Chvalec**	**149.07 346**	*e*PKPAB	**PKPab**	**12 54 05.0**	**-1.9**
DPC	**Dobruska-Polom**	**149.23 345**	*e*PKPAB	**PKPab**	**12 54 05.6**	**-2.0**
OKC	**Ostrava-Krasne**	**149.23 343**	*e*PKPAB	**PKPab**	**12 54 05.2**	**-2.3**
VRI	**Vrincioaia**	**149.23 329**	⇑P	**PKPab**	**12 54 05.6**	**-2.2**
BRG	**Berggiesshubel**	**149.24 348**	*i* PKP	**PKPab**	**12 54 06.2**	**-1.3**
BRG			Amp		12 54 06.8	
	comp=Z,9.4nm,0.6s					
TRPA	**Tarpa**	**149.27 336**	⇑P	**PKPab**	**12 54 05.3**	**-2.4**
PLOR	**Plostina**	**149.28 329**	⇑P	**PKiKP**	**12 54 04.7**	**+0.7**
MORC	**Moravsky Berou**	**149.45 343**	*e*PKP	**PKPab**	**12 54 05.7**	**-2.8**
LANS	**Liptovska Anna**	**149.45 341**	*e*PKP	**PKPab**	**12 54 06.8**	**-1.7**
HSKC	**Hora Svate Kat**	**149.59 349**	*e*PKPAB	**PKPab**	**12 54 06.1**	**-2.9**
MAUC	**Maruska**	**149.74 343**	*e*PKPAB	**PKPab**	**12 54 06.9**	**-2.8**
NEHR	**Nehoiu**	**149.76 329**	⇓P	**PKPab**	**12 54 11.1**	**+1.2**
DOPR	**Dopca**	**149.79 331**	⇓P	**PKPab**	**12 54 07.1**	**-2.9**
MLR	**Muntele Rosu**	**149.88 329**	⇑P	**PKiKP**	**12 54 05.7**	**+0.3**
PRU	**Pruhonice**	**149.96 347**	*e*PKPAB	**PKPab**	**12 54 07.1**	**-3.4**
GOPC	**GO Pecny, Ondr**	**149.98 347**	*e*PKPAB	**PKPab**	**12 54 07.2**	**-3.4**
VRAC	**Vranov**	**150.12 344**	*e*PKP	**PKiKP**	**12 54 07.4**	**+1.8**
MMAI	**Mount Meron Ar**	**150.14 300**	PKPbc	**PKiKP**	**12 54 07.8**	**+1.6**
	comp=Z,11nm,0.5s,baz=68,slow=5.5,SNR=29					
MDUB	**Mudurnu**	**150.16 317**		**PKiKP**	**12 54 07.5**	**+1.5**
VYHS	**Vyhne**	**150.23 341**	*e*PKP	**PKiKP**	**12 54 07.9**	**+2.1**
JAVC	**Velka Javorina**	**150.25 342**	*e*PKP	**PKPab**	**12 54 08.8**	**-3.0**
VOIR		**150.34 330**	⇑P	**PKiKP**	**12 54 08.4**	**+2.2**
KRUC	**Moravsky**	**150.40 344**	*e*PKP	**PKiKP**	**12 54 07.9**	**+1.8**
ARR	**Arges**	**150.59 331**	⇓P	**PKPab**	**12 54 09.4**	**-4.0**
BMRD	**Maredsous**	**150.70 360**	*d*PKP	**PKiKP**	**12 54 08.7**	**+2.0**
MODS	**Modra-Piesok**	**150.80 343**	*e*PKP	**PKPab**	**12 54 09.8**	**-4.3**
DOU	**Dourbes**	**150.91 0**	*d*PKP	**PKPdf**	**12 54 01.0**	**+0.3**
LOT	**Lotru**	**150.92 332**	⇑P	**PKiKP**	**12 54 08.8**	**+1.4**
KHC	**Kasperske Hory**	**150.97 348**		**PKiKP**	**12 54 09.6**	**+2.3**
KHC	**Kasperske Hory**	**150.97 348**	*e*PKPAB	**PKiKP**	**12 54 09.2**	**+1.8**
KHC			*e*pPKP	**pPKPbc**	**12 54 52.1**	**+1.6**
CKRC	**Cesky Krumlov**	**151.12 347**	*e*PKPAB	**PKiKP**	**12 54 09.9**	**+2.3**
GERES	**GERESS Array B**	**151.22 347**	PKPbc	**PKiKP**	**12 54 09.8**	**+1.8**
	comp=Z,3.6nm,0.7s,baz=347,slow=11,SNR=11					
SURR	**Surduc**	**151.38 334**	⇑P	**PKiKP**	**12 54 10.0**	**+1.8**
GZR	**Gura Zlata**	**151.39 333**	⇑P	**PKiKP**	**12 54 10.2**	**+1.8**
CONA	**Conrad Observa**	**151.59 344**	*i* PKP	**PKPbc**	**12 54 11.1**	**+2.7**
	comp=Z,5.5nm,0.6s					
CONA			*i* PKP	**PKPab**	**12 54 21.0**	**+3.5**
	comp=Z,7.4nm,0.7s					
RONA	**Rosalia, Austr**	**151.68 343**	*i* PKP	**PKiKP**	**12 54 11.2**	**+2.3**
	comp=Z,7.8nm,0.5s					
RONA			*i* PKP	**PKPab**	**12 54 21.3**	**+3.5**
	comp=Z,9.8nm,0.7s					
BZS	**Buzias**	**151.70 334**	⇓P	**PKiKP**	**12 54 10.7**	**+1.8**
MORH	**Mrgy, Hungar**	**152.30 339**	⇑P	**PKiKP**	**12 54 12.1**	**+2.0**
ARSA	**Arzberg**	**152.30 344**	*i* PKP	**PKiKP**	**12 54 12.2**	**+2.0**
	comp=Z,5.7nm,1.0s					
MDVR	**Moldovita**	**152.34 333**	⇑P	**PKiKP**	**12 54 12.4**	**+2.0**
LESA	**Schwarzleotal**	**152.78 348**	*i* PKP	**PKiKP**	**12 54 13.7**	**+2.5**
	comp=Z,1.7nm,0.5s					
SOKA	**Soboth**	**152.96 344**	*i* pPKP	**PKPab**	**12 54 25.4**	**+2.1**
	comp=Z,3.2nm,0.5s					
WATA	**Walderalm**	**153.07 349**	*i* PKP	**PKiKP**	**12 54 13.9**	**+2.0**
	comp=Z,3.8nm,0.4s					
WTTA	**Wattenberg**	**153.13 349**	*i* PKP	**PKiKP**	**12 54 14.2**	**+2.1**
	comp=Z,7.5nm,0.5s					
VTS	**Vitosha**	**153.32 328**	⇑P	**PKiKP**	**12 54 14.9**	**+2.3**
DAVA	**Damuels**	**153.37 352**	*i* PKP	**PKiKP**	**12 54 15.0**	**+2.4**
	comp=Z,4.4nm,0.7s					
ABTA	**Abfaltersbach**	**153.46 348**	*i* PKP	**PKiKP**	**12 54 14.2**	**+1.6**
	comp=Z,5.8nm,0.6s					
ESDC	**Sonseca Array**	**159.94 20**	PKPab	**PKPab**	**12 54 56.6**	**+3.1**
	comp=Z,0.5nm,0.6s,baz=332,slow=6.7,SNR=4.0					
DBIC	**Dimbokro**	**163.11 146**	PKPab	**PKPab**	**12 55 11.4**	**+3.6**
	comp=Z,0.8nm,0.4s,baz=175,slow=8.1,SNR=3.3					
KEST	**Kesra**	**164.69 345**	PKPab	**PKPab**	**12 55 13.7**	**-0.7**
	comp=Z,4.4nm,0.7s,baz=342,slow=3.2,SNR=4.0					
TORD	**Torodi Ar. Bea**	**171.76 160**	PKP	**PKPdf**	**12 54 25.5**	**+2.1**
	comp=Z,0.7nm,1.1s,baz=268,slow=5.0,SNR=2.8					
TORD			PKPab	**PKPab**	**12 55 50.7**	**+4.7**
	comp=Z,1.5nm,0.8s,baz=172,slow=3.1,SNR=5.3					

*NEIC **27** 12:45:07.0±1.0, 17°.37S×0°.06×178°.7W±0°.1, h547km±10km, mb4.3/22, Error ellipse: s-maj=19.3km s-min=7.8km az=100.0*
*IDC **27** 12:45:08.5±1.3, 17°.72S×178°.77W, h555km±10km, mb3.2/7, mbtmp4.0/8, Error ellipse: s-maj=34.2km s-min=16.8km az=142.0*

ISC 27 12:45:07.3±0.6, 17°.5S±0°.1×178°.72W±0°.09, h547km, n35, σ1§04/38, mb4.2/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.09 264**		P	**P**	**12 46 22.8**	**+0.1**
MSVF	**Nonsavu**	**3.09 264**		S	**S**	**12 47 23.9**	**-0.2**
MSVF	**Nonsavu**	**3.09 264**		P	**P**	**12 46 22.9**	**+0.2**
	14nm,0.8s,baz=31,slow=4.8,SNR=16						
MSVF				S	**S**	**12 47 26.8**	**+2.7**
	15nm,1.3s,baz=112,slow=19,SNR=7.2						
AFI	**Afiamalu**	**7.56 63**		P	**P**	**12 46 58.9**	**-1.9**
NIUE	**Niue**	**8.51 102**		P	**P**	**12 47 09.6**	**-0.4**
KOUNC	**Koumac, New Ca**	**16.36 256**		P	**P**	**12 48 30.0**	**-0.4**
KOUNC				IAmb	IAmb	12 48 37.1	
	comp=Z,13nm,0.9s						
URZ	**Urewera**	**21.05 189**		P	**P**	**12 49 10.3**	**-2.5**
	comp=Z,4.6nm,0.7s,baz=308,slow=17,SNR=1.6						
	comp=Z,4.6nm,0.7s						
FOZ	**Fox Glacier**	**27.75 198**		P	**P**	**12 50 11.5**	**-0.7**
EIDS	**Eidsvold**	**29.14 249**		P	**P**	**12 50 24.5**	**-0.1**
EIDS				IAmb	IAmb	12 50 39.2	
	comp=Z,8.7nm,1.1s						
ARMA	**Armidale**	**29.91 239**		P	**P**	**12 50 31.9**	**+0.6**
ARMA				IAmb	IAmb	12 50 44.2	
	comp=Z,20nm,1.4s						
MLZ	**Mavora Lakes**	**29.92 199**		P	**P**	**12 50 30.9**	**-0.1**
CTAO	**Charters Tower**	**33.23 260**		P	**P**	**12 50 59.1**	**-0.6**
CTAO				IAmb	IAmb	12 51 09.8	
	comp=Z,7.2nm,1.3s						
COEN	**Coen**	**36.80 270**		P	**P**	**12 51 29.1**	**-0.4**
COEN				IAmb	IAmb	12 51 30.7	
	comp=Z,6.3nm,0.9s						
TOO	**Toolangi**	**37.23 230**		P	**P**	**12 51 32.7**	**+0.1**
TOO				IAmb	IAmb	12 51 33.9	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**38.59 241**		P	**P**	**12 51 44.0**	**+0.2**
STKA	**Stephens Creek**	**38.59 241**		P	**P**	**12 51 43.9**	**+0.2**
	comp=Z,4.3nm,0.6s,baz=92,slow=10.0,SNR=8.2						
	comp=Z,4.3nm,0.6s						
BBOO	**Buckleboo**	**43.37 241**		P	**P**	**12 52 21.5**	**-0.1**
WR0	**Warramunga Arr**	**44.23 259**		P	**P**	**12 52 27.6**	**-0.9**
WR0				IAmb	IAmb	12 52 28.7	
	comp=Z,6.6nm,1.2s						
WB0	**Warramunga Arr**	**44.39 259**		P	**P**	**12 52 28.8**	**-0.9**
WB0				IAmb	IAmb	12 52 31.3	
	comp=Z,9.4nm,1.4s						
WB2	**Warramunga Arr**	**44.41 259**		P	**P**	**12 52 28.8**	**-1.1**
WRA	**Warramunga Arr**	**44.42 259**		P	**P**	**12 52 29.2**	**-0.8**
WRA	**Warramunga Arr**	**44.42 259**		P	**P**	**12 52 28.9**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=93,slow=6.8,SNR=17						
WRA				PcP	**PcP**	**12 54 03.1**	**+1.1**
	comp=Z,0.4nm,1.0s,baz=90,slow=3.4,SNR=3.7						
	comp=Z,1.4nm,0.6s						
AS31	**Alice Springs**	**44.63 254**		P	**P**	**12 52 31.4**	**-0.2**
AS31				IAmb	IAmb	12 52 31.9	
	comp=Z,4.3nm,0.7s						
ASAR	**Alice Springs**	**44.63 254**		P	**P**	**12 52 30.8**	**-0.9**
ASAR	**Alice Springs**	**44.63 254**		P	**P**	**12 52 31.3**	**-0.3**
	comp=Z,14nm,0.7s,baz=87,slow=8.2,SNR=176						
ASAR				PcP	**PcP**	**12 54 02.4**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=104,slow=4.0,SNR=4.4						
	comp=Z,14nm,0.7s						
MIDW	**Midway**	**45.42 2**		P	**P**	**12 52 36.1**	**-1.3**
MTN	**Manton Dam**	**48.51 268**		P	**P**	**12 53 01.0**	**0.0**
MTN				IAmb	IAmb	12 53 01.4	
	comp=Z,13nm,0.9s						
FORT	**Forrest**	**49.93 244**		P	**P**	**12 53 10.9**	**-0.3**
KNRA	**Kununurra**	**50.24 264**		P	**P**	**12 53 13.5**	**-0.2**
KNRA				IAmb	IAmb	12 53 14.0	
	comp=Z,16nm,0.9s						
SOEI	**Soe**	**55.77 270**		P	**P**	**12 53 53.1**	**-0.2**
SOEI				IAmb	IAmb	12 53 56.0	
	comp=Z,24nm,1.1s						
QSPA	**South Pole Qui**	**72.59 180**		P	**P**	**12 55 40.2**	**+1.1**
NVAR	**Mina Array Bea**	**79.31 44**		P	**P**	**12 56 19.2**	**+2.4**
	comp=Z,0.7nm,0.7s,baz=226,slow=8.8,SNR=8.4						
	comp=Z,0.7nm,0.7s						
BELA	**Belgrano 2**	**82.65 173**		P	**P**	**12 56 33.5**	**+0.4**
ILAR	**Eielson Array**	**85.52 13**		P	**P**	**12 56 47.7**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=217,slow=6.0,SNR=7.4						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.23 44**		P	**P**	**12 56 57.6**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=218,slow=3.8,SNR=4.0						
	comp=Z,0.3nm,0.5s						

*NOU **27** 12:56:42.6, 25°.20S×179°.69E, h610km, mb4.0/12, South of Fiji Islands*
*IDC **27** 12:56:44.5±1.0, 25°.32S×179°.33E, h534km±11km, mb3.2/9, mbtmp4.1/13, Error ellipse: s-maj=15.9km s-min=15.0km az=105.0*

ISC 27 12:56:45.2±0.5, 25°.37S±0°.07×179°.4E±0°.1, h550km, n37, σ1§74/40, mb3.6/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.57 148**		P	**P**	**12 58 12.9**	**+1.5**
RAO	**Raoul Island**	**4.57 148**		P	**P**	**12 58 11.5**	**+0.1**
	201nm,0.2s,baz=233,slow=21,SNR=5.7						
RAO				S	**S**	**12 59 21.1**	**-0.7**
	185nm,0.3s,baz=110,slow=22,SNR=2.7						
MSVF	**Nonsavu**	**7.69 351**		P	**P**	**12 58 36.6**	**-3.5**
MSVF	**Nonsavu**	**7.69 351**		P	**P**	**12 58 36.5**	**-3.7**
	14nm,0.5s,baz=238,slow=23,SNR=38						
TAVE	**Taveuni**	**8.64 5**		P	**P**	**12 58 47.9**	**-1.6**
YSA	**Yasawairara**	**8.78 349**		P	**P**	**12 58 48.4**	**-2.5**
DGTI	**Dogotuki**	**9.03 2**		P	**P**	**12 58 51.2**	**-2.2**
PINNC	**Pines Island,**	**11.22 282**		P	**P**	**12 59 16.0**	**+0.2**
KUZ	**Kuaotunu**	**11.76 194**		P	**P**	**12 59 22.4**	**+1.3**
YATNC	**Mamie plateau,**	**11.88 284**		P	**P**	**12 59 23.0**	**+0.4**
DZM	**Mont Dzumac**	**12.27 283**		P	**P**	**12 59 27.0**	**+0.3**
DZM	**Mont Dzumac**	**12.27 283**		P	**P**	**12 59 26.9**	**+0.1**
	5.4nm,0.6s,baz=104,slow=10,SNR=9.7						
NOUC	**Port Laguerre**	**12.38 283**		P	**P**	**12 59 28.3**	**+0.5**
URZ	**Urewera**	**12.99 188**		P	**P**	**12 59 32.0**	**-1.8**
URZ	**Urewera**	**12.99 188**		P	**P**	**12 59 32.0**	**-1.8**
	11nm,0.4s,baz=41,slow=2.6,SNR=24						
URZ				S	**S**	**13 01 48.5**	**-4.1**
	8.5nm,0.5s,baz=338,slow=23,SNR=8.5						
HIZ	**Hauiti**	**13.65 195**		P	**P**	**12 59 39.6**	**-1.0**
RPZ	**Rata Peaks**	**19.52 198**		P	**P**	**13 00 37.3**	**+0.5**
	2.3nm,0.4s,baz=294,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**33.65 250**		P	**P**	**13 02 42.2**	**+1.5**
	1.4nm,0.5s,baz=119,slow=13,SNR=1.4						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**41.23 262**		P	**P**	**13 03 43.2**	**+0.4**
	0.5nm,0.4s,baz=93,slow=7.8,SNR=16						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**41.74 268**		P	**P**	**13 03 46.6**	**-0.3**
	0.8nm,0.4s,baz=98,slow=7.0,SNR=31						
WRA				ScP	**ScP**	**13 08 33.0**	**+4.6**
	0.4nm,0.8s,baz=103,slow=3.6,SNR=3.0						
	0.8nm,0.4s						
QSPA	**South Pole Qui**	**64.72 180**		P	**P**	**13 06 31.5**	**+2.2**
	1.4nm,1.2s,baz=82,slow=4.6,SNR=1.6						
	1.4nm,1.2s						
MAW	**Mawson**	**76.18 201**		P	**P**	**13 07 35.8**	**-0.9**
	1.9nm,0.4s,baz=72,slow=20,SNR=18						
	1.9nm,0.4s						
PETK	**Petropavlovsk-**	**80.39 347**		P	**P**	**13 08 00.1**	**+0.8**
	8.0nm,1.2s,baz=134,slow=4.3,SNR=1.5						
	8.0nm,1.2s						
NVAR	**Mina Array Bea**	**86.21 44**		P	**P**	**13 08 30.3**	**+1.4**
	0.6nm,0.6s,baz=222,slow=8.5,SNR=9.0						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**91.70 58**		P	**P**	**13 08 56.2**	**+1.7**
	0.4nm,0.6s,baz=216,slow=6.2,SNR=2.8						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**93.59 14**		P	**P**	**13 09 01.7**	**-0.5**
	0.3nm,0.7s,baz=232,slow=4.5,SNR=3.0						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**115.89 316**		PKP	**PKiKP**	**13 14 25.4**	**+0.1**
	0.2nm,0.4s,baz=94,slow=1.9,SNR=5.0						
BVAR	**Borovoye Array**	**121.14 318**		PKP	**PKiKP**	**13 14 35.4**	**-0.2**
	0.7nm,0.4s,baz=119,slow=2.0,SNR=4.1						
ARCES	**ARCESS Array B**	**133.19 348**		PKP	**PKiKP**	**13 14 59.5**	**+0.3**
	1.4nm,0.6s,baz=66,slow=2.8,SNR=5.1						
FINES	**FINESS Array B**	**139.63 341**		PKhKP	PKPpre	13 15 02.9	
	3.2nm,1.0s,baz=69,slow=6.3,SNR=5.4						
FINES				PKP	**PKiKP**	**13 15 10.9**	**-1.6**
	3.7nm,1.0s,baz=48,slow=2.8,SNR=4.1						
NB2	**NORSAR Subarra**	**143.43 350**		PKP	**PKPdf**	**13 15 15.6**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=13,slow=3.2						
NOA	**NORSAR Array B**	**143.43 350**		PKP	**PKPdf**	**13 15 15.3**	**-1.5**
	comp=Z,3.3nm,0.8s,baz=16,slow=4.9,SNR=9.5						
HFS	**Hagfors**	**143.85 348**		PKP	**PKPdf**	**13 15 16.9**	**-0.7**
	comp=Z,6.2nm,0.4s,baz=56,slow=3.7,SNR=32						
MMAI	**Mount Meron Ar**	**147.74 292**		PKPbc	**PKiKP**	**13 15 30.5**	**+0.3**
	comp=Z,2.8nm,0.3s,baz=75,slow=6.5,SNR=12						
BRTR	**Keskin Array B**	**147.96 305**		PKPbc	**PKiKP**	**13 15 30.0**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=116,slow=5.6,SNR=3.1						
EKA	**Eskdalemuir Ar**	**150.01 3**		PKPbc	**PKiKP**	**13 15 33.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=347,slow=2.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**167.65 191**		PKPab	**PKPab**	**13 16 59.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=152,slow=3.1,SNR=3.6						

*ASRS **27** 13:12:57.0±0.3, 51°.N±1°.×9°.1E±°, h5km, MLh3.9/17, Error ellipse: s-maj=3.1km s-min=2.2km az=145.5, confirmed*
*NNC **27** 13:13:04.8±2.3, 50°.73N×90°.68E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=22.9km s-min=11.9km az=93.0*

ISC 27 13:13:03.6±0.9, 50°.79N±0°.04×91°.09E±0°.03, h10km, n31, σ1§91/54, 7C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUR	**Chagan-Uzun**	**1.88 250**		Pg	**Pn**	**13 13 34.5**	**-1.4**
CUR				Sg	**Sn**	**13 13 59.9**	**+0.1**
ULGR	**Ulagan, Altay**	**2.00 266**		Pg	**Pb**	**13 13 39.6**	**-0.5**
ULGR				Sg	**Sg**	**13 14 06.9**	**-0.8**
DJO	**Djoy, Khakassi**	**2.00 2**		Pg	**Pb**	**13 13 39.5**	**-0.5**
DJO				Sg	**Sg**	**13 14 07.0**	**-0.8**
CERR	**Cheremushki**	**2.08 5**		Pg	**Pb**	**13 13 40.8**	**-0.5**
CERR				Sg	**Sg**	**13 14 10.4**	**+0.1**
AKAR	**Aktash**	**2.26 259**		Pg	**Pn**	**13 13 40.8**	**-0.3**
AKAR				Sg	**Sb**	**13 14 11.7**	**-1.0**
CHBI	**Chibit, Altay**	**2.34 260**		Pg	**Pn**	**13 13 42.1**	**0.0**
CHBI				Sg	**Sb**	**13 14 14.6**	**-0.2**
YALR	**Yailyu, Altay**	**2.40 296**		Pg	**Pn**	**13 13 44.5**	**+1.6**
YALR				Sg	**Sg**	**13 14 19.9**	**-0.7**
DGZ	**Jazzator, Alta**	**2.59 247**		Pg	**Pn**	**13 13 46.9**	**+1.3**
DGZ				Sg	**Sb**	**13 14 21.4**	**-0.7**
ARTR	**Artybash**	**2.60 294**		Pg	**Pb**	**13 13 51.2**	**+1.0**
ARTR				Sg	**Sg**	**13 14 27.6**	**+0.6**
ERNS	**Erzin**	**2.65 100**		Pg	**Pn**	**13 13 44.5**	**-1.9**
ERNS				Sg	**Sn**	**13 14 17.7**	**-0.8**
TASR	**Tashtagol**	**2.81 316**		Pg	**Pb**	**13 13 54.1**	**+0.3**
TASR				Sg	**Sg**	**13 14 31.2**	**-2.5**
LUZB	**Luzhba, Kemero**	**3.18 336**		Pg	**Pb**	**13 14 00.9**	**+0.8**
LUZB				Sg	**Sg**	**13 14 43.8**	**-1.8**
ELDR	**Elanda**	**3.19 280**		Pg	**Pb**	**13 14 00.0**	**-0.3**
ELDR				Sg	**Sb**	**13 14 41.7**	**+2.5**
GALT	**Gorno-Altaysk,**	**3.43 292**		Pg	**Pb**	**13 14 04.2**	**-0.2**
GALT				Sg	**Sb**	**13 14 50.1**	**+3.9**
ELT	**Eltsovka**	**3.89 311**		Pn	**Pn**	**13 14 03.3**	**-0.1**
ELT				Pg	**Pb**	**13 14 12.8**	**+0.6**
ELT				Sg	**Sb**	**13 15 03.6**	**+4.3**
UKR	**Ust'-Kan**	**4.01 275**		Pg	**Pb**	**13 14 14.5**	**+0.2**
UKR				Sg	**Sb**	**13 15 07.6**	**+4.9**
ERU	**Erunakovo, Kuz**	**4.05 327**		Pg	**Pb**	**13 14 17.8**	**+2.8**
ERU				Sg	**Sg**

ATH				S	Sg	13 53 54.7	-0.1
	comp=N,19μm,0.3s						
ATH	**Athens Observa**	**0.37**	**169**	P	Pg	13 53 49.7	-0.2
ATH				S	Sg	13 53 54.4	-0.3
ATH				AML	AML	13 53 54.9	
	comp=E,50078μm,0.3s						
ATH				AML	AML	13 53 59.1	
	comp=N,27449μm,0.4s						
ATHU	**Athens Univers**	**0.39**	**161**	P	Pg	13 53 49.9	-0.3
ATHU				S	Sg	13 53 55.6	+0.2
	comp=N,6μm,0.4s						
ATHU	**Athens Univers**	**0.39**	**161**	P	Pg	13 53 49.8	-0.4
ATHU				S	Sg	13 53 55.1	-0.3
KYMI	**Kymi, Euboea I**	**0.48**	**51**	P	Pg	13 53 51.9	0.0
KYMI				S	Sb	13 53 59.1	-1.0
	comp=N,30μm,0.3s						
KYMI	**Kymi, Euboea I**	**0.48**	**51**	P	Pg	13 53 51.9	0.0
KYMI				S	Sg	13 53 58.5	+0.3
KYMI				AML	AML	13 54 00.1	
	comp=E,67147μm,0.4s						
KYMI				AML	AML	13 54 03.4	
	comp=N,52796μm,0.3s						
VLY	**Voula,Athens**	**0.50**	**164**	P	Pg	13 53 52.0	-0.3
VLY				S	Sg	13 53 58.7	-0.2
	comp=N,32μm,0.4s						
VLY	**Voula,Athens**	**0.50**	**164**	P	Pg	13 53 52.0	-0.3
VLY				S	Sg	13 53 58.5	-0.4
VLY				AML	AML	13 53 59.0	
	comp=N,47154μm,0.5s						
VLY				AML	AML	13 53 59.4	
	comp=E,80392μm,0.3s						
LKR	**Lokris**	**0.58**	**303**	P	Pg	13 53 53.0	-0.9
LKR				S	Sb	13 54 01.6	-1.5
LKR				AML	AML	13 54 05.6	
	comp=E,10017μm,0.2s						
LKR				AML	AML	13 54 07.4	
	comp=N,9678μm,0.2s						
LOUT	**Loutraki**	**0.62**	**236**	P	Pg	13 53 53.9	-0.6
LOUT				S	Sb	13 54 03.5	-0.7
	comp=N,5μm,0.3s						
LOUT	**Loutraki**	**0.62**	**236**	P	Pg	13 53 54.0	-0.6
LOUT				S	Sg	13 54 02.2	-0.5
THAL	**Thalero**	**0.81**	**249**	P	Pg	13 53 57.1	-1.1
THAL				S	Sb	13 54 09.7	-0.1
	comp=N,8μm,0.5s						
THAL	**Thalero**	**0.81**	**249**	P	Pg	13 53 57.3	-0.9
THAL				S	Sb	13 54 09.4	-0.3
THAL				AML	AML	13 54 15.5	
	comp=N,15063μm,0.4s						
THAL				AML	AML	13 54 16.8	
	comp=E,12943μm,0.6s						
EPID	**Epidavros**	**0.82**	**209**	P	Pg	13 53 57.6	-0.8
EPID				S	Sg	13 54 09.8	+0.6
	comp=E,7μm,0.3s						
EPID	**Epidavros**	**0.82**	**209**	P	Pg	13 53 58.0	-0.4
EPID				S	Sg	13 54 09.2	0.0
ALNA	**Alonissos**	**0.83**	**13**	P	Pg	13 53 57.7	-0.8
ALNA				S	Sb	13 54 09.4	-0.9
AXAR	**Agios Charalam**	**0.87**	**300**	P	Pg	13 53 58.5	-0.8
AXAR				S	Sb	13 54 11.6	+0.2
	comp=E,5μm,0.5s						
AXAR	**Agios Charalam**	**0.87**	**300**	P	Pg	13 53 58.4	-0.9
AXAR				S	Sb	13 54 10.5	-0.9
AXAR				AML	AML	13 54 21.4	
	comp=N,8262μm,0.5s						
AXAR				AML	AML	13 54 22.4	
	comp=E,11180μm,0.5s						
SKY	**Skiros Island**	**0.90**	**53**	P	Pg	13 53 59.2	-0.8
SKY				S	Sb	13 54 12.7	+0.3
	comp=E,26μm,0.3s						
SKY	**Skiros Island**	**0.90**	**53**	P	Pg	13 53 59.2	-0.8
SKY				S	Sg	13 54 11.8	+0.1
SKY				AML	AML	13 54 16.3	
	comp=E,66813μm,0.4s						
SKY				AML	AML	13 54 16.9	
	comp=N,37130μm,0.2s						
YDRA	**Hydra**	**0.99**	**187**	P	Pg	13 54 01.7	+0.1
YDRA				S	Sb	13 54 15.4	+0.5
NEO	**Neokhori**	**1.02**	**342**	P	Pg	13 54 01.3	-0.8
NEO				S	Sb	13 54 15.5	-0.2
	comp=N,4μm,0.4s						
NEO	**Neokhori**	**1.02**	**342**	P	Pg	13 54 01.4	-0.7
NEO				S	Sb	13 54 15.4	-0.2
NEO				AML	AML	13 54 18.5	
	comp=E,8710μm,0.5s						
NEO				AML	AML	13 54 22.1	
	comp=N,8197μm,0.6s						
KRND	**KRANIDI**	**1.02**	**202**	P	Pg	13 54 01.9	-0.3
KRND				S	Sg	13 54 15.8	+0.3
KRND				AML	AML	13 54 17.8	
	comp=E,17836μm,0.7s						
KRND				AML	AML	13 54 18.0	
	comp=N,7708μm,0.6s						
XOR	**Xorichti**	**1.08**	**342**	P	Pg	13 54 02.3	-1.1
XOR				S	Sb	13 54 17.3	-0.2
XOR				AML	AML	13 54 20.7	
	comp=E,4791μm,0.7s						
XOR				AML	AML	13 54 22.6	
	comp=N,7131μm,0.7s						
GUR	**Goura**	**1.09**	**249**	P	Pg	13 54 02.5	-0.9
GUR				S	Sg	13 54 17.2	-0.3
GUR				AML	AML	13 54 20.0	
	comp=E,7896μm,0.7s						
GUR				AML	AML	13 54 20.6	
	comp=N,6234μm,1.0s						
KALE	**Kalithea**	**1.17**	**273**	P	Pg	13 54 04.4	-0.5
KALE				S	Sb	13 54 20.4	+0.4
KLV	**Kalavryta, Ach**	**1.20**	**256**	P	Pg	13 54 04.5	-1.1
KLV				S	Sb	13 54 20.9	0.0
KLV				AML	AML	13 54 21.9	
	comp=N,2902μm,0.9s						
KLV				AML	AML	13 54 23.6	
	comp=E,2194μm,0.7s						
TRIZ	**Trizonia**	**1.22**	**272**	P	Pn	13 54 05.8	+0.2
TRIZ				S	Sb	13 54 21.9	+0.5
AGG	**Agios Georgios**	**1.22**	**304**	Pn	Pg	13 54 04.6	-1.4
AGG				Sn	Sn	13 54 22.1	-0.2
AGG	**Agios Georgios**	**1.22**	**304**	P	Pg	13 54 04.6	-1.4
AGG				S	Sg	13 54 20.9	-1.0
	comp=E,710nm,0.8s						
AGG	**Agios Georgios**	**1.22**	**304**	P	Pg	13 54 05.0	-1.1
AGG				S	Sn	13 54 21.9	-0.4
LAKA	**Lakka**	**1.30**	**266**	P	Pb	13 54 07.1	+0.1
LAKA				S	Sb	13 54 23.9	+0.2
LAKA				AML	AML	13 54 31.6	
	comp=N,3630μm,0.5s						
LAKA				AML	AML	13 54 39.3	
	comp=E,3952μm,0.9s						
MAKR	**Makrakomi, Fth**	**1.35**	**300**	P	Pg	13 54 07.8	-0.6
MAKR				AML	AML	13 54 35.8	
	comp=E,1683μm,0.6s						
MAKR				AML	AML	13 54 41.0	
	comp=N,2222μm,0.8s						
EFP	**Efpalio**	**1.35**	**274**	P	Pg	13 54 07.9	-0.6
EFP				S	Sn	13 54 26.4	+1.0
EFP				AML	AML	13 54 35.5	
	comp=E,1794μm,0.5s						
EFP				AML	AML	13 54 38.0	
	comp=N,1945μm,0.8s						
ANX	**Ano Chora**	**1.36**	**281**	P	Pn	13 54 06.6	-1.0
ANX				S	Sg	13 54 25.3	-1.1
	comp=N,2μm,0.7s						
ANX	**Ano Chora**	**1.36**	**281**	P	Pb	13 54 07.9	-0.2
ANX				S	Sg	13 54 24.9	-1.5
ANX				AML	AML	13 54 35.1	
	comp=N,4659μm,0.8s						
ANX				AML	AML	13 54 38.5	
	comp=E,3751μm,0.7s						
TNSA	**Tinos**	**1.45**	**123**	P	Pn	13 54 08.2	-0.6
TNSA				AML	AML	13 54 29.9	
	comp=N,6693μm,0.3s						
TNSA				AML	AML	13 54 30.1	
	comp=E,3906μm,0.3s						
EVR	**Evrytania**	**1.54**	**293**	P	Pn	13 54 09.5	-0.6
DRO	**Drossia**	**1.56**	**256**	P	Pn	13 54 10.2	0.0
DRO				S	Sn	13 54 30.9	+0.4
PVO	**Paravola**	**1.67**	**280**	P	Pn	13 54 11.0	-0.8
VLI	**Veliai**	**1.71**	**199**	P	Pn	13 54 12.0	-0.3
VLI				S	Sn	13 54 33.5	-0.6
VLI				AML	AML	13 54 45.6	
	comp=N,1923μm,1.0s						
VLI				AML	AML	13 54 46.3	
	comp=E,1456μm,0.7s						
RLS	**Riolos of Patr**	**1.72**	**261**	P	Pn	13 54 12.7	+0.2
TYRN	**Tyrnavos**	**1.75**	**322**	P	Pn	13 54 12.8	0.0
THL	**Klokotos Trika**	**1.75**	**315**	P	Pn	13 54 12.9	-0.1
MHLO	**Agia Marina, M**	**1.76**	**159**	P	Pn	13 54 12.0	-1.0
MHLO				S	Sn	13 54 35.2	-0.2
	comp=E,5μm,0.8s						
MHLO	**Agia Marina, M**	**1.76**	**159**	P	Pn	13 54 12.6	-0.4
CHOS	**Chios island**	**1.91**	**88**	P	Pn	13 54 14.7	-0.5
SIGR	**SIGRI**	**1.95**	**63**	Pn	Pn	13 54 15.3	-0.3
SIGR				Sn	Sn	13 54 39.5	-0.6
SIGR	**SIGRI**	**1.95**	**63**	P	Pn	13 54 15.6	-0.1
APE	**Apeiranthos**	**1.97**	**129**	⇓P	Pn	13 54 15.6	-0.4
APE				⇑S	Sn	13 54 38.9	-1.8
APE	**Apeiranthos**	**1.97**	**129**	Pn	Pn	13 54 15.6	-0.4
APE				Sn	Sn	13 54 40.7	-0.1
APE	**Apeiranthos**	**1.97**	**129**	P	Pn	13 54 15.8	-0.2
LIA	**Limnos Island**	**1.98**	**37**	P	Pn	13 54 14.9	-1.1
LIA				AML	AML	13 54 48.0	
	comp=N,5910μm,0.4s						
LIA				AML	AML	13 54 51.1	
	comp=E,7148μm,0.5s						
OUR	**Ouranopolis**	**2.01**	**8**	Pn	Pn	13 54 15.8	-0.7
OUR				Sn	Sn	13 54 40.3	-1.4
PYL	**PYLOS**	**2.08**	**227**	P	Pn	13 54 18.4	+1.0
KTHA	**Kythira Island**	**2.12**	**192**	Pn	Pn	13 54 17.6	-0.4
KTHA				Sn	Sn	13 54 44.7	+0.2
KTHA	**Kythira Island**	**2.12**	**192**	P	Pn	13 54 17.6	-0.4
EAG1	**Polichnitos, L**	**2.17**	**69**	P	Pn	13 54 18.4	-0.2
KARB	**zmir-Karabur**	**2.21**	**81**	P	Pn	13 54 18.7	-0.5
KARB				S	Sg	13 54 53.1	-0.4
PRK	**Paraskevi**	**2.26**	**65**	P	Pn	13 54 18.9	-1.0
ZEYE	**Izmir, Urla-Ze**	**2.27**	**92**	P	Pn	13 54 19.4	-0.6
ZEYE				S	Sg	13 54 55.4	0.0
ZEYE				*i* AML	AML	13 54 59.0	
	comp=E,341nm,0.4s						
ZEYE				*i* AML	AML	13 55 04.0	
	comp=E,260nm,0.6s						
HORT	**Hortiatis**	**2.29**	**350**	Pn	Pn	13 54 19.9	-0.6
HORT				Sn	Sn	13 54 47.3	-1.5
URLA	**Izmir**	**2.34**	**89**	Pn	Pn	13 54 20.8	-0.2
LKD2	**Lefkada island**	**2.37**	**282**	P	Pg	13 54 27.2	-0.8
	baz=295						
LKD2				S	Sb	13 54 55.8	+1.2
	baz=295						
THAS	**Thassos island**	**2.42**	**20**	P	Pn	13 54 20.6	-1.5
SANT	**Santorini**	**2.45**	**143**	⇑P	Pn	13 54 22.5	0.0
SANT				⇓S	Sn	13 54 52.7	+0.2
SANT	**Santorini**	**2.45**	**143**	Pn	Pn	13 54 22.4	-0.1
RFT5	**Foca**	**2.47**	**82**	Pn	Pn	13 54 22.5	-0.3
RFT1	**Sazli**	**2.50**	**61**	Pn	Pn	13 54 22.9	-0.3
EZN	**Ezine**	**2.58**	**54**	Pn	Pn	13 54 24.3	+0.1
DGB	**zmir**	**2.58**	**95**	P	Pn	13 54 24.3	0.0
DGB				S	Sn	13 54 51.1	-4.6
SMTH	**Samothraki Isl**	**2.59**	**34**	P	Pn	13 54 23.6	-0.9
RFT7	**Candarli**	**2.65**	**75**	Pn	Pn	13 54 25.2	-0.1
DKL	**Dikili**	**2.67**	**73**	Pn	Pn	13 54 25.6	+0.1
BAYC	**CANAKKALE_Bayr**	**2.67**	**57**	P	Pn	13 54 24.3	-1.3
BAYC				S	Sn	13 54 55.0	-3.0
RFT2	**Karaagac**	**2.75**	**66**	Pn	Pn	13 54 26.4	-0.2
RODP	**Rodopos**	**2.77**	**178**	Pn	Pn	13 54 27.4	+0.4
GRG	**Griva**	**2.78**	**341**	Pn	Pn	13 54 26.8	-0.3
GRG				Sn	Sn	13 54 59.5	-1.2
COMU	**Canakkale**	**2.83**	**51**	Pn	Pn	13 54 27.7	0.0
IGT	**Igoumenitsa**	**2.83**	**296**	P	Pb	13 54 34.4	+1.3
	baz=305						
IGT				S	Sg	13 55 11.0	-2.5
	baz=305						
KNT	**Kendrikon**	**2.88**	**349**	Pn	Pn	13 54 28.8	+0.4
KNT				Sn	Sn	13 55 01.7	-1.4
IMMV	**Iera Moni Meta**	**2.88**	**174**	Pn	Pn	13 54 28.8	+0.3
LSK	**Leskovik**	**2.96**	**309**	P	Pn	13 54 32.4	+2.7
	baz=316						
LSK				S	Sn	13 54 57.9	-7.4
	baz=316						
LSK				AMP			
	comp=E,1.2nm,1.1s,baz=316						
FNA	**Florina**	**3.00**	**325**	Pn	Pn	13 54 29.8	-0.3
FNA	**Florina**	**3.00**	**325**	P	Pn	13 54 31.9	+1.8
	baz=329						
FNA				S	Sg	13 55 22.0	+3.2
	baz=329						
GELI	**Tayfur-Gelibol**	**3.02**	**46**	Pn	Pn	13 54 30.5	+0.2
CAVK	**Edirne/Enez-Ca**	**3.07**	**39**	P	Pb	13 54 38.3	+1.2
CAVK				S	Sg	13 55 22.1	+1.1
ENEZ	**Enez**	**3.09**	**38**	Pn	Pn	13 54 31.8	+0.5
KOSK	**Kos Island**	**3.10**	**120**	Pn	Pn	13 54 31.4	0.0
ALN	**Alexandroupoli**	**3.17**	**35**	Pn	Pn	13 54 31.6	-0.8
KBN	**Korca**	**3.17**	**317**	P	Pn	13 54 34.2	+1.8
	baz=322						
KBN				S	Sg	13 55 31.1	+6.8
	baz=322						
LPK	**Lapseki**	**3.17**	**49**	Pn	Pn	13 54 32.5	+0.1
RDO	**Rodhopi**	**3.17**	**27**	Pn	Pn	13 54 30.9	-1.5
BODT	**Bodrum**	**3.19**	**112**	Pn	Pn	13 54 33.1	+0.4
RFTB	**Kemer-Bodrum**	**3.20**	**114**	Pn	Pn	13 54 33.5	+0.7
IDI	**Anoyia**	**3.21**	**161**	⇑P	Pn	13 54 33.1	+0.1
IDI				⇑S	Sn	13 55 09.4	-1.9
IDI	**Anoyia**	**3.21**	**161**	Pn	Pn	13 54 33.1	+0.1
IDI	**Anoyia**	**3.21**	**161**	Pn	Pn	13 54 33.0	0.0
	comp=E,9.1nm,0.3s,baz=339,slow=14,SNR=27						
IDI				Sn	Sn	13 55 08.9	-2.4
	comp=E,16nm,0.3s,baz=284,slow=19,SNR=9.4						
	comp=E,14nm,0.3s						
SRN	**Sarande**	**3.21**	**300**	P	Pg	13 54 44.8	+0.7
	baz=308						
SRN				S	Sg	13 55 32.9	+7.2
	baz=308						
SRN				AMP			
	comp=E,0.3nm,1.1s,baz=308						
ERIK	**Erikli-Kesan**	**3.23**	**43**	Pn	Pn	13 54 32.4	-0.8
RFTD	**Palamutbuku-Ka**	**3.49**	**117**	Pn	Pn	13 54 36.9	0.0
GVDS	**Gavdos**	**3.51**	**174**	Pn	Pn	13 54 37.9	+0.9
KRBG	**Karabiga-Canak**	**3.51**	**53**	Pn	Pn	13 54 38.1	+1.0
GVD	**Gavdhos**	**3.51**	**174**	Pn	Pn	13 54 37.5	+0.4
OHR	**Ohrid**	**3.52**	**323**	*i* Pn	Pb	13 54 41.8	-3.2
DAT	**Datca**	**3.53**	**116**	Pn	Pn	13 54 37.4	-0.1
STIP	**Stip**	**3.53**	**342**	*i* Pn	Pn	13 54 37.3	-0.1
RFTAA	**Mazikoy-Bodrum**	**3.53**	**111**	Pn	Pn	13 54 37.8	+0.4
KDZ	**Kurdzhali**	**3.54**	**21**	Pn	Pn	13 54 36.8	-0.8
UKOP	**Uzunkopru-Edir**	**3.63**	**39**	Pn	Pn	13 54 38.6	-0.1
ZKR	**Zakros**	**3.83**	**146**	Pn	Pn	13 54 42.2	+0.7
PLD	**Plovdiv**	**3.90**	**12**	Pn	Pn	13 54 42.2	-0.3
KARP	**Karpathos**	**3.97**	**133**	Pn	Pn	13 54 43.9	+0.4
EDRB	**Edirne**	**4.24**	**33**	Pn	Pn	13 54 47.8	+0.6
VTS	**Vitosha**	**4.29**	**356**	⇑P	Pn	13 54 48.2	+0.3
SCTE	**Santa Cesarea**	**4.37**	**295**	P	Pn	13 54 50.6	+1.8
	baz=302						
PDG	**Podgorica**	**5.28**	**322**	⇑P	Pn	13 55 02.5	+1.1
BOVS	**Bovan**	**5.49**	**345**	⇓P	Pn	13 55 05.7	+1.4
MATE	**Matera**	**5.83**	**295**	⇑P	Pn	13 55 10.0	+1.1
MDVR	**Moldovita**	**6.60**	**348**	⇓P	Pn	13 55 19.6	+0.1
HERR	**Herculane**	**6.60**	**353**	⇑P	Pn	13 55 19.7	+0.2
ARR	**Arges**	**7.07**	**6**	⇓P	Pn	13 55 26.2	+0.2
GZR	**Gura Zlata**	**7.08**	**355**	⇑P	Pn	13 55 27.0	+0.8
LOT	**Lotru**	**7.11**	**1**	⇑P	Pn	13 55 27.7	+1.1
VOIR		**7.17**	**8**	⇑P	Pn	13 55 28.1	+0.6
MLR	**Muntele Rosu**	**7.36**	**13**	⇑P	Pn	13 55 30.7	+0.7
MLR	**Muntele Rosu**	**7.36**	**13**	Pn	Pn	13 55 31.3	+1.3
	comp=E,0.5nm,0.3s,baz=189,slow=9.1,SNR=9.1						
MLR				Sn	Sn	13 56 57.6	+4.0
	comp=E,0.6nm,0.3s,baz=222,slow=19,SNR=1.8						
	comp=E,6.4nm,0.7s						
DOPR	**Dopca**	**7.74**	**9**	⇑P	Pn	13 55 35.6	+0.4
PLOR	**Plostina**	**7.84**	**16**	⇑P	Pn	13 55 37.4	+0.8
VRI	**Vrincioaia**	**7.87**	**16**	⇑P	Pn	13 55 37.9	+0.9
BRTR	**Keskin Array B**	**7.92**	**77**	Pn	Pn	13 55 39.8	+2.0
	comp=E,0.2nm,0.3s,baz=269,slow=16,SNR=4.5						
	comp=E,1.2nm,0.6s						
BURAR	**Bucovina Array**	**9.35**	**7**	⇑P	Pn	13 55 58.3	+1.0
VRAC	**Vranov**	**12.08**	**337**	LR	LR	14 01 35.2	
	comp=E,32nm,21.2s,baz=20,slow=39						
KBZ	**Khabaz**	**15.50**	**64**	LR	LR	14 04 27.0	
	comp=E,46nm,21.6s,baz=244,slow=42						
NACGM	**Naroch**	**16.71**	**6**	*e*P	P	13 57 38.3	-0.5
	comp=Z,12nm,1.0s,baz=189						
FINES	**FINESS Array B**	**23.18**	**3**	LR	LR	14 08 48.0	
	comp=Z,90nm,18.0s,baz=166,slow=39						
TORD	**Torodi Ar. Bea**	**31.76**	**224**	P	P	14 00 08.0	+1.1
	comp=Z,1.3nm,0.7s,baz=32,slow=9.4,SNR=8.0						
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**43.13**	**59**	P	P	14 01 43.4	+0.5
	comp=Z,1.2nm,0.5s,baz=271,slow=8.0,SNR=8.4						
	comp=Z,1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**43.76**	**48**	P	P	14 01 48.1	+0.2
	comp=Z,1.6nm,0.7s,baz=271,slow=9.3,SNR=6.5						
	comp=Z,1.6nm,0.7s						
ELK	**Elko**	**92.77**	**330**	LR	LR	14 53 22.8	
	comp=Z,70nm,18.1s,baz=328,slow=39						
YBH	**Yreka Blue Hor**	**94.60**	**335**	LR	LR	14 51 48.3	
	comp=Z,84nm,20.0s,baz=338,slow=37						

ISK ***27*** *14:06:33.7, 34°.67N×28°.49E, h88km, ML3.1/19*
THE ***27*** *14:06:40.0, 35°.08N×28°.40E, h0km±6km, ML2.9/2, Error ellipse: s-maj=19.6km s-min=1.1km az=141.0*
AFAD ***27*** *14:06:41.1±0.0, 35°.22N×28°.33E, h32km±2km, ML2.7*
NIC ***27*** *14:06:43.0, 35°.28N×28°.36E, h25km±7km, Ml2.9/5*
GII ***27*** *14:06:43.5±0.2, 35°.09N×28°.33E, h40km±1km, Mm3.2/2*
ISC 27 14:06:40.9±1.7**, 35°.14N**±0°.03×**28°.33E**±0°.03**, h14**km±13**km, n60,** σ1.9**46**/83**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.04**	**293**	Pn	**Pb**	**14 06 59.2**	**-1.5**
KARP				Sn	**Sn**	**14 07 17.3**	**+1.9**
KARP	**Karpathos**	**1.04**	**293**	P	**Pb**	**14 07 01.1**	**+0.4**
KARP				S	**Sn**	**14 07 17.7**	**+2.3**
	572nm,0.4s						
KARP	**Karpathos**	**1.04**	**293**	P	**Pb**	**14 07 00.8**	**+0.1**
KARP				S	**Sn**	**14 07 17.5**	**+2.0**
KARP				AML	AML	14 07 24.0	
	1.3nm,0.5s						
KARP				AML	AML	14 07 26.8	
	1.1nm,0.7s						
ARG	**Arkhangelos**	**1.08**	**351**	Pn	**Pb**	**14 07 01.4**	**0.0**
ARG				Sn	**Sn**	**14 07 20.7**	**+4.3**
ARG	**Arkhangelos**	**1.08**	**351**	P	**Pb**	**14 07 01.6**	**+0.2**
ARG				S	**Sn**	**14 07 19.1**	**+2.7**
	510nm,0.7s						
ARG	**Arkhangelos**	**1.08**	**351**	P	**Pb**	**14 07 00.8**	**-0.6**
ARG				S	**Sb**	**14 07 14.1**	**-1.4**
ARG				AML	AML	14 07 24.9	
	0.8nm,0.7s						
ARG				AML	AML	14 07 25.6	
	1.0nm,0.6s						
IZZE	**Mula-Seydike**	**1.48**	**29**	P	**Pn**	**14 07 07.0**	**-0.1**
IZZE				S	**Sb**	**14 07 26.7**	**-0.2**
IZZE				*i* AML	AML	14 07 28.0	
	comp=E,95nm,0.4s						
IZZE				*i* AML	AML	14 07 35.0	
	comp=N,140nm,0.5s						
AKAS	**Kas**	**1.50**	**43**	P	**Pn**	**14 07 07.0**	**-0.5**
AKAS				S	**Sg**	**14 07 29.9**	**+0.6**
AKAS				*i* AML	AML	14 07 31.0	
	comp=E,88nm,0.6s						
TURN	**Turunc**	**1.63**	**357**	Pn	**Pn**	**14 07 09.1**	**0.0**
RFTD	**Palamutbuku-Ka**	**1.68**	**336**	Pn	**Pn**	**14 07 09.3**	**-0.5**
DALY	**Dalyan (Mula)**	**1.69**	**9**	Pn	**Pn**	**14 07 09.2**	**-0.8**
DALY				Sn	**Sg**	**14 07 34.9**	**-0.5**
DAT	**Datca**	**1.70**	**339**	Pn	**Pn**	**14 07 09.7**	**-0.5**
DAT				Sn	**Sg**	**14 07 36.2**	**+0.6**
DAT	**Datca**	**1.70**	**339**	P	**Pn**	**14 07 09.5**	**-0.7**
DAT				S	**Sb**	**14 07 33.0**	**-0.2**
ZKR	**Zakros**	**1.74**	**270**	Pn	Pn	14 07 05.7	-4.9
ZKR				Sn	**Sn**	**14 07 29.7**	**-2.8**
ZKR	**Zakros**	**1.74**	**270**	P	**Pb**	**14 07 12.1**	**-0.4**
ZKR	**Zakros**	**1.74**	**270**	P	**Pb**	**14 07 12.1**	**-0.4**
RFTAA	**Mazikoy-Bodrum**	**1.91**	**346**	Pn	**Pn**	**14 07 12.7**	**-0.3**
YER	**Yerkesik**	**1.99**	**359**	Pn	**Pn**	**14 07 13.2**	**-0.9**
YER	**Yerkesik**	**1.99**	**359**	P	**Pn**	**14 07 15.5**	**+1.4**
RFTB	**Kemer-Bodrum**	**2.01**	**335**	Pn	**Pn**	**14 07 13.9**	**-0.5**
AKUM	**Antalya-Kumluc**	**2.01**	**54**	P	**Pn**	**14 07 14.1**	**-0.4**
AKUM				S	**Sn**	**14 07 37.5**	**-1.8**
BODT	**Bodrum**	**2.09**	**337**	Pn	**Pn**	**14 07 14.8**	**-0.7**
BODT	**Bodrum**	**2.09**	**337**	P	**Pn**	**14 07 14.6**	**-0.9**
CAEL	**Denizli, Camel**	**2.13**	**22**	P	**Pn**	**14 07 16.1**	**-0.1**
CAEL				S	**Sn**	**14 07 42.5**	**+0.1**
CAEL				*i* AML	AML	14 07 54.0	
	comp=E,101nm,0.6s						
MLSB	**Milas**	**2.19**	**348**	Pn	**Pn**	**14 07 15.7**	**-1.3**
GOLH	**Golhisar**	**2.31**	**25**	P	**Pn**	**14 07 20.1**	**+1.5**
GOLH				S	**Sb**	**14 07 49.4**	**-1.5**
TAVA	**DENIZLI_Tavas**	**2.36**	**11**	P	**Pn**	**14 07 19.6**	**+0.2**
TAVA				S	**Sn**	**14 07 45.4**	**-2.8**
DNIZ	**Denizli-Tavas-**	**2.54**	**13**	P	**Pn**	**14 07 22.0**	**+0.2**
DNIZ				S	**Sn**	**14 07 51.8**	**-0.7**
DNIZ				*i* AML	AML	14 07 54.0	
	comp=N,82nm,0.5s						
DNIZ				*i* AML	AML	14 07 56.0	
	comp=E,108nm,0.3s						
SANT	**Santorini**	**2.64**	**298**	Pn	**Pn**	**14 07 20.7**	**-2.4**
IDI	**Anoyia**	**2.82**	**274**	Pn	Pn	14 07 20.9	-4.7
OSC1	**CSNet OBS 1**	**2.94**	**123**	P	**Pn**	**14 07 29.5**	**+2.4**
OSC1				S	**Sb**	**14 08 08.2**	**-0.5**
APE	**Apeiranthos**	**2.97**	**311**	Pn	**Pn**	**14 07 26.3**	**-1.4**
APE	**Apeiranthos**	**2.97**	**311**	Pn	**Pn**	**14 07 27.8**	**+0.1**
KEPZ	**Antalya-Kepez**	**3.18**	**56**	P	**Pn**	**14 07 32.3**	**+1.8**
KEPZ				S	**Sn**	**14 08 09.5**	**+1.3**
KEPZ				*i* AML	AML	14 08 10.0	
	comp=E,16nm,0.7s						
KEPZ				*i

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.15**	**240**	P	P	14 32 18.1	+0.3
	0.7nm,0.5s,baz=80,slow=12,SNR=3.8						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**50.07**	**257**	P	P	14 33 04.0	-0.3
	0.4nm,0.6s,baz=94,slow=7.3,SNR=5.4						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**50.31**	**252**	P	P	14 33 05.8	-0.2
	4.1nm,0.7s,baz=88,slow=8.1,SNR=62						
	4.1nm,0.7s						

SJA 27 14:38:42.3±0.9, 22°.98S×66°.19W, h250km±12km, ML3.5, MW3.6, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.02**	**38**	*i* P	Pn	14 39 19.1	+1.0
YJA				*i* S	S	14 39 45.4	-0.7
AZAP	**Zapla**	**1.61**	**140**	*i* P	Pn	14 39 22.3	+0.5
AZAP				*i* S	S	14 39 51.6	-1.2
LVC	**Limon Verde**	**2.54**	**278**	*i* P	Pn	14 39 31.0	+0.6
PB15	**IPOC Station P**	**3.03**	**265**	*i* P	Pn	14 39 36.2	+0.8
PB09	**IPOC Station P**	**3.06**	**292**	*i* P	Pn	14 39 36.7	+1.0
PB09				IAML		14 40 20.9	
	comp=Z,32nm,0.2s						
PB06	**IPOC Station P**	**3.13**	**274**	*i* P	Pn	14 39 37.1	+0.7
PB06				IAML		14 40 20.5	
	comp=Z,44nm,0.3s						
PB01	**IPOC Station P**	**3.62**	**302**	*i* P	Pn	14 39 42.0	+0.1
PB01				IAML		14 40 29.6	
	comp=Z,72nm,0.1s						
PB07	**IPOC Station P**	**3.65**	**289**	*i* P	Pn	14 39 42.5	+0.2
PB07				IAML		14 40 30.1	
	comp=Z,49nm,0.1s						
PB04	**IPOC Station P**	**3.72**	**279**	*i* P	Pn	14 39 43.2	+0.2
PB04				IAML		14 40 30.8	
	comp=Z,47nm,0.2s						
GO02	**Mina Guanaco**	**3.79**	**234**	*i* P	Pn	14 39 44.8	+0.8
PB02	**IPOC Station P**	**3.82**	**295**	*i* P	Pn	14 39 44.1	-0.1
PB08	**IPOC Station P**	**3.95**	**315**	*i* P	Pn	14 39 47.0	+1.0
PB08				IAML		14 40 38.4	
	comp=Z,54nm,0.4s						
PB14	**IPOC Station P**	**4.19**	**246**	*i* P	Pn	14 39 48.8	+0.1
PATCX	**Punta Patache**	**4.27**	**300**	*i* P	Pn	14 39 49.2	-0.2
PATCX				IAML		14 40 44.3	
	comp=Z,49nm,0.4s						
GO01	**Chusmiza**	**4.33**	**319**	*i* P	Pn	14 39 51.0	+0.4
AC01	**Pan de Azucar**	**5.10**	**231**	*i* P	Pn	14 39 59.0	-0.4
AC01				IAML		14 41 03.5	
	comp=Z,26nm,1.4s						

IDC 27 15:05:54.5±6.6, 7°.44S×154°.59E, h84km±55km, mb3.4/4, mbtmp3.8/6, ML2.5/2, Error ellipse: s-maj=55.6km s-min=33.0km az=121.0

ISC 27 15:05:56.3±1.3, 7°.4S±0°.2×154°.5E±0°.1, h100km, n7, σ0°.83/8, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.55**	**254**	P	**Pn**	**15 07 43.6**	**-0.1**
	0.8nm,0.3s,baz=61,slow=10,SNR=1.8						
PMG				S	**Sn**	**15 09 07.8**	**0.0**
	5.6nm,0.7s,baz=43,slow=13,SNR=1.6						
	7.0nm,0.7s						
CTA	**Charters Tower**	**14.96**	**212**	P	**Pn**	**15 09 22.7**	**+0.1**
	0.1nm,0.3s,baz=41,slow=19,SNR=3.0						
	2.7nm,0.8s						
WRA	**Warramunga Arr**	**23.21**	**235**	P	**P**	**15 10 54.2**	**-0.5**
	1.9nm,0.8s,baz=63,slow=10,SNR=13						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**25.56**	**228**	P	**P**	**15 11 15.8**	**-0.3**
	0.5nm,0.7s,baz=63,slow=8.5,SNR=12						
	0.5nm,0.7s						
QSPA	**South Pole Qui**	**82.59**	**180**	P	**P**	**15 18 08.1**	**-0.1**
	1.1nm,1.1s,baz=29,slow=1.3,SNR=1.5						
	1.1nm,1.1s						
ILAR	**Eielson Array**	**83.91**	**22**	P	**P**	**15 18 14.2**	**-0.5**
	0.4nm,0.6s,baz=249,slow=5.0,SNR=4.3						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**152.66**	**284**	PKPbc	**PKiKP**	**15 25 44.2**	**+1.7**
	0.3nm,0.6s,baz=57,slow=5.3,SNR=2.1						

SJA 27 15:41:34.8±0.6, 30°.60S×71°.95W, h8km, ML3.9, MW3.5
GUC 27 15:41:38.7±0.7, 30°.66S×71°.74W, h36km±2km, ML3.6

ISC 27 15:41:31.6±1.5, 30°.68S±0°.02×72°.07W±0°.05, h9km±12km, n29, σ1°.43/52, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.37**	**89**	*i* P	**Pn**	**15 41 44.2**	**+1.0**
CO06				*i* S	**Sb**	**15 41 47.5**	**+1.1**
CO06				IAML		15 41 48.2	
	comp=E,21μm,0.4s						
CO05	**La Serena**	**1.05**	**44**	*eP*	**Pn**	**15 41 54.4**	**+2.0**
CO05				*i* S	**Sg**	**15 42 05.8**	**+0.5**
CO05				IAML		15 42 08.6	
	comp=N,4μm,0.3s						
CO03	**El Pedregal**	**1.20**	**98**	⇓*i* P	**Pg**	**15 41 55.4**	**+0.8**
CO03				*i* S	**Sb**	**15 42 06.9**	**-3.3**
CO03				IAML		15 42 08.1	
	comp=E,4μm,0.3s						
GO04	**Tololo Observa**	**1.21**	**66**	⇓*i* P	**Pg**	**15 41 56.1**	**+1.2**
GO04				*i* S	**Sb**	**15 42 09.7**	**-0.9**
GO04	**Tololo Observa**	**1.21**	**66**	*eP*	**Pb**	**15 41 55.4**	**+0.5**
GO04				*eS*	**Sb**	**15 42 11.0**	**+0.4**
GO04				IAML		15 42 11.8	
	comp=Z,4μm,0.2s						
CO01	**Juntas del Tor**	**1.85**	**68**	*eP*	**Pb**	**15 42 06.0**	**+0.3**
LCO	**Las Campanas**	**2.04**	**36**	*eP*	**Pb**	**15 42 10.0**	**+0.9**
LCO				*i* S	**Sb**	**15 42 34.3**	**-0.5**
LCO	**Las Campanas**	**2.04**	**36**	*eP*	**Pb**	**15 42 09.9**	**+0.9**
LCO				*eP*	**Pg**	**15 42 10.1**	**-0.7**
LCO				*eS*	**Sb**	**15 42 36.7**	**+1.9**
LCO				IAML		15 42 42.8	
	comp=Z,2μm,0.5s						
AROD	**Rodeo**	**2.30**	**78**	*eP*	**Pb**	**15 42 14.5**	**+1.0**
AROD				*eS*	**Sb**	**15 42 41.3**	**-0.8**
AC05	**El Transito**	**2.41**	**41**	*eP*	**Pb**	**15 42 15.6**	**+0.4**
AC05				*i* S	**Sb**	**15 42 44.1**	**-1.1**
AC05				IAML		15 42 47.5	
	comp=E,345nm,0.2s						
AC05	**El Transito**	**2.41**	**41**	*eP*	**Pb**	**15 42 15.3**	**0.0**
AC05				*eS*	**Sb**	**15 42 45.3**	**+0.1**
AC05				IAML		15 42 46.6	
	comp=Z,412nm,0.4s						
VA03	**San Esteban**	**2.45**	**148**	*eP*	**Pb**	**15 42 16.3**	**+0.4**
VA03				IAML		15 42 53.0	
	comp=E,438nm,0.5s						
ROCH	**El Roble**	**2.46**	**159**	*eP*	**Pb**	**15 42 17.2**	**+1.2**
DOCA	**Reserva Natura**	**2.58**	**97**	*eP*	**Pb**	**15 42 17.9**	**-0.4**
DOCA				*eS*	**Sb**	**15 42 52.0**	**+1.7**
ACCO	**Cerro Coronel**	**2.59**	**89**	*eP*	**Pb**	**15 42 19.1**	**+0.7**
ACCO				*eS*	**Sb**	**15 42 51.4**	**+0.9**
ACDV	**Cuesta del Vie**	**2.60**	**79**	*eP*	Pn	15 42 06.9	-7.1
ACDV				*eS*	**Sb**	**15 42 51.2**	**+0.6**
AC04	**Llanos de Chal**	**2.62**	**20**	*i* P	**Pb**	**15 42 17.9**	**-0.8**
AC04				IAML		15 43 08.5	
	comp=E,212nm,0.5s						
AC04	**Llanos de Chal**	**2.62**	**20**	*eP*	**Pb**	**15 42 18.0**	**-0.7**
AC04				*eS*	**Sb**	**15 42 51.9**	**+1.0**
RTLS	**Leoncito**	**2.62**	**116**	*eP*	**Pb**	**15 42 20.1**	**+1.1**
RTLS				*eS*	**Sn**	**15 42 45.4**	**-1.1**
RTLS				IAML		15 43 00.8	
	comp=Z,671nm,0.9s						
PEL	**Peldehue**	**2.72**	**155**	*eP*	**Pb**	**15 42 20.9**	**+0.4**
PEL				IAML		15 43 03.8	
	comp=N,227nm,0.4s						
FCH	**Farellones**	**3.04**	**151**	*eP*	**Pb**	**15 42 26.7**	**+0.6**
MT03	**Universidad Ad**	**3.10**	**155**	*eP*	**Pb**	**15 42 27.4**	**+0.4**
MT03				*eS*	**Sb**	**15 43 06.9**	**+1.9**
MT03				IAML		15 43 15.8	
	comp=Z,193nm,0.6s						
RTLL	**Cerro Villicun**	**3.15**	**103**	*eP*	**Pb**	**15 42 26.3**	**-1.6**
RTLL				*eS*	**Sb**	**15 43 04.4**	**-2.0**
MT01	**Popeta**	**3.25**	**168**	*eP*	**Pb**	**15 42 28.7**	**-0.7**
MT01				*eS*	**Sb**	**15 43 10.4**	**+1.3**
AGUA	**GUANDACOL**	**3.32**	**70**	*eP*	**Pb**	**15 42 30.6**	**-0.2**
AGUA				*eS*	**Sb**	**15 43 12.8**	**+1.5**
AGUA				IAML		15 43 23.8	
	comp=Z,303nm,0.6s						
ASAL	**Salagasta**	**3.35**	**125**	*eP*	**Pb**	**15 42 31.1**	**-0.2**
ASAL				*eS*	**Sb**	**15 43 09.9**	**-2.3**
GO03	**Copiap**	**3.47**	**28**	*eP*	**Pb**	**15 42 30.4**	**-2.9**
GO03				*eS*	**Sb**	**15 43 15.4**	**-0.2**
GO03				IAML		15 43 26.7	
	comp=Z,176nm,0.6s						
BO01	**Tunca**	**3.79**	**168**	*eP*	**Pb**	**15 42 37.4**	**-1.4**
BO01				*eS*	**Sg**	**15 43 30.4**	**-3.0**
VCA	**Vinchina**	**3.88**	**61**	*eP*	**Pb**	**15 42 37.9**	**-2.5**
VCA				*eS*	**Sb**	**15 43 23.9**	**-3.6**
VCA				IAML		15 43 36.0	
	comp=Z,271nm,0.4s						

UCR 27 16:58:22.4±1.0, 8°.49N×83°.16W, h14km±5km, MW4.0
UPA 27 16:58:22.1±2.2, 8°.52N×83°.08W, h1km±7km, MD4.3, ML4.1, MW4.3

ISC 27 16:58:22.6±0.9, 8°.53N±0°.03×83°.14W±0°.03, h18km±5km, n41, σ1°.20/60, 16D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITO	**Golfito**	**0.10**	**351**	⇓*eP*	**Pg**	**16 58 25.5**	**-0.7**
FITO				*eS*	**Sg**	**16 58 28.5**	**-0.2**
EDAD	**Golfito**	**0.13**	**348**	⇓*eP*	**Pg**	**16 58 25.9**	**-0.7**
JIME	**Puerto Jimenez**	**0.18**	**273**	*eP*	**Pg**	**16 58 26.2**	**-1.1**
JIME				*eS*	**Sg**	**16 58 30.2**	**-0.3**
CCOL	**Caracol de Cor**	**0.20**	**126**	⇓*eP*	**Pg**	**16 58 26.9**	**-0.7**
CCOL				*eS*	**Sg**	**16 58 31.4**	**+0.4**
CDITO	**Canoas**	**0.27**	**80**	⇓*iP*	**Pg**	**16 58 28.2**	**-0.4**
CDITO				*eS*	**Sg**	**16 58 31.9**	**-0.8**
CDITO	**Canoas**	**0.27**	**80**	⇓*eP*	**Pg**	**16 58 28.2**	**-0.4**
EDSV	**San Vito**	**0.33**	**30**	⇓*eP*	**Pb**	**16 58 30.5**	**+0.3**
LIMO3	**Limones**	**0.50**	**147**	*eP*	**Pg**	**16 58 32.0**	**-0.8**
LIMO3				*eS*	**Sb**	**16 58 40.7**	**+0.6**
BRU2	**Volcan**	**0.52**	**59**	⇓*iP*	**Pb**	**16 58 33.2**	**-0.2**
BRU2				AMP		16 58 33.5	
	comp=Z,6μm,0.2s						
BRU2				*i* S	**Sb**	**16 58 41.7**	**+1.1**
BRU2	**Volcan**	**0.52**	**59**	⇓*eP*	**Pb**	**16 58 33.1**	**-0.2**
POTG	**Potrero Grande**	**0.52**	**2**	⇓*eP*	**Pg**	**16 58 33.4**	**+0.2**
POTG				*eP*	**Pg**	**16 58 33.4**	**+0.2**
CTCR	**Cotoan**	**0.52**	**46**	⇓*eP*	**Pb**	**16 58 33.3**	**-0.2**
EDPN	**Palmar Norte**	**0.53**	**324**	⇓*eP*	**Pg**	**16 58 32.6**	**-0.7**
BCO2	**Palmira**	**0.63**	**73**	⇓*iP*	**Pg**	**16 58 34.9**	**-0.3**
BCO2				AMP		16 58 36.7	
	comp=Z,28μm,0.1s						
BCO2				*eS*	**Sb**	**16 58 45.0**	**+1.1**
EDBA	**Buenos Aires**	**0.65**	**348**	*eP*	**Pg**	**16 58 35.3**	**-0.1**
PTAR3	**Potrerillos Ar**	**0.66**	**76**	*eP*	**Pg**	**16 58 32.8**	**-2.9**
PTAR3				*eS*	**Sb**	**16 58 45.4**	**+0.8**
DVD	**David**	**0.69**	**98**	*eP*	**Pg**	**16 58 35.0**	**-1.2**
DVD				*eS*	**Sb**	**16 58 45.8**	**+0.5**
LOCO3	**Loma Colorada,**	**0.72**	**99**	*eP*	**Pg**	**16 58 35.9**	**-1.0**
LOCO3				*eS*	**Sb**	**16 58 47.4**	**+1.1**
PEDE3	**Pedregal, Chir**	**0.72**	**101**	*eP*	**Pg**	**16 58 35.8**	**-1.0**
PEDE3				*eS*	**Sg**	**16 58 45.5**	**-1.0**
SRBA	**San Rafael, Bu**	**0.73**	**343**	⇓*eP*	**Pg**	**16 58 36.4**	**-0.7**
LNBQ3	**Los Naranjos,**	**0.74**	**69**	*eP*	**Pg**	**16 58 36.2**	**-1.0**
LNBQ3				*eS*	**Sb**	**16 58 47.9**	**+0.9**
PSOM3	**Paja de Sombre**	**0.82**	**79**	*eP*	**Pg**	**16 58 37.5**	**-1.2**
PSOM3				*eS*	**Sg**	**16 58 48.6**	**-1.1**
GUAL3	**Gualaca, Chiri**	**0.83**	**90**	*eP*	**Pg**	**16 58 37.6**	**-1.3**
GUAL3				*eS*	**Sb**	**16 58 50.5**	**+1.0**
CHGR2	**Aguacate**	**1.06**	**67**	*eP*	**Pg**	**16 58 41.5**	**-1.9**
CHGR2				*eS*	**Sg**	**16 58 56.1**	**-1.2**
CNI2	**El Empalme, Bo**	**1.11**	**37**	*eP*	**Pg**	**16 58 40.8**	**-3.4**
BRIBI	**Bribri**	**1.13**	**15**	*eP*	**Pn**	**16 58 44.6**	**+1.1**
RGM0	**Gandoca**	**1.18**	**26**	⇓*eP*	**Pn**	**16 58 45.6**	**+1.3**
BUS1	**Rivas**	**1.18**	**330**	⇓*eP*	**Pg**	**16 58 43.7**	**-1.9**
CDM	**Cerro de Muert**	**1.19**	**329**	⇓*eP*	**Pg**	**16 58 43.8**	**-2.0**
RIMA	**Rio Macho**	**1.42**	**330**	*eP*	**Pn**	**16 58 47.4**	**-0.5**
LCR2	**La Lucha 2**	**1.48**	**325**	*eP*	**Pn**	**16 58 48.4**	**-0.2**
VTCV	**VTCV, Calle Va**	**1.56**	**338**	*eP*	**Pn**	**16 58 50.5**	**+0.8**
BATAN	**Batan**	**1.58**	**351**	*i* P	**Pn**	**16 58 50.9**	**+1.0**
BATAN				*eS*	**Sb**	**16 59 12.9**	**+1.9**
BATAN	**Batan**	**1.58**	**351**	*eP*	**Pn**	**16 58 50.8**	**+1.0**
CVTQ	**Turrialba Volc**	**1.59**	**337**	*eP*	**Pn**	**16 58 51.2**	**+0.8**
VTLO	**VTLO**	**1.61**	**339**	*eP*	**Pn**	**16 58 51.2**	**+0.7**
SAFE3	**Santa Fe, Vera**	**2.04**	**90**	*i* P	**Pn**	**16 58 57.3**	**+1.1**
SAFE3				*i* S	**Sb**	**16 59 25.2**	**+0.9**
STIA3	**Santiago, Vera**	**2.19**	**101**	*eP*	**Pb**	**16 59 01.7**	**0.0**
MARI3	**Mariato, Verag**	**2.30**	**112**	*eP*	**Pn**	**16 59 00.4**	**+0.7**
PNME	**Penonome**	**2.78**	**91**	*eP*	**Pn**	**16 59 09.3**	**+3.0**
AZU	**Azuero**	**2.93**	**104**	*eP*	**Pn**	**16 59 09.8**	**+1.4**
AZU				*eS*	**Sb**	**16 59 48.5**	**-1.4**

TAP 27 17:40:03.9, 23°.90N×122°.59E, h25km, ML2.5, D
JMA 27 17:40:05.5±0.3, 24°.N±3°.×12°.3E±°., h54km, MV2.3/8, NW OFF ISHIGAKIJIMA IS

ISC 27 17:40:04.2±1.1, 23°.97N±0°.05×122°.62E±0°.02, h30km±12km, n45, σ0°.72/61, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.31**	**299**	P	**Pn**	**17 40 11.8**	**-0.5**
	baz=312						
EOS4				*eS*	**Sn**	**17 40 17.8**	**0.0**
	baz=312						
EOS3	**EOS3**	**0.42**	**320**	*eP*	**Pn**	**17 40 13.8**	**-0.2**
	baz=327						
EOS3				*eS*	**Sn**	**17 40 21.1**	**+0.5**
	baz=327						
EOS2	**EOS2**	**0.57**	**322**	P	**Pn**	**17 40 16.6**	**+0.4**
	baz=328						
YOJ	**Yonaguni jima**	**0.61**	**36**	*eP*	**Pn**	**17 40 16.1**	**-0.7**
YOJ				*eS*	**Sn**	**17 40 23.7**	**-1.9**
YOJ	**Yonaguni jima**	**0.61**	**36**	*eP*	**Pn**	**17 40 16.7**	**-0.1**
	baz=33						
EWUT	**Wuta**	**0.90**	**302**	P	**Pb**	**17 40 20.9**	**-0.4**
	baz=306						
EWUT				S	**Sn**	**17 40 33.9**	**+1.1**
	baz=306						
ENA	**Nanau**	**0.92**	**300**	P	**Pb**	**17 40 21.5**	**-0.2**
	baz=304						
ENA				S	**Sb**	**17 40 35.0**	**+1.4**
	baz=304						
TWC	**Suao**	**0.95**	**313**	P	**Pb**	**17 40 21.5**	**-0.6**
	baz=316						
TWC				S	**Sb**	**17 40 34.6**	**+0.3**
	baz=316						
NACB	**Ninganchiao**	**0.96**	**283**	P	**Pn**	**17 40 20.9**	**-0.6**
	baz=286						
NACB				*eS*	**Sb**	**17 40 34.5**	**-0.1**
	baz=286						
ETM	**Tongmen**	**1.03**	**270**	*eP*	**Pn**	**17 40 21.8**	**-0.8**
	baz=273						
ETM				*eS*	**Sn**	**17 40 36.1**	**+0.2**
	baz=273						
ETLH	**Xiulin Townshi**	**1.06**	**283**	*eP*	**Pn**	**17 40 22.8**	**-0.3**
	baz=286						
IRIF	**Iriomote-Funau**	**1.08**	**70**	*eP*	**Pb**	**17 40 24.6**	**+0.3**
IRIF				*eS*	**Sb**	**17 40 38.2**	**0.0**
ESL	**Shilin**	**1.09**	**262**	*eP*	**Pn**	**17 40 22.8**	**-0.7**
	baz=265						
LXIB	**Xiulin Townshi**	**1.10**	**273**	*eP*	**Pn**	**17 40 23.2**	**-0.4**
	baz=276						
LXIB				*eS*	**Sn**	**17 40 38.1**	**+0.1**
	baz=276						
LATG	**Datong**	**1.14**	**300**	P	**Pb**	**17 40 24.8**	**-0.7**
	baz=303						
TWE	**Neicheng**	**1.15**	**311**	P	**Pb**	**17 40 25.1**	**-0.3**
	baz=314						
TWE				*eS*	**Sb**	**17 40 42.2**	**+2.3**
	baz=314						
WARBT	**Fenglin Townsh**	**1.15**	**258**	*eP*	**Pn**	**17 40 23.5**	**-0.8**
	baz=260						
WARBT				*eS*	**Sn**	**17 40 39.1**	**+0.1**
	baz=260						
ENTT	**Nioudou**	**1.17**	**305**	P	**Pb**	**17 40 25.3**	**-0.5**
	baz=308						
NDT	**Datong Townshi**	**1.19**	**302**	*eP*	**Pb**	**17 40 24.9**	**-1.2**
	baz=305						
HGSD	**Ruisui**	**1.19**	**247**	*eP*	**Pn**	**17 40 24.0**	**-0.7**
	baz=249						
NNSB	**Datong**	**1.22**	**292**	*eP*	**Pn**	**17 40 25.6**	**+0.3**
	baz=295						
FUSB	**Fushanzhiwuyua**	**1.23**	**310**	*eP*	**Pb**	**17 40 26.1**	**-0.7**
	baz=313						
NNS	**Nan Shan**	**1.23**	**293**	*eP*	**Pn**	**17 40 25.8**	**+0.3**
	baz=296						
WHF	**Hehuan Shan**	**1.25**	**278**	P	**Pn**	**17 40 26.1**	**+0.1**
	baz=281						
NWLT	**Wulai**	**1.30**	**309**	*eP*	**Pb**	**17 40 27.7**	**-0.3**
	baz=311						
JKRS	**Kuro-shima**	**1.30**	**78**	*eS*	**Sb**	**17 40 44.0**	**-0.4**
SXI1	**Grass Mountain**	**1.31**	**329**	*eP*	**Pb**	**17 40 27.2**	**-1.1**
	baz=331						
CHGB	**Renai**	**1.32**	**274**	*eP*	**Pn**	**17 40 26.9**	**+0.1**
	baz=277						
YHNB	**Yeheng**	**1.33**	**302**	*eP*	**Pb**	**17 40 27.8**	**-0.8**
	baz=304						
YULB	**Yu-li**	**1.34**	**245**	*eP*	**Pn**	**17 40 26.5**	**-0.3**
	baz=246						
YULB				*eS*	**Sn**	**17 40 43.5**	**-0.1**
	baz=246						
EYUL	**Yuli**	**1.34**	**243**	*eP*	**Pn**	**17 40 27.2**	**+0.3**
	baz=244						
NSK	**Sanguang**	**1.35**	**302**	P	**Pb**	**17 40 27.9**	**-1.0**
	baz=304						
VWDT	**VWDT**	**1.37**	**261**	*eP*	**Pn**	**17 40 27.5**	**+0.3**
	baz=263						
WUSB	**Renai**	**1.37**	**271**	*eP*	**Pn**	**17 40 27.5**	**+0.2**
	baz=273						
WUSB				*eS*	**Sb**	**17 40 46.0**	**-0.5**
	baz=273						
JIJ	**Ishigaki jima**	**1.45**	**74**	*eP*	**Pn**	**17 40 28.8**	**+0.4**
JIJ				*eS*	**Sn**	**17 40 46.7**	**+0.4**
SSLB	**Suanglung**	**1.53**	**264**	*eP*	**Pn**	**17 40 30.4**	**+0.9**
	baz=265						
WHP	**Taichung City**	**1.56**	**282**	*eP*	**Pb**	**17 40 32.5**	**0.0**
	baz=284						
WCS	**Beigang Elemen**	**1.56**	**274**	*eP*	**Pn**	**17 40 31.0**	**+1.2**
	baz=275						
SMLT	**Sun Moon Lake**	**1.57**	**267**	*eP*	**Pb**	**17 40 32.6**	**-0.1**
	baz=269						
TYC	**Yuchr**	**1.61**	**268**	*eP*	**Pb**	**17 40 32.9**	**-0.4**
	baz=270						
NSTT	**Nanjuang**	**1.61**	**295**	*eP*	**Pb**	**17 40 32.2**	**-1.2**
	baz=296						
ELDTW	**Lidau**	**1.66**	**242**	*eP*	**Pn**	**17 40 32.0**	**+0.7**
	baz=243						
JISG	**Ishigakijimahi**	**1.67**	**68**	*eP*	**Pn**	**17 40 31.9**	**+0.6**
JISG				*eS*	**Sn**	**17 40 52.2**	**+0.6**
ALS	**Alishan**	**1.72**	**255**	*eP*	**Pn**	**17 40 32.2**	**-0.1**
	baz=256						
WCKO	**Fanlu**	**1.92**	**254**	*eP*	**Pb**	**17 40 37.9**	**-0.7**
	baz=255						

BJI 27 17:52:02.4±0.0, 16°.83N×146°.01E, h80km, mb4.6/23, mB5.0/13, Ms4.5/2, Ms7 4.2/4
NEIC 27 17:52:03.7±1.7, 16°.72N±0°.07×146°.12E±0°.10, h91km±6km, mb5.0/74, Error ellipse: s-maj=13.8km s-min=9.8km az=87.0
IDC 27 17:52:04.4±2.1, 16°.78N×145°.83E, h106km±19km, mb3.7/13, mbtmp4.0/14, MS3.4/2, Error ellipse: s-maj=23.1km s-min=11.9km az=83.0

ISC 27 17:52:03.7±0.4, 16°.67N±0°.05×146°.21E±0°.07, h100km, n157, σ1°.39/156, mb4.9/62, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.33**	**203**	Pn	**Pn**	**17 52 55.0**	**+1.1**
GUMO				Sn	**Sn**	**17 53 31.4**	**-1.1**
GUMO	**Guam**	**3.33**	**203**	P	**Pn**	**17 52 54.9**	**+1.1**
	214nm,0.3s,baz=330,slow=2.9,SNR=40						
GUMO				S	**Sn**	**17 53 33.3**	**+0.7**
	468nm,0.3s,baz=347,slow=22,SNR=18						
GUMO				LR	LR	17 53 37.4	
	comp=Z,71nm,20.9s,baz=337,slow=28						
JCJ	**Chichijima**	**11.02**	**341**	Pn	**Pn**	**17 54 35.4**	**-2.9**
PATS	**Pohnpei**	**15.36**	**128**	Pn	**Pn**	**17 55 34.8**	**-0.2**
JMZ	**Minamidaito 2**	**16.66**	**306**	Pn	**Pn**	**17 55 48.8**	**-2.3**
H11S3	**WAKE ISLAND Hy 19.61**	**82**		T	T	18 17 19.3	
	baz=266,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy 19.62**	**82**		T	T	18 17 20.0	
	baz=266,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy 19.63**	**82**		T	T	18 17 20.0	
	baz=266,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy 19.88**	**78**		T	T	18 17 30.9	
	baz=264,slow=74,SNR=152						
H11N2	**WAKE ISLAND Hy 19.89**	**78**		T	T	18 17 30.9	
	baz=264,slow=74,SNR=143						
H11N3	**WAKE ISLAND Hy 19.90**	**78**		T	T	18 17 31.9	
	baz=264,slow=74,SNR=146						
MJAR	**Matsushiro Arr**	**21.02**	**342**	P	**P**	**17 56 37.7**	**-1.6**
	0.6nm,0.4s,baz=170,slow=7.6,SNR=4.3						
	0.6nm,0.4s						
MAJO	**Matsushiro**	**21.02**	**342**		**P**	**17 56 38.1**	**-1.3**
MJB9	**Matsu-Tunnel**	**21.03**	**342**	P	**P**	**17 56 39.7**	**+0.3**
JNU	**Nakatsue**	**21.44**	**323**	P	**P**	**17 56 44.6**	**+0.8**
JNU	**Nakatsue**	**21.44**	**323**	P	**P**	**17 56 45.6**	**+1.8**
	5.1nm,0.8s,baz=118,slow=1.8,SNR=4.3						
JMM	**Marumori**	**21.64**	**348**	P	**P**	**17 56 46.1**	**+0.1**
JTU	**Tsushima**	**23.30**	**323**	P	**P**	**17 57 02.3**	**-0.4**
FAKI	**Fak Fak**	**23.86**	**217**	P	**P**	**17 57 08.1**	**+0.1**
NACB	**Ninganchiao**	**24.21**	**292**	P	**P**	**17 57 11.0**	**-0.2**
YULB	**Yu-li**	**24.32**	**290**	P	**P**	**17 57 11.8**	**-0.3**
YHNB	**Yeheng**	**24.53**	**293**	P	**P**	**17 57 14.4**	**+0.3**
SSLB	**Suanglung**	**24.70**	**291**	P	**P**	**17 57 16.7**	**+1

KOUNC IAmb IAmb 18 00 39.0
comp=Z,33nm,1.2s
CD2 Chengdu 41.09 298 *eP* **P 17 59 37.0 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
AS31 Alice Springs 41.85 197 P **P 17 59 43.5 -0.6**
ASAR Alice Springs 41.86 197 P **P 17 59 42.9 -1.2**
ASAR Alice Springs 41.86 197 P **P 17 59 44.0 0.0**
comp=Z,1.2nm,0.6s,baz=20,slow=14,SNR=28
comp=Z,1.2nm,0.6s
PZH PanZhiHua 42.30 291 P **P 17 59 48.8 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.6s
CMAR Chiang Mai Arr 45.00 280 P **P 18 00 10.3 +0.8**
comp=Z,1.6nm,0.7s,baz=75,slow=6.5,SNR=11
SONM Songino Array 45.03 322 P **P 18 00 08.5 -0.9**
SONM Songino Array 45.03 322 P **P 18 00 06.3 -3.1**
comp=Z,0.5nm,0.7s,baz=136,slow=8.1,SNR=6.2
comp=Z,0.5nm,0.7s
TNCH TengChong 45.14 289 *eP* **P 18 00 11.0 +0.2**
KULM Kulim 46.02 261 P **P 18 00 17.0 -0.6**
KULM IAmb IAmb 18 00 20.4
comp=Z,18nm,1.1s
ARMA Armidale 47.11 174 P **P 18 00 26.3 +0.4**
ARMA IAmb IAmb 18 00 51.5
comp=Z,34nm,1.7s
ATKA Atka Island 47.21 32 P **P 18 00 26.7 +0.4**
BKNI Bangkinang 47.36 255 P **P 18 00 28.9 +0.9**
STKA Stephens Creek 48.48 185 P **P 18 00 36.5 +0.3**
STKA Stephens Creek 48.48 185 P **P 18 00 36.7 +0.4**
comp=Z,0.9nm,0.5s,baz=351,slow=9.4,SNR=4.5
comp=Z,0.9nm,0.5s
BBOO Buckleboo 50.15 191 P **P 18 00 49.3 +0.2**
BBOO IAmb IAmb 18 01 21.0
comp=Z,44nm,1.5s
GSI Gunungsitoli 50.23 257 P **P 18 00 50.0 0.0**
GSI IAmb IAmb 18 00 52.0
comp=Z,20nm,0.6s
FORT Forrest 50.31 200 P **P 18 00 51.1 +0.9**
FORT IAmb IAmb 18 01 49.0
comp=Z,32nm,1.2s
CAN Canberra 51.78 177 P **P 18 01 02.2 +1.0**
CAN IAmb IAmb 18 01 04.4
comp=Z,37nm,1.5s
CAN Canberra 51.78 177 P **P 18 01 03.3 +2.1**
TOO Toolangi 53.96 181 P **P 18 01 17.0 -0.2**
MORW Morawa 54.01 213 P **P 18 01 16.7 -1.0**
MORW IAmb IAmb 18 02 06.7
comp=Z,44nm,1.5s
TAPN Taplejung 54.84 292 *eP* **P 18 01 24.8 +0.5**
comp=Z,2.8nm,0.3s
RAMN Ramite 55.84 292 *eP* **P 18 01 29.9 -1.5**
comp=Z,5.1nm,0.8s
WMQ Urumqi 56.00 312 *eP* **P 18 01 33.8 +1.7**
WMQ sP sP 18 02 05.8 -0.8
WMQ pmax pmax
comp=Z,20nm,0.7s
JIRN Jiri 56.18 292 *eP* **P 18 01 33.8 -0.1**
comp=Z,6.8nm,0.6s
GUN Gumba 56.45 293 *eP* **P 18 01 36.7 +0.9**
comp=Z,6.8nm,0.4s
NWAO Narrogin (SRO) 56.57 209 P **P 18 01 35.9 -0.1**
NWAO Narrogin (SRO) 56.57 209 P **P 18 01 35.9 -0.1**
K13K Kusilvak Mount 56.78 25 P **P 18 01 38.4 +1.2**
PKI Pulchoki 56.88 292 *eP* **P 18 01 38.4 -0.4**
comp=Z,3.6nm,0.4s
PKIN Phulchoki 56.89 292 *eP* **P 18 01 38.0 -0.8**
comp=Z,5.1nm,0.4s
DMN Daman 57.14 292 *eP* **P 18 01 40.0 -0.6**
comp=Z,10nm,0.4s
GKN Gorkha 57.54 293 *eP* **P 18 01 43.5 +0.2**
comp=Z,7.6nm,0.3s
J14K Nanvaranak Lak 57.63 25 P **P 18 01 44.8 +1.7**
J14K IAmb IAmb 18 02 26.4
comp=Z,52nm,1.6s
N15K Kwethluk River 57.95 28 P **P 18 01 46.1 +0.7**
K15K Wolf Creek Mou 58.25 26 P **P 18 01 48.8 +1.4**
K15K IAmb IAmb 18 03 29.4
comp=Z,47nm,1.6s
DANN Dangsing 58.30 293 *eP* **P 18 01 49.4 +0.6**
comp=Z,15nm,0.5s
PYUN Piuthan 58.99 293 *eP* **P 18 01 53.1 -0.4**
comp=Z,2.5nm,0.3s
J16K Anvik River 59.08 25 P **P 18 01 55.1 +2.0**
N17K Nushagak Hills 59.42 29 P **P 18 01 56.6 +1.0**
M17K Holitna River 59.64 28 P **P 18 01 57.6 +0.5**
M17K IAmb IAmb 18 03 53.4
comp=Z,35nm,1.5s
K17K Iditarod 59.78 26 P **P 18 01 59.0 +1.0**
K17K IAmb IAmb 18 02 14.6
comp=Z,24nm,1.4s
H17K Granite Mounta 60.09 23 P **P 18 02 01.1 +1.0**
H17K IAmb IAmb 18 03 00.5
comp=Z,23nm,1.5s
MKAR Makanchi Array 60.21 315 P **P 18 02 01.2 -0.1**
MKAR Makanchi Array 60.21 315 P **P 18 02 00.1 -1.2**
comp=Z,0.9nm,0.5s,baz=93,slow=7.5,SNR=11
comp=Z,0.9nm,0.5s
F17K Baldwin Pennin 60.30 22 P **P 18 02 01.7 +0.2**
H18K Honhosa River 60.77 23 P **P 18 02 06.2 +1.5**
H18K IAmb IAmb 18 04 09.4
comp=Z,30nm,1.5s
G18K Tagagawik 60.99 23 P **P 18 02 07.1 +0.9**
G18K IAmb IAmb 18 02 17.3
comp=Z,31nm,1.8s
C18K Utukok River 61.41 19 P **P 18 02 09.7 +0.6**
G19K Purcell Mounta 61.67 23 P **P 18 02 11.3 +0.5**
G19K IAmb IAmb 18 02 54.8
comp=Z,12nm,1.2s
K20K Telida 61.81 26 P **P 18 02 14.2 +2.4**
K20K IAmb IAmb 18 02 52.5
comp=Z,24nm,1.8s
CNPM China Poot 61.94 31 P **P 18 02 13.9 +1.2**
J20K Nowinta River 62.06 25 P **P 18 02 14.6 +1.1**
J20K IAmb IAmb 18 02 17.4
comp=Z,26nm,1.6s
RTZ Ruatahuna 62.10 153 P **P 18 02 13.7 -0.4**
RTZ IAmb IAmb 18 02 47.6
comp=Z,36nm,1.8s
C19K Lookout Ridge 62.14 19 P **P 18 02 14.7 +0.7**
D19K Kuna River 62.33 20 P **P 18 02 15.9 +0.6**
D19K IAmb IAmb 18 02 21.0
comp=Z,36nm,1.4s
CAST Castle Rocks 62.68 26 P **P 18 02 18.5 +1.0**
CAST IAmb IAmb 18 02 50.3
comp=Z,12nm,1.4s
IMAR Indian Mountai 62.87 23 P **P 18 02 19.9 +1.1**
KURBB Kurchatov Arra 63.15 319 P **P 18 02 19.5 -1.4**
comp=Z,0.8nm,0.4s,baz=96,slow=7.4,SNR=16
comp=Z,0.8nm,0.4s
SNZO South Karori 63.45 156 P **P 18 02 23.2 +0.4**
GHO Glory Hole Cre 63.62 29 P **P 18 02 24.8 +0.9**
GHO IAmb IAmb 18 02 37.6
comp=Z,58nm,1.6s
MLY Manley 63.73 25 P **P 18 02 25.5 +1.0**
KHZ Kahutara 63.97 158 P **P 18 02 26.5 +0.3**
GVZ Greta Valley S 64.27 158 P **P 18 02 28.9 +0.7**
D22K Ayikyak River 64.31 21 P **P 18 02 29.4 +1.2**
D22K IAmb IAmb 18 03 41.7
comp=Z,37nm,1.4s
HYB Hyderabad 64.36 282 *eP* **P 18 02 30.8 +1.3**
SCM Sheep Creek Mo 64.37 29 P **P 18 02 30.0 +1.2**
DHY Denali Highway 64.63 28 P **P 18 02 32.8 +2.2**
DHY IAmb IAmb 18 02 40.6
comp=Z,33nm,2.0s
KLU Klutina 64.95 29 P **P 18 02 35.7 +3.1**
KLU IAmb IAmb 18 03 30.5
comp=Z,49nm,1.8s
IL31 65.24 26 P **P 18 02 33.1 -1.2**
ILAR Eielson Array 65.24 26 P **P 18 02 33.1 -1.2**
ILAR Eielson Array 65.24 26 P **P 18 02 33.9 -0.4**
comp=Z,0.7nm,0.5s,baz=254,slow=5.6,SNR=15
comp=Z,0.7nm,0.5s
D24K Happy Valley 65.71 21 P **P 18 02 38.1 +0.8**
D24K IAmb IAmb 18 04 06.0
comp=Z,80nm,2.0s
SCRK Sand Creek 66.31 27 P **P 18 02 41.6 +0.2**
J26L Joseph Creek 66.58 26 P **P 18 02 43.2 +0.2**
BMAR Burnt Mountain 66.77 23 P **P 18 02 45.3 +1.1**
BCAR Beaver Creek A 67.13 28 P **P 18 02 47.2 +0.7**
BVAR Borovoye Array 68.34 321 P **P 18 02 51.4 -2.8**
comp=Z,0.9nm,0.4s,baz=98,slow=7.2,SNR=8.6
comp=Z,0.9nm,0.4s

D27M Malcolm River 68.45 21 P **P 18 02 55.4 +0.7**
D27M IAmb IAmb 18 04 00.1
comp=Z,29nm,1.6s
K29M Barlow Dome 69.12 27 P **P 18 03 00.3 +1.3**
K29M IAmb IAmb 18 04 55.8
comp=Z,23nm,1.9s
G31M Satah River 70.69 24 P **P 18 03 08.7 +0.4**
G31M IAmb IAmb 18 05 18.8
comp=Z,58nm,1.9s
ABKAR Akbulak array 75.15 317 P **P 18 03 32.7 -2.3**
ABKAR Akbulak array 75.15 317 P **P 18 03 32.7 -2.3**
KCPM Cahto Peak 79.71 52 P **P 18 04 02.8 +2.0**
KCPM IAmb IAmb 18 06 08.7
comp=Z,37nm,1.4s
J05D Fort Rock, OR 80.59 48 P **P 18 04 07.2 +1.7**
PINE Pine Mountain 80.67 47 P **P 18 04 07.8 +1.8**
PINE IAmb IAmb 18 04 09.1
comp=Z,14nm,1.2s
K05A Summer Lake 80.97 48 P **P 18 04 09.5 +1.9**
BMO Blue Mountains 82.91 45 P **P 18 04 18.2 +0.6**
NVAR Mina Array Bea 84.00 52 P **P 18 04 23.8 +0.3**
NVAR Mina Array Bea 84.00 52 P **P 18 04 25.3 +1.7**
comp=Z,2.0nm,0.7s,baz=273,slow=5.6,SNR=8.8
comp=Z,2.0nm,0.7s
CHMT Chamberlain Mo 84.99 43 P **P 18 04 28.7 +0.3**
OVMT Ovando 85.10 42 P **P 18 04 29.0 +0.2**
LYMT Lyon Mountain 85.59 42 P **P 18 04 31.1 -0.2**
ELMT Elliston 85.61 43 P **P 18 04 31.3 -0.1**
BEMT Mount Belmont 85.64 43 P **P 18 04 32.4 +0.8**
DLMT Dillon 85.93 44 P **P 18 04 34.0 +1.0**
DLMT IAmb IAmb 18 07 16.6
comp=Z,23nm,1.8s
BOZ Bozeman (W) 86.49 43 P **P 18 04 35.4 -0.3**
BOZ IAmb IAmb 18 05 48.2
comp=Z,20nm,1.9s
YHL Hebgen Lake 87.04 44 P **P 18 04 39.8 +1.2**
DUG Dugway, Tooele 87.51 49 P **P 18 04 42.1 +1.4**
MSU Marysvale 88.54 50 P **P 18 04 47.4 +1.6**
FINES FINESS Array B 88.92 335 P **P 18 04 43.6 -3.1**
comp=Z,0.8nm,0.6s,baz=58,slow=4.7,SNR=6.9
comp=Z,0.8nm,0.6s
RDMU Red Mountain 89.69 48 P **P 18 04 52.3 +1.2**
ASF Jabal al Asfar 96.76 306 LR LR 18 53 37.6
comp=Z,166nm,21.9s,baz=308,slow=38
LVC Limon Verde 146.46 106 PKPbc **PKPab 18 11 36.1 +0.5**
comp=Z,4.0nm,0.5s,baz=270,slow=7.1,SNR=6.7
LPAZ La Paz 147.10 94 PKPbc **PKPab 18 11 38.8 +0.3**
comp=Z,1.9nm,0.4s,baz=274,slow=5.7,SNR=7.9
BOAV Boa Vista 147.51 57 **PKPbc 18 11 37.3 +0.1**
ETMB Extrema 147.75 82 **PKPdf 18 11 37.0 +2.2**
MDP Montagnes des 151.44 42 PKPbc **PKPbc 18 11 47.0 0.0**
comp=Z,9.2nm,1.2s,baz=301,slow=5.9,SNR=1.7
SIV San Ignacio 153.82 92 PKPbc **PKPbc 18 11 52.2 +0.1**
comp=Z,0.9nm,0.6s,baz=238,slow=8.8,SNR=4.8
CPUP Villa Florida 156.12 118 PKPbc PKPdf 18 11 57.5 +10
comp=Z,0.6nm,0.4s,baz=289,slow=5.2,SNR=2.9

*NEIC **27** 17:58:13.4±1.6, 18°.8S±0°.1×169°.35E±0°.10, h244km±9km, mb4.5/34, Error ellipse: s-maj=17.7km s-min=12.1km az=150.0*
*IDC **27** 17:58:14.3±2.0, 19°.01S×169°.50E, h272km±23km, mb3.7/8, mbtmp4.3/10, Error ellipse: s-maj=43.4km s-min=15.4km az=158.0*
*NOU **27** 17:58:53.9, 21°.12S×167°.62E, h0km, MLv2.5/7, Loyalty Islands*
ISC 27 17:58:12.8±0.5, 18°.8S±0°.1×169°.41E±0°.08, h246km, n61,
σ1 900/61, mb4.4/22, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.81	226		Pn	17 59 03.3	+0.3
LIFNC	LIFOU	2.81	226	P	Pn	17 59 03.4	+0.4
MARNC	Mare, Loyalty	2.93	206		Pn	17 59 03.7	-0.6
MARNC	Mare, Loyalty	2.93	206	P	Pn	17 59 04.1	-0.2
YATNC	Mamie plateau,	3.98	216	P	Pn	17 59 15.6	-0.6
PINNC	Pines Island,	4.18	206		Pn	17 59 18.4	-0.2
DZM	Mont Dzumac	4.25	220	P	Pn	17 59 20.7	+1.2
DZM	Mont Dzumac	4.25	220	P	Pn	17 59 20.6	+1.2
22nm,0.5s,baz=57,slow=15,SNR=33							
OUENC	Ouen Island, N	4.30	214		Pn	17 59 20.5	+0.6
OUENC	Ouen Island, N	4.30	214	P	Pn	17 59 21.0	+1.0
NOUC	Port Laguerre	4.36	221	P	Pn	17 59 22.1	+1.4
ONTNC	Ouen Toro	4.43	218		Pn	17 59 22.4	+0.9
ONTNC	Ouen Toro	4.43	218	P	Pn	17 59 22.7	+1.2
MSVF	Nonsavu	8.28	84	P	Pn	18 00 11.0	+1.2
15nm,0.5s,baz=87,slow=23,SNR=11							
MSVF	Nonsavu	8.28	84	P	Pn	18 00 11.2	+1.4
EIDS	Eidsvold	18.18	246	P	P	18 02 08.5	+0.9
EIDS				IAmb	IAmb	18 02 32.9	
comp=Z,14nm,1.4s							
NIUE	Niue	19.54	94	P	Pn	18 02 25.1	-1.7
ARMA	Armidale	19.83	231	P	P	18 02 25.9	+0.5
ARMA				IAmb	IAmb	18 02 27.2	
comp=Z,8.5nm,0.8s							
CTAO	Charters Tower	21.87	263	P	P	18 02 47.3	+1.2
MRZ	Mangatainoka R	22.39	168	P	P	18 02 51.5	+1.0
MRZ				IAmb	IAmb	18 02 55.1	
comp=Z,25nm,1.4s							
PMG	Port Moresby	23.50	290	P	P	18 03 02.7	+1.7
PMG				IAmb	IAmb	18 03 03.8	
comp=Z,10nm,0.8s							
PMG	Port Moresby	23.50	290	P	P	18 03 02.8	+1.8
comp=Z,9.6nm,0.7s,baz=84,slow=7.7,SNR=4.6							
comp=Z,9.6nm,0.7s							
GVZ	Greta Valley S	24.25	174	P	P	18 03 09.5	+2.0
TOO	Toolangi	28.02	223	P	P	18 03 40.5	-0.9
TOO				IAmb	IAmb	18 04 06.9	
comp=Z,26nm,1.4s							
STKA	Stephens Creek	28.20	237	P	P	18 03 42.6	-0.3
STKA	Stephens Creek	28.20	237	P	P	18 03 43.0	0.0
comp=Z,7.0nm,0.7s,baz=64,slow=9.1,SNR=14							
comp=Z,7.0nm,0.7s							
WR0	Warramunga Arr	32.88	262	P	P	18 04 23.1	-1.0
WR0				IAmb	IAmb	18 04 23.9	
comp=Z,4.0nm,0.5s							
BBOO	Buckleboo	32.94	238	P	P	18 04 23.6	-0.8
BBOO				IAmb	IAmb	18 04 24.2	
comp=Z,20nm,1.1s							
WB0	Warramunga Arr	33.03	263	P	P	18 04 24.6	-0.8
WB0				IAmb	IAmb	18 04 25.3	
comp=Z,6.9nm,0.6s							
WB2	Warramunga Arr	33.06	262	P	P	18 04 24.7	-1.0
WB2				IAmb	IAmb	18 04 25.6	
comp=Z,13nm,1.4s							
WRA	Warramunga Arr	33.07	262	P	P	18 04 23.4	-2.3
WRA	Warramunga Arr	33.07	262	P	P	18 04 24.5	-1.3
comp=Z,3.2nm,0.5s,baz=82,slow=5.9,SNR=90							
comp=Z,3.2nm,0.5s							
AS31	Alice Springs	33.38	255	P	P	18 04 27.5	-1.0
ASAR	Alice Springs	33.38	255	P	P	18 04 27.8	-0.7
ASAR	Alice Springs	33.38	255	P	P	18 04 28.0	-0.5
comp=Z,25nm,0.6s,baz=83,slow=9.0,SNR=480							
comp=Z,25nm,0.6s							
MTN	Manton Dam	37.25	273	P	P	18 05 01.0	-0.4
MTN				IAmb	IAmb	18 05 02.1	
comp=Z,10nm,0.7s							
KNRA	Kununurra	38.89	268	P	P	18 05 14.5	-0.5
KNRA				IAmb	IAmb	18 05 17.4	
comp=Z,35nm,1.5s							
FORT	Forrest	39.17	244	P	P	18 05 16.2	-0.9
FAKI	Fak Fak	39.64	289	P	P	18 05 21.1	-0.2
PSA00	Pilbara Seismi	46.44	258	P	P	18 06 15.0	-0.5
PSA00	Pilbara Seismi	46.44	258	P	P	18 06 14.9	-0.7
PSA00				IAmb	IAmb	18 06 45.5	
comp=Z,25nm,1.4s							
MBWA	Marble Bar	46.59	258		P	18 06 16.4	-0.3
MBWA				IAmb	IAmb	18 06 58.7	
comp=Z,26nm,1.4s							
MORW	Morawa	49.47	248	P	P	18 06 37.8	-0.9
MORW				IAmb	IAmb	18 06 54.2	
comp=Z,22nm,1.3s							
TOLI2	Tolitoli	51.71	287	P	P	18 06 55.4	-0.1
PET	Petropavlovsk	72.17	353	P	P	18 09 10.3	-0.1
PEA0B	Petropavlovsk-	72.36	353	P	P	18 09 12.5	+0.9
PETK	Petropavlovsk-	72.36	353	P	P	18 09 12.1	+0.4
CMAR	Chiang Mai Arr	78.49	294	P	P	18 09 47.4	+0.2
comp=Z,0.4nm,0.3s,baz=123,slow=4.4,SNR=2.1							
comp=Z,0.4nm,0.3s							
KDAK	Kodiak Island	82.60	19	P	P	18 10 08.9	+0.8
M16K	Timber Creek	83.55	15	P	P	18 10 13.2	+0.4
M16K				IAmb	IAmb	18 10 39.9	
comp=Z,16nm,1.2s							
M17K	Holitna River	84.25	15	P	P	18 10 17.4	+0.9

L18K Granite Mounta 85.14 15 P P 18 10 20.8 0.0
L18K IAmb IAmb 18 10 33.3
comp=Z,19nm,1.5s
J16K Anvik River 85.15 13 P **P 18 10 21.1 +0.3**
KMRM Mail Ridge 85.51 45 P **P 18 10 22.9 -0.4**
KHMM Horse Mountain 85.81 44 P **P 18 10 25.4 +0.5**
KHMM IAmb IAmb 18 10 26.1
comp=Z,6.4nm,0.8s
J18K Innoko River 86.19 15 P **P 18 10 25.5 -0.5**
SONM Songino Array 87.00 323 P **P 18 10 30.6 +0.2**
comp=Z,0.5nm,0.7s,baz=158,slow=4.2,SNR=2.7
comp=Z,0.5nm,0.7s
NVAR Mina Array Bea 88.41 48 P **P 18 10 37.1 -0.4**
comp=Z,1.1nm,0.9s,baz=226,slow=7.1,SNR=4.5
comp=Z,1.1nm,0.9s
ILAR Eielson Array 89.80 17 P **P 18 10 41.0 -2.1**
comp=Z,0.4nm,0.7s,baz=240,slow=5.5,SNR=5.4
comp=Z,0.4nm,0.7s
ARCES ARCESS Array B 124.72 345 PKP **PKPdf 18 16 40.4 -2.1**
comp=Z,3.5nm,1.0s,baz=34,slow=3.1,SNR=3.6
GERES GERESS Array B 144.22 332 PKP **PKPab 18 17 17.5 -0.4**
comp=Z,0.5nm,0.4s,baz=88,slow=3.2,SNR=2.4

TEH 27 18:06:58.6, 38°.74N×48°.59E, h20km±24km, ML3.1,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	Germi	0.55	278	Pg	Pg	18 07 09.9	+0.2
GRMI				Sg	Sg	18 07 17.9	+0.8
ISRB	Sarab	1.16	219	Pg	Pb	18 07 20.4	+0.2
CSN1	Caspian	1.24	161	Pg	Pg	18 07 22.4	-0.2
IHRS	Heris	1.28	251	Pg	Pb	18 07 22.6	+0.4
IHSH	Hashtrud	1.77	217	Pg	Pb	18 07 30.9	+0.3
ITBZ	Tabriz	1.98	256	Pn	Pb	18 07 32.8	-1.3
JIR1	Jirandeh	2.24	154	Pn	Pn	18 07 35.6	+0.8
IMRD	Marand	2.25	270	Pn	Pb	18 07 37.5	-1.3
QSDN	Sirdan	2.28	168	Pn	Pn	18 07 37.0	+1.6
ISHB	Shabestar	2.37	260	Pn	Pn	18 07 38.0	+1.4
IGZV	Ghazvin	2.68	151	Pn	Pn	18 07 42.5	+1.6
MAKU	Maku	3.10	283	Pn	Pb	18 07 50.1	-3.1
MZPU	Pul - Mazandar	3.30	133	Pn	Pn	18 07 51.0	+1.6
LGD	Lagodekhi	3.58	331	P	Pn	18 07 54.4	+1.4
IFIR	Firoozkooh	4.54	132	Pn	Pn	18 08 09.6	+3.1
ISHM	Shahmirzad	4.76	126	Pn	Pn	18 08 11.3	+1.8

*IDC **27** 18:22:13.6±3.3, 17°.62S×152°.38E, h0km, mbtmp3.4/4, ML2.9/3, Error ellipse: s-maj=55.4km s-min=38.9km az=100.0*
ISC 27 18:22:15.6±1.6, 17°.73S±0°.08×152°.3E±0°.1, h10km, n8,
σ1 44/13, Coral Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	6.15	247	P	Pn	18 23 47.8	+1.3
baz=5.8							
CTA				S	Sn	18 24 55.8	-1.1
baz=5.8							
CTA	Charters Tower	6.15	247	Pn	Pn	18 23 47.9	+1.3
0.2nm,0.3s,baz=68,slow=17,SNR=13							
CTA				Sn	Sn	18 24 56.2	-0.8
1.3nm,0.3s,baz=156,slow=20,SNR=7.6							
1.1nm,0.6s							
MTSU	Mount Surprise	7.57	266	P	Pn	18 24 07.4	+1.3
baz=7.3							
MTSU				S	Sn	18 25 29.9	-2.1
baz=7.3							
EIDS	Eidsvold	7.68	188	P	Pn	18 24 08.7	+1.2
baz=7.4							
EIDS				S	Sn	18 25 33.1	-1.6
baz=7.4							
PMG	Port Moresby	9.64	328	Pn	Pn	18 24 33.0	-1.5
4.5nm,0.6s,baz=12,slow=5.7,SNR=2.0							
PMG				Sn	Sn	18 26 24.0	+1.0
baz=266,slow=9.6,SNR=1.9							
WRA	Warramunga Arr	17.10	260	P	Pn	18 26 15.8	+0.8
0.1nm,0.3s,baz=83,slow=12,SNR=6.6							
0.9nm,0.8s							
ASAR	Alice Springs	18.15	248	P	Pn	18 26 29.1	+1.2
baz=73,slow=13,SNR=2.0							
0.3nm,0.9s							
TORD	Torodi Ar. Bea	151.28	265	PKPbc	PKPbc	18 42 10.2	-0.2
0.3nm,0.4s,baz=132,slow=4.2,SNR=1.8							

IDC 27 18:25:00.5±2.5, 33°.88N×90°.75E, h0km, mb3.5/4,
mbtmp3.4/5, ML2.7/1, MS3.1/1, Error ellipse:
s-maj=133.0km s-min=24.6km az=67.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	Kurchatov Arra	18.97	335	P	P	18 29 22.4	-0.9
baz=144,slow=13,SNR=2.8							
0.2nm,0.6s							
ZALV	Zalesovo Beam	20.50	350	P	P	18 29 40.8	+0.9
1.0nm,0.8s,baz=158,slow=12,SNR=2.2							
1.0nm,0.8s							
BELG	Belogornoye	35.85	314	LR	LR	18 47 23.3	
comp=Z,29nm,20.0s,baz=203,slow=38							
WRA	Warramunga Arr	67.75	136	P	P	18 35 60.0	-0.2
0.7nm,0.8s,baz=333,slow=7.4,SNR=5.9							
0.7nm,0.8s							
ASAR	Alice Springs	70.43	138	P	P	18 36 17.0	+0.2
0.3nm,0.7s,baz=319,slow=6.3,SNR=7.0							
0.3nm,0.7s							
ILAR	Eielson Array	71.91	22	P	P	18 36 25.2	0.0
0.4nm,1.0s,baz=302,slow=5.2,SNR=3.3							
0.4nm,1.0s							

*IDC **27** 19:03:40.0±1.6, 53°.64N×170°.54E, h0km, mb3.8/5, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=52.4km s-min=20.2km az=6.0*
*NEIC **27** 19:03:42.6±2.8, 53°.3N±0°.2×170°.5E±0°.1, h33km±10km, mb3.8/7, Error ellipse: s-maj=35.6km s-min=8.3km az=193.0*
*KRSC **27** 19:03:44.5±1.4, 53°.33N×169°.86E, h20km±25km, Ml3.8*
ISC 27 19:03:41.8±0.8, 53°.3N±0°.1×170°.61E±0°.06, h24km, n40,
σ1 80/37, mb3.9/9, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.18	103	Pn	Pn	19 04 18.6	+2.1
22nm,0.3s,baz=50,slow=3.9,SNR=11							
SHEM				Sn	Sb	19 04 45.2	-1.8
16nm,0.3s,baz=341,slow=23,SNR=2.5							
80nm,0.5s							
BKI	Bering	3.33	307	*e*S	Sn	19 05 07.3	-3.7
TUMD	Tumrok D	6.28	292	*e*P	Pn	19 05 14.7	+1.9
TUMD				*e*S	Sn	19 06 22.4	-1.4
ZLN	Zelenaya	6.31	300	*e*P	Pn	19 05 16.3	+3.0
KZV	Kizimen	6.32	291	*e*P	Pn	19 05 14.1	+0.6
SPN	Mys Shipunski	6.37	273	*e*P	Pn	19 05 15.5	+1.5
SPN				*e*S	Sn	19 06 23.7	-2.1
BZP	Bezymyannyi-Pe	6.41	298	*e*P	Pn	19 05 17.3	+2.5
TUMR	Tumrok	6.44	292	*e*P	Pn	19 05 17.0	+1.9
KMNR	Kamenistaya	6.52	296	*e*P	Pn	19 05 18.6	+2.4
KII	Karymskiy	6.67	281	*e*P	Pn	19 05 19.4	+1.1
NLC	Nalytchevo	6.76	274	*e*P	Pn	19 05 22.0	+2.6
AVH	Avacha	7.12	275	*e*P	Pn	19 05 26.9	+2.5
KRX	Arik	7.17	275	*e*P	Pn	19 05 26.7	+1.6
MTVR	Mutnovka	7.56	269	*e*P	Pn	19 05 32.5	+2.0
ASAK	Asacha	7.75	268	*e*P	Pn	19 05 35.3	+2.3
PEA0B	Petropavlovsk-	7.76	274	Pn	Pn	19 05 32.7	-0.4
PETK	Petropavlovsk-	7.76	274	Pn	Pn	19 05 30.6	-2.4
PETK	Petropavlovsk-	7.76	274	Pn	Pn	19 05 34.9	+1.8
1.7nm,0.3s,baz=86,slow=17,SNR=69							
1.2nm,0.3s							
ADK	Adak	7.87	95	Pn	Pn	19 05 34.4	-0.2
GSTR	Great Sitkin T	8.19	93	Pn	Pn	19 05 37.2	-1.8
ATKA	Atka Island	9.29	91	Pn	Pn	19 05 54.3	+0.3
G18K	Tagagawik	19.76	38	P	P	19 08 10.4	+0.7
H19K	Roundabout Mou	20.46	40	P	P	19 08 17.6	+0.4
OHAK	Old Harbor	20.79	65	P	P	19 08 18.5	-2.3
OHAK				IAmb	IAmb	19 08 20.5	
comp=Z,2.7nm,0.8s							
KDAK	Kodiak Island	21.13	63	P	P	19 08 24.8	+0.4
comp=Z,9.5nm,0.8s,baz=332,slow=19,SNR=1.5							
comp=Z,9.5nm,0.8s							
TRF	Thorofare Moun	22.51	48	P	P	19 08 40.3	+0.8
TRF				IAmb	IAmb	19 09 15.6	
comp=Z,5.2nm,1.1s							
MDM	Murphy Dome	23.65	44	P	P	19 08 50.7	-0.1

```
MDM                                     IAmb   IAmb    19 09 13.7
      comp=Z,5.7nm,1.3s
ILAR  Eielson Array      24.18  45  P     P       19 08 55.5 -0.4
      comp=Z,0.4nm,0.8s,baz=260,slow=8.8,SNR=4.2
      comp=Z,0.4nm,0.8s
SCRK  Sand Creek         25.36  47  P     P       19 09 05.8 -0.8
SCRK                                    IAmb   IAmb    19 09 12.2
      comp=Z,3.3nm,1.2s
BMAR  Burnt Mountain     25.56  39  P     P       19 09 09.1 +0.8
TIXI  Tiksi              25.78 331  P     P       19 09 10.2  0.0
TIXI                                    IAmb   IAmb    19 09 27.6
      comp=Z,2.5nm,1.1s
H11N2 WAKE ISLAND Hy 33.62 186  T     T       19 46 14.1
      baz=3.7,slow=76,SNR=40
H11N3 WAKE ISLAND Hy 33.63 186  T     T       19 46 15.0
      baz=3.7,slow=76,SNR=33
H11N1 WAKE ISLAND Hy 33.63 186  T     T       19 46 11.6
      baz=3.7,slow=76,SNR=32
H11S1 WAKE ISLAND Hy 34.84 186  T     T       19 47 44.1
      baz=4.2,slow=76,SNR=59
H11S3 WAKE ISLAND Hy 34.86 187  T     T       19 47 45.2
      baz=4.2,slow=76,SNR=31
H11S2 WAKE ISLAND Hy 34.86 186  T     T       19 47 44.5
      baz=4.2,slow=76,SNR=36
KURBB Kurchatov Arra     52.94 307  P     P       19 12 55.1 -0.5
      comp=Z,1.3nm,0.2s,baz=40,slow=8.9,SNR=1.3
      comp=Z,1.3nm,0.2s
MKAR  Makanchi Array     53.62 301  P     P       19 13 00.4 -0.3
      comp=Z,1.2nm,0.9s,baz=55,slow=7.4,SNR=1.9
      comp=Z,1.2nm,0.9s
TXAR  Lajitas Array      64.61  75  P     P       19 14 19.4 +2.2
      comp=Z,0.5nm,0.5s,baz=308,slow=5.3,SNR=5.7
      comp=Z,0.5nm,0.5s
```

*IDC **27** 19:05:35.6±6.8, 37°.36N×70°.08E, h45km±31km, mb3.6/3, mbtmp3.8/9, ML3.5/6, MS3.2/2, Error ellipse: s-maj=109.8km s-min=27.9km az=158.0*
*NNC **27** 19:05:39.1±3.3, 38°.48N×69°.33E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=31.0km s-min=17.7km az=177.0*
*SOME **27** 19:05:45.4, 39°.02N×71°.72E, h0km*
ISC 27 19:05:41.2±1.5, 38°.5N±0°.1×69°.38E±0°.07, h12km, n25, σ1§54/30, mb3.9/3, 8C-2D, Tajikistan

```
Code  Station Name       Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
IUG   Iuzhnay            3.72   7  ePg   Pb          19 06 48.0 +1.0
      28nm,0.2s
IUG                                eLg   Lg          19 07 35.6
      58nm,0.4s
KK31  Karatay Array      4.72  10  Pn    Pn          19 06 53.1 +0.8
      0.6nm,0.2s,baz=198,slow=16,SNR=60
KK31                               ⇑Pg   Pb          19 07 03.9 -0.1
      12nm,0.7s,baz=182,slow=15,SNR=12
KK31                               ⇓Lg   Lg          19 08 09.6
      24nm,0.8s,baz=197,slow=34,SNR=6.6
AML   Almayashu          4.93  41  P     Pn          19 06 57.8 +2.2
      SNR=17
AML   Almayashu          4.93  41  ⇑Pn   Pn          19 06 54.8 -0.8
      1.8nm,0.6s
AML                                ⇑Pg   Pb          19 07 07.4 -0.4
      3.7nm,0.9s
AML                                ⇑Lg   Lg          19 08 13.6
      4.9nm,0.7s
MRKS  Merke              5.19  33  ePg   Pn          19 06 58.6 -0.1
      19nm,0.3s
MRKS                               eLg   Lg          19 07 54.6
      22nm,0.5s
EKS2  Erkin-Say          5.37  37  P     Pn          19 07 04.0 +2.7
      SNR=25
AAK   Ala-Archa          5.71  41  P     Pn          19 07 08.3 +2.3
      SNR=7.3
AAK   Ala-Archa          5.71  41  P     Pn          19 07 05.5 -0.5
      2.3nm,0.3s,baz=227,slow=4.5,SNR=21
AAK                                S     Sn          19 08 10.5 -1.0
      3.8nm,0.5s,baz=21,slow=16,SNR=1.5
      5.3nm,0.4s
CHMS  Chumysh            6.10  40  P     Pn          19 07 13.2 +2.0
      SNR=6.2
USP   Ospenovka          6.18  37  P     Pn          19 07 14.5 +2.3
      SNR=8.7
TKM2  Tokmak 2           6.50  45  P     Pn          19 07 16.3 -0.5
      SNR=12
TKM2  Tokmak 2           6.50  45  ⇑Pn   Pn          19 07 16.1 -0.8
      3.5nm,0.5s
TKM2                               ⇓Sn   Sn          19 08 34.3 +3.4
      7.7nm,0.8s
KST   Kastek             6.78  45  ePg   Pn          19 07 21.3 +0.7
      1.5nm,0.2s
KST                                eLg   Lg          19 08 36.5
      4.9nm,0.4s
GEYT  Alibeck            8.89 270  P     Pn          19 07 49.7 +0.3
      0.5nm,0.3s,baz=92,slow=8.9,SNR=9.4
GEYT                               S     Sn          19 09 30.1 +0.5
      1.3nm,0.6s,baz=96,slow=14,SNR=1.5
      1.1nm,0.3s
OTUK  Ortayu            10.02  11  ⇑Pn   Pn          19 08 01.7 -3.2
      2.1nm,0.9s
MKAR  Makanchi Array    12.63  45  P     Pn          19 08 39.5 -1.1
      0.1nm,0.3s,baz=230,slow=14,SNR=1.5
MKAR                               LR    LR          19 14 07.8
      comp=Z,37nm,19.3s,baz=124,slow=39
      0.7nm,0.7s
AB31  Akbulak array     12.75 331  ⇑Pn   Pn          19 08 40.8 -1.5
      0.6nm,0.5s,baz=297,slow=12,SNR=30
AB31                               Sn    Sn          19 11 03.5 -0.6
      1.1nm,0.6s,baz=154,slow=22,SNR=4.2
AKTO  Aktyubinsk        14.45 330  ⇑Pn   Pn          19 09 05.6 +0.1
      1.2nm,0.5s
AKTO  Aktyubinsk        14.45 330  P     P           19 09 12.6 +0.4
      0.6nm,0.3s,baz=136,slow=7.5,SNR=11
      2.7nm,0.5s
BVAR  Borovoye Array    14.59   2  P     P           19 09 13.1 -0.7
      0.1nm,0.3s,baz=170,slow=9.1,SNR=12
      1.4nm,0.3s
ZALV  Zalesovo Beam     18.75  29  P     P           19 09 57.5 -2.4
      0.4nm,0.3s,baz=217,slow=12,SNR=9.2
      1.9nm,0.6s
FINES FINESS Array B    35.15 325  P     P           19 12 34.9 +0.4
      1.5nm,0.8s,baz=120,slow=8.3,SNR=3.4
      1.5nm,0.8s
HFS   Hagfors           40.74 321  P     P           19 13 21.9 +0.3
      1.5nm,0.6s,baz=88,slow=7.4,SNR=4.5
      1.5nm,0.6s
NOA   NORSAR Array B    42.05 322  P     P           19 13 32.1 -0.4
      0.4nm,0.5s,baz=109,slow=8.0,SNR=1.7
      0.4nm,0.5s
MBAR  Mbarara           52.65 232  LR    LR          19 38 15.6
      comp=Z,68nm,18.8s,baz=222,slow=37
```

*ISK **27** 19:23:24.9, 35°.69N×30°.81E, h13km, ML2.6/14*
*AFAD **27** 19:23:27.3±0.0, 35°.91N×30°.91E, h7km±6km, ML2.3*
*NIC **27** 19:23:29.4, 35°.69N×30°.56E, h32km±32km, Ml2.5/5*
ISC 27 19:23:28.4±1.2, 35°.91N±0°.04×30°.85E±0°.03, h26km±15km, n34, σ1§30/47, Eastern Mediterranean Sea

```
Code  Station Name       Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
AKUM  Antalya-Kumluc     0.58 316  P     Pn          19 23 40.4 -0.5
AKUM                               S     Sn          19 23 49.4 -0.3
AKUM                               i AML AML         19 23 52.0
      comp=N,226nm,0.8s
AKUM                               i AML AML         19 23 53.0
      comp=E,196nm,0.7s
AKAS  Kas                1.06 288  Pn    Pn          19 23 46.9 -0.8
AKAS  Kas                1.06 288  P     Pn          19 23 48.4 +0.8
AKAS                               S     Sn          19 24 03.2 +1.6
AKAS                               i AML AML         19 24 07.0
      comp=N,185nm,0.9s
AKAS                               i AML AML         19 24 08.0
      comp=E,125nm,0.6s
ELL   Elmali             1.13 318  Pn    Pb          19 23 49.2 -0.1
ELL                                Sn    Sn          19 24 06.9 +3.5
ELL   Elmali             1.13 318  P     Pb          19 23 49.7 +0.4
ELL                                S     Sn          19 24 05.1 +1.6
ELL                                AML   AML         19 24 14.3
      0.6nm,0.5s
ELL                                AML   AML         19 24 18.6
      0.5nm,0.9s
KORT  Korkueli           1.16 340  Pn    Pb          19 23 50.1 +0.2
KORT  Korkueli           1.16 340  P     Pb          19 23 50.3 +0.4
KORT                               i AML AML         19 24 16.0
      comp=E,102nm,0.5s
KORT                               i AML AML         19 24 17.0
      comp=N,50nm,0.9s
KEPZ  Antalya-Kepez      1.17  31  P     Pb          19 23 49.3 -0.5
KEPZ                               S     Sn          19 24 04.6 +0.4
KEPZ                               i AML AML         19 24 07.0
      comp=E,62nm,0.4s
KEPZ                               i AML AML         19 24 10.0
      comp=N,66nm,0.4s
GAZI  Gazipasa           1.23  74  Pn    Pb          19 23 50.1 -0.9
GAZI  Gazipasa           1.23  74  P     Pb          19 23 49.8 -1.2
GAZI                               S     Sn          19 24 06.4 +0.6
GAZI                               i AML AML         19 24 07.0
      comp=N,152nm,0.6s
GAZI                               i AML AML         19 24 09.0
      comp=E,84nm,0.4s
IZZE  Mula-Seydike       1.41 292  P     Pn          19 23 52.4 -0.1
IZZE                               S     Sn          19 24 09.2 -1.0
IZZE                               i AML AML         19 24 20.0
      comp=N,92nm,0.5s
IZZE                               i AML AML         19 24 26.0
      comp=E,47nm,0.4s
BUCA  Burdur, Bucak-     1.44 351  P     Pb          19 23 58.2 +3.7
BUCA                               i AML AML         19 24 27.0
      comp=N,41nm,0.6s
BUCA                               i AML AML         19 24 37.0
      comp=E,33nm,0.6s
AKMS  Akamas             1.50 126  P     Pb          19 23 55.1 -0.5
AKMS                               S     Sb          19 24 16.9 +2.6
AKMS                               AML   AML         19 24 23.6
      0.1nm,0.3s
AKMS                               AML   AML         19 24 24.3
      0.2nm,0.4s
FETY  Fethiye            1.60 298  Pn    Pn          19 23 55.2 +0.2
ALFC  Alefka             1.61 117  P     Pn          19 23 55.5 +0.2
ALFC                               S     Sb          19 24 19.8 +2.3
ALFC                               AML   AML         19 24 25.0
      0.1nm,0.3s
ALFC                               AML   AML         19 24 27.6
      0.1nm,0.4s
CAME  Cameli-Denizli     1.62 310  Pn    Pn          19 23 55.7 +0.3
GOLH  Golhisar           1.68 322  P     Pb          19 23 57.6 -1.1
GOLH                               S     Sb          19 24 20.8 +1.3
GOLH                               i AML AML         19 24 27.0
      comp=N,33nm,0.5s
GOLH                               i AML AML         19 24 36.0
      comp=E,50nm,1.1s
HDMB  Hadim              1.69  51  Pn    Pb          19 23 57.3 -1.6
SEYD  Seydisehir-KON     1.69  28  Pn    Pb          19 23 57.9 -1.0
SEDI  Konya, Seydise     1.71  25  P     Pb          19 23 58.0 -1.1
SEDI                               S     Sb          19 24 20.3 +0.1
SEDI                               i AML AML         19 24 23.0
      comp=N,37nm,0.5s
SEDI                               i AML AML         19 24 25.0
      comp=E,33nm,0.4s
CAEL  Denizli, Camel     1.73 315  P     Pn          19 23 54.4 -2.5
CAEL                               i AML AML         19 24 39.0
      comp=N,71nm,0.8s
CAEL                               i AML AML         19 24 40.0
      comp=E,57nm,0.9s
NATA  Nata               1.80 128  P     Pb          19 23 59.5 -1.2
NATA                               S     Sb          19 24 22.6 -0.2
NATA                               AML   AML         19 24 39.5
      0.4nm,0.9s
NATA                               AML   AML         19 24 42.8
      0.3nm,0.9s
TROD  Troodos            1.91 120  P     Pb          19 24 01.5 -1.1
TROD                               S     Sb          19 24 25.9 -0.2
TROD                               AML   AML         19 24 38.3
      0.1nm,0.8s
TROD                               AML   AML         19 24 42.3
      0.1nm,0.7s
DALY  Dalyan (Mula)      1.99 298  Pn    Pn          19 24 00.5 +0.2
BASM  Basmaki-Afyon      2.11 343  Pn    Pb          19 24 04.3 -1.6
ARG   Arkhangelos        2.23 279  P     Pn          19 24 03.2 -0.4
ARG                                S     Sn          19 24 26.8 -3.5
CSS   Mathiatis          2.24 114  P     Pb          19 24 07.0 -1.1
ASGA  Asgata             2.26 119  P     Pn          19 24 05.6 +1.6
TURN  Turunc             2.27 293  Pn    Pn          19 24 04.2  0.0
TURN  Turunc             2.27 293  P     Pn          19 24 04.6 +0.4
TURN                               i AML AML         19 24 32.0
      comp=E,13nm,0.4s
TURN                               i AML AML         19 24 51.0
      comp=N,12nm,0.5s
YER   Yerkesik           2.40 301  Pn    Pn          19 24 06.3 +0.2
MVOU  Mavrovouni         2.44 111  S     Sb          19 24 40.2 -1.0
RFTAA Mazikoy-Bodrum     2.73 294  Pn    Pn          19 24 10.8 +0.3
BODT  Bodrum             3.07 293  Pn    Pn          19 24 15.3  0.0
```

*IDC **27** 19:26:39.7±1.1, 34°.84N×26°.69E, h0km, mb3.7/7, mbtmp3.5/13, ML3.4/6, MS3.1/4, Error ellipse: s-maj=24.2km s-min=14.1km az=177.0*
*ISK **27** 19:26:41.7, 35°.10N×26°.69E, h6km, ML3.5/25*
*THE **27** 19:26:41.2, 35°.04N×26°.68E, h0km±1km, ML3.5/6, Error ellipse: s-maj=5.2km s-min=0.8km az=158.0*
*ATH **27** 19:26:42.9, 35°.05N×26°.68E, h14km±1km, ML3.7/13, Manual Solution by M.Kolligri This location: 2019/12/30 09:07:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 1 km*
ISC 27 19:26:41.0±1.2, 34°.92N±0°.05×26°.68E±0°.03, h13km±8km, n76, σ1§41/92, mb3.7/7, MS3.1/3, Crete

```
Code  Station Name       Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
ZKR   Zakros             0.43 297  Pg    Pg          19 26 49.5 -0.1
ZKR                                Sg    Sg          19 26 56.3 +1.0
ZKR   Zakros             0.43 297  P     Pg          19 26 49.4 -0.1
ZKR                                S     Sg          19 26 56.1 +0.8
      8µm,0.2s
ZKR   Zakros             0.43 297  P     Pg          19 26 49.5 -0.1
ZKR                                S     Sg          19 26 55.8 +0.5
KARP  Karpathos          0.74  32  Pg    Pg          19 26 53.6 -1.7
KARP  Karpathos          0.74  32  P     Pg          19 26 53.8 -1.6
KARP                               S     Sb          19 27 04.3 -1.5
      8µm,0.3s
KARP  Karpathos          0.74  32  P     Pg          19 26 53.7 -1.7
KARP                               S     Sb          19 27 04.3 -1.5
FRMA  Ierapetra Chan     0.79 277  P     Pg          19 26 54.4 -1.9
FRMA                               S     Sg          19 27 05.8 -0.8
      2µm,0.3s
FRMA  Ierapetra Chan     0.79 277  P     Pg          19 26 54.3 -1.9
FRMA                               S     Sg          19 27 05.1 -1.5
HRKL  Herakleio          1.35 287  Pn    Pb          19 27 07.2 +0.9
HRKL                               Sn    Sg          19 27 26.5 +1.8
HRKL  Herakleio          1.35 287  P     Pn          19 27 06.2 +0.6
HRKL                               S     Sn          19 27 24.4 +0.9
      5µm,0.7s
HRKL  Herakleio          1.35 287  P     Pn          19 27 06.7 +1.0
HRKL                               S     Sg          19 27 26.3 +1.6
IACM  Heraklion          1.38 287  P     Pb          19 27 07.5 +0.9
IACM                               S     Sn          19 27 24.6 +0.6
KSTL  Kastelli Herak     1.38 287  P     Pn          19 27 01.8 -4.1
KSTL  Kastelli Herak     1.38 287  P     Pn          19 27 02.6 -3.3
KSTL                               S     Sn          19 27 18.0 -6.0
IDI   Anoyia             1.52 284  Pn    Pn          19 27 09.1 +1.6
IDI   Anoyia             1.52 284  P     Pn          19 27 08.6 +0.7
IDI                                S     Sn          19 27 28.3 +0.7
      970nm,1.0s
IDI   Anoyia             1.52 284  Pn    Pn          19 27 09.5 +1.6
      34nm,0.3s,baz=105,slow=15,SNR=78
IDI                                Sn    Sg          19 27 30.5 +0.6
      35nm,0.3s,baz=10,slow=5.6,SNR=6.6
IDI                                LR    LR          19 27 45.9
      comp=Z,84nm,20.8s,baz=68,slow=43
IDI   Anoyia             1.52 284  P     Pn          19 27 09.6 +1.6
IDI                                S     Sg          19 27 30.8 +0.9
TMBK  Timbaki Herakl     1.58 276  P     Pn          19 27 10.7 +1.9
NISR  Nisiros            1.73  12  P     Pn          19 27 10.9 +0.2
ARG   Arkhangelos        1.75  42  Pn    Pn          19 27 11.7 +0.7
ARG   Arkhangelos        1.75  42  P     Pn          19 27 10.5 -0.6
ARG                                S     Sn          19 27 33.1 -0.1
      1µm,0.7s
ARG   Arkhangelos        1.75  42  P     Pn          19 27 11.8 +0.7
SANT  Santorini          1.76 326  Pn    Pn          19 27 11.3 +0.1
SANT                               Sn    Sb          19 27 33.2 -2.0
SANT  Santorini          1.76 326  P     Pn          19 27 11.5 +0.3
SANT                               S     Sb          19 27 33.4 -1.8
THR6  Thira Island,      1.77 324  P     Pn          19 27 11.7 +0.2
THR8  Santorini-Mono     1.78 327  P     Pn          19 27 11.3 -0.2
THR8  Santorini-Mono     1.78 327  P     Pn          19 27 11.6 +0.2
THR9  Santorini-Faro     1.79 323  P     Pn          19 27 11.7  0.0
SNT5  Nea Kammeni, S     1.81 325  P     Pn          19 27 12.3 +0.3
THR3  Thira Island,      1.81 325  P     Pn          19 27 12.6 +0.6
THR2  Thira island,      1.83 327  P     Pn          19 27 12.9 +0.7
KOSK  Kos Island         1.84   7  Pn    Pn          19 27 12.2 -0.2
THR5  Thira Island,      1.85 324  P     Pn          19 27 12.8 +0.4
CMBO  Columbo, Santo     1.86 326  P     Pn          19 27 13.5 +0.9
RFTD  Palamutbuku-Ka     1.88  20  Pn    Pn          19 27 12.6 -0.3
DAT   Datca              1.94  22  Pn    Pn          19 27 13.6 -0.3
RFTB  Kemer-Bodrum       2.09  13  Pn    Pn          19 27 15.7 -0.1
GVDS  Gavdos             2.13 269  Pn    Pb          19 27 20.1 +0.6
GVD   Gavdhos            2.13 269  Pn    Pn          19 27 18.7 +2.3
GVD   Gavdhos            2.13 269  P     Pn          19 27 16.5 +0.1
BODT  Bodrum             2.20  13  Pn    Pn          19 27 17.4 +0.1
TURN  Turunc             2.24  34  Pn    Pn          19 27 18.3 +0.4
RFTAA Mazikoy-Bodrum     2.25  22  Pn    Pn          19 27 17.8 -0.1
IMMV  Iera Moni Meta     2.28 284  Pn    Pn          19 27 20.4 +2.0
IMMV  Iera Moni Meta     2.28 284  P     Pn          19 27 18.4  0.0
APE   Apeiranthos        2.34 337  Pn    Pn          19 27 19.0 -0.2
APE   Apeiranthos        2.34 337  P     Pn          19 27 19.3 +0.1
DALY  Dalyan (Mula)      2.48  40  Pn    Pn          19 27 21.6 +0.5
YER   Yerkesik           2.56  30  Pn    Pn          19 27 22.7 +0.4
FETY  Fethiye            2.59  48  Pn    Pn          19 27 23.7 +0.9
AKAS  Kas                2.72  60  Pn    Pn          19 27 25.7 +1.2
ANKY  Antikythira Is     2.92 290  P     Pn          19 27 28.5 +1.4
CAME  Cameli-Denizli     2.93  46  Pn    Pn          19 27 28.3 +0.8
ELL   Elmali             3.19  54  Pn    Pn          19 27 32.7 +1.6
KTHA  Kythira Island     3.24 295  Pn    Pn          19 27 33.6 +2.0
KTHA  Kythira Island     3.24 295  P     Pn          19 27 30.7 -0.9
URLA  Izmir              3.43 359  Pn    Pn          19 27 34.6 +0.3
KULA  Kula-Manisa        3.92  23  Pn    Pn          19 27 41.8 +0.7
AGG   Agios Georgios     5.38 321  Pn    Pn          19 28 02.6 +1.6
BRTR  Keskin Array B     7.33  47  Pn    Pn          19 28 29.2 +1.3
      0.1nm,0.3s,baz=229,slow=13,SNR=5.0
      0.9nm,0.6s
MMAI  Mount Meron Ar     7.49 102  Pn    Pn          19 28 29.5 -0.5
      0.5nm,0.3s,baz=295,slow=12,SNR=2.4
MMAI                               Sn    Sn          19 29 55.9 +1.0
      1.3nm,0.3s,baz=302,slow=24,SNR=2.9
      0.4nm,0.3s
EIL   Elat               8.74 125  Pn    Pn          19 28 47.3 +0.2
      0.2nm,0.3s,baz=24,slow=15,SNR=2.0
EIL                                Sn    Sn          19 30 20.2 -5.3
      0.3nm,0.3s,baz=205,slow=14,SNR=2.1
      1.0nm,0.4s
KBZ   Khabaz            15.30  50  Pn    P           19 30 22.2 +0.8
      baz=241,slow=9.8,SNR=4.1
      1.4nm,0.8s
AKASG Malin Array Be    15.88   6  Pn    P           19 30 26.1 -1.7
      0.5nm,0.3s,baz=194,slow=11,SNR=3.0
AKASG                              LR    LR          19 36 58.1
      comp=Z,69nm,18.9s,baz=346,slow=39
      0.2nm,0.3s
GERES GERESS Array B    16.91 329  Pn    P           19 30 40.2 +0.8
      0.2nm,0.3s,baz=132,slow=17,SNR=2.5
      0.3nm,0.5s
ESDC  Sonseca Array     24.77 290  P     P           19 32 01.6 -1.0
      0.2nm,0.5s,baz=91,slow=10,SNR=1.7
      0.2nm,0.5s
MDT   Midelt            26.02 274  LR    LR          19 44 02.0
      comp=Z,64nm,21.6s,baz=160,slow=40
FINES FINESS Array B    26.54 359  LR    LR          19 43 43.7
      comp=Z,30nm,18.8s,baz=1.5,slow=38
HFS   Hagfors           26.61 345  LR    LR          19 43 42.8
      comp=Z,55nm,20.8s,baz=29,slow=38
TORD  Torodi Ar. Bea    31.31 232  P     P           19 33 01.6 +0.4
      0.7nm,0.8s,baz=31,slow=9.0,SNR=6.8
      0.7nm,0.8s
ARCES ARCESS Array B    34.67 359  P     P           19 33 30.3 +0.3
      2.6nm,0.8s,baz=173,slow=11,SNR=1.8
      2.6nm,0.8s
KURBB Kurchatov Arra    40.30  51  P     P           19 34 18.9 +1.1
      0.7nm,0.5s,baz=278,slow=8.8,SNR=9.2
      0.7nm,0.5s
MKAR  Makanchi Array    42.86  56  P     P           19 34 40.5 +1.5
      1.0nm,0.7s,baz=265,slow=9.2,SNR=4.9
      1.0nm,0.7s
ZALV  Zalesovo Beam     44.27  46  P     P           19 34 50.3 +0.2
      0.6nm,0.4s,baz=268,slow=8.7,SNR=3.0
      0.6nm,0.4s
SONM  Songino Array     58.67  51  P     P           19 36 40.3 +2.0
      0.5nm,0.6s,baz=296,slow=7.9,SNR=3.2
      0.5nm,0.6s
```

*ISK **27** 19:42:07.9, 36°.91N×27°.38E, h6km, ML2.4/13*
*AFAD **27** 19:42:08.0±0.0, 36°.91N×27°.36E, h12km±1km, ML2.1*
*ATH **27** 19:42:08.2, 36°.90N×27°.32E, h18km±5km, ML2.6/4, Manual Solution by A.Fokaefs First location: 2019/04/19 05:41:46, This location: 2019/04/19 05:41:16 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 9 km*
*THE **27** 19:42:08.4, 36°.91N×27°.35E, h9km, ML2.5/6, Error ellipse: s-maj=0.9km s-min=0.5km az=257.0*
ISC 27 19:42:08.0±0.8, 36°.91N±0°.02×27°.35E±0°.02, h13km±5km, n38, σ0§44/63, Dodecanese Islands

```
Code  Station Name       Δ°   AZ°  Phase ID          Time      Res
                                   Op    ISC         h m s     ISC
RFTB  Kemer-Bodrum       0.08 312  Pg    Pg          19 42 10.6 -0.2
RFTB                               Sg    Sg          19 42 12.7  0.0
BODT  Bodrum             0.15 349  Pg    Pg          19 42 11.7 -0.1
BODT                               Sg    Sg          19 42 14.5 +0.1
BODT  Bodrum             0.15 349  P     Pg          19 42 11.7 -0.1
BODT                               S     Sg          19 42 14.3 -0.1
BDRM  Kayabasi           0.17  26  P     Pg          19 42 11.9 -0.1
BDRM                               i AML AML         19 42 14.0
      comp=E,2µm,0.3s
BDRM                               S     Sg          19 42 14.6 -0.3
RFTD  Palamutbuku-Ka     0.26 152  Pg    Pg          19 42 13.4  0.0
RFTD                               Sg    Sg          19 42 17.5 +0.5
DAT   Datca              0.26 134  Pg    Pg          19 42 13.5  0.0
DAT                                Sg    Sg          19 42 17.3 +0.1
DAT   Datca              0.26 134  P     Pg          19 42 13.4  0.0
DAT                                S     Sg          19 42 17.6 +0.4
DAT   Datca              0.26 134  P     Pg          19 42 13.5  0.0
DAT                                S     Sg          19 42 17.9 +0.7
DAT                                i AML AML         19 42 20.0
      comp=N,548nm,0.4s
DAT                                i AML AML         19 42 21.0
      comp=E,460nm,0.2s
KLNA  Kalymnos           0.30 279  P     Pg          19 42 14.4 +0.1
KLNA                               S     Sg          19 42 19.1 +0.7
RFTAA Mazikoy-Bodrum     0.33  74  Pg    Pg          19 42 14.5 -0.2
RFTAA                              Sg    Sg          19 42 19.5 +0.2
KOSK  Kos Island         0.34 242  Pg    Pg          19 42 15.3 +0.5
KOSK  Kos Island         0.34 242  P     Pg          19 42 15.1 +0.2
KOSK                               S     Sg          19 42 19.5 +0.1
NIS1  Nisyros Isl.       0.34 204  P     Pg          19 42 15.1 +0.3
NIS1                               S     Sb          19 42 20.7 -0.5
      2µm,0.4s
MLSB  Milas              0.52  42  Pg    Pg          19 42 18.0 -0.2
MLSB                               Sg    Sg          19 42 25.6 +0.5
DDIM  Aydin, Didim       0.55 351  P     Pg          19 42 19.0 +0.2
DDIM                               S     Sb          19 42 28.2 +0.7
DDIM                               i AML AML         19 42 32.0
      comp=E,439nm,0.7s
DDIM                               i AML AML         19 42 33.0
      comp=N,486nm,0.5s
TURN  Turunc             0.73 100  Pg    Pg          19 42 21.8 -0.4
TURN  Turunc             0.73 100  P     Pg          19 42 21.6 -0.6
TURN                               S     Sb          19 42 32.5 -0.1
TURN                               i AML AML         19 42 34.0
      comp=N,137nm,0.4s
TURN                               i AML AML         19 42 36.0
      comp=E,132nm,0.2s
YER   Yerkesik           0.78  73  Pg    Pg          19 42 22.9 -0.3
YER   Yerkesik           0.78  73  P     Pg          19 42 23.4 +0.2
YER                                S     Sb          19 42 34.8 +0.7
MULA  Mugla, Merkez-     0.85  66  P     Pg          19 42 24.6 +0.1
MULA                               i AML AML         19 42 40.0
      comp=E,61nm,0.5s
MULA                               i AML AML         19 42 42.0
      comp=N,38nm,0.7s
AYDN  Tasoluk            0.86  29  P     Pg          19 42 24.2 -0.5
SMG   Samos              0.90 333  P     Pg          19 42 24.9 -0.4
SMG                                S     Sb          19 42 38.6 +1.3
      718nm,0.3s
SMG   Samos              0.90 333  P     Pg          19 42 24.7 -0.7
SMG                                S     Sb          19 42 37.6 +0.3
ARG   Arkhangelos        0.93 138  Pg    Pg          19 42 26.1 +0.1
ARG                                Sg    Sb          19 42 39.2 +0.8
ARG   Arkhangelos        0.93 138  P     Pb          19 42 26.4 +0.3
ARG                                S     Sn          19 42 39.9 -0.2
      205nm,0.5s
ARG   Arkhangelos        0.93 138  P     Pg          19 42 26.2 +0.2
```

DALY	**Dalyan (Mula)**	**1.05**	**95**	Pg	**Pb**	**19 42 27.7**	**-0.4**
DGB	**zmir**	**1.20**	**342**	P	**Pn**	**19 42 30.0**	**-0.5**
DGB				S	**Sg**	**19 42 46.9**	**+0.2**
DGB				*i* AML	AML	19 42 50.0	
	comp=E,17nm,0.3s						
DGB				*i* AML	AML	19 42 52.0	
	comp=N,24nm,0.6s						
IZMR	**zmir-demi**	**1.32**	**21**	P	**Pn**	**19 42 32.2**	**+0.1**
IZMR				S	**Sb**	**19 42 49.3**	**-0.1**
IZMR				*i* AML	AML	19 42 56.0	
	comp=N,52nm,0.8s						
IZMR				*i* AML	AML	19 42 56.0	
	comp=E,88nm,0.6s						
KARP	**Karpathos**	**1.37**	**186**	P	**Pn**	**19 42 32.2**	**-0.6**
KARP				S	**Sb**	**19 42 50.1**	**-0.8**
	70nm,0.7s						
KARP	**Karpathos**	**1.37**	**186**	P	**Pn**	**19 42 32.3**	**-0.6**
TAVA	**DENIZLI_Tavas**	**1.37**	**66**	P	**Pg**	**19 42 34.4**	**+0.1**
TAVA				S	**Sg**	**19 42 53.0**	**+0.9**
TAVA				*i* AML	AML	19 42 57.0	
	comp=N,13nm,0.6s						
TAVA				*i* AML	AML	19 43 06.0	
	comp=E,12nm,1.2s						
FETY	**Fethiye**	**1.42**	**101**	Pn	**Pb**	**19 42 34.7**	**+0.3**
APE	**Apeiranthos**	**1.46**	**277**	P	**Pn**	**19 42 33.7**	**-0.5**
ZEYE	**Izmir, Urla-Ze**	**1.49**	**333**	P	**Pn**	**19 42 34.5**	**+0.1**
ZEYE				*i* AML	AML	19 43 02.0	
	comp=E,20nm,0.3s						
ZEYE				*i* AML	AML	19 43 05.0	
	comp=N,47nm,0.5s						
DNIZ	**Denizli-Tavas-**	**1.53**	**62**	P	**Pb**	**19 42 36.7**	**+0.5**
DNIZ				*i* AML	AML	19 43 03.0	
	comp=N,50nm,0.5s						
DNIZ				*i* AML	AML	19 43 03.0	
	comp=E,49nm,0.7s						
CAME	**Cameli-Denizli**	**1.57**	**88**	Pn	**Pb**	**19 42 36.6**	**-0.4**
CHOS	**Chios island**	**1.80**	**326**	P	**Pn**	**19 42 38.4**	**-0.4**
CHOS				S	**Sn**	**19 43 01.2**	**-0.3**
	55nm,1.0s						

NEIC ***27*** *20:01:41.6±0.9, 20°.1S±0°.1×178°.3W±0°.2, h567km±11km, mb3.9/8, Error ellipse: s-maj=26.8km s-min=11.0km az=63.0*
IDC ***27*** *20:01:41.6±1.8, 20°.22S×178°.37W, h564km±18km, mb2.9/6, mbtmp3.9/9, Error ellipse: s-maj=27.2km s-min=20.6km az=56.0*

ISC 27 20:01:40.5±0.9, 20°.2S±0°.1×178°.3W±0°.1, h550km, n24, σ1§00/27, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.24**	**304**	P	**P**	**20 03 05.8**	**+1.5**
MSVF	**Nonsavu**	**4.24**	**304**	P	**P**	**20 03 06.3**	**+2.0**
	21nm,0.4s,baz=148,slow=4.0,SNR=47						
RAO	**Raoul Island**	**9.06**	**178**	P	**P**	**20 03 49.9**	**+1.2**
RAO	**Raoul Island**	**9.06**	**178**	P	**P**	**20 03 50.0**	**+1.3**
	246nm,0.3s,baz=108,slow=20,SNR=3.2						
PINNC	**Pines Island,**	**13.53**	**257**	P	**P**	**20 04 35.0**	**+0.3**
DZM	**Mont Dzumac**	**14.39**	**260**	P	**P**	**20 04 43.5**	**-0.3**
	2.6nm,0.5s,baz=112,slow=19,SNR=3.0						
URZ	**Urewera**	**18.48**	**192**	P	**P**	**20 05 21.7**	**-0.8**
	2.5nm,0.6s,baz=343,slow=20,SNR=1.6						
ARMA	**Armidale**	**28.99**	**243**	P	**P**	**20 06 56.5**	**+0.2**
CTAO	**Charters Tower**	**33.27**	**264**	P	**P**	**20 07 33.1**	**+0.1**
CTAO				IAmb	IAmb	20 07 33.9	
	comp=Z,7.8nm,1.1s						
STKA	**Stephens Creek**	**37.71**	**244**	P	**P**	**20 08 09.0**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=80,slow=8.7,SNR=3.8						
	comp=Z,1.1nm,0.5s						
WR0	**Warramunga Arr**	**44.21**	**262**	P	**P**	**20 08 59.4**	**-2.0**
WR0				IAmb	IAmb	20 09 10.4	
	comp=Z,3.0nm,1.1s						
WR0				PcP	**PcP**	**20 10 35.9**	**+1.9**
AS31	**Alice Springs**	**44.35**	**256**	P	**P**	**20 09 02.0**	**-0.5**
ASAR	**Alice Springs**	**44.35**	**256**	P	**P**	**20 09 01.6**	**-0.9**
ASAR				PcP	**PcP**	**20 10 34.1**	**-0.4**
ASAR	**Alice Springs**	**44.35**	**256**	P	**P**	**20 09 02.0**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=97,slow=7.4,SNR=58						
ASAR				PcP	**PcP**	**20 10 34.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=102,slow=3.5,SNR=1.7						
	comp=Z,3.3nm,0.7s						
WB0	**Warramunga Arr**	**44.37**	**262**	P	**P**	**20 09 01.8**	**-0.9**
WB0				IAmb	IAmb	20 09 28.7	
	comp=Z,7.1nm,1.4s						
WB2	**Warramunga Arr**	**44.38**	**262**	P	**P**	**20 09 01.7**	**-1.1**
WB2				IAmb	IAmb	20 09 39.9	
	comp=Z,5.3nm,1.4s						
WRA	**Warramunga Arr**	**44.40**	**262**	P	**P**	**20 09 01.7**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=97,slow=7.8,SNR=35						
	comp=Z,1.4nm,0.5s						
VNDA	**Vanda**	**58.23**	**185**	P	**P**	**20 10 41.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=359,slow=4.9,SNR=1.8						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**69.91**	**180**	P	**P**	**20 11 55.9**	**-0.4**
QSPA				IAmb	IAmb	20 12 00.5	
	comp=Z,2.6nm,1.2s						
QSPA	**South Pole Qui**	**69.91**	**180**	P	**P**	**20 11 55.9**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=41,slow=0.7,SNR=6.5						
	comp=Z,0.7nm,0.6s						
PEA0B	**Petropavlovsk-**	**75.88**	**345**	P	**P**	**20 12 30.0**	**-0.4**
PETK	**Petropavlovsk-**	**75.88**	**345**	P	**P**	**20 12 30.0**	**-0.4**
ILAR	**Eielson Array**	**88.04**	**13**	P	**P**	**20 13 31.6**	**-0.4**
	comp=Z,0.3nm,0.9s,baz=211,slow=5.5,SNR=4.1						
	comp=Z,0.3nm,0.9s						
MMAI	**Mount Meron Ar**	**147.42**	**300**	PKPbc	**PKPbc**	**20 20 22.7**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=49,slow=6.5,SNR=4.3						

IDC ***27*** *20:20:46.4±0.9, 2°.72S×138°.05E, h0km, mb4.0/11, mbtmp4.0/14, ML4.0/2, MS3.4/5, Error ellipse: s-maj=37.3km s-min=12.4km az=80.0*
NEIC ***27*** *20:20:50.1±1.4, 2°.65S±0°.09×138°.62E±0°.09, h27km±5km, mb4.4/28, Error ellipse: s-maj=14.7km s-min=11.2km az=52.0*

ISC 27 20:20:50.4±0.6, 2°.71S±0°.06×138°.58E±0°.10, h32km, n55, σ1§55/53, mb4.2/21, MS3.4/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**6.33**	**268**	Pn	**Pn**	**20 22 21.3**	**-0.3**
SAUI	**Saumlaki**	**8.94**	**234**	Pn	**Pn**	**20 22 58.0**	**+0.6**
PMG	**Port Moresby**	**10.81**	**128**	Pn	**Pn**	**20 23 22.9**	**-0.1**
PMG	**Port Moresby**	**10.81**	**128**	Pn	Pn	20 23 30.0	+6.9
	10nm,0.8s,baz=345,slow=9.7,SNR=5.4						
COEN	**Coen**	**12.06**	**158**		**Pn**	**20 23 39.9**	**-0.2**
MTN	**Manton Dam**	**12.48**	**216**		**Pn**	**20 23 45.2**	**-0.7**
SOEI	**Soe**	**15.85**	**243**		**Pn**	**20 24 32.1**	**+0.6**
SOEI				IAmb	IAmb	20 24 47.5	
	comp=Z,24nm,0.9s						
KNRA	**Kununurra**	**16.11**	**216**	Pn	**Pn**	**20 24 34.8**	**+0.2**
KNRA				IAmb	IAmb	20 24 47.7	
	comp=Z,14nm,0.9s						
BATI	**Baumata**	**16.58**	**243**	LR	LR	20 31 50.7	
	comp=Z,167nm,18.5s,baz=342,slow=41						
WB0	**Warramunga Arr**	**17.44**	**193**	P	**Pn**	**20 24 47.9**	**-3.5**
WR0	**Warramunga Arr**	**17.59**	**193**	P	**Pn**	**20 24 51.4**	**-1.9**
WRAB	**Tennant Creek**	**17.61**	**193**	P	**Pn**	**20 24 52.4**	**-1.1**
WRAB				IAmb	IAmb	20 25 10.0	
	comp=Z,16nm,1.1s						
WB2	**Warramunga Arr**	**17.62**	**193**	P	**Pn**	**20 24 52.7**	**-0.9**
WRA	**Warramunga Arr**	**17.62**	**193**	P	**Pn**	**20 24 51.4**	**-2.2**
WRA	**Warramunga Arr**	**17.62**	**193**	P	**Pn**	**20 24 51.2**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=11,slow=12,SNR=17						
WRA				S	**Sn**	**20 28 03.4**	**-5.7**
	comp=Z,1.3nm,0.6s,baz=5.4,slow=23,SNR=4.5						
	comp=Z,1.4nm,0.6s						
CTA	**Charters Tower**	**18.82**	**157**	P	**Pn**	**20 25 11.1**	**+2.8**
	comp=Z,0.3nm,0.3s,baz=340,slow=7.2,SNR=4.6						
CTA				LR	LR	20 32 56.1	
	comp=Z,148nm,18.2s,baz=339,slow=38						
	comp=Z,3.9nm,0.8s						
CTAO	**Charters Tower**	**18.82**	**157**	P	**P**	**20 25 06.5**	**-1.1**
AS31	**Alice Springs**	**21.32**	**192**	P	**P**	**20 25 34.4**	**-0.3**
ASAR	**Alice Springs**	**21.32**	**192**	P	**P**	**20 25 34.7**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=21,slow=11,SNR=59						
ASAR				S	**S**	**20 29 32.0**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=16,slow=25,SNR=4.6						
	comp=Z,3.9nm,0.7s						
EIDS	**Eidsvold**	**25.54**	**153**	P	**P**	**20 26 17.5**	**+1.1**
EIDS				IAmb	IAmb	20 26 39.1	
	comp=Z,21nm,1.5s						
MBWA	**Marble Bar**	**25.94**	**224**	P	**P**	**20 26 20.4**	**+0.3**
MBWA				IAmb	IAmb	20 26 39.3	
	comp=Z,23nm,1.4s						

STKA	**Stephens Creek**	**29.15**	**175**	LR	LR	20 39 46.1	
	comp=Z,90nm,21.8s,baz=28,slow=39						
FORT	**Forrest**	**29.64**	**199**	P	**P**	**20 26 55.0**	**+2.0**
TWG	**Pinlang**	**30.59**	**327**	P	**P**	**20 27 02.7**	**+1.1**
GIRL	**Giralia**	**30.83**	**228**	P	**P**	**20 27 07.8**	**+4.1**
KSRS	**Korea Array**	**41.17**	**347**	LR	LR	20 43 00.8	
	comp=Z,17nm,21.1s,baz=85,slow=32						
CMAR	**Chiang Mai Arr**	**44.33**	**300**	P	**P**	**20 28 55.3**	**-2.6**
	comp=Z,0.4nm,0.5s,baz=108,slow=5.8,SNR=1.5						
	comp=Z,0.4nm,0.5s						
TUWZ	**Tuamarina**	**49.94**	**145**	P	**P**	**20 29 40.3**	**-1.0**
TCW	**Tory Channel**	**49.99**	**145**	P	**P**	**20 29 41.8**	**+0.1**
RTZ	**Ruatahuna**	**50.02**	**141**	P	**P**	**20 29 42.2**	**+0.2**
SONM	**Songino Array**	**57.67**	**335**	P	**P**	**20 30 37.3**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=162,slow=5.4,SNR=2.8						
	comp=Z,0.4nm,0.6s						
CASY	**Casey**	**66.44**	**192**	P	**P**	**20 31 37.2**	**+0.9**
CASY				IAmb	IAmb	20 31 37.7	
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**69.71**	**322**	P	**P**	**20 31 56.1**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=95,slow=9.9,SNR=4.5						
	comp=Z,1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**71.87**	**330**	P	**P**	**20 32 10.4**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=100,slow=5.0,SNR=4.0						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**73.66**	**325**	P	**P**	**20 32 19.6**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=115,slow=5.2,SNR=7.5						
	comp=Z,0.3nm,0.3s						
VNDA	**Vanda**	**75.79**	**175**	P	**P**	**20 32 33.5**	**+0.8**
VNDA				IAmb	IAmb	20 32 34.5	
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**75.79**	**175**	P	**P**	**20 32 33.4**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=324,slow=6.4,SNR=24						
	comp=Z,1.8nm,0.6s						
L14K	**Kuka Creek**	**77.95**	**25**	P	**P**	**20 32 45.7**	**+0.6**
BVAR	**Borovoye Array**	**79.24**	**325**	P	**P**	**20 32 51.6**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=114,slow=8.3,SNR=11						
	comp=Z,1.3nm,0.5s						
G18K	**Tagagawik**	**81.67**	**22**	P	**P**	**20 33 04.5**	**-0.8**
G18K				IAmb	IAmb	20 33 22.2	
	comp=Z,6.4nm,1.3s						
E18K	**Tukpahlearik C**	**81.68**	**20**	P	**P**	**20 33 04.4**	**-0.9**
C18K	**Utukok River**	**82.07**	**19**	P	**P**	**20 33 06.8**	**-0.6**
MAW	**Mawson**	**82.08**	**202**	P	**P**	**20 33 07.7**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=87,slow=11,SNR=2.7						
	comp=Z,1.4nm,0.8s						
E19K	**Redstone River**	**82.86**	**20**	P	**P**	**20 33 11.3**	**-0.1**
E19K				IAmb	IAmb	20 33 21.5	
	comp=Z,6.5nm,1.1s						
GEYT	**Alibeck**	**84.14**	**308**	P	**P**	**20 33 18.8**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=98,slow=2.9,SNR=2.6						
	comp=Z,0.7nm,0.8s						
MLY	**Manley**	**84.39**	**24**	P	**P**	**20 33 19.2**	**-0.2**
MLY				IAmb	IAmb	20 33 42.7	
	comp=Z,4.1nm,1.4s						
ABKAR	**Akbulak array**	**84.64**	**320**	P	**P**	**20 33 21.2**	**+0.3**
CCB	**Clear Creek Bu**	**85.47**	**24**	P	**P**	**20 33 24.4**	**-0.4**
CCB				IAmb	IAmb	20 34 02.0	
	comp=Z,5.0nm,1.3s						
ILAR	**Eielson Array**	**85.89**	**24**	P	**P**	**20 33 24.6**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=248,slow=4.8,SNR=4.1						
C23K	**Itkillik River**	**86.00**	**19**	P	**P**	**20 33 27.2**	**-0.1**
J26L	**Joseph Creek**	**87.21**	**25**	P	**P**	**20 33 32.8**	**-0.6**
J26L				IAmb	IAmb	20 34 02.6	
	comp=Z,2.9nm,1.1s						
QSPA	**South Pole Qui**	**87.23**	**180**	P	**P**	**20 33 33.8**	**+0.3**
QSPA	**South Pole Qui**	**87.23**	**180**	P	**P**	**20 33 33.9**	**+0.3**
	comp=Z,3.4nm,0.6s,baz=328,slow=1.5,SNR=13						
QSPA				LR	LR	21 13 48.8	
	comp=Z,42nm,18.2s,baz=46,slow=36						
	comp=Z,3.4nm,0.6s						
BMAR	**Burnt Mountain**	**87.45**	**22**	P	**P**	**20 33 35.1**	**+0.6**
E28M	**Babbage River**	**89.54**	**21**	P	**P**	**20 33 44.0**	**-0.3**
E28M				IAmb	IAmb	20 34 15.0	
	comp=Z,3.2nm,1.1s						

IDC 27 20:29:08.5±5.6, 6°.12S×149°.19E, h47km±57km, mb3.2/2, mbtmp3.7/4, ML4.0/1, MS4.1/1, Error ellipse: s-maj=111.7km s-min=37.7km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.83**	**211**	P	Pn	20 30 06.6	+1.6
	31nm,0.3s,baz=40,slow=4.1,SNR=30						
PMG				S	Sn	20 30 48.6	-0.2
	58nm,0.4s,baz=29,slow=16,SNR=10						
WRA	**Warramunga Arr**	**19.92**	**225**	P	P	20 33 36.7	+0.2
	0.4nm,0.3s,baz=49,slow=11,SNR=14						
	1.7nm,0.4s						
ASAR	**Alice Springs**	**22.82**	**219**	P	P	20 34 07.8	+0.3
	0.6nm,0.5s,baz=56,slow=8.6,SNR=14						
	0.6nm,0.5s						
RAO	**Raoul Island**	**38.64**	**131**	LR	LR	20 49 52.3	
	comp=Z,252nm,20.3s,baz=134,slow=32						
ILAR	**Eielson Array**	**84.74**	**23**	P	P	20 41 37.3	0.0
	0.3nm,0.6s,baz=250,slow=5.2,SNR=4.2						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.22**	**285**	PKPbc	PKPbc	20 48 46.7	-1.0
	0.2nm,0.6s,baz=61,slow=3.0,SNR=1.7						

IDC ***27*** *20:38:49.8±0.9, 30°.71S×71°.65W, h0km, mb4.1/6, mbtmp4.0/10, ML3.9/4, MS3.2/6, Error ellipse: s-maj=36.4km s-min=20.3km az=109.0*
NEIC ***27*** *20:38:53.1±1.9, 30°.55S±0°.03×71°.94W±0°.05, h18km±6km, mb4.2/8, ML4.2(GUC), Error ellipse: s-maj=6.9km s-min=4.3km az=110.0*
GUC ***27*** *20:38:55.2±0.8, 30°.60S×71°.66W, h32km±2km, ML4.4*

ISC 27 20:38:54.1±0.7, 30°.63S±0°.03×71°.67W±0°.05, h33km±4km, n113, σ1§63/111, mb4.2/11, MS3.5/3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.06**	**147**		**Pb**	**20 38 59.7**	**0.0**
CO06				Sg	**Sb**	**20 39 03.7**	**+0.2**
CO06	**Fray Jorge**	**0.06**	**147**	*e*P	**Pb**	**20 38 59.9**	**+0.2**
CO06				⇓*e*S	**Sb**	**20 39 03.3**	**-0.1**
CO06				IAML		20 39 04.2	
	comp=N,139μm,0.2s						
CO05	**La Serena**	**0.80**	**28**		**Pn**	**20 39 09.3**	**+0.2**
CO05				Sg	**Sn**	**20 39 21.2**	**+1.3**
CO05	**La Serena**	**0.80**	**28**	*i* P	**Pn**	**20 39 09.4**	**+0.3**
CO05				*e*S	**Sn**	**20 39 20.1**	**+0.3**
CO05				IAML		20 39 22.8	
	comp=N,15μm,0.3s						
CO03	**El Pedregal**	**0.87**	**104**		**Pn**	**20 39 11.3**	**+1.1**
CO03				Sg	**Sn**	**20 39 23.4**	**+1.6**
CO03	**El Pedregal**	**0.87**	**104**	⇓*i*P	**Pn**	**20 39 11.4**	**+1.1**
CO03				*e*S	**Sn**	**20 39 22.3**	**+0.5**
GO04	**Tololo Observa**	**0.88**	**59**		**Pn**	**20 39 11.3**	**+0.8**
GO04	**Tololo Observa**	**0.88**	**59**	*e*P	**Pn**	**20 39 11.0**	**+0.5**
GO04				*e*S	**Sn**	**20 39 22.6**	**+0.4**
GO04				IAML		20 39 28.8	
	comp=N,30μm,0.4s						
CO01	**Juntas del Tor**	**1.51**	**65**		**Pb**	**20 39 21.3**	**-0.4**
CO01	**Juntas del Tor**	**1.51**	**65**	*e*P	**Pb**	**20 39 21.4**	**-0.4**
CO01				*e*S	**Sb**	**20 39 41.1**	**+0.5**
LCO	**Las Campanas**	**1.82**	**28**		**Pn**	**20 39 24.7**	**+1.3**
LCO	**Las Campanas**	**1.82**	**28**	*e*P	**Pn**	**20 39 24.8**	**+1.3**
LCO				*e*S	**Sb**	**20 39 48.2**	**-1.2**
AC05	**El Transito**	**2.16**	**35**		**Pb**	**20 39 30.4**	**-2.3**
AC05	**El Transito**	**2.16**	**35**	⇑*i*P	**Pb**	**20 39 30.4**	**-2.3**
AC05				*e*S	**Sb**	**20 39 59.3**	**+0.2**
AC05				IAML		20 40 06.3	
	comp=E,2μm,0.5s						
VA03	**San Esteban**	**2.33**	**156**		**Pn**	**20 39 33.3**	**+2.9**
VA03	**San Esteban**	**2.33**	**156**	*e*P	**Pb**	**20 39 33.6**	**-2.0**
VA03				*e*S	**Sb**	**20 40 03.5**	**-0.6**
VA03				IAML		20 40 10.0	
	comp=E,3μm,0.5s						
VA01	**Torpederas**	**2.39**	**180**	Pn	**Pn**	**20 39 33.0**	**+2.0**
ROCH	**El Roble**	**2.41**	**167**	*e*P	**Pn**	**20 39 32.8**	**+1.4**
ROCH				*e*S	**Sb**	**20 40 07.8**	**+1.6**
ROCH				IAML		20 40 16.1	
	comp=E,1μm,0.4s						
ROC1	**El Roble**	**2.41**	**167**		**Pn**	**20 39 33.2**	**+1.7**
AC04	**Llanos de Chal**	**2.47**	**12**	Pn	**Pn**	**20 39 32.5**	**+0.3**
AC04	**Llanos de Chal**	**2.47**	**12**	*e*P	**Pn**	**20 39 32.6**	**+0.4**
PEL	**Peldehue**	**2.65**	**162**		**Pn**	**20 39 36.8**	**+2.1**
PEL	**Peldehue**	**2.65**	**162**	*e*P	**Pn**	**20 39 36.5**	**+1.9**
PEL				IAML		20 40 18.9	
	comp=E,938nm,0.3s						

MT02	**Curacav**	**2.66**	**170**		**Pn**	**20 39 37.0**	**+2.2**
MT02	**Curacav**	**2.66**	**170**	*e*P	**Pn**	**20 39 37.7**	**+2.9**
ZON	**Zonda**	**2.73**	**110**	Pn	**Pb**	**20 39 41.0**	**-1.3**
MT10	**Hacienda Santa**	**2.81**	**160**	*e*P	**Pn**	**20 39 39.6**	**+2.7**
MT10				*e*S	**Sb**	**20 40 15.8**	**-2.0**
MT05	**Renca**	**2.87**	**164**		**Pn**	**20 39 39.6**	**+2.0**
MT05	**Renca**	**2.87**	**164**	*e*P	**Pn**	**20 39 40.7**	**+3.0**
MT05				IAML		20 40 28.9	
	comp=E,2μm,0.5s						
MT14	**Cerro Calȷn**	**2.92**	**161**	*e*P	**Pb**	**20 39 42.5**	**-3.1**
MT14				IAML		20 40 31.1	
	comp=E,2μm,0.4s						
FCH	**Farellones**	**2.94**	**157**	*e*P	**Pn**	**20 39 41.9**	**+3.0**
VA05	**Santo Domingo**	**3.02**	**179**		**Pn**	**20 39 41.1**	**+1.4**
MT03	**Universidad Ad**	**3.02**	**161**		**Pn**	**20 39 42.7**	**+2.8**
MT03	**Universidad Ad**	**3.02**	**161**	*e*P	**Pn**	**20 39 42.8**	**+2.9**
MT03				IAML		20 40 36.6	
	comp=E,2μm,0.3s						
MT04	**Ro Olivares**	**3.06**	**155**	*e*P	**Pn**	**20 39 44.5**	**+4.0**
MT04				IAML		20 40 31.7	
	comp=E,774nm,0.2s						
CFA	**Coronel Fontan**	**3.10**	**109**	Pn	**Pb**	**20 39 45.5**	**-3.1**
	comp=E,78nm,0.3s,baz=289,slow=11,SNR=183						
CFA				Sn	**Sb**	**20 40 25.1**	**-1.0**
	comp=E,70nm,0.3s,baz=12,slow=9.3,SNR=7.7						
MT09	**Talagante**	**3.19**	**170**	Pn	**Pn**	**20 39 44.5**	**+2.3**
MT09	**Talagante**	**3.19**	**170**	*e*P	**Pn**	**20 39 44.3**	**+2.1**
MT09				IAML		20 40 36.7	
	comp=N,757nm,0.3s						
MT12	**Pirque**	**3.24**	**163**	*e*P	**Pn**	**20 39 45.1**	**+2.3**
MT12				IAML		20 40 49.0	
	comp=E,2μm,0.5s						
MT01	**Popeta**	**3.25**	**174**		**Pn**	**20 39 44.4**	**+1.6**
MT01	**Popeta**	**3.25**	**174**	*e*P	**Pn**	**20 39 44.3**	**+1.4**
MT01				IAML		20 40 44.9	
	comp=E,421nm,0.4s						
GO03	**Copiap**	**3.27**	**23**	Pn	**Pn**	**20 39 44.2**	**+1.0**
GO03	**Copiap**	**3.27**	**23**	*e*P	**Pn**	**20 39 44.1**	**+0.8**
GO03				IAML		20 40 36.3	
	comp=N,711nm,0.4s						
MT13	**San Alfonso**	**3.32**	**160**	Pn	**Pn**	**20 39 47.0**	**+3.0**
MT13	**San Alfonso**	**3.32**	**160**	*e*P	**Pn**	**20 39 47.1**	**+3.2**
MT13				IAML		20 40 44.2	
	comp=E,620nm,0.2s						
LMEL	**Las Melosas**	**3.44**	**159**		**Pn**	**20 39 48.8**	**+3.2**
LMEL	**Las Melosas**	**3.44**	**159**	*e*P	**Pn**	**20 39 48.9**	**+3.2**
LMEL				IAML		20 40 50.0	
	comp=N,557nm,0.4s						
AC06	**Mina Casimiro**	**3.46**	**20**	Pn	**Pn**	**20 39 46.1**	**+0.4**
AC06	**Mina Casimiro**	**3.46**	**20**	*e*P	**Pn**	**20 39 46.4**	**+0.7**
BO04	**La Punta**	**3.47**	**165**		**Pn**	**20 39 48.0**	**+2.0**
BO04	**La Punta**	**3.47**	**165**	*e*P	**Pn**	**20 39 47.8**	**+1.8**
BO04				IAML		20 40 55.1	
	comp=E,511nm,0.5s						
BO01	**Tunca**	**3.79**	**173**	Pn	**Pn**	**20 39 52.3**	**+2.1**
BO02	**Sierra Bellavi**	**4.22**	**170**		**Pn**	**20 39 58.5**	**+2.2**
GO05	**Huala**	**4.38**	**183**		**Pn**	**20 39 58.2**	**-0.2**
AC01	**Pan de Azucar**	**4.56**	**12**		**Pn**	**20 39 59.6**	**-1.3**
ML02	**Panimavida**	**5.13**	**178**	Pn	**Pn**	**20 40 08.8**	**+0.2**
GO02	**Mina Guanaco**	**5.75**	**19**	Pn	**Pn**	**20 40 16.7**	**-0.8**
PB14	**IPOC Station P**	**6.08**	**11**	Pn	**Pn**	**20 40 20.6**	**-1.5**
BI05	**Punta Hualpn**	**6.24**	**191**	Pn	**Pn**	**20 40 23.1**	**-0.8**
H03N1	**Juan Fernandez**	**6.76**	**244**	T	T	20 47 24.7	
	baz=72,slow=72,SNR=6332						
H03N3	**Juan Fernandez**	**6.77**	**244**	T	T	20 47 24.6	
	baz=72,slow=72,SNR=6031						
H03N2	**Juan Fernandez**	**6.77**	**244**	T	T	20 47 24.1	
	baz=72,slow=72,SNR=6349						
VA04	**Juan Fernndez**	**6.78**	**242**	Pn	**Pn**	**20 40 29.4**	**-1.9**
H03S3	**Juan Fernandez**	**6.91**	**241**	T	T	20 47 35.0	
	baz=66,slow=80,SNR=13						
H03S1	**Juan Fernandez**	**6.92**	**240**	T	T	20 47 34.2	
	baz=66,slow=80,SNR=10						
H03S2	**Juan Fernandez**	**6.93**	**241**	T	T	20 47 34.9	
	baz=66,slow=80,SNR=19						
PB06	**IPOC Station P**	**8.11**	**14**	Pn	**Pn**	**20 40 50.0**	**+0.2**
LVC	**Limon Verde**	**8.36**	**18**	Pn	**Pn**	**20 40 52.7**	**-0.7**
LVC	**Limon Verde**	**8.36**	**18**	Sn	**

H11N2	WAKE ISLAND Hyl	26.41	273	T	T	23 17 01.5	
	baz=117,slow=75,SNR=32						
KURBB	Kurchatov Arra	150.14	39	PKPbc	PKPbc	20 58 42.3	+1.1
	comp=Z,1.6nm,0.8s,baz=298,slow=3.1,SNR=12						
ZALV	Zalesovo Beam	151.18	29	PKPbc	PKiKP	20 58 44.9	+0.9
	comp=Z,5.5nm,0.7s,baz=291,slow=3.5,SNR=25						
ZALV				PKPab	pPKPbc	20 58 53.8	-0.5
	comp=Z,5.9nm,0.7s,baz=298,slow=2.5,SNR=14						
KSH	Kashi	152.19	63	PKPbc	PKPdf	20 58 39.5	-0.3
PZH	PanZhiHua	172.90	124	PKP	PKPdf	20 59 00.5	0.0

*TAP **27** 20:42:01.2,24°.46N×122°.24E,h82km,ML3.3,D*
*JMA **27** 20:42:01.4±0.2,24°.4N±0°.8×122°.3E±0°.3,h72km±2km,*
MV2.5/14,TAIWAN REGION
ISC 27 20:42:00.9±1.3,**24°.46N**±0°.03×**122°.32E**±0°.02,**h80**km±6km,
n109,σ0°**94**/166,**2C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.09**	**243**	P	**Pn**	**20 42 12.8**	**+0.6**
	baz=256						
EOS2				*e*S	**Sn**	**20 42 21.7**	**+1.2**
	baz=256						
EOS3	**EOS3**	**0.17**	**179**	P	**Pn**	**20 42 13.1**	**+0.7**
	baz=189						
EOS3				*e*S	**Sn**	**20 42 22.2**	**+1.3**
	baz=189						
EOS4	**EOS4**	**0.34**	**180**	*i* P	**Pn**	**20 42 13.3**	**+0.3**
	baz=175						
EOS4				*e*S	**Sn**	**20 42 22.2**	**+0.4**
	baz=175						
TWC	**Suao**	**0.45**	**290**	*i* P	**Pn**	**20 42 14.0**	**-0.2**
	baz=297						
TWC				*e*S	**Sn**	**20 42 23.0**	**-1.1**
	baz=297						
EWUT	**Wuta**	**0.49**	**269**	P	**Pn**	**20 42 14.6**	**+0.1**
	baz=264						
EWUT				*e*S	**Sn**	**20 42 24.1**	**-0.5**
	baz=264						
ENA	**Nanau**	**0.52**	**267**	P	**Pn**	**20 42 14.9**	**0.0**
	baz=265						
ENA				S	**Sn**	**20 42 25.0**	**-0.2**
	baz=265						
NDS	**Dongshan**	**0.57**	**288**	P	**Pn**	**20 42 15.8**	**+0.5**
	baz=293						
NDS				S	**Sn**	**20 42 25.6**	**-0.4**
	baz=293						
JYNG	**Yonaguni jima**	**0.57**	**91**	P	**Pn**	**20 42 15.7**	**+0.4**
JYNG				*e*S	**Sn**	**20 42 25.4**	**-0.6**
TWB1	**Santiao Chiao**	**0.62**	**332**	*e*S	**Sn**	**20 42 25.6**	**-1.2**
	baz=333						
YOJ	**Yonaguni jima**	**0.63**	**90**	P	**Pn**	**20 42 16.2**	**+0.4**
YOJ				S	**Sn**	**20 42 26.7**	**-0.3**
TWE	**Neicheng**	**0.65**	**294**	P	**Pn**	**20 42 16.3**	**+0.3**
	baz=296						
TWE				*e*S	**Sn**	**20 42 26.9**	**-0.3**
	baz=296						
ETL	**Fush Village**	**0.70**	**245**	*e*P	**Pn**	**20 42 16.3**	**-0.3**
	baz=237						
ENTT	**Nioudou**	**0.71**	**285**	P	**Pn**	**20 42 17.1**	**+0.5**
	baz=290						
ENTT				S	**Sn**	**20 42 28.7**	**+0.3**
	baz=290						
NACB	**Ninganchiao**	**0.72**	**247**	P	**Pn**	**20 42 16.2**	**-0.5**
	baz=244						
NACB				*e*S	**Sn**	**20 42 27.5**	**-1.0**
	baz=244						
LATG	**Datong**	**0.72**	**276**	P	**Pn**	**20 42 17.1**	**+0.2**
	baz=270						
LATG				S	**Sn**	**20 42 28.9**	**0.0**
	baz=270						
FUSB	**Fushanzhiwuyua**	**0.73**	**295**	P	**Pn**	**20 42 17.3**	**+0.4**
	baz=300						
FUSB				*e*S	**Sn**	**20 42 28.7**	**-0.2**
	baz=300						
NDT	**Datong Townshi**	**0.74**	**281**	*e*P	**Pn**	**20 42 17.7**	**+0.6**
	baz=276						
NDT				S	**Sn**	**20 42 29.4**	**+0.3**
	baz=276						
SXI1	**Grass Mountain**	**0.75**	**328**	*e*P	**Pn**	**20 42 17.2**	**0.0**
	baz=332						
SXI1				*e*S	**Sn**	**20 42 28.7**	**-0.6**
	baz=332						
TWD	**Chiawan**	**0.76**	**240**	P	**Pn**	**20 42 16.8**	**-0.3**
	baz=232						
TWD				*e*S	**Sn**	**20 42 28.4**	**-0.8**
	baz=232						
NWF	**Wu-fen Shan**	**0.78**	**322**	*e*P	**Pn**	**20 42 17.6**	**+0.1**
	baz=318						
NWF				*e*S	**Sn**	**20 42 28.9**	**-1.0**
	baz=318						
WFSB	**Wu-fen Shan**	**0.78**	**322**	*e*P	**Pn**	**20 42 17.7**	**+0.3**
	baz=318						
WFSB				*i* S	**Sn**	**20 42 29.1**	**-0.6**
	baz=318						
ETLH	**Xiulin Townshi**	**0.80**	**252**	P	**Pn**	**20 42 17.7**	**-0.1**
	baz=250						
ETLH				*e*S	**Sn**	**20 42 29.7**	**-0.6**
	baz=250						
NWLT	**Wulai**	**0.81**	**293**	P	**Pn**	**20 42 18.5**	**+0.8**
	baz=295						
NWLT				S	**Sn**	**20 42 30.5**	**+0.2**
	baz=295						
HWA	**Hwalien**	**0.81**	**234**	*e*P	**Pn**	**20 42 17.8**	**+0.1**
	baz=223						
HWA				*e*S	**Sn**	**20 42 30.5**	**+0.3**
	baz=223						
NNSB	**Datong**	**0.85**	**268**	P	**Pn**	**20 42 18.4**	**0.0**
	baz=262						
NNSB				*e*S	**Sn**	**20 42 31.0**	**-0.3**
	baz=262						
NNS	**Nan Shan**	**0.86**	**269**	P	**Pn**	**20 42 18.6**	**+0.2**
	baz=263						
NNS				*i* S	**Sn**	**20 42 31.1**	**-0.4**
	baz=263						
NHDH	**Xindian Distri**	**0.88**	**305**	*e*P	**Pn**	**20 42 18.8**	**+0.3**
	baz=315						
NHDH				*e*S	**Sn**	**20 42 31.1**	**-0.6**
	baz=315						
YHNB	**Yeheng**	**0.88**	**284**	*e*P	**Pn**	**20 42 19.0**	**+0.4**
	baz=277						
YHNB				*e*S	**Sn**	**20 42 31.6**	**-0.3**
	baz=277						
ETM	**Tongmen**	**0.90**	**237**	P	**Pn**	**20 42 18.5**	**-0.3**
	baz=244						
ETM				*e*S	**Sn**	**20 42 31.3**	**-0.8**
	baz=244						
NSK	**Sanguang**	**0.90**	**284**	P	**Pn**	**20 42 19.2**	**+0.3**
	baz=277						
NSK				*e*S	**Sn**	**20 42 31.9**	**-0.3**
	baz=277						
LXIB	**Xiulin Townshi**	**0.93**	**242**	P	**Pn**	**20 42 18.9**	**-0.4**
	baz=240						
LXIB				*e*S	**Sn**	**20 42 32.2**	**-0.8**
	baz=240						
YM01	**YM01**	**0.96**	**315**	*e*P	**Pn**	**20 42 19.5**	**0.0**
	baz=318						
YM01				*e*S	**Sn**	**20 42 32.7**	**-0.8**
	baz=318						
YM08	**YM08**	**0.98**	**318**	*e*P	**Pn**	**20 42 19.7**	**-0.1**
	baz=315						
YM08				*e*S	**Sn**	**20 42 32.4**	**-1.4**
	baz=315						
WHF	**Hehuan Shan**	**1.01**	**252**	P	**Pn**	**20 42 20.7**	**+0.2**
	baz=250						
WHF				*i* S	**Sn**	**20 42 34.2**	**-0.8**
	baz=250						
ESL	**Shilin**	**1.03**	**232**	*i* P	**Pn**	**20 42 19.9**	**-0.5**
	baz=237						
ESL				*e*S	**Sn**	**20 42 33.5**	**-1.4**
	baz=237						
TWS1	**Kuangyinshan**	**1.04**	**308**	*e*P	**Pn**	**20 42 20.8**	**+0.4**
	baz=316						
TWS1				*e*S	**Sn**	**20 42 34.5**	**-0.4**
	baz=316						
NTST	**Danshui**	**1.05**	**312**	*e*S	**Sn**	**20 42 34.8**	**-0.5**
	baz=319						
TWT	**Tachien**	**1.06**	**259**	P	**Pn**	**20 42 21.8**	**+1.0**
	baz=258						
TWT				S	**Sn**	**20 42 35.8**	**0.0**
	baz=258						
TDCB	**Techi**	**1.07**	**259**	*e*P	**Pn**	**20 42 21.7**	**+0.7**
	baz=258						
TDCB				*e*S	**Sn**	**20 42 35.7**	**-0.4**
	baz=258						
NFF	**Wufeng Townshi**	**1.10**	**279**	*e*P	**Pn**	**20 42 22.0**	**+0.7**
	baz=287						
NFF				*e*S	**Sn**	**20 42 37.0**	**+0.4**
	baz=287						
CHGB	**Renai**	**1.11**	**249**	*i* P	**Pn**	**20 42 21.9**	**+0.4**
	baz=242						
CHGB				S	**Sn**	**20 42 36.7**	**-0.3**
	baz=242						
WARBT	**Fenglin Townsh**	**1.12**	**229⇑**	*i* P	**Pn**	**20 42 20.9**	**-0.6**
	baz=234						
WARBT				*e*S	**Sn**	**20 42 35.6**	**-1.4**
	baz=234						
EGFH	**Guangfu**	**1.13**	**226**	P	**Pn**	**20 42 21.3**	**-0.3**
	baz=218						
NCUH	**Zhongli**	**1.15**	**297**	*e*S	**Sn**	**20 42 37.9**	**+0.5**
	baz=288						
OWD	**Renai**	**1.16**	**244**	P	**Pn**	**20 42 22.2**	**+0.3**
	baz=239						
WUSB	**Renai**	**1.19**	**247⇑**	*i* P	**Pn**	**20 42 22.9**	**+0.5**
	baz=242						
LIOB	**Emei**	**1.20**	**279**	*e*P	**Pn**	**20 42 23.3**	**+0.9**
	baz=279						
NSTT	**Nanjuang**	**1.21**	**278**	*e*P	**Pn**	**20 42 23.2**	**+0.7**
	baz=278						
NSTT				*e*S	**Sn**	**20 42 39.0**	**+0.2**
	baz=278						
HGSD	**Ruisui**	**1.26**	**220**	*e*P	**Pn**	**20 42 23.1**	**0.0**
	baz=218						
WHP	**Taichung City**	**1.26**	**262**	P	**Pn**	**20 42 24.8**	**+1.5**
	baz=260						
WHP				*e*S	**Sn**	**20 42 40.9**	**+0.8**
	baz=260						
VWDT	**VWDT**	**1.28**	**237**	*i* P	**Pn**	**20 42 24.0**	**+0.6**
	baz=229						
VWDT				*e*S	**Sn**	**20 42 40.0**	**-0.4**
	baz=229						
IRIF	**Iriomote-Funau**	**1.30**	**95**	S	**Sn**	**20 42 41.2**	**+0.5**
EHY	**Hungye**	**1.31**	**224**	*i* P	**Pn**	**20 42 23.3**	**-0.6**
	baz=229						
WCS	**Beigang Elemen**	**1.34**	**253**	*e*P	**Pn**	**20 42 25.3**	**+1.1**
	baz=249						
NMLH	**Miaoli**	**1.39**	**274**	*e*P	**Pn**	**20 42 26.0**	**+1.2**
	baz=272						
SSLB	**Suanglung**	**1.41**	**242**	*e*P	**Pn**	**20 42 25.4**	**+0.3**
	baz=234						
YULB	**Yu-li**	**1.41**	**221**	*e*P	**Pn**	**20 42 24.4**	**-0.7**
	baz=227						
SMLT	**Sun Moon Lake**	**1.41**	**246**	*e*P	**Pn**	**20 42 26.2**	**+0.9**
	baz=239						
HATJ	**Hateruma jima**	**1.42**	**106**	*e*S	**Sn**	**20 42 40.5**	**-3.0**
EYUL	**Yuli**	**1.43**	**220**	*e*P	**Pn**	**20 42 25.3**	**-0.1**
	baz=226						
TYC	**Yuchr**	**1.44**	**248**	*e*P	**Pn**	**20 42 26.5**	**+1.1**
	baz=241						
TWF1	**Yuli**	**1.44**	**220**	*e*P	**Pn**	**20 42 25.2**	**-0.3**
	baz=226						
TCU	**Taichung**	**1.53**	**259**	*e*P	**Pn**	**20 42 27.7**	**+1.2**
	baz=257						
WHYT	**Xinyi Township**	**1.54**	**241**	*e*P	**Pn**	**20 42 27.9**	**+1.2**
	baz=236						
JKRS	**Kuro-shima**	**1.56**	**98**	S	**Sn**	**20 42 47.6**	**+0.9**
FULB	**Fuli**	**1.56**	**217**	*e*P	**Pn**	**20 42 27.1**	**0.0**
	baz=224						
WJS	**Zhushan**	**1.58**	**247**	*e*P	**Pn**	**20 42 29.0**	**+1.7**
	baz=257						
WJS				*e*S	**Sn**	**20 42 49.5**	**+2.3**
	baz=257						
WNT	**Mingjian**	**1.60**	**249**	*e*P	**Pn**	**20 42 29.1**	**+1.6**
	baz=258						
WNT				*e*S	**Sn**	**20 42 50.0**	**+2.4**
	baz=258						
CHKT	**Chengkung**	**1.61**	**213**	*e*P	**Pn**	**20 42 27.1**	**-0.6**
	baz=203						
CHKT				*e*S	**Sn**	**20 42 46.1**	**-1.7**
	baz=203						
EHD	**Haiduan**	**1.65**	**218**	*e*P	**Pn**	**20 42 27.4**	**-0.8**
	baz=216						
JIJ	**Ishigaki jima**	**1.67**	**93**	*e*P	**Pn**	**20 42 29.5**	**+1.1**
JIJ				S	**Sn**	**20 42 49.0**	**-0.3**
ALS	**Alishan**	**1.67**	**236**	*e*P	**Pn**	**20 42 29.9**	**+1.2**
	baz=228						
ECS	**Chishang**	**1.69**	**217**	*e*P	**Pn**	**20 42 29.1**	**+0.4**
	baz=215						
CHN5	**Tsauling**	**1.73**	**241**	*e*P	**Pn**	**20 42 30.7**	**+1.5**
	baz=231						
ELDTW	**Lidau**	**1.73**	**224**	*e*P	**Pn**	**20 42 29.2**	**-0.3**
	baz=218						
EDH	**Donghe**	**1.75**	**212**	*e*P	**Pn**	**20 42 29.1**	**-0.3**
	baz=205						
EDH				*e*S	**Sn**	**20 42 49.4**	**-1.7**
	baz=205						
JISG	**Ishigakijimahi**	**1.82**	**86**	*e*P	**Pn**	**20 42 31.3**	**+0.9**
JISG				*e*S	**Sn**	**20 42 52.9**	**0.0**
WRL	**Guolierlin Hig**	**1.85**	**253**	*e*P	**Pn**	**20 42 31.7**	**+0.8**
	baz=262						
WRL				*e*S	**Sn**	**20 42 53.7**	**0.0**
	baz=262						
WCKO	**Fanlu**	**1.86**	**237**	*e*P	**Pn**	**20 42 32.9**	**+1.8**
	baz=236						
WCKO				*e*S	**Sn**	**20 42 56.3**	**+2.3**
	baz=236						
LONT	**Longtian**	**1.89**	**215**	*e*P	**Pn**	**20 42 31.0**	**-0.4**
	baz=214						
STYH	**Taoyuan**	**1.91**	**228**	*e*P	**Pn**	**20 42 32.7**	**+1.1**
	baz=220						
WTK	**Tuku**	**1.92**	**247**	*e*P	**Pn**	**20 42 32.8**	**+1.1**
	baz=257						
WTK				*e*S	**Sn**	**20 42 56.0**	**+0.7**
	baz=257						
CHN4	**Tsaushan**	**1.92**	**235**	*e*P	**Pn**	**20 42 33.6**	**+1.8**
	baz=234						
TPUB	**Ta-pu**	**1.93**	**234**	*e*P	**Pn**	**20 42 33.1**	**+1.2**
	baz=232						
WTP	**Ta-pu**	**1.97**	**233**	*e*P	**Pn**	**20 42 34.0**	**+1.5**
	baz=231						
TWGBT	**Beinan**	**1.99**	**215**	*e*P	**Pn**	**20 42 32.1**	**-0.6**
	baz=213						
TWG	**Pinlang**	**1.99**	**215**	*e*P	**Pn**	**20 42 32.2**	**-0.5**
	baz=213						
TWG				*e*S	**Sn**	**20 42 56.9**	**0.0**
	baz=213						
TWK	**Hsinying**	**2.05**	**235**	*e*P	**Pn**	**20 42 35.0**	**+1.5**
	baz=234						
CHN1	**Nanshi**	**2.07**	**233**	*e*P	**Pn**	**20 42 35.2**	**+1.5**
	baz=232						
SNST	**Tainan City**	**2.07**	**234**	*e*P	**Pn**	**20 42 35.3**	**+1.5**
	baz=233						
SGST	**Jiashian**	**2.10**	**230**	*e*P	**Pn**	**20 42 34.9**	**+0.7**
	baz=228						
SLGT	**Liugui**	**2.11**	**227**	*e*P	**Pn**	**20 42 36.3**	**+1.9**
	baz=226						
ICHU	**Yijhu**	**2.16**	**240**	*e*P	**Pn**	**20 42 36.5**	**+1.5**
	baz=239						
ECL	**Taimali**	**2.23**	**214**	*e*P	**Pn**	**20 42 35.6**	**-0.3**
	baz=213						
SCST	**Cishan**	**2.29**	**227**	*e*P	**Pn**	**20 42 38.3**	**+1.6**
	baz=226						
SSD	**Sandimen**	**2.30**	**223**	*e*P	**Pn**	**20 42 38.6**	**+1.8**
	baz=221						
TSMG	**Majia**	**2.32**	**222**	*e*P	**Pn**	**20 42 38.9**	**+1.8**
	baz=220						
MASBT	**Mashibuluo**	**2.40**	**220**	*e*P	**Pn**	**20 42 39.4**	**+1.2**
	baz=220						
TSCK	**Chigu Township**	**2.42**	**238**	*e*P	**Pn**	**20 42 39.7**	**+1.2**
	baz=236						
TSCK				*e*S	**Sn**	**20 43 07.8**	**+0.5**
	baz=236						
EAST	**Anshuo**	**2.47**	**213**	*e*P	**Pn**	**20 42 39.4**	**+0.2**
	baz=208						
LYUB	**Lan-yu**	**2.54**	**196**	*e*P	**Pn**	**20 42 38.6**	**-1.4**
	baz=194						
SCZT	**Fangliau**	**2.60**	**217**	*e*P	**Pn**	**20 42 42.3**	**+1.5**
	baz=216						
VWUC	**VWUC**	**2.66**	**282**	*e*P	**Pn**	**20 42 41.6**	**0.0**
	baz=281						
VWUC				*e*S	**Sn**	**20 43 10.8**	**-2.2**
	baz=281						
PNG	**Penghu**	**2.67**	**251**	*e*P	**Pn**	**20 42 42.0**	**+0.2**
	baz=250						
PNG				*e*S	**Sn**	**20 43 12.0**	**-1.4**
	baz=250						
PHUB	**P'eng-hu**	**2.68**	**250**	*e*P	**Pn**	**20 42 41.6**	**-0.3**
	baz=249						
PHUB				*e*S	**Sn**	**20 43 12.1**	**-1.3**
	baz=249						
PTMZ	**Houxiangcun**	**2.96**	**282**	*e*P	**Pn**	**20 42 45.8**	**+0.1**
	baz=279						
LYJJ	**Jianjiangzhen**	**3.11**	**313**	*e*P	**Pn**	**20 42 48.1**	**+0.4**
	baz=301						
KNMB	**Chin-men Tao**	**3.58**	**271**	*e*P	**Pn**	**20 42 53.8**	**-0.3**
	baz=270						
KNMB				*e*S	**Sn**	**20 43 33.0**	**-2.2**
	baz=270						
AXDP	**Jialang**	**3.98**	**277**	*e*P	**Pn**	**20 42 59.8**	**+0.3**
	baz=275						

*ATH **27** 20:48:10.4,38°.70N×28°.04E,h18km±8km,ML2.9/6,*
Manual Solution by A.Fokaefs First location: 2019/04/19
06:17:51, This location: 2019/04/19 06:17:13 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 8 km;
Longitude uncertainty: 12 km
*AFAD **27** 20:48:11.2±0.0,38°.69N×27°.86E,h7km±2km,ML2.5*
*ISK **27** 20:48:11.3,38°.76N×27°.93E,h2km,ML2.6/18*
*THE **27** 20:48:11.9,38°.75N×27°.98E,h14km±7km,ML2.8/4, Error*
ellipse: s-maj=8.5km s-min=1.0km az=72.0
ISC 27 20:48:11.0±0.8,**38°.72N**±0°.02×**27°.93E**±0°.02,**h9**km±5km,
n43,σ0°**79**/66,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMA	**Golmarmara-Man**	**0.01**	**209**	Pg	**Pg**	**20 48 12.6**	**0.0**
GOMA				Sg	**Sg**	**20 48 13.6**	**-0.2**
AKHS	**Akhisar**	**0.18**	**331**	P	**Pg**	**20 48 15.0**	**+0.1**
AKS	**Akhisar**	**0.18**	**331**	Pg	**Pg**	**20 48 14.9**	**0.0**
AKS				Sg	**Sg**	**20 48 17.9**	**+0.4**
MANT	**Manisa**	**0.55**	**115**	P	**Pb**	**20 48 22.7**	**-0.1**
MANT				S	**Sb**	**20 48 30.2**	**-0.6**
MANT				*i* AML	AML	20 48 32.0	
	comp=E,230nm,0.2s						
MANT				*i* AML	AML	20 48 33.0	
	comp=N,209nm,0.3s						
IZMR	**zmir-demi**	**0.58**	**178**	P	**Pg**	**20 48 22.4**	**+0.1**
IZMR				S	**Sg**	**20 48 30.1**	**+0.2**
IZMR				*i* AML	AML	20 48 31.0	
	comp=N,94nm,0.2s						
IZMR				*i* AML	AML	20 48 34.0	
	comp=E,136nm,0.4s						
KULA	**Kula-Manisa**	**0.61**	**109**	Pg	**Pb**	**20 48 23.8**	**-0.2**
KULA	**Kula-Manisa**	**0.61**	**109**	P	**Pb**	**20 48 23.7**	**-0.2**
KULA				S	**Sb**	**20 48 32.0**	**-0.6**
STEP	**BALIKESIR_Sava**	**0.68**	**346**	P	**Pg**	**20 48 24.1**	**0.0**
STEP				*i* AML	AML	20 48 34.0	
	comp=N,333nm,0.7s						
STEP				*i* AML	AML	20 48 34.0	
	comp=E,428nm,0.4s						
STEP				S	**Sb**	**20 48 34.7**	**+0.2**
DEMI	**Demirci**	**0.70**	**62**	P	**Pn**	**20 48 25.6**	**-1.5**
DEMI				S	**Sn**	**20 48 36.0**	**-2.0**
DEMI				*i* AML	AML	20 48 40.0	
	comp=N,252nm,0.2s						
DEMI				*i* AML	AML	20 48 41.0	
	comp=E,371nm,0.2s						
ZEDA	**zmir-Bergama**	**0.71**	**291**	P	**Pg**	**20 48 24.3**	**-0.3**
ZEDA				S	**Sg**	**20 48 34.2**	**+0.3**
ZEDA				*i* AML	AML	20 48 37.0	
	comp=N,273nm,0.7s						
ZEDA				*i* AML	AML	20 48 37.0	
	comp=E,217nm,0.3s						
SIMA	**Simav-Kutahya**	**0.90**	**66**	Pg	**Pn**	**20 48 29.4**	**-0.5**
SIMA				Sg	**Sn**	**20 48 42.3**	**-0.8**
DURS	**Dursunbey**	**0.98**	**26**	P	**Pn**	**20 48 30.7**	**-0.3**
DURS				S	**Sn**	**20 48 46.6**	**+1.6**
DURS				*i* AML	AML	20 48 47.0	
	comp=E,548nm,0.7s						
DURS				*i* AML	AML	20 48 49.0	
	comp=N,212nm,0.6s						
BKES	**Balkesir-Mer**	**1.01**	**0**	P	**Pn**	**20 48 30.7**	**-0.7**
BKES				S	**Sn**	**20 48 46.2**	**+0.5**
BKES				*i* AML	AML	20 48 47.0	
	comp=E,291nm,0.6s						
BKES				*i* AML	AML	20 48 48.0	
	comp=N,180nm,0.5s						
BUHA	**Balikesir, Bur**	**1.02**	**320**	P	**Pb**	**20 48 30.8**	**-0.1**
BUHA				S	**Sn**	**20 48 45.8**	**-0.2**
BUHA				*i* AML	AML	20 48 47.0	
	comp=E,276nm,0.5s						
BUHA				*i* AML	AML	20 48 49.0	
	comp=N,260nm,0.4s						
DST	**Dursunbey**	**1.03**	**31**	Pg	**Pn**	**20 48 31.4**	**-0.3**
DST				Sg	**Sn**	**20 48 45.8**	**-0.6**
BALY	**Balya**	**1.05**	**347**	P	**Pg**	**20 48 31.1**	**-0.1**
BALY				S	**Sn**	**20 48 45.8**	**-0.8**
BALY				*i* AML	AML	20 48 48.0	
	comp=N,286nm,0.5s						
BALY				*i* AML	AML	20 48 49.0	
	comp=E,165nm,0.3s						
EAG3	**Mitilini, Lesv**	**1.12**	**289**	P	**Pb**	**20 48 32.3**	**-0.2**
EAG3				S	**Sb**	**20 48 47.7**	**+0.5**
GEDZ	**Gediz**	**1.20**	**74**	Pn	**Pg**	**20 48 35.0**	**+0.9**
SMG	**Samos**	**1.32**	**221**	P	**Pn**	**20 48 34.6**	**-1.1**
SMG				S	**Sb**	**20 48 54.4**	**+1.3**
	485nm,0.5s						
SMG	**Samos**	**1.32**	**221**	P	**Pn**	**20 48 34.3**	**-1.4**
SMG				S	**Sn**	**20 48 52.3**	**-1.2**
EAG1	**Polichnitos, L**	**1.38**	**286**	P	**Pn**	**20 48 36.0**	**-0.4**
PRK	**Paraskevi**	**1.39**	**293**	P	**Pn**	**20 48 36.2**	**-0.4**
PRK				S	**Sn**	**20 48 54.3**	**-0.8**
	278nm,0.4s						
PRK	**Paraskevi**	**1.39**	**293**	P	**Pn**	**20 48 36.4**	**-0.2**
PRK				S	**Sn**	**20 48 54.5**	**-0.6**
TVSB	**Tavsanli**	**1.40**	**58**	Pn	**Pg**	**20 48 38.3**	**+0.4**
TVSB				Sn	**Sg**	**20 48 58.1**	**+2.0**
MLSB	**Milas**	**1.43**	**185**	Pn	**Pb**	**20 48 38.8**	**+1.0**
CHOS	**Chios island**	**1.50**	**258**	P	**Pn**	**20 48 37.5**	**-0.7**
CHOS				S	**Sn**	**20 48 58.6**	**+0.7**
	370nm,0.3s						
CHOS	**Chios island**	**1.50**	**258**	P	**Pn**	**20 48 37.4**	**-0.8**
CHOS				S	**Sn**	**20 48 58.7**	**+0.7**
YER	**Yerkesik**	**1.61**	**170**	Pn	**Pg**	**20 48 42.1**	**+0.2**
SIGR	**SIGRI**	**1.69**	**288**	P	**Pn**	**20 48 40.1**	**-0.6**
SIGR				S	**Sn**	**20 49 01.5**	**-0.9**
	138nm,0.4s						
SIGR	**SIGRI**	**1.69**	**288**	P	**Pn**	**20 48 40.0**	**-0.6**
BODT	**Bodrum**	**1.73**	**197**	Pn	**Pb**	**20 48 43.9**	**+1.0**
RFTB	**Kemer-Bodrum**	**1.83**	**197**	Pn	**Pb**	**20 48 45.3**	**+0.7**
TURN	**Turunc**	**1.96**	**173**	Pn	**Pb**	**20 48 47.5**	**+0.7**
DALY	**Dalyan (Mula)**	**1.99**	**163**	Pn	**Pb**	**20 48 47.5**	**+0.2**
DAT	**Datca**	**2.01**	**188**	Pn	**Pb**	**20 48 47.9**	**+0.2**
RFTD	**Palamutbuku-Ka**	**2.06**	**190**	Pn	**Pb**	**20 48 48.9**	**+0.3**
CAME	**Cameli-Denizli**	**2.08**	**148**	Pn	**Pb**	**20 48 48.0**	**-1.0**
FETY	**Fethiye**	**2.27**	**156**	Pn	**Pn**	**20 48 50.3**	**+1.5**
LIA	**Limnos Island**	**2.43**	**300**	P	**Pn**	**20 48 50.9**	**+0.1**
ENEZ	**Enez**	**2.43**	**326**	P	**Pn**	**20 48 50.8**	**-0.1**
ARG	**Arkhangelos**	**2.50**	**176**	P	**Pn**	**20 48 50.8**	**-1.1**
APE	**Apeiranthos**	**2.51**	**230**	P	**Pn**	**20 48 50.8**	**-1.2**
SMTH	**Samothraki Isl**	**2.55**	**314**	P	**Pn**	**20 48 52.5**	**0.0**

*HEL **27** 20:51:13.8±0.2,67°.78N×20°.04E,h0km,ML1.7,Suspected*
explosion
*UPP **27** 20:51:14.8±0.0,67°.81N×20°.21E,h0km,ML2.2,Confirmed*
Induced event
*IDC **27** 20:51:16.1±1.4,67°.75N×20°.82E,h0km,mbtmp2.8/3,*
ML2.0/3,Error ellipse: s-maj=23.1km s-min=8.6km
az=117.0
ISC 27 20:51:15.1±1.0,**67°.81N**±0°.03×**20°.23E**±0°.03,**h0**km,**n33**,

HEF	Hetta	1.42	63	eP	Pn	20 51 40.9	-1.2
HEF	Hetta	1.42	63	PG	Pn	20 51 40.9	-1.2
	baz=250						
HEF				MSG		20 51 58.6	
	comp=Z,5.2nm,0.2s						
HEF				SG	Sg	20 52 00.2	-0.3
ERTU	Ertsjaerv	1.48	148	P	Pn	20 51 41.9	-1.0
ERTU	Ertsjaerv	1.48	148	PN	Pn	20 51 41.7	-1.2
KLF	Kolari	1.55	110	PN	Pn	20 51 43.1	-0.7
KLF				MSG		20 52 02.0	
	comp=Z,4.3nm,0.2s						
KLF				SN	Sg	20 52 06.0	+1.3
HARU	Harads	1.68	170	P	Pn	20 51 45.2	-0.4
KALU	Kalix	2.32	146	PG	Pn	20 51 55.1	+0.7
TOF	Tornio	2.37	135	PG	Pn	20 51 56.3	+1.2
TOF				MSG		20 52 24.8	
	comp=Z,3.5nm,0.2s						
TOF				SG	Sb	20 52 28.0	-0.3
SGF	Sodankyl	2.44	96	PB	Pn	20 51 56.6	+0.5
	baz=284						
SGF				SG	Sb	20 52 30.9	+0.6
RNF	Rovaniemi	2.56	116	PB	Pn	20 51 59.0	+1.3
	baz=304						
RNF				SB	Sb	20 52 32.8	-0.8
ARA0	ARCESS Array S	2.59	46	PN	Pn	20 51 58.6	+0.4
	baz=229						
ARA0				SB	Sb	20 52 33.3	-1.4
ARCES	ARCESS Array B	2.59	46	Pn	Pn	20 51 59.1	+0.9
	comp=Z,0.5nm,0.3s,baz=229,slow=14,SNR=75						
ARCES				Lg	Lg	20 52 33.1	
	comp=Z,1.6nm,0.3s,baz=228,slow=26,SNR=17 comp=Z,1.1nm,0.3s						
KEV	Kevo	3.14	48	PN	Pn	20 52 06.6	+0.8
	baz=239						
KEV				SN	Sn	20 52 45.1	+1.2
BURU	Burvik	3.27	171	PB	Pn	20 52 09.1	+1.5
OUL	Oulu	3.56	138	PB	Pn	20 52 14.3	+2.9
VRF	Varrio	3.56	87	PN	Pn	20 52 13.0	+1.4
OLKF	Oulanka, Finla	3.89	108	PN	Pn	20 52 17.0	+1.0
MSF	Maaselka	3.96	115	PN	Pn	20 52 18.1	+1.0
	baz=301						
KU6	Riekki	4.20	111	PN	Pn	20 52 21.6	+1.2
FINES	FINESS Array B	6.87	156	Pn	Pn	20 52 56.1	-0.7
	comp=Z,0.1nm,0.3s,baz=346,slow=15,SNR=4.4						
FINES				Lg	Lg	20 54 46.9	
	comp=Z,0.2nm,0.3s,baz=338,slow=26,SNR=2.6 comp=Z,1.8nm,1.0s						
NOA	NORSAR Array B	7.83	214	Pn	Pn	20 53 10.1	0.0
	baz=31,slow=13,SNR=1.4 comp=Z,0.4nm,0.7s						

IDC ***27*** *20:52:03.3±2.2, 37°.45S×179°.89E, h0km, mb4.1/2, mbtmp4.1/3, ML4.2/1, MS3.2/2, Error ellipse: s-maj=99.3km s-min=34.8km az=160.0*

WEL ***27*** *20:52:05.7±0.9, 38°.S±6°×18°.0W±°, h57km±33km, M4.3/65, ML4.5/22, MLv4.3/65, Error ellipse: s-maj=0.0km s-min=0.0km az=92.4, confirmed*

NOU ***27*** *20:52:06.3, 38°.07S×179°.76E, h6km, MLv4.4/14, Off E. Coast of N. Island, N.Z.*

NEIC ***27*** *20:52:06.0±1.4, 38°.06S±0°.08×179°.6E±0°.1, h10km±2km, mb4.3/9, Error ellipse: s-maj=17.8km s-min=7.6km az=45.0*

ISC 27 20:52:02.1±3.5, **37°.88S**±0°.07×**179°.90W**±0°.07, **h4**km±21km, **n173**, σ1$59/189, **mb4.2/7, East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	Waiomatatini S	1.34	272	P	Pn	20 52 28.1	+0.5
WMGZ				S	Sb	20 52 45.4	+0.1
MXZ	Matakaoa Point	1.46	282		Pn	20 52 29.5	+0.2
MXZ				Sn	Sn	20 52 42.9	-6.0
MXZ	Matakaoa Point	1.46	282	P	Pn	20 52 29.5	+0.2
MXZ	Matakaoa Point	1.46	282	P	Pn	20 52 29.3	+0.1
MXZ				S	Sn	20 52 47.1	-1.7
PUZ	Puketiti	1.47	262	P	Pn	20 52 30.1	+0.6
PUZ				S	Sn	20 52 48.8	-0.4
PKGZ	Pakihiroa	1.60	269	P	Pn	20 52 31.6	+0.3
PKGZ				S	Sn	20 52 51.0	-1.5
CNGZ	Carnagh Statio	1.61	247	P	Pb	20 52 33.0	+0.6
TWGZ	Tauwhareparae	1.70	259	P	Pn	20 52 33.6	+1.0
TWGZ				S	Sn	20 52 55.2	+0.3
HAZ	Te Kaha	1.84	273	P	Pn	20 52 35.0	+0.5
HAZ				S	Sn	20 52 56.5	-1.8
TKGZ	Te Karaka	1.86	252	P	Pb	20 52 36.2	-0.5
TKGZ				S	Sn	20 52 59.2	+0.4
RUGZ	Raukumara Rang	1.92	267	P	Pn	20 52 36.2	+0.5
RUGZ				S	Sn	20 52 59.5	-0.9
RIGZ	Rimuhau	2.02	245	P	Pn	20 52 38.4	+1.4
RIGZ				S	Sn	20 53 02.8	+0.1
PRGZ	Paritu Road	2.03	238	P	Pn	20 52 38.5	+1.3
PRGZ				S	Sn	20 53 03.8	+0.7
MWZ	Matawai	2.08	257	P	Pn	20 52 38.5	+0.6
MWZ				S	Sn	20 53 03.2	-1.1
MHGZ	Mahia Peninsul	2.14	233	P	Pn	20 52 40.1	+1.4
RAGZ	Rawiri	2.21	253	P	Pn	20 52 40.7	+1.1
RAGZ				S	Sn	20 53 07.2	-0.2
KNZ	Kokohu	2.22	238	P	Pn	20 52 40.7	+1.0
SNGZ	Shannon Statio	2.35	247	P	Pn	20 52 42.8	+1.2
SNGZ				S	Sn	20 53 10.1	-0.9
URZ	Urewera	2.39	260	P	Pn	20 52 43.6	+1.5
URZ	Urewera	2.39	260	P	Pn	20 52 43.2	+1.2
URZ				S	Sn	20 53 11.8	-0.1
URZ	Urewera	2.39	260	Pn	Pn	20 52 43.3	+1.2
	56nm,0.3s,baz=331,slow=4.9,SNR=313						
URZ				Sn	Sn	20 53 08.7	-3.2
	115nm,0.3s,baz=19,slow=20,SNR=17 120nm,0.3s						
WHRZ	Whale Island	2.48	270	P	Pn	20 52 44.4	+1.1
WHRZ				S	Sn	20 53 12.8	-1.2
WHHZ	Waihua	2.55	241	P	Pn	20 52 45.6	+1.3
WHHZ				S	Sn	20 53 16.5	+0.7
RTZ	Ruatahuna	2.57	252	P	Pn	20 52 46.2	+1.6
RTZ	Ruatahuna	2.57	252	P	Pn	20 52 46.2	+1.6
RTZ				S	Sn	20 53 17.3	+1.0
RAHZ	Arahi	2.59	245	P	Pn	20 52 45.9	+1.1
RAHZ				S	Sn	20 53 17.1	+0.3
EDRZ	Edgecumbe	2.67	264	P	Pn	20 52 47.0	+1.1
MUGZ	Murupara	2.69	256	P	Pn	20 52 47.5	+1.3
MARZ	Manawahe	2.71	267	P	Pn	20 52 48.0	+1.4
MTHZ	Maungataniwha	2.74	248	P	Pn	20 52 48.3	+1.3
ARHZ	Aropaoanui	2.80	239	P	Pn	20 52 49.3	+1.6
OPRZ	Ohinepanea	2.81	270	P	Pn	20 52 48.1	+0.3
NMHZ	Naumai	2.86	244	P	Pn	20 52 49.9	+1.3
TARZ	Mount Tarawera	2.86	262	P	Pn	20 52 49.7	+1.1
RRRZ	Republican Roa	2.87	260	P	Pn	20 52 49.7	+1.0
CKHZ	Cape Kidnapper	2.96	232	P	Pn	20 52 50.7	+0.9
HLRZ	Highlands Stat	2.99	262	P	Pn	20 52 51.9	+1.6
TGRZ	Tauranga	3.05	272	P	Pn	20 52 51.3	+0.2
MRHZ	Matea Rd	3.05	251	P	Pn	20 52 52.7	+1.5
KARZ	Kaharoa	3.06	266	P	Pn	20 52 51.7	+0.5
HRRZ	Handcock Road	3.06	259	P	Pn	20 52 52.1	+0.9
HSRZ	Hossack Road	3.08	261	P	Pn	20 52 52.7	+1.2
MCHZ	McNeill Hill	3.09	239	P	Pn	20 52 53.1	+1.4
NGRZ	Ngongotaha	3.10	265	P	Pn	20 52 53.2	+1.3
BKZ	Black Stump Fm	3.11	244		Pn	20 52 52.9	+0.9
BKZ	Black Stump Fm	3.11	244	P	Pn	20 52 52.9	+0.9
BKZ	Black Stump Fm	3.11	244	P	Pn	20 52 53.1	+1.1
KAHZ	Kahuranaki	3.17	232	P	Pn	20 52 53.6	+0.8
KWHZ	Kaweka Forest	3.27	241	P	Pn	20 52 55.1	+0.9
PXZ	Pawanui	3.32	229	P	Pn	20 52 54.9	+0.2
KRHZ	Kereru	3.41	238	P	Pn	20 52 56.6	+0.5
KUTZ	Kaahu Road	3.43	258	P	Pn	20 52 57.3	+0.9
RITZ	Rihia Road	3.51	250	P	Pn	20 52 58.7	+1.3
RATZ	Rangitukua	3.54	253	P	Pn	20 52 59.8	+1.8
BHHZ	Black Hill Sta	3.55	242	P	Pn	20 52 58.8	+0.8
PRHZ	Porangahau	3.60	227	P	Pn	20 52 58.6	-0.1
TOZ	Tahuroa Road	3.65	271		Pn	20 52 59.4	+0.1
TOZ	Tahuroa Road	3.65	271	P	Pn	20 52 59.8	+0.5
PNHZ	Pukenui	3.66	235	P	Pn	20 52 59.9	+0.3
TMVZ	Te Maari	3.67	249	P	Pn	20 53 00.6	+0.9
ETVZ	East Tongariro	3.67	249	P	Pn	20 53 00.6	+0.8
KUZ	Kuaotunu	3.67	287	P	Pn	20 52 59.3	-0.3
KUZ	Kuaotunu	3.67	287	P	Pn	20 52 59.4	-0.3
NTVZ	North Tongarir	3.68	249	P	Pn	20 53 01.0	+1.1
OTVZ	Oturere	3.71	248	P	Pn	20 53 01.2	+0.9
MOVZ	Moawhango	3.73	245	P	Pn	20 53 01.7	+1.1
SNVZ	South Ngauruho	3.74	248	P	Pn	20 53 01.6	+0.9
NNVZ	North Ngauruho	3.74	249	P	Pn	20 53 02.0	+1.2
WTVZ	West Tongariro	3.75	249	P	Pn	20 53 04.1	+3.3
TUVZ	Tukino	3.75	247	P	Pn	20 53 02.6	+1.7
NGZ	Ngauruhoe	3.76	248	P	Pn	20 53 01.9	+0.8
WHVZ	Whangaehu Hut	3.81	247	P	Pn	20 53 02.8	+1.1
COVZ	Chateau Observ	3.81	248	P	Pn	20 53 03.2	+1.4
WNVZ	Wahianoa	3.82	246	P	Pn	20 53 02.8	+1.0
ANWZ	Angora Road	3.82	226	P	Pn	20 53 01.2	-0.5
FWVZ	Far West T-bar	3.82	248	P	Pn	20 53 03.2	+1.2
TRVZ	Turoa	3.84	247	P	Pn	20 53 04.0	+1.8
TSZ	Takapari Road	3.90	235	P	Pn	20 53 02.6	-0.2
DVHZ	Dannevirke	3.90	231	P	Pn	20 53 02.7	-0.2
MTVZ	Mangateitei	3.93	246	P	Pn	20 53 04.7	+1.5
PKVZ	Pokaka	3.99	248	P	Pn	20 53 05.6	+1.6
MKAZ	Moumakai	4.01	280	P	Pn	20 53 04.6	+0.3
GRZ	Great Barrier	4.06	292	P	Pn	20 53 05.1	+0.2
BFZ	Birch Farm	4.10	226		Pn	20 53 03.9	-1.6
BFZ	Birch Farm	4.10	226	P	Pn	20 53 04.2	-1.3
BFZ	Birch Farm	4.10	226	P	Pn	20 53 04.2	-1.3
WIAZ	Waiheke Island	4.11	284	P	Pn	20 53 07.1	+1.4
PRWZ	Pori Road	4.18	229	P	Pn	20 53 06.5	-0.1
HIZ	Hauiti	4.18	260		Pn	20 53 08.1	+1.4
HIZ	Hauiti	4.18	260	P	Pn	20 53 08.3	+1.6
HIZ	Hauiti	4.18	260	P	Pn	20 53 08.2	+1.6
POWZ	Post Office Ro	4.20	232	P	Pn	20 53 07.1	+0.2
CPWZ	Castlepoint	4.28	224	P	Pn	20 53 06.8	-1.2
TIWZ	Tintock	4.37	227	P	Pn	20 53 08.8	-0.5
VRZ	Vera Road	4.38	252	P	Pn	20 53 11.6	+2.3
ABAZ	Army Bay	4.40	285	P	Pn	20 53 11.1	+1.5
WAZ	Wanganui	4.42	243	P	Pn	20 53 11.8	+1.9
AWAZ	Awhitu Peninsu	4.42	279	P	Pn	20 53 11.4	+1.4
MRZ	Mangatainoka R	4.48	230		Pn	20 53 09.8	-1.0
MRZ	Mangatainoka R	4.48	230	P	Pn	20 53 10.4	-0.3
HOWZ	Holdsworth Sta	4.66	228	P	Pn	20 53 12.0	-1.3
OGWZ	Otaki Gorge	4.82	231	P	Pn	20 53 14.9	-0.6
NEZ	North Egmont	4.91	252	P	Pn	20 53 19.1	+2.3
PKE	Pukeiti	4.97	253	P	Pn	20 53 20.2	+2.6
KHEZ	Kahui Hut	4.98	252	P	Pn	20 53 20.0	+2.3
WCZ	Waipu Caves	5.00	291	P	Pn	20 53 19.0	+1.0
KIW	Kapiti Island	5.01	232	P	Pn	20 53 17.2	-0.8
CAW	Cannon Point	5.06	229	P	Pn	20 53 17.6	-1.1
NBEZ	Newall Road No	5.08	252	P	Pn	20 53 22.5	+3.4
PLWZ	Palliser	5.25	224	Pn	Pn	20 53 19.1	-2.3
BHW	Baring Head	5.36	227	Pn	Pn	20 53 20.3	-2.6
SNZO	South Karori	5.40	229	Pn	Pn	20 53 21.4	-2.0
SNZO	South Karori	5.40	229	P	Pn	20 53 21.8	-1.5
TCW	Tory Channel	5.60	232	Pn	Pn	20 53 23.5	-2.7
TCW	Tory Channel	5.60	232	P	Pn	20 53 25.1	-1.1
DUWZ	D'Urville Isla	5.61	237	P	Pn	20 53 25.5	-0.8
OUZ	Omahuta	5.87	295	P	Pn	20 53 31.2	+1.3
OUZ	Omahuta	5.87	295	P	Pn	20 53 31.1	+1.3
TUWZ	Tuamarina	5.93	231		Pn	20 53 27.5	-3.2
CMWZ	Cape Campbell	5.96	228	Pn	Pn	20 53 28.8	-2.3
BSWZ	Blackbirch Sta	6.14	229	Pn	Pn	20 53 30.9	-2.6
NNZ	Nelson	6.17	235	P	Pn	20 53 33.3	-0.8
CTZ	Chatham Island	6.36	158		Pn	20 53 39.9	+3.3
CTZ	Chatham Island	6.36	158	P	Pn	20 53 40.3	+3.8
CTZ	Chatham Island	6.36	158	P	Pn	20 53 40.2	+3.7
TKNZ	Takaka Hill	6.36	238		Pn	20 53 35.2	-1.5
TKNZ	Takaka Hill	6.36	238	P	Pn	20 53 35.4	-1.3
QRZ	Quartz Range	6.57	241	Pn	Pn	20 53 37.1	-2.3
QRZ	Quartz Range	6.57	241	P	Pn	20 53 38.0	-1.4
MRNZ	Matariki Terra	6.67	236	Pn	Pn	20 53 38.2	-2.6
MRNZ	Matariki Terra	6.67	236	P	Pn	20 53 39.7	-1.2
THZ	Tophouse	6.76	233	Pn	Pn	20 53 39.5	-2.7
KHZ	Kahutara	6.77	226	Pn	Pn	20 53 39.2	-3.0
KHZ	Kahutara	6.77	226	P	Pn	20 53 40.2	-2.0
GVZ	Greta Valley S	7.41	224	Pn	Pn	20 53 48.0	-3.0
LTZ	Lake Taylor	7.73	228	Pn	Pn	20 53 52.2	-3.2
MQZ	McQueen's Vall	8.11	222	Pn	Pn	20 53 56.9	-3.7
INZ	Inchbonnie	8.20	231	Pn	Pn	20 53 59.6	-2.1
OXZ	Oxford	8.20	226		Pn	20 53 59.1	-2.8
WVZ	Waitaha Valley	8.82	231	P	Pn	20 54 09.5	-0.9
RPZ	Rata Peaks	9.00	227	Pn	Pn	20 54 10.0	-2.9
RPZ	Rata Peaks	9.00	227	P	Pn	20 54 11.8	-1.1
RPZ	Rata Peaks	9.00	227	Pn	Pn	20 54 11.1	-1.8
	1.5nm,0.3s,baz=352,slow=14,SNR=2.4						
RPZ				Sn	Sn	20 55 45.1	-10
	6.7nm,0.3s,baz=129,slow=22,SNR=21						
FOZ	Fox Glacier	9.64	231	P	Pn	20 54 20.9	-0.7
LBZ	Lake Benmore	9.91	226	Pn	Pn	20 54 22.5	-2.8
ODZ	Otahua Downs	10.08	222	Pn	Pn	20 54 25.1	-2.5
JCZ	Jackson Bay	10.56	231	P	Pn	20 54 35.3	+1.1
WKZ	Wanaka	10.84	227	P	Pn	20 54 40.4	+2.4
EAZ	Earnscleugh	10.92	224	P	Pn	20 54 42.0	+2.9
TUZ	Tuapeka	11.22	221	P	Pn	20 54 47.4	+4.3
SYZ	Scrubby Hill	11.86	220	P	Pn	20 54 50.6	-1.4
APZ	The Paps	12.65	221	P	Pn	20 55 11.0	+8.2
DZM	Mont Dzumac	19.67	319	LR	LR	21 03 08.6	
	comp=Z,68nm,18.3s,baz=108,slow=35						
BBOO	Buckleboo	36.03	264	P	P	20 59 04.0	-0.5
BBOO				IAmb	IAmb	20 59 35.5	
	comp=Z,17nm,1.1s						
COEN	Coen	40.48	296	P	P	20 59 41.6	-0.5
COEN				IAmb	IAmb	21 00 23.0	
	comp=Z,5.4nm,0.9s						
AS31	Alice Springs	41.74	276	P	P	20 59 51.4	-1.1
ASAR	Alice Springs	41.74	276	P	P	20 59 51.9	-0.6
ASAR	Alice Springs	41.74	276	P	P	20 59 52.5	0.0
	comp=Z,1.1nm,0.5s,baz=122,slow=8.0,SNR=20						
ASAR				PcP	PcP	21 01 48.9	-0.1
	comp=Z,0.1nm,0.4s,baz=124,slow=3.9,SNR=4.1 comp=Z,1.1nm,0.5s						
FORT	Forrest	43.10	263	P	P	21 00 02.3	-1.1
WR0	Warramunga Arr	43.23	281	P	P	21 00 03.6	-1.1
WB2	Warramunga Arr	43.39	281	P	P	21 00 05.0	-0.9
WB2				IAmb	IAmb	21 00 28.1	
	comp=Z,6.8nm,1.3s						
WB2				PcP	PcP	21 01 55.0	+0.5
WRA	Warramunga Arr	43.40	281	P	P	21 00 05.3	-0.6
	comp=Z,1.4nm,0.4s,baz=121,slow=7.8,SNR=43						
WRA				PcP	PcP	21 01 55.0	+0.5
	comp=Z,0.2nm,0.8s,baz=122,slow=3.0,SNR=1.2 comp=Z,1.4nm,0.4s						
WB0	Warramunga Arr	43.45	281	P	P	21 00 06.0	-0.5
WB0				IAmb	IAmb	21 00 46.1	
	comp=Z,9.8nm,1.5s						
WB0				PcP	PcP	21 01 55.2	+0.5
KNRA	Kununurra	50.18	282	P	P	21 00 58.9	-0.3
RPN	Rapa Nui	59.20	102	LR	LR	21 22 28.4	
	comp=Z,23nm,20.2s,baz=44,slow=31						
BELA	Belgrano 2	62.60	172	P	P	21 02 29.7	+2.8
BELA				IAmb	IAmb	21 02 31.3	
	comp=Z,1.1nm,0.8s						
SNAA	Sanae	70.73	179	LR	LR	21 31 35.0	
	comp=Z,1μm,20.4s,baz=100,slow=33						
H03N3	Juan Fernandez	77.90	123	T	T	22 30 23.1	
	baz=234,slow=72,SNR=9.3						
H03N2	Juan Fernandez	77.91	123	T	T	22 30 22.6	
	baz=234,slow=72,SNR=7.2						
H03N1	Juan Fernandez	77.92	123	T	T	22 30 23.1	
	baz=234,slow=72,SNR=8.0						
ARCES	ARCESS Array B	145.46	345	PKPbc	PKPab	21 11 40.8	+0.2
	comp=Z,4.4nm,1.0s,baz=38,slow=2.2,SNR=5.1						
FINES	FINESS Array B	151.41	334	PKPbc	PKiKP	21 11 57.4	+0.7
	comp=Z,1.5nm,0.9s,baz=38,slow=5.3,SNR=4.3						
BRTR	Keskin Array B	153.88	285	PKPbc	PKiKP	21 12 03.3	+0.5
	comp=Z,0.1nm,0.4s,baz=69,slow=4.8,SNR=2.6						

TAP ***27*** *20:56:04.9, 24°.43N×122°.95E, h46km, ML3.1, C*

JMA ***27*** *20:56:05.0±0.1, 24°.N±2°×123°.0E±0°.5, h47km±1km, MV2.8/14, NW OFF ISHIGAKIJIMA IS*

ISC 27 20:56:05.4±1.2, **24°.32N**±0°.05×**122°.98E**±0°.02, **h42**km±7km, **n87**, σ0$96/134, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.13	345	*i* P	Pn	20 56 12.3	-0.2
JYNG				S	Sn	20 56 17.6	+0.1
YOJ	Yonaguni jima	0.14	10	P	Pn	20 56 12.5	-0.1
YOJ				S	Sn	20 56 17.7	+0.2
YOJ	Yonaguni jima	0.14	10	*e*P	Pn	20 56 12.4	-0.1
	baz=50						
YOJ				*i* S	Sn	20 56 17.6	0.0
	baz=50						
EOS3	EOS3	0.61	267	*i* P	Pn	20 56 17.2	-0.3
	baz=258						
EOS4	EOS4	0.64	252	*i* P	Pn	20 56 17.9	+0.1
	baz=247						
IRIF	Iriomote-Funau	0.68	89	P	Pn	20 56 18.1	-0.6
IRIF				*e*S	Sn	20 56 27.6	-0.6
EOS2	EOS2	0.69	278	*i* P	Pn	20 56 18.1	-0.6
	baz=272						
EOS2				*e*S	Sn	20 56 28.3	0.0
	baz=272						
HATJ	Hateruma jima	0.80	109	S	Sn	20 56 31.1	+0.2
JKRS	Kuro-shima	0.94	95	P	Pn	20 56 22.2	0.0
JKRS				S	Sn	20 56 34.8	+0.3
JIJ	Ishigaki jima	1.06	87	P	Pn	20 56 23.1	-0.7
JIJ				S	Sn	20 56 36.4	-1.0
TWC	Suao	1.07	286	P	Pn	20 56 22.9	-1.0
	baz=281						
TWC				*e*S	Sn	20 56 35.5	-2.2
	baz=281						
EWUT	Wuta	1.10	277	*e*P	Pn	20 56 24.1	-0.4
	baz=280						
EWUT				*e*S	Sn	20 56 37.6	-0.9
	baz=280						
ENA	Nanau	1.14	276	P	Pn	20 56 24.2	-0.7
	baz=278						
NDS	Dongshan	1.20	285	*e*P	Pn	20 56 25.3	-0.4
	baz=281						
JISG	Ishigakijimahi	1.24	77	*e*P	Pn	20 56 25.9	-0.4
JISG				*e*S	Sn	20 56 41.0	-0.7
TWE	Neicheng	1.26	289	P	Pn	20 56 26.2	-0.4
	baz=294						
TWE				*e*S	Sn	20 56 41.2	-1.2
	baz=294						
SXI1	Grass Mountain	1.27	308	*e*P	Pn	20 56 26.1	-0.6
	baz=311						
NACB	Ninganchiao	1.27	264	P	Pn	20 56 26.1	-0.7
	baz=259						
NACB				*e*S	Sn	20 56 42.3	-0.4
	baz=259						
TWD	Chiawan	1.29	260	*e*P	Pn	20 56 26.9	0.0
	baz=241						
TWD				*e*S	Sn	20 56 42.3	-0.7
	baz=241						
ENTT	Nioudou	1.33	284	*e*P	Pn	20 56 27.6	0.0
	baz=280						
FUSB	Fushanzhiwuyua	1.34	289	*e*P	Pn	20 56 28.1	+0.3
	baz=294						
FUSB				*e*S	Sn	20 56 43.2	-1.3
	baz=294						
LATG	Datong	1.34	279	*e*P	Pn	20 56 28.0	+0.2
	baz=284						
NDT	Datong Townshi	1.37	282	*e*P	Pn	20 56 28.7	+0.6
	baz=285						
NDT				*e*S	Sn	20 56 45.1	+0.1
	baz=285						
ETLH	Xiulin Townshi	1.37	266	P	Pn	20 56 28.0	-0.3
	baz=261						
ETLH				*e*S	Sn	20 56 45.0	-0.3
	baz=261						
ETM	Tongmen	1.41	256	*e*P	Pn	20 56 28.1	-0.5
	baz=251						
NWLT	Wulai	1.42	289	*e*P	Pn	20 56 29.0	+0.2
	baz=285						
NWLT				*e*S	Sn	20 56 45.3	-1.1
	baz=285						
LXIB	Xiulin Townshi	1.46	259	*e*P	Pn	20 56 28.7	-0.8
	baz=254						
LXIB				*e*S	Sn	20 56 46.6	-0.9
	baz=254						
NNS	Nan Shan	1.47	275	*e*P	Pn	20 56 29.7	+0.1
	baz=271						
ESL	Shilin	1.50	251	*e*P	Pn	20 56 28.9	-1.0
	baz=246						
YHNB	Yeheng	1.50	284	*e*P	Pn	20 56 30.9	+0.9
	baz=289						
NSK	Sanguang	1.52	284	*e*P	Pn	20 56 31.3	+1.1
	baz=288						
YM01	YM01	1.52	303	*e*P	Pn	20 56 30.7	+0.5
	baz=291						
YM01				*e*S	Sn	20 56 47.8	-1.1
	baz=291						
EGFH	Guangfu	1.56	246	*e*S	Sn	20 56 48.5	-1.3
	baz=242						
WARBT	Fenglin Townsh	1.58	248	*e*P	Pn	20 56 29.4	-1.5
	baz=234						
WARBT				*e*S	Sn	20 56 48.5	-1.7
	baz=234						
WHF	Hehuan Shan	1.58	264	*e*P	Pn	20 56 31.0	-0.4
	baz=260						
WHF				*e*S	Sn	20 56 49.6	-1.1
	baz=260						
JTJ	Tarama	1.60	78	P	Pn	20 56 31.2	0.0
JTJ				S	Sn	20 56 50.6	-0.1
HGSD	Ruisui	1.65	240	*e*P	Pn	20 56 30.4	-1.4
	baz=237						
HGSD				*e*S	Sn	20 56 49.2	-2.6
	baz=237						
TDCB	Techi	1.67	268	*e*P	Pn	20 56 32.5	+0.3
	baz=264						
CHGB	Renai	1.67	261	*e*P	Pn	20 56 32.1	-0.3
	baz=246						
CHGB				*e*S	Sn	20 56 52.6	-0.2
	baz=246						
OWD	Renai	1.69	258	*e*P	Pn	20 56 32.1	-0.5
	baz=254						
OWD				*e*S	Sn	20 56 52.3	-0.8
	baz=254						
EHY	Hungye

ALS	Alishan	2.15 248	P	Pn	20 56 39.2	+0.1
	baz=245					
ALS			eS	Sn	20 57 04.0	-0.6
	baz=245					
JMJ2	Miyako jima3	2.18 78	eS	Sn	20 57 05.8	+0.9
CHN5	Tsauling	2.23 252	eP	Pn	20 56 40.6	+0.7
	baz=241					
CHN5			eS	Sn	20 57 06.8	+0.5
	baz=241					
TWGBT	Beinan	2.30 230	eP	Pn	20 56 40.4	-0.5
	baz=237					
TWG	Pinlang	2.30 230	eP	Pn	20 56 40.5	-0.5
	baz=237					
STYH	Taoyuan	2.32 241	eP	Pn	20 56 41.6	+0.4
	baz=231					
STYH			eS	Sn	20 57 07.8	-0.7
	baz=231					
WCKO	Fanlu	2.35 249	eP	Pn	20 56 42.8	+1.3
	baz=237					
WCKO			eS	Sn	20 57 10.7	+1.6
	baz=237					
TPUB	Ta-pu	2.38 245	eP	Pn	20 56 42.9	+0.9
	baz=243					
TPUB			S	Sn	20 57 11.1	+1.1
	baz=243					
CHN4	Tsaushan	2.39 247	eP	Pn	20 56 43.6	+1.5
	baz=236					
CHN4			eS	Sn	20 57 11.9	+1.7
	baz=236					
WRL	Guolierlin Hig	2.42 261	eP	Pn	20 56 43.4	+0.9
	baz=269					
WTP	Ta-pu	2.42 244	eP	Pn	20 56 43.5	+0.9
	baz=241					
WTK	Tuku	2.45 256	eP	Pn	20 56 43.9	+1.0
	baz=252					
TWK	Hsinying	2.51 246	eP	Pn	20 56 44.8	+0.9
	baz=242					
CHN1	Nanshi	2.52 244	eP	Pn	20 56 44.8	+0.9
	baz=241					
CHN1			eS	Sn	20 57 14.8	+1.4
	baz=241					
SLGT	Liugui	2.52 239	eP	Pn	20 56 44.7	+0.8
	baz=230					
SLGT			eS	Sn	20 57 14.7	+1.4
	baz=230					
SGST	Jiashian	2.52 241	eP	Pn	20 56 44.2	+0.3
	baz=239					
SGST			eS	Sn	20 57 13.6	+0.1
	baz=239					
SNST	Tainan City	2.53 245	eP	Pn	20 56 45.5	+1.5
	baz=242					
SNST			eS	Sn	20 57 15.0	+1.4
	baz=242					
TSMG	Majia	2.68 234	eP	Pn	20 56 47.2	+1.1
	baz=225					
SCST	Cishan	2.69 238	eP	Pn	20 56 47.9	+1.6
	baz=228					
MASBT	Mashibuluo	2.75 232	eP	Pn	20 56 46.9	-0.1
	baz=222					
EAST	Anshuo	2.75 226	eP	Pn	20 56 47.9	+0.8
	baz=231					
SCZT	Fangliau	2.91 229	eP	Pn	20 56 50.9	+1.7
	baz=219					
PHUB	P'eng-hu	3.22 256	eP	Pn	20 56 54.4	+0.9
	baz=254					
PHUB			eS	Sn	20 57 30.2	-0.5
	baz=254					

IDC 27 20:57:34.1±343.0, 37°.54N×118°.33W, h0km, Error ellipse: s-maj=132.1km s-min=88.9km az=152.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	PINON FLAT INF	4.21	158	I	I	21 24 10.0	
	baz=339,slow=313,SNR=1.0						
I56US	NEWPORT INFRASI	0.75	4	I	I	21 59 50.0	
	baz=184,slow=326,SNR=3.0						
I10CA	LAC DU BONNET	20.37	44	I	I	23 02 35.9	
	baz=239,slow=333,SNR=0.8						

BUT 27 21:05:43.2±1.5, 46°.91N±0°.05×112°.54W±0°.06, h10km±5km, Error ellipse: s-maj=8.3km s-min=5.5km az=149.0

NEIC 27 21:05:43.2±1.7, 46°.90N±0°.04×112°.54W±0°.04, h10km±1km, ML2.4/22, ML2.7/15(BUT), Error ellipse: s-maj=6.6km s-min=4.4km az=31.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	Lyon Mountain	0.19	67	Pg	Pg	21 05 47.3	0.0
BEMT	Mount Belmont	0.21	136		Pg	21 05 47.7	+0.1
OVMT	Ovando	0.35	298		Pg	21 05 49.9	-0.3
ELMT	Elliston	0.38	175		Pg	21 05 51.0	+0.3
CHMT	Chamberlain Mo	0.49	272		Pg	21 05 52.7	0.0
HRY	Holter Researc	0.52	111	Pg	Pg	21 05 53.3	-0.1
BPMT	Black Pine Rid	0.78	234		Pg	21 05 58.1	-0.1
MSO	Missoula	0.96	266		Pg	21 06 01.1	-0.5
MSO				Sg	Sg	21 06 14.3	+0.1
MSO				IAML		21 06 18.3	
	104nm,0.6s						
LRM	Limekiln Ridge	1.08	177	Pn	Pg	21 06 03.7	-0.2
BOZ	Bozeman (W)	1.45	154		Pn	21 06 09.5	-0.1
BOZ				IAML		21 06 31.6	
	51nm,0.3s						
DLMT	Dillon	1.54	181		Pn	21 06 11.3	+0.5
DLMT				IAML		21 06 33.0	
	38nm,0.6s						
MCMT	McKenzie Canyo	2.08	186	Pn	Pn	21 06 18.2	-0.2
EGMT	Eagleton	2.20	58	Pn	Pn	21 06 17.1	-2.7
QLMT	Earthquake Lak	2.21	159	Pg	Pb	21 06 24.1	+0.8
YHL	Hebgen Lake	2.26	155		Pn	21 06 20.4	-0.4
YHL				IAML		21 06 59.2	
	comp=E,23nm,0.4s						
YHL				IAML		21 06 59.7	
	comp=N,22nm,0.6s						
YHH	Holmes Hill	2.42	150	Pn	Pn	21 06 22.9	-0.2
PLID	Pearl Lake	3.02	234		Pg	21 06 39.1	-1.8
PLID				IAML		21 07 20.4	
	comp=N,11nm,0.6s						
PLID				IAML		21 07 20.4	
	comp=N,9.0nm,0.3s						
FLWY	Flagg Ranch	3.10	155	Pg	Pb	21 06 40.1	+1.6
FLWY				IAML		21 08 12.2	
	comp=N,15nm,4.5s						
FLWY				IAML		21 08 35.8	
	comp=N,13nm,3.9s						
IMW	Indian Meadow	3.21	159	Pn	Pn	21 06 34.8	+0.9
IMW				IAML		21 07 26.9	
	comp=N,7.9nm,0.7s						
F10A	Beach Ranch, E	3.37	256		Pb	21 06 45.1	+2.1
MOOW	Moose Ponds	3.40	157	Pg	Pb	21 06 45.6	+2.0
TPAW	Teton Pass	3.59	161	Pn	Pn	21 06 38.0	-1.1
TPAW				IAML		21 07 21.1	
	comp=N,12nm,4.7s						
TPAW				IAML		21 07 32.5	
	comp=N,7.8nm,4.2s						

IDC 27 21:08:18.0±0.9, 40°.89N×145°.11E, h0km, mb3.8/15, mbtmp3.8/18, ML3.4/3, MS3.2/2, Error ellipse: s-maj=24.7km s-min=17.9km az=82.0

NIED 27 21:08:21.0, 40°.96N×145°.17E, h66km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.49; $M_{\theta\theta}$=0.05; $M_{\phi\phi}$=5.53; $M_{r\theta}$=0.33; $M_{\theta\phi}$=-0.53; $M_{\phi r}$=-3.64; Fault plane solution: M_0=6.63000×10^{14} NP1: ϕ_s=0.00000°, δ62.00000°, λ,-84.00000°. NP2:ϕ_s=169.00000°, δ29.00000°, λ,-100.00000°.

JMA 27 21:08:21.0±0.2, 41°.0N±0°.9×145°.2E±1°.0, h66km±2km, MV4.3/40, FAR SE OFF HOKKAIDO

ISC 27 21:08:24.6±0.8, 40°.97N±0°.05×145°.03E±0°.06, h50km, n49, σ1°.91/53, mb3.8/15, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.75	307	P	Pn	21 08 51.3	-1.3
JEM				eS	Sn	21 09 12.2	-1.5
JTHR	Tokachihiroo	1.85	316	i P	Pn	21 08 52.6	-1.3
JTHR				S	Sn	21 09 14.5	-1.7
JAK	Akkeshi	2.04	353	P	Pn	21 08 54.2	-2.2
JAK				eS	Sn	21 09 18.9	-1.8
JCH	Churui	2.06	323	i P	Pn	21 08 55.4	-1.5
JCH				S	Sn	21 09 18.9	-2.5
JKHN	Kushirohamanak	2.11	3	P	Pn	21 08 55.4	-2.1
JOB	Onbets	2.13	336	P	Pn	21 08 56.2	-1.5
JOB				eS	Sn	21 09 21.5	-1.4
JNBK	Urakawa-nobuka	2.15	308	i P	Pn	21 08 57.4	-0.6
JNBK	Urakawa-nobuka	2.15	308	A	A	21 08 57.4	
	comp=E,2.0nm,0.6s,comp=N,3.0nm,1.8s						
NEM2	Nemuro 2	2.45	12	P	Pn	21 08 59.4	-2.7
NEM2				S	Sn	21 09 26.6	-4.2
JAR	Ashorobuto	2.51	338	P	Pn	21 09 00.7	-2.2
JAR				eS	Sn	21 09 29.6	-2.7
JNK	Nakash	2.62	355	P	Pn	21 09 01.7	-2.8
JNK				S	Sn	21 09 31.5	-3.7
JBT2	Biratori 2	2.69	313	eP	Pn	21 09 03.5	-1.9
JBT2				eS	Sn	21 09 36.3	-0.5
JANG	Nango	2.74	259	i P	Pn	21 09 03.9	-2.2
JANG				eS	Sn	21 09 33.6	-4.4
JFR	Furan	2.85	321	S	Sn	21 09 37.5	-3.1
JIAM	Iburiatsuma	2.85	306	P	Pn	21 09 08.4	+0.8
JIAM				eS	Sn	21 09 42.4	+1.7
JRA	Rausu	2.97	1	eP	Pn	21 09 06.7	-2.5
JTM	Tenmabayashi	3.01	268	i P	Pn	21 09 08.4	-1.4
JTM				eS	Sn	21 09 41.5	-3.1
JOT	Ohata	3.04	279	P	Pn	21 09 08.7	-1.4
JOT				S	Sn	21 09 42.0	-3.2
JTKR	Abashiri--Toko	3.11	345	P	Pn	21 09 10.1	-1.1
JOM	Ohasama	3.23	244	i P	Pn	21 09 11.2	-1.7
JEW	Eniwo	3.26	306	P	Pn	21 09 13.3	0.0
JKK2	Kamakawa 2	3.36	331	P	Pn	21 09 13.7	-0.9
ASAJ	Asahikawa	3.62	331	Pn	Pn	21 09 17.8	-0.4
	comp=N,4.1nm,0.3s,baz=195,slow=10,SNR=33						
ASAJ				Sn	Sn	21 09 58.5	-1.2
	comp=N,6.2nm,0.3s,baz=129,slow=33,SNR=10						
	comp=N,12nm,0.4s						
MJAR	Matsushiro Arr	6.93	233	Pn	Pn	21 10 01.8	-1.8
	comp=N,0.2nm,0.3s,baz=44,slow=11,SNR=11						
	comp=N,2.8nm,0.5s						
JHJ	Hachijo jima 2	8.89	210	Sn	Sn	21 11 58.9	-10
	comp=N,26nm,0.3s,baz=57,slow=16,SNR=1.5						
USRK	Ussuriysk Ar.	10.15	293	Pn	Pn	21 10 47.2	-0.4
	comp=N,0.3nm,0.3s,baz=99,slow=16,SNR=6.2						
	comp=N,3.3nm,0.6s						
KSRS	Korea Array	13.72	261	LR	LR	21 16 25.7	
	comp=N,49nm,18.6s,baz=65,slow=35						
H11N2	WAKE ISLAND Hy	28.21	132	T	T	21 43 51.3	
	baz=323,slow=74,SNR=7.0						
SONM	Songino Array	28.22	297	P	P	21 14 13.0	+0.2
	comp=N,0.5nm,0.6s,baz=67,slow=8.2,SNR=4.3						
	comp=N,0.5nm,0.6s						
H11N1	WAKE ISLAND Hy	28.22	132	T	T	21 43 52.2	
	baz=323,slow=74,SNR=8.0						
H11N3	WAKE ISLAND Hy	28.23	132	T	T	21 43 53.5	
	baz=323,slow=74,SNR=7.6						
H11S1	WAKE ISLAND Hy	29.09	134	T	T	21 44 55.7	
	baz=325,slow=76,SNR=8.4						
H11S3	WAKE ISLAND Hy	29.09	134	T	T	21 45 00.3	
	baz=325,slow=76,SNR=6.2						
H11S2	WAKE ISLAND Hy	29.11	134	T	T	21 44 59.0	
	baz=325,slow=76,SNR=10						
ZALV	Zalesovo Beam	41.48	309	P	P	21 16 07.3	+0.9
	comp=N,1.0nm,0.6s,baz=90,slow=4.5,SNR=4.7						
	comp=N,1.0nm,0.6s						
MKAR	Makanchi Array	44.53	299	LR	LR	21 36 09.7	
	comp=N,50nm,19.3s,baz=20,slow=38						
ILAR	Eielson Array	44.66	34	P	P	21 16 33.1	+1.2
	comp=N,0.2nm,0.7s,baz=277,slow=8.0,SNR=1.8						
	comp=N,0.2nm,0.7s						
CMAR	Chiang Mai Arr	45.25	254	P	P	21 16 37.6	+0.4
	comp=N,0.5nm,0.7s,baz=52,slow=7.3,SNR=1.8						
	comp=N,0.5nm,0.7s						
KURBB	Kurchatov Arra	45.91	306	P	P	21 16 43.0	+0.9
	comp=N,2.3nm,0.7s,baz=76,slow=8.7,SNR=13						
	comp=N,2.3nm,0.7s						
BVAR	Borovoye Array	50.09	311	P	P	21 17 14.2	-0.1
	comp=N,1.2nm,0.5s,baz=75,slow=7.6,SNR=3.6						
	comp=N,1.2nm,0.5s						
WRA	Warramunga Arr	61.41	191	P	P	21 18 35.2	-0.5
	comp=N,1.7nm,0.7s,baz=10,slow=7.0,SNR=13						
	comp=N,1.7nm,0.7s						
ASAR	Alice Springs	65.13	191	P	P	21 19 00.3	0.0
	comp=N,0.3nm,0.7s,baz=15,slow=6.7,SNR=5.8						
	comp=N,0.3nm,0.7s						
FINES	FINESS Array B	66.63	333	P	P	21 19 10.1	+0.7
	comp=N,3.0nm,1.0s,baz=88,slow=6.5,SNR=5.8						
	comp=N,3.0nm,1.0s						
KBZ	Khabaz	70.46	311	P	P	21 19 34.9	+1.2
	comp=N,1.5nm,0.7s,baz=65,slow=4.1,SNR=4.8						
	comp=N,1.5nm,0.7s						
NOA	NORSAR Array B	71.61	338	P	P	21 19 41.2	+0.8
	comp=N,1.0nm,0.8s,baz=43,slow=4.5,SNR=2.2						
	comp=N,1.0nm,0.8s						
HFS	Hagfors	71.63	337	P	P	21 19 41.4	+0.9
	comp=N,4.2nm,1.0s,baz=90,slow=7.4,SNR=2.3						
	comp=N,4.2nm,1.0s						
AKASG	Malin Array Be	72.88	323	P	P	21 19 48.7	+0.6
	comp=N,0.6nm,0.5s,baz=41,slow=6.0,SNR=2.3						
	comp=N,0.6nm,0.5s						
BRTR	Keskin Array B	78.30	313	P	P	21 20 20.3	+0.8
	comp=N,0.6nm,0.8s,baz=30,slow=10.0,SNR=2.3						
	comp=N,0.6nm,0.8s						
TXAR	Lajitas Array	85.52	55	P	P	21 20 58.3	+0.7
	comp=N,0.2nm,0.7s,baz=260,slow=6.0,SNR=2.6						
	comp=N,0.2nm,0.7s						

IDC 27 21:18:04.6±1.1, 3°.74S×131°.20E, h0km, mb3.8/7, mbtmp3.9/9, ML4.3/2, Error ellipse: s-maj=45.2km s-min=20.6km az=64.0

DJA 27 21:18:09.4±0.3, 4°S±2°×13°1E±°, h59km±20km, M4.0/10, mb4.4/4, MLv3.8/10

ISC 27 21:18:09.5±0.8, 3°.71S±0°.07×131°.27E±0°.06, h35km, n18, σ0°.68/19, mb3.8/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	Fak Fak	1.26	51	P	Pn	21 18 30.5	-0.1
BNDI	Bandanaira	1.58	239	P	Pn	21 18 34.5	-0.5
KMPI	Kaimana, Papua	2.43	89	P	Pn	21 18 46.9	+0.1
SWI	Sorong	2.83	360	P	Pn	21 18 51.7	-0.5
SWI				S	Sn	21 19 24.8	-0.3
RKPI	Ransiki, Papua	3.64	53	P	Pn	21 19 03.8	+0.4
LBMI	Labuha	4.84	309	P	Pn	21 19 20.5	+0.5
LBMI				S	Sn	21 20 15.1	+0.2
SANI	Sanana	5.52	287	P	Pn	21 19 28.3	-1.0
	29nm,0.5s,0.1nm						
SOEI	Soe	9.18	229	P	Pn	21 20 20.6	+0.9
	24nm,0.9s						
BATI	Baumata	9.93	229	Pn	Pn	21 20 28.6	-1.2
	2.1nm,0.3s,baz=131,slow=13,SNR=1.8						
	8.1nm,0.6s						
WRA	Warramunga Arr	16.41	170	Pn	Pn	21 21 50.2	-7.1
	0.2nm,0.3s,baz=348,slow=14,SNR=18						
WRA				Sn	Sn	21 24 47.7	-11
	0.6nm,0.3s,baz=355,slow=24,SNR=7.3						
ASAR	Alice Springs	20.00	173	P	P	21 22 38.7	-0.6
	0.9nm,0.3s,baz=352,slow=12,SNR=18						
	1.5nm,0.6s						
CTA	Charters Tower	21.87	139	P	P	21 22 59.6	+0.1
	2.5nm,0.6s,baz=313,slow=9.6,SNR=6.7						
	2.5nm,0.6s						
CMAR	Chiang Mai Arr	38.72	306	P	P	21 25 30.3	-0.3
	0.4nm,0.3s,baz=140,slow=6.9,SNR=6.9						
	0.4nm,0.3s						
SONM	Songino Array	55.77	340	P	P	21 27 44.1	+1.0
	0.5nm,0.8s,baz=145,slow=5.3,SNR=3.6						
	0.5nm,0.8s						
MKAR	Makanchi Array	66.21	325	P	P	21 28 54.8	+0.9
	1.9nm,1.1s,baz=111,slow=9.1,SNR=5.7						
	1.9nm,1.1s						
KURBB	Kurchatov Arra	70.41	327	P	P	21 29 20.6	+0.6
	0.8nm,0.6s,baz=128,slow=5.6,SNR=9.5						
	0.8nm,0.6s						
BVAR	Borovoye Array	75.99	327	P	P	21 29 52.6	-0.3
	0.5nm,0.6s,baz=127,slow=3.8,SNR=3.2						
	0.5nm,0.6s						
GEYT	Alibeck	79.08	310	P	P	21 30 10.2	-0.4
	0.5nm,0.4s,baz=107,slow=4.8,SNR=2.7						
	0.5nm,0.4s						

ISK 27 21:18:57.6, 36°.90N×27°.31E, h15km±1km, ML1.0/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RFTB	Kemer-Bodrum	0.08	335	Pg	Pg	21 19 00.9	+0.3
RFTB				Sg	Sg	21 19 03.1	+0.6
BODT	Bodrum	0.17	360	Pg	Pg	21 19 02.1	+0.3
BODT				Sg	Sg	21 19 05.0	+0.5
RFTD	Palamutbuku-Ka	0.26	145	Pg	Pg	21 19 03.4	+0.2
RFTD				Sg	Sb	21 19 07.8	-0.5
DAT	Datca	0.27	128	Pg	Pg	21 19 03.7	+0.3
DAT				Sg	Sb	21 19 08.4	-0.3

AFAD 27 21:19:27.1±0.0, 37°.99N×29°.14E, h7km±5km, ML1.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNIZ	Denizli-Tavas-	0.37	192	P	Pg	21 19 34.4	+0.1
DNIZ				S	Sg	21 19 38.1	-1.2
DNIZ				i AML	AML	21 19 40.0	
	comp=E,21nm,0.4s						
DNIZ				i AML	AML	21 19 41.0	
	comp=N,18nm,0.3s						
PASA	Karahalli, USA	0.45	37	P	Pb	21 19 36.9	-0.6
PASA				S	Sg	21 19 41.7	-0.1
TAVA	DENIZLI_Tavas	0.55	199	P	Pg	21 19 38.1	+0.3
MANT	Manisa	0.68	318	P	Pb	21 19 41.2	-0.2
MANT				S	Sg	21 19 49.8	+0.7

NEIC 27 21:21:15.9±2.5, 2°.21S±0°.09×138°.53E±0°.09, h10km±1km, mb4.6/31, Error ellipse: s-maj=17.4km s-min=12.5km az=46.0

IDC 27 21:21:19.1±0.8, 2°.66S×138°.35E, h0km, mb4.0/10, mbtmp4.1/13, ML4.3/2, MS3.6/11, Error ellipse: s-maj=32.7km s-min=12.4km az=86.0

DJA 27 21:21:27.3±0.4, 3°S±7°×13°9E±°, h43km±7km, M4.4/11, mb4.5/11, mB5.1/3, MLv4.3/6, Mw(mB)4.5/3, MwMwp4.8/1, Mwp5.1/1

ISC 27 21:21:19.2±0.6, 2°.27S±0°.08×138°.47E±0°.04, h32km, n70, σ2°.06/51, mb4.6/23, MS3.7/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	Genyem	1.72	101	P	Pb	21 21 50.4	+0.2
JAY	Jayapura	2.24	96	P	Pb	21 21 57.6	-1.5
RKPI	Ransiki, Papua	4.36	280	P	Pb	21 22 36.0	+0.9
KMPI	Kaimana, Papua	4.96	254	P	Pb	21 22 42.1	-3.2
	125nm,0.9s,1μm0.4nm						
FAKI	Fak Fak	6.25	264		Pn	21 22 48.8	-0.4
FAKI	Fak Fak	6.25	264	P	Pb	21 22 59.0	-8.3
	29nm,1.0s,0.1nm						
PMG	Port Moresby	11.17	130	Pn	Pn	21 23 54.1	-2.7
PMG	Port Moresby	11.17	130	Pn	Pn	21 24 01.8	+5.1
	0.6nm,0.3s,baz=266,slow=16,SNR=3.0						
NLAI	Namlea	11.40	265	P	Pn	21 24 11.5	+12
	15nm,0.9s,6μm						
COEN	Coen	12.51	158		Pn	21 24 14.5	-0.6
MTN	Manton Dam	12.77	214		Pn	21 24 19.5	+0.9
DAV	Davao City (W)	15.87	306	LR	LR	21 31 46.6	
	comp=Z,82nm,19.2s,baz=122,slow=39						
SOEI	Soe	15.96	242		Pn	21 25 01.1	-0.5
SOEI				IAmb	IAmb	21 25 22.1	
	comp=Z,33nm,0.8s						
SOEI	Soe	15.96	242	P	P	21 25 10.7	+5.8
	comp=Z,46nm,1.0s						
BBSI	Bau Bau	16.18	258	P	P	21 25 15.4	+8.1
	comp=Z,13nm,1.0s						
KNRA	Kununurra	16.40	215	Pn	Pn	21 25 05.4	-1.7
KNRA				IAmb	IAmb	21 25 42.7	
	comp=Z,32nm,1.2s						
BATI	Baumata	16.69	241	P	P	21 25 19.7	+6.8
	comp=Z,34nm,0.8s						
BATI	Baumata	16.69	241	Pn	P	21 25 12.5	-0.4
	comp=Z,4.0nm,0.3s,baz=332,slow=6.9,SNR=1.9						
	comp=Z,8.2nm,0.3s						
GUMO	Guam	16.99	22	LR	LR	21 31 39.8	
	comp=Z,85nm,21.4s,baz=208,slow=36						
MMRI	Maumere	17.35	248	Pn	Pn	21 25 16.7	-2.4
WB0	Warramunga Arr	17.84	193		Pn	21 25 23.8	-1.4
WR0	Warramunga Arr	18.00	192	P	Pn	21 25 25.9	-1.1
WRAB	Tennant Creek	18.01	193		Pn	21 25 24.6	-2.6
WRAB				IAmb	IAmb	21 25 38.6	
	comp=Z,17nm,0.8s						
WB2	Warramunga Arr	18.02	193	P	Pn	21 25 27.1	-0.2
WB2				IAmb	IAmb	21 25 40.5	
	comp=Z,21nm,0.8s						
WRA	Warramunga Arr	18.02	193	P	Pn	21 25 26.3	-1.1
WRA	Warramunga Arr	18.02	193	P	Pn	21 25 26.3	-1.1
	comp=Z,0.6nm,0.3s,baz=10,slow=13,SNR=8.4						
WRA				S	Sn	21 28 36.8	-11
	comp=Z,2.5nm,0.8s,baz=9.6,slow=21,SNR=7.0						
	comp=Z,3.2nm,0.8s						
CTA	Charters Tower	19.27	157	P	Pn	21 25 43.8	+1.3
	comp=Z,5.6nm,0.9s,baz=321,slow=12,SNR=3.5						
CTA				LR	LR	21 33 56.6	
	comp=Z,266nm,18.1s,baz=336,slow=40						
CTAO	Charters Tower	19.27	157	P	P	21 25 39.8	-1.5
AS31	Alice Springs	21.72	191	P	P	21 26 09.3	+1.4
ASAR	Alice Springs	21.72	191	P	P	21 26 08.4	+0.5
ASAR	Alice Springs	21.72	191	P	P	21 26 09.4	+1.5
	comp=Z,6.3nm,0.7s,baz=22,slow=10,SNR=56						
ASAR				S	S	21 30 04.7	-2.1
	comp=Z,2.3nm,0.8s,baz=15,slow=24,SNR=6.5						
ASAR				LR	LR	21 34 55.1	
	comp=Z,192nm,18.4s,baz=5.0,slow=38						
	comp=Z,6.3nm,0.7s						
JAGI	Jajag, Banyuwa	24.97	255	P	P	21 26 38.2	-2.0
JAGI				IAmb	IAmb	21 26 49.4	
	comp=Z,32nm,1.1s						
MBWA	Marble Bar	26.19	223	P	P	21 26 50.5	-0.6
MBWA				IAmb	IAmb	21 26 57.1	
	comp=Z,39nm,1.4s						
PSA00	Pilbara Seismi	26.39	222	P	P	21 26 53.0	0.0
PSA00				IAmb	IAmb	21 26 59.7	
	comp=Z,8.9nm,1.2s						
STKA	Stephens Creek	29.59	175	LR	LR	21 40 21.2	
	comp=Z,155nm,19.4s,baz=8.2,slow=39						
ARMA	Armidale	30.64	157	P	P	21 27 30.9	0.0
ARMA				IAmb	IAmb	21 28 04.6	
	comp=Z,13nm,1.4s						
SSLB	Suanglung	31.01	328	P	P	21 27 32.3	-1.7
KOUNC	Koumac, New Ca	31.05	128	P	P	21 27 31.6	-2.8
KOUNC				IAmb	IAmb	21 28 17.9	
	comp=Z,17nm,1.2s						
OUENC	Ouen Island, N	34.05	128	P	P	21 28 00.7	0.0
OUENC				IAmb	IAmb	21 28 08.0	
	comp=Z,8.6nm,1.0s						
HKPS	Hong Kong Po S	34.06	317	P	P	21 28 00.4	-0.3
MORW	Morawa	34.15	217	P	P	21 28 02.7	+1.2
MORW				IAmb	IAmb	21 28 46.5	
	comp=Z,16nm,1.1s						
JNU	Nakatsue	35.93	349	LR	LR	21 41 26.0	
	comp=Z,51nm,18.9s,baz=172,slow=33						
NWAO	Narrogin (SRO)	36.43	211	P	P	21 28 21.9	+0.9
NWAO	Narrogin (SRO)	36.43	211	LR	LR	21 44 55.9	
	comp=Z,205nm,20.2s,baz=74,slow=39						
RPSI	Rantau Prapat	39.84	277	P	P	21 28 50.5	+0.3
RPSI				IAmb	IAmb	21 29 02.1	
	comp=Z,15nm,1.4s						
GSI	Gunungsitoli	41.04	275	P	P	21 28 59.2	-0.8
GSI				IAmb	IAmb	21 29 14.3	
	comp=Z,25nm,1.2s						

comp=Z,2.4nm,0.7s
VNDA Vanda 76.23 175 P P 21 33 07.6 +3.6
comp=Z,2.1nm,0.6s,baz=324,slow=6.4,SNR=18
VNDA LR LR 22 06 38.9
comp=Z,81nm,19.2s,baz=359,slow=36
comp=Z,2.1nm,0.6s
L14K Kuka Creek 77.60 25 P P 21 33 11.6 -0.3
BVAR Borovoye Array 78.82 325 P P 21 33 25.7 +6.8
comp=Z,1.1nm,0.6s,baz=111,slow=6.6,SNR=6.9
comp=Z,1.1nm,0.6s
F15K North Star Dit 79.05 21 P P 21 33 20.0 +0.1
F15K IAmb IAmb 21 33 26.2
comp=Z,22nm,1.3s
N17K Nushagak Hills 79.64 27 P P 21 33 22.1 -1.1
N17K IAmb IAmb 21 33 32.4
comp=Z,9.9nm,1.1s
P18K Big Mountain, 80.11 28 P P 21 33 25.1 -0.8
SVW2 Sparrevohn 80.59 27 P P 21 33 28.1 -0.3
SVW2 IAmb IAmb 21 33 29.7
comp=Z,21nm,1.4s
ILSW Iliamna Southw 81.31 28 P P 21 33 31.4 -1.0
CNPM China Poot 82.08 29 P P 21 33 35.7 -0.6
MAW Mawson 82.44 202 LR LR 22 06 33.7
comp=Z,40nm,20.6s,baz=28,slow=33
ILAR Eielson Array 85.53 24 P P 21 33 59.3 +5.4
comp=Z,0.7nm,0.7s,baz=257,slow=4.5,SNR=7.3
comp=Z,0.7nm,0.7s
QSPA South Pole Qui 87.67 180 P P 21 34 08.4 +4.0
comp=Z,4.3nm,0.7s,baz=315,slow=0.8,SNR=20
comp=Z,4.3nm,0.7s
TORD Torodi Ar. Bea 135.91 287 PKP **PKiKP 21 40 42.7 +3.1**
comp=Z,0.3nm,0.9s,baz=46,slow=4.2,SNR=1.8
LPAZ La Paz 147.89 126 PKPbc **PKPab 21 41 06.9 +1.4**
comp=Z,0.8nm,0.5s,baz=138,slow=18,SNR=1.8

---

*TEH **27** 21:32:03.4, 39°.28N×54°.71E, h10km, ML4.2*
*MOS **27** 21:32:04.0±1.2, 39°.42N×54°.87E, h28km, mb5.0/5, Error ellipse: s-maj=8.1km s-min=4.7km az=35.3*
*IDC **27** 21:32:05.2±1.1, 39°.50N×54°.35E, h0km, mb3.8/13, mbtmp4.0/22, ML4.2/8, MS3.1/11, Error ellipse: s-maj=16.6km s-min=9.9km az=170.0*
*NEIC **27** 21:32:06.3±1.7, 39°.40N±0°.10×54°.88E±0°.09, h30km±7km, mb4.4/17, Error ellipse: s-maj=14.4km s-min=9.2km az=199.0*
*AZER **27** 21:32:12.8±0.9, 39°.06N×54°.19E, h29km, Error ellipse: s-maj=9.1km s-min=6.3km az=17.0*
*NNC **27** 21:32:13.9±5.3, 39°.90N×55°.36E, h14km±172km, mb4.0, Error ellipse: s-maj=196.9km s-min=19.3km az=40.0*
ISC 27 21:32:06.3±0.5, 39°.42N±0°.05×54°.76E±0°.04, h29km, n265, σ2§07/308, mb4.1/24, MS3.0/5, 18C-24D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**2.05 149**		Pn	**Pn**	**21 32 38.7**	**-0.1**
IMND	**Minoodasht**	**2.22 166**		Pn	**Pn**	**21 32 40.9**	**-0.3**
IGLO	**Ghaloghah**	**3.01 194**		Pn	**Pn**	**21 32 51.2**	**-1.0**
GEYT	**Alibeck**	**3.02 119**		Pn	**Pn**	**21 32 51.3**	**-1.0**
GEYT	**Alibeck**	**3.02 119**		P	**Pn**	**21 32 51.3**	**-1.0**
GEYT	**Alibeck**	**3.02 119**		Pn	**Pn**	**21 32 51.7**	**-0.6**
	11nm,0.3s,baz=306,slow=16,SNR=130						
GEYT				Sn	**Sb**	**21 33 41.5**	**+5.5**
	45nm,0.3s,baz=26,slow=44,SNR=2.0						
GEYT				LR	LR	21 34 23.5	
	comp=Z,169nm,20.8s,baz=354,slow=41						
GYA0B	**ALIBECK ARRAY**	**3.02 119**		Pn	**Pn**	**21 32 51.5**	**-0.7**
IKIA	**Kiasar**	**3.32 195**		Pn	**Pn**	**21 32 56.1**	**-0.5**
ISFR	**Sfrayin**	**3.48 132**		Pn	**Pn**	**21 32 59.2**	**+0.4**
IEMG	**Emamgholi**	**3.66 122**		Pn	**Pn**	**21 33 01.0**	**-0.2**
IPRN	**Peran**	**3.71 212**		Pn	**Pn**	**21 33 00.7**	**-1.0**
SBZV	**Sabzevar**	**3.78 142**		Pn	**Pn**	**21 33 02.8**	**0.0**
ISHM	**Shahmirzad**	**3.79 198**		Pn	**Pn**	**21 33 02.9**	**-0.1**
NDR	**Nardaran**	**3.84 289**		P	**Pn**	**21 33 06.9**	**+3.4**
	SNR=22						
NDR				S	**Sn**	**21 33 49.0**	**+1.5**
NDR	**Nardaran**	**3.84 289**		Pn	**Pn**	**21 33 06.8**	**+3.4**
MZPU	**Pul - Mazandar**	**3.90 221**		Pn	**Pn**	**21 33 03.6**	**-0.9**
GOBA	**Gobu**	**3.98 286**		P	**Pn**	**21 33 10.0**	**+4.6**
GOBA				S	**Sn**	**21 33 51.7**	**+0.6**
GOBA	**Gobu**	**3.98 286**		Pn	**Pn**	**21 33 10.0**	**+4.6**
IFIR	**Firoozkooh**	**4.10 203**		Pn	**Pn**	**21 33 07.3**	**+0.1**
KLST	**Kelardasht - M**	**4.12 226**		Pn	**Pn**	**21 33 06.3**	**-1.2**
IAKL	**Akhelmad**	**4.23 130**		Pn	**Pn**	**21 33 09.4**	**+0.3**
ILAS	**Lasjerd**	**4.28 200**		Pn	**Pn**	**21 33 09.8**	**0.0**
LHJ2	**Lahijan - Gila**	**4.33 240**		Pn	**Pn**	**21 33 08.8**	**-1.2**
ALIB	**Äli-Bayra**	**4.47 279**		P	**Pn**	**21 33 15.9**	**+3.9**
	SNR=6.0						
ALIB				S	**Sn**	**21 34 03.1**	**+0.1**
ALIB	**Äli-Bayra**	**4.47 279**		Pn	**Pn**	**21 33 15.9**	**+3.9**
IPAY	**Payeh**	**4.48 130**		Pn	**Pn**	**21 33 12.5**	**+0.1**
IKRD	**Kardeh**	**4.59 124**		Pn	**Pn**	**21 33 14.1**	**+0.1**
GBS	**Qobustan**	**4.60 286**		P	**Pn**	**21 33 17.3**	**+3.3**
	SNR=21						
GBS				S	**Sn**	**21 34 08.7**	**+2.3**
GBS	**Qobustan**	**4.60 286**		Pn	**Pn**	**21 33 17.2**	**+3.3**
ATGJ	**Altiaghaj**	**4.68 290**		P	**Pn**	**21 33 17.7**	**+2.6**
	SNR=6.8						
ATGJ				S	**Sn**	**21 34 11.5**	**+2.9**
ATGJ	**Altiaghaj**	**4.68 290**		Pn	**Pn**	**21 33 17.7**	**+2.6**
IGZV	**Ghazvin**	**4.70 231**		Pn	**Pn**	**21 33 15.3**	**-0.1**
LKRN	**Lenkeran, Azer**	**4.71 263**		P	**Pn**	**21 33 14.3**	**-1.0**
	SNR=11						
LKRN				S	**Sn**	**21 34 04.6**	**-4.3**
ASTR	**Astara**	**4.73 261**		P	**Pn**	**21 33 15.2**	**-0.5**
	SNR=12						
ASTR				S	**Sn**	**21 34 04.1**	**-5.3**
ASTR	**Astara**	**4.73 261**		Pn	**Pn**	**21 33 15.1**	**-0.5**
GAS1	**Astara - Iran**	**4.73 259**		Pn	**Pn**	**21 33 14.4**	**-1.2**
JIR1	**Jirandeh**	**4.76 237**		Pn	**Pn**	**21 33 15.1**	**-1.1**
SIZA	**Siyzn**	**4.78 292**		P	**Pn**	**21 33 19.2**	**+2.8**
	SNR=47						
SIZA				S	**Sn**	**21 34 12.4**	**+1.7**
IHSB	**Hasanabad**	**4.85 216**		Pn	**Pn**	**21 33 17.9**	**+0.5**
IMOG	**Moghan**	**4.91 131**		Pn	**Pn**	**21 33 18.0**	**-0.4**
PQL	**Pirkuli**	**4.92 288**		P	**Pn**	**21 33 20.7**	**+2.3**
	SNR=9.8						
PQL				S	**Sn**	**21 34 15.0**	**+0.6**
GLBA	**Cliilabad**	**4.94 270**		P	**Pn**	**21 33 19.2**	**+0.7**
	SNR=37						
GLBA				S	**Sn**	**21 34 12.0**	**-2.6**
IMHD	**Mahdasht**	**4.95 222**		Pn	**Pn**	**21 33 19.0**	**+0.2**
IVRN	**Varamin**	**5.04 210**		Pn	**Pn**	**21 33 20.5**	**+0.5**
LRK	**Lerik**	**5.06 263**		P	**Pn**	**21 33 19.1**	**-1.2**
	SNR=25						
LRK				S	**Sn**	**21 34 13.3**	**-4.5**
YRD	**Yardimli**	**5.09 266**		P	**Pn**	**21 33 21.1**	**+0.3**
	SNR=18						
YRD				S	**Sn**	**21 34 13.9**	**-4.7**
KDMR	**Kurdemir**	**5.14 283**		P	**Pn**	**21 33 23.6**	**+2.3**
	SNR=27						
KDMR				S	**Sn**	**21 34 19.6**	**0.0**
QUBA	**Quba, Azerbaij**	**5.16 294**		P	**Pn**	**21 33 24.3**	**+2.7**
QUBA				S	**Sn**	**21 34 21.7**	**+1.6**
IML	**Ismayilli**	**5.22 287**		P	**Pn**	**21 33 24.4**	**+1.9**
	SNR=14						
IML				S	**Sn**	**21 34 21.1**	**-0.6**
IML	**Ismayilli**	**5.22 287**		Pn	**Pn**	**21 33 24.3**	**+1.9**
IMYA	**Miami**	**5.23 124**		Pn	**Pn**	**21 33 22.5**	**-0.2**
QSDN	**Sirdan**	**5.29 238**		Pn	**Pn**	**21 33 23.2**	**-0.3**
XNQ	**Khinaliq**	**5.35 291**		P	**Pn**	**21 33 26.2**	**+1.9**
	SNR=7.3						
XNQ				S	**Sn**	**21 34 26.0**	**+0.9**
TBHD	**Torbat heydari**	**5.36 137**		Pn	**Pn**	**21 33 25.1**	**+0.6**
GRMI	**Germi**	**5.37 266**		Pn	**Pn**	**21 33 24.1**	**-0.5**
QSAR	**Qusar**	**5.37 295**		P	**Pn**	**21 33 26.8**	**+2.3**
	SNR=27						
QSAR				S	**Sn**	**21 34 26.7**	**+1.3**
IQOM	**Qom**	**5.44 214**		Pn	**Pn**	**21 33 26.3**	**+0.6**
ISFB	**Sefidab**	**5.45 202**		Pn	**Pn**	**21 33 25.8**	**+0.2**
ZRD	**Zardab**	**5.51 281**		P	**Pn**	**21 33 28.7**	**+2.4**
	SNR=116						
ZRD				S	**Sn**	**21 34 28.5**	**-0.2**
QBL	**Gabala**	**5.51 288**		P	**Pn**	**21 33 27.8**	**+1.3**
	SNR=31						
QBL				S	**Sn**	**21 34 26.6**	**-2.2**
IRAZ	**Razeghan**	**5.55 225**		Pn	**Pn**	**21 33 27.3**	**+0.1**
BLQ	**Beylaqan**	**5.57 275**		P	**Pn**	**21 33 27.9**	**+0.7**
	SNR=5.7						
BLQ				S	**Sn**	**21 34 26.3**	**-3.9**
TNSJ	**Nastanj**	**5.65 164**		Pn	**Pn**	**21 33 28.2**	**-0.2**
QRD	**Qoradiz**	**5.76 273**		P	**Pn**	**21 33 30.2**	**+0.5**
	SNR=13						
QRD				S	**Sn**	**21 34 30.9**	**-3.9**
KRSH	**Karshahi**	**5.84 202**		Pn	**Pn**	**21 33 30.9**	**-0.2**
BRDA	**Brd**	**5.89 281**		P	**Pn**	**21 33 33.6**	**+2.0**
	SNR=21						
BRDA				S	**Sn**	**21 34 37.8**	**-0.3**
AGDM	**Agdam**	**5.93 279**		P	**Pn**	**21 33 33.0**	**+0.8**
	SNR=36						
AGDM				S	**Sn**	**21 34 36.7**	**-2.4**
MNGR	**Mingechevir, A**	**6.03 285**		P	**Pn**	**21 33 35.7**	**+2.1**
	SNR=8.9						
MNGR				S	**Sn**	**21 34 40.3**	**-1.3**
MNGR	**Mingechevir, A**	**6.03 285**		Pn	**Pn**	**21 33 35.6**	**+2.1**
SEKA	**Sheki**	**6.04 290**		P	**Pn**	**21 33 35.5**	**+1.7**
	SNR=24						
SEKA				S	**Sn**	**21 34 40.2**	**-1.8**
TBJM	**Torbat-e-JAM**	**6.08 131**		Pn	**Pn**	**21 33 34.2**	**-0.1**
TKDS	**Koohdasht(Taba**	**6.10 161**		Pn	**Pn**	**21 33 35.1**	**+0.4**
IHRS	**Heris**	**6.12 262**		Pn	**Pn**	**21 33 36.2**	**+1.2**
ANAR	**Anarak**	**6.28 188**		Pn	**Pn**	**21 33 37.0**	**-0.1**
QAMS	**Qamsar**	**6.29 206**		Pn	**Pn**	**21 33 37.1**	**-0.2**
TPRV	**Parvadeh(Tabas**	**6.57 166**		Pn	**Pn**	**21 33 40.6**	**-0.5**
ZKTA	**Zakatala**	**6.58 292**		P	**Pn**	**21 33 43.2**	**+2.1**
	SNR=6.8						
ZKTA				S	**Sn**	**21 34 54.8**	**-0.3**
GANJ	**Ganja**	**6.59 283**		P	**Pn**	**21 33 41.4**	**+0.3**
	SNR=5.0						
GANJ				S	**Sn**	**21 34 51.5**	**-3.8**
IKLH	**Kolahrood**	**6.61 204**		Pn	**Pn**	**21 33 41.9**	**+0.2**
IZEF	**Zefreh**	**6.80 197**		Pn	**Pn**	**21 33 43.8**	**-0.6**
ITBZ	**Tabriz**	**6.83 263**		Pn	**Pn**	**21 33 45.0**	**+0.3**
ORD	**Ordubad**	**6.83 269**		P	**Pn**	**21 33 45.8**	**+1.3**
	SNR=11						
ORD				S	**Sn**	**21 34 56.8**	**-4.4**
DDFL	**Dedoflistskaro**	**6.89 290**		P	**Pn**	**21 33 49.2**	**+3.8**
DDFL	**Dedoflistskaro**	**6.89 290**		P	**Pn**	**21 33 49.2**	**+3.8**
AFRZ	**Afriz**	**6.90 149**		Pn	**Pn**	**21 33 45.7**	**+0.1**
LGD	**Lagodekhi**	**6.91 293**		P	**Pn**	**21 33 47.9**	**+2.3**
LGD	**Lagodekhi**	**6.91 293**		P	**Pn**	**21 33 47.8**	**+2.3**
GDB	**GEDABAY**	**7.03 283**		P	**Pn**	**21 33 47.6**	**+0.2**
	SNR=138						
GDB				S	**Sn**	**21 35 01.5**	**-4.8**
IMRD	**Marand**	**7.08 267**		Pn	**Pn**	**21 33 49.5**	**+1.4**
SBZ	**Shahbuz**	**7.13 273**		P	**Pn**	**21 33 50.2**	**+1.5**
	SNR=6.6						
SBZ				S	**Sn**	**21 35 05.7**	**-3.0**
HSAM	**Samen**	**7.17 225**		Pn	**Pn**	**21 33 50.5**	**+1.1**
ICHK	**Chekchek**	**7.17 182**		Pn	**Pn**	**21 33 49.6**	**+0.2**
NAX	**Nakhchivan**	**7.19 271**		P	**Pn**	**21 33 49.1**	**-0.4**
NAX				S	**Sn**	**21 35 07.6**	**-2.5**
ITEG	**Tejag**	**7.27 152**		Pn	**Pn**	**21 33 51.4**	**+0.7**
SHRT	**Shahrakht**	**7.29 141**		Pn	**Pn**	**21 33 49.8**	**-1.1**
QZX	**Qazax, Azerbai**	**7.36 286**		P	**Pn**	**21 33 52.5**	**+0.7**
	SNR=9.8						
QZX				S	**Sn**	**21 35 12.0**	**-2.4**
IMON	**Monand**	**7.37 146**		Pn	**Pn**	**21 33 53.3**	**+1.1**
DGRG	**David-gareji**	**7.44 289**		P	**Pn**	**21 33 54.4**	**+1.5**
DGRG	**David-gareji**	**7.44 289**		P	**Pn**	**21 33 54.4**	**+1.5**
ISAD	**Sadrabad**	**7.54 187**		Pn	**Pn**	**21 33 54.4**	**-0.2**
HYR	**Heyderabad**	**7.66 275**		P	**Pn**	**21 33 58.7**	**+2.8**
HYR				S	**Sn**	**21 35 22.4**	**+0.7**
GNI	**Garni**	**7.75 279**		Pn	**Pn**	**21 33 58.8**	**+1.6**
GNI	**Garni**	**7.75 279**		Pn	**Pn**	**21 33 58.7**	**+1.4**
	2.9nm,0.3s,baz=42,slow=3.5,SNR=21						
GNI				Sn	**Sn**	**21 35 21.2**	**-2.9**
	0.8nm,0.3s,baz=142,slow=23,SNR=1.7						
	8.9nm,0.4s						
IKOO	**Kooshah**	**7.79 152**		Pn	**Pn**	**21 33 57.9**	**0.0**
MAKU	**Maku**	**7.80 273**		Pn	**Pn**	**21 33 59.3**	**+1.3**
HRA	**Herat**	**7.83 128**			**Pn**	**21 33 57.0**	**-1.4**
IRAM	**Ramesheh**	**7.84 195**		Pn	**Pn**	**21 33 59.2**	**+0.6**
IBAF	**Bafgh**	**7.84 175**		Pn	**Pn**	**21 33 59.0**	**+0.4**
IDAH	**Dahanechah**	**7.85 147**		Pn	**Pn**	**21 33 58.2**	**-0.5**
SHTL	**Shatili**	**7.94 297**		P	**Pn**	**21 34 02.3**	**+2.3**
SHTL	**Shatili**	**7.94 297**		P	**Pn**	**21 34 02.2**	**+2.3**
IMEH	**Mehriz**	**8.02 181**		Pn	**Pn**	**21 34 01.3**	**+0.3**
BSRN	**Basiran**	**8.25 153**		Pn	**Pn**	**21 34 03.6**	**-0.5**
DMNI	**Dmanisi**	**8.29 287**		P	**Pn**	**21 34 05.7**	**+1.0**
DMNI	**Dmanisi**	**8.29 287**		P	**Pn**	**21 34 05.6**	**+1.0**
TRLG	**Trialeti**	**8.39 288**		P	**Pn**	**21 34 06.8**	**+0.7**
TRLG				S	**Sn**	**21 35 35.1**	**-4.8**
TRLG	**Trialeti**	**8.39 288**		P	**Pn**	**21 34 06.7**	**+0.7**
TRLG				S	**Sn**	**21 35 35.0**	**-4.8**
KLNJ	**Kolanjah**	**8.79 198**		Pn	**Pn**	**21 34 12.3**	**+0.7**
AKH	**Akhalkalaki**	**8.82 287**			**Pn**	**21 34 11.9**	**0.0**
AKH	**Akhalkalaki**	**8.82 287**		*e*P	**Pn**	**21 34 13.7**	**+1.8**
ALIG	**Mtskhetisjvari**	**8.84 291**		P	**Pn**	**21 34 12.7**	**+0.5**
ALIG	**Mtskhetisjvari**	**8.84 291**		P	**Pn**	**21 34 12.6**	**+0.5**
KARS	**Kars**	**9.04 281**		Pn	**Pn**	**21 34 15.8**	**+0.8**
KARS	**Kars**	**9.04 281**		P	**Pn**	**21 34 15.8**	**+0.8**
ONI	**Oni**	**9.11 294**			**Pn**	**21 34 17.1**	**+1.3**
ONI	**Oni**	**9.11 294**		*e*P	**Pn**	**21 34 17.1**	**+1.3**
NCK	**Nalchik**	**9.31 299**		*ce*P	**Pn**	**21 34 19.7**	**+1.2**
SIRT	**Sirnak**	**9.85 263**		Pn	**Pn**	**21 34 26.1**	**+0.1**
KBZ	**Khabaz**	**9.87 300**		Pn	**Pn**	**21 34 24.6**	**-1.5**
	1.3nm,0.3s,baz=90,slow=6.3,SNR=27						
KBZ				Sn	**Sn**	**21 36 10.3**	**-5.5**
	0.7nm,0.3s,baz=287,slow=17,SNR=1.4						
	2.9nm,0.3s						
KVAR	**Kislovodsk Arr**	**10.09 301**		Pn	**Pn**	**21 34 28.4**	**-0.9**
	baz=291,slow=23						
KVAR				Sn	Sn	21 36 14.5	-7.0
	baz=184,slow=14						
	3.0nm,0.4s						
KIV	**Kislovodsk**	**10.10 301**		⇑P	**Pn**	**21 34 29.5**	**+0.2**
KIV	**Kislovodsk**	**10.10 301**		Pn	**Pn**	**21 34 29.2**	**-0.2**
KIV	**Kislovodsk**	**10.10 301**		*e*P	**Pn**	**21 34 29.0**	**-0.4**
KIV				*e*S	**Sn**	**21 36 21.7**	**+0.1**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,11nm,12.0s						
AB31	**Akbulak array**	**10.51 19**		Pn	**Pn**	**21 34 36.1**	**+1.3**
	comp=Z,1.9nm,0.2s,baz=202,slow=13,SNR=244						
AB31				⇓Sn	**Sn**	**21 36 29.2**	**-2.2**
	comp=Z,12nm,0.6s,baz=176,slow=12,SNR=11						
ABKAR	**Akbulak array**	**10.51 19**		Pn	**Pn**	**21 34 36.0**	**+1.2**
ABKAR	**Akbulak array**	**10.51 19**		Pn	**Pn**	**21 34 35.9**	**+1.0**
AKTO	**Aktyubinsk**	**11.25 11**		⇓Pn	**Pn**	**21 34 47.2**	**+2.2**
	comp=Z,6.4nm,0.6s						
AKTO				⇓Sn	**Sn**	**21 36 46.3**	**-3.4**
	comp=Z,7.8nm,0.6s						
AKTO	**Aktyubinsk**	**11.25 11**		Pn	**Pn**	**21 34 45.2**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=190,slow=5.7,SNR=14						
AKTO				Sn	**Sn**	**21 36 45.7**	**-4.0**
	comp=Z,1.9nm,0.3s,baz=232,slow=22,SNR=3.6						
AKTO				LR	LR	21 40 20.8	
	comp=Z,85nm,18.7s,baz=228,slow=44						
	comp=Z,1.4nm,0.3s						
BTK	**Batken**	**12.38 82**			**Pn**	**21 34 59.2**	**-1.5**
BTK	**Batken**	**12.38 82**		P	**Pn**	**21 34 59.2**	**-1.5**
KK31	**Karatay Array**	**12.41 68**		⇓Pn	**Pn**	**21 35 02.5**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=250,slow=14,SNR=8.0						
KK31				⇓Sn	**Sn**	**21 37 14.0**	**-4.3**
	comp=Z,3.0nm,0.6s,baz=245,slow=15,SNR=6.6						
KK31	**Karatay Array**	**12.41 68**		Pn	**Pn**	**21 34 58.4**	**-2.6**
KK31	**Karatay Array**	**12.41 68**		P	**Pn**	**21 34 58.4**	**-2.6**
KKAR	**Karatay Array**	**12.41 68**			**Pn**	**21 34 57.2**	**-3.8**
KKAR	**Karatay Array**	**12.41 68**			**Pn**	**21 34 59.0**	**-2.0**
KKAR	**Karatay Array**	**12.41 68**		P	**Pn**	**21 34 59.0**	**-2.0**
BELG	**Belogornoye**	**13.88 342**		*c i*P	**Pn**	**21 35 21.1**	**+0.3**
BELG	**Belogornoye**	**13.88 342**		Pn	**Pn**	**21 35 19.8**	**-1.0**
	comp=Z,2.4nm,0.3s,baz=285,slow=1.9,SNR=8.8						
BELG				Sn	**Sn**	**21 37 48.5**	**-5.3**
	comp=Z,1.4nm,0.3s,baz=212,slow=22,SNR=3.2						
BELG				LR	LR	21 42 18.7	
	comp=Z,36nm,20.1s,baz=86,slow=45						
	comp=Z,6.1nm,0.4s						
ANN	**Anapa**	**13.93 298**		*e*P	**Pn**	**21 35 19.8**	**-1.8**
ANN				*e*S	**Sn**	**21 37 53.9**	**-1.2**
ANN				pmax	pmax		
	comp=Z,36nm,0.8s						
ARSB	**Arslanbob**	**14.03 76**			**Pn**	**21 35 21.3**	**-1.8**
ARSB	**Arslanbob**	**14.03 76**		P	**Pn**	**21 35 21.3**	**-1.8**
AML	**Almayashu**	**14.60 73**		⇓P	**P**	**21 35 33.8**	**-3.6**
	comp=Z,0.2nm,0.5s						
VRH	**Novokhopyorsk**	**14.90 327**		*e*P	**Pn**	**21 35 33.0**	**-1.7**
VRH				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AAK	**Ala-Archa**	**15.24 71**		Pn	**P**	**21 35 48.0**	**+3.8**
	comp=Z,0.4nm,0.3s,baz=57,slow=22,SNR=2.7						
OTUK	**Ortayu**	**15.42 49**		⇓P	**Pn**	**21 35 39.9**	**-1.8**
	comp=Z,1.5nm,0.4s						
VORD	**Divnogorie**	**15.84 322**		*e*P	**Pn**	**21 35 43.8**	**-3.2**
VORD				pmax	pmax		
	comp=Z,7.0nm,0.4s						
VSR	**Storozhevoye**	**16.06 322**		*e*P	**Pn**	**21 35 46.6**	**-3.3**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
BR131	**Keskin Array S**	**16.29 278**		⇓*i*P	**Pn**	**21 35 54.4**	**+1.4**
BRTR	**Keskin Array B**	**16.29 278**		Pn	**Pn**	**21 35 53.8**	**+0.8**
BRTR	**Keskin Array B**	**16.29 278**		*e*P	**Pn**	**21 35 54.6**	**+1.6**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**16.29 278**		Pn	**Pn**	**21 35 53.7**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=96,slow=11,SNR=7.8						
WSAR	**Wadi Sarin**	**16.47 167**		Pn	**P**	**21 35 57.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=54,slow=12,SNR=4.0						
	comp=Z,1.6nm,0.6s						
LPSR	**Galich'ya Gora**	**17.11 326**		*e*P	**Pn**	**21 36 02.6**	**-0.5**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
ARU	**Arti**	**17.20 7**		P	**Pn**	**21 36 04.5**	**+0.3**
ARU				IAmb	IAmb	21 36 19.4	
	comp=Z,9.3nm,0.6s						
ARU	**Arti**	**17.20 7**		P	**Pn**	**21 36 03.6**	**-0.6**
ARU				S	**Sn**	**21 39 13.6**	**-0.9**
ARU	**Arti**	**17.20 7**		P	**Pn**	**21 36 03.7**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=170,slow=11,SNR=7.0						
ARU				S	Sn	21 38 58.0	-17
	comp=Z,1.1nm,0.4s,baz=320,slow=21,SNR=1.5						
ARU				LR	LR	21 44 01.0	
	comp=Z,88nm,18.6s,baz=216,slow=42						
BRVK	**Borovoye**	**17.30 33**		P	**P**	**21 36 06.9**	**+0.1**
BRVK	**Borovoye**	**17.30 33**		P	**P**	**21 36 06.9**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BVA0	**Borovoye Array**	**17.32 33**		P	**Pn**	**21 36 05.2**	**-0.7**
	comp=Z,5.4nm,1.0s,baz=228,slow=11,SNR=9.5						
BVAR	**Borovoye Array**	**17.32 33**		P	**P**	**21 36 06.3**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=230,slow=11,SNR=12						
BVAR				S	**Sn**	**21 39 07.6**	**-10**
	comp=Z,1.7nm,0.4s,baz=229,slow=26,SNR=4.6						
BVAR				LR	LR	21 43 50.1	
	comp=Z,66nm,19.5s,baz=208,slow=40						
KIRV	**Kirov**	**19.48 352**		⇑*e*P	**P**	**21 36 31.6**	**+1.0**
KIRV	**Kirov**	**19.48 352**		P	**P**	**21 36 31.2**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=114,slow=0.4,SNR=7.6						
KIRV				LR	LR	21 45 34.4	
	comp=Z,39nm,18.4s,baz=183,slow=42						
	comp=Z,8.3nm,0.6s						
ELL	**Elmali**	**19.73 270**		P	**P**	**21 36 34.5**	**+0.9**
ELL				IAmb	IAmb	21 36 36.9	
	comp=Z,24nm,0.7s						
ELL	**Elmali**	**19.73 270**		P	**P**	**21 36 34.6**	**+0.9**
ELL				pmax	pmax		
	comp=Z,24nm,0.7s						
OBN	**Obninsk**	**19.87 328**		P	**P**	**21 36 35.4**	**+0.5**
OBN				IAmb	IAmb	21 36 38.3	
	comp=Z,28nm,1.3s						
OBN	**Obninsk**	**19.87 328**		*i* P	**Pn**	**21 36 36.6**	**0.0**
OBN				pmax	pmax		
	comp=Z,22nm,1.3s						
OBN	**Obninsk**	**19.87 328**		P	**P**	**21 36 34.4**	**-0.5**
	comp=Z,4.7nm,0.3s,baz=130,slow=23,SNR=3.1						
	comp=Z,10nm,0.3s						
TLCR		**19.99 295**		⇑P	**P**	**21 36 36.9**	**+0.6**
TLCR		**19.99 295**		P	**P**	**21 36 36.9**	**+0.6**
KURBB	**Kurchatov Arra**	**20.10 48**		P	Pn	21 36 42.8	+3.3
	comp=Z,0.5nm,0.3s,baz=283,slow=8.7,SNR=4.5						
	comp=Z,0.5nm,0.3s						
KURK	**Kurchatov**	**20.19 48**		P	Pn	21 36 42.8	+2.3
TIRR	**Tirgusor**	**20.19 293**		⇓P	**P**	**21 36 39.9**	**+1.4**
TIRR	**Tirgusor**	**20.19 293**		P	**P**	**21 36 39.9**	**+1.4**
TPGR	**Topolog**	**20.23 294**		⇓P	**P**	**21 36 39.6**	**+0.7**
MILM	**Milestii Mici**	**20.29 300**	

FINES	**FINESS Array B**	**28.21**	**331**	*e*P	**P**	**21 37 58.6**	**+2.4**
FINES				pmax	pmax		
comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**28.21**	**331**	P	**P**	**21 37 56.5**	**+0.4**
comp=Z,1.3nm,0.6s,baz=147,slow=10,SNR=11							
comp=Z,1.3nm,0.6s							
GERES	**GERESS Array B**	**30.61**	**302**	P	**P**	**21 38 18.3**	**+0.6**
comp=Z,0.5nm,0.5s,baz=114,slow=13,SNR=3.2							
comp=Z,0.5nm,0.5s							
HFS	**Hagfors**	**32.87**	**323**	P	**P**	**21 38 38.5**	**+1.2**
comp=Z,1.2nm,0.3s,baz=103,slow=9.0,SNR=22							
comp=Z,1.2nm,0.3s							
ARCES	**ARCESS Array B**	**33.92**	**342**	P	**P**	**21 38 48.6**	**+2.2**
comp=Z,0.7nm,0.3s,baz=140,slow=10.0,SNR=17							
ARCES				LR	LR	21 52 49.3	
comp=Z,39nm,19.4s,baz=329,slow=37							
comp=Z,0.7nm,0.3s							
NB2	**NORSAR Subarra**	**34.33**	**324**	P	**P**	**21 38 51.6**	**+1.5**
comp=Z,0.3nm,0.3s,baz=108,slow=9.3							
NOA	**NORSAR Array B**	**34.33**	**324**	P	**P**	**21 38 51.0**	**+0.9**
NOA	**NORSAR Array B**	**34.33**	**324**	P	**P**	**21 38 51.0**	**+0.9**
comp=Z,1.8nm,0.9s,baz=129,slow=7.5,SNR=4.3							
NOA				LR	LR	21 54 24.6	
comp=Z,27nm,18.1s,baz=275,slow=39							
comp=Z,1.8nm,0.9s							
PZH	**PanZhiHua**	**41.04**	**94**	P	**P**	**21 39 48.0**	**+0.7**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,90nm,5.0s							
EKA	**Eskdalemuir Ar**	**41.05**	**313**	P	**P**	**21 39 47.3**	**+0.5**
comp=Z,0.8nm,0.4s,baz=95,slow=8.3,SNR=7.0							
comp=Z,0.8nm,0.4s							
HHC	**Hu-ho-hao-te**	**42.80**	**69**	*e*P	**P**	**21 40 02.0**	**+0.5**
HHC				pmax	pmax		
comp=Z,21nm,0.5s							
HHC				pmax	pmax		
comp=Z,200nm,6.0s							
ESDC	**Sonseca Array**	**44.55**	**290**	P	**P**	**21 40 16.2**	**+0.6**
comp=Z,0.4nm,0.5s,baz=69,slow=7.8,SNR=2.9							
comp=Z,0.4nm,0.5s							
USA0B	**Ussuriysk Arra**	**55.77**	**58**	P	**P**	**21 41 38.7**	**-1.7**
USA0B				IAmb	IAmb	21 41 40.6	
comp=Z,5.6nm,0.7s							
USA0B	**Ussuriysk Arra**	**55.77**	**58**	P	**P**	**21 41 38.7**	**-1.7**
USA0B				pmax	pmax		
comp=Z,6.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**55.77**	**58**	P	**P**	**21 41 39.1**	**-1.3**
USRK	**Ussuriysk Ar.**	**55.77**	**58**	P	**P**	**21 41 39.1**	**-1.3**
KS19	**Wonju Array Si**	**55.78**	**67**	P	**P**	**21 41 38.5**	**-2.1**
KSAR	**Wonju Array Be**	**55.82**	**67**	P	**P**	**21 41 39.4**	**-1.4**
KSAR	**Wonju Array Be**	**55.82**	**67**	P	**P**	**21 41 39.4**	**-1.4**
RES	**Resolute Bay**	**64.40**	**351**	LR	LR	22 15 16.5	
comp=Z,46nm,18.6s,baz=13,slow=40							
ILAR	**Eielson Array**	**74.76**	**9**	P	**P**	**21 43 45.2**	**+2.1**
comp=Z,0.2nm,0.7s,baz=342,slow=6.4,SNR=2.8							
comp=Z,0.2nm,0.7s							
WRA	**Warramunga Arr**	**94.74**	**112**	P	P	21 45 30.7	+5.5
comp=Z,0.2nm,0.8s,baz=320,slow=4.0,SNR=1.6							
comp=Z,0.2nm,0.8s							

DJA 27 21:47:10.5±0.4, 10°S±3°×12°2E±°, h10km, M3.5/10, MLv3.5/10, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.78**	**348**	P	Pg	21 47 25.7	+0.1
EDFI				S	Sb	21 47 37.1	+0.1
MMRI	**Maumere**	**0.96**	**24**	P	Pg	21 47 28.2	-0.8
BASI	**Baing, Sumba**	**1.43**	**241**	P	Pn	21 47 34.5	-2.1
BATI	**Baumata**	**1.91**	**111**	P	Pn	21 47 43.8	+0.6
SOEI	**Soe**	**2.40**	**96**	P	Pn	21 47 51.3	+1.4
PLAI	**Plampang**	**4.08**	**279**	P	Pn	21 48 13.5	+0.5
BKSI	**Bulukumba**	**4.51**	**338**	P	Pn	21 48 20.5	+1.6
TWSI	**Taliwang, Sumb**	**4.97**	**279**	P	Pn	21 48 25.1	-0.1

*ATH **27** 21:54:08.8, 35°.23N×27°.20E, h8km±6km, ML2.9/3, Manual Solution by A.Fokaefs First location: 2019/04/19 07:15:08, This location: 2019/04/19 07:14:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 9 km; Longitude uncertainty: 9 km*

*AFAD **27** 21:54:14.5±0.0, 35°.55N×27°.54E, h7km±2km, ML2.5*

ISC 27 21:54:07.2±2.2, 35°.17N±0°.10×27°.32E±0°.06, h6km±12km, n16, σ1§52/22, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRPA	**Karpathos**	**0.35**	**346**	P	**Pg**	**21 54 14.4**	**+0.3**
KRPA				S	**Sg**	**21 54 18.8**	**+0.1**
KARP	**Karpathos**	**0.40**	**341**	P	**Pg**	**21 54 15.0**	**0.0**
KARP				S	**Sg**	**21 54 19.7**	**-0.5**
ZKR	**Zakros**	**0.90**	**267**	P	Pg	21 54 23.9	-0.7
ARG	**Arkhangelos**	**1.23**	**32**	P	**Pn**	**21 54 33.1**	**+2.1**
FRMA	**Ierapetra Chan**	**1.31**	**264**	P	Pn	21 54 31.3	-0.7
FRMA				S	Sb	21 54 45.5	-3.6
HRKL	**Herakleio**	**1.82**	**275**	P	**Pn**	**21 54 39.3**	**+0.3**
SANT	**Santorini**	**1.93**	**309**	P	**Pn**	**21 54 40.3**	**-0.2**
IDI	**Anoyia**	**1.99**	**274**	P	**Pn**	**21 54 41.8**	**+0.4**
IZZE	**Mula-Seydike**	**2.00**	**50**	P	**Pb**	**21 54 44.7**	**+0.7**
IZZE				S	**Sg**	**21 55 09.8**	**-1.8**
AKAS	**Kas**	**2.14**	**60**	P	**Pb**	**21 54 48.4**	**+1.8**
AKAS				S	**Sn**	**21 55 06.7**	**-3.9**
AKAS				*i* AML	AML	21 55 22.0	
comp=E,43nm,0.7s							
AKAS				*i* AML	AML	21 55 48.0	
comp=N,63nm,1.5s							
CAEL	**Denizli, Camel**	**2.54**	**39**	P	**Pb**	**21 54 53.6**	**+0.4**
CAEL				*i* AML	AML	21 55 54.0	
comp=N,44nm,0.9s							
CAEL				*i* AML	AML	21 55 59.0	
comp=E,33nm,0.7s							
TAVA	**DENIZLI_Tavas**	**2.63**	**29**	P	**Pb**	**21 54 55.2**	**+0.4**
TAVA				S	**Sb**	**21 55 24.9**	**-2.5**
GOLH	**Golhisar**	**2.75**	**41**	P	**Pb**	**21 54 56.2**	**-0.6**
GOLH				S	**Sb**	**21 55 30.3**	**-0.5**
GOLH				*i* AML	AML	21 55 40.0	
comp=N,22nm,1.0s							
GOLH				*i* AML	AML	21 56 03.0	
comp=E,21nm,1.6s							
DNIZ	**Denizli-Tavas-**	**2.82**	**29**	P	**Pb**	**21 54 59.2**	**+1.2**
DNIZ				S	**Sn**	**21 55 28.2**	**+1.1**
KORT	**Korkueli**	**3.06**	**52**	P	**Pb**	**21 55 01.3**	**-0.9**
KORT				S	**Sn**	**21 55 35.2**	**+2.0**
SEDI	**Konya, Seydise**	**4.25**	**56**	P	Pn	21 55 18.1	+5.5
SEDI				S	**Sn**	**21 56 03.0**	**+0.6**
SEDI				*i* AML	AML	21 56 15.0	
comp=E,9.1nm,1.0s							
SEDI				*i* AML	AML	21 56 16.0	
comp=N,7.9nm,0.6s							

*INMG **27** 22:00:06.8±0.9, 30°.70N×8°.18W, h1km, ML2.4, Error ellipse: s-maj=6.9km s-min=3.2km az=27.0*

*IGIL **27** 22:00:09.3, 30°.72N×8°.16W, h2km*

*CNRM **27** 22:00:11.6, 30°.83N×7°.92W, h16km, ml2.5*

ISC 27 22:00:08.3±1.4, 30°.78N±0°.04×8°.13W±0°.04, h16km±11km, n33, σ1§46/51, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTIG	**Tnine Tigouga,**	**0.35**	**230**	P	**Pg**	**22 00 15.4**	**-0.3**
TTIG				S	**Sb**	**22 00 21.3**	**-0.3**
TTIG	**Tnine Tigouga,**	**0.35**	**230**	P	**Pn**	**22 00 22.1**	**+3.2**
OUK	**Oukaimeden**	**0.49**	**28**	P	**Pb**	**22 00 19.5**	**+0.8**
OUK				S	**Sn**	**22 00 29.1**	**-0.2**
OUK	**Oukaimeden**	**0.49**	**28**	P	**Pb**	**22 00 19.2**	**+0.5**
OUZM	**OUZ**	**1.19**	**83**	P	**Pn**	**22 00 27.6**	**-2.9**
OUZM				S	**Sb**	**22 00 43.4**	**-2.3**
OUZM	**OUZ**	**1.19**	**83**	P	**Pn**	**22 00 28.0**	**-2.5**
CGR	**Cap Guir**	**1.52**	**265**	P	**Pn**	**22 00 33.4**	**-1.4**
CGR				S	**Sn**	**22 00 52.9**	**-1.3**
SRHM	**Skhour des Reh**	**1.70**	**7**	P	**Pn**	**22 00 35.8**	**-1.7**
SRHM				S	**Sn**	**22 00 57.2**	**-1.8**
ZGR	**Zagora**	**2.27**	**106**	P	**Pn**	**22 00 44.6**	**-0.7**
ZGR				S	**Sn**	**22 01 13.8**	**+0.9**
ZGR	**Zagora**	**2.27**	**106**	P	**Pn**	**22 00 46.0**	**+0.7**
SFNM	**Sidi Ifni**	**2.27**	**231**	P	**Pn**	**22 00 44.1**	**-1.2**
SFNM				S	**Sn**	**22 01 09.6**	**-3.3**
AVE	**Averroes**	**2.59**	**13**	P	**Pn**	**22 00 51.1**	**+1.5**
AVE				S	**Sb**	**22 01 25.5**	**-0.5**
ZHG	**ZHG**	**2.95**	**25**	P	**Pn**	**22 00 55.4**	**+0.8**
ZHG				S	**Sn**	**22 01 30.5**	**+0.8**
CZD	**Col de Zad**	**3.46**	**49**	P	**Pn**	**22 01 04.2**	**+2.3**
CZD				S	**Sn**	**22 01 44.5**	**+1.9**
MD31	**MD31**	**3.55**	**53**	P	**Pn**	**22 01 03.6**	**+0.7**
MD31				S	**Sn**	**22 01 47.3**	**+2.8**
MDT	**Midelt**	**3.62**	**55**	P	**Pn**	**22 01 04.5**	**+0.6**
MDT				S	**Sn**	**22 01 49.3**	**+2.9**
MDT	**Midelt**	**3.62**	**55**	P	**Pn**	**22 01 04.5**	**+0.6**
FIGM	**Figuig**	**6.02**	**75**	P	**Pn**	**22 01 36.5**	**-0.4**
PFVI	**Vila Bisbo**	**6.37**	**355**	*e*Pn	**Pn**	**22 01 42.1**	**+0.6**
PFVI				*e*Sn	**Sn**	**22 02 53.8**	**-0.1**
PFVI	**Vila Bisbo**	**6.37**	**355**	P	**Pn**	**22 01 42.1**	**+0.6**
PFVI	**Vila Bisbo**	**6.37**	**355**	P	**Pn**	**22 01 42.1**	**+0.6**
PBDV	**Barranco-do-Ve**	**6.45**	**1**	*e*Pn	**Pn**	**22 01 43.8**	**+1.1**
MORF	**Marmelete**	**6.53**	**356**	*e*Pn	**Pn**	**22 01 44.6**	**+0.9**
MORF	**Marmelete**	**6.53**	**356**	*e*P	**Pn**	**22 01 44.6**	**+0.9**
PVAQ	**Vaqueiros**	**6.62**	**3**	*e*Pn	**Pn**	**22 01 45.7**	**+0.7**
PVAQ				*e*Sn	**Sn**	**22 02 59.5**	**-0.6**
PVAQ				A	A	22 03 05.4	
1.5nm,0.6s							
PVAQ	**Vaqueiros**	**6.62**	**3**	P	**Pn**	**22 01 45.4**	**+0.4**
PTEO	**Sao Teotonio**	**6.77**	**356**	*e*Pn	**Pn**	**22 01 47.7**	**+0.7**
PTEO				*e*Sn	**Sn**	**22 03 04.7**	**+0.9**
PCVE	**Castro Verde**	**6.84**	**1**	*e*Pn	**Pn**	**22 01 49.0**	**+1.0**
PCVE				*e*Sn	**Sn**	**22 03 05.3**	**-0.2**
PCVE				A	A	22 03 11.4	
1.0nm,0.3s							
PNCL	**Nicolau / Gran**	**7.33**	**358**	*e*Pn	**Pn**	**22 01 55.1**	**+0.4**
PNCL				*e*Sn	**Sn**	**22 03 16.7**	**-0.8**
PNCL				A	A	22 03 18.6	
1.0nm,0.8s							
EVO	**Evora**	**7.74**	**1**	*e*Pn	**Pn**	**22 02 00.2**	**-0.1**
PMAFR	**Mafra**	**8.21**	**354**	*e*Pn	**Pn**	**22 02 08.2**	**+1.3**
PMTG	**Montargil**	**8.27**	**359**	*e*Pn	**Pn**	**22 02 08.6**	**+0.9**
PMTG				*e*Sn	**Sn**	**22 03 38.7**	**-2.1**
PMRV	**Marv??o**	**8.65**	**4**	*e*Pn	**Pn**	**22 02 13.6**	**+0.7**

TAP 27 22:31:53.3, 24°.01N×121°.68E, h24km, ML2.3, 6C-19D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.08**	**246**	*e*P	Pb	22 31 58.8	+1.1
HWA				*e*S	Sb	22 32 02.7	+2.1
TWD	**Chiawan**	**0.11**	**312**	⇑P	Pb	22 31 58.5	+0.6
TWD				S	Sb	22 32 01.8	+0.8
ETL	**Fush Village**	**0.16**	**340**	P	Pb	22 31 58.8	+0.3
ETL				S	Sb	22 32 02.8	+0.9
ETM	**Tongmen**	**0.18**	**256**	⇓P	Pb	22 31 59.3	+0.7
ETM				*i* S	Sb	22 32 03.4	+1.1
NACB	**Ninganchiao**	**0.18**	**334**	⇑P	Pb	22 31 59.0	+0.3
NACB				S	Sb	22 32 03.1	+0.8
LXIB	**Xiulin Townshi**	**0.25**	**273**	⇓*i*P	Pb	22 32 00.1	+0.5
LXIB				S	Sb	22 32 05.1	+1.2
ETLH	**Xiulin Townshi**	**0.27**	**317**	⇓*i*P	Pb	22 32 00.5	+0.6
ETLH				S	Sb	22 32 05.3	+0.9
ESL	**Shilin**	**0.30**	**230**	⇓*i*P	Pb	22 32 00.8	+0.6
ESL				S	Sb	22 32 06.1	+1.1
EHP	**Heping Village**	**0.30**	**10**	*e*P	Pb	22 32 01.1	+0.7
TEGC	**Jichi Village**	**0.33**	**204**	*e*P	Pb	22 32 01.1	+0.4
WARBT	**Fenglin Townsh**	**0.40**	**223**	⇓P	Pb	22 32 02.0	+0.2
WARBT				S	Sb	22 32 08.4	+0.8
WHF	**Hehuan Shan**	**0.41**	**290**	⇓P	Pb	22 32 03.0	+0.7
WHF				S	Sb	22 32 09.4	+1.1
EGFH	**Guangfu**	**0.41**	**215**	*i* P	Pb	22 32 02.7	+0.6
EGFH				S	Sb	22 32 09.2	+1.3
ENA	**Nanau**	**0.42**	**7**	⇓P	Pb	22 32 02.6	+0.4
ENA				*i* S	Sn	22 32 09.7	-1.3
EWUT	**Wuta**	**0.44**	**11**	⇓P	Pb	22 32 02.9	+0.3
EWUT				*i* S	Sn	22 32 10.3	-1.1
FUSS	**Fushou**	**0.47**	**301**	*e*P	Pb	22 32 03.8	+0.7
FUSS				*e*S	Sb	22 32 11.0	+1.2
OWD	**Renai**	**0.47**	**263**	⇑P	Pb	22 32 03.8	+0.7
OWD				S	Sb	22 32 10.5	+0.9
CHGB	**Renai**	**0.47**	**276**	⇓P	Pb	22 32 03.9	+0.7
CHGB				*i* S	Sb	22 32 11.0	+1.2
NNSB	**Datong**	**0.50**	**327**	⇓P	Pb	22 32 04.2	+0.6
NNSB				S	Sb	22 32 11.7	+1.1
NNSH	**Datong**	**0.50**	**327**	*i* P	Pb	22 32 04.2	+0.6
NNSH				*e*S	Sn	22 32 11.8	-1.2
NNS	**Nan Shan**	**0.51**	**327**	⇓*e*P	Pn	22 32 04.9	-0.4
NNS				S	Sn	22 32 12.3	-1.1
WUSB	**Renai**	**0.52**	**268**	⇓P	Pn	22 32 04.7	-0.7
WUSB				S	Sn	22 32 12.4	-1.1
TWT	**Tachien**	**0.52**	**298**	*e*P	Pn	22 32 05.8	+0.3
TWT				S	Sn	22 32 13.2	-0.5
TDCB	**Techi**	**0.54**	**297**	P	Pn	22 32 05.1	-0.6
TDCB				S	Sb	22 32 12.7	+1.1
LATG	**Datong**	**0.54**	**345**	⇓*i*P	Pb	22 32 04.9	+0.5
LATG				*i* S	Sn	22 32 13.2	-0.9
VWDT	**VWDT**	**0.56**	**243**	⇓P	Pn	22 32 05.2	-0.6
VWDT				S	Sn	22 32 13.2	-1.1
HGSD	**Ruisui**	**0.57**	**205**	⇑P	Pn	22 32 05.8	-0.1
HGSD				*e*S	Sn	22 32 15.8	+1.3
EOS4	**EOS4**	**0.59**	**79**	*e*P	Pn	22 32 05.8	-0.1
EOS4				*i* S	Sn	22 32 14.4	-0.2
EHY	**Hungye**	**0.60**	**214**	*e*P	Pb	22 32 05.5	+0.2
EHY				*e*S	Sb	22 32 14.0	+0.7
NDT	**Datong Townshi**	**0.61**	**345**	P	Pb	22 32 05.5	+0.1
NDT				S	Sn	22 32 15.2	-0.4
TWC	**Suao**	**0.62**	**14**	*e*P	Pb	22 32 05.8	+0.3
TWC				*e*S	Sb	22 32 14.7	+0.9
NDS	**Dongshan**	**0.62**	**3**	*e*P	Pn	22 32 06.3	-0.4
NDS				*i* S	Sn	22 32 15.5	-0.4
ENTT	**Nioudou**	**0.64**	**350**	*i* P	Pb	22 32 06.4	+0.5
ENTT				S	Sn	22 32 15.5	-0.8
EOS3	**EOS3**	**0.64**	**64**	*e*P	Pn	22 32 06.7	-0.1
EOS2	**EOS2**	**0.65**	**51**	*e*P	Pn	22 32 07.0	+0.1
DPDB	**Guoxing**	**0.69**	**272**	P	Pn	22 32 07.5	-0.2
DPDB				*i* S	Sn	22 32 17.4	-0.4
SSLB	**Suanglung**	**0.70**	**252**	*i* P	Pn	22 32 07.5	-0.4
SSLB				*e*S	Sb	22 32 16.7	+0.4
WCS	**Beigang Elemen**	**0.71**	**274**	⇑P	Pn	22 32 07.7	-0.1
YULB	**Yu-li**	**0.71**	**210**	⇓P	Pb	22 32 06.8	-0.3
YULB				*e*S	Sb	22 32 16.3	-0.1
TWE	**Neicheng**	**0.71**	**359**	*i* P	Pn	22 32 07.5	-0.4
TWE				*e*S	Sn	22 32 18.6	+0.5
YHNB	**Yeheng**	**0.71**	**337**	⇓P	Pn	22 32 07.8	-0.3
YHNB				*e*S	Sn	22 32 17.6	-0.8
WHP	**Taichung City**	**0.72**	**292**	P	Pn	22 32 08.2	+0.1
WHP				*e*S	Sn	22 32 19.2	+0.6
NSK	**Sanguang**	**0.73**	**336**	⇓*i*P	Pb	22 32 07.7	+0.3
NSK				S	Sn	22 32 17.8	-0.8
SMLT	**Sun Moon Lake**	**0.73**	**260**	⇓P	Pn	22 32 08.1	-0.1
SMLT				*e*S	Sn	22 32 18.9	+0.3
EYUL	**Yuli**	**0.74**	**207**	P	Pn	22 32 08.2	-0.1
EYUL				S	Sn	22 32 18.9	+0.1
TWF1	**Yuli**	**0.74**	**209**	P	Pb	22 32 07.5	-0.1
TWF1				*e*S	Sb	22 32 17.4	+0.1
FUSB	**Fushanzhiwuyua**	**0.75**	**353**	⇓*i*P	Pn	22 32 08.2	-0.3
FUSB				S	Sn	22 32 19.3	+0.1
TYC	**Yuchr**	**0.76**	**262**	P	Pn	22 32 08.4	-0.2
TYC				*i* S	Sn	22 32 19.1	-0.3
NWLT	**Wulai**	**0.78**	**348**	⇑*e*P	Pn	22 32 09.8	+0.9
NWLT				*i* S	Sn	22 32 19.9	-0.1
NFF	**Wufeng Townshi**	**0.81**	**320**	P	Pb	22 32 08.8	+0.1
NFF				*i* S	Sn	22 32 20.5	0.0
WHYT	**Xinyi Township**	**0.82**	**248**	*e*P	Pn	22 32 10.5	+1.1
WHYT				*e*S	Sn	22 32 21.3	+0.4
NSTT	**Nanjuang**	**0.88**	**315**	*e*P	Pb	22 32 10.0	+0.1
LIOB	**Emei**	**0.88**	**316**	*e*P	Pb	22 32 10.0	+0.1
LIOB				*e*S	Sn	22 32 22.2	-0.1
FULB	**Fuli**	**0.88**	**204**	*e*P	Pn	22 32 10.5	+0.2
WJS	**Zhushan**	**0.89**	**258**	*e*P	Pn	22 32 10.4	0.0
WNT1	**Nantou City**	**0.92**	**264**	P	Pb	22 32 10.4	-0.3
WNT1				S	Sn	22 32 23.6	+0.3
TCU	**Taichung**	**0.93**	**279**	P	Pb	22 32 10.6	-0.2
TCU				*e*S	Sb	22 32 23.0	+0.2
ALS	**Alishan**	**0.94**	**239**	*e*S	Sb	22 32 23.7	+0.3
EHD	**Haiduan**	**0.96**	**207**	*e*P	Pb	22 32 10.6	-0.8
EHD				*e*S	Sb	22 32 22.3	-1.3
TWA	**Mucha**	**0.97**	**355**	*e*P	Pn	22 32 11.4	-0.1
CHN5	**Tsauling**	**1.01**	**246**	P	Pb	22 32 12.6	+0.4
CHN5				S	Sn	22 32 26.7	+1.2
ELDTW	**Lidau**	**1.02**	**217**	P	Pn	22 32 11.7	-0.5
ELDTW				*e*S	Sb	22 32 24.7	-0.7
EDH	**Donghe**	**1.09**	**199**	P	Pb	22 32 13.5	0.0
EDH				S	Sb	22 32 27.3	+0.1
SXI1	**Grass Mountain**	**1.09**	**9**	P	Pn	22 32 13.3	0.0
SXI1				*e*S	Sb	22 32 25.6	-1.9
TWS1	**Kuangyinshan**	**1.11**	**348**	P	Pb	22 32 13.9	0.0
TWS1				*e*S	Sb	22 32 26.7	-1.3
YM01	**YM01**	**1.14**	**355**	*e*S	Sn	22 32 28.5	-0.2
NTST	**Danshui**	**1.17**	**350**	*e*P	Pb	22 32 14.7	-0.2
NTST				*e*S	Sb	22 32 29.8	+0.2
YM08	**YM08**	**1.18**	**356**	*e*P	Pb	22 32 14.8	-0.2
YM08				*e*S	Sn	22 32 27.6	-2.0
STYH	**Taoyuan**	**1.18**	**225**	*e*P	Pn	22 32 14.7	+0.4
STYH				*e*S	Sb	22 32 30.1	+0.2
CHN4	**Tsaushan**	**1.20**	**237**	*e*P	Pb	22 32 16.6	+1.3
TPUB	**Ta-pu**	**1.20**	**234**	*e*P	Pb	22 32 16.6	+1.2
TPUB				*e*S	Sb	22 32 33.2	+2.8

JMA 27 22:31:55.0±0.2, 25°N±2°×123°.3E±0°.6, h178km±3km, MV3.7/16, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.91**	**155**	P	Pn	22 32 22.0	+0.1
IRIF				*e*S	Sn	22 32 42.3	-0.2
JISG	**Ishigakijimahi**	**1.07**	**122**	P	Pn	22 32 23.0	-0.1
JISG				S	Sn	22 32 44.9	+0.2
JIJ	**Ishigaki jima**	**1.10**	**136**	P	Pn	22 32 23.3	+0.1
JIJ				S	Sn	22 32 44.4	-0.6
JKRS	**Kuro-shima**	**1.12**	**145**	P	Pn	22 32 24.0	+0.6
JKRS				S	Sn	22 32 45.6	+0.3
HATJ	**Hateruma jima**	**1.19**	**158**	*e*S	Sn	22 32 47.7	+1.2
JTJ	**Tarama**	**1.36**	**112**	P	Pn	22 32 25.9	+0.4
JTJ				*e*S	Sn	22 32 49.8	+0.7
JIRB	**Irabujima**	**1.72**	**101**	*e*P	Pn	22 32 29.0	+0.1
JIRB				S	Sn	22 32 54.8	-0.4
JIKM	**Ikemajima**	**1.77**	**97**	*e*P	Pn	22 32 29.7	+0.2
JIKM				*e*S	Sn	22 32 56.4	+0.2
JMJ2	**Miyako jima3**	**1.88**	**102**	P	Pn	22 32 31.0	+0.4
JMJ2				*e*S	Sn	22 32 58.3	+0.1

*IDC **27** 22:34:22.6±8.3, 18°.43N×146°.68E, h72km±58km, mb3.4/5, mbtmp3.8/6, ML4.4/1, Error ellipse: s-maj=121.7km s-min=25.9km az=84.0*

ISC 27 22:34:26.0±2.6, 18°.3N±0°.1×146°.4E±0°.7, h100km, n9, σ0°71/7, mb3.7/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.96**	**198**	P	**Pn**	**22 35 37.5**	**-0.7**
	13nm,0.3s,baz=113,slow=3.2,SNR=8.3						
GUMO				S	**Sn**	**22 36 34.5**	**+0.1**
	17nm,0.3s,baz=196,slow=20,SNR=1.5						
	25nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**19.23**	**86**	T	T	22 57 31.0	
	baz=274						
H11S1	**WAKE ISLAND Hy**	**19.24**	**86**	T	T	22 57 37.4	
	baz=274						
H11S2	**WAKE ISLAND Hy**	**19.24**	**86**	T	T	22 57 37.1	
	baz=274						
WRA	**Warramunga Arr**	**39.85**	**198**	P	**P**	**22 41 50.5**	**+0.5**
	0.3nm,0.6s,baz=22,slow=9.0,SNR=6.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**43.51**	**197**	P	**P**	**22 42 20.6**	**+0.8**
	0.3nm,0.5s,baz=22,slow=7.1,SNR=6.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**62.05**	**318**	P	**P**	**22 44 36.1**	**+0.2**
	0.3nm,0.4s,baz=91,slow=7.6,SNR=2.9						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**67.19**	**321**	P	**P**	**22 45 09.7**	**+0.4**
	0.6nm,0.4s,baz=93,slow=6.1,SNR=5.4						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**87.50**	**335**	P	**P**	**22 47 01.7**	**-0.6**
	2.5nm,1.0s,baz=67,slow=4.7,SNR=1.4						
	2.5nm,1.0s						

*IDC **27** 22:43:34.8±1.8, 59°.57N×153°.76W, h109km±27km, mb3.5/6, mbtmp3.9/10, Error ellipse: s-maj=30.0km s-min=17.2km az=119.0*

*NEIC **27** 22:43:36.3±1.6, 59°.56N±0°.04×153°.61W±0°.07, h121km±5km, Error ellipse: s-maj=5.7km s-min=5.1km az=149.0*

*AEIC **27** 22:43:37.3±1.5, 59°.56N±0°.04×153°.59W±0°.07, h118km±4km, ML3.4, ML3.6/144(NEIC), Error ellipse: s-maj=5.7km s-min=4.9km az=153.0*

ISC 27 22:43:36.5±0.7, 59°.57N±0°.03×153°.57W±0°.03, h124km±6km, n330, σ0°89/347, mb4.0/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.20**	**160**		**Pn**	**22 43 53.5**	**-0.1**
AUL					**Sn**	**22 44 07.5**	**+0.9**
AUJK	**Augustine Jueg**	**0.24**	**160**		**Pn**	**22 43 53.6**	**-0.2**
ILSW	**Iliamna Southw**	**0.47**	**27**		**Pn**	**22 43 54.2**	**-0.7**
ILSW				Sn	**Sn**	**22 44 07.6**	**-1.1**
ILSW				IAML		22 44 08.8	
	comp=E,1μm,0.8s						
IVE	**Iliamna Volcan**	**0.53**	**32**		**Pn**	**22 43 54.9**	**-0.3**
IVE					**Sn**	**22 44 08.9**	**-0.4**
O20K	**Slope Mountain**	**0.70**	**43**		**Pn**	**22 43 56.2**	**-0.1**
O20K					**Sn**	**22 44 10.8**	**-0.6**
O20K	**Slope Mountain**	**0.70**	**43**	P	**Pn**	**22 43 56.2**	**-0.1**
	baz=225						
O19K	**Port Alsworth**	**0.73**	**329**		**Pn**	**22 43 55.1**	**-1.3**
O19K					**Sn**	**22 44 10.1**	**-1.5**
O19K				IAML		22 44 11.3	
	comp=E,1μm,0.5s						
O19K				IAML		22 44 12.1	
	comp=N,2μm,0.4s						
P18K	**Big Mountain,**	**0.87**	**259**	Pn	**Pn**	**22 43 56.6**	**-1.1**
P18K					**Sn**	**22 44 11.8**	**-1.9**
P18K				IAML		22 44 12.6	
	comp=N,412nm,0.8s						
P18K	**Big Mountain,**	**0.87**	**259**	P	**Pn**	**22 43 56.5**	**-1.1**
	baz=76						
O18K	**Koktuh Hills**	**0.88**	**290**		**Pn**	**22 43 56.9**	**-0.9**
O18K				Sn	**Sn**	**22 44 12.6**	**-1.2**
O18K	**Koktuh Hills**	**0.88**	**290**	P	**Pn**	**22 43 56.8**	**-0.9**
	baz=108						
O18K				S	**Sn**	**22 44 12.7**	**-1.2**
	baz=108						
RDSO	**Redoubt South**	**0.98**	**25**		**Pn**	**22 43 58.4**	**-0.4**
RSO	**Redoubt South**	**0.98**	**24**		**Pn**	**22 43 58.6**	**-0.4**
RDWB	**Redoubt West**	**0.99**	**21**		**Pn**	**22 43 58.4**	**-0.5**
RDWB					**Sn**	**22 44 15.3**	**-0.6**
NCT	**North Crescent**	**1.04**	**18**		**Pn**	**22 43 59.0**	**-0.4**
KAPH	**Katmai Pasha**	**1.06**	**203**		**Pn**	**22 43 59.3**	**-0.2**
KAPH					**Sn**	**22 44 16.0**	**-0.9**
DFR	**Drift River**	**1.12**	**23**		**Pn**	**22 43 59.7**	**-0.4**
RDT	**Redoubt**	**1.16**	**30**		**Pn**	**22 44 00.2**	**-0.3**
RDT					**Sn**	**22 44 18.0**	**-0.9**
KAHC	**Katmai Hardscr**	**1.19**	**219**		**Pn**	**22 44 00.3**	**-0.5**
KAHC	**Katmai Hardscr**	**1.19**	**219**		**Sn**	**22 44 18.0**	**-1.3**
KAHC	**Katmai Hardscr**	**1.19**	**219**	P	**Pn**	**22 44 00.3**	**-0.5**
	baz=37						
Q18K	**Katmai Hardscr**	**1.19**	**219**	P	**Pn**	**22 44 00.3**	**-0.6**
	baz=37						
Q18K				S	**Sn**	**22 44 18.4**	**-1.0**
	baz=37						
CNPM	**China Poot**	**1.19**	**91**	Pn	**Pn**	**22 44 00.8**	**+0.1**
CNPM					**Sn**	**22 44 18.8**	**-0.4**
N19K	**Bonanza Creek**	**1.33**	**340**		**Pn**	**22 44 01.7**	**-0.6**
N19K				Sn	**Sn**	**22 44 20.6**	**-1.4**
N19K				IAML		22 44 21.2	
	comp=E,523nm,0.6s						
N19K	**Bonanza Creek**	**1.33**	**340**	P	**Pn**	**22 44 01.7**	**-0.6**
	baz=160						
BRLK	**Bradley Lake**	**1.38**	**81**		**Pn**	**22 44 02.3**	**-0.5**
BRLK				Sn	**Sn**	**22 44 22.1**	**-0.7**
BRLK				IAML		22 44 22.8	
	comp=E,1μm,0.4s						
BRSE	**Bradley Lake S**	**1.45**	**82**		**Pn**	**22 44 03.2**	**-0.4**
BRSE	**Bradley Lake S**	**1.45**	**82**	P	**Pn**	**22 44 03.2**	**-0.4**
	baz=265						
P17K	**Kvichak River**	**1.52**	**257**		**Pn**	**22 44 03.9**	**-0.4**
P17K					**Sn**	**22 44 25.2**	**-0.2**
P17K	**Kvichak River**	**1.52**	**257**	P	**Pn**	**22 44 03.9**	**-0.4**
	baz=74						
P17K				S	**Sn**	**22 44 25.2**	**-0.2**
	baz=74						
KCE	**Katmai Mt Cerb**	**1.57**	**213**		**Pn**	**22 44 05.2**	**+0.1**
N18K	**Kilae Creek**	**1.61**	**315**	Pn	**Pn**	**22 44 04.8**	**-0.6**
N18K				Sn	**Sn**	**22 44 25.9**	**-1.6**
N18K	**Kilae Creek**	**1.61**	**315**	P	**Pn**	**22 44 04.9**	**-0.6**
	baz=133						
KABR	**Katmai Barrier**	**1.62**	**207**		**Pn**	**22 44 05.1**	**-0.5**
ACHA	**Angle Creek He**	**1.64**	**215**		**Pn**	**22 44 05.5**	**-0.4**
ACHA					**Sn**	**22 44 27.9**	**-0.4**
CAPN	**Captain Cook N**	**1.70**	**44**	Pn	**Pn**	**22 44 07.9**	**+1.4**
CAPN				IAML		22 44 46.3	
	comp=E,856nm,0.4s						
N20K	**Mount Spurr**	**1.77**	**22**	P	**Pn**	**22 44 07.2**	**-0.2**
	baz=204						
CNTC	**Contact Creek**	**1.78**	**223**		**Pn**	**22 44 07.0**	**-0.5**
Q17K	**Contact Creek**	**1.78**	**224**	P	**Pn**	**22 44 07.0**	**-0.5**
	baz=41						
O17K	**Koliganek Bris**	**1.80**	**278**		**Pn**	**22 44 07.3**	**-0.4**
O17K					**Sn**	**22 44 30.9**	**-0.6**
O17K	**Koliganek Bris**	**1.80**	**278**	P	**Pn**	**22 44 07.3**	**-0.4**
	baz=95						
O17K				S	**Sn**	**22 44 30.8**	**-0.6**
	baz=95						
Q16K	**King Salmon**	**1.83**	**242**	P	**Pn**	**22 44 07.8**	**-0.2**
	baz=59						
SVW2	**Sparrevohn**	**1.83**	**328**		**Pn**	**22 44 07.3**	**-0.7**
SVW2				IAML		22 44 31.2	
	comp=E,151nm,0.9s						
SVW2	**Sparrevohn**	**1.83**	**328**		**Sn**	**22 44 30.4**	**-1.7**
SVW2	**Sparrevohn**	**1.83**	**328**	P	**Pn**	**22 44 07.2**	**-0.8**
KDAK	**Kodiak Island**	**1.87**	**164**		**Sn**	**22 44 30.7**	**-2.2**
KDAK	**Kodiak Island**	**1.87**	**164**		**Pn**	**22 44 07.3**	**-1.2**
KDAK				IAML		22 44 34.2	
	comp=E,453nm,0.4s						
KDAK				IAML		22 44 38.6	
	comp=E,357nm,0.6s						
KDAK	**Kodiak Island**	**1.87**	**164**	P	**Pn**	**22 44 07.1**	**-1.4**
	comp=E,189nm,0.2s,baz=28,slow=8.7,SNR=488						
KDAK				S	**Sn**	**22 44 30.5**	**-2.3**
	comp=E,222nm,0.4s,baz=192,slow=22,SNR=16						
KDAK				LR	LR	22 45 08.0	
	comp=E,146nm,19.7s,baz=153,slow=49						
SLKM	**Skilak Lake**	**1.93**	**59**		**Pn**	**22 44 09.1**	**-0.2**
N17K	**Nushagak Hills**	**2.05**	**299**		**Sn**	**22 44 36.0**	**-0.9**
N17K	**Nushagak Hills**	**2.05**	**299**	Pn	**Pn**	**22 44 10.4**	**-0.4**
N17K	**Nushagak Hills**	**2.05**	**299**	IAML		22 44 36.5	
	comp=N,121nm,1.1s						
N17K				IAML		22 44 37.1	
	comp=E,92nm,0.8s						
N17K	**Nushagak Hills**	**2.05**	**299**	P	**Pn**	**22 44 10.5**	**-0.2**
	baz=116						
N17K				S	**Sn**	**22 44 36.0**	**-0.9**
	baz=116						
R18K	**Karluk**	**2.06**	**193**		**Pn**	**22 44 09.4**	**-1.5**
R18K					**Sn**	**22 44 34.9**	**-2.3**
O22K	**Cooper Landing**	**2.13**	**63**		**Pn**	**22 44 11.5**	**-0.2**
O22K	**Cooper Landing**	**2.13**	**63**	P	**Pn**	**22 44 11.7**	**-0.1**
	baz=247						
SEW	**Seward**	**2.15**	**74**		**Pn**	**22 44 11.5**	**-0.4**
SEW	**Seward**	**2.15**	**74**	P	**Pn**	**22 44 11.7**	**-0.2**
	baz=258						
M18K	**Stony River**	**2.23**	**331**	P	**Pn**	**22 44 12.3**	**-0.6**
	baz=149						
FIS	**Fire Island**	**2.29**	**45**	Pn	**Pn**	**22 44 14.7**	**+0.9**
FIS				IAML		22 44 55.4	
	comp=N,513nm,0.9s						
FIS				IAML		22 44 58.0	
	comp=E,472nm,0.8s						
O16K	**Kokwok River B**	**2.30**	**273**	Pn	**Pn**	**22 44 13.6**	**-0.2**
O16K	**Kokwok River B**	**2.30**	**273**	P	**Pn**	**22 44 13.6**	**-0.2**
	baz=88						
M20K	**Styx River**	**2.33**	**5**		**Pn**	**22 44 14.1**	**-0.3**
M20K	**Styx River**	**2.33**	**5**	IAML		22 44 44.5	
	comp=E,95nm,0.8s						
P16K	**Nushagak River**	**2.33**	**258**		**Pn**	**22 44 14.3**	**0.0**
P16K	**Nushagak River**	**2.33**	**258**	P	**Pn**	**22 44 14.3**	**0.0**
	baz=74						
SUA	**Susitna One**	**2.36**	**35**	Pn	**Pn**	**22 44 14.7**	**0.0**
SUA				IAML		22 44 47.2	
	comp=N,303nm,0.7s						
SUA				IAML		22 44 49.5	
	comp=E,267nm,0.6s						
SUA	**Susitna One**	**2.36**	**35**		**Sn**	**22 44 44.4**	**+0.4**
SUA	**Susitna One**	**2.36**	**35**	P	**Pn**	**22 44 14.9**	**+0.2**
	baz=218						
SUA				S	**Sn**	**22 44 44.4**	**+0.4**
	baz=218						
PLK3	**Peulik 3**	**2.36**	**218**		**Pn**	**22 44 14.4**	**-0.2**
M19K	**Big River Lodg**	**2.38**	**351**		**Pn**	**22 44 14.4**	**-0.5**
PLK1	**Peulik 1**	**2.38**	**223**		**Pn**	**22 44 14.8**	**0.0**
R17K	**Ugashik Creek**	**2.44**	**218**	Pn	**Pn**	**22 44 15.5**	**-0.1**
R17K				IAML		22 44 46.4	
	comp=N,175nm,0.8s						
R17K				IAML		22 44 49.7	
	comp=E,124nm,0.9s						
R17K	**Ugashik Creek**	**2.44**	**218**	P	**Pn**	**22 44 15.5**	**-0.1**
	baz=36						
RC01	**Rabbit Creek A**	**2.44**	**50**		**Pn**	**22 44 15.1**	**-0.5**
RC01				IAML		22 44 47.2	
	comp=E,286nm,0.2s						
RC01				IAML		22 44 49.3	
	comp=N,316nm,0.3s						
RC01	**Rabbit Creek A**	**2.44**	**50**	P	**Pn**	**22 44 15.2**	**-0.4**
	baz=233						
SKT	**Skwentna**	**2.62**	**22**	Pn	**Pn**	**22 44 17.7**	**-0.2**
SKT				IAML		22 44 53.3	
	comp=E,80nm,0.6s						
SKT	**Skwentna**	**2.62**	**22**	P	**Pn**	**22 44 17.6**	**-0.3**
	baz=204						
M17K	**Holitna River**	**2.65**	**315**	Pn	**Pn**	**22 44 18.2**	**-0.1**
M17K				IAML		22 44 52.3	
	comp=E,83nm,0.9s						
M17K	**Holitna River**	**2.65**	**315**	P	**Pn**	**22 44 18.2**	**-0.1**
	baz=132						
L19K	**White Mountain**	**2.69**	**347**	Pn	**Pn**	**22 44 18.1**	**-0.8**
L19K				IAML		22 44 52.9	
	comp=N,72nm,1.3s						
L19K	**White Mountain**	**2.69**	**347**	P	**Pn**	**22 44 18.3**	**-0.6**
	baz=166						
N16K	**Nishlik Lake**	**2.76**	**291**	P	**Pn**	**22 44 19.9**	**0.0**
	baz=107						
M22K	**Willow**	**2.77**	**36**		**Pn**	**22 44 19.7**	**-0.1**
M22K	**Willow**	**2.77**	**36**	P	**Pn**	**22 44 19.9**	**0.0**
	baz=220						
PWL	**Port Wells**	**2.91**	**61**		**Pn**	**22 44 20.7**	**-1.1**
PWL	**Port Wells**	**2.91**	**61**	P	**Pn**	**22 44 20.6**	**-1.1**
	baz=246						
L20K	**Farewell, AK**	**2.92**	**357**	P	**Pn**	**22 44 21.8**	**-0.1**
	baz=177						
PMR	**Palmer**	**2.98**	**45**	Pn	**Pn**	**22 44 21.5**	**-1.2**
PMR				IAML		22 44 57.7	
	comp=E,121nm,0.5s						
PMR				IAML		22 44 59.5	
	comp=N,108nm,0.4s						
PMR	**Palmer**	**2.98**	**45**	P	**Pn**	**22 44 21.1**	**-1.5**
PMR	**Palmer**	**2.98**	**45**	P	**Pn**	**22 44 21.4**	**-1.2**
	baz=230						
SII	**Sitkinak Islan**	**3.04**	**186**		**Pn**	**22 44 21.7**	**-1.7**
SII	**Sitkinak Islan**	**3.04**	**186**	P	**Pn**	**22 44 21.9**	**-1.5**
SII	**Sitkinak Islan**	**3.04**	**186**	P	**Pn**	**22 44 22.2**	**-1.2**
	baz=5.6						
M16K	**Timber Creek**	**3.05**	**301**		**Pn**	**22 44 23.3**	**-0.2**
L18K	**Granite Mounta**	**3.06**	**332**	Pn	**Pn**	**22 44 23.0**	**-0.7**
L18K	**Granite Mounta**	**3.06**	**332**	P	**Pn**	**22 44 23.0**	**-0.7**
	baz=149						
KNK	**Knik Glacier**	**3.13**	**52**	IAML		22 45 03.0	
	comp=N,244nm,0.6s						
KNK				IAML		22 45 06.7	
	comp=E,227nm,0.6s						
KNK	**Knik Glacier**	**3.13**	**52**	P	**Pn**	**22 44 23.4**	**-1.2**
	baz=236						
P23K	**Montague Islan**	**3.15**	**80**		**Pn**	**22 44 24.5**	**-0.3**
P23K	**Montague Islan**	**3.15**	**80**	P	**Pn**	**22 44 24.7**	**-0.1**
	baz=265						
GHO	**Glory Hole Cre**	**3.18**	**44**		**Pn**	**22 44 23.9**	**-1.3**
GHO				IAML		22 45 08.6	
	comp=E,190nm,0.5s						
GHO				IAML		22 45 10.2	
	comp=N,248nm,0.5s						
O15K	**Ungalikthiuk R**	**3.23**	**266**		**Pn**	**22 44 26.0**	**+0.2**
O15K	**Ungalikthiuk R**	**3.23**	**266**	P	**Pn**	**22 44 26.0**	**+0.2**
	baz=80						
CUT	**Chulitna**	**3.27**	**28**		**Pn**	**22 44 26.0**	**-0.3**
CUT				IAML		22 45 07.1	
	comp=E,231nm,0.4s						
CUT				IAML		22 45 08.4	
	comp=N,239nm,0.6s						
CUT	**Chulitna**	**3.27**	**28**	P	**Pn**	**22 44 26.3**	**0.0**
	baz=211						
N15K	**Kwethluk River**	**3.34**	**283**	Pn	**Pn**	**22 44 27.8**	**+0.5**
N15K				IAML		22 45 08.5	
	comp=E,50nm,1.4s						
N15K				IAML		22 45 23.2	
	comp=N,64nm,0.9s						
N15K	**Kwethluk River**	**3.34**	**283**	P	**Pn**	**22 44 27.7**	**+0.3**
	baz=97						
PPLA	**Purkeypile**	**3.40**	**11**		**Pn**	**22 44 28.8**	**+0.6**
PPLA	**Purkeypile**	**3.40**	**11**	P	**Pn**	**22 44 28.8**	**+0.6**
	baz=192						
SML	**Sawmill**	**3.42**	**47**	Pn	**Pn**	**22 44 26.8**	**-1.5**
SML				IAML		22 45 09.2	
	comp=N,119nm,1.0s						
SML				IAML		22 45 18.3	
	comp=E,114nm,0.9s						
SML	**Sawmill**	**3.42**	**47**	P	**Pn**	**22 44 27.0**	**-1.4**
	baz=232						
L17K	**Donlin**	**3.46**	**320**	P	**Pn**	**22 44 28.6**	**-0.3**
	baz=136						
GLI	**Glacier Island**	**3.48**	**65**		**Pn**	**22 44 28.5**	**-0.8**
GLI	**Glacier Island**	**3.48**	**65**	P	**Pn**	**22 44 28.3**	**-0.9**
	baz=251						
ANNE	**Aniakchak Nort**	**3.57**	**224**		**Pn**	**22 44 30.0**	**-0.4**
L16K	**Owhat River**	**3.61**	**309**	Pn	**Pn**	**22 44 30.7**	**-0.2**
L16K	**Owhat River**	**3.61**	**309**	P	**Pn**	**22 44 30.8**	**-0.2**
	baz=124						
M23K	**Glacier View**	**3.64**	**50**	P	**Pn**	**22 44 30.1**	**-1.2**
	baz=235						
HIN	**Hinchinbrook I**	**3.65**	**74**		**Pn**	**22 44 30.7**	**-0.7**
FID	**Port Fidalgo**	**3.74**	**69**		**Pn**	**22 44 30.8**	**-1.8**
K20K	**Telida**	**3.81**	**357**		**Pn**	**22 44 33.2**	**-0.3**
K20K				IAML		22 45 16.1	
	comp=E,30nm,1.5s						
SCM	**Sheep Creek Mo**	**3.81**	**51**		**Pn**	**22 44 32.7**	**-1.0**
SCM				IAML		22 45 24.1	
	comp=E,135nm,0.9s						
SCM				IAML		22 45 30.0	
	comp=N,108nm,0.6s						
SCM	**Sheep Creek Mo**	**3.81**	**51**	P	**Pn**	**22 44 32.5**	**-1.2**
	baz=236						
K17K	**Iditarod**	**3.90**	**326**	Pn	**Pn**	**22 44 34.7**	**0.0**
K17K				IAML		22 45 37.3	
	comp=E,34nm,1.1s						
K17K				IAML		22 45 39.4	
	comp=N,31nm,1.3s						
K17K	**Iditarod**	**3.90**	**326**	P	**Pn**	**22 44 34.6**	**-0.1**
	baz=142						
CHIR	**Chirikof Islan**	**3.92**	**197**	Pn	**Pn**	**22 44 33.3**	**-1.6**
CHIR				IAML		22 45 17.6	
	comp=E,130nm,0.6s						
CHIR				IAML		22 45 18.8	
	comp=N,148nm,0.6s						
CAST	**Castle Rocks**	**3.93**	**10**	Pn	**Pn**	**22 44 35.4**	**+0.3**
CAST	**Castle Rocks**	**3.93**	**10**	P	**Pn**	**22 44 34.9**	**-0.1**
	baz=191						
O14K	**Tigyukauivet M**	**3.95**	**269**	Pn	**Pn**	**22 44 35.8**	**+0.5**
O14K				IAML		22 45 21.5	
	comp=N,33nm,1.0s						
EYAK	**Cordova Ski Ar**	**4.04**	**73**		**Pn**	**22 44 35.9**	**-0.6**
EYAK	**Cordova Ski Ar**	**4.04**	**73**	P	**Pn**	**22 44 35.8**	**-0.7**
EYAK	**Cordova Ski Ar**	**4.04**	**73**	P	**Pn**	**22 44 35.5**	**-1.1**
	baz=260						
WAT1	**Susitna Watana**	**4.07**	**34**	P	**Pn**	**22 44 36.0**	**-1.0**
	baz=219						
N14K	**Kuskokwak Cree**	**4.12**	**278**		**Pn**	**22 44 38.1**	**+0.5**
WAT6	**Susitna Watana**	**4.14**	**41**	P	**Pn**	**22 44 36.7**	**-1.4**
	baz=226						
CHGN	**Chignik**	**4.17**	**220**	Pn	**Pn**	**22 44 37.8**	**-0.6**
CHGN				IAML		22 45 26.2	
	comp=E,72nm,0.2s						
CHGN				IAML		22 45 26.9	
	comp=N,61nm,0.3s						
DIV	**Divide**	**4.18**	**65**		**Pn**	**22 44 38.3**	**-0.1**
J18K	**Innoko River**	**4.19**	**340**	P	**Pn**	**22 44 37.8**	**-0.8**
	baz=158						
KTH	**Kantishna Hill**	**4.19**	**16**		**Pn**	**22 44 37.9**	**-0.8**
KTH	**Kantishna Hill**	**4.19**	**16**	IAML		22 45 28.7	
	comp=E,55nm,0.7s						
KTH				IAML		22 45 28.7	
	comp=N,70nm,0.6s						
TRF	**Thorofare Moun**	**4.20**	**21**	IAML		22 45 25.8	
	comp=E,80nm,0.5s						
TRF				IAML		22 45 32.3	
	comp=N,76nm,0.6s						
TRF	**Thorofare Moun**	**4.20**	**21**	P	**Pn**	**22 44 37.9**	**-0.9**
	baz=204						
KLU	**Klutina**	**4.24**	**60**	IAML		22 45 29.5	
	comp=E,120nm,0.6s						
KLU	**Klutina**	**4.24**	**60**	P	**Pn**	**22 44 38.1**	**-1.2**
	baz=247						
M14K	**Bethel**	**4.36**	**289**	Pn	**Pn**	**22 44 41.3**	**+0.6**
M14K				IAML		22 45 25.3	
	comp=N,22nm,1.3s						
M14K				IAML		22 46 59.2	
	comp=E,23nm,1.3s						
CHUM	**Lake Minchumin**	**4.37**	**7**		**Pn**	**22 44 40.8**	**-0.1**
M24K	**Tolsona, Glenn**	**4.42**	**52**		**Pn**	**22 44 41.0**	**-0.7**
M24K	**Tolsona, Glenn**	**4.42**	**52**	P	**Pn**	**22 44 41.2**	**-0.5**
	baz=238						
L15K	**Ungalak Mounta**	**4.43**	**302**		**Pn**	**22 44 42.3**	**+0.5**
RND	**Reindeer**	**4.46**	**28**		**Pn**	**22 44 41.0**	**-1.2**
RND	**Reindeer**	**4.46**	**28**	IAML		22 45 33.6	
	comp=E,31nm,0.4s						
RND				IAML		22 45 35.4	
	comp=N,27nm,0.7s						
VNSG	**Veniaminof 6**	**4.54**	**223**		**Pn**	**22 44 42.7**	**-0.6**
RAGM	**Ragged Mountai**	**4.54**	**76**	Pn	**Pn**	**22 44 42.8**	**-0.6**
J19K	**Poorman**	**4.54**	**349**	Pn	**Pn**	**22 44 42.2**	**-1.0**
VNFG	**Fog Glacier, M**	**4.59**	**227**		**Pn**	**22 44 44.0**	**+0.1**
VNSS	**Veniaminof 8**	**4.59**	**226**		**Pn**	**22 44 44.6**	**+0.4**
DHY	**Denali Highway**	**4.61**	**38**	Pn	**Pn**	**22 44 43.1**	**-1.2**
DHY				IAML		22 45 38.1	
	comp=E,60nm,0.5s						
DHY				IAML		22 45 38.7	
	comp=N,89nm,0.5s						
DHY	**Denali Highway**	**4.61**	**38**	P	**Pn**	**22 44 43.1**	**-1.2**
	baz=223						
J20K	**Nowinta River**	**4.63**	**357**	Pn	**Pn**	**22 44 44.3**	**-0.1**
J20K				IAML		22 45 40.7	
	comp=N,19nm,1.4s						
J20K	**Nowinta River**	**4.63**	**357**	P	**Pn**	**22 44 43.9**	**-0.5**
	baz=176						
KAIM	**Kayak Island**	**4.64**	**82**	Pn	**Pn**	**22 44 45.0**	**+0.4**
BMRM	**Bremner River**	**4.68**	**69**		**Pn**	**22 44 44.9**	**-0.3**
BMRM	**Bremner River**	**4.68**	**69**	P	**Pn**	**22 44 44.7**	**-0.4**
	baz=257						
BPAW	**Bear Paw Mtn.**	**4.71**	**14**		**Pn**	**22 44 44.7**	**-0.8**
BPAW	**Bear Paw Mtn.**	**4.71**	**14**	IAML		22 45 38.8	
	comp=N,30nm,0.6s						
BPAW				IAML		22 45 39.2	
	comp=E,27nm,1.2s						
BPAW	**Bear Paw Mtn.**	**4.71**	**14**	P	**Pn**	**22 44 44.7**	**-0.8**
	baz=196						
MCK	**McKinley**	**4.72**	**26**		**Pn**	**22 44 45.1**	**-0.6**
MCK	**McKinley**	**4.72**	**26**	P	**Pn**	**22 44 45.1**	**-0.6**
	baz=210						
K15K	**Wolf Creek Mou**	**4.75**	**309**	Pn	**Pn**	**22 44 46.5**	**+0.5**
L14K	**Kuka Creek**	**4.85**	**295**	Pn	**Pn**	**22 44 48.0**	**+0.7**
L14K				IAML		22 46 09.8	
	comp=N,24nm,1.4s						
L14K				IAML		22 46 57.9	
	comp=E,28nm,1.3s						
N25K	**Chitina, Valde**	**4.87**	**61**	Pn	**Pn**	**22 44 48.0**	**+0.2**
N25K				IAML		22 45 42.1	
	comp=N,65nm,0.6s						
N25K				IAML		22 45 43.6	
	comp=E,47nm,0.7s						
N25K	**Chitina, Valde**	**4.87**	**61**	P	**Pn**	**22 44 46.9**	**-0.9**
	baz=249						
NICHA	**Nichawak Mount**	**4.88**	**78**		**Pn**	**22 44 47.0**	**-0.8**
SUCK	**Suckling Hills**	**4.97**	**80**	Pn	**Pn**	**22 44 49.1**	**+0.1**
SUCK				IAML		22 45 57.0	
	comp=N,69nm,0.8s						
HARP	**HAARP**	**4.98**	**52**	P	**Pn**	**22 44 48.5**	**-0.6**
	baz=239						
M13K	**Dall Lake**	**4.98**	**284**	Pn	**Pn**	**22 44 50.3**	**+1.1**
M13K				IAML		22 45 50.7	
	comp=N,21nm,1.4s						
M13K				IAML		22 47 15.1	
	comp=E,23nm,1.4s						
BWN	**Browne**	**5.01**	**21**		**Pn**	**22 44 49.2**	**-0.3**
BWN				IAML		22 46 14.6	
	comp=E,40nm,0.8s						
BWN				IAML		22 46 27.8	
	comp=N,42nm,1.4s						

MENT	Mentasta	5.83	50	Pn		Pn	22 45 00.9 +0.3
M26K	Nabesna, AK	5.88	57			Pn	22 45 01.4 +0.2
M26K	Nabesna, AK	5.88	57	P		Pn	22 45 01.3 +0.1
	baz=246						
MESA	MESA	5.88	79			Pn	22 45 01.8 +0.3
MESA	MESA	5.88	79	P		Pn	22 45 01.6 +0.1
	baz=269						
K13K	Kusilvak Mount	5.93	298	Pn		Pn	22 45 02.1 +0.3
I23K	Minto, Yukon-K	5.93	17			Pn	22 45 01.3 -0.6
I23K	Minto, Yukon-K	5.93	17	P		Pn	22 45 01.0 -0.8
	baz=201						
MDM	Murphy Dome	5.95	22			Pn	22 45 00.8 -1.3
COLA	College	5.95	24			Pn	22 45 01.1 -1.0
COLA	College	5.95	24	P		Pn	22 45 01.0 -1.1
L26K	Log Cabin Wild	6.02	51			Pn	22 45 03.7 +0.6
H18K	Honhosa River	6.03	340			Pn	22 45 02.5 -0.7
H18K	Honhosa River	6.03	340	P		Pn	22 45 02.5 -0.7
	baz=156						
IL31		6.08	28			Pn	22 45 02.7 -1.2
ILAR	Eielson Array	6.08	28	Pn		Pn	22 45 02.7 -1.3
ILAR	Eielson Array	6.08	28	P		Pn	22 45 02.1 -1.9
	comp=N,15nm,0.6s,baz=216,slow=14,SNR=297						
ILAR				S		Sn	22 46 07.0 -5.2
	comp=N,3.1nm,0.4s,baz=218,slow=23,SNR=5.5						
BARN	Barnard Glacie	6.10	71			Pn	22 45 04.8 +0.3
H21K	Melozitna Rive	6.12	3			Pn	22 45 04.3 -0.2
H21K	Melozitna Rive	6.12	3	P		Pn	22 45 03.7 -0.7
	baz=184						
H19K	Roundabout Mou	6.12	349	Pn		Pn	22 45 04.6 +0.2
H17K	Granite Mounta	6.14	334			Pn	22 45 04.3 -0.4
RKAV	Rock Avalanche	6.19	78			Pn	22 45 05.3 -0.2
CTG	Chitna Glacier	6.24	72	P		Pn	22 45 06.5 +0.2
	baz=263						
POKR	Poker Plat Res	6.25	25			Pn	22 45 05.0 -1.3
POKR	Poker Plat Res	6.25	25	P		Pn	22 45 05.3 -0.9
	baz=210						
TABL	Table Mountain	6.29	77			Pn	22 45 07.2 +0.2
SCRK	Sand Creek	6.34	42	P		Pn	22 45 05.8 -1.7
	baz=230						
M27K	Edge Creek, AK	6.34	59			Pn	22 45 07.9 +0.4
M27K	Edge Creek, AK	6.34	59	P		Pn	22 45 07.9 +0.4
	baz=249						
J25K	Salcha River,	6.35	34	P		Pn	22 45 06.2 -1.4
	baz=221						
H22K	Ishtalitna Cre	6.43	8			Pn	22 45 08.0 -0.6
H22K	Ishtalitna Cre	6.43	8	P		Pn	22 45 08.2 -0.3
	baz=190						
IMAR	Indian Mountai	6.44	359	Pn		Pn	22 45 08.6 -0.1
YUK2	White River	6.63	65			Pn	22 45 11.4 -0.1
L27K	Beaver Creek,	6.65	53	Pn		Pn	22 45 11.6 0.0
L27K	Beaver Creek,	6.65	53	P		Pn	22 45 10.8 -0.8
	baz=244						
BCAR	Beaver Creek A	6.67	53	Pn		Pn	22 45 12.3 +0.5
PCA	Pinnacle	6.73	80			Pn	22 45 12.9 +0.1
PINM	Pinnacle	6.73	80	P		Pn	22 45 12.9 0.0
	baz=271						
G18K	Tagagawik	6.76	342	Pn		Pn	22 45 12.3 -0.8
O28M	Mount Upton	6.78	74	P		Pn	22 45 14.1 +0.4
	baz=266						
G19K	Purcell Mounta	6.79	348	Pn		Pn	22 45 12.8 -0.7
YUK3	Moose Creek	6.81	65	P		Pn	22 45 14.2 +0.2
	baz=257						
H24K	Noodor Dome	6.81	20			Pn	22 45 12.6 -1.2
H24K	Noodor Dome	6.81	20	P		Pn	22 45 12.8 -1.0
	baz=205						
G21K	Allakaket	6.97	0	Pn		Pn	22 45 15.9 +0.1
PRP	Porcupine Dome	7.03	28	P		Pn	22 45 15.6 -1.2
	baz=216						
BCPM	Bancas Point	7.05	81	Pn		Pn	22 45 18.3 +1.3
G16K	Koyuk River	7.11	329	Pn		Pn	22 45 17.2 -0.6
PNL	Peninsula	7.19	83	P		Pn	22 45 18.7 -0.2
PNL	Peninsula	7.19	83	P		Pn	22 45 18.5 -0.4
	baz=276						
ANM	Nome	7.46	317	Pn		Pn	22 45 23.0 +0.5
F19K	Shaleruckik Mo	7.53	347	Pn		Pn	22 45 24.0 +0.6
O29M	Mount Kennedy	7.57	78			Pn	22 45 24.4 +0.3
O29M	Mount Kennedy	7.57	78	P		Pn	22 45 24.1 0.0
	baz=271						
F20K	Avaraart Lake	7.57	354	Pn		Pn	22 45 24.3 +0.4
G24K	Hadweenzic Riv	7.67	18	Pn		Pn	22 45 23.9 -1.4
G24K	Hadweenzic Riv	7.67	18	P		Pn	22 45 24.2 -1.1
	baz=204						
F21K	Alatna River	7.68	0	Pn		Pn	22 45 26.5 +1.0
F17K	Baldwin Pennin	7.72	336	Pn		Pn	22 45 24.2 -1.8
EGAK	Eagle	7.80	43			Pn	22 45 25.8 -1.3
M29M	Somme Creek	7.88	62			Pn	22 45 28.1 -0.2
M29M	Somme Creek	7.88	62	P		Pn	22 45 28.1 -0.2
	baz=255						
FYU	Fort Yukon	7.97	25	Pn		Pn	22 45 28.5 -0.8
F15K	North Star Dit	7.99	325	Pn		Pn	22 45 29.7 +0.2
P29M	Windy Craggy	8.03	83			Pn	22 45 30.1 -0.1
P29M	Windy Craggy	8.03	83	P		Pn	22 45 30.1 -0.1
	baz=276						
DAWY	Dawson	8.07	50			Pn	22 45 31.2 +0.4
E19K	Redstone River	8.08	350			Pn	22 45 31.2 +0.3
HYT	Haines Junctio	8.10	74	Pn		Pn	22 45 31.9 +0.6
L29M	L29M	8.22	58			Pn	22 45 32.7 -0.1
L29M	L29M	8.22	58	P		Pn	22 45 32.7 -0.1
	baz=252						
N30M	Aishikik Lake	8.35	70			Pn	22 45 33.9 -0.7
E18K	Tukpahlearik C	8.48	341	Pn		Pn	22 45 36.5 +0.3
I28M	Miner Creek	8.62	41	Pn		Pn	22 45 37.0 -1.1
M30M	Minto, Yukon	8.66	62	Pn		Pn	22 45 39.2 +0.4
J29N	Klondike Camp	8.71	49	Pn		Pn	22 45 40.0 +0.6
K29M	Barlow Dome	8.73	54			Pn	22 45 39.8 0.0
O30N	Mendenhall	8.79	75	Pn		Pn	22 45 41.6 +1.1
E24K	Your Creek	8.82	13	Pn		Pn	22 45 40.3 -0.6
BMAR	Burnt Mountain	8.84	23	Pn		Pn	22 45 39.5 -1.6
N31M	Braeburn, Yuko	8.97	70	Pn		Pn	22 45 43.6 +0.7
G27K	Doyon Strip	9.02	31	Pn		Pn	22 45 42.1 -1.5
I29M	Ogilvie Camp,	9.13	44	Pn		Pn	22 45 45.5 +0.5
D19K	Kuna River	9.18	349	Pn		Pn	22 45 46.3 +0.7
TOLK	Toolik Lake Re	9.27	9	Pn		Pn	22 45 47.6 +0.7
SKAG	Skagway	9.27	83	Pn		Pn	22 45 47.9 +1.0
J30M	Hart River	9.50	51	Pn		Pn	22 45 51.2 +1.2
H29M	Whitestone	9.60	40	Pn		Pn	22 45 51.4 +0.1
C18K	Utukok River	9.69	343	Pn		Pn	22 45 52.7 +0.1
M31M	Drury Creek, Y	9.70	66	Pn		Pn	22 45 53.5 +0.7
I30M	Mount Dempster	9.76	47	Pn		Pn	22 45 54.5 +0.9
D24K	Happy Valley	9.83	10	Pn		Pn	22 45 55.8 +1.4
P32M	Atlin	10.07	81	Pn		Pn	22 45 59.5 +1.8
F28M	Old Crow	10.09	31	Pn		Pn	22 45 57.2 -0.7
E27K	Coleen River	10.11	26	Pn		Pn	22 45 56.7 -1.4
G29M	Pine Creek	10.13	37	Pn		Pn	22 45 59.3 +0.8
FARO	Faro, Yukon	10.19	66	Pn		Pn	22 45 60.0 +0.6
D25K	Kavik River	10.26	14	Pn		Pn	22 45 59.4 -0.8
P33M	Teslin, Yukon	10.44	78	Pn		Pn	22 46 03.9 +1.2
G30M	tAoh Zrail Nji	10.74	39	Pn		Pn	22 46 05.9 -0.8
H31M	Peel River	10.78	46	Pn		Pn	22 46 06.6 -0.6
Q32M	Nakina River	10.91	84	Pn		Pn	22 46 10.9 +1.8
E29M	Blow River	11.16	31	Pn		Pn	22 46 12.5 +0.2
MMPY	Sheldon Lake,	11.20	65	Pn		Pn	22 46 14.5 +1.7
G31M	Satah River	11.35	41	Pn		Pn	22 46 14.3 -0.4
U33K	Whale Pass	11.42	99	Pn		Pn	22 46 17.9 +2.3
R33M	Jennings River	11.48	81	Pn		Pn	22 46 18.6 +1.9
CRAG	Craig	11.72	102	Pn		Pn	22 46 20.6 +0.9
S34M	Telegraph Cree	11.76	88	Pn		Pn	22 46 21.6 +1.4
DLBC	Dease Lake	12.17	85	Pn		Pn	22 46 28.1 +2.4
DLBC	Dease Lake	12.17	85	P		Pn	22 46 27.4 +1.8
	comp=N,1.7nm,0.3s,baz=247,slow=10,SNR=8.4						
INK	Inuvik	12.35	37	Pn		Pn	22 46 28.3 +0.5
INK	Inuvik	12.35	37	P		Pn	22 46 28.6 +0.7
	comp=N,2.8nm,0.8s,baz=228,slow=13,SNR=5.7						
YKA	Yellowknife Ar	18.89	64	P		P	22 47 46.8 -0.2
	comp=N,2.2nm,0.8s,baz=278,slow=12,SNR=2.3						
KSRS	Korea Array	52.99	282	P		P	22 52 40.2 +0.2
	comp=N,0.9nm,0.4s,baz=34,slow=8.1,SNR=2.7						
	comp=N,0.9nm,0.4s						
SONM	Songino Array	54.81	306	P		P	22 52 53.1 -0.2
	comp=N,1.8nm,0.6s,baz=45,slow=6.5,SNR=11						
	comp=N,1.8nm,0.6s						
ZALV	Zalesovo Beam	57.55	323	P		P	22 53 12.1 -0.4
	comp=N,1.5nm,0.6s,baz=33,slow=6.4,SNR=5.9						
	comp=N,1.5nm,0.6s						
BVAR	Borovoye Array	62.31	332	P		P	22 53 43.5 -1.5
	comp=N,0.9nm,0.6s,baz=26,slow=7.4,SNR=6.9						
	comp=N,0.9nm,0.6s						
KURBB	Kurchatov Arra	62.33	325	P		P	22 53 43.7 -1.4
	comp=N,0.1nm,0.3s,baz=25,slow=6.7,SNR=2.4						
	comp=N,0.1nm,0.3s						
ESDC	Sonseca Array	77.97	24	P		P	22 55 21.2 +0.5
	comp=N,0.1nm,0.6s,baz=335,slow=5.7,SNR=1.6						
	comp=N,0.1nm,0.6s						

TAP ***27*** *22:47:45.1,24.°69N×122.°57E,h21km,ML3.3,C*
JMA ***27*** *22:47:45.2×0.1,24.°6N±0.°8×122.°5E±0.°3,h17km±1km,*
MV2.7/13,NW OFF ISHIGAKIJIMA IS
ISC 27 22:47:44.7±1.0,**24.°68N**±0.°02×**122.°54E**±0.°02,**h19**km±2km,
n110,σ0°**70**/199,**12C-8D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.38**	**228**	⇑*i*P	**Pg**	**22 47 52.9**	**+0.3**
	baz=227						
EOS2				S	**Sb**	**22 47 59.4**	**+0.9**
	baz=227						
JYNG	**Yonagunijimaku**	**0.43**	**122**	P	**Pg**	**22 47 53.6**	**+0.1**
JYNG				S	**Sg**	**22 47 59.4**	**-0.2**
EOS3	**EOS3**	**0.44**	**208**	⇑P	**Pg**	**22 47 54.0**	**+0.3**
	baz=209						
EOS3				S	**Sn**	**22 48 01.8**	**-1.5**
	baz=209						
YOJ	**Yonaguni jima**	**0.48**	**117**	P	**Pg**	**22 47 54.4**	**0.0**
YOJ				S	**Sg**	**22 48 00.9**	**0.0**
YOJ	**Yonaguni jima**	**0.48**	**117**	P	**Pg**	**22 47 54.4**	**0.0**
	baz=119						
YOJ				S	**Sg**	**22 48 01.2**	**+0.2**
	baz=119						
EGS		**0.58**	**287**	*i* P	**Pb**	**22 47 56.0**	**-0.2**
	baz=284						
EOS4	**EOS4**	**0.59**	**200**	⇑P	**Pg**	**22 47 56.6**	**+0.2**
	baz=201						
EOS4				S	**Sn**	**22 48 05.7**	**-1.1**
	baz=201						
TWB1	**Santiao Chiao**	**0.60**	**303**	⇓P	**Pb**	**22 47 56.4**	**-0.1**
	baz=301						
TWB1				S	**Sb**	**22 48 04.5**	**-0.1**
	baz=301						
TWC	**Suao**	**0.64**	**264**	*i* P	**Pb**	**22 47 57.0**	**-0.1**
	baz=262						
TWC				S	**Sg**	**22 48 07.1**	**+1.2**
	baz=262						
EWUT	**Wuta**	**0.73**	**252**	P	**Pb**	**22 47 58.8**	**0.0**
	baz=250						
EWUT				*e*S	**Sb**	**22 48 08.2**	**-0.4**
	baz=250						
SXI1	**Grass Mountain**	**0.73**	**304**	P	**Pb**	**22 47 58.9**	**0.0**
	baz=302						
SXI1				S	**Sb**	**22 48 09.0**	**+0.4**
	baz=302						
NDS	**Dongshan**	**0.75**	**267**	P	**Pb**	**22 47 59.7**	**+0.5**
	baz=265						
NDS				S	**Sg**	**22 48 09.9**	**+0.4**
	baz=265						
ENA	**Nanau**	**0.77**	**251**	*i* P	**Pb**	**22 47 59.4**	**-0.1**
	baz=250						
ENA				*e*S	**Sb**	**22 48 09.4**	**-0.2**
	baz=250						
NWF	**Wu-fen Shan**	**0.79**	**300**	P	**Pb**	**22 47 60.0**	**0.0**
	baz=297						
NWF				S	**Sb**	**22 48 10.4**	**+0.1**
	baz=297						
WFSB	**Wu-fen Shan**	**0.79**	**300**	P	**Pb**	**22 47 59.9**	**-0.1**
	baz=297						
WFSB				S	**Sb**	**22 48 10.8**	**+0.5**
	baz=297						
TWE	**Neicheng**	**0.80**	**273**	*i* P	**Pb**	**22 47 59.6**	**-0.4**
	baz=271						
TWE				S	**Sg**	**22 48 11.6**	**+0.6**
	baz=271						
EHP	**Heping Village**	**0.82**	**243**	*e*P	**Pb**	**22 48 00.2**	**-0.1**
	baz=242						
TNOU	**National Taiwa**	**0.84**	**304**	*e*P	**Pb**	**22 47 58.0**	**-2.7**
	baz=302						
TNOU				*e*S	**Sb**	**22 48 11.5**	**-0.2**
	baz=302						
FUSB	**Fushanzhiwuyua**	**0.87**	**275**	⇓P	**Pb**	**22 48 01.5**	**+0.2**
	baz=274						
FUSB				*e*S	**Sb**	**22 48 12.9**	**+0.3**
	baz=274						
ENTT	**Nioudou**	**0.89**	**268**	⇑P	**Pb**	**22 48 01.7**	**+0.2**
	baz=266						
ENTT				S	**Sb**	**22 48 13.4**	**+0.3**
	baz=266						
TWA	**Mucha**	**0.92**	**289**	⇓*e*P	**Pb**	**22 48 02.5**	**+0.4**
	baz=287						
TWA				*e*S	**Sb**	**22 48 14.3**	**+0.3**
	baz=287						
LATG	**Datong**	**0.94**	**261**	⇓*i*P	**Pb**	**22 48 02.4**	**0.0**
	baz=260						
LATG				*i* S	**Sg**	**22 48 15.7**	**+0.3**
	baz=260						
NDT	**Datong Townshi**	**0.94**	**266**	⇑P	**Pb**	**22 48 02.7**	**+0.3**
	baz=264						
NDT				*i* S	**Sg**	**22 48 15.6**	**+0.2**
	baz=264						
NWLT	**Wulai**	**0.95**	**276**	⇑P	**Pb**	**22 48 03.1**	**+0.4**
	baz=274						
NWLT				*e*S	**Sb**	**22 48 14.9**	**0.0**
	baz=274						
NHY	**Taipei**	**0.95**	**292**	*e*P	**Pb**	**22 48 01.3**	**-1.4**
	baz=290						
NHY				*e*S	**Sb**	**22 48 15.6**	**+0.7**
	baz=290						
NWRT	**Kuosheng**	**0.96**	**303**	*e*P	**Pb**	**22 48 02.1**	**-0.6**
	baz=301						
NWRT				*e*S	**Sb**	**22 48 14.6**	**-0.4**
	baz=301						
NHDH	**Xindian Distri**	**0.97**	**287**	P	**Pb**	**22 48 03.0**	**+0.1**
	baz=285						
NHDH				*e*S	**Sb**	**22 48 15.4**	**+0.1**
	baz=285						
ETL	**Fush Village**	**0.98**	**238**	*e*P	**Pb**	**22 48 01.3**	**-1.9**
	baz=238						
ETL				*e*S	**Sb**	**22 48 15.9**	**+0.1**
	baz=238						
YM01	**YM01**	**1.00**	**298**	P	**Pb**	**22 48 03.4**	**0.0**
	baz=296						
YM01				*e*S	**Sb**	**22 48 16.2**	**0.0**
	baz=296						
NACB	**Ninganchiao**	**1.00**	**240**	*i* P	**Pb**	**22 48 03.5**	**+0.1**
	baz=239						
NACB				*e*S	**Sb**	**22 48 16.6**	**+0.4**
	baz=239						
TATO	**Taipei**	**1.00**	**287**	P	**Pb**	**22 48 03.8**	**+0.3**
	baz=285						
TATO				*e*S	**Sb**	**22 48 16.0**	**-0.3**
	baz=285						
YM08	**YM08**	**1.00**	**301**	*e*P	**Pb**	**22 48 02.5**	**-0.9**
	baz=299						
YM08				*e*S	**Sb**	**22 48 15.6**	**-0.7**
	baz=299						
TAP	**Taipei**	**1.01**	**291**	P	**Pb**	**22 48 03.1**	**-0.5**
	baz=289						
TAP				S	**Sb**	**22 48 17.4**	**+1.0**
	baz=289						
PCYT	**Pengchaiyu**	**1.04**	**336**	P	**Pb**	**22 48 03.8**	**-0.3**
	baz=334						
PCYT				*i* S	**Sb**	**22 48 17.9**	**+0.5**
	baz=334						
TWY	**Chenhua**	**1.04**	**305**	*e*P	**Pg**	**22 48 05.3**	**+0.3**
	baz=303						
TWY				S	**Sb**	**22 48 18.2**	**+0.8**
	baz=303						
TWD	**Chiawan**	**1.05**	**236**	*e*P	**Pg**	**22 48 05.6**	**+0.6**
	baz=235						
TWD				S	**Sb**	**22 48 18.1**	**+0.4**
	baz=235						
ANP	**Anpu**	**1.06**	**299**	*e*P	**Pn**	**22 48 05.2**	**+0.6**
	baz=297						
ANP				*e*S	**Sn**	**22 48 19.5**	**+0.6**
	baz=297						
YHNB	**Yeheng**	**1.06**	**270**	⇓P	**Pb**	**22 48 04.7**	**+0.1**
	baz=268						
YHNB				*i* S	**Sb**	**22 48 19.0**	**+0.9**
	baz=268						
ETLH	**Xiulin Townshi**	**1.07**	**244**	P	**Pb**	**22 48 04.5**	**-0.3**
	baz=243						
ETLH				*e*S	**Sb**	**22 48 18.6**	**+0.1**
	baz=243						
NSK	**Sanguang**	**1.08**	**270**	⇓P	**Pb**	**22 48 04.8**	**0.0**
	baz=268						
NSK				S	**Sb**	**22 48 18.8**	**+0.3**
	baz=268						
NNSB	**Datong**	**1.08**	**257**	⇑P	**Pb**	**22 48 05.2**	**+0.3**
	baz=256						
NNSB				*i* S	**Sn**	**22 48 19.7**	**+0.1**
	baz=256						
NNSH	**Datong**	**1.08**	**257**	*e*P	**Pb**	**22 48 05.1**	**+0.1**
	baz=256						
NNSH				*i* S	**Sn**	**22 48 19.8**	**+0.2**
	baz=256						
NNS	**Nan Shan**	**1.09**	**258**	⇑P	**Pb**	**22 48 05.4**	**+0.3**
	baz=256						
NNS				S	**Sn**	**22 48 20.4**	**+0.6**
	baz=256						
NTST	**Danshui**	**1.10**	**296**	⇑P	**Pn**	**22 48 05.1**	**-0.1**
	baz=294						
NTST				S	**Sb**	**22 48 20.0**	**+0.8**
	baz=294						
TWS1	**Kuangyinshan**	**1.10**	**293**	P	**Pn**	**22 48 04.1**	**-1.0**
	baz=291						
TWS1				*i* S	**Sb**	**22 48 19.9**	**+0.6**
	baz=291						
IRIF	**Iriomote-Funau**	**1.14**	**107**	*e*P	**Pb**	**22 48 06.1**	**+0.4**
IRIF				S	**Sn**	**22 48 21.0**	**+0.4**
ETM	**Tongmen**	**1.19**	**234**	P	**Pb**	**22 48 06.9**	**+0.2**
	baz=233						
ETM				*i* S	**Sn**	**22 48 22.6**	**+0.4**
	baz=233						
LXIB	**Xiulin Townshi**	**1.22**	**238**	*e*P	**Pb**	**22 48 07.6**	**+0.3**
	baz=237						
LXIB				*e*S	**Sg**	**22 48 24.6**	**+0.2**
	baz=237						
FUSS	**Fushou**	**1.26**	**250**	⇓*e*P	**Pb**	**22 48 08.2**	**+0.2**
	baz=249						
FUSS				*e*S	**Sb**	**22 48 23.3**	**-0.6**
	baz=249						
WHF	**Hehuan Shan**	**1.28**	**246**	*e*P	**Pn**	**22 48 08.5**	**+0.5**
	baz=245						
WHF				S	**Sb**	**22 48 24.9**	**+0.2**
	baz=245						
NFF	**Wufeng Townshi**	**1.30**	**268**	*e*P	**Pn**	**22 48 08.6**	**+0.7**
	baz=267						
NFF				S	**Sb**	**22 48 25.7**	**+0.8**
	baz=267						
HATJ	**Hateruma jima**	**1.31**	**118**	*e*S	**Sb**	**22 48 25.7**	**+0.7**
TWT	**Tachien**	**1.32**	**251**	P	**Pn**	**22 48 08.4**	**+0.1**
	baz=250						
TWT				S	**Sb**	**22 48 26.1**	**+0.6**
	baz=250						
NJD	**Zhudong**	**1.32**	**273**	*e*P	**Pn**	**22 48 07.2**	**-1.0**
	baz=271						
NJD				S	**Sn**	**22 48 25.2**	**-0.1**
	baz=271						
ESL	**Shilin**	**1.33**	**230**	P	**Pn**	**22 48 08.6**	**+0.3**
	baz=229						
ESL				*e*S	**Sn**	**22 48 25.1**	**-0.4**
	baz=229						
TDCB	**Techi**	**1.33**	**252**	*e*P	**Pb**	**22 48 10.2**	**+1.0**
	baz=251						
TDCB				S	**Sn**	**22 48 26.1**	**+0.3**
	baz=251						
HSN1	**Hsinchu**	**1.39**	**274**	P	**Pn**	**22 48 08.8**	**-0.3**
	baz=273						
HSN1				*i* S	**Sn**	**22 48 27.2**	**+0.3**
	baz=273						
LIOB	**Emei**	**1.39**	**269**	*e*P	**Pg**	**22 48 11.4**	**-0.2**
	baz=268						
LIOB				*e*S	**Sg**	**22 48 29.4**	**-0.4**
	baz=268						
CHGB	**Renai**	**1.39**	**244**	⇑*e*P	**Pb**	**22 48 10.8**	**+0.6**
	baz=243						
CHGB				*e*S	**Sb**	**22 48 29.0**	**+1.3**
	baz=243						
NHW	**Xinwu Township**	**1.40**	**284**	S	**Sn**	**22 48 27.0**	**-0.1**
	baz=282						
NSTT	**Nanjuang**	**1.40**	**268**	*e*P	**Pg**	**22 48 11.6**	**-0.2**
	baz=267						
NSTT				*e*S	**Sb**	**22 48 29.1**	**+1.3**
	baz=267						
JKRS	**Kuro-shima**	**1.41**	**108**	*e*P	**Pb**	**22 48 10.5**	**+0.1**
JKRS				S	**Sb**	**22 48 28.3**	**+0.4**
SBCB	**Hsinchu**	**1.42**	**275**	*e*P	**Pn**	**22 48 09.6**	**0.0**
	baz=273						
SBCB				*e*S	**Sb**	**22 48 28.6**	**+0.3**
	baz=273						
WARBT	**Fenglin Townsh**	**1.43**	**228**	⇑P	**Pn**	**22 48 09.6**	**0.0**
	baz=227						
WARBT				*i* S	**Sb**	**22 48 28.5**	**0.0**
	baz=227						
EGFH	**Guangfu**	**1.43**	**226**	*e*P	**Pb**	**22 48 10.8**	**0.0**
	baz=225						
EGFH				*e*S	**Sb**	**22 48 29.6**	**+1.0**
	baz=225						
HSN	**Hsinchu**	**1.44**	**275**	*e*P	**Pn**	**22 48 09.8**	**+0.1**
	baz=275						
OWD	**Renai**	**1.44**	**240**	*e*P	**Pn**	**22 48 10.5**	**+0.6**
	baz=239						
OWD				*e*S	**Sb**	**22 48 29.5**	**+0.4**
	baz=239						
WUSB	**Renai**	**1.47**	**243**	⇓*e*P	**Pb**	**22 48 12.2**	**+0.7**
	baz=242						
WUSB				*e*S	**Sg**	**22 48 31.8**	**-0.5**
	baz=242						
JIJ	**Ishigaki jima**	**1.49**	**102**	*e*P	**Pb**	**22 48 11.7**	**-0.1**
JIJ				*e*S	**Sb**	**22 48 30.3**	**0.0**
WHP	**Taichung City**	**1.51**	**255**	*e*P	**Pb**	**22 48 13.2**	**+1.0**
	baz=254						
WHP				*e*S	**Sg**	**22 48 32.8**	**-0.8**
	baz=254						
HGSD	**Ruisui**	**1.56**	**221**	*e*P	**Pn**	**22 48 11.9**	**+0.4**
	baz=221						
HGSD				*e*S	**Sb**	**22 48 32.0**	**-0.4**
	baz=221						
VWDT	**VWDT**	**1.58**	**235**	⇑*e*P	**Pb**	**22 48 12.9**	**-0.4**
	baz=234						
VWDT				*e*S	**Sb**	**22 48 33.5**	**+0.7**
	baz=234						
DPDB	**Guoxing**	**1.61**	**247**	*e*P	**Pb**	**22 48 14.3**	**+0.4**
	baz=246						
WCS	**Beigang Elemen**	**1.61**	**248**	*e*P	**Pb**	**22 48 14.4**	**+0.5**
	baz=247						
JISG	**Ishigakijimahi**	**1.61**	**93**	*e*P	**Pn**	**22 48 12.3**	**+0.2**
EHY	**Hungye**	**1.61**	**224**	*i* P	**Pn**	**22 48 12.3**	**+0.1**
	baz=223						
NSY	**Sanyi**	**1.64**	**261**	*e*S	**Sn**	**22 48 33.6**	**+0.3**
	baz=260						
SMLT	**Sun Moon Lake**	**1.70**	**242**	*e*P	**Pb**	**22 48 15.4**	**0.0**
	baz=241						
SMLT				*e*S	**Sn**	**22 48 35.5**	**+0.8**
	baz=241						
SSLB	**Suanglung**	**1.70**	**239**	*e*P	**Pb**	**22 48 14.8**	**-0.6**
	baz=238						
SSLB				*e*S	**Sn**	**22 48 35.6**	**+0.9**
	baz=238						
YULB	**Yu-li**	**1.71**	**222**	*e*P	**Pn**	**22 48 13.2**	**-0.4**
	baz=221						
YULB				*e*S	**Sn**	**22 48 34.

baz=213
EDH eS Sn 22 48 43.3 +0.2
baz=213
LONT Longtian 2.19 217 eP Pn 22 48 20.0 -0.1
baz=216
LONT eS Sn 22 48 46.7 0.0
baz=216
STYH Taoyuan 2.21 227 eP Pn 22 48 22.4 +2.1
baz=227
STYH eS Sn 22 48 47.2 +0.1
baz=227
CHN4 Tsaushan 2.22 234 eP Pb 22 48 23.2 -1.1
baz=233
TPUB Ta-pu 2.22 232 eP Pb 22 48 23.4 -0.9
baz=231
WTP Ta-pu 2.27 231 eP Pb 22 48 23.7 -1.4
baz=230
TWGBT Beinan 2.29 216 eP Pn 22 48 21.8 +0.3
baz=216
TWGBT eS Sn 22 48 49.0 -0.1
baz=216
TWG Pinlang 2.29 216 eP Pn 22 48 21.7 +0.2
baz=216
TWG eS Sn 22 48 49.0 -0.1
baz=216
TWK Hsinying 2.35 234 eP Pb 22 48 25.1 -1.4
baz=233
CHN1 Nanshi 2.37 232 eP Pb 22 48 25.4 -1.4
baz=231
SNST Tainan City 2.37 233 eP Pn 22 48 23.4 +0.8
baz=232
SNST eS Sn 22 48 52.3 +1.2
baz=232
SLGT Liugui 2.42 226 eP Pb 22 48 25.9 -1.6
baz=226
MASBT Mashibuluo 2.70 221 eP Pb 22 48 30.4 -2.1
baz=220
MASBT eS Sn 22 49 00.7 +1.4
baz=220
TSCK Chigu Township 2.72 236 P Pn 22 48 27.8 +0.4
baz=235
EAST Anshuo 2.76 215 eP Pn 22 48 29.1 +1.1
baz=214
EAST eS Sn 22 49 00.9 0.0
baz=214
LYUB Lan-yu 2.81 198 eP Pn 22 48 28.7 +0.1
baz=198
LYUB eS Sn 22 49 00.9 -1.0
baz=198
VWUC VWUC 2.83 277 eP Pn 22 48 28.1 -0.8
baz=275
VWUC eS Sn 22 49 00.9 -1.5
baz=275
SCZT Fangliau 2.90 218 eP Pb 22 48 33.1 -2.7
baz=217
SCZT eS Sn 22 49 05.1 +0.9
baz=217
PHUB P'eng-hu 2.95 247 eS Sn 22 49 03.6 -1.9
baz=246

JMA 28 00:18:10.5±0.3, 39°.6N±1°.0×14°.4E±°, h50km, MV4.1/34, FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.94**	**282**	P	Pn	00 18 41.9	+1.0
MIYJ	**Miyakonagasawa**	**1.94**	**272**	P	Pn	00 18 41.9	+1.0
OFUJ	**Ofunato**	**2.11**	**258**	*i* P	Pn	00 18 44.0	+0.6
OFUJ				S	Sn	00 19 08.4	0.0
JKEN	**Kujiedanarisaw**	**2.11**	**289**	P	Pn	00 18 44.2	+0.9
JKEN				S	Sn	00 19 09.0	+0.6
JANG	**Nango**	**2.31**	**292**	P	Pn	00 18 46.9	+0.9
JOM	**Ohasama**	**2.35**	**269**	*i* P	Pn	00 18 47.9	+1.4
JOM				*e*S	Sn	00 19 15.7	+1.6
JMK	**Ichinoseki**	**2.48**	**257**	*i* P	Pn	00 18 49.2	+0.8
JNBK	**Urakawa-nobuka**	**2.97**	**337**	P	Pn	00 18 57.3	+2.2
JOT	**Ohata**	**3.10**	**307**	S	Sn	00 19 33.9	+1.3
JYK	**Kaneyama**	**3.14**	**260**	P	Pn	00 18 58.7	+1.3
JCH	**Churui**	**3.15**	**347**	P	Pn	00 18 58.2	+0.8
JCH				*e*S	Sn	00 19 34.3	+0.6
JAK	**Akkeshi**	**3.45**	**5**	P	Pn	00 19 01.3	-0.3
JAK				S	Sn	00 19 40.6	-0.7
JOTO	**OTAMA OYAMA**	**3.71**	**239**	P	Pn	00 19 05.8	+0.6
JOTO				*e*S	Sn	00 19 46.0	-1.6
JAR	**Ashorobuto**	**3.77**	**354**	P	Pn	00 19 05.9	0.0
JAR				S	Sn	00 19 48.0	-1.0
NEM2	**Nemuro 2**	**3.96**	**15**	P	Pn	00 19 07.1	-1.4
NEM2				S	Sn	00 19 50.2	-3.4
JTKR	**Abashiri--Toko**	**4.43**	**356**	*i* P	Pn	00 19 15.8	+0.7
JTKR				S	Sn	00 20 04.9	-0.3
JOSM	**Okushiri--Mats**	**4.46**	**306**	P	Pn	00 19 17.9	+2.4
JHR	**Hokuryu**	**4.62**	**336**	P	Pn	00 19 20.8	+3.1

*SKO **28** 00:23:53.3, 41°.18N×20°.96E, h15km, ML0.9*
*TIR **28** 00:23:53.6, 41°.13N×21°.06E, h0km±7km, Md2.8, Ml1.5*
*THE **28** 00:23:53.6, 41°.20N×21°.02E, h4km±2km, ML1.7/3, Error ellipse: s-maj=3.0km s-min=0.8km az=165.0*
ISC 28 00:23:54.6±1.3, 41°.15N±0°.04×21°.02E±0°.03, h3km±11km, n15, σ1s59/30, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.17**	**257**	⇑*i* Pg	**Pg**	**00 23 57.1**	**-0.9**
OHR				*i* Sg	**Sg**	**00 23 59.2**	**-1.0**
OHR				*e*Lg	Lg	00 23 59.5	
	comp=N,46nm,0.3s						
OHR				*e*Lg	Lg	00 24 00.0	
	comp=E,53nm,0.4s						
FNA	**Florina**	**0.45**	**144**	P	**Pg**	**00 24 03.7**	**+0.4**
FNA				S	**Sb**	**00 24 11.1**	**-1.3**
	comp=E,202nm,0.2s						
FNA	**Florina**	**0.45**	**144**	P	**Pg**	**00 24 03.5**	**+0.3**
	baz=144						
FNA				S	**Sg**	**00 24 10.0**	**+0.9**
	baz=144						
FNA	**Florina**	**0.45**	**144**	⇑*i* Pg	**Pg**	**00 24 03.6**	**+0.3**
FNA				*i* Sg	**Sb**	**00 24 11.7**	**-0.7**
KBN	**Korca**	**0.55**	**199**	P	**Pg**	**00 24 04.7**	**-0.5**
KBN				S	**Sg**	**00 24 13.6**	**+1.2**
	comp=E,45nm,0.3s						
KBN	**Korca**	**0.55**	**199**	P	**Pg**	**00 24 04.7**	**-0.5**
	baz=203						
KBN				S	**Sb**	**00 24 13.7**	**-1.6**
	baz=203						
KBN				AMP			
	comp=E,0.1nm,0.3s,baz=203						
NEST	**Nestorio**	**0.73**	**178**	P	**Pg**	**00 24 08.2**	**-0.4**
NEST				S	**Sg**	**00 24 19.2**	**+1.1**
STIP	**Stip**	**1.03**	**58**	*i* Pg	**Pn**	**00 24 17.9**	**+2.0**
STIP				*i* Sg	**Sn**	**00 24 35.4**	**+4.5**
LSK	**Leskovik**	**1.05**	**198**	P	**Pg**	**00 24 14.0**	**-0.6**
LSK				S	**Sn**	**00 24 30.2**	**-1.2**
	comp=E,35nm,0.6s						
LSK	**Leskovik**	**1.05**	**198**	P	**Pg**	**00 24 14.1**	**-0.6**
	baz=200						
LSK				S	**Sn**	**00 24 31.1**	**-0.3**
	baz=200						
LSK				AMP			
	comp=E,0.1nm,0.7s,baz=200						
GRG	**Griva**	**1.06**	**100**	P	**Pg**	**00 24 13.8**	**-1.1**
GRG				S	**Sb**	**00 24 28.6**	**-1.3**
GRG	**Griva**	**1.06**	**100**	*i* Pg	**Pb**	**00 24 14.8**	**-0.7**
GRG				*i* Sg	**Sn**	**00 24 31.3**	**-0.4**
KNT	**Kendrikon**	**1.42**	**89**	P	**Pn**	**00 24 19.6**	**-1.6**
KNT				S	**Sg**	**00 24 39.2**	**-0.9**
SRN	**Sarande**	**1.49**	**212**	P	**Pg**	**00 24 23.7**	**+0.6**
	baz=214						
SRN				S	**Sg**	**00 24 45.6**	**+3.2**
	baz=214						
IGT	**Igoumenitsa**	**1.70**	**198**	P	**Pg**	**00 24 27.6**	**+0.4**
	baz=200						
IGT				S	**Sg**	**00 24 52.3**	**+3.2**
	baz=200						

IDC 28 01:12:32.7±5.5, 22°.90S×177°.78W, h0km, mb3.5/2, mbtmp3.5/2, MS3.4/1, Error ellipse: s-maj=260.4km s-min=53.6km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.33**	**181**	LR	LR	01 15 44.6	
	comp=Z,317nm,21.7s,baz=134,slow=30						
ASAR	**Alice Springs**	**44.22**	**259**	P	P	01 20 43.8	-0.1
	0.5nm,0.5s,baz=91,slow=6.4,SNR=10						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.52**	**264**	P	P	01 20 46.1	-0.2
	0.4nm,0.6s,baz=102,slow=8.1,SNR=7.5						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**145.19**	**330**	PKPbc	PKPbc	01 32 11.3	-0.3
	0.5nm,0.5s,baz=45,slow=4.1,SNR=4.6						
MMAI	**Mount Meron Ar**	**149.12**	**296**	PKPbc	PKPbc	01 32 22.3	-1.1
	1.6nm,0.6s,baz=83,slow=6.0,SNR=2.6						

*NIC **28** 01:21:22.9, 36°.26N×34°.94E, h29km±4km, Ml2.5/8*
*ISK **28** 01:21:23.4, 36°.24N×34°.93E, h21km, ML3.0/22*
*AFAD **28** 01:21:23.2±0.0, 36°.42N×35°.03E, h21km±2km, ML2.3*
*GII **28** 01:21:26.8±0.0, 35°.89N×34°.48E, h1km, Mm2.6/4*
ISC 28 01:21:23.7±1.2, 36°.29N±0°.02×34°.94E±0°.02, h25km±13km, n68, σ1s38/99, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZK	**Mersin**	**0.67**	**287**	Pg	**Pn**	**01 21 37.6**	**0.0**
KIZK				Sg	**Sn**	**01 21 47.3**	**0.0**
KIZK	**Mersin**	**0.67**	**287**	P	**Pn**	**01 21 37.8**	**+0.1**
KIZK				S	**Sn**	**01 21 47.5**	**+0.1**
KIZK				*i* AML	AML	01 21 49.0	
	comp=N,307nm,0.2s						
KIZK				*i* AML	AML	01 21 49.0	
	comp=E,232nm,0.3s						
YURE	**YUREGIR**	**0.77**	**46**	P	**Pn**	**01 21 38.3**	**-0.9**
YURE				S	**Sb**	**01 21 44.4**	**-4.3**
YURE				*i* AML	AML	01 21 51.0	
	comp=N,71nm,0.3s						
YURE				*i* AML	AML	01 21 53.0	
	comp=E,72nm,0.5s						
SILI	**Silifke-Mersin**	**0.82**	**276**	Pg	**Pb**	**01 21 39.9**	**+0.5**
SILI				Sg	**Sn**	**01 21 51.7**	**+0.6**
CEYT	**Ceyhan**	**0.97**	**42**	Pg	**Pn**	**01 21 40.4**	**-1.4**
KARG	**Kargicak-Mersi**	**1.00**	**265**	Pg	**Pb**	**01 21 43.2**	**+0.9**
KARG				Sg	**Sb**	**01 21 56.9**	**+1.8**
KEBE	**Keben-Mersin**	**1.00**	**279**	Pg	**Pb**	**01 21 43.1**	**+0.7**
KEBE				Sg	**Sb**	**01 21 56.9**	**+1.7**
TAHT	**Tahtakopru-Hat**	**1.01**	**85**	Pg	**Pn**	**01 21 43.5**	**+1.1**
TAHT				Sg	**Sn**	**01 21 57.3**	**+1.5**
IKL	**Isikli**	**1.01**	**267**	Pg	**Pb**	**01 21 42.6**	**0.0**
IKL				Sg	**Sb**	**01 21 56.4**	**+0.9**
TISA	**Tisan-Mersin**	**1.02**	**263**	Pg	**Pb**	**01 21 42.8**	**0.0**
YESI	**Yesilovacik-Me**	**1.05**	**265**	Pg	**Pb**	**01 21 43.1**	**-0.1**
TEPK	**Tepekoy-MERSIN**	**1.13**	**267**	Pn	**Pb**	**01 21 44.3**	**-0.3**
AKKU	**Akkuyu-Mersin**	**1.13**	**264**	Pn	**Pb**	**01 21 44.4**	**-0.2**
AKK2	**Akkuyu-Mersin**	**1.13**	**263**	Pn	**Pb**	**01 21 44.6**	**0.0**
TEVE	**Tevekatli-Mers**	**1.21**	**277**	Pn	**Pb**	**01 21 46.1**	**0.0**
KERG	**Konya-Eregli**	**1.30**	**330**	P	**Pb**	**01 21 47.3**	**-0.2**
KERG				S	**Sb**	**01 22 04.1**	**+0.3**
KERG				*i* AML	AML	01 22 05.0	
	comp=N,276nm,0.2s						
KERG				*i* AML	AML	01 22 05.0	
	comp=E,195nm,0.4s						
RHAN	**Hatay/Reyhanl**	**1.35**	**91**	P	**Pn**	**01 21 48.3**	**+1.3**
RHAN				S	**Sn**	**01 22 05.3**	**+1.2**
RHAN				*i* AML	AML	01 22 08.0	
	comp=E,165nm,0.3s						
RHAN				*i* AML	AML	01 22 12.0	
	comp=N,132nm,0.2s						
KOZT	**Kozan**	**1.38**	**31**	Pn	**Pn**	**01 21 46.7**	**-0.8**
BERE	**Bereket-Mersin**	**1.39**	**273**	Pn	**Pb**	**01 21 48.5**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.48**	**265**	Pn	**Pn**	**01 21 49.2**	**+0.4**
PARAL	**Paralimni**	**1.49**	**210**	P	**Pn**	**01 21 47.3**	**-1.6**
PARAL				S	**Sn**	**01 22 06.1**	**-1.5**
PARAL				AML	AML	01 22 12.3	
	0.2nm,0.5s						
PARAL				AML	AML	01 22 13.2	
	0.3nm,0.7s						
LFK	**Lefkose**	**1.52**	**229**	Pn	**Pn**	**01 21 48.9**	**-0.6**
KRMN	**Karaman**	**1.61**	**304**	Pn	**Pb**	**01 21 51.8**	**-1.0**
MVOU	**Mavrovouni**	**1.66**	**220**	P	**Pn**	**01 21 49.4**	**-1.9**
MVOU				S	**Sn**	**01 22 08.5**	**-3.3**
MVOU				AML	AML	01 22 13.2	
	0.1nm,0.2s						
MVOU				AML	AML	01 22 15.8	
	0.1nm,0.2s						
ATHAL	**Athalassa**	**1.70**	**228**	P	**Pn**	**01 21 50.5**	**-1.3**
ATHAL				S	**Sn**	**01 22 10.3**	**-2.5**
ATHAL				AML	AML	01 22 14.5	
	0.2nm,0.4s						
ATHAL				AML	AML	01 22 16.2	
	0.2nm,0.7s						
NIDE	**Nigde/Merkez-G**	**1.71**	**356**	P	**Pn**	**01 21 52.9**	**+0.8**
NIDE				S	**Sn**	**01 22 14.2**	**+1.0**
NIDE				*i* AML	AML	01 22 15.0	
	comp=E,147nm,0.2s						
NIDE				*i* AML	AML	01 22 16.0	
	comp=N,92nm,0.2s						
ANDN	**Andirin**	**1.71**	**41**	P	**Pn**	**01 21 51.8**	**-0.3**
ANDN				S	**Sn**	**01 22 13.5**	**+0.2**
ANDN				*i* AML	AML	01 22 14.0	
	comp=N,69nm,0.4s						
ANDN				*i* AML	AML	01 22 14.0	
	comp=E,38nm,0.3s						
YESY	**Yesilyurt**	**1.77**	**328**	Pn	**Pb**	**01 21 54.4**	**-1.2**
YAHY	**KAYSERI_Yahyal**	**1.83**	**11**	P	**Pn**	**01 21 53.5**	**-0.3**
YAHY				S	**Sn**	**01 22 17.6**	**+1.3**
YAHY				*i* AML	AML	01 22 21.0	
	comp=E,20nm,0.3s						
YAHY				*i* AML	AML	01 22 27.0	
	comp=N,22nm,0.6s						
CSS	**Mathiatis**	**1.86**	**225**	Pn	**Pn**	**01 21 54.5**	**+0.4**
CSS	**Mathiatis**	**1.86**	**225**	Pn	**Pn**	**01 21 51.6**	**-2.5**
CSS	**Mathiatis**	**1.86**	**225**	P	**Pn**	**01 21 51.8**	**-2.3**
CSS				AML	AML	01 22 16.7	
CSS				AML	AML	01 22 23.0	
	0.1nm,0.3s						
HCB	**Kahramanmara**	**1.90**	**56**	P	**Pn**	**01 21 55.0**	**+0.4**
HCB				S	**Sn**	**01 22 17.1**	**-0.7**
HCB				*i* AML	AML	01 22 20.0	
	comp=E,27nm,0.7s						
HCB				*i* AML	AML	01 22 24.0	
	comp=N,18nm,0.4s						
SAIM	**ADANA**	**1.91**	**28**	P	**Pn**	**01 21 54.6**	**-0.3**
SAIM				*i* AML	AML	01 22 20.0	
	comp=N,33nm,0.4s						
SAIM				*i* AML	AML	01 22 38.0	
	comp=E,36nm,0.3s						
GAZ	**Gaziantep**	**2.03**	**64**	P	**Pn**	**01 21 56.3**	**-0.2**
GAZ				S	**Sn**	**01 22 20.0**	**-1.1**
GAZ				AML	AML	01 22 29.1	
	0.1nm,0.4s						
GAZ				AML	AML	01 22 31.4	
	0.1nm,0.6s						
ASGA	**Asgata**	**2.04**	**223**	P	**Pn**	**01 21 55.2**	**-1.3**
ASGA				AML	AML	01 22 29.4	
	0.1nm,0.6s						
ASGA				AML	AML	01 22 29.7	
	0.1nm,0.5s						
HDMB	**Hadim**	**2.08**	**290**	Pn	**Pn**	**01 21 58.8**	**+1.5**
GAZI	**Gazipasa**	**2.12**	**269**	Pn	**Pn**	**01 21 59.4**	**+1.8**
GULA	**Gulagac**	**2.12**	**345**	Pn	**Pn**	**01 21 59.0**	**+1.2**
TROD	**Troodos**	**2.16**	**232**	P	**Pn**	**01 21 55.4**	**-2.9**
TROD				S	**Sn**	**01 22 23.1**	**-1.3**
TROD				AML	AML	01 22 33.4	
	0.1nm,0.7s						
TROD				AML	AML	01 22 34.4	
	0.2nm,0.6s						
ALFC	**Alefka**	**2.21**	**240**	P	**Pn**	**01 21 57.2**	**-1.8**
ALFC				S	**Sn**	**01 22 21.7**	**-3.9**
ALFC				AML	AML	01 22 26.6	
	0.1nm,0.1s						
ALFC				AML	AML	01 22 26.9	
	0.2nm,0.3s						
SULT	**Sultanhani-AKS**	**2.21**	**330**	Pn	**Pn**	**01 21 59.9**	**+0.9**
NZIP	**Nizip/Gaziante**	**2.33**	**70**	P	**Pn**	**01 21 59.1**	**-1.4**
NZIP				S	**Sn**	**01 22 27.3**	**-1.1**
NZIP				*i* AML	AML	01 22 28.0	
	comp=N,33nm,0.6s						
NZIP				*i* AML	AML	01 22 30.0	
	comp=E,34nm,0.5s						
NATA	**Nata**	**2.45**	**233**	S	**Sn**	**01 22 31.0**	**-0.3**
BHL	**Bhannes**	**2.45**	**166**	*e*P	**Pn**	**01 22 03.5**	**+1.2**
AKMS	**Akamas**	**2.47**	**240**	S	**Sn**	**01 22 31.0**	**-0.9**
DQRL	**Deir Qamar**	**2.63**	**168**	*e*P	**Pn**	**01 22 05.6**	**+0.8**
KONT	**Konya--Tatoy**	**2.64**	**309**	Pn	**Pn**	**01 22 06.7**	**+1.9**
QRWL	**Qaraoun**	**2.81**	**167**	*e*P	**Pn**	**01 22 08.4**	**+1.2**
RCY	**Rachaya**	**2.89**	**165**	*e*P	**Pn**	**01 22 10.0**	**+1.7**
SHBL	**Chebaa**	**3.01**	**167**	*e*P	**Pn**	**01 22 11.5**	**+1.5**
GEM	**Giv'at Ha'Em**	**3.13**	**169**	Pn	**Pn**	**01 22 13.1**	**+1.5**
GEM				Sn	**Sn**	**01 22 47.5**	**-0.7**
MMA0B	**Mount Meron ar**	**3.29**	**173**	Pn	**Pn**	**01 22 14.9**	**+1.1**
MMA0B				Sn	**Sn**	**01 22 52.0**	**-0.2**
KSHT	**Keshet**	**3.38**	**167**	Pn	**Pn**	**01 22 17.0**	**+2.0**
KSHT				Sn	**Sn**	**01 22 55.1**	**+0.7**
BLGI	**Bet Lehem HaGe**	**3.56**	**177**	Pn	**Pn**	**01 22 18.3**	**+0.9**
BLGI				Sn	**Sn**	**01 22 57.6**	**-1.0**
OFRI	**`Ofer**	**3.66**	**179**	Pn	**Pn**	**01 22 20.2**	**+1.3**
OFRI				Sn	**Sn**	**01 23 00.2**	**-1.1**
MMLI	**Mount Malkishu**	**3.87**	**174**	Pn	**Pn**	**01 22 23.1**	**+1.4**
MMLI				Sn	**Sn**	**01 23 05.7**	**-0.6**
SLTI	**Sal'it**	**4.04**	**179**	Pn	**Pn**	**01 22 25.3**	**+1.2**
SLTI				Sn	**Sn**	**01 23 09.9**	**-0.8**
HMDT	**Nahal Hemdat**	**4.06**	**173**	Pn	**Pn**	**01 22 26.1**	**+1.8**
HMDT				Sn	**Sn**	**01 23 11.5**	**+0.5**
SALP	**Salfit**	**4.22**	**177**	Pn	**Pn**	**01 22 28.0**	**+1.5**
UJAP	**Al Uja**	**4.35**	**174**	Pn	**Pn**	**01 22 29.7**	**+1.4**
UJAP				Sn	**Sn**	**01 23 18.8**	**+0.6**
DSI	**Dead Sea**	**4.72**	**175**	Pn	**Pn**	**01 22 35.0**	**+1.5**
AMAZ	**Amatzia**	**4.75**	**180**	Pn	**Pn**	**01 22 34.9**	**+1.1**
YTIR	**Yattir**	**4.92**	**178**	Pn	**Pn**	**01 22 38.4**	**+2.2**
YTIR				Sn	**Sn**	**01 23 32.4**	**0.0**
MSBI	**Mazada**	**4.98**	**176**	Pn	**Pn**	**01 22 38.6**	**+1.7**
KZIT	**Kziot**	**5.39**	**185**	Pn	**Pn**	**01 22 43.4**	**+0.8**
ZFRI	**Zfri**	**5.73**	**178**	Pn	**Pn**	**01 22 48.9**	**+1.7**
PRNI	**Paran**	**5.92**	**179**	Pn	**Pn**	**01 22 51.6**	**+1.6**

*IDC **28** 01:39:44.9±1.5, 10°.28S×75°.81W, h118km±19km, mb3.3/3, mbtmp3.7/6, Error ellipse: s-maj=27.0km s-min=10.9km az=77.0*
ISC 28 01:39:44.0±0.8, 10°.23S±0°.07×75°.7W±0°.1, h100km, n8, σ1s28/10, mb3.4/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.08**	**213**	P	**Pn**	**01 40 18.5**	**+0.8**
	22nm,0.3s,baz=32,slow=4.6,SNR=36						
NNA				S	**Sn**	**01 40 43.8**	**+0.3**
	242nm,0.3s,baz=17,slow=3.9,SNR=6.7						
NNA				LR	LR	01 41 00.2	
	comp=Z,60nm,20.5s,baz=284,slow=38						
ATAH	**Atahualpa**	**4.08**	**319**	P	**Pn**	**01 40 45.7**	**+1.0**
	30nm,0.3s,baz=122,slow=9.5,SNR=172						
ATAH				S	**Sn**	**01 41 32.4**	**+0.6**
	36nm,0.6s,baz=124,slow=13,SNR=6.8						
LPAZ	**La Paz**	**9.50**	**130**	P	**Pn**	**01 42 00.4**	**+1.9**
	1.0nm,0.5s,baz=287,slow=11,SNR=5.6						
SIV	**San Ignacio**	**15.33**	**113**	P	**Pn**	**01 43 15.5**	**+0.4**
	1.1nm,0.6s,baz=312,slow=14,SNR=5.7						
QSPA	**South Pole Qui**	**79.89**	**180**	P	**P**	**01 51 40.1**	**-1.6**
	0.4nm,0.3s,baz=83,slow=5.2,SNR=1.9						
	0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**80.23**	**75**	P	**P**	**01 51 44.0**	**-0.2**
	0.3nm,0.5s,baz=252,slow=4.6,SNR=2.5						
	0.3nm,0.5s						
ESDC	**Sonseca Array**	**82.76**	**48**	P	**P**	**01 51 56.7**	**-0.4**
	0.2nm,0.5s,baz=256,slow=5.0,SNR=1.7						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**137.90**	**225**	PKP	**PKPdf**	**01 58 56.2**	**-1.7**
	0.3nm,0.4s,baz=128,slow=2.0,SNR=6.6						

*NOU **28** 01:52:41.9, 22°.76S×176°.06W, h193km, mb4.7/48, South of Fiji Islands*
*NEIC **28** 01:52:41.5±1.6, 22°.8S±0°.1×176°.7W±0°.1, h142km±6km, mb4.6/34, Error ellipse: s-maj=18.3km s-min=13.9km az=129.0*
*IDC **28** 01:52:47.0±2.1, 22°.78S×177°.00W, h176km±17km, mb4.3/6, mbtmp4.8/9, MS3.2/1, Error ellipse: s-maj=18.5km s-min=16.7km az=133.0*
ISC 28 01:52:42.3±0.3, 22°.90S±0°.05×176°.67W±0°.06, h150km, n184, σ1s93/183, mb4.7/28, 8C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.05**	**336**	P	**Pn**	**01 53 59.0**	**+2.5**
RAO	**Raoul Island**	**6.43**	**190**	Pn	**Pn**	**01 54 14.6**	**-0.1**
RAO	**Raoul Island**	**6.43**	**190**	S	**Sn**	**01 55 27.1**	**+0.1**
	709nm,0.5s,baz=100,slow=24,SNR=10						
GLKZ	**Green Lake**	**6.44**	**190**	P	**Pn**	**01 54 18.9**	**+4.1**
TAVE	**Taveuni**	**6.87**	**333**	P	**Pn**	**01 54 23.4**	**+2.8**
MSVF	**Nonsavu**	**7.13**	**315**	Pn	**Pn**	**01 54 26.7**	**+2.4**
MSVF	**Nonsavu**	**7.13**	**315**	P	**Pn**	**01 54 27.0**	**+2.7**
MSVF	**Nonsavu**	**7.13**	**315**	P	**Pn**	**01 54 26.9**	**+2.7**
	277nm,0.7s,baz=132,slow=15,SNR=192						
NIUE	**Niue**	**7.36**	**60**		**Pn**	**01 54 25.8**	**-1.4**
YSA	**Yasawairara**	**8.20**	**318**	P	**Pn**	**01 54 40.7**	**+2.2**
PINNC	**Pines Island,**	**14.65**	**268**		**P**	**01 56 03.3**	**-1.4**
OUZ	**Omahuta**	**14.93**	**212**	P	**P**	**01 56 09.7**	**+2.1**
GRZ	**Great Barrier**	**14.96**	**205**	P	**P**	**01 56 09.4**	**+1.5**
WCZ	**Waipu Caves**	**15.16**	**209**	P	**P**	**01 56 11.6**	**+1.4**
YATNC	**Mamie plateau,**	**15.22**	**270**	P	**P**	**01 56 14.2**	**+3.2**
OUENC	**Ouen Island, N**	**15.23**	**269**		**P**	**01 56 10.4**	**-0.6**
OUENC				IAmb	IAmb	01 56 16.9	
	comp=Z,34nm,0.8s						
OUENC	**Ouen Island, N**	**15.23**	**269**	P	**P**	**01 56 15.3**	**+4.2**
HAZ	**Te Kaha**	**15.56**	**197**	P	**Pn**	**01 56 13.0**	**-0.5**
PKGZ	**Pakihiroa**	**15.61**	**196**	P	**Pn**	**01 56 10.6**	**-3.6**
DZM	**Mont Dzumac**	**15.63**	**270**		**P**	**01 56 14.6**	**-1.0**
DZM				IAmb	IAmb	01 56 21.2	
	comp=Z,25nm,0.8s						
DZM	**Mont Dzumac**	**15.63**	**270**	P	**P**	**01 56 18.4**	**+2.8**
DZM	**Mont Dzumac**	**15.63**	**270**	P	**P**	**01 56 16.2**	**+0.6**
	comp=Z,23nm,0.7s,baz=105,slow=18,SNR=20						
DZM				LR	LR	02 01 14.6	
	comp=Z,83nm,18.8s,baz=42,slow=33						
PUZ	**Puketiti**	**15.74**	**195**	P	**Pn**	**01 56 15.8**	**0.0**
RAR	**Rarotonga**	**15.76**	**87**	Pn	**Pn**	**01 56 13.5**	**-2.6**
RAR				IAmb	IAmb	01 56 25.1	
	comp=Z,38nm,1.1s						
RAR	**Rarotonga**	**15.76**	**87**	P	**P**	**01 56 21.3**	**+4.4**
	comp=Z,24nm,0.9s,baz=344,slow=7.2,SNR=4.5						
RAR				S	**Sn**	**01 59 05.5**	**-6.2**
	comp=Z,6.0nm,0.3s,baz=338,slow=19,SNR=2.0						
RUGZ	**Raukumara Rang**	**15.78**	**197**	P	**Pn**	**01 56 15.0**	**-1.4**
TWGZ	**Tauwhareparae**	**15.90**	**196**	P	**P**	**01 56 18.2**	**-0.3**
TKGZ	**Te Karaka**	**16.19**	**196**	P	**P**	**01 56 21.9**	**+0.4**
URZ	**Urewera**	**16.21**	**198**	P	**P**	**01 56 21.8**	**0.0**
URZ	**Urewera**	**16.21**	**198**	P	**Pn**	**01 56 20.4**	**-1.1**
URZ	**Urewera**	**16.21**	**198**	P	**Pn**	**01 56 19.4**	**-2.1**
	comp=Z,20nm,0.3s,baz=72,slow=2.4,SNR=18						
URZ				S	S	01 59 07.6	-14
	comp=Z,10.0nm,0.3s,baz=72,slow=10,SNR=1.8						
RIGZ	**Rimuhau**	**16.46**	**196**	P	**P**	**01 56 24.5**	**-0.1**
SNGZ	**Shannon Statio**	**16.64**	**197**	P

JCZ	**Jackson Bay**	**24.28 206**	P	**P**	**01 57 44.8**	**-0.9**
ODZ	**Otahua Downs**	**24.41 202**	P	**P**	**01 57 46.4**	**-0.3**
WKZ	**Wanaka**	**24.82 205**	P	**P**	**01 57 50.2**	**-0.3**
WKZ			IAmb	IAmb	01 58 04.7	
	comp=Z,20nm,1.1s					
MLZ	**Mavora Lakes**	**25.62 205**	P	**P**	**01 57 55.8**	**-1.9**
MLZ			IAmb	IAmb	01 58 01.8	
	comp=Z,11nm,0.8s					
SYZ	**Scrubby Hill**	**26.23 203**	P	**P**	**01 58 03.6**	**+0.5**
ARMA	**Armidale**	**29.23 248**	P	**P**	**01 58 28.8**	**-1.5**
ARMA	**Armidale**	**29.23 248**	P	**P**	**01 58 31.4**	**+1.1**
EIDS	**Eidsvold**	**29.49 259**	P	**P**	**01 58 30.6**	**-1.8**
EIDS			IAmb	IAmb	01 58 34.6	
	comp=Z,13nm,1.0s					
EIDS	**Eidsvold**	**29.49 259**	P	**P**	**01 58 33.5**	**+1.0**
MGCD	**Mangrove Creek**	**30.12 243**	P	**P**	**01 58 38.8**	**+0.8**
CNB	**Canberra Magne**	**31.99 240**	P	**P**	**01 58 55.3**	**+0.8**
CAN	**Canberra**	**32.28 240**	P	**P**	**01 58 57.3**	**+0.3**
TV1H	**Townsville Har**	**34.22 269**	P	**P**	**01 59 14.6**	**+0.7**
CMSA	**Cobar Meteorol**	**34.42 247**	P	**P**	**01 59 15.5**	**0.0**
CTA	**Charters Tower**	**34.55 268**	P	**P**	**01 59 17.3**	**+0.6**
CTAO	**Charters Tower**	**34.55 268**	P	**P**	**01 59 17.3**	**+0.6**
TOO	**Toolangi**	**35.55 237**	P	**P**	**01 59 25.3**	**+0.1**
QLP	**Quilpie**	**35.60 256**	P	**P**	**01 59 26.4**	**+0.8**
MOO	**Moorlands**	**35.77 228**	P	**P**	**01 59 26.6**	**-0.3**
BRAT	**Ballarat**	**36.76 237**	P	**P**	**01 59 36.3**	**+1.0**
PMG	**Port Moresby**	**37.12 285**	P	**P**	**01 59 37.9**	**-0.8**
STKA	**Stephens Creek**	**37.93 247**	P	**P**	**01 59 45.0**	**-0.3**
STKA	**Stephens Creek**	**37.93 247**	P	**P**	**01 59 45.0**	**-0.3**
STKA	**Stephens Creek**	**37.93 247**	P	**P**	**01 59 44.9**	**-0.4**
	comp=Z,8.5nm,0.5s,baz=94,slow=11,SNR=39					
	comp=Z,8.5nm,0.5s					
ARPS	**Mount Arapiles**	**38.26 239**	P	**P**	**01 59 47.6**	**-0.4**
HTT	**Hallett**	**40.27 245**	P	**P**	**02 00 03.9**	**-0.9**
QIS	**Mount Isa**	**40.58 265**	P	**P**	**02 00 07.2**	**-0.2**
LCRK	**Leigh Creek**	**40.79 249**	P	**P**	**02 00 08.5**	**-0.5**
BBOO	**Buckleboo**	**42.64 246**	P	**P**	**02 00 22.7**	**-1.4**
OOD	**Oodnadatta**	**43.12 253**	P	**P**	**02 00 28.2**	**+0.2**
MULG	**Mulgathing**	**44.39 250**	P	**P**	**02 00 36.8**	**-1.3**
AS31	**Alice Springs**	**45.22 259**	P	**P**	**02 00 44.5**	**-0.3**
ASAR	**Alice Springs**	**45.22 259**	P	**P**	**02 00 44.2**	**-0.6**
ASAR	**Alice Springs**	**45.22 259**	P	**P**	**02 00 44.0**	**-0.7**
	comp=Z,19nm,0.7s,baz=102,slow=6.8,SNR=146					
ASAR			PcP	**PcP**	**02 02 23.1**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=92,slow=5.7,SNR=2.0					
ASAR			ScP	**ScP**	**02 05 58.2**	**-2.9**
	comp=Z,0.2nm,0.7s,baz=102,slow=3.9,SNR=1.7					
ASAR			S	**S**	**02 07 04.7**	**-9.0**
	comp=Z,0.6nm,0.7s,baz=100,slow=14,SNR=6.7					
	comp=Z,19nm,0.7s					
WR0	**Warramunga Arr**	**45.35 264**	IAmb	IAmb	02 00 47.8	
	comp=Z,8.0nm,0.6s					
WB2	**Warramunga Arr**	**45.53 264**	IAmb	IAmb	02 00 47.9	
	comp=Z,14nm,0.6s					
WRAB	**Tennant Creek**	**45.53 264**	P	**P**	**02 00 45.0**	**-2.3**
WRAB			IAmb	IAmb	02 00 46.8	
	comp=Z,11nm,0.7s					
WRAB	**Tennant Creek**	**45.53 264**	P	**P**	**02 00 46.2**	**-1.0**
WRA	**Warramunga Arr**	**45.54 264**	P	**P**	**02 00 46.2**	**-1.1**
	comp=Z,10nm,0.5s,baz=90,slow=5.8,SNR=234					
WRA			ScP	**ScP**	**02 06 01.4**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=98,slow=3.7,SNR=4.4					
WRA			S	S	02 07 05.7	-13
	comp=Z,0.6nm,0.7s,baz=99,slow=13,SNR=1.9					
	comp=Z,10nm,0.5s					
FORT	**Forrest**	**49.52 248**	P	**P**	**02 01 15.9**	**-2.0**
FORT	**Forrest**	**49.52 248**	P	**P**	**02 01 16.2**	**-1.7**
WRKA	**Warakurna**	**50.04 256**	P	**P**	**02 01 20.8**	**-1.2**
KNRA	**Kununurra**	**51.77 268**	P	**P**	**02 01 33.4**	**-1.5**
KNRA			IAmb	IAmb	02 01 35.6	
	comp=Z,12nm,0.8s					
KNRA	**Kununurra**	**51.77 268**	P	**P**	**02 01 34.2**	**-0.7**
VNDA	**Vanda**	**55.65 186**	P	**P**	**02 02 03.2**	**+1.0**
KLBR	**Kellerberrin**	**58.19 246**	P	**P**	**02 02 19.6**	**-1.3**
MEEK	**Meekatharra**	**58.33 252**	P	**P**	**02 02 20.6**	**-1.3**
PSA00	**Pilbara Seismi**	**58.35 258**	P	**P**	**02 02 21.5**	**-0.6**
MBWA	**Marble Bar**	**58.56 258**	P	**P**	**02 02 21.8**	**-1.8**
MBWA	**Marble Bar**	**58.56 258**	P	**P**	**02 02 22.7**	**-0.9**
BLDU	**Ballidu**	**59.23 247**	P	**P**	**02 02 26.8**	**-1.3**
MORW	**Morawa**	**60.09 249**	P	**P**	**02 02 33.1**	**-0.8**
CASY	**Casey**	**62.34 206**	P	**P**	**02 02 48.8**	**+0.3**
PLAI	**Plampang**	**64.14 271**	P	**P**	**02 03 01.1**	**0.0**
QSPA	**South Pole Qui**	**67.18 180**	P	**P**	**02 03 21.1**	**+1.1**
QSPA			IAmb	IAmb	02 03 23.9	
	comp=Z,7.4nm,0.8s					
QSPA	**South Pole Qui**	**67.18 180**	P	**P**	**02 03 23.1**	**+3.1**
	comp=Z,7.5nm,0.8s,baz=353,slow=0.7,SNR=44					
	comp=Z,7.5nm,0.8s					
BELA	**Belgrano 2**	**77.03 172**	P	**P**	**02 04 19.4**	**+1.2**
BELA			IAmb	IAmb	02 04 20.9	
	comp=Z,5.1nm,0.7s					
MAW	**Mawson**	**79.73 200**	P	**P**	**02 04 33.6**	**+0.5**
MAW	**Mawson**	**79.73 200**	P	**P**	**02 04 35.8**	**+2.7**
	comp=Z,3.1nm,0.5s,baz=145,slow=8.5,SNR=13					
	comp=Z,3.1nm,0.5s					
NJ2	**Nanjing**	**82.35 309**	*e*P	**P**	**02 04 47.0**	**-0.5**
NJ2			sP	**sP**	**02 05 38.5**	**-1.1**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
NJ2			pmax	pmax		
	comp=Z,850nm,4.7s					
MDJ	**Mudanjiang**	**83.18 325**	P	**P**	**02 04 52.8**	**+1.3**
MDJ			pmax	pmax		
	comp=Z,5.0nm,0.6s					
MDJ			pmax	pmax		
	comp=Z,170nm,5.1s					
TUC	**Tucson**	**83.50 51**	P	**P**	**02 04 52.5**	**-1.0**
H03S2	**Juan Fernandez**	**83.63 124**	T	T	03 37 03.3	
	baz=245,slow=74,SNR=20					
H03S1	**Juan Fernandez**	**83.64 124**	T	T	03 37 13.1	
	baz=245,slow=74,SNR=17					
H03S3	**Juan Fernandez**	**83.65 124**	T	T	03 37 03.4	
	baz=245,slow=74,SNR=14					
H03N2	**Juan Fernandez**	**83.78 124**	T	T	03 37 18.6	
	baz=251,slow=72,SNR=8.0					
H03N3	**Juan Fernandez**	**83.78 124**	T	T	03 37 12.3	
	baz=251,slow=72,SNR=8.6					
H03N1	**Juan Fernandez**	**83.80 124**	T	T	03 37 11.8	
	baz=251,slow=72,SNR=9.1					
ELIB	**Princess Elisa**	**84.41 186**	*d*P	**P**	**02 04 58.1**	**+0.5**
	comp=Z,16nm,0.7s					
ELIB			*d*x	x	02 05 41.6	
TROLL	**Troll, Antarti**	**85.34 180**	⇓P	**P**	**02 05 04.2**	**+1.9**
	comp=Z,472nm,0.6s					
VNA3	**Neumayer Olymp**	**85.68 176**	⇓P	**P**	**02 05 05.3**	**+1.5**
	comp=Z,6.9nm,0.7s					
VNA2	**Neumayer--Watz**	**86.13 176**	⇓P	**P**	**02 05 08.0**	**+1.9**
	comp=Z,3.6nm,0.6s,baz=195,slow=4.0					
VNA1	**Neumayer--Stat**	**86.35 176**	⇓P	**P**	**02 05 09.4**	**+2.3**
	comp=Z,5.7nm,0.9s					
GHO	**Glory Hole Cre**	**87.27 13**	P	**P**	**02 05 11.3**	**-0.2**
TRF	**Thorofare Moun**	**88.53 12**	P	**P**	**02 05 16.0**	**-1.5**
RND	**Reindeer**	**88.76 12**	P	**P**	**02 05 19.4**	**+0.8**
RND			IAmb	IAmb	02 05 21.2	
	comp=Z,7.0nm,0.7s					
HDA	**Harding Lake**	**90.04 12**	IAmb	IAmb	02 05 26.8	
	comp=Z,5.1nm,0.6s					
CCB	**Clear Creek Bu**	**90.08 12**	IAmb	IAmb	02 05 26.3	
	comp=Z,2.9nm,0.6s					
ILAR	**Eielson Array**	**90.38 12**	P	**P**	**02 05 26.9**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=223,slow=5.8,SNR=15					
	comp=Z,1.0nm,0.7s					
XLT	**XiLinHaoTe**	**90.54 318**	*e*P	**P**	**02 05 30.5**	**+3.1**
XLT			pP	pP	02 06 01.5	-3.0
XLT			sP	sP	02 06 19.5	-0.4
XLT			pmax	pmax		
	comp=Z,11nm,0.8s					
XLT			pmax	pmax		
	comp=Z,100nm,4.9s					
L29M	**L29M**	**90.95 16**	IAmb	IAmb	02 05 32.8	
	comp=Z,6.2nm,0.8s					
DAWY	**Dawson**	**91.42 15**	P	**P**	**02 05 30.6**	**-0.3**
BTO	**Baotou**	**92.82 313**	*e*P	**P**	**02 05 39.8**	**+1.8**
BTO			pP	**pP**	**02 06 14.3**	**-0.8**
BTO			sP	**sP**	**02 06 30.5**	**0.0**
BTO			PP	**PP**	**02 09 23.0**	**+0.4**
BTO	**Baotou**	**92.82 313**	S	**S**	**02 16 31.3**	**+0.7**
BTO	**Baotou**	**92.82 313**	SS	SS	02 22 52.3	+4.2
BTO			pmax	pmax		
	comp=Z,22nm,0.5s					
BTO			pmax	pmax		
	comp=Z,480nm,5.0s					
BTO			LR	LR		
	comp=N,280nm,5.5s					
BTO			LR	LR		
	comp=E,290nm,5.0s					
BTO			LR	LR		
	comp=Z,300nm,6.7s					
PZH	**PanZhiHua**	**92.91 297**	P	**P**	**02 05 40.0**	**+1.2**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.9s					
PZH			pmax	pmax		
	comp=Z,100nm,4.8s					
LZH	**Lanzhou**	**95.19 307**	*e*P	**P**	**02 05 47.3**	**-1.8**
LZH			pP	PcP	02 05 51.0	+1.7
LZH			pmax	pmax		
	comp=Z,16nm,1.0s					
BVAR	**Borovoye Array**	**121.69 319**	PKP	**PKiKP**	**02 11 18.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=112,slow=2.2,SNR=2.9					
ARCES	**ARCESS Array B**	**131.49 350**	PKP	**PKiKP**	**02 11 36.9**	**-0.4**
	comp=Z,9.4nm,1.2s,baz=29,slow=2.8,SNR=8.7					
FINES	**FINESS Array B**	**138.41 344**	PKhKP	PKPpre	02 11 41.6	
	comp=Z,2.2nm,0.9s,baz=328,slow=6.8,SNR=4.2					
HFS	**Hagfors**	**142.08 352**	PKhKP	PKPpre	02 11 49.5	
	comp=Z,1.1nm,0.4s,baz=55,slow=3.1,SNR=7.0					
MBAR	**Mbarara**	**144.54 233**	PKPdf	**PKPab**	**02 11 59.8**	**-1.0**
SUW	**Suwalki**	**145.51 339**	PKPbc	**PKPab**	**02 12 02.0**	**-1.0**
AKASG	**Malin Array Be**	**145.70 330**		**PKPbc**	**02 12 02.1**	**-1.2**
AKASG	**Malin Array Be**	**145.70 330**	PKPbc	**PKPab**	**02 12 02.9**	**-0.9**
	comp=Z,2.0nm,0.4s,baz=41,slow=4.1,SNR=22					
AK05	**Malin Array Si**	**145.76 330**	PKPbc	**PKPdf**	**02 12 02.2**	**-0.6**
EKA	**Eskdalemuir Ar**	**147.25 7**	PKPbc	**PKPbc**	**02 12 07.1**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=333,slow=2.4,SNR=2.0					
BR131	**Keskin Array S**	**149.34 310**	PKPbc	**PKPbc**	**02 12 11.3**	**-2.5**
BRTR	**Keskin Array B**	**149.34 310**	PKPbc	**PKiKP**	**02 12 14.2**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=116,slow=3.0,SNR=8.2					
BURAR	**Bucovina Array**	**149.75 330**	PKPbc	**PKPdf**	**02 12 10.9**	**+1.3**
KOLS	**Kolonicke sedl**	**150.00 335**	*e*PKP	**PKPab**	**02 12 17.6**	**-3.5**
KOLS			*e*		02 12 23.0	
MMAI	**Mount Meron Ar**	**150.03 297**	PKPbc	**PKiKP**	**02 12 17.3**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=73,slow=6.3,SNR=11					
CRVS	**Cervenica-Dubn**	**150.34 335**	*e*PKP	**PKPab**	**02 12 18.9**	**-3.6**
OSTC	**Ostas**	**150.61 343**	*e*PKP	**PKiKP**	**02 12 18.9**	**+1.9**
OSTC			*e*PKPAB	**PKPab**	**02 12 22.1**	**-1.5**
CLL	**Collm**	**150.66 348**	*i* PKPbc	**PKiKP**	**02 12 17.9**	**+0.9**
	comp=Z,6.0nm,0.8s					
UPC	**Upice**	**150.71 343**	*e*PKP	**PKiKP**	**02 12 18.9**	**+1.8**
DPC	**Dobruska-Polom**	**150.77 343**	*e*PKP	**PKiKP**	**02 12 19.2**	**+1.9**
DPC			*e*PKPAB	**PKPab**	**02 12 21.5**	**-2.8**
LANS	**Liptovska Anna**	**150.85 338**	*e*PKP	**PKPab**	**02 12 20.2**	**-4.5**
KRLC	**Kraliky**	**150.89 342**	*e*PKP	**PKiKP**	**02 12 19.1**	**+1.5**
PVCC	**Panska Ves**	**151.05 345**	*e*PKP	**PKiKP**	**02 12 19.9**	**+2.1**
GOPC	**GO Pecny, Ondr**	**151.57 344**	*e*PKP	**PKiKP**	**02 12 20.4**	**+1.4**
VYHS	**Vyhne**	**151.63 338**	*e*PKP	**PKiKP**	**02 12 21.6**	**+2.5**
KHC	**Kasperske Hory**	**152.59 345**	*e*PKP	**PKiKP**	**02 12 22.9**	**+1.8**
KHC			*ex*	x	02 12 26.4	
CKRC	**Cesky Krumlov**	**152.70 344**	*e*PKP	**PKiKP**	**02 12 23.3**	**+2.0**
CKRC			*e*PKPAB	**PKPab**	**02 12 26.8**	**-5.6**
GERES	**GERESS Array B**	**152.83 345**	PKPbc	**PKiKP**	**02 12 23.5**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=52,slow=3.8,SNR=2.4					
ESDC	**Sonseca Array**	**162.16 19**	PKPab	**PKPab**	**02 13 15.2**	**+1.7**
	comp=Z,1.0nm,1.0s,baz=314,slow=4.6,SNR=6.4					
TORD	**Torodi Ar. Bea**	**170.18 171**	PKP	**PKPdf**	**02 12 33.3**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=142,slow=7.3,SNR=4.6					
TORD			PKPab	**PKPab**	**02 13 50.9**	**+1.7**
	comp=Z,1.8nm,0.6s,baz=189,slow=3.5,SNR=13					

WEL 28 02:00:20.9±0.4, 42°S±3°×17°3E±°, h5km, M2.3/6, ML2.6/7, MLv2.3/6, Error ellipse: s-maj=0.0km s-min=0.0km az=112.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.41**	**222**	P	Pg	02 00 28.6	-0.2
LTZ				S	Sg	02 00 34.5	+0.3
GVZ	**Greta Valley S**	**0.57**	**149**	P	Pg	02 00 31.8	0.0
GVZ				S	Sb	02 00 40.5	-1.2
KHZ	**Kahutara**	**0.67**	**85**	P	Pg	02 00 33.7	0.0
AMCZ	**Amberley**	**0.70**	**179**	P	Pg	02 00 34.9	+0.6
AMCZ				S	Sb	02 00 44.8	-0.6
THZ	**Tophouse**	**0.74**	**15**	P	Pg	02 00 35.4	+0.2
THZ				S	Sb	02 00 46.3	-0.5
INZ	**Inchbonnie**	**0.92**	**254**	P	Pg	02 00 38.5	-0.1
OXZ	**Oxford**	**0.95**	**207**	P	Pg	02 00 39.5	+0.2
OXZ				S	Sb	02 00 53.1	+0.2
DSZ	**Denniston Nort**	**0.96**	**319**	P	Pb	02 00 40.1	0.0
DSZ				S	Sn	02 00 56.1	+0.8
MRNZ	**Matariki Terra**	**1.08**	**5**	P	Pg	02 00 41.3	-0.4
MQZ	**McQueen's Vall**	**1.23**	**180**	P	Pg	02 00 42.5	-1.9
MQZ				S	Sg	02 00 59.4	-0.9
OKCZ	**Okains Bay**	**1.28**	**166**	P	Pg	02 00 43.8	-1.7
MHCZ	**Mount Hutt**	**1.31**	**216**	P	Pn	02 00 44.5	-1.5
AKCZ	**Akaroa Harbour**	**1.41**	**172**	P	Pn	02 00 45.1	-2.1
WVZ	**Waitaha Valley**	**1.52**	**246**	P	Pn	02 00 49.1	+0.3
RPZ	**Rata Peaks**	**1.69**	**223**	P	Pn	02 00 51.4	+0.2
GCSZ	**Gaunt Creek Bo**	**1.90**	**243**	P	Pb	02 00 55.0	-1.0
TMZ	**Timaru**	**2.24**	**212**	P	Pn	02 00 57.0	-1.8
PKE	**Pukeiti**	**3.44**	**18**	P	Pn	02 01 18.3	+3.1

*TEH **28** 02:31:03.2, 28°.47N×57°.11E, h8km±53km, ML3.0*
*OMAN **28** 02:31:04.8±0.8, 28°.36N×56°.95E, h10km, mb4.8/1, ml3.1/7, Error ellipse: s-maj=12.2km s-min=6.9km az=29.0*
*DSN **28** 02:31:12.3±0.3, 27°.52N×53°.60E, h15km, ML2.4/5, Error ellipse: s-maj=7.7km s-min=4.7km az=228.0*

ISC 28 02:31:04.5±1.0, 28°.41N±0°.03×57°.10E±0°.05, h10km, n36, σ1§43/46, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.71**	**130**	Pg	**Pg**	**02 31 18.2**	**0.0**
IBND	**Bandar-abas**	**1.07**	**207**	Pg	**Pg**	**02 31 25.4**	**+0.2**
IBND				Sg	**Sn**	**02 31 41.7**	**+1.1**
NGRK	**Negar Kerman**	**1.27**	**345**	Pg	**Pn**	**02 31 26.5**	**-2.3**
GENO	**Geno**	**1.30**	**219**	Pg	**Pn**	**02 31 28.6**	**-0.3**
KBAM	**BAM**	**1.39**	**58**	Pg	**Pn**	**02 31 29.0**	**-1.1**
CHMN	**Cheshme madani**	**1.50**	**15**	Pg	**Pn**	**02 31 31.2**	**-0.7**
CHMN				Sg	**Sn**	**02 31 51.1**	**-0.5**
TVBK	**TV Kerman**	**1.60**	**349**	Pg	**Pn**	**02 31 32.5**	**-0.7**
KHGB	**Koh Gabri**	**2.03**	**345**	Pn	**Pn**	**02 31 39.6**	**+0.5**
SHME	**Shamm**	**2.50**	**200**	P	**Pn**	**02 31 44.5**	**-0.8**
SHME				S	**Sn**	**02 32 16.1**	**+0.3**
ZRDN	**Zarand Kerman**	**2.60**	**349**	Pn	**Pn**	**02 31 49.1**	**+2.3**
JASK	**Jask - Hormozg**	**2.62**	**165**	P	**Pn**	**02 31 47.0**	**0.0**
	SNR=10						
JASK				S	**Sn**	**02 32 20.0**	**+1.2**
JASK	**Jask - Hormozg**	**2.62**	**165**	Pn	**Pn**	**02 31 47.2**	**+0.2**
MASF	**Masafi**	**3.14**	**196**	P	**Pn**	**02 31 54.6**	**+0.5**
MASF				S	**Sn**	**02 32 32.9**	**+1.2**
MSFE	**Esma-Masafi**	**3.15**	**196**	P	**Pb**	**02 32 01.4**	**+0.8**
MDH	**Madha**	**3.18**	**193**	P	**Pn**	**02 31 53.8**	**-0.8**
MDH				S	**Sn**	**02 32 31.1**	**-1.5**
NAZ	**Nazwa, Dubai**	**3.64**	**201**	P	**Pn**	**02 32 01.0**	**+0.1**
NAZ	**Nazwa, Dubai**	**3.64**	**201**	P	**Pn**	**02 32 01.0**	**+0.1**
NAZ				S	**Sn**	**02 32 42.5**	**-1.5**
HATD	**Hatta, Dubai**	**3.67**	**194**	P	**Pn**	**02 32 04.5**	**+3.1**
IMEH	**Mehriz**	**3.67**	**325**	Pn	**Pn**	**02 32 02.8**	**+1.1**
ASHO	**Ashiyiah**	**3.82**	**194**	P	Pn	02 32 08.4	+4.8
ASHO				S	**Sn**	**02 32 50.4**	**+1.9**
FAQ	**Al Faqa, Dubai**	**3.89**	**201**	P	**Pn**	**02 32 02.6**	**-1.8**
FAQ	**Al Faqa, Dubai**	**3.89**	**201**	P	**Pn**	**02 32 02.7**	**-1.7**
FAQ				S	**Sn**	**02 32 48.6**	**-1.5**
NHDN	**Nehbandan**	**3.93**	**40**	Pn	**Pn**	**02 32 06.1**	**+1.1**
ASUD	**Al Ashush, Dub**	**4.09**	**203**	P	Pn	02 32 03.6	-3.5
ASUD	**Al Ashush, Dub**	**4.09**	**203**	P	**Pn**	**02 32 04.9**	**-2.1**
	SNR=14						
ASUD				S	**Sn**	**02 32 53.7**	**-1.2**
SOHO	**SOHO**	**4.29**	**187**	P	**Pn**	**02 32 09.3**	**-0.5**
ISAD	**Sadrabad**	**4.58**	**321**	Pn	**Pn**	**02 32 15.1**	**+1.0**
TPRV	**Parvadeh(Tabas**	**4.62**	**356**	Pn	**Pn**	**02 32 15.4**	**+0.9**
NGCH	**Negor - Chabah**	**4.71**	**129**	P	**Pn**	**02 32 14.7**	**-1.0**
ARQ	**Araqi**	**5.08**	**186**	P	**Pn**	**02 32 21.2**	**+0.5**
	SNR=5.3						
DSBU	**Dashti - Bushe**	**5.14**	**271**	Pn	**Pn**	**02 32 21.7**	**+0.1**
AFRZ	**Afriz**	**5.27**	**18**	Pn	**Pn**	**02 32 24.7**	**+1.3**
IRAM	**Ramesheh**	**5.31**	**311**	Pn	**Pn**	**02 32 24.2**	**+0.1**
WSAR	**Wadi Sarin**	**5.33**	**165**	P	**Pn**	**02 32 24.2**	**0.0**
	SNR=15						
WSAR				S	**Sn**	**02 33 22.1**	**-3.6**
KLNJ	**Kolanjah**	**5.45**	**300**	Pn	**Pn**	**02 32 26.8**	**+0.7**
SMRA	**Abu-Samra**	**6.70**	**238**	P	**Pn**	**02 32 42.2**	**-0.7**
SMRA				S	**Sn**	**02 33 55.4**	**-3.9**
	SNR=5.3						

*CNRM **28** 02:41:02.5, 35°.71N×4°.07E, h0km, ml3.2*

*MDD **28** 02:41:05.5±1.3, 35°.96N×3°.78E, h0km, Mb4.2/8, M_mb3.6/8, Error ellipse: s-maj=12.5km s-min=6.8km az=165.0*

ISC 28 02:41:06.8±2.2, 36°.04N±0°.06×3°.5E±0°.1, h10km, n25, σ1§47/40, 7C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIBI	**Ibiza**	**3.45**	**330**	Pn	**Pn**	**02 42 01.0**	**+0.3**
EIBI				⇑*i*Vmb_V		02 42 01.4	
	565nm,SNR=2.8						
EIBI				Sn	**Sn**	**02 42 41.8**	**+0.2**
EIBI	**Ibiza**	**3.45**	**330**	Sn	**Sn**	**02 42 39.5**	**-2.1**
EIBI				Pn	**Pn**	**02 42 01.1**	**+0.4**
ETOS	**Mallorca**	**3.76**	**351**	⇑*i*Vmb_V		02 42 04.5	
	630nm,SNR=1.3						
ETOS				Pn	**Pn**	**02 42 04.7**	**-0.3**
ETOS	**Mallorca**	**3.76**	**351**	Sn	**Sn**	**02 42 47.6**	**-1.7**
ETOS				Pn	**Pn**	**02 42 04.6**	**-0.3**
CART	**Cartagena**	**3.96**	**294**	Sn	**Sn**	**02 42 52.0**	**-2.0**
CART				Pn	**Pn**	**02 42 08.0**	**+0.5**
EMUR	**La Murta**	**4.23**	**297**	Pn	**Pn**	**02 42 12.0**	**+0.7**
EMUR				⇑*i*Vmb_V		02 42 20.8	
	107nm,SNR=1.9						
EMUR				Sn	**Sn**	**02 43 03.2**	**+2.4**
EMUR	**La Murta**	**4.23**	**297**	Sn	**Sn**	**02 43 00.7**	**-0.1**
EMUR				Pn	**Pn**	**02 42 12.0**	**+0.7**
ENIJ	**Nijar**	**4.72**	**283**	Sn	**Sn**	**02 43 09.9**	**-3.0**
ENIJ				Pn	**Pn**	**02 42 17.6**	**-0.5**
ETOB	**Tobarra**	**4.81**	**304**	Pn	**Pn**	**02 42 20.9**	**+1.4**
ETOB				⇑*i*Vmb_V		02 42 26.1	
	138nm,SNR=1.6						
ETOB				Sn	**Sn**	**02 43 17.4**	**+2.1**
ETOB	**Tobarra**	**4.81**	**304**	Pn	**Pn**	**02 42 20.8**	**+1.4**
EVIV	**Cofrentes, Val**	**4.90**	**312**	Pn	**Pn**	**02 42 21.2**	**+0.6**
EVIV				⇑*i*Vmb_V		02 42 23.9	
	183nm,SNR=1.8						
EVIV				Sn	**Sn**	**02 43 18.3**	**+0.9**
TAF	**Taforalt**	**5.01**	**258**	P	**Pn**	**02 42 23.2**	**+1.0**
TAF				S	**Sn**	**02 43 17.3**	**-2.9**
ECHE	**Chera**	**5.03**	**316**	Pn	**Pn**	**02 42 23.4**	**+1.1**
ECHE	**Chera**	**5.03**	**316**	Pn	**Pn**	**02 42 23.3**	**+1.0**
EBER	**Berja**	**5.25**	**281**	Pn	**Pn**	**02 42 25.7**	**+0.1**
EBER				Sn	**Sn**	**02 43 23.6**	**-2.6**
JBK	**JBK**	**5.28**	**253**	P	**Pn**	**02 42 26.5**	**+0.6**
EMOS	**Mosqueruela**	**5.35**	**325**	Pn	**Pn**	**02 42 27.4**	**+0.6**
EMOS				⇑*i*Vmb_V		02 42 27.7	
	323nm,SNR=2.4						
EMOS				Sn	**Sn**	**02 43 27.4**	**-1.2**
FIGM	**Figuig**	**5.57**	**227**	P	**Pn**	**02 42 30.9**	**+1.0**
FIGM				S	**Sn**	**02 43 34.3**	**+0.3**
EQES	**Quesada**	**5.58**	**290**	Pn	**Pn**	**02 42 32.4**	**+2.4**
EQES				⇑*i*Vmb_V		02 42 34.6	
	95nm,SNR=1.9						
EQES				Sn	**Sn**	**02 43 36.6**	**+2.4**
EQTA	**Presa de Quent**	**5.73**	**284**	Pn	**Pn**	**02 42 33.0**	**+1.0**
ELGU	**Los Guajares,**	**5.83**	**280**	Pn	**Pn**	**02 42 34.0**	**+0.5**
ELGU				Sn	**Sn**	**02 43 37.8**	**-2.6**
EJON	**La Jonquera**	**6.42**	**356**	Pn	**Pn**	**02 42 41.2**	**-0.2**
EMIJ	**Mijas**	**6.73**	**277**	Pn	**Pn**	**02 42 45.9**	**+0.2**
MDT	**Midelt**	**7.46**	**247**	P	**Pn**	**02 42 56.9**	**+1.1**
MD31	**MD31**	**7.55**	**248**	P	**Pn**	**02 42 57.7**	**+0.7**

*NIED **28** 02:50:51.6, 32°.54N×129°.95E, h13km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=1.48; Mθθ=5.22; Mφφ=-3.

PB06	**IPOC Station P**	**1.81**	**212**	⇑*iP*	**Pn**	**03 28 23.6**	**+0.5**
PB06				*eS*	**Sn**	**03 28 48.1**	**+0.4**
PB06				IAML		03 28 49.0	
	comp=E,740nm,0.3s						
PB06	**IPOC Station P**	**1.81**	**212**	*eP*	**Pn**	**03 28 23.6**	**+0.5**
PB06				*eS*	**Sn**	**03 28 48.1**	**+0.4**
PB06				IAML		03 28 48.8	
	comp=Z,290nm,0.2s						
PB04	**IPOC Station P**	**1.91**	**232**	*eP*	**Pn**	**03 28 24.4**	**+0.2**
PB04				*eS*	**Sn**	**03 28 49.6**	**0.0**
PB04				IAML		03 28 53.6	
	comp=Z,367nm,0.2s						
PB15	**IPOC Station P**	**2.21**	**203**	*eP*	**Pn**	**03 28 28.7**	**+0.7**
PB15				*eS*	**Sn**	**03 28 57.7**	**+1.3**
PB15	**IPOC Station P**	**2.21**	**203**	*eP*	**Pn**	**03 28 28.6**	**+0.7**
PB15				*eS*	**Sn**	**03 28 57.4**	**+1.0**
PB15				IAML		03 29 00.1	
	comp=Z,1μm,0.2s						
PB16	**IPOC Station P**	**2.97**	**342**	*eP*	**Pn**	**03 28 38.2**	**+0.3**
PB16				*eS*	**Sn**	**03 29 20.1**	**+6.1**
YJA	**Yavi**	**2.97**	**110**	*eP*	**Pn**	**03 28 38.9**	**+1.1**
PB12	**IPOC Station P**	**3.06**	**326**	*eP*	**Pn**	**03 28 37.1**	**-1.4**
PB12	**IPOC Station P**	**3.06**	**326**	*eP*	**Pn**	**03 28 37.2**	**-1.4**
PB12				*eS*	**Sn**	**03 29 15.4**	**+0.1**
PB14	**IPOC Station P**	**3.85**	**206**	*eP*	**Pn**	**03 28 49.7**	**+0.5**
PB14				*eS*	**Sn**	**03 29 30.4**	**-3.8**
GO02	**Mina Guanaco**	**4.09**	**194**	*eP*	**Pn**	**03 28 52.0**	**-0.3**
GO02				*eS*	Sn	03 29 30.0	-10
LPAZ	**La Paz**	**4.87**	**4**	P	**Pn**	**03 29 03.9**	**+0.9**
	comp=Z,3.7nm,0.4s,baz=172,slow=6.6,SNR=28						
LPAZ				S	**Sn**	**03 29 58.5**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=219,slow=13,SNR=1.7						
LPAZ				LR	LR	03 31 10.8	
	comp=Z,50nm,20.2s,baz=271,slow=41						
LPAZ	**La Paz**	**4.87**	**4**	*eP*	**Pn**	**03 29 04.3**	**+1.4**
SIV	**San Ignacio**	**8.74**	**55**	P	**Pn**	**03 29 50.3**	**-4.1**
	comp=Z,8.5nm,0.4s,baz=241,slow=13,SNR=46						
CFA	**Coronel Fontan**	**10.40**	**179**	P	**Pn**	**03 30 12.4**	**-4.0**
	comp=Z,0.7nm,0.3s,baz=326,slow=14,SNR=11						
BDFB	**Brasilia**	**20.21**	**78**	P	**P**	**03 32 13.7**	**-1.8**
	comp=Z,1.2nm,0.4s,baz=228,slow=14,SNR=2.0						
QSPA	**South Pole Qui**	**69.02**	**180**	P	**P**	**03 38 43.9**	**+2.3**
	comp=Z,0.6nm,0.7s,baz=131,slow=2.3,SNR=1.7						
	comp=Z,0.6nm,0.7s						
NVAR	**Mina Array Bea**	**75.46**	**322**	LR	LR	04 13 48.3	
	comp=Z,141nm,18.8s,baz=326,slow=36						
TORD	**Torodi Ar. Bea**	**76.91**	**70**	P	**P**	**03 39 28.4**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=259,slow=5.0,SNR=19						
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**133.42**	**210**	PKP	**PKPdf**	**03 46 52.2**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=150,slow=1.8,SNR=1.3						
MKAR	**Makanchi Array**	**145.16**	**36**	PKPbc	**PKPab**	**03 47 13.0**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=335,slow=2.8,SNR=7.2						

*TRN **28** 03:36:38.5, 10°.54N×61°.82W, h61km, MD3.1*
*FUNV **28** 03:36:41.1, 10°.51N×61°.81W, h35km, MW3.2*
ISC 28 03:36:37.0±2.6, 10°.5N±0°.1×61°.8W±0°.1, h79km±21km, n10, σ1§87/17, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.38**	**66**	*eP*	**Pn**	**03 36 50.9**	**+1.1**
TRN				*eS*	**Sn**	**03 36 57.6**	**-1.5**
CRUV	**Carupano**	**1.47**	**277**	*eP*	**Pn**	**03 37 03.2**	**+1.3**
CRUV				*eS*	**Sn**	**03 37 19.4**	**-1.2**
GRGR	**Grenville**	**1.63**	**4**	*eP*	**Pn**	**03 37 04.2**	**0.0**
GRGR				*eS*	**Sn**	**03 37 24.2**	**-0.4**
GRW	**Mount Saint Ca**	**1.66**	**3**	*eP*	**Pn**	**03 37 05.4**	**+0.8**
GRW				*eS*	**Sn**	**03 37 24.3**	**-1.1**
GRHS	**Sauteurs**	**1.73**	**4**	*eS*	**Sn**	**03 37 26.4**	**-0.3**
GCMP	**Grenada, Carri**	**2.01**	**9**	*eP*	**Pn**	**03 37 09.3**	**+0.2**
GCMP				*eS*	**Sn**	**03 37 33.3**	**-0.1**
CUMV	**Cumana_UDO**	**2.40**	**269**	*eP*	**Pn**	**03 37 16.9**	**+2.6**
CUMV				*eS*	**Sn**	**03 37 42.6**	**-0.2**
PCRV	**Puerto La Cruz**	**2.85**	**264**	*eP*	**Pn**	**03 37 22.2**	**+1.8**
PCRV				*eS*	**Sn**	**03 37 51.7**	**-2.1**
CACV	**CAICARA DEL OR**	**5.55**	**239**	*eP*	Pn	03 37 53.3	-3.8
CACV				*eS*	Sn	03 38 46.8	-13
BAUV	**El Baul**	**6.38**	**257**	*eP*	**Pn**	**03 38 09.9**	**+1.3**
BAUV				*eS*	**Sn**	**03 39 15.5**	**-4.5**

*FUNV **28** 03:38:53.7, 6°.19N×65°.14W, h5km, MW3.9*
ISC 28 03:38:54.9±2.0, 6°.4N±0°.1×65°.25W±0°.08, h10km, n37, σ1§81/47, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACV	**CAICARA DEL OR**	**1.76**	**313**	*eS*	Sn	03 39 40.5	-7.5
CACV	**CAICARA DEL OR**	**1.76**	**313**	*eP*	Pn	03 39 20.8	-4.6
BAUV	**El Baul**	**3.78**	**313**	*eP*	**Pn**	**03 39 54.2**	**+0.9**
BAUV				*eS*	**Sn**	**03 40 39.0**	**+1.2**
BAUV	**El Baul**	**3.78**	**313**	*eS*	**Sn**	**03 40 40.1**	**+2.2**
BAUV	**El Baul**	**3.78**	**313**	*eP*	**Pn**	**03 39 54.2**	**+0.9**
PCRV	**Puerto La Cruz**	**3.85**	**9**	*eS*	**Sn**	**03 40 39.4**	**-0.1**
PCRV	**Puerto La Cruz**	**3.85**	**9**	*eP*	**Pn**	**03 39 53.7**	**-0.5**
TACV	**Tcata**	**4.15**	**335**	*eP*	**Pn**	**03 39 59.2**	**+0.7**
TACV				*eS*	**Sn**	**03 40 47.8**	**+0.7**
TACV	**Tcata**	**4.15**	**335**	*eS*	**Sn**	**03 40 48.1**	**+0.9**
TACV	**Tcata**	**4.15**	**335**	*eP*	**Pn**	**03 39 59.4**	**+1.0**
CUMV	**Cumana_UDO**	**4.18**	**14**	*eP*	**Pn**	**03 39 58.9**	**+0.1**
CUMV				*eS*	**Sn**	**03 40 46.0**	**-1.7**
BENV	**Beln**	**4.28**	**327**	*eP*	**Pn**	**03 40 01.5**	**+1.3**
BENV				*eS*	**Sn**	**03 40 50.7**	**+0.6**
BENV	**Beln**	**4.28**	**327**	*eS*	**Sn**	**03 40 51.3**	**+1.2**
BENV	**Beln**	**4.28**	**327**	*eP*	**Pn**	**03 40 01.5**	**+1.3**
FUNV	**FUNVISIS**	**4.37**	**339**	*eP*	**Pn**	**03 40 01.4**	**-0.1**
FUNV				*eS*	**Sn**	**03 40 52.5**	**-0.1**
CARV	**Caracas**	**4.45**	**338**	*eP*	**Pn**	**03 40 03.1**	**+0.6**
CARV				*eS*	**Sn**	**03 40 54.4**	**-0.1**
CRUV	**Carupano**	**4.73**	**25**	*eP*	**Pn**	**03 40 05.1**	**-1.3**
CRUV				*eS*	**Sn**	**03 40 58.3**	**-3.0**
TURV	**Turiamo**	**4.81**	**328**	*eS*	**Sn**	**03 41 04.1**	**+0.8**
TURV	**Turiamo**	**4.81**	**328**	*eP*	**Pn**	**03 40 08.2**	**+0.8**
SANV	**Sanarito**	**5.28**	**307**	*eP*	**Pn**	**03 40 14.2**	**+0.2**
SANV				*eS*	**Sn**	**03 41 13.3**	**-1.6**
TEPV	**Terepaima**	**5.30**	**313**	*eP*	**Pn**	**03 40 14.8**	**+0.5**
TEPV				*eS*	**Sn**	**03 41 14.0**	**-1.5**
SOCV	**Socops**	**5.89**	**289**	*eP*	**Pn**	**03 40 21.9**	**-0.3**
SOCV				*eS*	**Sn**	**03 41 26.7**	**-3.2**
SOCV	**Socops**	**5.89**	**289**	*eP*	**Pn**	**03 40 23.6**	**+1.3**
CURV	**Curarigua**	**5.92**	**308**	*eP*	**Pn**	**03 40 23.8**	**+1.1**
CURV				*eS*	**Sn**	**03 41 28.4**	**-2.3**
SIQV	**Siquisique**	**6.21**	**314**	*eP*	**Pn**	**03 40 26.2**	**-0.5**
SIQV				*eS*	**Sn**	**03 41 35.4**	**-2.5**
CAPV	**Capacho**	**7.17**	**283**	*eP*	**Pn**	**03 40 38.9**	**-1.2**
CAPV				*eS*	**Sn**	**03 41 56.8**	**-5.1**
PTGC	**Puerto Gaitan,**	**7.18**	**253**	*eP*	**Pn**	**03 40 40.8**	**+0.7**
PAMC	**Pamplona, Colo**	**7.47**	**278**	*eP*	**Pn**	**03 40 48.5**	**+4.1**
RUSC	**La Rusia**	**7.81**	**267**	*eP*	**Pn**	**03 40 51.5**	**+2.5**
BRRC	**Barranca, Sant**	**8.44**	**276**	*eP*	Pn	03 41 03.7	+6.4
SPBC	**San Pablo de B**	**8.81**	**266**	*eP*	**Pn**	**03 41 05.2**	**+2.7**
PTBC	**PUERTO BERRIO,**	**9.15**	**272**	*eP*	**Pn**	**03 41 07.4**	**+0.2**
ROSC	**El Rosal**	**9.16**	**261**	*eP*	**Pn**	**03 41 11.2**	**+3.7**
NORC	**Norcasia**	**9.60**	**266**	*eP*	**Pn**	**03 41 15.3**	**+1.9**
GUY2C	**Guyana, Caldas**	**10.13**	**264**	*eP*	**Pn**	**03 41 22.7**	**+1.8**
ORTC	**Ortega, Tolima**	**10.25**	**257**	*eP*	**Pn**	**03 41 24.1**	**+1.9**
GARC	**Garzon, Huila**	**11.02**	**248**	*eP*	**Pn**	**03 41 32.8**	**-0.2**

*SJA **28** 03:40:49.6±0.6, 24°.01S×66°.87W, h231km±4km, ML3.4, MW3.5*
*GUC **28** 03:40:52.6±0.7, 23°.93S×67°.45W, h246km±14km, ML4.1*
ISC 28 03:40:49.5±2.1, 24°.02S±0°.04×66°.90W±0°.05, h228km±18km, n27, σ1§37/48, 4C, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.45**	**119**	*iP*	**Pn**	**03 41 26.1**	**+0.5**
SLA				*iS*	**S**	**03 41 52.9**	**-0.8**
AZAP	**Zapla**	**1.68**	**97**	*iP*	**Pn**	**03 41 28.1**	**+0.5**
YJA	**Yavi**	**2.23**	**35**	*iP*	**Pn**	**03 41 34.3**	**+1.2**
FSA	**Cafayete**	**2.24**	**158**	*iP*	**Pn**	**03 41 33.4**	**+0.6**
FSA				*iS*	**S**	**03 42 06.5**	**-0.2**
LVC	**Limon Verde**	**2.32**	**307**	*iP*	**Pn**	**03 41 34.5**	**+0.7**
LVC				*iS*	**S**	**03 42 08.0**	**-0.4**
PB15	**IPOC Station P**	**2.50**	**288**	⇑*iP*	**Pn**	**03 41 37.0**	**+1.5**
PB15				*eS*	**S**	**03 42 10.0**	**-1.3**
PB15	**IPOC Station P**	**2.50**	**288**	*iP*	**Pn**	**03 41 36.3**	**+0.9**
PB15				*iS*	**S**	**03 42 10.9**	**-0.3**
ALOL	**LOMAS DE OLMED**	**2.67**	**86**	*iP*	**Pn**	**03 41 38.0**	**+0.8**
GO02	**Mina Guanaco**	**2.70**	**245**	⇑*iP*	**Pn**	**03 41 39.5**	**+1.8**
GO02				*eS*	**S**	**03 42 15.8**	**+0.4**
GO02				IAML		03 42 18.7	
	comp=N,529nm,0.1s						
GO02	**Mina Guanaco**	**2.70**	**245**	*iP*	**Pn**	**03 41 38.9**	**+1.2**
GO02				*iS*	**S**	**03 42 15.6**	**+0.1**
PB06	**IPOC Station P**	**2.79**	**298**	⇑*iP*	**Pn**	**03 41 40.0**	**+1.4**
PB06				*eS*	**S**	**03 42 14.9**	**-1.9**
PB06				IAML		03 42 17.1	
	comp=E,584nm,0.1s						
PB06	**IPOC Station P**	**2.79**	**298**	*iP*	**Pn**	**03 41 39.3**	**+0.8**
PB06				*iS*	**S**	**03 42 16.3**	**-0.5**
PB09	**IPOC Station P**	**3.10**	**315**	*eP*	**Pn**	**03 41 44.0**	**+1.9**
PB09				*eS*	**S**	**03 42 22.6**	**-0.6**
PB09				IAML		03 42 25.6	
	comp=E,81nm,0.1s						
PB09	**IPOC Station P**	**3.10**	**315**	*iP*	**Pn**	**03 41 42.8**	**+0.8**
PB09				*iS*	**S**	**03 42 22.0**	**-1.1**
PB09				IAML		03 42 24.0	
	comp=Z,69nm,0.2s						
PB14	**IPOC Station P**	**3.26**	**259**	*iP*	**Pn**	**03 41 45.0**	**+1.1**
PB14				*iS*	**S**	**03 42 25.7**	**-0.8**
PB14				IAML		03 42 27.5	
	comp=Z,84nm,0.2s						
PB04	**IPOC Station P**	**3.43**	**299**	*eP*	**Pn**	**03 41 47.1**	**+1.2**
PB04				*eS*	**S**	**03 42 28.0**	**-2.1**
PB04				IAML		03 42 31.4	
	comp=E,253nm,0.1s						
PB04	**IPOC Station P**	**3.43**	**299**	*iP*	**Pn**	**03 41 46.6**	**+0.8**
PB04				*iS*	**S**	**03 42 28.4**	**-1.6**
PB07	**IPOC Station P**	**3.58**	**309**	*eP*	**Pn**	**03 41 48.7**	**+1.1**
PB07				*eS*	**S**	**03 42 30.6**	**-2.6**
PB07				IAML		03 42 32.6	
	comp=E,172nm,0.3s						
PB07	**IPOC Station P**	**3.58**	**309**	*iP*	**Pn**	**03 41 48.1**	**+0.5**
PB07				*iS*	**S**	**03 42 32.0**	**-1.2**
PB01	**IPOC Station P**	**3.81**	**321**	*eP*	**Pn**	**03 41 51.4**	**+1.1**
PB01				*eS*	**S**	**03 42 35.8**	**-2.3**
PB01				IAML		03 42 38.3	
	comp=N,86nm,0.3s						
PB02	**IPOC Station P**	**3.86**	**314**	*eP*	**Pn**	**03 41 51.8**	**+0.9**
AC01	**Pan de Azucar**	**3.97**	**237**	⇑*iP*	**Pn**	**03 41 52.8**	**+0.8**
AC01				*eS*	**S**	**03 42 39.9**	**-1.3**
AC01				IAML		03 42 40.4	
	comp=E,96nm,0.3s						
AC01	**Pan de Azucar**	**3.97**	**237**	*iP*	**Pn**	**03 41 52.9**	**+0.9**
AC01				*iS*	**S**	**03 42 40.0**	**-1.3**
AC01				IAML		03 42 43.2	
	comp=Z,31nm,0.6s						
PB08	**IPOC Station P**	**4.39**	**331**	*eP*	**Pn**	**03 42 00.5**	**+2.9**
PB08				*eS*	**S**	**03 42 49.9**	**-1.4**
PB08				IAML		03 42 53.0	
	comp=N,52nm,0.2s						
TA01	**Diego Aracena**	**4.59**	**318**	*iP*	**Pn**	**03 42 00.8**	**+1.2**
TA01				IAML		03 43 14.8	
	comp=Z,26nm,1.7s						
GO03	**Copiap**	**4.66**	**220**	*iP*	**Pn**	**03 42 01.6**	**+1.1**
ACLC	**CERRO LA CRUZ**	**5.38**	**181**	*iP*	**Pn**	**03 42 10.5**	**+1.0**
ACLC				*iS*	**S**	**03 43 10.0**	**-3.1**
ACLC				IAML		03 43 15.7	
	comp=Z,7.5nm,0.3s						

*IDC **28** 04:30:20.9±1.3, 6°.25S×143°.06E, h0km, mb3.8/3, mbtmp3.8/5, ML1.5/1, Error ellipse: s-maj=42.2km s-min=27.8km az=59.0*
ISC 28 04:30:25.4±1.0, 6°.6S±0°.1×142°.7E±0°.1, h35km, n6, σ3§13/8, mb3.7/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.22**	**122**	Pn	**Pn**	**04 31 39.9**	**-1.1**
	1.2nm,0.3s,baz=21,slow=14,SNR=1.9						
PMG				Sn	**Sn**	**04 32 41.9**	**+1.8**
	0.7nm,0.3s,baz=31,slow=5.2,SNR=2.6						
	3.6nm,0.3s						
WRA	**Warramunga Arr**	**15.50**	**211**	Pn	**P**	**04 34 03.4**	**-2.1**
	0.2nm,0.3s,baz=27,slow=14,SNR=10						
WRA				Sn	**Sn**	**04 36 49.4**	**-2.7**
	baz=150,slow=19						
ASAR	**Alice Springs**	**18.91**	**206**	P	**Pn**	**04 34 48.2**	**+4.2**
	3.4nm,0.6s,baz=32,slow=10,SNR=47						
MKAR	**Makanchi Array**	**75.30**	**322**	P	**P**	**04 42 07.4**	**+2.3**
	0.3nm,0.5s,baz=118,slow=8.0,SNR=1.5						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**84.78**	**325**	P	**P**	**04 42 56.5**	**+0.4**
	1.2nm,0.8s,baz=104,slow=6.3,SNR=4.2						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**87.78**	**24**	P	**P**	**04 43 07.5**	**-3.0**
	0.3nm,0.6s,baz=243,slow=4.0,SNR=2.5						
	0.3nm,0.6s						

*KRNET **28** 05:02:05.7±0.1, 39°.47N×73°.75E, h14km, mb3.1*
*SOME **28** 05:02:06.0, 39°.57N×73°.50E, h5km*
*NNC **28** 05:02:10.7±0.8, 39°.66N×73°.67E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=6.8km s-min=4.1km az=160.0*
ISC 28 05:02:09.6±1.9, 39°.60N±0°.06×73°.63E±0°.04, h2km±12km, n54, σ1§85/74, 22C-21D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.43**	**347**	*iP*	**Pg**	**05 02 16.9**	**-0.9**
	baz=40						
SFK				*iS*	**Sb**	**05 02 25.2**	**-1.9**
	baz=40						
OHH	**Osh**	**1.13**	**325**	⇑*iP*	**Pg**	**05 02 30.0**	**-1.3**
	baz=25						
OHH				⇑*iS*	**Sn**	**05 02 47.9**	**-0.9**
	baz=25						
DRK	**Karamyk**	**1.42**	**266**	⇓*eP*	**Pn**	**05 02 34.4**	**-2.3**
	baz=71						
DRK				⇓*eS*	**Sb**	**05 02 54.8**	**-0.8**
	baz=71						
ARSB	**Arslanbob**	**1.80**	**344**	⇑*eP*	**Pn**	**05 02 41.7**	**-0.1**
	baz=43						
ARSB				⇑*iS*	**Sg**	**05 03 07.9**	**+0.6**
	baz=43						
BTK	**Batken**	**2.21**	**283**	⇓*iP*	**Pn**	**05 02 47.2**	**-0.2**
	baz=85						
BTK				⇓*iS*	**Sb**	**05 03 17.5**	**-0.8**
	baz=85						
ARLS	**Aral**	**2.32**	**13**	⇑*iP*	**Pn**	**05 02 48.4**	**-0.7**
	baz=10.0						
ARLS				⇑*iS*	**Sb**	**05 03 19.7**	**-1.9**
	baz=10.0						
AML	**Almayashu**	**2.53**	**1**	⇓Pn	**Pn**	**05 02 52.4**	**+0.2**
	0.4nm,0.4s						
AML				⇓Lg	Lg	05 03 30.7	
	8.7nm,0.8s						
AML	**Almayashu**	**2.53**	**1**	⇓*iP*	**Pn**	**05 02 51.8**	**-0.4**
	baz=59						
AML				⇓*iS*	**Sb**	**05 03 25.8**	**-2.1**
	baz=59						
ARK	**Arkit**	**2.54**	**331**	⇑*iP*	**Pn**	**05 02 52.2**	**+0.2**
	baz=30						
ARK				⇑*iS*	**Sb**	**05 03 26.3**	**-1.4**
	baz=30						
NRN	**Naryn**	**2.58**	**44**	⇓*iP*	**Pn**	**05 02 50.7**	**-2.0**
	baz=40						
NRN				⇓*iS*	**Sn**	**05 03 23.6**	**-1.2**
	baz=40						
TRKS	**Terek-Say**	**2.71**	**316**	⇓*iP*	**Pn**	**05 02 53.7**	**-0.6**
	baz=16						
TRKS				⇓*iS*	**Sn**	**05 03 28.8**	**+1.0**
	baz=16						
MNAS	**Manas**	**3.01**	**344**	⇑*iP*	**Pn**	**05 02 58.7**	**+0.2**
	baz=43						
MNAS				⇑*iS*	**Sb**	**05 03 37.4**	**-4.0**
	baz=43						
EKS2	**Erkin-Say**	**3.07**	**2**	⇑*eP*	**Pn**	**05 02 59.0**	**-0.2**
	baz=0.0						
EKS2				⇑*iS*	**Sn**	**05 03 38.1**	**+1.5**
	baz=0.0						
AAK	**Ala-Archa**	**3.11**	**12**	⇑*iP*	**Pn**	**05 02 59.4**	**-0.5**
	baz=10.0						
AAK				⇑*iS*	**Sn**	**05 03 38.7**	**+1.0**
	baz=10.0						
MRKS	**Merke**	**3.16**	**355**	Pg	**Pb**	**05 03 05.9**	**-0.7**
	9.3nm,0.4s						
MRKS				Lg	Lg	05 03 47.4	
	29nm,0.5s						
MRKS	**Merke**	**3.16**	**355**	*e*Pg	**Pb**	**05 03 05.8**	**-0.7**
	9.2nm,0.3s						
MRKS				*e*Lg	Lg	05 03 47.4	
	29nm,0.3s						
KBK	**Karagaybulak**	**3.22**	**18**	⇑*iP*	**Pn**	**05 03 00.7**	**-0.6**
	baz=15						
KBK				⇑*iS*	**Sn**	**05 03 41.0**	**+0.6**
	baz=15						
ULHL	**Ulahol**	**3.31**	**36**	⇓*eP*	**Pn**	**05 03 01.4**	**-1.2**
	baz=33						
ULHL				⇓*iS*	**Sn**	**05 03 42.2**	**-0.4**
	baz=33						
BOOM	**Boomskoye usch**	**3.38**	**30**	⇓*iP*	**Pn**	**05 03 02.5**	**-1.1**
	baz=28						
BOOM				⇓*iS*	**Sn**	**05 03 44.3**	**-0.1**
	baz=28						
CHMS	**Chumysh**	**3.50**	**14**	⇑*iP*	**Pn**	**05 03 04.7**	**-0.5**
	baz=12						
CHMS				⇑*iS*	**Sn**	**05 03 48.0**	**+0.8**
	baz=12						
TKM2	**Tokmak 2**	**3.64**	**23**	⇑Pg	**Pb**	**05 03 14.3**	**-0.5**
	1.2nm,0.3s						
TKM2				⇑Lg	Lg	05 04 04.3	
	13nm,0.8s						
TKM2	**Tokmak 2**	**3.64**	**23**	⇑*iP*	**Pn**	**05 03 06.5**	**-0.7**
	baz=21						
TKM2				⇑*iS*	**Sn**	**05 03 50.7**	**-0.1**
	baz=21						
USP	**Ospenovka**	**3.73**	**10**	⇓*iP*	**Pn**	**05 03 07.9**	**-0.3**
	baz=8.0						
USP				⇓*iS*	**Sn**	**05 03 53.5**	**+0.8**
	baz=8.0						
IUG	**Iuzhnay**	**3.73**	**314**	Pg	**Pb**	**05 03 18.3**	**+1.9**
	19nm,1.0s						
IUG				Lg	Lg	05 04 09.2	
	33nm,0.6s						
IUG	**Iuzhnay**	**3.73**	**314**	*e*Pg	**Pb**	**05 03 18.2**	**+1.9**
	19nm,0.4s						
IUG				*e*Lg	Lg	05 04 09.2	
	35nm,0.3s						
KST	**Kastek**	**3.87**	**26**	Pg	**Pb**	**05 03 20.2**	**+1.6**
	2.3nm,0.5s						
KST				Lg	Lg	05 04 12.4	
	12nm,0.8s						
KST	**Kastek**	**3.87**	**26**	*e*Pg	**Pb**	**05 03 20.2**	**+1.6**
	2.3nm,0.5s						
KST				*e*Lg	Lg	05 04 12.4	
	13nm,0.3s						
SGDS	**Sogindy**	**3.93**	**11**	Pg	**Pb**	**05 03 21.1**	**+1.5**
	1.8nm,0.4s						
SGDS				Lg	Lg	05 04 13.9	
	5.3nm,0.6s						
IZV	**Izvestkoviy**	**4.11**	**32**	Pg	**Pb**	**05 03 24.9**	**+2.2**
	5.1nm,0.6s						
IZV				Lg	Lg	05 04 20.6	
	18nm,0.2s						
IZV	**Izvestkoviy**	**4.11**	**32**	*e*Pg	**Pb**	**05 03 24.9**	**+2.2**
	5.2nm,0.3s						
IZV				*e*Lg	Lg	05 04 20.6	
	18nm,0.4s						
MTBS	**Maitube**	**4.11**	**30**	Pg	**Pb**	**05 03 24.4**	**+1.7**
	2.3nm,0.3s						
MTBS				Lg	Lg	05 04 19.5	
	8.2nm,0.5s						
MTBS	**Maitube**	**4.11**	**30**	*e*Pg	**Pb**	**05 03 24.4**	**+1.7**
	2.3nm,0.1s						
MTBS				*e*Lg	Lg	05 04 19.5	
	7.7nm,0.2s						
KK31	**Karatay Array**	**4.22**	**327**	Pn	**Pn**	**05 03 16.8**	**+1.9**
	0.5nm,0.3s,baz=142,slow=14,SNR=9.9						
KK31				⇓Lg	Lg	05 04 22.7	
	11nm,0.8s,baz=144,slow=29,SNR=4.8						
KKAR	**Karatay Array**	**4.22**	**327**	⇓*eP*	**Pn**	**05 03 15.4**	**+0.5**
	baz=27						
KKAR				⇓*iS*	**Sn**	**05 04 06.4**	**+1.6**
	baz=27						
TNSS	**Tian-Shan**	**4.25**	**35**	Pg	**Pb**	**05 03 27.3**	**+2.0**
	4.5nm,0.6s						
TNSS				Lg	Lg	05 04 24.6	
	3.8nm,0.9s						
TNSS	**Tian-Shan**	**4.25**	**35**	*e*Pg	**Pb**	**05 03 27.3**	**+2.0**
	4.5nm,0.6s						
TNSS				*e*Lg	Lg	05 04 24.6	
	3.8nm,0.4s						
KRBS	**Karabastau**	**4.38**	**20**	Pg	**Pb**	**05 03 28.8**	**+1.6**
	2.2nm,0.5s						
KRBS				Lg	Lg	05 04 27.3	
	9.1nm,0.4s						
KRBS	**Karabastau**	**4.38**	**20**	*e*Pg	**Pb**	**05 03 28.8**	**+1.6**
	2.2nm,0.3s						
KRBS				*e*Lg	Lg	05 04 27.3	
	9.5nm,0.4s						
MDOK	**Medeo**	**4.40**	**35**	Pg	**Pb**	**05 03 29.7**	**+2.0**
	3.5nm,0.3s						
MDOK				Lg	Lg	05 04 28.8	
	7.0nm,1.5s						
MDOK	**Medeo**	**4.40**	**35**	*e*Pg	**Pb**	**05 03 29.7**	**+2.0**
	2.8nm,0.3s						
MDOK				*e*Lg	Lg	05 04 28.8	
	7.0nm,0.6s						
KOTS	**Kotyrbulak**	**4.48**	**35**	Pg	**Pb**	**05 03 32.1**	**+3.1**
	9.1nm,0.5s						
KOTS				Lg	Lg	05 04 33.0	
	34nm,0.7s						
KOTS	**Kotyrbulak**	**4.48**	**35**	*e*Pg	**Pb**	**05 03 32

MKAR	**Makanchi Array**	**68.41**	**324**	P	P	05 14 57.0	0.0
	0.6nm,0.7s,baz=132,slow=8.6,SNR=2.5						
	0.6nm,0.7s						

IDC 28 05:24:31.0±5.8, 18°.35S×177°.57W, h619km±31km, mb2.5/3, mbtmp3.6/4, Error ellipse: s-maj=170.0km s-min=30.7km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.21**	**278**	P	P	05 25 59.2	-0.2
	12nm,0.5s,baz=120,slow=14,SNR=16						
WRA	**Warramunga Arr**	**45.34**	**260**	P	P	05 31 56.0	0.0
	0.3nm,0.3s,baz=98,slow=7.1,SNR=13						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**45.44**	**255**	P	P	05 31 56.9	+0.1
	0.3nm,0.4s,baz=87,slow=8.2,SNR=7.2						
ASAR				PcP	PcP	05 33 22.7	+0.3
	0.2nm,0.4s,baz=95,slow=4.3,SNR=4.9						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**86.14**	**13**	P	P	05 36 08.1	+0.6
	0.1nm,0.4s,baz=215,slow=5.0,SNR=5.3						
	0.1nm,0.4s						
BRTR	**Keskin Array B**	**145.66**	**315**	PKPbc	PKPdf	05 43 00.2	-0.4
	0.3nm,0.4s,baz=50,slow=3.9,SNR=2.0						

*SOME **28** 05:51:15.2, 47°.00N×79°.88E, h10km*
*NNC **28** 05:51:17.7±2.3, 46°.84N×79°.91E, h0km, mb2.7, mpv2.6, Error ellipse: s-maj=24.5km s-min=8.9km az=147.0, Suspected Mining explosion.*
*ASRS **28** 05:51:21.3±1.0, 47°.N±3°×8°.0E±°, h5km, MLh3.3/3, Error ellipse: s-maj=9.0km s-min=4.5km az=59.6, confirmed*
ISC 28 05:51:15.3±1.0, 47°.04N±0°.05×79°.87E±0°.04, h0km, n23, σ1§94/26, 2C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.46**	**98**	⇓Pn	**Pn**	**05 51 42.2**	**-0.8**
	0.3nm,0.2s						
MAKZ				⇑Sn	**Sn**	**05 52 05.7**	**+2.9**
	5.5nm,0.8s						
MAKZ	**Makanchi**	**1.46**	**98**	Sg	**Sn**	**05 52 05.0**	**+2.1**
MK31	**Makanchi Array**	**1.68**	**98**	Pn	**Pb**	**05 51 46.5**	**-0.6**
	0.7nm,0.3s,baz=269,slow=13,SNR=18						
MK31				⇑Sn	**Sg**	**05 52 11.2**	**+2.0**
	3.7nm,0.6s,baz=265,slow=25,SNR=4.8						
MKAR	**Makanchi Array**	**1.68**	**98**	Pg	**Pg**	**05 51 47.4**	**0.0**
MKAR				Sg	**Sg**	**05 52 10.3**	**+1.1**
DJR	**Jarkent**	**2.71**	**181**	Pg	**Pb**	**05 52 05.0**	**+0.3**
	1.0nm,0.3s						
DJR				Lg	Lg	05 52 40.4	
	7.7nm,0.9s						
DJR	**Jarkent**	**2.71**	**181**	*e*Pg	**Pb**	**05 52 05.0**	**+0.3**
	1.0nm,0.3s						
DJR				*e*Lg	Lg	05 52 40.4	
	7.7nm,0.9s						
KNOS	**Konyrlen**	**2.72**	**190**	Pg	**Pb**	**05 52 03.6**	**-1.4**
	1.4nm,0.2s						
KNOS				Lg	Lg	05 52 38.3	
	1.9nm,0.5s						
BLB	**Baldybastay**	**3.10**	**199**	Pg	**Pg**	**05 52 14.3**	**-0.4**
	2.7nm,0.5s						
BLB				Lg	Lg	05 52 56.4	
	3.1nm,0.4s						
ARXS	**Arharly**	**3.17**	**208**	Pg	**Pb**	**05 52 12.8**	**+0.3**
	1.2nm,0.8s						
ARXS				Lg	Lg	05 52 53.9	
	2.7nm,0.7s						
ARXS	**Arharly**	**3.17**	**208**	*e*Pg	**Pb**	**05 52 12.8**	**+0.3**
	1.2nm,0.8s						
ARXS				*e*Lg	Lg	05 52 53.9	
	2.7nm,0.7s						
KPKS	**Kokpek**	**3.67**	**194**	Pg	**Pg**	**05 52 25.2**	**-0.4**
	1.2nm,0.5s						
KPKS				Lg	Lg	05 53 14.8	
	3.7nm,0.6s						
KPKS	**Kokpek**	**3.67**	**194**	*e*Pg	**Pb**	**05 52 21.5**	**+0.4**
	1.1nm,0.3s						
KPKS				*e*Lg	Lg	05 53 08.6	
	3.4nm,0.6s						
KURK	**Kurchatov**	**3.77**	**348**	Sg	**Sg**	**05 53 19.9**	**+3.5**
KUU	**Kurty**	**4.01**	**220**	Pg	**Pg**	**05 52 31.0**	**-1.1**
	0.5nm,0.1s						
KUU				Lg	Lg	05 53 24.8	
	2.2nm,0.3s						
KUU	**Kurty**	**4.01**	**220**	*e*Pg	**Pb**	**05 52 29.2**	**+2.4**
	0.5nm,0.1s						
KUU				*e*Lg	Lg	05 53 22.1	
	2.2nm,0.3s						
KTBS	**Karatobe**	**4.01**	**215**	Pg	**Pg**	**05 52 30.2**	**-2.0**
	1.1nm,0.5s						
KTBS				Lg	Lg	05 53 23.3	
	2.1nm,0.6s						
KTBS	**Karatobe**	**4.01**	**215**	*e*Pg	**Pb**	**05 52 28.8**	**+1.9**
	1.1nm,0.5s						
KTBS				*e*Lg	Lg	05 53 21.2	
	2.1nm,0.6s						
KRBS	**Karabastau**	**4.46**	**223**	Pg	**Pg**	**05 52 37.9**	**-2.9**
	0.6nm,0.5s						
KRBS				Lg	Lg	05 53 36.6	
	0.3nm,0.6s						
KRBS	**Karabastau**	**4.46**	**223**	*e*Pg	**Pg**	**05 52 37.9**	**-2.9**
	0.6nm,0.5s						
KRBS				*e*Lg	Lg	05 53 36.6	
	0.3nm,0.6s						
UKR	**Ust'-Kan**	**5.06**	**38**	Sg	**Sg**	**05 53 57.2**	**-0.7**
DGZ	**Jazzator, Alta**	**5.70**	**59**	Sg	**Sg**	**05 54 18.4**	**+0.1**
ELDR	**Elanda**	**5.84**	**42**	Sg	**Sg**	**05 54 21.6**	**-1.3**
AKAR	**Aktash**	**6.09**	**55**	Sg	**Sg**	**05 54 26.5**	**-4.4**

*HVO **28** 05:52:02.9±0.9, 19°.11N±0°.05×155°.47W±0°.03, h53km±4km, ML2.8/42, ML3.3/52(NEIC), Error ellipse: s-maj=7.5km s-min=3.7km az=159.0*
NEIC 28 05:52:02.5±0.6, 19°.15N±0°.02×155°.50W±0°.03, h49km±1km, Error ellipse: s-maj=4.3km s-min=2.9km az=124.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPO	**Honuapo**	**0.08**	**219**		Pn	05 52 10.4	+0.2
HTC	**Hot Caves**	**0.13**	**48**		Pn	05 52 10.8	+0.4
KHU	**Kahuku**	**0.14**	**312**		Pn	05 52 10.7	0.0
KHU					Sn	05 52 16.5	-0.1
KHU	**Kahuku**	**0.14**	**312**	IAML		05 52 17.5	
	comp=N,3μm,0.6s						
KHU				IAML		05 52 17.5	
	comp=E,3μm,0.6s						
AIN	**Ainahou**	**0.23**	**10**		Pn	05 52 11.4	+0.2
AIN					Sn	05 52 17.6	+0.3
HLP	**Hilina Pali**	**0.23**	**51**		Pn	05 52 12.0	+0.9
HLP	**Hilina Pali**	**0.23**	**51**	IAML		05 52 18.7	
	comp=E,3μm,1.0s						
HLP				IAML		05 52 26.9	
	comp=N,2μm,0.5s						
SDHHI	**Sand Hill**	**0.31**	**39**		Pn	05 52 11.6	-0.2
SDHHI	**Sand Hill**	**0.31**	**39**	IAML		05 52 19.5	
	comp=N,5μm,0.6s						
SDHHI				IAML		05 52 19.6	
	comp=E,3μm,0.5s						
WRMHI	**West Rim**	**0.32**	**37**		Pn	05 52 11.9	0.0
RIM	**Rim**	**0.33**	**41**		Pn	05 52 12.3	+0.3
RIM				IAML		05 52 19.9	
	comp=E,2μm,1.0s						
RIM				IAML		05 52 21.6	
	comp=N,2μm,0.6s						
KKO	**Keanakako`i**	**0.33**	**42**		Pn	05 52 12.1	+0.1
KKO	**Keanakako`i**	**0.33**	**42**	IAML		05 52 24.2	
	comp=E,2μm,0.6s						
NPH	**North Pit**	**0.33**	**39**		Pn	05 52 12.4	+0.4
UWE	**Uwekahuna**	**0.33**	**36**		Pn	05 52 12.8	+0.7
UWE	**Uwekahuna**	**0.33**	**36**	IAML		05 52 24.4	
	comp=N,2μm,0.9s						
OBL	**Observatory Le**	**0.34**	**38**		Pn	05 52 12.4	+0.4
UWB	**Uwekahuna B**	**0.34**	**38**		Pn	05 52 12.5	+0.4
BYL	**Byron's Ledge**	**0.35**	**41**		Pn	05 52 12.4	+0.2
BYL				IAML		05 52 21.9	
	comp=E,1μm,0.7s						
BYL				IAML		05 52 22.1	
	comp=N,1μm,0.6s						
MWH	**Moku'aweowe**	**0.35**	**345**		Pn	05 52 12.4	-0.2
MWH	**Moku'aweowe**	**0.35**	**345**	IAML		05 52 20.4	
	comp=N,1μm,0.6s						
MWH				IAML		05 52 24.5	
	comp=E,2μm,0.6s						
PUH	**Pauahi**	**0.35**	**50**		Pn	05 52 11.7	-0.4
PUH					Sn	05 52 18.7	-0.4
PUH	**Pauahi**	**0.35**	**50**	IAML		05 52 20.2	
	comp=N,1μm,0.8s						
PUH				IAML		05 52 22.6	
	comp=E,1μm,0.6s						
SBLHI	**Steaming Bluff**	**0.35**	**39**		Pn	05 52 11.9	-0.3
SBLHI	**Steaming Bluff**	**0.35**	**39**	IAML		05 52 20.1	
	comp=N,2μm,0.9s						
SBLHI				IAML		05 52 26.4	
	comp=E,1μm,0.7s						
HATHI	**Halema'uma'u T**	**0.35**	**40**		Pn	05 52 11.8	-0.4
HATHI	**Halema'uma'u T**	**0.35**	**40**	IAML		05 52 31.9	
	comp=E,2μm,0.8s						
MLH	**Mauna Loa**	**0.36**	**18**		Pn	05 52 12.3	-0.1
MLH					Sn	05 52 19.4	-0.1
MLH	**Mauna Loa**	**0.36**	**18**	IAML		05 52 27.0	
	comp=N,1μm,0.6s						
MLH				IAML		05 52 27.5	
	comp=E,1μm,0.8s						
RSD	**Rainshed**	**0.38**	**34**		Pn	05 52 13.1	+0.6
KNHH	**Kane Nui o Ham**	**0.39**	**54**		Pn	05 52 12.1	-0.4
MLOA	**Mauna Loa Obse**	**0.39**	**350**		Pn	05 52 12.8	-0.2
MLOA					Sn	05 52 20.3	0.0
MLOA	**Mauna Loa Obse**	**0.39**	**350**	IAML		05 52 20.7	
	comp=E,1μm,0.5s						
MLOA				IAML		05 52 21.2	
	comp=N,1μm,0.7s						
STCH	**Steam Cracks**	**0.43**	**57**		Pn	05 52 13.0	+0.1
STCH				IAML		05 52 22.1	
	comp=N,1μm,0.6s						
NPOC	**North of Pu'u**	**0.44**	**57**		Pn	05 52 13.2	+0.1
JCUZ	**Jacuzzi**	**0.44**	**58**		Pn	05 52 13.1	-0.1
HMH	**Humu'ula Sheep**	**0.45**	**2**		Pn	05 52 13.6	+0.1
HMH					Sn	05 52 21.6	+0.3
HMH	**Humu'ula Sheep**	**0.45**	**2**	IAML		05 52 21.8	
	comp=N,1μm,0.4s						
HMH				IAML		05 52 22.9	
	comp=E,2μm,0.6s						
CPH	**Captain Cook**	**0.52**	**311**		Pn	05 52 13.8	-0.2
JOKA	**Jonika Flow**	**0.55**	**59**		Pn	05 52 13.6	-0.8
POHA	**Pohakuloa**	**0.60**	**357**		Pn	05 52 15.0	-0.3
POHA				IAML		05 52 30.2	
	comp=E,1μm,0.4s						
POHA				IAML		05 52 30.7	
	comp=E,869nm,0.4s						
HUH	**Hualalai**	**0.62**	**329**		Pn	05 52 15.4	0.0
HUH				IAML		05 52 36.9	
	comp=E,1μm,0.4s						
HPAH	**Hawaii Prepara**	**0.90**	**348**		Pn	05 52 18.5	-0.4
HPAH				IAML		05 52 29.9	
	comp=E,455nm,0.5s						

*NEIC **28** 05:54:25.7±1.0, 19°.13N±0°.04×155°.51W±0°.03, h47km±3km, Error ellipse: s-maj=5.6km s-min=3.3km az=151.0*
HVO 28 05:54:26.8±1.2, 19°.10N±0°.02×155°.49W±0°.02, h45km±4km, ML2.4/18, ML2.8/46(NEIC), Error ellipse: s-maj=3.4km s-min=2.8km az=215.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.16**	**33**		Pn	05 54 34.0	-0.4
KHU	**Kahuku**	**0.18**	**320**		Pn	05 54 34.2	-0.7
KHU					Sn	05 54 39.1	-1.3
KHU	**Kahuku**	**0.18**	**320**	IAML		05 54 40.0	
	comp=N,636nm,1.5s						
KHU				IAML		05 54 40.1	
	comp=E,596nm,0.9s						
HLP	**Hilina Pali**	**0.26**	**42**		Pn	05 54 34.6	-0.6
HLP	**Hilina Pali**	**0.26**	**42**	IAML		05 54 48.8	
	comp=N,841nm,1.0s						
HLP				IAML		05 54 52.4	
	comp=E,757nm,0.8s						
AIN	**Ainahou**	**0.27**	**6**		Pn	05 54 34.4	-1.0
AIN					Sn	05 54 40.6	-0.9
AIN	**Ainahou**	**0.27**	**6**	IAML		05 54 41.4	
	comp=N,3μm,0.5s						
AIN				IAML		05 54 41.8	
	comp=E,2μm,0.4s						
SDHHI	**Sand Hill**	**0.34**	**33**		Pn	05 54 35.2	-0.9
SDHHI					Sn	05 54 41.4	-1.2
SDHHI	**Sand Hill**	**0.34**	**33**	IAML		05 54 41.9	
	comp=N,2μm,0.4s						
SDHHI				IAML		05 54 48.9	
	comp=E,1μm,0.5s						
WRMHI	**West Rim**	**0.35**	**31**		Pn	05 54 35.3	-0.9
RIM	**Rim**	**0.35**	**35**		Pn	05 54 35.5	-0.7
RIM	**Rim**	**0.35**	**35**	IAML		05 54 45.4	
	comp=E,532nm,1.3s						
RIM				IAML		05 54 51.4	
	comp=N,704nm,0.4s						
KKO	**Keanakako`i**	**0.36**	**36**		Pn	05 54 35.1	-1.2
KKO	**Keanakako`i**	**0.36**	**36**	IAML		05 54 42.0	
	comp=E,551nm,0.4s						
KKO				IAML		05 54 46.2	
	comp=N,1μm,0.7s						
NPH	**North Pit**	**0.36**	**33**	Pn	Pn	05 54 34.8	-1.6
UWE	**Uwekahuna**	**0.37**	**30**		Pn	05 54 34.6	-1.8
OBL	**Observatory Le**	**0.37**	**32**		Pn	05 54 35.7	-0.7
PUH	**Pauahi**	**0.37**	**44**		Pn	05 54 34.8	-1.7
PUH					Sn	05 54 41.8	-1.4
PUH	**Pauahi**	**0.37**	**44**	IAML		05 54 42.1	
	comp=E,348nm,0.6s						
PUH				IAML		05 54 46.7	
	comp=N,421nm,0.6s						
BYL	**Byron's Ledge**	**0.38**	**35**		Pn	05 54 35.5	-0.9
BYL					Sn	05 54 42.9	-0.4
BYL	**Byron's Ledge**	**0.38**	**35**	IAML		05 54 43.7	
	comp=E,547nm,1.2s						
BYL				IAML		05 54 46.5	
	comp=N,642nm,1.2s						
UWB	**Uwekahuna B**	**0.38**	**32**		Pn	05 54 35.9	-0.6
UWB	**Uwekahuna B**	**0.38**	**32**	IAML		05 54 42.0	
	comp=E,213nm,1.1s						
UWB				IAML		05 54 42.7	
	comp=N,348nm,1.6s						
HATHI	**Halema'uma'u T**	**0.38**	**34**		Pn	05 54 35.4	-1.2
HATHI	**Halema'uma'u T**	**0.38**	**34**	IAML		05 54 43.8	
	comp=E,602nm,1.1s						
HATHI				IAML		05 54 48.3	
	comp=N,645nm,0.8s						
SBLHI	**Steaming Bluff**	**0.38**	**33**		Pn	05 54 35.4	-1.1
SBLHI					Sn	05 54 41.8	-1.6
SBLHI	**Steaming Bluff**	**0.38**	**33**	IAML		05 54 41.9	
	comp=N,399nm,0.5s						
SBLHI				IAML		05 54 42.1	
	comp=E,564nm,0.5s						
MWH	**Moku'aweowe**	**0.39**	**345**		Pn	05 54 36.3	-0.8
MWH	**Moku'aweowe**	**0.39**	**345**	IAML		05 54 44.1	
	comp=E,599nm,1.0s						
MWH				IAML		05 54 48.3	
	comp=N,666nm,0.6s						
MLH	**Mauna Loa**	**0.40**	**14**		Pn	05 54 34.9	-2.0
MLH					Sn	05 54 41.9	-2.1
MLH	**Mauna Loa**	**0.40**	**14**	IAML		05 54 43.6	
	comp=E,366nm,0.7s						
MLH				IAML		05 54 53.1	
	comp=N,547nm,1.6s						
KNHH	**Kane Nui o Ham**	**0.41**	**48**		Pn	05 54 35.5	-1.4
RSD	**Rainshed**	**0.41**	**29**	Pn	Pn	05 54 35.7	-1.2
MLOA	**Mauna Loa Obse**	**0.44**	**349**	Pn	Pn	05 54 36.0	-1.5
STCH	**Steam Cracks**	**0.44**	**51**		Pn	05 54 36.2	-1.0
STCH				IAML		05 54 44.1	
	comp=N,401nm,0.5s						
ALEP	**Alea Permanent**	**0.46**	**341**		Sn	05 54 43.5	-1.8
HMH	**Humu'ula Sheep**	**0.50**	**1**		Pn	05 54 36.3	-1.8
HMH					Sn	05 54 44.2	-1.9
HMH	**Humu'ula Sheep**	**0.50**	**1**	IAML		05 54 45.5	
	comp=E,673nm,0.5s						
HMH				IAML		05 54 45.8	
	comp=N,544nm,0.5s						
CPH	**Captain Cook**	**0.56**	**313**		Pn	05 54 36.9	-1.7
JOKA	**Jonika Flow**	**0.56**	**54**		Pn	05 54 37.2	-1.5
POHA	**Pohakuloa**	**0.65**	**356**	Pn	Pn	05 54 38.6	-1.4
POHA				IAML		05 54 47.0	
	comp=N,344nm,0.7s						
POHA				IAML		05 55 03.9	
	comp=N,277nm,0.5s						
HUH	**Hualalai**	**0.66**	**331**	Pn	Pn	05 54 40.3	+0.1
HUH				IAML		05 54 58.6	
	comp=E,408nm,0.4s						
HUH				IAML		05 55 06.0	
	comp=N,335nm,1.0s						
MHA	**Mahukona**	**1.15**	**340**	Pn	Pn	05 54 44.6	-1.9

*HVO **28** 06:01:35.5±0.9, 19°.08N±0°.05×155°.41W±0°.03, h43km±3km, ML2.5/10, ML2.8/30(NEIC), Error ellipse: s-maj=7.8km s-min=2.7km az=161.0*
NEIC 28 06:01:33.9±1.0, 19°.12N±0°.06×155°.47W±0°.03, h51km±3km, Error ellipse: s-maj=8.8km s-min=3.1km az=161.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.14**	**31**		Pn	06 01 42.4	+0.3
KHU	**Kahuku**	**0.18**	**313**		Pn	06 01 42.8	+0.2
KHU					Sn	06 01 48.3	-0.5
KHU	**Kahuku**	**0.18**	**313**	IAML		06 01 48.7	
	comp=E,1μm,0.8s						
KHU				IAML		06 01 48.8	
	comp=N,827nm,0.5s						
HLP	**Hilina Pali**	**0.23**	**41**		Pn	06 01 42.7	0.0
HLP	**Hilina Pali**	**0.23**	**41**	IAML		06 01 54.9	
	comp=N,1μm,0.6s						
HLP				IAML		06 01 59.6	
	comp=E,939nm,0.6s						
AIN	**Ainahou**	**0.25**	**3**		Pn	06 01 43.4	+0.4
AIN					Sn	06 01 48.6	-0.8
AIN	**Ainahou**	**0.25**	**3**	IAML		06 01 49.4	
	comp=E,2μm,0.5s						
AIN				IAML		06 01 50.0	
	comp=N,2μm,0.6s						
SDHHI	**Sand Hill**	**0.32**	**32**	Pn	Pn	06 01 43.0	-0.4
SDHHI				IAML		06 01 49.4	
	comp=E,1μm,0.5s						
SDHHI				IAML		06 01 49.9	
	comp=N,1μm,0.8s						
WRMHI	**West Rim**	**0.33**	**30**	Pn	Pn	06 01 43.7	+0.2
RIM	**Rim**	**0.33**	**34**	Pn	Pn	06 01 44.0	+0.4
RIM				IAML		06 01 50.4	
	comp=E,598nm,0.9s						
RIM				IAML		06 01 56.9	
	comp=N,744nm,1.2s						
KKO	**Keanakako`i**	**0.34**	**35**		Pn	06 01 43.4	-0.2
KKO					Sn	06 01 49.2	-1.4
KKO	**Keanakako`i**	**0.34**	**35**	IAML		06 01 53.5	
	comp=E,564nm,0.6s						
NPH	**North Pit**	**0.34**	**32**	Pn	Pn	06 01 43.7	0.0
OBL	**Observatory Le**	**0.34**	**31**	Pn	Pn	06 01 43.7	0.0
OBL				IAML		06 01 50.4	
	comp=E,1μm,0.7s						
PUH	**Pauahi**	**0.35**	**44**	Pn	Pn	06 01 43.3	-0.4
PUH				IAML		06 01 53.8	
	comp=N,544nm,3.4s						
BYL	**Byron's Ledge**	**0.35**	**35**	Pn	Pn	06 01 43.8	0.0
BYL				IAML		06 01 50.7	
	comp=E,496nm,1.0s						
BYL				IAML		06 01 55.5	
	comp=N,562nm,0.6s						
UWB	**Uwekahuna B**	**0.35**	**31**	Pn	Pn	06 01 43.7	-0.1
HATHI	**Halema'uma'u T**	**0.36**	**33**		Pn	06 01 43.7	-0.2
HATHI					Sn	06 01 49.7	-1.3
HATHI	**Halema'uma'u T**	**0.36**	**33**	IAML		06 01 50.0	
	comp=N,667nm,0.7s						
HATHI				IAML		06 02 02.7	
	comp=E,486nm,1.1s						
SBLHI	**Steaming Bluff**	**0.36**	**32**	Pn	Pn	06 01 43.6	-0.2
MLH	**Mauna Loa**	**0.38**	**12**		Sn	06 01 50.2	-1.4
KNHH	**Kane Nui o Ham**	**0.39**	**48**		Pn	06 01 44.0	0.0
ALEP	**Alea Permanent**	**0.45**	**339**		Sn	06 01 51.9	-1.1
HMH	**Humu'ula Sheep**	**0.48**	**359**		Pn	06 01 44.4	-0.9
HMH					Sn	06 01 52.2	-1.3
HMH	**Humu'ula Sheep**	**0.48**	**359**	IAML		06 01 52.6	
	comp=N,690nm,0.7s						
HMH				IAML		06 01 53.4	
	comp=E,2μm,0.7s						
JOKA	**Jonika Flow**	**0.54**	**55**		Pn	06 01 45.4	-0.3

IDC 28 06:05:02.5±32.0, 4°.20N×127°.42E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=532.2km s-min=155.3km az=161.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.94**	**164**	P	P	06 10 27.9	+0.2
	0.4nm,0.4s,baz=344,slow=10.0,SNR=14						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**28.41**	**167**	P	P	06 10 58.7	-0.3
	0.1nm,0.3s,baz=354,slow=8.7,SNR=2.4						
	0.1nm,0.3s						
STKA	**Stephens Creek**	**38.33**	**160**	P	P	06 12 25.0	-0.2
	0.7nm,0.3s,baz=351,slow=7.1,SNR=4.5						
	0.7nm,0.3s						

*IDC **28** 06:22:31.9±3.4, 12°.57N×40°.50E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=81.4km s-min=33.6km az=157.0*
*EAF **28** 06:22:51.0, 11°.36N×40°.23E, h0km*
*AAE **28** 06:22:56.1±4.0, 11°.16N×39°.94E, h0km±364km*
ISC 28 06:22:34.4±1.0, 12°.7N±0°.1×40°.3E±0°.2, h10km, n13, σ2§05/13, mb3.4/5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FURI	**Furi**	**4.10**	**203**	*e*P	**Pn**	**06 23 34.8**	**-2.8**
FURI				IAMs_20	IAMs_20	06 35 23.2	
	comp=Z,6μm,8.7s						
FURI	**Furi**	**4.10**	**203**	*e*P	**Pn**	**06 23 34.8**	**-2.8**
	baz=212						
FURI				IAMs_20	IAMs_20	06 35 23.2	
	6μm,8.7s,baz=212						
GRD1	**Great Renaissa**	**5.37**	**254**	*e*P	**Pb**	**06 24 07.5**	**-1.0**
	baz=268						
DILA	**Dilla**	**6.54**	**198**	*e*P	**Pn**	**06 24 11.1**	**+0.2**
DILA	**Dilla**	**6.54**	**198**	*e*P	**Pn**	**06 24 11.1**	**+0.2**
	baz=202						
MBAR	**Mbarara**	**16.27**	**216**	*e*P	**P**	**06 26 29.2**	**+2.7**
MBAR	**Mbarara**	**16.27**	**216**	*e*P	**P**	**06 26 29.2**	**+2.7**
	baz=219						
MBAR	**Mbarara**	**16.27**	**216**	*e*P	**P**	**06 26 29.2**	**+2.7**
BRTR	**Keskin Array B**	**27.56**	**349**	P	**P**	**06 28 21.6**	**-0.2**
	0.5nm,0.7s,baz=170,slow=10,SNR=2.1						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**37.62**	**275**	P	**P**	**06 29 50.3**	**+0.5**
	0.5nm,0.6s,baz=87,slow=9.1,SNR=4.2						
	0.5nm,0.6s						
AKASG	**Malin Array Be**	**38.96**	**349**	P	**P**	**06 30 01.7**	**+1.0**
	0.2nm,0.3s,baz=163,slow=6.6,SNR=1.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**48.92**	**38**	P	**P**	**06 31 19.9**	**-0.8**
	2.0nm,0.9s,baz=246,slow=6.1,SNR=4.5						
	2.0nm,0.9s						
ZALV	**Zalesovo Beam**	**54.02**	**31**	P	**P**	**06 31 57.5**	**-1.3**
	0.7nm,0.4s,baz=249,slow=7.4,SNR=1.5						
	0.7nm,0.4s						

*OMAN **28** 06:27:47.4±1.8, 12°.98N×51°.20E, h34km±21km, mb4.4/28, ml4.2/2, ms4.6/18, Error ellipse: s-maj=10.4km s-min=8.6km az=172.0*
*IDC **28** 06:27:47.3±0.6, 13°.26N×50°.90E, h0km, mb4.3/20, mbtmp4.3/22, ML3.4/2, MS4.4/44, Error ellipse: s-maj=16.6km s-min=14.5km az=135.0*
*GCMT **28** 06:27:48.7±0.2, 13°.37N±0°.01×50°.71E±0°.01, h12km, MW5.2/137, Moment Tensor Solution. s82,c106; s137,c234; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.55±.10; $M_{\theta\theta}$

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**4.68**	**29**	Pn	**Pn**	**06 28 57.4**	**-2.3**
	SNR=9.8						
ABTO				Sn	**Sn**	**06 29 52.2**	**-1.8**
RBK	**Rabkut**	**5.28**	**37**	Pn	**Pn**	**06 29 06.3**	**-1.7**
	SNR=24						
RBK				Sn	**Sn**	**06 30 05.7**	**-3.2**
WHFO	**Wadi Hawf**	**5.39**	**30**	Pn	**Pn**	**06 29 07.2**	**-2.4**
	SNR=24						
WHFO				Sn	**Sn**	**06 30 06.2**	**-5.3**
DMTO	**DMTO**	**5.90**	**41**	Pn	**Pn**	**06 29 15.0**	**-1.5**
	SNR=7.4						
DMTO				Sn	**Sn**	**06 30 22.0**	**-2.1**
DOK	**Doka**	**6.16**	**30**	Pn	**Pn**	**06 29 17.8**	**-2.3**
	SNR=17						
DOK				Sn	**Sn**	**06 30 24.9**	**-5.6**
SHAO	**Shalim**	**6.56**	**43**	Pn	**Pn**	**06 29 24.6**	**-1.0**
	SNR=10.0						
SHAO				Sn	**Sn**	**06 30 39.8**	**-0.7**
ATD	**Arta Tunnel**	**8.05**	**259**		**Pn**	**06 29 45.4**	**-0.7**
ATD	**Arta Tunnel**	**8.05**	**259**	Pn	**Pn**	**06 29 46.1**	**-0.1**
	SNR=14						
ATD	**Arta Tunnel**	**8.05**	**259**	Pn	**Pn**	**06 29 44.6**	**-1.5**
	0.6nm,0.3s,baz=84,slow=19,SNR=16						
ATD				LR	LR	06 32 10.0	
	comp=Z,354nm,19.9s,baz=74,slow=33						
	2.1nm,0.4s						
MZR	**Muzera**	**9.99**	**14**	Pn	**Pn**	**06 30 11.9**	**-0.7**
MHTO	**MHTO**	**10.23**	**40**	Pn	**Pn**	**06 30 13.8**	**-2.1**
MHTO				Pn	**Pn**	**06 30 13.8**	**-2.1**
BSY	**Bisya**	**11.17**	**32**	Pn	**Pn**	**06 30 27.1**	**-1.7**
BSY				Pn	**Pn**	**06 30 27.1**	**-1.7**
ARQ	**Araqi**	**11.35**	**27**	Pn	**Pn**	**06 30 29.0**	**-2.3**
ARQ				Pn	**Pn**	**06 30 29.0**	**-2.3**
JMDO	**Jabal Madar**	**11.36**	**36**	Pn	**Pn**	**06 30 29.0**	**-2.4**
SMRA	**Abu-Samra**	**11.42**	**360**	Pn	**Pn**	**06 30 33.0**	**+0.8**
ALNE	**Al Ain**	**11.68**	**22**	Pn	**Pn**	**06 30 34.8**	**-0.9**
JRN	**Qarnain Island**	**11.76**	**9**	Pn	**Pn**	**06 30 37.3**	**+0.4**
SMDO	**Samad**	**11.87**	**34**	Pn	**Pn**	**06 30 35.6**	**-2.9**
SMDO				Pn	**Pn**	**06 30 35.6**	**-2.9**
AJN	**Ajban**	**11.88**	**18**	Pn	**Pn**	**06 30 37.4**	**-1.2**
HOQ	**Hoqain**	**11.93**	**30**	Pn	**Pn**	**06 30 35.8**	**-3.4**
HOQ				Pn	**Pn**	**06 30 35.8**	**-3.4**
JLN	**Jalan Bani Buh**	**11.99**	**41**	Pn	**Pn**	**06 30 38.6**	**-1.5**
JLN				Pn	**Pn**	**06 30 38.6**	**-1.5**
ASUD	**Al Ashush, Dub**	**12.05**	**20**	Pn	**Pn**	**06 30 39.6**	**-1.2**
	SNR=6.2						
WBK	**Wadi Bani Khal**	**12.05**	**38**	P	**Pn**	**06 30 37.9**	**-3.0**
WBK				P	**Pn**	**06 30 37.9**	**-3.0**
SOHO	**SOHO**	**12.05**	**25**	Pn	**Pn**	**06 30 39.2**	**-1.6**
SOHO				Pn	**Pn**	**06 30 39.2**	**-1.6**
FAQ	**Al Faqa, Dubai**	**12.25**	**21**	Pn	**Pn**	**06 30 41.6**	**-1.9**
FAQ				Pn	**Pn**	**06 30 41.6**	**-1.9**
BIDO	**Bidbid**	**12.29**	**33**	Pn	**Pn**	**06 30 41.8**	**-2.3**
WSAR	**Wadi Sarin**	**12.34**	**35**	Pn	**Pn**	**06 30 42.1**	**-2.7**
WSAR	**Wadi Sarin**	**12.34**	**35**	Pn	**Pn**	**06 30 42.6**	**-2.1**
	0.2nm,0.3s,baz=265,slow=24,SNR=3.8						
WSAR				Sn	Sn	06 32 50.8	-12
	0.4nm,0.3s,baz=220,slow=9.5,SNR=1.4						
WSAR				LR	LR	06 35 11.2	
	comp=Z,6μm,20.6s,baz=232,slow=36						
	4.2nm,0.9s						
ASHO	**Ashiyiah**	**12.36**	**22**	Pn	**Pn**	**06 30 43.3**	**-1.8**
ASHO				Pn	**Pn**	**06 30 43.3**	**-1.8**
NAZ	**Nazwa, Dubai**	**12.50**	**20**	Pn	**Pn**	**06 30 45.3**	**-1.7**
NAZ				Pn	**Pn**	**06 30 45.3**	**-1.7**
HATD	**Hatta, Dubai**	**12.52**	**22**	Pn	**Pn**	**06 30 46.3**	**-0.9**
HATD				Pn	**Pn**	**06 30 46.3**	**-0.9**
SHMA	**Al-Shehemyia**	**12.53**	**0**	Pn	**Pn**	**06 30 47.4**	**+0.1**
UOSS	**Minazif**	**12.65**	**23**	Pn	**Pn**	**06 30 47.4**	**-1.7**
UOSS	**Minazif**	**12.65**	**23**	Pn	**Pn**	**06 30 47.5**	**-1.5**
UOSS				Pn	**Pn**	**06 30 47.5**	**-1.5**
SAKB	**Bahrain**	**12.65**	**359**	Pn	**Pn**	**06 30 49.9**	**+0.8**
UMQ	**Umm Al-Quwin**	**13.00**	**19**	Pn	**Pn**	**06 30 53.0**	**-0.8**
MDH	**Madha**	**13.01**	**22**	Pn	**Pn**	**06 30 51.0**	**-2.9**
MDH				Pn	**Pn**	**06 30 51.0**	**-2.9**
MASF	**Masafi**	**13.02**	**22**	Pn	**Pn**	**06 30 53.2**	**-1.0**
MASF				Pn	**Pn**	**06 30 53.2**	**-1.0**
SHME	**Shamm**	**13.64**	**20**	Pn	**Pn**	**06 31 00.7**	**-1.9**
	SNR=8.0						
SHME				Pn	**Pn**	**06 31 00.7**	**-1.9**
	SNR=8.0						
JASK	**Jask - Hormozg**	**14.15**	**27**	Pn	**Pn**	**06 31 07.6**	**-1.9**
NGCH	**Negor - Chabah**	**15.42**	**37**	Pn	**Pn**	**06 31 24.5**	**-2.1**
LODK	**Lodwar**	**18.20**	**239**		**P**	**06 32 02.2**	**0.0**
LODK	**Lodwar**	**18.20**	**239**	P	**Pn**	**06 32 01.4**	**-0.6**
MSEY	**Mahe Island**	**18.39**	**165**	P	P	06 31 55.0	-9.2
KMBO	**Kilima Mbogo**	**19.69**	**224**	P	**Pn**	**06 32 19.4**	**-0.7**
KMBO	**Kilima Mbogo**	**19.69**	**224**	P	**P**	**06 32 14.3**	**-4.4**
KIBK	**Kibwezi**	**20.08**	**220**	P	**P**	**06 32 22.2**	**-0.6**
KIBK	**Kibwezi**	**20.08**	**220**	P	**P**	**06 32 18.4**	**-4.4**
EIL	**Elat**	**22.02**	**320**	LR	LR	06 40 43.5	
	comp=Z,1μm,18.9s,baz=118,slow=35						
MNCI	**Minicoy**	**22.32**	**101**	P	**P**	**06 32 47.0**	**0.0**
MNCI				IAmb	IAmb	06 33 17.9	
	comp=Z,28nm,0.9s						
HMDM	**Hanimaadhoo**	**22.86**	**104**	P	**P**	**06 32 53.5**	**+0.9**
HRA	**Herat**	**23.41**	**24**	P	**P**	**06 32 57.9**	**-0.5**
HRA				IAmb	IAmb	06 33 06.7	
	comp=Z,31nm,1.2s						
MMAI	**Mount Meron Ar**	**24.22**	**327**	LR	LR	06 43 07.0	
	comp=Z,824nm,20.9s,baz=118,slow=38						
MBAR	**Mbarara**	**24.28**	**237**	LR	LR	06 41 53.1	
	comp=Z,525nm,20.2s,baz=60,slow=35						
GEYT	**Alibeck**	**25.39**	**13**	P	**P**	**06 33 17.1**	**+0.6**
GEYT	**Alibeck**	**25.39**	**13**	P	**P**	**06 33 17.6**	**+1.1**
	comp=Z,13nm,0.8s,baz=210,slow=8.6,SNR=18						
GEYT				LR	LR	06 45 17.6	
	comp=Z,4μm,18.1s,baz=198,slow=41						
	comp=Z,13nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**25.39**	**13**	P	**P**	**06 33 16.5**	**0.0**
GYA0B				IAmb	IAmb	06 33 26.1	
	comp=Z,26nm,1.1s						
GURO	**Guroymak-BITLI**	**26.39**	**344**	P	**P**	**06 33 27.0**	**+1.4**
GURO				IAmb	IAmb	06 33 30.1	
	comp=Z,7.3nm,0.9s						
KBL	**Kabul**	**26.82**	**35**	P	**P**	**06 33 29.8**	**+0.2**
KBL				IAmb	IAmb	06 33 43.8	
	comp=Z,17nm,1.1s						
GNI	**Garni**	**27.32**	**350**	P	**P**	**06 33 34.1**	**0.0**
GNI				IAmb	IAmb	06 33 38.8	
	comp=Z,18nm,0.8s						
GNI	**Garni**	**27.32**	**350**	LR	LR	06 46 33.5	
	comp=Z,2μm,20.3s,baz=171,slow=41						
BNN	**Bunyan**	**28.77**	**335**	P	**P**	**06 33 47.6**	**+0.6**
BNN				IAmb	IAmb	06 33 51.3	
	comp=Z,20nm,1.1s						
BR131	**Keskin Array S**	**30.43**	**333**	P	**P**	**06 34 00.6**	**-1.1**
BR131				IAmb	IAmb	06 34 05.4	
	comp=Z,7.5nm,1.2s						
BRTR	**Keskin Array B**	**30.43**	**333**	P	**P**	**06 34 00.6**	**-1.1**
BRTR	**Keskin Array B**	**30.43**	**333**	P	**P**	**06 34 02.8**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=145,slow=8.8,SNR=5.8						
BRTR				LR	LR	06 47 06.9	
	comp=Z,676nm,18.0s,baz=134,slow=38						
	comp=Z,1.3nm,0.8s						
ANTO	**Ankara**	**30.93**	**332**	P	**P**	**06 34 07.1**	**+1.1**
KBZ	**Khabaz**	**31.13**	**349**	P	**P**	**06 34 09.1**	**+1.4**
	comp=Z,8.5nm,0.8s,baz=172,slow=8.9,SNR=16						
KBZ				LR	LR	06 48 47.7	
	comp=Z,2μm,20.8s,baz=160,slow=40						
	comp=Z,8.5nm,0.8s						
KIV	**Kislovodsk**	**31.39**	**349**	P	**P**	**06 34 11.1**	**+1.0**
OPO	**Ambohidratompo**	**31.84**	**187**	LR	LR	06 44 51.9	
	comp=Z,701nm,21.2s,baz=173,slow=32						
BTK	**Batken**	**31.93**	**30**	P	**P**	**06 34 14.3**	**-0.5**
IDI	**Anoyia**	**32.12**	**318**	LR	LR	06 48 57.5	
	comp=Z,132nm,19.9s,baz=100,slow=40						
PYUN	**Piuthan**	**33.33**	**59**	*e*P	**P**	**06 34 28.0**	**+0.6**
	comp=Z,44nm,0.9s						
KOLN	**Koldanda**	**33.73**	**60**	*e*P	**P**	**06 34 31.6**	**+0.7**
	comp=Z,56nm,1.0s						
ARSB	**Arslanbob**	**33.95**	**30**	P	**P**	**06 34 32.7**	**+0.1**
DANN	**Dangsing**	**34.05**	**59**	*e*P	**P**	**06 34 34.0**	**+0.2**
	comp=Z,89nm,1.0s						
KK31	**Karatay Array**	**34.21**	**26**	P	**P**	**06 34 35.0**	**+0.3**
KKAR	**Karatay Array**	**34.21**	**26**	P	**P**	**06 34 35.6**	**+0.9**
KKAR	**Karatay Array**	**34.21**	**26**	P	**P**	**06 34 34.8**	**+0.1**
KKAR				IAmb	IAmb	06 34 43.6	
	comp=Z,4.6nm,1.1s						
GKN	**Gorkha**	**34.67**	**60**	*e*P	**P**	**06 34 39.1**	**0.0**
	comp=Z,38nm,0.8s						
DMN	**Daman**	**34.95**	**61**	*e*P	**P**	**06 34 41.7**	**+0.1**
	comp=Z,53nm,1.0s						
KKN	**Kakani**	**35.15**	**60**	*e*P	**P**	**06 34 43.4**	**+0.1**
	comp=Z,95nm,1.2s						
PKIN	**Phulchoki**	**35.19**	**61**	*e*P	**P**	**06 34 43.4**	**-0.2**
PKI	**Pulchoki**	**35.19**	**61**	*e*P	**P**	**06 34 43.5**	**-0.3**
	comp=Z,19nm,0.8s						
AAK	**Ala-Archa**	**35.68**	**30**	P	**P**	**06 34 48.8**	**+1.2**
AAK				IAmb	IAmb	06 35 04.9	
	comp=Z,9.7nm,1.1s						
AAK	**Ala-Archa**	**35.68**	**30**	LR	LR	06 51 25.4	
	comp=Z,947nm,20.9s,baz=238,slow=40						
GUN	**Gumba**	**35.69**	**60**	*e*P	**P**	**06 34 48.1**	**0.0**
JIRN	**Jiri**	**35.88**	**61**	*e*P	**P**	**06 34 49.4**	**-0.4**
	comp=Z,75nm,1.2s						
RAMN	**Ramite**	**36.04**	**62**	*e*P	**P**	**06 34 51.3**	**+0.3**
	comp=Z,6.2nm,0.3s						
LSZ	**Lusaka**	**36.18**	**219**	LR	LR	06 50 35.1	
	comp=Z,2μm,18.0s,baz=56,slow=38						
BOOM	**Boomskoye usch**	**36.30**	**32**	P	**P**	**06 34 53.1**	**+0.2**
ABKAR	**Akbulak array**	**36.66**	**10**	P	**P**	**06 34 56.2**	**+0.6**
ABKAR				IAmb	IAmb	06 35 04.5	
	comp=Z,25nm,1.4s						
ABKAR	**Akbulak array**	**36.66**	**10**	P	**P**	**06 34 55.7**	**+0.1**
TAPN	**Taplejung**	**37.10**	**62**	*e*P	**P**	**06 34 59.3**	**-0.8**
	comp=Z,14nm,0.2s						
AKTO	**Aktyubinsk**	**37.52**	**7**	LR	LR	06 53 44.9	
	comp=Z,2μm,19.2s,baz=198,slow=42						
MLR	**Muntele Rosu**	**38.47**	**332**	LR	LR	06 53 27.1	
	comp=Z,554nm,18.1s,baz=147,slow=40						
BELG	**Belogornoye**	**39.12**	**357**	LR	LR	06 55 23.8	
	comp=Z,927nm,19.9s,baz=159,slow=42						
MATP	**Matopo**	**40.08**	**214**	LR	LR	06 53 39.1	
	comp=Z,453nm,18.3s,baz=54,slow=39						
SHL	**Shillong**	**40.38**	**66**	P	**P**	**06 35 26.3**	**-1.3**
SHL				IAmb	IAmb	06 35 29.7	
	comp=Z,14nm,1.3s						
VAE	**Valguarnera**	**40.46**	**313**	LR	LR	06 52 48.1	
	comp=Z,94nm,18.4s,baz=158,slow=37						
AKASG	**Malin Array Be**	**41.29**	**339**	P	**P**	**06 35 34.5**	**+0.1**
AKASG	**Malin Array Be**	**41.29**	**339**	P	**P**	**06 35 33.5**	**-0.9**
	comp=Z,3.8nm,0.7s,baz=147,slow=7.2,SNR=12						
AKASG				LR	LR	06 55 58.4	
	comp=Z,262nm,18.9s,baz=129,slow=41						
	comp=Z,3.8nm,0.7s						
AKBB	**Malin Array Si**	**41.29**	**339**	P	**P**	**06 35 34.3**	**-0.1**
AKBB				IAmb	IAmb	06 35 36.7	
	comp=Z,6.9nm,0.8s						
MKAR	**Makanchi Array**	**42.55**	**32**	P	**P**	**06 35 44.5**	**-0.3**
MKAR	**Makanchi Array**	**42.55**	**32**	P	**P**	**06 35 45.3**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=222,slow=8.6,SNR=19						
	comp=Z,2.6nm,0.5s						
BRVK	**Borovoye**	**42.60**	**17**	P	**P**	**06 35 45.2**	**+0.2**
BVAR	**Borovoye Array**	**42.60**	**17**	P	**P**	**06 35 45.4**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=204,slow=7.6,SNR=13						
BVAR				PcP	**PcP**	**06 37 36.9**	**-0.3**
	comp=Z,3.1nm,0.8s,baz=202,slow=2.7,SNR=4.9						
BVAR				LR	LR	06 55 59.7	
	comp=Z,841nm,20.4s,baz=207,slow=40						
	comp=Z,2.8nm,0.6s						
KOLS	**Kolonicke sedl**	**42.70**	**332**	*e*P	**P**	**06 35 49.2**	**+3.3**
CRVS	**Cervenica-Dubn**	**43.04**	**332**	*e*P	**P**	**06 35 51.0**	**+2.2**
OBN	**Obninsk**	**43.23**	**348**	LR	LR	06 56 12.2	
	comp=Z,730nm,19.6s,baz=170,slow=39						
ARU	**Arti**	**43.48**	**6**	LR	LR	06 57 11.3	
	comp=Z,710nm,19.0s,baz=193,slow=41						
KEST	**Kesra**	**43.50**	**308**	LR	LR	06 57 05.4	
	comp=Z,240nm,18.4s,baz=3.0,slow=40						
KURBB	**Kurchatov Arra**	**43.51**	**25**	P	**P**	**06 35 52.2**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=226,slow=8.4,SNR=11						
	comp=Z,1.3nm,0.7s						
KURK	**Kurchatov**	**43.62**	**25**	P	**P**	**06 35 54.2**	**+0.8**
KURK				IAmb	IAmb	06 36 04.3	
	comp=Z,8.5nm,1.4s						
WMQ	**Urumqi**	**43.81**	**39**	*e*P	**P**	**06 35 54.8**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,40nm,0.7s						
WMQ				LR	LR		
	comp=Z,370nm,29.3s						
RONA	**Rosalia, Austr**	**44.81**	**327**	*i* P	**P**	**06 36 05.1**	**+2.1**
	comp=Z,5.2nm,0.9s						
SOKA	**Soboth**	**44.88**	**325**	*e*P	**P**	**06 36 04.4**	**+0.8**
	comp=Z,6.0nm,1.4s						
MNK	**Minsk**	**44.94**	**341**	*i* P	**P**	**06 36 02.2**	**-1.6**
	comp=E,6.0nm,0.8s						
MNK				*i* P	**P**	**06 36 02.2**	**-1.6**
	comp=N,13nm,0.7s						
MNK				*i* P	**P**	**06 36 02.2**	**-1.6**
	comp=Z,4.0nm,0.6s,baz=147						
MNK				*i* PP	**PP**	**06 37 47.3**	**-1.5**
MNK				*i* PPP	PPP	06 38 25.0	
MNK				*i* S	**S**	**06 42 41.2**	**-0.5**
MNK				*i* SS	**SS**	**06 46 04.2**	**+1.0**
MNK				*i* SSS	SSS	06 46 48.0	
MNK				*i* LQ	LQ	06 52 28.8	
MNK				*i* LR	LR	06 54 48.3	
MNK				*i* LRM	MLR	06 56 51.4	
	comp=E,118nm,18.7s						
MNK				*i* LRM	MLR	06 56 51.4	
	comp=N,238nm,18.1s						
MNK				*i* LRM	MLR	06 57 17.2	
	comp=Z,189nm,16.8s						
ARSA	**Arzberg**	**44.95**	**326**	*e*P	**P**	**06 36 05.0**	**+0.9**
	comp=Z,4.4nm,0.9s						
CONA	**Conrad Observa**	**45.18**	**327**	*i* P	**P**	**06 36 05.7**	**-0.3**
	comp=Z,9.9nm,1.4s						
KIRV	**Kirov**	**45.25**	**359**	LR	LR	06 59 46.5	
	comp=Z,1μm,19.0s,baz=193,slow=42						
GOMU	**GeErMu**	**45.46**	**52**	P	**P**	**06 36 09.8**	**+1.0**
GOMU				pP	sP	06 36 14.0	+1.1
GOMU				sP	pwP	06 36 17.5	+2.2
GOMU				PP	**PP**	**06 38 01.8**	**+6.7**
GOMU				S	**S**	**06 42 53.3**	**+2.7**
GOMU				sS	sS	06 43 08.0	+13
NACGM	**Naroch**	**45.62**	**341**	*e*P	P	06 36 15.3	+6.0
	comp=Z,16nm,0.8s,baz=146						
MYKA	**Terra Mystica**	**45.63**	**324**	*e*P	**P**	**06 36 09.5**	**-0.1**
	comp=Z,11nm,1.0s						
STAL	**STALIGIAL**	**45.96**	**323**	P	**P**	**06 36 12.7**	**+0.5**
STAL				IAmb	IAmb	06 36 25.1	
	comp=Z,15nm,1.3s						
CLUD	**Cludinico**	**45.97**	**324**	P	**P**	**06 36 13.4**	**+1.1**
TSUM	**Tsumeb**	**46.02**	**226**	LR	LR	06 55 59.3	
	comp=Z,2μm,18.6s,baz=37,slow=37						
ABTA	**Abfaltersbach**	**46.34**	**324**	*i* P	**P**	**06 36 17.6**	**+2.4**
	comp=Z,4.5nm,1.0s						
CM31	**Chiang Mai Arr**	**46.40**	**77**	P	**P**	**06 36 15.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**46.40**	**77**	P	**P**	**06 36 16.0**	**0.0**
CMAR	**Chiang Mai Arr**	**46.40**	**77**	P	**P**	**06 36 15.6**	**-0.4**
	comp=Z,12nm,0.9s,baz=274,slow=8.6,SNR=32						
	comp=Z,12nm,0.9s						
LESA	**Schwarzleotal**	**46.62**	**325**	*i* P	**P**	**06 36 19.1**	**+1.7**
	comp=Z,5.4nm,0.9s						
WTTA	**Wattenberg**	**47.13**	**324**	*e*P	**P**	**06 36 22.6**	**+1.1**
	comp=Z,6.4nm,0.8s						
WATA	**Walderalm**	**47.20**	**324**	*e*P	**P**	**06 36 21.9**	**-0.1**
	comp=Z,6.7nm,1.0s						
SQTA	**Sankt Quirin**	**47.35**	**324**	*i* P	**P**	**06 36 23.1**	**0.0**
	comp=Z,9.4nm,1.0s						
MOTA	**Moosalm**	**47.48**	**324**	*i* P	**P**	**06 36 23.6**	**-0.6**
	comp=Z,11nm,1.0s						
FETA	**Feichten**	**47.52**	**323**	*i* P	**P**	**06 36 24.7**	**+0.2**
	comp=Z,4.3nm,1.0s						
RETA	**Reutte**	**47.75**	**324**	*e*P	**P**	**06 36 25.6**	**-0.6**
	comp=Z,4.9nm,1.0s						
TOA0	**Torodi Ar. Sit**	**47.84**	**276**	P	**P**	**06 36 27.3**	**0.0**
TOA0				IAmb	IAmb	06 36 30.2	
	comp=Z,11nm,1.2s						
TORD	**Torodi Ar. Bea**	**47.84**	**276**	P	**P**	**06 36 27.1**	**-0.2**
TORD				IAmb	IAmb	06 36 30.1	
	comp=Z,9.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**47.84**	**276**	P	**P**	**06 36 27.6**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=78,slow=8.3,SNR=20						
TORD				PcP	**PcP**	**06 37 55.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=72,slow=4.1,SNR=2.7						
TORD				LR	LR	06 56 25.5	
	comp=Z,178nm,18.2s,baz=136,slow=36						
	comp=Z,3.2nm,0.6s						
DAVA	**Damuels**	**48.16**	**323**	*i* P	**P**	**06 36 30.1**	**+0.7**
	comp=Z,4.3nm,0.7s						
KLMR	**Klimovskoe**	**48.24**	**353**	*e*P	**P**	**06 36 28.8**	**-0.8**
KLMR				AMP		06 36 41.8	
	comp=Z,40nm,1.8s						
KLMR				LQ	LQ	06 53 11.2	
KLMR				LQ	LQ	06 53 11.2	
KLMR				LR	LR	06 56 11.4	
KLMR				LRM	MLR	06 59 39.1	
KLMR				AMP		06 59 40.0	
	comp=Z,2μm,17.6s						
BOSA	**Boshof**	**48.46**	**211**	P	**P**	**06 36 31.4**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=23,slow=7.4,SNR=5.4						
BOSA				LR	LR	06 58 54.5	
	comp=Z,695nm,18.0s,baz=36,slow=38						
	comp=Z,3.3nm,1.0s						
ZALV	**Zalesovo Beam**	**48.59**	**26**	P	**P**	**06 36 31.7**	**-0.7**
ZALV	**Zalesovo Beam**	**48.59**	**26**	P	**P**	**06 36 31.1**	**-1.4**
	comp=Z,3.8nm,0.6s,baz=228,slow=8.2,SNR=9.4						
	comp=Z,3.8nm,0.6s						
CLL	**Collm**	**48.72**	**329**	*e*SS	SS	06 47 13.0	+6.8
CLL				*e*SSS	SSS	06 48 18.0	
CLL				*e*SSSS		06 48 42.0	
PZH	**PanZhiHua**	**49.30**	**66**	P	**P**	**06 36 41.8**	**+3.3**
PZH				S	**S**	**06 43 47.0**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,4.7s						
PZH				LR	LR		
	comp=N,180nm,12.0s						
PZH				LR	LR		
	comp=E,330nm,12.4s						
PZH				LR	LR		
	comp=Z,340nm,13.2s						
FINES	**FINESS Array B**	**51.35**	**345**	P	**P**	**06 36 52.7**	**-0.6**
	comp=Z,4.6nm,0.9s,baz=134,slow=11,SNR=5.4						
FINES				LR	LR	07 02 19.1	
	comp=Z,318nm,18.5s,baz=136,slow=40						
	comp=Z,4.6nm,0.9s						
LZH	**Lanzhou**	**52.49**	**55**	*e*P	**P**	**06 37 01.3**	**-1.2**
LZH				pP	sP	06 37 07.3	+0.7
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
SUR	**Sutherland**	**53.75**	**212**	LR	LR	07 02 03.7	
	comp=Z,784nm,18.1s,baz=29,slow=38						
MDT	**Midelt**	**54.04**	**301**	LR	LR	07 01 55.9	
	comp=Z,240nm,18.1s,baz=102,slow=38						
HFS	**Hagfors**	**54.16**	**338**	P	**P**	**06 37 13.3**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=120,slow=8.7,SNR=2.9						
HFS				LR	LR	07 04 49.1	
	comp=Z,211nm,19.1s,baz=130,slow=41						
	comp=Z,3.7nm,0.7s						
ESBB	**Sonseca Array**	**54.73**	**309**	P	**P**	**06 37 18.9**	**+0.2**
ESBB				IAmb	IAmb	06 37 21.6	
	comp=Z,7.3nm,0.9s						
ESDC	**Sonseca Array**	**54.73**	**309**	P	**P**	**06 37 19.3**	**+0.6**
ESDC				IAmb	IAmb	06 37 21.5	
	comp=Z,6.6nm,1.1s						
ESDC	**Sonseca Array**	**54.73**	**309**	P	**P**	**06 37 18.8**	**+0.1**
	comp=Z,5.5nm,0.8s,baz=92,slow=6.6,SNR=39						
ESDC				LR	LR	07 00 50.9	
	comp=Z,73nm,21.3s,baz=94,slow=36						
	comp=Z,5.5nm,0.8s						
DBIC	**Dimbokro**	**55.21**	**269**	P	**P**	**06 37 22.5**	**0.0**
	comp=Z,4.6nm,0.9s,baz=94,slow=5.7,SNR=3.3						
DBIC				LR	LR	06 59 47.0	
	comp=Z,190nm,21.3s,baz=65,slow=35						
	comp=Z,4.6nm,0.9s						
NOA	**NORSAR Array B**	**55.68**	**338**	P	**P**	**06 37 23.4**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=131,slow=7.3,SNR=3.6						
NOA				LR	LR	07 04 52.2	
	comp=Z,231nm,19.0s,baz=125,slow=40						
	comp=Z,0.8nm,0.7s						
QIZ	**Qiongzhong**	**56.70**	**76**	P	**P**	**06 37 33.3**	**+0.2**
QIZ				S	**S**	**06 45 26.3**	**+0.5**
QIZ				LR	LR		
	comp=N,340nm,4.5s						
QIZ				LR	LR		
	comp=Z,320nm,22.1s						
PBAR	**Barrancos**	**56.79**	**307**	*e*P	**P**	**06 37 34.5**	**+1.0**
	comp=Z,11nm,1.6s						
PVAQ	**Vaqueiros**	**57.20**	**306**	*e*P	**P**	**06 37 37.5**	**+1.1**
	comp=Z,16nm,1.4s						
PBRG	**Braganca**	**57.25**	**311**	*e*P	**P**	**06 37 37.8**	**+1.1**
PMRV	**Marv??o**	**57.28**	**308**	*e*P	**P**	**06 37 37.9**	**+1.0**
	comp=Z,14nm,2.1s						
SONM	**Songino Array**	**57.31**	**41**	P	**P**	**06 37 37.5**	**+0.3**
SONM				IAmb	IAmb	06 37 44.7	
	comp=Z,8.7nm,1.5s						
SONM	**Songino Array**	**57.31**	**41**	P	**P**	**06 37 37.7**	**+0.5**
	comp=Z,3.5nm,1.1s,baz=251,slow=7.9,SNR=9.9						
	comp=Z,3.5nm,1.1s	

comp=Z,146nm,18.6s,baz=336,slow=38
INK Inuvik 98.58 2 LR LR 07 35 02.2
comp=Z,241nm,19.0s,baz=1.0,slow=41
NVAR Mina Array Bea 127.59 349 PKP **PKPdf 06 46 55.2 +0.1**
comp=Z,1.3nm,0.8s,baz=55,slow=1.0,SNR=9.0
TXAR Lajitas Array 131.05 330 PKP **PKPdf 06 47 02.0 +0.2**
comp=Z,0.6nm,0.9s,baz=157,slow=3.5,SNR=3.9

IDC 28 07:08:02.8±6.9, 28°.01N×90°.19E, h0km, mb3.3/2, mbtmp3.2/3, ML3.2/1, MS3.2/1, Error ellipse: s-maj=473.1km s-min=34.9km az=63.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.75**	**344**	P	P	07 12 34.3	+0.1
	0.1nm,0.3s,baz=167,slow=9.6,SNR=1.9						
	0.4nm,0.7s						
WSAR	**Wadi Sarin**	**28.80**	**268**	LR	LR	07 25 45.7	
	comp=Z,54nm,21.0s,baz=148,slow=37						
WRA	**Warramunga Arr**	**64.00**	**133**	P	P	07 18 38.2	-0.1
	0.2nm,0.7s,baz=325,slow=6.7,SNR=6.3						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**66.46**	**136**	P	P	07 18 54.4	+0.1
	0.2nm,0.5s,baz=312,slow=6.4,SNR=5.2						
	0.2nm,0.5s						

*IDC **28** 07:32:50.9±2.2, 24°.96S×179°.83E, h510km±22km, mb3.1/8, mbtmp4.0/10, Error ellipse: s-maj=27.2km s-min=19.0km az=163.0*

ISC 28 07:32:50.1±0.8, 25°.1S±0°.1×179°.9E±0°.1, h501km, n11, σ1§48/13, mb3.5/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.72**	**281**	P	**P**	**07 35 37.8**	**+1.2**
	5.3nm,0.9s,baz=84,slow=17,SNR=4.7						
URZ	**Urewera**	**13.34**	**190**	P	**P**	**07 35 44.3**	**+1.6**
	3.4nm,0.5s,baz=277,slow=12,SNR=2.3						
URZ				S	**S**	**07 38 02.3**	**-2.6**
	6.0nm,0.8s,baz=86,slow=21,SNR=2.1						
STKA	**Stephens Creek**	**34.23**	**250**	P	**P**	**07 38 53.6**	**0.0**
	0.7nm,0.4s,baz=106,slow=13,SNR=4.7						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**41.79**	**262**	P	**P**	**07 39 55.0**	**-0.4**
	1.6nm,0.6s,baz=95,slow=7.0,SNR=18						
ASAR				ScP	**ScP**	**07 44 40.4**	**-2.1**
	0.3nm,0.6s,baz=101,slow=4.8,SNR=3.1						
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**07 39 58.4**	**-0.9**
	3.6nm,0.5s,baz=100,slow=7.0,SNR=68						
WRA				ScP	**ScP**	**07 44 44.3**	**-0.1**
	0.8nm,0.7s,baz=104,slow=3.4,SNR=7.6						
	3.6nm,0.5s						
QSPA	**South Pole Qui**	**65.00**	**180**	P	**P**	**07 42 41.2**	**+1.3**
	1.1nm,0.8s,baz=13,slow=1.3,SNR=3.3						
	1.1nm,0.8s						
MAW	**Mawson**	**76.61**	**201**	P	**P**	**07 43 48.1**	**-0.1**
	0.4nm,0.6s,baz=42,slow=16,SNR=1.5						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**85.65**	**44**	P	**P**	**07 44 35.8**	**+0.1**
	0.9nm,0.9s,baz=224,slow=9.1,SNR=6.5						
	0.9nm,0.9s						
TXAR	**Lajitas Array**	**91.12**	**58**	P	**P**	**07 45 01.9**	**+0.7**
	1.0nm,0.9s,baz=212,slow=4.4,SNR=9.6						
	1.0nm,0.9s						
ILAR	**Eielson Array**	**93.20**	**14**	P	**P**	**07 45 08.1**	**-1.8**
	0.2nm,0.9s,baz=202,slow=6.8,SNR=1.7						
	0.2nm,0.9s						
HFS	**Hagfors**	**143.70**	**348**	PKP	PKPab	07 51 24.5	-1.3
	3.3nm,0.6s,baz=93,slow=5.9,SNR=8.6						

*JMA **28** 07:48:28.1±0.1, 24°.7N±0°.7×122°.5E±0°.3, h16km±1km, MV2.7/13, NW OFF ISHIGAKIJIMA IS*
*TAP **28** 07:48:28.3, 24°.71N×122°.54E, h12km, ML3.5, C*

ISC 28 07:48:27.9±0.9, 24°.69N±0°.02×122°.53E±0°.02, h15km±8km, n99, σ0§71/170, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.39**	**226**	⇑*i*P	**Pg**	**07 48 36.0**	**+0.4**
	baz=224						
EOS2				*i*S	**Sb**	**07 48 42.3**	**+0.2**
	baz=224						
JYNG	**Yonagunijimaku**	**0.44**	**122**	P	**Pg**	**07 48 36.7**	**-0.1**
JYNG				S	**Sg**	**07 48 42.9**	**+0.1**
EOS3	**EOS3**	**0.45**	**206**	*i*P	**Pg**	**07 48 37.0**	**+0.3**
	baz=205						
EOS3				S	**Sb**	**07 48 45.5**	**+1.6**
	baz=205						
YOJ	**Yonaguni jima**	**0.49**	**117**	P	**Pg**	**07 48 37.6**	**0.0**
YOJ				S	**Sg**	**07 48 44.1**	**0.0**
YOJ	**Yonaguni jima**	**0.49**	**117**	P	**Pg**	**07 48 37.7**	**+0.1**
	baz=119						
YOJ				*e*S	**Sg**	**07 48 44.2**	**0.0**
	baz=119						
TWB1	**Santiao Chiao**	**0.59**	**303**	P	**Pg**	**07 48 39.6**	**+0.1**
	baz=301						
TWB1				*e*S	**Sg**	**07 48 46.9**	**-0.5**
	baz=301						
EOS4	**EOS4**	**0.60**	**199**	*e*P	**Pg**	**07 48 39.6**	**0.0**
	baz=199						
EOS4				*e*S	**Sb**	**07 48 49.1**	**+1.1**
	baz=199						
TWC	**Suao**	**0.63**	**263**	*i*P	**Pg**	**07 48 39.9**	**-0.3**
	baz=260						
TWC				*e*S	**Sg**	**07 48 48.9**	**+0.3**
	baz=260						
SXI1	**Grass Mountain**	**0.72**	**304**	*i*P	**Pg**	**07 48 42.0**	**0.0**
	baz=302						
SXI1				*i*S	**Sg**	**07 48 52.0**	**+0.4**
	baz=302						
EWUT	**Wuta**	**0.73**	**251**	*e*P	**Pg**	**07 48 41.9**	**-0.2**
	baz=249						
EWUT				S	**Sg**	**07 48 51.2**	**-0.5**
	baz=249						
NDS	**Dongshan**	**0.75**	**266**	*e*P	**Pg**	**07 48 42.8**	**+0.3**
	baz=264						
NDS				*e*S	**Sg**	**07 48 52.5**	**+0.2**
	baz=264						
ENA	**Nanau**	**0.77**	**250**	P	**Pg**	**07 48 42.7**	**-0.1**
	baz=248						
ENA				*e*S	**Sg**	**07 48 51.0**	**-1.9**
	baz=248						
NWF	**Wu-fen Shan**	**0.78**	**299**	P	**Pg**	**07 48 43.1**	**0.0**
	baz=297						
NWF				*e*S	**Sg**	**07 48 53.4**	**-0.1**
	baz=297						
WFSB	**Wu-fen Shan**	**0.78**	**299**	*i*P	**Pg**	**07 48 43.2**	**+0.1**
	baz=297						
WFSB				*e*S	**Sg**	**07 48 53.4**	**-0.1**
	baz=297						
TWE	**Neicheng**	**0.79**	**273**	*e*P	**Pg**	**07 48 42.8**	**-0.4**
	baz=270						
TWE				S	**Sg**	**07 48 53.6**	**-0.1**
	baz=270						
TNOU	**National Taiwa**	**0.83**	**304**	*i*P	**Pg**	**07 48 43.5**	**-0.5**
	baz=302						
TNOU				S	**Sg**	**07 48 54.5**	**-0.5**
	baz=302						
FUSB	**Fushanzhiwuyua**	**0.86**	**275**	*e*P	**Pg**	**07 48 44.7**	**0.0**
	baz=273						
FUSB				*e*S	**Sg**	**07 48 56.1**	**0.0**
	baz=273						
ENTT	**Nioudou**	**0.88**	**267**	P	**Pg**	**07 48 44.9**	**-0.1**
	baz=265						
ENTT				*e*S	**Sg**	**07 48 56.6**	**0.0**
	baz=265						
LATG	**Datong**	**0.93**	**261**	*e*P	**Pb**	**07 48 45.5**	**-0.3**
	baz=259						
LATG				*e*S	**Sg**	**07 48 58.3**	**+0.2**
	baz=259						
NDT	**Datong Townshi**	**0.93**	**265**	P	**Pb**	**07 48 45.9**	**+0.1**
	baz=263						
NDT				*e*S	**Sb**	**07 48 58.2**	**+0.2**
	baz=263						
NWLT	**Wulai**	**0.94**	**276**	*i*P	**Pb**	**07 48 46.1**	**+0.2**
	baz=274						
NWLT				*i*S	**Sb**	**07 48 57.7**	**-0.6**
	baz=274						
NWRT	**Kuosheng**	**0.94**	**303**	S	**Sb**	**07 48 57.8**	**-0.6**
	baz=301						
NHDH	**Xindian Distri**	**0.96**	**287**	*i*P	**Pb**	**07 48 46.3**	**+0.1**
	baz=285						
NHDH				*i*S	**Sb**	**07 48 59.0**	**+0.3**
	baz=285						
ETL	**Fush Village**	**0.98**	**238**	*e*P	**Pb**	**07 48 46.3**	**-0.3**
	baz=236						
ETL				*e*S	**Sb**	**07 48 59.0**	**-0.5**
	baz=236						
YM01	**YM01**	**0.99**	**298**	P	**Pb**	**07 48 46.3**	**-0.4**
	baz=296						
YM01				*e*S	**Sb**	**07 48 59.0**	**-0.6**
	baz=296						
YM08	**YM08**	**0.99**	**300**	*e*P	**Pb**	**07 48 46.8**	**-0.1**
	baz=299						
YM08				S	**Sb**	**07 48 59.0**	**-0.7**
	baz=299						
TATO	**Taipei**	**0.99**	**287**	P	**Pb**	**07 48 46.7**	**-0.1**
TATO	**Taipei**	**0.99**	**287**	P	**Pb**	**07 48 46.6**	**-0.1**
	baz=285						
TATO				S	**Sb**	**07 48 59.3**	**-0.4**
	baz=285						
NACB	**Ninganchiao**	**1.00**	**239**	P	**Pb**	**07 48 46.3**	**-0.6**
NACB	**Ninganchiao**	**1.00**	**239**	*e*P	**Pb**	**07 48 46.3**	**-0.6**
	baz=238						
NACB				*e*S	**Sb**	**07 48 59.0**	**-0.8**
	baz=238						
TWY	**Chenhua**	**1.03**	**305**	*e*P	**Pb**	**07 48 47.5**	**0.0**
	baz=303						
TWY				*e*S	**Sb**	**07 49 01.2**	**+0.4**
	baz=303						
ANP	**Anpu**	**1.05**	**299**	*e*P	**Pb**	**07 48 46.2**	**-1.6**
	baz=297						
TWD	**Chiawan**	**1.05**	**235**	*e*P	**Pb**	**07 48 47.8**	**+0.1**
	baz=233						
TWD				*e*S	**Sb**	**07 49 01.4**	**+0.1**
	baz=233						
YHNB	**Yeheng**	**1.05**	**269**	P	**Pb**	**07 48 48.1**	**+0.2**
YHNB	**Yeheng**	**1.05**	**269**	P	**Pb**	**07 48 47.8**	**-0.1**
	baz=267						
YHNB				*e*S	**Sb**	**07 49 01.2**	**-0.4**
	baz=267						
NSK	**Sanguang**	**1.07**	**270**	P	**Pb**	**07 48 48.1**	**-0.1**
	baz=268						
NSK				S	**Sb**	**07 49 01.6**	**-0.4**
	baz=268						
ETLH	**Xiulin Townshi**	**1.07**	**244**	P	**Pb**	**07 48 48.0**	**-0.2**
	baz=242						
ETLH				*e*S	**Sb**	**07 49 02.3**	**+0.2**
	baz=242						
NNSB	**Datong**	**1.08**	**256**	*e*P	**Pb**	**07 48 48.4**	**0.0**
	baz=255						
NNSB				*e*S	**Sb**	**07 49 02.3**	**-0.1**
	baz=255						
NNSH	**Datong**	**1.08**	**256**	P	**Pb**	**07 48 48.4**	**0.0**
	baz=255						
NNSH				S	**Sb**	**07 49 02.4**	**0.0**
	baz=255						
NNS	**Nan Shan**	**1.09**	**257**	*e*P	**Pb**	**07 48 48.5**	**+0.1**
	baz=255						
NNS				*e*S	**Sb**	**07 49 02.6**	**0.0**
	baz=255						
NTST	**Danshui**	**1.09**	**296**	*e*P	**Pb**	**07 48 47.8**	**-0.7**
	baz=294						
NTST				*e*S	**Sb**	**07 49 02.8**	**+0.2**
	baz=294						
IRIF	**Iriomote-Funau**	**1.15**	**108**	*e*P	**Pb**	**07 48 49.2**	**-0.2**
IRIF				S	**Sb**	**07 49 04.2**	**+0.1**
ETM	**Tongmen**	**1.19**	**233**	*e*P	**Pn**	**07 48 49.5**	**-0.5**
	baz=232						
ETM				*e*S	**Sb**	**07 49 05.8**	**+0.3**
	baz=232						
LXIB	**Xiulin Townshi**	**1.22**	**237**	*e*P	**Pn**	**07 48 50.6**	**0.0**
	baz=236						
FUSS	**Fushou**	**1.25**	**250**	P	**Pn**	**07 48 51.7**	**+0.5**
	baz=248						
FUSS				*e*S	**Sb**	**07 49 07.2**	**-0.3**
	baz=248						
WHF	**Hehuan Shan**	**1.28**	**245**	P	**Pn**	**07 48 52.0**	**+0.4**
	baz=244						
WHF				S	**Sb**	**07 49 08.7**	**+0.3**
	baz=244						
NFF	**Wufeng Townshi**	**1.29**	**268**	*e*P	**Pn**	**07 48 51.7**	**+0.2**
	baz=266						
NFF				S	**Sn**	**07 49 09.3**	**+0.8**
	baz=266						
TWT	**Tachien**	**1.31**	**251**	*e*P	**Pb**	**07 48 53.1**	**+0.7**
	baz=250						
TWT				*e*S	**Sb**	**07 49 08.6**	**-0.5**
	baz=250						
HATJ	**Hateruma jima**	**1.32**	**118**	S	**Sn**	**07 49 09.6**	**+0.5**
TDCB	**Techi**	**1.33**	**251**	*e*P	**Pb**	**07 48 53.1**	**+0.5**
	baz=250						
ESL	**Shilin**	**1.33**	**229**	P	**Pn**	**07 48 51.6**	**-0.3**
	baz=228						
ESL				*e*S	**Sg**	**07 49 11.4**	**+0.6**
	baz=228						
LIOB	**Emei**	**1.38**	**269**	*e*P	**Pb**	**07 48 54.3**	**+0.8**
	baz=267						
CHGB	**Renai**	**1.39**	**244**	*e*P	**Pb**	**07 48 53.9**	**+0.2**
	baz=242						
CHGB				*e*S	**Sb**	**07 49 12.0**	**+0.6**
	baz=242						
NSTT	**Nanjuang**	**1.40**	**268**	*e*P	**Pb**	**07 48 54.1**	**+0.4**
	baz=266						
NSTT				*e*S	**Sb**	**07 49 12.2**	**+0.8**
	baz=266						
SBCB	**Hsinchu**	**1.41**	**275**	*e*P	**Pg**	**07 48 55.2**	**+0.1**
	baz=273						
JKRS	**Kuro-shima**	**1.42**	**108**	*e*P	**Pn**	**07 48 52.9**	**-0.3**
JKRS				*e*S	**Sn**	**07 49 11.1**	**-0.5**
WARBT	**Fenglin Townsh**	**1.43**	**228**	*e*P	**Pn**	**07 48 53.0**	**-0.3**
	baz=226						
WARBT				*e*S	**Sn**	**07 49 10.7**	**-1.1**
	baz=226						
OWD	**Renai**	**1.44**	**240**	*e*P	**Pb**	**07 48 54.5**	**0.0**
	baz=238						
WUSB	**Renai**	**1.47**	**242**	*e*P	**Pb**	**07 48 55.0**	**0.0**
	baz=241						
WUSB				*e*S	**Sb**	**07 49 14.3**	**+0.8**
	baz=241						
JIJ	**Ishigaki jima**	**1.50**	**102**	*e*S	**Sn**	**07 49 13.6**	**0.0**
WHP	**Taichung City**	**1.50**	**255**	*e*P	**Pg**	**07 48 56.7**	**-0.2**
	baz=253						
WHP				*e*S	**Sb**	**07 49 15.4**	**+0.9**
	baz=253						
HGSD	**Ruisui**	**1.56**	**221**	*e*P	**Pn**	**07 48 55.5**	**+0.3**
	baz=220						
VWDT	**VWDT**	**1.58**	**234**	*e*P	**Pn**	**07 48 56.3**	**+1.0**
	baz=233						
VWDT				*e*S	**Sn**	**07 49 16.3**	**+0.8**
	baz=233						
NMLH	**Miaoli**	**1.59**	**265**	*e*P	**Pb**	**07 48 58.0**	**+0.9**
	baz=263						
NMLH				*e*S	**Sg**	**07 49 19.6**	**+0.3**
	baz=263						
WCS	**Beigang Elemen**	**1.61**	**247**	*e*P	**Pb**	**07 48 57.5**	**+0.2**
	baz=246						
WCS				*e*S	**Sb**	**07 49 18.9**	**+1.5**
	baz=246						
EHY	**Hungye**	**1.62**	**224**	*e*P	**Pn**	**07 48 55.3**	**-0.6**
	baz=222						
JISG	**Ishigakijimahi**	**1.62**	**93**	*e*S	**Sb**	**07 49 19.1**	**+1.3**
NSY	**Sanyi**	**1.64**	**261**	*e*P	**Pg**	**07 48 59.3**	**-0.1**
	baz=259						
NSY				*e*S	**Sg**	**07 49 20.7**	**0.0**
	baz=259						
TWQ1	**Liyutan**	**1.64**	**258**	*e*P	**Pg**	**07 48 59.1**	**-0.3**
	baz=257						
SMLT	**Sun Moon Lake**	**1.69**	**242**	*e*P	**Pb**	**07 48 58.4**	**-0.4**
	baz=241						
SMLT				*e*S	**Sb**	**07 49 20.9**	**+0.8**
	baz=241						
YULB	**Yu-li**	**1.72**	**221**	P	**Pb**	**07 48 59.3**	**+0.1**
YULB	**Yu-li**	**1.72**	**221**	*e*P	**Pn**	**07 48 56.6**	**-0.7**
	baz=220						
YULB				*e*S	**Sn**	**07 49 17.9**	**-1.0**
	baz=220						
TYC	**Yuchr**	**1.72**	**243**	*e*P	**Pb**	**07 48 58.9**	**-0.3**
	baz=242						
TYC				*e*S	**Sg**	**07 49 22.4**	**-0.8**
	baz=242						
EYUL	**Yuli**	**1.74**	**220**	*e*P	**Pn**	**07 48 58.0**	**+0.4**
	baz=219						
TWF1	**Yuli**	**1.75**	**221**	*e*P	**Pn**	**07 48 58.3**	**+0.6**
	baz=219						
TWF1				*e*S	**Sn**	**07 49 19.4**	**-0.3**
	baz=219						
WHYT	**Xinyi Township**	**1.83**	**238**	*e*P	**Pb**	**07 49 00.4**	**-0.7**
	baz=236						
WHYT				*e*S	**Sb**	**07 49 24.9**	**+1.1**
	baz=236						
WJS	**Zhushan**	**1.86**	**243**	*e*P	**Pb**	**07 49 01.8**	**+0.1**
	baz=241						
WJS				*e*S	**Sb**	**07 49 26.6**	**+1.9**
	baz=241						
FULB	**Fuli**	**1.87**	**218**	*e*P	**Pn**	**07 48 59.1**	**-0.3**
	baz=217						
FULB				*e*S	**Sn**	**07 49 23.1**	**+0.4**
	baz=217						
WNT	**Mingjian**	**1.87**	**245**	*e*P	**Pb**	**07 49 01.9**	**+0.1**
	baz=243						
CHKT	**Chengkung**	**1.91**	**214**	*e*P	**Pn**	**07 48 59.7**	**-0.2**
	baz=213						
CHKT				*e*S	**Sn**	**07 49 22.3**	**-1.5**
	baz=213						
EHD	**Haiduan**	**1.96**	**219**	*e*P	**Pn**	**07 49 00.8**	**+0.2**
	baz=218						
ALS	**Alishan**	**1.97**	**234**	*e*P	**Pn**	**07 49 02.7**	**+1.6**
	baz=232						
CHN5	**Tsauling**	**2.01**	**238**	*e*P	**Pb**	**07 49 04.3**	**0.0**
	baz=236						
ELDTW	**Lidau**	**2.04**	**223**	*e*P	**Pn**	**07 49 01.9**	**+0.1**
	baz=222						
ELDTW				*e*S	**Sn**	**07 49 27.5**	**+0.4**
	baz=222						
EDH	**Donghe**	**2.05**	**214**	*e*P	**Pn**	**07 49 01.2**	**-0.6**
	baz=213						
EDH				*e*S	**Sn**	**07 49 25.7**	**-1.4**
	baz=213						
WDLH	**Douliu**	**2.08**	**242**	*e*P	**Pn**	**07 49 04.0**	**+1.8**
	baz=240						
WCKO	**Fanlu**	**2.16**	**235**	*e*P	**Pn**	**07 49 04.1**	**+0.7**
	baz=234						
STYH	**Taoyuan**	**2.21**	**227**	*e*P	**Pn**	**07 49 05.2**	**+1.2**
	baz=226						
STYH				*e*S	**Sb**	**07 49 33.4**	**-1.3**
	baz=226						
CHN4	**Tsaushan**	**2.22**	**234**	*e*P	**Pn**	**07 49 06.1**	**+1.9**
	baz=232						
CHN4				*e*S	**Sb**	**07 49 35.1**	**+0.1**
	baz=232						
TPUB	**Ta-pu**	**2.22**	**232**	P	**Pn**	**07 49 05.6**	**+1.3**
TPUB	**Ta-pu**	**2.22**	**232**	*e*P	**Pn**	**07 49 06.2**	**+1.9**
	baz=231						
TPUB				*e*S	**Sb**	**07 49 35.2**	**0.0**
	baz=231						
WTP	**Ta-pu**	**2.27**	**231**	*e*P	**Pn**	**07 49 06.9**	**+1.9**
	baz=230						
WTP				*e*S	**Sb**	**07 49 36.5**	**0.0**
	baz=230						
CHN1	**Nanshi**	**2.37**	**231**	*e*P	**Pn**	**07 49 08.1**	**+1.8**
	baz=230						
CHN1				*e*S	**Sb**	**07 49 38.6**	**-0.8**
	baz=230						
SNST	**Tainan City**	**2.37**	**232**	*e*S	**Sb**	**07 49 39.2**	**-0.2**
	baz=231						
SGST	**Jiashian**	**2.40**	**229**	*e*P	**Pn**	**07 49 07.4**	**+0.8**
	baz=227						
SGST				*e*S	**Sb**	**07 49 39.3**	**-0.9**
	baz=227						
SLGT	**Liugui**	**2.42**	**226**	P	**Pb**	**07 49 09.6**	**-1.5**
	baz=225						
SLGT				*e*S	**Sb**	**07 49 39.5**	**-1.2**
	baz=225						
MASBT	**Mashibuluo**	**2.70**	**221**	*e*P	**Pn**	**07 49 12.3**	**+1.5**
	baz=219						
LYUB	**Lan-yu**	**2.81**	**198**	*e*P	**Pn**	**07 49 11.1**	**-1.3**
	baz=198						
PHUB	**P'eng-hu**	**2.95**	**247**	*e*P	**Pn**	**07 49 14.6**	**+0.3**
	baz=246						
PHUB				*e*S	**Sn**	**07 49 50.0**	**+0.6**
	baz=246						

IDC 28 07:59:58.1±14.0, 10°.40N×94°.43E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=697.8km s-min=65.6km az=17.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**28.25**	**231**	T	T	08 34 48.9	
	baz=44,slow=76,SNR=11						
H08S2	**Diego Garcia H**	**28.25**	**231**	T	T	08 34 48.9	
	baz=44,slow=76,SNR=5.7						
H08S1	**Diego Garcia H**	**28.27**	**231**	T	T	08 34 50.2	
	baz=44,slow=76,SNR=7.3						
WRA	**Warramunga Arr**	**49.53**	**127**	P	P	08 08 51.0	-0.1
	0.4nm,0.7s,baz=305,slow=7.6,SNR=2.9						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**51.35**	**132**	P	P	08 09 04.7	-0.1
	0.4nm,0.5s,baz=307,slow=6.9,SNR=8.0						
	0.4nm,0.5s						
H04N2	**CROZET ISLANDS**	**68.03**	**210**	T	T	09 26 02.3	
	baz=43,slow=75,SNR=8.1						
H04N1	**CROZET ISLANDS**	**68.04**	**211**	T	T	09 26 04.7	
	baz=43,slow=75,SNR=8.0						
H04N3	**CROZET ISLANDS**	**68.05**	**210**	T	T	09 26 01.9	
	baz=43,slow=75,SNR=8.9						
PLCA	**Paso Flores**	**147.00**	**201**	PKPbc	PKPbc	08 19 42.5	-0.8
	2.3nm,1.1s,baz=162,slow=3.2,SNR=3.5						

*SKHL **28** 08:00:30.9±0.4, 47°.50N×148°.00E, h386km±8km, mb4.9/5, msha4.9/5*
*MOS **28** 08:00:31.4±1.2, 47°.67N×147°.69E, h384km, mb4.1/4, Error ellipse: s-maj=12.2km s-min=7.8km az=68.8*
*JMA **28** 08:00:31.4±0.5, 47°.N±2°×14°.8E±°, h418km, MV3.8/24, SOUTHERN SEA OF OKHOTSK*
*IDC **28** 08:00:33.1±1.4, 47°.75N×147°.64E, h382km±16km, mb3.3/18, mbtmp4.1/26, Error ellipse: s-maj=14.5km s-min=9.7km az=156.0*
*NEIC **28** 08:00:33.5±1.7, 47°.7N±0°.1×147°.5E±0°.2, h381km±10km, mb4.2/49, Error ellipse: s-maj=20.3km s-min=12.8km az=151.0*

ISC 28 08:00:33.7±0.4, 47°.51N±0°.06×147°.75E±0°.05, h400km, n360, σ1§37/367, mb4.1/49, 3C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.28**	**178**	*i*P	**Pn**	**08 01 29.0**	**-2.5**
KUR				AMB	AMB	08 01 29.9	
	170nm,0.7s						
KUR				*e*S	**S**	**08 02 14.3**	**-3.9**
KUR				A	A	08 02 15.3	
	80nm,0.9s						
KUR				A	A	08 02 15.3	
	60nm,0.9s						
KUR	**Kuril'sk**	**2.28**	**178**	⇑*i*PN	**Pn**	**08 01 29.3**	**-2.2**
KUR				*e*S	**S**	**08 02 14.3**	**-3.9**
KUR				pmax	pmax		
	comp=Z,171nm,0.7s						
KUR				smax	smax		
	comp=N,81nm,0.9s						
YSS	**Yuzh-Sakhalins**	**3.45**	**263**		**Pn**	**08 01 40.0**	**-0.6**
YSS	**Yuzh-Sakhalins**	**3.45**	**263**	*e*P	**Pn**	**08 01 38.8**	**-1.9**
YSS				AMB	AMB	08 01 40.4	
	comp=N,220nm,0.8s						
YSS				*e*S	**S**	**08 02 32.4**	**-2.6**
YSS				A	A	08 02 32.5	
	comp=N,50nm,0.8s						
YSS				A	A	08 02 32.5	
	comp=N,30nm,0.8s						
YSS	**Yuzh-Sakhalins**	**3.45**	**263**	α*i*PN	**Pn**	**08 01 39.9**	**-0.8**
YSS				*e*S	**S**	**08 02 32.1**	**-2.9**
YSS				pmax	pmax		
	comp=Z,400nm,2.0s						
YSS				pmax	pmax		
	comp=Z,220nm,0.8s						
YSS				smax	smax		
	comp=N,50nm,0.8s						
YSS				smax	smax		
	comp=N,200nm,3.1s						
SHO	**Shikotan**	**3.70**	**190**	*e*PN	Pn	08 01 38.2	-4.8
YUK	**Yuzh-Kuril'sk**	**3.72**	**202**	*e*P	**Pn**	**08 01 40.3**	**-2.9**
YUK				AMB	AMB	08 01 45.6	
	comp=N,220nm,0.6s						
YUK				*e*S	**S**	**08 02 36.2**	**-3.3**
YUK				A	A	08 02 42.0	
	comp=N,370nm,0.6s						
YUK				A	A	08 02 42.0	
	comp=N,260nm,0.6s						
JRA	**Rausu**	**4.02**	**208**	*e*P	**Pn**	**08 01 42.7**	**-3.3**
NMR	**Nemuro--Hokkai**	**4.38**	**200**	*e*P	Pn	08 01 44.9	-4.6
NEM2	**Nemuro 2**	**4.38**	**200**	*e*P	Pn	08 01 44.6	-4.8
NEM2				*e*S	S	08 02 42.7	-8.2
JSE	**Soyaes**	**4.40

JSE				eS	S	08 02 50.1	-1.1
JTKR	Abashiri--Toko	4.45	219	P	Pn	08 01 48.5	-1.6
JTKR				eS	S	08 02 49.5	-2.6
JNK	Nakash	4.46	210	eP	Pn	08 01 47.4	-2.9
JMP	Maruseppu	4.66	223	eP	Pn	08 01 50.6	-1.7
JMP				eS	S	08 02 52.7	-3.4
AKK	Akkeshi	4.94	206	eP	Pn	08 01 50.6	-4.5
JKA	Kamikawa-asahi	4.95	229		Pn	08 01 54.8	-0.4
JKA	Kamikawa-asahi	4.95	229	eP	Pn	08 01 54.8	-0.4
ASAJ	Asahikawa	4.95	229	PN	Pn	08 01 54.8	-0.4
ASAJ	Asahikawa	4.95	229	P	Pn	08 01 54.6	-0.6
	comp=N,24nm,0.6s,baz=62,slow=7.1,SNR=18						
JAK	Akkeshi	5.00	207	eP	Pn	08 01 51.7	-4.1
JAK				eS	S	08 02 54.6	-7.8
JKK2	Kamakawa 2	5.05	226	eP	Pn	08 01 54.9	-1.4
JAR	Ashorobuto	5.06	215	eP	Pn	08 01 54.0	-2.4
JAR				eS	S	08 02 58.6	-4.9
JRBN	Rebuntou	5.07	248	eP	Pn	08 01 55.2	-1.1
JCH	Churui	5.80	214	eP	Pn	08 02 00.5	-3.7
JCH				eS	S	08 03 08.9	-8.9
JBT2	Biratori 2	6.07	221	eP	Pn	08 02 04.9	-2.3
JNBK	Urakawa-nobuka	6.32	216	eP	Pn	08 02 06.0	-3.8
JNBK				eS	S	08 03 17.8	-10
SKR	Severo-Kuril's	6.34	57	ePN	Pn	08 02 08.5	-1.4
SKR				eS	S	08 03 22.2	-6.2
SKR				pmax	pmax		
	comp=Z,181nm,0.6s						
SKR				smax	smax		
	comp=N,149nm,1.0s						
SKR				smax	smax		
	comp=E,108nm,0.6s						
ERM	Erimo	6.39	212		Pn	08 02 08.2	-2.4
ERM	Erimo	6.39	212	PN	Pn	08 02 08.3	-2.4
JOT	Ohata	7.78	220	eP	Pn	08 02 22.6	-3.6
JOT				eS	S	08 03 47.8	-10
JTM	Tenmabayashi	8.26	218	Pn	Pn	08 02 27.6	-4.0
JSI2	Shiura 2	8.32	222	eP	Pn	08 02 29.6	-2.8
JSI2				eS	S	08 03 59.7	-10
JANG	Nango	8.43	214	eS	S	08 04 01.3	-11
PEA0B	Petropavlovsk-	8.48	45	Pn	Pn	08 02 31.9	-2.0
PEA0B	Petropavlovsk-	8.48	45	PN	Pn	08 02 32.0	-2.0
PETK	Petropavlovsk-	8.48	45	Pn	Pn	08 02 31.3	-2.7
PETK	Petropavlovsk-	8.48	45	P	Pn	08 02 31.4	-2.5
	comp=E,3.9nm,0.8s,baz=276,slow=4.1,SNR=2.9						
KLR	Kul'dur	10.79	285	P	Pn	08 02 57.9	-2.8
	comp=E,10nm,0.7s,baz=82,slow=8.7,SNR=24						
JMM	Marumori	10.91	210		P	08 03 02.1	+0.8
USA0B	Ussuriysk Arra	11.48	259	P	P	08 03 06.7	-0.9
USA0B	Ussuriysk Arra	11.48	259	PN	P	08 03 06.7	-0.9
USRK	Ussuriysk Ar.	11.48	259	P	P	08 03 05.9	-1.7
USRK	Ussuriysk Ar.	11.48	259	P	P	08 03 06.6	-1.0
	comp=E,4.5nm,0.6s,baz=57,slow=12,SNR=7.0						
MA2	Magadan	12.22	7	P	P	08 03 13.8	-1.7
MA2	Magadan	12.22	7	eP	P	08 03 13.8	-1.7
MA2	Magadan	12.22	7	PN	P	08 03 13.8	-1.7
MDJ	Mudanjiang	12.94	264	P	Pn	08 03 24.5	-1.2
MDJ				sP		08 04 49.0	
MDJ				S	S	08 05 45.8	+1.7
MDJ				PcP	PcP	08 08 30.5	+6.5
MDJ				ScP	ScP	08 11 23.5	+5.1
MDJ				PcS	PcS	08 12 01.5	+3.1
MDJ	Mudanjiang	12.94	264	ScS	ScS	08 14 58.5	+3.6
MDJ				pmax	pmax		
	comp=Z,14nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,320nm,6.0s						
MJAR	Matsushiro Arr	13.04	216	P	P	08 03 26.4	+1.5
	comp=Z,5.9nm,0.7s,baz=22,slow=11,SNR=19						
HEH	HeiHe	13.66	289	eP	Pn	08 03 31.0	-2.9
HEH				pmax	pmax		
	comp=Z,49nm,0.6s						
SEY	Seymchan	15.68	8	P	P	08 03 51.5	-1.5
	comp=Z,4.8nm,0.4s,baz=188,slow=9.5,SNR=32						
KSRS	Korea Array	17.70	243	P	P	08 04 16.4	+1.5
	comp=Z,6.0nm,0.7s,baz=46,slow=10,SNR=16						
JNU	Nakatsue	19.23	228	P	P	08 04 31.6	+0.6
	comp=Z,8.3nm,0.8s,baz=76,slow=9.2,SNR=2.2						
AMKA	Amchitka	20.79	68	P	P	08 04 46.0	+1.0
HHC	Hu-ho-hao-te	26.61	269	eP	P	08 05 38.8	+1.1
HHC				pmax	pmax		
	comp=Z,37nm,0.9s						
HHC				pmax	pmax		
	comp=Z,220nm,4.9s						
SONM	Songino Array	27.62	286	P	P	08 05 47.6	+1.1
	comp=Z,0.3nm,0.4s,baz=60,slow=8.5,SNR=7.2						
	comp=Z,0.3nm,0.4s						
K13K	Kusilvak Mount	30.24	44	P	P	08 06 10.1	+1.0
M13K	Dall Lake	30.75	47	P	P	08 06 14.5	+1.0
L14K	Kuka Creek	31.13	45	P	P	08 06 17.6	+0.9
	baz=267						
M14K	Bethel	31.45	46	P	P	08 06 20.4	+0.8
	baz=269						
K15K	Wolf Creek Mou	31.73	43	P	P	08 06 23.1	+1.1
K15K				IAmb	IAmb	08 06 28.4	
	comp=Z,20nm,1.4s						
M15K	Kasigluk River	32.08	47	P	P	08 06 25.7	+0.7
	baz=270						
F17K	Baldwin Pennin	32.37	36	P	P	08 06 28.1	+0.7
	baz=260						
N15K	Kwethluk River	32.37	48	P	P	08 06 29.1	+1.6
N15K	Kwethluk River	32.37	48	P	P	08 06 28.5	+0.9
	baz=271						
G17K	Kiwalik Mounta	32.46	38	P	P	08 06 28.6	+0.4
	baz=262						
L16K	Owhat River	32.68	45	P	P	08 06 30.6	+0.4
	baz=269						
H17K	Granite Mounta	32.70	39	P	P	08 06 30.4	+0.1
	baz=264						
M16K	Timber Creek	32.92	46	P	P	08 06 33.4	+1.1
M16K				IAmb	IAmb	08 06 33.7	
	comp=Z,9.2nm,0.7s						
M16K	Timber Creek	32.92	46	P	P	08 06 32.9	+0.7
	baz=271						
N16K	Nishlik Lake	33.02	47	P	P	08 06 34.3	+1.1
	baz=272						
L17K	Donlin	33.24	44	P	P	08 06 35.8	+0.9
	baz=270						
K17K	Iditarod	33.25	43	P	P	08 06 36.7	+1.7
K17K				IAmb	IAmb	08 06 40.1	
	comp=Z,20nm,1.4s						
K17K	Iditarod	33.25	43	P	P	08 06 36.0	+1.0
	baz=269						
G18K	Tagagawik	33.33	37	P	P	08 06 35.6	-0.1
G18K	Tagagawik	33.33	37	P	P	08 06 35.9	+0.2
	baz=264						
H18K	Honhosa River	33.37	38	P	P	08 06 36.0	-0.1
	baz=265						
M17K	Holitna River	33.65	45	P	P	08 06 40.0	+1.6
M17K				IAmb	IAmb	08 06 41.1	
	comp=Z,16nm,0.8s						
M17K	Holitna River	33.65	45	P	P	08 06 39.7	+1.2
	baz=272						
O17K	Koliganek Bris	33.89	48	P	P	08 06 41.5	+1.0
	baz=274						
G19K	Purcell Mounta	33.99	37	P	P	08 06 41.0	-0.3
	baz=265						
L18K	Granite Mounta	34.00	44	P	P	08 06 42.4	+1.0
	baz=271						
E19K	Redstone River	34.09	34	P	P	08 06 41.9	-0.2
	baz=263						
H19K	Roundabout Mou	34.20	38	P	P	08 06 42.5	-0.5
H19K				IAmb	IAmb	08 06 43.7	
	comp=Z,5.7nm,0.7s						
H19K	Roundabout Mou	34.20	38	P	P	08 06 43.4	+0.3
	baz=266						
LZH	Lanzhou	34.24	267	eP	P	08 06 45.3	+1.3
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
M18K	Stony River	34.42	45	P	P	08 06 46.1	+1.1
	baz=273						
N18K	Kilae Creek	34.44	46	P	P	08 06 46.7	+1.5
	baz=274						
J19K	Poorman	34.49	41	P	P	08 06 45.9	+0.3
J19K	Poorman	34.49	41	P	P	08 06 45.6	0.0
	baz=269						
D20K	Etivluk River	34.50	32	P	P	08 06 45.7	+0.1
	baz=262						
E20K	Nigu River	34.59	33	P	P	08 06 45.7	-0.7
	baz=263						
H20K	Anotleneega Mo	34.85	38	P	P	08 06 48.8	+0.2
	baz=268						
P18K	Big Mountain,	34.87	49	P	P	08 06 50.0	+1.1
	baz=276						
Q18K	Katmai Hardscr	35.07	50	P	P	08 06 51.2	+0.6
	baz=278						
M19K	Big River Lodg	35.09	44	P	P	08 06 51.5	+0.9
	baz=274						
N19K	Bonanza Creek	35.12	46	P	P	08 06 51.6	+0.6
	baz=275						
J20K	Nowinta River	35.14	40	P	P	08 06 51.8	+0.8
	baz=270						
CHIR	Chirikof Islan	35.18	55	P	P	08 06 51.8	+0.3
	baz=281						
K20K	Telida	35.18	42	P	P	08 06 52.1	+0.7
	baz=272						
L20K	Farewell, AK	35.30	43	P	P	08 06 53.4	+1.0
	baz=273						
B21K	Ikpikpuk River	35.35	31	P	P	08 06 53.2	+0.5
	baz=262						
G21K	Allakaket	35.46	36	P	P	08 06 54.1	+0.3
	baz=268						
F21K	Alatna River	35.51	35	P	P	08 06 53.5	-0.6
	baz=267						
M20K	Styx River	35.68	44	P	P	08 06 56.5	+0.8
	baz=275						
H21K	Melozitna Rive	35.72	38	P	P	08 06 55.8	-0.1
	baz=270						
F22K	John River	36.03	35	P	P	08 06 58.5	0.0
	baz=268						
PPLA	Purkeypile	36.05	42	P	P	08 06 59.8	+0.9
	baz=274						
I21K	Tanana	36.06	39	P	P	08 06 59.1	+0.3
	baz=271						
CAST	Castle Rocks	36.07	42	P	P	08 06 59.9	+1.0
	baz=273,SNR=6.2						
O20K	Slope Mountain	36.11	47	P	P	08 07 00.0	+0.8
	baz=277						
N20K	Mount Spurr	36.18	45	P	P	08 07 01.4	+1.5
	baz=276						
SPCR	Spurr Chakacha	36.18	45	P	P	08 07 01.2	+1.3
	baz=276						
G22K	Bettles	36.27	36	P	P	08 07 00.1	-0.4
	baz=269						
H22K	Ishtalitna Cre	36.31	37	P	P	08 07 01.0	+0.1
	baz=270						
SKT	Skwentna	36.43	44	P	P	08 07 02.3	+0.4
	baz=276						
KTH	Kantishna Hill	36.59	41	P	P	08 07 03.8	+0.6
KTH				IAmb	IAmb	08 07 05.6	
	comp=Z,22nm,1.5s						
CAPN	Captain Cook N	36.74	46	P	P	08 07 05.7	+1.3
	baz=278						
SUA	Susitna One	36.86	45	P	P	08 07 05.4	-0.2
	baz=277						
G23K	Bananza Creek	36.86	36	P	P	08 07 04.9	-0.5
	baz=271						
TRF	Thorofare Moun	36.88	41	P	P	08 07 05.5	-0.3
	baz=275						
CUT	Chulitna	36.98	43	P	P	08 07 06.8	+0.4
	baz=276						
E23K	Chandalar	37.03	34	P	P	08 07 06.8	-0.1
	baz=269						
TOLK	Toolik Lake Re	37.06	33	P	P	08 07 07.0	-0.1
	baz=268						
H23K	Yukon River	37.07	37	P	P	08 07 07.2	+0.1
	baz=272						
BRSE	Bradley Lake S	37.09	48	P	P	08 07 07.6	+0.1
	baz=279						
I23K	Mio, Yukon-K	37.17	39	P	P	08 07 08.1	+0.1
	baz=273						
NEA2	Nenana	37.33	39	P	P	08 07 09.9	+0.6
NEA2				IAmb	IAmb	08 07 10.3	
	comp=Z,7.1nm,0.7s						
NEA2	Nenana	37.33	39	P	P	08 07 09.5	+0.2
	baz=274,SNR=5.2						
D24K	Happy Valley	37.35	32	P	P	08 07 08.3	-1.1
	baz=268						
RC01	Rabbit Creek A	37.39	45	P	P	08 07 10.3	+0.5
	baz=278						
E24K	Your Creek	37.45	34	P	P	08 07 10.2	-0.2
	baz=270						
MCK	McKinley	37.46	41	P	P	08 07 10.6	+0.2
	baz=276						
O22K	Cooper Landing	37.48	46	P	P	08 07 10.2	-0.4
	baz=279						
PMR	Palmer	37.61	44	P	P	08 07 11.9	+0.3
	baz=278						
SEW	Seward	37.67	47	P	P	08 07 12.0	-0.2
	baz=280						
F24K	Squaw Lake	37.68	35	P	P	08 07 11.7	-0.5
	baz=272						
WAT1	Susitna Watana	37.72	42	P	P	08 07 12.3	-0.3
	baz=277						
H24K	Noodor Dome	37.75	37	P	P	08 07 12.3	-0.5
	baz=274						
COLA	College	37.83	39	P	P	08 07 14.0	+0.6
COLA				IAmb	IAmb	08 07 14.5	
	comp=Z,11nm,0.7s						
COLA	College	37.83	39	P	P	08 07 13.7	+0.3
	baz=275						
COLA	College	37.83	39	P	P	08 07 14.0	+0.6
COLA				pmax	pmax		
	comp=Z,11nm,0.7s						
KNK	Knik Glacier	37.95	45	P	P	08 07 14.3	-0.2
	baz=279						
SML	Sawmill	37.95	44	P	P	08 07 15.4	+0.9
SML				IAmb	IAmb	08 07 15.9	
	comp=Z,15nm,0.7s						
SML	Sawmill	37.95	44	P	P	08 07 15.0	+0.4
	baz=278						
POKR	Poker Plat Res	37.99	38	P	P	08 07 15.3	+0.6
	baz=275						
PWL	Port Wells	38.10	45	P	P	08 07 16.1	+0.4
	baz=280						
WAT6	Susitna Watana	38.12	43	P	P	08 07 15.8	-0.3
	baz=278						
D25K	Kavik River	38.22	32	P	P	08 07 16.5	-0.2
	baz=271						
DHY	Denali Highway	38.23	42	P	P	08 07 17.2	+0.3
DHY				IAmb	IAmb	08 07 17.5	
	comp=Z,7.3nm,0.7s						
DHY	Denali Highway	38.23	42	P	P	08 07 16.9	0.0
	baz=278,SNR=5.4						
M23K	Glacier View	38.24	44	P	P	08 07 17.0	+0.1
	baz=279						
IL31		38.25	39	P	P	08 07 16.9	+0.1
ILAR	Eielson Array	38.25	39	P	P	08 07 16.0	-0.9
	comp=Z,3.5nm,0.6s,baz=266,slow=7.4,SNR=62						
	comp=Z,3.5nm,0.6s						
HDA	Harding Lake	38.26	40	P	P	08 07 16.7	-0.3
	baz=276						
G25K	Bearman Lake	38.41	36	P	P	08 07 18.3	+0.2
	baz=274						
SCM	Sheep Creek Mo	38.42	44	P	P	08 07 18.9	+0.5
	baz=279						
F25K	Christian Rive	38.54	34	P	P	08 07 19.3	-0.1
	baz=273						
E25K	Arctic Village	38.55	34	P	P	08 07 19.2	-0.1
	baz=273						
H25L	Birch Creek	38.56	37	P	P	08 07 19.3	-0.1
	baz=275						
GLI	Glacier Island	38.69	45	P	P	08 07 20.7	+0.1
	baz=281						
P23K	Montague Islan	38.71	47	P	P	08 07 20.9	+0.2
	baz=282						
PRP	Porcupine Dome	38.75	38	P	P	08 07 20.8	-0.4
	baz=276						
K24K	Donnelly Dome	38.84	40	P	P	08 07 21.3	-0.5
	baz=278						
J25K	Salcha River,	38.92	39	P	P	08 07 22.2	-0.2
	baz=277						
M24K	Tolsona, Glenn	38.92	43	P	P	08 07 22.4	-0.1
	baz=280						
PAX	Paxson	39.10	42	P	P	08 07 24.3	+0.3
	baz=279						
F26K	Sheenjek River	39.11	34	P	P	08 07 23.9	0.0
	baz=275						
KLU	Klutina	39.14	44	P	P	08 07 24.8	+0.4
	baz=281						
G26K	Porcupine Rive	39.31	35	P	P	08 07 26.1	+0.6
	baz=276						
HARP	HAARP	39.34	43	P	P	08 07 26.6	+0.8
	baz=280						
SCRK	Sand Creek	39.60	40	P	P	08 07 27.8	-0.4
SCRK	Sand Creek	39.60	40	P	P	08 07 27.7	-0.4
	baz=279,SNR=7.6						
N25K	Chitina, Valde	39.74	44	P	P	08 07 29.4	+0.1
	baz=282						
I26K	Coal Creek Min	39.76	38	P	P	08 07 28.8	-0.4
	baz=278						
BMRM	Bremner River	39.87	45	P	P	08 07 30.4	+0.2
	baz=282						
E27K	Coleen River	40.02	33	P	P	08 07 31.0	-0.3
	baz=276						
L26K	Log Cabin Wild	40.05	41	P	P	08 07 32.1	+0.5
	baz=281						
D27M	Malcolm River	40.15	32	P	P	08 07 31.0	-1.4
	baz=276						
GOMU	GeErMu	40.29	274	P	P	08 07 35.0	+0.6
GOMU				pmax	pmax		
	comp=Z,10.0nm,0.8s						
M26K	Nabesna, AK	40.33	42	P	P	08 07 35.6	+1.7
M26K				IAmb	IAmb	08 07 36.2	
	comp=Z,8.8nm,0.8s						
M26K	Nabesna, AK	40.33	42	P	P	08 07 34.8	+0.9
	baz=282,SNR=6.4						
K27K	Chicken	40.42	40	P	P	08 07 35.2	+0.6
	baz=281						
MCARA	McCarthy VSAT	40.53	44	P	P	08 07 37.1	+1.6
	baz=283						
EGAK	Eagle	40.68	38	P	P	08 07 36.5	-0.1
EGAK				IAmb	IAmb	08 07 37.1	
	comp=Z,7.7nm,0.8s						
EGAK	Eagle	40.68	38	P	P	08 07 36.5	-0.1
	baz=281						
L27K	Beaver Creek,	40.72	41	P	P	08 07 38.4	+1.3
L27K				IAmb	IAmb	08 07 39.1	
	comp=Z,14nm,1.1s						
L27K	Beaver Creek,	40.72	41	P	P	08 07 38.3	+1.3
	baz=282,SNR=8.1						
E28M	Babbage River	40.73	32	P	P	08 07 36.7	-0.3
	baz=278						
BCAR	Beaver Creek A	40.74	41	P	P	08 07 38.4	+1.2
F28M	Old Crow	40.74	34	P	P	08 07 34.9	-2.3
	baz=278						
M27K	Edge Creek, AK	40.84	42	P	P	08 07 39.3	+1.1
	baz=283,SNR=5.9						
D28M	Stokes Point	40.93	31	P	P	08 07 39.5	+1.0
	baz=278						
I28M	Miner Creek	41.07	37	P	P	08 07 40.7	+0.8
I28M	Miner Creek	41.07	37	P	P	08 07 40.6	+0.8
	baz=281						
WMQ	Urumqi	41.22	288	eP	P	08 07 42.0	+0.6
E29M	Blow River	41.36	33	P	P	08 07 42.2	+0.2
	baz=279						
CTG	Chitna Glacier	41.42	44	P	P	08 07 43.9	+1.1
	baz=285						
H29M	Whitestone	41.56	36	P	P	08 07 43.9	+0.2
	baz=281						
G29M	Pine Creek	41.56	35	P	P	08 07 43.9	+0.2
	baz=281						
DAWY	Dawson	41.57	39	P	P	08 07 43.6	-0.3
	baz=283						
YUK3	Moose Creek	41.63	43	P	P	08 07 45.2	+0.6
	baz=285						
I29M	Ogilvie Camp,	41.75	37	P	P	08 07 45.2	-0.1
	baz=282						
O28M	Mount Upton	42.01	44	P	P	08 07 48.6	+0.9
	baz=286						
EPYK	Eagle Plains	42.18	36	P	P	08 07 49.1	+0.4
	baz=282						
F30M	Barrier River	42.28	34	P	P	08 07 50.2	+0.7
	baz=282						
L29M	L29M	42.35	40	P	P	08 07 51.6	+1.5
	baz=285,SNR=7.8						
M29M	Somme Creek	42.37	42	P	P	08 07 51.7	+1.4
	baz=285						
K29M	Barlow Dome	42.43	39	P	P	08 07 51.6	+0.8
	baz=285						
I30M	Mount Dempster	42.58	37	P	P	08 07 52.6	+0.7
I30M				IAmb	IAmb	08 07 53.1	
	comp=Z,9.3nm,0.8s						
I30M	Mount Dempster	42.58	37	P	P	08 07 52.7	+0.7
	baz=284,SNR=8.1						
YUK4	Talbot Arm	42.58	43	P	P	08 07 52.5	+0.3
	baz=286						
J30M	Hart River	42.75	38	P	P	08 07 53.7	+0.3
	baz=285						
YUK6	Outpost Mounta	42.83	44	P	P	08 07 54.6	+0.5
	baz=287						
INK	Inuvik	42.97	32	P	P	08 07 54.7	-0.1
INK	Inuvik	42.97	32	P	P	08 07 54.6	-0.3
	baz=283						
INK	Inuvik	42.97	32	P	P	08 07 54.7	-0.1
INK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
G31M	Satah River	43.01	34	P	P	08 07 55.3	+0.1
	baz=284						
M30M	Minto, Yukon	43.08	41	P	P	08 07 56.9	+1.1
	baz=286						
F31M	Tsiigehtchic	43.09	34	P	P	08 07 55.6	-0.1
	baz=284						
MAYO	Mayo, Yukon	43.19	39	P	P	08 07 56.3	-0.4
	baz=286						
H31M	Peel River	43.25	36	P	P	08 07 57.4	+0.2
	baz=285						
HYT	Haines Junctio	43.26	44	P	P	08 07 59.6	+2.1
HYT	Haines Junctio	43.26	44	P	P	08 07 59.2	+1.7
	baz=288,SNR=13						
N30M	Aishikik Lake	43.27	43	P	P	08 07 58.4	+1.0
	baz=287						
MKAR	Makanchi Array	43.32	294	P	P	08 07 57.6	-0.4
	comp=Z,2.8nm,0.8s,baz=63,slow=7.6,SNR=9.9						
	comp=Z,2.8nm,0.8s						
P29M	Windy Craggy	43.52	45	P	P	08 08 01.0	+1.6
P29M	Windy Craggy	43.52	45	P	P	08 08 01.4	+2.1
	baz=289,SNR=6.2						
P30M	Million Dollar	43.73	44	P	P	08 08 02.9	+1.8
	baz=289						
N31M	Braeburn, Yuko	43.86	42	P	P	08 08 02.8	+0.8
N31M				IAmb	IAmb	08 08 04.6	
	comp=Z,15nm,1.1s						
N31M	Braeburn, Yuko	43.86	42	P	P	08 08 03.3	+1.4
	baz=288						
KURK	Kurchatov	43.87	301	eP	P	08 08 02.1	0.0
KURK	Kurchatov	43.87	301	P	P	08 08 02.1	0.0
O30N	Mendenhall	43.94	43	P	P	08 08 03.6	+1.0
	baz=289						
KURBB	Kurchatov Arra	43.95	301	P	P	08 08 02.1	-0.8
	comp=Z,2.0nm,0.9s,baz=69,slow=8.6,SNR=10						
	comp=Z,2.0nm,0.9s						
PLBC	Pleasant Camp	44.24	45	P	P	08 08 06.4	+1.5
	baz=290						
M31M	Drury Creek, Y	44.26	41	P	P	08 08 06.2	+1.1
	baz=289						
WHY	Whitehorse	44.54	43	P	P	08 08 08.9	+1.5
WHY	Whitehorse	44.54	43	P	P	08 08 08.8	+1.4
	baz=290						
FARO	Faro, Yukon	44.71	41	P	P	08 08 09.5	+0.8
	baz=289						
R32K	Eaglecrest	45.55	46	P	P	08 08 15.6	+0.4
	baz=292						
P33M	Teslin, Yukon	45.65	43	P	P	08 08 17.5	+1.4
P33M				IAmb	IAmb	08 08 19.6	
	comp=Z,10nm,1.1s						
P33M	Teslin, Yukon	45.65	43	P	P	08 08 17.5	+1.4
	baz=292						
Q32M	Nakina River	46.38	45	P	P	08 08 22.5	+0.8
	baz=293						
R33M	Jennings River	46.83	44	P	P	08 08 25.2	+0.1
	baz=294						
TGTN	Hyland Airport	47.21	40	P	P	08 08 28.8	+0.9
	baz=294						
S34M	Telegraph Cree	47.35	46	P	P	08 08 30.0	+1.0
	baz=295						
BVAR	Borovoye Array	47.51	307	P	P	08 08 29.5	-0.7
	comp=Z,0.9nm,0.8s,baz=60,slow=3.6,SNR=3.6						
	comp=Z,0.9nm,0.8s						
WTLY	Watson Lake, Y	47.55	42	P	P	08 08 31.3	+0.9
	baz=294						
DLBC	Dease Lake	47.66	45	P	P	08 08 33.5	+2.1
DLBC	Dease Lake	47.66	45	P	P	08 08 32.5	+1.1
	baz=295						
T35M	Bob Quinn	48.18	47	P	P	08 08 36.5	+1.2
	baz=296						
CMAR	Chiang Mai Arr	49.07	251	P	P	08 08 44.2	+1.8
	comp=Z,1.0nm,0.3s,baz=46,slow=7.7,SNR=2.1						
	comp=Z,1.0nm,0.3s						
EUNU	Eureka	49.09	11	P	P	08 08 41.0	-0.9
EUNU				IAmb	IAmb	08 08 45.9	
	comp=Z,12nm,1.5s						
BOOM	Boomskoye usch	49.37	292	P	P	08 08 45.2	+0.7
BOOM	Boomskoye usch	49.37	292	P	P	08 08 45.3	+0.7
BOOM	

ABKAR	Akbulak array	55.09	307	P	P	08 09 25.5	-0.2
ARCES	ARCESS Array B	55.88	339	P	P	08 09 29.6	-1.4
	comp=Z,2.4nm,0.8s,baz=46,slow=8.7,SNR=4.8						
	comp=Z,2.4nm,0.8s						
PGC	Sidney	55.97	53	P	P	08 09 33.4	+1.5
NIL	Nilore	56.18	285	P	P	08 09 34.8	+1.1
NIL				IAmb	IAmb	08 09 36.2	
	comp=Z,12nm,0.8s						
NIL	Nilore	56.18	285	P	P	08 09 34.8	+1.1
NIL				pmax	pmax		
	comp=Z,12nm,0.8s						
LTY	Liberty	58.30	53	P	P	08 09 49.3	+1.1
LTY				IAmb	IAmb	08 09 49.9	
	comp=Z,7.3nm,1.2s						
KBL	Kabul	58.37	288	P	P	08 09 48.9	-0.1
KBL				IAmb	IAmb	08 09 49.2	
	comp=Z,4.5nm,0.7s						
KBL	Kabul	58.37	288	P	P	08 09 48.9	-0.1
KBL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HOOD	Mount Hood Mea	58.94	55	P	P	08 09 54.2	+1.6
D08A	Wollman Farm,	59.37	52	P	P	08 09 57.1	+1.8
F07A	Phinny Hill Vi	59.54	54	P	P	08 09 58.3	+1.8
NEW	Newport	59.57	51	P	P	08 09 58.1	+1.4
	baz=309						
K05A	Summer Lake	60.98	57	P	P	08 10 08.5	+2.1
K05A				IAmb	IAmb	08 10 09.4	
	comp=Z,7.9nm,1.0s						
BMO	Blue Mountains	61.63	54	P	P	08 10 12.0	+1.4
BMO	Blue Mountains	61.63	54	P	P	08 10 12.0	+1.4
BMO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	61.73	332	P	P	08 10 09.8	-1.0
FINES	FINESS Array B	61.73	332	P	P	08 10 09.8	-1.0
FINES	FINESS Array B	61.73	332	P	P	08 10 09.4	-1.3
	comp=Z,2.2nm,0.5s,baz=36,slow=8.5,SNR=16						
	comp=Z,2.2nm,0.5s						
MSO	Missoula	62.15	50	P	P	08 10 15.7	+1.8
MSO				IAmb	IAmb	08 10 16.0	
	comp=Z,5.6nm,1.0s						
MSO	Missoula	62.15	50	P	P	08 10 15.1	+1.2
	baz=311,SNR=5.6						
PLID	Pearl Lake	62.19	53	P	P	08 10 15.6	+1.2
PLID				IAmb	IAmb	08 10 16.4	
	comp=Z,5.9nm,0.8s						
FCC	Fort Churchill	62.57	31	P	P	08 10 16.2	-0.1
FCC	Fort Churchill	62.57	31	P	P	08 10 16.2	-0.1
FCC				pmax	pmax		
	comp=Z,42nm,1.4s						
GEYT	Alibeck	63.04	297	P	P	08 10 20.4	+0.6
	comp=Z,2.5nm,0.6s,baz=54,slow=3.8,SNR=6.9						
	comp=Z,2.5nm,0.6s						
EGMT	Eagleton	63.49	47	P	P	08 10 23.4	+0.8
	baz=313						
HLID	Hailey	64.05	53	P	P	08 10 28.0	+1.6
	baz=312						
BOZ	Bozeman (W)	64.17	50	P	P	08 10 28.6	+1.5
	baz=313,SNR=7.8						
NVAR	Mina Array Bea	65.27	60	P	P	08 10 36.0	+1.7
	comp=Z,1.9nm,0.7s,baz=293,slow=6.4,SNR=24						
	comp=Z,1.9nm,0.7s						
H17A	Grant Village	65.53	50	P	P	08 10 38.0	+2.1
	baz=314						
RLMT	Red Lodge	65.71	49	P	P	08 10 38.0	+0.9
	baz=314						
DGMT	Dagmar	65.87	44	P	P	08 10 38.3	+0.6
	baz=315						
REDW	Red Top Meadow	66.09	51	P	P	08 10 40.4	+0.9
LAO	LASA Array	66.15	46	P	P	08 10 40.5	+1.0
	baz=315						
NC204	NORSAR Array S	66.16	339	P	P	08 10 38.9	-0.5
NB201	NORSAR Array S	66.23	339	P	P	08 10 39.1	-0.6
NB2	NORSAR Subarra	66.25	339	P	P	08 10 39.2	-0.7
	comp=Z,0.8nm,0.5s,baz=28,slow=6.5						
NOA	NORSAR Array B	66.25	339	P	P	08 10 39.1	-0.8
	comp=Z,2.4nm,0.6s,baz=32,slow=6.6,SNR=7.2						
	comp=Z,2.4nm,0.6s						
HFS	Hagfors	66.39	337	P	P	08 10 39.8	-1.0
	comp=Z,2.6nm,0.6s,baz=55,slow=5.6,SNR=11						
	comp=Z,2.6nm,0.6s						
CWC	Cottonwood Cre	66.73	61	P	P	08 10 44.8	+1.2
	baz=313						
GRAC	Grapevine Rang	66.78	60	P	P	08 10 44.6	+0.9
	baz=313						
R11B	Troy Canyon, C	66.90	58	P	P	08 10 45.4	+0.9
	baz=313						
BW06	Boulder Array	67.19	51	P	P	08 10 47.5	+1.2
	baz=314,SNR=5.5						
PDAR	Pinedale Array	67.19	51	P	P	08 10 47.5	+1.1
PDAR	Pinedale Array	67.19	51	P	P	08 10 47.3	+0.9
	comp=Z,1.8nm,0.5s,baz=342,slow=0.7,SNR=37						
	comp=Z,1.8nm,0.5s						
DUG	Dugway, Tooele	67.20	55	P	P	08 10 47.4	+1.0
	baz=314						
MPMC	Manual Prospec	67.34	61	P	P	08 10 48.3	+1.0
	baz=313						
FURC	Furnace Creek,	67.43	60	P	P	08 10 49.1	+1.5
	baz=313						
TPNV	Topopah Spring	67.47	60	P	P	08 10 49.4	+1.3
	baz=314						
LRMC	Laurel Mtn Rad	67.62	62	P	P	08 10 49.7	+0.7
	baz=313						
EDW2	Edwards Air Fo	67.84	62	P	P	08 10 51.4	+1.1
	baz=314						
WRA	Warramunga Arr	68.21	194	P	P	08 10 53.4	+0.9
	comp=Z,0.2nm,0.7s,baz=9.4,slow=6.6,SNR=1.8						
	comp=Z,0.2nm,0.7s						
GSC	Goldstone, Bar	68.27	61	P	P	08 10 54.1	+1.1
	baz=314						
ULM	Lac du Bonnet	68.27	38	P	P	08 10 52.8	+0.3
ULM				IAmb	IAmb	08 11 00.8	
	comp=Z,3.4nm,1.1s						
ULM	Lac du Bonnet	68.27	38	P	P	08 10 52.8	+0.3
ULM				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MDND	Maddock	68.44	42	P	P	08 10 54.2	+0.6
	baz=318						
BFSC	Mount Baldy Ra	68.48	63	P	P	08 10 55.3	+1.0
	baz=314						
TUQ	Turquoise Moun	68.69	61	P	P	08 10 56.7	+1.1
	baz=314						
AKASG	Malin Array Be	68.81	323	P	P	08 10 54.3	-1.5
	comp=Z,1.2nm,0.6s,baz=36,slow=5.8,SNR=2.7						
	comp=Z,1.2nm,0.6s						
K22A	Casper	68.86	50	P	P	08 10 57.2	+0.7
	baz=316						
BBRC	Big Bear Solar	68.91	62	P	P	08 10 58.3	+1.2
	baz=314						
RSSD	Black Hills	69.06	47	P	P	08 10 58.2	+0.4
	baz=317						
GMRC	Granite Mounta	69.30	61	P	P	08 11 00.1	+0.8
	baz=314						
O20A	White River Ci	69.75	52	P	P	08 11 02.7	+0.7
	baz=316						
IRM	Iron Mountain	70.04	61	P	P	08 11 04.9	+1.2
	baz=315						
MONP2	Monument Peak	70.16	63	P	P	08 11 05.5	+1.0
	baz=315						
BC3	Big Chuckawall	70.21	62	P	P	08 11 05.8	+1.1
	baz=315						
N23A	Red Feather La	70.42	51	P	P	08 11 06.7	+0.6
	baz=317						
SWSC	Sam W. Stewart	70.50	62	P	P	08 11 07.4	+1.1
	baz=315						
IKP	In-Ko-Pah, Jac	70.52	63	P	P	08 11 07.7	+1.1
	baz=315						
PDMCI	Parker Dam,Lak	70.53	60	P	P	08 11 07.5	+1.0
	baz=315						
B35A	Bob, Littlefor	70.62	38	P	P	08 11 06.9	+0.1
SUSD	Miller	71.28	44	P	P	08 11 12.1	+1.3
	baz=319						
WUAZ	Wupatki	71.29	58	P	P	08 11 12.9	+1.7
	baz=316						
ISCO	Idaho Springs	71.39	51	P	P	08 11 11.5	-0.4
	baz=317						
MVCO	Mesa Verde	71.70	55	P	P	08 11 15.0	+1.3
	baz=316						
EYMN	Ely	71.87	37	P	P	08 11 14.2	0.0
	baz=322						
ASAR	Alice Springs	71.93	193	P	P	08 11 16.7	+1.9
	comp=Z,0.3nm,0.8s,baz=1.0,slow=5.6,SNR=2.3						
	comp=Z,0.3nm,0.8s						
S22A	4UR Ranch, Cre	72.23	53	P	P	08 11 17.9	+1.1
	baz=317						
ECSD	EROS Data Cent	72.91	43	P	P	08 11 20.7	+0.3
ECSD				IAmb	IAmb	08 11 21.1	
	comp=Z,5.0nm,0.8s						
ECSD	EROS Data Cent	72.91	43	P	P	08 11 20.4	0.0
	baz=321						
SDCO	Great Sand Dun	72.95	53	P	P	08 11 21.8	+0.8
	baz=318						
KSCO	Kaye Shedlock'	73.53	50	P	P	08 11 24.6	+0.4
	baz=319						
T25A	Trinidad	73.98	52	P	P	08 11 26.2	-0.7
	baz=318						
ANMO	Albuquerque	74.48	55	P	P	08 11 31.1	+1.3
	baz=318						
121A	Cookes Peak, D	75.50	58	P	P	08 11 37.3	+1.8
	baz=318						
KSU1	Kansas State U	76.50	46	P	P	08 11 42.0	+1.2
	baz=321						
AMTX	Amarillo	77.13	52	P	P	08 11 45.0	+0.6
	baz=320						
MNTX	Cornudas Mount	77.48	57	P	P	08 11 47.7	+1.4
	baz=319						
WMOK	Wichita Mounta	78.78	50	P	P	08 11 54.1	+0.8
	baz=321						
TUL3	Leonard	79.39	48	P	P	08 11 56.8	+0.2
	baz=322						
CCM	Cathedral Cave	79.89	43	P	P	08 11 59.5	+0.3
	baz=324						
TXAR	Lajitas Array	80.23	57	P	P	08 12 02.4	+1.1
	comp=Z,2.1nm,0.8s,baz=288,slow=3.6,SNR=18						
	comp=Z,2.1nm,0.8s						
LONY	Lake Ozonia	80.98	29	P	P	08 12 05.3	+0.5
	baz=333						
P49A	Miami Univ. Ec	81.57	38	P	P	08 12 08.1	+0.2
	baz=327						
MIAR	Mount Ida	81.58	47	P	P	08 12 09.1	+1.0
	baz=323						
ACSO	Alum Creek Sta	81.69	37	P	P	08 12 09.1	+0.5
	baz=328						
WCI	Wyandotte Cave	81.98	40	P	P	08 12 10.2	+0.1
	baz=327						
O53A	New Philadelph	82.39	36	P	P	08 12 12.2	+0.1
	baz=329						
P52A	Corning	82.55	37	P	P	08 12 13.8	+0.8
	baz=329						
NATX	Nacogdoches	83.25	49	P	P	08 12 16.9	+0.3
	baz=323						
OXF	Oxford	83.63	44	P	P	08 12 19.5	+1.0
	baz=325						

*IDC **28** 08:25:01.3±0.5, 56.˙66S×147.˙33E, h0km, mb4.4/12, mbtmp4.4/13, MLJ3.7/1, MS4.7/41, Error ellipse: s-maj=28.9km s-min=14.1km az=84.0*

*NEIC **28** 08:25:03.6±1.4, 56.˙72S±0.˙09×147.˙4E±0.˙2, h10km±1km, mb5.0/40, Ms_20 4.9/153, Mww5.3/23, Error ellipse: s-maj=17.2km s-min=15.7km az=286.0*

*NEIC **28** 08:25:03.8, 56.˙71S×147.˙41E, h12km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19; $M_{\theta\theta}$0.55; $M_{\phi\phi}$-0.36; $M_{r\theta}$-0.07; $M_{\theta\phi}$-0.97; $M_{r\phi}$0.08; Fault plane solution: $M_0$1.07000×10^{17} NP1: ϕ_s347.32000°, δ88.30000°, λ4.35000°. NP2:ϕ_s257.19000°, δ85.65000°, λ178.29000°. Principal axes: T 1.1720, Plg4.0000°, Azm212.0000°; N -0.1967, Plg85.0000°, Azm9.0000°; P -0.9753, Plg2.0000°, Azm122.0000°;*

*NEIC **28** 08:25:03.8, 56.˙71S×147.˙41E, h12km*

*GCMT **28** 08:25:05.6±0.1, 56.˙67S±0.˙01×147.˙30E±0.˙01, h12km, MW5.3/140, Moment Tensor Solution. s104,c170; s140,c250; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.10±.01; $M_{\theta\theta}$0.57±.01; $M_{\phi\phi}$-0.46±.01; $M_{r\theta}$0.06±.03; $M_{\theta\phi}$-0.98±.01; $M_{r\phi}$0.06±.03; Best double couple: $M_0$1.11400×10^{17} NP1:ϕ_s256.00000°, δ87.00000°, λ-176.00000°. NP2:ϕ_s166.00000°, δ86.00000°, λ-3.00000°. Principal axes: T 1.1620, Plg1.0000°, Azm31.0000°; N -0.0950, Plg85.0000°, Azm291.0000°; P -1.0670, Plg5.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 08:25:03.7±0.3, 56.˙71S±0.˙05×147.˙32E±0.˙07, h10km, n294, σ1s23/193, mb5.0/38, MS4.9/107, 2C-10D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	6.96	76	P	Pn	08 26 48.2	+2.7
	baz=7.1						
MCQ	Macquarie Isla	6.96	76	Pn	Pn	08 26 44.7	-0.9
TAU	Tasmania Unive	13.82	0	Pn	Pn	08 28 19.8	+0.4
TAU	Tasmania Unive	13.82	0	P	Pn	08 28 21.0	+1.6
MOO	Moorlands	14.29	360	P	Pn	08 28 26.4	+0.6
	baz=14,SNR=3.3						
MOO	Moorlands	14.29	360	P	Pn	08 28 27.2	+1.3
AULHS	Lilydale High	15.48	360	P	P	08 28 44.6	-1.7
DCZ	Deep Cove	16.72	56		Pn	08 28 57.6	-0.2
WHZ	Wether Hill Ro	16.77	59	Pn	Pn	08 28 57.2	-1.2
MLZ	Mavora Lakes	17.24	58		Pn	08 29 02.0	-2.4
WKZ	Wanaka	18.07	58	P	Pn	08 29 13.1	-1.5
WKZ				IAmb	IAmb	08 29 16.3	
	comp=Z,182nm,1.5s						
JCZ	Jackson Bay	18.54	56	P	Pn	08 29 23.3	+2.9
TOO	Toolangi	19.19	356	P	P	08 29 27.5	+0.1
	baz=19,SNR=22						
TOO	Toolangi	19.19	356	P	P	08 29 26.3	-1.1
TOO	Toolangi	19.19	356	P	P	08 29 27.8	+0.4
BRAT	Ballarat	19.31	352	P	Pn	08 29 29.3	-0.3
CASY	Casey	19.68	226	P	P	08 29 32.8	+0.3
CASY				IAmb	IAmb	08 29 38.8	
	comp=Z,150nm,1.7s						
MILA	Mila	19.71	4	P	Pn	08 29 34.2	-0.3
	baz=20,SNR=8.1						
MILA	Mila	19.71	4	P	Pn	08 29 34.4	-0.1
RPZ	Rata Peaks	19.87	59	P	P	08 29 34.9	+0.2
RPZ				IAmb	IAmb	08 29 42.3	
	comp=Z,61nm,1.3s						
RPZ	Rata Peaks	19.87	59	P	P	08 29 33.9	-0.8
	comp=Z,0.2nm,0.3s,baz=196,slow=16,SNR=3.6						
RPZ				LR	LR	08 35 32.7	
	comp=Z,5μm,21.3s,baz=222,slow=32						
	comp=Z,6.5nm,0.8s						
ARPS	Mount Arapiles	20.29	347	P	P	08 29 39.8	+0.5
	baz=20,SNR=6.6						
ARPS	Mount Arapiles	20.29	347	P	P	08 29 39.4	+0.1
OXZ	Oxford	20.63	60	P	P	08 29 43.7	+0.7
AUMAG	Moama Anglican	20.69	354	P	P	08 29 44.5	+0.8
INZ	Inchbonnie	20.81	58	P	P	08 29 44.8	-0.1
INZ				IAmb	IAmb	08 29 57.5	
	comp=Z,49nm,1.1s						
INZ				IAMs_20	IAMs_20	08 35 57.3	
	comp=Z,7μm,21.0s						
GVZ	Greta Valley S	21.38	61	IAMs_20	IAMs_20	08 36 55.3	
	comp=Z,5μm,18.0s						
CAN	Canberra	21.43	4	P	P	08 29 51.1	-0.6
CAN				IAmb	IAmb	08 29 56.5	
	comp=Z,115nm,1.4s						
CAN				IAMs_20	IAMs_20	08 36 15.1	
	comp=Z,4μm,19.0s						
CAN	Canberra	21.43	4	P	P	08 29 53.5	+1.8
CNB	Canberra Magne	21.45	5	P	P	08 29 52.5	+0.5
	baz=21,SNR=13						
CNB	Canberra Magne	21.45	5	P	P	08 29 52.7	+0.7
AUUHS	Ulladulla High	21.47	7	P	P	08 29 53.2	+1.2
VNDA	Vanda	21.51	171	P	P	08 29 51.8	-0.4
VNDA				IAmb	IAmb	08 30 04.9	
	comp=Z,92nm,1.4s						
VNDA	Vanda	21.51	171	P	P	08 29 51.4	-0.8
	comp=Z,6.3nm,0.8s,baz=337,slow=9.9,SNR=39						
VNDA				LR	LR	08 36 36.5	
	comp=Z,933nm,18.9s,baz=344,slow=32						
	comp=Z,6.3nm,0.8s						
KHZ	Kahutara	22.04	61	IAMs_20	IAMs_20	08 36 52.8	
	comp=Z,6μm,21.0s						
THZ	Tophouse	22.24	59	IAMs_20	IAMs_20	08 36 41.1	
	comp=Z,5μm,22.0s						
SBA	Scott Base	22.26	169	P	P	08 30 00.5	+0.2
SBA				IAmb	IAmb	08 30 16.1	
	comp=Z,126nm,1.6s						
YNG	Young	22.43	2	P	P	08 30 03.9	+1.5
NNZ	Nelson	22.89	58	IAMs_20	IAMs_20	08 37 09.3	
	comp=Z,4μm,22.0s						
SYDH	Sydney Hard Ro	23.07	7	P	P	08 30 08.5	-0.6
SNZO	South Karori	23.44	61	IAMs_20	IAMs_20	08 37 58.0	
	comp=Z,4μm,20.0s						
BHW	Baring Head	23.45	61	IAMs_20	IAMs_20	08 38 11.1	
	comp=Z,5μm,20.0s						
HTT	Hallett	23.99	343	P	P	08 30 18.6	+0.3
	baz=24,SNR=4.7						
HTT	Hallett	23.99	343	P	P	08 30 18.8	+0.5
MRZ	Mangatainoka R	24.36	61	IAMs_20	IAMs_20	08 38 36.4	
	comp=Z,4μm,20.0s						
AUDCS	Dubbo College	24.50	3	P	P	08 30 23.5	+0.6
BFZ	Birch Farm	24.67	62	P	P	08 30 28.8	+4.4
BBOO	Buckleboo	25.14	337	P	P	08 30 28.6	0.0
BBOO				IAMs_20	IAMs_20	08 37 31.7	
	comp=Z,2μm,18.0s						
STKA	Stephens Creek	25.15	348	P	P	08 30 29.0	+0.2
	baz=25,SNR=19						
STKA	Stephens Creek	25.15	348	P	P	08 30 29.0	+0.2
STKA	Stephens Creek	25.15	348	P	P	08 30 29.0	+0.2
STKA	Stephens Creek	25.15	348	P	P	08 30 28.2	-0.6
	comp=Z,16nm,0.7s,baz=168,slow=8.0,SNR=30						
STKA				LR	LR	08 37 50.4	
	comp=Z,1μm,18.2s,baz=176,slow=31						
	comp=Z,16nm,0.7s						
CMSA	Cobar Meteorol	25.20	357	P	P	08 30 29.0	-0.2
	baz=25,SNR=22						
CMSA	Cobar Meteorol	25.20	357	P	P	08 30 29.2	0.0
AUPHS	Peel High Scho	25.73	7	P	P	08 30 35.6	+1.5
BKZ	Black Stump Fm	25.97	60	P	P	08 30 35.8	-0.5
BKZ				IAmb	IAmb	08 30 56.5	
	comp=Z,43nm,1.4s						
BKZ				IAMs_20	IAMs_20	08 39 38.9	
	comp=Z,2μm,19.0s						
ARMA	Armidale	26.46	8	P	P	08 30 40.9	+0.1
	baz=26,SNR=4.4						
ARMA	Armidale	26.46	8	P	P	08 30 40.6	-0.2
ARMA				IAmb	IAmb	08 30 48.3	
	comp=Z,22nm,1.1s						
ARMA				IAMs_20	IAMs_20	08 38 31.2	
	comp=Z,3μm,20.0s						
ARMA	Armidale	26.46	8	P	P	08 30 40.4	-0.4
LHI	Lord Howe Isla	26.48	23	IAMs_20	IAMs_20	08 38 08.5	
	comp=Z,4μm,22.0s						
RTZ	Ruatahuna	26.64	60	P	P	08 30 40.7	-1.6
RTZ				IAmb	IAmb	08 30 46.9	
	comp=Z,28nm,0.9s						
URZ	Urewera	26.98	60	LR	LR	08 40 32.1	
	comp=Z,2μm,20.5s,baz=290,slow=34						
LCRK	Leigh Creek	27.02	343	P	P	08 30 45.7	0.0
AULRC	Lightning Ridg	27.27	1	P	P	08 30 48.4	+0.4
OUZ	Omahuta	27.90	51	IAMs_20	IAMs_20	08 39 39.2	
	comp=Z,2μm,18.0s						
MULG	Mulgathing	28.02	335	P	P	08 30 54.3	-0.3
MXZ	Matakaoa Point	28.11	60	IAMs_20	IAMs_20	08 42 04.5	
	comp=Z,5μm,18.0s						
FORT	Forrest	29.21	324	P	P	08 31 04.7	-0.6
FORT				IAMs_20	IAMs_20	08 41 15.9	
	comp=Z,2μm,18.0s						
FORT	Forrest	29.21	324	P	P	08 31 04.9	-0.4
INKA	Innaminka	29.33	348	P	P	08 31 07.1	+0.8
QLP	Quilpie	30.19	355	P	P	08 31 14.1	+0.1
	baz=30,SNR=3.5						
QLP	Quilpie	30.19	355	P	P	08 31 14.3	+0.3
H01W1	Cape Leeuwin H	31.30	300	T	T	09 04 26.2	
	baz=144,slow=75,SNR=824						
H01W2	Cape Leeuwin H	31.30	300	T	T	09 04 32.0	
	baz=144,slow=75,SNR=1135						
H01W3	Cape Leeuwin H	31.31	300	T	T	09 04 27.3	
	baz=144,slow=75,SNR=1025						
EIDS	Eidsvold	31.43	7	P	P	08 31 25.8	+0.9
	baz=31,SNR=4.4						
EIDS	Eidsvold	31.43	7	P	P	08 31 24.8	-0.1
EIDS				IAMs_20	IAMs_20	08 41 48.0	
	comp=Z,3μm,19.0s						
EIDS	Eidsvold	31.43	7	P	P	08 31 24.5	-0.4
NWAO	Narrogin (SRO)	31.50	306	IAMs_20	IAMs_20	08 40 58.5	
	comp=Z,3μm,20.0s						
NWAO	Narrogin (SRO)	31.50	306	LR	LR	08 41 10.6	
	comp=Z,3μm,21.2s,baz=146,slow=31						
QSPA	South Pole Qui	33.39	180	IAMs_20	IAMs_20	08 45 21.2	
	comp=Z,2μm,19.0s						
QSPA	South Pole Qui	33.39	180	P	P	08 31 42.0	+0.1
	comp=Z,3.1nm,0.8s,baz=2.5,slow=3.9,SNR=18						
QSPA				LR	LR	08 45 11.8	
	comp=Z,1μm,19.1s,baz=43,slow=36						
	comp=Z,3.1nm,0.8s						
ASAR	Alice Springs	34.44	338	P	P	08 31 50.7	-0.5
ASAR	Alice Springs	34.44	338	P	P	08 31 50.4	-0.9
	comp=Z,4.9nm,0.7s,baz=163,slow=9.3,SNR=76						
ASAR				PcP	PcP	08 34 24.7	-1.8
	comp=Z,4.4nm,1.1s,baz=155,slow=3.1,SNR=3.7						
ASAR				LR	LR	08 44 50.3	
	comp=Z,827nm,18.4s,baz=166,slow=35						
	comp=Z,4.9nm,0.7s						
AS31	Alice Springs	34.44	338	P	P	08 31 51.0	-0.3
WRKA	Warakurna	34.51	329	P	P	08 31 51.3	-0.6
	baz=34,SNR=20						
WRKA	Warakurna	34.51	329	P	P	08 31 51.5	-0.4
MORW	Morawa	35.33	308	IAMs_20	IAMs_20	08 43 11.0	
	comp=Z,4μm,20.0s						
MEEK	Meekatharra	36.40	314	P	P	08 32 07.6	-0.5
	baz=36,SNR=5.9						
MEEK	Meekatharra	36.40	314	P	P	08 32 07.6	-0.5
QIS	Mount Isa	36.56	348	P	P	08 32 08.6	-0.9
	baz=36,SNR=20						
QIS	Mount Isa	36.56	348	P	P	08 32 08.6	-0.9
CTA	Charters Tower	36.58	358	LR	LR	08 45 54.1	
	comp=Z,4μm,18.3s,baz=180,slow=34						
CTAO	Charters Tower	36.58	358	P	P	08 32 09.7	0.0
CTAO				IAmb	IAmb	08 32 11.6	
	comp=Z,24nm,1.1s						
CTAO	Charters Tower	36.58	358	P	P	08 32 09.3	-0.4
RAO	Raoul Island	36.73	56	LR	LR	08 45 23.3	
	comp=Z,1μm,21.6s,baz=144,slow=33						
OUENC	Ouen Island, N	37.13	31	IAMs_20	IAMs_20	08 44 38.4	
	comp=Z,3μm,20.0s						
DZM	Mont Dzumac	37.35	30	eP	P	08 32 09.9	-6.4
	comp=Z,75nm,28.9s						
DZM				eS	S	08 38 06.0	+1.9
	comp=Z,507nm,24.9s						
DZM				eLR	LR	08 42 04.3	
	comp=Z,6μm,25.7s						
DZM	Mont Dzumac	37.35	30	P	P	08 32 16.9	+0.6
DZM				IAmb	IAmb	08 32 17.9	
	comp=Z,25nm,0.9s						
DZM				IAMs_20	IAMs_20	08 44 17.1	
	comp=Z,3μm,20.0s						
DZM	Mont Dzumac	37.35	30	P	P	08 32 16.2	-0.1
DZM	Mont Dzumac	37.35	30	LR	LR	08 44 38.1	
	comp=Z,3μm,19.7s,baz=200,slow=32						
TV1H	Townsville Har	37.40	359	P	P	08 32 16.5	-0.1
YATNC	Mamie plateau,	37.49	31	P	P	08 32 18.5	+1.1
MAW	Mawson	37.72	219	P	P	08 32 18.5	-0.3
	baz=38,SNR=9.6						
MAW	Mawson	37.72	219	P	P	08 32 20.8	+2.0
MAW	Mawson	37.72	219	P	P	08 32 17.5	-1.3
	comp=Z,0.4nm,0.4s,baz=116,slow=13,SNR=5.0						
MAW				LR	LR

PSA00	Pilbara Seismi	40.51	319	IAMs_20	IAMs_20	08 46 58.0	
	comp=Z,2μm,20.0s						
PSA00	Pilbara Seismi	40.51	319	P	P	08 32 42.3	-0.3
PSAB1	Pilbara Seismi	40.52	319	IAMs_20	IAMs_20	08 47 20.4	
	comp=Z,3μm,21.0s						
MBWA	Marble Bar	40.93	319	P	P	08 32 45.7	-0.5
MBWA				IAmb	IAmb	08 33 07.7	
	comp=Z,47nm,1.3s						
MBWA				IAMs_20	IAMs_20	08 48 13.2	
	comp=Z,3μm,21.0s						
MBWA	Marble Bar	40.93	319	P	P	08 32 45.6	-0.5
GIRL	Giralia	41.74	311	IAMs_20	IAMs_20	08 47 15.7	
	comp=Z,3μm,20.0s						
COEN	Coen	42.79	354	P	P	08 33 01.0	-0.3
COEN	Coen	42.79	354	P	P	08 33 00.6	-0.7
KNRA	Kununurra	43.32	333	P	P	08 33 04.8	-0.8
	baz=43,SNR=4.0						
KNRA	Kununurra	43.32	333	P	P	08 33 05.3	-0.3
KNRA				IAmb	IAmb	08 33 14.0	
	comp=Z,19nm,0.8s						
KNRA				IAMs_20	IAMs_20	08 49 07.4	
	comp=Z,1μm,20.0s						
KNRA	Kununurra	43.32	333	P	P	08 33 05.0	-0.6
MSVF	Nonsavu	45.23	43	IAMs_20	IAMs_20	08 47 40.2	
	comp=Z,2μm,21.0s						
MSVF	Nonsavu	45.23	43	LR	LR	08 47 59.3	
	comp=Z,1μm,21.0s,baz=186,slow=30						
KDU	Kakadu	45.40	339	P	P	08 33 21.3	-0.9
MTN	Manton Dam	45.51	338	P	P	08 33 22.4	-0.8
MTN	Manton Dam	45.51	338	P	P	08 33 22.0	-1.2
BELA	Belgrano 2	45.66	179	P	P	08 33 23.6	-0.1
BELA				IAmb	IAmb	08 33 30.3	
	comp=Z,20nm,1.3s						
BELA				IAMs_20	IAMs_20	08 53 33.7	
	comp=Z,2μm,18.0s						
ELIB	Princess Elisa	45.84	201	dP	P	08 33 25.0	-0.4
	comp=Z,22nm,1.1s						
ELIB				dPP	PP	08 35 16.7	+4.3
PMG	Port Moresby	47.19	360	P	P	08 33 35.8	-0.6
PMG	Port Moresby	47.19	360	LR	LR	08 52 01.4	
	comp=Z,2μm,18.6s,baz=185,slow=34						
HNR	Honiara	48.19	17	IAMs_20	IAMs_20	08 48 54.4	
	comp=Z,844nm,19.0s						
HNR	Honiara	48.19	17	LR	LR	08 50 42.4	
	comp=Z,6μm,19.4s,baz=187,slow=32						
TROLL	Troll, Antarti	49.24	194	⇓P	P	08 33 51.9	+0.2
	comp=Z,672nm,0.9s						
BATI	Baumata	49.91	329	LR	LR	08 54 10.1	
	comp=Z,2μm,19.4s,baz=193,slow=35						
SOEI	Soe	50.17	330	IAMs_20	IAMs_20	08 54 36.9	
	comp=Z,2μm,19.0s						
SOEI	Soe	50.17	330	P	P	08 34 08.0	+8.6
SNAA	Sanae	50.20	192	P	P	08 33 59.0	0.0
	baz=155,slow=7.6,SNR=3.4						
VNA3	Neumayer Olymp	51.30	189	⇓P	P	08 34 07.8	+0.6
	comp=Z,20nm,0.8s						
VNA2	Neumayer--Watz	51.39	190	⇓P	P	08 34 07.6	-0.3
	comp=Z,14nm,0.9s,baz=156,slow=6.0						
VNA1	Neumayer--Stat	51.74	190	⇓P	P	08 34 10.7	+0.2
	comp=Z,60nm,1.0s						
RAR	Rarotonga	52.38	70	LR	LR	08 52 27.1	
	comp=Z,620nm,21.8s,baz=186,slow=31						
KRVT	Keravat (AS076	52.39	6	LR	LR	08 53 38.1	
	comp=Z,424nm,20.4s,baz=359,slow=33						
RABL	Rabaul	52.52	6	IAMs_20	IAMs_20	08 58 44.6	
	comp=Z,711nm,18.0s						
KMPI	Kaimana, Papua	54.00	343	P	P	08 34 28.7	+0.9
	comp=Z,143nm,0.6s						
MANU	Manus Island	54.51	0	IAMs_20	IAMs_20	08 52 59.5	
	comp=Z,888nm,19.0s						
JAGI	Jajag, Banyuwa	54.64	318	IAMs_20	IAMs_20	08 54 40.6	
	comp=Z,851nm,21.0s						
FAKI	Fak Fak	54.97	342	P	P	08 34 33.6	-1.3
FAKI				IAmb	IAmb	08 34 56.1	
	comp=Z,20nm,1.0s						
FAKI	Fak Fak	54.97	342	P	P	08 34 33.6	-1.3
	comp=Z,22nm,1.6s,comp=Z,1μm						
H04S1	CROZET ISLANDS	55.18	236	T	T	09 35 11.2	
	baz=140,slow=75						
H04S2	CROZET ISLANDS	55.18	236	T	T	09 35 06.7	
	baz=140,slow=75						
H04S3	CROZET ISLANDS	55.20	236	T	T	09 35 09.8	
	baz=140,slow=75						
BKSI	Bulukumba	55.58	327	P	P	08 34 41.6	+2.4
KAPI	Kappang	55.99	326	IAMs_20	IAMs_20	08 59 03.2	
	comp=Z,712nm,18.0s						
KAPI	Kappang	55.99	326	LR	LR	08 56 48.2	
	comp=Z,454nm,21.3s,baz=168,slow=34						
PMSA	Palmer Station	56.50	164	IAMs_20	IAMs_20	08 56 52.8	
	comp=Z,1μm,18.0s						
PMSA	Palmer Station	56.50	164	LR	LR	08 56 46.1	
	comp=Z,766nm,18.1s,baz=212,slow=34						
TTSI	Tana Toraja	57.83	327	P	P	08 34 58.1	+2.9
LEM	Lembang	58.68	312	LR	LR	08 58 21.0	
	comp=Z,859nm,19.7s,baz=150,slow=34						
PPT2	Papeete2	60.76	77	eLQ	LQ	08 50 39.2	
	comp=Z,944nm,26.5s						
PPT2				eLR	LR	08 52 57.4	
PPT	Papeete	60.78	77	LR	LR	08 55 18.5	
	comp=Z,350nm,21.8s,baz=222,slow=30						
MPSI	Mapaga	61.02	328	P	P	08 35 20.0	+2.8
PMBI	Palembang	63.38	311	IAMs_20	IAMs_20	08 59 03.6	
	comp=Z,864nm,22.0s						
STKI	Sintang	63.51	319	P	P	08 35 41.1	+7.2
DAV	Davao City (W)	66.03	336	LR	LR	09 04 57.2	
	comp=Z,270nm,19.9s,baz=53,slow=36						
BKNI	Bangkinang	67.89	309	IAMs_20	IAMs_20	09 01 34.7	
	comp=Z,559nm,20.0s						
MYKOM	Kota Tinggi	68.03	312	IAMs_20	IAMs_20	09 03 00.5	
	comp=Z,893nm,20.0s						
RPSI	Rantau Prapat	70.93	308	P	P	08 36 20.3	-0.7
RPSI				IAmb	IAmb	08 36 22.8	
	comp=Z,10.0nm,1.0s						
RPSI				IAMs_20	IAMs_20	09 06 41.1	
	comp=Z,547nm,20.0s						
KULM	Kulim	72.52	311	P	P	08 36 29.6	-0.9
KULM				IAMs_20	IAMs_20	09 04 11.4	
	comp=Z,651nm,21.0s						
TAOE	Nuku Hiva Isla	73.08	80	eLR	LR	08 58 46.1	
	comp=Z,439nm,25.8s						
RPN	Rapa Nui	74.64	116	LR	LR	09 02 19.8	
	comp=Z,284nm,18.0s,baz=241,slow=30						
H08S2	Diego Garcia H	75.33	279	T	T	09 59 24.2	
	baz=147,slow=76,SNR=108						
H08S1	Diego Carcia H	75.33	279	T	T	09 59 19.8	
	baz=147,slow=76,SNR=38						
H08S3	Diego Garcia H	75.34	279	T	T	09 59 30.8	
	baz=147,slow=76,SNR=374						
PLCA	Paso Flores	77.79	151	P	P	08 36 59.9	-1.0
	comp=Z,4.2nm,0.9s,baz=188,slow=3.8,SNR=6.0						
PLCA				LR	LR	09 04 59.4	
	comp=Z,489nm,19.1s,baz=196,slow=31						
	comp=Z,4.2nm,0.9s						
OPO	Ambohidratompo	80.09	251	P	P	08 37 13.9	+0.1
	comp=Z,2.4nm,0.8s,baz=127,slow=21,SNR=2.6						
OPO				LR	LR	09 06 03.8	
	comp=Z,188nm,20.2s,baz=2.0,slow=31						
	comp=Z,2.4nm,0.8s						
SUR	Sutherland	80.38	224	LR	LR	09 08 36.3	
	comp=Z,553nm,20.3s,baz=142,slow=32						
PBA	Port Blair	81.62	306	IAMs_20	IAMs_20	09 16 12.3	
	comp=Z,572nm,21.0s						
H03S1	Juan Fernandez	81.67	143	T	T	10 08 03.0	
	baz=202,slow=74,SNR=64						
H03S2	Juan Fernandez	81.67	143	T	T	10 07 57.4	
	baz=202,slow=74,SNR=57						
H03S3	Juan Fernandez	81.68	143	T	T	10 08 10.8	
	baz=202,slow=74,SNR=76						
QIZ	Qiongzhong	81.74	324	P	P	08 37 23.5	+1.3
QIZ	Qiongzhong	81.74	324	S	SKSac	08 47 40.5	-1.4
QIZ	Qiongzhong	81.74	324	SS	SS	08 52 57.5	+4.2
QIZ				LR	LR		
	comp=N,270nm,18.6s						
QIZ				LR	LR		
	comp=E,320nm,17.7s						
QIZ				LR	LR		
	comp=Z,390nm,26.9s						
BOSA	Boshof	81.95	229	P	P	08 37 23.9	+0.4
	comp=Z,8.1nm,1.0s,baz=130,slow=12,SNR=2.6						
BOSA				LR	LR	09 08 35.4	
	comp=Z,337nm,19.2s,baz=177,slow=32						
	comp=Z,8.1nm,1.0s						
H03N3	Juan Fernandez	82.01	142	T	T	10 08 23.5	
	baz=195						
H03N2	Juan Fernandez	82.03	142	T	T	10 08 22.6	
	baz=195						
H03N1	Juan Fernandez	82.03	142	T	T	10 08 32.7	
	baz=195						
PALK	Pallekele	83.56	294	IAMs_20	IAMs_20	09 06 01.4	
	comp=Z,436nm,19.0s						
PALK	Pallekele	83.56	294	LR	LR	09 06 23.1	
	comp=Z,360nm,21.8s,baz=251,slow=30						
JCJ	Chichijima	83.59	355	LR	LR	09 14 02.9	
	comp=Z,139nm,20.6s,baz=120,slow=35						
MT03	Universidad Ad	84.59	149	IAMs_20	IAMs_20	09 13 08.8	
	comp=Z,648nm,21.0s						
CMAR	Chiang Mai Arr	85.12	315	P	P	08 37 38.3	-1.3
CMAR	Chiang Mai Arr	85.12	315	P	P	08 37 39.5	-0.1
	comp=Z,0.9nm,0.3s,baz=180,slow=4.6,SNR=12						
CMAR				LR	LR	09 13 35.2	
	comp=Z,396nm,20.4s,baz=165,slow=34						
	comp=Z,0.9nm,0.3s						
VA03	San Esteban	85.26	149	P	P	08 37 40.0	-0.6
CHTO	Chiang Mai	85.44	315	IAMs_20	IAMs_20	09 14 03.6	
	comp=Z,434nm,22.0s						
CFA	Coronel Fontan	87.00	150	LR	LR	09 09 21.6	
	comp=Z,114nm,18.5s,baz=132,slow=31						
MATP	Matopo	87.70	235	LR	LR	09 12 27.6	
	comp=Z,176nm,18.3s,baz=148,slow=32						
AC05	El Transito	89.03	148	IAMs_20	IAMs_20	09 06 24.4	
	comp=Z,525nm,22.0s						
MND	Mandalay	89.45	314	IAMs_20	IAMs_20	09 13 51.6	
	comp=Z,352nm,21.0s						
GYA	Guiyang	89.70	324	⇓P	P	08 38 04.3	+2.6
GYA				pmax	pmax		
	comp=Z,13nm,0.8s						
JHJ	Hachijo jima 2	89.71	354	LR	LR	09 14 18.0	
	comp=Z,374nm,22.0s,baz=300,slow=33						
JNU	Nakatsue	90.57	346	LR	LR	09 17 55.8	
	comp=Z,219nm,19.4s,baz=168,slow=35						
TNCH	TengChong	91.23	317	eP	P	08 38 11.0	+2.0
TNCH				pP	pwP	08 38 14.3	-0.6
TNCH				pmax	pmax		
	comp=Z,98nm,0.5s						
PZH	PanZhiHua	91.40	320	P	P	08 38 13.5	+3.9
PZH	PanZhiHua	91.40	320	S	S	08 49 07.8	-0.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,250nm,3.9s						
PZH				LR	LR		
	comp=N,320nm,14.3s						
PZH				LR	LR		
	comp=E,260nm,15.1s						
PZH				LR	LR		
	comp=Z,470nm,16.7s						
NJ2	Nanjing	91.66	336	eP	P	08 38 12.0	+1.5
NJ2				sP	pwP	08 38 19.3	+2.9
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,880nm,3.8s						
LSZ	Lusaka	92.33	238	LR	LR	09 12 53.8	
	comp=Z,883nm,21.1s,baz=112,slow=31						
MJAR	Matsushiro Arr	93.22	353	P	P	08 38 17.6	-0.1
	comp=Z,1.4nm,0.7s,baz=180,slow=3.8,SNR=2.5						
MJAR				LR	LR	09 21 05.3	
	comp=Z,124nm,18.1s,baz=171,slow=36						
	comp=Z,1.4nm,0.7s						
TSUM	Tsumeb	93.46	227	IAMs_20	IAMs_20	09 16 23.6	
	comp=Z,632nm,18.0s						
TSUM	Tsumeb	93.46	227	LR	LR	09 16 35.7	
	comp=Z,441nm,18.9s,baz=148,slow=33						
SHL	Shillong	94.33	312	IAMs_20	IAMs_20	09 19 50.2	
	comp=Z,380nm,20.0s						
CPUP	Villa Florida	94.69	158	P	P	08 38 25.9	+1.0
	comp=Z,3.2nm,0.9s,baz=180,slow=9.1,SNR=2.9						
CPUP				LR	LR	09 15 17.1	
	comp=Z,226nm,21.8s,baz=196,slow=32						
	comp=Z,3.2nm,0.9s						
CD2	Chengdu	94.76	324	eP	P	08 38 26.0	+1.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSRS	Korea Array	95.24	345	LR	LR	09 21 13.6	
	comp=Z,122nm,19.0s,baz=165,slow=35						
LVC	Limon Verde	95.29	147	LR	LR	09 12 17.1	
	comp=Z,242nm,21.3s,baz=194,slow=30						
LZH	Lanzhou	99.50	326	eP	Pdif	08 38 47.0	+0.6
LZH				pP	pwP	08 38 51.3	-1.0
LZH				pmax	pmax		
	comp=Z,27nm,0.9s						
USA0B	Ussuriysk Arra	101.37	349	IAMs_20	IAMs_20	09 22 02.5	
	comp=Z,360nm,21.0s						
HHC	Hu-ho-hao-te	101.78	333	eP	Pdif	08 38 58.8	+2.5
BTO	Baotou	101.94	332	eP	Pdif	08 38 56.8	-0.2
BTO				pP	sPdif	08 39 01.5	+1.1
BTO				PP	PP	08 43 10.0	+1.1
BTO	Baotou	101.94	332	SS	SS	08 57 46.3	+2.5
BTO				pmax	pmax		
	comp=Z,23nm,0.5s						
BTO				pmax	pmax		
	comp=Z,290nm,4.9s						
BTO				LR	LR		
	comp=N,600nm,5.9s						
BTO				LR	LR		
	comp=E,590nm,5.9s						
BTO				LR	LR		
	comp=Z,400nm,5.3s						
MDJ	Mudanjiang	102.05	347	P	Pdif	08 38 58.5	+1.2
MDJ				pP	sPdif	08 39 01.0	+0.4
MDJ				PP	PP	08 42 47.5	-22
MBAR	Mbarara	103.77	247	IAMs_20	IAMs_20	09 20 26.6	
	comp=Z,333nm,20.0s						
ATD	Arta Tunnel	107.50	264	IAMs_20	IAMs_20	09 32 58.8	
	comp=Z,400nm,21.0s						
UOSS	Minazif	111.08	283	IAMs_20	IAMs_20	09 37 01.6	
	comp=Z,320nm,21.0s						
WMQ	Urumqi	111.95	318	eP	PKiKP	08 43 38.5	+0.4
WMQ				LR	LR		
	comp=Z,250nm,24.1s						
KBL	Kabul	112.23	299	IAMs_20	IAMs_20	09 24 39.1	
	comp=Z,303nm,21.0s						
HRA	Herat	115.46	294	IAMs_20	IAMs_20	09 28 23.6	
	comp=Z,272nm,20.0s						
FRU1	Bishkek	116.37	308	IAMs_20	IAMs_20	09 26 13.5	
	comp=Z,266nm,20.0s						
MKAR	Makanchi Array	116.50	316	PKP	PKPdf	08 43 44.5	-2.1
	comp=Z,0.3nm,0.5s,baz=148,slow=2.2,SNR=1.9						
YAK	Yakutsk	119.21	351	IAMs_20	IAMs_20	09 37 02.3	
	comp=Z,184nm,19.0s						
GEYT	Alibeck	120.30	294	PKP	PKPdf	08 43 53.6	-0.7
	comp=Z,1.0nm,0.6s,baz=82,slow=15,SNR=2.4						
GYA0B	ALIBECK ARRAY	120.30	294	IAMs_20	IAMs_20	09 32 16.9	
	comp=Z,346nm,19.0s						
KURBB	Kurchatov Arra	121.07	316	PKP	PKPdf	08 43 53.7	-1.5
	comp=Z,1.1nm,0.2s,baz=140,slow=1.5,SNR=6.2						
V12A	Nelson	123.10	74	IAMs_20	IAMs_20	09 30 22.8	
	comp=Z,467nm,21.0s						
TXAR	Lajitas Array	124.30	88	PKP	PKPdf	08 44 00.8	-1.5
	comp=Z,0.7nm,0.8s,baz=185,slow=3.3,SNR=3.0						
X18A	Snowflake	124.82	79	IAMs_20	IAMs_20	09 47 14.4	
	comp=Z,401nm,22.0s						
BVAR	Borovoye Array	126.12	313	PKP	PKPdf	08 44 04.0	-0.9
	comp=Z,1.2nm,0.6s,baz=116,slow=3.4,SNR=5.5						
JCT	Junction City	127.31	90	IAMs_20	IAMs_20	09 30 52.0	
	comp=Z,284nm,19.0s						
GNI	Garni	128.89	286	IAMs_20	IAMs_20	09 32 27.2	
	comp=Z,232nm,22.0s						
TORD	Torodi Ar. Bea	129.19	225	IAMs_20	IAMs_20	09 35 41.9	
	comp=Z,310nm,20.0s						
TORD	Torodi Ar. Bea	129.19	225	PKP	PKPdf	08 44 11.6	-0.4
	comp=Z,1.0nm,0.9s,baz=145,slow=2.0,SNR=5.1						
PDAR	Pinedale Array	131.04	72	PKP	PKiKP	08 44 15.5	-0.4
	comp=Z,0.2nm,0.6s,baz=262,slow=0.6,SNR=1.7						
ILAR	Eielson Array	131.06	31	PKP	PKPdf	08 44 12.7	-1.3
	comp=Z,0.6nm,0.7s,baz=255,slow=2.9,SNR=7.0						
TUL3	Leonard	133.60	89	IAMs_20	IAMs_20	09 24 41.5	
	comp=Z,342nm,19.0s						
AKASG	Malin Array Be	143.99	287	PKP	PKPab	08 44 35.0	-0.5
	comp=Z,2.1nm,0.7s,baz=106,slow=2.3,SNR=6.8						
O53A	New Philadelph	144.72	97		PKPdf	08 44 39.3	-0.5
J47A	Sunmer	144.76	90		PKPdf	08 44 39.5	-0.3
KEST	Kesra	144.91	251	PKP	PKPdf	08 44 40.3	-0.1
	comp=Z,24nm,1.0s,baz=322,slow=2.1,SNR=4.6						
N53A	Lisbon	145.32	96		PKPbc	08 44 39.0	-1.7
PAOL	Paolisi	145.97	263	IAMs_20	IAMs_20	09 53 43.0	
	comp=Z,237nm,19.0s						
GUMA	Gualdo di Mace	148.02	265	IAMs_20	IAMs_20	09 35 44.3	
	comp=Z,320nm,18.0s						
VYHS	Vyhne	148.34	277	ePKP	PKPbc	08 44 49.8	+0.7
VYHS				e		08 44 54.0	
MODS	Modra-Piesok	149.12	276	ePKP	PKPab	08 44 58.2	+2.7
RONA	Rosalia, Austr	149.27	274	ePKP	PKPbc	08 44 52.1	+0.6
	comp=Z,5.8nm,0.8s						
SOKA	Soboth	149.37	272	ePKP	PKiKP	08 44 52.8	-0.2
	comp=Z,11nm,1.2s						
ARSA	Arzberg	149.44	273	epPKP	PKPbc	08 44 52.0	0.0
	comp=Z,12nm,1.4s						
CONA	Conrad Observa	149.64	274	ePKP	PKiKP	08 44 53.6	+0.1
	comp=Z,7.3nm,1.2s						
MORC	Moravsky Berou	149.75	278	ePKP	PKPbc	08 44 52.5	-0.2
KRUC	Moravsky	149.99	276	ePKP	PKPbc	08 44 53.0	-0.2
VRAC	Vranov	150.02	277	ePKP	PKPbc	08 44 53.4	+0.1
MYKA	Terra Mystica	150.10	270	ePKP	PKPbc	08 44 53.6	-0.1
	comp=Z,9.1nm,1.1s						
FINES	FINESS Array B	150.35	304	PKPbc	PKPbc	08 44 52.5	-1.1
	comp=Z,12nm,0.7s,baz=116,slow=6.5,SNR=18						
STAL	STALIGIAL	150.39	269	IAMs_20	IAMs_20	10 00 05.3	
	comp=Z,303nm,22.0s						
DPC	Dobruska-Polom	150.73	279⇑	ePKP	PKPbc	08 44 54.4	-0.6
ABTA	Abfaltersbach	150.80	270	i PKP	PKPbc	08 44 55.6	+0.3
	comp=Z,13nm,1.7s						
CTI	Castel Tesino	150.85	268	IAMs_20	IAMs_20	09 36 19.3	
	comp=Z,172nm,22.0s						
OSTC	Ostas	150.89	279⇑	ePKP	PKPbc	08 44 55.4	+0.1
LESA	Schwarzleotal	151.10	271	epPKP	PKPbc	08 44 55.2	-0.8
	comp=Z,6.7nm,0.6s						
GERES	GERESS Array B	151.35	274	PKPbc	PKPbc	08 44 54.4	-2.2
	comp=Z,1.9nm,0.9s,baz=103,slow=4.3,SNR=2.2						
KHC	Kasperske Hory	151.57	274	ePKPAB	PKPab	08 45 09.1	+3.4
WTTA	Wattenberg	151.59	270	i PKP	PKPbc	08 44 56.8	-0.4
	comp=Z,6.3nm,0.8s						
WATA	Walderalm	151.66	270	i PKP	PKPbc	08 44 56.6	-0.7
	comp=Z,5.7nm,0.7s						
SQTA	Sankt Quirin	151.80	269	ePKP	PKPbc	08 44 57.4	-0.3
	comp=Z,8.9nm,0.7s						
MOTA	Moosalm	151.93	269	i pPKP	PKPbc	08 44 56.8	-1.2
	comp=Z,5.7nm,1.0s						
FETA	Feichten	151.94	268	i PKP	PKPbc	08 44 57.9	-0.2
	comp=Z,8.0nm,1.0s						
ARCES	ARCESS Array B	152.03	320	PKPbc	PKPbc	08 44 55.0	-2.3
	comp=Z,4.0nm,0.6s,baz=100,slow=2.7,SNR=11						
RETA	Reutte	152.20	269	i PKP	PKPbc	08 44 58.0	-0.5
	comp=Z,11nm,1.7s						
DAVA	Damuels	152.57	268	i pPKP	pPKPdf	08 44 56.3	+1.3
	comp=Z,12nm,1.4s						
CLL	Collm	153.03	278	ePKPbc	PKiKP	08 45 01.0	+0.7
CLL				ePKPab	pPKPab	08 45 14.0	-0.1
CLL				AMS	AMS	10 03 00.0	
	comp=Z,200nm,20.7s						
ESDC	Sonseca Array	154.65	240	PKPbc	PKiKP	08 45 04.5	+0.4
	comp=Z,0.5nm,0.6s,baz=112,slow=0.7,SNR=1.9						
BCLA	Clavier	156.81	270	dPKP	PKPab	08 45 24.9	-2.9
BGES	Gesves	156.91	270	dPKP	PKPab	08 45 26.3	-2.0
DOU	Dourbes	157.04	269	dPKP	PKPab	08 45 28.8	0.0

*IDC **28** 08:32:27.3±1.8, 36°.60N×140°.61E, h0km, mb3.4/2, mbtmp3.5/3, ML3.7/1, MS2.5/1, Error ellipse: s-maj=30.5km s-min=25.2km az=73.0*

*JMA **28** 08:32:29.0±0.0, 36°.8N±0°.1×140°.5E±0°.2, h8km, MV3.2/20, NORTHERN IBARAKI PREF*

JMA Felt I J1 at NORTHERN IBARAKI PREF .

ISC 28 08:32:28.5±1.0, 36°.78N±0°.04×140°.52E±0°.05, h11km±9km, n23, σ1°.9 12/20, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.17	167	i P	Pb	08 32 33.2	-0.6
JHO				S	Sg	08 32 36.2	+1.2
JFFD	Fukushimafurud	0.31	6	i P	Pg	08 32 34.6	-0.3
JFFD				S	Sg	08 32 38.3	-0.8
ONAJ	Iwakimizuishiy	0.39	35	i P	Pg	08 32 35.9	-0.4
ONAJ				S	Sg	08 32 41.1	-0.4
JSB	Shiboa	0.52	291	P	Pb	08 32 39.8	+0.1
JSB				S	Sb	08 32 47.1	0.0
JYT	Yasato	0.61	206	i P	Pb	08 32 41.2	0.0
JFK	Kawauchi	0.65	26	i P	Pg	08 32 40.4	-0.8
JFK				S	Sg	08 32 48.7	-1.0
JOTO	OTAMA OYAMA	0.79	349	i P	Pg	08 32 43.6	-0.2
JOTO				S	Sg	08 32 53.6	-0.7
JFY	Yanaizu	0.90	314	P	Pb	08 32 46.5	+0.3
JAG	Ashikaga	0.93	248	i P	Pb	08 32 46.4	-0.2
MJAR	Matsushiro Arr	1.87	263	Pn	Pb	08 33 01.8	-1.0
	2.3nm,0.3s,baz=87,slow=15,SNR=103						
MJAR				Sn	Sb	08 33 25.9	-0.3
	2.5nm,0.3s,baz=85,slow=27,SNR=18						
ASAJ	Asahikawa	7.50	12	Pn	Pn	08 34 20.8	+3.1
	1.1nm,0.3s,baz=220,slow=19,SNR=5.5						
	3.0nm,0.4s						
KSRS	Korea Array	10.09	278	LR	LR	08 38 19.0	
	comp=Z,24nm,19.7s,baz=85,slow=34						
H11N2	WAKE ISLAND Hy	28.64	119	T	T	09 08 13.0	
	baz=312,slow=75,SNR=30						
H11N1	WAKE ISLAND Hy	28.65	119	T	T	09 08 12.1	
	baz=312,slow=75,SNR=29						
H11N3	WAKE ISLAND Hy	28.66	119	T	T	09 08 14.9	
	baz=312,slow=75,SNR=26						
H11S1	WAKE ISLAND Hy	29.33	121	T	T	09 09 03.0	
	baz=314,slow=75,SNR=52						
H11S3	WAKE ISLAND Hy	29.33	121	T	T	09 09 03.2	
	baz=314,slow=75,SNR=56						
H11S2	WAKE ISLAND Hy	29.35	121	T	T	09 09 07.0	
	baz=314,slow=75,SNR=27						
WRA	Warramunga Arr	56.72	187	P	P	08 42 12.1	-0.1
	0.2nm,0.4s,baz=1.7,slow=7.5,SNR=6.9						
	0.

TKB Tkibuli 1.56 290 *e*Pg **Pn 08 35 37.6 +0.7**
TKB *e*Sg **Sb 08 35 57.9 0.0**
TKB Tkibuli 1.56 290 P **Pn 08 35 37.6 +0.7**
TKB S **Sb 08 35 57.9 0.0**
GNBR Gunib 1.59 69 *e*Pg **Pn 08 35 38.1 +0.8**
13nm,0.7s
GNBR *e*Sg **Sb 08 35 58.8 +0.2**
25nm,0.1s
ABS Abastumani 1.61 268 *e*Pg **Pn 08 35 38.6 +0.8**
ABS *e*Sg **Sb 08 36 00.6 +1.0**
ABS Abastumani 1.61 268 P **Pn 08 35 38.6 +0.8**
ABS S **Sb 08 36 00.6 +1.0**
KMKR Kumukh 1.62 78 *e*Pg **Pn 08 35 38.5 +0.6**
25nm,0.1s
KMKR *e*Sg **Sb 08 35 60.0 +0.3**
16nm,0.6s
UNCR Uncukul 1.62 56 *e*Pg **Pb 08 35 39.1 -0.4**
16nm,0.6s
UNCR *e*Sg **Sb 08 36 00.8 +1.3**
13nm,0.3s
ARKR Arakani 1.69 62 *e*Pg **Pn 08 35 39.7 +0.9**
13nm,0.3s
ARKR *e*Sg **Sb 08 36 01.8 +0.1**
67nm,0.6s
DLMR Dylym 1.75 44 *e*Pg **Pn 08 35 40.2 +0.7**
67nm,0.6s
DLMR *e*Sg **Sb 08 36 02.8 -0.5**
9.0nm,0.5s
KRNR Karanay 1.75 54 *e*Pg **Pb 08 35 41.1 -0.6**
9.0nm,0.5s
KRNR *e*Sg **Sb 08 36 04.1 +0.7**
8.0nm,0.7s
DBC Dubki 1.82 48 *e*Pg **Pb 08 35 42.3 -0.6**
8.0nm,0.7s
DBC *e*Sg **Sb 08 36 06.5 +1.0**
8.0nm,0.7s

WEL ***28*** *08:39:56.9±1.2, 34°S±9°×17°9W±1°3, h96km±96km, M4.8/41, mBA4.8/1, MLA.7/9, MLv4.8/41, Mw(mB)4.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=118.4, confirmed*
IDC ***28*** *08:39:59.6±4.0, 34°13S×179°70W, h78km±33km, mb3.6/5, mbtmp4.0/7, Error ellipse: s-maj=31.8km s-min=25.2km az=99.0*
ISC 28 08:39:56.1±0.7,**34°13S**±0°06×**179°14W**±0°10,**h50**km,**n99,** σ1°**98**/107,**mb4.1/7,3C,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.00**	**210**	P	**Pn**	**08 40 56.4**	**+1.5**
MXZ				S	**Sn**	**08 41 43.6**	**+3.1**
WMGZ	**Waiomatatini S**	**4.18**	**208**	P	**Pn**	**08 40 59.3**	**+2.0**
WMGZ				S	**Sn**	**08 41 47.6**	**+2.8**
PKGZ	**Pakihiroa**	**4.38**	**210**	P	**Pn**	**08 41 01.0**	**+1.0**
PKGZ				S	**Sn**	**08 41 49.9**	**+0.1**
HAZ	**Te Kaha**	**4.40**	**214**	P	**Pn**	**08 41 02.1**	**+1.8**
HAZ				S	**Sn**	**08 41 52.6**	**+2.4**
PUZ	**Puketiti**	**4.46**	**207**	P	**Pn**	**08 41 02.1**	**+0.9**
PUZ				S	**Sn**	**08 41 52.2**	**+0.4**
RUGZ	**Raukumara Rang**	**4.62**	**213**	P	**Pn**	**08 41 04.7**	**+1.4**
RUGZ				S	**Sn**	**08 41 58.4**	**+2.7**
TWGZ	**Tauwhareparae**	**4.66**	**209**	P	**Pn**	**08 41 04.8**	**+0.9**
TWGZ				S	**Sn**	**08 41 57.3**	**+0.5**
CNGZ	**Carnagh Statio**	**4.84**	**205**	P	**Pn**	**08 41 08.0**	**+1.6**
CNGZ				S	**Sn**	**08 42 02.9**	**+1.7**
MYRZ	**Mayor Island**	**4.90**	**229**	P	Pn	08 41 13.2	+6.1
GRZ	**Great Barrier**	**4.90**	**243**	P	**Pn**	**08 41 08.3**	**+1.1**
KUZ	**Kuaotunu**	**4.94**	**237**	P	**Pn**	**08 41 09.6**	**+1.9**
TKGZ	**Te Karaka**	**4.94**	**209**	P	**Pn**	**08 41 07.8**	**+0.1**
TKGZ				S	**Sn**	**08 42 02.2**	**-1.3**
GLKZ	**Green Lake**	**4.96**	**12**	P	**Pn**	**08 41 08.3**	**+0.3**
GLKZ				S	**Sn**	**08 42 02.8**	**-1.3**
MWZ	**Matawai**	**4.99**	**212**	P	**Pn**	**08 41 08.6**	**+0.3**
MWZ				S	**Sn**	**08 42 05.4**	**+0.7**
OPRZ	**Ohinepanea**	**5.09**	**222**	P	**Pn**	**08 41 12.8**	**+3.1**
URZ	**Urewera**	**5.12**	**215**	P	**Pn**	**08 41 10.6**	**+0.5**
URZ				S	**Sn**	**08 42 08.0**	**+0.2**
URZ	**Urewera**	**5.12**	**215**	P	**Pn**	**08 41 10.5**	**+0.5**
25nm,0.3s,baz=2.1,slow=2.3,SNR=52							
URZ				S	**Sn**	**08 42 04.9**	**-2.9**
54nm,0.6s,baz=66,slow=20,SNR=3.4							
MARZ	**Manawahe**	**5.13**	**220**	P	**Pn**	**08 41 12.5**	**+2.2**
TGRZ	**Tauranga**	**5.18**	**225**	P	**Pn**	**08 41 13.6**	**+2.7**
RIGZ	**Rimuhau**	**5.21**	**208**	P	**Pn**	**08 41 12.0**	**+0.7**
RIGZ				S	**Sn**	**08 42 09.1**	**-1.0**
PRGZ	**Paritu Road**	**5.35**	**206**	P	**Pn**	**08 41 13.4**	**+0.1**
PRGZ				S	**Sn**	**08 42 11.3**	**-2.3**
OMRZ	**Omania**	**5.38**	**221**	P	Pn	08 41 18.6	+4.9
KARZ	**Kaharoa**	**5.39**	**223**	P	**Pn**	**08 41 16.8**	**+2.9**
SNGZ	**Shannon Statio**	**5.44**	**210**	P	**Pn**	**08 41 15.6**	**+1.0**
SNGZ				S	**Sn**	**08 42 16.6**	**+0.8**
MUGZ	**Murupara**	**5.45**	**216**	P	**Pn**	**08 41 14.6**	**-0.1**
MUGZ				S	**Sn**	**08 42 17.7**	**-2.4**
RTZ	**Ruatahuna**	**5.46**	**214**	P	**Pn**	**08 41 15.1**	**+0.2**
RTZ				S	**Sn**	**08 42 14.9**	**-1.6**
RRRZ	**Republican Roa**	**5.47**	**219**	P	**Pn**	**08 41 16.9**	**+1.9**
KNZ	**Kokohu**	**5.51**	**207**	P	**Pn**	**08 41 14.8**	**-0.8**
KNZ				S	**Sn**	**08 42 15.9**	**-1.7**
MHGZ	**Mahia Peninsul**	**5.55**	**204**	P	**Pn**	**08 41 15.8**	**-0.2**
MHGZ				S	**Sn**	**08 42 15.1**	**-3.4**
HSRZ	**Hossack Road**	**5.60**	**220**	P	Pn	08 41 26.9	+10
TOZ	**Tahuroa Road**	**5.64**	**229**	P	**Pn**	**08 41 19.9**	**+2.7**
WCZ	**Waipu Caves**	**5.64**	**249**	P	**Pn**	**08 41 18.2**	**+0.9**
RAHZ	**Arahi**	**5.66**	**211**	P	**Pn**	**08 41 19.2**	**+1.5**
RAHZ				S	**Sn**	**08 42 21.9**	**+0.6**
MTHZ	**Maungataniwha**	**5.72**	**213**	P	**Pn**	**08 41 19.6**	**+1.2**
ALRZ	**Allen Road**	**5.73**	**218**	P	**Pn**	**08 41 19.8**	**+1.2**
WHHZ	**Waihua**	**5.73**	**210**	P	Pn	08 41 12.4	-6.2
MRHZ	**Matea Rd**	**5.90**	**216**	P	**Pn**	**08 41 21.1**	**+0.1**
NMHZ	**Naumai**	**5.93**	**212**	P	**Pn**	**08 41 22.6**	**+1.2**
KUTZ	**Kaahu Road**	**5.96**	**222**	P	**Pn**	**08 41 23.8**	**+2.2**
ARHZ	**Aropaoanui**	**5.99**	**210**	P	**Pn**	**08 41 23.3**	**+1.2**
OUZ	**Omahuta**	**6.08**	**258**	P	**Pn**	**08 41 23.3**	**-0.1**
BKZ	**Black Stump Fm**	**6.13**	**214**	P	**Pn**	**08 41 23.5**	**-0.6**
RATZ	**Rangitukua**	**6.25**	**219**	P	Pn	08 41 31.2	+5.4
MCHZ	**McNeill Hill**	**6.27**	**211**	P	**Pn**	**08 41 26.3**	**+0.4**
KWHZ	**Kaweka Forest**	**6.37**	**213**	P	**Pn**	**08 41 27.0**	**-0.4**
TMVZ	**Te Maari**	**6.48**	**218**	P	**Pn**	**08 41 28.6**	**-0.3**
ETVZ	**East Tongariro**	**6.49**	**218**	P	**Pn**	**08 41 30.0**	**+0.9**
KAHZ	**Kahuranaki**	**6.49**	**208**	P	**Pn**	**08 41 28.0**	**-1.0**
HIZ	**Hauiti**	**6.53**	**226**	P	**Pn**	**08 41 33.1**	**+3.7**
SNVZ	**South Ngauruho**	**6.56**	**218**	P	**Pn**	**08 41 32.5**	**+2.4**
KRHZ	**Kereru**	**6.57**	**212**	P	**Pn**	**08 41 29.5**	**-0.6**
NGZ	**Ngauruhoe**	**6.57**	**218**	P	**Pn**	**08 41 31.9**	**+1.7**
BHHZ	**Black Hill Sta**	**6.59**	**214**	P	**Pn**	**08 41 30.6**	**+0.2**
TUVZ	**Tukino**	**6.62**	**218**	P	**Pn**	**08 41 34.6**	**+3.8**
FWVZ	**Far West T-bar**	**6.66**	**218**	P	**Pn**	**08 41 34.8**	**+3.3**
WHVZ	**Whangaehu Hut**	**6.66**	**218**	P	**Pn**	**08 41 35.9**	**+4.4**
MOVZ	**Moawhango**	**6.67**	**216**	P	**Pn**	**08 41 32.2**	**+0.7**
WNVZ	**Wahianoa**	**6.69**	**218**	P	**Pn**	**08 41 32.8**	**+1.0**
PXZ	**Pawanui**	**6.70**	**207**	P	**Pn**	**08 41 33.7**	**+1.9**
PNHZ	**Pukenui**	**6.87**	**211**	P	**Pn**	**08 41 33.6**	**-0.6**
WPHZ	**Waipukurau**	**6.90**	**210**	P	**Pn**	**08 41 34.7**	**+0.1**
PRHZ	**Porangahau**	**6.99**	**208**	P	**Pn**	**08 41 34.8**	**-1.1**
VRZ	**Vera Road**	**6.99**	**223**	P	**Pn**	**08 41 35.4**	**-0.4**
TSZ	**Takapari Road**	**7.09**	**212**	P	**Pn**	**08 41 36.5**	**-0.7**
WAZ	**Wanganui**	**7.32**	**218**	P	**Pn**	**08 41 43.1**	**+2.7**
NEZ	**North Egmont**	**7.47**	**225**	P	**Pn**	**08 41 46.6**	**+4.1**
BFZ	**Birch Farm**	**7.50**	**208**	P	**Pn**	**08 41 41.0**	**-1.8**
KHEZ	**Kahui Hut**	**7.53**	**225**	P	Pn	08 41 50.5	+7.2
TIWZ	**Tintock**	**7.72**	**209**	P	**Pn**	**08 41 44.8**	**-1.0**
MRZ	**Mangatainoka R**	**7.75**	**211**	P	**Pn**	**08 41 44.2**	**-2.1**
HOWZ	**Holdsworth Sta**	**7.98**	**211**	P	**Pn**	**08 41 46.8**	**-2.5**
OGWZ	**Otaki Gorge**	**8.06**	**212**	P	**Pn**	**08 41 48.6**	**-1.8**
KIW	**Kapiti Island**	**8.21**	**213**	P	**Pn**	**08 41 50.0**	**-2.6**
CAW	**Cannon Point**	**8.34**	**212**	P	**Pn**	**08 41 51.6**	**-2.7**
DUWZ	**D'Urville Isla**	**8.64**	**218**	P	**Pn**	**08 41 57.0**	**-1.4**
TCW	**Tory Channel**	**8.78**	**214**	P	**Pn**	**08 41 58.2**	**-2.1**
TUWZ	**Tuamarina**	**9.11**	**215**	P	**Pn**	**08 42 02.0**	**-2.8**
KHZ	**Kahutara**	**10.07**	**213**	P	**Pn**	**08 42 15.6**	**-2.4**
OXZ	**Oxford**	**11.47**	**214**	P	**Pn**	**08 42 34.5**	**-2.6**
RPZ	**Rata Peaks**	**12.23**	**216**	P	Pn	08 42 42.1	-5.4
4.4nm,0.8s,baz=228,slow=24,SNR=2.6							
RPZ				S	Sn	08 44 49.3	-13
3.2nm,0.4s,baz=141,slow=22,SNR=6.5							
MSVF	**Nonsavu**	**16.52**	**351**	P	**Pn**	**08 43 45.4**	**+0.9**
7.6nm,0.7s,baz=190,slow=14,SNR=4.0							
CTA	**Charters Tower**	**33.65**	**286**	P	**P**	**08 46 29.8**	**-2.4**
1.7nm,0.7s,baz=121,slow=12,SNR=2.8							
1.7nm,0.7s							
ASAR	**Alice Springs**	**42.09**	**272**	P	**P**	**08 47 41.0**	**-2.4**
2.7nm,0.7s,baz=112,slow=7.4,SNR=26							
2.7nm,0.7s							
WRA	**Warramunga Arr**	**43.42**	**277**	P	**P**	**08 47 50.9**	**-3.2**
0.8nm,0.3s,baz=115,slow=8.0,SNR=29							
0.8nm,0.3s							
MAW	**Mawson**	**68.49**	**201**	P	**P**	**08 50 53.6**	**+1.0**
0.5nm,0.5s,baz=117,slow=12,SNR=1.9							
0.5nm,0.5s							
TROLL	**Troll, Antarti**	**74.15**	**181**	⇑P	**P**	**08 51 30.7**	**+3.8**
comp=Z,31nm,0.6s							
VNA3	**Neumayer Olymp**	**74.66**	**176**	⇑P	**P**	**08 51 33.6**	**+3.9**
comp=Z,1.0nm,0.4s							
VNA2	**Neumayer--Watz**	**75.08**	**177**	⇑P	**P**	**08 51 36.2**	**+4.1**
comp=Z,2.1nm,0.7s,baz=184,slow=5.0							
H03S2	**Juan Fernandez**	**79.22**	**124**	T	T	10 20 27.9	
baz=234,slow=74,SNR=7.7							
H03S1	**Juan Fernandez**	**79.23**	**124**	T	T	10 20 18.4	
baz=234,slow=74,SNR=5.8							
H03S3	**Juan Fernandez**	**79.23**	**123**	T	T	10 20 24.0	
baz=234,slow=74,SNR=7.4							
H03N3	**Juan Fernandez**	**79.43**	**123**	T	T	10 20 28.5	
baz=238,slow=72,SNR=20							
H03N2	**Juan Fernandez**	**79.43**	**123**	T	T	10 20 23.4	
baz=238,slow=72,SNR=19							
H03N1	**Juan Fernandez**	**79.45**	**123**	T	T	10 20 28.9	
baz=238,slow=72,SNR=21							
NVAR	**Mina Array Bea**	**91.62**	**43**	P	**P**	**08 53 00.9**	**+3.1**
comp=Z,0.1nm,0.3s,baz=211,slow=8.3,SNR=1.6							
comp=Z,0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**122.91**	**312**	PKP	**PKPdf**	**08 58 43.8**	**-2.4**
comp=Z,0.4nm,0.2s,baz=126,slow=2.6,SNR=4.8							
FINES	**FINESS Array B**	**148.25**	**337**	PKPbc	**PKPbc**	**08 59 34.8**	**-0.9**
comp=Z,3.5nm,0.8s,baz=20,slow=4.4,SNR=13							
HFS	**Hagfors**	**152.66**	**346**	PKPbc	**PKPbc**	**08 59 45.5**	**-0.9**
comp=Z,2.5nm,0.8s,baz=298,slow=3.2,SNR=4.3							
BRTR	**Keskin Array B**	**153.30**	**292**	PKPbc	**PKPbc**	**08 59 46.1**	**-2.5**
comp=Z,0.7nm,0.5s,baz=123,slow=5.3,SNR=3.8							

ATH ***28*** *08:41:08.5, 41°22N×19°78E, h12km±8km, ML2.4/3, Error ellipse: s-maj=10.3km s-min=1.9km az=326.0*
BEO ***28*** *08:41:08.3±0.9, 41°10N×19°74E, h6km±3km, ML2.1/6*
TIR ***28*** *08:41:09.2, 41°19N×19°89E, h24km±31km, Md2.7, Ml2.5*
THE ***28*** *08:41:10.1, 41°15N×19°93E, h13km±1km, ML2.1/8, Error ellipse: s-maj=2.0km s-min=0.7km az=22.0*
ISC 28 08:41:09.2±1.1,**41°17N**±0°02×**19°85E**±0°04,**h14**km±8km, **n33,** σ0°**65**/56,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.18**	**3**	P	**Pb**	**08 41 13.8**	**-0.6**
TIR				S	**Sb**	**08 41 18.5**	**+0.6**
895nm,0.3s							
TIR	**Tirane**	**0.18**	**3**	P	**Pb**	**08 41 13.8**	**-0.6**
baz=355							
TIR				S	**Sb**	**08 41 18.1**	**+0.2**
baz=355							
TIR				AMP			
comp=N,2.8nm,0.4s,baz=355							
TIR	**Tirane**	**0.18**	**3**	*e*Pg	**Pg**	**08 41 13.6**	**+0.1**
TIR				*e*Sg	**Sb**	**08 41 18.4**	**+0.6**
OHR	**Ohrid**	**0.72**	**94**	*e*Pg	**Pb**	**08 41 23.2**	**-0.3**
OHR				*e*Sg	**Sb**	**08 41 33.6**	**+0.4**
KBN	**Korca**	**0.89**	**127**	P	**Pg**	**08 41 26.1**	**-0.4**
KBN				S	**Sb**	**08 41 38.2**	**0.0**
comp=N,70nm,0.6s							
KBN	**Korca**	**0.89**	**127**	P	**Pb**	**08 41 26.6**	**+0.1**
baz=129							
KBN				S	**Sn**	**08 41 39.8**	**-0.3**
baz=129							
KBN				AMP			
comp=N,0.2nm,0.8s,baz=129							
LSK	**Leskovik**	**1.16**	**151**	P	**Pb**	**08 41 30.8**	**-0.3**
LSK				S	**Sn**	**08 41 47.3**	**+0.5**
comp=N,68nm,0.4s							
LSK	**Leskovik**	**1.16**	**151**	P	**Pn**	**08 41 31.5**	**+0.3**
baz=152							
LSK				S	**Sn**	**08 41 48.8**	**+2.0**
baz=152							
NEST	**Nestorio**	**1.18**	**129**	P	**Pb**	**08 41 30.8**	**-0.6**
NEST				S	**Sb**	**08 41 46.5**	**0.0**
comp=N,40nm,0.4s							
NEST	**Nestorio**	**1.18**	**129**	P	**Pn**	**08 41 31.5**	**+0.1**
BCI	**Bajram Curri**	**1.21**	**8**	P	**Pn**	**08 41 31.4**	**-0.3**
baz=6.0							
BCI				S	**Sg**	**08 41 49.4**	**+1.1**
baz=6.0							
BCI				AMP			
comp=E,0.5nm,0.4s,baz=6.0							
FNA	**Florina**	**1.21**	**108**	P	**Pn**	**08 41 30.6**	**-1.2**
FNA				S	**Sg**	**08 41 48.0**	**-0.4**
comp=E,120nm,0.6s							
FNA	**Florina**	**1.21**	**108**	P	**Pn**	**08 41 31.7**	**-0.1**
baz=109							
FNA				S	**Sg**	**08 41 48.8**	**+0.4**
baz=109							
FNA	**Florina**	**1.21**	**108**	*e*Pg	**Pn**	**08 41 31.6**	**-0.1**
FNA				*e*Sg	**Sg**	**08 41 49.1**	**+0.7**
FNA	**Florina**	**1.21**	**108**	P	**Pn**	**08 41 31.7**	**-0.1**
FNA				S	**Sg**	**08 41 48.3**	**-0.1**
FNA				AML	AML	08 41 50.3	
comp=N,302μm,0.7s							
FNA				AML	AML	08 41 51.4	
comp=E,177μm,0.5s							
SRN	**Sarande**	**1.29**	**175**	P	**Pb**	**08 41 33.5**	**+0.3**
SRN				S	**Sb**	**08 41 50.0**	**+0.4**
comp=E,42nm,0.4s							
PDG	**Podgorica**	**1.34**	**341**	*e*Pg	**Pn**	**08 41 32.8**	**-0.7**
PDG				*e*Sg	**Sn**	**08 41 51.1**	**0.0**
PENT	**Pentalofos**	**1.38**	**134**	P	**Pn**	**08 41 33.6**	**-0.5**
KASA	**Kassiopi**	**1.42**	**177**	P	**Pn**	**08 41 34.4**	**-0.1**
KASA				S	**Sn**	**08 41 53.0**	**0.0**
KEK	**Kerkira**	**1.45**	**182**	P	**Pn**	**08 41 35.3**	**+0.3**
KEK				S	**Sn**	**08 41 54.2**	**+0.4**
comp=E,90nm,0.3s							
KEK	**Kerkira**	**1.45**	**182**	P	**Pn**	**08 41 34.8**	**-0.2**
KEK				S	**Sn**	**08 41 53.6**	**-0.2**
KEK				AML	AML	08 41 58.3	
comp=N,165μm,0.3s							
KEK				AML	AML	08 41 59.1	
comp=E,188μm,0.2s							
SCTE	**Santa Cesarea**	**1.52**	**224**	P	**Pn**	**08 41 34.9**	**-1.0**
KPRO	**Kipourio**	**1.67**	**136**	P	**Pn**	**08 41 38.5**	**+0.4**
IGT	**Igoumenitsa**	**1.67**	**167**	P	**Pn**	**08 41 37.8**	**-0.2**
IGT				S	**Sn**	**08 41 59.9**	**+0.6**
comp=E,78nm,0.5s							
IGT	**Igoumenitsa**	**1.67**	**167**	P	**Pn**	**08 41 37.9**	**-0.1**
IGT				S	**Sn**	**08 41 59.5**	**+0.3**
IGT				AML	AML	08 42 05.0	
comp=E,149μm,0.4s							
IGT				AML	AML	08 42 09.6	
comp=N,165μm,0.5s							
JAN	**Janina**	**1.69**	**153**	P	**Pn**	**08 41 37.7**	**-0.6**
TREB	**Trebinje**	**1.91**	**325**	*e*Pn	**Pn**	**08 41 41.1**	**-0.3**
TREB				*e*Sn	**Sn**	**08 42 06.2**	**+0.9**
GRG	**Griva**	**1.94**	**95**	P	**Pn**	**08 41 41.6**	**-0.2**
SJES	**Sjenica**	**2.10**	**2**	*e*Pn	**Pn**	**08 41 45.1**	**+1.1**
SJES				*e*Sn	**Sb**	**08 42 12.1**	**-0.9**
BARS	**Barje**	**2.21**	**41**	*e*Pn	**Pb**	**08 41 47.3**	**-1.5**
SELS	**Selova**	**2.26**	**24**	*e*Pn	**Pn**	**08 41 47.3**	**+1.2**
KNT	**Kendrikon**	**2.30**	**89**	P	**Pn**	**08 41 46.1**	**-0.6**
LKD2	**Lefkada island**	**2.45**	**165**	P	**Pn**	**08 41 47.8**	**-1.1**

IDC ***28*** *08:46:32.9±1.1, 6°11S×149°49E, h0km, mb3.8/4, mbtmp3.9/5, ML2.3/1, Error ellipse: s-maj=75.4km s-min=21.1km az=120.0*
ISC 28 08:46:40.2±1.2,**6°2S**±0°3×**149°3E**±0°5,**h50**km,**n7,** σ0°**73**/10,**mb3.6/3,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.89**	**214**	Pn	**Pn**	**08 47 37.8**	**+0.2**
14nm,0.3s,baz=38,slow=5.3,SNR=32							
PMG				Sn	**Sn**	**08 48 21.7**	**-0.3**
21nm,0.3s,baz=6.4,slow=3.2,SNR=7.8							
72nm,0.5s							
WRA	**Warramunga Arr**	**20.01**	**225**	P	**P**	**08 51 08.6**	**-0.3**
2.2nm,0.4s,baz=50,slow=11,SNR=20							
WRA				PcP	**PcP**	**08 55 24.1**	**+0.4**
0.4nm,0.5s,baz=45,slow=1.7,SNR=6.5							
2.2nm,0.4s							
ASAR	**Alice Springs**	**22.89**	**219**	P	**P**	**08 51 39.2**	**-0.6**
0.9nm,0.5s,baz=56,slow=9.3,SNR=23							
ASAR				PcP	**PcP**	**08 55 30.1**	**+0.8**
0.2nm,1.0s,baz=68,slow=5.1,SNR=2.5							
0.9nm,0.5s							
PETK	**Petropavlovsk-**	**59.45**	**6**	P	**P**	**08 56 37.8**	**0.0**
2.6nm,0.8s,baz=170,slow=6.2,SNR=7.3							
2.6nm,0.8s							
ILAR	**Eielson Array**	**84.71**	**23**	P	**P**	**08 59 07.5**	**-0.9**
0.4nm,0.8s,baz=254,slow=5.7,SNR=5.3							
0.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**147.38**	**285**	PKPbc	**PKPdf**	**09 06 18.2**	**+1.2**
0.2nm,0.3s,baz=61,slow=2.9,SNR=2.5							
BDFB	**Brasilia**	**152.36**	**142**	PKPbc	**PKPbc**	**09 06 31.8**	**-0.1**
3.7nm,0.4s,baz=217,slow=2.1,SNR=7.5							

IDC ***28*** *09:18:47.8±1.1, 36°63N×27°93E, h0km, mb3.8/7, mbtmp3.8/9, ML4.0/2, MS4.2/2, Error ellipse: s-maj=28.5km s-min=17.3km az=160.0*
ISK ***28*** *09:18:49.9, 36°73N×27°95E, h11km, ML3.6/28*
AFAD ***28*** *09:18:49.8±0.0, 36°70N×27°94E, h17km±1km, MW3.7*
ATH ***28*** *09:18:50.4, 36°77N×27°98E, h14km±1km, ML3.7/9, Error ellipse: s-maj=2.5km s-min=1.1km az=231.0*
THE ***28*** *09:18:50.6, 36°73N×27°96E, h8km±1km, ML3.7/9, Error ellipse: s-maj=1.2km s-min=0.6km az=11.0*
ISC 28 09:18:50.3±0.9,**36°73N**±0°02×**27°94E**±0°01,**h14**km±6km, **n109,** σ1°**02**/159,**mb3.7**/7,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.25**	**79**	Pg	**Pg**	**09 18 55.4**	**-0.2**
TURN				Sg	**Sg**	**09 18 59.4**	**+0.2**
TURN	**Turunc**	**0.25**	**79**	P	**Pg**	**09 18 55.4**	**-0.2**
TURN				S	**Sg**	**09 18 59.5**	**+0.2**
DAT	**Datca**	**0.29**	**270**	Pg	**Pg**	**09 18 56.5**	**+0.1**
DAT				Sg	**Sb**	**09 19 01.4**	**-0.6**
DAT	**Datca**	**0.29**	**270**	P	**Pg**	**09 18 56.4**	**+0.1**
DAT				S	**Sb**	**09 19 01.5**	**-0.6**
DAT	**Datca**	**0.29**	**270**	P	**Pg**	**09 18 56.6**	**+0.1**
DAT				S	**Sb**	**09 19 01.6**	**-0.5**
RFTAA	**Mazikoy-Bodrum**	**0.31**	**330**	Pg	**Pg**	**09 18 56.8**	**+0.1**
RFTAA				Sg	**Sb**	**09 19 01.8**	**-0.8**
RFTD	**Palamutbuku-Ka**	**0.36**	**263**	Pg	**Pg**	**09 18 57.8**	**+0.3**
RFTD				Sg	**Sb**	**09 19 03.9**	**0.0**
YER	**Yerkesik**	**0.49**	**34**	Pg	**Pg**	**09 18 59.8**	**-0.2**
YER	**Yerkesik**	**0.49**	**34**	P	**Pg**	**09 18 59.8**	**-0.2**
YER				S	**Sb**	**09 19 08.1**	**+0.3**
BDRM	**Kayabasi**	**0.52**	**310**	P	**Pg**	**09 19 00.4**	**-0.1**
BDRM				S	**Sb**	**09 19 09.3**	**+0.7**
ARG	**Arkhangelos**	**0.53**	**163**	Pg	**Pg**	**09 19 00.7**	**0.0**
ARG	**Arkhangelos**	**0.53**	**163**	P	**Pg**	**09 19 00.7**	**0.0**
ARG				S	**Sb**	**09 19 09.4**	**+0.4**
9μm,0.4s							
ARG	**Arkhangelos**	**0.53**	**163**	P	**Pb**	**09 19 00.9**	**-0.5**
ARG				S	**Sb**	**09 19 09.7**	**+0.7**
ARG				AML	AML	09 19 10.9	
comp=N,14622μm,0.4s							
ARG				AML	AML	09 19 11.1	
comp=E,13894μm,0.3s							
MLSB	**Milas**	**0.58**	**347**	Pg	**Pg**	**09 19 01.5**	**-0.2**
DALY	**Dalyan (Mula)**	**0.58**	**81**	Pg	**Pg**	**09 19 01.4**	**-0.2**
RFTB	**Kemer-Bodrum**	**0.58**	**294**	Pg	**Pb**	**09 19 02.0**	**-0.3**
BODT	**Bodrum**	**0.60**	**304**	Pg	**Pg**	**09 19 02.1**	**0.0**
BODT	**Bodrum**	**0.60**	**304**	P	**Pg**	**09 19 02.2**	**+0.1**
BODT				S	**Sb**	**09 19 12.2**	**+1.2**
MULA	**Mugla, Merkez-**	**0.61**	**30**	P	**Pg**	**09 19 02.0**	**-0.2**
MULA				S	**Sb**	**09 19 11.9**	**+0.6**
NIS1	**Nisyros Isl.**	**0.62**	**259**	Pg	**Pb**	**09 19 03.1**	**+0.1**
NIS1	**Nisyros Isl.**	**0.62**	**259**	P	**Pb**	**09 19 03.4**	**+0.4**
NIS1				S	**Sn**	**09 19 13.5**	**-1.1**
comp=E,22μm,0.3s							
NIS1	**Nisyros Isl.**	**0.62**	**259**	P	**Pb**	**09 19 03.2**	**+0.2**
NIS1				S	**Sb**	**09 19 12.2**	**+0.5**
NIS1				AML	AML	09 19 15.9	
comp=E,42165μm,0.3s							
NIS1				AML	AML	09 19 18.7	
comp=N,40553μm,0.4s							
NISR	**Nisiros**	**0.66**	**260**	P	**Pb**	**09 19 03.4**	**-0.2**
NISR				S	**Sb**	**09 19 14.1**	**+1.4**
comp=N,7μm,0.4s							
NISR	**Nisiros**	**0.66**	**260**	P	**Pb**	**09 19 03.7**	**+0.1**
NISR				S	**Sb**	**09 19 12.9**	**+0.2**
NISR				AML	AML	09 19 15.0	
comp=N,11783μm,0.4s							
NISR				AML	AML	09 19 16.1	
comp=E,16781μm,0.4s							
KOSK	**Kos Island**	**0.77**	**272**	Pg	**Pb**	**09 19 05.5**

AKUM	**Antalya-Kumluc**	**1.98**	**101**	P	**Pb**	**09 19 24.7**	**-1.4**
AKUM				S	**Sg**	**09 19 54.6**	**+0.7**
PASA	**Karahalli, USA**	**2.03**	**37**	P	**Pb**	**09 19 27.7**	**+0.6**
PASA				S	**Sg**	**09 19 53.8**	**-1.8**
BASM	**Basmaki-Afyon**	**2.06**	**54**	Pn	**Pn**	**09 19 25.6**	**+1.0**
ZKR	**Zakros**	**2.13**	**221**	P	**Pn**	**09 19 25.9**	**+0.4**
ZKR				S	**Sn**	**09 19 52.0**	**+0.2**
	comp=N,515nm,0.7s						
ZKR	**Zakros**	**2.13**	**221**	P	**Pn**	**09 19 26.1**	**+0.6**
ZKR				AML	AML	09 19 59.3	
	comp=E,1458μm,0.8s						
ZKR				AML	AML	09 20 04.3	
	comp=N,595μm,0.6s						
RFT5	**Foca**	**2.15**	**334**	Pn	**Pn**	**09 19 26.7**	**+1.0**
AKHS	**Akhisar**	**2.15**	**357**	P	**Pn**	**09 19 24.2**	**-1.5**
AKS	**Akhisar**	**2.15**	**357**	Pn	**Pn**	**09 19 25.2**	**-0.5**
USAK	**Uak-Merkez**	**2.16**	**23**	P	**Pn**	**09 19 25.1**	**-0.8**
BUCA	**Burdur, Bucak-**	**2.18**	**73**	P	**Pb**	**09 19 29.4**	**-0.2**
BUCA				S	**Sb**	**09 19 57.5**	**+1.0**
ANTB	**Antalya**	**2.19**	**85**	Pn	**Pb**	**09 19 27.6**	**-2.0**
CHOS	**Chios island**	**2.23**	**318**	P	**Pn**	**09 19 26.1**	**-0.8**
CHOS				S	**Sn**	**09 19 54.1**	**-0.3**
	comp=N,465nm,0.7s						
CHOS	**Chios island**	**2.23**	**318**	P	**Pn**	**09 19 26.1**	**-0.8**
BCK	**Bucak**	**2.24**	**70**	Pn	**Pn**	**09 19 28.0**	**+0.9**
KARB	**zmir-Karabur**	**2.28**	**328**	P	**Pn**	**09 19 27.2**	**-0.3**
KARB				S	**Sg**	**09 20 04.7**	**+1.1**
KZIL	**AFYON_Kizioren**	**2.32**	**48**	P	**Pb**	**09 19 30.0**	**-2.0**
KZIL				S	**Sg**	**09 20 03.2**	**-1.7**
ZEDA	**zmir-Bergama**	**2.34**	**343**	P	**Pn**	**09 19 28.0**	**-0.2**
ZEDA				S	**Sg**	**09 20 05.1**	**-0.3**
DEMI	**Demirci**	**2.39**	**15**	P	**Pn**	**09 19 29.7**	**+0.6**
DEMI				S	**Sb**	**09 20 03.4**	**+0.9**
FRMA	**Ierapetra Chan**	**2.48**	**227**	P	**Pn**	**09 19 30.4**	**+0.2**
FRMA				AML	AML	09 20 05.8	
	comp=E,1089μm,0.4s						
FRMA				AML	AML	09 20 06.1	
	comp=N,1060μm,0.4s						
STEP	**BALIKESIR_Sava**	**2.65**	**356**	P	**Pn**	**09 19 32.1**	**-0.5**
STEP				S	**Sg**	**09 20 15.2**	**-0.2**
BUHA	**Balikesir, Bur**	**2.85**	**346**	P	**Pn**	**09 19 35.5**	**+0.2**
IDI	**Anoyia**	**2.86**	**241**	P	**Pn**	**09 19 35.5**	**0.0**
IDI	**Anoyia**	**2.86**	**241**	P	**Pn**	**09 19 35.6**	**0.0**
DURS	**Dursunbey**	**2.90**	**8**	P	**Pn**	**09 19 35.3**	**-0.8**
KEPZ	**Antalya-Kepez**	**2.95**	**86**	P	**Pn**	**09 19 39.1**	**+2.4**
KEPZ				S	**Sb**	**09 20 15.8**	**-2.7**
KOCA	**Canakkale, Ayv**	**3.11**	**333**	P	**Pn**	**09 19 38.1**	**-0.9**
SEDI	**Konya, Seydise**	**3.14**	**76**	P	**Pb**	**09 19 42.5**	**-3.4**
SEDI				S	**Sn**	**09 20 19.9**	**+3.1**
BRTR	**Keskin Array B**	**5.39**	**55**	Pn	**Pn**	**09 20 12.8**	**+2.4**
	comp=N,1.2nm,0.3s,baz=225,slow=14,SNR=22						
BRTR				Sn	**Sn**	**09 21 13.7**	**+1.2**
	baz=222,slow=22						
	comp=N,2.4nm,0.3s						
MMAI	**Mount Meron Ar**	**7.17**	**119**	Pn	**Pn**	**09 20 33.9**	**-0.9**
	comp=N,9.6nm,0.3s,baz=309,slow=11,SNR=27						
MMAI				Sn	**Sn**	**09 21 54.0**	**-2.0**
	comp=N,8.4nm,0.3s,baz=276,slow=34,SNR=3.2						
	comp=N,5.0nm,0.3s						
SHMJ	**Saham**	**7.58**	**120**	P	**Pn**	**09 20 41.1**	**+0.8**
HMDT	**Nahal Hemdat**	**7.69**	**123**	P	**Pn**	**09 20 41.7**	**-0.2**
YTIR	**Yattir**	**8.01**	**130**	P	**Pn**	**09 20 45.2**	**-1.1**
DSI	**Dead Sea**	**8.03**	**128**	P	**Pn**	**09 20 47.0**	**+0.5**
GHAJ	**Ghor Haditha**	**8.33**	**128**	P	**Pn**	**09 20 50.7**	**+0.1**
KARJ	**KARJ**	**8.51**	**129**	P	Pn	09 20 44.6	-8.5
ZFRI	**Zfri**	**8.62**	**134**	P	**Pn**	**09 20 54.8**	**+0.2**
PRNI	**Paran**	**8.67**	**135**	P	**Pn**	**09 20 54.3**	**-1.1**
KRMI	**Paran Flat**	**8.70**	**137**	P	**Pn**	**09 20 55.0**	**-0.7**
MBRI	**Mt Berech**	**9.05**	**138**	P	**Pn**	**09 20 59.8**	**-0.8**
FINES	**FINESS Array B**	**24.77**	**358**	P	**P**	**09 24 12.2**	**+0.9**
	comp=N,3.9nm,0.9s,baz=170,slow=12,SNR=6.5						
	comp=N,3.9nm,0.9s						
ESDC	**Sonseca Array**	**25.17**	**286**	P	**P**	**09 24 14.4**	**-0.9**
	comp=N,0.8nm,0.6s,baz=81,slow=9.6,SNR=7.8						
	comp=N,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**33.23**	**232**	P	**P**	**09 25 26.3**	**-0.7**
	comp=N,0.6nm,0.4s,baz=37,slow=9.4,SNR=8.3						
	comp=N,0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**38.38**	**52**	P	**P**	**09 26 11.2**	**+0.3**
	comp=N,1.1nm,0.7s,baz=277,slow=9.0,SNR=7.2						
	comp=N,1.1nm,0.7s						
MKAR	**Makanchi Array**	**41.03**	**58**	P	**P**	**09 26 32.9**	**-0.2**
	comp=N,0.5nm,0.7s,baz=282,slow=6.6,SNR=2.2						
	comp=N,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**42.29**	**47**	P	**P**	**09 26 43.4**	**+0.2**
	comp=N,0.5nm,0.4s,baz=253,slow=9.9,SNR=2.2						
	comp=N,0.5nm,0.4s						
SFJD	**Kangerlussuaq**	**52.40**	**331**	LR	LR	09 51 43.2	
	comp=N,328nm,20.5s,baz=274,slow=38						
SONM	**Songino Array**	**56.75**	**52**	P	**P**	**09 28 34.3**	**+0.6**
	comp=N,0.5nm,0.5s,baz=279,slow=8.2,SNR=3.0						
	comp=N,0.5nm,0.5s						
JHJ	**Hachijo jima 2**	**85.82**	**51**	LR	LR	10 14 30.9	
	comp=N,100nm,18.5s,baz=301,slow=39						

*IDC **28** 09:28:35.1±1.0, 12°.74N×50°.90E, h0km, mb3.8/10, mbtmp3.8/10, ML2.9/1, MS3.3/1, Error ellipse: s-maj=29.4km s-min=20.9km az=7.0*

ISC 28 09:28:36.7±1.0, 12°.7N±0°.2×51°.0E±0°.1, h10km, n13, σ1°15/12, mb4.0/10, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.01**	**262**	Pn	**Pn**	**09 30 34.2**	**+0.9**
	0.1nm,0.3s,baz=227,slow=20,SNR=2.3						
OPO	**Ambohidratompo**	**31.33**	**187**	LR	LR	09 46 09.8	
	comp=Z,56nm,19.0s,baz=166,slow=34						
KBZ	**Khabaz**	**31.65**	**349**	P	**P**	**09 35 01.2**	**+1.1**
	1.9nm,0.8s,baz=173,slow=6.8,SNR=4.0						
	1.9nm,0.8s						
AKASG	**Malin Array Be**	**41.80**	**339**	P	**P**	**09 36 26.9**	**+0.5**
	0.1nm,0.2s,baz=149,slow=7.4,SNR=2.2						
	0.1nm,0.2s						
MKAR	**Makanchi Array**	**42.97**	**32**	P	**P**	**09 36 36.1**	**0.0**
	0.4nm,0.6s,baz=232,slow=9.2,SNR=1.8						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**43.08**	**17**	P	**P**	**09 36 37.4**	**+0.5**
	0.4nm,0.5s,baz=290,slow=4.3,SNR=2.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**43.97**	**25**	P	**P**	**09 36 43.8**	**-0.2**
	0.5nm,0.8s,baz=222,slow=7.6,SNR=3.1						
	0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.47**	**77**	P	**P**	**09 37 03.7**	**-0.7**
	0.6nm,0.3s,baz=270,slow=8.3,SNR=7.3						
	0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**47.94**	**276**	P	**P**	**09 37 15.4**	**-0.5**
	0.9nm,0.9s,baz=74,slow=9.0,SNR=5.4						
	0.9nm,0.9s						
ESDC	**Sonseca Array**	**55.09**	**310**	P	**P**	**09 38 07.3**	**-2.0**
	1.4nm,0.8s,baz=85,slow=6.8,SNR=10						
	1.4nm,0.8s						
WRA	**Warramunga Arr**	**88.20**	**111**	P	**P**	**09 41 29.2**	**+0.5**
	1.9nm,1.1s,baz=299,slow=3.4,SNR=5.2						
	1.9nm,1.1s						
ASAR	**Alice Springs**	**88.73**	**114**	P	**P**	**09 41 32.5**	**+1.4**
	1.3nm,1.0s,baz=301,slow=3.9,SNR=5.7						
	1.3nm,1.0s						
NVAR	**Mina Array Bea**	**128.12**	**349**	PKP	**PKPdf**	**09 47 42.4**	**-1.6**
	0.1nm,0.4s,baz=356,slow=2.7,SNR=3.1						

*IDC **28** 09:28:58.2±0.9, 13°.11N×50°.91E, h0km, mb4.0/14, mbtmp4.0/14, ML2.9/1, MS3.7/1, Error ellipse: s-maj=24.3km s-min=18.6km az=4.0*

ISC 28 09:29:00.8±0.9, 13°.1N±0°.2×50°.9E±0°.1, h16km, n17, σ0°76/16, mb4.1/14, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.04**	**259**	Pn	**Pn**	**09 30 57.2**	**+0.2**
	0.2nm,0.3s,baz=65,slow=19,SNR=5.1						
GEYT	**Alibeck**	**25.52**	**13**	P	**P**	**09 34 30.5**	**+1.8**
	5.2nm,1.0s,baz=207,slow=8.3,SNR=6.7						
	5.2nm,1.0s						
BRTR	**Keskin Array B**	**30.55**	**333**	P	**P**	**09 35 13.9**	**+0.1**
	1.1nm,0.8s,baz=159,slow=8.9,SNR=4.0						
	1.1nm,0.8s						
KBZ	**Khabaz**	**31.26**	**349**	P	**P**	**09 35 19.8**	**0.0**
	4.0nm,1.0s,baz=175,slow=12,SNR=2.7						
	4.0nm,1.0s						
LSZ	**Lusaka**	**36.09**	**219**	LR	LR	09 52 00.5	
	comp=Z,109nm,18.0s,baz=156,slow=38						
AKASG	**Malin Array Be**	**41.42**	**339**	P	**P**	**09 36 45.4**	**-1.0**
	0.2nm,0.3s,baz=142,slow=6.7,SNR=4.8						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**42.65**	**32**	P	**P**	**09 36 56.2**	**-0.5**
	1.0nm,0.6s,baz=225,slow=9.2,SNR=1.6						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**42.72**	**17**	P	**P**	**09 36 56.3**	**-0.7**
	0.7nm,0.6s,baz=210,slow=5.0,SNR=2.3						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**43.63**	**25**	P	**P**	**09 37 04.0**	**-0.4**
	0.5nm,0.7s,baz=225,slow=8.5,SNR=1.9						
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**46.42**	**77**	P	**P**	**09 37 26.7**	**-0.4**
	1.0nm,0.3s,baz=274,slow=9.2,SNR=8.4						
	1.0nm,0.3s						
TORD	**Torodi Ar. Bea**	**47.86**	**276**	P	**P**	**09 37 38.4**	**0.0**
	2.5nm,0.9s,baz=74,slow=9.2,SNR=10						
	2.5nm,0.9s						
ZALV	**Zalesovo Beam**	**48.70**	**26**	P	**P**	**09 37 45.3**	**+1.1**
	1.0nm,0.6s,baz=231,slow=11,SNR=4.5						
	1.0nm,0.6s						
ESDC	**Sonseca Array**	**54.82**	**309**	P	**P**	**09 38 30.0**	**-0.3**
	3.4nm,0.9s,baz=88,slow=6.4,SNR=12						
	3.4nm,0.9s						
SONM	**Songino Array**	**57.40**	**41**	P	**P**	**09 38 48.6**	**-0.2**
	1.4nm,1.1s,baz=237,slow=8.1,SNR=6.6						
	1.4nm,1.1s						
WRA	**Warramunga Arr**	**88.38**	**111**	P	**P**	**09 41 52.4**	**-0.2**
	3.6nm,1.1s,baz=301,slow=3.6,SNR=9.4						
	3.6nm,1.1s						
ASAR	**Alice Springs**	**88.92**	**114**	P	**P**	**09 41 55.3**	**+0.2**
	2.7nm,1.0s,baz=289,slow=4.4,SNR=9.8						
	2.7nm,1.0s						
NVAR	**Mina Array Bea**	**127.72**	**349**	PKP	**PKPdf**	**09 48 07.0**	**+0.8**
	0.6nm,0.8s,baz=69,slow=1.5,SNR=5.2						

*IDC **28** 09:47:48.6±4.4, 31°.50N×139°.25E, h73km±43km, mb3.2/5, mbtmp3.5/6, ML2.7/1, MS2.9/1, Error ellipse: s-maj=46.2km s-min=24.9km az=99.0*

ISC 28 09:47:46.2±1.0, 31°.4N±0°.1×139°.3E±0°.3, h50km, n16, σ0°86/6, mb3.4/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.98**	**149**	LR	LR	09 50 53.0	
	comp=Z,136nm,21.1s,baz=128,slow=36						
MJAR	**Matsushiro Arr**	**5.20**	**350**	P	**Pn**	**09 49 02.2**	**+0.8**
	0.2nm,0.3s,baz=156,slow=13,SNR=16						
	3.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**27.39**	**109**	T	T	10 21 50.4	
	baz=302,slow=75,SNR=8.2						
H11N1	**WAKE ISLAND Hy**	**27.39**	**109**	T	T	10 21 45.0	
	baz=302,slow=75,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	**27.41**	**109**	T	T	10 21 52.2	
	baz=302,slow=75,SNR=8.8						
H11S3	**WAKE ISLAND Hy**	**27.87**	**111**	T	T	10 22 32.5	
	baz=304,slow=75,SNR=144						
H11S1	**WAKE ISLAND Hy**	**27.87**	**111**	T	T	10 22 28.7	
	baz=304,slow=75,SNR=138						
H11S2	**WAKE ISLAND Hy**	**27.88**	**111**	T	T	10 22 24.3	
	baz=304,slow=75,SNR=90						
MKAR	**Makanchi Array**	**45.85**	**307**	P	**P**	**09 56 02.6**	**-0.8**
	0.1nm,0.3s,baz=90,slow=8.1,SNR=1.1						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**51.28**	**186**	P	**P**	**09 56 46.1**	**+0.9**
	0.6nm,0.5s,baz=1.6,slow=7.5,SNR=14						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**55.01**	**186**	P	**P**	**09 57 12.8**	**+0.1**
	0.3nm,0.8s,baz=17,slow=11,SNR=4.8						
	0.3nm,0.8s						
NVAR	**Mina Array Bea**	**79.81**	**51**	P	**P**	**09 59 49.2**	**-0.4**
	0.2nm,0.7s,baz=273,slow=8.0,SNR=2.3						
	0.2nm,0.7s						
TXAR	**Lajitas Array**	**94.96**	**51**	P	**P**	**10 01 03.5**	**-0.2**
	0.3nm,0.7s,baz=317,slow=6.5,SNR=3.8						
	0.3nm,0.7s						
H03N2	**Juan Fernandez**	**147.77**	**104**	T	T	12 52 16.9	
	baz=281,slow=75,SNR=5.6						
H03N3	**Juan Fernandez**	**147.78**	**104**	T	T	12 52 18.1	
	baz=281,slow=75,SNR=5.3						
H03N1	**Juan Fernandez**	**147.79**	**104**	T	T	12 52 18.0	
	baz=281,slow=75,SNR=7.3						

*YARS **28** 10:11:46.6, 71°.66N×126°.99E, h10km*

ISC 28 10:11:46.3±1.1, 71°.79N±0°.10×126°.94E±0°.06, h10km, n5, σ0°19/8, Northern and central Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**0.62**	**102**	*i* Pg	**Pg**	**10 11 58.1**	**-0.2**
	507nm,0.2s						
TIXI				*e*Sg	**Sg**	**10 12 06.5**	**0.0**
	272nm,0.1s						
YBGR	**Belaya Gora**	**7.30**	**107**	*e*P	**Pn**	**10 13 32.8**	**+0.1**
	1.4nm,0.1s						
YBGR				*e*Lg	Lg	10 15 35.1	
	30nm,0.3s						
UNR	**Ust'-Nera**	**9.41**	**132**	*e*P	**Pn**	**10 14 01.7**	**+0.1**
	6.0nm,1.1s						
UNR				*e*S	**Sn**	**10 15 47.6**	**+0.3**
	11nm,0.5s						
UNR				*e*Lg	Lg	10 16 42.1	
UNR				*e*Lg	Lg	10 16 42.1	
SVZ	**Severnaya Zeml**	**9.69**	**332**	*e*P	**Pn**	**10 14 05.6**	**+0.1**
SVZ				*e*S	Sn	10 15 44.3	-10
YCRN	**Chernyshevskiy**	**10.37**	**219**	*e*P	**Pn**	**10 14 14.6**	**-0.1**
	7.7nm,1.8s						
YCRN				*e*S	**Sn**	**10 16 10.9**	**+0.1**
	102nm,0.9s						
YCRN				*e*Lg	Lg	10 17 12.6	
YCRN				*e*Lg	Lg	10 17 12.6	

NEIC 28 10:41:45.9±1.6, 43°.40N±0°.09×127°.4W±0°.1, h10km±2km, ML3.0/52, Error ellipse: s-maj=18.2km s-min=13.4km az=226.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.29**	**102**	Pn	Pn	10 42 22.4	-1.4
KEBM				IAML		10 42 57.0	
	comp=N,56nm,2.8s						
J01E	**Myrtle Point**	**2.53**	**94**	Pn	Pn	10 42 25.8	-1.3
J01E				Sn	Sn	10 42 56.8	-1.1
KBO	**Bosley Butte**	**2.61**	**116**	Pn	Pn	10 42 27.3	-0.9
KBO				IAML		10 43 15.1	
	comp=N,60nm,3.7s						
KBO				IAML		10 43 49.6	
	comp=E,48nm,2.4s						
K02D	**Willamette Mer**	**2.81**	**103**	Pn	Pn	10 42 30.5	-0.5
I03D	**Drain, OR**	**2.94**	**83**		Pn	10 42 31.9	-0.9
DBO	**Dodson Butte**	**3.04**	**94**		Pn	10 42 33.5	-0.6
HEBO	**Mount Hebo**	**3.17**	**54**	Pn	Pn	10 42 35.2	-0.7
HEBO				IAML		10 44 32.4	
	comp=N,44nm,3.6s						
COR	**Corvallis**	**3.17**	**67**		Pn	10 42 35.9	0.0
BUCK	**Buck Mountain**	**3.28**	**74**		Pn	10 42 37.6	+0.2
BUCK				IAML		10 43 19.9	
	comp=E,31nm,5.0s						
BUCK				IAML		10 43 33.3	
	comp=N,24nm,4.2s						
G03D	**McMinnville, O**	**3.46**	**57**		Pn	10 42 39.7	-0.2
G03D				IAML		10 43 27.4	
	comp=E,36nm,1.8s						
H04D	**Lebanon**	**3.53**	**70**		Pn	10 42 41.3	+0.4
I04A	**Tendick Farm,**	**3.63**	**82**		Pn	10 42 43.0	+0.8
F03A	**Seaside**	**3.72**	**46**		Pn	10 42 43.0	-0.3
YBH	**Yreka Blue Hor**	**3.83**	**114**	Pn	Pn	10 42 47.2	+2.2
L04D	**Klamath Falls**	**3.92**	**106**	Pn	Pn	10 42 49.0	+2.7
RADR	**Rader Ridge**	**3.95**	**39**	Pn	Pn	10 42 46.0	-0.5
H04A	**Detroit Lake**	**3.96**	**69**		Pn	10 42 47.1	+0.4
H04A				IAML		10 43 16.6	
	comp=E,15nm,0.4s						
H04A				IAML		10 43 19.4	
	comp=N,13nm,0.4s						
F04D	**Rainier, OR**	**4.11**	**48**		Pn	10 42 48.2	-0.5
F04A	**Amboy**	**4.35**	**53**		Pn	10 42 52.7	+0.6
F04A				IAML		10 43 48.8	
	comp=N,20nm,0.7s						
I05D	**Terrebonne, OR**	**4.47**	**76**		Pn	10 42 54.1	+0.3
I05D				IAML		10 43 54.2	
	comp=N,20nm,4.2s						
I05D				IAML		10 44 39.9	
	comp=E,20nm,4.0s						
J05D	**Fort Rock, OR**	**4.48**	**89**		Pn	10 42 54.3	+0.2
WISH	**Wishkah**	**4.50**	**33**	Pn	Pn	10 42 53.6	-0.5
HOOD	**Mount Hood Mea**	**4.53**	**63**		Pn	10 42 54.8	+0.1
HOOD				IAML		10 43 35.2	
	comp=N,17nm,0.7s						
HOOD				IAML		10 44 32.5	
	comp=E,19nm,1.7s						
NLWA	**Neilton Lookou**	**4.69**	**31**	Pn	Pn	10 42 56.3	-0.5
NLWA				IAML		10 43 50.7	
	comp=E,18nm,0.4s						
PINE	**Pine Mountain**	**4.69**	**83**		Pn	10 42 56.1	-0.8
PINE				IAML		10 44 00.2	
	comp=E,10nm,4.7s						
PINE				IAML		10 44 31.5	
	comp=N,10nm,4.8s						
K05A	**Summer Lake**	**4.80**	**96**	Pn	Pn	10 42 59.2	+0.8
K05A				IAML		10 43 39.9	
	comp=N,13nm,4.7s						
K05A				IAML		10 44 09.0	
	comp=E,9.3nm,4.4s						
LON	**Longmire**	**5.17**	**48**		Pn	10 43 04.0	+0.6
LON				IAML		10 44 06.0	
	comp=N,9.4nm,0.9s						
LON				IAML		10 44 06.7	
	comp=E,9.0nm,3.0s						
G06A	**Carlson Farm,**	**5.17**	**67**		Pn	10 43 03.4	0.0
G06A				IAML		10 43 54.5	
	comp=N,9.5nm,4.8s						
G06A				IAML		10 45 29.9	
	comp=E,10.0nm,4.0s						
GNW	**Green Mountain**	**5.25**	**36**		Pn	10 43 03.8	-0.6
GNW				IAML		10 44 06.0	
	comp=E,7.1nm,0.7s						
D05A	**Enumclaw**	**5.37**	**43**		Pn	10 43 06.9	+0.9
F07A	**Phinny Hill Vi**	**5.87**	**62**		Pn	10 43 13.0	+0.1
PGC	**Sidney**	**5.92**	**26**		Pn	10 43 13.1	-0.4
LTY	**Liberty**	**6.10**	**48**		Pn	10 43 16.9	+0.7
HAWA	**Hanford**	**6.32**	**59**		Pn	10 43 19.9	+0.8
G08A	**Pilot Rock**	**6.33**	**70**		Pn	10 43 19.9	+0.6
D08A	**Wollman Farm,**	**7.00**	**56**	Pn	Pn	10 43 28.8	+0.4
E09A	**Wood Farm, Sta**	**7.25**	**61**	Pn	Pn	10 43 31.7	-0.2
BMO	**Blue Mountains**	**7.39**	**75**	Pn	Pn	10 43 34.1	+0.2
F10A	**Beach Ranch, E**	**7.68**	**67**	Pn	Pn	10 43 36.7	-1.1
C09A	**Chrisman Ranch**	**7.75**	**52**	Pn	Pn	10 43 38.0	-0.7

*IDC **28** 11:14:49.1±1.3, 12°.55N×95°.19E, h0km, mb3.7/7, mbtmp3.6/8, ML3.5/1, MS3.2/3, Error ellipse: s-maj=47.5km s-min=19.4km az=60.0*

ISC 28 11:11:52.1±1.3, 12°.6N±0°.2×95°.2E±0°.2, h19km, n9, σ0°27/8, mb3.6/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.89**	**31**	Pn	**Pn**	**11 13 32.4**	**+0.2**
	0.2nm,0.3s,baz=214,slow=14,SNR=7.5						
CMAR				LR	LR	11 16 32.2	
	comp=Z,46nm,19.0s,baz=300,slow=41						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**35.82**	**345**	P	**P**	**11 18 50.0**	**-0.4**
	0.7nm,0.7s,baz=169,slow=8.5,SNR=3.0						
MKAR				LR	LR	11 35 45.4	
	comp=Z,74nm,19.1s,baz=168,slow=40						
	0.7nm,0.7s						
WSAR	**Wadi Sarin**	**36.29**	**292**	LR	LR	11 33 02.2	
	comp=Z,64nm,21.2s,baz=54,slow=35						
SONM	**Songino Array**	**36.40**	**13**	P	**P**	**11 18 55.2**	**-0.2**
	0.7nm,0.8s,baz=189,slow=8.2,SNR=3.6						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**40.33**	**344**	P	**P**	**11 19 28.3**	**0.0**
	1.2nm,0.8s,baz=160,slow=7.7,SNR=10						
	1.2nm,0.8s						
GEYT	**Alibeck**	**41.57**	**314**	P	**P**	**11 19 39.0**	**+0.2**
	1.3nm,0.5s,baz=141,slow=7.4,SNR=3.8						
	1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**42.10**	**351**	P	**P**	**11 19 42.7**	**-0.1**
	1.2nm,0.6s,baz=167,slow=6.8,SNR=5.2						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**50.27**	**129**	P	**P**	**11 20 47.4**	**-0.2**
	0.7nm,0.8s,baz=309,slow=8.1,SNR=7.9						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**52.24**	**134**	P	**P**	**11 21 02.5**	**+0.2**
	0.3nm,0.6s,baz=305,slow=7.4,SNR=6.6						
	0.3nm,0.6s						

HEL 28 11:19:06.3±0.5, 67°.61N×30°.60E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**0.40**	**291**	PG	Pg	11 19 13.6	-0.4
	baz=112						
VRF				SG	Sg	11 19 17.8	-1.4
OLKF	**Oulanka, Finla**	**1.38**	**201**	PG	Pg	11 19 30.9	-1.7
OLKF				MSG		11 19 47.8	
	comp=Z,2.9nm,0.2s						
OLKF				SN	Sn	11 19 52.5	+0.9
SGF	**Sodankyl**	**1.57**	**266**	PG	Pn	11 19 34.5	-0.9
SGF				SB	Sn	11 19 54.5	-2.0
KU6	**Riekki**	**1.61**	**190**	PG	Pn	11 19 35.0	-1.0
	baz=6.0						
KU6				MSG		11 19 54.5	
	comp=Z,2.6nm,0.2s						
KU6				SN	Sg	11 19 58.7	+0.6
MSF	**Maaselka**	**1.81**	**201**	PG	Pn	11 19 38.3	-0.4
	baz=21						
MSF				SG	Sg	11 20 04.1	-0.4
RNF	**Rovaniemi**	**2.06**	**243**	PB	Pn	11 19 42

comp=Z,20nm,1.5s
QRZ Quartz Range 28.38 171 P P 11 28 07.9 +2.1
MRZ Mangatainoka R 28.81 166 P P 11 28 09.0 -0.6
MRZ IAmb IAmb 11 28 25.9
comp=Z,11nm,1.2s
MRZ Mangatainoka R 28.81 166 P P 11 28 09.2 -0.4
OGWZ Otaki Gorge 28.86 167 P P 11 28 10.3 +0.2
MRNZ Matariki Terra 28.98 171 P P 11 28 11.5 +0.5
MRNZ Matariki Terra 28.98 171 P P 11 28 12.7 +1.6
HOWZ Holdsworth Sta 29.02 167 P P 11 28 11.4 0.0
CAW Cannon Point 29.12 167 P P 11 28 12.3 0.0
DSZ Denniston Nort 29.18 173 P P 11 28 15.9 +2.9
TUWZ Tuamarina 29.21 169 P P 11 28 13.6 +0.5
TUWZ Tuamarina 29.21 169 P P 11 28 13.8 +0.8
THZ Tophouse 29.36 171 P P 11 28 15.3 +0.8
THZ IAmb IAmb 11 28 18.5
comp=Z,13nm,1.3s
THZ Tophouse 29.36 171 P P 11 28 15.5 +1.0
STKA Stephens Creek 30.07 227 P P 11 28 21.6 +0.7
STKA Stephens Creek 30.07 227 P P 11 28 22.3 +1.5
comp=Z,2.1nm,0.5s,baz=62,slow=8.6,SNR=4.4
comp=Z,2.1nm,0.5s
LTZ Lake Taylor 30.26 172 P P 11 28 22.9 +0.4
LTZ Lake Taylor 30.26 172 P P 11 28 23.4 +0.9
WVZ Waitaha Valley 30.38 175 P P 11 28 24.6 +1.2
AMCZ Amberley 30.70 172 P P 11 28 15.6 -11
FOZ Fox Glacier 30.76 176 P P 11 28 27.2 +0.5
FOZ IAmb IAmb 11 29 10.2
comp=Z,19nm,1.4s
RPZ Rata Peaks 31.05 174 P P 11 28 29.2 0.0
RPZ Rata Peaks 31.05 174 P P 11 28 30.1 +0.9
comp=Z,4.3nm,0.6s,baz=338,slow=4.0,SNR=2.4
comp=Z,4.3nm,0.6s
TOO Toolangi 31.27 214 P P 11 28 31.2 -0.1
TOO IAmb IAmb 11 28 46.8
comp=Z,14nm,1.4s
LBZ Lake Benmore 31.64 176 P P 11 28 34.4 0.0
LBZ IAmb IAmb 11 28 40.5
comp=Z,12nm,1.2s
WRA Warramunga Arr 32.05 253 P P 11 28 37.1 -1.3
comp=Z,0.6nm,0.5s,baz=85,slow=9.1,SNR=4.2
comp=Z,0.6nm,0.5s
ASAR Alice Springs 33.12 246 P P 11 28 47.0 -0.7
comp=Z,1.2nm,0.7s,baz=70,slow=9.0,SNR=16
ASAR PcP PcP 11 31 24.0 -0.7
comp=Z,0.3nm,0.6s,baz=63,slow=2.7,SNR=2.4
comp=Z,1.2nm,0.7s
BBOO Buckleboo 34.57 230 P P 11 28 59.9 0.0
KNRA Kununurra 37.09 261 P P 11 29 20.7 -0.8
KNRA IAmb IAmb 11 29 21.9
comp=Z,17nm,1.2s
FORT Forrest 40.06 237 P P 11 29 45.5 -0.4
VNDA Vanda 64.81 181 P P 11 32 46.3 0.0
VNDA Vanda 64.81 181 P P 11 32 47.2 +1.0
comp=Z,0.7nm,0.7s,baz=353,slow=6.7,SNR=6.0
comp=Z,0.7nm,0.7s
SBA Scott Base 65.09 180 P P 11 32 49.4 +1.3
CASY Casey 65.22 202 P P 11 32 49.6 +0.6
CASY IAmb IAmb 11 32 50.1
comp=Z,4.0nm,0.5s
CMAR Chiang Mai Arr 73.87 294 P P 11 33 43.2 +0.5
comp=Z,0.4nm,0.3s,baz=121,slow=4.6,SNR=4.6
comp=Z,0.4nm,0.3s
QSPA South Pole Qui 77.25 180 P P 11 34 01.6 +0.5
QSPA South Pole Qui 77.25 180 P P 11 34 01.8 +0.7
comp=Z,0.9nm,0.5s,baz=73,slow=4.5,SNR=23
comp=Z,0.9nm,0.5s
SONM Songino Array 80.74 324 P P 11 34 20.2 -0.1
comp=Z,0.2nm,0.4s,baz=104,slow=4.6,SNR=2.0
comp=Z,0.2nm,0.4s
MAW Mawson 83.58 202 P P 11 34 35.2 +0.8
comp=Z,0.5nm,0.6s,baz=135,slow=2.9,SNR=1.6
comp=Z,0.5nm,0.6s
ILAR Eielson Array 84.77 18 P P 11 34 38.6 -1.7
comp=Z,0.8nm,0.6s,baz=242,slow=5.0,SNR=22
comp=Z,0.8nm,0.6s
MKAR Makanchi Array 95.57 317 P P 11 35 30.9 -0.6
comp=Z,0.8nm,0.6s,baz=86,slow=5.2,SNR=4.4
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 118.28 346 PKP PKiKP 11 40 50.9 -0.7
comp=Z,2.2nm,0.8s,baz=52,slow=2.6,SNR=5.1
ESDC Sonseca Array 152.02 345 PKPbc PKiKP 11 42 00.3 -0.5
comp=Z,0.3nm,0.4s,baz=9.5,slow=3.9,SNR=2.2
ESDC PKPab PKPab 11 42 11.0 +0.3
comp=Z,0.4nm,0.7s,baz=20,slow=4.3,SNR=5.1
TORD Torodi Ar. Bea 165.62 273 PKPab PKPab 11 43 10.6 0.0
comp=Z,0.4nm,0.7s,baz=82,slow=4.2,SNR=2.3

NEIC ***28*** *11:23:43.6±2.2, 52°.72N±0°.07×164°.00W±0°.08, h10km±2km, mb3.8/15, ML3.6/10, ML3.5(AEIC), Error ellipse: s-maj=12.1km s-min=7.4km az=158.0*
IDC ***28*** *11:23:44.4±1.4, 53°.09N×163°.86W, h0km, mb3.7/9, mbtmp3.7/11, ML3.4/2, Error ellipse: s-maj=31.7km s-min=20.0km az=11.0*
AEIC ***28*** *11:23:47.3±1.9, 52°.65N±0°.09×163°.95W±0°.10, h6km±8km, Error ellipse: s-maj=14.1km s-min=7.9km az=163.0*
ISC 28 11:23:44.5±0.8, 52°.79N±0°.08×164°.00W±0°.05, h10km, n105, σ1§21/112, mb3.5/9, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	1.68	324		Pn	11 24 13.9	-0.1
AKSA					Sn	11 24 35.1	-0.5
AKSA	Akutan Strait	1.68	324		Pn	11 24 13.9	-0.1
AKSA					Sn	11 24 34.9	-0.7
AKUT	Akutan	1.71	322	Pn	Pn	11 24 14.3	-0.1
AKUT				IAML		11 24 38.5	
	comp=E,640nm,0.3s						
AKUT				IAML		11 24 38.7	
	comp=N,382nm,0.3s						
AKBBA	Akutan Broad B	1.74	319		Pn	11 24 15.0	+0.2
AKBBA					Sn	11 24 37.1	0.0
WESP	Westdahl Peak	1.76	346		Pn	11 24 15.1	+0.1
WESP					Sn	11 24 37.5	0.0
ZRO	Akutan Zero	1.76	319		Pn	11 24 15.3	+0.3
AKV	Akutan Volcano	1.78	319		Pn	11 24 15.3	0.0
AKV					Sn	11 24 38.5	+0.4
AKLV	Akutan Long Va	1.80	320		Pn	11 24 15.7	+0.1
AKLV					Sn	11 24 38.0	-0.6
AKRB	Akutan Reef Bi	1.82	318		Sn	11 24 39.5	+0.5
UNV	Unalaska Valle	1.83	306		Pn	11 24 15.8	-0.2
UNV					Sn	11 24 37.9	-1.4
UNV	Unalaska Valle	1.83	306	P	Pn	11 24 16.0	0.0
AKGG	Akutan Green G	1.84	321		Pn	11 24 16.5	+0.3
SSLS	Shishaldin Sou	1.92	0		Pn	11 24 17.1	-0.2
MREP	Makushin Rep't	1.94	303		Pn	11 24 17.6	0.0
ISLZ	Isanotski Laza	1.94	5		Pn	11 24 17.6	0.0
ISLZ					Sn	11 24 41.1	-1.0
MNAT	Makushin Natee	1.94	305		Pn	11 24 17.7	+0.1
MNAT					Sn	11 24 41.3	-0.7
MTBL	Makushin Table	1.99	307		Pn	11 24 18.6	+0.4
MGOD	Makushin Gods	1.99	301		Pn	11 24 17.9	-0.3
MSW	Makushin Switc	2.01	305		Pn	11 24 18.6	+0.2
MSW					Sn	11 24 42.6	-1.1
MAPS	Pakushin South	2.04	301		Pn	11 24 18.7	-0.1
MAPS					Sn	11 24 43.2	-1.0
ISNN	Isanotski Nort	2.05	4		Pn	11 24 19.6	+0.6
FALS	False Pass	2.10	9		Pn	11 24 19.4	-0.2
FALS					Sn	11 24 45.3	-0.4
FALS	False Pass	2.10	9	P	Pn	11 24 19.6	0.0
OKFG	Magazine Ridge	2.44	286		Pn	11 24 23.8	-0.5
OKFG					Sn	11 24 51.8	-2.3
OKER	Okmok East Rim	2.53	287		Pn	11 24 25.6	-0.1
HAG	Hague Volcano	2.81	25		Pn	11 24 30.0	+0.4
PN7A	Pavlof North-7	2.90	23		Pn	11 24 31.6	+0.9
NIKH	Nikolski High	2.95	275		Pn	11 24 30.5	-0.8
NIKH	Nikolski High	2.95	275	P	Pn	11 24 32.0	+0.7
PS1A	Pavlof South-1	2.95	26		Pn	11 24 32.0	+0.7
SDPT	Sand Point	3.30	38		Pn	11 24 36.0	-0.1
SDPT					Sn	11 25 13.5	-1.9
SDPT	Sand Point	3.30	38	IAML		11 25 16.5	
	comp=N,100nm,1.1s						
SDPT				IAML		11 25 43.5	
	comp=E,134nm,3.1s						
SDPT	Sand Point	3.30	38	P	Pn	11 24 36.2	+0.1
CNBA	Chernabura Isl	3.31	50		Pn	11 24 36.0	-0.3
VNFG	Fog Glacier, M	4.35	35		Pn	11 24 51.5	+0.8
CHGN	Chignik	4.79	41		Pn	11 24 56.7	+0.1
CHGN				IAML		11 25 50.3	
	comp=N,46nm,1.5s						
CHGN				IAML		11 25 53.0	
	comp=E,76nm,0.3s						
R16K	Pilot Point	6.04	35		Pn	11 25 14.4	+0.7
ATKA	Atka Island	6.25	269		Pn	11 25 17.0	+0.3
ATKA	Atka Island	6.25	269	P	Pn	11 25 18.4	+1.7
R17K	Ugashik Creek	6.52	39	Pn	Pn	11 25 18.0	-2.4
SII	Sitkinak Islan	6.83	53	Pn	Pn	11 25 23.8	-0.8
SII	Sitkinak Islan	6.83	53	P	Pn	11 25 24.5	-0.1
ANCK	Angle Creek	7.25	38		Pn	11 25 30.7	+0.1
ADK	Adak	7.82	268	Pn	Pn	11 25 38.5	+0.2
KDAK	Kodiak Island	8.21	48	Pn	Pn	11 25 43.3	-0.2
KDAK	Kodiak Island	8.21	48	Pn	Pn	11 25 41.9	-1.6
	comp=E,1.8nm,0.3s,baz=234,slow=9.9,SNR=82						
KDAK				Sn	Sn	11 27 07.5	-8.7
	comp=E,1.2nm,0.3s,baz=156,slow=23,SNR=9.6						
	comp=E,3.9nm,0.3s						
P18K	Big Mountain,	8.23	33	Pn	Pn	11 25 43.6	-0.2
O18K	Koktuh Hills	8.59	31	Pn	Pn	11 25 49.6	+0.7
N18K	Kilae Creek	9.07	26	Pn	Pn	11 25 56.6	+1.3
M17K	Holitna River	9.33	20	Pn	Pn	11 26 00.5	+1.6
SVW2	Sparrevohn	9.50	26	Pn	Pn	11 25 59.3	-2.0
SVW2	Sparrevohn	9.50	26	P	Pn	11 26 00.3	-1.0
N19K	Bonanza Creek	9.57	29	Pn	Pn	11 26 03.7	+1.4
CNPM	China Poot	9.80	41	Pn	Pn	11 26 04.3	-1.0
M20K	Styx River	10.82	28	Pn	Pn	11 26 21.4	+2.0
SUA	Susitna One	11.26	34	Pn	Pn	11 26 24.5	-0.9
RC01	Rabbit Creek A	11.37	37	Pn	Pn	11 26 25.7	-1.1
SKT	Skwentna	11.38	31	Pn	Pn	11 26 26.9	-0.1
PWL	Port Wells	11.76	40	Pn	Pn	11 26 30.8	-1.4
PMR	Palmer	11.92	36	Pn	Pn	11 26 32.2	-2.1
KNK	Knik Glacier	12.05	38	Pn	Pn	11 26 33.3	-2.8
CUT	Chulitna	12.10	32	Pn	Pn	11 26 35.3	-1.3
GHO	Glory Hole Cre	12.11	36	Pn	Pn	11 26 35.9	-1.1
HIN	Hinchinbrook I	12.26	45	Pn	Pn	11 26 37.5	-1.5
SML	Sawmill	12.35	37	Pn	Pn	11 26 37.6	-2.6
EYAK	Cordova Ski Ar	12.65	45	P	Pn	11 26 44.1	-0.2
SCM	Sheep Creek Mo	12.74	38	Pn	Pn	11 26 43.5	-2.0
KLU	Klutina	13.08	41	Pn	Pn	11 26 48.4	-1.8
M24K	Tolsona, Glenn	13.34	39	Pn	Pn	11 26 51.1	-2.6
N25K	Chitina, Valde	13.68	42	Pn	Pn	11 26 56.3	-2.1
GLB	Gilahina Butte	13.92	44	Pn	Pn	11 26 59.3	-2.3
VRDI	Verde Repeater	13.97	45	Pn	Pn	11 27 00.3	-2.1
M26K	Nabesna, AK	14.74	41	Pn	Pn	11 27 08.9	-3.9
ILAR	Eielson Array	14.86	29	Pn	Pn	11 27 10.0	-4.4
	comp=E,0.1nm,0.3s,baz=207,slow=13,SNR=4.2						
	comp=E,0.1nm,0.4s						
H23K	Yukon River	14.95	23	Pn	Pn	11 27 13.9	-1.7
H23K				IAmb	IAmb	11 27 16.0	
	comp=Z,4.2nm,1.1s						
PNL	Peninsula	15.25	53	P	Pn	11 27 20.0	+0.3
G23K	Bananza Creek	15.57	21	Pn	Pn	11 27 23.0	-0.9
G23K				IAmb	IAmb	11 27 52.6	
	comp=Z,6.6nm,1.3s						
O29M	Mount Kennedy	15.83	52	Pn	Pn	11 27 27.2	0.0
O29M				IAmb	IAmb	11 28 01.8	
	comp=Z,12nm,1.3s						
I26K	Coal Creek Min	16.38	32	Pn	Pn	11 27 34.4	+0.2
M29M	Somme Creek	16.63	44	Pn	Pn	11 27 36.7	-0.8
M29M				IAmb	IAmb	11 27 44.0	
	comp=Z,8.6nm,1.1s						
D22K	Ayikyak River	17.00	14	P	Pn	11 27 43.0	+0.9
D22K				IAmb	IAmb	11 27 50.8	
	comp=Z,13nm,1.3s						
E24K	Your Creek	17.04	20	P	Pn	11 27 42.3	-0.3
TOLK	Toolik Lake Re	17.31	18	P	P	11 27 47.8	+0.5
TOLK				IAmb	IAmb	11 28 29.2	
	comp=Z,9.2nm,1.3s						
B21K	Ikpikpuk River	17.44	11	P	P	11 27 50.1	+1.4
I28M	Miner Creek	17.54	34	P	Pn	11 27 48.5	-0.5
H29M	Whitestone	18.51	34		P	11 27 59.8	-0.8
H29M				IAmb	IAmb	11 28 17.6	
	comp=Z,15nm,1.5s						
I30M	Mount Dempster	18.69	38	P	Pn	11 28 03.9	+0.8
EPYK	Eagle Plains	19.15	34	P	P	11 28 07.3	-0.4
EPYK				IAmb	IAmb	11 28 11.2	
	comp=Z,5.4nm,0.9s						
G30M	tAoh Zraii Nji	19.65	33	P	Pn	11 28 13.8	-0.7
G30M				IAmb	IAmb	11 28 53.2	
	comp=Z,9.4nm,1.3s						
G31M	Satah River	20.28	34	P	P	11 28 19.5	-0.3
INK	Inuvik	21.23	31	P	P	11 28 28.1	-2.1
	comp=Z,2.5nm,1.0s,baz=230,slow=9.6,SNR=1.5						
	comp=Z,2.5nm,1.0s						
PETK	Petropavlovsk-	22.90	286	P	P	11 28 49.4	+1.2
	comp=Z,1.3nm,0.7s,baz=78,slow=12,SNR=1.6						
	comp=Z,1.3nm,0.7s						
NVAR	Mina Array Bea	34.42	96	P	P	11 30 33.7	+1.6
	comp=Z,0.3nm,0.7s,baz=304,slow=7.2,SNR=2.3						
	comp=Z,0.3nm,0.7s						
PDAR	Pinedale Array	37.10	83	P	P	11 30 55.6	+0.5
	comp=Z,0.5nm,0.7s,baz=328,slow=5.3,SNR=5.8						
	comp=Z,0.5nm,0.7s						
H11N2	WAKE ISLAND Hy	39.96	226	T	T	12 15 27.0	
	baz=25,slow=75,SNR=3.1						
H11N3	WAKE ISLAND Hy	39.97	225	T	T	12 15 31.5	
	baz=25,slow=75,SNR=3.1						
H11N1	WAKE ISLAND Hy	39.98	226	T	T	12 15 40.0	
	baz=25,slow=75,SNR=4.3						
H11S1	WAKE ISLAND Hy	41.13	225	T	T	12 17 05.7	
	baz=25,slow=76,SNR=3.4						
H11S2	WAKE ISLAND Hy	41.14	225	T	T	12 17 04.1	
	baz=25,slow=76,SNR=3.2						
H11S3	WAKE ISLAND Hy	41.15	225	T	T	12 17 08.4	
	baz=25,slow=76,SNR=2.8						
TXAR	Lajitas Array	49.48	94	P	P	11 32 35.1	+0.1
	comp=Z,0.5nm,0.7s,baz=292,slow=5.6,SNR=6.3						
	comp=Z,0.5nm,0.7s						
SONM	Songino Array	53.85	303	P	P	11 33 08.0	+0.6
	comp=Z,0.2nm,0.4s,baz=43,slow=7.3,SNR=2.8						
	comp=Z,0.2nm,0.4s						
ARCES	ARCESS Array B	57.78	356	P	P	11 33 35.0	-0.2
	comp=Z,3.5nm,0.9s,baz=9.5,slow=8.2,SNR=1.8						
	comp=Z,3.5nm,0.9s						
FINES	FINESS Array B	65.83	355	P	P	11 34 29.4	0.0
	comp=Z,2.1nm,0.8s,baz=15,slow=7.9,SNR=4.3						
	comp=Z,2.1nm,0.8s						
HFS	Hagfors	67.41	1	P	P	11 34 39.2	-0.4
	comp=Z,3.9nm,0.8s,baz=15,slow=6.1,SNR=6.1						
	comp=Z,3.9nm,0.8s						

MEX ***28*** *11:31:24.8±1.1, 16°.12N×98°.08W, h4km±6km, MD4.6*
NEIC ***28*** *11:31:25.3±2.5, 16°.22N±0°.05×97°.98W±0°.03, h14km±6km, mb4.7/109, Md4.6/116(MEX), Error ellipse: s-maj=7.6km s-min=4.8km az=177.0*
IDC ***28*** *11:31:31.4±5.1, 16°.78N×97°.69W, h33km±37km, mb4.1/10, mbtmp4.2/14, ML3.6/4, MS3.6/21, Error ellipse: s-maj=33.6km s-min=12.7km az=48.0*
ISC 28 11:31:22.9±1.2, 16°.17N±0°.03×97°.95W±0°.02, h10km±7km, n565, σ1§88/627, mb4.6/44, MS3.6/19, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.28	322		Pb	11 31 30.0	-0.1
PNIG					Sg	11 31 33.2	+0.8
PNIG	Pinotepa	0.28	322	eP	Pb	11 31 30.0	-0.1
PNIG				i S	Sg	11 31 33.2	+0.8
YOIG	Yosondua	0.78	30		Pn	11 31 39.5	-0.8
YOIG					Sb	11 31 49.9	+0.3
YOIG	Yosondua	0.78	30	i P	Pn	11 31 39.5	-0.8
YOIG				eS	Sb	11 31 49.3	-0.3
PEIG	Puerto Escondi	0.79	103		Pn	11 31 40.6	+0.4
PEIG	Puerto Escondi	0.79	103	i P	Pn	11 31 40.6	+0.4
PEIG				eS	Sn	11 31 51.7	-0.3
TXIG	Tlaxiaco	1.09	9		Pn	11 31 43.9	-0.6
TXIG					Sn	11 31 58.5	-1.3
TXIG	Tlaxiaco	1.09	9	eP	Pn	11 31 43.9	-0.6
TXIG				eS	Sb	11 31 57.3	-1.1
CRIG	Cruz Grande	1.27	296		Pn	11 31 45.8	-0.9
CRIG					Sb	11 32 00.9	-2.4
CRIG	Cruz Grande	1.27	296	eP	Pn	11 31 44.9	-1.9
CRIG				eS	Sb	11 31 58.8	-4.5
OXIG	Oaxaca	1.47	52		Pb	11 31 50.5	0.0
OXIG					Sg	11 32 10.2	0.0
VHO	Vista Hermosa	1.47	52	i P	Pb	11 31 50.5	0.0
VHO				eS	Sg	11 32 10.4	+0.2
OXBJ	Oaxaca	1.47	53		Pb	11 31 50.6	0.0
OXBJ					Sg	11 32 09.6	-0.7
OXBJ	Oaxaca	1.47	53	i P	Pb	11 31 50.6	0.0
OXBJ				i S	Sg	11 32 11.4	+1.0
OXLC	Oaxaca	1.49	53	eP	Pb	11 31 50.8	0.0
OXLC				i S	Sg	11 32 12.1	+1.3
TLIG	Tlapa	1.50	337	eP	Pn	11 31 49.7	-0.4
TLIG				eS	Sn	11 32 07.9	-2.0
HLIG	Huajuapan de L	1.65	5		Pb	11 31 52.5	-1.1
HLIG					Sb	11 32 13.4	-1.2
HLIG	Huajuapan de L	1.65	5	eP	Pb	11 31 52.5	-1.1
HLIG				eS	Sb	11 32 13.7	-1.0
HMTT	Tlapaneco	1.72	340		Pb	11 31 53.9	-0.8
HMTT					Sb	11 32 15.4	-1.0
HMTT	Tlapaneco	1.72	340	eP	Pn	11 31 53.1	0.0
HMTT				eS	Sn	11 32 14.0	-1.1
FTIG	Fresnillo de T	1.73	354		Pn	11 31 53.5	+0.2
FTIG					Sn	11 32 15.2	-0.3
FTIG	Fresnillo de T	1.73	354	eP	Pn	11 31 53.5	+0.2
FTIG				eS	Sn	11 32 14.2	-1.3
HUIG	Huatulco	1.81	103		Pg	11 31 58.8	+1.0
HUIG					Sn	11 32 16.4	-1.0
HUIG	Huatulco	1.81	103	eP	Pb	11 31 55.1	-1.1
HUIG				i S	Sn	11 32 16.4	-1.0
DAIG	Los Arroyos	1.84	298		Pn	11 31 53.5	-1.1
DAIG					Sn	11 32 17.5	-0.4
DAIG	Los Arroyos	1.84	298	eP	Pn	11 31 53.1	-1.5
DAIG				eS	Sn	11 32 13.7	-4.2
ACP2	Acapulco	1.99	291		Pb	11 31 58.3	-0.9
ACP2					Sn	11 32 22.0	+0.4
ACP2	Acapulco	1.99	291	eP	Pb	11 31 58.3	-0.9
ACP2				eS	Sn	11 32 21.0	-0.6
TPIG	Tehuac#an	2.30	14	eP	Pn	11 32 02.2	+1.0
TPIG				eS	Sn	11 32 28.8	-0.8
MEIG	Mezcala	2.37	318		Pn	11 32 02.5	+0.6
MEIG					Sn	11 32 28.9	-2.2
MEIG	Mezcala	2.37	318	eP	Pn	11 32 01.9	0.0
MEIG				eS	Sn	11 32 28.9	-2.2
CAIG	El Cayaco	2.39	292		Pn	11 32 01.5	-0.6
CAIG					Sb	11 32 37.0	+1.4
CAIG	El Cayaco	2.39	292	eP	Pn	11 32 00.9	-1.2
CAIG				eS	Sn	11 32 31.1	-0.4
NEUV	Arroyo Zacate	2.56	53	i P	Pn	11 32 05.8	+1.2
NEUV				eS	Sn	11 32 36.8	+1.0
ATYC	Atoyac	2.60	294	eP	Pn	11 32 05.9	+0.9
ATYC				eS	Sn	11 32 31.7	-5.0
PLIG	Platanillo	2.66	326		Pn	11 32 07.0	+1.0
PLIG	Platanillo	2.66	326	eP	Pn	11 32 06.6	+0.6
PLIG				eS	Sn	11 32 40.2	+1.8
OZST	Orizaba	2.79	17	eP	Pb	11 32 13.3	+0.2
OZST				i S	Sb	11 32 48.4	+0.9
PHPU	Puebla	2.86	356		Pb	11 32 12.2	-2.2
PHPU	Puebla	2.86	356	eP	Pb	11 32 12.2	-2.2
PHPU				eS	Sb	11 32 46.7	-2.9
YAIG	Yautepec	2.88	338		Pn	11 32 10.2	+1.1
YAIG					Sn	11 32 44.9	+1.0
YAIG	Yautepec	2.88	338	eP	Pn	11 32 10.2	+1.1
YAIG				eS	Sn	11 32 43.4	-0.5
PPIG	Popocatepetl	2.95	347		Pn	11 32 12.1	+1.7
PPM	Popocatepetl	2.95	347	eP	Pn	11 32 12.1	+1.7
PPM				eS	Sn	11 32 45.1	-1.0
AMVM	AMECAMECA	3.05	345		Pb	11 32 16.9	-0.6
AMVM	AMECAMECA	3.05	345	eP	Pb	11 32 15.5	-2.0
AMVM				eS	Sn	11 32 44.9	-3.4
CMIG	Matias Romero	3.08	72	Pn	Pn	11 32 12.5	+0.9
	33nm,0.3s,baz=264,slow=11,SNR=325						
CMIG				Lg	Lg	11 33 00.1	
	91nm,0.3s,baz=199,slow=18,SNR=4.4						
	116nm,0.4s						
CMIG	Matias Romero	3.08	72	eP	Pn	11 32 12.0	+0.4
CMIG				eS	Sn	11 32 51.2	+2.7
ARIG	Puente Sto Nin	3.11	313		Pn	11 32 13.1	+1.1
ARIG					Sn	11 32 50.0	+0.7
ARIG	Puente Sto Nin	3.11	313	eP	Pn	11 32 11.5	-0.6
ARIG				i S	Sn	11 32 44.2	-5.1
MPVM	San Francisco	3.18	342	eP	Pn	11 32 14.3	+1.0
MPVM				eS	Sn	11 32 53.6	+2.2
NILT	Santiago Nilte	3.22	83	eP	Pn	11 32 15.2	+1.6
NILT				eS	Sn	11 32 54.4	+2.3
TLVM	San Miguel Top	3.23	339	eP	Pn	11 32 15.2	+1.2
TLVM				eS	Sn	11 32 53.0	+0.1
XCVM	Xochimilco	3.26	340	eP	Pn	11 32 14.5	+0.1
XCVM				eS	Sn	11 32 52.1	-1.3
THVM	De Xico	3.27	343	eP	Pn	11 32 15.0	+0.5
THVM				eS	Sb	11 32 58.0	-3.2
UNM	Universidad Na	3.35	340	Pn	Pn	11 32 17.6	+2.0
UNM	Universidad Na	3.35	340	eP	Pb	11 32 21.1	-1.5
UNM				eS	Sn	11 32 56.3	+0.6
CUP5	Mexico City	3.35	340	eP	Pn	11 32 18.4	+2.7
CUP5				i S	Sn	11 32 56.3	+0.6
JAUV	Jalcomulco	3.36	19	eP	Pn	11 32 15.6	0.0
JAUV				eS	Sb	11 32 59.8	-3.8
COVM	Coyoacan	3.36	340	eP	Pn	11 32 13.4	-2.4
COVM				eS	Sn	11 32 50.1	-5.9
TXVM	Universitario	3.37	344	eP	Pb	11 32 20.4	-2.6
TXVM				eS	Sb	11 33 03.3	-0.9
INVM	La Marquesa	3.39	336	eP	Pn	11 32 18.7	+2.5
INVM				eS	Sn	11 32 56.6	-0.2
BJVM	Benito Juarez	3.39	340	eP	Pn	11 32 18.2	+2.0
BJVM				eS	Sn	11 32 55.5	-1.2
CJVM	Cuajimalpa	3.42	338	eP	Pn	11 32 18.3	+1.8
CJVM				eS	Sn	11 32 56.8	-0.5
PBVM	Pinon	3.43	342		Pb	11 32 19.7	-4.1
PBVM	Pinon	3.43	342	eP	Pn	11 32 18.2	+1.7
PBVM				eS	Sn	11 32 54.9	-2.2
TEJU	Tejupilco	3.44	322	eP	Pn	11 32 16.4	-0.4
TEJU				eS	Sn	11 32 58.1	+0.4
PET2	Petatlan	3.45	294	eS	Sn	11 33 00.4	+2.6
TOVM	TOLUCA	3.50	332		Pb	11 32 21.7	-3.6
TOVM	TOLUCA	3.50	332	eP	Pn	11 32 19.8	+2.0
TOVM				eS	Sn	11 32 57.5	-2.0
PTVM	Pico Tres Padr	3.58	342		Pn	11 32 20.4	+1.6
PTVM	Pico Tres Padr	3.58	342	eP	Pn	11 32 20.4	+1.6
PTVM				eS	Sn	11 33 01.8	+0.5
PMUV	Sontecomapan

RPIG eS Sn 11 34 02.6 +1.8
GTIG Gomez Farias 6.95 351 Pn 11 33 07.0 +2.0
GTIG Gomez Farias 6.95 351 eP **Pn 11 33 06.4 +1.5**
GTIG eS Sn 11 34 21.1 -3.1
SCIG Sabancuy 7.02 66 eP **Pn 11 33 03.8 -2.1**
SCIG eS Sn 11 34 25.7 -0.1
AAIG Aguscalientes 7.13 325 Pn 11 33 11.9 +4.4
AAIG Aguscalientes 7.13 325 eP **Pn 11 33 10.8 +3.3**
AAIG eS Sn 11 34 32.7 +3.9
CJM Chamela 7.52 297 eP **Pn 11 33 13.4 +0.6**
CJM eS Sn 11 34 32.5 -5.7
PETF Flores 7.79 83 Pn 11 33 11.8 -4.6
ZAIG Zacatecas 7.88 327 eP Pn 11 33 23.4 +5.5
ANIG Ahuacatlan 7.90 309 eP **Pn 11 33 17.7 -0.3**
ANIG eS Sn 11 34 50.6 +3.0
LNIG Linares 8.80 351 eP **Pn 11 33 33.1 +2.9**
LNIG i S Sn 11 35 09.6 +0.1
MYIG Mrida 9.12 57 eP Pn 11 33 41.1 +6.4
TEIG Tepich 10.04 65 Pn **Pn 11 33 45.7 -1.5**
TEIG Tepich 10.04 65 Pn **Pn 11 33 44.8 -2.4**
31nm,0.3s,baz=210,slow=1.4,SNR=19
TEIG Sn **Sn 11 35 33.8 -6.2**
21nm,0.3s,baz=95,slow=22,SNR=1.5
PDIG Papasquiaro 11.24 323 Pn 11 34 05.0 +1.0
PDIG Papasquiaro 11.24 323 eP **Pn 11 34 04.5 +0.6**
PDIG i S Sn 11 36 14.0 +4.1
833A Chaparral WMA, 12.17 354 Pn **Pn 11 34 18.5 +2.1**
833A Chaparral WMA, 12.17 354 P **Pn 11 34 17.0 +0.6**
baz=174
HNDO Hondo 13.35 355 Pn 11 34 33.0 +0.5
DRIO Del Rio 13.41 350 Pn **Pn 11 34 34.2 +0.7**
JTS Las Juntas de 13.93 113 Pn **P 11 34 47.3 -1.5**
0.3nm,0.3s,baz=276,slow=10,SNR=1.6
JTS LR LR 11 39 29.9
comp=Z,80nm,18.1s,baz=301,slow=34
4.9nm,0.5s
TXAR Lajitas Array 14.12 339 Pn **Pn 11 34 44.8 +1.7**
baz=149,slow=15,SNR=6.6
TXAR Lg Lg 11 38 45.7
baz=172,slow=34,SNR=2.3
TXAR LR LR 11 40 05.0
comp=Z,152nm,21.5s,baz=157,slow=38
1.9nm,1.1s
TX31 Lajitas Ar. Si 14.12 339 Pn 11 34 45.0 +1.8
TX32 Lajitas Array 14.12 339 Pn 11 34 43.9 +0.7
SAND Sanderson 14.24 345 Pn **Pn 11 34 45.8 +0.9**
JCT Junction City 14.34 354 Pn **Pn 11 34 44.6 -1.6**
JCT Junction City 14.34 354 P **Pn 11 34 47.6 +1.4**
baz=179,SNR=6.6
435B Jarrell 14.55 1 Pn 11 34 47.2 -1.7
OZNA Ozona 14.97 349 Pn 11 34 55.4 +0.7
ALPN Alpine 15.07 341 Pn **Pn 11 34 57.4 +1.2**
ALPN IAmb IAmb 11 35 11.6
comp=Z,6.9nm,0.6s
BRDY Brady 15.07 357 Pn **Pn 11 34 55.6 -0.5**
BRDY IAmb IAmb 11 35 10.6
comp=Z,18nm,0.8s
RIMA Rio Macho 15.12 113 Pn 11 34 55.9 -1.1
RIMA IAmb IAmb 11 35 15.4
comp=Z,37nm,1.5s
MNHN Monahans 15.72 345 P **Pn 11 35 05.8 +1.1**
MNHN IAmb IAmb 11 35 18.9
comp=Z,24nm,0.7s
WHTX Lake Whitney, 15.75 2 P **Pn 11 35 04.5 -0.5**
WHTX IAmb IAmb 11 35 11.0
comp=Z,44nm,0.9s
WHTX Lake Whitney, 15.75 2 P **Pn 11 35 05.3 +0.3**
baz=182,SNR=7.1
NATX Nacogdoches 15.80 10 P **Pn 11 35 05.5 -0.1**
NATX IAmb IAmb 11 35 18.3
comp=Z,24nm,0.9s
425A Indio Mountain 15.91 337 P 11 35 08.8 -2.0
SGCY Sterling City 15.94 350 Pn 11 35 07.4 0.0
SGCY IAmb IAmb 11 35 13.8
comp=Z,117nm,0.9s
PECS Pecos 16.06 341 P **P 11 35 12.7 +0.2**
PECS IAmb IAmb 11 35 22.5
comp=Z,33nm,0.7s
ODSA Odessa 16.42 346 P **Pn 11 35 13.6 0.0**
ODSA IAmb IAmb 11 35 25.3
comp=Z,15nm,0.7s
ABTX Abilene, Hawle 16.45 355 P **P 11 35 16.3 -0.4**
ABTX IAmb IAmb 11 35 27.0
comp=Z,73nm,1.0s
ABTX Abilene, Hawle 16.45 355 P **P 11 35 15.3 -1.4**
baz=174,SNR=29
PLPT Palo Pinto 16.57 359 P **Pn 11 35 14.7 -0.8**
PLPT IAmb IAmb 11 35 20.4
comp=Z,46nm,0.9s
FW06 Azle 16.73 1 P **Pn 11 35 17.7 +0.2**
FW06 IAmb IAmb 11 35 21.3
comp=Z,36nm,0.6s
FW03 Perrin-Whitt E 16.79 360 P **P 11 35 19.5 -1.0**
FW03 IAmb IAmb 11 35 29.9
comp=Z,20nm,0.7s
SN01 Snyder 1 16.83 351 P **Pn 11 35 19.2 +0.4**
SN01 IAmb IAmb 11 35 23.7
comp=Z,36nm,1.1s
MNTX Cornudas Mount 16.87 338 P **P 11 35 20.4 -1.1**
MNTX Cornudas Mount 16.87 338 P **P 11 35 20.8 -0.6**
baz=155,SNR=9.2
Z35A Perchaven, San 17.09 2 P **P 11 35 23.2 -0.6**
POST Post 17.12 350 P **Pn 11 35 22.3 -0.2**
POST IAmb IAmb 11 35 26.9
comp=Z,61nm,0.9s
APMT Aspermont 17.19 354 P **Pn 11 35 22.7 -0.6**
APMT IAmb IAmb 11 35 28.9
comp=Z,15nm,0.7s
VBMS Vicksburg 17.34 22 P **Pn 11 35 23.7 -1.4**
baz=205
143A Socs Landing, 17.49 19 P **Pn 11 35 25.2 -1.8**
143A IAmb IAmb 11 35 38.3
comp=Z,37nm,0.9s
WTFS Witchita Falls 17.52 359 P **Pn 11 35 26.0 -1.4**
WTFS IAmb IAmb 11 35 58.2
comp=Z,12nm,0.7s
DKNS Dickens 17.62 352 P **Pn 11 35 28.1 -0.7**
DKNS IAmb IAmb 11 35 32.9
comp=Z,33nm,0.7s
Z41A Richland Creek 17.64 14 P **Pn 11 35 25.5 -3.3**
BRAL Brewton 17.94 32 P **Pn 11 35 30.0 -2.5**
baz=216
MSTX Muleshoe 18.25 347 P **Pn 11 35 36.0 -0.5**
MSTX Muleshoe 18.25 347 P **P 11 35 36.7 0.0**
baz=165,SNR=13
319A Douglas 18.32 328 P **P 11 35 39.5 +2.0**
WMOK Wichita Mounta 18.50 358 P **P 11 35 37.5 -1.9**
WMOK Wichita Mounta 18.50 358 P **P 11 35 38.2 -1.1**
baz=178,SNR=11
121A Cookes Peak, D 18.57 333 P **Pn 11 35 40.7 +0.2**
121A Cookes Peak, D 18.57 333 P **Pn 11 35 42.5 +2.0**
baz=149,SNR=6.9
MIAR Mount Ida 18.71 11 P **P 11 35 39.1 -2.6**
MIAR Mount Ida 18.71 11 P **P 11 35 40.0 -1.6**
baz=193
AMTX Amarillo 18.93 351 P **Pn 11 35 44.5 -0.3**
AMTX IAmb IAmb 11 35 49.8
comp=Z,25nm,0.9s
AMTX Amarillo 18.93 351 P **Pn 11 35 44.3 -0.5**
baz=169
SMWD Samnorwood 18.96 354 P **Pn 11 35 44.6 -0.6**
SMWD IAmb IAmb 11 35 54.0
comp=Z,23nm,0.8s
DUN6 Lazy B Ranch 19.18 330 P **Pn 11 35 49.0 +1.1**
DUN6 IAmb IAmb 11 35 51.1
comp=Z,61nm,0.8s
DWPF Disney Wildern 19.34 49 P **P 11 35 45.7 -2.9**
baz=236
LRAL Lakeview Retre 19.49 29 P **P 11 35 48.2 -2.0**
baz=213
Y22F Passcal Instru 19.57 337 P **Pn 11 35 52.7 +0.2**
baz=154
WHAR Wooly Hollow 19.70 14 P **P 11 35 50.9 -1.5**
TUL3 Leonard 19.75 5 P **P 11 35 51.8 -1.3**
TUL3 Leonard 19.75 5 P **P 11 35 52.8 -0.3**
baz=186,SNR=6.9
OXF Oxford 19.81 21 P **P 11 35 51.6 -2.0**
OXF IAmb IAmb 11 35 54.8
comp=Z,29nm,0.9s
OXF Oxford 19.81 21 P **P 11 35 52.6 -1.0**
baz=205,SNR=5.5
TUC Tucson 19.85 326 P **Pn 11 35 55.7 -0.1**
TUC Tucson 19.85 326 P **Pn 11 35 56.6 +0.8**
baz=141
TIGA Tifton 20.05 38 P **P 11 35 54.0 -2.4**
baz=224
ANMO Albuquerque 20.19 339 P Pn 11 35 59.9 -0.1
ANMO Albuquerque 20.19 339 P Pn 11 35 59.6 -0.4
baz=156
ANMO Albuquerque 20.19 339 P Pn 11 35 60.0 +0.1
comp=Z,0.2nm,0.3s,baz=233,slow=12,SNR=22
ANMO LR LR 11 44 34.2
comp=Z,312nm,19.6s,baz=246,slow=40
comp=Z,9.8nm,1.0s
FCAR Ozark Folk Cen 20.31 14 P **P 11 35 57.8 -1.4**
U38A Gravette 20.43 8 P **P 11 35 58.6 -1.9**
RTBA Rita Blanca 20.63 349 P **P 11 36 03.0 +0.2**
RTBA IAmb IAmb 11 36 12.3
comp=Z,28nm,1.0s
T35A Sooner Cattle 20.70 3 P **P 11 36 02.2 -1.1**
T35A IAmb IAmb 11 36 11.3
comp=Z,32nm,0.7s
PLAL Pickwick Lake 20.71 23 P **P 11 36 01.6 -1.9**
PLAL IAmb IAmb 11 36 11.0
comp=Z,25nm,1.0s
LCAR Lake Charles 20.72 16 P **P 11 36 03.1 -0.4**
214A Organ Pipe Nat 20.72 322 P Pn 11 36 05.8 -0.3
214A Organ Pipe Nat 20.72 322 P Pn 11 36 06.5 +0.5
baz=136
X18A Snowflake 21.22 332 P **P 11 36 11.4 +2.2**
X18A IAmb IAmb 11 36 13.3
comp=Z,25nm,1.0s
GOGA Godfrey 21.58 35 P **P 11 36 11.0 -1.8**
baz=221,SNR=5.7
W18A Petrified Fore 21.62 333 P **P 11 36 15.6 +2.1**
W18A Petrified Fore 21.62 333 P **P 11 36 16.2 +2.8**
baz=148,SNR=6.8
T25A Trinidad 21.65 346 P **P 11 36 15.6 +1.7**
T25A Trinidad 21.65 346 P **P 11 36 15.7 +1.9**
baz=163,SNR=38
S39A Bolivar 21.82 10 P **P 11 36 14.1 -1.3**
S39A IAmb IAmb 11 36 26.1
comp=Z,19nm,0.9s
X16A Lo Mia Camp, P 21.84 329 P **P 11 36 18.9 +3.0**
X16A IAmb IAmb 11 36 27.7
comp=Z,23nm,0.8s
113A Mohawk Valley, 21.87 322 P **P 11 36 17.7 +1.7**
CGM3 Cape Girardeau 22.28 18 P **P 11 36 19.4 -0.9**
CGM3 IAmb IAmb 11 36 30.7
comp=Z,22nm,1.1s
SDCO Great Sand Dun 22.50 344 P **P 11 36 24.3 +1.3**
baz=161,SNR=20
CCM Cathedral Cave 22.59 14 P **P 11 36 22.9 -0.7**
baz=197
R40A Maddies Statio 22.59 12 P **P 11 36 22.2 -1.4**
R40A IAmb IAmb 11 36 33.8
comp=Z,26nm,0.8s
CBKS Cedar Bluff 22.61 356 P **P 11 36 24.0 +0.1**
baz=176
CPCT Cooper Cave 22.64 30 P **P 11 36 22.2 -2.0**
CPCT IAmb IAmb 11 36 32.3
comp=Z,21nm,0.8s
W52A Murphy 22.64 31 P **P 11 36 22.2 -2.1**
WUAZ Wupatki 22.69 331 P **P 11 36 27.7 +2.7**
WUAZ IAmb IAmb 11 36 29.3
comp=Z,21nm,0.8s
WUAZ Wupatki 22.69 331 P **P 11 36 27.6 +2.7**
baz=145,SNR=26
GLA Glamis 22.70 321 P **P 11 36 28.0 +3.0**
baz=134
S22A 4UR Ranch, Cre 22.88 342 P **P 11 36 28.1 +1.1**
baz=158
MVCO Mesa Verde 22.94 338 P **P 11 36 28.5 +0.9**
MVCO IAmb IAmb 11 36 39.8
comp=Z,35nm,0.8s
MVCO Mesa Verde 22.94 338 P **P 11 36 28.8 +1.1**
baz=153,SNR=18
BLYC Blythe 23.01 323 P **P 11 36 30.2 +2.1**
KSCO Kaye Shedlock' 23.12 351 P **P 11 36 29.9 +0.5**
baz=169
TKL Tuckaleechee C 23.17 30 P **P 11 36 27.4 -2.4**
TKL IAmb IAmb 11 36 39.0
comp=Z,23nm,0.9s
TKL Tuckaleechee C 23.17 30 LR LR 11 49 13.5
comp=Z,71nm,18.4s,baz=248,slow=47
PDMCI Parker Dam,Lak 23.19 324 P **P 11 36 32.4 +2.4**
baz=137
SWSC Sam W. Stewart 23.23 319 P **P 11 36 33.1 +2.7**
baz=132
IKP In-Ko-Pah, Jac 23.23 318 P **P 11 36 33.9 +3.4**
baz=131
NHSC New Hope 23.29 40 P **P 11 36 29.0 -1.9**
baz=228
BC3 Big Chuckawall 23.50 321 P **P 11 36 36.7 +3.5**
baz=134
Q24A Divide 23.57 346 P **P 11 36 35.1 +1.1**
baz=163
W13A Hualapai Mount 23.64 326 P **P 11 36 37.1 +2.4**
IRM Iron Mountain 23.66 322 P **P 11 36 37.2 +2.5**
baz=135,SNR=6.9
U15A North Rim 23.87 330 P **P 11 36 38.7 +1.7**
U15A IAmb IAmb 11 36 49.6
comp=Z,18nm,1.1s
TZTN Tazewell 23.99 30 P **P 11 36 37.2 -0.6**
baz=216
KMSC Kings Mountain 24.04 35 P **P 11 36 36.8 -1.4**
baz=222
BELC Belle Mtn. Jos 24.06 321 P **P 11 36 41.4 +2.7**
baz=133,SNR=5.4
TPFO Pinon Flats 24.08 320 P **P 11 36 41.5 +2.7**
baz=132
PFO Pinyon Flats O 24.09 320 P **P 11 36 41.7 +2.8**
baz=132
PFO Pinyon Flats O 24.09 320 LR LR 11 45 54.1
comp=Z,130nm,19.7s,baz=305,slow=36
SMCO Snowmass 24.24 343 P **P 11 36 41.9 +1.3**
SMCO IAmb IAmb 11 36 55.3
comp=Z,20nm,1.1s
WCI Wyandotte Cave 24.25 23 P **P 11 36 39.2 -0.9**
WCI Wyandotte Cave 24.25 23 P **P 11 36 39.3 -0.9**
baz=208
GMRC Granite Mounta 24.41 323 P **P 11 36 44.8 +2.9**
baz=135
HMU Henry Mountain 24.44 335 P **P 11 36 44.3 +2.1**
ISCO Idaho Springs 24.47 346 P **P 11 36 42.8 +0.2**
ISCO Idaho Springs 24.47 346 P **P 11 36 44.0 +1.4**
baz=162,SNR=39
N33A J Bar K, Exete 24.48 1 P **P 11 36 42.7 +0.4**
MURC Murrieta 24.54 319 P **P 11 36 45.9 +2.9**
baz=130
KNB Kanab 24.59 330 P **P 11 36 45.1 +1.5**
V12A Nelson 24.63 325 P **P 11 36 46.8 +2.9**
V55A Taylorsville 24.63 34 P **P 11 36 42.4 -1.3**
V55A IAmb IAmb 11 36 53.4
comp=Z,25nm,0.8s
X58A Rowland 24.78 39 P **P 11 36 44.7 -0.3**
BBRC Big Bear Solar 24.80 320 P **P 11 36 48.4 +2.9**
baz=132
U54A Nelsons Funny 24.82 32 P **P 11 36 44.8 -0.6**
HEC Hector,Ludlow 24.83 322 P **P 11 36 48.4 +2.7**
baz=134,SNR=6.5
S51A Beattyville 24.86 28 P **P 11 36 44.7 -1.0**
S51A IAmb IAmb 11 36 56.9
comp=Z,19nm,0.9s
N38A Joes South For 24.87 9 P **P 11 36 45.3 -0.5**
OGNE Ogallala 24.94 353 P **P 11 36 48.1 +1.6**
baz=171
BRIGG Briggsdale 24.94 348 P **P 11 36 47.7 +1.1**
TUQ Turquoise Moun 25.02 323 P **P 11 36 50.1 +2.8**
baz=136,SNR=11
MTPU Mount Pierson 25.14 333 P **P 11 36 51.0 +2.4**
BGNE Belgrade 25.15 360 P **P 11 36 49.4 +1.1**
baz=180
CIS Catalina Islan 25.21 317 P **P 11 36 52.4 +3.4**
baz=128
BFSC Mount Baldy Ra 25.25 319 P **P 11 36 52.8 +3.4**
baz=131
FMP Fort Macarthur 25.32 317 P **P 11 36 53.0 +3.1**
baz=129
GSC Goldstone, Bar 25.44 322 P **P 11 36 54.0 +2.9**
baz=134
O20A White River Ci 25.50 341 P **P 11 36 53.1 +1.4**
O20A White River Ci 25.50 341 P **P 11 36 53.6 +1.8**
baz=157,SNR=14
N23A Red Feather La 25.59 346 P **P 11 36 53.4 +0.8**
N23A Red Feather La 25.59 346 P **P 11 36 54.0 +1.4**
baz=162,SNR=13
DECC Green Verdugo 25.69 318 P **P 11 36 55.9 +2.6**
baz=130
V58A Windy Hill, Pi 25.77 37 P **P 11 36 53.7 -0.2**
EDW2 Edwards Air Fo 25.88 320 P **P 11 36 57.7 +2.6**
baz=131
SFIN Lafayette 25.90 19 P **P 11 36 54.5 -0.6**
baz=204
SCIA State Center 25.97 8 P **P 11 36 55.5 -0.2**
SCIA State Center 25.97 8 P **P 11 36 56.0 +0.3**
baz=190
P49A Miami Univ. Ec 25.99 24 P **P 11 36 55.1 -0.8**
baz=210,SNR=7.0
BLA Blacksburg 26.07 33 P **P 11 36 55.8 -1.0**
baz=221
LRMC Laurel Mtn Rad 26.08 321 P **P 11 37 00.2 +3.2**
baz=133
Q51A Peebles 26.11 26 P **P 11 36 57.2 +0.1**
FURC Furnace Creek, 26.29 324 P **P 11 37 01.5 +2.9**
baz=135
TPNV Topopah Spring 26.29 325 P **P 11 37 01.5 +2.6**
baz=137,SNR=8.3
RDMU Red Mountain 26.32 340 P **P 11 36 60.0 +0.8**
RDMU IAmb IAmb 11 37 09.9
comp=Z,15nm,1.0s
MPMC Manual Prospec 26.36 322 P **P 11 37 02.3 +2.7**
baz=134
SCZ2 Santa Cruz Isl 26.38 316 P **P 11 37 03.5 +4.0**
baz=127
O48B Farmland 26.45 22 P **P 11 36 59.0 -1.1**
baz=208
ARVC Arvin 26.56 319 P **P 11 37 04.8 +3.6**
baz=130
ISA Isabella, Lake 26.69 321 P **P 11 37 06.1 +3.7**
baz=132
SBC Santa Barbara 26.70 317 P **P 11 37 06.2 +3.8**
baz=128
NLU North Lily Min 26.70 335 P **P 11 37 03.5 +0.9**
NLU IAmb IAmb 11 37 13.8
comp=Z,9.6nm,0.9s
SPR3 Spring Creek 3 26.89 331 P **P 11 37 06.2 +1.7**
SPR3 IAmb IAmb 11 37 17.5
comp=Z,14nm,1.1s
GRAC Grapevine Rang 26.95 324 P **P 11 37 07.7 +3.0**
baz=135
CWC Cottonwood Cre 26.97 322 P **P 11 37 07.7 +2.6**
baz=133
R11B Troy Canyon, C 26.99 328 P **P 11 37 07.7 +2.4**
baz=140
P52A Corning 27.15 27 P **P 11 37 06.7 +0.3**
baz=215
VES Vestal, Richgr 27.18 320 P **P 11 37 09.5 +2.8**
baz=131
DUG Dugway, Tooele 27.21 335 P **P 11 37 09.9 +2.8**
baz=148,SNR=12
ACSO Alum Creek Sta 27.28 26 P **P 11 37 08.0 +0.4**
baz=213
L44A Lake County Fo 27.31 16 P **P 11 37 08.1 +0.3**
baz=201
K22A Casper 27.39 346 P **P 11 37 09.4 +0.6**
K22A IAmb IAmb 11 37 19.8
comp=Z,25nm,1.0s
K22A Casper 27.39 346 P **P 11 37 11.0 +2.2**
baz=162,SNR=6.6
SMMC Simmler 27.41 318 P **P 11 37 12.1 +3.2**
baz=128
JFWS Jewell Farm 27.45 12 P **P 11 37 08.0 -1.1**
baz=196
T59A Double "B" Far 27.49 37 P **P 11 37 08.1 -1.4**
T59A IAmb IAmb 11 37 19.4
comp=Z,22nm,1.0s
ECSD EROS Data Cent 27.49 2 P **P 11 37 10.0 +0.5**
baz=183
SDV Santo Domingo 27.61 102 LR LR 11 49 39.7
comp=Z,77nm,18.6s,baz=358,slow=40
BW06 Boulder Array 28.31 342 P **P 11 37 17.7 +0.6**
BW06 IAmb IAmb 11 37 31.2
comp=Z,6.5nm,0.9s
BW06 Boulder Array 28.31 342 P **P 11 37 19.3 +2.2**
baz=156
PD31 Pinedale Array 28.31 342 P **P 11 37 18.1 +1.1**
PDAR Pinedale Array 28.31 342 P **P 11 37 18.4 +1.4**
comp=Z,1.6nm,0.8s,baz=135,slow=10,SNR=12
comp=Z,1.6nm,0.8s
NV11 Mina Array Sit 28.41 325 P **P 11 37 20.0 +2.1**
NV11 IAmb IAmb 11 37 29.6
comp=Z,8.5nm,1.1s
NVAR Mina Array Bea 28.49 325 P **P 11 37 20.7 +2.1**
NVAR Mina Array Bea 28.49 325 P **P 11 37 20.9 +2.2**
comp=Z,4.2nm,0.9s,baz=149,slow=9.9,SNR=27
comp=Z,4.2nm,0.9s
SPMN Marine on St. 29.28 7 P **P 11 37 26.7 +1.3**
baz=190
ATAH Atahualpa 30.18 139 LR LR 11 47 35.2
comp=Z,144nm,18.4s,baz=332,slow=32
RLMT Red Lodge 30.39 344 P **P 11 37 37.3 +1.8**
baz=158
SJG San Juan 30.43 82 LR LR 11 51 07.2
comp=Z,70nm,20.8s,baz=292,slow=39
HLID Hailey 30.69 336 P **P 11 37 40.1 +2.0**
baz=148
LAO LASA Array 31.20 349 P **P 11 37 43.1 +0.7**
baz=165
BOZ Bozeman (W) 31.50 341 P **P 11 37 46.7 +1.5**
baz=154
WVOR Wild Horse Val 31.61 330 P **P 11 37 48.1 +1.9**
WVOR IAmb IAmb 11 37 57.2
comp=Z,12nm,1.0s
MDND Maddock 31.62 358 P **P 11 37 45.9 -0.1**
MDND Maddock 31.62 358 P **P 11 37 47.0 +1.0**
baz=177
BINY Binghamton 32.06 32 P **P 11 37 49.5 -0.5**
baz=223
J08A Circle Bar Ran 32.25 331 P **P 11 37 53.7 +2.0**
PAL Palisades 32.32 35 P **P 11 37 51.7 -0.5**
baz=227
SADO Sadowa 32.62 25 LR LR 11 54 53.8
comp=Z,87nm,18.7s,baz=249,slow=44
LYMT Lyon Mountain 32.94 342 P **P 11 37 59.0 +1.1**
CHMT Chamberlain Mo 33.18 341 P **P 11 38 00.8 +0.8**
EGMT Eagleton 33.22 345 P **P 11 38 02.2 +2.1**
baz=159
MSO Missoula 33.33 340 P **P 11 38 02.7 +1.5**
baz=151
L61B Northampton 33.97 34 P **P 11 38 06.0 -0.6**
baz=227
ULM Lac du Bonnet 34.03 2 P **P 11 38 06.8 -0.2**
comp=Z,4.4nm,0.8s,baz=187,slow=4.3,SNR=4.0
comp=Z,4.4nm,0.8s
LONY Lake Ozonia 34.54 30 P **P 11 38 11.4 -0.2**
baz=222
HRV Adam Dziewonsk 34.63 35 P **P 11 38 11.7 -0.7**
baz=229
NNA Nana 34.91 142 LR LR 11 49 50.0
comp=Z,82nm,18.3s,baz=317,slow=31
H04A Detroit Lake 35.01 329 P **P 11 38 16.6 +0.9**
LBNH Lisbon 35.60 33 P **P 11 38 19.8 -0.9**
baz=226
NEW Newport 35.67 338 P **P 11 38 23.2 +1.9**
baz=147
NEW Newport 35.67 338 LR LR 11 54 26.4
comp=Z,373nm,19.8s,baz=224,slow=39
GNW Green Mountain 37.43 332 P **P 11 38 36.7 +0.4**
GNW IAmb IAmb 11 38 46.3
comp=Z,10.0nm,0.8s
PKME Peaks-Kenny Pk 37.67 34 P **P 11 38 37.2 -1.1**
baz=229
LPAZ La Paz 43.66 136 P P 11 39 36.0 +7.1
comp=Z,3.1nm,0.8s,baz=317,slow=11,SNR=10
LPAZ LR LR 11 56 47.2
comp=Z,59nm,18.0s,baz=291,slow=34
comp=Z,3.1nm,0.8s
SCHQ Schefferville 45.43 25 LR LR 12 00 38.8
comp=Z,65nm,19.9s,baz=278,slow=39
V35K Ketchikan 46.83 334 P **P 11 39 55.1 +2.3**
baz=133
T35M Bob Quinn 47.44 337 P **P 11 39 59.1 +1.4**
baz=136
YKA Yellowknife Ar 47.73 350 LR LR 12 00 37.0
comp=Z,115nm,20.2s,baz=238,slow=37
WRAK Wrangell Islan 47.88 335 P **P 11 40 03.0 +2.0**
baz=133
DLBC Dease Lake 48.42 338 P **P 11 40 07.8 +2.5**
baz=137
DLBC Dease Lake 48.42 338 P **P 11 40 07.6 +2.3**
comp=Z,4.6nm,1.1s,baz=157,slow=7.7,SNR=4.3
comp=Z,4.6nm,1.1s
S34M Telegraph Cree 48.44 337 P **P 11 40 06.9 +1.5**
baz=135
WTLY Watson Lake, Y 49.25 340 P **P 11 40 13.8 +2.2**
baz=140
R33M Jennings River 49.45 338 P **P 11 40 15.5 +2.3**
baz=136

Q32M	Nakina River	49.61 337	P	P	11 40 16.6 +2.0
	baz=135				
R32K	Eaglecrest	50.00 336	P	P	11 40 19.5 +2.2
	baz=132				
TGTN	Hyland Airport	50.17 342	P	P	11 40 20.8 +2.1
	baz=141				
P32M	Atlin	50.58 337	P	P	11 40 24.2 +2.4
	baz=133				
P33M	Teslin, Yukon	50.69 338	P	P	11 40 24.9 +2.3
	baz=135				
SKAG	Skagway	51.10 337	P	P	11 40 27.1 +1.5
	baz=132				
N32M	Quiet Lake	51.45 339	P	P	11 40 30.1 +1.9
	baz=135				
FRB	Frobisher Bay	51.66 16	LR	LR	12 03 59.4
	comp=Z,52nm,20.8s,baz=218,slow=38				
WHY	Whitehorse	51.74 338	P	P	11 40 32.4 +1.9
	baz=133				
P29M	Windy Craggy	52.15 336	P	P	11 40 35.4 +1.9
	baz=129				
O30N	Mendenhall	52.26 337	P	P	11 40 36.1 +1.8
	baz=131				
FARO	Faro, Yukon	52.31 340	P	P	11 40 36.4 +1.9
	baz=135				
N31M	Braeburn, Yuko	52.62 338	P	P	11 40 38.6 +1.7
	baz=132				
M31M	Drury Creek, Y	52.63 339	P	P	11 40 39.0 +2.0
	baz=134				
HYT	Haines Junctio	52.82 337	P	P	11 40 40.6 +2.1
	baz=130				
YUK6	Outpost Mounta	53.22 337	P	P	11 40 43.7 +2.1
	baz=129				
YUK4	Talbot Arm	53.58 337	P	P	11 40 47.1 +2.9
	baz=129				
M30M	Minto, Yukon	53.71 339	P	P	11 40 47.4 +2.4
	baz=132				
O28M	Mount Upton	53.82 336	P	P	11 40 48.6 +2.5
	baz=127				
YUK8	Steele Glacier	53.97 337	P	P	11 40 49.7 +2.6
	baz=128				
MAYO	Mayo, Yukon	54.10 340	P	P	11 40 49.7 +2.0
	baz=133				
M29M	Somme Creek	54.21 338	P	P	11 40 50.1 +1.4
M29M			IAmb	IAmb	11 41 00.4
	comp=Z,6.0nm,0.9s				
M29M	Somme Creek	54.21 338	P	P	11 40 50.8 +2.1
	baz=130,SNR=5.5				
L29M	L29M	54.52 339	P	P	11 40 52.2 +1.3
L29M			IAmb	IAmb	11 40 54.0
	comp=Z,9.4nm,0.8s				
L29M	L29M	54.52 339	P	P	11 40 53.2 +2.3
	baz=130,SNR=7.3				
YUK3	Moose Creek	54.53 337	P	P	11 40 53.1 +1.9
	baz=127				
BGLC	Bering Glacier	54.70 334	P	P	11 40 53.7 +1.6
	baz=123				
K29M	Barlow Dome	54.80 340	P	P	11 40 55.5 +2.5
	baz=132				
J30M	Hart River	54.91 341	P	P	11 40 55.9 +2.1
	baz=133				
KAIM	Kayak Island	55.08 334	P	P	11 40 56.1 +1.2
	baz=122				
H31M	Peel River	55.18 343	P	P	11 40 55.8 +0.2
	baz=136				
MCARA	McCarthy VSAT	55.30 336	P	P	11 40 58.9 +2.5
	baz=124				
I30M	Mount Dempster	55.37 341	P	P	11 40 57.8 +0.7
	baz=134				
DAWY	Dawson	55.57 339	P	P	11 41 00.0 +1.6
	baz=130				
BMRM	Bremner River	55.71 335	P	P	11 41 01.6 +2.1
	baz=122				
L27K	Beaver Creek,	55.81 338	P	P	11 41 01.6 +1.4
L27K			IAmb	IAmb	11 41 11.4
	comp=Z,6.1nm,1.1s				
L27K	Beaver Creek,	55.81 338	P	P	11 41 02.3 +2.1
	baz=126				
M26K	Nabesna, AK	55.87 337	P	P	11 41 02.5 +1.9
	baz=125				
EYAK	Cordova Ski Ar	55.97 334	P	P	11 41 03.1 +1.9
	baz=121				
G31M	Satah River	55.97 344	P	P	11 41 01.9 +0.8
G31M			IAmb	IAmb	11 41 03.1
	comp=Z,9.0nm,0.8s				
G31M	Satah River	55.97 344	P	P	11 41 02.5 +1.3
	baz=137				
N25K	Chitina, Valde	56.05 335	P	P	11 41 04.0 +2.0
	baz=123				
I29M	Ogilvie Camp,	56.06 341	P	P	11 41 02.7 +0.8
	baz=132				
F31M	Tsiigehtchic	56.21 344	P	P	11 41 04.0 +1.2
	baz=138				
EPYK	Eagle Plains	56.27 342	P	P	11 41 04.6 +1.2
	baz=134				
L26K	Log Cabin Wild	56.35 337	P	P	11 41 06.4 +2.4
	baz=125				
K27K	Chicken	56.48 338	P	P	11 41 07.6 +2.7
	baz=127				
KLU	Klutina	56.53 335	P	P	11 41 06.7 +1.4
	baz=121				
G30M	tAoh Zraii Nji	56.55 343	P	P	11 41 07.0 +1.6
	baz=134				
EGAK	Eagle	56.62 339	P	P	11 41 07.0 +1.2
	baz=128				
I28M	Miner Creek	56.64 340	P	P	11 41 07.8 +1.7
	baz=130				
H29M	Whitestone	56.65 342	P	P	11 41 07.1 +1.0
	baz=132				
HARP	HAARP	56.70 336	P	P	11 41 08.8 +2.3
	baz=122				
INK	Inuvik	56.80 345	P	P	11 41 07.5 +0.4
INK			IAmb	IAmb	11 41 08.9
	comp=Z,9.5nm,0.8s				
INK	Inuvik	56.80 345	P	P	11 41 08.2 +1.1
	baz=138				
INK	Inuvik	56.80 345	P	P	11 41 07.7 +0.6
	comp=Z,8.6nm,0.7s,baz=119,slow=6.9,SNR=15				
	comp=Z,8.6nm,0.7s				
F30M	Barrier River	56.88 344	P	P	11 41 08.9 +1.2
	baz=135				
M24K	Tolsona, Glenn	56.95 335	P	P	11 41 10.8 +2.5
	baz=126				
G29M	Pine Creek	57.02 342	P	P	11 41 10.4 +1.7
	baz=132				
PAX	Paxson	57.13 336	P	P	11 41 11.5 +1.8
	baz=122				
SCRK	Sand Creek	57.13 338	P	P	11 41 12.4 +2.7
	baz=125				
I27K	Kandik River	57.28 340	P	P	11 41 12.7 +2.1
	baz=128				
SCM	Sheep Creek Mo	57.28 335	P	P	11 41 13.2 +2.5
	baz=120				
J26L	Joseph Creek	57.28 338	P	P	11 41 11.7 +1.0
	baz=125				
M23K	Glacier View	57.42 334	P	P	11 41 14.0 +2.3
	baz=120				
KNK	Knik Glacier	57.55 334	P	P	11 41 14.3 +1.8
	baz=118				
I26K	Coal Creek Min	57.61 339	P	P	11 41 15.5 +2.6
	baz=126				
H27K	Steamboat Moun	57.64 341	P	P	11 41 14.6 +1.5
	baz=128				
O22K	Cooper Landing	57.66 333	P	P	11 41 14.7 +1.4
	baz=117				
K24K	Donnelly Dome	57.70 337	P	P	11 41 15.1 +1.5
	baz=123				
BRSE	Bradley Lake S	57.79 332	P	P	11 41 16.6 +2.3
	baz=115				
WAT6	Susitna Watana	57.82 335	P	P	11 41 16.7 +2.1
	baz=120				
PMR	Palmer	57.92 334	P	P	11 41 16.6 +1.5
PMR			IAmb	IAmb	11 41 17.6
	comp=Z,7.7nm,0.8s				
PMR	Palmer	57.92 334	P	P	11 41 16.9 +1.9
	baz=118				
DHY	Denali Highway	57.93 336	P	P	11 41 17.0 +1.7
	baz=121				
RC01	Rabbit Creek A	57.94 333	P	P	11 41 17.0 +1.7
	baz=117				
J25K	Salcha River,	57.99 338	P	P	11 41 17.4 +1.8
	baz=124				
E29M	Blow River	57.99 344	P	P	11 41 16.6 +1.1
	baz=133				
F28M	Old Crow	58.02 342	P	P	11 41 16.9 +1.1
F28M			IAmb	IAmb	11 41 18.1
	comp=Z,6.8nm,0.8s				
F28M	Old Crow	58.02 342	P	P	11 41 17.5 +1.8
	baz=131,SNR=5.6				
G27K	Doyon Strip	58.04 341	P	P	11 41 17.0 +1.0
	baz=129				
SII	Sitkinak Islan	58.25 327	P	P	11 41 19.2 +1.7
	baz=110				
WAT1	Susitna Watana	58.27 335	P	P	11 41 19.1 +1.5
	baz=119				
M22K	Willow	58.41 334	P	P	11 41 20.3 +1.9
	baz=117				
HDA	Harding Lake	58.46 337	P	P	11 41 20.3 +1.4
	baz=122				
SUA	Susitna One	58.55 333	P	P	11 41 21.3 +1.7
	baz=116				
PRP	Porcupine Dome	58.55 339	P	P	11 41 21.1 +1.4
	baz=124				
BDFB	Brasilia	58.55 120	P	P	11 41 26.4 +6.0
	comp=Z,4.2nm,0.7s,baz=276,slow=10,SNR=4.4				
	comp=Z,4.2nm,0.7s				
E28M	Babbage River	58.59 343	P	P	11 41 20.8 +1.1
	baz=132				
ILAR	Eielson Array	58.63 338	P	P	11 41 21.1 +1.1
ILAR	Eielson Array	58.63 338	P	P	11 41 20.9 +0.9
	comp=Z,1.8nm,0.9s,baz=137,slow=5.5,SNR=21				
	comp=Z,1.8nm,0.9s				
RND	Reindeer	58.67 336	P	P	11 41 21.9 +1.5
RND			IAmb	IAmb	11 41 23.3
	comp=Z,10nm,1.0s				
R18K	Karluk	58.74 328	P	P	11 41 22.3 +1.5
	baz=110				
CHIR	Chirikof Islan	58.77 326	P	P	11 41 23.1 +2.0
	baz=108				
CUT	Chulitna	58.77 334	P	P	11 41 23.0 +2.0
	baz=117				
G26K	Porcupine Rive	58.80 341	P	P	11 41 22.4 +1.2
	baz=126				
MCK	McKinley	58.87 336	P	P	11 41 23.2 +1.4
	baz=119				
E27K	Coleen River	58.89 342	P	P	11 41 23.3 +1.4
	baz=129				
POKR	Poker Flat Res	59.01 338	P	P	11 41 24.3 +1.6
	baz=122				
COLA	College	59.03 338	P	P	11 41 24.0 +1.3
	baz=121				
H25L	Birch Creek	59.07 340	P	P	11 41 24.1 +1.1
	baz=124				
N20K	Mount Spurr	59.07 333	P	P	11 41 24.7 +1.5
	baz=115				
SKT	Skwentna	59.11 334	P	P	11 41 24.4 +1.0
SKT			IAmb	IAmb	11 41 25.4
	comp=Z,6.6nm,0.7s				
SKT	Skwentna	59.11 334	P	P	11 41 25.3 +1.9
	baz=116				
TRF	Thorofare Moun	59.26 336	P	P	11 41 26.3 +1.7
TRF	Thorofare Moun	59.26 336	P	P	11 41 26.4 +1.8
	baz=118,SNR=9.5				
SFJD	Kangerlussuaq	59.30 20	LR	LR	12 08 54.7
	comp=Z,88nm,20.7s,baz=270,slow=38				
BMAR	Burnt Mountain	59.33 341	P	P	11 41 26.2 +1.3
NEA2	Nenana	59.34 337	P	P	11 41 25.7 +0.8
	baz=120				
Q18K	Katmai Hardscr	59.39 329	P	P	11 41 26.9 +1.3
	baz=110				
G25K	Bearman Lake	59.44 340	P	P	11 41 27.2 +1.6
	baz=124				
H24K	Noodor Dome	59.54 339	P	P	11 41 27.4 +0.9
H24K			IAmb	IAmb	11 41 28.3
	comp=Z,3.9nm,0.8s				
H24K	Noodor Dome	59.54 339	P	P	11 41 27.6 +1.2
	baz=122				
KTH	Kantishna Hill	59.56 336	P	P	11 41 27.6 +1.1
KTH			IAmb	IAmb	11 41 38.5
	comp=Z,10nm,1.0s				
O19K	Port Alsworth	59.63 331	P	P	11 41 28.5 +1.6
	baz=112				
I23K	Minto, Yukon-K	59.72 338	P	P	11 41 29.4 +1.8
I23K	Minto, Yukon-K	59.72 338	P	P	11 41 29.0 +1.5
	baz=120				
R17K	Ugashik Creek	59.74 328	P	P	11 41 29.7 +1.9
	baz=109				
M20K	Styx River	59.76 333	P	P	11 41 29.3 +1.4
M20K			IAmb	IAmb	11 41 29.8
	comp=Z,6.3nm,0.8s				
M20K	Styx River	59.76 333	P	P	11 41 29.1 +1.1
	baz=114,SNR=5.0				
F25K	Christian Rive	59.76 341	P	P	11 41 29.4 +1.6
	baz=125				
P18K	Big Mountain,	59.76 330	P	P	11 41 29.5 +1.5
	baz=111				
PPLA	Purkeypile	59.78 335	P	P	11 41 29.8 +1.6
	baz=116				
BPAW	Bear Paw Mtn.	59.84 336	P	P	11 41 29.5 +1.1
	baz=117				
G24K	Hadweenzic Riv	59.86 340	P	P	11 41 30.1 +1.6
	baz=122				
O18K	Koktuh Hills	59.92 331	P	P	11 41 30.1 +1.1
	baz=111				
N19K	Bonanza Creek	59.93 332	P	P	11 41 30.3 +1.1
N19K	Bonanza Creek	59.93 332	P	P	11 41 30.5 +1.3
	baz=112				
CAST	Castle Rocks	59.97 335	P	P	11 41 30.0 +0.7
CAST			IAmb	IAmb	11 41 31.0
	comp=Z,7.6nm,0.8s				
CAST	Castle Rocks	59.97 335	P	P	11 41 30.3 +0.9
	baz=116,SNR=5.4				
E25K	Arctic Village	60.04 341	P	P	11 41 30.9 +1.1
	baz=125				
H23K	Yukon River	60.13 338	P	P	11 41 32.1 +1.7
	baz=120				
MLY	Manley	60.18 337	P	P	11 41 31.9 +1.1
	baz=118				
Q16K	King Salmon	60.21 329	P	P	11 41 33.3 +2.3
	baz=109				
CHUM	Lake Minchumin	60.26 336	P	P	11 41 31.6 +0.3
	baz=116				
P17K	Kvichak River	60.28 330	P	P	11 41 32.4 +0.9
	baz=109				
M19K	Big River Lodg	60.31 333	P	P	11 41 33.4 +1.7
M19K	Big River Lodg	60.31 333	P	P	11 41 32.9 +1.2
	baz=113				
L20K	Farewell, AK	60.32 334	P	P	11 41 32.8 +1.0
	baz=114				
R16K	Pilot Point	60.33 328	P	P	11 41 34.0 +2.1
	baz=108				
CHGN	Chignik	60.41 326	P	P	11 41 34.2 +1.8
	baz=106				
F24K	Squaw Lake	60.44 340	P	P	11 41 33.4 +0.9
	baz=122				
N18K	Kilae Creek	60.53 331	P	P	11 41 34.6 +1.4
	baz=111				
L19K	White Mountain	60.62 333	P	P	11 41 34.9 +1.1
	baz=112				
CHNA	Chernabura Isl	60.67 324	P	P	11 41 35.6 +1.4
	baz=104				
I21K	Tanana	60.72 337	P	P	11 41 35.7 +1.3
	baz=117				
G23K	Bananza Creek	60.74 339	P	P	11 41 36.0 +1.4
	baz=120				
K20K	Telida	60.75 335	P	P	11 41 35.0 +0.3
	baz=114				
M18K	Stony River	60.79 332	P	P	11 41 35.8 +0.9
	baz=111				
H22K	Ishtalitna Cre	60.82 338	P	P	11 41 36.0 +0.9
	baz=118				
C26K	Camden Bay	60.90 343	P	P	11 41 36.2 +0.7
	baz=126				
PPT	Papeete	60.92 239	LR	LR	12 00 55.9
	comp=Z,68nm,21.9s,baz=214,slow=29				
E24K	Your Creek	60.93 341	P	P	11 41 37.4 +1.6
	baz=122				
S14K	Fog Glacier	61.01 326	P	P	11 41 39.3 +2.6
	baz=105				
COLD	Coldfoot	61.05 339	P	P	11 41 38.6 +1.9
	baz=120				
N17K	Nushagak Hills	61.08 331	P	P	11 41 39.1 +2.2
	baz=109				
J20K	Nowinta River	61.12 335	P	P	11 41 38.6 +1.5
	baz=114				
O16K	Kokwok River B	61.21 330	P	P	11 41 39.2 +1.5
	baz=108				
H21K	Melozitna Rive	61.24 337	P	P	11 41 38.9 +0.9
	baz=116				
E23K	Chandalar	61.28 340	P	P	11 41 40.3 +2.0
	baz=121				
L18K	Granite Mounta	61.43 333	P	P	11 41 40.4 +1.1
	baz=111				
M17K	Holitna River	61.48 332	P	P	11 41 40.7 +1.0
	baz=110				
I20K	Naaghedeneel	61.51 336	P	P	11 41 41.1 +1.4
	baz=114				
TOLK	Toolik Lake Re	61.57 341	P	P	11 41 41.4 +1.2
	baz=121				
D24K	Happy Valley	61.61 342	P	P	11 41 42.0 +1.6
	baz=122				
J19K	Poorman	61.64 335	P	P	11 41 41.3 +0.6
J19K	Poorman	61.64 335	P	P	11 41 41.8 +1.1
	baz=113				
N16K	Nishlik Lake	61.80 331	P	P	11 41 43.3 +1.5
	baz=108				
F22K	John River	61.86 339	P	P	11 41 43.1 +1.0
	baz=118				
H20K	Anotleneega Mo	61.95 337	P	P	11 41 44.4 +1.6
	baz=114				
M16K	Timber Creek	62.06 331	P	P	11 41 45.3 +1.7
	baz=108				
PLCA	Paso Flores	62.07 157	P	P	11 41 51.6 +7.7
	comp=Z,2.0nm,0.9s,baz=305,slow=10,SNR=3.1				
PLCA			LR	LR	12 01 56.2
	comp=Z,72nm,20.4s,baz=212,slow=29				
	comp=Z,2.0nm,0.9s				
D23K	Nanushuk River	62.08 341	P	P	11 41 44.7 +1.1
	baz=120				
L17K	Donlin	62.11 332	P	P	11 41 45.0 +1.1
	baz=109				
F21K	Alatna River	62.18 339	P	P	11 41 45.2 +1.0
	baz=116				
C23K	Itkillik River	62.50 342	P	P	11 41 47.4 +1.0
	baz=121				
L16K	Owhat River	62.51 332	P	P	11 41 48.0 +1.5
	baz=108				
H19K	Roundabout Mou	62.56 336	P	P	11 41 48.0 +1.2
	baz=113				
D22K	Ayikyak River	62.67 341	P	P	11 41 48.8 +1.2
	baz=118				
E21K	Killik River	62.89 340	P	P	11 41 49.9 +0.9
	baz=116				
F20K	Avaraart Lake	62.90 338	P	P	11 41 50.5 +1.5
	baz=114				
G19K	Purcell Mounta	63.04 337	P	P	11 41 51.3 +1.3
	baz=112				
H18K	Honhosa River	63.17 336	P	P	11 41 52.3 +1.4
	baz=111				
M14K	Bethel	63.39 330	P	P	11 41 54.4 +2.0
	baz=105				
L15K	Ungalak Mounta	63.42 331	P	P	11 41 54.1 +1.6
	baz=106				
J16K	Anvik River	63.48 333	P	P	11 41 54.6 +1.6
	baz=108				
E20K	Nigu River	63.55 339	P	P	11 41 54.8 +1.3
	baz=114				
B22K	Teshekpuk Lake	63.59 342	P	P	11 41 54.9 +1.4
	baz=118				
E19K	Redstone River	63.60 338	P	P	11 41 55.0 +1.3
	baz=113				
K15K	Wolf Creek Mou	63.61 332	P	P	11 41 55.7 +1.9
	baz=106				
B21K	Ikpikpuk River	63.62 341	P	P	11 41 54.6 +0.8
	baz=116				
H17K	Granite Mounta	63.72 335	P	P	11 41 56.4 +1.9
	baz=109				
D20K	Etivluk River	63.88 340	P	P	11 41 57.5 +1.9
	baz=114				
M13K	Dall Lake	63.97 330	P	P	11 41 58.8 +2.6
	baz=104				
G17K	Kiwalik Mounta	64.19 336	P	P	11 41 59.2 +1.5
	baz=108				
D19K	Kuna River	64.31 339	P	P	11 41 59.8 +1.5
	baz=112				
A22K	Sinclair Lake	64.35 342	P	P	11 42 00.1 +1.6
	baz=117				
H16K	Elim	64.57 335	P	P	11 42 02.4 +2.3
	baz=107				
B20K	Meade River	64.59 341	P	P	11 42 01.3 +1.2
	baz=114				
J14K	Nanvaranak Lak	64.63 332	P	P	11 42 02.4 +1.9
	baz=104				
E18K	Tukpahlearik C	64.80 338	P	P	11 42 03.0 +1.5
	baz=109				
C19K	Lookout Ridge	65.03 340	P	P	11 42 04.9 +1.8
	baz=111				
G15K	Niukluk	65.41 335	P	P	11 42 07.3 +1.8
	baz=105				
NIKH	Nikolski High	65.76 321	P	P	11 42 10.5 +2.4
	baz=95				
F15K	North Star Dit	65.84 335	P	P	11 42 09.9 +1.5
	baz=105				
TNA	Tin City	67.13 335	P	P	11 42 18.7 +2.2
	baz=102				
RAR	Rarotonga	71.11 240	LR	LR	12 07 55.0
	comp=Z,60nm,21.4s,baz=150,slow=30				
ESDC	Sonseca Array	82.85 51	P	P	11 43 48.8 +0.8
	comp=Z,1.3nm,1.0s,baz=302,slow=5.5,SNR=7.6				
	comp=Z,1.3nm,1.0s				
MDT	Midelt	84.14 58	LR	LR	12 16 17.1
	comp=Z,53nm,18.9s,baz=332,slow=32				
AKASG	Malin Array Be	98.95 31	LR	LR	12 31 58.5
	comp=Z,29nm,18.2s,baz=23,slow=37				
BTO	Baotou	117.82 336	*e*PKP	PKPdf	11 50 08.5 -1.7
BTO			sPKP		11 50 23.0
BTO			PP	PP	11 51 25.0 +2.6
BTO	Baotou	117.82 336	SS	SS	12 07 39.3 +4.4
BTO			pmax	pmax	
	comp=Z,23nm,0.5s				
BTO			LR	LR	
	comp=N,440nm,5.0s				
BTO			LR	LR	
	comp=E,420nm,6.0s				
BTO			LR	LR	
	comp=Z,280nm,6.3s				
LZH	Lanzhou	124.08 339	*e*PKP	PKPdf	11 50 20.8 -1.6
WRA	Warramunga Arr	130.30 257	PKhKP	PKPpre	11 50 30.4
	comp=Z,0.3nm,0.8s,baz=86,slow=2.7,SNR=1.8				
WRA			PKP	sPKPdf	11 50 41.6 +2.5
	comp=Z,0.8nm,0.8s,baz=85,slow=2.6,SNR=5.8				
ASAR	Alice Springs	130.90 253	PKhKP	PKPpre	11 50 36.0
	comp=Z,0.2nm,0.7s,baz=83,slow=2.9,SNR=1.5				
PZH	PanZhiHua	133.46 335	PKP	PKiKP	11 50 41.0 -0.7

*IDC **28** 11:59:10.0±1.4, 12°.53N×95°.21E, h0km, mb3.7/7, mbtmp3.7/8, ML3.6/1, MS3.0/2, Error ellipse: s-maj=47.1km s-min=20.6km az=59.0*

ISC 28 11:59:12.9±1.3, 12°.6N±0°.2×95°.2E±0°.2, h19km, n9, σ0°20/8, mb3.7/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.88	31	Pn	Pn	12 00 53.0	+0.1
	0.3nm,0.3s,baz=218,slow=14,SNR=7.7						
CMAR				LR	LR	12 03 31.4	
	comp=Z,80nm,20.9s,baz=210,slow=38						
	0.7nm,0.5s						
MKAR	Makanchi Array	35.84	345	P	P	12 06 11.4	0.0
	0.9nm,0.8s,baz=151,slow=8.9,SNR=3.9						
	0.9nm,0.8s						
SONM	Songino Array	36.40	13	P	P	12 06 16.2	0.0
	0.4nm,0.3s,baz=201,slow=7.7,SNR=3.7						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	40.35	344	P	P	12 06 49.0	-0.3
	1.6nm,0.9s,baz=161,slow=7.8,SNR=11						
	1.6nm,0.9s						
GEYT	Alibeck	41.59	314	P	P	12 06 60.0	+0.2
	2.3nm,0.7s,baz=182,slow=8.5,SNR=4.3						
	2.3nm,0.7s						
ZALV	Zalesovo Beam	42.12	351	P	P	12 07 03.6	-0.2
	1.2nm,0.8s,baz=161,slow=9.2,SNR=5.4						
	1.2nm,0.8s						
WRA	Warramunga Arr	50.24	129	P	P	12 08 08.1	-0.1
	0.7nm,0.9s,baz=309,slow=8.1,SNR=5.8						
	0.7nm,0.9s						
ASAR	Alice Springs	52.21	134	P	P	12 08 23.1	+0.1
	0.3nm,0.7s,baz=316,slow=6.7,SNR=3.2						
	0.3nm,0.7s						
KBZ	Khabaz	54.46	315	LR	LR	12 34 31.0	
	comp=Z,24nm,18.5s,baz=30,slow=39						

*JMA **28** 12:13:29.2±0.1, 43°.0N±0°.5×145°.4E±0°.6, h48km, MV2.7/40, OFF NEMURO PENINSULA*

*SKHL **28** 12:13:30.0±0.5, 43°.00N×145°.40E, h41km±5km, mb3.8/2*

ISC 28 12:13:27.9±1.9, 42°.94N±0°.09×145°.46E±0°.06, h52km±11km, n14, σ0°61/24, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	Kushirohamanak	0.26	303	*i*P	Pn	12 13 37.3	+0.5
JKHN				*e*S	Sn	12 13 43.1	-0.2
AKK	Akkeshi	0.46	280	*e*P	Pn	12 13 38.9	+0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKK				*e*S	**Sn**	**12 13 46.0**	**-0.6**
NEM2	**Nemuro 2**	**0.47**	**26**	P	**Pn**	**12 13 39.4**	**+0.5**
NEM2				*e*S	**Sn**	**12 13 46.6**	**-0.3**
NMR	**Nemuro--Hokkai**	**0.47**	**24**	*i* P	**Pn**	**12 13 39.5**	**+0.6**
NMR				*e*S	**Sn**	**12 13 46.6**	**-0.2**
JAK	**Akkeshi**	**0.56**	**276**	*i* P	**Pn**	**12 13 40.3**	**+0.3**
JAK				*e*S	**Sn**	**12 13 48.5**	**-0.3**
JNK	**Nakash**	**0.84**	**320**	P	**Pn**	**12 13 43.6**	**0.0**
JNK				*e*S	**Sn**	**12 13 53.8**	**-1.3**
JNSB	**Nemuroshibetsu**	**0.90**	**338**	*e*P	**Pn**	**12 13 44.7**	**+0.4**
JNSB				*e*S	**Sn**	**12 13 56.4**	**0.0**
JRA	**Rausu**	**1.03**	**346**	*e*P	**Pn**	**12 13 46.6**	**+0.5**
JRA				*e*S	**Sn**	**12 13 59.3**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.13**	**15**	*e*P	**Pn**	**12 13 47.6**	**+0.2**
YUK				AMB	AMB	12 13 48.6	
	70nm,0.4s						
YUK				*e*S	**Sn**	**12 14 01.5**	**-0.4**
YUK				A	A	12 14 03.6	
	120nm,0.3s						
YUK				A	A	12 14 03.6	
	140nm,0.3s						
JOB	**Onbets**	**1.20**	**269**	*e*P	**Pn**	**12 13 48.8**	**+0.6**
JAR	**Ashorobuto**	**1.29**	**287**	*e*P	**Pn**	**12 13 50.1**	**+0.6**
SHO	**Shikotan**	**1.36**	**46**	*e*P	**Pn**	**12 13 51.0**	**+0.4**
SHO				AMB	AMB	12 13 52.2	
	20nm,0.4s						
SHO				*e*S	**Sn**	**12 14 06.4**	**-1.1**
SHO				A	A	12 14 08.8	
	30nm,0.3s						
SHO				A	A	12 14 08.8	
	50nm,0.3s						
JTKR	**Abashiri--Toko**	**1.53**	**313**	*e*P	**Pn**	**12 13 53.7**	**+0.9**
JCH	**Churui**	**1.58**	**259**	*e*S	**Sn**	**12 14 12.1**	**-0.7**

*IDC **28** 12:15:21.4±0.5,2°.76S×140°.82E, h0km, mb4.4/21, mbtmp4.4/24, ML4.5/3, MS3.7/22, Error ellipse: s-maj=21.3km s-min=11.9km az=81.0*
*DJA **28** 12:15:23.2±0.3,3°.5S±3°×14°.1E±°, h10km, M4.7/21, mB5.0/3, mb4.7/21, MLv4.8/5, Mw(mB)4.3/3*
*NEIC **28** 12:15:26.8±2.0,2°.91S±0°.09×140°.71E±0°.03, h35km±2km, mb4.7/43, Error ellipse: s-maj=15.3km s-min=4.2km az=185.0*
ISC 28 12:15:26.9±0.4,2°.89S±0°.05×140°.71E±0°.06, h35km, n159, σ1972/157, mb4.7/49, MS3.7/18, 1C-1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.37**	**0**	P	Pn	12 15 26.4	-9.5
GENI	**Genyem**	**0.61**	**299**	P	**Pn**	**12 15 35.2**	**-3.9**
GENI	**Genyem**	**0.61**	**299**	P	**Pn**	**12 15 34.6**	**-4.5**
TABU	**Tabubil**	**2.42**	**168**	P	**Pn**	**12 16 07.7**	**+3.7**
MMPI	**Merauke**	**5.55**	**183**	P	**Pn**	**12 16 49.5**	**+2.5**
	703nm,0.6s,2.6nm						
RKPI	**Ransiki, Papua**	**6.67**	**282**	P	**Pn**	**12 17 01.3**	**-1.1**
	72nm,0.6s,0.2nm						
MANU	**Manus Island**	**6.71**	**83**	Pn	**Pn**	**12 17 02.1**	**-0.9**
FAKI	**Fak Fak**	**8.45**	**270**	Pn	**Pn**	**12 17 25.0**	**-1.9**
FAKI	**Fak Fak**	**8.45**	**270**	P	**Pn**	**12 17 26.8**	**-0.1**
FAKI	**Fak Fak**	**8.45**	**270**	P	**Pn**	**12 17 26.1**	**-0.8**
	41nm,1.2s						
PMG	**Port Moresby**	**9.11**	**136**	Pn	**Pn**	**12 17 33.9**	**-2.1**
PMG	**Port Moresby**	**9.11**	**136**	P	Pn	12 17 41.7	+5.7
PMG	**Port Moresby**	**9.11**	**136**	Pn	**Pn**	**12 17 37.0**	**+1.0**
	2.0nm,0.3s,baz=316,slow=7.9,SNR=12						
PMG				LR	LR	12 21 45.9	
	comp=Z,346nm,19.2s,baz=302,slow=42						
SWI	**Sorong**	**9.65**	**282**	P	**Pn**	**12 17 43.8**	**+0.4**
	25nm,0.6s						
COEN	**Coen**	**11.26**	**168**		**Pn**	**12 18 04.6**	**-0.9**
COEN	**Coen**	**11.26**	**168**	P	**Pn**	**12 18 08.3**	**+2.8**
KRVT	**Keravat (AS076**	**11.39**	**97**	LR	LR	12 21 36.8	
	comp=Z,209nm,19.6s,baz=116,slow=33						
KDU	**Kakadu**	**12.69**	**219**	P	**Pn**	**12 18 24.0**	**-1.0**
MTN	**Manton Dam**	**13.69**	**223**	Pn	**Pn**	**12 18 36.8**	**-1.9**
MTN	**Manton Dam**	**13.69**	**223**	P	**Pn**	**12 18 37.0**	**-1.7**
SANI	**Sanana**	**14.73**	**273**	P	**Pn**	**12 18 51.6**	**-1.2**
	28nm,1.1s						
KNRA	**Kununurra**	**17.31**	**222**		**Pn**	**12 19 23.2**	**-2.8**
KNRA				IAmb	IAmb	12 20 05.6	
	comp=Z,32nm,0.8s						
KNRA	**Kununurra**	**17.31**	**222**	P	**Pn**	**12 19 24.9**	**-1.1**
QIS	**Mount Isa**	**17.59**	**183**	P	**Pn**	**12 19 29.5**	**0.0**
SOEI	**Soe**	**17.70**	**247**		**Pn**	**12 19 29.5**	**-1.4**
SOEI				IAmb	IAmb	12 19 45.9	
	comp=Z,51nm,0.7s						
SOEI	**Soe**	**17.70**	**247**	P	**Pn**	**12 19 30.8**	**-0.1**
SOEI	**Soe**	**17.70**	**247**	P	**P**	**12 19 33.4**	**+1.9**
	comp=Z,72nm,1.0s						
WB0	**Warramunga Arr**	**17.87**	**200**	P	**Pn**	**12 19 31.2**	**-1.7**
CTA	**Charters Tower**	**17.93**	**163**	P	**P**	**12 19 35.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=347,slow=14,SNR=1.9						
CTA				LR	LR	12 26 34.5	
	comp=Z,268nm,21.4s,baz=314,slow=37						
	comp=Z,1.6nm,0.5s						
WR0	**Warramunga Arr**	**18.00**	**199**	P	**Pn**	**12 19 32.8**	**-1.7**
WR0				IAmb	IAmb	12 19 40.7	
	comp=Z,36nm,0.6s						
GTOI	**Gorontalo**	**18.03**	**281**	P	**P**	**12 19 36.2**	**+1.1**
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**18.04**	**200**	P	**Pn**	**12 19 34.1**	**-0.8**
WRAB				IAmb	IAmb	12 19 41.1	
	comp=Z,81nm,1.4s						
WRAB	**Tennant Creek**	**18.04**	**200**	P	**P**	**12 19 35.3**	**+0.1**
WB2	**Warramunga Arr**	**18.05**	**200**		**Pn**	**12 19 34.3**	**-0.8**
WB2				IAmb	IAmb	12 19 41.8	
	comp=Z,32nm,0.6s						
DAV	**Davao City (W)**	**18.05**	**303**	LR	LR	12 26 19.4	
	comp=Z,80nm,20.7s,baz=219,slow=36						
WRA	**Warramunga Arr**	**18.05**	**200**	P	**Pn**	**12 19 34.3**	**-0.8**
WRA	**Warramunga Arr**	**18.05**	**200**	P	**Pn**	**12 19 34.5**	**-0.7**
	comp=Z,4.3nm,0.3s,baz=16,slow=12,SNR=74						
WRA				S	**Sn**	**12 22 49.7**	**-5.9**
	comp=Z,2.1nm,0.6s,baz=11,slow=22,SNR=3.6						
	comp=Z,17nm,0.6s						
BATI	**Baumata**	**18.41**	**246**	P	**Pn**	**12 19 40.3**	**+0.7**
	comp=Z,52nm,0.6s						
BATI	**Baumata**	**18.41**	**246**	P	**Pn**	**12 19 39.9**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=136,slow=3.1,SNR=6.4						
	comp=Z,30nm,0.7s						
EDFI	**Ende, Flores**	**19.78**	**252**	P	**P**	**12 19 54.9**	**+0.4**
HNR	**Honiara**	**20.20**	**110**	P	**P**	**12 19 59.1**	**+0.3**
HNR	**Honiara**	**20.20**	**110**	P	**P**	**12 19 55.7**	**-3.1**
	comp=Z,666nm,0.6s,baz=209,slow=8.8,SNR=3.5						
TOLI2	**Tolitoli**	**20.31**	**281**	P	Pn	12 20 02.5	+0.2
KAPI	**Kappang**	**21.01**	**264**	P	**P**	**12 20 09.1**	**+1.4**
KAPI	**Kappang**	**21.01**	**264**	P	**P**	**12 20 08.1**	**+0.4**
	comp=Z,9.4nm,0.3s,baz=176,slow=18,SNR=4.4						
	comp=Z,9.4nm,0.3s						
AS31	**Alice Springs**	**21.67**	**197**	P	**P**	**12 20 14.7**	**-0.1**
ASAR	**Alice Springs**	**21.68**	**197**	P	**P**	**12 20 14.4**	**-0.3**
ASAR	**Alice Springs**	**21.68**	**197**	P	**P**	**12 20 15.2**	**+0.4**
	comp=Z,12nm,0.6s,baz=29,slow=9.6,SNR=218						
ASAR				S	**S**	**12 24 13.0**	**0.0**
	comp=Z,3.0nm,1.0s,baz=21,slow=25,SNR=4.5						
	comp=Z,12nm,0.6s						
PLAI	**Plampang**	**23.55**	**255**	P	**P**	**12 20 34.1**	**-0.3**
	comp=Z,27nm,1.1s						
MYLDM	**Lahad Datu**	**23.59**	**290**	P	**P**	**12 20 37.4**	**+2.7**
EIDS	**Eidsvold**	**24.48**	**157**	P	**P**	**12 20 44.6**	**+1.8**
EIDS	**Eidsvold**	**24.48**	**157**	P	**P**	**12 20 46.5**	**+3.6**
INKA	**Innaminka**	**24.71**	**180**	P	**P**	**12 20 46.7**	**+1.8**
WRKA	**Warakurna**	**25.05**	**207**	P	**P**	**12 20 48.6**	**+0.4**
OOD	**Oodnadatta**	**25.22**	**190**	P	**P**	**12 20 51.1**	**+1.5**
LCRK	**Leigh Creek**	**27.51**	**185**	P	**P**	**12 21 11.8**	**+1.6**
MULG	**Mulgathing**	**27.96**	**192**	P	**P**	**12 21 14.7**	**+0.4**
STKA	**Stephens Creek**	**28.84**	**178**	P	**P**	**12 21 23.3**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=337,slow=8.7,SNR=3.5						
STKA				LR	LR	12 33 59.4	
	comp=Z,229nm,20.3s,baz=2.7,slow=39						
	comp=Z,1.8nm,0.6s						
JCJ	**Chichijima**	**29.85**	**3**	LR	LR	12 32 03.7	
	comp=Z,134nm,21.4s,baz=125,slow=34						
BBOO	**Buckleboo**	**30.08**	**188**	P	**P**	**12 21 32.0**	**-1.1**
BBOO	**Buckleboo**	**30.08**	**188**	P	**P**	**12 21 33.6**	**+0.5**
FORT	**Forrest**	**30.20**	**202**	P	**P**	**12 21 32.4**	**-1.8**
FORT	**Forrest**	**30.20**	**202**	P	**P**	**12 21 35.4**	**+1.2**
DZM	**Mont Dzumac**	**31.43**	**129**	LR	LR	12 34 08.5	
	comp=Z,138nm,18.5s,baz=310,slow=36						
MEEK	**Meekatharra**	**31.72**	**220**	P	**P**	**12 21 48.5**	**+0.9**
BBJI	**Bungbulang**	**33.22**	**261**	P	**P**	**12 22 01.9**	**+0.9**
TOO	**Toolangi**	**34.79**	**173**	P	**P**	**12 22 16.9**	**+2.6**
MORW	**Morawa**	**35.04**	**220**	P	**P**	**12 22 17.6**	**+1.1**
BLDU	**Ballidu**	**35.71**	**217**	P	**P**	**12 22 23.0**	**+0.7**
JNU	**Nakatsue**	**37.01**	**346**	P	**P**	**12 22 32.8**	**-0.6**
	comp=Z,15nm,0.9s,baz=140,slow=7.9,SNR=3.2						
JNU				LR	LR	12 35 02.9	
	comp=Z,51nm,19.1s,baz=182,slow=32						
	comp=Z,15nm,0.9s						
NWAO	**Narrogin (SRO)**	**37.10**	**214**	LR	LR	12 40 52.7	
	comp=Z,227nm,18.7s,baz=32,slow=41						
MJAR	**Matsuhiro Arr**	**39.30**	**357**	P	**P**	**12 22 49.9**	**-2.7**
	comp=Z,1.3nm,0.8s,baz=180,slow=8.5,SNR=2.5						
MJAR				LR	LR	12 37 37.1	
	comp=Z,78nm,19.1s,baz=192,slow=34						
	comp=Z,1.3nm,0.8s						
NJ2	**Nanjing**	**40.47**	**331**	*e*P	**P**	**12 23 03.0**	**+0.6**
NJ2				pP	**sP**	**12 23 15.0**	**-1.9**
NJ2				sP	**pP**	**12 23 18.5**	**+5.8**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,940nm,4.7s						
KSRS	**Korea Array**	**41.86**	**345**	P	**P**	**12 23 12.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=173,slow=9.7,SNR=3.7						
KSRS				PcP	**PcP**	**12 25 08.8**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=172,slow=2.4,SNR=4.2						
KSRS				LR	LR	12 37 38.8	
	comp=Z,53nm,21.7s,baz=160,slow=32						
	comp=Z,1.0nm,0.7s						
RPSI	**Rantau Prapat**	**42.13**	**277**	P	**P**	**12 23 14.5**	**-1.8**
RPSI				IAmb	IAmb	12 23 23.4	
	comp=Z,9.7nm,0.9s						
CRAI	**Chiangrai**	**45.75**	**302**	P	**P**	**12 23 44.3**	**-1.0**
CM31	**Chiang Mai Arr**	**46.26**	**299**	P	**P**	**12 23 46.6**	**-2.8**
CM31				IAmb	IAmb	12 23 51.7	
	comp=Z,10nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.26**	**299**	P	**P**	**12 23 49.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**46.26**	**299**	P	**P**	**12 23 49.5**	**+0.2**
	comp=Z,7.6nm,0.7s,baz=120,slow=6.5,SNR=47						
	comp=Z,7.6nm,0.7s						
CHTO	**Chiang Mai**	**46.40**	**299**	P	**P**	**12 23 50.7**	**+0.3**
HNS	**HongShan**	**46.80**	**331**	∥P	**P**	**12 23 52.5**	**-0.7**
HNS				pmax	pmax		
	comp=Z,13nm,0.7s						
XAN	**Xi'an**	**47.39**	**324**	P	**P**	**12 23 56.3**	**-1.6**
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
USRK	**Ussuriysk Ar.**	**47.53**	**352**	P	**P**	**12 23 57.2**	**-1.6**
USRK	**Ussuriysk Ar.**	**47.53**	**352**	P	**P**	**12 23 58.2**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=145,slow=7.1,SNR=5.7						
	comp=Z,5.2nm,0.9s						
PZH	**PanZhiHua**	**47.65**	**310**	P	**P**	**12 24 01.3**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,230nm,5.7s						
MDJ	**Mudanjiang**	**48.33**	**349**	P	**P**	**12 24 06.8**	**+1.8**
MDJ				pP	sP	12 24 17.8	-1.8
MDJ				sP	pP	12 24 23.0	+7.5
MDJ				PP	**PcP**	**12 25 33.5**	**+2.2**
URZ	**Urewera**	**48.42**	**141**	LR	LR	12 45 07.5	
	comp=Z,74nm,18.5s,baz=31,slow=37						
RPZ	**Rata Peaks**	**48.74**	**151**	LR	LR	12 43 47.9	
	comp=Z,85nm,20.9s,baz=290,slow=35						
HHC	**Hu-ho-hao-te**	**51.02**	**332**	*e*P	**P**	**12 24 27.5**	**+1.8**
HHC				pmax	pmax		
	comp=Z,30nm,0.7s						
HHC				pmax	pmax		
	comp=Z,300nm,4.4s						
BTO	**Baotou**	**51.58**	**330**	*e*P	**P**	**12 24 32.5**	**+2.6**
BTO				pP	**pP**	**12 24 37.0**	**-3.4**
BTO				sP	**sP**	**12 24 39.5**	**-5.1**
BTO				S	**S**	**12 31 56.5**	**+8.1**
BTO	**Baotou**	**51.58**	**330**	SS	**SS**	**12 35 27.8**	**+2.7**
BTO				pmax	pmax		
	comp=Z,16nm,0.6s						
BTO				pmax	pmax		
	comp=Z,350nm,4.5s						
BTO				LR	LR		
	comp=N,770nm,5.0s						
BTO				LR	LR		
	comp=E,330nm,6.1s						
BTO				LR	LR		
	comp=Z,460nm,6.4s						
LZH	**Lanzhou**	**51.84**	**322**	*e*P	**P**	**12 24 33.0**	**+1.0**
LZH				pP	pP	12 24 43.0	+0.5
LZH				sP	sP	12 24 50.0	+3.3
LZH				pmax	pmax		
	comp=Z,34nm,0.9s						
KLR	**Kul'dur**	**52.49**	**353**	P	**P**	**12 24 35.6**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=148,slow=3.3,SNR=6.5						
KLR				LR	LR	12 44 02.1	
	comp=Z,36nm,21.4s,baz=229,slow=33						
	comp=Z,3.4nm,0.8s						
HEH	**HeiHe**	**54.16**	**350**	*e*P	**P**	**12 24 47.8**	**-0.8**
SHL	**Shillong**	**55.08**	**304**	P	**P**	**12 24 56.0**	**0.0**
SHL				IAmb	IAmb	12 24 59.6	
	comp=Z,8.2nm,0.7s						
GTA	**Gaotai**	**56.41**	**322**	⇑P	**P**	**12 25 06.0**	**+0.8**
GTA				pP	pP	12 25 13.0	-2.9
GTA				pmax	pmax		
	comp=Z,12nm,1.5s						
PETK	**Petropavlovsk-**	**57.60**	**12**	P	**P**	**12 25 12.6**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=165,slow=4.1,SNR=2.1						
PETK				LR	LR	12 46 26.4	
	comp=Z,54nm,21.4s,baz=177,slow=32						
	comp=Z,1.6nm,0.6s						
GOMU	**GeErMu**	**57.80**	**317**	P	**P**	**12 25 15.3**	**-0.1**
GOMU				pP	pP	12 25 20.5	-5.6
GOMU				sP	sP	12 25 26.0	-4.2
GOMU				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**58.75**	**334**	P	**P**	**12 25 19.8**	**-1.7**
SONM	**Songino Array**	**58.75**	**334**	P	**P**	**12 25 21.0**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=154,slow=8.0,SNR=6.7						
SONM				LR	LR	12 48 48.8	
	comp=Z,42nm,22.0s,baz=150,slow=34						
	comp=Z,0.9nm,0.6s						
ODAN	**Odare**	**59.30**	**304**	*e*P	**P**	**12 25 26.5**	**+0.6**
	comp=Z,31nm,0.7s						
RAMN	**Ramite**	**59.99**	**303**	*e*P	**P**	**12 25 31.1**	**+0.4**
	comp=Z,22nm,0.8s						
JIRN	**Jiri**	**60.59**	**304**	*e*P	**P**	**12 25 35.0**	**+0.1**
	comp=Z,19nm,0.7s						
GUN	**Gumba**	**60.93**	**304**	*e*P	**P**	**12 25 37.4**	**+0.2**
	comp=Z,38nm,0.9s						
PKI	**Pulchoki**	**61.20**	**304**	*e*P	**P**	**12 25 38.5**	**-0.5**
	comp=Z,34nm,1.2s						
PKIN	**Phulchoki**	**61.22**	**304**	*e*P	**P**	**12 25 38.6**	**-0.4**
	comp=Z,13nm,0.6s						
KKN	**Kakani**	**61.39**	**304**	*e*P	**P**	**12 25 39.9**	**-0.2**
	comp=Z,32nm,0.5s						
GKN	**Gorkha**	**61.99**	**304**	*e*P	**P**	**12 25 44.2**	**+0.1**
	comp=Z,56nm,0.7s						
KOLN	**Koldanda**	**62.78**	**303**	*e*P	**P**	**12 25 49.0**	**-0.5**
	comp=Z,70nm,1.2s						
MA2	**Magadan**	**62.78**	**6**	LR	LR	12 49 56.5	
	comp=Z,42nm,21.8s,baz=202,slow=33						
DANN	**Dangsing**	**62.84**	**304**	*e*P	**P**	**12 25 49.7**	**-0.3**
	comp=Z,62nm,0.7s						
PYUN	**Piuthan**	**63.40**	**303**	*e*P	**P**	**12 25 53.1**	**-0.5**
	comp=Z,88nm,0.9s						
WMQ	**Urumqi**	**66.40**	**321**	*e*P	**P**	**12 26 14.0**	**+1.4**
MK31	**Makanchi Array**	**71.16**	**322**	P	**P**	**12 26 41.6**	**-0.6**
MK31				IAmb	IAmb	12 26 45.8	
	comp=Z,8.1nm,1.0s						
MKAR	**Makanchi Array**	**71.16**	**322**	P	**P**	**12 26 42.2**	**+0.1**
MKAR	**Makanchi Array**	**71.16**	**322**	P	**P**	**12 26 42.1**	**0.0**
	comp=Z,4.8nm,0.7s,baz=107,slow=7.5,SNR=26						
	comp=Z,4.8nm,0.7s						
MAKZ	**Makanchi**	**71.36**	**322**	P	**P**	**12 26 43.2**	**-0.1**
MAKZ				IAmb	IAmb	12 26 47.0	
	comp=Z,10nm,0.8s						
KSH	**Kashi**	**72.66**	**313**	P	**P**	**12 26 52.8**	**+1.3**
KSH				pP	sP	12 27 05.0	-1.5
KSH				PcP	**PcP**	**12 27 10.5**	**+1.7**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
NIL	**Nilore**	**73.03**	**306**	P	**P**	**12 26 53.3**	**-0.4**
ZAA0	**Zalesovo Array**	**73.10**	**329**	P	**P**	**12 26 52.5**	**-1.0**
ZAA0				IAmb	IAmb	12 26 53.5	
	comp=Z,4.3nm,0.8s						
ZALV	**Zalesovo Beam**	**73.10**	**329**	P	**P**	**12 26 52.6**	**-1.0**
	comp=Z,3.9nm,0.7s,baz=110,slow=6.4,SNR=18						
	comp=Z,3.9nm,0.7s						
KURK	**Kurchatov**	**75.02**	**324**	P	**P**	**12 27 04.5**	**-0.3**
KURK				IAmb	IAmb	12 27 08.1	
	comp=Z,9.5nm,0.8s						
KURBB	**Kurchatov Arra**	**75.03**	**324**	P	**P**	**12 27 04.3**	**-0.6**
	comp=Z,5.9nm,0.8s,baz=112,slow=5.6,SNR=31						
	comp=Z,5.9nm,0.8s						
VNDA	**Vanda**	**75.43**	**175**	P	**P**	**12 27 07.2**	**+0.5**
VNDA	**Vanda**	**75.43**	**175**	P	**P**	**12 27 07.4**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=331,slow=5.2,SNR=10						
VNDA				LR	LR	12 59 45.0	
	comp=Z,104nm,19.4s,baz=340,slow=35						
	comp=Z,0.8nm,0.5s						
KK31	**Karatay Array**	**77.66**	**315**	P	**P**	**12 27 19.8**	**-0.2**
KKAR	**Karatay Array**	**77.66**	**315**	P	**P**	**12 27 19.8**	**-0.2**
KKAR	**Karatay Array**	**77.66**	**315**	P	**P**	**12 27 18.7**	**-1.3**
KKAR				IAmb	IAmb	12 27 21.8	
	comp=Z,2.2nm,0.7s						
KDAK	**Kodiak Island**	**80.26**	**30**	LR	LR	12 58 39.5	
	comp=Z,73nm,21.4s,baz=201,slow=32						
BVAR	**Borovoye Array**	**80.60**	**325**	P	**P**	**12 27 35.6**	**-0.3**
	comp=Z,14nm,0.7s,baz=112,slow=7.3,SNR=36						
	comp=Z,14nm,0.7s						
BRVK	**Borovoye**	**80.67**	**325**	P	**P**	**12 27 35.7**	**-0.6**
L19K	**White Mountain**	**80.92**	**25**	P	**P**	**12 27 37.1**	**-0.3**
M20K	**Styx River**	**81.54**	**26**	P	**P**	**12 27 40.6**	**-0.3**
M20K				IAmb	IAmb	12 27 46.7	
	comp=Z,15nm,1.3s						
K20K	**Telida**	**81.72**	**24**	P	**P**	**12 27 41.4**	**-0.3**
K20K				IAmb	IAmb	12 27 46.0	
	comp=Z,10nm,1.1s						
J20K	**Nowinta River**	**82.02**	**24**	P	**P**	**12 27 43.2**	**+0.1**
J20K				IAmb	IAmb	12 27 45.5	
	comp=Z,14nm,1.1s						
CAST	**Castle Rocks**	**82.57**	**25**	P	**P**	**12 27 45.3**	**-0.8**
CAST				IAmb	IAmb	12 27 46.5	
	comp=Z,16nm,1.4s						
MAW	**Mawson**	**82.71**	**202**	P	**P**	**12 27 46.1**	**-0.6**
MAW	**Mawson**	**82.71**	**202**	P	**P**	**12 27 47.5**	**+0.8**
	comp=Z,2.7nm,1.0s,baz=96,slow=3.8,SNR=6.0						
MAW				LR	LR	13 01 13.5	
	comp=Z,53nm,21.5s,baz=51,slow=33						
	comp=Z,2.7nm,1.0s						
SML	**Sawmill**	**83.65**	**27**	P	**P**	**12 27 50.8**	**-0.9**
RND	**Reindeer**	**83.93**	**25**	P	**P**	**12 27 51.8**	**-1.4**
RND				IAmb	IAmb	12 27 52.7	
	comp=Z,6.7nm,0.9s						
DHY	**Denali Highway**	**84.46**	**26**	P	**P**	**12 27 55.0**	**-0.9**
DHY				IAmb	IAmb	12 27 58.5	
	comp=Z,7.0nm,0.9s						
IL31		**85.18**	**24**	P	**P**	**12 27 57.0**	**-2.2**
IL31				IAmb	IAmb	12 27 58.3	
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**85.18**	**24**	P	**P**	**12 27 57.1**	**-2.2**
ILAR	**Eielson Array**	**85.18**	**24**	P	**P**	**12 27 57.4**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=260,slow=4.5,SNR=28						
ILAR				LR	LR	13 03 49.3	
	comp=Z,81nm,19.8s,baz=194,slow=34						
	comp=Z,1.5nm,0.6s						
GEYT	**Alibeck**	**85.92**	**308**	P	**P**	**12 28 03.0**	**-0.7**
GEYT	**Alibeck**	**85.92**	**308**	P	**P**	**12 28 04.0**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=113,slow=3.7,SNR=6.6						
	comp=Z,2.9nm,0.6s						
ABKAR	**Akbulak array**	**86.15**	**320**	P	**P**	**12 28 03.2**	**-1.3**
ABKAR	**Akbulak array**	**86.15**	**320**	P	**P**	**12 28 01.9**	**-2.6**
ABKAR				IAmb	IAmb	12 28 07.6	
	comp=Z,3.9nm,1.1s						
M27K	**Edge Creek, AK**	**86.72**	**27**	P	**P**	**12 28 06.9**	**-0.3**
M27K				IAmb	IAmb	12 28 09.4	
	comp=Z,6.0nm,1.0s						
BMAR	**Burnt Mountain**	**86.82**	**22**	P	**P**	**12 28 08.0**	**+0.5**
QSPA	**South Pole Qui**	**87.06**	**180**	P	**P**	**12 28 08.8**	**0.0**
QSPA				IAmb	IAmb	12 28 13.0	
	comp=Z,9.0nm,1.2s						
QSPA	**South Pole Qui**	**87.06**	**180**	P	**P**	**12 28 09.2**	**+0.4**
	comp=Z,5.9nm,1.0s,baz=306,slow=1.2,SNR=30						
QSPA				LR	LR	13 06 39.3	
	comp=Z,111nm,20.6s,baz=18,slow=35						
	comp=Z,5.9nm,1.0s						
AKTO	**Aktyubinsk**	**87.55**	**321**	P	**P**	**12 28 10.9**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=100,slow=6.2,SNR=3.6						
	comp=Z,1.0nm,0.6s						
E27K	**Coleen River**	**88.11**	**21**	P	**P**	**12 28 13.5**	**-0.1**
DAWY	**Dawson**	**88.17**	**26**	P	**P**	**12 28 14.4**	**+0.4**
DAWY				IAmb	IAmb	12 28 15.2	
	comp=Z,5.2nm,1.0s						
EKA	**Eskdalemuir Ar**	**120.13**	**337**	PKP	**PKiKP**	**12 34 14.7**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=40,slow=3.7,SNR=3.7						
DBIC	**Dimbokro**	**145.49**	**278**	PKP

BASI	**Baing, Sumba**	**1.61 96**	P	**Pn**	**12 30 17.6**	**+2.8**
PLAI	**Plampang**	**1.69 316**	P	**Pn**	**12 30 16.9**	**+1.0**
PLAI	**Plampang**	**1.69 316**	P	**Pn**	**12 30 16.7**	**+0.8**
PLAI			S	**Sn**	**12 30 36.9**	**+0.5**
TWSI	**Taliwang, Sumb**	**2.43 302**	P	**Pn**	**12 30 27.6**	**+1.5**
TWSI			S	**Sn**	**12 30 55.5**	**+0.9**
EDFI	**Ende, Flores**	**3.00 65**	P	**Pn**	**12 30 34.7**	**+0.7**
MMRI	**Maumere**	**3.53 67**		Pn	12 30 38.9	-2.3
MMRI	**Maumere**	**3.53 67**	P	**Pn**	**12 30 43.7**	**+2.4**
MMRI	**Maumere**	**3.53 67**	P	**Pn**	**12 30 41.7**	**+0.4**
DNP	**Denpasar**	**3.94 290**	P	**Pn**	**12 30 45.6**	**-1.2**
IGBI	**Denpasar**	**3.95 288**	P	**Pn**	**12 30 47.1**	**+0.1**
IGBI			S	**Sn**	**12 31 32.8**	**+0.6**
SRBI	**Singaraja**	**4.18 298**	P	**Pn**	**12 30 51.7**	**+1.6**
BATI	**Baumata**	**4.64 92**	P	**Pn**	**12 30 59.0**	**+2.5**
BATI	**Baumata**	**4.64 92**	P	**Pn**	**12 30 58.7**	**+2.3**
	52nm,0.3s,baz=164,slow=1.8,SNR=18					
BATI			S	**Sn**	**12 31 51.1**	**+2.0**
	56nm,0.4s,baz=208,slow=22,SNR=1.9					
BKSI	**Bulukumba**	**4.84 14**	P	**Pn**	**12 31 01.5**	**+2.3**
JAGI	**Jajag, Banyuwa**	**5.00 288**	Pn	**Pn**	**12 31 00.2**	**-1.2**
JAGI	**Jajag, Banyuwa**	**5.00 288**	P	**Pn**	**12 31 01.8**	**+0.5**
JAGI	**Jajag, Banyuwa**	**5.00 288**	P	**Pn**	**12 31 00.5**	**-0.8**
KAPI	**Kappang**	**5.07 9**	P	**Pn**	**12 31 04.8**	**+2.4**
KAPI	**Kappang**	**5.07 9**	P	**Pn**	**12 31 04.8**	**+2.4**
	49nm,0.3s,baz=173,slow=3.1,SNR=50					
KAPI			S	**Sn**	**12 31 58.9**	**-0.8**
	170nm,0.3s,baz=100,slow=22,SNR=13					
KAPI			LR	LR	12 33 05.5	
	comp=Z,283nm,21.9s,baz=158,slow=40					
ABJI	**Asem Bagus**	**5.18 295**	P	**Pn**	**12 31 08.2**	**+4.4**
SOEI	**Soe**	**5.24 87**		**Pn**	**12 31 05.0**	**+0.2**
SOEI	**Soe**	**5.24 87**	P	**Pn**	**12 31 09.5**	**+4.7**
SOEI	**Soe**	**5.24 87**	P	**Pn**	**12 31 07.8**	**+3.0**
	73nm,0.9s,1μm0.4nm					
GMJI	**Gumukmas**	**5.72 288**	P	**Pn**	**12 31 10.3**	**-1.0**
	51nm,1.0s,0.4nm					
BLJI	**Banyuglugur**	**5.77 293**	P	**Pn**	**12 31 11.9**	**-0.1**
	99nm,0.7s,0.7nm					
BBSI	**Bau Bau**	**5.78 39**	P	**Pn**	**12 31 15.3**	**+3.2**
	31nm,0.7s,0.1nm					
TTSI	**Tana Toraja**	**7.02 7**	P	**Pn**	**12 31 33.4**	**+4.3**
WOJI	**Wonogiri, Jawa**	**8.23 285**	P	**Pn**	**12 31 45.8**	**0.0**
	66nm,1.7s					
UGM	**Wanagama**	**8.60 284**	Pn	**Pn**	**12 31 51.0**	**+0.3**
UGM	**Wanagama**	**8.60 284**	P	**Pn**	**12 31 53.3**	**+2.5**
UGM	**Wanagama**	**8.60 284**	P	**Pn**	**12 31 51.0**	**+0.3**
	169nm,1.7s					
KPJI	**Karang Pucung**	**10.27 284**	P	**Pn**	**12 32 14.2**	**+0.5**
	16nm,1.6s					
MBWA	**Marble Bar**	**11.06 176**	Pn	**Pn**	**12 32 23.8**	**-0.7**
KNRA	**Kununurra**	**11.07 121**		**Pn**	**12 32 25.3**	**+0.7**
KNRA	**Kununurra**	**11.07 121**	P	**Pn**	**12 32 25.5**	**+0.9**
PSA00	**Pilbara Seismi**	**11.48 176**	Pn	**Pn**	**12 32 29.7**	**-0.5**
PSA00	**Pilbara Seismi**	**11.48 176**	P	**Pn**	**12 32 31.7**	**+1.5**
MTN	**Manton Dam**	**12.25 104**		**Pn**	**12 32 40.1**	**-0.7**
GIRL	**Giralia**	**13.31 199**	Pn	**Pn**	**12 32 55.9**	**+0.8**
GIRL	**Giralia**	**13.31 199**	P	**Pn**	**12 32 55.6**	**+0.5**
FAKI	**Fak Fak**	**14.98 63**	Pn	Pn	12 33 10.9	-6.8
MNAI	**Manna**	**16.84 288**	P	**Pn**	**12 33 40.7**	**-0.7**
WRA	**Warramunga Arr**	**17.80 125**	P	**Pn**	**12 33 53.4**	**+0.3**
	0.4nm,0.4s,baz=292,slow=14,SNR=6.4					
WRA			S	Sn	12 37 00.4	-10
	1.3nm,0.7s,baz=292,slow=24,SNR=5.0					
WR0	**Warramunga Arr**	**17.97 125**	P	**P**	**12 33 52.2**	**-3.0**
ASAR	**Alice Springs**	**19.67 135**	P	**P**	**12 34 11.4**	**-2.5**
ASAR	**Alice Springs**	**19.67 135**	P	**P**	**12 34 15.8**	**+1.9**
	0.9nm,0.7s,baz=307,slow=10,SNR=22					
ASAR			S	S	12 37 41.4	-12
	0.7nm,1.0s,baz=308,slow=23,SNR=1.1					
ASAR			LR	LR	12 42 56.5	
	comp=Z,48nm,18.6s,baz=335,slow=40					
AS31	**Alice Springs**	**19.67 135**	P	**P**	**12 34 11.9**	**-2.0**
CMAR	**Chiang Mai Arr**	**34.54 325**	P	**P**	**12 36 33.1**	**+0.4**
	0.7nm,0.4s,baz=149,slow=6.4,SNR=5.1					
CMAR			PcP	**PcP**	**12 39 07.5**	**+0.6**
	0.6nm,0.4s,baz=167,slow=4.3,SNR=2.5					
	0.7nm,0.4s					
XAN	**Xi'an**	**44.88 348**	P	P	12 37 52.5	-6.0
XAN			pmax	pmax		
	comp=Z,10.0nm,0.6s					
H08S2	**Diego Garcia H**	**45.94 269**	T	T	13 27 29.2	
	baz=95,slow=74					
H08S3	**Diego Garcia H**	**45.95 269**	T	T	13 27 31.6	
	baz=95,slow=74					
H08S1	**Diego Carcia H**	**45.96 269**	T	T	13 27 28.8	
	baz=95					
KSRS	**Korea Array**	**48.00 10**	P	**P**	**12 38 21.5**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=184,slow=7.3,SNR=2.6					
	comp=Z,0.8nm,0.7s					
MJAR	**Matsushiro Arr**	**49.77 20**	P	**P**	**12 38 34.7**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=198,slow=8.4,SNR=4.3					
	comp=Z,1.5nm,0.8s					
JSD	**Sado**	**51.14 20**	P	**P**	**12 38 44.8**	**-2.0**
GTA	**Gaotai**	**52.33 341**	*eP*	**P**	**12 38 56.0**	**+0.2**
GTA			pP	pP	12 39 02.8	-6.2
GTA			pmax	pmax		
	comp=Z,3.0nm,1.0s					
XLT	**XiLinHaoTe**	**53.76 357**	*eP*	P	12 39 12.3	+6.1
XLT			pP	pP	12 39 19.8	0.0
XLT			sP	sP	12 39 23.0	-2.4
XLT			pmax	pmax		
	comp=Z,11nm,0.9s					
XLT			pmax	pmax		
	comp=Z,280nm,5.2s					
USRK	**Ussuriysk Ar.**	**55.28 11**	P	**P**	**12 39 15.2**	**-1.9**
USRK	**Ussuriysk Ar.**	**55.28 11**	P	**P**	**12 39 16.2**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=199,slow=3.9,SNR=4.8					
	comp=Z,1.7nm,0.6s					
SONM	**Songino Array**	**58.70 350**	P	**P**	**12 39 40.2**	**-1.3**
SONM			IAmb	IAmb	12 39 44.2	
	comp=Z,2.0nm,0.7s					
SONM	**Songino Array**	**58.70 350**	P	**P**	**12 39 41.1**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=168,slow=8.7,SNR=13					
	comp=Z,2.5nm,0.6s					
MK31	**Makanchi Array**	**65.37 333**	P	**P**	**12 40 25.6**	**-0.5**
MK31			IAmb	IAmb	12 40 26.9	
	comp=Z,4.1nm,0.8s					
MKAR	**Makanchi Array**	**65.37 333**	P	**P**	**12 40 25.5**	**-0.6**
MKAR	**Makanchi Array**	**65.37 333**	P	**P**	**12 40 25.7**	**-0.4**
	comp=Z,3.9nm,0.5s,baz=153,slow=6.3,SNR=26					
	comp=Z,3.9nm,0.5s					
BOOM	**Boomskoye usch**	**65.43 326**	P	**P**	**12 40 24.7**	**-2.1**
KURBB	**Kurchatov Arra**	**69.89 334**	P	**P**	**12 40 54.0**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=140,slow=5.5,SNR=37					
	comp=Z,2.5nm,0.6s					
KURK	**Kurchatov**	**69.92 334**	P	**P**	**12 40 53.6**	**-1.0**
KURK			IAmb	IAmb	12 40 54.9	
	comp=Z,5.2nm,1.1s					
ZAA0	**Zalesovo Array**	**70.01 339**	P	**P**	**12 40 53.5**	**-1.6**
ZAA0			IAmb	IAmb	12 40 54.6	
	comp=Z,4.4nm,0.7s					
ZALV	**Zalesovo Beam**	**70.01 339**	P	**P**	**12 40 53.3**	**-1.8**
ZALV	**Zalesovo Beam**	**70.01 339**	P	**P**	**12 40 53.9**	**-1.2**
	comp=Z,3.8nm,0.5s,baz=139,slow=5.1,SNR=25					
	comp=Z,3.8nm,0.5s					
PETK	**Petropavlovsk-**	**71.05 24**	P	**P**	**12 41 01.2**	**-0.3**
PETK	**Petropavlovsk-**	**71.05 24**	P	**P**	**12 41 00.7**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=199,slow=4.0,SNR=1.7					
	comp=Z,2.2nm,0.8s					
GEYT	**Alibeck**	**74.14 314**	P	**P**	**12 41 20.1**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=149,slow=3.4,SNR=2.8					
	comp=Z,1.3nm,0.6s					
BVAR	**Borovoye Array**	**75.20 332**	P	**P**	**12 41 25.8**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=97,slow=6.0,SNR=8.8					
	comp=Z,2.3nm,0.7s					
ABKAR	**Akbulak array**	**78.39 325**	P	**P**	**12 41 43.3**	**-0.8**
QSPA	**South Pole Qui**	**79.94 180**	P	**P**	**12 41 54.0**	**+1.5**
QSPA			IAmb	IAmb	12 42 37.6	
	comp=Z,5.1nm,1.5s					
QSPA	**South Pole Qui**	**79.94 180**	P	**P**	**12 41 54.3**	**+1.8**
	comp=Z,1.1nm,1.1s,baz=289,slow=5.8,SNR=1.7					
	comp=Z,1.1nm,1.1s					
MBAR	**Mbarara**	**88.14 270**	LR	LR	13 15 30.7	
	comp=Z,29nm,20.6s,baz=358,slow=31					
TKL	**Tuckaleechee C**	**147.18 35**	PKPbc	**PKPdf**	**12 49 26.6**	**+1.8**
	comp=Z,1.2nm,0.4s,baz=164,slow=3.6,SNR=4.3					

DJA 28 12:41:29.5±0.2,1°S±3°×12°0E±°,h10km,M4.0/15,mb4.4/5, mB5.7/1,MLv3.8/15,Mw(mB)5.2/1,MwMwp5.2/1, Mwp5.4/1,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.66**	**341**	P	Pn	12 41 57.6	-1.1
TTSI	**Tana Toraja**	**1.89**	**199**	P	Pn	12 42 02.1	+0.3
MRSI	**Marisa**	**2.29**	**41**	P	Pn	12 42 06.4	-0.9
LUWI	**Luwuk**	**2.35**	**85**	P	Pn	12 42 07.8	-0.4
GTOI	**Gorontalo**	**3.19**	**54**	P	Pn	12 42 19.5	-0.2
KMSI	**Cibinong**	**3.99**	**63**	P	Pn	12 42 30.7	0.0
BKSI	**Bulukumba**	**4.06**	**184**	P	Pn	12 42 30.6	-1.1
BBSI	**Bau Bau**	**4.72**	**153**	P	Pn	12 42 40.8	0.0
BBKI	**Banjar Baru**	**6.00**	**248**	P	Pn	12 42 58.4	0.0
SGSI	**Sangihe**	**7.07**	**46**	P	Pn	12 43 13.2	0.0
	22nm,0.5s,0.2nm						
TNTI	**Ternate**	**7.22**	**74**	P	Pn	12 43 15.0	-0.2
	22nm,0.6s,10μm0.2nm						

IDC 28 12:50:31.9±5.7,29°.08N×137°.58E,h630km±208km, mb2.4/2,mbtmp3.8/4,Error ellipse: s-maj=451.0km s-min=33.0km az=76.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.52**	**115**	P	P	12 52 03.0	-0.1
	92nm,0.7s,baz=253,slow=18,SNR=2.1						
USRK	**Ussuriysk Ar.**	**15.74**	**345**	P	P	12 53 45.8	+0.4
	2.6nm,0.5s,baz=155,slow=8.6,SNR=7.3						
WRA	**Warramunga Arr**	**48.83**	**184**	P	P	12 58 22.4	+0.3
	0.3nm,0.4s,baz=1.8,slow=8.0,SNR=8.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**52.56**	**184**	P	P	12 58 48.5	-0.4
	0.2nm,0.4s,baz=0.3,slow=6.7,SNR=2.9						
	0.2nm,0.4s						

*IDC **28** 12:59:41.2±2.5,0°.42N×98°.26E,h0km,mb3.6/7, mbtmp3.6/7,MS3.5/3,Error ellipse: s-maj=86.1km s-min=23.6km az=57.0*
*DJA **28** 12:59:47.1±0.9,1°N±5°×9°8E±°,h16km±11km,M3.9/6, mb4.6/2,MLv3.6/6*
ISC 28 12:59:45.2±0.8,0°.69N±0°.08×98°.4E±0°.1,h10km,n25, σ0°99/11,mb3.8/7,MS3.6/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.74**	**187**	P	**Pb**	**12 59 59.7**	**-0.5**
GSI	**Gunungsitoli**	**1.00**	**308**	P	**Pg**	**13 00 05.6**	**+1.2**
SISI	**Saibi**	**2.13**	**160**	P	**Pn**	**13 00 21.3**	**+0.5**
PDSI	**Padang**	**2.63**	**127**	P	**Pn**	**13 00 29.2**	**+1.4**
PPSI	**Pulau Pagai**	**3.80**	**154**	P	**Pn**	**13 00 44.4**	**+0.5**
MNAI	**Manna**	**6.80**	**138**	P	**Pn**	**13 01 26.0**	**+0.9**
H08S2	**Diego Garcia H**	**27.10**	**252**	T	T	13 32 51.5	
	baz=74,slow=74						
H08S3	**Diego Garcia H**	**27.10**	**252**	T	T	13 32 50.1	
	baz=74,slow=74						
H08S1	**Diego Carcia H**	**27.11**	**252**	T	T	13 32 51.1	
	baz=74						
WRA	**Warramunga Arr**	**40.78**	**122**	P	P	13 07 24.0	-2.9
	0.5nm,1.0s,baz=302,slow=9.6,SNR=2.2						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**42.16**	**127**	P	P	13 07 35.1	-3.2
	0.2nm,0.4s,baz=307,slow=6.9,SNR=1.8						
	0.2nm,0.4s						
KSRS	**Korea Array**	**45.62**	**33**	P	**P**	**13 08 05.0**	**-0.8**
	1.4nm,0.9s,baz=227,slow=8.0,SNR=3.9						
	1.4nm,0.9s						
SONM	**Songino Array**	**47.47**	**7**	P	**P**	**13 08 20.4**	**0.0**
	0.5nm,0.5s,baz=190,slow=11,SNR=2.0						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**48.02**	**345**	P	**P**	**13 08 23.8**	**-0.7**
	0.6nm,0.6s,baz=156,slow=7.9,SNR=6.2						
	0.6nm,0.6s						
MJAR	**Matsushiro Arr**	**51.29**	**41**	LR	LR	13 30 42.9	
	comp=Z,30nm,21.7s,baz=236,slow=36						
KURBB	**Kurchatov Arra**	**52.53**	**344**	P	**P**	**13 08 57.6**	**-1.0**
	0.6nm,0.2s,baz=171,slow=6.5,SNR=1.6						
	0.6nm,0.2s						
ZALV	**Zalesovo Beam**	**54.25**	**350**	P	**P**	**13 09 10.3**	**-0.8**
	0.5nm,0.5s,baz=179,slow=7.1,SNR=4.0						
	0.5nm,0.5s						
ASAJ	**Asahikawa**	**58.38**	**36**	LR	LR	13 35 25.0	
	comp=Z,40nm,19.1s,baz=143,slow=37						
H04N2	**CROZET ISLANDS**	**62.02**	**215**	T	T	14 16 40.1	
	baz=55,slow=75,SNR=6.3						
H04N1	**CROZET ISLANDS**	**62.03**	**215**	T	T	14 16 38.8	
	baz=55,slow=75,SNR=6.6						
H04N3	**CROZET ISLANDS**	**62.03**	**215**	T	T	14 16 42.7	
	baz=55,slow=75,SNR=6.9						
H04S1	**CROZET ISLANDS**	**62.34**	**214**	T	T	14 17 06.1	
	baz=52						
H04S3	**CROZET ISLANDS**	**62.35**	**214**	T	T	14 17 09.3	
	baz=52						
H04S2	**CROZET ISLANDS**	**62.36**	**214**	T	T	14 17 01.2	
	baz=52						
MA2	**Magadan**	**71.29**	**25**	LR	LR	13 44 37.0	
	comp=Z,38nm,19.1s,baz=190,slow=38						

*IDC **28** 13:06:55.4±0.9,2°.71S×140°.84E,h0km,mb4.1/9, mbtmp4.2/10,ML4.3/1,MS3.3/3,Error ellipse: s-maj=38.9km s-min=18.9km az=79.0*
*DJA **28** 13:06:57.7±0.4,3°S±4°×14°1E±°,h10km,M4.4/12,mB5.4/1, mb4.2/12,MLv4.5/4,Mw(mB)4.8/1*
ISC 28 13:06:56.3±1.8,2°.73S±0°.06×140°.75E±0°.08,h2km±12km, n49,σ1°13/41,mb4.4/13,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.22**	**349**	P	**Pg**	**13 07 00.6**	**0.0**
GENI	**Genyem**	**0.60**	**284**	P	**Pb**	**13 07 09.5**	**0.0**
GENI	**Genyem**	**0.60**	**284**	P	**Pb**	**13 07 09.2**	**-0.3**
TABU	**Tabubil**	**2.56**	**169**	P	**Pb**	**13 07 43.0**	**0.0**
MMPI	**Merauke**	**5.71**	**184**	P	**Pn**	**13 08 24.7**	**+2.6**
	173nm,0.5s,1.1nm						
FAKI	**Fak Fak**	**8.49**	**269**	P	**Pn**	**13 09 01.0**	**+0.6**
FAKI	**Fak Fak**	**8.49**	**269**	P	**Pn**	**13 08 58.8**	**-1.6**
	31nm,1.2s						
KDU	**Kakadu**	**12.84**	**219**	P	**Pn**	**13 09 58.2**	**-1.8**
	21nm,0.5s						
MTN	**Manton Dam**	**13.84**	**223**	P	**Pn**	**13 10 12.6**	**-1.0**
SANI	**Sanana**	**14.76**	**272**	P	**Pn**	**13 10 25.4**	**-0.9**
	7.4nm,0.9s						
GUMO	**Guam**	**16.73**	**14**	LR	LR	13 17 38.6	
	comp=Z,52nm,19.1s,baz=168,slow=39						
KNRA	**Kununurra**	**17.46**	**222**	P	**Pn**	**13 11 00.2**	**-1.0**
QIS	**Mount Isa**	**17.75**	**184**	P	**P**	**13 11 07.0**	**+1.3**
SOEI	**Soe**	**17.80**	**246**	P	**Pn**	**13 11 05.8**	**+0.3**
	19nm,0.9s						
CTA	**Charters Tower**	**18.07**	**163**	LR	LR	13 18 19.6	
	comp=Z,78nm,19.8s,baz=262,slow=38						
WRAB	**Tennant Creek**	**18.20**	**200**	P	**Pn**	**13 11 10.4**	**+0.1**
WRA	**Warramunga Arr**	**18.21**	**200**	P	**Pn**	**13 11 08.8**	**-1.7**
	0.9nm,0.3s,baz=20,slow=12,SNR=38						
	3.3nm,0.5s						
EDFI	**Ende, Flores**	**19.87**	**252**	P	**P**	**13 11 29.2**	**0.0**
	5.7nm,1.0s						
TTSI	**Tana Toraja**	**20.91**	**269**	P	**P**	**13 11 39.8**	**-0.5**
	11nm,0.9s,2μm						
BASI	**Baing, Sumba**	**21.36**	**249**	P	**P**	**13 11 46.5**	**+1.3**
	118nm,0.9s						
ASAR	**Alice Springs**	**21.84**	**197**	P	**P**	**13 11 49.6**	**-0.6**
	2.6nm,0.7s,baz=29,slow=9.9,SNR=38						
	2.6nm,0.7s						
KBKI	**Kotabaru**	**24.55**	**268**	P	**P**	**13 12 17.3**	**-0.5**
	17nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**33.12**	**49**	T	T	13 48 17.3	
	baz=232,slow=75,SNR=248						
H11S2	**WAKE ISLAND Hy**	**33.13**	**49**	T	T	13 48 17.1	
	baz=232,slow=75,SNR=177						
H11S1	**WAKE ISLAND Hy**	**33.14**	**49**	T	T	13 48 18.4	
	baz=232,slow=75,SNR=220						
H11N1	**WAKE ISLAND Hy**	**34.02**	**48**	T	T	13 49 28.7	
	baz=229,slow=75,SNR=41						
H11N2	**WAKE ISLAND Hy**	**34.03**	**48**	T	T	13 49 29.3	
	baz=229,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**34.03**	**48**	T	T	13 49 30.2	
	baz=229,slow=75,SNR=27						
CMAR	**Chiang Mai Arr**	**46.23**	**299**	P	**P**	**13 15 23.9**	**+0.5**
	3.0nm,0.9s,baz=120,slow=6.7,SNR=17						
	3.0nm,0.9s						
LZH	**Lanzhou**	**51.74**	**322**	*eP*	**P**	**13 16 05.8**	**+0.2**
LZH				pP	sP	13 16 14.5	+8.1
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
GTA	**Gaotai**	**56.31**	**322**	*eP*	**P**	**13 16 40.3**	**+1.4**
GTA				pP	sP	13 16 47.5	+7.8
GTA				sP	pP	13 16 51.5	+12
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
TAPN	**Taplejung**	**59.17**	**304**	*eP*	**P**	**13 17 01.2**	**+1.8**
	comp=Z,8.8nm,0.7s						
RAMN	**Ramite**	**59.94**	**303**	*eP*	**P**	**13 17 06.6**	**+1.8**
	comp=Z,15nm,0.7s						
JIRN	**Jiri**	**60.54**	**304**	*eP*	**P**	**13 17 09.6**	**+0.6**
	comp=Z,7.0nm,0.4s						
GUN	**Gumba**	**60.88**	**304**	*eP*	**P**	**13 17 11.6**	**+0.3**
	comp=Z,13nm,0.7s						
DMN	**Daman**	**61.42**	**303**	*eP*	**P**	**13 17 16.0**	**+1.2**
	comp=Z,12nm,0.6s						
GKN	**Gorkha**	**61.94**	**304**	*eP*	**P**	**13 17 19.2**	**+0.9**
DANN	**Dangsing**	**62.79**	**304**	*eP*	**P**	**13 17 24.1**	**0.0**
	comp=Z,20nm,0.7s						
PYUN	**Piuthan**	**63.35**	**303**	*eP*	**P**	**13 17 28.0**	**+0.3**
	comp=Z,35nm,0.8s						
MKAR	**Makanchi Array**	**71.06**	**322**	P	**P**	**13 18 16.3**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=101,slow=7.4,SNR=7.2						
	comp=Z,1.4nm,0.8s						
KSH	**Kashi**	**72.59**	**313**	P	**P**	**13 18 27.8**	**+2.2**
ZALV	**Zalesovo Beam**	**72.99**	**329**	P	**P**	**13 18 26.1**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=136,slow=6.4,SNR=5.0						
	comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**74.93**	**324**	P	**P**	**13 18 38.1**	**-0.8**
	comp=Z,2.0nm,0.2s,baz=116,slow=5.2,SNR=6.9						
	comp=Z,2.0nm,0.2s						
VNDA	**Vanda**	**75.58**	**175**	P	**P**	**13 18 42.1**	**0.0**
	comp=Z,0.5nm,0.8s,baz=3.9,slow=6.6,SNR=3.3						
VNDA				LR	LR	13 51 16.9	
	comp=Z,46nm,18.9s,baz=314,slow=35						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**80.50**	**325**	P	**P**	**13 19 09.7**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=106,slow=7.5,SNR=13						
	comp=Z,3.9nm,0.8s						
ILAR	**Eielson Array**	**85.02**	**24**	P	**P**	**13 19 31.2**	**-1.9**
	comp=Z,0.7nm,0.9s,baz=253,slow=5.7,SNR=6.8						
	comp=Z,0.7nm,0.9s						
QSPA	**South Pole Qui**	**87.21**	**180**	P	**P**	**13 19 43.6**	**-0.6**
	comp=Z,2.1nm,0.8s,baz=310,slow=1.2,SNR=11						
	comp=Z,2.1nm,0.8s						
DBIC	**Dimbokro**	**145.51**	**278**	PKPbc	**PKPdf**	**13 26 36.4**	**-1.0**
	comp=Z,4.7nm,1.0s,baz=63,slow=4.3,SNR=2.3						
LPAZ	**La Paz**	**145.77**	**124**	PKPbc	**PKPab**	**13 26 38.9**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=262,slow=5.4,SNR=5.6						

*IDC **28** 13:16:04.9±9.1,22°.28N×143°.61E,h222km±70km,mb3.4/9, mbtmp4.0/9,MS3.4/1,Error ellipse: s-maj=120.3km s-min=13.4km az=77.0*
ISC 28 13:16:02.2±2.7,22°.3N±0°.2×143°.8E±0°.8,h200km,n13, σ0°64/10,mb3.9/8,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.36**	**321**	P	**P**	**13 20 24.2**	**+0.9**
	2.0nm,0.5s,baz=146,slow=8.6,SNR=22						
	2.0nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**21.82**	**96**	T	T	13 44 08.1	
	baz=284,slow=74,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**21.83**	**96**	T	T	13 44 08.5	
	baz=284,slow=74,SNR=3.2						
H11S2	**WAKE ISLAND Hy**	**21.84**	**96**	T	T	13 44 09.0	
	baz=284,slow=74,SNR=3.2						
KAPI	**Kappang**	**35.90**	**224**	LR	LR	13 36 12.1	
	comp=Z,60nm,21.5s,baz=252,slow=34						
SONM	**Songino Array**	**39.22**	**320**	P	**P**	**13 23 10.5**	**-0.5**
	0.4nm,0.4s,baz=116,slow=9.8,SNR=1.9						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**42.99**	**193**	P	**P**	**13 23 41.8**	**-0.1**
	0.2nm,0.4s,baz=17,slow=9.0,SNR=9.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**46.69**	**192**	P	**P**	**13 24 11.2**	**+0.1**
	0.4nm,0.7s,baz=18,slow=12,SNR=9.7						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**54.07**	**321**	P	**P**	**13 25 05.3**	**-0.6**
	1.1nm,0.4s,baz=104,slow=8.9,SNR=5.4						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**54.68**	**312**	P	**P**	**13 25 10.2**	**-0.4**
	3.5nm,1.1s,baz=91,slow=8.2,SNR=5.6						
MKAR				PcP	**PcP**	**13 26 11.8**	**+1.0**
	0.3nm,0.5s,baz=91,slow=1.2,SNR=1.8						
	3.5nm,1.1s						
KURBB	**Kurchatov Arra**	**57.45**	**317**	P	**P**	**13 25 29.7**	**-0.3**
	1.5nm,0.3s,baz=103,slow=8.1,SNR=9.6						
	1.5nm,0.3s						
BVAR	**Borovoye Array**	**62.56**	**319**	P	**P**	**13 26 04.9**	**+0.1**
	3.6nm,0.4s,baz=88,slow=7.3,SNR=18						
	3.6nm,0.4s						
FINES	**FINESS Array B**	**82.86**	**335**

SLCR	Slobozia Conac	0.98	85	⇓P		Pn		13 57 07.2	-0.2
SLCR				⇑S		Sn		13 57 22.5	-1.6
TESR	Tescani	1.01	10	⇓P		Pn		13 57 07.5	-0.3
TESR				⇑S		Sn		13 57 23.0	-1.8
SCHL	Schela	1.02	90	⇓P		Pn		13 57 07.6	-0.2
SCHL				⇑S		Sn		13 57 23.1	-1.7
SCHL	Schela	1.02	90			Pn		13 57 07.6	-0.2
SCHL						Sn		13 57 23.1	-1.7
LEHL	Lehliu	1.09	163	⇑P		Pn		13 57 09.4	+0.9
LEHL				⇑S		Sn		13 57 26.9	+0.9
VARL	Varlezi	1.10	69	⇓P		Pn		13 57 08.8	+0.2
VARL				⇓S		Sn		13 57 25.9	-0.3
VARL	Varlezi	1.10	69			Pn		13 57 08.8	+0.2
VARL						Sn		13 57 25.9	-0.3
CIOR	Ciorogarla	1.12	199	⇑P		Pn		13 57 09.5	+0.6
CIOR				⇑S		Sn		13 57 27.3	+0.6
CIOR	Ciorogarla	1.12	199			Pn		13 57 09.5	+0.6
CIOR						Sn		13 57 27.3	+0.6
AMRR	Amara	1.13	143	⇓P		Pn		13 57 09.6	+0.6
AMRR				⇓S		Sn		13 57 27.2	+0.4
AMRR	Amara	1.13	143	P		Pn		13 57 09.7	+0.7
SCTR	Scanteiesti	1.14	81	⇓P		Pn		13 57 09.5	+0.5
SCTR				⇑S		Sn		13 57 26.8	-0.3
SCTR	Scanteiesti	1.14	81			Pn		13 57 09.5	+0.5
SCTR						Sn		13 57 26.8	-0.3
BIR	Birlad	1.15	49	⇓P		Pn		13 57 09.4	+0.3
BIR				⇑S		Sn		13 57 26.0	-1.2
BIR	Birlad	1.15	49			Pn		13 57 09.4	+0.3
BIR						Sn		13 57 25.9	-1.2
BIR	Birlad	1.15	49	P		Pn		13 57 09.4	+0.3
TATR	Tatarca	1.18	85	⇓P		Pn		13 57 09.9	+0.5
TATR				⇑S		Sn		13 57 27.4	-0.2
TATR	Tatarca	1.18	85			Pn		13 57 09.9	+0.5
TATR						Sn		13 57 27.4	-0.2
GISR	Galati	1.18	93	⇓P		Pn		13 57 09.9	+0.4
GISR				⇓S		Sn		13 57 27.1	-0.5
GISR	Galati	1.18	93			Pn		13 57 09.9	+0.4
GISR						Sn		13 57 27.1	-0.5
BUC1	Bucharest	1.19	192	⇑P		Pn		13 57 10.3	+0.7
BUC1				⇓S		Sn		13 57 28.3	+0.4
BUC1	Bucharest	1.19	192			Pn		13 57 10.3	+0.7
BUC1						Sn		13 57 28.3	+0.4
BUC1	Bucharest	1.19	192	P		Pn		13 57 10.3	+0.7
STFAR	Stefanesti-Arg	1.20	237	⇑P		Pn		13 57 10.5	+0.8
STFAR				⇓S		Sn		13 57 29.3	+1.2
STFAR	Stefanesti-Arg	1.20	237			Pn		13 57 10.7	+0.9
STFAR						Sn		13 57 29.3	+1.2
VLDR	Vladesti	1.24	74			Pn		13 57 10.5	+0.4
VLDR						Sn		13 57 28.7	-0.1
ARR	Arges	1.24	264	⇑P		Pn		13 57 10.6	+0.4
ARR				⇓S		Sn		13 57 29.1	+0.2
CFR	Carcaliu	1.28	105	⇓P		Pn		13 57 10.2	-0.3
CFR				⇓S		Sn		13 57 27.9	-1.7
CFR	Carcaliu	1.28	105	P		Pn		13 57 10.2	-0.3
GIUM	Giurgiulesti	1.28	91	⇓P		Pn		13 57 11.0	+0.4
GIUM				⇑S		Sn		13 57 29.7	0.0
GIUM	Giurgiulesti	1.28	91			Pn		13 57 11.0	+0.4
GIUM						Sn		13 57 29.7	0.0
GIUM	Giurgiulesti	1.28	91	P		Pn		13 57 11.0	+0.4
GIUM						S		13 57 29.7	0.0
SGRR	Singureni	1.32	193	⇑P		Pn		13 57 11.6	+0.6
SGRR				⇑S		Sn		13 57 30.9	+0.4
HARR	Harsova	1.37	126	⇓P		Pn		13 57 11.9	+0.4
HARR	Harsova	1.37	126			Pn		13 57 11.9	+0.4
HARR	Harsova	1.37	126	P		Pn		13 57 11.9	+0.4
HUMR	Humele	1.40	226	⇑P		Pn		13 57 12.3	+0.4
HUMR				⇓S		Sn		13 57 31.9	-0.1
BIZ	Bicaz	1.44	352	⇓S		Sn		13 57 33.0	+0.2
GIRR	Girov	1.44	3	⇓P		Pn		13 57 12.6	+0.2
GIRR	Girov	1.44	3			Pn		13 57 12.6	+0.2
VASR	Vaslui	1.49	41	⇓P		Pn		13 57 13.0	0.0
VASR				⇑S		Sn		13 57 32.6	-1.3
VASR	Vaslui	1.49	41			Pn		13 57 13.0	0.0
VASR						Sn		13 57 32.3	-1.6
TLBR	Topalu	1.53	129	⇓P		Pn		13 57 13.8	+0.5
TLBR				⇓S		Sn		13 57 33.6	-0.9
TLBR	Topalu	1.53	129			Pn		13 57 13.8	+0.5
TLBR						Sn		13 57 33.6	-0.9
MDB	Medias	1.53	295	⇓P		Pn		13 57 14.2	+0.8
MDB				⇑S		Sn		13 57 35.6	+0.9
MDB	Medias	1.53	295			Pn		13 57 14.2	+0.8
MDB						Sn		13 57 35.6	+0.9
MDB	Medias	1.53	295	P		Pn		13 57 14.2	+0.8
RMVG	GOVORA	1.56	253	⇓S		Sn		13 57 36.9	+1.7
RMVG	GOVORA	1.56	253			Sn		13 57 36.9	+1.7
TPGR	Topolog	1.58	114	⇓P		Pn		13 57 13.9	-0.1
TPGR				⇑S		Sn		13 57 35.0	-0.7
TPGR	Topolog	1.58	114			Pn		13 57 13.9	-0.1
TPGR						Sn		13 57 35.0	-0.7
COPA	Copaceanca	1.61	211	⇑P		Pn		13 57 14.7	+0.4
COPA				⇑S		Sn		13 57 36.2	0.0
LEOM	Leova	1.61	53	⇓P		Pn		13 57 14.4	+0.1
LEOM				⇓S		Sn		13 57 35.1	-1.3
LEOM	Leova	1.61	53	P		Pn		13 57 14.4	+0.1
LEOM	Leova	1.61	53	P		Pn		13 57 14.4	+0.1
CVDA	Cernavoda	1.67	135	⇓P		Pn		13 57 15.6	+0.6
CVDA				⇓S		Sn		13 57 36.6	-0.8
CVDA	Cernavoda	1.67	135			Pn		13 57 15.6	+0.6
CVDA						Sn		13 57 36.6	-0.8
ICOR	Ion Corvin	1.73	144	⇓P		Pn		13 57 16.5	+0.8
ICOR				⇓S		Sn		13 57 37.8	-0.8
TLCR		1.75	100	⇓P		Pn		13 57 16.5	+0.7
TLCR				⇑S		Sn		13 57 38.7	-0.4
TLCR		1.75	100			Pn		13 57 16.6	+0.7
TLCR						Sn		13 57 38.7	-0.4
TLCR		1.75	100	⇓P		Pn		13 57 16.6	+0.7
TIRR	Tirgusor	1.79	126	⇓P		Pn		13 57 16.8	+0.5
TIRR				⇓S		Sn		13 57 38.6	-1.4
TIRR	Tirgusor	1.79	126	Pn		Pn		13 57 16.4	0.0
TIRR	Tirgusor	1.79	126			Pn		13 57 16.9	+0.5
TIRR						Sn		13 57 38.6	-1.4
TIRR	Tirgusor	1.79	126	⇓P		Pn		13 57 16.9	+0.5
LOT	Lotru	1.84	269	⇑P		Pn		13 57 17.0	-0.1
LOT				⇑S		Sn		13 57 41.0	-0.3
IAS	Iasi	1.86	25	⇑P		Pn		13 57 16.8	-0.5
IAS	Iasi	1.86	25	⇑P		Pn		13 57 16.8	-0.5
JURR	Jurilovca	1.92	112	⇑P		Pn		13 57 18.5	+0.6
RAZG	Razgrad	1.95	177	⇓P		Pn		13 57 19.0	+0.5
RAZG				⇓S		Sn		13 57 42.9	-0.8
RAZG	Razgrad	1.95	177			Pn		13 57 18.9	+0.5
RAZG						Sn		13 57 42.9	-0.8
MFTR	Murfatlar	1.97	132	⇓P		Pn		13 57 19.1	+0.5
MFTR				⇑S		Sn		13 57 43.3	-0.8
MFTR	Murfatlar	1.97	132			Pn		13 57 19.1	+0.5
MFTR						Sn		13 57 43.3	-0.8
ZIMR		2.00	202	⇓P		Pn		13 57 19.1	+0.2
ZIMR				⇑S		Sn		13 57 43.9	-0.6
ZIMR		2.00	202			Pn		13 57 19.1	+0.2
ZIMR						Sn		13 57 43.9	-0.6
ZIMR		2.00	202	P		Pn		13 57 19.1	+0.2
VLAD	Vladila	2.07	224	⇑P		Pn		13 57 20.0	+0.1
VLAD				⇑S		Sn		13 57 45.0	-1.2
ARCR	ARCALIA	2.11	319	⇓P		Pn		13 57 20.5	+0.1
ARCR	ARCALIA	2.11	319			Pn		13 57 20.5	+0.1
TSCT	Constanta Port	2.11	129	⇑P		Pn		13 57 20.9	+0.6
TSCT				⇓S		Sn		13 57 46.1	-1.0
TSCT	Constanta Port	2.11	129			Pn		13 57 20.9	+0.6
TSCT						Sn		13 57 46.1	-1.0
LOZB	Loznitsa	2.15	176	⇓P		Pn		13 57 21.5	+0.5
LOZB				⇑S		Sn		13 57 47.3	-0.8
LOZB	Loznitsa	2.15	176			Pn		13 57 21.5	+0.5
LOZB						Sn		13 57 47.3	-0.8
EFOR	EFORIE	2.15	131	⇓P		Pn		13 57 21.5	+0.6
EFOR				⇓S		Sn		13 57 47.5	-0.5
MILM	Milestii Mici	2.19	49	⇓P		Pn		13 57 21.2	-0.2
MILM	Milestii Mici	2.19	49	P		Pn		13 57 21.2	-0.2
MILM	Milestii Mici	2.19	49	P		Pn		13 57 21.2	-0.2
BURAR	Bucovina Array	2.25	339	⇓P		Pn		13 57 23.5	+1.3
BURAR	Bucovina Array	2.25	339			Pn		13 57 23.2	+1.0
BURAR	Bucovina Array	2.25	339	⇓P		Pn		13 57 23.5	+1.3
KIS	Kishinev	2.25	48	⇓P		Pn		13 57 22.0	-0.1
KIS	Kishinev	2.25	48			Pn		13 57 22.0	-0.1
KIS						Sn		13 57 48.0	-2.2
KIS	Kishinev	2.25	48	P		Pn		13 57 22.0	-0.1
KIS				Pm				13 57 22.3	
KIS				S		Sn		13 57 48.0	-2.2
KIS				Sm				13 57 48.4	
KIS				m				13 57 49.0	
KIS	Kishinev	2.25	48	*d i* P		Pn		13 57 22.0	-0.1
KIS				*i* S		Sn		13 57 48.0	-2.2
KIS				pmax	pmax				
	comp=Z,500nm,0.3s								
KIS				smax	smax				
	comp=N,800nm,0.3s								
KIS				smax	smax				
	comp=E,700nm,0.3s								
PSN	Preselentsi	2.26	146	P		Pn		13 57 22.8	+0.6
SZH	Strazhitsa	2.27	188	P		Pn		13 57 22.8	+0.4
BUR08	Bucovina Ar. S	2.28	339			Pn		13 57 23.6	+1.0
MANR	Mangalia	2.32	136	⇓P		Pn		13 57 23.6	+0.6
MANR				⇓S		Sn		13 57 50.7	-1.0
TSMN	Mangalia Port-	2.33	137	⇓S		Sn		13 57 51.5	-0.5
TSMN	Mangalia Port-	2.33	137			Sn		13 57 51.5	-0.5
TSSL	Sulina	2.39	97	⇑P		Pn		13 57 24.3	+0.5
TSSL	Sulina	2.39	97			Pn		13 57 24.3	+0.5
SRE	Strehaia	2.41	250	⇓P		Pn		13 57 24.4	+0.3
SRE				⇓S		Sn		13 57 53.0	-0.8
SRE	Strehaia	2.41	250	⇓P		Pn		13 57 24.4	+0.3
DEV	Deva	2.46	280	⇑P		Pn		13 57 25.2	+0.4
DEV				⇑S		Sn		13 57 55.5	+0.4
DEV	Deva	2.46	280	P		Pn		13 57 25.2	+0.4
PRD	Provadia	2.47	162	P		Pn		13 57 25.6	+0.7
ROIA	ROIAK	2.52	163	P		Pn		13 57 26.5	+0.8
GZR	Gura Zlata	2.54	269	⇑S		Sn		13 57 56.8	-0.2
GZR	Gura Zlata	2.54	269	⇑S		Sn		13 57 56.8	-0.2
PVL	Pavlikeni	2.54	200	P		Pn		13 57 26.3	+0.4
MARR	Marisel-Cluj	2.55	298	⇑P		Pn		13 57 26.6	+0.6
MARR				⇓S		Sn		13 57 59.0	+1.8
MARR	Marisel-Cluj	2.55	298			Pn		13 57 26.6	+0.6
MARR						Sn		13 57 59.0	+1.8
BAIL	Bailesti	2.63	236	⇓P		Pn		13 57 27.7	+0.8
BAIL				⇓S		Sn		13 57 58.3	-0.5
PURM	Purcari	2.63	66	⇓P		Pn		13 57 27.0	0.0
PURM				⇑S		Sn		13 57 57.5	-1.4
PURM	Purcari	2.63	66			Pn		13 57 27.0	0.0
PURM						Sn		13 57 57.5	-1.4
DJES	Djerdap	2.86	254	Pn		Pn		13 57 29.4	-0.7
DJES	Djerdap	2.86	254	*e*Pn		Pn		13 57 29.3	-0.7
DJES				*e*Sn		Sn		13 57 59.8	-4.6
RAKU	Rahkiv	2.94	330	⇑*i* P		Pn		13 57 31.6	+0.7
RAKU				*i* S		Sn		13 58 06.9	+0.9
KSV	Kosov	2.94	343	*i* P		Pn		13 57 31.2	+0.2
KSV				Pm				13 57 32.3	
KSV				*i* S		Sn		13 58 07.3	+1.1
KSV				Sm				13 58 13.5	
SORM	Soroca	2.95	27	⇓P		Pn		13 57 30.2	-0.9
SORM	Soroca	2.95	27			Pn		13 57 30.3	-0.8
SORM	Soroca	2.95	27	⇓P		Pn		13 57 30.3	-0.8
NSLU	Nyzhne Selyshc	2.99	334	*i* P		Pn		13 57 37.3	+5.7
NSLU				Pm				13 57 39.0	
NSLU				*i* S		Sn		13 58 17.5	+10
NSLU				Sm				13 58 42.6	
JMB	Yambol	3.03	178	P		Pn		13 57 32.7	+0.6
KMPD	K-Podol'skiy	3.05	1	*i* P		Pn		13 57 32.5	+0.1
KMPD				*i* S		Sn		13 58 07.6	-1.0
NDNU	Novodnistrovsk	3.15	12	*i* P		Pn		13 57 33.9	+0.1
NDNU				Pm				13 57 34.0	
NDNU				*i* S		Sn		13 58 11.7	+0.6
NDNU				Sm				13 58 22.0	
BZS	Buzias	3.35	273	*e*Pn		Pn		13 57 35.3	-1.0
BZS				*e*Sn		Sn		13 58 06.8	-8.9
SIRR	Siria	3.38	285	⇓P		Pn		13 57 37.0	+0.2
PGB	Panagyurishte	3.40	209	P		Pn		13 57 37.6	+0.5
ZAGS	Zajecar	3.42	242	*e*Pn		Pn		13 57 35.6	-1.6
ZAGS				*e*Sn		Sn		13 58 13.0	-4.3
ZAPS	Zavoj	3.50	231	*e*Pn		Pn		13 57 37.8	-0.6
ZAPS				*e*Sn		Sn		13 58 15.3	-4.0
KUBS	Kucevo	3.52	253	*e*Pn		Pn		13 57 36.8	-1.8
KUBS				*e*Sn		Sn		13 58 15.4	-4.3
PLD	Plovdiv	3.57	200	*e*Pn		Pn		13 57 39.6	+0.3
MEZ	Mezhgor'ye	3.58	328	⇑*i* P		Pn		13 57 40.7	+1.2
MEZ				*i* S		Sn		13 58 22.8	+1.5
VTS	Vitosha	3.68	219	*e*Pn		Pn		13 57 41.3	+0.4
VTS				*e*Sn		Sn		13 58 20.1	-3.7
VTS	Vitosha	3.68	219	P		Pn		13 57 41.5	+0.6
BOVS	Bovan	3.83	242	*e*Pn		Pn		13 57 41.9	-0.9
BOVS				*e*Sn		Sn		13 58 23.5	-3.7
MUKU	Mukachevo	3.88	321	⇓*i* P		Pn		13 57 44.3	+1.0
MUKU				*i* S		Sn		13 58 29.9	+1.7
SVIS	Svilajnac	3.88	253	*e*Pn		Pn		13 57 42.9	-0.5
SVIS				*e*Sn		Sn		13 58 22.7	-5.5
RZN	Rozhen	4.00	198	P		Pn		13 57 45.9	+0.7
BOSS	Bosilegrad	4.13	224	*e*Pn		Pn		13 57 46.4	-0.3
BARS	Barje	4.25	232	*e*Pn		Pn		13 57 48.3	-0.1
GRUS	Gruza	4.36	250	*e*Pn		Pn		13 57 48.9	-0.8
GRUS				*e*Sn		Sn		13 58 35.0	-4.6
KKB	Krupnik	4.37	214	P		Pn		13 57 50.6	+0.7
RDO	Rodhopi	4.41	188	Pn		Pn		13 57 50.5	0.0
SELS	Selova	4.42	241	*e*Pn		Pn		13 57 49.5	-1.1
KOLS	Kolonicke sedl	4.42	322	*e*P		Pn		13 57 51.5	+0.9
KOLS	Kolonicke sedl	4.42	322	*e*P		Pn		13 57 51.5	+0.9
TRUS	Trudelj	4.44	255	*e*Pn		Pn		13 57 50.2	-0.7
ALN	Alexandroupoli	4.62	183	Pn		Pn		13 57 54.1	+0.8
ALN	Alexandroupoli	4.62	183	P		Pn		13 57 54.1	+0.8
FRGS	Fruska Gora	4.65	268	*e*Sn		Sn		13 58 41.2	-5.5
DIVS	Divibare	4.76	255			Pn		13 57 54.7	-0.6
DIVS	Divibare	4.76	255	*e*Pn		Pn		13 57 54.5	-0.8
DIVS				*e*Sn		Sn		13 58 43.2	-6.4
CRVS	Cervenica-Dubn	4.77	317	*e*P		Pn		13 57 55.5	+0.3
CRVS	Cervenica-Dubn	4.77	317	*e*P		Pn		13 57 55.5	+0.3
STIP	Stip	4.88	220	*i* Pn		Pn		13 57 55.0	-1.9
TEKS	Tekeris	4.95	261	*e*Pn		Pn		13 57 56.3	-1.5
TEKS				*e*Sn		Sn		13 58 48.0	-6.0
SJES	Sjenica	5.12	246	*e*Pn		Pn		13 58 00.3	+0.3
SJES				*e*Sn		Sn		13 58 53.1	-5.0
STHS	Stebnicka Huta	5.23	320	*e*P		Pn		13 58 01.0	-0.5
STHS	Stebnicka Huta	5.23	320	*e*P		Pn		13 58 01.0	-0.5
BBLS	Lazići	5.24	254	*e*Pn		Pn		13 58 00.8	-0.9
BBLS				*e*Sn		Sn		13 58 55.9	-5.1
SEV	Sevastopol'	5.25	98	*e*P		Pn		13 58 01.3	-0.5
SEV				Pm				13 58 02.8	
SEV				*e*S		Sn		13 58 59.9	-1.3
SEV				Sm				13 59 04.5	
SIM	Simferopol'	5.49	93	*e*S		Sn		13 59 05.6	-1.4
SIM				Sm				13 59 07.6	
SIM	Simferopol'	5.49	93	*e*P		Pn		13 58 02.0	-3.0
SIM				*e*S		Sn		13 59 02.0	-5.0
SIM				pmax	pmax				
	comp=Z,21nm,1.1s								
SIM				smax	smax				
	comp=Z,53nm,1.0s								
AKASG	Malin Array Be	5.53	19	Pn		Pn		13 58 02.8	-2.6
AKASG	Malin Array Be	5.53	19	*e*P		Pn		13 58 04.8	-0.6
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
AKASG	Malin Array Be	5.53	19	P		Pn		13 58 04.4	-1.0
	comp=Z,0.8nm,0.3s,baz=200,slow=11,SNR=10								
AKASG				S		Sn		13 59 00.8	-6.9
	comp=Z,3.2nm,0.3s,baz=199,slow=22,SNR=12								
AKBB	Malin Array Si	5.53	19	Pn		Pn		13 58 04.3	-1.1
AKBB	Malin Array Si	5.53	19	P		Pn		13 58 04.3	-1.1
ALU	Alushta	5.74	96	*e*P		Pn		13 58 07.5	-0.8
ALU				Pm				13 58 11.6	
ALU				*e*S		Sn		13 59 11.2	-1.7
ALU				Sm				13 59 12.3	
ALU	Alushta	5.74	96	*e*P		Pn		13 58 07.5	-0.8
ALU				*e*S		Sn		13 59 11.2	-1.7
VYHS	Vyhne	5.96	303	*e*P		Pn		13 58 12.3	+1.0
VYHS	Vyhne	5.96	303	*e*P		Pn		13 58 12.3	+1.0
FNA	Florina	5.98	219	Pn		Pn		13 58 09.8	-1.9
FNA	Florina	5.98	219	P		Pn		13 58 09.8	-1.9
SUDU	Sudak	6.12	93	*e*P		Pn		13 58 12.6	-0.8
SUDU				Pm				13 58 15.8	
SUDU				*e*S		Sn		13 59 19.6	-2.5
SUDU				Sm				13 59 24.4	
SUDU	Sudak	6.12	93	*e*P		Pn		13 58 12.6	-0.8
SUDU				*e*S		Sn		13 59 19.6	-2.5
BR131	Keskin Array S	7.88	135	*i* P		Pn		13 58 35.9	-1.5
BRTR	Keskin Array B	7.88	135	*e*P		Pn		13 58 37.2	-0.2
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BRTR	Keskin Array B	7.88	135	P		Pn		13 58 37.0	-0.4
	comp=Z,1.0nm,0.6s,baz=324,slow=10,SNR=4.9								
PRED	Cave del Predi	8.97	281			Pn		13 58 52.4	+0.4
CAMP	Campotosto	9.81	257	Pn		Pn		13 59 02.0	-1.4
VSR	Storozhevoye	10.24	52	*e*P		Pn		13 59 08.4	-0.5
VSR				pmax	pmax				
	comp=Z,10.0nm,1.1s								
FUORN	Ofenpass-Fuorn	11.26	281	Pn		Pn		13 59 21.4	-1.4
BELG	Belogornoye	15.53	56	P		P		14 00 19.5	+0.4
	comp=Z,23nm,0.7s,baz=262,slow=1.3,SNR=5.1								
FINES	FINESS Array B	15.96	359	Pn		Pn		14 00 19.6	-3.1
FINES	FINESS Array B	15.96	359	*i* P		P		14 00 25.3	+1.5
FINES				pmax	pmax				
	comp=Z,2.0nm,0.9s								
FINES	FINESS Array B	15.96	359	P		Pn		14 00 19.5	-3.2
	comp=Z,4.4nm,0.9s,baz=170,slow=12,SNR=4.1								
AKTO	Aktyubinsk	21.64	65	P		P		14 01 27.1	+1.3
	comp=Z,1.4nm,0.6s,baz=262,slow=6.6,SNR=4.9								
	comp=Z,1.4nm,0.6s								
ARU	Arti	22.80	50	P		P		14 01 35.1	-2.3
ARU				IAmb	IAmb			14 01 38.8	
	comp=Z,4.1nm,0.9s								
LVZ	Lovozero	22.85	8	P		P		14 01 35.0	-2.9
LVZ				IAmb	IAmb			14 01 45.0	
	comp=Z,21nm,0.8s								
LVZ	Lovozero	22.85	8	P		P		14 01 35.0	-2.9
LVZ				pmax	pmax				
	comp=Z,21nm,0.8s								
ABKAR	Akbulak array	22.92	68	P		P		14 01 39.9	+1.2
ESDC	Sonseca Array	23.00	266	P		P		14 01 38.2	-1.4
	comp=Z,0.8nm,0.8s,baz=54,slow=8.1,SNR=6.6								
	comp=Z,0.8nm,0.8s								
ARCES	ARCESS Array B	24.09	359	P		P		14 01 49.5	+0.3
	comp=Z,2.4nm,0.8s,baz=163,slow=9.4,SNR=4.6								
	comp=Z,2.4nm,0.8s								
GEYT	Alibeck	24.75	97	P		P		14 01 57.9	+2.4
	comp=Z,2.1nm,0.6s,baz=302,slow=8.6,SNR=5.0								
	comp=Z,2.1nm,0.6s								
BVAR	Borovoye Array	29.29	59	P		P		14 02 36.8	+0.9
	comp=Z,0.6nm,0.5s,baz=282,slow=7.4,SNR=3.9								
	comp=Z,0.6nm,0.5s								
KURBB	Kurchatov Arra	34.62	62	P		P		14 03 23.4	+0.9
	comp=Z,0.8nm,0.6s,baz=289,slow=9.1,SNR=4.7								
	comp=Z,0.8nm,0.6s								
KURK	Kurchatov	34.65	62	P		P		14 03 23.4	+0.6
ZALV	Zalesovo Beam	37.71	55	P		P		14 03 50.2	+1.5
	comp=Z,1.7nm,0.5s,baz=284,slow=10,SNR=10								
ZALV				pP		pP		14 04 16.9	+0.8
	comp=Z,1.3nm,0.7s,baz=297,slow=11,SNR=3.3								
	comp=Z,1.7nm,0.5s								
MKAR	Makanchi Array	38.05	67	*e*P		P		14 03 53.6	+1.8
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
MKAR	Makanchi Array	38.05	67	P		P		14 03 53.4	+1.6
	comp=Z,0.5nm,0.5s,baz=268,slow=8.7,SNR=7.5								
	comp=Z,0.5nm,0.5s								
TORD	Torodi Ar. Bea	38.46	221	P		P		14 03 57.0	+1.6
	comp=Z,0.8nm,0.6s,baz=30,slow=8.7,SNR=5.2								
	comp=Z,0.8nm,0.6s								
SONM	Songino Array	52.58	57	P		P		14 05 48.2	+1.8
	comp=Z,0.7nm,0.4s,baz=292,slow=8.0,SNR=3.4								
	comp=Z,0.7nm,0.4s								
CMAR	Chiang Mai Arr	64.93	89	*e*P		P		14 07 13.5	+1.5
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.6s				

HNR Honiara 23.35 298 P **P 14 20 00.3 -0.2**
RPZ Rata Peaks 23.66 198 P **P 14 20 02.7 -0.1**
RPZ Rata Peaks 23.66 198 P **P 14 20 02.2 -0.6**
3.6nm,0.4s,baz=194,slow=0.6,SNR=8.6
3.6nm,0.4s
LBZ Lake Benmore 24.52 199 P **P 14 20 07.7 -2.7**
JCZ Jackson Bay 24.68 201 P **P 14 20 12.0 +0.1**
MLZ Mavora Lakes 26.05 201 P **P 14 20 25.1 +1.3**
WHZ Wether Hill Ro 26.57 200 P **P 14 20 28.8 +0.4**
EIDS Eidsvold 27.54 256 P **P 14 20 37.7 +0.6**
EIDS Eidsvold 27.54 256 P **P 14 20 37.7 +0.6**
ARMA Armidale 27.67 245 P **P 14 20 39.8 +1.5**
ARMA IAmb IAmb 14 20 40.7
comp=Z,18nm,0.8s
ARMA Armidale 27.67 245 P **P 14 20 39.9 +1.5**
RK1H Rockhampton Ha 28.08 260 P **P 14 20 41.7 -0.1**
MGCD Mangrove Creek 28.78 240 P **P 14 20 49.4 +1.6**
RMQ Roma 29.68 254 P **P 14 20 57.1 +1.5**
CNB Canberra Magne 30.79 236 P **P 14 21 06.5 +1.4**
CAN Canberra 31.07 237 P **P 14 21 07.7 +0.2**
CAN IAmb IAmb 14 21 09.7
comp=Z,17nm,1.0s
TV1H Townsville Har 31.94 268 P **P 14 21 15.2 +0.3**
CTA Charters Tower 32.31 266 P **P 14 21 18.4 +0.3**
CTAO Charters Tower 32.31 266 P **P 14 21 18.6 +0.5**
CTAO PcP **PcP 14 23 44.9 -1.9**
CTAO Charters Tower 32.31 266 P **P 14 21 18.5 +0.5**
CTAO Charters Tower 32.31 266 ⇓P **P 14 21 18.6 +0.5**
CTAO PcP **PcP 14 23 47.4 +0.7**
CMSA Cobar Meteorol 32.88 245 P **P 14 21 23.5 +0.7**
QLP Quilpie 33.73 254 P **P 14 21 30.4 +0.5**
MTSU Mount Surprise 34.45 269 P **P 14 21 36.4 +0.3**
TOO Toolangi 34.45 234 P **P 14 21 36.4 +0.6**
TOO IAmb IAmb 14 21 37.7
comp=Z,11nm,0.7s
TOO Toolangi 34.45 234 P **P 14 21 36.8 +1.0**
PMG Port Moresby 34.49 285 P **P 14 21 36.3 -0.1**
PMG Port Moresby 34.49 285 P **P 14 21 36.6 +0.2**
PMG Port Moresby 34.49 285 P **P 14 21 36.5 +0.2**
PMG Port Moresby 34.49 285 P **P 14 21 36.5 +0.1**
PMG pP **pP 14 23 16.7 +0.9**
KAVG Kavieng 34.69 299 P **P 14 21 37.6 -0.4**
BRAT Ballarat 35.63 235 P **P 14 21 47.2 +1.7**
PATS Pohnpei 35.74 319 P **P 14 21 45.5 -1.1**
STKA Stephens Creek 36.39 245 P **P 14 21 52.8 +1.0**
STKA Stephens Creek 36.39 245 P **P 14 21 52.7 +0.9**
STKA Stephens Creek 36.39 245 P **P 14 21 52.8 +1.0**
comp=Z,14nm,0.5s,baz=92,slow=10,SNR=49
comp=Z,14nm,0.5s
COEN Coen 36.55 275 P **P 14 21 54.0 +0.7**
COEN IAmb IAmb 14 21 55.0
comp=Z,31nm,0.7s
COEN Coen 36.55 275 P **P 14 21 54.1 +0.7**
INKA Innaminka 36.85 252 P **P 14 21 57.2 +1.6**
ARPS Mount Arapiles 37.05 237 P **P 14 21 57.6 +0.5**
QIS Mount Isa 38.41 264 P **P 14 22 08.2 -0.1**
HTT Hallett 38.81 243 P **P 14 22 12.1 +0.6**
LCRK Leigh Creek 39.16 248 P **P 14 22 14.7 +0.5**
BBOO Buckleboo 41.14 244 P **P 14 22 30.2 +0.3**
BBOO IAmb IAmb 14 22 31.0
comp=Z,34nm,0.8s
BBOO Buckleboo 41.14 244 P **P 14 22 30.1 +0.2**
OOD Oodnadatta 41.34 252 P **P 14 22 32.5 +1.0**
MULG Mulgathing 42.74 248 P **P 14 22 42.8 +0.3**
WR0 Warramunga Arr 43.19 263 P **P 14 22 45.6 -0.6**
WR0 IAmb IAmb 14 22 46.5
comp=Z,21nm,1.0s
AS31 Alice Springs 43.23 258 P **P 14 22 46.5 +0.1**
AS31 IAmb IAmb 14 22 47.2
comp=Z,12nm,0.7s
ASAR Alice Springs 43.23 258 P **P 14 22 46.5 +0.1**
comp=Z,50nm,0.8s,baz=95,slow=7.6,SNR=695
ASAR PcP **PcP 14 24 20.9 -0.4**
comp=Z,3.6nm,0.6s,baz=115,slow=4.3,SNR=6.4
ASAR ScP **ScP 14 27 16.3 +1.7**
comp=Z,2.5nm,0.8s,baz=100,slow=4.0,SNR=7.7
ASAR S **S 14 28 26.3 -4.0**
comp=Z,3.2nm,0.8s,baz=94,slow=16,SNR=12
comp=Z,50nm,0.8s
JAY Jayapura 43.31 290 P **P 14 22 47.0 -0.1**
comp=Z,91nm,0.8s
WB0 Warramunga Arr 43.37 264 P **P 14 22 47.1 -0.4**
WB2 Warramunga Arr 43.37 263 P **P 14 22 47.1 -0.4**
WB2 IAmb IAmb 14 22 48.0
comp=Z,50nm,0.8s
WRAB Tennant Creek 43.38 263 P **P 14 22 46.4 -1.2**
WRAB IAmb IAmb 14 22 47.9
comp=Z,38nm,0.8s
WRAB Tennant Creek 43.38 263 P **P 14 22 47.0 -0.6**
WRAB Tennant Creek 43.38 263 ⇓P **P 14 22 46.9 -0.6**
WRA Warramunga Arr 43.38 263 P **P 14 22 46.0 -1.6**
WRA Warramunga Arr 43.38 263 P **P 14 22 47.0 -0.6**
comp=Z,28nm,0.5s,baz=97,slow=7.2,SNR=578
WRA PcP **PcP 14 24 21.1 -0.7**
comp=Z,0.9nm,0.5s,baz=91,slow=3.2,SNR=1.6
comp=Z,28nm,0.5s
GENI Genyem 43.74 290 P **P 14 22 50.6 +0.2**
comp=Z,87nm,1.0s
KDU Kakadu 46.87 273 P **P 14 23 13.6 -0.5**
FORT Forrest 47.91 247 P **P 14 23 21.4 -0.2**
FORT Forrest 47.91 247 P **P 14 23 21.3 -0.4**
MTN Manton Dam 48.08 272 P **P 14 23 22.3 -0.8**
MTN Manton Dam 48.08 272 P **P 14 23 22.5 -0.6**
WRKA Warakurna 48.15 255 P **P 14 23 23.6 0.0**
KNRA Kununurra 49.50 267 P **P 14 23 33.6 0.0**
KNRA IAmb IAmb 14 23 34.0
comp=Z,33nm,0.6s
KNRA Kununurra 49.50 267 P **P 14 23 33.6 0.0**
GUMO Guam 49.57 311 P **P 14 23 32.9 -1.0**
FAKI Fak Fak 50.65 284 P **P 14 23 40.2 -1.7**
FAKI IAmb IAmb 14 23 42.4
comp=Z,52nm,1.2s
FAKI Fak Fak 50.65 284 P **P 14 23 41.3 -0.7**
FAKI Fak Fak 50.65 284 P **P 14 23 41.2 -0.7**
comp=Z,41nm,1.4s
DRV Dumont d'Urvil 52.11 199 P **P 14 23 52.5 +1.0**
BNDI Bandanaira 52.12 281 P **P 14 23 51.7 -0.8**
comp=Z,132nm,0.9s
SWI Sorong 52.43 286 P **P 14 23 54.3 -0.4**
comp=Z,228nm,0.8s,comp=Z,2µm
NLAI Namlea 55.19 281 P **P 14 24 13.6 -0.5**
comp=Z,24nm,0.6s,comp=Z,7µm
SOEI Soe 55.43 273 P **P 14 24 16.7 +0.8**
comp=Z,130nm,0.8s
BATI Baumata 55.85 272 P **P 14 24 18.6 -0.1**
comp=Z,56nm,1.0s
LBMI Labuha 55.91 284 P **P 14 24 19.1 +0.1**
comp=Z,64nm,1.0s,comp=Z,1µm
PSA00 Pilbara Seismi 56.38 258 P **P 14 24 21.8 -0.4**
PSA00 IAmb IAmb 14 24 22.7
comp=Z,37nm,0.9s
PSA00 Pilbara Seismi 56.38 258 P **P 14 24 21.8 -0.4**
MEEK Meekatharra 56.57 252 P **P 14 24 22.8 -0.7**
MBWA Marble Bar 56.58 258 P **P 14 24 23.0 -0.6**
MBWA IAmb IAmb 14 24 24.0
comp=Z,37nm,0.7s
MBWA Marble Bar 56.58 258 P **P 14 24 23.1 -0.4**
MBWA Marble Bar 56.58 258 P **P 14 24 23.1 -0.4**
MBWA PcP **PcP 14 25 10.8 -0.1**
TNTI Ternate 56.64 286 P **P 14 24 23.3 -0.7**
comp=Z,42nm,0.9s
KLBR Kellerberrin 56.66 246 P **P 14 24 24.0 0.0**
SANI Sanana 56.69 282 P **P 14 24 23.9 -0.5**
SANI Sanana 56.69 282 P **P 14 24 23.6 -0.8**
comp=Z,26nm,1.0s,comp=Z,485nm
SBA Scott Base 56.87 184 P **P 14 24 28.1 +3.6**
VNDA Vanda 56.89 185 P **P 14 24 26.1 +1.4**
VNDA Vanda 56.89 185 P **P 14 24 27.1 +2.5**
comp=Z,2.0nm,0.5s,baz=360,slow=6.4,SNR=28
comp=Z,2.0nm,0.5s
VNDA Vanda 56.89 185 P **P 14 24 26.9 +2.3**
NWAO Narrogin (SRO) 56.96 244 P **P 14 24 23.6 -2.4**
NWAO IAmb IAmb 14 25 26.2
comp=Z,195nm,1.8s
BLDU Ballidu 57.67 247 P **P 14 24 30.7 -0.1**
MMRI Maumere 57.69 273 P **P 14 24 29.7 -1.5**
MMRI IAmb IAmb 14 24 31.7
comp=Z,62nm,1.1s
MUN Mundaring 57.93 245 P **P 14 24 33.0 +0.5**
MORW Morawa 58.45 248 P **P 14 24 35.7 -0.4**
MORW IAmb IAmb 14 24 38.1
comp=Z,73nm,1.6s
MORW Morawa 58.45 248 P **P 14 24 36.1 0.0**
GIRL Giralia 61.24 255 P **P 14 24 55.1 +0.5**
GIRL Giralia 61.24 255 P **P 14 24 56.0 +1.4**
PLAI Plampang 61.78 271 P **P 14 24 57.9 -0.3**
CASY Casey 62.65 205 P **P 14 25 03.1 +0.2**
CASY Casey 62.65 205 P **P 14 25 03.9 +1.1**
TOLI2 Tolitoli 62.73 283 P **P 14 25 04.3 0.0**
TOLI2 IAmb IAmb 14 25 06.3
comp=Z,17nm,0.7s
TOLI2 Tolitoli 62.73 283 P **P 14 25 04.2 -0.1**
QSPA South Pole Qui 68.64 180 P **P 14 25 40.3 +0.1**
QSPA South Pole Qui 68.64 180 P **P 14 25 41.8 +1.6**
comp=Z,13nm,0.9s,baz=335,slow=0.4,SNR=105
comp=Z,13nm,0.9s
QSPA South Pole Qui 68.64 180 ⇑P **P 14 25 41.9 +1.6**
QSPA pP **pP 14 27 45.1 +1.9**
UGM Wanagama 68.84 270 P **P 14 25 41.3 -1.0**
UGM Wanagama 68.84 270 P **P 14 25 42.2 -0.1**
KKM Kota Kinabalu 68.94 286 P **P 14 25 42.4 -0.5**
KKM IAmb IAmb 14 25 44.0
comp=Z,74nm,1.7s
KKM Kota Kinabalu 68.94 286 P **P 14 25 42.1 -0.8**
MJAR Matsushiro Arr 70.32 325 P **P 14 25 50.1 -0.4**
comp=Z,6.5nm,0.6s,baz=158,slow=5.6,SNR=29
comp=Z,6.5nm,0.6s
MAJO Matsushiro 70.32 325 P **P 14 25 50.1 -0.4**
LEM Lembang 71.92 270 P **P 14 26 00.4 -0.1**
comp=Z,33nm,0.7s,baz=48,slow=8.8,SNR=8.0
comp=Z,33nm,0.7s
KIWB Kanaga Island 72.99 1 P **P 14 26 04.3 -1.2**
ADK Adak 73.03 2 P **P 14 26 04.4 -1.4**
YULB Yu-li 73.10 304 P **P 14 26 05.6 -1.2**
YULB IAmb IAmb 14 27 40.9
comp=Z,94nm,1.6s
YULB Yu-li 73.10 304 P **P 14 26 05.9 -0.9**
NACB Ninganchiao 73.29 305 P **P 14 26 06.9 -1.0**
NACB IAmb IAmb 14 26 22.5
comp=Z,35nm,1.1s
ATKA Atka Island 73.45 3 P **P 14 26 07.4 -0.7**
ATKA Atka Island 73.45 3 P **P 14 26 07.4 -0.7**
TPUB Ta-pu 73.56 304 P **P 14 26 07.9 -1.6**
TPUB Ta-pu 73.56 304 P **P 14 26 08.4 -1.1**
SSLB Suanglung 73.58 304 P **P 14 26 08.4 -1.1**
SSLB IAmb IAmb 14 26 09.6
comp=Z,24nm,0.7s
SSLB Suanglung 73.58 304 P **P 14 26 08.8 -0.8**
JKA Kamikawa-asahi 74.03 332 P **P 14 26 11.8 +0.1**
ASAJ Asahikawa 74.03 332 P **P 14 26 13.0 +1.4**
comp=Z,11nm,0.8s,baz=223,slow=6.9,SNR=5.8
comp=Z,11nm,0.8s
UNV Unalaska Valle 75.76 8 P **P 14 26 20.0 -1.0**
KSRS Korea Array 76.86 319 P **P 14 26 28.0 +0.6**
comp=Z,1.6nm,0.7s,baz=142,slow=6.6,SNR=8.5
comp=Z,1.6nm,0.7s
PEA0B Petropavlovsk- 76.90 346 P **P 14 26 26.3 -0.9**
PEA0B IAmb IAmb 14 29 03.9
comp=Z,44nm,1.4s
PETK Petropavlovsk- 76.90 346 P **P 14 26 26.7 -0.6**
PETK Petropavlovsk- 76.90 346 P **P 14 26 26.9 -0.4**
comp=Z,8.9nm,0.7s,baz=230,slow=6.4,SNR=16
comp=Z,8.9nm,0.7s
SMAI San Martin Ant 78.13 159 P **P 14 26 32.1 -1.7**
SMAI IAmb IAmb 14 29 35.4
comp=Z,33nm,1.1s
BELA Belgrano 2 78.77 173 P **P 14 26 37.5 +0.5**
USRK Ussuriysk Ar. 79.12 327 P **P 14 26 38.6 -0.7**
USRK Ussuriysk Ar. 79.12 327 P **P 14 26 40.7 +1.3**
comp=Z,7.2nm,0.7s,baz=85,slow=6.4,SNR=8.9
comp=Z,7.2nm,0.7s
USA0B Ussuriysk Arra 79.12 327 P **P 14 26 38.3 -1.0**
NJ2 Nanjing 79.63 310 *e*P **P 14 26 43.8 +1.5**
NJ2 pmax pmax
comp=Z,20nm,0.6s
MAW Mawson 80.31 200 P **P 14 26 46.3 +1.0**
comp=Z,0.6nm,0.6s,baz=139,slow=9.3,SNR=1.9
comp=Z,0.6nm,0.6s
MDJ Mudanjiang 80.66 326 P **P 14 26 48.3 +1.0**
MDJ pP pwP 14 28 58.5 -1.1
MDJ sP sP 14 29 57.0 -0.8
MDJ PP **PP 14 30 03.0 -0.4**
MDJ S **S 14 36 01.5 -3.5**
MDJ Mudanjiang 80.66 326 sS sS 14 39 53.0 -1.3
MDJ Mudanjiang 80.66 326 SS SS 14 41 29.5 -7.9
MDJ pmax pmax
comp=Z,7.0nm,0.7s
MDJ pmax pmax
comp=Z,140nm,4.0s
PMSA Palmer Station 80.87 157 P **P 14 26 47.8 -0.4**
NVAR Mina Array Bea 82.46 44 P **P 14 26 57.7 +0.7**
comp=Z,0.6nm,0.7s,baz=228,slow=7.7,SNR=6.2
comp=Z,0.6nm,0.7s
O16K Kokwok River B 82.57 11 P **P 14 26 54.7 -1.9**
O16K IAmb IAmb 14 27 40.5
comp=Z,65nm,1.9s
KLR Kul'dur 82.78 330 P **P 14 26 58.6 +0.7**
comp=Z,3.7nm,0.8s,baz=42,slow=0.4,SNR=9.2
comp=Z,3.7nm,0.8s
N15K Kwethluk River 82.79 9 P **P 14 26 58.2 +0.4**
N15K IAmb IAmb 14 30 10.2
comp=Z,80nm,1.6s
KULM Kulim 82.81 279 P **P 14 26 58.8 -0.1**
KULM IAmb IAmb 14 27 00.7
comp=Z,13nm,0.8s
TIA Tai'an 83.09 313 P **P 14 27 01.3 +1.4**
TIA pmax pmax
comp=Z,13nm,0.9s
O18K Koktuh Hills 83.34 12 P **P 14 27 00.1 -0.5**
GSI Gunungsitoli 84.18 274 P **P 14 27 04.8 -0.9**
GSI Gunungsitoli 84.18 274 P **P 14 27 07.2 +1.4**
N19K Bonanza Creek 84.37 12 P **P 14 27 03.9 -1.8**
LYN LuoYang 85.49 310 ⇑P **P 14 27 13.3 +1.7**
LYN pP pP 14 29 07.5 -14
LYN PP **PP 14 30 44.5 +2.1**
LYN pmax pmax
comp=Z,35nm,0.5s
LYN pmax pmax
comp=Z,800nm,5.2s
HEH HeiHe 85.53 329 *e*P **P 14 27 11.8 +0.4**
HEH pmax pmax
comp=Z,12nm,0.5s
ELIB Princess Elisa 85.59 187 *d*PcP **P 14 27 12.0 +0.3**
GYA Guiyang 86.16 300 ⇓P **P 14 27 15.0 -0.1**
GYA pmax pmax
comp=Z,6.0nm,0.8s
PMR Palmer 86.19 14 P **P 14 27 14.2 0.0**
TROLL Troll, Antarti 86.79 181 ⇑P **P 14 27 17.2 -0.1**
comp=Z,112nm,0.5s
SEY Seymchan 87.04 347 P **P 14 27 18.2 0.0**
comp=Z,7.9nm,0.9s,baz=153,slow=5.0,SNR=16
comp=Z,7.9nm,0.9s
CAST Castle Rocks 87.21 12 IAmb IAmb 14 27 19.0
comp=Z,8.3nm,0.7s
TRF Thorofare Moun 87.59 13 IAmb IAmb 14 27 21.6
comp=Z,14nm,0.8s
XAN Xi'an 87.82 308 P **P 14 27 23.5 +0.8**
XAN pmax pmax
comp=Z,14nm,0.8s
RND Reindeer 87.85 13 IAmb IAmb 14 27 22.8
comp=Z,9.7nm,0.8s
XLT XiLinHaoTe 87.92 319 *e*P P 14 27 30.5 +7.6
XLT sP sP 14 30 23.5 -12
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,300nm,6.0s
TXAR Lajitas Array 88.49 58 P **P 14 27 27.7 +1.7**
comp=Z,1.0nm,0.8s,baz=212,slow=4.4,SNR=9.5
comp=Z,1.0nm,0.8s
HHC Hu-ho-hao-te 89.22 315 *e*P **P 14 27 31.5 +2.4**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,220nm,5.5s
CMAR Chiang Mai Arr 89.39 290 P **P 14 27 32.0 +1.8**
comp=Z,8.3nm,0.9s,baz=132,slow=3.2,SNR=51
CMAR PP **PP 14 31 16.5 +3.2**
comp=Z,0.2nm,0.3s,baz=133,slow=7.5,SNR=5.2
comp=Z,8.3nm,0.9s
PLCA Paso Flores 89.43 134 P **P 14 27 31.7 +1.5**
comp=Z,2.2nm,0.6s,baz=183,slow=23,SNR=4.6
comp=Z,2.2nm,0.6s
ILAR Eielson Array 89.47 13 P **P 14 27 29.1 -0.4**
comp=Z,1.3nm,0.5s,baz=214,slow=5.2,SNR=26
comp=Z,1.3nm,0.5s
BTO Baotou 90.13 314 *e*P P 14 27 38.5 +5.2
BTO pP pP 14 29 38.3 -6.7
BTO sP sP 14 30 31.0 -15
BTO PP **PP 14 31 25.3 +6.5**
BTO S **S 14 37 38.5 +3.0**
BTO Baotou 90.13 314 SS SS 14 44 06.5 +12
BTO pmax pmax
comp=Z,31nm,0.6s
BTO pmax pmax
comp=Z,490nm,4.6s
BTO LR LR
comp=N,520nm,8.7s
BTO LR LR
comp=E,630nm,5.3s
BTO LR LR
comp=Z,710nm,5.1s
PDAR Pinedale Array 90.40 44 P **P 14 27 35.4 +0.8**
comp=Z,0.2nm,0.5s,baz=216,slow=7.3,SNR=2.4
comp=Z,0.2nm,0.5s
LZH Lanzhou 92.46 308 *e*P **P 14 27 46.3 +2.1**
LZH sP PcP 14 27 56.0 +11
LZH pmax pmax
comp=Z,15nm,0.9s
SONM Songino Array 95.73 319 P **P 14 27 58.7 0.0**
comp=Z,0.4nm,0.4s,baz=129,slow=3.9,SNR=1.5
comp=Z,0.4nm,0.4s
ZALV Zalesovo Beam 110.53 321 PKiKP **PKiKP 14 32 59.2 -1.4**
comp=Z,0.5nm,0.4s,baz=169,slow=2.3,SNR=3.6
MKAR Makanchi Array 111.03 313 PKiKP **PKiKP 14 33 00.7 -1.2**
comp=Z,0.7nm,0.6s,baz=197,slow=1.0,SNR=5.8
KURBB Kurchatov Arra 113.98 317 PKiKP **PKiKP 14 33 06.1 -1.2**
comp=Z,0.9nm,0.6s,baz=99,slow=1.7,SNR=9.5
BVAR Borovoye Array 119.08 320 PKP **PKPdf 14 33 16.4 -0.6**
comp=Z,3.1nm,0.4s,baz=115,slow=1.9,SNR=25
SPITS Spitsbergen Ar 122.72 356 PKP **PKPdf 14 33 22.8 -0.6**
comp=Z,3.9nm,0.5s,baz=45,slow=9.5,SNR=4.2
GEYT Alibeck 128.35 302 PKP **PKPdf 14 33 35.6 +0.2**
comp=Z,2.1nm,0.6s,baz=294,slow=1.5,SNR=5.4
ARCES ARCESS Array B 129.63 349 PKP **PKPdf 14 33 36.4 -0.4**
comp=Z,1.9nm,0.4s,baz=61,slow=1.4,SNR=17
FINES FINESS Array B 136.34 343 PKiKP PKPpre 14 33 45.3
comp=Z,2.5nm,0.7s,baz=29,slow=3.2,SNR=6.4
NB2 NORSAR Subarra139.76 352 PKP PKPpre 14 33 48.9
comp=Z,0.9nm,0.9s,baz=17,slow=2.6
NOA NORSAR Array B139.76 352 PKhKP PKPpre 14 33 48.3
comp=Z,0.6nm,0.7s,baz=27,slow=1.1,SNR=4.5
HFS Hagfors 140.28 350 PKhKP PKPpre 14 33 49.8
comp=Z,2.8nm,0.5s,baz=63,slow=2.6,SNR=17
AKASG Malin Array Be 143.28 330 PKPdf PKPab 14 34 00.3 -0.5
AKASG Malin Array Be 143.28 330 PKP PKPab 14 34 00.1 -0.8
comp=Z,22nm,0.7s,baz=42,slow=4.3,SNR=76
AKBB Malin Array Si 143.28 330 PKPdf PKPab 14 34 00.5 -0.4
SORM Soroca 145.40 327 ⇓P **PKPbc 14 34 06.9 -0.7**
BEL Belsk 145.92 338 *e*PKPbc **PKPbc 14 34 09.8 +0.8**
EKA Eskdalemuir Ar 146.02 4 PKPbc **PKPbc 14 34 08.1 -1.0**
comp=Z,4.8nm,0.7s,baz=338,slow=2.5,SNR=12
BRTR Keskin Array B 146.63 311 **PKPbc 14 34 11.5 0.0**
BRTR Keskin Array B 146.63 311 PKPbc **PKPbc 14 34 11.1 -0.4**
comp=Z,5.1nm,0.7s,baz=131,slow=4.3,SNR=27
BSEG Bad Segeberg 146.75 350 *e*PKPbc **PKPbc 14 34 11.6 +0.5**
baz=17,slow=2.3
MMAI Mount Meron Ar 147.29 298 PKPbc **PKPbc 14 34 13.7 +0.3**
comp=Z,4.8nm,0.4s,baz=75,slow=6.3,SNR=13
BURAR Bucovina Array 147.31 329 ⇓P **PKiKP 14 34 13.8 -0.7**
BURAR Bucovina Array 147.31 329 **PKPbc 14 34 13.5 +0.6**
TESR Tescani 147.34 326 ⇓P **PKPbc 14 34 12.2 -0.8**
TPGR Topolog 147.42 322 ⇑P **PKiKP 14 34 14.0 -0.7**
OJC Ojcow 147.61 337 *e*PKPbc **PKPbc 14 34 13.6 +0.1**
KOLS Kolonicke sedl 147.66 333 *e*PKP **PKiKP 14 34 14.5 -0.6**
STHS Stebnicka Huta 147.71 335 *e*PKP **PKPbc 14 34 13.7 -0.1**
VRI Vrincioaia 147.72 325 ⇓P **PKPbc 14 34 14.1 +0.2**
PLOR Plostina 147.77 325 ⇓P **PKPdf 14 34 08.7 -1.5**
TSMN Mangalia Port- 147.94 321 ⇓P **PKPdf 14 34 11.0 +0.5**
NIE Niedzica 148.07 336 *e*PKPbc **PKiKP 14 34 16.2 +0.2**
KSP Ksiaz 148.24 341 *e*PKPbc **PKiKP 14 34 15.7 -0.6**
DOPR Dopca 148.36 326 ⇓P **PKiKP 14 34 16.3 -0.3**
MLR Muntele Rosu 148.38 325 ⇓P **PKiKP 14 34 16.9 0.0**
OSTC Ostas 148.51 341 ⇑*e*PKP **PKiKP 14 34 16.2 -0.6**
OSTC *e*PKPAB **PKPab 14 34 22.2 +0.5**
CHVC Chvalec 148.53 341 ⇑*e*PKP **PKPbc 14 34 16.2 +0.4**
LANS Liptovska Anna 148.61 336 *e*PKP **PKiKP 14 34 17.5 +0.4**
LANS *e* 14 34 23.2
DPC Dobruska-Polom 148.66 341 ⇑*e*PKP **PKiKP 14 34 16.6 -0.6**
DPC *e*PKPAB **PKPab 14 34 23.1 +0.7**
CLL Collm 148.70 345 *e*PKPbc **PKiKP 14 34 16.7 -0.5**
baz=17,slow=2.3
CLL Collm 148.70 345 ⇓*i*PKPbc **PKPbc 14 34 16.4 +0.2**
comp=Z,19nm,1.1s
CLL *e*PKPab **PKPab 14 34 21.0 -1.4**
CLZ Clausthal 148.75 349 *e*PKPbc **PKiKP 14 34 17.0 -0.3**
baz=17,slow=2.3
MORC Moravsky Berou 148.77 339 ⇑P **PKPab 14 34 24.0 +1.1**
MORC Moravsky Berou 148.77 339 *e*PKP **PKPbc 14 34 16.6 +0.1**
MORC *e* 14 34 23.3
BRG Berggiesshubel 148.87 344 *e*PKPbc **PKiKP 14 34 17.9 +0.4**
baz=17,slow=2.3
BRG Berggiesshubel 148.87 344 *i* PKP **PKiKP 14 34 17.5 0.0**
BRG Amp 14 34 18.2
comp=Z,8.0nm,0.7s
VOIR 148.89 326 ⇑P **PKPab 14 34 24.0 +0.4**
FBE Freiberg 148.97 345 *e*PKPbc **PKiKP 14 34 17.7 0.0**
baz=17,slow=2.3
MARR Marisel-Cluj 148.98 330 ⇑P **PKPbc 14 34 17.3 +0.2**
PVCC Panska Ves 149.01 343 ⇑*e*PKP **PKiKP 14 34 17.6 -0.2**
MAUC Maruska 149.02 338 ⇑*e*PKP **PKiKP 14 34 17.8 -0.1**
BUC1 Bucharest 149.08 324 ⇑P **PKPab 14 34 23.7 -0.6**
GTTG Gottingen 149.11 349 *e*PKPbc **PKiKP 14 34 17.7 -0.2**
baz=17,slow=2.3
ARR Arges 149.15 326 ⇓P **PKiKP 14 34 18.3 0.0**
VYHS Vyhne 149.39 336 *e*PKP **PKiKP 14 34 18.3 -0.4**
VYHS *e* 14 34 26.1
VRAC Vranov 149.49 339 ⇓P **PKPab 14 34 25.4 -0.4**
VRAC Vranov 149.49 339 *e*PKP **PKPbc 14 34 18.3 +0.2**
VRAC *e* 14 34 26.5
GOPC GO Pecny, Ondr 149.50 342 ⇑*e*PKP **PKPbc 14 34 18.2 0.0**
JAVC Velka Javorina 149.51 338 *e*PKP **PKiKP 14 34 19.5 +0.5**
JAVC *e* 14 34 27.3
PRU Pruhonice 149.51 342 ⇑*e*PKP **PKPbc 14 34 18.3 +0.2**
PRU *e*PKPAB **PKPab 14 34 26.4 +0.6**
LOT Lotru 149.54 327 ⇓P **PKPbc 14 34 18.2 -0.4**
MOX Moxa 149.64 346 *e*PKPbc **PKiKP 14 34 18.9 -0.2**
baz=17,slow=2.3
TANN Tannenbergstha 149.66 345 *e*PKPbc **PKiKP 14 34 19.1 -0.1**
baz=17,slow=2.3
PLN Plauen 149.66 346 *e*PKPbc **PKiKP 14 34 19.1 -0.1**
baz=17,slow=2.3
WERD Werda 149.66 345 *e*PKPbc **PKiKP 14 34 19.1 -0.1**
baz=17,slow=2.3
KASTN Kahler Asten 149.70 351 *e*PKPbc **PKiKP 14 34 19.1 -0.2**
baz=17,slow=2.3
GUNZ Gunzen 149.74 345 *e*PKPbc **PKiKP 14 34 19.4 +0.1**
baz=17,slow=2.3
KRUC Moravsky 149.76 339 *e*PKP **PKPbc 14 34 18.9 +0.1**
KRUC *e* 14 34 27.4
SIRR Siria 149.96 330 ⇓P **PKiKP 14 34 19.7 -0.3**
GZR Gura Zlata 150.07 328 ⇓P **PKPbc 14 34 19.5 -0.2**
SURR Surduc 150.13 329 ⇑P **PKPbc 14 34 19.5 -0.2**
MANZ Manzenberg 150.14 345 *e*PKPbc **PKiKP 14 34 20.3 +0.1**
baz=17,slow=2.3
ROTZ Rotzenmuhle 150.32 345 *e*PKPbc **PKiKP 14 34 20.6 0.0**
baz=17,slow=2.3
BZS Buzias 150.47 330 ⇓P **PKPbc 14 34 20.4 -0.2**
KHC Kasperske Hory 150.55 343 **PKiKP 14 34 20.9 -0.1**
KHC Kasperske Hory 150.55 343 ⇑*e*PKP **PKiKP 14 34 21.0 -0.1**
KHC *e*PKPAB **PKPab 14 34 30.5 +0.2**
MEM Membach 150.60 353 *d*PKiKP **PKPbc 14 34 20.7 0.0**
BTNL Ternell 150.61 353 *d*PKiKP **PKPbc 14 34 20.6 -0.1**
CKRC Cesky Krumlov 150.62 342 ⇑*e*PKP **PKiKP 14 34 21.0 -0.2**
TNS Taunus Mts 150.65 350 *e*PKPbc **PKiKP 14 34 21.3 0.0**
baz=17,slow=2.3
GEC2 GERESS Array S 150.78 342 *e*PKPbc **PKiKP 14 34 21.6 -0.1**
baz=17,slow=2.3
GERES GERESS Array B 150.78 342 PKPbc **PKiKP 14 34 21.4 -0.3**
comp=Z,5.7nm,0.8s,baz=354,slow=6.7,SNR=5.6
BHOU Houvegnez 150.85 353 *d*PKP **PKPab 14 34 31.8 +0.3**
BCLA Clavier 150.86 354 *d*PKP **PKPab 14 34 31.2 -0.3**
BGES Gesves 150.91 354 *d*PKiKP **PKPbc 14 34 21.3 -0.1**
CONA Conrad Observa 150.93 339 *e*PKPbc **PKiKP 14 34 21.9 -0.1**
comp=Z,6.6nm,0.7s
CONA *i* PKP **PKPab 14 34 32.8 +0.9**
comp=Z,4.6nm,0.7s
RONA Rosalia, Austr 150.97 338 *e*PKiKP **PKiKP 14 34 21.9 -0.2**
comp=Z,10nm,0.6s
RONA *i* PKP **PKPab 14 34 33.2 +1.1**
comp=Z,3.8nm,0.6s
BMRD Maredsous 151.02 355 *d*PKiKP **PKPbc 14 34 21.5 -0.1**
RCHB Rochefort 151.13 354 *d*PKiKP **PKPbc 14 34 21.8 0.0**
DOU Dourbes 151.24 355 *d*PKiKP **PKiKP 14 34 22.4 -0.1**

DOU			*d*PcP	**PKPab**	**14 34 31.0**	**-2.1**
WLF	**Walferdange**	**151.51 353**	*d*PKiKP	**PKiKP**	**14 34 23.7**	**+0.7**
WLF	**Walferdange**	**151.51 353**	*e*PKPbc	**PKiKP**	**14 34 23.7**	**+0.7**
	baz=17,slow=2.3					
ARSA	**Arzberg**	**151.63 339**	*i* PKP	**PKPab**	**14 34 35.5**	**+0.6**
	comp=Z,2.1nm,0.5s					
BIOA	**Bad Ischl, Aus**	**151.84 341**	*i* PKP	**PKPab**	**14 34 35.8**	**0.0**
	comp=Z,5.1nm,0.8s					
LESA	**Schwarzleotal**	**152.36 342**	*e*PKiKP	**PKPbc**	**14 34 24.6**	**-0.2**
	comp=Z,1.8nm,0.5s					
LESA			*i* PKP	**PKPab**	**14 34 38.6**	**+0.5**
	comp=Z,9.1nm,1.4s					
BFO	**Black Forest**	**152.50 349**	*e*PKPbc	**PKiKP**	**14 34 25.1**	**0.0**
	baz=17,slow=2.3					
WTTA	**Wattenberg**	**152.78 344**	*e*PKiKP	**PKPbc**	**14 34 25.5**	**-0.4**
	comp=Z,3.8nm,0.5s					
WTTA			*i* PKP	**PKPab**	**14 34 39.5**	**-0.4**
	comp=Z,5.8nm,0.7s					
MYKA	**Terra Mystica**	**152.79 340**	*e*PKP	**PKPbc**	**14 34 24.7**	**-1.0**
	comp=Z,1.7nm,0.6s					
MYKA			*e*PKP	**PKPab**	**14 34 39.6**	**-0.2**
	comp=Z,3.9nm,0.7s					
RETA	**Reutte**	**152.79 345**	*e*PKiKP	**PKPbc**	**14 34 25.6**	**-0.1**
	comp=Z,2.7nm,0.7s					
RETA			*i* PKP	**PKPab**	**14 34 40.2**	**+0.3**
	comp=Z,5.4nm,1.1s					
MOTA	**Moosalm**	**152.84 345**	*e*PKiKP	**PKPbc**	**14 34 25.5**	**-0.4**
	comp=Z,3.8nm,0.9s					
MOTA			*i* PKP	**PKPab**	**14 34 38.2**	**-2.0**
	comp=Z,2.3nm,0.7s					
SQTA	**Sankt Quirin**	**152.93 344**	*e*PKiKP	**PKPbc**	**14 34 25.7**	**-0.4**
	comp=Z,1.7nm,0.4s					
SQTA			*i* PKP	**PKPab**	**14 34 38.7**	**-1.8**
	comp=Z,2.0nm,0.6s					
ABTA	**Abfaltersbach**	**153.02 342**	*e*PKiKP	**PKPbc**	**14 34 25.4**	**-0.8**
	comp=Z,6.2nm,1.0s					
ABTA			*i* PKP	**PKPab**	**14 34 40.4**	**-0.5**
	comp=Z,4.0nm,0.8s					
DAVA	**Damuels**	**153.19 346**	*i* PKP	**PKPbc**	**14 34 25.2**	**-1.5**
	comp=Z,0.8nm,0.2s					
DAVA			*i* PKP	**PKPab**	**14 34 41.8**	**+0.1**
	comp=Z,6.0nm,0.8s					
ESDC	**Sonseca Array**	**161.37 12**	PKPab	**PKPab**	**14 35 17.2**	**0.0**
	comp=Z,1.4nm,1.1s,baz=355,slow=4.5,SNR=6.1					

NEIC ***28*** *14:17:46.6±2.7, 12°.80N±0°.10×95°.47E±0°.07, h10km±2km, mb4.5/8, Error ellipse: s-maj=17.5km s-min=10.4km az=161.0*
IDC ***28*** *14:17:47.1±1.5, 12°.63N×95°.33E, h0km, mb3.9/9, mbtmp3.8/10, ML3.4/1, MS3.4/6, Error ellipse: s-maj=38.4km s-min=26.4km az=49.0*

ISC 28 14:17:47.4±0.8, 12°.6N±0°.1×95°.41E±0°.09, h10km, n34, σ2.9 36/27, mb3.9/11, MS3.4/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.78 250**		Pn	**Pn**	**14 18 33.2**	**+1.2**
SRIT	**Nakonsritamara**	**5.76 134**		Pn	**Pn**	**14 19 13.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**6.72 30**		Pn	Pn	14 19 29.6	+3.4
	0.2nm,0.3s,baz=219,slow=14,SNR=9.3						
CMAR				LR	LR	14 22 18.6	
	comp=Z,76nm,18.2s,baz=215,slow=40						
	1.0nm,0.7s						
TAPN	**Taplejung**	**16.32 335**		*e*P	P	14 21 48.1	+8.1
	6.0nm,0.3s						
RAMN	**Ramite**	**16.46 331**		*e*P	**P**	**14 21 44.7**	**+3.1**
	49nm,0.7s						
HYB	**Hyderabad**	**16.95 288**		*e*P	**P**	**14 21 45.9**	**-1.0**
PKI	**Pulchoki**	**17.56 329**		*e*P	**P**	**14 21 55.6**	**+1.8**
	60nm,1.2s						
PKIN	**Phulchoki**	**17.57 329**		*e*P	**P**	**14 21 55.3**	**+1.4**
	6.4nm,0.2s						
GUN	**Gumba**	**17.61 331**		*e*P	**P**	**14 21 58.6**	**+4.2**
DMN	**Daman**	**17.74 329**		*e*P	**P**	**14 21 56.2**	**+0.4**
	58nm,1.1s						
DANN	**Dangsing**	**19.04 327**		*e*P	**Pn**	**14 22 09.5**	**-1.3**
	21nm,0.8s						
PYUN	**Piuthan**	**19.27 325**		*e*P	**P**	**14 22 09.0**	**-3.5**
	32nm,1.2s						
SBUM	**Sibu**	**19.48 120**		P	P	14 22 06.5	-8.2
KAPI	**Kappang**	**29.88 124**		LR	LR	14 37 47.3	
	comp=Z,98nm,19.2s,baz=296,slow=40						
TARG	**Taragay, Kyrgy**	**32.80 335**		P	**P**	**14 24 17.9**	**-3.6**
AAK	**Ala-Archa**	**34.96 333**		LR	LR	14 41 31.5	
	comp=Z,60nm,18.3s,baz=141,slow=41						
MKAR	**Makanchi Array**	**35.80 345**		P	**P**	**14 24 48.2**	**+1.3**
	1.1nm,0.8s,baz=168,slow=9.9,SNR=4.4						
	1.1nm,0.8s						
SONM	**Songino Array**	**36.27 13**		P	**P**	**14 24 52.9**	**+1.8**
	0.7nm,0.5s,baz=196,slow=10,SNR=6.3						
	0.7nm,0.5s						
WSAR	**Wadi Sarin**	**36.44 292**		LR	LR	14 40 01.4	
	comp=Z,40nm,18.8s,baz=281,slow=37						
KURBB	**Kurchatov Arra**	**40.31 343**		P	**P**	**14 25 25.3**	**+0.4**
	2.3nm,0.9s,baz=160,slow=7.9,SNR=16						
	2.3nm,0.9s						
GEYT	**Alibeck**	**41.66 314**		P	**P**	**14 25 34.7**	**-1.5**
GEYT				IAmb	IAmb	14 25 45.0	
	comp=Z,9.7nm,0.7s						
GEYT	**Alibeck**	**41.66 314**		P	**P**	**14 25 36.4**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=169,slow=8.9,SNR=5.2						
	comp=Z,3.8nm,0.6s						
GYA0B	**ALIBECK ARRAY**	**41.66 314**		P	**P**	**14 25 32.1**	**-4.1**
ZAA0	**Zalesovo Array**	**42.06 351**		P	**P**	**14 25 34.8**	**-4.3**
ZAA0				IAmb	IAmb	14 25 52.6	
	comp=Z,5.1nm,1.1s						
ZALV	**Zalesovo Beam**	**42.06 351**		P	**P**	**14 25 36.6**	**-2.6**
ZALV	**Zalesovo Beam**	**42.06 351**		P	**P**	**14 25 39.9**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=168,slow=7.6,SNR=4.9						
	1.5nm,0.9s						
BVAR	**Borovoye Array**	**44.97 339**		P	**P**	**14 26 02.8**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=141,slow=9.3,SNR=2.8						
BVAR				LR	LR	14 49 34.1	
	comp=Z,44nm,18.8s,baz=55,slow=42						
	comp=Z,0.5nm,0.7s						
ABKAR	**Akbulak array**	**46.76 329**		P	**P**	**14 26 15.2**	**-1.6**
WRA	**Warramunga Arr**	**50.16 130**		P	**P**	**14 26 41.2**	**-2.4**
WRA	**Warramunga Arr**	**50.16 130**		P	**P**	**14 26 45.1**	**+1.5**
	comp=Z,1.3nm,1.0s,baz=312,slow=7.8,SNR=3.9						
	comp=Z,1.3nm,1.0s						
WB2	**Warramunga Arr**	**50.17 130**		P	**P**	**14 26 41.9**	**-1.7**
WB2				IAmb	IAmb	14 27 23.9	
	comp=Z,9.6nm,1.3s						
KIRV	**Kirov**	**57.29 333**		LR	LR	14 54 35.0	
	comp=Z,74nm,18.9s,baz=134,slow=38						
BRTR	**Keskin Array B**	**60.37 309**		P	**P**	**14 27 59.8**	**+2.6**
	comp=Z,1.2nm,0.8s,baz=98,slow=8.9,SNR=5.0						
	comp=Z,1.2nm,0.8s						
ILAR	**Eielson Array**	**89.89 22**		P	**P**	**14 30 47.4**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=287,slow=4.6,SNR=3.4						
	comp=Z,0.4nm,0.8s						

IDC 28 14:20:00.3±3.5, 55°.98S×148°.99E, h0km, mb3.6/4, mbtmp3.7/4, MS4.1/1, Error ellipse: s-maj=275.5km s-min=27.6km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**22.11 173**		P	P	14 24 57.1	+0.5
	2.4nm,1.1s,baz=348,slow=14,SNR=4.9						
	2.4nm,1.1s						
H01W1	**Cape Leeuwin H**	**31.76 297**		T	T	14 59 18.9	
	baz=143						
H01W2	**Cape Leeuwin H**	**31.77 297**		T	T	14 59 18.9	
	baz=143						
H01W3	**Cape Leeuwin H**	**31.78 297**		T	T	14 59 20.3	
	baz=143						
ASAR	**Alice Springs**	**34.13 335**		P	P	14 26 46.6	-0.1
	0.4nm,0.6s,baz=161,slow=8.7,SNR=2.5						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**37.62 337**		P	P	14 27 17.1	+0.4
	0.9nm,0.5s,baz=165,slow=7.5,SNR=5.5						
	0.9nm,0.5s						
KAPI	**Kappang**	**55.91 324**		LR	LR	14 54 50.1	
	comp=Z,149nm,19.0s,baz=198,slow=37						
H04S1	**CROZET ISLANDS**	**56.37 235**		T	T	15 30 09.5	
	baz=137						
H04S2	**CROZET ISLANDS**	**56.37 235**		T	T	15 30 07.2	
	baz=137						
H04S3	**CROZET ISLANDS**	**56.38 235**		T	T	15 30 07.3	
	baz=137						
H08S2	**Diego Garcia H**	**76.15 277**		T	T	15 54 18.5	
	baz=147						
H08S1	**Diego Carcia H**	**76.16 277**		T	T	15 54 21.6	
	baz=147						
H08S3	**Diego Garcia H**	**76.17 277**		T	T	15 54 20.7	
	baz=147						
CMAR	**Chiang Mai Arr**	**85.28 313**		P	P	14 32 38.5	-0.2
	0.2nm,0.4s,baz=177,slow=4.5,SNR=1.9						
	0.2nm,0.4s						
AKASG	**Malin Array Be**	**144.66 287**		PKP	PKPab	14 39 35.7	-0.7
	0.2nm,0.2s,baz=111,slow=1.9,SNR=1.7						

SKHL ***28*** *14:20:28.6±0.4, 45°.40N×149°.40E, h149km±9km, mb5.3/5, msha5.4/5*
MOS ***28*** *14:20:29.6±1.0, 45°.68N×149°.05E, h157km, mb4.5/1, Error ellipse: s-maj=15.0km s-min=8.9km az=62.0*
IDC ***28*** *14:20:31.9±2.2, 45°.77N×148°.98E, h156km±20km, mb3.5/19, mbtmp3.9/23, Error ellipse: s-maj=17.9km s-min=12.2km az=157.0*
JMA ***28*** *14:20:33.6±0.7, 45°.N±2°.×14°.9E±°, h144km, MV3.8/15, SE OFF ETOROFU*

ISC 28 14:20:29.4±0.8, 45°.40N±0°.08×149°.29E±0°.08, h148km±7km, n64, σ2.8 08/73, mb3.8/21, 4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.01 261**		*i* P	**Pn**	**14 20 55.4**	**+1.4**
KUR				AMB	AMB	14 20 55.8	
	690nm,0.4s						
KUR				*e*S	**Sn**	**14 21 16.0**	**+3.3**
KUR				A	A	14 21 18.2	
	900nm,0.4s						
KUR				A	A	14 21 18.2	
	600nm,0.4s						
KUR	**Kuril'sk**	**1.01 261**		*d* iPN	**Pn**	**14 20 55.4**	**+1.4**
KUR				*e*S	**Sn**	**14 21 15.2**	**+2.5**
KUR				pmax	pmax		
	comp=N,108nm,0.4s						
KUR				pmax	pmax		
	comp=Z,565nm,0.4s						
KUR				pmax	pmax		
	comp=E,83nm,0.3s						
KUR				smax	smax		
	comp=N,297nm,0.2s						
KUR				smax	smax		
	comp=E,980nm,0.2s						
SHO	**Shikotan**	**2.33 230**		*i* P	**Pn**	**14 21 09.0**	**+0.8**
SHO				AMB	AMB	14 21 09.6	
	comp=E,220nm,0.6s						
SHO				*e*S	**Sn**	**14 21 37.8**	**-0.3**
SHO				A	A	14 21 40.5	
	comp=E,390nm,0.4s						
SHO				A	A	14 21 40.5	
	comp=E,370nm,0.4s						
SHO	**Shikotan**	**2.33 230**		*i* iPN	**Pn**	**14 21 09.0**	**+0.8**
SHO				*e*S	**Sn**	**14 21 36.8**	**-1.3**
SHO				pmax	pmax		
	comp=Z,288nm,0.4s						
SHO				pmax	pmax		
	comp=N,99nm,0.2s						
SHO				pmax	pmax		
	comp=E,103nm,0.2s						
SHO				smax	smax		
	comp=N,415nm,0.2s						
SHO				smax	smax		
	comp=E,368nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.80 242**		*i* P	**Pn**	**14 21 15.8**	**+1.8**
YUK				AMB	AMB	14 21 16.3	
	comp=E,1μm,0.3s						
YUK				*e*S	**Sn**	**14 21 50.1**	**+1.6**
YUK				A	A	14 21 53.2	
	comp=E,430nm,0.5s						
YUK				A	A	14 21 53.2	
	comp=E,490nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.80 242**		*d* iPN	**Pn**	**14 21 15.8**	**+1.8**
YUK				*e*S	**Sn**	**14 21 49.9**	**+1.4**
YUK				pmax	pmax		
	comp=N,154nm,0.3s						
YUK				pmax	pmax		
	comp=E,112nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				smax	smax		
	comp=N,497nm,0.2s						
YUK				smax	smax		
	comp=E,140nm,0.1s						
RUSJ	**Misakicho**	**3.15 247**		*e*PN	**Pn**	**14 21 20.1**	**+1.5**
NEM2	**Nemuro 2**	**3.25 233**		P	**Pn**	**14 21 20.2**	**+0.4**
NEM2				*e*S	**Sn**	**14 21 56.4**	**-2.5**
NMR	**Nemuro--Hokkai**	**3.26 233**		*i* P	**Pn**	**14 21 20.2**	**+0.3**
NMR				*e*rx	rx	14 21 56.9	
NMR	**Nemuro--Hokkai**	**3.26 233**		*i* iPN	**Pn**	**14 21 20.2**	**+0.3**
NMR				*e*S	**Sn**	**14 21 56.7**	**-2.3**
JRA	**Rausu**	**3.31 245**		P	**Pn**	**14 21 22.3**	**+1.7**
JNK	**Nakash**	**3.74 243**		*e*P	**Pn**	**14 21 27.6**	**+1.5**
JAK	**Akkeshi**	**4.08 236**		*e*P	**Pn**	**14 21 30.8**	**+0.3**
JAK				*e*S	**Sn**	**14 22 15.8**	**-2.3**
JTKR	**Abashiri--Toko**	**4.09 251**		P	**Pn**	**14 21 32.1**	**+1.4**
JAR	**Ashorobuto**	**4.48 244**		*e*P	**Pn**	**14 21 37.6**	**+1.8**
JOB	**Onbets**	**4.65 239**		*e*P	**Pn**	**14 21 39.1**	**+1.1**
JOB				*e*S	**Sn**	**14 22 29.8**	**-1.6**
YSS	**Yuzh-Sakhalins**	**4.79 291**		*e*P	**Pn**	**14 21 41.1**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.79 291**		*e*PN	Pn	14 21 45.9	+6.0
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
JKK2	**Kamakawa 2**	**4.91 254**		*e*P	**Pn**	**14 21 43.3**	**+1.8**
JKA	**Kamikawa-asahi**	**4.93 257**		*e*P	**Pn**	**14 21 43.9**	**+2.1**
ASAJ	**Asahikawa**	**4.93 257**		P	**Pn**	**14 21 43.9**	**+2.1**
	comp=Z,35nm,0.6s,baz=72,slow=7.3,SNR=47						
JCH	**Churui**	**5.10 239**		*e*P	**Pn**	**14 21 44.3**	**+0.3**
JCH				*e*S	**Sn**	**14 22 39.6**	**-2.5**
JWK2	**Keihoku**	**5.21 272**		*e*P	**Pn**	**14 21 48.2**	**+2.8**
JAB	**Ashibetsu**	**5.40 252**		*e*P	**Pn**	**14 21 50.4**	**+2.4**
JNBK	**Urakawa-nobuka**	**5.66 239**		*e*P	**Pn**	**14 21 50.8**	**-0.7**
JNBK				*e*S	**Sn**	**14 22 51.9**	**-3.7**
SKR	**Severo-Kuril's**	**6.99 38**		*e*P	**Pn**	**14 22 08.7**	**-0.4**
SKR				AMB	AMB	14 22 10.5	
	comp=Z,190nm,0.8s						
SKR				*e*S	**Sn**	**14 23 22.8**	**-4.6**
SKR				A	A	14 23 28.0	
	comp=Z,50nm,0.8s						
SKR				A	A	14 23 28.0	
	comp=Z,70nm,0.8s						
SKR	**Severo-Kuril's**	**6.99 38**		*e*PN	**Pn**	**14 22 08.7**	**-0.4**
SKR				*e*S	**Sn**	**14 23 22.8**	**-4.6**
SKR				pmax	pmax		
	comp=Z,192nm,0.8s						
SKR				smax	smax		
	comp=E,69nm,0.7s						
SKR				smax	smax		
	comp=N,45nm,0.8s						
JANG	**Nango**	**7.60 231**		*e*P	**Pn**	**14 22 16.0**	**-1.4**
JANG				*e*S	**Sn**	**14 23 33.9**	**-8.2**
PETK	**Petropavlovsk-**	**9.47 32**		P	**Pn**	**14 22 40.8**	**-1.4**
	comp=N,9.3nm,0.6s,baz=158,slow=12,SNR=42						
MJAR	**Matsushiro Arr**	**12.17 227**		P	**Pn**	**14 23 17.8**	**-0.1**
	comp=N,2.8nm,1.2s,baz=328,slow=16,SNR=4.3						
SEY	**Seymchan**	**17.66 5**		P	**P**	**14 24 24.3**	**-0.4**
	comp=N,1.7nm,0.9s,baz=174,slow=13,SNR=5.0						
KSRS	**Korea Array**	**17.84 251**		P	**Pn**	**14 24 28.4**	**+0.1**
	comp=N,0.5nm,0.5s,baz=59,slow=11,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**29.45 145**		T	T	14 57 36.8	
	baz=334,slow=76,SNR=144						
H11N1	**WAKE ISLAND Hy**	**29.47 145**		T	T	14 57 36.2	
	baz=334,slow=76,SNR=106						
H11N3	**WAKE ISLAND Hy**	**29.47 145**		T	T	14 57 38.4	
	baz=334,slow=76,SNR=145						
H11S1	**WAKE ISLAND Hy**	**30.48 146**		T	T	14 58 53.5	
	baz=335,slow=76,SNR=199						
H11S3	**WAKE ISLAND Hy**	**30.48 146**		T	T	14 58 56.9	
	baz=335,slow=76,SNR=125						
H11S2	**WAKE ISLAND Hy**	**30.50 146**		T	T	14 58 54.2	
	baz=335,slow=76,SNR=86						
GTA	**Gaotai**	**36.54 279**		P	**P**	**14 27 21.8**	**+1.0**
GTA				pP	PcP	14 29 40.8	-0.2
GTA				pmax	pmax		
	comp=Z,14nm,0.5s						
KDAK	**Kodiak Island**	**37.01 49**		P	**P**	**14 27 25.2**	**+0.9**
	comp=Z,5.7nm,0.9s,baz=318,slow=4.5,SNR=7.7						
	comp=Z,5.7nm,0.9s						
ILAR	**Eielson Array**	**39.25 37**		P	**P**	**14 27 43.6**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=268,slow=7.8,SNR=4.4						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**41.24 306**		P	**P**	**14 27 57.6**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=65,slow=7.2,SNR=2.1						
	comp=Z,0.6nm,0.4s						
GOMU	**GeErMu**	**41.55 277**		P	**P**	**14 28 04.0**	**+1.4**
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**45.19 297**		P	**P**	**14 28 29.6**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=71,slow=7.9,SNR=4.4						
	comp=Z,1.6nm,0.8s						
KURK	**Kurchatov**	**45.89 303**		*e*P	**P**	**14 28 35.6**	**-1.0**
KURK	**Kurchatov**	**45.89 303**		P	**P**	**14 28 35.6**	**-1.0**
KURBB	**Kurchatov Arra**	**45.97 303**		P	**P**	**14 28 35.5**	**-1.8**
	comp=Z,1.2nm,0.4s,baz=72,slow=8.5,SNR=12						
	comp=Z,1.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**49.45 254**		P	**P**	**14 29 06.1**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=22,slow=7.3,SNR=0.8						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**49.65 309**		P	**P**	**14 29 03.8**	**-1.8**
	comp=Z,0.8nm,0.4s,baz=78,slow=7.7,SNR=5.3						
BVAR				PcP	**PcP**	**14 30 25.4**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=70,slow=5.4,SNR=2.8						
	comp=Z,0.8nm,0.4s						
ARU	**Arti**	**54.19 317**	*e*P		**P**	**14 29 36.9**	**-2.2**
ARU	**Arti**	**54.19 317**	P		**P**	**14 29 36.9**	**-2.2**
FINES	**FINESS Array B**	**64.09 333**	P		**P**	**14 30 45.2**	**-1.9**
	comp=Z,1.3nm,0.4s,baz=29,slow=9.2,SNR=16						
	comp=Z,1.3nm,0.4s						
GEYT	**Alibeck**	**64.97 299**	P		**P**	**14 30 53.3**	**0.0**
	comp=Z,2.2nm,0.5s,baz=338,slow=3.2,SNR=5.4						
	comp=Z,2.2nm,0.5s						
NVAR	**Mina Array Bea**	**65.42 60**	P		**P**	**14 30 59.0**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=284,slow=8.1,SNR=6.0						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	**66.44 195**	P		**P**	**14 31 04.6**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=11,slow=6.5,SNR=2.1						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**67.68 51**	P		**P**	**14 31 12.3**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=286,slow=1.6,SNR=6.3						
	comp=Z,0.4nm,0.6s						
NB2	**NORSAR Subarra**	**68.60 340**	P		**P**	**14 31 14.3**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.60 340**	P		**P**	**14 31 14.6**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=29,slow=6.7,SNR=12						
	comp=Z,0.8nm,0.5s						
HFS	**Hagfors**	**68.75 338**	P		**P**	**14 31 14.9**	**-1.8**
	comp=Z,1.9nm,0.5s,baz=47,slow=6.5,SNR=13						
	comp=Z,1.9nm,0.5s						
ASAR	**Alice Springs**	**70.15 195**	P		**P**	**14 31 28.8**	**+3.1**
	comp=Z,0.2nm,0.6s,baz=10.0,slow=6.6,SNR=4.1						
	comp=Z,0.2nm,0.6s						
BRTR	**Keskin Array B**	**77.49 315**	P		**P**	**14 32 08.9**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=56,slow=4.9,SNR=5.5						
	comp=Z,1.1nm,0.7s						
GERES	**GERESS Array B**	**78.44 332**	P		**P**	**14 32 12.9**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=44,slow=6.1,SNR=1.3						
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**80.47 58**	P		**P**	**14 32 25.6**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=323,slow=7.0,SNR=2.1						
	comp=Z,0.2nm,0.5s						
MMAI	**Mount Meron Ar**	**81.65 309**	P		**P**	**14 32 31.2**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=19,slow=4.9,SNR=3.5						
	comp=Z,3.6nm,0.7s						

IDC ***28*** *14:21:09.0±1.1, 56°.44S×146°.91E, h0km, mb4.0/6, mbtmp4.0/6, MS4.0/5, Error ellipse: s-maj=99.4km s-min=20.7km az=78.0*
GCMT ***28*** *14:21:11.0±0.4, 56°.61S±0°.03×147°.44E±0°.08, h14km±1km, MW4.8/67, Moment Tensor Solution. s15,c16; s67,c86; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-2.11±.22; $M_{\theta\theta}$1.59±.13; $M_{\phi\phi}$0.52±.12; $M_{r\theta}$0.12±.26; $M_{\theta\phi}$0.47±.06; $M_{\phi r}$-0.03±.28; Best double couple: $M_0$1.94100×10^16 NP1:ϕ_s251.00000°, δ46.00000°, λ-88.00000°. NP2: ϕ_s68.00000°, δ44.00000°, λ-92.00000°. Principal axes: T 1.7680, Plg1.0000°, Azm339.0000°; N 0.3470, Plg2.0000°, Azm70.0000°; P -2.1140, Plg88.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 28 14:21:10.5±1.1, 56°.4S±0°.2×147°.1E±0°.7, h11km, n25, σ1.9 23/11, mb4.0/6, MS4.0/4, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**19.85 60**		LR	LR	14 31 37.8	
	comp=Z,277nm,20.8s,baz=236,slow=32						
VNDA	**Vanda**	**21.81 171**		P	**P**	**14 26 03.0**	**+0.9**
	6.6nm,1.3s,baz=154,slow=5.5,SNR=1.7						
	6.6nm,1.3s						
VNDA				LR	LR	14 33 25.7	
	comp=Z,940nm,19.6s,baz=4.0,slow=34						
	3.5nm,0.8s						
STKA	**Stephens Creek**	**24.84 349**		P	**P**	**14 26 33.7**	**+1.0**
	3.5nm,0.8s,baz=152,slow=13,SNR=4.2						
	3.5nm,0.8s						
URZ	**Urewera**	**26.97 60**		LR	LR	14 36 26.8	
	comp=Z,176nm,20.8s,baz=17,slow=34						
H01W1	**Cape Leeuwin H**	**31.02 300**		T	T	15 00 22.5	
	baz=146,slow=75						
H01W2	**Cape Leeuwin H**	**31.03 300**		T	T	15 00 22.1	
	baz=146,slow=75						
H01W3	**Cape Leeuwin H**	**31.04 300**		T	T	15 00 23.7	
	baz=146,slow=75						
QSPA	**South Pole Qui**	**33.67 180**		P	**P**	**14 27 50.8**	**-0.3**
	3.5nm,1.0s,baz=252,slow=6.8,SNR=3.3						
	3.5nm,1.0s						
ASAR	**Alice Springs**	**34.12 338**		P	**P**	**14 27 55.5**	**+0.3**
	1.0nm,0.8s,baz=168,slow=9.8,SNR=4.8						
ASAR				PcP	**PcP**	**14 30 33.0**	**+0.7**
	1.3nm,1.0s,baz=167,slow=4.7,SNR=5.3						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**37.65 340**		P	**P**	**14 28 24.1**	**-1.4**
	2.5nm,0.9s,baz=166,slow=7.3,SNR=7.3						
WRA				PcP	**PcP**	**14 30 44.3**	**+1.5**
	0.7nm,0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTB	**Butedale**	**2.87**	**21**	Pn	Pn	14 31 00.1	-0.8
BNKB	**Banks Island**	**2.94**	**3**	Pn	Pn	14 31 00.2	-1.6
GRIB	**Gribbell Islan**	**3.01**	**12**	Pn	Pn	14 31 01.4	-1.4
CBB	**Campbell River**	**3.10**	**95**	Pn	Pn	14 31 02.9	-1.1
CBB				Sn	Sn	14 31 38.0	-3.1
GRNB	**Grenville Isla**	**3.46**	**2**	Pn	Pn	14 31 07.6	-1.3
GRNB				Sn	Sn	14 31 47.3	-2.6
TXB	**Texada**	**3.75**	**99**	Pn	Pn	14 31 11.8	-1.2
KITB	**Kitimat**	**3.80**	**14**	Pn	Pn	14 31 13.1	-0.5
RUBB	**Prince Rupert**	**3.93**	**359**	Pn	Pn	14 31 14.8	-0.6
SHB	**Sechelt**	**4.13**	**99**	Pn	Pn	14 31 15.6	-2.7
SHB				Sn	Sn	14 32 03.0	-3.7
UBRB	**Upper Baezaeko**	**4.53**	**54**	Pn	Pn	14 31 24.7	+0.9
GOBB	**Galiano Island**	**4.55**	**106**	Pn	Pn	14 31 24.3	+0.4
GOBB				Sn	Sn	14 32 15.7	-1.1
MCW	**Mount Constitu**	**5.07**	**107**	Pn	Pn	14 31 32.1	+1.0
FSJB	**Fort St James**	**5.42**	**39**	Pn	Pn	14 31 36.5	+0.6
RPW	**Rockport**	**5.97**	**106**	Pn	Pn	14 31 44.2	+0.7

PRE ***28*** *14:33:01.6±1.1, 29°.52S×27°.71E, h5km, ML2.0*
EAF ***28*** *14:33:11.2, 28°.52S×28°.95E, h10km, MC3.5*
ISC 28 14:32:57.5±1.2, 28.70S±0.04×29.43E±0.06, h10km, n10, σ1§08/16, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNKL	**Senekal, Frees**	**1.52**	**286**	*e*P	**Pb**	**14 33 26.0**	**+0.1**
SNKL				*e*S	**Sn**	**14 33 43.2**	**-1.7**
SNKL				IAML		14 33 50.3	
	comp=Z,92nm,0.2s						
KSTD	**Kokstad**	**1.91**	**183**	*e*P	**Pg**	**14 33 34.3**	**+0.2**
KSTD				*e*S	**Sb**	**14 33 56.5**	**0.0**
KSTD				IAML		14 34 05.3	
	comp=Z,13nm,0.3s						
PRYS	**Parys**	**2.55**	**314**	*e*P	**Pg**	**14 33 45.3**	**-1.1**
PRYS				*e*S	**Sb**	**14 34 16.1**	**+1.1**
PRYS				IAML		14 34 27.4	
	comp=Z,10nm,0.2s						
BOSA	**Boshof**	**3.67**	**270**	*i* P	**Pb**	**14 34 02.6**	**+0.1**
BOSA				*i* S	**Sn**	**14 34 38.3**	**+0.5**
BOSA	**Boshof**	**3.67**	**270**	*i* P	**Pb**	**14 34 02.6**	**+0.1**
	baz=267						
BOSA				*i* S	**Sn**	**14 34 38.3**	**+0.5**
	baz=267						
LBTB	**Lobatse**	**5.02**	**316**	*i* P	Pb	14 34 20.7	-4.9
LBTB				*i* S	**Sn**	**14 35 10.1**	**-1.1**
LBTB	**Lobatse**	**5.02**	**316**	*i* P	Pb	14 34 20.7	-4.9
	baz=319						
LBTB				*i* S	**Sn**	**14 35 10.1**	**-1.1**
	baz=319						
LEPH	**Lephalale, Lim**	**5.04**	**343**	*e*P	**Pb**	**14 34 26.9**	**+1.0**
LEPH				*e*S	**Sb**	**14 35 29.1**	**+2.4**
LEPH				IAML		14 35 43.9	
	comp=Z,2.0nm,0.4s						
MOPA	**Mopani**	**5.46**	**19**	*i* P	**Pb**	**14 34 32.7**	**-0.3**
MOPA	**Mopani**	**5.46**	**19**	*i* P	**Pb**	**14 34 32.7**	**-0.3**
	baz=25						

KRSC ***28*** *14:45:00.9±0.5, 61°.94N×162°.05E, h10km±4km, Ml4.0*
NERS ***28*** *14:45:03.2±0.0, 62°.00N×161°.85E, h7km*
ISC 28 14:45:02.4±1.1, 61°.97N±0°.06×162°.01E±0°.04, h10km, n12, σ2§47/23, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVEN	**Evensk**	**1.31**	**269**	*e*Pg	**Pn**	**14 45 25.9**	**-0.9**
EVEN				Pgmax		14 45 27.5	
	120nm,0.2s						
EVEN				*e*Sg	**Sg**	**14 45 44.0**	**-0.7**
EVEN				Sgmax		14 45 46.4	
	2μm,0.2s						
EVEN				Sgmax		14 45 46.4	
	1μm,0.3s						
KMSK	**Kamenskaya**	**2.03**	**74**	*e*P	**Pn**	**14 45 36.1**	**-0.5**
KMSK				*e*S	**Sn**	**14 46 02.2**	**+0.3**
TILK	**Tilichiki**	**2.52**	**126**	*e*P	**Pn**	**14 45 43.9**	**+0.5**
OSSR	**Ossora**	**2.78**	**169**	*e*P	**Pn**	**14 45 47.0**	**+0.1**
OSSR				*e*S	**Sn**	**14 46 20.6**	**+0.2**
OMS	**Omsukchan**	**2.97**	**283**	*e*P	**Pn**	**14 45 51.4**	**+1.9**
OMS				*e*Pg	**Pb**	**14 45 56.4**	**+1.1**
OMS				Pgmax		14 45 58.9	
	50nm,0.2s						
OMS				*e*Sg	**Sg**	**14 46 34.7**	**-2.9**
OMS				Sgmax		14 46 37.4	
	240nm,0.3s						
OMS				Sgmax		14 46 37.4	
	130nm,0.3s						
PALN	**Palana**	**3.06**	**200**	*e*P	**Pn**	**14 45 51.7**	**+0.9**
PALN				*e*S	**Sn**	**14 46 28.7**	**+1.3**
SEY	**Seymchan**	**4.57**	**286**	*e*P	**Pn**	**14 46 12.5**	**+1.0**
SEY				*e*		14 46 21.6	
SEY				*e*Pg	**Pb**	**14 46 24.8**	**+2.2**
SEY				*e*Sg	**Sg**	**14 47 24.8**	**-4.3**
SEY				Sgmax		14 47 28.1	
	40nm,0.3s						
SEY				Sgmax		14 47 28.1	
	20nm,0.3s						
TLAR	**Talaya**	**4.67**	**264**	*e*P	**Pn**	**14 46 16.1**	**+3.1**
TLAR				*e*		14 46 31.3	
TLAR				Pgmax		14 46 36.6	
	10.0nm,0.3s						
TLAR				*e*Sg	**Sg**	**14 47 29.3**	**-3.0**
TLAR				Sgmax		14 47 33.3	
	100nm,0.4s						
TLAR				Sgmax		14 47 33.3	
	80nm,0.4s						
GADL	**Gadlja**	**5.72**	**251**	*e*Sg	**Sg**	**14 48 02.2**	**-3.5**
MGD	**Magadan 1**	**5.81**	**256**	*e*P	**Pn**	**14 46 31.5**	**+2.9**
MGD				*e*Sg	**Sg**	**14 48 03.7**	**-5.2**
MGD				Sgmax		14 48 14.0	
	40nm,0.8s						
MGD				Sgmax		14 48 14.0	
	20nm,0.5s						
MA2	**Magadan**	**6.01**	**251**	*e*P	**Pn**	**14 46 32.1**	**+0.9**
MA2				*e*Sg	**Sg**	**14 48 12.1**	**-2.9**
MA2				Sgmax		14 48 13.0	
	10.0nm,0.6s						
TLON	**Talon**	**6.89**	**257**	*e*Sg	**Sg**	**14 48 40.9**	**-2.3**

JMA ***28*** *14:49:44.8±0.1, 31°.1N±0°.2×129°.1E±0°.5, h13km±1km, MV4.2/33, SW OFF KYUSHU*
JMA Felt I J1 at SW OFF KYUSHU .
NIED ***28*** *14:49:44.8, 31°.12N×129°.07E, h13km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr-2.17; Mθθ1.70; Mφφ0.47; Mrθ-1.99; Mθφ1.21; Mφr-0.53; Fault plane solution: M0 3.10000×1015 NP1:φs70.00000°, δ66.00000°, λ-80.00000°. NP2:φs226.00000°, δ26.00000°, λ-112.00000°.*
IDC ***28*** *14:49:45.8±0.7, 31°.29N×129°.18E, h0km, mb4.0/16, mbtmp4.0/18, ML3.3/2, MS3.5/14 Error ellipse: s-maj=22.3km s-min=16.2km az=79.0*
BJI ***28*** *14:49:51.5±0.0, 31°.34N×129°.10E, h49km, mb4.3/35, mB4.9/13, Ms4.4/15, Ms7 4.2/16*
NEIC ***28*** *14:49:53.4±2.7, 31°.44N±0°.10×129°.10E±0°.09, h48km±9km, mb4.6/49, Error ellipse: s-maj=14.8km s-min=10.8km az=204.0*
ISC 28 14:49:49.8±0.8, 31°.18N±0°.04×129°.22E±0°.04, h32km±5km, n120, σ2§05/124, mb4.5/47, MS3.8/11, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.65**	**40**	*e*P	**Pb**	**14 49 59.8**	**-3.0**
JSJ				*e*S	**Sb**	**14 50 10.5**	**-1.1**
JKC	**Kuchinoerabu**	**1.10**	**130**	P	**Pn**	**14 50 06.5**	**-2.4**
JKC				S	**Sn**	**14 50 21.5**	**-1.5**
JSU	**Suzuyama**	**1.10**	**73**	Pn	**Pb**	**14 50 12.3**	**+2.0**
JSU	**Suzuyama**	**1.10**	**73**	P	**Pn**	**14 50 08.0**	**-1.0**
JSU				S	**Sb**	**14 50 23.8**	**-0.5**
JYAK	**Yakushimahirau**	**1.45**	**130**	P	**Pn**	**14 50 11.1**	**-2.7**
JYAK				*e*S	**Sn**	**14 50 31.4**	**-0.3**
JZO	**Okuchi**	**1.51**	**50**	A	A	14 50 14.0	
	comp=Z,6.0nm,5.1s,comp=E,9.0nm,1.4s,comp=N,9.0nm,1.8s						
JFU	**Fukue jima 2**	**1.52**	**345**	P	**Pn**	**14 50 12.6**	**-2.1**
JFU				*e*S	**Sn**	**14 50 33.1**	**-0.4**
JTZ	**Takazaki**	**1.75**	**65**	P	**Pn**	**14 50 17.1**	**-0.7**
JTZ				*e*S	**Sb**	**14 50 41.0**	**-1.8**
JIU3	**Izumi3**	**1.92**	**44**	P	**Pn**	**14 50 20.0**	**-0.2**
JNU	**Nakatsue**	**2.39**	**36**	Pn	**Pb**	**14 50 31.0**	**-1.1**
	comp=N,27nm,0.3s,baz=197,slow=6.9,SNR=41						
JNU				Sn	**Sb**	**14 51 03.5**	**+2.2**
	comp=N,13nm,0.3s,baz=256,slow=12,SNR=5.9						
JOW	**Kunigami**	**4.41**	**191**	LR	LR	14 52 10.8	
	comp=N,128nm,21.3s,baz=242,slow=32						
JMN	**Monobe**	**4.68**	**56**	Pn	**Pn**	**14 50 59.5**	**+1.2**
TJN	**Taejon**	**5.41**	**344**	Pn	**Pn**	**14 51 08.2**	**0.0**
KSAR	**Wonju Array Be**	**6.34**	**350**	Pn	**Pn**	**14 51 19.9**	**-1.0**
KSRS	**Korea Array**	**6.35**	**351**	Pn	**Pn**	**14 51 20.9**	**-0.2**
	comp=N,0.7nm,0.3s,baz=179,slow=14,SNR=19						
KSRS				Sn	**Sn**	**14 52 32.5**	**+0.1**
	comp=N,0.9nm,0.3s,baz=175,slow=21,SNR=5.0						
KSRS				Lg	Lg	14 53 02.1	
	comp=N,0.8nm,0.3s,baz=172,slow=30,SNR=6.3						
KSRS				LR	LR	14 53 46.9	
	comp=N,404nm,21.1s,baz=180,slow=39						
	comp=N,6.2nm,0.7s						
KS19	**Wonju Array Si**	**6.40**	**350**		**Pn**	**14 51 21.4**	**-0.4**
INU	**Inuyama**	**7.74**	**55**		**Pn**	**14 51 42.4**	**+2.3**
NJ2	**Nanjing**	**8.89**	**278**	*e*P	**Pn**	**14 51 56.3**	**+0.4**
NJ2				pmax	pmax		
	comp=N,11nm,0.5s						
MJAR	**Matsushiro Arr**	**9.18**	**52**	Pn	**Pn**	**14 52 02.5**	**+2.4**
	baz=244,slow=14,SNR=6.2						
MJAR				LR	LR	14 56 16.3	
	comp=N,148nm,19.0s,baz=261,slow=43						
TIA	**Tai'an**	**11.26**	**300**	*e*P	Pn	14 52 33.8	+5.4
TIA				pmax	pmax		
	comp=N,10.0nm,1.7s						
USA0B	**Ussuriysk Arra**	**13.18**	**9**	Pn	Pn	14 52 46.0	-8.6
USRK	**Ussuriysk Ar.**	**13.18**	**9**	Pn	Pn	14 52 45.5	-9.0
USRK	**Ussuriysk Ar.**	**13.18**	**9**	Pn	**Pn**	**14 52 57.1**	**+2.5**
	comp=N,0.1nm,0.3s,baz=195,slow=9.0,SNR=3.0						
USRK				LR	LR	14 57 42.2	
	comp=N,148nm,20.0s,baz=197,slow=36						
MDJ	**Mudanjiang**	**13.42**	**1**	P	**Pn**	**14 52 57.3**	**-0.5**
MDJ				sP	P	14 53 11.8	+5.0
MDJ				S	**Sn**	**14 55 27.3**	**+1.6**
MDJ				SS	**SnSn**	**14 55 44.0**	**+5.6**
MDJ				ScP	**ScP**	**15 01 51.0**	**-4.6**
MDJ				PcS	**PcS**	**15 01 55.5**	**-3.6**
MDJ				ScS	**ScS**	**15 05 26.5**	**-5.8**
MDJ				pmax	pmax		
	comp=N,5.0nm,0.7s						
MDJ				pmax	pmax		
	comp=N,290nm,5.0s						
MDJ				LR	LR		
	comp=N,400nm,6.1s						
MDJ				LR	LR		
	comp=N,480nm,4.7s						
MDJ				LR	LR		
	comp=N,430nm,6.4s						
LYN	**LuoYang**	**14.48**	**288**	*e*P	**Pn**	**14 53 12.8**	**+0.4**
LYN				S	**Sn**	**14 55 44.5**	**-7.3**
LYN				pmax	pmax		
	comp=N,22nm,0.5s						
LYN				pmax	pmax		
	comp=N,360nm,4.3s						
LYN				LR	LR		
	comp=N,1μm,12.0s						
LYN				LR	LR		
	comp=N,500nm,12.7s						
LYN				LR	LR		
	comp=N,820nm,12.0s						
XLT	**XiLinHaoTe**	**16.40**	**324**	*e*P	**Pn**	**14 53 35.3**	**-2.2**
XLT				pP	pP	14 53 46.0	-2.3
XLT				sP	sP	14 53 50.3	-2.1
XLT				pmax	pmax		
	comp=N,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=N,220nm,4.6s						
ASAJ	**Asahikawa**	**16.67**	**36**	Pn	**Pn**	**14 53 41.8**	**+0.9**
	comp=N,0.2nm,0.3s,baz=229,slow=10.0,SNR=4.1						
ASAJ				LR	LR	14 59 46.1	
	comp=N,71nm,20.1s,baz=142,slow=36						
	comp=N,4.6nm,0.8s						
HHC	**Hu-ho-hao-te**	**17.21**	**309**	*e*P	**P**	**14 53 49.3**	**+0.2**
HHC				S	**Sn**	**14 56 57.5**	**-0.8**
HHC				pmax	pmax		
	comp=N,20nm,0.7s						
HHC				pmax	pmax		
	comp=N,570nm,5.5s						
HHC				LR	LR		
	comp=N,400nm,9.4s						
HHC				LR	LR		
	comp=N,800nm,10.2s						
HHC				LR	LR		
	comp=N,1μm,10.2s						
XAN	**Xi'an**	**17.34**	**285**	P	P	14 54 04.8	+14
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
XAN				LR	LR		
	comp=N,700nm,12.2s						
XAN				LR	LR		
	comp=E,900nm,13.4s						
XAN				LR	LR		
	comp=Z,710nm,11.9s						
KLR	**Kul'dur**	**18.13**	**5**	P	**P**	**14 54 01.6**	**+2.5**
	comp=Z,7.9nm,0.9s,baz=190,slow=8.4,SNR=15						
KLR				LR	LR	15 00 05.9	
	comp=Z,57nm,20.8s,baz=230,slow=34						
BTO	**Baotou**	**18.15**	**306**	*e*P	**P**	**14 54 01.5**	**+2.0**
BTO				pP	**sP**	**14 54 11.0**	**-0.8**
BTO				S	**Sn**	**14 57 21.5**	**+0.5**
BTO				SS	**SnSn**	**14 57 42.3**	**+7.6**
BTO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BTO				pmax	pmax		
	comp=Z,300nm,4.9s						
BTO				LR	LR		
	comp=Z,950nm,5.3s						
BTO				LR	LR		
	comp=Z,940nm,5.9s						
BTO				LR	LR		
	comp=Z,900nm,6.2s						
YSS	**Yuzh-Sakhalins**	**18.89**	**30**	P	**P**	**14 54 00.8**	**-6.6**
HEH	**HeiHe**	**19.10**	**356**	*e*P	**Pn**	**14 54 12.0**	**+1.3**
GYA	**Guiyang**	**20.31**	**262**	⇑P	Pn	14 54 26.3	+0.9
GYA				pmax	pmax		
	comp=Z,12nm,0.8s						
LZH	**Lanzhou**	**21.67**	**290**	*e*P	**P**	**14 54 40.3**	**+2.5**
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LZH				LR	LR		
	comp=Z,520nm,17.2s						
LZH				LR	LR		
	comp=Z,500nm,17.5s						
LZH				LR	LR		
	comp=Z,460nm,15.7s						
SONM	**Songino Array**	**24.09**	**320**	P	**P**	**14 55 01.8**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=130,slow=9.0,SNR=7.3						
SONM				LR	LR	15 05 06.4	
	comp=Z,203nm,18.2s,baz=128,slow=38						
	comp=Z,1.2nm,0.8s						
GTA	**Gaotai**	**25.29**	**297**	*e*P	**P**	**14 55 13.8**	**+0.4**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GTA				LR	LR		
	comp=Z,260nm,14.2s						
GTA				LR	LR		
	comp=Z,200nm,14.2s						
GTA				LR	LR		
	comp=Z,260nm,14.2s						
TNCH	**TengChong**	**27.71**	**265**	*e*P	**P**	**14 55 37.5**	**+2.0**
TNCH				pP	sP	14 55 49.0	+0.6
TNCH				pmax	pmax		
	comp=Z,17nm,0.5s						
MYLDM	**Lahad Datu**	**27.76**	**203**	P	**P**	**14 55 41.5**	**+5.9**
MYLDM				IAmb	IAmb	14 56 20.4	
	comp=Z,17nm,1.1s						
GOMU	**GeErMu**	**28.97**	**289**	P	**P**	**14 55 47.0**	**+0.2**
GOMU				pP	sP	14 55 56.8	-2.9
GOMU				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.16**	**252**	P	**P**	**14 55 59.6**	**+2.6**
	comp=Z,0.7nm,0.7s,baz=57,slow=8.7,SNR=2.0						
	comp=Z,0.7nm,0.7s						
MA2	**Magadan**	**31.87**	**21**	LR	LR	15 09 55.2	
	comp=Z,44nm,18.0s,baz=223,slow=38						
WMQ	**Urumqi**	**34.92**	**303**	*e*P	**P**	**14 56 39.8**	**+1.2**
WMQ				pP	sP	14 56 51.8	+0.2
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ				LR	LR		
	comp=Z,77nm,15.7s						
SEY	**Seymchan**	**35.05**	**18**	LR	LR	15 11 07.3	
	comp=Z,100nm,19.0s,baz=184,slow=37						
ZALV	**Zalesovo Beam**	**38.97**	**319**	PcP	**PcP**	**14 59 22.3**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=108,slow=3.3,SNR=2.9						
RPSI	**Rantau Prapat**	**40.25**	**231**	P	**P**	**14 57 24.4**	**+0.6**
RPSI				IAmb	IAmb	14 57 48.2	
	comp=Z,12nm,1.4s						
TIXI	**Tiksi**	**40.52**	**360**	P	**P**	**14 57 23.3**	**-2.1**
TIXI				IAmb	IAmb	14 57 27.6	
	comp=Z,11nm,1.4s						
KURK	**Kurchatov**	**41.97**	**313**	P	P	14 57 32.0	-5.5
KURBB	**Kurchatov Arra**	**42.01**	**313**	P	**P**	**14 57 37.4**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=98,slow=9.1,SNR=6.7						
KURBB				PcP	**PcP**	**14 59 33.3**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=101,slow=3.4,SNR=9.8						
KURBB				LR	LR	15 15 57.7	
	comp=Z,146nm,18.2s,baz=168,slow=38						
	comp=Z,0.7nm,0.6s						
ARSB	**Arslanbob**	**45.76**	**299**	P	**P**	**14 58 04.9**	**-3.5**
BVAR	**Borovoye Array**	**47.27**	**315**	P	**P**	**14 58 19.5**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=91,slow=10,SNR=10						
BVAR				PcP	**PcP**	**14 59 50.4**	**-0.2**
	comp=Z,4.9nm,0.9s,baz=91,slow=5.8,SNR=2.8						
	comp=Z,2.6nm,0.7s						
KK31	**Karatay Array**	**47.41**	**302**	P	**P**	**14 58 19.9**	**-1.1**
KKAR	**Karatay Array**	**47.41**	**302**	P	**P**	**14 58 20.8**	**-0.3**
KKAR	**Karatay Array**	**47.41**	**302**	P	**P**	**14 58 20.7**	**-0.4**
KKAR				IAmb	IAmb	14 58 26.8	
	comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**51.07**	**174**	P	**P**	**14 58 50.1**	**+0.9**
	comp=Z,1.4nm,1.1s,baz=353,slow=8.0,SNR=2.5						
	comp=Z,1.4nm,1.1s						
ABKAR	**Akbulak array**	**53.99**	**311**	P	**P**	**14 59 10.1**	**-0.5**
ABKAR	**Akbulak array**	**53.99**	**311**	P	**P**	**14 59 10.4**	**-0.2**
ARU	**Arti**	**54.12**	**320**	P	**P**	**14 59 11.1**	**-0.4**
ARU				IAmb	IAmb	14 59 14.4	
	comp=Z,9.9nm,1.2s						
ARU	**Arti**	**54.12**	**320**	LR	LR	15 24 07.8	
	comp=Z,73nm,18.8s,baz=98,slow=38						
ASAR	**Alice Springs**	**54.72**	**175**	P	**P**	**14 59 17.6**	**+1.5**
	comp=Z,1.3nm,0.9s,baz=359,slow=4.7,SNR=6.6						
	comp=Z,1.3nm,0.9s						
AKTO	**Aktyubinsk**	**55.06**	**312**	LR	LR	15 23 38.2	
	comp=Z,126nm,18.6s,baz=131,slow=37						
H19K	**Roundabout Mou**	**55.61**	**29**	P	**P**	**14 59 23.9**	**+1.9**
H19K				IAmb	IAmb	14 59 28.3	
	comp=Z,9.7nm,0.9s						
GEYT	**Alibeck**	**57.67**	**298**	LR	LR	15 28 22.0	
	comp=Z,69nm,18.0s,baz=150,slow=40						
MLY	**Manley**	**58.03**	**30**	P	**P**	**14 59 40.9**	**+1.6**
MLY				IAmb	IAmb	14 59 45.7	
	comp=Z,6.6nm,1.0s						
H23K	**Yukon River**	**58.45**	**29**	P	**P**	**14 59 43.6**	**+1.4**
E24K	**Your Creek**	**58.62**	**26**	P	**P**	**14 59 44.0**	**+0.6**
E24K				IAmb	IAmb	14 59 51.1	
	comp=Z,4.2nm,0.8s						
NEA2	**Nenana**	**58.79**	**30**	P	**P**	**14 59 45.7**	**+1.1**
RND	**Reindeer**	**59.05**	**31**	P	**P**	**14 59 47.7**	**+1.3**
MDM	**Murphy Dome**	**59.10**	**29**	P	**P**	**14 59 47.5**	**+0.8**
H24K	**Noodor Dome**	**59.13**	**28**	P	**P**	**14 59 49.3**	**+2.4**
H24K				IAmb	IAmb	14 59 59.1	
	comp=Z,6.4nm,1.1s						
IL31		**59.70**	**30**	P	**P**	**14 59 51.8**	**+1.1**
IL31				IAmb	IAmb	14 59 57.4	
	comp=Z,4.2nm,0.9s						
ILAR	**Eielson Array**	**59.70**	**30**	P	**P**	**14 59 50.9**	**+0.2**
ILAR	**Eielson Array**	**59.70**	**30**	P	**P**	**14 59 51.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=275,slow=6.0,SNR=13						
	comp=Z,0.8nm,0.7s						
HDA	**Harding Lake**	**59.73**	**30**	P	**P**	**14 59 51.8**	**+0.7**
HDA				IAmb	IAmb	14 59 55.4	
	comp=Z,5.9nm,1.0s						
BMAR	**Burnt Mountain**	**60.18**	**26**	P	**P**	**14 59 53.8**	**-0.4**
BELG	**Belogornoye**	**61.06**	**316**	LR	LR	15 28 19.5	
	comp=Z,87nm,19.7s,baz=96,slow=38						
SCRK	**Sand Creek**	**61.08**	**30**	P	**P**	**14 59 59.5**	**-1.0**
J26L	**Joseph Creek**	**61.15**	**30**	P	**P**	**15 00 01.7**	**+0.9**
J26L				IAmb	IAmb	15 00 14.8	
	comp=Z,6.9nm,1.5s						
E27K	**Coleen River**	**61.16**	**25**	P	**P**	**15 00 00.2**	**-0.6**
E27K				IAmb	IAmb	15 00 07.4	
	comp=Z,2.8nm,0.8s						
MENT	**Mentasta**	**61.43**	**31**	P	**P**	**15 00 02.2**	**-0.5**
E28M	**Babbage River**	**61.81**	**25**	P	**P**	**15 00 04.0**	**-1.1**
E28M				IAmb	IAmb	15 00 33.3	
	comp=Z,9.2nm,1.4s						
M26K	**Nabesna, AK**	**61.88**	**32**	P	**P**	**15 00 07.0**	**+1.3**
M26K				IAmb	IAmb	15 00 11.8	
	comp=Z,7.7nm,0.8s						
K27K	**Chicken**	**61.89**	**30**	P	**P**	**15 00 06.2**	**+0.4**
K27K				IAmb	IAmb	15 00 11.4	
	comp=Z,6.7nm,1.1s						
BCAR	**Beaver Creek A**	**62.25**	**31**	P	**P**	**15 00 08.7**	**+0.5**
M27K	**Edge Creek, AK**	**62.39**	**32**	P	**P**	**15 00 08.4**	**-0.9**
I28M	**Miner Creek**	**62.43**	**28**	P	**P**	**15 00 08.6**	**-0.8**
I28M				IAmb	IAmb	15 00 15.0	
	comp=Z,11nm,1.5s						
H29M	**Whitestone**	**62.85**	**27**	P	**P**	**15 00 13.0**	**+0.9**
H29M				IAmb	IAmb	15 00 25.3	
	comp=Z,12nm,1.4s						
LOGN	**Logan Glacier**	**63.21**	**33**	P	**P**	**15 00 13.2**	**-1.5**
EPYK	**Eagle Plains**	**63.45**	**27**	P	**P**	**15 00 15.3**	**-0.8**
L29M	**L29M**	**63.84**	**30**	P	**P**	**15 00 19.4**	**+0.6**
K29M	**Barlow Dome**	**63.88**	**30**	P	**P**	**15 00 17.9**	**-1.2**
K29M				IAmb	IAmb	15 00 25.8	
	comp=Z,3.7nm,0.9s						
M29M	**Somme Creek**	**63.90**	**31**	P	**P**	**15 00 18.2**	**-1.0**
M29M				IAmb	IAmb	15 00 26.0	
	comp=Z,4.0nm,0.9s						
I30M	**Mount Dempster**	**63.93**	**28**	P	**P**	**15 00 20.2**	**+0.8**
J30M	**Hart River**	**64.15**	**29**	P	**P**	**15 00 19.7**	**-1.2**
M30M	**Minto, Yukon**	**64.59**	**31**	P	**P**	**15 00 24.0**	**+0.3**
ARCES	**ARCESS Array B**	**65.74**	**338**	P	**P**	**15 00 30.9**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=53,slow=8.0,SNR=1.5						
	comp=Z,2.7nm,0.8s						
FARO	**Faro, Yukon**	**66.22**	**31**	P	**P**	**15 00 34.8**	**+0.6**
FARO				IAmb	IAmb	15 00 40.3	
	comp=Z,6.4nm,0.9s						
KBZ	**Khabaz**	**66.75**	**308**	P	**P**	**15 00 38.9**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=104,slow=4.2,SNR=2.0						
	comp=Z,1.1nm,0.6s						
FINES	**FINESS Array B**	**69.01**	**330**	P	**P**	**15 00 51.5**	**-0.3**
FINES	**FINESS Array B**	**69.01**	**330**	P	**P**	**15 00 51.7**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=68,slow=5.1,SNR=7.4						
	comp=

MSU	Marysvale	90.14	44	P	P	15 02 47.9	+0.8
ESDC	Sonseca Array	97.19	325	P	Pdif	15 03 20.8	+1.4
	comp=Z,0.4nm,0.8s,baz=39,slow=8.3,SNR=2.7						
	comp=Z,0.4nm,0.8s						

GCG ***28*** *14:51:42.3±0.3, 13°.86N×90°.49W, h92km±46km, MD4.1*
SNET ***28*** *14:51:43.1±2.3, 13°.64N×90°.56W, h23km, ML4.7, ML4.5*
NEIC ***28*** *14:51:43.1±2.6, 13°.65N±0°.03×90°.66W±0°.07, h61km±16km, mb4.0/14, Error ellipse: s-maj=11.2km s-min=1.9km az=70.0*
IDC ***28*** *14:51:44.4±2.8, 13°.65N×90°.44W, h65km±24km, mb3.5/3, mbtmp3.8/6, MS3.5/2, Error ellipse: s-maj=38.9km s-min=23.7km az=43.0*

ISC 28 14:51:42.8±1.2, 13°.58N±0°.08×90°.64W±0°.05, h55km±11km, n68, σ1§47/80, mb4.0/8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.81	2	eP	Pn	14 51 58.5	0.0
FUG	Fuego 3	0.89	347	eP	Pn	14 51 59.4	0.0
NUBE	Las Nubes	0.90	69	i P	Pn	14 51 58.6	-0.9
NUBE				eS	Sn	14 52 10.6	-1.2
SLOZ	Alcaldia de Sa	0.94	62	eP	Pn	14 51 59.5	-0.5
SLOZ				eS	Sn	14 52 13.0	+0.3
CEVE	Cerro Verde	1.02	76	eP	Pn	14 52 00.7	-0.5
CEVE				eS	Sn	14 52 14.8	0.0
CEVE				IAML		14 52 17.6	
	comp=Z,20μm,0.3s						
SBLS	San Blas	1.02	75	eP	Pn	14 52 00.6	-0.6
NBG	Las Nubes	1.05	16	eP	Pn	14 52 02.8	+1.2
SNJE	San Jose	1.05	74	eP	Pn	14 52 01.0	-0.5
SULM	Suchitepequez,	1.15	309	eP	Pn	14 52 03.7	+0.9
JAYA	Jayaque - finc	1.16	86	i P	Pn	14 52 02.2	-0.8
JAYA				eS	Sn	14 52 16.8	-1.2
JAYA				IAML		14 52 18.1	
	comp=Z,32μm,0.2s						
CEDA	San Andres	1.23	79	eP	Pn	14 52 03.5	-0.4
CEDA				eS	Sn	14 52 19.6	0.0
CEDA				IAML		14 52 28.4	
	comp=Z,10μm,0.3s						
LALI	Alcalda de L	1.29	94	eP	Pn	14 52 04.2	-0.3
LALI				eS	Sn	14 52 20.3	-0.4
BOQS	Boqueron	1.33	83	eP	Pn	14 52 05.3	0.0
SNET	Serv Nac Est T	1.37	85		Pn	14 52 05.5	-0.3
SNET	Serv Nac Est T	1.37	85	eP	Pn	14 52 05.8	0.0
SNET				eS	Sn	14 52 23.2	+0.2
SNET				IAML		14 52 24.4	
	comp=Z,9μm,0.3s						
RTAL	Retalhuleu	1.39	313	Pn	Pn	14 52 05.0	-1.0
RTAL	Retalhuleu	1.39	313	eP	Pn	14 52 05.4	-0.6
RTAL				eS	Sn	14 52 22.5	-0.9
LOMA	Loma Larga	1.43	87	eP	Pn	14 52 06.5	-0.1
LOMA				eS	Sn	14 52 24.7	+0.2
STG3	Santiaguito 3,	1.45	321	eP	Pn	14 52 07.1	+0.2
MTO3	Montecristo	1.49	56		Pn	14 52 07.2	-0.3
MTO3	Montecristo	1.49	56	eP	Pn	14 52 07.1	-0.3
LFU	La Fuente	1.49	83	eP	Pn	14 52 07.6	+0.2
LFRS	El Faro	1.54	88	eP	Pn	14 52 08.1	0.0
SJTE	Alcalda de S	1.59	88	eP	Pn	14 52 08.8	+0.1
SJTE				eS	Sn	14 52 28.7	+0.5
ESQI	Esquipulas	1.60	52		Pn	14 52 08.8	0.0
ESQI	Esquipulas	1.60	52	eP	Pn	14 52 08.9	0.0
PAVA	Las Pavas	1.66	85	eP	Pn	14 52 09.8	+0.1
COEG	Centro de Oper	1.71	88	eP	Pn	14 52 11.1	+0.7
COEG				eS	Sn	14 52 32.5	+1.3
HUEH	Huehuetenango	1.92	334		Pn	14 52 14.4	+1.0
ALJI	Alcalda de J	2.03	97	eP	Pn	14 52 14.9	+0.3
ALJI				eS	Sn	14 52 39.1	+0.3
ALJI				IAML		14 52 44.9	
	comp=Z,1μm,0.3s						
LCND	La Caada	2.69	95	eP	Pn	14 52 24.1	+0.5
LCND				eS	Sn	14 52 58.2	+3.2
TGUH	Tegucigalpa,Un	3.31	81	Pn	Pn	14 52 32.0	-0.3
PETF	Flores	3.41	13		Pn	14 52 32.7	-0.8
CNGN	Cerro Negro	3.99	105	Pn	Pn	14 52 41.7	+0.2
MATN	Matagalpa	4.63	97		Pn	14 52 49.3	-1.1
CMIG	Matias Romero	5.38	311	P	Pn	14 53 01.9	+1.3
	comp=Z,12nm,0.4s,baz=139,slow=12,SNR=14						
CMIG				LR	LR	14 55 28.4	
	comp=Z,145nm,21.3s,baz=168,slow=41						
HZTE	Horizontes, Gu	5.69	119	Pn	Pn	14 53 08.2	+3.3
ORTG	Ortega, Santa	5.99	122		Pn	14 53 10.8	+1.8
DUNO	Dulce Nombre,	6.12	124		Pn	14 53 11.5	+0.7
JTS	Las Juntas de	6.45	120	Pn	Pn	14 53 16.7	+1.4
JTS	Las Juntas de	6.45	120	P	Pn	14 53 15.4	+0.1
	comp=Z,5.5nm,0.3s,baz=305,slow=22,SNR=8.2						
JTS				S	Sn	14 54 22.8	-4.9
	comp=Z,7.9nm,0.6s,baz=317,slow=21,SNR=0.9						
TEIG	Tepich	6.99	19	Pn	Pn	14 53 23.6	+0.9
TEIG	Tepich	6.99	19	P	Pn	14 53 23.2	+0.6
	comp=Z,352nm,0.5s,baz=197,slow=2.6,SNR=44						
TEIG				LR	LR	14 56 19.2	
	comp=Z,1μm,21.9s,baz=352,slow=40						
JACO	JACO, Garabito	7.03	123	Pn	Pn	14 53 27.7	+4.4
RIMA	Rio Macho	7.64	119		Pn	14 53 34.5	+2.7
SRBA	San Rafael, Bu	8.34	120		Pn	14 53 43.5	+2.2
SOR	Soroa	11.68	37	Pn	Pn	14 54 28.0	+1.1
TX32	Lajitas Array	19.79	324	P	P	14 56 02.3	-6.5
TXAR	Lajitas Array	19.79	324	P	P	14 56 02.0	-6.8
TXAR	Lajitas Array	19.79	324	P	P	14 56 10.3	+1.5
	comp=Z,0.8nm,0.8s,baz=155,slow=13,SNR=7.9						
TX31	Lajitas Ar. Si	19.79	324	P	P	14 56 01.5	-7.3
TX31				IAmb	IAmb	14 56 24.6	
	comp=Z,8.2nm,1.1s						
Y49A	Blount Mountai	20.55	10	P	P	14 56 13.9	-3.0
Y49A				IAmb	IAmb	14 56 35.4	
	comp=Z,10nm,0.9s						
MIAR	Mount Ida	21.05	353	P	P	14 56 18.2	-4.0
MIAR				IAmb	IAmb	14 56 48.9	
	comp=Z,8.6nm,1.2s						
425A	Indio Mountain	21.64	325	P	P	14 56 27.5	-1.2
SWET	Sewanee	21.96	10	P	P	14 56 31.1	-1.0
MNTX	Cornudas Mount	22.55	326	P	P	14 56 37.0	-1.4
CLTN	Cedars of Leba	22.75	9	P	P	14 56 38.1	-2.3
CLTN				IAmb	IAmb	14 56 57.2	
	comp=Z,4.2nm,0.9s						
TKL	Tuckaleechee C	22.84	15	P	P	14 56 40.3	-1.1
TKL				IAmb	IAmb	14 57 00.5	
	comp=Z,6.0nm,0.9s						
TKL	Tuckaleechee C	22.84	15	P	P	14 56 40.3	-1.1
	comp=Z,2.4nm,0.4s,baz=174,slow=12,SNR=7.4						
	comp=Z,2.4nm,0.4s						
MSTX	Muleshoe	23.10	334	P	P	14 56 43.2	-1.0
T50A	Nancy	23.92	12	P	P	14 56 50.2	-1.4
T50A				IAmb	IAmb	14 56 53.1	
	comp=Z,5.0nm,0.7s						
S39A	Bolivar	24.14	355	P	P	14 56 52.4	-1.2
S39A				IAmb	IAmb	14 56 54.7	
	comp=Z,5.3nm,0.7s						
U54A	Nelsons Funny	24.18	18	P	P	14 56 51.1	-3.1
121A	Cookes Peak, D	24.53	323	P	P	14 56 55.9	-1.6
121A				IAmb	IAmb	14 57 01.2	
	comp=Z,3.9nm,0.8s						
PDAR	Pinedale Array	33.36	334	P	P	14 58 17.2	+1.1
	comp=Z,0.3nm,0.7s,baz=141,slow=5.8,SNR=1.6						
	comp=Z,0.3nm,0.7s						
NVAR	Mina Array Bea	34.84	320	P	P	14 58 30.8	+1.9
	comp=Z,1.9nm,0.7s,baz=132,slow=8.7,SNR=22						
NVAR				PcP	PcP	15 01 01.8	+0.7
	comp=Z,0.7nm,0.7s,baz=126,slow=4.6,SNR=6.1						
	comp=Z,1.9nm,0.7s						
WRA	Warramunga Arr	136.57	255	PKP	PKPdf	15 10 59.9	+0.3
	comp=Z,0.2nm,0.7s,baz=85,slow=2.6,SNR=2.1						
CMAR	Chiang Mai Arr	146.80	343	PKPbc	PKPdf	15 11 18.1	+0.2
	comp=Z,2.1nm,0.7s,baz=340,slow=3.5,SNR=14						

IDC ***28*** *15:17:53.9±0.7, 86°.86N×54°.15E, h0km, mb3.7/13, mbtmp3.8/16, ML3.6/3, MS3.7/24, Error ellipse: s-maj=20.8km s-min=14.3km az=96.0*
IEPN ***28*** *15:17:56.3, 86°.72N×62°.12E, h10km*

ISC 28 15:17:55.4±0.6, 86°.75N±0°.06×52°.54E±0°.07, h10km, n44, σ2§46/34, mb3.9/14, MS3.6/22, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	Zemlya Franca-	6.00	188	eP	Pn	15 19 24.4	+0.3
ZFI2				eS	Sn	15 20 27.2	-5.4
	42nm,1.4s						
OMEGA	Omega	6.03	187	eP	Pn	15 19 24.7	+0.3
OMEGA				eS	Sn	15 20 29.6	-3.7
	70nm,1.8s						

KBS	Kingsbay	8.92	234	eP	Pn	15 20 04.9	+0.8
SVZ	Severnaya Zeml	9.00	115	eP	Pn	15 20 03.0	-2.1
SVZ				eS	Sn	15 21 36.8	-9.5
SPA0	Spitsbergen Ar	9.46	228	eP	Pn	15 20 11.8	+0.4
SPA0				eS	Sn	15 21 52.7	-4.9
SPITS	Spitsbergen Ar	9.46	228	Pn	Pn	15 20 11.2	-0.3
	baz=38,slow=15						
SPITS				Sn	Sn	15 21 51.4	-6.2
	baz=62,slow=23						
	9.0nm,0.7s						
HSPB	Hornsund (broa	10.65	227	eP	Pn	15 20 30.1	+2.4
HSPB				eS	Sn	15 22 24.9	-1.9
ARCES	ARCESS Array B	17.74	212	eP	Pn	15 22 01.9	-0.1
ARCES				eS	Sn	15 25 07.5	-12
ARCES	ARCESS Array B	17.74	212	P	Pn	15 22 01.9	-0.1
	0.1nm,0.3s,baz=356,slow=12,SNR=2.3						
ARCES				S	Sn	15 25 07.5	-12
	3.6nm,0.9s,baz=316,slow=14,SNR=1.6						
ARCES				LR	LR	15 28 54.2	
	comp=Z,73nm,18.6s,baz=22,slow=37						
	3.5nm,0.8s						
RES	Resolute Bay	18.25	333	eP	Pn	15 22 06.4	-1.8
RES	Resolute Bay	18.25	333	P	Pn	15 22 06.4	-1.8
	0.2nm,0.3s,baz=35,slow=16,SNR=6.0						
RES				LR	LR	15 29 12.4	
	comp=Z,124nm,18.5s,baz=1.5,slow=37						
	1.2nm,0.6s						
SFJD	Kangerlussuaq	24.09	290	LR	LR	15 32 45.3	
	comp=Z,140nm,18.1s,baz=358,slow=37						
BORG	Borgarnes	24.68	261	LR	LR	15 31 19.9	
	comp=Z,52nm,19.4s,baz=326,slow=32						
INK	Inuvik	25.08	5	LR	LR	15 34 50.4	
	comp=Z,106nm,19.1s,baz=286,slow=41						
PRGR	Permogore	25.28	188	eP	P	15 23 26.8	+5.4
	15nm,0.8s						
FINES	FINESS Array B	25.83	209	eP	P	15 23 28.8	+2.5
FINES	FINESS Array B	25.83	209	P	P	15 23 28.8	+2.5
	1.7nm,0.7s,baz=52,slow=12,SNR=3.3						
	1.7nm,0.7s						
NOA	NORSAR Array B	26.75	226	eP	P	15 23 36.8	+2.1
NOA	NORSAR Array B	26.75	226	P	P	15 23 36.8	+2.1
	2.2nm,0.9s,baz=3.2,slow=8.8,SNR=4.4						
	2.2nm,0.9s						
KIRV	Kirov	28.32	183	LR	LR	15 37 42.8	
	comp=Z,54nm,21.0s,baz=75,slow=42						
ILAR	Eielson Array	28.48	17	eP	P	15 23 49.8	-0.3
ILAR	Eielson Array	28.48	17	P	P	15 23 49.8	-0.3
	1.1nm,0.9s,baz=350,slow=7.8,SNR=11						
ILAR				LR	LR	15 37 23.6	
	comp=Z,92nm,18.1s,baz=234,slow=41						
	1.1nm,0.9s						
ARU	Arti	30.50	173	LR	LR	15 38 50.8	
	comp=Z,89nm,18.9s,baz=78,slow=41						
BVAR	Borovoye Array	34.06	161	P	P	15 24 41.0	+1.7
	0.9nm,0.6s,baz=8.9,slow=10,SNR=2.9						
BVAR				LR	LR	15 41 20.1	
	comp=Z,136nm,18.3s,baz=22,slow=41						
	0.9nm,0.6s						
AKTO	Aktyubinsk	36.50	174	LR	LR	15 43 46.5	
	comp=Z,76nm,18.4s,baz=9.0,slow=42						
AKASG	Malin Array Be	36.51	205	P	P	15 25 01.4	+1.2
	0.7nm,0.3s,baz=357,slow=8.8,SNR=10						
AKASG				LR	LR	15 39 37.6	
	comp=Z,71nm,20.2s,baz=4.5,slow=36						
	0.7nm,0.3s						
KURBB	Kurchatov Arra	36.65	152	P	P	15 25 02.0	+0.5
	0.4nm,0.9s,baz=7.8,slow=7.5,SNR=3.3						
KURBB				PcP	PcP	15 27 23.1	-0.8
	0.6nm,0.9s,baz=348,slow=3.1,SNR=6.6						
KURBB				LR	LR	15 42 50.5	
	comp=Z,163nm,19.4s,baz=165,slow=41						
	0.4nm,0.9s						
KLR	Kul'dur	40.45	97	LR	LR	15 42 07.1	
	comp=Z,67nm,20.5s,baz=236,slow=36						
SONM	Sonqino Array	40.50	123	P	P	15 25 34.1	+0.1
	0.6nm,0.7s,baz=334,slow=9.9,SNR=4.4						
	0.6nm,0.7s						
MKAR	Makanchi Array	40.59	148	LR	LR	15 44 29.0	
	comp=Z,90nm,18.5s,baz=317,slow=39						
BBB	Bella Bella	41.27	1	LR	LR	15 44 49.3	
	comp=Z,110nm,18.4s,baz=254,slow=39						
ULM	Lac du Bonnet	42.75	330	LR	LR	15 43 53.3	
	comp=Z,90nm,18.5s,baz=6.0,slow=36						
AAK	Ala-Archa	44.53	157	LR	LR	15 48 20.0	
	comp=Z,204nm,18.4s,baz=46,slow=41						
NEW	Newport	45.15	350	LR	LR	15 46 15.7	
	comp=Z,208nm,18.3s,baz=284,slow=38						
GNI	Garni	46.80	188	LR	LR	15 50 27.6	
	comp=Z,36nm,18.8s,baz=58,slow=42						
ESDC	Sonseca Array	48.77	239	P	P	15 26 41.5	+1.5
	0.5nm,0.6s,baz=4.9,slow=7.0,SNR=6.8						
	0.5nm,0.6s						
GEYT	Alibeck	49.00	174	LR	LR	15 52 17.4	
	comp=Z,62nm,18.8s,baz=166,slow=42						
PDAR	Pinedale Array	50.54	343	P	P	15 26 53.1	-0.6
	0.6nm,0.8s,baz=45,slow=6.5,SNR=5.6						
PDAR				LR	LR	15 49 32.9	
	comp=Z,124nm,18.1s,baz=292,slow=38						
	0.6nm,0.8s						
NVAR	Mina Array Bea	54.99	351	P	P	15 27 26.2	-0.3
	0.4nm,0.7s,baz=283,slow=3.7,SNR=4.4						
	0.4nm,0.7s						
TKL	Tuckaleechee C	56.92	318	LR	LR	15 50 58.4	
	comp=Z,109nm,20.2s,baz=352,slow=35						
ANMO	Albuquerque	58.29	340	LR	LR	15 53 26.5	
	comp=Z,102nm,19.3s,baz=49,slow=37						
TXAR	Lajitas Array	63.83	337	P	P	15 28 26.4	-1.1
	0.6nm,0.7s,baz=2.7,slow=2.6,SNR=6.8						
TXAR				LR	LR	15 57 17.1	
	comp=Z,139nm,18.4s,baz=323,slow=37						
	0.6nm,0.7s						
CMAR	Chiang Mai Arr	69.42	133	P	P	15 29 02.2	-1.0
	0.8nm,0.8s,baz=354,slow=8.3,SNR=7.5						
	0.8nm,0.8s						
TORD	Torodi Ar. Bea	74.89	231	P	P	15 29 36.5	+0.5
	1.2nm,0.7s,baz=356,slow=7.1,SNR=8.4						
	1.2nm,0.7s						

IDC ***28*** *15:27:34.1±0.5, 56°.64S×147°.49E, h0km, mb4.6/8, mbtmp4.6/9, ML3.3/1, MS4.6/31, Error ellipse: s-maj=30.0km s-min=12.2km az=83.0*
NEIC ***28*** *15:27:34.9±2.9, 56°.35S±0°.10×147°.3E±0°.2, h10km±1km, mb5.2/50, Error ellipse: s-maj=17.1km s-min=16.4km az=114.0*
GCMT ***28*** *15:27:36.9±0.2, 56°.61S±0°.01×147°.55E±0°.03, h12km, MW5.1/107, Moment Tensor Solution. s64,c81; s107,c172; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.06±.12; $M_{\theta\theta}$5.84±.09; $M_{\phi\phi}$0.21±.13; $M_{r\theta}$1.29±.33; $M_{\theta\phi}$1.00±.11; $M_{\phi r}$-0.43±.41; Best double couple: $M_0$6.18700×10^{16} NP1:ϕ_s266.00000°, δ51.00000°, λ-83.00000°. NP2:ϕ_s74.00000°, δ40.00000°, λ-99.00000°. Principal axes: T 6.1300, Plg6.0000°, Azm351.0000°; N 0.1070, Plg6.0000°, Azm81.0000°; P -6.2430, Plg82.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 15:27:35.6±0.3, 56°.58S±0°.05×147°.65E±0°.07, h10km, n270, σ2§02/211, mb5.1/56, MS4.7/34, 13C-3D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	6.75	77	Pn	Pn	15 29 14.0	-0.6
MOO	Moorlands	14.16	359	P	P	15 31 00.3	-3.4
	baz=14						
MOO	Moorlands	14.16	359	P	P	15 31 01.5	-2.2
AULHS	Lilydale High	15.35	359	P	P	15 31 17.8	+0.9
WHZ	Wether Hill Ro	16.54	58	P	Pn	15 31 27.5	0.0
WKZ	Wanaka	17.84	58	Pn	Pn	15 31 39.3	-4.5
WKZ				IAmb	IAmb	15 31 52.2	
	comp=Z,213nm,1.5s						
JCZ	Jackson Bay	18.31	56	P	P	15 31 55.5	+5.8
MLBS	Spotswood, Mel	18.85	353	P	Pn	15 32 00.5	+4.4
TOO	Toolangi	19.08	355	P	Pn	15 32 00.4	+1.6
	baz=15,SNR=14						
TOO	Toolangi	19.08	355	P	P	15 31 53.2	-4.9
TOO				IAmb	IAmb	15 32 04.5	
	comp=Z,263nm,1.6s						
TOO	Toolangi	19.08	355	P	Pn	15 32 01.6	+2.7
BRAT	Ballarat	19.20	351	P	Pn	15 32 02.5	+2.2
MILA	Mila	19.56	4	P	Pn	15 32 07.0	+2.2
	baz=20,SNR=6.0						
MILA	Mila	19.56	4	P	Pn	15 32 08.2	+3.5
RPZ	Rata Peaks	19.64	59	P	P	15 32 01.4	-2.8

RPZ	Rata Peaks	19.64	59	P	Pn	15 32 06.0	+0.5
	comp=Z,0.1nm,0.3s,baz=154,slow=5.1,SNR=4.7						
RPZ				LR	LR	15 38 14.9	
	comp=Z,2μm,20.3s,baz=227,slow=32						
	comp=Z,21nm,1.2s						
CASY	Casey	19.90	226	P	P	15 32 05.6	-1.3
CASY				IAmb	IAmb	15 32 11.4	
	comp=Z,132nm,1.5s						
ARPS	Mount Arapiles	20.20	346	P	Pn	15 32 13.6	+1.3
OXZ	Oxford	20.40	60	P	P	15 32 12.3	-0.2
AUMAG	Moama Anglican	20.58	353	P	Pn	15 32 18.1	+1.4
CAN	Canberra	21.29	3	P	P	15 32 20.1	-2.0
CAN				IAmb	IAmb	15 32 31.1	
	comp=Z,127nm,1.7s						
CAN	Canberra	21.29	3	P	P	15 32 26.0	+3.9
CNB	Canberra Magne	21.30	4	P	P	15 32 26.7	+4.4
	baz=21,SNR=5.2						
CNB	Canberra Magne	21.30	4	P	P	15 32 26.1	+3.8
AUUHS	Ulladulla High	21.31	6	P	P	15 32 26.9	+4.6
VNDA	Vanda	21.61	172	P	P	15 32 26.3	+1.1
VNDA				IAmb	IAmb	15 32 35.0	
	comp=Z,188nm,1.6s						
VNDA	Vanda	21.61	172	P	P	15 32 25.7	+0.5
	comp=Z,3.7nm,0.8s,baz=334,slow=10,SNR=28						
VNDA				S	S	15 36 24.1	0.0
	comp=Z,1.4nm,0.9s,baz=304,slow=19,SNR=3.0						
VNDA				LR	LR	15 39 53.3	
	comp=Z,4μm,20.0s,baz=12,slow=34						
	comp=Z,3.7nm,0.8s						
YNG	Young	22.29	2	P	P	15 32 36.3	+3.4
SBA	Scott Base	22.36	170	P	P	15 32 34.8	+1.5
SBA				IAmb	IAmb	15 32 47.0	
	comp=Z,158nm,1.7s						
TUWZ	Tuamarina	22.76	59	P	P	15 32 35.9	-1.9
SYDH	Sydney Hard Ro	22.92	7	P	P	15 32 43.8	+4.3
HTT	Hallett	23.92	342	P	P	15 32 52.4	+2.8
	baz=24,SNR=5.0						
HTT	Hallett	23.92	342	P	P	15 32 52.0	+2.4
MRZ	Mangatainoka R	24.14	61	P	P	15 32 47.0	-4.5
BFZ	Birch Farm	24.45	62	P	P	15 32 52.9	-1.4
BFZ				IAmb	IAmb	15 33 07.8	
	comp=Z,61nm,1.3s						
STKA	Stephens Creek	25.06	348	P	P	15 33 02.3	+2.4
	baz=25,SNR=8.5						
STKA	Stephens Creek	25.06	348	P	P	15 32 57.1	-2.8
STKA	Stephens Creek	25.06	348	P	P	15 33 02.3	+2.4
STKA	Stephens Creek	25.06	348	P	P	15 33 01.4	+1.5
	comp=Z,56nm,1.3s,baz=164,slow=12,SNR=19						
STKA				LR	LR	15 41 15.1	
	comp=Z,1μm,21.9s,baz=159,slow=33						
	comp=Z,56nm,1.3s						
CMSA	Cobar Meteorol	25.08	356	P	P	15 33 03.2	+3.2
	baz=25,SNR=6.1						
CMSA	Cobar Meteorol	25.08	356	P	P	15 33 03.1	+3.0
BBOO	Buckleboo	25.09	336	P	P	15 33 02.1	+1.9
AUPHS	Peel High Scho	25.58	6	P	P	15 33 08.3	+3.7
BKZ	Black Stump Fm	25.74	60	P	P	15 33 07.6	+1.5
BKZ				IAmb	IAmb	15 33 14.1	
	comp=Z,56nm,1.5s						
BKZ	Black Stump Fm	25.74	60	P	P	15 33 09.9	+3.8
ARMA	Armidale	26.30	8	P	P	15 33 15.5	+4.2
	baz=26,SNR=4.3						
ARMA	Armidale	26.30	8	P	P	15 33 15.2	+3.9
URZ	Urewera	26.76	59	LR	LR	15 43 03.8	
	comp=Z,589nm,20.3s,baz=274,slow=35						
LCRK	Leigh Creek	26.96	342	P	P	15 33 18.4	+1.3
AULRC	Lightning Ridg	27.14	1	P	P	15 33 22.7	+4.0
MULG	Mulgathing	27.98	334	P	P	15 33 27.6	+1.4
FORT	Forrest	29.22	324	P	P	15 33 31.3	-5.9
FORT	Forrest	29.22	324	P	P	15 33 39.9	+2.6
INKA	Innaminka	29.24	347	P	P	15 33 40.3	+2.8
QLP	Quilpie	30.08	354	P	P	15 33 48.0	+3.0
	baz=30,SNR=3.9						
QLP	Quilpie	30.08	354	P	P	15 33 48.4	+3.5
EIDS	Eidsvold	31.29	6	P	P	15 33 59.9	+4.4
	baz=31,SNR=3.6						
EIDS	Eidsvold	31.29	6	P	P	15 33 50.3	-5.3
EIDS				IAmb	IAmb	15 34 01.8	
	comp=Z,63nm,1.8s						
EIDS	Eidsvold	31.29	6	P	P	15 33 58.9	+3.3
H01W1	Cape Leeuwin H	31.39	299	T	T	16 06 54.1	
	baz=144,slow=75,SNR=234						
H01W2	Cape Leeuwin H	31.40	299	T	T	16 06 53.1	
	baz=144,slow=75,SNR=201						
H01W3	Cape Leeuwin H	31.41	299	T	T	16 06 55.4	
	baz=144,slow=75,SNR=183						
NWAO	Narrogin (SRO)	31.58	306	LR	LR	15 43 43.2	
	comp=Z,2μm,21.1s,baz=166,slow=31						
QSPA	South Pole Qui	33.52	180	P	P	15 34 14.7	-0.3
QSPA				IAmb	IAmb	15 34 19.1	
	comp=Z,64nm,1.6s						
QSPA	South Pole Qui	33.52	180	P	P	15 34 15.9	+0.8
	comp=Z,11nm,1.2s,baz=15,slow=3.1,SNR=15						
QSPA				PcP	PcP	15 36 54.9	-0.5
	comp=Z,7.3nm,1.1s,baz=14,slow=2.8,SNR=3.0						
QSPA				LR	LR	15 48 15.4	
	comp=Z,4μm,18.2s,baz=18,slow=37						
	comp=Z,11nm,1.2s						
ASAR	Alice Springs	34.38	337	P	P	15 34 17.6	-5.1
ASAR	Alice Springs	34.38	337	P	P	15 34 23.1	+0.4
	comp=Z,8.3nm,1.0s,baz=165,slow=9.4,SNR=63						
ASAR				PcP	PcP	15 36 57.8	-0.5
	comp=Z,2.2nm,0.8s,baz=150,slow=2.4,SNR=7.5						
ASAR				LR	L

MAW LR LR 15 49 58.8
comp=Z,610nm,19.1s,baz=96,slow=36
comp=Z,7.1nm,1.0s
KOUNC Koumac, New Ca 38.05 26 P **P** **15 34 52.6 -1.4**
KOUNC IAmb IAmb 15 34 59.3
comp=Z,56nm,1.1s
KOUNC Koumac, New Ca 38.05 26 P P 15 34 57.4 +3.4
WB0 Warramunga Arr 38.07 339 P **P** **15 34 53.0 -1.3**
WB0 IAmb IAmb 15 34 58.5
comp=Z,37nm,1.1s
MTSU Mount Surprise 38.47 355 P P 15 34 59.8 +2.2
baz=38,SNR=13
MTSU Mount Surprise 38.47 355 P P 15 34 59.8 +2.2
PSA00 Pilbara Seismi 40.53 318 P **P** **15 35 11.1 -3.7**
PSA00 Pilbara Seismi 40.53 318 P **P** **15 35 15.9 +1.1**
MBWA Marble Bar 40.95 318 P **P** **15 35 18.5 +0.2**
COEN Coen 42.68 354 P P 15 35 27.0 -5.4
COEN Coen 42.68 354 P P 15 35 34.5 +2.1
KNRA Kununurra 43.28 333 P **P** **15 35 38.3 +1.0**
baz=43,SNR=3.2
KDU Kakadu 45.34 339 P **P** **15 35 54.7 +1.0**
baz=45,SNR=3.1
KDU Kakadu 45.34 339 P **P** **15 35 55.4 +1.7**
MTN Manton Dam 45.47 337 P P 15 35 58.0 +3.3
BELA Belgrano 2 45.79 179 P **P** **15 35 57.0 +0.3**
BELA IAmb IAmb 15 36 02.9
comp=Z,29nm,1.4s
ELIB Princess Elisa 46.03 201 *d*P **P** **15 36 00.2 +1.4**
comp=Z,20nm,1.2s
ELIB *d*S **S** **15 42 51.4 +7.7**
PMG Port Moresby 47.06 359 LR LR 15 54 40.8
comp=Z,1μm,18.2s,baz=178,slow=34
HNR Honiara 48.01 16 LR LR 15 53 31.0
comp=Z,3μm,19.1s,baz=175,slow=32
TROLL Troll, Antarti 49.41 194 ⇑P **P** **15 36 25.7 +0.7**
comp=Z,487nm,0.8s
BATI Baumata 49.89 328 P **P** **15 36 30.9 +1.8**
comp=Z,23nm,1.3s
BATI Baumata 49.89 328 LR LR 15 56 09.5
comp=Z,2μm,20.7s,baz=210,slow=34
SOEI Soe 50.15 329 P **P** **15 36 28.5 -2.7**
SOEI Soe 50.15 329 P **P** **15 36 32.9 +1.7**
SOEI Soe 50.15 329 P P 15 36 33.5 +2.3
comp=Z,41nm,1.5s
SAUI Saumlaki 50.15 339 P P 15 36 26.0 -5.1
SAUI IAmb IAmb 15 36 51.0
comp=Z,38nm,1.0s
VNA3 Neumayer Olymp 51.46 189 ⇑P **P** **15 36 41.2 +0.9**
comp=Z,11nm,0.8s
VNA2 Neumayer--Watz 51.56 190 ⇑P **P** **15 36 42.0 +0.9**
comp=Z,9.4nm,1.0s,baz=153,slow=6.0
MMRI Maumere 51.80 327 P **P** **15 36 39.5 -4.0**
MMRI Maumere 51.80 327 P P 15 36 46.2 +2.7
MMRI Maumere 51.80 327 P **P** **15 36 44.7 +1.2**
comp=Z,41nm,1.3s
EDFI Ende, Flores 51.86 327 P **P** **15 36 44.4 +0.4**
comp=Z,20nm,2.0s
VNA1 Neumayer--Stat 51.90 190 ⇑P **P** **15 36 45.0 +1.4**
comp=Z,42nm,1.1s
RAR Rarotonga 52.16 70 LR LR 15 55 12.3
comp=Z,240nm,20.4s,baz=190,slow=32
KRVT Keravat (AS076 52.24 6 LR LR 15 58 45.0
comp=Z,278nm,18.3s,baz=9.6,slow=36
AFI Afiamalu 52.62 53 P **P** **15 36 48.6 -1.0**
SMAI San Martin Ant 52.99 164 P **P** **15 36 53.5 +1.8**
SMAI IAmb IAmb 15 36 56.4
comp=Z,48nm,1.3s
BNDI Bandanaira 53.80 338 P P 15 37 00.3 +2.0
BNDI Bandanaira 53.80 338 P **P** **15 36 59.7 +1.4**
comp=Z,88nm,1.5s
BBSI Bau Bau 54.69 329 P **P** **15 37 06.5 +1.7**
comp=Z,22nm,1.3s,comp=Z,383nm
H04S2 CROZET ISLANDS 55.41 236 T T 16 37 44.8
baz=140,slow=75,SNR=117
H04S1 CROZET ISLANDS 55.41 236 T T 16 37 43.6
baz=140,slow=75,SNR=116
H04S3 CROZET ISLANDS 55.42 236 T T 16 37 46.2
baz=140,slow=75,SNR=112
BKSI Bulukumba 55.58 326 P **P** **15 37 11.5 +0.4**
comp=Z,14nm,1.5s,comp=Z,354nm
KAPI Kappang 55.98 326 P **P** **15 37 09.7 -4.4**
KAPI Kappang 55.98 326 P **P** **15 37 15.7 +1.6**
KAPI Kappang 55.98 326 LR LR 16 01 26.5
comp=Z,617nm,18.1s,baz=179,slow=36
PMSA Palmer Station 56.57 164 P **P** **15 37 18.8 +1.1**
PMSA Palmer Station 56.57 164 LR LR 15 59 22.2
comp=Z,966nm,18.1s,baz=214,slow=34
SANI Sanana 57.08 334 P **P** **15 37 22.2 +0.3**
SANI Sanana 57.08 334 P **P** **15 37 21.5 -0.4**
comp=Z,14nm,1.2s
KPJI Karang Pucung 57.74 313 P P 15 37 28.6 +2.1
comp=Z,68nm,1.7s
TTSI Tana Toraja 57.82 327 P **P** **15 37 28.4 +1.3**
comp=Z,25nm,1.2s,comp=Z,442nm
LBMI Labuha 58.09 336 P P 15 37 31.3 +2.3
comp=Z,25nm,1.1s
LEM Lembang 58.73 312 LR LR 16 01 11.3
comp=Z,625nm,19.5s,baz=158,slow=34
LUWI Luwuk 58.88 331 P **P** **15 37 30.5 -4.0**
LUWI Luwuk 58.88 331 P P 15 37 37.1 +2.6
LUWI Luwuk 58.88 331 P **P** **15 37 35.9 +1.4**
comp=Z,31nm,0.5s,comp=Z,2μm
BBKI Banjar Baru 59.06 321 P **P** **15 37 37.2 +1.4**
comp=Z,61nm,1.2s
PPT Papeete 60.57 77 LR LR 15 58 03.3
comp=Z,189nm,21.8s,baz=206,slow=30
MPSI Mapaga 61.00 328 P **P** **15 37 49.7 +0.6**
comp=Z,20nm,1.9s
MTKI Muara Teweh, K 61.39 322 P **P** **15 37 53.3 +1.6**
comp=Z,42nm,1.3s,comp=Z,6μm
TOLI2 Tolitoli 61.48 329 P P 15 37 47.4 -4.9
TOLI2 Tolitoli 61.48 329 P **P** **15 37 53.7 +1.4**
STKI Sintang 63.53 319 P **P** **15 38 07.7 +1.7**
comp=Z,38nm,1.7s
KSM Kuching 65.26 318 P **P** **15 38 14.3 -3.0**
KSM Kuching 65.26 318 P **P** **15 38 19.0 +1.6**
SBUM Sibu 65.48 320 P **P** **15 38 15.9 -2.8**
DSRI Dabo 65.73 311 P **P** **15 38 21.2 +0.8**
MG04 Isla Riesco 66.27 155 P **P** **15 38 24.1 +0.7**
GUMO Guam 69.95 357 LR LR 16 09 46.0
comp=Z,97nm,18.0s,baz=172,slow=36
GSI Gunungsitoli 70.36 306 P **P** **15 38 48.2 -1.2**
GSI Gunungsitoli 70.36 306 P **P** **15 38 51.2 +1.7**
GSI Gunungsitoli 70.36 306 P **P** **15 38 51.0 +1.5**
comp=Z,50nm,1.4s
RPSI Rantau Prapat 71.00 307 P **P** **15 38 51.5 -1.8**
RPSI IAmb IAmb 15 38 57.5
comp=Z,20nm,1.2s
PSI Prapat 71.09 307 P **P** **15 38 53.4 -0.7**
KULM Kulim 72.58 310 P **P** **15 38 58.4 -4.4**
KULM IAmb IAmb 15 39 07.6
comp=Z,43nm,1.2s
MLSI Meulaboh, Acek 73.51 306 P **P** **15 39 09.9 +1.5**
comp=Z,38nm,1.0s
RPN Rapa Nui 74.53 116 LR LR 16 05 46.1
comp=Z,126nm,18.2s,baz=62,slow=31
H08S2 Diego Garcia H 75.49 278 T T 17 01 52.3
baz=147,slow=76,SNR=44
H08S1 Diego Carcia H 75.50 278 T T 17 01 55.4
baz=147,slow=76,SNR=22
H08S3 Diego Garcia H 75.51 278 T T 17 01 55.7
baz=147,slow=76,SNR=70
PLCA Paso Flores 77.82 151 LR LR 16 07 54.9
comp=Z,394nm,18.8s,baz=182,slow=31
NAYO Nakonayok 80.47 315 P **P** **15 39 48.4 +1.0**
SUR Sutherland 80.61 223 LR LR 16 11 09.6
comp=Z,168nm,20.3s,baz=152,slow=32
SRDT SRDT 81.38 313 P **P** **15 39 53.6 +1.3**
H03S1 Juan Fernandez 81.66 142 T T 17 10 40.0
baz=202,slow=74,SNR=106
H03S2 Juan Fernandez 81.66 142 T T 17 10 38.7
baz=202,slow=74,SNR=96
H03S3 Juan Fernandez 81.67 142 T T 17 10 41.2
baz=202,slow=74,SNR=110
QIZ Qiongzhong 81.75 324 P **P** **15 39 52.3 -1.9**
QIZ Qiongzhong 81.75 324 S **S** **15 50 07.5 +0.6**
QIZ LR LR
comp=N,240nm,20.2s
QIZ LR LR
comp=E,330nm,26.9s
QIZ LR LR
comp=Z,310nm,23.6s
BOSA Boshof 82.17 229 LR LR 16 11 28.6
comp=Z,123nm,19.3s,baz=164,slow=32
NONG Nongkai 83.19 318 P **P** **15 40 02.7 +1.0**
CM31 Chiang Mai Arr 85.16 314 **P** **15 40 10.9 -0.8**
CM31 IAmb IAmb 15 40 17.9
comp=Z,38nm,1.5s
CMAR Chiang Mai Arr 85.16 314 P **P** **15 40 09.9 -1.9**
CMAR Chiang Mai Arr 85.16 314 P **P** **15 40 11.8 0.0**
comp=Z,2.3nm,0.9s,baz=181,slow=4.2,SNR=15
CMAR PP **PP** **15 43 29.5 +0.1**
comp=Z,0.3nm,0.3s,baz=169,slow=6.9,SNR=4.7
CMAR LR LR 16 15 56.1
comp=Z,339nm,21.2s,baz=160,slow=34
comp=Z,2.3nm,0.9s
CHTO Chiang Mai 85.48 314 P **P** **15 40 11.9 -1.5**
CRAI Chiangrai 86.21 316 P **P** **15 40 15.9 -1.0**
CRAI IAmb IAmb 15 40 23.2
comp=Z,39nm,1.4s
MND Mandalay 89.49 313 P **P** **15 40 28.2 -4.4**
MND IAmb IAmb 15 40 43.7
comp=Z,18nm,1.5s
GYA Guiyang 89.70 324 ⇓P **P** **15 40 34.8 +1.2**
GYA pmax pmax
comp=Z,16nm,0.8s
KMI Kunming 89.80 320 ⇑P **P** **15 40 36.0 +1.7**
KMI pmax pmax
comp=Z,14nm,0.4s
KMI LR LR
comp=N,460nm,18.8s
KMI LR LR
comp=E,190nm,21.9s
KMI LR LR
comp=Z,550nm,22.2s
PZH PanZhiHua 91.42 320 P **P** **15 40 41.3 -0.4**
PZH PanZhiHua 91.42 320 S **S** **15 51 37.0 -3.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,250nm,5.5s
PZH LR LR
comp=N,330nm,13.5s
PZH LR LR
comp=E,290nm,12.3s
PZH LR LR
comp=Z,330nm,17.2s
NJ2 Nanjing 91.62 336 *e*P **P** **15 40 41.0 -1.2**
NJ2 pP **sP** **15 40 44.0 -1.7**
NJ2 sP **pwP** **15 40 48.3 +0.3**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 pmax pmax
comp=Z,640nm,4.3s
LSZ Lusaka 92.55 237 LR LR 16 15 16.0
comp=Z,265nm,21.6s,baz=130,slow=31
MJAR Matsushiro Arr 93.11 352 P **P** **15 40 49.9 +0.8**
comp=Z,3.9nm,1.2s,baz=166,slow=7.2,SNR=2.5
MJAR LR LR 16 21 18.0
comp=Z,108nm,20.1s,baz=162,slow=35
comp=Z,3.9nm,1.2s
TSUM Tsumeb 93.69 226 LR LR 16 16 48.5
comp=Z,138nm,18.8s,baz=150,slow=32
CPUP Villa Florida 94.74 158 LR LR 16 20 42.0
comp=Z,206nm,18.8s,baz=199,slow=34
CD2 Chengdu 94.77 323 *e*P **P** **15 40 54.5 -2.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 101.75 333 *e*P **Pdif** **15 41 27.0 -1.1**
BTO Baotou 101.91 332 *e*P **Pdif** **15 41 33.3 +4.5**
BTO PP **PP** **15 45 40.5 -0.1**
BTO pmax pmax
comp=Z,18nm,0.5s
BTO pmax pmax
comp=Z,420nm,4.4s
MDJ Mudanjiang 101.97 347 P **Pdif** **15 41 31.5 +2.7**
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,310nm,4.2s
SONM Songino Array 109.59 332 PP **PP** **15 46 35.2 -2.1**
comp=Z,0.2nm,0.5s,baz=120,slow=5.2,SNR=4.1
WMQ Urumqi 111.98 317 *e*P **PKiKP** **15 46 09.0 -1.1**
WMQ LR LR
comp=N,13μm,16.9s
WMQ LR LR
comp=E,8μm,20.3s
WMQ LR LR
comp=Z,14μm,23.7s
MKAR Makanchi Array 116.54 316 PKP **PKPdf** **15 46 17.3 -1.4**
comp=Z,0.3nm,0.4s,baz=177,slow=2.5,SNR=2.1
GEYT Alibeck 120.42 294 PKP **PKiKP** **15 46 26.6 +0.1**
comp=Z,2.0nm,0.8s,baz=72,slow=6.4,SNR=6.1
KURBB Kurchatov Arra 121.10 316 PKP **PKPdf** **15 46 25.9 -1.4**
comp=Z,1.3nm,1.0s,baz=154,slow=1.7,SNR=5.9
KURBB PP **PP** **15 47 59.5 +1.4**
comp=Z,0.4nm,0.8s,baz=157,slow=5.6,SNR=5.7
ZALV Zalesovo Beam 121.50 322 PKP **PKPdf** **15 46 26.2 -1.8**
comp=Z,0.5nm,0.5s,baz=40,slow=53,SNR=1.7
ZALV PP **PP** **15 48 04.1 +3.3**
comp=Z,0.7nm,0.2s,baz=132,slow=8.0,SNR=4.6
NVAR Mina Array Bea 123.11 69 PKP **PKiKP** **15 46 32.8 +0.7**
comp=Z,0.2nm,0.3s,baz=246,slow=3.8,SNR=7.0
TXAR Lajitas Array 124.11 87 PKP **PKiKP** **15 46 34.4 +0.2**
comp=Z,0.6nm,0.8s,baz=198,slow=3.6,SNR=4.7
MNTX Cornudas Mount 124.97 84 PKPdf **PKiKP** **15 46 36.1 +0.4**
BVAR Borovoye Array 126.17 313 PKP **PKiKP** **15 46 37.1 -0.3**
comp=Z,0.4nm,0.3s,baz=204,slow=3.2,SNR=3.8
MVCO Mesa Verde 127.40 77 PKPdf **PKiKP** **15 46 41.6 +1.0**
TORD Torodi Ar. Bea 129.41 225 PKP **PKPdf** **15 46 43.5 -0.8**
comp=Z,2.8nm,1.2s,baz=50,slow=3.0,SNR=6.5
PDAR Pinedale Array 130.82 72 PKP **PKiKP** **15 46 47.0 -0.4**
comp=Z,0.4nm,0.7s,baz=197,slow=3.1,SNR=4.6
ILAR Eielson Array 130.85 31 PKP **PKiKP** **15 46 45.8 -0.6**
comp=Z,0.6nm,0.8s,baz=264,slow=2.7,SNR=6.7
WMOK Wichita Mounta 130.90 87 PKPdf **PKiKP** **15 46 47.6 +0.1**
BRTR Keskin Array B 134.74 277 PKP **PKiKP** **15 46 53.6 -1.7**
comp=Z,0.8nm,0.9s,baz=116,slow=3.4,SNR=2.7
ULM Lac du Bonnet 142.84 72 PKP **PKPdf** **15 47 06.2 -1.8**
comp=Z,3.6nm,0.8s,baz=278,slow=5.3,SNR=3.4
COWI Conover 144.01 82 PKPdf PKPbc 15 47 08.6 +0.2
S57A Dark Hollow, R 144.02 101 PKPbc 15 47 08.7 +0.2
AKASG Malin Array Be 144.13 287 PKP **PKPdf** **15 47 08.2 -2.1**
comp=Z,1.9nm,0.6s,baz=103,slow=2.4,SNR=13
AKBB Malin Array Si 144.13 287 PKPdf PKPbc 15 47 07.7 -0.7
BURAR Bucovina Array 144.51 280 PKPdf **PKPdf** **15 47 10.7 -0.5**
O53A New Philadelph 144.55 96 **PKPdf** **15 47 10.8 -0.7**
DIVS Divibare 145.21 272 **PKPdf** **15 47 12.4 -0.1**
KOLS Kolonicke sedl 146.87 280 *e*PKP **PKiKP** **15 47 18.5 -1.1**
CRVS Cervenica-Dubn 147.30 280 *e*PKP **PKPab** **15 47 18.5 -1.6**
WUPA West Chester U 147.39 102 **PKPbc** **15 47 19.6 +0.9**
LANS Liptovska Anna 148.53 279 *e*PKP **PKPab** **15 47 22.8 -2.3**
OJC Ojcow 148.93 281 **PKiKP** **15 47 22.8 -1.0**
RONA Rosalia, Austr 149.45 274 *i* PKP **PKPbc** **15 47 23.2 -0.7**
comp=Z,22nm,1.4s
SOKA Soboth 149.55 271 *e*PKiKP **PKiKP** **15 47 24.8 -0.5**
comp=Z,25nm,1.1s,SNR=9.7
ARSA Arzberg 149.62 273 *e*PKiKP **PKiKP** **15 47 24.9 -0.4**
comp=Z,26nm,1.4s,SNR=7.6
OBKA Obir 149.72 271 *e*PKiKP **PKiKP** **15 47 25.2 -0.5**
comp=Z,15nm,1.4s
CONA Conrad Observa 149.82 274 *e*PKP **PKPbc** **15 47 23.5 -1.4**
comp=Z,14nm,1.2s,SNR=6.4
MORC Moravsky Berou 149.92 278 *e*PKP **PKiKP** **15 47 24.7 -1.2**
MYKA Terra Mystica 150.29 270 *e*PKiKP **PKiKP** **15 47 26.4 -0.5**
comp=Z,32nm,1.5s
FINES FINESS Array B 150.43 304 PKPbc **PKiKP** **15 47 25.4 -1.1**
comp=Z,9.8nm,0.8s,baz=90,slow=4.6,SNR=13
CLUD Cludinico 150.61 269 PKPbc **PKiKP** **15 47 27.0 -0.5**
MOA Molln 150.66 273 *i* PKiKP **PKiKP** **15 47 26.5 -1.0**
comp=Z,14nm,1.2s
TREC Trest 150.79 276⇑*e*PKP **PKiKP** **15 47 27.5 -0.2**
DPC Dobruska-Polom 150.89 279⇑*e*PKP **PKiKP** **15 47 27.2 -0.7**
BIOA Bad Ischl, Aus 150.91 272 *i* PKiKP **PKiKP** **15 47 27.1 -0.9**
comp=Z,6.6nm,1.0s
ABTA Abfaltersbach 150.98 269 *i* PKiKP **PKiKP** **15 47 27.8 -0.5**
comp=Z,25nm,1.7s
OSTC Ostas 151.06 279⇑*e*PKP **PKiKP** **15 47 28.0 -0.2**
UPC Upice 151.14 279⇑*e*PKP **PKiKP** **15 47 28.0 -0.4**
CKRC Cesky Krumlov 151.18 274⇑*e*PKP **PKiKP** **15 47 27.9 -0.6**
LESA Schwarzleotal 151.29 271 *e*PKiKP **PKiKP** **15 47 28.1 -0.7**
comp=Z,15nm,0.8s
GERES GERESS Array B 151.53 274 PKPbc **PKiKP** **15 47 28.3 -1.0**
comp=Z,2.1nm,0.7s,baz=318,slow=4.2,SNR=2.2
ZVC Zvikov 151.58 275⇑*e*PKP **PKiKP** **15 47 28.5 -0.8**
KHC Kasperske Hory 151.75 274⇑*e*PKP **PKPbc** **15 47 26.8 -2.5**
WTTA Wattenberg 151.77 270 *i* PKiKP **PKiKP** **15 47 29.7 -0.3**
comp=Z,26nm,1.9s
WATA Walderalm 151.85 270 *i* PKiKP **PKiKP** **15 47 29.6 -0.5**
comp=Z,9.5nm,0.8s
PVCC Panska Ves 151.94 278⇑*e*PKP **PKiKP** **15 47 31.1 +1.1**
SQTA Sankt Quirin 151.98 269 *i* PKP **PKPbc** **15 47 27.6 -2.4**
comp=Z,21nm,1.1s
ARCES ARCESS Array B 152.04 321 PKPbc **PKiKP** **15 47 29.7 0.0**
comp=Z,4.0nm,0.8s,baz=115,slow=2.0,SNR=7.6
MOTA Moosalm 152.11 269 *i* PKP **PKPbc** **15 47 29.1 -1.3**
comp=Z,21nm,1.4s
FETA Feichten 152.13 268 *e*PKP **PKPbc** **15 47 29.4 -1.1**
comp=Z,20nm,1.2s,SNR=7.2
FUORN Ofenpass-Fuorn 152.15 267 **PKiKP** **15 47 30.1 -0.8**
RETA Reutte 152.39 269 *e*PKiKP **PKiKP** **15 47 30.9 -0.2**
comp=Z,10.0nm,1.1s
BRG Berggiesshubel 152.46 278 *e*PKP **PKiKP** **15 47 31.7 +0.7**
BRG Amp 15 47 37.3
comp=Z,17nm,1.4s
CLL Collm 153.19 278 *e*PKPdf **PKPdf** **15 47 26.0 +1.1**
CLL *i* PKPbc **PKiKP** **15 47 32.3 -0.2**
CLL *e*PKPab **pPKPab** **15 47 44.0 -2.8**
comp=Z,27nm,1.5s
CLL *e*pPKPab **sPKPab** **15 47 51.0 +3.3**
ESDC Sonseca Array 154.87 240 PKPbc **PKiKP** **15 47 36.8 +0.2**
comp=Z,1.2nm,0.9s,baz=208,slow=0.9,SNR=7.8
ESDC PKPab **PKPab** **15 47 52.0 +0.1**
comp=Z,7.2nm,1.3s,baz=143,slow=3.0,SNR=9.1

IDC 28 15:55:55.3±4.1, 28°.27S×177°.84W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=114.6km s-min=42.8km az=37.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.41**	**265**	P	P	16 03 59.8	-0.3
	0.3nm,0.6s,baz=104,slow=6.6,SNR=11						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**44.20**	**270**	P	P	16 04 06.4	-0.1
	0.3nm,0.4s,baz=109,slow=8.0,SNR=6.2						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**61.84**	**180**	P	P	16 06 16.2	+0.1
	0.3nm,0.5s,baz=307,slow=6.6,SNR=1.4						
	0.3nm,0.5s						
FINES	**FINESS Array B**	**143.19**	**341**	PKP	PKPdf	16 15 30.1	-0.7
	1.6nm,0.7s,baz=26,slow=3.5,SNR=5.5						

---

*IDC **28** 15:59:38.8±1.4, 16°.95S×177°.17E, h0km, mb4.0/5, mbtmp4.0/5, MS3.7/7, Error ellipse: s-maj=35.4km s-min=12.0km az=32.0*

ISC 28 15:59:40.4±1.3, 17°.1S±0°.2×177°.3E±0°.1, h10km, n12, σ1§55/6, mb3.7/5, MS3.4/5, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.01**	**132**	Pg	**Pb**	**15 59 59.9**	**-0.2**
	126nm,0.3s,baz=335,slow=6.1,SNR=71						
MSVF				Lg	Lg	16 00 18.1	
	159nm,0.3s,baz=263,slow=21,SNR=12						
RAO	**Raoul Island**	**12.92**	**161**	LR	LR	16 06 46.1	
	comp=Z,435nm,20.5s,baz=116,slow=33						
HNR	**Honiara**	**18.47**	**292**	LR	LR	16 09 20.9	
	comp=Z,1μm,21.6s,baz=128,slow=32						
URZ	**Urewera**	**21.13**	**180**	LR	LR	16 11 45.3	
	comp=Z,157nm,19.8s,baz=28,slow=34						
RAR	**Rarotonga**	**22.08**	**104**	LR	LR	16 11 13.1	
	comp=Z,79nm,20.6s,baz=318,slow=31						
KRVT	**Keravat (AS076**	**27.80**	**294**	LR	LR	16 15 59.3	
	comp=Z,213nm,20.5s,baz=82,slow=35						
PPT	**Papeete**	**31.64**	**96**	LR	LR	16 17 40.2	
	comp=Z,34nm,19.4s,baz=229,slow=34						
STKA	**Stephens Creek**	**35.48**	**239**	P	**P**	**16 06 38.9**	**+1.6**
	3.5nm,0.7s,baz=82,slow=9.0,SNR=5.8						
STKA				LR	LR	16 19 46.0	
	comp=Z,142nm,19.6s,baz=0.7,slow=34						
	3.5nm,0.7s						
WRA	**Warramunga Arr**	**40.73**	**259**	P	**P**	**16 07 19.7**	**-2.1**
	0.8nm,1.0s,baz=92,slow=8.7,SNR=5.0						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**41.06**	**253**	P	**P**	**16 07 24.2**	**-0.3**
	1.2nm,0.7s,baz=82,slow=8.2,SNR=18						
	1.2nm,0.7s						
QSPA	**South Pole Qui**	**72.99**	**180**	P	**P**	**16 11 10.0**	**-0.2**
	2.9nm,0.8s,baz=40,slow=1.1,SNR=18						
	2.9nm,0.8s						
ILAR	**Eielson Array**	**86.04**	**15**	P	**P**	**16 12 21.2**	**+0.4**
	0.5nm,0.8s,baz=204,slow=5.9,SNR=4.5						
	0.5nm,0.8s						

---

*IDC **28** 16:08:55.6±1.9, 18°.66N×145°.65E, h200km±18km, mb3.3/12, mbtmp3.8/14, Error ellipse: s-maj=23.2km s-min=10.9km az=84.0*

*NEIC **28** 16:08:56.6±1.3, 18°.71N±0°.08×145°.4E±0°.2, h198km±12km, mb4.2/13, Error ellipse: s-maj=25.6km s-min=9.6km az=74.0*

ISC 28 16:08:55.9±0.5, 18°.71N±0°.06×145°.4E±0°.2, h200km, n35, σ1§24/39, mb3.6/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.12**	**186**	Pn	**Pn**	**16 10 12.5**	**+0.7**
GUMO	**Guam**	**5.12**	**186**	P	**Pn**	**16 10 10.5**	**-1.3**
	35nm,0.5s,baz=79,slow=2.3,SNR=17						
GUMO				S	**Sn**	**16 11 11.0**	**-0.7**
	33nm,0.3s,baz=15,slow=20,SNR=1.5						
JCJ	**Chichijima**	**8.86**	**341**	Pn	**Pn**	**16 11 00.5**	**+0.3**
JCJ	**Chichijima**	**8.86**	**341**	P	**Pn**	**16 10 58.6**	**-1.7**
	40nm,0.5s,baz=84,slow=22,SNR=1.3						
JCJ				S	**Sn**	**16 12 36.1**	**-3.5**
	71nm,0.6s,baz=123,slow=23,SNR=2.8						
MJAR	**Matsushiro Arr**	**18.86**	**342**	P	**P**	**16 13 02.2**	**+1.2**
	0.8nm,0.3s,baz=166,slow=9.4,SNR=10.0						
MAJO	**Matsushiro**	**18.86**	**342**	P	**P**	**16 13 01.4**	**+0.4**
MAJO				IAmb	IAmb	16 13 08.9	
	comp=Z,10.0nm,1.1s						
MJB9	**Matsu-Tunnel**	**18.87**	**342**	P	**P**	**16 12 59.4**	**-1.6**
MJB9				IAmb	IAmb	16 13 09.9	
	comp=Z,9.3nm,1.0s						
KSRS	**Korea Array**	**24.14**	**324**	P	**P**	**16 13 55.5**	**+1.9**
	comp=Z,0.7nm,0.6s,baz=146,slow=8.5,SNR=3.0						
	comp=Z,0.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**27.79**	**339**	P	**P**	**16 14 28.7**	**+2.5**
	comp=Z,0.5nm,0.5s,baz=158,slow=12,SNR=2.5						
	comp=Z,0.5nm,0.5s						
KLR	**Kul'dur**	**32.38**	**343**	P	**P**	**16 15 07.2**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=138,slow=9.6,SNR=2.5						
	comp=Z,0.6nm,0.4s						
COEN	**Coen**	**32.53**	**184**	P	**P**	**16 15 08.2**	**0.0**
COEN				IAmb	IAmb	16 15 18.2	
	comp=Z,6.3nm,1.1s						
WB0	**Warramunga Arr**	**39.73**	**196**	P	**P**	**16 16 09.9**	**+0.8**
WB0				IAmb	IAmb	16 16 34.5	
	comp=Z,7.0nm,1.4s						
WR0	**Warramunga Arr**	**39.88**	**196**	P	**P**	**16 16 10.7**	**+0.4**
WR0				IAmb	IAmb	16 16 47.2	
	comp=Z,8.6nm,1.4s						
WB2	**Warramunga Arr**	**39.91**	**196**	P	**P**	**16 16 11.1**	**+0.5**
WB2				IAmb	IAmb	16 16 26.9	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**39.91**	**196**	P	**P**	**16 16 09.3**	**-1.4**
WRA	**Warramunga Arr**	**39.91**	**196**	P	**P**	**16 16 11.3**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=13,slow=8.7,SNR=19						
WRA				PcP	**PcP**	**16 18 11.7**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=17,slow=3.3,SNR=5.3						
	comp=Z,0.6nm,0.3s						
SONM	**Songino Array**	**42.96**	**322**	P	**P**	**16 16 36.6**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=142,slow=7.9,SNR=2.7						
	comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	**43.58**	**195**	P	**P**	**16 16 40.3**	**-0.1**
ASAR	**Alice Springs**	**43.58**	**195**	P	**P**	**16 16 39.8**	**-0.6**
ASAR	**Alice Springs**	**43.58**	**195**	P	**P**	**16 16 40.2**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=19,slow=6.4,SNR=19						
ASAR				PcP	**PcP**	**16 18 23.6**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=21,slow=4.5,SNR=1.7						
	comp=Z,0.3nm,0.4s						
DZM	**Mont Dzumac**	**45.46**	**152**	P	**P**	**16 16 54.1**	**-1.2**
ATKA	**Atka Island**	**45.94**	**34**	P	**P**	**16 16 58.6**	**0.0**
ATKA				IAmb	IAmb	16 17 16.1	
	comp=Z,28nm,1.1s						
SDPT	**Sand Point**	**54.62**	**35**	P	**P**	**16 18 04.3**	**+0.6**
N15K	**Kwethluk River**	**56.55**	**29**	P	**P**	**16 18 18.9**	**+1.6**
MKAR	**Makanchi Array**	**58.25**	**314**	P	**P**	**16 18 31.4**	**+2.0**
	comp=Z,0.9nm,0.9s,baz=93,slow=7.1,SNR=2.2						
	comp=Z,0.9nm,0.9s						
SII	**Sitkinak Islan**	**58.36**	**34**	P	**P**	**16 18 31.2**	**+1.2**
KURBB	**Kurchatov Arra**	**61.12**	**318**	P	**P**	**16 18 49.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=91,slow=7.4,SNR=8.6						
	comp=Z,0.3nm,0.3s						
ILAR	**Eielson Array**	**63.76**	**26**	P	**P**	**16 19 05.2**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=248,slow=6.2,SNR=9.5						

comp=Z,0.7nm,0.7s
BVAR Borovoye Array 66.29 320 P **P 16 19 22.4 -0.2**
comp=Z,0.3nm,0.4s,baz=100,slow=6.3,SNR=2.3
comp=Z,0.3nm,0.4s
J05D Fort Rock, OR 79.80 48 P **P 16 20 43.0 +0.8**
NVAR Mina Array Bea 83.36 52 P **P 16 21 00.5 -0.6**
comp=Z,1.5nm,0.6s,baz=271,slow=5.9,SNR=16
comp=Z,1.5nm,0.6s
AKASG Malin Array Be 91.14 325 P **P 16 21 36.8 -1.1**
comp=Z,1.0nm,0.3s,baz=28,slow=3.9,SNR=10
comp=Z,1.0nm,0.3s
HFS Hagfors 92.27 338 P **P 16 21 43.2 +0.3**
comp=Z,7.9nm,1.0s,baz=23,slow=12,SNR=1.3
NOA NORSAR Array B 92.47 340 P **P 16 21 43.8 -0.1**
comp=Z,1.3nm,0.9s,baz=53,slow=5.0,SNR=1.8
LPAZ La Paz 147.96 91 PKPbc **PKPdf 16 28 17.4 +1.5**
comp=Z,1.2nm,0.4s,baz=321,slow=1.8,SNR=4.7

*IDC **28** 16:13:04.1±0.6, 86°.94N×55°.90E, h0km, mb3.8/17, mbtmp3.8/20, ML3.9/3, Error ellipse: s-maj=17.4km s-min=14.0km az=93.0*
*NEIC **28** 16:13:05.0±1.5, 86°.88N±0°.08×5°3E±°, h10km±2km, mb4.4/22, Error ellipse: s-maj=18.3km s-min=12.6km az=246.0*
*IEPN **28** 16:13:06.0, 86°.90N×54°.80E, h10km*
ISC 28 16:13:05.3±0.5, 86°.94N±0°.06×54°.02E±0°.08, h10km, n72, σ1§50/72, mb4.1/28, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**6.19**	**190**	*eP*	**Pn**	**16 14 34.9**	**-1.7**
OMEGA	**Omega**	**6.22**	**189**	*eP*	**Pn**	**16 14 35.5**	**-1.4**
SVZ	**Severnaya Zeml**	**9.01**	**118**	*eP*	**Pn**	**16 15 13.7**	**-1.3**
KBS	**Kingsbay**	**9.09**	**235**	Pn	**Pn**	**16 15 15.7**	**-0.5**
KBS	**Kingsbay**	**9.09**	**235**	*eP*	**Pn**	**16 15 15.0**	**-1.3**
SPB5	**Spitsbergen Ar**	**9.63**	**229**	Pn	**Pn**	**16 15 22.3**	**-1.4**
SPA1	**Spitsbergen Ar**	**9.64**	**229**	Pn	**Pn**	**16 15 22.4**	**-1.3**
SPB1	**Spitsbergen Ar**	**9.64**	**229**	Pn	**Pn**	**16 15 22.1**	**-1.6**
SPB4	**Spitsbergen Ar**	**9.64**	**229**	Pn	**Pn**	**16 15 22.4**	**-1.4**
SPA0	**Spitsbergen Ar**	**9.64**	**229**	Pn	**Pn**	**16 15 22.3**	**-1.5**
SPA0	**Spitsbergen Ar**	**9.64**	**229**	*eP*	**Pn**	**16 15 22.2**	**-1.6**
SPA3	**Spitsbergen Ar**	**9.64**	**229**	Pn	**Pn**	**16 15 22.3**	**-1.5**
SPITS	**Spitsbergen Ar**	**9.64**	**229**	Pn	**Pn**	**16 15 22.1**	**-1.6**
	baz=25,slow=12						
	15nm,0.8s						
SPA2	**Spitsbergen Ar**	**9.64**	**229**	Pn	**Pn**	**16 15 22.4**	**-1.4**
SPB2	**Spitsbergen Ar**	**9.64**	**229**	Pn	**Pn**	**16 15 22.3**	**-1.4**
SPB3	**Spitsbergen Ar**	**9.64**	**229**	Pn	**Pn**	**16 15 22.8**	**-1.1**
HSPB	**Hornsund (broa**	**10.84**	**229**	*eP*	**Pn**	**16 15 39.9**	**-0.2**
HOPEN	**Hopen**	**10.98**	**217**	*eP*	**Pn**	**16 15 45.3**	**+3.3**
EUNU	**Eureka**	**12.54**	**329**	Pn	**Pn**	**16 16 01.2**	**-2.3**
TULEG	**Thule**	**15.44**	**312**	Pn	**Pn**	**16 16 39.2**	**-3.5**
TULEG				IAmb	IAmb	16 17 07.5	
	comp=Z,33nm,1.0s						
AMDE	**Amderma**	**17.31**	**171**	*eP*	**Pn**	**16 17 05.2**	**-1.3**
ARA0	**ARCESS Array S**	**17.94**	**213**	*eP*	**Pn**	**16 17 13.6**	**-0.8**
ARCES	**ARCESS Array B**	**17.94**	**213**	P	**Pn**	**16 17 13.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=7.8,slow=9.8,SNR=11						
	comp=Z,1.1nm,0.4s						
RES	**Resolute Bay**	**18.12**	**334**	Pn	**Pn**	**16 17 14.1**	**-2.4**
RES	**Resolute Bay**	**18.12**	**334**	*eP*	**Pn**	**16 17 16.2**	**-0.3**
RES	**Resolute Bay**	**18.12**	**334**	P	**Pn**	**16 17 16.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=19,slow=12,SNR=6.2						
	comp=Z,1.9nm,0.6s						
LVZ	**Lovozero**	**19.35**	**202**	P	**P**	**16 17 28.6**	**-1.8**
C36M	**Paulatuk**	**23.86**	**358**	P	**P**	**16 18 19.1**	**+1.0**
D27M	**Malcolm River**	**23.88**	**13**	P	**P**	**16 18 20.1**	**+1.6**
E28M	**Babbage River**	**24.54**	**12**	P	**P**	**16 18 25.6**	**+1.1**
E28M				IAmb	IAmb	16 18 32.6	
	comp=Z,12nm,1.5s						
E25K	**Arctic Village**	**24.94**	**17**	P	**P**	**16 18 29.8**	**+1.7**
E25K				IAmb	IAmb	16 19 08.5	
	comp=Z,9.4nm,1.1s						
E18K	**Tukpahlearik C**	**25.31**	**31**	P	**P**	**16 18 32.5**	**+1.1**
E19K	**Redstone River**	**25.37**	**28**	P	**P**	**16 18 33.0**	**+1.1**
E19K				IAmb	IAmb	16 18 45.2	
	comp=Z,6.3nm,0.9s						
PRGR	**Permogore**	**25.48**	**189**	*eP*	**P**	**16 18 34.4**	**+1.5**
F24K	**Squaw Lake**	**25.50**	**19**	P	**P**	**16 18 35.4**	**+2.1**
F24K				IAmb	IAmb	16 18 50.6	
	comp=Z,6.8nm,1.1s						
F28M	**Old Crow**	**25.53**	**12**	P	**P**	**16 18 33.4**	**0.0**
F28M				IAmb	IAmb	16 19 06.2	
	comp=Z,11nm,1.2s						
F20K	**Avaraart Lake**	**25.81**	**27**	P	**P**	**16 18 36.3**	**+0.4**
F20K				IAmb	IAmb	16 18 40.7	
	comp=Z,10nm,1.1s						
FINES	**FINESS Array B**	**26.03**	**211**	*eP*	**P**	**16 18 39.8**	**+1.9**
FINES	**FINESS Array B**	**26.03**	**211**	P	**P**	**16 18 39.8**	**+1.9**
	comp=Z,4.1nm,0.8s,baz=21,slow=8.1,SNR=6.0						
	comp=Z,4.1nm,0.8s						
G29M	**Pine Creek**	**26.25**	**11**	P	**P**	**16 18 42.8**	**+2.8**
G29M				IAmb	IAmb	16 18 43.8	
	comp=Z,9.4nm,0.8s						
G18K	**Tagagawik**	**26.89**	**29**	P	**P**	**16 18 46.6**	**+0.8**
G18K				IAmb	IAmb	16 19 29.2	
	comp=Z,18nm,1.4s						
IMAR	**Indian Mountai**	**26.93**	**25**	P	**P**	**16 18 47.8**	**+1.7**
NOA	**NORSAR Array B**	**26.93**	**227**	P	**P**	**16 18 47.0**	**+0.8**
NOA	**NORSAR Array B**	**26.93**	**227**	*eP*	**P**	**16 18 47.0**	**+0.8**
NOA	**NORSAR Array B**	**26.93**	**227**	P	**P**	**16 18 47.0**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=4.8,slow=9.2,SNR=4.7						
	comp=Z,1.7nm,0.8s						
I30M	**Mount Dempster**	**27.96**	**9**	P	**P**	**16 18 55.8**	**+0.3**
I30M				IAmb	IAmb	16 19 25.7	
	comp=Z,6.8nm,1.2s						
ILAR	**Eielson Array**	**28.28**	**19**	*eP*	**P**	**16 18 59.6**	**+1.5**
ILAR	**Eielson Array**	**28.28**	**19**	P	**P**	**16 18 59.6**	**+1.5**
	comp=Z,0.7nm,1.0s,baz=349,slow=8.3,SNR=7.2						
	comp=Z,0.7nm,1.0s						
BCAR	**Beaver Creek A**	**30.07**	**14**	P	**P**	**16 19 15.1**	**+1.0**
L27K	**Beaver Creek,**	**30.07**	**14**	P	**P**	**16 19 16.7**	**+2.6**
L18K	**Granite Mounta**	**30.63**	**28**	P	**P**	**16 19 20.1**	**+1.2**
L18K				IAmb	IAmb	16 19 52.9	
	comp=Z,6.2nm,1.2s						
L16K	**Owhat River**	**31.07**	**31**	P	**P**	**16 19 22.1**	**-0.7**
L16K				IAmb	IAmb	16 19 27.4	
	comp=Z,9.7nm,1.2s						
M17K	**Holitna River**	**31.43**	**29**	P	**P**	**16 19 28.0**	**+1.9**
O18K	**Koktuh Hills**	**33.04**	**27**	P	**P**	**16 19 39.5**	**-0.7**
BRVK	**Borovoye**	**34.17**	**162**	P	**P**	**16 19 48.4**	**-1.6**
BVAR	**Borovoye Array**	**34.21**	**162**	P	**P**	**16 19 51.5**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=347,slow=9.4,SNR=6.1						
	comp=Z,0.9nm,0.6s						
CLL	**Collm**	**36.60**	**224**	*eP*	**P**	**16 20 12.0**	**+1.1**
KURBB	**Kurchatov Arra**	**36.78**	**154**	P	**P**	**16 20 12.2**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=345,slow=9.0,SNR=4.7						
	comp=Z,0.4nm,0.7s						
BRG	**Berggiesshubel**	**37.00**	**223**	*eP*	**P**	**16 20 13.8**	**-0.5**
BRG				Amp		16 20 15.7	
	comp=Z,9.8nm,1.2s						
GERES	**GERESS Array B**	**39.03**	**223**	P	**P**	**16 20 33.9**	**+2.3**
	comp=Z,3.9nm,0.9s,baz=6.2,slow=9.0,SNR=2.6						
	comp=Z,3.9nm,0.9s						
SONM	**Songino Array**	**40.53**	**125**	P	**P**	**16 20 42.8**	**-1.3**
SONM	**Songino Array**	**40.53**	**125**	P	**P**	**16 20 45.2**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=328,slow=5.8,SNR=6.1						
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**40.70**	**150**	P	**P**	**16 20 43.6**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=331,slow=9.7,SNR=3.6						
	comp=Z,0.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**45.43**	**99**	P	**P**	**16 21 23.6**	**0.0**
	comp=Z,1.8nm,0.9s,baz=10,slow=9.1,SNR=4.2						
	comp=Z,1.8nm,0.9s						
BRTR	**Keskin Array B**	**47.58**	**201**	P	**P**	**16 21 42.0**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=349,slow=5.6,SNR=2.1						
	comp=Z,0.5nm,0.8s						
ESDC	**Sonseca Array**	**48.93**	**240**	P	**P**	**16 21 51.8**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=358,slow=8.4,SNR=9.0						
	comp=Z,1.1nm,0.8s						
GEYT	**Alibeck**	**49.18**	**176**	P	**P**	**16 21 55.1**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=57,slow=17,SNR=2.9						
	comp=Z,0.5nm,0.3s						
PDAR	**Pinedale Array**	**50.39**	**344**	P	**P**	**16 22 02.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=23,slow=10,SNR=3.5						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**54.82**	**353**	P	**P**	**16 22 36.7**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=23,slow=4.9,SNR=4.3						
	comp=Z,0.5nm,0.7s						
TXAR	**Lajitas Array**	**63.69**	**338**	P	**P**	**16 23 36.1**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=357,slow=2.5,SNR=5.8						
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**69.49**	**134**	P	**P**	**16 24 12.1**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=347,slow=7.4,SNR=13						
	comp=Z,0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.06**	**233**	P	**P**	**16 24 46.3**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=0.5,slow=7.8,SNR=12						
	comp=Z,1.7nm,0.8s						

*IDC **28** 16:13:53.0±0.4, 86°.94N×55°.24E, h0km, mb4.9/34, mbtmp4.9/36, ML4.4/2, MS5.4/49, Error ellipse: s-maj=10.8km s-min=9.3km az=104.0*
*BJI **28** 16:13:53.0±0.0, 87°.00N×56°.50E, h10km, mb5.3/81, mB5.8/60, Ms5.8/83, Ms7 5.7/82*
*NEIC **28** 16:13:54.7, 86°.87N×54°.60E, h12km*
*MOS **28** 16:13:54.1±1.0, 86°.93N×55°.64E, h14km, mb5.7/87, MS5.5/70, Error ellipse: s-maj=97.9km s-min=3.6km az=89.7*
*NEIC **28** 16:13:54.7, 86°.89N×54°.94E, h10km*
*NEIC **28** 16:13:54.7, 86°.87N×54°.60E, h12km, Moment Tensor Solution. Duration: 3§9 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.83; $M_{\theta\theta}$4.43; $M_{\phi\phi}$0.40; $M_{r\theta}$1.09; $M_{\theta\phi}$0.90; $M_{\phi r}$2.64; Fault plane solution: $M_0$5.45000×10^{17} NP1: ϕ_s236.28000°, δ58.42000°, λ-112.94000°. NP2: ϕ_s95.23000°, δ38.32000°, λ-57.62000°. Principal axes: T 4.9247, Plg11.0000°, Azm343.0000°; N 1.0482, Plg19.0000°, Azm249.0000°; P -5.9729, Plg68.0000°, Azm100.0000°;*
*NEIC **28** 16:13:54.4±2.1, 86°.88N±0°.06×5°4E±°, h10km±1km, mb5.8/813, Ms_20 5.5/650, Mwb5.6/87, Mww5.8/42 Error ellipse: s-maj=11.8km s-min=10.5km az=53.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.09; $M_{\theta\theta}$2.84; $M_{\phi\phi}$-0.75; $M_{r\theta}$1.21; $M_{\theta\phi}$1.01; $M_{\phi r}$0.71; Fault plane solution: $M_0$3.08000×10^{17} NP1: ϕ_s91.70000°, δ33.29000°, λ-65.47000°. NP2: ϕ_s243.06000°, δ60.05000°, λ-105.25000°. Principal axes: T 3.4336, Plg14.0000°, Azm344.0000°; N -0.9275, Plg13.0000°, Azm251.0000°; P -2.5061, Plg71.0000°, Azm119.0000°;*
*GCMT **28** 16:13:56.4±0.1, 86°.89N±0°.01×54°.1E±0°.2, h12km, MW5.8/164, Moment Tensor Solution. s107, c163; s164, c459; Duration: 1§8 Moment tensor: Scale 10^{17} Nm; M_{rr}-5.21±.06; $M_{\theta\theta}$4.89±.06; $M_{\phi\phi}$0.32±.06; $M_{r\theta}$-0.71±.18; $M_{\theta\phi}$1.09±.05; $M_{\phi r}$0.01±.21; Best double couple: $M_0$5.22200×10^{17} NP1: ϕ_s79.00000°, δ49.00000°, λ-88.00000°. NP2: ϕ_s255.00000°, δ41.00000°, λ-93.00000°. Principal axes: T 5.1820, Plg4.0000°, Azm167.0000°; N 0.0790, Plg2.0000°, Azm257.0000°; P -5.2610, Plg86.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*IEPN **28** 16:14:00.3, 86°.57N×56°.74E, h10km*
*INMG **28** 16:14:00.0, 86°.70N×49°.90E, h10km, MW5.5*
*BGR **28** 16:14:19.5, 84°.50N×36°.50E, h13km±1km, mb5.5, Ms5.0*
ISC 28 16:13:55.1±0.4, 86°.96N±0°.03×55°.57E±0°.03, h9km±1km, h9km:pP-P,n1959, σ1§90/1702, mb5.7/615, MS5.5/444, 45C-46D, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**6.23**	**192**	*eP*	**Pn**	**16 15 23.2**	**-3.8**
ZFI2				*eS*	Sn	16 16 26.0	-12
	277nm,0.4s						
OMEGA	**Omega**	**6.26**	**192**	⇑*iP*	**Pn**	**16 15 24.2**	**-3.2**
OMEGA				*eS*	Sn	16 16 27.0	-12
	235nm,0.7s						
NOR	**Nord**	**8.06**	**273**	*eP*	**Pn**	**16 15 53.0**	**+0.8**
NOR	**Nord**	**8.06**	**273**	*i P*	**Pn**	**16 15 53.0**	**+0.8**
SVZ	**Severnaya Zeml**	**8.94**	**120**	*eP*	**Sn**	**16 16 02.8**	**-1.4**
SVZ				*eS*	**Sn**	**16 17 35.9**	**-8.9**
KBS	**Kingsbay**	**9.17**	**237**		**Pn**	**16 16 03.4**	**-4.0**
KBS	**Kingsbay**	**9.17**	**237**	*eP*	**Pn**	**16 16 04.7**	**-2.7**
KBS				*eS*	**Sn**	**16 17 42.0**	**-8.5**
KBS	**Kingsbay**	**9.17**	**237**	*eP*	**Pn**	**16 16 04.5**	**-2.8**
KBS	**Kingsbay**	**9.17**	**237**	*ceP*	**Pn**	**16 16 04.1**	**-3.2**
KBS				pmax	pmax		
	comp=Z,189nm,0.6s						
KBS	**Kingsbay**	**9.17**	**237**	*i P*	**Pn**	**16 16 04.2**	**-3.1**
SPB5	**Spitsbergen Ar**	**9.71**	**231**	Pn	**Pn**	**16 16 10.9**	**-3.9**
SPA1	**Spitsbergen Ar**	**9.72**	**231**	Pn	**Pn**	**16 16 10.7**	**-4.1**
SPB1	**Spitsbergen Ar**	**9.72**	**231**	Pn	**Pn**	**16 16 10.6**	**-4.2**
SPB4	**Spitsbergen Ar**	**9.72**	**231**	Pn	**Pn**	**16 16 10.8**	**-4.0**
SPA0	**Spitsbergen Ar**	**9.72**	**231**	Pn	**Pn**	**16 16 10.9**	**-3.9**
SPA0	**Spitsbergen Ar**	**9.72**	**231**	*eP*	**Pn**	**16 16 11.5**	**-3.3**
SPA0				*eS*	Sn	16 17 53.3	-11
SPA0	**Spitsbergen Ar**	**9.72**	**231**	*eP*	**Pn**	**16 16 11.6**	**-3.2**
SPITS	**Spitsbergen Ar**	**9.72**	**231**	Pn	**Pn**	**16 16 10.4**	**-4.4**
	baz=33,slow=14						
SPITS				Sn	**Sn**	**16 17 56.0**	**-7.8**
	baz=49,slow=14						
SPITS				LR	LR	16 19 18.1	
	comp=Z,21μm,19.8s,baz=335,slow=34						
SPA2	**Spitsbergen Ar**	**9.72**	**231**	Pn	**Pn**	**16 16 10.9**	**-3.9**
SPA3	**Spitsbergen Ar**	**9.72**	**231**	Pn	**Pn**	**16 16 11.0**	**-3.8**
SPB2	**Spitsbergen Ar**	**9.72**	**231**		**Pn**	**16 16 10.8**	**-4.0**
SPB3	**Spitsbergen Ar**	**9.72**	**231**	Pn	**Pn**	**16 16 11.0**	**-3.9**
HSPB	**Hornsund (broa**	**10.91**	**230**	*eP*	**Pn**	**16 16 28.1**	**-3.0**
HSPB	**Hornsund (broa**	**10.91**	**230**	*eP*	**Pn**	**16 16 29.9**	**-1.2**
HSPB				*eS*	Sn	16 18 22.2	-11
HSPB	**Hornsund (broa**	**10.91**	**230**	*eP*	**Pn**	**16 16 28.6**	**-2.5**
HSPB				*e*		16 18 23.5	
HOPEN	**Hopen**	**11.05**	**219**	*eP*	**Pn**	**16 16 29.1**	**-3.9**
HOPEN				*eS*	Sn	16 18 22.7	-14
HOPEN	**Hopen**	**11.05**	**219**	*eP*	**Pn**	**16 16 29.2**	**-3.7**
EUNU	**Eureka**	**12.57**	**331**	Pn	**Pn**	**16 16 49.8**	**-4.0**
DAG	**Danmarks Havn**	**12.82**	**267**	*eP*	**Pn**	**16 16 55.9**	**-1.2**
DAG	**Danmarks Havn**	**12.82**	**267**	P	**Pn**	**16 16 56.1**	**-1.0**
DAG				S	**Sn**	**16 19 16.4**	**-3.2**
DAG	**Danmarks Havn**	**12.82**	**267**	*i P*	**Pn**	**16 16 59.9**	**+2.8**
DAG				IAmb	IAmb	16 17 06.1	
	comp=Z,102nm,1.2s						
NEEM	**North Greenlan**	**13.82**	**299**	*i P*	**Pn**	**16 17 13.2**	**+2.1**
DBG	**Daneborg**	**15.32**	**267**	*eP*	**Pn**	**16 17 33.4**	**+2.3**
DBG	**Daneborg**	**15.32**	**267**	⇓*iP*	**P**	**16 17 35.3**	**-0.6**
TULEG	**Thule**	**15.48**	**314**		**Pn**	**16 17 28.8**	**-4.4**
KULLO	**Kullorsuaq**	**16.94**	**302**	*i P*	**P**	**16 17 53.9**	**+0.1**
HAMF	**Hammerfest**	**16.95**	**217**	*eP*	**Pn**	**16 17 48.9**	**-3.1**
VADS	**Vadso**	**17.31**	**211**	*eP*	**Pn**	**16 17 51.7**	**-4.7**
AMDE	**Amderma**	**17.32**	**173**	⇓*iP*	**Pn**	**16 17 53.0**	**-3.6**
KEV	**Kevo**	**17.74**	**213**		**Pn**	**16 17 58.1**	**-3.7**
KEV	**Kevo**	**17.74**	**213**	*eP*	**Pn**	**16 18 01.8**	**0.0**
KEV	**Kevo**	**17.74**	**213**	P	**Pn**	**16 17 58.1**	**-3.7**
KEV				pmax	pmax		
	comp=Z,32nm,0.9s						
TIXI	**Tiksi**	**17.82**	**98**	Pn	**Pn**	**16 18 01.6**	**-1.2**
TIXI	**Tiksi**	**17.82**	**98**	*eP*	**P**	**16 18 04.0**	**+0.5**
TIXI	**Tiksi**	**17.82**	**98**	*c iP*	**P**	**16 18 04.6**	**+1.1**
SUMG	**Summit**	**18.00**	**283**	Pn	**Pn**	**16 18 01.1**	**-4.3**
SUMG	**Summit**	**18.00**	**283**	P	**Pn**	**16 18 05.0**	**-0.5**
SUMG	**Summit**	**18.00**	**283**	P	**Pn**	**16 18 01.1**	**-4.3**
SUMG				pmax	pmax		
	comp=Z,176nm,1.2s						
SUMG	**Summit**	**18.00**	**283**	*i P*	**P**	**16 18 08.8**	**+2.8**
ARA0	**ARCESS Array S**	**18.00**	**215**	*eP*	**Pn**	**16 18 04.1**	**-1.0**
ARCES	**ARCESS Array B**	**18.00**	**215**	P	**Pn**	**16 18 02.5**	**-2.6**
ARCES	**ARCESS Array B**	**18.00**	**215**	P	**Pn**	**16 18 02.5**	**-2.6**
ARCES				pmax	pmax		
	comp=Z,159nm,1.2s						
ARCES	**ARCESS Array B**	**18.00**	**215**	Pn	**Pn**	**16 18 01.6**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=15,slow=10,SNR=14						
ARCES				LR	LR	16 24 56.1	
	comp=Z,10μm,18.6s,baz=360,slow=37						
	comp=Z,17nm,0.7s						
TRO	**Tromso**	**18.12**	**222**	*eP*	**Pn**	**16 18 03.4**	**-3.1**
RES	**Resolute Bay**	**18.14**	**335**		**Pn**	**16 18 06.1**	**-0.6**
RES	**Resolute Bay**	**18.14**	**335**	P	**Pn**	**16 18 06.1**	**-0.6**
RES				pmax	pmax		
	comp=Z,92nm,1.3s						
RES	**Resolute Bay**	**18.14**	**335**	P	**Pn**	**16 18 04.8**	**-1.9**
	comp=Z,2.1nm,0.3s,baz=17,slow=11,SNR=19						
RES				LR	LR	16 25 39.1	
	comp=Z,15μm,19.6s,baz=16,slow=39						
	comp=Z,12nm,0.5s						
JETT	**Jettan, Norway**	**18.15**	**221**	*eP*	**Pn**	**16 18 03.8**	**-3.2**
KTK1	**Kautokeino**	**18.60**	**217**	*eP*	**P**	**16 18 10.3**	**-1.9**
UPNV	**Upernavik**	**18.67**	**300**	*i P*	**Pn**	**16 18 14.8**	**+1.6**
UPNV				IAmb	IAmb	16 18 21.6	
	comp=Z,50nm,0.7s						
SCO	**Scoresbysund**	**19.20**	**266**	P	**P**	**16 18 14.2**	**-4.5**
SCO	**Scoresbysund**	**19.20**	**266**	P	**P**	**16 18 14.2**	**-4.5**
SCO				pmax	pmax		
	comp=Z,406nm,1.6s						
LVZ	**Lovozero**	**19.41**	**204**	P	**P**	**16 18 19.4**	**-1.6**
LVZ				IAmb	IAmb	16 18 31.4	
	comp=Z,719nm,1.2s						
LVZ	**Lovozero**	**19.41**	**204**	*ceP*	**P**	**16 18 19.8**	**-1.2**
LVZ				pmax	pmax		
	comp=Z,249nm,1.3s						
LVZ				MLR	MLR		
	comp=Z,20μm,17.0s						
APA	**Apatity**	**19.76**	**205**	⇓*iP*	**P**	**16 18 21.4**	**-3.5**
APA				*i*		16 21 56.3	
APA				pmax	pmax		
	comp=Z,101nm,1.0s						
NUUG	**Nuugaatsiaq**	**19.77**	**297**	*i* P	**Pn**	**16 18 27.8**	**+1.4**
NUUG				IAmb	IAmb	16 18 36.5	
	comp=Z,210nm,0.8s						
STEI	**Steigen**	**19.96**	**226**	*eP*	**Pn**	**16 18 30.9**	**+2.2**
FAUS	**Fauske**	**20.51**	**226**	*eP*	**P**	**16 18 32.8**	**-0.2**
A36M	**Sachs Harbour**	**21.19**	**1**	P	**P**	**16 18 37.7**	**-2.6**
A36M				IAmb	IAmb	16 18 54.3	
	comp=Z,327nm,0.9s						
A36M				IAMs_20	IAMs_20	16 27 38.2	
	comp=Z,15μm,21.0s						
A36M	**Sachs Harbour**	**21.19**	**1**	P	**P**	**16 18 41.0**	**+0.8**
	baz=0.0						
A21K	**Barrow**	**21.45**	**28**	P	**P**	**16 18 44.9**	**+1.9**
	baz=356						
KONS	**Konsvik**	**21.48**	**228**	*eP*	**P**	**16 18 44.3**	**+1.0**
ICESG	**Greenland Ices**	**21.52**	**283**	*i P*	**P**	**16 18 46.3**	**+2.0**
ICESG				IAmb	IAmb	16 19 03.5	
	comp=Z,74nm,1.0s						
STOK	**Stokkvaagen**	**21.65**	**228**	*eP*	**P**	**16 18 48.8**	**+3.7**
MOR8	**Moi Rana**	**21.75**	**226**	*eP*	**P**	**16 18 44.3**	**-2.1**
A22K	**Sinclair Lake**	**21.81**	**27**	P	**P**	**16 18 48.5**	**+1.6**
	baz=356						
ILULI	**Ilulissat**	**21.98**	**294**	P	**P**	**16 18 47.9**	**-0.9**
ILULI				IAmb	IAmb	16 19 00.7	
	comp=Z,822nm,1.9s						
ILULI				IAMs_20	IAMs_20	16 27 01.5	
	comp=Z,18μm,18.0s						
ILULI	**Ilulissat**	**21.98**	**294**	P	**P**	**16 18 47.9**	**-0.9**
ILULI				pmax	pmax		
	comp=Z,822nm,1.9s						
ILULI				MLR	MLR		
	comp=Z,18μm,18.0s						
ILULI	**Ilulissat**	**21.98**	**294**	*i P*	**P**	**16 18 49.3**	**+0.5**
ILULI				IAmb	IAmb	16 19 03.8	
	comp=Z,48nm,0.8s						
A19K	**Wainwright**	**22.45**	**32**	P	**P**	**16 18 56.3**	**+2.6**
	baz=355						
B22K	**Teshekpuk Lake**	**22.51**	**25**	P	**P**	**16 18 52.5**	**-1.9**
B22K				IAMs_20	IAMs_20	16 28 04.1	
	comp=Z,12μm,18.0s						
B22K	**Teshekpuk Lake**	**22.51**	**25**	P	**P**	**16 18 55.9**	**+1.6**
	baz=356						
B20K	**Meade River**	**22.75**	**29**	P	**P**	**16 18 59.4**	**+2.4**
B20K				IAmb	IAmb	16 19 10.7	
	comp=Z,462nm,1.1s						
B20K				IAMs_20	IAMs_20	16 28 15.5	
	comp=Z,14μm,20.0s						
B20K	**Meade River**	**22.75**	**29**	P	**P**	**16 18 59.0**	**+2.0**
	baz=356						
C23K	**Itkillik River**	**23.07**	**23**	P	**P**	**16 18 59.7**	**-0.7**
C23K				IAmb	IAmb	16 19 15.5	
	comp=Z,514nm,1.4s						
C23K	**Itkillik River**	**23.07**	**23**	P	**P**	**16 19 01.7**	**+1.3**
	baz=357						
C26K	**Camden Bay**	**23.10**	**18**	P	**P**	**16 19 02.1**	**+1.5**
	baz=357						
B21K	**Ikpikpuk River**	**23.20**	**27**	P	**P**	**16 19 03.8**	**+2.1**
B21K				IAMs_20	IAMs_20	16 28 40.4	
	comp=Z,12μm,19.0s						
B21K	**Ikpikpuk River**	**23.20**	**27**	P	**P**	**16 19 02.9**	**+1.3**
	baz=356,SNR=16						
C24K	**Franklin Bluff**	**23.23**	**21**	P	**P**	**16 19 03.6**	**+1.7**
	baz=357						
B18K	**Kokolik River**	**23.27**	**33**	P	**P**	**16 19 03.4**	**+1.1**
	baz=355						
ADZR	**Andozero**	**23.32**	**199

E28M Babbage River 24.50 13 P **P 16 19 13.9 -0.1**
E28M IAMs_20 IAMs_20 16 29 07.9
comp=Z,15µm,22.0s
E28M Babbage River 24.50 13 P **P 16 19 14.1 +0.1**
baz=358,SNR=42
E20K Nigu River 24.53 28 P **P 16 19 15.0 +0.6**
baz=356
E29M Blow River 24.73 12 P **P 16 19 15.1 -1.1**
E29M IAmb IAmb 16 19 28.1
comp=Z,193nm,1.1s
E29M Blow River 24.73 12 P **P 16 19 17.5 +1.4**
baz=358,SNR=47
INK Inuvik 24.85 8 P **P 16 19 17.1 -0.1**
INK IAmb IAmb 16 19 28.8
comp=Z,418nm,1.8s
INK IAMs_20 IAMs_20 16 30 19.2
comp=Z,11µm,21.0s
INK Inuvik 24.85 8 P **P 16 19 17.9 +0.7**
baz=359,SNR=20
INK Inuvik 24.85 8 P **P 16 19 17.1 -0.1**
INK pmax pmax
comp=Z,418nm,1.8s
INK MLR MLR
comp=Z,11µm,21.0s
INK Inuvik 24.85 8 LR LR 16 30 42.0
comp=Z,10µm,21.6s,baz=4.0,slow=41
BORG Borgarnes 24.88 263 LR LR 16 28 02.3
comp=Z,2µm,20.4s,baz=352,slow=34
ANGG Ammassalik, Gr 24.88 280 P **P 16 19 15.6 -1.9**
ANGG IAmb IAmb 16 19 29.0
comp=Z,430nm,1.4s
ANGG Ammassalik, Gr 24.88 280 *i* P **P 16 19 19.4 +1.9**
ANGG IAmb IAmb 16 19 30.4
comp=Z,67nm,1.0s
E23K Chandalar 24.88 22 P **P 16 19 19.1 +1.5**
baz=357,SNR=16
E24K Your Creek 24.89 21 P **P 16 19 17.9 +0.3**
E24K IAmb IAmb 16 19 29.7
comp=Z,126nm,0.9s
E24K Your Creek 24.89 21 P **P 16 19 17.9 +0.3**
baz=357
E27K Coleen River 24.89 15 P **P 16 19 17.4 -0.3**
E27K IAmb IAmb 16 19 30.6
comp=Z,548nm,2.0s
E27K Coleen River 24.89 15 P **P 16 19 18.5 +0.9**
baz=358,SNR=36
E25K Arctic Village 24.89 19 P **P 16 19 18.2 +0.6**
E25K Arctic Village 24.89 19 P **P 16 19 18.6 +1.0**
baz=358,SNR=31
D17K Noatak River 24.90 34 P **P 16 19 19.1 +1.4**
baz=356,SNR=33
E18K Tukpahlearik C 25.25 32 P **P 16 19 21.8 +1.0**
E18K IAMs_20 IAMs_20 16 29 23.8
comp=Z,15µm,21.0s
E18K Tukpahlearik C 25.25 32 P **P 16 19 21.8 +1.0**
baz=356,SNR=43
E19K Redstone River 25.30 29 P **P 16 19 21.5 +0.1**
E19K IAmb IAmb 16 19 33.8
comp=Z,320nm,1.1s
E19K IAMs_20 IAMs_20 16 29 22.0
comp=Z,16µm,22.0s
E19K Redstone River 25.30 29 P **P 16 19 21.4 +0.1**
baz=356
F26K Sheenjek River 25.34 18 P **P 16 19 22.2 +0.4**
baz=358,SNR=48
F22K John River 25.38 25 P **P 16 19 22.9 +0.8**
baz=357
F25K Christian Rive 25.42 19 P **P 16 19 22.9 +0.4**
baz=358,SNR=17
F24K Squaw Lake 25.45 21 P **P 16 19 23.6 +0.9**
baz=357,SNR=63
F28M Old Crow 25.49 14 P **P 16 19 23.2 +0.2**
F28M Old Crow 25.49 14 P **P 16 19 23.1 +0.1**
baz=358,SNR=49
PRGR Permogore 25.51 191 ⇓ *i* P **P 16 19 25.0 +1.8**
comp=Z,738nm,1.1s
PRGR Permogore 25.51 191 *e* P **P 16 19 24.9 +1.7**
PRGR *e* 16 20 01.1
PRGR pmax pmax
comp=Z,738nm,1.1s
F30M Barrier River 25.53 10 P **P 16 19 23.6 +0.2**
baz=359,SNR=28
BMAR Burnt Mountain 25.60 18 P **P 16 19 24.1 0.0**
F21K Alatna River 25.63 26 P **P 16 19 23.7 -0.6**
F21K IAmb IAmb 16 19 36.8
comp=Z,311nm,1.2s
F21K IAMs_20 IAMs_20 16 30 18.7
comp=Z,8µm,19.0s
F21K Alatna River 25.63 26 P **P 16 19 24.6 +0.2**
baz=357
MOL Molde 25.63 233 *e* P **P 16 19 24.2 -0.1**
COLD Coldfoot 25.70 23 P **P 16 19 24.9 -0.1**
baz=357,SNR=47
F31M Tsiigehtchic 25.72 8 IAMs_20 IAMs_20 16 30 46.2
comp=Z,11µm,21.0s
F31M Tsiigehtchic 25.72 8 P **P 16 19 25.2 +0.2**
baz=359,SNR=26
F20K Avaraart Lake 25.75 28 P **P 16 19 25.5 +0.2**
F20K IAMs_20 IAMs_20 16 30 23.8
comp=Z,13µm,20.0s
F20K Avaraart Lake 25.75 28 P **P 16 19 25.9 +0.5**
baz=356
F19K Shaleruckik Mo 25.92 30 IAmb IAmb 16 19 45.2
comp=Z,332nm,1.2s
F19K IAMs_20 IAMs_20 16 29 42.1
comp=Z,12µm,21.0s
F19K Shaleruckik Mo 25.92 30 P **P 16 19 27.2 +0.4**
baz=356,SNR=34
G22K Bettles 25.98 24 P **P 16 19 27.5 +0.1**
baz=357
AKN Aaknes 26.05 233 *e* P **P 16 19 33.9 +5.7**
FINES FINESS Array B 26.09 213 P **P 16 19 26.5 -2.0**
FINES FINESS Array B 26.09 213 P **P 16 19 27.8 -0.7**
comp=Z,40nm,0.8s,baz=15,slow=9.8,SNR=30
FINES LR LR 16 29 28.4
comp=Z,11µm,20.3s,baz=5.0,slow=36
comp=Z,40nm,0.8s
DOMB Dombas 26.10 231 *e* P **P 16 19 28.6 0.0**
G26K Porcupine Rive 26.10 17 P **P 16 19 28.9 +0.4**
baz=358,SNR=41
G30M tAoh Zraii Nji 26.16 11 P **P 16 19 29.4 +0.2**
G30M IAmb IAmb 16 19 40.8
comp=Z,243nm,1.1s
G30M IAMs_20 IAMs_20 16 30 43.5
comp=Z,12µm,22.0s
G30M tAoh Zraii Nji 26.16 11 P **P 16 19 29.3 +0.1**
baz=359
F17K Baldwin Pennin 26.21 33 P **P 16 19 28.3 -1.2**
F17K IAMs_20 IAMs_20 16 31 31.4
comp=Z,9µm,18.0s
F17K Baldwin Pennin 26.21 33 P **P 16 19 30.4 +0.9**
baz=356,SNR=8.9
G29M Pine Creek 26.21 12 P **P 16 19 30.0 +0.4**
baz=358,SNR=37
G23K Bananza Creek 26.22 23 IAmb IAmb 16 19 42.1
comp=Z,288nm,1.2s
G23K IAMs_20 IAMs_20 16 29 42.2
comp=Z,9µm,20.0s
G23K Bananza Creek 26.22 23 P **P 16 19 30.8 +1.1**
baz=357,SNR=44
G31M Satah River 26.24 9 IAMs_20 IAMs_20 16 31 11.8
comp=Z,9µm,21.0s
G31M Satah River 26.24 9 P **P 16 19 29.8 0.0**
baz=359,SNR=14
G25K Bearman Lake 26.24 19 P **P 16 19 30.8 +0.9**
baz=358,SNR=52
G27K Doyon Strip 26.27 15 IAmb IAmb 16 19 42.6
comp=Z,243nm,1.2s
G27K IAMs_20 IAMs_20 16 30 36.4
comp=Z,9µm,21.0s
G27K Doyon Strip 26.27 15 P **P 16 19 31.4 +1.3**
baz=358,SNR=39
G24K Hadweenzic Riv 26.28 21 IAmb IAmb 16 19 43.0
comp=Z,242nm,1.1s
G24K Hadweenzic Riv 26.28 21 P **P 16 19 30.8 +0.6**
baz=357
G21K Allakaket 26.34 26 P **P 16 19 31.1 +0.3**
G21K IAmb IAmb 16 19 43.3
comp=Z,329nm,1.2s
G21K IAMs_20 IAMs_20 16 30 42.4
comp=Z,8µm,20.0s
G21K Allakaket 26.34 26 P **P 16 19 31.8 +1.0**
baz=357
KLMR Klimovskoe 26.38 198 ⇑ *i* P **P 16 19 31.6 +0.5**
comp=Z,332nm,1.5s
KLMR *e* S **S 16 24 01.8 -2.1**
KLMR Klimovskoe 26.38 198 ⇑ *i* P **P 16 19 31.6 +0.5**
KLMR *e* P **P 16 19 31.6 +0.5**
KLMR *e* P **P 16 19 31.6 +0.5**
KLMR AMP 16 19 47.2
comp=Z,332nm,1.5s
KLMR *e* S **S 16 24 01.8 -2.1**
KLMR *e* S **S 16 24 01.8 -2.1**
KLMR Klimovskoe 26.38 198 *c i* P **P 16 19 31.5 +0.4**
KLMR S **S 16 24 04.8 +0.9**
KLMR pmax pmax
comp=Z,332nm,1.5s
KLMR MLR MLR
comp=Z,13µm,18.0s
FYU Fort Yukon 26.46 19 P **P 16 19 33.9 +2.1**
G19K Purcell Mounta 26.63 29 IAmb IAmb 16 20 08.0
comp=Z,397nm,1.9s
G19K IAMs_20 IAMs_20 16 30 54.9
comp=Z,11µm,20.0s
G19K Purcell Mounta 26.63 29 P **P 16 19 34.5 +1.2**
baz=356,SNR=9.5
RAF Rauma 26.65 217 *e* P **P 16 19 34.9 +1.4**
H25L Birch Creek 26.75 19 P **P 16 19 35.0 +0.6**
baz=358
EPYK Eagle Plains 26.77 11 IAmb IAmb 16 19 45.3
comp=Z,382nm,1.4s
EPYK Eagle Plains 26.77 11 P **P 16 19 35.3 +0.7**
baz=359,SNR=18
NC204 NORSAR Array S 26.79 229 P **P 16 19 32.5 -2.5**
NC303 NORSAR Array S 26.82 228 P **P 16 19 33.8 -1.3**
G18K Tagagawik 26.83 31 IAmb IAmb 16 19 47.5
comp=Z,188nm,0.9s
G18K IAMs_20 IAMs_20 16 30 12.2
comp=Z,14µm,21.0s
G18K Tagagawik 26.83 31 P **P 16 19 35.5 +0.3**
baz=356,SNR=26
F15K North Star Dit 26.84 36 P **P 16 19 35.8 +0.5**
F15K IAMs_20 IAMs_20 16 31 28.6
comp=Z,11µm,19.0s
F15K North Star Dit 26.84 36 P **P 16 19 36.1 +0.8**
baz=356
H27K Steamboat Moun 26.85 15 P **P 16 19 36.3 +0.9**
baz=358,SNR=49
TNA Tin City 26.88 39 P **P 16 19 35.6 0.0**
baz=355
H29M Whitestone 26.91 12 IAmb IAmb 16 19 49.7
comp=Z,292nm,1.1s
H29M Whitestone 26.91 12 P **P 16 19 36.2 +0.4**
baz=358,SNR=39
NC405 NORSAR Array S 26.92 228 P **P 16 19 32.6 -3.5**
NB2 NORSAR Subarra 27.01 229 P **P 16 19 35.8 -1.1**
comp=Z,179nm,1.7s,baz=5.0,slow=9.3
NB2 NORSAR Subarra 27.01 229 P **P 16 19 35.8 -1.1**
baz=5.0,slow=9.3
NOA NORSAR Array B 27.01 229 P **P 16 19 35.9 -1.0**
comp=Z,37nm,1.1s,baz=3.9,slow=8.8,SNR=18
comp=Z,37nm,1.1s
H22K Ishtalitna Cre 27.01 24 P **P 16 19 38.3 +1.4**
baz=357,SNR=40
F14K Arctic Creek 27.02 38 P **P 16 19 37.5 +0.6**
baz=356
H23K Yukon River 27.12 23 IAMs_20 IAMs_20 16 29 59.8
comp=Z,9µm,22.0s
H23K Yukon River 27.12 23 P **P 16 19 38.9 +1.1**
baz=357,SNR=15
H24K Noodor Dome 27.14 21 IAmb IAmb 16 19 54.8
comp=Z,336nm,1.4s
H24K Noodor Dome 27.14 21 P **P 16 19 39.3 +1.3**
baz=357,SNR=35
G17K Kiwalik Mounta 27.17 33 P **P 16 19 39.6 +1.4**
baz=356,SNR=6.1
H21K Melozitna Rive 27.22 26 IAmb IAmb 16 19 54.3
comp=Z,270nm,1.4s
H21K IAMs_20 IAMs_20 16 30 17.4
comp=Z,8µm,21.0s
H21K Melozitna Rive 27.22 26 P **P 16 19 40.0 +1.3**
baz=357,SNR=26
NAO01 NORSAR Array S 27.22 229 P **P 16 19 33.4 -5.4**
G16K Koyuk River 27.23 34 IAmb IAmb 16 19 52.7
comp=Z,532nm,1.9s
G16K IAMs_20 IAMs_20 16 30 40.8
comp=Z,14µm,21.0s
G16K Koyuk River 27.23 34 P **P 16 19 39.4 +0.7**
baz=356
H19K Roundabout Mou 27.26 29 IAmb IAmb 16 19 53.4
comp=Z,303nm,1.1s
H19K IAMs_20 IAMs_20 16 31 23.1
comp=Z,9µm,20.0s
H19K Roundabout Mou 27.26 29 P **P 16 19 39.9 +0.9**
baz=356,SNR=48
NC602 NORSAR Array S 27.30 228 *e* P **P 16 19 38.8 -0.6**
H20K Anotleneega Mo 27.33 27 P **P 16 19 40.9 +1.2**
baz=357,SNR=18
H31M Peel River 27.36 9 IAmb IAmb 16 19 52.2
comp=Z,205nm,1.2s
H31M IAMs_20 IAMs_20 16 31 45.5
comp=Z,12µm,21.0s
H31M Peel River 27.36 9 P **P 16 19 40.7 +0.8**
baz=359,SNR=18
MEF Metsahovi 27.37 214 *e* P **P 16 19 40.9 +0.9**
YAK Yakutsk 27.44 100 P **P 16 19 40.0 -0.5**
YAK IAmb IAmb 16 19 45.4
comp=Z,108nm,0.9s
YAK Yakutsk 27.44 100 *e* P **P 16 19 40.1 -0.5**
YAK *e* S **S 16 24 21.0 +0.5**
YAK pmax pmax
comp=Z,85nm,0.9s
YAK pmax pmax
comp=N,53nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK pmax pmax
comp=Z,165nm,1.9s
YAK pmax pmax
comp=N,143nm,1.6s
YAK pmax pmax
comp=E,73nm,2.1s
YAK smax smax
comp=N,267nm,3.5s
YAK smax smax
comp=E,130nm,2.7s
YAK MLR MLR
comp=Z,9µm,20.0s
YAK MLR MLR
comp=N,7µm,21.0s
I27K Kandik River 27.48 15 P **P 16 19 42.7 +1.6**
baz=358,SNR=14
PRP Porcupine Dome 27.51 19 P **P 16 19 41.9 +0.5**
baz=358,SNR=11
AAL Aland 27.55 219 *e* P **P 16 19 41.5 -0.1**
G15K Niukluk 27.58 36 P **P 16 19 42.0 +0.2**
baz=356
H18K Honhosa River 27.58 31 IAmb IAmb 16 19 57.3
comp=Z,116nm,1.0s
H18K IAMs_20 IAMs_20 16 30 46.1
comp=Z,15µm,22.0s
H18K Honhosa River 27.58 31 P **P 16 19 42.8 +0.9**
baz=356,SNR=8.9
PUL Pulkovo 27.65 208 *i* P **P 16 19 42.3 -0.2**
I28M Miner Creek 27.66 14 IAmb IAmb 16 19 55.0
comp=Z,272nm,1.2s
I28M Miner Creek 27.66 14 P **P 16 19 43.7 +0.9**
baz=358,SNR=29
I21K Tanana 27.72 25 IAMs_20 IAMs_20 16 30 31.1
comp=Z,10µm,22.0s
I21K Tanana 27.72 25 P **P 16 19 45.1 +2.0**
baz=357,SNR=28
SEY Seymchan 27.74 77 P **P 16 19 43.8 +0.4**
comp=Z,5.3nm,0.8s,baz=325,slow=2.9,SNR=12
SEY LR LR 16 31 33.3
comp=Z,4µm,19.5s,baz=358,slow=38
comp=Z,5.3nm,0.8s
I26K Coal Creek Min 27.76 17 P **P 16 19 43.8 +0.3**
I26K IAmb IAmb 16 19 56.7
comp=Z,223nm,1.6s
I26K IAMs_20 IAMs_20 16 31 24.7
comp=Z,9µm,21.0s
I26K Coal Creek Min 27.76 17 P **P 16 19 44.1 +0.6**
baz=358
H17K Granite Mounta 27.76 32 IAmb IAmb 16 19 54.5
comp=Z,154nm,1.2s
H17K IAMs_20 IAMs_20 16 31 42.7
comp=Z,11µm,19.0s
H17K Granite Mounta 27.76 32 P **P 16 19 44.2 +0.8**
baz=356
I29M Ogilvie Camp, 27.77 12 IAmb IAmb 16 20 11.2
comp=Z,400nm,1.9s
I29M Ogilvie Camp, 27.77 12 P **P 16 19 43.8 +0.1**
baz=358,SNR=32
I23K Minto, Yukon-K 27.80 22 IAmb IAmb 16 19 57.2
comp=Z,163nm,1.3s
I23K IAMs_20 IAMs_20 16 30 32.9
comp=Z,9µm,22.0s
I23K Minto, Yukon-K 27.80 22 P **P 16 19 44.3 +0.4**
baz=357,SNR=12
HFS Hagfors 27.82 226 P **P 16 19 42.5 -1.6**
comp=Z,36nm,1.1s,baz=15,slow=6.2,SNR=10
HFS LR LR 16 29 48.2
comp=Z,3µm,21.7s,baz=3.0,slow=34
comp=Z,36nm,1.1s
POKR Poker Flat Res 27.87 21 IAmb IAmb 16 20 03.2
comp=Z,168nm,1.3s
POKR Poker Flat Res 27.87 21 P **P 16 19 46.0 +1.5**
baz=358,SNR=10
MLY Manley 27.89 24 IAmb IAmb 16 19 57.4
comp=Z,160nm,1.2s
MLY Manley 27.89 24 P **P 16 19 45.6 +0.8**
baz=357,SNR=13
I30M Mount Dempster 27.93 11 IAmb IAmb 16 19 56.5
comp=Z,204nm,1.1s
I30M IAMs_20 IAMs_20 16 31 44.5
comp=Z,12µm,22.0s
I30M Mount Dempster 27.93 11 P **P 16 19 44.9 -0.2**
baz=359,SNR=30
UPP Uppsala 27.95 221 *e* P **P 16 19 47.4 +2.2**
ANM Nome 27.96 37 IAMs_20 IAMs_20 16 32 13.6
comp=Z,10µm,19.0s
ANM Nome 27.96 37 P **P 16 19 46.1 +0.8**
baz=356
H16K Elim 27.99 34 P **P 16 19 44.3 -1.2**
baz=356
MDM Murphy Dome 28.02 21 IAmb IAmb 16 20 07.2
comp=Z,234nm,1.5s
GCSA Galena City Sc 28.03 29 P **P 16 19 45.7 -0.2**
baz=357,SNR=12
I20K Naaghedeneel 28.04 27 IAmb IAmb 16 20 41.7
comp=Z,370nm,1.6s
I20K IAMs_20 IAMs_20 16 31 45.7
comp=Z,9µm,20.0s
I20K Naaghedeneel 28.04 27 P **P 16 19 47.5 +1.5**
baz=357,SNR=6.5
COLA College 28.11 21 P **P 16 19 47.9 +1.3**
COLA College 28.11 21 P **P 16 19 48.3 +1.7**
baz=358
COLA College 28.11 21 P **P 16 19 47.9 +1.3**
COLA pmax pmax
comp=Z,86nm,1.0s
COLA MLR MLR
comp=Z,6µm,19.0s
FRB Frobisher Bay 28.23 309 LR LR 16 30 55.0
comp=Z,5µm,18.8s,baz=4.5,slow=36
IL31 28.23 20 IAmb IAmb 16 20 00.7
comp=Z,185nm,1.4s
ILAR Eielson Array 28.23 20 P **P 16 19 48.8 +1.1**
comp=Z,16nm,1.0s,baz=353,slow=8.0,SNR=28
comp=Z,16nm,1.0s
EGAK Eagle 28.32 15 IAmb IAmb 16 20 00.9
comp=Z,163nm,1.4s
EGAK Eagle 28.32 15 P **P 16 19 49.6 +1.1**
baz=358,SNR=24
CCB Clear Creek Bu 28.34 21 IAmb IAmb 16 20 01.6
comp=Z,428nm,1.9s
NEA2 Nenana 28.37 22 P **P 16 19 49.8 +0.9**
baz=357,SNR=8.9
J25K Salcha River, 28.42 19 IAmb IAmb 16 20 02.5
comp=Z,143nm,1.2s
J25K IAMs_20 IAMs_20 16 30 50.1
comp=Z,9µm,22.0s
J25K Salcha River, 28.42 19 P **P 16 19 50.2 +0.7**
baz=358,SNR=30
KONO Kongsberg 28.47 230 P **P 16 19 47.9 -1.9**
KONO IAmb IAmb 16 19 60.0
comp=Z,173nm,1.5s
KONO Kongsberg 28.47 230 P **P 16 19 47.9 -1.9**
KONO pmax pmax
comp=Z,173nm,1.5s
KONO MLR MLR
comp=Z,5µm,22.0s
WRH Wood River Hil 28.51 21 P **P 16 19 51.2 +1.1**
WRH IAmb IAmb 16 20 03.4
comp=Z,149nm,1.2s
GAMB Gambell 28.54 43 P **P 16 19 50.6 +0.2**
baz=355
KIRV Kirov 28.54 187 P **P 16 19 50.6 +0.1**
comp=Z,36nm,0.8s,baz=350,slow=15,SNR=14
KIRV LR LR 16 35 22.7
comp=Z,3µm,19.1s,baz=357,slow=45
comp=Z,36nm,0.8s
J26L Joseph Creek 28.56 17 IAMs_20 IAMs_20 16 31 47.8
comp=Z,8µm,22.0s
J26L Joseph Creek 28.56 17 P **P 16 19 51.8 +1.1**
baz=358,SNR=11
J30M Hart River 28.58 11 IAmb IAmb 16 20 02.8
comp=Z,353nm,1.5s
J30M Hart River 28.58 11 P **P 16 19 51.6 +0.6**
baz=359,SNR=43
HDA Harding Lake 28.59 20 P **P 16 19 51.7 +0.8**
baz=358,SNR=12
J20K Nowinta River 28.67 27 IAmb IAmb 16 20 04.9
comp=Z,180nm,1.3s
J20K IAMs_20 IAMs_20 16 32 16.3
comp=Z,8µm,19.0s
J20K Nowinta River 28.67 27 P **P 16 19 52.5 +0.9**
baz=357,SNR=19
J29N Klondike Camp 28.68 12 IAMs_20 IAMs_20 16 32 53.5
comp=Z,5µm,21.0s
BWN Browne 28.78 23 P **P 16 19 52.2 -0.4**
I17K Unalakleet 28.79 33 IAMs_20 IAMs_20 16 33 20.0
comp=Z,11µm,19.0s
I17K Unalakleet 28.79 33 P **P 16 19 52.6 0.0**
baz=356
J19K Poorman 28.82 28 IAmb IAmb 16 20 05.9
comp=Z,111nm,1.1s
J19K IAMs_20 IAMs_20 16 32 22.3
comp=Z,8µm,19.0s
J19K Poorman 28.82 28 P **P 16 19 53.7 +0.7**
baz=357,SNR=15
BPAW Bear Paw Mtn. 28.82 24 IAmb IAmb 16 20 06.0
comp=Z,131nm,1.2s
BPAW Bear Paw Mtn. 28.82 24 P **P 16 19 53.1 +0.1**
baz=357,SNR=23
CHUM Lake Minchumin 29.01 25 P **P 16 19 56.3 +1.7**
baz=357,SNR=10
DAWY Dawson 29.05 14 P **P 16 19 55.6 +0.5**
baz=358,SNR=11
K27K Chicken 29.05 16 P **P 16 19 54.9 -0.2**
K27K IAMs_20 IAMs_20 16 32 23.4
comp=Z,8µm,20.0s
K27K Chicken 29.05 16 P **P 16 19 55.4 +0.3**
baz=358,SNR=12
VSU Vasula 29.06 211 *e* P **P 16 19 55.9 +0.8**
VSU Vasula 29.06 211 *i* P **P 16 19 54.7 -0.4**
VSU MLR MLR
comp=Z,31µm,20.0s
SCRK Sand Creek 29.08 18 P **P 16 19 54.6 -0.8**
SCRK IAMs_20 IAMs_20 16 31 22.5
comp=Z,9µm,22.0s
SCRK Sand Creek 29.08 18 P **P 16 19 56.5 +1.2**
baz=358,SNR=22
K24K Donnelly Dome 29.22 19 P **P 16 19 57.3 +0.7**
baz=358,SNR=5.2
MCK McKinley 29.23 22 P **P 16 19 56.7 +0.1**
baz=358
K29M Barlow Dome 29.30 12 IAmb IAmb 16 20 09.7
comp=Z,346nm,1.7s
K29M IAMs_20 IAMs_20 16 33 00.8
comp=Z,7µm,20.0s
K29M Barlow Dome 29.30 12 P **P 16 19 58.5 +1.2**
baz=359,SNR=29
J18K Innoko River 29.32 29 IAmb IAmb 16 20 10.6
comp=Z,158nm,1.1s
J18K IAMs_20 IAMs_20 16 31 38.0
comp=Z,9µm,22.0s
J18K Innoko River 29.32 29 P **P 16 19 58.4 +0.9**
baz=357,SNR=23
KTH Kantishna Hill 29.37 24 IAmb IAmb 16 20 10.3
comp=Z,168nm,1.3s
J16K Anvik River 29.39 33 IAmb IAmb 16 20 11.0
comp=Z,110nm,1.1s
J16K IAMs_20 IAMs_20 16 33 40.0
comp=Z,10µm,18.0s
J16K Anvik River 29.39 33 P **P 16 19 59.5 +1.5**
baz=356
CAST Castle Rocks 29.48 25 IAMs_20 IAMs_20 16 31 37.2
comp=Z,7µm,21.0s
CAST Castle Rocks 29.48 25 P **P 16 20 00.4 +1.6**
baz=357,SNR=20

TRF	**Thorofare Moun**	**29.49**	**23**	IAmb	IAmb	16 20 12.0	
	comp=Z,198nm,1.3s						
TRF				IAMs_20	IAMs_20	16 31 25.4	
	comp=Z,8µm,22.0s						
TRF	**Thorofare Moun**	**29.49**	**23**	P	**P**	**16 20 00.1**	**+1.1**
	baz=357,SNR=24						
K20K	**Telida**	**29.50**	**27**	P	**P**	**16 19 59.7**	**+0.8**
K20K				IAmb	IAmb	16 20 12.1	
	comp=Z,207nm,1.1s						
K20K				IAMs_20	IAMs_20	16 32 42.3	
	comp=Z,9µm,20.0s						
K20K	**Telida**	**29.50**	**27**	P	**P**	**16 20 00.6**	**+1.7**
	baz=357						
MAYO	**Mayo, Yukon**	**29.57**	**10**	P	**P**	**16 19 59.7**	**+0.2**
	baz=359						
NRS	**Narsarsuaq**	**29.73**	**286**	P	**P**	**16 20 00.9**	**-0.1**
NRS				IAmb	IAmb	16 20 11.0	
	comp=Z,123nm,1.2s						
NRS				IAMs_20	IAMs_20	16 31 57.8	
	comp=Z,10µm,20.0s						
NRS	**Narsarsuaq**	**29.73**	**286**	P	**P**	**16 20 00.9**	**-0.1**
NRS				pmax	pmax		
	comp=Z,123nm,1.2s						
NRS				MLR	MLR		
	comp=Z,10µm,20.0s						
NRS	**Narsarsuaq**	**29.73**	**286**	*i* P	**P**	**16 20 05.3**	**+4.3**
IVI	**Ivigtut**	**29.82**	**289**	P	**P**	**16 20 02.5**	**+0.8**
IVI				IAmb	IAmb	16 20 48.6	
	comp=Z,188nm,1.4s						
IVI	**Ivigtut**	**29.82**	**289**	*i* P	**P**	**16 20 05.3**	**+3.5**
J14K	**Nanvaranak Lak**	**29.84**	**36**	IAMs_20	IAMs_20	16 33 23.8	
	comp=Z,11µm,18.0s						
J14K	**Nanvaranak Lak**	**29.84**	**36**	P	**P**	**16 20 02.3**	**+0.4**
	baz=356						
TTA	**Tatalina**	**29.87**	**29**	IAMs_20	IAMs_20	16 32 55.1	
	comp=Z,8µm,20.0s						
TTA	**Tatalina**	**29.87**	**29**	P	**P**	**16 20 01.1**	**-1.3**
	baz=357						
DHY	**Denali Highway**	**29.92**	**21**	P	**P**	**16 20 02.8**	**-0.1**
	baz=358,SNR=16						
WRGLY	**Wrigley**	**29.99**	**359**	IAmb	IAmb	16 20 14.7	
	comp=Z,240nm,1.4s						
WRGLY				IAMs_20	IAMs_20	16 33 30.7	
	comp=Z,7µm,20.0s						
WRGLY	**Wrigley**	**29.99**	**359**	P	**P**	**16 20 03.5**	**+0.2**
	baz=0.2						
PPLA	**Purkeypile**	**30.00**	**25**	P	**P**	**16 20 03.9**	**+0.3**
	baz=357,SNR=34						
K17K	**Iditarod**	**30.03**	**31**	IAmb	IAmb	16 20 16.5	
	comp=Z,250nm,1.3s						
K17K				IAMs_20	IAMs_20	16 32 11.7	
	comp=Z,11µm,21.0s						
K17K	**Iditarod**	**30.03**	**31**	P	**P**	**16 20 05.3**	**+1.7**
	baz=357,SNR=7.7						
L27K	**Beaver Creek,**	**30.03**	**16**	IAmb	IAmb	16 20 16.8	
	comp=Z,116nm,1.1s						
L27K				IAMs_20	IAMs_20	16 33 04.7	
	comp=Z,7µm,20.0s						
L27K	**Beaver Creek,**	**30.03**	**16**	P	**P**	**16 20 05.2**	**+1.5**
	baz=358,SNR=26						
L29M	**L29M**	**30.03**	**12**	IAmb	IAmb	16 20 16.1	
	comp=Z,159nm,1.2s						
L29M	**L29M**	**30.03**	**12**	P	**P**	**16 20 04.1**	**+0.3**
	baz=359,SNR=28						
L26K	**Log Cabin Wild**	**30.04**	**17**	IAmb	IAmb	16 20 10.3	
	comp=Z,262nm,1.9s						
L26K	**Log Cabin Wild**	**30.04**	**17**	P	**P**	**16 20 04.1**	**+0.3**
	baz=358,SNR=15						
PAX	**Paxson**	**30.06**	**19**	P	**P**	**16 20 04.3**	**+0.2**
	baz=358,SNR=10.0						
MENT	**Mentasta**	**30.12**	**18**	IAmb	IAmb	16 20 17.6	
	comp=Z,172nm,1.0s						
MENT				IAMs_20	IAMs_20	16 32 06.2	
	comp=Z,7µm,22.0s						
WAT1	**Susitna Watana**	**30.15**	**22**	P	**P**	**16 20 05.6**	**+0.8**
	baz=358						
SVE	**Sverdlovsk**	**30.30**	**174**	*e*P	**P**	**16 20 06.7**	**+0.6**
SVE				*e*S	**S**	**16 25 11.4**	**+5.8**
SVE				pmax	pmax		
	comp=Z,123nm,1.4s						
SVE				MLR	MLR		
	comp=Z,7µm,18.0s						
K15K	**Wolf Creek Mou**	**30.36**	**34**	IAMs_20	IAMs_20	16 32 39.5	
	comp=Z,12µm,21.0s						
L20K	**Farewell, AK**	**30.38**	**27**	P	**P**	**16 20 08.0**	**+1.2**
	baz=357,SNR=10						
WAT6	**Susitna Watana**	**30.41**	**21**	P	**P**	**16 20 08.3**	**+1.0**
	baz=358,SNR=13						
CUT	**Chulitna**	**30.54**	**24**	P	**P**	**16 20 08.7**	**+0.6**
	baz=357,SNR=18						
L18K	**Granite Mounta**	**30.57**	**29**	P	**P**	**16 20 07.3**	**-1.1**
L18K				IAmb	IAmb	16 20 21.6	
	comp=Z,163nm,1.0s						
L18K				IAMs_20	IAMs_20	16 32 39.0	
	comp=Z,9µm,22.0s						
L18K	**Granite Mounta**	**30.57**	**29**	P	**P**	**16 20 10.2**	**+1.8**
	baz=357,SNR=26						
M30M	**Minto, Yukon**	**30.58**	**11**	IAmb	IAmb	16 20 21.0	
	comp=Z,103nm,1.1s						
M30M	**Minto, Yukon**	**30.58**	**11**	P	**P**	**16 20 09.4**	**+0.8**
	baz=359,SNR=31						
L17K	**Donlin**	**30.61**	**31**	P	**P**	**16 20 10.6**	**+1.8**
	baz=357,SNR=19						
K13K	**Kusilvak Mount**	**30.62**	**37**	IAMs_20	IAMs_20	16 32 58.5	
	comp=Z,8µm,20.0s						
K13K	**Kusilvak Mount**	**30.62**	**37**	P	**P**	**16 20 09.8**	**+0.9**
	baz=356						
HARP	**HAARP**	**30.64**	**19**	P	**P**	**16 20 09.9**	**+0.8**
	baz=358,SNR=6.1						
L19K	**White Mountain**	**30.65**	**28**	IAmb	IAmb	16 20 22.1	
	comp=Z,122nm,1.1s						
L19K				IAMs_20	IAMs_20	16 33 28.7	
	comp=Z,8µm,19.0s						
L19K	**White Mountain**	**30.65**	**28**	P	**P**	**16 20 10.2**	**+1.0**
	baz=357,SNR=18						
M26K	**Nabesna, AK**	**30.67**	**17**	IAMs_20	IAMs_20	16 32 13.7	
	comp=Z,8µm,22.0s						
M26K	**Nabesna, AK**	**30.67**	**17**	P	**P**	**16 20 10.6**	**+1.2**
	baz=358,SNR=12						
YKA	**Yellowknife Ar**	**30.69**	**351**	P	**P**	**16 20 08.8**	**-0.6**
YKA					**PcP**	**16 23 08.3**	**+1.5**
YKA	**Yellowknife Ar**	**30.69**	**351**	P	**P**	**16 20 08.9**	**-0.6**
	comp=Z,5.1nm,0.7s,baz=4.0,slow=8.0,SNR=6.8						
YKA				PcP	**PcP**	**16 23 06.0**	**-0.8**
	comp=Z,8.7nm,0.9s,baz=355,slow=2.7,SNR=5.4						
YKA				LR	LR	16 33 04.8	
	comp=Z,18µm,22.0s,baz=360,slow=38						
	comp=Z,5.1nm,0.7s						
ARU	**Arti**	**30.69**	**177**	P	**P**	**16 20 08.0**	**-1.5**
ARU				IAmb	IAmb	16 20 18.4	
	comp=Z,140nm,1.3s						
ARU				IAMs_20	IAMs_20	16 34 29.4	
	comp=Z,14µm,21.0s						
ARU	**Arti**	**30.69**	**177**	*d i* P	**P**	**16 20 08.8**	**-0.7**
ARU				PPP	PPP	16 21 13.9	
ARU				S	**S**	**16 25 13.1**	**+1.4**
ARU				SS	**SnSn**	**16 26 47.8**	**-1.1**
ARU				SSS	SSS	16 27 14.3	
ARU				pmax	pmax		
	comp=Z,44nm,0.9s						
ARU				MLR	MLR		
	comp=Z,13µm,21.0s						
ARU	**Arti**	**30.69**	**177**	LR	LR	16 34 42.6	
	comp=Z,13µm,21.2s,baz=357,slow=41						
BVCY	**Beaver Creek**	**30.69**	**15**	P	**P**	**16 20 09.7**	**+0.1**
	baz=358						
M29M	**Somme Creek**	**30.69**	**13**	IAmb	IAmb	16 20 22.8	
	comp=Z,125nm,1.2s						
M29M	**Somme Creek**	**30.69**	**13**	P	**P**	**16 20 10.0**	**+0.4**
	baz=359,SNR=25						
M27K	**Edge Creek, AK**	**30.73**	**16**	IAMs_20	IAMs_20	16 33 16.3	
	comp=Z,7µm,21.0s						
M27K	**Edge Creek, AK**	**30.73**	**16**	P	**P**	**16 20 10.2**	**+0.1**
	baz=358,SNR=14						
BOD	**Bodaibo**	**30.85**	**117**	*e*P	**P**	**16 20 10.1**	**-0.8**
BOD				pmax	pmax		
	comp=Z,195nm,1.8s						
M24K	**Tolsona, Glenn**	**30.92**	**20**	IAmb	IAmb	16 20 24.4	
	comp=Z,215nm,1.3s						
M24K	**Tolsona, Glenn**	**30.92**	**20**	P	**P**	**16 20 12.0**	**+0.4**
	baz=358						
SKT	**Skwentna**	**30.93**	**25**	P	**P**	**16 20 12.3**	**+0.6**
	baz=357,SNR=39						
M19K	**Big River Lodg**	**30.94**	**27**	IAMs_20	IAMs_20	16 33 37.9	
	comp=Z,9µm,19.0s						
M19K	**Big River Lodg**	**30.94**	**27**	P	**P**	**16 20 11.8**	**+0.1**
	baz=357						
FARO	**Faro, Yukon**	**30.96**	**8**	P	**P**	**16 20 12.4**	**+0.4**
FARO				IAmb	IAmb	16 20 23.1	
	comp=Z,108nm,1.3s						
FARO	**Faro, Yukon**	**30.96**	**8**	P	**P**	**16 20 13.0**	**+1.1**
	baz=359,SNR=18						
L15K	**Ungalak Mounta**	**30.98**	**34**	P	**P**	**16 20 11.9**	**-0.1**
	baz=356						
M31M	**Drury Creek, Y**	**30.98**	**9**	IAmb	IAmb	16 20 25.2	
	comp=Z,191nm,1.2s						
M31M				IAMs_20	IAMs_20	16 33 46.1	
	comp=Z,10µm,22.0s						
M31M	**Drury Creek, Y**	**30.98**	**9**	P	**P**	**16 20 12.5**	**+0.4**
	baz=359,SNR=20						
M20K	**Styx River**	**31.00**	**26**	IAMs_20	IAMs_20	16 33 37.8	
	comp=Z,8µm,20.0s						
M20K	**Styx River**	**31.00**	**26**	P	**P**	**16 20 12.0**	**-0.3**
	baz=357,SNR=6.7						
L16K	**Owhat River**	**31.00**	**32**	IAmb	IAmb	16 20 25.2	
	comp=Z,185nm,1.1s						
L16K				IAMs_20	IAMs_20	16 33 44.5	
	comp=Z,10µm,19.0s						
L16K	**Owhat River**	**31.00**	**32**	P	**P**	**16 20 12.5**	**+0.3**
	baz=357,SNR=15						
SCM	**Sheep Creek Mo**	**31.17**	**21**	P	**P**	**16 20 14.0**	**+0.2**
	baz=358,SNR=22						
SML	**Sawmill**	**31.18**	**22**	IAmb	IAmb	16 20 25.9	
	comp=Z,180nm,1.0s						
SML	**Sawmill**	**31.18**	**22**	P	**P**	**16 20 13.7**	**-0.1**
	baz=358,SNR=17						
M22K	**Willow**	**31.19**	**23**	P	**P**	**16 20 14.0**	**+0.1**
M22K	**Willow**	**31.19**	**23**	P	**P**	**16 20 14.4**	**+0.5**
	baz=358,SNR=15						
M23K	**Glacier View**	**31.20**	**21**	P	**P**	**16 20 14.2**	**+0.2**
	baz=358,SNR=16						
L14K	**Kuka Creek**	**31.28**	**35**	IAMs_20	IAMs_20	16 33 06.8	
	comp=Z,9µm,21.0s						
L14K	**Kuka Creek**	**31.28**	**35**	P	**P**	**16 20 14.4**	**-0.3**
	baz=356						
M18K	**Stony River**	**31.32**	**29**	P	**P**	**16 20 14.7**	**-0.3**
	baz=357,SNR=9.4						
YUK3	**Moose Creek**	**31.34**	**15**	P	**P**	**16 20 15.0**	**-0.5**
	baz=358,SNR=24						
M17K	**Holitna River**	**31.37**	**30**	IAMs_20	IAMs_20	16 33 04.2	
	comp=Z,10µm,21.0s						
M17K	**Holitna River**	**31.37**	**30**	P	**P**	**16 20 15.9**	**+0.4**
	baz=357,SNR=17						
PMR	**Palmer**	**31.38**	**23**	IAmb	IAmb	16 20 27.4	
	comp=Z,114nm,1.2s						
PMR	**Palmer**	**31.38**	**23**	P	**P**	**16 20 16.0**	**+0.5**
	baz=358,SNR=12						
N25K	**Chitina, Valde**	**31.45**	**18**	P	**P**	**16 20 17.7**	**+1.5**
	baz=358,SNR=6.9						
SUA	**Susitna One**	**31.47**	**24**	P	**P**	**16 20 16.6**	**0.0**
SUA	**Susitna One**	**31.47**	**24**	P	**P**	**16 20 17.7**	**+1.2**
	baz=357,SNR=27						
DEL	**Delary**	**31.48**	**225**	*e*P	**P**	**16 20 17.1**	**+0.6**
KLU	**Klutina**	**31.54**	**20**	P	**P**	**16 20 17.6**	**+0.5**
	baz=358						
MOS	**Moscow**	**31.54**	**199**	*e*P	**P**	**16 20 16.0**	**-1.0**
MOS				*e*PPP	PPP	16 21 29.0	
MOS				*e*		16 23 07.6	
MOS				*e*S	**S**	**16 25 21.7**	**-3.3**
MOS				*e*SS	**SnSn**	**16 27 15.9**	**+6.4**
MOS				pmax	pmax		
	comp=Z,58nm,1.2s						
MOS				MLR	MLR		
	comp=N,6µm,18.0s						
MOS				MLR	MLR		
	comp=Z,6µm,18.0s						
KNK	**Knik Glacier**	**31.57**	**22**	IAmb	IAmb	16 20 30.1	
	comp=Z,171nm,0.9s						
KNK	**Knik Glacier**	**31.57**	**22**	P	**P**	**16 20 17.6**	**+0.3**
	baz=358,SNR=17						
VSVD	**Vaisvydziai**	**31.63**	**214**	*e*P	**P**	**16 20 18.5**	**+0.8**
N31M	**Braeburn, Yuko**	**31.68**	**10**	IAmb	IAmb	16 20 29.6	
	comp=Z,98nm,1.1s						
N31M	**Braeburn, Yuko**	**31.68**	**10**	P	**P**	**16 20 18.3**	**0.0**
	baz=359,SNR=16						
TGTN	**Hyland Airport**	**31.69**	**4**	P	**P**	**16 20 20.1**	**+1.7**
	baz=360,SNR=12						
MCARA	**McCarthy VSAT**	**31.70**	**17**	P	**P**	**16 20 19.1**	**+0.7**
	baz=358,SNR=12						
N30M	**Aishikik Lake**	**31.70**	**12**	IAmb	IAmb	16 20 31.7	
	comp=Z,199nm,1.4s						
N30M	**Aishikik Lake**	**31.70**	**12**	P	**P**	**16 20 19.5**	**+1.1**
	baz=359,SNR=22						
N20K	**Mount Spurr**	**31.70**	**25**	P	**P**	**16 20 18.1**	**-0.4**
	baz=357,SNR=13						
SPCR	**Spurr Chakacha**	**31.70**	**25**	P	**P**	**16 20 18.2**	**-0.3**
	baz=357,SNR=12						
M16K	**Timber Creek**	**31.71**	**32**	IAmb	IAmb	16 20 31.5	
	comp=Z,144nm,1.1s						
M16K				IAMs_20	IAMs_20	16 34 07.1	
	comp=Z,11µm,20.0s						
M16K	**Timber Creek**	**31.71**	**32**	P	**P**	**16 20 18.3**	**-0.1**
	baz=357,SNR=12						
YUK4	**Talbot Arm**	**31.79**	**13**	P	**P**	**16 20 18.2**	**-1.3**
	baz=359,SNR=9.2						
VRDI	**Verde Repeater**	**31.84**	**17**	IAMs_20	IAMs_20	16 33 02.7	
	comp=Z,7µm,22.0s						
RC01	**Rabbit Creek A**	**31.87**	**23**	P	**P**	**16 20 18.3**	**-1.6**
	baz=358,SNR=21						
M14K	**Bethel**	**31.89**	**34**	IAMs_20	IAMs_20	16 33 26.0	
	comp=Z,10µm,20.0s						
M14K	**Bethel**	**31.89**	**34**	P	**P**	**16 20 19.7**	**-0.3**
	baz=356						
ISAL	**Salakas**	**31.97**	**212**	*e*P	**P**	**16 20 21.9**	**+1.1**
M15K	**Kasigluk River**	**31.99**	**33**	P	**P**	**16 20 21.1**	**+0.2**
	baz=357						
N19K	**Bonanza Creek**	**32.03**	**28**	IAMs_20	IAMs_20	16 34 22.3	
	comp=Z,8µm,19.0s						
N19K	**Bonanza Creek**	**32.03**	**28**	P	**P**	**16 20 21.1**	**-0.4**
	baz=357,SNR=22						
N32M	**Quiet Lake**	**32.04**	**8**	IAMs_20	IAMs_20	16 34 09.5	
	comp=Z,13µm,22.0s						
N32M	**Quiet Lake**	**32.04**	**8**	P	**P**	**16 20 20.4**	**-1.1**
	baz=359						
BMRM	**Bremner River**	**32.09**	**18**	P	**P**	**16 20 20.4**	**-1.5**
	baz=358						
PABE	**Paberze**	**32.10**	**214**	IAmb	IAmb	16 20 33.7	
	comp=Z,150nm,1.0s						
PABE	**Paberze**	**32.10**	**214**	*e*P	**P**	**16 20 22.5**	**+0.5**
M11K	**Mekoryuk**	**32.12**	**38**	P	**P**	**16 20 22.5**	**+0.5**
	baz=356						
PWL	**Port Wells**	**32.13**	**22**	IAmb	IAmb	16 20 34.1	
	comp=Z,160nm,1.0s						
PWL	**Port Wells**	**32.13**	**22**	P	**P**	**16 20 22.5**	**+0.3**
	baz=358,SNR=16						
GLI	**Glacier Island**	**32.13**	**21**	P	**P**	**16 20 22.4**	**+0.2**
	baz=358						
N18K	**Kilae Creek**	**32.13**	**29**	IAmb	IAmb	16 20 35.2	
	comp=Z,97nm,1.1s						
N18K				IAMs_20	IAMs_20	16 34 26.0	
	comp=Z,8µm,19.0s						
N18K	**Kilae Creek**	**32.13**	**29**	P	**P**	**16 20 20.6**	**-1.6**
	baz=357,SNR=7.5						
CTG	**Chitna Glacier**	**32.14**	**15**	P	**P**	**16 20 21.1**	**-1.4**
	baz=358						
CAPN	**Captain Cook N**	**32.16**	**25**	IAMs_20	IAMs_20	16 33 26.0	
	comp=Z,6µm,19.0s						
CAPN	**Captain Cook N**	**32.16**	**25**	P	**P**	**16 20 19.8**	**-2.6**
	baz=358						
OBN	**Obninsk**	**32.19**	**201**	P	**P**	**16 20 20.9**	**-1.7**
OBN				IAmb	IAmb	16 20 33.2	
	comp=Z,198nm,1.5s						
OBN				IAMs_20	IAMs_20	16 34 09.4	
	comp=Z,6µm,18.0s						
OBN	**Obninsk**	**32.19**	**201**	‖*e*P	**P**	**16 20 23.8**	**+1.1**
OBN				*e*		16 21 36.6	
OBN				*i* S	**S**	**16 25 39.2**	**+4.2**
OBN				pmax	pmax		
	comp=Z,115nm,1.7s						
OBN				MLR	MLR		
	comp=Z,7µm,17.0s						
M13K	**Dall Lake**	**32.19**	**36**	IAmb	IAmb	16 20 35.9	
	comp=Z,205nm,1.1s						
M13K				IAMs_20	IAMs_20	16 34 55.8	
	comp=Z,10µm,18.0s						
M13K	**Dall Lake**	**32.19**	**36**	P	**P**	**16 20 22.8**	**+0.2**
	baz=356						
IIGN	**Ignalina**	**32.19**	**212**	*e*P	**P**	**16 20 23.9**	**+1.2**
YUK6	**Outpost Mounta**	**32.20**	**13**	P	**P**	**16 20 23.2**	**+0.1**
	baz=359,SNR=30						
IDID	**Didziasalis**	**32.21**	**211**	*e*P	**P**	**16 20 24.1**	**+1.2**
N17K	**Nushagak Hills**	**32.25**	**30**	IAMs_20	IAMs_20	16 33 30.5	
	comp=Z,9µm,22.0s						
N17K	**Nushagak Hills**	**32.25**	**30**	P	**P**	**16 20 23.0**	**-0.3**
	baz=357,SNR=17						
N16K	**Nishlik Lake**	**32.26**	**32**	P	**P**	**16 20 22.6**	**-0.7**
	baz=357,SNR=15						
FID	**Port Fidalgo**	**32.27**	**20**	IAmb	IAmb	16 20 36.3	
	comp=Z,174nm,1.1s						
CRQM	**Cirque**	**32.32**	**17**	IAMs_20	IAMs_20	16 34 20.2	
	comp=Z,6µm,20.0s						
CRQE	**Cirque**	**32.33**	**17**	P	**P**	**16 20 23.7**	**-0.3**
	baz=358						
HYT	**Haines Junctio**	**32.33**	**12**	IAmb	IAmb	16 20 37.0	
	comp=Z,154nm,1.2s						
HYT	**Haines Junctio**	**32.33**	**12**	P	**P**	**16 20 23.7**	**-0.4**
	baz=359,SNR=26						
O28M	**Mount Upton**	**32.35**	**14**	P	**P**	**16 20 24.1**	**-0.3**
	baz=358						
O30N	**Mendenhall**	**32.40**	**11**	P	**P**	**16 20 23.7**	**-0.9**
	baz=359,SNR=30						
O22K	**Cooper Landing**	**32.48**	**23**	IAmb	IAmb	16 20 37.1	
	comp=Z,140nm,0.9s						
O22K	**Cooper Landing**	**32.48**	**23**	P	**P**	**16 20 22.8**	**-2.4**
	baz=358						
EYAK	**Cordova Ski Ar**	**32.49**	**20**	P	**P**	**16 20 23.9**	**-1.4**
	baz=358						
ISLE	**Juniper Island**	**32.49**	**16**	IAmb	IAmb	16 20 37.6	
	comp=Z,133nm,1.1s						
ISLE				IAMs_20	IAMs_20	16 34 24.7	
	comp=Z,6µm,21.0s						
WHY	**Whitehorse**	**32.52**	**10**	P	**P**	**16 20 25.2**	**-0.5**
	baz=359,SNR=6.7						
N15K	**Kwethluk River**	**32.53**	**33**	IAmb	IAmb	16 20 38.8	
	comp=Z,172nm,1.4s						
N15K				IAMs_20	IAMs_20	16 33 43.9	
	comp=Z,12µm,21.0s						
N15K	**Kwethluk River**	**32.53**	**33**	P	**P**	**16 20 25.1**	**-0.6**
	baz=357						
NACGM	**Naroch**	**32.62**	**211**	*e*P	**P**	**16 20 29.0**	**+2.5**
HIN	**Hinchinbrook I**	**32.62**	**20**	IAmb	IAmb	16 20 41.8	
	comp=Z,139nm,1.0s						
WAX	**Waxell Ridge**	**32.63**	**17**	IAMs_20	IAMs_20	16 33 27.7	
	comp=Z,9µm,22.0s						
O19K	**Port Alsworth**	**32.66**	**27**	IAMs_20	IAMs_20	16 34 42.4	
	comp=Z,7µm,19.0s						
O19K	**Port Alsworth**	**32.66**	**27**	P	**P**	**16 20 26.1**	**-0.7**
	baz=357						
RAGM	**Ragged Mountai**	**32.67**	**19**	IAmb	IAmb	16 20 37.8	
	comp=Z,95nm,1.1s						
BERG	**Berg Lake**	**32.68**	**18**	IAmb	IAmb	16 20 43.1	
	comp=Z,95nm,1.2s						
BERG				IAMs_20	IAMs_20	16 34 32.2	
	comp=Z,7µm,20.0s						
HMT	**Hamilton**	**32.73**	**18**	IAmb	IAmb	16 20 38.2	
	comp=Z,79nm,1.0s						
N14K	**Kuskokwak Cree**	**32.73**	**34**	P	**P**	**16 20 26.5**	**-0.9**
	baz=357						
O20K	**Slope Mountain**	**32.81**	**26**	P	**P**	**16 20 26.3**	**-1.9**
	baz=357						
O29M	**Mount Kennedy**	**32.84**	**13**	P	**P**	**16 20 27.8**	**-0.8**
	baz=359,SNR=9.2						
SEW	**Seward**	**32.86**	**23**	P	**P**	**16 20 26.4**	**-2.1**
	baz=358						
SNH	**Sunshine Point**	**32.91**	**17**	IAMs_20	IAMs_20	16 34 38.7	
	comp=Z,7µm,22.0s						
MESA	**MESA**	**32.92**	**16**	IAMs_20	IAMs_20	16 33 49.6	
	comp=Z,9µm,22.0s						
MESA	**MESA**	**32.92**	**16**	P	**P**	**16 20 26.6**	**-2.8**
	baz=358						
BGLC	**Bering Glacier**	**32.96**	**17**	P	**P**	**16 20 28.0**	**-1.3**
	baz=358						
O18K	**Koktuh Hills**	**32.98**	**28**	IAMs_20	IAMs_20	16 34 53.3	
	comp=Z,7µm,20.0s						
O18K	**Koktuh Hills**	**32.98**	**28**	P	**P**	**16 20 29.3**	**-0.3**
	baz=357,SNR=30						
P33M	**Teslin, Yukon**	**32.99**	**8**	IAmb	IAmb	16 20 42.1	
	comp=Z,250nm,1.4s						
P33M				IAMs_20	IAMs_20	16 35 35.2	
	comp=Z,9µm,21.0s						
P33M	**Teslin, Yukon**	**32.99**	**8**	P	**P**	**16 20 29.0**	**-0.8**
	baz=359,SNR=33						
FLDN	**Fort Liard**	**32.99**	**359**	IAMs_20	IAMs_20	16 35 11.0	
	comp=Z,5µm,20.0s						
FLDN	**Fort Liard**	**32.99**	**359**	P	**P**	**16 20 28.3**	**-1.3**
	baz=0.2						
MNK	**Minsk**	**32.99**	**210**	*i* P	**P**	**16 20 30.7**	**+0.9**
	comp=E,13nm,0.9s						
MNK				*i* P	**P**	**16 20 30.7**	**+0.9**
	comp=N,162nm,1.2s						
MNK				*i* P	**P**	**16 20 30.7**	**+0.9**
	comp=Z,128nm,1.1s,baz=183						
MNK				*i* PP	**PP**	**16 21 39.6**	**-4.5**
MNK				*i* PPP	PPP	16 21 49.9	
MNK				*i* S	**S**	**16 25 49.5**	**+1.7**
MNK				*i* SS	**SnSn**	**16 27 47.8**	**+2.9**
MNK				*i* SSS	SSS	16 28 03.4	
MNK				*i* LQ	LQ	16 30 27.9	
MNK				*i* LR	LR	16 32 17.4	
MNK				*i* LRM	MLR	16 33 45.1	
	comp=E,3µm,18.7s						
MNK				*i* LRM	MLR	16 33 47.6	
	comp=N,8µm,19.4s						
MNK				*i* LRM	MLR	16 33 54.1	
	comp=Z,10µm,19.3s						
MNK	**Minsk**	**32.99**	**210**	*i* P	**P**	**16 20 30.7**	**+0.9**
MNK				*i*		16 21 39.5	
MNK				*i* PPP	PPP	16 21 49.9	
MNK				*i* S	**S**	**16 25 49.4**	**+1.7**
MNK				*i* SS	**SnSn**	**16 27 47.8**	**+2.9**
MNK				pmax	pmax		
	comp=Z,128nm,1.1s						
MNK				pmax	pmax		
	comp=N,162nm,1.3s						
MNK				pmax	pmax		
	comp=E,13nm,0.9s						
MNK				MLR	MLR		
	comp=E,3µm,19.0s						
MNK				MLR	MLR		
	comp=N,8µm,19.0s						
MNK				MLR	MLR		
	comp=Z,10µm,19.0s						
SUCK	**Suckling Hills**	**33.00**	**18**	IAMs_20	IAMs_20	16 34 41.7	
	comp=Z,7µm,20.0s						
P23K	**Montague Islan**	**33.01**	**21**	P	**P**	**16 20 28.9**	**-1.0**
	baz=358						
O17K	**Koliganek Bris**	**33.01**	**30**	P	**P**	**16 20 28.3**	**-1.5**
	baz=357,SNR=8.2						
PINM	**Pinnacle**	**33.03**	**15**	P	**P**	**16 20 29.0**	**-1.1**
	baz=358

ZALV pmax pmax
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 33.59 149 P **P 16 20 34.2 -0.8**
comp=Z,20nm,0.8s,baz=359,slow=9.8,SNR=24
ZALV LR LR 16 35 39.2
comp=Z,7μm,20.9s,baz=342,slow=39
comp=Z,20nm,0.8s
Q23K Middleton Isla 33.60 20 P **P 16 20 33.7 -1.2**
baz=358
P32M Atlin 33.60 9 IAmb IAmb 16 20 47.4
comp=Z,167nm,1.6s
P32M IAMs_20 IAMs_20 16 35 06.8
comp=Z,9μm,22.0s
P32M Atlin 33.60 9 P **P 16 20 33.3 -1.8**
baz=359,SNR=8.4
P17K Kvichak River 33.61 30 P **P 16 20 34.1 -1.0**
baz=357
SUW Suwalki 33.62 215 *e*P **P 16 20 35.1 -0.1**
SUW *e*S S 16 26 07.2 +10
SUW *e*L L 16 32 49.0
comp=Z,7μm,30.1s
SUW Suwalki 33.62 215 IAMs_20 IAMs_20 16 34 52.9
comp=Z,9μm,22.0s
SUW Suwalki 33.62 215 *e*P **P 16 20 36.6 +1.4**
PLBC Pleasant Camp 33.71 11 P **P 16 20 35.4 -0.6**
baz=359,SNR=12
SKAG Skagway 33.72 10 P **P 16 20 34.5 -1.5**
baz=359
P16K Nushagak River 33.73 31 P **P 16 20 36.5 +0.4**
baz=357
R33M Jennings River 33.82 6 IAmb IAmb 16 20 49.7
comp=Z,158nm,1.8s
R33M IAMs_20 IAMs_20 16 35 41.4
comp=Z,8μm,20.0s
R33M Jennings River 33.82 6 P **P 16 20 37.0 -0.1**
baz=360,SNR=15
LIRD Liard River Hi 33.82 2 P **P 16 20 37.1 +0.1**
baz=360,SNR=12
Q16K King Salmon 34.12 30 P **P 16 20 39.6 +0.1**
baz=357,SNR=7.8
BSEG Bad Segeberg 34.15 228 *e*P **P 16 20 40.1 +0.2**
comp=Z,94nm,1.4s,baz=4.2,slow=8.6
BSEG *ep*P **sP 16 20 43.3 +1.3**
baz=4.7,slow=8.6
BRVK Borovoye 34.17 164 P **P 16 20 39.8 -0.2**
BRVK IAmb IAmb 16 20 49.6
comp=Z,95nm,1.2s
BRVK Borovoye 34.17 164 IAMs_20 IAMs_20 16 36 57.9
comp=Z,17μm,20.0s
BRVK Borovoye 34.17 164 P **P 16 20 41.3 +1.2**
BRVK P **P 16 20 41.3 +1.2**
BRVK S **S 16 26 13.4 +7.4**
BRVK S **S 16 26 13.4 +7.4**
BRVK Borovoye 34.17 164 *ce*P **P 16 20 39.9 -0.2**
BRVK pmax pmax
comp=Z,83nm,1.7s
BRVK MLR MLR
comp=Z,18μm,20.0s
Q18K Katmai Hardscr 34.19 28 P **P 16 20 40.5 +0.2**
baz=357
BVA0 Borovoye Array 34.21 164 *i* P **P 16 20 40.3 -0.1**
BVAR Borovoye Array 34.21 164 P **P 16 20 40.1 -0.3**
comp=Z,30nm,0.8s,baz=350,slow=7.2,SNR=30
BVAR LR LR 16 37 23.2
comp=Z,17μm,20.8s,baz=9.2,slow=41
comp=Z,30nm,0.8s
Q32M Nakina River 34.25 7 IAMs_20 IAMs_20 16 35 50.7
comp=Z,11μm,22.0s
Q32M Nakina River 34.25 7 P **P 16 20 39.5 -1.4**
baz=359,SNR=11
Q17K Contact Creek 34.55 29 P **P 16 20 41.4 -2.0**
baz=357
HILA High Level 34.65 353 P **P 16 20 44.1 -0.1**
LPSR Galich'ya Gora 34.66 198 *e*P **P 16 20 44.0 -0.2**
LPSR *e* 16 22 00.0
LPSR *e*S **S 16 26 16.2 +2.7**
LPSR *e*SS **SnSn 16 28 27.6 +2.4**
LPSR pmax pmax
comp=Z,150nm,1.2s
LPSR smax smax
comp=N,2μm,13.2s
LPSR MLR MLR
comp=Z,8μm,19.0s
BELG Belogornoye 34.76 189 *i* P **P 16 20 45.4 +0.3**
BELG pmax pmax
comp=Z,79nm,1.0s
BELG MLR MLR
comp=Z,2μm,21.0s
BELG Belogornoye 34.76 189 LR LR 16 37 58.5
comp=Z,8μm,21.6s,baz=0.4,slow=42
DLBC Dease Lake 34.78 5 IAmb IAmb 16 20 56.9
comp=Z,151nm,1.1s
DLBC IAMs_20 IAMs_20 16 36 46.6
comp=Z,8μm,20.0s
DLBC Dease Lake 34.78 5 P **P 16 20 45.2 -0.2**
baz=360,SNR=36
DLBC Dease Lake 34.78 5 LR LR 16 39 18.4
comp=Z,9μm,18.2s,baz=352,slow=44
JIS Juneau Island 34.92 9 IAmb IAmb 16 20 59.3
comp=Z,162nm,1.2s
JIS IAMs_20 IAMs_20 16 36 33.2
comp=Z,6μm,21.0s
R32K Eaglecrest 34.92 9 IAmb IAmb 16 20 59.4
comp=Z,140nm,1.3s
R32K IAMs_20 IAMs_20 16 36 10.3
comp=Z,7μm,22.0s
R32K Eaglecrest 34.92 9 P **P 16 20 45.7 -0.7**
baz=359,SNR=11
KDAK Kodiak Island 35.12 26 P **P 16 20 47.9 -0.3**
KDAK IAmb IAmb 16 20 59.8
comp=Z,120nm,1.1s
KDAK Kodiak Island 35.12 26 IAMs_20 IAMs_20 16 36 11.9
comp=Z,7μm,20.0s
KDAK Kodiak Island 35.12 26 P **P 16 20 47.5 -0.6**
baz=358
KDAK Kodiak Island 35.12 26 *i* P **P 16 20 48.2 +0.1**
KDAK pmax pmax
comp=Z,193nm,1.2s
KDAK MLR MLR
comp=Z,9μm,19.0s
KDAK Kodiak Island 35.12 26 LR LR 16 36 33.4
comp=Z,6μm,20.1s,baz=29,slow=39
R17K Ugashik Creek 35.17 30 IAMs_20 IAMs_20 16 35 10.5
comp=Z,7μm,21.0s
R17K Ugashik Creek 35.17 30 P **P 16 20 47.9 -0.7**
baz=357
SPIA Saint Paul Isl 35.19 43 P **P 16 20 48.5 -0.3**
baz=356
R16K Pilot Point 35.21 31 P **P 16 20 48.4 -0.4**
baz=357
S31K Pelican 35.21 11 IAmb IAmb 16 21 01.3
comp=Z,220nm,1.5s
S31K Pelican 35.21 11 P **P 16 20 48.1 -0.9**
baz=359
R18K Karluk 35.29 28 P **P 16 20 48.7 -0.9**
baz=357
S34M Telegraph Cree 35.30 6 IAmb IAmb 16 21 01.0
comp=Z,152nm,1.1s
S34M IAMs_20 IAMs_20 16 36 36.6
comp=Z,9μm,21.0s
S34M Telegraph Cree 35.30 6 P **P 16 20 50.1 +0.3**
baz=360,SNR=32
RETH Rethem/Aller, 35.39 229 *e*P **P 16 20 50.9 +0.4**
comp=Z,68nm,1.2s,baz=4.2,slow=8.6
RETH *ep*P **sP 16 20 54.3 +1.7**
baz=4.7,slow=8.6
RUE Ruedersdorf 35.47 225 *e*P **P 16 20 51.5 +0.3**
RUE Ruedersdorf 35.47 225 *e*P **P 16 20 51.3 0.0**
comp=Z,120nm,1.1s,baz=4.2,slow=8.6
RUE *ep*P **sP 16 20 54.4 +1.0**
baz=4.7,slow=8.6
ZEA Zeya 35.59 104 *e*P **P 16 20 53.2 +1.0**
ZEA *e* 16 22 13.2
ZEA *e*S **S 16 26 32.6 +4.9**
ZEA pmax pmax
comp=Z,400nm,7.4s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,70nm,0.9s
ZEA pmax pmax
comp=N,400nm,3.8s
ZEA pmax pmax
comp=Z,500nm,4.4s
ZEA smax smax
comp=E,600nm,17.9s
ZEA smax smax
comp=N,1μm,14.1s
ZEA MLR MLR
comp=N,3μm,17.0s
ZEA MLR MLR
comp=Z,4μm,18.0s
VORR Voronezh 35.59 198 *e*P **P 16 20 52.4 +0.2**
VORR pmax pmax
comp=Z,50nm,0.6s
VORR MLR MLR
comp=Z,11μm,15.0s
FLTG Flechtingen 35.72 227 *e*P **P 16 20 53.1 -0.3**
comp=Z,2μm,4.3s,baz=4.2,slow=8.6
FLTG *ep*P **sP 16 20 56.3 +0.7**
baz=4.7,slow=8.6
S32K Killisnoo 35.72 9 IAMs_20 IAMs_20 16 36 45.9
comp=Z,6μm,19.0s
S32K Killisnoo 35.72 9 P **P 16 20 51.6 -1.7**
baz=359
BEL Belsk 35.87 217 *e*P **P 16 20 55.0 +0.3**
BEL *e*S S 16 26 41.8 +10
IBBN Ibbenburen 35.88 231 *e*P **P 16 20 54.8 0.0**
comp=Z,116nm,1.6s,baz=4.2,slow=8.6
IBBN *ep*P **sP 16 20 58.3 +1.4**
baz=4.7,slow=8.6
ASSE Asse, Remlinge 35.94 228 *e*P **P 16 20 55.2 0.0**
comp=Z,46nm,1.2s,baz=4.2,slow=8.6
ASSE *ep*P **sP 16 20 58.7 +1.3**
baz=4.7,slow=8.6
IRK Irkutsk 35.98 128 *e*P **P 16 20 54.8 -0.9**
IRK *e* 16 22 21.9
IRK pmax pmax
comp=Z,210nm,1.7s
VRH Novokhopyorsk 36.02 195 *e*P **P 16 20 55.0 -0.9**
VRH *e* 16 22 41.0
VRH *e*S **S 16 26 36.2 +1.9**
VRH pmax pmax
comp=Z,120nm,0.9s
VRH smax smax
comp=N,2μm,12.0s
VRH MLR MLR
comp=Z,8μm,16.0s
VSR Storozhevoye 36.04 198 *e*P **P 16 20 55.5 -0.7**
VSR *e*S **S 16 26 30.5 -4.2**
VSR pmax pmax
comp=Z,150nm,1.6s
VSR smax smax
comp=N,2μm,10.2s
VSR MLR MLR
comp=Z,9μm,15.0s
SIT Sitka 36.13 10 P **P 16 20 54.5 -2.3**
baz=359
CLZ Clausthal 36.24 228 *e*P **P 16 20 58.5 +0.5**
comp=Z,113nm,1.3s,baz=4.2,slow=8.6
CLZ *ep*P **sP 16 21 01.6 +1.5**
baz=4.7,slow=8.6
T35M Bob Quinn 36.24 5 IAMs_20 IAMs_20 16 37 53.2
comp=Z,7μm,19.0s
T35M Bob Quinn 36.24 5 P **P 16 20 55.8 -2.1**
baz=360,SNR=20
VORD Divnogorie 36.29 197 *e*P **P 16 20 57.7 -0.6**
VORD pmax pmax
comp=Z,40nm,0.6s
VORD MLR MLR
comp=Z,1μm,9.0s
SII Sitkinak Islan 36.30 28 IAMs_20 IAMs_20 16 35 47.1
comp=Z,8μm,21.0s
SII Sitkinak Islan 36.30 28 P **P 16 20 56.0 -2.4**
baz=358
T33K Petersburg 36.39 8 P **P 16 20 56.9 -2.2**
baz=359
MOY Mondy 36.43 132 *e*P **P 16 21 00.2 +0.6**
MOY pmax pmax
comp=Z,190nm,1.9s
S14K Fog Glacier 36.44 33 P **P 16 20 58.2 -1.4**
baz=357
CHGN Chignik 36.45 32 P **P 16 20 58.5 -1.0**
baz=357
GTTG Gottingen 36.56 229 *e*P **P 16 21 01.2 +0.6**
comp=Z,161nm,1.4s,baz=4.2,slow=8.6
GTTG *ep*P **sP 16 21 04.3 +1.6**
baz=4.7,slow=8.6
CIT Chita 36.62 119 *e*P **P 16 21 01.9 +0.7**
CIT *e* 16 23 22.7
CIT pmax pmax
comp=Z,222nm,1.8s
KURK Kurchatov 36.67 155 P **P 16 21 00.4 -1.1**
KURK Kurchatov 36.67 155 P **P 16 21 02.6 +1.1**
KURK P **P 16 21 02.6 +1.1**
KURK S **S 16 26 44.6 +0.2**
KURK S **S 16 26 44.6 +0.2**
KURK Kurchatov 36.67 155 P **P 16 21 01.7 +0.2**
CLL Collm 36.67 225 *i* P **P 16 21 01.0 -0.6**
CLL *i* 16 21 10.3
CLL *e*S **S 16 26 49.0 +4.6**
CLL pmax pmax
comp=Z,114nm,1.4s
CLL Collm 36.67 225 *e*P **P 16 21 01.1 -0.4**
comp=Z,111nm,1.3s,baz=4.2,slow=8.6
CLL *ep*P **sP 16 21 04.4 +0.7**
baz=4.7,slow=8.6
CLL Collm 36.67 225 *i* P **P 16 21 01.0 -0.6**
comp=Z,34nm,1.3s
CLL *i* Pmax 16 21 03.7
comp=Z,114nm,1.4s
CLL *e*Pmax 16 21 06.0
CLL *i* x x 16 21 10.3
CLL *e*PP **PP 16 22 27.0 +2.3**
CLL *e*PPP PPP 16 22 41.0
CLL *e*PPPP 16 22 49.0
CLL *e*S **S 16 26 49.0 +4.6**
CLL *e*SS **SnSn 16 29 11.0 -3.0**
CLL AMS AMS 16 44 00.0
AKTO Aktyubinsk 36.70 177 P **P 16 21 01.1 -0.7**
AKTO Aktyubinsk 36.70 177 LR LR 16 38 22.0
comp=Z,9μm,21.3s,baz=6.5,slow=40
KURBB Kurchatov Arra 36.76 155 P **P 16 21 01.7 -0.6**
comp=Z,19nm,0.9s,baz=349,slow=8.9,SNR=30
KURBB LR LR 16 40 22.8
comp=Z,16μm,18.2s,baz=342,slow=43
KURBB PKP2ab **P'P'ab 16 55 34.5 +6.5**
comp=Z,0.5nm,0.8s,baz=177,slow=6.7,SNR=7.2
comp=Z,19nm,0.9s
AKASG Malin Array Be 36.77 208 *i* P **P 16 21 03.7 +1.4**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 36.77 208 P **P 16 21 00.4 -1.9**
comp=Z,9.7nm,0.8s,baz=360,slow=8.7,SNR=21
AKASG LR LR 16 36 15.6
comp=Z,10μm,20.9s,baz=3.5,slow=36
comp=Z,9.7nm,0.8s
AKBB Malin Array Si 36.77 208 *ce*P **P 16 21 00.4 -1.9**
AKBB pmax pmax
comp=Z,51nm,1.3s
AKBB MLR MLR
comp=Z,11μm,19.0s
BUG Bochum--Univer 36.77 231 *e*P **P 16 21 02.4 +0.1**
comp=Z,105nm,1.4s,baz=4.2,slow=8.6
BUG *ep*P **sP 16 21 05.9 +1.4**
baz=4.7,slow=8.6
WRAK Wrangell Islan 36.79 7 IAMs_20 IAMs_20 16 36 56.1
comp=Z,7μm,21.0s
WRAK Wrangell Islan 36.79 7 P **P 16 21 00.6 -1.9**
baz=359
NEUB Neuenburg 36.82 227 *e*P **P 16 21 02.8 0.0**
comp=Z,121nm,1.4s,baz=4.2,slow=8.6
NEUB *ep*P **sP 16 21 06.0 +1.0**
baz=4.7,slow=8.6
NKL Nikolayevsk 36.88 91 *e*P **P 16 21 02.2 -1.1**
NKL *e*S **S 16 26 46.8 -0.6**
NKL pmax pmax
comp=N,81nm,1.9s
NKL pmax pmax
comp=E,33nm,1.9s
NKL pmax pmax
comp=Z,397nm,1.9s
NKL smax smax
comp=E,143nm,1.2s
NKL smax smax
comp=N,595nm,2.2s
NKL MLR MLR
comp=E,6μm,17.0s
NKL MLR MLR
comp=N,13μm,22.0s
NKL MLR MLR
comp=Z,14μm,21.0s
KASTN Kahler Asten 36.96 230 *e*P **P 16 21 04.5 +0.4**
comp=Z,63nm,1.3s,baz=4.2,slow=8.6
KASTN *ep*P **sP 16 21 07.9 +1.6**
baz=4.7,slow=8.6
CHIR Chirikof Islan 37.01 29 IAMs_20 IAMs_20 16 36 22.9
comp=Z,6μm,21.0s
CHIR Chirikof Islan 37.01 29 P **P 16 21 03.7 -0.6**
baz=357
SEM Semipalatinsk 37.02 154 *e*P **P 16 21 03.3 -1.5**
comp=Z,67nm,1.3s,baz=153
SEM LR LR 16 36 29.9
baz=153
SEM Semipalatinsk 37.02 154 *e*P **P 16 21 03.2 -1.5**
SEM pmax pmax
comp=Z,67nm,1.3s
KSP Ksiaz 37.02 222 *e*P **P 16 21 04.6 +0.1**
KSP *e*S **S 16 26 51.2 +1.5**
KSP *e*L L 16 34 25.8
comp=Z,5μm,29.6s
FBE Freiberg 37.05 225 *e*P **P 16 21 04.7 -0.1**
comp=Z,158nm,1.2s,baz=4.2,slow=8.6
FBE *ep*P **sP 16 21 08.0 +1.1**
baz=4.7,slow=8.6
SCHQ Schefferville 37.07 306 LR LR 16 37 06.0
comp=Z,5μm,19.8s,baz=4.5,slow=38
BRG Berggiesshubel 37.07 224 *i* P **P 16 21 05.4 +0.5**
BRG 16 22 37.0
BRG pmax pmax
comp=Z,108nm,1.3s
BRG Berggiesshubel 37.07 224 *e*P **P 16 21 05.4 +0.5**
comp=Z,103nm,1.3s,baz=4.2,slow=8.6
BRG *ep*P **sP 16 21 08.6 +1.5**
baz=4.7,slow=8.6
BRG Berggiesshubel 37.07 224 *i* P **P 16 21 05.5 +0.5**
BRG Amp 16 21 10.3
comp=Z,108nm,1.3s
BRG Berggiesshubel 37.07 224 PP PP 16 22 37.0 +7.9
BRG Berggiesshubel 37.07 224 S **S 16 26 58.0 +7.5**
VAL Valentia 37.08 249 P **P 16 21 04.8 -0.1**
U33K Whale Pass 37.09 8 IAMs_20 IAMs_20 16 38 02.0
comp=Z,7μm,20.0s
U33K Whale Pass 37.09 8 P **P 16 21 03.4 -1.6**
baz=359
CHVC Chvalec 37.28 222 *e*P **P 16 21 04.1 -2.7**
CHVC AMS AMS 16 43 50.0
comp=Z,6μm,17.2s
CHVC Chvalec 37.28 222 *e*P **P 16 21 04.1 -2.7**
CHVC MLR MLR
comp=Z,6μm,17.2s
BRZS Berezniki 37.29 162 *e*P **P 16 21 06.1 -0.7**
baz=161
BRZS Berezniki 37.29 162 *e*P **P 16 21 06.1 -0.7**
OSTC Ostas 37.31 222 AMS AMS 16 43 40.0
comp=Z,5μm,18.1s
U35K Hyder 37.31 5 IAMs_20 IAMs_20 16 37 52.7
comp=Z,6μm,21.0s
U35K Hyder 37.31 5 P **P 16 21 06.6 -0.3**
baz=360
SDPT Sand Point 37.34 34 P **P 16 21 05.1 -2.1**
baz=357
HSKC Hora Svate Kat 37.36 225 *e*P **P 16 21 06.8 -0.6**
HSKC AMS AMS 16 43 00.0
comp=Z,5μm,16.6s
UPC Upice 37.36 222 AMS AMS 16 43 50.0
comp=Z,6μm,16.6s
MOX Moxa 37.39 227 *e*P **P 16 21 07.9 +0.3**
comp=Z,109nm,1.2s,baz=4.2,slow=8.6
MOX *ep*P **sP 16 21 11.2 +1.3**
baz=4.7,slow=8.6
MOX *e*L L 16 36 47.2
comp=Z,3μm,21.7s
PVCC Panska Ves 37.40 224 *e*P **P 16 21 07.4 -0.3**
PVCC AMS AMS 16 42 50.0
comp=Z,5μm,18.2s
PVCC Panska Ves 37.40 224 *e*P **P 16 21 07.4 -0.3**
PVCC MLR MLR
comp=Z,5μm,18.2s
BEBN Eben Emael 37.48 233 *d*P **P 16 21 07.9 -0.5**
comp=Z,34nm,0.9s
BEBN *d*PP **PP 16 22 29.3 -4.2**
DPC Dobruska-Polom 37.51 222 *e*P **P 16 21 08.0 -0.7**
DPC AMS AMS 16 43 40.0
comp=Z,5μm,14.6s
DPC Dobruska-Polom 37.51 222 *e*P **P 16 21 08.0 -0.7**
DPC MLR MLR
comp=Z,5μm,14.6s
OJC Ojcow 37.52 218 *e*P **P 16 21 09.4 +0.7**
OJC *e*S **S 16 26 56.1 -1.3**
PLN Plauen 37.53 226 *e*P **P 16 21 09.0 +0.2**
comp=Z,73nm,1.3s,baz=4.2,slow=8.6
PLN *ep*P **sP 16 21 12.2 +1.1**
baz=4.7,slow=8.6
WERD Werda 37.56 226 *e*P **P 16 21 09.3 +0.1**
comp=Z,65nm,1.2s,baz=4.2,slow=8.6
WERD *ep*P **sP 16 21 12.5 +1.2**
baz=4.7,slow=8.6
TANN Tannenbergstha 37.59 226 *e*P **P 16 21 09.6 +0.2**
comp=Z,53nm,1.2s,baz=4.2,slow=8.6
TANN *ep*P **sP 16 21 12.9 +1.3**
baz=4.7,slow=8.6
GUNZ Gunzen 37.64 226 *e*P **P 16 21 10.2 +0.4**
comp=Z,111nm,1.3s,baz=4.2,slow=8.6
GUNZ *ep*P **sP 16 21 13.3 +1.3**
baz=4.7,slow=8.6
MEM Membach 37.65 233 *d*P **P 16 21 08.0 -1.9**
comp=Z,21nm,1.1s
BTNL Ternell 37.67 232 *d*P **P 16 21 11.8 +1.7**
BSTI Sart Tilman 37.70 233 *d*P **P 16 21 12.4 +2.1**
WERN Wernitzgruen 37.72 226 *e*P **P 16 21 11.0 +0.5**
comp=Z,184nm,1.3s,baz=4.2,slow=8.6
WERN *ep*P **sP 16 21 14.2 +1.5**
baz=4.7,slow=8.6
KRLC Kraliky 37.77 221 AMS AMS 16 44 00.0
comp=Z,6μm,14.3s
NKC Novy Kostel 37.77 226 *e*P **P 16 21 10.8 -0.1**
NKC AMS AMS 16 45 20.0
comp=Z,5μm,14.6s
NKC Novy Kostel 37.77 226 *e*P **P 16 21 10.8 -0.1**
NKC MLR MLR
comp=Z,5μm,14.6s
LVV L'vov 37.79 214 *e*P **P 16 21 11.3 +0.3**
LVV *e* 16 22 46.1
LVV *e*S **S 16 26 59.4 -2.0**
LVV *e*SS **SnSn 16 29 41.1 +0.1**
LVV MLR MLR
comp=Z,5μm,16.0s
ZAK Zakamensk 37.80 129 *e*P **P 16 21 11.5 +0.2**
ZAK pmax pmax
comp=Z,33nm,1.5s
PEA0B Petropavlovsk- 37.82 74 P **P 16 21 11.5 +0.2**
PEA0B Petropavlovsk- 37.82 74 *ce*P **P 16 21 12.1 +0.8**
PETK Petropavlovsk- 37.82 74 P **P 16 21 11.3 0.0**
PETK Petropavlovsk- 37.82 74 P **P 16 21 11.3 0.0**
PETK Petropavlovsk- 37.82 74 P **P 16 21 10.0 -1.3**
comp=Z,9.2nm,0.9s,baz=48,slow=12,SNR=8.7
PETK LR LR 16 38 34.7
comp=Z,3μm,19.3s,baz=0.1,slow=39
comp=Z,9.2nm,0.9s
PRA Prague 37.86 224 *e*P **P 16 21 13.7 +2.1**
PRA *e*S **S 16 27 09.5 +7.1**
PRA AMS AMS 16 43 10.0
comp=Z,6μm,18.9s
PRA Prague 37.86 224 *e*P **P 16 21 13.7 +2.1**
PRA *e*S **S 16 27 09.5 +7.1**
PRA MLR MLR
comp=Z,6μm,18.9s
BCLA Clavier 37.87 233 *d*P **P 16 21 11.3 -0.5**
comp=Z,22nm,1.2s
AB31 Akbulak array 37.88 175 P **P 16 21 10.9 -0.9**
ABKAR Akbulak array 37.88 175 P **P 16 21 11.2 -0.7**
CHNA Chernabura Isl 37.89 33 P **P 16 21 09.1 -2.7**
baz=357
V35K Ketchikan 37.89 7 IAMs_20 IAMs_20 16 38 17.1
comp=Z,7μm,22.0s
V35K Ketchikan 37.89 7 P **P 16 21 09.5 -2.3**
baz=360
CNBA Chernabura Isl 37.90 33 IAMs_20 IAMs_20 16 37 03.0
comp=Z,12μm,22.0s
BHOU Houvegnez 37.91 233 *d*P **P 16 21 12.4 +0.3**
DGZ Jazzator, Alta 37.92 146 *i* P **P 16 21 12.3 0.0**
DGZ pmax pmax
comp=Z,115nm,1.4s
DGZ MLR MLR
comp=Z,15μm,19.0s
BGES Gesves 37.92 233 *d*P **P 16 21 11.9 -0.2**
BGES *d*PP **PP 16 22 34.0 -4.4**

PRU	**Pruhonice**	**37.94 224**	*e*P	**P**	**16 21 12.4 +0.1**	
PRU			*e*S	**S**	**16 27 07.5 +3.9**	
PRU			AMS	AMS	16 44 30.0	
	comp=Z,6μm,15.4s					
PRU	**Pruhonice**	**37.94 224**	*e*P	**P**	**16 21 12.4 +0.1**	
PRU			*e*S	**S**	**16 27 07.5 +3.9**	
PRU			MLR	MLR		
	comp=Z,6μm,15.0s					
TNS	**Taunus Mts**	**37.94 230**	*e*P	**P**	**16 21 12.6 +0.2**	
	comp=Z,65nm,1.2s,baz=4.2,slow=8.6					
TNS			*e*pP	**sP**	**16 21 16.0 +1.4**	
	baz=4.7,slow=8.6					
PET	**Petropavlovsk**	**37.95 73**	*e*P	**P**	**16 21 13.2 +0.8**	
PET			*e*S	**S**	**16 27 00.8 -2.9**	
PET			pmax	pmax		
	comp=Z,54nm,1.4s					
PET			pmax	pmax		
	comp=Z,300nm,13.5s					
PET			MLR	MLR		
	comp=Z,3μm,16.0s					
PET			MLR	MLR		
	comp=Z,4μm,16.0s					
OKC	**Ostrava-Krasne**	**37.96 220**	*e*P	**P**	**16 21 12.7 +0.2**	
OKC			*e*S	**S**	**16 27 07.3 +3.4**	
OKC			AMS	AMS	16 43 50.0	
	comp=Z,6μm,14.7s					
OKC	**Ostrava-Krasne**	**37.96 220**	*e*P	**P**	**16 21 12.7 +0.2**	
OKC			*e*S	**S**	**16 27 07.3 +3.4**	
OKC			MLR	MLR		
	comp=Z,6μm,14.7s					
GOPC	**GO Pecny, Ondr**	**38.00 223**	*e*P	**P**	**16 21 13.0 +0.1**	
GOPC			AMS	AMS	16 44 40.0	
	comp=Z,6μm,15.0s					
GOPC	**GO Pecny, Ondr**	**38.00 223**	*e*P	**P**	**16 21 13.0 +0.1**	
GOPC			MLR	MLR		
	comp=Z,6μm,15.0s					
BMRD	**Maredsous**	**38.01 234**	*d*P	**P**	**16 21 12.5 -0.4**	
KWP	**Kalwaria Pacla**	**38.02 215**	*e*P	**P**	**16 21 13.7 +0.8**	
KWP			*e*L	L	16 36 32.4	
	comp=Z,6μm,26.6s					
KWP	**Kalwaria Pacla**	**38.02 215**	IAmb	IAmb	16 21 26.1	
	comp=Z,253nm,1.4s					
KWP			IAMs_20	IAMs_20	16 38 36.3	
	comp=Z,7μm,19.0s					
MANZ	**Manzenberg**	**38.03 226**	*e*P	**P**	**16 21 13.3 +0.2**	
	comp=Z,9.5nm,1.1s,baz=4.2,slow=8.6					
MANZ			*e*pP	**sP**	**16 21 16.7 +1.4**	
	baz=4.7,slow=8.6					
MORC	**Moravsky Berou**	**38.04 220**	⇓P	**P**	**16 21 13.3 +0.1**	
MORC	**Moravsky Berou**	**38.04 220**	*e*P	**P**	**16 21 12.9 -0.3**	
MORC			*e*PCP	**PcP**	**16 23 25.2 -3.0**	
MORC	**Moravsky Berou**	**38.04 220**	P	**P**	**16 21 13.3 +0.1**	
RCHB	**Rochefort**	**38.14 233**	*d*P	**P**	**16 21 13.1 -0.9**	
DOU	**Dourbes**	**38.23 234**	*d*P	**P**	**16 21 16.8 +2.0**	
ROTZ	**Rotzenmuhle**	**38.24 226**	*e*P	**P**	**16 21 15.4 +0.5**	
	comp=Z,36nm,1.4s,baz=4.2,slow=8.6					
ROTZ			*e*pP	**sP**	**16 21 18.6 +1.5**	
	baz=4.7,slow=8.6					
STHS	**Stebnicka Huta**	**38.28 216**	*e*P	**P**	**16 21 14.7 -0.5**	
STHS	**Stebnicka Huta**	**38.28 216**	*e*P	**P**	**16 21 14.7 -0.5**	
STHS			pmax	pmax		
	comp=Z,64nm,1.3s					
FFC	**Flin Flon**	**38.30 339**	P	**P**	**16 21 16.6 +1.3**	
FFC	**Flin Flon**	**38.30 339**	P	**P**	**16 21 16.6 +1.3**	
FFC			pmax	pmax		
	comp=Z,62nm,1.6s					
FFC			MLR	MLR		
	comp=Z,15μm,18.0s					
NIE	**Niedzica**	**38.31 217**	*e*P	**P**	**16 21 16.9 +1.5**	
GRF	**Grafenberg Arr**	**38.36 227**	*e*P	**P**	**16 21 16.4 +0.5**	
	comp=Z,117nm,1.2s,baz=4.2,slow=8.6					
GRF			*e*pP	**sP**	**16 21 19.6 +1.5**	
	baz=4.7,slow=8.6					
GRF			*e*L	L	16 37 17.2	
	comp=Z,3μm,19.5s					
GRFO	**Grafenberg**	**38.36 227**	P	**P**	**16 21 16.0 +0.2**	
GRFO	**Grafenberg**	**38.36 227**	P	**P**	**16 21 16.0 +0.2**	
GRFO			pmax	pmax		
	comp=Z,117nm,1.1s					
GRFO			MLR	MLR		
	comp=Z,3μm,19.0s					
AKUT	**Akutan**	**38.39 39**	IAMs_20	IAMs_20	16 38 06.5	
	comp=Z,6μm,20.0s					
MAUC	**Maruska**	**38.44 220**	*e*P	**P**	**16 21 16.2 -0.4**	
MAUC			*e*x	x	16 21 24.1	
ZVC	**Zvikov**	**38.50 224**	*e*P	**P**	**16 21 17.1 +0.1**	
ZVC			AMS	AMS	16 43 30.0	
	comp=Z,6μm,18.1s					
VRAC	**Vranov**	**38.54 221**	⇑P	**P**	**16 21 17.8 +0.4**	
VRAC	**Vranov**	**38.54 221**	*e*P	**P**	**16 21 17.3 -0.1**	
VRAC			*e*PCP	**PcP**	**16 23 30.9 +1.2**	
VRAC	**Vranov**	**38.54 221**	⇑P	**P**	**16 21 17.8 +0.4**	
WLF	**Walferdange**	**38.59 232**	*d*P	**P**	**16 21 20.6 +2.8**	
WLF	**Walferdange**	**38.59 232**	P	**P**	**16 21 19.7 +1.9**	
WLF	**Walferdange**	**38.59 232**	*e*P	**P**	**16 21 18.3 +0.5**	
	comp=Z,53nm,1.1s,baz=4.2,slow=8.6					
WLF			*e*pP	**sP**	**16 21 21.7 +1.7**	
	baz=4.7,slow=8.6					
LANS	**Liptovska Anna**	**38.60 218**	*e*P	**P**	**16 21 18.9 +1.0**	
LANS	**Liptovska Anna**	**38.60 218**	*e*P	**P**	**16 21 18.9 +1.0**	
UNV	**Unalaska Valle**	**38.66 39**	P	**P**	**16 21 16.3 -2.0**	
	baz=357					
KOLS	**Kolonicke sedl**	**38.73 215**	*e*P	**P**	**16 21 19.8 +0.8**	
KOLS	**Kolonicke sedl**	**38.73 215**	*e*P	**P**	**16 21 19.8 +0.8**	
KOLS			pmax	pmax		
	comp=Z,22nm,1.0s					
CRVS	**Cervenica-Dubn**	**38.78 216**	*e*P	**P**	**16 21 20.6 +1.2**	
CRVS	**Cervenica-Dubn**	**38.78 216**	*e*P	**P**	**16 21 20.6 +1.2**	
CRVS			pmax	pmax		
	comp=Z,101nm,1.3s					
KRUC	**Moravsky**	**38.80 222**	*e*P	**P**	**16 21 19.3 -0.2**	
KRUC			*e*PCP	**PcP**	**16 23 32.8 +2.3**	
KHC	**Kasperske Hory**	**38.83 225**	*e*P	**P**	**16 21 19.7 -0.1**	
KHC			*e*x	x	16 21 34.0	
KHC			*e*S	**S**	**16 27 21.4 +4.2**	
KHC			AMS	AMS	16 43 50.0	
	comp=Z,6μm,19.8s					
KHC	**Kasperske Hory**	**38.83 225**	*e*P	**P**	**16 21 19.7 -0.1**	
KHC			*e*S	**S**	**16 27 21.4 +4.2**	
KHC			MLR	MLR		
	comp=Z,6μm,19.8s					
WET	**Wettzell**	**38.84 225**	*e*P	**P**	**16 21 20.5 +0.6**	
	comp=Z,88nm,1.5s,baz=4.2,slow=8.6					
WET			*e*pP	**sP**	**16 21 23.8 +1.6**	
	baz=4.7,slow=8.6					
RUBB	**Prince Rupert**	**38.90 5**	IAMs_20	IAMs_20	16 38 48.6	
	comp=Z,6μm,22.0s					
JAVC	**Velka Javorina**	**38.95 220**	*e*P	**P**	**16 21 21.4 +0.5**	
JAVC			*e*PCP	**PcP**	**16 23 36.3 +5.2**	
OTUK	**Ortayu**	**39.02 162**	P	**P**	**16 21 19.6 -1.9**	
HEH	**HeiHe**	**39.07 105**	*e*P	**P**	**16 21 21.3 -0.5**	
HEH			pP	**sP**	**16 21 24.3 +0.4**	
HEH			PP	**PnPn**	**16 22 55.3 +1.8**	
HEH			PcP	**PcP**	**16 23 31.5 +0.2**	
HEH			S	**S**	**16 27 24.5 +3.8**	
HEH			SS	**SnSn**	**16 30 01.0 -11**	
HEH			pmax	pmax		
	comp=Z,21nm,1.3s					
HEH			pmax	pmax		
	comp=Z,1μm,5.9s					
HEH			LR	LR		
	comp=Z,5μm,17.6s					
HEH			LR	LR		
	comp=Z,5μm,17.4s					
HEH			LR	LR		
	comp=Z,9μm,17.8s					
GEC2	**GERESS Array S**	**39.11 224**	*e*P	**P**	**16 21 22.8 +0.5**	
	comp=Z,101nm,1.4s,baz=4.2,slow=8.6					
GEC2			*e*pP	**sP**	**16 21 25.9 +1.5**	
	baz=4.7,slow=8.6					
GERES	**GERESS Array B**	**39.11 224**	P	**P**	**16 21 22.1 -0.1**	
	comp=Z,29nm,1.1s,baz=8.5,slow=11,SNR=10					
	comp=Z,29nm,1.1s					
CKRC	**Cesky Krumlov**	**39.11 224**	*e*P	**P**	**16 21 22.0 -0.2**	
CKRC			*e*x	x	16 21 30.5	
CKRC			AMS	AMS	16 45 10.0	
	comp=Z,6μm,16.5s					
CKRC	**Cesky Krumlov**	**39.11 224**	*e*P	**P**	**16 21 22.0 -0.2**	
CKRC			*e*		16 21 30.5	
CKRC			MLR	MLR		
	comp=Z,6μm,16.5s					
BRLDA	**Berland Lookou**	**39.13 353**	IAMs_20	IAMs_20	16 37 51.6	
	comp=Z,10μm,21.0s					
VYHS	**Vyhne**	**39.28 219**	*e*P	**P**	**16 21 23.3 -0.3**	
VYHS	**Vyhne**	**39.28 219**	*e*P	**P**	**16 21 23.3 -0.3**	
VYHS			pmax	pmax		
	comp=Z,97nm,1.5s					
SMOL	**Smolenice**	**39.31 220**	*e*P	**P**	**16 21 24.7 +0.9**	
SORM	**Soroca**	**39.35 209**	⇑P	**P**	**16 21 24.2 +0.1**	
SORM	**Soroca**	**39.35 209**	P	**P**	**16 21 24.2 +0.1**	
STU	**Stuttgart**	**39.36 229**	*e*P	**P**	**16 21 24.6 +0.3**	
	comp=Z,215nm,1.1s,baz=4.2,slow=8.6					
STU			*e*pP	**sP**	**16 21 27.8 +1.4**	
	baz=4.7,slow=8.6					
NIKH	**Nikolski High**	**39.45 42**	P	**P**	**16 21 21.5 -3.4**	
	baz=357					
MODS	**Modra-Piesok**	**39.45 221**	*e*P	**P**	**16 21 25.9 +0.9**	
MODS	**Modra-Piesok**	**39.45 221**	*e*P	**P**	**16 21 25.9 +0.9**	
MODS			pmax	pmax		
	comp=Z,293nm,1.3s					
TRPA	**Tarpa**	**39.52 215**	⇑P	**P**	**16 21 26.6 +1.0**	
CLES	**Cleveland East**	**39.56 43**	IAMs_20	IAMs_20	16 38 44.2	
	comp=Z,6μm,22.0s					
ZST	**Bratislava**	**39.63 221**	*e*P	**P**	**16 21 28.1 +1.6**	
ZST	**Bratislava**	**39.63 221**	*e*P	**P**	**16 21 28.1 +1.6**	
ZST			pmax	pmax		
	comp=Z,380nm,1.6s					
HIA	**Hailar**	**39.67 113**	IAmb	IAmb	16 21 31.5	
	comp=Z,332nm,2.0s					
HIA	**Hailar**	**39.67 113**	IAMs_20	IAMs_20	16 38 57.3	
	comp=Z,4μm,18.0s					
PSZ	**Piszkesteto**	**39.82 218**	⇓P	**P**	**16 21 29.2 +1.0**	
PSZ	**Piszkesteto**	**39.82 218**	⇓P	**P**	**16 21 29.2 +1.0**	
BFO	**Black Forest**	**39.83 230**	P	**P**	**16 21 28.3 +0.1**	
BFO	**Black Forest**	**39.83 230**	P	**P**	**16 21 28.3 +0.1**	
BFO			pmax	pmax		
	comp=Z,131nm,1.3s					
BFO			MLR	MLR		
	comp=Z,3μm,22.0s					
BFO	**Black Forest**	**39.83 230**	*e*P	**P**	**16 21 28.5 +0.3**	
	comp=Z,69nm,1.2s,baz=4.2,slow=8.6					
BFO			*e*pP	**sP**	**16 21 32.0 +1.6**	
	baz=4.7,slow=8.6					
CONA	**Conrad Observa**	**39.95 222**	*e*pP	**P**	**16 21 28.9 -0.3**	
	comp=Z,108nm,1.4s,SNR=46					
BURAR	**Bucovina Array**	**39.96 212**	⇓P	**P**	**16 21 28.9 -0.5**	
BURAR	**Bucovina Array**	**39.96 212**	⇓P	**P**	**16 21 28.9 -0.5**	
EDM	**Edmonton**	**39.97 350**	P	**P**	**16 21 29.7 +0.4**	
EDM			IAmb	IAmb	16 21 41.0	
	comp=Z,377nm,1.3s					
EDM	**Edmonton**	**39.97 350**	P	**P**	**16 21 29.7 +0.4**	
EDM			pmax	pmax		
	comp=Z,377nm,1.3s					
EDM			MLR	MLR		
	comp=Z,14μm,19.0s					
DIB	**Dawson Inlet,**	**40.02 8**	P	**P**	**16 21 32.4 +2.8**	
ATKA	**Atka Island**	**40.02 47**	P	**P**	**16 21 29.6 -0.1**	
ATKA			IAmb	IAmb	16 21 39.9	
	comp=Z,210nm,1.1s					
MOA	**Molln**	**40.08 224**	*i* pP	**P**	**16 21 30.5 +0.2**	
	comp=Z,99nm,1.5s,SNR=27					
ZSN	**Zaisan**	**40.09 149**	*e*P	**P**	**16 21 29.6 -0.8**	
	comp=Z,58nm,0.9s,baz=148					
ZSN	**Zaisan**	**40.09 149**	*e*P	**P**	**16 21 29.6 -0.8**	
ZSN			pmax	pmax		
	comp=Z,58nm,0.9s					
RONA	**Rosalia, Austr**	**40.16 222**	*e*pP	**P**	**16 21 31.7 +0.7**	
	comp=Z,75nm,1.6s,SNR=9.0					
ADK	**Adak**	**40.24 49**	P	**P**	**16 21 31.4 -0.1**	
ADK			IAmb	IAmb	16 21 41.8	
	comp=Z,208nm,1.3s					
ADK	**Adak**	**40.24 49**	P	**P**	**16 21 31.4 -0.1**	
ADK			pmax	pmax		
	comp=Z,208nm,1.3s					
RJOB	**Jochberg**	**40.25 225**	*e*P	**P**	**16 21 32.2 +0.5**	
	comp=Z,28nm,0.9s,baz=4.2,slow=8.6					
RJOB			*e*pP	**sP**	**16 21 35.2 +1.3**	
	baz=4.7,slow=8.6					
KIWB	**Kanaga Island**	**40.25 50**	P	**P**	**16 21 31.9 +0.3**	
BIOA	**Bad Ischl, Aus**	**40.27 224**	*e*pP	**P**	**16 21 32.0 +0.2**	
	comp=Z,41nm,1.4s,SNR=10					
KLR	**Kul'dur**	**40.32 100**	*ce*P	**P**	**16 21 32.1 -0.1**	
KLR			pmax	pmax		
	comp=Z,59nm,1.7s					
KLR			MLR	MLR		
	comp=Z,7μm,20.0s					
KLR	**Kul'dur**	**40.32 100**	P	**P**	**16 21 31.4 -0.7**	
	comp=Z,13nm,0.8s,baz=348,slow=7.7,SNR=14					
KLR			LR	LR	16 39 09.7	
	comp=Z,8μm,21.2s,baz=354,slow=38					
	comp=Z,13nm,0.8s					
CLF	**Chambon-Foret**	**40.40 236**	P	**P**	**16 21 32.6 -0.2**	
CLF			IAmb	IAmb	16 21 43.6	
	comp=Z,163nm,1.2s					
UBR	**Ueberruh**	**40.41 228**	*e*P	**P**	**16 21 33.6 +0.6**	
	comp=Z,100nm,1.4s,baz=4.2,slow=8.6					
UBR			*e*pP	**sP**	**16 21 36.9 +1.6**	
	baz=4.7,slow=8.6					
ULN	**Ulaanbaatar**	**40.48 126**	P	**P**	**16 21 33.3 -0.4**	
ULN	**Ulaanbaatar**	**40.48 126**	IAMs_20	IAMs_20	16 40 07.3	
	comp=Z,5μm,19.0s					
ULN	**Ulaanbaatar**	**40.48 126**	P	**P**	**16 21 36.0 +2.2**	
ULN			P	**P**	**16 21 36.0 +2.2**	
ULN			S	**S**	**16 27 43.1 +1.0**	
ULN			S	**S**	**16 27 43.1 +1.0**	
ULN	**Ulaanbaatar**	**40.48 126**	P	P	16 21 39.8 +6.1	
KIS	**Kishinev**	**40.48 208**	⇑*i*P	**P**	**16 21 33.0 -0.5**	
	comp=Z,480nm,5.7s					
KIS	**Kishinev**	**40.48 208**	*e*PP	PP	16 22 56.0 -10	
KIS	**Kishinev**	**40.48 208**	LRM	MLR	16 40 38.0	
	comp=Z,3μm,16.5s					
KIS	**Kishinev**	**40.48 208**	*c i*P	**P**	**16 21 33.0 -0.5**	
KIS			*e*PPP	PPP	16 23 40.0	
KIS			*e*S	**S**	**16 27 38.0 -3.8**	
KIS			pmax	pmax		
	comp=Z,480nm,5.7s					
KIS			MLR	MLR		
	comp=Z,3μm,17.0s					
KIS			MLR	MLR		
	comp=N,3μm,16.5s					
KIS	**Kishinev**	**40.48 208**	*e*PPP	PPP	16 23 40.0	
KIS	**Kishinev**	**40.48 208**	*e*S	**S**	**16 27 38.0 -3.8**	
KIS	**Kishinev**	**40.48 208**	*e*L	L	16 34 11.0	
KIS	**Kishinev**	**40.48 208**	LQM		16 37 25.0	
	comp=N,3μm,21.0s					
SONM	**Songino Array**	**40.48 126**	IAmb	IAmb	16 21 39.0	
	comp=Z,289nm,2.0s					
SONM	**Songino Array**	**40.48 126**	P	**P**	**16 21 33.9 +0.2**	
	comp=Z,12nm,0.8s,baz=342,slow=6.8,SNR=37					
SONM			LR	LR	16 39 40.6	
	comp=Z,7μm,20.9s,baz=355,slow=38					
	comp=Z,12nm,0.8s					
LESA	**Schwarzleotal**	**40.57 225**	*i* pP	**P**	**16 21 34.9 +0.6**	
	comp=Z,82nm,1.4s					
RETA	**Reutte**	**40.58 227**	*e*pP	**P**	**16 21 34.9 +0.5**	
	comp=Z,64nm,1.2s,SNR=26					
ARSA	**Arzberg**	**40.64 222**	*e*pP	**P**	**16 21 35.3 +0.4**	
	comp=Z,22nm,1.2s,SNR=8.1					
MAKZ	**Makanchi**	**40.66 152**	P	**P**	**16 21 33.1 -2.0**	
MAKZ			IAMs_20	IAMs_20	16 40 12.1	
	comp=Z,11μm,22.0s					
MAKZ	**Makanchi**	**40.66 152**	P	**P**	**16 21 39.2 +4.1**	
MK31	**Makanchi Array**	**40.68 152**	P	**P**	**16 21 33.4 -1.8**	
MK31	**Makanchi Array**	**40.68 152**	*i* P	**P**	**16 21 34.1 -1.2**	
MK31			pmax	pmax		
	comp=Z,98nm,1.2s					
MKAR	**Makanchi Array**	**40.68 152**	P	**P**	**16 21 34.0 -1.3**	
MKAR	**Makanchi Array**	**40.68 152**	P	**P**	**16 21 34.0 -1.3**	
MKAR	**Makanchi Array**	**40.68 152**	P	**P**	**16 21 33.5 -1.8**	
	comp=Z,23nm,0.8s,baz=350,slow=6.2,SNR=25					
MKAR			LR	LR	16 42 14.5	
	comp=Z,6μm,19.9s,baz=359,slow=42					
	comp=Z,23nm,0.8s					
WATA	**Walderalm**	**40.70 226**	*e*pP	**P**	**16 21 36.3 +0.7**	
	comp=Z,50nm,1.6s,SNR=12					
MOTA	**Moosalm**	**40.71 227**	*e*pP	**P**	**16 21 36.3 +0.6**	
	comp=Z,59nm,1.5s,SNR=16					
WTTA	**Wattenberg**	**40.77 226**	*e*pP	**P**	**16 21 37.3 +1.1**	
	comp=Z,91nm,1.6s,SNR=24					
DAVA	**Damuels**	**40.81 228**	*e*pP	**P**	**16 21 37.0 +0.5**	
	comp=Z,41nm,1.2s,SNR=9.3					
SQTA	**Sankt Quirin**	**40.83 227**	*e*pP	**P**	**16 21 37.6 +1.1**	
	comp=Z,45nm,1.5s,SNR=7.2					
HG4B	**Hotspring**	**40.94 6**	IAMs_20	IAMs_20	16 40 20.5	
	comp=Z,8μm,21.0s					
MARR	**Marisel-Cluj**	**40.96 214**	⇑P	**P**	**16 21 38.8 +1.2**	
TESR	**Tescani**	**41.02 211**	⇑P	**P**	**16 21 39.2 +1.2**	
FETA	**Feichten**	**41.05 227**	*i* pP	**P**	**16 21 39.3 +0.9**	
	comp=Z,50nm,1.3s,SNR=19					
BBB	**Bella Bella**	**41.06 3**	P	**P**	**16 21 42.2 +4.0**	
BBB			IAmb	IAmb	16 21 49.4	
	comp=Z,568nm,2.0s					
BBB	**Bella Bella**	**41.06 3**	LR	LR	16 40 05.4	
	comp=Z,7μm,20.2s,baz=3.0,slow=38					
SOKA	**Soboth**	**41.23 223**	*e*pP	**P**	**16 21 40.2 +0.4**	
	comp=Z,92nm,1.4s,SNR=33					
ABTA	**Abfaltersbach**	**41.25 225**	*e*pP	**P**	**16 21 40.6 +0.6**	
	comp=Z,38nm,1.2s,SNR=9.9					
PERS	**Pernice**	**41.27 223**	*e*P	**P**	**16 21 40.5 +0.4**	
MYKA	**Terra Mystica**	**41.33 224**	*e*pP	**P**	**16 21 41.3 +0.7**	
	comp=Z,111nm,1.2s,SNR=34					
OBKA	**Obir**	**41.41 223**	*i* pP	**P**	**16 21 41.4 0.0**	
	comp=Z,121nm,1.2s					
OBKA	**Obir**	**41.41 223**	*e*P	**P**	**16 21 40.3 -1.0**	
SIRR	**Siria**	**41.41 216**	⇓P	**P**	**16 21 42.6 +1.3**	
PRED	**Cave del Predi**	**41.52 224**	IAmb	IAmb	16 21 52.8	
	comp=Z,206nm,1.7s					
MORH	**Mrgy, Hungar**	**41.56 219**	⇑P	**P**	**16 21 42.3 -0.1**	
TUE	**Stuetta**	**41.65 229**	P	**P**	**16 21 43.5 +0.1**	
VRI	**Vrincioaia**	**41.66 210**	⇑P	**P**	**16 21 45.5 +2.2**	
VRI	**Vrincioaia**	**41.66 210**	P	**P**	**16 21 45.5 +2.2**	
ROBS	**Robic**	**41.72 224**	*i* P	**P**	**16 21 43.5 -0.2**	
ROBS			*e*PP	**PP**	**16 23 19.0 -0.8**	
ROBS			*e*S	**S**	**16 28 00.3 +0.1**	
SCTR	**Scanteiesti**	**41.82 209**	⇓P	**P**	**16 21 46.5 +1.9**	
SENIN	**Lac Senin/Sane**	**41.84 231**	IAmb	IAmb	16 21 58.5	
	comp=Z,293nm,1.2s					
SENIN			IAMs_20	IAMs_20	16 40 49.4	
	comp=Z,11μm,21.0s					
LJU	**Ljubljana**	**41.88 223**	*i* P	**P**	**16 21 45.3 +0.2**	
LJU			*e*PP	**PP**	**16 23 21.2 -0.4**	
LJU			*e*S	**S**	**16 28 01.8 -0.9**	
SURR	**Surduc**	**41.91 215**	⇑P	**P**	**16 21 45.6 +0.3**	
SABO	**M.te Sabotino**	**41.98 224**	IAmb	IAmb	16 21 52.2	
	comp=Z,144nm,1.3s					
SABO			IAMs_20	IAMs_20	16 39 29.9	
	comp=Z,3μm,22.0s					
CTI	**Castel Tesino**	**41.98 226**	P	**P**	**16 21 45.1 -0.9**	
CTI	**Castel Tesino**	**41.98 226**	P	**P**	**16 21 45.1 -0.9**	
CTI			pmax	pmax		
	comp=Z,85nm,1.2s					
CTI			MLR	MLR		
	comp=Z,3μm,21.0s					
MLR	**Muntele Rosu**	**42.06 211**	⇓P	P	16 21 52.0 +5.3	
MLR	**Muntele Rosu**	**42.06 211**	LR	LR	16 40 01.9	
	comp=Z,10μm,19.5s,baz=358,slow=37					
BZS	**Buzias**	**42.06 216**	⇑P	**P**	**16 21 47.9 +1.4**	
BZS	**Buzias**	**42.06 216**	P	**P**	**16 21 47.9 +1.4**	
VOIR		**42.14 212**	⇓P	**P**	**16 21 49.9 +2.6**	
VOIR		**42.14 212**	P	**P**	**16 21 49.9 +2.6**	
GOF	**Gofitskoye**	**42.15 193**	*ce*P	**P**	**16 21 49.1 +1.8**	
CEY	**Cerknica**	**42.19 223**	*e*P	**P**	**16 21 47.3 -0.3**	
CEY	**Cerknica**	**42.19 223**	*i* P	**P**	**16 21 47.3 -0.3**	
ARR	**Arges**	**42.22 213**	⇑P	**P**	**16 21 46.7 -1.3**	
GZR	**Gura Zlata**	**42.25 215**	⇑P	**P**	**16 21 50.9 +2.7**	
GZR	**Gura Zlata**	**42.25 215**	P	**P**	**16 21 50.9 +2.7**	
BTLS	**Baital**	**42.26 160**	*e*P	**P**	**16 21 48.0 -0.2**	
	baz=160					
BTLS			*e*PP	**PP**	**16 23 25.4 -0.2**	
	baz=160					
BTLS	**Baital**	**42.26 160**	*e*P	**P**	**16 21 47.9 -0.2**	
BTLS			*e*		16 23 25.4	
CFR	**Carcaliu**	**42.31 209**	⇓P	**P**	**16 21 48.1 -0.5**	
CFR	**Carcaliu**	**42.31 209**	P	**P**	**16 21 48.1 -0.5**	
TDK	**Taldyqorghan**	**42.38 156**	*e*P	**P**	**16 21 49.0 -0.3**	
	comp=Z,102nm,1.4s,baz=155					
TDK			LR	LR	16 40 07.9	
	comp=Z,10μm,18.9s,baz=155					
TDK	**Taldyqorghan**	**42.38 156**	*e*P	**P**	**16 21 48.9 -0.3**	
TDK			pmax	pmax		
	comp=Z,102nm,1.4s					
TDK			MLR	MLR		
	comp=Z,10μm,19.0s					
BOJS	**Bojanci**	**42.39 222**	*e*P	**P**	**16 21 45.4 -3.8**	
ISR	**Istrita**	**42.42 211**	⇓P	**P**	**16 21 52.4 +2.9**	
ISR	**Istrita**	**42.42 211**	⇓P	**P**	**16 21 52.4 +2.9**	
ANN	**Anapa**	**42.49 199**	*e*P	**P**	**16 21 49.1 -0.9**	
ANN			*e*		16 23 25.4	
ANN			*e*PPP	PPP	16 23 59.6	
ANN			*e*S	**S**	**16 28 11.0 -0.6**	
ANN			*i* SS	**SS**	**16 31 17.0 -3.5**	
ANN			*e*SSS	SSS	16 31 50.6	
ANN			pmax	pmax		
	comp=Z,262nm,1.6s					
ANN			MLR	MLR		
	comp=Z,4μm,13.0s					
FRGS	**Fruska Gora**	**42.58 218**	⇑P	**P**	**16 21 51.2 +0.4**	
FRGS	**Fruska Gora**	**42.58 218**	*e*P	**P**	**16 21 51.1 +0.3**	
HOLB	**Holberg**	**42.60 3**	IAMs_20	IAMs_20	16 40 20.7	
	comp=Z,6μm,21.0s					
TPGR	**Topolog**	**42.63 209**	⇑P	**P**	**16 21 52.0 +0.8**	
ULM	**Lac du Bonnet**	**42.65 333**	P	**P**	**16 21 49.9 -1.4**	
	comp=Z,12nm,0.8s,baz=359,slow=7.8,SNR=13					
ULM			LR	LR	16 40 43.0	
	comp=Z,13μm,18.0s,baz=9.5,slow=38					
	comp=Z,12nm,0.8s					
TEOL	**Teolo**	**42.67 226**	IAmb	IAmb	16 21 55.7	
	comp=Z,157nm,1.2s					
A051A	**Mrakovica**	**42.82 221**	*e*P	**P**	**16 21 53.3 +0.5**	
MDVR	**Moldovita**	**42.90 216**	⇑P	**P**	**16 21 52.8 -0.6**	
BLY	**Banja Luka**	**43.08 220**	*e*P	**P**	**16 21 54.9 +0.1**	
ARXS	**Arharly**	**43.16 157**	*e*P	**P**	**16 21 55.0 -0.6**	
YSS	**Yuzh-Sakhalins**	**43.17 90**	P	**P**	**16 21 54.4 -1.1**	
YSS			IAmb	IAmb	16 22 05.8	
	comp=Z,167nm,1.4s					
YSS			IAMs_20	IAMs_20	16 42 06.5	
	comp=Z,5μm,19.0s					
YSS	**Yuzh-Sakhalins**	**43.17 90**	*e*P	**P**	**16 21 56.2 +0.7**	
YSS			*e*		16 23 34.7	
YSS			pmax	pmax		
	comp=Z,50nm,1.2s					
YSS			pmax	pmax		
	comp=Z,500nm

CHKK	**Chushkaly**	**43.50 157**	*e*P	**P**	**16 21 57.5**	**-0.7**
BNX	**BinXian**	**43.58 105**	⇑P	**P**	**16 21 58.3**	**-0.5**
BNX			pP	**sP**	**16 22 01.5**	**+0.5**
BNX			PcP	**PcP**	**16 23 48.0**	**+1.9**
BNX			S	**S**	**16 28 30.8**	**+3.2**
BNX			pmax	pmax		
	comp=Z,60nm,1.7s					
BNX			pmax	pmax		
	comp=Z,420nm,3.6s					
BNX			LR	LR		
	comp=Z,4μm,16.0s					
BNX			LR	LR		
	comp=Z,3μm,17.3s					
BNX			LR	LR		
	comp=Z,4μm,16.1s					
DIVS	**Divibare**	**43.63 217**	IAMs_20	IAMs_20	16 41 39.8	
	comp=Z,4μm,19.0s					
DIVS	**Divibare**	**43.63 217**	*e*P	**P**	**16 22 00.1**	**+0.7**
SOC	**Sochi**	**43.67 197**	*c i*P	**P**	**16 21 59.9**	**+0.3**
SOC			*e*		16 23 39.9	
SOC			*e*PPP	PPP	16 24 14.6	
SOC			*e*S	**S**	**16 28 32.4**	**+3.4**
SOC			*e*SS	**SS**	**16 31 41.8**	**-1.8**
SOC			pmax	pmax		
	comp=Z,34nm,0.8s					
SOC			MLR	MLR		
	comp=Z,11μm,19.0s					
ZCCA	**Zocca**	**43.70 227**	IAmb	IAmb	16 22 43.4	
	comp=Z,225nm,1.5s					
NCK	**Nalchik**	**43.70 193**	*i* P	**P**	**16 22 01.7**	**+1.8**
NCK			pmax	pmax		
	comp=Z,184nm,1.2s					
NCK			MLR	MLR		
	comp=Z,7μm,17.0s					
MSSA	**Maissana**	**43.79 228**	IAmb	IAmb	16 22 11.1	
	comp=Z,149nm,1.2s					
WMQ	**Urumqi**	**43.80 146**	*e*P	**P**	**16 22 01.5**	**+0.8**
WMQ			pP	sP	16 22 05.3	+2.4
WMQ			PcP	**PcP**	**16 23 48.0**	**+1.0**
WMQ			S	**S**	**16 28 34.3**	**+3.2**
WMQ			pmax	pmax		
	comp=Z,71nm,1.5s					
WMQ			LR	LR		
	comp=Z,14μm,20.3s					
WMQ			LR	LR		
	comp=Z,6μm,23.1s					
WMQ			LR	LR		
	comp=Z,13μm,24.1s					
SGDS	**Sogindy**	**43.85 160**	*e*P	**P**	**16 22 00.9**	**-0.3**
	baz=159					
SGDS	**Sogindy**	**43.85 160**	*e*P	**P**	**16 22 00.9**	**-0.3**
BBLS	**Lazići**	**43.88 218**	*e*P	**P**	**16 22 00.4**	**-1.0**
KPKS	**Kokpek**	**43.92 156**	*e*P	**P**	**16 22 01.5**	**-0.3**
	baz=155					
KPKS	**Kokpek**	**43.92 156**	*e*P	**P**	**16 22 01.4**	**-0.3**
GROC	**Groznyy**	**43.97 190**	*e*P	**P**	**16 22 03.6**	**+1.6**
GROC			*e*		16 23 46.5	
GROC			pmax	pmax		
	comp=Z,200nm,1.2s					
USP	**Ospenovka**	**44.04 160**	P	**P**	**16 22 02.7**	**+0.1**
	SNR=22					
BOVS	**Bovan**	**44.04 216**	⇓P	**P**	**16 22 05.1**	**+2.5**
PDGK	**Podgornoye**	**44.08 155**	P	**P**	**16 22 02.6**	**-0.4**
RUDO	**Rudo**	**44.13 218**	*e*P	**P**	**16 22 01.8**	**-1.5**
KK31	**Karatay Array**	**44.13 164**	P	**P**	**16 22 02.9**	**-0.5**
KK31	**Karatay Array**	**44.13 164**	*i* P	**P**	**16 22 03.3**	**-0.1**
AAA	**Alma-Ata**	**44.14 158**	*e*P	**P**	**16 22 03.5**	**-0.1**
	comp=Z,61nm,0.8s,baz=157					
AAA	**Alma-Ata**	**44.14 158**	*e*P	**P**	**16 22 03.4**	**-0.1**
AAA			pmax	pmax		
	comp=Z,61nm,0.8s					
MDOK	**Medeo**	**44.19 157**	*e*P	**P**	**16 22 03.6**	**-0.4**
	baz=156					
MDOK			*e*PP	**PP**	**16 23 46.7**	**+0.1**
	baz=156					
MDOK			LR	LR	16 42 09.1	
	comp=Z,7μm,15.5s,baz=156					
MDOK	**Medeo**	**44.19 157**	*e*P	**P**	**16 22 03.6**	**-0.4**
MDOK			*e*		16 23 46.7	
MDOK			MLR	MLR		
	comp=Z,7μm,15.0s					
MAK	**Makhachkala**	**44.20 188**	*e*P	P	16 21 57.5	-6.3
MAK			*e*		16 23 43.4	
MAK			*e*S	**S**	**16 28 29.6**	**-7.1**
MAK			*e*SS	**SS**	**16 31 49.0**	**-5.0**
MAK			pmax	pmax		
	comp=Z,283nm,1.3s					
MAK			MLR	MLR		
	comp=Z,4μm,15.0s					
VLDQ	**Val d'Or**	**44.21 315**	P	**P**	**16 22 03.2**	**-0.7**
VLDQ			IAmb	IAmb	16 22 14.1	
	comp=Z,240nm,1.9s					
ZHN	**Zhinishke**	**44.22 156**	*e*P	**P**	**16 22 03.4**	**-0.8**
	comp=Z,47nm,1.3s,baz=155					
ZHN	**Zhinishke**	**44.22 156**	*e*P	**P**	**16 22 03.3**	**-0.8**
ZHN			pmax	pmax		
	comp=Z,47nm,1.3s					
UZB	**Uzynbulak**	**44.25 155**	*e*P	**P**	**16 22 04.0**	**-0.4**
	baz=154					
UZB	**Uzynbulak**	**44.25 155**	*e*P	**P**	**16 22 04.0**	**-0.4**
CHMS	**Chumysh**	**44.31 160**	P	**P**	**16 22 08.7**	**+3.9**
	SNR=9.8					
TNSS	**Tian-Shan**	**44.31 158**	*e*P	**P**	**16 22 04.9**	**-0.4**
	baz=157					
TNSS	**Tian-Shan**	**44.31 158**	*e*P	**P**	**16 22 04.8**	**-0.4**
SATY	**Saty**	**44.32 156**	*e*P	**P**	**16 22 04.8**	**-0.3**
	comp=Z,55nm,1.1s,baz=155					
SATY	**Saty**	**44.32 156**	*e*P	**P**	**16 22 04.7**	**-0.3**
SATY			pmax	pmax		
	comp=Z,55nm,1.1s					
DZA	**Taraz**	**44.36 163**	*e*P	**P**	**16 22 04.8**	**-0.4**
	baz=163					
DZA	**Taraz**	**44.36 163**	*e*P	**P**	**16 22 04.8**	**-0.4**
TKM2	**Tokmak 2**	**44.40 159**	P	**P**	**16 22 06.5**	**+0.8**
	SNR=17					
TKM2	**Tokmak 2**	**44.40 159**	*i* P	**P**	**16 22 05.0**	**-0.8**
TKM2			pmax	pmax		
	comp=Z,65nm,1.2s					
ZEI	**Tsey**	**44.41 192**	*e*P	**P**	**16 22 07.9**	**+2.1**
ZEI			pmax	pmax		
	comp=Z,93nm,1.4s					
CLRS	**Cowichan Lake**	**44.43 360**	P	**P**	**16 22 06.4**	**+0.7**
CLRS			IAmb	IAmb	16 22 16.1	
	comp=Z,123nm,1.1s					
SJES	**Sjenica**	**44.47 217**	*e*P	**P**	**16 22 05.3**	**-0.8**
B35A	**Bob, Littlefor**	**44.49 331**	IAmb	IAmb	16 22 17.0	
	comp=Z,133nm,1.4s					
B35A	**Bob, Littlefor**	**44.49 331**	P	**P**	**16 22 05.1**	**-1.0**
	baz=2.3					
B35A			S	**S**	**16 28 40.8**	**0.0**
	baz=2.3					
LMQ	**La Malbaie**	**44.49 308**	IAmb	IAmb	16 22 17.0	
	comp=Z,163nm,1.4s					
OSSC	**Osservatorio P**	**44.52 226**	IAmb	IAmb	16 22 11.4	
	comp=Z,216nm,1.1s					
UPM	**Unac-Piva**	**44.56 218**	*e*P	P	16 21 56.5	-10
PGC	**Sidney**	**44.60 359**	IAmb	IAmb	16 22 17.2	
	comp=Z,142nm,1.1s					
DGMT	**Dagmar**	**44.60 341**	IAMs_20	IAMs_20	16 40 58.6	
	comp=Z,6μm,19.0s					
DGMT	**Dagmar**	**44.60 341**	P	**P**	**16 22 02.9**	**-4.2**
	baz=1.6					
EKS2	**Erkin-Say**	**44.63 161**	P	**P**	**16 22 10.4**	**+2.9**
	SNR=8.3					
KBK	**Karagaybulak**	**44.66 160**	P	**P**	**16 22 11.0**	**+3.3**
	SNR=11					
AAK	**Ala-Archa**	**44.67 160**	P	**P**	**16 22 09.2**	**+1.4**
	SNR=19					
AAK	**Ala-Archa**	**44.67 160**	P	**P**	**16 22 07.0**	**-0.8**
AAK	**Ala-Archa**	**44.67 160**	*i* P	**P**	**16 22 09.2**	**+1.4**
	SNR=23					
AAK	**Ala-Archa**	**44.67 160**	P	**P**	**16 22 10.1**	**+2.3**
AAK			P	**P**	**16 22 10.1**	**+2.3**
AAK			S	**S**	**16 28 43.5**	**-0.4**
AAK			S	**S**	**16 28 43.5**	**-0.4**
AAK	**Ala-Archa**	**44.67 160**	P	**P**	**16 22 07.0**	**-0.8**
AAK			pmax	pmax		
	comp=Z,53nm,1.0s					
MURB	**Monte Urbino**	**44.73 225**	IAmb	IAmb	16 22 14.5	
	comp=Z,245nm,1.4s					
B06A	**Marblemount**	**44.73 357**	IAmb	IAmb	16 22 18.0	
	comp=Z,110nm,1.3s					
TEY	**Ternei**	**44.76 96**	⇑*e*P	**P**	**16 22 07.4**	**-0.9**
TEY			*e*		16 24 01.2	
TEY			*e*		16 28 50.5	
TEY			pmax	pmax		
	comp=Z,10.0nm,1.7s					
TEY			pmax	pmax		
	comp=N,10.0nm,1.6s					
TEY			pmax	pmax		
	comp=N,100nm,3.2s					
TEY			pmax	pmax		
	comp=Z,100nm,2.6s					
MDJ	**Mudanjiang**	**44.81 103**	P	**P**	**16 22 08.8**	**+0.1**
MDJ			pP	sP	16 22 11.5	+0.6
MDJ			sP	pwP	16 22 13.3	-2.4
MDJ			PcP	**PcP**	**16 23 51.5**	**+1.1**
MDJ			PP	**PP**	**16 23 55.3**	**+2.3**
MDJ			ScP	**ScP**	**16 27 43.5**	**+1.3**
MDJ			PcS	**PcS**	**16 27 45.8**	**+2.0**
MDJ			S	**S**	**16 28 45.0**	**-0.5**
MDJ			sS	sS	16 28 51.0	+3.0
MDJ			ScS	**SS**	**16 32 07.5**	**+1.7**
MDJ			pmax	pmax		
	comp=Z,37nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,830nm,3.6s					
MDJ			LR	LR		
	comp=Z,3μm,15.2s					
MDJ			LR	LR		
	comp=Z,3μm,15.2s					
MDJ			LR	LR		
	comp=Z,5μm,16.7s					
MDJ	**Mudanjiang**	**44.81 103**	IAmb	IAmb	16 22 12.1	
	comp=Z,134nm,1.3s					
EYMN	**Ely**	**44.84 329**	P	P	16 22 04.0	-5.0
	baz=2.5					
EYMN	**Ely**	**44.84 329**	S	**S**	**16 28 46.9**	**+0.9**
	baz=2.5					
BOOM	**Boomskoye usch**	**44.84 159**	IAmb	IAmb	16 22 19.1	
	comp=Z,122nm,1.4s					
XLT	**XiLinHaoTe**	**44.85 117**	*e*P	**P**	**16 22 10.0**	**+0.9**
XLT			pP	sP	16 22 13.5	+2.2
XLT			sP	pwP	16 22 16.8	+0.6
XLT			S	**S**	**16 28 52.5**	**+6.2**
XLT			pmax	pmax		
	comp=Z,150nm,1.6s					
XLT			pmax	pmax		
	comp=Z,620nm,7.1s					
XLT			LR	LR		
	comp=Z,330nm,18.3s					
XLT			LR	LR		
	comp=Z,3μm,17.0s					
XLT			LR	LR		
	comp=Z,5μm,22.5s					
BRY	**Bratogost**	**44.88 219**	*e*P	**P**	**16 22 07.9**	**-1.5**
GUMA	**Gualdo di Mace**	**44.90 224**	IAmb	IAmb	16 22 42.9	
	comp=Z,188nm,1.6s					
GUMA			IAMs_20	IAMs_20	16 41 03.5	
	comp=Z,2μm,20.0s					
CHM	**Chimkent**	**44.91 165**	*e*P	**P**	**16 22 09.1**	**-0.5**
	baz=164					
CHM			LR	LR	16 42 39.6	
	baz=164					
CHM	**Chimkent**	**44.91 165**	*e*P	**P**	**16 22 09.0**	**-0.5**
D62A	**Allapoint, All**	**44.91 307**	IAmb	IAmb	16 22 20.6	
	comp=Z,109nm,1.3s					
D62A			IAMs_20	IAMs_20	16 41 30.0	
	comp=Z,5μm,20.0s					
D62A	**Allapoint, All**	**44.91 307**	P	**P**	**16 22 07.7**	**-1.8**
	baz=3.7					
D62A			P	**P**	**16 22 07.7**	**-1.8**
	baz=3.7					
D62A			S	**S**	**16 28 49.0**	**+2.1**
	baz=3.7					
D62A			S	**S**	**16 28 49.0**	**+2.1**
	baz=3.7					
STON	**Ston**	**44.93 220**	*e*P	**P**	**16 22 08.3**	**-1.4**
NEW	**Newport**	**44.97 353**	P	**P**	**16 22 05.9**	**-4.1**
	baz=0.6,SNR=37					
NEW	**Newport**	**44.97 353**	LR	LR	16 41 51.5	
	comp=Z,19μm,20.8s,baz=360,slow=37					
VTS	**Vitosha**	**45.01 214**	⇓P	**P**	**16 22 10.7**	**+0.2**
VTS	**Vitosha**	**45.01 214**	⇓P	**P**	**16 22 10.7**	**+0.2**
TREB	**Trebinje**	**45.06 219**	*e*P	**P**	**16 22 09.1**	**-1.7**
IUG	**Iuzhnay**	**45.08 165**	*e*P	**P**	**16 22 10.9**	**-0.1**
	comp=Z,82nm,1.7s,baz=164					
IUG	**Iuzhnay**	**45.08 165**	*e*P	**P**	**16 22 10.9**	**-0.1**
IUG			pmax	pmax		
	comp=Z,82nm,1.7s					
EGMT	**Eagleton**	**45.13 346**	P	**P**	**16 22 09.9**	**-1.5**
	baz=1.2,SNR=5.8					
NRCA	**Norcia**	**45.13 224**	IAmb	IAmb	16 22 16.4	
	comp=Z,163nm,1.2s					
MDND	**Maddock**	**45.14 336**	P	**P**	**16 22 09.5**	**-1.8**
	baz=1.9,SNR=6.3					
MDND	**Maddock**	**45.14 336**	S	**S**	**16 28 54.6**	**+4.3**
	baz=1.9					
AML	**Almayashu**	**45.16 161**	P	**P**	**16 22 13.2**	**+1.2**
	SNR=17					
B04A	**Port Angeles**	**45.20 359**	IAmb	IAmb	16 22 22.4	
	comp=Z,199nm,1.3s					
CASP	**Castiglione de**	**45.26 227**	IAmb	IAmb	16 22 16.7	
	comp=Z,94nm,1.1s					
PQI	**Presque Isle**	**45.27 306**	IAmb	IAmb	16 22 23.1	
	comp=Z,207nm,1.7s					
PQI			IAMs_20	IAMs_20	16 40 12.8	
	comp=Z,4μm,22.0s					
C03A	**Quillayute Air**	**45.31 0**	IAMs_20	IAMs_20	16 44 25.4	
	comp=Z,7μm,20.0s					
PDG	**Podgorica**	**45.32 218**	*e*P	**P**	**16 22 12.0**	**-0.8**
USA0B	**Ussuriysk Arra**	**45.35 101**	P	**P**	**16 22 12.0**	**-1.0**
USA0B	**Ussuriysk Arra**	**45.35 101**	P	**P**	**16 22 12.0**	**-1.0**
USA0B			pmax	pmax		
	comp=Z,32nm,1.1s					
USRK	**Ussuriysk Ar.**	**45.35 101**	P	**P**	**16 22 11.7**	**-1.3**
USRK	**Ussuriysk Ar.**	**45.35 101**	P	**P**	**16 22 11.8**	**-1.2**
	comp=Z,12nm,0.9s,baz=341,slow=6.6,SNR=18					
USRK			LR	LR	16 42 07.8	
	comp=Z,6μm,21.1s,baz=354,slow=37					
	comp=Z,12nm,0.9s					
CESX	**Cesi**	**45.38 225**	IAmb	IAmb	16 22 23.5	
	comp=Z,257nm,1.5s					
E62A	**Clayton Lake**	**45.39 308**	IAmb	IAmb	16 22 24.3	
	comp=Z,205nm,1.4s					
E62A	**Clayton Lake**	**45.39 308**	P	**P**	**16 22 12.9**	**-0.4**
	baz=3.6,SNR=6.9					
E62A			P	**P**	**16 22 12.9**	**-0.4**
	baz=3.6,SNR=6.9					
E62A			S	**S**	**16 28 56.3**	**+2.4**
	baz=3.6					
E62A			S	**S**	**16 28 56.3**	**+2.4**
	baz=3.6					
CN2	**Changchun**	**45.41 107**	⇑P	**P**	**16 22 13.0**	**-0.5**
CN2			pmax	pmax		
	comp=Z,20nm,1.0s					
CN2			pmax	pmax		
	comp=Z,700nm,5.0s					
CN2			LR	LR		
	comp=Z,4μm,15.0s					
CN2			LR	LR		
	comp=Z,4μm,15.0s					
CN2			LR	LR		
	comp=Z,5μm,17.0s					
CAMP	**Campotosto**	**45.42 224**	IAmb	IAmb	16 22 51.4	
	comp=Z,89nm,1.2s					
C09A	**Chrisman Ranch**	**45.44 354**	IAmb	IAmb	16 22 25.6	
	comp=Z,88nm,1.2s					
DRME	**Dracevica, Mon**	**45.57 218**	*e*P	**P**	**16 22 12.2**	**-2.6**
SKO	**Skopje**	**45.71 216**	*i* P	**P**	**16 22 18.3**	**+2.4**
BCA	**Borcka**	**45.78 195**	⇑P	**P**	**16 22 18.5**	**+2.0**
D32B	**Dogwood Acres,**	**45.79 334**	S	**S**	**16 28 59.8**	**+0.1**
	baz=2.1					
NLWA	**Neilton Lookou**	**45.86 359**	IAmb	IAmb	16 22 28.0	
	comp=Z,167nm,1.2s					
NLWA			IAMs_20	IAMs_20	16 43 27.7	
	comp=Z,7μm,18.0s					
EJON	**La Jonquera**	**45.94 235**	P	**P**	**16 22 18.1**	**+0.4**
LMN	**Caledonia Moun**	**45.95 303**	P	**P**	**16 22 17.4**	**-0.4**
LMN			IAmb	IAmb	16 22 28.2	
	comp=Z,154nm,1.5s					
STIP	**Stip**	**45.96 215**	*i* P	**P**	**16 22 16.8**	**-1.1**
TRQ	**Mont Tremblant**	**45.99 312**	IAmb	IAmb	16 22 28.9	
	comp=Z,130nm,1.2s					
ASAJ	**Asahikawa**	**46.00 90**	LR	LR	16 44 05.5	
	comp=Z,2μm,18.3s,baz=9.5,slow=39					
JKA	**Kamikawa-asahi**	**46.00 90**	IAmb	IAmb	16 22 26.1	
	comp=Z,188nm,1.6s					
F64A	**Sherman**	**46.09 306**	IAmb	IAmb	16 22 29.5	
	comp=Z,144nm,1.4s					
F64A			IAMs_20	IAMs_20	16 41 05.4	
	comp=Z,4μm,18.0s					
F64A	**Sherman**	**46.09 306**	P	**P**	**16 22 18.4**	**-0.4**
	baz=3.6					
F64A			P	**P**	**16 22 18.4**	**-0.4**
	baz=3.6					
F62A	**Pittston Farm,**	**46.13 308**	IAmb	IAmb	16 22 29.9	
	comp=Z,133nm,1.4s					
E38A	**The Farm, Brul**	**46.18 329**	S	**S**	**16 29 10.6**	**+5.3**
	baz=2.4					
E46A	**Sault Ste Mari**	**46.20 322**	IAmb	IAmb	16 22 31.2	
	comp=Z,187nm,1.4s					
E46A	**Sault Ste Mari**	**46.20 322**	S	**S**	**16 29 05.4**	**-0.2**
	baz=2.9					
E43A	**Lone Tree Farm**	**46.28 324**	IAmb	IAmb	16 22 32.4	
	comp=Z,110nm,1.1s					
F63A	**Nahmakanta, Br**	**46.29 307**	S	**S**	**16 29 02.8**	**-4.0**
	baz=3.6					
F63A			S	**S**	**16 29 02.8**	**-4.0**
	baz=3.6					
VAY	**Valandovo**	**46.32 215**	*i* P	**P**	**16 22 20.9**	**+0.2**
MSO	**Missoula**	**46.38 350**	P	**P**	**16 22 19.1**	**-2.1**
	baz=0.9,SNR=27					
TIR	**Tirane**	**46.38 217**	IAMs_20	IAMs_20	16 43 24.6	
	comp=Z,7μm,20.0s					
RDO	**Rodhopi**	**46.41 211**	IAmb	IAmb	16 22 35.3	
	comp=Z,100nm,1.2s					
LAO	**LASA Array**	**46.42 343**	P	**P**	**16 22 19.7**	**-1.8**
	baz=1.4					
LAO	**LASA Array**	**46.42 343**	P	**P**	**16 22 21.2**	**-0.4**
	baz=1.4					
VLA	**Vladivostok**	**46.42 101**	*i* P	**P**	**16 22 21.6**	**+0.2**
E28A	**Huff**	**46.43 337**	P	**P**	**16 22 21.4**	**-0.2**
	baz=1.8					
OHR	**Ohrid**	**46.59 216**	*i* P	**P**	**16 22 22.0**	**-0.9**
COWI	**Conover**	**46.62 326**	IAmb	IAmb	16 22 32.0	
	comp=Z,234nm,1.9s					
COWI	**Conover**	**46.62 326**	S	**S**	**16 29 13.2**	**+1.6**
	baz=2.5					
ALN	**Alexandroupoli**	**46.65 211**	IAmb	IAmb	16 22 37.2	
	comp=Z,125nm,1.6s					
ALN			IAMs_20	IAMs_20	16 44 30.7	
	comp=Z,4μm,20.0s					
MNTQ	**Montreal, Queb**	**46.67 311**	IAmb	IAmb	16 22 33.9	
	comp=Z,165nm,1.7s					
E07A	**Sunnyside**	**46.69 356**	IAmb	IAmb	16 22 35.4	
	comp=Z,97nm,1.1s					
E07A			IAMs_20	IAMs_20	16 43 20.9	
	comp=Z,5μm,19.0s					
G65A	**Princeton**	**46.72 306**	IAmb	IAmb	16 22 34.3	
	comp=Z,88nm,1.4s					
G65A			IAMs_20	IAMs_20	16 43 19.9	
	comp=Z,5μm,18.0s					
G65A	**Princeton**	**46.72 306**	S	**S**	**16 29 13.8**	**+0.8**
	baz=3.6					
G65A			S	**S**	**16 29 13.8**	**+0.8**
	baz=3.6					
PKME	**Peaks-Kenny Pk**	**46.73 307**	IAmb	IAmb	16 22 34.6	
	comp=Z,84nm,1.4s					
PKME			IAMs_20	IAMs_20	16 41 31.3	
	comp=Z,5μm,21.0s					
PKME	**Peaks-Kenny Pk**	**46.73 307**	P	**P**	**16 22 21.8**	**-2.1**
	baz=3.6					
GGN	**Saint George**	**46.77 305**	IAmb	IAmb	16 22 34.6	
	comp=Z,125nm,1.3s					
G62A	**West of Eustis**	**46.83 308**	IAmb	IAmb	16 22 34.8	
	comp=Z,154nm,1.8s					
G62A			IAMs_20	IAMs_20	16 41 44.9	
	comp=Z,8μm,22.0s					
HAWA	**Hanford**	**46.85 355**	IAMs_20	IAMs_20	16 43 35.7	
	comp=Z,6μm,18.0s					
ECAL	**Calabor**	**46.89 245**	P	**P**	**16 22 24.6**	**-0.6**
F42A	**Maple Grove Fa**	**46.93 325**	IAmb	IAmb	16 22 35.0	
	comp=Z,106nm,1.1s					
PGAV	**Gavieira, Arco**	**46.94 246**	*e*P	**P**	**16 22 25.4**	**-0.2**
	comp=Z,82nm,1.5s					
F36A	**Milaca**	**46.98 331**	IAmb	IAmb	16 22 35.4	
	comp=Z,127nm,1.8s					
F36A	**Milaca**	**46.98 331**	S	**S**	**16 29 16.1**	**-0.7**
	baz=2.3					
PBRG	**Braganca**	**47.02 245**	*e*P	**P**	**16 22 26.4**	**+0.1**
	comp=Z,97nm,1.7s					
GNI	**Garni**	**47.03 191**	P	**P**	**16 22 27.5**	**+1.0**
GNI	**Garni**	**47.03 191**	IAMs_20	IAMs_20	16 45 22.5	
	comp=Z,3μm,20.0s					
GNI	**Garni**	**47.03 191**	P	**P**	**16 22 29.2**	**+2.7**
GNI			P	**P**	**16 22 29.2**	**+2.7**
GNI			S	**S**	**16 29 25.0**	**+7.0**
GNI			S	**S**	**16 29 25.0**	**+7.0**
GNI	**Garni**	**47.03 191**	P	**P**	**16 22 27.5**	**+1.0**
GNI			pmax	pmax		
	comp=Z,194nm,1.5s					
GNI			MLR	MLR		
	comp=Z,3μm,20.0s					
GNI	**Garni**	**47.03 191**	LR	LR	16 46 19.1	
	comp=Z,4μm,21.7s,baz=1.5,slow=41					
F33A	**5 Mile Ranch,**	**47.07 333**	IAmb	IAmb	16 22 35.7	
	comp=Z,82nm,1.1s					
F33A	**5 Mile Ranch,**	**47.07 333**	P	**P**	**16 22 25.8**	**-0.7**
	baz=2.1					
F33A			S	**S**	**16 29 17.2**	**-0.8**
	baz=2.1					
KBN	**Korca**	**47.08 216**	IAmb	IAmb	16 23 00.7	
	comp=Z,177nm,1.6s					
BTK	**Batken**	**47.18 164**	IAmb	IAmb	16 22 40.2	
	comp=Z,76nm,1.1s					
EMMW	**East Machias**	**47.21 305**	P	**P**	**16 22 29.7**	**+2.1**
EMMW			IAmb	IAmb	16 22 38.3	
	comp=Z,106nm,1.3s					
EMMW			IAMs_20	IAMs_20	16 43 35.0	
	comp=Z,4μm,18.0s					
F10A	**Beach Ranch, E**	**47.26 353**	IAmb	IAmb	16 22 52.0	
	comp=Z,185nm,1.9s					
SNY	**Shenyang**	**47.28 109**	⇓P	**P**	**16 22 28.3**	**+0.1**
SNY			S	**S**	**16 29 29.3**	**+8.2**
SNY			pmax	pmax		
	comp=Z,27nm,1.1s					
SNY			pmax	pmax		
	comp=Z,340nm,3.6s					
SNY			LR	LR		
	comp=Z,3μm,15.7s					
SNY			LR	LR		
	comp=Z,2μm,15.4s					
SNY			LR	LR		
	comp=Z,3μm,16.9s					
FRNY	**Flat Rock**	**47.34 311**	P	**P**	**16 22 27.9**	**-0.7**
	baz=3.3,SNR=6.8					
FRNY			S	**S**	**16 29 23.4**	**+1.5**
	baz=3.3					
BMNY	**Brushton-Moira**	**47.37 312**	P	**P**	**16 22 27.9**	**-1.0**
	baz=3.3,SNR=5.6					
BMNY			S	**S**	**16 29 23.0**	**+0.7**
	baz=3.3					
WVL	**Waterville**	**47.45 308**	IAmb	IAmb	16 22 40.3	
	comp=Z,116nm,1.4s					
WVL			IAMs_20	IAMs_20	16 41 52.4	
	comp=Z,5μm,21.0s					
H62A	**Milan**	**47.50 309**	IAmb	IAmb	16 22 41.0	
	comp=Z,121nm,1.4s					
H62A			IAMs_20	IAMs_20	16 42 03.6	
	comp=Z,8μm,21.0s					
H62A	**Milan**	**47.50 309**	P	**P**	**16 22 28.9**	**-1.0**
	baz=3.4					
H62A			P	**P**	**16 22 28.9**	**-1.0**
	baz=3.4					
POLO	**Lamas de Olo**	**47.50 246**	*e*P	**P**	**16 22 29.7**	**-0.4**
	comp=Z,43nm,1.8s					
ANTO	**Ankara**	**47.51 204**	IAMs_20	IAMs_20	16 45 59.6	
	comp=Z,7μm,19.0s					
BOZ	**Bozeman (W)**	**47.59 348**	P	**P**	**16 22 28.2**	**-2.5**
	baz=1.0,SNR=70					
LONY	**Lake Ozonia**	**47.59 312**	IAmb	IAmb	16 22 41.5	
	comp=Z,161nm,1.4s					
LONY			IAMs_20	IAMs_20	16 41 57.3	
	comp=Z,4μm,21.0s					
LONY	**Lake Ozonia**	**47.59 312**	P	**P**	**16 22 28.9**	**-1.7**
	baz=3.3,SNR=16					
PVRL	**Vila Real**	**47.60 246**	*e*P	**P**	**16 22 31.0**	**+0.3**
	comp=Z,115nm,1.7s					
SPMN	**Marine on St.**	**47.60 330**	P	**P**	**16 22 27.8**	**-2.9**
	baz=2.3					
SADO	**Sadowa**	**47.62 317**	IAmb	IAmb	16 22 41.8	
	comp=Z,159nm,1.7s					
SADO	**Sadowa**	**47.62 317**	LR	LR	16 43 44.5	
	comp=Z,7μm,18.1s,baz=15,slow=38

SNR=15
BR131 S **S** **16 29 31.1 +4.6**
BR131 S **S** **16 29 31.1 +4.6**
BR131 S **S** **16 29 31.1 +4.6**
BR131 Keskin Array S 47.63 203 *i* P **P** **16 22 32.5 +1.4**
BRTR Keskin Array B 47.63 203 P **P** **16 22 31.0 -0.2**
BRTR Keskin Array B 47.63 203 P **P** **16 22 30.9 -0.2**
comp=Z,9.7nm,1.1s,baz=5.7,slow=5.0,SNR=21
BRTR LR LR 16 46 26.3
comp=Z,7μm,19.8s,baz=8.0,slow=41
comp=Z,9.7nm,1.1s
MVO Moncorvo 47.67 245 *e*P **P** **16 22 31.0 -0.4**
comp=Z,82nm,1.4s
HHC Hu-ho-hao-te 47.68 122 *e*P **P** **16 22 31.5 +0.1**
HHC sP pwP 16 22 39.0 +0.5
HHC PP **PP** **16 24 20.5 -2.2**
HHC S **S** **16 29 29.5 +2.5**
HHC SS **SS** **16 32 52.0 -2.6**
HHC pmax pmax
comp=Z,56nm,0.8s
HHC pmax pmax
comp=Z,1μm,5.0s
HHC LR LR
comp=Z,9μm,17.9s
HHC LR LR
comp=Z,2μm,16.7s
HHC LR LR
comp=Z,13μm,18.4s
GLMI Grayling 47.75 322 P **P** **16 22 28.9 -3.0**
baz=2.8
VT1 Waterbury 47.81 311 IAmb IAmb 16 22 43.4
comp=Z,98nm,1.4s
VT1 IAMs_20 IAMs_20 16 41 24.3
comp=Z,5μm,21.0s
DELO Deloro Mine 47.81 315 IAmb IAmb 16 22 43.4
comp=Z,78nm,1.3s
KSH Kashi 47.81 159 P **P** **16 22 35.8 +3.3**
KSH pP pwP 16 22 40.0 +0.5
KSH sP sP 16 22 44.0 +9.3
KSH PcP **PcP** **16 24 01.8 +0.6**
KSH PP **PP** **16 24 30.0 +6.0**
KSH S S 16 29 38.5 +10
KSH pmax pmax
comp=Z,14nm,1.2s
KSH LR LR
comp=Z,9μm,20.1s
KSH LR LR
comp=Z,8μm,18.4s
KSH LR LR
comp=Z,13μm,20.4s
DLMT Dillon 47.83 349 IAmb IAmb 16 22 42.6
comp=Z,127nm,1.3s
DLMT IAMs_20 IAMs_20 16 44 03.6
comp=Z,8μm,19.0s
BTO Baotou 47.85 123 *e*P **P** **16 22 33.8 +1.0**
BTO pP **pwP** **16 22 38.5 -1.3**
BTO sP **sP** **16 22 41.0 +6.1**
BTO PcP **PcP** **16 24 00.3 -1.0**
BTO PP **PP** **16 24 23.8 -0.5**
BTO S **S** **16 29 31.0 +1.5**
BTO SS **SS** **16 32 49.3 -8.1**
BTO pmax pmax
comp=Z,34nm,0.6s
BTO pmax pmax
comp=Z,1μm,4.2s
BTO LR LR
comp=Z,13μm,16.5s
BTO LR LR
comp=Z,7μm,14.9s
BTO LR LR
comp=Z,6μm,12.8s
LBNH Lisbon 47.86 310 IAmb IAmb 16 22 44.0
comp=Z,120nm,1.4s
LBNH IAMs_20 IAMs_20 16 42 23.3
comp=Z,6μm,18.0s
LBNH Lisbon 47.86 310 P **P** **16 22 28.9 -3.8**
baz=3.4
LBNH Lisbon 47.86 310 S **S** **16 29 31.5 +2.2**
baz=3.4
CUC Castrocucco 47.87 221 IAmb IAmb 16 22 48.6
comp=Z,69nm,1.3s
I63A Otisfield 48.00 308 IAmb IAmb 16 22 44.8
comp=Z,93nm,1.3s
I63A IAMs_20 IAMs_20 16 42 18.8
comp=Z,8μm,22.0s
I63A Otisfield 48.00 308 S **S** **16 29 34.8 +3.6**
baz=3.4
I63A S **S** **16 29 34.8 +3.6**
baz=3.4
RLMT Red Lodge 48.03 346 P **P** **16 22 29.9 -4.4**
baz=1.2
PVIS Viseu 48.16 246 *e*P **P** **16 22 35.8 +0.7**
ARPR Arapgir-MALATY 48.18 198 IAMs_20 IAMs_20 16 45 13.4
comp=Z,4μm,22.0s
MCVT Middlebury Col 48.19 311 S **S** **16 29 37.4 +3.3**
baz=3.3
I62A Tamworth 48.20 309 IAmb IAmb 16 22 46.6
comp=Z,77nm,1.4s
I62A Tamworth 48.20 309 P **P** **16 22 34.1 -1.3**
baz=3.4
I62A P **P** **16 22 34.1 -1.3**
baz=3.4
I62A S **S** **16 29 36.6 +2.5**
baz=3.4
I62A S **S** **16 29 36.6 +2.5**
baz=3.4
H43A Windswept, Lux 48.21 325 P **P** **16 22 34.6 -0.8**
baz=2.6
H43A S **S** **16 29 32.5 -1.7**
baz=2.6
NCB Newcomb 48.23 312 IAmb IAmb 16 22 45.7
comp=Z,119nm,1.6s
NCB Newcomb 48.23 312 S **S** **16 29 37.0 +2.5**
baz=3.3
WCNY West Carthage 48.27 313 S **S** **16 29 35.4 +0.2**
baz=3.2
UCM Universidad Co 48.35 241 P **P** **16 22 36.5 0.0**
HNH Hanover 48.41 310 IAmb IAmb 16 22 48.5
comp=Z,102nm,1.5s
HNH IAMs_20 IAMs_20 16 41 42.1
comp=Z,5μm,21.0s
YNR Norris Junctio 48.46 347 IAmb IAmb 16 22 51.1
comp=Z,88nm,1.3s
MTE Manteigas 48.46 246 *e*P **P** **16 22 36.7 -0.8**
comp=Z,83nm,2.0s
MTE Manteigas 48.46 246 P **P** **16 22 36.7 -0.8**
SUSD Miller 48.53 336 P P 16 22 32.3 -5.6
baz=1.9
SUSD Miller 48.53 336 S **S** **16 29 39.0 +0.2**
baz=1.9
I49A Point Hope 48.58 320 S **S** **16 29 41.7 +2.3**
baz=2.8
I49A S **S** **16 29 41.7 +2.3**
baz=2.8
LKWY Lake 48.60 347 IAmb IAmb 16 23 03.3
comp=Z,208nm,1.8s
GTA Gaotai 48.62 134 *e*P **P** **16 22 39.0 +0.2**
GTA sP pwP 16 22 47.5 +1.7
GTA PP **PP** **16 24 31.8 +0.5**
GTA S **S** **16 29 43.5 +3.1**
GTA pmax pmax
comp=Z,26nm,1.3s
GTA pmax pmax
comp=Z,890nm,5.3s
GTA LR LR
comp=Z,12μm,20.4s
GTA LR LR
comp=Z,5μm,20.4s
GTA LR LR
comp=Z,18μm,21.4s
FFD Franklin Falls 48.62 309 IAMs_20 IAMs_20 16 42 47.6
comp=Z,7μm,19.0s
COR Corvallis 48.67 359 P **P** **16 22 41.6 +2.7**
COR Corvallis 48.67 359 IAMs_20 IAMs_20 16 45 06.0
comp=Z,5μm,19.0s
COR Corvallis 48.67 359 P **P** **16 22 41.6 +2.7**
COI Coimbra 48.70 246 *e*P **P** **16 22 40.4 +1.3**
comp=Z,107nm,1.4s
COI Coimbra 48.70 246 IAmb IAmb 16 22 48.6
comp=Z,96nm,1.2s
BJI Beijing 48.70 117 P **P** **16 22 40.0 +0.8**
BJI PP **PP** **16 24 31.3 -0.5**
BJI S **S** **16 29 42.3 +1.1**
BJI pmax pmax
comp=Z,28nm,1.8s
BJI pmax pmax
comp=Z,620nm,5.5s
BJI LR LR
comp=Z,3μm,17.2s
BJI LR LR
comp=Z,970nm,14.1s
BJI LR LR
comp=Z,3μm,16.6s
BJT Baijiatuau 48.72 117 IAmb IAmb 16 22 49.3
comp=Z,68nm,1.1s
BJT Baijiatuau 48.72 117 IAMs_20 IAMs_20 16 44 05.8
comp=Z,5μm,18.0s
YFT Old Faithful 48.72 347 IAmb IAmb 16 22 54.2
comp=Z,213nm,1.6s
H17A Grant Village 48.77 347 IAmb IAmb 16 22 53.5
comp=Z,101nm,1.2s
H17A Grant Village 48.77 347 P **P** **16 22 35.3 -4.7**
baz=1.1,SNR=21
ACCN Adirondack Com 48.79 311 IAMs_20 IAMs_20 16 44 26.9
comp=Z,4μm,18.0s
I42A Draeger Farm, 48.82 326 S **S** **16 29 44.4 +1.6**
baz=2.5
I37A Lemond, Waseca 48.82 330 IAmb IAmb 16 22 50.2
comp=Z,220nm,1.6s
J57A Williamstown 48.85 314 IAmb IAmb 16 22 51.5
comp=Z,132nm,1.4s
J57A IAMs_20 IAMs_20 16 42 33.7
comp=Z,5μm,21.0s
J57A Williamstown 48.85 314 S **S** **16 29 46.4 +3.1**
baz=3.1
J57A S **S** **16 29 46.4 +3.1**
baz=3.1
PCAS Casmilo, Conde 48.85 246 *e*P **P** **16 22 40.3 -0.1**
comp=Z,134nm,1.5s
I40A Norwalk 48.87 328 IAmb IAmb 16 22 52.9
comp=Z,84nm,1.2s
I40A Norwalk 48.87 328 S **S** **16 29 44.0 +0.4**
baz=2.4
J58A Remsen 48.88 313 IAmb IAmb 16 22 51.8
comp=Z,143nm,1.4s
J58A IAMs_20 IAMs_20 16 42 57.2
comp=Z,6μm,20.0s
J58A Remsen 48.88 313 P **P** **16 22 40.0 -0.6**
baz=3.2
J58A P **P** **16 22 40.0 -0.6**
baz=3.2
RSSD Black Hills 48.95 341 P **P** **16 22 40.8 -0.6**
RSSD IAmb IAmb 16 22 51.0
comp=Z,92nm,1.0s
RSSD Black Hills 48.95 341 IAMs_20 IAMs_20 16 43 36.0
comp=Z,9μm,19.0s
RSSD Black Hills 48.95 341 P P 16 22 36.3 -5.1
baz=1.5
RSSD Black Hills 48.95 341 P **P** **16 22 41.0 -0.4**
baz=1.5,SNR=17
RSSD S **S** **16 29 47.6 +2.4**
baz=1.5
RSSD Black Hills 48.95 341 P **P** **16 22 40.8 -0.6**
RSSD pmax pmax
comp=Z,92nm,1.0s
RSSD MLR MLR
comp=Z,9μm,19.0s
ECHE Chera 48.96 239 P **P** **16 22 40.4 -0.8**
ESDC Sonseca Array 49.01 242 P **P** **16 22 40.5 -1.1**
comp=Z,22nm,0.9s,baz=0.4,slow=7.5,SNR=29
ESDC LR LR 16 41 47.5
comp=Z,1μm,21.4s,baz=3.5,slow=34
comp=Z,22nm,0.9s
PCBR Castelo Branco 49.02 245 *e*P **P** **16 22 41.5 -0.1**
comp=Z,138nm,1.4s
J56A Wolcott 49.02 314 IAMs_20 IAMs_20 16 43 00.1
comp=Z,9μm,20.0s
J56A Wolcott 49.02 314 S **S** **16 29 46.1 +0.4**
baz=3.1
J56A S **S** **16 29 46.1 +0.4**
baz=3.1
J55A Hilton 49.07 315 IAMs_20 IAMs_20 16 43 00.4
comp=Z,8μm,19.0s
J54A Appleton 49.09 316 S **S** **16 29 49.9 +3.2**
baz=3.0
J54A S **S** **16 29 49.9 +3.2**
baz=3.0
PAB San Pablo 49.16 242 P **P** **16 22 42.2 -0.7**
PAB IAmb IAmb 16 22 52.1
comp=Z,96nm,1.1s
PAB San Pablo 49.16 242 ||P *e* **P** **16 22 42.4 -0.4**
PAB 16 22 47.2
I07A Izee 49.16 355 IAmb IAmb 16 22 59.4
comp=Z,136nm,1.6s
I07A IAMs_20 IAMs_20 16 44 30.9
comp=Z,4μm,19.0s
ECSD EROS Data Cent 49.18 333 IAmb IAmb 16 22 53.7
comp=Z,149nm,1.1s
ECSD EROS Data Cent 49.18 333 P **P** **16 22 38.3 -4.6**
baz=2.0,SNR=18
ECSD EROS Data Cent 49.18 333 P **P** **16 22 42.1 -0.8**
baz=2.0,SNR=18
ECSD S **S** **16 29 46.3 -1.8**
baz=2.0
MEDO Medina 49.19 316 IAMs_20 IAMs_20 16 44 47.8
comp=Z,7μm,22.0s
GEYT Alibeck 49.20 177 P **P** **16 22 43.0 -0.1**
GEYT Alibeck 49.20 177 P **P** **16 22 43.0 -0.1**
comp=Z,13nm,0.8s,baz=359,slow=6.1,SNR=25
GEYT LR LR 16 47 24.9
comp=Z,4μm,20.7s,baz=10.0,slow=41
comp=Z,13nm,0.8s
J47A Sunmer 49.34 322 S **S** **16 29 54.5 +4.3**
baz=2.7
J47A S **S** **16 29 54.5 +4.3**
baz=2.7
PSBE So Bento 49.41 247 *e*P **P** **16 22 45.6 +0.9**
comp=Z,76nm,1.7s
MOOW Moose Ponds 49.42 347 IAmb IAmb 16 22 56.3
comp=Z,179nm,1.5s
PMRV Marv??o 49.42 245 *e*P **P** **16 22 45.4 +0.6**
comp=Z,98nm,1.5s
TRY Troy 49.44 311 IAmb IAmb 16 22 56.4
comp=Z,169nm,1.4s
TRY IAMs_20 IAMs_20 16 44 46.3
comp=Z,5μm,19.0s
K62A Royalston 49.45 310 IAmb IAmb 16 22 56.6
comp=Z,146nm,1.4s
K62A Royalston 49.45 310 S **S** **16 29 55.4 +3.7**
baz=3.3
K62A S **S** **16 29 55.4 +3.7**
baz=3.3
PINE Pine Mountain 49.46 357 IAMs_20 IAMs_20 16 46 10.8
comp=Z,7μm,19.0s
FXWY Fox Creek 49.54 347 IAmb IAmb 16 22 58.2
comp=Z,166nm,1.6s
FXWY IAMs_20 IAMs_20 16 44 11.7
comp=Z,9μm,20.0s
K57A Scipio Center 49.55 314 IAMs_20 IAMs_20 16 43 17.2
comp=Z,8μm,22.0s
I03D Drain, OR 49.56 359 IAmb IAmb 16 22 58.5
comp=Z,162nm,1.3s
LOHW Long Hollow 49.56 347 IAmb IAmb 16 22 59.4
comp=Z,159nm,1.6s
HRV Adam Dziewonsk 49.58 309 IAMs_20 IAMs_20 16 43 25.9
comp=Z,5μm,19.0s
HRV Adam Dziewonsk 49.58 309 P **P** **16 22 41.9 -4.0**
baz=3.3
MMNY Mt. Morris Dam 49.60 315 IAmb IAmb 16 22 57.1
comp=Z,223nm,1.6s
HLID Hailey 49.65 350 IAmb IAmb 16 22 57.5
comp=Z,186nm,1.8s
HLID Hailey 49.65 350 P **P** **16 22 42.7 -3.9**
baz=0.8,SNR=38
L61B Northampton 49.68 310 IAmb IAmb 16 22 58.2
comp=Z,153nm,1.6s
L61B IAMs_20 IAMs_20 16 42 19.7
comp=Z,5μm,21.0s
L61B Northampton 49.68 310 P P 16 22 41.6 -5.1
baz=3.3
WES Weston 49.69 309 IAMs_20 IAMs_20 16 43 28.8
comp=Z,8μm,19.0s
BCX Boston College 49.73 309 IAMs_20 IAMs_20 16 43 22.0
comp=Z,7μm,21.0s
MFID Camas Ranch 49.81 352 IAMs_20 IAMs_20 16 44 20.7
comp=Z,9μm,20.0s
PMTG Montargil 49.82 246 *e*P **P** **16 22 47.4 -0.4**
comp=Z,90nm,1.2s
JFWS Jewell Farm 49.83 327 IAmb IAmb 16 22 57.7
comp=Z,145nm,1.6s
JFWS Jewell Farm 49.83 327 P **P** **16 22 45.0 -2.9**
baz=2.4
JFWS Jewell Farm 49.83 327 S **S** **16 29 56.1 -1.0**
baz=2.4
QUA2 Belchertown 49.84 310 IAmb IAmb 16 22 59.5
comp=Z,181nm,1.4s
QUA2 IAMs_20 IAMs_20 16 42 52.8
comp=Z,4μm,19.0s
J08A Circle Bar Ran 49.88 354 IAmb IAmb 16 22 59.3
comp=Z,72nm,1.0s
ETOB Tobarra 49.93 239 P **P** **16 22 49.1 +0.4**
K43A Burlington 49.99 325 S **S** **16 30 02.8 +3.5**
baz=2.5
PESTR Estremoz 49.99 245 *e*P **P** **16 22 49.4 +0.3**
comp=Z,93nm,1.5s
PESTR Estremoz 49.99 245 P **P** **16 22 47.5 -1.6**
PESTR IAmb IAmb 16 22 58.2
comp=Z,108nm,1.3s
PESTR Estremoz 49.99 245 P **P** **16 22 49.2 +0.1**
L59A Walton 50.03 313 IAmb IAmb 16 23 00.9
comp=Z,140nm,1.6s
L59A Walton 50.03 313 S S 16 30 11.4 +11
baz=3.1
L59A S S 16 30 11.4 +11
baz=3.1
BINY Binghamton 50.06 314 IAmb IAmb 16 23 01.1
comp=Z,204nm,1.5s
BINY IAMs_20 IAMs_20 16 43 32.7
comp=Z,7μm,22.0s
BINY Binghamton 50.06 314 P **P** **16 22 46.4 -3.2**
baz=3.1
BINY Binghamton 50.06 314 P **P** **16 22 49.6 -0.1**
baz=3.1
BINY S **S** **16 30 01.2 +0.8**
baz=3.1
EBAD Badajoz 50.08 245 P **P** **16 22 50.2 +0.5**
J01E Myrtle Point 50.09 360 IAmb IAmb 16 23 02.7
comp=Z,163nm,1.2s
DL2 Dalian 50.09 112 P P 16 22 41.0 -8.8
DL2 S S 16 29 51.0 -10
DL2 pmax pmax
comp=Z,110nm,1.5s
DL2 pmax pmax
comp=Z,1μm,6.1s
DL2 LR LR
comp=N,2μm,19.8s
DL2 LR LR
comp=E,3μm,17.1s
DL2 LR LR
comp=Z,2μm,24.5s
GAZ Gaziantep 50.11 199 IAmb IAmb 16 23 13.0
comp=Z,160nm,1.5s
DBO Dodson Butte 50.13 359 IAmb IAmb 16 23 01.4
comp=Z,110nm,1.1s
BRYW Bryant College 50.17 309 IAMs_20 IAMs_20 16 43 44.4
comp=Z,7μm,19.0s
L56A Greenwood 50.19 315 IAmb IAmb 16 23 02.1
comp=Z,194nm,1.6s
LIS Lisbon 50.22 247 *e*P **P** **16 22 51.0 +0.3**
LIS IAmb IAmb 16 22 54.2
comp=Z,37nm,1.0s
LIS Lisbon 50.22 247 *e*P **P** **16 22 51.0 +0.3**
LIS pmax pmax
comp=Z,37nm,1.0s
AAM Ann Arbor 50.24 321 P **P** **16 22 47.7 -3.2**
baz=2.7
ERPA Erie 50.30 317 IAMs_20 IAMs_20 16 45 06.1
comp=Z,7μm,19.0s
ERPA Erie 50.30 317 P **P** **16 22 48.7 -2.6**
baz=2.9
K30B Basset 50.31 336 IAmb IAmb 16 23 01.1
comp=Z,138nm,1.2s
UCCT U. Connecticut 50.32 310 IAmb IAmb 16 23 02.1
comp=Z,133nm,1.4s
EVO Evora 50.35 246 *e*P **P** **16 22 51.8 0.0**
comp=Z,63nm,1.8s
EVO Evora 50.35 246 P **P** **16 22 52.2 +0.4**
CLTB Caltabellotta 50.37 224 IAMs_20 IAMs_20 16 42 27.8
comp=Z,6μm,22.0s
BW06 Boulder Array 50.39 346 P **P** **16 22 49.4 -3.0**
baz=1.1,SNR=24
PDAR Pinedale Array 50.39 346 P **P** **16 22 51.8 -0.6**
comp=Z,10nm,0.8s,baz=22,slow=4.2,SNR=23
PDAR LR LR 16 45 10.3
comp=Z,10μm,19.6s,baz=6.0,slow=37
comp=Z,10nm,0.8s
AHID Auburn Hatcher 50.41 347 IAmb IAmb 16 23 04.2
comp=Z,134nm,1.7s
AHID IAMs_20 IAMs_20 16 44 38.5
comp=Z,8μm,20.0s
VAE Valguarnera 50.43 223 LR LR 16 44 45.5
comp=Z,3μm,22.0s,baz=20,slow=37
NPNY Mohonk Preserv 50.43 312 S **S** **16 30 09.3 +3.8**
baz=3.2
KSCT Kent School, K 50.44 311 IAmb IAmb 16 23 04.8
comp=Z,208nm,1.6s
K22A Casper 50.46 343 IAmb IAmb 16 23 01.5
comp=Z,77nm,1.1s
K22A Casper 50.46 343 P **P** **16 22 48.2 -4.6**
baz=1.3,SNR=13
K22A Casper 50.46 343 P **P** **16 22 51.7 -1.1**
baz=1.3,SNR=13
K22A S **S** **16 30 05.3 -0.9**
baz=1.3
APE Apeiranthos 50.48 211 *i* P **P** **16 22 50.6 -2.3**
APE pmax pmax
comp=Z,135nm,1.3s
APE MLR MLR
comp=Z,3μm,18.0s
M65A Busby, Falmout 50.48 308 IAMs_20 IAMs_20 16 43 55.6
comp=Z,7μm,22.0s
M65A Busby, Falmout 50.48 308 P **P** **16 22 48.4 -4.4**
baz=3.3
L44A Lake County Fo 50.50 325 P **P** **16 22 48.3 -4.6**
baz=2.5
L46A Eue Claire 50.61 323 IAmb IAmb 16 23 05.0
comp=Z,115nm,1.1s
L48A N Adams 50.62 322 IAmb IAmb 16 23 05.2
comp=Z,117nm,1.2s
L48A N Adams 50.62 322 S **S** **16 30 10.4 +2.3**
baz=2.6
L48A S **S** **16 30 10.4 +2.3**
baz=2.6
K04D Chiloquin, OR 50.63 357 IAMs_20 IAMs_20 16 45 54.2
comp=Z,6μm,19.0s
PBAR Barrancos 50.66 245 *e*P **P** **16 22 53.8 -0.3**
comp=Z,77nm,1.8s
KSPA Keystone Colle 50.70 313 IAmb IAmb 16 23 05.7
comp=Z,113nm,1.5s
KSPA Keystone Colle 50.70 313 P **P** **16 22 55.6 +1.2**
baz=3.1
M63A Gales Ferry 50.70 310 IAmb IAmb 16 23 06.0
comp=Z,178nm,1.2s
M63A IAMs_20 IAMs_20 16 43 59.4
comp=Z,4μm,19.0s
L42A Oliver, Polo 50.73 327 IAmb IAmb 16 23 04.4
comp=Z,339nm,2.0s
WVOR Wild Horse Val 50.80 354 IAmb IAmb 16 23 07.9
comp=Z,241nm,1.4s
YLE Yale 50.82 311 IAMs_20 IAMs_20 16 43 32.7
comp=Z,4μm,21.0s
PBEJ Beja 50.84 246 *e*P **P** **16 22 55.0 -0.5**
comp=Z,108nm,1.8s
TIY Taiyuan 50.84 121 *e*P **P** **16 22 58.0 +2.4**
TIY S **S** **16 30 14.8 +3.4**
TIY SS **SS** **16 33 43.3 -2.1**
TIY pmax pmax
comp=Z,27nm,1.2s
TIY pmax pmax
comp=Z,580nm,4.3s
TIY LR LR
comp=Z,4μm,16.7s
TIY LR LR
comp=Z,2μm,12.3s
TIY LR LR
comp=Z,5μm,21.0s
PAOC Oil Creek Stat 50.88 317 S **S** **16 30 14.4 +2.6**
baz=2.9
M55A Ridgway 50.90 316 IAmb IAmb 16 23 07.3
comp=Z,234nm,1.5s
M55A Ridgway 50.90 316 P **P** **16 22 55.4 -0.5**
baz=2.9,SNR=6.5
M55A P **P** **16 22 55.4 -0.5**
baz=2.9,SNR=6.5
M55A S **S** **16 30 15.5 +3.5**
baz=2.9
M55A S **S** **16 30 15.5 +3.5**
baz=2.9
SCIA State Center 50.92 330 IAmb IAmb 16 23 07.0
comp=Z,256nm,1.9s
SCIA State Center 50.92 330 P P 16 22 51.2 -4.9
baz=2.1
M57A Sunshine Farm, 50.97 315 IAmb IAmb 16 23 07.8

	comp=Z,138nm,1.4s					
M57A			IAMs_20	IAMs_20	16 44 10.6	
	comp=Z,9μm,20.0s					
M57A	**Sunshine Farm,**	**50.97 315**	P	**P**	**16 22 56.2**	**-0.2**
	baz=3.0					
M57A			P	**P**	**16 22 56.2**	**-0.2**
	baz=3.0					
M57A			S	**S**	**16 30 16.0**	**+3.1**
	baz=3.0					
M57A			S	**S**	**16 30 16.0**	**+3.1**
	baz=3.0					
WSPT	**Westport, CT**	**50.98 311**	IAMs_20	IAMs_20	16 43 29.1	
	comp=Z,4μm,20.0s					
M53A	**WI Miller and**	**51.00 318**	IAmb	IAmb	16 23 08.1	
	comp=Z,256nm,1.4s					
M53A	**WI Miller and**	**51.00 318**	P	**P**	**16 22 52.1**	**-4.6**
	baz=2.8					
KBO	**Bosley Butte**	**51.04 360**	IAMs_20	IAMs_20	16 45 36.3	
	comp=Z,8μm,21.0s					
TRNY	**Table Rock, Ra**	**51.05 312**	IAmb	IAmb	16 23 08.4	
	comp=Z,124nm,1.6s					
M50A	**Fremont**	**51.12 320**	IAmb	IAmb	16 23 08.6	
	comp=Z,212nm,1.4s					
ODNJ	**Ogdensburg**	**51.12 312**	IAmb	IAmb	16 23 08.8	
	comp=Z,126nm,1.5s					
L02F	**Cave Junction**	**51.13 359**	IAmb	IAmb	16 23 10.5	
	comp=Z,184nm,1.6s					
PAL	**Palisades**	**51.17 311**	P	**P**	**16 22 57.1**	**-0.8**
PAL			IAmb	IAmb	16 23 09.2	
	comp=Z,123nm,1.4s					
PAL	**Palisades**	**51.17 311**	P	P	16 22 52.2	-5.7
	baz=3.1					
PAL	**Palisades**	**51.17 311**	P	**P**	**16 22 57.1**	**-0.8**
PAL			pmax	pmax		
	comp=Z,123nm,1.4s					
PCVE	**Castro Verde**	**51.24 246**	*e*P	**P**	**16 22 58.2**	**-0.3**
	comp=Z,76nm,1.9s					
HNS	**HongShan**	**51.26 119**	⇑P	**P**	**16 22 59.5**	**+0.9**
HNS			S	S	16 30 26.0	+9.0
HNS			pmax	pmax		
	comp=Z,94nm,1.6s					
HNS			LR	LR		
	comp=Z,810nm,13.8s					
HNS			LR	LR		
	comp=Z,2μm,14.6s					
HNS			LR	LR		
	comp=Z,3μm,15.6s					
CPNY	**Central Park**	**51.39 311**	IAMs_20	IAMs_20	16 44 02.6	
	comp=Z,5μm,20.0s					
HVU	**Hansel Valley**	**51.41 349**	IAmb	IAmb	16 23 10.1	
	comp=Z,93nm,1.2s					
KSXB	**Camp Six Broad**	**51.42 359**	IAmb	IAmb	16 23 12.8	
	comp=Z,186nm,1.4s					
RWWY	**Rawlins**	**51.43 344**	P	**P**	**16 22 58.8**	**-1.4**
RWWY			IAmb	IAmb	16 23 10.1	
	comp=Z,210nm,1.3s					
N58A	**Sunbury**	**51.45 314**	P	**P**	**16 23 01.0**	**+1.0**
	baz=3.0					
N58A			P	**P**	**16 23 01.0**	**+1.0**
	baz=3.0					
PVAQ	**Vaqueiros**	**51.46 245**	*e*P	**P**	**16 23 00.9**	**+0.8**
	comp=Z,93nm,1.8s					
YBH	**Yreka Blue Hor**	**51.52 358**	IAmb	IAmb	16 23 20.1	
	comp=Z,166nm,1.9s					
YBH			IAMs_20	IAMs_20	16 46 29.9	
	comp=Z,3μm,19.0s					
BGNE	**Belgrade**	**51.54 335**	IAmb	IAmb	16 23 10.0	
	comp=Z,173nm,1.2s					
BGNE	**Belgrade**	**51.54 335**	P	**P**	**16 22 56.9**	**-3.9**
	baz=1.8					
HWUT	**Hardware Ranch**	**51.57 348**	IAmb	IAmb	16 23 12.9	
	comp=Z,165nm,1.2s					
HWUT			IAMs_20	IAMs_20	16 46 09.3	
	comp=Z,8μm,20.0s					
N51A	**Ashland**	**51.58 320**	IAmb	IAmb	16 23 11.9	
	comp=Z,95nm,1.1s					
MORF	**Marmelete**	**51.60 246**	*e*P	**P**	**16 23 01.5**	**+0.3**
	comp=Z,51nm,1.8s					
MORF	**Marmelete**	**51.60 246**	*e*P	**P**	**16 23 01.6**	**+0.3**
MORF			IAmb	IAmb	16 23 09.8	
	comp=Z,21nm,1.1s					
MORF	**Marmelete**	**51.60 246**	*e*P	**P**	**16 23 01.5**	**+0.3**
MORF			pmax	pmax		
	comp=Z,21nm,1.1s					
PBDV	**Barranco-do-Ve**	**51.63 246**	*e*P	**P**	**16 23 01.1**	**-0.3**
	comp=Z,87nm,1.5s					
N49A	**Columbus Grove**	**51.63 321**	IAmb	IAmb	16 23 12.6	
	comp=Z,130nm,1.1s					
N49A	**Columbus Grove**	**51.63 321**	P	**P**	**16 23 01.0**	**-0.4**
	baz=2.6,SNR=8.4					
N49A			P	**P**	**16 23 01.0**	**-0.4**
	baz=2.6,SNR=8.4					
N49A			S	**S**	**16 30 24.2**	**+2.1**
	baz=2.6					
N49A			S	**S**	**16 30 24.2**	**+2.1**
	baz=2.6					
N53A	**Lisbon**	**51.63 318**	IAmb	IAmb	16 23 12.7	
	comp=Z,138nm,1.6s					
N53A	**Lisbon**	**51.63 318**	S	**S**	**16 30 24.5**	**+2.4**
	baz=2.8					
N53A			S	**S**	**16 30 24.5**	**+2.4**
	baz=2.8					
LUPA	**Lehigh Univers**	**51.64 313**	IAmb	IAmb	16 23 12.7	
	comp=Z,140nm,1.5s					
GOMU	**GeErMu**	**51.64 139**	P	**P**	**16 23 01.5**	**-0.5**
GOMU			S	**S**	**16 30 18.5**	**-4.5**
GOMU			sS	sS	16 30 29.0	+3.1
GOMU			pmax	pmax		
	comp=Z,23nm,1.2s					
GOMU			LR	LR		
	comp=Z,4μm,19.4s					
GOMU			LR	LR		
	comp=Z,2μm,18.7s					
GOMU			LR	LR		
	comp=Z,4μm,19.8s					
SSPA	**Standing Stone**	**51.70 315**	P	**P**	**16 23 03.1**	**+1.2**
SSPA			IAmb	IAmb	16 23 13.1	
	comp=Z,146nm,1.6s					
SSPA	**Standing Stone**	**51.70 315**	P	**P**	**16 22 57.3**	**-4.6**
	baz=2.9					
N47A	**Urbana**	**51.73 323**	P	**P**	**16 23 01.6**	**-0.5**
	baz=2.5					
N47A			P	**P**	**16 23 01.6**	**-0.5**
	baz=2.5					
N47A			S	**S**	**16 30 25.9**	**+2.5**
	baz=2.5					
N47A			S	**S**	**16 30 25.9**	**+2.5**
	baz=2.5					
INCN	**Inchon**	**51.77 107**	IAMs_20	IAMs_20	16 45 59.7	
	comp=Z,4μm,20.0s					
INCN	**Inchon**	**51.77 107**	P	**P**	**16 22 58.3**	**-4.1**
INCN			P	**P**	**16 22 58.3**	**-4.1**
INCN			S	**S**	**16 30 17.5**	**-6.5**
INCN			S	**S**	**16 30 17.5**	**-6.5**
PFVI	**Vila Bisbo**	**51.78 247**	*e*P	**P**	**16 23 02.9**	**+0.3**
	comp=Z,76nm,1.6s					
PHWY	**Pilot Hill**	**51.79 342**	P	**P**	**16 23 02.3**	**-0.6**
KSRS	**Korea Array**	**51.86 105**	P	**P**	**16 23 02.5**	**-0.6**
	comp=Z,9.9nm,1.1s,baz=352,slow=6.8,SNR=14					
KSRS			LR	LR	16 47 45.6	
	comp=Z,3μm,18.1s,baz=355,slow=39					
	comp=Z,9.9nm,1.1s					
SPUT	**South Promonto**	**51.88 349**	IAmb	IAmb	16 23 15.2	
	comp=Z,197nm,1.5s					
KARP	**Karpathos**	**51.95 210**	IAMs_20	IAMs_20	16 45 47.6	
	comp=Z,4μm,20.0s					
N35A	**Tabor**	**52.03 332**	P	**P**	**16 23 03.7**	**-0.7**
	baz=2.0					
N38A	**Joes South For**	**52.03 330**	S	**S**	**16 30 28.7**	**+1.1**
	baz=2.1					
TCUT	**Toone Canyon**	**52.06 348**	IAMs_20	IAMs_20	16 45 44.5	
	comp=Z,8μm,20.0s					
OGNE	**Ogallala**	**52.09 339**	P	**P**	**16 23 01.1**	**-3.9**
	baz=1.6					
OGNE	**Ogallala**	**52.09 339**	P	**P**	**16 23 04.5**	**-0.4**
	baz=1.6					
PABK	**Blue Knob Stat**	**52.09 316**	S	**S**	**16 30 30.2**	**+1.8**
	baz=2.9					
LZH	**Lanzhou**	**52.09 130**	⇑P	**P**	**16 23 06.0**	**+0.9**
LZH			sP	pwP	16 23 14.0	+1.9
LZH			S	**S**	**16 30 32.0**	**+3.2**
LZH			SS	**SS**	**16 34 02.5**	**-2.9**
LZH			pmax	pmax		
	comp=Z,92nm,1.4s					
LZH			pmax	pmax		
	comp=Z,1μm,6.6s					
LZH			LR	LR		
	comp=Z,5μm,19.6s					
LZH			LR	LR		
	comp=Z,5μm,19.2s					
LZH			LR	LR		
	comp=Z,7μm,18.6s					
JMM	**Marumori**	**52.13 92**	IAmb	IAmb	16 23 09.5	
	comp=Z,79nm,1.0s					
O53A	**New Philadelph**	**52.20 318**	IAmb	IAmb	16 23 16.9	
	comp=Z,258nm,1.6s					
O53A	**New Philadelph**	**52.20 318**	P	**P**	**16 23 03.1**	**-2.6**
	baz=2.8,SNR=6.5					
N23A	**Red Feather La**	**52.21 342**	IAmb	IAmb	16 23 17.3	
	comp=Z,211nm,1.6s					
N23A	**Red Feather La**	**52.21 342**	P	**P**	**16 23 03.0**	**-3.0**
	baz=1.3,SNR=26					
O54A	**Avella**	**52.24 318**	IAmb	IAmb	16 23 17.2	
	comp=Z,102nm,1.1s					
O54A	**Avella**	**52.24 318**	P	**P**	**16 23 05.9**	**-0.1**
	baz=2.8					
O54A			P	**P**	**16 23 05.9**	**-0.1**
	baz=2.8					
O54A			S	**S**	**16 30 29.3**	**-1.2**
	baz=2.8					
O54A			S	**S**	**16 30 29.3**	**-1.2**
	baz=2.8					
BGU	**Big Grassy Mou**	**52.27 349**	IAmb	IAmb	16 23 17.3	
	comp=Z,236nm,1.6s					
SFIN	**Lafayette**	**52.27 324**	IAmb	IAmb	16 23 16.9	
	comp=Z,236nm,1.8s					
SFIN	**Lafayette**	**52.27 324**	P	**P**	**16 23 04.4**	**-1.8**
	baz=2.5					
SFIN	**Lafayette**	**52.27 324**	S	**S**	**16 30 28.7**	**-2.1**
	baz=2.5					
IDI	**Anoyia**	**52.28 212**	IAMs_20	IAMs_20	16 47 35.7	
	comp=Z,3μm,21.0s					
IDI	**Anoyia**	**52.28 212**	LR	LR	16 48 50.0	
	comp=Z,2μm,19.6s,baz=338,slow=40					
ACSO	**Alum Creek Sta**	**52.28 320**	IAmb	IAmb	16 23 17.1	
	comp=Z,102nm,1.1s					
ACSO			IAMs_20	IAMs_20	16 43 39.8	
	comp=Z,6μm,20.0s					
ACSO	**Alum Creek Sta**	**52.28 320**	P	**P**	**16 23 04.8**	**-1.5**
	baz=2.7,SNR=11					
ACSO	**Alum Creek Sta**	**52.28 320**	P	**P**	**16 23 05.8**	**-0.4**
	baz=2.7,SNR=11					
WUPA	**West Chester U**	**52.31 313**	P	**P**	**16 23 05.1**	**-1.4**
WUPA			IAMs_20	IAMs_20	16 44 53.1	
	comp=Z,4μm,22.0s					
O48B	**Farmland**	**52.33 322**	IAmb	IAmb	16 23 17.2	
	comp=Z,256nm,1.6s					
O48B	**Farmland**	**52.33 322**	P	**P**	**16 23 04.6**	**-2.0**
	baz=2.5,SNR=8.2					
O48B	**Farmland**	**52.33 322**	P	**P**	**16 23 05.4**	**-1.2**
	baz=2.5,SNR=8.2					
O48B			S	**S**	**16 30 33.3**	**+1.6**
	baz=2.5					
O52A	**Adamsville**	**52.36 319**	IAmb	IAmb	16 23 17.7	
	comp=Z,139nm,1.4s					
O52A	**Adamsville**	**52.36 319**	P	**P**	**16 23 05.2**	**-1.6**
	baz=2.7,SNR=6.3					
O52A			P	**P**	**16 23 05.2**	**-1.6**
	baz=2.7,SNR=6.3					
O49A	**Covington**	**52.37 321**	IAmb	IAmb	16 23 17.8	
	comp=Z,178nm,1.2s					
O49A	**Covington**	**52.37 321**	P	**P**	**16 23 05.6**	**-1.4**
	baz=2.6,SNR=12					
O49A			P	**P**	**16 23 05.6**	**-1.4**
	baz=2.6,SNR=12					
O49A			S	**S**	**16 30 36.4**	**+4.2**
	baz=2.6					
O49A			S	**S**	**16 30 36.4**	**+4.2**
	baz=2.6					
CSS	**Mathiatis**	**52.39 203**	IAMs_20	IAMs_20	16 49 14.9	
	comp=Z,2μm,18.0s					
JCC	**Jacoby Creek,**	**52.44 360**	P	**P**	**16 23 05.9**	**-1.4**
JCC			IAMs_20	IAMs_20	16 46 28.6	
	comp=Z,7μm,21.0s					
ELK	**Elko**	**52.47 351**	IAMs_20	IAMs_20	16 45 57.2	
	comp=Z,8μm,20.0s					
ELK	**Elko**	**52.47 351**	LR	LR	16 48 09.6	
	comp=Z,7μm,18.4s,baz=327,slow=39					
BRIGG	**Briggsdale**	**52.49 341**	P	**P**	**16 23 06.2**	**-1.8**
BRIGG			IAmb	IAmb	16 23 17.9	
	comp=Z,122nm,1.1s					
TIA	**Tai'an**	**52.56 116**	⇑P	**P**	**16 23 08.8**	**+0.4**
TIA			S	**S**	**16 30 40.5**	**+5.6**
TIA			pmax	pmax		
	comp=Z,620nm,2.2s					
TIA			LR	LR		
	comp=Z,3μm,18.0s					
TIA			LR	LR		
	comp=Z,630nm,17.2s					
TIA			LR	LR		
	comp=Z,6μm,15.8s					
KBL	**Kabul**	**52.66 166**	P	**P**	**16 23 08.2**	**-1.2**
KBL	**Kabul**	**52.66 166**	P	**P**	**16 23 09.8**	**+0.4**
	SNR=18					
KBL			P	**P**	**16 23 09.8**	**+0.4**
	SNR=18					
KBL			P	**P**	**16 23 09.8**	**+0.4**
	SNR=18					
KBL			S	**S**	**16 30 38.8**	**+2.0**
KBL			S	**S**	**16 30 38.8**	**+2.0**
KBL			S	**S**	**16 30 38.8**	**+2.0**
KBL	**Kabul**	**52.66 166**	P	**P**	**16 23 08.2**	**-1.2**
KBL			pmax	pmax		
	comp=Z,48nm,1.2s					
MCWV	**Mont Chateau**	**52.74 317**	IAmb	IAmb	16 23 20.9	
	comp=Z,103nm,1.3s					
MCWV	**Mont Chateau**	**52.74 317**	P	**P**	**16 23 06.8**	**-2.9**
	baz=2.8					
HRA	**Herat**	**52.75 173**	P	**P**	**16 23 08.1**	**-1.9**
KMPM	**Mount Pierce**	**52.84 360**	IAmb	IAmb	16 23 21.7	
	comp=Z,89nm,1.1s					
P52A	**Corning**	**52.85 319**	IAMs_20	IAMs_20	16 45 48.6	
	comp=Z,7μm,19.0s					
P52A	**Corning**	**52.85 319**	P	**P**	**16 23 07.9**	**-2.5**
	baz=2.7					
P57A	**Homestead Farm**	**52.85 315**	IAMs_20	IAMs_20	16 45 08.5	
	comp=Z,7μm,19.0s					
P57A	**Homestead Farm**	**52.85 315**	P	**P**	**16 23 08.6**	**-1.9**
	baz=2.9					
P57A			P	**P**	**16 23 08.6**	**-1.9**
	baz=2.9					
TJN	**Taejon**	**52.91 106**	*i*P	**P**	**16 23 12.0**	**+1.1**
P53A	**Whipple**	**52.97 319**	IAmb	IAmb	16 23 22.4	
	comp=Z,138nm,1.2s					
P53A	**Whipple**	**52.97 319**	P	**P**	**16 23 09.6**	**-1.8**
	baz=2.7,SNR=10.0					
P53A			P	**P**	**16 23 09.6**	**-1.8**
	baz=2.7,SNR=10.0					
P53A			S	**S**	**16 30 42.9**	**+2.5**
	baz=2.7					
P53A			S	**S**	**16 30 42.9**	**+2.5**
	baz=2.7					
DUG	**Dugway, Tooele**	**53.00 349**	IAmb	IAmb	16 23 28.2	
	comp=Z,197nm,1.8s					
DUG			IAMs_20	IAMs_20	16 46 31.1	
	comp=Z,7μm,20.0s					
DUG	**Dugway, Tooele**	**53.00 349**	P	**P**	**16 23 10.0**	**-1.8**
	baz=0.9,SNR=39					
O20A	**White River Ci**	**53.00 344**	IAmb	IAmb	16 23 23.3	
	comp=Z,136nm,1.5s					
O20A	**White River Ci**	**53.00 344**	P	**P**	**16 23 09.7**	**-2.1**
	baz=1.2					
KMRM	**Mail Ridge**	**53.03 359**	P	**P**	**16 23 10.3**	**-1.6**
P51A	**Williamsport**	**53.03 320**	IAmb	IAmb	16 23 22.2	
	comp=Z,109nm,1.2s					
P51A	**Williamsport**	**53.03 320**	P	**P**	**16 23 10.5**	**-1.3**
	baz=2.6					
P51A			P	**P**	**16 23 10.5**	**-1.3**
	baz=2.6					
P51A			S	**S**	**16 30 43.4**	**+2.1**
	baz=2.6					
P51A			S	**S**	**16 30 43.4**	**+2.1**
	baz=2.6					
P49A	**Miami Univ. Ec**	**53.04 322**	P	**P**	**16 23 12.3**	**+0.4**
	baz=2.5,SNR=7.5					
P49A	**Miami Univ. Ec**	**53.04 322**	P	**P**	**16 23 09.7**	**-2.1**
	baz=2.5,SNR=7.5					
P49A			S	**S**	**16 30 39.1**	**-2.2**
	baz=2.5					
P43A	**Skaggs, Pawnee**	**53.08 326**	P	**P**	**16 23 11.2**	**-1.0**
	baz=2.3					
P48A	**Milroy**	**53.13 322**	IAmb	IAmb	16 23 22.9	
	comp=Z,196nm,1.4s					
P48A	**Milroy**	**53.13 322**	P	**P**	**16 23 10.4**	**-2.2**
	baz=2.5,SNR=9.6					
P48A			P	**P**	**16 23 10.4**	**-2.2**
	baz=2.5,SNR=9.6					
P48A			S	**S**	**16 30 41.5**	**-1.2**
	baz=2.5					
P48A			S	**S**	**16 30 41.5**	**-1.2**
	baz=2.5					
MPU	**Maple Canyon**	**53.16 348**	IAmb	IAmb	16 23 23.9	
	comp=Z,209nm,1.9s					
P38A	**Dawn**	**53.21 330**	IAmb	IAmb	16 23 21.4	
	comp=Z,85nm,1.1s					
P38A	**Dawn**	**53.21 330**	P	**P**	**16 23 10.9**	**-2.2**
	baz=2.1,SNR=8.7					
P38A			S	**S**	**16 30 41.5**	**-2.2**
	baz=2.1					
NLU	**North Lily Min**	**53.23 348**	IAmb	IAmb	16 23 24.4	
	comp=Z,182nm,1.8s					
P40A	**Paris**	**53.26 329**	IAmb	IAmb	16 23 22.8	
	comp=Z,248nm,1.9s					
P40A	**Paris**	**53.26 329**	P	**P**	**16 23 12.5**	**-1.0**
	baz=2.1					
ISCO	**Idaho Springs**	**53.30 342**	P	**P**	**16 23 14.3**	**+0.2**
	baz=1.3,SNR=44					
ISCO	**Idaho Springs**	**53.30 342**	P	**P**	**16 23 14.1**	**0.0**
	baz=1.3,SNR=44					
ISCO			S	**S**	**16 30 43.7**	**-1.8**
	baz=1.3					
MJB9	**Matsu-Tunnel**	**53.30 95**	P	**P**	**16 23 12.2**	**-1.7**
MAJO	**Matsushiro**	**53.31 95**	P	**P**	**16 23 11.8**	**-2.1**
MAJO	**Matsushiro**	**53.31 95**	⇓P	**P**	**16 23 14.2**	**+0.3**
MAJO			*e*		16 23 22.8	
MJAR	**Matsushiro Arr**	**53.31 95**	P	**P**	**16 23 12.7**	**-1.2**
	comp=Z,9.8nm,1.1s,baz=359,slow=6.6,SNR=14					
	comp=Z,9.8nm,1.1s					
Q54A	**Coxs Mills**	**53.45 318**	P	**P**	**16 23 14.4**	**-0.5**
	baz=2.7,SNR=7.1					
Q54A			P	**P**	**16 23 14.4**	**-0.5**
	baz=2.7,SNR=7.1					
Q54A			S	**S**	**16 30 45.0**	**-2.0**
	baz=2.7					
Q54A			S	**S**	**16 30 45.0**	**-2.0**
	baz=2.7					
Q51A	**Peebles**	**53.50 320**	IAMs_20	IAMs_20	16 46 09.8	
	comp=Z,8μm,21.0s					
Q51A	**Peebles**	**53.50 320**	P	**P**	**16 23 14.3**	**-1.0**
	baz=2.6					
Q51A			P	**P**	**16 23 14.3**	**-1.0**
	baz=2.6					
Q51A			S	**S**	**16 30 49.9**	**+2.2**
	baz=2.6					
Q51A			S	**S**	**16 30 49.9**	**+2.2**
	baz=2.6					
Q52A	**Bidwell**	**53.52 319**	IAmb	IAmb	16 23 25.9	
	comp=Z,99nm,1.2s					
Q52A	**Bidwell**	**53.52 319**	P	**P**	**16 23 14.8**	**-0.7**
	baz=2.7,SNR=6.2					
Q52A			P	**P**	**16 23 14.8**	**-0.7**
	baz=2.7,SNR=6.2					
Q52A			S	**S**	**16 30 48.8**	**+0.9**
	baz=2.7					
Q52A			S	**S**	**16 30 48.8**	**+0.9**
	baz=2.7					
NIL	**Nilore**	**53.62 162**	P	**P**	**16 23 15.9**	**-0.3**
NIL	**Nilore**	**53.62 162**	P	**P**	**16 23 15.9**	**-0.3**
NIL			pmax	pmax		
	comp=Z,47nm,0.9s					
NIL			MLR	MLR		
	comp=Z,16μm,20.0s					
ORV	**Oroville**	**53.69 357**	IAMs_20	IAMs_20	16 48 26.9	
	comp=Z,7μm,18.0s					
P17A	**Butcher Ranch,**	**53.69 347**	P	**P**	**16 23 16.6**	**-0.3**
P17A			IAmb	IAmb	16 23 27.7	
	comp=Z,255nm,1.8s					
KSU1	**Kansas State U**	**53.81 333**	IAmb	IAmb	16 23 26.0	
	comp=Z,61nm,0.9s					
SSFO	**Shawnee State**	**53.82 320**	P	**P**	**16 23 16.9**	**-0.8**
OLIL	**Olney**	**53.94 325**	P	**P**	**16 23 17.7**	**-0.8**
	baz=2.3					
MPK	**Martis Peak**	**53.95 356**	IAmb	IAmb	16 23 31.2	
	comp=Z,150nm,1.3s					
LYN	**LuoYang**	**54.00 121**	⇑P	**P**	**16 23 20.8**	**+1.9**
LYN			pP	sP	16 23 23.3	+2.2
LYN			PP	**PP**	**16 25 20.5**	**+0.6**
LYN			sS	sS	16 31 04.0	+7.1
LYN			SS	**SS**	**16 34 39.3**	**+4.2**
LYN			pmax	pmax		
	comp=Z,95nm,0.9s					
LYN			pmax	pmax		
	comp=Z,1μm,6.3s					
LYN			LR	LR		
	comp=Z,7μm,18.6s					
LYN			LR	LR		
	comp=Z,5μm,14.8s					
LYN			LR	LR		
	comp=Z,9μm,18.9s					
KSCO	**Kaye Shedlock'**	**54.03 339**	P	**P**	**16 23 18.6**	**-0.7**
	baz=1.5					
CBN	**Corbin Frederi**	**54.10 315**	P	**P**	**16 23 19.6**	**-0.1**
CBN			IAMs_20	IAMs_20	16 45 56.7	
	comp=Z,5μm,19.0s					
CBN	**Corbin Frederi**	**54.10 315**	P	**P**	**16 23 18.3**	**-1.3**
	baz=2.9					
R55A	**Marlinton**	**54.13 317**	IAmb	IAmb	16 23 31.0	
	comp=Z,219nm,1.6s					
R53A	**Hurricane**	**54.14 319**	IAmb	IAmb	16 23 30.9	
	comp=Z,120nm,1.2s					
R53A	**Hurricane**	**54.14 319**	P	**P**	**16 23 18.9**	**-1.1**
	baz=2.6					
R53A			P	**P**	**16 23 18.9**	**-1.1**
	baz=2.6					
CBKS	**Cedar Bluff**	**54.17 336**	IAmb	IAmb	16 23 28.6	
	comp=Z,69nm,1.1s					
CBKS	**Cedar Bluff**	**54.17 336**	P	**P**	**16 23 19.6**	**-0.7**
	baz=1.7					
KVN	**Kaiserville**	**54.18 354**	IAmb	IAmb	16 23 31.3	
	comp=Z,95nm,1.1s					
Q16A	**Castle Valley**	**54.25 347**	P	**P**	**16 23 20.5**	**-0.5**
EMB	**Emerald Bay**	**54.27 356**	IAmb	IAmb	16 23 33.5	
	comp=Z,195nm,1.4s					
R50A	**Paris**	**54.27 321**	IAmb	IAmb	16 23 31.3	
	comp=Z,101nm,1.4s					
R50A	**Paris**	**54.27 321**	P	**P**	**16 23 19.9**	**-1.1**
	baz=2.5					
R50A			P	**P**	**16 23 19.9**	**-1.1**
	baz=2.5					
R49A	**Shelbyville**	**54.29 322**	P	**P**	**16 23 19.1**	**-1.9**
	baz=2.5,SNR=13					
R49A			P	**P**	**16 23 19.1**	**-1.9**
	baz=2.5,SNR=13					
MMAI	**Mount Meron Ar**	**54.29 201**	P	**P**	**16 23 20.9**	**-0.3**
	comp=Z,6.6nm,0.8s,baz=7.5,slow=7.1,SNR=7.0					
MMAI			LR	LR	16 51 32.2	
	comp=Z,3μm,18.9s,baz=338,slow=42					
	comp=Z,6.6nm,0.8s					
XAN	**Xi'an**	**54.35 125**	⇑P	**P**	**16 23 21.0**	**-0.6**
XAN			sP	pwP	16 23 28.3	-0.3
XAN			PcP	**PcP**	**16 24 26.5**	**+1.1**
XAN			PP	**PP**	**16 25 26.0**	**+2.8**
XAN			S	**S**	**16 31 00.5**	**+1.2**
XAN			ScS	**ScS**	**16 33 06.0**	**-4.5**
XAN			SS	**SS**	**16 34 43.3**	**+2.5**
XAN			pmax	pmax		
	comp=Z,45nm,1.5s					
XAN			pmax	pmax		
	comp=Z,1μm,5.3s					
XAN			LR	LR		
	comp=Z,8μm,18.0s					
XAN			LR	LR		
	comp=Z,5μm,15.8s					
XAN			LR	LR		
	comp=Z,9μm,16.5s					
R58B	**Mineral**	**54.36 315**	IAMs_20	IAMs_20	16 46 04.5	
	comp=Z,7μm,19.0s					
WCI	**Wyandotte Cave**	**54.39 323**	P	**P**	**16 23 22.3**	**+0.5**
WCI	**Wyandotte Cave**	**54.39 323**	P	**P**	**16 23 20.3**	**-1.5**
	baz=2.4					
WCI	**Wyandotte Cave**	**54.39 323**	P	**P**	**16 23 22.3**	**+0.5**
WCI			pmax	pmax		
	comp=Z,34nm,1.1s					
WCI			MLR	MLR		
	comp=Z,15μm,20.0s					
INU	**Inuyama**	**54.43 96**	IAMs_20	IAMs_20	16 45 54.3	
	comp=Z,4μm,22.0s					
R40A	**Maddies Statio**	**54.51 329**	P	**P**	**16 23 21.0**	**-1.6**
	baz=2.1,SNR=8.1					
R32A	**Long Quarter,**	**54.53 335**	IAmb	IAmb	16 23 31.1	
	comp=Z,136nm,1.1s					
R32A	**Long Quarter,**	**54.53 335**	P	**P**	**16 23 21.4**	**-1.5**

	baz=1.7,SNR=9.3					
S61A	Accomac	54.56 313	IAms_20	IAms_20	16 46 02.6	
	comp=Z,6μm,20.0s					
JMU	Jammu	54.58 160	eP	P	16 23 23.7	+0.6
S57A	Dark Hollow, R	54.60 316	IAmb	IAmb	16 23 34.6	
	comp=Z,108nm,1.5s					
PSUT	Pine Spring	54.67 350	IAmb	IAmb	16 23 36.5	
	comp=Z,199nm,1.6s					
CCM	Cathedral Cave	54.71 328	P	P	16 23 22.6	-1.5
CCM			IAmb	IAmb	16 23 32.2	
	comp=Z,94nm,1.1s					
CCM	Cathedral Cave	54.71 328	P	P	16 23 23.7	-0.5
	baz=2.1					
CCM	Cathedral Cave	54.71 328	P	P	16 23 22.4	-1.7
	baz=2.1,SNR=18					
CCM	Cathedral Cave	54.71 328	P	P	16 23 22.6	-1.5
CCM			pmax	pmax		
	comp=Z,94nm,1.1s					
CCM			MLR	MLR		
	comp=Z,10μm,19.0s					
WAKR	Walker	54.73 355	P	P	16 23 23.9	-0.6
FVM	French Village	54.76 327	IAmb	IAmb	16 23 33.3	
	comp=Z,201nm,2.0s					
NVAR	Mina Array Bea	54.80 354	P	P	16 23 25.6	+0.5
	comp=Z,5.8nm,0.8s,baz=3.3,slow=3.9,SNR=25					
NVAR			LR	LR	16 47 52.9	
	comp=Z,8μm,20.3s,baz=358,slow=37					
NVAR			PKP2bc	P'P'df	16 53 40.3	+3.1
	comp=Z,0.8nm,0.7s,baz=186,slow=9.7,SNR=4.9					
	comp=Z,5.8nm,0.8s					
R11B	Troy Canyon, C	54.87 352	P	P	16 23 25.9	+0.5
	baz=0.7,SNR=51					
THN	Thein Dam	54.87 159	eP	P	16 23 28.8	+3.5
S51A	Beattyville	54.89 321	IAMs_20	IAMs_20	16 47 03.6	
	comp=Z,8μm,21.0s					
S51A	Beattyville	54.89 321	P	P	16 23 24.9	-0.5
	baz=2.5					
S51A			P	P	16 23 24.9	-0.5
	baz=2.5					
LHV	Little Huntoon	54.98 354	IAMs_20	IAMs_20	16 47 46.4	
	comp=Z,7μm,20.0s					
SIUC	Southern Illin	54.99 326	IAmb	IAmb	16 23 36.2	
	comp=Z,93nm,1.1s					
S44A	Carbondale	55.02 326	P	P	16 23 25.5	-0.8
	baz=2.2					
DHRM	DHARAMSHALA	55.07 159	eP	P	16 23 26.4	-0.7
DHRM			IAmb	IAmb	16 23 34.5	
	comp=Z,137nm,1.5s					
MCCM	Marconi Confer	55.10 359	IAMs_20	IAMs_20	16 49 27.8	
	comp=Z,2μm,20.0s					
ASF	Jabal al Asfar	55.11 199	LR	LR	16 51 33.6	
	comp=Z,2μm,18.1s,baz=11,slow=41					
S39A	Bolivar	55.13 330	P	P	16 23 25.4	-1.8
	baz=2.0,SNR=7.9					
T60A	Surry	55.14 314	IAMs_20	IAMs_20	16 46 50.0	
	comp=Z,7μm,20.0s					
MTPU	Mount Pierson	55.14 348	IAmb	IAmb	16 23 40.4	
	comp=Z,253nm,1.9s					
TPH	Tonopah	55.15 353	P	P	16 23 27.3	-0.2
TPH	Tonopah	55.15 353	P	P	16 23 27.3	-0.2
BLA	Blacksburg	55.20 318	IAmb	IAmb	16 23 38.5	
	comp=Z,162nm,1.4s					
BLA	Blacksburg	55.20 318	P	P	16 23 27.6	-0.1
	baz=2.7					
CMB	Columbia Colle	55.21 356	IAMs_20	IAMs_20	16 48 25.9	
	comp=Z,5μm,20.0s					
HMU	Henry Mountain	55.23 347	IAmb	IAmb	16 23 39.4	
	comp=Z,187nm,1.6s					
T59A	Double "B" Far	55.34 315	IAmb	IAmb	16 23 40.5	
	comp=Z,180nm,1.4s					
SDCO	Great Sand Dun	55.34 342	P	P	16 23 28.8	-0.3
	baz=1.3,SNR=16					
SDCO	Great Sand Dun	55.34 342	P	P	16 23 28.1	-1.0
	baz=1.3,SNR=16					
S22A	4UR Ranch, Cre	55.36 343	IAmb	IAmb	16 23 39.5	
	comp=Z,98nm,1.1s					
S22A	4UR Ranch, Cre	55.36 343	P	P	16 23 29.7	+0.5
	baz=1.2,SNR=53					
T57A	Hurt	55.38 316	IAmb	IAmb	16 23 39.9	
	comp=Z,140nm,1.7s					
T50A	Nancy	55.55 322	IAmb	IAmb	16 23 40.5	
	comp=Z,124nm,1.6s					
SZCU	Shurtz Canyon	55.59 349	IAmb	IAmb	16 23 42.8	
	comp=Z,195nm,1.8s					
MDPB	Devils Postpil	55.60 355	IAmb	IAmb	16 23 41.9	
	comp=Z,93nm,1.1s					
MLAC	Mammoth, Mammo	55.60 355	P	P	16 23 31.3	+0.4
	baz=0.4					
MGMO	Mountain Grove	55.64 329	IAmb	IAmb	16 23 40.9	
	comp=Z,179nm,1.8s					
KAN12	Harper NE Stat	55.64 335	IAmb	IAmb	16 23 40.9	
	comp=Z,212nm,1.7s					
CCUT	Cedar City	55.64 349	IAmb	IAmb	16 23 42.6	
	comp=Z,258nm,2.0s					
T47A	Sharon Grove	55.65 324	P	P	16 23 29.4	-1.5
	baz=2.3					
T47A			S	S	16 31 16.7	0.0
	baz=2.3					
KAN08	Anthony NE Sta	55.71 335	IAmb	IAmb	16 23 41.5	
	comp=Z,212nm,1.8s					
T42A	Van Buren	55.73 328	IAmb	IAmb	16 23 41.5	
	comp=Z,259nm,1.9s					
T42A	Van Buren	55.73 328	P	P	16 23 30.2	-1.2
	baz=2.1,SNR=13					
T42A			S	S	16 31 16.6	-1.0
	baz=2.1					
KAN01	Argonia South	55.78 334	IAmb	IAmb	16 23 42.0	
	comp=Z,131nm,1.4s					
KAN09	Caldwell North	55.79 334	IAmb	IAmb	16 23 40.3	
	comp=Z,86nm,1.1s					
KAN10	Anthony SW Sta	55.82 335	IAmb	IAmb	16 23 40.4	
	comp=Z,102nm,1.4s					
KAN05	Bluff City Nor	55.83 334	IAmb	IAmb	16 23 42.3	
	comp=Z,188nm,1.6s					
DSP	Deep Springs	55.86 354	IAmb	IAmb	16 23 45.2	
	comp=Z,178nm,1.4s					
KAN17	Caldwell West	55.89 334	IAmb	IAmb	16 23 41.0	
	comp=Z,90nm,1.3s					
BHK	Bhakra	55.90 158⇑	eP	P	16 23 34.2	+1.5
MVCO	Mesa Verde	55.92 345	P	P	16 23 34.3	+1.1
	baz=1.1,SNR=41					
T25A	Trinidad	55.93 341	P	P	16 23 33.7	+0.6
	baz=1.4,SNR=8.9					
U54A	Nelsons Funny	55.94 319	IAmb	IAmb	16 23 43.7	
	comp=Z,79nm,1.2s					
PBMO	Poplar Bluff	55.96 327	IAmb	IAmb	16 23 42.3	
	comp=Z,278nm,2.0s					
PBMO	Poplar Bluff	55.96 327	P	P	16 23 31.4	-1.7
	baz=2.2					
TZTN	Tazewell	55.98 321	IAmb	IAmb	16 23 43.8	
	comp=Z,161nm,1.4s					
TZTN	Tazewell	55.98 321	P	P	16 23 33.2	-0.1
	baz=2.5					
TZTN	Tazewell	55.98 321	S	S	16 31 20.2	-0.8
	baz=2.5					
KAN14	Manchester OK	55.98 334	P	P	16 23 31.3	-2.0
KAN14			IAmb	IAmb	16 23 41.5	
	comp=Z,77nm,1.1s					
T35A	Sooner Cattle	55.99 333	IAmb	IAmb	16 23 41.7	
	comp=Z,87nm,1.1s					
T35B	Sooner Cattle	55.99 333	P	P	16 23 32.0	-1.3
	baz=1.8,SNR=8.0					
U56A	King	56.06 317	IAmb	IAmb	16 23 44.6	
	comp=Z,105nm,1.5s					
U49A	Red Boiling Sp	56.09 323	IAmb	IAmb	16 23 44.4	
	comp=Z,157nm,1.6s					
OK032	Salt Plains WL	56.14 335	P	P	16 23 33.3	-1.1
OK032			IAmb	IAmb	16 23 42.9	
	comp=Z,142nm,1.2s					
OK032			IAMs_20	IAMs_20	16 48 03.5	
	comp=Z,7μm,18.0s					
BLOK	Blackwell	56.16 334	IAmb	IAmb	16 23 43.1	
	comp=Z,132nm,1.2s					
KNB	Kanab	56.17 349	IAmb	IAmb	16 23 45.4	
	comp=Z,88nm,1.2s					
TIN	Tinemaha, Big	56.18 354	P	P	16 23 34.9	+0.1
	baz=0.5					
LCMT	Little Creek M	56.18 349	IAmb	IAmb	16 23 45.5	
	comp=Z,74nm,1.1s					
PMPST	Porto Santo, M	56.20 254	eP	P	16 23 34.8	0.0
	comp=Z,124nm,1.8s					
GRAC	Grapevine Rang	56.23 353	P	P	16 23 34.9	-0.2
	baz=0.5					
OK035	E0210 Rd and N	56.25 335	IAmb	IAmb	16 23 43.8	
	comp=Z,120nm,1.2s					
OK035			IAMs_20	IAMs_20	16 48 05.4	
	comp=Z,5μm,19.0s					
TPNV	Topopah Spring	56.27 352	P	P	16 23 35.8	+0.3
TPNV			IAmb	IAmb	16 23 47.1	
	comp=Z,271nm,2.0s					
TPNV	Topopah Spring	56.27 352	P	P	16 23 35.9	+0.4
	baz=0.6,SNR=18					
TPNV	Topopah Spring	56.27 352	P	P	16 23 35.8	+0.3
TPNV			pmax	pmax		
	comp=Z,271nm,2.0s					
TPNV			MLR	MLR		
	comp=Z,12μm,19.0s					
NOKA	Waynoka	56.32 335	P	P	16 23 34.5	-1.3
NOKA			IAmb	IAmb	16 23 44.3	
	comp=Z,99nm,1.1s					
JNU	Nakatsue	56.33 103	LR	LR	16 48 09.7	
	comp=Z,2μm,20.7s,baz=358,slow=36					
OK051	E0350 and S346	56.41 333	IAmb	IAmb	16 23 44.9	
	comp=Z,124nm,1.2s					
U38A	Gravette	56.41 331	P	P	16 23 35.1	-1.3
	baz=1.9,SNR=8.2					
U38A			S	S	16 31 25.4	-1.3
	baz=1.9					
U40A	Yellville	56.45 330	P	P	16 23 34.2	-2.4
	baz=2.0,SNR=6.9					
U40A			P	P	16 23 34.2	-2.4
	baz=2.0,SNR=6.9					
U40A			S	S	16 31 26.3	-1.0
	baz=2.0					
U40A			S	S	16 31 26.3	-1.0
	baz=2.0					
SAO	San Andreas Ge	56.48 357	IAmb	IAmb	16 23 47.4	
	comp=Z,86nm,1.2s					
PMOZ	Porto Moniz, M	56.49 255	eP	P	16 23 38.4	+1.3
	comp=Z,85nm,1.9s					
OK048	Pawnee Station	56.50 333	IAmb	IAmb	16 23 45.6	
	comp=Z,111nm,1.2s					
HHAR	Hobbs	56.55 331	IAmb	IAmb	16 23 47.0	
	comp=Z,146nm,1.5s					
V58A	Windy Hill, Pi	56.57 316	IAmb	IAmb	16 23 48.4	
	comp=Z,185nm,1.9s					
PMAR	Madeira	56.58 254	eP	P	16 23 39.6	+1.8
	comp=Z,86nm,1.6s					
U32A	Winter Ranch,	56.58 335	IAMs_20	IAMs_20	16 50 43.8	
	comp=Z,5μm,19.0s					
V55A	Taylorsville	56.59 318	IAmb	IAmb	16 23 48.3	
	comp=Z,86nm,1.4s					
V55A	Taylorsville	56.59 318	P	P	16 23 35.7	-1.9
	baz=2.6,SNR=8.0					
V55A			P	P	16 23 35.7	-1.9
	baz=2.6,SNR=8.0					
RTBA	Rita Blanca	56.60 339	IAmb	IAmb	16 23 48.1	
	comp=Z,219nm,1.9s					
BBGB	Big Mountain B	56.66 357	IAmb	IAmb	16 23 51.8	
	comp=Z,83nm,0.9s					
V52A	Sevierville	56.68 321	IAmb	IAmb	16 23 48.7	
	comp=Z,140nm,1.6s					
V52A	Sevierville	56.68 321	P	P	16 23 36.9	-1.4
	baz=2.5					
LCAR	Lake Charles	56.69 328	IAmb	IAmb	16 23 48.5	
	comp=Z,190nm,2.0s					
LCAR	Lake Charles	56.69 328	S	S	16 31 30.3	-0.1
	baz=2.1					
RLO	Rose Lookout	56.70 332	IAmb	IAmb	16 23 46.6	
	comp=Z,69nm,1.2s					
RLO			IAMs_20	IAMs_20	16 47 53.0	
	comp=Z,8μm,21.0s					
QUOK	Quay	56.73 333	IAmb	IAmb	16 23 47.4	
	comp=Z,129nm,1.2s					
V51A	Loudon	56.74 321	P	P	16 23 37.3	-1.5
	baz=2.5					
FURC	Furnace Creek,	56.75 353	P	P	16 23 39.4	+0.7
	baz=0.6,SNR=13					
GNAR	Gosnell	56.76 327	P	P	16 23 37.8	-1.0
NJ2	Nanjing	56.79 115	eP	P	16 23 38.3	-0.7
NJ2			pP	sP	16 23 42.0	+0.8
NJ2			pmax	pmax		
	comp=Z,35nm,0.9s					
NJ2			pmax	pmax		
	comp=Z,1μm,4.7s					
NJ2			LR	LR		
	comp=Z,3μm,15.2s					
NJ2			LR	LR		
	comp=Z,2μm,11.4s					
NJ2			LR	LR		
	comp=Z,4μm,24.6s					
CWC	Cottonwood Cre	56.79 354	P	P	16 23 38.7	-0.6
	baz=0.5					
HALT	Halls	56.80 326	P	P	16 23 38.3	-0.7
V53A	Saluda	56.83 320	P	P	16 23 38.1	-1.3
	baz=2.5					
V53A			P	P	16 23 38.1	-1.3
	baz=2.5					
OK033	Mehan	56.87 333	IAmb	IAmb	16 23 49.8	
	comp=Z,163nm,1.5s					
TKL	Tuckaleechee C	56.87 321	IAmb	IAmb	16 23 49.9	
	comp=Z,97nm,1.2s					
TKL	Tuckaleechee C	56.87 321	P	P	16 23 38.1	-1.5
	baz=2.5,SNR=6.4					
V48A	Smith Brothers	56.89 324	IAmb	IAmb	16 23 50.1	
	comp=Z,206nm,1.6s					
V48A	Smith Brothers	56.89 324	P	P	16 23 38.8	-0.9
	baz=2.3					
V48A			S	S	16 31 32.3	-0.8
	baz=2.3					
VOG	Valley Oaks Go	56.91 355	P	P	16 23 39.2	-0.7
	baz=0.4					
OK031	S. Brethren Rd	56.96 333	P	P	16 23 39.5	-0.7
TUL3	Leonard	56.97 332	P	P	16 23 38.8	-1.5
	baz=1.8					
TUL3	Leonard	56.97 332	P	P	16 23 38.8	-1.5
	baz=1.8					
TUL3			S	S	16 31 32.9	-1.2
	baz=1.8					
DEOK	Depew	57.06 333	IAmb	IAmb	16 23 49.6	
	comp=Z,136nm,1.3s					
CNNC	Cliffs of the	57.08 315	P	P	16 23 41.7	+0.7
	baz=2.7					
OK029	Liberty Lake	57.13 334	IAmb	IAmb	16 23 50.0	
	comp=Z,127nm,1.4s					
MPMC	Manual Prospec	57.17 353	P	P	16 23 42.8	+0.9
	baz=0.5,SNR=20					
W57A	Gilead	57.24 317	IAmb	IAmb	16 23 52.8	
	comp=Z,99nm,1.5s					
CD2	Chengdu	57.25 130	P	P	16 23 43.3	+0.9
CD2			PP	PP	16 25 55.3	+6.2
CD2			S	S	16 31 44.0	+6.0
CD2			pmax	pmax		
	comp=Z,50nm,0.9s					
CD2			LR	LR		
	comp=Z,3μm,14.0s					
CD2			LR	LR		
	comp=Z,7μm,15.0s					
CD2			LR	LR		
	comp=Z,4μm,19.4s					
KMSC	Kings Mountain	57.30 318	IAmb	IAmb	16 23 53.1	
	comp=Z,94nm,1.3s					
KMSC	Kings Mountain	57.30 318	P	P	16 23 42.0	-0.7
	baz=2.6					
KMSC	Kings Mountain	57.30 318	P	P	16 23 41.1	-1.6
	baz=2.6					
SWET	Sewanee	57.38 323	IAmb	IAmb	16 23 53.0	
	comp=Z,214nm,1.8s					
VES	Vestal, Richgr	57.39 355	P	P	16 23 41.9	-1.4
	baz=0.4					
W52A	Murphy	57.44 321	IAmb	IAmb	16 23 54.0	
	comp=Z,90nm,1.2s					
BG3	Lake Jocassee	57.51 320	IAmb	IAmb	16 23 54.6	
	comp=Z,89nm,1.4s					
ISA	Isabella, Lake	57.57 354	IAmb	IAmb	16 23 56.6	
	comp=Z,210nm,1.9s					
ISA	Isabella, Lake	57.57 354	P	P	16 23 44.8	+0.2
	baz=0.5,SNR=15					
EIL	Elat	57.63 201	LR	LR	16 52 18.9	
	comp=Z,1μm,20.0s,baz=356,slow=40					
PAULI	Pauline	57.64 319	P	P	16 23 44.4	-0.6
	baz=2.5					
WUAZ	Wupatki	57.65 347	P	P	16 23 44.7	-0.7
	baz=0.9,SNR=31					
PLAL	Pickwick Lake	57.68 325	IAmb	IAmb	16 23 55.6	
	comp=Z,133nm,1.6s					
LRMC	Laurel Mtn Rad	57.74 353	P	P	16 23 46.7	+0.7
	baz=0.5,SNR=23					
BIRD	Birdtown, Kers	57.77 317	IAmb	IAmb	16 23 56.5	
	comp=Z,121nm,1.4s					
TUQ	Turquoise Moun	57.77 352	P	P	16 23 45.0	-1.2
	baz=0.6					
X58A	Rowland	57.81 316	IAMs_20	IAMs_20	16 48 34.9	
	comp=Z,6μm,18.0s					
PTH	Pithoragarh	57.84 155	eP	P	16 23 45.0	-1.7
SSE	Sheshan	57.85 113	P	P	16 23 47.0	+0.4
SSE			S	S	16 31 46.5	+0.7
SSE			pmax	pmax		
	comp=Z,27nm,2.3s					
SSE			pmax	pmax		
	comp=Z,700nm,3.5s					
SSE			LR	LR		
	comp=Z,1μm,15.9s					
SSE			LR	LR		
	comp=Z,990nm,15.9s					
SMWD	Samnorwood	57.88 337	IAmb	IAmb	16 23 55.9	
	comp=Z,58nm,1.2s					
GSC	Goldstone, Bar	57.92 353	P	P	16 23 47.3	+0.2
GSC	Goldstone, Bar	57.92 353	P	P	16 23 46.7	-0.5
	baz=0.6,SNR=16					
GSC	Goldstone, Bar	57.92 353	P	P	16 23 47.3	+0.2
GSC			pmax	pmax		
	comp=Z,67nm,1.3s					
SMMC	Simmler	57.92 356	P	P	16 23 46.9	-0.2
	baz=0.3					
LGTI	Lohaghat	57.94 155	eP	P	16 23 48.3	+1.1
LSA	Lhasa	57.99 143	P	P	16 23 48.0	-0.2
LSA			LR	LR		
	comp=Z,5μm,22.0s					
LSA			LR	LR		
	comp=Z,4μm,20.6s					
LSA			LR	LR		
	comp=Z,6μm,22.2s					
LSA	Lhasa	57.99 143	P	P	16 23 47.0	-1.2
LSA			IAMs_20	IAMs_20	16 49 59.1	
	comp=Z,5μm,22.0s					
LSA	Lhasa	57.99 143	P	P	16 23 47.0	-1.2
LSA			pmax	pmax		
	comp=Z,28nm,0.9s					
LSA			MLR	MLR		
	comp=Z,5μm,22.0s					
W18A	Petrified Fore	58.03 346	IAmb	IAmb	16 23 59.7	
	comp=Z,138nm,1.2s					
W18A	Petrified Fore	58.03 346	P	P	16 23 48.0	0.0
	baz=1.0,SNR=20					
CCAC	Calif City Air	58.07 354	P	P	16 23 48.1	-0.1
WHN	Wuhan	58.07 120	⇑P	P	16 23 50.8	+2.7
WHN			PP	PP	16 26 01.3	+4.9
WHN			S	S	16 31 52.5	+3.8
WHN			pmax	pmax		
	comp=Z,710nm,2.0s					
WHN			LR	LR		
	comp=Z,17μm,18.2s					
ENH	Enshi	58.12 125	IAMs_20	IAMs_20	16 52 03.7	
	comp=Z,3μm,20.0s					
AMTX	Amarillo	58.13 338	P	P	16 23 47.6	-1.0
	baz=1.5					
ANMO	Albuquerque	58.15 343	P	P	16 23 48.1	-0.8
ANMO			IAmb	IAmb	16 23 59.9	
	comp=Z,112nm,1.5s					
ANMO	Albuquerque	58.15 343	P	P	16 23 47.6	-1.3
	baz=1.2					
ANMO	Albuquerque	58.15 343	P	P	16 23 48.1	-0.8
	baz=1.2					
ANMO	Albuquerque	58.15 343	P	P	16 23 48.1	-0.8
ANMO			pmax	pmax		
	comp=Z,112nm,1.5s					
ANMO			MLR	MLR		
	comp=Z,13μm,19.0s					
JSC	Jenkinsville	58.16 318	IAmb	IAmb	16 23 59.1	
	comp=Z,125nm,1.5s					
X48A	Hartselle	58.18 324	IAmb	IAmb	16 23 58.9	
	comp=Z,128nm,1.2s					
X48A	Hartselle	58.18 324	P	P	16 23 47.0	-1.9
	baz=2.3,SNR=15					
OXF	Oxford	58.19 326	P	P	16 23 47.0	-2.0
	baz=2.2					
OXF	Oxford	58.19 326	S	S	16 31 46.2	-3.9
	baz=2.2					
WMOK	Wichita Mounta	58.21 335	P	P	16 23 47.7	-1.4
WMOK			IAmb	IAmb	16 23 58.3	
	comp=Z,92nm,1.3s					
WMOK	Wichita Mounta	58.21 335	P	P	16 23 48.5	-0.7
	baz=1.6,SNR=12					
WMOK	Wichita Mounta	58.21 335	P	P	16 23 47.4	-1.7
	baz=1.6,SNR=12					
WMOK	Wichita Mounta	58.21 335	P	P	16 23 47.7	-1.4
WMOK			pmax	pmax		
	comp=Z,92nm,1.3s					
WMOK			MLR	MLR		
	comp=Z,8μm,18.0s					
HODGE	Hodges	58.24 319	IAmb	IAmb	16 23 59.5	
	comp=Z,113nm,1.5s					
HODGE	Hodges	58.24 319	P	P	16 23 48.3	-1.0
	baz=2.5					
MIAR	Mount Ida	58.28 330	IAmb	IAmb	16 23 58.5	
	comp=Z,118nm,1.3s					
MIAR	Mount Ida	58.28 330	P	P	16 23 48.5	-1.0
	baz=1.9,SNR=10					
MIAR	Mount Ida	58.28 330	P	P	16 23 48.1	-1.4
	baz=1.9,SNR=10					
MIAR			S	S	16 31 54.2	+2.9
	baz=1.9					
X37A	Clayton	58.28 332	S	S	16 31 54.5	+3.1
	baz=1.8					
X40A	Basin Creek Fa	58.31 329	S	S	16 31 52.2	+0.5
	baz=2.0					
X40A			S	S	16 31 52.2	+0.5
	baz=2.0					
X34A	Smith Ranch, M	58.33 334	IAmb	IAmb	16 24 01.1	
	comp=Z,149nm,1.5s					
X34A			IAMs_20	IAMs_20	16 48 36.3	
	comp=Z,3μm,21.0s					
RRX	Edison Barstow	58.34 353	P	P	16 23 49.8	-0.2
	baz=0.5					
EDW2	Edwards Air Fo	58.34 354	P	P	16 23 49.1	-1.0
	baz=0.5,SNR=20					
PKM	Mcpherson Peak	58.34 356	P	P	16 23 50.0	-0.3
	baz=0.4,SNR=8.3					
HEC	Hector,Ludlow	58.38 352	P	P	16 23 50.5	+0.1
	baz=0.6					
GMRC	Granite Mounta	58.42 352	P	P	16 23 51.3	+0.6
	baz=0.6,SNR=35					
NEE2	Needles Airpor	58.43 351	P	P	16 23 51.0	+0.4
	baz=0.7					
OSI	Osito Audit: C	58.61 354	P	P	16 23 52.3	+0.3
	baz=0.4					
X18A	Snowflake	58.62 346	IAmb	IAmb	16 24 03.6	
	comp=Z,134nm,1.6s					
Y52A	Lilburn	58.67 321	P	P	16 23 51.1	-1.1
	baz=2.4					
Y52A			P	P	16 23 51.1	-1.1
	baz=2.4					
Y49A	Blount Mountai	58.75 323	P	P	16 23 51.6	-1.3
	baz=2.3					
Y49A			S	S	16 31 56.7	-0.9
	baz=2.3					
SBC	Santa Barbara	58.79 355	P	P	16 23 53.5	+0.4
	baz=0.4					
Y45A	Yeager Farm, C	58.84 326	P	P	16 23 52.8	-0.6
	baz=2.1,SNR=12					
CCAR	Cane Creek	58.85 328	P	P	16 23 54.8	+1.3
PDMCI	Parker Dam,Lak	58.89 350	P	P	16 23 53.9	+0.1
	baz=0.7,SNR=12					
LOOK	Love County	58.92 334	P	P	16 23 53.7	-0.3
LOOK			IAMs_20	IAMs_20	16 49 14.9	
	comp=Z,7μm,21.0s					
BBRC	Big Bear Solar	58.95 353	P	P	16 23 53.3	-1.3
	baz=0.5					
DECC	Green Verdugo	58.97 354	P	P	16 23 54.2	-0.2
	baz=0.5					
BFSC	Mount Baldy Ra	58.98 353	P	P	16 23 54.4	-0.2
	baz=0.5,SNR=16					
Y22F	Passcal Instru	59.03 343	P	P	16 23 54.5	-0.4
	baz=1.2					
Y22D	IRIS PASSCAL I	59.03 343	P	P	16 23 54.3	-0.7
	baz=1.2					
IRM	Iron Mountain	59.05 351	P	P	16 23 54.3	-0.6
	baz=0.7,SNR=40					
MSTX	Muleshoe	59.06 339	IAmb	IAmb	16 24 05.3	
	comp=Z,82nm,1.4s					
MSTX	Muleshoe	59.06 339	P	P	16 23 54.5	-0.6
	baz=1.4					
MSTX	Muleshoe	59.06 339	P	P	16 23 54.0	-1.1
	baz=1.4					
SONA	Sohna	59.07 158	eP	P	16 23 52.9	-2.1
GOGA	Godfrey	59.10 320	IAmb	IAmb	16 24 05.4	
	comp=Z,133nm,1.6s					
GOGA	Godfrey	59.10 320	P	P	16 23 54.3	-1.0
	baz=2.4					
GOGA	Godfrey	59.10 320	P	P	16 23 54.1	-1.2
	baz=2.4					
DANN	Dangsing	59.12 151	eP	P	16 23 54.4	-1.4

comp=Z,203nm,1.0s
KUDL Kundal 59.16 158 *e*P P 16 23 53.7 -2.0
WTFS Witchita Falls 59.17 335 P P **16 23 54.5 -1.3**
WTFS IAmb IAmb 16 24 05.3
comp=Z,141nm,1.1s
BELC Belle Mtn. Jos 59.21 352 P P **16 23 55.3 -0.9**
baz=0.6,SNR=17
SCZ2 Santa Cruz Isl 59.23 355 P P **16 23 54.8 -1.4**
baz=0.4
NHSC New Hope 59.29 317 P P **16 23 54.7 -1.8**
baz=2.6
DKNS Dickens 59.33 337 IAmb IAmb 16 24 05.6
comp=Z,31nm,1.0s
PYUN Piuthan 59.35 152 *e*P P **16 23 55.9 -1.4**
comp=Z,434nm,1.5s
BBSR BB Station 59.38 302 IAMs_20 IAMs_20 16 48 57.0
comp=Z,5μm,20.0s
BLYC Blythe 59.45 350 IAmb IAmb 16 24 08.1
comp=Z,87nm,1.1s
BLYC IAMs_20 IAMs_20 16 50 35.4
comp=Z,7μm,22.0s
GKN Gorkha 59.49 150 *e*P P **16 23 56.9 -1.3**
comp=Z,249nm,1.1s
FMP Fort Macarthur 59.51 354 P P **16 23 56.2 -1.8**
baz=0.5
BC3 Big Chuckawall 59.55 351 P P **16 23 57.6 -0.9**
baz=0.6,SNR=10
ELS Elsinore Mount 59.57 353 IAmb IAmb 16 24 09.1
comp=Z,128nm,1.9s
LRAL Lakeview Retre 59.59 324 IAmb IAmb 16 24 07.8
comp=Z,95nm,1.5s
LRAL Lakeview Retre 59.59 324 P P **16 23 56.7 -1.9**
baz=2.2
LRAL Lakeview Retre 59.59 324 P P **16 23 56.4 -2.2**
baz=2.2
PFO Pinyon Flats O 59.60 352 P P **16 23 57.4 -1.5**
PFO Pinyon Flats O 59.60 352 P P **16 23 57.8 -1.1**
baz=0.6
PFO Pinyon Flats O 59.60 352 *i* P P **16 23 59.6 +0.7**
PFO pmax pmax
comp=Z,86nm,1.4s
PFO MLR MLR
comp=Z,16μm,19.0s
TPFO Pinon Flats 59.60 352 P P **16 23 57.2 -1.7**
baz=0.6
GUN Gumba 59.62 149 *e*P P **16 23 57.9 -1.4**
comp=Z,162nm,1.0s
MURC Murrieta 59.62 353 P P **16 23 58.1 -0.8**
baz=0.5
APMT Aspermont 59.65 336 IAmb IAmb 16 24 08.1
comp=Z,178nm,1.1s
KOLN Koldanda 59.70 151 *e*P P **16 23 58.7 -1.0**
comp=Z,267nm,1.6s
KKN Kakani 59.72 149 *e*P P **16 23 58.4 -1.5**
comp=Z,324nm,1.5s
CIS Catalina Islan 59.82 354 P P **16 23 59.7 -0.6**
baz=0.4
BRCI Bahraich 59.85 153 *e*P P **16 23 60.0 -0.5**
JIRN Jiri 59.87 149 *e*P P **16 23 59.9 -1.2**
comp=Z,232nm,1.4s
152A Waverly Hall 59.88 321 IAmb IAmb 16 24 10.8
comp=Z,154nm,1.6s
FW03 Perrin-Whitt E 59.89 334 IAmb IAmb 16 24 11.7
comp=Z,442nm,1.9s
DMN Daman 59.90 150 *e*P P **16 24 00.0 -1.1**
comp=Z,462nm,1.6s
PKIN Phulchoki 59.94 149 *e*P P **16 23 59.8 -1.6**
comp=Z,191nm,1.3s
POST Post 59.94 338 P P **16 24 01.0 -0.1**
POST IAmb IAmb 16 24 11.8
comp=Z,592nm,2.0s
PKI Pulchoki 59.94 149 *e*P P **16 24 00.1 -1.4**
comp=Z,149nm,1.1s
FW06 Azle 59.95 334 P P **16 24 00.5 -0.6**
FW06 IAmb IAmb 16 24 12.0
comp=Z,123nm,1.2s
SNCC San Nicolas Is 59.98 355 P P **16 23 59.7 -1.7**
baz=0.4
143A Socs Landing, 60.05 328 IAmb IAmb 16 24 11.2
comp=Z,129nm,1.1s
PLPT Palo Pinto 60.12 335 P P **16 24 02.7 +0.4**
PLPT IAmb IAmb 16 24 13.2
comp=Z,185nm,1.4s
SN01 Snyder 1 60.13 337 P P **16 24 02.2 -0.2**
SN01 IAmb IAmb 16 24 12.8
comp=Z,172nm,1.6s
GLA Glamis 60.15 351 P P **16 24 02.9 +0.4**
GLA IAmb IAmb 16 24 12.7
comp=Z,72nm,1.1s
GLA Glamis 60.15 351 P P **16 24 00.7 -1.8**
baz=0.7
GLA Glamis 60.15 351 P P **16 24 02.9 +0.4**
GLA pmax pmax
comp=Z,72nm,1.2s
FW07 Weatherford 60.22 334 IAmb IAmb 16 24 13.9
comp=Z,351nm,1.6s
TAPN Taplejung 60.23 147 *e*P P **16 24 02.1 -1.4**
comp=Z,125nm,1.2s
SCI2 San Clemente I 60.24 354 P P **16 24 02.0 -1.2**
baz=0.4
SWSC Sam W. Stewart 60.26 352 P P **16 24 02.9 -0.3**
baz=0.6,SNR=11
GTK Tadong 60.28 146 *e*P P **16 24 03.6 0.0**
GTK IAmb IAmb 16 24 20.1
comp=Z,340nm,1.9s
MONP2 Monument Peak 60.32 352 P P **16 24 02.3 -1.6**
baz=0.6,SNR=13
109C Camp Elliot, M 60.32 353 P P **16 24 03.0 -0.7**
baz=0.5
ABTX Abilene, Hawle 60.34 336 IAmb IAmb 16 24 14.4
comp=Z,108nm,1.3s
ABTX Abilene, Hawle 60.34 336 P P **16 24 03.0 -0.9**
baz=1.6
ABTX Abilene, Hawle 60.34 336 P P **16 24 03.0 -0.9**
baz=1.6
ABTX S S **16 32 17.0 -1.1**
baz=1.6
CNSH ChangSha 60.36 121 ⇓P P **16 24 04.5 +0.5**
CNSH S S **16 32 27.0 +8.7**
CNSH pmax pmax
comp=Z,120nm,1.6s
CNSH LR LR
comp=Z,2μm,14.7s
CNSH LR LR
comp=Z,3μm,16.1s
CNSH LR LR
comp=Z,3μm,17.1s
257A Skidaway Islan 60.45 318 IAMs_20 IAMs_20 16 51 28.6
comp=Z,6μm,19.0s
VBMS Vicksburg 60.51 327 P P **16 24 03.4 -1.5**
baz=2.0
255A Hazlehurst 60.55 319 P P **16 24 05.7 +0.5**
IKP In-Ko-Pah, Jac 60.55 352 P P **16 24 05.2 -0.2**
baz=0.6
FW13 Cleburne 60.56 334 P P **16 24 04.3 -1.0**
FW13 IAmb IAmb 16 24 16.0
comp=Z,200nm,1.5s
121A Cookes Peak, D 60.58 344 P P **16 24 04.0 -1.6**
baz=1.1,SNR=12
121A Cookes Peak, D 60.58 344 P P **16 24 06.0 +0.3**
baz=1.1
RAMN Ramite 60.59 148 *e*P P **16 24 04.3 -1.6**
comp=Z,119nm,1.1s
ITAN ITANAGAR 60.62 141 *e*P P **16 24 06.3 +0.6**
ITAN IAmb IAmb 16 24 14.7
comp=Z,234nm,1.4s
ODAN Odare 60.70 147 *e*P P **16 24 05.3 -1.4**
comp=Z,488nm,1.9s
AJM Ajmer 60.78 160⇑*e*P P **16 24 04.5 -2.5**
TUC Tucson 60.84 347 P P **16 24 07.4 +0.1**
TUC Tucson 60.84 347 P P **16 24 07.3 -0.1**
baz=0.9
TUC Tucson 60.84 347 P P **16 24 07.4 +0.1**
TUC pmax pmax
comp=Z,478nm,2.0s
TUC MLR MLR
comp=Z,10μm,19.0s
ODSA Odessa 60.90 339 IAmb IAmb 16 24 18.1
comp=Z,52nm,1.2s
WHTX Lake Whitney, 60.92 334 P P **16 24 07.5 -0.3**
WHTX IAmb IAmb 16 24 17.7
comp=Z,81nm,1.1s
WHTX Lake Whitney, 60.92 334 P P **16 24 06.6 -1.1**
baz=1.7
WHTX Lake Whitney, 60.92 334 S S **16 32 26.1 +0.6**
baz=1.7
SHME Shamm 61.04 179 *i* P P **16 24 07.5 -1.1**
SNR=10
SHME Shamm 61.04 179 P P **16 24 10.7 +2.1**
SNR=11
TIGA Tifton 61.07 320 P P **16 24 07.9 -0.8**
TIGA Tifton 61.07 320 P P **16 24 07.3 -1.5**
baz=2.4
SGCY Sterling City 61.08 337 IAmb IAmb 16 24 18.6
comp=Z,96nm,1.5s
NATX Nacogdoches 61.08 331 P P **16 24 06.3 -2.5**
baz=1.8
TEZP TEZPUR 61.11 142 *e*P P **16 24 07.8 -1.3**
TEZP IAmb IAmb 16 24 18.9
comp=Z,172nm,1.4s
214A Organ Pipe Nat 61.22 349 IAmb IAmb 16 24 20.4
comp=Z,195nm,2.0s
214A IAMs_20 IAMs_20 16 51 28.9
comp=Z,3μm,20.0s
214A Organ Pipe Nat 61.22 349 P P **16 24 07.4 -2.4**
baz=0.8
JASK Jask - Hormozg 61.22 178 P P **16 24 11.5 +1.6**
SNR=10
JASK S S **16 32 32.1 +2.6**
SHMA Al-Shehemyia 61.24 185 P P **16 24 10.2 +0.2**
SNR=7.1
MNTX Cornudas Mount 61.37 342 IAmb IAmb 16 25 04.8
comp=Z,94nm,1.9s
MNTX Cornudas Mount 61.37 342 P P **16 24 11.1 +0.2**
baz=1.2
BRAL Brewton 61.45 324 P P **16 24 10.5 -0.9**
baz=2.2
MOKO MOKOCHONG 61.47 140 *e*P P **16 24 11.1 -0.6**
MOKO IAmb IAmb 16 24 23.6
comp=Z,122nm,1.0s
PZH PanZhiHua 61.55 133 P P **16 24 08.3 -4.0**
PZH sP **sP** **16 24 14.5 0.0**
PZH PP **PP** **16 26 25.8 -1.6**
PZH S **S** **16 32 34.0 +0.2**
PZH ScS **ScS** **16 34 04.5 +0.8**
PZH pmax pmax
comp=Z,40nm,1.5s
PZH pmax pmax
comp=Z,740nm,6.1s
PZH LR LR
comp=N,890nm,19.6s
PZH LR LR
comp=E,2μm,19.6s
PZH LR LR
comp=Z,2μm,19.6s
BRDY Brady 61.66 335 IAmb IAmb 16 24 22.5
comp=Z,362nm,1.9s
PECS Pecos 61.67 340 IAmb IAmb 16 25 04.8
comp=Z,49nm,1.7s
MNHN Monahans 61.68 339 IAmb IAmb 16 24 22.5
comp=Z,345nm,1.9s
MASF Masafi 61.72 179 P P **16 24 14.7 +1.5**
SNR=21
MSFE Esma-Masafi 61.73 179 *i* P P **16 24 13.4 0.0**
SNR=17
MDH Madha 61.79 179 *i* P P **16 24 13.2 -0.5**
SNR=12
MDH Madha 61.79 179 P P **16 24 15.0 +1.3**
SNR=15
MDH P P **16 24 15.0 +1.3**
SNR=15
GYA Guiyang 61.80 128⇑*i* P P **16 24 14.0 +0.1**
GYA S **S** **16 32 35.5 -1.4**
GYA SS **SS** **16 36 36.5 -1.6**
GYA pmax pmax
comp=Z,59nm,1.3s
GYA pmax pmax
comp=Z,1μm,5.8s
GYA LR LR
comp=Z,1μm,15.5s
GYA LR LR
comp=Z,3μm,19.2s
GYA LR LR
comp=Z,2μm,32.3s
KOHI KOHIMA 62.05 140 *e*P P **16 24 15.3 -0.3**
KOHI IAmb IAmb 16 24 25.7
comp=Z,53nm,1.1s
OZNA Ozona 62.07 337 IAmb IAmb 16 24 24.5
comp=Z,134nm,1.1s
NAZ Nazwa, Dubai 62.10 180 *i* P P **16 24 16.3 +0.5**
SNR=11
NAZ Nazwa, Dubai 62.10 180 P P **16 24 18.0 +2.2**
SNR=11
NAZ P P **16 24 18.0 +2.2**
SNR=11
ALBI Allahabad 62.10 153 *e*P P **16 24 13.2 -2.6**
435B Jarrell 62.13 334 P P **16 24 14.8 -1.2**
baz=1.6
SHL Shillong 62.13 143 P P **16 24 14.7 -1.5**
SHL IAmb IAmb 16 24 19.6
comp=Z,77nm,1.2s
SHL Shillong 62.13 143 *e*P P **16 24 15.1 -1.2**
SHL IAmb IAmb 16 24 25.0
comp=Z,123nm,1.6s
SHL Shillong 62.13 143 P P **16 24 15.7 -0.5**
SNR=36
SHL Shillong 62.13 143 P P **16 24 14.7 -1.5**
SHL pmax pmax
comp=Z,77nm,1.2s
UOSS Minazif 62.14 179 P P **16 24 14.2 -1.9**
UOSS IAmb IAmb 16 24 26.7
comp=Z,68nm,1.4s
UOSS Minazif 62.14 179 *i* P P **16 24 16.3 +0.3**
SNR=10
UOSS Minazif 62.14 179 P P **16 24 17.3 +1.2**
UOSS S **S** **16 32 43.5 +2.5**
HATD Hatta, Dubai 62.26 179 *i* P P **16 24 17.2 +0.3**
SNR=14
HATD Hatta, Dubai 62.26 179 P P **16 24 17.7 +0.8**
SNR=19
SMRA Abu-Samra 62.35 185 P P **16 24 18.4 +0.9**
SNR=9.0
SMRA S **S** **16 32 47.1 +3.4**
ASHO Ashiyiah 62.40 180 *i* P P **16 24 18.2 +0.3**
SNR=12
ASHO Ashiyiah 62.40 180 P P **16 24 18.4 +0.5**
SNR=17
JCT Junction City 62.48 336 P P **16 24 17.6 -0.7**
baz=1.5,SNR=39
JCT Junction City 62.48 336 P P **16 24 17.8 -0.6**
baz=1.5
ALPN Alpine 62.66 340 IAmb IAmb 16 24 30.6
comp=Z,130nm,1.5s
TNCH TengChong 62.90 136 P P **16 24 21.3 -0.1**
TNCH pP sP 16 24 24.5 +0.9
TNCH S **S** **16 32 48.5 -2.4**
TNCH SS **SS** **16 36 54.8 -0.7**
TNCH pmax pmax
comp=Z,66nm,1.5s
TNCH pmax pmax
comp=Z,590nm,4.0s
TNCH LR LR
comp=Z,4μm,19.8s
TNCH LR LR
comp=Z,940nm,18.4s
TNCH LR LR
comp=Z,8μm,20.2s
HKT Hockley 62.91 332 P P **16 24 20.3 -0.8**
HKT IAmb IAmb 16 24 32.1
comp=Z,178nm,1.9s
HKT Hockley 62.91 332 *i* P P **16 24 20.7 -0.4**
HKT pmax pmax
comp=Z,97nm,1.9s
HKT MLR MLR
comp=Z,7μm,21.0s
IMP Imphal 62.93 141 *e*P P **16 24 21.7 +0.3**
IMP IAmb IAmb 16 24 25.9
comp=Z,90nm,1.3s
SOHO SOHO 62.95 179 *i* P P **16 24 21.7 +0.3**
SNR=10
SOHO SOHO 62.95 179 P P **16 24 21.7 +0.3**
SOHO P **P** **16 24 21.7 +0.3**
SOHO S **S** **16 32 52.6 +1.4**
SOHO S **S** **16 32 52.6 +1.4**
KMI Kunming 62.96 132⇑P P **16 24 21.3 -0.6**
KMI S **S** **16 32 49.5 -2.4**
KMI pmax pmax
comp=Z,51nm,1.7s
KMI pmax pmax
comp=Z,590nm,5.6s
KMI LR LR
comp=Z,3μm,18.1s
KMI LR LR
comp=Z,2μm,15.0s
KMI LR LR
comp=Z,4μm,17.9s
ALNE Al Ain 63.02 180 *i* P P **16 24 22.6 +0.6**
SNR=10.0
ALNE Al Ain 63.02 180 P P **16 24 23.3 +1.3**
SNR=19
SAND Sanderson 63.05 338 IAmb IAmb 16 24 31.5
comp=Z,213nm,1.9s
GULI GuiLin 63.12 124 P P **16 24 23.5 +0.9**
GULI LR LR
comp=Z,1μm,21.7s
GULI LR LR
comp=Z,3μm,17.8s
GULI LR LR
comp=Z,3μm,18.4s
HNDO Hondo 63.42 336 IAmb IAmb 16 24 34.2
comp=Z,207nm,1.8s
HOQ Hoqain 63.50 178 P P **16 24 25.6 +0.4**
SNR=18
HOQ S **S** **16 33 01.7 +3.6**
DRIO Del Rio 63.55 337 IAmb IAmb 16 24 35.4
comp=Z,111nm,1.6s
BIDO Bidbid 63.56 177 P P **16 24 28.0 +2.4**
SNR=19
TX31 Lajitas Ar. Si 63.70 340 P P **16 24 25.7 -0.8**
baz=1.3
TXAR Lajitas Array 63.70 340 P P **16 24 25.5 -1.0**
comp=Z,6.8nm,0.7s,baz=3.8,slow=3.7,SNR=28
TXAR PKP2bc **P'P'df** **16 53 25.9 +2.9**
comp=Z,1.4nm,1.1s,baz=181,slow=7.5,SNR=4.1
comp=Z,6.8nm,0.7s
BOK Bokaro 63.71 149 *e*P P **16 24 25.4 -1.2**
BOK IAmb IAmb 16 24 35.5
comp=Z,36nm,1.2s
ARQ Araqi 63.74 179 P P **16 24 27.1 +0.3**
SNR=23
ARQ S **S** **16 33 04.8 +3.7**
WSAR Wadi Sarin 63.84 177 P P **16 24 27.5 +0.1**
SNR=13
WSAR Wadi Sarin 63.84 177 P P **16 24 26.1 -1.3**
comp=Z,11nm,1.2s,baz=26,slow=6.3,SNR=13
comp=Z,11nm,1.2s
SMDO Samad 64.02 177 P P **16 24 30.0 +1.3**
SNR=22
BHPL Bhopal 64.06 158 *e*P P **16 24 28.2 -0.7**
BHPL IAmb IAmb 16 24 32.4
comp=Z,69nm,1.1s
MZR Muzera 64.08 182 *i* P P **16 24 28.8 -0.2**
SNR=15
MZR Muzera 64.08 182 P P **16 24 29.8 +0.9**
SNR=16
YHNB Yeheng 64.25 113 IAMs_20 IAMs_20 16 55 41.2
comp=Z,3μm,20.0s
DWPF Disney Wildern 64.31 318 IAMs_20 IAMs_20 16 53 55.2
comp=Z,4μm,19.0s
DWPF Disney Wildern 64.31 318 P P **16 24 28.8 -1.6**
baz=2.4
KNMB Chin-men Tao 64.31 116 IAMs_20 IAMs_20 16 55 57.6
comp=Z,2μm,19.0s
BSY Bisya 64.33 178 P P **16 24 30.3 -0.3**
SNR=23
BSY P P **16 24 30.3 -0.3**
SNR=23
BELO BELONIA 64.42 143 *e*P P **16 24 31.4 +0.2**
WBK Wadi Bani Khal 64.47 177 P P **16 24 32.5 +0.9**
SNR=15
833A Chaparral WMA, 64.62 336 IAMs_20 IAMs_20 16 56 14.7
comp=Z,5μm,18.0s
833A Chaparral WMA, 64.62 336 P P **16 24 31.6 -0.9**
baz=1.5
833A Chaparral WMA, 64.62 336 P P **16 24 31.8 -0.6**
baz=1.5
JMDO Jabal Madar 64.71 177 P P **16 24 34.0 +0.9**
SNR=22
NACB Ninganchiao 64.76 113 IAMs_20 IAMs_20 16 56 04.0
comp=Z,3μm,18.0s
JLN Jalan Bani Buh 64.93 176 P P **16 24 34.8 +0.3**
SNR=20
SSLB Suanglung 65.11 113 P P **16 24 35.2 -0.5**
SSLB IAmb IAmb 16 24 41.5
comp=Z,136nm,1.7s
SSLB IAMs_20 IAMs_20 16 56 44.8
comp=Z,2μm,20.0s
SAIH SAIHA 65.23 142 *e*P P **16 24 36.1 -0.5**
SAIH IAmb IAmb 16 24 46.6
comp=Z,79nm,1.4s
YULB Yu-li 65.52 113 IAMs_20 IAMs_20 16 55 08.2
comp=Z,2μm,19.0s
TPUB Ta-pu 65.58 114 P P **16 24 37.4 -1.4**
TPUB IAmb IAmb 16 24 42.8
comp=Z,86nm,1.0s
TPUB IAMs_20 IAMs_20 16 56 59.7
comp=Z,2μm,18.0s
HBVL Hebbronville 65.86 335 IAmb IAmb 16 24 50.5
comp=Z,125nm,1.2s
MHTO MHTO 66.08 178 P P **16 24 42.4 +0.5**
SNR=15
MHTO S **S** **16 33 29.6 -0.3**
HKPS Hong Kong Po S 66.28 120 IAMs_20 IAMs_20 16 55 11.6
comp=Z,4μm,19.0s
AKL Akola 66.58 158 *e*P P **16 24 43.3 -1.9**
SLVN Son La 66.78 131 IAmb IAmb 16 24 51.9
comp=Z,55nm,1.2s
SLVN IAMs_20 IAMs_20 16 56 27.7
comp=Z,4μm,18.0s
DOK Doka 68.44 181 P P **16 24 57.3 +0.3**
SNR=10
DOK S **S** **16 34 00.4 +2.1**
CHTO Chiang Mai 69.09 136 P P **16 24 59.4 -1.6**
CHTO IAmb IAmb 16 25 04.9
comp=Z,74nm,0.9s
CHTO Chiang Mai 69.09 136 IAMs_20 IAMs_20 16 57 10.7
comp=Z,5μm,22.0s
CHTO Chiang Mai 69.09 136 P P **16 24 59.4 -1.6**
CHTO pmax pmax
comp=Z,74nm,1.0s
CHTO MLR MLR
comp=Z,5μm,22.0s
WHFO Wadi Hawf 69.13 182 P P **16 25 00.5 -0.9**
SNR=10
WHFO S **S** **16 34 07.7 +1.0**
QIZ Qiongzhong 69.32 125 P P **16 25 00.8 -1.6**
QIZ S **S** **16 34 07.0 -1.8**
QIZ pmax pmax
comp=Z,14nm,1.3s
QIZ LR LR
comp=Z,2μm,16.1s
QIZ LR LR
comp=Z,2μm,17.2s
QIZ LR LR
comp=Z,3μm,16.9s
QIZ Qiongzhong 69.32 125 IAMs_20 IAMs_20 16 58 41.0
comp=Z,3μm,18.0s
SLBS Sierra La Lagu 69.42 346 P P **16 25 03.8 +0.7**
CM31 Chiang Mai Arr 69.44 136 IAmb IAmb 16 25 07.5
comp=Z,45nm,0.9s
CM31 Chiang Mai Arr 69.44 136 P P **16 25 02.4 -0.8**
SNR=28
CMAR Chiang Mai Arr 69.44 136 P P **16 25 02.1 -1.1**
comp=Z,25nm,0.8s,baz=349,slow=7.2,SNR=39
CMAR PKP2bc **P'P'df** **16 53 13.2 +1.6**
comp=Z,0.2nm,0.3s,baz=210,slow=4.3,SNR=4.4
comp=Z,25nm,0.8s
RBK Rabkut 69.55 181 P P **16 25 06.0 +2.1**
SNR=8.7
ABTO Aybut 69.70 182 P P **16 25 07.0 +2.2**
SNR=11
ABTO P P **16 25 07.0 +2.2**
SNR=11
HYB Hyderabad 69.88 157 *e*P P **16 25 05.5 -0.4**
HYB IVmB_BB 16 25 08.9
comp=Z,627nm,7.4s
HYB *e*PcP **PcP** **16 25 27.9 -0.5**
HYB *e*PP **PP** **16 27 39.5 -0.7**
HYB *e*S **S** **16 34 16.2 +0.7**
HYB *e*SS **SS** **16 38 45.1 +1.4**
HYB IVMs_BB IVMs_BB 16 59 47.1
comp=Z,4μm,19.2s
GTBY Guantanamo Bay 72.21 311 IAMs_20 IAMs_20 16 56 20.1
comp=Z,2μm,21.0s
GTBY Guantanamo Bay 72.21 311 *e*P P **16 25 23.3 +3.4**
TEIG Tepich 72.38 324 LR LR 16 58 01.1
comp=Z,65μm,21.3s,baz=148,slow=37
HPAH Hawaii Prepara 72.72 31 P P **16 25 22.6 -0.6**
SDDR Presa de Saban 72.99 308 P P **16 25 23.8 -0.9**
SDDR IAmb IAmb 16 25 36.0
comp=Z,150nm,1.4s

SDDR				IAMs_20	IAMs_20	16 55 52.6	
	comp=Z,4μm,22.0s						
BYL	**Byron's Ledge**	**73.34**	**30**	IAMs_20	IAMs_20	16 49 46.3	
	comp=Z,3μm,20.0s						
SMRT	**St. Maarten**	**73.55**	**299**	IAMs_20	IAMs_20	16 58 14.3	
	comp=Z,2μm,21.0s						
UNM	**Universidad Na**	**73.56**	**335**	IAMs_20	IAMs_20	16 58 28.6	
	comp=Z,3μm,22.0s						
SJG	**San Juan**	**73.63**	**303**	IAMs_20	IAMs_20	16 57 07.6	
	comp=Z,4μm,21.0s						
MTDJ	**Mount Denham**	**73.99**	**314**	IAMs_20	IAMs_20	16 59 27.5	
	comp=Z,2μm,20.0s						
TOA0	**Torodi Ar. Sit**	**75.14**	**234**	P	**P**	**16 25 35.5**	**-1.8**
TOA0	**Torodi Ar. Sit**	**75.14**	**234**	P	**P**	**16 25 38.1**	**+0.8**
	SNR=15						
TOA0				S	**S**	**16 35 18.7**	**+3.0**
TORD	**Torodi Ar. Bea**	**75.14**	**234**	P	**P**	**16 25 35.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**75.14**	**234**	P	**P**	**16 25 35.7**	**-1.6**
	comp=Z,27nm,1.0s,baz=0.5,slow=7.4,SNR=34						
	comp=Z,27nm,1.0s						
TEND	**Ethiopian Broa**	**75.32**	**195**	*e*P	**P**	**16 25 40.9**	**+2.6**
	baz=122						
CBE	**Ff, Capester**	**75.45**	**298**	IAMs_20	IAMs_20	16 59 56.6	
	comp=Z,1μm,19.0s						
MAGL	**Barre de l'ile**	**75.55**	**298**	IAMs_20	IAMs_20	17 01 33.3	
	comp=Z,1μm,21.0s						
ATD	**Arta Tunnel**	**75.56**	**193**	IAMs_20	IAMs_20	17 02 56.7	
	comp=Z,1μm,20.0s						
PETF	**Flores**	**75.72**	**326**	P	**P**	**16 25 39.9**	**-0.6**
PETF				IAmb	IAmb	16 25 47.7	
	comp=Z,26nm,0.4s						
PBA	**Port Blair**	**75.99**	**142**	IAMs_20	IAMs_20	17 05 11.9	
	comp=Z,3μm,21.0s						
GRD1	**Great Renaissa**	**76.07**	**201**	*e*P	**P**	**16 25 44.2**	**+1.6**
	baz=128						
DLV	**T Lat**	**76.30**	**127**	P	**P**	**16 25 41.3**	**-2.8**
DLV				IAmb	IAmb	16 25 49.6	
	comp=Z,77nm,1.1s						
DLV				IAMs_20	IAMs_20	17 02 14.6	
	comp=Z,4μm,18.0s						
SVN	**Savane Anatole**	**76.65**	**297**	IAMs_20	IAMs_20	16 57 33.3	
	comp=Z,2μm,22.0s						
FDF	**Fort de France**	**76.75**	**297**	IAMs_20	IAMs_20	16 57 37.1	
	comp=Z,2μm,22.0s						
KOD	**Kodaikanal**	**77.00**	**158**	*e*P	**P**	**16 25 47.3**	**-0.9**
MPOM	**Morne Pois Mar**	**77.03**	**297**	IAMs_20	IAMs_20	16 57 33.3	
	comp=Z,3μm,22.0s						
FURI	**Furi**	**78.23**	**197**	IAMs_20	IAMs_20	17 06 59.4	
	comp=Z,2μm,21.0s						
FURI	**Furi**	**78.23**	**197**	*e*P	**P**	**16 25 58.4**	**+3.3**
FURI				IAMs_20	IAMs_20	16 54 22.5	
	comp=Z,5μm,61.2s						
FURI	**Furi**	**78.23**	**197**	*e*P	**P**	**16 25 58.4**	**+3.3**
	baz=125						
FURI				IAMs_20	IAMs_20	16 54 22.5	
	comp=Z,5μm,61.2s,baz=125						
BBGH	**Gun Hill**	**78.26**	**296**	IAMs_20	IAMs_20	16 58 57.6	
	comp=Z,3μm,21.0s						
TGUH	**Tegucigalpa,Un**	**78.48**	**323**	IAMs_20	IAMs_20	17 02 26.8	
	comp=Z,2μm,19.0s						
MNCI	**Minicoy**	**78.85**	**162**	P	**P**	**16 25 56.7**	**-1.5**
MALK	**Mahakanadarawa**	**78.89**	**155**	P	**P**	**16 25 55.7**	**-2.6**
PRVC	**Isla de Provid**	**78.96**	**317**	*e*P	**P**	**16 25 58.8**	**+0.1**
SRIT	**Nakonsritamara**	**79.27**	**136**	P	**P**	**16 25 59.1**	**-1.3**
GRGR	**Grenville**	**79.36**	**298**	IAMs_20	IAMs_20	17 02 33.9	
	comp=Z,1μm,19.0s						
HATO	**Hato, Curacao**	**79.65**	**305**	IAMs_20	IAMs_20	17 00 48.1	
	comp=Z,2μm,21.0s						
PALK	**Pallekele**	**80.00**	**155**	P	**P**	**16 26 05.0**	**+0.5**
PALK				S	**S**	**16 36 08.7**	**+0.3**
URIC	**Uribia, Colomb**	**80.25**	**308**	*e*P	**P**	**16 26 05.1**	**-0.6**
HMDM	**Hanimaadhoo**	**80.35**	**162**	P	**P**	**16 26 11.0**	**+4.7**
	SNR=5.4						
ACON	**Acoyapa**	**80.49**	**321**	IAmb	IAmb	16 26 18.4	
	comp=Z,126nm,1.2s						
ACON	**Acoyapa**	**80.49**	**321**	*e*P	**P**	**16 26 08.0**	**+1.0**
DILA	**Dilla**	**80.69**	**197**	*e*P	**P**	**16 26 12.5**	**+4.2**
DILA	**Dilla**	**80.69**	**197**	*e*P	**P**	**16 26 12.5**	**+4.2**
	baz=125						
CRJC	**Cerrejon, Guaj**	**80.97**	**309**	*e*P	**P**	**16 26 10.2**	**+0.5**
DBIC	**Dimbokro**	**81.87**	**241**	P	**P**	**16 26 13.6**	**-0.8**
	comp=Z,18nm,1.2s,baz=345,slow=7.6,SNR=4.2						
	comp=Z,18nm,1.2s						
TIC	**Toumodi**	**81.90**	**241**	||*i*PKP1	**P**	**16 26 14.1**	**-0.5**
	comp=Z,13nm,0.3s						
JTS	**Las Juntas de**	**82.15**	**321**	IAMs_20	IAMs_20	17 02 41.9	
	comp=Z,4μm,21.0s						
JTS	**Las Juntas de**	**82.15**	**321**	*e*P	P	16 26 20.6	+4.7
KIC	**Kosan Boka**	**82.17**	**241**	||*i*PKP1	**P**	**16 26 14.7**	**-1.3**
	comp=Z,20nm,0.7s						
SJCC	**San Jacinto, C**	**82.17**	**311**	*e*P	**P**	**16 26 17.4**	**+1.3**
LL6C	**La Loma 6 Bece**	**82.26**	**309**	*e*P	**P**	**16 26 16.5**	**+0.1**
LIC	**Lamto**	**82.32**	**241**	||*e*PKP1	**P**	**16 26 15.4**	**-1.3**
	comp=Z,35nm,0.7s						
HDC	**Heredia**	**82.41**	**320**	IAMs_20	IAMs_20	17 03 40.7	
	comp=Z,4μm,22.0s						
KKM	**Kota Kinabalu**	**82.50**	**119**	P	**P**	**16 26 17.1**	**-0.8**
KKM				IAmb	IAmb	16 26 22.9	
	comp=Z,83nm,1.0s						
KKM				IAMs_20	IAMs_20	17 04 24.5	
	comp=Z,2μm,20.0s						
LHMI	**Lhok Sumawe**	**82.51**	**138**	IAMs_20	IAMs_20	17 07 44.1	
	comp=Z,2μm,18.0s						
KULM	**Kulim**	**82.59**	**135**	IAmb	IAmb	16 26 22.5	
	comp=Z,89nm,1.3s						
KULM				IAMs_20	IAMs_20	17 05 47.2	
	comp=Z,3μm,20.0s						
SDV	**Santo Domingo**	**82.99**	**307**	P	**P**	**16 26 19.9**	**-0.5**
SDV				IAMs_20	IAMs_20	17 03 07.8	
	comp=Z,3μm,22.0s						
SDV	**Santo Domingo**	**82.99**	**307**	*e*P	**P**	**16 26 23.4**	**+3.0**
SDV	**Santo Domingo**	**82.99**	**307**	*e*P	**P**	**16 26 21.0**	**+0.6**
BCIP	**Isla Barro Col**	**83.08**	**316**	IAMs_20	IAMs_20	17 06 36.4	
	comp=Z,1μm,19.0s						
BCIP	**Isla Barro Col**	**83.08**	**316**	*e*P	P	16 26 04.8	-16
LODK	**Lodwar**	**83.73**	**200**	P	**P**	**16 26 23.1**	**-1.0**
LODK	**Lodwar**	**83.73**	**200**	*e*P	**P**	**16 26 24.5**	**+0.4**
LODK	**Lodwar**	**83.73**	**200**	P	**P**	**16 26 24.9**	**+0.7**
	SNR=14						
LODK	**Lodwar**	**83.73**	**200**	*e*P	**P**	**16 26 24.5**	**+0.4**
	baz=128						
APAC	**Apartado, Choc**	**84.21**	**312**	*e*P	**P**	**16 26 27.9**	**+1.4**
UREC	**San Jos de Ur**	**84.32**	**311**	*e*P	**P**	**16 26 27.3**	**+0.2**
ZARC	**Zaragoza, Cauc**	**84.55**	**311**	*e*P	**P**	**16 26 29.2**	**+0.9**
PAMC	**Pamplona, Colo**	**84.61**	**309**	*e*P	**P**	**16 26 29.4**	**+0.3**
BRRC	**Barranca, Sant**	**84.88**	**310**	*e*P	**P**	**16 26 32.0**	**+2.1**
CACAO	**El Cacao, Vera**	**84.93**	**317**	*e*P	**P**	**16 26 34.2**	**+4.1**
RPSI	**Rantau Prapat**	**85.10**	**137**	IAmb	IAmb	16 26 34.2	
	comp=Z,96nm,1.1s						
RPSI				IAMs_20	IAMs_20	17 09 14.7	
	comp=Z,2μm,18.0s						
SGSI	**Sangihe**	**85.29**	**110**	P	**P**	**16 26 30.6**	**-1.3**
	comp=Z,63nm,1.1s,comp=Z,2μm						
BARC	**Barichara**	**85.37**	**309**	*e*P	**P**	**16 26 33.2**	**+0.6**
TAMC	**Tame, Arauca**	**85.47**	**308**	*e*P	**P**	**16 26 33.5**	**+0.6**
PTBC	**PUERTO BERRIO,**	**85.48**	**310**	*e*P	**P**	**16 26 33.5**	**+0.6**
SBUM	**Sibu**	**85.89**	**123**	IAmb	IAmb	16 26 39.7	
	comp=Z,102nm,2.0s						
RUSC	**La Rusia**	**86.06**	**309**	*e*P	**P**	**16 26 36.5**	**+0.1**
MYKOM	**Kota Tinggi**	**86.19**	**132**	IAMs_20	IAMs_20	17 09 11.6	
	comp=Z,3μm,18.0s						
SBSI	**Sibolga**	**86.23**	**137**	P	**P**	**16 26 36.8**	**+0.2**
	comp=Z,144nm,0.4s						
SPBC	**San Pablo de B**	**86.34**	**310**	*e*P	**P**	**16 26 37.0**	**-0.3**
GSI	**Gunungsitoli**	**86.43**	**138**	IAmb	IAmb	16 26 48.3	
	comp=Z,90nm,1.0s						
GSI				IAMs_20	IAMs_20	17 09 01.0	
	comp=Z,2μm,18.0s						
GSI	**Gunungsitoli**	**86.43**	**138**	P	**P**	**16 26 36.6**	**-1.0**
	comp=Z,96nm,1.0s,comp=Z,2μm						
NORC	**Norcasia**	**86.46**	**311**	*e*P	**P**	**16 26 37.6**	**-0.2**
KSM	**Kuching**	**86.77**	**125**	IAmb	IAmb	16 29 01.1	
	comp=Z,81nm,1.8s						
GUY2C	**Guyana, Caldas**	**86.82**	**311**	*e*P	**P**	**16 26 40.7**	**+0.7**
ROSC	**El Rosal**	**87.16**	**310**	IAmb	IAmb	16 26 52.3	
	comp=Z,71nm,0.9s						
ROSC	**El Rosal**	**87.16**	**310**	*e*P	**P**	**16 26 43.0**	**+1.4**
ROSC	**El Rosal**	**87.16**	**310**	P	**P**	**16 26 41.8**	**+0.1**
	comp=Z,40nm,0.9s,baz=325,slow=3.9,SNR=14						
	comp=Z,40nm,0.9s						
CHIC	**Chingaza**	**87.34**	**309**	*e*P	**P**	**16 26 41.4**	**-1.1**
BKNI	**Bangkinang**	**87.53**	**134**	IAMs_20	IAMs_20	17 08 51.2	
	comp=Z,2μm,20.0s						
MBAR	**Mbarara**	**87.82**	**205**	P	**P**	**16 26 43.1**	**-1.4**
MBAR	**Mbarara**	**87.82**	**205**	*e*P	**P**	**16 26 43.6**	**-0.9**
MBAR	**Mbarara**	**87.82**	**205**	P	**P**	**16 26 46.8**	**+2.3**
MBAR	**Mbarara**	**87.82**	**205**	*i* P	**P**	**16 26 43.9**	**-0.6**
MBAR				pmax	pmax		
	comp=Z,21nm,1.2s						
MBAR	**Mbarara**	**87.82**	**205**	*e*P	**P**	**16 26 43.6**	**-0.9**
	baz=133						
VILC	**Villavicencio,**	**87.86**	**309**	*e*P	**P**	**16 26 45.3**	**+0.6**
YOTC	**Yotoco, Valle**	**88.09**	**312**	*e*P	**P**	**16 26 45.0**	**-0.8**
GTOI	**Gorontalo**	**88.19**	**113**	P	**P**	**16 26 43.5**	**-2.6**
	comp=Z,6.5nm,1.0s						
KMBO	**Kilima Mbogo**	**88.21**	**198**	P	**P**	**16 26 45.3**	**-1.1**
KMBO	**Kilima Mbogo**	**88.21**	**198**	*e*P	**P**	**16 26 48.2**	**+1.8**
KMBO	**Kilima Mbogo**	**88.21**	**198**	P	**P**	**16 26 48.8**	**+2.4**
KMBO	**Kilima Mbogo**	**88.21**	**198**	P	**P**	**16 26 45.3**	**-1.1**
KMBO				pmax	pmax		
	comp=Z,26nm,1.7s						
KMBO				MLR	MLR		
	comp=Z,1μm,22.0s						
KMBO	**Kilima Mbogo**	**88.21**	**198**	*e*P	**P**	**16 26 48.2**	**+1.8**
	baz=127						
STKI	**Sintang**	**88.22**	**124**	P	**P**	**16 26 46.3**	**+0.1**
	comp=Z,38nm,1.1s						
TNTI	**Ternate**	**88.28**	**108**	P	**P**	**16 26 47.0**	**+0.5**
	comp=Z,36nm,1.5s,comp=Z,938nm						
MRSI	**Marisa**	**88.30**	**114**	P	**P**	**16 26 43.9**	**-2.7**
	comp=Z,52nm,1.5s,comp=Z,660nm						
KMSI	**Cibinong**	**88.30**	**112**	P	**P**	**16 26 46.1**	**-0.5**
	comp=Z,68nm,1.0s						
MPSI	**Mapaga**	**88.34**	**116**	P	**P**	**16 26 45.6**	**-1.2**
	comp=Z,16nm,1.4s,comp=Z,441nm						
DSRI	**Dabo**	**88.47**	**131**	P	**P**	**16 26 46.8**	**-0.6**
	comp=Z,16nm,1.0s,comp=Z,813nm						
PDSI	**Padang**	**88.74**	**135**	P	**P**	**16 26 47.6**	**-1.1**
	comp=Z,28nm,1.1s						
JAMC	**Jamundi, Valle**	**88.87**	**312**	*e*P	**P**	**16 26 50.0**	**+0.5**
BOAV	**Boa Vista**	**88.97**	**296**	P	**P**	**16 26 49.3**	**-0.4**
BOAV	**Boa Vista**	**88.97**	**296**	*e*P	P	16 26 43.6	-6.1
KIBK	**Kibwezi**	**89.40**	**198**	P	**P**	**16 26 49.9**	**-2.0**
KIBK	**Kibwezi**	**89.40**	**198**	P	**P**	**16 26 52.7**	**+0.8**
KIBK	**Kibwezi**	**89.40**	**198**	P	**P**	**16 26 49.6**	**-2.2**
POPC	**Popayan, Colom**	**89.54**	**312**	*e*P	P	16 26 45.6	-7.2
SWI	**Sorong**	**90.10**	**104**	P	**P**	**16 26 53.8**	**-1.2**
	comp=Z,35nm,1.7s						
TUMC	**Tumaco**	**90.33**	**314**	*e*P	P	16 26 49.1	-7.0
PMBI	**Palembang**	**90.91**	**131**	IAMs_20	IAMs_20	17 12 08.1	
	comp=Z,3μm,20.0s						
SANI	**Sanana**	**91.01**	**110**	P	**P**	**16 26 57.5**	**-1.7**
	comp=Z,18nm,1.5s						
SANI	**Sanana**	**91.01**	**110**	P	**P**	**16 26 55.8**	**-3.4**
MCPB	**Macapa, AP**	**91.28**	**288**	*e*P	**P**	**16 27 00.5**	**-0.1**
MSEY	**Mahe Island**	**91.58**	**180**	IAMs_20	IAMs_20	17 14 49.8	
	comp=Z,1μm,20.0s						
SMPI	**Sarmi**	**91.61**	**97**	P	**P**	**16 27 05.6**	**+3.6**
	comp=Z,74nm,1.5s						
OTAV	**Otavalo**	**91.89**	**314**	P	**P**	**16 27 01.0**	**-2.9**
OTAV	**Otavalo**	**91.89**	**314**	IAMs_20	IAMs_20	17 11 54.9	
	comp=Z,2μm,20.0s						
OTAV	**Otavalo**	**91.89**	**314**	P	**P**	**16 27 01.0**	**-2.9**
OTAV				pmax	pmax		
	comp=Z,16nm,1.4s						
OTAV				MLR	MLR		
	comp=Z,2μm,20.0s						
OTAV	**Otavalo**	**91.89**	**314**	*e*P	**P**	**16 27 04.4**	**+0.5**
TMAB	**Tom-Au,PA,Br**	**93.08**	**284**	*e*P	**P**	**16 27 11.1**	**+2.3**
PAYG	**Puerto Ayora**	**93.20**	**326**	IAMs_20	IAMs_20	17 12 34.0	
	comp=Z,3μm,18.0s						
ROSB	**Rosrio**	**93.39**	**280**	*e*P	**P**	**16 27 12.0**	**+1.7**
KAPI	**Kappang**	**93.64**	**116**	P	**P**	**16 27 08.7**	**-2.7**
KAPI	**Kappang**	**93.64**	**116**	P	**P**	**16 27 08.7**	**-2.7**
KAPI				pmax	pmax		
	comp=Z,20nm,1.2s						
KAPI				MLR	MLR		
	comp=Z,600nm,21.0s						
BBSI	**Bau Bau**	**94.25**	**113**	P	**P**	**16 27 15.7**	**+1.5**
	comp=Z,18nm,1.4s						
DGAR	**Diego Garcia**	**94.43**	**163**	IAMs_20	IAMs_20	17 14 41.0	
	comp=Z,3μm,20.0s						
MACA	**Manacapuru-AM**	**94.49**	**296**	P	**P**	**16 27 13.2**	**-2.1**
MACA				IAmb	IAmb	16 27 25.8	
	comp=Z,33nm,1.1s						
MACA	**Manacapuru-AM**	**94.49**	**296**	*e*P	**P**	**16 27 16.1**	**+0.8**
TEFE	**Tefe**	**95.02**	**300**	*e*P	**P**	**16 27 20.1**	**+2.4**
ITTB	**Itaituba**	**95.44**	**291**	*e*P	**P**	**16 27 21.0**	**+1.3**
RCBR	**Riachuelo**	**95.86**	**271**	IAMs_20	IAMs_20	17 02 55.3	
	comp=Z,1μm,21.0s						
RCBR	**Riachuelo**	**95.86**	**271**	*e*P	**P**	**16 27 23.1**	**+1.5**
PRPB	**Parauapebas**	**96.94**	**285**	*e*P	**P**	**16 27 27.8**	**+1.3**
HNR	**Honiara**	**100.12**	**76**	IAMs_20	IAMs_20	17 10 27.6	
	comp=Z,1μm,20.0s						
SAML	**Samuel**	**100.35**	**298**	IAMs_20	IAMs_20	17 15 15.6	
	comp=Z,1μm,22.0s						
SAML	**Samuel**	**100.35**	**298**	*e*P	**Pdif**	**16 27 44.0**	**+2.3**
TAOE	**Nuku Hiva Isla**	**101.74**	**16**	*e*LR	LR	17 00 54.4	
	comp=Z,2μm,28.2s						
LSZ	**Lusaka**	**102.46**	**207**	IAMs_20	IAMs_20	17 21 24.4	
	comp=Z,1μm,22.0s						
NNA	**Nana**	**103.97**	**312**	IAMs_20	IAMs_20	17 16 36.8	
	comp=Z,1μm,18.0s						
ABPO	**Ambohimpanom**	**105.87**	**188**	IAMs_20	IAMs_20	17 18 05.2	
	comp=Z,1μm,22.0s						
TSUM	**Tsumeb**	**106.66**	**217**	IAMs_20	IAMs_20	17 25 50.6	
	comp=Z,1μm,20.0s						
VOI	**Vohitsoka**	**108.75**	**189**	IAMs_20	IAMs_20	17 22 02.4	
	comp=Z,2μm,20.0s						
WB6	**Warramunga Arr**	**109.11**	**102**	IAMs_20	IAMs_20	17 07 01.5	
	comp=Z,1μm,19.0s						
WRA	**Warramunga Arr**	**109.19**	**102**	Pdiff	**Pdif**	**16 28 21.8**	**+0.9**
	comp=Z,2.7nm,1.2s,baz=358,slow=5.4,SNR=5.9						
WRA				PKiKP	**PKiKP**	**16 32 22.6**	**-2.0**
	comp=Z,0.4nm,0.9s,baz=340,slow=1.9,SNR=1.7						
WRA				PKKPbc	**PKKPbc**	**16 43 27.9**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=181,slow=2.7,SNR=8.1						
WIN	**Windhoek**	**110.02**	**218**	IAMs_20	IAMs_20	17 28 03.7	
	comp=Z,1μm,21.0s						
PSA00	**Pilbara Seismi**	**110.09**	**117**	IAMs_20	IAMs_20	17 08 04.7	
	comp=Z,2μm,18.0s						
PPT2	**Papete2**	**110.25**	**26**	*e*SS	SS	16 48 24.5	-3.1
	comp=Z,1μm,27.0s						
PPT2	**Papete2**	**110.25**	**26**	*e*LR	LR	17 04 44.8	
KOUNC	**Koumac, New Ca**	**111.38**	**72**	IAMs_20	IAMs_20	17 19 44.9	
	comp=Z,808nm,20.0s						
FOMA	**Nahampoana Res**	**111.80**	**188**	IAMs_20	IAMs_20	17 27 17.3	
	comp=Z,2μm,21.0s						
ASAR	**Alice Springs**	**112.87**	**103**	Pdiff	**Pdif**	**16 28 40.3**	**+3.1**
	comp=Z,0.5nm,1.0s,baz=4.5,slow=5.9,SNR=3.2						
ASAR				PKiKP	**PKiKP**	**16 32 29.1**	**-2.4**
	comp=Z,0.6nm,0.9s,baz=358,slow=0.4,SNR=3.4						
ASAR				PKKPbc	**PKKPbc**	**16 43 15.9**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=175,slow=3.8,SNR=6.1						
DZM	**Mont Dzumac**	**113.00**	**70**	*e*LR	LR	17 05 59.3	
	comp=Z,1μm,22.9s						
SPB	**Sao Paulo**	**114.11**	**282**	IAMs_20	IAMs_20	17 17 01.0	
	comp=Z,877nm,22.0s						
LVC	**Limon Verde**	**114.18**	**303**	IAMs_20	IAMs_20	17 23 43.4	
	comp=Z,2μm,19.0s						
AC06	**Mina Casimiro**	**118.97**	**305**	IAMs_20	IAMs_20	17 27 28.8	
	comp=Z,1μm,19.0s						
GO03	**Copiap**	**119.20**	**304**	IAMs_20	IAMs_20	17 27 16.9	
	comp=Z,1μm,20.0s						
SUR	**Sutherland**	**119.67**	**214**	IAMs_20	IAMs_20	17 29 18.9	
	comp=Z,1μm,18.0s						
LCO	**Las Campanas**	**120.63**	**305**	IAMs_20	IAMs_20	17 21 28.8	
	comp=Z,1μm,20.0s						
PEL	**Peldehue**	**124.74**	**305**	IAMs_20	IAMs_20	17 30 23.0	
	comp=Z,1μm,19.0s						
ML02	**Panimavida**	**127.38**	**305**	IAMs_20	IAMs_20	17 32 11.7	
	comp=Z,1μm,19.0s						
BI05	**Punta Hualpn**	**128.44**	**307**	IAMs_20	IAMs_20	17 21 28.8	
	comp=Z,1μm,18.0s						
TOZ	**Tahuroa Road**	**129.02**	**62**	IAMs_20	IAMs_20	17 32 35.8	
	comp=Z,935nm,21.0s						
TRQA	**Tornquist**	**129.24**	**295**	PKPdf	**PKPdf**	**16 33 00.2**	**-2.3**
TRQA				IAMs_20	IAMs_20	17 27 08.6	
	comp=Z,1μm,20.0s						
TRQA	**Tornquist**	**129.24**	**295**	PKIKP	**PKPdf**	**16 33 00.2**	**-2.3**
TRQA				MLR	MLR		
	comp=Z,1μm,20.0s						
MRZ	**Mangatainoka R**	**131.95**	**62**	IAMs_20	IAMs_20	17 33 26.6	
	comp=Z,830nm,19.0s						
QRZ	**Quartz Range**	**131.97**	**65**	IAMs_20	IAMs_20	17 32 19.2	
	comp=Z,667nm,20.0s						
PLCA	**Paso Flores**	**132.30**	**304**	PKP	**PKPdf**	**16 33 07.3**	**-0.9**
	comp=Z,12nm,1.1s,baz=53,slow=2.4,SNR=6.3						
SNZO	**South Karori**	**132.55**	**63**	IAMs_20	IAMs_20	17 35 42.8	
	comp=Z,678nm,20.0s						
BHW	**Baring Head**	**132.66**	**63**	IAMs_20	IAMs_20	17 37 15.4	
	comp=Z,660nm,21.0s						
DSZ	**Denniston Nort**	**132.85**	**66**	IAMs_20	IAMs_20	17 37 39.3	
	comp=Z,926nm,19.0s						
THZ	**Tophouse**	**132.92**	**65**	IAMs_20	IAMs_20	17 31 41.8	
	comp=Z,698nm,21.0s						
KHZ	**Kahutara**	**133.60**	**65**	IAMs_20	IAMs_20	17 33 17.5	
	comp=Z,831nm,20.0s						
INZ	**Inchbonnie**	**133.81**	**67**	IAMs_20	IAMs_20	17 26 59.9	
	comp=Z,1μm,21.0s						
LTZ	**Lake Taylor**	**133.90**	**66**	IAMs_20	IAMs_20	17 25 09.5	
	comp=Z,983nm,22.0s						
GVZ	**Greta Valley S**	**134.13**	**65**	IAMs_20	IAMs_20	17 35 16.2	
	comp=Z,1μm,18.0s						
LBZ	**Lake Benmore**	**135.40**	**68**	IAMs_20	IAMs_20	17 36 13.8	
	comp=Z,2μm,20.0s						
MLZ	**Mavora Lakes**	**136.28**	**70**	IAMs_20	IAMs_20	17 29 16.2	
	comp=Z,1μm,22.0s						
GO09	**Cerro Castillo**	**142.90**	**305**		**PKPdf**	**16 33 27.6**	**+0.3**
MG05	**Puerto Natales**	**143.31**	**305**	PKPdf	PKPbc	16 33 25.5	+0.4
GO10	**Punta Arenas**	**144.72**	**303**	PKPdf	PKPbc	16 33 29.8	+0.4
MG01	**Puerto William**	**146.34**	**299**	PKPdf	**PKPbc**	**16 33 34.6**	**+0.3**
MAW	**Mawson**	**154.43**	**174**	PKPbc	**PKPbc**	**16 33 52.3**	**-1.3**
	comp=Z,8.8nm,1.1s,baz=292,slow=3.7,SNR=7.8						
PMSA	**Palmer Station**	**156.00**	**294**	IAMs_20	IAMs_20	17 41 34.2	
	comp=Z,1μm,22.0s						
NVL	**N'lazarevskaya**	**158.34**	**218**	*e*PKP2	**PKPab**	**16 34 24.8**	**-0.2**
NVL				pmax	pmax		
	comp=Z,23nm,1.7s						
ELIB	**Princess Elisa**	**159.18**	**208**	*d*Pdif		16 32 03.6	
ELIB				*d*PKPdf	**PKPdf**	**16 33 49.1**	**-2.4**
ELIB				*d*PKP	**PKPab**	**16 34 28.5**	**-0.3**
VNDA	**Vanda**	**167.94**	**88**	PKPab	**PKPab**	**16 35 05.0**	**-2.0**
	comp=Z,2.4nm,1.1s,baz=318,slow=4.8,SNR=2.5						
QSPA	**South Pole Qui**	**176.94**	**179**	PKP	**PKPdf**	**16 34 00.6**	**-3.0**
	comp=Z,6.0nm,1.2s,baz=249,slow=2.3,SNR=6.8						
QSPA				PKPab	**PKPab**	**16 35 45.3**	**-2.0**
	comp=Z,3.9nm,1.0s,baz=291,slow=1.7,SNR=6.0						

BJI ***28*** *16:16:03.0±0.0, 86°.90N×51°.90E, h10km, mb5.1/47, mB6.0/41, Ms5.7/42, Ms7 5.6/41*

MOS ***28*** *16:16:06.2±2.1, 86°.98N×48°.25E, h10km, mb5.5/33, MS5.6/15, Error ellipse: s-maj=99.9km s-min=8.0km az=89.3*

GCMT ***28*** *16:16:06.9±0.1, 86°.90N±0°.01×54°.3E±0°.2, h12km, MW5.7/164, Moment Tensor Solution. s109,c161; s164,c460; Duration: 1ᵗ8 Moment tensor: Scale 10¹⁷ Nm; Mrr=4.96±.06; Mθθ=5.23±.06; Mφφ=-0.27±.06; Mrθ=0.68±.17; Mθφ=0.79±.05; Mφr=0.14±.20; Best double couple: M₀=5.19700×10¹⁷ NP1:φ=81.00000°, δ=49.00000°, λ=-91.00000°. NP2:φ=263.00000°, δ=41.00000°, λ=-89.00000°. Principal axes: T 5.3870, Plg4.0000°, Azm172.0000°; N -0.3860, Plg1.0000°, Azm82.0000°; P -5.0070, Plg86.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

IDC ***28*** *16:16:06.5±0.4, 86°.95N×53°.81E, h0km, mb4.7/29, mbtmp4.7/32, ML4.7/3, MS4.9/9 Error ellipse: s-maj=11.5km s-min=10.6km az=100.0*

NEIC ***28*** *16:16:06.9±2.3, 86°.90N±0°.08×5°.3E±°, h10km±1km, mb5.4/218, Ms_20 5.7/786, Mwb5.7/41, Mww5.8/51, Error ellipse: s-maj=14.5km s-min=13.

comp=Z,3.6nm,0.3s,baz=19,slow=14,SNR=8.5
comp=Z,11nm,0.4s
KTK1 Kautokeino 18.50 214 *eP* **Pn 16 20 24.4 +1.2**
LVZ Lovozero 19.33 201 P **P 16 20 31.4 -0.8**
LVZ IAmb IAmb 16 20 34.9
comp=Z,267nm,1.1s
LVZ Lovozero 19.33 201 P **P 16 20 31.4 -0.8**
LVZ pmax pmax
comp=Z,267nm,1.1s
APA Apatity 19.68 203⇓ *iP* **P 16 20 34.6 -1.5**
APA *i* 16 24 08.4
APA pmax pmax
comp=Z,51nm,1.1s
APA MLR MLR
comp=Z,15μm,18.0s
STEI Steigen 19.85 223 *eP* **Pn 16 20 43.7 +4.2**
FAUS Fauske 20.40 223 *eP* Pn 16 20 48.1 +2.2
A36M Sachs Harbour 21.22 359 P **P 16 20 52.9 +0.3**
A36M IAmb IAmb 16 20 59.6
comp=Z,226nm,0.9s
A36M Sachs Harbour 21.22 359 P **P 16 20 54.6 +2.0**
baz=0.3,SNR=7.1
A21K Barrow 21.53 26 P **P 16 20 57.8 +1.8**
baz=356
ILULI Ilulissat 21.87 292 IAMs_20 IAMs_20 16 27 00.7
comp=Z,18μm,18.0s
A22K Sinclair Lake 21.89 24 P **P 16 21 01.4 +1.5**
baz=356
LSH Leshukonskoye 22.21 188⇑ *iP* **P 16 21 04.5 +1.2**
comp=Z,940nm,1.1s
LSH S S 16 24 53.5 -14
A19K Wainwright 22.54 30 P **P 16 21 08.1 +1.3**
baz=355
B22K Teshekpuk Lake 22.59 23 P **P 16 21 06.4 -0.9**
B22K Teshekpuk Lake 22.59 23 P **P 16 21 07.5 +0.1**
baz=356
B20K Meade River 22.84 26 P **P 16 21 08.3 -1.6**
B20K Meade River 22.84 26 P **P 16 21 11.8 +1.9**
baz=356
C23K Itkillik River 23.15 21 P **P 16 21 13.9 +0.7**
C23K Itkillik River 23.15 21 P **P 16 21 14.7 +1.5**
baz=357
C26K Camden Bay 23.16 16 P **P 16 21 15.9 +2.6**
baz=358
ADZR Andozero 23.25 197 *eP* **P 16 21 16.3 +2.0**
ADZR Andozero 23.25 197 *eP* **P 16 21 16.2 +2.0**
B21K Ikpikpuk River 23.28 24 P **P 16 21 16.6 +2.0**
B21K IAmb IAmb 16 21 18.7
comp=Z,145nm,1.2s
B21K Ikpikpuk River 23.28 24 P **P 16 21 16.8 +2.3**
baz=356
C24K Franklin Bluff 23.30 19 P **P 16 21 17.5 +2.8**
baz=357
B18K Kokolik River 23.36 31 P **P 16 21 18.2 +2.8**
baz=356
C19K Lookout Ridge 23.68 29 P **P 16 21 19.8 +1.3**
C19K Lookout Ridge 23.68 29 P **P 16 21 21.3 +2.7**
baz=356
D25K Kavik River 23.74 17 P **P 16 21 19.1 0.0**
D25K IAmb IAmb 16 21 43.4
comp=Z,240nm,1.4s
D25K Kavik River 23.74 17 P **P 16 21 21.8 +2.6**
baz=357
C21K Knifeblade Rid 23.75 25 P **P 16 21 21.7 +2.6**
baz=356
D28M Stokes Point 23.83 10 P **P 16 21 23.1 +3.2**
baz=358
C36M Paulatuk 23.87 357 P **P 16 21 18.1 -2.1**
C36M IAmb IAmb 16 21 38.3
comp=Z,213nm,1.5s
C36M Paulatuk 23.87 357 P **P 16 21 22.2 +1.9**
baz=0.4
D24K Happy Valley 23.87 19 P **P 16 21 21.3 +1.0**
D24K IAmb IAmb 16 21 30.0
comp=Z,126nm,1.3s
D24K Happy Valley 23.87 19 P **P 16 21 23.6 +3.2**
baz=357
D27M Malcolm River 23.89 12 P **P 16 21 19.3 -1.4**
D27M Malcolm River 23.89 12 P **P 16 21 23.0 +2.4**
baz=358
D23K Nanushuk River 24.02 21 P **P 16 21 24.1 +2.3**
baz=357
D22K Ayikyak River 24.07 23 P **P 16 21 23.0 +0.8**
D22K Ayikyak River 24.07 23 P **P 16 21 24.7 +2.5**
baz=357
C18K Utukok River 24.10 30 P **P 16 21 24.1 +1.5**
C18K IAmb IAmb 16 21 42.6
comp=Z,220nm,1.5s
C18K Utukok River 24.10 30 P **P 16 21 25.0 +2.5**
baz=356
D20K Etivluk River 24.15 26 P **P 16 21 25.8 +2.8**
baz=356
C17K DeLong Mountai 24.21 32 P **P 16 21 26.1 +2.6**
baz=356,SNR=6.6
D19K Kuna River 24.33 28 P **P 16 21 25.5 +0.8**
D19K Kuna River 24.33 28 P **P 16 21 27.0 +2.3**
baz=356
C16K Lisburne Hills 24.35 34 P **P 16 21 25.4 +0.7**
C16K Lisburne Hills 24.35 34 P **P 16 21 27.0 +2.3**
baz=355,SNR=12
TOLK Toolik Lake Re 24.37 20 P **P 16 21 27.3 +2.2**
baz=357
E21K Killik River 24.48 24 P **P 16 21 24.6 -1.4**
E21K IAmb IAmb 16 21 38.6
comp=Z,144nm,1.2s
E21K Killik River 24.48 24 P **P 16 21 29.0 +3.0**
baz=357
E28M Babbage River 24.55 11 P **P 16 21 29.4 +2.8**
baz=358
E20K Nigu River 24.62 26 P **P 16 21 30.0 +2.7**
baz=356
E29M Blow River 24.78 10 P **P 16 21 30.5 +1.8**
E29M IAmb IAmb 16 21 42.2
comp=Z,66nm,0.9s
E29M Blow River 24.78 10 P **P 16 21 31.6 +2.9**
baz=359
INK Inuvik 24.90 6 P **P 16 21 31.8 +2.1**
baz=359
E27K Coleen River 24.95 13 P **P 16 21 32.8 +2.6**
baz=358
E23K Chandalar 24.95 20 P **P 16 21 32.6 +2.2**
baz=357
E24K Your Creek 24.96 19 P **P 16 21 32.8 +2.5**
baz=357
E25K Arctic Village 24.96 16 P **P 16 21 32.0 +1.6**
E25K IAmb IAmb 16 22 00.6
comp=Z,156nm,1.4s
E25K Arctic Village 24.96 16 P **P 16 21 32.5 +2.1**
baz=358
D17K Noatak River 25.00 32 P **P 16 21 32.6 +2.0**
baz=356,SNR=12
E18K Tukpahlearik C 25.34 30 P **P 16 21 35.3 +1.6**
E18K Tukpahlearik C 25.34 30 P **P 16 21 35.7 +2.0**
baz=356,SNR=17
E19K Redstone River 25.39 27 P **P 16 21 35.2 +1.0**
E19K IAmb IAmb 16 21 39.6
comp=Z,127nm,1.0s
E19K Redstone River 25.39 27 P **P 16 21 36.6 +2.4**
baz=356
F26K Sheenjek River 25.41 15 P **P 16 21 36.5 +2.1**
baz=358
F22K John River 25.46 22 P **P 16 21 37.0 +2.2**
baz=357
PRGR Permogore 25.46 188⇑ *iP* **P 16 21 39.1 +4.3**
comp=Z,347nm,1.4s
PRGR Permogore 25.46 188⇑ *iP* **P 16 21 39.1 +4.3**
PRGR pmax pmax
comp=Z,347nm,1.4s
F25K Christian Rive 25.49 17 P **P 16 21 37.4 +2.3**
baz=358
F24K Squaw Lake 25.53 19 P **P 16 21 37.6 +2.1**
baz=357
F28M Old Crow 25.54 11 P **P 16 21 34.7 -0.9**
F28M Old Crow 25.54 11 P **P 16 21 36.8 +1.2**
baz=358,SNR=7.6
F30M Barrier River 25.58 8 P **P 16 21 37.6 +1.7**
baz=359
BMAR Burnt Mountain 25.67 16 P **P 16 21 37.1 +0.3**
F21K Alatna River 25.71 24 P **P 16 21 37.7 +0.5**
F21K IAmb IAmb 16 21 42.6
comp=Z,130nm,1.2s
F21K Alatna River 25.71 24 P **P 16 21 38.7 +1.5**
baz=357
F31M Tsiigehtchic 25.77 6 P **P 16 21 36.7 -0.9**
F31M Tsiigehtchic 25.77 6 P **P 16 21 39.3 +1.7**
baz=359
COLD Coldfoot 25.78 21 P **P 16 21 39.0 +1.3**
baz=357
F20K Avaraart Lake 25.84 26 P **P 16 21 37.8 -0.4**
F20K Avaraart Lake 25.84 26 P **P 16 21 39.8 +1.5**
baz=357
FINES FINESS Array B 26.00 210 P **P 16 21 40.9 +1.2**
FINES FINESS Array B 26.00 210 P **P 16 21 41.8 +2.0**
comp=Z,14nm,0.6s,baz=11,slow=5.9,SNR=6.8
FINES PcP **PcP 16 25 07.3 +0.1**
comp=Z,5.0nm,0.8s,baz=26,slow=6.6,SNR=4.8
comp=Z,14nm,0.6s
F19K Shaleruckik Mo 26.00 28 P **P 16 21 39.4 -0.4**
F19K IAmb IAmb 16 21 50.7
comp=Z,130nm,1.2s
F19K Shaleruckik Mo 26.00 28 P **P 16 21 41.5 +1.8**
baz=356
G22K Bettles 26.06 22 P **P 16 21 42.3 +2.1**
baz=357
G26K Porcupine Rive 26.16 15 P **P 16 21 42.9 +1.8**
baz=358
G30M tAoh Zraii Nji 26.21 8 P **P 16 21 44.3 +2.6**
baz=359
G29M Pine Creek 26.27 10 P **P 16 21 43.8 +1.6**
baz=359
G31M Satah River 26.28 7 P **P 16 21 42.0 -0.2**
G31M IAmb IAmb 16 22 10.3
comp=Z,101nm,1.2s
G31M Satah River 26.28 7 P **P 16 21 43.6 +1.3**
baz=359
G23K Bananza Creek 26.30 21 P **P 16 21 44.1 +1.6**
baz=357
F17K Baldwin Pennin 26.31 31 P **P 16 21 42.2 -0.2**
F17K Baldwin Pennin 26.31 31 P **P 16 21 43.6 +1.2**
baz=356,SNR=5.1
G25K Bearman Lake 26.31 17 P **P 16 21 43.1 +0.6**
baz=358
KLMR Klimovskoe 26.32 195 *eP* **P 16 21 46.1 +3.5**
comp=Z,222nm,1.5s
KLMR S **S 16 26 14.8 0.0**
KLMR Klimovskoe 26.32 195 *eP* **P 16 21 46.1 +3.5**
KLMR *eP* **P 16 21 46.1 +3.5**
KLMR *eP* **P 16 21 46.1 +3.5**
KLMR AMP 16 21 49.0
comp=Z,222nm,1.5s
KLMR S **S 16 26 14.8 0.0**
KLMR S **S 16 26 14.8 0.0**
KLMR Klimovskoe 26.32 195 *eP* **P 16 21 46.1 +3.5**
KLMR S **S 16 26 14.7 0.0**
KLMR pmax pmax
comp=Z,222nm,1.5s
G27K Doyon Strip 26.33 13 P **P 16 21 41.6 -1.1**
G27K IAmb IAmb 16 21 49.0
comp=Z,160nm,1.4s
G27K Doyon Strip 26.33 13 P **P 16 21 44.0 +1.2**
baz=358
G24K Hadweenzic Riv 26.36 18 P **P 16 21 41.3 -1.6**
G24K IAmb IAmb 16 21 48.6
comp=Z,133nm,1.3s
G24K Hadweenzic Riv 26.36 18 P **P 16 21 44.2 +1.2**
baz=358
G21K Allakaket 26.42 24 P **P 16 21 44.2 +0.6**
G21K IAmb IAmb 16 21 46.7
comp=Z,93nm,1.0s
G21K Allakaket 26.42 24 P **P 16 21 44.9 +1.4**
baz=357
G19K Purcell Mounta 26.71 27 P **P 16 21 47.6 +1.4**
baz=356
NC405 NORSAR Array S 26.80 225 P **P 16 21 44.0 -3.0**
NC405 IAmb IAmb 16 21 51.6
comp=Z,93nm,1.1s
H25L Birch Creek 26.82 17 P **P 16 21 48.4 +1.4**
baz=358
EPYK Eagle Plains 26.82 9 P **P 16 21 49.0 +1.8**
baz=359
NB201 NORSAR Array S 26.88 226 P **P 16 21 44.4 -3.4**
NB2 NORSAR Subarra 26.89 226 P **P 16 21 49.5 +1.6**
comp=Z,27nm,1.0s,baz=3.2,slow=6.9
NB2 NORSAR Subarra 26.89 226 P **P 16 21 49.5 +1.6**
baz=3.2,slow=6.9
NOA NORSAR Array B 26.89 226 P **P 16 21 48.7 +0.8**
comp=Z,20nm,1.1s,baz=3.8,slow=8.8,SNR=4.8
NOA LR LR 16 31 58.0
comp=Z,2μm,19.7s,baz=10.0,slow=35
comp=Z,20nm,1.1s
H27K Steamboat Moun 26.91 13 P **P 16 21 49.2 +1.2**
baz=358,SNR=6.0
G18K Tagagawik 26.92 28 P **P 16 21 48.3 +0.2**
G18K IAmb IAmb 16 21 50.9
comp=Z,87nm,0.9s
G18K Tagagawik 26.92 28 P **P 16 21 49.1 +1.0**
baz=356,SNR=7.4
F15K North Star Dit 26.94 34 P **P 16 21 45.3 -2.9**
F15K IAmb IAmb 16 21 55.2
comp=Z,157nm,1.4s
F15K North Star Dit 26.94 34 P **P 16 21 49.1 +0.8**
baz=356
IMAR Indian Mountai 26.95 24 P **P 16 21 44.7 -3.6**
H29M Whitestone 26.96 10 P **P 16 21 48.0 -0.4**
H29M Whitestone 26.96 10 P **P 16 21 49.6 +1.2**
baz=359
TNA Tin City 26.99 37 P **P 16 21 49.7 +1.1**
baz=356
H22K Ishtalitna Cre 27.09 22 P **P 16 21 50.7 +1.1**
baz=357
F14K Arctic Creek 27.13 36 P **P 16 21 50.4 +0.5**
baz=356
NC602 NORSAR Array S 27.19 225 P **P 16 21 48.0 -2.5**
NC602 IAmb IAmb 16 22 02.0
comp=Z,148nm,1.5s
H23K Yukon River 27.20 20 P **P 16 21 52.3 +1.7**
H23K IAmb IAmb 16 21 56.6
comp=Z,159nm,1.5s
H23K Yukon River 27.20 20 P **P 16 21 51.3 +0.8**
baz=357
H24K Noodor Dome 27.21 19 P **P 16 21 51.7 +1.0**
baz=358
G17K Kiwalik Mounta 27.27 30 P **P 16 21 51.5 +0.3**
baz=356,SNR=8.1
H21K Melozitna Rive 27.30 23 P **P 16 21 52.0 +0.6**
baz=357
G16K Koyuk River 27.33 32 P **P 16 21 52.5 +0.9**
baz=356
H19K Roundabout Mou 27.35 27 P **P 16 21 53.0 +1.2**
H19K Roundabout Mou 27.35 27 P **P 16 21 52.8 +1.0**
baz=357
H31M Peel River 27.41 7 P **P 16 21 51.1 -1.3**
baz=359
H20K Anotleneega Mo 27.42 25 P **P 16 21 52.3 -0.3**
baz=357
I27K Kandik River 27.54 13 P **P 16 21 52.9 -0.8**
baz=358
YAK Yakutsk 27.56 98 P **P 16 21 52.3 -1.5**
YAK IAmb IAmb 16 22 02.4
comp=Z,74nm,1.0s
YAK Yakutsk 27.56 98 *eP* **P 16 22 00.8 +7.0**
YAK pmax pmax
comp=Z,74nm,1.1s
YAK pmax pmax
comp=N,61nm,1.2s
YAK pmax pmax
comp=E,14nm,0.9s
PRP Porcupine Dome 27.57 17 P **P 16 21 53.5 -0.5**
baz=358
H18K Honhosa River 27.68 28 P **P 16 21 55.0 +0.2**
H18K IAmb IAmb 16 22 06.5
comp=Z,73nm,1.1s
H18K Honhosa River 27.68 28 P **P 16 21 55.0 +0.2**
baz=356
G15K Niukluk 27.68 34 P **P 16 21 54.9 +0.1**
baz=356
HFS Hagfors 27.71 223 P **P 16 21 56.2 +1.1**
comp=Z,8.4nm,0.7s,baz=12,slow=3.5,SNR=4.3
comp=Z,8.4nm,0.7s
I28M Miner Creek 27.72 12 P **P 16 21 55.9 +0.6**
baz=358
I21K Tanana 27.80 23 P **P 16 21 52.8 -3.1**
I21K Tanana 27.80 23 P **P 16 21 56.2 +0.3**
baz=357,SNR=6.3
I26K Coal Creek Min 27.82 15 P **P 16 21 56.1 0.0**
baz=358
I29M Ogilvie Camp, 27.82 10 P **P 16 21 56.6 +0.4**
baz=359
H17K Granite Mounta 27.85 30 P **P 16 21 56.8 +0.4**
H17K IAmb IAmb 16 21 59.6
comp=Z,54nm,0.9s
H17K IAMs_20 IAMs_20 16 31 43.4
comp=Z,11μm,19.0s
H17K Granite Mounta 27.85 30 P **P 16 21 56.6 +0.2**
baz=356,SNR=5.7
SEY Seymchan 27.88 75 P **P 16 21 57.1 +0.5**
comp=Z,6.3nm,0.8s,baz=312,slow=5.9,SNR=4.0
comp=Z,6.3nm,0.8s
I23K Minto, Yukon-K 27.88 20 P **P 16 21 56.4 -0.2**
baz=358
POKR Poker Plat Res 27.94 18 P **P 16 21 56.9 -0.3**
baz=358
MLY Manley 27.97 21 P **P 16 21 57.9 +0.4**
baz=357
I30M Mount Dempster 27.98 8 P **P 16 21 57.1 -0.5**
I30M IAmb IAmb 16 22 14.6
comp=Z,50nm,1.0s
I30M Mount Dempster 27.98 8 P **P 16 21 56.8 -0.9**
baz=359
H16K Elim 28.09 32 P **P 16 21 58.4 0.0**
baz=356
GCSA Galena City Sc 28.12 27 P **P 16 21 59.6 +0.9**
baz=357
I20K Naaghedeneel 28.13 25 P **P 16 21 59.5 +0.7**
baz=357
COLA College 28.18 19 P **P 16 21 59.8 +0.5**
baz=358
IL31 28.30 18 P **P 16 21 59.3 -1.0**
IL31 IAmb IAmb 16 22 27.6
comp=Z,74nm,1.5s
ILAR Eielson Array 28.30 18 P **P 16 21 59.8 -0.6**
ILAR Eielson Array 28.30 18 P **P 16 22 01.2 +0.8**
comp=Z,13nm,0.9s,baz=354,slow=3.7,SNR=7.2
ILAR PcP **PcP 16 25 12.9 +0.2**
comp=Z,1.6nm,0.7s,baz=335,slow=3.2,SNR=5.4
ILAR LR LR 16 31 57.0
comp=Z,4μm,21.9s,baz=356,slow=34
comp=Z,13nm,0.9s
EGAK Eagle 28.38 13 P **P 16 22 01.7 +0.7**
baz=358
CCB Clear Creek Bu 28.41 19 P **P 16 22 02.3 +1.0**
CCB IAmb IAmb 16 22 08.2
comp=Z,84nm,1.4s
NEA2 Nenana 28.44 20 P **P 16 22 01.9 +0.2**
NEA2 IAmb IAmb 16 22 06.5
comp=Z,74nm,1.5s
NEA2 Nenana 28.44 20 P **P 16 22 02.7 +1.0**
baz=358
J25K Salcha River, 28.48 17 P **P 16 22 02.0 -0.1**
baz=358
WRH Wood River Hil 28.58 19 P **P 16 22 04.1 +1.2**
J26L Joseph Creek 28.62 15 P **P 16 22 01.2 -2.2**
J26L Joseph Creek 28.62 15 P **P 16 22 03.8 +0.4**
baz=358
J30M Hart River 28.63 8 P **P 16 22 04.1 +0.7**
baz=359
GAMB Gambell 28.65 41 P **P 16 22 03.7 +0.3**
baz=355
HDA Harding Lake 28.66 18 P **P 16 22 04.9 +1.2**
baz=358
J29N Klondike Camp 28.73 10 P **P 16 22 05.7 +1.4**
baz=359
J20K Nowinta River 28.75 25 P **P 16 22 05.1 +0.7**
baz=357
I17K Unalakleet 28.88 31 P **P 16 22 06.5 +1.0**
baz=356
BPAW Bear Paw Mtn. 28.90 22 P **P 16 22 06.7 +0.9**
baz=357
J19K Poorman 28.90 26 P **P 16 22 06.9 +1.1**
baz=357
CHUM Lake Minchumin 29.09 23 P **P 16 22 07.9 +0.5**
baz=357
DAWY Dawson 29.11 11 P **P 16 22 08.5 +0.8**
baz=359
K27K Chicken 29.12 14 P **P 16 22 08.7 +1.1**
baz=358
SCRK Sand Creek 29.14 15 P **P 16 22 09.3 +1.3**
baz=358
K24K Donnelly Dome 29.29 17 P **P 16 22 09.8 +0.5**
baz=358
MCK McKinley 29.31 20 P **P 16 22 10.3 +1.0**
baz=358
K29M Barlow Dome 29.35 10 P **P 16 22 09.8 -0.1**
baz=359
J18K Innoko River 29.41 27 P **P 16 22 11.8 +1.6**
J18K IAmb IAmb 16 22 14.0
comp=Z,64nm,1.1s
J18K Innoko River 29.41 27 P **P 16 22 10.8 +0.5**
baz=357,SNR=6.7
J16K Anvik River 29.49 31 P **P 16 22 12.1 +1.2**
J16K Anvik River 29.49 31 P **P 16 22 11.2 +0.3**
baz=356
CAST Castle Rocks 29.56 23 P **P 16 22 12.4 +0.8**
CAST Castle Rocks 29.56 23 P **P 16 22 12.2 +0.6**
baz=357
TRF Thorofare Moun 29.57 21 P **P 16 22 12.9 +1.1**
baz=358
K20K Telida 29.58 25 P **P 16 22 12.7 +1.0**
K20K IAmb IAmb 16 22 15.5
comp=Z,57nm,1.0s
K20K Telida 29.58 25 P **P 16 22 12.9 +1.1**
baz=357
NRS Narsarsuaq 29.60 284 P **P 16 22 10.4 -1.5**
NRS Narsarsuaq 29.60 284 P **P 16 22 10.4 -1.5**
NRS pmax pmax
comp=Z,28nm,1.0s
NRS MLR MLR
comp=Z,10μm,20.0s
MAYO Mayo, Yukon 29.61 8 P **P 16 22 13.0 +0.9**
baz=359
IVI Ivigtut 29.70 287 IAMs_20 IAMs_20 16 31 43.6
comp=Z,21μm,19.0s
J14K Nanvaranak Lak 29.94 33 P **P 16 22 15.5 +0.6**
baz=356
TTA Tatalina 29.96 26 P **P 16 22 15.4 +0.2**
baz=357
DHY Denali Highway 29.99 19 P **P 16 22 15.9 +0.3**
DHY Denali Highway 29.99 19 P **P 16 22 16.1 +0.5**
baz=358
WRGLY Wrigley 30.01 357 P **P 16 22 17.0 +1.5**
baz=0.4
PPLA Purkeypile 30.08 23 P **P 16 22 17.5 +1.1**
baz=357
L29M L29M 30.08 10 P **P 16 22 16.7 +0.4**
baz=359
BCAR Beaver Creek A 30.09 13 P **P 16 22 15.9 -0.4**
L27K Beaver Creek, 30.09 13 P **P 16 22 17.8 +1.5**
baz=358
L26K Log Cabin Wild 30.11 15 P **P 16 22 17.8 +1.3**
baz=358
K17K Iditarod 30.12 29 P **P 16 22 18.6 +2.0**
K17K IAMs_20 IAMs_20 16 32 12.4
comp=Z,11μm,21.0s
K17K Iditarod 30.12 29 P **P 16 22 17.3 +0.8**
baz=357,SNR=6.1
PAX Paxson 30.13 17 P **P 16 22 17.4 +0.7**
baz=358
WAT1 Susitna Watana 30.22 20 P **P 16 22 17.7 +0.2**
baz=358
K15K Wolf Creek Mou 30.45 32 P **P 16 22 19.3 -0.2**
baz=356
L20K Farewell, AK 30.46 25 P **P 16 22 19.8 +0.2**
baz=357
WAT6 Susitna Watana 30.48 19 P **P 16 22 20.8 +0.9**
baz=358
CUT Chulitna 30.61 21 P **P 16 22 17.8 -3.1**
CUT Chulitna 30.61 21 P **P 16 22 21.8 +1.0**
baz=358
YKAW3 Yellowknife Wh 30.62 349 IAMs_20 IAMs_20 16 32 40.6
comp=Z,18μm,22.0s
M30M Minto, Yukon 30.63 9 P **P 16 22 21.7 +0.6**
baz=359
L18K Granite Mounta 30.66 27 P **P 16 22 22.0 +0.7**
baz=357,SNR=8.0
YKA Yellowknife Ar 30.69 349 P **P 16 22 21.5 -0.1**
comp=Z,6.4nm,0.7s,baz=1.8,slow=8.2,SNR=6.9
YKA PcP **PcP 16 25 19.0 +0.2**
comp=Z,3.2nm,0.6s,baz=345,slow=3.4,SNR=5.8
comp=Z,6.4nm,0.7s
YKAW1 Yellowknife Wh 30.70 349 IAMs_20 IAMs_20 16 32 42.6
comp=Z,18μm,22.0s
L17K Donlin 30.70 29 P **P 16 22 22.2 +0.5**
baz=357,SNR=16
HARP HAARP 30.71 17 P **P 16 22 22.5 +0.7**
baz=358
K13K Kusilvak Mount 30.73 34 IAMs_20 IAMs_20 16 32 59.4
comp=Z,8μm,20.0s
K13K Kusilvak Mount 30.73 34 P **P 16 22 22.2 +0.4**
baz=356
M26K Nabesna, AK 30.74 15 P **P 16 22 22.1 0.0**
baz=358
L19K White Mountain 30.74 25 P **P 16 22 21.9 -0.2**

baz=357
M29M Somme Creek 30.75 10 P P 16 22 22.0 -0.3
baz=359
BVCY Beaver Creek 30.75 13 P P 16 22 21.8 -0.4
baz=359
M27K Edge Creek, AK 30.80 14 P P 16 22 22.1 -0.5
baz=358
M24K Tolsona, Glenn 30.99 18 P P 16 22 24.4 +0.1
baz=358
FARO Faro, Yukon 31.00 6 IAMs_20 IAMs_20 16 33 36.0
comp=Z,14µm,22.0s
FARO Faro, Yukon 31.00 6 P P 16 22 24.7 +0.4
baz=359
SKT Skwentna 31.01 22 P P 16 22 23.8 -0.6
SKT IAmb IAmb 16 22 27.1
comp=Z,62nm,1.0s
SKT Skwentna 31.01 22 P P 16 22 25.0 +0.5
baz=358,SNR=8.3
M31M Drury Creek, Y 31.02 7 P P 16 22 24.7 +0.2
baz=359
M19K Big River Lodg 31.03 25 P P 16 22 22.9 -1.7
M19K IAmb IAmb 16 22 38.0
comp=Z,63nm,1.2s
M19K Big River Lodg 31.03 25 P P 16 22 24.8 +0.2
baz=357
L15K Ungalak Mounta 31.07 32 P P 16 22 25.5 +0.6
baz=357
M20K Styx River 31.08 24 P P 16 22 24.1 -1.0
M20K Styx River 31.08 24 P P 16 22 25.3 +0.2
baz=357
L16K Owhat River 31.10 30 P P 16 22 26.7 +1.6
L16K IAMs_20 IAMs_20 16 33 45.2
comp=Z,10µm,19.0s
L16K Owhat River 31.10 30 P P 16 22 25.4 +0.2
baz=357,SNR=10
MA2 Magadan 31.14 77 IAMs_20 IAMs_20 16 33 28.8
comp=Z,3µm,20.0s
SCM Sheep Creek Mo 31.24 19 P P 16 22 26.7 +0.2
SCM Sheep Creek Mo 31.24 19 P P 16 22 26.9 +0.4
baz=358,SNR=6.7
SCM Sheep Creek Mo 31.24 19 P P 16 22 26.7 +0.2
SCM pmax pmax
comp=Z,80nm,0.9s
SML Sawmill 31.25 20 P P 16 22 26.5 0.0
baz=358
M22K Willow 31.27 21 P P 16 22 27.2 +0.6
M22K Willow 31.27 21 P P 16 22 25.6 -1.0
baz=358
GHO Glory Hole Cre 31.27 20 P P 16 22 24.4 -2.4
GHO IAmb IAmb 16 22 32.0
comp=Z,57nm,1.0s
M23K Glacier View 31.27 19 P P 16 22 25.8 -1.0
baz=358,SNR=6.7
L14K Kuka Creek 31.38 33 P P 16 22 27.1 -0.5
L14K IAmb IAmb 16 22 30.8
comp=Z,72nm,1.2s
L14K Kuka Creek 31.38 33 P P 16 22 28.0 +0.4
baz=356,SNR=5.4
YUK3 Moose Creek 31.40 12 P P 16 22 27.4 -0.6
baz=359
M18K Stony River 31.41 26 P P 16 22 27.8 -0.1
baz=357,SNR=6.3
PMR Palmer 31.45 20 P P 16 22 27.6 -0.6
baz=358
M17K Holitna River 31.46 28 P P 16 22 28.4 +0.1
M17K Holitna River 31.46 28 P P 16 22 28.5 +0.1
baz=357,SNR=9.3
N25K Chitina, Valde 31.51 16 P P 16 22 29.0 +0.1
baz=358
SUA Susitna One 31.55 22 P P 16 22 29.5 +0.2
SUA IAmb IAmb 16 22 32.1
comp=Z,64nm,1.0s
SUA Susitna One 31.55 22 P P 16 22 29.0 -0.3
baz=358,SNR=8.8
KLU Klutina 31.61 17 P P 16 22 29.8 +0.1
baz=358
KNK Knik Glacier 31.64 20 P P 16 22 29.6 -0.4
KNK Knik Glacier 31.64 20 P P 16 22 30.0 0.0
baz=358,SNR=11
TGTN Hyland Airport 31.72 1 P P 16 22 31.3 +0.6
baz=360
N31M Braeburn, Yuko 31.73 8 P P 16 22 30.3 -0.5
baz=359
N30M Aishikik Lake 31.75 9 P P 16 22 30.2 -0.7
baz=359
MCARA McCarthy VSAT 31.76 15 P P 16 22 30.0 -1.0
baz=358
N20K Mount Spurr 31.78 23 P P 16 22 30.3 -0.9
baz=358
SPCR Spurr Chakacha 31.78 23 P P 16 22 30.1 -1.2
baz=358
M16K Timber Creek 31.80 29 P P 16 22 32.4 +1.1
M16K IAmb IAmb 16 22 34.9
comp=Z,62nm,0.9s
M16K Timber Creek 31.80 29 P P 16 22 30.4 -0.9
baz=357,SNR=7.1
SVW2 Sparrevohn 31.81 26 P P 16 22 31.0 -0.4
SVW2 IAmb IAmb 16 22 37.1
comp=Z,52nm,1.2s
YUK4 Talbot Arm 31.85 11 P P 16 22 30.1 -1.9
baz=359
FIS Fire Island 31.88 21 P P 16 22 31.4 -0.6
YUK8 Steele Glacier 31.90 12 P P 16 22 31.5 -1.0
baz=359
RC01 Rabbit Creek A 31.94 21 P P 16 22 33.3 +0.7
RC01 Rabbit Creek A 31.94 21 P P 16 22 32.1 -0.5
baz=358,SNR=9.7
M14K Bethel 31.99 32 P P 16 22 32.6 -0.4
baz=357
PABE Paberze 32.01 211 P P 16 22 32.1 -1.0
PABE IAmb IAmb 16 22 37.2
comp=Z,76nm,1.0s
M15K Kasigluk River 32.08 31 P P 16 22 33.3 -0.5
baz=357
N32M Quiet Lake 32.09 6 IAMs_20 IAMs_20 16 34 08.6
comp=Z,13µm,22.0s
N32M Quiet Lake 32.09 6 P P 16 22 33.3 -0.6
baz=359
OBN Obninsk 32.11 198 P P 16 22 32.0 -2.1
OBN IAMs_20 IAMs_20 16 36 36.4
comp=Z,10µm,20.0s
N19K Bonanza Creek 32.12 25 P P 16 22 33.4 -0.9
N19K IAmb IAmb 16 22 37.8
comp=Z,69nm,0.9s
N19K Bonanza Creek 32.12 25 P P 16 22 33.8 -0.4
baz=357,SNR=11
BMRM Bremner River 32.15 16 P P 16 22 34.2 -0.3
baz=358
CTG Chitna Glacier 32.20 13 P P 16 22 34.1 -0.9
baz=359
PWL Port Wells 32.20 20 IAmb IAmb 16 22 37.5
comp=Z,49nm,0.8s
PWL Port Wells 32.20 20 P P 16 22 33.6 -1.3
baz=358,SNR=5.8
GLI Glacier Island 32.20 18 P P 16 22 33.5 -1.4
baz=358
N18K Kilae Creek 32.22 27 P P 16 22 36.0 +0.9
N18K Kilae Creek 32.22 27 P P 16 22 33.8 -1.3
baz=357
M11K Mekoryuk 32.23 36 P P 16 22 34.4 -0.7
baz=356
CAPN Captain Cook N 32.24 22 P P 16 22 34.4 -0.7
baz=358
YUK6 Outpost Mounta 32.26 10 P P 16 22 34.7 -0.9
baz=359
M13K Dall Lake 32.29 33 P P 16 22 34.6 -1.0
baz=357
N17K Nushagak Hills 32.34 28 P P 16 22 37.4 +1.3
N17K Nushagak Hills 32.34 28 P P 16 22 35.4 -0.7
baz=357,SNR=14
N16K Nishlik Lake 32.35 29 P P 16 22 35.7 -0.5
baz=357,SNR=7.2
HYT Haines Junctio 32.38 10 P P 16 22 35.4 -1.2
baz=359
CRQE Cirque 32.39 15 P P 16 22 35.9 -0.8
baz=358
O28M Mount Upton 32.41 12 P P 16 22 35.5 -1.5
baz=359
O30N Mendenhall 32.45 8 P P 16 22 35.9 -1.2
baz=359
ISLE Juniper Island 32.55 14 P P 16 22 37.9 -0.2
ISLE IAmb IAmb 16 22 50.2
comp=Z,49nm,1.0s
O22K Cooper Landing 32.55 21 P P 16 22 37.6 -0.3
O22K Cooper Landing 32.55 21 P P 16 22 36.9 -1.1
baz=358
EYAK Cordova Ski Ar 32.55 17 P P 16 22 35.9 -2.0
baz=358
WHY Whitehorse 32.57 7 P P 16 22 36.5 -1.7
baz=359
N15K Kwethluk River 32.62 30 P P 16 22 36.8 -1.7
N15K Kwethluk River 32.62 30 P P 16 22 36.9 -1.7
baz=357
HIN Hinchinbrook I 32.70 18 P P 16 22 40.7 +1.5
HIN IAmb IAmb 16 22 46.1
comp=Z,77nm,1.1s
WAX Waxell Ridge 32.70 15 P P 16 22 37.3 -2.0
WAX IAmb IAmb 16 22 45.0
comp=Z,87nm,1.3s
O19K Port Alsworth 32.74 25 P P 16 22 38.2 -1.3
baz=357
N14K Kuskokwak Cree 32.83 32 P P 16 22 38.9 -1.4
baz=357
O20K Slope Mountain 32.90 24 P P 16 22 40.2 -0.9
baz=358
O29M Mount Kennedy 32.90 11 P P 16 22 40.7 -0.4
baz=359
SEW Seward 32.94 21 P P 16 22 40.8 -0.5
baz=358
MESA MESA 32.98 14 P P 16 22 40.3 -1.7
baz=358
FLDN Fort Liard 33.01 357 P P 16 22 39.9 -2.1
baz=0.4
BGLC Bering Glacier 33.02 15 P P 16 22 39.8 -2.2
baz=358
P33M Teslin, Yukon 33.03 5 IAMs_20 IAMs_20 16 34 48.6
comp=Z,11µm,22.0s
P33M Teslin, Yukon 33.03 5 P P 16 22 41.2 -1.0
baz=359
O18K Koktuh Hills 33.06 26 P P 16 22 40.8 -1.6
baz=357,SNR=10
P23K Montague Islan 33.08 19 P P 16 22 40.8 -1.7
baz=358
PINM Pinnacle 33.09 12 P P 16 22 41.2 -1.5
baz=359
P30M Million Dollar 33.09 9 P P 16 22 41.7 -1.0
baz=359
O17K Koliganek Bris 33.10 28 P P 16 22 41.3 -1.4
baz=357,SNR=6.5
KOTAN Kotaneelee Air 33.12 357 P P 16 22 41.7 -1.3
baz=0.3
WTLY Watson Lake, Y 33.14 2 P P 16 22 41.0 -2.2
baz=360
KAIM Kayak Island 33.20 16 P P 16 22 41.5 -2.1
baz=358
EKA Eskdalemuir Ar 33.22 240 P P 16 22 45.0 +1.2
EKA Eskdalemuir Ar 33.22 240 P P 16 22 45.0 +1.2
comp=Z,16nm,1.1s,baz=6.4,slow=6.4,SNR=4.3
comp=Z,16nm,1.1s
O16K Kokwok River B 33.25 29 IAmb IAmb 16 22 47.7
comp=Z,62nm,0.9s
O16K IAMs_20 IAMs_20 16 34 11.3
comp=Z,9µm,20.0s
O16K Kokwok River B 33.25 29 P P 16 22 42.2 -1.8
baz=357,SNR=7.9
BRSE Bradley Lake S 33.27 22 P P 16 22 42.1 -2.2
baz=358
CNPM China Poot 33.48 22 P P 16 22 45.3 -0.8
CNPM IAmb IAmb 16 22 50.2
comp=Z,53nm,1.1s
O14K Tigyukauivet M 33.51 32 P P 16 22 44.8 -1.4
baz=357
PNL Peninsula 33.52 11 P P 16 22 45.2 -1.3
baz=359
P18K Big Mountain, 33.53 26 P P 16 22 44.2 -2.3
baz=357,SNR=11
P29M Windy Craggy 33.58 10 P P 16 22 46.3 -0.6
baz=359
O15K Ungalikthiuk R 33.63 30 P P 16 22 44.6 -2.7
baz=357
ZALV Zalesovo Beam 33.64 146 P P 16 22 47.9 +0.4
comp=Z,5.1nm,0.7s,baz=356,slow=9.1,SNR=2.2
ZALV PcP **PcP 16 25 27.3 +0.2**
comp=Z,2.4nm,0.6s,baz=322,slow=4.0,SNR=2.9
comp=Z,5.1nm,0.7s
P32M Atlin 33.65 6 P P 16 22 44.7 -2.9
baz=359
Q23K Middleton Isla 33.67 18 P P 16 22 45.1 -2.5
baz=358
P17K Kvichak River 33.70 27 P P 16 22 45.6 -2.2
baz=357
PLBC Pleasant Camp 33.76 9 P P 16 22 46.1 -2.4
baz=359
SKAG Skagway 33.77 8 P P 16 22 46.5 -2.0
baz=359
P16K Nushagak River 33.82 29 P P 16 22 46.7 -2.3
baz=357
LIRD Liard River Hi 33.85 359 P P 16 22 47.1 -2.2
baz=0.1
R33M Jennings River 33.86 4 P P 16 22 47.8 -1.7
baz=360
BSEG Bad Segeberg 34.03 226 *eP* **P 16 22 54.9 +4.0**
comp=Z,389nm,2.3s,baz=4.9,slow=8.6
BSEG *epP* **pwP 16 23 02.7 +3.6**
baz=4.7,slow=8.6
BRVK Borovoye 34.19 161 P P 16 22 51.7 -0.5
BRVK IAmb IAmb 16 23 02.8
comp=Z,104nm,1.4s
BRVK Borovoye 34.19 161 IAMs_20 IAMs_20 16 37 08.6
comp=Z,19µm,21.0s
BRVK Borovoye 34.19 161 P P 16 22 51.7 -0.5
BRVK pmax pmax
comp=Z,104nm,1.4s
BRVK MLR MLR
comp=Z,19µm,21.0s
Q16K King Salmon 34.21 27 P P 16 22 51.8 -0.6
baz=357,SNR=8.2
BVAR Borovoye Array 34.22 161 P P 16 22 53.8 +1.2
comp=Z,8.2nm,0.8s,baz=352,slow=6.7,SNR=4.1
BVAR PcP **PcP 16 25 29.8 +1.0**
comp=Z,3.5nm,0.5s,baz=354,slow=3.0,SNR=3.6
comp=Z,8.2nm,0.8s
Q18K Katmai Hardscr 34.28 26 P P 16 22 51.1 -2.0
baz=357
Q32M Nakina River 34.29 5 P P 16 22 50.8 -2.5
baz=360
Q17K Contact Creek 34.64 27 P P 16 22 54.3 -2.0
baz=357
R31K City Hall, Gus 34.81 8 P P 16 22 56.2 -1.4
baz=359
DLBC Dease Lake 34.82 3 P P 16 22 56.1 -1.7
baz=360
R32K Eaglecrest 34.96 7 P P 16 22 57.5 -1.4
baz=359
KDAK Kodiak Island 35.20 24 P P 16 23 01.2 +0.3
KDAK Kodiak Island 35.20 24 P P 16 23 00.5 -0.4
baz=358
KDAK Kodiak Island 35.20 24 P P 16 23 01.2 +0.3
KDAK pmax pmax
comp=Z,26nm,0.9s
KDAK MLR MLR
comp=Z,7µm,19.0s
R17K Ugashik Creek 35.26 27 P P 16 23 00.1 -1.3
baz=357
S31K Pelican 35.27 9 P P 16 22 59.8 -1.6
baz=359
RETH Rethem/Aller, 35.27 227 *eP* **P 16 23 05.6 +4.1**
comp=Z,221nm,1.9s,baz=4.9,slow=8.6
RETH *epP* **pwP 16 23 13.6 +3.9**
baz=4.7,slow=8.6
R16K Pilot Point 35.30 28 P P 16 23 00.7 -1.0
baz=357
SPIA Saint Paul Isl 35.30 40 P P 16 22 59.5 -2.3
baz=356
S34M Telegraph Cree 35.34 4 P P 16 23 01.5 -0.6
baz=360
R18K Karluk 35.37 25 P P 16 23 01.8 -0.6
baz=358
NRDL Niedersach Rie 35.48 226 *eP* **P 16 23 07.5 +4.2**
comp=Z,755nm,2.6s,baz=4.9,slow=8.6
NRDL *epP* **pwP 16 23 15.2 +3.7**
baz=4.7,slow=8.6
FLTG Flechtingen 35.60 225 *eP* **P 16 23 07.7 +3.3**
comp=Z,197nm,1.8s,baz=4.9,slow=8.6
FLTG *epP* **pwP 16 23 15.6 +3.0**
baz=4.7,slow=8.6
S32K Killisnoo 35.77 7 P P 16 23 04.5 -1.3
baz=359
CLZ Clausthal 36.12 226 *eP* **P 16 23 13.1 +4.1**
comp=Z,458nm,2.3s,baz=4.9,slow=8.6
CLZ *epP* **pwP 16 23 20.8 +3.6**
baz=4.7,slow=8.6
SIT Sitka 36.18 8 P P 16 23 08.0 -1.3
baz=359
T35M Bob Quinn 36.28 3 IAMs_20 IAMs_20 16 39 57.5
comp=Z,7µm,19.0s
T35M Bob Quinn 36.28 3 P P 16 23 08.2 -2.1
baz=360
SII Sitkinak Islan 36.39 25 P P 16 23 11.4 +0.3
SII Sitkinak Islan 36.39 25 P P 16 23 09.5 -1.7
baz=358,SNR=7.0
T33K Petersburg 36.44 6 P P 16 23 10.3 -1.2
baz=360
GTTG Gottingen 36.44 226 *eP* **P 16 23 15.6 +4.0**
comp=Z,800nm,2.8s,baz=4.9,slow=8.6
GTTG *epP* **pwP 16 23 23.7 +3.9**
baz=4.7,slow=8.6
S14K Fog Glacier 36.53 30 P P 16 23 10.6 -1.9
baz=357
CHGN Chignik 36.54 29 P P 16 23 10.5 -1.9
baz=357
CLL Collm 36.56 223 *eP* **P 16 23 14.0 +1.4**
CLL *i* 16 23 22.0
CLL pmax pmax
comp=Z,42nm,1.0s
CLL Collm 36.56 223 *eP* **P 16 23 15.8 +3.2**
comp=Z,244nm,2.1s,baz=4.9,slow=8.6
CLL *epP* **pwP 16 23 23.3 +2.5**
baz=4.7,slow=8.6
CLL Collm 36.56 223 *eP* **P 16 23 14.0 +1.4**
comp=Z,42nm,1.0s
CLL *i* x x 16 23 22.0
CLL *i* x x 16 23 27.4
CLL *eP* **PP 16 24 35.0 -0.6**
CLL *eP* PP PP 16 24 46.0
CLL *ex* x 16 28 06.0
BUG Bochum--Univer 36.65 229 *eP* **P 16 23 17.4 +4.0**
comp=Z,612nm,2.6s,baz=4.9,slow=8.6
BUG *epP* **pwP 16 23 24.8 +3.2**
baz=4.7,slow=8.6
AKASG Malin Array Be 36.68 205 P P 16 23 14.4 +0.8
comp=Z,4.8nm,0.8s,baz=354,slow=8.2,SNR=2.7
AKASG PcP **PcP 16 25 35.8 -0.1**
comp=Z,0.9nm,0.5s,baz=356,slow=2.8,SNR=2.7
comp=Z,4.8nm,0.8s
AKBB Malin Array Si 36.68 205 IAMs_20 IAMs_20 16 36 04.7
comp=Z,12µm,20.0s
KURK Kurchatov 36.71 153 IAMs_20 IAMs_20 16 38 55.5
comp=Z,20µm,21.0s
KURK Kurchatov 36.71 153 P P 16 23 15.1 +1.2
KURK 16 25 36.5
KURBB Kurchatov Arra 36.80 153 P P 16 23 15.1 +0.5
comp=Z,16nm,1.1s,baz=358,slow=7.9,SNR=5.5
KURBB PcP **PcP 16 25 36.5 +0.2**
comp=Z,4.4nm,0.7s,baz=348,slow=3.1,SNR=7.9
comp=Z,16nm,1.1s
WRAK Wrangell Islan 36.84 5 P P 16 23 13.3 -1.6
baz=360
KASTN Kahler Asten 36.84 228 *eP* **P 16 23 19.4 +4.3**
comp=Z,456nm,2.4s,baz=4.9,slow=8.6
KASTN *epP* **pwP 16 23 27.2 +3.9**
baz=4.7,slow=8.6
BRG Berggiesshubel 36.96 222 *eP* **P 16 23 19.7 +3.6**
BRG 16 23 28.5
BRG 16 24 48.0
BRG pmax pmax
comp=Z,55nm,1.3s
BRG Berggiesshubel 36.96 222 *eP* **P 16 23 20.1 +4.1**
comp=Z,45nm,1.2s,baz=4.9,slow=8.6
BRG *epP* **pwP 16 23 27.9 +3.6**
baz=4.7,slow=8.6
BRG Berggiesshubel 36.96 222 *eP* **P 16 23 19.7 +3.6**
BRG Amp 16 23 21.8
comp=Z,55nm,1.3s
BRG Berggiesshubel 36.96 222 P P 16 23 28.6 +13
BRG Amp 16 23 29.6
comp=Z,53nm,1.3s
BRG Berggiesshubel 36.96 222 PP PP 16 24 48.0 +8.0
BRG Berggiesshubel 36.96 222 S S 16 29 11.0 +10
BRG Amp 16 36 18.0
comp=N,2.2nm,16.8s
BRG Amp 16 36 24.0
comp=Z,3.1nm,20.6s
BRG Amp 16 36 32.0
comp=E,2.3nm,15.1s
BRG Amp 16 42 54.0
comp=Z,5.2nm,19.8s
BRG Amp 16 42 59.0
comp=N,3.4nm,18.2s
BRG Amp 16 43 11.0
comp=E,1.6nm,11.9s
SCHQ Schefferville 36.97 303 P P 16 23 16.6 +0.5
comp=E,5.5nm,0.7s,baz=11,slow=11,SNR=4.7
comp=E,5.5nm,0.7s
CHIR Chirikof Islan 37.09 27 P P 16 23 14.7 -2.5
baz=358
U33K Whale Pass 37.14 6 P P 16 23 15.2 -2.3
baz=360
HSKC Hora Svate Kat 37.24 222 *eP* **P 16 23 20.0 +1.5**
MOX Moxa 37.27 224 *eP* **P 16 23 22.7 +3.9**
comp=E,356nm,2.1s,baz=4.9,slow=8.6
MOX *epP* **pwP 16 23 30.4 +3.4**
baz=4.7,slow=8.6
U35K Hyder 37.35 3 P P 16 23 17.2 -2.0
baz=360
BEBN Eben Emael 37.36 230 *dP* **P 16 23 22.6 +3.2**
PLN Plauen 37.41 224 *eP* **P 16 23 23.9 +3.9**
comp=E,355nm,2.3s,baz=4.9,slow=8.6
PLN *epP* **pwP 16 23 31.3 +3.2**
baz=4.7,slow=8.6
SDPT Sand Point 37.44 31 P P 16 23 17.9 -2.2
baz=357
WERD Werda 37.45 223 *eP* **P 16 23 24.0 +3.7**
comp=E,120nm,1.5s,baz=4.9,slow=8.6
WERD *epP* **pwP 16 23 31.5 +3.1**
baz=4.7,slow=8.6
TANN Tannenbergstha 37.47 223 *eP* **P 16 23 24.2 +3.7**
comp=E,294nm,2.1s,baz=4.9,slow=8.6
TANN *epP* **pwP 16 23 31.8 +3.1**
baz=4.7,slow=8.6
GUNZ Gunzen 37.53 223 *eP* **P 16 23 24.7 +3.7**
comp=E,140nm,1.4s,baz=4.9,slow=8.6
GUNZ *epP* **pwP 16 23 32.7 +3.6**
baz=4.7,slow=8.6
MEM Membach 37.53 230 *dP* **P 16 23 24.7 +3.8**
AHRW Bad Neuenahr-A 37.56 229 *eP* **P 16 23 25.0 +3.9**
comp=E,55nm,1.3s,baz=4.9,slow=8.6
AHRW *epP* **pwP 16 23 33.1 +3.8**
baz=4.7,slow=8.6
WERN Wernitzgruen 37.60 223 *eP* **P 16 23 25.5 +3.9**
comp=E,165nm,1.4s,baz=4.9,slow=8.6
WERN *epP* **pwP 16 23 33.6 +3.8**
baz=4.7,slow=8.6
NKC Novy Kostel 37.66 223 *eP* **P 16 23 24.4 +2.4**
NKC Novy Kostel 37.66 223 *eP* **P 16 23 24.4 +2.4**
BCLA Clavier 37.75 231 *dP* **P 16 23 23.6 +0.9**
CRAG Craig 37.78 6 P P 16 23 21.3 -1.6
baz=360
BHOU Houvegnez 37.79 230 *dP* **P 16 23 26.3 +3.2**
BGES Gesves 37.79 231 *dP* **P 16 23 21.9 -1.2**
TNS Taunus Mts 37.82 227 *eP* **P 16 23 27.5 +4.1**
comp=E,252nm,2.1s,baz=4.9,slow=8.6
TNS *epP* **pwP 16 23 35.4 +3.7**
baz=4.7,slow=8.6
FALS False Pass 37.85 34 P P 16 23 19.6 -3.9
baz=357
ABKAR Akbulak array 37.87 173 P P 16 23 20.7 -3.1
MANZ Manzenberg 37.91 224 *eP* **P 16 23 28.1 +3.9**
comp=E,39nm,1.9s,baz=4.9,slow=8.6
MANZ *epP* **pwP 16 23 35.6 +3.2**
baz=4.7,slow=8.6
KWP Kalwaria Pacla 37.92 212 IAMs_20 IAMs_20 16 40 58.9
comp=Z,8µm,19.0s
V35K Ketchikan 37.93 4 P P 16 23 21.7 -2.5
baz=360
PETK Petropavlovsk- 37.96 72 P P 16 23 24.4 -0.1
comp=Z,12nm,0.9s,baz=30,slow=4.1,SNR=6.5
comp=Z,12nm,0.9s
CHNA Chernabura Isl 37.98 30 P P 16 23 21.6 -3.0
baz=357
RCHB Rochefort 38.02 231 *dP* **P 16 23 27.8 +2.8**
PET Petropavlovsk 38.09 71 IAMs_20 IAMs_20 16 38 16.7
comp=Z,3µm,18.0s
PET Petropavlovsk 38.09 71 *i P* **P 16 23 23.8 -1.8**
PET pmax pmax
comp=Z,35nm,1.3s
DOU Dourbes 38.10 231 *dP* **P 16 23 28.2 +2.5**
ROTZ Rotzenmuhle 38.13 223 *eP* **P 16 23 30.1 +4.2**
comp=Z,21nm,1.2s,baz=4.9,slow=8.6
ROTZ *epP* **pwP 16 23 37.7 +3.6**
baz=4.7,slow=8.6
GRF Grafenberg Arr 38.24 224 *eP* **P 16 23 31.0 +4.1**

comp=Z,124nm,1.4s,baz=4.9,slow=8.6
GRF *e*pP **pwP** **16 23 38.8 +3.7**
baz=4.7,slow=8.6
FFC Flin Flon 38.28 337 IAMs_20 IAMs_20 16 37 34.7
comp=Z,15μm,20.0s
ZVC Zvikov 38.39 221 *e*P **P** **16 23 30.2 +2.1**
WLF Walferdange 38.47 230 P **P** **16 23 27.2 -1.6**
WLF Walferdange 38.47 230 *d*P **P** **16 23 32.0 +3.2**
WLF Walferdange 38.47 230 P **P** **16 23 27.2 -1.6**
WLF pmax pmax
comp=Z,57nm,1.2s
WLF MLR MLR
comp=Z,3μm,20.0s
WLF Walferdange 38.47 230 *e*P **P** **16 23 32.9 +4.1**
comp=Z,329nm,2.3s,baz=4.9,slow=8.6
WLF *e*pP **pwP** **16 23 40.3 +3.2**
baz=4.7,slow=8.6
AKUT Akutan 38.50 36 IAMs_20 IAMs_20 16 40 17.3
comp=Z,7μm,18.0s
LANS Liptovska Anna 38.50 216 *e*P **P** **16 23 33.5 +4.4**
LANS Liptovska Anna 38.50 216 *e*P **P** **16 23 33.5 +4.4**
CRVS Cervenica-Dubn 38.68 214 *e*P **P** **16 23 35.0 +4.3**
CRVS Cervenica-Dubn 38.68 214 *e*P **P** **16 23 35.0 +4.3**
CRVS pmax pmax
comp=Z,425nm,1.9s
KHC Kasperske Hory 38.72 222 P **P** **16 23 28.4 -2.6**
KHC Kasperske Hory 38.72 222 *e*P **P** **16 23 33.3 +2.3**
KHC Kasperske Hory 38.72 222 *e*P **P** **16 23 33.3 +2.3**
WET Wettzell 38.73 223 *e*pP pP 16 23 42.9 +10
baz=4.7,slow=8.6
UNV Unalaska Valle 38.76 37 P **P** **16 23 28.5 -2.7**
baz=357
GEC2 GERESS Array S 39.00 222 *e*P **P** **16 23 36.5 +3.1**
comp=Z,171nm,1.9s,baz=4.9,slow=8.6
GEC2 *e*pP **pwP** **16 23 44.9 +3.3**
baz=4.7,slow=8.6
GERES GERESS Array B 39.00 222 P **P** **16 23 34.0 +0.6**
GERES GERESS Array B 39.00 222 P **P** **16 23 34.0 +0.6**
comp=Z,10nm,0.8s,baz=8.9,slow=9.5,SNR=3.8
comp=Z,10nm,0.8s
SHEM Shemya Is, Ala 39.13 56 LR LR 16 40 15.2
comp=Z,3μm,19.1s,baz=354,slow=37
VYHS Vyhne 39.17 216 *e*P **P** **16 23 38.6 +3.8**
VYHS Vyhne 39.17 216 *e*P **P** **16 23 38.6 +3.8**
VYHS pmax pmax
comp=Z,100nm,1.9s
MODS Modra-Piesok 39.34 218 *e*P **P** **16 23 39.7 +3.5**
MODS Modra-Piesok 39.34 218 *e*P **P** **16 23 39.7 +3.5**
MODS pmax pmax
comp=Z,183nm,1.3s
ZST Bratislava 39.53 218 *e*P **P** **16 23 41.6 +3.9**
ZST Bratislava 39.53 218 *e*P **P** **16 23 41.6 +3.9**
NIKH Nikolski High 39.56 39 P **P** **16 23 35.4 -2.5**
baz=357
BFO Black Forest 39.71 227 *e*P **P** **16 23 43.3 +4.0**
comp=Z,202nm,1.9s,baz=4.9,slow=8.6
BFO *e*pP **pwP** **16 23 51.2 +3.7**
baz=4.7,slow=8.6
HIA Hailar 39.78 110 P **P** **16 23 39.3 -0.6**
HIA IAmb IAmb 16 23 49.5
comp=Z,106nm,1.5s
HIA Hailar 39.78 110 IAMs_20 IAMs_20 16 38 56.4
comp=Z,4μm,19.0s
HIA Hailar 39.78 110 P **P** **16 23 39.3 -0.6**
HIA pmax pmax
comp=Z,106nm,1.5s
HIA MLR MLR
comp=Z,4μm,19.0s
ECH Echery 39.88 229 P **P** **16 23 36.8 -3.8**
ECH Echery 39.88 229 P **P** **16 23 36.8 -3.8**
ECH pmax pmax
comp=Z,65nm,1.2s
ATKA Atka Island 40.14 45 P **P** **16 23 42.7 0.0**
RJOB Jochberg 40.14 223 *e*P **P** **16 23 46.7 +3.8**
comp=Z,25nm,1.1s,baz=4.9,slow=8.6
KIWB Kanaga Island 40.37 47 P **P** **16 23 43.6 -1.0**
KLR Kul'dur 40.45 98 P **P** **16 23 45.8 +0.4**
comp=Z,11nm,0.8s,baz=346,slow=8.8,SNR=7.7
comp=Z,11nm,0.8s
SONM Songino Array 40.57 124 P **P** **16 23 47.4 +0.8**
comp=Z,5.6nm,0.7s,baz=343,slow=5.6,SNR=6.2
SONM PcP **PcP** **16 25 47.9 -0.5**
comp=Z,1.8nm,0.6s,baz=339,slow=4.0,SNR=1.9
comp=Z,5.6nm,0.7s
MAKZ Makanchi 40.70 149 P **P** **16 23 45.6 -1.9**
MAKZ Makanchi 40.70 149 P **P** **16 23 45.6 -1.9**
MAKZ pmax pmax
comp=Z,31nm,0.9s
MAKZ MLR MLR
comp=Z,11μm,22.0s
MKAR Makanchi Array 40.72 149 P **P** **16 23 46.4 -1.3**
MKAR Makanchi Array 40.72 149 P **P** **16 23 47.6 0.0**
comp=Z,20nm,1.0s,baz=18,slow=8.7,SNR=6.8
comp=Z,20nm,1.0s
BBB Bella Bella 41.09 1 IAMs_20 IAMs_20 16 39 23.7
comp=Z,8μm,21.0s
PERS Pernice 41.15 220 *e*P **P** **16 23 51.5 +0.2**
SENIN Lac Senin/Sane 41.72 228 IAMs_20 IAMs_20 16 40 48.8
comp=Z,11μm,21.0s
SABO M.te Sabotino 41.86 222 IAMs_20 IAMs_20 16 42 52.4
comp=Z,3μm,21.0s
MLR Muntele Rosu 41.97 209 IAMs_20 IAMs_20 16 39 51.0
comp=Z,12μm,20.0s
CEY Cerknica 42.08 221 *i*P **P** **16 23 57.5 -1.3**
CEY *e*PP PcP 16 25 45.1 -8.0
CEY *e*SS **S** **16 30 22.2 +4.8**
DRLN Deer Lake 42.10 294 IAMs_20 IAMs_20 16 38 39.7
comp=Z,8μm,20.0s
ULM Lac du Bonnet 42.61 331 P **P** **16 24 03.0 0.0**
comp=Z,17nm,0.9s,baz=4.3,slow=5.8,SNR=5.4
comp=Z,17nm,0.9s
TIRR Tirgusor 42.94 206 IAMs_20 IAMs_20 16 40 12.3
comp=Z,23μm,19.0s
CBB Campbell River 43.25 359 IAMs_20 IAMs_20 16 40 26.7
comp=Z,6μm,21.0s
YSS Yuzh-Sakhalins 43.31 87 *e*P **P** **16 24 07.6 -1.1**
YSS *e* 16 25 48.8
YSS *e*S **S** **16 30 34.6 -0.9**
YSS pmax pmax
comp=Z,30nm,1.2s
YSS pmax pmax
comp=Z,500nm,3.1s
YSS MLR MLR
comp=N,3μm,17.0s
WMQ Urumqi 43.86 144 *e*P **P** **16 24 14.0 +0.8**
WMQ LR LR
comp=N,14μm,21.1s
WMQ LR LR
comp=N,6μm,20.1s
WMQ LR LR
comp=N,14μm,22.9s
GROC Groznyy 43.92 188 *e*P **P** **16 24 12.1 -1.6**
GROC *e* 16 25 59.2
GROC pmax pmax
comp=Z,24nm,0.5s
VLDQ Val d'Or 44.14 313 IAMs_20 IAMs_20 16 39 59.3
comp=Z,8μm,20.0s
ZEI Tsey 44.35 190 *e*P P 16 24 03.9 -14
ZEI pmax pmax
comp=Z,61nm,1.3s
LMQ La Malbaie 44.41 306 IAMs_20 IAMs_20 16 40 10.9
comp=Z,9μm,22.0s
B35A Bob, Littlefor 44.44 329 S **S** **16 30 50.2 -1.8**
baz=2.5
CLRS Cowichan Lake 44.46 357 IAMs_20 IAMs_20 16 42 32.7
comp=Z,6μm,20.0s
ONI Oni 44.56 190 IAMs_20 IAMs_20 16 42 49.3
comp=Z,6μm,22.0s
DGMT Dagmar 44.58 338 IAMs_20 IAMs_20 16 40 59.1
comp=Z,6μm,19.0s
DGMT Dagmar 44.58 338 P **P** **16 24 16.7 -2.2**
baz=1.7
MURB Monte Urbino 44.62 223 P **P** **16 24 19.8 +0.5**
PGC Sidney 44.63 357 P **P** **16 24 19.9 +0.7**
AAK Ala-Archa 44.69 157 IAMs_20 IAMs_20 16 43 59.6
comp=Z,17μm,20.0s
B06A Marblemount 44.75 355 IAMs_20 IAMs_20 16 42 43.3
comp=Z,7μm,18.0s
EYMN Ely 44.79 326 IAMs_20 IAMs_20 16 41 00.6
comp=Z,20μm,19.0s
EYMN Ely 44.79 326 P **P** **16 24 18.8 -1.8**
baz=2.6
EYMN Ely 44.79 326 S **S** **16 30 58.2 +1.1**
baz=2.6
PRZ Przheval'sk 44.93 153 IAMs_20 IAMs_20 16 44 06.1
comp=Z,13μm,21.0s

MDJ Mudanjiang 44.94 100 P **P** **16 24 21.5 -0.3**
MDJ pP sP 16 24 25.0 0.0
MDJ sP pP 16 24 26.0 +1.9
MDJ PcP **PcP** **16 26 02.0 -0.8**
MDJ PP **PP** **16 26 08.5 +2.1**
MDJ ScP **ScP** **16 29 54.3 -0.2**
MDJ PcS **PcS** **16 29 55.8 -0.6**
MDJ S **S** **16 31 01.8 +2.6**
MDJ sS sS 16 31 06.8 +3.7
MDJ ScS **ScS** **16 34 18.5 +0.3**
MDJ pmax pmax
comp=Z,56nm,1.3s
MDJ pmax pmax
comp=Z,1μm,7.1s
MDJ LR LR
comp=Z,3μm,16.3s
MDJ LR LR
comp=Z,3μm,17.7s
MDJ LR LR
comp=Z,5μm,16.3s
MDJ Mudanjiang 44.94 100 P **P** **16 24 20.7 -1.0**
XLT XiLinHaoTe 44.96 114 ‖ *i*P **P** **16 24 24.3 +2.2**
XLT pP pwP 16 24 28.5 -1.1
XLT sP sP 16 24 31.8 +6.5
XLT S **S** **16 31 05.8 +6.1**
XLT pmax pmax
comp=Z,59nm,1.2s
XLT pmax pmax
comp=Z,1μm,5.6s
XLT LR LR
comp=Z,330nm,17.4s
XLT LR LR
comp=Z,3μm,18.3s
XLT LR LR
comp=Z,5μm,21.7s
NEW Newport 44.98 351 IAMs_20 IAMs_20 16 41 30.5
comp=Z,19μm,21.0s
NEW Newport 44.98 351 P **P** **16 24 20.4 -1.7**
baz=0.8
MDND Maddock 45.11 334 P **P** **16 24 22.0 -1.2**
baz=2.0
EGMT Eagleton 45.13 344 IAMs_20 IAMs_20 16 41 27.5
comp=Z,14μm,20.0s
EGMT Eagleton 45.13 344 P **P** **16 24 22.1 -1.2**
baz=1.3
CASP Castiglione de 45.15 224 P **P** **16 24 20.0 -3.5**
B04A Port Angeles 45.22 357 IAMs_20 IAMs_20 16 40 12.8
comp=Z,7μm,21.0s
CESX Cesi 45.27 222 P **P** **16 24 22.9 -1.5**
CESX IAmb IAmb 16 24 29.3
comp=Z,46nm,1.0s
E62A Clayton Lake 45.30 305 IAMs_20 IAMs_20 16 40 50.5
comp=Z,7μm,22.0s
C09A Chrisman Ranch 45.45 352 IAMs_20 IAMs_20 16 43 29.7
comp=Z,7μm,18.0s
USRK Ussuriysk Ar. 45.48 98 P **P** **16 24 24.5 -1.6**
USRK Ussuriysk Ar. 45.48 98 P **P** **16 24 26.2 +0.1**
comp=Z,13nm,0.9s,baz=344,slow=7.0,SNR=5.7
USRK PcP **PcP** **16 26 06.3 +1.7**
comp=Z,3.6nm,0.8s,baz=18,slow=0.9,SNR=4.2
comp=Z,13nm,0.9s
AQU L'Aquila 45.49 222 P **P** **16 24 25.1 -1.2**
AQU L'Aquila 45.49 222 P **P** **16 24 25.1 -1.2**
AQU pmax pmax
comp=Z,111nm,1.2s
AQU MLR MLR
comp=Z,3μm,21.0s
GNW Green Mountain 45.71 356 P **P** **16 24 26.9 -0.9**
GNW IAmb IAmb 16 24 49.3
comp=Z,50nm,1.4s
GNW IAMs_20 IAMs_20 16 41 59.8
comp=Z,5μm,20.0s
LMN Caledonia Moun 45.85 301 IAMs_20 IAMs_20 16 41 59.9
comp=Z,6μm,19.0s
TRQ Mont Tremblant 45.91 310 P **P** **16 24 28.2 -1.4**
LTY Liberty 46.01 354 IAMs_20 IAMs_20 16 44 33.7
comp=Z,7μm,18.0s
F62A Pittston Farm, 46.04 306 IAMs_20 IAMs_20 16 41 12.1
comp=Z,8μm,21.0s
D05A Enumclaw 46.08 355 IAMs_20 IAMs_20 16 43 27.6
comp=Z,6μm,19.0s
E46A Sault Ste Mari 46.14 319 P **P** **16 24 30.4 -0.9**
E46A IAmb IAmb 16 24 36.6
comp=Z,34nm,1.1s
E46A IAMs_20 IAMs_20 16 40 56.1
comp=Z,13μm,21.0s
WISH Wishkah 46.16 357 IAMs_20 IAMs_20 16 43 38.7
comp=Z,8μm,19.0s
D08A Wollman Farm, 46.20 352 IAMs_20 IAMs_20 16 43 04.5
comp=Z,7μm,18.0s
RDO Rodhopi 46.32 209 IAMs_20 IAMs_20 16 42 40.8
comp=Z,8μm,20.0s
MSO Missoula 46.38 348 P **P** **16 24 31.1 -2.2**
baz=1.0
LAO LASA Array 46.40 340 IAMs_20 IAMs_20 16 42 20.3
comp=Z,13μm,21.0s
LAO LASA Array 46.40 340 P **P** **16 24 31.0 -2.4**
baz=1.5
LON Longmire 46.52 355 IAMs_20 IAMs_20 16 43 52.2
comp=Z,9μm,19.0s
PKME Peaks-Kenny Pk 46.64 305 P **P** **16 24 32.6 -2.6**
baz=3.6
GGN Saint George 46.67 302 IAMs_20 IAMs_20 16 45 10.9
comp=Z,5μm,18.0s
E09A Wood Farm, Sta 46.73 352 IAMs_20 IAMs_20 16 42 46.8
comp=Z,11μm,22.0s
BPMT Black Pine Rid 46.76 347 P **P** **16 24 36.6 +0.1**
E08A Dider Farm, El 46.76 353 IAMs_20 IAMs_20 16 43 30.6
comp=Z,7μm,18.0s
PGAV Gavieira, Arco 46.80 244 *e*PP **P** **16 24 36.6 0.0**
PGAV Gavieira, Arco 46.80 244 *e*P **P** **16 24 36.6 0.0**
RADR Rader Ridge 46.86 357 IAMs_20 IAMs_20 16 44 10.1
comp=Z,10μm,19.0s
HAWA Hanford 46.87 353 IAMs_20 IAMs_20 16 43 36.5
comp=Z,6μm,18.0s
PBRG Braganca 46.89 242 *e*PP **P** **16 24 39.8 +2.5**
PBRG Braganca 46.89 242 *e*P **P** **16 24 39.5 +2.2**
KBN Korca 46.98 214 IAMs_20 IAMs_20 16 44 55.0
comp=Z,6μm,21.0s
HAL Halifax 47.00 299 IAMs_20 IAMs_20 16 42 03.5
comp=Z,6μm,21.0s
F33A 5 Mile Ranch, 47.03 331 IAMs_20 IAMs_20 16 43 07.1
comp=Z,11μm,18.0s
F33A 5 Mile Ranch, 47.03 331 S **S** **16 31 32.3 +3.0**
baz=2.2
EMMW East Machias 47.11 303 IAMs_20 IAMs_20 16 43 34.5
comp=Z,4μm,18.0s
VLO Vlora 47.17 215 IAMs_20 IAMs_20 16 44 17.1
comp=Z,5μm,20.0s
F04D Rainier, OR 47.19 356 IAMs_20 IAMs_20 16 44 01.0
comp=Z,5μm,20.0s
F07A Phny Hill Vi 47.37 353 IAMs_20 IAMs_20 16 45 53.5
comp=Z,8μm,18.0s
POLO Lamas de Olo 47.37 243 *e*PP **P** **16 24 42.9 +1.8**
POLO Lamas de Olo 47.37 243 *e*P **P** **16 24 43.3 +2.2**
PVRL Vila Real 47.46 243 *e*PP **P** **16 24 44.9 +3.2**
PVRL Vila Real 47.46 243 *e*P **P** **16 24 44.1 +2.4**
LONY Lake Ozonia 47.51 310 P **P** **16 24 39.4 -2.6**
baz=3.4
MVO Moncorvo 47.54 243 *e*P **P** **16 24 45.4 +3.0**
SADO Sadowa 47.54 314 IAMs_20 IAMs_20 16 43 42.1
comp=Z,7μm,18.0s
SPMN Marine on St. 47.55 327 P **P** **16 24 39.5 -2.8**
baz=2.4
BRTR Keskin Array B 47.56 200 P **P** **16 24 45.0 +2.4**
BRTR Keskin Array B 47.56 200 P **P** **16 24 45.0 +2.4**
comp=Z,6.0nm,0.8s,baz=342,slow=5.5,SNR=6.1
comp=Z,6.0nm,0.8s
BOZ Bozeman (W) 47.58 345 IAMs_20 IAMs_20 16 43 05.5
comp=Z,10μm,19.0s
BOZ Bozeman (W) 47.58 345 P **P** **16 24 40.9 -1.9**
baz=1.1
GLMI Grayling 47.69 320 IAMs_20 IAMs_20 16 41 55.2
comp=Z,12μm,21.0s
GLMI Grayling 47.69 320 P **P** **16 24 42.1 -1.3**
baz=2.9
VT1 Waterbury 47.72 308 IAMs_20 IAMs_20 16 41 14.0
comp=Z,6μm,22.0s
LBNH Lisbon 47.78 307 P **P** **16 24 41.5 -2.6**
baz=3.5
HHC Hu-ho-hao-te 47.78 119 *e*P **P** **16 24 41.5 -2.8**
HHC PP **PP** **16 26 31.8 -3.9**
HHC S **S** **16 31 35.5 -4.8**
HHC pmax pmax
comp=Z,47nm,0.9s
HHC pmax pmax

comp=Z,2μm,5.6s
HHC LR LR
comp=Z,9μm,18.7s
HHC LR LR
comp=Z,2μm,19.6s
HHC LR LR
comp=Z,13μm,17.0s
DLMT Dillon 47.83 346 IAMs_20 IAMs_20 16 44 04.6
comp=Z,9μm,19.0s
KSH Kashi 47.84 156 P **P** **16 24 47.8 +3.0**
KSH pP pwP 16 24 52.8 +0.1
KSH sP sP 16 24 57.3 +9.4
KSH PP **PP** **16 26 42.5 +6.2**
KSH S **S** **16 31 46.0 +4.8**
KSH ScS **ScS** **16 34 40.3 +2.8**
KSH pmax pmax
comp=Z,20nm,1.7s
KSH LR LR
comp=Z,9μm,20.3s
KSH LR LR
comp=Z,8μm,18.4s
KSH LR LR
comp=Z,13μm,20.4s
HOOD Mount Hood Mea 47.95 355 IAMs_20 IAMs_20 16 44 47.0
comp=Z,9μm,18.0s
BTO Baotou 47.95 121 *e*P **P** **16 24 44.8 -0.8**
BTO pP **sP** **16 24 49.0 +0.1**
BTO sP **pwP** **16 24 51.5 -1.8**
BTO PP **PP** **16 26 34.8 -2.5**
BTO S **S** **16 31 42.3 -0.4**
BTO SS **SS** **16 35 07.8 -3.0**
BTO pmax pmax
comp=Z,38nm,1.3s
BTO pmax pmax
comp=Z,1μm,4.9s
BTO LR LR
comp=Z,7μm,16.0s
BTO LR LR
comp=Z,6μm,10.6s
BTO LR LR
comp=Z,8μm,17.6s
G08A Pilot Rock 47.96 352 IAMs_20 IAMs_20 16 43 37.3
comp=Z,6μm,21.0s
RLMT Red Lodge 48.02 343 P **P** **16 24 44.4 -1.9**
baz=1.3
G05A Wamic 48.03 355 IAMs_20 IAMs_20 16 43 14.0
comp=Z,5μm,20.0s
G06A Carlson Farm, 48.03 354 IAMs_20 IAMs_20 16 44 23.1
comp=Z,5μm,18.0s
PVIS Viseu 48.03 243 *e*P **P** **16 24 47.7 +1.5**
G03D McMinnville, O 48.06 357 IAMs_20 IAMs_20 16 44 37.1
comp=Z,8μm,20.0s
HEBO Mount Hebo 48.06 357 IAMs_20 IAMs_20 16 43 41.1
comp=Z,6μm,19.0s
I62A Tamworth 48.12 307 IAMs_20 IAMs_20 16 42 35.1
comp=Z,8μm,21.0s
PLID Pearl Lake 48.14 350 IAMs_20 IAMs_20 16 43 27.9
comp=Z,13μm,21.0s
H43A Windswept, Lux 48.15 323 S **S** **16 31 45.6 +0.4**
baz=2.6
WCNY West Carthage 48.19 311 S **S** **16 31 52.3 +6.5**
baz=3.3
ERM Erimo 48.26 87 IAMs_20 IAMs_20 16 44 52.4
comp=Z,3μm,20.0s
YHL Hebgen Lake 48.32 345 IAMs_20 IAMs_20 16 43 29.6
comp=Z,12μm,19.0s
MTE Manteigas 48.33 243 *e*PP **P** **16 24 50.6 +2.1**
MTE Manteigas 48.33 243 *e*P **P** **16 24 50.3 +1.8**
BNN Bunyan 48.39 198 IAMs_20 IAMs_20 16 47 18.0
comp=Z,12μm,21.0s
SUSD Miller 48.49 333 IAMs_20 IAMs_20 16 43 16.9
comp=Z,11μm,20.0s
SUSD Miller 48.49 333 P **P** **16 24 47.9 -1.8**
baz=2.0
SUSD Miller 48.49 333 S **S** **16 31 52.4 +2.3**
baz=2.0
I49A Point Hope 48.51 318 IAMs_20 IAMs_20 16 43 17.8
comp=Z,7μm,19.0s
COI Coimbra 48.56 244 *e*PP **P** **16 24 52.8 +2.6**
H04A Detroit Lake 48.59 355 IAMs_20 IAMs_20 16 44 29.9
comp=Z,6μm,20.0s
J59A Piesco 48.66 310 IAMs_20 IAMs_20 16 42 30.8
comp=Z,5μm,20.0s
J61A Chester 48.70 308 IAMs_20 IAMs_20 16 41 53.5
comp=Z,5μm,21.0s
GTA Gaotai 48.70 131 *e*P **P** **16 24 52.8 +1.4**
GTA sP pwP 16 25 00.3 +1.2
GTA PP **PP** **16 26 45.5 +1.4**
GTA S **S** **16 31 56.0 +2.7**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA LR LR
comp=Z,12μm,20.4s
GTA LR LR
comp=Z,5μm,20.7s
GTA LR LR
comp=Z,18μm,21.4s
PCAS Casmilo, Conde 48.72 244 *e*PP **P** **16 24 54.4 +3.0**
PCAS Casmilo, Conde 48.72 244 *e*P **P** **16 24 53.4 +2.0**
H04D Lebanon 48.75 356 P **P** **16 24 52.2 +0.6**
H17A Grant Village 48.77 344 P **P** **16 24 49.9 -2.1**
baz=1.2
BJI Beijing 48.81 115 P **P** **16 24 54.0 +1.9**
BJI PP **PP** **16 26 39.3 -5.6**
BJI S **S** **16 31 52.5 -2.0**
BJI pmax pmax
comp=Z,25nm,2.3s
BJI pmax pmax
comp=Z,800nm,5.6s
BJI LR LR
comp=Z,2μm,18.5s
BJI LR LR
comp=Z,740nm,13.9s
BJI LR LR
comp=Z,2μm,15.9s
BJT Baijiatuau 48.83 115 IAMs_20 IAMs_20 16 44 06.7
comp=Z,5μm,18.0s
ESDC Sonseca Array 48.88 239 P **P** **16 24 54.3 +1.6**
comp=Z,14nm,0.8s,baz=0.2,slow=7.4,SNR=11
comp=Z,14nm,0.8s
PCBR Castelo Branco 48.88 243 *e*PP **P** **16 24 56.0 +3.4**
PCBR Castelo Branco 48.88 243 *e*P **P** **16 24 55.3 +2.7**
RSSD Black Hills 48.93 338 P **P** **16 24 54.1 +0.9**
RSSD IAmb IAmb 16 24 58.8
comp=Z,37nm,0.7s
RSSD Black Hills 48.93 338 P **P** **16 24 51.6 -1.6**
baz=1.6
RSSD Black Hills 48.93 338 P **P** **16 24 54.2 +0.9**
baz=1.6,SNR=7.8
RSSD S **S** **16 31 55.9 -0.7**
baz=1.6
RSSD Black Hills 48.93 338 P **P** **16 24 54.1 +0.9**
RSSD pmax pmax
comp=Z,37nm,0.7s
RSSD MLR MLR
comp=Z,8μm,18.0s
I05D Terrebonne, OR 48.93 355 IAmb IAmb 16 24 59.5
comp=Z,44nm,0.8s
I05D IAMs_20 IAMs_20 16 45 54.9
comp=Z,6μm,18.0s
J54A Appleton 49.02 314 IAMs_20 IAMs_20 16 44 28.1
comp=Z,8μm,18.0s
PAB San Pablo 49.03 240 P **P** **16 24 49.5 -4.4**
PAB IAmb IAmb 16 24 59.6
comp=Z,32nm,1.0s
PAB San Pablo 49.03 240 P **P** **16 24 49.5 -4.4**
PAB pmax pmax
comp=Z,32nm,1.0s
BUCK Buck Mountain 49.08 356 IAMs_20 IAMs_20 16 44 55.9
comp=Z,5μm,22.0s
MEDO Medina 49.12 314 IAMs_20 IAMs_20 16 44 26.8
comp=Z,7μm,22.0s
ECSD EROS Data Cent 49.15 331 P **P** **16 24 55.5 +0.8**
ECSD IAmb IAmb 16 24 60.0
comp=Z,39nm,0.9s
ECSD EROS Data Cent 49.15 331 IAMs_20 IAMs_20 16 43 34.8
comp=Z,10μm,20.0s
ECSD EROS Data Cent 49.15 331 P **P** **16 24 52.9 -1.8**
baz=2.1
ECSD EROS Data Cent 49.15 331 P **P** **16 24 54.8 +0.1**
baz=2.1
ECSD S **S** **16 32 00.1 +0.8**
baz=2.1
GEYT Alibeck 49.18 175 P **P** **16 24 56.8 +1.8**
comp=Z,5.4nm,0.9s,baz=339,slow=3.7,SNR=2.0
GEYT PKPPKP **P'P'df** **16 55 53.8 -1.5**
comp=Z,2.3nm,0.6s,baz=147,slow=8.9,SNR=7.1

	comp=Z,5.4nm,0.9s					
GYA0B	**ALIBECK ARRAY**	49.18 175	IAMs_20	IAMs_20	16 47 14.0	
	comp=Z,5μm,21.0s					
IMW	**Indian Meadow**	49.27 345	IAMs_20	IAMs_20	16 44 02.8	
	comp=Z,9μm,20.0s					
PSBE	**So Bento**	49.27 244	*e*PP	**P**	**16 24 58.7**	**+3.0**
PSBE	**So Bento**	49.27 244	*e*P	**P**	**16 24 56.8**	**+1.1**
PMRV	**Marv??o**	49.29 243	*e*PP	**P**	**16 24 57.4**	**+1.6**
PMRV	**Marv??o**	49.29 243	*e*P	**P**	**16 24 57.4**	**+1.6**
K62A	**Royalston**	49.36 308	S	**S**	**16 32 07.4**	**+5.1**
	baz=3.4					
K62A			S	**S**	**16 32 07.4**	**+5.1**
	baz=3.4					
HCNY	**Howe Caverns**	49.42 310	S	**S**	**16 32 10.2**	**+7.1**
	baz=3.3					
PINE	**Pine Mountain**	49.47 354	IAmb	IAmb	16 25 04.2	
	comp=Z,49nm,0.9s					
HRV	**Adam Dziewonsk**	49.49 307	P	**P**	**16 24 54.4**	**-2.9**
	baz=3.4					
MMNY	**Mt. Morris Dam**	49.53 313	IAMs_20	IAMs_20	16 43 16.7	
	comp=Z,8μm,20.0s					
L61B	**Northampton**	49.59 308	P	**P**	**16 24 55.2**	**-2.9**
	baz=3.3					
BCX	**Boston College**	49.65 306	IAMs_20	IAMs_20	16 43 32.6	
	comp=Z,7μm,20.0s					
HLID	**Hailey**	49.65 348	IAMs_20	IAMs_20	16 44 37.2	
	comp=Z,11μm,20.0s					
HLID	**Hailey**	49.65 348	P	**P**	**16 24 56.3**	**-2.5**
	baz=0.9					
K50A	**Casco**	49.66 318	P	**P**	**16 24 58.8**	**+0.2**
K50A			IAmb	IAmb	16 25 04.0	
	comp=Z,65nm,1.0s					
K50A			IAMs_20	IAMs_20	16 44 03.4	
	comp=Z,8μm,20.0s					
TPAW	**Teton Pass**	49.68 345	IAMs_20	IAMs_20	16 44 16.5	
	comp=Z,10μm,21.0s					
PMTG	**Montargil**	49.69 244	*e*PP	**P**	**16 25 01.9**	**+3.1**
PMTG	**Montargil**	49.69 244	*e*P	**P**	**16 25 00.3**	**+1.5**
JFWS	**Jewell Farm**	49.78 325	IAMs_20	IAMs_20	16 43 56.6	
	comp=Z,16μm,18.0s					
JFWS	**Jewell Farm**	49.78 325	P	**P**	**16 24 57.1**	**-2.4**
	baz=2.5					
MFID	**Camas Ranch**	49.81 349	IAMs_20	IAMs_20	16 44 21.5	
	comp=Z,9μm,20.0s					
PESTR	**Estremoz**	49.86 243	*e*PP	**P**	**16 25 01.2**	**+1.1**
PESTR	**Estremoz**	49.86 243	*e*P	**P**	**16 25 01.4**	**+1.3**
J08A	**Circle Bar Ran**	49.89 352	IAmb	IAmb	16 25 06.9	
	comp=Z,30nm,0.8s					
J08A			IAMs_20	IAMs_20	16 44 47.3	
	comp=Z,10μm,21.0s					
L59A	**Walton**	49.95 310	IAMs_20	IAMs_20	16 43 32.8	
	comp=Z,5μm,21.0s					
BINY	**Binghamton**	49.98 311	P	**P**	**16 24 58.9**	**-2.2**
	baz=3.2					
L64A	**Middleborough**	50.03 306	IAMs_20	IAMs_20	16 43 43.7	
	comp=Z,7μm,21.0s					
GAZ	**Gaziantep**	50.05 197	P	**P**	**16 25 00.2**	**-1.5**
GAZ			IAmb	IAmb	16 25 08.5	
	comp=Z,67nm,1.2s					
LIS	**Lisbon**	50.08 244	*e*P	**P**	**16 25 01.1**	**-0.7**
LIS			IAmb	IAmb	16 25 09.3	
	comp=Z,33nm,0.6s					
LIS	**Lisbon**	50.08 244	*e*P	**P**	**16 25 01.1**	**-0.7**
LIS			pmax	pmax		
	comp=Z,33nm,0.6s					
L56A	**Greenwood**	50.11 313	IAMs_20	IAMs_20	16 43 35.0	
	comp=Z,10μm,20.0s					
J01E	**Myrtle Point**	50.12 357	IAMs_20	IAMs_20	16 46 05.4	
	comp=Z,8μm,20.0s					
DBO	**Dodson Butte**	50.16 356	IAmb	IAmb	16 25 09.0	
	comp=Z,40nm,0.8s					
AAM	**Ann Arbor**	50.17 319	IAMs_20	IAMs_20	16 45 19.0	
	comp=Z,9μm,20.0s					
AAM	**Ann Arbor**	50.17 319	P	**P**	**16 25 00.1**	**-2.3**
	baz=2.8					
DL2	**Dalian**	50.21 109	P	P	16 24 52.0	-11
DL2			*e*S	S	16 32 00.5	-14
DL2			pmax	pmax		
	comp=Z,29nm,0.8s					
DL2			pmax	pmax		
	comp=Z,2μm,5.3s					
DL2			LR	LR		
	comp=N,1μm,18.0s					
DL2			LR	LR		
	comp=E,4μm,14.2s					
DL2			LR	LR		
	comp=Z,3μm,13.3s					
EVO	**Evora**	50.21 243	*e*P	**P**	**16 25 03.3**	**+0.5**
ERPA	**Erie**	50.22 315	P	**P**	**16 25 00.5**	**-2.4**
	baz=3.0					
UCCT	**U. Connecticut**	50.23 307	IAMs_20	IAMs_20	16 47 28.1	
	comp=Z,4μm,18.0s					
KSCT	**Kent School, K**	50.35 309	IAMs_20	IAMs_20	16 43 24.3	
	comp=Z,6μm,20.0s					
BW06	**Boulder Array**	50.38 343	P	**P**	**16 25 01.8**	**-2.5**
	baz=1.2					
PDAR	**Pinedale Array**	50.38 343	P	**P**	**16 25 05.3**	**+1.0**
	comp=Z,7.7nm,0.7s,baz=21,slow=5.3,SNR=7.4					
	comp=Z,7.7nm,0.7s					
M65A	**Busby, Falmout**	50.39 306	IAMs_20	IAMs_20	16 43 54.9	
	comp=Z,7μm,22.0s					
M65A	**Busby, Falmout**	50.39 306	P	**P**	**16 25 01.8**	**-2.3**
	baz=3.4					
AHID	**Auburn Hatcher**	50.41 345	IAMs_20	IAMs_20	16 44 39.2	
	comp=Z,8μm,20.0s					
KEBM	**Edson Butte**	50.41 358	IAMs_20	IAMs_20	16 44 54.1	
	comp=Z,7μm,20.0s					
L44A	**Lake County Fo**	50.44 323	IAMs_20	IAMs_20	16 44 37.3	
	comp=Z,23μm,18.0s					
L44A	**Lake County Fo**	50.44 323	P	**P**	**16 25 01.9**	**-2.5**
	baz=2.6					
K22A	**Casper**	50.45 341	P	**P**	**16 25 01.7**	**-3.0**
	baz=1.4					
K22A	**Casper**	50.45 341	P	**P**	**16 25 05.3**	**+0.5**
	baz=1.4					
K22A			S	**S**	**16 32 19.1**	**+1.3**
	baz=1.4					
PBAR	**Barrancos**	50.52 242	*e*PP	**P**	**16 25 06.8**	**+1.7**
PBAR	**Barrancos**	50.52 242	*e*P	**P**	**16 25 06.4**	**+1.3**
K05A	**Summer Lake**	50.54 354	IAMs_20	IAMs_20	16 46 22.5	
	comp=Z,7μm,20.0s					
L48A	**N Adams**	50.56 319	IAmb	IAmb	16 25 11.0	
	comp=Z,30nm,0.7s					
L48A	**N Adams**	50.56 319	S	**S**	**16 32 23.3**	**+4.2**
	baz=2.7					
L48A			S	**S**	**16 32 23.3**	**+4.2**
	baz=2.7					
KSPA	**Keystone Colle**	50.61 311	IAMs_20	IAMs_20	16 43 52.4	
	comp=Z,7μm,22.0s					
K04D	**Chiloquin, OR**	50.65 355	IAMs_20	IAMs_20	16 49 07.3	
	comp=Z,7μm,18.0s					
ALLY	**Alegheny Colle**	50.70 315	IAMs_20	IAMs_20	16 44 33.6	
	comp=Z,8μm,18.0s					
YLE	**Yale**	50.74 308	IAMs_20	IAMs_20	16 43 33.4	
	comp=Z,4μm,20.0s					
WVOR	**Wild Horse Val**	50.82 352	IAMs_20	IAMs_20	16 45 17.1	
	comp=Z,11μm,22.0s					
HQIL	**Hanson Quary C**	50.82 323	IAMs_20	IAMs_20	16 44 39.1	
	comp=Z,23μm,19.0s					
M55A	**Ridgway**	50.82 314	IAMs_20	IAMs_20	16 43 56.9	
	comp=Z,6μm,19.0s					
M55A	**Ridgway**	50.82 314	P	**P**	**16 25 08.2**	**+0.8**
	baz=3.0					
M55A			P	**P**	**16 25 08.2**	**+0.8**
	baz=3.0					
M52A	**Chesterland**	50.85 316	IAMs_20	IAMs_20	16 44 39.7	
	comp=Z,9μm,19.0s					
SCIA	**State Center**	50.88 328	P	**P**	**16 25 05.6**	**-2.1**
	baz=2.2					
SCIA	**State Center**	50.88 328	P	**P**	**16 25 09.4**	**+1.6**
	baz=2.2					
M57A	**Sunshine Farm,**	50.89 312	IAMs_20	IAMs_20	16 43 59.6	
	comp=Z,9μm,20.0s					
M53A	**WI Miller and**	50.92 316	IAMs_20	IAMs_20	16 44 50.7	
	comp=Z,9μm,20.0s					
M53A	**WI Miller and**	50.92 316	P	**P**	**16 25 06.2**	**-1.9**
	baz=2.9					
TIY	**Taiyuan**	50.95 119	P	**P**	**16 25 11.0**	**+2.5**
TIY			S	**S**	**16 32 28.3**	**+3.7**
TIY			LR	LR		
	comp=Z,4μm,16.5s					
TIY			LR	LR		
	comp=Z,2μm,14.7s					
TIY			LR	LR		
	comp=Z,4μm,15.9s					
TRNY	**Table Rock, Ra**	50.96 309	IAMs_20	IAMs_20	16 45 45.5	
	comp=Z,6μm,19.0s					
M50A	**Fremont**	51.05 318	IAmb	IAmb	16 25 12.8	
	comp=Z,43nm,0.8s					
M50A			IAMs_20	IAMs_20	16 45 47.0	
	comp=Z,6μm,20.0s					
PAL	**Palisades**	51.09 309	IAMs_20	IAMs_20	16 45 48.8	
	comp=Z,6μm,19.0s					
PAL	**Palisades**	51.09 309	P	**P**	**16 25 07.2**	**-2.1**
	baz=3.2					
PCVE	**Castro Verde**	51.11 243	*e*PP	**P**	**16 25 11.6**	**+2.0**
PCVE	**Castro Verde**	51.11 243	*e*P	**P**	**16 25 11.1**	**+1.5**
N62A	**Caumsett State**	51.14 309	IAMs_20	IAMs_20	16 43 36.3	
	comp=Z,5μm,20.0s					
L02F	**Cave Junction**	51.16 357	IAMs_20	IAMs_20	16 45 30.9	
	comp=Z,9μm,20.0s					
PVAQ	**Vaqueiros**	51.32 243	*e*PP	**P**	**16 25 12.7**	**+1.5**
PVAQ	**Vaqueiros**	51.32 243	*e*P	**P**	**16 25 12.1**	**+0.9**
N58A	**Sunbury**	51.37 312	IAMs_20	IAMs_20	16 44 26.3	
	comp=Z,8μm,21.0s					
HNS	**HongShan**	51.37 116	⇑P	**P**	**16 25 13.5**	**+2.0**
HNS			pmax	pmax		
	comp=Z,48nm,1.5s					
HVU	**Hansel Valley**	51.41 346	IAMs_20	IAMs_20	16 45 32.4	
	comp=Z,10μm,20.0s					
KSXB	**Camp Six Broad**	51.45 357	IAMs_20	IAMs_20	16 45 38.6	
	comp=Z,12μm,20.0s					
MORF	**Marmelete**	51.47 244	*e*PP	**P**	**16 25 13.3**	**+1.0**
MORF	**Marmelete**	51.47 244	*e*P	**P**	**16 25 13.1**	**+0.8**
MORF	**Marmelete**	51.47 244	*e*P	**P**	**16 25 11.7**	**-0.6**
MORF			IAmb	IAmb	16 25 14.9	
	comp=Z,24nm,1.3s					
MORF	**Marmelete**	51.47 244	*e*P	**P**	**16 25 11.7**	**-0.6**
MORF			pmax	pmax		
	comp=Z,24nm,1.3s					
PBDV	**Barranco-do-Ve**	51.49 243	*e*PP	**P**	**16 25 13.0**	**+0.5**
PBDV	**Barranco-do-Ve**	51.49 243	*e*P	**P**	**16 25 13.3**	**+0.8**
BGNE	**Belgrade**	51.51 332	P	**P**	**16 25 10.8**	**-1.8**
	baz=1.9					
BGNE	**Belgrade**	51.51 332	P	**P**	**16 25 14.3**	**+1.7**
	baz=1.9					
N51A	**Ashland**	51.51 317	P	**P**	**16 25 10.9**	**-1.6**
N51A			IAmb	IAmb	16 25 17.8	
	comp=Z,34nm,0.8s					
N51A			IAMs_20	IAMs_20	16 45 10.2	
	comp=Z,8μm,22.0s					
LUPA	**Lehigh Univers**	51.55 310	IAMs_20	IAMs_20	16 44 32.2	
	comp=Z,6μm,21.0s					
N53A	**Lisbon**	51.56 316	S	**S**	**16 32 36.1**	**+3.2**
	baz=2.9					
N53A			S	**S**	**16 32 36.1**	**+3.2**
	baz=2.9					
N49A	**Columbus Grove**	51.57 319	P	**P**	**16 25 12.1**	**-0.8**
N49A			IAmb	IAmb	16 25 16.7	
	comp=Z,40nm,1.0s					
N49A	**Columbus Grove**	51.57 319	S	**S**	**16 32 29.3**	**-3.7**
	baz=2.7					
N49A			S	**S**	**16 32 29.3**	**-3.7**
	baz=2.7					
SSPA	**Standing Stone**	51.62 313	IAMs_20	IAMs_20	16 44 32.0	
	comp=Z,8μm,19.0s					
SSPA	**Standing Stone**	51.62 313	P	**P**	**16 25 11.6**	**-1.7**
	baz=3.0					
PFVI	**Vila Bisbo**	51.65 244	*e*PP	**P**	**16 25 14.3**	**+0.7**
PFVI	**Vila Bisbo**	51.65 244	*e*P	**P**	**16 25 14.5**	**+0.9**
N47A	**Urbana**	51.66 320	S	**S**	**16 32 35.4**	**+1.1**
	baz=2.6					
N47A			S	**S**	**16 32 35.4**	**+1.1**
	baz=2.6					
KRMB	**Red Mountain**	51.75 357	IAMs_20	IAMs_20	16 46 08.7	
	comp=Z,10μm,22.0s					
PHWY	**Pilot Hill**	51.77 339	IAMs_20	IAMs_20	16 46 05.8	
	comp=Z,10μm,18.0s					
KARP	**Karpathos**	51.87 207	IAMs_20	IAMs_20	16 49 57.3	
	comp=Z,4μm,20.0s					
SPUT	**South Promonto**	51.88 346	IAMs_20	IAMs_20	16 46 45.7	
	comp=Z,7μm,18.0s					
WDD	**Wied Dalam**	51.95 220	IAMs_20	IAMs_20	16 46 57.7	
	comp=Z,1μm,19.0s					
KSRS	**Korea Array**	51.98 103	P	**P**	**16 25 16.9**	**+0.8**
	comp=Z,5.3nm,0.9s,baz=356,slow=7.1,SNR=5.4					
	comp=Z,5.3nm,0.9s					
N35A	**Tabor**	51.99 330	P	**P**	**16 25 16.5**	**+0.4**
	baz=2.1,SNR=8.4					
N38A	**Joes South For**	51.99 328	P	**P**	**16 25 17.4**	**+1.3**
	baz=2.2					
N38A			S	**S**	**16 32 40.6**	**+1.8**
	baz=2.2					
OGNE	**Ogallala**	52.06 336	P	**P**	**16 25 14.5**	**-2.3**
	baz=1.7					
KRPM	**Rodgers**	52.12 357	IAMs_20	IAMs_20	16 46 08.4	
	comp=Z,7μm,21.0s					
O53A	**New Philadelph**	52.13 316	IAMs_20	IAMs_20	16 45 28.7	
	comp=Z,9μm,19.0s					
O53A	**New Philadelph**	52.13 316	P	**P**	**16 25 15.5**	**-1.7**
	baz=2.8					
O54A	**Avella**	52.17 315	IAMs_20	IAMs_20	16 45 29.6	
	comp=Z,9μm,19.0s					
LZH	**Lanzhou**	52.18 127	*e*P	**P**	**16 25 18.0**	**+0.2**
LZH			sP	pwP	16 25 25.0	-0.5
LZH			S	**S**	**16 32 38.8**	**-3.0**
LZH			SS	**SS**	**16 36 15.5**	**-3.1**
LZH			pmax	pmax		
	comp=Z,91nm,1.6s					
LZH			pmax	pmax		
	comp=Z,2μm,6.2s					
LZH			LR	LR		
	comp=Z,5μm,19.6s					
LZH			LR	LR		
	comp=Z,5μm,15.1s					
LZH			LR	LR		
	comp=Z,7μm,19.2s					
SFS	**San Fernando**	52.19 241	IAMs_20	IAMs_20	16 46 17.8	
	comp=Z,2μm,19.0s					
N23A	**Red Feather La**	52.19 340	P	**P**	**16 25 15.5**	**-2.5**
	baz=1.4					
MVL	**Millersville**	52.19 311	IAMs_20	IAMs_20	16 44 53.1	
	comp=Z,8μm,22.0s					
SFIN	**Lafayette**	52.21 322	IAmb	IAmb	16 25 32.2	
	comp=Z,61nm,1.5s					
SFIN	**Lafayette**	52.21 322	P	**P**	**16 25 15.4**	**-2.3**
	baz=2.5					
SFIN	**Lafayette**	52.21 322	S	**S**	**16 32 40.0**	**-1.8**
	baz=2.5					
ACSO	**Alum Creek Sta**	52.22 318	IAmb	IAmb	16 25 23.4	
	comp=Z,43nm,0.8s					
ACSO	**Alum Creek Sta**	52.22 318	P	**P**	**16 25 14.6**	**-3.2**
	baz=2.8,SNR=8.4					
ACSO	**Alum Creek Sta**	52.22 318	P	**P**	**16 25 18.8**	**+1.0**
	baz=2.8,SNR=8.4					
O48B	**Farmland**	52.27 320	P	**P**	**16 25 15.9**	**-2.3**
	baz=2.6					
O48B	**Farmland**	52.27 320	P	**P**	**16 25 18.3**	**+0.1**
	baz=2.6					
O48B			S	**S**	**16 32 43.8**	**+1.2**
	baz=2.6					
BGU	**Big Grassy Mou**	52.27 347	IAMs_20	IAMs_20	16 45 59.2	
	comp=Z,10μm,20.0s					
O52A	**Adamsville**	52.29 317	IAMs_20	IAMs_20	16 45 33.8	
	comp=Z,9μm,20.0s					
O52A	**Adamsville**	52.29 317	S	**S**	**16 32 45.7**	**+2.8**
	baz=2.8					
O52A			S	**S**	**16 32 45.7**	**+2.8**
	baz=2.8					
O49A	**Covington**	52.31 319	IAmb	IAmb	16 25 23.2	
	comp=Z,52nm,1.0s					
O49A	**Covington**	52.31 319	P	**P**	**16 25 19.5**	**+1.0**
	baz=2.7,SNR=8.3					
O49A			P	**P**	**16 25 19.5**	**+1.0**
	baz=2.7,SNR=8.3					
KHMM	**Horse Mountain**	52.40 357	IAMs_20	IAMs_20	16 46 18.8	
	comp=Z,8μm,20.0s					
P61A	**Hammonton**	52.45 310	IAMs_20	IAMs_20	16 44 49.0	
	comp=Z,6μm,19.0s					
JCC	**Jacoby Creek,**	52.46 357	IAMs_20	IAMs_20	16 46 29.4	
	comp=Z,6μm,21.0s					
BRIGG	**Briggsdale**	52.47 338	IAMs_20	IAMs_20	16 45 46.2	
	comp=Z,9μm,19.0s					
CTU	**Camp Tracy**	52.48 345	IAMs_20	IAMs_20	16 46 09.8	
	comp=Z,7μm,21.0s					
BSUT	**Blindstream Ca**	52.63 345	IAMs_20	IAMs_20	16 46 58.5	
	comp=Z,8μm,19.0s					
MCWV	**Mont Chateau**	52.67 315	IAMs_20	IAMs_20	16 46 33.0	
	comp=Z,8μm,18.0s					
MCWV	**Mont Chateau**	52.67 315	P	**P**	**16 25 19.5**	**-1.7**
	baz=2.9					
TIA	**Tai'an**	52.67 114	P	**P**	**16 25 22.5**	**+1.3**
TIA			pmax	pmax		
	comp=Z,46nm,1.0s					
TIA			pmax	pmax		
	comp=Z,1μm,4.5s					
TIA			LR	LR		
	comp=Z,3μm,16.5s					
TIA			LR	LR		
	comp=Z,620nm,11.5s					
TIA			LR	LR		
	comp=Z,6μm,15.8s					
KBL	**Kabul**	52.67 163	P	P	16 25 16.1	-5.4
KBL			IAmb	IAmb	16 25 31.1	
	comp=Z,74nm,1.5s					
KBL	**Kabul**	52.67 163	P	P	16 25 16.2	-5.3
KBL			pmax	pmax		
	comp=Z,74nm,1.5s					
KBL			MLR	MLR		
	comp=Z,15μm,20.0s					
HRA	**Herat**	52.74 170	IAMs_20	IAMs_20	16 48 15.5	
	comp=Z,5μm,21.0s					
P52A	**Corning**	52.78 317	P	**P**	**16 25 19.7**	**-2.3**
	baz=2.8					
KMPM	**Mount Pierce**	52.86 357	IAMs_20	IAMs_20	16 44 41.5	
	comp=Z,5μm,22.0s					
P53A	**Whipple**	52.90 316	P	**P**	**16 25 24.3**	**+1.4**
P53A			IAmb	IAmb	16 25 26.6	
	comp=Z,34nm,1.0s					
P51A	**Williamsport**	52.97 318	IAMs_20	IAMs_20	16 45 56.8	
	comp=Z,6μm,22.0s					
P49A	**Miami Univ. Ec**	52.97 319	P	**P**	**16 25 21.9**	**-1.5**
	baz=2.6					
P49A	**Miami Univ. Ec**	52.97 319	S	**S**	**16 32 52.1**	**-0.2**
	baz=2.6					
O20A	**White River Ci**	52.99 342	P	**P**	**16 25 22.4**	**-1.4**
	baz=1.3					
DUG	**Dugway, Tooele**	52.99 346	P	**P**	**16 25 21.9**	**-1.9**
	baz=1.0					
KMRM	**Mail Ridge**	53.05 357	IAMs_20	IAMs_20	16 48 21.2	
	comp=Z,7μm,20.0s					
P48A	**Milroy**	53.07 320	S	**S**	**16 32 53.0**	**-0.7**
	baz=2.6					
P48A			S	**S**	**16 32 53.0**	**-0.7**
	baz=2.6					
MPU	**Maple Canyon**	53.16 345	IAMs_20	IAMs_20	16 46 30.6	
	comp=Z,8μm,21.0s					
P38A	**Dawn**	53.16 328	IAmb	IAmb	16 25 30.2	
	comp=Z,39nm,1.1s					
P38A	**Dawn**	53.16 328	P	**P**	**16 25 25.1**	**+0.3**
	baz=2.1,SNR=6.0					
P38A			S	**S**	**16 32 52.0**	**-2.9**
	baz=2.1					
P40A	**Paris**	53.22 326	S	**S**	**16 32 54.7**	**-0.8**
	baz=2.2					
NLU	**North Lily Min**	53.23 346	IAMs_20	IAMs_20	16 46 32.4	
	comp=Z,8μm,21.0s					
Q56A	**Snyder Ridge,**	53.26 314	IAMs_20	IAMs_20	16 45 32.6	
	comp=Z,4μm,20.0s					
ISCO	**Idaho Springs**	53.28 340	P	**P**	**16 25 23.9**	**-2.1**
	baz=1.4					
ISCO	**Idaho Springs**	53.28 340	P	**P**	**16 25 28.2**	**+2.1**
	baz=1.4					
Q54A	**Coxs Mills**	53.38 316	IAMs_20	IAMs_20	16 46 08.7	
	comp=Z,9μm,18.0s					
MAJO	**Matsushiro**	53.44 93	IAMs_20	IAMs_20	16 48 02.5	
	comp=Z,2μm,20.0s					
MJAR	**Matsushiro Arr**	53.44 93	P	**P**	**16 25 27.3**	**+0.3**
	comp=Z,4.8nm,0.9s,baz=3.0,slow=5.7,SNR=3.5					
	comp=Z,4.8nm,0.9s					
Q52A	**Bidwell**	53.45 317	IAMs_20	IAMs_20	16 46 19.7	
	comp=Z,6μm,20.0s					
PAHR	**Pah Rah Range**	53.55 353	IAMs_20	IAMs_20	16 48 48.0	
	comp=Z,9μm,20.0s					
KCPM	**Cahto Peak**	53.59 357	IAMs_20	IAMs_20	16 47 27.8	
	comp=Z,7μm,21.0s					
NIL	**Nilore**	53.63 159	IAMs_20	IAMs_20	16 49 38.9	
	comp=Z,15μm,19.0s					
KSU1	**Kansas State U**	53.77 331	IAmb	IAmb	16 25 33.0	
	comp=Z,37nm,0.8s					
R61A	**Willards**	53.81 310	IAMs_20	IAMs_20	16 45 32.1	
	comp=Z,6μm,19.0s					
MPK	**Martis Peak**	53.96 353	IAMs_20	IAMs_20	16 47 36.1	
	comp=Z,7μm,20.0s					
KSCO	**Kaye Shedlock'**	54.00 337	P	**P**	**16 25 29.3**	**-1.9**
	baz=1.6					
KSCO	**Kaye Shedlock'**	54.00 337	P	**P**	**16 25 33.5**	**+2.3**
	baz=1.6					
CBN	**Corbin Frederi**	54.02 312	P	**P**	**16 25 29.5**	**-1.7**
	baz=2.9					
R55A	**Marlinton**	54.05 315	IAMs_20	IAMs_20	16 47 27.5	
	comp=Z,8μm,18.0s					
R53A	**Hurricane**	54.07 317	IAmb	IAmb	16 25 36.7	
	comp=Z,38nm,1.1s					
R53A			IAMs_20	IAMs_20	16 46 39.1	
	comp=Z,9μm,19.0s					
LYN	**LuoYang**	54.10 119	*e*P	**P**	**16 25 35.0**	**+3.3**
LYN			sP	pwP	16 25 41.8	+2.4
LYN			pmax	pmax		
	comp=Z,41nm,1.3s					
LYN			pmax	pmax		
	comp=Z,2μm,5.4s					
LYN			LR	LR		
	comp=Z,7μm,17.5s					
LYN			LR	LR		
	comp=Z,5μm,15.1s					
LYN			LR	LR		
	comp=Z,9μm,19.9s					
CBKS	**Cedar Bluff**	54.14 334	IAmb	IAmb	16 25 35.6	
	comp=Z,37nm,1.1s					
CBKS			IAMs_20	IAMs_20	16 46 46.0	
	comp=Z,7μm,20.0s					
CBKS	**Cedar Bluff**	54.14 334	P	**P**	**16 25 30.9**	**-1.1**
	baz=1.8					
CBKS	**Cedar Bluff**	54.14 334	P	**P**	**16 25 32.6**	**+0.6**
	baz=1.8					
R50A	**Paris**	54.21 319	P	**P**	**16 25 32.9**	**+0.4**
SPR3	**Spring Creek 3**	54.21 348	IAMs_20	IAMs_20	16 47 04.4	
	comp=Z,10μm,20.0s					
R49A	**Shelbyville**	54.23 320	IAmb	IAmb	16 25 36.9	
	comp=Z,36nm,0.9s					
R49A	**Shelbyville**	54.23 320	P	**P**	**16 25 32.8**	**+0.1**
	baz=2.6,SNR=7.9					
R49A			P	**P**	**16 25 32.8**	**+0.1**
	baz=2.6,SNR=7.9					
Q16A	**Castle Valley**	54.25 345	IAmb	IAmb	16 25 58.0	
	comp=Z,72nm,1.3s					
Q16A			IAMs_20	IAMs_20	16 48 08.5	
	comp=Z,10μm,21.0s					
YERR	**Yerington**	54.27 353	IAmb	IAmb	16 25 39.4	
	comp=Z,29nm,0.9s					
YERR			IAMs_20	IAMs_20	16 49 11.1	
	comp=Z,8μm,19.0s					
HOPS	**Hopland Field**	54.28 356	IAMs_20	IAMs_20	16 48 02.1	
	comp=Z,6μm,20.0s					
EMB	**Emerald Bay**	54.28 353	IAMs_20	IAMs_20	16 50 16.6	
	comp=Z,6μm,19.0s					
AFDM	**Forest Hills D**	54.31 354	IAMs_20	IAMs_20	16 48 36.5	
	comp=Z,4μm,18.0s					
WCI	**Wyandotte Cave**	54.33 321	P	**P**	**16 25 29.8**	**-3.6**
WCI	**Wyandotte Cave**	54.33 321	P	**P**	**16 25 31.5**	**-1.9**
	baz=2.5					
WCI	**Wyandotte Cave**	54.33 321	P	**P**	**16 25 33.5**	**+0.1**
	baz=2.5					
WCI	**Wyandotte Cave**	54.33 321	P	**P**	**16 25 29.8**	**-3.6**
WCI			pmax	pmax		
	comp=Z,15nm,0.8s					
WCI			MLR	MLR		
	comp=Z,15μm,20.0s					
Q09A	**Carvers**	54.40 351	IAMs_20	IAMs_20	16 47 08.6	
	comp=Z,10μm,20.0s					
XAN	**Xi'an**	54.44 122	P	**P**	**16 25 37.0**	**+2.7**
XAN			S	**S**	**16 33 19.0**	**+6.6**
XAN			pmax	pmax		
	comp=Z,35nm,1.5s					
XAN	

	comp=Z,7µm,18.0s					
TCRU	Three Creeks R	54.57	346	IAMs_20	IAMs_20	16 48 26.1
	comp=Z,6µm,18.0s					
CCM	Cathedral Cave	54.66	326	P	P	16 25 31.6 -4.2
CCM	Cathedral Cave	54.66	326	IAMs_20	IAMs_20	16 46 56.9
	comp=Z,11µm,19.0s					
CCM	Cathedral Cave	54.66	326	P	P	16 25 34.3 -1.4
	baz=2.2					
CCM	Cathedral Cave	54.66	326	P	P	16 25 34.9 -0.9
	baz=2.2					
CCM	Cathedral Cave	54.66	326	P	P	16 25 31.6 -4.2
CCM				pmax	pmax	
	comp=Z,21nm,1.0s					
CCM				MLR	MLR	
	comp=Z,11µm,19.0s					
PSUT	Pine Spring	54.67	347	IAMs_20	IAMs_20	16 47 35.6
	comp=Z,10µm,20.0s					
NV11	Mina Array Sit	54.81	352	IAMs_20	IAMs_20	16 47 41.5
	comp=Z,9µm,20.0s					
NVAR	Mina Array Bea	54.81	352	P	P	16 25 39.1 +1.9
	comp=Z,8.5nm,0.7s,baz=7.4,slow=5.5,SNR=11					
NVAR				PcP	PcP	16 26 41.6 +2.3
	comp=Z,2.8nm,0.8s,baz=32,slow=3.5,SNR=2.0					
	comp=Z,8.5nm,0.7s					
S51A	Beattyville	54.82	318	P	P	16 25 37.4 +0.4
S51A				P	P	16 25 37.4 +0.4
	baz=2.6					
R11B	Troy Canyon, C	54.87	349	P	P	16 25 36.4 -1.1
	baz=0.8					
SIUC	Southern Illin	54.94	324	IAmb	IAmb	16 25 40.4
	comp=Z,21nm,0.7s					
S44A	Carbondale	54.96	324	IAmb	IAmb	16 25 41.7
	comp=Z,36nm,1.1s					
S39A	Bolivar	55.09	328	P	P	16 25 38.1 -0.8
	baz=2.1					
BLA	Blacksburg	55.13	315	IAMs_20	IAMs_20	16 48 01.2
	comp=Z,9µm,18.0s					
BLA	Blacksburg	55.13	315	P	P	16 25 38.2 -1.1
	baz=2.8					
MTPU	Mount Pierson	55.14	346	IAMs_20	IAMs_20	16 47 46.0
	comp=Z,6µm,21.0s					
T59A	Double "B" Far	55.26	312	IAMs_20	IAMs_20	16 46 44.3
	comp=Z,7µm,20.0s					
T57A	Hurt	55.30	314	IAMs_20	IAMs_20	16 48 20.4
	comp=Z,6µm,18.0s					
SDCO	Great Sand Dun	55.33	339	P	P	16 25 40.3 -0.6
	baz=1.4					
S22A	4UR Ranch, Cre	55.35	341	P	P	16 25 39.7 -1.4
	baz=1.3					
SZCU	Shurtz Canyon	55.59	347	IAMs_20	IAMs_20	16 49 07.1
	comp=Z,5µm,20.0s					
T47A	Sharon Grove	55.59	322	IAmb	IAmb	16 25 48.5
	comp=Z,40nm,1.2s					
T47A	Sharon Grove	55.59	322	P	P	16 25 42.1 -0.4
	baz=2.4					
MDPB	Devils Postpil	55.62	352	IAMs_20	IAMs_20	16 50 23.8
	comp=Z,8µm,19.0s					
MLAC	Mammoth, Mammo	55.62	352	P	P	16 25 42.0 -1.0
	baz=0.6					
CCUT	Cedar City	55.64	347	IAMs_20	IAMs_20	16 48 07.4
	comp=Z,7µm,20.0s					
KAN06	Argonia West S	55.65	332	IAmb	IAmb	16 25 59.3
	comp=Z,37nm,1.0s					
PKCU	Pink Cliffs	55.74	346	IAMs_20	IAMs_20	16 48 05.8
	comp=Z,5µm,22.0s					
KAN09	Caldwell North	55.76	332	IAmb	IAmb	16 25 47.3
	comp=Z,28nm,0.9s					
PRN	Pahroc Range	55.80	349	IAMs_20	IAMs_20	16 48 03.8
	comp=Z,10µm,20.0s					
U54A	Nelsons Funny	55.87	316	IAMs_20	IAMs_20	16 47 44.7
	comp=Z,8µm,18.0s					
U59A	Littleton	55.89	312	IAMs_20	IAMs_20	16 47 03.9
	comp=Z,7µm,19.0s					
T25A	Trinidad	55.91	338	P	P	16 25 43.9 -1.2
	baz=1.4					
MVCO	Mesa Verde	55.91	342	IAmb	IAmb	16 26 09.9
	comp=Z,63nm,1.2s					
MVCO	Mesa Verde	55.91	342	P	P	16 25 43.6 -1.5
	baz=1.2					
TZTN	Tazewell	55.91	318	IAmb	IAmb	16 25 58.2
	comp=Z,43nm,1.3s					
TZTN				IAMs_20	IAMs_20	16 48 37.9
	comp=Z,9µm,20.0s					
TZTN	Tazewell	55.91	318	P	P	16 25 43.0 -1.9
	baz=2.6					
T35B	Sooner Cattle	55.95	331	P	P	16 25 43.4 -1.7
	baz=1.9					
T35B				S	S	16 33 30.2 -2.3
	baz=1.9					
U56A	King	55.99	315	IAMs_20	IAMs_20	16 48 44.8
	comp=Z,8µm,19.0s					
JMN	Monobe	56.01	97	IAMs_20	IAMs_20	16 47 33.2
	comp=Z,6µm,21.0s					
PMPST	Porto Santo, M	56.06	251	eP	P	16 25 47.4 +1.5
OK032	Salt Plains WL	56.10	332	IAmb	IAmb	16 25 49.9
	comp=Z,34nm,0.8s					
KNB	Kanab	56.17	346	IAMs_20	IAMs_20	16 49 34.3
	comp=Z,8µm,19.0s					
LCMT	Little Creek M	56.18	347	IAMs_20	IAMs_20	16 49 26.6
	comp=Z,6µm,21.0s					
TIN	Timemaha, Big	56.19	352	P	P	16 25 46.2 -0.7
	baz=0.6					
GRAC	Grapevine Rang	56.24	351	IAMs_20	IAMs_20	16 49 40.2
	comp=Z,7µm,20.0s					
GRAC	Grapevine Rang	56.24	351	P	P	16 25 46.2 -1.0
	baz=0.6					
TPNV	Topopah Spring	56.27	350	P	P	16 25 46.7 -0.9
	baz=0.7					
NOKA	Waynoka	56.29	333	IAmb	IAmb	16 25 50.0
	comp=Z,45nm,1.0s					
OK051	E0350 and S346	56.37	331	IAmb	IAmb	16 25 50.7
	comp=Z,39nm,0.9s					
CROK	Carrier	56.40	332	IAMs_20	IAMs_20	16 48 52.0
	comp=Z,8µm,18.0s					
V61A	Roper	56.40	311	IAMs_20	IAMs_20	16 47 29.4
	comp=Z,6µm,20.0s					
U40A	Yellville	56.41	327	P	P	16 25 45.9 -2.4
	baz=2.1					
U40A				P	P	16 25 45.9 -2.4
	baz=2.1					
PMAR	Madeira	56.44	252	ePP	P	16 25 51.5 +2.6
PMAR	Madeira	56.44	252	eP	P	16 25 51.5 +2.6
CLTN	Cedars of Leba	56.46	321	IAmb	IAmb	16 26 05.9
	comp=Z,76nm,1.5s					
V58A	Windy Hill, Pi	56.49	314	IAMs_20	IAMs_20	16 47 30.1
	comp=Z,7µm,19.0s					
V51A	Loudon	56.68	319	IAMs_20	IAMs_20	16 49 12.1
	comp=Z,9µm,21.0s					
SHPR	Sheep Range	56.71	349	IAMs_20	IAMs_20	16 48 53.6
	comp=Z,7µm,21.0s					
U15A	North Rim	56.75	346	IAMs_20	IAMs_20	16 49 26.7
	comp=Z,6µm,18.0s					
FURC	Furnace Creek,	56.76	350	P	P	16 25 50.4 -0.5
	baz=0.7					
CWC	Cottonwood Cre	56.80	351	P	P	16 25 51.1 -0.3
	baz=0.6					
TKL	Tuckaleechee C	56.80	318	P	P	16 25 50.4 -0.8
TKL				IAMs_20	IAMs_20	16 49 04.4
	comp=Z,9µm,20.0s					
TKL	Tuckaleechee C	56.80	318	P	P	16 25 50.4 -0.8
TKL				pmax	pmax	
	comp=Z,21nm,1.1s					
TKL				MLR	MLR	
	comp=Z,9µm,20.0s					
V48A	Smith Brothers	56.83	321	IAmb	IAmb	16 25 57.3
	comp=Z,34nm,1.1s					
V48A	Smith Brothers	56.83	321	S	S	16 33 46.1 +2.0
	baz=2.4					
NJ2	Nanjing	56.90	112	eP	P	16 25 50.5 -1.4
NJ2				pP	pP	16 25 53.0 -1.2
NJ2				pmax	pmax	
	comp=Z,25nm,0.9s					
NJ2				pmax	pmax	
	comp=Z,1µm,5.2s					
VOG	Valley Oaks Go	56.93	353	P	P	16 25 51.2 -0.9
	baz=0.5					
TUL3	Leonard	56.93	330	P	P	16 25 50.7 -1.4
	baz=1.9					
TUL3	Leonard	56.93	330	S	S	16 33 45.8 +0.4
	baz=1.9					
CNNC	Cliffs of the	57.00	313	IAMs_20	IAMs_20	16 47 46.6
	comp=Z,8µm,20.0s					
CNNC	Cliffs of the	57.00	313	P	P	16 25 52.1 -0.5
	baz=2.8					
PMPB	Monarch Peak	57.04	354	IAMs_20	IAMs_20	16 50 27.6
	comp=Z,8µm,19.0s					
OK029	Liberty Lake	57.09	332	IAMs_20	IAMs_20	16 48 33.3
	comp=Z,9µm,20.0s					
W59A	Clinton	57.09	313	IAMs_20	IAMs_20	16 47 39.9
	comp=Z,7µm,20.0s					
MPMC	Manual Prospec	57.17	351	P	P	16 25 53.4 -0.7
	baz=0.6					
KMSC	Kings Mountain	57.23	316	IAMs_20	IAMs_20	16 48 27.6
	comp=Z,8µm,18.0s					
KMSC	Kings Mountain	57.23	316	P	P	16 25 52.8 -1.4
	baz=2.7					
SWET	Sewanee	57.32	320	IAmb	IAmb	16 25 58.3
	comp=Z,67nm,1.5s					
VES	Vestal, Richgr	57.40	352	P	P	16 25 55.1 -0.3
	baz=0.5					
BG3	Lake Jocassee	57.44	317	IAMs_20	IAMs_20	16 48 36.1
	comp=Z,9µm,21.0s					
WHAR	Wooly Hollow	57.45	327	IAmb	IAmb	16 26 00.2
	comp=Z,44nm,1.3s					
V12A	Nelson	57.48	348	IAMs_20	IAMs_20	16 50 48.1
	comp=Z,10µm,20.0s					
PAULI	Pauline	57.57	316	IAMs_20	IAMs_20	16 47 59.5
	comp=Z,4µm,19.0s					
ISA	Isabella, Lake	57.58	352	IAmb	IAmb	16 26 05.9
	comp=Z,44nm,1.5s					
ISA				IAMs_20	IAMs_20	16 50 36.7
	comp=Z,8µm,20.0s					
ISA	Isabella, Lake	57.58	352	P	P	16 25 54.3 -2.4
	baz=0.6					
WUAZ	Wupatki	57.65	345	P	P	16 25 57.1 -0.3
	baz=1.0					
BIRD	Birdtown, Kers	57.69	315	IAMs_20	IAMs_20	16 49 45.8
	comp=Z,9µm,19.0s					
LRMC	Laurel Mtn Rad	57.75	351	P	P	16 25 57.0 -1.0
	baz=0.6					
TUQ	Turquoise Moun	57.78	349	P	P	16 25 57.7 -0.6
	baz=0.7					
GSC	Goldstone, Bar	57.92	350	P	P	16 25 57.6 -1.6
	baz=0.7					
SMMC	Simmler	57.94	353	P	P	16 25 59.2 -0.1
	baz=0.5					
FPAL	Fort Paine	57.98	320	IAMs_20	IAMs_20	16 48 03.7
	comp=Z,9µm,20.0s					
W18A	Petrified Fore	58.02	343	P	P	16 25 59.5 -0.5
	baz=1.1					
CCAC	Calif City Air	58.08	351	IAmb	IAmb	16 26 06.5
CCAC	comp=Z,36nm,0.8s			IAMs_20	IAMs_20	16 51 04.1
	comp=Z,6µm,20.0s					
JSC	Jenkinsville	58.08	316	IAMs_20	IAMs_20	16 49 03.2
	comp=Z,8µm,18.0s					
W13A	Hualapai Mount	58.09	347	IAMs_20	IAMs_20	16 49 47.3
	comp=Z,7µm,20.0s					
AMTX	Amarillo	58.10	336	P	P	16 25 58.9 -1.5
	baz=1.6					
ARVC	Arvin	58.12	352	P	P	16 25 58.7 -1.7
	baz=0.5					
X48A	Hartselle	58.12	321	IAmb	IAmb	16 26 03.0
	comp=Z,31nm,0.8s					
X48A	Hartselle	58.12	321	P	P	16 26 00.3 -0.2
	baz=2.4,SNR=11					
ANMO	Albuquerque	58.14	340	IAMs_20	IAMs_20	16 50 01.2
	comp=Z,13µm,20.0s					
ANMO	Albuquerque	58.14	340	P	P	16 25 59.2 -1.7
	baz=1.3					
ANMO	Albuquerque	58.14	340	i P	P	16 25 59.0 -1.8
ANMO				pmax	pmax	
	comp=Z,24nm,1.3s					
OXF	Oxford	58.14	324	P	P	16 25 59.2 -1.3
	baz=2.2					
WMOK	Wichita Mounta	58.18	333	IAMs_20	IAMs_20	16 49 51.9
	comp=Z,9µm,18.0s					
WMOK	Wichita Mounta	58.18	333	P	P	16 26 00.7 -0.2
	baz=1.7					
MIAR	Mount Ida	58.23	328	P	P	16 26 01.3 +0.1
MIAR				IAmb	IAmb	16 26 16.2
	comp=Z,39nm,1.3s					
MIAR	Mount Ida	58.23	328	P	P	16 25 59.7 -1.6
	baz=2.0					
MIAR	Mount Ida	58.23	328	P	P	16 26 01.3 +0.1
MIAR				pmax	pmax	
	comp=Z,39nm,1.3s					
MIAR				MLR	MLR	
	comp=Z,21µm,18.0s					
Y60A	Bolivia	58.24	313	IAMs_20	IAMs_20	16 48 34.3
	comp=Z,7µm,20.0s					
X40A	Basin Creek Fa	58.27	327	P	P	16 26 01.3 -0.2
BCW	Bitter Crk WRg	58.30	353	IAMs_20	IAMs_20	16 49 38.0
	comp=Z,8µm,22.0s					
RRX	Edison Barstow	58.35	350	P	P	16 26 01.0 -1.1
	baz=0.6					
EDW2	Edwards Air Fo	58.35	351	P	P	16 26 00.8 -1.3
	baz=0.6					
PKM	Mcpherson Peak	58.36	353	P	P	16 26 00.0 -2.3
	baz=0.5					
HEC	Hector,Ludlow	58.39	350	P	P	16 26 01.2 -1.3
	baz=0.7					
Y58A	Scranton	58.40	314	IAMs_20	IAMs_20	16 49 04.5
	comp=Z,6µm,18.0s					
GMRC	Granite Mounta	58.43	349	P	P	16 26 01.0 -1.8
	baz=0.7					
NEE2	Needles Airpor	58.43	348	P	P	16 26 00.8 -1.9
	baz=0.8					
Y52A	Lilburn	58.60	318	IAMs_20	IAMs_20	16 50 11.0
	comp=Z,9µm,21.0s					
Y52A	Lilburn	58.60	318	P	P	16 26 05.2 +1.3
	baz=2.5					
Y52A				P	P	16 26 05.2 +1.3
	baz=2.5					
OSI	Osito Audit: C	58.62	352	P	P	16 26 02.1 -2.0
	baz=0.5					
Y49A	Blount Mountai	58.69	321	P	P	16 26 05.2 +0.7
	baz=2.4					
Y45A	Yeager Farm, C	58.79	324	P	P	16 26 06.4 +1.3
	baz=2.2,SNR=8.9					
SBC	Santa Barbara	58.80	353	P	P	16 26 03.4 -1.9
	baz=0.5					
PDMCI	Parker Dam,Lak	58.89	348	P	P	16 26 04.9 -0.9
	baz=0.8					
BBRC	Big Bear Solar	58.96	350	P	P	16 26 05.3 -1.4
	baz=0.6					
DECC	Green Verdugo	58.98	352	P	P	16 26 04.8 -1.7
	baz=0.6					
BFSC	Mount Baldy Ra	58.99	351	P	P	16 26 05.1 -1.6
	baz=0.6					
Y22D	IRIS PASSCAL I	59.01	341	IAMs_20	IAMs_20	16 50 04.5
	comp=Z,17µm,20.0s					
Y22D	IRIS PASSCAL I	59.01	341	P	P	16 26 05.9 -1.0
	baz=1.3					
Y22F	Passcal Instru	59.01	341	P	P	16 26 05.3 -1.6
	baz=1.3					
GOGA	Godfrey	59.03	318	IAMs_20	IAMs_20	16 50 24.5
	comp=Z,7µm,20.0s					
GOGA	Godfrey	59.03	318	P	P	16 26 05.7 -1.2
	baz=2.5					
MSTX	Muleshoe	59.04	337	P	P	16 26 05.9 -1.1
	baz=1.5					
IRM	Iron Mountain	59.05	349	P	P	16 26 05.1 -1.9
	baz=0.8					
PASC	Pasadena Art C	59.06	352	IAMs_20	IAMs_20	16 50 21.1
	comp=Z,9µm,20.0s					
WTFS	Witchita Falls	59.14	332	IAmb	IAmb	16 26 22.3
	comp=Z,35nm,0.9s					
DANN	Dangsing	59.17	148	eP	P	16 26 07.0 -1.2
	comp=Z,674nm,1.7s					
BELC	Belle Mtn. Jos	59.21	349	P	P	16 26 06.2 -2.0
	baz=0.7					
NHSC	New Hope	59.21	315	IAMs_20	IAMs_20	16 49 40.3
	comp=Z,8µm,18.0s					
NHSC	New Hope	59.21	315	P	P	16 26 06.9 -1.1
	baz=2.6					
SCZ2	Santa Cruz Isl	59.25	353	P	P	16 26 07.2 -1.2
	baz=0.5					
DKNS	Dickens	59.30	335	IAmb	IAmb	16 26 10.2
	comp=Z,13nm,0.8s					
PYUN	Piuthan	59.39	149	eP	P	16 26 08.5 -1.2
	comp=Z,378nm,1.5s					
Z47A	Carrollton	59.40	322	IAmb	IAmb	16 26 12.9
	comp=Z,27nm,0.7s					
Z47A	Carrollton	59.40	322	P	P	16 26 07.9 -1.5
	baz=2.3					
BLYC	Blythe	59.45	348	IAmb	IAmb	16 26 15.7
	comp=Z,20nm,0.8s					
Z41A	Richland Creek	59.49	327	P	P	16 26 09.1 -0.9
	baz=2.0					
Z41A				P	P	16 26 09.1 -0.9
	baz=2.0					
FMP	Fort Macarthur	59.52	352	P	P	16 26 09.2 -1.0
	baz=0.6					
LRAL	Lakeview Retre	59.53	321	P	P	16 26 09.3 -1.0
	baz=2.3					
LRAL	Lakeview Retre	59.53	321	P	P	16 26 08.4 -1.9
	baz=2.3					
GKN	Gorkha	59.54	148	eP	P	16 26 10.2 -0.4
	comp=Z,550nm,1.5s					
Z35A	Perchaven, San	59.54	331	P	P	16 26 10.5 +0.1
	baz=1.8					
BC3	Big Chuckawall	59.55	349	P	P	16 26 08.2 -2.4
	baz=0.7					
Z38A	Mt. Pleasant	59.55	329	P	P	16 26 11.7 +1.2
	baz=1.9					
ELS	Elsinore Mount	59.58	351	IAMs_20	IAMs_20	16 51 58.7
	comp=Z,9µm,19.0s					
PFO	Pinyon Flats O	59.61	350	P	P	16 26 09.9 -1.0
PFO				IAmb	IAmb	16 26 22.4
	comp=Z,36nm,1.4s					
PFO	Pinyon Flats O	59.61	350	IAMs_20	IAMs_20	16 51 54.4
	comp=Z,11µm,20.0s					
PFO	Pinyon Flats O	59.61	350	P	P	16 26 09.6 -1.4
	baz=0.7					
PFO	Pinyon Flats O	59.61	350	P	P	16 26 10.0 -1.0
PFO				pmax	pmax	
	comp=Z,36nm,1.4s					
PFO				MLR	MLR	
	comp=Z,11µm,20.0s					
TPFO	Pinon Flats	59.61	350	P	P	16 26 09.6 -1.4
	baz=0.7					
APMT	Aspermont	59.62	334	IAmb	IAmb	16 26 15.0
	comp=Z,66nm,1.2s					
MURC	Murrieta	59.62	351	P	P	16 26 09.3 -1.7
	baz=0.6					
GUN	Gumba	59.66	146	eP	P	16 26 12.2 +0.5
	comp=Z,213nm,1.3s					
KOLN	Koldanda	59.74	149	eP	P	16 26 11.8 -0.2
	comp=Z,361nm,1.6s					
KKN	Kakani	59.77	147	eP	P	16 26 11.9 -0.3
	comp=Z,648nm,1.9s					
154A	Montrose	59.81	317	IAMs_20	IAMs_20	16 50 09.1
	comp=Z,7µm,20.0s					
154A	Montrose	59.81	317	P	P	16 26 12.1 -0.2
	baz=2.5					
152A	Waverly Hall	59.82	319	P	P	16 26 11.8 -0.5
	baz=2.4					
CIS	Catalina Islan	59.83	352	P	P	16 26 10.5 -1.9
	baz=0.6					
FW03	Perrin-Whitt E	59.85	332	IAMs_20	IAMs_20	16 50 27.5
	comp=Z,6µm,18.0s					
FW06	Azle	59.91	332	IAmb	IAmb	16 26 17.3
	comp=Z,40nm,1.1s					
FW06				IAMs_20	IAMs_20	16 50 21.9
	comp=Z,12µm,19.0s					
POST	Post	59.91	335	IAmb	IAmb	16 26 16.9
	comp=Z,30nm,0.9s					
JIRN	Jiri	59.92	146	eP	P	16 26 14.0 +0.5
	comp=Z,382nm,1.8s					
DMN	Daman	59.94	147	eP	P	16 26 14.0 +0.5
	comp=Z,543nm,1.8s					
PKIN	Phulchoki	59.98	147	eP	P	16 26 14.2 +0.4
	comp=Z,272nm,1.6s					
PKI	Pulchoki	59.99	147	eP	P	16 26 14.3 +0.4
	comp=Z,471nm,1.9s					
SNCC	San Nicolas Is	59.99	353	IAMs_20	IAMs_20	16 53 19.7
	comp=Z,5µm,20.0s					
SNCC	San Nicolas Is	59.99	353	P	P	16 26 11.0 -2.5
	baz=0.5					
SN01	Snyder 1	60.10	335	IAMs_20	IAMs_20	16 51 50.1
	comp=Z,10µm,18.0s					
GLA	Glamis	60.15	348	IAMs_20	IAMs_20	16 53 29.7
	comp=Z,6µm,18.0s					
GLA	Glamis	60.15	348	P	P	16 26 12.3 -2.3
	baz=0.8					
FW07	Weatherford	60.18	332	IAMs_20	IAMs_20	16 50 41.2
	comp=Z,12µm,18.0s					
SWSC	Sam W. Stewart	60.26	349	P	P	16 26 13.7 -1.6
	baz=0.7					
TAPN	Taplejung	60.28	144	eP	P	16 26 17.3 +1.4
	comp=Z,120nm,1.5s					
ABTX	Abilene, Hawle	60.31	334	P	P	16 26 13.9 -1.8
	baz=1.6					
ABTX	Abilene, Hawle	60.31	334	P	P	16 26 14.3 -1.4
	baz=1.6					
MONP2	Monument Peak	60.32	350	P	P	16 26 14.1 -1.9
	baz=0.7					
109C	Camp Elliot, M	60.33	350	IAMs_20	IAMs_20	16 51 00.7
	comp=Z,8µm,21.0s					
109C	Camp Elliot, M	60.33	350	P	P	16 26 14.2 -1.6
	baz=0.6					
113A	Mohawk Valley,	60.42	347	IAMs_20	IAMs_20	16 52 17.8
	comp=Z,8µm,18.0s					
VBMS	Vicksburg	60.46	325	P	P	16 26 14.3 -2.3
	baz=2.1					
255A	Hazlehurst	60.48	317	IAMs_20	IAMs_20	16 50 28.6
	comp=Z,7µm,18.0s					
IKP	In-Ko-Pah, Jac	60.56	350	P	P	16 26 14.9 -2.6
	baz=0.7					
121A	Cookes Peak, D	60.57	341	P	P	16 26 15.4 -2.2
	baz=1.2					
RAMN	Ramite	60.64	146	eP	P	16 26 19.3 +1.0
	comp=Z,298nm,1.6s					
ODAN	Odare	60.76	145	eP	P	16 26 20.8 +1.7
237A	Washetta, Mont	60.83	330	IAMs_20	IAMs_20	16 50 43.3
	comp=Z,6µm,20.0s					
237A	Washetta, Mont	60.83	330	P	P	16 26 18.8 -0.4
	baz=1.9					
TUC	Tucson	60.84	344	P	P	16 26 17.8 -1.5
TUC				IAmb	IAmb	16 26 26.4
	comp=Z,38nm,1.2s					
TUC	Tucson	60.84	344	IAMs_20	IAMs_20	16 51 27.8
	comp=Z,10µm,20.0s					
TUC	Tucson	60.84	344	P	P	16 26 17.5 -1.9
	baz=1.0					
TUC	Tucson	60.84	344	P	P	16 26 17.8 -1.5
TUC				pmax	pmax	
	comp=Z,38nm,1.3s					
TUC				MLR	MLR	
	comp=Z,10µm,20.0s					
WHTX	Lake Whitney,	60.88	331	P	P	16 26 17.2 -2.4
	baz=1.8					
WHTX	Lake Whitney,	60.88	331	P	P	16 26 20.3 +0.7
	baz=1.8					
TIGA	Tifton	61.00	318	P	P	16 26 18.7 -1.7
	baz=2.5					
NATX	Nacogdoches	61.04	329	P	P	16 26 18.7 -1.9
	baz=1.9					
214A	Organ Pipe Nat	61.22	346	P	P	16 26 19.8 -2.0
	baz=0.9					
344A	Westbrook Farm	61.23	325	P	P	16 26 21.0 -0.9
EPT	El Paso	61.30	340	IAMs_20	IAMs_20	16 51 49.6
	comp=Z,17µm,20.0s					
MNTX	Cornudas Mount	61.35	339	IAMs_20	IAMs_20	16 53 52.0
	comp=Z,7µm,18.0s					
MNTX	Cornudas Mount	61.35	339	P	P	16 26 22.5 -0.3
	baz=1.3					
BRAL	Brewton	61.39	321	IAMs_20	IAMs_20	16 50 58.0
	comp=Z,16µm,19.0s					
BRAL	Brewton	61.39	321	P	P	16 26 21.3 -1.7
	baz=2.3					
BRDY	Brady	61.62	333	P	P	16 26 24.3 -0.4
BRDY				IAmb	IAmb	16 26 30.6
	comp=Z,28nm,1.2s					
PZH	PanZhiHua	61.63	130	P	P	16 26 24.8 -0.1
PZH				S	S	16 34 46.5 -0.2
PZH				pmax	pmax	
	comp=Z,20nm,1.4s					
PZH				pmax	pmax	
	comp=Z,960nm,5.7s					
PZH				LR	LR	
	comp=Z,2µm,18.6s					
PZH				LR	LR	
	comp=Z,2µm,18.1s					
PZH				LR	LR	
	comp=Z,2µm,18.1s					
456A	Hilliard	61.66	316	IAMs_20	IAMs_20	16 51 12.8
	comp=Z,5µm,18.0s					
319A	Douglas	61.74	343	IAMs_20	IAMs_20	16 51 55.8
	comp=Z,7µm,19.0s					
GYA	Guiyang	61.89	125	⇓P	P	16 26 27.8 +1.2
GYA				S	S	16 34 45.3 -4.6
GYA				pmax	pmax	
	comp=Z,48nm,1.4s					
GYA				pmax	pmax	
	comp=Z,1µm,4.8s					
GYA				LR	LR	
	comp=Z,1µm,15.0s					
GYA				LR	LR	
	comp=Z,2µm,22.6s					
GYA				LR	LR	
	comp=Z,2µm,16.5s					

GYA	Guiyang	61.89 125	PP	P	16 26 27.5	+0.9
OZNA	Ozona	62.04 335	P	P	16 26 27.7	+0.2
OZNA			IAmb	IAmb	16 26 31.9	
	comp=Z,28nm,0.8s					
435B	Jarrell	62.09 331	IAMs_20	IAMs_20	16 51 40.5	
	comp=Z,9μm,19.0s					
435B	Jarrell	62.09 331	P	P	16 26 27.1	-0.7
	baz=1.7					
435B	Jarrell	62.09 331	P	P	16 26 29.2	+1.5
	baz=1.7					
SHL	Shillong	62.19 140	IAMs_20	IAMs_20	16 52 38.8	
	comp=Z,8μm,21.0s					
553A	Crawfordville	62.28 319	P	P	16 26 30.6	+1.6
	baz=2.4					
JCT	Junction City	62.45 334	P	P	16 26 29.3	-0.9
	baz=1.6					
JCT	Junction City	62.45 334	P	P	16 26 29.6	-0.6
	baz=1.6					
ALPN	Alpine	62.64 337	IAmb	IAmb	16 26 48.4	
	comp=Z,55nm,1.5s					
HKT	Hockley	62.87 330	IAMs_20	IAMs_20	16 52 20.1	
	comp=Z,8μm,19.0s					
HKT	Hockley	62.87 330	P	P	16 26 33.0	+0.1
	baz=1.8					
TNCH	TengChong	62.97 133	P	P	16 26 35.5	+1.6
TNCH			pP	sP	16 26 38.5	+1.3
TNCH			S	S	16 35 02.5	-1.2
TNCH			sS	sS	16 35 07.5	-0.1
TNCH			pmax	pmax		
	comp=Z,43nm,1.8s					
TNCH			pmax	pmax		
	comp=Z,940nm,5.6s					
TNCH			LR	LR		
	comp=Z,4μm,18.8s					
TNCH			LR	LR		
	comp=Z,940nm,18.4s					
TNCH			LR	LR		
	comp=Z,8μm,20.2s					
KMI	Kunming	63.05 129	⇑P	P	16 26 35.3	+0.8
KMI			sP	pwP	16 26 42.5	+0.2
KMI			S	S	16 35 07.8	+3.1
KMI			SS	SS	16 39 09.3	-0.4
KMI			pmax	pmax		
	comp=Z,53nm,1.5s					
KMI			pmax	pmax		
	comp=Z,970nm,5.6s					
KMI			LR	LR		
	comp=Z,1μm,13.8s					
KMI			LR	LR		
	comp=Z,2μm,13.1s					
KMI			LR	LR		
	comp=Z,2μm,21.3s					
JCJ	Chichijima	63.05 89	LR	LR	16 57 04.8	
	comp=Z,541nm,18.1s,baz=356,slow=39					
TX32	Lajitas Array	63.68 337	IAmb	IAmb	16 26 44.3	
	comp=Z,25nm,1.0s					
TXAR	Lajitas Array	63.68 337	P	P	16 26 38.8	+0.4
	comp=Z,12nm,0.7s,baz=15,slow=3.7,SNR=12					
	comp=Z,12nm,0.7s					
WSAR	Wadi Sarin	63.83 174	LR	LR	16 56 25.7	
	comp=Z,2μm,21.9s,baz=27,slow=38					
735A	Kenedy	64.02 332	P	P	16 26 43.3	+2.8
	baz=1.7					
DWPF	Disney Wildern	64.24 316	P	P	16 26 41.4	-0.5
	baz=2.5					
YHNB	Yeheng	64.37 110	IAMs_20	IAMs_20	16 57 11.2	
	comp=Z,3μm,19.0s					
833A	Chaparral WMA,	64.59 333	P	P	16 26 42.9	-1.4
	baz=1.6					
KVTX	Kingsville	65.32 332	IAMs_20	IAMs_20	16 57 36.1	
	comp=Z,8μm,20.0s					
SLVN	Son La	66.86 128	P	P	16 26 59.6	+0.5
CHTO	Chiang Mai	69.17 133	P	P	16 27 12.6	-1.0
CHTO			IAmb	IAmb	16 27 16.8	
	comp=Z,24nm,1.2s					
CHTO	Chiang Mai	69.17 133	P	P	16 27 12.6	-1.0
CHTO			pmax	pmax		
	comp=Z,24nm,1.2s					
CHTO			MLR	MLR		
	comp=Z,5μm,22.0s					
QIZ	Qiongzhong	69.42 122	IAMs_20	IAMs_20	16 58 41.7	
	comp=Z,3μm,19.0s					
CM31	Chiang Mai Arr	69.52 133	P	P	16 27 13.9	-1.8
CMAR	Chiang Mai Arr	69.52 133	P	P	16 27 15.2	-0.5
	comp=Z,8.2nm,0.8s,baz=349,slow=7.4,SNR=6.6					
	comp=Z,8.2nm,0.8s					
HYB	Hyderabad	69.91 154	eP	P	16 27 18.1	-0.1
HYB			ePcP	PcP	16 27 40.3	-0.2
HYB			ePP	PP	16 29 52.6	+0.1
HYB			eS	S	16 36 28.8	+1.2
HYB			eScS	ScS	16 37 20.0	+0.2
TEIG	Tepich	72.32 322	IAMs_20	IAMs_20	16 57 28.7	
	comp=Z,7μm,20.0s					
HATHI	Halema'uma'u T	73.42 28	IAMs_20	IAMs_20	16 54 28.0	
	comp=Z,4μm,18.0s					
BYL	Byron's Ledge	73.44 28	IAMs_20	IAMs_20	16 52 03.3	
	comp=Z,4μm,21.0s					
SJG	San Juan	73.53 300	IAMs_20	IAMs_20	16 57 19.0	
	comp=Z,4μm,21.0s					
MTDJ	Mount Denham	73.91 311	IAMs_20	IAMs_20	16 59 26.6	
	comp=Z,2μm,20.0s					
TORD	Torodi Ar. Bea	75.02 232	P	P	16 27 48.5	-0.1
TORD	Torodi Ar. Bea	75.02 232	P	P	16 27 49.3	+0.7
	comp=Z,10nm,0.7s,baz=354,slow=6.9,SNR=16					
	comp=Z,10nm,0.7s					
GDSD	La Dsirade Is	75.07 295	IAMs_20	IAMs_20	16 58 03.7	
	comp=Z,1μm,21.0s					
PBA	Port Blair	76.05 140	IAMs_20	IAMs_20	17 07 16.0	
	comp=Z,4μm,19.0s					
DLV	T Lat	76.39 124	IAMs_20	IAMs_20	17 02 15.3	
	comp=Z,4μm,19.0s					
SVN	Savane Anatole	76.54 295	IAMs_20	IAMs_20	16 57 32.6	
	comp=Z,2μm,22.0s					
GUMO	Guam	76.62 87	LR	LR	17 01 22.7	
	comp=Z,253nm,21.2s,baz=1.5,slow=36					
FURI	Furi	78.17 195	IAMs_20	IAMs_20	17 06 58.8	
	comp=Z,2μm,21.0s					
HATO	Hato, Curacao	79.55 303	IAMs_20	IAMs_20	17 00 47.5	
	comp=Z,2μm,20.0s					
CRIN	San Cristobal	79.76 321	IAMs_20	IAMs_20	17 01 03.6	
	comp=Z,4μm,22.0s					
PALK	Pallekele	80.04 152	IAMs_20	IAMs_20	17 05 39.1	
	comp=Z,12μm,20.0s					
HMDM	Hanimaadhoo	80.37 160	IAMs_20	IAMs_20	17 07 00.3	
	comp=Z,6μm,20.0s					
ACON	Acoyapa	80.42 319	IAMs_20	IAMs_20	17 01 39.0	
	comp=Z,4μm,20.0s					
COVE	Coope Vega, Sa	81.63 318	IAMs_20	IAMs_20	17 02 17.1	
	comp=Z,4μm,22.0s					
HZTE	Horizontes, Gu	81.68 319	IAMs_20	IAMs_20	17 03 19.4	
	comp=Z,3μm,20.0s					
TIC	Toumodi	81.77 238⇓	iPKP1	P	16 28 27.8	+1.9
	comp=Z,6.3nm,0.2s					
ORTG	Ortega, Santa	82.03 319	IAMs_20	IAMs_20	17 03 18.6	
	comp=Z,5μm,22.0s					
KIC	Kosan Boka	82.04 238⇓	iPKP1	P	16 28 28.5	+1.2
	comp=Z,18nm,0.7s					
JTS	Las Juntas de	82.08 318	iP	P	16 28 27.0	-0.6
LIC	Lamto	82.19 238⇑	iPKP1	P	16 28 28.6	+0.5
	comp=Z,42nm,0.7s					
BATAN	Batan	82.21 317	IAMs_20	IAMs_20	17 03 26.5	
	comp=Z,4μm,22.0s					
DUNO	Dulce Nombre,	82.31 319	IAMs_20	IAMs_20	17 02 53.1	
	comp=Z,5μm,22.0s					
HDC	Heredia	82.34 318	IAMs_20	IAMs_20	17 03 41.7	
	comp=Z,4μm,21.0s					
RIMA	Rio Macho	82.56 317	IAMs_20	IAMs_20	17 03 59.8	
	comp=Z,6μm,21.0s					
KKM	Kota Kinabalu	82.61 117	P	P	16 28 31.1	+0.7
KKM			IAmb	IAmb	16 28 40.1	
	comp=Z,54nm,1.2s					
KKM			IAMs_20	IAMs_20	17 04 14.4	
	comp=Z,2μm,20.0s					
KULM	Kulim	82.67 132	P	P	16 28 26.0	-4.6
KULM			IAmb	IAmb	16 28 34.1	
	comp=Z,58nm,1.4s					
KULM			IAMs_20	IAMs_20	17 05 46.5	
	comp=Z,3μm,21.0s					
JACO	JACO, Garabito	82.69 318	IAMs_20	IAMs_20	17 03 02.2	
	comp=Z,3μm,22.0s					
BAUV	El Baul	82.72 301	P	P	16 28 30.8	0.0
SDV	Santo Domingo	82.89 304	IAMs_20	IAMs_20	17 03 08.3	
	comp=Z,3μm,22.0s					
BCIP	Isla Barro Col	83.00 313	IAMs_20	IAMs_20	17 06 35.5	
	comp=Z,1μm,19.0s					
BRU2	Volcan	83.48 316	IAMs_20	IAMs_20	17 04 08.1	
	comp=Z,3μm,22.0s					
MYLDM	Lahad Datu	83.58 114	P	P	16 28 35.4	+0.1
RIOS	Rincon, Osa	83.61 317	IAMs_20	IAMs_20	16 59 24.4	
	comp=Z,2μm,20.0s					
CDITO	Canoas	83.71 316	IAMs_20	IAMs_20	17 04 16.1	
	comp=Z,3μm,20.0s					
PSI	Prapat	85.07 134	P	P	16 28 43.0	0.0
PSI			pmax	pmax		
	comp=Z,61nm,1.2s					
RPSI	Rantau Prapat	85.17 134	P	P	16 28 43.0	-0.4
RPSI			IAMs_20	IAMs_20	17 09 14.0	
	comp=Z,2μm,18.0s					
MYKOM	Kota Tinggi	86.27 129	IAMs_20	IAMs_20	17 09 13.1	
	comp=Z,3μm,18.0s					
GSI	Gunungsitoli	86.50 135	P	P	16 28 48.8	-1.1
KSM	Kuching	86.87 123	IAMs_20	IAMs_20	17 11 10.1	
	comp=Z,2μm,19.0s					
ROSC	El Rosal	87.07 308	IAMs_20	IAMs_20	17 09 36.9	
	comp=Z,2μm,20.0s					
ROSC	El Rosal	87.07 308	LR	LR	17 08 06.0	
	comp=Z,2μm,21.7s,baz=5.5,slow=36					
BKNI	Bangkinang	87.61 132	IAMs_20	IAMs_20	17 09 00.5	
	comp=Z,3μm,20.0s					
MBAR	Mbarara	87.74 202	IAMs_20	IAMs_20	17 12 16.4	
	comp=Z,546nm,20.0s					
KMBO	Kilima Mbogo	88.15 196	P	P	16 28 59.2	+1.0
KMBO	Kilima Mbogo	88.15 196	IAMs_20	IAMs_20	17 10 04.0	
	comp=Z,1μm,22.0s					
KMBO	Kilima Mbogo	88.15 196	P	P	16 28 59.2	+1.0
KMBO			pmax	pmax		
	comp=Z,11nm,1.5s					
KMBO			MLR	MLR		
	comp=Z,1μm,22.0s					
LUWI	Luwuk	89.96 110	IAMs_20	IAMs_20	17 11 30.5	
	comp=Z,584nm,20.0s					
PMBI	Palembang	90.99 128	IAMs_20	IAMs_20	17 11 58.5	
	comp=Z,3μm,20.0s					
TULM	Tulcn-Chalpat	91.31 311	IAMs_20	IAMs_20	17 10 39.4	
	comp=Z,2μm,21.0s					
OTAV	Otavalo	91.81 311	IAMs_20	IAMs_20	17 11 44.7	
	comp=Z,2μm,20.0s					
MNAI	Manna	92.34 130	IAMs_20	IAMs_20	17 11 54.9	
	comp=Z,2μm,21.0s					
KAPI	Kappang	93.75 114	P	P	16 29 21.4	-2.5
KAPI			pmax	pmax		
	comp=Z,20nm,1.3s					
SALI	Salinas	94.32 314	IAMs_20	IAMs_20	17 10 26.2	
	comp=Z,2μm,20.0s					
DGAR	Diego Garcia	94.45 161	IAMs_20	IAMs_20	17 14 41.6	
	comp=Z,3μm,20.0s					
KRVT	Keravat (AS076	94.75 81	LR	LR	17 12 52.5	
	comp=Z,269nm,18.5s,baz=146,slow=36					
LEM	Lembang	94.98 126	LR	LR	17 16 51.6	
	comp=Z,580nm,18.4s,baz=317,slow=38					
ARNL	Arenillas	95.63 313	IAMs_20	IAMs_20	17 11 37.0	
	comp=Z,3μm,20.0s					
HNR	Honiara	100.25 74	IAMs_20	IAMs_20	17 10 28.3	
	comp=Z,1μm,20.0s					
LSZ	Lusaka	102.37 205	IAMs_20	IAMs_20	17 21 23.9	
	comp=Z,1μm,22.0s					
NNA	Nana	103.88 309	IAMs_20	IAMs_20	17 16 37.5	
	comp=Z,1μm,18.0s					
VILB	Vilhena	104.07 293	IAMs_20	IAMs_20	17 12 16.2	
	comp=Z,3μm,22.0s					
ABPO	Ambohimpanom	105.83 186	IAMs_20	IAMs_20	17 18 04.7	
	comp=Z,1μm,22.0s					
LPAZ	La Paz	107.77 300	IAMs_20	IAMs_20	17 19 17.3	
	comp=Z,1μm,22.0s					
VOI	Vohitsoka	108.70 186	IAMs_20	IAMs_20	17 22 01.9	
	comp=Z,2μm,20.0s					
PB18	Visviri	109.12 302	IAMs_20	IAMs_20	17 24 45.2	
	comp=Z,1μm,21.0s					
WRA	Warramunga Arr	109.32 100	Pdiff	Pdif	16 30 33.9	+0.4
	comp=Z,1.1nm,0.8s,baz=358,slow=5.5,SNR=4.9					
WRA			PKIKP	PKiKP	16 34 35.6	-1.3
	comp=Z,0.5nm,0.8s,baz=4.5,slow=2.0,SNR=2.0					
WRA			PKKPbc	PKKPbc	16 45 42.6	+3.2
	comp=Z,0.6nm,0.6s,baz=186,slow=2.6,SNR=9.4					
PB16	IPOC Station P	109.86 302	IAMs_20	IAMs_20	17 22 04.9	
	comp=Z,1μm,22.0s					
WIN	Windhoek	109.92 215	IAMs_20	IAMs_20	17 28 04.7	
	comp=Z,1μm,20.0s					
PSAC2	Pilbara Seismi	110.19 114	IAMs_20	IAMs_20	17 21 05.4	
	comp=Z,2μm,20.0s					
GO01	Chusmiza	111.17 301	IAMs_20	IAMs_20	17 21 46.6	
	comp=Z,2μm,22.0s					
PB08	IPOC Station P	111.64 301	IAMs_20	IAMs_20	17 23 12.0	
	comp=Z,2μm,22.0s					
FOMA	Nahampoana Res	111.75 186	IAMs_20	IAMs_20	17 27 06.8	
	comp=Z,2μm,20.0s					
LBTB	Lobatse	112.12 207	IAMs_20	IAMs_20	17 25 52.0	
	comp=Z,1μm,20.0s					
ASAR	Alice Springs	113.00 100	iPKIKP	PKiKP	16 34 43.0	-0.8
ASAR	Alice Springs	113.00 100	Pdiff	Pdif	16 30 51.7	+1.9
	comp=Z,0.3nm,0.8s,baz=30,slow=4.0,SNR=2.4					
ASAR			PKIKP	PKiKP	16 34 43.0	-0.8
	comp=Z,0.8nm,0.8s,baz=1.9,slow=2.8,SNR=3.3					
ASAR			PKKPbc	PKKPbc	16 45 28.4	+1.0
	comp=Z,0.8nm,0.8s,baz=177,slow=3.8,SNR=10					
PB07	IPOC Station P	113.25 302	IAMs_20	IAMs_20	17 20 13.6	
	comp=Z,1μm,21.0s					
PB09	IPOC Station P	113.29 301	IAMs_20	IAMs_20	17 23 48.7	
	comp=Z,1μm,21.0s					
LVC	Limon Verde	114.08 301	IAMs_20	IAMs_20	17 23 42.8	
	comp=Z,2μm,19.0s					
AF01	San Pedro de A	114.39 300	IAMs_20	IAMs_20	17 26 01.8	
	comp=Z,1μm,20.0s					
BOSA	Boshof	115.71 207	IAMs_20	IAMs_20	17 28 07.1	
	comp=Z,1μm,21.0s					
CPUP	Villa Florida	117.22 289	IAMs_20	IAMs_20	17 26 25.4	
	comp=Z,1μm,20.0s					
AC01	Pan de Azucar	117.68 302	IAMs_20	IAMs_20	17 26 46.0	
	comp=Z,2μm,21.0s					
CO05	La Serena	121.46 303	IAMs_20	IAMs_20	17 27 37.1	
	comp=Z,2μm,21.0s					
CO01	Juntas del Tor	121.47 302	IAMs_20	IAMs_20	17 28 51.2	
	comp=Z,2μm,21.0s					
GO04	Tololo Observa	121.69 302	IAMs_20	IAMs_20	17 19 46.3	
	comp=Z,1μm,22.0s					
CO06	Fray Jorge	122.23 303	IAMs_20	IAMs_20	17 25 53.5	
	comp=Z,2μm,21.0s					
CO03	El Pedregal	122.35 302	IAMs_20	IAMs_20	17 28 25.7	
	comp=Z,2μm,21.0s					
ZON	Zonda	122.96 300	IAMs_20	IAMs_20	17 24 27.8	
	comp=Z,1μm,22.0s					
VA03	San Esteban	124.26 302	IAMs_20	IAMs_20	17 25 55.3	
	comp=Z,1μm,22.0s					
VA01	Torpederas	124.57 303	IAMs_20	IAMs_20	17 19 44.4	
	comp=Z,1μm,20.0s					
PEL	Peldehue	124.65 302	IAMs_20	IAMs_20	17 30 22.4	
	comp=Z,1μm,19.0s					
MT02	Curacav	124.78 302	IAMs_20	IAMs_20	17 29 57.0	
	comp=Z,2μm,19.0s					
MT03	Universidad Ad	124.99 302	IAMs_20	IAMs_20	17 29 58.5	
	comp=Z,1μm,19.0s					
VA05	Santo Domingo	125.20 303	IAMs_20	IAMs_20	17 31 00.1	
	comp=Z,1μm,19.0s					
MT09	Talagante	125.29 302	IAMs_20	IAMs_20	17 30 00.5	
	comp=Z,1μm,21.0s					
MT01	Popeta	125.39 303	IAMs_20	IAMs_20	17 19 51.1	
	comp=Z,1μm,22.0s					
BO04	La Punta	125.48 302	IAMs_20	IAMs_20	17 30 45.6	
	comp=Z,1μm,21.0s					
BO01	Tunca	125.91 302	IAMs_20	IAMs_20	17 29 53.8	
	comp=Z,1μm,21.0s					
BO02	Sierra Bellavi	126.29 302	IAMs_20	IAMs_20	17 30 06.0	
	comp=Z,1μm,20.0s					
GO05	Huala	126.56 303	IAMs_20	IAMs_20	17 26 23.2	
	comp=Z,1μm,20.0s					
MXZ	Matakaoa Point	129.12 57	IAMs_20	IAMs_20	17 35 48.2	
	comp=Z,1μm,20.0s					
TRQA	Tornquist	129.12 293	IAMs_20	IAMs_20	17 27 46.8	
	comp=Z,1μm,21.0s					
RTZ	Ruatahuna	130.10 58	IAMs_20	IAMs_20	17 25 16.0	
	comp=Z,528nm,21.0s					
GO06	Curarrehue	131.10 302	IAMs_20	IAMs_20	17 32 40.3	
	comp=Z,2μm,20.0s					
QRZ	Quartz Range	132.10 63	IAMs_20	IAMs_20	17 32 18.7	
	comp=Z,667nm,20.0s					
PLCA	Paso Flores	132.20 301	IAMs_20	IAMs_20	17 22 00.5	
	comp=Z,2μm,22.0s					
PLCA	Paso Flores	132.20 301	PKP	PKPdf	16 35 20.4	+0.3
	comp=Z,10nm,1.1s,baz=14,slow=9.9,SNR=5.6					
KHZ	Kahutara	133.73 62	IAMs_20	IAMs_20	17 33 17.0	
	comp=Z,831nm,20.0s					
LL01	San Ignacio de	133.93 303	IAMs_20	IAMs_20	17 21 44.2	
	comp=Z,2μm,22.0s					
INZ	Inchbonnie	133.94 64	IAMs_20	IAMs_20	17 27 00.4	
	comp=Z,1μm,21.0s					
RPZ	Rata Peaks	134.91 65	IAMs_20	IAMs_20	17 27 17.3	
	comp=Z,1μm,22.0s					
HOPE	Hope Point	143.96 265	PKPdf	PKPdf	16 35 41.4	+0.4
HOPE	Hope Point	143.96 265	PKIKP	PKPdf	16 35 41.4	+0.4
ORCD	Orcadas	150.85 272	PKPdf	PKPbc	16 35 55.4	-2.5
CASY	Casey	154.35 128	IAMs_20	IAMs_20	17 43 02.6	
	comp=Z,2μm,20.0s					
MAW	Mawson	154.42 171	PKPbc	PKiKP	16 36 06.1	+0.5
	comp=Z,3.4nm,0.8s,baz=349,slow=8.2,SNR=3.0					
ELIB	Princess Elisa	159.09 206	dPKP	PKPab	16 36 41.7	+1.3
SMAI	San Martin Ant	159.38 293	IAMs_20	IAMs_20	17 46 17.1	
	comp=Z,1μm,19.0s					
VNDA	Vanda	168.07 85	PKPab	PKPab	16 37 20.5	+0.8
	comp=Z,1.7nm,0.9s,baz=299,slow=4.4,SNR=4.0					

ISK 28 16:19:30.4, 37.°13N×27.°77E, h3km, ML1.2/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RFTAA	Mazikoy-Bodrum	0.14	189	Pg	Pg	16 19 34.0	+0.9
RFTAA				Sg	Sg	16 19 36.3	+1.4
MLSB	Milas	0.16	1	Pg	Pg	16 19 34.4	+0.8
MLSB				Sg	Sg	16 19 37.4	+1.7
BODT	Bodrum	0.38	259	Pg	Pg	16 19 38.6	+0.9
BODT				Sg	Sb	16 19 44.6	-1.4
YER	Yerkesik	0.41	90	Pg	Pb	16 19 39.4	-0.9
YER				Sg	Sb	16 19 45.5	-1.4
DAT	Datca	0.43	201	Pg	Pg	16 19 39.7	+1.0
RFTD	Palamutbuku-Ka	0.50	206	Pg	Pg	16 19 40.4	+0.4
RFTD				Sg	Sb	16 19 48.6	-1.0
TURN	Turunc	0.52	133	Pg	Pb	16 19 41.5	-0.7
TURN				Sg	Sb	16 19 49.2	-0.9

*NEIC **28** 16:25:37.1±1.6, 36.°9S±0.°1×180.°0E±0.°2, h10km±2km, mb4.2/12, Error ellipse: s-maj=20.5km s-min=17.8km az=98.0*
*NOU **28** 16:25:38.4, 37.°11S×179.°87E, h0km, MLv4.1/9, Off E. Coast of N. Island, N.Z.*
*IDC **28** 16:25:42.1±2.1, 36.°77S×179.°26E, h0km, mb4.4/2, mbtmp4.3/3, ML4.0/1, Error ellipse: s-maj=65.7km s-min=37.6km az=143.0*
*WEL **28** 16:25:45.7±1.1, 37.°5S±5.°×17.°9E±1.°0, h12km, M3.8/63, ML3.9/19, MLv3.8/63, Error ellipse: s-maj=0.0km s-min=0.0km az=97.6, confirmed*

ISC 28 16:25:40.9±2.3, 37.°10S±0.°06×179.°50E±0.°08, h6km±12km, n150, σ1°85/144, mb4.3/8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.06	243	Pn	Pg	16 26 02.2	+1.1
MXZ	Matakaoa Point	1.06	243	P	Pg	16 26 02.4	+1.2
MXZ	Matakaoa Point	1.06	243	P	Pg	16 26 02.1	+0.9
MXZ				S	Sg	16 26 12.8	-2.1
WMGZ	Waiomatatini S	1.12	230	P	Pn	16 26 05.7	+2.4
WMGZ				S	Sn	16 26 19.4	+0.4
PKGZ	Pakihiroa	1.38	234	P	Pn	16 26 08.4	+1.7
PKGZ				S	Sb	16 26 24.9	-0.2
PUZ	Puketiti	1.39	225	P	Pn	16 26 09.2	+2.3
PUZ				S	Sn	16 26 26.6	+1.1
HAZ	Te Kaha	1.52	244	P	Pn	16 26 09.8	+1.3
HAZ				S	Sn	16 26 28.4	-0.2
TWGZ	Tauwhareparae	1.62	228	P	Pn	16 26 12.5	+2.4
TWGZ				S	Sn	16 26 32.0	+0.8
RUGZ	Raukumara Rang	1.69	238	P	Pn	16 26 13.3	+2.2
CNGZ	Carnagh Statio	1.72	216	P	Pn	16 26 14.9	+3.5
TKGZ	Te Karaka	1.87	224	P	Pn	16 26 15.7	+2.2
WIZ	White Island	1.89	256	P	Pn	16 26 15.1	+1.4
MWZ	Matawai	1.99	231	P	Pn	16 26 17.5	+2.3
RIGZ	Rimuhau	2.11	220	P	Pn	16 26 19.1	+2.2
WHRZ	Whale Island	2.14	248	P	Pb	16 26 20.5	+0.3
RAGZ	Rawiri	2.16	229	P	Pn	16 26 19.8	+2.2
URZ	Urewera	2.22	238	P	Pn	16 26 20.5	+2.2
URZ	Urewera	2.22	238	P	Pn	16 26 20.4	+2.1
URZ	Urewera	2.22	238	Pn	Pn	16 26 20.2	+1.9
	40nm,0.3s,baz=142,slow=1.6,SNR=211						
URZ				Sn	Sn	16 26 44.3	-1.7
	32nm,0.3s,baz=60,slow=20,SNR=5.3						
	84nm,0.3s						
PRGZ	Paritu Road	2.23	214	P	Pn	16 26 20.8	+2.4
SNGZ	Shannon Statio	2.40	225	P	Pn	16 26 22.8	+2.0
KNZ	Kokohu	2.40	216	P	Pn	16 26 22.4	+1.7
MHGZ	Mahia Peninsul	2.41	211	P	Pn	16 26 23.3	+2.4
EDRZ	Edgecumbe	2.41	244	P	Pn	16 26 23.1	+2.1
OPRZ	Ohinepanea	2.46	251	P	Pn	16 26 23.4	+1.9
RTZ	Ruatahuna	2.50	232	Pn	Pn	16 26 24.1	+1.8
RTZ	Ruatahuna	2.50	232	P	Pn	16 26 24.2	+1.9
MUGZ	Murupara	2.56	237	P	Pn	16 26 24.7	+1.7
MYRZ	Mayor Island	2.60	265	P	Pn	16 26 24.8	+1.2
RAHZ	Arahi	2.63	226	P	Pn	16 26 25.9	+1.9
LIRZ	Lichensteins R	2.63	249	P	Pn	16 26 26.1	+2.1
TGRZ	Tauranga	2.65	255	P	Pn	16 26 25.6	+1.3
WHHZ	Waihua	2.66	221	P	Pn	16 26 26.9	+2.5
OMRZ	Omania	2.68	247	P	Pn	16 26 26.7	+2.1
MTHZ	Maungataniwha	2.73	229	P	Pn	16 26 27.7	+2.3
KARZ	Kaharoa	2.74	249	P	Pn	16 26 27.3	+1.8
PRRZ	Plateau Road	2.83	239	P	Pn	16 26 28.3	+1.7
HSRZ	Hossack Road	2.85	244	P	Pn	16 26 29.7	+2.7
ALRZ	Allen Road	2.89	239	P	Pn	16 26 29.6	+2.0
NMHZ	Naumai	2.92	226	P	Pn	16 26 29.9	+2.0
KMRZ	Kaimai	2.92	254	P	Pn	16 26 29.3	+1.3
ARHZ	Aropaoanui	2.93	222	P	Pn	16 26 29.9	+1.9
GRRZ	Galatos Road	2.96	244	P	Pn	16 26 31.1	+2.5
MRHZ	Matea Rd	2.99	234	P	Pn	16 26 30.8	+1.9
KUZ	Kuaotunu	3.04	275	P	Pn	16 26 30.5	+0.9
-KUZ	Kuaotunu	3.04	275	P	Pn	16 26 29.5	-0.2
BKZ	Black Stump Fm	3.14	228	Pn	Pn	16 26 32.5	+1.5
BKZ	Black Stump Fm	3.14	228	P	Pn	16 26 32.8	+1.7
BKZ	Black Stump Fm	3.14	228	P	Pn	16 26 32.5	+1.5
CKHZ	Cape Kidnapper	3.19	216	P	Pn	16 26 32.8	+1.2
MCHZ	McNeill Hill	3.22	222

BFZ	Birch Farm	4.39	214	P	Pn	16 26 47.8	-0.3
POWZ	Post Office Ro	4.40	220	P	Pn	16 26 49.4	+1.1
PRWZ	Pori Road	4.42	217	P	Pn	16 26 49.2	+0.6
WAZ	Wanganui	4.43	232	P	Pn	16 26 49.9	+1.3
TIWZ	Tintock	4.63	216	P	Pn	16 26 52.1	+0.7
DREZ	Durham Road	4.67	242	P	Pn	16 26 55.8	+3.8
MRZ	Mangatainoka R	4.69	219	Pn	Pn	16 26 52.0	-0.3
NEZ	North Egmont	4.78	241	P	Pn	16 26 57.9	+4.4
KHEZ	Kahui Hut	4.84	241	P	Pn	16 26 57.2	+2.8
KHEZ	Kahui Hut	4.84	241	P	Pn	16 26 58.3	+3.8
NBEZ	Newall Road No	4.94	242	P	Pn	16 27 01.2	+5.6
OUZ	Omahuta	5.13	290	P	Pn	16 27 00.8	+2.6
OUZ	Omahuta	5.13	290	P	Pn	16 27 00.7	+2.5
TCW	Tory Channel	5.77	223	Pn	Pn	16 27 04.9	-2.2
TUWZ	Tuamarina	6.11	223	Pn	Pn	16 27 10.2	-1.5
CMWZ	Cape Campbell	6.19	220	Pn	Pn	16 27 12.0	-0.8
TKNZ	Takaka Hill	6.43	230		Pn	16 27 13.9	-2.2
QRZ	Quartz Range	6.58	233	Pn	Pn	16 27 16.3	-1.9
QRZ	Quartz Range	6.58	233	P	Pn	16 27 17.7	-0.6
MRNZ	Matariki Terra	6.77	229	Pn	Pn	16 27 19.7	-1.1
THZ	Tophouse	6.91	226	Pn	Pn	16 27 21.0	-1.7
CTZ	Chatham Island	7.26	157	Pn	Pn	16 27 29.5	+1.9
CTZ	Chatham Island	7.26	157	P	Pn	16 27 33.0	+5.4
DSZ	Denniston Nort	7.55	230	Pn	Pn	16 27 30.4	-1.2
GVZ	Greta Valley S	7.68	218	Pn	Pn	16 27 32.4	-0.9
LTZ	Lake Taylor	7.94	222	Pn	Pn	16 27 35.7	-1.2
INZ	Inchbonnie	8.36	225	Pn	Pn	16 27 41.8	-0.8
INZ	Inchbonnie	8.36	225	P	Pn	16 27 43.1	+0.5
AKCZ	Akaroa Harbour	8.42	214	P	Pn	16 27 43.6	0.0
OXZ	Oxford	8.44	220	Pn	Pn	16 27 41.5	-2.2
LBZ	Lake Benmore	10.14	221	Pn	Pn	16 28 03.7	-3.4
MARNC	Mare, Loyalty	18.47	324	P	Pn	16 29 52.7	-4.9
LIFNC	LIFOU	19.45	323	P	P	16 30 02.8	-5.5
COEN	Coen	39.70	296	P	P	16 33 11.0	-3.1
COEN				IAmb	IAmb	16 33 16.3	
	comp=Z,8.4nm,1.0s						
AS31	Alice Springs	41.17	276	P	P	16 33 23.8	-2.5
AS31				IAmb	IAmb	16 33 27.5	
	comp=Z,1.9nm,0.5s						
ASAR	Alice Springs	41.17	276	P	P	16 33 24.1	-2.3
ASAR	Alice Springs	41.17	276	P	P	16 33 26.6	+0.2
	comp=Z,3.7nm,0.6s,baz=120,slow=8.2,SNR=72						
ASAR				PcP	PcP	16 35 26.1	+0.4
	comp=Z,0.6nm,0.9s,baz=124,slow=3.5,SNR=2.1						
	comp=Z,3.7nm,0.6s						
SBA	Scott Base	41.23	184	P	P	16 33 24.0	-2.1
SBA				IAmb	IAmb	16 33 46.8	
	comp=Z,6.0nm,1.5s						
WR0	Warramunga Arr	42.60	281	P	P	16 33 35.5	-2.6
WR0				IAmb	IAmb	16 33 39.9	
	comp=Z,3.2nm,1.0s						
WB2	Warramunga Arr	42.76	281	P	P	16 33 36.1	-3.2
WB2				IAmb	IAmb	16 33 40.1	
	comp=Z,4.3nm,0.8s						
WRAB	Tennant Creek	42.77	281	P	P	16 33 36.4	-3.1
WRA	Warramunga Arr	42.77	281	P	P	16 33 38.4	-1.0
WRA	Warramunga Arr	42.77	281	P	P	16 33 39.5	0.0
	comp=Z,3.6nm,0.6s,baz=122,slow=7.6,SNR=46						
WRA				PcP	PcP	16 35 33.2	+2.2
	comp=Z,0.4nm,0.7s,baz=118,slow=3.1,SNR=2.4						
	comp=Z,3.6nm,0.6s						
WB0	Warramunga Arr	42.83	281	P	P	16 33 38.8	-1.1
WB0				IAmb	IAmb	16 33 40.6	
	comp=Z,6.3nm,0.8s						
KNRA	Kununurra	49.55	281	P	P	16 34 27.7	-5.2
QSPA	South Pole Qui	53.03	180	P	P	16 34 55.7	-2.9
H03N3	Juan Fernandez	78.73	123	T	T	18 04 44.4	
	baz=235,slow=72,SNR=7.6						
H03N2	Juan Fernandez	78.74	123	T	T	18 04 36.9	
	baz=235,slow=72,SNR=6.8						
H03N1	Juan Fernandez	78.75	123	T	T	18 04 38.0	
	baz=235,slow=72,SNR=12						
ARCES	ARCESS Array B	144.58	345	PKP	PKPab	16 45 18.1	+2.3
	comp=Z,4.2nm,0.9s,baz=289,slow=2.8,SNR=4.9						
FINES	FINESS Array B	150.49	334	PKPbc	PKPbc	16 45 33.5	+0.8
	comp=Z,2.7nm,0.8s,baz=21,slow=5.7,SNR=7.6						

*IDC **28** 16:59:32.9±1.1, 13°.38S×112°.25W, h0km, mb3.9/7, mbtmp3.9/7, MS4.5/12, Error ellipse: s-maj=39.3km s-min=22.4km az=63.0*
*NEIC **28** 16:59:43.0±2.5, 12°.5S±0°.1×110°.77W±0°.09, h10km±1km, mb4.7/49, Error ellipse: s-maj=24.1km s-min=8.4km az=148.0*

ISC 28 16:59:41.0±0.7, 12°.56S±0°.09×110°.8W±0°.1, h10km, n76, σ2s05/63, mb4.6/31, MS4.6/11, 1D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	14.56	175	LR	LR	17 06 42.3	
	comp=Z,2μm,19.4s,baz=2.5,slow=31						
VA02	Isla de Pascua	14.58	175	Pn	Pn	17 03 06.7	-0.8
PAYG	Puerto Ayora	23.52	61	P	P	17 04 48.9	-2.6
JTS	Las Juntas de	34.27	50	LR	LR	17 17 16.8	
	comp=Z,1μm,20.7s,baz=304,slow=30						
OTAV	Otavalo	34.51	71	P	P	17 06 31.1	+0.9
OTAV				IAmb	IAmb	17 06 40.4	
	comp=Z,9.4nm,1.4s						
COVE	Coope Vega, Sa	34.95	50	P	P	17 06 32.1	-1.4
H03N2	Juan Fernandez	35.72	131	T	T	17 44 54.5	
	baz=300,slow=77,SNR=103						
H03N3	Juan Fernandez	35.73	131	T	T	17 44 52.3	
	baz=300,slow=77,SNR=109						
H03N1	Juan Fernandez	35.73	131	T	T	17 44 53.1	
	baz=300,slow=77,SNR=88						
PRVC	Isla de Provid	38.93	50	P	P	17 07 05.0	-2.3
PRAC	Prado	39.17	68	P	P	17 07 07.7	-1.8
PRAC				IAmb	IAmb	17 07 18.8	
	comp=Z,25nm,1.5s						
TA01	Diego Aracena	39.65	107	P	P	17 07 13.5	+0.1
TA01				IAmb	IAmb	17 07 31.7	
	comp=Z,36nm,1.3s						
PB18	Visviri	40.15	102	P	P	17 07 18.9	+0.8
PB18				IAmb	IAmb	17 07 51.1	
	comp=Z,23nm,1.3s						
GO03	Copiap	40.72	118	P	P	17 07 25.9	+3.6
GO02	Mina Guanaco	40.80	114	P	P	17 07 24.3	+1.1
GO02				IAmb	IAmb	17 07 31.4	
	comp=Z,17nm,1.1s						
VA01	Torpederas	41.12	126	P	P	17 07 26.5	+1.1
VA01				IAmb	IAmb	17 07 38.3	
	comp=Z,21nm,1.0s						
CO03	El Pedregal	41.19	123	P	P	17 07 27.5	+1.3
CO03				IAmb	IAmb	17 07 42.2	
	comp=Z,13nm,1.2s						
LPAZ	La Paz	41.43	100	P	P	17 07 31.4	+2.5
LPAZ				IAmb	IAmb	17 07 39.2	
	comp=Z,18nm,1.3s						
LPAZ	La Paz	41.43	100	P	P	17 07 32.6	+3.7
	comp=Z,12nm,1.3s,baz=276,slow=2.9,SNR=7.6						
	comp=Z,12nm,1.3s						
RUSC	La Rusia	41.73	66	P	P	17 07 30.7	-0.5
RUSC				IAmb	IAmb	17 07 40.4	
	comp=Z,19nm,1.3s						
MT05	Renca	41.96	126	P	P	17 07 32.0	-0.4
BO01	Tunca	42.04	128	P	P	17 07 30.9	-2.1
BO01				IAmb	IAmb	17 07 45.9	
	comp=Z,22nm,1.4s						
833A	Chaparral WMA,	42.11	15	P	P	17 07 36.6	+3.1
833A				IAmb	IAmb	17 07 44.3	
	comp=Z,20nm,1.0s						
TX32	Lajitas Array	42.21	9	P	P	17 07 33.5	-0.9
TXAR	Lajitas Array	42.21	9	P	P	17 07 35.3	+0.9
TXAR	Lajitas Array	42.21	9	P	P	17 07 36.3	+1.9
	comp=Z,0.5nm,1.0s,baz=170,slow=11,SNR=3.2						
TXAR				LR	LR	17 22 08.8	
	comp=Z,458nm,18.4s,baz=95,slow=31						
	comp=Z,0.5nm,1.0s						
TX31	Lajitas Ar. Si	42.21	9	P	P	17 07 33.5	-0.9
TX31				IAmb	IAmb	17 07 51.5	
	comp=Z,17nm,1.4s						
SAND	Sanderson	43.09	11	P	P	17 07 45.4	+3.9
SAND				IAmb	IAmb	17 07 51.7	
	comp=Z,12nm,1.2s						
425A	Indio Mountain	43.46	7	P	P	17 07 44.8	+0.3
ETMB	Extrema	43.78	91	P	P	17 07 49.1	+1.7
JCT	Junction City	44.08	14	P	P	17 07 51.4	+1.9
JCT				IAmb	IAmb	17 07 59.5	
	comp=Z,16nm,1.2s						
OZNA	Ozona	44.22	12	P	P	17 07 52.5	+1.9
OZNA				IAmb	IAmb	17 07 56.8	
	comp=Z,14nm,1.5s						
MNTX	Cornudas Mount	44.31	7	P	P	17 07 53.1	+1.8
435B	Jarrell	44.93	16	P	P	17 07 56.7	+0.6
435B				IAmb	IAmb	17 08 06.8	
	comp=Z,16nm,0.9s						
121A	Cookes Peak, D	44.93	4	P	P	17 07 58.0	+1.6
PLCA	Paso Flores	45.02	136	P	P	17 07 53.8	-3.3
	comp=Z,1.9nm,0.8s,baz=315,slow=8.6,SNR=3.0						
	comp=Z,1.9nm,0.8s						
BRDY	Brady	45.04	14	P	P	17 07 59.7	+2.5
BRDY				IAmb	IAmb	17 08 06.2	
	comp=Z,7.2nm,0.9s						
SGCY	Sterling City	45.18	12	P	P	17 07 58.2	-0.1
SGCY				IAmb	IAmb	17 08 07.0	
	comp=Z,14nm,1.2s						
SDV	Santo Domingo	45.24	64	P	P	17 07 58.9	-0.3
PFO	Pinyon Flats O	46.23	353	LR	LR	17 22 48.8	
	comp=Z,394nm,20.2s,baz=175,slow=30						
PLPT	Palo Pinto	46.67	14	P	P	17 08 10.6	+0.7
PLPT				IAmb	IAmb	17 08 19.6	
	comp=Z,14nm,1.1s						
X18A	Snowflake	46.84	1	P	P	17 08 11.8	+0.3
X18A				IAmb	IAmb	17 08 19.3	
	comp=Z,5.5nm,1.1s						
SAML	Samuel	46.87	91	P	P	17 08 14.2	+2.4
DKNS	Dickens	46.92	11	P	P	17 08 13.3	+1.4
DKNS				IAmb	IAmb	17 08 20.1	
	comp=Z,9.0nm,1.1s						
W13A	Hualapai Mount	47.49	357	P	P	17 08 18.2	+1.7
BAUV	El Baul	47.55	65	P	P	17 08 19.3	+2.2
SIV	San Ignacio	48.22	100	P	P	17 08 25.6	+3.2
	comp=Z,2.4nm,0.8s,baz=276,slow=10.0,SNR=5.6						
	comp=Z,2.4nm,0.8s						
VILB	Vilhena	49.28	96	P	P	17 08 33.0	+2.4
LCMT	Little Creek M	49.36	357	P	P	17 08 31.6	+0.8
LCMT				IAmb	IAmb	17 08 59.1	
	comp=Z,6.7nm,1.5s						
PTLB	Pontes e Lacer	50.11	100	P	P	17 08 37.4	+0.6
DSP	Deep Springs	50.12	353	P	P	17 08 37.5	+1.1
S22A	4UR Ranch, Cre	50.18	4	P	P	17 08 38.4	+1.1
SDCO	Great Sand Dun	50.28	5	P	P	17 08 38.4	+0.4
MVU	Marysvale	50.81	359	P	P	17 08 41.1	-0.8
MVU				IAmb	IAmb	17 09 02.6	
	comp=Z,8.3nm,1.0s						
MSU	Marysvale	50.82	359	P	P	17 08 42.5	+0.5
LHV	Little Huntoon	51.06	352	P	P	17 08 43.4	0.0
LHV				IAmb	IAmb	17 08 57.3	
	comp=Z,7.0nm,1.3s						
PCRV	Puerto La Cruz	51.11	66	LR	LR	17 27 10.0	
	comp=Z,711nm,21.0s,slow=31						
NVAR	Mina Array Bea	51.21	352	P	P	17 08 44.0	-0.9
NVAR	Mina Array Bea	51.21	352	P	P	17 08 44.3	-0.6
	comp=Z,1.2nm,0.7s,baz=179,slow=9.4,SNR=9.7						
NVAR				LR	LR	17 25 34.2	
	comp=Z,527nm,21.9s,baz=116,slow=30						
	comp=Z,1.2nm,0.7s						
SPR3	Spring Creek 3	51.40	356	P	P	17 08 47.2	+0.7
KVN	Kaiserville	51.79	353	P	P	17 08 49.8	+0.5
ELK	Elko	53.19	356	LR	LR	17 27 18.4	
	comp=Z,443nm,20.6s,baz=125,slow=31						
PDAR	Pinedale Array	55.06	1	P	P	17 09 11.8	-1.5
	comp=Z,0.5nm,0.5s,baz=164,slow=7.3,SNR=5.3						
PDAR				LR	LR	17 29 11.9	
	comp=Z,344nm,19.1s,baz=34,slow=32						
	comp=Z,0.5nm,0.5s						
YBH	Yreka Blue Hor	55.13	349	LR	LR	17 27 47.5	
	comp=Z,566nm,19.9s,baz=162,slow=30						
WSPT	Westport, CT	63.68	31	P	P	17 10 12.8	+0.2
SADO	Sadowa	63.87	25	P	P	17 10 13.1	-0.7
MSVF	Nonsavu	68.53	256	LR	LR	17 33 06.7	
	comp=Z,330nm,19.9s,baz=33,slow=30						
MRZ	Mangatainoka R	69.53	231	P	P	17 10 51.8	+1.6
TOZ	Tahuroa Road	69.58	234	P	P	17 10 52.5	+2.0
TOZ				IAmb	IAmb	17 11 36.7	
	comp=Z,7.4nm,1.2s						
SCHQ	Schefferville	76.68	24	LR	LR	17 44 37.9	
	comp=Z,304nm,19.5s,baz=222,slow=35						
QSPA	South Pole Qui	77.54	180	P	P	17 11 26.2	-11
	comp=Z,0.6nm,0.7s,baz=59,slow=5.9,SNR=2.0						
	comp=Z,0.6nm,0.7s						
SHEM	Shemya Is, Ala	91.08	324	LR	LR	17 44 55.0	
	comp=Z,251nm,21.9s,baz=24,slow=30						
BCLA	Clavier	116.16	40	dPKP	PKiKP	17 18 28.4	+3.9
KURBB	Kurchatov Arra	141.29	351	PKP	PKPdf	17 19 05.5	-6.5
	comp=Z,0.2nm,0.7s,baz=15,slow=2.1,SNR=1.6						
PZH	PanZhiHua	146.46	299	PKPbc	PKPdf	17 19 23.0	+1.0
CMAR	Chiang Mai Arr	150.78	285	PKPbc	PKPdf	17 19 24.7	-4.3
	comp=Z,0.4nm,0.6s,baz=57,slow=1.3,SNR=5.2						

*SJA **28** 17:02:22.8±2.0, 21°.80S×68°.51W, h100km, ML3.4, MW3.6*
*VAO **28** 17:02:24.7±0.6, 21°.73S×68°.19W, h108km, mb4.1*
*GUC **28** 17:02:24.1±0.8, 21°.80S×68°.56W, h107km±4km, ML3.6*

ISC 28 17:02:22.1±0.7, 21°.78S±0°.03×68°.55W±0°.05, h122km±8km, n52, σ1s22/85, 8C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.64	268	⇑iP	Pn	17 02 41.8	+0.3
PB09				i S	Sn	17 02 55.5	-0.6
PB09	IPOC Station P	0.64	268	eP	Pn	17 02 41.7	+0.3
PB09				eS	Sn	17 02 56.5	+0.4
PB09				IAML		17 02 58.1	
	comp=Z,690nm,0.5s						
LVC	Limon Verde	0.89	202	eP	Pn	17 02 43.0	-0.8
LVC				eS	Sn	17 02 59.2	-0.8
LVC				IAML		17 03 00.4	
	comp=Z,3μm,0.3s						
LVC	Limon Verde	0.89	202	eP	Pn	17 02 43.7	-0.1
LVC				eS	Sn	17 03 00.3	+0.3
PB01	IPOC Station P	1.14	310	⇑eP	Pn	17 02 46.0	+0.2
PB01				eS	Sn	17 03 03.2	-0.6
PB01				IAML		17 03 06.4	
	comp=E,997nm,0.2s						
PB01	IPOC Station P	1.14	310	eP	Pn	17 02 46.0	+0.2
PB01				eS	Sn	17 03 04.6	+0.8
PB01				IAML		17 03 05.7	
	comp=Z,456nm,0.2s						
AF01	San Pedro de A	1.22	164	⇑eP	Pn	17 02 47.5	+0.7
AF01				eS	Sn	17 03 06.6	+1.0
AF01				IAML		17 03 19.1	
	comp=E,763nm,0.5s						
PB07	IPOC Station P	1.24	272	⇑eP	Pn	17 02 47.1	+0.1
PB07				eS	Sn	17 03 05.1	-0.7
PB07				IAML		17 03 07.6	
	comp=E,1μm,0.2s						
PB07	IPOC Station P	1.24	272	eP	Pn	17 02 47.1	+0.1
PB07				eS	Sn	17 03 06.7	+0.8
PB07				IAML		17 03 07.5	
	comp=Z,602nm,0.4s						
PB06	IPOC Station P	1.32	225	i P	Pn	17 02 48.2	+0.3
PB06				i S	Sn	17 03 07.2	-0.1
PB06				IAML		17 03 09.1	
	comp=E,811nm,0.2s						
PB06	IPOC Station P	1.32	225	eP	Pn	17 02 47.5	-0.4
PB06				eS	Sn	17 03 08.2	+0.9
PB06				eS	Sn	17 03 09.2	+1.8
PB06				IAML		17 03 10.3	
	comp=Z,366nm,0.3s						
PB02	IPOC Station P	1.33	290	⇑eP	Pn	17 02 48.1	+0.1
PB02				i S	Sn	17 03 06.9	-0.6
PB02				IAML		17 03 09.5	
	comp=N,1μm,0.2s						
PB02	IPOC Station P	1.33	290	eP	Pn	17 02 48.0	+0.1
PB02				eS	Sn	17 03 07.7	+0.3
PB02				IAML		17 03 09.5	
	comp=Z,1μm,0.1s						
PB04	IPOC Station P	1.58	249	⇑iP	Pn	17 02 50.8	0.0
PB04				⇑eP	Pn	17 02 50.9	0.0
PB04				i S	Sn	17 03 11.9	-0.7
PB04				IAML		17 03 18.2	
	comp=N,642nm,0.1s						
PB04	IPOC Station P	1.58	249	eP	Pn	17 02 50.8	0.0
PB04				eS	Sn	17 03 13.1	+0.5
PB04				IAML		17 03 15.0	
	comp=Z,396nm,0.2s						
PB15	IPOC Station P	1.66	211	⇑eP	Pn	17 02 52.1	+0.4
PB15				i S	Sn	17 03 15.2	+0.8
PB15	IPOC Station P	1.66	211	eP	Pn	17 02 51.6	-0.1
PB15				eS	Sn	17 03 11.4	-2.9
PB08	IPOC Station P	1.72	341	⇓iP	Pn	17 02 54.3	+1.6
PB08				i S	Sn	17 03 17.3	+1.2
PB08				IAML		17 03 19.3	
	comp=E,525nm,0.5s						
PB08	IPOC Station P	1.72	341	eP	Pn	17 02 53.8	+1.0
PB08				eS	Sn	17 03 18.4	+2.4
PB08				IAML		17 03 18.9	
	comp=Z,202nm,0.5s						
PATCX	Punta Patache	1.77	302	eP	Pn	17 02 53.5	+0.5
PATCX				eS	Sn	17 03 16.0	-0.5
PATCX				IAML		17 03 18.2	
	comp=N,876nm,0.2s						
PATCX	Punta Patache	1.77	302	eP	Pn	17 02 53.5	+0.5
PATCX				eS	Sn	17 03 16.9	+0.4
PATCX				IAML		17 03 18.7	
	comp=Z,300nm,0.2s						
TA01	Diego Aracena	1.94	308	eP	Pn	17 02 55.0	+0.1
TA01				eS	Sn	17 03 19.5	-0.6
TA01				IAML		17 03 21.1	
	comp=E,851nm,0.3s						
TA01	Diego Aracena	1.94	308	eP	Pn	17 02 55.2	+0.3
TA01				eS	Sn	17 03 21.1	+1.1
TA01				IAML		17 03 22.1	
	comp=Z,233nm,0.5s						
HMBC	Humberstone	1.95	320	⇓eP	Pn	17 02 55.2	0.0
HMBC				eS	Sn	17 03 19.7	-0.7
HMBC	Humberstone	1.95	320	eP	Pn	17 02 55.2	0.0
HMBC				eP	Pn	17 02 55.2	0.0
HMBC				eS	Sn	17 03 21.2	+0.8
HMBC				IAML		17 03 22.6	
	comp=Z,464nm,0.7s						
TA02	Huaiquique	2.10	315	eS	Sn	17 03 24.2	+0.5
GO01	Chusmiza	2.19	344	⇓eP	Pn	17 02 59.9	+1.3
GO01				eS	Sn	17 03 27.6	+1.4
GO01	Chusmiza	2.19	344	eP	Pn	17 02 59.7	+1.2
GO01				eP	Pn	17 03 00.3	+1.8
GO01				eS	Sn	17 03 28.5	+2.2
GO01				IAML		17 03 29.6	
	comp=Z,105nm,0.5s						
YJA	Yavi	2.85	99	eP	Pn	17 03 09.2	+2.2
GO02	Mina Guanaco	3.50	196	eP	Pn	17 03 15.9	+0.5
GO02	Mina Guanaco	3.50	196	eP	Pn	17 03 15.0	-0.3
GO02				eS	Sn	17 03 57.8	+1.3
GO02				IAML		17 04 03.6	
	comp=Z,52nm,0.1s						
PB16	IPOC Station P	3.54	345	eP	Pn	17 03 18.5	+2.3
PB16	IPOC Station P	3.54	345	eP	Pn	17 03 17.9	+1.7
PB16				eS	Sn	17 03 54.9	-3.0
PB12	IPOC Station P	3.56	332	eP	Pn	17 03 14.9	-1.1
PB12				eS	Sn	17 03 55.1	-2.6
LPAZ	La Paz	5.48	4	eP	Pn	17 03 44.3	+2.2
BBSD	Serra de San D	8.77	60	eP	Pn	17 04 23.7	-2.4
BBRB	Robore, Bolivi	8.93	69	eP	Pn	17 04 24.8	-3.4
MURT	Porto Murtinho	10.17	91	eP	Pn	17 04 42.6	-2.3
PTLB	Pontes e Lacer	10.92	56	eP	Pn	17 04 53.9	-1.1
BDQN	Bodoquena, MS	11.10	85	eP	Pn	17 04 54.9	-2.5
VILB	Vilhena	11.85	44	eP	Pn	17 05 06.7	-0.8
PDRB	Porto dos Gac	15.17	50	eP	Pn	17 05 50.5	+0.4
ALGR	Alto Alegre (B	15.68	120	eP	P	17 05 58.1	+0.2
CPSB	Cacapava Do Su	16.05	125	eP	P	17 05 62.7	+0.7
CLDB	Colider	16.34	50	eP	P	17 06 05.5	+0.2
PLCA	Paso Flores	18.97	185	eP	Pn	17 06 37.0	+1.0
SNDB	Serra Nova Dou	19.16	62	eP	P	17 06 35.4	-0.8
NPGB	Novo Progresso	19.41	43	eP	P	17 06 38.9	0.0
IPMB	Ipameri, GO	19.50	82	eP	P	17 06 39.5	-0.4
PET01	Itanhaem-SP	19.74	101	eP	P	17 06 43.0	+0.5
MACA	Manacapuru-AM	20.02	24	eP	Pn	17 06 47.6	-0.8
BOAV	Boa Vista	25.28	19	eP	P	17 07 38.7	+1.5

*IDC **28** 17:04:31.2±1.2, 28°.21S×177°.93W, h0km, mb3.7/4, mbtmp3.7/4, MS4.1/1, Error ellipse: s-maj=39.1km s-min=27.2km az=62.0*
*NEIC **28** 17:04:58.9±2.8, 28°.7S±0°.1×178°.5W±0°.2, h219km±7km, mb4.0/15, Error ellipse: s-maj=22.9km s-min=15.7km az=97.0*

ISC 28 17:04:59.3±0.7, 29°.11S±0°.08×179°.1W±0°.1, h200km, n36, σ1s95/36, mb3.9/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.01	98		Pn	17 05 29.2	0.0
RAO				Sn	Sn	17 05 51.6	-0.6
MXZ	Matakaoa Point	8.71	194	Pn	Pn	17 07 05.9	+4.2
RTZ	Ruatahuna	10.04	198	Pn	Pn	17 07 18.1	-0.9
BKZ	Black Stump Fm	10.69	199	Pn	Pn	17 07 25.9	-1.4
MSVF	Nonsavu	11.63	346		Pn	17 07 38.1	-1.5
BFZ	Birch Farm	12.17	197	Pn	Pn	17 07 43.2	-3.0
NIUE	Niue	13.01	42	Pn	Pn	17 07 46.3	-11
PINNC	Pines Island,	13.75	295		P	17 08 08.7	+0.3
MARNC	Mare, Loyalty	13.92	300	P	Pn	17 08 09.0	+0.7
THZ	Tophouse	14.21	205		Pn	17 08 09.1	-2.7
LIFNC	LIFOU	14.93	301	P	Pn	17 08 19.9	-0.8
GVZ	Greta Valley S	15.22	203	P	Pn	17 08 18.9	-5.2
ODZ	Otahua Downs	17.88	204	P	P	17 08 52.3	-1.4
ODZ				IAmb	IAmb	17 09 17.2	
	comp=Z,26nm,1.3s						
TOO	Toolangi	30.65	245	P	P	17 10 55.7	+0.7
TOO				IAmb	IAmb	17 11 29.1	
	comp=Z,6.8nm,1.1s						
CTAO	Charters Tower	32.69	278	P	P	17 11 13.0	0.0
CTAO				IAmb	IAmb	17 11 21.9	
	comp=Z,10nm,1.4s						
AS31	Alice Springs	42.26	266	P	P	17 12 35.1	+1.8
ASAR	Alice Springs	42.26	266	P	P	17 12 34.7	+1.4
ASAR	Alice Springs	42.26	266	P	P	17 12 35.1	+1.8
	comp=Z,0.4nm,0.6s,baz=96,slow=6.6,SNR=18						
ASAR				PcP	PcP	17 14 23.4	0.0
	comp=Z,0.1nm,0.7s,baz=99,slow=5.7,SNR=1.2						
	comp=Z,0.4nm,0

NGJI	**Ngawi**	**8.52 102**	P	Pn	17 08 03.2	-0.2

*IDC **28** 17:21:02.4±1.0, 86.°99N×53.°76E, h0km, mb3.5/6, mbtmp3.6/7, ML3.0/1, Error ellipse: s-maj=30.5km s-min=23.6km az=88.0*
*IEPN **28** 17:21:04.0, 86.°88N×55.°36E, h10km*
ISC 28 17:21:03.0±0.7, 86.°68N±0.°07×56.°23E±0.°08, h10km, n17, σ2.°34/20, mb3.5/6, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.97**	**193**	*e*P	**Pn**	**17 22 29.2**	**-2.0**
ZFI2				*e*S	**Sn**	**17 23 35.9**	**-3.6**
OMEGA	**Omega**	**5.99**	**193**	*e*P	**Pn**	**17 22 33.5**	**+2.0**
OMEGA				*e*S	**Sn**	**17 23 36.8**	**-3.3**
	49nm,1.9s						
NOR	**Nord**	**8.12**	**276**	*i* P	**Pn**	**17 23 00.4**	**-0.3**
SVZ	**Severnaya Zeml**	**8.78**	**119**	*e*P	**Pn**	**17 23 11.9**	**+2.3**
SVZ				*e*S	**Sn**	**17 24 44.1**	**-4.3**
SPA0	**Spitsbergen Ar**	**9.57**	**233**	*e*P	**Pn**	**17 23 21.6**	**+1.0**
SPITS	**Spitsbergen Ar**	**9.57**	**233**	Pn	**Pn**	**17 23 19.6**	**-1.0**
	baz=45,slow=19						
HSPB	**Hornsund (broa**	**10.77**	**232**	*e*P	**Pn**	**17 23 37.2**	**+0.3**
ARA0	**ARCESS Array S**	**17.80**	**216**	*e*P	**P**	**17 25 13.6**	**+2.5**
ARCES	**ARCESS Array B**	**17.80**	**216**	P	**P**	**17 25 13.6**	**+2.5**
	0.1nm,0.3s,baz=346,slow=14,SNR=1.3						
	2.3nm,0.9s						
ILAR	**Eielson Array**	**28.48**	**21**	*e*P	**P**	**17 26 56.6**	**-1.0**
ILAR	**Eielson Array**	**28.48**	**21**	P	**P**	**17 26 56.6**	**-1.0**
	0.6nm,1.0s,baz=349,slow=9.2,SNR=5.2						
	0.6nm,1.0s						
SONM	**Songino Array**	**40.28**	**127**	P	**P**	**17 28 43.0**	**+3.2**
	0.6nm,0.8s,baz=341,slow=7.8,SNR=4.3						
	0.6nm,0.8s						
ESDC	**Sonseca Array**	**48.92**	**243**	P	**P**	**17 29 49.7**	**+1.0**
	0.6nm,0.8s,baz=12,slow=8.4,SNR=4.5						
	0.6nm,0.8s						
PDAR	**Pinedale Array**	**50.67**	**346**	P	**P**	**17 29 59.6**	**-2.6**
	0.5nm,0.9s,baz=31,slow=4.0,SNR=3.8						
	0.5nm,0.9s						
NVAR	**Mina Array Bea**	**55.08**	**355**	P	**P**	**17 30 33.5**	**-1.3**
	0.3nm,0.7s,baz=357,slow=4.8,SNR=4.2						
	0.3nm,0.7s						
TXAR	**Lajitas Array**	**63.97**	**340**	P	**P**	**17 31 35.1**	**-0.9**
	0.6nm,0.7s,baz=18,slow=3.2,SNR=10.0						
	0.6nm,0.7s						
VNDA	**Vanda**	**167.91**	**90**	PKPab	**PKPab**	**17 42 15.8**	**+1.2**
	1.1nm,0.6s,baz=15,slow=6.1,SNR=11						

NOU 28 17:21:26.8, 15.°92S×168.°10E, h135km, MLv4.0/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	**Rentapao**	**1.89**	**171**	P	Pn	17 22 00.3	+0.6
YATNC	**Mamie plateau,**	**6.21**	**190**	P	Pn	17 22 55.4	-0.8
DZM	**Mont Dzumac**	**6.32**	**194**	P	Pn	17 22 57.4	-0.3
NOUC	**Port Laguerre**	**6.38**	**195**	P	Pn	17 22 59.2	+0.8
OUENC	**Ouen Island, N**	**6.57**	**190**	P	Pn	17 23 01.4	+0.4
PINNC	**Pines Island,**	**6.69**	**185**	P	Pn	17 23 02.5	-0.1

*NNC **28** 17:21:32.9±0.6, 43.°07N×79.°44E, h3km±2km, mb3.0, mpv3.0, Error ellipse: s-maj=4.8km s-min=2.3km az=155.0*
*SOME **28** 17:21:33.1, 43.°05N×79.°45E, h15km*
*KRNET **28** 17:21:33.0±0.1, 43.°07N×79.°45E, h19km, mb2.7*
ISC 28 17:21:33.2±1.0, 43.°07N±0.°03×79.°46E±0.°02, h13km±8km, n56, σ0.°67/97, 8C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.26**	**6**	P	**Pb**	**17 21 39.3**	**-0.6**
	55nm,0.2s						
PDGK				S	**Sb**	**17 21 43.7**	**-0.7**
	115nm,0.4s						
UZB	**Uzynbulak**	**0.33**	**284**	P	**Pg**	**17 21 40.1**	**+0.2**
	40nm,0.1s						
UZB				S	**Sg**	**17 21 44.9**	**+0.5**
	698nm,0.2s						
UZB	**Uzynbulak**	**0.33**	**284**	*e*P	**Pg**	**17 21 40.1**	**+0.2**
	baz=85						
UZB				*e*S	**Sg**	**17 21 45.0**	**+0.5**
	baz=85						
UZB	**Uzynbulak**	**0.33**	**284**	*e*P	**Pg**	**17 21 40.1**	**+0.2**
	37nm,0.0s						
UZB				*e*S	**Sg**	**17 21 44.9**	**+0.5**
	698nm,0.1s						
KPKS	**Kokpek**	**0.69**	**305**	P	**Pg**	**17 21 46.2**	**-0.4**
	19nm,0.2s						
KPKS				S	**Sg**	**17 21 55.6**	**-0.1**
	93nm,0.2s						
KPKS	**Kokpek**	**0.69**	**305**	*e*P	**Pg**	**17 21 46.2**	**-0.4**
	baz=6.0						
KPKS				*e*S	**Sg**	**17 21 55.6**	**-0.1**
	baz=6.0						
KPKS	**Kokpek**	**0.69**	**305**	*e*P	**Pg**	**17 21 46.2**	**-0.4**
	19nm,0.1s						
KPKS				*e*S	**Sg**	**17 21 55.6**	**-0.1**
	93nm,0.2s						
ZHN	**Zhinishke**	**0.75**	**278**	P	**Pg**	**17 21 47.1**	**-0.7**
	7.8nm,0.1s						
ZHN				S	**Sg**	**17 21 57.1**	**-0.7**
	357nm,0.2s						
ZHN	**Zhinishke**	**0.75**	**278**	*e*P	**Pg**	**17 21 47.1**	**-0.7**
	baz=78						
ZHN				*e*S	**Sg**	**17 21 57.0**	**-0.7**
	baz=78						
ZHN	**Zhinishke**	**0.75**	**278**	*e*P	**Pg**	**17 21 47.1**	**-0.7**
	7.8nm,0.1s						
ZHN				*e*S	**Sg**	**17 21 57.1**	**-0.7**
	351nm,0.1s						
KTMS	**Ketmen**	**0.76**	**60**	P	**Pg**	**17 21 47.5**	**-0.4**
	2.3nm,0.1s						
KTMS				S	**Sg**	**17 21 57.8**	**0.0**
	36nm,0.2s						
KTMS	**Ketmen**	**0.76**	**60**	*e*P	**Pg**	**17 21 47.5**	**-0.4**
	baz=60						
KTMS				*e*S	**Sg**	**17 21 57.8**	**0.0**
	baz=60						
KTMS	**Ketmen**	**0.76**	**60**	*e*P	**Pg**	**17 21 47.5**	**-0.4**
	2.3nm,0.1s						
KTMS				*e*S	**Sg**	**17 21 57.8**	**0.0**
	36nm,0.1s						
SATY	**Saty**	**0.77**	**270**	P	**Pg**	**17 21 47.6**	**-0.5**
	2.6nm,0.1s						
SATY				S	**Sg**	**17 21 58.1**	**-0.1**
	215nm,0.2s						
SATY	**Saty**	**0.77**	**270**	*e*P	**Pg**	**17 21 47.6**	**-0.5**
	baz=70						
SATY				*e*S	**Sg**	**17 21 58.1**	**-0.1**
	baz=70						
SATY	**Saty**	**0.77**	**270**	*e*P	**Pg**	**17 21 47.6**	**-0.5**
	2.6nm,0.1s						
SATY				*e*S	**Sg**	**17 21 58.1**	**-0.1**
	215nm,0.2s						
PRZ	**Przheval'sk**	**0.97**	**233**	⇑*i*P	**Pb**	**17 21 51.0**	**-1.0**
	baz=34						
PRZ				⇑*i*S	**Sb**	**17 22 03.7**	**-1.1**
	baz=34						
KURS	**Kuram**	**1.03**	**295**	P	**Pb**	**17 21 52.1**	**-0.8**
	2.1nm,0.4s						
KURS				S	**Sb**	**17 22 05.8**	**-0.5**
	12nm,0.5s						
KURS	**Kuram**	**1.03**	**295**	*e*P	**Pb**	**17 21 52.1**	**-0.8**
	baz=95						
KURS				*e*S	**Sb**	**17 22 05.8**	**-0.5**
	baz=95						
KURS	**Kuram**	**1.03**	**295**	*e*P	**Pb**	**17 21 52.1**	**-0.8**
	2.1nm,0.4s						
KURS				*e*S	**Sb**	**17 22 05.8**	**-0.5**
	12nm,0.3s						
BLB	**Baldybastay**	**1.25**	**326**	P	**Pn**	**17 21 56.2**	**-0.3**
	25nm,0.2s						
BLB				S	**Sn**	**17 22 13.0**	**-0.2**
	34nm,0.4s						
DJR	**Jarkent**	**1.29**	**11**	P	**Pb**	**17 21 57.0**	**-0.3**
	5.0nm,0.2s						
DJR				S	**Sg**	**17 22 14.6**	**-0.1**
	24nm,0.2s						
DJR	**Jarkent**	**1.29**	**11**	*e*P	**Pb**	**17 21 57.0**	**-0.3**
	4.7nm,0.1s						
DJR				*e*S	**Sg**	**17 22 14.6**	**-0.1**
	24nm,0.1s						
KNOS	**Konyrlen**	**1.31**	**351**	P	**Pb**	**17 21 57.4**	**-0.2**
	14nm,0.1s						
KNOS				S	**Sg**	**17 22 15.4**	**+0.1**
	23nm,0.2s						
ANVS	**Anan'yevo**	**1.34**	**258**	⇑*i*P	**Pb**	**17 21 57.7**	**-0.6**
	baz=59						
ANVS				⇑*i*S	**Sn**	**17 22 15.6**	**-0.1**
	baz=59						
ARXS	**Arharly**	**1.65**	**315**	P	**Pb**	**17 22 03.0**	**-0.4**
	3.7nm,0.3s						
ARXS				S	**Sb**	**17 22 24.3**	**+0.2**
	19nm,0.3s						
ARXS	**Arharly**	**1.65**	**315**	*e*P	**Pb**	**17 22 03.0**	**-0.4**
	3.7nm,0.1s						
ARXS				*e*S	**Sb**	**17 22 24.3**	**+0.2**
	19nm,0.2s						
KOTS	**Kotyrbulak**	**1.72**	**276**	P	**Pb**	**17 22 04.4**	**-0.4**
	3.3nm,0.4s						
KOTS				S	**Sg**	**17 22 27.6**	**-1.0**
	48nm,0.4s						
KOTS	**Kotyrbulak**	**1.72**	**276**	*e*P	**Pb**	**17 22 04.4**	**-0.4**
	baz=76						
KOTS				*e*S	**Sg**	**17 22 27.6**	**-1.0**
	baz=76						
KOTS	**Kotyrbulak**	**1.72**	**276**	*e*P	**Pb**	**17 22 04.4**	**-0.4**
	3.3nm,0.2s						
KOTS				*e*S	**Sg**	**17 22 27.6**	**-1.0**
	48nm,0.4s						
MDOK	**Medeo**	**1.77**	**274**	Pg	**Pb**	**17 22 05.4**	**0.0**
	1.9nm,0.3s						
MDOK				Lg	Lg	17 22 28.6	
	6.2nm,0.3s						
MDOK	**Medeo**	**1.77**	**274**	*e*P	**Pb**	**17 22 05.5**	**0.0**
	baz=74						
MDOK				*e*S	**Sg**	**17 22 28.7**	**-1.3**
	baz=74						
MDOK	**Medeo**	**1.77**	**274**	*e*P	**Pb**	**17 22 05.5**	**0.0**
	1.9nm,0.3s						
MDOK				*e*S	**Sg**	**17 22 28.6**	**-1.3**
	6.2nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.81**	**223**	⇓*i*P	**Pb**	**17 22 05.9**	**-0.5**
	baz=23						
TARG				⇓*i*S	**Sb**	**17 22 29.7**	**+0.5**
	baz=23						
TNSS	**Tian-Shan**	**1.84**	**270**	P	**Pb**	**17 22 06.4**	**-0.5**
	2.7nm,0.2s						
TNSS				S	**Sb**	**17 22 30.4**	**+0.4**
	5.6nm,0.3s						
TNSS	**Tian-Shan**	**1.84**	**270**	*e*P	**Pb**	**17 22 06.4**	**-0.5**
	baz=70						
TNSS				*e*S	**Sb**	**17 22 30.4**	**+0.4**
	baz=70						
TNSS	**Tian-Shan**	**1.84**	**270**	*e*P	**Pb**	**17 22 06.4**	**-0.5**
	2.7nm,0.2s						
TNSS				*e*S	**Sb**	**17 22 30.4**	**+0.4**
	5.6nm,0.3s						
CHKK	**Chushkaly**	**1.96**	**294**	P	**Pb**	**17 22 08.4**	**-0.3**
	1.4nm,0.4s						
CHKK				S	**Sb**	**17 22 33.9**	**+0.7**
	23nm,0.5s						
CHKK	**Chushkaly**	**1.96**	**294**	*e*P	**Pb**	**17 22 08.4**	**-0.3**
	baz=95						
CHKK				*e*S	**Sb**	**17 22 33.8**	**+0.7**
	baz=95						
CHKK	**Chushkaly**	**1.96**	**294**	*e*P	**Pb**	**17 22 08.4**	**-0.3**
	1.7nm,0.2s						
CHKK				*e*S	**Sb**	**17 22 33.9**	**+0.7**
	22nm,0.2s						
TDK	**Taldyqorghan**	**2.08**	**339**	Pg	**Pb**	**17 22 10.6**	**-0.1**
	11nm,0.3s						
TDK				Lg	Lg	17 22 37.5	
	18nm,0.5s						
TDK	**Taldyqorghan**	**2.08**	**339**	*e*Pg	**Pb**	**17 22 10.6**	**-0.1**
	15nm,0.2s						
TDK				*e*Lg	Lg	17 22 37.5	
	18nm,0.5s						
IZV	**Izvestkoviy**	**2.08**	**270**	Pg	**Pb**	**17 22 11.3**	**+0.4**
	1.3nm,0.3s						
IZV				Lg	Lg	17 22 38.9	
	6.3nm,0.2s						
IZV	**Izvestkoviy**	**2.08**	**270**	*e*Pg	**Pb**	**17 22 11.3**	**+0.4**
	1.2nm,0.1s						
IZV				*e*Lg	Lg	17 22 38.9	
	6.3nm,0.2s						
KTBS	**Karatobe**	**2.12**	**289**	Pg	**Pb**	**17 22 11.2**	**-0.3**
	2.7nm,0.5s						
KTBS				Lg	Lg	17 22 38.5	
	26nm,0.6s						
KTBS	**Karatobe**	**2.12**	**289**	*e*Pg	**Pb**	**17 22 11.2**	**-0.3**
	2.7nm,0.2s						
KTBS				*e*Lg	Lg	17 22 38.5	
	25nm,0.5s						
MTBS	**Maitube**	**2.22**	**273**	Pg	**Pb**	**17 22 13.6**	**+0.4**
	1.5nm,0.2s						
MTBS				Lg	Lg	17 22 42.6	
	7.5nm,0.5s						
MTBS	**Maitube**	**2.22**	**273**	*e*Pg	**Pb**	**17 22 13.6**	**+0.4**
	1.5nm,0.2s						
MTBS				*e*Lg	Lg	17 22 42.6	
	7.5nm,0.2s						
KUU	**Kurty**	**2.41**	**291**	Pg	**Pb**	**17 22 15.9**	**-0.6**
	0.4nm,0.2s						
KUU				Lg	Lg	17 22 46.9	
	5.1nm,0.4s						
KUU	**Kurty**	**2.41**	**291**	*e*Pg	**Pb**	**17 22 15.9**	**-0.6**
	0.4nm,0.2s						
KUU				*e*Lg	Lg	17 22 46.9	
	5.1nm,0.4s						
ULHL	**Ulahol**	**2.51**	**252**	⇑*e*P	**Pn**	**17 22 15.4**	**+1.5**
	baz=52						
ULHL				⇑*i*S	**Sb**	**17 22 46.5**	**-2.6**
	baz=52						
KST	**Kastek**	**2.56**	**271**	Pg	**Pb**	**17 22 20.1**	**+1.1**
	1.5nm,0.5s						
KST				Lg	Lg	17 22 53.8	
	7.5nm,0.6s						
KST	**Kastek**	**2.56**	**271**	*e*Pg	**Pb**	**17 22 20.1**	**+1.1**
	1.5nm,0.2s						
KST				*e*Lg	Lg	17 22 53.8	
	7.0nm,0.4s						
BOOM	**Boomskoye usch**	**2.65**	**259**	⇑*e*P	**Pn**	**17 22 17.4**	**+1.6**
	baz=59						
BOOM				⇑*i*S	**Sn**	**17 22 49.6**	**+1.7**
	baz=59						
KRBS	**Karabastau**	**2.83**	**284**	Pg	**Pb**	**17 22 23.5**	**-0.1**
	0.9nm,0.6s						
KRBS				Lg	Lg	17 22 59.6	
	8.0nm,0.3s						
KRBS	**Karabastau**	**2.83**	**284**	*e*Pg	**Pb**	**17 22 23.5**	**-0.1**
	0.9nm,0.1s						
KRBS				*e*Lg	Lg	17 22 59.6	
	7.8nm,0.2s						

*MOS **28** 17:45:29.5±1.1, 36.°11N×70.°72E, h89km, mb5.5/59, MS4.0/5, Error ellipse: s-maj=4.1km s-min=3.1km az=98.8*
*BGR **28** 17:45:31.2, 35.°82N×70.°86E, h100km±1km, mb4.9*
*BJI **28** 17:45:31.8±0.0, 36.°25N×70.°73E, h96km, mb5.2/76, mB5.4/45*
*NEIC **28** 17:45:32.9, 36.°01N×70.°64E, h80km, Moment Tensor Solution. Duration: 29±1 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.74; $M_{\theta\theta}$=2.21; $M_{\phi\phi}$=0.53; $M_{r\theta}$=6.47; $M_{\theta\phi}$=-1.95; $M_{\phi r}$=-1.02; Fault plane solution: M_0=7.29000×10^{16} NP1: ϕ_s=281.20000°, δ=78.39000°, λ=-101.93000°. NP2: ϕ_s=147.59000°, δ=16.58000°, λ=-44.83000°. Principal axes: T 7.3634, Plg32.0000°, Azm21.0000°; N -0.1565, Plg12.0000°, Azm284.0000°; P -7.2069, Plg55.0000°, Azm176.0000°;*
*NEIC **28** 17:45:32.6±1.5, 36.°20N±0.°04×70.°66E±0.°07, h101km±4km, mb5.3/358, Mwr5.2/10, Mww5.2/12 Error ellipse: s-maj=8.2km s-min=6.3km az=91.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=1.64; $M_{\theta\theta}$=1.59; $M_{\phi\phi}$=0.05; $M_{r\theta}$=6.32; $M_{\theta\phi}$=0.05; $M_{\phi r}$=1.45; Fault plane solution: M_0=6.68000×10^{16} NP1:ϕ_s=77.43000°, δ=7.50000°, λ=-114.78000°. NP2:ϕ_s=282.40000°, δ=83.19000°, λ=-86.84000°. Principal axes: T 6.6076, Plg38.0000°, Azm10.0000°; N 0.1408, Plg3.0000°, Azm102.0000°; P -6.7484, Plg52.0000°, Azm196.0000°;*
*NEIC **28** 17:45:32.9, 36.°21N×70.°64E, h80km*
*GCMT **28** 17:45:33.6±0.2, 36.°21N±0.°01×70.°56E±0.°01, h114km±2km, MW5.2/134, Moment Tensor Solution. s61,c73; s134,c236; Duration: 19±0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.41±.02; $M_{\theta\theta}$=0.35±.03; $M_{\phi\phi}$=0.06±.02; $M_{r\theta}$=0.85±.01; $M_{\theta\phi}$=-0.12±.03; $M_{\phi r}$=0.00±.01; Best double couple: M_0=0.93600×10^{17} NP1:ϕ_s=272.00000°, δ=78.00000°, λ=-97.00000°. NP2:ϕ_s=122.00000°, δ=14.00000°, λ=-61.00000°. Principal axes: T 0.9090, Plg32.0000°, Azm8.0000°; N 0.0530, Plg7.0000°, Azm274.0000°; P -0.9620, Plg57.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **28** 17:45:33.3, 36.°20N×70.°59E, h101km*
*NNC **28** 17:45:34.5±2.4, 36.°46N×70.°35E, h106km±29km, mb5.3, mpv5.6, Error ellipse: s-maj=21.8km s-min=12.3km az=162.0*
*IDC **28** 17:45:35.7±1.6, 36.°07N×70.°63E, h135km±14km, mb4.8/39, mbtmp5.2/41, MS4.1/35, Error ellipse: s-maj=10.4km s-min=7.2km az=16.0*
ISC 28 17:45:32.2±0.2, 36.°17N±0.°02×70.°64E±0.°02, h104km±1km, h103km:pP-P, n1352, σ1.°69/1532, mb5.3/391, 82C-66D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.08**	**219**		**Pn**	**17 46 07.7**	**+1.5**
KBL				Sn	**Sn**	**17 46 33.4**	**+1.3**
KBL	**Kabul**	**2.08**	**219**	P	**Pn**	**17 46 07.9**	**+1.7**
	SNR=764						
KBL				S	**Sn**	**17 46 33.6**	**+1.5**
CEP	**Cherat**	**2.56**	**156**	P	**Pn**	**17 46 14.6**	**+2.3**
CEP				S	**Sn**	**17 46 45.0**	**+1.9**
CHCP	**Chirah Chowk**	**3.30**	**139**	P	**Pn**	**17 46 24.1**	**+2.0**
NIL	**Nilore**	**3.30**	**139**		**Pn**	**17 46 24.2**	**+2.1**
NIL				Sn	**Sn**	**17 47 00.6**	**0.0**
THW	**Thamme Wali**	**3.48**	**165**	P	**Pn**	**17 46 25.9**	**+1.4**
BTK	**Batken**	**3.89**	**2**	Pn	**Pn**	**17 46 31.5**	**+1.5**
BTK				Sn	**Sn**	**17 47 14.0**	**-0.7**
SARP	**Sargodha**	**4.56**	**158**	P	**Pn**	**17 46 39.3**	**+0.4**
JMU	**Jammu**	**4.92**	**133**	*e*P	**Pn**	**17 46 44.6**	**+0.8**
JMU				*e*S	**Sn**	**17 47 38.6**	**-1.0**
KSH	**Kashi**	**5.38**	**50**	P	**Pn**	**17 46 46.5**	**-3.7**
KSH				sP		17 47 09.0	
KSH				S	**Sn**	**17 47 43.3**	**-7.7**
THN	**Thein Dam**	**5.61**	**130**	*e*P	**Pn**	**17 46 54.5**	**+1.3**
THN				*e*S	**Sn**	**17 47 56.4**	**+0.1**
THN				IAML		17 48 00.1	
	comp=E,6μm,0.5s						
IUG	**Iuzhnay**	**5.99**	**356**	*e*P	**Pn**	**17 46 58.4**	**-0.1**
	baz=355						
IUG				*e*sP		17 47 23.2	
	baz=355						
IUG	**Iuzhnay**	**5.99**	**356**	*e*PN	**Pn**	**17 46 58.3**	**-0.1**
DHRM	**DHARAMSHALA**	**6.10**	**128**	*e*P	**Pn**	**17 47 00.8**	**+0.7**
DHRM				*e*S	**Sn**	**17 48 06.8**	**-1.9**
DHRM				IAML		17 48 10.9	
	comp=N,9μm,0.8s						
DHRM				IAML		17 48 12.1	
	comp=E,11μm,0.3s						
CHM	**Chimkent**	**6.20**	**353**	*e*P	**Pn**	**17 47 01.1**	**-0.1**
	baz=352						
CHM	**Chimkent**	**6.20**	**353**	*e*PN	**Pn**	**17 47 01.0**	**-0.1**
AML	**Almayashu**	**6.41**	**21**	P	**Pn**	**17 47 04.5**	**+0.2**
	SNR=1251						
AML	**Almayashu**	**6.41**	**21**	⇓P	**Pn**	**17 47 04.9**	**+0.5**
	comp=E,53nm,0.4s						
AML				⇑S	**Sn**	**17 48 14.3**	**-2.0**
	comp=E,2μm,1.1s						
NRN	**Naryn**	**6.72**	**37**		**Pn**	**17 47 07.6**	**-0.9**
NRN	**Naryn**	**6.72**	**37**	PN	**Pn**	**17 47 07.6**	**-0.9**
DZA	**Taraz**	**6.74**	**4**	*e*P	**Pn**	**17 47 08.4**	**0.0**
	baz=3.7						
DZA	**Taraz**	**6.74**	**4**	*e*PN	**Pn**	**17 47 08.4**	**0.0**
BHK	**Bhakra**	**6.75**	**133**	*e*P	**Pn**	**17 47 09.2**	**+0.6**
BHK				*e*S	**Sn**	**17 48 22.9**	**-1.1**
EKS2	**Erkin-Say**	**6.92**	**20**	P	**Pn**	**17 47 11.4**	**+0.4**
	SNR=185						
KK31	**Karatay Array**	**6.93**	**359**	⇑P	**Pn**	**17 47 10.6**	**-0.4**
	comp=E,239nm,0.3s,baz=171,slow=13,SNR=9429						
KK31				⇑S	**Sn**	**17 48 24.0**	**-4.3**
	comp=E,2μm,0.9s,baz=181,slow=35,SNR=6.1						
KK31	**Karatay Array**	**6.93**	**359**	Pn	**Pn**	**17 47 10.4**	**-0.6**
KK31				Sn	**Sn**	**17 48 23.3**	**-5.0**
KK31	**Karatay Array**	**6.93**	**359**	PN	**Pn**	**17 47 10.5**	**-0.6**
KKAR	**Karatay Array**	**6.93**	**359**		**Pn**	**17 47 10.5**	**-0.5**
KKAR	**Karatay Array**	**6.93**	**359**	Pn	**Pn**	**17 47 10.4**	**-0.7**
KKAR	**Karatay Array**	**6.93**	**359**	PN	**Pn**	**17 47 10.5**	**-0.5**
HRA	**Herat**	**7.09**	**258**	Pn	**Pn**	**17 47 13.7**	**+0.2**
AAK	**Ala-Archa**	**7.12**	**24**	P	**Pn**	**17 47 14.2**	**+0.4**
	SNR=225						
AAK	**Ala-Archa**	**7.12**	**24**	Pn	**Pn**	**17 47 14.1**	**+0.4**
AAK	**Ala-Archa**	**7.12**	**24**	*i* P	**Pn**	**17 47 13.5**	**-0.2**
	SNR=356						
AAK	**Ala-Archa**	**7.12**	**24**	P	**Pn**	**17 47 14.2**	**+0.4**
AAK				S	**Sn**	**17 48 32.7**	**-0.3**
AAK	**Ala-Archa**	**7.12**	**24**	PN	**Pn**	**17 47 14.1**	**+0.4**
AAK	**Ala-Archa**	**7.12**	**24**	P	**Pn**	**17 47 14.4**	**+0.6**
	comp=E,252nm,0.3s,baz=198,slow=7.3,SNR=256						
AAK				S	**Sn**	**17 48 32.6**	**-0.5**
	comp=E,2μm,0.8s,baz=264,slow=8.7,SNR=5.6						
KBK	**Karagaybulak**	**7.29**	**26**	P	**Pn**	**17 47 16.5**	**+0.4**
	SNR=99						
FRU1	**Bishkek**	**7.32**	**24**		**Pn**	**17 47 16.7**	**+0.4**
FRU1	**Bishkek**	**7.32**	**24**	PN	**Pn**	**17 47 16.7**	**+0.4**
ULHL	**Ulahol**	**7.46**	**34**	P	**Pn**	**17 47 18.6**	**+0.1**
	SNR=84						
CHMS	**Chumysh**	**7.52**	**24**	P	**Pn**	**17 47 19.7**	**+0.5**
	SNR=71						
CHMS	**Chumysh**	**7.52**	**24**	⇑P	**Pn**	**17 47 19.0**	**-0.1**
	comp=E,207nm,0.4s						
CHMS				⇑S	**Sn**	**17 48 41.2**	**-1.6**
	comp=E,5μm,1.1s						
BOOM	**Boomskoye usch**	**7.53**	**31**		**Pn**	**17 47 19.0**	**-0.4**
BOOM	**Boomskoye usch**	**7.53**	**31**	PN	**Pn**	**17 47 19.0**	**-0.4**
USP	**Ospenovka**	**7.69**	**22**	P	**Pn**	**17 47 21.5**	**+0.1**
	SNR=213						
TKM2	**Tokmak 2**	**7.75**	**28**	P	**Pn**	**17 47 22.8**	**+0.4**
	SNR=46						
TKM2	**Tokmak 2**	**7.75**	**28**	⇑P	**Pn**	**17 47 22.5**	**0.0**
	comp=E,75nm,0.3s						
TKM2				⇑S	**Sn**	**17 48 47.1**	**-1.6**
	comp=E,2μm,0.9s						
TKM2	**Tokmak 2**	**7.75**	**28**	PN	**Pn**	**17 47 22.4**	**0.0**
TARG	**Taragay, Kyrgy**	**7.87**	**43**		**Pn**	**17 47 22.3**	**-1.9**
TARG	**Taragay, Kyrgy**	**7.87**	**43**	PN	**Pn**	**17 47 22.3**	**-1.9**
SGDS	**Sogindy**	**7.90**	**22**	⇑*i*P	**Pn**	**17 47 23.4**	**-0.9**
	baz=21						
SGDS	**Sogindy**	**7.90**	**22**	*c i*PN	**Pn**	**17 47 23.3**	**-0.9**
TNSS	**Tian-Shan**	**8.41**	**33**	⇑*i*P	**Pn**	**17 47 30.9**	**-0.7**
	baz=33						
TNSS	**Tian-Shan**	**8.41**	**33**	⇑*i*PN	**Pn**	**17 47 30.8**	**-0.7**
KASK	**

baz=38
KPKS **Kokpek** 9.56 38*c iP* Pn 17 47 46.0 -0.8
SONA **Sohna** 9.59 144 *e*P Pn 17 47 46.2 -1.1
SONA *e*S Sn 17 49 26.2 -7.0
PDGK **Podgornoye** 9.87 41 ⇑P Pn 17 47 49.5 -1.7
comp=N,334nm,0.9s
PDGK **Podgornoye** 9.87 41 P Pn 17 47 49.4 -1.7
GEYT **Alibeck** 10.16 284 Pn Pn 17 47 50.8 -4.3
GEYT **Alibeck** 10.16 284 P Pn 17 47 50.8 -4.3
GEYT **Alibeck** 10.16 284 P Pn 17 47 51.7 -3.4
comp=N,32nm,0.3s,baz=96,slow=12,SNR=182
GEYT S Sn 17 49 39.7 -7.4
comp=N,128nm,0.4s,baz=116,slow=27,SNR=4.5
GEYT LR LR 17 52 40.5
comp=N,342nm,21.7s,baz=178,slow=42
GYA0B **ALIBECK ARRAY** 10.16 284 ⇑P Pn 17 47 52.6 -2.4
GYA0B ⇓S Sn 17 49 40.1 -7.0
GYA0B **ALIBECK ARRAY** 10.16 284 Pn Pn 17 47 50.6 -4.5
AJM **Ajmer** 10.24 159 *e*P Pn 17 47 55.2 -1.0
AJM IAML 17 49 53.2
comp=E,700nm,0.5s
PTH **Pithoragarh** 10.41 127 *e*P Pn 17 47 55.8 -2.7
PTH *e*S Sn 17 49 45.4 -7.9
LGTI **Lohaghat** 10.49 127 *e*P Pn 17 47 56.8 -2.7
LGTI *e*S Sn 17 49 46.3 -8.7
LGTI IAML 17 49 49.3
comp=N,1μm,0.7s
LGTI IAML 17 49 49.6
comp=E,620nm,0.5s
TDK **Taldyqorghan** 10.61 31⇑*i P* Pn 17 47 59.1 -2.0
baz=31
TDK **Taldyqorghan** 10.61 31*c i P* Pn 17 47 59.0 -2.0
OTUK **Ortayu** 12.13 5 ⇓P Pn 17 48 20.1 -1.3
comp=E,96nm,0.8s
BHUJ **Bhuj** 12.90 184 *e*P Pn 17 48 28.9 -2.7
BHUJ *e*S Sn 17 50 42.0 -12
PYUN **Piuthan** 13.19 124 *e*P Pn 17 48 32.4 -3.2
comp=E,213nm,0.3s
NGCH **Negor - Chabah** 13.51 220 P Pn 17 48 40.0 +0.4
SNR=9.0
NGCH S Sn 17 51 08.3 0.0
DANN **Dangsing** 13.55 121 *e*P Pn 17 48 37.0 -3.4
MAKZ **Makanchi** 13.59 35 ⇑P Pn 17 48 40.8 +0.2
comp=E,1μm,1.0s
MAKZ **Makanchi** 13.59 35 Pn Pn 17 48 39.8 -0.8
MAKZ **Makanchi** 13.59 35 P Pn 17 48 39.8 -0.8
MK31 **Makanchi Array** 13.73 36 ⇓P Pn 17 48 42.5 +0.1
comp=E,712nm,0.9s,baz=223,slow=13,SNR=42
MK31 **Makanchi Array** 13.73 36 Pn Pn 17 48 41.4 -0.9
MK31 **Makanchi Array** 13.73 36 P Pn 17 48 41.4 -0.9
MKAR **Makanchi Array** 13.73 36 Pn Pn 17 48 41.0 -1.4
MKAR **Makanchi Array** 13.73 36 *i P* Pn 17 48 43.0 +0.7
MKAR pmax pmax
comp=Z,69nm,0.7s
MKAR **Makanchi Array** 13.73 36 P Pn 17 48 40.8 -1.5
comp=Z,69nm,0.7s,baz=222,slow=16,SNR=55
BHPL **Bhopal** 14.16 154 *e*P Pn 17 48 45.9 -2.2
BHPL *e*S Sn 17 51 12.9 -11
VLK **Valmikinagar** 14.29 124 *e*P Pn 17 48 46.8 -2.9
VLK *e*S Sn 17 51 15.9 -11
GKN **Gorkha** 14.38 121 *e*P Pn 17 48 47.3 -3.6
comp=Z,373nm,0.6s
ALBI **Allahabad** 14.45 135 *e*P Pn 17 48 49.0 -2.7
ALBI IAML 17 51 26.0
comp=N,282nm,0.6s
DMN **Daman** 14.95 121 *e*P Pn 17 48 54.3 -4.0
comp=N,481nm,0.7s
DMN *e*S Sn 17 51 30.7 -13
JASK **Jask - Hormozg** 15.00 230 P Pn 17 48 58.1 -0.6
SNR=45
WMQ **Urumqi** 15.13 54 *e*P Pn 17 49 00.3 0.0
WMQ pP pP 17 49 13.5 -10
WMQ S Sn 17 51 43.0 -4.2
WMQ pmax pmax
comp=N,80nm,0.7s
WMQ pmax pmax
comp=N,580nm,3.9s
WMQ LR LR
comp=N,570nm,19.7s
PKIN **Phulchoki** 15.17 120 *e*P Pn 17 48 57.2 -3.9
comp=N,414nm,0.5s
PKI **Pulchoki** 15.18 120 *e*P Pn 17 48 57.2 -4.1
comp=N,438nm,0.7s
AB31 **Akbulak array** 15.24 332 ⇓P Pn 17 49 00.0 -1.6
comp=N,82nm,0.3s,baz=167,slow=11,SNR=5812
AB31 ⇓S Sn 17 51 41.9 -7.9
comp=N,557nm,0.8s,baz=153,slow=23,SNR=18
AB31 **Akbulak array** 15.24 332 P Pn 17 48 59.8 -1.8
ABKAR **Akbulak array** 15.24 332 Pn Pn 17 48 59.2 -2.4
ABKAR **Akbulak array** 15.24 332 Pn Pn 17 48 59.2 -2.4
GUN **Gumba** 15.31 118 *e*P Pn 17 48 58.3 -4.6
comp=N,115nm,0.3s
ZSN **Zaisan** 15.45 39 *e*P Pn 17 49 04.2 0.0
baz=38
ZSN *e*S Sn 17 51 55.1 +0.1
baz=38
ZSN **Zaisan** 15.45 39 *e*P Pn 17 49 04.2 0.0
ZSN *e*S Sn 17 51 55.0 +0.1
KURBB **Kurchatov Arra** 15.53 19 ⇑P Pn 17 49 03.8 -1.4
comp=N,457nm,0.8s
KURBB **Kurchatov Arra** 15.53 19 P Pn 17 49 01.6 -3.6
comp=N,19nm,0.6s,baz=210,slow=13,SNR=71
KURBB S S 17 52 02.8 -2.5
comp=N,17nm,0.9s,baz=172,slow=12,SNR=3.0
KURK **Kurchatov** 15.64 19 ⇑P Pn 17 49 02.6 -3.9
comp=N,388nm,0.9s
KURK **Kurchatov** 15.64 19 Pn Pn 17 49 03.3 -3.3
KURK **Kurchatov** 15.64 19 P Pn 17 49 03.4 -3.1
KURK P Pn 17 49 03.4 -3.1
KURK **Kurchatov** 15.64 19 P Pn 17 49 03.3 -3.3
JIRN **Jiri** 15.68 118 *e*P Pn 17 49 03.3 -4.3
comp=N,414nm,0.5s
SEM **Semipalatinsk** 15.84 23 *e*P Pn 17 49 08.5 -0.8
baz=23
SEM **Semipalatinsk** 15.84 23 *e*P Pn 17 49 08.5 -0.8
SHME **Shamm** 15.98 235 *i P* Pn 17 49 10.7 -0.3
SNR=49
SHME **Shamm** 15.98 235 P Pn 17 49 10.6 -0.4
SNR=49
SHME P Pn 17 49 10.6 -0.4
SNR=49
SHME S Sn 17 52 10.6 +2.7
SHME S Sn 17 52 10.6 +2.7
AKL **Akola** 16.39 158 *e*P Pn 17 49 15.7 -0.4
AKL *e*S Sn 17 52 04.4 -13
AKL IAML 17 52 07.8
comp=E,654nm,1.5s
AKL IAML 17 52 08.3
comp=N,501nm,1.2s
MDH **Madha** 16.39 233 *i P* Pn 17 49 15.7 -0.4
SNR=34
MDH **Madha** 16.39 233 P Pn 17 49 16.1 0.0
SNR=39
MDH S Sn 17 52 17.1 -0.9
RAMN **Ramite** 16.40 120 *e*P Pn 17 49 12.5 -3.9
comp=N,253nm,0.6s
MASF **Masafi** 16.43 233 P P 17 49 17.9 +0.3
SNR=116
MASF S Sn 17 52 20.1 +1.1
MSFE **Esma-Masafi** 16.44 233 *i P* P 17 49 17.9 +0.2
SNR=116
WSAR **Wadi Sarin** 16.56 222 P Pn 17 49 18.5 +0.4
SNR=131
WSAR S Sn 17 52 22.1 +0.1
WSAR **Wadi Sarin** 16.56 222 P Pn 17 49 18.0 -0.1
comp=N,239nm,1.1s,baz=66,slow=10,SNR=70
WSAR S Sn 17 52 12.8 -9.1
comp=N,8.0nm,0.7s,baz=336,slow=20,SNR=0.9
WSAR ScP ScP 17 57 24.4 -3.5
comp=N,6.6nm,0.8s,baz=315,slow=10.0,SNR=4.3
WSAR LR LR 17 57 45.3
comp=N,368nm,20.4s,baz=90,slow=44
BIDO **Bidbid** 16.61 224 P Pn 17 49 18.6 -0.2
SNR=10
UMQ **Umm Al-Quwin** 16.65 235 P P 17 49 21.1 +1.2
SNR=6.6
UMQ S S 17 52 27.9 -0.6
UOSS **Minazif** 16.70 232 Pn 17 49 18.4 -1.6
UOSS **Minazif** 16.70 232 *i P* Pn 17 49 19.5 -0.4
SNR=40
UOSS **Minazif** 16.70 232 P P 17 49 20.8 +0.3
UOSS S S 17 52 27.6 -2.0
HATD **Hatta, Dubai** 16.83 232 *i P* P 17 49 21.8 -0.1
SNR=27
HATD **Hatta, Dubai** 16.83 232 P P 17 49 23.2 +1.3
SNR=27
HATD S S 17 52 31.6 -0.7
BVA0 **Borovoye Array** 16.86 359 P Pn 17 49 20.4 -1.2
comp=N,251nm,0.9s,baz=165,slow=12,SNR=658
BVAR **Borovoye Array** 16.86 359 P Pn 17 49 21.6 0.0
comp=N,40nm,0.4s,baz=170,slow=11,SNR=112
BVAR S Sn 17 52 17.4 -11
comp=N,49nm,0.8s,baz=171,slow=19,SNR=3.2
BVAR LR LR 17 56 06.4
comp=N,1μm,20.4s,baz=196,slow=37
WBK **Wadi Bani Khal** 16.89 220 P P 17 49 23.4 +0.8
SNR=94
WBK P P 17 49 23.4 +0.8
SNR=94
BRVK **Borovoye** 16.89 359 ⇑P Pn 17 49 21.7 -0.3
comp=N,75nm,0.6s
BRVK **Borovoye** 16.89 359 Pn 17 49 20.1 -1.9
BRVK **Borovoye** 16.89 359 P Pn 17 49 21.0 -1.0
BRVK S S 17 52 31.6 -1.5
BRVK **Borovoye** 16.89 359*c e*P Pn 17 49 20.3 -1.7
BRVK pmax pmax
comp=Z,309nm,1.3s
AKTO **Aktyubinsk** 16.93 331 ⇑P Pn 17 49 22.3 -0.2
comp=Z,17nm,0.4s
AKTO ⇑S Sn 17 52 25.3 -5.2
comp=Z,580nm,1.0s
AKTO **Aktyubinsk** 16.93 331 P P 17 49 23.0 +0.2
comp=Z,175nm,0.6s,baz=138,slow=12,SNR=146
AKTO S Sn 17 52 17.3 -13
comp=Z,321nm,0.9s,baz=66,slow=20,SNR=8.2
TAPN **Taplejung** 16.95 116 *e*P Pn 17 49 18.7 -4.6
comp=Z,719nm,0.8s
ASHO **Ashiyiah** 16.98 232 *i* P P 17 49 24.1 +0.4
SNR=84
ASHO **Ashiyiah** 16.98 232 P P 17 49 25.0 +1.4
SNR=63
ASHO S S 17 52 36.9 +1.5
NAZ **Nazwa, Dubai** 17.02 233 *i* P P 17 49 24.5 +0.5
SNR=29
NAZ **Nazwa, Dubai** 17.02 233 P P 17 49 25.7 +1.7
SNR=30
NAZ S S 17 52 38.3 +2.2
SMDO **Samad** 17.02 223 P P 17 49 24.8 +0.6
SNR=48
HOQ **Hoqain** 17.03 226 P Pn 17 49 24.0 0.0
SNR=31
JLN **Jalan Bani Buh** 17.05 218 P P 17 49 25.1 +0.8
SNR=105
SOHO **SOHO** 17.08 229 *i* P Pn 17 49 23.2 -1.4
SNR=22
SOHO **SOHO** 17.08 229 P Pn 17 49 24.6 0.0
SOHO S S 17 52 37.4 0.0
FAQ **Al Faqa, Dubai** 17.24 233 *i* P Pn 17 49 26.7 +0.3
SNR=31
FAQ **Al Faqa, Dubai** 17.24 233 P Pn 17 49 27.3 +0.9
SNR=35
FAQ S Sn 17 52 39.0 +0.7
ASUD **Al Ashush, Dub** 17.49 233 *i* P Pn 17 49 30.3 +0.8
SNR=24
ASUD **Al Ashush, Dub** 17.49 233 P Pn 17 49 31.2 +1.7
SNR=14
ASUD P Pn 17 49 31.2 +1.7
SNR=14
ASUD S Sn 17 52 44.3 0.0
ASUD S Sn 17 52 44.3 0.0
JMDO **Jabal Madar** 17.54 222 P Pn 17 49 32.8 +2.6
SNR=83
JMDO S S 17 52 49.1 +2.3
GTK **Tadong** 17.62 115 *e*P P 17 49 28.6 -2.1
GTK IAmb IAmb 17 49 42.7
comp=Z,142nm,0.9s
ALNE **Al Ain** 17.63 231 *i* P Pn 17 49 31.5 +0.4
SNR=32
ALNE **Al Ain** 17.63 231 P Pn 17 49 32.0 +0.8
SNR=54
ARQ **Araqi** 17.69 228 P Pn 17 49 33.4 +1.4
SNR=82
ARQ S Sn 17 52 49.2 +0.1
BSY **Bisya** 17.75 225 P Pn 17 49 34.3 +1.6
SNR=94
BSY S S 17 52 52.6 +1.6
AJN **Ajban** 17.76 234 *i* P P 17 49 32.5 +0.4
SNR=12
AJN **Ajban** 17.76 234 P Pn 17 49 33.1 +0.3
SNR=14
AJN P Pn 17 49 33.1 +0.3
SNR=14
AJN S Sn 17 52 50.6 -0.1
AJN S Sn 17 52 50.6 -0.1
POO **Poona** 17.80 170 *e*P Pn 17 49 34.6 +1.4
BOK **Bokaro** 18.04 129 *e*P P 17 49 35.2 -0.1
BOK *e*S S 17 52 43.0 -14
DGZ **Jazzator, Alta** 18.22 37 *i* P P 17 49 36.5 -0.7
LSA **Lhasa** 18.37 105 Pn 17 49 40.0 -0.5
LSA **Lhasa** 18.37 105 P Pn 17 49 40.4 -0.2
LSA **Lhasa** 18.37 105 P Pn 17 49 40.0 -0.5
MHTO **MHTO** 18.75 220 P Pn 17 49 45.3 +0.7
SNR=136
MHTO S S 17 53 12.8 +1.8
JRN **Qarnain Island** 18.94 239 P P 17 49 44.5 -0.5
SNR=17
JRN S S 17 53 16.4 +1.7
MAK **Makhachkala** 19.05 298*c i* P P 17 49 46.3 +0.2
MAK *e*S S 17 53 18.0 +1.3
MAK pmax pmax
comp=Z,190nm,0.8s
MAK MLR MLR
comp=Z,564nm,10.0s
DHUB **DHUBRI** 19.39 116 *e*P Pn 17 49 59.1 +7.1
DHUB IAmb IAmb 17 50 01.4
comp=Z,251nm,0.8s
GOMU **GeErMu** 19.51 83 P Pn 17 49 53.3 -0.5
GOMU pP pP 17 50 07.8 -4.5
GOMU S S 17 53 18.8 -7.8
GOMU pmax pmax
comp=Z,28nm,1.0s
SHMA **Al-Shehemyia** 19.71 244 P P 17 49 52.9 -0.5
SNR=20
SHMA S S 17 53 31.0 +0.8
MZR **Muzera** 19.83 233 *i* P P 17 49 54.4 -0.4
SNR=30
MZR **Muzera** 19.83 233 P P 17 49 54.7 0.0
SNR=80
HYB **Hyderabad** 19.95 157 *e*P Pn 17 49 57.6 -1.2
HYB IVmB_BB 17 49 58.0
comp=Z,3μm,1.3s
HYB *e*pP pP 17 50 23.0 +6.5
HYB *e*sP sP 17 50 35.2 +5.2
HYB *e*S S 17 53 36.7 +1.8
HYB IVMs_BB IVMs_BB 17 56 37.1
comp=Z,1μm,4.1s
SAKB **Bahrain** 19.96 245 P P 17 49 55.5 -0.6
SAKB S S 17 53 34.1 -0.9
GROC **Groznyy** 20.33 298 *e*P Pn 17 50 02.2 -0.7
GROC *e**PP pP 17 50 21.3 +1.4
GROC *e**SP sP 17 50 33.9 +0.9
GROC *e*S Sn 17 53 47.1 -5.0
GROC *e**SS sS 17 54 18.2 +1.8
GROC pmax pmax
comp=Z,363nm,1.0s
ZAA0 **Zalesovo Array** 20.34 25 ⇑P P 17 50 00.5 +0.6
comp=Z,212nm,1.1s
ZAA0 **Zalesovo Array** 20.34 25 P P 17 49 59.6 -0.3
ZALV **Zalesovo Beam** 20.34 25 P P 17 50 00.4 +0.5
comp=Z,617nm,0.3s,baz=216,slow=10,SNR=810
SMRA **Abu-Samra** 20.49 242 P P 17 50 01.2 -0.6
SNR=35
GNI **Garni** 20.72 289 Pn 17 50 06.8 -1.0
GNI **Garni** 20.72 289 P Pn 17 50 07.4 -0.3
GNI **Garni** 20.72 289 P Pn 17 50 06.8 -0.9
GNI **Garni** 20.72 289 P P 17 50 05.9 +1.4
comp=Z,321nm,0.8s,baz=12,slow=2.8,SNR=103
comp=Z,321nm,0.8s
SHL **Shillong** 21.03 114 P P 17 50 08.6 +0.8
SHL **Shillong** 21.03 114 P P 17 50 08.8 +1.0
SNR=236
SHL **Shillong** 21.03 114 P P 17 50 08.6 +0.8
ZEI **Tsey** 21.62 296 *e*P P 17 50 14.1 +0.1
ZEI pmax pmax
comp=Z,135nm,1.5s
SVE **Sverdlovsk** 21.74 345*d iP* P 17 50 16.3 +1.4
SVE *e*S S 17 54 10.2 +1.1
SVE pmax pmax
comp=Z,470nm,1.2s
AKH **Akhalkalaki** 21.76 292 P P 17 50 17.4 +1.9
AKH **Akhalkalaki** 21.76 292 P P 17 50 17.4 +1.9
ARU **Arti** 21.86 342 P P 17 50 17.1 +1.0
ARU **Arti** 21.86 342*c iP* P 17 50 17.2 +1.0
ARU 17 50 48.1
ARU S S 17 54 13.4 +2.1
ARU *SS sS 17 54 43.8 -2.9
ARU SS SnSn 17 54 55.3 +9.0
ARU pmax pmax
comp=Z,837nm,1.0s
ARU **Arti** 21.86 342 P P 17 50 17.4 +1.2
comp=Z,451nm,0.9s,baz=155,slow=7,9,SNR=156
ARU S S 17 54 08.6 -2.7
comp=Z,13nm,0.5s,baz=165,slow=20,SNR=1.5
ARU LR LR 17 59 40.2
comp=Z,1μm,19.1s,baz=162,slow=38
comp=Z,451nm,0.9s
ONI **Oni** 21.92 295 P P 17 50 18.9 +1.8
ONI **Oni** 21.92 295 P P 17 50 18.9 +1.8
NCK **Nalchik** 21.96 298 *i* P P 17 50 18.7 +1.3
NCK pmax pmax
comp=Z,148nm,0.8s
KARS **Kars** 22.02 290 P P 17 50 18.8 +0.6
KARS **Kars** 22.02 290 P P 17 50 18.8 +0.6
SHAO **Shalim** 22.43 220 *i* P P 17 50 22.8 +0.3
SNR=17
SHAO **Shalim** 22.43 220 P P 17 50 23.8 +1.4
SNR=14
SHAO S S 17 54 23.0 +1.3
KBZ **Khabaz** 22.50 298 P P 17 50 23.3 +0.4
comp=Z,44nm,0.8s,baz=114,slow=6.8,SNR=48
comp=Z,44nm,0.8s
SIRT **Sirnak** 22.58 282 P P 17 50 25.1 +1.0
BRDH **Bariadhala** 22.64 121 P P 17 50 25.9 +1.4
comp=Z,146nm,0.4s,baz=269,slow=0.6,SNR=14
comp=Z,146nm,0.4s
GOF **Gofitskoye** 22.67 302*c iP* P 17 50 27.0 +2.3
GOF *e*S S 17 54 31.1 +6.0
KVAR **Kislovodsk Arr** 22.68 299 S S 17 54 20.9 -4.7
comp=Z,25nm,1.0s,baz=90,slow=7.1,SNR=1.3
KIV **Kislovodsk** 22.69 299 P P 17 50 25.4 +0.3
KIV **Kislovodsk** 22.69 299 *i* P P 17 50 25.3 +0.2
SNR=10
KIV **Kislovodsk** 22.69 299 P P 17 50 25.9 +0.8
KIV S S 17 54 28.0 +2.3
KIV **Kislovodsk** 22.69 299 *e*P P 17 50 25.8 +0.8
KIV *e*S S 17 54 27.9 +2.3
KIV pmax pmax
comp=Z,79nm,1.0s
KIV MLR MLR
comp=Z,267nm,14.0s
DOK **Doka** 22.75 224 P P 17 50 26.2 +0.4
SNR=61
DOK P P 17 50 26.2 +0.4
SNR=61
DOK S S 17 54 26.1 -0.7
DOK S S 17 54 26.1 -0.7
GURO **Guroymak-BITLI** 22.83 285 P P 17 50 28.3 +1.7
BELG **Belogornoye** 22.97 322 P P 17 50 28.6 +1.0
comp=Z,465nm,1.0s,baz=93,slow=0.5,SNR=57
BELG S S 17 54 28.9 -0.8
comp=Z,32nm,0.8s,baz=177,slow=17,SNR=1.2
comp=Z,465nm,1.0s
DMTO **DMTO** 23.04 221 P P 17 50 29.2 +0.7
SNR=11
DMTO S S 17 54 36.3 +5.0
GTA **Gaotai** 23.24 73 ⇓P P 17 50 32.5 +2.1
GTA pP pP 17 50 55.5 +2.7
GTA S S 17 54 37.3 +2.8
GTA pmax pmax
comp=Z,89nm,0.7s
GTA pmax pmax
comp=Z,470nm,4.0s
GTA LR LR
comp=Z,600nm,16.7s
GTA LR LR
comp=Z,430nm,14.9s
GTA LR LR
comp=Z,480nm,16.7s
WHFO **Wadi Hawf** 23.52 224 P P 17 50 33.4 +0.4
SNR=54
WHFO S S 17 54 42.2 +3.1
RBK **Rabkut** 23.61 222 P P 17 50 34.3 +0.4
SNR=21
RBK S S 17 54 39.4 -1.3
ABTO **Aybut** 24.24 224 P P 17 50 40.0 +0.4
SNR=107
ABTO S S 17 54 53.5 +2.7
SOC **Sochi** 24.76 297 *e*P P 17 50 45.0 +1.0
SOC *e*S S 17 55 02.5 +3.8
SOC pmax pmax
comp=Z,51nm,0.7s
SOC MLR MLR
comp=Z,179nm,16.0s
VRH **Novokhopyorsk** 25.54 315 *e*P P 17 50 50.5 -0.4
VRH *e**PP pP 17 51 10.3 -3.9
VRH *e*S S 17 55 15.2 +4.4
VRH pmax pmax
comp=Z,60nm,0.8s
VRH smax smax
comp=N,350nm,5.2s
MND **Mandalay** 26.25 116 P P 17 50 58.6 +0.9
TNCH **TengChong** 26.35 107 ⇓P P 17 51 00.3 +1.5
TNCH pP pP 17 51 23.0 +0.5
TNCH S S 17 55 23.0 -1.5
TNCH sS sS 17 56 03.0 -3.6
TNCH ScP ScP 17 57 50.5 -2.0
TNCH pmax pmax
comp=N,83nm,1.3s
TNCH pmax pmax
comp=N,250nm,4.7s
KIRV **Kirov** 26.42 335 P P 17 51 00.8 +2.1
comp=N,184nm,0.7s,baz=128,slow=4.3,SNR=74
comp=N,184nm,0.7s
ANN **Anapa** 26.54 299 *e*P P 17 51 00.7 +0.6
ANN *e**PP pP 17 51 25.0 +1.6
ANN *e* 17 51 46.9
ANN *e*S S 17 55 29.7 +3.0
ANN pmax pmax
comp=Z,59nm,0.9s
ANN MLR MLR
comp=Z,723nm,18.0s
MOY **Mondy** 26.55 45 *e*P P 17 51 03.3 +3.1
MOY pmax pmax
comp=Z,145nm,1.5s
LZH **Lanzhou** 26.75 80 *e*P P 17 51 04.5 +2.2
LZH pP pP 17 51 28.0 +1.6
LZH sP sP 17 51 39.8 +0.8
LZH PP PnPn 17 51 55.3 +5.5
LZH S S 17 55 33.8 +3.2
LZH sS sS 17 56 05.0 -7.7
LZH SS SnSn 17 56 50.3 +4.5
LZH pmax pmax
comp=Z,86nm,1.2s
LZH pmax pmax
comp=Z,450nm,5.2s
LZH LR LR
comp=Z,690nm,14.4s
LZH LR LR
comp=Z,640nm,17.5s
LZH LR LR
comp=Z,480nm,15.8s
GAZ **Gaziantep** 26.76 282 P P 17 51 03.0 +0.8
GAZ IAmb IAmb 17 51 31.8
comp=Z,91nm,1.5s
VORD **Divnogorie** 26.86 313 *e*P P 17 51 02.6 -0.2
VORD *e**PP pP 17 51 25.7 -0.5
VSR **Storozhevoye** 27.02 314 *e*P P 17 51 03.7 -0.6
VSR *e**PP pP 17 51 25.7 -2.0
VSR pmax pmax
comp=Z,40nm,0.6s
VORR **Voronezh** 27.17 315 *e*P P 17 51 07.2 +1.6
VORR pmax pmax
comp=Z,81nm,1.1s
ZAK **Zakamensk** 27.43 49 *e*P P 17 51 09.9 +1.8
ZAK pmax pmax
comp=Z,36nm,1.5s
BNN **Bunyan** 27.63 286 P P 17 51 10.3 +0.2
BNN IAmb IAmb 17 52 07.2
comp=Z,57nm,1.0s
LPSR **Galich'ya Gora** 27.69 316 *e*P P 17 51 09.7 -0.6
LPSR *e**PP pP 17 51 33.7 0.0
LPSR pmax pmax
comp=Z,90nm,0.8s
MNCI **Minicoy** 27.84 175 P P 17 51 13.3 +1.4
CD2 **Chengdu** 28.01 91 P P 17 51 15.8 +2.3

CD2 pmax pmax
comp=Z,40nm,0.5s
ASF Jabal al Asfar 28.12 272 P P 17 51 16.3 +1.9
comp=Z,6.8nm,1.0s,baz=344,slow=4.8,SNR=4.5
comp=Z,6.8nm,1.0s
PZH PanZhiHua 28.16 101 P P 17 51 16.3 +1.4
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,170nm,4.9s
IRK Irkutsk 28.64 45 eP P 17 51 20.6 +1.8
IRK pmax pmax
comp=E,107nm,1.7s
SONM Songino Array 28.76 55 P P 17 51 21.6 +1.5
SONM Songino Array 28.76 55 P P 17 51 22.3 +2.3
comp=E,24nm,0.8s,baz=258,slow=9.1,SNR=78
SONM LR LR 18 04 48.6
comp=E,448nm,21.2s,baz=283,slow=40
comp=E,24nm,0.8s
SIM Simferopol' 28.90 299 eP P 17 51 21.0 -0.1
SIM pmax pmax
comp=Z,210nm,1.1s
MMAI Mount Meron Ar 29.08 274 P P 17 51 23.9 +1.0
comp=Z,2.1nm,0.5s,baz=73,slow=11,SNR=5.3
MMAI PcP **PcP 17 54 27.3 -1.3**
comp=Z,1.3nm,0.5s,baz=95,slow=1.6,SNR=4.8
MMAI LR LR 18 05 14.3
comp=Z,164nm,20.0s,baz=23,slow=40
comp=Z,2.1nm,0.5s
ULN Ulaanbaatar 29.20 55 P P 17 51 25.4 +1.4
ULN Ulaanbaatar 29.20 55 P P 17 51 26.1 +2.1
ULN Ulaanbaatar 29.20 55 ⇑P P 17 51 25.6 +1.6
BR131 Keskin Array S 29.26 288 P P 17 51 25.8 +1.2
SNR=7.5
BR131 Keskin Array S 29.26 288 *d iP* **P 17 51 25.3 +0.7**
BRTR Keskin Array B 29.26 288 P P 17 51 25.6 +1.0
comp=Z,6.7nm,0.7s,baz=95,slow=8.4,SNR=34
comp=Z,6.7nm,0.7s
HMDM Hanimaadhoo 29.35 175 P P 17 51 26.4 +1.1
HMDM Hanimaadhoo 29.35 175 P P 17 51 24.8 -0.4
GHAJ Ghor Haditha 29.47 271 P P 17 51 27.8 +1.5
KMI Kunming 29.60 103 ⇓P P 17 51 29.0 +1.2
KMI sP sP 17 52 08.5 +3.9
KMI pmax pmax
comp=Z,21nm,1.5s
MOS Moscow 29.74 322 *eP* **P 17 51 29.5 +1.1**
MOS *e**PP **pP 17 51 52.2 +0.3**
MOS *e* 17 52 28.0
MOS *e*S **S 17 56 17.2 +0.4**
MOS *e**SS **sS 17 56 57.4 -1.6**
MOS *e*SS **ScP 17 58 03.7 +1.6**
MOS pmax pmax
comp=Z,197nm,1.2s
MOS pmax pmax
comp=N,45nm,0.7s
MOS pmax pmax
comp=E,133nm,1.1s
ANTO Ankara 29.90 289 P P 17 51 30.9 +0.8
ANTO IAmb IAmb 17 52 10.4
comp=Z,74nm,1.7s
ANTO Ankara 29.90 289 P P 17 51 30.9 +0.8
ANTO pmax pmax
comp=Z,74nm,1.7s
PRGR Permogore 29.96 336 ⇑*iP* **P 17 51 31.8 +1.6**
PRGR *e* 17 52 32.9
PRGR pmax pmax
comp=Z,185nm,0.9s
OBN Obninsk 30.00 320 P P 17 51 31.3 +0.6
OBN Obninsk 30.00 320 *c iP* **P 17 51 31.6 +0.9**
OBN *e**PP **pP 17 51 56.2 +1.7**
OBN *e* 17 52 34.8
OBN pmax pmax
comp=Z,227nm,1.3s
OBN Obninsk 30.00 320 P P 17 51 32.1 +1.4
comp=Z,64nm,0.5s,baz=69,slow=3.0,SNR=26
OBN LR LR 18 06 17.2
comp=Z,361nm,18.4s,baz=170,slow=41
comp=Z,64nm,0.5s
PALK Pallekele 30.20 160 P P 17 51 34.3 +1.4
PALK IAmb IAmb 17 51 35.5
comp=Z,71nm,1.1s
PALK Pallekele 30.20 160 P P 17 51 33.8 +1.0
PALK Pallekele 30.20 160 P P 17 51 34.3 +1.4
PALK pmax pmax
comp=Z,71nm,1.1s
PALK Pallekele 30.20 160 LR LR 18 04 01.8
comp=Z,340nm,22.0s,baz=82,slow=37
PALK Pallekele 30.20 160 P P 17 51 34.5 +1.7
CHTO Chiang Mai 30.32 117 P P 17 51 34.5 +0.5
CHTO Chiang Mai 30.32 117 P P 17 51 34.5 +0.5
CHTO pmax pmax
comp=Z,25nm,0.9s
CHTO Chiang Mai 30.32 117 P P 17 51 35.9 +1.9
CHTO ScP **ScP 17 58 01.9 -2.7**
CRAI Chiangrai 30.48 113 P P 17 51 36.2 +0.9
CRAI IAmb IAmb 17 51 37.9
comp=Z,36nm,0.9s
EIL Elat 30.53 268 P P 17 51 37.0 +1.3
comp=Z,31nm,1.0s,baz=69,slow=3.8,SNR=19
EIL LR LR 18 05 29.8
comp=Z,218nm,19.6s,baz=66,slow=39
comp=Z,31nm,1.0s
CM31 Chiang Mai Arr 30.55 118 P P 17 51 36.8 +0.8
CM31 IAmb IAmb 17 52 38.8
comp=Z,61nm,1.1s
CM31 Chiang Mai Arr 30.55 118 P P 17 51 37.4 +1.5
SNR=21
CMAR Chiang Mai Arr 30.55 118 P P 17 51 36.6 +0.7
CMAR Chiang Mai Arr 30.55 118 P P 17 51 37.1 +1.2
comp=Z,26nm,0.9s,baz=296,slow=7.8,SNR=135
CMAR ScP **ScP 17 58 02.4 -3.1**
comp=Z,3.7nm,0.9s,baz=294,slow=4.6,SNR=7.4
comp=Z,26nm,0.9s
BTO Baotou 31.00 70 *eP* **P 17 51 40.5 +0.6**
BTO pP **pP 17 52 04.5 +0.2**
BTO sP **sP 17 52 18.5 +1.7**
BTO PP **PnPn 17 52 44.8 -0.4**
BTO PcP **PcP 17 54 34.5 +1.1**
BTO S **S 17 56 38.0 +0.8**
BTO SS **SnSn 17 58 25.8 -3.0**
BTO pmax pmax
comp=Z,100nm,0.8s
BTO pmax pmax
comp=Z,640nm,4.4s
BTO LR LR
comp=Z,1μm,5.3s
BTO LR LR
comp=Z,800nm,6.5s
BTO LR LR
comp=Z,1μm,16.2s
MDUB Mudurnu 31.06 290 P P 17 51 40.4 0.0
XAN Xi'an 31.26 82 ⇑P P 17 51 43.5 +1.4
XAN pP pP 17 52 08.8 +2.2
XAN S **S 17 56 43.5 +2.3**
XAN pmax pmax
comp=Z,51nm,0.8s
XAN pmax pmax
comp=Z,580nm,7.9s
PBA Port Blair 31.52 135 P P 17 51 46.0 +1.5
PBA Port Blair 31.52 135 P P 17 51 46.4 +1.9
KLMR Klimovskoe 31.63 331 *eP* **P 17 51 43.7 -1.3**
KLMR AMP 17 51 48.2
comp=Z,251nm,1.4s
KLMR *e* 17 57 49.4
KLMR Klimovskoe 31.63 331 *eP* **P 17 51 43.6 -1.4**
KLMR pmax pmax
comp=Z,251nm,1.4s
GYA Guiyang 32.11 97 ⇑P P 17 51 51.5 +1.8
GYA pmax pmax
comp=Z,45nm,0.8s
HHC Hu-ho-hao-te 32.15 69 *eP* **P 17 51 53.5 +3.5**
HHC S **S 17 56 56.3 +1.2**
HHC SS **SnSn 17 58 55.5 -1.1**
HHC pmax pmax
comp=Z,80nm,0.9s
HHC pmax pmax
comp=Z,440nm,4.8s
HHC LR LR
comp=Z,1μm,13.7s
HHC LR LR
comp=Z,920nm,12.7s
HHC LR LR
comp=Z,910nm,12.8s
SLVN Son La 32.51 108 P P 17 51 54.2 +1.0
SLVN IAmb IAmb 17 51 56.6
comp=Z,46nm,1.2s
ELL Elmali 32.59 283 P P 17 51 52.8 -1.1
ELL Elmali 32.59 283 P P 17 51 52.8 -1.1
ELL pmax pmax
comp=Z,220nm,1.0s
MILM Milestii Mici 32.74 302 ⇑P P 17 51 54.1 -0.8
MILM Milestii Mici 32.74 302 ⇑P P 17 51 54.1 -0.8
KIS Kishinev 32.74 302 *eP* **P 17 51 57.0 +2.1**
comp=Z,60nm,0.8s
KIS Kishinev 32.74 302 *eP* **P 17 51 57.0 +2.1**
KIS pmax pmax
comp=Z,60nm,0.8s
AKASG Malin Array Be 32.93 309 P P 17 51 56.5 0.0
AKASG Malin Array Be 32.93 309 P P 17 51 57.8 +1.3
comp=Z,21nm,0.7s,baz=83,slow=7.2,SNR=110
AKASG ScP **ScP 17 58 10.1 -2.9**
comp=Z,3.4nm,0.7s,baz=75,slow=3.8,SNR=4.9
AKASG LR LR 18 07 15.1
comp=Z,197nm,19.6s,baz=106,slow=39
comp=Z,21nm,0.7s
AKBB Malin Array Si 32.93 309 P P 17 51 56.7 +0.3
AKBB IAmb IAmb 17 51 58.8
comp=Z,39nm,0.7s
AKBB Malin Array Si 32.93 309 *ceP* **P 17 51 56.8 +0.3**
AKBB pmax pmax
comp=Z,42nm,0.8s
TPGR Topolog 32.94 298 ⇓P P 17 51 59.1 +2.4
TIRR Tirgusor 32.95 298 P P 17 51 57.8 +1.1
TIRR Tirgusor 32.95 298 P P 17 51 57.8 +1.1
TIRR pmax pmax
comp=Z,212nm,1.7s
CFR Carcaliu 33.15 299 ⇑P P 17 51 59.5 +1.1
CFR Carcaliu 33.15 299 ⇑P P 17 51 59.5 +1.1
SORM Soroca 33.15 304 ⇑P P 17 51 58.7 +0.3
SORM Soroca 33.15 304 ⇑P P 17 51 58.7 +0.3
VLDR Vladesti 33.20 300 ⇓P P 17 52 00.8 +2.0
TIY Taiyuan 33.24 75 ⇑P P 17 52 01.8 +2.3
TIY pP **pP 17 52 26.0 +2.0**
TIY pmax pmax
comp=Z,42nm,0.6s
SCTR Scanteiesti 33.25 300 ⇓P P 17 52 01.8 +2.4
SRDT SRDT 33.48 123 P P 17 52 03.1 +1.5
PANC Panciu 33.85 300 ⇓P P 17 52 07.2 +2.6
NONG Nongkai 33.87 113 P P 17 52 05.7 +0.7
LYN LuoYang 33.96 80 ⇓P P 17 52 08.0 +2.3
LYN pP pP 17 52 34.3 +4.0
LYN sP sP 17 52 44.0 +1.3
LYN PP **PP 17 53 24.3 -0.1**
LYN S **S 17 57 27.8 +4.8**
LYN pmax pmax
comp=Z,46nm,0.7s
LYN pmax pmax
comp=Z,450nm,4.9s
ADZR Andozero 33.99 335 *eP* **P 17 52 07.5 +2.0**
ADZR *e**PP **pP 17 52 28.5 -0.9**
ADZR pmax pmax
comp=Z,91nm,0.8s
CIT Chita 34.09 49 *eP* **P 17 52 08.0 +1.4**
CIT *e* 17 52 27.2
CIT *e* 17 52 42.6
CIT *e* 17 53 20.8
CIT *e* 17 57 27.2
CIT *e* 17 58 05.0
CIT pmax pmax
comp=Z,173nm,1.5s
ARG Arkhangelos 34.11 283 P P 17 52 07.1 +0.2
ARG Arkhangelos 34.11 283 P P 17 52 07.1 +0.2
ARG pmax pmax
comp=Z,117nm,1.2s
VRI Vrincioaia 34.14 300 ⇓P P 17 52 08.9 +1.8
VRI Vrincioaia 34.14 300 ⇓P P 17 52 08.9 +1.8
PLOR Plostina 34.20 300 ⇓P P 17 52 09.2 +1.6
PLOR Plostina 34.20 300 ⇓P P 17 52 09.2 +1.6
TESR Tescani 34.21 301 ⇓P P 17 52 08.9 +1.2
ISR Istrita 34.27 299 ⇓P P 17 52 11.8 +3.5
ISR Istrita 34.27 299 ⇓P P 17 52 11.8 +3.5
RAZG Razgrad 34.34 296 ⇓P P 17 52 10.9 +2.0
COVR Voineasa-Covas 34.51 300 ⇓P P 17 52 12.2 +2.0
MNK Minsk 34.53 316 *i P* **P 17 52 12.5 +2.1**
comp=E,29nm,1.1s
MNK *i P* **P 17 52 12.5 +2.1**
comp=N,19nm,0.8s
MNK *i P* **P 17 52 12.5 +2.1**
comp=Z,66nm,0.8s,baz=284
MNK *i* pP **pP 17 52 35.1 +0.7**
MNK *i* PP **PP 17 53 31.5 +1.1**
MNK *i* S **S 17 57 35.1 +3.7**
MNK *i* sS **sS 17 58 15.0 +1.1**
MNK *i* SS **SnSn 17 59 58.7 +5.1**
MNK *i* LQ LQ 18 04 15.5
MNK *i* LR LR 18 06 31.1
MNK *i* LRM MLR 18 08 48.1
comp=N,290nm,15.5s
MNK *i* LRM MLR 18 08 59.7
comp=E,187nm,18.1s
MNK *i* LRM MLR 18 09 15.2
comp=Z,255nm,15.5s
MNK Minsk 34.53 316 *i P* **P 17 52 12.4 +2.1**
MNK *i **PP **pP 17 52 35.1 +0.7**
MNK *i* 17 53 31.4
MNK *i* S **S 17 57 35.0 +3.7**
MNK *i **SS **sS 17 58 15.0 +1.1**
MNK pmax pmax
comp=Z,66nm,0.8s
MNK pmax pmax
comp=E,29nm,1.1s
MNK pmax pmax
comp=N,19nm,0.9s
MNK MLR MLR
comp=N,290nm,15.0s
MNK MLR MLR
comp=E,187nm,18.0s
MNK MLR MLR
comp=Z,255nm,15.0s
MLR Muntele Rosu 34.69 300 ⇑P P 17 52 14.5 +2.6
MLR ⇑P **P 17 52 14.6 +2.6**
MLR Muntele Rosu 34.69 300 P P 17 52 13.3 +1.3
MLR Muntele Rosu 34.69 300 ⇑P P 17 52 14.6 +2.6
MLR Muntele Rosu 34.69 300 P P 17 52 14.2 +2.3
comp=Z,72nm,0.9s,baz=166,slow=2.7,SNR=45
MLR LR LR 18 10 55.5
comp=Z,344nm,18.4s,baz=32,slow=44
comp=Z,72nm,0.9s
ALN Alexandroupoli 34.92 292 P P 17 52 14.2 +0.4
ALN IAmb IAmb 17 52 16.1
comp=Z,118nm,1.9s
ALN Alexandroupoli 34.92 292 P P 17 52 14.2 +0.4
ALN pmax pmax
comp=Z,118nm,1.9s
NAYO Nakonayok 35.02 120 P P 17 52 16.9 +2.0
PUL Pulkovo 35.02 325 *ceP* **P 17 52 15.7 +1.3**
PUL pmax pmax
comp=Z,355nm,1.7s
KARP Karpathos 35.03 282 P P 17 52 14.5 -0.4
HNS HongShan 35.08 75 ⇑P P 17 52 17.5 +2.3
HNS pmax pmax
comp=Z,33nm,0.9s
DOPR Dopca 35.08 300 ⇓P P 17 52 17.1 +2.0
ATD Arta Tunnel 35.09 233 P P 17 52 15.7 +0.1
ATD IAmb IAmb 17 52 18.4
comp=Z,77nm,1.3s
ATD **pP 17 52 36.9 -3.2**
ATD Arta Tunnel 35.09 233 P P 17 52 15.5 -0.1
BURAR Bucovina Array 35.22 303 ⇓P P 17 52 17.7 +1.2
BURAR Bucovina Array 35.22 303 P P 17 52 16.8 +0.3
BURAR Bucovina Array 35.22 303 ⇓P P 17 52 17.7 +1.2
BUR08 Bucovina Ar. S 35.24 303 P P 17 52 17.3 +0.7
NACGM Naroch 35.25 316 *eP* **P 17 52 18.1 +1.6**
comp=E,4μm,0.8s
RDO Rodhopi 35.27 292 P P 17 52 18.1 +1.3
XLT XiLinHaoTe 35.27 63 *eP* **P 17 52 19.8 +2.9**
XLT pP pP 17 52 46.5 +5.1
XLT sP sP 17 52 57.0 +3.2
XLT ScP **ScP 17 58 28.5 +7.0**
XLT pmax pmax
comp=E,19nm,1.3s
XLT pmax pmax
comp=E,300nm,4.8s
VOIR 35.32 300 ⇓P P 17 52 18.4 +1.0
VOIR 35.32 300 ⇓P P 17 52 18.4 +1.0
ARR Arges 35.62 299 ⇓P P 17 52 21.0 +1.1
IIGN Ignalina 35.67 317 *eP* **P 17 52 21.6 +1.6**
BJT Baijiatuau 35.74 70 P P 17 52 21.9 +1.0
BJT Baijiatuau 35.74 70 P P 17 52 23.5 +2.6
BJT Baijiatuau 35.74 70 P P 17 52 21.9 +1.0
BJT pmax pmax
comp=Z,21nm,0.9s
BJI Beijing 35.74 70 P P 17 52 23.0 +2.1
BJI pP **pP 17 52 48.8 +3.1**
BJI sP **sP 17 53 01.5 +3.3**
BJI PcP **PcP 17 54 47.0 +0.4**
BJI sPcP 17 55 16.8
BJI ScP **ScP 17 58 21.0 -2.2**
BJI pmax pmax
comp=Z,12nm,0.9s
ISAL Salakas 35.78 317 *eP* **P 17 52 22.5 +1.5**
BOD Bodaibo 35.79 39 *eP* **P 17 52 22.0 +0.9**
BOD pmax pmax
comp=Z,62nm,1.7s
APE Apeiranthos 35.96 285 ⇑P P 17 52 23.6 +0.7
APE Apeiranthos 35.96 285 ⇑P P 17 52 23.6 +0.7
LVV L'vov 36.13 307 *eP* **P 17 52 25.3 +1.2**
LVV *e* 17 52 48.8
VSU Vasula 36.27 322 *eP* **P 17 52 26.2 +1.1**
VSU Vasula 36.27 322 *i P* **P 17 52 26.0 +0.9**
BMR Baia Mare 36.39 303 ⇓P P 17 52 29.7 +3.4
BMR Baia Mare 36.39 303 ⇓P P 17 52 29.7 +3.4
WHN Wuhan 36.70 86 ⇑P P 17 52 31.3 +2.1
WHN pP **pP 17 52 56.8 +2.8**
VTS Vitosha 36.81 295 ⇑P P 17 52 29.7 -0.4
VTS Vitosha 36.81 295 ⇑P P 17 52 29.7 -0.4
IDI Anoyia 36.89 283 P P 17 52 30.5 -0.3
IDI IAmb IAmb 17 52 41.1
comp=Z,35nm,1.1s
IDI Anoyia 36.89 283 P P 17 52 30.6 -0.2
comp=Z,8.5nm,0.4s,baz=59,slow=12,SNR=17
comp=Z,8.5nm,0.4s
GZR Gura Zlata 36.92 300 ⇑P P 17 52 32.0 +1.0
GZR Gura Zlata 36.92 300 ⇑P P 17 52 32.0 +1.0
PABE Paberze 36.96 316 P P 17 52 31.4 +0.4
PABE Paberze 36.96 316 *eP* **P 17 52 32.4 +1.4**
KWP Kalwaria Pacla 36.98 307 *eP* **P 17 52 32.9 +1.7**
KWP *e*pP **pP 17 52 56.9 +1.4**
KWP Kalwaria Pacla 36.98 307 P P 17 52 31.4 +0.1
KWP IAmb IAmb 17 52 34.7
comp=Z,52nm,0.9s
KWP Kalwaria Pacla 36.98 307 P P 17 52 31.4 +0.1
KWP pmax pmax
comp=Z,52nm,0.9s
TRPA Tarpa 37.04 304 ⇑P P 17 52 33.7 +1.9
VSVD Vaisvydziai 37.08 317 *eP* **P 17 52 32.6 +0.6**
SUW Suwalki 37.14 314 *eP* **P 17 52 34.3 +1.8**
SUW *e*PP **PnPn 17 54 00.6 -0.1**
SUW Suwalki 37.14 314 P P 17 52 32.8 +0.3
SUW Suwalki 37.14 314 *eP* **P 17 52 33.9 +1.4**
SUW Suwalki 37.14 314 P P 17 52 32.8 +0.3
SUW pmax pmax
comp=Z,52nm,0.6s
KOLS Kolonicke sedl 37.23 305 *eP* **P 17 52 36.0 +2.5**
KOLS Kolonicke sedl 37.23 305 *eP* **P 17 52 36.0 +2.5**
KOLS pmax pmax
comp=Z,26nm,0.8s
TIA Tai'an 37.23 76 ⇑P P 17 52 35.8 +2.2
TIA pmax pmax
comp=Z,34nm,0.8s
SURR Surduc 37.36 300 ⇑P P 17 52 36.4 +1.8
FINES FINESS Array B 37.60 326 P P 17 52 36.8 +0.5
FINES FINESS Array B 37.60 326 P P 17 52 37.6 +1.3
comp=Z,73nm,0.7s,baz=117,slow=7.7,SNR=162
FINES LR LR 18 08 45.8
comp=Z,326nm,18.3s,baz=54,slow=37
comp=Z,73nm,0.7s
LVZ Lovozero 37.66 339 P P 17 52 38.3 +1.4
LVZ Lovozero 37.66 339 ⇑P P 17 52 38.9 +2.0
LVZ Lovozero 37.66 339 P P 17 52 39.1 +2.2
LVZ pP **pP 17 53 04.1 +3.0**
SIRR Siria 37.66 301 ⇓P P 17 52 39.1 +1.9
STIP Stip 37.70 294 *i P* **P 17 52 36.9 -0.6**
MDVR Moldovita 37.71 299 ⇑P P 17 52 39.0 +1.4
HIA Hailar 37.72 54 P P 17 52 40.4 +2.8
BZS Buzias 37.73 300 ⇓P P 17 52 39.1 +1.5
BZS Buzias 37.73 300 ⇓P P 17 52 39.1 +1.5
CRVS Cervenica-Dubn 37.77 305 *eP* **P 17 52 40.5 +2.5**
CRVS Cervenica-Dubn 37.77 305 *eP* **P 17 52 40.5 +2.5**
MTSE Matsula 37.80 322 *eP* **P 17 52 39.6 +1.5**
APA Apatity 37.83 338 ⇓*iP* **P 17 52 38.7 +0.5**
APA *i **PP **sP 17 53 08.9 -5.7**
APA pmax pmax
comp=Z,50μm,1.0s
APA MLR MLR
comp=Z,1μm,15.0s
STHS Stebnicka Huta 37.92 306 *eP* **P 17 52 40.6 +1.3**
STHS Stebnicka Huta 37.92 306 *eP* **P 17 52 40.6 +1.3**
STHS pmax pmax
comp=Z,10.0nm,0.7s
MEF Metsahovi 37.96 324 *eP* **P 17 52 40.5 +1.1**
AGG Agios Georgios 38.03 289 P P 17 52 40.4 +0.1
AGG IAmb IAmb 17 54 07.7
comp=Z,64nm,1.7s
AGG Agios Georgios 38.03 289 P P 17 52 40.4 +0.1
AGG pmax pmax
comp=Z,64nm,1.7s
SRIT Nakonsritamara 38.06 129 P P 17 52 41.4 +0.6
SRIT Nakonsritamara 38.06 129 P P 17 52 42.1 +1.4
PBUR Paburge 38.19 317 *eP* **P 17 52 43.5 +2.2**
BEL Belsk 38.33 310 *eP* **P 17 52 44.9 +2.3**
QIZ Qiongzhong 38.41 106 P P 17 52 44.3 +0.7
QIZ sP **sP 17 53 19.5 -1.2**
QIZ S **S 17 58 33.8 +2.8**
QIZ sS **sS 17 59 14.0 -0.1**
QIZ pmax pmax
comp=Z,18nm,1.4s
QIZ LR LR
comp=Z,340nm,16.8s
QIZ LR LR
comp=Z,250nm,12.6s
QIZ LR LR
comp=Z,260nm,17.7s
FNA Florina 38.44 292 P P 17 52 44.1 +0.3
FNA Florina 38.44 292 P P 17 52 44.1 +0.3
FNA pmax pmax
comp=Z,7.0nm,0.9s
NIE Niedzica 38.54 306 *eP* **P 17 52 47.3 +2.8**
NIE *e*pP **pP 17 53 11.4 +2.7**
PSZ Piszkesteto 38.82 304 P P 17 52 46.6 -0.3
PSZ Piszkesteto 38.82 304 P P 17 52 46.6 -0.3
PSZ pmax pmax
comp=Z,15nm,0.9s
OJC Ojcow 38.88 307 *eP* **P 17 52 48.0 +0.8**
OJC Ojcow 38.88 307 P P 17 52 46.6 -0.6
OJC Ojcow 38.88 307 P P 17 52 46.6 -0.6
OJC pmax pmax
comp=Z,26nm,0.9s
DIVS Divibare 39.00 298 P P 17 52 48.3 -0.2
LANS Liptovska Anna 39.08 306 *eP* **P 17 52 52.3 +3.3**
LANS Liptovska Anna 39.08 306 *eP* **P 17 52 52.3 +3.3**
LANS pmax pmax
comp=Z,5.0nm,1.0s
RAF Rauma 39.44 325 *eP* **P 17 52 51.9 +0.2**
TIR Tirane 39.47 293 P P 17 52 54.3 +2.0
TIR IAmb IAmb 17 53 36.9
comp=Z,41nm,1.1s
TIR Tirane 39.47 293 P P 17 52 54.3 +2.0
TIR pmax pmax
comp=Z,41nm,1.1s
VYHS Vyhne 39.51 305 *eP* **P 17 52 54.4 +1.9**
VYHS Vyhne 39.51 305 *eP* **P 17 52 54.4 +1.9**
VYHS pmax pmax
comp=Z,27nm,1.8s
MLSI Meulaboh, Aceh 39.63 137 P P 17 52 53.6 -0.2
MORH Mrgy, Hungar 39.76 301 ⇓P P 17 52 56.0 +1.4
FURI Furi 39.77 235 P P 17 52 56.6 +1.2
FURI IAmb IAmb 17 53 07.4
comp=Z,35nm,0.9s
NJ2 Nanjing 39.81 81 *eP* **P 17 52 57.0 +1.8**
NJ2 pP **pP 17 53 19.0 -1.3**
NJ2 sP **sP 17 53 31.0 -1.7**
NJ2 pmax pmax
comp=Z,28nm,1.1s
NJ2 pmax pmax
comp=Z,920nm,4.7s
OKC Ostrava-Krasne 39.94 307 *eP* **P 17 52 58.7 +2.7**
OKC Ostrava-Krasne 39.94 307 *eP* **P 17 52 58.7 +2.7**
HKPS Hong Kong Po S 40.08 98 P P 17 52 59.3 +1.7
HKPS IAmb IAmb 17 53 00.5
comp=Z,104nm,1.4s
MAUC Maruska 40.15 306 *eP* **P 17 52 59.4 +1.5**

JAVC Velka Javorina 40.27 305 *eP* **P 17 53 01.2 +2.3**
MORC Moravsky Berou 40.33 307 ⇑P **P 17 53 00.4 +1.1**
MORC Moravsky Berou 40.33 307 P **P 17 52 60.0 +0.6**
MORC Moravsky Berou 40.33 307 *eP* **P 17 53 00.7 +1.4**
MORC Moravsky Berou 40.33 307 ⇑P **P 17 53 00.4 +1.1**
VADS Vadso 40.53 340 *eP* **P 17 53 02.8 +2.2**
MODS Modra-Piesok 40.55 305 *eP* **P 17 53 03.9 +2.8**
MODS Modra-Piesok 40.55 305 *eP* **P 17 53 03.9 +2.8**
GKP Gorka Klasztor 40.58 312 *eP* **P 17 53 03.2 +1.9**
GKP Gorka Klasztor 40.58 312 *eP* **P 17 53 02.6 +1.3**
VRAC Vranov 40.96 306 *eP* **P 17 53 06.1 +1.6**
VRAC Vranov 40.96 306 P **P 17 53 06.4 +1.9**
comp=Z,17nm,0.8s,baz=94,slow=8.2,SNR=25
VRAC LR LR 18 12 05.9
comp=Z,112nm,18.4s,baz=60,slow=39
comp=Z,17nm,0.8s
SNY Shenyang 40.99 65 ⇓P **P 17 53 06.0 +1.2**
SNY S **S 17 59 10.0 +0.9**
SNY pmax pmax
comp=Z,59nm,0.5s
SNY pmax pmax
comp=Z,410nm,3.8s
SNY LR LR
comp=Z,820nm,5.2s
SNY LR LR
comp=Z,540nm,6.3s
SNY LR LR
comp=Z,530nm,6.0s
KCSI Kotacane, Aceh 41.00 136 P **P 17 53 03.8 -1.4**
comp=Z,22nm,0.9s
KEV Kevo 41.00 339 P **P 17 53 04.0 -0.5**
KEV Kevo 41.00 339 P **P 17 53 04.0 -0.5**
KEV pmax pmax
comp=Z,101nm,0.8s
KEV Kevo 41.00 339 P **P 17 53 06.5 +1.9**
KRUC Moravsky 41.10 306 *eP* **P 17 53 06.9 +1.3**
DPC Dobruska-Polom 41.10 308 *eP* **P 17 53 06.9 +1.2**
DPC *epP* **pP 17 53 31.5 +0.9**
DPC Dobruska-Polom 41.10 308 *eP* **P 17 53 06.9 +1.2**
DPC *e*PP* **pP 17 53 31.5 +0.9**
KSP Ksiaz 41.12 308 *eP* **P 17 53 07.8 +2.0**
KSP *ePP* **PP 17 54 44.6 +2.3**
OSTC Ostas 41.17 308 *eP* **P 17 53 08.4 +2.2**
OSTC Ostas 41.17 308 *eP* **P 17 53 08.4 +2.2**
RONA Rosalia, Austr 41.25 304 *eP* **P 17 53 08.0 +1.1**
comp=Z,14nm,0.9s
RONA *i* pP **pP 17 53 33.0 +1.6**
comp=Z,21nm,1.3s
CHVC Chvalec 41.27 308 *eP* **P 17 53 09.3 +2.3**
CHVC *epP* **pP 17 53 32.5 +0.6**
CHVC Chvalec 41.27 308 *eP* **P 17 53 09.3 +2.3**
CHVC *e*PP* **pP 17 53 32.5 +0.6**
KULM Kulim 41.27 131 P **P 17 53 07.4 0.0**
KULM IAmb IAmb 17 53 09.6
comp=Z,101nm,1.5s
UPC Upice 41.30 308 *eP* **P 17 53 07.9 +0.7**
UPC Upice 41.30 308 *eP* **P 17 53 07.9 +0.7**
ARA0 ARCESS Array S 41.34 338 *eP* **P 17 53 09.5 +2.2**
ARCES ARCESS Array B 41.34 338 P **P 17 53 07.7 +0.4**
ARCES ARCESS Array B 41.34 338 P **P 17 53 09.0 +1.6**
ARCES ARCESS Array B 41.34 338 P **P 17 53 09.0 +1.6**
comp=Z,133nm,0.8s,baz=119,slow=7.3,SNR=143
ARCES LR LR 18 11 26.9
comp=Z,588nm,19.4s,baz=100,slow=37
comp=Z,133nm,0.8s
KOGS Kog 41.39 302 *i* P **P 17 53 09.4 +1.4**
VIKU Vikbolandet 41.40 320 *eP* **P 17 53 08.9 +1.1**
CONA Conrad Observa 41.52 304 *eP* **P 17 53 10.6 +1.3**
comp=Z,30nm,0.9s,SNR=8.8
CONA *i* pP **pP 17 53 35.4 +1.7**
comp=Z,30nm,1.1s
KTK1 Kautokeino 41.81 337 *eP* **P 17 53 12.4 +1.2**
ARSA Arzberg 41.81 303 *eP* **P 17 53 12.5 +1.1**
comp=Z,7.3nm,0.9s
CN2 Changchun 42.02 62 *eP* **P 17 53 14.0 +0.8**
CN2 *epP* pP 17 53 34.0 -4.4
CN2 *eS* **S 17 59 19.8 -4.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,400nm,4.0s
SOKA Soboth 42.20 302 *eP* **P 17 53 16.2 +1.4**
comp=Z,25nm,0.9s,SNR=14
SOKA *i* pP **pP 17 53 41.1 +1.7**
comp=Z,24nm,0.9s
PVCC Panska Ves 42.22 308 *eP* **P 17 53 16.8 +2.1**
PVCC Panska Ves 42.22 308 *eP* **P 17 53 16.8 +2.1**
PSI Prapat 42.25 135 P **P 17 53 15.2 -0.2**
PSI Prapat 42.25 135 P **P 17 53 14.4 -1.0**
PSI pmax pmax
comp=Z,33nm,0.8s
PRU Pruhonice 42.26 307 *eP* **P 17 53 16.5 +1.4**
PRU *epP* **pP 17 53 40.4 +0.4**
PRU Pruhonice 42.26 307 *eP* **P 17 53 16.5 +1.4**
PRU *e*PP* **pP 17 53 40.4 +0.4**
PRA Prague 42.33 307 *eP* **P 17 53 18.1 +2.5**
PRA Prague 42.33 307 *eP* **P 17 53 18.1 +2.5**
RPSI Rantau Prapat 42.33 135 P **P 17 53 14.4 -1.6**
RPSI IAmb IAmb 17 53 16.8
comp=Z,33nm,0.8s
HAMF Hammerfest 42.43 339 *eP* **P 17 53 18.6 +2.5**
KNMB Chin-men Tao 42.46 92 P **P 17 53 15.7 -1.3**
CKRC Cesky Krumlov 42.49 305 *eP* **P 17 53 19.4 +2.4**
CKRC Cesky Krumlov 42.49 305 *eP* **P 17 53 19.4 +2.4**
ZVC Zvikov 42.52 306 *eP* **P 17 53 18.4 +1.2**
OBKA Obir 42.55 302 *eP* **P 17 53 19.1 +1.6**
comp=Z,12nm,1.3s
OBKA *i* pP **pP 17 53 43.1 +0.8**
comp=Z,18nm,1.3s
MOA Molln 42.60 304 *eP* **P 17 53 18.9 +1.0**
comp=Z,23nm,0.9s,SNR=8.7
MOA *epP* **pP 17 53 43.7 +1.2**
comp=Z,18nm,1.1s
BRG Berggiesshubel 42.60 309 *eP* **P 17 53 19.8 +2.0**
BRG 17 53 44.2
BRG pmax pmax
comp=Z,21nm,0.8s
BRG Berggiesshubel 42.60 309 *eP* **P 17 53 21.5 +3.6**
comp=Z,19nm,0.8s,baz=85,slow=7.9
BRG *epP* **pP 17 53 44.8 +2.0**
baz=85,slow=8.0
BRG Berggiesshubel 42.60 309 *eP* **P 17 53 19.8 +2.0**
BRG Amp 17 53 21.7
comp=Z,21nm,0.8s
BRG Berggiesshubel 42.60 309 P P 17 53 29.8 +12
BRG Amp 17 53 33.2
comp=Z,9.2nm,0.8s
BRG pP pP 17 53 44.2 +1.5
BRG Amp 17 53 45.0
comp=Z,40nm,1.2s
BRG sP sP 17 53 57.3 +2.4
BRG Amp 17 54 00.4
comp=Z,25nm,1.1s
BRG Amp 18 14 49.0
comp=Z,0.4nm,14.2s
LJU Ljubljana 42.62 301 *i* P **P 17 53 19.6 +1.5**
LJU *i* pP **pP 17 53 43.4 +0.6**
RUE Ruedersdorf 42.66 311 *eP* **P 17 53 19.5 +1.3**
RUE Ruedersdorf 42.66 311 *eP* **P 17 53 20.6 +2.4**
comp=Z,41nm,0.8s,baz=85,slow=7.9
HEH HeiHe 42.68 52 *eP* **P 17 53 19.8 +1.4**
HEH PcP **PcP 17 55 07.3 -1.1**
HEH ScP **ScP 17 58 46.8 -3.0**
HEH S **S 17 59 35.5 +1.6**
HEH ScS **ScS 18 03 09.5 +0.8**
HEH pmax pmax
comp=Z,70nm,0.7s
HEH pmax pmax
comp=Z,710nm,5.6s
GSI Gunungsitoli 42.73 138 P **P 17 53 18.9 -0.3**
GSI Gunungsitoli 42.73 138 P **P 17 53 20.5 +1.2**
GSI Gunungsitoli 42.73 138 P **P 17 53 20.1 +0.8**
comp=Z,114nm,0.8s,comp=Z,2µm
CUC Castrocucco 42.76 292 P **P 17 53 18.2 -1.0**
CUC IAmb IAmb 17 53 23.3
comp=Z,52nm,0.9s
GEC2 GERESS Array S 42.89 306 P **P 17 53 20.2 -0.1**
GEC2 GERESS Array S 42.89 306 *eP* **P 17 53 22.9 +2.6**
comp=Z,18nm,1.5s,baz=85,slow=7.9
GEC2 *epP* **pP 17 53 46.3 +1.0**
baz=85,slow=8.0
GERES GERESS Array B 42.89 306 P **P 17 53 21.5 +1.2**
comp=Z,4.2nm,0.7s,baz=58,slow=7.5,SNR=2.1
comp=Z,4.2nm,0.7s

KHC Kasperske Hory 42.94 306 *eP* **P 17 53 21.7 +1.0**
KHC *epP* **pP 17 53 46.0 +0.4**
KHC Kasperske Hory 42.94 306 *eP* **P 17 53 21.7 +1.0**
KHC *e*PP* **pP 17 53 46.0 +0.4**
JETT Jettan, Norway 42.95 337 *eP* **P 17 53 22.7 +2.3**
FBE Freiberg 42.97 309 *eP* **P 17 53 24.0 +3.2**
comp=Z,26nm,0.9s,baz=85,slow=7.9
FBE *epP* **pP 17 53 47.4 +1.6**
baz=85,slow=8.0
BIOA Bad Ischl, Aus 43.04 304 *eP* **P 17 53 22.4 +1.0**
comp=Z,9.3nm,0.8s,SNR=5.4
BIOA *i* pP **pP 17 53 46.1 -0.3**
comp=Z,24nm,1.4s
MSEY Mahe Island 43.04 202 P **P 17 53 21.9 +0.2**
MSEY Mahe Island 43.04 202 *i* P **P 17 53 23.2 +1.5**
SNR=9.6
MSEY Mahe Island 43.04 202 P **P 17 53 22.4 +0.7**
MSEY Mahe Island 43.04 202 P **P 17 53 21.9 +0.2**
MSEY pmax pmax
comp=Z,124nm,1.1s
MSEY Mahe Island 43.04 202 P **P 17 53 22.2 +0.5**
MSEY pP **pP 17 53 46.8 -0.4**
BNX BinXian 43.11 59 ⇑P **P 17 53 23.5 +1.5**
BNX pmax pmax
comp=Z,26nm,1.0s
BNX pmax pmax
comp=Z,580nm,4.7s
HFS Hagfors 43.15 322 P **P 17 53 22.8 +0.7**
comp=Z,102nm,0.7s,baz=98,slow=11,SNR=178
HFS LR LR 18 13 34.9
comp=Z,260nm,18.1s,baz=95,slow=39
comp=Z,102nm,0.7s
MYKA Terra Mystica 43.16 302 *eP* **P 17 53 23.5 +1.1**
comp=Z,7.8nm,1.0s
MYKA *i* pP **pP 17 53 48.5 +1.3**
comp=Z,15nm,0.8s
CLL Collm 43.18 309 P **P 17 53 22.2 -0.2**
CLL Collm 43.18 309 *i* P **P 17 53 24.1 +1.7**
CLL *i **P **pP 17 53 46.8 -0.6**
CLL *eS* **S 17 59 38.0 -3.1**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 43.18 309 *eP* **P 17 53 24.9 +2.5**
comp=Z,12nm,0.8s,baz=85,slow=7.9
CLL *epP* **pP 17 53 48.2 +0.8**
baz=85,slow=8.0
CLL Collm 43.18 309 *i* P **P 17 53 24.1 +1.7**
comp=Z,15nm,1.0s
CLL *i* pP **pP 17 53 46.8 -0.6**
CLL *i* sP **sP 17 53 59.9 +0.4**
CLL *i* x x 17 54 10.3
CLL *e*PP **PP 17 55 06.0 +1.5**
comp=Z,23nm,1.1s
CLL *ep*PP 17 55 26.0
CLL *es*PP 17 55 39.0
CLL *e*PPP PPP 17 55 44.0
CLL *e*PcS **PcS 17 58 56.0 -6.4**
CLL *eS* **S 17 59 38.0 -3.1**
CLL *es*S **sS 18 00 30.0 +5.2**
CLL *e*SS **SS 18 02 55.0 -2.4**
PRED Cave del Predi 43.23 302 P **P 17 53 23.4 +0.3**
SABO M.te Sabotino 43.27 301 P **P 17 53 24.2 +0.9**
SABO IAmb IAmb 17 54 01.6
comp=Z,40nm,0.9s
ROBS Robic 43.30 302 *i* P **P 17 53 24.5 +1.0**
ROBS *i* pP **pP 17 53 48.5 +0.3**
PAOL Paolisi 43.46 294 P **P 17 53 25.2 +0.3**
TRO Tromso 43.46 336 *eP* **P 17 53 25.6 +1.3**
TANN Tannenbergstha 43.57 308 *eP* **P 17 53 28.5 +2.8**
comp=Z,11nm,1.0s,baz=85,slow=7.9
TANN *epP* **pP 17 53 52.2 +1.5**
baz=85,slow=8.0
RJOB Jochberg 43.60 304 *eP* **P 17 53 28.3 +2.3**
comp=Z,9.3nm,0.9s,baz=85,slow=7.9
WERN Wernitzgruen 43.63 308 *eP* **P 17 53 29.2 +3.0**
comp=Z,6.9nm,0.9s,baz=85,slow=7.9
WERN *epP* **pP 17 53 52.7 +1.5**
baz=85,slow=8.0
GUNZ Gunzen 43.66 308 *eP* **P 17 53 29.3 +3.0**
comp=Z,13nm,1.0s,baz=85,slow=7.9
GUNZ *epP* **pP 17 53 52.7 +1.3**
baz=85,slow=8.0
WERD Werda 43.67 308 *eP* **P 17 53 29.3 +2.8**
comp=Z,12nm,0.9s,baz=85,slow=7.9
WERD *epP* **pP 17 53 52.7 +1.3**
baz=85,slow=8.0
CLUD Cludinico 43.70 302 P **P 17 53 27.4 +0.6**
LESA Schwarzleotal 43.72 304 *i* P **P 17 53 28.3 +1.3**
comp=Z,12nm,0.7s
LESA *epP* **pP 17 53 52.7 +0.8**
comp=Z,29nm,1.1s
PLN Plauen 43.76 308 *eP* **P 17 53 29.9 +2.8**
comp=Z,40nm,1.6s,baz=85,slow=7.9
PLN *epP* **pP 17 53 53.6 +1.4**
baz=85,slow=8.0
ROTZ Rotzenmuhle 43.78 307 *epP* pP 17 53 54.2 +1.8
baz=85,slow=8.0
MANZ Manzenberg 43.83 307 *eP* **P 17 53 31.1 +3.3**
comp=Z,2.4nm,0.9s,baz=85,slow=7.9
MANZ *epP* **pP 17 53 54.5 +1.7**
baz=85,slow=8.0
STAL STALIGIAL 43.84 302 IAmb IAmb 17 54 06.2
comp=Z,44nm,1.2s
ABTA Abfaltersbach 43.91 303 *i* P **P 17 53 28.7 +0.1**
comp=Z,6.2nm,0.9s
ABTA *i* pP **pP 17 53 54.0 +0.2**
comp=Z,7.8nm,1.1s
NEUB Neuenburg 43.95 309 *epP* pP 17 53 54.9 +1.2
baz=85,slow=8.0
FAUS Fauske 43.97 333 *eP* **P 17 53 30.3 +1.8**
MOR8 Moi Rana 43.97 331 *eP* **P 17 53 29.0 +0.4**
MOX Moxa 44.09 308 *eP* **P 17 53 32.8 +2.9**
comp=Z,9.9nm,0.9s,baz=85,slow=7.9
FDMO Fiordimonte 44.12 297 P **P 17 53 29.9 -0.3**
STEI Steigen 44.14 333 *eP* **P 17 53 31.7 +1.8**
FLTG Flechtingen 44.22 311 *eP* **P 17 53 33.2 +2.4**
comp=Z,43nm,0.8s,baz=85,slow=7.9
FLTG *epP* **pP 17 53 56.6 +0.8**
baz=85,slow=8.0
INCN Inchon 44.27 71 P **P 17 53 32.2 +0.8**
INCN IAmb IAmb 17 54 30.5
comp=Z,59nm,1.4s
INCN Inchon 44.27 71 P **P 17 53 31.0 -0.4**
INCN Inchon 44.27 71 P **P 17 53 32.2 +0.8**
INCN pmax pmax
comp=Z,59nm,1.4s
NC602 NORSAR Array S 44.28 323 IAmb IAmb 17 53 33.3
comp=Z,50nm,1.0s
YAK Yakutsk 44.41 35 P **P 17 53 32.2 +0.1**
YAK Yakutsk 44.41 35 *eP* **P 17 53 31.8 -0.3**
YAK *e*PP* **pP 17 53 57.1 -0.1**
YAK *eS* **S 17 59 57.7 -1.0**
YAK *e*SS **ScS 18 03 12.6 -6.5**
YAK pmax pmax
comp=Z,88nm,0.8s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=E,22nm,0.9s
YAK smax smax
comp=E,166nm,1.9s
YAK smax smax
comp=N,64nm,1.3s
YAK Yakutsk 44.41 35 P **P 17 53 32.6 +0.5**
YAK sP **sP 17 54 09.9 +0.6**
NC303 NORSAR Array S 44.42 324 P **P 17 53 32.3 +0.1**
GRF Grafenberg Arr 44.43 307 *eP* **P 17 53 36.0 +3.5**
comp=N,16nm,0.6s,baz=85,slow=7.9
GRF *epP* **pP 17 53 59.7 +2.1**
baz=85,slow=8.0
NB201 NORSAR Array S 44.44 323 *eP* **P 17 53 33.0 +0.5**
WTTA Wattenberg 44.44 304 *eP* **P 17 53 32.9 +0.1**
comp=N,13nm,0.8s,SNR=5.5
WTTA *i* pP **pP 17 53 58.2 +0.4**
comp=N,22nm,1.0s
WATA Walderalm 44.47 304 *eP* **P 17 53 33.2 +0.1**
comp=N,10nm,0.8s
WATA *epP* **pP 17 53 58.0 -0.1**
comp=N,17nm,0.9s
NB2 NORSAR Subarra 44.47 323 P **P 17 53 32.8 +0.1**
comp=Z,80nm,0.8s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.47 323 P **P 17 53 32.8 +0.1**
baz=97,slow=7.9
NOA NORSAR Array B 44.47 323 P **P 17 53 33.0 +0.3**
comp=Z,65nm,0.9s,baz=98,slow=7.9,SNR=132
NOA LR LR 18 15 38.9

comp=Z,196nm,18.3s,baz=105,slow=40
comp=Z,65nm,0.9s
MURB Monte Urbino 44.48 298 P **P 17 53 33.6 +0.5**
MURB IAmb IAmb 17 54 05.9
comp=Z,97nm,1.1s
FUR Furstenfeldbru 44.56 305 *eP* **P 17 53 36.4 +2.8**
comp=Z,30nm,0.9s,baz=85,slow=7.9
KONS Konsvik 44.56 331 *eP* **P 17 53 34.3 +1.1**
STOK Stokkvaagen 44.56 331 *eP* **P 17 53 35.0 +1.7**
CTI Castel Tesino 44.61 302 P **P 17 53 34.4 +0.3**
CTI Castel Tesino 44.61 302 P **P 17 53 34.4 +0.3**
CTI pmax pmax
comp=Z,26nm,1.1s
NAO01 NORSAR Array S 44.61 323 P **P 17 53 34.1 +0.3**
NAO01 IAmb IAmb 17 53 36.0
comp=Z,66nm,1.1s
OSL Oslo 44.61 322 *eP* **P 17 53 35.5 +1.8**
NSS Namsos 44.63 328 *eP* **P 17 53 35.3 +1.5**
TEOL Teolo 44.70 301 **P 17 53 34.2 -0.6**
BSEG Bad Segeberg 44.71 313 *eP* **P 17 53 37.8 +3.2**
comp=Z,30nm,0.8s,baz=85,slow=7.9
BSEG *epP* **pP 17 54 01.2 +1.4**
baz=85,slow=8.0
NC204 NORSAR Array S 44.72 324 IAmb IAmb 17 53 37.0
comp=Z,65nm,0.8s
SQTA Sankt Quirin 44.73 303 *eP* **P 17 53 35.0 -0.1**
comp=Z,12nm,1.0s,SNR=5.4
SQTA *i* pP **pP 17 54 00.0 -0.1**
comp=Z,16nm,1.2s
YHNB Yeheng 44.78 90 P **P 17 53 36.3 +0.6**
CLZ Clausthal 44.78 310 *eP* **P 17 53 38.1 +2.8**
comp=Z,16nm,0.9s,baz=85,slow=7.9
MOTA Moosalm 44.78 304 *eP* **P 17 53 35.5 -0.1**
comp=Z,13nm,0.8s,SNR=5.5
MOTA *epP* **pP 17 54 00.4 -0.2**
comp=Z,18nm,1.1s
LOF Lofoten 44.81 333 *eP* **P 17 53 36.3 +1.1**
TPUB Ta-pu 44.81 92 P **P 17 53 36.4 +0.5**
TPUB IAmb IAmb 17 53 39.3
comp=Z,37nm,1.0s
MDJ Mudanjiang 44.82 60 P **P 17 53 36.8 +1.1**
MDJ pP pP 17 53 59.8 -1.2
MDJ sP sP 17 54 12.0 -1.2
MDJ PcP **PcP 17 55 15.5 -0.3**
MDJ PP **PP 17 55 21.0 -1.1**
MDJ PcS **PcS 17 59 10.5 +1.1**
MDJ S **S 18 00 07.3 +2.1**
MDJ sS sS 18 00 49.3 +0.3
MDJ ScS **ScS 18 03 23.3 +0.9**
MDJ pmax pmax
comp=Z,16nm,0.7s
MDJ pmax pmax
comp=Z,210nm,6.5s
MDJ Mudanjiang 44.82 60 P **P 17 53 37.9 +2.2**
SSLB Suanglung 44.84 92 P **P 17 53 37.4 +1.2**
SSLB IAmb IAmb 17 53 39.4
comp=Z,52nm,0.8s
SSLB Suanglung 44.84 92 P **P 17 53 38.4 +2.2**
NRDL Niedersach Rie 44.90 311 *eP* **P 17 53 39.3 +3.2**
comp=Z,18nm,0.8s,baz=85,slow=7.9
NRDL *epP* **pP 17 54 02.7 +1.5**
baz=85,slow=8.0
RETA Reutte 44.99 304 *eP* **P 17 53 37.2 +0.1**
comp=Z,9.5nm,1.2s
RETA *i* pP **pP 17 54 02.4 +0.2**
comp=Z,12nm,1.3s
GTTG Gottingen 45.06 310 *eP* **P 17 53 40.5 +3.1**
comp=Z,29nm,0.9s,baz=85,slow=7.9
GTTG *epP* **pP 17 54 03.9 +1.4**
baz=85,slow=8.0
FETA Feichten 45.09 303 *eP* **P 17 53 38.1 +0.2**
comp=Z,9.5nm,0.8s,SNR=5.6
FETA *i* pP **pP 17 54 03.0 -0.2**
comp=Z,17nm,1.1s
TJN Taejon 45.15 72 P **P 17 53 37.7 -0.7**
TJN Taejon 45.15 72 P **P 17 53 38.6 +0.2**
TJN Taejon 45.15 72 *ceP* **P 17 53 38.0 -0.4**
KONO Kongsberg 45.16 321 P **P 17 53 37.8 -0.3**
KONO IAmb IAmb 17 53 40.4
comp=Z,42nm,0.8s
KONO Kongsberg 45.16 321 *eP* **P 17 53 39.4 +1.2**
KONO Kongsberg 45.16 321 *ceP* **P 17 53 37.8 -0.3**
KONO pmax pmax
comp=Z,133nm,2.5s
KONO Kongsberg 45.16 321 P **P 17 53 39.7 +1.5**
KONO pP **pP 17 54 05.4 +2.4**
NACB Ninganchiao 45.18 91 P **P 17 53 38.6 -0.2**
NACB IAmb IAmb 17 54 02.4
comp=Z,42nm,1.1s
KS19 Wonju Array Si 45.21 70 P **P 17 53 39.3 +0.4**
KS19 IAmb IAmb 17 53 44.6
comp=Z,37nm,1.0s
KSAR Wonju Array Be 45.24 71 P **P 17 53 38.7 -0.4**
KSAR Wonju Array Be 45.24 71 P **P 17 53 38.7 -0.4**
KSRS Korea Array 45.26 70 P **P 17 53 40.0 +0.8**
comp=Z,20nm,0.7s,baz=272,slow=6.9,SNR=82
KSRS LR LR 18 15 21.0
comp=Z,134nm,21.5s,baz=290,slow=39
comp=Z,20nm,0.7s
YULB Yu-li 45.31 92 P **P 17 53 40.6 +0.8**
YULB IAmb IAmb 17 53 43.4
comp=Z,30nm,0.8s
YULB pP **pP 17 54 02.9 -2.5**
YULB Yu-li 45.31 92 P **P 17 53 42.3 +2.5**
OSSC Osservatorio P 45.34 298 IAmb IAmb 17 54 10.7
comp=Z,45nm,1.1s
ZCCA Zocca 45.37 300 IAmb IAmb 17 54 36.5
comp=Z,78nm,1.3s
TWG Pinlang 45.40 93 P **P 17 53 40.9 +0.4**
UBR Ueberruh 45.41 304 *eP* **P 17 53 42.5 +2.1**
comp=Z,15nm,0.8s,baz=85,slow=7.9
TWGBT Beinan 45.41 93 P **P 17 53 43.5 +2.9**
SALO Salr 45.45 301 IAmb IAmb 17 54 09.8
comp=Z,43nm,1.0s
BKNI Bangkinang 45.47 135 P **P 17 53 40.8 -0.3**
BKNI Bangkinang 45.47 135 P **P 17 53 41.6 +0.5**
BKNI Bangkinang 45.47 135 P **P 17 53 41.3 +0.2**
comp=Z,184nm,0.8s,comp=Z,2µm
KLR Kul'dur 45.58 53 *ceP* **P 17 53 42.2 +0.6**
KLR pmax pmax
comp=Z,39nm,1.3s
KLR Kul'dur 45.58 53 LR LR 18 14 22.4
comp=Z,401nm,21.2s,baz=259,slow=38
DOMB Dombas 45.59 325 *eP* **P 17 53 43.5 +1.9**
DAVA Damuels 45.62 304 *eP* **P 17 53 42.2 +0.1**
comp=Z,37nm,0.9s,SNR=12
DAVA *i* pP **pP 17 54 06.1 -1.3**
comp=Z,30nm,0.8s
HOMB Homborsund 45.68 319 *eP* **P 17 53 43.5 +1.3**
DAVOX Davos/Dischmat 45.70 303 LR LR 18 17 28.6
comp=Z,155nm,19.6s,baz=88,slow=42
SISI Saibi 45.75 138 P **P 17 53 44.2 +0.9**
comp=Z,99nm,1.0s
SKAR Skarslia 45.86 323 *eP* **P 17 53 44.4 +0.7**
MYKOM Kota Tinggi 45.98 130 P **P 17 53 45.0 -0.1**
MYKOM IAmb IAmb 17 53 47.4
comp=Z,90nm,1.1s
LODK Lodwar 46.03 233 P **P 17 53 45.6 0.0**
LODK Lodwar 46.03 233 P **P 17 53 46.5 +0.8**
SNR=14
TNS Taunus Mts 46.15 308 *eP* **P 17 53 49.1 +3.0**
comp=Z,8.6nm,0.9s,baz=85,slow=7.9
TNS *epP* **pP 17 54 12.6 +1.3**
baz=85,slow=8.0
PDSI Padang 46.16 136 P **P 17 53 46.5 0.0**
comp=Z,119nm,0.5s,comp=Z,2µm
TIXI Tiksi 46.19 22 P **P 17 53 46.2 +0.2**
TIXI Tiksi 46.19 22 *c i* P **P 17 53 47.4 +1.3**
TIXI Tiksi 46.19 22 P **P 17 53 47.4 +1.3**
MOL Molde 46.34 325 *eP* **P 17 53 50.0 +2.7**
IBBN Ibbenburen 46.35 311 *eP* **P 17 53 50.5 +2.9**
comp=Z,30nm,0.8s,baz=85,slow=7.9
BFO Black Forest 46.49 305 P **P 17 53 48.0 -0.8**
BFO Black Forest 46.49 305 P **P 17 53 48.0 -0.8**
AKN Aaknes 46.57 325 *eP* **P 17 53 51.1 +1.9**
USA0B Ussuriysk Arra 46.59 60 P **P 17 53 49.0 -0.6**
USA0B Ussuriysk Arra 46.59 60 *i* P **P 17 53 49.0 -0.6**
USRK Ussuriysk Ar. 46.59 60 P **P 17 53 49.0 -0.6**
USRK Ussuriysk Ar. 46.59 60 P **P 17 53 50.0 +0.5**
comp=Z,8.5nm,0.7s,baz=290,slow=6.6,SNR=11
USRK LR LR 18 14 01.9
comp=Z,234nm,21.7s,baz=298,slow=37
comp=Z,8.5nm,0.7s
ODD1 Odda 46.67 321 *eP* **P 17 53 51.5 +1.4**
BUG Bochum--Univer 46.75 310 *eP* **P 17 53 53.5 +2.8**

comp=Z,18nm,0.9s,baz=85,slow=7.9
BUG *e*pP **pP** **17 54 17.1 +1.3**
baz=85,slow=8.0
VLA Vladivostok 46.75 62 *i* P **P** **17 53 51.4 +0.6**
VLA pmax pmax
comp=Z,65nm,0.9s
BLS5 Blasjo 46.76 321 *e*P **P** **17 53 53.3 +2.6**
HYA Hoyanger 46.92 323 *e*P **P** **17 53 54.2 +2.4**
AHRW Bad Neuenahr-A 46.98 309 *e*P **P** **17 53 55.5 +3.0**
comp=Z,15nm,0.8s,baz=85,slow=7.9
AHRW *e*pP **pP** **17 54 19.2 +1.5**
baz=85,slow=8.0
TPRI Tanjung Pinang 47.08 130 P **P** **17 53 54.9 +1.2**
HSPB Hornsund (broa 47.38 345 *e*P **P** **17 53 58.2 +2.9**
HSPB Hornsund (broa 47.38 345 *e*P **P** **17 53 58.9 +3.6**
ASK Askoy 47.39 322 *e*P **P** **17 53 57.9 +2.3**
FOO Floro 47.48 324 *e*P **P** **17 53 57.8 +1.6**
BTNL Ternell 47.57 309 *d*P **P** **17 53 59.6 +2.5**
BTNL *d*pP **pP** **17 54 23.2 +0.8**
MEM Membach 47.65 309 *d*P **P** **17 53 59.4 +1.7**
MEM *d*pP **pP** **17 54 23.6 +0.8**
MEM *d*sP **sP** **17 54 33.9 -1.0**
WLF Walferdange 47.70 308 lAmb lAmb 17 54 25.3
comp=Z,42nm,0.9s
WLF Walferdange 47.70 308 *d*P **P** **17 54 01.0 +2.9**
WLF *d*pP **pP** **17 54 24.5 +1.2**
WLF Walferdange 47.70 308 *e*P **P** **17 54 01.3 +3.1**
comp=Z,28nm,1.0s,baz=85,slow=7.9
WLF *e*pP **pP** **17 54 25.1 +1.8**
baz=85,slow=8.0
SPITS Spitsbergen Ar 47.75 347 P **P** **17 54 00.6 +2.4**
comp=Z,79nm,0.8s,baz=118,slow=10,SNR=30
SPITS LR LR 18 16 27.8
comp=Z,459nm,20.6s,baz=96,slow=39
comp=Z,79nm,0.8s
BCLA Clavier 48.12 309 *d*P **P** **17 54 01.3 0.0**
BCLA *d*pP **pP** **17 54 27.1 +0.5**
BCLA *d*sP **sP** **17 54 36.5 -2.0**
DSRI Dabo 48.21 132 P **P** **17 54 03.3 +0.9**
comp=Z,172nm,1.0s,comp=Z,2µm
RCHB Rochefort 48.21 308 *d*P **P** **17 54 03.8 +1.8**
RCHB *d*pP **pP** **17 54 27.5 +0.3**
BGES Gesves 48.26 309 *d*P **P** **17 54 02.8 +0.3**
BGES *d*pP **pP** **17 54 28.1 +0.4**
BGES *d*sP **sP** **17 54 39.1 -0.5**
KMBO Kilima Mbogo 48.39 227 P **P** **17 54 04.2 +0.1**
KMBO Kilima Mbogo 48.39 227 *i* P **P** **17 54 05.0 +0.9**
SNR=11
KMBO Kilima Mbogo 48.39 227 P **P** **17 54 04.9 +0.8**
KMBO Kilima Mbogo 48.39 227 P **P** **17 54 04.2 +0.1**
KMBO pmax pmax
comp=Z,14nm,1.0s
KMBO Kilima Mbogo 48.39 227 P **P** **17 54 04.9 +0.8**
KMBO pP **pP** **17 54 30.9 +0.9**
BMRD Maredsous 48.48 309 *d*P **P** **17 54 07.0 +2.9**
BMRD *d*pP **pP** **17 54 30.2 +0.9**
DOU Dourbes 48.62 308 *d*P **P** **17 54 07.2 +2.1**
DOU *d*pP **pP** **17 54 31.4 +0.9**
KBS Kingsbay 48.87 347 P **P** **17 54 07.6 +0.8**
KBS pP **pP** **17 54 31.7 -0.6**
KBS Kingsbay 48.87 347 *ce*P **P** **17 54 09.2 +2.5**
KBS pmax pmax
comp=Z,140nm,0.8s
KBS Kingsbay 48.87 347 P **P** **17 54 08.8 +2.1**
KBS pP **pP** **17 54 33.6 +1.4**
KBS sP **sP** **17 54 46.4 +2.2**
KIBK Kibwezi 48.90 226 lAmb lAmb 17 54 10.7
comp=Z,38nm,1.1s
KIBK Kibwezi 48.90 226 P **P** **17 54 08.7 +0.9**
SNR=9.6
JNU Nakatsue 48.96 75 P **P** **17 54 08.8 +0.7**
JNU Nakatsue 48.96 75 P **P** **17 54 10.1 +2.0**
PMBI Palembang 50.27 133 P **P** **17 54 17.0 -1.1**
KSM Kuching 50.38 124 P **P** **17 54 18.9 -0.1**
KSM lAmb lAmb 17 54 21.4
comp=Z,68nm,1.3s
KSM Kuching 50.38 124 P **P** **17 54 20.0 +1.0**
SBUM Sibu 50.97 121 P **P** **17 54 23.6 +0.2**
SBUM **pP** **17 54 48.3 -1.2**
JMN Monobe 51.07 73 P **P** **17 54 24.8 +0.8**
KKM Kota Kinabalu 51.33 115 P **P** **17 54 26.7 +0.4**
KKM pP **pP** **17 54 52.2 -0.1**
KKM Kota Kinabalu 51.33 115 P **P** **17 54 27.9 +1.6**
LWLI Liwa 51.55 136 P **P** **17 54 25.5 -2.3**
comp=Z,203nm,0.8s
MBAR Mbarara 52.08 234 P **P** **17 54 31.4 -0.5**
MBAR Mbarara 52.08 234 P **P** **17 54 32.8 +0.9**
MBAR Mbarara 52.08 234 *d i* P **P** **17 54 32.2 +0.4**
MBAR pmax pmax
comp=Z,94nm,1.2s
MBAR Mbarara 52.08 234 P **P** **17 54 32.2 +0.4**
MBAR pP **pP** **17 54 58.2 +0.1**
MBAR sP **sP** **17 55 10.4 +0.2**
STKI Sintang 52.20 124 P **P** **17 54 34.0 +1.4**
comp=Z,71nm,1.4s
KASI Kota Agung 52.21 135 P **P** **17 54 29.8 -2.8**
comp=Z,85nm,0.9s
EKA Eskdalemuir Ar 52.33 316 P **P** **17 54 33.8 +0.8**
comp=Z,3.0nm,0.4s,baz=75,slow=6.6,SNR=22
comp=Z,3.0nm,0.4s
JMIC Jan Mayen 52.77 336 LR LR 18 17 19.5
comp=Z,283nm,21.3s,baz=330,slow=36
JSD Sado 52.86 66 P **P** **17 54 36.0 -1.1**
JSD lAmb lAmb 17 54 41.2
comp=Z,29nm,0.8s
JSD Sado 52.86 66 P **P** **17 54 37.2 0.0**
INU Inuyama 52.88 70 P **P** **17 54 37.5 +0.1**
INU lAmb lAmb 17 54 56.8
comp=Z,71nm,1.6s
SBV Sambava 53.10 205 P **P** **17 54 40.1 +1.1**
SBV Sambava 53.10 205 P **P** **17 54 39.7 +0.7**
YSS Yuzh-Sakhalins 53.25 54 P **P** **17 54 40.1 +0.2**
YSS Yuzh-Sakhalins 53.25 54 P **P** **17 54 40.9 +1.0**
YSS Yuzh-Sakhalins 53.25 54 *e*P **P** **17 54 40.7 +0.8**
YSS *e**PP **pP** **17 55 06.9 +0.8**
YSS *e*S **S** **18 02 02.7 -0.4**
YSS *e* 18 04 24.9
YSS pmax pmax
comp=Z,300nm,2.7s
YSS pmax pmax
comp=N,200nm,2.8s
YSS pmax pmax
comp=Z,80nm,0.9s
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 53.25 54 P **P** **17 54 40.7 +0.8**
YSS pP **pP** **17 55 06.6 +0.5**
MJB9 Matsu-Tunnel 53.34 68 P **P** **17 54 40.7 -0.1**
MJB9 lAmb lAmb 17 54 45.8
comp=Z,24nm,0.9s
MAJO Matsushiro 53.34 68 P **P** **17 54 39.9 -0.9**
MAJO lAmb lAmb 17 54 44.8
comp=Z,24nm,0.8s
MAJO Matsushiro 53.34 68 P **P** **17 54 41.1 +0.3**
MAJO Matsushiro 53.34 68 *i* P **P** **17 54 40.6 -0.2**
MAJO pmax pmax
comp=Z,24nm,0.8s
MAJO Matsushiro 53.34 68 P **P** **17 54 40.7 -0.1**
MAJO pP **pP** **17 55 06.6 -0.4**
MJAR Matsushiro Arr 53.35 68 P **P** **17 54 41.1 +0.3**
comp=Z,16nm,1.0s,baz=292,slow=9.0,SNR=29
comp=Z,16nm,1.0s
MYLDM Lahad Datu 53.60 113 P **P** **17 54 43.3 +0.4**
CGJI Cibinong 53.78 135 P **P** **17 54 40.9 -3.2**
comp=Z,108nm,0.7s
JTM Tenmabayashi 53.97 62 P **P** **17 54 45.2 -0.1**
NOR Nord 54.08 350 *i* P **P** **17 54 46.5 +1.1**
NOR lAmb lAmb 17 54 49.2
comp=Z,14nm,0.7s
JMM Marumori 54.79 66 P **P** **17 54 51.2 -0.1**
JMM lAmb lAmb 17 54 56.4
comp=Z,41nm,0.8s
JMM Marumori 54.79 66 P **P** **17 54 51.8 +0.6**
MA2 Magadan 54.80 38 LR LR 18 19 17.5
comp=Z,136nm,21.1s,baz=278,slow=37
SEY Seymchan 54.86 34 *ce*P **P** **17 54 52.1 +0.8**
SEY pmax pmax
comp=Z,60nm,1.3s
SEY Seymchan 54.86 34 LR LR 18 18 02.7
comp=Z,163nm,18.6s,baz=290,slow=35
DAG Danmarks Havn 54.97 344 *i* P **P** **17 54 53.0 +1.1**
DAG lAmb lAmb 17 54 55.6
comp=Z,75nm,0.8s
MTKI Muara Teweh, K 55.26 122 P **P** **17 54 55.7 +0.8**
comp=Z,55nm,1.5s,comp=Z,3µm
DBG Daneborg 55.80 341 *i* P **P** **17 55 00.8 +2.9**
DBG lAmb lAmb 17 55 02.2
comp=Z,19nm,0.8s
KPJI Karang Pucung 56.26 132 P **P** **17 54 59.2 -2.7**
comp=Z,35nm,0.9s
SMRI Semarang 56.95 131 P **P** **17 54 04.9 -1.9**
SMRI Semarang 56.95 131 P **P** **17 55 07.4 +0.5**
comp=Z,84nm,1.8s
BBKI Banjar Baru 57.06 124 P **P** **17 55 08.1 +0.5**
comp=Z,167nm,1.1s,comp=Z,2µm
ESBB Sonseca Array 57.35 298 P **P** **17 55 09.7 +0.1**
ESBB pP **pP** **17 55 34.7 -0.8**
ESDC Sonseca Array 57.36 298 P **P** **17 55 10.1 +0.5**
comp=Z,9.9nm,0.9s,baz=62,slow=7.1,SNR=52
comp=Z,9.9nm,0.9s
BWJI Bawean 57.41 128 P **P** **17 55 10.3 +0.2**
comp=Z,340nm,1.2s
PAB San Pablo 57.68 298 P **P** **17 55 11.4 -0.5**
PAB lAmb lAmb 17 55 14.3
comp=Z,26nm,1.2s
PAB pP **pP** **17 55 36.8 -1.1**
PAB San Pablo 57.68 298 P **P** **17 55 11.4 -0.5**
PAB *PP **pP** **17 55 36.8 -1.1**
PAB pmax pmax
comp=Z,26nm,1.2s
PAB San Pablo 57.68 298 P **P** **17 55 13.4 +1.5**
PAB pP **pP** **17 55 39.6 +1.7**
MPSI Mapaga 57.89 117 P **P** **17 55 14.9 +1.4**
comp=Z,124nm,1.2s,comp=Z,1µm
TOLI2 Tolitoli 58.01 115 P **P** **17 55 14.4 +0.1**
TOLI2 lAmb lAmb 17 55 16.3
comp=Z,25nm,0.9s
TOLI2 Tolitoli 58.01 115 P **P** **17 55 14.8 +0.5**
GRJI Gresik 58.11 129 P **P** **17 55 14.8 -0.2**
comp=Z,82nm,1.0s
PBRG Braganca 58.51 301 *e*P **P** **17 55 18.4 +0.8**
comp=Z,21nm,1.4s
RER Riviere de l'E 58.73 196 P **P** **17 55 19.9 +0.6**
BORG Borgarnes 58.75 330 LR LR 18 22 11.5
comp=Z,76nm,19.4s,baz=86,slow=37
MVO Moncorvo 58.95 301 *e*P **P** **17 55 22.3 +1.6**
comp=Z,28nm,1.3s
ABPO Ambohimpanom 59.19 206 P **P** **17 55 23.1 +0.6**
ABPO pP **pP** **17 55 47.5 -1.8**
ABPO Ambohimpanom 59.19 206 P **P** **17 55 23.2 +0.6**
ABPO *PP **pP** **17 55 47.5 -1.8**
ABPO pmax pmax
comp=Z,121nm,1.2s
ABPO Ambohimpanom 59.19 206 P **P** **17 55 23.6 +1.1**
ABPO pP **pP** **17 55 51.7 +2.3**
ABPO sP **sP** **17 56 03.5 +2.3**
MRSI Marisa 59.28 115 P **P** **17 55 23.9 +0.7**
comp=Z,187nm,1.1s,comp=Z,2µm
ALE Alert 59.34 354 P **P** **17 55 24.8 +2.2**
ALE pP **pP** **17 55 50.6 +1.5**
POLO Lamas de Olo 59.41 301 *e*P **P** **17 55 25.7 +1.8**
comp=Z,12nm,2.2s
PGAV Gavieira, Arco 59.50 302 *e*P **P** **17 55 27.1 +2.6**
comp=Z,39nm,1.7s
MTE Manteigas 59.61 300 *e*P **P** **17 55 25.9 +0.6**
comp=Z,69nm,1.6s
MTE Manteigas 59.61 300 lAmb lAmb 17 55 28.3
comp=Z,43nm,1.1s
PVIS Viseu 59.73 300 *e*P **P** **17 55 27.8 +1.7**
GMJI Gumukmas 59.76 129 P **P** **17 55 24.0 -2.4**
comp=Z,38nm,1.4s
PCBR Castelo Branco 59.79 299 *e*P **P** **17 55 28.4 +2.0**
comp=Z,31nm,1.3s
PMRV Marv??o 59.89 299 *e*P **P** **17 55 28.4 +1.3**
comp=Z,44nm,1.4s
ABJI Asem Bagus 59.90 128 P **P** **17 55 27.5 +0.2**
comp=Z,122nm,1.2s
GTOI Gorontalo 59.97 114 P **P** **17 55 27.1 -0.8**
comp=Z,14nm,0.9s
PBAR Barrancos 60.15 297 *e*P **P** **17 55 29.7 +0.8**
comp=Z,61nm,1.3s
TTSI Tana Toraja 60.18 119 P **P** **17 55 29.4 +0.1**
comp=Z,70nm,1.3s,comp=Z,632nm
PESTR Estremoz 60.26 298 *e*P **P** **17 55 30.6 +0.9**
comp=Z,43nm,1.2s
PESTR Estremoz 60.26 298 P **P** **17 55 29.8 +0.2**
PESTR lAmb lAmb 17 55 32.6
comp=Z,25nm,1.0s
PESTR **pP** **17 55 55.8 -0.4**
COI Coimbra 60.30 300 P **P** **17 55 29.6 -0.2**
COI lAmb lAmb 17 55 33.3
comp=Z,41nm,0.9s
COI Coimbra 60.30 300 P **P** **17 55 29.6 -0.2**
COI pmax pmax
comp=Z,41nm,1.0s
JAGI Jajag, Banyuwa 60.36 128 P **P** **17 55 27.5 -3.0**
JAGI Jajag, Banyuwa 60.36 128 P **P** **17 55 27.7 -2.8**
comp=Z,53nm,1.0s
PEA0B Petropavlovsk- 60.41 44 P **P** **17 55 30.3 -0.1**
PEA0B lAmb lAmb 17 55 35.9
comp=Z,47nm,1.3s
PEA0B Petropavlovsk- 60.41 44 *i* P **P** **17 55 31.5 +1.1**
PETK Petropavlovsk- 60.41 44 P **P** **17 55 29.8 -0.6**
PETK Petropavlovsk- 60.41 44 P **P** **17 55 30.7 +0.3**
comp=Z,5.2nm,0.7s,baz=292,slow=3.8,SNR=11
PETK LR LR 18 23 17.0
comp=Z,124nm,18.4s,baz=300,slow=37
comp=Z,5.2nm,0.7s
PCAS Casmilo, Conde 60.42 300 *e*P **P** **17 55 31.8 +1.1**
comp=Z,29nm,1.5s
PMTG Montargil 60.63 299 *e*P **P** **17 55 33.7 +1.6**
comp=Z,33nm,1.7s
EVO Evora 60.70 298 *e*P **P** **17 55 32.7 +0.1**
comp=Z,48nm,1.2s
KMSI Cibinong 60.73 113 P **P** **17 55 33.1 0.0**
comp=Z,59nm,0.9s,comp=Z,728nm
PBEJ Beja 60.81 298 *e*P **P** **17 55 34.0 +0.6**
comp=Z,40nm,1.3s
PSBE So Bento 60.85 299 *e*P **P** **17 55 36.0 +2.3**
comp=Z,67nm,1.6s
LUWI Luwuk 60.92 115 P **P** **17 55 32.7 -1.7**
PVAQ Vaqueiros 60.96 297 *e*P **P** **17 55 34.8 +0.4**
comp=Z,63nm,1.4s
PVAQ Vaqueiros 60.96 297 lAmb lAmb 17 55 36.9
comp=Z,24nm,1.2s
PET Petropavlovsk 60.98 44 P **P** **17 55 34.1 -0.1**
PET lAmb lAmb 17 55 44.5
comp=Z,33nm,1.2s
PET Petropavlovsk 60.98 44 *ce*P **P** **17 55 34.2 0.0**
PET pmax pmax
comp=Z,37nm,1.7s
PCVE Castro Verde 61.10 297 *e*P **P** **17 55 36.8 +1.5**
comp=Z,32nm,1.6s
SOEG Soedalen 61.18 335 *i* P **P** **17 55 37.8 +2.5**
SOEG lAmb lAmb 17 55 40.1
comp=Z,32nm,0.8s
PBDV Barranco-do-Ve 61.18 297 *e*P **P** **17 55 35.9 0.0**
comp=Z,76nm,1.3s
PBDV Barranco-do-Ve 61.18 297 *e*P **P** **17 55 38.0 +2.1**
comp=Z,76nm,1.3s
SUMG Summit 61.28 341 P **P** **17 55 36.4 -0.1**
SUMG pP **pP** **17 56 02.8 -0.2**
SUMG Summit 61.28 341 P **P** **17 55 36.4 -0.1**
SUMG *PP **pP** **17 56 02.8 -0.2**
SUMG pmax pmax
comp=Z,137nm,0.8s
SUMG Summit 61.28 341 *i* P **P** **17 55 38.0 +1.5**
NEEM North Greenlan 61.30 348 *i* P **P** **17 55 37.8 +1.4**
NEEM lAmb lAmb 17 55 40.5
comp=Z,56nm,0.9s
KAPI Kappang 61.53 121 P **P** **17 55 37.3 -1.2**
KAPI Kappang 61.53 121 P **P** **17 55 38.2 -0.3**
KAPI Kappang 61.53 121 P **P** **17 55 38.2 -0.3**
KAPI Kappang 61.53 121 *d i* P **P** **17 55 37.7 -0.8**
KAPI pmax pmax
comp=Z,85nm,1.1s
KAPI Kappang 61.53 121 P **P** **17 55 37.8 -0.6**
PTEO Sao Teotonio 61.63 297 *e*P **P** **17 55 40.9 +2.0**
comp=Z,62nm,1.3s
PFVI Vila Bisbo 61.88 297 *e*P **P** **17 55 41.4 +0.8**
comp=Z,72nm,1.3s
PFVI Vila Bisbo 61.88 297 lAmb lAmb 17 55 43.4
comp=Z,55nm,1.2s
BKSI Bulukumba 62.01 121 P **P** **17 55 41.2 -0.4**
comp=Z,41nm,1.1s,comp=Z,640nm
VOI Vohitsoka 62.01 205 P **P** **17 55 41.5 -0.1**
VOI pP **pP** **17 56 08.0 -0.6**
VOI Vohitsoka 62.01 205 P **P** **17 55 43.0 +1.4**
VOI Vohitsoka 62.01 205 P **P** **17 55 42.9 +1.4**
PLAI Plampang 62.97 126 P **P** **17 55 46.1 -1.9**
PLAI Plampang 62.97 126 P **P** **17 55 44.9 -3.1**
comp=Z,45nm,0.9s
TNTI Ternate 63.14 110 P **P** **17 55 48.6 -0.7**
TNTI pP **pP** **17 56 15.1 -1.1**
TNTI Ternate 63.14 110 P **P** **17 55 49.7 +0.5**
TNTI Ternate 63.14 110 P **P** **17 55 49.8 +0.5**
comp=Z,56nm,1.3s
EUNU Eureka 63.32 356 P **P** **17 55 50.4 +0.8**
EUNU pP **pP** **17 56 15.3 -1.1**
EUNU lAmb lAmb 17 56 27.8
comp=Z,29nm,1.1s
ICESG Greenland Ices 63.41 338 *i* P **P** **17 55 52.4 +1.7**
ICESG lAmb lAmb 17 55 55.1
comp=Z,67nm,0.8s
BBSI Bau Bau 63.84 119 P **P** **17 55 54.7 +0.9**
comp=Z,57nm,1.0s,comp=Z,668nm
SANI Sanana 63.96 114 P **P** **17 55 54.5 -0.1**
SANI Sanana 63.96 114 P **P** **17 55 54.2 -0.4**
comp=Z,30nm,1.6s,comp=Z,601nm
LBMI Labuha 64.16 112 P **P** **17 55 55.7 -0.2**
comp=Z,49nm,0.7s,comp=Z,1µm
ANGG Ammassalik, Gr 64.59 334 P **P** **17 55 58.8 +0.9**
ANGG Ammassalik, Gr 64.59 334 *i* P **P** **17 56 00.0 +2.1**
ANGG lAmb lAmb 17 56 02.0
comp=Z,71nm,0.8s
TULEG Thule 64.72 350 P **P** **17 55 59.4 +0.7**
TULEG pP **pP** **17 56 25.1 -0.4**
LSZ Lusaka 65.02 226 P **P** **17 56 00.8 -0.7**
LSZ pP **pP** **17 56 27.3 -1.5**
LSZ Lusaka 65.02 226 P **P** **17 56 02.0 +0.5**
LSZ pP **pP** **17 56 29.0 +0.2**
LSZ sP **sP** **17 56 41.0 +0.4**
ISOG Isortoq, Green 65.09 334 *i* P **P** **17 56 01.9 +0.7**
ISOG lAmb lAmb 17 56 04.6
comp=Z,27nm,0.8s
UPNV Upernavik 65.38 345 *i* P **P** **17 56 04.5 +1.5**
UPNV lAmb lAmb 17 56 07.0
comp=Z,45nm,0.8s
TOA0 Torodi Ar. Sit 65.42 269 P **P** **17 56 01.9 -2.3**
TOA0 lAmb lAmb 17 56 03.6
comp=Z,42nm,1.1s
TOA0 pP **pP** **17 56 29.7 -1.2**
TOA0 Torodi Ar. Sit 65.42 269 P **P** **17 56 02.8 -1.3**
SNR=5.6
TORD Torodi Ar. Bea 65.42 269 P **P** **17 56 02.6 -1.6**
comp=Z,23nm,0.5s,baz=49,slow=6.5,SNR=341
TORD LR LR 18 27 10.9
comp=Z,112nm,21.6s,baz=136,slow=38
comp=Z,23nm,0.5s
EDFI Ende, Flores 65.54 122 P **P** **17 56 01.8 -3.2**
comp=Z,38nm,0.7s
NLAI Namlea 65.58 114 P **P** **17 56 05.3 +0.2**
comp=Z,13nm,0.8s,comp=Z,10µm
MMRI Maumere 65.83 122 P **P** **17 56 04.4 -2.3**
MMRI Maumere 65.83 122 P **P** **17 56 05.6 -1.1**
MMRI Maumere 65.83 122 P **P** **17 56 05.1 -1.6**
comp=Z,95nm,1.3s,comp=Z,1µm
BASI Baing, Sumba 65.85 124 P **P** **17 56 05.8 -1.0**
comp=Z,635nm,1.2s,comp=Z,6µm
ILULI Ilulissat 66.62 341 lAmb lAmb 17 56 14.4
comp=Z,111nm,0.7s
ILULI Ilulissat 66.62 341 *i* P **P** **17 56 12.2 +1.3**
ILULI lAmb lAmb 17 56 14.7
comp=Z,77nm,0.7s
DY2G Dye2 66.97 337 *i* P **P** **17 56 15.2 +1.7**
DY2G lAmb lAmb 17 56 17.6
comp=Z,106nm,0.7s
SWI Sorong 67.16 109 P **P** **17 56 15.1 -0.1**
comp=Z,50nm,1.2s,comp=Z,775nm
A19K Wainwright 67.57 17 P **P** **17 56 19.1 +2.1**
baz=317
A21K Barrow 67.71 15 P **P** **17 56 19.8 +2.0**
baz=320
C16K Lisburne Hills 67.87 19 P **P** **17 56 21.1 +2.2**
baz=314
BATI Baumata 67.93 122 P **P** **17 56 19.2 -0.9**
comp=Z,127nm,0.9s,comp=Z,1µm
SFJD Kangerlussuaq 67.96 339 P **P** **17 56 20.1 +0.6**
SFJD lAmb lAmb 17 56 22.8
comp=Z,42nm,0.8s
SFJD Kangerlussuaq 67.96 339 P **P** **17 56 20.1 +0.6**
SFJD pmax pmax
comp=Z,42nm,0.8s
SFJD Kangerlussuaq 67.96 339 *i* P **P** **17 56 20.4 +1.0**
SFJD lAmb lAmb 17 56 23.1
comp=Z,34nm,0.8s
SFJD Kangerlussuaq 67.96 339 LR LR 18 26 31.3
comp=Z,74nm,18.3s,baz=34,slow=36
SFJD Kangerlussuaq 67.96 339 P **P** **17 56 21.3 +1.9**
SFJD pP **pP** **17 56 47.8 +1.4**
B18K Kokolik River 68.00 18 P **P** **17 56 21.6 +1.9**
baz=316
SOEI Soe 68.03 121 P **P** **17 56 18.9 -1.9**
SOEI Soe 68.03 121 P **P** **17 56 20.2 -0.6**
SOEI Soe 68.03 121 P **P** **17 56 19.6 -1.2**
comp=Z,121nm,0.9s,comp=Z,1µm
A22K Sinclair Lake 68.30 15 P **P** **17 56 23.0 +1.5**
baz=322
C17K DeLong Mountai 68.30 19 P **P** **17 56 23.1 +1.5**
baz=315
BNDI Bandanaira 68.51 113 P **P** **17 56 23.2 -0.5**
BNDI Bandanaira 68.51 113 P **P** **17 56 22.9 -0.8**
comp=Z,70nm,0.7s
B20K Meade River 68.61 16 P **P** **17 56 25.1 +1.7**
baz=320
C18K Utukok River 68.68 18 P **P** **17 56 25.8 +1.8**
baz=317
C19K Lookout Ridge 68.73 17 P **P** **17 56 25.9 +1.5**
baz=318
D17K Noatak River 68.88 19 P **P** **17 56 26.7 +1.5**
baz=316
GAMB Gambell 68.93 25 P **P** **17 56 27.6 +2.1**
baz=310
TNA Tin City 68.98 22 P **P** **17 56 27.5 +1.7**
baz=312
RES Resolute Bay 69.01 356 P **P** **17 56 25.9 0.0**
RES Resolute Bay 69.01 356 P **P** **17 56 25.9 0.0**
RES pmax pmax
comp=Z,38nm,1.8s
RES Resolute Bay 69.01 356 LR LR 18 30 54.6
comp=Z,170nm,18.5s,baz=14,slow=39
B22K Teshekpuk Lake 69.14 15 P **P** **17 56 28.8 +2.1**
baz=323
FAKI Fak Fak 69.23 110 P **P** **17 56 27.6 -0.6**
FAKI lAmb lAmb 17 56 29.5
comp=Z,67nm,1.2s
FAKI **pP** **17 56 54.2 -1.5**
FAKI Fak Fak 69.23 110 P **P** **17 56 28.5 +0.3**
FAKI Fak Fak 69.23 110 P **P** **17 56 28.3 +0.1**
comp=Z,49nm,1.2s
B21K Ikpikpuk River 69.47 15 lAmb lAmb 17 56 33.2
comp=Z,77nm,1.1s
B21K Ikpikpuk River 69.47 15 P **P** **17 56 30.8 +2.1**
baz=322
F14K Arctic Creek 69.53 22 P **P** **17 56 30.8 +1.6**
baz=314
D19K Kuna River 69.55 17 P **P** **17 56 30.3 +1.0**
baz=320
D20K Etivluk River 69.73 17 P **P** **17 56 31.9 +1.4**
baz=321
E18K Tukpahlearik C 69.73 19 P **P** **17 56 32.1 +1.6**
baz=318
C21K Knifeblade Rid 69.80 16 P **P** **17 56 32.5 +1.7**
baz=322
PMAR Madeira 69.81 296 *e*P **P** **17 56 33.8 +2.1**
comp=Z,204nm,1.3s
F15K North Star Dit 69.86 21 P **P** **17 56 32.5 +1.3**
baz=315
NRS Narsarsuaq 70.03 332 P **P** **17 56 33.0 +0.7**
NRS lAmb lAmb 17 56 35.9
comp=Z,62nm,0.9s
NRS Narsarsuaq 70.03 332 P **P** **17 56 33.0 +0.7**
NRS pmax pmax
comp=Z,63nm,0.9s
NRS Narsarsuaq 70.03 332 *i* P **P** **17 56 34.2 +1.9**
NRS lAmb lAmb 17 56 35.9
comp=Z,37nm,0.7s
C23K Itkillik River 70.11 14 P **P** **17 56 34.1 +1.4**
baz=326
E20K Nigu River 70.19 17 P **P** **17 56 34.8 +1.5**
baz=321
F17K Baldwin Pennin 70.29 20 P **P** **17 56 35.0 +1.2**
baz=318
ANM Nome 70.45 22 P **P** **17 56 35.8 +0.9**
baz=315
D22K Ayikyak River 70.47 15 lAmb lAmb 17 56 39.5

comp=Z,73nm,1.2s
D22K Ayikyak River 70.47 15 P **P** **17 56 35.7 +0.8**
baz=324
E21K Killik River 70.55 16 IAmb IAmb 17 56 39.4
comp=Z,100nm,1.3s
E21K Killik River 70.55 16 P **P** **17 56 36.2 +0.7**
baz=323
G15K Niukluk 70.55 22 P **P** **17 56 36.5 +1.0**
baz=316
E19K Redstone River 70.56 18 IAmb IAmb 17 56 39.5
comp=Z,124nm,1.6s
E19K Redstone River 70.56 18 P **P** **17 56 36.7 +1.2**
baz=320
C24K Franklin Bluff 70.58 14 P **P** **17 56 36.8 +1.3**
baz=327
G16K Koyuk River 70.75 21 IAmb IAmb 17 56 40.8
comp=Z,54nm,0.9s
G16K Koyuk River 70.75 21 P **P** **17 56 38.2 +1.5**
baz=317
D23K Nanushuk River 70.82 15 P **P** **17 56 38.2 +1.1**
baz=326
F19K Shaleruckik Mo 70.91 18 IAmb IAmb 17 56 40.4
comp=Z,39nm,1.2s
F19K Shaleruckik Mo 70.91 18 P **P** **17 56 38.2 +0.6**
baz=320
D24K Happy Valley 71.03 14 P **P** **17 56 39.6 +1.2**
baz=327
C26K Camden Bay 71.10 12 P **P** **17 56 39.8 +1.1**
baz=330
G17K Kiwalik Mounta 71.15 20 P **P** **17 56 40.4 +1.2**
baz=318
F20K Avaraart Lake 71.25 17 P **P** **17 56 40.3 +0.7**
baz=322
TOLK Toolik Lake Re 71.32 14 P **P** **17 56 40.6 +0.5**
TOLK IAmb IAmb 17 56 43.8
comp=Z,80nm,1.0s
TOLK Toolik Lake Re 71.32 14 P **P** **17 56 41.1 +0.9**
baz=327
H16K Elim 71.34 21 P **P** **17 56 40.4 +0.1**
baz=317
D25K Kavik River 71.35 13 P **P** **17 56 40.9 +0.6**
D25K Kavik River 71.35 13 P **P** **17 56 41.1 +0.8**
baz=329
G18K Tagagawik 71.40 19 IAmb IAmb 17 56 44.4
comp=Z,43nm,1.4s
G18K Tagagawik 71.40 19 P **P** **17 56 42.3 +1.7**
baz=320
GIRL Giralia 71.55 138 P **P** **17 56 42.6 +0.6**
A36M Sachs Harbour 71.56 5 P **P** **17 56 42.4 +1.0**
A36M Sachs Harbour 71.56 5 P **P** **17 56 43.0 +1.6**
baz=346
G19K Purcell Mounta 71.62 18 IAmb IAmb 17 56 45.9
comp=Z,72nm,1.0s
G19K Purcell Mounta 71.62 18 P **P** **17 56 43.4 +1.4**
baz=321
F21K Alatna River 71.64 17 P **P** **17 56 42.5 +0.5**
F21K IAmb IAmb 17 56 47.3
comp=Z,42nm,0.9s
F21K Alatna River 71.64 17 P **P** **17 56 43.9 +1.9**
baz=324
F22K John River 71.70 16 P **P** **17 56 43.8 +1.4**
baz=325
H17K Granite Mounta 71.78 20 P **P** **17 56 42.5 -0.5**
H17K IAmb IAmb 17 56 47.2
comp=Z,61nm,1.0s
H17K Granite Mounta 71.78 20 P **P** **17 56 45.0 +2.0**
baz=319
E23K Chandalar 71.80 15 P **P** **17 56 44.6 +1.6**
baz=327
SAUI Saumlaki 71.84 115 P **P** **17 56 44.0 +0.1**
SAUI Saumlaki 71.84 115 P **P** **17 56 45.3 +1.3**
SAUI Saumlaki 71.84 115 P **P** **17 56 44.9 +0.9**
comp=Z,400nm,1.1s,comp=Z,5µm
E24K Your Creek 72.01 14 P **P** **17 56 45.1 +0.8**
baz=328
H18K Honhosa River 72.05 20 P **P** **17 56 45.2 +0.7**
H18K Honhosa River 72.05 20 P **P** **17 56 45.7 +1.2**
baz=320
G21K Allakaket 72.20 17 P **P** **17 56 44.7 -0.7**
G21K IAmb IAmb 17 56 49.0
comp=Z,52nm,1.1s
G21K Allakaket 72.20 17 P **P** **17 56 46.5 +1.1**
baz=324,SNR=10.0
H19K Roundabout Mou 72.26 19 P **P** **17 56 45.8 +0.1**
H19K IAmb IAmb 17 56 50.0
comp=Z,47nm,0.9s
H19K Roundabout Mou 72.26 19 P **P** **17 56 46.6 +0.9**
baz=322,SNR=15
J14K Nanvaranak Lak 72.32 23 P **P** **17 56 47.2 +1.1**
J14K IAmb IAmb 17 56 50.8
comp=Z,73nm,1.0s
J14K Nanvaranak Lak 72.32 23 P **P** **17 56 47.3 +1.1**
baz=316,SNR=6.6
G22K Bettles 72.33 16 P **P** **17 56 47.7 +1.6**
baz=325
D27M Malcolm River 72.35 11 P **P** **17 56 47.4 +1.1**
baz=334
I17K Unalakleet 72.35 21 P **P** **17 56 47.3 +1.0**
baz=318
COLD Coldfoot 72.37 15 P **P** **17 56 47.0 +0.6**
COLD IAmb IAmb 17 56 50.8
comp=Z,89nm,1.4s
COLD pP **pP** **17 57 13.3 -0.1**
COLD Coldfoot 72.37 15 P **P** **17 56 47.7 +1.3**
baz=326,SNR=24
E25K Arctic Village 72.54 13 P **P** **17 56 46.9 -0.6**
E25K IAmb IAmb 17 56 51.9
comp=Z,122nm,1.9s
E25K pP **pP** **17 57 14.3 -0.2**
E25K Arctic Village 72.54 13 P **P** **17 56 48.5 +1.0**
baz=330
K13K Kusilvak Mount 72.56 24 P **P** **17 56 49.1 +1.6**
baz=316
F24K Squaw Lake 72.61 15 P **P** **17 56 48.6 +0.8**
baz=328
D28M Stokes Point 72.61 11 P **P** **17 56 48.6 +0.9**
baz=335
H20K Anotleneega Mo 72.69 18 P **P** **17 56 49.6 +1.3**
baz=323,SNR=36
GCSA Galena City Sc 72.76 19 P **P** **17 56 49.6 +0.9**
baz=321,SNR=7.0
J16K Anvik River 72.83 22 P **P** **17 56 49.6 +0.4**
baz=319,SNR=19
G23K Bananza Creek 72.84 16 IAmb IAmb 17 56 53.6
comp=Z,60nm,1.4s
G23K Bananza Creek 72.84 16 P **P** **17 56 50.1 +0.9**
baz=327
F25K Christian Rive 72.99 14 P **P** **17 56 50.4 +0.3**
baz=330
H21K Melozitna Rive 73.07 17 IAmb IAmb 17 56 54.8
comp=Z,55nm,1.1s
H21K Melozitna Rive 73.07 17 P **P** **17 56 51.0 +0.4**
baz=324,SNR=33
E28M Babbage River 73.15 11 IAmb IAmb 17 56 56.9
comp=Z,52nm,1.2s
E28M Babbage River 73.15 11 P **P** **17 56 51.7 +0.7**
baz=335
F26K Sheenjek River 73.18 13 P **P** **17 56 52.6 +1.4**
baz=331
E27K Coleen River 73.19 12 IAmb IAmb 17 56 57.0
comp=Z,71nm,1.3s
E27K Coleen River 73.19 12 P **P** **17 56 52.2 +0.9**
baz=333
H22K Ishtalitna Cre 73.22 17 P **P** **17 56 52.8 +1.4**
baz=326,SNR=16
K15K Wolf Creek Mou 73.29 23 P **P** **17 56 53.0 +1.1**
K15K IAmb IAmb 17 56 56.9
comp=Z,32nm,0.9s
K15K Wolf Creek Mou 73.29 23 P **P** **17 56 53.9 +2.0**
baz=318,SNR=5.9
BMAR Burnt Mountain 73.33 13 P **P** **17 56 53.2 +1.0**
I20K Naaghedeneel 73.35 18 P **P** **17 56 53.2 +1.0**
baz=323,SNR=12
G24K Hadweenzic Riv 73.39 15 IAmb IAmb 17 56 57.3
comp=Z,22nm,0.7s
G24K Hadweenzic Riv 73.39 15 P **P** **17 56 53.3 +0.8**
baz=329
MBWA Marble Bar 73.51 133 P **P** **17 56 54.1 +0.4**
E29M Blow River 73.60 11 IAmb IAmb 17 56 59.4
comp=Z,45nm,0.9s
E29M Blow River 73.60 11 P **P** **17 56 54.8 +1.2**
baz=336
G25K Bearman Lake 73.62 14 P **P** **17 56 54.8 +1.1**
baz=330
L14K Kuka Creek 73.63 24 IAmb IAmb 17 56 58.8
comp=Z,70nm,1.0s
L14K Kuka Creek 73.63 24 P **P** **17 56 55.3 +1.4**
baz=318,SNR=10
I21K Tanana 73.66 17 IAmb IAmb 17 56 58.4
comp=Z,40nm,1.1s
I21K Tanana 73.66 17 P **P** **17 56 55.6 +1.6**
baz=325
H23K Yukon River 73.69 16 IAmb IAmb 17 56 59.1
comp=Z,41nm,1.0s
H23K Yukon River 73.69 16 P **P** **17 56 56.1 +1.8**
baz=327
J19K Poorman 73.69 19 P **P** **17 56 55.1 +0.9**
baz=322,SNR=32
L15K Ungalak Mounta 73.77 23 P **P** **17 56 56.1 +1.5**
baz=318
J18K Innoko River 73.81 20 IAmb IAmb 17 56 59.3
comp=Z,67nm,0.9s
J18K Innoko River 73.81 20 P **P** **17 56 56.0 +1.1**
baz=322,SNR=35
SPIA Saint Paul Isl 73.84 30 P **P** **17 56 56.5 +1.4**
baz=313
PSA00 Pilbara Seismi 73.90 133 P **P** **17 56 55.2 -0.8**
PSA00 IAmb IAmb 17 56 57.0
comp=Z,71nm,1.5s
PSA00 Pilbara Seismi 73.90 133 P **P** **17 56 55.5 -0.4**
PSA00 IAmb IAmb 17 56 57.0
comp=Z,88nm,1.4s
PSA00 pP **pP** **17 57 23.0 -0.9**
PSA00 Pilbara Seismi 73.90 133 P **P** **17 56 56.2 +0.2**
G26K Porcupine Rive 73.90 13 P **P** **17 56 56.2 +0.9**
baz=332
J20K Nowinta River 73.94 19 IAmb IAmb 17 57 00.2
comp=Z,76nm,1.0s
J20K Nowinta River 73.94 19 P **P** **17 56 57.0 +1.3**
baz=324,SNR=34
K17K Iditarod 73.95 21 P **P** **17 56 55.8 +0.1**
K17K pP **pP** **17 57 22.1 -0.9**
K17K Iditarod 73.95 21 P **P** **17 56 56.3 +0.5**
baz=321,SNR=24
FYU Fort Yukon 73.96 14 IAmb IAmb 17 57 01.0
comp=Z,63nm,1.0s
F28M Old Crow 74.00 12 P **P** **17 56 56.7 +0.7**
F28M Old Crow 74.00 12 P **P** **17 56 56.5 +0.6**
baz=335
H24K Noodor Dome 74.05 15 P **P** **17 56 57.1 +0.8**
H24K Noodor Dome 74.05 15 P **P** **17 56 56.3 0.0**
baz=328,SNR=20
MLY Manley 74.08 17 IAmb IAmb 17 57 00.8
comp=Z,41nm,1.2s
MLY Manley 74.08 17 P **P** **17 56 56.9 +0.3**
baz=326,SNR=14
M13K Dall Lake 74.10 25 P **P** **17 56 56.8 +0.3**
baz=317,SNR=5.8
H25L Birch Creek 74.11 14 P **P** **17 56 57.1 +0.5**
baz=330
C36M Paulatuk 74.24 5 P **P** **17 56 57.4 +0.1**
C36M Paulatuk 74.24 5 P **P** **17 56 57.2 0.0**
baz=348,SNR=7.4
LBTB Lobatse 74.24 222 P **P** **17 56 58.2 +0.2**
LBTB IAmb IAmb 17 56 59.9
comp=Z,74nm,1.2s
LBTB Lobatse 74.24 222 P **P** **17 56 58.2 +0.2**
LBTB pmax pmax
comp=Z,74nm,1.2s
INK Inuvik 74.28 9 P **P** **17 56 58.1 +0.6**
INK IAmb IAmb 17 57 01.2
comp=Z,47nm,0.9s
INK Inuvik 74.28 9 P **P** **17 56 57.5 0.0**
baz=340,SNR=32
INK Inuvik 74.28 9 P **P** **17 56 58.1 +0.6**
INK pmax pmax
comp=Z,47nm,1.0s
INK Inuvik 74.28 9 LR LR 18 32 28.2
comp=Z,91nm,21.1s,baz=45,slow=38
I23K Minto, Yukon-K 74.30 16 IAmb IAmb 17 57 02.3
comp=Z,57nm,1.1s
I23K Minto, Yukon-K 74.30 16 P **P** **17 56 57.7 0.0**
baz=327,SNR=32
M14K Bethel 74.31 24 P **P** **17 56 58.0 +0.2**
baz=318,SNR=19
L16K Owhat River 74.37 22 P **P** **17 56 58.6 +0.4**
baz=320,SNR=26
DBIC Dimbokro 74.39 267 P **P** **17 56 57.6 -1.5**
DBIC IAmb IAmb 17 56 59.0
comp=Z,50nm,1.4s
DBIC Dimbokro 74.39 267 P **P** **17 56 57.5 -1.5**
comp=Z,7.8nm,0.5s,baz=41,slow=6.1,SNR=16
comp=Z,7.8nm,0.5s
L17K Donlin 74.40 22 P **P** **17 56 58.9 +0.5**
baz=321,SNR=12
G27K Doyon Strip 74.42 13 IAmb IAmb 17 57 03.6
comp=Z,170nm,1.9s
G27K Doyon Strip 74.42 13 P **P** **17 56 58.8 +0.3**
baz=333
TTA Tatalina 74.44 20 P **P** **17 56 59.3 +0.6**
baz=322
KIC Kosan Boka 74.48 267 ⇓ *i* P **P** **17 56 58.4 -1.2**
comp=Z,23nm,0.5s
TSUM Tsumeb 74.48 232 P **P** **17 56 59.6 0.0**
TIC Toumodi 74.54 267 ⇓ *i* P **P** **17 56 58.8 -1.2**
comp=Z,12nm,0.3s
K20K Telida 74.62 19 IAmb IAmb 17 57 04.2
comp=Z,84nm,0.9s
K20K Telida 74.62 19 P **P** **17 57 00.3 +0.6**
baz=324
F30M Barrier River 74.63 10 P **P** **17 57 00.2 +0.6**
baz=338
CHUM Lake Minchumin 74.65 18 P **P** **17 57 00.6 +0.9**
baz=325,SNR=14
MDM Murphy Dome 74.72 16 IAmb IAmb 17 57 04.5
comp=Z,87nm,1.3s
POKR Poker Plat Res 74.76 16 IAmb IAmb 17 57 05.1
comp=Z,59nm,1.0s
POKR Poker Plat Res 74.76 16 P **P** **17 57 00.6 +0.1**
baz=329,SNR=26
M15K Kasigluk River 74.77 23 P **P** **17 57 01.0 +0.6**
baz=319,SNR=8.7
LIC Lamto 74.79 267 ⇓ *i* P **P** **17 57 00.2 -1.2**
comp=Z,18nm,0.4s
BPAW Bear Paw Mtn. 74.80 18 IAmb IAmb 17 57 04.5
comp=Z,44nm,1.0s
BPAW Bear Paw Mtn. 74.80 18 P **P** **17 57 01.6 +0.9**
baz=326,SNR=29
L18K Granite Mounta 74.81 21 IAmb IAmb 17 57 05.2
comp=Z,42nm,1.0s
L18K Granite Mounta 74.81 21 P **P** **17 57 01.3 +0.6**
baz=322,SNR=11
PRP Porcupine Dome 74.82 15 IAmb IAmb 17 57 05.7
comp=Z,72nm,1.8s
PRP Porcupine Dome 74.82 15 P **P** **17 57 01.7 +0.8**
baz=330
NEA2 Nenana 74.84 17 IAmb IAmb 17 57 04.9
comp=Z,67nm,1.0s
NEA2 Nenana 74.84 17 P **P** **17 57 01.5 +0.6**
baz=328,SNR=58
COLA College 74.88 16 P **P** **17 57 01.6 +0.5**
COLA IAmb IAmb 17 57 05.7
comp=Z,70nm,0.9s
COLA **pP** **17 57 27.6 -0.7**
COLA College 74.88 16 P **P** **17 57 01.9 +0.9**
COLA College 74.88 16 P **P** **17 57 01.3 +0.3**
baz=329
COLA College 74.88 16 *i* P **P** **17 57 02.9 +1.9**
COLA pmax pmax
comp=Z,13nm,1.2s
G29M Pine Creek 74.94 11 IAmb IAmb 17 57 06.9
comp=Z,91nm,1.6s
G29M Pine Creek 74.94 11 P **P** **17 57 02.5 +1.1**
baz=336
H27K Steamboat Moun 74.96 13 P **P** **17 57 02.4 +0.8**
baz=334,SNR=34
N14K Kuskokwak Cree 75.02 24 P **P** **17 57 02.6 +0.7**
baz=318
M16K Timber Creek 75.06 23 IAmb IAmb 17 57 07.3
comp=Z,57nm,1.0s
M16K Timber Creek 75.06 23 P **P** **17 57 02.6 +0.4**
baz=320,SNR=11
F31M Tsiigehtchic 75.07 9 IAmb IAmb 17 57 07.3
comp=Z,88nm,1.1s
F31M Tsiigehtchic 75.07 9 P **P** **17 57 02.4 +0.3**
baz=340,SNR=17
CCB Clear Creek Bu 75.08 16 IAmb IAmb 17 57 06.0
comp=Z,84nm,1.9s
CAST Castle Rocks 75.09 18 P **P** **17 57 02.7 +0.4**
baz=325,SNR=84
GENI Genyem 75.15 104 P **P** **17 57 04.5 +1.1**
GENI Genyem 75.15 104 P **P** **17 57 04.1 +0.7**
comp=Z,105nm,1.5s
G30M tAoh Zraii Nji 75.15 11 P **P** **17 57 03.0 +0.4**
baz=338,SNR=11
G30M tAoh Zraii Nji 75.15 11 P **P** **17 57 03.1 +0.4**
baz=338,SNR=11
WRH Wood River Hil 75.17 16 IAmb IAmb 17 57 05.5
comp=Z,57nm,1.6s
ILAR Eielson Array 75.18 16 P **P** **17 57 02.7 -0.1**
comp=Z,11nm,0.8s,baz=293,slow=4.8,SNR=59
ILAR PP **PP** **17 59 51.2 -0.5**
comp=Z,16nm,0.9s,baz=322,slow=4.9,SNR=10
ILAR LR LR 18 33 43.5
comp=Z,130nm,18.3s,baz=323,slow=38
comp=Z,11nm,0.8s
M17K Holitna River 75.23 22 P **P** **17 57 03.3 +0.2**
baz=322,SNR=20
FRB Frobisher Bay 75.29 343 LR LR 18 31 13.1
comp=Z,80nm,21.8s,baz=352,slow=36
KNRA Kununurra 75.29 122 P **P** **17 57 04.0 -0.1**
KNRA pP **pP** **17 57 31.7 -0.3**
KNRA Kununurra 75.29 122 P **P** **17 57 04.6 +0.5**
L19K White Mountain 75.36 20 IAmb IAmb 17 57 08.5
comp=Z,49nm,1.1s
L19K White Mountain 75.36 20 P **P** **17 57 04.4 +0.5**
baz=323,SNR=19
N15K Kwethluk River 75.36 24 IAmb IAmb 17 57 09.2
comp=Z,60nm,1.1s
N15K Kwethluk River 75.36 24 P **P** **17 57 04.4 +0.5**
baz=320,SNR=7.6
L20K Farewell, AK 75.39 20 P **P** **17 57 04.7 +0.6**
baz=324,SNR=22
HDA Harding Lake 75.48 16 IAmb IAmb 17 57 07.5
comp=Z,63nm,1.7s
HDA Harding Lake 75.48 16 P **P** **17 57 05.2 +0.7**
baz=329,SNR=10
I26K Coal Creek Min 75.48 14 P **P** **17 57 04.9 +0.4**
baz=332
G31M Satah River 75.48 10 P **P** **17 57 05.2 +0.7**
G31M IAmb IAmb 17 57 08.9
comp=Z,47nm,0.9s
G31M Satah River 75.48 10 P **P** **17 57 05.4 +1.0**
baz=339,SNR=11
PPLA Purkeypile 75.49 19 P **P** **17 57 05.3 +0.4**
baz=325,SNR=12
I27K Kandik River 75.51 13 P **P** **17 57 05.3 +0.5**
baz=334,SNR=18
TRF Thorofare Moun 75.51 18 P **P** **17 57 05.4 +0.4**
baz=327,SNR=6.0
H29M Whitestone 75.52 12 IAmb IAmb 17 57 09.5
comp=Z,54nm,0.9s
H29M Whitestone 75.52 12 P **P** **17 57 04.9 +0.1**
baz=336,SNR=31
N16K Nishlik Lake 75.55 23 P **P** **17 57 05.2 +0.1**
baz=321,SNR=16
MCK McKinley 75.60 17 P **P** **17 57 05.8 +0.5**
baz=328,SNR=11
M18K Stony River 75.64 21 P **P** **17 57 06.3 +0.9**
baz=323,SNR=10.0
EPYK Eagle Plains 75.64 11 IAmb IAmb 17 57 50.5
comp=Z,50nm,1.3s
EPYK Eagle Plains 75.64 11 P **P** **17 57 06.0 +0.5**
baz=338,SNR=8.5
J25K Salcha River, 75.64 15 P **P** **17 57 05.8 +0.3**
baz=331,SNR=28
O14K Tigyukauivet M 75.67 25 P **P** **17 57 05.6 0.0**
baz=319
M19K Big River Lodg 75.71 20 P **P** **17 57 05.8 -0.1**
baz=324
KDU Kakadu 75.84 117 P **P** **17 57 06.8 -0.5**
RND Reindeer 75.90 17 IAmb IAmb 17 57 10.3
comp=Z,33nm,1.0s
I28M Miner Creek 75.95 13 IAmb IAmb 17 57 11.5
comp=Z,30nm,0.8s
I28M Miner Creek 75.95 13 P **P** **17 57 07.2 -0.1**
baz=335,SNR=38
N17K Nushagak Hills 75.99 22 IAmb IAmb 17 57 12.8
comp=Z,30nm,0.8s
N17K Nushagak Hills 75.99 22 P **P** **17 57 07.6 +0.1**
baz=322,SNR=9.7
SVW2 Sparrevohn 76.02 21 P **P** **17 57 08.0 +0.3**
SVW2 Sparrevohn 76.02 21 P **P** **17 57 09.5 +1.8**
M20K Styx River 76.08 20 P **P** **17 57 08.8 +0.7**
baz=325
J26L Joseph Creek 76.11 15 P **P** **17 57 08.4 +0.1**
baz=332,SNR=30
O15K Ungalikthiuk R 76.21 24 P **P** **17 57 08.9 +0.2**
baz=320
K24K Donnelly Dome 76.26 16 P **P** **17 57 08.8 -0.3**
baz=330,SNR=14
N18K Kilae Creek 76.26 22 P **P** **17 57 10.1 +1.0**
N18K Kilae Creek 76.26 22 P **P** **17 57 09.1 0.0**
baz=323,SNR=7.9
I29M Ogilvie Camp, 76.31 12 IAmb IAmb 17 57 38.9
comp=Z,70nm,1.4s
I29M Ogilvie Camp, 76.31 12 P **P** **17 57 09.9 +0.6**
baz=336,SNR=23
EGAK Eagle 76.34 13 P **P** **17 57 09.7 +0.3**
baz=334,SNR=17
CUT Chulitna 76.40 18 IAmb IAmb 17 57 39.8
comp=Z,95nm,1.3s
CUT Chulitna 76.40 18 P **P** **17 57 09.9 +0.2**
baz=327
SKT Skwentna 76.43 19 P **P** **17 57 09.0 -1.0**
SKT IAmb IAmb 17 57 13.4
comp=Z,79nm,1.0s
SKT Skwentna 76.43 19 P **P** **17 57 10.1 +0.1**
baz=325,SNR=34
O16K Kokwok River B 76.44 23 IAmb IAmb 17 57 15.3
comp=Z,77nm,1.1s
O16K Kokwok River B 76.44 23 P **P** **17 57 11.3 +1.2**
baz=321,SNR=16
WAT1 Susitna Watana 76.46 17 P **P** **17 57 10.5 +0.3**
baz=328
SCRK Sand Creek 76.49 15 IAmb IAmb 17 57 13.8
comp=Z,130nm,1.8s
SCRK Sand Creek 76.49 15 P **P** **17 57 10.5 +0.1**
baz=332,SNR=39
RIDG Independent Ri 76.52 15 IAmb IAmb 17 57 14.1
comp=Z,70nm,1.4s
RIDG Independent Ri 76.52 15 P **P** **17 57 11.2 +0.6**
baz=331
H31M Peel River 76.52 10 IAmb IAmb 17 57 14.8
comp=Z,41nm,0.8s
H31M Peel River 76.52 10 P **P** **17 57 10.6 +0.1**
baz=340,SNR=22
DHY Denali Highway 76.53 17 IAmb IAmb 17 57 14.9
comp=Z,34nm,0.7s
DHY Denali Highway 76.53 17 P **P** **17 57 11.4 +0.6**
baz=329,SNR=26
N19K Bonanza Creek 76.57 21 P **P** **17 57 11.1 +0.2**
N19K Bonanza Creek 76.57 21 P **P** **17 57 12.3 +1.4**
baz=324,SNR=6.7
O17K Koliganek Bris 76.62 23 P **P** **17 57 11.7 +0.7**
baz=322,SNR=7.4
I30M Mount Dempster 76.76 11 IAmb IAmb 17 57 15.2
comp=Z,36nm,0.8s
I30M Mount Dempster 76.76 11 P **P** **17 57 12.0 +0.1**
baz=338,SNR=37
K27K Chicken 76.83 14 IAmb IAmb 17 57 17.7
comp=Z,60nm,1.4s
K27K Chicken 76.83 14 P **P** **17 57 12.3 +0.1**
baz=333
WAT6 Susitna Watana 76.87 17 P **P** **17 57 13.2 +0.5**
baz=329,SNR=14
N20K Mount Spurr 76.89 20 P **P** **17 57 13.2 +0.5**
baz=326,SNR=6.1
SPCR Spurr Chakacha 76.89 20 P **P** **17 57 13.0 +0.3**
baz=326
P16K Nushagak River 76.92 23 P **P** **17 57 13.2 +0.4**
baz=322
M22K Willow 76.98 19 IAmb IAmb 17 57 16.4
comp=Z,68nm,0.9s
M22K Willow 76.98 19 P **P** **17 57 13.1 +0.1**
baz=327,SNR=8.6
PAX Paxson 77.06 16 P **P** **17 57 13.9 +0.3**
baz=331,SNR=26
SUA Susitna One 77.06 19 IAmb IAmb 17 57 17.2
comp=Z,30nm,1.0s
SUA Susitna One 77.06 19 P **P** **17 57 14.0 +0.3**
baz=327,SNR=10
O19K Port Alsworth 77.12 21 IAmb IAmb 17 57 18.4
comp=Z,40nm,1.1s
O19K Port Alsworth 77.12 21 P **P** **17 57 14.6 +0.8**
baz=324
MEEK Meekatharra 77.12 137 P **P** **17 57 14.1 -0.2**
O18K Koktuh Hills 77.13 22 IAmb IAmb 17 57 18.9
comp=Z,77nm,0.9s
O18K Koktuh Hills 77.13 22 P **P** **17 57 14.8 +0.8**
baz=324,SNR=16
J29N Klondike Camp 77.17 12 P **P** **17 57 14.7 +0.5**
J29N pP **pP** **17 57 42.0 +0.2**

J29N				IAmb	IAmb	17 57 46.1		
	comp=Z,32nm,0.9s							
J29N	**Klondike Camp**	**77.17**	**12**	P	**P**	**17 57 15.1**	**+0.9**	
	baz=336							
GHO	**Glory Hole Cre**	**77.27**	**18**	IAmb	IAmb	17 57 49.8		
	comp=Z,96nm,1.4s							
P17K	**Kvichak River**	**77.28**	**23**	P	**P**	**17 57 15.3**	**+0.5**	
	baz=323,SNR=14							
BOSA	**Boshof**	**77.31**	**220**	P	**P**	**17 57 14.7**	**-0.7**	
BOSA				IAmb	IAmb	17 57 16.8		
	comp=Z,76nm,1.1s							
BOSA					**pP**	**17 57 42.5**	**-0.7**	
BOSA	**Boshof**	**77.31**	**220**	P	**P**	**17 57 14.7**	**-0.7**	
BOSA				*PP	**pP**	**17 57 42.5**	**-0.7**	
BOSA				pmax	pmax			
	comp=Z,77nm,1.1s							
BOSA	**Boshof**	**77.31**	**220**	P	**P**	**17 57 15.7**	**+0.3**	
	comp=Z,47nm,0.9s,baz=25,slow=4.3,SNR=46							
	comp=Z,47nm,0.9s							
DAWY	**Dawson**	**77.31**	**13**	P	**P**	**17 57 15.1**	**+0.2**	
	baz=336,SNR=20							
RSO	**Redoubt South**	**77.35**	**20**	P	**P**	**17 57 15.3**	**-0.1**	
J30M	**Hart River**	**77.37**	**12**	IAmb	IAmb	17 58 00.3		
	comp=Z,33nm,1.1s							
J30M	**Hart River**	**77.37**	**12**	P	**P**	**17 57 15.4**	**+0.1**	
	baz=338,SNR=19							
PMR	**Palmer**	**77.37**	**18**	P	**P**	**17 57 15.9**	**+0.7**	
PMR	**Palmer**	**77.37**	**18**	P	**P**	**17 57 15.6**	**+0.4**	
	baz=328,SNR=6.9							
SML	**Sawmill**	**77.39**	**18**	IAmb	IAmb	17 57 19.3		
	comp=Z,69nm,0.9s							
SML	**Sawmill**	**77.39**	**18**	P	**P**	**17 57 15.9**	**+0.5**	
	baz=329,SNR=26							
MENT	**Mentasta**	**77.47**	**15**	P	**P**	**17 57 17.0**	**+1.2**	
L26K	**Log Cabin Wild**	**77.47**	**15**	P	**P**	**17 57 16.5**	**+0.6**	
	baz=332,SNR=14							
P18K	**Big Mountain,**	**77.50**	**22**	IAmb	IAmb	17 57 20.5		
	comp=Z,35nm,0.8s							
P18K	**Big Mountain,**	**77.50**	**22**	P	**P**	**17 57 16.9**	**+0.9**	
	baz=324,SNR=6.5							
M23K	**Glacier View**	**77.55**	**18**	P	**P**	**17 57 16.2**	**-0.1**	
	baz=329,SNR=37							
SCM	**Sheep Creek Mo**	**77.61**	**17**	IAmb	IAmb	17 57 20.6		
	comp=Z,35nm,0.8s							
SCM	**Sheep Creek Mo**	**77.61**	**17**	P	**P**	**17 57 16.9**	**+0.1**	
	baz=329,SNR=12							
Q16K	**King Salmon**	**77.62**	**23**	P	**P**	**17 57 16.9**	**+0.2**	
	baz=323							
HARP	**HAARP**	**77.63**	**16**	P	**P**	**17 57 16.9**	**+0.2**	
	baz=331,SNR=25							
RC01	**Rabbit Creek A**	**77.64**	**19**	IAmb	IAmb	17 57 21.2		
	comp=Z,131nm,1.8s							
RC01	**Rabbit Creek A**	**77.64**	**19**	P	**P**	**17 57 17.0**	**+0.2**	
	baz=328,SNR=8.5							
M24K	**Tolsona, Glenn**	**77.65**	**17**	P	**P**	**17 57 17.1**	**+0.2**	
	baz=330,SNR=21							
MORW	**Morawa**	**77.68**	**140**	P	**P**	**17 57 16.6**	**-0.8**	
MORW				IAmb	IAmb	17 57 18.1		
	comp=Z,66nm,1.2s							
MORW	**Morawa**	**77.68**	**140**	P	**P**	**17 57 17.1**	**-0.2**	
KNK	**Knik Glacier**	**77.70**	**18**	P	**P**	**17 57 16.5**	**-0.7**	
KNK				IAmb	IAmb	17 57 21.3		
	comp=Z,51nm,1.0s							
KNK				pP	**pP**	**17 57 44.4**	**-0.2**	
KNK	**Knik Glacier**	**77.70**	**18**	P	**P**	**17 57 17.1**	**0.0**	
	baz=329,SNR=14							
O20K	**Slope Mountain**	**77.70**	**21**	P	**P**	**17 57 18.1**	**+0.8**	
	baz=326							
L27K	**Beaver Creek,**	**77.75**	**14**	P	**P**	**17 57 17.6**	**+0.2**	
	baz=334,SNR=23							
K29M	**Barlow Dome**	**77.85**	**12**	P	**P**	**17 57 18.2**	**+0.2**	
	baz=337,SNR=21							
M26K	**Nabesna, AK**	**78.10**	**15**	P	**P**	**17 57 20.2**	**+0.8**	
	baz=333,SNR=11							
O22K	**Cooper Landing**	**78.16**	**19**	IAmb	IAmb	17 57 29.8		
	comp=Z,32nm,0.6s							
O22K	**Cooper Landing**	**78.16**	**19**	P	**P**	**17 57 20.5**	**+0.8**	
	baz=328							
Q18K	**Katmai Hardscr**	**78.17**	**22**	P	**P**	**17 57 21.0**	**+1.1**	
	baz=324							
Q17K	**Contact Creek**	**78.20**	**23**	P	**P**	**17 57 19.3**	**-0.8**	
	baz=323,SNR=5.4							
PWL	**Port Wells**	**78.20**	**18**	P	**P**	**17 57 20.0**	**+0.1**	
	baz=329,SNR=6.0							
R16K	**Pilot Point**	**78.21**	**24**	P	**P**	**17 57 19.9**	**0.0**	
	baz=322							
KLU	**Klutina**	**78.25**	**17**	P	**P**	**17 57 20.8**	**+0.6**	
	baz=331,SNR=13							
M27K	**Edge Creek, AK**	**78.38**	**15**	IAmb	IAmb	17 57 26.5		
	comp=Z,70nm,1.2s							
M27K	**Edge Creek, AK**	**78.38**	**15**	P	**P**	**17 57 21.0**	**0.0**	
	baz=334,SNR=24							
L29M	**L29M**	**78.42**	**13**	P	**P**	**17 57 21.1**	**0.0**	
L29M				IAmb	IAmb	17 57 53.1		
	comp=Z,43nm,1.1s							
L29M	**L29M**	**78.42**	**13**	P	**P**	**17 57 22.0**	**+0.9**	
	baz=337,SNR=13							
BRLK	**Bradley Lake**	**78.45**	**20**	IAmb	IAmb	17 57 24.3		
	comp=Z,34nm,0.9s							
N25K	**Chitina, Valde**	**78.45**	**16**	IAmb	IAmb	17 57 26.0		
	comp=Z,98nm,1.8s							
N25K	**Chitina, Valde**	**78.45**	**16**	P	**P**	**17 57 20.5**	**-0.9**	
	baz=332,SNR=8.8							
GLI	**Glacier Island**	**78.50**	**18**	IAmb	IAmb	17 57 25.3		
	comp=Z,42nm,0.9s							
GLI	**Glacier Island**	**78.50**	**18**	P	**P**	**17 57 21.3**	**-0.2**	
	baz=330							
BRSE	**Bradley Lake S**	**78.51**	**20**	P	**P**	**17 57 21.7**	**+0.1**	
	baz=327							
S14K	**Fog Glacier**	**78.53**	**26**	P	**P**	**17 57 21.6**	**-0.3**	
	baz=321							
BVCY	**Beaver Creek**	**78.53**	**14**	P	**P**	**17 57 21.8**	**+0.1**	
	baz=334							
R17K	**Ugashik Creek**	**78.54**	**24**	P	**P**	**17 57 21.8**	**0.0**	
	baz=323							
SEW	**Seward**	**78.56**	**19**	P	**P**	**17 57 22.0**	**+0.2**	
	baz=328							
CHGN	**Chignik**	**78.92**	**25**	P	**P**	**17 57 24.0**	**+0.2**	
	baz=322							
M29M	**Somme Creek**	**78.97**	**13**	P	**P**	**17 57 24.5**	**+0.3**	
	baz=336,SNR=19							
MCARA	**McCarthy VSAT**	**79.00**	**16**	P	**P**	**17 57 24.5**	**+0.2**	
MCARA	**McCarthy VSAT**	**79.00**	**16**	P	**P**	**17 57 24.3**	**0.0**	
	baz=333							
BMRM	**Bremner River**	**79.02**	**17**	P	**P**	**17 57 24.8**	**+0.4**	
	baz=332,SNR=7.2							
EYAK	**Cordova Ski Ar**	**79.11**	**17**	P	**P**	**17 57 26.0**	**+1.2**	
EYAK	**Cordova Ski Ar**	**79.11**	**17**	P	**P**	**17 57 24.9**	**0.0**	
	baz=331							
M30M	**Minto, Yukon**	**79.15**	**13**	P	**P**	**17 57 24.2**	**-0.9**	
	baz=338							
P23K	**Montague Islan**	**79.18**	**18**	P	**P**	**17 57 25.3**	**0.0**	
	baz=330							
YUK3	**Moose Creek**	**79.19**	**14**	P	**P**	**17 57 24.9**	**-0.6**	
	baz=335,SNR=22							
R18K	**Karluk**	**79.22**	**23**	P	**P**	**17 57 25.3**	**-0.2**	
	baz=324							
CRQM	**Cirque**	**79.54**	**16**	IAmb	IAmb	17 57 41.6		
	comp=Z,37nm,1.1s							
CRQE	**Cirque**	**79.55**	**16**	P	**P**	**17 57 26.8**	**-0.6**	
	baz=333							
CHNA	**Chernabura Isl**	**79.65**	**27**	P	**P**	**17 57 27.8**	**0.0**	
	baz=321							
CNBA	**Chernabura Isl**	**79.66**	**27**	IAmb	IAmb	17 57 31.1		
	comp=Z,50nm,0.8s							
BERG	**Berg Lake**	**79.73**	**17**	IAmb	IAmb	17 57 33.6		
	comp=Z,70nm,0.9s							
CTG	**Chitna Glacier**	**79.74**	**15**	P	**P**	**17 57 27.8**	**-0.7**	
	baz=334							
CTGM	**Chitina Glacie**	**79.75**	**15**	P	**P**	**17 57 29.2**	**+0.7**	
CTGM				IAmb	IAmb	17 57 33.2		
	comp=Z,32nm,1.0s							
CTGM				pP	**pP**	**17 57 55.9**	**0.0**	
YUK8	**Steele Glacier**	**79.78**	**14**	P	**P**	**17 57 28.5**	**-0.4**	
	baz=336							
WAX	**Waxell Ridge**	**79.88**	**16**	IAmb	IAmb	17 57 34.8		
	comp=Z,124nm,1.8s							
M31M	**Drury Creek, Y**	**79.91**	**12**	IAmb	IAmb	17 58 00.8		
	comp=Z,32nm,1.0s							
M31M	**Drury Creek, Y**	**79.91**	**12**	P	**P**	**17 57 28.9**	**-0.3**	
	baz=340,SNR=18							
LOGN	**Logan Glacier**	**79.94**	**15**	IAmb	IAmb	17 57 33.3		
	comp=Z,88nm,1.8s							
Q23K	**Middleton Isla**	**79.94**	**18**	P	**P**	**17 57 28.9**	**-0.4**	
	baz=330							
YUK4	**Talbot Arm**	**79.94**	**14**	P	**P**	**17 57 28.9**	**-0.8**	
	baz=336,SNR=16							
KAIM	**Kayak Island**	**79.98**	**17**	P	**P**	**17 57 29.4**	**-0.1**	
	baz=332							
MMPY	**Sheldon Lake,**	**79.99**	**10**	P	**P**	**17 57 29.3**	**-0.4**	
	baz=342,SNR=5.8							
FARO	**Faro, Yukon**	**80.05**	**11**	P	**P**	**17 57 30.0**	**0.0**	
	baz=340,SNR=12							
SII	**Sitkinak Islan**	**80.12**	**23**	P	**P**	**17 57 30.4**	**0.0**	
	baz=325							
N30M	**Aishikik Lake**	**80.13**	**13**	P	**P**	**17 57 30.7**	**+0.2**	
	baz=338							
O28M	**Mount Upton**	**80.16**	**15**	P	**P**	**17 57 30.5**	**-0.4**	
	baz=335							
CHIR	**Chirikof Islan**	**80.25**	**24**	P	**P**	**17 57 31.5**	**+0.4**	
	baz=324							
WRGLY	**Wrigley**	**80.30**	**6**	P	**P**	**17 57 32.1**	**+0.9**	
	baz=348							
MESA	**MESA**	**80.32**	**16**	P	**P**	**17 57 31.6**	**-0.1**	
	baz=334							
N31M	**Braeburn, Yuko**	**80.34**	**13**	P	**P**	**17 57 32.0**	**+0.4**	
N31M				pP	**pP**	**17 57 59.5**	**+0.2**	
N31M				IAmb	IAmb	17 58 03.8		
	comp=Z,49nm,1.1s							
N31M	**Braeburn, Yuko**	**80.34**	**13**	P	**P**	**17 57 31.8**	**+0.2**	
	baz=339,SNR=14							
YUK6	**Outpost Mounta**	**80.37**	**14**	P	**P**	**17 57 32.2**	**+0.3**	
	baz=337							
GRHM	**Grahamstown, E**	**80.53**	**216**	P	**P**	**17 57 33.4**	**+0.5**	
GRHM				IAmb	IAmb	17 57 34.9		
	comp=Z,87nm,1.2s							
HYT	**Haines Junctio**	**80.64**	**14**	P	**P**	**17 57 33.5**	**+0.2**	
	baz=337,SNR=15							
PINM	**Pinnacle**	**80.76**	**15**	P	**P**	**17 57 34.5**	**+0.6**	
	baz=335							
O29M	**Mount Kennedy**	**80.92**	**14**	P	**P**	**17 57 35.1**	**+0.3**	
	baz=336							
O30N	**Mendenhall**	**80.96**	**13**	P	**P**	**17 57 35.1**	**+0.2**	
	baz=338,SNR=11							
N32M	**Quiet Lake**	**81.11**	**11**	P	**P**	**17 57 35.3**	**-0.4**	
	baz=341,SNR=7.2							
WHY	**Whitehorse**	**81.27**	**12**	P	**P**	**17 57 35.8**	**-0.8**	
	baz=339,SNR=7.6							
PNL	**Peninsula**	**81.33**	**15**	P	**P**	**17 57 36.4**	**-0.4**	
	baz=336							
P30M	**Million Dollar**	**81.40**	**14**	P	**P**	**17 57 36.2**	**-1.0**	
	baz=338							
TGTN	**Hyland Airport**	**81.44**	**9**	P	**P**	**17 57 36.2**	**-1.2**	
	baz=345,SNR=7.2							
YKA	**Yellowknife Ar**	**81.59**	**2**	P	**P**	**17 57 37.5**	**-0.6**	
YKA	**Yellowknife Ar**	**81.59**	**2**	*i* P	**P**	**17 57 38.9**	**+0.8**	
YKA				pmax	pmax			
	comp=Z,3.0nm,0.4s							
YKA	**Yellowknife Ar**	**81.59**	**2**	P	**P**	**17 57 38.3**	**+0.2**	
	comp=Z,13nm,0.7s,baz=26,slow=9.3,SNR=26							
YKA				LR	LR	18 35 53.8		
	comp=Z,114nm,21.4s,baz=302,slow=37							
	comp=Z,13nm,0.7s							
WRKA	**Warakurna**	**81.64**	**129**	P	**P**	**17 57 38.6**	**-0.3**	
P29M	**Windy Craggy**	**81.70**	**14**	P	**P**	**17 57 38.5**	**-0.3**	
	baz=337							
WB0	**Warramunga Arr**	**81.98**	**121**	P	**P**	**17 57 39.1**	**-1.6**	
P33M	**Teslin, Yukon**	**82.04**	**12**	IAmb	IAmb	17 58 10.5		
	comp=Z,62nm,1.3s							
P33M	**Teslin, Yukon**	**82.04**	**12**	P	**P**	**17 57 40.2**	**-0.4**	
	baz=341,SNR=20							
WRA	**Warramunga Arr**	**82.06**	**122**	P	**P**	**17 57 40.4**	**-0.8**	
	comp=Z,14nm,0.7s,baz=324,slow=4.9,SNR=122							
WRA				PKKPbc	**PKKPbc**	**18 16 09.5**	**+0.1**	
	comp=Z,0.6nm,0.7s,baz=123,slow=2.3,SNR=10							
WRA				PKKPab	PKKPab	18 16 48.6		
	comp=Z,1.6nm,0.6s,baz=96,slow=8.3,SNR=24							
	comp=Z,14nm,0.7s							
WRAB	**Tennant Creek**	**82.06**	**122**	P	**P**	**17 57 39.7**	**-1.5**	
WRAB				IAmb	IAmb	17 57 41.5		
	comp=Z,30nm,0.9s							
WRAB	**Tennant Creek**	**82.06**	**122**	P	**P**	**17 57 40.3**	**-0.9**	
WRAB	**Tennant Creek**	**82.06**	**122**	*ce*P	**P**	**17 57 40.0**	**-1.2**	
WRAB				pmax	pmax			
	comp=Z,53nm,1.7s							
WB2	**Warramunga Arr**	**82.07**	**122**	P	**P**	**17 57 39.9**	**-1.4**	
WB2				IAmb	IAmb	17 57 41.5		
	comp=Z,31nm,0.9s							
PLBC	**Pleasant Camp**	**82.13**	**14**	P	**P**	**17 57 41.4**	**+0.4**	
	baz=338,SNR=10							
WR0	**Warramunga Arr**	**82.21**	**122**	P	**P**	**17 57 40.4**	**-1.6**	
SCHQ	**Schefferville**	**82.29**	**337**	P	**P**	**17 57 42.1**	**+0.2**	
SCHQ				IAmb	IAmb	17 57 44.9		
	comp=Z,31nm,0.9s							
SCHQ	**Schefferville**	**82.29**	**337**	P	**P**	**17 57 42.1**	**+0.2**	
	comp=Z,26nm,0.8s,baz=44,slow=5.8,SNR=18							
SCHQ				LR	LR	18 33 46.7		
	comp=Z,152nm,19.9s,baz=69,slow=35							
	comp=Z,26nm,0.8s							
SKAG	**Skagway**	**82.32**	**13**	IAmb	IAmb	17 58 12.2		
	comp=Z,45nm,1.4s							
SKAG	**Skagway**	**82.32**	**13**	P	**P**	**17 57 43.2**	**+1.3**	
SKAG	**Skagway**	**82.32**	**13**	P	**P**	**17 57 42.5**	**+0.6**	
	baz=339,SNR=6.0							
P32M	**Atlin**	**82.48**	**12**	P	**P**	**17 57 42.6**	**-0.3**	
	baz=340							
SUR	**Sutherland**	**82.62**	**221**	P	**P**	**17 57 43.7**	**-0.3**	
SUR				IAmb	IAmb	17 57 47.6		
	comp=Z,107nm,1.8s							
R33M	**Jennings River**	**83.11**	**11**	P	**P**	**17 57 46.4**	**+0.1**	
	baz=343,SNR=12							
DRLN	**Deer Lake**	**83.32**	**329**	P	**P**	**17 57 47.2**	**-0.1**	
DRLN				IAmb	IAmb	17 57 50.6		
	comp=Z,30nm,0.8s							
DRLN				pP	**pP**	**17 58 14.5**	**-0.8**	
Q32M	**Nakina River**	**83.32**	**12**	P	**P**	**17 57 47.1**	**-0.4**	
	baz=342							
R32K	**Eaglecrest**	**83.58**	**13**	P	**P**	**17 57 48.5**	**0.0**	
	baz=340							
LIRD	**Liard River Hi**	**83.77**	**9**	P	**P**	**17 57 49.3**	**-0.1**	
	baz=346							
DLBC	**Dease Lake**	**84.18**	**11**	IAmb	IAmb	17 58 24.4		
	comp=Z,30nm,1.2s							
DLBC	**Dease Lake**	**84.18**	**11**	P	**P**	**17 57 51.7**	**0.0**	
	baz=343,SNR=8.1							
ASAR	**Alice Springs**	**84.30**	**125**	P	**P**	**17 57 51.0**	**-1.7**	
ASAR	**Alice Springs**	**84.30**	**125**	P	**P**	**17 57 51.9**	**-0.8**	
	comp=Z,14nm,0.9s,baz=310,slow=4.9,SNR=157							
ASAR				PKKPbc	**PKKPbc**	**18 16 03.7**	**-0.7**	
	comp=Z,0.5nm,0.7s,baz=131,slow=2.4,SNR=4.5							
ASAR				PKKPab	PKKPab	18 16 46.0		
	comp=Z,0.5nm,0.4s,baz=95,slow=7.7,SNR=13							
	comp=Z,14nm,0.9s							
S32K	**Killisnoo**	**84.33**	**13**	P	**P**	**17 57 53.0**	**+0.8**	
	baz=340							
S34M	**Telegraph Cree**	**84.51**	**11**	IAmb	IAmb	17 58 24.3		
	comp=Z,40nm,1.1s							
S34M	**Telegraph Cree**	**84.51**	**11**	P	**P**	**17 57 53.0**	**-0.2**	
	baz=342,SNR=15							
COEN	**Coen**	**84.55**	**112**	P	**P**	**17 57 52.2**	**-1.9**	
COEN					**pP**	**17 58 20.7**	**-1.7**	
COEN	**Coen**	**84.55**	**112**	P	**P**	**17 57 53.1**	**-1.0**	
SIT	**Sitka**	**84.57**	**14**	P	**P**	**17 57 52.9**	**-0.6**	
	baz=339							
PMG	**Port Moresby**	**84.79**	**106**	P	**P**	**17 57 54.5**	**-0.8**	
PMG				IAmb	IAmb	17 57 55.8		
	comp=Z,28nm,1.1s							
PMG	**Port Moresby**	**84.79**	**106**	P	**P**	**17 57 55.0**	**-0.3**	
PMG	**Port Moresby**	**84.79**	**106**	P	**P**	**17 57 54.5**	**-0.8**	
PMG				pmax	pmax			
	comp=Z,28nm,1.1s							
T35M	**Bob Quinn**	**85.54**	**11**	P	**P**	**17 57 58.6**	**+0.2**	
T35M					**pP**	**17 58 26.2**	**-0.3**	
T35M	**Bob Quinn**	**85.54**	**11**	P	**P**	**17 57 58.0**	**-0.4**	
	baz=343							
WRAK	**Wrangell Islan**	**85.73**	**13**	IAmb	IAmb	17 59 47.8		
	comp=Z,67nm,1.6s							
WRAK	**Wrangell Islan**	**85.73**	**13**	P	**P**	**17 57 59.1**	**-0.2**	
	baz=342							
QIS	**Mount Isa**	**86.15**	**119**	P	**P**	**17 58 00.4**	**-1.5**	
MTSU	**Mount Surprise**	**88.02**	**114**	P	**P**	**17 58 10.3**	**-0.7**	
OOD	**Oodnadatta**	**88.29**	**127**	P	**P**	**17 58 11.2**	**-0.8**	
FFC	**Flin Flon**	**89.25**	**356**	P	**P**	**17 58 16.2**	**0.0**	
FFC				IAmb	IAmb	17 58 19.9		
	comp=Z,26nm,1.0s							
FFC				pP	**pP**	**17 58 44.6**	**-0.1**	
FFC	**Flin Flon**	**89.25**	**356**	P	**P**	**17 58 16.2**	**0.0**	
FFC				*PP	**pP**	**17 58 44.6**	**-0.1**	
FFC				pmax	pmax			
	comp=Z,26nm,1.0s							
CTA	**Charters Tower**	**90.67**	**114**	P	**P**	**17 58 22.7**	**-0.6**	
CTAO	**Charters Tower**	**90.67**	**114**	P	**P**	**17 58 21.4**	**-1.9**	
CTAO				IAmb	IAmb	17 58 23.5		
	comp=Z,29nm,1.1s							
CTAO					**pP**	**17 58 51.8**	**0.0**	
CTAO	**Charters Tower**	**90.67**	**114**	P	**P**	**17 58 22.7**	**-0.6**	
CTAO	**Charters Tower**	**90.67**	**114**	P	**P**	**17 58 21.4**	**-1.9**	
CTAO				*PP	**pP**	**17 58 51.8**	**0.0**	
CTAO				pmax	pmax			
	comp=Z,29nm,1.2s							
EDM	**Edmonton**	**90.91**	**2**	P	**P**	**17 58 24.1**	**0.0**	
EDM					**pP**	**17 58 51.4**	**-1.3**	
EDM	**Edmonton**	**90.91**	**2**	P	**P**	**17 58 24.1**	**0.0**	
PKME	**Peaks-Kenny Pk**	**91.22**	**333**	P	**P**	**17 58 24.5**	**-1.1**	
	baz=31							
VLDQ	**Val d'Or**	**91.39**	**339**	IAmb	IAmb	17 58 30.4		
	comp=Z,17nm,0.9s							
ULM	**Lac du Bonnet**	**93.14**	**351**	IAmb	IAmb	17 58 37.3		
	comp=Z,19nm,1.1s							
ULM	**Lac du Bonnet**	**93.14**	**351**	P	**P**	**17 58 34.3**	**0.0**	
	comp=Z,11nm,0.9s,baz=346,slow=5.6,SNR=9.7							
ULM				LR	LR	18 43 04.2		
	comp=Z,111nm,21.4s,baz=36,slow=37							
	comp=Z,11nm,0.9s							
LONY	**Lake Ozonia**	**93.63**	**336**	P	**P**	**17 58 35.8**	**-1.0**	
	baz=28							
J61A	**Chester**	**94.06**	**334**	IAmb	IAmb	18 00 13.0		
	comp=Z,33nm,1.5s							
EYMN	**Ely**	**94.75**	**348**	P	**P**	**17 58 42.0**	**+0.1**	
	baz=14							
STKA	**Stephens Creek**	**94.83**	**126**	P	**P**	**17 58 41.9**	**-0.4**	
	comp=Z,1.7nm,0.6s,baz=360,slow=4.3,SNR=5.2							
STKA				PP	**PP**	**18 02 32.3**	**-0.5**	
	comp=Z,2.4nm,0.9s,baz=324,slow=7.4,SNR=3.1							
	comp=Z,1.7nm,0.6s							
NEW	**Newport**	**95.66**	**5**	IAmb	IAmb	17 59 17.6		
	comp=Z,29nm,1.7s							
NEW	**Newport**	**95.66**	**5**	P	**P**	**17 58 45.4**	**-0.6**	
	baz=354							
MDND	**Maddock**	**95.91**	**353**	P	**P**	**17 58 46.8**	**-0.4**	
	baz=7.9							
EGMT	**Eagleton**	**96.18**	**0**	P	**P**	**17 58 47.6**	**-0.9**	
	baz=360							
LON	**Longmire**	**96.70**	**9**	IAmb	IAmb	18 02 44.0		
	comp=Z,13nm,1.6s							
OVMT	**Ovando**	**97.08**	**3**	P	**P**	**17 58 52.5**	**-0.1**	
OVMT					**pP**	**17 59 19.0**	**-2.3**	
MSO	**Missoula**	**97.28**	**3**	P	**P**	**17 58 52.9**	**-0.6**	
	baz=356							
LAO	**LASA Array**	**97.47**	**358**	IAmb	IAmb	17 58 58.8		
	comp=Z,12nm,0.7s							
BOZ	**Bozeman (W)**	**98.59**	**2**	P	Pdif	17 59 00.8	+1.4	
BOZ					pP	17 59 26.8	-1.3	
BOZ				IAmb	IAmb	17 59 31.1		
	comp=Z,19nm,1.9s							
BOZ	**Bozeman (W)**	**98.59**	**2**	P	**P**	**17 58 58.4**	**-1.0**	
	baz=358							
RLMT	**Red Lodge**	**99.09**	**360**	P	**Pdif**	**17 59 00.9**	**-0.9**	
	baz=0.1							
O53A	**New Philadelph**	**99.67**	**339**	P	**Pdif**	**17 59 03.5**	**-0.6**	
	baz=23							
PDAR	**Pinedale Array**	**101.44**	**0**	P	**Pdif**	**17 59 12.7**	**+0.3**	
	comp=Z,0.5nm,0.8s,baz=0.0,slow=2.7,SNR=3.3							
PDAR				PP	**PP**	**18 03 19.8**	**-2.0**	
	comp=Z,1.5nm,1.0s,baz=5.7,slow=4.5,SNR=3.8							
NVAR	**Mina Array Bea**	**105.31**	**7**	Pdiff	**Pdif**	**17 59 31.8**	**+2.2**	
	comp=Z,0.3nm,0.6s,baz=322,slow=3.0,SNR=4.0							
NVAR				PP	**PP**	**18 03 53.5**	**+2.7**	
	comp=Z,1.3nm,0.9s,baz=318,slow=4.9,SNR=3.7							
ELIB	**Princess Elisa**	**112.78**	**194**	*d*PKiKP	**PKiKP**	**18 03 55.3**	**-0.3**	
ELIB				*d*PP	**PP**	**18 04 41.7**	**-3.9**	
TXAR	**Lajitas Array**	**114.63**	**355**	PKP	PKPdf	18 04 01.9	+1.3	
	comp=Z,0.5nm,0.8s,baz=299,slow=5.2,SNR=3.5							
TXAR				PKKPab	**PKKPab**	**18 14 44.4**	**-4.2**	
	comp=Z,1.5nm,0.9s,baz=179,slow=8.5,SNR=6.7							
TROLL	**Troll, Antarti**	**117.69**	**199**	⇑PKPdf	**PKPdf**	**18 04 05.1**	**0.0**	
	comp=Z,386nm,0.6s							
VNA2	**Neumayer--Watz**	**119.98**	**202**	⇑PKPdf	**PKPdf**	**18 04 09.0**	**-0.4**	
	comp=Z,7.4nm,0.7s,baz=20,slow=3.0							
VNA1	**Neumayer--Stat**	**120.14**	**202**	⇑PKPdf	**PKPdf**	**18 04 09.5**	**-0.1**	
	comp=Z,5.5nm,0.8s							
VNA3	**Neumayer Olymp**	**120.79**	**202**	⇑PKPdf	**PKPdf**	**18 04 10.4**	**-0.6**	
	comp=Z,10nm,0.9s							
MACA	**Manacapuru-AM**	**124.45**	**295**	*e*P	**PKiKP**	**18 04 21.6**	**+1.6**	
VNDA	**Vanda**	**125.25**	**165**		**PKPdf**	**18 04 18.2**	**-1.1**	
VNDA	**Vanda**	**125.25**	**165**	PKIKP	**PKPdf**	**18 04 18.2**	**-1.1**	
VNDA	**Vanda**	**125.25**	**165**	PKP	**PKPdf**	**18 04 17.8**	**-1.6**	
	comp=Z,3.0nm,0.9s,baz=288,slow=4.7,SNR=18							
QSPA	**South Pole Qui**	**125.96**	**180**		**PKPdf**	**18 04 19.7**	**-1.4**	
SBA	**Scott Base**	**126.33**	**165**		**PKiKP**	**18 04 21.7**	**-0.1**	
**

DMN	Daman	14.94	122	*e*P	Pn	18 08 32.1 -0.1
	11nm,0.6s					
AB31	Akbulak array	15.14	332	⇑P	Pn	18 08 34.3 +0.1
	0.5nm,0.3s,baz=147,slow=11,SNR=42					
AB31				⇑S	Sn	18 11 13.6 -7.5
	4.7nm,0.7s,baz=145,slow=25,SNR=18					
PKIN	Phulchoki	15.16	121	*e*P	Pn	18 08 34.7 -0.3
	7.6nm,0.5s					
PKI	Pulchoki	15.17	121	*e*P	Pn	18 08 35.1 -0.1
	5.9nm,0.4s					
GUN	Gumba	15.29	119	*e*P	P	18 08 37.3 -2.0
	10nm,0.5s					
KURBB	Kurchatov Arra	15.33	19	P	Pn	18 08 35.4 -1.2
	1.2nm,0.6s,baz=208,slow=10,SNR=1.8					
JIRN	Jiri	15.66	119	*e*P	P	18 08 41.4 -2.0
	6.1nm,0.3s					
RAMN	Ramite	16.39	120	*e*P	Pn	18 08 48.9 -1.4
BVAR	Borovoye Array	16.68	359	P	Pn	18 08 53.5 +0.1
	1.1nm,0.5s,baz=170,slow=12,SNR=7.1					
AKTO	Aktyubinsk	16.83	331	⇓P	P	18 08 57.3 +1.6
	1.2nm,0.5s					
AKTO				⇑S	Sn	18 11 57.8 -4.2
	3.1nm,0.8s					
AKTO	Aktyubinsk	16.83	331	P	P	18 08 57.8 +2.1
	4.2nm,0.6s,baz=142,slow=9.6,SNR=13					
AKTO				S	Sn	18 11 53.5 -8.5
	2.2nm,0.8s,baz=144,slow=12,SNR=3.7					
TAPN	Taplejung	16.93	117	*e*P	P	18 08 56.4 -1.0
	4.7nm,0.4s					
ZALV	Zalesovo Beam	20.13	25	P	P	18 09 32.5 +0.8
	5.6nm,0.5s,baz=223,slow=11,SNR=22					
	5.6nm,0.5s					
ARU	Arti	21.72	341	P	P	18 09 50.6 +1.8
	0.8nm,0.3s,baz=251,slow=20,SNR=1.5					
	0.8nm,0.3s					
KBZ	Khabaz	22.52	298	LR	LR	18 21 00.1
	comp=Z,93nm,21.1s,baz=327,slow=42					
ARCES	ARCESS Array B	41.22	338	P	P	18 12 41.8 +1.3
	1.0nm,0.6s,baz=109,slow=8.5,SNR=5.9					
	1.0nm,0.6s					
NOA	NORSAR Array B	44.40	323	P	P	18 13 06.8 +0.5
	0.6nm,0.7s,baz=102,slow=7.7,SNR=1.7					
NOA				LR	LR	18 32 16.7
	comp=Z,37nm,19.2s,baz=5.0,slow=36					
	0.6nm,0.7s					
TORD	Torodi Ar. Bea	65.54	269	P	P	18 15 37.0 -2.1
	0.2nm,0.4s,baz=55,slow=7.2,SNR=2.2					
	0.2nm,0.4s					

*JMA **28** 18:09:15.6±0.2, 43°.3N±0°.7×14°.7E±°, h43km±2km, MV3.2/35, E OFF HOKKAIDO*
*SKHL **28** 18:09:15.0±0.9, 43°.30N×146°.90E, h33km±4km, mb4.5/3*
ISC 28 18:09:16.1±2.3,**43°.34N**±0°.09×**146°.89E**±0°.08,**h34**km±3km,
n16,σ0°**62**/27,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.53	356	*e*P	Pb	18 09 27.0	-0.3
SHO				AMB	AMB	18 09 27.2	
	320nm,0.5s						
SHO				*i* S	Sb	18 09 34.9	0.0
SHO				A	A	18 09 35.3	
	6μm,0.4s						
SHO				A	A	18 09 35.3	
	2μm,0.4s						
NEM2	Nemuro 2	0.83	272	P	Pn	18 09 30.9	-0.6
NEM2				*e*S	Sn	18 09 42.0	-0.5
NMR	Nemuro--Hokkai	0.85	273	*i* P	Pn	18 09 30.8	-0.8
NMR				*e*S	Sn	18 09 42.0	-0.8
YUK	Yuzh-Kuril'sk	1.02	313	*i* P	Pn	18 09 33.4	-0.6
YUK				AMB	AMB	18 09 34.0	
	260nm,0.3s						
YUK				*i* S	Sn	18 09 46.0	-1.1
YUK				A	A	18 09 47.3	
	1μm,0.4s						
YUK				A	A	18 09 47.3	
	2μm,0.4s						
JKHN	Kushirohamanak	1.29	259	*e*P	Pn	18 09 37.9	+0.2
JRA	Rausu	1.42	296	*e*P	Pn	18 09 39.3	-0.1
JRA				*e*S	Sn	18 09 56.8	-0.1
JNSB	Nemuroshibetsu	1.44	288	P	Pn	18 09 39.6	-0.1
JNSB				*e*S	Sn	18 09 57.3	-0.1
JNK	Nakash	1.60	280	*e*S	Sn	18 10 01.2	-0.2
JAK	Akkeshi	1.64	259	*e*P	Pn	18 09 42.5	0.0
JAK				*e*S	Sn	18 10 01.9	-0.5
KUR	Kuril'sk	2.02	20	*i* P	Pn	18 09 48.0	+0.2
KUR				*i* P	Pn	18 09 48.0	+0.2
KUR				AMB	AMB	18 09 49.8	
	50nm,0.4s						
KUR				*e*S	Sn	18 10 11.3	-0.5
KUR				A	A	18 10 13.2	
	120nm,0.3s						
KUR				A	A	18 10 13.2	
	90nm,0.3s						
JTKR	Abashiri--Toko	2.25	287	*e*P	Pn	18 09 51.7	+0.7
JTKR				*e*S	Sn	18 10 18.4	+0.9
JAR	Ashorobuto	2.28	270	*e*P	Pn	18 09 51.7	+0.4
JAR				*e*S	Sn	18 10 18.5	+0.4
JOB	Onbets	2.28	260	*e*S	Sn	18 10 18.2	+0.1
JMP	Maruseppu	2.65	286	*e*P	Pn	18 09 57.4	+1.0
JCH	Churui	2.69	256	*e*S	Sn	18 10 28.3	0.0
YSS	Yuzh-Sakhalins	4.65	322	*e*P	Pn	18 10 25.3	+1.4

*IDC **28** 18:26:27.1±2.3, 32°.82N×130°.40E, h0km, mb3.6/4, mbtmp3.5/6, ML2.5/2, MS3.3/1, Error ellipse: s-maj=38.5km s-min=30.7km az=39.0*
*JMA **28** 18:26:28.1±0.0, 32°.8N±0°.1×130°.6E±0°.1, h3km, MV3.5/20, NW KUMAMOTO PREF*
JMA Felt III J1 at NW KUMAMOTO PREF .
ISC 28 18:26:28.5±1.1,**32°.80N**±0°.05×**130°.59E**±0°.07,**h10**km±8km,
n14,σ1°**48**/13,**mb3.5**/4,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTA	Tamana	0.17	344	*i* P	Pg	18 26 31.7	-0.5
JTA				S	Sg	18 26 34.6	-0.3
JTA	Tamana	0.17	344	A	A	18 26 31.7	
	comp=N,18nm,2.4s						
JIU3	Izumi3	0.31	143	*i* P	Pg	18 26 34.3	-0.5
JIU3				S	Sg	18 26 39.1	0.0
JIU3	Izumi3	0.31	143	A	A	18 26 34.3	
	comp=E,5.0nm,1.4s						
JNU	Nakatsue	0.40	37	*i* P	Pg	18 26 35.4	-1.1
JNU				S	Sg	18 26 40.9	-1.0
JNU	Nakatsue	0.40	37	A	A	18 26 35.4	
	comp=E,16nm,2.9s,comp=N,4.0nm,0.9s						
JNU	Nakatsue	0.40	37	LR	LR	18 27 02.0	
	comp=N,496nm,20.9s,baz=123,slow=70						
KSRS	Korea Array	5.13	336	Pn	Pn	18 27 46.0	+0.6
	comp=N,0.1nm,0.3s,baz=157,slow=13,SNR=2.0						
KSRS				Pg	Pb	18 28 01.1	+2.7
	comp=N,0.8nm,0.3s,baz=152,slow=17,SNR=12						
KSRS				Lg	Lg	18 29 05.0	
	comp=N,1.2nm,0.3s,baz=153,slow=30,SNR=5.2						
	comp=N,0.8nm,0.5s						
MJAR	Matsushiro Arr	7.30	57	Pn	Pn	18 28 17.1	+1.8
	comp=N,0.1nm,0.3s,baz=244,slow=14,SNR=18						
	comp=N,2.9nm,0.6s						
SONM	Songino Array	23.65	317	P	P	18 31 39.6	-0.5
	comp=N,0.3nm,0.6s,baz=119,slow=11,SNR=2.2						
	comp=N,0.3nm,0.6s						
DAV	Davao City (W)	26.02	191	LR	LR	18 41 54.6	
	comp=N,60nm,20.2s,baz=182,slow=36						
KURBB	Kurchatov Arra	41.80	311	P	P	18 34 16.5	-1.7
	comp=N,0.3nm,0.8s,baz=100,slow=9.2,SNR=1.0						
	comp=N,0.3nm,0.8s						
BVAR	Borovoye Array	46.96	314	P	P	18 34 57.7	-1.7
	comp=N,1.0nm,0.7s,baz=107,slow=7.8,SNR=4.2						
	comp=N,1.0nm,0.7s						
FINES	FINESS Array B	68.20	330	P	P	18 37 28.4	-0.4
	comp=N,3.0nm,1.0s,baz=76,slow=5.1,SNR=3.7						
	comp=N,3.0nm,1.0s						

*IDC **28** 18:31:51.7±0.4, 17°.73N×94°.74W, h119km±6km, mb3.9/15, mbtmp4.4/17, MS4.0/1, Error ellipse: s-maj=19.9km s-min=12.6km az=58.0*
*NEIC **28** 18:31:52.6±2.0, 17°.80N±0°.09×94°.86W±0°.06, h122km±7km, mb4.6/273, Md4.8/29(MEX), Error ellipse: s-maj=13.3km s-min=6.7km az=200.0*
*MEX **28** 18:31:53.9±0.5, 17°.64N×94°.97W, h132km±5km, MD4.7*
ISC 28 18:31:52.3±0.6,**17°.69N**±0°.03×**94°.95W**±0°.03,**h132**km±5km,
n539,σ1°**46**/483,**mb4.6**/100,**Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.59	174		Pn	18 32 12.4	+0.3
CMIG					Sn	18 32 26.8	-0.3
CMIG	Matias Romero	0.59	174	LR	LR	18 32 02.7	
	comp=Z,58nm,19.4s,baz=80,slow=17						
CMIG				P	Pn	18 32 12.2	0.0
	3μm,0.4s,baz=347,slow=4.0,SNR=1170						
CMIG				S	Sn	18 32 25.8	-1.3
	2μm,0.4s,baz=337,slow=4.1,SNR=12						
CMIG	Matias Romero	0.59	174	*i* P	Pn	18 32 12.4	+0.3
CMIG				*e*S	Sn	18 32 26.8	-0.3
TUIG	Tuzandepetl	0.61	55	*e*P	Pn	18 32 13.1	+0.9
TUIG				*e*S	Sn	18 32 27.7	+0.5
NEUV	Arroyo Zacate	0.81	272	*e*P	Pn	18 32 13.8	+0.1
NEUV				*i* S	Sn	18 32 29.5	-0.3
UXUV	UXUV	0.85	115	*i* P	Pn	18 32 14.6	+0.6
UXUV				*e*S	Sn	18 32 29.5	-0.9
PMUV	Sontecomapan	0.87	349	*i* P	Pn	18 32 14.6	+0.3
PMUV				*i* S	Sn	18 32 30.9	-0.1
OXIG	Oaxaca	1.81	251		Pn	18 32 24.8	+0.6
OXIG					Sn	18 32 49.4	+0.7
VHO	Vista Hermosa	1.81	251	*i* P	Pn	18 32 24.7	+0.5
VHO				*e*S	Sn	18 32 48.1	-0.5
TGIG		1.96	117		Pn	18 32 26.4	+0.4
TGIG					Sn	18 32 50.4	-1.3
TGIG		1.96	117	*e*P	Pn	18 32 26.4	+0.4
TGIG				*e*S	Sn	18 32 50.4	-1.3
HUIG	Huatulco	2.21	210	*e*P	Pn	18 32 27.2	-1.7
HUIG				*e*S	Sn	18 32 53.8	-3.1
TPIG	Tehuac#an	2.41	288		Pn	18 32 32.5	+1.0
TPIG					Sn	18 33 01.2	-0.5
TPIG	Tehuac#an	2.41	288	*e*P	Pn	18 32 32.5	+1.0
TPIG				*e*S	Sn	18 33 00.0	-1.7
JAUV	Jalcomulco	2.43	314	*e*P	Pn	18 32 31.4	-0.3
JAUV				*e*S	Sn	18 33 00.1	-1.9
LVIG	Laguna Verde	2.46	326	*i* P	Pn	18 32 31.4	-0.6
LVIG				*e*S	Sn	18 33 00.7	-1.9
PCIG		2.58	140	*e*P	Pn	18 32 33.8	+0.3
PCIG				*e*S	Sn	18 32 59.7	-5.5
YOIG	Yosondua	2.61	252	*e*P	Pn	18 32 33.6	-0.7
YOIG				*e*S	Sn	18 33 02.5	-4.0
PEIG	Puerto Escondi	2.69	232	*e*P	Pn	18 32 32.8	-2.2
PEIG				*e*S	Sn	18 33 04.2	-3.8
HLIG	Huajuapan de L	2.72	273	*e*P	Pn	18 32 36.0	+0.4
HLIG				*e*S	Sn	18 33 04.8	-4.1
TXIG	Tlaxiaco	2.72	261	*e*P	Pn	18 32 35.5	-0.1
TXIG				*e*S	Sn	18 33 01.6	-7.4
CCIG	Comitan	3.03	117	Pn	Pn	18 32 39.9	+0.4
CCIG				Sn	Sn	18 33 09.2	-6.7
CCIG	Comitan	3.03	117	*i* P	Pn	18 32 39.7	+0.2
CCIG				*e*S	Sn	18 33 07.2	-8.8
FTIG	Fresnillo de T	3.04	275	*e*P	Pn	18 32 40.2	+0.6
FTIG				*e*S	Sn	18 33 10.3	-5.8
PNIG	Pinotepa	3.30	248	*i* P	Pn	18 32 40.5	-2.4
PNIG				*e*S	Sn	18 33 13.2	-8.8
TLIG	Tlapa	3.45	269	Pn	Pn	18 32 44.9	-0.1
CXUV	Coxquihui	3.52	315	*e*P	Pn	18 32 46.5	+0.7
CXUV				*e*S	Sn	18 33 21.4	-5.7
PAVE	Pavencul	3.63	133	*e*P	Pn	18 32 47.5	0.0
PAVE				*e*S	Sn	18 33 28.7	-1.5
PATR	El Naranjo	3.65	134	*e*P	Pn	18 32 47.4	-0.3
PATR				*e*S	Sn	18 33 29.3	-1.3
CHUJ	Union Juarez	3.75	133	*e*P	Pn	18 32 49.2	+0.2
CHUJ				*e*S	Sn	18 33 31.7	-1.3
PPM	Popocatepetl	3.75	292	*i* P	Pn	18 32 51.3	+2.0
PPM				*e*S	Sn	18 33 24.9	-8.4
THIG		3.78	137	*e*P	Pn	18 32 50.1	+1.0
SCIG	Sabancuy	3.80	70	*e*P	Pn	18 32 48.0	-1.3
SCIG				*e*S	Sn	18 33 30.1	-3.5
HUEH	Huehuetenango	4.06	125		Pn	18 32 52.1	-0.9
HUEH				Sn	Sn	18 33 34.1	-6.1
YAIG	Yautepec	4.08	287	*i* P	Pn	18 32 54.7	+1.4
YAIG				*e*S	Sn	18 33 33.0	-7.7
CRIG	Cruz Grande	4.11	257	*e*P	Pn	18 32 51.4	-2.1
CRIG				*e*S	Sn	18 33 33.1	-7.8
UNM	Universidad Na	4.33	293	Pn	Pn	18 32 56.6	-0.1
PLIG	Platanillo	4.39	280	*i* P	Pn	18 32 58.2	+0.9
PLIG				*e*S	Sn	18 33 45.1	-2.7
RTAL	Retalhuleu	4.43	135	Pn	Pn	18 32 58.1	+0.2
MEIG	Mezcala	4.46	274	*e*P	Pn	18 32 58.4	+0.2
MEIG				*e*S	Sn	18 33 46.7	-2.8
DAIG	Los Arroyos	4.54	262	*i* P	Pn	18 32 57.8	-1.5
DAIG				*e*S	Sn	18 33 41.9	-9.4
DEIG	Demacu	4.66	305	*i* P	Pn	18 33 03.0	+2.0
DEIG				*i* S	Sn	18 33 46.8	-7.7
PETF	Flores	4.92	98		Pn	18 33 04.0	-0.3
CAIG	El Cayaco	5.12	264	*i* P	Pn	18 33 05.4	-1.5
CAIG				*e*S	Sn	18 34 02.9	-2.3
ARIG	Puente Sto Nin	5.17	277	*i* P	Pn	18 33 08.8	+1.1
ARIG				*e*S	Sn	18 34 00.5	-6.0
ZIIG	Zihuatanejo	6.21	270	*e*P	Pn	18 33 21.4	-0.3
ZIIG				*e*S	Sn	18 34 29.7	-1.8
ESQI	Esquipulas	6.22	119		Pn	18 33 22.3	+0.4
MOIG	Morelia	6.24	290	Pn	Pn	18 33 24.0	+1.8
MOIG	Morelia	6.24	290	*e*P	Pn	18 33 24.9	+2.7
MTO3	Montecristo	6.29	121		Pn	18 33 21.0	-1.9
GTIG	Gomez Farias	6.66	324	*e*P	Pn	18 33 29.3	+1.7
GTIG				*e*S	Sn	18 34 30.5	-12
TEIG	Tepich	6.80	67	Pn	Pn	18 33 28.1	-1.5
TEIG	Tepich	6.80	67	P	Pn	18 33 28.2	-1.4
	1μm,0.5s,baz=177,slow=21,SNR=90						
TEIG				S	Sn	18 34 37.9	-7.8
	219nm,0.4s,baz=241,slow=19,SNR=1.5						
TEIG				LR	LR	18 36 38.2	
	comp=Z,1μm,18.3s,baz=342,slow=43						
MMIG	Aquila	8.01	276	*e*P	Pn	18 33 46.5	+0.6
MMIG				*e*S	Sn	18 35 11.5	-3.5
TGUH	Tegucigalpa,Un	8.22	115	Pn	Pn	18 33 48.2	-0.6
ZAIG	Zacatecas	8.76	307	Pn	Pn	18 33 56.2	0.0
833A	Chaparral WMA,	11.35	340	P	Pn	18 34 31.6	+1.1
	baz=157						
ORTG	Ortega, Santa	11.73	127		Pn	18 34 36.0	+0.2
JTS	Las Juntas de	12.17	126	Pn	Pn	18 34 41.5	+0.1
JTS	Las Juntas de	12.17	126	P	Pn	18 34 39.7	-1.7
	9.6nm,0.3s,baz=321,slow=15,SNR=6.5						
HNDO	Hondo	12.44	342		Pn	18 34 44.9	+0.1
JACO	JACO, Garabito	12.78	127	Pn	Pn	18 34 50.6	+1.2
DRIO	Del Rio	12.79	337	Pn	Pn	18 34 49.1	-0.2
435B	Jarrell	13.26	350	Pn	Pn	18 34 55.7	+0.3
435B	Jarrell	13.26	350	P	Pn	18 34 56.5	+1.0
	baz=168						
JCT	Junction City	13.48	342		Pn	18 34 58.7	+0.4
JCT	Junction City	13.48	342	P	Pn	18 34 59.4	+1.0
	baz=159,SNR=12						
SAND	Sanderson	13.86	333		Pn	18 35 03.9	+0.7
BRDY	Brady	14.03	346		Pn	18 35 05.0	-0.3
SRBA	San Rafael, Bu	14.05	125	P	Pn	18 35 05.2	-0.6
TXAR	Lajitas Array	14.08	327	P	P	18 35 08.3	-1.3
	9.7nm,1.1s,baz=150,slow=13,SNR=16						
TX31	Lajitas Ar. Si	14.08	327		P	18 35 08.0	-1.6
TX32	Lajitas Array	14.08	327		Pn	18 35 07.9	+1.9
OZNA	Ozona	14.32	338		Pn	18 35 10.0	+0.9
WHTX	Lake Whitney,	14.42	351	P	Pn	18 35 10.2	-0.1
WHTX	Lake Whitney,	14.42	351	P	Pn	18 35 10.8	+0.6
	baz=170						
ALPN	Alpine	14.91	330		P	18 35 18.8	-0.1
VBMS	Vicksburg	15.02	15	P	Pn	18 35 17.0	-0.7
	baz=196						
FW07	Weatherford	15.17	351	P	Pn	18 35 20.2	+0.6
FW07				IAmb	IAmb	18 35 24.0	
	comp=Z,49nm,0.6s						
SGCY	Sterling City	15.23	340		P	18 35 21.9	-0.5
SGCY				IAmb	IAmb	18 35 25.9	
	comp=Z,47nm,0.9s						
MNHN	Monahans	15.33	334	P	P	18 35 22.8	-0.7
MNHN				IAmb	IAmb	18 35 28.8	
	comp=Z,74nm,0.8s						
PLPT	Palo Pinto	15.37	349		Pn	18 35 22.2	+0.1
PLPT				IAmb	IAmb	18 35 26.5	
	comp=Z,75nm,1.5s						
FW06	Azle	15.40	352	P	Pn	18 35 23.0	+0.5
FW06				IAmb	IAmb	18 35 26.6	
	comp=Z,27nm,0.8s						
ABTX	Abilene, Hawle	15.47	345	P	Pn	18 35 23.9	+0.5
ABTX				IAmb	IAmb	18 35 27.9	
	comp=Z,37nm,0.8s						
ABTX	Abilene, Hawle	15.47	345	P	P	18 35 24.8	-0.2
	baz=162,SNR=12						
Z38A	Mt. Pleasant	15.51	360	P	P	18 35 24.2	-1.2
Z38A				IAmb	IAmb	18 35 27.9	
	comp=Z,46nm,0.8s						
FW03	Perrin-Whitt E	15.54	350	P	P	18 35 24.9	-0.9
FW03				IAmb	IAmb	18 35 28.6	
	comp=Z,50nm,0.8s						
Z41A	Richland Creek	15.63	7	P	Pn	18 35 25.2	0.0
PECS	Pecos	15.85	331	P	P	18 35 28.8	-0.5
PECS				IAmb	IAmb	18 35 34.0	
	comp=Z,7.3nm,0.7s						
425A	Indio Mountain	15.92	327		P	18 35 30.4	+0.3
ODSA	Odessa	15.93	336		P	18 35 30.1	-0.1
ODSA				IAmb	IAmb	18 35 34.2	
	comp=Z,79nm,1.3s						
WLAR	White Oak Lake	16.02	6		P	18 35 30.5	-0.5
WLAR				IAmb	IAmb	18 35 34.2	
	comp=Z,34nm,0.9s						
SN01	Snyder 1	16.03	342	IAmb	IAmb	18 35 34.3	
	comp=Z,18nm,0.8s						
APMT	Aspermont	16.25	344	IAmb	IAmb	18 35 36.7	
	comp=Z,11nm,0.7s						
WTFS	Witchita Falls	16.32	350	IAmb	IAmb	18 35 35.5	
	comp=Z,14nm,0.9s						
DKNS	Dickens	16.79	343	IAmb	IAmb	18 35 56.0	
	comp=Z,25nm,0.9s						
MIAR	Mount Ida	16.84	4	P	Pn	18 35 40.0	-0.1
MIAR				IAmb	IAmb	18 35 42.3	
	comp=Z,26nm,0.8s						
MIAR	Mount Ida	16.84	4	P	Pn	18 35 40.4	+0.3
	baz=184,SNR=21						
X37A	Clayton	16.84	359	IAmb	IAmb	18 35 43.5	
	comp=Z,18nm,0.7s						
X40A	Basin Creek Fa	16.84	6	P	P	18 35 39.5	-0.6
MNTX	Cornudas Mount	16.85	328	P	Pn	18 35 41.9	+1.6
	baz=143,SNR=6.8						
LRAL	Lakeview Retre	16.88	24	P	Pn	18 35 40.0	-0.6
	baz=206						
X34A	Smith Ranch, M	17.04	352		Pn	18 35 43.0	+0.4
X34A				IAmb	IAmb	18 35 53.4	
	comp=Z,26nm,0.7s						
TIGA	Tifton	17.14	35	P	P	18 35 42.3	-1.0
	baz=219						
UALR	University of	17.18	7	IAmb	IAmb	18 35 45.8	
	comp=Z,32nm,0.7s						
WMOK	Wichita Mounta	17.32	349	P	Pn	18 35 46.7	+0.6
	baz=167,SNR=11						
OXF	Oxford	17.48	15	P	Pn	18 35 47.0	-0.8
	baz=197						
MSTX	Muleshoe	17.67	338	IAmb	IAmb	18 35 53.1	
	comp=Z,37nm,0.8s						
MSTX	Muleshoe	17.67	338	P	Pn	18 35 50.7	+0.5
	baz=154,SNR=20						
WHAR	Wooly Hollow	17.69	7	P	P	18 35 49.2	-0.2
SMWD	Samnorwood	17.98	346	IAmb	IAmb	18 35 56.8	
	comp=Z,39nm,0.9s						
X48A	Hartselle	18.13	21	P	P	18 35 53.7	-0.6
AMTX	Amarillo	18.15	342	IAmb	IAmb	18 36 04.6	
	comp=Z,20nm,0.7s						
AMTX	Amarillo	18.15	342	P	Pn	18 35 56.0	0.0
	baz=158						
TUL3	Leonard	18.17	358	P	Pn	18 35 55.2	-0.9
	baz=177,SNR=7.0						
OK029	Liberty Lake	18.18	353	IAmb	IAmb	18 35 57.9	
	comp=Z,34nm,0.6s						
FCAR	Ozark Folk Cen	18.31	7	P	P	18 35 56.1	0.0
FCAR				IAmb	IAmb	18 35 58.4	
	comp=Z,19nm,0.6s						
RLO	Rose Lookout	18.41	360	IAmb	IAmb	18 35 59.4	
	comp=Z,16nm,0.7s						
HHAR	Hobbs	18.55	3	P	P	18 35 58.7	-0.1
HHAR				IAmb	IAmb	18 36 00.1	
	comp=Z,23nm,0.6s						
LCAR	Lake Charles	18.62	10	IAmb	IAmb	18 36 00.8	
	comp=Z,16nm,0.7s						
U38A	Gravette	18.69	1	IAmb	IAmb	18 36 01.7	
	comp=Z,24nm,0.7s						
OK048	Pawnee Station	18.74	355		P	18 36 01.4	+0.5
FPAL	Fort Paine	18.75	25	IAmb	IAmb	18 36 05.6	
	comp=Z,18nm,0.5s						
GOGA	Godfrey	18.75	31	P	P	18 36 00.3	-0.7
GOGA	Godfrey	18.75	31	P	P	18 36 00.3	-0.7
	baz=216						
121A	Cookes Peak, D	18.78	324	P	Pn	18 36 03.8	+0.3
	baz=138,SNR=10						
319A	Douglas	18.83	319	P	Pn	18 36 04.1	0.0
319A				IAmb	IAmb	18 36 06.6	
	comp=Z,18nm,1.0s						
U32A	Winter Ranch,	18.96	350	IAmb	IAmb	18 36 05.8	
	comp=Z,49nm,0.8s						
SWET	Sewanee	19.22	23	P	P	18 36 04.8	-1.4
KAN14	Manchester OK	19.38	353	IAmb	IAmb	18 36 12.6	
	comp=Z,18nm,0.5s						
PBMO	Poplar Bluff	19.43	11	IAmb	IAmb	18 36 13.5	
	comp=Z,35nm,0.9s						
W50A	Signal Mountai	19.44	24	P	P	18 36 06.9	-1.6
KAN17	Caldwell West	19.44	353	IAmb	IAmb	18 36 13.5	
	comp=Z,27nm,0.7s						
KAN09	Caldwell North	19.52	354	P	P	18 36 08.5	-0.9
Y22D	IRIS PASSCAL I	19.53	329	P	Pn	18 36 11.2	-1.0
	baz=143						
Y22F	Passcal Instru	19.53	329	P	Pn	18 36 11.4	-0.9
	baz=143						
MGMO	Mountain Grove	19.54	6	IAmb	IAmb	18 36 14.8	
	comp=Z,23nm,0.7s						
DUN6	Lazy B Ranch	19.54	322	IAmb	IAmb	18 36 17.3	
	comp=Z,40nm,0.9s						
CLTN	Cedars of Leba	19.86	21	IAmb	IAmb	18 36 16.5	
	comp=Z,24nm,1.4s						
RTBA	Rita Blanca	19.91	341	IAmb	IAmb	18 36 16.3	
	comp=Z,29nm,0.9s						
CPCT	Cooper Cave	19.98	26	P	P	18 36 12.2	-2.1
CPCT				IAmb	IAmb	18 36 17.0	
	comp=Z,12nm,0.5s						
S39A	Bolivar	19.98	4	IAmb	IAmb	18 36

	comp=Z,27nm,1.4s						
TZTN	Tazewell	21.32	26	P	P	18 36 28.4	-0.3
	baz=211,SNR=5.6						
KSU1	Kansas State U	21.39	356	P	P	18 36 28.3	-1.1
KSU1				IAmb	IAmb	18 36 31.3	
	comp=Z,18nm,0.6s						
CBKS	Cedar Bluff	21.46	350	P	P	18 36 30.0	-0.3
CBKS				IAmb	IAmb	18 36 33.1	
	comp=Z,39nm,0.8s						
CBKS	Cedar Bluff	21.46	350	P	P	18 36 31.7	+1.5
	baz=167,SNR=5.9						
214A	Organ Pipe Nat	21.51	315	P	P	18 36 33.5	+2.7
	baz=126,SNR=6.3						
Q44A	Meyer Farm, Va	21.77	13	IAmb	IAmb	18 36 34.1	
	comp=Z,37nm,1.0s						
W18A	Petrified Fore	21.79	326	P	P	18 36 35.7	+1.7
	baz=138						
OLIL	Olney	21.81	15	IAmb	IAmb	18 36 35.0	
	comp=Z,23nm,0.7s						
WCI	Wyandotte Cave	21.83	19	P	P	18 36 32.4	-1.6
WCI				IAmb	IAmb	18 36 35.9	
	comp=Z,22nm,0.9s						
WCI	Wyandotte Cave	21.83	19	P	P	18 36 33.4	-0.7
	baz=202						
P38A	Dawn	21.90	3	IAmb	IAmb	18 36 35.6	
	comp=Z,14nm,0.6s						
W57A	Gilead	21.91	35	IAmb	IAmb	18 36 35.6	
	comp=Z,13nm,0.6s						
SDCO	Great Sand Dun	22.03	337	P	P	18 36 37.0	+0.5
SDCO	Great Sand Dun	22.03	337	P	P	18 36 38.4	+1.9
	baz=152,SNR=13						
U54A	Nelsons Funny	22.06	29	IAmb	IAmb	18 36 36.7	
	comp=Z,15nm,0.5s						
R49A	Shelbyville	22.24	21	IAmb	IAmb	18 36 38.8	
	comp=Z,16nm,1.1s						
KSCO	Kaye Shedlock'	22.28	344	P	P	18 36 40.3	+1.5
	baz=160						
S22A	4UR Ranch, Cre	22.54	335	IAmb	IAmb	18 36 46.0	
	comp=Z,17nm,1.0s						
S22A	4UR Ranch, Cre	22.54	335	P	P	18 36 43.0	+1.3
	baz=149,SNR=20						
U56A	King	22.62	32	P	P	18 36 40.7	-1.4
U56A				IAmb	IAmb	18 36 42.0	
	comp=Z,14nm,0.6s						
BLO	Bloomington	22.63	17	IAmb	IAmb	18 36 43.0	
	comp=Z,28nm,0.6s						
MVCO	Mesa Verde	22.82	331	P	P	18 36 44.7	+0.5
MVCO				IAmb	IAmb	18 36 47.4	
	comp=Z,30nm,1.1s						
MVCO	Mesa Verde	22.82	331	P	P	18 36 44.7	+0.5
	baz=144,SNR=15						
V58A	Windy Hill, Pi	22.86	35	IAmb	IAmb	18 36 44.8	
	comp=Z,16nm,0.6s						
WUAZ	Wupatki	22.99	324	IAmb	IAmb	18 36 50.0	
	comp=Z,32nm,1.0s						
WUAZ	Wupatki	22.99	324	P	P	18 36 46.6	+0.9
	baz=136,SNR=19						
P48A	Milroy	23.22	19	IAmb	IAmb	18 36 47.7	
	comp=Z,17nm,0.9s						
BLA	Blacksburg	23.28	30	P	P	18 36 47.5	-0.8
	baz=217						
R53A	Hurricane	23.50	26	IAmb	IAmb	18 36 50.6	
	comp=Z,16nm,0.5s						
P49A	Miami Univ. Ec	23.52	20	P	P	18 36 49.3	-1.1
P49A				IAmb	IAmb	18 36 51.1	
	comp=Z,17nm,1.1s						
P49A	Miami Univ. Ec	23.52	20	P	P	18 36 50.2	-0.1
	baz=205						
GLA	Glamis	23.53	314	P	P	18 36 52.6	+2.0
	baz=125						
SFIN	Lafayette	23.61	15	P	P	18 36 51.4	+0.2
	baz=198						
T57A	Hurt	23.70	33	IAmb	IAmb	18 36 53.2	
	comp=Z,18nm,0.6s						
OTAV	Otavalo	23.75	135	P	P	18 36 54.0	+0.7
OTAV				IAmb	IAmb	18 36 58.5	
	comp=Z,21nm,1.2s						
BGNE	Belgrade	23.80	354	P	P	18 36 53.8	+0.8
	baz=172						
PDMCI	Parker Dam,Lak	23.84	318	P	P	18 36 55.4	+2.1
	baz=129						
SMCO	Snowmass	23.84	336	IAmb	IAmb	18 36 58.4	
	comp=Z,36nm,1.0s						
TULM	Tulcn-Chalpat	23.86	133	P	P	18 36 55.0	+0.7
TULM				IAmb	IAmb	18 37 01.7	
	comp=Z,15nm,0.9s						
PULU	Pululahua	23.88	136	P	P	18 36 56.1	+1.8
IMBA	Imbabura, San	23.89	135	P	P	18 36 56.1	+1.6
ISCO	Idaho Springs	23.90	339	IAmb	IAmb	18 36 57.7	
	comp=Z,10nm,0.8s						
ISCO	Idaho Springs	23.90	339	P	P	18 36 55.3	+1.1
	baz=154,SNR=18						
Q52A	Bidwell	23.91	25	IAmb	IAmb	18 36 54.5	
	comp=Z,22nm,0.6s						
OGNE	Ogallala	23.97	347	P	P	18 36 56.1	+1.5
	baz=163,SNR=9.6						
O48B	Farmland	24.04	19	P	P	18 36 54.3	-0.7
	baz=203,SNR=11						
P51A	Williamsport	24.05	23	P	P	18 36 53.2	-2.0
P51A				IAmb	IAmb	18 36 55.7	
	comp=Z,22nm,0.6s						
SWSC	Sam W. Stewart	24.14	313	P	P	18 36 58.4	+2.4
	baz=123						
U15A	North Rim	24.16	324	P	P	18 36 58.0	+1.5
SCIA	State Center	24.19	3	P	P	18 36 56.5	+0.1
	baz=184,SNR=5.7						
IKP	In-Ko-Pah, Jac	24.20	312	P	P	18 36 59.4	+2.7
	baz=122						
R55A	Marlinton	24.28	29	IAmb	IAmb	18 36 58.4	
	comp=Z,12nm,0.6s						
BC3	Big Chuckawall	24.31	315	P	P	18 36 59.9	+2.2
	baz=125						
IRM	Iron Mountain	24.40	316	P	P	18 37 00.4	+1.9
	baz=127,SNR=7.3						
S57A	Dark Hollow, R	24.43	32	IAmb	IAmb	18 36 58.8	
	comp=Z,8.7nm,0.6s						
SLOR	San Lorenzo -	24.44	137	IAmb	IAmb	18 37 06.2	
	comp=Z,20nm,1.0s						
Q54A	Coxs Mills	24.53	27	IAmb	IAmb	18 37 00.5	
	comp=Z,15nm,0.5s						
P52A	Corning	24.54	24	P	P	18 36 58.1	-1.6
P52A				IAmb	IAmb	18 37 00.1	
	comp=Z,11nm,0.5s						
P52A	Corning	24.54	24	P	P	18 36 58.7	-0.9
	baz=210						
MONP2	Monument Peak	24.55	312	P	P	18 37 01.4	+1.3
	baz=122						
P53A	Whipple	24.71	26	P	P	18 37 00.2	-1.0
ACSO	Alum Creek Sta	24.74	22	IAmb	IAmb	18 37 02.3	
	comp=Z,14nm,0.5s						
ACSO	Alum Creek Sta	24.74	22	P	P	18 37 00.7	-0.7
	baz=208						
BELC	Belle Mtn. Jos	24.88	315	P	P	18 37 04.5	+1.5
	baz=125						
TPFO	Pinon Flats	24.96	314	P	P	18 37 04.9	+1.1
	baz=124						
PFO	Pinyon Flats O	24.97	314	P	P	18 37 04.6	+0.8
	baz=124						
N23A	Red Feather La	25.00	340	P	P	18 37 04.8	+0.7
	baz=154						
O52A	Adamsville	25.07	24	IAmb	IAmb	18 37 05.7	
	comp=Z,11nm,0.8s						
GMRC	Granite Mounta	25.12	317	P	P	18 37 06.4	+1.3
	baz=127						
O20A	White River Ci	25.16	336	P	P	18 37 07.1	+1.6
O20A	White River Ci	25.16	336	P	P	18 37 06.0	+0.6
	baz=148						
COHC	Cochancay	25.31	141	P	P	18 37 09.0	+2.2
O53A	New Philadelph	25.43	25	IAmb	IAmb	18 37 07.3	
	comp=Z,19nm,0.6s						
O53A	New Philadelph	25.43	25	P	P	18 37 06.8	-0.9
	baz=211						
JFWS	Jewell Farm	25.46	8	P	P	18 37 07.7	-0.3
	baz=190,SNR=10						
MURC	Murrieta	25.48	313	P	P	18 37 10.0	+1.7
	baz=122						
MSU	Marysvale	25.63	328	P	P	18 37 11.9	+2.1
O54A	Avella	25.72	26	IAmb	IAmb	18 37 10.5	
	comp=Z,8.4nm,0.6s						
ECSD	EROS Data Cent	26.01	357	IAmb	IAmb	18 37 14.3	
	comp=Z,7.0nm,0.7s						
ECSD	EROS Data Cent	26.01	357	P	P	18 37 12.9	+0.1
	baz=176,SNR=5.6						
RWWY	Rawlins	26.13	339	P	P	18 37 15.2	+0.8
RWWY				IAmb	IAmb	18 37 16.9	
	comp=Z,12nm,0.8s						
BFSC	Mount Baldy Ra	26.15	313	P	P	18 37 15.4	+1.0
	baz=123						
I37A	Lemond, Waseca	26.28	3	IAmb	IAmb	18 37 15.4	
	comp=Z,17nm,0.9s						
M53A	WI Miller and	26.66	24	P	P	18 37 18.1	-0.7
	baz=211						
EDW2	Edwards Air Fo	26.73	314	P	P	18 37 20.9	+1.3
	baz=124						
K22A	Casper	26.77	341	P	P	18 37 20.5	+0.6
	baz=154						
TPNV	Topopah Spring	26.84	320	P	P	18 37 21.8	+1.2
	baz=129						
SUSD	Miller	26.89	354	P	P	18 37 21.3	+0.5
	baz=171						
MPMC	Manual Prospec	27.07	317	P	P	18 37 24.4	+1.6
	baz=126						
DUG	Dugway, Tooele	27.24	329	P	P	18 37 25.4	+1.2
	baz=140						
TCUT	Toone Canyon	27.31	332	IAmb	IAmb	18 37 27.9	
	comp=Z,8.8nm,0.9s						
R11B	Troy Canyon, C	27.37	323	P	P	18 37 27.1	+1.6
	baz=133						
RSSD	Black Hills	27.45	346	P	P	18 37 27.4	+1.4
RSSD	Black Hills	27.45	346	P	P	18 37 26.7	+0.6
	baz=160						
SPMN	Marine on St.	27.52	3	IAmb	IAmb	18 37 27.2	
	comp=Z,23nm,0.8s						
SPMN	Marine on St.	27.52	3	P	P	18 37 26.1	-0.3
	baz=184,SNR=6.1						
GRAC	Grapevine Rang	27.57	319	P	P	18 37 28.2	+1.2
	baz=128						
CWC	Cottonwood Cre	27.69	317	P	P	18 37 29.5	+1.3
	baz=126						
PDAR	Pinedale Array	27.92	337	P	P	18 37 31.2	+0.9
	comp=Z,0.8nm,0.8s,baz=142,slow=9.6,SNR=7.6						
	comp=Z,0.8nm,0.8s						
DSP	Deep Springs	28.18	319	P	P	18 37 34.5	+2.2
ELK	Elko	28.87	327	P	P	18 37 41.0	+2.2
	comp=Z,1.6nm,0.8s,baz=114,slow=10.0,SNR=8.2						
	comp=Z,1.6nm,0.8s						
SNOW	Snow King Moun	28.97	336	IAmb	IAmb	18 37 42.3	
	comp=Z,13nm,0.8s						
NVAR	Mina Array Bea	29.04	320	P	P	18 37 43.0	+2.7
	comp=Z,6.0nm,0.7s,baz=133,slow=9.2,SNR=55						
NVAR				PcP	PcP	18 40 45.6	+0.2
	comp=Z,0.8nm,0.7s,baz=131,slow=4.5,SNR=4.4						
	comp=Z,6.0nm,0.7s						
LOHW	Long Hollow	29.04	336	P	P	18 37 40.6	+0.4
MOOW	Moose Ponds	29.21	336	P	P	18 37 42.5	+0.8
BINY	Binghamton	29.31	30	P	P	18 37 41.6	-0.8
	baz=219						
H17A	Grant Village	29.70	337	P	P	18 37 47.4	+1.4
	baz=148						
RLMT	Red Lodge	29.86	339	P	P	18 37 47.4	-0.1
	baz=151						
EYMN	Ely	30.31	5	P	P	18 37 50.2	-0.9
	baz=186						
MDND	Maddock	30.32	354	P	P	18 37 51.0	-0.3
	baz=171,SNR=6.5						
EMB	Emerald Bay	30.48	319	P	P	18 37 55.3	+2.2
EMB				IAmb	IAmb	18 37 57.1	
	comp=Z,8.0nm,0.9s						
HLID	Hailey	30.60	332	P	P	18 37 54.4	+0.4
	baz=141,SNR=9.5						
MPK	Mars Peak	30.63	320	IAmb	IAmb	18 37 58.9	
	comp=Z,13nm,1.1s						
BOZ	Bozeman (W)	31.11	337	P	P	18 37 58.6	+0.2
	baz=148						
L61B	Northampton	31.13	33	P	P	18 37 57.0	-1.4
	baz=224						
DLMT	Dillon	31.28	336	IAmb	IAmb	18 38 03.1	
	comp=Z,10.0nm,1.2s						
LONY	Lake Ozonia	31.83	28	P	P	18 38 03.7	-0.8
	baz=219						
WVOR	Wild Horse Val	31.87	326	IAmb	IAmb	18 38 08.6	
	comp=Z,8.6nm,1.1s						
J08A	Circle Bar Ran	32.42	327	IAmb	IAmb	18 38 12.8	
	comp=Z,14nm,0.9s						
ULM	Lac du Bonnet	32.49	359	IAmb	IAmb	18 38 10.1	
	comp=Z,12nm,0.7s						
ULM	Lac du Bonnet	32.49	359	P	P	18 38 09.3	-0.9
	comp=Z,11nm,0.5s,baz=171,slow=9.5,SNR=22						
	comp=Z,11nm,0.5s						
PLID	Pearl Lake	32.50	332	IAmb	IAmb	18 38 12.9	
	comp=Z,4.7nm,0.8s						
EGMT	Eagleton	32.59	341	P	P	18 38 11.9	+0.6
	baz=153						
LBNH	Lisbon	32.80	31	P	P	18 38 12.1	-0.9
	baz=223						
MSO	Missoula	33.02	336	P	P	18 38 16.0	+0.9
	baz=145						
F10A	Beach Ranch, E	33.73	332	IAmb	IAmb	18 38 23.1	
	comp=Z,9.5nm,0.8s						
PKME	Peaks-Kenny Pk	34.85	32	P	P	18 38 29.9	-0.7
	baz=226						
NEW	Newport	35.46	334	P	P	18 38 36.9	+1.0
	baz=141						
FFC	Flin Flon	37.36	353	P	P	18 38 51.0	-0.9
PGC	Sidney	38.59	330	IAmb	IAmb	18 39 04.3	
	comp=Z,7.7nm,0.9s						
LPAZ	La Paz	42.87	140	P	P	18 39 38.1	-0.4
LPAZ	La Paz	42.87	140	P	P	18 39 39.2	+0.8
	comp=Z,3.2nm,0.8s,baz=337,slow=11,SNR=12						
	comp=Z,3.2nm,0.8s						
SCHQ	Schefferville	42.88	24	P	P	18 39 35.8	-1.7
	comp=Z,3.3nm,0.5s,baz=228,slow=12,SNR=4.5						
	comp=Z,3.3nm,0.5s						
PB16	IPOC Station P	43.67	144	P	P	18 39 47.1	+2.2
GO01	Chusmiza	44.92	145	P	P	18 39 57.3	+2.6
GO01				IAmb	IAmb	18 40 00.3	
	comp=Z,13nm,1.3s						
V35K	Ketchikan	46.78	332	P	P	18 40 09.1	+0.8
	baz=128						
YKA	Yellowknife Ar	46.82	348	P	P	18 40 08.4	-0.1
	comp=Z,3.4nm,0.7s,baz=154,slow=7.1,SNR=3.6						
	comp=Z,3.4nm,0.7s						
T35M	Bob Quinn	47.26	334	P	P	18 40 12.2	+0.1
	baz=131						
U33K	Whale Pass	47.94	332	P	P	18 40 18.0	+0.8
	baz=127						
DLBC	Dease Lake	48.15	336	P	P	18 40 20.4	+1.5
DLBC				IAmb	IAmb	18 40 22.6	
	comp=Z,9.0nm,0.8s						
DLBC	Dease Lake	48.15	336	P	P	18 40 20.5	+1.5
	baz=132,SNR=5.8						
S34M	Telegraph Cree	48.24	335	P	P	18 40 20.0	+0.5
	baz=131						
R33M	Jennings River	49.16	337	IAmb	IAmb	18 40 30.2	
	comp=Z,16nm,1.2s						
R33M	Jennings River	49.16	337	P	P	18 40 27.7	+1.0
	baz=132,SNR=5.1						
Q32M	Nakina River	49.38	336	IAmb	IAmb	18 40 32.2	
	comp=Z,17nm,1.1s						
Q32M	Nakina River	49.38	336	P	P	18 40 30.8	+2.4
	baz=130,SNR=5.2						
S32K	Killisnoo	49.40	333	P	P	18 40 29.9	+1.6
	baz=126						
TGTN	Hyland Airport	49.70	340	P	P	18 40 31.9	+1.2
	baz=136						
R32K	Eaglecrest	49.86	334	P	P	18 40 33.7	+1.9
	baz=127						
P32M	Atlin	50.35	336	P	P	18 40 37.5	+1.9
	baz=129						
P33M	Teslin, Yukon	50.40	337	IAmb	IAmb	18 40 39.7	
	comp=Z,5.6nm,1.1s						
P33M	Teslin, Yukon	50.40	337	P	P	18 40 37.7	+1.7
	baz=130						
N32M	Quiet Lake	51.12	337	P	P	18 40 41.8	+0.5
	baz=131						
MMPY	Sheldon Lake,	51.47	340	P	P	18 40 45.2	+1.2
	baz=134,SNR=13						
WHY	Whitehorse	51.48	336	P	P	18 40 45.8	+1.7
	baz=128						
FARO	Faro, Yukon	51.92	338	P	P	18 40 49.0	+1.7
	baz=131						
P30M	Million Dollar	51.97	335	P	P	18 40 49.0	+1.3
	baz=125						
P29M	Windy Craggy	52.01	334	P	P	18 40 49.9	+1.9
	baz=124						
O30N	Mendenhall	52.02	336	P	P	18 40 49.4	+1.4
	baz=127						
M31M	Drury Creek, Y	52.28	338	P	P	18 40 51.6	+1.7
M31M	Drury Creek, Y	52.28	338	P	P	18 40 50.6	+0.7
	baz=130						
N31M	Braeburn, Yuko	52.34	337	P	P	18 40 52.2	+1.8
	baz=128						
HYT	Haines Junctio	52.61	335	P	P	18 40 54.4	+2.0
	baz=126						
PNL	Peninsula	52.73	333	P	P	18 40 54.4	+1.1
	baz=123						
O29M	Mount Kennedy	52.74	334	P	P	18 40 55.2	+1.7
	baz=124						
N30M	Aishikik Lake	52.82	336	P	P	18 40 55.3	+1.3
	baz=126						
YUK6	Outpost Mounta	53.02	335	P	P	18 40 56.2	+0.6
	baz=125						
PINM	Pinnacle	53.33	334	P	P	18 40 58.9	+1.2
	baz=122						
YUK4	Talbot Arm	53.36	335	P	P	18 40 59.5	+1.4
	baz=125						
M30M	Minto, Yukon	53.38	337	IAmb	IAmb	18 41 00.9	
	comp=Z,14nm,1.4s						
M30M	Minto, Yukon	53.38	337	P	P	18 40 59.5	+1.5
	baz=127						
O28M	Mount Upton	53.66	334	P	P	18 41 01.3	+0.9
	baz=122						
M29M	Somme Creek	53.93	337	P	P	18 41 04.3	+2.2
	baz=125,SNR=16						
L29M	L29M	54.20	337	P	P	18 41 05.8	+1.8
	baz=126,SNR=11						
CTG	Chitna Glacier	54.24	334	P	P	18 41 05.6	+1.1
	baz=121						
YUK3	Moose Creek	54.32	335	P	P	18 41 06.3	+1.3
	baz=123						
K29M	Barlow Dome	54.42	338	IAmb	IAmb	18 41 08.7	
	comp=Z,5.7nm,0.9s						
K29M	Barlow Dome	54.42	338	P	P	18 41 07.2	+1.6
	baz=127,SNR=5.8						
J30M	Hart River	54.47	339	IAmb	IAmb	18 41 09.3	
	comp=Z,5.9nm,0.7s						
J30M	Hart River	54.47	339	P	P	18 41 07.8	+1.8
	baz=129,SNR=6.4						
H31M	Peel River	54.64	341	P	P	18 41 08.0	+0.9
	baz=132						
C36M	Paulatuk	54.71	348	P	P	18 41 09.0	+1.6
	baz=145						
CRQE	Cirque	54.87	333	P	P	18 41 10.2	+1.3
	baz=120						
I30M	Mount Dempster	54.90	340	IAmb	IAmb	18 41 11.1	
	comp=Z,6.6nm,0.9s						
I30M	Mount Dempster	54.90	340	P	P	18 41 10.4	+1.3
	baz=129						
KAIM	Kayak Island	55.05	332	P	P	18 41 12.1	+2.0
	baz=118						
MCARA	McCarthy VSAT	55.16	334	P	P	18 41 12.6	+1.8
	baz=120						
M27K	Edge Creek, AK	55.20	335	P	P	18 41 12.0	+0.7
	baz=122						
DAWY	Dawson	55.22	338	IAmb	IAmb	18 41 12.9	
	comp=Z,5.3nm,0.9s						
DAWY	Dawson	55.22	338	P	P	18 41 12.3	+1.0
	baz=125,SNR=5.5						
G31M	Satah River	55.37	342	P	P	18 41 13.4	+1.1
	baz=132						
GLB	Gilahina Butte	55.52	334	P	P	18 41 15.1	+1.6
GLB				IAmb	IAmb	18 41 16.6	
	comp=Z,14nm,1.2s						
L27K	Beaver Creek,	55.56	336	IAmb	IAmb	18 41 17.0	
	comp=Z,6.7nm,1.1s						
L27K	Beaver Creek,	55.56	336	P	P	18 41 14.8	+1.1
	baz=122,SNR=7.0						
F31M	Tsiigehtchic	55.58	343	P	P	18 41 14.4	+0.7
	baz=133						
I29M	Ogilvie Camp,	55.62	340	P	P	18 41 15.0	+0.8
	baz=127						
BMRM	Bremner River	55.62	333	P	P	18 41 15.5	+1.2
	baz=118						
M26K	Nabesna, AK	55.67	335	IAmb	IAmb	18 41 17.4	
	comp=Z,8.0nm,1.2s						
M26K	Nabesna, AK	55.67	335	P	P	18 41 16.2	+1.7
	baz=121						
Q23K	Middleton Isla	55.70	331	P	P	18 41 16.3	+1.6
	baz=115						
EPYK	Eagle Plains	55.74	341	P	P	18 41 16.5	+1.5
	baz=130						
N25K	Chitina, Valde	55.93	334	IAmb	IAmb	18 41 19.3	
	comp=Z,10nm,0.9s						
N25K	Chitina, Valde	55.93	334	P	P	18 41 18.1	+1.6
	baz=118,SNR=5.2						
G30M	tAoh Zraii Nji	55.99	342	P	P	18 41 17.4	+0.7
	baz=130						
INK	Inuvik	56.12	344	P	P	18 41 18.4	+0.8
	baz=134,SNR=5.9						
L26K	Log Cabin Wild	56.13	336	P	P	18 41 19.6	+1.8
	baz=121						
H29M	Whitestone	56.17	340	P	P	18 41 18.5	+0.5
H29M				IAmb	IAmb	18 41 20.0	
	comp=Z,9.4nm,1.0s						
H29M	Whitestone	56.17	340	P	P	18 41 19.2	+1.2
	baz=128						
K27K	Chicken	56.17	337	P	P	18 41 19.4	+1.4
	baz=122						
I28M	Miner Creek	56.22	339	P	P	18 41 19.2	+0.8
	baz=126						
EGAK	Eagle	56.26	338	IAmb	IAmb	18 41 20.1	
	comp=Z,7.4nm,0.9s						
EGAK	Eagle	56.26	338	P	P	18 41 19.6	+1.0
	baz=124						
F30M	Barrier River	56.27	342	P	P	18 41 20.2	+1.5
	baz=131						
KLU	Klutina	56.43	333	P	P	18 41 21.7	+1.6
	baz=117						
G29M	Pine Creek	56.49	341	IAmb	IAmb	18 41 22.1	
	comp=Z,7.5nm,0.8s						
G29M	Pine Creek	56.49	341	P	P	18 41 21.7	+1.4
	baz=128						
HARP	HAARP	56.54	335	P	P	18 41 22.7	+2.0
	baz=118						
M24K	Tolsona, Glenn	56.82	334	P	P	18 41 24.3	+1.5
	baz=117						
SCRK	Sand Creek	56.86	337	IAmb	IAmb	18 41 25.8	
	comp=Z,4.7nm,0.9s						
SCRK	Sand Creek	56.86	337	P	P	18 41 24.6	+1.6
	baz=120						
I27K	Kandik River	56.88	339	P	P	18 41 24.6	+1.5
	baz=124						
PAX	Paxson	56.94	335	P	P	18 41 25.1	+1.5
	baz=118						
J26L	Joseph Creek	56.98	337	IAmb	IAmb	18 41 27.1	
	comp=Z,9.7nm,1.1s						
J26L	Joseph Creek	56.98	337	P	P	18 41 25.3	+1.5
	baz=121,SNR=8.4						
CPUP	Villa Florida	57.01	139	P	P	18 41 24.5	0.0
	comp=Z,2.3nm,1.0s,baz=192,slow=9.0,SNR=3.1						
	comp=Z,2.3nm,1.0s						
RIDG	Independent Ri	57.07	336	P	P	18 41 26.0	+1.5
	baz=119						
SCM	Sheep Creek Mo	57.19	333	P	P	18 41 27.1	+1.8
	baz=116						
H27K	Steamboat Moun	57.20	340	P	P	18 41 26.3	+0.9
	baz=124						
I26K	Coal Creek Min	57.25	338	P	P	18 41 27.0	+1.3
	baz=122						
E29M	Blow River	57.39	343	P	P	18 41 27.7	+1.2
E29M				IAmb	IAmb	18 41 28.7	
	comp=Z,7.9nm,1.0s						
E29M	Blow River	57.39	343	P	P	18 41 26.2	-0.3
	baz=129						
SEW	Seward	57.41	331	P	P	18 41 27.5	+0.7
	baz=113						
K24K	Donnelly Dome	57.46	336	P	P	18 41 28.9	+1.6
	baz=118						
F28M	Old Crow	57.49	341	P	P	18 41 28.8	+1.5
	baz=127						
KNK	Knik Glacier	57.49	333	P	P	18 41 28.5	+1.0
	baz=114						
G27K	Doyon Strip	57.58	340	IAmb	IAmb	18 41 29.7	
	comp=Z,5.1nm,0.8s						
G27K	Doyon Strip	57.58	340	P	P	18 41 28.8	+0.8
	baz=124						
SML	Sawmill	57.60	333	P	P	18 41 29.0	+0.8
	baz=115						
O22K	Cooper Landing	57.68	331	P	P	18 41 30.2	+1.5
	baz=113						
WAT6	Susitna Watana	57.69	334	P	P	18 41 29.9	+0.9
	baz=116

baz=128
WAT1 Susitna Watana 58.13 334 P **P** **18 41 33.0 +1.1**
baz=115
HDA Harding Lake 58.20 336 IAmb IAmb 18 41 34.2
comp=Z,8.9nm,1.1s
HDA Harding Lake 58.20 336 P **P** **18 41 33.3 +1.0**
baz=118
PRP Porcupine Dome 58.21 338 IAmb IAmb 18 41 35.1
comp=Z,9.0nm,0.9s
PRP Porcupine Dome 58.21 338 P **P** **18 41 33.6 +1.0**
baz=120
D28M Stokes Point 58.22 343 P **P** **18 41 33.6 +1.3**
baz=129
IL31 58.35 337 IAmb IAmb 18 41 35.3
comp=Z,6.7nm,0.9s
ILAR Eielson Array 58.35 337 P **P** **18 41 34.1 +0.8**
comp=Z,3.8nm,0.9s,baz=116,slow=6.5,SNR=33
ILAR PcP **PcP** **18 42 23.4 +0.5**
comp=Z,0.5nm,0.6s,baz=138,slow=3.3,SNR=5.0
comp=Z,3.8nm,0.9s
E27K Coleen River 58.35 341 IAmb IAmb 18 41 35.4
comp=Z,7.2nm,0.9s
E27K Coleen River 58.35 341 P **P** **18 41 34.3 +1.0**
baz=125
G26K Porcupine Rive 58.36 340 P **P** **18 41 35.0 +1.7**
baz=122
SUA Susitna One 58.52 332 P **P** **18 41 36.2 +1.5**
baz=112
MCK McKinley 58.68 335 P **P** **18 41 37.1 +1.4**
baz=115
CUT Chulitna 58.68 333 P **P** **18 41 36.6 +0.9**
baz=113
H25L Birch Creek 58.69 338 P **P** **18 41 37.0 +1.3**
baz=120
POKR Poker Plat Res 58.72 337 IAmb IAmb 18 41 39.6
comp=Z,5.6nm,0.9s
POKR Poker Plat Res 58.72 337 P **P** **18 41 37.3 +1.4**
baz=118
COLA College 58.77 337 P **P** **18 41 36.6 +0.4**
COLA College 58.77 337 P **P** **18 41 37.4 +1.3**
baz=117
D27M Malcolm River 58.79 343 P **P** **18 41 37.5 +1.0**
baz=126
F26K Sheenjek River 58.88 340 P **P** **18 41 38.3 +1.3**
baz=122
MDM Murphy Dome 58.95 337 IAmb IAmb 18 41 38.9
comp=Z,6.1nm,1.2s
R18K Karluk 59.00 327 P **P** **18 41 39.4 +1.5**
baz=106
G25K Bearman Lake 59.04 339 P **P** **18 41 39.2 +1.1**
baz=120
SKT Skwentna 59.06 333 P **P** **18 41 39.2 +0.9**
SKT IAmb IAmb 18 41 41.2
comp=Z,13nm,1.4s
SKT Skwentna 59.06 333 P **P** **18 41 39.5 +1.1**
baz=112
N20K Mount Spurr 59.08 332 P **P** **18 41 39.0 +0.5**
baz=110
SPCR Spurr Chakacha 59.08 332 P **P** **18 41 38.6 0.0**
baz=110
NEA2 Nenana 59.11 336 P **P** **18 41 40.2 +1.7**
baz=116
TRF Thorofare Moun 59.11 334 P **P** **18 41 40.3 +1.5**
baz=114,SNR=7.4
H24K Noodor Dome 59.22 338 P **P** **18 41 40.7 +1.3**
baz=117,SNR=8.8
F25K Christian Rive 59.31 340 P **P** **18 41 41.4 +1.4**
baz=121
I23K Minto, Yukon-K 59.46 336 P **P** **18 41 42.2 +1.2**
baz=116,SNR=6.4
G24K Hadweenzic Riv 59.49 339 IAmb IAmb 18 41 43.4
comp=Z,8.9nm,1.0s
G24K Hadweenzic Riv 59.49 339 P **P** **18 41 42.3 +1.2**
baz=118
E25K Arctic Village 59.56 340 P **P** **18 41 43.0 +1.3**
baz=121
Q18K Katmai Hardscr 59.59 328 P **P** **18 41 43.3 +1.2**
baz=106
BPAW Bear Paw Mtn. 59.66 335 P **P** **18 41 43.7 +1.3**
baz=113
M20K Styx River 59.73 332 P **P** **18 41 43.7 +0.7**
baz=110
H23K Yukon River 59.83 337 P **P** **18 41 44.6 +1.0**
baz=116
CAST Castle Rocks 59.84 334 P **P** **18 41 44.0 +0.4**
CAST IAmb IAmb 18 41 44.6
comp=Z,4.4nm,0.9s
CAST Castle Rocks 59.84 334 P **P** **18 41 44.2 +0.5**
baz=112
Q17K Contact Creek 59.93 328 P **P** **18 41 46.2 +1.8**
baz=105
MLY Manley 59.94 336 P **P** **18 41 45.4 +1.1**
baz=114,SNR=8.8
N19K Bonanza Creek 59.99 331 P **P** **18 41 45.9 +1.0**
baz=108
F24K Squaw Lake 60.02 339 P **P** **18 41 46.2 +1.3**
baz=118
R17K Ugashik Creek 60.02 327 P **P** **18 41 46.0 +1.1**
baz=105
O18K Koktuh Hills 60.04 330 P **P** **18 41 45.7 +0.6**
baz=107
CHUM Lake Minchumin 60.11 335 P **P** **18 41 46.1 +0.7**
baz=112
L20K Farewell, AK 60.27 333 P **P** **18 41 47.2 +0.6**
baz=110
M19K Big River Lodg 60.30 332 P **P** **18 41 47.9 +1.1**
baz=109
G23K Bananza Creek 60.39 338 P **P** **18 41 48.4 +1.1**
G23K IAmb IAmb 18 41 49.6
comp=Z,5.9nm,0.9s
G23K Bananza Creek 60.39 338 P **P** **18 41 48.5 +1.1**
baz=116
D25K Kavik River 60.44 341 P **P** **18 41 48.5 +0.8**
baz=121
P17K Kvichak River 60.46 329 P **P** **18 41 48.8 +1.0**
baz=105
I21K Tanana 60.48 336 P **P** **18 41 48.5 +0.5**
baz=113
E24K Your Creek 60.49 340 P **P** **18 41 49.3 +1.3**
baz=118
H22K Ishtalitna Cre 60.54 337 P **P** **18 41 49.0 +0.6**
baz=114
L19K White Mountain 60.60 332 P **P** **18 41 49.6 +0.8**
baz=108
N18K Kilae Creek 60.61 330 P **P** **18 41 49.3 +0.3**
baz=107
R16K Pilot Point 60.62 327 P **P** **18 41 49.7 +0.7**
baz=103
K20K Telida 60.65 334 P **P** **18 41 50.1 +1.0**
baz=110
COLD Coldfoot 60.68 338 P **P** **18 41 50.5 +1.2**
baz=116
CHGN Chignik 60.79 325 P **P** **18 41 51.6 +1.5**
baz=102
E23K Chandalar 60.86 339 P **P** **18 41 51.8 +1.3**
baz=117
O17K Koliganek Bris 60.94 329 P **P** **18 41 51.5 +0.4**
baz=105
J20K Nowinta River 60.97 335 P **P** **18 41 51.7 +0.4**
baz=110
H21K Melozitna Rive 60.99 336 P **P** **18 41 51.4 0.0**
baz=112
G22K Bettles 61.01 338 P **P** **18 41 52.1 +0.6**
baz=114
TOLK Toolik Lake Re 61.11 340 P **P** **18 41 53.3 +1.1**
baz=117
D24K Happy Valley 61.11 341 P **P** **18 41 53.6 +1.5**
baz=118
CHNA Chernabura Isl 61.15 323 P **P** **18 41 53.9 +1.3**
baz=100
N17K Nushagak Hills 61.18 330 P **P** **18 41 53.8 +1.0**
baz=105
P16K Nushagak River 61.19 328 P **P** **18 41 53.7 +0.9**
baz=104
I20K Naaghedeneel 61.32 335 P **P** **18 41 54.2 +0.6**
baz=110
C24K Franklin Bluff 61.35 341 P **P** **18 41 54.5 +0.8**
baz=118
O16K Kokwok River B 61.38 329 P **P** **18 41 55.0 +1.0**
baz=104
L18K Granite Mounta 61.43 332 P **P** **18 41 55.5 +1.1**
baz=107
F22K John River 61.49 338 P **P** **18 41 56.6 +1.8**
baz=114
J19K Poorman 61.52 334 P **P** **18 41 55.2 +0.2**
J19K IAmb IAmb 18 41 56.3
comp=Z,8.1nm,0.8s
J19K Poorman 61.52 334 P **P** **18 41 55.6 +0.6**
baz=109
M17K Holitna River 61.54 331 P **P** **18 41 55.8 +0.7**
baz=106
G21K Allakaket 61.58 337 P **P** **18 41 56.4 +1.0**
baz=112
D23K Nanushuk River 61.62 340 P **P** **18 41 57.5 +1.9**
baz=116
H20K Anotleneega Mo 61.73 336 P **P** **18 41 57.9 +1.5**
baz=110
SDPT Sand Point 61.74 324 P **P** **18 41 58.8 +2.2**
baz=100
J18K Innoko River 61.81 333 P **P** **18 41 58.2 +1.2**
baz=107
F21K Alatna River 61.84 338 P **P** **18 41 58.7 +1.6**
baz=112
N16K Nishlik Lake 61.92 330 P **P** **18 41 58.9 +1.1**
baz=104
C23K Itkillik River 61.99 341 P **P** **18 41 59.2 +1.3**
baz=117
L17K Donlin 62.13 332 P **P** **18 41 59.2 +0.1**
baz=105
O15K Ungalikthiuk R 62.14 328 P **P** **18 41 59.6 +0.4**
baz=102
M16K Timber Creek 62.15 330 P **P** **18 42 00.0 +0.8**
baz=104
D22K Ayikyak River 62.23 340 P **P** **18 42 01.5 +1.8**
baz=114
K17K Iditarod 62.29 332 P **P** **18 42 00.9 +0.8**
baz=106
H19K Roundabout Mou 62.36 336 P **P** **18 42 01.2 +0.7**
baz=109
E21K Killik River 62.49 339 P **P** **18 42 02.2 +0.7**
baz=113
L16K Owhat River 62.56 331 P **P** **18 42 03.3 +1.4**
baz=104
F20K Avarart Lake 62.59 337 P **P** **18 42 03.3 +1.2**
baz=110
G19K Purcell Mounta 62.80 336 P **P** **18 42 04.7 +1.2**
baz=108
O14K Tigyukauivet M 62.88 328 P **P** **18 42 05.9 +1.8**
baz=101
B22K Teshekpuk Lake 63.07 341 P **P** **18 42 06.3 +1.1**
baz=114
E20K Nigu River 63.19 339 P **P** **18 42 06.9 +0.8**
baz=110
E19K Redstone River 63.28 338 P **P** **18 42 07.9 +1.2**
baz=109
J16K Anvik River 63.45 333 P **P** **18 42 09.2 +1.4**
baz=104
L15K Ungalak Mounta 63.49 331 P **P** **18 42 09.0 +0.9**
baz=102
D20K Etivluk River 63.49 339 P **P** **18 42 09.1 +1.1**
baz=110
M14K Bethel 63.52 330 P **P** **18 42 09.6 +1.3**
baz=101
H17K Granite Mounta 63.58 334 P **P** **18 42 09.1 +0.5**
baz=105
NEEM North Greenlan 63.58 10 *i* P **P** **18 42 07.9 -0.9**
NEEM IAmb IAmb 18 42 10.7
comp=Z,11nm,0.7s
I17K Unalakleet 63.64 333 P **P** **18 42 08.7 -0.3**
baz=104
B20K Meade River 64.13 340 P **P** **18 42 12.1 0.0**
baz=110
C18K Utukok River 65.06 338 P **P** **18 42 18.6 +0.2**
baz=106
A19K Wainwright 65.46 340 P **P** **18 42 20.3 -0.4**
baz=106
B18K Kokolik River 65.47 339 P **P** **18 42 20.4 -0.4**
baz=105
M11K Mekoryuk 65.53 329 P **P** **18 42 21.0 -0.3**
baz=97
DAG Danmarks Havn 69.77 14 *i* P **P** **18 42 46.0 -1.7**
DAG IAmb IAmb 18 42 47.8
comp=Z,3.1nm,0.6s
NOR Nord 70.90 9 *i* P **P** **18 42 53.4 -1.2**
NOR IAmb IAmb 18 42 55.2
comp=Z,3.2nm,0.5s
EKA Eskdalemuir Ar 76.66 36 P **P** **18 43 27.8 -0.7**
comp=Z,0.7nm,0.4s,baz=265,slow=5.6,SNR=11
comp=Z,0.7nm,0.4s
NOA NORSAR Array B 82.27 28 P **P** **18 43 59.4 +0.5**
comp=Z,1.0nm,0.8s,baz=295,slow=5.4,SNR=3.6
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 83.53 18 P **P** **18 44 05.4 +0.2**
comp=Z,5.1nm,0.9s,baz=282,slow=8.5,SNR=5.6
comp=Z,5.1nm,0.9s
PETK Petropavlovsk- 86.02 325 P **P** **18 44 19.6 +1.7**
comp=Z,2.1nm,0.7s,baz=56,slow=6.4,SNR=4.3
comp=Z,2.1nm,0.7s
TIXI Tiksi 86.07 347 P **P** **18 44 17.1 -0.7**
PZH PanZhiHua 133.18 339 PKP **PKPdf** **18 50 52.5 -0.8**
WRA Warramunga Arr 133.42 259 PKP **PKPdf** **18 50 53.8 0.0**
comp=Z,0.8nm,0.7s,baz=82,slow=2.2,SNR=11
ASAR Alice Springs 134.08 254 PKP **PKPdf** **18 50 55.1 +0.2**
comp=Z,0.5nm,0.7s,baz=85,slow=2.1,SNR=8.0
CMAR Chiang Mai Arr 141.57 338 PKP **PKPdf** **18 51 08.9 +0.1**
comp=Z,0.8nm,0.8s,baz=349,slow=2.9,SNR=5.7

---

*NEIC **28** 18:35:41.8±2.0, 20°.3S±0°.1×173°.84W±0°.09, h10km±1km, mb4.6/33, Error ellipse: s-maj=17.0km s-min=15.0km az=175.0*
*IDC **28** 18:36:00.8±4.7, 20°.37S×174°.46W, h147km±40km, mb3.3/10, mbtmp3.8/12, MS3.3/1, Error ellipse: s-maj=28.9km s-min=19.4km az=132.0*
ISC 28 18:35:42.1±0.5, 20°.37S±0°.08×173°.85W±0°.06, h10km, n55, σ2=28/53, mb4.4/24, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.91**	**71**		**Pn**	**18 36 41.9**	**-0.3**
NIUE				Sn	**Sn**	**18 37 21.6**	**-6.7**
AFI	**Afiamalu**	**6.72**	**17**	Pn	**Pn**	**18 37 19.7**	**-1.3**
MSVF	**Nonsavu**	**8.10**	**288**	Pn	Pn	18 37 48.2	+8.4
MSVF	**Nonsavu**	**8.10**	**288**	P	Pn	18 37 48.7	+8.9
	4.5nm,0.6s,baz=178,slow=23,SNR=4.7						
MSVF				LR	LR	18 40 32.3	
	comp=Z,207nm,21.0s,baz=132,slow=36						
RAR	**Rarotonga**	**13.20**	**96**	Pn	**Pn**	**18 38 48.2**	**-1.4**
FUNA	**Funafuti**	**13.56**	**329**	Pn	**Pn**	**18 38 53.7**	**-0.8**
PINNC	**Pines Island,**	**17.55**	**259**	P	**Pn**	**18 39 46.1**	**-0.8**
DZM	**Mont Dzumac**	**18.45**	**261**	P	**P**	**18 39 56.3**	**-1.8**
DZM	**Mont Dzumac**	**18.45**	**261**	P	**Pn**	**18 40 00.2**	**+2.0**
	2.4nm,0.6s,baz=60,slow=21,SNR=6.5						
KOUNC	**Koumac, New Ca**	**20.49**	**266**	P	**P**	**18 40 17.4**	**-2.9**
KOUNC				IAmb	IAmb	18 40 24.6	
	comp=Z,22nm,1.5s						
BKZ	**Black Stump Fm**	**20.50**	**202**	P	**P**	**18 40 19.1**	**-1.2**
HIZ	**Hauiti**	**20.55**	**206**	P	**P**	**18 40 20.3**	**-0.5**
HIZ				IAmb	IAmb	18 40 26.0	
	comp=Z,24nm,1.1s						
BFZ	**Birch Farm**	**21.94**	**200**	P	**P**	**18 40 29.8**	**-6.0**
BFZ				IAmb	IAmb	18 40 52.8	
	comp=Z,38nm,1.2s						
NNZ	**Nelson**	**23.45**	**205**	P	**P**	**18 40 48.5**	**-3.1**
NNZ				IAmb	IAmb	18 41 04.4	
	comp=Z,12nm,1.1s						
QRZ	**Quartz Range**	**23.46**	**207**	P	**P**	**18 40 51.7**	**-0.1**
QRZ				IAmb	IAmb	18 41 11.1	
	comp=Z,30nm,1.5s						
THZ	**Tophouse**	**24.10**	**205**	P	**P**	**18 40 57.6**	**-0.4**
KHZ	**Kahutara**	**24.42**	**203**	P	**P**	**18 41 00.5**	**-0.3**
KHZ				IAmb	IAmb	18 41 25.8	
	comp=Z,20nm,1.2s						
GVZ	**Greta Valley S**	**25.08**	**203**	P	**P**	**18 41 06.3**	**-0.5**
FOZ	**Fox Glacier**	**26.84**	**207**	P	**P**	**18 41 23.2**	**+0.6**
FOZ				IAmb	IAmb	18 42 00.1	
	comp=Z,15nm,1.1s						
EIDS	**Eidsvold**	**32.63**	**255**	P	**P**	**18 42 13.3**	**-1.0**
EIDS				IAmb	IAmb	18 42 52.3	
	comp=Z,11nm,1.4s						
CAN	**Canberra**	**35.84**	**238**	P	**P**	**18 42 40.5**	**-1.5**
CAN				IAmb	IAmb	18 43 07.1	
	comp=Z,21nm,1.5s						
CTA	**Charters Tower**	**37.37**	**263**	P	**P**	**18 42 54.8**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=81,slow=9.8,SNR=7.0						
	comp=Z,1.3nm,0.5s						
CTAO	**Charters Tower**	**37.37**	**263**	P	**P**	**18 42 53.6**	**-1.7**
CTAO				IAmb	IAmb	18 43 01.3	
	comp=Z,17nm,1.4s						
TOO	**Toolangi**	**39.14**	**235**	P	**P**	**18 43 09.2**	**-0.8**
TOO				IAmb	IAmb	18 43 26.9	
	comp=Z,15nm,1.3s						
STKA	**Stephens Creek**	**41.35**	**245**	P	**P**	**18 43 27.0**	**-1.4**
STKA	**Stephens Creek**	**41.35**	**245**	P	**P**	**18 43 27.4**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=91,slow=10,SNR=3.7						
	comp=Z,0.7nm,0.4s						
COEN	**Coen**	**41.46**	**272**	P	**P**	**18 43 27.1**	**-2.4**
WR0	**Warramunga Arr**	**48.28**	**261**	P	**P**	**18 44 21.9**	**-1.9**
WR0				IAmb	IAmb	18 44 34.5	
	comp=Z,3.8nm,1.2s						
AS31	**Alice Springs**	**48.33**	**256**	P	**P**	**18 44 23.2**	**-1.0**
ASAR	**Alice Springs**	**48.33**	**256**		**P**	**18 44 22.6**	**-1.6**
ASAR	**Alice Springs**	**48.33**	**256**	P	**P**	**18 44 22.9**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=96,slow=8.0,SNR=32						
ASAR				PcP	**PcP**	**18 45 50.6**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=110,slow=4.5,SNR=2.2						
	comp=Z,0.8nm,0.4s						
WB0	**Warramunga Arr**	**48.45**	**261**	P	**P**	**18 44 23.5**	**-1.7**
WB0				IAmb	IAmb	18 44 29.8	
	comp=Z,7.0nm,1.2s						
WB2	**Warramunga Arr**	**48.46**	**261**	P	**P**	**18 44 23.3**	**-1.9**
WB2				IAmb	IAmb	18 45 02.1	
	comp=Z,8.2nm,1.4s						
WRA	**Warramunga Arr**	**48.47**	**261**	P	**P**	**18 44 24.1**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=97,slow=8.2,SNR=9.1						
WRA				PcP	**PcP**	**18 45 52.0**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=103,slow=2.9,SNR=1.8						
	comp=Z,0.4nm,0.4s						
MTN	**Manton Dam**	**53.05**	**269**	P	**P**	**18 44 58.6**	**-1.3**
MTN				IAmb	IAmb	18 45 05.8	
	comp=Z,13nm,1.1s						
KNRA	**Kununurra**	**54.55**	**265**	P	**P**	**18 45 07.7**	**-3.1**
FAKI	**Fak Fak**	**55.28**	**281**	P	**P**	**18 45 14.7**	**-1.5**
SBA	**Scott Base**	**58.29**	**185**	P	**P**	**18 45 40.8**	**+4.2**
SBA				IAmb	IAmb	18 46 11.8	
	comp=Z,5.2nm,1.4s						
VNDA	**Vanda**	**58.42**	**186**	P	**P**	**18 45 38.3**	**+0.8**
VNDA	**Vanda**	**58.42**	**186**	P	**P**	**18 45 40.4**	**+2.9**
	comp=Z,0.2nm,0.6s,baz=45,slow=4.3,SNR=3.3						
	comp=Z,0.2nm,0.6s						
SOEI	**Soe**	**60.39**	**270**	P	**P**	**18 45 52.6**	**+0.3**
TNTI	**Ternate**	**61.21**	**283**	P	**P**	**18 45 60.0**	**+2.3**
NWAO	**Narrogin (SRO)**	**61.90**	**243**	P	**P**	**18 46 02.5**	**+0.5**
QSPA	**South Pole Qui**	**69.70**	**180**	P	**P**	**18 46 54.5**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=53,slow=1.6,SNR=4.5						
	comp=Z,0.6nm,0.3s						
PEA0B	**Petropavlovsk-**	**77.22**	**343**	P	**P**	**18 47 37.9**	**+1.9**
PETK	**Petropavlovsk-**	**77.22**	**343**	P	**P**	**18 47 37.7**	**+1.6**
PETK	**Petropavlovsk-**	**77.22**	**343**	P	**P**	**18 47 37.5**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=141,slow=4.8,SNR=1.5						
	comp=Z,1.2nm,0.7s						
NVAR	**Mina Array Bea**	**78.31**	**41**	P	**P**	**18 47 47.0**	**+4.2**
	comp=Z,0.5nm,0.6s,baz=226,slow=8.4,SNR=6.1						
	comp=Z,0.5nm,0.6s						
H03S2	**Juan Fernandez**	**82.83**	**123**	T	T	20 20 30.3	
	baz=248,slow=75,SNR=11						
H03S1	**Juan Fernandez**	**82.85**	**123**	T	T	20 20 27.7	
	baz=248,slow=75,SNR=12						
H03S3	**Juan Fernandez**	**82.85**	**123**	T	T	20 20 29.6	
	baz=248,slow=75,SNR=8.3						
K15K	**Wolf Creek Mou**	**82.96**	**6**	P	**P**	**18 48 10.8**	**+3.9**
L18K	**Granite Mounta**	**83.43**	**8**	P	**P**	**18 48 11.5**	**+2.2**
L18K				IAmb	IAmb	18 48 43.3	
	comp=Z,5.9nm,1.3s						
PDAR	**Pinedale Array**	**86.24**	**42**	P	**P**	**18 48 26.9**	**+2.6**
	comp=Z,0.2nm,0.5s,baz=224,slow=5.0,SNR=1.8						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	**87.38**	**11**	P	**P**	**18 48 31.8**	**+2.8**
	comp=Z,0.2nm,0.7s,baz=220,slow=5.4,SNR=1.9						
	comp=Z,0.2nm,0.7s						

---

*CRAAG **28** 18:47:24.3, 35°.48N×0°.13W, Ml3.2, Algerie 07km SE Sig*
*MDD **28** 18:47:27.4±0.7, 35°.52N×0°.20W, h6km±6km, Mb3.7/26, M_mb3.0/26, Error ellipse: s-maj=7.8km s-min=3.4km az=154.0*
*CNRM **28** 18:47:30.1, 36°.29N×2°.70W, h107km, ml2.3*
ISC 28 18:47:25.1±1.4, 35°.48N±0°.05×0°.20W±0°.04, h15km±11km, n41, σ1=84/70, 20C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFRG	**Douar Fergoug**	**0.20**	**77**	P	**Pg**	**18 47 29.0**	**-0.8**
OTSS	**Djebel Tessala**	**0.53**	**249**	P	**Pn**	**18 47 39.2**	**+1.0**
ESMB	**Sidi M'hamed B**	**0.64**	**81**	P	**Pb**	**18 47 38.5**	**+0.4**
OJGS	**Djebel Guires**	**0.77**	**88**	P	**Pn**	**18 47 42.9**	**+1.3**
OSBL	**Sidi Abdelli**	**0.87**	**243**	P	**Pn**	**18 47 45.5**	**+2.7**
TAF	**Taforalt**	**1.93**	**251**	P	**Pn**	**18 47 56.9**	**-0.6**
TAF				S	**Sn**	**18 48 17.9**	**-3.7**
CART	**Cartagena**	**2.21**	**343**	P	**Pn**	**18 48 01.6**	**+0.4**
CART				S	**Sn**	**18 48 25.4**	**-2.7**
CART	**Cartagena**	**2.21**	**343**	Sn	**Sn**	**18 48 24.9**	**-3.3**
CART				Pn	**Pn**	**18 48 00.8**	**-0.3**
ENIJ	**Nijar**	**2.21**	**313**	Pn	**Pn**	**18 48 01.9**	**+0.7**
ENIJ				⇑*iVmb_V*		18 48 04.1	
	211nm,SNR=2.0						
ENIJ				Sn	**Sn**	**18 48 25.3**	**-3.0**
ENIJ	**Nijar**	**2.21**	**313**	Sn	**Sn**	**18 48 26.5**	**-1.8**
ENIJ				Pn	**Pn**	**18 48 02.1**	**+0.8**
JBK	**JBK**	**2.26**	**240**	P	**Pn**	**18 48 03.7**	**+1.6**
EMUR	**La Murta**	**2.51**	**341**	Pn	**Pn**	**18 48 07.3**	**+1.9**
EMUR				⇑*iVmb_V*		18 48 08.3	
	88nm,SNR=1.2						
EMUR				Sn	**Sn**	**18 48 33.8**	**-1.9**
EBER	**Berja**	**2.60**	**304**	Pn	**Pn**	**18 48 07.5**	**+0.7**
EBER				⇑*iVmb_V*		18 48 08.5	
	146nm,SNR=2.1						
EBER				Sn	**Sn**	**18 48 38.7**	**+0.5**
EBER	**Berja**	**2.60**	**304**	Sn	**Sn**	**18 48 37.7**	**-0.4**
EBER				Pn	**Pn**	**18 48 07.7**	**+0.9**
EZAR	**Zarzadilla de**	**2.68**	**334**	Pn	**Pn**	**18 48 09.0**	**+1.2**
EZAR				⇑*iVmb_V*		18 48 10.6	
	258nm,SNR=2.7						
EZAR				Sn	**Sn**	**18 48 38.4**	**-1.6**
ELGU	**Los Guajares,**	**3.10**	**298**	Pn	**Pn**	**18 48 14.1**	**+0.5**
ELGU				⇑*iVmb_V*		18 48 17.5	
	230nm,SNR=5.3						
ELGU				Sn	**Sn**	**18 48 50.3**	**-0.1**
EQUE	**Quentar**	**3.14**	**304**	Pn	**Pn**	**18 48 16.0**	**+2.0**
EQUE				⇑*iVmb_V*		18 48 20.3	
	120nm,SNR=3.4						
EQUE				Sn	**Sn**	**18 48 52.8**	**+1.5**
EQTA	**Presa de Quent**	**3.14**	**304**	Sn	**Sn**	**18 48 48.4**	**-2.9**
EQTA				Pn	**Pn**	**18 48 16.3**	**+2.2**
AFON	**Font Roja**	**3.19**	**355**	Pn	**Pn**	**18 48 15.9**	**+1.0**
AFON				⇑*iVmb_V*		18 48 20.8	
	167nm,SNR=1.2						
AFON				Sn	**Sn**	**18 48 51.3**	**-1.4**
EBEN2	**Beniarda presa**	**3.19**	**0**	Pn	**Pn**	**18 48 17.7**	**+2.9**
EBEN2				⇑*iVmb_V*		18 48 21.7	
	171nm,SNR=0.5						
EBEN2				Sn	**Sn**	**18 48 49.9**	**-2.7**
EQES	**Quesada**	**3.28**	**316**	Pn	**Pn**	**18 48 19.0**	**+3.0**
EQES				⇑*iVmb_V*		18 48 20.8	
	218nm,SNR=3.7						
EQES				Sn	**Sn**	**18 48 57.6**	**+2.9**
ETOB	**Tobarra**	**3.34**	**342**	Pn	**Pn**	**18 48 18.7**	**+1.8**
ETOB				⇑*iVmb_V*		18 48 21.7	
	106nm,SNR=1.2						
ETOB				Sn	**Sn**	**18 48 55.7**	**-0.6**
ETOB	**Tobarra**	**3.34**	**342**	Pn	**Pn**	**18 48 18.6**	**+1.7**
ETOB				Sn	**Sn**	**18 48 55.9**	**-0.5**
EGOR	**Sierra Gorda,**	**3.56**	**298**	Pn	**Pn**	**18 48 22.6**	**+2.7**
EGOR				⇑*iVmb_V*		18 48 26.1	
	92nm,SNR=2.7						
EGOR				Sn	**Sn**	**18 49 02.5**	**+0.8**
EGOR	**Sierra Gorda,**	**3.56**	**298**	Pn	**Pn**	**18 48 22.2**	**+2.3**
EIBI	**Ibiza**	**3.75**	**19**	Pn	**Pn**	**18 48 24.1**	**+1.6**
EIBI				⇑*iVmb_V*		18 48 25.8	
	497nm,SNR=1.6						
EIBI				Sn	**Sn**	**18 49 05.0**	**-1.4**
EIBI	**Ibiza**	**3.75**	**19**	Pn	**Pn**	**18 48 23.9**	**+1.5**
EVIV	**Cofrentes, Val**	**3.85**	**349**	Pn	**Pn**	**18 48 25.0**	**+1.1**
EVIV				⇑*iVmb_V*		18 48 32.4	
	47nm,SNR=0.3						
EVIV				Sn	**Sn**	**18 49 07.9**	**-1.1**
EMIJ	**Mijas**	**3.87**	**288**	Pn	**Pn**	**18 48 24.5**	**+0.5**
EMIJ				⇑*iVmb_V*		18 48 27.4	
	65nm,SNR=1.2						
EMIJ				Sn	**Sn**	**18 49 07.9**	**-1.3**
EMIJ	**Mijas**	**3.87**	**288**	Pn	**Pn**	**18 48 24.0**	**0.0**
ECHE	**Chera**	**4.15**	**352**	Pn	**Pn**	**18 48 30.2**	**+2.1**
ECHE				⇑*iVmb_V*		18 48 31.9	
	111nm,SNR=1.1						
ECHE				Sn	**Sn**	**18 49 15.7**	**-0.6**
PSIM	**Granatula de C**	**4.38**	**321**	Pn	**Pn**	**18 48 31.1**	**-0.1**
PSIM				Sn	**Sn**	**18 49 19.8**	**-2.2**
EADA	**Adamuz**	**4.42**	**309**	Pn	**Pn**	**18 48 33.3**	**+1.6**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
EADA				⇑iVmb_V			18 48 35.2	
	38nm,SNR=1.0							
EADA					Sn		18 49 22.2	-0.7
MD31	**MD31**	**4.59**	**237**	P	Pn		18 48 26.4	-7.6
EMOS	**Mosqueruela**	**4.88**	**358**	Pn	**Pn**		**18 48 40.6**	**+2.4**
EMOS				⇑iVmb_V			18 48 41.7	
	100nm,SNR=0.9							
EMOS					Sn		18 49 32.2	-2.3
ECAB	**El Cabril**	**4.93**	**303**	Pn	**Pn**		**18 48 40.4**	**+1.7**
ECAB				⇑iVmb_V			18 48 40.6	
	40nm,SNR=1.1							
ECAB					Sn		18 49 34.4	-1.0
ECAB	**El Cabril**	**4.93**	**303**	Pn	**Pn**		**18 48 39.8**	**+1.1**
ESDC	**Sonseca Array**	**5.15**	**326**	Pn	**Pn**		**18 48 42.1**	**+0.4**
ESDC					Sn		18 49 40.5	-0.3
PAB	**San Pablo**	**5.23**	**322**	Pn	**Pn**		**18 48 45.0**	**+2.1**
PAB				⇑iVmb_V			18 48 47.8	
	32nm,SNR=0.8							
PAB					Sn		18 49 40.7	-2.2
ETOR	**Torete**	**5.53**	**345**	Pn	**Pn**		**18 48 50.1**	**+3.1**
ETOR					Sn		18 49 48.3	-2.1
GUD	**Guadarrama**	**6.03**	**330**	Pn	**Pn**		**18 48 56.0**	**+2.1**
GUD				⇑iVmb_V			18 48 57.4	
	24nm,SNR=0.7							
GUD					Sn		18 49 60.0	-2.7

*IDC **28** 18:53:59.4±0.8, 86.°58N×47.°30E, h0km, mb3.6/10, mbtmp3.6/11, ML3.3/1, Error ellipse: s-maj=26.5km s-min=17.1km az=71.0*
*IEPN **28** 18:54:00.0, 86.°72N×48.°13E, h10km*
ISC 28 18:54:00.9±0.7, 86.°54N±0.°07×43.°2E±0.°1, h10km, n20, σ1§84/19, mb3.6/11, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
OMEGA	**Omega**	**5.81**	**173**	*eP*		Pn	18 55 31.9	+5.0
OMEGA				*eS*		**Sn**	**18 56 34.2**	**+0.8**
	45nm,1.8s							
SPA0	**Spitsbergen Ar**	**8.93**	**217**	*eP*		**Pn**	**18 56 07.3**	**-2.3**
SPITS	**Spitsbergen Ar**	**8.93**	**217**	Pn		**Pn**	**18 56 07.4**	**-2.3**
	baz=9.9,slow=12							
SVZ	**Severnaya Zeml**	**9.45**	**103**	*eP*		Pn	18 56 09.9	-6.8
SVZ				*eS*		Sn	18 57 43.5	-19
HSPB	**Hornsund (broa**	**10.12**	**217**	*eP*		**Pn**	**18 56 22.5**	**-3.4**
RES	**Resolute Bay**	**18.15**	**325**	*eP*		**Pn**	**18 58 12.4**	**0.0**
RES	**Resolute Bay**	**18.15**	**325**	P		**Pn**	**18 58 12.4**	**0.0**
	0.1nm,0.3s,baz=41,slow=6.9,SNR=1.3							
	2.2nm,1.1s							
FINES	**FINESS Array B**	**25.41**	**199**	*eP*		**P**	**18 59 28.4**	**+0.5**
FINES	**FINESS Array B**	**25.41**	**199**	P		**P**	**18 59 28.4**	**+0.5**
	2.0nm,0.8s,baz=7.7,slow=11,SNR=1.6							
	2.0nm,0.8s							
ILAR	**Eielson Array**	**28.81**	**9**	*eP*		**P**	**18 59 56.6**	**-1.9**
ILAR	**Eielson Array**	**28.81**	**9**	P		**P**	**18 59 56.6**	**-1.9**
	1.0nm,1.0s,baz=352,slow=7.4,SNR=6.6							
	1.0nm,1.0s							
BVAR	**Borovoye Array**	**34.09**	**150**	P		**P**	**19 00 48.0**	**+3.0**
	1.3nm,0.7s,baz=352,slow=8.7,SNR=5.3							
MKAR	**Makanchi Array**	**40.74**	**138**	P		**P**	**19 01 40.4**	**-0.9**
	0.4nm,0.5s,baz=12,slow=7.0,SNR=7.5							
	0.4nm,0.5s							
SONM	**Songino Array**	**40.88**	**113**	P		**P**	**19 01 41.6**	**-1.1**
	0.5nm,0.7s,baz=343,slow=7.3,SNR=4.3							
	0.5nm,0.7s							
ESDC	**Sonseca Array**	**48.19**	**229**	P		**P**	**19 02 41.2**	**+0.3**
	0.1nm,0.4s,baz=2.6,slow=7.6,SNR=3.4							
	0.1nm,0.4s							
PDAR	**Pinedale Array**	**50.54**	**334**	P		**P**	**19 02 59.5**	**+0.5**
	0.5nm,0.8s,baz=31,slow=9.0,SNR=4.5							
	0.5nm,0.8s							
NVAR	**Mina Array Bea**	**55.07**	**342**	P		**P**	**19 03 33.5**	**+0.9**
	0.4nm,0.7s,baz=29,slow=4.9,SNR=4.7							
	0.4nm,0.7s							
TXAR	**Lajitas Array**	**63.76**	**328**	P		**P**	**19 04 34.1**	**+1.5**
	0.7nm,0.8s,baz=4.2,slow=2.7,SNR=7.3							
	0.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**69.72**	**123**	P		**P**	**19 05 09.1**	**-1.5**
	0.6nm,0.7s,baz=347,slow=7.2,SNR=5.1							
	0.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**74.34**	**222**	P		**P**	**19 05 40.9**	**+2.7**
	0.8nm,0.8s,baz=4.8,slow=7.3,SNR=5.1							
	0.8nm,0.8s							

*BJI **28** 18:59:30.1±0.0, 55.°26N×36.°07W, h6km, mb4.8/41, mB5.4/14*
*DNK **28** 18:59:30.2±4.8, 54.°75N×35.°33W, h20km±68km, mb4.5*
*IDC **28** 18:59:32.3±0.4, 55.°12N×35.°35W, h0km, mb4.4/31, mbtmp4.5/35, ML3.8/4, MS4.7/13, Error ellipse: s-maj=12.8km s-min=9.7km az=163.0*
*NEIC **28** 18:59:33.7, 55.°20N×35.°35W, h12km*
*NEIC **28** 18:59:33.7±1.8, 55.°20N±0.°09×35.°4W±0.°1, h10km±1km, mb4.9/118, Mww5.2/46, Error ellipse: s-maj=16.4km s-min=9.8km az=160.0*
*NEIC **28** 18:59:33.7, 55.°00N×35.°53W, h12km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^16^Nm; Mrr=8.05; Mθθ0.29; Mφφ7.76; Mrθ5.26; Mθφ-1.19; Mφr0.69; Fault plane solution: M0 9.30000×10^16^ NP1: φs327.16000°, δ51.16000°, λ-124.54000°. NP2: φs194.82000°, δ50.09000°, λ-54.85000°. Principal axes: T 7.9466, Plg1.0000°, Azm81.0000°; N 2.7135, Plg26.0000°, Azm351.0000°; P -10.6601, Plg64.0000°, Azm172.0000°;*
*GCMT **28** 18:59:34.7±0.2, 55.°27N±0.°02×35.°25W±0.°02, h12km, MW5.3/103, Moment Tensor Solution. s67,c86; s103,c174; Duration: 1§1 Moment tensor: Scale 10^17^ Nm; Mrr=1.07±.03; Mθθ-0.08±.04; Mφφ1.15±.02; Mrθ0.32±.09; Mθφ-0.21±.03; Mφr-0.01±.07; Best double couple: M0 1.17500×10^17^ NP1:φs335.00000°, δ49.00000°, λ-112.00000°. NP2:φs187.00000°, δ46.00000°, λ-67.00000°. Principal axes: T 1.1860, Plg2.0000°, Azm80.0000°; N -0.0180, Plg17.0000°, Azm350.0000°; P -1.1650, Plg73.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*INMG **28** 18:59:36.0, 55.°35N×34.°99W, h10km, MW4.5*
ISC 28 18:59:33.8±0.9, 55.°33N±0.°05×35.°60W±0.°04, h10km±5km, n571, σ1§42/579, mb4.8/142, MS4.9/20, 8C-17D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
NRS	**Narsarsuaq**	**7.81**	**322**	Pn		**Pn**	**19 01 28.6**	**+1.4**
NRS	**Narsarsuaq**	**7.81**	**322**	*i* S		**Sn**	**19 02 50.1**	**-5.4**
IVI	**Ivigtut**	**8.86**	**317**	Pn		**Pn**	**19 01 42.0**	**+0.4**
IVI	**Ivigtut**	**8.86**	**317**	*i* P		**Pn**	**19 01 41.9**	**+0.3**
IVI				*i* S		**Sn**	19 03 15.1	-6.2
ANGG	**Ammassalik, Gr**	**10.37**	**355**	Pn		**Pn**	**19 02 02.3**	**0.0**
ANGG	**Ammassalik, Gr**	**10.37**	**355**	*i* P		**Pn**	**19 02 01.9**	**-0.4**
ANGG				*i* S		**Sn**	19 03 52.0	-6.5
ISOG	**Isortoq, Green**	**10.39**	**352**	*eP*		**Pn**	**19 02 01.5**	**-1.1**
ISOG				*i* S		**Sn**	**19 03 53.3**	**-5.5**
BORG	**Borgarnes**	**11.80**	**31**	Pn		**Pn**	**19 02 24.1**	**+2.3**
BORG	**Borgarnes**	**11.80**	**31**	Pn		**Pn**	**19 02 24.9**	**+3.0**
	0.6nm,0.3s,baz=250,slow=9.9,SNR=2.2							
BORG					LR	LR	19 05 55.9	
	comp=Z,9μm,18.5s,baz=227,slow=32							
	16nm,0.8s							
NUUK	**Nuuk**	**12.00**	**324**	*eP*		**Pn**	**19 02 25.6**	**+1.0**
DY2G	**Dye2**	**12.30**	**340**	*i* P		**Pn**	**19 02 31.5**	**+2.5**
DY2G				*i* S		**Sn**	**19 04 39.2**	**-6.8**
SFJD	**Kangerlussuaq**	**13.71**	**335**	Pn		**Pn**	**19 02 50.1**	**+2.3**
SFJD	**Kangerlussuaq**	**13.71**	**335**	*i* P		**Pn**	**19 02 48.8**	**+0.9**
SFJD				*i* S		**Sn**	**19 05 13.4**	**-6.6**
SFJD	**Kangerlussuaq**	**13.71**	**335**	Pn		**Pn**	**19 02 50.5**	**+2.6**
	0.3nm,0.3s,baz=129,slow=13,SNR=3.8							
SFJD					Sn	Sn	19 05 08.2	-12
	0.3nm,0.3s,baz=219,slow=13,SNR=1.7							
SFJD					LR	LR	19 07 17.1	
	comp=Z,2μm,20.7s,baz=147,slow=33							
	10nm,0.8s							
ICESG	**Greenland Ices**	**13.94**	**354**	*i* P		**Pn**	**19 02 54.2**	**+2.9**
DRLN	**Deer Lake**	**14.68**	**255**	Pn		**Pn**	**19 03 02.7**	**+1.4**
ILULI	**Ilulissat**	**15.61**	**339**	Pn		**Pn**	**19 03 15.3**	**+1.9**
ILULI						IAmb	IAmb	19 03 16.5
	comp=Z,110nm,1.6s							
H07N1	**FLORES T-PHASE**	**15.93**	**167**	T		T	19 19 00.8	
	SNR=3.0							
ROSA	**Rosais**	**17.34**	**160**	P		**Pn**	**19 03 32.8**	**-2.9**
ROSA						IAmb	IAmb	19 03 37.0
	comp=Z,196nm,1.2s							
SUMG	**Summit**	**17.36**	**357**	P		**P**	**19 03 37.4**	**-0.1**
SUMG	**Summit**	**17.36**	**357**	*i* P		**P**	**19 03 38.0**	**+0.5**
SCHQ	**Schefferville**	**17.82**	**281**			**P**	**19 03 43.9**	**+1.7**
SCHQ	**Schefferville**	**17.82**	**281**	P		**P**	**19 03 43.5**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=83,slow=8.9,SNR=11							
SCHQ					LR	LR	19 09 19.6	
	comp=Z,2μm,21.3s,baz=81,slow=33							
	comp=Z,29nm,1.0s							
ESK	**Eskdalemuir**	**18.35**	**77**			**Pn**	**19 03 44.2**	**-3.8**
EKA	**Eskdalemuir Ar**	**18.37**	**77**	P		**Pn**	**19 03 46.4**	**-1.9**
	baz=284,slow=10							
	comp=Z,14nm,0.8s							
FRB	**Frobisher Bay**	**18.51**	**310**	LR		LR	19 09 35.5	
	comp=Z,3μm,19.5s,baz=108,slow=32							
LMN	**Caledonia Moun**	**20.68**	**255**	P		**P**	**19 04 14.1**	**+0.4**
LMN						IAmb	IAmb	19 04 16.9
	comp=Z,153nm,1.8s							
HAL	**Halifax**	**20.79**	**251**	P		**P**	**19 04 14.7**	**-0.1**
HAL						IAmb	IAmb	19 04 16.6
	comp=Z,71nm,1.2s							
PQI	**Presque Isle**	**21.99**	**260**	P		**P**	**19 04 28.0**	**+0.3**
GGN	**Saint George**	**22.26**	**256**	P		**P**	**19 04 29.7**	**-0.9**
PGAV	**Gavieira, Arco**	**22.28**	**115**	*eP*		**P**	**19 04 30.4**	**-0.6**
	comp=Z,39nm,1.3s							
PGAV					*eS*	**S**	**19 08 36.6**	**+0.6**
PGAV					*eLR*	LR	19 09 41.8	
	comp=Z,2μm,20.0s							
D62A	**Allapoint, All**	**22.34**	**262**	P		**P**	**19 04 31.4**	**-0.1**
D62A						IAmb	IAmb	19 04 36.6
	comp=Z,56nm,1.0s							
DAG	**Danmarks Havn**	**22.41**	**10**	*i* P		**P**	**19 04 33.2**	**+1.2**
DAG						IAmb	IAmb	19 04 43.6
	comp=Z,6.1nm,0.9s							
G65A	**Princeton**	**22.61**	**257**	P		**P**	**19 04 34.2**	**-0.1**
F64A	**Sherman**	**22.65**	**259**	P		**P**	**19 04 32.8**	**-2.0**
PTO	**Porto**	**22.72**	**117**	*eP*		**P**	**19 04 35.1**	**-0.4**
	comp=Z,56nm,1.3s							
LMQ	**La Malbaie**	**22.81**	**265**	P		**P**	**19 04 35.4**	**-1.0**
LMQ						IAmb	IAmb	19 04 46.5
	comp=Z,62nm,1.2s							
EMMW	**East Machias**	**22.86**	**256**	P		**P**	**19 04 35.0**	**-1.9**
E62A	**Clayton Lake**	**22.87**	**262**	P		**P**	**19 04 37.0**	**-0.1**
E62A						IAmb	IAmb	19 04 50.0
	comp=Z,52nm,1.1s							
NEEM	**North Greenlan**	**22.89**	**351**	*i* P		**P**	**19 04 38.9**	**+1.5**
NEEM						IAmb	IAmb	19 04 54.5
	comp=Z,337nm,2.5s							
POLO	**Lamas de Olo**	**22.96**	**116**	*eP*		**P**	**19 04 37.3**	**-0.8**
	comp=Z,22nm,1.8s							
POLO					*eS*	**S**	**19 08 49.4**	**+1.2**
PVRL	**Vila Real**	**23.07**	**116**	*eP*		**P**	**19 04 39.1**	**-0.1**
	comp=Z,41nm,1.5s							
F63A	**Nahmakanta, Br**	**23.17**	**259**	P		**P**	**19 04 39.6**	**-0.5**
F63A						IAmb	IAmb	19 04 50.2
	comp=Z,49nm,1.4s							
PBRG	**Braganca**	**23.19**	**114**	*eP*		**P**	**19 04 40.1**	**-0.4**
	comp=Z,40nm,1.9s							
PBRG					*eS*	**S**	**19 08 52.3**	**+0.2**
PVIS	**Viseu**	**23.39**	**117**	*eP*		**P**	**19 04 42.0**	**-0.5**
MVO	**Moncorvo**	**23.50**	**115**	*eP*		**P**	**19 04 43.6**	**0.0**
	comp=Z,35nm,1.5s							
MVO					*eS*	**S**	**19 08 57.3**	**0.0**
MVO					*eLR*	LR	19 10 19.4	
	comp=Z,2μm,20.0s							
COI	**Coimbra**	**23.51**	**119**	*eP*		**P**	**19 04 43.8**	**+0.2**
	comp=Z,66nm,1.5s							
COI	**Coimbra**	**23.51**	**119**	P		**P**	**19 04 39.5**	**-4.1**
COI						IAmb	IAmb	19 04 47.3
	comp=Z,62nm,1.3s							
PKME	**Peaks-Kenny Pk**	**23.54**	**259**	P		**P**	**19 04 42.5**	**-1.4**
PKME	**Peaks-Kenny Pk**	**23.54**	**259**	P		**P**	**19 04 44.3**	**+0.4**
	baz=53							
F62A	**Pittston Farm,**	**23.54**	**261**	P		**P**	**19 04 43.0**	**-0.9**
F62A						IAmb	IAmb	19 04 52.9
	comp=Z,50nm,1.1s							
PCAS	**Casmilo, Conde**	**23.58**	**119**	*eP*		**P**	**19 04 43.7**	**-0.7**
	comp=Z,48nm,1.4s							
PCAS					*eS*	**S**	**19 08 57.7**	**-0.7**
MTE	**Manteigas**	**23.80**	**117**	*eP*		**P**	**19 04 45.7**	**-0.9**
	comp=Z,49nm,1.6s							
MTE					*eS*	**S**	**19 09 01.6**	**-0.4**
MTE					*eLR*	LR	19 10 15.6	
	comp=Z,2μm,20.0s							
MTE	**Manteigas**	**23.80**	**117**	P		**P**	**19 04 42.0**	**-4.5**
MTE						IAmb	IAmb	19 04 46.7
	comp=Z,38nm,1.1s							
PSBE	**So Bento**	**23.85**	**120**	*eS*		**S**	**19 09 03.6**	**+0.9**
WVL	**Waterville**	**24.18**	**258**	P		**P**	**19 04 49.7**	**-0.2**
WVL						IAmb	IAmb	19 05 02.8
	comp=Z,35nm,1.2s							
PCBR	**Castelo Branco**	**24.26**	**118**	*eP*		**P**	**19 04 50.0**	**-0.7**
	comp=Z,65nm,1.5s							
G62A	**West of Eustis**	**24.26**	**260**	P		**P**	**19 04 50.7**	**-0.1**
LIS	**Lisbon**	**24.29**	**122**	*eP*		**P**	**19 04 48.0**	**-3.1**
LIS						IAmb	IAmb	19 04 50.7
	comp=Z,15nm,0.6s							
CLF	**Chambon-Foret**	**24.34**	**92**	P		**P**	**19 04 47.7**	**-3.7**
PACT	**Alcochete**	**24.41**	**122**	*eP*		**P**	**19 04 52.0**	**-0.1**
	comp=Z,139nm,1.5s							
PMTG	**Montargil**	**24.47**	**120**	*eP*		**P**	**19 04 51.0**	**-1.7**
	comp=Z,36nm,1.5s							
PMTG					*eS*	**S**	**19 09 13.4**	**+0.8**
PMRV	**Marv??o**	**24.61**	**118**	*eP*		**P**	**19 04 53.0**	**-1.0**
	comp=Z,41nm,2.0s							
PMRV					*eS*	**S**	**19 09 16.2**	**+1.3**
PMRV					*eLR*	LR	19 10 41.5	
	comp=Z,2μm,20.0s							
NC204	**NORSAR Array S**	**24.63**	**57**	P		**P**	**19 04 54.5**	**+0.5**
BMRD	**Maredsous**	**24.65**	**85**	*dx*		x	19 05 07.9	
NBO00	**NORSAR Array S**	**24.67**	**58**	P		**P**	**19 04 52.2**	**-2.1**
NB2	**NORSAR Subarra**	**24.88**	**58**	P		**P**	**19 04 56.2**	**0.0**
	comp=Z,24nm,1.2s,baz=276,slow=10							
NOA	**NORSAR Array B**	**24.88**	**58**	P		**P**	**19 04 55.3**	**-1.0**
	comp=Z,6.1nm,1.0s,baz=277,slow=9.4,SNR=6.4							
	comp=Z,6.1nm,1.0s							
NB201	**NORSAR Array S**	**24.91**	**57**	P		**P**	**19 04 56.7**	**+0.2**
NC303	**NORSAR Array S**	**24.93**	**57**	P		**P**	**19 04 56.4**	**-0.2**
PESTR	**Estremoz**	**24.94**	**120**	*eP*		**P**	**19 04 56.3**	**-0.7**
PESTR					*eS*	**S**	**19 09 21.4**	**+1.2**
PESTR	**Estremoz**	**24.94**	**120**	P		**P**	**19 04 53.4**	**-3.6**
PESTR						IAmb	IAmb	19 04 58.0
	comp=Z,26nm,1.1s							
BSTI	**Sart Tilman**	**24.97**	**84**	*dP*		**P**	**19 04 56.4**	**-0.7**
RCHB	**Rochefort**	**24.98**	**85**	*dP*		**P**	**19 04 56.0**	**-1.1**
RCHB				*dx*		x	19 05 12.6	
EVO	**Evora**	**24.99**	**121**	*eP*		**P**	**19 04 55.5**	**-1.9**
	comp=Z,27nm,1.9s							
I63A	**Otisfield**	**25.01**	**258**	P		**P**	**19 04 56.9**	**-0.7**
I63A						IAmb	IAmb	19 05 04.0
	comp=Z,55nm,1.7s							
NC602	**NORSAR Array S**	**25.08**	**58**	P		**P**	**19 04 57.3**	**-0.7**
NC602						IAmb	IAmb	19 04 59.0
	comp=Z,77nm,1.8s							
NC405	**NORSAR Array S**	**25.11**	**57**	P		**P**	**19 04 57.6**	**-0.6**
NC405						IAmb	IAmb	19 05 00.0
	comp=Z,39nm,1.1s							
MEM	**Membach**	**25.21**	**83**	*dP*		**P**	**19 04 59.1**	**-0.2**
	comp=Z,12nm,1.0s							
BTNL	**Ternell**	**25.29**	**83**	*dP*		**P**	**19 04 59.6**	**-0.5**
	comp=Z,9.9nm,1.1s							
PTEO	**Sao Teotonio**	**25.43**	**123**	*eP*		**P**	**19 05 02.0**	**+0.7**
	comp=Z,60nm,1.6s							
PBEJ	**Beja**	**25.46**	**121**	*eP*		**P**	**19 05 00.6**	**-1.0**
	comp=Z,31nm,1.3s							
I62A	**Tamworth**	**25.55**	**258**	P		**P**	**19 05 02.9**	**+0.5**
LBNH	**Lisbon**	**25.65**	**260**	P		**P**	**19 05 03.8**	**+0.5**
LBNH						IAmb	IAmb	19 05 34.8
	comp=Z,49nm,1.6s							
LBNH	**Lisbon**	**25.65**	**260**	P		**P**	**19 05 03.7**	**+0.4**
	baz=52							
MORF	**Marmelete**	**25.65**	**123**	*eP*		**P**	**19 05 01.9**	**-1.5**
	comp=Z,54nm,1.2s							
MORF	**Marmelete**	**25.65**	**123**	P		**P**	**19 04 59.9**	**-3.5**
MORF						IAmb	IAmb	19 05 06.2
	comp=Z,30nm,1.0s							
MORF	**Marmelete**	**25.65**	**123**	*eP*		**P**	**19 05 00.4**	**-3.0**
MORF						IAmb	IAmb	19 05 05.8
	comp=Z,26nm,0.9s							
PCVE	**Castro Verde**	**25.69**	**122**	*eP*		**P**	**19 05 02.5**	**-1.2**
	comp=Z,55nm,1.2s							
PCVE					*eS*	**S**	**19 09 34.6**	**+2.5**
PFVI	**Vila Bisbo**	**25.71**	**124**	*eP*		**P**	**19 05 04.2**	**+0.3**
PFVI					*eS*	**S**	**19 09 32.2**	**-0.2**
PFVI	**Vila Bisbo**	**25.71**	**124**	P		**P**	**19 05 00.0**	**-3.9**
WLF	**Walferdange**	**25.74**	**85**	P		**P**	**19 05 02.1**	**-2.0**
WLF	**Walferdange**	**25.74**	**85**	*dP*		**P**	**19 05 04.7**	**+0.6**
PBAR	**Barrancos**	**25.75**	**120**	*eP*		**P**	**19 05 03.5**	**-0.8**
	comp=Z,48nm,1.1s							
PBAR					*eS*	**S**	**19 09 33.7**	**+0.6**
MNTQ	**Montreal, Queb**	**25.84**	**264**	P		**P**	**19 05 06.2**	**+1.1**
MNTQ						IAmb	IAmb	19 05 09.2
	comp=Z,31nm,1.3s							
PMOZ	**Porto Moniz, M**	**25.93**	**143**	*eP*		**P**	**19 05 09.2**	**+3.1**
PMOZ					*eS*	S	19 09 54.3	+18
PMOZ					*eLR*	LR	19 11 30.4	
	comp=Z,817nm,20.0s							
TRQ	**Mont Tremblant**	**25.96**	**266**	P		**P**	**19 05 07.1**	**+0.9**
FFD	**Franklin Falls**	**25.98**	**258**	P		**P**	**19 05 05.0**	**-1.3**
PVAQ	**Vaqueiros**	**26.02**	**122**	*eP*		**P**	**19 05 06.3**	**-0.4**
	comp=Z,30nm,1.5s							
PVAQ					*eS*	**S**	**19 09 38.4**	**+1.0**
PVAQ					*eLR*	LR	19 11 29.2	
	comp=Z,2μm,20.0s							
PVAQ	**Vaqueiros**	**26.02**	**122**	P		**P**	**19 05 04.0**	**-2.8**
PBDV	**Barranco-do-Ve**	**26.05**	**122**	*eP*		**P**	**19 05 07.7**	**+0.7**
	comp=Z,47nm,1.3s							
VT1	**Waterbury**	**26.06**	**261**	P		**P**	**19 05 07.8**	**+0.8**
VT1						IAmb	IAmb	19 05 29.0
	comp=Z,26nm,1.2s							
PAB	**San Pablo**	**26.08**	**114**	P		**P**	**19 05 04.8**	**-2.5**
HNH	**Hanover**	**26.19**	**259**	P		**P**	**19 05 08.9**	**+0.7**
HNH						IAmb	IAmb	19 05 36.5
	comp=Z,52nm,1.8s							
ESBB	**Sonseca Array**	**26.19**	**113**	P		**P**	**19 05 05.7**	**-2.6**
ESDC	**Sonseca Array**	**26.19**	**113**	P		**P**	**19 05 06.2**	**-2.1**
ESDC	**Sonseca Array**	**26.19**	**113**	P		**P**	**19 05 07.0**	**-1.3**
	comp=Z,11nm,1.1s,baz=311,slow=8.2,SNR=32							
ESDC					LR	LR	19 13 18.5	
	comp=Z,2μm,19.1s,baz=319,slow=32							
	comp=Z,11nm,1.1s							
FRNY	**Flat Rock**	**26.22**	**262**	P		**P**	**19 05 09.2**	**+0.7**
FRNY						IAmb	IAmb	19 05 18.5
	comp=Z,28nm,1.2s							
HFS	**Hagfors**	**26.24**	**59**	P		**P**	**19 05 08.1**	**-0.4**
	comp=Z,13nm,0.8s,baz=272,slow=9.4,SNR=9.0							
	comp=Z,13nm,0.8s							
BCX	**Boston College**	**26.46**	**256**	P		**P**	**19 05 10.5**	**-0.1**
BCX						IAmb	IAmb	19 05 24.5
	comp=Z,38nm,1.5s							
L64A	**Middleborough**	**26.54**	**254**	P		**P**	**19 05 10.8**	**-0.6**
L64A						IAmb	IAmb	19 05 20.3
	comp=Z,43nm,1.3s							
HRV	**Adam Dziewonsk**	**26.56**	**256**	P		**P**	**19 05 11.6**	**+0.1**
	baz=49							
VLDQ	**Val d'Or**	**26.58**	**272**	P		**P**	**19 05 13.5**	**+1.8**
VLDQ						IAmb	IAmb	19 05 44.1
	comp=Z,30nm,1.4s							
K62A	**Royalston**	**26.83**	**257**	P		**P**	**19 05 15.1**	**+1.1**
K62A						IAmb	IAmb	19 05 26.6
	comp=Z,26nm,1.2s							
LONY	**Lake Ozonia**	**26.92**	**263**	P		**P**	**19 05 15.8**	**+1.0**
LONY	**Lake Ozonia**	**26.92**	**263**	P		**P**	**19 05 16.0**	**+1.2**
	baz=53							
BRYW	**Bryant College**	**26.94**	**255**	P		**P**	**19 05 14.9**	**-0.1**
BRYW						IAmb	IAmb	19 05 20.5
	comp=Z,45nm,1.5s							
NOR	**Nord**	**26.98**	**6**	*i* P		**P**	**19 05 14.7**	**-0.3**
NOR						IAmb	IAmb	19 05 45.7
	comp=Z,2.6nm,0.9s							
NOR						IAML		19 05 45.7
	comp=Z,2.6nm,0.9s							
ECH	**Echery**	**27.04**	**87**	P		**P**	**19 05 14.7**	**-1.1**
ACCN	**Adirondack Com**	**27.17**	**260**	P		**P**	**19 05 16.8**	**-0.3**
ACCN						IAmb	IAmb	19 05 42.1
	comp=Z,22nm,1.1s							
L61B	**Northampton**	**27.22**	**257**	P		**P**	**19 05 17.6**	**+0.1**
L61B						IAmb	IAmb	19 05 31.0
	comp=Z,53nm,1.7s							
L61B	**Northampton**	**27.22**	**257**	P		**P**	**19 05 17.3**	**-0.2**
	baz=49							
BFO	**Black Forest**	**27.65**	**86**	P		**P**	**19 05 18.1**	**-3.2**
GRFO	**Grafenberg**	**28.60**	**82**	P		**P**	**19 05 28.5**	**-1.3**
GRFO						IAmb	IAmb	19 05 30.9
	comp=Z,16nm,0.9s							
GRA1	**Grafenberg Arr**	**28.60**	**82**	P		**P**	**19 05 28.7**	**-1.1**
GRA1						IAmb	IAmb	19 05 31.0
	comp=Z,17nm,0.8s							
DELO	**Deloro Mine**	**28.70**	**266**	P		**P**	**19 05 30.3**	**-0.4**
DELO						IAmb	IAmb	19 05 39.5
	comp=Z,36nm,1.2s							
CLL	**Collm**	**28.83**	**78**	P		**P**	**19 05 30.2**	**-1.6**
**CLL

MOA	Molln	31.28	83	*e*pP		P	19 05 53.8 +0.3
	comp=Z,9.8nm,1.3s						
SSPA	Standing Stone	31.34	260	P		P	19 05 54.4 +0.3
	baz=48						
KRLC	Kraliky	31.53	77	AMS		AMS	19 19 20.0
	comp=Z,2µm,14.4s						
ERPA	Erie	31.55	264	P		P	19 05 56.7 +0.8
	baz=50						
MYKA	Terra Mystica	31.59	85	*e*pP		P	19 05 56.5 +0.1
	comp=Z,8.6nm,1.0s						
FINES	FINESS Array B	31.79	53	P		P	19 05 57.9 +0.1
	comp=Z,5.4nm,0.9s,baz=280,slow=3.3,SNR=7.5						
	comp=Z,5.4nm,0.9s						
VRAC	Vranov	31.82	79	*e*P		P	19 05 58.4 +0.2
KRUC	Moravsky	31.83	79	*e*P		P	19 06 01.2 +2.8
MORC	Moravsky Berou	32.11	77	⇑P		P	19 06 00.6 -0.2
MORC	Moravsky Berou	32.11	77	P		P	19 05 59.8 -1.0
MORC	Moravsky Berou	32.11	77	*e*P		P	19 06 00.9 +0.1
OBKA	Obir	32.18	85	*e*pP		P	19 06 01.1 -0.4
	comp=Z,8.7nm,0.9s						
ARSA	Arzberg	32.32	83	*e*pP		P	19 06 02.8 +0.2
	comp=Z,10nm,0.9s						
SOKA	Soboth	32.36	84	*e*pP		P	19 06 02.3 -0.8
	comp=Z,10nm,1.2s						
M53A	WI Miller and	32.38	264	P		P	19 06 03.4 +0.2
	baz=49						
OKC	Ostrava-Krasne	32.41	77	AMS		AMS	19 19 50.0
	comp=Z,3µm,12.7s						
MAUC	Maruska	32.48	78	*e*P		P	19 06 04.2 +0.1
RONA	Rosalia, Austr	32.51	82	*i* pP		P	19 06 04.7 +0.4
	comp=Z,8.9nm,0.8s						
MODS	Modra-Piesok	32.70	80	*e*P		P	19 06 05.8 -0.2
N53A	Lisbon	32.90	263	P		P	19 06 09.4 +1.6
MCWV	Mont Chateau	33.11	260	P		P	19 06 09.7 +0.1
	baz=47						
OJC	Ojcow	33.13	75	*e*P		P	19 06 09.2 -0.6
OJC	Ojcow	33.13	75	P		P	19 06 08.2 -1.5
OJC				IAmb		IAmb	19 06 10.3
	comp=Z,18nm,0.9s						
SUW	Suwalki	33.15	67	*e*P		P	19 06 09.8 0.0
O53A	New Philadelph	33.48	263	P		P	19 06 13.3 +0.4
	baz=48,SNR=6.5						
VYHS	Vyhne	33.51	79	*e*P		P	19 06 12.7 -0.3
LANS	Liptovska Anna	33.51	77	*e*P		P	19 06 13.7 +0.6
AAM	Ann Arbor	33.53	268	P		P	19 06 14.1 +0.9
	baz=50						
NIE	Niedzica	33.83	76	*e*P		P	19 06 16.7 +0.9
O52A	Adamsville	33.92	263	P		P	19 06 17.6 +0.9
P53A	Whipple	34.10	262	P		P	19 06 18.8 +0.6
STHS	Stebnicka Huta	34.35	76	*e*P		P	19 06 20.1 -0.3
PSZ	Piszkesteto	34.41	79	⇓P		P	19 06 21.6 +0.6
PSZ	Piszkesteto	34.41	79	P		P	19 06 19.9 -1.0
PSZ				IAmb		IAmb	19 06 23.3
	comp=Z,12nm,1.0s						
P52A	Corning	34.42	263	P		P	19 06 21.1 +0.1
	baz=47						
ACSO	Alum Creek Sta	34.50	264	P		P	19 06 22.3 +0.7
	baz=48						
EYMN	Ely	34.62	282	P		P	19 06 23.1 +0.4
	baz=56						
T57A	Hurt	34.64	256	P		P	19 06 24.1 +1.2
T57A				IAmb		IAmb	19 06 27.4
	comp=Z,45nm,1.8s						
MORH	Mrgy, Hungar	34.67	82	⇓P		P	19 06 22.4 -0.7
CRVS	Cervenica-Dubn	34.75	76	*e*P		P	19 06 23.9 +0.1
BLA	Blacksburg	35.14	258	P		P	19 06 28.7 +1.4
BLA				IAmb		IAmb	19 06 32.0
	comp=Z,30nm,1.2s						
BLA	Blacksburg	35.14	258	P		P	19 06 27.3 -0.1
	baz=45						
KOLS	Kolonicke sedl	35.18	76	*e*P		P	19 06 28.0 +0.5
MNK	Minsk	35.37	64	*i* P		P	19 06 28.6 -0.5
	comp=E,7.0nm,0.8s						
MNK				*i* P		P	19 06 28.6 -0.5
	comp=N,16nm,0.8s						
MNK				*i* P		P	19 06 28.6 -0.5
	comp=Z,34nm,0.8s,baz=298						
MNK				*i* PP		PnPn	19 07 46.9 -0.3
MNK				*i* PPP		PPP	19 07 59.9
MNK				*i* S		S	19 12 03.7 +0.5
MNK				*i* SS		SnSn	19 14 23.4 +2.0
MNK				*i* SSS		SSS	19 14 39.6
MNK				*i* LQ		LQ	19 17 43.8
MNK				*i* LR		LR	19 20 57.4
MNK				*i* LRM		MLR	19 23 18.6
	comp=E,419nm,14.8s						
MNK				*i* LRM		MLR	19 23 31.5
	comp=N,3µm,18.7s						
MNK				*i* LRM		MLR	19 23 38.0
	comp=Z,1µm,18.1s						
O48B	Farmland	35.72	266	P		P	19 06 32.9 +0.7
O48B	Farmland	35.72	266	P		P	19 06 32.3 +0.1
	baz=48,SNR=5.3						
TRPA	Tarpa	35.77	77	⇓P		P	19 06 32.8 +0.2
ULM	Lac du Bonnet	35.80	288	P		P	19 06 34.0 +1.3
	comp=Z,7.2nm,0.9s,baz=75,slow=8.8,SNR=7.4						
	comp=Z,7.2nm,0.9s						
P49A	Miami Univ. Ec	35.95	265	P		P	19 06 34.8 +0.5
	baz=48						
FRGS	Fruska Gora	35.96	83	⇑P		P	19 06 34.0 -0.2
SIRR	Siria	36.34	80	⇑P		P	19 06 37.9 +0.3
W57A	Gilead	36.39	255	P		P	19 06 38.2 +0.2
W57A				IAmb		IAmb	19 06 41.4
	comp=Z,31nm,1.4s						
P48A	Milroy	36.41	265	P		P	19 06 38.7 +0.6
R50A	Paris	36.59	263	P		P	19 06 40.9 +1.3
R50A				IAmb		IAmb	19 06 43.5
	comp=Z,34nm,1.2s						
DIVS	Divibare	36.70	84	P		P	19 06 38.6 -2.1
BZS	Buzias	36.70	81	⇓P		P	19 06 40.4 -0.2
SFIN	Lafayette	36.74	268	P		P	19 06 40.7 -0.2
	baz=48						
JFWS	Jewell Farm	36.90	274	IAmb		IAmb	19 06 45.9
	comp=Z,17nm,0.8s						
JFWS	Jewell Farm	36.90	274	P		P	19 06 42.7 +0.4
	baz=51						
SURR	Surduc	36.91	80	⇓P		P	19 06 42.6 +0.3
MARR	Marisel-Cluj	36.92	78	⇓P		P	19 06 43.0 +0.4
SPMN	Marine on St.	36.93	279	P		P	19 06 43.9 +1.3
SPMN				IAmb		IAmb	19 06 46.8
	comp=Z,28nm,1.2s						
SPMN	Marine on St.	36.93	279	P		P	19 06 43.0 +0.4
	baz=53						
KMSC	Kings Mountain	37.14	256	P		P	19 06 44.9 +0.5
	baz=43						
L42A	Oliver, Polo	37.15	272	P		P	19 06 46.0 +1.6
L42A				IAmb		IAmb	19 06 48.2
	comp=Z,31nm,1.1s						
TZTN	Tazewell	37.37	260	P		P	19 06 47.4 +1.0
TZTN				IAmb		IAmb	19 06 52.5
	comp=Z,38nm,1.2s						
TZTN	Tazewell	37.37	260	P		P	19 06 45.9 -0.5
	baz=44,SNR=7.0						
BUR08	Bucovina Ar. S	37.52	76	P		P	19 06 46.5 -1.1
BURAR	Bucovina Array	37.55	76	⇓P		P	19 06 48.6 +0.7
BURAR	Bucovina Array	37.55	76	P		P	19 06 47.0 -0.9
V53A	Saluda	37.58	258	P		P	19 06 49.8 +1.6
V53A				IAmb		IAmb	19 06 58.7
	comp=Z,19nm,1.1s						
PAULI	Pauline	37.65	257	IAmb		IAmb	19 06 54.9
	comp=Z,59nm,1.7s						
WCI	Wyandotte Cave	37.74	265	P		P	19 06 51.0 +1.6
WCI				IAmb		IAmb	19 06 53.1
	comp=Z,19nm,1.1s						
WCI	Wyandotte Cave	37.74	265	P		P	19 06 49.9 +0.5
	baz=46						
BOVS	Bovan	37.96	83	⇓P		P	19 06 51.6 +0.3
AKASG	Malin Array Be	38.01	69	P		P	19 06 50.9 -0.7
	comp=Z,14nm,0.8s,baz=303,slow=8.4,SNR=35						
	comp=Z,14nm,0.8s						
NHSC	New Hope	38.02	253	P		P	19 06 51.9 +0.1
	baz=41						
KLMR	Klimovskoe	38.05	50	*e*P		P	19 06 50.8 -1.0
KLMR				AMP			19 07 06.3
	comp=Z,41nm,1.3s						
TKL	Tuckaleechee C	38.13	259	LR		LR	19 21 50.1
	comp=Z,2µm,19.6s,baz=74,slow=35						
HODGE	Hodges	38.33	256	IAmb		IAmb	19 06 57.8
	comp=Z,23nm,1.2s						
DOPR	Dopca	38.61	78	⇓P		P	19 06 57.0 +0.2
CPCT	Cooper Cave	38.70	260	P		P	19 06 59.5 +1.9
CPCT				IAmb		IAmb	19 07 02.1
	comp=Z,30nm,1.3s						
Q44A	Meyer Farm, Va	38.83	268	IAmb		IAmb	19 07 02.7
	comp=Z,26nm,0.9s						
SORM	Soroca	38.98	73	⇑P		P	19 06 58.4 -1.3
YKA	Yellowknife Ar	38.98	314	P		P	19 07 01.7 +2.2
	comp=Z,5.4nm,0.8s,baz=60,slow=8.9,SNR=4.7						
YKA				PcP		PcP	19 09 10.0 +0.4
	comp=Z,5.5nm,0.9s,baz=48,slow=2.1,SNR=5.8						
	comp=Z,5.4nm,0.8s						
GOGA	Godfrey	39.61	257	P		P	19 07 04.1 -1.1
	baz=42,SNR=5.3						
MILM	Mlestii Mici	39.94	74	⇓P		P	19 07 07.2 -0.6
ECSD	EROS Data Cent	40.00	279	P		P	19 07 08.4 +0.1
	baz=51,SNR=12						
P40A	Paris	40.14	271	P		P	19 07 11.1 +1.6
P40A				IAmb		IAmb	19 07 13.6
	comp=Z,22nm,1.0s						
FVM	French Village	40.27	268	IAmb		IAmb	19 07 14.3
	comp=Z,47nm,1.4s						
CFR	Carcaliu	40.62	77	⇑P		P	19 07 10.8 -2.6
CCM	Cathedral Cave	40.68	269	P		P	19 07 15.1 +1.1
CCM	Cathedral Cave	40.68	269	P		P	19 07 14.4 +0.4
	baz=46						
SUSD	Miller	40.87	282	P		P	19 07 15.9 +0.3
	baz=51						
DGMT	Dagmar	41.30	290	P		P	19 07 19.7 +0.7
	baz=54						
LRAL	Lakeview Retre	41.86	260	IAmb		IAmb	19 07 27.4
	comp=Z,22nm,1.1s						
LRAL	Lakeview Retre	41.86	260	P		P	19 07 24.5 +0.7
	baz=42,SNR=8.8						
HILA	High Level	41.97	309	P		P	19 07 26.5 +2.1
LCAR	Lake Charles	42.02	266	P		P	19 07 26.6 +1.6
LCAR				IAmb		IAmb	19 07 28.5
	comp=Z,32nm,1.3s						
OXF	Oxford	42.14	263	P		P	19 07 26.6 +0.5
OXF	Oxford	42.14	263	P		P	19 07 27.1 +1.0
	baz=44,SNR=5.1						
INK	Inuvik	42.91	327	P		P	19 07 33.5 +1.7
INK	Inuvik	42.91	327	P		P	19 07 31.7 -0.2
	baz=56						
KSU1	Kansas State U	43.03	274	IAmb		IAmb	19 07 37.7
	comp=Z,22nm,0.7s						
F31M	Tsiigehtchic	43.46	326	P		P	19 07 37.1 +0.7
	baz=55,SNR=7.1						
HHAR	Hobbs	43.46	269	IAmb		IAmb	19 07 39.8
	comp=Z,24nm,1.2s						
LAO	LASA Array	43.47	289	P		P	19 07 39.0 +2.2
LAO				IAmb		IAmb	19 07 41.8
	comp=Z,25nm,0.8s						
LAO	LASA Array	43.47	289	P		P	19 07 38.3 +1.5
	baz=52,SNR=6.7						
UALR	University of	43.62	266	IAmb		IAmb	19 07 42.5
	comp=Z,27nm,1.2s						
SJG	San Juan	43.81	224	LR		LR	19 22 08.9
	comp=Z,290nm,21.2s,baz=48,slow=31						
D28M	Stokes Point	43.86	330	P		P	19 07 40.3 +0.8
	baz=53						
G31M	Satah River	43.93	326	P		P	19 07 41.1 +1.0
	baz=54,SNR=6.1						
F30M	Barrier River	44.01	327	P		P	19 07 40.8 +0.1
	baz=54						
RLO	Rose Lookout	44.16	270	P		P	19 07 43.4 +1.0
RLO				IAmb		IAmb	19 07 45.7
	comp=Z,20nm,0.9s						
E29M	Blow River	44.18	329	P		P	19 07 43.6 +1.5
	baz=53						
VBMS	Vicksburg	44.45	262	P		P	19 07 45.6 +0.9
	baz=42						
MIAR	Mount Ida	44.49	267	P		P	19 07 46.3 +1.3
MIAR	Mount Ida	44.49	267	P		P	19 07 45.7 +0.7
	baz=44,SNR=17						
G30M	tAoh Zrali Nji	44.52	327	P		P	19 07 46.3 +1.4
	baz=53						
EGMT	Eagleton	44.52	293	P		P	19 07 47.6 +2.4
EGMT	Eagleton	44.52	293	P		P	19 07 46.0 +0.7
	baz=52						
E28M	Babbage River	44.53	329	P		P	19 07 46.5 +1.5
	baz=52						
D27M	Malcolm River	44.55	331	P		P	19 07 46.7 +1.5
	baz=52						
H31M	Peel River	44.61	325	P		P	19 07 46.4 +0.7
	baz=53						
TUL3	Leonard	44.78	270	P		P	19 07 48.1 +0.8
	baz=45,SNR=5.4						
TGTN	Hyland Airport	44.97	317	P		P	19 07 49.9 +1.3
	baz=54						
CBKS	Cedar Bluff	45.01	276	P		P	19 07 49.6 +0.4
	baz=47						
EPYK	Eagle Plains	45.05	326	P		P	19 07 50.6 +1.5
	baz=52						
G29M	Pine Creek	45.12	327	P		P	19 07 49.7 0.0
	baz=52						
SDDR	Presa de Saban	45.21	231	P		P	19 07 51.8 +0.9
F28M	Old Crow	45.25	328	P		P	19 07 52.0 +1.4
	baz=51						
E27K	Coleen River	45.39	330	P		P	19 07 52.0 +0.2
	baz=50						
MMPY	Sheldon Lake,	45.45	320	P		P	19 07 53.1 +0.8
	baz=53,SNR=7.7						
I30M	Mont Dempster	45.64	325	P		P	19 07 54.2 +0.2
	baz=52,SNR=7.8						
H29M	Whitestone	45.66	326	P		P	19 07 54.9 +0.9
	baz=51,SNR=6.2						
D25K	Kavik River	45.97	332	P		P	19 07 56.3 -0.1
	baz=48						
J30M	Hart River	46.03	324	P		P	19 07 58.6 +1.6
	baz=51						
RLMT	Red Lodge	46.11	289	P		P	19 08 00.9 +2.9
RLMT	Red Lodge	46.11	289	P		P	19 07 59.0 +1.0
	baz=50,SNR=7.0						
I29M	Ogilvie Camp,	46.19	325	P		P	19 07 58.3 +0.2
	baz=50,SNR=9.2						
K22A	Casper	46.23	285	P		P	19 07 59.0 0.0
	baz=48						
C24K	Franklin Bluff	46.30	334	P		P	19 07 59.3 +0.4
	baz=46						
G27K	Doyon Strip	46.30	328	P		P	19 07 59.6 +0.6
	baz=49						
F26K	Sheenjek River	46.44	330	P		P	19 08 00.0 -0.1
	baz=48						
FARO	Faro, Yukon	46.45	320	P		P	19 08 01.4 +1.1
	baz=51						
KSCO	Kaye Shedlock'	46.51	279	P		P	19 08 02.0 +0.8
	baz=46						
H27K	Steamboat Moun	46.64	328	P		P	19 08 03.4 +1.7
	baz=49,SNR=6.9						
I28M	Miner Creek	46.65	326	P		P	19 08 03.1 +1.2
	baz=50,SNR=8.3						
C23K	Itkillik River	46.69	334	P		P	19 08 03.4 +1.4
	baz=45						
D24K	Happy Valley	46.72	333	P		P	19 08 03.4 +1.2
	baz=46						
G26K	Porcupine Rive	46.84	329	P		P	19 08 04.7 +1.6
	baz=48						
K29M	Barlow Dome	46.90	324	P		P	19 08 04.5 +0.6
	baz=50						
F25K	Christian Rive	46.94	330	P		P	19 08 04.7 +0.7
	baz=47						
A21K	Barrow	47.00	338	P		P	19 08 05.4 +1.0
	baz=42						
B22K	Teshekpuk Lake	47.01	336	P		P	19 08 05.6 +1.2
	baz=44						
N32M	Quiet Lake	47.04	319	P		P	19 08 06.7 +1.9
	baz=51						
BOZ	Bozeman (W)	47.06	291	P		P	19 08 06.4 +0.9
	baz=49,SNR=11						
I27K	Kandik River	47.08	327	P		P	19 08 06.8 +1.6
	baz=48,SNR=9.0						
N23A	Red Feather La	47.09	283	P		P	19 08 06.9 +1.1
	baz=47,SNR=9.4						
BRTR	Keskin Array B	47.26	79	P		P	19 08 07.6 +0.6
	comp=Z,13nm,0.9s,baz=301,slow=5.1,SNR=44						
	comp=Z,13nm,0.9s						
TOLK	Toolik Lake Re	47.27	333	P		P	19 08 07.6 +1.0
	baz=45						
H17A	Grant Village	47.29	290	P		P	19 08 08.8 +1.5
	baz=49						
WMOK	Wichita Mounta	47.33	272	P		P	19 08 07.2 -0.2
	baz=44,SNR=16						
D23K	Nanushuk River	47.33	334	P		P	19 08 08.4 +1.4
	baz=45						
R33M	Jennings River	47.34	316	P		P	19 08 09.5 +2.2
	baz=51,SNR=5.5						
DAWY	Dawson	47.38	325	P		P	19 08 08.3 +0.8
	baz=49						
E24K	Your Creek	47.39	332	P		P	19 08 07.0 -0.5
	baz=46						
M30M	Minto, Yukon	47.47	322	P		P	19 08 08.9 +0.7
	baz=49						
MSO	Missoula	47.48	294	P		P	19 08 09.6 +1.0
	baz=49						
EGAK	Eagle	47.49	326	P		P	19 08 08.8 +0.5
	baz=48						
P33M	Teslin, Yukon	47.54	318	P		P	19 08 10.5 +1.7
	baz=50						
DLBC	Dease Lake	47.57	315	P		P	19 08 10.7 +1.6
	baz=50						
L29M	L29M	47.59	323	P		P	19 08 10.6 +1.5
	baz=49						
F24K	Squaw Lake	47.61	331	P		P	19 08 10.8 +1.6
	baz=46						
G25K	Bearman Lake	47.64	330	P		P	19 08 10.9 +1.6
	baz=46						
ISCO	Idaho Springs	47.65	282	P		P	19 08 10.9 +0.6
	baz=47,SNR=14						
E23K	Chandalar	47.70	332	P		P	19 08 11.8 +1.8
	baz=45						
I26K	Coal Creek Min	47.76	327	P		P	19 08 11.9 +1.5
	baz=47						
B21K	Ikpikpuk River	47.82	336	P		P	19 08 11.2 +0.5
	baz=42						
N31M	Braeburn, Yuko	47.82	320	P		P	19 08 11.9 +0.9
	baz=49,SNR=8.4						
BW06	Boulder Array	47.82	287	P		P	19 08 12.0 +0.6
	baz=48						
PDAR	Pinedale Array	47.82	287	P		P	19 08 12.9 +1.5
	comp=Z,1.8nm,0.6s,baz=57,slow=6.5,SNR=20						
PDAR				PcP		PcP	19 09 40.7 +0.6
	comp=Z,1.3nm,1.0s,baz=72,slow=2.9,SNR=2.4						
	comp=Z,1.8nm,0.6s						
D22K	Ayikyak River	47.89	334	P		P	19 08 11.5 +0.1
	baz=43						
H25L	Birch Creek	47.90	329	P		P	19 08 13.4 +2.0
	baz=46						
WHY	Whitehorse	48.03	319	P		P	19 08 13.9 +1.3
	baz=49						
G24K	Hadweenzic Riv	48.07	330	P		P	19 08 14.5 +1.7
	baz=45						
Q32M	Nakina River	48.13	316	P		P	19 08 15.2 +1.7
	baz=50						
M29M	Somme Creek	48.14	323	P		P	19 08 14.9 +1.4
	baz=48,SNR=7.6						
NEW	Newport	48.18	298	P		P	19 08 14.7 +0.8
	baz=49,SNR=6.7						
C21K	Knifeblade Rid	48.20	335	P		P	19 08 15.4 +1.7
	baz=42						
P32M	Atlin	48.28	318	P		P	19 08 13.9 -0.7
	baz=49						
K27K	Chicken	48.29	326	P		P	19 08 14.4 0.0
	baz=47						
N30M	Aishikik Lake	48.31	321	P		P	19 08 15.6 +0.9
	baz=48						
PRP	Porcupine Dome	48.33	328	P		P	19 08 15.4 +0.4
	baz=46						
S34M	Telegraph Cree	48.35	315	P		P	19 08 14.4 -0.6
	baz=50						
O30N	Mendenhall	48.40	320	P		P	19 08 16.4 +0.9
	baz=49,SNR=8.7						
J26L	Joseph Creek	48.44	327	P		P	19 08 15.3 -0.5
	baz=46						
COLD	Coldfoot	48.45	332	P		P	19 08 16.3 +0.6
	baz=44,SNR=5.5						
E21K	Killik River	48.54	334	P		P	19 08 15.6 -0.8
	baz=42						
WHTX	Lake Whitney,	48.57	268	P		P	19 08 18.0 +1.0
	baz=42						
T35M	Bob Quinn	48.60	313	P		P	19 08 15.1 -1.9
	baz=49						
F22K	John River	48.77	333	P		P	19 08 20.0 +1.8
	baz=43						
G23K	Bananza Creek	48.78	331	P		P	19 08 18.1 -0.1
	baz=44						
H24K	Noodor Dome	48.80	330	P		P	19 08 19.9 +1.4
	baz=44,SNR=8.7						
A19K	Wainwright	48.81	338	P		P	19 08 18.6 +0.2
	baz=38						
T25A	Trinidad	48.82	278	P		P	19 08 21.2 +2.0
	baz=45,SNR=9.4						
L27K	Beaver Creek,	48.87	325	P		P	19 08 19.5 +0.5
	baz=47						
AMTX	Amarillo	48.88	274	P		P	19 08 19.7 +0.2
	baz=44						
HYT	Haines Junctio	48.88	320	P		P	19 08 19.7 +0.5
	baz=48,SNR=6.5						
J25K	Salcha River,	48.92	327	P		P	19 08 20.5 +1.1
	baz=45						
SCRK	Sand Creek	48.93	326	P		P	19 08 20.0 +0.4
	baz=46,SNR=8.2						
YUK4	Talbot Arm	48.95	321	P		P	19 08 19.1 -0.7
	baz=48						
D20K	Etivluk River	48.97	335	P		P	19 08 19.6 -0.2
	baz=40						
SDCO	Great Sand Dun	49.01	280	P		P	19 08 21.7 +0.9
	baz=45,SNR=7.8						
G22K	Bettles	49.03	332	P		P	19 08 21.7 +1.6
	baz=43						
YUK6	Outpost Mounta	49.12	321	P		P	19 08 22.1 +0.9
	baz=47						
P30M	Million Dollar	49.16	320	P		P	19 08 22.5 +1.2
	baz=48						
POKR	Poker Plat Res	49.19	329	P		P	19 08 21.3 -0.1
	baz=44,SNR=11						
E20K	Nigu River	49.22	335	P		P	19 08 22.4 +0.7
	baz=40						
ILAR	Eielson Array	49.27	328	P		P	19 08 24.4 +2.4
	comp=Z,4.0nm,0.8s,baz=40,slow=5.7,SNR=46						
ILAR				PcP		PcP	19 09 45.2 +0.6
	comp=Z,3.0nm,0.9s,baz=3.3,slow=2.8,SNR=8.0						
ILAR				LR		LR	19 28 53.1
	comp=Z,8µm,18.6s,baz=5.5,slow=36						
	comp=Z,4.0nm,0.8s						
H23K	Yukon River	49.29	330	P		P	19 08 22.3 +0.2
	baz=43						
YUK3	Moose Creek	49.29	323	P		P	19 08 20.9 -1.6
	baz=47						
F21K	Alatna River	49.33	333	P		P	19 08 21.6 -0.8
	baz=42						
C19K	Lookout Ridge	49.35	337	P		P	19 08 21.5 -1.2
	baz=38						
ABTX	Abilene, Hawle	49.36	270	P		P	19 08 21.5 -1.6
	baz=43						
D19K	Kuna River	49.49	336	P		P	19 08 23.5 -0.2
	baz=39						
HDA	Harding Lake	49.55	328	P		P	19 08 24.7 +0.5
	baz=44,SNR=5.4						
KBZ	Khabaz	49.62	69	P		P	19 08 24.9 0.0
	comp=Z,6.1nm,1.0s,baz=318,slow=9.9,SNR=8.2						
	comp=Z,6.1nm,1.0s						
O29M	Mount Kennedy	49.63	320	P		P	19 08 24.8 -0.2
	baz=47						
M26K	Nabesna, AK	49.72	324	P		P	19 08 26.0 +0.5
	baz=46						
I23K	Minto, Yukon-K	49.73	330	P		P	19 08 26.3 +0.9
	baz=43,SNR=8.1						
S22A	4UR Ranch, Cre	49.76	280	P		P	19 08 27.1 +0.6
	baz=45,SNR=5.7						
G21K	Allakaket	49.86	332	P		P	19 08 27.0 +0.5
	baz=41						
HLID	Hailey	49.90	291	P		P	19 08 27.7 +0.4
	baz=47,SNR=8.9						
F20K	Avaraart Lake	50.03	334	P		P	19 08 28.3 +0.5
	baz=40						
S32K	Killisnoo	50.04	316	P		P	19 08 30.4 +2.6
	baz=47						
NEA2	Nenana	50.05	329	P		P	19 08 27.8 -0.1
	baz=43,SNR=7.5						
C18K	Utukok River	50.08	337	P		P	19 08 28.5 +0.4
	baz=37						
E19K	Redstone River	50.09	335	P		P	19 08 29.0 +0.8
	baz=39,SNR=8.3						
PAX	Paxson	50.12

baz=43
C17K DeLong Mountai 50.65 338 P P 19 08 31.9 -0.5
baz=36
F19K Shaleruckik Mo 50.71 334 P P 19 08 33.1 +0.2
baz=38
N25K Chitina, Valde 50.81 324 P P 19 08 32.1 -1.8
baz=44
CRQE Cirque 50.91 323 P P 19 08 31.9 -2.8
baz=44
E18K Tukpahlearik C 50.92 336 P P 19 08 35.3 +0.8
baz=37
BPAW Bear Paw Mtn. 50.98 329 P P 19 08 36.5 +1.5
baz=42
H20K Anotleneega Mo 51.01 332 P P 19 08 35.3 +0.1
baz=40,SNR=9.4
JCT Junction City 51.03 269 P P 19 08 35.2 -0.7
baz=42,SNR=8.9
TORD Torodi Ar. Bea 51.07 131 P P 19 08 33.9 -2.3
comp=Z,4.9nm,1.1s,baz=346,slow=8.7,SNR=18
comp=Z,4.9nm,1.1s
MVCO Mesa Verde 51.08 281 P P 19 08 36.4 0.0
baz=45,SNR=5.6
G19K Purcell Mounta 51.08 334 P P 19 08 34.6 -1.1
baz=39
WAT6 Susitna Watana 51.12 327 P P 19 08 35.6 -0.6
baz=43
WAT1 Susitna Watana 51.19 327 P P 19 08 37.4 +0.8
baz=42
TRF Thorofare Moun 51.26 328 P P 19 08 36.3 -1.0
baz=42
BMRM Bremner River 51.28 324 P P 19 08 36.5 -0.8
baz=44
KLU Klutina 51.34 325 P P 19 08 36.9 -0.9
baz=43
DUG Dugway, Tooele 51.36 287 P P 19 08 37.8 -0.5
baz=46
H19K Roundabout Mou 51.40 333 P P 19 08 37.3 -0.8
baz=39
I20K Naaghedeneel 51.44 331 P P 19 08 37.9 -0.4
baz=40
E17K Hotham Inlet 51.48 336 P P 19 08 38.2 -0.5
baz=36
CHUM Lake Minchumin 51.53 330 P P 19 08 38.6 -0.4
baz=41
ANMO Albuquerque 51.55 278 P P 19 08 39.9 +0.1
baz=44
G18K Tagagawik 51.67 334 P P 19 08 39.9 -0.2
baz=38
CAST Castle Rocks 51.81 329 P P 19 08 41.7 +0.4
baz=40,SNR=7.6
J20K Nowinta River 51.82 331 P P 19 08 41.4 +0.2
baz=40
SML Sawmill 51.88 326 P P 19 08 41.9 +0.1
baz=42
MDP Montagnes des 51.92 202 LR LR 19 25 20.4
comp=Z,348nm,18.5s,baz=356,slow=30
CUT Chulitna 52.04 328 P P 19 08 41.8 -1.1
baz=41
GCSA Galena City Sc 52.12 332 P P 19 08 42.7 -0.8
baz=38
H18K Honhosa River 52.19 333 P P 19 08 43.1 -0.9
baz=37
KNK Knik Glacier 52.22 326 P P 19 08 46.0 +1.7
baz=42
PPLA Purkeypile 52.24 329 P P 19 08 44.3 -0.3
baz=40
PMR Palmer 52.30 326 P P 19 08 46.0 +1.2
baz=41
J19K Poorman 52.37 331 P P 19 08 46.1 +0.8
baz=38
833A Chaparral WMA, 52.43 266 P P 19 08 42.1 -4.1
baz=40
K20K Telida 52.44 330 P P 19 08 45.7 -0.2
baz=39,SNR=6.8
G17K Kiwalik Mounta 52.48 335 P P 19 08 45.0 -1.2
baz=36
PWL Port Wells 52.59 325 P P 19 08 46.9 -0.2
baz=42
SKT Skwentna 52.75 328 P P 19 08 46.1 -2.1
baz=40
H17K Granite Mounta 52.76 334 P P 19 08 44.2 -4.0
baz=36
SUA Susitna One 52.90 327 P P 19 08 48.5 -1.0
baz=40
L20K Farewell, AK 53.06 329 P P 19 08 50.3 -0.2
baz=39
J18K Innoko River 53.09 331 P P 19 08 48.6 -2.1
baz=38
F15K North Star Dit 53.26 336 P P 19 08 50.7 -1.2
baz=34
W18A Petrified Fore 53.27 280 P P 19 08 50.5 -2.2
baz=43
M20K Styx River 53.31 328 P P 19 08 50.8 -1.6
baz=39
MNTX Cornudas Mount 53.31 274 P P 19 08 51.5 -1.3
baz=42,SNR=15
SEW Seward 53.53 325 P P 19 08 53.4 -0.4
baz=40
N20K Mount Spurr 53.56 327 P P 19 08 56.2 +1.9
baz=39
SPCR Spurr Chakacha 53.56 327 P P 19 08 55.5 +1.3
baz=39
L19K White Mountain 53.58 329 P P 19 08 55.7 +1.4
baz=38
M19K Big River Lodg 53.66 329 P P 19 08 55.0 +0.1
baz=38
I17K Unalakleet 53.81 333 P P 19 08 55.4 -0.5
baz=35
F14K Arctic Creek 53.84 337 P P 19 08 55.5 -0.6
baz=32
WUAZ Wupatki 53.90 282 P P 19 08 56.1 -1.2
baz=43
121A Cookes Peak, D 54.06 277 P P 19 08 58.6 +0.1
baz=42,SNR=7.5
L18K Granite Mounta 54.08 330 P P 19 08 58.7 +0.8
baz=37
TXAR Lajitas Array 54.10 271 P P 19 09 00.4 +1.7
comp=Z,3.4nm,1.0s,baz=48,slow=3.7,SNR=24
TXAR PcP **PcP** 19 10 03.7 +0.3
comp=Z,3.0nm,1.1s,baz=83,slow=3.9,SNR=5.6
comp=Z,3.4nm,1.0s
R11B Troy Canyon, C 54.19 287 P P 19 09 01.9 +2.6
baz=44,SNR=8.3
BRSE Bradley Lake S 54.22 326 P P 19 08 59.5 +0.4
baz=40
J16K Anvik River 54.28 333 P P 19 09 01.4 +2.0
baz=35
DBIC Dimbokro 54.37 141 P P 19 08 58.5 -2.1
comp=Z,5.9nm,0.9s,baz=334,slow=7.2,SNR=5.3
comp=Z,5.9nm,0.9s
ANM Nome 54.39 336 P P 19 09 02.5 +2.3
baz=32
M18K Stony River 54.41 329 P P 19 08 58.9 -1.5
baz=37
N19K Bonanza Creek 54.55 328 P P 19 09 02.1 +0.6
baz=38
L17K Donlin 54.60 331 P P 19 09 00.8 -0.9
baz=36
M17K Holitna River 54.95 330 P P 19 09 02.4 -1.8
baz=36
L16K Owhat River 55.27 331 P P 19 09 06.6 +0.1
baz=35
J14K Nanvaranak Lak 55.48 334 P P 19 09 08.1 +0.1
baz=33
O18K Koktuh Hills 55.54 328 P P 19 09 10.2 +1.6
baz=37
TPNV Topopah Spring 55.56 287 P P 19 09 09.6 +0.4
baz=43
N17K Nushagak Hills 55.58 329 P P 19 09 08.6 -0.3
baz=36
NVAR Mina Array Bea 55.60 289 P P 19 09 11.6 +2.0
comp=Z,0.3nm,0.5s,baz=44,slow=4.6,SNR=7.4
comp=Z,0.3nm,0.5s
L15K Ungalak Mounta 55.84 332 P P 19 09 10.4 -0.3
baz=34
P18K Big Mountain, 55.91 328 P P 19 09 09.7 -1.6
baz=37
TUC Tucson 55.93 279 P P 19 09 11.4 -0.4
baz=42
BVAR Borovoye Array 56.02 44 P P 19 09 13.0 +0.9
comp=Z,5.2nm,0.8s,baz=319,slow=6.5,SNR=20
comp=Z,5.2nm,0.8s
PDMCI Parker Dam,Lak 56.34 283 P P 19 09 11.7 -2.9
baz=42
L14K Kuka Creek 56.44 333 P P 19 09 12.4 -2.5
baz=33
M15K Kasigluk River 56.44 331 P P 19 09 12.8 -2.2
baz=34
Q18K Katmai Hardscr 56.44 327 P P 19 09 14.1 -1.0
baz=37
K13K Kusilvak Mount 56.45 334 P P 19 09 13.6 -1.4
baz=32
GAMB Gambell 56.48 338 P P 19 09 16.5 +1.3
baz=28
TUQ Turquoise Moun 56.49 285 P P 19 09 16.3 +0.4
baz=42
O16K Kokwok River B 56.61 329 P P 19 09 15.3 -0.9
baz=35
N15K Kwethluk River 56.71 330 P P 19 09 15.7 -1.3
baz=34
M14K Bethel 56.74 332 P P 19 09 15.9 -1.2
baz=33
GMRC Granite Mounta 56.82 284 P P 19 09 17.4 -0.8
baz=42
MPMC Manual Prospec 56.89 287 P P 19 09 18.5 -0.3
baz=42,SNR=11
CWC Cottonwood Cre 56.94 287 P P 19 09 18.2 -0.9
baz=42
IRM Iron Mountain 57.00 284 P P 19 09 17.1 -2.3
baz=42
R18K Karluk 57.14 326 P P 19 09 18.1 -1.8
baz=36
HEC Hector,Ludlow 57.16 285 P P 19 09 20.1 -0.5
baz=42
214A Organ Pipe Nat 57.34 280 P P 19 09 21.7 -0.1
baz=41,SNR=9.2
M13K Dall Lake 57.40 332 P P 19 09 21.1 -0.6
baz=32
LRMC Laurel Mtn Rad 57.42 286 P P 19 09 21.6 -0.8
baz=42
BC3 Big Chuckawall 57.55 283 P P 19 09 23.2 -0.2
baz=42,SNR=8.4
BELC Belle Mtn. Jos 57.59 284 P P 19 09 23.5 -0.2
baz=42
GLA Glamis 57.65 282 P P 19 09 23.3 -0.7
baz=42
R17K Ugashik Creek 57.69 327 P P 19 09 22.6 -1.2
baz=35
ISA Isabella, Lake 57.72 287 P P 19 09 24.1 -0.5
baz=42
O14K Tigyukauivet M 57.80 330 P P 19 09 23.7 -0.9
baz=33
BBRC Big Bear Solar 57.91 285 P P 19 09 26.0 0.0
baz=42
VES Vestal, Richgr 57.92 288 P P 19 09 28.3 +2.5
baz=42
EDW2 Edwards Air Fo 58.04 286 P P 19 09 26.6 -0.1
baz=42,SNR=10
PFO Pinyon Flats O 58.14 284 P P 19 09 28.6 +1.1
baz=42,SNR=10
TPFO Pinon Flats 58.14 284 P P 19 09 28.3 +0.8
baz=42,SNR=8.2
M11K Mekoryuk 58.16 334 P P 19 09 26.8 -0.3
baz=31
SWSC Sam W. Stewart 58.27 283 P P 19 09 29.5 +1.3
baz=41
ARVC Arvin 58.31 287 P P 19 09 32.0 +3.5
baz=42
BFSC Mount Baldy Ra 58.33 285 P P 19 09 31.5 +2.7
baz=33
MURC Murrieta 58.55 285 P P 19 09 31.8 +1.5
baz=42
MONP2 Monument Peak 58.66 283 P P 19 09 31.9 +0.7
baz=41,SNR=5.1
IKP In-Ko-Pah, Jac 58.66 283 P P 19 09 31.0 -0.1
baz=41
ROSC El Rosal 59.13 227 P P 19 09 35.7 +0.8
comp=Z,49nm,0.8s,baz=27,slow=3.2,SNR=8.6
ZALV Zalesovo Beam 60.60 36 P P 19 09 45.0 +0.9
comp=Z,0.9nm,0.6s,baz=298,slow=6.2,SNR=3.5
comp=Z,0.9nm,0.6s
KURBB Kurchatov Arra 61.07 42 P P 19 09 47.6 +0.4
comp=Z,1.3nm,0.6s,baz=325,slow=7.0,SNR=15
comp=Z,1.3nm,0.6s
GEYT Alibeck 61.77 64 P P 19 09 53.4 +1.1
comp=Z,5.4nm,1.0s,baz=278,slow=13,SNR=10
comp=Z,5.4nm,1.0s
UNV Unalaska Valle 63.94 330 P P 19 10 05.6 -0.8
baz=29
MKAR Makanchi Array 65.63 42 P P 19 10 18.6 +1.0
comp=Z,2.9nm,0.9s,baz=318,slow=5.0,SNR=11
comp=Z,2.9nm,0.9s
SAML Samuel 68.06 210 *eP* **P 19 10 30.4 -2.9**
KSH Kashi 69.05 50 P **P 19 10 41.0 +1.5**
KSH pP pwP 19 10 44.5 -0.2
KSH sP sP 19 10 47.5 +4.3
KSH pmax pmax
comp=Z,11nm,1.2s
MCRA Macar, Loja 69.80 228 *eP* **P 19 10 44.8 +0.5**
WMQ Urumqi 70.17 40 *eP* **P 19 10 48.0 +1.7**
WMQ pmax pmax
comp=Z,15nm,0.7s
BDFB Brasilia 71.47 193 P **P 19 10 53.6 -0.8**
comp=Z,3.6nm,0.6s,baz=18,slow=6.2,SNR=4.9
comp=Z,3.6nm,0.6s
SONM Songino Array 72.36 26 P **P 19 11 00.2 +0.6**
comp=Z,3.7nm,1.0s,baz=337,slow=6.6,SNR=17
comp=Z,3.7nm,1.0s
HEH HeiHe 73.84 11 *eP* **P 19 11 09.0 +1.0**
LPAZ La Paz 76.47 212 P **P 19 11 23.9 -0.4**
comp=Z,3.9nm,0.9s,baz=27,slow=16,SNR=8.4
comp=Z,3.9nm,0.9s
GTA Gaotai 78.25 34 *eP* **P 19 11 34.5 +0.9**
GTA sP PcP 19 11 46.0 +3.0
GTA pmax pmax
comp=Z,7.0nm,1.0s
XLT XiLinHaoTe 78.27 21 *eP* **P 19 11 32.0 -1.5**
XLT pP sP 19 11 37.5 +0.3
XLT sP pwP 19 11 39.0 +0.2
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,360nm,6.9s
BNX BinXian 78.29 12 ⇑P **P 19 11 34.5 +1.0**
BNX pmax pmax
comp=Z,17nm,2.4s
BNX pmax pmax
comp=Z,500nm,4.8s
GOMU GeErMu 79.46 39 P **P 19 11 42.3 +1.7**
GOMU pP pwP 19 11 46.5 +0.7
GOMU sP PcP 19 11 48.0 -0.6
GOMU pmax pmax
comp=Z,7.0nm,1.1s
MDJ Mudanjiang 79.64 11 P **P 19 11 41.0 +0.1**
MDJ pmax pmax
comp=Z,9.0nm,1.4s
MDJ pmax pmax
comp=Z,190nm,9.8s
BTO Baotou 80.04 26 *eP* **P 19 11 42.8 -0.5**
BTO pP **sP** **19 11 47.0 0.0**
BTO sP **PcP** **19 11 50.3 -0.4**
BTO S **S** **19 21 45.5 -1.8**
BTO pmax pmax
comp=Z,23nm,0.5s
BTO pmax pmax
comp=Z,770nm,5.7s
HHC Hu-ho-hao-te 80.19 25 *eP* **P 19 11 43.5 -0.6**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,650nm,5.7s
USRK Ussuriysk Ar. 80.29 9 P **P 19 11 45.4 +1.0**
comp=Z,6.2nm,0.9s,baz=329,slow=5.2,SNR=8.8
comp=Z,6.2nm,0.9s
PYUN Piuthan 81.78 52 *eP* **P 19 11 53.7 +0.8**
comp=Z,20nm,1.1s
DANN Dangsing 81.91 51 *eP* **P 19 11 55.0 +1.3**
comp=Z,30nm,1.1s
LZH Lanzhou 82.56 32 *eP* **P 19 11 57.8 +1.0**
LZH pP pwP 19 12 02.3 +0.2
GKN Gorkha 82.60 50 *eP* **P 19 11 57.9 +0.8**
comp=Z,23nm,1.0s
LVC Limon Verde 82.67 211 P **P 19 11 56.7 -0.9**
comp=Z,13nm,0.9s,baz=7.9,slow=5.8,SNR=7.1
comp=Z,13nm,0.9s
DMN Daman 83.14 50 *eP* **P 19 12 00.4 +0.3**
comp=Z,29nm,1.0s
GUN Gumba 83.22 49 *eP* **P 19 12 01.9 +1.3**
comp=Z,37nm,1.0s
PKIN Phulchoki 83.30 50 *eP* **P 19 12 01.7 +0.8**
comp=Z,30nm,1.4s
PKI Pulchoki 83.31 50 *eP* **P 19 12 01.7 +0.6**
comp=Z,29nm,1.4s
CPUP Villa Florida 83.43 200 P **P 19 11 59.3 -1.6**
comp=Z,1.2nm,0.3s,baz=6.8,slow=7.2,SNR=3.9
comp=Z,1.2nm,0.3s
JIRN Jiri 83.57 49 *eP* **P 19 12 03.6 +1.1**
comp=Z,30nm,1.2s
RAMN Ramite 84.37 49 *eP* **P 19 12 07.0 +0.6**
comp=Z,23nm,0.9s
TAPN Taplejung 84.50 48 *eP* **P 19 12 08.1 +1.0**
comp=Z,51nm,1.7s
LYN LuoYang 86.39 26 ⇑P **P 19 12 17.5 +1.5**
LYN pP pwP 19 12 22.0 +0.7
LYN sP sP 19 12 24.5 +4.7
LYN pmax pmax
comp=Z,35nm,0.6s
KSRS Korea Array 86.51 13 P **P 19 12 17.0 +0.5**
comp=Z,1.8nm,0.8s,baz=355,slow=4.4,SNR=5.8
comp=Z,1.8nm,0.8s
NJ2 Nanjing 90.25 21 *eP* **P 19 12 33.0 -1.4**
NJ2 pmax pmax
comp=Z,16nm,1.0s
PZH PanZhiHua 90.71 37 P **P 19 12 36.3 -0.5**
TNCH TengChong 90.90 41 *eP* **P 19 12 39.5 +1.7**
TNCH pP pwP 19 12 42.8 -0.3
TNCH pmax pmax
comp=Z,11nm,1.2s
KMI Kunming 92.32 37 ⇑P **P 19 12 45.0 +0.6**
KMI pmax pmax
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 97.02 43 P **P 19 13 05.7 0.0**
comp=Z,1.8nm,1.0s,baz=323,slow=5.6,SNR=10.0
comp=Z,1.8nm,1.0s
WRA Warramunga Arr 143.86 16 PKP PKPbc 19 19 06.8 +0.1
comp=Z,2.8nm,0.9s,baz=344,slow=3.3,SNR=10.0
QSPA South Pole Qui 145.22 180 PKPbc **PKPbc** **19 19 08.9 -0.8**
comp=Z,19nm,0.9s,baz=188,slow=2.0,SNR=60
ASAR Alice Springs 147.43 18 PKPbc **PKPbc** **19 19 18.0 +0.4**
comp=Z,14nm,0.9s,baz=349,slow=2.4,SNR=64
VNDA Vanda 156.86 190 PKP **PKPdf** **19 19 27.0 -0.4**
comp=Z,0.8nm,1.0s,baz=328,slow=8.2,SNR=4.2
VNDA PKPab **PKPab** **19 19 56.9 -0.5**
comp=Z,1.3nm,1.0s,baz=194,slow=5.4,SNR=4.7

STR ***28*** *19:06:13.0±0.4, 43°N±3°×°±°, h7km±4km, MLv4.0/45, Error ellipse: s-maj=0.0km s-min=0.0km az=17.1, preliminary*
MRB ***28*** *19:06:13.3±0.4, 42°.78N×0°.22E, h5km±3km, ML3.7/29, Error ellipse: s-maj=1.4km s-min=1.0km az=60.0*
LDG ***28*** *19:06:13.2±0.1, 42°.82N×0°.24E, h2km, Ml4.0/51, Error ellipse: s-maj=1.1km s-min=0.9km az=136.0*
PRU ***28*** *19:06:14.5, 42°.19N×0°.57E, h10km*
INMG ***28*** *19:06:14.2±1.4, 42°.80N×0°.21E, h17km±2km, ML3.5, Error ellipse: s-maj=1.9km s-min=1.6km az=93.0*
IGIL ***28*** *19:06:14.7, 42°.79N×0°.22E, h4km*
MDD ***28*** *19:06:14.2±0.1, 42°.79N×0°.22E, h11km, mb_Lg3.8/54, Error ellipse: s-maj=0.9km s-min=0.7km az=144.0*
CNRM ***28*** *19:06:43.8, 40°.83N×1°.64W, h99km, ml3.9*
ISC 28 19:06:11.0±0.8, 42°.83N±0°.01×0°.22E±0°.01, h15km±6km, n303, σ2§20/518, 1C-21D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.16**	**291**	Pg	**Pb**	**19 06 16.6**	**+0.8**
VIEF				Sg	**Sb**	**19 06 19.3**	**+0.5**
ECHI	**Chisagues Biel**	**0.17**	**187**	Pg	**Pb**	**19 06 15.8**	**-0.1**
ECHI				Sg	**Sg**	**19 06 17.9**	**-0.1**
ECHI				*i* Vmb_Lg		19 06 18.1	
ECHI	**Chisagues Biel**	**0.17**	**187**	P	**Pb**	**19 06 15.7**	**-0.2**
ECHI				S	**Sg**	**19 06 17.9**	**-0.1**
59μm,0.2s							
ECHI	**Chisagues Biel**	**0.17**	**187**	Pg	**Pb**	**19 06 16.0**	**+0.1**
ECHI				Sg	**Sg**	**19 06 17.9**	**-0.1**
EPF	**Esparros**	**0.22**	**23**	*e*Pg	**Pb**	**19 06 18.5**	**+1.7**
EPF				*e*Sg	**Sb**	**19 06 21.7**	**+1.0**
21μm,0.3s							
EPF	**Esparros**	**0.22**	**23**	Pg	**Pb**	**19 06 18.5**	**+1.7**
PYLO	**Lourdes**	**0.33**	**324**	P	**Pn**	**19 06 20.6**	**-0.8**
PYLO				S	**Sb**	**19 06 25.5**	**+1.6**
PYLO	**Lourdes**	**0.33**	**324**	Pg	**Pn**	**19 06 20.1**	**-1.3**
PYLO				Sg	**Sb**	**19 06 24.9**	**+1.0**
CARA	**Val d'Aran**	**0.46**	**105**	P	**Pb**	**19 06 21.8**	**+0.9**
CARA				S	**Sb**	**19 06 27.7**	**+0.2**
18μm,0.2s							
CANF	**Canfranc**	**0.55**	**263**	Pg	**Pb**	**19 06 23.1**	**+0.7**
CANF				Sg	**Sb**	**19 06 30.4**	**+0.2**
ETSF	**Etsaut**	**0.58**	**277**	*e*Pg	**Pb**	**19 06 23.8**	**+0.9**
ETSF	**Etsaut**	**0.58**	**277**	*e*Pn	**Pn**	**19 06 27.2**	**+2.4**
SNR=1.0							
ETSF				*e*Sg	**Sb**	**19 06 31.0**	**0.0**
6μm,0.2s							
ETSF	**Etsaut**	**0.58**	**277**	Pg	**Pb**	**19 06 23.8**	**+0.9**
CTRE	**Tremp**	**0.65**	**141**	P	**Pb**	**19 06 24.8**	**+0.7**
CTRE				S	**Sb**	**19 06 33.5**	**+0.4**
2μm,0.4s							
MLS	**Moulis**	**0.65**	**78**	P	**Pn**	**19 06 25.6**	**-0.2**
MLS				S	**Sn**	**19 06 34.9**	**-1.0**
527nm,0.4s							
MLS	**Moulis**	**0.65**	**78**	Pg	**Pn**	**19 06 25.2**	**-0.7**
MLS				Sg	**Sb**	**19 06 34.0**	**+0.9**
SALF	**Salau**	**0.71**	**95**	Pg	**Pn**	**19 06 26.4**	**-0.3**
SALF				Sg	**Sb**	**19 06 35.7**	**+0.7**
ATE	**Arette**	**0.72**	**291**	P	**Pn**	**19 06 27.0**	**+0.2**
ATE				S	**Sn**	**19 06 37.4**	**-0.3**
ATE	**Arette**	**0.72**	**291**	Pg	**Pn**	**19 06 26.5**	**-0.3**
ATE				Sg	**Sb**	**19 06 36.4**	**+1.2**
CEST	**Esterri de Car**	**0.80**	**106**	P	**Pn**	**19 06 27.6**	**-0.2**
CEST				S	**Sb**	**19 06 38.4**	**+1.1**
2μm,0.4s							
CSOR	**Sort**	**0.81**	**124**	P	**Pn**	**19 06 27.9**	**-0.2**
CSOR				S	**Sb**	**19 06 38.5**	**+0.8**
892nm,0.2s							
URDF	**Urds**	**0.85**	**316**	Pg	**Pn**	**19 06 29.9**	**+1.4**
CORG	**Organya**	**1.01**	**126**	P	**Pn**	**19 06 31.4**	**+0.7**
CORG				S	**Sn**	**19 06 44.6**	**-0.1**
694nm,0.4s							
CAVN	**Les Avellanes**	**1.02**	**157**	P	**Pn**	**19 06 31.6**	**+0.7**
CAVN				S	**Sn**	**19 06 45.4**	**+0.4**
1μm,0.3s							
PAND	**Andorre**	**1.02**	**107**	P	**Pn**	**19 06 32.2**	**+1.1**
PAND				S	**Sn**	**19 06 46.6**	**+1.3**
1μm,0.4s							
PAND	**Andorre**	**1.02**	**107**	Pg	**Pn**	**19 06 31.6**	**+0.5**
PAND				Sg	**Sn**	**19 06 45.1**	**-0.1**
ARBS	**La Rabassa**	**1.05**	**111**	P	**Pn**	**19 06 32.0**	**+0.5**
ARBS				S	**Sn**	**19 06 46.8**	**+0.8**
2μm,0.3s							
SJPF	**Ste Jean**	**1.10**	**285**	*e*Pn	**Pg**	**19 06 33.5**	**+1.3**
SJPF	**Ste Jean**	**1.10**	**285**	*e*Pg	**Pg**	**19 06 36.0**	**+3.8**
SJPF				*e*Sg	**Sn**	**19 06 47.1**	**+0.2**
1μm,0.2s							
EORO	**Oroz-Betelu**	**1.13**	**274**	Pg	**Pg**	**19 06 34.0**	**+1.2**
EORO				Sg	**Sn**	**19 06 49.7**	**+2.1**
EORO				*i* Vmb_Lg		19 06 54.4	
EORO	**Oroz-Betelu**	**1.13**	**274**	Pg	**Pg**	**19 06 34.0**	**+1.2**
EORO				Sg	**Sn**	**19 06 49.7**	**+2.1**
OSSF	**Osses**	**1.17**	**292**	Pg	**Pg**	**19 06 33.9**	**+0.4**
OSSF				Sg	**Sn**	**19 06 50.9**	**+2.4**
ESAC	**San Caprasio**	**1.22**	**205**	Pg	**Pg**	**19 06 35.6**	**+1.1**
ESAC				Sg	**Sg**	**19 06 51.2**	**+0.8**
ESAC				*i* Vmb_Lg		19 06 56.7	
ESAC	**San Caprasio**	**1.22**	**205**	Pg	**Pg**	**19 06 35.6**	**+1.1**
ESAC				Sg	**Sg**	**19 06 51.1**	**+0.8**
TERF	**Tercis-les-Bai**	**1.29**	**312**	Pn	**Pg**	**19 06 37.1**	**+1.2**
EALK	**Alkurruntz**	**1.33**	**288**	Pg	**Pg**	**19 06 38.3**	**+1.7**
EALK				Sg	**Sg**	**19 06 55.2**	**+1.4**
EALK				*i* Vmb_Lg		19 07 01.3	
EALK	**Alkurruntz**	**1.33**	**288**	Pg	**Pg**	**19 06 38.3**	**+1.7**
EALK	**Alkurruntz**	**1.33**	**288**	Pn	**Pg**	**19 06 37.2**	**+0.7**
EARA	**Aranguren**	**1.33**	**268**	Pg	**Pg**	**19 06 37.9**	**+1.4**
EARA				Sg	**Sg**	**19 06 55.6**	**+1.8**
EARA				*i* Vmb_Lg		19 07 02.5	
EARA	**Aranguren**	**1.33**	**268**	Pg	**Pg**	**19 06 37.9**	**+1.4**
EARA				Sg	**Sg**	**19 06 55.6**	**+1.8**
EARA	**Aranguren**	**1.33**	**268**	Pn	**Pg**	**19 06 38.0**	**+1.4**
EMIR	**Miracle**	**1.33**	**133**	Pg	**Pg**	**19 06 37.5**	**+0.9**
EMIR				Sg	**Sg**	**19 06 54.3**	**+0.4**
EMIR				*i* Vmb_Lg		19 06 58.2	
EMIR	**Miracle**	**1.33**	**133**	P	**Pg**	**19 06 37.5**	**+0.9**
EMIR				S	**Sg**	**19 06 55.0**	**+1.1**
951nm,0.4s							
CLLI	**Llivia**	**1.34**	**105**	P	**Pg**	**19 06 37.3**	**+0.5**
CLLI				S	**Sg**	**19 06 55.7**	**+1.5**
596nm,0.6s							
FNEB	**Nbias**	**1.39**	**86**	P	**Pg**	**19 06 39.0**	**+1.2**
FNEB				S	**Sg**	**19 06 57.4**	**+1.6**
928nm,0.5s							
FNEB	**Nbias**	**1.39**	**86**	Pn	**Pg**	**19 06 40.6**	**+2.9**

FNEB Sn Sg 19 06 59.3 +3.5
CARF Carcanieres 1.39 94 Pn Pg 19 06 38.2 +0.4
CARF Pg Pb 19 06 39.3 +2.5
CARF Sn Sg 19 06 57.2 +1.3
CBRU Bruguera 1.54 110 P Pg 19 06 41.3 +0.6
CBRU S Sg 19 07 01.7 +0.9
778nm,0.3s
MTLF Montolieu 1.55 70 *e*Pn Pb 19 06 40.0 +0.6
MTLF Montolieu 1.55 70 *e*Pg Pg 19 06 42.2 +1.4
MTLF *e*Sn Sb 19 06 59.8 +0.9
SNR=1.0
MTLF *e*Sg Sg 19 07 02.3 +1.4
609nm,0.3s
MTLF Montolieu 1.55 70 Pg Pg 19 06 42.2 +1.4
MTLF Montolieu 1.55 70 Sn Sg 19 07 02.9 +2.0
MTLF Montolieu 1.55 70 Pn Pb 19 06 40.0 +0.6
CORI Orista 1.60 122 P Pg 19 06 42.3 +0.6
CORI S Sg 19 07 02.9 +0.3
1µm,0.4s
EPOB Poblet 1.61 156 Pn Pb 19 06 40.6 +0.1
EPOB Pg Pg 19 06 42.3 +0.4
EPOB Sn Sb 19 07 00.5 -0.1
EPOB Sg Sg 19 07 03.1 +0.3
EPOB *i* Vmb_Lg 19 07 10.3
EPOB Poblet 1.61 156 P Pb 19 06 40.9 +0.5
EPOB S Sg 19 07 02.6 -0.2
341nm,0.3s
MONQ Montcuq 1.69 24 Pn Pb 19 06 41.4 -0.4
MONQ Pg Pg 19 06 45.4 +1.9
FILF Fillols 1.75 98 P Pb 19 06 42.7 -0.1
FILF S Sb 19 07 04.9 +0.3
628nm,0.3s
FILF Fillols 1.75 98 Pn Pb 19 06 43.6 +0.8
ERTA Horta de San J 1.87 177 Pn Pb 19 06 44.9 0.0
ERTA Pg Pg 19 06 47.2 +0.3
ERTA Sn Sn 19 07 06.8 +0.8
ERTA Sg Sg 19 07 10.4 -0.8
ERTA *i* Vmb_Lg 19 07 14.2
ERTA Horta de San J 1.87 177 P Pb 19 06 45.0 0.0
ERTA S Sb 19 07 09.1 +0.9
370nm,0.3s
CBEU Beuda 1.90 107 P Pb 19 06 45.6 +0.1
CBEU S Sg 19 07 11.0 -1.2
1µm,0.4s
CFON Fontmartina 1.96 122 P Pb 19 06 46.9 +0.5
CFON S Sb 19 07 12.2 +1.5
2µm,0.3s
CGAR Garraf 1.98 140 P Pb 19 06 46.5 -0.3
CGAR S Sb 19 07 12.4 +1.0
344nm,0.3s
SJAF Saint Jean de 1.99 99 P Pb 19 06 47.7 +0.7
SJAF S Sb 19 07 12.8 +1.2
688nm,0.3s
SJAF Saint Jean de 1.99 99 Pn Pg 19 06 48.5 -0.8
SJAF Sn Sg 19 07 15.1 0.0
EJON La Jonquera 2.00 100 Pn Pb 19 06 47.1 -0.1
EJON Pg Pg 19 06 49.1 -0.4
EJON Sg Sg 19 07 16.1 +0.7
EJON *i* Vmb_Lg 19 07 19.9
EBR Ebro Roquetas 2.02 174 P Pb 19 06 47.0 -0.4
EBR S Sb 19 07 12.6 +0.3
688nm,0.3s
CMAS Mas de Barbera 2.10 178 P Pb 19 06 47.7 -1.1
CMAS S Sb 19 07 14.5 -0.3
464nm,0.5s
CLAF Gruissan 2.13 81 Pn Pb 19 06 48.4 -0.8
LFF La Frestale 2.14 10 *e*Pn Pb 19 06 48.1 -1.4
LFF La Frestale 2.14 10 *e*Pg Pg 19 06 53.0 +0.9
LFF *e*Sn Sn 19 07 12.8 +0.2
SNR=1.0
LFF *e*Sg Sg 19 07 21.4 +1.5
498nm,0.4s
LRVF chteau la Riv 2.15 350 Pn Pb 19 06 49.0 -0.7
CBUD Illa de Buda 2.17 168 S Sb 19 07 16.4 -0.3
690nm,0.4s
CCAS Cassa de la Se 2.20 114 P Pb 19 06 50.0 -0.5
CCAS S Sb 19 07 17.8 +0.2
597nm,0.5s
CPAL Palau Saverder 2.23 102 P Pb 19 06 51.1 0.0
CPAL S Sb 19 07 18.9 +0.4
245nm,0.3s
ALCN Alcanar 2.29 175 P Pb 19 06 51.0 -0.9
ALCN S Sb 19 07 18.7 -1.4
294nm,0.3s
CAF Calviac 2.48 32 *e*Pn Pn 19 06 52.3 +1.3
CAF Calviac 2.48 32 *e*Pg Pg 19 06 59.3 +0.7
CAF *e*Sg Sg 19 07 31.1 +0.3
185nm,0.2s
EMOS Mosqueruela 2.52 192 Pn Pb 19 06 54.5 -1.6
EMOS Pg Pg 19 06 59.3 0.0
EMOS Sn Sn 19 07 21.7 -0.4
EMOS Sg Sg 19 07 30.8 -1.1
EMOS *i* Vmb_Lg 19 07 37.8
EMOS Mosqueruela 2.52 192 P Pb 19 06 54.3 -1.7
EMOS S Sn 19 07 24.7 +2.6
173nm,0.6s
ALCX Castello 2.57 179 P Pb 19 06 54.8 -2.0
ALCX S Sb 19 07 26.1 -2.1
ETOR Torete 2.63 221 Pn Pn 19 06 55.7 +2.6
ETOR Sn Sn 19 07 25.9 +1.1
ETOR Sg Sg 19 07 35.6 0.0
RJF Les Rejaudoux 2.65 20 *e*Pn Pn 19 06 54.8 +1.6
RJF Les Rejaudoux 2.65 20 *e*P Pb 19 06 57.6 -0.5
RJF Les Rejaudoux 2.65 20 *e*Pg Pg 19 07 02.0 +0.3
RJF *e*Sn Sn 19 07 25.6 +0.6
208nm,0.2s,SNR=1.0
RJF *e*Sg Sg 19 07 36.2 +0.2
203nm,0.2s
ELAN Lanestosa 2.71 280 Pn Pb 19 06 57.5 -1.7
ELAN Sn Sn 19 07 28.1 +1.4
ELAN *i* Vmb_Lg 19 07 41.2
LASF Ste Croix 2.93 64 *e*Pn Pn 19 06 58.8 +1.7
LASF Ste Croix 2.93 64 *e*P Pb 19 07 01.1 -1.8
LASF Ste Croix 2.93 64 *e*Pg Pg 19 07 06.9 -0.2
LASF *e*Sg Sg 19 07 44.7 -0.3
153nm,0.3s,SNR=1.0
ECOL Islas Columbre 2.95 173 Pn Pn 19 06 59.7 +2.4
ECOL Sn Sn 19 07 33.1 +0.7
ECOL Sg Sg 19 07 44.6 -1.1
CHIF Chize 3.33 352 Pn Pn 19 07 05.1 +2.5
ECHE Chera 3.36 196 Pn Pn 19 07 05.6 +2.6
ECHE Sn Sn 19 07 43.7 +1.0
ECHE Sg Sg 19 07 57.6 -1.2
ECHE *i* Vmb_Lg 19 08 04.5
PYM Petit Puy Mans 3.54 33 Pn Pn 19 07 07.5 +2.0
ETOS Mallorca 3.63 147 Pn Pn 19 07 08.9 +2.2
ETOS Sn Sn 19 07 49.9 +0.6
ETOS *i* Vmb_Lg 19 08 08.8
ETOS Mallorca 3.63 147 P Pn 19 07 09.6 +2.9
EVIV Cofrentes, Val 3.70 196 Pn Pn 19 07 10.3 +2.6
EVIV Sn Sn 19 07 50.9 -0.2
EVIV *i* Vmb_Lg 19 08 15.1
TCF Toulx Ste Croi 3.74 22 *e*Pn Pn 19 07 08.3 +0.1
SNR=1.0
TCF Toulx Ste Croi 3.74 22 *e*P Pb 19 07 12.9 -3.9
TCF Toulx Ste Croi 3.74 22 *e*Pg Pg 19 07 22.0 -0.6
TCF *e*Sn Sn 19 07 50.9 -1.1
99nm,0.2s,SNR=1.0
TCF *e*Sg Sg 19 08 10.5 -0.5
101nm,0.2s
MFF Saint Martin d 3.78 356 *e*Pn Pn 19 07 11.1 +2.3
MFF Saint Martin d 3.78 356 *e*P Pb 19 07 14.3 -3.2
MFF Saint Martin d 3.78 356 *e*Pg Pg 19 07 23.1 -0.3
MFF *e*Sn Sn 19 07 52.6 -0.4
152nm,0.4s,SNR=1.0
MFF *e*Sg Sg 19 08 11.8 -0.6
109nm,0.3s
MFF Saint Martin d 3.78 356 Pn Pn 19 07 10.8 +2.0
VIVF Saint-Julien-l 3.80 56 *e*Pn Pn 19 07 10.5 +1.4
VIVF Saint-Julien-l 3.80 56 *e*P Pb 19 07 14.1 -3.8
VIVF Saint-Julien-l 3.80 56 *e*Pg Pg 19 07 23.4 -0.5
VIVF *e*Sg Sg 19 08 11.7 -1.4
89nm,0.3s
EIBI Ibiza 3.89 167 Pn Pn 19 07 11.4 +1.1
EIBI Sn Sn 19 07 54.8 -0.9
EIBI Sg Sg 19 08 14.4 -1.6
EIBI *i* Vmb_Lg 19 08 28.0
GUD Guadarrama 3.94 238 Pn Pn 19 07 13.5 +2.5
GUD Sn Sn 19 07 57.9 +0.8
GUD Sg Sg 19 08 15.6 -1.7
GUD *i* Vmb_Lg 19 08 18.7
SSB Saint Sauveur 3.96 50 Pn Pn 19 07 12.8 +1.5

RUSF Rustrel 3.99 72 Pn Pn 19 07 14.0 +2.3
EARI Arriondas 4.01 279 Pn Pn 19 07 15.4 +3.4
EARI Sn Sn 19 08 00.0 +1.3
EARI *i* Vmb_Lg 19 08 06.5
SMRF Simiane la Rot 4.07 72 *e*Pn Pn 19 07 14.8 +2.1
SNR=1.0
SMRF Simiane la Rot 4.07 72 *e*Pg Pg 19 07 28.4 -0.5
SNR=1.0
SMRF *e*Sn Sn 19 08 00.9 +0.8
41nm,0.4s,SNR=1.0
LEPF PUYLOUBIER 4.07 78 Pn Pn 19 07 15.0 +2.2
BSTF la Bastide-des 4.09 73 Pn Pn 19 07 14.9 +1.9
ARTF Artigues 4.15 78 Pn Pn 19 07 16.1 +2.2
EBEN2 Beniarda presa 4.16 184 Pn Pn 19 07 15.6 +1.6
EBEN2 Sn Sn 19 08 01.6 -0.8
EBEN2 Sg Sg 19 08 22.4 -2.2
EBEN2 *i* Vmb_Lg 19 08 32.8
BGF Bois d'Agland 4.17 26 *e*Pn Pn 19 07 14.7 +0.5
SNR=1.0
BGF Bois d'Agland 4.17 26 *e*P Pn 19 07 18.3 +4.1
BGF Bois d'Agland 4.17 26 *e*Pg Pg 19 07 30.3 -0.6
BGF *e*Sg Sg 19 08 23.9 -1.0
488nm,0.4s
AFON Font Roja 4.20 188 Pn Pn 19 07 16.5 +1.8
AFON Sn Sn 19 08 03.7 +0.2
AFON *i* Vmb_Lg 19 08 38.8
MLYF Mely 4.20 72 Pn Pn 19 07 17.2 +2.6
ASEAF Site Antares, 4.37 88 Pn Pn 19 07 19.0 +2.4
BLAF les Blancs 4.39 73 Pn Pn 19 07 19.5 +2.4
ETOB Tobarra 4.39 198 Pn Pn 19 07 19.0 +1.8
ETOB Sn Sn 19 08 06.9 -1.3
ETOB *i* Vmb_Lg 19 08 43.7
FLAF Flassans-sur-l 4.45 81 Pn Pn 19 07 20.3 +2.3
ESDC Sonseca Array 4.46 226 Pn Pn 19 07 20.0 +1.9
ESDC Sn Sn 19 08 09.2 -0.6
ESDC Sg Sg 19 08 31.8 -2.3
AVF Avril sur Loir 4.54 28 *e*Pn Pn 19 07 19.2 -0.1
SNR=1.0
AVF Avril sur Loir 4.54 28 *e*P Pn 19 07 24.3 +5.0
AVF Avril sur Loir 4.54 28 *e*Pg Pg 19 07 37.1 -0.9
AVF *e*Sn Sn 19 08 09.7 -2.1
52nm,0.4s,SNR=1.0
AVF *e*Sg Sg 19 08 35.3 -1.5
59nm,0.4s
ORIF Oris-en-Rattie 4.59 61 *e*Pn Pn 19 07 21.2 +1.2
SNR=1.0
ORIF Oris-en-Rattie 4.59 61 *e*P Pn 19 07 25.4 +5.4
ORIF Oris-en-Rattie 4.59 61 *e*Pg Pg 19 07 38.0 -0.9
ORIF Oris-en-Rattie 4.59 61 Pn Pn 19 07 22.7 +2.7
SMF Signal de Mont 4.61 33 *e*Pn Pn 19 07 21.3 +1.2
SMF Signal de Mont 4.61 33 *e*P Pn 19 07 24.9 +4.8
SMF Signal de Mont 4.61 33 *e*Pg Pg 19 07 38.1 -1.1
SMF *e*Sg Sg 19 08 35.8 -3.0
48nm,0.3s,SNR=1.0
OGDI Digne 4.61 72 Pn Pn 19 07 21.9 +1.7
TRIGF Trigance 4.61 76 Pn Pn 19 07 22.8 +2.6
LMR La Mourre 4.63 82 *e*Pn Pn 19 07 22.2 +1.7
SNR=1.0
LMR La Mourre 4.63 82 *e*P Pn 19 07 24.4 +3.9
LMR *e*Sg Sg 19 08 37.9 -1.8
15nm,0.2s
HYF Humbligny 4.76 20 *e*P Pn 19 07 27.9 +5.7
HYF Humbligny 4.76 20 *e*Pg Pg 19 07 40.9 -1.2
HYF *e*Sg Sg 19 08 42.9 -0.8
683nm,0.5s
PAB San Pablo 4.76 228 Pn Pn 19 07 24.1 +1.8
PAB Sn Sn 19 08 15.2 -2.0
PAB Sg Sg 19 08 40.9 -2.8
PAB *i* Vmb_Lg 19 08 48.3
OGSM Saint Maurice 4.82 53 Pn Pn 19 07 24.7 +1.7
SSF Saint Saulge 4.83 28 *e*Pn Pn 19 07 24.3 +1.1
SNR=1.0
SSF Saint Saulge 4.83 28 *e*P Pn 19 07 27.7 +4.5
SSF Saint Saulge 4.83 28 *e*Pg Pg 19 07 42.3 -1.2
SSF *e*Sn Sn 19 08 13.4 -5.5
SNR=1.0
SSF *e*Sg Sg 19 08 44.5 -1.5
64nm,0.3s,SNR=1.0
EJUZ Juzbado, Salam 4.88 251 Pn Pn 19 07 25.9 +2.0
EJUZ Sn Sn 19 08 19.1 -1.1
EJUZ Sg Sg 19 08 43.8 -3.8
ENAUX Enaux 4.94 73 Pn Pn 19 07 27.4 +2.6
CREF Crivoux 4.95 67 Pn Pn 19 07 27.9 +2.9
CALF Calern 4.98 77 Pn Pn 19 07 27.7 +2.4
OG35 Corcelles 5.00 48 Pn Pn 19 07 27.1 +1.5
PSIM Granatula de C 5.01 218 Pn Pn 19 07 27.0 +1.2
PSIM Sn Sn 19 08 21.3 -2.2
PSIM Sg Sg 19 08 48.8 -3.1
EMUR La Murta 5.11 193 Pn Pn 19 07 28.5 +1.5
EMUR Sn Sn 19 08 24.1 -1.6
EMUR Sg Sg 19 08 52.8 -2.1
EMUR *i* Vmb_Lg 19 09 04.3
MBDF Montbardon 5.11 66 *e*Pn Pn 19 07 28.2 +1.0
SNR=1.0
MBDF Montbardon 5.11 66 *e*P Pn 19 07 32.6 +5.4
MBDF Montbardon 5.11 66 *e*Pg Pg 19 07 47.6 -1.2
MBDF *e*Sg Sg 19 08 53.0 -1.9
15nm,0.6s
LOR Lormes 5.13 29 *e*Pn Pn 19 07 28.2 +0.8
baz=218,SNR=1.0
LOR Lormes 5.13 29 *e*P Pn 19 07 32.5 +5.1
LOR Lormes 5.13 29 *e*Pg Pg 19 07 48.0 -1.2
LOR *e*Sn Sn 19 08 21.3 -5.0
27nm,0.3s,SNR=1.0
LOR *e*Sg Sg 19 08 53.1 -2.6
31nm,0.4s
LOR Lormes 5.13 29 Pn Pn 19 07 28.2 +0.8
ISO Isola 5.15 72 Pn Pn 19 07 30.6 +3.0
EZAR Zarzadilla de 5.16 197 Pn Pn 19 07 30.5 +2.6
EZAR Sn Sn 19 08 26.6 -0.6
EZAR Sg Sg 19 08 52.1 -4.5
EZAR *i* Vmb_Lg 19 09 13.7
MVIF Mont Vial 5.16 76 Pn Pn 19 07 30.4 +2.5
BNI Bardonecchia 5.17 62 Pn Pn 19 07 31.2 +3.3
BNI Sn Sn 19 08 27.0 -0.3
ECAL Calabor 5.23 263 Pn Pn 19 07 30.7 +1.9
ECAL Sn Sn 19 08 27.5 -1.3
ECAL *i* Vmb_Lg 19 09 00.3
PLYF Puligny Montra 5.23 36 Pn Pn 19 07 30.9 +2.2
SPIF crte de Spivo 5.25 74 Pg Pn 19 07 31.7 +2.5
PBRG Braganca 5.26 261↓ *e*Pn Pn 19 07 31.5 +2.3
PBRG *e*Sn Sn 19 08 29.2 -0.4
PBRG *e*Sg Sg 19 08 54.1 -5.8
PBRG A A 19 08 59.3
49nm,0.6s
PZZ Stroppo 5.27 69 Pn Pn 19 07 32.4 +3.0
CART Cartagena 5.32 191 P Pn 19 07 32.3 +2.4
TURF col de Turini 5.35 75 Pn Pn 19 07 33.0 +2.5
STV Sant Anna di V 5.36 72 Pn Pn 19 07 33.6 +3.2
SBF Sospel 5.36 76 *e*Pn Pn 19 07 32.7 +2.1
SNR=1.0
SBF *e*Sg Sg 19 09 00.8 -2.2
49nm,0.6s
CLF Chambon-Foret 5.39 15 Pn Pn 19 07 33.3 +2.4
CLF Sn Sn 19 08 33.0 +0.3
CLF Sg Sg 19 09 03.5 -0.5
LPL La Plagne 5.40 58 *e*Pn Pn 19 07 32.9 +1.7
SNR=1.0
LPL *e*Sg Sg 19 09 01.8 -2.4
18nm,0.6s
LPG La Plagne 5.40 58 *e*Pn Pn 19 07 33.7 +2.4
SNR=1.0
LPG La Plagne 5.40 58 *e*P Pn 19 07 37.3 +6.0
LPG La Plagne 5.40 58 *e*Pg Pg 19 07 53.5 -0.9
LPG *e*Sg Sg 19 09 02.5 -1.9
25nm,0.5s
RSL Roselend 5.41 56 Pn Pn 19 07 34.2 +2.8
ENR Entracque 5.42 73 Pn Pn 19 07 34.4 +3.1
EPON Pontenova 5.42 278 Pn Pn 19 07 34.5 +3.2
EPON Sn Sn 19 08 33.2 -0.3
EPON *i* Vmb_Lg 19 08 43.3
SAOF Saorge 5.47 75 Pn Pn 19 07 34.6 +2.6
BHB Bricherasio 5.48 66 Pn Pn 19 07 35.2 +3.2
EPLA Plasencia 5.48 242 Pn Pn 19 07 34.3 +2.1
EPLA Sn Sn 19 08 34.1 -1.0
EPLA *i* Vmb_Lg 19 08 36.2
EPLA Sg Sg 19 09 04.4 -2.6
RSP Reno Superiore 5.58 63 Pn Pn 19 07 37.6 +3.9
GRR Gorron 5.61 353 *e*Pn Pn 19 07 35.7 +1.8
SNR=1.0
GRR Gorron 5.61 353 *e*P Pn 19 07 39.5 +5.6
GRR Gorron 5.61 353 *e*Pg Pg 19 07 56.2 -2.2

SNR=1.0
GRR *e*Sn Sn 19 08 33.3 -4.8
41nm,0.5s,SNR=1.0
GRR *e*Sg Sg 19 09 09.1 -1.9
58nm,0.4s
EQES Quesada 5.62 208 Pn Pn 19 07 37.1 +3.0
EQES Sn Sn 19 08 37.4 -1.0
EQES Sg Sg 19 09 08.3 -3.0
EQES *i* Vmb_Lg 19 09 24.4
QUIF Quistinic 5.62 336 *e*Pn Pn 19 07 36.4 +2.4
SNR=1.0
QUIF Quistinic 5.62 336 *e*P Pn 19 07 40.1 +6.1
QUIF *e*Sn Sn 19 08 37.1 -1.2
31nm,0.3s,SNR=1.0
CABF La Chapelle 5.63 46 *e*Pn Pn 19 07 35.7 +1.4
SNR=1.0
CABF La Chapelle 5.63 46 *e*P Pn 19 07 39.5 +5.2
CABF La Chapelle 5.63 46 *e*Pg Pg 19 07 58.7 -0.2
CABF *e*Sg Sg 19 09 10.0 -1.8
80nm,0.7s
MVO Moncorvo 5.65 255 *e*Pn Pn 19 07 36.5 +1.9
MVO *e*Sn Sn 19 08 38.2 -1.1
MVO *e*Sg Sg 19 09 07.6 -4.8
MVO A A 19 09 16.9
102nm,0.5s
MGRO Montegrosso 5.66 75 Pn Pn 19 07 37.3 +2.6
GBOS Grotte di Boss 5.71 73 Pn Pn 19 07 38.8 +3.4
SGMF Saint Gilles 5.77 341 *e*Pn Pn 19 07 37.9 +1.9
SNR=1.0
SGMF Saint Gilles 5.77 341 *e*P Pn 19 07 41.9 +5.9
SGMF *e*Sn Sn 19 08 41.0 -0.9
49nm,0.5s
SGMF *e*Sg Sg 19 09 11.6 -4.4
38nm,0.4s,SNR=1.0
LDF La Druitiere 5.77 358 *e*Pn Pn 19 07 36.2 +0.1
SNR=1.0
LDF La Druitiere 5.77 358 *e*Pg Pg 19 07 59.2 -2.2
SNR=1.0
LDF *e*Sn Sn 19 08 40.7 -1.3
37nm,0.5s
LDF *e*Sg Sg 19 09 12.3 -3.8
57nm,0.4s,SNR=1.0
RORO Rocca Rossa 5.85 75 Pn Pn 19 07 40.1 +2.9
EADA Adamuz 5.92 220 Pn Pn 19 07 40.2 +2.0
EADA Sn Sn 19 08 44.3 -1.5
EADA Sg Sg 19 09 18.0 -3.0
EADA *i* Vmb_Lg 19 09 33.7
FLN La Foliniere 5.96 356 *e*Pn Pn 19 07 38.9 +0.3
baz=180,SNR=1.0
FLN La Foliniere 5.96 356 *e*P Pn 19 07 44.1 +5.5
FLN *e*Sn Sn 19 08 45.0 -1.6
22nm,0.4s,SNR=1.0
FLN *e*Sg Sg 19 09 18.5 -3.5
35nm,0.4s
ROSF Rostrenen 6.03 337 *e*Pn Pn 19 07 41.4 +1.8
SNR=1.0
ROSF Rostrenen 6.03 337 *e*P Pn 19 07 45.9 +6.3
ROSF *e*Sn Sn 19 08 44.5 -3.9
22nm,0.3s,SNR=1.0
BRANT Les Verrieres 6.05 45 Pn Pn 19 07 41.6 +1.5
BRANT Sn Sn 19 08 48.7 -0.4
BRANT Sg Sg 19 09 23.8 -1.3
PVRL Vila Real 6.11 258↓ *e*Pn Pn 19 07 42.6 +1.8
PVRL *e*Sn Sn 19 08 49.2 -1.3
PVRL *e*Sg Sg 19 09 21.6 -5.4
PVRL A A 19 09 32.1
57nm,0.6s
EAGO Agolada(Pontev 6.11 273 Pn Pn 19 07 43.4 +2.6
EAGO Sn Sn 19 08 50.1 -0.5
EAGO Sg Sg 19 09 26.1 -1.0
EAGO *i* Vmb_Lg 19 09 39.3
POLO Lamas de Olo 6.14 259 *e*Pn Pn 19 07 43.1 +1.8
POLO *e*Sn Sn 19 08 50.6 -0.6
POLO *e*Sg Sb 19 09 19.1 +8.1
POLO A A 19 09 31.0
22nm,0.5s
SENIN Lac Senin/Sane 6.17 53 Pn Pn 19 07 44.1 +2.4
SENIN Sn Sn 19 08 50.1 -1.9
SENIN Sg Sg 19 09 27.3 -1.5
ELOB Lobios 6.21 264 Pn Pn 19 07 44.1 +1.9
ELOB Sn Sn 19 08 50.8 -2.3
ELOB Sg Sg 19 09 24.8 -5.6
ELOB *i* Vmb_Lg 19 09 27.8
EQUE Quentar 6.28 208 Pn Pn 19 07 45.7 +2.5
EQUE Sn Sn 19 08 52.5 -2.2
EQUE Sg Sg 19 09 28.6 -4.0
EQUE *i* Vmb_Lg 19 09 35.4
MTE Manteigas 6.31 250 *e*Sg Sg 19 09 26.5 -6.8
MTE A A 19 09 42.9
46nm,0.6s
PGAV Gavieira, Arco 6.35 265↑ *e*Pn Pn 19 07 46.4 +2.3
PGAV *e*Sn Sn 19 08 56.1 -0.3
PGAV A A 19 09 32.2
30nm,0.4s
SFTF Sexfontaines 6.35 31 *e*Pn Pn 19 07 45.1 +1.0
SFTF Sexfontaines 6.35 31 *e*P Pn 19 07 48.9 +4.8
SFTF *e*Sg Sg 19 09 31.8 -2.9
62nm,0.7s
EBER Berja 6.39 203 Pn Pn 19 07 47.6 +2.8
EBER Sn Sn 19 08 54.8 -2.8
EBER Sg Sg 19 09 33.3 -2.7
EBER *i* Vmb_Lg 19 09 51.9
ECAB El Cabril 6.41 224 Pn Pn 19 07 46.2 +1.3
ECAB Sn Sn 19 08 54.1 -3.6
ECAB Sg Sg 19 09 33.6 -2.9
ECAB *i* Vmb_Lg 19 09 52.1
PVIS Viseu 6.42 254 *e*Pn Pn 19 07 46.5 +1.3
PVIS *e*Sn Sn 19 08 57.5 -0.8
PVIS *e*Sg Sg 19 09 31.8 -5.3
PVIS A A 19 09 49.3
30nm,0.7s
PGF Pioggiola 6.47 90 *e*Pn Pn 19 07 45.7 -0.2
SNR=1.0
PGF *e*Sn Sn 19 08 57.3 -2.3
14nm,0.4s,SNR=1.0
PCBR Castelo Branco 6.52 245 *e*Pn Pn 19 07 48.2 +1.8
PCBR *e*Sn Sn 19 08 59.4 -1.1
PCBR *e*Sg Sg 19 09 33.0 -7.1
PCBR A A 19 09 56.3
20nm,0.5s
JSA Saint Aubin 6.58 346 Pn Pn 19 07 48.6 +1.5
JSA Sn Sn 19 09 00.5 -1.3
JSA Sg Sg 19 09 41.3 -0.6
MEZF Maizieres J'vi 6.61 29 *e*P Pn 19 07 53.4 +5.9
MEZF *e*Sg Sg 19 09 39.8 -3.0
42nm,0.5s
EGOR Sierra Gorda, 6.61 212 Pn Pn 19 07 49.7 +1.9
EGOR Sn Sn 19 08 59.7 -3.2
EGOR Sg Sg 19 09 39.6 -3.4
EGOR *i* Vmb_Lg 19 10 04.9
EZAM Zamans 6.63 267 Pn Pn 19 07 50.2 +2.3
EZAM Sn Sn 19 09 01.1 -2.0
EZAM *i* Vmb_Lg 19 09 54.8
ELGU Los Guajares, 6.65 208 Pn Pn 19 07 50.5 +2.3
ELGU *i* Vmb_Lg 19 09 55.0
PMRV Marv??o 6.68 242↓ *e*Pn Pn 19 07 50.4 +1.8
PMRV *e*Sn Sn 19 09 02.3 -2.1
FIESA Fiescheralp 6.68 55 Pn Pn 19 07 51.6 +2.8
FIESA Sn Sn 19 09 04.1 -0.8
FIESA Sg Sg 19 09 46.5 +1.1
SAVF Savonnieres en 6.73 29 *e*P Pn 19 07 55.6 +6.4
SAVF Savonnieres en 6.73 29 *e*Pg Pg 19 08 17.3 -2.4
SAVF *e*Sg Sg 19 09 43.8 -2.9
102nm,0.8s
HAU Haudompre 6.74 38 *e*P Pn 19 07 55.9 +6.5
HAU *e*Sg Sg 19 09 43.1 -3.9
24nm,0.5s,SNR=1.0
EMAZ Mazaricos 6.76 274 Pn Pn 19 07 51.6 +1.9
EMAZ Sn Sn 19 09 04.0 -2.4
EMAZ *i* Vmb_Lg 19 10 04.7
EBAD Badajoz 6.83 236 Pn Pn 19 07 52.0 +1.3
EBAD Sn Sn 19 09 04.7 -3.5
EBAD *i* Vmb_Lg 19 09 59.0
HINF Hinteralfeld 6.83 41 *e*Pn Pn 19 07 53.9 +3.2
SNR=1.0
HASLI Hasliberg/Brie 6.87 52 Pn Pn 19 07 53.9 +2.5
HASLI Sn Sn 19 09 07.7 -1.7
HASLI Sg Sg 19 09 50.0 -1.5
PAGF Fort de Pagny 6.90 32 *e*P Pn 19 07 57.0 +5.4
PAGF *e*Sg Sg 19 09 49.6 -2.7
72nm,0.6s
COI Coimbra 6.99 251 *e*Sn Sn 19 09 10.3 -1.7
COI A A 19 10 05.8

64nm,0.5s
MUGIO Muggio 7.04 61 Pn **Pn 19 07 57.6 +4.1**
PCAS Casmilo, Conde 7.11 250 *e*Pn **Pn 19 07 56.6 +2.0**
PCAS *e*Sn **Sn 19 09 13.4 -1.8**
PCAS *e*Sg **Sg 19 09 52.3 -6.9**
PCAS A A 19 10 06.5
30nm,0.7s
PESTR Estremoz 7.12 239 *e*Pn **Pn 19 07 55.9 +1.2**
PESTR *e*Sn **Sn 19 09 13.6 -1.8**
PESTR A A 19 10 05.4
18nm,0.6s
PESTR Estremoz 7.12 239 P **Pn 19 07 56.4 +1.7**
PBAR Barrancos 7.22 232 *e*Pn **Pn 19 07 58.1 +2.0**
PBAR *e*Sn **Sn 19 09 15.4 -2.5**
PBAR A A 19 10 04.2
17nm,0.6s
EMIN Mina Concepcio 7.30 228 Pn **Pn 19 08 00.6 +3.5**
EMIN Sn **Sn 19 09 15.6 -4.1**
EMIN *i* Vmb_Lg 19 10 23.6
EMIJ Mijas 7.34 213 Pn **Pn 19 08 01.4 +3.6**
EMIJ Sn **Sn 19 09 21.6 +0.7**
EMIJ *i* Vmb_Lg 19 10 14.8
PMTG Montargil 7.41 242 *e*Pn **Pn 19 08 00.0 +1.3**
PMTG *e*Sn **Sn 19 09 19.9 -2.6**
PMTG A A 19 10 24.1
19nm,0.7s
CDF Champ du Feu 7.46 39 *e*Pn **Pn 19 07 58.9 -0.4**
SNR=1.0
CDF *e*Sg **Sg 19 10 07.2 -2.9**
24nm,0.7s
TUE Stuetta 7.46 58 Pn **Pn 19 08 03.4 +4.0**
TUE Sn **Sn 19 09 22.1 -1.7**
VLC Villacollemand 7.51 76 Pn **Pn 19 08 02.5 +2.5**
VLC Sn **Sn 19 09 20.7 -4.3**
PSBE So Bento 7.56 247 *e*Pn **Pn 19 08 03.1 +2.3**
PSBE *e*Sn **Sn 19 09 26.0 -0.3**
PSBE A A 19 10 16.6
26nm,0.6s
ESPR Espera 7.57 220 Pn **Pn 19 08 02.0 +1.2**
ESPR Sn **Sn 19 09 23.1 -3.2**
ESPR *i* Vmb_Lg 19 10 26.5
EVO Evora 7.59 238 *e*Pn **Pn 19 08 02.5 +1.4**
EVO *e*Sn **Sn 19 09 25.7 -1.1**
EVO A A 19 10 31.5
16nm,0.8s
SLE Schleitheim 7.64 47 Pn **Pn 19 08 04.8 +3.0**
SLE Sn **Sn 19 09 26.3 -1.7**
EJIM Jimena Fronter 7.73 216 *e*Pn **Pn 19 08 06.0 +2.9**
EJIM Jimena Fronter 7.73 216 Pn **Pn 19 08 06.0 +2.9**
EJIM Sn **Sn 19 09 30.9 +0.5**
BAIF Baives 7.74 19 *e*Pn **Pn 19 08 03.7 +0.6**
SNR=1.0
BAIF Baives 7.74 19 *e*P Pn 19 08 09.0 +5.9
BAIF *e*Sg **Sg 19 10 15.1 -4.0**
43nm,0.9s
PBEJ Beja 7.81 235 *e*Sn **Sn 19 09 29.0 -3.4**
PBEJ A A 19 10 28.9
11nm,0.6s
DOU Dourbes 7.87 21 Pn **Pn 19 08 07.9 +3.0**
DOU Sn **Sn 19 09 34.2 +0.6**
DOU Dourbes 7.87 21 *d*P **Pn 19 08 07.5 +2.6**
DOU *d*S **Sn 19 09 33.9 +0.3**
EGRO El Granado 7.92 231 Pn **Pn 19 08 07.5 +1.9**
EGRO Sn **Sn 19 09 29.5 -5.4**
EGRO *i* Vmb_Lg 19 10 44.3
GIVF Givet 7.94 22 *e*Pn **Pn 19 08 08.2 +2.4**
SNR=1.0
GIVF Givet 7.94 22 *e*P Pn 19 08 11.5 +5.7
GIVF *e*Sn **Sn 19 09 32.6 -2.7**
32nm,0.4s,SNR=1.0
WLF Walferdange 7.97 29 Pn **Pn 19 08 09.2 +2.9**
WLF Sn **Sn 19 09 34.8 -1.4**
WLF Walferdange 7.97 29 *d*S **Sn 19 09 36.7 +0.4**
PACT Alcochete 7.98 242 *e*Pn **Pn 19 08 08.2 +1.8**
PACT *e*Sn **Sn 19 09 34.9 -1.4**
PACT A A 19 10 46.6
25nm,0.8s
HMNX Herstmonceux 8.04 1 Pn **Pn 19 08 10.7 +3.5**
HMNX Sn **Sn 19 09 36.0 -1.9**
FUORN Ofenpass-Fuorn 8.09 59 Pn Pn 19 08 13.5 +5.3
RCHB Rochefort 8.10 23 *d*P **Pn 19 08 09.4 +1.3**
RCHB *d*S **Sn 19 09 40.7 +1.4**
BMRD Maredsous 8.10 21 *d*P Pn 19 08 13.6 +5.5
BMRD *d*S **Sn 19 09 40.1 +0.7**
DYA Yadsworthy 8.13 341 Pn **Pn 19 08 10.1 +1.7**
DYA Sn **Sn 19 09 34.1 -5.9**
PVAQ Vaqueiros 8.14 231 *e*Pn **Pn 19 08 10.7 +2.0**
PVAQ *e*Sn **Sn 19 09 35.6 -4.9**
PVAQ A A 19 10 54.0
11nm,0.8s
PVAQ Vaqueiros 8.14 231 P **Pn 19 08 08.8 +0.1**
PCVE Castro Verde 8.18 233 *e*Pn **Pn 19 08 10.1 +1.0**
PCVE *e*Sn **Sn 19 09 37.5 -3.8**
PCVE A A 19 10 38.3
13nm,0.5s
CCA1 Carnmenellis 8.26 335 Pn **Pn 19 08 13.5 +3.3**
CCA1 Sn **Sn 19 09 40.6 -2.7**
TAF Taforalt 8.26 195 P **Pn 19 08 10.0 -0.4**
BGES Gesves 8.27 22 *d*P **Pn 19 08 14.9 +4.6**
BGES *d*S **Sn 19 09 43.8 +0.4**
ELSH Elham, Standar 8.35 4 Pn **Pn 19 08 15.1 +3.7**
ELSH Sn **Sn 19 09 41.9 -3.4**
SMIR Smir Dam 8.35 213 P **Pn 19 08 10.0 -1.5**
BCLA Clavier 8.36 23 *d*P **Pn 19 08 12.7 +1.2**
BCLA *d*S **Sn 19 09 45.8 +0.2**
PBDV Barranco-do-Ve 8.38 231 *e*Pn **Pn 19 08 15.0 +3.1**
PBDV *e*Sn **Sn 19 09 42.1 -4.2**
PBDV A A 19 11 02.7
13nm,0.6s
BHOU Houvegnez 8.51 26 *d*P **Pn 19 08 15.9 +2.2**
BHOU *d*S **Sn 19 09 50.2 +0.7**
BSTI Sart Tilman 8.58 23 *d*P **Pn 19 08 16.0 +1.4**
PTEO Sao Teotonio 8.64 235 *e*Pn **Pn 19 08 17.8 +2.3**
PTEO *e*Sn **Sn 19 09 49.3 -3.4**
PTEO A A 19 11 02.9
15nm,0.6s
MEM Membach 8.73 25 *d*P Pn 19 08 22.1 +5.3
MEM *dp*P Pg 19 08 43.4 -15
MEM *d*S **Sn 19 09 56.0 +1.1**
BTNL Ternell 8.75 26 *d*S **Sn 19 09 58.0 +2.6**
JBK JBK 8.76 195 P **Pn 19 09 19.3 +2.0**
MORF Marmelete 8.76 234 *e*Pn **Pn 19 08 17.8 +0.6**
MORF *e*Sn **Sn 19 09 51.0 -4.6**
MORF Marmelete 8.76 234 *e*P **Pn 19 08 17.7 +0.6**
HTL Hartland 8.78 340 Pn **Pn 19 08 21.0 +3.7**
HTL Sn **Sn 19 09 51.3 -4.6**
PFVI Vila Bisbo 8.97 234 *e*Pn **Pn 19 08 22.4 +2.3**
PFVI *e*Sn **Sn 19 09 56.7 -4.2**
PFVI A A 19 11 12.7
10nm,0.7s
PFVI Vila Bisbo 8.97 234 P **Pn 19 08 19.9 -0.2**
MCH1 Michaelchurch 9.43 348 Pn **Pn 19 08 28.2 +2.0**
MCH1 Sn **Sn 19 10 08.9 -3.0**
WACR West Acre 9.91 1 Pn **Pn 19 08 35.7 +2.9**
WACR Sn **Sn 19 10 20.8 -2.8**
CWF Charnwood Fore 9.97 355 Pn **Pn 19 08 34.8 +1.2**
CWF Sn **Sn 19 10 20.5 -4.6**
MD31 MD31 10.69 203 P **Pn 19 08 41.9 -1.8**
MDT Midelt 10.70 202 P **Pn 19 08 41.5 -2.3**
KHC Kasperske Hory 11.22 51 *e*PN **Pn 19 08 54.9 +4.1**
KHC *e*SN **Sn 19 10 58.5 +2.5**
CKRC Cesky Krumlov 11.50 54 *e*PN **Pn 19 08 58.8 +4.1**
CKRC *e*SN **Sn 19 11 03.9 +1.0**

IDC ***28*** *19:10:54.5±0.6, 86°.89N×53°.25E, h0km, mb3.9/14, mbtmp3.9/17, ML3.6/3, Error ellipse: s-maj=19.8km s-min=13.5km az=84.0*
NEIC ***28*** *19:10:55.2±1.7, 86°.89N±0°.08×5°.3E±°, h10km±1km, mb4.4/33, Error ellipse: s-maj=14.1km s-min=12.1km az=50.0*
IEPN ***28*** *19:10:57.0, 87°.02N×54°.00E, h10km*
ISC 28 19:10:55.2±0.4, 86°.88N±0°.06×54°.35E±0°.07, h10km, n93, σ1°.12/90, mb4.3/30, 1C, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**6.14 190**		*e*P	**Pn**	**19 12 24.5**	**-1.3**
OMEGA	**Omega**	**6.17 190**		*e*P	**Pn**	**19 12 24.9**	**-1.2**
SVZ	**Severnaya Zeml**	**8.96 118**		*e*P	**Pn**	**19 13 03.0**	**-1.4**
KBS	**Kingsbay**	**9.08 236**		Pn	**Pn**	**19 13 04.3**	**-1.6**
KBS	**Kingsbay**	**9.08 236**		*e*P	**Pn**	**19 13 05.0**	**-0.9**
SPB5	**Spitsbergen Ar**	**9.61 229**		Pn	**Pn**	**19 13 10.5**	**-2.8**
SPA0	**Spitsbergen Ar**	**9.62 229**		*e*P	**Pn**	**19 13 12.4**	**-1.0**
SPITS	**Spitsbergen Ar**	**9.62 229**		Pn	**Pn**	**19 13 11.6**	**-1.8**
	baz=37,slow=14						
	17nm,0.9s						
HSPB	**Hornsund (broa**	**10.81 229**		*e*P	**Pn**	**19 13 29.6**	**-0.1**
AMDE	**Amderma**	**17.26 171**		*e*P	**Pn**	**19 14 55.5**	**-0.2**
ARCES	**ARCESS Array B**	**17.90 213**		P	**Pn**	**19 15 04.6**	**+0.2**
ARCES	**ARCESS Array B**	**17.90 213**		*e*P	**Pn**	**19 15 03.0**	**-0.8**
ARCES	**ARCESS Array B**	**17.90 213**		P	**Pn**	**19 15 03.0**	**-0.8**
	0.1nm,0.3s,baz=9.2,slow=12,SNR=2.6						
	4.9nm,0.9s						
RES	**Resolute Bay**	**18.18 334**		Pn	**Pn**	**19 15 04.5**	**-2.6**
RES	**Resolute Bay**	**18.18 334**		*e*P	**Pn**	**19 15 06.6**	**-0.5**
RES	**Resolute Bay**	**18.18 334**		P	**Pn**	**19 15 06.6**	**-0.5**
	0.1nm,0.3s,baz=343,slow=9.1,SNR=3.0						
	2.3nm,0.9s						
D19K	**Kuna River**	**24.34 29**		P	**P**	**19 16 13.0**	**+0.4**
E29M	**Blow River**	**24.82 11**		P	**P**	**19 16 15.4**	**-1.5**
INK	**Inuvik**	**24.94 7**		P	**P**	**19 16 16.7**	**-1.2**
INK				IAmb	IAmb	19 16 19.4	
	comp=Z,9.5nm,1.4s						
BMAR	**Burnt Mountain**	**25.70 17**		P	**P**	**19 16 25.6**	**+0.8**
F20K	**Avaraart Lake**	**25.85 27**		P	**P**	**19 16 26.8**	**+0.6**
F20K				IAmb	IAmb	19 16 27.8	
	comp=Z,10.0nm,0.9s						
FINES	**FINESS Array B**	**25.99 211**		*e*P	**P**	**19 16 28.3**	**+0.8**
FINES	**FINESS Array B**	**25.99 211**		P	**P**	**19 16 28.3**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=6.8,slow=13,SNR=1.9						
	comp=Z,3.4nm,1.0s						
F17K	**Baldwin Pennin**	**26.31 32**		P	**P**	**19 16 32.8**	**+2.5**
NOA	**NORSAR Array B**	**26.91 227**		*e*P	**P**	**19 16 36.8**	**+0.9**
NOA	**NORSAR Array B**	**26.91 227**		P	**P**	**19 16 36.8**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=5.3,slow=8.7,SNR=4.3						
	comp=Z,1.9nm,0.9s						
IMAR	**Indian Mountai**	**26.97 25**		P	**P**	**19 16 37.5**	**+1.2**
H19K	**Roundabout Mou**	**27.36 28**		P	**P**	**19 16 40.8**	**+1.0**
YAK	**Yakutsk**	**27.49 99**		P	**P**	**19 16 39.5**	**-1.5**
YAK				IAmb	IAmb	19 16 40.8	
	comp=Z,8.0nm,0.6s						
I30M	**Mount Dempster**	**28.01 10**		P	**P**	**19 16 44.9**	**-0.9**
I30M				IAmb	IAmb	19 16 48.3	
	comp=Z,4.8nm,1.0s						
ILAR	**Eielson Array**	**28.32 19**		*e*P	**P**	**19 16 49.4**	**+0.9**
ILAR	**Eielson Array**	**28.32 19**		P	**P**	**19 16 49.4**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=1.6,slow=7.9,SNR=7.5						
	comp=Z,0.8nm,0.9s						
CAST	**Castle Rocks**	**29.58 24**		P	**P**	**19 16 59.6**	**0.0**
BCAR	**Beaver Creek A**	**30.12 15**		P	**P**	**19 17 05.3**	**+0.9**
SCM	**Sheep Creek Mo**	**31.26 20**		P	**P**	**19 17 14.7**	**+0.2**
SCM				IAmb	IAmb	19 17 16.8	
	comp=Z,8.4nm,0.9s						
KNK	**Knik Glacier**	**31.66 21**		P	**P**	**19 17 19.1**	**+1.1**
BRVK	**Borovoye**	**34.12 163**		P	**P**	**19 17 40.9**	**+1.4**
BVAR	**Borovoye Array**	**34.15 163**		P	**P**	**19 17 40.9**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=350,slow=7.5,SNR=4.7						
	comp=Z,0.9nm,0.6s						
DLBC	**Dease Lake**	**34.87 4**		P	**P**	**19 17 47.1**	**+1.1**
DLBC				IAmb	IAmb	19 17 49.8	
	comp=Z,15nm,1.5s						
AKTO	**Aktyubinsk**	**36.62 176**		P	**P**	**19 18 02.2**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=353,slow=8.1,SNR=4.2						
	comp=Z,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**36.72 154**		P	**P**	**19 18 02.6**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=358,slow=7.5,SNR=5.6						
	comp=Z,0.8nm,0.9s						
ABKAR	**Akbulak array**	**37.81 174**		P	**P**	**19 18 11.9**	**+0.8**
BURAR	**Bucovina Array**	**39.86 211**		P	**P**	**19 18 28.5**	**+0.1**
SONM	**Songino Array**	**40.49 125**		P	**P**	**19 18 35.2**	**+1.6**
SONM	**Songino Array**	**40.49 125**		P	**P**	**19 18 35.2**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=341,slow=7.5,SNR=5.0						
	comp=Z,0.7nm,0.8s						
MK31	**Makanchi Array**	**40.65 150**		P	**P**	**19 18 33.6**	**-1.3**
MKAR	**Makanchi Array**	**40.65 150**		P	**P**	**19 18 34.6**	**-0.3**
MKAR	**Makanchi Array**	**40.65 150**		P	**P**	**19 18 36.8**	**+1.9**
	comp=Z,8.0nm,1.1s,baz=0.7,slow=12,SNR=4.0						
	comp=Z,8.0nm,1.1s						
PRED	**Cave del Predi**	**41.41 223**		P	**P**	**19 18 39.8**	**-1.4**
TEY	**Ternei**	**44.82 95**	⇑	*e*P	**P**	**19 19 05.1**	**-3.5**
TEY	**Ternei**	**44.82 95**		pmax	pmax		
	comp=N,20nm,0.9s						
TEY	**Ternei**	**44.82 95**		pmax	pmax		
	comp=E,10.0nm,0.9s						
D05A	**Emumclaw**	**46.14 357**		P	**P**	**19 19 19.2**	**+0.1**
OVMT	**Ovando**	**46.19 348**		P	**P**	**19 19 19.1**	**-0.6**
BPMT	**Black Pine Rid**	**46.83 348**		P	**P**	**19 19 24.4**	**-0.4**
BTK	**Batken**	**47.13 163**		P	**P**	**19 19 27.8**	**+0.7**
BTK				IAmb	IAmb	19 19 30.7	
	comp=Z,2.5nm,0.8s						
LRM	**Limekiln Ridge**	**47.43 347**		P	**P**	**19 19 28.9**	**-0.6**
BR131	**Keskin Array S**	**47.54 202**		P	**P**	**19 19 30.2**	**-0.1**
BR131				IAmb	IAmb	19 19 33.0	
	comp=Z,4.6nm,1.1s						
BRTR	**Keskin Array B**	**47.54 202**		P	**P**	**19 19 30.1**	**-0.1**
G08A	**Pilot Rock**	**48.02 354**		P	**P**	**19 19 34.9**	**+1.0**
G08A				IAmb	IAmb	19 19 36.0	
	comp=Z,3.3nm,1.1s						
YHL	**Hebgen Lake**	**48.39 346**		P	**P**	**19 19 37.0**	**0.0**
YHL				IAmb	IAmb	19 19 39.6	
	comp=Z,3.4nm,1.2s						
MCMT	**McKenzie Canyo**	**48.43 348**		P	**P**	**19 19 37.1**	**-0.1**
BMO	**Blue Mountains**	**48.45 352**		P	**P**	**19 19 37.1**	**-0.1**
BMO	**Blue Mountains**	**48.45 352**		P	**P**	**19 19 37.1**	**-0.1**
ESBB	**Sonseca Array**	**48.92 241**		P	**P**	**19 19 40.7**	**-0.1**
ESBB				IAmb	IAmb	19 19 44.6	
	comp=Z,8.3nm,1.5s						
ESDC	**Sonseca Array**	**48.92 241**		P	**P**	**19 19 41.9**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=353,slow=8.1,SNR=12						
	comp=Z,1.3nm,0.8s						
PD31	**Pinedale Array**	**50.45 345**		P	**P**	**19 19 52.4**	**-0.3**
PD31				IAmb	IAmb	19 19 53.8	
	comp=Z,3.9nm,1.1s						
PDAR	**Pinedale Array**	**50.45 345**		P	**P**	**19 19 51.7**	**-1.0**
PDAR	**Pinedale Array**	**50.45 345**		P	**P**	**19 19 53.3**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=48,slow=7.3,SNR=9.3						
	comp=Z,1.6nm,0.9s						
N35A	**Tabor**	**52.06 331**		P	**P**	**19 20 04.0**	**-0.5**
ISCO	**Idaho Springs**	**53.35 341**		P	**P**	**19 20 14.6**	**+0.2**
KVN	**Kaiserville**	**54.25 353**		P	**P**	**19 20 21.6**	**+0.7**
KVN				IAmb	IAmb	19 20 23.1	
	comp=Z,3.0nm,1.0s						
KVN	**Kaiserville**	**54.25 353**		P	**P**	**19 20 21.6**	**+0.7**
NVAR	**Mina Array Bea**	**54.87 353**		P	**P**	**19 20 26.3**	**+0.8**
NVAR	**Mina Array Bea**	**54.87 353**		P	**P**	**19 20 26.7**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=347,slow=3.7,SNR=7.8						
	comp=Z,0.7nm,0.7s						
S22A	**4UR Ranch, Cre**	**55.42 342**		P	**P**	**19 20 30.2**	**+0.7**
S22A				IAmb	IAmb	19 20 31.4	
	comp=Z,3.8nm,1.0s						
425A	**Indio Mountain**	**62.33 340**		P	**P**	**19 21 17.2**	**-0.1**
JCT	**Junction City**	**62.52 335**		P	**P**	**19 21 18.4**	**-0.1**
JCT	**Junction City**	**62.52 335**		P	**P**	**19 21 18.4**	**-0.1**
JCT	**Junction City**	**62.52 335**		pmax	pmax		
	comp=Z,5.0nm,0.8s						
TX32	**Lajitas Array**	**63.75 339**		P	**P**	**19 21 26.9**	**+0.1**
TX32				IAmb	IAmb	19 21 28.9	
	comp=Z,2.8nm,0.9s						
TXAR	**Lajitas Array**	**63.75 339**		P	**P**	**19 21 26.4**	**-0.3**
TXAR	**Lajitas Array**	**63.75 339**		P	**P**	**19 21 26.7**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=356,slow=3.2,SNR=12						
	comp=Z,1.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**69.44 135**		P	**P**	**19 22 02.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**69.44 135**		P	**P**	**19 22 02.9**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=346,slow=7.0,SNR=8.7						
	comp=Z,0.9nm,0.7s						
TOA0	**Torodi Ar. Sit**	**75.05 233**		P	**P**	**19 22 36.6**	**0.0**
TOA0				IAmb	IAmb	19 22 39.9	
	comp=Z,2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.05 233**		P	**P**	**19 22 37.0**	**+0.4**
TORD				IAmb	IAmb	19 22 39.9	
	comp=Z,3.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**75.05 233**		P	**P**	**19 22 37.0**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=3.6,slow=7.4,SNR=12						
	comp=Z,2.1nm,0.8s						
BAUV	**El Baul**	**82.81 303**		P	**P**	**19 23 18.9**	**-0.2**
RUSC	**La Rusia**	**86.06 308**		P	**P**	**19 23 36.2**	**0.0**
VNDA	**Vanda**	**168.01 87**		PKIKP	**PKPdf**	**19 31 01.7**	**+2.4**
VNDA	**Vanda**	**168.01 87**		PKP	**PKPdf**	**19 31 01.7**	**+2.4**
	comp=Z,0.6nm,0.9s,baz=284,slow=2.0,SNR=7.5						
QSPA	**South Pole Qui**	**176.86 179**		PKP	**PKPdf**	**19 31 05.2**	**+1.7**
	comp=Z,8.1nm,1.1s,baz=251,slow=1.6,SNR=9.1						

BJI ***28*** *19:10:59.0±0.0, 87°.00N×57°.60E, h10km, mb5.3/85, mB5.9/75, Ms6.0/94, Ms7 5.9/88*
IDC ***28*** *19:11:01.0±0.3, 86°.90N×55°.54E, h0km, mb5.1/35, mbtmp5.1/38, ML4.7/3, MS5.6/82, Error ellipse: s-maj=10.6km s-min=8.5km az=90.0*
MOS ***28*** *19:11:00.8±0.8, 86°.90N×56°.31E, h10km, mb5.7/109, MS5.6/86, Error ellipse: s-maj=85.3km s-min=3.2km az=89.5*
NEIC ***28*** *19:11:01.8, 86°.78N×58°.57E, h12km, Moment Tensor Solution. Duration: 4s7 Moment tensor: Scale 10^17 Nm; Mrr=8.00; Mθθ=6.96; Mφφ 1.05; Mrθ=4.13; Mθφ=0.23; Mφr=1.26; Fault plane solution: M0=8.63000×10^17 NP1: φs=261.06000°, δ59.90000°, λ-95.94000°. NP2: φs=92.78000°, δ30.63000°, λ-79.88000°. Principal axes: T 8.0631, Plg15.0000°, Azm355.0000°; N 1.1370, Plg5.0000°, Azm264.0000°; P -9.2000, Plg74.0000°, Azm155.0000°;*
NEIC ***28*** *19:11:01.8, 86°.88N×54°.90E, h12km*
GCMT ***28*** *19:11:01.8±0.1, 86°.87N×54°.12E, h12km, MW5.9/162, Moment Tensor Solution. s125,c210; s162,c563; Duration: 2s2 Moment tensor: Scale 10^18 Nm; Mrr=0.85±.01; Mθθ=0.87±.01; Mφφ=-0.02±.01; Mrθ=-0.10±.02; Mθφ=0.02±.01; Mφr=0.06±.02; Best double couple: M=0.86800×10^18 NP1:φs=93.00000°, δ48.00000°, λ-85.00000°. NP2:φs=265.00000°, δ42.00000°, λ-96.00000°. Principal axes: T 0.8760, Plg3.0000°, Azm179.0000°; N -0.0160, Plg4.0000°, Azm269.0000°; P -0.8600, Plg85.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***28*** *19:11:02.8±1.5, 86°.92N±0°.07×5°.5E±°, h10km±1km, mb5.6/288, Ms_20 5.7/1063, Mww5.9/43 Error ellipse: s-maj=13.1km s-min=12.0km az=106.0*
IEPN ***28*** *19:11:06.0, 86°.60N×55°.99E, h10km*
INMG ***28*** *19:11:07.0, 86°.53N×48°.87E, h10km, MW5.9*
BGR ***28*** *19:11:22.2, 85°.28N×39°.52E, h30km±2km, mb5.7, mB_BB6.2, Ms5.3*
ISC 28 19:11:02.5±0.4, 86°.91N±0°.02×56°.21E±0°.02, h7km±1km, h7km:pP-P, n2345, σ2°.07/2695, mb5.5/374, MS5.7/679, 61C-55D, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**6.20 193**	⇑	*i*P	**Pn**	**19 12 30.5**	**-3.6**
ZFI2				*e*S	Sn	19 13 29.2	-16
	276nm,0.4s						
OMEGA	**Omega**	**6.22 193**	⇑	*i*P	**Pn**	**19 12 31.9**	**-2.5**
OMEGA				*e*S	Sn	19 13 32.2	-13
	327nm,1.0s						
NOR	**Nord**	**8.10 274**		*e*P	**Pn**	**19 12 59.4**	**-0.8**
NOR	**Nord**	**8.10 274**		*e*P	**Pn**	**19 12 59.5**	**-0.7**
NOR	**Nord**	**8.10 274**		*i*P	**Pn**	**19 12 58.0**	**-2.2**
NOR				IAmb	IAmb	19 13 09.3	
	comp=Z,54nm,0.6s						
SVZ	**Severnaya Zeml**	**8.89 120**	⇑	*i*P	**Pn**	**19 13 10.7**	**-0.3**
SVZ				*e*S	**Sn**	**19 14 42.9**	**-8.3**
KBS	**Kingsbay**	**9.18 238**			**Pn**	**19 13 12.0**	**-3.0**
KBS	**Kingsbay**	**9.18 238**		*e*P	**Pn**	**19 13 11.9**	**-3.0**
KBS				*e*S	Sn	19 14 48.8	-9.5
KBS	**Kingsbay**	**9.18 238**		*e*P	**Pn**	**19 13 11.6**	**-3.4**
KBS	**Kingsbay**	**9.18 238**		P	**Pn**	**19 13 12.0**	**-3.0**
KBS	**Kingsbay**	**9.18 238**		*i*P	**Pn**	**19 13 10.6**	**-4.4**
SPB5	**Spitsbergen Ar**	**9.71 232**		Pn	**Pn**	**19 13 19.3**	**-3.0**
SPA0	**Spitsbergen Ar**	**9.72 232**	⇑	*i*P	**Pn**	**19 13 17.6**	**-4.7**
SPA0				*e*S	Sn	19 14 59.2	-12
SPA0	**Spitsbergen Ar**	**9.72 232**		*e*P	**Pn**	**19 13 19.0**	**-3.3**
SPITS	**Spitsbergen Ar**	**9.72 232**		Pn	**Pn**	**19 13 19.2**	**-3.1**
	baz=30,slow=12						
SPITS				Sn	Sn	19 15 02.1	-9.4
	baz=52,slow=24						
SPITS				LR	LR	19 16 25.7	
	comp=Z,47μm,19.6s,baz=338,slow=34						
	comp=Z,13nm,0.3s						
SPB2	**Spitsbergen Ar**	**9.72 231**			**Pn**	**19 13 19.1**	**-3.3**
BRBB	**Barentsburg B**	**9.89 234**		*e*P	**Pn**	**19 13 22.8**	**-1.9**
BRBA	**Barentsburg A**	**9.93 234**		*e*P	**Pn**	**19 13 23.4**	**-1.8**
HSPB	**Hornsund (broa**	**10.91 231**		*e*P	**Pn**	**19 13 36.2**	**-2.4**
HSPB	**Hornsund (broa**	**10.91 231**		*e*P	**Pn**	**19 13 37.7**	**-1.0**
HSPB				*e*S	Sn	19 15 26.6	-14
HSPB	**Hornsund (broa**	**10.91 231**		*e*P	**Pn**	**19 13 37.2**	**-1.5**
HOPEN	**Hopen**	**11.03 219**		*e*P	**Pn**	**19 13 36.4**	**-3.9**
HOPEN				*e*S	Sn	19 15 29.2	-14
HOPEN	**Hopen**	**11.03 219**		*e*P	**Pn**	**19 13 38.5**	**-1.8**
DAG	**Danmarks Havn**	**12.85 268**		*e*P	**Pn**	**19 14 03.1**	**-2.0**
DAG	**Danmarks Havn**	**12.85 268**		*e*P	**Pn**	**19 14 03.8**	**-1.4**
DAG	**Danmarks Havn**	**12.85 268**		S	**Sn**	**19 16 24.9**	**-3.2**
DAG				P	**Pn**	**19 14 01.2**	**-3.9**
DAG	**Danmarks Havn**	**12.85 268**		*i*P	**Pn**	**19 14 03.4**	**-1.8**
DAG				IAmb	IAmb	19 14 11.9	
	comp=Z,35nm,0.7s						
NEEM	**North Greenlan**	**13.88 299**		*i*P	**Pn**	**19 14 16.3**	**-3.0**
NEEM				IAmb	IAmb	19 14 22.4	
	comp=Z,104nm,0.6s						
DBG	**Daneborg**	**15.36 267**		*e*P	**Pn**	**19 14 37.2**	**-1.9**
DBG	**Daneborg**	**15.36 267**		*i*P	**Pn**	**19 14 36.2**	**-3.0**
DBG				IAmb	IAmb	19 14 45.5	
	comp=Z,35nm,0.6s						
TULEG	**Thule**	**15.54 314**			**Pn**	**19 14 39.0**	**-2.5**
HAMF	**Hammerfest**	**16.94 218**		*e*P	**Pn**	**19 14 56.6**	**-2.8**
KULLO	**Kullorsuaq**	**16.99 303**		*i*P	**Pn**	**19 14 59.8**	**-0.3**
KULLO				IAmb	IAmb	19 15 10.2	
	comp=Z,65nm,0.7s						
AMDE	**Amderma**	**17.27 174**		*e*P	**Pn**	**19 15 00.7**	**-2.9**
VADS	**Vadso**	**17.28 211**		*e*P	**Pn**	**19 15 00.4**	**-3.4**
KEV	**Kevo**	**17.72 214**			**Pn**	**19 15 07.0**	**-2.1**
KEV	**Kevo**	**17.72 214**		*e*P	**P**	**19 15 09.6**	**-0.4**
KEV	**Kevo**	**17.72 214**		*e*P	**Pn**	**19 15 05.7**	**-3.5**
KEV	**Kevo**	**17.72 214**		P	**Pn**	**19 15 07.0**	**-2.1**
KEV				pmax	pmax		
	comp=Z,182nm,1.5s						
TIXI	**Tiksi**	**17.78 98**			**P**	**19 15 10.4**

LVZ	Lovozero	19.38	205	eP		P		19 15 26.6	-1.7
LVZ	Lovozero	19.38	205	P		P		19 15 26.7	-1.7
LVZ				pmax		pmax			
	comp=Z,389nm,1.2s								
APA	Apatity	19.74	206⇓	iP		P		19 15 29.8	-2.4
APA				i				19 19 02.4	
APA				pmax		pmax			
	comp=Z,43nm,1.0s								
APA				MLR		MLR			
	comp=Z,34µm,16.0s								
NUUG	Nuugaatsiaq	19.82	298	i	P	Pn		19 15 35.4	+0.8
NUUG					IAmb	IAmb		19 15 37.8	
	comp=Z,136nm,0.8s								
LOF	Lofoten	19.82	228	eP		P		19 15 30.5	-2.6
STEI	Steigen	19.96	227	eP		P		19 15 35.2	+0.7
SGF	Sodankyl	20.05	214	eP		P		19 15 35.8	+0.2
SALU	Saltoluokta	20.38	223	eP		P		19 15 38.4	-0.8
FAUS	Fauske	20.50	226	eP		P		19 15 36.1	-4.4
UMMG	Uummannaq	20.62	296	i	P	Pn		19 15 43.8	-0.2
UMMG					IAmb	IAmb		19 15 57.9	
	comp=Z,21nm,0.8s								
A36M	Sachs Harbour	21.23	1	P		P		19 15 48.0	-0.3
A36M					IAmb	IAmb		19 16 01.7	
	comp=Z,286nm,0.8s								
A36M				IAMs_20		IAMs_20		19 24 45.2	
	comp=Z,19µm,18.0s								
A36M	Sachs Harbour	21.23	1	P		P		19 15 48.2	-0.1
	baz=360								
A36M				S		S		19 19 41.4	-2.7
	baz=360								
A21K	Barrow	21.47	29	P		P		19 15 51.6	+0.7
	baz=356								
A21K				S		S		19 19 48.8	0.0
	baz=356								
KONS	Konsvik	21.47	228	eP		P		19 15 51.4	+0.5
ICESG	Greenland Ices	21.57	284	i	P	P		19 15 51.9	-0.5
ICESG					IAmb	IAmb		19 16 03.3	
	comp=Z,50nm,0.9s								
MOR8	Moi Rana	21.75	227	eP		P		19 15 51.8	-2.1
A22K	Sinclair Lake	21.83	27	P		P		19 15 55.9	+1.1
	baz=356								
A22K				S		S		19 19 57.2	+1.4
	baz=356								
ILULI	Ilulissat	22.03	295	P		P		19 15 55.7	-1.2
ILULI					IAmb	IAmb		19 16 07.4	
	comp=Z,512nm,1.5s								
ILULI				IAMs_20		IAMs_20		19 24 08.8	
	comp=Z,24µm,18.0s								
ILULI	Ilulissat	22.03	295	P		P		19 15 55.7	-1.2
ILULI				pmax		pmax			
	comp=Z,512nm,1.5s								
ILULI				MLR		MLR			
	comp=Z,24µm,18.0s								
ILULI	Ilulissat	22.03	295	i	P	P		19 15 56.6	-0.3
ILULI					IAmb	IAmb		19 16 00.4	
	comp=Z,29nm,0.9s								
A19K	Wainwright	22.47	33	P		P		19 16 03.2	+1.6
	baz=355								
A19K				S		S		19 20 05.5	-2.4
	baz=355								
B22K	Teshekpuk Lake	22.54	26	IAMs_20		IAMs_20		19 24 44.5	
	comp=Z,20µm,18.0s								
B22K	Teshekpuk Lake	22.54	26	P		P		19 16 03.1	+0.8
	baz=356,SNR=11								
B22K				S		S		19 20 11.3	+2.1
	baz=356								
B20K	Meade River	22.77	29	IAMs_20		IAMs_20		19 23 33.2	
	comp=Z,26µm,20.0s								
B20K	Meade River	22.77	29	P		P		19 16 05.7	+0.9
	baz=356								
B20K				S		S		19 20 15.9	+2.4
	baz=356								
C23K	Itkillik River	23.10	23	P		P		19 16 09.0	+0.7
	baz=357								
C23K				S		S		19 20 19.8	+0.6
	baz=357								
C26K	Camden Bay	23.13	18	P		P		19 16 09.6	+1.0
	baz=357,SNR=20								
C26K				S		S		19 20 22.6	+2.9
	baz=357								
B21K	Ikpikpuk River	23.23	27	IAMs_20		IAMs_20		19 23 57.1	
	comp=Z,20µm,20.0s								
B21K	Ikpikpuk River	23.23	27	P		P		19 16 10.1	+0.6
	baz=356,SNR=12								
B21K				S		S		19 20 24.7	+3.4
	baz=356								
C24K	Franklin Bluff	23.26	22	P		P		19 16 10.5	+0.6
	baz=357								
C24K				S		S		19 20 25.5	+3.7
	baz=357								
ADZR	Andozero	23.28	200⇑	iP		P		19 16 12.6	+2.4
	comp=Z,183nm,1.4s								
ADZR	Andozero	23.28	200⇑	iP		P		19 16 12.5	+2.4
ADZR				pmax		pmax			
	comp=Z,183nm,1.4s								
B18K	Kokolik River	23.29	34	P		P		19 16 10.8	+0.6
	baz=355								
B18K				S		S		19 20 26.9	+4.6
	baz=355								
NSS	Namsos	23.49	229	eP		P		19 16 13.7	+1.6
C19K	Lookout Ridge	23.61	32	IAMs_20		IAMs_20		19 24 45.6	
	comp=Z,31µm,19.0s								
C19K	Lookout Ridge	23.61	32	P		P		19 16 14.5	+1.0
	baz=356,SNR=11								
C19K				S		S		19 20 28.3	+0.6
	baz=356								
C21K	Knifeblade Rid	23.69	27	P		P		19 16 15.1	+0.9
	baz=356,SNR=23								
C21K				S		S		19 20 32.5	+3.7
	baz=356								
D25K	Kavik River	23.70	20	P		P		19 16 14.7	+0.4
	baz=357								
D25K				S		S		19 20 31.6	+2.4
	baz=357								
D28M	Stokes Point	23.82	13	P		P		19 16 15.6	+0.2
	baz=358,SNR=20								
D28M				S		S		19 20 35.6	+4.9
	baz=358								
D24K	Happy Valley	23.83	22	P		P		19 16 16.5	+1.1
	baz=357								
D24K				S		S		19 20 32.7	+1.8
	baz=357								
D27M	Malcolm River	23.87	15	IAMs_20		IAMs_20		19 24 16.8	
	comp=Z,20µm,22.0s								
D27M	Malcolm River	23.87	15	P		P		19 16 16.8	+0.8
	baz=358								
D27M				S		S		19 20 34.6	+2.8
	baz=358								
C36M	Paulatuk	23.89	0	P		P		19 16 15.8	-0.2
C36M	Paulatuk	23.89	0	P		P		19 16 15.8	-0.2
	baz=0.1,SNR=8.5								
C36M				S		S		19 20 33.1	+1.2
	baz=0.1								
D23K	Nanushuk River	23.98	24	P		P		19 16 17.6	+0.7
	baz=357								
D23K				S		S		19 20 36.7	+3.3
	baz=357								
D22K	Ayikyak River	24.02	25	IAMs_20		IAMs_20		19 25 43.6	
	comp=Z,19µm,18.0s								
D22K	Ayikyak River	24.02	25	P		P		19 16 18.4	+1.1
	baz=356,SNR=19								
D22K				S		S		19 20 34.5	+0.4
	baz=356								
C18K	Utukok River	24.02	33	IAMs_20		IAMs_20		19 24 52.5	
	comp=Z,19µm,20.0s								
C18K	Utukok River	24.02	33	P		P		19 16 18.6	+1.2
	baz=356								
C18K				S		S		19 20 39.2	+4.9
	baz=356								
D20K	Etivluk River	24.09	29	P		P		19 16 19.4	+1.4
	baz=356								
D20K				S		S		19 20 39.2	+4.0
	baz=356								
C17K	DeLong Mountai	24.14	35	P		P		19 16 20.1	+1.7
	baz=355,SNR=12								
C17K				S		S		19 20 39.2	+3.2
	baz=355								
SFJD	Kangerlussuaq	24.22	293	P		P		19 16 18.4	-0.7
SFJD	Kangerlussuaq	24.22	293	P		P		19 16 18.4	-0.7
SFJD				pmax		pmax			
	comp=Z,356nm,1.5s								
SFJD				MLR		MLR			
	comp=Z,15µm,22.0s								
SFJD	Kangerlussuaq	24.22	293	i	P	P		19 16 18.6	-0.5
SFJD					IAmb	IAmb		19 16 23.7	
	comp=Z,37nm,0.8s								
SFJD	Kangerlussuaq	24.22	293	LR		LR		19 25 28.4	
	comp=Z,19µm,18.5s,baz=3.5,slow=36								
D19K	Kuna River	24.27	30	P		P		19 16 20.5	+0.9
D19K					IAmb	IAmb		19 16 30.4	
	comp=Z,333nm,1.1s								
D19K				IAMs_20		IAMs_20		19 25 05.8	
	comp=Z,22µm,20.0s								
D19K	Kuna River	24.27	30	P		P		19 16 20.8	+1.2
	baz=356,SNR=23								
D19K				S		S		19 20 40.4	+2.3
	baz=356								
C16K	Lisburne Hills	24.27	37	IAMs_20		IAMs_20		19 26 03.2	
	comp=Z,21µm,19.0s								
C16K	Lisburne Hills	24.27	37	P		P		19 16 21.1	+1.6
	baz=355,SNR=12								
C16K				S		S		19 20 39.4	+1.4
	baz=355								
TOLK	Toolik Lake Re	24.32	23	P		P		19 16 20.7	+0.5
TOLK	Toolik Lake Re	24.32	23	P		P		19 16 21.1	+0.9
	baz=357,SNR=20								
TOLK				S		S		19 20 41.4	+2.3
	baz=357								
E21K	Killik River	24.43	27	P		P		19 16 22.0	+0.9
	baz=356								
E21K				S		S		19 20 42.3	+1.6
	baz=356								
NOD	Norderasen	24.46	226	eP		P		19 16 21.5	+0.1
DY2G	Dye2	24.52	289	i	P	P		19 16 20.6	-1.6
DY2G					IAmb	IAmb		19 16 27.9	
	comp=Z,27nm,0.8s								
E28M	Babbage River	24.53	14	IAMs_20		IAMs_20		19 26 15.3	
	comp=Z,18µm,20.0s								
E28M	Babbage River	24.53	14	P		P		19 16 22.6	+0.6
	baz=358,SNR=29								
E28M				S		S		19 20 43.7	+1.3
	baz=358								
E20K	Nigu River	24.55	29	P		P		19 16 23.5	+1.2
	baz=356								
E20K				S		S		19 20 43.5	+0.7
	baz=356								
E29M	Blow River	24.77	12	P		P		19 16 24.6	+0.4
E29M					IAmb	IAmb		19 16 37.5	
	comp=Z,153nm,0.9s								
E29M				IAMs_20		IAMs_20		19 26 41.4	
	comp=Z,16µm,21.0s								
E29M	Blow River	24.77	12	P		P		19 16 25.3	+1.2
	baz=358,SNR=34								
E29M				S		S		19 20 47.3	+1.2
	baz=358								
TBLU	Trondheim	24.84	231	eP		P		19 16 23.2	-1.6
INK	Inuvik	24.90	9	P		P		19 16 25.0	-0.2
INK					IAmb	IAmb		19 16 34.0	
	comp=Z,262nm,1.6s								
INK				IAMs_20		IAMs_20		19 27 18.2	
	comp=Z,14µm,20.0s								
INK	Inuvik	24.90	9	P		P		19 16 25.3	+0.1
	baz=359,SNR=27								
INK				S		S		19 20 50.0	+1.9
	baz=359								
INK	Inuvik	24.90	9	P		P		19 16 25.0	-0.2
INK				pmax		pmax			
	comp=Z,262nm,1.6s								
INK				MLR		MLR			
	comp=Z,14µm,20.0s								
INK	Inuvik	24.90	9	LR		LR		19 27 38.6	
	comp=Z,12µm,20.1s,baz=9.5,slow=40								
BORG	Borgarnes	24.90	264	LR		LR		19 25 08.4	
	comp=Z,3µm,18.6s,baz=354,slow=34								
E23K	Chandalar	24.91	23	P		P		19 16 26.8	+1.2
	baz=357,SNR=30								
E23K				S		S		19 20 51.2	+2.7
	baz=357								
E24K	Your Creek	24.92	22	P		P		19 16 25.1	-0.4
E24K					IAmb	IAmb		19 16 37.0	
	comp=Z,125nm,1.1s								
E24K	Your Creek	24.92	22	P		P		19 16 26.5	+1.0
	baz=357								
E24K				S		S		19 20 50.8	+2.2
	baz=357								
ANGG	Ammassalik, Gr	24.92	281	i	P	P		19 16 24.6	-0.9
ANGG					IAmb	IAmb		19 16 30.7	
	comp=Z,31nm,0.9s								
E27K	Coleen River	24.92	16	P		P		19 16 26.1	+0.5
	baz=358,SNR=42								
E27K				S		S		19 20 50.8	+2.1
	baz=358								
E25K	Arctic Village	24.93	19	P		P		19 16 26.1	+0.5
	baz=357,SNR=43								
E25K				S		S		19 20 49.3	+0.6
	baz=357								
ISOG	Isortoq, Green	25.06	282	i	P	P		19 16 25.2	-1.5
ISOG					IAmb	IAmb		19 16 29.1	
	comp=Z,26nm,0.8s								
E18K	Tukpahlearik C	25.27	33	IAMs_20		IAMs_20		19 25 54.5	
	comp=Z,20µm,20.0s								
E18K	Tukpahlearik C	25.27	33	P		P		19 16 29.6	+0.9
	baz=356,SNR=35								
E18K				S		S		19 20 57.1	+3.0
	baz=356								
E19K	Redstone River	25.33	30	IAMs_20		IAMs_20		19 25 30.5	
	comp=Z,23µm,20.0s								
E19K	Redstone River	25.33	30	P		P		19 16 30.0	+0.8
	baz=356,SNR=30								
E19K				S		S		19 20 58.2	+3.1
	baz=356								
F26K	Sheenjek River	25.38	18	P		P		19 16 30.4	+0.7
	baz=358,SNR=31								
F26K				S		S		19 20 59.0	+3.1
	baz=358								
F22K	John River	25.41	25	P		P		19 16 31.0	+1.1
	baz=357								
F22K				S		S		19 20 59.8	+3.5
	baz=357								
F25K	Christian Rive	25.45	19	P		P		19 16 30.9	+0.5
	baz=357,SNR=30								
F25K				S		S		19 20 58.7	+1.5
	baz=357								
PRGR	Permogore	25.48	192⇑	iP		P		19 16 30.4	-0.1
	comp=Z,320nm,0.8s								
PRGR	Permogore	25.48	192⇑	iP		P		19 16 30.3	-0.2
PRGR				pmax		pmax			
	comp=Z,343nm,0.9s								
F24K	Squaw Lake	25.49	21	P		P		19 16 31.8	+1.1
	baz=357,SNR=36								
F24K				S		S		19 20 59.5	+1.8
	baz=357								
F28M	Old Crow	25.52	14	P		P		19 16 31.1	+0.1
F28M	Old Crow	25.52	14	P		P		19 16 31.7	+0.7
	baz=358,SNR=49								
F28M				S		S		19 21 00.3	+2.1
	baz=358								
E17K	Hotham Inlet	25.57	34	P		P		19 16 32.1	+0.7
	baz=356								
E17K				S		S		19 21 00.9	+2.0
	baz=356								
F30M	Barrier River	25.57	11	P		P		19 16 32.0	+0.6
	baz=359,SNR=30								
F30M				S		S		19 21 01.2	+2.3
	baz=359								
MOL	Molde	25.63	233	eP		P		19 16 31.4	-0.5
BMAR	Burnt Mountain	25.64	18	P		P		19 16 32.5	+0.4
F21K	Alatna River	25.66	26	P		P		19 16 33.2	+0.9
	baz=357,SNR=26								
F21K				S		S		19 21 03.2	+2.8
	baz=357								
COLD	Coldfoot	25.73	24	P		P		19 16 33.9	+1.1
	baz=357,SNR=28								
COLD				S		S		19 21 06.3	+4.9
	baz=357								
F31M	Tsiigehtchic	25.76	9	IAMs_20		IAMs_20		19 27 42.6	
	comp=Z,17µm,20.0s								
F31M	Tsiigehtchic	25.76	9	P		P		19 16 33.1	0.0
	baz=359,SNR=24								
F31M				S		S		19 21 05.5	+3.6
	baz=359								
F20K	Avaraart Lake	25.78	28	IAMs_20		IAMs_20		19 25 19.5	
	comp=Z,22µm,22.0s								
F20K	Avaraart Lake	25.78	28	P		P		19 16 34.0	+0.8
	baz=356								
F20K				S		S		19 21 07.8	+5.7
	baz=356								
F19K	Shaleruckik Mo	25.94	30	IAMs_20		IAMs_20		19 25 59.6	
	comp=Z,19µm,21.0s								
F19K	Shaleruckik Mo	25.94	30	P		P		19 16 35.4	+0.6
	baz=356,SNR=19								
F19K				S		S		19 21 10.3	+5.6
	baz=356								
G22K	Bettles	26.01	25	P		P		19 16 35.7	+0.4
	baz=357								
G22K				S		S		19 21 10.4	+4.6
	baz=357								
FINES	FINESS Array B	26.07	213	P		P		19 16 34.9	-1.1
	comp=Z,70nm,1.1s,baz=7.7,slow=6.3,SNR=27								
FINES				PcP		PcP		19 20 02.4	-0.6
	comp=Z,9.9nm,0.7s,baz=46,slow=4.0,SNR=6.5								
FINES				LR		LR		19 26 46.2	
	comp=Z,22µm,19.7s,baz=5.5,slow=36								
	comp=Z,70nm,1.1s								
G26K	Porcupine Rive	26.13	18	P		P		19 16 37.1	+0.7
	baz=358,SNR=37								
G26K				S		S		19 21 13.0	+5.2
	baz=358								
G30M	tAoh Zraii Nji	26.20	11	P		P		19 16 37.4	+0.2
	baz=359								
G30M				S		S		19 21 12.0	+3.0
	baz=359								
F17K	Baldwin Pennin	26.23	34	P		P		19 16 37.8	+0.5
F17K					IAmb	IAmb		19 16 44.0	
	comp=Z,267nm,0.9s								
F17K				IAMs_20		IAMs_20		19 26 35.9	
	comp=Z,17µm,19.0s								
F17K	Baldwin Pennin	26.23	34	P		P		19 16 38.6	+1.3
	baz=356,SNR=18								
F17K				S		S		19 21 14.5	+5.2
	baz=356								
G23K	Bananza Creek	26.25	23	IAMs_20		IAMs_20		19 26 38.6	
	comp=Z,14µm,19.0s								
G23K	Bananza Creek	26.25	23	P		P		19 16 38.7	+1.1
	baz=357,SNR=38								
G23K				S		S		19 21 14.6	+4.8
	baz=357								
G29M	Pine Creek	26.25	13	P		P		19 16 38.4	+0.8
	baz=358,SNR=26								
G29M				S		S		19 21 14.5	+4.8
	baz=358								
G25K	Bearman Lake	26.28	20	P		P		19 16 38.3	+0.6
	baz=358,SNR=32								
G31M	Satah River	26.28	9	P		P		19 16 38.1	+0.3
G31M	Satah River	26.28	9	P		P		19 16 37.5	-0.3
	baz=359,SNR=19								
G31M				S		S		19 21 14.7	+4.7
	baz=359								
G27K	Doyon Strip	26.31	16	P		P		19 16 38.6	+0.5
	baz=358,SNR=33								
G27K				S		S		19 21 12.0	+1.3
	baz=358								
G24K	Hadweenzic Riv	26.32	21	P		P		19 16 38.7	+0.5
	baz=357								
G24K				S		S		19 21 15.7	+4.9
	baz=357								
KLMR	Klimovskoe	26.35	198⇑	iP		P		19 16 38.3	-0.1
	comp=Z,186nm,1.7s								
KLMR	Klimovskoe	26.35	198⇑	iP		P		19 16 38.0	-0.5
	comp=Z,224nm,1.9s								
KLMR				S		S		19 21 10.4	-0.8
KLMR	Klimovskoe	26.35	198⇑	iP		P		19 16 37.9	-0.5
KLMR				eP		P		19 16 37.9	-0.5
KLMR				eP		P		19 16 37.9	-0.5
KLMR				AMP				19 16 50.9	
	comp=Z,208nm,1.8s								
KLMR				S		S		19 21 09.6	-1.6
KLMR				S		S		19 21 09.6	-1.6
KLMR				LQ		LQ		19 24 36.5	
KLMR				LQ		LQ		19 24 36.5	
KLMR				LR		LR		19 26 53.8	
KLMR				AMP				19 28 09.6	
	comp=Z,18µm,15.4s								
KLMR	Klimovskoe	26.35	198	c iP		P		19 16 37.8	-0.6
KLMR				S		S		19 21 09.6	-1.6
KLMR				pmax		pmax			
	comp=Z,208nm,1.8s								
KLMR				MLR		MLR			
	comp=Z,18µm,15.0s								
G21K	Allakaket	26.37	27	P		P		19 16 38.7	0.0
	baz=357								
G21K				S		S		19 21 15.7	+4.1
	baz=357								
FYU	Fort Yukon	26.49	19	P		P		19 16 40.5	+0.8
G19K	Purcell Mounta	26.65	30	IAMs_20		IAMs_20		19 26 42.4	
	comp=Z,16µm,20.0s								
G19K	Purcell Mounta	26.65	30	P		P		19 16 41.9	+0.7
	baz=356,SNR=12								
G19K				S		S		19 21 18.2	+2.3
	baz=356								
H25L	Birch Creek	26.78	20	P		P		19 16 43.3	+1.0
	baz=358								
H25L				S		S		19 21 21.4	+3.4
	baz=358								
NC204	NORSAR Array S	26.79	230	P		P		19 16 41.9	-0.6
NC204				IAmb		IAmb		19 16 44.4	
	comp=Z,100nm,1.0s								
EPYK	Eagle Plains	26.81	12	P		P		19 16 42.4	-0.2
EPYK	Eagle Plains	26.81	12	P		P		19 16 42.6	0.0
	baz=359,SNR=23								
EPYK				S		S		19 21 20.5	+2.0
	baz=359								
G18K	Tagagawik	26.86	31	IAMs_20		IAMs_20		19 27 10.3	
	comp=Z,22µm,18.0s								
G18K	Tagagawik	26.86	31	P		P		19 16 43.0	-0.1
	baz=356,SNR=33								
G18K				S		S		19 21 23.1	+3.9
	baz=356								
F15K	North Star Dit	26.86	37	IAMs_20		IAMs_20		19 28 02.2	
	comp=Z,17µm,18.0s								
F15K	North Star Dit	26.86	37	P		P		19 16 45.0	+2.0
	baz=356,SNR=10								
F15K				S		S		19 21 20.7	+1.4
	baz=356								
H27K	Steamboat Moun	26.89	16	P		P		19 16 44.0	+0.7
	baz=358,SNR=40								
H27K				S		S		19 21 25.4	+5.5
	baz=358								
IMAR	Indian Mountai	26.90	27	P		P		19 16 43.8	+0.5
TNA	Tin City	26.90	40	S		S		19 21 22.6	+2.8
	baz=355								
H29M	Whitestone	26.94	13	P		P		19 16 44.6	+0.8
	baz=358,SNR=41								
H29M				S		S		19 21 24.3	+3.7
	baz=358								
NB2	NORSAR Subarra	27.01	229	P		P		19 16 43.5	-1.0
	comp=Z,107nm,1.0s,baz=5.7,slow=9.3								
NB2	NORSAR Subarra	27.01	229	P		P		19 16 43.5	-1.0
	baz=5.7,slow=9.3								
NOA	NORSAR Array B	27.01	229	P		P		19 16 43.5	-1.0
	comp=Z,50nm,0.9s,baz=4.2,slow=8.7,SNR=53								
NOA				LR		LR		19 27 36.5	
	comp=Z,4µm,19.0s,baz=10.0,slow=37								
	comp=Z,50nm,0.9s								
F14K	Arctic Creek	27.04	38	P		P		19 16 46.1	+1.5
	baz=356								
F14K				S		S		19 21 25.3	+3.3
	baz=356								
H22K	Ishtalitna Cre	27.04	25	P		P		19 16 45.8	+1.1
	baz=357								
H22K				S		S		19 21 26.3	+4.1
	baz=357								
H23K	Yukon River	27.15	23	P		P		19 16 46.9	+1.2
	baz=357								
H23K				S		S		19 21 29.3	+5.4
	baz=357								
H24K	Noodor Dome	27.17	22	P		P		19 16 47.2	+1.3
	baz=357,SNR=27								
H24K				S		S		19 21 29.0	+4.6
	baz=357								
G17K	Kiwalik Mounta	27.19	33	P		P		19 16 47.5	+1.4
	baz=356,SNR=15								
G17K				S		S		19 21 28.2	+3.7
	baz=356								
H21K	Melozitna Rive	27.25	26	P		P		19 16 47.6	+1.0
	baz=357,SNR=23								
H21K				S		S		19 21 30.7	+5.3
	baz=357								
G16K	Koyuk River	27.25	35	IAMs_20		IAMs_20		19 27 27.8	
	comp=Z,21µm,19.0s								
G16K	Koyuk River	27.25	35	P		P		19 16 48.0	+1.5
	baz=356								
G16K				S		S		19 21 29.7	+4.4
	baz=356								
H19K	Roundabout Mou	27.28	29	IAMs_20		IAMs_20		19 26 50.6	
	comp=Z,16µm,20.0s								
H19K	Roundabout Mou	27.28	29	P		P		19 16 48.5	+1.7
	baz=356,SNR=28								
H19K				S		S		19 21 31.6	+5.7
	baz=356								
MEF	Metsahovi	27.35	215	eP		P		19 16 47.4	-0.1
H20K	Anotleneega Mo	27.36	28	P		P

H20K S **S** **19 21 31.7 +4.5**
baz=357
YAK Yakutsk 27.39 101 P **P** **19 16 47.0 -0.8**
YAK IAmb IAmb 19 16 48.6
comp=Z,80nm,1.0s
YAK IAMs_20 IAMs_20 19 27 41.7
comp=Z,11µm,20.0s
YAK Yakutsk 27.39 101 *e*P **P** **19 16 46.7 -1.1**
YAK *e**PP **pwP** **19 16 54.2 +0.5**
YAK *e* 19 20 05.9
YAK *e*S **S** **19 21 27.1 -0.6**
YAK pmax pmax
comp=Z,69nm,0.9s
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK smax smax
comp=E,823nm,3.8s
YAK smax smax
comp=N,515nm,4.0s
YAK MLR MLR
comp=Z,16µm,24.0s
YAK MLR MLR
comp=N,9µm,21.0s
YAK MLR MLR
comp=E,2µm,16.0s
H31M Peel River 27.40 9 IAMs_20 IAMs_20 19 28 30.9
comp=Z,16µm,20.0s
H31M Peel River 27.40 9 P **P** **19 16 48.0 0.0**
baz=359,SNR=24
H31M S **S** **19 21 29.9 +2.0**
baz=359
I27K Kandik River 27.52 16 P **P** **19 16 50.6 +1.6**
baz=358,SNR=26
I27K S **S** **19 21 31.0 +1.2**
baz=358
PRP Porcupine Dome 27.54 19 P **P** **19 16 50.0 +0.7**
PRP IAmb IAmb 19 17 06.3
comp=Z,205nm,1.6s
PRP Porcupine Dome 27.54 19 P **P** **19 16 50.9 +1.6**
baz=358,SNR=14
PRP S **S** **19 21 33.8 +3.5**
baz=358
G15K Niukluk 27.59 36 S **S** **19 21 34.9 +4.1**
baz=356
H18K Honhosa River 27.61 31 IAMs_20 IAMs_20 19 27 52.2
comp=Z,20µm,19.0s
H18K Honhosa River 27.61 31 P **P** **19 16 50.9 +1.1**
baz=356,SNR=18
H18K S **S** **19 21 33.9 +2.9**
baz=356
I28M Miner Creek 27.70 14 P **P** **19 16 50.9 +0.2**
baz=358,SNR=22
I28M S **S** **19 21 34.1 +1.4**
baz=358
SEY Seymchan 27.72 78 *ce*P **P** **19 16 51.0 +0.3**
SEY pmax pmax
comp=Z,126nm,2.5s
SEY Seymchan 27.72 78 LR LR 19 28 20.2
comp=Z,6µm,18.3s,baz=1.5,slow=37
I21K Tanana 27.74 25 IAMs_20 IAMs_20 19 27 36.8
comp=Z,13µm,19.0s
I21K Tanana 27.74 25 P **P** **19 16 52.6 +1.7**
baz=357,SNR=30
I21K S **S** **19 21 37.7 +4.5**
baz=357
H17K Granite Mounta 27.78 33 IAMs_20 IAMs_20 19 27 22.8
comp=Z,16µm,20.0s
H17K Granite Mounta 27.78 33 P **P** **19 16 52.2 +0.9**
baz=356,SNR=14
H17K S **S** **19 21 35.5 +1.7**
baz=356
I26K Coal Creek Min 27.79 17 P **P** **19 16 52.6 +1.2**
baz=358
I26K S **S** **19 21 38.5 +4.6**
baz=358
I29M Ogilvie Camp, 27.80 13 P **P** **19 16 51.6 +0.1**
baz=358,SNR=28
I29M S **S** **19 21 35.1 +0.8**
baz=358
HFS Hagfors 27.81 226 P **P** **19 16 50.7 -0.9**
comp=Z,34nm,0.9s,baz=23,slow=8.5,SNR=20
HFS PcP **PcP** **19 20 06.7 -0.5**
comp=Z,6.6nm,0.9s,baz=48,slow=4.7,SNR=3.3
HFS LR LR 19 28 01.8
comp=Z,5µm,18.2s,baz=0.5,slow=37
comp=Z,34nm,0.9s
I23K Minto, Yukon-K 27.83 23 P **P** **19 16 52.8 +1.1**
I23K IAmb IAmb 19 17 19.6
comp=Z,106nm,1.3s
I23K Minto, Yukon-K 27.83 23 P **P** **19 16 52.9 +1.1**
baz=357,SNR=18
I23K S **S** **19 21 40.0 +5.4**
baz=357
POKR Poker Plat Res 27.90 21 P **P** **19 16 53.7 +1.3**
POKR IAmb IAmb 19 17 09.2
comp=Z,76nm,1.1s
POKR Poker Plat Res 27.90 21 P **P** **19 16 53.5 +1.1**
baz=358,SNR=18
POKR S **S** **19 21 40.6 +4.8**
baz=358
MLY Manley 27.92 24 IAMs_20 IAMs_20 19 28 17.5
comp=Z,14µm,18.0s
MLY Manley 27.92 24 P **P** **19 16 54.4 +1.7**
baz=357,SNR=30
MLY S **S** **19 21 43.3 +7.2**
baz=357
I30M Mount Dempster 27.97 11 P **P** **19 16 52.6 -0.5**
I30M IAmb IAmb 19 16 55.7
comp=Z,130nm,1.1s
I30M IAMs_20 IAMs_20 19 27 04.9
comp=Z,16µm,22.0s
I30M Mount Dempster 27.97 11 P **P** **19 16 53.1 -0.1**
baz=359,SNR=39
I30M S **S** **19 21 40.0 +3.1**
baz=359
ANM Nome 27.98 38 P **P** **19 16 52.9 -0.2**
ANM IAmb IAmb 19 17 06.5
comp=Z,174nm,1.4s
ANM Nome 27.98 38 P **P** **19 16 53.6 +0.5**
baz=356
ANM S **S** **19 21 42.4 +5.5**
baz=356
ANM Nome 27.98 38 P **P** **19 16 52.9 -0.2**
ANM pmax pmax
comp=Z,174nm,1.4s
ANM MLR MLR
comp=Z,13µm,20.0s
H16K Elim 28.01 35 P **P** **19 16 53.9 +0.5**
baz=356
H16K S **S** **19 21 41.6 +4.3**
baz=356
MDM Murphy Dome 28.05 22 P **P** **19 16 54.2 +0.4**
MDM IAmb IAmb 19 17 13.0
comp=Z,99nm,1.2s
GCSA Galena City Sc 28.05 30 P **P** **19 16 54.6 +0.9**
baz=356,SNR=8.4
GCSA S **S** **19 21 44.6 +6.5**
baz=356
I20K Naaghedeneel 28.07 28 P **P** **19 16 54.4 +0.6**
baz=357,SNR=10
I20K S **S** **19 21 42.1 +3.9**
baz=357
COLA College 28.14 22 P **P** **19 16 55.2 +0.7**
COLA IAmb IAmb 19 17 03.8
comp=Z,142nm,1.6s
COLA College 28.14 22 P **P** **19 16 56.0 +1.5**
COLA College 28.14 22 P **P** **19 16 54.9 +0.4**
baz=357
COLA S **S** **19 21 43.2 +3.8**
baz=357
COLA College 28.14 22 P P 19 17 05.7 +11
IL31 28.26 21 P **P** **19 16 55.7 +0.1**
IL31 IAmb IAmb 19 17 06.7
comp=Z,99nm,1.3s
ILAR Eielson Array 28.26 21 P **P** **19 16 56.4 +0.8**
comp=Z,24nm,1.0s,baz=354,slow=7.8,SNR=96
ILAR PcP **PcP** **19 20 07.8 -0.4**
comp=Z,7.9nm,1.0s,baz=333,slow=2.9,SNR=6.8
comp=Z,24nm,1.0s
FRB Frobisher Bay 28.29 310 LR LR 19 27 26.3
comp=Z,11µm,21.0s,baz=5.5,slow=35
EGAK Eagle 28.35 16 P **P** **19 16 56.7 +0.3**
EGAK IAmb IAmb 19 17 12.3
comp=Z,169nm,1.8s
EGAK Eagle 28.35 16 P **P** **19 16 56.8 +0.3**
baz=358,SNR=21

EGAK S **S** **19 21 47.6 +4.8**
baz=358
NEA2 Nenana 28.40 23 P **P** **19 16 57.7 +0.8**
baz=357,SNR=15
NEA2 S **S** **19 21 50.1 +6.6**
baz=357
J25K Salcha River, 28.45 19 P **P** **19 16 58.5 +1.2**
baz=358,SNR=24
J25K S **S** **19 21 49.5 +5.1**
baz=358
KONO Kongsberg 28.46 231 P **P** **19 16 57.0 -0.4**
KONO IAmb IAmb 19 17 15.3
comp=Z,178nm,1.7s
KONO Kongsberg 28.46 231 ⇑P **P** **19 16 58.5 +1.1**
KIRV Kirov 28.50 187 P **P** **19 16 57.8 +0.1**
comp=Z,49nm,0.8s,baz=353,slow=15,SNR=13
KIRV LR LR 19 30 39.4
comp=Z,8µm,21.9s,baz=353,slow=41
comp=Z,49nm,0.8s
GAMB Gambell 28.55 44 S **S** **19 21 51.6 +5.8**
baz=355
J26L Joseph Creek 28.59 18 P **P** **19 16 59.7 +1.0**
baz=358,SNR=21
J26L S **S** **19 21 53.3 +6.6**
baz=358
J30M Hart River 28.62 11 IAMs_20 IAMs_20 19 27 37.1
comp=Z,14µm,22.0s
J30M Hart River 28.62 11 P **P** **19 16 59.5 +0.6**
baz=359,SNR=28
J30M S **S** **19 21 48.4 +1.2**
baz=359
HDA Harding Lake 28.62 21 P **P** **19 16 59.3 +0.5**
HDA IAmb IAmb 19 17 29.6
comp=Z,126nm,1.5s
HDA Harding Lake 28.62 21 P **P** **19 17 00.2 +1.4**
baz=358,SNR=14
HDA S **S** **19 21 45.5 -1.6**
baz=358
HDA S **S** **19 21 45.5 -1.6**
baz=358
J20K Nowinta River 28.70 27 P **P** **19 17 01.4 +2.0**
baz=357,SNR=20
J20K S **S** **19 21 52.8 +4.6**
baz=357
J29N Klondike Camp 28.72 13 IAMs_20 IAMs_20 19 29 50.8
comp=Z,8µm,20.0s
J29N Klondike Camp 28.72 13 P **P** **19 17 00.1 +0.3**
baz=358,SNR=8.4
J29N S **S** **19 21 53.4 +4.7**
baz=358
I17K Unalakleet 28.81 33 IAMs_20 IAMs_20 19 28 06.1
comp=Z,16µm,20.0s
I17K Unalakleet 28.81 33 P **P** **19 17 01.3 +0.9**
baz=356
I17K S **S** **19 21 54.3 +4.4**
baz=356
BWN Browne 28.81 23 P **P** **19 17 01.6 +1.1**
J19K Poorman 28.84 29 IAMs_20 IAMs_20 19 27 27.8
comp=Z,14µm,21.0s
J19K Poorman 28.84 29 P **P** **19 17 01.9 +1.2**
baz=357,SNR=27
J19K S **S** **19 21 55.1 +4.6**
baz=357
BPAW Bear Paw Mtn. 28.85 25 P **P** **19 17 02.2 +1.3**
baz=357,SNR=26
BPAW S **S** **19 21 55.1 +4.5**
baz=357
CHUM Lake Minchumin 29.04 26 P **P** **19 17 04.2 +1.7**
baz=357,SNR=12
CHUM S **S** **19 21 55.8 +2.3**
baz=357
K27K Chicken 29.09 17 P **P** **19 17 03.9 +0.9**
baz=358
K27K S **S** **19 22 00.8 +6.4**
baz=358
DAWY Dawson 29.09 14 P **P** **19 17 02.9 -0.2**
DAWY Dawson 29.09 14 P **P** **19 17 03.4 +0.4**
baz=358,SNR=21
DAWY S S 19 22 05.9 +11
baz=358
SCRK Sand Creek 29.11 18 P **P** **19 17 04.3 +1.0**
baz=358,SNR=21
SCRK S **S** **19 22 01.5 +6.5**
baz=358
K24K Donnelly Dome 29.25 20 P **P** **19 17 05.0 +0.5**
baz=358
K24K S **S** **19 22 03.8 +6.7**
baz=358
MCK McKinley 29.26 23 P **P** **19 17 06.1 +1.6**
baz=357,SNR=5.2
MCK S **S** **19 22 05.9 +8.8**
baz=357
RIDG Independent Ri 29.33 19 P **P** **19 17 05.2 0.0**
RIDG Independent Ri 29.33 19 P **P** **19 17 05.8 +0.6**
baz=358
RIDG S **S** **19 22 04.0 +5.6**
baz=358
K29M Barlow Dome 29.34 12 P **P** **19 17 05.7 +0.4**
baz=359,SNR=29
K29M S **S** **19 22 04.5 +5.9**
baz=359
J18K Innoko River 29.34 30 IAMs_20 IAMs_20 19 27 34.1
comp=Z,15µm,22.0s
J18K Innoko River 29.34 30 P **P** **19 17 06.5 +1.2**
baz=357,SNR=34
J18K S **S** **19 22 03.1 +4.7**
baz=357
J16K Anvik River 29.41 33 IAMs_20 IAMs_20 19 28 25.1
comp=Z,16µm,20.0s
J16K Anvik River 29.41 33 P **P** **19 17 06.8 +0.9**
baz=356,SNR=9.3
J16K S **S** **19 22 04.8 +5.3**
baz=356
CAST Castle Rocks 29.51 26 P **P** **19 17 07.5 +0.8**
CAST IAmb IAmb 19 17 11.0
comp=Z,92nm,1.2s
CAST IAMs_20 IAMs_20 19 29 20.4
comp=Z,11µm,19.0s
CAST Castle Rocks 29.51 26 P **P** **19 17 07.8 +1.1**
baz=357,SNR=28
CAST S **S** **19 22 07.1 +6.1**
baz=357
TRF Thorofare Moun 29.52 24 IAMs_20 IAMs_20 19 29 33.6
comp=Z,12µm,18.0s
TRF Thorofare Moun 29.52 24 P **P** **19 17 08.2 +1.2**
baz=357,SNR=17
TRF S **S** **19 22 06.6 +5.2**
baz=357
K20K Telida 29.52 27 IAMs_20 IAMs_20 19 28 09.8
comp=Z,13µm,21.0s
K20K Telida 29.52 27 P **P** **19 17 07.7 +0.9**
baz=357,SNR=38
K20K S **S** **19 22 07.7 +6.5**
baz=357
MAYO Mayo, Yukon 29.60 11 P **P** **19 17 08.5 +0.9**
baz=359
MAYO S **S** **19 22 08.3 +5.8**
baz=359
NRS Narsarsuaq 29.77 287 P **P** **19 17 08.2 -0.8**
NRS IAMs_20 IAMs_20 19 29 05.2
comp=Z,14µm,20.0s
NRS Narsarsuaq 29.77 287 P **P** **19 17 08.2 -0.8**
NRS pmax pmax
comp=Z,591nm,2.0s
NRS MLR MLR
comp=Z,14µm,20.0s
NRS Narsarsuaq 29.77 287 *i*P **P** **19 17 09.9 +0.9**
NRS IAmb IAmb 19 17 21.1
comp=Z,28nm,1.1s
J14K Nanvaranak Lak 29.86 36 IAMs_20 IAMs_20 19 29 01.9
comp=Z,15µm,20.0s
J14K Nanvaranak Lak 29.86 36 P **P** **19 17 11.2 +1.5**
baz=356,SNR=6.9
J14K S **S** **19 22 12.8 +6.4**
baz=356
IVI Ivigtut 29.87 290 P **P** **19 17 09.1 -0.8**
IVI IAMs_20 IAMs_20 19 28 50.8
comp=Z,25µm,20.0s
IVI Ivigtut 29.87 290 *i*P **P** **19 17 11.5 +1.7**
IVI IAmb IAmb 19 17 12.0
comp=Z,11nm,0.8s
TTA Tatalina 29.90 29 P **P** **19 17 12.5 +2.3**
TTA Tatalina 29.90 29 P **P** **19 17 11.3 +1.1**
baz=357
TTA S **S** **19 22 13.6 +6.4**
baz=357
DHY Denali Highway 29.95 21 P **P** **19 17 11.4 +0.6**
baz=358

DHY S **S** **19 22 12.5 +4.3**
baz=358
PPLA Purkeypile 30.03 26 P **P** **19 17 12.5 +1.0**
baz=357,SNR=22
PPLA S **S** **19 22 11.2 +1.8**
baz=357
WRGLY Wrigley 30.04 360 P **P** **19 17 11.7 +0.4**
baz=0.1
WRGLY S **S** **19 22 09.5 +0.3**
baz=0.1
K17K Iditarod 30.05 31 IAMs_20 IAMs_20 19 29 27.8
comp=Z,16µm,18.0s
K17K Iditarod 30.05 31 P **P** **19 17 12.5 +1.0**
baz=357,SNR=16
K17K S **S** **19 22 14.0 +4.5**
baz=357
BCAR Beaver Creek A 30.06 16 P **P** **19 17 12.5 +0.9**
L27K Beaver Creek, 30.06 16 P **P** **19 17 13.4 +1.7**
baz=358,SNR=27
L27K S **S** **19 22 15.0 +5.2**
baz=358
L29M L29M 30.07 13 P **P** **19 17 12.2 +0.5**
baz=359,SNR=24
L29M S **S** **19 22 14.5 +4.6**
baz=359
L26K Log Cabin Wild 30.08 18 P **P** **19 17 12.4 +0.7**
L26K IAmb IAmb 19 17 16.3
comp=Z,129nm,1.5s
L26K Log Cabin Wild 30.08 18 P **P** **19 17 12.8 +1.1**
baz=358,SNR=13
L26K S **S** **19 22 15.6 +5.7**
baz=358
PAX Paxson 30.10 20 P **P** **19 17 12.7 +0.8**
baz=358,SNR=7.8
PAX S **S** **19 22 14.3 +3.9**
baz=358
MENT Mentasta 30.16 18 P **P** **19 17 14.2 +1.7**
WAT1 Susitna Watana 30.18 22 P **P** **19 17 13.2 +0.5**
baz=358
WAT1 S **S** **19 22 12.4 +0.9**
baz=358
SVE Sverdlovsk 30.25 175 ⇑*e*P **P** **19 17 13.3 0.0**
SVE *e*S **S** **19 22 18.4 +5.7**
SVE pmax pmax
comp=Z,92nm,1.4s
SVE MLR MLR
comp=Z,10µm,17.0s
K15K Wolf Creek Mou 30.38 34 IAMs_20 IAMs_20 19 29 34.6
comp=Z,16µm,19.0s
K15K Wolf Creek Mou 30.38 34 P **P** **19 17 14.8 +0.4**
baz=356,SNR=8.7
K15K S **S** **19 22 18.9 +4.3**
baz=356
L20K Farewell, AK 30.41 27 P **P** **19 17 15.6 +0.9**
baz=357,SNR=14
L20K S **S** **19 22 20.1 +5.0**
baz=357
WAT6 Susitna Watana 30.44 22 P **P** **19 17 15.6 +0.4**
baz=358,SNR=8.8
WAT6 S **S** **19 22 17.8 +1.9**
baz=358
CUT Chulitna 30.57 24 P **P** **19 17 16.3 +0.3**
CUT Chulitna 30.57 24 P **P** **19 17 16.5 +0.5**
baz=357,SNR=9.5
CUT S **S** **19 22 17.9 +0.4**
baz=357
L18K Granite Mounta 30.59 30 IAMs_20 IAMs_20 19 28 35.1
comp=Z,14µm,21.0s
L18K Granite Mounta 30.59 30 P **P** **19 17 17.5 +1.2**
baz=357,SNR=40
L18K S **S** **19 22 21.3 +3.3**
baz=357
M30M Minto, Yukon 30.62 12 P **P** **19 17 17.1 +0.6**
baz=359,SNR=38
M30M S **S** **19 22 24.9 +6.5**
baz=359
MMPY Sheldon Lake, 30.62 7 IAMs_20 IAMs_20 19 31 48.5
comp=Z,11µm,18.0s
MMPY Sheldon Lake, 30.62 7 P **P** **19 17 17.4 +0.8**
baz=359,SNR=28
MMPY S **S** **19 22 25.4 +6.9**
baz=359
L17K Donlin 30.63 31 P **P** **19 17 17.5 +0.9**
baz=357,SNR=28
L17K S **S** **19 22 23.2 +4.6**
baz=357
K13K Kusilvak Mount 30.64 37 IAMs_20 IAMs_20 19 30 31.6
comp=Z,12µm,18.0s
K13K Kusilvak Mount 30.64 37 P **P** **19 17 16.9 +0.2**
baz=356,SNR=5.7
K13K S **S** **19 22 22.8 +4.1**
baz=356
ARU Arti 30.64 177 P **P** **19 17 16.6 -0.1**
ARU IAmb IAmb 19 17 26.5
comp=Z,112nm,1.3s
ARU IAMs_20 IAMs_20 19 31 35.0
comp=Z,14µm,19.0s
ARU Arti 30.64 177 *c i*P **P** **19 17 17.2 +0.5**
ARU 19 18 15.9
ARU S **S** **19 22 22.4 +3.6**
ARU SS **ScP** **19 24 01.7 +4.9**
ARU pmax pmax
comp=Z,90nm,1.6s
ARU MLR MLR
comp=Z,17µm,24.0s
ARU Arti 30.64 177 P **P** **19 17 16.3 -0.5**
comp=Z,38nm,0.9s,baz=354,slow=5.7,SNR=42
ARU LR LR 19 31 48.8
comp=Z,15µm,19.3s,baz=359,slow=41
comp=Z,38nm,0.9s
YKAW3 Yellowknife Wh 30.67 352 IAMs_20 IAMs_20 19 28 58.4
comp=Z,27µm,21.0s
HARP HAARP 30.67 19 P **P** **19 17 18.0 +1.0**
baz=358
L19K White Mountain 30.68 28 IAMs_20 IAMs_20 19 28 56.4
comp=Z,13µm,20.0s
L19K White Mountain 30.68 28 P **P** **19 17 17.9 +0.8**
baz=357,SNR=21
L19K S **S** **19 22 24.6 +5.2**
baz=357
M26K Nabesna, AK 30.71 17 P **P** **19 17 17.4 0.0**
M26K IAmb IAmb 19 17 22.0
comp=Z,134nm,1.8s
M26K Nabesna, AK 30.71 17 P **P** **19 17 18.4 +1.0**
baz=358,SNR=17
M26K S **S** **19 22 27.3 +7.4**
baz=358
BVCY Beaver Creek 30.73 16 P **P** **19 17 18.9 +1.4**
baz=358
BVCY S **S** **19 22 25.9 +5.8**
baz=358
M29M Somme Creek 30.73 13 P **P** **19 17 18.8 +1.1**
baz=359,SNR=29
M29M S **S** **19 22 24.9 +4.5**
baz=359
YKA Yellowknife Ar 30.74 352 P **P** **19 17 17.2 -0.3**
comp=Z,7.9nm,0.8s,baz=344,slow=11,SNR=7.8
YKA PcP **PcP** **19 20 14.4 -0.2**
comp=Z,25nm,0.9s,baz=348,slow=2.5,SNR=13
YKA LR LR 19 29 23.0
comp=Z,26µm,21.1s,baz=356,slow=36
comp=Z,7.9nm,0.8s
YKAW1 Yellowknife Wh 30.75 352 IAMs_20 IAMs_20 19 29 00.4
comp=Z,27µm,21.0s
M27K Edge Creek, AK 30.77 16 P **P** **19 17 19.4 +1.4**
baz=358,SNR=18
M27K S **S** **19 22 28.3 +7.3**
baz=358
BOD Bodaibo 30.80 118 *e*P **P** **19 17 16.4 -1.7**
BOD pmax pmax
comp=Z,1µm,2.6s
M24K Tolsona, Glenn 30.95 20 P **P** **19 17 21.2 +1.7**
baz=358,SNR=6.5
M24K S **S** **19 22 26.9 +3.2**
baz=358
SKT Skwentna 30.96 25 P **P** **19 17 19.7 +0.1**
SKT Skwentna 30.96 25 P **P** **19 17 19.8 +0.2**
baz=357,SNR=40
SKT S **S** **19 22 27.5 +3.7**
baz=357
M19K Big River Lodg 30.97 28 IAMs_20 IAMs_20 19 29 15.1
comp=Z,11µm,19.0s
M19K Big River Lodg 30.97 28 P **P** **19 17 21.4 +1.8**
baz=357,SNR=16
M19K S **S** **19 22 29.7 +5.8**
baz=357
MA2 Magadan 30.98 80 P **P** **19 17 21.2 +1.5**
MA2 Magadan 30.98 80 *ce*P **P** **19 17 18.0 -1.7**

MA2					pmax	pmax		
	comp=Z,106nm,1.7s							
MA2	**Magadan**	**30.98**	**80**		LR	LR		19 30 19.4
	comp=Z,3μm,19.1s,baz=356,slow=37							
L15K	**Ungalak Mounta**	**31.00**	**34**		P	**P**		**19 17 20.8 +1.0**
	baz=356							
L15K					S	**S**		**19 22 29.4 +5.2**
	baz=356							
FARO	**Faro, Yukon**	**31.00**	**9**		IAMs_20	IAMs_20		19 30 12.5
	comp=Z,22μm,21.0s							
FARO	**Faro, Yukon**	**31.00**	**9**		P	**P**		**19 17 21.5 +1.6**
	baz=359,SNR=37							
FARO					S	**S**		**19 22 30.8 +6.4**
	baz=359							
M31M	**Drury Creek, Y**	**31.02**	**10**		IAMs_20	IAMs_20		19 29 40.0
	comp=Z,13μm,22.0s							
M31M	**Drury Creek, Y**	**31.02**	**10**		P	**P**		**19 17 21.1 +1.1**
	baz=359,SNR=18							
M31M					S	**S**		**19 22 32.5 +7.8**
	baz=359							
M20K	**Styx River**	**31.02**	**27**		IAMs_20	IAMs_20		19 29 43.1
	comp=Z,11μm,19.0s							
M20K	**Styx River**	**31.02**	**27**		P	**P**		**19 17 20.8 +0.6**
	baz=357							
M20K					S	**S**		**19 22 26.0 +1.2**
	baz=357							
L16K	**Owhat River**	**31.02**	**33**		IAMs_20	IAMs_20		19 29 32.6
	comp=Z,14μm,20.0s							
L16K	**Owhat River**	**31.02**	**33**		P	**P**		**19 17 21.1 +1.1**
	baz=357,SNR=29							
L16K					S	**S**		**19 22 28.1 +3.5**
	baz=357							
SCM	**Sheep Creek Mo**	**31.20**	**21**		P	**P**		**19 17 22.4 +0.7**
SCM					IAmb	IAmb		19 17 33.0
	comp=Z,124nm,0.9s							
SCM					IAMs_20	IAMs_20		19 28 56.1
	comp=Z,7μm,21.0s							
SCM	**Sheep Creek Mo**	**31.20**	**21**		P	**P**		**19 17 22.4 +0.7**
	baz=358,SNR=18							
SCM					S	**S**		**19 22 29.1 +1.5**
	baz=358							
SCM	**Sheep Creek Mo**	**31.20**	**21**		P	**P**		**19 17 22.4 +0.7**
SCM					pmax	pmax		
	comp=Z,124nm,0.9s							
SCM					MLR	MLR		
	comp=Z,7μm,21.0s							
SML	**Sawmill**	**31.21**	**22**		P	**P**		**19 17 21.6 -0.2**
SML					IAmb	IAmb		19 17 32.0
	comp=Z,125nm,1.1s							
SML	**Sawmill**	**31.21**	**22**		P	**P**		**19 17 22.0 +0.2**
	baz=358,SNR=19							
SML					S	**S**		**19 22 31.2 +3.5**
	baz=358							
M22K	**Willow**	**31.22**	**24**		P	**P**		**19 17 21.8 0.0**
	baz=357,SNR=11							
M23K	**Glacier View**	**31.23**	**22**		P	**P**		**19 17 22.1 +0.2**
	baz=358,SNR=21							
M23K					S	**S**		**19 22 31.4 +3.4**
	baz=358							
L14K	**Kuka Creek**	**31.30**	**36**		IAMs_20	IAMs_20		19 29 44.9
	comp=Z,12μm,20.0s							
L14K	**Kuka Creek**	**31.30**	**36**		P	**P**		**19 17 23.1 +0.7**
	baz=356,SNR=7.7							
L14K					S	**S**		**19 22 33.1 +4.2**
	baz=356							
M18K	**Stony River**	**31.35**	**29**		P	**P**		**19 17 23.8 +0.9**
	baz=357,SNR=24							
M18K					S	**S**		**19 22 33.5 +3.8**
	baz=357							
YUK3	**Moose Creek**	**31.38**	**15**		P	**P**		**19 17 24.9 +1.4**
	baz=358,SNR=25							
YUK3					S	**S**		**19 22 32.6 +2.0**
	baz=358							
M17K	**Holitna River**	**31.39**	**31**		IAMs_20	IAMs_20		19 30 19.2
	comp=Z,13μm,18.0s							
M17K	**Holitna River**	**31.39**	**31**		P	**P**		**19 17 24.6 +1.3**
	baz=357,SNR=35							
M17K					S	**S**		**19 22 33.4 +2.9**
	baz=357							
PMR	**Palmer**	**31.41**	**23**		P	**P**		**19 17 23.5 +0.1**
PMR					IAmb	IAmb		19 17 33.4
	comp=Z,78nm,1.3s							
PMR	**Palmer**	**31.41**	**23**		P	**P**		**19 17 24.0 +0.6**
PMR	**Palmer**	**31.41**	**23**		P	**P**		**19 17 23.7 +0.3**
	baz=358,SNR=8.5							
PMR					S	**S**		**19 22 31.9 +1.3**
	baz=358							
PMR	**Palmer**	**31.41**	**23**		P	**P**		**19 17 23.5 +0.1**
PMR					pmax	pmax		
	comp=Z,78nm,1.3s							
PMR					MLR	MLR		
	comp=Z,8μm,21.0s							
DEL	**Delary**	**31.47**	**226**		*e*P	**P**		**19 17 24.0 0.0**
N25K	**Chitina, Valde**	**31.48**	**19**		P	**P**		**19 17 24.8 +0.6**
	baz=358,SNR=11							
N25K					S	**S**		**19 22 35.1 +3.1**
	baz=358							
SUA	**Susitna One**	**31.50**	**25**		P	**P**		**19 17 24.7 +0.3**
	baz=357,SNR=32							
MOS	**Moscow**	**31.51**	**200**		*e*P	**P**		**19 17 24.9 +0.6**
MOS					*e*S	**S**		**19 22 30.5 -1.8**
MOS					*e*SS	**SnSn**		**19 24 16.3 -0.1**
MOS					pmax	pmax		
	comp=Z,64nm,0.8s							
MOS					MLR	MLR		
	comp=Z,12μm,18.0s							
MOS					MLR	MLR		
	comp=N,9μm,17.0s							
KLU	**Klutina**	**31.57**	**20**		P	**P**		**19 17 25.3 +0.3**
	baz=358							
KLU					S	**S**		**19 22 35.9 +2.5**
	baz=358							
KNK	**Knik Glacier**	**31.60**	**23**		P	**P**		**19 17 25.8 +0.7**
	baz=358,SNR=22							
KNK					S	**S**		**19 22 35.7 +1.9**
	baz=358							
VSVD	**Vaisvydziai**	**31.61**	**215**		*e*P	**P**		**19 17 24.5 -0.7**
PBUR	**Paburge**	**31.63**	**217**		*e*P	**P**		**19 17 24.8 -0.6**
N31M	**Braeburn, Yuko**	**31.72**	**11**		P	**P**		**19 17 26.3 0.0**
N31M					IAmb	IAmb		19 17 30.0
	comp=Z,124nm,1.2s							
N31M	**Braeburn, Yuko**	**31.72**	**11**		P	**P**		**19 17 27.3 +1.1**
	baz=359,SNR=27							
N31M					S	**S**		**19 22 39.7 +4.0**
	baz=359							
SPCR	**Spurr Chakacha**	**31.73**	**26**		P	**P**		**19 17 26.7 +0.3**
	baz=357,SNR=11							
SPCR					S	**S**		**19 22 35.8 -0.1**
	baz=357							
M16K	**Timber Creek**	**31.73**	**32**		IAMs_20	IAMs_20		19 31 14.2
	comp=Z,16μm,18.0s							
M16K	**Timber Creek**	**31.73**	**32**		P	**P**		**19 17 27.2 +0.9**
	baz=357,SNR=16							
M16K					S	**S**		**19 22 39.4 +3.7**
	baz=357							
MCARA	**McCarthy VSAT**	**31.73**	**18**		P	**P**		**19 17 26.9 +0.7**
MCARA					IAmb	IAmb		19 17 42.2
	comp=Z,64nm,1.1s							
MCARA	**McCarthy VSAT**	**31.73**	**18**		P	**P**		**19 17 27.2 +0.9**
	baz=358,SNR=11							
MCARA					S	**S**		**19 22 38.3 +2.5**
	baz=358							
N20K	**Mount Spurr**	**31.73**	**26**		P	**P**		**19 17 26.3 -0.1**
	baz=357,SNR=13							
N20K					S	**S**		**19 22 39.4 +3.5**
	baz=357							
TGTN	**Hyland Airport**	**31.73**	**4**		P	**P**		**19 17 27.2 +0.8**
	baz=360,SNR=8.3							
TGTN					S	**S**		**19 22 41.3 +5.3**
	baz=360							
N30M	**Aishikik Lake**	**31.74**	**12**		P	**P**		**19 17 27.2 +0.8**
	baz=359,SNR=22							
N30M					S	**S**		**19 22 39.8 +3.9**
	baz=359							
SVW2	**Sparrevohn**	**31.75**	**29**		IAMs_20	IAMs_20		19 29 40.4
	comp=Z,12μm,21.0s							
SVW2	**Sparrevohn**	**31.75**	**29**		P	**P**		**19 17 28.0 +1.5**
IZAR	**Zarasai**	**31.77**	**212**		*e*P	**P**		**19 17 27.1 +0.4**
YUK4	**Talbot Arm**	**31.83**	**14**		P	**P**		**19 17 27.3 -0.1**
	baz=359							
YUK4					S	**S**		**19 22 41.4 +3.7**
	baz=359							
RC01	**Rabbit Creek A**	**31.90**	**24**		P	**P**		**19 17 28.6 +0.9**
	baz=358,SNR=24							
RC01					S	**S**		**19 22 38.8 +0.4**
	baz=358							
M14K	**Bethel**	**31.91**	**35**		IAMs_20	IAMs_20		19 30 15.1
	comp=Z,14μm,20.0s							
M14K	**Bethel**	**31.91**	**35**		P	**P**		**19 17 29.1 +1.2**
	baz=356,SNR=9.4							
M14K					S	**S**		**19 22 41.5 +3.1**
	baz=356							
ISAL	**Salakas**	**31.95**	**213**		*e*P	**P**		**19 17 28.6 +0.3**
M15K	**Kasigluk River**	**32.01**	**34**		P	**P**		**19 17 29.3 +0.6**
	baz=357							
M15K					S	**S**		**19 22 45.4 +5.4**
	baz=357							
N19K	**Bonanza Creek**	**32.06**	**28**		P	**P**		**19 17 30.5 +1.2**
	baz=357,SNR=35							
N19K					S	**S**		**19 22 44.8 +3.7**
	baz=357							
PABE	**Paberze**	**32.08**	**215**		P	**P**		**19 17 29.1 -0.3**
PABE	**Paberze**	**32.08**	**215**		*e*P	**P**		**19 17 28.6 -0.8**
N32M	**Quiet Lake**	**32.08**	**8**		IAMs_20	IAMs_20		19 30 02.6
	comp=Z,21μm,22.0s							
N32M	**Quiet Lake**	**32.08**	**8**		P	**P**		**19 17 29.9 +0.4**
	baz=359							
N32M					S	**S**		**19 22 45.9 +4.5**
	baz=359							
BMRM	**Bremner River**	**32.12**	**19**		P	**P**		**19 17 29.9 +0.1**
	baz=358							
BMRM					S	**S**		**19 22 47.3 +5.4**
	baz=358							
M11K	**Mekoryuk**	**32.14**	**39**		P	**P**		**19 17 30.6 +0.8**
	baz=356							
OBN	**Obninsk**	**32.15**	**201**		P	**P**		**19 17 30.1 +0.1**
OBN	**Obninsk**	**32.15**	**201**	*c i*	P	**P**		**19 17 28.6 -1.4**
OBN				*e*				19 18 41.7
OBN				*i*	S	**S**		**19 22 43.5 +1.1**
OBN					pmax	pmax		
	comp=Z,45nm,1.3s							
OBN					MLR	MLR		
	comp=Z,11μm,16.0s							
OBN	**Obninsk**	**32.15**	**201**		LR	LR		19 33 27.4
	comp=Z,14μm,20.0s,baz=2.5,slow=42							
PWL	**Port Wells**	**32.16**	**22**		P	**P**		**19 17 29.9 -0.2**
PWL					IAmb	IAmb		19 17 40.2
	comp=Z,100nm,0.9s							
PWL	**Port Wells**	**32.16**	**22**		P	**P**		**19 17 30.7 +0.6**
	baz=358,SNR=15							
PWL					S	**S**		**19 22 46.1 +3.7**
	baz=358							
N18K	**Kilae Creek**	**32.16**	**29**		IAMs_20	IAMs_20		19 29 53.5
	comp=Z,12μm,20.0s							
N18K	**Kilae Creek**	**32.16**	**29**		P	**P**		**19 17 31.4 +1.3**
	baz=357,SNR=16							
N18K					S	**S**		**19 22 46.2 +3.7**
	baz=357							
GLI	**Glacier Island**	**32.16**	**21**		P	**P**		**19 17 30.7 +0.6**
	baz=358							
GLI					S	**S**		**19 22 46.7 +4.2**
	baz=358							
IIGN	**Ignalina**	**32.17**	**212**		*e*P	**P**		**19 17 30.3 +0.1**
CTG	**Chitna Glacier**	**32.17**	**16**		P	**P**		**19 17 32.1 +1.8**
	baz=358,SNR=9.9							
CAPN	**Captain Cook N**	**32.19**	**25**		IAMs_20	IAMs_20		19 30 48.2
	comp=Z,10μm,18.0s							
CAPN	**Captain Cook N**	**32.19**	**25**		S	**S**		**19 22 46.9 +4.2**
	baz=357							
M13K	**Dall Lake**	**32.20**	**36**		IAMs_20	IAMs_20		19 30 33.9
	comp=Z,14μm,20.0s							
M13K	**Dall Lake**	**32.20**	**36**		P	**P**		**19 17 32.3 +1.9**
	baz=356,SNR=8.7							
YUK6	**Outpost Mounta**	**32.24**	**13**		P	**P**		**19 17 32.6 +1.5**
	baz=359							
YUK6					S	**S**		**19 22 46.8 +2.6**
	baz=359							
N17K	**Nushagak Hills**	**32.27**	**31**		IAMs_20	IAMs_20		19 29 26.6
	comp=Z,15μm,22.0s							
N17K	**Nushagak Hills**	**32.27**	**31**		P	**P**		**19 17 33.5 +2.4**
	baz=357,SNR=22							
N17K					S	**S**		**19 22 50.8 +6.6**
	baz=357							
N16K	**Nishlik Lake**	**32.28**	**32**		P	**P**		**19 17 32.9 +1.7**
	baz=357,SNR=14							
N16K					S	**S**		**19 22 50.9 +6.5**
	baz=357							
CRQE	**Cirque**	**32.36**	**18**		P	**P**		**19 17 31.8 -0.1**
	baz=358							
HYT	**Haines Junctio**	**32.37**	**13**		P	**P**		**19 17 32.8 +0.8**
HYT					IAmb	IAmb		19 17 43.2
	comp=Z,67nm,1.1s							
HYT	**Haines Junctio**	**32.37**	**13**		P	**P**		**19 17 32.9 +0.8**
	baz=359							
HYT					S	**S**		**19 22 48.4 +2.5**
	baz=359							
O28M	**Mount Upton**	**32.39**	**15**		P	**P**		**19 17 33.1 +0.7**
	baz=358							
O28M					S	**S**		**19 22 51.1 +4.6**
	baz=358							
O30N	**Mendenhall**	**32.44**	**11**		P	**P**		**19 17 33.5 +1.0**
	baz=359,SNR=42							
O30N					S	**S**		**19 22 48.5 +1.6**
	baz=359							
O22K	**Cooper Landing**	**32.51**	**24**		P	**P**		**19 17 34.2 +1.1**
	baz=358							
EYAK	**Cordova Ski Ar**	**32.52**	**20**		P	**P**		**19 17 34.7 +1.5**
EYAK	**Cordova Ski Ar**	**32.52**	**20**		P	**P**		**19 17 33.3 +0.2**
	baz=358							
EYAK					S	**S**		**19 22 52.9 +4.9**
	baz=358							
N15K	**Kwethluk River**	**32.55**	**33**		IAMs_20	IAMs_20		19 30 23.0
	comp=Z,17μm,20.0s							
N15K	**Kwethluk River**	**32.55**	**33**		P	**P**		**19 17 34.1 +0.6**
	baz=357							
N15K					S	**S**		**19 22 53.7 +5.2**
	baz=357							
WHY	**Whitehorse**	**32.56**	**10**		P	**P**		**19 17 33.5 -0.3**
WHY					IAmb	IAmb		19 17 49.5
	comp=Z,77nm,1.5s							
WHY	**Whitehorse**	**32.56**	**10**		P	**P**		**19 17 33.7 -0.1**
	baz=359,SNR=9.2							
WHY					S	**S**		**19 22 51.1 +2.2**
	baz=359							
NACGM	**Naroch**	**32.60**	**212**		*e*P	**P**		**19 17 34.6 +0.7**
	comp=E,3μm,1.0s							
WAX	**Waxell Ridge**	**32.67**	**17**		IAMs_20	IAMs_20		19 29 48.0
	comp=Z,11μm,20.0s							
O19K	**Port Alsworth**	**32.68**	**28**		P	**P**		**19 17 35.8 +1.1**
	baz=357							
O19K					S	**S**		**19 22 51.3 +0.8**
	baz=357							
RAGM	**Ragged Mountai**	**32.70**	**19**		P	**P**		**19 17 33.9 -0.9**
RAGM					IAmb	IAmb		19 17 44.3
	comp=Z,84nm,1.2s							
BERG	**Berg Lake**	**32.71**	**18**		IAMs_20	IAMs_20		19 31 11.0
	comp=Z,10μm,19.0s							
N14K	**Kuskokwak Cree**	**32.75**	**35**		P	**P**		**19 17 36.6 +1.5**
	baz=357,SNR=5.7							
N14K					S	**S**		**19 22 53.9 +2.4**
	baz=357							
O20K	**Slope Mountain**	**32.84**	**26**		P	**P**		**19 17 36.9 +0.8**
	baz=357							
O20K					S	**S**		**19 22 55.7 +2.5**
	baz=357							
O29M	**Mount Kennedy**	**32.88**	**14**		P	**P**		**19 17 37.0 +0.5**
	baz=359,SNR=13							
O29M					S	**S**		**19 22 55.4 +1.5**
	baz=359							
SEW	**Seward**	**32.89**	**24**		P	**P**		**19 17 35.6 -0.8**
SEW					IAmb	IAmb		19 17 46.1
	comp=Z,92nm,1.3s							
SEW	**Seward**	**32.89**	**24**		P	**P**		**19 17 37.1 +0.6**
	baz=358							
SEW					S	**S**		**19 22 54.1 +0.3**
	baz=358							
ILSW	**Iliamna Southw**	**32.93**	**27**		IAMs_20	IAMs_20		19 30 17.0
	comp=Z,13μm,21.0s							
SNH	**Sunshine Point**	**32.94**	**17**		IAMs_20	IAMs_20		19 29 45.0
	comp=Z,13μm,22.0s							
MESA	**MESA**	**32.95**	**17**		IAMs_20	IAMs_20		19 29 44.4
	comp=Z,13μm,22.0s							
MESA	**MESA**	**32.95**	**17**		P	**P**		**19 17 37.7 +0.4**
	baz=358							
MESA					S	**S**		**19 22 57.6 +2.4**
	baz=358							
MNK	**Minsk**	**32.97**	**211**	*i*	P	**P**		**19 17 34.0 -3.2**
	comp=E,5.0nm,0.9s							
MNK				*i*	P	**P**		**19 17 34.0 -3.2**
	comp=N,41nm,1.0s							
MNK				*i*	P	**P**		**19 17 34.0 -3.2**
	comp=Z,39nm,0.9s,baz=183							
MNK				*i*	PP	**PP**		**19 18 42.8 -8.6**
MNK				*i*	PPP	PPP		19 18 53.1
MNK				*i*	S	**S**		**19 22 52.6 -2.6**
MNK				*i*	SS	**SnSn**		**19 24 50.7 -1.4**
MNK				*i*	SSS	SSS		19 25 06.2
MNK				*i*	LQ	LQ		19 27 38.9
MNK				*i*	LR	LR		19 28 54.9
MNK				*i*	LRM	MLR		19 31 04.0
	comp=Z,21μm,19.8s							
MNK				*i*	LRM	MLR		19 31 05.9
	comp=N,15μm,17.2s							
MNK				*i*	LRM	MLR		19 32 08.5
	comp=E,2μm,18.5s							
MNK	**Minsk**	**32.97**	**211**	*i*	P	**P**		**19 17 34.0 -3.2**
MNK				*i*	PPP	PPP		19 18 53.0
MNK				*i*	S	**S**		**19 22 52.5 -2.6**
MNK				*i*	SS	**SnSn**		**19 24 50.6 -1.4**
MNK					pmax	pmax		
	comp=E,5.0nm,0.9s							
MNK					pmax	pmax		
	comp=Z,39nm,0.9s							
MNK					pmax	pmax		
	comp=N,41nm,1.0s							
MNK					MLR	MLR		
	comp=Z,21μm,20.0s							
MNK					MLR	MLR		
	comp=N,15μm,17.0s							
MNK					MLR	MLR		
	comp=E,2μm,19.0s							
O18K	**Koktuh Hills**	**33.00**	**29**		IAMs_20	IAMs_20		19 30 28.9
	comp=Z,10μm,20.0s							
O18K	**Koktuh Hills**	**33.00**	**29**		P	**P**		**19 17 38.7 +1.2**
	baz=357,SNR=30							
O18K					S	**S**		**19 22 58.2 +2.5**
	baz=357							
P33M	**Teslin, Yukon**	**33.03**	**8**		IAMs_20	IAMs_20		19 31 15.1
	comp=Z,19μm,22.0s							
P33M	**Teslin, Yukon**	**33.03**	**8**		P	**P**		**19 17 38.3 +0.5**
	baz=359,SNR=32							
P33M					S	**S**		**19 23 00.8 +4.6**
	baz=359							
SUCK	**Suckling Hills**	**33.03**	**18**		IAMs_20	IAMs_20		19 31 22.5
	comp=Z,11μm,18.0s							
O17K	**Koliganek Bris**	**33.03**	**31**		P	**P**		**19 17 39.1 +1.4**
	baz=357,SNR=19							
O17K					S	**S**		**19 22 58.9 +3.0**
	baz=357							
FLDN	**Fort Liard**	**33.04**	**360**		P	**P**		**19 17 38.2 +0.5**
FLDN	**Fort Liard**	**33.04**	**360**		P	**P**		**19 17 38.2 +0.5**
	baz=0.1							
P23K	**Montague Islan**	**33.04**	**22**		P	**P**		**19 17 38.5 +0.7**
	baz=358,SNR=6.3							
P23K					S	**S**		**19 23 01.0 +4.9**
	baz=358							
PINM	**Pinnacle**	**33.06**	**15**		P	**P**		**19 17 39.9 +1.8**
	baz=358,SNR=8.3							
PINM					S	**S**		**19 23 03.2 +6.5**
	baz=358							
P30M	**Million Dollar**	**33.08**	**12**		P	**P**		**19 17 39.4 +1.2**
	baz=359							
P30M					S	**S**		**19 23 00.2 +3.3**
	baz=359							
KOTAN	**Kotaneelee Air**	**33.15**	**0**		P	**P**		**19 17 40.2 +1.5**
	baz=0.1,SNR=6.1							
WTLY	**Watson Lake, Y**	**33.15**	**5**		IAMs_20	IAMs_20		19 32 42.3
	comp=Z,9μm,18.0s							
WTLY	**Watson Lake, Y**	**33.15**	**5**		P	**P**		**19 17 40.0 +1.2**
	baz=360							
KAIM	**Kayak Island**	**33.17**	**19**		P	**P**		**19 17 39.5 +0.7**
	baz=358							
O16K	**Kokwok River B**	**33.19**	**32**		IAMs_20	IAMs_20		19 32 00.7
	comp=Z,14μm,18.0s							
O16K	**Kokwok River B**	**33.19**	**32**		P	**P**		**19 17 40.5 +1.5**
	baz=357,SNR=13							
O16K					S	**S**		**19 23 03.8 +5.5**
	baz=357							
BRLK	**Bradley Lake**	**33.20**	**25**		P	**P**		**19 17 38.8 -0.4**
BRLK					IAmb	IAmb		19 17 48.8
	comp=Z,77nm,1.2s							
BRSE	**Bradley Lake S**	**33.22**	**25**		P	**P**		**19 17 40.2 +0.8**
	baz=358							
BRSE					S	**S**		**19 23 01.6 +2.5**
	baz=358							
EKA	**Eskdalemuir Ar**	**33.36**	**243**		P	**P**		**19 17 40.1 -0.5**
	comp=Z,12nm,0.8s,baz=1.7,slow=11,SNR=12							
	comp=Z,12nm,0.8s							
ESK	**Eskdalemuir**	**33.38**	**243**		P	**P**		**19 17 40.2 -0.5**
ESK					IAmb	IAmb		19 17 42.6
	comp=Z,61nm,1.1s							
ESK	**Eskdalemuir**	**33.38**	**243**		P	**P**		**19 17 40.2 -0.5**
ESK					pmax	pmax		
	comp=Z,61nm,1.2s							
ESK					MLR	MLR		
	comp=Z,6μm,19.0s							
O14K	**Tigyukauivet M**	**33.43**	**35**		IAMs_20	IAMs_20		19 31 01.3
	comp=Z,16μm,20.0s							
O14K	**Tigyukauivet M**	**33.43**	**35**		P	**P**		**19 17 42.1 +0.9**
	baz=357							
O14K					S	**S**		**19 23 05.5 +3.3**
	baz=357							
P18K	**Big Mountain,**	**33.47**	**29**		P	**P**		**19 17 43.4 +1.8**
	baz=357,SNR=25							
P18K					S	**S**		**19 23 08.8 +6.0**
	baz=357							
PNL	**Peninsula**	**33.50**	**14**		P	**P**		**19 17 43.5 +1.7**
PNL	**Peninsula**	**33.50**	**14**		P	**P**		**19 17 42.6 +0.7**
	baz=359							
PNL					S	**S**		**19 23 08.5 +5.1**
	baz=359							
ZAA0	**Zalesovo Array**	**33.53**	**149**		P	**P**		**19 17 41.7 -0.4**
ZAA0					IAmb	IAmb		19 17 56.1
	comp=Z,158nm,1.9s							
ZALV	**Zalesovo Beam**	**33.53**	**149**		P	**P**		**19 17 41.6 -0.5**
ZALV	**Zalesovo Beam**	**33.53**	**149**		P	**P**		**19 17 42.2 +0.1**
	comp=Z,15nm,0.8s,baz=353,slow=10,SNR=38							
ZALV					PcP	**PcP**		**19 20 22.1 -0.3**
	comp=Z,16nm,1.0s,baz=321,slow=1.8,SNR=7.2							
	comp=Z,15nm,0.8s							
O15K	**Ungalikthiuk R**	**33.55**	**33**		P	**P**		**19 17 43.5 +1.2**
	baz=357,SNR=6.3							
O15K					S	**S**		**19 23 07.0 +3.0**
	baz=357							
P29M	**Windy Craggy**	**33.56**	**13**		P	**P**		**19 17 43.3 +0.9**
	baz=359							
P29M					S	**S**		**19 23 07.0 +2.6**
	baz=359							
SUW	**Suwalki**	**33.60**	**216**	*e*P		**P**		**19 17 42.3 -0.4**
SUW				*e*S		S		19 23 14.6 +10
SUW				*e*L		L		19 30 08.2
	comp=Z,11μm,24.7s							
SUW	**Suwalki**	**33.60**	**216**		P	**P**		**19 17 42.3 -0.4**
SUW					IAmb	IAmb		19 18 47.2
	comp=Z,80nm,1.2s							
SUW	**Suwalki**	**33.60**	**216**	*e*P		**P**		**19 17 42.3 -0.4**
SUW	**Suwalki**	**33.60**	**216**		P	**P**		**19 17 42.3 -0.4**
SUW					pmax	pmax		
	comp=Z,80nm,1.2s							
SUW					MLR	MLR		
	comp=Z,6μm,18.0s							
P17K	**Kvichak River**	**33.63**	**30**		P	**P**		**19 17 44.0 +1.1**
	baz=357,SNR=15							
P17K					S	**S**		**19 23 12.8 +7.6**
	baz=357							
P32M	**Atlin**	**33.65**	**9**		IAMs_20	IAMs_20		19 31 22.9
	comp=Z,12μm,22.0s							
P32M	**Atlin**	**33.65**	**9**		P	**P**		**19 17 43.8 +0.7**
	baz=359,SNR=14							
P32M					S	**S**		**19 23 07.7 +2.0**
	baz=359							
P16K	**Nushagak River**	**33.75**	**32**		P	**P**		**19 17 45.2 +1.2**
	baz=357							
P16K					S	**S**		**19 23 11.8 +4.7**
	baz=357							
PLBC	**Pleasant Camp**	**33.75**	**12**		P	**P**		**19 17 45.2 +1.2**
	baz=359,SN

baz=360
LIRD S **S** **19 23 12.6 +3.6**
baz=360
BRVK Borovoye 34.12 165 P **P** **19 17 47.4 +0.2**
BRVK IAmb IAmb 19 18 09.1
comp=Z,204nm,1.7s
BRVK Borovoye 34.12 165 IAMs_20 IAMs_20 19 34 05.4
comp=Z,23μm,19.0s
BRVK Borovoye 34.12 165 P **P** **19 17 48.1 +0.9**
BRVK P **P** **19 17 48.1 +0.9**
BRVK P **P** **19 17 48.1 +0.9**
BRVK S **S** **19 23 18.3 +5.3**
BRVK S **S** **19 23 18.3 +5.3**
BRVK S **S** **19 23 18.3 +5.3**
BRVK Borovoye 34.12 165 *ce*P **P** **19 17 47.4 +0.2**
BRVK pmax pmax
comp=Z,77nm,1.7s
Q16K King Salmon 34.14 30 P **P** **19 17 48.9 +1.6**
baz=357,SNR=13
Q16K S **S** **19 23 21.8 +8.7**
baz=357
BSEG Bad Segeberg 34.15 229 *e*P **P** **19 17 48.1 +0.7**
comp=Z,97nm,1.0s,baz=4.7,slow=8.6
BVAR Borovoye Array 34.15 165 P **P** **19 17 47.6 +0.1**
comp=Z,36nm,0.8s,baz=354,slow=7.7,SNR=112
BVAR PcP **PcP** **19 20 23.6 -0.5**
comp=Z,17nm,0.8s,baz=350,slow=2.8,SNR=14
BVAR LR LR 19 34 20.2
comp=Z,21μm,19.5s,baz=8.2,slow=41
comp=Z,36nm,0.8s
BVA2 Borovoye Array 34.16 165 P **P** **19 17 47.4 -0.2**
Q18K Katmai Hardscr 34.22 29 P **P** **19 17 48.3 +0.1**
baz=357
Q18K S **S** **19 23 21.4 +6.8**
baz=357
Q32M Nakina River 34.29 8 P **P** **19 17 49.2 +0.3**
Q32M IAmb IAmb 19 17 59.7
comp=Z,126nm,1.4s
Q32M IAMs_20 IAMs_20 19 31 43.9
comp=Z,17μm,21.0s
Q32M Nakina River 34.29 8 P **P** **19 17 49.9 +1.0**
baz=359,SNR=15
Q32M S **S** **19 23 22.9 +7.0**
baz=359
GKP Gorka Klasztor 34.55 222 *e*P **P** **19 17 50.7 -0.2**
GKP *e*S S 19 23 03.5 -16
GKP *e*L L 19 30 10.5
comp=Z,11μm,25.9s
Q17K Contact Creek 34.58 30 P **P** **19 17 51.4 +0.1**
baz=357
Q17K S **S** **19 23 24.0 +3.9**
baz=357
LPSR Galich'ya Gora 34.63 199 *e*P **P** **19 17 50.9 -0.7**
LPSR *e* 19 19 02.3
LPSR *e*S **S** **19 23 18.1 -2.6**
LPSR pmax pmax
comp=Z,50nm,0.9s
LPSR smax smax
comp=N,5μm,14.0s
LPSR MLR MLR
comp=Z,6μm,14.0s
BELG Belogornoye 34.72 189 *i* P **P** **19 17 51.0 -1.4**
BELG pmax pmax
comp=Z,68nm,0.9s
BELG Belogornoye 34.72 189 LR LR 19 33 41.7
comp=Z,12μm,21.5s,baz=2.9,slow=39
R31K City Hall, Gus 34.81 11 S **S** **19 23 27.9 +4.5**
baz=359
DLBC Dease Lake 34.83 6 IAMs_20 IAMs_20 19 34 02.6
comp=Z,14μm,18.0s
DLBC Dease Lake 34.83 6 P **P** **19 17 54.5 +1.1**
baz=360,SNR=46
DLBC S **S** **19 23 27.0 +3.1**
baz=360
DLBC Dease Lake 34.83 6 LR LR 19 34 59.6
comp=Z,12μm,18.3s,baz=356,slow=41
JIS Juneau Island 34.96 10 P **P** **19 17 55.7 +1.3**
R32K Eaglecrest 34.96 10 P **P** **19 17 55.4 +1.0**
baz=359,SNR=17
R32K S **S** **19 23 28.7 +2.9**
baz=359
GORT1 Trebel 35.05 228 *e*P **P** **19 17 56.6 +1.5**
comp=Z,907nm,2.7s,baz=4.7,slow=8.6
R17K Ugashik Creek 35.19 30 IAMs_20 IAMs_20 19 31 38.6
comp=Z,10μm,20.0s
R17K Ugashik Creek 35.19 30 P **P** **19 17 57.0 +0.6**
baz=357,SNR=5.8
R17K S **S** **19 23 32.9 +3.5**
baz=357
SPIA Saint Paul Isl 35.20 43 P **P** **19 17 56.6 +0.1**
baz=356
R16K Pilot Point 35.23 31 P **P** **19 17 56.5 -0.2**
baz=357
R16K S **S** **19 23 35.8 +5.9**
baz=357
S31K Pelican 35.25 11 P **P** **19 17 56.1 -0.8**
baz=359,SNR=7.0
S31K S **S** **19 23 34.3 +4.0**
baz=359
R18K Karluk 35.31 28 S **S** **19 23 33.9 +2.7**
baz=357
S34M Telegraph Cree 35.35 7 IAMs_20 IAMs_20 19 32 18.8
comp=Z,12μm,22.0s
S34M Telegraph Cree 35.35 7 P **P** **19 17 58.7 +1.0**
baz=359,SNR=44
S34M S **S** **19 23 38.1 +6.4**
baz=359
RETH Rethem/Aller, 35.38 230 *e*P **P** **19 17 59.2 +1.1**
comp=Z,131nm,1.4s,baz=4.7,slow=8.6
RUE Ruedersdorf 35.46 225 *e*P **P** **19 17 58.9 +0.1**
RUE Ruedersdorf 35.46 225 *e*P **P** **19 17 59.3 +0.6**
comp=Z,128nm,1.0s,baz=4.7,slow=8.6
RUE *e*pP **pwP** **19 18 07.0 +2.3**
baz=5.6,slow=8.7
ZEA Zeya 35.54 105 *e*P **P** **19 18 00.3 +0.8**
ZEA *e*S **S** **19 23 38.7 +3.9**
ZEA pmax pmax
comp=N,20nm,1.0s
ZEA pmax pmax
comp=Z,70nm,1.0s
ZEA pmax pmax
comp=Z,1μm,4.5s
ZEA pmax pmax
comp=N,1μm,7.5s
ZEA smax smax
comp=N,2μm,15.4s
ZEA smax smax
comp=E,900nm,15.4s
ZEA MLR MLR
comp=N,3μm,17.0s
ZEA MLR MLR
comp=Z,5μm,18.0s
VORR Voronezh 35.55 198 *e*P **P** **19 17 57.8 -1.8**
VORR *e*S **S** **19 23 32.4 -2.6**
VORR pmax pmax
comp=Z,30nm,0.4s
VORR smax smax
comp=N,1μm,9.0s
VORR MLR MLR
comp=Z,1μm,7.0s
NRDL Niedersach Rie 35.60 229 *e*P **P** **19 18 00.9 +1.0**
comp=Z,706nm,2.3s,baz=4.7,slow=8.6
NRDL *e*pP **pwP** **19 18 08.6 +2.9**
baz=5.6,slow=8.7
DSB Dublin 35.60 246 P **P** **19 17 58.9 -1.0**
FLTG Flechtingen 35.71 228 *e*P **P** **19 18 01.2 +0.3**
comp=Z,69nm,1.0s,baz=4.7,slow=8.6
FLTG *e*pP **pwP** **19 18 08.9 +2.2**
baz=5.6,slow=8.7
S32K Killisnoo 35.76 10 P **P** **19 18 01.5 +0.2**
baz=359,SNR=7.1
BEL Belsk 35.86 218 *e*P **P** **19 18 01.2 -0.9**
BEL *e*S **S** **19 23 39.3 -0.4**
BEL *e*L L 19 34 30.6
comp=Z,11μm,16.0s
IBBN Ibbenburen 35.88 232 *e*P **P** **19 18 03.2 +0.8**
comp=Z,296nm,2.0s,baz=4.7,slow=8.6
IRK Irkutsk 35.93 129 *e*P **P** **19 18 02.3 -0.5**
IRK *e* 19 19 26.1
IRK *e* 19 23 42.4
IRK pmax pmax
comp=Z,439nm,2.7s
ASSE Asse, Remlinge 35.94 229 *e*P **P** **19 18 03.6 +0.9**
comp=Z,111nm,1.4s,baz=4.7,slow=8.6
ASSE *e*pP **pwP** **19 18 11.4 +2.8**
baz=5.6,slow=8.7
VRH Novokhopyorsk 35.98 196 *e*P **P** **19 18 01.3 -2.0**
VRH *e*S **S** **19 23 39.0 -2.6**
VRH pmax pmax
comp=Z,60nm,0.8s
VRH smax smax
comp=N,4μm,13.9s
VRH MLR MLR
comp=Z,18μm,16.0s
VSR Storozhevoye 36.01 198 *e*P **P** **19 18 03.1 -0.4**
VSR *e*S **S** **19 23 45.7 +3.7**
VSR pmax pmax
comp=Z,70nm,1.6s
VSR smax smax
comp=N,3μm,10.5s
VSR MLR MLR
comp=Z,11μm,16.0s
SIT Sitka 36.17 11 P **P** **19 18 05.1 +0.3**
baz=359
SIT S **S** **19 23 50.3 +6.0**
baz=359
CLZ Clausthal 36.24 229 *e*P **P** **19 18 06.6 +1.1**
comp=Z,117nm,1.1s,baz=4.7,slow=8.6
VORD Divnogorie 36.26 198 *e*P **P** **19 18 04.2 -1.4**
VORD *e*S **S** **19 23 40.0 -5.8**
VORD pmax pmax
comp=Z,20nm,0.7s
VORD smax smax
comp=E,460nm,6.4s
VORD MLR MLR
comp=Z,8μm,15.0s
T35M Bob Quinn 36.29 6 IAMs_20 IAMs_20 19 34 06.6
comp=Z,12μm,20.0s
T35M Bob Quinn 36.29 6 P **P** **19 18 06.6 +0.8**
baz=360,SNR=15
T35M S **S** **19 23 50.7 +4.5**
baz=360
SII Sitkinak Islan 36.33 28 IAMs_20 IAMs_20 19 32 53.8
comp=Z,11μm,19.0s
SII Sitkinak Islan 36.33 28 P **P** **19 18 07.4 +1.2**
SII Sitkinak Islan 36.33 28 P **P** **19 18 06.5 +0.3**
baz=357,SNR=13
MOY Mondy 36.37 132 *e*P **P** **19 18 07.0 +0.3**
MOY pmax pmax
comp=Z,494nm,2.7s
T33K Petersburg 36.43 8 P **P** **19 18 06.9 -0.1**
baz=359
CHGN Chignik 36.47 32 IAMs_20 IAMs_20 19 32 12.7
comp=Z,13μm,21.0s
CHGN Chignik 36.47 32 P **P** **19 18 07.0 -0.4**
baz=357
GTTG Gottingen 36.55 229 *e*P **P** **19 18 09.2 +1.1**
comp=Z,107nm,1.0s,baz=4.7,slow=8.6
GTTG *e*pP **pwP** **19 18 16.9 +2.9**
baz=5.6,slow=8.7
CIT Chita 36.57 119 *e*P **P** **19 18 09.6 +1.2**
CIT *e* 19 18 16.4
CIT *e* 19 19 37.0
CIT *e* 19 19 49.5
CIT pmax pmax
comp=Z,302nm,2.6s
KURK Kurchatov 36.62 156 P **P** **19 18 07.8 -0.8**
KURK IAmb IAmb 19 18 15.8
comp=Z,115nm,1.7s
KURK Kurchatov 36.62 156 P **P** **19 18 08.3 -0.4**
KURK P **P** **19 18 08.3 -0.4**
KURK S **S** **19 23 49.5 -1.7**
KURK S **S** **19 23 49.5 -1.7**
KURK Kurchatov 36.62 156 P **P** **19 18 09.1 +0.4**
AKTO Aktyubinsk 36.65 178 P **P** **19 18 09.1 +0.1**
comp=Z,59nm,0.9s,baz=359,slow=7.1,SNR=97
AKTO LR LR 19 34 50.8
comp=Z,15μm,20.6s,baz=10.0,slow=39
comp=Z,59nm,0.9s
CLL Collm 36.67 226 P **P** **19 18 08.5 -0.6**
CLL IAmb IAmb 19 18 11.1
comp=Z,75nm,1.0s
CLL Collm 36.67 226 *i* P **P** **19 18 08.3 -0.8**
CLL *i* 19 18 15.8
CLL *e*S **S** **19 23 53.0 +0.9**
CLL pmax pmax
comp=Z,99nm,1.1s
CLL MLR MLR
comp=Z,7μm,18.5s
CLL Collm 36.67 226 *e*P **P** **19 18 09.2 +0.1**
comp=Z,80nm,1.0s,baz=4.7,slow=8.6
CLL Collm 36.67 226 *i* P **P** **19 18 08.3 -0.8**
comp=Z,99nm,1.1s
CLL *e*Pmax 19 18 13.0
CLL *i* x x 19 18 15.8
CLL *e*x x 19 18 20.0
CLL *e*PcP **PcP** **19 20 31.0 -0.6**
comp=Z,90nm,2.0s
CLL *e*S **S** **19 23 53.0 +0.9**
CLL *e*x x 19 25 12.0
CLL *e*SS **SS** **19 26 30.0 -1.7**
CLL AMS AMS 19 40 00.0
comp=Z,7μm,18.5s
CLL AMS AMS 19 41 00.0
KURBB Kurchatov Arra 36.71 156 P **P** **19 18 08.2 -1.3**
KURBB Kurchatov Arra 36.71 156 P **P** **19 18 09.1 -0.4**
comp=Z,19nm,0.9s,baz=16,slow=7.8,SNR=43
KURBB PP **PP** **19 19 38.9 +6.1**
comp=Z,13nm,1.1s,baz=355,slow=11,SNR=4.9
KURBB PcP **PcP** **19 20 31.0 -0.7**
comp=Z,20nm,0.9s,baz=348,slow=2.7,SNR=19
KURBB LR LR 19 35 59.1
comp=Z,27μm,19.7s,baz=348,slow=41
comp=Z,19nm,0.9s
AKASG Malin Array Be 36.74 209 P **P** **19 18 08.8 -1.0**
comp=Z,12nm,0.9s,baz=359,slow=8.5,SNR=17
AKASG PcP **PcP** **19 20 30.7 -1.0**
comp=Z,10nm,0.9s,baz=1.7,slow=3.1,SNR=12
AKASG LR LR 19 33 31.4
comp=Z,22μm,18.7s,baz=0.5,slow=37
comp=Z,12nm,0.9s
AKBB Malin Array Si 36.74 209 P **P** **19 18 09.0 -0.7**
AKBB IAmb IAmb 19 18 29.9
comp=Z,180nm,1.6s
BUG Bochum--Univer 36.77 232 *e*P **P** **19 18 10.7 +0.8**
comp=Z,266nm,1.7s,baz=4.7,slow=8.6
BUG *e*pP **pwP** **19 18 18.4 +2.7**
baz=5.6,slow=8.7
NEUB Neuenburg 36.81 227 *e*P **P** **19 18 10.9 +0.5**
comp=Z,115nm,1.2s,baz=4.7,slow=8.6
WRAK Wrangell Islan 36.84 8 IAMs_20 IAMs_20 19 32 50.2
comp=Z,11μm,22.0s
WRAK Wrangell Islan 36.84 8 P **P** **19 18 10.2 -0.3**
baz=359
WRAK S **S** **19 23 55.4 +0.9**
baz=359
NKL Nikolayevsk 36.85 91 *e*P **P** **19 18 08.2 -2.4**
NKL *e*S **S** **19 23 55.0 +0.3**
NKL pmax pmax
comp=E,131nm,1.5s
NKL pmax pmax
comp=N,100nm,1.4s
NKL pmax pmax
comp=Z,281nm,1.9s
NKL smax smax
comp=E,374nm,1.3s
NKL smax smax
comp=N,559nm,2.6s
NKL MLR MLR
comp=N,16μm,21.0s
NKL MLR MLR
comp=E,10μm,21.0s
NKL MLR MLR
comp=Z,12μm,16.0s
KASTN Kahler Asten 36.96 231 *e*P **P** **19 18 12.9 +1.3**
comp=Z,110nm,1.2s,baz=4.7,slow=8.6
KSP Ksiaz 37.01 223 *e*P **P** **19 18 11.2 -0.8**
KSP *e*S **S** **19 24 01.4 +4.2**
KSP *e*L L 19 31 00.7
comp=Z,8μm,29.6s
CHIR Chirikof Islan 37.03 30 IAMs_20 IAMs_20 19 33 21.4
comp=Z,10μm,20.0s
CHIR Chirikof Islan 37.03 30 P **P** **19 18 10.9 -1.3**
baz=357
CHIR S **S** **19 23 58.8 +1.3**
baz=357
FBE Freiberg 37.04 226 *e*P **P** **19 18 12.6 +0.4**
comp=Z,128nm,0.9s,baz=4.7,slow=8.6
BRG Berggiesshubel 37.06 225 *i* P **P** **19 18 12.9 +0.4**
BRG 19 18 20.4
BRG pmax pmax
comp=Z,103nm,1.2s
BRG MLR MLR
comp=E,1μm,12.4s
BRG MLR MLR
comp=Z,2μm,11.7s
BRG MLR MLR
comp=N,947nm,11.5s
BRG Berggiesshubel 37.06 225 *e*P **P** **19 18 13.5 +1.0**
comp=N,86nm,1.1s,baz=4.7,slow=8.6
BRG Berggiesshubel 37.06 225 *i* P **P** **19 18 13.0 +0.4**
BRG Amp 19 18 16.1
comp=Z,103nm,1.2s
BRG Berggiesshubel 37.06 225 S **S** **19 24 05.0 +6.9**
BRG Amp 19 40 07.0
comp=N,5.8nm,17.1s
BRG Amp 19 40 18.0
comp=E,4.0nm,13.8s
BRG Amp 19 40 20.0
comp=Z,9.9nm,17.4s
VAL Valentia 37.10 250 P **P** **19 18 12.6 -0.1**
SCHQ Schefferville 37.12 307 P **P** **19 18 12.1 -0.9**
SCHQ Schefferville 37.12 307 P **P** **19 18 12.3 -0.7**
comp=Z,9.7nm,0.8s,baz=339,slow=8.1,SNR=8.8
SCHQ PcP **PcP** **19 20 32.3 -0.6**
comp=Z,18nm,1.0s,baz=31,slow=5.1,SNR=5.0
SCHQ LR LR 19 34 29.9
comp=Z,6μm,18.4s,baz=5.5,slow=38
comp=Z,9.7nm,0.8s
U33K Whale Pass 37.13 9 IAMs_20 IAMs_20 19 33 31.2
comp=Z,9μm,21.0s
U33K Whale Pass 37.13 9 P **P** **19 18 13.2 +0.2**
baz=359
U33K S **S** **19 24 04.1 +5.0**
baz=359
BRZS Berezniki 37.23 162 *e*P **P** **19 18 13.0 -1.0**
comp=Z,408nm,3.4s,baz=161
BRZS *e*S **S** **19 24 01.2 +0.4**
baz=161
BRZS Berezniki 37.23 162 *e*P **P** **19 18 13.0 -1.0**
BRZS *e*S **S** **19 24 01.2 +0.4**
BRZS pmax pmax
comp=Z,408nm,3.4s
CHVC Chvalec 37.27 223 AMS AMS 19 41 00.0
comp=Z,9μm,16.6s
UBBA Unterbreizbach 37.27 229 *e*P **P** **19 18 15.0 +0.8**
comp=Z,145nm,1.8s,baz=4.7,slow=8.6
UBBA *e*pP **pwP** **19 18 22.9 +2.8**
baz=5.6,slow=8.7
OSTC Ostas 37.30 223 *e*P **P** **19 18 14.2 -0.3**
OSTC AMS AMS 19 40 50.0
comp=Z,9μm,17.4s
OSTC Ostas 37.30 223 *e*P **P** **19 18 14.2 -0.3**
OSTC MLR MLR
comp=Z,9μm,17.4s
HSKC Hora Svate Kat 37.35 226 *e*P **P** **19 18 14.4 -0.6**
HSKC AMS AMS 19 40 10.0
comp=Z,9μm,17.2s
UPC Upice 37.35 223 *e*P **P** **19 18 14.9 -0.1**
UPC AMS AMS 19 41 00.0
comp=Z,9μm,15.4s
UPC Upice 37.35 223 *e*P **P** **19 18 14.9 -0.1**
UPC MLR MLR
comp=Z,9μm,15.4s
U35K Hyder 37.35 6 IAMs_20 IAMs_20 19 34 49.9
comp=Z,9μm,19.0s
U35K Hyder 37.35 6 S **S** **19 24 05.4 +3.0**
baz=360
SDPT Sand Point 37.36 34 P **P** **19 18 13.9 -1.1**
baz=357
MOX Moxa 37.38 227 *e*P **P** **19 18 16.1 +0.8**
comp=Z,114nm,1.0s,baz=4.7,slow=8.6
MOX *e*L L 19 40 44.0
comp=Z,5μm,19.2s
PVCC Panska Ves 37.38 224 *e*S **S** **19 24 09.4 +6.4**
PVCC AMS AMS 19 40 10.0
comp=Z,10μm,18.0s
BEBN Eben Emael 37.48 234 *d*P **P** **19 18 15.1 -0.9**
comp=Z,47nm,0.9s
DPC Dobruska-Polom 37.50 222 AMS AMS 19 41 00.0
comp=Z,9μm,16.4s
OJC Ojcow 37.51 219 *e*P **P** **19 18 16.2 -0.1**
OJC *e*S **S** **19 24 04.2 -0.7**
OJC *e*L L 19 32 48.0
comp=Z,7μm,22.1s
OJC Ojcow 37.51 219 P **P** **19 18 16.0 -0.3**
OJC IAmb IAmb 19 18 19.4
comp=Z,82nm,1.1s
OJC Ojcow 37.51 219 P **P** **19 18 16.0 -0.3**
OJC pmax pmax
comp=Z,82nm,1.1s
PLN Plauen 37.52 227 *e*P **P** **19 18 17.2 +0.8**
comp=Z,71nm,1.0s,baz=4.7,slow=8.6
PLN *e*pP **pwP** **19 18 24.8 +2.6**
baz=5.6,slow=8.7
WERD Werda 37.55 227 *e*P **P** **19 18 17.3 +0.6**
comp=Z,5465μm,53.4s,baz=4.7,slow=8.6
TANN Tannenbergstha 37.58 227 *e*P **P** **19 18 17.8 +0.8**
comp=Z,84nm,1.1s,baz=4.7,slow=8.6
TANN *e*pP **pwP** **19 18 25.4 +2.6**
baz=5.6,slow=8.7
GUNZ Gunzen 37.64 227 *e*P **P** **19 18 18.1 +0.7**
comp=Z,74nm,0.9s,baz=4.7,slow=8.6
GUNZ *e*pP **pwP** **19 18 25.8 +2.6**
baz=5.6,slow=8.7
MEM Membach 37.65 233 *d*P **P** **19 18 17.5 0.0**
comp=Z,18nm,1.0s
BTNL Ternell 37.67 233 *d*P **P** **19 18 18.3 +0.6**
AHRW Bad Neuenahr-A 37.67 232 *e*P **P** **19 18 18.6 +0.9**
comp=Z,87nm,1.2s,baz=4.7,slow=8.6
BSTI Sart Tilman 37.70 234 *d*P **P** **19 18 17.4 -0.5**
comp=Z,7.4nm,1.0s
WERN Wernitzgruen 37.71 227 *e*P **P** **19 18 18.9 +0.9**
comp=Z,125nm,0.9s,baz=4.7,slow=8.6
ZAK Zakamensk 37.75 130 *e*P **P** **19 18 18.7 +0.3**
KRLC Kraliky 37.76 222 AMS AMS 19 41 00.0
comp=Z,11μm,16.7s
NKC Novy Kostel 37.76 226 *e*P **P** **19 18 18.7 +0.2**
NKC AMS AMS 19 41 00.0
comp=Z,7μm,16.7s
NKC Novy Kostel 37.76 226 *e*P **P** **19 18 18.7 +0.2**
NKC MLR MLR
comp=Z,7μm,16.7s
LVV L'vov 37.77 214 *e*P **P** **19 18 17.6 -0.9**
LVV *e*S **S** **19 24 06.1 -2.8**
LVV *e*SS **SnSn** **19 26 44.1 -4.1**
LVV MLR MLR
comp=Z,8μm,15.0s
CRAG Craig 37.78 9 IAMs_20 IAMs_20 19 33 49.8
comp=Z,9μm,22.0s
CRAG Craig 37.78 9 P **P** **19 18 16.8 -1.7**
baz=359
CRAG S **S** **19 24 12.1 +3.2**
baz=359
PEA0B Petropavlovsk- 37.80 75 P **P** **19 18 17.9 -0.8**
PEA0B IAmb IAmb 19 18 39.7
comp=Z,245nm,1.7s
PEA0B Petropavlovsk- 37.80 75 P **P** **19 18 18.0 -0.8**
PEA0B pmax pmax
comp=Z,245nm,1.7s
PETK Petropavlovsk- 37.80 75 P **P** **19 18 17.2 -1.6**
PETK Petropavlovsk- 37.80 75 P **P** **19 18 18.1 -0.7**
comp=Z,14nm,0.9s,baz=33,slow=8.6,SNR=10
PETK LR LR 19 35 22.8
comp=Z,5μm,18.4s,baz=356,slow=39
comp=Z,14nm,0.9s
AB31 Akbulak array 37.83 176 *i* P **P** **19 18 17.7 -1.3**
ABKAR Akbulak array 37.83 176 P **P** **19 18 19.1 +0.1**
ABKAR Akbulak array 37.83 176 P **P** **19 18 19.1 +0.1**
ABKAR IAmb IAmb 19 18 22.1
comp=Z,54nm,1.2s
PRA Prague 37.85 224 *e*P **P** **19 18 19.4 +0.3**
PRA AMS AMS 19 40 20.0
comp=Z,11μm,19.1s
PRA Prague 37.85 224 *e*P **P** **19 18 19.4 +0.3**
PRA MLR MLR
comp=Z,11μm,19.1s
DGZ Jazzator, Alta 37.86 147 *i* P **P** **19 18 19.7 +0.2**
DGZ pmax pmax
comp=Z,93nm,1.4s
BCLA Clavier 37.87 234 *d*P **P** **19 18 19.0 -0.4**
comp=Z,33nm,1.1s
BHOU Houvegnez 37.91 233 *d*P **P** **19 18 19.9 +0.2**
comp=Z,41nm,1.0s
CHNA Chernabura Isl 37.91 33 P **P** **19 18 18.1 -1.5**
baz=357
BGES Gesves 37.92 234 *d*P **P** **19 18 18.8 -1.0**
comp=Z,22nm,0.8s
CNBA Chernabura Isl 37.92 33 IAMs_20 IAMs_20 19 33 08.7
comp=Z,16μm,22.0s
PRU Pruhonice 37.93 224 *e*P **P** **19 18 19.7 -0.1**

PRU *e*S **S** **19 24 14.0 +2.8**
PRU AMS AMS 19 40 20.0
comp=Z,10μm,18.1s
PRU Pruhonice 37.93 224 *e*P **P** **19 18 19.7 -0.1**
PRU *e*S **S** **19 24 14.0 +2.8**
PRU MLR MLR
comp=Z,10μm,18.1s
PET Petropavlovsk 37.94 74 P **P** **19 18 20.2 +0.4**
PET Petropavlovsk 37.94 74 *e*P **P** **19 18 19.8 0.0**
PET *e*S **S** **19 24 07.6 -3.7**
PET pmax pmax
comp=Z,48nm,1.1s
PET pmax pmax
comp=Z,700nm,10.7s
PET MLR MLR
comp=Z,3μm,18.0s
PET MLR MLR
comp=Z,3μm,18.0s
TNS Taunus Mts 37.94 231 *e*P **P** **19 18 20.9 +0.9**
comp=Z,92nm,1.1s,baz=4.7,slow=8.6
V35K Ketchikan 37.94 7 IAMs_20 IAMs_20 19 33 47.3
comp=Z,12μm,21.0s
V35K Ketchikan 37.94 7 P **P** **19 18 18.7 -1.1**
baz=359
V35K S **S** **19 24 13.4 +2.2**
baz=359
OKC Ostrava-Krasne 37.95 220 *e*P **P** **19 18 19.9 -0.1**
OKC *e*S **S** **19 24 14.9 +3.4**
OKC AMS AMS 19 40 50.0
comp=Z,14μm,13.7s
OKC Ostrava-Krasne 37.95 220 *e*P **P** **19 18 19.9 -0.1**
OKC *e*S **S** **19 24 14.9 +3.4**
OKC MLR MLR
comp=Z,14μm,13.7s
GOPC GO Pecny, Ondr 37.99 224 *e*P **P** **19 18 20.3 -0.1**
GOPC AMS AMS 19 41 40.0
comp=Z,10μm,15.7s
GOPC GO Pecny, Ondr 37.99 224 *e*P **P** **19 18 20.3 -0.1**
GOPC MLR MLR
comp=Z,10μm,15.7s
KWP Kalwaria Pacla 38.00 216 *e*P **P** **19 18 20.8 +0.3**
KWP *e*S **S** **19 24 13.6 +1.2**
KWP *e*L L 19 32 51.5
comp=Z,10μm,24.4s
KWP Kalwaria Pacla 38.00 216 P **P** **19 18 19.5 -0.9**
KWP IAMs_20 IAMs_20 19 34 19.0
comp=Z,10μm,19.0s
KWP Kalwaria Pacla 38.00 216 P **P** **19 18 19.5 -0.9**
KWP pmax pmax
comp=Z,257nm,1.6s
KWP MLR MLR
comp=Z,10μm,19.0s
BMRD Maredsous 38.01 235 *d*P **P** **19 18 20.3 -0.2**
comp=Z,24nm,1.0s
MANZ Manzenberg 38.02 227 *e*P **P** **19 18 21.5 +0.8**
comp=Z,22nm,1.4s,baz=4.7,slow=8.6
MORC Moravsky Berou 38.03 221 ⇓P **P** **19 18 20.1 -0.6**
MORC Moravsky Berou 38.03 221 P **P** **19 18 19.2 -1.5**
MORC IAmb IAmb 19 18 23.9
comp=Z,108nm,1.3s
MORC Moravsky Berou 38.03 221 *e*P **P** **19 18 19.9 -0.8**
MORC Moravsky Berou 38.03 221 P **P** **19 18 20.1 -0.6**
RCHB Rochefort 38.14 234 *d*P **P** **19 18 20.2 -1.4**
comp=Z,40nm,0.9s
RCHB *dp*P **pP** **19 18 22.1 -0.7**
DOU Dourbes 38.23 235 *d*P **P** **19 18 22.2 -0.2**
comp=Z,16nm,1.1s
ROTZ Rotzenmuhle 38.24 227 *e*P **P** **19 18 23.5 +1.0**
comp=Z,25nm,1.1s,baz=4.7,slow=8.6
STHS Stebnicka Huta 38.26 217 *e*P **P** **19 18 22.5 -0.2**
STHS Stebnicka Huta 38.26 217 *e*P **P** **19 18 22.5 -0.2**
STHS pmax pmax
comp=Z,57nm,1.2s
NIE Niedzica 38.29 218 *e*P **P** **19 18 24.2 +1.2**
NIE *e*L L 19 33 15.2
comp=Z,3μm,21.9s
GRA1 Grafenberg Arr 38.35 228 P **P** **19 18 22.6 -0.8**
GRA1 IAmb IAmb 19 18 26.3
comp=Z,114nm,1.0s
GRF Grafenberg Arr 38.35 228 P **P** **19 18 22.7 -0.8**
GRF pmax pmax
comp=Z,114nm,1.0s
GRF MLR MLR
comp=Z,5μm,18.0s
GRF Grafenberg Arr 38.35 228 *e*P **P** **19 18 24.5 +1.1**
comp=Z,124nm,1.0s,baz=4.7,slow=8.6
GRF *ep*P **pwP** **19 18 32.2 +3.0**
baz=5.6,slow=8.7
GRF *e*L L 19 34 07.4
comp=Z,4μm,19.2s
GRFO Grafenberg 38.35 228 P **P** **19 18 22.9 -0.5**
GRFO IAmb IAmb 19 18 26.3
comp=Z,109nm,1.0s
GRFO Grafenberg 38.35 228 P **P** **19 18 22.9 -0.5**
GRFO pmax pmax
comp=Z,109nm,1.0s
GRFO MLR MLR
comp=Z,5μm,18.0s
FFC Flin Flon 38.36 340 P **P** **19 18 22.6 -0.8**
FFC Flin Flon 38.36 340 P **P** **19 18 22.6 -0.8**
FFC pmax pmax
comp=Z,99nm,1.9s
FFC MLR MLR
comp=Z,25μm,18.0s
AKUT Akutan 38.41 39 IAMs_20 IAMs_20 19 35 40.3
comp=Z,13μm,19.0s
MAUC Maruska 38.43 221 *e*P **P** **19 18 24.4 +0.3**
MAUC *e*S **S** **19 24 23.0 +4.1**
ZVC Zvikov 38.49 225 *e*P **P** **19 18 24.4 -0.2**
ZVC AMS AMS 19 40 40.0
comp=Z,11μm,17.9s
VRAC Vranov 38.53 222 ⇑P **P** **19 18 25.7 +0.8**
VRAC Vranov 38.53 222 *e*P **P** **19 18 24.6 -0.3**
VRAC Vranov 38.53 222 P **P** **19 18 25.7 +0.8**
VRAC Vranov 38.53 222 LR LR 19 33 55.0
comp=Z,5μm,20.5s,baz=2.5,slow=36
LANS Liptovska Anna 38.59 219 *e*P **P** **19 18 26.5 +1.1**
LANS Liptovska Anna 38.59 219 *e*P **P** **19 18 26.5 +1.1**
LANS pmax pmax
comp=Z,20nm,0.9s
WLF Walferdange 38.59 233 P **P** **19 18 25.4 0.0**
WLF IAmb IAmb 19 18 35.3
comp=Z,121nm,1.4s
WLF Walferdange 38.59 233 *d*P **P** **19 18 26.1 +0.7**
WLF Walferdange 38.59 233 P **P** **19 18 25.9 +0.5**
WLF S **S** **19 24 23.4 +2.1**
WLF Walferdange 38.59 233 P **P** **19 18 25.4 0.0**
WLF pmax pmax
comp=Z,121nm,1.4s
WLF Walferdange 38.59 233 *e*P **P** **19 18 26.5 +1.1**
comp=Z,100nm,1.3s,baz=4.7,slow=8.6
WLF *ep*P **pwP** **19 18 34.9 +3.7**
baz=5.6,slow=8.7
UNV Unalaska Valle 38.67 40 P **P** **19 18 24.8 -1.2**
baz=357
UNV S **S** **19 24 27.0 +4.6**
baz=357
KOLS Kolonicke sedl 38.71 216 *e*P **P** **19 18 27.0 +0.6**
KOLS Kolonicke sedl 38.71 216 *e*P **P** **19 18 27.0 +0.6**
CRVS Cervenica-Dubn 38.77 217 *e*P **P** **19 18 27.4 +0.5**
CRVS Cervenica-Dubn 38.77 217 *e*P **P** **19 18 27.4 +0.5**
CRVS pmax pmax
comp=Z,2μm,3.1s
KRUC Moravsky 38.78 222 *e*P **P** **19 18 26.7 -0.3**
KHC Kasperske Hory 38.82 225 P **P** **19 18 27.6 +0.2**
KHC Kasperske Hory 38.82 225 *e*P **P** **19 18 27.2 -0.2**
KHC *e*S **S** **19 24 31.0 +6.2**
KHC AMS AMS 19 41 00.0
comp=Z,11μm,18.4s
KHC Kasperske Hory 38.82 225 *e*P **P** **19 18 27.2 -0.2**
KHC *e*S **S** **19 24 31.0 +6.2**
KHC MLR MLR
comp=Z,11μm,18.4s
WET Wettzell 38.83 226 *e*P **P** **19 18 28.7 +1.2**
comp=Z,70nm,1.2s,baz=4.7,slow=8.6
JAVC Velka Javorina 38.94 221 *e*P **P** **19 18 28.7 +0.3**
RUBB Prince Rupert 38.95 6 P **P** **19 18 29.0 +0.7**
OTUK Ortayu 38.97 163 P **P** **19 18 27.3 -1.3**
SHEM Shemya Is, Ala 38.99 59 LR LR 19 35 00.7
comp=Z,5μm,20.7s,baz=358,slow=37
HEH HeiHe 39.03 105 *e*P **P** **19 18 28.5 -0.5**
HEH sP **pwP** **19 18 36.3 +1.4**
HEH PP **PP** **19 19 59.0 +0.9**
HEH PcP **PcP** **19 20 38.0 -0.8**
HEH S **S** **19 24 25.5 -2.3**

HEH sS **sS** **19 24 33.0 +3.3**
HEH SS **SnSn** **19 27 05.3 -13**
HEH pmax pmax
comp=Z,32nm,1.1s
HEH pmax pmax
comp=Z,1μm,5.3s
HEH LR LR
comp=Z,7μm,17.1s
HEH LR LR
comp=Z,7μm,18.6s
HEH LR LR
comp=Z,11μm,17.1s
GEC2 GERESS Array S 39.10 225 P **P** **19 18 30.1 +0.3**
GEC2 GERESS Array S 39.10 225 *e*P **P** **19 18 30.8 +1.0**
comp=Z,70nm,1.1s,baz=4.7,slow=8.6
GERES GERESS Array B 39.10 225 P **P** **19 18 29.3 -0.5**
GERES GERESS Array B 39.10 225 P **P** **19 18 29.3 -0.5**
GERES GERESS Array B 39.10 225 P **P** **19 18 28.1 -1.7**
comp=Z,28nm,0.8s,baz=3.2,slow=5.4,SNR=20
GERES LR LR 19 33 54.5
comp=Z,4μm,21.9s,baz=10.0,slow=35
comp=Z,28nm,0.8s
CKRC Cesky Krumlov 39.10 224 *e*P **P** **19 18 29.4 -0.3**
CKRC *e*S **S** **19 24 32.9 +3.8**
CKRC AMS AMS 19 42 20.0
comp=Z,10μm,14.9s
CKRC Cesky Krumlov 39.10 224 *e*P **P** **19 18 29.4 -0.3**
CKRC *e*S **S** **19 24 32.9 +3.8**
CKRC MLR MLR
comp=Z,10μm,14.9s
BRLDA Berland Lookou 39.18 354 P **P** **19 18 31.1 +0.7**
BRLDA IAmb IAmb 19 18 34.2
comp=Z,207nm,1.4s
BRLDA IAMs_20 IAMs_20 19 34 30.5
comp=Z,13μm,21.0s
VYHS Vyhne 39.26 220 *e*P **P** **19 18 31.5 +0.4**
VYHS Vyhne 39.26 220 *e*P **P** **19 18 31.5 +0.4**
VYHS pmax pmax
comp=Z,105nm,1.5s
SMOL Smolenice 39.29 221 *e*P **P** **19 18 32.6 +1.3**
SMOL pmax pmax
comp=Z,105nm,1.6s
SORM Soroca 39.33 210 ⇓P **P** **19 18 31.2 -0.4**
SORM Soroca 39.33 210 P **P** **19 18 31.2 -0.4**
STU Stuttgart 39.35 230 P **P** **19 18 31.5 -0.3**
STU IAmb IAmb 19 18 34.5
comp=Z,92nm,1.0s
STU Stuttgart 39.35 230 P **P** **19 18 31.5 -0.3**
STU pmax pmax
comp=Z,92nm,1.0s
STU MLR MLR
comp=Z,2μm,21.0s
STU Stuttgart 39.35 230 *e*P **P** **19 18 32.7 +0.9**
comp=Z,267nm,1.1s,baz=4.7,slow=8.6
GRNB Grenville Isla 39.43 6 P **P** **19 18 33.3 +0.9**
MODS Modra-Piesok 39.44 221 *e*P **P** **19 18 33.7 +1.1**
MODS Modra-Piesok 39.44 221 *e*P **P** **19 18 33.7 +1.1**
MODS pmax pmax
comp=Z,331nm,1.2s
NIKH Nikolski High 39.46 42 P **P** **19 18 32.2 -0.4**
baz=357
TRPA Tarpa 39.50 216 ⇓P **P** **19 18 33.3 +0.3**
CLES Cleveland East 39.57 43 IAMs_20 IAMs_20 19 34 37.1
comp=Z,9μm,22.0s
HIA Hailar 39.62 113 P **P** **19 18 34.5 +0.5**
HIA Hailar 39.62 113 P **P** **19 18 34.4 +0.3**
HIA Hailar 39.62 113 P **P** **19 18 34.5 +0.5**
HIA pmax pmax
comp=Z,127nm,1.6s
HIA MLR MLR
comp=Z,4μm,22.0s
ZST Bratislava 39.62 221 *e*P **P** **19 18 35.4 +1.4**
ZST Bratislava 39.62 221 *e*P **P** **19 18 35.4 +1.4**
ZST pmax pmax
comp=Z,1μm,2.3s
PSZ Piszkesteto 39.80 218 ⇓P **P** **19 18 35.2 -0.4**
PSZ Piszkesteto 39.80 218 P **P** **19 18 35.4 -0.2**
PSZ IAmb IAmb 19 18 39.4
comp=Z,119nm,1.2s
PSZ Piszkesteto 39.80 218 P **P** **19 18 39.4 +3.7**
BFO Black Forest 39.83 231 P **P** **19 18 35.4 -0.4**
BFO Black Forest 39.83 231 P **P** **19 18 35.4 -0.4**
BFO pmax pmax
comp=Z,94nm,1.2s
BFO MLR MLR
comp=Z,4μm,19.0s
BFO Black Forest 39.83 231 *e*P **P** **19 18 36.8 +1.0**
comp=Z,109nm,1.2s,baz=4.7,slow=8.6
BFO *ep*P **pwP** **19 18 45.2 +3.5**
baz=5.6,slow=8.7
FUR Furstenfeldbru 39.87 228 *e*P **P** **19 18 37.2 +1.0**
comp=Z,91nm,1.0s,baz=4.7,slow=8.6
BUR08 Bucovina Ar. S 39.91 213 P **P** **19 18 36.2 -0.4**
BMR Baia Mare 39.93 215 ⇑P **P** **19 18 37.5 +0.9**
BMR Baia Mare 39.93 215 P **P** **19 18 37.5 +0.9**
CONA Conrad Observa 39.94 223 *ep*P **P** **19 18 36.6 -0.2**
comp=Z,66nm,1.6s,SNR=20
BURAR Bucovina Array 39.94 213 ⇑P **P** **19 18 37.0 +0.2**
BURAR Bucovina Array 39.94 213 P **P** **19 18 36.5 -0.3**
BURAR Bucovina Array 39.94 213 ⇑P **P** **19 18 37.0 +0.2**
ECH Echery 39.99 232 P **P** **19 18 36.2 -0.9**
ECH Echery 39.99 232 P **P** **19 18 36.3 -0.9**
ECH pmax pmax
comp=Z,88nm,1.0s
ECH MLR MLR
comp=Z,3μm,20.0s
EDM Edmonton 40.02 350 P **P** **19 18 36.6 -0.8**
EDM IAmb IAmb 19 18 40.7
comp=Z,170nm,1.1s
EDM IAMs_20 IAMs_20 19 34 33.7
comp=Z,20μm,21.0s
EDM Edmonton 40.02 350 P **P** **19 18 36.6 -0.8**
EDM pmax pmax
comp=Z,170nm,1.1s
EDM MLR MLR
comp=Z,20μm,21.0s
ATKA Atka Island 40.03 48 P **P** **19 18 37.6 +0.2**
ATKA Atka Island 40.03 48 P **P** **19 18 37.8 +0.5**
ZSN Zaisan 40.04 150 *e*P **P** **19 18 36.6 -1.0**
comp=Z,226nm,2.6s,baz=149
ZSN *e*PP **PP** **19 20 09.0 -0.3**
baz=149
ZSN Zaisan 40.04 150 *e*P **P** **19 18 36.5 -1.0**
ZSN *e* 19 20 08.9
ZSN pmax pmax
comp=Z,226nm,2.6s
DIB Dawson Inlet, 40.06 8 P **P** **19 18 37.3 -0.3**
MOA Molln 40.07 224 *ep*P **P** **19 18 37.6 -0.3**
comp=Z,73nm,1.4s,SNR=14
SKR Severo-Kuril's 40.14 76 *e*P **P** **19 18 36.1 -2.2**
SKR pmax pmax
comp=Z,800nm,6.1s
SKR MLR MLR
comp=Z,6μm,17.0s
RONA Rosalia, Austr 40.15 222 *ep*P **P** **19 18 38.5 0.0**
comp=Z,68nm,1.8s,SNR=18
RJOB Jochberg 40.24 226 *e*P **P** **19 18 40.2 +1.0**
comp=Z,71nm,0.9s,baz=4.7,slow=8.6
ADK Adak 40.24 50 P **P** **19 18 39.2 +0.1**
ADK IAmb IAmb 19 18 48.7
comp=Z,234nm,1.5s
ADK Adak 40.24 50 P **P** **19 18 39.2 +0.1**
ADK pmax pmax
comp=Z,234nm,1.5s
ADK MLR MLR
comp=Z,4μm,22.0s
BIOA Bad Ischl, Aus 40.26 225 *e*P **P** **19 18 38.1 -1.2**
comp=Z,21nm,0.9s,SNR=11
KLR Kul'dur 40.28 101 *ce*P **P** **19 18 39.1 -0.4**
KLR pmax pmax
comp=Z,28nm,1.0s
KLR Kul'dur 40.28 101 LR LR 19 35 26.6
comp=Z,8μm,20.6s,baz=351,slow=36
CLF Chambon-Foret 40.40 237 P **P** **19 18 40.4 -0.1**
UBR Ueberruh 40.41 229 *e*P **P** **19 18 41.9 +1.3**
comp=Z,274nm,1.8s,baz=4.7,slow=8.6
ULN Ulaanbaatar 40.42 126 P **P** **19 18 41.5 +0.7**
ULN IAmb IAmb 19 18 56.0
comp=Z,298nm,1.9s
ULN Ulaanbaatar 40.42 126 P **P** **19 18 41.6 +0.7**
ULN P **P** **19 18 41.6 +0.7**
ULN S **S** **19 24 52.0 +2.8**
ULN S **S** **19 24 52.0 +2.8**
ULN Ulaanbaatar 40.42 126 P **P** **19 18 45.6 +4.7**
SONM Songino Array 40.42 127 P **P** **19 18 41.0 +0.1**

SONM IAmb IAmb 19 18 54.5
comp=Z,192nm,1.7s
SONM Songino Array 40.42 127 P **P** **19 18 41.0 +0.1**
comp=Z,23nm,0.8s,baz=341,slow=6.4,SNR=108
SONM PcP **PcP** **19 20 43.9 +0.3**
comp=Z,8.5nm,1.0s,baz=335,slow=1.8,SNR=3.8
SONM LR LR 19 37 22.2
comp=Z,7μm,18.4s,baz=352,slow=39
comp=Z,23nm,0.8s
KIS Kishinev 40.45 209 ⇑*i*P **P** **19 18 37.8 -3.1**
comp=Z,660nm,5.6s
KIS Kishinev 40.45 209 *c i*P **P** **19 18 37.8 -3.1**
KIS *e*S **S** **19 24 43.0 -6.3**
KIS *e* 19 27 44.0
KIS pmax pmax
comp=Z,660nm,5.6s
KIS MLR MLR
comp=Z,7μm,17.8s
KIS MLR MLR
comp=N,5μm,18.0s
MILM Milestii Mici 40.53 209 ⇓P **P** **19 18 41.4 -0.2**
MILM Milestii Mici 40.53 209 ⇓P **P** **19 18 41.4 -0.2**
LESA Schwarzleotal 40.56 226 *i* pP **P** **19 18 41.8 -0.1**
comp=N,36nm,0.9s
RETA Reutte 40.57 228 *ep*P **P** **19 18 42.0 0.0**
comp=N,63nm,1.2s,SNR=23
AMKA Amchitka 40.58 54 P **P** **19 18 41.2 -0.7**
MAKZ Makanchi 40.60 153 P **P** **19 18 41.3 -0.9**
MAKZ IAMs_20 IAMs_20 19 37 16.4
comp=Z,14μm,20.0s
MAKZ Makanchi 40.60 153 P **P** **19 18 41.9 -0.3**
MK31 Makanchi Array 40.62 152 P **P** **19 18 41.3 -1.1**
MK31 IAmb IAmb 19 18 50.2
comp=Z,128nm,1.8s
MK31 Makanchi Array 40.62 152 P **P** **19 18 41.3 -1.1**
MK31 pmax pmax
comp=Z,128nm,1.8s
MKAR Makanchi Array 40.62 152 P **P** **19 18 41.1 -1.3**
MKAR Makanchi Array 40.62 152 P **P** **19 18 41.9 -0.5**
comp=Z,31nm,0.9s,baz=4.0,slow=6.3,SNR=5.2
MKAR PP **PnPn** **19 20 20.9 +1.3**
comp=Z,12nm,1.0s,baz=357,slow=9.0,SNR=4.0
MKAR PcP **PcP** **19 20 43.9 -0.2**
comp=Z,14nm,1.0s,baz=327,slow=2.4,SNR=3.5
MKAR LR LR 19 37 17.8
comp=Z,15μm,21.2s,baz=356,slow=39
comp=Z,31nm,0.9s
ARSA Arzberg 40.62 223 *ep*P **P** **19 18 42.3 -0.1**
comp=Z,34nm,2.0s,SNR=13
WATA Walderalm 40.69 227 *i* pP **P** **19 18 43.0 -0.1**
comp=Z,22nm,1.0s,SNR=9.5
MOTA Moosalm 40.70 228 *ep*P **P** **19 18 43.3 +0.1**
comp=Z,41nm,1.0s,SNR=17
WTTA Wattenberg 40.76 227 *ep*P **P** **19 18 44.0 +0.3**
comp=Z,54nm,1.4s,SNR=14
DAVA Damuels 40.81 229 *ep*P **P** **19 18 43.5 -0.6**
comp=Z,39nm,1.1s,SNR=18
SQTA Sankt Quirin 40.82 228 *ep*P pP 19 18 45.4 +0.1
comp=Z,30nm,1.0s,SNR=12
MARR Marisel-Cluj 40.94 215 ⇓P **P** **19 18 45.8 +0.7**
TESR Tescani 41.00 211 ⇓P **P** **19 18 45.5 0.0**
FETA Feichten 41.04 228 *ep*P **P** **19 18 46.3 +0.3**
comp=Z,33nm,1.1s,SNR=19
BBB Bella Bella 41.10 4 P **P** **19 18 46.2 0.0**
BBB IAMs_20 IAMs_20 19 37 10.6
comp=Z,15μm,20.0s
BBB Bella Bella 41.10 4 LR LR 19 37 12.0
comp=Z,14μm,20.3s,baz=358,slow=38
SOKA Soboth 41.22 223 *ep*P **P** **19 18 47.4 0.0**
comp=Z,34nm,0.9s,SNR=19
ABTA Abfaltersbach 41.24 226 *ep*P **P** **19 18 47.6 0.0**
comp=Z,30nm,0.9s,SNR=19
PERS Pernice 41.25 223 *i* P **P** **19 18 47.7 +0.1**
PERS *e*SS SS 19 28 06.4 +2.4
DAVOX Davos/Dischmat 41.31 229 LR LR 19 36 00.6
comp=Z,3μm,20.2s,baz=6.0,slow=36
MYKA Terra Mystica 41.31 225 *ep*P **P** **19 18 48.5 +0.3**
comp=Z,61nm,1.1s,SNR=25
SIRR Siria 41.39 217 ⇑P **P** **19 18 49.9 +1.2**
OBKA Obir 41.40 224 *ep*P **P** **19 18 48.9 0.0**
comp=Z,71nm,0.9s
OBKA Obir 41.40 224 *e*P **P** **19 18 48.5 -0.4**
GHRR 41.43 210 ⇑P **P** **19 18 49.8 +0.8**
OZUR 41.44 212 ⇑P **P** **19 18 50.0 +0.8**
FUORN Ofenpass-Fuorn 41.46 228 P **P** **19 18 50.1 +0.5**
FUORN IAmb IAmb 19 18 53.0
comp=Z,92nm,1.1s
PRED Cave del Predi 41.51 225 P **P** **19 18 49.8 +0.1**
CLUD Cludinico 41.52 226 P **P** **19 18 49.8 0.0**
CLUD IAmb IAmb 19 18 55.1
comp=Z,117nm,1.0s
MORH Mrgy, Hungar 41.55 220 ⇓P **P** **19 18 50.1 +0.1**
DOPR Dopca 41.58 213 ⇑P **P** **19 18 50.6 +0.3**
VRI Vrincioaia 41.64 211 ⇑P **P** **19 18 50.1 -0.7**
VRI Vrincioaia 41.64 211 P **P** **19 18 50.1 -0.7**
TUE Stuetta 41.64 229 P **P** **19 18 51.1 +0.1**
PLOR Plostina 41.66 211 ⇓P **P** **19 18 51.1 +0.1**
PLOR Plostina 41.66 211 ⇓P **P** **19 18 51.1 +0.1**
STAL STALIGIAL 41.72 226 P **P** **19 18 50.8 -0.7**
SCTR Scanteiesti 41.80 210 ⇑P **P** **19 18 52.6 +0.6**
SENIN Lac Senin/Sane 41.84 231 P **P** **19 18 52.7 +0.1**
SENIN IAMs_20 IAMs_20 19 39 17.1
comp=Z,17μm,18.0s
LJU Ljubljana 41.87 224 *i* P **P** **19 18 52.3 -0.3**
LJU *i* PP **PnPn** **19 20 35.0 +0.9**
LJU *e*S **S** **19 25 14.8 +4.5**
LJU *e*SS **SS** **19 28 19.3 +3.3**
SURR Surduc 41.89 216 ⇓P **P** **19 18 53.5 +0.7**
SABO M.te Sabotino 41.97 225 P **P** **19 18 53.0 -0.4**
SABO IAmb IAmb 19 18 55.6
comp=Z,76nm,1.0s
SABO IAMs_20 IAMs_20 19 35 15.3
comp=Z,6μm,22.0s
MLR Muntele Rosu 42.04 212 ⇑P **P** **19 18 54.6 +0.4**
MLR Muntele Rosu 42.04 212 P **P** **19 18 54.6 +0.4**
MLR Muntele Rosu 42.04 212 P **P** **19 18 54.6 +0.4**
MLR Muntele Rosu 42.04 212 LR LR 19 36 51.3
comp=Z,26μm,18.7s,baz=358,slow=37
BZS Buzias 42.05 217 ⇑P **P** **19 18 54.7 +0.7**
BZS Buzias 42.05 217 P **P** **19 18 54.7 +0.7**
GOF Gofitskoye 42.11 194 *c i*P **P** **19 18 55.2 +0.6**
VOIR 42.12 213 ⇓P **P** **19 18 54.9 +0.1**
VOIR 42.12 213 ⇓P **P** **19 18 54.9 +0.1**
LOT Lotru 42.15 214 ⇓P **P** **19 18 55.2 +0.2**
CEY Cerknica 42.18 224 *e*P **P** **19 18 54.5 -0.7**
CEY Cerknica 42.18 224 *i* P **P** **19 18 54.4 -0.8**
CEY *e*PP **PP** **19 20 37.7 +5.2**
CEY *i* S **S** **19 25 18.2 +3.3**
CEY *e*SS **SS** **19 28 25.4 +3.3**
BTLS Baital 42.20 161 *e*P **P** **19 18 54.7 -0.7**
comp=Z,228nm,3.3s,baz=160
BTLS Baital 42.20 161 *e*P **P** **19 18 54.6 -0.7**
BTLS pmax pmax
comp=Z,228nm,3.3s
GZR Gura Zlata 42.23 215 ⇑P **P** **19 18 56.1 +0.4**
GZR Gura Zlata 42.23 215 ⇑P **P** **19 18 56.1 +0.4**
DRLN Deer Lake 42.26 297 IAMs_20 IAMs_20 19 35 29.7
comp=Z,11μm,20.0s
CFR Carcaliu 42.29 210 ⇓P **P** **19 18 55.8 -0.2**
CFR Carcaliu 42.29 210 P **P** **19 18 55.8 -0.2**
BOJS Bojanci 42.38 223 *e*P **P** **19 18 57.7 +0.9**
ISR Istrita 42.39 211 ⇑P **P** **19 18 57.6 +0.6**
ISR Istrita 42.39 211 P **P** **19 18 57.6 +0.6**
ANN Anapa 42.46 200 *i* P **P** **19 18 57.4 0.0**
ANN *e* 19 20 33.9
ANN *e*S **S** **19 25 21.5 +2.5**
ANN *i* SS **SS** **19 28 24.5 -3.1**
ANN *e*SSS SSS 19 29 01.0
ANN pmax pmax
comp=E,222nm,2.3s
ANN pmax pmax
comp=N,1μm,5.0s
ANN pmax pmax
comp=Z,3μm,6.9s
ANN pmax pmax
comp=N,52nm,1.3s
ANN pmax pmax
comp=Z,228nm,2.6s
ANN pmax pmax
comp=E,22nm,1.0s
ANN MLR MLR
comp=E,2μm,10.0s
ANN MLR MLR
comp=Z,9μm,14.0s
FRGS Fruska Gora 42.56 218 ⇓P **P** **19 18 59.0 +0.6**

FRGS	**Fruska Gora**	**42.56 218**	⇓*i*P	**P**	**19 18 58.9**	**+0.6**
HOLB	**Holberg**	**42.65 4**	IAMs_20	IAMs_20	19 37 46.5	
	comp=Z,8μm,20.0s					
A052A	**Srbac**	**42.70 221**	*e*P	**P**	**19 19 00.9**	**+1.6**
ULM	**Lac du Bonnet**	**42.71 334**	P	**P**	**19 18 58.2**	**-1.2**
ULM			IAMs_20	IAMs_20	19 36 25.2	
	comp=Z,13μm,20.0s					
ULM	**Lac du Bonnet**	**42.71 334**	P	**P**	**19 18 58.5**	**-0.9**
	comp=Z,29nm,1.0s,baz=354,slow=7.7,SNR=20					
ULM			PcP	**PcP**	**19 20 50.0**	**-0.8**
	comp=Z,18nm,0.8s,baz=2.2,slow=4.1,SNR=7.4					
ULM			LR	LR	19 36 45.9	
	comp=Z,13μm,19.2s,baz=8.5,slow=36					
	comp=Z,29nm,1.0s					
HARR	**Harsova**	**42.78 210**	⇓P	**P**	**19 18 59.5**	**-0.5**
HARR	**Harsova**	**42.78 210**	⇓P	**P**	**19 18 59.5**	**-0.5**
A051A	**Mrakovica**	**42.81 221**	⇓*i*P	**P**	**19 18 58.7**	**-1.7**
MDVR	**Moldovita**	**42.88 216**	⇑P	**P**	**19 19 01.9**	**+1.0**
DJES	**Djerdap**	**42.97 216**	P	**P**	**19 19 01.7**	**+0.1**
TIRR	**Tirgusor**	**43.00 209**	P	**P**	**19 19 02.0**	**+0.2**
TIRR			IAmb	IAmb	19 19 10.7	
	comp=Z,313nm,1.8s					
TIRR	**Tirgusor**	**43.00 209**	P	**P**	**19 19 02.0**	**+0.2**
TIRR			pmax	pmax		
	comp=Z,313nm,1.8s					
TIRR			MLR	MLR		
	comp=Z,41μm,19.0s					
HUMR	**Humele**	**43.03 213**	⇑P	**P**	**19 19 02.3**	**+0.3**
SSB	**Saint Sauveur**	**43.04 234**	P	**P**	**19 19 02.0**	**-0.2**
SSB	**Saint Sauveur**	**43.04 234**	P	**P**	**19 19 02.0**	**-0.2**
SSB			pmax	pmax		
	comp=Z,51nm,1.4s					
SSB			MLR	MLR		
	comp=Z,5μm,21.0s					
BLY	**Banja Luka**	**43.06 221**	⇓*i*P	**P**	**19 19 02.6**	**+0.3**
YSS	**Yuzh-Sakhalins**	**43.14 90**	P	**P**	**19 19 03.0**	**+0.1**
YSS			IAmb	IAmb	19 19 18.6	
	comp=Z,245nm,1.6s					
YSS	**Yuzh-Sakhalins**	**43.14 90**	P	**P**	**19 19 03.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**43.14 90**	κ*e*P	**P**	**19 19 02.9**	**+0.1**
YSS			*e*		19 20 42.6	
YSS			*e*S	**S**	**19 25 28.0**	**-1.0**
YSS			pmax	pmax		
	comp=Z,50nm,1.3s					
YSS			pmax	pmax		
	comp=Z,1μm,4.6s					
YSS			pmax	pmax		
	comp=N,500nm,4.1s					
YSS			smax	smax		
	comp=N,2μm,10.3s					
YSS			MLR	MLR		
	comp=Z,3μm,18.0s					
YSS			MLR	MLR		
	comp=N,3μm,17.0s					
YSS			MLR	MLR		
	comp=E,2μm,17.0s					
TEKS	**Tekeris**	**43.18 219**	*e*P	**P**	**19 19 02.9**	**-0.4**
KVAR	**Kislovodsk Arr**	**43.22 194**	LR	LR	19 39 25.9	
	comp=E,9μm,22.0s,baz=262,slow=40					
KIV	**Kislovodsk**	**43.22 194**	⇑P	**P**	**19 19 04.3**	**+0.5**
KIV	**Kislovodsk**	**43.22 194**	P	**P**	**19 19 03.7**	**0.0**
KIV			IAMs_20	IAMs_20	19 38 56.3	
	comp=Z,12μm,18.0s					
KIV	**Kislovodsk**	**43.22 194**	*i* P	**P**	**19 19 03.7**	**0.0**
	SNR=11					
KIV	**Kislovodsk**	**43.22 194**	P	**P**	**19 19 04.2**	**+0.5**
KIV			P	**P**	**19 19 04.2**	**+0.5**
KIV			P	**P**	**19 19 04.2**	**+0.5**
KIV			S	**S**	**19 25 34.1**	**+3.6**
KIV			S	**S**	**19 25 34.1**	**+3.6**
KIV			S	**S**	**19 25 34.1**	**+3.6**
KIV	**Kislovodsk**	**43.22 194**	*e*P	**P**	**19 19 02.1**	**-1.6**
KIV			*e*		19 20 42.0	
KIV			*e*S	**S**	**19 25 29.3**	**-1.1**
KIV			*e*SS	**SS**	**19 28 43.1**	**+0.3**
KIV			pmax	pmax		
	comp=Z,285nm,4.1s					
KIV			pmax	pmax		
	comp=Z,52nm,1.0s					
KIV			MLR	MLR		
	comp=Z,8μm,16.0s					
CBB	**Campbell River**	**43.27 1**	P	**P**	**19 19 04.2**	**+0.3**
CBB			IAMs_20	IAMs_20	19 38 31.7	
	comp=Z,7μm,18.0s					
KUU	**Kurty**	**43.39 159**	*e*P	**P**	**19 19 04.3**	**-0.7**
	baz=158					
KUU			LR	LR	19 40 07.6	
	comp=Z,8μm,15.1s,baz=158					
KUU	**Kurty**	**43.39 159**	*e*P	**P**	**19 19 04.3**	**-0.7**
KUU			MLR	MLR		
	comp=Z,8μm,15.0s					
MGRS	**Mrkonjic Grad**	**43.40 221**	*e*P	**P**	**19 19 06.0**	**+0.9**
CHKK	**Chushkaly**	**43.44 158**	*e*P	**P**	**19 19 04.6**	**-0.8**
	baz=157					
CHKK	**Chushkaly**	**43.44 158**	*e*P	**P**	**19 19 04.6**	**-0.8**
KBZ	**Khabaz**	**43.44 194**	P	**P**	**19 19 05.1**	**-0.3**
	comp=Z,15nm,1.0s,baz=351,slow=8.0,SNR=19					
KBZ			PP	**PP**	**19 20 48.5**	**+2.5**
	comp=Z,24nm,0.9s,baz=346,slow=9.3,SNR=5.1					
KBZ			LR	LR	19 39 28.2	
	comp=Z,11μm,21.4s,baz=350,slow=39					
	comp=Z,15nm,1.0s					
BNX	**BinXian**	**43.53 106**	⇓P	**P**	**19 19 05.5**	**-0.6**
BNX			pP	**sP**	**19 19 07.5**	**-0.2**
BNX			PcP	**PcP**	**19 20 51.8**	**-1.8**
BNX			S	**S**	**19 25 34.0**	**-0.7**
BNX			sS	**sS**	**19 25 41.5**	**+4.9**
BNX			pmax	pmax		
	comp=Z,51nm,1.2s					
BNX			pmax	pmax		
	comp=Z,1μm,4.4s					
BNX			LR	LR		
	comp=Z,4μm,15.8s					
BNX			LR	LR		
	comp=Z,3μm,16.6s					
BNX			LR	LR		
	comp=Z,6μm,16.4s					
DIVS	**Divibare**	**43.62 218**	⇓*i*P	**P**	**19 19 06.6**	**-0.3**
SOC	**Sochi**	**43.63 197**	*c i*P	**P**	**19 19 07.1**	**+0.2**
SOC			*e*		19 20 46.3	
SOC			*e*PPP	PPP	19 21 20.0	
SOC			*e*S	**S**	**19 25 39.0**	**+2.7**
SOC			*e*SS	**SS**	**19 28 43.9**	**-6.8**
SOC			pmax	pmax		
	comp=Z,36nm,1.1s					
SOC			MLR	MLR		
	comp=Z,13μm,18.0s					
NCK	**Nalchik**	**43.67 193**	*i* P	**P**	**19 19 06.8**	**-0.4**
NCK			pmax	pmax		
	comp=Z,160nm,1.8s					
WMQ	**Urumqi**	**43.74 147**	⇑P	**P**	**19 19 07.8**	**-0.1**
WMQ			pP	pwP	19 19 14.5	+0.6
WMQ			PcP	**PcP**	**19 20 57.5**	**+3.0**
WMQ			S	**S**	**19 25 42.8**	**+4.8**
WMQ			ScS	**ScS**	**19 29 01.0**	**-5.9**
WMQ			pmax	pmax		
	comp=Z,68nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,2μm,6.7s					
WMQ			LR	LR		
	comp=Z,19μm,15.9s					
WMQ			LR	LR		
	comp=Z,9μm,17.7s					
WMQ			LR	LR		
	comp=Z,17μm,21.5s					
SGDS	**Sogindy**	**43.80 161**	*e*P	**P**	**19 19 07.8**	**-0.6**
	comp=Z,295nm,3.5s,baz=160					
SGDS	**Sogindy**	**43.80 161**	*e*P	**P**	**19 19 07.8**	**-0.6**
SGDS			pmax	pmax		
	comp=Z,295nm,3.5s					
PSN	**Preselentsi**	**43.83 210**	*e*P	**P**	**19 19 10.3**	**+1.8**
KPKS	**Kokpek**	**43.87 156**	*e*P	**P**	**19 19 08.3**	**-0.7**
	comp=Z,163nm,2.4s,baz=155					
KPKS	**Kokpek**	**43.87 156**	*e*P	**P**	**19 19 08.2**	**-0.7**
KPKS			pmax	pmax		
	comp=Z,163nm,2.4s					
BBLS	**Lazići**	**43.87 219**	⇓*i*P	**P**	**19 19 08.9**	**0.0**
GROC	**Groznyy**	**43.93 191**	*e*P	**P**	**19 19 10.6**	**+1.3**
GROC			*e*		19 20 55.0	
GROC			*e*S	**S**	**19 25 45.8**	**+5.1**
GROC			pmax	pmax		
	comp=Z,148nm,1.7s					
GROC			MLR	MLR		
	comp=Z,1μm,10.0s					
USP	**Ospenovka**	**43.98 161**	P	**P**	**19 19 10.8**	**+1.0**
	SNR=21					
PDGK	**Podgornoye**	**44.02 155**	P	**P**	**19 19 08.3**	**-1.9**
BOVS	**Bovan**	**44.02 216**	⇑P	**P**	**19 19 09.6**	**-0.4**
KK31	**Karatay Array**	**44.08 165**	P	**P**	**19 19 10.6**	**0.0**
KK31			IAmb	IAmb	19 19 32.8	
	comp=Z,242nm,2.0s					
KK31	**Karatay Array**	**44.08 165**	P	**P**	**19 19 10.6**	**0.0**
KK31			pmax	pmax		
	comp=Z,242nm,2.0s					
KKAR	**Karatay Array**	**44.08 165**	P	**P**	**19 19 10.7**	**+0.1**
KKAR	**Karatay Array**	**44.08 165**	P	**P**	**19 19 10.7**	**+0.1**
AAA	**Alma-Ata**	**44.09 158**	*e*P	**P**	**19 19 10.0**	**-0.7**
	baz=157					
AAA			LR	LR	19 39 45.1	
	comp=Z,12μm,14.9s,baz=157					
AAA	**Alma-Ata**	**44.09 158**	*e*P	**P**	**19 19 10.0**	**-0.7**
AAA			MLR	MLR		
	comp=Z,12μm,15.0s					
RUDO	**Rudo**	**44.12 219**	*e*P	**P**	**19 19 09.8**	**-1.0**
MDOK	**Medeo**	**44.13 158**	*e*P	**P**	**19 19 10.2**	**-1.0**
	baz=157					
MDOK			*e*S	**S**	**19 25 43.1**	**-0.9**
	baz=157					
MDOK			LR	LR	19 39 20.4	
	comp=Z,9μm,14.8s,baz=157					
MDOK	**Medeo**	**44.13 158**	*e*P	**P**	**19 19 10.1**	**-1.0**
MDOK			*e*S	**S**	**19 25 43.0**	**-0.9**
MDOK			MLR	MLR		
	comp=Z,9μm,15.0s					
ZHN	**Zhinishke**	**44.16 157**	*e*P	**P**	**19 19 10.8**	**-0.5**
	comp=Z,245nm,2.9s,baz=156					
ZHN	**Zhinishke**	**44.16 157**	*e*P	**P**	**19 19 10.8**	**-0.5**
ZHN			pmax	pmax		
	comp=Z,245nm,2.9s					
MAK	**Makhachkala**	**44.16 189**	*c i*P	P	19 19 04.5	-6.6
MAK			*e*S	S	19 25 34.7	-9.2
MAK			*e*SSS	SSS	19 28 54.7	
MAK			pmax	pmax		
	comp=Z,303nm,1.6s					
MAK			MLR	MLR		
	comp=Z,9μm,18.0s					
UZB	**Uzynbulak**	**44.19 156**	*e*P	**P**	**19 19 11.2**	**-0.5**
	comp=Z,252nm,3.4s,baz=155					
UZB	**Uzynbulak**	**44.19 156**	*e*P	**P**	**19 19 11.1**	**-0.5**
UZB			pmax	pmax		
	comp=Z,252nm,3.4s					
CHMS	**Chumysh**	**44.25 160**	P	**P**	**19 19 13.4**	**+1.4**
	SNR=12					
TNSS	**Tian-Shan**	**44.26 158**	*e*P	**P**	**19 19 11.7**	**-0.7**
	baz=157					
TNSS	**Tian-Shan**	**44.26 158**	*e*P	**P**	**19 19 11.7**	**-0.7**
SZH	**Strazhitsa**	**44.26 212**	*e*P	**P**	**19 19 12.3**	**+0.3**
SATY	**Saty**	**44.27 157**	*e*P	**P**	**19 19 11.6**	**-0.6**
	comp=Z,305nm,2.6s,baz=156					
SATY	**Saty**	**44.27 157**	*e*P	**P**	**19 19 11.6**	**-0.6**
SATY			pmax	pmax		
	comp=Z,305nm,2.6s					
VLDQ	**Val d'Or**	**44.27 316**	P	**P**	**19 19 10.5**	**-1.5**
DZA	**Taraz**	**44.30 164**	*e*P	**P**	**19 19 11.7**	**-0.7**
	baz=163					
DZA	**Taraz**	**44.30 164**	*e*P	**P**	**19 19 11.6**	**-0.7**
PRD	**Provadia**	**44.33 210**	*e*P	**P**	**19 19 13.9**	**+1.4**
TKM2	**Tokmak 2**	**44.35 160**	P	**P**	**19 19 14.2**	**+1.3**
	SNR=21					
TKM2	**Tokmak 2**	**44.35 160**	*i* P	**P**	**19 19 12.1**	**-0.8**
TKM2			pmax	pmax		
	comp=Z,52nm,1.2s					
ZEI	**Tsey**	**44.37 193**	*e*P	**P**	**19 19 12.6**	**-0.5**
ZEI			pmax	pmax		
	comp=Z,38nm,1.2s					
PVL	**Pavlikeni**	**44.43 213**	*e*P	**P**	**19 19 13.7**	**+0.4**
FRU1	**Bishkek**	**44.44 161**	P	**P**	**19 19 14.4**	**+0.9**
FRU1	**Bishkek**	**44.44 161**	P	**P**	**19 19 14.4**	**+0.9**
FRU1			pmax	pmax		
	comp=Z,330nm,1.9s					
SJES	**Sjenica**	**44.45 218**	*e*P	**P**	**19 19 14.0**	**+0.3**
CLRS	**Cowichan Lake**	**44.48 0**	P	**P**	**19 19 14.0**	**+0.4**
CLRS			IAmb	IAmb	19 19 16.3	
	comp=Z,82nm,1.1s					
CLRS			IAMs_20	IAMs_20	19 37 28.8	
	comp=Z,11μm,22.0s					
B35A	**Bob, Littlefor**	**44.54 332**	P	**P**	**19 19 13.5**	**-0.7**
	baz=2.3,SNR=6.3					
B35A			S	**S**	**19 25 47.2**	**-2.2**
	baz=2.3					
LMQ	**La Malbaie**	**44.55 309**	P	**P**	**19 19 13.7**	**-0.6**
LMQ			IAmb	IAmb	19 19 23.8	
	comp=Z,96nm,1.3s					
LMQ			IAMs_20	IAMs_20	19 37 19.4	
	comp=Z,10μm,20.0s					
ONI	**Oni**	**44.57 193**	P	**P**	**19 19 15.7**	**+1.1**
ONI			IAmb	IAmb	19 19 45.4	
	comp=Z,109nm,1.8s					
ONI	**Oni**	**44.57 193**	P	**P**	**19 19 15.7**	**+1.1**
ONI			pmax	pmax		
	comp=Z,109nm,1.8s					
EKS2	**Erkin-Say**	**44.57 162**	P	**P**	**19 19 15.6**	**+0.9**
	SNR=12					
AAK	**Ala-Archa**	**44.61 161**	P	**P**	**19 19 15.9**	**+0.9**
	SNR=30					
AAK	**Ala-Archa**	**44.61 161**	P	**P**	**19 19 15.4**	**+0.4**
AAK	**Ala-Archa**	**44.61 161**	*i* P	**P**	**19 19 15.1**	**+0.1**
	SNR=38					
AAK	**Ala-Archa**	**44.61 161**	P	**P**	**19 19 15.7**	**+0.8**
AAK			P	**P**	**19 19 15.7**	**+0.8**
AAK			P	**P**	**19 19 15.7**	**+0.8**
AAK			S	**S**	**19 25 54.2**	**+3.4**
AAK			S	**S**	**19 25 54.2**	**+3.4**
AAK			S	**S**	**19 25 54.2**	**+3.4**
AAK	**Ala-Archa**	**44.61 161**	P	**P**	**19 19 15.4**	**+0.4**
AAK			pmax	pmax		
	comp=Z,269nm,1.9s					
AAK	**Ala-Archa**	**44.61 161**	P	**P**	**19 19 15.3**	**+0.4**
	comp=Z,28nm,0.9s,baz=229,slow=12,SNR=3.5					
AAK			LR	LR	19 41 09.3	
	comp=Z,23μm,19.4s,baz=351,slow=40					
	comp=Z,28nm,0.9s					
PGC	**Sidney**	**44.65 360**	P	**P**	**19 19 14.9**	**-0.1**
DGMT	**Dagmar**	**44.66 341**	P	**P**	**19 19 14.7**	**-0.5**
DGMT			IAmb	IAmb	19 19 25.0	
	comp=Z,78nm,1.0s					
DGMT	**Dagmar**	**44.66 341**	IAMs_20	IAMs_20	19 38 05.1	
	comp=Z,9μm,18.0s					
DGMT	**Dagmar**	**44.66 341**	P	**P**	**19 19 14.1**	**-1.1**
	baz=1.6,SNR=9.0					
DGMT			S	**S**	**19 25 49.2**	**-2.0**
	baz=1.6					
DGMT	**Dagmar**	**44.66 341**	P	**P**	**19 19 14.7**	**-0.5**
	baz=1.6,SNR=9.0					
MDJ	**Mudanjiang**	**44.76 104**	P	**P**	**19 19 15.5**	**-0.5**
MDJ			pP	sP	19 19 18.0	+0.4
MDJ			sP	pwP	19 19 20.0	-1.8
MDJ			PcP	**PcP**	**19 20 54.5**	**-3.4**
MDJ			PP	**PP**	**19 21 02.5**	**+2.4**
MDJ			ScP	**ScP**	**19 24 48.3**	**-1.6**
MDJ			S	**S**	**19 25 56.5**	**+3.8**
MDJ			sS	sS	19 26 01.5	+6.9
MDJ			ScS	**SS**	**19 29 12.5**	**-0.2**
MDJ			pmax	pmax		
	comp=Z,61nm,1.0s					
MDJ			pmax	pmax		
	comp=Z,830nm,3.7s					
MDJ			LR	LR		
	comp=Z,3μm,16.9s					
MDJ			LR	LR		
	comp=Z,3μm,18.0s					
MDJ			LR	LR		
	comp=Z,5μm,15.1s					
MDJ	**Mudanjiang**	**44.76 104**	P	**P**	**19 19 15.7**	**-0.3**
MDJ			IAmb	IAmb	19 19 17.1	
	comp=Z,62nm,1.0s					
MDJ	**Mudanjiang**	**44.76 104**	P	**P**	**19 19 16.0**	**0.0**
B06A	**Marblemount**	**44.78 358**	P	**P**	**19 19 15.4**	**-0.7**
B06A			IAMs_20	IAMs_20	19 38 23.7	
	comp=Z,11μm,20.0s					
BOOM	**Boomskoye usch**	**44.78 159**	P	**P**	**19 19 16.8**	**+0.4**
BOOM			IAmb	IAmb	19 19 19.5	
	comp=Z,68nm,1.0s					
BOOM	**Boomskoye usch**	**44.78 159**	P	**P**	**19 19 16.8**	**+0.4**
BOOM			pmax	pmax		
	comp=Z,68nm,1.0s					
XLT	**XiLinHaoTe**	**44.79 117**	*e*P	**P**	**19 19 17.3**	**+1.0**
XLT			pP	pwP	19 19 21.0	-1.3
XLT			sP	sP	19 19 24.5	+6.5
XLT			PcP	**PcP**	**19 20 57.5**	**-0.6**
XLT			PcS	**PcS**	**19 24 46.8**	**-4.8**
XLT			S	**S**	**19 26 00.3**	**+6.9**
XLT			pmax	pmax		
	comp=Z,96nm,0.9s					
XLT			pmax	pmax		
	comp=Z,2μm,4.1s					
XLT			LR	LR		
	comp=Z,560nm,17.0s					
XLT			LR	LR		
	comp=Z,3μm,10.6s					
XLT			LR	LR		
	comp=Z,4μm,15.3s					
LATQ	**La Tuque**	**44.82 311**	P	**P**	**19 19 15.7**	**-0.7**
PRZ	**Przheval'sk**	**44.84 157**	P	**P**	**19 19 17.1**	**+0.2**
PRZ	**Przheval'sk**	**44.84 157**	P	**P**	**19 19 17.1**	**+0.2**
PRZ			pmax	pmax		
	comp=Z,74nm,1.6s					
CHM	**Chimkent**	**44.85 166**	*e*P	**P**	**19 19 16.1**	**-0.6**
	baz=165					
CHM			LR	LR	19 39 28.2	
	baz=165					
CHM	**Chimkent**	**44.85 166**	*e*P	**P**	**19 19 16.1**	**-0.6**
BRY	**Bratogost**	**44.86 220**	*e*P	**P**	**19 19 16.0**	**-0.9**
GUMA	**Gualdo di Mace**	**44.89 225**	IAMs_20	IAMs_20	19 37 20.9	
	comp=Z,3μm,20.0s					
EYMN	**Ely**	**44.90 329**	P	**P**	**19 19 15.2**	**-1.9**
	baz=2.4					
EYMN			S	**S**	**19 25 53.1**	**-1.6**
	baz=2.4					
EYMN	**Ely**	**44.90 329**	P	**P**	**19 19 14.3**	**-2.8**
	baz=2.4					
EYMN			S	**S**	**19 25 52.2**	**-2.5**
	baz=2.4					
STON	**Ston**	**44.92 220**	⇓*i*P	**P**	**19 19 15.9**	**-1.3**
D62A	**Allapoint, AII**	**44.96 308**	P	**P**	**19 19 17.1**	**-0.4**
D62A			IAmb	IAmb	19 19 27.3	
	comp=Z,93nm,1.4s					
D62A			IAMs_20	IAMs_20	19 37 15.3	
	comp=Z,8μm,20.0s					
D62A	**Allapoint, AII**	**44.96 308**	P	**P**	**19 19 15.9**	**-1.6**
	baz=3.6,SNR=8.9					
D62A			P	**P**	**19 19 15.9**	**-1.6**
	baz=3.6,SNR=8.9					
D62A			S	**S**	**19 25 58.0**	**+2.5**
	baz=3.6					
D62A			S	**S**	**19 25 58.0**	**+2.5**
	baz=3.6					
VTS	**Vitosha**	**44.99 215**	⇑P	**P**	**19 19 17.4**	**-0.6**
VTS	**Vitosha**	**44.99 215**	*e*P	**P**	**19 19 18.5**	**+0.5**
VTS	**Vitosha**	**44.99 215**	⇑P	**P**	**19 19 17.4**	**-0.6**
NEW	**Newport**	**45.02 354**	P	**P**	**19 19 18.4**	**+0.4**
NEW	**Newport**	**45.02 354**	P	**P**	**19 19 18.1**	**+0.1**
	baz=0.6,SNR=35					
NEW			S	**S**	**19 25 59.8**	**+3.4**
	baz=0.6					
NEW	**Newport**	**45.02 354**	P	**P**	**19 19 18.4**	**+0.4**
NEW			pmax	pmax		
	comp=Z,196nm,1.4s					
NEW			MLR	MLR		
	comp=Z,24μm,20.0s					
NEW	**Newport**	**45.02 354**	LR	LR	19 38 48.5	
	comp=Z,24μm,19.2s,baz=356,slow=37					
IUG	**Iuzhnay**	**45.03 165**	*e*P	**P**	**19 19 17.4**	**-0.9**
	comp=Z,296nm,3.2s,baz=164					
IUG	**Iuzhnay**	**45.03 165**	*e*P	**P**	**19 19 17.4**	**-0.9**
IUG			pmax	pmax		
	comp=Z,296nm,3.2s					
ULHL	**Ulahol**	**45.03 159**	P	**P**	**19 19 19.6**	**+1.1**
	SNR=7.1					
PGB	**Panagyurishte**	**45.06 214**	*e*P	**P**	**19 19 18.5**	**+0.1**
AML	**Almayashu**	**45.10 162**	P	**P**	**19 19 21.1**	**+2.0**
	SNR=18					
EGMT	**Eagleton**	**45.19 347**	P	**P**	**19 19 18.8**	**-0.6**
EGMT			IAmb	IAmb	19 19 29.0	
	comp=Z,132nm,1.2s					
EGMT	**Eagleton**	**45.19 347**	P	**P**	**19 19 19.0**	**-0.4**
	baz=1.1,SNR=13					
EGMT			S	**S**	**19 26 01.6**	**+2.6**
	baz=1.1					
MDND	**Maddock**	**45.19 337**	P	**P**	**19 19 18.2**	**-1.2**
	baz=1.9					
MDND			S	**S**	**19 26 01.1**	**+2.1**
	baz=1.9					
PDG	**Podgorica**	**45.31 219**	⇑P	**P**	**19 19 20.1**	**-0.1**
PDG	**Podgorica**	**45.31 219**	IAMs_20	IAMs_20	19 38 52.8	
	comp=Z,7μm,20.0s					
PDG	**Podgorica**	**45.31 219**	⇑*i*P	**P**	**19 19 20.4**	**+0.1**
USA0B	**Ussuriysk Arra**	**45.31 101**	P	**P**	**19 19 19.5**	**-0.8**
USA0B	**Ussuriysk Arra**	**45.31 101**	P	**P**	**19 19 19.5**	**-0.8**
USA0B			pmax	pmax		
	comp=Z,30nm,1.0s					
USA0B			MLR	MLR		
	comp=Z,5μm,20.0s					
USRK	**Ussuriysk Ar.**	**45.31 101**	P	**P**	**19 19 19.2**	**-1.1**
USRK	**Ussuriysk Ar.**	**45.31 101**	P	**P**	**19 19 20.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**45.31 101**	P	**P**	**19 19 20.0**	**-0.3**
	comp=Z,25nm,1.0s,baz=343,slow=6.4,SNR=21					
USRK			LR	LR	19 39 04.0	
	comp=Z,5μm,19.4s,baz=355,slow=37					
	comp=Z,25nm,1.0s					
PQI	**Presque Isle**	**45.33 307**	P	**P**	**19 19 19.5**	**-0.9**
PQI			IAMs_20	IAMs_20	19 37 29.9	
	comp=Z,7μm,20.0s					
C03A	**Quillayute Air**	**45.35 1**	IAMs_20	IAMs_20	19 40 38.9	
	comp=Z,9μm,18.0s					
CN2	**Changchun**	**45.36 108**	⇑P	**P**	**19 19 20.5**	**-0.2**
CN2			*es*P	pwP	19 19 27.0	+0.4
CN2			*e*S	**S**	**19 25 59.3**	**-2.1**
CN2			pmax	pmax		
	comp=Z,30nm,1.1s					
CN2			pmax	pmax		
	comp=Z,600nm,4.0s					
CN2			LR	LR		
	comp=Z,5μm,14.0s					
CN2			LR	LR		
	comp=Z,3μm,14.0s					
CN2			LR	LR		
	comp=Z,6μm,14.0s					
E62A	**Clayton Lake**	**45.44 308**	IAMs_20	IAMs_20	19 37 38.0	
	comp=Z,9μm,20.0s					
E62A	**Clayton Lake**	**45.44 308**	P	**P**	**19 19 20.5**	**-0.9**
	baz=3.6,SNR=12					
E62A			P	**P**	**19 19 20.5**	**-0.9**
	baz=3.6,SNR=12					
C09A	**Chrisman Ranch**	**45.49 355**	IAMs_20	IAMs_20	19 38 02.3	
	comp=Z,9μm,21.0s					
DRME	**Dracevica, Mon**	**45.55 219**	*e*P	**P**	**19 19 21.6**	**-0.7**
TARG	**Taragay, Kyrgy**	**45.58 157**	P	**P**	**19 19 23.4**	**+0.4**
TARG			IAmb	IAmb	19 19 27.3	
	comp=Z,45nm,0.9s					
TARG	**Taragay, Kyrgy**	**45.58 157**	P	**P**	**19 19 23.4**	**+0.4**
TARG			pmax	pmax		
	comp=Z,45nm,0.9s					
E63A	**Oxbow**	**45.59 307**	P	**P**	**19 19 20.0**	**-2.6**
	baz=3.6					
E63A			P	**P**	**19 19 20.0**	**-2.6**
	baz=3.6					
E63A			S	**S**	**19 26 05.2**	**+0.5**
	baz=3.6					
E63A			S	**S**	**19 26 05.2**	**+0.5**
	baz=3.6					
EDRB	**Edirne**	**45.66 211**	P	**P**	**19 19 23.2**	**+0.1**
SKO	**Skopje**	**45.69 216**	*i* P	**P**	**19 19 24.0**	**+0.6**
D41A	**Chassel**	**45.70 327**	S	**S**	**19 26 05.3**	**-0.8**
	baz=2.5					
GNW	**Green Mountain**	**45.74 359**	IAMs_20	IAMs_20	19 39 46.0	
	comp=Z,8μm,19.0s					
BCA	**Borcka**	**45.74 195**	⇓P	**P**	**19 19 23.7**	**-0.1**
AKH	**Akhalkalaki**	**45.75 193**	P	**P**	**19 19 24.4**	**+0.3**
AKH	**Akhalkalaki**	**45.75 193**	P	**P**	**19 19 24.4**	**+0.3**
AKH			pmax	pmax		
	comp=Z,120nm,1.2s					
PEHC	**Pehcevo**	**45.84 215**	*i* P	**P**	**19 19 23.6**	**-1.0**
NRN	**Naryn**	**45.84 159**	P	**P**	**19 19 25.5**	**+0.6**
NRN	**Naryn**	**45.84 159**	P	**P**	**19 19 25.5**	**+0.6**
NRN			pmax	pmax		
	comp=Z,72nm,1.8s					
D32B	**Dogwood Acres,**	**45.85 335**	S	**S**	**19 26

ASAJ	**Asahikawa**	**45.96 91**	P	**P**	**19 19 22.6**	**-2.9**
ASAJ			pmax	pmax		
	comp=Z,67nm,1.3s					
ASAJ			MLR	MLR		
	comp=Z,5μm,21.0s					
ASAJ	**Asahikawa**	**45.96 91**	LR	LR	19 38 39.5	
	comp=Z,5μm,21.5s,baz=12,slow=36					
JKA	**Kamikawa-asahi**	**45.96 91**	P	**P**	**19 19 22.6**	**-2.9**
JKA			IAmb	IAmb	19 21 04.4	
	comp=Z,67nm,1.3s					
LMN	**Caledonia Moun**	**46.00 304**	P	**P**	**19 19 25.0**	**-0.8**
LMN			IAmb	IAmb	19 19 35.0	
	comp=Z,110nm,1.5s					
LMN			IAMs_20	IAMs_20	19 39 16.7	
	comp=Z,7μm,18.0s					
LTY	**Liberty**	**46.04 357**	IAMs_20	IAMs_20	19 39 51.0	
	comp=Z,11μm,18.0s					
D05A	**Enumclaw**	**46.11 358**	IAMs_20	IAMs_20	19 39 17.9	
	comp=Z,7μm,20.0s					
F64A	**Sherman**	**46.15 307**	IAMs_20	IAMs_20	19 38 04.7	
	comp=Z,8μm,20.0s					
F64A	**Sherman**	**46.15 307**	P	**P**	**19 19 25.9**	**-1.0**
	baz=3.6,SNR=6.2					
F64A			P	**P**	**19 19 25.9**	**-1.0**
	baz=3.6,SNR=6.2					
WISH	**Wishkah**	**46.18 360**	IAMs_20	IAMs_20	19 38 22.9	
	comp=Z,10μm,21.0s					
F62A	**Pittston Farm,**	**46.19 309**	IAMs_20	IAMs_20	19 39 34.7	
	comp=Z,10μm,18.0s					
F62A	**Pittston Farm,**	**46.19 309**	P	**P**	**19 19 26.1**	**-1.2**
	baz=3.5					
F62A			P	**P**	**19 19 26.1**	**-1.2**
	baz=3.5					
D08A	**Wollman Farm,**	**46.23 355**	IAMs_20	IAMs_20	19 40 12.1	
	comp=Z,11μm,18.0s					
NVR	**Nevrokopi**	**46.24 214**	P	**P**	**19 19 27.2**	**-0.5**
E38A	**The Farm, Brul**	**46.24 329**	P	**P**	**19 19 27.2**	**-0.4**
	baz=2.3,SNR=6.3					
E38A			S	**S**	**19 26 12.2**	**-1.8**
	baz=2.3					
E46A	**Sault Ste Mari**	**46.26 322**	P	**P**	**19 19 27.4**	**-0.4**
	baz=2.8,SNR=5.9					
E46A			S	**S**	**19 26 16.7**	**+2.5**
	baz=2.8					
LYMT	**Lyon Mountain**	**46.27 349**	P	**P**	**19 19 27.4**	**-0.8**
ILGA	**Ilgaz**	**46.28 204**	P	**P**	**19 19 28.8**	**+0.5**
VAY	**Valandovo**	**46.30 215**	*i* P	**P**	**19 19 28.4**	**+0.2**
E43A	**Lone Tree Farm**	**46.34 325**	P	**P**	**19 19 27.7**	**-0.7**
	baz=2.6					
E43A			S	**S**	**19 26 16.0**	**+0.7**
	baz=2.6					
F63A	**Nahmakanta, Br**	**46.34 308**	P	**P**	**19 19 27.0**	**-1.4**
	baz=3.5					
F63A			P	**P**	**19 19 27.0**	**-1.4**
	baz=3.5					
TIR	**Tirane**	**46.37 218**	IAMs_20	IAMs_20	19 38 41.9	
	comp=Z,7μm,21.0s					
ISK	**Istanbul-Kandi**	**46.38 208**	P	**P**	**19 19 28.5**	**-0.2**
RDO	**Rodhopi**	**46.39 212**	P	**P**	**19 19 28.5**	**-0.4**
RDO	**Rodhopi**	**46.39 212**	P	**P**	**19 19 28.8**	**0.0**
RDO			IAmb	IAmb	19 19 31.3	
	comp=Z,80nm,1.2s					
MSO	**Missoula**	**46.43 351**	P	**P**	**19 19 29.1**	**-0.1**
MSO			IAmb	IAmb	19 19 30.8	
	comp=Z,70nm,0.9s					
MSO	**Missoula**	**46.43 351**	P	**P**	**19 19 29.4**	**+0.2**
	baz=0.8,SNR=34					
MSO			S	**S**	**19 26 17.1**	**+0.1**
	baz=0.8					
KNT	**Kendrikon**	**46.45 215**	P	**P**	**19 19 30.6**	**+1.2**
LAO	**LASA Array**	**46.48 343**	IAMs_20	IAMs_20	19 38 50.2	
	comp=Z,14μm,21.0s					
LAO	**LASA Array**	**46.48 343**	P	**P**	**19 19 30.1**	**+0.4**
	baz=1.4,SNR=7.9					
LAO			S	**S**	**19 26 18.4**	**+0.9**
	baz=1.4					
LAO	**LASA Array**	**46.48 343**	P	**P**	**19 19 30.0**	**+0.4**
	baz=1.4,SNR=7.9					
SRS	**Serrai**	**46.48 214**	P	**P**	**19 19 29.1**	**-0.5**
E28A	**Huff**	**46.49 338**	P	**P**	**19 19 29.3**	**-0.4**
	baz=1.7,SNR=7.4					
KARS	**Kars**	**46.54 194**	P	**P**	**19 19 31.1**	**+0.9**
KARS	**Kars**	**46.54 194**	P	**P**	**19 19 31.1**	**+0.9**
KARS			pmax	pmax		
	comp=Z,476nm,1.8s					
LON	**Longmire**	**46.55 358**	IAMs_20	IAMs_20	19 40 50.5	
	comp=Z,12μm,18.0s					
KAVA	**Kavala**	**46.57 213**	P	**P**	**19 19 30.3**	**0.0**
OHR	**Ohrid**	**46.57 217**	*i* P	**P**	**19 19 30.8**	**+0.4**
ALN	**Alexandroupoli**	**46.62 212**	P	**P**	**19 19 29.8**	**-0.9**
GRG	**Griva**	**46.67 215**	P	**P**	**19 19 32.4**	**+1.2**
COWI	**Conover**	**46.68 327**	P	**P**	**19 19 29.9**	**-1.2**
	baz=2.5					
MNTQ	**Montreal, Queb**	**46.73 312**	P	**P**	**19 19 30.2**	**-1.3**
MNTQ			IAmb	IAmb	19 19 42.0	
	comp=Z,149nm,2.0s					
MNTQ			IAMs_20	IAMs_20	19 38 07.2	
	comp=Z,7μm,21.0s					
E07A	**Sunnyside**	**46.74 356**	P	**P**	**19 19 31.5**	**-0.1**
E07A			IAmb	IAmb	19 19 41.7	
	comp=Z,81nm,1.0s					
E07A			IAMs_20	IAMs_20	19 40 28.4	
	comp=Z,9μm,18.0s					
KOKK	**Kokkinochori,**	**46.76 214**	P	**P**	**19 19 29.1**	**-2.7**
E09A	**Wood Farm, Sta**	**46.77 355**	IAMs_20	IAMs_20	19 39 22.3	
	comp=Z,12μm,20.0s					
G65A	**Princeton**	**46.78 306**	IAMs_20	IAMs_20	19 38 14.3	
	comp=Z,8μm,22.0s					
G65A	**Princeton**	**46.78 306**	S	**S**	**19 26 23.5**	**+1.8**
	baz=3.6					
G65A			S	**S**	**19 26 23.5**	**+1.8**
	baz=3.6					
ENEZ	**Enez**	**46.78 211**	P	**P**	**19 19 31.8**	**-0.1**
PKME	**Peaks-Kenny Pk**	**46.79 308**	P	**P**	**19 19 31.2**	**-0.7**
PKME			IAMs_20	IAMs_20	19 38 30.4	
	comp=Z,7μm,19.0s					
PKME	**Peaks-Kenny Pk**	**46.79 308**	P	**P**	**19 19 30.9**	**-1.0**
	baz=3.5					
PKME			S	**S**	**19 26 22.2**	**+0.4**
	baz=3.5					
PKME	**Peaks-Kenny Pk**	**46.79 308**	P	**P**	**19 19 30.5**	**-1.4**
	baz=3.5					
E08A	**Dider Farm, El**	**46.80 356**	IAMs_20	IAMs_20	19 40 38.1	
	comp=Z,13μm,18.0s					
GGN	**Saint George**	**46.83 306**	P	**P**	**19 19 31.1**	**-1.1**
GGN			IAmb	IAmb	19 19 41.4	
	comp=Z,118nm,1.5s					
GGN			IAMs_20	IAMs_20	19 40 05.6	
	comp=Z,8μm,18.0s					
FNA	**Florina**	**46.88 216**	P	**P**	**19 19 32.9**	**+0.1**
RADR	**Rader Ridge**	**46.88 0**	IAMs_20	IAMs_20	19 39 49.3	
	comp=Z,14μm,20.0s					
G62A	**West of Eustis**	**46.89 309**	P	**P**	**19 19 31.7**	**-1.1**
G62A			IAMs_20	IAMs_20	19 38 52.2	
	comp=Z,9μm,19.0s					
G62A	**West of Eustis**	**46.89 309**	P	**P**	**19 19 31.0**	**-1.8**
	baz=3.4					
G62A			P	**P**	**19 19 31.0**	**-1.8**
	baz=3.4					
G62A			S	**S**	**19 26 24.1**	**+0.9**
	baz=3.4					
G62A			S	**S**	**19 26 24.1**	**+0.9**
	baz=3.4					
ECAL	**Calabor**	**46.90 246**	P	**P**	**19 19 32.9**	**0.0**
HAWA	**Hanford**	**46.90 356**	P	**P**	**19 19 32.9**	**+0.1**
HAWA			IAmb	IAmb	19 19 43.1	
	comp=Z,81nm,1.1s					
HAWA			IAMs_20	IAMs_20	19 40 43.0	
	comp=Z,11μm,18.0s					
MDUB	**Mudurnu**	**46.91 206**	P	**P**	**19 19 33.3**	**+0.2**
TOKA	**Tokat**	**46.95 201**	P	**P**	**19 19 33.8**	**+0.5**
TOKA			IAmb	IAmb	19 19 36.5	
	comp=Z,33nm,0.9s					
PGAV	**Gavieira, Arco**	**46.95 247**	*e*P	**P**	**19 19 33.6**	**+0.2**
	comp=Z,65nm,1.7s					
PGAV			*e*S	**S**	**19 26 31.1**	**+6.7**
PGAV			*e*LR	LR	19 33 26.1	
	comp=Z,3μm,16.0s					
THAS	**Thassos island**	**46.95 213**	P	**P**	**19 19 34.7**	**+1.4**
F42A	**Maple Grove Fa**	**46.99 326**	P	**P**	**19 19 33.1**	**-0.4**
	baz=2.5,SNR=5.3					
GNI	**Garni**	**47.00 192**	P	**P**	**19 19 33.5**	**-0.4**
GNI	**Garni**	**47.00 192**	IAMs_20	IAMs_20	19 42 10.3	
	comp=Z,7μm,20.0s					
GNI	**Garni**	**47.00 192**	P	**P**	**19 19 33.9**	**0.0**
GNI	**Garni**	**47.00 192**	P	**P**	**19 19 35.6**	**+1.8**
GNI			P	**P**	**19 19 35.6**	**+1.8**
GNI			P	**P**	**19 19 35.6**	**+1.8**
GNI			S	**S**	**19 26 29.8**	**+4.5**
GNI			S	**S**	**19 26 29.8**	**+4.5**
GNI			S	**S**	**19 26 29.8**	**+4.5**
GNI	**Garni**	**47.00 192**	*i* P	**P**	**19 19 33.5**	**-0.4**
GNI			pmax	pmax		
	comp=Z,137nm,2.5s					
GNI	**Garni**	**47.00 192**	LR	LR	19 42 22.6	
	comp=Z,6μm,21.2s,baz=360,slow=40					
PBRG	**Braganca**	**47.03 245**	*e*P	**P**	**19 19 34.2**	**+0.2**
	comp=Z,104nm,1.9s					
PBRG	**Braganca**	**47.03 245**	*e*PP	**PP**	**19 21 25.3**	**+1.1**
PBRG			*e*S	S	19 26 35.1	+10
F36A	**Milaca**	**47.04 331**	P	**P**	**19 19 33.0**	**-0.9**
	baz=2.2,SNR=6.9					
F36A			S	**S**	**19 26 23.5**	**-1.9**
	baz=2.2					
KBN	**Korca**	**47.06 217**	P	**P**	**19 19 33.0**	**-1.2**
KBN	**Korca**	**47.06 217**	P	**P**	**19 19 33.9**	**-0.3**
KBN			IAmb	IAmb	19 19 55.0	
	comp=Z,94nm,1.3s					
KBN	**Korca**	**47.06 217**	P	**P**	**19 19 33.9**	**-0.3**
KBN			pmax	pmax		
	comp=Z,94nm,1.3s					
SMTH	**Samothraki Isl**	**47.06 212**	P	**P**	**19 19 34.7**	**+0.5**
BTK	**Batken**	**47.13 165**	P	**P**	**19 19 35.1**	**+0.3**
BTK			IAmb	IAmb	19 19 45.2	
	comp=Z,70nm,1.1s					
BTK	**Batken**	**47.13 165**	P	**P**	**19 19 35.1**	**+0.3**
BTK			pmax	pmax		
	comp=Z,70nm,1.1s					
F33A	**5 Mile Ranch,**	**47.13 334**	IAMs_20	IAMs_20	19 39 27.2	
	comp=Z,14μm,18.0s					
F33A	**5 Mile Ranch,**	**47.13 334**	P	**P**	**19 19 34.0**	**-0.7**
	baz=2.0,SNR=13					
F33A			S	**S**	**19 26 25.2**	**-1.5**
	baz=2.0					
HAL	**Halifax**	**47.16 302**	IAMs_20	IAMs_20	19 38 10.3	
	comp=Z,7μm,21.0s					
MATE	**Matera**	**47.17 221**	⇑P	**P**	**19 19 34.6**	**-0.4**
KOPT	**Kop Dagi**	**47.18 196**	P	**P**	**19 19 36.9**	**+1.5**
KOPT			IAmb	IAmb	19 19 52.9	
	comp=Z,70nm,1.3s					
F04D	**Rainier, OR**	**47.22 359**	IAMs_20	IAMs_20	19 40 51.2	
	comp=Z,8μm,18.0s					
SNY	**Shenyang**	**47.23 110**	⇓P	**P**	**19 19 35.3**	**-0.1**
SNY			S	**S**	**19 26 29.5**	**+1.3**
SNY			pmax	pmax		
	comp=Z,49nm,0.9s					
SNY			pmax	pmax		
	comp=Z,960nm,4.5s					
SNY			LR	LR		
	comp=Z,3μm,17.0s					
SNY			LR	LR		
	comp=Z,2μm,18.0s					
SNY			LR	LR		
	comp=Z,4μm,18.0s					
NEST	**Nestorio**	**47.26 217**	P	**P**	**19 19 35.3**	**-0.5**
EMMW	**East Machias**	**47.26 306**	P	**P**	**19 19 35.0**	**-0.7**
EMMW			IAmb	IAmb	19 19 45.0	
	comp=Z,104nm,1.5s					
EMMW			IAMs_20	IAMs_20	19 38 38.2	
	comp=Z,7μm,20.0s					
EMMW	**East Machias**	**47.26 306**	P	**P**	**19 19 34.6**	**-1.0**
	baz=3.5,SNR=6.0					
EMMW			S	**S**	**19 26 28.4**	**-0.1**
	baz=3.5					
F04A	**Amboy**	**47.37 359**	IAMs_20	IAMs_20	19 40 27.2	
	comp=Z,8μm,20.0s					
FRNY	**Flat Rock**	**47.40 312**	P	**P**	**19 19 35.9**	**-0.7**
FRNY			IAmb	IAmb	19 19 40.5	
	comp=Z,114nm,1.6s					
FRNY			IAMs_20	IAMs_20	19 39 38.7	
	comp=Z,7μm,19.0s					
FRNY	**Flat Rock**	**47.40 312**	P	**P**	**19 19 34.6**	**-2.1**
	baz=3.3,SNR=6.1					
FRNY			S	**S**	**19 26 29.7**	**-0.8**
	baz=3.3					
F07A	**Phinny Hill Vi**	**47.40 356**	IAMs_20	IAMs_20	19 40 50.0	
	comp=Z,11μm,18.0s					
BMNY	**Brushton-Moira**	**47.43 313**	P	**P**	**19 19 35.0**	**-1.9**
	baz=3.2,SNR=11					
BMNY			S	**S**	**19 26 30.1**	**-0.8**
	baz=3.2					
ANTO	**Ankara**	**47.48 205**	P	**P**	**19 19 38.1**	**+0.6**
ANTO	**Ankara**	**47.48 205**	IAMs_20	IAMs_20	19 43 07.6	
	comp=Z,12μm,19.0s					
ANTO	**Ankara**	**47.48 205**	P	**P**	**19 19 39.1**	**+1.6**
ANTO			P	**P**	**19 19 39.1**	**+1.6**
ANTO			S	**S**	**19 26 35.1**	**+3.2**
ANTO			S	**S**	**19 26 35.1**	**+3.2**
ANTO	**Ankara**	**47.48 205**	P	**P**	**19 19 38.1**	**+0.6**
ANTO			pmax	pmax		
	comp=Z,154nm,1.8s					
ANTO			MLR	MLR		
	comp=Z,12μm,19.0s					
WVL	**Waterville**	**47.50 308**	IAMs_20	IAMs_20	19 39 01.5	
	comp=Z,8μm,20.0s					
WVL	**Waterville**	**47.50 308**	P	**P**	**19 19 35.6**	**-1.9**
	baz=3.4					
POLO	**Lamas de Olo**	**47.52 247**	*e*P	**P**	**19 19 38.2**	**+0.4**
	comp=Z,46nm,1.8s					
POLO			*e*S	**S**	**19 26 32.5**	**0.0**
BORA	**Eskisehir**	**47.52 207**	P	**P**	**19 19 38.1**	**+0.3**
BORA			IAmb	IAmb	19 20 02.3	
	comp=Z,69nm,1.7s					
LSK	**Leskovik**	**47.54 217**	P	**P**	**19 19 40.8**	**+2.8**
G40A	**Rib Lake**	**47.54 328**	P	**P**	**19 19 37.3**	**-0.6**
	baz=2.4,SNR=7.4					
G40A			S	**S**	**19 26 33.4**	**+0.8**
	baz=2.4					
H62A	**Milan**	**47.55 310**	IAMs_20	IAMs_20	19 39 10.9	
	comp=Z,10μm,20.0s					
H62A	**Milan**	**47.55 310**	P	**P**	**19 19 37.0**	**-0.9**
	baz=3.4					
H62A			P	**P**	**19 19 37.0**	**-0.9**
	baz=3.4					
BR131	**Keskin Array S**	**47.60 204**	P	**P**	**19 19 38.7**	**+0.2**
BR131			IAmb	IAmb	19 19 41.2	
	comp=Z,51nm,1.1s					
BR131	**Keskin Array S**	**47.60 204**	P	**P**	**19 19 39.0**	**+0.4**
	SNR=20					
BR131			P	**P**	**19 19 39.0**	**+0.4**
	SNR=20					
BR131			P	**P**	**19 19 39.0**	**+0.4**
	SNR=20					
BR131			S	**S**	**19 26 39.4**	**+5.5**
BR131			S	**S**	**19 26 39.4**	**+5.5**
BR131			S	**S**	**19 26 39.4**	**+5.5**
BR131	**Keskin Array S**	**47.60 204**	*i* P	**P**	**19 19 38.7**	**+0.2**
BRTR	**Keskin Array B**	**47.60 204**	P	**P**	**19 19 38.6**	**0.0**
BRTR	**Keskin Array B**	**47.60 204**	P	**P**	**19 19 39.5**	**+0.9**
	comp=Z,13nm,0.8s,baz=1.6,slow=3.4,SNR=48					
BRTR			LR	LR	19 41 21.8	
	comp=Z,10μm,20.2s,baz=7.0,slow=38					
	comp=Z,13nm,0.8s					
PVRL	**Vila Real**	**47.61 246**	*e*P	**P**	**19 19 39.1**	**+0.6**
	comp=Z,93nm,1.8s					
HHC	**Hu-ho-hao-te**	**47.62 122**	*e*P	**P**	**19 19 38.0**	**-0.7**
HHC			sP	pwP	19 19 45.5	+0.9
HHC			PP	**PP**	**19 21 29.5**	**-0.3**
HHC			S	**S**	**19 26 34.0**	**-0.1**
HHC			sS	sS	19 26 38.3	+2.3
HHC			SS	**SS**	**19 29 54.5**	**-7.0**
HHC			pmax	pmax		
	comp=Z,63nm,1.0s					
HHC			pmax	pmax		
	comp=Z,2μm,4.7s					
HHC			LR	LR		
	comp=Z,12μm,17.9s					
HHC			LR	LR		
	comp=Z,4μm,16.4s					
HHC			LR	LR		
	comp=Z,15μm,17.9s					
BOZ	**Bozeman (W)**	**47.64 348**	P	**P**	**19 19 38.6**	**-0.2**
BOZ	**Bozeman (W)**	**47.64 348**	P	**P**	**19 19 38.9**	**+0.1**
	baz=0.9,SNR=38					
BOZ			S	**S**	**19 26 33.7**	**-0.6**
	baz=0.9					
BOZ	**Bozeman (W)**	**47.64 348**	P	**P**	**19 19 38.6**	**-0.2**
BOZ			pmax	pmax		
	comp=Z,166nm,1.5s					
LIA	**Limnos Island**	**47.65 212**	P	**P**	**19 19 38.6**	**-0.1**
LONY	**Lake Ozonia**	**47.65 313**	P	**P**	**19 19 38.1**	**-0.6**
LONY			IAMs_20	IAMs_20	19 38 46.4	
	comp=Z,7μm,20.0s					
LONY	**Lake Ozonia**	**47.65 313**	P	**P**	**19 19 37.9**	**-0.8**
	baz=3.2,SNR=8.3					
LONY			S	**S**	**19 26 33.0**	**-1.2**
	baz=3.2					
SPMN	**Marine on St.**	**47.65 331**	P	**P**	**19 19 38.0**	**-0.6**
SPMN			IAmb	IAmb	19 19 40.2	
	comp=Z,37nm,0.8s					
SPMN	**Marine on St.**	**47.65 331**	P	**P**	**19 19 38.5**	**-0.2**
	baz=2.2,SNR=7.1					
SPMN			S	**S**	**19 26 36.2**	**+2.0**
	baz=2.2					
SPMN	**Marine on St.**	**47.65 331**	P	**P**	**19 19 38.1**	**-0.6**
	baz=2.2,SNR=7.1					
SPMN			S	**S**	**19 26 34.3**	**+0.2**
	baz=2.2					
SADO	**Sadowa**	**47.67 317**	IAMs_20	IAMs_20	19 39 28.3	
	comp=Z,9μm,19.0s					
SADO	**Sadowa**	**47.67 317**	LR	LR	19 39 39.2	
	comp=Z,8μm,18.2s,baz=17,slow=36					
MVO	**Moncorvo**	**47.69 246**	*e*P	**P**	**19 19 39.0**	**-0.1**
	comp=Z,53nm,1.6s					
MVO	**Moncorvo**	**47.69 246**	*e*PP	PP	19 21 32.3	+1.9
MVO			*e*S	**S**	**19 26 39.6**	**+4.7**
MVO			*e*LR	LR	19 33 35.7	
	comp=Z,2μm,20.0s					
KPRO	**Kipourio**	**47.71 216**	P	**P**	**19 19 38.3**	**-1.0**
KSH	**Kashi**	**47.76 159**	P	**P**	**19 19 42.0**	**+2.3**
KSH			pP	pwP	19 19 46.5	+0.8
KSH			sP	sP	19 19 50.0	+8.7
KSH			PcP	**PcP**	**19 21 10.0**	**+1.4**
KSH			PP	**PP**	**19 21 38.0**	**+6.9**
KSH			sS	sS	19 26 46.8	+8.9
KSH			pmax	pmax		
	comp=Z,14nm,1.0s					
KSH			LR	LR		
	comp=Z,17μm,18.6s					
KSH			LR	LR		
	comp=Z,5μm,18.2s					
KSH			LR	LR		
	comp=Z,17μm,20.3s					
BTO	**Baotou**	**47.80 124**	*e*P	**P**	**19 19 39.3**	**-0.7**
BTO			pP	**pwP**	**19 19 43.8**	**-2.1**
BTO			sP	**sP**	**19 19 46.0**	**+4.4**
BTO			PP	**PP**	**19 21 32.0**	**+0.6**
BTO			S	**S**	**19 26 35.0**	**-1.5**
BTO			pmax	pmax		
	comp=Z,45nm,1.0s					
BTO			pmax	pmax		
	comp=Z,2μm,5.7s					
BTO			LR	LR		
	comp=Z,20μm,16.5s					
BTO			LR	LR		
	comp=Z,6μm,12.2s					
BTO			LR	LR		
	comp=Z,26μm,18.2s					
GLMI	**Grayling**	**47.81 323**	P	**P**	**19 19 39.9**	**0.0**
	baz=2.7					
GLMI			S	**S**	**19 26 37.9**	**+1.4**
	baz=2.7					
CUC	**Castrocucco**	**47.86 222**	P	**P**	**19 19 41.1**	**+0.7**
VT1	**Waterbury**	**47.86 311**	IAMs_20	IAMs_20	19 38 41.4	
	comp=Z,8μm,20.0s					
VT1	**Waterbury**	**47.86 311**	P	**P**	**19 19 40.3**	**-0.1**
	baz=3.3,SNR=5.8					
DELO	**Deloro Mine**	**47.87 316**	IAMs_20	IAMs_20	19 39 18.4	
	comp=Z,13μm,19.0s					
DLMT	**Dillon**	**47.88 349**	IAMs_20	IAMs_20	19 40 54.6	
	comp=Z,10μm,18.0s					
LBNH	**Lisbon**	**47.92 310**	P	**P**	**19 19 40.3**	**-0.5**
LBNH			IAmb	IAmb	19 19 51.9	
	comp=Z,64nm,1.5s					
LBNH			IAMs_20	IAMs_20	19 40 25.4	
	comp=Z,9μm,18.0s					
LBNH	**Lisbon**	**47.92 310**	P	**P**	**19 19 40.1**	**-0.7**
	baz=3.3					
LBNH			S	**S**	**19 26 39.2**	**+1.2**
	baz=3.3					
LBNH	**Lisbon**	**47.92 310**	P	**P**	**19 19 40.8**	**0.0**
	baz=3.3					
LBNH			S	**S**	**19 26 39.6**	**+1.6**
	baz=3.3					
LBNH	**Lisbon**	**47.92 310**	P	**P**	**19 19 40.3**	**-0.5**
LBNH			pmax	pmax		
	comp=Z,64nm,1.5s					
LBNH			MLR	MLR		
	comp=Z,9μm,18.0s					
HOOD	**Mount Hood Mea**	**47.98 358**	IAMs_20	IAMs_20	19 40 26.3	
	comp=Z,12μm,20.0s					
G08A	**Pilot Rock**	**48.00 355**	IAMs_20	IAMs_20	19 40 46.8	
	comp=Z,6μm,18.0s					
I63A	**Otisfield**	**48.05 309**	IAMs_20	IAMs_20	19 39 27.1	
	comp=Z,8μm,20.0s					
I63A	**Otisfield**	**48.05 309**	P	**P**	**19 19 41.6**	**-0.2**
	baz=3.4,SNR=5.4					
I63A			P	**P**	**19 19 41.6**	**-0.2**
	baz=3.4,SNR=5.4					
I63A			S	**S**	**19 26 41.4**	**+1.6**
	baz=3.4					
I63A			S	**S**	**19 26 41.4**	**+1.6**
	baz=3.4					
G05A	**Wamic**	**48.06 358**	P	**P**	**19 19 42.3**	**+0.4**
G05A			IAMs_20	IAMs_20	19 40 27.4	
	comp=Z,7μm,20.0s					
G06A	**Carlson Farm,**	**48.06 357**	IAMs_20	IAMs_20	19 41 12.5	
	comp=Z,9μm,18.0s					
THL	**Klokotos Trika**	**48.08 216**	P	**P**	**19 19 42.2**	**+0.2**
RLMT	**Red Lodge**	**48.09 346**	P	**P**	**19 19 42.0**	**-0.4**
	baz=1.1,SNR=5.9					
RLMT			S	**S**	**19 26 41.7**	**+0.9**
	baz=1.1					
HEBO	**Mount Hebo**	**48.09 360**	IAMs_20	IAMs_20	19 41 06.3	
	comp=Z,11μm,20.0s					
G03D	**McMinnville, O**	**48.09 360**	P	**P**	**19 19 42.8**	**+0.8**
G03D			IAMs_20	IAMs_20	19 40 15.3	
	comp=Z,10μm,20.0s					
ARPR	**Arapgir-MALATY**	**48.14 199**	P	**P**	**19 19 43.8**	**+1.0**
ARPR			IAmb	IAmb	19 19 47.5	
	comp=Z,76nm,1.1s					
ARPR			IAMs_20	IAMs_20	19 42 10.1	
	comp=Z,6μm,21.0s					
IGT	**Igoumenitsa**	**48.16 217**	P	**P**	**19 19 42.8**	**+0.1**
PVIS	**Viseu**	**48.18 247**	*e*P	**P**	**19 19 42.8**	**-0.1**
PVIS	**Viseu**	**48.18 247**	*e*PP	PP	19 21 36.8	+2.0
PLID	**Pearl Lake**	**48.19 353**	P	**P**	**19 19 42.7**	**-0.5**
MCVT	**Middlebury Col**	**48.25 311**	P	**P**	**19 19 43.3**	**0.0**
	baz=3.2,SNR=11					
MCVT			S	**S**	**19 26 45.5**	**+2.8**
	baz=3.2					
I62A	**Tamworth**	**48.26 310**	IAMs_20	IAMs_20	19 39 42.6	
	comp=Z,10μm,20.0s					
H43A	**Windswept, Lux**	**48.26 326**	S	**S**	**19 26 42.2**	**-0.7**
	baz=2.5					
NCB	**Newcomb**	**48.28 313**	IAMs_20	IAMs_20	19 39 05.2	
	comp=Z,7μm,21.0s					
WCNY	**West Carthage**	**48.33 314**	P	**P**	**19 19 43.3**	**-0.6**
	baz=3.1					
WCNY			S	**S**	**19 26 47.3**	**+3.5**
	baz=3.1					
UCM	**Universidad Co**	**48.36 242**	P	**P**	**19 19 44.0**	**-0.2**
YHL	**Hebgen Lake**	**48.38 348**	P	**P**	**19 19 45.1**	**+0.4**
YHL			IAmb	IAmb	19 19 55.3	
	comp=Z,132nm,1.3s					
YHL			IAMs_20	IAMs_20	19 40 45.5	
	comp=Z,17μm,18.0s					
MAHO	**Mahon**	**48.42 234**	P	**P**	**19 19 45.2**	**+0.5**
BNN	**Bunyan**	**48.43 201**	P	**P**	**19 19 45.6**	**+0.6**
HNH	**Hanover**	**48.47 311**	IAMs_20	IAMs_20	19 38 49.2	
	comp=Z,7μm,21.0s					
MTE	**Manteigas**	**48.47 246**	*e*P	**P**	**19 19 45.2**	**0.0**
	comp=Z,82nm,1.9s					
MTE			*e*S	**S**	**19 26 49.6**	**+3.6**
MTE			*e*LR	LR	19 33 57.5	

comp=Z,8μm,21.8s
GTA LR LR
comp=Z,20μm,20.7s
SUSD Miller 48.59 336 IAMs_20 IAMs_20 19 40 16.8
comp=Z,10μm,19.0s
SUSD Miller 48.59 336 P **P** **19 19 45.4 -0.5**
baz=1.8,SNR=7.0
SUSD S **S** **19 26 48.0 +0.6**
baz=1.8
SUSD Miller 48.59 336 P **P** **19 19 44.9 -1.1**
baz=1.8,SNR=7.0
SUSD S **S** **19 26 46.6 -0.8**
baz=1.8
JOT Ohata 48.60 92 P **P** **19 19 45.1 -1.0**
AGG Agios Georgios 48.61 215 P **P** **19 19 43.8 -2.4**
H04A Detroit Lake 48.62 358 IAMs_20 IAMs_20 19 41 17.2
comp=Z,11μm,20.0s
MAKR Makrakomi, Fth 48.62 216 P **P** **19 19 45.1 -1.2**
GURO Guroymak-BITLI 48.63 195 P **P** **19 19 47.7 +1.2**
I49A Point Hope 48.63 321 IAMs_20 IAMs_20 19 39 21.7
comp=Z,11μm,20.0s
I49A Point Hope 48.63 321 S **S** **19 26 49.1 +1.0**
baz=2.8
I49A S **S** **19 26 49.1 +1.0**
baz=2.8
BJI Beijing 48.65 118 P **P** **19 19 47.5 +1.1**
BJI S **S** **19 26 47.3 -1.0**
BJI pmax pmax
comp=Z,45nm,2.3s
BJI pmax pmax
comp=Z,1μm,4.3s
BJI LR LR
comp=Z,4μm,17.8s
BJI LR LR
comp=Z,650nm,17.7s
BJI LR LR
comp=Z,5μm,17.6s
I45A Fountain 48.65 324 P **P** **19 19 46.3 -0.1**
baz=2.6
I45A P **P** **19 19 46.3 -0.1**
baz=2.6
BJT Baijiatuau 48.67 118 P **P** **19 19 47.2 +0.6**
BJT Baijiatuau 48.67 118 IAMs_20 IAMs_20 19 40 54.4
comp=Z,8μm,19.0s
BJT Baijiatuau 48.67 118 P **P** **19 19 48.1 +1.5**
BJT Baijiatuau 48.67 118 P **P** **19 19 47.2 +0.6**
BJT pmax pmax
comp=Z,261nm,1.9s
BJT MLR MLR
comp=Z,8μm,19.0s
FFD Franklin Falls 48.68 310 IAMs_20 IAMs_20 19 39 53.7
comp=Z,10μm,19.0s
COI Coimbra 48.71 247 *e*P **P** **19 19 47.7 +0.8**
comp=Z,93nm,1.4s
COI Coimbra 48.71 247 P **P** **19 19 46.6 -0.3**
COI IAmb IAmb 19 19 54.7
comp=Z,73nm,1.2s
COI IAMs_20 IAMs_20 19 38 58.8
comp=Z,5μm,18.0s
COI Coimbra 48.71 247 P **P** **19 19 46.6 -0.3**
COI pmax pmax
comp=Z,73nm,1.2s
COI MLR MLR
comp=Z,5μm,18.0s
COR Corvallis 48.72 360 P **P** **19 19 48.1 +1.2**
COR Corvallis 48.72 360 IAMs_20 IAMs_20 19 40 45.9
comp=Z,9μm,20.0s
COR Corvallis 48.72 360 P **P** **19 19 48.1 +1.2**
COR pmax pmax
comp=Z,429nm,1.7s
COR MLR MLR
comp=Z,9μm,20.0s
EVR Evrytania 48.73 216 P **P** **19 19 49.0 +1.8**
H17A Grant Village 48.83 347 P **P** **19 19 49.3 +1.2**
H17A IAmb IAmb 19 19 54.0
comp=Z,85nm,1.3s
H17A Grant Village 48.83 347 P **P** **19 19 49.7 +1.6**
baz=1.0,SNR=28
H17A S **S** **19 26 52.0 +0.7**
baz=1.0
J61A Chester 48.84 311 IAMs_20 IAMs_20 19 39 10.9
comp=Z,8μm,20.0s
ACCN Adirondack Com 48.85 312 IAMs_20 IAMs_20 19 40 32.1
comp=Z,6μm,18.0s
AXAR Agios Charalam 48.85 215 P **P** **19 19 47.2 -0.8**
PCAS Casmilo, Conde 48.87 247 *e*P **P** **19 19 48.2 +0.1**
comp=Z,143nm,1.6s
PCAS *e*S **S** **19 26 58.4 +6.9**
I42A Draeger Farm, 48.88 327 P **P** **19 19 47.6 -0.5**
baz=2.4,SNR=7.2
I42A S **S** **19 26 53.3 +1.8**
baz=2.4
I37B Waseca 48.88 331 P **P** **19 19 47.4 -0.8**
baz=2.1,SNR=6.8
LKD2 Lefkada island 48.89 217 P **P** **19 19 46.9 -1.5**
J57A Williamstown 48.91 314 IAMs_20 IAMs_20 19 39 33.0
comp=Z,7μm,20.0s
J57A Williamstown 48.91 314 S **S** **19 26 54.3 +2.3**
baz=3.1
J57A S **S** **19 26 54.3 +2.3**
baz=3.1
I40A Norwalk 48.93 328 P **P** **19 19 48.1 -0.5**
baz=2.3,SNR=8.2
I40A S **S** **19 26 53.3 +1.1**
baz=2.3
KULA Kula-Manisa 48.93 209 P **P** **19 19 49.7 +1.0**
J58A Remsen 48.93 314 IAMs_20 IAMs_20 19 39 55.5
comp=Z,7μm,21.0s
J58A Remsen 48.93 314 P **P** **19 19 48.1 -0.5**
baz=3.1,SNR=5.8
J58A P **P** **19 19 48.1 -0.5**
baz=3.1,SNR=5.8
MANT Manisa 48.96 209 P **P** **19 19 48.8 -0.3**
MANT IAmb IAmb 19 20 12.0
comp=Z,73nm,1.4s
I05D Terrebonne, OR 48.96 358 IAMs_20 IAMs_20 19 42 07.3
comp=Z,9μm,18.0s
ECHE Chera 48.96 239 P **P** **19 19 48.7 -0.2**
ECHE S **S** **19 26 56.3 +3.4**
RSSD Black Hills 49.01 341 IAMs_20 IAMs_20 19 40 42.1
comp=Z,14μm,18.0s
RSSD Black Hills 49.01 341 P **P** **19 19 49.0 -0.4**
baz=1.4
RSSD S **S** **19 26 52.9 -0.9**
baz=1.4
RSSD Black Hills 49.01 341 P **P** **19 19 48.1 -1.3**
baz=1.4,SNR=15
RSSD S **S** **19 26 53.6 -0.1**
baz=1.4
ESBB Sonseca Array 49.02 242 P **P** **19 19 49.0 -0.3**
ESBB IAmb IAmb 19 19 51.4
comp=Z,54nm,1.1s
ESBB IAMs_20 IAMs_20 19 37 48.1
comp=Z,2μm,21.0s
ESDC Sonseca Array 49.02 242 P **P** **19 19 48.8 -0.6**
ESDC Sonseca Array 49.02 242 P **P** **19 19 48.7 -0.7**
comp=Z,26nm,0.9s,baz=2.1,slow=7.6,SNR=81
comp=Z,26nm,0.9s
UNH University of 49.02 309 P **P** **19 19 49.5 +0.2**
baz=3.3
PCBR Castelo Branco 49.03 246 *e*P **P** **19 19 49.4 +0.1**
comp=Z,146nm,2.0s
PVO Paravola 49.04 216 P **P** **19 19 46.9 -2.5**
ANX Ano Chora 49.05 216 P **P** **19 19 48.5 -1.1**
J56A Wolcott 49.08 315 IAMs_20 IAMs_20 19 39 56.4
comp=Z,13μm,20.0s
J56A Wolcott 49.08 315 S **S** **19 26 54.8 +0.5**
baz=3.0
J56A S **S** **19 26 54.8 +0.5**
baz=3.0
BUCK Buck Mountain 49.10 359 IAMs_20 IAMs_20 19 40 48.1
comp=Z,8μm,20.0s
J55A Hilton 49.13 316 IAMs_20 IAMs_20 19 40 15.6
comp=Z,12μm,18.0s
J55A Hilton 49.13 316 S **S** **19 26 54.8 -0.2**
baz=3.0
J55A S **S** **19 26 54.8 -0.2**
baz=3.0
CHOS Chios island 49.13 211 P **P** **19 19 49.3 -0.9**
GEYT Alibeck 49.15 178 P **P** **19 19 50.9 +0.5**
GEYT IAmb IAmb 19 19 54.1
comp=Z,62nm,1.5s
GEYT Alibeck 49.15 178 P **P** **19 19 50.2 -0.1**
comp=Z,15nm,1.1s,baz=347,slow=6.1,SNR=20
GEYT PcP **PcP** **19 21 13.8 +0.2**
comp=Z,9.1nm,0.9s,baz=292,slow=4.7,SNR=4.5
GEYT LR LR 19 44 59.9
comp=Z,8μm,19.1s,baz=358,slow=42
comp=Z,15nm,1.1s
GYA0B ALIBECK ARRAY 49.15 178 P **P** **19 19 50.8 +0.5**
GYA0B IAmb IAmb 19 19 54.0
comp=Z,74nm,1.6s
J54A Appleton 49.15 317 IAMs_20 IAMs_20 19 40 26.3
comp=Z,7μm,19.0s
PAB San Pablo 49.17 243 P **P** **19 19 50.3 -0.3**
PAB IAmb IAmb 19 19 53.5
comp=Z,102nm,1.2s
PAB San Pablo 49.17 243 P **P** **19 19 50.9 +0.4**
PAB San Pablo 49.17 243 P **P** **19 19 50.1 -0.5**
PAB San Pablo 49.17 243 P **P** **19 19 50.5 0.0**
I07A Izee 49.21 356 IAMs_20 IAMs_20 19 42 15.9
comp=Z,9μm,18.0s
EFP Efpalio 49.21 216 P **P** **19 19 51.2 +0.4**
ECSD EROS Data Cent 49.24 334 P **P** **19 19 50.2 -0.7**
ECSD IAmb IAmb 19 19 51.6
comp=Z,65nm,0.9s
ECSD EROS Data Cent 49.24 334 IAMs_20 IAMs_20 19 40 42.0
comp=Z,12μm,19.0s
ECSD EROS Data Cent 49.24 334 P **P** **19 19 50.3 -0.7**
baz=1.9,SNR=31
ECSD S **S** **19 26 57.1 +0.5**
baz=1.9
ECSD EROS Data Cent 49.24 334 P **P** **19 19 49.4 -1.6**
baz=1.9,SNR=31
ECSD S **S** **19 26 53.6 -3.0**
baz=1.9
MEDO Medina 49.25 317 IAMs_20 IAMs_20 19 40 11.0
comp=Z,9μm,20.0s
LAKA Lakka 49.40 216 P **P** **19 19 52.3 +0.1**
PSBE So Bento 49.42 247 *e*P **P** **19 19 52.1 -0.3**
comp=Z,77nm,1.8s
PSBE *e*S **S** **19 26 59.8 +0.5**
PMRV Marv??o 49.44 246 *e*P **P** **19 19 52.5 0.0**
comp=Z,82nm,1.7s
PMRV *e*S **S** **19 27 00.9 +1.4**
PMRV *e*LR LR 19 34 47.0
comp=Z,2μm,18.0s
TRY Troy 49.50 312 IAMs_20 IAMs_20 19 40 44.4
comp=Z,6μm,18.0s
TRY Troy 49.50 312 P **P** **19 19 53.3 +0.4**
baz=3.2,SNR=5.2
TRY S **S** **19 27 04.6 +4.4**
baz=3.2
K62A Royalston 49.51 311 IAMs_20 IAMs_20 19 41 41.6
comp=Z,10μm,18.0s
K62A Royalston 49.51 311 P **P** **19 19 52.3 -0.7**
baz=3.2
K62A P **P** **19 19 52.3 -0.7**
baz=3.2
K62A S **S** **19 26 59.4 -0.9**
baz=3.2
K62A S **S** **19 26 59.4 -0.9**
baz=3.2
PINE Pine Mountain 49.51 357 IAMs_20 IAMs_20 19 42 27.7
comp=Z,14μm,18.0s
PTL Pentelì 49.53 214 P **P** **19 19 54.7 +1.4**
HCNY Howe Caverns 49.56 313 S **S** **19 27 03.7 +2.6**
baz=3.1
RLS Riolos of Patr 49.60 216 P **P** **19 19 54.1 +0.4**
I03D Drain, OR 49.60 360 IAMs_20 IAMs_20 19 43 44.4
comp=Z,7μm,18.0s
K57A Scipio Center 49.61 315 IAMs_20 IAMs_20 19 40 13.4
comp=Z,10μm,20.0s
K57A Scipio Center 49.61 315 P **P** **19 19 54.0 +0.3**
baz=3.0
K57A S **S** **19 27 01.2 -0.6**
baz=3.0
HRV Adam Dziewonsk 49.63 310 P **P** **19 19 53.7 -0.3**
HRV IAmb IAmb 19 19 57.2
comp=Z,113nm,1.8s
HRV Adam Dziewonsk 49.63 310 IAMs_20 IAMs_20 19 40 33.0
comp=Z,7μm,18.0s
HRV Adam Dziewonsk 49.63 310 P **P** **19 19 53.5 -0.5**
baz=3.2
HRV S **S** **19 27 01.6 -0.6**
baz=3.2
HRV Adam Dziewonsk 49.63 310 S **S** **19 27 03.1 +1.0**
baz=3.2
HRV Adam Dziewonsk 49.63 310 P **P** **19 19 53.7 -0.3**
HRV pmax pmax
comp=Z,113nm,1.8s
HRV MLR MLR
comp=Z,7μm,18.0s
MMNY Mt. Morris Dam 49.66 316 IAMs_20 IAMs_20 19 40 32.8
comp=Z,11μm,19.0s
SIRT Sirnak 49.67 194 P **P** **19 19 55.6 +1.2**
HLID Hailey 49.70 351 P **P** **19 19 54.3 -0.4**
HLID IAmb IAmb 19 19 57.8
comp=Z,147nm,1.9s
HLID Hailey 49.70 351 P **P** **19 19 54.5 -0.2**
baz=0.7,SNR=21
HLID S **S** **19 27 04.9 +1.5**
baz=0.7
L61B Northampton 49.74 311 IAMs_20 IAMs_20 19 39 47.7
comp=Z,7μm,20.0s
L61B Northampton 49.74 311 P **P** **19 19 54.0 -0.7**
baz=3.2
L61B S **S** **19 27 05.9 +2.3**
baz=3.2
L61B Northampton 49.74 311 P **P** **19 19 54.2 -0.5**
baz=3.2
L61B S **S** **19 27 04.7 +1.1**
baz=3.2
WES Weston 49.75 310 IAMs_20 IAMs_20 19 40 35.9
comp=Z,11μm,18.0s
K50A Casco 49.79 321 IAMs_20 IAMs_20 19 39 47.3
comp=Z,8μm,21.0s
K50A Casco 49.79 321 P **P** **19 19 54.9 -0.2**
baz=2.7,SNR=6.3
K50A P **P** **19 19 54.9 -0.2**
baz=2.7,SNR=6.3
BCX Boston College 49.79 310 IAMs_20 IAMs_20 19 40 29.1
comp=Z,9μm,20.0s
PMTG Montargil 49.83 247 *e*P **P** **19 19 55.0 -0.5**
comp=Z,89nm,1.6s
PMTG *e*S **S** **19 27 10.4 +5.4**
MFID Camas Ranch 49.86 352 IAMs_20 IAMs_20 19 40 58.1
comp=Z,13μm,20.0s
MARD Mardin 49.88 196 P **P** **19 19 57.1 +1.0**
MARD IAmb IAmb 19 20 00.4
comp=Z,78nm,1.4s
JFWS Jewell Farm 49.89 328 P **P** **19 19 55.1 -0.8**
JFWS IAmb IAmb 19 19 57.2
comp=Z,68nm,1.4s
JFWS Jewell Farm 49.89 328 P **P** **19 19 54.5 -1.4**
baz=2.3
JFWS S **S** **19 27 03.6 -2.1**
baz=2.3
JFWS Jewell Farm 49.89 328 P **P** **19 19 55.2 -0.8**
baz=2.3
JFWS S **S** **19 27 04.8 -0.9**
baz=2.3
JFWS Jewell Farm 49.89 328 P **P** **19 19 55.1 -0.8**
JFWS pmax pmax
comp=Z,68nm,1.4s
JFWS MLR MLR
comp=Z,23μm,18.0s
QUA2 Belchertown 49.90 311 IAMs_20 IAMs_20 19 41 52.9
comp=Z,9μm,18.0s
J08A Circle Bar Ran 49.93 355 IAMs_20 IAMs_20 19 41 23.9
comp=Z,12μm,20.0s
ETOB Tobarra 49.93 240 P **P** **19 19 56.7 +0.3**
PMAFR Mafra 50.00 248 S **S** **19 27 12.8 +5.5**
PESTR Estremoz 50.00 246 *e*P **P** **19 19 56.7 -0.1**
comp=Z,107nm,1.9s
PESTR *e*S **S** **19 27 11.9 +4.5**
PESTR Estremoz 50.00 246 P **P** **19 19 56.4 -0.5**
PESTR IAmb IAmb 19 20 04.2
comp=Z,74nm,1.4s
PESTR Estremoz 50.00 246 P **P** **19 19 57.1 +0.3**
PESTR Estremoz 50.00 246 P **P** **19 19 56.4 -0.5**
K43A Burlington 50.04 326 S **S** **19 27 08.3 +0.4**
baz=2.4
DL2 Dalian 50.05 112 P **P** **19 19 57.3 +0.2**
DL2 S **S** **19 27 09.5 +1.6**
DL2 pmax pmax
comp=Z,69nm,1.3s
DL2 pmax pmax
comp=Z,1μm,6.7s
DL2 LR LR
comp=Z,4μm,13.6s
DL2 LR LR
comp=Z,2μm,12.8s
DL2 LR LR
comp=Z,3μm,21.2s
GAZ Gaziantep 50.08 200 P **P** **19 19 57.7 +0.2**
GAZ IAmb IAmb 19 20 08.5
comp=Z,56nm,1.1s
EBAD Badajoz 50.09 246 P **P** **19 19 56.8 -0.6**
L59A Walton 50.09 313 IAMs_20 IAMs_20 19 40 20.2
comp=Z,7μm,19.0s
L59A Walton 50.09 313 S **S** **19 27 06.8 -1.8**
baz=3.1
L59A S **S** **19 27 06.8 -1.8**
baz=3.1
BINY Binghamton 50.12 314 P **P** **19 19 57.6 -0.1**
BINY IAMs_20 IAMs_20 19 40 41.8
comp=Z,8μm,22.0s
BINY Binghamton 50.12 314 P **P** **19 19 57.4 -0.3**
baz=3.0,SNR=11
BINY S **S** **19 27 09.4 +0.4**
baz=3.0
BINY Binghamton 50.12 314 P **P** **19 19 57.5 -0.1**
baz=3.0,SNR=11
BINY S **S** **19 27 06.8 -2.1**
baz=3.0
J01E Myrtle Point 50.14 0 IAMs_20 IAMs_20 19 41 24.5
comp=Z,12μm,21.0s
PACT Alcochete 50.16 247 *e*P **P** **19 19 58.8 +0.8**
comp=Z,116nm,1.9s
L64A Middleborough 50.17 309 IAMs_20 IAMs_20 19 40 51.2
comp=Z,9μm,20.0s
DBO Dodson Butte 50.18 359 IAMs_20 IAMs_20 19 42 23.7
comp=Z,7μm,19.0s
BRYW Bryant College 50.22 310 IAMs_20 IAMs_20 19 40 51.5
comp=Z,9μm,18.0s
K38A Parkersburg 50.23 330 P **P** **19 19 57.8 -0.7**
baz=2.1,SNR=5.7
K38A S **S** **19 27 09.9 -0.5**
baz=2.1
LIS Lisbon 50.23 248 *e*P **P** **19 19 58.5 0.0**
LIS IAmb IAmb 19 20 07.7
comp=Z,185nm,1.6s
LIS *e*S **S** **19 27 11.3 +0.8**
LIS Lisbon 50.23 248 *e*P **P** **19 19 58.5 0.0**
LIS *e*S **S** **19 27 11.3 +0.8**
LIS pmax pmax
comp=Z,185nm,1.6s
L56A Greenwood 50.24 316 IAMs_20 IAMs_20 19 40 52.2
comp=Z,13μm,19.0s
L56A Greenwood 50.24 316 P **P** **19 19 57.9 -0.8**
baz=3.0
L56A P **P** **19 19 57.9 -0.8**
baz=3.0
L56A S **S** **19 27 11.9 +1.1**
baz=3.0
L56A S **S** **19 27 11.9 +1.1**
baz=3.0
AAM Ann Arbor 50.30 322 IAMs_20 IAMs_20 19 40 24.8
comp=Z,15μm,21.0s
AAM Ann Arbor 50.30 322 P **P** **19 19 59.0 0.0**
baz=2.6
AAM S **S** **19 27 12.8 +1.4**
baz=2.6
YER Yerkesik 50.32 209 P **P** **19 19 57.9 -1.4**
ERPA Erie 50.35 318 IAMs_20 IAMs_20 19 41 10.1
comp=Z,12μm,18.0s
ERPA Erie 50.35 318 P **P** **19 19 59.1 -0.3**
baz=2.8
ERPA S **S** **19 27 11.7 -0.5**
baz=2.8
EVO Evora 50.36 247 *e*P **P** **19 19 58.1 -1.4**
comp=Z,67nm,2.2s
EVO Evora 50.36 247 P **P** **19 19 57.8 -1.7**
CLTB Caltabellotta 50.37 225 IAMs_20 IAMs_20 19 40 44.8
comp=Z,9μm,21.0s
K30B Basset 50.37 337 P **P** **19 19 59.5 0.0**
baz=1.7
K30B S **S** **19 27 11.4 -1.1**
baz=1.7
UCCT U. Connecticut 50.37 310 P **P** **19 19 59.1 -0.4**
UCCT IAmb IAmb 19 20 03.0
comp=Z,180nm,1.8s
UCCT IAMs_20 IAMs_20 19 42 06.5
comp=Z,9μm,18.0s
VAE Valguarnera 50.42 223 LR LR 19 41 42.8
comp=Z,4μm,19.7s,baz=21,slow=36
KEBM Edson Butte 50.43 1 IAMs_20 IAMs_20 19 40 47.2
comp=Z,12μm,22.0s
BW06 Boulder Array 50.44 346 IAMs_20 IAMs_20 19 41 06.3
comp=Z,15μm,21.0s
BW06 Boulder Array 50.44 346 P **P** **19 19 59.9 -0.5**
baz=1.1,SNR=24
BW06 S **S** **19 27 14.6 +0.7**
baz=1.1
PD31 Pinedale Array 50.44 346 P **P** **19 20 00.0 -0.4**
PD31 IAmb IAmb 19 20 10.0
comp=Z,82nm,1.4s
PDAR Pinedale Array 50.44 346 P **P** **19 19 59.7 -0.7**
comp=Z,28nm,0.9s,baz=20,slow=4.7,SNR=71
PDAR PcP **PcP** **19 21 18.8 +0.3**
comp=Z,6.6nm,1.0s,baz=8.1,slow=2.1,SNR=3.6
PDAR LR LR 19 41 27.9
comp=Z,12μm,20.9s,baz=6.5,slow=36
comp=Z,28nm,0.9s
APE Apeiranthos 50.46 212 P **P** **19 20 00.7 +0.4**
AHID Auburn Hatcher 50.46 348 P **P** **19 19 59.8 -0.8**
NPNY Mohonk Preserv 50.49 312 P **P** **19 20 00.6 +0.2**
baz=3.1
NPNY S **S** **19 27 13.2 -0.9**
baz=3.1
KSCT Kent School, K 50.49 312 IAMs_20 IAMs_20 19 40 11.7
comp=Z,11μm,22.0s
K22A Casper 50.52 344 P **P** **19 19 59.7 -1.2**
baz=1.2,SNR=8.9
K22A S **S** **19 27 14.1 -0.7**
baz=1.2
K22A Casper 50.52 344 P **P** **19 20 00.4 -0.4**
baz=1.2,SNR=8.9
M65A Busby, Falmout 50.54 309 IAMs_20 IAMs_20 19 41 01.9
comp=Z,9μm,21.0s
M65A Busby, Falmout 50.54 309 S **S** **19 27 15.6 +0.9**
baz=3.2
EADA Adamuz 50.55 243 P **P** **19 20 00.5 -0.5**
EADA S **S** **19 27 18.6 +3.4**
L44A Lake County Fo 50.56 326 P **P** **19 20 00.4 -0.5**
baz=2.4
L44A S **S** **19 27 13.8 -1.2**
baz=2.4
L44A Lake County Fo 50.56 326 P **P** **19 20 00.9 0.0**
baz=2.4
L44A S **S** **19 27 17.2 +2.3**
baz=2.4
K05A Summer Lake 50.57 357 IAMs_20 IAMs_20 19 43 19.9
comp=Z,13μm,18.0s
PBAR Barrancos 50.67 245 *e*P **P** **19 20 01.7 -0.1**
comp=Z,90nm,2.1s
PBAR *e*S **S** **19 27 17.4 +0.8**
PBAR Barrancos 50.67 245 P **P** **19 19 59.9 -1.9**
L46A Eue Claire 50.67 324 S **S** **19 27 18.9 +2.3**
baz=2.5
L46A S **S** **19 27 18.9 +2.3**
baz=2.5
K04D Chiloquin, OR 50.67 358 P **P** **19 20 02.6 +0.6**
K04D IAmb IAmb 19 20 12.8
comp=Z,81nm,1.0s
K04D IAMs_20 IAMs_20 19 42 52.6
comp=Z,10μm,19.0s
L48A N Adams 50.68 322 P **P** **19 20 01.8 -0.1**
baz=2.6,SNR=9.9
L48A P **P** **19 20 01.8 -0.1**
baz=2.6,SNR=9.9
L48A S **S** **19 27 19.3 +2.6**
baz=2.6
L48A S **S** **19 27 19.3 +2.6**
baz=2.6
ECAB El Cabril 50.69 244 P **P** **19 20 00.8 -1.3**
EMUR La Murta 50.72 240 P **P** **19 20 01.8 -0.5**
EMUR S **S** **19 27 19.3 +1.8**
DAT Datca 50.74 210 P **P** **19 20 00.9 -1.6**
KSPA Keystone Colle 50.75 314 IAMs_20 IAMs_20 19 40 50.6
comp=Z,8μm,21.0s
KSPA Keystone Colle 50.75 314 P **P** **19 20 02.7 +0.3**
baz=3.0
KSPA S **S** **19 27 21.8 +4.0**
baz=3.0
M63A Gales Ferry 50.76 310 IAMs_20 IAMs_20 19 42 27.7
comp=Z,9μm,18.0s
M63A Gales Ferry 50.76 310 P **P** **19 20 02.2 -0.2**
baz=3.2
M63A P **P** **19 20 02.2 -0.2**

	baz=3.2					
M63A			S	**S**	**19 27 22.0**	**+4.3**
	baz=3.2					
M63A			S	**S**	**19 27 22.0**	**+4.3**
	baz=3.2					
L40A	**Anamosa**	**50.77 329**	P	**P**	**19 20 00.5**	**-2.0**
	baz=2.2,SNR=8.7					
L42A	**Oliver, Polo**	**50.78 327**	P	**P**	**19 20 02.0**	**-0.7**
	baz=2.3					
L42A			S	**S**	**19 27 19.0**	**+0.8**
	baz=2.3					
TIY	**Taiyuan**	**50.79 122**	⇑P	**P**	**19 20 04.5**	**+1.6**
TIY			S	**S**	**19 27 25.0**	**+6.5**
TIY			SS	**SS**	**19 30 47.5**	**-4.8**
TIY			pmax	pmax		
	comp=Z,47nm,1.6s					
TIY			pmax	pmax		
	comp=Z,1μm,3.9s					
TIY			LR	LR		
	comp=Z,6μm,16.7s					
TIY			LR	LR		
	comp=Z,2μm,15.7s					
TIY			LR	LR		
	comp=Z,6μm,17.1s					
PNCL	**Nicolau / Gran**	**50.80 247**	P	**P**	**19 20 01.8**	**-1.1**
ALLY	**Alegheny Colle**	**50.83 318**	P	**P**	**19 20 03.4**	**+0.4**
	baz=2.8					
BRNY	**Black Rk. Fore**	**50.83 312**	P	**P**	**19 20 02.5**	**-0.5**
	baz=3.1					
WVOR	**Wild Horse Val**	**50.85 355**	P	**P**	**19 20 03.9**	**+0.6**
WVOR			IAmb	IAmb	19 20 14.2	
	comp=Z,98nm,1.2s					
WVOR			IAMs_20	IAMs_20	19 42 03.6	
	comp=Z,12μm,20.0s					
WVOR	**Wild Horse Val**	**50.85 355**	P	**P**	**19 20 03.9**	**+0.6**
WVOR			pmax	pmax		
	comp=Z,98nm,1.2s					
WVOR			MLR	MLR		
	comp=Z,12μm,20.0s					
PBEJ	**Beja**	**50.86 246**	*e*P	**P**	**19 20 03.8**	**+0.5**
	comp=Z,104nm,2.0s					
YLE	**Yale**	**50.88 311**	IAMs_20	IAMs_20	19 40 31.8	
	comp=Z,6μm,20.0s					
PAOC	**Oil Creek Stat**	**50.94 318**	S	**S**	**19 27 23.0**	**+2.7**
	baz=2.8					
M55A	**Ridgway**	**50.95 317**	IAMs_20	IAMs_20	19 41 13.1	
	comp=Z,6μm,18.0s					
M55A	**Ridgway**	**50.95 317**	P	**P**	**19 20 02.6**	**-1.4**
	baz=2.9,SNR=11					
M55A			P	**P**	**19 20 02.6**	**-1.4**
	baz=2.9,SNR=11					
M55A			S	**S**	**19 27 22.7**	**+2.1**
	baz=2.9					
M55A			S	**S**	**19 27 22.7**	**+2.1**
	baz=2.9					
CART	**Cartagena**	**50.96 239**	P	**P**	**19 20 03.8**	**-0.2**
CART	**Cartagena**	**50.96 239**	P	**P**	**19 20 03.6**	**-0.4**
M52A	**Chesterland**	**50.98 319**	IAMs_20	IAMs_20	19 40 31.7	
	comp=Z,8μm,20.0s					
M52A	**Chesterland**	**50.98 319**	S	**S**	**19 27 22.7**	**+1.8**
	baz=2.7					
M52A			S	**S**	**19 27 22.7**	**+1.8**
	baz=2.7					
SCIA	**State Center**	**50.98 331**	P	**P**	**19 20 03.2**	**-0.9**
SCIA			IAmb	IAmb	19 20 05.6	
	comp=Z,192nm,1.9s					
SCIA	**State Center**	**50.98 331**	P	**P**	**19 20 03.5**	**-0.6**
	baz=2.1					
SCIA			S	**S**	**19 27 18.5**	**-2.3**
	baz=2.1					
M57A	**Sunshine Farm,**	**51.02 315**	IAMs_20	IAMs_20	19 41 16.9	
	comp=Z,12μm,19.0s					
M57A	**Sunshine Farm,**	**51.02 315**	P	**P**	**19 20 02.0**	**-2.5**
	baz=2.9,SNR=8.7					
M57A			P	**P**	**19 20 02.0**	**-2.5**
	baz=2.9,SNR=8.7					
M57A			S	**S**	**19 27 18.2**	**-3.3**
	baz=2.9					
M57A			S	**S**	**19 27 18.2**	**-3.3**
	baz=2.9					
WSPT	**Westport, CT**	**51.04 312**	IAMs_20	IAMs_20	19 40 27.2	
	comp=Z,8μm,21.0s					
EMIN	**Mina Concepcio**	**51.05 245**	P	**P**	**19 20 02.3**	**-2.4**
M53A	**Wl Miller and**	**51.05 319**	P	**P**	**19 20 05.0**	**+0.2**
	baz=2.8,SNR=5.9					
M53A			S	**S**	**19 27 23.1**	**+1.2**
	baz=2.8					
KBO	**Bosley Butte**	**51.09 0**	IAMs_20	IAMs_20	19 42 01.7	
	comp=Z,11μm,20.0s					
TRNY	**Table Rock, Ra**	**51.10 312**	IAMs_20	IAMs_20	19 40 52.9	
	comp=Z,8μm,20.0s					
M50A	**Fremont**	**51.17 321**	IAMs_20	IAMs_20	19 40 18.9	
	comp=Z,11μm,22.0s					
M50A	**Fremont**	**51.17 321**	P	**P**	**19 20 05.6**	**0.0**
	baz=2.6,SNR=7.3					
M50A			P	**P**	**19 20 05.6**	**0.0**
	baz=2.6,SNR=7.3					
L02F	**Cave Junction**	**51.18 360**	IAMs_20	IAMs_20	19 42 39.1	
	comp=Z,12μm,19.0s					
ODNJ	**Ogdensburg**	**51.18 313**	IAMs_20	IAMs_20	19 40 53.9	
	comp=Z,6μm,20.0s					
ODNJ	**Ogdensburg**	**51.18 313**	S	**S**	**19 27 25.0**	**+1.4**
	baz=3.0					
HNS	**HongShan**	**51.21 119**	⇓P	**P**	**19 20 06.5**	**+0.6**
HNS			PP	**PP**	**19 22 03.8**	**+1.5**
HNS			S	**S**	**19 27 30.3**	**+6.2**
HNS			pmax	pmax		
	comp=Z,82nm,1.1s					
HNS			pmax	pmax		
	comp=Z,2μm,5.2s					
HNS			LR	LR		
	comp=Z,3μm,15.9s					
HNS			LR	LR		
	comp=Z,940nm,14.2s					
HNS			LR	LR		
	comp=Z,5μm,19.8s					
PAL	**Palisades**	**51.23 312**	IAMs_20	IAMs_20	19 40 45.2	
	comp=Z,9μm,22.0s					
PAL	**Palisades**	**51.23 312**	P	**P**	**19 20 05.3**	**-0.7**
	baz=3.1					
PAL			S	**S**	**19 27 29.0**	**+4.7**
	baz=3.1					
PAL	**Palisades**	**51.23 312**	S	**S**	**19 27 27.3**	**+3.0**
	baz=3.1					
PCVE	**Castro Verde**	**51.26 246**	*e*P	**P**	**19 20 07.0**	**+0.7**
	comp=Z,72nm,1.9s					
PCVE			*e*S	**S**	**19 27 24.4**	**-0.4**
PCVE	**Castro Verde**	**51.26 246**	P	**P**	**19 20 06.0**	**-0.3**
N62A	**Caumsett State**	**51.28 312**	IAMs_20	IAMs_20	19 40 33.7	
	comp=Z,8μm,22.0s					
PSDB	**Penn State Uni**	**51.30 317**	P	**P**	**19 20 06.6**	**+0.1**
	baz=2.9					
EGRO	**El Granado**	**51.33 246**	P	**P**	**19 20 06.2**	**-0.6**
M44A	**Midewin, Midew**	**51.35 326**	S	**S**	**19 27 27.1**	**+1.1**
	baz=2.4					
FOR	**Fordham**	**51.37 312**	S	**S**	**19 27 30.3**	**+4.1**
	baz=3.1					
PTEO	**Sao Teotonio**	**51.38 247**	*e*P	**P**	**19 20 07.2**	**0.0**
	comp=Z,49nm,1.8s					
CPNY	**Central Park**	**51.45 312**	IAMs_20	IAMs_20	19 40 50.9	
	comp=Z,10μm,22.0s					
HVU	**Hansel Valley**	**51.47 349**	IAMs_20	IAMs_20	19 42 30.4	
	comp=Z,12μm,19.0s					
PVAQ	**Vaqueiros**	**51.47 246**	*e*P	**P**	**19 20 07.9**	**0.0**
	comp=Z,88nm,2.0s					
PVAQ			*e*S	**S**	**19 27 33.0**	**+5.3**
PVAQ			*e*LR	LR	19 35 35.4	
	comp=Z,3μm,18.0s					
PVAQ	**Vaqueiros**	**51.47 246**	P	**P**	**19 20 07.8**	**-0.1**
PVAQ			IAmb	IAmb	19 20 11.2	
	comp=Z,101nm,1.9s					
PVAQ	**Vaqueiros**	**51.47 246**	P	**P**	**19 20 08.4**	**+0.5**
PVAQ	**Vaqueiros**	**51.47 246**	P	**P**	**19 20 08.4**	**+0.5**
N58A	**Sunbury**	**51.51 315**	IAMs_20	IAMs_20	19 41 33.6	
	comp=Z,10μm,20.0s					
N58A	**Sunbury**	**51.51 315**	P	**P**	**19 20 08.0**	**-0.1**
	baz=2.9					
N58A			P	**P**	**19 20 08.0**	**-0.1**
	baz=2.9					
YBH	**Yreka Blue Hor**	**51.57 359**	P	**P**	**19 20 08.8**	**+0.1**
YBH			IAmb	IAmb	19 20 21.1	
	comp=Z,152nm,2.0s					
YBH			IAMs_20	IAMs_20	19 44 04.3	
	comp=Z,5μm,19.0s					
YBH	**Yreka Blue Hor**	**51.57 359**	P	**P**	**19 20 08.8**	**+0.1**
YBH			pmax	pmax		
	comp=Z,152nm,2.0s					
YBH			MLR	MLR		
	comp=Z,5μm,19.0s					
YBH	**Yreka Blue Hor**	**51.57 359**	LR	LR	19 43 38.4	
	comp=Z,4μm,19.2s,baz=7.5,slow=38					
GOMU	**GeErMu**	**51.58 140**	P	**P**	**19 20 08.8**	**-0.4**
GOMU			pP	sP	19 20 12.8	+2.0
GOMU			sP	pwP	19 20 15.8	+0.7
GOMU			S	**S**	**19 27 32.0**	**+2.0**
GOMU			ScS	**ScS**	**19 30 00.3**	**+0.7**
GOMU			pmax	pmax		
	comp=Z,23nm,0.8s					
GOMU			LR	LR		
	comp=Z,3μm,17.2s					
GOMU			LR	LR		
	comp=Z,3μm,16.9s					
GOMU			LR	LR		
	comp=Z,4μm,18.0s					
BGNE	**Belgrade**	**51.60 335**	IAMs_20	IAMs_20	19 42 15.5	
	comp=Z,11μm,18.0s					
BGNE	**Belgrade**	**51.60 335**	P	**P**	**19 20 07.3**	**-1.5**
	baz=1.8					
BGNE			S	**S**	**19 27 27.3**	**-2.2**
	baz=1.8					
BGNE	**Belgrade**	**51.60 335**	P	**P**	**19 20 08.5**	**-0.4**
	baz=1.8					
MORF	**Marmelete**	**51.61 247**	*e*P	**P**	**19 20 09.7**	**+0.7**
	comp=Z,55nm,1.9s					
MORF			*e*S	**S**	**19 27 29.3**	**-0.5**
MORF	**Marmelete**	**51.61 247**	IAMs_20	IAMs_20	19 40 29.7	
	comp=Z,4μm,18.0s					
MORF	**Marmelete**	**51.61 247**	*e*P	**P**	**19 20 09.0**	**0.0**
MORF			IAmb	IAmb	19 20 11.7	
	comp=Z,333nm,2.5s					
MORF			*e*S	**S**	**19 27 30.8**	**+1.0**
MORF	**Marmelete**	**51.61 247**	*e*P	**P**	**19 20 09.0**	**0.0**
MORF			*e*S	**S**	**19 27 30.8**	**+1.0**
MORF			pmax	pmax		
	comp=Z,333nm,2.5s					
HWUT	**Hardware Ranch**	**51.63 348**	IAMs_20	IAMs_20	19 42 27.7	
	comp=Z,6μm,18.0s					
N51A	**Ashland**	**51.63 320**	IAMs_20	IAMs_20	19 40 43.1	
	comp=Z,8μm,22.0s					
N51A	**Ashland**	**51.63 320**	P	**P**	**19 20 08.2**	**-0.9**
	baz=2.7,SNR=10					
N51A			P	**P**	**19 20 08.2**	**-0.9**
	baz=2.7,SNR=10					
PBDV	**Barranco-do-Ve**	**51.64 246**	*e*P	**P**	**19 20 09.5**	**+0.3**
	comp=Z,114nm,1.6s					
PBDV			*e*S	**S**	**19 27 34.0**	**+3.9**
N53A	**Lisbon**	**51.69 319**	IAMs_20	IAMs_20	19 42 26.6	
	comp=Z,10μm,18.0s					
N53A	**Lisbon**	**51.69 319**	P	**P**	**19 20 09.4**	**-0.1**
	baz=2.7,SNR=6.0					
N53A			P	**P**	**19 20 09.4**	**-0.1**
	baz=2.7,SNR=6.0					
N53A			S	**S**	**19 27 32.0**	**+1.2**
	baz=2.7					
N53A			S	**S**	**19 27 32.0**	**+1.2**
	baz=2.7					
N49A	**Columbus Grove**	**51.69 322**	P	**P**	**19 20 08.7**	**-0.8**
	baz=2.6,SNR=14					
N49A			P	**P**	**19 20 08.7**	**-0.8**
	baz=2.6,SNR=14					
LUPA	**Lehigh Univers**	**51.69 313**	IAMs_20	IAMs_20	19 41 18.5	
	comp=Z,8μm,21.0s					
INCN	**Inchon**	**51.72 107**	P	**P**	**19 20 06.4**	**-3.4**
SSPA	**Standing Stone**	**51.75 316**	IAMs_20	IAMs_20	19 41 48.2	
	comp=Z,11μm,18.0s					
SSPA	**Standing Stone**	**51.75 316**	P	**P**	**19 20 09.5**	**-0.4**
	baz=2.9					
SSPA			S	**S**	**19 27 30.2**	**-1.3**
	baz=2.9					
SSPA	**Standing Stone**	**51.75 316**	P	**P**	**19 20 09.2**	**-0.7**
	baz=2.9,SNR=8.0					
SSPA			S	**S**	**19 27 32.6**	**+1.1**
	baz=2.9					
KS19	**Wonju Array Si**	**51.76 106**	P	**P**	**19 20 09.5**	**-0.6**
KS19			IAmb	IAmb	19 20 24.2	
	comp=Z,176nm,1.9s					
KRMB	**Red Mountain**	**51.78 0**	IAMs_20	IAMs_20	19 42 24.9	
	comp=Z,13μm,21.0s					
N47A	**Urbana**	**51.78 323**	P	**P**	**19 20 09.5**	**-0.6**
	baz=2.5					
N47A			P	**P**	**19 20 09.5**	**-0.6**
	baz=2.5					
N47A			S	**S**	**19 27 27.4**	**-4.5**
	baz=2.5					
N47A			S	**S**	**19 27 27.4**	**-4.5**
	baz=2.5					
JSD	**Sado**	**51.78 96**	P	**P**	**19 20 09.2**	**-1.0**
JSD			IAmb	IAmb	19 20 19.4	
	comp=Z,123nm,1.4s					
JSD	**Sado**	**51.78 96**	P	**P**	**19 20 09.8**	**-0.4**
JSD	**Sado**	**51.78 96**	P	**P**	**19 20 08.8**	**-1.4**
PFVI	**Vila Bisbo**	**51.79 247**	*e*P	**P**	**19 20 10.3**	**0.0**
	comp=Z,78nm,1.7s					
PFVI			*e*S	**S**	**19 27 35.4**	**+3.2**
PFVI	**Vila Bisbo**	**51.79 247**	P	**P**	**19 20 10.0**	**-0.3**
PFVI			IAmb	IAmb	19 20 13.4	
	comp=Z,73nm,1.4s					
PFVI			IAMs_20	IAMs_20	19 40 34.5	
	comp=Z,4μm,18.0s					
KSRS	**Korea Array**	**51.81 106**	P	**P**	**19 20 09.9**	**-0.5**
	comp=Z,11nm,1.0s,baz=356,slow=7.4,SNR=19					
KSRS			PcP	**PcP**	**19 21 22.9**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=354,slow=4.6,SNR=4.3					
KSRS			LR	LR	19 43 27.8	
	comp=Z,2μm,18.2s,baz=340,slow=38					
	comp=Z,11nm,1.0s					
KSAR	**Wonju Array Be**	**51.83 106**	P	**P**	**19 20 09.3**	**-1.2**
KSAR	**Wonju Array Be**	**51.83 106**	P	**P**	**19 20 09.3**	**-1.2**
PHWY	**Pilot Hill**	**51.85 342**	IAMs_20	IAMs_20	19 41 14.3	
	comp=Z,11μm,22.0s					
KARP	**Karpathos**	**51.93 210**	P	**P**	**19 20 10.2**	**-1.2**
KARP			IAMs_20	IAMs_20	19 42 56.4	
	comp=Z,6μm,19.0s					
SPUT	**South Promonto**	**51.93 349**	IAMs_20	IAMs_20	19 43 35.7	
	comp=Z,9μm,18.0s					
UPAO	**U. Pittsburgh**	**51.99 318**	P	**P**	**19 20 11.9**	**+0.2**
	baz=2.8					
LZH	**Lanzhou**	**52.04 131**	⇓P	**P**	**19 20 13.0**	**+0.7**
LZH			pP	pwP	19 20 19.0	+0.7
LZH			PP	**PP**	**19 22 13.3**	**+3.2**
LZH			S	**S**	**19 27 32.0**	**-3.9**
LZH			SS	**SS**	**19 31 09.8**	**-2.5**
LZH			pmax	pmax		
	comp=Z,89nm,1.3s					
LZH			pmax	pmax		
	comp=Z,2μm,4.8s					
LZH			LR	LR		
	comp=Z,8μm,18.5s					
LZH			LR	LR		
	comp=Z,8μm,16.1s					
LZH			LR	LR		
	comp=Z,8μm,18.9s					
N35A	**Tabor**	**52.09 333**	P	**P**	**19 20 11.7**	**-0.8**
	baz=1.9,SNR=13					
N35A			S	**S**	**19 27 35.8**	**-0.4**
	baz=1.9					
JMM	**Marumori**	**52.09 93**	P	**P**	**19 20 10.9**	**-1.5**
JMM			IAmb	IAmb	19 20 22.2	
	comp=Z,78nm,1.2s					
JMM	**Marumori**	**52.09 93**	P	**P**	**19 20 11.9**	**-0.6**
N38A	**Joes South For**	**52.09 331**	S	**S**	**19 27 35.2**	**-1.0**
	baz=2.0					
IMMV	**Iera Moni Meta**	**52.11 213**	P	**P**	**19 20 09.2**	**-3.5**
KRPM	**Rodgers**	**52.14 0**	IAMs_20	IAMs_20	19 42 00.5	
	comp=Z,12μm,21.0s					
OGNE	**Ogallala**	**52.14 339**	P	**P**	**19 20 12.0**	**-1.0**
OGNE	**Ogallala**	**52.14 339**	P	**P**	**19 20 12.1**	**-0.9**
	baz=1.5,SNR=5.9					
OGNE			S	**S**	**19 27 35.2**	**-1.9**
	baz=1.5					
OGNE	**Ogallala**	**52.14 339**	P	**P**	**19 20 12.6**	**-0.4**
	baz=1.5,SNR=5.9					
PABK	**Blue Knob Stat**	**52.15 317**	P	**P**	**19 20 11.8**	**-1.1**
	baz=2.8					
N33A	**J Bar K, Exete**	**52.25 335**	IAMs_20	IAMs_20	19 41 47.8	
	comp=Z,8μm,21.0s					
IDI	**Anoyia**	**52.25 213**	IAMs_20	IAMs_20	19 42 31.9	
	comp=Z,6μm,22.0s					
IDI	**Anoyia**	**52.25 213**	LR	LR	19 42 53.5	
	comp=Z,5μm,22.0s,baz=340,slow=37					
O53A	**New Philadelph**	**52.26 319**	IAMs_20	IAMs_20	19 41 21.0	
	comp=Z,8μm,21.0s					
O53A	**New Philadelph**	**52.26 319**	P	**P**	**19 20 13.4**	**-0.3**
	baz=2.7,SNR=9.6					
O53A			S	**S**	**19 27 33.7**	**-4.9**
	baz=2.7					
N23A	**Red Feather La**	**52.26 343**	P	**P**	**19 20 13.3**	**-0.8**
	baz=1.3,SNR=17					
N23A			S	**S**	**19 27 36.7**	**-2.4**
	baz=1.3					
O54A	**Avella**	**52.30 318**	IAMs_20	IAMs_20	19 42 36.6	
	comp=Z,12μm,18.0s					
O54A	**Avella**	**52.30 318**	P	**P**	**19 20 13.9**	**-0.1**
	baz=2.7,SNR=8.6					
O54A			P	**P**	**19 20 13.9**	**-0.1**
	baz=2.7,SNR=8.6					
O54A			S	**S**	**19 27 40.0**	**+0.9**
	baz=2.7					
O54A			S	**S**	**19 27 40.0**	**+0.9**
	baz=2.7					
BGU	**Big Grassy Mou**	**52.32 350**	P	**P**	**19 20 14.3**	**-0.1**
BGU			IAmb	IAmb	19 20 24.6	
	comp=Z,184nm,1.7s					
SFIN	**Lafayette**	**52.33 325**	P	**P**	**19 20 13.6**	**-0.6**
SFIN			IAmb	IAmb	19 20 16.7	
	comp=Z,75nm,1.1s					
SFIN	**Lafayette**	**52.33 325**	P	**P**	**19 20 13.4**	**-0.8**
	baz=2.4					
SFIN			S	**S**	**19 27 37.2**	**-2.2**
	baz=2.4					
SFIN	**Lafayette**	**52.33 325**	P	**P**	**19 20 13.7**	**-0.6**
	baz=2.4					
SFIN			S	**S**	**19 27 37.9**	**-1.5**
	baz=2.4					
MVL	**Millersville**	**52.33 314**	P	**P**	**19 20 14.4**	**+0.2**
MVL			IAMs_20	IAMs_20	19 42 01.4	
	comp=Z,9μm,21.0s					
ACSO	**Alum Creek Sta**	**52.34 321**	P	**P**	**19 20 13.4**	**-0.9**
ACSO			IAmb	IAmb	19 20 15.8	
	comp=Z,72nm,0.9s					
ACSO			IAMs_20	IAMs_20	19 41 16.9	
	comp=Z,8μm,22.0s					
ACSO	**Alum Creek Sta**	**52.34 321**	P	**P**	**19 20 13.6**	**-0.7**
	baz=2.6,SNR=15					
ACSO			S	**S**	**19 27 38.1**	**-1.6**
	baz=2.6					
ACSO	**Alum Creek Sta**	**52.34 321**	P	**P**	**19 20 13.4**	**-0.9**
	baz=2.6,SNR=15					
CSS	**Mathiatis**	**52.36 204**	IAMs_20	IAMs_20	19 46 22.9	
	comp=Z,5μm,18.0s					
WUPA	**West Chester U**	**52.37 314**	IAMs_20	IAMs_20	19 41 50.4	
	comp=Z,5μm,21.0s					
O48B	**Farmland**	**52.39 323**	P	**P**	**19 20 14.1**	**-0.6**
	baz=2.5,SNR=12					
O48B			S	**S**	**19 27 38.4**	**-1.8**
	baz=2.5					
O48B	**Farmland**	**52.39 323**	P	**P**	**19 20 13.3**	**-1.4**
	baz=2.5,SNR=12					
O48B			S	**S**	**19 27 39.0**	**-1.3**
	baz=2.5					
O52A	**Adamsville**	**52.42 320**	IAMs_20	IAMs_20	19 42 40.8	
	comp=Z,11μm,18.0s					
O52A	**Adamsville**	**52.42 320**	P	**P**	**19 20 13.5**	**-1.4**
	baz=2.6,SNR=12					
O52A			P	**P**	**19 20 13.5**	**-1.4**
	baz=2.6,SNR=12					
O52A			S	**S**	**19 27 40.5**	**-0.2**
	baz=2.6					
O52A			S	**S**	**19 27 40.5**	**-0.2**
	baz=2.6					
KHMM	**Horse Mountain**	**52.42 360**	IAMs_20	IAMs_20	19 42 55.0	
	comp=Z,11μm,20.0s					
O49A	**Covington**	**52.43 322**	P	**P**	**19 20 14.6**	**-0.4**
	baz=2.5,SNR=19					
O49A			P	**P**	**19 20 14.6**	**-0.4**
	baz=2.5,SNR=19					
O49A			S	**S**	**19 27 37.9**	**-3.0**
	baz=2.5					
O49A			S	**S**	**19 27 37.9**	**-3.0**
	baz=2.5					
JCC	**Jacoby Creek,**	**52.48 0**	IAMs_20	IAMs_20	19 41 58.5	
	comp=Z,9μm,22.0s					
GEDE	**Greenville**	**52.49 314**	S	**S**	**19 27 40.8**	**-0.8**
	baz=2.9					
TIA	**Tai'an**	**52.51 117**	P	**P**	**19 20 16.5**	**+0.9**
TIA			SS	**SS**	**19 31 20.0**	**+0.6**
TIA			pmax	pmax		
	comp=Z,82nm,1.1s					
TIA			LR	LR		
	comp=Z,1μm,15.1s					
TIA			LR	LR		
	comp=Z,2μm,15.8s					
TIA			LR	LR		
	comp=Z,2μm,18.7s					
ELK	**Elko**	**52.52 352**	P	**P**	**19 20 16.4**	**+0.4**
ELK			IAMs_20	IAMs_20	19 42 53.5	
	comp=Z,13μm,20.0s					
ELK	**Elko**	**52.52 352**	P	**P**	**19 20 16.4**	**+0.4**
ELK			pmax	pmax		
	comp=Z,18nm,1.0s					
ELK			MLR	MLR		
	comp=Z,14μm,20.0s					
ELK	**Elko**	**52.52 352**	LR	LR	19 43 05.0	
	comp=Z,13μm,20.3s,baz=328,slow=37					
CTU	**Camp Tracy**	**52.54 348**	IAMs_20	IAMs_20	19 43 06.8	
	comp=Z,8μm,19.0s					
BRIGG	**Briggsdale**	**52.55 341**	P	**P**	**19 20 15.9**	**-0.1**
BRIGG			IAmb	IAmb	19 20 18.2	
	comp=Z,87nm,0.9s					
PLTX	**Planet X, Gerl**	**52.58 356**	IAMs_20	IAMs_20	19 43 02.1	
	comp=Z,10μm,21.0s					
P61A	**Hammonton**	**52.59 313**	IAMs_20	IAMs_20	19 41 48.3	
	comp=Z,9μm,20.0s					
KBL	**Kabul**	**52.61 167**	P	**P**	**19 20 16.0**	**-0.7**
KBL			IAmb	IAmb	19 20 38.0	
	comp=Z,133nm,1.9s					
KBL	**Kabul**	**52.61 167**	P	**P**	**19 20 16.3**	**-0.3**
	SNR=18					
KBL			P	**P**	**19 20 16.3**	**-0.3**
	SNR=18					
KBL			P	**P**	**19 20 16.3**	**-0.3**
	SNR=18					
KBL			S	**S**	**19 27 47.0**	**+3.1**
KBL			S	**S**	**19 27 47.0**	**+3.1**
KBL			S	**S**	**19 27 47.0**	**+3.1**
KBL	**Kabul**	**52.61 167**	P	**P**	**19 20 16.0**	**-0.7**
KBL			pmax	pmax		
	comp=Z,133nm,1.9s					
HRA	**Herat**	**52.70 174**	P	**P**	**19 20 17.4**	**+0.1**
MCWV	**Mont Chateau**	**52.80 318**	P	**P**	**19 20 17.4**	**-0.3**
MCWV			IAMs_20	IAMs_20	19 42 45.9	
	comp=Z,9μm,18.0s					
MCWV	**Mont Chateau**	**52.80 318**	P	**P**	**19 20 16.8**	**-0.9**
	baz=2.7,SNR=7.2					
MCWV			S	**S**	**19 27 43.0**	**-2.9**
	baz=2.7					
MCWV	**Mont Chateau**	**52.80 318**	P	**P**	**19 20 16.8**	**-0.9**
	baz=2.7,SNR=7.2					
MCWV			S	**S**	**19 27 44.3**	**-1.6**
	baz=2.7					
KMPM	**Mount Pierce**	**52.88 0**	IAMs_20	IAMs_20	19 42 33.1	
	comp=Z,7μm,21.0s					
P52A	**Corning**	**52.91 320**	IAMs_20	IAMs_20	19 41 42.1	
	comp=Z,7μm,20.0s					
P52A	**Corning**	**52.91 320**	P	**P**	**19 20 17.5**	**-1.1**
	baz=2.6,SNR=7.4					
P52A			S	**S**	**19 27 44.6**	**-2.8**
	baz=2.6					
P57A	**Homestead Farm**	**52.91 316**	IAMs_20	IAMs_20	19 42 32.9	
	comp=Z,9μm,18.0s					
P53A	**Whipple**	**53.03 319**	P	**P**	**19 20 17.6**	**-1.8**
	baz=2.7,SNR=17					
P53A			P	**P**	**19 20 17.6**	**-1.8**
	baz=2.7,SNR=17					
P53A			S	**S**	**19 27 47.4**	**-1.6**
	baz=2.7					
P53A			S	**S**	**19 27 47.4**	**-1.6**
	baz=2.7					
DUG	**Dugway, Tooele**	**53.05 349**	P	**P**	**19 20 20.0**	**+0.3**
DUG	**Dugway, Tooele**	**53.05 349**	P	**P**	**19 20 20.1**	**+0.3**
	baz=0.8,SNR=35					
DUG			S	**S**	**19 27 47.7**	**-1.9**
	baz=0.8					
DUG	**Dugway, Tooele**	**53.05 349**	P	**P**	**19 20 20.0**	**+0.3**
DUG			pmax	pmax		
	comp=Z,44nm,0.9s					
DUG			MLR	MLR		
	comp=Z,13μm,18.0s					
O20A	**White River Ci**	**53.05 345**	P	**P**	**19 20 20.2**	**+0.3**
	baz=1.1,SNR=12					
O20A			S	**S**	**19 27 48.3**	**-1.5**

baz=1.1
KMRM Mail Ridge 53.08 360 IAMs_20 IAMs_20 19 42 53.8
comp=Z,9µm,22.0s
P46A Rosedale 53.09 325 P **P** **19 20 18.2 -1.7**
baz=2.4,SNR=6.6
P51A Williamsport 53.09 321 IAMs_20 IAMs_20 19 41 51.0
comp=Z,8µm,21.0s
P51A Williamsport 53.09 321 P **P** **19 20 19.1 -0.8**
baz=2.6,SNR=5.7
P51A P **P** **19 20 19.1 -0.8**
baz=2.6,SNR=5.7
P49A Miami Univ. Ec 53.09 322 P **P** **19 20 18.5 -1.4**
baz=2.5,SNR=18
P49A S **S** **19 27 48.4 -1.5**
baz=2.5
P49A Miami Univ. Ec 53.09 322 P **P** **19 20 18.3 -1.6**
baz=2.5,SNR=18
P49A S **S** **19 27 50.0 +0.1**
baz=2.5
P43A Skaggs, Pawnee 53.14 327 P **P** **19 20 19.0 -1.2**
baz=2.2
P48A Milroy 53.19 323 P **P** **19 20 18.3 -2.3**
baz=2.5,SNR=16
P48A P **P** **19 20 18.3 -2.3**
baz=2.5,SNR=16
P48A S **S** **19 27 49.4 -1.9**
baz=2.5
P48A S **S** **19 27 49.4 -1.9**
baz=2.5
MPU Maple Canyon 53.22 348 IAMs_20 IAMs_20 19 44 28.5
comp=Z,7µm,18.0s
MJB9 Matsu-Tunnel 53.27 96 P **P** **19 20 21.2 0.0**
P38A Dawn 53.27 331 P **P** **19 20 18.9 -2.3**
baz=2.0,SNR=26
P38A S **S** **19 27 48.2 -4.0**
baz=2.0
MAJO Matsushiro 53.27 96 P **P** **19 20 20.1 -1.2**
MAJO Matsushiro 53.27 96 P **P** **19 20 20.1 -1.2**
MAJO pmax pmax
comp=Z,75nm,1.7s
MAJO MLR MLR
comp=Z,3µm,20.0s
MAT Matsushiro 53.27 96 P **P** **19 20 20.1 -1.2**
MJAR Matsushiro Arr 53.27 96 P **P** **19 20 20.1 -1.1**
comp=Z,10nm,1.0s,baz=355,slow=7.5,SNR=16
MJAR PcP **PcP** **19 21 28.5 -0.4**
comp=Z,9.8nm,1.0s,baz=5.9,slow=4.0,SNR=6.9
MJAR LR LR 19 43 52.7
comp=Z,3µm,20.0s,baz=4.0,slow=37
comp=Z,10nm,1.0s
NLU North Lily Min 53.28 349 IAMs_20 IAMs_20 19 43 40.3
comp=Z,9µm,19.0s
P40A Paris 53.32 330 P **P** **19 20 20.4 -1.1**
baz=2.1,SNR=9.3
ISCO Idaho Springs 53.35 343 P **P** **19 20 21.9 -0.3**
ISCO IAmb IAmb 19 20 24.3
comp=Z,46nm,1.1s
ISCO IAMs_20 IAMs_20 19 43 54.1
comp=Z,11µm,19.0s
ISCO Idaho Springs 53.35 343 P **P** **19 20 22.1 -0.1**
baz=1.3,SNR=33
ISCO S **S** **19 27 50.6 -3.4**
baz=1.3
ISCO Idaho Springs 53.35 343 P **P** **19 20 21.2 -1.0**
baz=1.3,SNR=33
ISCO Idaho Springs 53.35 343 P **P** **19 20 21.9 -0.3**
ISCO pmax pmax
comp=Z,46nm,1.1s
ISCO MLR MLR
comp=Z,11µm,19.0s
Q54A Coxs Mills 53.51 319 IAMs_20 IAMs_20 19 42 11.0
comp=Z,8µm,20.0s
Q54A Coxs Mills 53.51 319 P **P** **19 20 21.1 -1.9**
baz=2.7,SNR=8.1
Q54A P **P** **19 20 21.1 -1.9**
baz=2.7,SNR=8.1
JGN Niukaw 53.54 97 P **P** **19 20 22.5 -0.8**
Q51A Peebles 53.55 321 IAMs_20 IAMs_20 19 42 16.3
comp=Z,10µm,20.0s
Q51A Peebles 53.55 321 P **P** **19 20 22.1 -1.2**
baz=2.5,SNR=10.0
Q51A P **P** **19 20 22.1 -1.2**
baz=2.5,SNR=10.0
NIL Nilore 53.56 162 P **P** **19 20 24.0 +0.5**
NIL IAmb IAmb 19 21 32.2
comp=Z,142nm,1.4s
NIL Nilore 53.56 162 P **P** **19 20 24.0 +0.5**
NIL pmax pmax
comp=Z,142nm,1.5s
NIL MLR MLR
comp=Z,21µm,19.0s
Q52A Bidwell 53.58 320 IAMs_20 IAMs_20 19 41 53.0
comp=Z,6µm,22.0s
PAHR Pah Rah Range 53.58 356 IAMs_20 IAMs_20 19 43 33.4
comp=Z,10µm,20.0s
KCPM Cahto Peak 53.61 360 IAMs_20 IAMs_20 19 42 23.4
comp=Z,8µm,21.0s
CHEFC Chefchaouen 53.64 244 P **P** **19 20 25.0 +0.9**
CHEFC Chefchaouen 53.64 244 P **P** **19 20 25.0 +0.9**
ORV Oroville 53.74 358 P **P** **19 20 24.7 0.0**
ORV IAMs_20 IAMs_20 19 44 05.8
comp=Z,11µm,20.0s
ORV Oroville 53.74 358 P **P** **19 20 24.7 0.0**
ORV pmax pmax
comp=Z,62nm,1.8s
ORV MLR MLR
comp=Z,11µm,20.0s
P17A Butcher Ranch, 53.75 347 IAMs_20 IAMs_20 19 44 32.5
comp=Z,12µm,18.0s
Q44A Meyer Farm, Va 53.86 327 P **P** **19 20 24.1 -1.4**
baz=2.2
KSU1 Kansas State U 53.87 334 P **P** **19 20 24.4 -1.1**
KSU1 IAmb IAmb 19 20 25.4
comp=Z,47nm,0.8s
LYN LuoYang 53.94 122 ⇑P **P** **19 20 27.0 +0.8**
LYN sP pwP 19 20 34.3 +2.2
LYN PP **PP** **19 22 23.3 -3.8**
LYN S **S** **19 28 06.3 +4.8**
LYN pmax pmax
comp=Z,44nm,1.1s
LYN pmax pmax
comp=Z,3µm,4.5s
LYN LR LR
comp=Z,10µm,17.1s
LYN LR LR
comp=Z,8µm,16.9s
LYN LR LR
comp=Z,11µm,17.9s
R61A Willards 53.95 313 IAMs_20 IAMs_20 19 42 39.5
comp=Z,9µm,20.0s
OLIL Olney 54.00 326 P **P** **19 20 25.1 -1.4**
baz=2.3,SNR=9.6
KSCO Kaye Shedlock' 54.09 340 P **P** **19 20 26.9 -0.4**
baz=1.4,SNR=8.2
KSCO S **S** **19 28 01.3 -2.3**
baz=1.4
KSCO Kaye Shedlock' 54.09 340 P **P** **19 20 26.8 -0.6**
baz=1.4,SNR=8.2
CBN Corbin Frederi 54.16 315 IAMs_20 IAMs_20 19 42 54.8
comp=Z,5µm,18.0s
JGF Kuroka 54.16 97 P **P** **19 20 27.3 -0.6**
R55A Marlinton 54.18 318 IAMs_20 IAMs_20 19 43 30.5
comp=Z,8µm,18.0s
R55A Marlinton 54.18 318 P **P** **19 20 26.6 -1.4**
baz=2.7,SNR=10.0
R55A P **P** **19 20 26.6 -1.4**
baz=2.7,SNR=10.0
R53A Hurricane 54.20 320 IAMs_20 IAMs_20 19 43 55.3
comp=Z,9µm,18.0s
R53A Hurricane 54.20 320 P **P** **19 20 26.6 -1.5**
baz=2.6,SNR=12
R53A P **P** **19 20 26.6 -1.5**
baz=2.6,SNR=12
CBKS Cedar Bluff 54.22 337 P **P** **19 20 26.5 -1.7**
CBKS IAmb IAmb 19 20 28.9
comp=Z,58nm,1.0s
CBKS IAMs_20 IAMs_20 19 43 37.0
comp=Z,7µm,19.0s
CBKS Cedar Bluff 54.22 337 P **P** **19 20 27.4 -0.9**
baz=1.6,SNR=6.8
CBKS S **S** **19 28 01.0 -4.4**
baz=1.6
CBKS Cedar Bluff 54.22 337 P **P** **19 20 27.2 -1.0**
baz=1.6,SNR=6.8
CBKS Cedar Bluff 54.22 337 P **P** **19 20 26.5 -1.7**
CBKS pmax pmax
comp=Z,58nm,1.0s
CBKS MLR MLR
comp=Z,7µm,19.0s
MMAI Mount Meron Ar 54.26 202 P **P** **19 20 29.3 +0.6**
comp=Z,11nm,0.9s,baz=16,slow=9.6,SNR=5.1
MMAI LR LR 19 48 49.1
comp=Z,5µm,18.2s,baz=328,slow=42
comp=Z,11nm,0.9s
JBK JBK 54.28 241 P **P** **19 20 29.0 +0.1**
JBK JBK 54.28 241 P **P** **19 20 29.0 +0.1**
XAN Xi'an 54.29 126 ⇓P **P** **19 20 28.5 -0.3**
XAN pP pwP 19 20 34.5 -0.2
XAN S **S** **19 28 07.5 +1.1**
XAN sS sS 19 28 14.5 +6.2
XAN ScS **ScS** **19 30 15.0 -3.0**
XAN pmax pmax
comp=Z,52nm,1.0s
XAN pmax pmax
comp=Z,2µm,4.6s
XAN LR LR
comp=Z,7µm,14.4s
XAN LR LR
comp=Z,6µm,14.6s
XAN LR LR
comp=Z,15µm,16.2s
HOPS Hopland Field 54.30 359 IAMs_20 IAMs_20 19 45 18.7
comp=Z,9µm,19.0s
YERR Yerington 54.30 356 IAMs_20 IAMs_20 19 46 17.6
comp=Z,9µm,18.0s
Q16A Castle Valley 54.31 348 IAMs_20 IAMs_20 19 43 02.8
comp=Z,14µm,22.0s
R50A Paris 54.33 322 P **P** **19 20 27.6 -1.4**
baz=2.5,SNR=11
R50A P **P** **19 20 27.6 -1.4**
baz=2.5,SNR=11
AFDM Forest Hills D 54.34 357 IAMs_20 IAMs_20 19 45 34.8
comp=Z,8µm,18.0s
R49A Shelbyville 54.35 323 P **P** **19 20 27.4 -1.7**
baz=2.4,SNR=17
R49A P **P** **19 20 27.4 -1.7**
baz=2.4,SNR=17
JWT Wachi 54.37 99 P **P** **19 20 28.7 -0.7**
R58B Mineral 54.42 316 IAMs_20 IAMs_20 19 43 19.9
comp=Z,9µm,18.0s
Q09A Carvers 54.44 354 IAMs_20 IAMs_20 19 43 57.2
comp=Z,11µm,20.0s
WCI Wyandotte Cave 54.45 324 P **P** **19 20 28.8 -1.0**
WCI Wyandotte Cave 54.45 324 P **P** **19 20 28.2 -1.6**
baz=2.4
WCI S **S** **19 28 02.6 -5.7**
baz=2.4
WCI Wyandotte Cave 54.45 324 P **P** **19 20 27.7 -2.1**
baz=2.4
WCI Wyandotte Cave 54.45 324 P **P** **19 20 28.8 -1.0**
WCI pmax pmax
comp=Z,33nm,1.3s
WCI MLR MLR
comp=Z,26µm,20.0s
GDXM Geysers 54.49 359 IAMs_20 IAMs_20 19 47 34.6
comp=Z,8µm,18.0s
JMU Jammu 54.52 161 *e*P **P** **19 20 30.8 +0.5**
R40A Maddies Statio 54.56 330 P **P** **19 20 28.7 -2.0**
baz=2.0,SNR=11
R32A Long Quarter, 54.59 336 IAMs_20 IAMs_20 19 43 03.4
comp=Z,6µm,21.0s
R32A Long Quarter, 54.59 336 P **P** **19 20 29.2 -1.7**
baz=1.7,SNR=15
S61A Accomac 54.62 314 IAMs_20 IAMs_20 19 43 10.0
comp=Z,9µm,21.0s
TCRU Three Creeks R 54.63 349 IAMs_20 IAMs_20 19 45 06.9
comp=Z,8µm,18.0s
S57A Dark Hollow, R 54.66 317 IAMs_20 IAMs_20 19 43 46.4
comp=Z,10µm,18.0s
S57A Dark Hollow, R 54.66 317 P **P** **19 20 30.8 -0.6**
baz=2.7
S57A P **P** **19 20 30.8 -0.6**
baz=2.7
S54A Dingess, Beckl 54.71 319 IAMs_20 IAMs_20 19 44 10.7
comp=Z,12µm,19.0s
PSUT Pine Spring 54.72 350 IAMs_20 IAMs_20 19 44 33.4
comp=Z,13µm,20.0s
CCM Cathedral Cave 54.77 329 P **P** **19 20 30.5 -1.7**
CCM IAmb IAmb 19 20 34.5
comp=Z,81nm,1.1s
CCM Cathedral Cave 54.77 329 P **P** **19 20 30.2 -2.0**
baz=2.1
CCM S **S** **19 28 11.0 -1.6**
baz=2.1
CCM Cathedral Cave 54.77 329 P **P** **19 20 29.8 -2.3**
baz=2.1,SNR=29
CCM Cathedral Cave 54.77 329 P **P** **19 20 30.5 -1.7**
CCM pmax pmax
comp=Z,81nm,1.1s
CCM MLR MLR
comp=Z,17µm,18.0s
THN Thein Dam 54.82 160 *e*P **P** **19 20 32.4 -0.1**
NV11 Mina Array Sit 54.85 355 P **P** **19 20 33.3 +0.4**
NVAR Mina Array Bea 54.85 355 P **P** **19 20 33.3 +0.3**
NVAR Mina Array Bea 54.85 355 P **P** **19 20 33.4 +0.4**
comp=Z,21nm,0.9s,baz=4.3,slow=4.2,SNR=91
NVAR PcP **PcP** **19 21 36.1 +1.0**
comp=Z,15nm,0.9s,baz=9.0,slow=3.3,SNR=6.3
NVAR LR LR 19 45 17.6
comp=Z,14µm,19.1s,baz=356,slow=38
comp=Z,21nm,0.9s
R11B Troy Canyon, C 54.92 352 P **P** **19 20 33.4 0.0**
baz=0.6,SNR=52
R11B S **S** **19 28 15.6 +0.6**
baz=0.6
S51A Beattyville 54.95 321 IAMs_20 IAMs_20 19 42 59.2
comp=Z,13µm,21.0s
S51A Beattyville 54.95 321 P **P** **19 20 32.5 -1.0**
baz=2.5,SNR=6.3
S51A P **P** **19 20 32.5 -1.0**
baz=2.5,SNR=6.3
DHRM DHARAMSHALA 55.01 159 *e*P **P** **19 20 34.2 -0.1**
DHRM IAmb IAmb 19 20 41.4
comp=Z,46nm,1.2s
LCRM LCR 55.03 243 P **P** **19 20 36.0 +1.7**
LCRM LCR 55.03 243 P **P** **19 20 36.0 +1.7**
LHV Little Huntoon 55.03 355 IAMs_20 IAMs_20 19 45 14.8
comp=Z,12µm,20.0s
ASF Jabal al Asfar 55.07 200 LR LR 19 48 41.5
comp=Z,5µm,18.0s,baz=3.3,slow=41
S44A Carbondale 55.07 327 P **P** **19 20 31.2 -3.1**
baz=2.2,SNR=8.0
S39A Bolivar 55.19 331 P **P** **19 20 32.8 -2.4**
baz=2.0,SNR=32
MTPU Mount Pierson 55.19 349 IAMs_20 IAMs_20 19 45 01.9
comp=Z,8µm,18.0s
T60A Surry 55.20 315 IAMs_20 IAMs_20 19 43 55.5
comp=Z,10µm,20.0s
TPH Tonopah 55.20 354 P **P** **19 20 35.7 +0.1**
TPH Tonopah 55.20 354 P **P** **19 20 35.7 +0.1**
TPH pmax pmax
comp=Z,750nm,1.7s
TPH MLR MLR
comp=Z,57µm,20.0s
CMB Columbia Colle 55.26 357 IAMs_20 IAMs_20 19 45 50.8
comp=Z,8µm,19.0s
BLA Blacksburg 55.26 318 IAMs_20 IAMs_20 19 44 12.1
comp=Z,9µm,18.0s
BLA Blacksburg 55.26 318 P **P** **19 20 35.1 -0.7**
baz=2.6,SNR=14
BLA Blacksburg 55.26 318 P **P** **19 20 34.6 -1.2**
baz=2.6,SNR=14
ZHG ZHG 55.36 245 P **P** **19 20 38.0 +1.4**
ZHG ZHG 55.36 245 P **P** **19 20 38.0 +1.4**
T59A Double "B" Far 55.40 315 IAMs_20 IAMs_20 19 43 42.8
comp=Z,8µm,19.0s
T59A Double "B" Far 55.40 315 P **P** **19 20 36.1 -0.6**
baz=2.8,SNR=13
T59A P **P** **19 20 36.1 -0.6**
baz=2.8,SNR=13
SDCO Great Sand Dun 55.40 342 P **P** **19 20 36.4 -0.7**
SDCO IAMs_20 IAMs_20 19 44 11.3
comp=Z,8µm,22.0s
SDCO Great Sand Dun 55.40 342 P **P** **19 20 36.4 -0.7**
baz=1.2,SNR=27
SDCO S **S** **19 28 19.0 -2.6**
baz=1.2
SDCO Great Sand Dun 55.40 342 P **P** **19 20 36.1 -1.0**
baz=1.2,SNR=27
S22A 4UR Ranch, Cre 55.42 344 P **P** **19 20 37.6 +0.3**
baz=1.2,SNR=62
S22A S **S** **19 28 22.2 +0.2**
baz=1.2
T57A Hurt 55.43 317 P **P** **19 20 36.1 -0.8**
baz=2.7,SNR=6.4
T57A P **P** **19 20 36.1 -0.8**
baz=2.7,SNR=6.4
AVE Averroes 55.54 246 P **P** **19 20 38.4 +0.6**
AVE Averroes 55.54 246 P **P** **19 20 38.4 +0.6**
T50A Nancy 55.61 322 P **P** **19 20 36.4 -1.8**
baz=2.4
T50A P **P** **19 20 36.4 -1.8**
baz=2.4
SZCU Shurtz Canyon 55.65 350 IAMs_20 IAMs_20 19 46 39.9
comp=Z,8µm,18.0s
MDPB Devils Postpil 55.65 355 IAMs_20 IAMs_20 19 45 10.3
comp=Z,9µm,20.0s
MLAC Mammoth, Mammo 55.65 355 P **P** **19 20 39.7 +0.9**
baz=0.4
MLAC S **S** **19 28 23.0 -2.0**
baz=0.4
CZD Col de Zad 55.69 243 P **P** **19 20 39.1 -0.2**
CZD Col de Zad 55.69 243 P **P** **19 20 39.1 -0.2**
CCUT Cedar City 55.70 350 IAMs_20 IAMs_20 19 44 45.2
comp=Z,10µm,20.0s
T47A Sharon Grove 55.71 325 P **P** **19 20 38.0 -1.0**
baz=2.3,SNR=13
PKCU Pink Cliffs 55.79 349 IAMs_20 IAMs_20 19 45 30.7
comp=Z,7µm,19.0s
JMN Monobe 55.84 100 IAMs_20 IAMs_20 19 44 58.9
comp=Z,7µm,18.0s
BHK Bhakra 55.84 159 *e*P **P** **19 20 40.1 +0.1**
MDT Midelt 55.89 243 P **P** **19 20 40.1 -0.3**
MDT Midelt 55.89 243 P **P** **19 20 40.1 -0.3**
MDT Midelt 55.89 243 LR LR 19 44 28.9
comp=Z,1µm,18.9s,baz=32,slow=36
DSP Deep Springs 55.91 354 IAMs_20 IAMs_20 19 45 33.1
comp=Z,10µm,19.0s
KAN17 Caldwell West 55.95 335 P **P** **19 20 39.0 -1.7**
KAN17 IAmb IAmb 19 20 41.3
comp=Z,63nm,1.1s
MVCO Mesa Verde 55.98 345 P **P** **19 20 41.6 +0.5**
baz=1.0,SNR=38
MVCO S **S** **19 28 27.0 -2.3**
baz=1.0
T25A Trinidad 55.99 341 P **P** **19 20 39.7 -1.5**
T25A IAMs_20 IAMs_20 19 44 15.3
comp=Z,10µm,21.0s
T25A Trinidad 55.99 341 P **P** **19 20 40.0 -1.2**
baz=1.3,SNR=10
T25A S **S** **19 28 23.9 -5.4**
baz=1.3
U54A Nelsons Funny 56.00 319 IAMs_20 IAMs_20 19 44 59.0
comp=Z,10µm,18.0s
U54A Nelsons Funny 56.00 319 P **P** **19 20 39.5 -1.7**
baz=2.5,SNR=6.7
U54A P **P** **19 20 39.5 -1.7**
baz=2.5,SNR=6.7
U54A S **S** **19 28 26.4 -2.8**
baz=2.5
U54A S **S** **19 28 26.4 -2.8**
baz=2.5
PBMO Poplar Bluff 56.02 328 P **P** **19 20 39.3 -1.9**
baz=2.1,SNR=10
PBMO S **S** **19 28 27.6 -1.8**
baz=2.1
U59A Littleton 56.02 316 IAMs_20 IAMs_20 19 44 11.3
comp=Z,8µm,18.0s
U59A Littleton 56.02 316 P **P** **19 20 41.0 -0.2**
baz=2.7
U59A P **P** **19 20 41.0 -0.2**
baz=2.7
U59A S **S** **19 28 30.0 +0.7**
baz=2.7
U59A S **S** **19 28 30.0 +0.7**
baz=2.7
TZTN Tazewell 56.04 321 P **P** **19 20 40.1 -1.3**
TZTN IAmb IAmb 19 20 41.7
comp=Z,42nm,0.9s
TZTN IAMs_20 IAMs_20 19 43 32.8
comp=Z,13µm,22.0s
TZTN Tazewell 56.04 321 P **P** **19 20 40.4 -0.9**
baz=2.5,SNR=13
TZTN S **S** **19 28 29.6 -0.1**
baz=2.5
TZTN Tazewell 56.04 321 P **P** **19 20 40.0 -1.3**
baz=2.5,SNR=13
TZTN S **S** **19 28 28.8 -0.8**
baz=2.5
T35B Sooner Cattle 56.04 334 P **P** **19 20 39.1 -2.3**
baz=1.8,SNR=34
T35B S **S** **19 28 26.4 -3.3**
baz=1.8
U56A King 56.12 318 IAMs_20 IAMs_20 19 43 43.1
comp=Z,7µm,21.0s
U49A Red Boiling Sp 56.14 323 P **P** **19 20 40.7 -1.4**
baz=2.3,SNR=13
U49A S **S** **19 28 31.5 +0.6**
baz=2.3
OK032 Salt Plains WL 56.20 335 IAMs_20 IAMs_20 19 45 08.8
comp=Z,8µm,18.0s
PMPST Porto Santo, M 56.22 255 *e*P **P** **19 20 43.5 +0.9**
comp=Z,129nm,1.9s
KNB Kanab 56.22 349 IAMs_20 IAMs_20 19 45 03.1
comp=Z,9µm,20.0s
TIN Tinemaha, Big 56.23 355 P **P** **19 20 43.8 +1.0**
baz=0.4
LCMT Little Creek M 56.23 350 IAMs_20 IAMs_20 19 44 32.4
comp=Z,8µm,22.0s
GRAC Grapevine Rang 56.28 354 IAMs_20 IAMs_20 19 44 46.5
comp=Z,11µm,22.0s
GRAC Grapevine Rang 56.28 354 P **P** **19 20 43.4 +0.3**
baz=0.5,SNR=13
GRAC S **S** **19 28 31.8 -1.1**
baz=0.5
JNU Nakatsue 56.28 103 LR LR 19 46 52.0
comp=Z,1µm,18.2s,baz=5.0,slow=38
OK035 E0210 Rd and N 56.30 336 IAMs_20 IAMs_20 19 45 22.0
comp=Z,11µm,18.0s
TPNV Topopah Spring 56.32 353 P **P** **19 20 43.1 -0.4**
TPNV IAmb IAmb 19 21 04.5
comp=Z,92nm,1.6s
TPNV Topopah Spring 56.32 353 P **P** **19 20 43.3 -0.2**
baz=0.6,SNR=22
TPNV Topopah Spring 56.32 353 P **P** **19 20 43.1 -0.4**
TPNV pmax pmax
comp=Z,92nm,1.6s
TPNV MLR MLR
comp=Z,19µm,18.0s
SRHM Skhour des Reh 56.39 246 P **P** **19 20 46.0 +2.0**
SRHM Skhour des Reh 56.39 246 P **P** **19 20 46.0 +2.0**
FIGM Figuig 56.41 239 P **P** **19 20 44.0 -0.2**
FIGM Figuig 56.41 239 P **P** **19 20 44.0 -0.2**
U38A Gravette 56.47 332 P **P** **19 20 41.8 -2.6**
baz=1.9,SNR=21
U38A S **S** **19 28 32.4 -3.0**
baz=1.9
CROK Carrier 56.49 335 IAMs_20 IAMs_20 19 44 32.6
comp=Z,6µm,20.0s
U40A Yellville 56.51 330 P **P** **19 20 42.3 -2.4**
baz=2.0,SNR=16
U40A P **P** **19 20 42.3 -2.4**
baz=2.0,SNR=16
U40A S **S** **19 28 31.7 -4.2**
baz=2.0
U40A S **S** **19 28 31.7 -4.2**
baz=2.0
PMOZ Porto Moniz, M 56.52 255 *e*P **P** **19 20 46.2 +1.3**
comp=Z,131nm,1.9s
PMOZ *e*S S 19 28 48.5 +12
PMOZ *e*LR LR 19 37 22.7
comp=Z,1µm,22.0s
PMOZ Porto Moniz, M 56.52 255 P **P** **19 20 43.8 -1.1**
V61A Roper 56.53 314 IAMs_20 IAMs_20 19 44 37.7
comp=Z,7µm,19.0s
PMAR Madeira 56.60 255 *e*P **P** **19 20 46.4 +0.8**
comp=Z,129nm,1.7s
U32A Winter Ranch, 56.64 336 IAMs_20 IAMs_20 19 45 32.5
comp=Z,9µm,18.0s
U32A Winter Ranch, 56.64 336 P **P** **19 20 44.6 -1.1**
baz=1.6,SNR=7.7
V55A Taylorsville 56.65 319 IAMs_20 IAMs_20 19 45 30.0
comp=Z,10µm,18.0s
V55A Taylorsville 56.65 319 P **P** **19 20 44.4 -1.3**
baz=2.5,SNR=13
V55A P **P** **19 20 44.4 -1.3**
baz=2.5,SNR=13
V55A S **S** **19 28 34.9 -2.8**
baz=2.5
V55A S **S** **19 28 34.9 -2.8**
baz=2.5

NJ2	Nanjing	56.73 116	⇑P	P	19 20 46.0	-0.3
NJ2			sP	pwP	19 20 50.5	-1.7
NJ2			pmax	pmax		
	comp=Z,56nm,1.2s					
NJ2			pmax	pmax		
	comp=Z,2μm,4.3s					
NJ2			LR	LR		
	comp=Z,5μm,15.2s					
NJ2			LR	LR		
	comp=Z,2μm,9.5s					
NJ2			LR	LR		
	comp=Z,5μm,16.1s					
V52A	Sevierville	56.74 321	P	P	19 20 44.9	-1.4
V52A			IAMs_20	IAMs_20	19 43 54.4	
	comp=Z,13μm,22.0s					
V52A	Sevierville	56.74 321	P	P	19 20 44.6	-1.7
	baz=2.4,SNR=7.2					
LCAR	Lake Charles	56.75 329	P	P	19 20 44.7	-1.7
LCAR	Lake Charles	56.75 329	P	P	19 20 44.5	-1.8
	baz=2.0,SNR=8.7					
LCAR			S	S	19 28 38.6	-0.4
	baz=2.0					
SHPR	Sheep Range	56.75 352	IAMs_20	IAMs_20	19 45 59.3	
	comp=Z,10μm,20.0s					
RLO	Rose Lookout	56.76 332	IAMs_20	IAMs_20	19 45 07.5	
	comp=Z,12μm,18.0s					
JHJ	Hachijo jima 2	56.76 94	LR	LR	19 46 35.8	
	comp=Z,2μm,20.1s,baz=78,slow=38					
V51A	Loudon	56.80 322	P	P	19 20 43.2	-3.6
	baz=2.4,SNR=9.0					
V51A			S	S	19 28 40.9	+1.2
	baz=2.4					
FURC	Furnace Creek,	56.80 353	P	P	19 20 47.5	+0.8
	baz=0.5,SNR=18					
FURC			S	S	19 28 38.6	-1.1
	baz=0.5					
U15A	North Rim	56.80 349	IAMs_20	IAMs_20	19 44 57.3	
	comp=Z,6μm,22.0s					
CWC	Cottonwood Cre	56.84 355	P	P	19 20 46.8	-0.4
	baz=0.4					
CWC			S	S	19 28 40.2	-0.4
	baz=0.4					
V53A	Saluda	56.88 320	IAMs_20	IAMs_20	19 43 47.3	
	comp=Z,9μm,22.0s					
V53A	Saluda	56.88 320	P	P	19 20 44.3	-3.1
	baz=2.5,SNR=8.7					
V53A			P	P	19 20 44.3	-3.1
	baz=2.5,SNR=8.7					
V53A			S	S	19 28 41.9	+0.9
	baz=2.5					
V53A			S	S	19 28 41.9	+0.9
	baz=2.5					
TKL	Tuckaleechee C	56.93 321	P	P	19 20 46.0	-1.6
TKL	Tuckaleechee C	56.93 321	P	P	19 20 45.8	-1.9
	baz=2.4,SNR=11					
TKL			S	S	19 28 41.4	0.0
	baz=2.4					
TKL	Tuckaleechee C	56.93 321	P	P	19 20 46.1	-1.6
TKL			pmax	pmax		
	comp=Z,28nm,1.0s					
TKL			MLR	MLR		
	comp=Z,13μm,22.0s					
TKL	Tuckaleechee C	56.93 321	LR	LR	19 44 22.4	
	comp=Z,13μm,21.9s,baz=7.0,slow=35					
V48A	Smith Brothers	56.95 324	P	P	19 20 46.0	-1.8
	baz=2.3,SNR=8.6					
VOG	Valley Oaks Go	56.96 356	P	P	19 20 48.0	+0.1
	baz=0.3					
TUL3	Leonard	57.03 333	P	P	19 20 47.3	-1.1
	baz=1.8,SNR=10					
TUL3			S	S	19 28 40.8	-2.0
	baz=1.8					
TUL3	Leonard	57.03 333	P	P	19 20 45.5	-2.9
	baz=1.8,SNR=10					
TUL3			S	S	19 28 39.9	-2.9
	baz=1.8					
PMPB	Monarch Peak	57.07 357	IAMs_20	IAMs_20	19 45 33.9	
	comp=Z,11μm,20.0s					
CNNC	Cliffs of the	57.13 316	IAMs_20	IAMs_20	19 44 53.6	
	comp=Z,9μm,19.0s					
CNNC	Cliffs of the	57.13 316	P	P	19 20 48.9	-0.1
	baz=2.7					
CPCT	Cooper Cave	57.16 322	P	P	19 20 47.8	-1.6
OK029	Liberty Lake	57.18 335	IAMs_20	IAMs_20	19 45 13.9	
	comp=Z,10μm,20.0s					
CD2	Chengdu	57.19 131	⇑P	P	19 20 50.3	+0.7
CD2			sP	pwP	19 20 56.0	+0.4
CD2			PP	PP	19 22 56.8	+0.6
CD2			S	S	19 28 48.5	+3.5
CD2			SS	SS	19 32 35.0	+1.6
CD2			pmax	pmax		
	comp=Z,60nm,0.8s					
CD2			LR	LR		
	comp=Z,4μm,16.7s					
CD2			LR	LR		
	comp=Z,9μm,17.2s					
CD2			LR	LR		
	comp=Z,5μm,20.0s					
MPMC	Manual Prospec	57.22 354	P	P	19 20 50.5	+0.5
	baz=0.5,SNR=37					
MPMC			S	S	19 28 50.3	+4.7
	baz=0.5					
W59A	Clinton	57.23 316	IAMs_20	IAMs_20	19 44 56.2	
	comp=Z,9μm,19.0s					
W57A	Gilead	57.30 318	IAMs_20	IAMs_20	19 46 36.1	
	comp=Z,9μm,18.0s					
W57A	Gilead	57.30 318	P	P	19 20 48.0	-2.2
	baz=2.6,SNR=7.2					
W57A			P	P	19 20 48.0	-2.2
	baz=2.6,SNR=7.2					
KMSC	Kings Mountain	57.36 319	P	P	19 20 49.0	-1.7
KMSC			IAMs_20	IAMs_20	19 44 30.7	
	comp=Z,6μm,19.0s					
KMSC	Kings Mountain	57.36 319	P	P	19 20 49.3	-1.4
	baz=2.5,SNR=9.9					
KMSC			S	S	19 28 49.0	+2.0
	baz=2.5					
KMSC	Kings Mountain	57.36 319	P	P	19 20 49.1	-1.6
	baz=2.5,SNR=9.9					
W50A	Signal Mountai	57.44 323	P	P	19 20 47.6	-3.8
	baz=2.3,SNR=7.0					
VES	Vestal, Richgr	57.44 355	P	P	19 20 51.2	0.0
	baz=0.4					
VES			S	S	19 28 49.8	+1.7
	baz=0.4					
W52A	Murphy	57.50 321	P	P	19 20 50.9	-0.8
	baz=2.4,SNR=10					
BG3	Lake Jocassee	57.56 320	P	P	19 20 51.0	-1.2
BG3			IAmb	IAmb	19 20 55.4	
	comp=Z,75nm,1.5s					
BG3			IAMs_20	IAMs_20	19 44 31.1	
	comp=Z,9μm,20.0s					
CASEE	Lake Jocassee	57.56 320	P	P	19 20 49.8	-2.4
	baz=2.4					
EIL	Elat	57.60 202	LR	LR	19 50 54.4	
	comp=Z,3μm,18.4s,baz=351,slow=42					
ISA	Isabella, Lake	57.62 355	IAMs_20	IAMs_20	19 47 24.0	
	comp=Z,10μm,19.0s					
ISA	Isabella, Lake	57.62 355	P	P	19 20 52.8	+0.2
	baz=0.4,SNR=20					
ISA			S	S	19 28 52.6	+2.0
	baz=0.4					
OUK	Oukaimeden	57.65 246	P	P	19 20 53.0	-0.2
OUK	Oukaimeden	57.65 246	P	P	19 20 53.0	-0.2
PAULI	Pauline	57.70 319	IAMs_20	IAMs_20	19 44 09.7	
	comp=Z,5μm,22.0s					
PAULI	Pauline	57.70 319	P	P	19 20 52.3	-0.8
	baz=2.5,SNR=7.8					
WUAZ	Wupatki	57.70 348	P	P	19 20 53.5	+0.1
WUAZ	Wupatki	57.70 348	P	P	19 20 53.4	+0.1
	baz=0.8,SNR=39					
WUAZ			S	S	19 28 56.2	+4.3
	baz=0.8					
PTH	Pithoragarh	57.78 155	eP	P	19 20 52.2	-1.8
LRMC	Laurel Mtn Rad	57.79 354	P	P	19 20 54.1	+0.1
	baz=0.5,SNR=30					
LRMC			S	S	19 28 59.0	+5.9
	baz=0.5					
SSE	Sheshan	57.80 113	P	P	19 20 52.3	-1.5
SSE			S	S	19 28 51.5	-1.4
SSE			pmax	pmax		
	comp=Z,24nm,0.9s					
SSE			pmax	pmax		
	comp=Z,450nm,7.6s					
SSE			LR	LR		
	comp=Z,2μm,15.7s					
SSE			LR	LR		
	comp=Z,1μm,15.8s					
BIRD	Birdtown, Kers	57.82 318	P	P	19 20 52.0	-2.0
	baz=2.5,SNR=7.9					
TUQ	Turquoise Moun	57.83 352	P	P	19 20 54.8	+0.7
	baz=0.6,SNR=11					
TUQ			S	S	19 28 57.1	+3.6
	baz=0.6					
X58A	Rowland	57.87 317	IAMs_20	IAMs_20	19 45 33.2	
	comp=Z,11μm,19.0s					
LGTI	Lohaghat	57.88 155	eP	P	19 20 53.1	-1.3
OUZM	OUZ	57.89 245	P	P	19 20 55.1	+0.4
OUZM	OUZ	57.89 245	P	P	19 20 55.1	+0.4
LSA	Lhasa	57.93 144	P	P	19 20 55.5	+0.2
LSA			S	S	19 28 56.5	+0.8
LSA			LR	LR		
	comp=Z,7μm,20.1s					
LSA			LR	LR		
	comp=Z,3μm,19.1s					
LSA			LR	LR		
	comp=Z,10μm,23.5s					
LSA	Lhasa	57.93 144	IAMs_20	IAMs_20	19 46 55.3	
	comp=Z,7μm,22.0s					
LSA	Lhasa	57.93 144	P	P	19 20 55.2	-0.2
LSA	Lhasa	57.93 144	P	P	19 20 55.6	+0.2
LSA			P	P	19 20 55.6	+0.2
GSC	Goldstone, Bar	57.97 353	P	P	19 20 55.0	-0.1
GSC	Goldstone, Bar	57.97 353	P	P	19 20 55.7	+0.6
	baz=0.5,SNR=17					
GSC			S	S	19 29 00.2	+4.9
	baz=0.5					
GSC	Goldstone, Bar	57.97 353	P	P	19 20 55.0	-0.1
GSC			pmax	pmax		
	comp=Z,27nm,1.0s					
GSC			MLR	MLR		
	comp=Z,14μm,20.0s					
SMMC	Simmler	57.97 356	P	P	19 20 55.1	0.0
	baz=0.3,SNR=7.8					
WHN	Wuhan	58.02 120	P	P	19 20 55.3	-0.1
WHN			S	S	19 28 58.3	+2.5
WHN			pmax	pmax		
	comp=Z,67nm,0.8s					
WHN			pmax	pmax		
	comp=Z,5μm,4.9s					
WHN			LR	LR		
	comp=Z,7μm,11.1s					
WHN			LR	LR		
	comp=Z,10μm,15.7s					
WHN			LR	LR		
	comp=Z,18μm,21.3s					
X51A	Calhoun	58.05 322	P	P	19 20 52.7	-2.9
	baz=2.3					
X51A			P	P	19 20 52.7	-2.9
	baz=2.3					
ENH	Enshi	58.07 125	IAMs_20	IAMs_20	19 46 57.4	
	comp=Z,6μm,18.0s					
W18A	Petrified Fore	58.08 346	P	P	19 20 56.2	+0.1
	baz=0.9,SNR=7.9					
W18A			S	S	19 29 00.4	+3.5
	baz=0.9					
CCAC	Calif City Air	58.12 354	IAMs_20	IAMs_20	19 47 32.4	
	comp=Z,10μm,18.0s					
ARVC	Arvin	58.15 355	P	P	19 20 55.5	-0.8
	baz=0.4					
AMTX	Amarillo	58.19 339	P	P	19 20 55.0	-1.6
	baz=1.4					
AMTX	Amarillo	58.19 339	P	P	19 20 54.9	-1.7
	baz=1.4,SNR=6.7					
ANMO	Albuquerque	58.21 343	P	P	19 20 56.2	-0.8
ANMO			IAmb	IAmb	19 21 00.6	
	comp=Z,60nm,1.2s					
ANMO	Albuquerque	58.21 343	P	P	19 20 56.1	-0.8
	baz=1.1					
ANMO			S	S	19 28 54.2	-4.5
	baz=1.1					
ANMO	Albuquerque	58.21 343	P	P	19 20 54.4	-2.5
	baz=1.1,SNR=33					
ANMO	Albuquerque	58.21 343	P	P	19 20 56.2	-0.8
ANMO			pmax	pmax		
	comp=Z,60nm,1.2s					
ANMO			MLR	MLR		
	comp=Z,15μm,18.0s					
ANMO	Albuquerque	58.21 343	LR	LR	19 46 26.5	
	comp=Z,14μm,20.4s,baz=88,slow=36					
JSC	Jenkinsville	58.21 319	IAMs_20	IAMs_20	19 45 06.4	
	comp=Z,8μm,19.0s					
X48A	Hartselle	58.24 324	P	P	19 20 54.2	-2.6
	baz=2.2,SNR=20					
X48A			S	S	19 28 58.3	-0.3
	baz=2.2					
OXF	Oxford	58.25 327	P	P	19 20 56.2	-0.8
	baz=2.1,SNR=8.9					
OXF	Oxford	58.25 327	P	P	19 20 55.5	-1.4
	baz=2.1,SNR=8.9					
WMOK	Wichita Mounta	58.27 336	IAMs_20	IAMs_20	19 46 34.1	
	comp=Z,9μm,18.0s					
WMOK	Wichita Mounta	58.27 336	P	P	19 20 56.6	-0.5
	baz=1.6,SNR=39					
WMOK			S	S	19 29 00.2	+1.1
	baz=1.6					
WMOK	Wichita Mounta	58.27 336	P	P	19 20 55.0	-2.2
	baz=1.6,SNR=39					
WMOK			S	S	19 28 59.2	+0.1
	baz=1.6					
HODGE	Hodges	58.30 320	IAMs_20	IAMs_20	19 46 31.7	
	comp=Z,5μm,18.0s					
HODGE	Hodges	58.30 320	P	P	19 20 54.5	-2.8
	baz=2.5,SNR=8.2					
MIAR	Mount Ida	58.34 331	P	P	19 20 56.6	-1.0
	baz=1.9,SNR=26					
MIAR			S	S	19 28 59.1	-0.8
	baz=1.9					
MIAR	Mount Ida	58.34 331	P	P	19 20 54.8	-2.7
	baz=1.9,SNR=26					
MIAR			S	S	19 28 59.2	-0.7
	baz=1.9					
X37A	Clayton	58.34 333	P	P	19 20 56.1	-1.5
	baz=1.8					
X37A			S	S	19 28 59.1	-0.8
	baz=1.8					
BCW	Bitter Crk WRg	58.34 356	IAMs_20	IAMs_20	19 46 36.2	
	comp=Z,12μm,21.0s					
X40A	Basin Creek Fa	58.37 330	S	S	19 29 00.8	+0.5
	baz=1.9					
X40A			S	S	19 29 00.8	+0.5
	baz=1.9					
Y60A	Bolivia	58.38 316	IAMs_20	IAMs_20	19 45 41.6	
	comp=Z,10μm,18.0s					
X34A	Smith Ranch, M	58.38 335	IAMs_20	IAMs_20	19 46 12.5	
	comp=Z,10μm,19.0s					
EDW2	Edwards Air Fo	58.39 354	P	P	19 20 58.1	0.0
	baz=0.4,SNR=23					
EDW2			S	S	19 29 00.6	-0.1
	baz=0.4					
RRX	Edison Barstow	58.39 353	P	P	19 20 58.2	+0.2
	baz=0.5					
RRX			S	S	19 29 01.7	+1.0
	baz=0.5					
PKM	Mcpherson Peak	58.39 356	P	P	19 20 59.4	+1.2
	baz=0.3,SNR=7.8					
HEC	Hector,Ludlow	58.44 353	P	P	19 20 59.0	+0.7
	baz=0.5,SNR=17					
HEC			S	S	19 29 02.4	+1.1
	baz=0.5					
Y57A	Sumter	58.45 318	IAMs_20	IAMs_20	19 45 12.5	
	comp=Z,8μm,19.0s					
GMRC	Granite Mounta	58.47 352	P	P	19 20 59.2	+0.5
	baz=0.6,SNR=32					
GMRC			S	S	19 29 03.7	+1.8
	baz=0.6					
NEE2	Needles Airpor	58.48 351	P	P	19 20 58.6	0.0
	baz=0.6					
NDI	New Delhi	58.58 158	eP	P	19 20 58.6	-0.8
ZGR	Zagora	58.62 243	P	P	19 20 60.0	+0.2
ZGR	Zagora	58.62 243	P	P	19 20 60.0	+0.2
OSI	Osito Audit: C	58.66 355	P	P	19 21 00.3	+0.4
	baz=0.4					
OSI			S	S	19 29 03.6	-0.7
	baz=0.4					
X18A	Snowflake	58.67 347	P	P	19 20 59.5	-0.7
X18A			IAmb	IAmb	19 21 10.1	
	comp=Z,66nm,1.5s					
Y52A	Lilburn	58.73 322	P	P	19 20 58.0	-2.4
	baz=2.4,SNR=11					
Y52A			P	P	19 20 58.0	-2.4
	baz=2.4,SNR=11					
Y49A	Blount Mountai	58.81 324	P	P	19 20 58.3	-2.6
	baz=2.2,SNR=8.3					
Y49A			S	S	19 29 03.7	-2.4
	baz=2.2					
SBC	Santa Barbara	58.84 356	P	P	19 21 01.6	+0.5
	baz=0.3					
SBC			S	S	19 29 06.3	-0.1
	baz=0.3					
Y45A	Yeager Farm, C	58.90 327	P	P	19 21 00.4	-1.1
	baz=2.1,SNR=16					
PDMCI	Parker Dam,Lak	58.94 351	P	P	19 21 02.6	+0.8
	baz=0.7,SNR=15					
PDMCI			S	S	19 29 07.5	-0.2
	baz=0.7					
BBRC	Big Bear Solar	59.00 353	P	P	19 21 02.3	-0.2
	baz=0.5					
BBRC			S	S	19 29 09.5	+0.4
	baz=0.5					
BNM	Barren Site	59.00 343	P	P	19 21 01.4	-1.1
SONA	Sohna	59.01 158	eP	P	19 21 02.1	-0.2
DECC	Green Verdugo	59.02 355	P	P	19 21 02.6	+0.2
	baz=0.4					
DECC			S	S	19 29 11.2	+2.3
	baz=0.4					
BFSC	Mount Baldy Ra	59.03 354	P	P	19 21 03.2	+0.6
	baz=0.5,SNR=14					
BFSC			S	S	19 29 06.6	-2.6
	baz=0.5					
DANN	Dangsing	59.06 152	eP	P	19 21 01.9	-1.2
	comp=Z,262nm,1.0s					
Y22D	IRIS PASSCAL I	59.08 344	P	P	19 21 02.9	0.0
	baz=1.1					
Y22D			S	S	19 29 11.5	+1.6
	baz=1.1					
Y22F	Passcal Instru	59.08 344	P	P	19 21 03.2	+0.2
	baz=1.1					
Y22F			S	S	19 29 10.5	+0.6
	baz=1.1					
IRM	Iron Mountain	59.10 352	P	P	19 21 03.3	+0.4
	baz=0.6,SNR=32					
IRM			S	S	19 29 12.7	+2.8
	baz=0.6					
PASC	Pasadena Art C	59.10 355	P	P	19 21 02.5	-0.5
PASC	Pasadena Art C	59.10 355	IAMs_20	IAMs_20	19 47 28.3	
	comp=Z,10μm,19.0s					
KUDL	Kundal	59.10 159	eP	P	19 21 02.1	-0.9
MSTX	Muleshoe	59.12 340	P	P	19 21 02.2	-0.9
	baz=1.4,SNR=12					
MSTX			S	S	19 29 11.2	+0.9
	baz=1.4					
MSTX	Muleshoe	59.12 340	P	P	19 21 01.9	-1.3
	baz=1.4,SNR=12					
HAW	Hawthorne Fire	59.14 319	P	P	19 21 00.9	-2.3
	baz=2.5					
HAW			S	S	19 29 08.7	-1.7
	baz=2.5					
GOGA	Godfrey	59.16 321	IAMs_20	IAMs_20	19 45 20.4	
	comp=Z,12μm,22.0s					
GOGA	Godfrey	59.16 321	P	P	19 21 01.9	-1.4
	baz=2.4,SNR=11					
GOGA			S	S	19 29 11.4	+0.8
	baz=2.4					
GOGA	Godfrey	59.16 321	P	P	19 21 01.3	-2.0
	baz=2.4,SNR=11					
Y22A	Socorro	59.22 344	P	P	19 21 03.1	-0.9
	baz=1.1,SNR=7.3					
BELC	Belle Mtn. Jos	59.26 352	P	P	19 21 04.8	+0.7
	baz=0.6,SNR=15					
BELC			S	S	19 29 13.3	+1.1
	baz=0.6					
SCZ2	Santa Cruz Isl	59.28 356	P	P	19 21 04.1	-0.1
	baz=0.3					
PYUN	Piuthan	59.29 152	eP	P	19 21 02.8	-1.8
	comp=Z,167nm,1.0s					
NHSC	New Hope	59.34 318	P	P	19 21 03.5	-1.0
NHSC	New Hope	59.34 318	P	P	19 21 03.9	-0.6
	baz=2.5					
GKN	Gorkha	59.43 151	eP	P	19 21 03.9	-1.6
	comp=Z,432nm,1.6s					
BBSR	BB Station	59.44 303	P	P	19 21 04.3	-0.9
BBSR	BB Station	59.44 303	IAMs_20	IAMs_20	19 44 53.2	
	comp=Z,5μm,22.0s					
Z47A	Carrollton	59.52 325	P	P	19 21 04.4	-1.4
	baz=2.1,SNR=8.6					
GUN	Gumba	59.56 149	eP	P	19 21 05.4	-1.2
	comp=Z,190nm,1.1s					
FMP	Fort Macarthur	59.56 355	P	P	19 21 05.8	-0.3
	baz=0.4					
Z41A	Richland Creek	59.60 330	P	P	19 21 04.6	-1.7
	baz=1.9,SNR=14					
Z41A			P	P	19 21 04.6	-1.7
	baz=1.9,SNR=14					
BC3	Big Chuckawall	59.60 352	P	P	19 21 06.9	+0.4
	baz=0.6,SNR=16					
ELS	Elsinore Mount	59.62 354	IAMs_20	IAMs_20	19 47 04.0	
	comp=Z,11μm,21.0s					
KOLN	Koldanda	59.64 152	eP	P	19 21 04.6	-2.3
	comp=Z,472nm,2.4s					
Z35A	Perchaven, San	59.64 334	S	S	19 29 17.3	+0.5
	baz=1.6					
LRAL	Lakeview Retre	59.65 324	P	P	19 21 05.7	-1.0
	baz=2.2,SNR=9.1					
LRAL			S	S	19 29 16.8	-0.1
	baz=2.2					
LRAL	Lakeview Retre	59.65 324	P	P	19 21 04.1	-2.6
	baz=2.2,SNR=9.1					
LRAL			S	S	19 29 14.7	-2.2
	baz=2.2					
PFO	Pinyon Flats O	59.65 353	P	P	19 21 06.9	+0.1
	baz=0.5,SNR=12					
PFO			S	S	19 29 18.1	+0.8
	baz=0.5					
PFO	Pinyon Flats O	59.65 353	LR	LR	19 47 24.4	
	comp=Z,14μm,21.0s,baz=355,slow=37					
Z38A	Mt. Pleasant	59.65 332	P	P	19 21 06.1	-0.6
	baz=1.8					
Z38A			S	S	19 29 13.3	-3.7
	baz=1.8					
TPFO	Pinon Flats	59.66 353	P	P	19 21 07.0	0.0
	baz=0.5,SNR=11					
TPFO			S	S	19 29 16.6	-0.7
	baz=0.5					
KKN	Kakani	59.66 150	eP	P	19 21 05.1	-2.0
	comp=Z,803nm,2.5s					
MURC	Murrieta	59.67 354	P	P	19 21 06.4	-0.5
	baz=0.5					
MURC			S	S	19 29 18.7	+1.4
	baz=0.5					
BRCI	Bahraich	59.79 154	eP	P	19 21 06.9	-0.9
JIRN	Jiri	59.82 149	eP	P	19 21 07.4	-1.0
	comp=Z,393nm,1.7s					
DMN	Daman	59.84 150	eP	P	19 21 06.8	-1.6
	comp=Z,947nm,2.3s					
CIS	Catalina Islan	59.87 355	P	P	19 21 09.1	+0.8
	baz=0.4,SNR=6.0					
PKIN	Phulchoki	59.88 150	eP	P	19 21 07.1	-1.6
	comp=Z,439nm,1.8s					
PKI	Pulchoki	59.88 150	eP	P	19 21 07.4	-1.4
	comp=Z,346nm,1.6s					
152A	Waverly Hall	59.94 322	P	P	19 21 07.2	-1.5
	baz=2.3					
154A	Montrose	59.94 321	IAMs_20	IAMs_20	19 45 42.2	
	comp=Z,9μm,22.0s					
FW03	Perrin-Whitt E	59.95 335	IAMs_20	IAMs_20	19 47 17.9	
	comp=Z,7μm,18.0s					
FW06	Azle	60.00 335	IAMs_20	IAMs_20	19 47 38.3	
	comp=Z,18μm,18.0s					
SNCC	San Nicolas Is	60.03 356	IAMs_20	IAMs_20	19 48 25.9	
	comp=Z,8μm,19.0s					
SNCC	San Nicolas Is	60.03 356	P	P	19 21 09.7	+0.4
	baz=0.3					
SNCC			S	S	19 29 23.8	+1.9
	baz=0.3					
VLK	Valmikinagar	60.10 152	eP	P	19 21 08.8	-1.0
146A	Union	60.11 326	P	P	19 21 09.7	-0.2
	baz=2.1,SNR=7.0					
TAPN	Taplejung	60.17 148	eP	P	19 21 08.9	-1.8
	comp=Z,124nm,1.5s					
SN01	Snyder 1	60.19 338	IAMs_20	IAMs_20	19 47 36.3	
	comp=Z,12μm,19.0s					
GLA	Glamis	60.20 351	P	P	19 21 10.9	+0.4
	baz=0.6					
GLA			S	S	19 29 24.4	+0.3
	baz=0.6					
GTK	Tadong	60.23 147	eP	P	19 21 10.4	-0.5
GTK			IAmb	IAmb	19 21 18.5	
	comp=Z,115nm,1.3s					
FW07	Weatherford	60.28 335	IAMs_20	IAMs_20	19 47 48.6	
	comp=Z,16μm,18.0s					
SCI2	San Clemente I	60.29 355	P	P	19 21 11.4	+0.3

	baz=0.4					
CNSH	**ChangSha**	**60.30 122**	⇑P	**P**	**19 21 11.8**	**+0.6**
CNSH			S	**S**	**19 29 31.8**	**+6.4**
CNSH			pmax	pmax		
	comp=Z,83nm,2.0s					
CNSH			LR	LR		
	comp=Z,3μm,18.8s					
CNSH			LR	LR		
	comp=Z,4μm,17.8s					
CNSH			LR	LR		
	comp=Z,3μm,20.6s					
SWSC	**Sam W. Stewart**	**60.31 352**	P	**P**	**19 21 11.8**	**+0.5**
	baz=0.6,SNR=8.7					
SWSC			S	**S**	**19 29 29.3**	**+3.8**
	baz=0.6					
MONP2	**Monument Peak**	**60.37 353**	P	**P**	**19 21 12.6**	**+0.7**
	baz=0.5,SNR=14					
MONP2			S	**S**	**19 29 32.2**	**+5.6**
	baz=0.5					
109C	**Camp Elliot, M**	**60.38 354**	IAMs_20	IAMs_20	19 47 26.0	
	comp=Z,8μm,20.0s					
109C	**Camp Elliot, M**	**60.38 354**	P	**P**	**19 21 11.5**	**-0.2**
	baz=0.5					
109C			S	**S**	**19 29 31.7**	**+5.5**
	baz=0.5					
ABTX	**Abilene, Hawle**	**60.40 337**	P	**P**	**19 21 11.0**	**-0.9**
	baz=1.5,SNR=15					
ABTX			S	**S**	**19 29 28.2**	**+1.6**
	baz=1.5					
ABTX	**Abilene, Hawle**	**60.40 337**	P	**P**	**19 21 10.3**	**-1.6**
	baz=1.5,SNR=15					
113A	**Mohawk Valley,**	**60.47 350**	IAMs_20	IAMs_20	19 47 11.4	
	comp=Z,9μm,20.0s					
257A	**Skidaway Islan**	**60.50 318**	IAMs_20	IAMs_20	19 46 35.0	
	comp=Z,8μm,18.0s					
RAMN	**Ramite**	**60.53 149**	*e*P	**P**	**19 21 11.1**	**-2.1**
	comp=Z,229nm,1.6s					
ITAN	**ITANAGAR**	**60.56 141**	*e*P	**P**	**19 21 13.6**	**+0.6**
ITAN			IAmb	IAmb	19 21 21.4	
	comp=Z,128nm,1.3s					
VBMS	**Vicksburg**	**60.57 328**	P	**P**	**19 21 12.8**	**-0.2**
	baz=2.0					
255A	**Hazlehurst**	**60.60 320**	IAMs_20	IAMs_20	19 48 00.7	
	comp=Z,8μm,18.0s					
IKP	**In-Ko-Pah, Jac**	**60.61 353**	P	**P**	**19 21 13.4**	**0.0**
	baz=0.5,SNR=19					
IKP			S	**S**	**19 29 31.8**	**+2.4**
	baz=0.5					
121A	**Cookes Peak, D**	**60.63 344**	P	**P**	**19 21 13.3**	**-0.3**
	baz=1.0,SNR=5.5					
121A			S	**S**	**19 29 33.0**	**+3.0**
	baz=1.0					
121A	**Cookes Peak, D**	**60.63 344**	P	**P**	**19 21 13.4**	**-0.3**
	baz=1.0,SNR=5.5					
ODAN	**Odare**	**60.65 148**	*e*P	**P**	**19 21 11.6**	**-2.3**
	comp=Z,491nm,1.9s					
250A	**Grady**	**60.68 324**	P	**P**	**19 21 11.7**	**-2.0**
	baz=2.2					
AJM	**Ajmer**	**60.73 161**	*e*P	**P**	**19 21 13.2**	**-1.0**
TUC	**Tucson**	**60.90 347**	P	**P**	**19 21 15.2**	**-0.2**
TUC	**Tucson**	**60.90 347**	P	**P**	**19 21 15.7**	**+0.4**
	baz=0.8					
TUC			S	**S**	**19 29 36.3**	**+3.2**
	baz=0.8					
TUC	**Tucson**	**60.90 347**	P	**P**	**19 21 15.2**	**-0.2**
TUC			pmax	pmax		
	comp=Z,226nm,1.9s					
TUC			MLR	MLR		
	comp=Z,18μm,18.0s					
237A	**Washetta, Mont**	**60.93 333**	IAMs_20	IAMs_20	19 47 31.8	
	comp=Z,8μm,19.0s					
WHTX	**Lake Whitney,**	**60.98 334**	P	**P**	**19 21 14.8**	**-1.0**
	baz=1.6,SNR=8.5					
WHTX			S	**S**	**19 29 35.3**	**+1.3**
	baz=1.6					
WHTX	**Lake Whitney,**	**60.98 334**	P	**P**	**19 21 14.3**	**-1.5**
	baz=1.6,SNR=8.5					
SHME	**Shamm**	**60.99 180**	*i* P	**P**	**19 21 14.9**	**-1.1**
	SNR=11					
SHME	**Shamm**	**60.99 180**	P	**P**	**19 21 15.4**	**-0.6**
	SNR=5.5					
SHME			P	**P**	**19 21 15.4**	**-0.6**
	SNR=5.5					
SHME			P	**P**	**19 21 15.4**	**-0.6**
	SNR=5.5					
SHME			S	**S**	**19 29 37.5**	**+3.2**
SHME			S	**S**	**19 29 37.5**	**+3.2**
SHME			S	**S**	**19 29 37.5**	**+3.2**
TEZP	**TEZPUR**	**61.06 142**	*e*P	**P**	**19 21 16.3**	**-0.1**
SAKB	**Bahrain**	**61.08 186**	P	**P**	**19 21 16.1**	**-0.4**
SAKB			S	**S**	**19 29 38.0**	**+2.6**
TIGA	**Tifton**	**61.13 321**	IAMs_20	IAMs_20	19 46 30.6	
	comp=Z,12μm,22.0s					
TIGA	**Tifton**	**61.13 321**	P	**P**	**19 21 15.6**	**-1.3**
	baz=2.3					
TIGA			S	**S**	**19 29 34.7**	**-1.2**
	baz=2.3					
352A	**Blakely**	**61.13 322**	P	**P**	**19 21 15.2**	**-1.7**
	baz=2.3					
NATX	**Nacogdoches**	**61.14 332**	P	**P**	**19 21 16.3**	**-0.6**
	baz=1.8					
NATX			S	**S**	**19 29 38.9**	**+2.8**
	baz=1.8					
JASK	**Jask - Hormozg**	**61.18 178**	P	**P**	**19 21 17.2**	**0.0**
	SNR=17					
JASK			S	**S**	**19 29 41.8**	**+5.1**
SHMA	**Al-Shehemyia**	**61.20 185**	P	**P**	**19 21 16.8**	**-0.6**
SHMA			S	**S**	**19 29 38.1**	**+1.2**
214A	**Organ Pipe Nat**	**61.27 349**	IAMs_20	IAMs_20	19 48 43.5	
	comp=Z,5μm,18.0s					
214A	**Organ Pipe Nat**	**61.27 349**	P	**P**	**19 21 17.7**	**-0.1**
	baz=0.7					
214A			S	**S**	**19 29 44.0**	**+6.2**
	baz=0.7					
344A	**Westbrook Farm**	**61.34 328**	P	**P**	**19 21 18.1**	**-0.1**
	baz=2.0,SNR=7.1					
MOKO	**MOKOCHONG**	**61.41 141**	*e*P	**P**	**19 21 18.8**	**-0.1**
MOKO			IAmb	IAmb	19 21 29.4	
	comp=Z,88nm,1.0s					
MNTX	**Cornudas Mount**	**61.43 342**	P	**P**	**19 21 17.5**	**-1.4**
	baz=1.2,SNR=9.0					
MNTX			S	**S**	**19 29 40.4**	**+0.6**
	baz=1.2					
MNTX	**Cornudas Mount**	**61.43 342**	P	**P**	**19 21 16.0**	**-2.9**
	baz=1.2,SNR=9.0					
PZH	**PanZhiHua**	**61.49 133**	P	**P**	**19 21 19.5**	**0.0**
PZH			sP	**pwP**	**19 21 26.5**	**+1.0**
PZH			S	**S**	**19 29 41.0**	**+0.1**
PZH			ScS	**SKKSac**	**19 31 09.3**	**-1.7**
PZH			pmax	pmax		
	comp=Z,30nm,1.0s					
PZH			pmax	pmax		
	comp=Z,1μm,4.7s					
PZH			LR	LR		
	comp=Z,2μm,14.2s					
PZH			LR	LR		
	comp=Z,2μm,14.2s					
PZH			LR	LR		
	comp=Z,3μm,18.4s					
BRAL	**Brewton**	**61.51 324**	P	**P**	**19 21 18.5**	**-0.9**
	baz=2.1					
BRAL	**Brewton**	**61.51 324**	P	**P**	**19 21 18.3**	**-1.1**
	baz=2.1					
UMQ	**Umm Al-Quwin**	**61.52 181**	P	**P**	**19 21 20.2**	**+0.7**
UMQ			P	**P**	**19 21 20.2**	**+0.7**
UMQ			S	**S**	**19 29 44.1**	**+3.1**
UMQ			S	**S**	**19 29 44.1**	**+3.1**
MASF	**Masafi**	**61.67 180**	P	**P**	**19 21 20.5**	**-0.1**
	SNR=20					
MASF			P	**P**	**19 21 20.5**	**-0.1**
	SNR=20					
MASF			S	**S**	**19 29 46.6**	**+3.6**
MASF			S	**S**	**19 29 46.6**	**+3.6**
MSFE	**Esma-Masafi**	**61.68 180**	*i* P	**P**	**19 21 19.9**	**-0.8**
	SNR=8.9					
NGCH	**Negor - Chabah**	**61.69 175**	P	**P**	**19 21 21.4**	**+0.7**
NGCH			S	**S**	**19 29 49.3**	**+6.2**
GYA	**Guiyang**	**61.74 128**	⇑*i*P	**P**	**19 21 21.8**	**+0.6**
GYA			S	**S**	**19 29 42.0**	**-2.1**
GYA			SS	**SS**	**19 33 39.5**	**-5.5**
GYA			pmax	pmax		
	comp=Z,130nm,1.2s					
GYA			pmax	pmax		
	comp=Z,2μm,5.5s					
GYA			LR	LR		
	comp=Z,1μm,16.7s					
GYA			LR	LR		
	comp=Z,2μm,19.7s					
GYA			LR	LR		
	comp=Z,2μm,28.8s					
MDH	**Madha**	**61.74 180**	*i* P	**P**	**19 21 19.8**	**-1.3**
	SNR=20					
MDH	**Madha**	**61.74 180**	P	**P**	**19 21 20.3**	**-0.7**
	SNR=13					
MDH			P	**P**	**19 21 20.3**	**-0.7**
	SNR=13					
MDH			P	**P**	**19 21 20.3**	**-0.7**
	SNR=13					
MDH			S	**S**	**19 29 46.3**	**+2.5**
MDH			S	**S**	**19 29 46.3**	**+2.5**
MDH			S	**S**	**19 29 46.3**	**+2.5**
456A	**Hilliard**	**61.78 319**	IAMs_20	IAMs_20	19 48 28.9	
	comp=Z,8μm,18.0s					
KOHI	**KOHIMA**	**61.99 141**	*e*P	**P**	**19 21 22.2**	**-0.7**
ALBI	**Allahabad**	**62.04 154**	⇑*e*P	**P**	**19 21 21.2**	**-1.8**
NAZ	**Nazwa, Dubai**	**62.05 181**	*i* P	**P**	**19 21 22.4**	**-0.7**
	SNR=14					
NAZ	**Nazwa, Dubai**	**62.05 181**	P	**P**	**19 21 23.3**	**+0.2**
	SNR=6.5					
NAZ			P	**P**	**19 21 23.3**	**+0.2**
	SNR=6.5					
NAZ			P	**P**	**19 21 23.3**	**+0.2**
	SNR=6.5					
NAZ			S	**S**	**19 29 51.2**	**+3.5**
NAZ			S	**S**	**19 29 51.2**	**+3.5**
NAZ			S	**S**	**19 29 51.2**	**+3.5**
SHL	**Shillong**	**62.07 143**	P	**P**	**19 21 21.2**	**-2.3**
SHL			IAmb	IAmb	19 21 29.4	
	comp=Z,65nm,1.3s					
SHL	**Shillong**	**62.07 143**	*e*P	**P**	**19 21 21.5**	**-2.0**
SHL			IAmb	IAmb	19 21 29.8	
	comp=Z,65nm,1.3s					
SHL	**Shillong**	**62.07 143**	P	**P**	**19 21 22.4**	**-1.1**
	SNR=26					
SHL	**Shillong**	**62.07 143**	P	**P**	**19 21 21.2**	**-2.3**
SHL			pmax	pmax		
	comp=Z,65nm,1.3s					
VAR	**Varanasi**	**62.08 152**	*e*P	**P**	**19 21 21.5**	**-1.8**
UOSS	**Minazif**	**62.09 180**	P	**P**	**19 21 22.3**	**-1.1**
UOSS			IAmb	IAmb	19 21 32.4	
	comp=Z,48nm,1.4s					
UOSS	**Minazif**	**62.09 180**	IAMs_20	IAMs_20	19 53 18.1	
	comp=Z,4μm,20.0s					
UOSS	**Minazif**	**62.09 180**	*i* P	**P**	**19 21 22.5**	**-0.9**
	SNR=17					
UOSS	**Minazif**	**62.09 180**	P	**P**	**19 21 22.7**	**-0.8**
UOSS			P	**P**	**19 21 22.7**	**-0.8**
UOSS			P	**P**	**19 21 22.7**	**-0.8**
UOSS			S	**S**	**19 29 50.7**	**+2.4**
UOSS			S	**S**	**19 29 50.7**	**+2.4**
UOSS			S	**S**	**19 29 50.7**	**+2.4**
JRN	**Qarnain Island**	**62.10 183**	P	**P**	**19 21 22.5**	**-0.9**
JRN			S	**S**	**19 29 49.7**	**+1.4**
OZNA	**Ozona**	**62.12 338**	P	**P**	**19 21 22.4**	**-1.2**
OZNA			IAmb	IAmb	19 21 24.8	
	comp=Z,92nm,1.0s					
435B	**Jarrell**	**62.19 335**	P	**P**	**19 21 22.9**	**-1.0**
	baz=1.6					
435B			S	**S**	**19 29 50.6**	**+1.3**
	baz=1.6					
HATD	**Hatta, Dubai**	**62.21 180**	*i* P	**P**	**19 21 23.1**	**-1.1**
	SNR=26					
HATD	**Hatta, Dubai**	**62.21 180**	P	**P**	**19 21 24.1**	**-0.2**
	SNR=21					
HATD			P	**P**	**19 21 24.1**	**-0.2**
	SNR=21					
HATD			P	**P**	**19 21 24.1**	**-0.2**
	SNR=21					
HATD			S	**S**	**19 29 52.5**	**+2.7**
HATD			S	**S**	**19 29 52.5**	**+2.7**
HATD			S	**S**	**19 29 52.5**	**+2.7**
FAQ	**Al Faqa, Dubai**	**62.29 181**	*i* P	**P**	**19 21 23.3**	**-1.5**
	SNR=14					
FAQ	**Al Faqa, Dubai**	**62.29 181**	P	**P**	**19 21 23.9**	**-0.9**
FAQ			P	**P**	**19 21 23.9**	**-0.9**
FAQ			S	**S**	**19 29 54.1**	**+3.3**
FAQ			S	**S**	**19 29 54.1**	**+3.3**
SMRA	**Abu-Samra**	**62.31 186**	P	**P**	**19 21 24.3**	**-0.5**
	SNR=11					
SMRA			S	**S**	**19 29 54.1**	**+3.2**
ASHO	**Ashiyiah**	**62.35 180**	*i* P	**P**	**19 21 24.1**	**-1.1**
	SNR=26					
ASHO	**Ashiyiah**	**62.35 180**	P	**P**	**19 21 24.8**	**-0.4**
	SNR=25					
ASHO			P	**P**	**19 21 24.8**	**-0.4**
	SNR=25					
ASHO			S	**S**	**19 29 54.8**	**+3.1**
ASHO			S	**S**	**19 29 54.8**	**+3.1**
JOW	**Kunigami**	**62.40 106**	LR	LR	19 50 26.1	
	comp=Z,4μm,18.4s,baz=48,slow=38					
ASUD	**Al Ashush, Dub**	**62.41 181**	P	**P**	**19 21 25.4**	**-0.2**
ASUD			P	**P**	**19 21 25.4**	**-0.2**
ASUD			P	**P**	**19 21 25.4**	**-0.2**
ASUD			S	**S**	**19 29 55.9**	**+3.6**
ASUD			S	**S**	**19 29 55.9**	**+3.6**
ASUD			S	**S**	**19 29 55.9**	**+3.6**
AJN	**Ajban**	**62.47 181**	P	**P**	**19 21 24.9**	**-1.0**
AJN			P	**P**	**19 21 24.9**	**-1.0**
AJN			S	**S**	**19 29 55.0**	**+2.0**
AJN			S	**S**	**19 29 55.0**	**+2.0**
JCT	**Junction City**	**62.54 337**	P	**P**	**19 21 25.5**	**-0.8**
	baz=1.5,SNR=37					
JCT			S	**S**	**19 29 58.6**	**+4.7**
	baz=1.5					
JCT	**Junction City**	**62.54 337**	P	**P**	**19 21 24.9**	**-1.4**
	baz=1.5,SNR=37					
TNCH	**TengChong**	**62.84 137**	⇓P	**P**	**19 21 29.0**	**+0.4**
TNCH			pP	sP	19 21 32.0	+1.7
TNCH			PcP	**PcP**	**19 22 07.5**	**+0.6**
TNCH			S	**S**	**19 29 56.0**	**-2.0**
TNCH			SS	**SS**	**19 34 02.3**	**-0.1**
TNCH			pmax	pmax		
	comp=Z,110nm,2.3s					
TNCH			pmax	pmax		
	comp=Z,1μm,6.1s					
TNCH			LR	LR		
	comp=Z,3μm,21.2s					
TNCH			LR	LR		
	comp=Z,1μm,17.9s					
TNCH			LR	LR		
	comp=Z,10μm,23.0s					
IMP	**Imphal**	**62.87 141**	*e*P	**P**	**19 21 28.4**	**-0.3**
IMP			IAmb	IAmb	19 21 36.8	
	comp=Z,157nm,1.9s					
SOHO	**SOHO**	**62.90 180**	*i* P	**P**	**19 21 27.2**	**-1.6**
	SNR=19					
SOHO	**SOHO**	**62.90 180**	P	**P**	**19 21 27.6**	**-1.2**
SOHO			P	**P**	**19 21 27.6**	**-1.2**
SOHO			S	**S**	**19 30 00.4**	**+2.0**
SOHO			S	**S**	**19 30 00.4**	**+2.0**
KMI	**Kunming**	**62.91 132**	⇓P	**P**	**19 21 28.5**	**-0.6**
KMI			sP	pwP	19 21 34.0	-1.1
KMI			PP	**PP**	**19 23 51.0**	**+3.9**
KMI			S	**S**	**19 30 00.0**	**+1.0**
KMI			SS	**SS**	**19 34 08.0**	**+4.5**
KMI			pmax	pmax		
	comp=Z,40nm,2.1s					
KMI			pmax	pmax		
	comp=Z,2μm,4.5s					
KMI			LR	LR		
	comp=Z,3μm,17.6s					
KMI			LR	LR		
	comp=Z,3μm,15.1s					
KMI			LR	LR		
	comp=Z,4μm,19.3s					
HKT	**Hockley**	**62.97 333**	IAMs_20	IAMs_20	19 49 06.6	
	comp=Z,9μm,20.0s					
HKT	**Hockley**	**62.97 333**	P	**P**	**19 21 28.1**	**-1.0**
	baz=1.7					
HKT	**Hockley**	**62.97 333**	*i* P	**P**	**19 21 26.7**	**-2.4**
HKT			pmax	pmax		
	comp=Z,97nm,2.6s					
ALNE	**Al Ain**	**62.98 180**	*i* P	**P**	**19 21 28.4**	**-0.9**
	SNR=19					
ALNE	**Al Ain**	**62.98 180**	P	**P**	**19 21 29.1**	**-0.3**
	SNR=14					
ALNE			P	**P**	**19 21 29.1**	**-0.3**
	SNR=14					
ALNE			P	**P**	**19 21 29.1**	**-0.3**
	SNR=14					
ALNE			S	**S**	**19 30 01.9**	**+2.5**
ALNE			S	**S**	**19 30 01.9**	**+2.5**
ALNE			S	**S**	**19 30 01.9**	**+2.5**
GULI	**GuiLin**	**63.06 125**	P	**P**	**19 21 31.8**	**+1.9**
GULI			S	**S**	**19 30 03.0**	**+2.5**
GULI			pmax	pmax		
	comp=Z,30nm,1.8s					
GULI			LR	LR		
	comp=Z,2μm,22.8s					
GULI			LR	LR		
	comp=Z,3μm,17.3s					
GULI			LR	LR		
	comp=Z,4μm,18.4s					
HOQ	**Hoqain**	**63.45 179**	P	**P**	**19 21 32.2**	**-0.3**
	SNR=14					
HOQ			P	**P**	**19 21 32.2**	**-0.3**
	SNR=14					
BIDO	**Bidbid**	**63.51 178**	P	**P**	**19 21 33.4**	**+0.6**
	SNR=19					
ARQ	**Araqi**	**63.69 180**	P	**P**	**19 21 33.6**	**-0.5**
	SNR=13					
ARQ			P	**P**	**19 21 33.6**	**-0.5**
	SNR=13					
ARQ			P	**P**	**19 21 33.6**	**-0.5**
	SNR=13					
ARQ			S	**S**	**19 30 10.5**	**+2.1**
ARQ			S	**S**	**19 30 10.5**	**+2.1**
ARQ			S	**S**	**19 30 10.5**	**+2.1**
TX31	**Lajitas Ar. Si**	**63.75 340**	P	**P**	**19 21 32.7**	**-1.8**
	baz=1.2,SNR=27					
TXAR	**Lajitas Array**	**63.76 340**	P	**P**	**19 21 33.4**	**-1.1**
	comp=Z,26nm,0.9s,baz=20,slow=3.6,SNR=60					
TXAR			LR	LR	19 50 26.3	
	comp=Z,29μm,18.3s,baz=4.0,slow=37					
TXAR			PKP2bc	**P'P'df**	**19 50 32.6**	**+2.0**
	comp=Z,3.0nm,1.0s,baz=182,slow=3.8,SNR=11					
	comp=Z,26nm,0.9s					
QZH	**Quanzhou**	**63.79 116**	P	P	19 21 42.0	+7.3
QZH			S	S	19 30 24.0	+14
QZH			LR	LR		
	comp=N,4μm,12.0s					
QZH			LR	LR		
	comp=E,3μm,11.8s					
QZH			LR	LR		
	comp=Z,4μm,15.5s					
WSAR	**Wadi Sarin**	**63.79 178**	P	**P**	**19 21 34.6**	**-0.1**
	SNR=14					
WSAR			S	**S**	**19 30 12.9**	**+3.3**
WSAR	**Wadi Sarin**	**63.79 178**	LR	LR	19 53 20.4	
	comp=Z,2μm,20.1s,baz=15,slow=40					
TATO	**Taipei**	**63.90 113**	P	**P**	**19 21 36.5**	**+1.1**
SMDO	**Samad**	**63.97 178**	P	**P**	**19 21 35.7**	**-0.4**
	SNR=20					
SMDO			P	**P**	**19 21 35.7**	**-0.4**
	SNR=20					
SMDO			S	**S**	**19 30 15.1**	**+3.1**
SMDO			S	**S**	**19 30 15.1**	**+3.1**
BHPL	**Bhopal**	**64.00 158**	*e*P	**P**	**19 21 35.5**	**-0.7**
MZR	**Muzera**	**64.03 183**	*i* P	**P**	**19 21 34.7**	**-1.6**
	SNR=9.3					
MZR	**Muzera**	**64.03 183**	P	**P**	**19 21 35.8**	**-0.5**
	SNR=9.5					
MZR			P	**P**	**19 21 35.8**	**-0.5**
	SNR=9.5					
MZR			S	**S**	**19 30 16.0**	**+3.4**
MZR			S	**S**	**19 30 16.0**	**+3.4**
YHNB	**Yeheng**	**64.20 114**	IAMs_20	IAMs_20	19 52 22.4	
	comp=Z,4μm,22.0s					
BSY	**Bisya**	**64.28 179**	P	**P**	**19 21 37.4**	**-0.6**
	SNR=20					
BSY			S	**S**	**19 30 18.4**	**+2.7**
DWPF	**Disney Wildern**	**64.37 319**	IAMs_20	IAMs_20	19 48 54.1	
	comp=Z,5μm,19.0s					
WBK	**Wadi Bani Khal**	**64.42 177**	P	**P**	**19 21 38.9**	**0.0**
	SNR=15					
WBK			P	**P**	**19 21 38.9**	**0.0**
	SNR=15					
WBK			S	**S**	**19 30 21.1**	**+3.7**
WBK			S	**S**	**19 30 21.1**	**+3.7**
JMDO	**Jabal Madar**	**64.66 178**	P	**P**	**19 21 40.0**	**-0.5**
	SNR=20					
JMDO			P	**P**	**19 21 40.0**	**-0.5**
	SNR=20					
JMDO			S	**S**	**19 30 23.9**	**+3.6**
JMDO			S	**S**	**19 30 23.9**	**+3.6**
833A	**Chaparral WMA,**	**64.68 336**	P	**P**	**19 21 39.8**	**-0.7**
	baz=1.5,SNR=5.1					
833A			S	**S**	**19 30 22.0**	**+1.6**
	baz=1.5					
833A	**Chaparral WMA,**	**64.68 336**	P	**P**	**19 21 38.8**	**-1.7**
	baz=1.5,SNR=5.1					
NACB	**Ninganchiao**	**64.71 113**	IAMs_20	IAMs_20	19 51 49.7	
	comp=Z,4μm,20.0s					
JLN	**Jalan Bani Buh**	**64.88 177**	P	**P**	**19 21 42.0**	**+0.1**
	SNR=24					
JLN			P	**P**	**19 21 42.0**	**+0.1**
	SNR=24					
JLN			S	**S**	**19 30 27.1**	**+4.1**
JLN			S	**S**	**19 30 27.1**	**+4.1**
BRDH	**Bariadhala**	**64.94 144**	LR	LR	19 53 06.3	
	comp=Z,9μm,18.1s,baz=357,slow=39					
CAL	**Calcutta**	**64.97 147**	*e*P	**P**	**19 21 42.6**	**+0.1**
SSLB	**Suanglung**	**65.06 114**	IAMs_20	IAMs_20	19 53 59.0	
	comp=Z,3μm,18.0s					
SSLB	**Suanglung**	**65.06 114**	P	**P**	**19 21 42.3**	**-0.7**
SAIH	**SAIHA**	**65.17 142**	*e*P	**P**	**19 21 43.0**	**-0.8**
SAIH			IAmb	IAmb	19 21 53.5	
	comp=Z,74nm,1.5s					
GZH	**Guangzhou**	**65.39 122**	P	**P**	**19 21 42.8**	**-2.3**
GZH			S	**S**	**19 30 24.5**	**-4.8**
GZH			pmax	pmax		
	comp=Z,37nm,1.3s					
GZH			pmax	pmax		
	comp=Z,2μm,4.0s					
GZH			LR	LR		
	comp=Z,1μm,10.5s					
GZH			LR	LR		
	comp=Z,900nm,10.9s					
060A	**Indiantown**	**65.40 318**	IAMs_20	IAMs_20	19 51 53.4	
	comp=Z,6μm,19.0s					
YULB	**Yu-li**	**65.47 114**	IAMs_20	IAMs_20	19 53 06.9	
	comp=Z,3μm,18.0s					
TPUB	**Ta-pu**	**65.53 114**	P	**P**	**19 21 45.5**	**-0.5**
TPUB	**Ta-pu**	**65.53 114**	P	**P**	**19 21 45.7**	**-0.4**
MND	**Mandalay**	**65.75 139**	P	**P**	**19 21 46.3**	**-1.2**
SRIG	**Santa Rosalia**	**65.89 349**	P	**P**	**19 21 47.4**	**-0.9**
MHTO	**MHTO**	**66.03 178**	P	**P**	**19 21 48.5**	**-0.8**
	SNR=19					
MHTO			P	**P**	**19 21 48.5**	**-0.8**
	SNR=19					
MHTO			S	**S**	**19 30 41.5**	**+4.4**
MHTO			S	**S**	**19 30 41.5**	**+4.4**
HKPS	**Hong Kong Po S**	**66.23 121**	IAMs_20	IAMs_20	19 53 39.8	
	comp=Z,4μm,18.0s					
AKL	**Akola**	**66.52 159**	*e*P	**P**	**19 21 51.2**	**-1.3**
SLVN	**Son La**	**66.72 131**	IAMs_20	IAMs_20	19 52 54.6	
	comp=Z,4μm,21.0s					
DOK	**Doka**	**68.39 182**	P	**P**	**19 22 04.0**	**-0.3**
	SNR=12					
DOK			P	**P**	**19 22 04.0**	**-0.3**
	SNR=12					
DOK			P	**P**	**19 22 04.0**	**-0.3**
	SNR=12					
SHAO	**Shalim**	**68.98 181**	*i* P	**P**	**19 22 05.8**	**-2.2**
	SNR=8.8					
SHAO	**Shalim**	**68.98 181**	P	**P**	**19 22 06.7**	**-1.3**
SHAO			P	**P**	**19 22 06.7**	**-1.3**
SHAO			P	**P**	**19 22 06.7**	**-1.3**
CHTO	**Chiang Mai**	**69.03 136**	IAMs_20	IAMs_20	19 53 31.4	
	comp=Z,7μm,22.0s					
WHFO	**Wadi Hawf**	**69.09 182**	P	**P**	**19 22 07.5**	**-1.2**
	SNR=6.5					
WHFO			P	**P**	**19 22 07.5**	**-1.2**
	SNR=6.5					
QIZ	**Qiongzhong**	**69.27 125**	P	**P**	**19 22 09.5**	**-0.2**
QIZ			S	**S**	**19 31 18.3**	**+2.3**
QIZ			SS	**SS**	**19 35 43.5**	**+1.5**
QIZ			pmax	pmax		
	comp=Z,31nm,1.9s					
QIZ			pmax	pmax		
	comp=Z,830nm,4.7s					
QIZ			LR	LR		
	comp=Z,2μm,18.1s					
QIZ			LR	LR		
	comp=Z,2μm,15.2s					
QIZ			LR	LR		
	comp=Z,2μm,17.7s					
DMTO	**DMTO**	**69.29 181**	P	**P**	**19 22 08.3**	**-1.6**

DMTO P **P** **19 22 08.3 -1.6**
CM31 Chiang Mai Arr 69.39 137 P **P** **19 22 09.8 -0.8**
SNR=28
CM31 P **P** **19 22 09.8 -0.8**
SNR=28
CMAR Chiang Mai Arr 69.39 137 P **P** **19 22 09.4 -1.1**
CMAR Chiang Mai Arr 69.39 137 P **P** **19 22 09.4 -1.1**
CMAR Chiang Mai Arr 69.39 137 P **P** **19 22 09.2 -1.3**
comp=Z,26nm,0.8s,baz=348,slow=7.1,SNR=132
CMAR PKP2bc **P'P'bc** **19 50 15.6 -3.4**
comp=Z,0.3nm,0.3s,baz=238,slow=6.3,SNR=4.3
comp=Z,26nm,0.8s
RBK Rabkut 69.50 182 P **P** **19 22 10.7 -0.5**
SNR=10
RBK P **P** **19 22 10.7 -0.5**
SNR=10
ABTO Aybut 69.65 183 P **P** **19 22 11.0 -1.2**
SNR=8.9
ABTO P **P** **19 22 11.0 -1.2**
SNR=8.9
HYB Hyderabad 69.82 157 *e*P **P** **19 22 11.6 -1.7**
HYB Hyderabad 69.82 157 *e*P **P** **19 22 13.7 +0.5**
HYB IVmB_BB 19 22 13.7
comp=Z,739nm,2.5s
HYB *e*PcP **PcP** **19 22 36.0 +0.2**
HYB *e*PP **PP** **19 24 48.0 +0.7**
HYB *e*S **S** **19 31 24.1 +1.4**
HYB IVMs_BB IVMs_BB 19 56 53.0
comp=Z,5μm,17.3s
NONG Nongkai 69.94 132 P **P** **19 22 13.4 -0.5**
VJD Vijayawada 70.76 155 *e*P **P** **19 22 17.6 -1.3**
KIP Kipapa 71.29 34 P **P** **19 22 24.0 +1.9**
GTBY Guantanamo Bay 72.27 312 IAMs_20 IAMs_20 19 53 27.2
comp=Z,3μm,20.0s
GTBY Guantanamo Bay 72.27 312 *e*P **P** **19 22 27.1 -0.9**
TEIG Tepich 72.44 325 *e*P **P** **19 22 27.1 -2.0**
TEIG Tepich 72.44 325 LR LR 19 54 28.2
comp=Z,108μm,21.2s,baz=150,slow=36
POHA Pohakuloa 73.02 31 P **P** **19 22 32.1 -0.6**
POHA Pohakuloa 73.02 31 P **P** **19 22 33.6 +0.8**
SDDR Presa de Saban 73.05 308 P **P** **19 22 32.2 -0.5**
SDDR IAmb IAmb 19 22 33.4
comp=Z,65nm,1.2s
SDDR IAMs_20 IAMs_20 19 53 59.7
comp=Z,5μm,20.0s
SDDR Presa de Saban 73.05 308 *e*P **P** **19 22 32.9 +0.2**
MWH Moku'aweowe 73.29 31 IAMs_20 IAMs_20 19 49 03.4
comp=Z,5μm,20.0s
SRDT SRDT 73.48 137 P **P** **19 22 34.6 -0.6**
NAYO Nakonayok 73.59 134 P **P** **19 22 36.5 +0.6**
SMRT St. Maarten 73.60 300 IAMs_20 IAMs_20 19 52 36.1
comp=Z,3μm,20.0s
UNM Universidad Na 73.62 336 IAMs_20 IAMs_20 19 58 44.8
comp=Z,5μm,18.0s
SJG San Juan 73.69 303 P **P** **19 22 35.1 -1.3**
SJG IAmb IAmb 19 22 44.8
comp=Z,58nm,1.3s
SJG San Juan 73.69 303 IAMs_20 IAMs_20 19 55 14.4
comp=Z,4μm,20.0s
SJG San Juan 73.69 303 *e*P **P** **19 22 35.6 -0.8**
SJG San Juan 73.69 303 P **P** **19 22 35.1 -1.3**
SJG pmax pmax
comp=Z,58nm,1.3s
SJG MLR MLR
comp=Z,4μm,20.0s
SJG San Juan 73.69 303 LR LR 19 55 15.9
comp=Z,3μm,19.8s,baz=355,slow=36
MTDJ Mount Denham 74.05 314 IAMs_20 IAMs_20 19 56 23.6
comp=Z,3μm,20.0s
SACV Santiago Islan 74.60 261 P **P** **19 22 42.3 +0.5**
TGY Tagaytay City 74.68 115 LR LR 19 59 27.3
comp=Z,2μm,18.1s,baz=7.5,slow=39
TOA0 Torodi Ar. Sit 75.15 235 P **P** **19 22 44.2 -0.7**
TOA0 IAmb IAmb 19 22 46.1
comp=Z,62nm,1.1s
TOA0 Torodi Ar. Sit 75.15 235 P **P** **19 22 43.9 -1.1**
SNR=21
TOA0 P **P** **19 22 43.9 -1.1**
SNR=21
TORD Torodi Ar. Bea 75.15 235 P **P** **19 22 43.8 -1.2**
TORD IAmb IAmb 19 22 46.1
comp=Z,59nm,1.1s
TORD Torodi Ar. Bea 75.15 235 P **P** **19 22 43.7 -1.2**
comp=Z,41nm,0.9s,baz=5.8,slow=5.7,SNR=111
comp=Z,41nm,0.9s
TEND Ethiopian Broa 75.28 195 *e*P **P** **19 22 46.9 +1.1**
baz=277
TEND *e*S **S** **19 32 32.5 +7.5**
baz=277
TEND Ethiopian Broa 75.28 195 *e*P **P** **19 22 46.4 +0.6**
baz=138
ATD Arta Tunnel 75.52 194 IAMs_20 IAMs_20 20 00 11.5
comp=Z,3μm,20.0s
ATD Arta Tunnel 75.52 194 P **P** **19 22 49.0 +1.8**
ATD Arta Tunnel 75.52 194 LR LR 20 00 33.1
comp=Z,118nm,19.4s,baz=2.0,slow=39
CMIG Matias Romero 75.74 332 LR LR 20 00 40.3
comp=Z,4μm,19.8s,baz=350,slow=39
PBA Port Blair 75.93 143 P **P** **19 22 48.8 -0.6**
GRD1 Great Renaissa 76.04 201 *e*P **P** **19 22 50.0 -0.1**
baz=283
GRD1 *e*S **SKSac** **19 32 51.0 -10**
baz=283
GRD1 Great Renaissa 76.04 201 *e*P **P** **19 22 49.5 -0.7**
baz=144
DLV T Lat 76.24 127 IAMs_20 IAMs_20 19 59 10.6
comp=Z,5μm,19.0s
GUMO Guam 76.45 91 LR LR 19 56 17.3
comp=Z,336nm,21.3s,baz=8.5,slow=36
MPOM Morne Pois Mar 77.08 298 IAMs_20 IAMs_20 19 53 17.0
comp=Z,3μm,22.0s
ESQI Esquipulas 78.10 326 P **P** **19 23 02.1 +0.4**
FURI Furi 78.20 198 *e*P **P** **19 23 04.1 +1.5**
FURI *e*S **SKSac** **19 33 07.5 -10**
FURI Furi 78.20 198 *e*P **P** **19 23 04.2 +1.5**
FURI Furi 78.20 198 *e*P **P** **19 23 04.1 +1.5**
baz=279
FURI *e*S **SKSac** **19 33 07.5 -10**
baz=279
FURI Furi 78.20 198 *e*P **P** **19 23 04.2 +1.5**
baz=140
BBGH Gun Hill 78.31 296 IAMs_20 IAMs_20 19 55 32.7
comp=Z,3μm,20.0s
TGUH Tegucigalpa,Un 78.54 324 IAMs_20 IAMs_20 19 56 04.6
comp=Z,4μm,22.0s
TGUH Tegucigalpa,Un 78.54 324 *e*P **P** **19 23 04.9 +0.7**
MALK Mahakanadarawa 78.83 155 P **P** **19 23 03.1 -2.5**
PRVC Isla de Provid 79.01 318 *e*P **P** **19 23 06.0 -0.7**
SRIT Nakonsritamara 79.21 136 P **P** **19 23 06.9 -0.8**
SRIT IAmb IAmb 19 23 09.4
comp=Z,54nm,1.2s
SRIT IAMs_20 IAMs_20 20 00 01.1
comp=Z,3μm,19.0s
SRIT Nakonsritamara 79.21 136 P **P** **19 23 07.2 -0.5**
GRGR Grenville 79.41 298 *e*P **P** **19 23 06.2 -2.7**
HATO Hato, Curacao 79.70 306 IAMs_20 IAMs_20 19 58 05.8
comp=Z,3μm,19.0s
CRIN San Cristobal 79.88 324 IAMs_20 IAMs_20 19 58 12.5
comp=Z,5μm,20.0s
PALK Pallekele 79.95 155 P **P** **19 23 10.3 -1.5**
PALK Pallekele 79.95 155 P **P** **19 23 11.9 +0.1**
PALK P **P** **19 23 11.9 +0.1**
PALK Pallekele 79.95 155 P **P** **19 23 10.3 -1.5**
PALK pmax pmax
comp=Z,53nm,1.7s
PALK MLR MLR
comp=Z,15μm,19.0s
PALK Pallekele 79.95 155 LR LR 20 03 34.6
comp=Z,15μm,18.1s,baz=97,slow=39
CNGN Cerro Negro 80.07 323 IAMs_20 IAMs_20 19 58 27.3
comp=Z,5μm,21.0s
HMDM Hanimaadhoo 80.30 163 IAMs_20 IAMs_20 20 02 04.9
comp=Z,7μm,21.0s
HMDM Hanimaadhoo 80.30 163 P **P** **19 23 13.6 0.0**
URIC Uribia, Colomb 80.31 309 P **P** **19 23 13.4 -0.3**
URIC IAmb IAmb 19 23 16.7
comp=Z,113nm,1.6s
URIC Uribia, Colomb 80.31 309 *e*P **P** **19 23 13.4 -0.3**
ACON Acoyapa 80.55 322 IAMs_20 IAMs_20 19 57 57.9
comp=Z,6μm,22.0s
ACON Acoyapa 80.55 322 *e*P **P** **19 23 15.0 0.0**
DILA Dilla 80.65 198 *e*P **P** **19 23 16.9 +1.1**
DILA *e*S **S** **19 33 20.2 -3.0**
DILA Dilla 80.65 198 *e*P **P** **19 23 16.7 +0.9**
DILA Dilla 80.65 198 *e*P **P** **19 23 16.9 +1.1**
baz=279
DILA *e*S **S** **19 33 20.2 -3.0**
baz=279
DILA Dilla 80.65 198 *e*P **P** **19 23 16.7 +0.9**
baz=141
SMRC Santa Marta, M 80.93 311 *e*P **P** **19 23 16.0 -1.1**
CRJC Cerrejon, Guaj 81.02 310 *e*P **P** **19 23 17.7 0.0**
PCRV Puerto La Cruz 81.50 301 LR LR 19 56 49.5
comp=Z,3μm,21.9s,slow=34
COVE Coope Vega, Sa 81.76 321 IAMs_20 IAMs_20 19 58 23.0
comp=Z,4μm,22.0s
HZTE Horizontes, Gu 81.81 322 IAMs_20 IAMs_20 19 58 27.4
comp=Z,5μm,21.0s
DBIC Dimbokro 81.88 241 P **P** **19 23 20.7 -1.3**
DBIC IAmb IAmb 19 23 25.5
comp=Z,83nm,1.6s
DBIC Dimbokro 81.88 241 P **P** **19 23 20.9 -1.1**
comp=Z,16nm,0.9s,baz=5.2,slow=6.8,SNR=9.6
DBIC LR LR 19 59 37.1
comp=Z,1μm,20.6s,baz=359,slow=36
comp=Z,16nm,0.9s
DAV Davao City (W) 81.89 110 P **P** **19 23 21.9 -0.3**
DAV Davao City (W) 81.89 110 P **P** **19 23 22.5 +0.4**
DAV P **P** **19 23 22.5 +0.4**
DAV Davao City (W) 81.89 110 LR LR 20 03 28.5
comp=Z,1μm,18.6s,baz=4.5,slow=38
TIC Toumodi 81.91 242⇑ *i*PKP2 **P** **19 23 21.7 -0.6**
comp=Z,6.0nm,0.3s
ORTG Ortega, Santa 82.15 322 IAMs_20 IAMs_20 19 58 37.4
comp=Z,7μm,22.0s
KIC Kosan Boka 82.18 241⇑ *i*PKP2 **P** **19 23 23.4 -0.3**
comp=Z,172nm,1.2s
JTS Las Juntas de 82.20 321 IAMs_20 IAMs_20 19 58 34.8
comp=Z,5μm,22.0s
JTS Las Juntas de 82.20 321 LR LR 19 59 10.5
comp=Z,5μm,22.0s,baz=338,slow=35
ARGC Ariguani, Magd 82.23 311 *e*P **P** **19 23 25.2 +1.3**
SJCC San Jacinto, C 82.23 312 *e*P **P** **19 23 25.0 +1.0**
LL6C La Loma 6 Bece 82.31 310 *e*P **P** **19 23 24.6 +0.2**
LIC Lamto 82.33 242⇑ *e*PKP2 **P** **19 23 22.9 -1.5**
comp=Z,137nm,1.0s
BATAN Batan 82.34 320 IAMs_20 IAMs_20 19 59 06.4
comp=Z,4μm,21.0s
KKM Kota Kinabalu 82.45 120 P **P** **19 23 25.3 +0.1**
KKM IAmb IAmb 19 23 26.3
comp=Z,63nm,1.0s
KKM IAMs_20 IAMs_20 20 01 28.6
comp=Z,3μm,20.0s
KKM Kota Kinabalu 82.45 120 P **P** **19 23 25.3 +0.1**
HDC Heredia 82.46 321 IAMs_20 IAMs_20 19 58 48.6
comp=Z,5μm,21.0s
KULM Kulim 82.53 135 P **P** **19 23 25.2 -0.2**
KULM IAmb IAmb 19 23 32.4
comp=Z,75nm,1.3s
KULM IAMs_20 IAMs_20 20 02 53.1
comp=Z,4μm,19.0s
JACO JACO, Garabito 82.82 321 IAMs_20 IAMs_20 19 59 19.1
comp=Z,4μm,22.0s
BAUV El Baul 82.87 305 P **P** **19 23 27.0 -0.2**
BAUV IAmb IAmb 19 23 29.4
comp=Z,332nm,1.0s
BAUV IAMs_20 IAMs_20 19 58 09.9
comp=Z,6μm,21.0s
SDV Santo Domingo 83.05 307 IAMs_20 IAMs_20 20 00 15.6
comp=Z,3μm,21.0s
SDV Santo Domingo 83.05 307 *e*P **P** **19 23 28.4 0.0**
SDV Santo Domingo 83.05 307 *e*P **P** **19 23 28.4 0.0**
SDV Santo Domingo 83.05 307 LR LR 20 00 27.4
comp=Z,3μm,20.6s,baz=4.5,slow=36
BCIP Isla Barro Col 83.14 316 *e*P **P** **19 23 28.5 -0.1**
SRBA San Rafael, Bu 83.20 320 IAMs_20 IAMs_20 19 59 32.2
comp=Z,6μm,21.0s
LCBC Los crdobas, 83.31 313 *e*P **P** **19 23 31.8 +2.3**
UPA Univ. de Panam 83.31 316 *e*P **P** **19 23 28.1 -1.4**
CAPC Capurgana 83.57 314 *e*P **P** **19 23 29.6 -1.3**
BRU2 Volcan 83.61 319 IAMs_20 IAMs_20 20 01 17.2
comp=Z,4μm,20.0s
EKNA AfricaArray - 83.67 227⇓ *e*P **P** **19 23 32.6 +1.1**
LODK Lodwar 83.70 201 P **P** **19 23 31.6 0.0**
LODK Lodwar 83.70 201 *e*P **P** **19 23 29.9 -1.7**
LODK *e*S **S** **19 33 55.3 +1.1**
LODK IAMs_20 IAMs_20 20 30 14.1
comp=N,1μm,23.6s
LODK Lodwar 83.70 201 *e*P **P** **19 23 29.8 -1.7**
LODK IAMs_20 IAMs_20 20 37 57.0
comp=N,2μm,34.1s
LODK Lodwar 83.70 201 P **P** **19 23 32.1 +0.6**
SNR=14
LODK Lodwar 83.70 201 *e*P **P** **19 23 29.9 -1.7**
baz=281
LODK *e*S **S** **19 33 55.3 +1.1**
baz=281
LODK IAMs_20 IAMs_20 20 30 14.1
comp=N,1μm,23.6s,baz=281
LODK Lodwar 83.70 201 *e*P **P** **19 23 29.8 -1.7**
baz=144
LODK IAMs_20 IAMs_20 20 37 57.0
comp=N,2μm,34.1s,baz=144
RIOS Rincon, Osa 83.73 320 IAMs_20 IAMs_20 19 51 11.3
comp=Z,4μm,19.0s
CDITO Canoas 83.84 319 IAMs_20 IAMs_20 20 02 53.1
comp=Z,3μm,18.0s
APAC Apartado, Choc 84.27 313 *e*P P 19 23 26.0 -8.4
UREC San Jos de Ur 84.38 312 *e*P **P** **19 23 35.2 +0.2**
ZARC Zaragoza, Cauc 84.61 311 *e*P **P** **19 23 36.3 +0.1**
PAMC Pamplona, Colo 84.67 309 *e*P **P** **19 23 36.5 -0.5**
PSI Prapat 84.94 137 P **P** **19 23 36.3 -1.7**
PSI Prapat 84.94 137 P **P** **19 23 36.2 -1.7**
PSI pmax pmax
comp=Z,323nm,1.9s
PSI MLR MLR
comp=Z,2μm,19.0s
BRRC Barranca, Sant 84.94 310 *e*P **P** **19 23 38.2 +0.3**
CACAO El Cacao, Vera 84.98 317 *e*P **P** **19 23 35.8 -2.3**
RPSI Rantau Prapat 85.04 137 P **P** **19 23 36.2 -2.1**
RPSI IAMs_20 IAMs_20 20 06 28.9
comp=Z,3μm,19.0s
DBBC Dabeiba 85.13 313 *e*P **P** **19 23 39.4 +0.5**
BARC Barichara 85.43 310 *e*P **P** **19 23 39.9 -0.7**
TAMC Tame, Arauca 85.53 308 *e*P **P** **19 23 41.0 +0.1**
PTBC PUERTO BERRIO, 85.53 311 *e*P **P** **19 23 40.6 -0.2**
SBUM Sibu 85.83 124 P **P** **19 23 41.8 -0.5**
MDP Montagnes des 85.94 289 LR LR 19 57 25.4
comp=Z,2μm,21.7s,baz=359,slow=32
RUSC La Rusia 86.12 309 *e*P **P** **19 23 44.0 -0.4**
MYKOM Kota Tinggi 86.13 132 IAMs_20 IAMs_20 20 04 48.4
comp=Z,3μm,20.0s
GSI Gunungsitoli 86.37 139 P **P** **19 23 44.1 -0.8**
GSI IAMs_20 IAMs_20 20 07 05.1
comp=Z,2μm,19.0s
GSI Gunungsitoli 86.37 139 P **P** **19 23 44.1 -0.8**
GSI Gunungsitoli 86.37 139 P **P** **19 23 44.1 -0.8**
comp=Z,106nm,1.1s,comp=Z,3μm
SPBC San Pablo de B 86.40 310 *e*P **P** **19 23 45.0 -0.2**
NORC Norcasia 86.52 311 *e*P **P** **19 23 45.7 0.0**
KSM Kuching 86.72 126 P **P** **19 23 45.7 -0.9**
KSM IAmb IAmb 19 23 49.1
comp=Z,61nm,1.5s
KSM IAMs_20 IAMs_20 20 06 02.2
comp=Z,3μm,21.0s
KSM Kuching 86.72 126 P **P** **19 23 46.6 0.0**
GUY2C Guyana, Caldas 86.88 312 *e*P **P** **19 23 48.4 +0.4**
ROSC El Rosal 87.22 311 P **P** **19 23 49.6 +0.1**
ROSC IAMs_20 IAMs_20 20 04 42.4
comp=Z,3μm,20.0s
ROSC El Rosal 87.22 311 *e*P **P** **19 23 50.5 +0.9**
ROSC El Rosal 87.22 311 P **P** **19 23 50.2 +0.6**
comp=Z,104nm,0.9s,baz=358,slow=5.1,SNR=27
ROSC LR LR 20 05 02.5
comp=Z,2μm,19.3s,baz=7.0,slow=37
comp=Z,104nm,0.9s
PLMC San Jos del P 87.23 313 *e*P **P** **19 23 49.6 +0.3**
CHIC Chingaza 87.40 310 *e*P **P** **19 23 49.8 -0.7**
BKNI Bangkinang 87.47 135 IAMs_20 IAMs_20 20 06 06.0
comp=Z,4μm,18.0s
BKNI Bangkinang 87.47 135 P **P** **19 23 46.0 -4.3**
TOLI2 Tolitoli 87.56 115 P **P** **19 23 49.3 -1.4**
TOLI2 Tolitoli 87.56 115 P **P** **19 23 49.5 -1.2**
ANIL Santa Ana 87.61 312 *e*P **P** **19 23 51.0 -0.3**
PTGC Puerto Gaitan, 87.76 308 *e*P **P** **19 23 50.0 -1.7**
MBAR Mbarara 87.79 205 P **P** **19 23 51.9 -0.1**
MBAR Mbarara 87.79 205 *e*P **P** **19 23 50.4 -1.7**
MBAR *e*S **SKSac** **19 34 13.6 -6.7**
MBAR Mbarara 87.79 205 *e*P **P** **19 23 50.3 -1.7**
MBAR Mbarara 87.79 205 P **P** **19 23 52.6 +0.6**
MBAR P **P** **19 23 52.6 +0.6**
MBAR Mbarara 87.79 205 P **P** **19 23 51.9 -0.1**
MBAR pmax pmax
comp=Z,23nm,1.3s
MBAR MLR MLR
comp=Z,1μm,19.0s
MBAR Mbarara 87.79 205 LR LR 20 09 33.7
comp=Z,795nm,18.9s,baz=348,slow=40
MBAR Mbarara 87.79 205 *e*P **P** **19 23 50.4 -1.7**
baz=285
MBAR *e*S **SKSac** **19 34 13.6 -6.7**
baz=285
MBAR Mbarara 87.79 205 *e*P **P** **19 23 50.3 -1.7**
baz=148
VILC Villavicencio, 87.91 310 *e*P **P** **19 23 52.6 0.0**
YOTC Yotoco, Valle 88.15 313 *e*P **P** **19 23 52.6 -1.1**
STKI Sintang 88.16 125 P **P** **19 23 53.5 -0.1**
comp=Z,37nm,2.0s,comp=Z,13μm
ORTC Ortega, Tolima 88.18 312 *e*P **P** **19 23 52.8 -0.9**
KMBO Kilima Mbogo 88.18 199 P **P** **19 23 54.6 +0.7**
KMBO Kilima Mbogo 88.18 199 *i* P **P** **19 23 53.6 -0.4**
SNR=10
KMBO Kilima Mbogo 88.18 199 *e*P **P** **19 23 54.4 +0.4**
KMBO *e*S SKSac 19 34 01.2 -22
KMBO IAMs_20 IAMs_20 19 34 46.5
comp=Z,2μm,11.3s
KMBO Kilima Mbogo 88.18 199 *e*P **P** **19 23 53.4 -0.6**
KMBO IAMs_20 IAMs_20 20 06 58.5
comp=Z,2μm,19.1s
KMBO Kilima Mbogo 88.18 199 P **P** **19 23 55.0 +1.0**
KMBO Kilima Mbogo 88.18 199 P **P** **19 23 54.7 +0.7**
KMBO pmax pmax
comp=Z,121nm,2.0s
KMBO MLR MLR
comp=Z,1μm,19.0s
KMBO Kilima Mbogo 88.18 199 *e*P **P** **19 23 54.4 +0.4**
baz=279
KMBO *e*S SKSac 19 34 01.2 -22
baz=279
KMBO IAMs_20 IAMs_20 19 34 46.5
comp=Z,2μm,11.3s,baz=279
KMBO Kilima Mbogo 88.18 199 *e*P **P** **19 23 53.4 -0.6**
baz=142
KMBO IAMs_20 IAMs_20 20 06 58.5
comp=Z,2μm,19.1s,baz=142
TNTI Ternate 88.23 109 P **P** **19 23 53.1 -0.8**
TNTI IAmb IAmb 19 23 53.9
comp=Z,59nm,1.4s
MRSI Marisa 88.25 114 P **P** **19 23 52.0 -2.0**
comp=Z,45nm,1.1s,comp=Z,1μm
KMSI Cibinong 88.25 112 P **P** **19 23 52.7 -1.3**
comp=Z,49nm,1.2s,comp=Z,890nm
MPSI Mapaga 88.29 116 P **P** **19 23 52.7 -1.5**
comp=Z,21nm,1.3s,comp=Z,624nm
PRAC Prado 88.36 311 P **P** **19 23 54.1 -0.4**
PRAC Prado 88.36 311 *e*P **P** **19 23 54.2 -0.4**
JAMC Jamundi, Valle 88.92 313 *e*P **P** **19 23 54.2 -3.3**
BOAV Boa Vista 89.02 297 P **P** **19 23 56.4 -1.2**
BOAV IAmb IAmb 19 23 59.2
comp=Z,40nm,1.3s
BOAV Boa Vista 89.02 297 *e*P P 19 23 44.9 -13
BOAV Boa Vista 89.02 297 *e*P **P** **19 23 56.6 -1.1**
KIBK Kibwezi 89.37 198 P **P** **19 23 59.3 -0.1**
KIBK Kibwezi 89.37 198 P **P** **19 23 60.0 +0.6**
KIBK Kibwezi 89.37 198 P **P** **19 23 57.4 -2.0**
BETC Betania 89.41 312 *e*P **P** **19 23 59.1 -0.4**
POPC Popayan, Colom 89.59 313 *e*P **P** **19 23 59.4 -1.2**
GARC Garzon, Huila 89.90 312 *e*P **P** **19 24 00.4 -1.7**
SWI Sorong 90.05 105 P **P** **19 24 01.7 -0.8**
comp=Z,40nm,1.2s,comp=Z,1μm
BBAC Balboa, Cauca 90.13 313 *e*P **P** **19 24 02.2 -0.9**
FLOC Florencia 90.50 312 *e*P **P** **19 24 04.0 -0.6**
PMBI Palembang 90.85 132 IAMs_20 IAMs_20 20 08 45.8
comp=Z,3μm,19.0s
GCUF Volcan Galeras 90.92 314 *e*P P 19 23 49.5 -18
SANI Sanana 90.96 110 P **P** **19 24 03.9 -2.8**
MCPB Macapa, AP 91.33 288 *e*P **P** **19 24 08.6 +0.2**
TULM Tulcn-Chalpat 91.45 314 IAMs_20 IAMs_20 20 07 56.8
comp=Z,2μm,20.0s
TULM Tulcn-Chalpat 91.45 314 *e*P **P** **19 24 09.8 +0.2**
MSEY Mahe Island 91.53 181 IAMs_20 IAMs_20 20 08 19.5
comp=Z,2μm,22.0s
MSEY Mahe Island 91.53 181 P **P** **19 24 09.5 +0.2**
BONI La Bonita 91.70 314 *e*P **P** **19 24 11.0 +0.5**
SGCB S£o Gabriel d 91.83 303 *e*P **P** **19 24 09.6 -1.1**
PTLC Puerto Leguiza 91.87 311 *e*P **P** **19 24 11.8 +0.9**
CUSE Cuicocha Este 91.88 315 *e*P **P** **19 24 09.7 -1.8**
IMBA Imbabura, San 91.90 314 IAMs_20 IAMs_20 20 06 51.8
comp=Z,2μm,22.0s
OTAV Otavalo 91.95 315 IAMs_20 IAMs_20 20 06 50.1
comp=Z,3μm,20.0s
OTAV Otavalo 91.95 315 *e*P **P** **19 24 11.5 -0.4**
OTAV Otavalo 91.95 315 *e*P **P** **19 24 11.8 -0.1**
MNAI Manna 92.20 133 IAMs_20 IAMs_20 20 09 29.3
comp=Z,3μm,20.0s
MALB Monte Alegre 92.92 290 *e*P **P** **19 24 14.8 -1.0**
TMAB Tom-Au,PA,Br 93.12 284 *e*P **P** **19 24 18.1 +1.4**
PIAT Ana Tenorio 93.17 314 *e*P **P** **19 24 16.9 -0.5**
PAYG Puerto Ayora 93.26 326 IAMs_20 IAMs_20 20 09 14.2
comp=Z,3μm,19.0s
ROSB Rosrio 93.43 280 *e*P **P** **19 24 17.8 -0.2**
KAPI Kappang 93.59 117 P **P** **19 24 17.7 -1.1**
KAPI Kappang 93.59 117 P **P** **19 24 17.0 -1.8**
KAPI Kappang 93.59 117 LR LR 20 09 27.3
comp=Z,617nm,19.7s,baz=328,slow=38
BNDI Bandanaira 93.61 107 P **P** **19 24 18.1 -0.8**
BNDI Bandanaira 93.61 107 P **P** **19 24 17.3 -1.6**
comp=Z,59nm,1.4s,comp=Z,2μm
CHSH Refugio Sur-Vo 93.68 315 IAMs_20 IAMs_20 20 06 04.1
comp=Z,2μm,22.0s
BBSI Bau Bau 94.20 114 P **P** **19 24 20.7 -0.9**
comp=Z,17nm,1.1s
DGAR Diego Garcia 94.38 164 IAMs_20 IAMs_20 20 09 35.5
comp=Z,4μm,20.0s
SALI Salinas 94.45 317 IAMs_20 IAMs_20 20 07 23.4
comp=Z,3μm,19.0s
MACA Manacapuru-AM 94.54 297 IAMs_20 IAMs_20 20 06 00.4
comp=Z,2μm,20.0s
MACA Manacapuru-AM 94.54 297 *e*P **P** **19 24 22.8 -0.4**
TABU Tabubil 94.96 95 P **P** **19 24 24.8 -0.3**
TEFE Tefe 95.08 301 *e*P **P** **19 24 26.3 +0.7**
KPJI Karang Pucung 95.39 128 P **P** **19 24 27.0 0.0**
comp=Z,34nm,1.6s
ITTB Itaituba 95.49 292 *e*P **P** **19 24 26.9 -0.7**
ARNL Arenillas 95.77 316 IAMs_20 IAMs_20 20 06 44.3
comp=Z,3μm,22.0s
RCBR Riachuelo 95.89 272 *e*P **P** **19 24 29.6 +0.2**
RCBR Riachuelo 95.89 272 LR LR 20 00 24.4
comp=Z,674nm,20.6s,baz=338,slow=31
TBTG Tabatinga, AM 95.99 306 *e*P **P** **19 24 31.1 +1.3**
PRPB Parauapebas 96.98 286 *e*P **P** **19 24 34.1 -0.3**
NPGB Novo Progresso 98.13 291 *e*P **P** **19 24 39.1 -0.4**
BATI Baumata 98.94 113 P Pdif 19 24 41.0 -2.1
ATAH Atahualpa 99.27 314 LR LR 20 09 55.5
comp=Z,2μm,21.7s,baz=360,slow=36
PMG Port Moresby 99.38 90 LR LR 20 08 19.5
comp=Z,454nm,21.8s,baz=356,slow=35
HNR Honiara 100.09 77 IAMs_20 IAMs_20 20 07 32.6
comp=Z,2μm,21.0s
SAML Samuel 100.41 299 IAMs_20 IAMs_20 20 10 24.8
comp=Z,2μm,22.0s
ETMB Extrema 101.41 302 *e*P **Pdif** **19 24 52.9 -1.1**
TAOE Nuku Hiva Isla 101.78 17 *e*S **Sdif** **19 36 35.5 -1.9**
comp=Z,895nm,25.1s
TAOE *e*SS **SS** **19 43 49.7 +10**
comp=Z,805nm,26.4s
TAOE Nuku Hiva Isla 101.78 17 *e*LR LR 19 58 02.4
comp=Z,3μm,24.0s
LSZ Lusaka 102.43 208 IAMs_20 IAMs_20 20 16 30.0
comp=Z,2μm,22.0s
LSZ Lusaka 102.43 208 P **Pdif** **19 24 59.8 +1.1**
ABPO Ambohimpanom 105.83 189 IAMs_20 IAMs_20 20 17 14.0
comp=Z,2μm,20.0s
TSUM Tsumeb 106.64 218 IAMs_20 IAMs_20 20 14 50.6
comp=Z,2μm,22.0s
PTLB Pontes e Lacer 106.66 295 IAMs_20 IAMs_20 20 10 23.5
comp=Z,2μm,21.0s
LPAZ La Paz 107.92 304 IAMs_20 IAMs_20 20 16 35.7
comp=Z,2μm,22.0s
VOI Vohitsoka 108.71 189 IAMs_20 IAMs_20 20 18 06.3
comp=Z,2μm,21.0s
WRA Warramunga Arr 109.15 103 Pdiff **Pdif** **19 25 27.3 -1.1**
comp=Z,0.5nm,0.7s,baz=3.2,slow=4.9,SNR=4.1
WRA PP **PP** **19 29 58.4 -2.5**
comp=Z,0.6nm,1.0s,baz=2.9,slow=6.7,SNR=4.7
WRA PKKPbc **PKKPbc** **19 40 37.5 +1.9**

comp=Z,4.3nm,1.0s,baz=189,slow=3.0,SNR=16
WB1 Warramunga Ar. 109.17 103 IAMs_20 IAMs_20 20 11 02.2
comp=Z,2μm,22.0s
MSVF Nonsavu 109.24 59 IAMs_20 IAMs_20 20 09 25.0
comp=Z,2μm,21.0s
PB18 Visviri 109.27 305 IAMs_20 IAMs_20 20 25 34.7
comp=Z,1μm,20.0s
WIN Windhoek 110.00 218 IAMs_20 IAMs_20 20 17 12.4
comp=Z,2μm,22.0s
AP01 Chacalluta 110.09 306 IAMs_20 IAMs_20 20 23 20.3
comp=Z,2μm,20.0s
PPT2 Papeete2 110.27 26 *e*SS SS 19 45 30.6 -5.1
comp=Z,2μm,27.0s
PPT2 Papeete2 110.27 26 *e*LR LR 20 02 05.7
PB12 IPOC Station P 110.33 306 IAMs_20 IAMs_20 20 23 14.7
comp=Z,1μm,20.0s
GO01 Chusmiza 111.33 304 IAMs_20 IAMs_20 20 18 44.0
comp=Z,2μm,19.0s
KOUNC Koumac, New Ca 111.36 73 IAMs_20 IAMs_20 20 14 38.8
comp=Z,2μm,21.0s
FOMA Nahampoana Res 111.76 189 IAMs_20 IAMs_20 20 24 05.2
comp=Z,3μm,19.0s
PB08 IPOC Station P 111.80 304 IAMs_20 IAMs_20 20 20 30.4
comp=Z,2μm,20.0s
TA02 Huaiquique 111.97 305 IAMs_20 IAMs_20 20 19 33.0
comp=Z,1μm,18.0s
PATCX Punta Patache 112.52 305 IAMs_20 IAMs_20 20 16 29.5
comp=Z,2μm,20.0s
ASAR Alice Springs 112.83 104 Pdiff **Pdif 19 25 48.5 +3.9**
comp=Z,0.5nm,0.9s,baz=359,slow=4.6,SNR=4.2
ASAR PKiKP **PKiKP 19 29 37.0 -2.1**
comp=Z,1.6nm,1.0s,baz=351,slow=2.2,SNR=6.8
ASAR PKKPbc **PKKPbc 19 40 25.9 +2.2**
comp=Z,1.5nm,0.9s,baz=174,slow=3.1,SNR=8.8
DZM Mont Dzumac 112.98 71 *e*SS SS 19 46 26.3 +14
comp=Z,530nm,31.2s
DZM Mont Dzumac 112.98 71 *e*LR LR 20 03 28.1
comp=Z,2μm,22.1s
DZM Mont Dzumac 112.98 71 IAMs_20 IAMs_20 20 13 37.8
comp=Z,1μm,21.0s
OUENC Ouen Island, N 113.35 71 IAMs_20 IAMs_20 20 13 48.5
comp=Z,1μm,20.0s
SPB Sao Paulo 114.15 282 IAMs_20 IAMs_20 20 28 49.1
comp=Z,1μm,21.0s
LVC Limon Verde 114.24 304 IAMs_20 IAMs_20 20 20 59.2
comp=Z,2μm,21.0s
PB06 IPOC Station P 114.36 305 IAMs_20 IAMs_20 20 18 11.5
comp=Z,1μm,21.0s
AF01 San Pedro de A 114.55 303 IAMs_20 IAMs_20 20 24 31.2
comp=Z,1μm,18.0s
PB14 IPOC Station P 116.31 305 IAMs_20 IAMs_20 20 21 30.0
comp=Z,1μm,20.0s
GO02 Mina Guanaco 116.81 305 IAMs_20 IAMs_20 20 23 30.2
comp=Z,1μm,20.0s
CPUP Villa Florida 117.38 292 IAMs_20 IAMs_20 20 16 08.0
comp=Z,2μm,22.0s
AC01 Pan de Azucar 117.83 306 IAMs_20 IAMs_20 20 23 43.4
comp=Z,2μm,21.0s
GO03 Copiap 119.25 305 IAMs_20 IAMs_20 20 24 34.0
comp=Z,1μm,18.0s
SUR Sutherland 119.66 214 IAMs_20 IAMs_20 20 26 35.1
comp=Z,3μm,20.0s
AC05 El Transito 120.49 305 IAMs_20 IAMs_20 20 27 02.8
comp=Z,2μm,20.0s
ARMA Armidale 120.50 86 IAMs_20 IAMs_20 20 19 37.6
comp=Z,1μm,22.0s
ITQB Itaqui 120.67 291 IAMs_20 IAMs_20 20 22 57.9
comp=Z,2μm,22.0s
LCO Las Campanas 120.69 305 IAMs_20 IAMs_20 20 26 02.9
comp=Z,2μm,20.0s
CMSA Cobar Meteorol 121.29 92 P **PKPdf 19 29 54.1 -1.0**
STKA Stephens Creek 121.40 97 PKP **PKPdf 19 29 53.1 -2.2**
comp=Z,0.9nm,0.2s,baz=336,slow=10.0,SNR=5.4
CO05 La Serena 121.61 306 IAMs_20 IAMs_20 20 25 46.5
comp=Z,2μm,19.0s
CO01 Juntas del Tor 121.62 305 IAMs_20 IAMs_20 20 26 27.7
comp=Z,2μm,20.0s
GO04 Tololo Observa 121.84 306 IAMs_20 IAMs_20 20 25 07.7
comp=Z,2μm,20.0s
CO03 El Pedregal 122.50 305 IAMs_20 IAMs_20 20 26 26.1
comp=Z,2μm,20.0s
ZON Zonda 123.12 303 IAMs_20 IAMs_20 20 26 13.3
comp=Z,2μm,21.0s
VA03 San Esteban 124.41 305 IAMs_20 IAMs_20 20 23 11.7
comp=Z,2μm,22.0s
PEL Peldehue 124.80 305 IAMs_20 IAMs_20 20 27 08.8
comp=Z,2μm,21.0s
MT02 Curacav 124.93 306 IAMs_20 IAMs_20 20 27 13.4
comp=Z,2μm,21.0s
MT05 Renca 125.05 305 IAMs_20 IAMs_20 20 27 23.5
comp=Z,2μm,21.0s
MT03 Universidad Ad 125.14 305 IAMs_20 IAMs_20 20 27 39.9
comp=Z,2μm,20.0s
CAN Canberra 125.23 89 IAMs_20 IAMs_20 20 20 22.9
comp=Z,1μm,20.0s
VA05 Santo Domingo 125.35 306 IAMs_20 IAMs_20 20 26 25.5
comp=Z,2μm,20.0s
MT13 San Alfonso 125.38 305 IAMs_20 IAMs_20 20 27 46.2
comp=Z,2μm,19.0s
MT09 Talagante 125.44 305 IAMs_20 IAMs_20 20 26 57.9
comp=Z,1μm,19.0s
MT01 Popeta 125.54 306 IAMs_20 IAMs_20 20 27 46.5
comp=Z,2μm,20.0s
BO04 La Punta 125.64 305 IAMs_20 IAMs_20 20 27 31.0
comp=Z,2μm,20.0s
BO01 Tunca 126.06 306 IAMs_20 IAMs_20 20 27 11.2
comp=Z,2μm,20.0s
OUZ Omahuta 126.42 65 IAMs_20 IAMs_20 20 18 29.7
comp=Z,1μm,22.0s
BO02 Sierra Bellavi 126.44 305 IAMs_20 IAMs_20 20 26 01.4
comp=Z,2μm,22.0s
GO05 Huala 126.71 306 IAMs_20 IAMs_20 20 29 00.6
comp=Z,1μm,20.0s
ML02 Panimavida 127.44 306 IAMs_20 IAMs_20 20 26 44.8
comp=Z,2μm,21.0s
MXZ Matakaoa Point 128.98 60 IAMs_20 IAMs_20 20 20 20.5
comp=Z,2μm,22.0s
GO06 Curarrehue 131.25 306 IAMs_20 IAMs_20 20 30 04.8
comp=Z,2μm,19.0s
QRZ Quartz Range 131.95 66 IAMs_20 IAMs_20 20 28 59.6
comp=Z,1μm,20.0s
BFZ Birch Farm 131.99 62 IAMs_20 IAMs_20 20 23 18.5
comp=Z,1μm,21.0s
PLCA Paso Flores 132.35 305 *e*P **PKPdf 19 30 16.4 +0.5**
PLCA Paso Flores 132.35 305 PKP **PKPdf 19 30 15.6 -0.4**
comp=Z,29nm,1.0s,baz=344,slow=2.0,SNR=16
NNZ Nelson 132.39 65 IAMs_20 IAMs_20 20 28 55.0
comp=Z,1μm,18.0s
BHW Baring Head 132.65 64 IAMs_20 IAMs_20 20 24 27.0
comp=Z,1μm,21.0s
THZ Tophouse 132.91 66 IAMs_20 IAMs_20 20 30 14.8
comp=Z,1μm,20.0s
KHZ Kahutara 133.59 65 IAMs_20 IAMs_20 20 30 15.9
comp=Z,1μm,20.0s
INZ Inchbonnie 133.79 67 IAMs_20 IAMs_20 20 23 55.3
comp=Z,2μm,21.0s
LTZ Lake Taylor 133.89 67 IAMs_20 IAMs_20 20 30 47.9
comp=Z,1μm,20.0s
LL01 San Ignacio de 134.08 306 IAMs_20 IAMs_20 20 20 17.7
comp=Z,2μm,21.0s
GVZ Greta Valley S 134.11 66 IAMs_20 IAMs_20 20 19 40.8
comp=Z,1μm,21.0s
RPZ Rata Peaks 134.76 68 IAMs_20 IAMs_20 20 25 07.9
comp=Z,2μm,21.0s
MQZ McQueen's Vall 134.83 66 IAMs_20 IAMs_20 20 20 27.8
comp=Z,1μm,22.0s
LBZ Lake Benmore 135.39 69 IAMs_20 IAMs_20 20 27 09.2
comp=Z,1μm,22.0s
WKZ Wanaka 135.77 70 IAMs_20 IAMs_20 20 28 58.5
comp=Z,1μm,20.0s
MLZ Mavora Lakes 136.26 71 IAMs_20 IAMs_20 20 26 26.5
comp=Z,1μm,20.0s
PYZ Puysegur Point 136.98 73 IAMs_20 IAMs_20 20 24 33.7
comp=Z,1μm,22.0s
EFI East Falkland 142.68 291 IAMs_20 IAMs_20 20 38 52.7
comp=Z,1μm,20.0s
CASY Casey 154.21 131 IAMs_20 IAMs_20 20 41 00.1
comp=Z,2μm,20.0s
MAW Mawson 154.38 174 PKPbc **PKPbc 19 31 00.7 -0.4**
comp=Z,10nm,0.8s,baz=328,slow=3.6,SNR=27
MAW PKPab **PKPab 19 31 14.6 -1.0**
comp=Z,11nm,0.9s,baz=5.6,slow=5.1,SNR=8.2
PMSA Palmer Station 156.05 294 IAMs_20 IAMs_20 20 38 40.2
comp=Z,1μm,22.0s
PMSA Palmer Station 156.05 294 *e*P **PKPdf 19 30 56.4 +1.2**
NVL N'lazarevskaya 158.32 219 *e*PKIKP **PKPdf 19 30 53.2 -4.7**
VNA1 Neumayer--Stat 159.01 237 ⫬PKPab **PKPab 19 31 36.5 +1.0**
comp=Z,16nm,0.9s
ELIB Princess Elisa 159.16 208 *d*PKP **PKPab 19 31 36.4 0.0**
VNA2 Neumayer--Watz 159.24 236 ⫬PKPab **PKPab 19 31 37.0 +0.4**
comp=Z,8.4nm,0.8s,baz=9.0,slow=4.0
VNA3 Neumayer Olymp 159.66 238 ⫬PKPab **PKPab 19 31 38.6 +0.1**
comp=Z,15nm,0.9s
TROLL Troll, Antarti 159.90 227 ⫬PKPab **PKPab 19 31 40.3 +0.7**
comp=Z,753nm,0.8s
VNDA Vanda 167.90 88 PKPab **PKPab 19 32 13.9 -0.6**
comp=Z,3.9nm,1.0s,baz=345,slow=3.1,SNR=10
VNDA PP **PP 19 36 02.4 -1.9**
comp=Z,1.1nm,1.2s,baz=319,slow=6.8,SNR=3.6
QSPA South Pole Qui 176.89 179 PKPab **PKPab 19 32 52.2 -2.6**
comp=Z,4.7nm,1.0s,baz=264,slow=1.2,SNR=6.5
QSPA PP **PP 19 36 48.5 -0.4**
comp=Z,3.7nm,1.1s,baz=244,slow=2.5,SNR=7.6

---

*SFS **28** 19:31:44.1, 37°.14N×2°.30W, h0km, ML1.7/5, ML1.8/5, MLv1.7/5*
MDD 28 19:31:43.4±2.5, 36°.93N×2°.14W, h21km±7km, mb_Lg1.7/2, Error ellipse: s-maj=27.0km s-min=6.4km az=143.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.07**	**308**	Pg	Pb	19 31 47.8	+0.5
ENIJ				Sg	Sb	19 31 49.2	-0.8
ENIJ				*i* Vmb_Lg		19 31 49.7	
EBER	**Berja**	**0.60**	**267**	Pg	Pb	19 31 54.3	-1.1
EBER				Sg	Sb	19 32 03.2	-0.4
EBER				*i* Vmb_Lg		19 32 04.5	
EBER	**Berja**	**0.60**	**267**	Pg	Pb	19 31 54.4	-1.0
EBER				Sg	Sb	19 32 00.6	-3.1
EQTA	**Presa de Quent**	**1.08**	**285**	Sg	Sb	19 32 12.6	-4.5
EQTA				Pg	Pn	19 32 00.8	-2.6
EMUR	**La Murta**	**1.16**	**38**	Pn	Pb	19 32 04.8	+0.1
ELGU	**Los Guajares,**	**1.20**	**268**	Pn	Pb	19 32 06.1	+0.7
ELGU				Sn	Sn	19 32 20.6	0.0

---

*IGIL **28** 19:32:04.0, 37°.91N×12°.06W, h31km, ML2.2*
*MDD **28** 19:32:04.6±1.0, 38°.02N×11°.60W, h0km, mb_Lg2.7/10, Error ellipse: s-maj=7.9km s-min=5.3km az=61.0*
*INMG **28** 19:32:06.1±1.1, 37°.90N×12°.06W, h32km, ML2.1, Error ellipse: s-maj=5.2km s-min=3.5km az=69.0*
*CNRM **28** 19:32:12.7, 37°.25N×11°.40W, h88km, ml2.2*
ISC 28 19:32:03.5±3.0, 37°.98N±0°.06×11°.9W±0°.2, h35km, n51, σ1§45/82, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**2.26**	**64**	Sn	**Sn**	**19 33 06.2**	**+1.2**
PMAFR				Pn	**Pn**	**19 32 39.3**	**+0.9**
PACT	**Alcochete**	**2.52**	**71**	*e*P	**Pn**	**19 32 43.7**	**+1.8**
PACT				*e*S	**Sn**	**19 33 13.4**	**+2.0**
PACT				A	A	19 33 14.6	
7.2nm,0.3s							
PTEO	**Sao Teotonio**	**2.54**	**99**	*e*P	**Pn**	**19 32 43.9**	**+1.7**
PTEO				*e*S	**Sn**	**19 33 10.9**	**-1.0**
PTEO				A	A	19 33 11.8	
5.4nm,0.3s							
PFVI	**Vila Bisbo**	**2.57**	**108**	*e*P	**Pn**	**19 32 43.2**	**+0.6**
PFVI				*e*S	**Sn**	**19 33 11.2**	**-1.4**
PFVI				A	A	19 33 17.1	
4.2nm,0.3s							
PFVI	**Vila Bisbo**	**2.57**	**108**	P	**Pn**	**19 32 44.3**	**+1.7**
PFVI				S	**Sn**	**19 33 11.8**	**-0.9**
PFVI	**Vila Bisbo**	**2.57**	**108**	Sn	**Sn**	**19 33 10.0**	**-2.6**
PFVI				Pn	**Pn**	**19 32 43.2**	**+0.6**
MORF	**Marmelete**	**2.65**	**104**	*e*P	**Pn**	**19 32 44.5**	**+0.7**
MORF				*e*S	**Sn**	**19 33 13.6**	**-1.1**
MORF				A	A	19 33 14.7	
6.5nm,0.2s							
MORF	**Marmelete**	**2.65**	**104**	*e*P	**Pn**	**19 32 44.5**	**+0.7**
MORF				*e*S	**Sn**	**19 33 13.6**	**-1.1**
MORF				IAML		19 33 14.8	
comp=E,9.6nm,0.2s							
PNCL	**Nicolau / Gran**	**2.65**	**86**	Sn	**Sn**	**19 33 13.6**	**-1.0**
PNCL				Pn	**Pn**	**19 32 44.7**	**+1.0**
PSBE	**So Bento**	**2.86**	**57**	*e*P	**Pn**	**19 32 48.5**	**+1.9**
PSBE				*e*S	**Sn**	**19 33 20.1**	**+0.2**
PCVE	**Castro Verde**	**3.06**	**95**	*e*P	**Pn**	**19 32 51.2**	**+1.8**
PCVE				*e*S	**Sn**	**19 33 24.7**	**-0.1**
PCVE				A	A	19 33 27.1	
comp=E,2.5nm,0.1s							
PCVE	**Castro Verde**	**3.06**	**95**	Pn	**Pn**	**19 32 50.9**	**+1.5**
PMTG	**Montargil**	**3.07**	**68**	*e*P	**Pn**	**19 32 50.4**	**+0.9**
PMTG				*e*S	**Sn**	**19 33 24.9**	**0.0**
PMTG				A	A	19 33 29.8	
comp=E,2.8nm,0.6s							
EVO	**Evora**	**3.10**	**78**	*e*P	**Pn**	**19 32 51.3**	**+1.5**
EVO				*e*S	**Sn**	**19 33 24.8**	**-0.8**
EVO				A	A	19 33 28.8	
comp=E,6.0nm,0.1s							
EVO	**Evora**	**3.10**	**78**	Sn	**Sn**	**19 33 24.6**	**-1.0**
EVO				Pn	**Pn**	**19 32 50.7**	**+0.9**
PBEJ	**Beja**	**3.17**	**88**	*e*S	**Sn**	**19 33 26.9**	**-0.6**
PBEJ				A	A	19 33 29.8	
comp=E,2.8nm,0.2s							
PBDV	**Barranco-do-Ve**	**3.22**	**102**	*e*P	**Pn**	**19 32 53.5**	**+1.9**
PBDV				*e*S	**Sn**	**19 33 27.6**	**-1.2**
PBDV				A	A	19 33 29.7	
comp=E,2.7nm,0.6s							
PVAQ	**Vaqueiros**	**3.35**	**99**	*e*P	**Pn**	**19 32 55.0**	**+1.6**
PVAQ				*e*S	**Sn**	**19 33 31.0**	**-0.9**
PVAQ				A	A	19 33 34.1	
comp=E,4.0nm,0.3s							
PVAQ	**Vaqueiros**	**3.35**	**99**	P	**Pn**	**19 32 56.6**	**+3.3**
PVAQ				S	**Sn**	**19 33 32.7**	**+0.7**
PVAQ	**Vaqueiros**	**3.35**	**99**	Pn	**Pn**	**19 32 54.9**	**+1.6**
PCAS	**Casmilo, Conde**	**3.35**	**51**	*e*P	**Pn**	**19 32 54.3**	**+0.9**
PCAS				*e*S	**Sn**	**19 33 31.9**	**-0.1**
PCAS				A	A	19 33 35.1	
comp=E,2.3nm,0.6s							
PESTR	**Estremoz**	**3.48**	**74**	*e*P	**Pn**	**19 32 57.1**	**+1.9**
PESTR				*e*S	**Sn**	**19 33 34.3**	**-1.0**
PESTR				A	A	19 33 38.3	
comp=E,1.7nm,0.6s							
PESTR	**Estremoz**	**3.48**	**74**	Pn	**Pn**	**19 32 55.6**	**+0.4**
EGRO	**El Granado**	**3.51**	**96**	Pn	**Pn**	**19 32 56.6**	**+1.0**
EGRO				Sn	**Sn**	**19 33 33.3**	**-2.6**
EGRO				*i* Vmb_Lg		19 33 37.7	
EGRO	**El Granado**	**3.51**	**96**	Pn	**Pn**	**19 32 56.7**	**+1.1**
EGRO				Sn	**Sn**	**19 33 35.2**	**-0.8**
PMRV	**Marv??o**	**3.80**	**66**	*e*P	**Pn**	**19 33 00.5**	**+1.0**
PMRV				*e*S	**Sn**	**19 33 42.3**	**-0.7**
PMRV				A	A	19 33 44.0	
comp=E,3.4nm,0.3s							
PBAR	**Barrancos**	**3.83**	**86**	*e*S	**Sn**	**19 33 42.5**	**-1.1**
PBAR				A	A	19 33 49.9	
comp=E,1.8nm,0.2s							
PBAR	**Barrancos**	**3.83**	**86**	Pn	**Pn**	**19 33 01.1**	**+1.2**
PBAR				Sn	**Sn**	**19 33 41.7**	**-2.0**
EBAD	**Badajoz**	**3.90**	**77**	Pn	**Pn**	**19 33 02.6**	**+1.7**
EBAD				Sn	**Sn**	**19 33 44.0**	**-1.5**
EBAD				*i* Vmb_Lg		19 33 48.6	
EBAD	**Badajoz**	**3.90**	**77**	Pn	**Pn**	**19 33 01.9**	**+1.0**
EBAD				Sn	**Sn**	**19 33 44.8**	**-0.7**
PCBR	**Castelo Branco**	**3.91**	**60**	*e*P	**Pn**	**19 33 02.8**	**+1.8**
EMIN	**Mina Concepcio**	**4.13**	**91**	Sn	**Sn**	**19 33 48.9**	**-2.2**
EMIN				*i* Vmb_Lg		19 33 53.2	
EMIN	**Mina Concepcio**	**4.13**	**91**	Sn	**Sn**	**19 33 49.3**	**-1.8**
PVIS	**Viseu**	**4.13**	**47**	*e*S	**Sn**	**19 33 50.2**	**-0.9**
MTE	**Manteigas**	**4.15**	**53**	*e*S	**Sn**	**19 33 50.9**	**-0.8**
POLO	**Lamas de Olo**	**4.63**	**42**	*e*P	**Pn**	**19 33 12.1**	**+1.0**
PGAV	**Gavieira, Arco**	**4.85**	**34**	*e*P	**Pn**	**19 33 15.1**	**+1.0**
PGAV				*e*S	**Sn**	**19 34 06.5**	**-2.6**
ELOB	**Lobios**	**4.87**	**36**	Pn	**Pn**	**19 33 14.9**	**+0.6**
ELOB				Sn	Sn	19 34 06.6	-2.9
ELOB				*i* Vmb_Lg		19 34 12.4	
MVO	**Moncorvo**	**4.92**	**48**	*e*P	**Pn**	**19 33 16.0**	**+1.0**
MVO				*e*S	**Sn**	**19 34 08.6**	**-2.1**
ESPR	**Espera**	**4.92**	**101**	Pn	**Pn**	**19 33 16.7**	**+1.8**
ESPR				Sn	**Sn**	**19 34 08.2**	**-2.4**
ESPR				*i* Vmb_Lg		19 34 12.5	
EPLA	**Plasencia**	**4.97**	**63**	Pn	**Pn**	**19 33 16.9**	**+1.1**
EPLA				Sn	**Sn**	**19 34 10.3**	**-1.7**
EPLA				*i* Vmb_Lg		19 34 14.0	
ECAB	**El Cabril**	**5.10**	**87**	Pn	**Pn**	**19 33 19.5**	**+2.1**
ECAB				Sn	Sn	19 34 12.1	-3.1
ECAB				*i* Vmb_Lg		19 34 15.7	
PBRG	**Braganca**	**5.50**	**44**	*e*P	**Pn**	**19 33 24.3**	**+1.4**
ECAL	**Calabor**	**5.59**	**43**	Pn	**Pn**	**19 33 26.1**	**+1.8**
ECAL				Sn	**Sn**	**19 34 24.8**	**-2.5**
EAGO	**Agolada(Pontev**	**5.62**	**30**	Pn	**Pn**	**19 33 24.5**	**-0.1**
EAGO				Sn	Sn	19 34 23.4	-4.6
EAGO				*i* Vmb_Lg		19 34 27.8	
EADA	**Adamuz**	**5.77**	**86**	Pn	**Pn**	**19 33 28.0**	**+1.4**
EADA				Sn	Sn	19 34 28.1	-3.4
EADA				*i* Vmb_Lg		19 34 31.9	
EADA	**Adamuz**	**5.77**	**86**	Pn	**Pn**	**19 33 27.9**	**+1.4**
EADA				Sn	Sn	19 34 28.2	-3.3
PAB	**San Pablo**	**6.09**	**73**	Pn	**Pn**	**19 33 31.6**	**+0.5**
PAB				*i* Vmb_Lg		19 34 33.8	
PAB				Sn	**Sn**	**19 34 37.1**	**-2.5**
PSIM	**Granatula de C**	**6.44**	**80**	Pn	**Pn**	**19 33 37.1**	**+1.3**
PSIM				Sn	Sn	19 34 44.2	-3.9
MD31	**MD31**	**7.73**	**129**	P	**Pn**	**19 33 53.2**	**-0.4**
MD31				S	Sn	19 35 10.0	-10
MDT	**Midelt**	**7.86**	**129**	P	**Pn**	**19 33 55.5**	**+0.1**

DJA 28 19:40:16.5±1.5, 3°.N±10°×12°.9E±°, h244km±18km, M3.5/9, mb3.4/2, MLv3.6/9, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.43**	**279**	P	Pn	19 41 12.8	-0.6
LBMI	**Labuha**	**4.03**	**201**	P	Pn	19 41 19.6	-0.9
SWI	**Sorong**	**4.63**	**150**	P	Pn	19 41 27.8	+0.2
KMSI	**Cibinong**	**5.56**	**243**	P	Pn	19 41 38.7	-0.4
SANI	**Sanana**	**5.95**	**210**	P	Pn	19 41 44.5	+0.6
7.5nm,0.5s,0.0nm							
GTOI	**Gorontalo**	**6.42**	**247**	P	Pn	19 41 51.1	+1.3

---

*JMA **28** 19:44:21.3±0.4, 32°.N±1°×14°.2E±°, h54km, MV3.3/14, E OFF HACHIJOJIMA ISLAND*
*IDC **28** 19:44:22.1±3.9, 32°.00N×141°.06E, h0km, mb3.5/3, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=140.1km s-min=25.3km az=70.0*
ISC 28 19:44:23.8±1.5, 32°.41N±0°.09×142°.1E±0°.1, h39km, n12, σ1§20/17, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.02**	**291**	*e*P	**Pn**	**19 44 52.8**	**-2.5**
BSO1	**Boso 1**	**2.42**	**338**	*e*P	**Pn**	**19 44 59.7**	**-0.5**
BSO1				*e*S	**Sn**	**19 45 27.9**	**-0.4**
BSO3	**Boso 3**	**2.72**	**332**	*e*P	**Pn**	**19 45 04.2**	**-0.5**
JYN	**Shimob**	**4.25**	**317**	P	**Pn**	**19 45 27.8**	**+1.7**
JYN				*e*S	**Sn**	**19 46 14.6**	**+0.1**
JRY	**Ryogami san**	**4.45**	**325**	*e*S	**Sn**	**19 46 19.8**	**+0.5**
JAG	**Ashikaga**	**4.55**	**332**	P	**Pn**	**19 45 29.5**	**-0.6**
JAG				*e*S	**Sn**	**19 46 20.6**	**-1.1**
MJAR	**Matsushiro Arr**	**5.21**	**323**	Pn	**Pn**	**19 45 39.0**	**-0.2**
0.1nm,0.3s,baz=145,slow=11,SNR=8.9							
MJAR				Sn	**Sn**	**19 46 38.0**	**-0.1**
baz=159,slow=15,SNR=1.2							
1.0nm,0.3s							
MAT	**Matsushiro**	**5.21**	**323**	*e*P	**Pn**	**19 45 40.6**	**+1.4**
JOTO	**OTAMA OYAMA**	**5.33**	**345**	P	**Pn**	**19 45 39.9**	**-0.9**
JOTO				*e*S	**Sn**	**19 46 39.0**	**-2.0**
SONM	**Songino Array**	**31.01**	**310**	P	**P**	**19 50 38.4**	**+0.7**
0.6nm,0.6s,baz=124,slow=8.5,SNR=4.5							
0.6nm,0.6s							
MKAR	**Makanchi Array**	**47.15**	**306**	P	**P**	**19 52 53.0**	**+0.8**
0.4nm,0.5s,baz=84,slow=9.7,SNR=4.7							
0.4nm,0.5s							
ASAR	**Alice Springs**	**56.31**	**189**	P	**P**	**19 54 00.5**	**-0.2**
0.6nm,1.0s,baz=358,slow=5.6,SNR=5.8							
0.6nm,1.0s							

---

*NOU **28** 19:53:06.9, 19°.90S×133°.94E, h0km, mb3.9/8, Northern Territory, Australia*
*AUST **28** 19:53:06.6±0.9, 19°.88S×134°.02E, h10km, Error ellipse: s-maj=12.4km s-min=7.4km az=10.0*
ISC 28 19:53:06.4±0.8, 19°.91S±0°.06×134°.00E±0°.05, h12km, n20, σ2§09/29, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**0.33**	**95**	P	**Pg**	**19 53 14.1**	**+1.0**
WB2	**Warramunga Arr**	**0.34**	**96**	P	**Pg**	**19 53 13.4**	**+0.3**
baz=0.3							
WB2				S	**Sg**	**19 53 17.4**	**-0.3**
baz=0.3							
WC3	**Warramunga Arr**	**0.36**	**98**	P	**Pg**	**19 53 13.8**	**+0.2**
baz=0.3							
QIS	**Mount Isa**	**5.31**	**98**	P	**Pn**	**19 54 28.4**	**+2.9**
baz=5.3,SNR=6.3							
QIS				S	**Sn**	**19 55 26.0**	**-0.7**
baz=5.3							
QIS	**Mount Isa**	**5.31**	**98**	P	**Pn**	**19 54 28.1**	**+2.6**
KNRA	**Kununurra**	**6.52**	**309**	P	**Pn**	**19 54 42.2**	**0.0**
baz=6.5							
KNRA				S	**Sn**	**19 55 55.3**	**-1.3**
baz=6.5							
KNRA	**Kununurra**	**6.52**	**309**	P	**Pn**	**19 54 44.0**	**+1.8**
KDU	**Kakadu**	**7.33**	**348**	P	**Pn**	**19 54 54.4**	**+1.1**
baz=7.3							
KDU				S	**Sn**	**19 56 15.3**	**-1.1**
baz=7.3							
KDU	**Kakadu**	**7.33**	**348**	P	**Pn**	**19 54 54.8**	**+1.6**
WRKA	**Warakurna**	**7.34**	**225**	P	**Pn**	**19 54 54.8**	**+1.4**
baz=7.4,SNR=16							
WRKA				S	**Sn**	**19 56 16.0**	**-0.7**
baz=7.4							
WRKA	**Warakurna**	**7.34**	**225**	P	**Pn**	**19 54 55.0**	**+1.6**
MTN	**Manton Dam**	**7.54**	**338**	P	**Pn**	**19 54 56.6**	**+0.4**
baz=7.6							
MTN				S	**Sn**	**19 56 19.6**	**-2.1**
baz=7.6							
OOD	**Oodnadatta**	**8.00**	**169**	P	**Pn**	**19 55 04.3**	**+1.8**
baz=8.1,SNR=11							
OOD				S	**Sn**	**19 56 32.8**	**-0.2**
baz=8.1							
OOD	**Oodnadatta**	**8.00**	**169**	P	**Pn**	**19 55 06.3**	**+3.8**
MTSU	**Mount Surprise**	**9.92**	**81**	P	**Pn**	**19 55 29.1**	**+0.2**
baz=9.9							
MTSU				S	**Sn**	**19 57 16.5**	**-3.7**
baz=9.9							
MULG	**Mulgathing**	**10.33**	**180**	P	**Pn**	**19 55 35.8**	**+1.4**
baz=10,SNR=4.2							
MULG				S	**Sn**	**19 57 24.1**	**-6.1**
baz=10							
LCRK	**Leigh Creek**	**11.17**	**161**	P	**Pn**	**19 55 47.4**	**+1.5**
baz=11,SNR=6.1							
LCRK	**Leigh Creek**	**11.17**	**161**	P	**Pn**	**19 55 48.0**	**+2.1**
FORT	**Forrest**	**12.08**	**205**	P	**Pn**	**19 55 59.1**	**+0.7**
baz=12							
FORT	**Forrest**	**12.08**	**205**	P	**Pn**	**19 55 58.6**	**+0.2**

---

*IDC **28** 19:59:27.0±0.7, 86°.99N×51°.15E, h0km, mb3.7/11, mbtmp3.7/14, ML3.7/3, Error ellipse: s-maj=23.7km s-min=15.4km az=81.0*
*IEPN **28** 19:59:30.2, 86°.80N×56°.02E, h10km*
ISC 28 19:59:28.2±0.6, 86°.85N±0°.07×51°.84E±0°.08, h10km, n29, σ1§81/30, mb3.7/12, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**6.10**	**186**	*e*P	**Pn**	**20 00 57.1**	**-1.1**
ZFI2				*e*S	Sn	20 01 58.0

ARCES	ARCESS Array B	17.80 211	*e*P		P	20 03 37.4	+1.0
ARCES	ARCESS Array B	17.80 211	P		P	20 03 37.4	+1.0
	0.2nm,0.3s,baz=353,slow=8.9,SNR=4.6						
	3.3nm,0.7s						
RES	Resolute Bay	18.14 332	*e*P		Pn	20 03 38.1	-1.6
RES	Resolute Bay	18.14 332	P		Pn	20 03 38.1	-1.6
	0.2nm,0.3s,baz=31,slow=11,SNR=6.0						
	1.8nm,0.8s						
PRGR	Permogore	25.38 187	*e*P		P	20 04 56.6	+1.7
	15nm,1.1s						
ILAR	Eielson Array	28.39 17	*e*P		P	20 05 21.8	-0.4
ILAR	Eielson Array	28.39 17	P		P	20 05 21.8	-0.4
	0.7nm,0.9s,baz=355,slow=8.7,SNR=6.2						
	0.7nm,0.9s						
BVAR	Borovoye Array	34.17 160	P		P	20 06 14.0	+1.1
	1.0nm,0.7s,baz=357,slow=9.3,SNR=6.5						
	1.0nm,0.7s						
KURBB	Kurchatov Arra	36.76 151	P		P	20 06 35.9	+0.7
	0.4nm,0.3s,baz=359,slow=8.6,SNR=1.8						
	0.4nm,0.3s						
SONM	Songino Array	40.59 122	P		P	20 07 09.5	+2.0
	0.6nm,0.6s,baz=351,slow=8.2,SNR=5.3						
	0.6nm,0.6s						
BRTR	Keskin Array B	47.46 199	P		P	20 08 04.6	+1.8
	0.6nm,0.8s,baz=7.6,slow=4.4,SNR=2.5						
	0.6nm,0.8s						
ESDC	Sonseca Array	48.78 238	P		P	20 08 14.8	+2.0
	0.4nm,0.8s,baz=358,slow=7.8,SNR=4.4						
	0.4nm,0.8s						
PDAR	Pinedale Array	50.44 342	P		P	20 08 24.6	-1.0
	0.6nm,0.8s,baz=54,slow=7.5,SNR=4.0						
	0.6nm,0.8s						
NVAR	Mina Array Bea	54.88 351	P		P	20 08 58.1	-0.4
	0.8nm,0.8s,baz=354,slow=4.5,SNR=6.7						
	0.8nm,0.8s						
TXAR	Lajitas Array	63.72 336	P		P	20 09 58.4	-1.2
	0.6nm,0.7s,baz=5.2,slow=4.8,SNR=5.6						
	0.6nm,0.7s						
CMAR	Chiang Mai Arr	69.52 132	P		P	20 10 37.5	+0.9
	0.4nm,0.4s,baz=346,slow=6.5,SNR=5.5						
	0.4nm,0.4s						
TORD	Torodi Ar. Bea	74.92 231	P		P	20 11 09.2	+0.2
	0.6nm,0.7s,baz=13,slow=6.2,SNR=3.5						
	0.6nm,0.7s						

*IDC **28** 20:17:39.0±2.3,9°.18S×119°.51E,h0km,mb3.6/1,*
mbtmp3.3/5,ML3.1/4,Error ellipse: s-maj=69.1km
s-min=25.4km az=54.0
*DJA **28** 20:17:45.5±0.3,9°.5±5°.5×12°.0E±°,h77km±16km,M3.9/12,*
mb4.2/5,mB5.7/1,MLv3.8/12,Mw(mB)5.2/1
ISC 28 20:17:45.9±1.0,9°.04S±0°.06×119°.84E±0°.05,h51km,n16,
σ0°.81/18,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	Baing, Sumba	1.38	148	P	Pn	20 18 08.3	-0.5
EDFI	Ende, Flores	1.85	81	P	Pn	20 18 14.5	-0.9
PLAI	Plampang	2.05	276	P	Pn	20 18 17.9	-0.1
MMRI	Maumere	2.40	80	P	Pn	20 18 23.1	+0.3
TWSI	Taliwang, Sumb	2.94	276	P	Pn	20 18 30.8	+0.6
BKSI	Bulukumba	3.71	4	P	Pn	20 18 41.3	+0.6
BATI	Baumata	3.94	107	P	Pn	20 18 44.1	+0.1
BATI	Baumata	3.94	107	Pn	Pn	20 18 43.9	-0.1
	2.2nm,0.3s,baz=294,slow=20,SNR=2.1						
BATI				Sn	Sn	20 19 31.4	+2.4
	3.3nm,0.3s,baz=266,slow=21,SNR=2.6						
	4.7nm,0.3s						
KAPI	Kappang	4.00	359	Pn	Pn	20 18 44.5	-0.3
	1.8nm,0.3s,baz=189,slow=3.7,SNR=13						
KAPI				Sn	Sn	20 19 30.6	+0.1
	2.5nm,0.3s,baz=29,slow=23,SNR=2.3						
	5.3nm,0.3s						
SOEI	Soe	4.43	100	P	Pn	20 18 50.5	-0.2
IGBI	Denpasar	4.64	272	P	Pn	20 18 54.0	+0.4
JAGI	Jajag, Banyuwa	5.65	275	P	Pn	20 19 07.8	+0.4
	40nm,0.8s,0.2nm						
GMJI	Gumukmas	6.37	276	P	Pn	20 19 16.1	-1.2
	24nm,1.9s,0.2nm						
WRA	Warramunga Arr	17.72	129	P	Pn	20 21 48.7	-0.4
	baz=304,slow=13,SNR=1.6						
	0.3nm,0.9s						
ASAR	Alice Springs	19.81	139	P	Pn	20 22 13.9	-0.4
	0.1nm,0.3s,baz=315,slow=9.3,SNR=2.2						
	0.3nm,0.4s						
MKAR	Makanchi Array	64.88	332	P	P	20 28 19.4	-0.5
	0.5nm,0.8s,baz=151,slow=6.6,SNR=2.3						
	0.5nm,0.8s						

*SNET **28** 20:23:55.5±1.2,12°.82N×87°.36W,h154km±6km,ML3.6*
*NEIC **28** 20:23:55.9±2.1,12°.78N±0°.08×87°.30W±0°.08,h150km±4km,*
mb4.2/7,Error ellipse: s-maj=14.1km s-min=8.3km
az=46.0
*IDC **28** 20:23:56.6±2.1,12°.83N×87°.26W,h178km±26km,mb3.2/3,*
mbtmp3.9/6,Error ellipse: s-maj=44.4km s-min=23.3km
az=51.0
ISC 28 20:23:54.8±0.8,12°.78N±0°.07×87°.29W±0°.05,h159km±6km,
n57,σ0°.98/66,mb4.0/6,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.24	108		Pn	20 24 16.8	+0.4
CRIN	San Cristobal	0.24	108	*e*P	Pn	20 24 17.0	+0.7
CRIN				*e*S	Sn	20 24 33.8	+1.1
CNGN	Cerro Negro	0.64	115		Pn	20 24 17.2	-0.8
CNGN	Cerro Negro	0.64	115	*e*P	Pn	20 24 17.1	-0.8
CNGN				*e*S	Sn	20 24 34.5	-1.0
CNCH	Conchagua	0.73	313	*e*P	Pn	20 24 18.3	-0.3
LCND	La Caada	0.79	312	*e*P	Pn	20 24 18.7	-0.1
LCND				IAML		20 24 47.7	
	comp=Z,383nm,0.4s						
VSM	San Miguel	1.16	304	*e*P	Pn	20 24 22.1	0.0
LCY	Lacayo	1.17	303	*e*P	Pn	20 24 22.2	+0.2
RANC	El Ranchito	1.18	304	*e*P	Pn	20 24 22.2	+0.2
TGUH	Tegucigalpa,Un	1.27	1		Pn	20 24 23.2	+0.3
TGUH				Sn	Sn	20 24 44.0	-0.7
TGUH	Tegucigalpa,Un	1.27	1	*e*P	Pn	20 24 23.3	+0.3
MATN	Matagalpa	1.34	83		Pn	20 24 23.1	-0.4
TECA	Tecapa	1.38	301	*e*P	Pn	20 24 24.1	0.0
TECA				*e*S	Sn	20 24 48.0	+1.4
TECO	Alcaldia de Te	1.64	298	*e*P	Pn	20 24 26.4	-0.1
SCLA	Alcaldia de Sa	1.68	303	*e*P	Pn	20 24 27.1	+0.1
UESV	Universidad de	1.69	301	*e*P	Pn	20 24 27.6	+0.5
UESV				IAML		20 24 28.3	
	comp=Z,320nm,0.3s						
SNVI	San Vicente	1.73	299	*e*P	Pn	20 24 28.0	+0.5
COEG	Centro de Oper	1.76	299	*e*P	Pn	20 24 27.6	-0.3
PAVA	Las Pavas	1.86	300	*e*P	Pn	20 24 29.1	+0.1
PAVA				*e*S	Sn	20 24 54.7	-0.6
PAVA				*e*S	Sn	20 24 55.8	+0.5
PAVA				IAML		20 25 00.2	
	comp=Z,199nm,0.4s						
SJTE	Alcalda de S	1.87	297	*e*P	Pn	20 24 29.0	-0.1
LFRS	El Faro	1.92	296	*e*P	Pn	20 24 29.8	+0.1
LFRS				*e*S	Sn	20 24 57.0	+0.4
LOMA	Loma Larga	2.03	295	*e*P	Pn	20 24 31.0	+0.1
LOMA				IAML		20 25 01.4	
	comp=Z,454nm,0.5s						
SNET	Serv Nac Est T	2.10	296	Pn	Pn	20 24 30.7	-0.9
LALI	Alcalda de L	2.10	290	*e*P	Pn	20 24 31.6	-0.1
PMON	Piamonte	2.18	296	*e*P	Pn	20 24 32.9	+0.2
ACON	Acoyapa	2.21	111		Pn	20 24 33.4	+0.4
JAYA	Jayaque - finc	2.28	293	*e*P	Pn	20 24 33.7	-0.1
JAYA				*e*S	Sn	20 25 02.2	-1.8
JAYA				IAML		20 25 04.0	
	comp=Z,394nm,0.4s						
CEVE	Cerro Verde	2.50	295	*e*P	Pn	20 24 36.9	+0.2
CEVE				IAML		20 25 16.9	
	comp=Z,510nm,0.4s						
SNJE	San Jose	2.50	296	*e*P	Pn	20 24 36.6	0.0
SBLS	San Blas	2.51	295	*e*P	Pn	20 24 38.1	+1.4
MTO3	Montecristo	2.58	309		Pn	20 24 37.9	+0.3
MTO3	Montecristo	2.58	309	*e*P	Pn	20 24 38.2	+0.6
HZTE	Horizontes, Gu	2.63	141	Pn	Pn	20 24 39.6	+1.6
NUBE	Las Nubes	2.67	295	*e*P	Pn	20 24 38.9	+0.3
NUBE				IAML		20 25 18.3	
	comp=Z,95nm,0.4s						
SLOZ	Alcaldia de Sa	2.73	297	*e*P	Pn	20 24 39.6	+0.4
ESPN	Las Esperanzas	2.97	101		Pn	20 24 42.6	+0.4
ORTG	Ortega, Santa	2.99	143		Pn	20 24 44.1	+1.6
DUNO	Dulce Nombre,	3.21	147		Pn	20 24 46.6	+1.4
JTS	Las Juntas de	3.37	137		Pn	20 24 49.3	+2.2
JTS	Las Juntas de	3.37	137	P	Pn	20 24 49.9	+2.8
	comp=Z,6.2nm,0.3s,baz=302,slow=20,SNR=7.7						
JTS				S	Sn	20 25 25.2	-2.6
	comp=Z,17nm,0.3s,baz=336,slow=16,SNR=5.0						
JACO	JACO, Garabito	4.03	140	Pn	Pn	20 24 56.5	+0.8
RIMA	Rio Macho	4.50	131		Pn	20 25 03.6	+1.7
SRBA	San Rafael, Bu	5.22	132	Pn	Pn	20 25 13.2	+1.8
TEIG	Tepich	7.47	353	P	Pn	20 25 42.3	+1.2
	comp=Z,32nm,0.7s,baz=164,slow=18,SNR=1.5						
SDV	Santo Domingo	16.81	102	P	Pn	20 27 41.5	+0.3
	comp=Z,2.7nm,0.3s,baz=284,slow=9.5,SNR=4.5						
BAUV	El Baul	19.28	99	P	P	20 28 07.0	-0.4
152A	Waverly Hall	19.94	6	P	Pn	20 28 17.0	-0.9
152A				IAmb	IAmb	20 28 19.0	
	comp=Z,7.3nm,0.8s						
GOGA	Godfrey	20.84	9	P	P	20 28 25.9	+1.9
GOGA				IAmb	IAmb	20 28 26.9	
	comp=Z,7.4nm,0.6s						
Y49A	Blount Mountai	21.00	2	P	P	20 28 26.5	+0.7
Y49A				IAmb	IAmb	20 28 27.3	
	comp=Z,7.3nm,0.6s						
Y52A	Lilburn	21.20	7	P	P	20 28 28.8	+0.9
Y52A				IAmb	IAmb	20 28 53.3	
	comp=Z,13nm,1.4s						
BRDY	Brady	21.35	331	P	P	20 28 30.3	+0.7
BRDY				IAmb	IAmb	20 28 31.3	
	comp=Z,2.7nm,0.5s						
TXAR	Lajitas Array	22.43	320	P	P	20 28 40.9	+0.3
	comp=Z,0.8nm,0.5s,baz=137,slow=9.9,SNR=6.9						
	comp=Z,0.8nm,0.5s						
TX32	Lajitas Array	22.43	320	P	P	20 28 41.2	+0.6
PDAR	Pinedale Array	35.56	331	P	P	20 30 36.9	-0.2
	comp=Z,0.2nm,0.5s,baz=131,slow=12,SNR=4.1						
	comp=Z,0.2nm,0.5s						
SCHQ	Schefferville	44.92	17	P	P	20 31 52.1	-1.5
	comp=Z,3.1nm,0.7s,baz=220,slow=7.9,SNR=4.0						
	comp=Z,3.1nm,0.7s						
WRA	Warramunga Arr	139.51	254	PKP	PKPdf	20 43 04.3	0.0
	comp=Z,0.9nm,0.5s,baz=90,slow=2.3,SNR=16						
ASAR	Alice Springs	139.53	249	PKP	PKPdf	20 43 04.4	+0.1
	comp=Z,0.4nm,0.5s,baz=90,slow=2.1,SNR=5.7						

*WEL **28** 20:25:00.8±0.4,43°.5±2°.5×17°.2E±°,h4km±2km,M3.3/31,*
ML3.4/13,MLv3.3/31,Error ellipse: s-maj=0.0km
s-min=0.0km az=123.8,confirmed
*NOU **28** 20:25:01.9,43°.02S×172°.14E,h16km,MLv3.6/8,South*
Island, New Zealand
ISC 28 20:25:00.6±1.1,42°.95S±0°.03×172°.09E±0°.03,h5km±10km,
n68,σ1°.14/77,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	Lake Taylor	0.21	38	P	Pg	20 25 04.2	-0.5
LTZ				S	Sg	20 25 07.1	-0.5
OXZ	Oxford	0.38	186	P	Pb	20 25 09.5	-0.3
OXZ				S	Sb	20 25 15.2	-0.8
AMCZ	Amberley	0.47	119	P	Pb	20 25 11.2	-0.1
AMCZ				S	Sb	20 25 18.0	-0.5
INZ	Inchbonnie	0.53	295	P	Pg	20 25 10.6	-0.1
INZ				S	Sg	20 25 17.6	0.0
GVZ	Greta Valley S	0.69	92	P	Pb	20 25 15.0	-0.1
GVZ				S	Sb	20 25 25.4	+0.4
MHCZ	Mount Hutt	0.70	213	P	Pb	20 25 15.3	+0.1
MHCZ				S	Sb	20 25 25.9	+0.7
RACZ	Rakaia	0.78	178	P	Pb	20 25 17.2	+0.6
RACZ				S	Sn	20 25 29.2	-1.1
MQZ	McQueen's Vall	0.86	152	P	Pb	20 25 18.1	+0.1
MQZ				S	Sb	20 25 30.5	+0.7
WVZ	Waitaha Valley	1.00	262	P	Pg	20 25 19.9	+0.1
WVZ				S	Sg	20 25 33.7	+0.9
WACZ	Wakanui South	1.01	191	P	Pg	20 25 20.5	+0.6
WACZ				S	Sn	20 25 36.1	+0.1
RPZ	Rata Peaks	1.08	224	P	Pg	20 25 21.7	+0.4
RPZ	Rata Peaks	1.08	224	P	Pg	20 25 21.8	+0.6
RPZ				S	Sn	20 25 37.9	+0.2
AKCZ	Akaroa Harbour	1.10	147	P	Pg	20 25 21.7	0.0
AKCZ				S	Sn	20 25 37.4	-0.8
KHZ	Kahutara	1.19	64	P	Pb	20 25 23.5	-0.1
KHZ	Kahutara	1.19	64	P	Pb	20 25 23.2	-0.5
ARCZ	Arundel	1.20	214	P	Pb	20 25 23.1	-0.7
ARCZ				S	Sn	20 25 41.0	+0.3
DSZ	Denniston Nort	1.22	350	P	Pn	20 25 22.8	-1.6
DSZ				S	Sb	20 25 38.6	-1.7
THZ	Tophouse	1.33	27	P	Pn	20 25 24.1	-1.8
GCSZ	Gaunt Creek Bo	1.34	254	P	Pn	20 25 26.3	+0.3
MRNZ	Matariki Terra	1.63	18	P	Pn	20 25 30.0	+0.1
TMZ	Timaru	1.64	208	P	Pn	20 25 29.3	-0.8
FOZ	Fox Glacier	1.76	250	P	Pn	20 25 32.4	+0.6
BSWZ	Blackbirch Sta	1.81	48	P	Pn	20 25 32.9	+0.5
CMWZ	Cape Campbell	1.98	53	P	Pn	20 25 38.1	+1.1
NNZ	Nelson	1.98	29	P	Pn	20 25 35.0	+0.3
LBZ	Lake Benmore	2.00	223	P	Pn	20 25 34.6	-0.4
TKNZ	Takaka Hill	2.02	19	P	Pn	20 25 35.0	-0.4
TUWZ	Tuamarina	2.05	43	P	Pn	20 25 36.8	+1.1
QRZ	Quartz Range	2.15	9	P	Pn	20 25 36.3	-0.7
QRZ	Quartz Range	2.15	9	P	Pn	20 25 36.2	-0.8
ODZ	Otahua Downs	2.34	206	P	Pn	20 25 38.9	-0.8
ODZ	Otahua Downs	2.34	206	P	Pn	20 25 38.7	-1.0
TCW	Tory Channel	2.38	44	P	Pn	20 25 41.3	+1.1
DUWZ	D'Urville Isla	2.54	33	P	Pn	20 25 43.7	+1.2
BHW	Baring Head	2.58	54	P	Pn	20 25 41.4	-1.5
JCZ	Jackson Bay	2.66	244	P	Pn	20 25 44.5	+0.3
JCZ	Jackson Bay	2.66	244	P	Pn	20 25 44.4	+0.3
WKZ	Wanaka	2.91	229	P	Pn	20 25 46.5	-1.0
KIW	Kapiti Island	2.96	46	P	Pn	20 25 49.2	+0.9
EAZ	Earnscleugh	3.04	220	P	Pn	20 25 47.9	-1.4
HHSZ	Highcliff Hill	3.12	200	P	Pn	20 25 49.0	-1.5
OGWZ	Otaki Gorge	3.13	48	P	Pn	20 25 50.0	-0.6
HOWZ	Holdsworth Sta	3.27	52	P	Pb	20 25 58.9	-0.2
MRZ	Mangatainoka R	3.47	50	P	Pn	20 25 54.1	-1.0
TUZ	Tuapeka	3.48	210	P	Pn	20 25 54.0	-1.4
MLZ	Mavora Lakes	3.74	228	P	Pn	20 25 57.9	-1.1
NBEZ	Newall Road No	3.92	21	P	Pn	20 26 02.6	+1.3
KHEZ	Kahui Hut	3.93	22	P	Pn	20 26 03.3	+1.7
KHEZ	Kahui Hut	3.93	22	P	Pn	20 26 03.0	+1.4
NEZ	North Egmont	3.98	23	P	Pn	20 26 04.9	+2.7
PKE	Pukeiti	4.02	22	P	Pn	20 26 03.9	+1.1
SYZ	Scrubby Hill	4.16	209	P	Pn	20 26 03.7	-0.9
SYZ	Scrubby Hill	4.16	209	P	Pn	20 26 03.7	-0.9
VRZ	Vera Road	4.32	29	P	Pn	20 26 09.0	+2.0
WNVZ	Wahianoa	4.48	37	P	Pn	20 26 11.3	+2.0
FWVZ	Far West T-bar	4.52	36	P	Pn	20 26 14.7	+4.8
NGZ	Ngauruhoe	4.61	36	P	Pn	20 26 16.7	+5.7
SNVZ	South Ngauruho	4.62	37	P	Pb	20 26 17.1	-5.0
OTVZ	Oturere	4.65	37	P	Pn	20 26 13.7	+2.1
WTVZ	West Tongariro	4.65	36	P	Pn	20 26 17.2	+5.6
TMVZ	Te Maari	4.70	37	P	Pn	20 26 15.7	+3.4
NTVZ	North Tongarir	4.71	36	P	Pn	20 26 17.5	+5.1
APZ	The Paps	4.86	216	P	Pn	20 26 12.6	-1.7
HIZ	Hauiti	4.90	26	P	Pn	20 26 16.1	+1.2
HIZ	Hauiti	4.90	26	P	Pn	20 26 16.2	+1.2
TLZ	Tolley Road	5.31	31	P	Pn	20 26 22.1	+1.6
LIRZ	Lichensteins R	5.92	35	P	Pn	20 26 31.2	+2.3
MKAZ	Moumakai	6.29	23	P	Pn	20 26 35.5	+1.5

*IDC **28** 21:03:01.1±0.7,16°.28S×178°.46E,h0km,mb4.0/12,*
mbtmp4.0/12,MS3.8/8,Error ellipse: s-maj=27.4km
s-min=17.1km az=126.0
*NEIC **28** 21:03:03.2±1.8,16°.34S±0°.08×178°.5E±0°.1,h10km±1km,*
mb4.7/28,Error ellipse: s-maj=22.8km s-min=11.6km
az=105.0
ISC 28 21:03:04.6±0.5,16°.28S±0°.07×178°.4E±0°.1,h22km,n79,
σ0°.96/68,mb4.5/24,MS3.8/7,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.50	194		Pn	21 03 28.6	-1.6
MSVF				Sn	Sb	21 03 48.8	-1.6
MSVF	Nonsavu	1.50	194	Pn	Pn	21 03 28.7	-1.6
	152nm,0.3s,baz=245,slow=4.6,SNR=159						
MSVF				Sn	Sb	21 03 54.6	+4.2
	671nm,0.3s,baz=247,slow=23,SNR=7.0						
DZM	Mont Dzumac	12.71	241	LR	LR	21 10 16.4	
	comp=Z,489nm,19.8s,baz=35,slow=34						
KOUNC	Koumac, New Ca	14.08	250	Pn	Pn	21 06 23.6	+0.7
HNR	Honiara	19.25	288	LR	LR	21 13 56.7	
	comp=Z,4μm,18.2s,baz=140,slow=34						
TOZ	Tahuroa Road	21.53	186	P	P	21 07 51.7	-0.5
TOZ				IAmb	IAmb	21 08 06.8	
	comp=Z,32nm,1.2s						
NNZ	Nelson	25.24	189	P	P	21 08 28.7	-0.2
KRVT	Keravat (AS076	28.53	292	LR	LR	21 19 43.2	
	comp=Z,227nm,20.8s,baz=351,slow=35						
H11S2	WAKE ISLAND Hy	36.42	341	T	T	21 49 12.7	
	baz=155,slow=76,SNR=5.7						
H11S3	WAKE ISLAND Hy	36.44	341	T	T	21 49 13.9	
	baz=155,slow=76,SNR=4.3						
H11S1	WAKE ISLAND Hy	36.44	341	T	T	21 49 15.0	
	baz=155,slow=76,SNR=7.3						
STKA	Stephens Creek	36.84	238	P	P	21 10 11.8	+0.4
STKA	Stephens Creek	36.84	238	P	P	21 10 12.0	+0.6
	comp=Z,2.5nm,0.7s,baz=287,slow=24,SNR=1.8						
	comp=Z,2.5nm,0.7s						
H11N3	WAKE ISLAND Hy	37.52	342	T	T	21 50 26.4	
	baz=155						
H11N1	WAKE ISLAND Hy	37.52	342	T	T	21 50 30.5	
	baz=155						
H11N2	WAKE ISLAND Hy	37.54	342	T	T	21 50 30.8	
	baz=155						
BBOO	Buckleboo	41.61	239	P	P	21 10 48.9	-2.3
BBOO				IAmb	IAmb	21 11 13.9	
	comp=Z,34nm,1.4s						
WB0	Warramunga Arr	41.94	258	P	P	21 10 53.8	-0.3
WRA	Warramunga Arr	41.98	258	P	P	21 10 54.2	-0.2
WRA	Warramunga Arr	41.98	258	P	P	21 10 53.4	-1.0
	comp=Z,1.3nm,1.0s,baz=93,slow=8.4,SNR=7.5						
	comp=Z,1.3nm,1.0s						
AS31	Alice Springs	42.36	253	P	P	21 10 56.6	-0.8
ASAR	Alice Springs	42.36	253	P	P	21 10 56.2	-1.3
ASAR	Alice Springs	42.36	253	P	P	21 10 57.2	-0.3
	comp=Z,3.5nm,0.8s,baz=86,slow=8.5,SNR=32						
ASAR				PcP	PcP	21 12 49.9	-0.9
	comp=Z,0.6nm,0.9s,baz=72,slow=4.6,SNR=2.7						
ASAR				LR	LR	21 26 43.5	
	comp=Z,375nm,20.8s,baz=172,slow=34						
	comp=Z,3.5nm,0.8s						
GUMO	Guam	44.51	310	LR	LR	21 28 08.2	
	comp=Z,77nm,20.2s,baz=165,slow=34						
FAKI	Fak Fak	47.30	281	P	P	21 11 37.4	+0.5
FAKI				IAmb	IAmb	21 12 05.8	
	comp=Z,7.4nm,0.9s						
FORT	Forrest	48.01	243	P	P	21 11 41.7	-0.5
SOEI	Soe	53.05	270	P	P	21 12 21.2	+0.5
SOEI				IAmb	IAmb	21 12 38.4	
	comp=Z,12nm,0.8s						
DAV	Davao City (W)	57.21	290	LR	LR	21 36 48.8	
	comp=Z,71nm,19.0s,baz=160,slow=35						
VNDA	Vanda	61.83	184	P	P	21 13 22.8	+1.3
	comp=Z,0.2nm,0.7s,baz=67,slow=7.1,SNR=1.7						
	comp=Z,0.2nm,0.7s						
SBA	Scott Base	61.87	183	P	P	21 13 22.5	+0.7
SBA				IAmb	IAmb	21 13 43.5	
	comp=Z,4.2nm,1.0s						
MJAR	Matsushiro Arr	64.82	325	LR	LR	21 36 41.9	
	comp=Z,66nm,21.5s,baz=182,slow=31						
JNU	Nakatsue	66.89	318	LR	LR	21 41 19.9	
	comp=Z,47nm,18.8s,baz=206,slow=34						
KSRS	Korea Array	71.50	320	LR	LR	21 40 00.4	
	comp=Z,61nm,21.8s,baz=180,slow=31						
USRK	Ussuriysk Ar.	73.59	327	P	P	21 14 36.5	+0.5
QSPA	South Pole Qui	73.77	180	P	P	21 14 37.3	+0.3
QSPA	South Pole Qui	73.77	180	P	P	21 14 36.9	-0.1
	comp=Z,2.0nm,0.9s,baz=358,slow=0.7,SNR=7.8						
	comp=Z,2.0nm,0.9s						
LHV	Little Huntoon	80.16	45	P	P	21 15 14.4	+1.1
LHV				IAmb	IAmb	21 15 16.4	
	comp=Z,9.8nm,1.3s						
NVAR	Mina Array Bea	80.39	45	P	P	21 15 14.9	+0.2
NVAR	Mina Array Bea	80.39	45	P	P	21 15 14.7	-0.1
	comp=Z,1.8nm,1.0s,baz=227,slow=8.7,SNR=14						
	comp=Z,1.8nm,1.0s						
NV11	Mina Array Sit	80.49	45	P	P	21 15 15.8	+0.6
NV11				IAmb	IAmb	21 15 18.1	
	comp=Z,11nm,1.4s						
K05A	Summer Lake	80.89	41	P	P	21 15 18.1	+0.8
K05A				IAmb	IAmb	21 15 19.9	
	comp=Z,12nm,1.2s						
J05D	Fort Rock, OR	80.97	40	P	P	21 15 18.5	+0.8
WVOR	Wild Horse Val	82.16	42	P	P	21 15 24.9	+0.9
WVOR				IAmb	IAmb	21 15 26.2	
	comp=Z,5.2nm,1.2s						
RND	Reindeer	83.40	14	P	P	21 15 30.3	+0.4
U15A	North Rim	83.72	49	P	P	21 15 33.4	+1.0
U15A				IAmb	IAmb	21 15 35.0	
	comp=Z,4.6nm,1.0s						
M26K	Nabesna, AK	84.07	17	P	P	21 15 32.9	-0.4
BELA	Belgrano 2	84.14	173	P	P	21 15 33.2	-0.4
BELA				IAmb	IAmb	21 15 43.3	
	comp=Z,3.6nm,0.9s						
I21K	Tanana	84.26	12	P	P	21 15 34.5	+0.4
MAW	Mawson	84.35	200	P	P	21 15 34.5	-0.2
MAW	Mawson	84.35	200	P	P	21 15 35.1	+0.4
	comp=Z,2.4nm,0.9s,baz=135,slow=7.9,SNR=4.2						
	com

	baz=27							
NRN				⇑iS		Sb	21 23 26.9	-1.0
	baz=27							
TARG	**Taragay, Kyrgy**	**1.50**	**28**	⇓iP		**Pn**	**21 23 15.0**	**-1.0**
	baz=28							
TARG				⇓iS		**Sb**	**21 23 35.5**	**-0.6**
	baz=28							
ULHL	**Ulahol**	**1.90**	**346**	P		**Pn**	**21 23 23.0**	**+1.7**
	SNR=31							
ULHL	**Ulahol**	**1.90**	**346**	⇑iP		**Pn**	**21 23 22.0**	**+0.7**
	baz=46							
ULHL				⇑iS		**Sb**	**21 23 47.3**	**-0.1**
	baz=46							
BOOM	**Boomskoye usch**	**2.19**	**342**	⇓iP		**Pn**	**21 23 26.3**	**+1.0**
	baz=42							
BOOM				⇓iS		**Sn**	**21 23 54.9**	**+1.8**
	baz=42							
PRZ	**Przheval'sk**	**2.37**	**29**	⇓iP		**Pn**	**21 23 29.3**	**+1.5**
	baz=29							
PRZ				⇓iS		**Sb**	**21 23 59.7**	**-1.4**
	baz=29							
ARLS	**Aral**	**2.41**	**308**	⇑iP		**Pn**	**21 23 29.3**	**+1.0**
	baz=8.0							
ARLS				⇑iS		**Sn**	**21 23 59.8**	**+1.4**
	baz=8.0							
ANVS	**Anan'yevo**	**2.45**	**14**	⇑iP		**Pn**	**21 23 30.2**	**+1.4**
	baz=14							
ANVS				⇑iS		**Sb**	**21 24 01.4**	**-1.8**
	baz=14							
SFK	**Sufi-Kurgan**	**2.61**	**262**	⇓iP		**Pn**	**21 23 32.1**	**+1.1**
	baz=62							
SFK				⇓iS		**Sn**	**21 24 05.0**	**+1.7**
	baz=62							
TNSS	**Tian-Shan**	**2.63**	**1**	Pg		**Pb**	**21 23 35.9**	**+0.1**
	89nm,0.7s							
TNSS				Lg		Lg	21 24 13.4	
	44nm,0.6s							
TNSS	**Tian-Shan**	**2.63**	**1**	*e*Pg		**Pb**	**21 23 35.9**	**+0.1**
	88nm,0.3s							
TNSS				*e*Lg		Lg	21 24 13.4	
	44nm,0.6s							
IZV	**Izvestkoviy**	**2.63**	**356**	Pg		**Pb**	**21 23 36.0**	**+0.3**
	15nm,0.8s							
IZV				Lg		Lg	21 24 13.6	
	140nm,0.7s							
IZV	**Izvestkoviy**	**2.63**	**356**	*e*Pg		**Pb**	**21 23 36.0**	**+0.3**
	15nm,0.8s							
IZV				*e*Lg		Lg	21 24 13.6	
	140nm,0.7s							
KBK	**Karagaybulak**	**2.67**	**328**	P		**Pb**	**21 23 37.7**	**+1.4**
	SNR=32							
KBK	**Karagaybulak**	**2.67**	**328**	⇓iP		**Pn**	**21 23 32.9**	**+1.0**
	baz=28							
KBK				⇓iS		**Sn**	**21 24 06.2**	**+1.4**
	baz=28							
TKM2	**Tokmak 2**	**2.69**	**340**	P		**Pb**	**21 23 35.5**	**-1.1**
	SNR=35							
TKM2	**Tokmak 2**	**2.69**	**340**	⇓Pg		**Pb**	**21 23 35.4**	**-1.3**
	16nm,0.5s							
TKM2				⇓Lg		Lg	21 24 13.7	
	91nm,0.9s							
TKM2	**Tokmak 2**	**2.69**	**340**	⇑iP		**Pn**	**21 23 33.2**	**+1.1**
	baz=40							
TKM2				⇑iS		**Sn**	**21 24 06.9**	**+1.6**
	baz=40							
KST	**Kastek**	**2.72**	**346**	Pg		**Pb**	**21 23 38.0**	**+0.9**
	37nm,0.7s							
KST				Lg		Lg	21 24 16.5	
	69nm,0.5s							
KST	**Kastek**	**2.72**	**346**	*e*Pg		**Pb**	**21 23 38.0**	**+0.9**
	37nm,0.5s							
KST				*e*Lg		Lg	21 24 16.5	
	69nm,0.4s							
MTBS	**Maitube**	**2.74**	**353**	Pg		**Pb**	**21 23 37.4**	**-0.1**
	22nm,0.8s							
MTBS				Lg		Lg	21 24 15.8	
	169nm,0.6s							
MTBS	**Maitube**	**2.74**	**353**	*e*Pg		**Pb**	**21 23 37.4**	**-0.1**
	22nm,0.5s							
MTBS				*e*Lg		Lg	21 24 15.8	
	167nm,0.2s							
MDOK	**Medeo**	**2.76**	**3**	Pg		**Pb**	**21 23 38.2**	**+0.4**
	61nm,1.0s							
MDOK				Lg		Lg	21 24 16.7	
	111nm,1.1s							
MDOK	**Medeo**	**2.76**	**3**	*e*Pg		**Pb**	**21 23 38.2**	**+0.4**
	61nm,0.4s							
MDOK				*e*Lg		Lg	21 24 16.7	
	111nm,0.6s							
KNDC	**Almaty**	**2.81**	**1**	⇓Pg		**Pb**	**21 23 39.5**	**+0.9**
	33nm,0.5s							
KNDC				⇓Lg		Lg	21 24 18.3	
	238nm,0.6s							
KASK	**Kaskelen**	**2.81**	**357**	⇓Pg		**Pg**	**21 23 41.7**	**0.0**
KASK				⇑Lg		Lg	21 24 19.3	
KOTS	**Kotyrbulak**	**2.83**	**4**	Pg		**Pb**	**21 23 39.6**	**+0.5**
	25nm,0.7s							
KOTS				Lg		Lg	21 24 19.6	
	303nm,0.8s							
KOTS	**Kotyrbulak**	**2.83**	**4**	*e*Pg		**Pb**	**21 23 39.6**	**+0.5**
	25nm,0.3s							
KOTS				*e*Lg		Lg	21 24 19.6	
	292nm,0.4s							
AAK	**Ala-Archa**	**2.85**	**322**	P		**Pn**	**21 23 37.5**	**+3.2**
	SNR=15							
AAK	**Ala-Archa**	**2.85**	**322**	⇓iP		**Pn**	**21 23 35.6**	**+1.2**
	baz=22							
AAK				⇓iS		**Sn**	**21 24 10.5**	**+1.2**
	baz=22							
SATY	**Saty**	**2.89**	**23**	Pg		**Pb**	**21 23 40.6**	**+0.5**
	21nm,0.8s							
SATY				Lg		Lg	21 24 20.7	
	117nm,0.8s							
SATY	**Saty**	**2.89**	**23**	*e*Pg		**Pb**	**21 23 40.6**	**+0.5**
	21nm,0.4s							
SATY				*e*Lg		Lg	21 24 20.7	
	115nm,0.5s							
FRU1	**Bishkek**	**2.93**	**326**	⇓iP		**Pn**	**21 23 36.8**	**+1.5**
	baz=26							
FRU1				⇓iS		**Sn**	**21 24 13.0**	**+1.9**
	baz=26							
AML	**Almayashu**	**2.95**	**307**	P		**Pn**	**21 23 38.7**	**+2.8**
	SNR=60							
AML	**Almayashu**	**2.95**	**307**	⇓Pn		**Pn**	**21 23 37.9**	**+2.1**
	0.9nm,0.3s							
AML				⇑Lg		Lg	21 24 22.5	
	7.6nm,0.7s							
AML	**Almayashu**	**2.95**	**307**	⇓iP		**Pn**	**21 23 37.1**	**+1.2**
	baz=7.0							
AML				⇓iS		**Sn**	**21 24 13.5**	**+1.5**
	baz=7.0							
ZHN	**Zhinishke**	**3.00**	**23**	Pg		**Pb**	**21 23 42.2**	**+0.3**
	13nm,0.6s							
ZHN				Lg		Lg	21 24 23.5	
	30nm,0.4s							
ZHN	**Zhinishke**	**3.00**	**23**	*e*Pg		**Pb**	**21 23 42.2**	**+0.3**
	11nm,0.3s							
ZHN				*e*Lg		Lg	21 24 23.5	
	30nm,0.3s							
CHMS	**Chumysh**	**3.04**	**329**	P		**Pn**	**21 23 40.1**	**+3.4**
	SNR=25							
CHMS	**Chumysh**	**3.04**	**329**	⇓Pn		**Pn**	**21 23 39.8**	**+3.0**
	26nm,0.5s							
CHMS				⇓Lg		Lg	21 24 25.2	
	25nm,0.8s							
CHMS	**Chumysh**	**3.04**	**329**	⇑iP		**Pn**	**21 23 38.0**	**+1.2**
	baz=29							
CHMS				⇑iS		**Sn**	**21 24 14.8**	**+1.1**
	baz=29							
ARSB	**Arslanbob**	**3.08**	**289**	⇑iP		**Pn**	**21 23 38.6**	**+1.0**
	baz=88							
ARSB				⇑iS		**Sn**	**21 24 16.2**	**+1.2**
	baz=88							
OHH	**Osh**	**3.12**	**273**	⇑iP		**Pn**	**21 23 38.9**	**+1.0**
	baz=73							
OHH				⇑iS		**Sn**	**21 24 16.7**	**+1.0**
	baz=73							
UZB	**Uzynbulak**	**3.18**	**30**	Pg		**Pb**	**21 23 45.3**	**+0.4**
	7.9nm,0.7s							
UZB				Lg		Lg	21 24 28.8	
	29nm,0.9s							
UZB	**Uzynbulak**	**3.18**	**30**	*e*Pg		**Pb**	**21 23 45.3**	**+0.4**
	9.0nm,0.5s							
UZB				*e*Lg		Lg	21 24 28.8	
	30nm,0.6s							
KURS	**Kuram**	**3.23**	**17**	Pg		**Pb**	**21 23 45.9**	**+0.1**
	15nm,1.0s							
KURS				Lg		Lg	21 24 30.0	
	27nm,1.7s							
KURS	**Kuram**	**3.23**	**17**	*e*Pg		**Pb**	**21 23 45.9**	**+0.1**
	15nm,0.4s							
KURS				*e*Lg		Lg	21 24 30.0	
	20nm,0.5s							
EKS2	**Erkin-Say**	**3.23**	**315**	P		**Pn**	**21 23 43.1**	**+3.6**
	SNR=36							
EKS2	**Erkin-Say**	**3.23**	**315**	⇑iP		**Pn**	**21 23 40.7**	**+1.1**
	baz=15							
EKS2				⇑iS		**Sn**	**21 24 19.6**	**+0.9**
	baz=15							
KTBS	**Karatobe**	**3.31**	**358**	Pg		**Pb**	**21 23 47.4**	**+0.3**
	21nm,0.9s							
KTBS				Lg		Lg	21 24 32.9	
	24nm,0.5s							
KTBS	**Karatobe**	**3.31**	**358**	*e*Pg		**Pb**	**21 23 47.4**	**+0.3**
	21nm,0.3s							
KTBS				*e*Lg		Lg	21 24 33.0	
	24nm,0.5s							
KPKS	**Kokpek**	**3.34**	**23**	Pg		**Pb**	**21 23 47.9**	**+0.1**
	14nm,0.7s							
KPKS				Lg		Lg	21 24 34.0	
	82nm,0.8s							
KPKS	**Kokpek**	**3.34**	**23**	*e*Pg		**Pb**	**21 23 47.9**	**+0.1**
	14nm,0.7s							
KPKS				*e*Lg		Lg	21 24 34.0	
	82nm,0.5s							
USP	**Ospenovka**	**3.36**	**329**	P		**Pn**	**21 23 44.5**	**+3.2**
	SNR=14							
USP	**Ospenovka**	**3.36**	**329**	⇓iP		**Pn**	**21 23 42.3**	**+1.1**
	baz=29							
USP				⇓iS		**Sn**	**21 24 22.6**	**+0.9**
	baz=29							
KRBS	**Karabastau**	**3.40**	**345**	Pg		**Pb**	**21 23 50.1**	**+1.3**
	59nm,0.7s							
KRBS				Lg		Lg	21 24 37.5	
	103nm,1.1s							
KRBS	**Karabastau**	**3.40**	**345**	*e*Pg		**Pb**	**21 23 50.1**	**+1.3**
	59nm,0.7s							
KRBS				*e*Lg		Lg	21 24 37.5	
	102nm,0.5s							
CHKK	**Chushkaly**	**3.45**	**1**	Pg		**Pb**	**21 23 50.3**	**+0.9**
	47nm,0.5s							
CHKK				Lg		Lg	21 24 37.9	
	69nm,0.5s							
CHKK	**Chushkaly**	**3.45**	**1**	*e*Pg		**Pb**	**21 23 50.3**	**+0.9**
	47nm,0.3s							
CHKK				*e*Lg		Lg	21 24 37.9	
	69nm,0.3s							
SGDS	**Sogindy**	**3.47**	**332**	Pg		**Pb**	**21 23 50.2**	**+0.3**
	10.0nm,0.7s							
SGDS				Lg		Lg	21 24 37.0	
	26nm,0.7s							
KUU	**Kurty**	**3.51**	**354**	Pg		**Pb**	**21 23 50.8**	**+0.4**
	16nm,1.0s							
KUU				Lg		Lg	21 24 39.1	
	26nm,0.6s							
KUU	**Kurty**	**3.51**	**354**	*e*Pg		**Pb**	**21 23 50.9**	**+0.4**
	16nm,0.4s							
KUU				*e*Lg		Lg	21 24 39.1	
	35nm,0.6s							
PDGK	**Podgornoye**	**3.52**	**33**	Pg		**Pb**	**21 23 50.9**	**+0.2**
	4.8nm,0.8s							
PDGK				Lg		Lg	21 24 39.0	
	28nm,0.8s							
PDGK	**Podgornoye**	**3.52**	**33**	⇓Pn		**Pn**	**21 23 44.8**	**+1.4**
	1.0nm,0.5s							
PDGK				⇓Pg		**Pg**	**21 23 55.5**	**+0.4**
	14nm,0.5s							
PDGK				⇓Lg		Lg	21 24 38.0	
	41nm,0.7s							
MRKS	**Merke**	**3.59**	**312**	Pg		**Pb**	**21 23 52.8**	**+0.7**
	18nm,0.5s							
MRKS				Lg		Lg	21 24 41.6	
	37nm,0.6s							
MRKS	**Merke**	**3.59**	**312**	*e*Pg		**Pb**	**21 23 52.8**	**+0.7**
	18nm,0.3s							
MRKS				*e*Lg		Lg	21 24 41.6	
	37nm,0.3s							
ARXS	**Arharly**	**3.87**	**10**	Pg		**Pb**	**21 23 57.7**	**+0.9**
	12nm,0.7s							
ARXS				Lg		Lg	21 24 50.6	
	62nm,0.6s							
ARXS	**Arharly**	**3.87**	**10**	*e*Pg		**Pb**	**21 23 57.7**	**+0.9**
	12nm,0.5s							
ARXS				*e*Lg		Lg	21 24 50.6	
	64nm,0.4s							
BLB	**Baldybastay**	**3.88**	**17**	Pg		**Pb**	**21 23 57.7**	**+0.8**
	20nm,0.7s							
BLB				Lg		Lg	21 24 50.5	
	39nm,0.6s							
MNAS	**Manas**	**3.88**	**304**	⇑*e*P		**Pn**	**21 23 49.9**	**+1.4**
	baz=4.0							
MNAS				⇑*e*S		**Sn**	**21 24 35.4**	**+0.7**
	baz=4.0							
ARK	**Arkit**	**3.96**	**292**	⇑iP		**Pn**	**21 23 50.8**	**+1.3**
	baz=92							
ARK				⇑iS		**Sn**	**21 24 37.4**	**+0.9**
	baz=92							
KTMS	**Ketmen**	**4.00**	**39**	Pg		**Pb**	**21 24 00.7**	**+1.7**
	3.2nm,0.9s							
KTMS				Lg		Lg	21 24 55.2	
	17nm,1.0s							
KTMS	**Ketmen**	**4.00**	**39**	*e*Pg		**Pb**	**21 24 00.7**	**+1.7**
	3.2nm,0.3s							
KTMS				*e*Lg		Lg	21 24 55.2	
	17nm,0.5s							
KNOS	**Konyrlen**	**4.30**	**23**	Pg		**Pb**	**21 24 06.9**	**+2.7**
	32nm,1.0s							
KNOS				Lg		Lg	21 25 05.5	
	12nm,0.8s							
TRKS	**Terek-Say**	**4.48**	**286**	⇑iP		**Pn**	**21 23 57.7**	**+1.0**
	baz=86							
TRKS				⇑iS		**Sn**	**21 24 49.0**	**-0.4**
	baz=86							
DJR	**Jarkent**	**4.48**	**28**	Pg		**Pb**	**21 24 08.6**	**+1.5**
	2.8nm,0.8s							
DJR				Lg		Lg	21 25 09.2	
	13nm,0.6s							
DJR	**Jarkent**	**4.48**	**28**	*e*Pg		**Pb**	**21 24 08.6**	**+1.5**
	1.6nm,0.3s							
DJR				*e*Lg		Lg	21 25 09.2	
	13nm,0.6s							
BTK	**Batken**	**4.64**	**268**	⇓iP		**Pn**	**21 24 00.1**	**+1.2**
	baz=68							
BTK				⇓iS		**Sn**	**21 24 53.7**	**+0.3**
	baz=68							
TDK	**Taldyqorghan**	**4.73**	**13**	Pg		**Pb**	**21 24 12.3**	**+0.9**
	32nm,0.5s							
TDK				Lg		Lg	21 25 15.0	
	54nm,0.9s							
TDK	**Taldyqorghan**	**4.73**	**13**	*e*Pg		**Pb**	**21 24 12.3**	**+0.9**
	32nm,0.5s							
TDK				*e*Lg		Lg	21 25 15.0	
	54nm,0.9s							
BTLS	**Baital**	**5.08**	**337**	Pg		**Pb**	**21 24 19.3**	**+2.0**
	4.7nm,0.5s							
BTLS				Lg		Lg	21 25 27.8	
	14nm,1.1s							
BTLS	**Baital**	**5.08**	**337**	*e*Pg		**Pb**	**21 24 19.3**	**+2.0**
	4.7nm,0.4s							
BTLS				*e*Lg		Lg	21 25 27.8	
	15nm,0.6s							
KK31	**Karatay Array**	**5.46**	**302**	⇑Pn		**Pn**	**21 24 11.9**	**+1.8**
	0.5nm,0.4s,baz=121,slow=12,SNR=17							
KK31				⇓Pg		**Pg**	**21 24 31.1**	**-1.3**
	2.3nm,0.5s,baz=120,slow=16,SNR=7.0							
KK31				⇑Lg		Lg	21 25 38.0	
	9.0nm,0.8s,baz=130,slow=30,SNR=5.4							
KKAR	**Karatay Array**	**5.46**	**302**	⇓iP		**Pn**	**21 24 11.4**	**+1.3**
	baz=2.0							
KKAR				⇓iS		**Sn**	**21 25 13.1**	**-0.4**
	baz=2.0							
MKAR	**Makanchi Array**	**7.50**	**30**	Pn		**Pn**	**21 24 38.5**	**+0.4**
	0.1nm,0.3s,baz=210,slow=14,SNR=1.5							
MKAR				Sn		**Sn**	**21 26 05.8**	**+2.2**
	0.1nm,0.3s,baz=213,slow=15,SNR=2.3							
MKAR				Lg		Lg	21 26 43.7	
	0.1nm,0.3s,baz=216,slow=32,SNR=1.6							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**10.28**	**6**	Pn		**Pn**	**21 25 15.7**	**-0.5**
	baz=187,slow=14,SNR=4.0							
KURBB				Lg		Lg	21 28 10.5	
	0.1nm,0.3s,baz=192,slow=28,SNR=7.0							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**13.37**	**343**	Pn		**Pn**	**21 25 57.2**	**-1.2**
	baz=154,slow=14,SNR=9.7							
BVAR				Lg		Lg	21 29 48.1	
	baz=137,slow=26,SNR=2.3							
	1.1nm,0.6s							
ZALV	**Zalesovo Beam**	**14.57**	**19**	Pn		**Pn**	**21 26 14.6**	**-0.1**
	0.1nm,0.3s,baz=209,slow=15,SNR=2.8							
	0.6nm,0.4s							
SONM	**Songino Array**	**22.36**	**61**	P		**P**	**21 27 47.8**	**+0.8**
	0.2nm,0.4s,baz=251,slow=8.7,SNR=2.5							
	0.2nm,0.4s							
BRTR	**Keskin Array B**	**32.85**	**283**	P		**P**	**21 29 20.5**	**-2.3**
	0.5nm,0.7s,baz=94,slow=8.8,SNR=3.6							
	0.5nm,0.7s							
FINES	**FINESS Array B**	**37.04**	**322**	P		**P**	**21 29 57.5**	**-1.1**
	5.1nm,1.0s,baz=94,slow=8.9,SNR=1.7							

AFAD 28 21:24:28.4±0.0, 38°.24N×27°.26E, h7km±1km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**zmir**	**0.35**	**238**	P	Pg	21 24 36.0	+0.9
DGB				S	Sg	21 24 41.1	+1.4
URLA	**Izmir**	**0.53**	**284**	P	Pg	21 24 38.3	-0.4
IZMR	**zmir-demi**	**0.56**	**100**	P	Pg	21 24 39.2	+0.1
IZMR				S	Sg	21 24 44.9	-1.5
ZEDA	**zmir-Bergama**	**0.74**	**349**	P	Pg	21 24 42.4	-0.3
MANT	**Manisa**	**1.05**	**76**	P	Pg	21 24 48.3	-0.3
MANT				S	Sg	21 25 00.8	-1.5
MANT				*i* AML	AML	21 25 02.0	
	comp=N,12nm,0.2s						
MANT				*i* AML	AML	21 25 04.0	
	comp=E,9.6nm,0.2s						
STEP	**BALIKESIR_Sava**	**1.19**	**17**	P	Pg	21 24 50.3	-1.0

ISK 28 21:24:34.9, 40°.16N×27°.06E, h9km, ML1.4/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANM	**Can-anakkale**	**0.15**	**183**	Pg	Pg	21 24 38.2	+0.1
CANM				Sg	Sg	21 24 41.3	+1.0
KRBG	**Karabiga-Canak**	**0.29**	**38**	Pg	Pg	21 24 41.5	+0.7
KRBG				Sg	Sg	21 24 45.6	+0.9
LPK	**Lapseki**	**0.31**	**313**	Pg	Pg	21 24 41.9	+0.8
LPK				Sg	Sg	21 24 46.2	+0.9
COMU	**Canakkale**	**0.46**	**262**	Pg	Pb	21 24 44.5	-0.6
COMU				Sg	Sb	21 24 51.4	-0.6
GELI	**Tayfur-Gelibol**	**0.51**	**298**	Pg	Pg	21 24 45.3	+0.5
EDC	**Edincik**	**0.64**	**73**	Pg	Pb	21 24 48.3	0.0
EZN	**Ezine**	**0.66**	**240**	Pg	Pb	21 24 48.1	-0.4
ERIK	**Erikli-Kesan**	**0.66**	**321**	Pg	Pb	21 24 48.3	-0.3
RFT2	**Karaagac**	**0.75**	**192**	Pg	Pb	21 24 50.1	-0.1
UKOP	**Uzunkopru-Edir**	**1.02**	**341**	Pg	Pb	21 24 54.9	+0.1
ALN	**Alexandroupoli**	**1.07**	**314**	Pg	Pb	21 24 55.5	-0.1
RDO	**Rodhopi**	**1.52**	**311**	Pn	Pn	21 25 02.3	0.0
CTKS	**Kestanelik-??a**	**1.54**	**45**	Pn	Pn	21 25 02.9	+0.4

*JMA **28** 22:12:30.2±0.1, 24°.N±1°.×123°.0E±0°.4, h48km, MV2.3/13, NW OFF ISHIGAKIJIMA IS*
*TAP **28** 22:12:30.1, 24°.31N×122°.88E, h40km, ML2.6, D*
ISC 28 22:12:30.3±1.2, 24°.31N±0°.04×122°.97E±0°.02, h46km±7km, n75, σ1°.28/139, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.14**	**352**	*i* P	**Pn**	**22 12 37.6**	**-0.2**
JYNG				*e*S	**Sn**	**22 12 43.1**	**+0.1**
YOJ	**Yonaguni jima**	**0.15**	**15**	P	**Pn**	**22 12 37.8**	**-0.1**
YOJ				*e*S	**Sn**	**22 12 43.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.15**	**15**	*i* P	**Pn**	**22 12 37.8**	**-0.1**
	baz=29						
YOJ				*i* S	**Sn**	**22 12 43.2**	**0.0**
	baz=29						
EOS3	**EOS3**	**0.59**	**267**	*e*P	**Pn**	**22 12 42.4**	**0.0**
	baz=267						
EOS3				S	**Sn**	**22 12 51.1**	**+0.1**
	baz=267						
EOS4	**EOS4**	**0.62**	**252**	*e*P	**Pn**	**22 12 43.0**	**+0.5**
	baz=250						
EOS4				*e*S	**Sn**	**22 12 51.8**	**+0.4**
	baz=250						
EOS2	**EOS2**	**0.68**	**279**	*i* P	**Pn**	**22 12 43.3**	**-0.2**
	baz=285						
EOS2				S	**Sn**	**22 12 53.2**	**+0.2**
	baz=285						
IRIF	**Iriomote-Funau**	**0.70**	**88**	P	**Pn**	**22 12 43.6**	**-0.2**
IRIF				S	**Sn**	**22 12 53.4**	**-0.2**
HATJ	**Hateruma jima**	**0.81**	**108**	P	**Pn**	**22 12 45.6**	**+0.3**
HATJ				S	**Sn**	**22 12 56.7**	**+0.5**
JKRS	**Kuro-shima**	**0.95**	**94**	P	**Pn**	**22 12 47.7**	**+0.4**
JKRS				*e*S	**Sn**	**22 13 00.5**	**+0.7**
TWC	**Suao**	**1.06**	**286**	P	**Pn**	**22 12 47.6**	**-1.2**
	baz=297						
TWC				*e*S	**Sn**	**22 12 59.7**	**-2.7**
	baz=297						
JIJ	**Ishigaki jima**	**1.07**	**87**	P	**Pn**	**22 12 48.7**	**-0.3**
JIJ				S	**Sn**	**22 13 02.0**	**-0.7**
EWUT	**Wuta**	**1.09**	**277**	*e*P	**Pn**	**22 12 49.2**	**0.0**
	baz=288						
EWUT				*e*S	**Sn**	**22 13 01.9**	**-1.2**
	baz=288						
ENA	**Nanau**	**1.12**	**276**	*e*P	**Pn**	**22 12 49.5**	**-0.1**
	baz=286						
ENA				S	**Sn**	**22 13 02.3**	**-1.6**
	baz=286						
NDS	**Dongshan**	**1.18**	**286**	*e*P	**Pn**	**22 12 50.5**	**0.0**
	baz=296						
NDS				*e*S	**Sn**	**22 13 03.9**	**-1.6**
	baz=296						
TWE	**Neicheng**	**1.25**	**289**	P	**Pn**	**22 12 50.9**	**-0.4**
	baz=300						
TWE				*e*S	**Sn**	**22 13 05.1**	**-1.9**
	baz=300						
JISG	**Ishigakijimahi**	**1.25**	**77**	*e*P	**Pn**	**22 12 51.2**	**-0.2**
JISG				*e*S	**Sn**	**22 13 06.7**	**-0.4**
SXI1	**Grass Mountain**	**1.26**	**308**	*e*S	**Sn**	**22 13 06.7**	**-0.7**
	baz=319						
NACB	**Ninganchiao**	**1.26**	**264**	*e*P	**Pn**	**22 12 51.0**	**-0.5**
	baz=264						
NACB				*e*S	**Sn**	**22 13 07.3**	**0.0**
	baz=264						
ENTT	**Nioudou**	**1.32**	**285**	*e*P	**Pn**	**22 12 53.1**	**+0.8**
	baz=293						
ENTT				*e*S	**Sn**	**22 13 08.3**	**-0.4**
	baz=293						
FUSB	**Fushanzhiwuyua**	**1.33**	**290**	*e*P	**Pn**	**22 12 52.2**	**-0.3**
	baz=299						
FUSB				S	**Sn**	**22 13 07.7**	**-1.5**
	baz=299						
LATG	**Datong**	**1.33**	**280**	P	**Pn**	**22 12 53.2**	**+0.6**
	baz=288						
LATG				*e*S	**Sn**	**22 13 08.9**	**-0.2**
	baz=288						
NDT	**Datong Townshi**	**1.36**	**283**	*e*P	**Pn**	**22 12 54.3**	**+1.5**
	baz=291						
NDT				*e*S	**Sn**	**22 13 09.5**	**-0.2**
	baz=291						
ETLH	**Xiulin Townshi**	**1.36**	**266**	*e*P	**Pn**	**22 12 53.4**	**+0.4**
	baz=266						
ETLH				*e*S	**Sn**	**22 13 09.1**	**-0.8**
	baz=266						
ETM	**Tongmen**	**1.39**	**256**	*e*P	**Pn**	**22 12 52.7**	**-0.6

TATO	**Taipei**	**1.50 296**	*e*P	**Pn**	**22 12 55.2 +0.5**
	baz=297				
TATO			*e*S	**Sn**	**22 13 11.8 -1.3**
	baz=297				
NSK	**Sanguang**	**1.51 284**	*e*P	**Pn**	**22 12 56.2 +1.3**
	baz=294				
NSK			*e*S	**Sn**	**22 13 12.9 -0.6**
	baz=294				
TAP	**Taipei**	**1.51 299**	*e*P	**Pn**	**22 12 53.9 -1.0**
	baz=300				
YM01	**YM01**	**1.52 304**	*e*P	**Pn**	**22 12 54.2 -0.8**
	baz=305				
YM01			*e*S	**Sn**	**22 13 12.2 -1.4**
	baz=305				
EGFH	**Guangfu**	**1.55 246**	*e*P	**Pn**	**22 12 54.8 -0.7**
	baz=245				
EGFH			*e*S	**Sn**	**22 13 14.1 -0.3**
	baz=245				
WARBT	**Fenglin Townsh**	**1.56 248**	*e*P	**Pn**	**22 12 54.5 -1.1**
	baz=247				
WARBT			*e*S	**Sn**	**22 13 13.5 -1.2**
	baz=247				
WHF	**Hehuan Shan**	**1.56 264**	*e*P	**Pn**	**22 12 56.6 +0.5**
	baz=250				
WHF			*e*S	**Sn**	**22 13 15.8 +0.5**
	baz=250				
FUSS	**Fushou**	**1.57 268**	*e*P	**Pn**	**22 12 55.8 -0.2**
	baz=268				
HGSD	**Ruisui**	**1.63 240**	*e*P	**Pn**	**22 12 55.1 -1.5**
	baz=239				
HGSD			*e*S	**Sn**	**22 13 14.5 -1.9**
	baz=239				
CHGB	**Renai**	**1.66 262**	*e*P	**Pn**	**22 12 57.4 +0.2**
	baz=249				
CHGB			*e*S	**Sn**	**22 13 17.4 0.0**
	baz=249				
OWD	**Renai**	**1.68 258**	*e*P	**Pn**	**22 12 57.5 +0.2**
	baz=258				
OWD			*e*S	**Sn**	**22 13 17.0 -0.7**
	baz=258				
EHY	**Hungye**	**1.71 242**	*e*P	**Pn**	**22 12 57.0 -0.7**
	baz=241				
EHY			*e*S	**Sn**	**22 13 16.9 -1.4**
	baz=241				
NFF	**Wufeng Townshi**	**1.71 281**	*e*P	**Pn**	**22 12 58.9 +1.1**
	baz=282				
NFF			*e*S	**Sn**	**22 13 19.0 +0.4**
	baz=282				
WUSB	**Renai**	**1.72 260**	*e*P	**Pn**	**22 12 58.4 +0.5**
	baz=259				
WUSB			*e*S	**Sn**	**22 13 18.8 +0.1**
	baz=259				
VWDT	**VWDT**	**1.76 252**	*e*P	**Pn**	**22 12 58.2 -0.1**
	baz=251				
VWDT			*e*S	**Sn**	**22 13 18.9 -0.6**
	baz=251				
YULB	**Yu-li**	**1.78 239**	P	**Pn**	**22 12 58.0 -0.7**
	baz=238				
YULB			*e*S	**Sn**	**22 13 18.6 -1.5**
	baz=238				
EYUL	**Yuli**	**1.79 238**	P	**Pn**	**22 12 57.9 -0.9**
	baz=236				
EYUL			S	**Sn**	**22 13 18.4 -1.9**
	baz=236				
TWF1	**Yuli**	**1.81 238**	*e*P	**Pn**	**22 12 58.2 -0.8**
	baz=237				
TWF1			*e*S	**Sn**	**22 13 19.9 -0.7**
	baz=237				
LIOB	**Emei**	**1.81 281**	*e*P	**Pn**	**22 13 01.1 +2.0**
	baz=281				
NSTT	**Nanjuang**	**1.82 280**	*e*P	**Pn**	**22 13 01.4 +2.2**
	baz=281				
WHP	**Taichung City**	**1.84 269**	*e*P	**Pn**	**22 13 01.1 +1.6**
	baz=258				
FULB	**Fuli**	**1.89 234**	*e*S	**Sn**	**22 13 21.2 -1.7**
	baz=224				
WCS	**Beigang Elemen**	**1.90 263**	*e*P	**Pn**	**22 13 01.3 +1.1**
	baz=254				
WCS			*e*S	**Sn**	**22 13 23.6 +0.8**
	baz=254				
SSLB	**Suanglung**	**1.91 255**	*e*P	**Pn**	**22 13 01.2 +0.7**
	baz=254				
SSLB			*e*S	**Sn**	**22 13 22.3 -1.1**
	baz=254				
SMLT	**Sun Moon Lake**	**1.94 258**	*e*P	**Pn**	**22 13 02.2 +1.3**
	baz=257				
SMLT			*e*S	**Sn**	**22 13 24.2 +0.2**
	baz=257				
TYC	**Yuchr**	**1.97 258**	*e*P	**Pn**	**22 13 01.9 +0.6**
	baz=248				
TYC			*e*S	**Sn**	**22 13 25.2 +0.5**
	baz=248				
EHD	**Haiduan**	**1.99 235**	*e*P	**Pn**	**22 13 00.5 -1.0**
	baz=224				
EHD			*e*S	**Sn**	**22 13 23.1 -2.1**
	baz=224				
EDH	**Donghe**	**2.03 229**	*e*P	**Pn**	**22 13 00.1 -2.0**
	baz=220				
EDH			S	**Sn**	**22 13 22.9 -3.2**
	baz=220				
WHYT	**Xinyi Township**	**2.03 253**	*e*P	**Pn**	**22 13 03.0 +0.9**
	baz=242				
WHYT			*e*S	**Sn**	**22 13 26.1 -0.1**
	baz=242				
WJS	**Zhushan**	**2.10 257**	*e*P	**Pn**	**22 13 06.0 +2.9**
	baz=257				
WJS			*e*S	**Sn**	**22 13 31.5 +3.5**
	baz=257				
ELDTW	**Lidau**	**2.11 238**	P	**Pn**	**22 13 02.5 -0.8**
	baz=237				
ELDTW			*e*S	**Sn**	**22 13 25.5 -2.8**
	baz=237				
ALS	**Alishan**	**2.13 248**	*e*P	**Pn**	**22 13 04.5 +0.7**
	baz=248				
ALS			*e*S	**Sn**	**22 13 29.6 +0.4**
	baz=248				
CHN5	**Tsauling**	**2.21 252**	*e*P	**Pn**	**22 13 07.5 +2.9**
	baz=251				
CHN5			*e*S	**Sn**	**22 13 32.4 +1.5**
	baz=251				
TWGBT	**Beinan**	**2.28 230**	*e*P	**Pn**	**22 13 04.9 -0.7**
	baz=220				
TWGBT			*e*S	**Sn**	**22 13 31.4 -1.0**
	baz=220				
STYH	**Taoyuan**	**2.31 241**	*e*P	**Pn**	**22 13 05.0 -0.9**
	baz=232				
STYH			*e*S	**Sn**	**22 13 33.0 -0.1**
	baz=232				
WCKO	**Fanlu**	**2.33 249**	*e*P	**Pn**	**22 13 08.0 +1.7**
	baz=248				
WCKO			*e*S	**Sn**	**22 13 36.1 +2.5**
	baz=248				
TPUB	**Ta-pu**	**2.37 245**	*e*P	**Pn**	**22 13 07.7 +1.0**
	baz=244				
TPUB			*e*S	**Sn**	**22 13 36.2 +1.7**
	baz=244				
CHN4	**Tsaushan**	**2.38 247**	*e*P	**Pn**	**22 13 08.9 +2.1**
	baz=246				
CHN4			*e*S	**Sn**	**22 13 37.0 +2.2**
	baz=246				
WTP	**Ta-pu**	**2.40 244**	*e*P	**Pn**	**22 13 08.6 +1.3**
	baz=243				
WTP			*e*S	**Sn**	**22 13 37.6 +2.1**
	baz=243				
CHN1	**Nanshi**	**2.50 244**	*e*P	**Pn**	**22 13 10.5 +2.0**
	baz=242				
SLGT	**Liugui**	**2.50 239**	*e*P	**Pn**	**22 13 10.1 +1.6**
	baz=230				
SLGT			*e*S	**Sn**	**22 13 40.4 +2.6**
	baz=230				
SGST	**Jiashian**	**2.51 241**	*e*P	**Pn**	**22 13 10.6 +2.0**
	baz=240				
SGST			*e*S	**Sn**	**22 13 40.5 +2.5**
	baz=240				
SNST	**Tainan City**	**2.51 245**	*e*P	**Pn**	**22 13 10.1 +1.4**
	baz=244				
SNST			*e*S	**Sn**	**22 13 39.3 +1.3**
	baz=244				
MASBT	**Mashibuluo**	**2.73 232**	*e*P	**Pn**	**22 13 13.0 +1.3**
	baz=223				
EAST	**Anshuo**	**2.74 226**	*e*P	**Pn**	**22 13 10.4 -1.4**
	baz=224				

BEO ***28*** *22:30:41.9±0.6, 44°.11N×16°.56E, h0km±3km, ML2.5/12*
RHSSO ***28*** *22:30:42.4±0.3, 44°.05N×16°.52E, h4km±1km, ML2.7/21*
VIE ***28*** *22:30:45.0±0.5, 44°.28N×16°.61E, h8km, mb2.7/15,*

ml2.6/16, Error ellipse: s-maj=5.1km s-min=3.7km az=65.0
85 km N of Split
PRU ***28*** *22:30:44.0, 44°.21N×16°.71E, h4km*
ISC 28 22:30:41.4±1.1, 44°.05N±0°.02×16°.54E±0°.02, h2km±9km,
n85, σ1°.08/148, 1C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.11**	**246**	*i* Pg	**Pg**	**22 30 43.6**	**+0.1**
KIJV				Sg	**Sg**	**22 30 45.1**	**+0.1**
MGRS	**Mrkonjic Grad**	**0.53**	**46**	*e*Pg	**Pg**	**22 30 51.9**	**+0.3**
MGRS				*e*Sg	**Sg**	**22 30 59.7**	**+1.2**
MORI	**Morici**	**0.63**	**253**	*i* Pg	**Pg**	**22 30 52.8**	**-0.7**
MORI				Sg	**Sg**	**22 31 02.2**	**+0.6**
RICI	**Ricice**	**0.70**	**142**	*e*Pg	**Pg**	**22 30 54.0**	**-0.8**
RICI				Sg	**Sb**	**22 31 05.4**	**-1.0**
UDBI	**Udbina**	**0.73**	**311**	*i* Pg	**Pg**	**22 30 55.3**	**-0.2**
UDBI				Sg	**Sg**	**22 31 05.4**	**+0.4**
ZIRJ	**Zirje**	**0.76**	**239**	*i* Pg	**Pg**	**22 30 54.6**	**-1.4**
ZIRJ				Sg	**Sg**	**22 31 06.4**	**+0.6**
BLY	**Banja Luka**	**0.84**	**33**	*e*Pg	**Pg**	**22 30 57.2**	**-0.2**
BLY				*e*Sg	**Sg**	**22 31 07.4**	**-0.8**
BLY	**Banja Luka**	**0.84**	**33⇓**	*i*Pg	**Pg**	**22 30 57.4**	**0.0**
BLY				*e*Sg	**Sg**	**22 31 09.5**	**+1.3**
MAKA	**Makarska**	**0.84**	**155**	*e*Pg	**Pg**	**22 30 56.2**	**-1.2**
MAKA				Sg	**Sb**	**22 31 09.5**	**-0.8**
HVAR	**Hvar**	**0.88**	**185**	*e*Pg	**Pg**	**22 30 57.9**	**-0.2**
HVAR				Sg	**Sg**	**22 31 09.9**	**+0.5**
PRIJ	**Prijedor**	**0.93**	**8**	*e*Pg	**Pg**	**22 30 59.3**	**0.0**
PRIJ				*e*Sg	**Sg**	**22 31 12.4**	**+1.0**
A051A	**Mrakovica**	**1.00**	**15⇓**	*i*Pg	**Pg**	**22 31 00.4**	**-0.1**
A051A				*e*Sg	**Sg**	**22 31 14.1**	**+0.7**
PLIT	**Plitvice**	**1.06**	**322**	Sg	Sn	22 31 16.0	+1.6
PLIT	**Plitvice**	**1.06**	**322**	*e*Pg	Pg	22 31 00.6	-1.8
DUGI	**Dugi Otok**	**1.07**	**267**	*i* Pg	**Pg**	**22 31 00.6**	**-1.3**
DUGI				Sg	**Sg**	**22 31 16.9**	**+1.0**
VIRC	**Vir**	**1.10**	**283**	*e*Pg	**Pg**	**22 31 01.3**	**-1.1**
VIRC				Sg	**Sg**	**22 31 18.3**	**+1.6**
A052A	**Srbac**	**1.26**	**33⇓**	*i*Pg	**Pg**	**22 31 05.2**	**-0.3**
A052A				*e*Sg	**Sb**	**22 31 22.9**	**+0.4**
LSTV	**Lastovo**	**1.31**	**169**	*e*Pg	**Pg**	**22 31 05.9**	**-0.5**
LSTV				Sg	**Sb**	**22 31 24.1**	**+0.3**
NVLJ	**Novalja**	**1.31**	**294**	*e*Pg	**Pg**	**22 31 06.5**	**+0.1**
NVLJ				Sg	**Sg**	**22 31 24.7**	**+1.4**
DOB	**Doboj**	**1.31**	**58**	*e*Pg	**Pg**	**22 31 06.0**	**-0.4**
DOB				*e*Sg	**Sb**	**22 31 24.5**	**+0.6**
NEVS	**Nevesinje**	**1.36**	**123**	*e*Pg	**Pg**	**22 31 07.0**	**-0.4**
NEVS				*e*Sg	**Sn**	**22 31 26.7**	**+0.6**
RABC	**Rab**	**1.44**	**300**	*e*Pn	**Pn**	**22 31 07.9**	**-0.6**
RABC				Sn	**Sn**	**22 31 29.4**	**+1.4**
STON	**Ston**	**1.45**	**144**	*e*Pg	**Pg**	**22 31 09.3**	**+0.3**
STON				Sg	**Sn**	**22 31 29.4**	**+1.3**
STON	**Ston**	**1.45**	**144**	*e*Pg	**Pn**	**22 31 07.6**	**-1.0**
STON				*e*Sg	**Sn**	**22 31 29.2**	**+1.1**
STON	**Ston**	**1.45**	**144**	*e*Pg	**Pn**	**22 31 07.7**	**-0.9**
STON				*e*Sg	**Sn**	**22 31 28.4**	**+0.3**
BOJS	**Bojanci**	**1.72**	**328**	*e*Pn	**Pn**	**22 31 12.4**	**+0.1**
BOJS				*e*Sn	**Sn**	**22 31 35.3**	**+0.4**
BOJS	**Bojanci**	**1.72**	**328**	*i* Pn	**Pn**	**22 31 12.4**	**+0.1**
BOJS				*i* Sn	**Sn**	**22 31 35.3**	**+0.4**
BOJS				IAML		22 31 41.6	
	comp=Z,31nm,0.2s						
OZLJ	**Ozalj**	**1.74**	**334**	*e*Pn	**Pn**	**22 31 12.8**	**+0.2**
OZLJ				Sn	**Sb**	**22 31 37.0**	**+0.6**
DBRK	**Dubrovnik**	**1.81**	**139**	*i* Pn	**Pn**	**22 31 14.4**	**+0.9**
DBRK				Sn	**Sg**	**22 31 39.6**	**+0.2**
BRY	**Bratogost**	**1.85**	**128**	*e*Pn	**Pb**	**22 31 15.5**	**-0.5**
BRY				*e*Sn	**Sb**	**22 31 39.5**	**-0.2**
TREB	**Trebinje**	**1.87**	**135**	*e*Pn	**Pn**	**22 31 15.1**	**+0.6**
TREB				*e*Sn	**Sb**	**22 31 39.5**	**-0.7**
TREB	**Trebinje**	**1.87**	**135**	*e*Pn	**Pn**	**22 31 15.0**	**+0.6**
TREB				*e*Sn	**Sb**	**22 31 39.8**	**-0.4**
UPM	**Unac-Piva**	**1.91**	**115**	*e*Pn	**Pn**	**22 31 16.3**	**+1.1**
UPM				*e*Sn	**Sb**	**22 31 40.8**	**-0.7**
RIY	**Rijeka**	**1.94**	**312**	*e*Pn	**Pn**	**22 31 16.0**	**+0.5**
RIY				Sn	**Sb**	**22 31 42.6**	**+0.3**
SMRN	**Sveta Marina**	**1.97**	**301**	*e*Pn	**Pn**	**22 31 16.0**	**+0.2**
SMRN				Sn	**Sn**	**22 31 43.0**	**+1.9**
BBLS	**Lazići**	**2.08**	**94**	*e*Pn	**Pn**	**22 31 18.2**	**+0.9**
BBLS				*e*Sn	**Sn**	**22 31 43.3**	**-0.4**
BBLS	**Lazići**	**2.08**	**94⇑**	*i*Pn	**Pn**	**22 31 18.7**	**+1.4**
BBLS				*e*Sn	**Sn**	**22 31 44.4**	**+0.7**
KALN	**Kalnik**	**2.08**	**358**	Sn	Sg	22 31 45.8	+7.8
KALN	**Kalnik**	**2.08**	**358**	*e*Pn	Pn	22 31 16.9	-1.1
RUDO	**Rudo**	**2.09**	**101**	*e*Pn	**Pn**	**22 31 18.4**	**+1.0**
RUDO				*e*Sn	**Sb**	**22 31 45.3**	**-1.1**
LOBO	**Lobor**	**2.13**	**351**	Sn	Sg	22 31 45.3	+6.4
LOBO	**Lobor**	**2.13**	**351**	*e*Pn	Pn	22 31 18.1	-0.3
HCY	**Herceg Novi**	**2.14**	**138**	*e*Pn	**Pn**	**22 31 19.0**	**+0.8**
HCY				*e*Sn	**Sn**	**22 31 46.4**	**+1.1**
BRJN	**Brijuni**	**2.17**	**294**	*e*Pn	**Pn**	**22 31 19.1**	**+0.6**
BRJN				Sn	**Sn**	**22 31 47.8**	**+1.8**
TEKS	**Tekeris**	**2.20**	**76**	*e*Pn	**Pn**	**22 31 20.1**	**+1.1**
TEKS				*e*Sn	**Sn**	**22 31 46.6**	**-0.2**
TEKS	**Tekeris**	**2.20**	**76**	*e*Pn	**Pn**	**22 31 20.4**	**+1.4**
TEKS				*e*Sn	**Sn**	**22 31 47.1**	**+0.3**
CEY	**Cerknica**	**2.26**	**319**	*e*Pn	**Pn**	**22 31 20.8**	**+1.0**
CEY				*e*Sn	**Sn**	**22 31 48.6**	**+0.3**
BEHE	**Becsehely**	**2.43**	**4**	*e*Pn	**Pn**	**22 31 22.2**	**+0.2**
BEHE				*e*Sn	**Sn**	**22 31 52.6**	**+0.3**
DIVS	**Divibare**	**2.49**	**88**	*e*Pn	**Pn**	**22 31 23.3**	**+0.4**
DIVS	**Divibare**	**2.49**	**88**	*e*Pn	**Pn**	**22 31 23.7**	**+0.8**
DIVS				*e*Sn	**Sn**	**22 31 55.1**	**+1.2**
PDG	**Podgorica**	**2.56**	**128**	*e*Pn	**Pb**	**22 31 26.3**	**-1.7**
PDG				*e*Sn	**Sb**	**22 31 58.0**	**-1.9**
PDG	**Podgorica**	**2.56**	**128**	*e*Pn	**Pn**	**22 31 25.6**	**+1.8**
PDG				*e*Sn	**Sn**	**22 31 57.4**	**+1.9**
FRGS	**Fruska Gora**	**2.58**	**63**	*e*Pn	**Pn**	**22 31 23.9**	**-0.3**
FRGS	**Fruska Gora**	**2.58**	**63**	*e*Pn	**Pn**	**22 31 24.9**	**+0.7**
FRGS				*e*Sn	**Sn**	**22 31 57.2**	**+1.0**
SJES	**Sjenica**	**2.61**	**106**	*e*Pn	**Pn**	**22 31 25.7**	**+1.0**
SJES				*e*Sn	**Sn**	**22 31 58.2**	**+1.2**
SJES	**Sjenica**	**2.61**	**106**	*e*Pn	**Pn**	**22 31 26.1**	**+1.4**
SJES				*e*Sn	**Sn**	**22 31 58.0**	**+1.0**
MORH	**Mrgy, Hungar**	**2.63**	**34**	*e*Pn	**Pn**	**22 31 26.5**	**+1.7**
MORH				*e*Sn	**Sn**	**22 31 57.8**	**+0.6**
DRME	**Dracevica, Mon**	**2.69**	**133**	*e*Pn	**Pn**	**22 31 27.2**	**+1.6**
DRME				*e*Sn	**Sn**	**22 31 59.3**	**+0.6**
TRUS	**Trudelj**	**2.79**	**85**	*e*Pn	**Pn**	**22 31 26.7**	**-0.3**
OBKA	**Obir**	**2.83**	**331**	Pn	**Pn**	**22 31 28.1**	**+0.4**
	comp=Z,2.8nm,0.2s						
OBKA	**Obir**	**2.83**	**331**	*e*Pn	**Pn**	**22 31 28.3**	**+0.6**
OBKA				*e*Sn	**Sn**	**22 32 02.5**	**0.0**
AQU	**L'Aquila**	**2.85**	**235**	*e*Pn	**Pn**	**22 31 28.0**	**0.0**
AQU				*e*Sn	**Sn**	**22 32 03.4**	**+0.4**
GRUS	**Gruza**	**3.02**	**92**	*e*Pn	**Pn**	**22 31 31.7**	**+1.5**
ARSA	**Arzberg**	**3.28**	**348**	*e*Pn	**Pn**	**22 31 33.9**	**+0.1**
	comp=Z,2.8nm,0.2s,SNR=7.2						
ARSA				*e*Sn	**Sn**	**22 32 11.1**	**-2.3**
	comp=Z,2.9nm,0.4s						
ARSA	**Arzberg**	**3.28**	**348**	*e*Pn	**Pn**	**22 31 33.6**	**-0.2**
ARSA				*e*Sn	**Sn**	**22 32 12.7**	**-0.7**
MYKA	**Terra Mystica**	**3.29**	**323**	*e*Pn	**Pn**	**22 31 35.4**	**+1.4**
	comp=Z,2.2nm,0.5s						
MYKA				*i* Sn	**Sn**	**22 32 12.9**	**-0.9**
	comp=Z,3.4nm,0.4s						
SELS	**Selova**	**3.42**	**102**	*e*Pn	**Pn**	**22 31 37.4**	**+1.6**
RONA	**Rosalia, Austr**	**3.65**	**357**	*e*Pn	Pn	22 31 38.8	-0.7
	comp=Z,5.4nm,0.3s,SNR=6.8						
CONA	**Conrad Observa**	**3.91**	**353**	*i* Pn	**Pn**	**22 31 42.1**	**-0.4**
	comp=Z,1.2nm,0.2s						
ABTA	**Abfaltersbach**	**3.92**	**315**	*e*Pn	**Pn**	**22 31 43.4**	**+0.8**
	comp=Z,2.4nm,0.4s,SNR=4.7						
ABTA				*i* Sn	**Sn**	**22 32 30.6**	**+1.4**
	comp=Z,2.4nm,0.4s						
ABTA				*e*Sg	**Sg**	**22 32 47.0**	**-0.1**
	comp=Z,5.5nm,0.4s						
BARS	**Barje**	**4.03**	**106**	*e*Pn	**Pn**	**22 31 44.3**	**+0.2**
MOA	**Molln**	**4.12**	**338**	*i* Pn	**Pn**	**22 31 46.0**	**+0.6**
	comp=Z,2.3nm,0.2s,SNR=8.1						
MOA				*i* Sn	**Sn**	**22 32 33.7**	**-0.4**
	comp=Z,1.6nm,0.3s						
MOA	**Molln**	**4.12**	**338**	*e*Pn	**Pn**	**22 31 44.9**	**-0.4**
MOA				*e*Sn	**Sn**	**22 32 32.3**	**-1.8**
BIOA	**Bad Ischl, Aus**	**4.17**	**332**	*i* Pn	**Pn**	**22 31 47.5**	**+1.5**
	comp=Z,2.7nm,0.3s						
BIOA				*i* Sn	**Sn**	**22 32 33.9**	**-1.5**
	comp=Z,3.5nm,0.2s						
LESA	**Schwarzleotal**	**4.33**	**323**	*i* Pn	**Pn**	**22 31 49.9**	**+1.7**
	comp=Z,2.8nm,0.3s						
LESA				*e*Sn	**Sn**	**22 32 38.8**	**-0.4**
	comp=Z,2.4nm,0.4s						
WTTA	**Wattenberg**	**4.71**	**315**	*e*Pn	**Pn**	**22 31 55.5**	**+2.0**
	comp=Z,1.3nm,0.2s,SNR=4.6						
WTTA				*e*Sn	**Sn**	**22 32 49.0**	**+0.2**
	comp=Z,8.3nm,0.5s						
VYHS	**Vyhne**	**4.72**	**19**	*e*PN	**Pn**	**22 31 53.4**	**-0.2**
VYHS				*e*SN	**Sn**	**22 32 46.7**	**-2.2**
WATA	**Walderalm**	**4.79**	**315**	*i* Pn	**Pn**	**22 31 56.1**	**+1.5**
	comp=Z,3.6nm,0.2s,SNR=10						
WATA				*e*Sn	**Sn**	**22 32 52.1**	**+1.4**
	comp=Z,2.5nm,0.4s						
SQTA	**Sankt Quirin**	**4.90**	**312**	*i* Pn	**Pn**	**22 31 57.8**	**+1.6**
	comp=Z,2.2nm,0.3s,SNR=7.0						
SQTA				*i* Sn	**Sn**	**22 32 52.9**	**-0.7**
	comp=Z,3.3nm,0.4s						
CKRC	**Cesky Krumlov**	**5.01**	**343**	*e*PN	**Pn**	**22 31 57.9**	**+0.3**
CKRC				*e*SN	**Sn**	**22 32 53.1**	**-3.1**
MOTA	**Moosalm**	**5.04**	**313**	*i* Pn	**Pn**	**22 31 59.8**	**+1.7**
	comp=Z,2.2nm,0.3s,SNR=6.4						
MOTA				*i* Sn	**Sn**	**22 32 57.6**	**+0.7**
	comp=Z,3.8nm,0.7s						
FETA	**Feichten**	**5.05**	**308**	*e*Pn	**Pn**	**22 31 59.2**	**+0.9**
	comp=Z,0.6nm,0.3s						
FETA				*i* Sn	**Sn**	**22 32 58.9**	**+1.7**
	comp=Z,0.9nm,0.5s						
RETA	**Reutte**	**5.31**	**312**	*e*Pn	**Pn**	**22 32 02.6**	**+0.9**
	comp=Z,0.3nm,0.2s						
RETA				*e*Sn	**Sn**	**22 33 05.0**	**+1.6**
	comp=Z,1.5nm,0.3s						
KHC	**Kasperske Hory**	**5.48**	**339**	*e*PN	**Pn**	**22 32 04.7**	**+0.7**
KHC				*e*SN	**Sn**	**22 33 04.7**	**-2.9**
ZVC	**Zvikov**	**5.63**	**344**	*e*SN	**Sn**	**22 33 07.7**	**-3.5**

IDC 28 22:37:11.2±2.8, 56°.09S×147°.51E, h0km, mb3.4/3,
mbtmp3.5/3, Error ellipse: s-maj=291.5km
s-min=25.5km az=76.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**22.11**	**172**	P	P	22 42 07.6	0.0
	0.3nm,0.4s,baz=273,slow=17,SNR=11						
	0.3nm,0.4s						
H01W1	**Cape Leeuwin H**	**31.08**	**299**	T	T	23 16 26.6	
	baz=144,slow=75,SNR=33						
H01W2	**Cape Leeuwin H**	**31.09**	**299**	T	T	23 16 27.2	
	baz=144,slow=75,SNR=42						
H01W3	**Cape Leeuwin H**	**31.10**	**299**	T	T	23 16 27.8	
	baz=144,slow=75,SNR=25						
ASAR	**Alice Springs**	**33.90**	**337**	P	P	22 43 55.7	+0.1
	0.5nm,0.7s,baz=163,slow=8.9,SNR=6.3						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**37.42**	**339**	P	P	22 44 25.6	-0.2
	0.7nm,0.5s,baz=166,slow=7.7,SNR=8.4						
	0.7nm,0.5s						
H04S1	**CROZET ISLANDS**	**55.62**	**236**	T	T	23 47 19.3	
	baz=140,slow=75,SNR=12						
H04S2	**CROZET ISLANDS**	**55.62**	**236**	T	T	23 47 19.0	
	baz=140,slow=75,SNR=10						
H04S3	**CROZET ISLANDS**	**55.64**	**236**	T	T	23 47 18.4	
	baz=140,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**75.34**	**278**	T	T	00 11 29.0	
	baz=147,slow=76,SNR=13						
H08S1	**Diego Garcia H**	**75.35**	**278**	T	T	00 11 27.3	
	baz=147,slow=76,SNR=10						
H08S3	**Diego Garcia H**	**75.36**	**278**	T	T	00 11 28.1	
	baz=147,slow=76,SNR=18						
H03S2	**Juan Fernandez**	**82.10**	**142**	T	T	00 20 20.3	
	baz=202,slow=74,SNR=7.1						
H03S1	**Juan Fernandez**	**82.10**	**143**	T	T	00 20 17.2	
	baz=202,slow=74,SNR=6.3						
H03S3	**Juan Fernandez**	**82.11**	**142**	T	T	00 20 19.6	
	baz=202,slow=74,SNR=6.0						

IDC 28 22:40:29.4±7.5, 28°.13N×86°.28E, h0km, mb3.6/4,
mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=128.7km
s-min=54.9km az=8.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**18.89**	**352**	P	P	22 44 51.0	-0.4
	0.1nm,0.3s,baz=164,slow=13,SNR=5.5						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**23.22**	**347**	P	P	22 45 38.6	+0.7
	0.6nm,0.7s,baz=161,slow=9.0,SNR=6.4						
	0.6nm,0.7s						
SONM	**Songino Array**	**25.13**	**33**	P	P	22 45 56.1	-0.1
	0.6nm,0.4s,baz=217,slow=10,SNR=7.6						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**27.51**	**339**	P	P	22 46 16.4	-1.1
	0.2nm,0.4s,baz=137,slow=11,SNR=2.1						
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**53.79**	**338**	P	P	22 49 53.8	+0.5
	3.5nm,1.0s,baz=113,slow=8.0,SNR=1.8						
	3.5nm,1.0s						

AEIC ***28*** *22:58:10.4±1.1, 53°.38N±0°.07×161°.08W±0°.08, h3km±7km,*
Error ellipse: s-maj=11.5km s-min=6.3km az=156.0
NEIC 28 22:58:07.1±1.1, 53°.41N±0°.07×161°.10W±0°.09, h10km±2km,
mb3.7/5, ML3.5/8, ML3.2(AEIC), Error ellipse:
s-maj=13.1km s-min=6.7km az=147.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**1.67**	**31**		Pn	22 58 35.9	-0.5
CNBA					Sn	22 58 55.2	-2.7
DT1	**Dutton Round H**	**1.84**	**338**		Pn	22 58 38.2	-0.5
HAG	**Hague Volcano**	**1.97**	**346**		Pn	22 58 40.7	+0.1
SDPT	**Sand Point**	**1.98**	**10**		Pn	22 58 40.0	-0.6
SDPT				IAML		22

L15K	Ungalak Mounta	8.30	359		Pn	23 00 06.9	-0.4
K13K	Kusilvak Mount	8.76	349	Pn	Pn	23 00 13.8	+0.2
K15K	Wolf Creek Mou	8.92	359	Pn	Pn	23 00 16.2	+0.4
J14K	Nanvaranak Lak	9.46	353	Pn	Pn	23 00 23.5	+0.3
SUA	Susitna One	9.81	30	Pn	Pn	23 00 28.5	+0.4
J16K	Anvik River	9.91	1	Pn	Pn	23 00 29.8	+0.4
PWL	Port Wells	10.18	38	Pn	Pn	23 00 31.9	-1.1
J18K	Innoko River	10.35	11	Pn	Pn	23 00 35.4	+0.1
KNK	Knik Glacier	10.51	35	Pn	Pn	23 00 37.2	-0.4
GHO	Glory Hole Cre	10.61	33	Pn	Pn	23 00 39.1	0.0
SML	Sawmill	10.83	34	Pn	Pn	23 00 41.7	-0.4
J19K	Poorman	10.99	13	Pn	Pn	23 00 44.6	+0.4
KAIM	Kayak Island	11.24	48	Pn	Pn	23 00 47.9	+0.3
HMT	Hamilton	11.51	46	Pn	Pn	23 00 50.9	-0.4
BPAW	Bear Paw Mtn.	11.92	22	Pn	Pn	23 00 56.6	-0.3
IMAR	Indian Mountai	13.14	13	Pn	Pn	23 01 13.6	+0.2
M26K	Nabesna, AK	13.14	40	Pn	Pn	23 01 12.7	-0.8
L27K	Beaver Creek,	13.96	39	Pn	Pn	23 01 24.4	-0.3
BCAR	Beaver Creek A	13.98	39	Pn	Pn	23 01 24.3	-0.7
O29M	Mount Kennedy	14.07	52	Pn	Pn	23 01 27.6	+1.2
P29M	Windy Craggy	14.27	55	Pn	Pn	23 01 29.1	+0.1
C18K	Utukok River	15.30	360	Pn	Pn	23 01 44.2	+1.3
C18K				IAmb	IAmb	23 01 49.0	
	comp=Z,2.7nm,0.8s						
B20K	Meade River	16.76	5	Pn	Pn	23 02 01.4	-0.1
I30M	Mount Dempster	17.15	37		P	23 02 07.8	-0.5
I30M				IAmb	IAmb	23 02 24.8	
	comp=Z,4.2nm,0.8s						
EPYK	Eagle Plains	17.67	33	P	P	23 02 14.6	+0.6
G31M	Satah River	18.79	34	P	P	23 02 26.0	-0.1
G31M				IAmb	IAmb	23 02 33.0	
	comp=Z,10.0nm,1.5s						

*IDC **28** 23:02:32.1±0.7, 87°.00N×56°.70E, h0km, mb3.7/12, mbtmp3.8/13, ML3.4/1, MS3.3/12, Error ellipse: s-maj=23.9km s-min=16.5km az=88.0*
*NEIC **28** 23:02:33.3±1.8, 86°.98N±0°.08×5°.3E±°, h10km±1km, mb4.4/14, Error ellipse: s-maj=17.1km s-min=13.9km az=251.0*
*IEPN **28** 23:02:34.0, 86°.94N×57°.19E, h10km*

ISC 28 23:02:33.0±0.5, 86°.93N±0°.07×57°.77E±0°.07, h10km, n55, σ1§73/46, mb3.9/19, MS3.3/11, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	Zemlya Franca-	6.24	195	eP	Pn	23 04 03.4	-1.5
ZFI2				eS	Sn	23 05 07.0	-9.1
	59nm,1.5s						
OMEGA	Omega	6.26	195	eP	Pn	23 04 03.7	-1.5
OMEGA				eS	Sn	23 05 06.6	-10
	50nm,1.3s						
SVZ	Severnaya Zeml	8.83	122	eP	Pn	23 04 41.4	+1.1
SVZ				eS	Sn	23 06 12.9	-6.8
KBS	Kingsbay	9.26	239	Pn	Pn	23 04 44.0	-2.3
KBS	Kingsbay	9.26	239	eP	Pn	23 04 44.4	-1.9
SPB5	Spitsbergen Ar	9.79	233	Pn	Pn	23 04 51.6	-2.0
SPA0	Spitsbergen Ar	9.80	233	eP	Pn	23 04 51.8	-1.8
SPA0				eS	Sn	23 06 33.9	-10
SPITS	Spitsbergen Ar	9.80	233	Pn	Pn	23 04 51.2	-2.4
SPITS	baz=36,slow=14						
				Sn	Sn	23 06 33.4	-10
	baz=34,slow=21						
HSPB	Hornsund (broa	10.99	233	eP	Pn	23 05 09.5	-0.4
EUNU	Eureka	12.64	332	Pn	Pn	23 05 30.0	-2.5
ARCES	ARCESS Array B	18.05	217		Pn	23 06 42.2	-1.3
ARCES				IAmb	IAmb	23 07 07.2	
	comp=Z,36nm,1.4s						
ARCES	ARCESS Array B	18.05	217	eP	Pn	23 06 43.2	-0.3
ARCES	ARCESS Array B	18.05	217	P	Pn	23 06 43.2	-0.3
	comp=Z,0.1nm,0.3s,baz=329,slow=1.4,SNR=5.1						
	comp=Z,3.9nm,0.8s						
RES	Resolute Bay	18.21	337	LR	LR	23 14 09.6	
	comp=Z,65nm,18.2s,baz=18,slow=38						
D27M	Malcolm River	23.83	16	P	P	23 07 48.0	+2.3
D27M				IAmb	IAmb	23 08 04.2	
	comp=Z,8.0nm,1.1s						
D22K	Ayikyak River	23.96	27	P	P	23 07 48.2	+1.4
D22K				IAmb	IAmb	23 08 12.5	
	comp=Z,12nm,1.3s						
INK	Inuvik	24.86	10	LR	LR	23 21 50.9	
	comp=Z,32nm,18.0s,baz=12,slow=47						
BMAR	Burnt Mountain	25.59	20	P	P	23 08 01.8	+0.1
F20K	Avaraart Lake	25.72	30	P	P	23 08 03.9	+1.1
F20K				IAmb	IAmb	23 08 14.7	
	comp=Z,6.4nm,0.9s						
FINES	FINESS Array B	26.14	215	eP	P	23 08 08.2	+1.5
FINES	FINESS Array B	26.14	215	P	P	23 08 08.2	+1.5
	comp=Z,6.7nm,1.0s,baz=100,slow=34,SNR=3.1						
	comp=Z,6.7nm,1.0s						
G29M	Pine Creek	26.21	14	P	P	23 08 05.6	-1.7
G29M				IAmb	IAmb	23 08 18.3	
	comp=Z,9.4nm,1.2s						
G31M	Satah River	26.24	11	P	P	23 08 07.1	-0.4
G31M				IAmb	IAmb	23 08 32.3	
	comp=Z,14nm,1.4s						
NOA	NORSAR Array B	27.09	231	eP	P	23 08 15.4	+0.1
NOA	NORSAR Array B	27.09	231	P	P	23 08 15.4	+0.1
	comp=Z,1.1nm,0.8s,baz=317,slow=25,SNR=2.2						
	comp=Z,1.1nm,0.8s						
H19K	Roundabout Mou	27.22	31	P	P	23 08 18.2	+1.9
H19K				IAmb	IAmb	23 08 35.4	
	comp=Z,11nm,1.5s						
ILAR	Eielson Array	28.21	22	P	P	23 08 24.4	-0.9
ILAR	Eielson Array	28.21	22	eP	P	23 08 24.2	-1.1
ILAR	Eielson Array	28.21	22	P	P	23 08 24.2	-1.1
	comp=Z,0.5nm,1.1s,baz=324,slow=33,SNR=2.9						
	comp=Z,0.5nm,1.1s						
FRB	Frobisher Bay	28.34	311	LR	LR	23 19 58.3	
	comp=Z,37nm,18.0s,baz=0.0,slow=37						
KIRV	Kirov	28.54	189	LR	LR	23 22 06.6	
	comp=Z,34nm,18.2s,baz=28,slow=41						
BCAR	Beaver Creek A	30.02	18	P	P	23 08 43.0	+1.7
L18K	Granite Mounta	30.53	31	P	P	23 08 46.8	+0.9
ARU	Arti	30.66	179	LR	LR	23 21 33.0	
	comp=Z,57nm,18.1s,baz=100,slow=37						
YKA	Yellowknife Ar	30.73	353	LR	LR	23 20 33.8	
	comp=Z,69nm,21.0s,baz=40,slow=35						
VRDI	Verde Repeater	31.83	19	P	P	23 08 58.6	+1.1
VRDI				IAmb	IAmb	23 09 18.9	
	comp=Z,8.2nm,1.3s						
BVAR	Borovoye Array	34.15	166	P	P	23 09 20.0	+2.3
	comp=Z,1.4nm,0.8s,baz=359,slow=8.6,SNR=6.0						
BVAR				LR	LR	23 25 21.1	
	comp=Z,50nm,18.7s,baz=334,slow=40						
	comp=Z,1.4nm,0.8s						
KURBB	Kurchatov Arra	36.69	158	LR	LR	23 27 19.0	
	comp=Z,63nm,19.8s,baz=174,slow=40						
ABKAR	Akbulak array	37.85	178	P	P	23 09 50.1	+0.8
ABKAR	Akbulak array	37.85	178	P	P	23 09 50.1	+0.8
SONM	Songino Array	40.37	129	P	P	23 10 10.9	+0.3
SONM	Songino Array	40.37	129	P	P	23 10 13.2	+2.6
	comp=Z,0.7nm,0.6s,baz=346,slow=5.1,SNR=4.7						
	comp=Z,0.7nm,0.6s						
MKAR	Makanchi Array	40.61	154	P	P	23 10 13.3	+0.9
	comp=Z,1.6nm,0.9s,baz=58,slow=7.3,SNR=4.6						
MKAR				LR	LR	23 28 37.8	
	comp=Z,63nm,18.9s,baz=134,slow=38						
	comp=Z,1.6nm,0.9s						
KBZ	Khabaz	43.49	196	LR	LR	23 32 26.5	
	comp=Z,27nm,18.7s,baz=22,slow=41						
AAK	Ala-Archa	44.60	162	LR	LR	23 32 32.0	
	comp=Z,65nm,18.6s,baz=160,slow=40						
NEW	Newport	45.00	355	LR	LR	23 29 16.6	
	comp=Z,101nm,18.4s,baz=254,slow=36						
LON	Longmire	46.53	360	P	P	23 10 59.3	-0.8
ESDC	Sonseca Array	49.11	244	P	P	23 11 20.9	+0.8
	comp=Z,0.5nm,0.8s,baz=1.6,slow=6.5,SNR=3.0						
	comp=Z,0.5nm,0.8s						
PDAR	Pinedale Array	50.44	348	P	P	23 11 30.8	+0.3
	comp=Z,0.5nm,0.9s,baz=24,slow=5.5,SNR=4.1						
	comp=Z,0.5nm,0.9s						
NVAR	Mina Array Bea	54.84	356	P	P	23 12 04.0	+1.0
	comp=Z,0.4nm,0.7s,baz=6.8,slow=3.8,SNR=4.5						
	comp=Z,0.4nm,0.7s						
425A	Indio Mountain	62.33	343	P	P	23 12 56.0	+0.8
TXAR	Lajitas Array	63.76	342	P	P	23 13 05.1	+0.5
	comp=Z,0.6nm,0.8s,baz=12,slow=3.1,SNR=7.3						
	comp=Z,0.6nm,0.8s						
CMAR	Chiang Mai Arr	69.35	138	P	P	23 13 40.1	-0.2
	comp=Z,0.8nm,0.3s,baz=341,slow=5.2,SNR=5.1						
	comp=Z,0.8nm,0.3s						
TORD	Torodi Ar. Bea	75.23	237	P	P	23 14 15.4	-0.1
TORD	Torodi Ar. Bea	75.23	237	P	P	23 14 15.7	+0.2
	comp=Z,0.8nm,0.9s,baz=358,slow=7.6,SNR=4.4						
	comp=Z,0.8nm,0.9s						

*SJA **28** 23:16:05.1±0.7, 18°.47S×70°.00W, h102km±4km, ML3.7, MW3.8*
*GUC **28** 23:16:08.8±0.8, 18°.51S×69°.82W, h80km±4km, ML3.7*

ISC 28 23:16:11.0±1.5, 18°.61S±0°.04×69°.92W±0°.05, h64km±12km, n32, σ1§90/53, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	IPOC Station P	0.39	269	⇓iP	Pn	23 16 21.7	-0.7
PB12				iS	Sn	23 16 32.1	+1.5
PB12				IAML		23 16 32.9	
	comp=N,5μm,0.4s						
PB12	IPOC Station P	0.39	269	eP	Pn	23 16 20.9	-1.4
PB12				eS	Sn	23 16 32.2	+1.5
PB12				IAML		23 16 33.0	
	comp=Z,1μm,0.1s						
AP01	Chacalluta	0.46	300	⇑iP	Pn	23 16 22.2	-0.8
AP01				iS	Sn	23 16 32.9	+1.2
AP01				IAML		23 16 33.6	
	comp=E,9μm,0.4s						
AP01	Chacalluta	0.46	300	eP	Pn	23 16 21.5	-1.4
AP01				eP	Pn	23 16 22.3	-0.7
AP01				eS	Sn	23 16 32.4	+0.7
AP01				IAML		23 16 34.2	
	comp=Z,4μm,0.1s						
PB16	IPOC Station P	0.47	56	⇑eP	Pn	23 16 22.4	-1.4
PB16				iS	Sn	23 16 33.1	+0.1
PB16				IAML		23 16 34.0	
	comp=N,4μm,0.2s						
PB16	IPOC Station P	0.47	56	eP	Pn	23 16 22.3	-1.4
PB16				IAML		23 16 36.6	
	comp=Z,934nm,0.5s						
PB18	Visviri	1.09	23	⇑iP	Pn	23 16 30.1	-0.9
PB18				iS	Sn	23 16 47.4	+1.7
GO01	Chusmiza	1.26	147	eP	Pn	23 16 32.3	-0.9
GO01				iS	Sn	23 16 50.7	+1.1
GO01				IAML		23 16 55.4	
	comp=E,2μm,0.2s						
GO01	Chusmiza	1.26	147	eP	Pn	23 16 32.2	-0.9
GO01				eS	Sn	23 16 52.1	+2.5
GO01				IAML		23 16 55.0	
	comp=Z,604nm,0.1s						
HMBC	Humberstone	1.67	179	⇑iP	Pn	23 16 36.5	-1.7
HMBC				iS	Sn	23 16 59.1	+0.5
HMBC				IAML		23 17 04.3	
	comp=N,868nm,0.4s						
HMBC	Humberstone	1.67	179	eP	Pn	23 16 36.5	-1.7
HMBC				eS	Sn	23 17 00.0	+1.3
HMBC				IAML		23 17 04.0	
	comp=Z,770nm,0.3s						
TA02	Huaiquique	1.67	187	eP	Pn	23 16 37.1	-1.0
TA02				eS	Sn	23 17 00.0	+1.4
PB08	IPOC Station P	1.69	155	eP	Pn	23 16 37.7	-1.1
PB08				iS	Sn	23 17 00.1	+0.4
PB08				IAML		23 17 02.5	
	comp=E,926nm,0.3s						
PB08	IPOC Station P	1.69	155	eP	Pn	23 16 37.2	-1.5
PB08				IAML		23 17 03.5	
	comp=Z,607nm,0.4s						
TA01	Diego Aracena	1.97	187	eP	Pn	23 16 39.9	-2.1
TA01				eS	Sn	23 17 06.4	+0.7
TA01				IAML		23 17 12.1	
	comp=E,608nm,0.3s						
TA01	Diego Aracena	1.97	187	eP	Pn	23 16 40.0	-2.1
TA01				eS	Sn	23 17 07.0	+1.3
TA01				IAML		23 17 12.2	
	comp=Z,260nm,0.3s						
PATCX	Punta Patache	2.21	186	eP	Pn	23 16 43.5	-2.0
PATCX				iS	Sn	23 17 13.2	+1.2
PATCX				IAML		23 17 19.8	
	comp=E,429nm,0.2s						
PATCX	Punta Patache	2.21	186	eP	Pn	23 16 43.3	-2.2
PATCX				eS	Sn	23 17 01.8	-10
PATCX				IAML		23 17 24.4	
	comp=Z,219nm,0.3s						
PB01	IPOC Station P	2.46	171	eP	Pn	23 16 46.7	-2.2
PB01				iS	Sn	23 17 17.6	-0.3
PB01				IAML		23 17 26.2	
	comp=N,519nm,0.2s						
PB01	IPOC Station P	2.46	171	eP	Pn	23 16 46.9	-2.0
PB01				IAML		23 17 26.9	
	comp=Z,388nm,0.4s						
PB02	IPOC Station P	2.70	180	eP	Pn	23 16 50.0	-2.2
PB02				eS	Sn	23 17 26.7	+2.9
PB02	IPOC Station P	2.70	180	eP	Pn	23 16 50.0	-2.2
PB02				eS	Sn	23 17 27.1	+3.2
PB02				IAML		23 17 34.4	
	comp=Z,594nm,0.2s						
LPAZ	La Paz	2.87	37	eP	Pn	23 16 54.0	-0.9
PB07	IPOC Station P	3.11	179	eP	Pn	23 16 56.5	-1.3
PB07				eS	Sn	23 17 36.8	+2.9
PB09	IPOC Station P	3.24	169	eP	Pn	23 16 58.3	-1.3
PB04	IPOC Station P	3.72	183	eP	Pn	23 17 04.1	-2.0
PB04	IPOC Station P	3.72	183	eP	Pn	23 17 04.3	-1.9
PB04				eS	Sn	23 17 59.6	+11
PB04				IAML		23 18 02.2	
	comp=Z,203nm,0.3s						
PB06	IPOC Station P	4.09	175	eP	Pn	23 17 09.2	-2.1
PB06				eS	Sn	23 18 03.9	+5.9
LVC	Limon Verde	4.10	167	eP	Pn	23 17 10.4	-1.0
LVC	Limon Verde	4.10	167	eP	Pn	23 17 09.8	-1.7
LVC				eS	Sn	23 18 12.3	+14
LVC				IAML		23 18 14.8	
	comp=Z,37nm,0.5s						
PB15	IPOC Station P	4.60	175	eP	Pn	23 17 15.9	-2.3
PB15				iS	Sn	23 18 20.9	+10
PB15	IPOC Station P	4.60	175	eP	Pn	23 17 15.8	-2.4
PB15				eS	Sn	23 18 24.3	+14

*IDC **28** 23:24:52.5±1.2, 6°.28S×104°.79E, h0km, mb3.7/7, mbtmp3.9/9, ML4.5/2, Error ellipse: s-maj=44.6km s-min=13.3km az=31.0*
*DJA **28** 23:24:54.4±0.3, 7°.5±4°×10°.5E±°, h10km, M4.6/13, mb4.8/6, MLv4.5/13*
*NEIC **28** 23:24:59.5±0.8, 6°.1S±0°.3×105°.0E±0°.2, h43km±11km, mb4.2/9, Error ellipse: s-maj=45.5km s-min=6.0km az=207.0*

ISC 28 23:24:57.1±0.8, 6°.6S±0°.2×104°.70E±0°.09, h35km, n54, σ1§15/44, mb3.9/11, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.99	92	P	Pn	23 25 12.4	-2.1
KASI	Kota Agung	1.07	349	P	Pn	23 25 14.4	-1.2
LWLI	Liwa	1.68	338	P	Pn	23 25 25.2	+1.1
KLI	Kotabumi	1.71	5	P	Pn	23 25 25.3	+0.8
CBJI	Citeko	2.14	86	P	Pn	23 25 31.5	+1.1
CNJI	Cibinong	2.52	107	P	Pn	23 25 34.0	-1.6
MNAI	Manna	2.80	322	Pn	Pn	23 25 39.6	+0.1
MNAI	Manna	2.80	322	P	Pn	23 25 40.0	+0.5
LEM	Lembang	2.91	95	P	Pn	23 25 42.4	+1.3
LEM	Lembang	2.91	95	Pn	Pn	23 25 40.4	-0.7
	23nm,0.3s,baz=190,slow=14,SNR=21						
LEM				Sn	Sn	23 26 13.5	-1.4
	20nm,0.3s,baz=293,slow=21,SNR=1.7						
	87nm,0.5s						
CMJI	Cimerak	3.91	108	P	Pn	23 25 54.2	-0.5
KPJI	Karang Pucung	4.27	100	P	Pn	23 26 00.9	+1.3
YOGI	Yogyakarta	5.69	103	P	Pn	23 26 18.5	-0.7
	82nm,1.1s,0.7nm						
UGM	Wanagama	5.93	103	Pn	Pn	23 26 21.7	-0.8
UGM	Wanagama	5.93	103	P	Pn	23 26 22.1	-0.4
	219nm,1.8s,1.1nm						
PPSI	Pulau Pagai	6.02	309	P	Pn	23 26 24.3	+0.6
	87nm,0.8s,0.6nm						
SISI	Saibi	7.65	313	P	Pn	23 26 46.4	+0.3
	38nm,1.9s,0.2nm						
JAGI	Jajag, Banyuwa	9.56	102	Pn	Pn	23 27 12.1	-0.3
JAGI	Jajag, Banyuwa	9.56	102	P	Pn	23 27 13.5	+1.2
	40nm,0.7s						
SRBI	Singaraja	10.53	99	P	Pn	23 27 27.4	+1.7
GSI	Gunungsitoli	10.58	317	Pn	Pn	23 27 25.4	-0.9
BATI	Baumata	19.10	102	P	P	23 29 16.0	-1.1
	3.8nm,0.3s,baz=312,slow=19,SNR=2.3						
BATI				S	S	23 32 53.5	+1.5
	13nm,0.6s,baz=288,slow=20,SNR=1.3						
	9.0nm,0.3s						
SOEI	Soe	19.62	101	P	P	23 29 20.9	-2.0
KNRA	Kununurra	25.26	113	P	P	23 30 20.4	+0.1
MTN	Manton Dam	26.77	105	P	P	23 30 32.3	-1.7
MTN				IAmb	IAmb	23 30 40.4	
	comp=Z,13nm,1.1s						
H01W3	Cape Leeuwin H	29.48	164	T	T	00 02 07.4	
	baz=342,slow=76,SNR=96						
H01W1	Cape Leeuwin H	29.50	164	T	T	00 02 04.1	
	baz=342,slow=76,SNR=75						
H01W2	Cape Leeuwin H	29.50	164	T	T	00 02 09.6	
	baz=342,slow=76,SNR=71						
WB0	Warramunga Arr	31.67	117	P	P	23 31 17.4	-0.1
WB0				IAmb	IAmb	23 31 19.7	
	comp=Z,5.8nm,1.3s						
WRA	Warramunga Arr	31.68	118	P	P	23 31 16.9	-0.7
WRA	Warramunga Arr	31.68	118	P	P	23 31 17.6	-0.1
	comp=Z,0.2nm,0.3s,baz=303,slow=9.1,SNR=9.2						
	comp=Z,0.2nm,0.3s						
H08S2	Diego Garcia H	31.97	266	T	T	00 04 57.3	
	baz=89,slow=76,SNR=110						
H08S3	Diego Garcia H	31.98	266	T	T	00 04 56.3	
	baz=89,slow=76,SNR=127						
H08S1	Diego Carcia H	31.99	266	T	T	00 04 56.7	
	baz=89,slow=76,SNR=49						
AS31	Alice Springs	32.80	124	P	P	23 31 28.7	+1.2
AS31				IAmb	IAmb	23 31 48.3	
	comp=Z,2.3nm,1.4s						
ASAR	Alice Springs	32.80	124	P	P	23 31 27.8	+0.3
ASAR	Alice Springs	32.80	124	P	P	23 31 28.3	+0.9
	comp=Z,0.7nm,0.8s,baz=306,slow=8.4,SNR=8.5						
	comp=Z,0.7nm,0.8s						
STKA	Stephens Creek	42.63	131	P	P	23 32 51.9	+1.5
STKA	Stephens Creek	42.63	131	P	P	23 32 52.5	+2.1
	comp=Z,2.4nm,0.5s,baz=318,slow=11,SNR=5.3						
	comp=Z,2.4nm,0.5s						
MKAR	Makanchi Array	56.74	342	P	P	23 34 36.0	-1.5
MKAR	Makanchi Array	56.74	342	P	P	23 34 36.5	-1.1
	comp=Z,0.3nm,0.5s,baz=156,slow=9.4,SNR=5.1						
	comp=Z,0.3nm,0.5s						
H04N2	CROZET ISLANDS	60.11	220	T	T	00 40 25.9	
	baz=67,slow=75,SNR=107						
H04N1	CROZET ISLANDS	60.12	220	T	T	00 40 39.2	
	baz=67,slow=75,SNR=90						
H04N3	CROZET ISLANDS	60.13	220	T	T	00 40 26.4	
	baz=67,slow=75,SNR=109						
H04S1	CROZET ISLANDS	60.32	219	T	T	00 40 52.4	
	baz=66,slow=76,SNR=20						
H04S3	CROZET ISLANDS	60.33	219	T	T	00 40 52.9	
	baz=66,slow=76,SNR=15						
H04S2	CROZET ISLANDS	60.34	219	T	T	00 40 55.9	
	baz=66,slow=76,SNR=20						
ZALV	Zalesovo Beam	62.58	347	P	P	23 35 16.2	-1.3
	comp=Z,0.6nm,0.5s,baz=168,slow=6.1,SNR=2.7						
	comp=Z,0.6nm,0.5s						
BVAR	Borovoye Array	66.11	338	P	P	23 35 39.4	-1.3
	comp=Z,0.4nm,0.5s,baz=140,slow=9.4,SNR=3.6						
	comp=Z,0.4nm,0.5s						
ABKAR	Akbulak array	67.90	330		P	23 35 51.4	-0.7
ABKAR				IAmb	IAmb	23 35 52.6	
	comp=Z,2.9nm,0.7s						
ABKAR	Akbulak array	67.90	330	P	P	23 35 51.3	-0.7
BRTR	Keskin Array B	79.85	312	P	P	23 37 02.4	-0.1
BRTR	Keskin Array B	79.85	312	P	P	23 37 03.5	+1.0
	comp=Z,0.5nm,0.8s,baz=90,slow=2.9,SNR=3.6						
	comp=Z,0.5nm,0.8s						
TXAR	Lajitas Array	144.96	46	PKP	PKPab	23 44 31.5	+0.7
	comp=Z,0.2nm,0.5s,baz=232,slow=2.7,SNR=3.9						

*IDC **28** 23:46:50.3±2.6, 1°.52N×126°.99E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=222.7km s-min=28.8km az=66.0*
*DJA **28** 23:47:02.6±1.2, 1°.50N±0°.09×127°.0E±0°.1, h103km, n9, σ1§63/9, mb3.1/3, Halmahera*

ISC 28 23:47:02.6±1.2, 1°.50N±0°.09×127°.0E±0°.1, h103km, n9, σ1§63/9, mb3.1/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.81	153	P	Pn	23 47 23.2	+1.9
LBMI	Labuha	2.18	167	P	Pn	23 47 38.3	+0.6
SGSI	Sangihe	2.62	326	P	Pn	23 47 43.6	+0.2
GTOI	Gorontalo	4.08	258	P	Pn	23 48 04.4	+1.5
NLAI	Namlea	4.71	179	P	Pn	23 48 11.5	+0.1
LUWI	Luwuk	4.93	239	P	Pn	23 48 14.5	+0.1
WRA	Warramunga Arr	22.49	162	P	P	23 51 50.6	-3.1
	0.2nm,0.4s,baz=340,slow=11,SNR=8.5						
	0.2nm,0.4s						
ASAR	Alice Springs	25.90	165	P	P	23 52 25.6	+0.5
	0.7nm,1.1s,baz=350,slow=9.3,SNR=1.4						
	0.7nm,1.1s						
MKAR	Makanchi Array	59.53	326	P	P	23 56 55.4	+0.1
	0.7nm,0.9s,baz=124,slow=5.9,SNR=2.4						
	0.7nm,0.9s						

IDC 29 00:27:05.3±2.2, 1°.52N×126°.44E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=176.5km s-min=28.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.69	160	P	P	00 32 08.6	-0.1
	0.2nm,0.4s,baz=339,slow=11,SNR=8.1						
	0.2nm,0.4s						
ASAR	Alice Springs	26.07	164	P	P	00 32 41.0	+0.3
	0.1nm,0.4s,baz=340,slow=7.9,SNR=1.7						
	0.1nm,0.4s						
MKAR	Makanchi Array	59.20	326	P	P	00 37 08.2	-0.1
	0.2nm,0.4s,baz=119,slow=7.7,SNR=1.7						
	0.2nm,0.4s						

*MDD **29** 00:54:24.8±1.3, 36°.34N×2°.40E, h0km, Mb3.8/12, M_mb3.1/12, Error ellipse: s-maj=10.6km s-min=5.6km az=145.0*
*CRAAG **29** 00:54:25.0, 36°.37N×2°.39E, Ml2.6, Algerie 02km SW Hammam-Righa*

ISC 29 00:54:25.2±1.5, 36°.37N±0°.05×2°.42E±0°.04, h20km±6km, n21, σ1§43/32, 11C, Northern Algeria

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

EBER				⇑*i*Vmb_V			00 55 31.1
	94nm,SNR=1.2						
EMOS	**Mosqueruela**	**4.58 331**		P		**Pn**	**00 55 34.9 +1.3**
EMOS				⇑*i*Vmb_V			00 55 35.7
	177nm,SNR=1.4						
EMOS				S		**Sn**	**00 56 24.1 -2.3**
EQES	**Quesada**	**4.61 290**		P		**Pn**	**00 55 35.8 +1.8**
EQES				⇑*i*Vmb_V			00 55 41.2
	78nm,SNR=1.6						
EQES				S		**Sn**	**00 56 27.4 +0.4**

HEL ***29*** *01:07:30.9±0.1, 60°.00N×10°.92E, h27km, ML2.5, ML1.9(UPP), Confirmed Earthquake*
IDC ***29*** *01:07:30.7±2.0, 60°.21N×11°.05E, h0km, mbtmp3.6/2, ML2.5/2, Error ellipse: s-maj=15.8km s-min=5.7km az=55.0*
NAO ***29*** *01:07:31.9±0.5, 60°.09N×10°.80E, h29km±4km, ML2.2*
DNK ***29*** *01:07:31.6±1.8, 60°.02N×10°.84E, h42km±7km, ML2.7, Probable volcanic*
BER ***29*** *01:07:32.7±3.9, 60°.08N×10°.86E, h28km±9km, ML2.2, ML2.2(NAO), Confirmed Earthquake*
UPP ***29*** *01:07:32.1±0.9, 60°.00N×10°.94E, h34km±3km, ML1.9*
ISC 29 01:07:30.0±0.5, 60°.05N±0°.01×11°.01E±0°.02, h10km, n128, σ2°54/203, 2C, Southern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSL	**Oslo**	**0.18 233**		⇑*i*P	Pg	01 07 38.5	+4.7
OSL				*e*S	**Sg**	**01 07 42.8**	**+6.4**
OSL				IAML		01 07 44.6	
	comp=Z,429nm,0.2s						
OSL	**Oslo**	**0.18 233**		⇑*i*P	Pg	01 07 38.5	+4.7
OSL				*e*S	**Sg**	**01 07 42.8**	**+6.4**
OSL				IAML		01 07 44.6	
	comp=Z,429nm,0.2s						
OSL	**Oslo**	**0.18 233**		Pg	Pg	01 07 38.5	+4.7
OSL				Lg	Lg	01 07 42.8	
NC6	**NORSAR Subarra**	**0.74 17**		P	**Pg**	**01 07 46.0**	**+1.8**
NC6				S	**Sb**	**01 07 57.0**	**+1.9**
NC6	**NORSAR Subarra**	**0.74 17**		P	**Pg**	**01 07 46.0**	**+1.8**
NC6				S	**Sb**	**01 07 57.0**	**+1.9**
NC6	**NORSAR Subarra**	**0.74 17**		Pg	**Pg**	**01 07 46.0**	**+1.8**
NC6				Lg	Lg	01 07 57.0	
NRA0	**NORESS Array S**	**0.74 21**		P	**Pg**	**01 07 46.2**	**+1.9**
	baz=210,slow=16						
NRA0				S	**Sb**	**01 07 56.6**	**+1.4**
	baz=208,slow=28						
NRA0	**NORESS Array S**	**0.74 21**		P	**Pg**	**01 07 46.2**	**+1.9**
	baz=210,slow=16						
NRA0				S	**Sb**	**01 07 56.6**	**+1.4**
	baz=208,slow=28						
NRA0	**NORESS Array S**	**0.74 21**		Pg	**Pg**	**01 07 46.2**	**+1.9**
	baz=210,slow=16						
NRA0				Lg	Lg	01 07 56.6	
	baz=208,slow=28						
NAO	**NORSAR Subarra**	**0.79 354**		P	**Pg**	**01 07 46.5**	**+1.3**
NAO				S	**Sg**	**01 07 56.8**	**+1.4**
NAO	**NORSAR Subarra**	**0.79 354**		P	**Pg**	**01 07 46.5**	**+1.3**
NAO				S	**Sg**	**01 07 56.8**	**+1.4**
NAO	**NORSAR Subarra**	**0.79 354**		Pg	**Pg**	**01 07 46.5**	**+1.3**
NAO				Lg	Lg	01 07 56.8	
NAO01	**NORSAR Array S**	**0.81 356**		*i* P	**Pg**	**01 07 46.6**	**+1.1**
NAO01				*i* S	**Sg**	**01 07 57.0**	**+1.0**
KON	**Kongsberg**	**0.82 241**		Pg	**Pb**	**01 07 46.3**	**+0.1**
KON				Lg	Lg	01 07 56.3	
KONO	**Kongsberg**	**0.82 241**		*e*P	**Pb**	**01 07 46.3**	**+0.1**
KONO				*e*S	**Sg**	**01 07 56.4**	**+0.1**
KONO				IAML		01 07 58.0	
	comp=Z,107nm,0.2s						
KONO	**Kongsberg**	**0.82 241**		*e*P	**Pb**	**01 07 46.3**	**+0.1**
KONO				*e*S	**Sg**	**01 07 56.4**	**+0.1**
KONO				IAML		01 07 58.0	
	comp=Z,107nm,0.2s						
FINU	**Finntorp**	**0.98 130**		P	**Pg**	**01 07 50.3**	**+1.4**
FINU				S	**Sg**	**01 08 02.1**	**+0.5**
FINU	**Finntorp**	**0.98 130**		P	**Pg**	**01 07 50.3**	**+1.4**
FINU				S	**Sg**	**01 08 02.1**	**+0.5**
FINU	**Finntorp**	**0.98 130**		*e*P	**Pg**	**01 07 50.3**	**+1.4**
FINU				*e*S	**Sg**	**01 08 02.1**	**+0.5**
FINU	**Finntorp**	**0.98 130**		P	**Pg**	**01 07 50.3**	**+1.4**
FINU				S	**Sg**	**01 08 02.1**	**+0.5**
NBO	**NORSAR Subarra**	**1.00 353**		Pg	**Pg**	**01 07 49.2**	**+0.1**
NBO				Sg	**Sg**	**01 08 01.8**	**-0.3**
NBO	**NORSAR Subarra**	**1.00 353**		Pg	**Pg**	**01 07 49.2**	**+0.1**
NBO				Lg	Lg	01 08 01.8	
NB2	**NORSAR Subarra**	**1.00 6**		Pg	**Pg**	**01 07 49.6**	**+0.3**
NB2				Sg	**Sg**	**01 08 04.0**	**+1.7**
NB2	**NORSAR Subarra**	**1.00 6**		Pg	**Pg**	**01 07 49.6**	**+0.3**
NB2				Sg	**Sg**	**01 08 04.0**	**+1.7**
NB2	**NORSAR Subarra**	**1.00 6**		Pg	**Pg**	**01 07 49.6**	**+0.3**
NB2				Lg	Lg	01 08 04.0	
NOA	**NORSAR Array B**	**1.00 6**		Pg	**Pg**	**01 07 47.2**	**-2.1**
	baz=186,slow=9.3,SNR=5.0						
NOA				Lg	Lg	01 07 56.8	
	comp=Z,0.8nm,0.3s,baz=203,slow=20,SNR=16						
STRU	**Stroemstad**	**1.02 175**		P	**Pg**	**01 07 49.9**	**+0.4**
STRU	**Stroemstad**	**1.02 175**		P	**Pg**	**01 07 49.9**	**+0.4**
STRU	**Stroemstad**	**1.02 175**		*e*P	**Pg**	**01 07 49.9**	**+0.4**
STRU	**Stroemstad**	**1.02 175**		P	**Pg**	**01 07 49.9**	**+0.4**
NC4	**NORSAR Subarra**	**1.09 18**		Pg	**Pb**	**01 07 51.2**	**+0.2**
NC4				Sg	**Sg**	**01 08 06.3**	**+1.0**
NC4	**NORSAR Subarra**	**1.09 18**		Pg	**Pb**	**01 07 51.2**	**+0.2**
NC4				Lg	Lg	01 08 06.3	
NC303	**NORSAR Array S**	**1.20 8**		*e*S	**Sb**	**01 08 05.0**	**-3.3**
NC3	**NORSAR Subarra**	**1.24 9**		Pn	**Pn**	**01 07 52.9**	**-0.5**
NC3	**NORSAR Subarra**	**1.24 9**		Pn	**Pn**	**01 07 52.9**	**-0.5**
NC2	**NORSAR Subarra**	**1.24 356**		Pn	**Pn**	**01 07 52.7**	**-0.8**
NC2	**NORSAR Subarra**	**1.24 356**		Pn	**Pn**	**01 07 52.7**	**-0.8**
UDD	**Uddeholm**	**1.30 87**		P	**Pn**	**01 07 54.6**	**+0.4**
UDD				S	**Sb**	**01 08 11.3**	**-0.1**
UDD	**Uddeholm**	**1.30 87**		P	**Pn**	**01 07 54.6**	**+0.4**
UDD				S	**Sb**	**01 08 11.3**	**-0.1**
UDD	**Uddeholm**	**1.30 87**		*e*P	**Pn**	**01 07 54.6**	**+0.4**
UDD				*e*S	**Sb**	**01 08 11.3**	**-0.1**
UDD	**Uddeholm**	**1.30 87**		P	**Pn**	**01 07 54.6**	**+0.4**
UDD				S	**Sb**	**01 08 11.3**	**-0.1**
HFC2	**Hagfors New Ar**	**1.35 85**		*e*P	**Pn**	**01 07 55.3**	**+0.4**
HFC2				*e*S	**Sb**	**01 08 12.2**	**-0.5**
HFC2	**Hagfors New Ar**	**1.35 85**		*e*P	**Pn**	**01 07 55.3**	**+0.4**
HFC2				*e*S	**Sb**	**01 08 12.2**	**-0.5**
HFS	**Hagfors**	**1.35 85**		Pn	**Pn**	**01 07 55.2**	**+0.4**
	baz=264,slow=16						
HFS				Pg	**Pg**	**01 07 57.8**	**+1.9**
	baz=262,slow=16						
HFS				Sn	**Sb**	**01 08 12.3**	**-0.3**
	baz=266,slow=28						
HFS	**Hagfors**	**1.35 85**		Pg	**Pn**	**01 07 55.4**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=265,slow=17,SNR=50						
HFS				Lg	Lg	01 08 12.6	
	comp=Z,16nm,0.3s,baz=270,slow=27,SNR=17						
HFS	**Hagfors**	**1.35 85**		Pn	**Pn**	**01 07 55.2**	**+0.4**
	baz=264,slow=16						
HFS				Pg	**Pg**	**01 07 57.8**	**+1.9**
	baz=262,slow=16						
HFS				Sn	**Sb**	**01 08 12.3**	**-0.3**
	baz=266,slow=28						
SKAR	**Skarslia**	**1.49 297**		*e*P	**Pn**	**01 07 55.6**	**-1.3**
SKAR				*e*S	**Sn**	**01 08 13.1**	**-3.2**
SKAR				IAML		01 08 20.6	
	comp=Z,43nm,0.4s						
NASU	**Vaermlandsnaes**	**1.58 134**		P	**Pn**	**01 07 58.0**	**0.0**
NASU	**Vaermlandsnaes**	**1.58 134**		P	**Pn**	**01 07 58.0**	**0.0**
NASU	**Vaermlandsnaes**	**1.58 134**		*e*PB	**Pn**	**01 07 58.0**	**0.0**
NASU	**Vaermlandsnaes**	**1.58 134**		P	**Pn**	**01 07 58.0**	**0.0**
VANU	**Vaenersborg**	**1.65 160**		P	**Pn**	**01 07 59.0**	**0.0**
VANU				S	**Sn**	**01 08 18.3**	**-1.9**
VANU	**Vaenersborg**	**1.65 160**		P	**Pn**	**01 07 59.0**	**0.0**
VANU				S	**Sn**	**01 08 18.3**	**-1.9**
VANU	**Vaenersborg**	**1.65 160**		*e*PB	**Pn**	**01 07 59.0**	**0.0**
VANU				*e*S	**Sn**	**01 08 18.3**	**-1.9**
VANU	**Vaenersborg**	**1.65 160**		P	**Pn**	**01 07 59.0**	**0.0**
VANU				S	**Sn**	**01 08 18.3**	**-1.9**
TJOU	**Tjoern**	**2.04 171**		P	**Pn**	**01 08 04.3**	**-0.1**
TJOU				S	**Sn**	**01 08 26.6**	**-3.3**
TJOU	**Tjoern**	**2.04 171**		P	**Pn**	**01 08 04.3**	**-0.1**
TJOU				S	**Sn**	**01 08 26.6**	**-3.3**
TJOU	**Tjoern**	**2.04 171**		*e*P	**Pn**	**01 08 04.3**	**-0.1**
TJOU				*e*S	**Sn**	**01 08 26.6**	**-3.3**
TJOU	**Tjoern**	**2.04 171**		P	**Pn**	**01 08 04.3**	**-0.1**
TJOU				*i* P	**Pb**	**01 08 04.8**	**-2.4**
TJOU				S	**Sn**	**01 08 26.6**	**-3.3**
TJOU				*i* S	**Sg**	**01 08 35.9**	**+0.3**
NRAU	**Nora**	**2.09 101**		P	**Pn**	**01 08 05.5**	**+0.5**
NRAU	**Nora**	**2.09 101**		P	**Pn**	**01 08 05.5**	**+0.5**
NRAU	**Nora**	**2.09 101**		*e*P	**Pn**	**01 08 05.5**	**+0.5**
NRAU	**Nora**	**2.09 101**		P	**Pn**	**01 08 05.5**	**+0.5**
HOMB	**Homborsund**	**2.20 217**		*e*P	**Pn**	**01 08 05.4**	**-1.1**
HOMB				*e*S	**Sn**	**01 08 30.8**	**-2.9**
HOMB				IAML		01 08 32.9	
	comp=Z,15nm,0.2s						
HOMB	**Homborsund**	**2.20 217**		*e*P	**Pn**	**01 08 04.2**	**-2.3**
HOMB	**Homborsund**	**2.20 217**		*i* P	**Pn**	**01 08 05.0**	**-1.5**
HOMB				*e*S	**Sn**	**01 08 27.1**	**-6.6**
HOMB	**Homborsund**	**2.20 217**		Pn	**Pn**	**01 08 05.3**	**-1.1**
HOMB				Pg	**Pg**	**01 08 11.5**	**-0.6**
HOMB				Sn	**Sn**	**01 08 30.8**	**-2.9**
HOMB				Lg	Lg	01 08 42.1	
ODD1	**Odda**	**2.21 268**		*e*S	**Sn**	**01 08 29.5**	**-4.5**
ODD1				IAML		01 08 43.1	
	comp=Z,47nm,0.5s						
ODD1	**Odda**	**2.21 268**		Pn	**Pn**	**01 08 06.0**	**-0.7**
ODD1				Pg	**Pg**	**01 08 12.2**	**-0.1**
ODD1				Sn	**Sn**	**01 08 30.1**	**-4.0**
ODD1				Lg	Lg	01 08 37.9	
DOMB	**Dombas**	**2.22 336**		*e*P	**Pn**	**01 08 06.5**	**-0.3**
DOMB				*e*S	**Sn**	**01 08 31.2**	**-3.0**
DOMB				IAML		01 08 46.1	
	comp=Z,40nm,0.3s						
DOMB	**Dombas**	**2.22 336**		Pn	**Pn**	**01 08 06.7**	**-0.2**
DOMB				Sn	**Sn**	**01 08 30.5**	**-3.8**
DOMB				Lg	Lg	01 08 40.9	
ASKU	**Askersund**	**2.27 119**		P	**Pn**	**01 08 07.8**	**+0.4**
ASKU	**Askersund**	**2.27 119**		P	**Pn**	**01 08 07.8**	**+0.4**
ASKU	**Askersund**	**2.27 119**		*e*P	**Pn**	**01 08 07.8**	**+0.4**
ASKU	**Askersund**	**2.27 119**		P	**Pn**	**01 08 07.8**	**+0.4**
BLS5	**Blasjo**	**2.39 257**		*e*P	**Pn**	**01 08 07.9**	**-1.4**
BLS5				*e*S	**Sn**	**01 08 33.9**	**-4.6**
BLS5	**Blasjo**	**2.39 257**		Pn	**Pn**	**01 08 07.8**	**-1.4**
BLS5				Pg	**Pg**	**01 08 14.9**	**-0.9**
BLS5				Sn	**Sn**	**01 08 34.5**	**-4.0**
BLS5				Lg	Lg	01 08 45.0	
BORU	**Boraas**	**2.58 159**		*i* P	**Pn**	**01 08 11.2**	**-0.7**
BORU				*i* S	**Sn**	**01 08 39.3**	**-3.9**
SNART	**Snartemo**	**2.60 230**		*e*P	**Pn**	**01 08 10.5**	**-1.6**
SNART				*e*S	**Sn**	**01 08 37.7**	**-5.9**
SNART				IAML		01 09 03.0	
	comp=Z,26nm,0.7s						
SNART	**Snartemo**	**2.60 230**		*i* P	**Pb**	**01 08 17.7**	**+1.1**
HYA	**Hoyanger**	**2.63 297**		*e*P	**Pn**	**01 08 11.2**	**-1.2**
HYA	**Hoyanger**	**2.63 297**		Pn	**Pn**	**01 08 11.3**	**-1.2**
HYA				Sn	**Sn**	**01 08 39.9**	**-4.5**
ONAU	**Onsala**	**2.70 169**		*i* P	**Pn**	**01 08 13.6**	**+0.2**
ONAU				*i* S	**Sn**	**01 08 41.2**	**-4.9**
BER	**Bergen**	**2.85 279**		*e*P	**Pn**	**01 08 14.1**	**-1.4**
BER	**Bergen**	**2.85 279**		*e*P	**Pn**	**01 08 14.0**	**-1.4**
BER	**Bergen**	**2.85 279**		Pn	**Pn**	**01 08 14.1**	**-1.4**
BER				Sn	**Sn**	**01 08 44.3**	**-5.5**
BER				Lg	Lg	01 08 58.9	
AKN	**Aaknes**	**2.89 319**		*e*P	**Pn**	**01 08 15.0**	**-1.1**
AKN	**Aaknes**	**2.89 319**		Pn	**Pn**	**01 08 15.2**	**-1.0**
AKN				Sn	**Sn**	**01 08 47.8**	**-3.1**
AKN				Lg	Lg	01 09 02.1	
ASK	**Askoy**	**2.93 281**		*e*P	**Pn**	**01 08 14.9**	**-1.6**
ASK				*e*S	**Sn**	**01 08 46.0**	**-5.7**
FOO	**Floro**	**3.31 301**		*e*P	**Pn**	**01 08 20.2**	**-1.6**
ARNU	**Arnoeviken**	**3.52 59**		*e*P	**Pn**	**01 08 24.9**	**+0.2**
ARNU				*e*S	**Sn**	**01 09 04.3**	**-2.1**
ARNU	**Arnoeviken**	**3.52 59**		*e*P	**Pn**	**01 08 24.9**	**+0.2**
ARNU				*e*S	**Sn**	**01 09 04.3**	**-2.1**
MUD	**Monsted U'grnd**	**3.73 196**		*e*S	**Sn**	**01 09 07.5**	**-3.9**
MUD	**Monsted U'grnd**	**3.73 196**		*e*S	**Sn**	**01 09 07.5**	**-3.9**
MUD	**Monsted U'grnd**	**3.73 196**		*i* S	**Sn**	**01 09 06.0**	**-5.5**
MUD				IAML		01 09 10.6	
	comp=Z,9.5nm,0.2s						
NOD	**Norderasen**	**3.87 27**		*e*P	**Pn**	**01 08 29.6**	**+0.1**
DEL	**Delary**	**3.89 156**		*i* P	**Pn**	**01 08 29.0**	**-0.8**
DEL				*i* S	**Sn**	**01 09 10.7**	**-4.7**
BJUU	**Bjuv**	**4.12 164**		*i* P	**Pn**	**01 08 33.0**	**0.0**
BJUU				*i* S	**Sn**	**01 09 16.2**	**-5.0**
HEMU	**Hemsoen**	**4.29 49**		*e*P	**Pn**	**01 08 36.1**	**+0.9**
HEMU				*e*S	**Sn**	**01 09 23.1**	**-2.2**
HEMU	**Hemsoen**	**4.29 49**		*e*P	**Pn**	**01 08 36.1**	**+0.9**
HEMU				*e*S	**Sn**	**01 09 23.1**	**-2.2**
COP	**Copenhagen**	**4.44 170**		*i* S	**Sn**	**01 09 23.2**	**-5.7**
AAL	**Aland**	**4.50 84**		*e*P	**Pn**	**01 08 38.4**	**+0.3**
AAL				*e*S	**Sn**	**01 09 27.2**	**-3.1**
AAL	**Aland**	**4.50 84**		*e*P	**Pn**	**01 08 38.4**	**+0.3**
AAL				*e*S	**Sn**	**01 09 27.2**	**-3.1**
NSS	**Namsos**	**4.52 5**		*e*P	**Pn**	**01 08 38.3**	**-0.1**
BLEU	**Blekinge**	**4.53 144**		*i* P	**Pn**	**01 08 38.9**	**+0.3**
BLEU				*i* S	**Sn**	**01 09 28.7**	**-2.6**
GOTU	**Gotland**	**4.58 118**		*e*P	**Pn**	**01 08 39.5**	**+0.2**
GOTU	**Gotland**	**4.58 118**		*e*P	**Pn**	**01 08 39.5**	**+0.2**
LUNU	**Lund**	**4.61 163**		*i* P	**Pb**	**01 08 49.6**	**-1.4**
LUNU				*i* S	**Sn**	**01 09 27.3**	**-5.9**
BSD	**Bornholm Skovb**	**5.37 155**		*e*P	**Pn**	**01 08 48.5**	**-1.6**
BSD				*e*S	**Sn**	**01 09 58.0**	**+6.1**
BSD	**Bornholm Skovb**	**5.37 155**		*e*P	**Pn**	**01 08 48.5**	**-1.6**
BSD	**Bornholm Skovb**	**5.37 155**		*i* P	**Pn**	**01 08 48.8**	**-1.3**
BSD				*i* S	**Sn**	**01 09 45.5**	**-6.4**
RAF	**Rauma**	**5.40 75**		*e*P	**Pn**	**01 08 50.6**	**+0.1**
RAF				*e*S	**Sn**	**01 09 47.2**	**-5.3**
RAF				MSN		01 09 49.8	
	comp=Z,2.0nm,0.1s						
RAF	**Rauma**	**5.40 75**		*e*P	**Pn**	**01 08 50.6**	**+0.1**
RAF				*e*S	**Sn**	**01 09 47.2**	**-5.3**
RAF				MSN		01 09 49.8	
	comp=Z,2.0nm,0.1s						
KPF	**Kankaanpaa**	**5.68 67**		*e*P	**Pn**	**01 08 54.6**	**+0.3**
KPF				*e*S	**Sn**	**01 09 55.5**	**-4.0**
KPF				MSN		01 09 59.3	
	comp=Z,1.1nm,0.1s						
KPF	**Kankaanpaa**	**5.68 67**		*e*P	**Pn**	**01 08 54.6**	**+0.3**
KPF				*e*S	**Sn**	**01 09 55.5**	**-4.0**
KPF				MSN		01 09 59.3	
	comp=Z,1.1nm,0.1s						
VAF	**Ylistaro**	**6.33 57**		*e*P	**Pn**	**01 09 03.9**	**+0.6**
VAF				*e*S	**Sn**	**01 10 11.9**	**-3.6**
VAF				MSN		01 10 13.0	
	comp=Z,0.6nm,0.1s						
VAF	**Ylistaro**	**6.33 57**		*e*P	**Pn**	**01 09 03.9**	**+0.6**
VAF				*e*S	**Sn**	**01 10 11.9**	**-3.6**
VAF				MSN		01 10 13.0	
	comp=Z,0.6nm,0.1s						
SLIT	**Slitere, Latvi**	**6.34 108**		*e*S	**Sn**	**01 10 11.4**	**-4.2**
MTSE	**Matsula**	**6.68 96**		*e*S	**Sn**	**01 10 19.2**	**-4.9**
MTSE	**Matsula**	**6.68 96**		*e*S	**Sn**	**01 10 19.2**	**-4.9**
MEF	**Metsahovi**	**6.69 83**		*e*S	**Sn**	**01 10 18.4**	**-5.9**
MEF				MSN		01 10 22.1	
	comp=Z,1.7nm,0.1s						
MEF	**Metsahovi**	**6.69 83**		*e*S	**Sn**	**01 10 18.4**	**-5.9**
MEF				MSN		01 10 22.1	
	comp=Z,1.7nm,0.1s						
FIA0	**FINESS Array S**	**7.51 73**		Pn	**Pn**	**01 09 19.2**	**-0.2**
	baz=268,slow=11						
FIA0				Sn	**Sn**	**01 10 38.3**	**-6.3**
	baz=258,slow=22						
FIA0	**FINESS Array S**	**7.51 73**		Pn	**Pn**	**01 09 19.2**	**-0.2**
	baz=268,slow=11						
FIA0				Sn	**Sn**	**01 10 38.3**	**-6.3**
	baz=258,slow=22						
FINES	**FINESS Array B**	**7.51 73**		Pn	**Pn**	**01 09 17.6**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=268,slow=12,SNR=7.2						
FINES				Sn	**Sn**	**01 10 39.1**	**-5.6**
	comp=Z,0.3nm,0.3s,baz=266,slow=18,SNR=5.7						
FINES				Lg	Lg	01 11 24.4	
	comp=Z,0.3nm,0.3s,baz=264,slow=22,SNR=2.2						
	comp=Z,5.0nm,1.0s						
ARA0	**ARCESS Array S**	**11.31 27**		Pn	**Pn**	**01 10 08.5**	**-2.9**
	baz=210,slow=14						
ARA0	**ARCESS Array S**	**11.31 27**		Pn	**Pn**	**01 10 08.5**	**-2.9**
	baz=210,slow=14						
ARCES	**ARCESS Array B**	**11.31 27**		Pn	Pn	01 10 07.4	-4.0
	comp=Z,0.1nm,0.3s,baz=214,slow=14,SNR=5.1						
	comp=Z,1.3nm,0.6s						

IDC ***29*** *01:47:56.2±1.1, 4°.99S×131°.06E, h0km, mb3.7/5, mbtmp3.9/8, ML4.3/3, Error ellipse: s-maj=38.0km s-min=21.5km az=73.0*
DJA ***29*** *01:48:03.6±0.3, 5°.5S±3°×13°.1E±°, h113km±11km, M4.5/12, mb4.5/4, mB4.6/1, MLv4.5/12, Mw(mB)3.8/1*
ISC 29 01:48:03.3±0.8, 5°.02S±0°.07×131°.09E±0°.06, h61km, n27, σ2°58/28, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.28 293**		P	**Pn**	**01 48 27.7**	**+2.7**
BNDI	**Bandanaira**	**1.28 293**		P	**Pn**	**01 48 27.4**	**+2.4**
FAKI	**Fak Fak**	**2.39 29**		P	**Pn**	**01 48 39.0**	**-1.1**
FAKI	**Fak Fak**	**2.39 29**		P	**Pn**	**01 48 38.8**	**-1.3**
KMPI	**Kaimana, Papua**	**2.94 63**		P	**Pn**	**01 48 48.2**	**+0.7**
SAUI	**Saumlaki**	**2.95 176**		P	**Pn**	**01 48 51.5**	**+3.8**
SAUI	**Saumlaki**	**2.95 176**		P	**Pn**	**01 48 52.0**	**+4.3**
SWI	**Sorong**	**4.13 2**		P	**Pn**	**01 49 02.3**	**-1.6**
NLAI	**Namlea**	**4.36 294**		P	**Pn**	**01 49 09.7**	**+2.7**
LBMI	**Labuha**	**5.64 320**		P	**Pn**	**01 49 24.5**	**-0.1**
	33nm,0.5s,0.3nm						
SANI	**Sanana**	**5.88 300**		P	**Pn**	**01 49 28.2**	**+0.3**
	12nm,0.5s,709nm0.2nm						
KDU	**Kakadu**	**7.74 170**		P	**Pn**	**01 49 54.5**	**+1.2**
MTN	**Manton Dam**	**7.77 180**		P	**Pn**	**01 49 55.7**	**+1.9**
BATI	**Baumata**	**8.98 235**		Pn	**Pn**	**01 50 08.1**	**-2.3**
	4.3nm,0.3s,baz=261,slow=2.5,SNR=2.1						
BATI				Sn	**Sn**	**01 51 48.6**	**-1.5**
	3.0nm,0.3s,baz=240,slow=5.4,SNR=2.1						
	5.4nm,0.3s						
KNRA	**Kununurra**	**10.83 192**		P	**Pn**	**01 50 36.6**	**+0.9**
COEN	**Coen**	**14.86 128**		P	**Pn**	**01 51 29.5**	**-0.5**
WRA	**Warramunga Arr**	**15.17 168**		Pn	**Pn**	**01 51 30.9**	**-3.0**
	1.5nm,0.3s,baz=350,slow=13,SNR=45						
WRA				Sn	Sn	01 54 09.5	-12
	1.2nm,0.3s,baz=333,slow=24,SNR=8.3						
	1.8nm,0.3s						
QIS	**Mount Isa**	**17.52 153**		P	**Pn**	**01 52 02.7**	**-0.9**
ASAR	**Alice Springs**	**18.74 172**		P	**P**	**01 52 17.3**	**+0.1**
	0.8nm,0.3s,baz=344,slow=9.7,SNR=42						
ASAR				S	**S**	**01 55 38.9**	**-8.5**
	1.5nm,0.6s,baz=356,slow=26,SNR=5.3						
	3.2nm,0.6s						
PSA00	**Pilbara Seismi**	**19.74 213**		P	**P**	**01 52 30.2**	**+2.0**
WRKA	**Warakurna**	**20.08 187**		P	Pn	01 52 34.8	+0.6
CTA	**Charters Tower**	**21.02 137**		P	**P**	**01 52 42.4**	**+0.3**
	0.8nm,0.6s,baz=316,slow=11,SNR=1.5						
	0.8nm,0.6s						
OOD	**Oodnadatta**	**23.07 170**		P	**P**	**01 53 05.7**	**+2.0**
MKAR	**Makanchi Array**	**67.19 326**		P	**P**	**01 58 52.4**	**+1.4**
	0.9nm,0.6s,baz=116,slow=7.9,SNR=6.7						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**70.31 333**		P	**P**	**01 59 10.7**	**+0.5**
	0.6nm,0.5s,baz=124,slow=6.6,SNR=1.9						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**71.41 328**		P	**P**	**01 59 18.4**	**+1.4**
	0.5nm,0.4s,baz=132,slow=5.0,SNR=7.5						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**76.98 327**		P	**P**	**01 59 50.2**	**+0.8**
	0.3nm,0.5s,baz=126,slow=7.3,SNR=2.0						
	0.3nm,0.5s						

DJA 29 01:53:32.3±0.3, 11°S±3°×11°2E±°, h10km, M4.2/12, mb4.4/7, MLv4.2/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**2.85 35**		P	Pn	01 54 17.5	-0.3
WOJI	**Wonogiri, Jawa**	**2.89 343**		P	Pn	01 54 17.3	-1.2
UGM	**Wanagama**	**2.97 335**		P	Pn	01 54 19.4	-0.1
JAGI	**Jajag, Banyuwa**	**3.16 48**		P	Pn	01 54 22.4	+0.2
NGJI	**Ngawi**	**3.25 354**		P	Pn	01 54 22.5	-0.8
BLJI	**Banyuglugur**	**3.37 32**		P	Pn	01 54 25.0	0.0
SRBI	**Singaraja**	**4.21 54**		P	Pn	01 54 37.3	+0.7
KPJI	**Karang Pucung**	**4.32 319**		P	Pn	01 54 39.2	+1.1
CMJI	**Cimerak**	**4.34 310**		P	Pn	01 54 38.6	+0.2
TWSI	**Taliwang, Sumb**	**5.36 70**		P	Pn	01 54 52.5	+0.1
	14nm,0.7s,0.1nm						
CNJI	**Cibinong**	**5.66 305**		P	Pn	01 54 56.3	-0.2

THIG				Sn	01 58 12.0	-2.0
THIG		**3.19**	118	*e*P	**Pn**	01 57 35.7	-0.1
THIG				*e*S	**Sn**	01 58 10.2	-3.7
JAUV	**Jalcomulco**	**3.29**	332	*e*P	**Pn**	01 57 35.4	-1.9
JAUV				*e*S	**Sn**	01 58 13.3	-3.1
MGIG	**Malinaltepec**	**3.41**	284		**Pn**	01 57 39.7	+0.8
MGIG	**Malinaltepec**	**3.41**	284	*e*P	**Pn**	01 57 39.7	+0.8
TLIG	**Tlapa**	**3.43**	289	*e*P	**Pn**	01 57 40.2	+1.0
TLIG				*e*S	**Sn**	01 58 18.8	-1.3
LVIG	**Laguna Verde**	**3.46**	340	*e*P	**Pn**	01 57 40.3	+0.8
LVIG				*e*S	**Sn**	01 58 17.8	-2.9
HMTT	**Tlapaneco**	**3.51**	293		**Pb**	01 57 47.1	-0.7
HMTT					**Sb**	01 58 30.8	+0.3
HMTT	**Tlapaneco**	**3.51**	293	*e*P	**Pb**	01 57 47.1	-0.7
HMTT				*e*S	**Sb**	01 58 29.5	-1.0
HUEH	**Huehuetenango**	**3.71**	107	Pn	**Pn**	01 57 44.8	+1.7
CRIG	**Cruz Grande**	**3.81**	275		**Pn**	01 57 43.7	-0.6
CRIG	**Cruz Grande**	**3.81**	275	*e*P	**Pn**	01 57 43.7	-0.6
CRIG				*e*S	**Sn**	01 58 24.9	-4.3
RTAL	**Retalhuleu**	**3.86**	119		**Pn**	01 57 46.3	+1.3
PPM	**Popocatepetl**	**4.20**	309	*e*P	**Pn**	01 57 53.7	+3.6
PPM				*e*S	**Sn**	01 58 39.7	+0.2
PPIG	**Popocatepetl**	**4.20**	309		**Pn**	01 57 53.7	+3.6
PPIG					**Sb**	01 58 49.7	-1.1
DAIG	**Los Arroyos**	**4.33**	278		**Pn**	01 57 51.3	-0.2
DAIG					**Sn**	01 58 40.7	-1.4
DAIG	**Los Arroyos**	**4.33**	278	*e*P	**Pn**	01 57 51.3	-0.2
DAIG				*e*S	**Sn**	01 58 40.7	-1.4
AMVM	**AMECAMECA**	**4.36**	308		Pn	01 57 57.9	+5.8
AMVM	**AMECAMECA**	**4.36**	308	*e*P	Pn	01 57 57.9	+5.8
CXUV	**Coxquihui**	**4.36**	329	*e*P	**Pn**	01 57 50.6	-1.3
CXUV				*e*S	**Sn**	01 58 41.5	-1.3
YAIG	**Yautepec**	**4.42**	303		**Pn**	01 57 55.1	+2.3
YAIG	**Yautepec**	**4.42**	303	*e*P	**Pn**	01 57 55.1	+2.3
YAIG				*e*S	**Sn**	01 58 46.8	+2.3
MEIG	**Mezcala**	**4.50**	290		**Pn**	01 57 55.8	+1.9
MEIG					**Sn**	01 58 46.7	+0.4
MEIG	**Mezcala**	**4.50**	290	*e*P	**Pn**	01 57 54.7	+0.8
MEIG				*e*S	**Sn**	01 58 46.7	+0.4
SCIG	**Sabancuy**	**4.55**	56	*e*P	**Pn**	01 57 52.8	-1.7
SCIG				*e*S	**Sn**	01 58 43.0	-4.4
PLIG	**Platanillo**	**4.56**	296		**Pn**	01 57 58.2	+3.4
PLIG					**Sn**	01 58 47.6	-0.4
PLIG	**Platanillo**	**4.56**	296	*e*P	**Pn**	01 57 57.3	+2.5
PLIG				*e*S	**Sn**	01 58 47.6	-0.4
MPVM	**San Francisco**	**4.57**	307	*e*P	**Pn**	01 57 58.3	+3.3
THVM	**De Xico**	**4.61**	309	*e*P	Pn	01 58 00.7	+5.1
THVM				*e*S	**Sn**	01 58 49.7	+0.5
TLVM	**San Miguel Top**	**4.68**	306	*e*P	**Pn**	01 57 58.9	+2.3
TLVM				*e*S	**Sn**	01 58 50.9	-0.3
VTVM	**Tizayuca**	**4.76**	314	*e*P	Pn	01 58 03.1	+5.5
VTVM				*e*S	**Sn**	01 58 50.6	-2.5
PBVM	**Pinon**	**4.77**	309	*e*S	**Sn**	01 58 48.2	-4.7
UNM	**Universidad Na**	**4.77**	307	Pn	**Pn**	01 57 58.6	+0.8
CAIG	**El Cayaco**	**4.92**	278		**Pn**	01 58 00.4	+0.9
CAIG	**El Cayaco**	**4.92**	278	*e*P	**Pn**	01 57 58.2	-1.3
CAIG				*e*S	**Sn**	01 59 01.0	+4.4
PETF	**Flores**	**5.10**	84		**Pn**	01 58 06.0	+3.9
TOVM	**TOLUCA**	**5.13**	304	*e*P	**Pn**	01 58 05.1	+2.3
TOVM				*e*S	**Sn**	01 59 02.6	+0.2
ARIG	**Puente Sto Nin**	**5.27**	291		**Pn**	01 58 05.0	+0.6
ARIG					**Sn**	01 59 03.9	-1.4
ARIG	**Puente Sto Nin**	**5.27**	291	*e*P	**Pn**	01 58 05.0	+0.6
ARIG				*e*S	**Sn**	01 59 03.9	-1.4
DHIG	**Demacu**	**5.30**	317		**Pn**	01 58 06.6	+1.5
DHIG					**Sn**	01 59 06.7	+0.3
DEIG	**Demacu**	**5.30**	317	*e*P	**Pn**	01 58 06.6	+1.5
DEIG				*e*S	**Sn**	01 59 06.7	+0.3
ACIG	**Acambay**	**5.69**	309		**Pn**	01 58 10.6	+0.3
ACIG	**Acambay**	**5.69**	309	*e*P	**Pn**	01 58 10.6	+0.3
ESQI	**Esquipulas**	**5.92**	108	Pn	**Pn**	01 58 15.7	+2.2
MTO3	**Montecristo**	**5.96**	109		**Pn**	01 58 16.4	+2.3
ZIIG	**Zihuatanejo**	**6.13**	282		**Pn**	01 58 17.6	+1.4
ZIIG	**Zihuatanejo**	**6.13**	282	*e*P	**Pn**	01 58 17.6	+1.4
ZIIG				*e*S	**Sn**	01 59 31.0	+4.5
TEIG	**Tepich**	**7.55**	59		**Pn**	01 58 38.0	+2.3
435B	**Jarrell**	**14.44**	352	Pn	**Pn**	02 00 11.8	+1.7
JCT	**Junction City**	**14.59**	344	Pn	**Pn**	02 00 14.6	+2.4
TXAR	**Lajitas Array**	**15.01**	330	Pn	**Pn**	02 00 17.8	-0.1
WHTX	**Lake Whitney,**	**15.61**	353	Pn	**Pn**	02 00 27.6	+1.8
WHTX				IAmb	IAmb	02 00 32.0	
	comp=Z,9.7nm,0.6s						
ALPN	**Alpine**	**15.88**	332	Pn	**Pn**	02 00 30.5	+1.2
ALPN				IAmb	IAmb	02 00 37.2	
	comp=Z,6.7nm,0.9s						
FW07	**Weatherford**	**16.35**	352	Pn	**Pn**	02 00 37.4	+2.1
FW07				IAmb	IAmb	02 00 42.2	
	comp=Z,11nm,0.6s						
MNHN	**Monahans**	**16.36**	336		**P**	02 00 38.1	-0.3
MNHN				IAmb	IAmb	02 00 42.6	
	comp=Z,7.5nm,0.8s						
FW03	**Perrin-Whitt E**	**16.72**	352	Pn	**Pn**	02 00 41.7	+1.7
FW03				IAmb	IAmb	02 01 01.3	
	comp=Z,6.7nm,0.7s						
PECS	**Pecos**	**16.83**	333	Pn	**Pn**	02 00 42.7	+1.2
PECS				IAmb	IAmb	02 00 47.9	
	comp=Z,5.6nm,0.8s						
Z35A	**Perchaven, San**	**16.91**	354	Pn	**Pn**	02 00 43.9	+1.5
Z35A				IAmb	IAmb	02 00 48.3	
	comp=Z,8.5nm,0.6s						
SN01	**Snyder 1**	**17.14**	343		**P**	02 00 46.9	0.0
SN01				IAmb	IAmb	02 00 50.4	
	comp=Z,5.0nm,0.6s						
FCAR	**Ozark Folk Cen**	**19.55**	7	P	**P**	02 01 14.1	+0.7
FCAR				IAmb	IAmb	02 01 53.0	
	comp=Z,8.1nm,1.3s						
121A	**Cookes Peak, D**	**19.67**	327	P	**P**	02 01 14.2	-0.8
U38A	**Gravette**	**19.92**	2		**P**	02 01 17.5	0.0
U38A				IAmb	IAmb	02 01 22.5	
	comp=Z,6.3nm,0.8s						
DUN6	**Lazy B Ranch**	**20.40**	324	P	**P**	02 01 22.5	-0.3
DUN6				IAmb	IAmb	02 01 39.8	
	comp=Z,7.0nm,0.9s						
KSU1	**Kansas State U**	**22.60**	357	P	**P**	02 01 46.9	+0.5
OGNE	**Ogallala**	**25.12**	348	P	**P**	02 02 11.2	+0.4

*IDC **29** 02:14:53.8±0.5, 7°.47S×130°.47E, h0km, mb4.3/17, mbtmp4.3/19, ML3.9/2, MS3.6/10, Error ellipse: s-maj=25.6km s-min=13.3km az=76.0*
*NEIC **29** 02:15:00.6±1.6, 7°.54S±0°.07×130°.45E±0°.07, h50km±8km, mb4.5/31, Error ellipse: s-maj=10.3km s-min=9.8km az=217.0*
*DJA **29** 02:15:00.1±0.2, 8°.S±2°×13°.1E±°, h62km±6km, M4.6/24, mB5.2/8, mb4.7/24, MLv4.7/14, Mw(mB)4.5/8*
ISC 29 02:14:59.3±0.3, **7.71**S±0.05×**130.60**E±0.06, **h50**km, **n142,** σ**1**§**62**/130, **mb4.5**/41, **MS3.6**/6, **4D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.74**	112	Pn	Pn	02 15 18.4	+4.8
SAUI	**Saumlaki**	**0.74**	112	P	Pn	02 15 18.7	+5.1
SAUI	**Saumlaki**	**0.74**	112	P	Pn	02 15 17.9	+4.3
BNDI	**Bandanaira**	**3.24**	348	P	**Pn**	02 15 48.8	+1.2
BNDI	**Bandanaira**	**3.24**	348	P	**Pn**	02 15 46.3	-1.3
FAKI	**Fak Fak**	**5.03**	19	Pn	**Pn**	02 16 11.1	-1.2
FAKI	**Fak Fak**	**5.03**	19	P	**Pn**	02 16 11.3	-0.9
FAKI	**Fak Fak**	**5.03**	19	P	**Pn**	02 16 11.0	-1.2
MTN	**Manton Dam**	**5.13**	174	P	**Pn**	02 16 16.1	+2.5
	baz=5.3,SNR=28						
MTN	**Manton Dam**	**5.13**	174	Pn	**Pn**	02 16 15.7	+2.1
MTN	**Manton Dam**	**5.13**	174	P	**Pn**	02 16 16.3	+2.7
KDU	**Kakadu**	**5.28**	160	P	**Pn**	02 16 17.9	+2.3
	baz=5.4,SNR=264						
KDU	**Kakadu**	**5.28**	160	P	**Pn**	02 16 18.2	+2.5
NLAI	**Namlea**	**5.64**	322	P	**Pn**	02 16 22.5	+1.9
	59nm,0.7s,2μm0.2nm						
SOEI	**Soe**	**6.59**	252	Pn	**Pn**	02 16 33.6	0.0
SOEI	**Soe**	**6.59**	252	P	**Pn**	02 16 34.1	+0.4
SOEI	**Soe**	**6.59**	252	P	**Pn**	02 16 34.5	+0.8
	81nm,0.7s,0.7nm						
SWI	**Sorong**	**6.83**	6	P	**Pn**	02 16 35.6	-1.3
	25nm,0.7s,0.3nm						
RKPI	**Ransiki, Papua**	**7.11**	30	P	**Pn**	02 16 40.5	-0.3
	158nm,0.8s,1.0nm						
SANI	**Sanana**	**7.26**	320	P	**Pn**	02 16 43.6	+0.8
SANI	**Sanana**	**7.26**	320	P	**Pn**	02 16 44.6	+1.8
	54nm,0.8s,765nm0.2nm						
BATI	**Baumata**	**7.29**	250	P	**Pn**	02 16 44.0	+0.7
	51nm,0.8s,0.3nm						
BATI	**Baumata**	**7.29**	250	Pn	**Pn**	02 16 43.2	-0.1
	6.2nm,0.3s,baz=40,slow=1.7,SNR=8.0						
BATI				Sn	**Sn**	02 18 04.7	-0.1
	11nm,0.3s,baz=300,slow=22,SNR=7.6						
	37nm,0.5s						
LBMI	**Labuha**	**7.67**	336	P	**Pn**	02 16 50.0	+1.5
	67nm,0.8s,2μm0.3nm						
KNRA	**Kununurra**	**8.12**	193	P	**Pn**	02 16 55.8	+1.1
	baz=8.3,SNR=26						
KNRA	**Kununurra**	**8.12**	193	Pn	**Pn**	02 16 55.5	+0.9
KNRA	**Kununurra**	**8.12**	193	P	**Pn**	02 16 55.8	+1.1
BBSI	**Bau Bau**	**8.28**	285	P	Pn	02 17 00.6	+3.8
	46nm,0.9s						
LUWI	**Luwuk**	**10.23**	310	Pn	**Pn**	02 17 22.0	-1.6
KMSI	**Cibinong**	**10.55**	321	P	Pn	02 17 30.5	+2.6
	77nm,0.5s,2μm						
BKSI	**Bulukumba**	**10.68**	282	P	Pn	02 17 32.8	+3.1
	26nm,1.2s						
KAPI	**Kappang**	**11.11**	283	Pn	**Pn**	02 17 34.8	-0.8
KAPI	**Kappang**	**11.11**	283	Pn	**Pn**	02 17 34.3	-1.3
	0.4nm,0.3s,baz=105,slow=12,SNR=1.8						
KAPI				LR	LR	02 21 28.9	
	comp=Z,284nm,20.8s,baz=143,slow=36						
GTOI	**Gorontalo**	**11.22**	317	P	Pn	02 17 41.7	+4.6
	12nm,1.0s						
TTSI	**Tana Toraja**	**11.69**	293	P	**Pn**	02 17 44.5	+1.0
	19nm,0.9s						
MRSI	**Marisa**	**11.86**	313	P	Pn	02 17 48.3	+2.5
	70nm,1.0s						
WB0	**Warramunga Arr**	**12.54**	163	Pn	**Pn**	02 17 52.5	-2.6
WRAB	**Tennant Creek**	**12.69**	164		**Pn**	02 17 55.1	-2.0
WRA	**Warramunga Arr**	**12.69**	164		**Pn**	02 17 54.9	-2.3
WRA	**Warramunga Arr**	**12.69**	164	Pn	**Pn**	02 17 54.6	-2.6
	1.4nm,0.3s,baz=334,slow=13,SNR=21						
WRA				Sn	**Sn**	02 20 11.9	-5.2
	4.6nm,0.3s,baz=346,slow=23,SNR=18						
WB2	**Warramunga Arr**	**12.70**	164	P	**Pn**	02 17 55.9	-1.3
	baz=13						
WB2	**Warramunga Arr**	**12.70**	164	Pn	**Pn**	02 17 54.9	-2.3
PLAI	**Plampang**	**12.74**	264	P	**Pn**	02 17 56.8	-1.1
PLAI	**Plampang**	**12.74**	264	P	**Pn**	02 17 57.5	-0.4
	36nm,0.8s						
COEN	**Coen**	**13.82**	118	P	**Pn**	02 18 12.3	-0.3
	baz=14						
COEN	**Coen**	**13.82**	118	Pn	**Pn**	02 18 10.2	-2.4
COEN	**Coen**	**13.82**	118	P	**Pn**	02 18 13.4	+0.8
QIS	**Mount Isa**	**15.46**	147	P	**Pn**	02 18 33.0	-1.3
	baz=16,SNR=8.2						
QIS	**Mount Isa**	**15.46**	147	P	**Pn**	02 18 34.4	+0.1
DAV	**Davao City (W)**	**15.51**	341	LR	LR	02 25 35.9	
	comp=Z,121nm,18.8s,baz=174,slow=42						
AS31	**Alice Springs**	**16.18**	169		**Pn**	02 18 41.2	-2.3
ASAR	**Alice Springs**	**16.18**	169	Pn	**Pn**	02 18 43.3	-0.2
ASAR	**Alice Springs**	**16.18**	169	Pn	**Pn**	02 18 42.2	-1.2
	0.7nm,0.3s,baz=347,slow=9.1,SNR=26						
ASAR				Sn	**Sn**	02 21 38.4	-3.7
	1.4nm,0.3s,baz=352,slow=24,SNR=7.9						
ASAR				LR	LR	02 25 08.9	
	comp=Z,202nm,19.9s,baz=318,slow=37						
BBKI	**Banjar Baru**	**16.24**	284	P	**P**	02 18 47.2	+0.7
	57nm,0.4s						
MTSU	**Mount Surprise**	**16.90**	129	P	**P**	02 18 52.1	-1.7
	baz=17,SNR=7.6						
PSA00	**Pilbara Seismi**	**17.26**	216	Pn	**P**	02 18 55.9	-1.9
PSA00				IAmb	IAmb	02 19 08.5	
	comp=Z,52nm,1.5s						
PSA00	**Pilbara Seismi**	**17.26**	216	Pn	**P**	02 18 57.2	-0.6
PSA00				IAmb	IAmb	02 19 08.5	
	comp=Z,26nm,1.4s						
WRKA	**Warakurna**	**17.38**	187	P	**P**	02 18 57.9	-1.2
	comp=Z,24nm,1.5s						
CTA	**Charters Tower**	**19.53**	131	P	**Pn**	02 19 26.8	+2.4
	comp=Z,0.1nm,0.3s,baz=281,slow=18,SNR=1.9						
CTA				LR	LR	02 28 00.1	
	comp=Z,218nm,20.6s,baz=269,slow=40						
	comp=Z,0.8nm,0.3s						
SBUM	**Sibu**	**20.93**	298	P	**P**	02 19 37.0	-1.0
KSM	**Kuching**	**22.20**	293	P	**P**	02 19 50.1	-1.6
KSM				IAmb	IAmb	02 19 54.5	
	comp=Z,14nm,0.9s						
LEM	**Lembang**	**22.82**	271	LR	LR	02 30 15.3	
	comp=Z,155nm,19.7s,baz=138,slow=41						
BBOO	**Buckleboo**	**25.49**	169	P	**P**	02 20 26.1	+3.2
	baz=26						
STKA	**Stephens Creek**	**26.14**	158	P	**P**	02 20 31.1	+2.2
	comp=Z,2.9nm,0.5s,baz=330,slow=11,SNR=6.2						
STKA				LR	LR	02 32 13.7	
	comp=Z,215nm,18.3s,baz=276,slow=39						
	comp=Z,2.9nm,0.5s						
BLDU	**Ballidu**	**26.24**	208	P	**P**	02 20 33.1	+3.3
	baz=26						
CMSA	**Cobar Meteorol**	**27.57**	151	P	**P**	02 20 44.9	+3.2
	baz=28						
NWAO	**Narrogin (SRO)**	**27.99**	204	LR	LR	02 34 42.7	
	comp=Z,112nm,18.3s,baz=102,slow=42						
RPSI	**Rantau Prapat**	**33.25**	287	P	**P**	02 21 30.1	-2.0
RPSI				IAmb	IAmb	02 21 39.2	
	comp=Z,15nm,1.2s						
CMAR	**Chiang Mai Arr**	**40.64**	310	P	**P**	02 22 32.7	-2.1
CMAR				PcP	**PcP**	02 24 35.6	-0.4
CMAR	**Chiang Mai Arr**	**40.64**	310	P	**P**	02 22 33.6	-1.2
	comp=Z,2.7nm,0.6s,baz=139,slow=7.2,SNR=16						
CMAR				PcP	**PcP**	02 24 38.2	+2.1
	comp=Z,1.2nm,0.2s,baz=169,slow=3.3,SNR=7.9						
	comp=Z,2.7nm,0.6s						
CHTO	**Chiang Mai**	**40.85**	311	P	**P**	02 22 34.4	-2.2
CHTO				IAmb	IAmb	02 22 36.0	
	comp=Z,5.6nm,0.7s						
NJ2	**Nanjing**	**41.09**	345	*e*P	P	02 22 40.8	+2.5
NJ2				pP	sP	02 22 53.0	-3.5
NJ2				sP	pwP	02 22 59.5	+5.8
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,1μm,5.0s						
MJAR	**Matsushiro Arr**	**44.59**	9	P	**P**	02 23 05.5	-1.1
	comp=Z,7.2nm,0.8s,baz=186,slow=9.3,SNR=16						
	comp=Z,7.2nm,0.8s						
MAJO	**Matsushiro**	**44.59**	9	P	**P**	02 23 06.1	-0.4
MJB9	**Matsu-Tunnel**	**44.59**	9	P	**P**	02 23 06.4	-0.2
MJB9				IAmb	IAmb	02 23 07.2	
	comp=Z,16nm,0.9s						
KSRS	**Korea Array**	**44.99**	357	P	**P**	02 23 09.3	-0.5
	comp=Z,0.9nm,0.6s,baz=177,slow=9.0,SNR=5.0						
	comp=Z,0.9nm,0.6s						
XAN	**Xi'an**	**46.33**	335	P	**P**	02 23 18.0	-2.4
XAN				pmax	pmax		
	comp=Z,18nm,0.9s						
LZH	**Lanzhou**	**50.30**	332	*e*P	**P**	02 23 50.5	-0.7
LZH				pP	sP	02 24 07.0	-2.3
LZH				pmax	pmax		
	comp=Z,32nm,1.6s						
HHC	**Hu-ho-hao-te**	**51.40**	342	*e*P	**P**	02 24 01.3	+2.1
HHC				pmax	pmax		
	comp=Z,38nm,0.8s						
HHC				pmax	pmax		
	comp=Z,730nm,5.8s						
CN2	**Changchun**	**51.48**	355	P	**P**	02 23 59.3	-0.3
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**51.68**	1	P	**P**	02 24 01.9	+0.8
	comp=Z,1.5nm,0.6s,baz=160,slow=8.0,SNR=2.8						
	comp=Z,1.5nm,0.6s						
BTO	**Baotou**	**51.68**	340	*e*P	P	02 24 06.0	+4.6
BTO				pP	sP	02 24 21.5	+1.6
BTO				PP	**PP**	02 26 04.0	+4.5
BTO				S	S	02 31 26.8	+7.5
BTO	**Baotou**	**51.68**	340	SS	**SS**	02 35 00.8	+4.3
BTO				pmax	pmax		
	comp=Z,14nm,0.7s						
BTO				pmax	pmax		
	comp=Z,410nm,4.7s						
BTO				LR	LR		
	comp=N,1μm,5.4s						
BTO				LR	LR		
	comp=E,610nm,6.2s						
BTO				LR	LR		
	comp=Z,460nm,6.7s						
MDJ	**Mudanjiang**	**52.09**	359	P	P	02 24 07.0	+2.8
MDJ				pmax	pmax		
	comp=Z,12nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,380nm,4.3s						
TAPN	**Taplejung**	**54.20**	312	*e*P	**P**	02 24 19.1	-1.3
	comp=Z,9.5nm,0.2s						
RAMN	**Ramite**	**54.81**	311	*e*P	**P**	02 24 22.9	-1.9
	comp=Z,20nm,0.6s						
GTA	**Gaotai**	**54.88**	331	*e*P	**P**	02 24 24.3	-0.6
GTA				pP	pP	02 24 34.8	-3.1
GTA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GUN	**Gumba**	**55.86**	311	*e*P	**P**	02 24 31.1	-1.4
	comp=Z,17nm,0.6s						
PKI	**Pulchoki**	**56.04**	311	*e*P	**P**	02 24 31.7	-2.0
	comp=Z,7.2nm,0.6s						
DANN	**Dangsing**	**57.69**	310	*e*P	**P**	02 24 44.3	-1.1
	comp=Z,14nm,0.7s						
HEH	**HeiHe**	**57.78**	358	*e*P	**P**	02 24 45.5	+0.3
PYUN	**Piuthan**	**58.14**	310	*e*P	**P**	02 24 46.9	-1.6
	comp=Z,25nm,0.8s						
ULN	**Ulaanbaatar**	**59.12**	342	P	**P**	02 24 54.0	-0.8
ULN				IAmb	IAmb	02 24 56.3	
	comp=Z,5.1nm,1.1s						
SONM	**Songino Array**	**59.30**	341	P	**P**	02 24 55.3	-0.7
SONM	**Songino Array**	**59.30**	341	P	**P**	02 24 55.9	-0.1
	comp=Z,1.8nm,0.8s,baz=151,slow=6.0,SNR=8.2						
SONM				PcP	**PcP**	02 25 44.6	+0.9
	comp=Z,1.6nm,0.8s,baz=166,slow=5.9,SNR=5.5						
	comp=Z,1.8nm,0.8s						
WMQ	**Urumqi**	**64.31**	327	*e*P	**P**	02 25 32.0	+2.3
PETK	**Petropavlovsk-**	**64.81**	18	P	**P**	02 25 33.4	+0.7
	comp=Z,3.2nm,0.8s,baz=186,slow=5.8,SNR=4.8						
	comp=Z,3.2nm,0.8s						
TARG	**Taragay, Kyrgy**	**68.89**	320	IAmb	IAmb	02 26 10.7	
	comp=Z,5.9nm,1.0s						
KSH	**Kashi**	**68.94**	317	P	**P**	02 26 01.5	+2.1
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MK31	**Makanchi Array**	**69.14**	327	P	**P**	02 26 00.7	+0.3
MKAR	**Makanchi Array**	**69.14**	327	P	**P**	02 26 00.4	0.0
	comp=Z,19nm,0.7s,baz=123,slow=7.5,SNR=92						
	comp=Z,19nm,0.7s						
MAKZ	**Makanchi**	**69.32**	327	P	**P**	02 26 01.1	-0.4
NRN	**Naryn**	**69.89**	319	IAmb	IAmb	02 26 07.6	
	comp=Z,5.0nm,1.0s						
BOOM	**Boomskoye usch**	**70.47**	320	P	**P**	02 26 08.7	-0.2
TKM2	**Tokmak 2**	**70.91**	320	P	**P**	02 26 11.9	+0.3
	SNR=8.0						
AAK	**Ala-Archa**	**71.46**	320	P	**P**	02 26 15.2	+0.3
	SNR=7.3						
AAK	**Ala-Archa**	**71.46**	320	P	**P**	02 26 14.8	-0.1
AAK				IAmb	IAmb	02 26 17.7	
	comp=Z,7.1nm,0.8s						
VNDA	**Vanda**	**71.68**	173	P	**P**	02 26 17.8	+2.4
	comp=Z,0.9nm,0.8s,baz=300,slow=7.2,SNR=6.9						
	comp=Z,0.9nm,0.8s						
AML	**Almayashu**	**71.73**	319	P	**P**	02 26 17.5	+0.7
	SNR=16						
USP	**Ospenovka**	**71.77**	320	P	**P**	02 26 16.7	+0.1
	SNR=10						
ARSB	**Arslanbob**	**71.81**	318	IAmb	IAmb	02 26 19.4	
	comp=Z,4.4nm,0.6s						
EKS2	**Erkin-Say**	**71.94**	320	P	**P**	02 26 18.3	+0.6
	SNR=8.3						
ZALV	**Zalesovo Beam**	**72.48**	334	P	**P**	02 26 19.7	-0.7
	comp=Z,2.9nm,0.7s,baz=120,slow=5.0,SNR=14						
	comp=Z,2.9nm,0.7s						
BTK	**Batken**	**72.70**	316	P	**P**	02 26 22.5	+0.3
BTK				IAmb	IAmb	02 26 25.8	
	comp=Z,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**73.42**	328	P	**P**	02 26 25.8	-0.3
	comp=Z,4.1nm,0.6s,baz=128,slow=5.0,SNR=61						
	comp=Z,4.1nm,0.6s						
KURK	**Kurchatov**	**73.43**	328	P	**P**	02 26 25.3	-0.9
KURK				IAmb	IAmb	02 26 26.8	
	comp=Z,5.5nm,0.8s						
KK31	**Karatay Array**	**74.26**	319	P	**P**	02 26 30.4	-0.9
KK31				IAmb	IAmb	02 26 31.8	
	comp=Z,5.0nm,1.1s						
KKAR	**Karatay Array**	**74.26**	319	P	**P**	02 26 30.2	-1.0
KKAR				IAmb	IAmb	02 26 31.8	
	comp=Z,5.0nm,1.1s						
MAW	**Mawson**	**74.52**	202	P	P	02 26 35.7	+3.5
	baz=75,SNR=6.5						
MAW	**Mawson**	**74.52**	202	P	**P**	02 26 34.8	+2.5
MAW	**Mawson**	**74.52**	202	P	**P**	02 26 34.9	+2.7
	comp=Z,5.0nm,0.9s,baz=88,slow=6.0,SNR=9

BAHB	Baha de los	1.54 163	eP	Pn	02 24 46.5	-9.0
BAHB			i S	Sn	02 25 02.1	-13
SQX	San Quintin	1.57 276	eP	Pn	02 24 54.9	-0.9
SQX		⇓e			02 25 26.9	
SQX			IAML		02 25 26.9	
	comp=E,208nm,0.6s					
SQX		⇑e			02 25 27.4	
SQX			IAML		02 25 27.4	
	comp=N,269nm,0.5s					
214A	Organ Pipe Nat	1.87 35	eP	Pn	02 24 60.0	0.0
MBIG	Mexicali	2.20 334	i P	Pn	02 25 05.1	+0.7
MBIG	Mexicali	2.20 334	eP	Pn	02 24 51.2	-13
CBX	Cerro Bola	2.91 311	eP	Pn	02 25 12.3	-2.1
CBX	Cerro Bola	2.91 311	eP	Pg	02 25 26.8	+3.1
TJIG	Tijuana	2.99 313	e	Pb	02 25 24.0	+2.7
HSIG		3.06 117	eP	Pn	02 25 12.6	-3.8
TUC	Tucson	3.38 55	eP	Pn	02 25 20.0	-0.8
TUC			e		02 26 14.9	

IDC ***29*** *02:26:14.8±1.2,23°.73N×121°.91E,h0km,mb3.8/9, mbtmp3.9/10,ML3.7/1,Error ellipse: s-maj=66.3km s-min=19.5km az=67.0*

JMA ***29*** *02:26:17.8±0.2,23°.9N±0°.9×122°.5E±0°.4,h24km±3km, MD4.0/15,MV3.9/15,NW OFF ISHIGAKIJIMA IS*

NIED ***29*** *02:26:17.8,23°.85N×122°.47E,h24km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}3.82; $M_{\theta\theta}$-2.75; $M_{\phi\phi}$-1.07; $M_{r\theta}$7.14; $M_{r\phi}$0.88; $M_{\theta r}$5.32; Fault plane solution: $M_0$9.34000×10^{14} NP1:ϕ_s57.00000°, δ82.00000°,λ83.00000°. NP2:ϕ_s279.00000°,δ11.00000°, λ131.00000°.*

TAP ***29*** *02:26:18.1,23°.85N×122°.47E,h24km,ML4.1,C*

ASIES ***29*** *02:26:18.1,23°.85N×122°.47E,h24km,ML4.1,Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.21; $M_{\theta\theta}$-2.74; $M_{\phi\phi}$2.53; $M_{r\theta}$2.42; $M_{r\phi}$0.93; $M_{\theta r}$2.65; Fault plane solution: $M_0$4.54835×10^{21} NP1:ϕ_s52.67000°, δ87.78000°,λ51.43000°. NP2:ϕ_s319.88000°,δ38.62000°, λ176.44000°. Principal axes: T Plg35.4410°, Azm289.9060°; N Plg38.5320°, Azm54.4330°; P Plg31.6720°, Azm173.8590°;*

ISC 29 02:26:17.4±1.0,23°.82N±0°.02×122°.47E±0°.02,h26km±8km, n170,σ0°98/281,mb3.7/9,12C-3D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
EOS4	EOS4	0.33	336	⇓i P		Pb	02 26 24.9	+0.1
	baz=333							
EOS4				eS		Sb	02 26 29.9	+0.2
	baz=333							
EOS3	EOS3	0.49	344	⇓i P		Pb	02 26 27.8	+0.4
	baz=333							
EOS3				eS		Sb	02 26 34.2	+0.1
	baz=333							
EOS2	EOS2	0.64	340	⇓i P		Pn	02 26 30.8	0.0
	baz=331							
EOS2				eS		Sb	02 26 38.3	-0.1
	baz=331							
JYNG	Yonagunijimaku	0.77	34	P		Pb	02 26 31.9	-0.3
JYNG				S		Sb	02 26 41.2	-1.0
JYNG	Yonagunijimaku	0.77	34	A		A	02 26 31.9	
	comp=E,8.0nm,1.4s,comp=N,11nm,0.4s							
HWA	Hwalien	0.81	282	eP		Pb	02 26 32.9	+0.1
	baz=266							
HWA				eS		Sb	02 26 43.6	+0.3
	baz=266							
YOJ	Yonaguni jima	0.81	38	P		Pb	02 26 32.5	-0.4
YOJ	Yonaguni jima	0.81	38	P		Pb	02 26 32.6	-0.3
YOJ				eS		Sb	02 26 42.2	-1.2
YOJ	Yonaguni jima	0.81	38	eP		Pb	02 26 32.6	-0.4
	baz=48							
YOJ				eS		Sb	02 26 41.8	-1.7
	baz=48							
TWD	Chiawan	0.84	288	⇑i P		Pb	02 26 33.1	-0.3
	baz=272							
TWD				eS		Sb	02 26 44.4	+0.1
	baz=272							
ETL	Fush Village	0.84	294	eP		Pb	02 26 33.3	-0.2
	baz=277							
TEGC	Jichi Village	0.86	263	eP		Pb	02 26 33.8	+0.1
	baz=259							
TEGC				S		Sb	02 26 45.4	+0.7
	baz=259							
NACB	Ninganchiao	0.88	294	P		Pb	02 26 33.8	-0.2
NACB	Ninganchiao	0.88	294	⇑i P		Pb	02 26 33.6	-0.4
	baz=278							
NACB				eS		Sb	02 26 45.5	+0.1
	baz=278							
EWUT	Wuta	0.89	315	P		Pb	02 26 34.4	+0.1
	baz=312							
EWUT				eS		Sn	02 26 46.9	+0.5
	baz=312							
ENA	Nanau	0.90	313	P		Pb	02 26 34.5	0.0
	baz=310							
ENA				eS		Sb	02 26 46.2	+0.1
	baz=310							
ETM	Tongmen	0.91	280	eP		Pb	02 26 33.9	-0.6
	baz=266							
ETM				eS		Sb	02 26 46.1	-0.1
	baz=266							
ESL	Shilin	0.95	270	⇑i P		Pb	02 26 34.4	-0.8
	baz=266							
ESL				eS		Sb	02 26 46.4	-1.0
	baz=266							
EGFH	Guangfu	0.97	261	eP		Pn	02 26 35.3	-0.1
	baz=258							
EGFH				eS		Sb	02 26 48.0	+0.1
	baz=258							
TWC	Suao	0.97	324	eP		Pb	02 26 35.2	-0.4
	baz=323							
TWC				eS		Sb	02 26 47.4	-0.7
	baz=323							
ETLH	Xiulin Townshi	0.98	293	eP		Pn	02 26 35.5	-0.2
	baz=290							
ETLH				eS		Sb	02 26 48.2	-0.2
	baz=290							
LXIB	Xiulin Townshi	0.99	282	⇑i P		Pn	02 26 35.3	-0.5
	baz=270							
LXIB				eS		Sb	02 26 48.2	-0.5
	baz=270							
WARBT	Fenglin Townsh	1.00	265	i P		Pn	02 26 35.4	-0.5
	baz=261							
WARBT				S		Sb	02 26 48.4	-0.4
	baz=261							
HGSD	Ruisui	1.01	252	⇑P		Pn	02 26 35.7	-0.3
	baz=248							
HGSD				eS		Sb	02 26 48.6	-0.5
	baz=248							
ECBN	Changbin	1.06	242	eP		Pn	02 26 36.7	+0.1
	baz=239							
ECBN				eS		Sb	02 26 50.0	-0.5
	baz=239							
NDS	Dongshan	1.06	320	eP		Pb	02 26 37.4	+0.2
	baz=318							
EHY	Hungye	1.10	254	eP		Pn	02 26 37.2	0.0
	baz=250							
EHY				eS		Sb	02 26 51.2	-0.5
	baz=250							
LATG	Datong	1.12	310	eP		Pn	02 26 37.9	+0.3
	baz=308							
EGS		1.14	335	eP		Pn	02 26 38.2	+0.5
	baz=324							
EGS				eS		Sn	02 26 54.5	+2.0
	baz=324							
WHF	Hehuan Shan	1.15	287	eP		Pn	02 26 38.2	0.0
	baz=285							
ILA	Ilan	1.15	325	eP		Pb	02 26 39.2	+0.5
	baz=324							
EYUL	Yuli	1.15	246	eP		Pn	02 26 38.3	+0.4
	baz=243							
EYUL				eS		Sn	02 26 53.3	+0.4
	baz=243							
YULB	Yu-li	1.16	249	P		Pn	02 26 38.5	+0.5
YULB	Yu-li	1.16	249	eP		Pn	02 26 38.1	+0.1
	baz=245							
YULB				eS		Sn	02 26 53.1	+0.2
	baz=245							
TWE	Neicheng	1.16	321	⇑P		Pb	02 26 38.8	-0.1
	baz=319							
TWE				eS		Sb	02 26 54.3	+0.8
	baz=319							
ENTT	Nioudou	1.16	315	eP		Pn	02 26 38.7	+0.6
	baz=297							
ENTT				eS		Sn	02 26 53.0	-0.2
	baz=297							
NNSB	Datong	1.16	302	eP		Pn	02 26 38.6	+0.4
	baz=300							
TWF1	Yuli	1.17	247	eP		Pn	02 26 38.6	+0.4
	baz=243							
TWF1				eS		Sn	02 26 53.3	-0.1
	baz=243							
NDT	Datong Townshi	1.17	312	eP		Pn	02 26 38.9	+0.7
	baz=309							
NDT				eS		Sb	02 26 54.1	+0.3
	baz=309							
NNS	Nan Shan	1.18	302	eP		Pn	02 26 38.7	+0.3
	baz=300							
OWD	Renai	1.19	277	eP		Pn	02 26 38.9	+0.3
	baz=273							
OWD				eS		Sn	02 26 53.5	-0.5
	baz=273							
CHGB	Renai	1.21	282	⇑i P		Pn	02 26 39.2	+0.3
	baz=269							
CHGB				eS		Sn	02 26 54.3	-0.3
	baz=269							
VWDT	VWDT	1.22	267	⇑P		Pn	02 26 39.4	+0.5
	baz=264							
VWDT				eS		Sn	02 26 53.7	-0.8
	baz=264							
FUSB	Fushanzhiwuyua	1.24	320	eP		Pb	02 26 40.0	-0.1
	baz=318							
CHKT	Chengkung	1.24	235	eP		Pn	02 26 38.8	-0.3
	baz=220							
CHKT				eS		Sn	02 26 53.6	-1.4
	baz=220							
FULB	Fuli	1.24	241	eP		Pn	02 26 39.2	0.0
	baz=225							
FULB				eS		Sn	02 26 54.7	-0.5
	baz=225							
HATJ	Hateruma jima	1.25	79	P		Pn	02 26 39.8	+0.6
HATJ				eS		Sn	02 26 56.1	+0.9
WUSB	Renai	1.25	278	P		Pn	02 26 39.7	+0.3
	baz=275							
WUSB				eS		Sn	02 26 55.4	-0.1
	baz=275							
TWT	Tachien	1.26	290	eP		Pn	02 26 40.3	+0.7
	baz=276							
IRIF	Iriomote-Funau	1.26	66	P		Pn	02 26 40.5	+1.1
IRIF				eS		Sb	02 26 56.5	+0.1
IRIF	Iriomote-Funau	1.26	66	A		A	02 26 40.5	
	comp=E,5.0nm,0.7s,comp=N,6.0nm,2.0s							
TWB1	Santiao Chiao	1.27	340	eP		Pb	02 26 41.0	+0.4
	baz=339							
TDCB	Techi	1.27	290	eP		Pn	02 26 40.4	+0.7
	baz=276							
NWLT	Wulai	1.30	318	eP		Pn	02 26 40.9	+0.9
	baz=315							
NWLT				eS		Sb	02 26 57.5	0.0
	baz=315							
YHNB	Yeheng	1.31	311	P		Pb	02 26 41.2	-0.2
YHNB	Yeheng	1.31	311	P		Pn	02 26 40.9	+0.7
	baz=309							
NSK	Sanguang	1.33	310	eP		Pn	02 26 41.1	+0.7
	baz=307							
NSK				eS		Sb	02 26 58.2	-0.2
	baz=307							
EHD	Haiduan	1.34	240	eP		Pn	02 26 40.1	-0.3
	baz=226							
EHD				eS		Sn	02 26 57.0	-0.4
	baz=226							
ECS	Chishang	1.35	238	eP		Pn	02 26 41.7	+0.9
	baz=224							
ECS				eS		Sn	02 26 57.8	-0.1
	baz=224							
EDH	Donghe	1.36	232	eP		Pn	02 26 40.5	-0.3
	baz=219							
EDH				eS		Sn	02 26 56.9	-1.1
	baz=219							
SXI1	Grass Mountain	1.38	337	⇑P		Pn	02 26 41.5	+0.3
	baz=335							
SXI1				eS		Sb	02 27 00.1	+0.1
	baz=335							
SSLB	Suanglung	1.39	269	P		Pn	02 26 41.6	+0.4
SSLB	Suanglung	1.39	269	⇑i P		Pn	02 26 41.6	+0.4
	baz=266							
SSLB				eS		Sn	02 26 58.4	-0.4
	baz=266							
NWF	Wu-fen Shan	1.40	333	eP		Pn	02 26 42.1	+0.7
	baz=332							
NWF				eS		Sb	02 27 01.1	+0.7
	baz=332							
WFSB	Wu-fen Shan	1.40	333	eP		Pn	02 26 42.0	+0.6
	baz=331							
WFSB				eS		Sb	02 27 01.5	+1.2
	baz=331							
NHDH	Xindian Distri	1.43	323	eP		Pb	02 26 43.2	-0.2
	baz=312							
SMLT	Sun Moon Lake	1.44	273	eP		Pn	02 26 42.8	+0.8
	baz=269							
SMLT				eS		Sn	02 26 59.8	-0.3
	baz=269							
WCS	Beigang Elemen	1.45	280	eP		Pn	02 26 42.9	+1.0
	baz=268							
WCS				eS		Sb	02 27 01.9	+0.3
	baz=268							
TATO	Taipei	1.46	322	P		Pb	02 26 43.7	-0.2
LDUT	Ludao	1.46	219	eP		Pn	02 26 41.9	-0.3
	baz=217							
LDUT				eS		Sn	02 26 58.7	-1.8
	baz=217							
WHP	Taichung City	1.47	289	eP		Pb	02 26 44.2	+0.2
	baz=285							
WHP				eS		Sb	02 27 02.1	-0.3
	baz=285							
JKRS	Kuro-shima	1.47	73	P		Pn	02 26 43.3	+1.1
JKRS				eS		Sn	02 27 01.6	+1.0
ELDTW	Lidau	1.47	245	eP		Pn	02 26 42.6	+0.2
	baz=241							
ELDTW				eS		Sn	02 27 00.2	-0.8
	baz=241							
TYC	Yuchr	1.48	274	eP		Pn	02 26 43.3	+0.9
	baz=270							
TYC				eS		Sn	02 27 00.6	-0.3
	baz=270							
WHYT	Xinyi Township	1.48	266	eP		Pn	02 26 43.7	+1.2
	baz=262							
WHYT				eS		Sn	02 27 02.3	+1.1
	baz=262							
TAP	Taipei	1.50	324	eP		Pb	02 26 45.0	+0.4
	baz=323							
LONT	Longtian	1.53	234	eP		Pn	02 26 43.6	+0.5
	baz=222							
LONT				eS		Sn	02 27 02.4	+0.2
	baz=222							
ALS	Alishan	1.56	259	⇑i P		Pn	02 26 45.0	+1.3
	baz=255							
ALS				eS		Sn	02 27 04.2	+0.9
	baz=255							
YM01	YM01	1.56	328	eP		Pb	02 26 45.2	-0.5
	baz=343							
LIOB	Emei	1.56	302	eP		Pb	02 26 45.8	+0.1
	baz=286							
LIOB				eS		Sb	02 27 05.4	+0.3
	baz=286							
NSTT	Nanjuang	1.57	301	P		Pb	02 26 45.6	-0.2
	baz=286							
NSTT				eS		Sb	02 27 05.2	0.0
	baz=286							
YM08	YM08	1.58	330	eP		Pb	02 26 45.3	-0.8
	baz=328							
WJS	Zhushan	1.59	271	eP		Pb	02 26 46.1	-0.1
	baz=267							
WJS				eS		Sb	02 27 07.1	+1.1
	baz=267							
TWS1	Kuangyinshan	1.60	323	eP		Pb	02 26 45.6	-0.6
	baz=322							
TTN	Taitung	1.61	229	eP		Pn	02 26 45.6	+1.4
	baz=226							
TTN				eS		Sn	02 27 04.8	+0.6
	baz=226							
TWGBT	Beinan	1.62	232	P		Pn	02 26 44.8	+0.4
TWGBT	Beinan	1.62	232	eP		Pn	02 26 44.5	+0.2
	baz=218							
TWGBT				eS		Sn	02 27 04.2	-0.2
	baz=218							
JIJ	Ishigaki jima	1.62	70	P		Pn	02 26 45.3	+0.9
JIJ				eS		Sb	02 27 06.2	-0.6
NTST	Danshui	1.63	326	eP		Pb	02 26 46.0	-0.8
	baz=341							
WNT	Mingjian	1.64	272	eP		Pb	02 26 46.8	-0.1
	baz=269							
WNT				eS		Sb	02 27 07.4	+0.2
	baz=269							
NCUH	Zhongli	1.64	315	eP		Pb	02 26 46.2	-0.8
	baz=313							
TWQ1	Liyutan	1.64	289	⇑i P		Pb	02 26 47.0	0.0
	baz=285							
TWQ1				eS		Sb	02 27 08.1	+0.9
	baz=285							
TWY	Chenhua	1.65	332	eP		Pb	02 26 47.5	+0.2
	baz=331							
CHN5	Tsauling	1.66	263	eP		Pb	02 26 47.0	-0.3
	baz=259							
CHN5				eS		Sb	02 27 08.0	+0.2
	baz=259							
SBCB	Hsinchu	1.67	306	eP		Pb	02 26 47.1	-0.3
	baz=304							
NSY	Sanyi	1.67	291	eP		Pb	02 26 47.6	0.0
	baz=289							
TCU	Taichung	1.67	282	eP		Pb	02 26 47.8	+0.2
	baz=278							
TCU				eS		Sb	02 27 09.1	+0.9
	baz=278							
STYH	Taoyuan	1.68	248	eP		Pn	02 26 46.5	+1.3
	baz=235							
STYH				eS		Sn	02 27 06.9	+1.0
	baz=235							
NMLH	Miaoli	1.69	295	eP		Pb	02 26 47.6	-0.3
	baz=291							
NMLH				eS		Sb	02 27 08.0	-0.8
	baz=291							
WCKO	Fanlu	1.75	258	eS		Sb	02 27 10.1	-0.4
	baz=254							
WDJ	Dajia District	1.75	288	eP		Pb	02 26 48.5	-0.4
	baz=284							
WDJ				eS		Sb	02 27 10.3	-0.2
	baz=284							
TPUB	Ta-pu	1.76	253	eP		Pn	02 26 48.5	+2.2
	baz=250							
TPUB				eS		Sn	02 27 10.2	+2.2
	baz=250							
WCHH	Zhanghua	1.77	279	eP		Pb	02 26 49.0	-0.2
	baz=275							
WCHH				eS		Sb	02 27 11.9	+1.0
	baz=275							
WDLH	Douliu	1.77	266	eP		Pb	02 26 49.2	0.0
	baz=262							
WDLH				eS		Sb	02 27 11.4	+0.3
	baz=262							
CHN4	Tsaushan	1.78	255	eP		Pb	02 26 49.0	-0.4
	baz=241							
CHN4				eS		Sb	02 27 12.0	+0.7
	baz=241							
WTP	Ta-pu	1.79	252	eP		Pn	02 26 48.8	+2.0
	baz=248							
WTP				eS		Sn	02 27 11.3	+2.4
	baz=248							
ECL	Taimali	1.85	229	eP		Pn	02 26 47.4	-0.1
	baz=226							
ECL				eS		Sn	02 27 08.4	-1.7
	baz=226							
JISG	Ishigakijimahi	1.85	65	P		Pn	02 26 48.5	+1.0
JISG				eS		Sn	02 27 11.2	+1.2
CHN2	Minshiung	1.85	262	eP		Pn	02 26 49.0	+1.5
	baz=258							
CHN2				eS		Sb	02 27 14.5	+1.2
	baz=258							
SLGT	Liugui	1.86	244	eP		Pn	02 26 50.2	+2.5
	baz=233							
SLGT				eS		Sb	02 27 13.8	+0.1
	baz=233							
SGST	Jiashian	1.88	247	eP		Pn	02 26 49.7	+1.8
	baz=244							
SGST				eS		Sn	02 27 13.1	+2.2
	baz=244							
CHN1	Nanshi	1.89	251	eP		Pb	02 26 50.6	-0.7
	baz=247							
CHN1				eS		Sb	02 27 14.6	+0.1
	baz=247							
TWK	Hsinying	1.90	254	eP		Pn	02 26 50.5	+2.2
	baz=249							
TWK				eS		Sb	02 27 14.6	-0.1
	baz=249							
CHY	Chiayi	1.90	261	eP		Pb	02 26 51.0	-0.5
	baz=257							
CHY				eS		Sn	02 27 13.7	+2.3
	baz=257							
SNST	Tainan City	1.91	252	eP		Pn	02 26 50.7	+2.5
	baz=248							
SNST				eS		Sb	02 27 14.3	-0.6
	baz=248							
WTK	Tuku	1.91	267	eP		Pb	02 26 50.9	-0.8
	baz=262							
WTK				eS		Sb	02 27 15.3	+0.3
	baz=262							
WRL	Guolierlin Hig	1.92	273	eP		Pb	02 26 50.8	-0.9
	baz=258							
WRL				eS		Sb	02 27 14.3	-0.9
	baz=258							
LAY	Lan-yu	1.96	206	eP		Pn	02 26 48.2	-0.9
	baz=203							
LAY				eS		Sn	02 27 11.5	-1.4
	baz=203							
LYUB	Lan-yu	1.98	204	eP		Pn	02 26 48.2	-1.1
	baz=211							
LYUB				eS		Sn	02 27 11.1	-2.3
	baz=211							
WTCT	Ta-ch'eng	2.00	272	eP		Pb	02 26 52.1	-1.1
	baz=256							
WTCT				eS		Sb	02 27 17.7	0.0
	baz=256							
TSMG	Majia	2.01	237	eP		Pn	02 26 52.3	+2.6
	baz=227							
TSMG				eS		Sn	02 27 14.1	0.0
	baz=227							
SCST	Cishan	2.04	243	eP		Pb	02 26 53.5	-0.3
	baz=229							
SCST				eS		Sb	02 27 19.5	+0.8
	baz=229							
TAW	Tawu	2.05	225	eS		Sn	02 27 14.4	-0.6
	baz=232							
ICHU	Yijhu	2.06	258	eP		Pn	02 26 52.9	+2.5
	baz=253							
ICHU				eS		Sb	02 27 18.2	-1.1
	baz=253							
EAST	Anshuo	2.06	227	eP		Pn	02 26 50.9	+0.4
	baz=224							
WSF	Szhu	2.07	266	eP		Pb	02 26 53.1	-1.1
	baz=261							
WSF				eS		Sb	02 27 19.3	-0.2
	baz=261							
CHN3	Shinhua	2.07	250	eS		Sb	02 27 20.7	+1.1
	baz=245							
TAWH	Dawu Township	2.07	225	eP		Pn	02 26 51.1	+0.6
	baz=233							
TAWH				eS		Sn	02 27 15.1	-0.4
	baz=233							
MASBT	Mashibuluo	2.07	235	eP		Pn	02 26 51.7	+1.1
	baz=224							
MASBT				eS		Sn	02 27 16.5	+0.9
	baz=224							
SHHT	Tainan City	2.10	248	eP		Pb	02 26 55.0	+0.2
	baz=244							
SHHT				eS		Sb	02 27 20.8	+0.2
	baz=244							
SSHA	Shanhua	2.11	252	eS		Sb	02 27 21.4	+0.5
	baz=247							
CHN8	Yiju	2.12	258	eS		Sn	02 27 19.1	+2.2
	baz=253							
TWM1	Shoushan	2.12	243	eP		Pb	02 26 55.8	+0.5
	baz=241							
SCLT	Jiali	2.18	253	eS		Sb	02 27 22.4	-0.5
	baz=249							
JTJ	Tarama	2.20	68	P		Pn	02 26 53.9	+1.6
JTJ				eS		Sn	02 27 20.4	+1.7
TAI1	Yung-k'ang	2.20	250	eS		Sb	02 27 24.4	+1.1
	baz=245							
SCZT	Fangliau	2.23	230	eP		Pn	02 26 54.3	+1.5
	baz=219							
SCZT				eS		Sn	02 27 21.2	+1.8
	baz=219							
SNJT	Kaohsiung City	2.23	242	eP		Pb	02 26 56.8	-0.2
	baz=238							
SNJT				eS		Sb	02 27 25.9	+1.7
	baz=238							
TSCK	Chigu Township	2.29	254	eP		Pn	02 26 56.0	+2.4
	baz=249							
TSCK				eS		Sn	02 27 23.8	+2.9
	baz=249							
SMST	Manzhou Townsh	2.34	220	eP		Pn	02 26 55.6	+1.4
	baz=217							

SMST				*e*S		**Sn**	**02 27 23.2 +1.1**
	baz=217						
WSSB	**Gushan**	**2.34 240**	*e*P			**Pb**	**02 26 58.1 -0.9**
WSSB	baz=236			*e*S		**Sb**	**02 27 28.0 +0.5**
	baz=236						
HEN	**Hengchun**	**2.41 222**	*e*P			**Pn**	**02 26 58.5 +3.3**
HEN	baz=218			*e*S		**Sn**	**02 27 25.6 +1.7**
	baz=218						
TWKBT	**Hengchun**	**2.41 220**	*e*P			**Pn**	**02 26 57.1 +1.9**
TWKBT	baz=216			*e*S		**Sn**	**02 27 25.4 +1.4**
	baz=216						
TWK1	**Hengchun**	**2.42 220**	*e*P			**Pn**	**02 26 56.9 +1.6**
TWK1	baz=216			*e*S		**Sn**	**02 27 25.2 +1.1**
	baz=216						
WDGT	**Dungji**	**2.64 258**	*e*P			**Pn**	**02 27 00.1 +1.7**
WDGT	baz=254			*e*S		**Sn**	**02 27 29.9 +0.4**
	baz=254						
PHUB	**P'eng-hu**	**2.67 264**	*e*P			**Pn**	**02 27 00.6 +1.7**
PHUB	baz=247			*e*S		**Sn**	**02 27 31.6 +1.1**
	baz=247						
PNG	**Penghu**	**2.68 265**	*e*P			**Pn**	**02 27 00.6 +1.6**
PNG	baz=260			*e*S		**Sn**	**02 27 32.6 +1.9**
	baz=260						
VCHM	**Qimei**	**2.85 258**	*e*P			**Pn**	**02 27 03.4 +2.0**
VCHM	baz=253			*e*S		**Sn**	**02 27 35.5 +0.6**
	baz=253						
VWUC	**VWUC**	**2.99 294**	*e*P			**Pn**	**02 27 03.9 +0.7**
VWUC	baz=289			*e*S		**Sn**	**02 27 37.0 -1.3**
	baz=289						
MATB	**Ma-tsu**	**3.26 316**	*e*P			**Pn**	**02 27 07.1 +0.1**
MATB	baz=312			*e*S		**Sn**	**02 27 43.9 -1.1**
	baz=312						
PTMZ	**Houxiangcun**	**3.29 292**	*e*P			**Pn**	**02 27 07.9 +0.6**
PTMZ	baz=287			*e*S		**Sn**	**02 27 44.6 -0.9**
	baz=287						
LYJJ	**Jianjiangzhen**	**3.67 319**	*e*P			**Pn**	**02 27 12.5 0.0**
XPSS	**Dashiqiu**	**3.72 327**	*e*P			**Pn**	**02 27 13.6 +0.3**
	baz=337						
KNM	**Kinmen**	**3.73 280**	*e*P			**Pn**	**02 27 15.9 +2.5**
KNM	baz=274			*e*S		**Sn**	**02 27 58.2 +1.6**
	baz=274						
KNMB	**Chin-men Tao**	**3.78 281**	*e*P			**Pn**	**02 27 14.8 +0.7**
KNMB	baz=275			*e*S		**Sn**	**02 27 56.5 -1.3**
	baz=275						
MHZQ	**Yeshan**	**3.86 307**	*e*P			**Pn**	**02 27 15.5 +0.3**
AXDP	**Jialang**	**4.24 286**	*e*P			**Pn**	**02 27 21.1 +0.7**
	baz=305						
ZPLA	**Ao Xicun**	**4.32 272**	*e*P			**Pn**	**02 27 21.3 -0.2**
DSXP	**Dongshan**	**4.62 270**	*e*P			**Pn**	**02 27 27.0 +1.4**
	baz=269						
SXFK	**Yanhouchang**	**5.07 301**	*e*P			**Pn**	**02 27 32.0 +0.1**
	baz=266						
	baz=299						
KSRS	**Korea Array**	**14.38 18**	Pn			**P**	**02 29 44.7 -1.3**
	comp=N,0.3nm,0.3s,baz=195,slow=11,SNR=8.4						
	comp=N,3.0nm,0.8s						
SONM	**Songino Array**	**27.17 336**	P			**P**	**02 31 57.9 -1.0**
	comp=N,1.0nm,0.7s,baz=153,slow=10.0,SNR=4.8						
	comp=N,1.0nm,0.7s						
MKAR	**Makanchi Array**	**39.42 316**	P			**P**	**02 33 44.6 -0.7**
	comp=N,2.0nm,0.9s,baz=103,slow=10,SNR=5.3						
	comp=N,2.0nm,0.9s						
ZALV	**Zalesovo Beam**	**41.19 327**	P			**P**	**02 33 58.7 -1.1**
	comp=N,0.4nm,0.3s,baz=139,slow=9.5,SNR=1.2						
	comp=N,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**43.15 320**	P			**P**	**02 34 14.5 -1.3**
	comp=N,0.4nm,0.2s,baz=91,slow=12,SNR=1.2						
	comp=N,0.4nm,0.2s						
WRA	**Warramunga Arr**	**45.01 164**	P			**P**	**02 34 31.7 +0.8**
	comp=N,0.7nm,0.7s,baz=344,slow=8.7,SNR=3.2						
	comp=N,0.7nm,0.7s						
ASAR	**Alice Springs**	**48.49 166**	P			**P**	**02 35 00.2 +2.0**
	comp=N,0.7nm,0.9s,baz=355,slow=14,SNR=5.7						
	comp=N,0.7nm,0.9s						
BVAR	**Borovoye Array**	**48.70 321**	P			**P**	**02 34 58.2 -1.4**
	comp=N,0.7nm,0.5s,baz=120,slow=8.8,SNR=4.2						
	comp=N,0.7nm,0.5s						
FINES	**FINESS Array B**	**72.35 330**	P			**P**	**02 37 40.8 0.0**
	comp=N,4.8nm,1.1s,baz=46,slow=5.5,SNR=6.1						
	comp=N,4.8nm,1.1s						
BRTR	**Keskin Array B**	**74.33 307**	P			**P**	**02 37 53.5 +0.4**
	comp=N,0.9nm,0.9s,baz=101,slow=6.4,SNR=4.7						
	comp=N,0.9nm,0.9s						

IDC 29 02:28:22.3±2.0, 8°.37S×129°.15E, h0km, mb3.7/1, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=93.1km s-min=28.9km az=65.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.55 157**		Pn	Pn	02 31 23.2	+0.8
	0.1nm,0.3s,baz=336,slow=13,SNR=8.5						
WRA				Sn	Sn	02 33 41.6	-1.4
	0.3nm,0.3s,baz=334,slow=22,SNR=8.9						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**15.88 164**		Pn	Pn	02 32 07.7	+0.3
	baz=343,slow=8.4,SNR=2.7						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**68.91 327**		P	P	02 39 29.1	-0.1
	0.3nm,0.4s,baz=112,slow=7.7,SNR=4.2						
	0.3nm,0.4s						

*JMA **29** 02:33:33.6±0.3, 24°.N±1°.×122°.5E±0°.5, h18km±4km, MV3.2/14, NW OFF ISHIGAKIJIMA IS*
*TAP **29** 02:33:34.2, 23°.88N×122°.47E, h27km, ML3.5, C*
ISC 29 02:33:33.3±1.2, 23°.79N±0°.02×122°.48E±0°.02, h21km±4km, n97, σ0°.78/168, 1C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.36 336**		⇓P	**Pb**	**02 33 41.0**	**+0.2**
	baz=330						
EOS4				*e*S	**Sb**	**02 33 46.0**	**+0.2**
	baz=330						
EOS3	**EOS3**	**0.52 344**		⇓*i*P	**Pb**	**02 33 43.9**	**+0.3**
	baz=332						
EOS3				*e*S	**Sn**	**02 33 50.8**	**-2.6**
	baz=332						
EOS2	**EOS2**	**0.67 340**		⇓P	**Pn**	**02 33 46.9**	**-0.5**
	baz=330						
JYNG	**Yonagunijimaku**	**0.79 33**		*e*P	**Pb**	**02 33 48.0**	**-0.3**
JYNG				*e*S	**Sb**	**02 33 57.2**	**-1.3**
YOJ	**Yonaguni jima**	**0.83 36**		P	**Pb**	**02 33 48.7**	**-0.3**
YOJ				S	**Sb**	**02 33 58.2**	**-1.5**
YOJ	**Yonaguni jima**	**0.83 36**		*e*P	**Pb**	**02 33 48.7**	**-0.3**
	baz=46						
YOJ				*e*S	**Sb**	**02 33 57.8**	**-1.9**
	baz=46						
TWD	**Chiawan**	**0.86 290**		*e*P	**Pb**	**02 33 49.3**	**-0.3**
	baz=270						
TWD				*e*S	**Sb**	**02 34 00.6**	**0.0**
	baz=270						
ETL	**Fush Village**	**0.86 295**		*e*P	**Pb**	**02 33 49.9**	**+0.3**
	baz=277						
NACB	**Ninganchiao**	**0.89 296**		P	**Pb**	**02 33 49.7**	**-0.4**
	baz=277						
NACB				*e*S	**Sb**	**02 34 01.8**	**+0.2**
	baz=277						
EWUT	**Wuta**	**0.91 316**		*e*P	**Pn**	**02 33 50.4**	**-0.5**
	baz=312						
ETM	**Tongmen**	**0.92 281**		*e*P	**Pb**	**02 33 50.1**	**-0.5**
	baz=266						
ETM				*e*S	**Sb**	**02 34 01.6**	**-0.7**
	baz=266						
ENA	**Nanau**	**0.93 314**		*e*P	**Pn**	**02 33 50.7**	**-0.3**
	baz=310						
ENA				*e*S	**Sn**	**02 34 02.9**	**-0.9**
	baz=310						
ESL	**Shilin**	**0.96 272**		*e*P	**Pb**	**02 33 50.6**	**-0.6**
	baz=265						
ESL				*e*S	**Sb**	**02 34 02.6**	**-0.8**
	baz=265						
EGFH	**Guangfu**	**0.97 263**		*e*P	**Pb**	**02 33 51.4**	**0.0**
	baz=257						
EGFH				*e*S	**Sb**	**02 34 04.5**	**+0.7**
	baz=257						
TWC	**Suao**	**1.00 325**		*e*P	**Pb**	**02 33 51.5**	**-0.4**
	baz=322						
TWC				*e*S	**Sb**	**02 34 03.6**	**-1.0**
	baz=322						
ETLH	**Xiulin Townshi**	**1.00 295**		*e*P	**Pb**	**02 33 51.5**	**-0.6**
	baz=290						
ETLH				*e*S	**Sb**	**02 34 04.3**	**-0.5**
	baz=290						
LXIB	**Xiulin Townshi**	**1.00 284**		*e*P	**Pb**	**02 33 51.5**	**-0.6**
	baz=270						
LXIB				*e*S	**Sb**	**02 34 04.6**	**-0.3**
	baz=270						
WARBT	**Fenglin Townsh**	**1.00 266**		⇑P	**Pb**	**02 33 51.3**	**-0.8**
	baz=260						
WARBT				*e*S	**Sb**	**02 34 04.3**	**-0.5**
	baz=260						
HGSD	**Ruisui**	**1.01 253**		*e*P	**Pn**	**02 33 51.8**	**-0.4**
	baz=248						
HGSD				*e*S	**Sb**	**02 34 04.4**	**-0.5**
	baz=248						
ECBN	**Changbin**	**1.05 244**		*e*P	**Pn**	**02 33 52.9**	**+0.1**
	baz=238						
ECBN				*e*S	**Sb**	**02 34 06.2**	**0.0**
	baz=238						
NDS	**Dongshan**	**1.09 321**		*e*P	**Pb**	**02 33 53.6**	**+0.1**
	baz=317						
NDS				*e*S	**Sn**	**02 34 07.3**	**-0.6**
	baz=317						
EHY	**Hungye**	**1.10 255**		*e*P	**Pn**	**02 33 53.4**	**0.0**
	baz=249						
EHY				*e*S	**Sb**	**02 34 07.5**	**+0.1**
	baz=249						
LATG	**Datong**	**1.14 311**		*e*P	**Pn**	**02 33 54.0**	**-0.2**
	baz=307						
LATG				*e*S	**Sn**	**02 34 10.4**	**+1.2**
	baz=307						
EYUL	**Yuli**	**1.15 248**		*e*P	**Pn**	**02 33 54.4**	**+0.2**
	baz=242						
EYUL				*e*S	**Sn**	**02 34 09.1**	**-0.2**
	baz=242						
YULB	**Yu-li**	**1.15 250**		*e*P	**Pn**	**02 33 54.5**	**+0.3**
	baz=245						
YULB				*e*S	**Sn**	**02 34 09.4**	**+0.1**
	baz=245						
WHF	**Hehuan Shan**	**1.16 288**		*e*P	**Pn**	**02 33 54.4**	**-0.3**
	baz=270						
TWF1	**Yuli**	**1.17 248**		*e*P	**Pn**	**02 33 54.7**	**+0.3**
	baz=243						
TWF1				*e*S	**Sn**	**02 34 09.6**	**-0.1**
	baz=243						
NNSB	**Datong**	**1.19 303**		*e*P	**Pn**	**02 33 54.6**	**-0.2**
	baz=288						
TWE	**Neicheng**	**1.19 322**		*e*P	**Pb**	**02 33 55.2**	**+0.1**
	baz=319						
ENTT	**Nioudou**	**1.19 316**		*e*P	**Pb**	**02 33 55.0**	**-0.1**
	baz=299						
NDT	**Datong Townshi**	**1.20 313**		*e*P	**Pb**	**02 33 55.0**	**-0.3**
	baz=310						
NDT				*e*S	**Sn**	**02 34 11.3**	**+0.9**
	baz=310						
NNS	**Nan Shan**	**1.20 303**		*e*P	**Pn**	**02 33 55.0**	**0.0**
	baz=289						
OWD	**Renai**	**1.20 278**		*e*P	**Pn**	**02 33 55.1**	**0.0**
	baz=272						
OWD				*e*S	**Sn**	**02 34 10.1**	**-0.7**
	baz=272						
CHGB	**Renai**	**1.22 283**		*e*P	**Pn**	**02 33 55.3**	**-0.1**
	baz=267						
CHGB				*e*S	**Sn**	**02 34 11.0**	**-0.4**
	baz=267						
VWDT	**VWDT**	**1.22 269**		P	**Pn**	**02 33 55.4**	**+0.3**
	baz=262						
VWDT				*e*S	**Sn**	**02 34 10.6**	**-0.5**
	baz=262						
CHKT	**Chengkung**	**1.23 236**		*e*P	**Pn**	**02 33 55.0**	**-0.3**
	baz=221						
CHKT				*e*S	**Sn**	**02 34 09.6**	**-1.6**
	baz=221						
FULB	**Fuli**	**1.23 242**		*e*P	**Pn**	**02 33 55.1**	**-0.2**
	baz=225						
FULB				*e*S	**Sn**	**02 34 11.2**	**-0.2**
	baz=225						
HATJ	**Hateruma jima**	**1.24 77**		P	**Pn**	**02 33 56.0**	**+0.6**
HATJ				S	**Sb**	**02 34 12.2**	**+0.4**
WUSB	**Renai**	**1.26 279**		*e*P	**Pn**	**02 33 56.0**	**+0.1**
	baz=273						
WUSB				*e*S	**Sn**	**02 34 11.9**	**-0.3**
	baz=273						
FUSB	**Fushanzhiwuyua**	**1.26 320**		*e*P	**Pb**	**02 33 56.1**	**-0.3**
	baz=317						
FUSB				*e*S	**Sb**	**02 34 12.7**	**+0.4**
	baz=317						
IRIF	**Iriomote-Funau**	**1.27 64**		P	**Pb**	**02 33 56.8**	**+0.2**
IRIF				S	**Sb**	**02 34 12.7**	**+0.3**
TWT	**Tachien**	**1.28 291**		*e*P	**Pb**	**02 33 56.6**	**-0.2**
	baz=276						
TDCB	**Techi**	**1.29 291**		*e*P	**Pn**	**02 33 56.7**	**+0.4**
	baz=276						
TWB1	**Santiao Chiao**	**1.29 340**		*e*P	**Pb**	**02 33 56.1**	**-0.9**
	baz=338						
NWLT	**Wulai**	**1.33 318**		*e*P	**Pb**	**02 33 57.0**	**-0.6**
	baz=301						
EHD	**Haiduan**	**1.33 242**		*e*P	**Pn**	**02 33 56.3**	**-0.3**
	baz=227						
EHD				*e*S	**Sn**	**02 34 13.3**	**-0.4**
	baz=227						
YHNB	**Yeheng**	**1.33 311**		*e*P	**Pb**	**02 33 57.2**	**-0.5**
	baz=308						
ECS	**Chishang**	**1.35 239**		*e*P	**Pn**	**02 33 57.8**	**+0.9**
	baz=225						
ECS				*e*S	**Sn**	**02 34 14.4**	**+0.3**
	baz=225						
EDH	**Donghe**	**1.35 233**		*e*P	**Pn**	**02 33 56.5**	**-0.4**
	baz=220						
EDH				*e*S	**Sn**	**02 34 13.0**	**-1.2**
	baz=220						
NSK	**Sanguang**	**1.35 311**		*e*P	**Pb**	**02 33 57.4**	**-0.6**
	baz=308						
SSLB	**Suanglung**	**1.40 270**		*e*P	**Pn**	**02 33 57.8**	**+0.2**
	baz=264						
SSLB				*e*S	**Sn**	**02 34 14.7**	**-0.7**
	baz=264						
SXI1	**Grass Mountain**	**1.41 337**		*e*P	**Pn**	**02 33 57.7**	**-0.2**
	baz=335						
SXI1				*e*S	**Sb**	**02 34 17.7**	**+1.1**
	baz=335						
NWF	**Wu-fen Shan**	**1.43 334**		*e*P	**Pb**	**02 33 59.4**	**+0.1**
	baz=332						
NWF				*e*S	**Sb**	**02 34 17.4**	**+0.4**
	baz=332						
WFSB	**Wu-fen Shan**	**1.43 334**		*e*P	**Pb**	**02 33 59.4**	**+0.2**
	baz=332						
WFSB				*e*S	**Sb**	**02 34 17.5**	**+0.6**
	baz=332						
LDUT	**Ludao**	**1.45 220**		*e*S	**Sn**	**02 34 15.0**	**-1.6**
	baz=217						
SMLT	**Sun Moon Lake**	**1.45 274**		*e*P	**Pn**	**02 33 58.9**	**+0.5**
	baz=268						
SMLT				*e*S	**Sn**	**02 34 17.0**	**+0.3**
	baz=268						
WCS	**Beigang Elemen**	**1.46 281**		*e*P	**Pn**	**02 33 59.1**	**+0.7**
	baz=277						
ELDTW	**Lidau**	**1.47 246**		*e*P	**Pn**	**02 33 58.6**	**0.0**
	baz=241						
ELDTW				*e*S	**Sn**	**02 34 16.4**	**-0.8**
	baz=241						
JKRS	**Kuro-shima**	**1.47 72**		*e*P	**Pb**	**02 33 59.9**	**-0.1**
JKRS				S	**Sb**	**02 34 18.9**	**+0.7**
WHP	**Taichung City**	**1.48 289**		*e*P	**Pb**	**02 34 01.5**	**+1.3**
	baz=283						
WHP				*e*S	**Sb**	**02 34 20.5**	**+1.8**
	baz=283						
TYC	**Yuchr**	**1.49 275**		*e*P	**Pb**	**02 34 02.0**	**+1.7**
	baz=269						
TYC				*e*S	**Sn**	**02 34 17.4**	**-0.1**
	baz=269						
WHYT	**Xinyi Township**	**1.49 267**		*e*P	**Pb**	**02 34 01.1**	**+0.7**
	baz=250						
WHYT				*e*S	**Sn**	**02 34 18.4**	**+0.7**
	baz=250						
LONT	**Longtian**	**1.52 235**		*e*P	**Pn**	**02 33 59.6**	**+0.4**
	baz=223						
LONT				*e*S	**Sn**	**02 34 18.5**	**+0.1**
	baz=223						
ALS	**Alishan**	**1.56 260**		*e*P	**Pn**	**02 34 01.2**	**+1.1**
	baz=254						
ALS				*e*S	**Sn**	**02 34 20.2**	**+0.4**
	baz=254						
LIOB	**Emei**	**1.58 303**		*e*P	**Pb**	**02 34 02.0**	**0.0**
	baz=300						
YM01	**YM01**	**1.58 329**		*e*P	**Pb**	**02 34 01.4**	**-0.5**
	baz=326						
NSTT	**Nanjuang**	**1.59 302**		*e*P	**Pb**	**02 34 01.8**	**-0.2**
	baz=285						
NSTT				*e*S	**Sb**	**02 34 21.6**	**0.0**
	baz=285						
TTN	**Taitung**	**1.60 230**		*e*S	**Sn**	**02 34 21.1**	**+0.8**
	baz=226						
WJS	**Zhushan**	**1.60 272**		*e*S	**Sb**	**02 34 23.5**	**+1.4**
	baz=256						
TWGBT	**Beinan**	**1.61 233**		*e*P	**Pn**	**02 34 00.8**	**+0.3**
	baz=221						
TWGBT				*e*S	**Sn**	**02 34 20.5**	**-0.1**
	baz=221						
YM08	**YM08**	**1.61 330**		*e*P	**Pn**	**02 34 00.8**	**+0.3**
	baz=328						
TWG	**Pinlang**	**1.61 234**		*e*P	**Pn**	**02 34 00.7**	**+0.2**
	baz=221						
TWG				*e*S	**Sn**	**02 34 20.5**	**-0.1**
	baz=221						
JIJ	**Ishigaki jima**	**1.63 69**		P	**Pn**	**02 34 01.8**	**+1.1**
JIJ				*e*S	**Sn**	**02 34 21.9**	**+0.8**
WNT	**Mingjian**	**1.64 273**		*e*P	**Pb**	**02 34 02.6**	**-0.4**
	baz=267						
WNT				*e*S	**Sb**	**02 34 23.6**	**+0.4**
	baz=267						
TWQ1	**Liyutan**	**1.65 290**		*e*P	**Pb**	**02 34 03.0**	**-0.1**
	baz=283						
TWQ1				*e*S	**Sb**	**02 34 24.4**	**+0.9**
	baz=283						
CHN5	**Tsauling**	**1.66 264**		*e*P	**Pb**	**02 34 03.0**	**-0.3**
	baz=258						
CHN5				*e*S	**Sb**	**02 34 23.9**	**+0.1**
	baz=258						
STYH	**Taoyuan**	**1.68 249**		*e*P	**Pn**	**02 34 02.6**	**+1.2**
	baz=235						
STYH				*e*S	**Sn**	**02 34 23.3**	**+1.0**
	baz=235						
TCU	**Taichung**	**1.69 283**		*e*P	**Pb**	**02 34 03.8**	**+0.1**
	baz=278						
NSY	**Sanyi**	**1.69 292**		*e*P	**Pb**	**02 34 03.6**	**-0.1**
	baz=288						
NMLH	**Miaoli**	**1.71 296**		*e*P	**Pb**	**02 34 03.8**	**-0.3**
	baz=293						
TPUB	**Ta-pu**	**1.76 254**		*e*P	**Pb**	**02 34 04.7**	**-0.3**
	baz=239						
TPUB				*e*S	**Sb**	**02 34 26.9**	**+0.2**
	baz=239						
WDJ	**Dajia District**	**1.77 289**		*e*P	**Pb**	**02 34 04.1**	**-1.0**
	baz=282						
WDJ				*e*S	**Sb**	**02 34 26.9**	**+0.1**
	baz=282						
CHN4	**Tsaushan**	**1.78 256**		*e*P	**Pb**	**02 34 05.4**	**+0.1**
	baz=241						
CHN4				*e*S	**Sb**	**02 34 27.7**	**+0.5**
	baz=241						
WTP	**Ta-pu**	**1.79 253**		*e*P	**Pn**	**02 34 05.0**	**+1.9**
	baz=248						
WTP				*e*S	**Sb**	**02 34 27.6**	**0.0**
	baz=248						
ECL	**Taimali**	**1.84 230**		*e*P	**Pn**	**02 34 03.4**	**-0.3**
	baz=237						
ECL				*e*S	**Sn**	**02 34 25.0**	**-1.2**
	baz=237						
JISG	**Ishigakijimahi**	**1.85 64**		*e*P	**Pn**	**02 34 05.0**	**+1.2**
JISG				S	**Sn**	**02 34 27.6**	**+1.0**
SLGT	**Liugui**	**1.86 245**		*e*P	**Pb**	**02 34 06.3**	**-0.4**
	baz=233						
SLGT				*e*S	**Sn**	**02 34 29.0**	**+2.2**
	baz=233						
SGST	**Jiashian**	**1.88 248**		*e*P	**Pn**	**02 34 06.4**	**+2.2**
	baz=243						
SGST				*e*S	**Sb**	**02 34 29.8**	**-0.2**
	baz=243						
CHN1	**Nanshi**	**1.89 252**		*e*P	**Pb**	**02 34 06.8**	**-0.3**
	baz=247						
CHN1				*e*S	**Sb**	**02 34 31.2**	**+0.9**
	baz=247						
TWK	**Hsinying**	**1.90 254**		*e*P	**Pb**	**02 34 06.8**	**-0.6**
	baz=249						
TWK				*e*S	**Sb**	**02 34 31.3**	**+0.7**
	baz=249						
SNST	**Tainan City**	**1.90 253**		*e*S	**Sb**	**02 34 30.5**	**-0.2**
	baz=248						
WTK	**Tuku**	**1.92 267**		*e*P	**Pb**	**02 34 07.5**	**-0.1**
	baz=262						
WTK				*e*S	**Sb**	**02 34 31.4**	**+0.3**
	baz=262						
WRL	**Guolierlin Hig**	**1.93 274**		*e*P	**Pb**	**02 34 06.9**	**-0.9**
	baz=257						
WRL				*e*S	**Sb**	**02 34 31.1**	**-0.2**
	baz=257						
LAY	**Lan-yu**	**1.94 206**		*e*P	**Pn**	**02 34 04.2**	**-0.9**
	baz=205						
LAY				*e*S	**Sn**	**02 34 26.9**	**-2.0**
	baz=205						
LYUB	**Lan-yu**	**1.96 205**		*e*P	**Pn**	**02 34 04.3**	**-1.0**
	baz=204						
LYUB				*e*S	**Sn**	**02 34 27.1**	**-2.2**
	baz=204						
MASBT	**Mashibuluo**	**2.06 236**		*e*P	**Pn**	**02 34 07.8**	**+1.1**
	baz=225						
MASBT				*e*S	**Sn**	**02 34 32.6**	**+0.8**
	baz=225						
SCZT	**Fangliau**	**2.22 231**		*e*P	**Pn**	**02 34 10.7**	**+1.9**
	baz=220						

*IDC **29** 02:58:22.9±2.1, 5°.91S×154°.77E, h174km±20km, mb3.1/5, mbtmp3.7/7, Error ellipse: s-maj=26.6km s-min=20.8km az=64.0*
ISC 29 02:58:20.6±1.1, 5°.9S±0°.2×154°.9E±0°.2, h150km, n10, σ1°.52/8, mb3.2/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.32 299**		P	**Pn**	**02 59 12.1**	**0.0**
	93nm,0.6s,baz=47,slow=23,SNR=8.0						
KRVT				S	**Sn**	**02 59 53.4**	**+1.4**
	186nm,0.6s,baz=30,slow=23,SNR=5.1						
DZM	**Mont Dzumac**	**19.53 146**		P	**P**	**03 02 38.9**	**+2.3**
	3.3nm,0.5s,baz=269,slow=11,SNR=13						
WRA	**Warramunga Arr**	**24.40 233**		P	**P**	**03 03 24.2**	**-1.1**
	0.3nm,0.3s,baz=57,slow=9.8,SNR=17						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**26.85 227**		P	**P**	**03 03 46.0**	**-1.4**
	0.2nm,0.3s,baz=57,slow=9.3,SNR=4.8						
	0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**26.89 25**		T	T	03 32 43.1	
	baz=202						
H11S2	**WAKE ISLAND Hy**	**26.89 25**		T	T	03 32 43.3	
	baz=202						
H11S1	**WAKE ISLAND Hy**	**26.90 25**		T	T	03 32 45.0	
	baz=202						
ILAR	**Eielson Array**	**82.40 22**		P	**P**	**03 10 24.7**	**-1.0**
	0.3nm,1.0s,baz=239,slow=7.0,SNR=1.9						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**82.57 319**		P	**P**	**03 10 27.1**	**+0.2**
	0.5nm,0.6s,baz=108,slow=6.0,SNR=2.9						
	0.5nm,0.6s						
QSPA	**South Pole Qui**	**84.05 180**		P	**P**	**03 10 33.9**	**-0.3**
	0.6nm,0.4s,baz=0.0,slow=4.0,SNR=6.3						
	0.6nm,0.4s						

*IDC **29** 03:31:14.5±0.9, 51°.51N×16°.41E, h0km, mbtmp3.3/6, ML2.7/6, Error ellipse: s-maj=18.3km s-min=8.1km az=119.0*
*IPEC **29** 03:31:14.4±0.2, 51°.54N×16°.25E, h0km, ML2.7/4, Error ellipse: s-maj=1.3km s-min=0.8km az=23.0*
*VIE **29** 03:31:14.9±0.6, 51°.50N×16°.07E, h0km, mb2.7/7, ml2.9/8, Error ellipse: s-maj=7.5km s-min=3.1km az=53.0 80 km NW of Wroclaw Suspected Mining induced.*
*PRU **29** 03:31:16.0, 51°.49N×16°.15E, h0km*
ISC 29 03:31:13.8±0.9, 51°.57N±0°.04×16°.14E±0°.02, h0km, n42, σ0°.93/77, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73 172**		*e*Pg	**Pg**	**03 31 28.5**	**+0.6**
KSP				*e*Sg	**Sg**	**03 31 37.8**	**+0.3**

CHVC	**Chvalec**	**0.99 183**	*e*PG	**Pg**	**03 31 33.0**	**+0.3**
CHVC			*e*SG	**Sg**	**03 31 44.8**	**-0.7**
comp=Z,68nm,0.5s						
OSTC	**Ostas**	**1.02 177**	*e*PG	**Pg**	**03 31 33.8**	**+0.5**
OSTC			*e*SG	**Sg**	**03 31 46.0**	**-0.5**
comp=Z,74nm,0.7s						
UPC	**Upice**	**1.07 184**	*e*PG	**Pg**	**03 31 34.5**	**+0.2**
UPC			*e*SG	**Sg**	**03 31 48.1**	**0.0**
comp=Z,112nm,0.5s						
DPC	**Dobruska-Polom**	**1.23 175**	*e*PG	**Pg**	**03 31 37.1**	**-0.2**
DPC			*e*SG	**Sg**	**03 31 52.8**	**-0.4**
comp=Z,36nm,0.7s						
PVCC	**Panska Ves**	**1.44 224**	*e*PG	**Pn**	**03 31 41.4**	**+0.2**
PVCC			*e*SG	**Sn**	**03 32 01.0**	**+0.2**
comp=Z,179nm,0.4s						
BRG	**Berggiesshubel**	**1.55 244**	Pg	**Pg**	**03 31 44.4**	**+0.9**
BRG			Sg	**Sg**	**03 32 05.3**	**+1.7**
BRG			Amp		03 32 06.1	
comp=Z,173nm,0.3s						
KRLC	**Kraliky**	**1.55 165**	*e*PG	**Pn**	**03 31 42.9**	**+0.1**
KRLC			*e*SG	**Sg**	**03 32 02.2**	**-1.5**
comp=Z,37nm,0.4s						
PRA	**Prague**	**1.85 216**	*e*SG	**Sg**	**03 32 13.9**	**+0.6**
comp=Z,30nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.87 208**	*e*PG	**Pn**	**03 31 47.4**	**+0.3**
GOPC			*e*SG	**Sg**	**03 32 13.7**	**-0.1**
comp=Z,45nm,0.5s						
PRU	**Pruhonice**	**1.88 213**	*e*PG	**Pb**	**03 31 48.8**	**-0.2**
PRU			*e*SG	**Sb**	**03 32 13.6**	**+0.5**
comp=Z,29nm,0.5s						
HSKC	**Hora Svate Kat**	**1.96 242**	*e*PG	**Pb**	**03 31 50.2**	**-0.2**
HSKC			*e*SG	**Sb**	**03 32 16.3**	**+0.9**
comp=Z,67nm,0.5s						
CLL	**Collm**	**1.98 264**	*i* Pn	**Pn**	**03 31 48.2**	**-0.4**
CLL			*i* Pg	**Pg**	**03 31 51.8**	**0.0**
CLL			*ex*	x	03 31 54.0	
CLL			*e*Sg	**Sb**	**03 32 17.0**	**+1.1**
comp=Z,50nm,0.4s						
MORC	**Moravsky Berou**	**2.01 153**	*e*Pn	**Pn**	**03 31 48.5**	**-0.5**
baz=336						
MORC			*e*Sg	**Sn**	**03 32 15.3**	**+0.5**
comp=Z,40nm,0.8s,baz=336						
OKC	**Ostrava-Krasne**	**2.15 143**	*e*PG	**Pb**	**03 31 53.6**	**-0.1**
OKC			*e*SG	**Sb**	**03 32 21.7**	**+0.8**
comp=Z,41nm,0.6s						
VRAC	**Vranov**	**2.28 173**	*e*Pn	**Pn**	**03 31 52.8**	**0.0**
baz=354						
VRAC			*e*Sg	**Sb**	**03 32 24.2**	**-0.4**
comp=Z,38nm,0.7s,baz=354						
VRAC	**Vranov**	**2.28 173**	*e*PN	**Pn**	**03 31 52.9**	**+0.1**
VRAC			*e*SG	**Sb**	**03 32 24.3**	**-0.4**
VRAC	**Vranov**	**2.28 173**	Pn	**Pn**	**03 31 52.4**	**-0.4**
comp=Z,2.2nm,0.3s,baz=358,slow=17,SNR=21						
VRAC			Lg	Lg	03 32 26.9	
comp=Z,6.2nm,0.3s,baz=261,slow=18,SNR=9.9						
comp=Z,4.2nm,0.3s						
MAUC	**Maruska**	**2.46 153**	*e*PG	**Pb**	**03 31 59.1**	**+0.2**
MAUC			*e*SG	**Sg**	**03 32 31.6**	**-1.1**
comp=Z,53nm,0.4s						
ZVC	**Zvikov**	**2.47 211**	*e*PG	**Pb**	**03 32 00.1**	**+1.0**
ZVC			*e*SG	**Sg**	**03 32 31.8**	**-1.3**
comp=Z,19nm,0.4s						
KRUC	**Moravsky**	**2.52 176**	*e*Pn	**Pn**	**03 31 56.2**	**+0.2**
baz=358						
KRUC			*e*Sg	**Sb**	**03 32 31.5**	**+0.1**
comp=Z,50nm,1.1s,baz=358						
OJC	**Ojcow**	**2.68 119**	*e*Pg	**Pg**	**03 32 06.1**	**+0.9**
OJC			*e*Sg	**Sg**	**03 32 41.5**	**+1.5**
KHC	**Kasperske Hory**	**2.94 215**	*e*PN	**Pn**	**03 32 01.9**	**0.0**
KHC			*e*PG	**Pb**	**03 32 08.2**	**+1.0**
KHC			*e*SN	**Sn**	**03 32 37.7**	**-0.2**
KHC			*e*SG	**Sg**	**03 32 46.6**	**-1.7**
comp=Z,25nm,0.4s						
CKRC	**Cesky Krumlov**	**3.00 204**	*e*PN	**Pn**	**03 32 03.2**	**+0.6**
CKRC			*e*PG	**Pb**	**03 32 09.0**	**+1.0**
CKRC			*e*SG	**Sg**	**03 32 48.2**	**-1.8**
GERES	**GERESS Array B**	**3.15 211**	Pn	**Pn**	**03 32 05.7**	**+1.0**
comp=Z,1.3nm,0.3s,baz=35,slow=12,SNR=6.7						
GERES			Pg	**Pg**	**03 32 12.8**	**-1.3**
comp=Z,2.7nm,0.3s,baz=28,slow=18,SNR=8.6						
GERES			Lg	Lg	03 32 54.0	
comp=Z,5.1nm,0.3s,baz=35,slow=31,SNR=10						
comp=Z,2.8nm,0.3s						
LANS	**Liptovska Anna**	**3.23 137**	*e*PN	**Pn**	**03 32 05.8**	**0.0**
LANS			*e*PG	**Pg**	**03 32 15.6**	**-0.1**
LANS			*e*SG	**Sg**	**03 32 57.7**	**+0.3**
MODS	**Modra-Piesok**	**3.28 167**	*e*PG	**Pg**	**03 32 16.7**	**0.0**
MODS			*e*SG	**Sg**	**03 33 01.0**	**+1.7**
NIE	**Niedzica**	**3.42 127**	*e*P	**Pg**	**03 32 19.1**	**-0.2**
NIE			*e*S	**Sg**	**03 33 04.4**	**+0.8**
VYHS	**Vyhne**	**3.54 150**	*e*PN	**Pn**	**03 32 09.4**	**-0.6**
VYHS			*e*PG	**Pg**	**03 32 22.0**	**+0.4**
VYHS			*e*SG	**Sg**	**03 33 06.6**	**-0.8**
CONA	**Conrad Observa**	**3.65 183**	*i* Pn	**Pn**	**03 32 12.4**	**+0.8**
comp=Z,1.1nm,0.3s						
CONA			Sg	**Sg**	**03 33 10.2**	**-0.9**
comp=Z,14nm,0.5s						
RONA	**Rosalia, Austr**	**3.88 178**	*e*Pn	**Pn**	**03 32 15.5**	**+0.8**
comp=Z,0.3nm,0.1s						
STHS	**Stebnicka Huta**	**3.91 122**	*e*PG	**Pg**	**03 32 28.1**	**-0.6**
MOA	**Molln**	**3.92 199**	*e*Pn	**Pn**	**03 32 15.6**	**+0.3**
comp=Z,0.4nm,0.2s,SNR=7.7						
BIOA	**Bad Ischl, Aus**	**4.21 204**	*e*Pn	**Pn**	**03 32 17.9**	**-1.3**
comp=Z,2.3nm,0.3s,SNR=4.8						
ARSA	**Arzberg**	**4.34 186**	*e*Pn	**Pn**	**03 32 22.2**	**+1.1**
comp=Z,1.2nm,0.2s						
LESA	**Schwarzleotal**	**4.72 210**	*e*Pn	**Pn**	**03 32 26.0**	**-0.4**
comp=Z,0.9nm,0.3s						
KOLS	**Kolonicke sedl**	**4.74 121**	*e*PN	**Pn**	**03 32 26.5**	**0.0**
KOLS			*e*PG	**Pg**	**03 32 47.1**	**+2.5**
SQTA	**Sankt Quirin**	**5.41 218**	*e*Pn	**Pn**	**03 32 35.0**	**-0.9**
comp=Z,0.9nm,0.2s,SNR=4.4						
DAVOX	**Davos/Dischmat**	**6.31 223**	Pn	**Pn**	**03 32 49.2**	**+1.0**
comp=Z,0.2nm,0.3s,baz=45,slow=13,SNR=2.2						
DAVOX			Sn	**Sn**	**03 34 03.1**	**+2.0**
comp=Z,0.2nm,0.3s,baz=348,slow=21,SNR=1.8						
DAVOX			Lg	Lg	03 34 35.6	
comp=Z,0.3nm,0.3s,baz=67,slow=22,SNR=2.6						
comp=Z,0.7nm,0.3s						
AKASG	**Malin Array Be**	**8.28 91**	Pn	Pn	03 33 08.3	-6.7
comp=Z,0.3nm,0.3s,baz=279,slow=12,SNR=1.7						
comp=Z,0.2nm,0.4s						
FINES	**FINESS Array B**	**11.30 25**	Pn	**Pn**	**03 33 53.1**	**-3.2**
baz=218,slow=13,SNR=1.7						
FINES			Sn	Sn	03 35 53.9	-9.3
comp=Z,0.1nm,0.3s,baz=214,slow=22,SNR=1.8						
FINES			Lg	Lg	03 37 10.2	
baz=210,slow=33,SNR=1.3						
comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	**18.56 10**	P	**Pn**	**03 35 32.7**	**+0.7**
baz=203,slow=11,SNR=1.3						
comp=Z,1.9nm,0.9s						

IDC 29 03:57:47.3±3.8, 6°.69N×126°.20E, h55km±44km, mb3.2/3, mbtmp3.5/3, Error ellipse: s-maj=83.4km s-min=26.6km az=79.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.72**	**302**	P	Pn	03 58 02.3	+0.7
316nm,0.3s,baz=255,slow=3.4,SNR=8.3							
DAV				S	Sn	03 58 13.5	+1.4
1μm,0.3s,baz=18,slow=23,SNR=9.4							
DAV				LR	LR	03 58 18.2	
comp=Z,118nm,18.4s,baz=168,slow=43							
WRA	**Warramunga Arr**	**27.65**	**163**	P	P	04 03 29.6	-0.5
0.3nm,0.4s,baz=343,slow=9.6,SNR=2.0							
0.3nm,0.4s							
ASAR	**Alice Springs**	**31.09**	**166**	P	P	04 04 00.8	+0.2
0.5nm,0.5s,baz=345,slow=7.3,SNR=13							
ASAR				PcP	PcP	04 06 54.9	-0.3
0.3nm,0.7s,baz=359,slow=2.9,SNR=1.7							
0.5nm,0.5s							
ILAR	**Eielson Array**	**82.68**	**26**	P	P	04 10 04.8	0.0
0.2nm,0.7s,baz=251,slow=5.7,SNR=5.6							
0.2nm,0.7s							

*IDC **29** 04:05:30.5±0.5, 1°.55N×66°.76E, h0km, mb4.4/28, mbtmp4.5/29, ML4.5/1, MS4.5/63, Error ellipse: s-maj=14.5km s-min=12.8km az=42.0*
*MOS **29** 04:05:30.5±1.3, 1°.59N×66°.71E, h9km, mb5.3/61, MS4.3/7, Error ellipse: s-maj=6.8km s-min=4.1km az=94.4*
*BJI **29** 04:05:31.6±0.0, 1°.32N×66°.46E, h26km, mb4.9/64, mB5.5/39, Ms5.0/47, Ms7 4.8/48*
*NEIC **29** 04:05:34.0±2.1, 1°.54N±0°.09×66°.78E±0°.08, h10km±1km, mb5.2/104, Error ellipse: s-maj=15.4km s-min=12.1km az=143.0*
*GCMT **29** 04:05:34.0±0.1, 1°.53N±0°.01×66°.81E±0°.01, h12km, MW5.2/150, Moment Tensor Solution. s79,c114; s150,c272; Duration: 1!0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.85±.01; $M_{\theta\theta}$=0.74±.01; $M_{\phi\phi}$=0.11±.01; $M_{r\theta}$=0.28±.03; $M_{\theta\phi}$=-0.35±.01; $M_{\phi r}$=-0.22±.04; Best double couple: M_0=0.94600×10^{17} NP1:ϕ_s=300.00000°, δ56.00000°, λ=-84.00000°. NP2:ϕ_s=108.00000°, δ34.00000°, λ=-99.00000°. Principal axes: T 0.9640, Plg11.0000°, Azm25.0000°; N -0.0350, Plg5.0000°, Azm116.0000°; P -0.9290, Plg78.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 04:05:33.9±0.6, 1°.48N±0°.04×66°.77E±0°.04, h17km±3km, n494, σ1$78/481, mb5.0/177, MS4.5/87, 24C-21D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAAM	**Kaadhehdhoo**	**6.30**	**99**	P	**Pn**	**04 07 03.8**	**-2.4**
MNCI	**Minicoy**	**9.21**	**43**	Pn	**Pn**	**04 07 44.6**	**-1.4**
MSEY	**Mahe Island**	**12.83**	**241**	Pn	**Pn**	**04 08 35.3**	**-0.5**
MSEY	**Mahe Island**	**12.83**	**241**	P	**Pn**	**04 08 36.6**	**+0.8**
MSEY	**Mahe Island**	**12.83**	**241**	P	**Pn**	**04 08 37.6**	**+1.8**
MSEY				P	**Pn**	**04 08 37.6**	**+1.8**
MSEY	**Mahe Island**	**12.83**	**241**	P	**Pn**	**04 08 35.3**	**-0.5**
KOD	**Kodaikanal**	**13.73**	**50**	*e*P	**Pn**	**04 08 47.0**	**-1.3**
PALK	**Pallekele**	**15.03**	**67**	Pn	**Pn**	**04 09 03.4**	**-2.4**
PALK	**Pallekele**	**15.03**	**67**	P	**Pn**	**04 09 03.6**	**-2.1**
PALK				P	**Pn**	**04 09 03.6**	**-2.1**
PALK	**Pallekele**	**15.03**	**67**	P	**Pn**	**04 09 03.4**	**-2.4**
PALK	**Pallekele**	**15.03**	**67**	Pn	**Pn**	**04 09 03.1**	**-2.6**
2.0nm,0.3s,baz=353,slow=12,SNR=24							
PALK				LR	LR	04 13 47.6	
comp=Z,4μm,18.2s,baz=343,slow=33							
39nm,0.8s							
MDRS	**Chennai**	**17.62**	**49**	*e*P	**Pn**	**04 09 36.0**	**-2.8**
MDRS				IAmb	IAmb	04 09 45.5	
comp=Z,70nm,1.1s							
POO	**Poona**	**18.31**	**22**	*e*P	**Pn**	**04 09 46.3**	**-1.1**
POO				IAmb	IAmb	04 09 54.8	
comp=Z,256nm,1.9s							
HYB	**Hyderabad**	**19.62**	**35**	*e*P	**P**	**04 10 01.8**	**0.0**
HYB				IAmb	IAmb	04 10 03.6	
comp=Z,31nm,0.9s							
HYB	**Hyderabad**	**19.62**	**35**	*e*P	**P**	**04 10 02.0**	**+0.2**
HYB				IVmB_BB		04 10 05.3	
comp=Z,2μm,5.0s							
HYB				*e*S	Sn	04 13 54.8	+12
HYB				IVMs_BB	IVMs_BB	04 16 05.9	
comp=Z,1μm,20.9s							
SHAO	**Shalim**	**19.75**	**327**	*i* P	**Pn**	**04 10 05.8**	**+1.1**
SNR=9.5							
SHAO	**Shalim**	**19.75**	**327**	P	**Pn**	**04 10 07.4**	**+2.8**
SNR=8.6							
DMTO	**DMTO**	**19.88**	**325**	P	**Pn**	**04 10 08.9**	**+2.6**
SNR=7.2							
RBK	**Rabkut**	**20.15**	**323**	P	Pn	04 10 13.0	+3.5
SNR=15							
RBK				P	Pn	04 10 13.0	+3.5
SNR=15							
ABTO	**Aybut**	**20.60**	**321**	P	Pn	04 10 16.0	+1.2
SNR=16							
ABTO				P	Pn	04 10 16.0	+1.2
SNR=16							
WHFO	**Wadi Hawf**	**20.73**	**323**	P	Pn	04 10 18.3	+2.0
SNR=8.3							
WHFO				P	Pn	04 10 18.3	+2.0
SNR=8.3							
DOK	**Doka**	**21.07**	**325**	P	**P**	**04 10 20.8**	**+3.4**
SNR=14							
MHTO	**MHTO**	**21.20**	**337**	P	**P**	**04 10 21.0**	**+2.1**
SNR=36							
MHTO				P	**P**	**04 10 21.0**	**+2.1**
SNR=36							
ROCAM	**Rodrigues Isla**	**21.37**	**189**	P	**P**	**04 10 20.7**	**+0.1**
ROCAM				IAmb	IAmb	04 10 37.9	
comp=Z,73nm,1.0s							
JLN	**Jalan Bani Buh**	**21.76**	**341**	P	**P**	**04 10 29.0**	**+4.1**
SNR=15							
JLN				P	**P**	**04 10 29.0**	**+4.1**
SNR=15							
BHUJ	**Bhuj**	**21.82**	**7**	*e*P	**P**	**04 10 28.8**	**+3.3**
WBK	**Wadi Bani Khal**	**22.33**	**341**	P	**P**	**04 10 34.5**	**+3.5**
SNR=14							
SBV	**Sambava**	**22.35**	**228**	P	**P**	**04 10 33.3**	**+2.0**
JMDO	**Jabal Madar**	**22.41**	**339**	P	**P**	**04 10 36.0**	**+4.2**
SNR=26							
JMDO				P	**P**	**04 10 36.0**	**+4.2**
SNR=26							
WSAR	**Wadi Sarin**	**23.02**	**341**	P	**P**	**04 10 41.6**	**+3.3**
SNR=18							
WSAR	**Wadi Sarin**	**23.02**	**341**	LR	LR	04 18 01.8	
comp=Z,943nm,19.0s,baz=171,slow=33							
SMDO	**Samad**	**23.06**	**339**	P	**P**	**04 10 42.1**	**+3.3**
SNR=26							
SMDO				P	**P**	**04 10 42.1**	**+3.3**
SNR=26							
BSY	**Bisya**	**23.09**	**337**	P	**P**	**04 10 42.0**	**+2.9**
SNR=29							
BSY				P	**P**	**04 10 42.0**	**+2.9**
SNR=29							
BIDO	**Bidbid**	**23.46**	**340**	P	**P**	**04 10 46.0**	**+3.3**
SNR=18							
BIDO				P	**P**	**04 10 46.0**	**+3.3**
SNR=18							
HOQ	**Hoqain**	**23.81**	**338**	P	**P**	**04 10 48.0**	**+1.9**
SNR=23							
HOQ				P	**P**	**04 10 48.0**	**+1.9**
SNR=23							
ARQ	**Araqi**	**23.89**	**336**	P	**P**	**04 10 50.0**	**+3.1**
SNR=17							
ARQ				P	**P**	**04 10 50.0**	**+3.1**
SNR=17							
BHPL	**Bhopal**	**23.97**	**25**	*e*P	**P**	**04 10 48.9**	**+1.1**
BHPL				IAmb	IAmb	04 10 55.6	
comp=Z,54nm,1.2s							
NGCH	**Negor - Chabah**	**24.35**	**348**	P	**P**	**04 10 54.3**	**+3.2**
SNR=5.3							
SOHO	**SOHO**	**24.60**	**337**	*i* P	**P**	**04 10 54.0**	**+0.5**
SNR=14							
ALNE	**Al Ain**	**24.85**	**335**	*i* P	**P**	**04 10 56.7**	**+1.0**
SNR=8.3							
ALNE	**Al Ain**	**24.85**	**335**	P	**P**	**04 10 58.6**	**+2.9**
SNR=7.5							
ALNE				P	**P**	**04 10 58.6**	**+2.9**
SNR=7.5							
MZR	**Muzera**	**24.98**	**330**	*i* P	**P**	**04 10 55.7**	**-1.2**
SNR=6.5							
ASHO	**Ashiyiah**	**25.28**	**337**	*i* P	**P**	**04 11 00.8**	**+1.2**
SNR=14							
ASHO	**Ashiyiah**	**25.28**	**337**	P	**P**	**04 11 01.0**	**+1.4**
SNR=20							
ASHO				P	**P**	**04 11 01.0**	**+1.4**
SNR=20							
HATD	**Hatta, Dubai**	**25.38**	**337**	*i* P	**P**	**04 11 00.2**	**-0.3**
SNR=14							
HATD	**Hatta, Dubai**	**25.38**	**337**	P	**P**	**04 11 03.0**	**+2.5**
SNR=22							
HATD				P	**P**	**04 11 03.0**	**+2.5**
SNR=22							
UOSS	**Minazif**	**25.46**	**337**	P	**P**	**04 10 59.8**	**-1.4**
UOSS				IAmb	IAmb	04 11 09.9	
comp=Z,70nm,1.8s							
UOSS	**Minazif**	**25.46**	**337**	*i* P	**P**	**04 11 00.5**	**-0.7**
SNR=10							
UOSS	**Minazif**	**25.46**	**337**	P	**P**	**04 11 02.1**	**+0.9**
UOSS				P	**P**	**04 11 02.1**	**+0.9**
FAQ	**Al Faqa, Dubai**	**25.53**	**336**	P	**P**	**04 11 02.8**	**+1.0**
FAQ	**Al Faqa, Dubai**	**25.53**	**336**	P	**P**	**04 11 03.4**	**+1.6**
FAQ				P	**P**	**04 11 03.4**	**+1.6**
ASUD	**Al Ashush, Dub**	**25.53**	**335**	P	**P**	**04 11 02.9**	**+1.1**
NAZ	**Nazwa, Dubai**	**25.71**	**336**	*i* P	**P**	**04 11 04.2**	**+0.7**
SNR=5.8							
JASK	**Jask - Hormozg**	**25.72**	**341**	P	**P**	**04 11 06.6**	**+3.1**
MDH	**Madha**	**25.74**	**338**	P	**P**	**04 11 03.0**	**-0.8**
ATD	**Arta Tunnel**	**25.75**	**294**	LR	LR	04 19 07.2	
comp=Z,12nm,19.9s,baz=109,slow=32							
MSFE	**Esma-Masafi**	**25.85**	**338**	*i* P	**P**	**04 11 05.9**	**+1.1**
SNR=10							
MASF	**Masafi**	**25.86**	**338**	P	**P**	**04 11 06.3**	**+1.4**
SNR=17							
MASF				P	**P**	**04 11 06.3**	**+1.4**
SNR=17							
OPO	**Ambohidratompo**	**27.71**	**223**	LR	LR	04 19 54.1	
comp=Z,1μm,18.6s,baz=186,slow=31							
BOK	**Bokaro**	**28.89**	**38**	*e*P	**P**	**04 11 30.8**	**-1.3**
KIBK	**Kibwezi**	**28.97**	**263**	P	**P**	**04 11 33.7**	**+0.7**
KMBO	**Kilima Mbogo**	**29.63**	**265**	P	**P**	**04 11 40.0**	**+0.9**
KMBO	**Kilima Mbogo**	**29.63**	**265**	P	**P**	**04 11 40.0**	**+0.9**
KMBO				pmax	pmax		
comp=Z,12nm,1.5s							
PYUN	**Piuthan**	**30.68**	**29**	*e*P	**P**	**04 11 48.9**	**+0.8**
comp=Z,188nm,1.7s							
DANN	**Dangsing**	**31.26**	**30**	*e*P	**P**	**04 11 54.0**	**+0.6**
comp=Z,128nm,1.4s							
GKN	**Gorkha**	**31.43**	**31**	*e*P	**P**	**04 11 55.3**	**+0.6**
comp=Z,138nm,1.2s							
LODK	**Lodwar**	**31.44**	**274**	P	**P**	**04 11 56.1**	**+1.2**
PKIN	**Phulchoki**	**31.49**	**33**	*e*P	**P**	**04 11 55.8**	**+0.4**
comp=Z,229nm,1.7s							
PKI	**Pulchoki**	**31.49**	**33**	*e*P	**P**	**04 11 56.1**	**+0.7**
RAMN	**Ramite**	**31.68**	**35**	*e*P	**P**	**04 11 58.1**	**+1.1**
comp=Z,220nm,1.5s							
DHRM	**DHARAMSHALA**	**31.89**	**15**	*e*P	**P**	**04 11 59.6**	**+0.8**
DHRM				IAmb	IAmb	04 12 06.7	
comp=Z,115nm,1.4s							
JIRN	**Jiri**	**31.99**	**34**	*e*P	**P**	**04 12 00.8**	**+0.9**
comp=Z,80nm,1.4s							
GUN	**Gumba**	**32.02**	**33**	*e*P	**P**	**04 12 00.6**	**+0.5**
comp=Z,228nm,1.4s							
NIL	**Nilore**	**32.57**	**10**	P	**P**	**04 12 04.4**	**-0.1**
NIL				IAmb	IAmb	04 12 12.6	
comp=Z,39nm,1.1s							
NIL	**Nilore**	**32.57**	**10**	P	**P**	**04 12 04.4**	**-0.1**
NIL				pmax	pmax		
comp=Z,39nm,1.1s							
KBL	**Kabul**	**32.96**	**3**	P	**P**	**04 12 09.3**	**+1.2**
KBL				IAmb	IAmb	04 12 16.7	
comp=Z,52nm,1.2s							
KBL	**Kabul**	**32.96**	**3**	P	**P**	**04 12 09.3**	**+1.2**
KBL				pmax	pmax		
comp=Z,51nm,1.2s							
HRA	**Herat**	**33.01**	**353**	P	**P**	**04 12 07.9**	**-0.6**
HRA				IAmb	IAmb	04 12 16.1	
comp=Z,34nm,1.4s							
SRIT	**Nakonsritamara**	**33.44**	**77**	P	**P**	**04 12 13.7**	**+1.5**
SRIT				IAmb	IAmb	04 12 20.5	
comp=Z,49nm,1.6s							
KULM	**Kulim**	**34.02**	**83**	P	**P**	**04 12 17.4**	**0.0**
KULM				IAmb	IAmb	04 12 28.1	
comp=Z,28nm,1.3s							
SHL	**Shillong**	**34.05**	**43**	P	**P**	**04 12 17.6**	**-0.1**
SHL	**Shillong**	**34.05**	**43**	*e*P	**P**	**04 12 17.5**	**-0.1**
SHL				IAmb	IAmb	04 12 24.6	
comp=Z,71nm,1.4s							
SHL	**Shillong**	**34.05**	**43**	P	**P**	**04 12 17.6**	**-0.1**
SHL				pmax	pmax		
comp=Z,87nm,1.4s							
BKNI	**Bangkinang**	**34.28**	**92**	P	**P**	**04 12 20.8**	**+1.2**
CM31	**Chiang Mai Arr**	**35.78**	**60**	P	**P**	**04 12 34.0**	**+1.5**
CM31				IAmb	IAmb	04 12 40.4	
comp=Z,71nm,1.5s							
CMAR	**Chiang Mai Arr**	**35.78**	**60**	P	**P**	**04 12 33.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**35.78**	**60**	P	**P**	**04 12 32.9**	**+0.4**
comp=Z,1.8nm,0.6s,baz=241,slow=9.3,SNR=11							
CMAR				PcP	**PcP**	**04 15 00.1**	**-0.2**
comp=Z,2.3nm,0.5s,baz=248,slow=4.5,SNR=7.2							
CMAR				LR	LR	04 26 50.2	
comp=Z,537nm,18.8s,baz=245,slow=36							
comp=Z,1.8nm,0.6s							
CHTO	**Chiang Mai**	**35.93**	**59**	P	**P**	**04 12 34.5**	**+0.7**
CHTO	**Chiang Mai**	**35.93**	**59**	P	**P**	**04 12 34.5**	**+0.7**
CHTO				pmax	pmax		
comp=Z,189nm,1.4s							
MBAR	**Mbarara**	**36.09**	**267**	P	**P**	**04 12 36.2**	**+0.7**
MBAR	**Mbarara**	**36.09**	**267**	P	**P**	**04 12 36.2**	**+0.7**
MBAR				pmax	pmax		
comp=Z,21nm,1.4s							
MBAR	**Mbarara**	**36.09**	**267**	LR	LR	04 25 58.9	
comp=Z,1μm,20.0s,baz=76,slow=34							
LSA	**Lhasa**	**36.40**	**37**	P	**P**	**04 12 39.5**	**+1.3**
LSA	**Lhasa**	**36.40**	**37**	P	**P**	**04 12 38.0**	**-0.2**
LSA	**Lhasa**	**36.40**	**37**	P	**P**	**04 12 38.0**	**-0.2**
LSA				pmax	pmax		
comp=Z,96nm,1.3s							
GEYT	**Alibeck**	**37.13**	**349**	P	**P**	**04 12 43.7**	**-0.1**
GEYT	**Alibeck**	**37.13**	**349**	P	**P**	**04 12 43.7**	**-0.1**
GEYT				pmax	pmax		
comp=Z,31nm,1.9s							
GEYT	**Alibeck**	**37.13**	**349**	P	**P**	**04 12 42.8**	**-1.0**
comp=Z,2.7nm,0.8s,baz=203,slow=9.6,SNR=5.4							
GEYT				LR	LR	04 27 28.6	
comp=Z,1μm,20.7s,baz=178,slow=36							
comp=Z,2.7nm,0.8s							
TNCH	**TengChong**	**38.56**	**50**	*e*P	**P**	**04 12 57.5**	**+1.2**
TNCH				PP	**PnPn**	**04 14 28.5**	**+1.9**
TNCH				S	**S**	**04 18 53.0**	**+1.1**
TNCH				pmax	pmax		
comp=Z,63nm,0.5s							
TNCH				pmax	pmax		
comp=Z,240nm,3.2s							
TNCH				LR	LR		
comp=Z,380nm,16.9s							
TNCH				LR	LR		
comp=Z,440nm,14.7s							
TNCH				LR	LR		
comp=Z,870nm,17.1s							
BTK	**Batken**	**38.57**	**5**	P	**P**	**04 12 56.8**	**+0.7**
BTK				IAmb	IAmb	04 13 03.6	
comp=Z,47nm,1.2s							
BTK	**Batken**	**38.57**	**5**	P	**P**	**04 12 56.8**	**+0.7**
BTK				pmax	pmax		
comp=Z,47nm,1.2s							
KSH	**Kashi**	**38.77**	**11**	P	**P**	**04 12 54.5**	**-3.3**
KSH				p

LSZ	Lusaka	41.63	245	LR	LR	04 28 42.6	
	comp=Z,2µm,18.8s,baz=118,slow=33						
BOOM	Boomskoye usch	41.65	10	P	P	04 13 22.8	+1.2
BOOM	Boomskoye usch	41.65	10	P	P	04 13 22.8	+1.2
BOOM				pmax	pmax		
	comp=Z,18nm,1.2s						
PZH	PanZhiHua	41.80	50	P	P	04 13 25.5	+2.4
PZH				S	S	04 19 38.8	-1.5
PZH				SS	SS	04 22 39.8	-6.8
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,240nm,6.3s						
PZH				LR	LR		
	comp=Z,540nm,19.3s						
PZH				LR	LR		
	comp=Z,730nm,18.5s						
PZH				LR	LR		
	comp=Z,670nm,20.6s						
KMI	Kunming	41.90	53	⇓P	P	04 13 24.5	+0.4
KMI				S	S	04 19 48.0	+6.0
KMI				pmax	pmax		
	comp=Z,29nm,1.5s						
KMI				LR	LR		
	comp=Z,670nm,18.1s						
KMI				LR	LR		
	comp=Z,980nm,21.1s						
KMI				LR	LR		
	comp=Z,980nm,20.2s						
SIRT	Sirnak	42.27	331	P	P	04 13 26.7	0.0
TNSS	Tian-Shan	42.36	11	eP	P	04 13 27.2	-0.6
	baz=11						
TNSS	Tian-Shan	42.36	11	eP	P	04 13 27.1	-0.6
SGDS	Sogindy	42.37	8	eP	P	04 13 26.8	-0.7
	comp=Z,58nm,2.4s,baz=8.4						
SGDS	Sogindy	42.37	8	eP	P	04 13 26.7	-0.7
SGDS				pmax	pmax		
	comp=Z,58nm,2.4s						
MDOK	Medeo	42.50	11	i P	P	04 13 27.8	-0.8
	baz=11						
MDOK	Medeo	42.50	11	i P	P	04 13 27.8	-0.8
AAA	Alma-Ata	42.52	11	eP	P	04 13 27.8	-0.8
	baz=11						
AAA	Alma-Ata	42.52	11	eP	P	04 13 27.8	-0.8
SATY	Saty	42.68	13	eP	P	04 13 29.1	-0.9
	comp=Z,40nm,1.4s,baz=12						
SATY	Saty	42.68	13	eP	P	04 13 29.1	-0.9
SATY				pmax	pmax		
	comp=Z,40nm,1.4s						
ZHN	Zhinishke	42.79	13	eP	P	04 13 29.8	-1.2
	comp=Z,30nm,1.7s,baz=12						
ZHN	Zhinishke	42.79	13	eP	P	04 13 29.7	-1.2
ZHN				pmax	pmax		
	comp=Z,30nm,1.7s						
UZB	Uzynbulak	42.90	13	eP	P	04 13 31.0	-0.8
	comp=Z,25nm,1.4s,baz=13						
UZB	Uzynbulak	42.90	13	eP	P	04 13 31.0	-0.8
UZB				pmax	pmax		
	comp=Z,25nm,1.4s						
MMAI	Mount Meron Ar	43.02	320	P	P	04 13 32.5	-0.4
	comp=Z,0.6nm,0.3s,baz=133,slow=10,SNR=2.5						
MMAI				LR	LR	04 30 10.7	
	comp=Z,350nm,19.6s,baz=102,slow=34						
	comp=Z,0.6nm,0.3s						
KUU	Kurty	43.08	10	eP	P	04 13 31.8	-1.4
	comp=Z,86nm,2.0s,baz=10						
KUU	Kurty	43.08	10	eP	P	04 13 31.7	-1.4
KUU				pmax	pmax		
	comp=Z,86nm,2.0s						
KPKS	Kokpek	43.13	13	eP	P	04 13 32.8	-0.9
	comp=Z,38nm,1.5s,baz=13						
KPKS	Kokpek	43.13	13	eP	P	04 13 32.7	-0.9
KPKS				pmax	pmax		
	comp=Z,38nm,1.5s						
GOMU	GeErMu	43.22	34	P	P	04 13 36.5	+1.8
GOMU				pP	pwP	04 13 40.8	-2.5
GOMU				sP	sP	04 13 48.0	+7.2
GOMU				PcP	PP	04 15 20.0	+4.7
GOMU				SS	SS	04 23 14.5	-0.1
GOMU				pmax	pmax		
	comp=Z,12nm,1.3s						
GOMU				LR	LR		
	comp=Z,820nm,17.2s						
GOMU				LR	LR		
	comp=Z,2µm,17.7s						
MATP	Matopo	43.35	238	LR	LR	04 29 11.2	
	comp=Z,519nm,20.0s,baz=60,slow=33						
GNI	Garni	43.38	335	P	P	04 13 36.2	+0.4
GNI	Garni	43.38	335	P	P	04 13 37.0	+1.2
GNI	Garni	43.38	335	P	P	04 13 36.2	+0.4
GNI				pmax	pmax		
	comp=Z,129nm,1.4s						
GNI	Garni	43.38	335	LR	LR	04 31 44.7	
	comp=Z,386nm,20.7s,baz=144,slow=36						
ARXS	Arharly	43.67	12	eP	P	04 13 38.3	+0.4
BTLS	Baital	43.85	7	eP	P	04 13 38.0	-1.3
	comp=Z,25nm,1.5s,baz=7.4						
BTLS	Baital	43.85	7	eP	P	04 13 37.9	-1.3
BTLS				pmax	pmax		
	comp=Z,25nm,1.5s						
TDK	Taldyqorghan	44.54	12	eP	P	04 13 43.7	-1.2
	baz=12						
TDK	Taldyqorghan	44.54	12	eP	P	04 13 43.6	-1.2
MAK	Makhachkala	44.75	340	eP	P	04 13 40.1	-6.3
MAK				eS	S	04 20 15.1	-7.6
MAK				pmax	pmax		
	comp=Z,545nm,1.7s						
MAK				MLR	MLR		
	comp=Z,279nm,17.0s						
AKH	Akhalkalaki	44.95	335	P	P	04 13 48.4	0.0
AKH	Akhalkalaki	44.95	335	P	P	04 13 48.4	0.0
AKH				pmax	pmax		
	comp=Z,166nm,1.7s						
SBUM	Sibu	45.43	88	P	P	04 13 52.1	-0.3
GROC	Groznyy	45.57	338	eP	P	04 13 53.3	+0.3
GROC				e		04 15 41.4	
GROC				pmax	pmax		
	comp=Z,89nm,1.4s						
CD2	Chengdu	45.62	46	eP	P	04 13 55.8	+2.1
CD2				S	S	04 20 39.3	+3.5
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,1µm,21.4s						
CD2				LR	LR		
	comp=Z,1µm,29.4s						
QIZ	Qiongzhong	45.64	65	P	P	04 13 53.8	-0.2
QIZ				S	S	04 20 36.3	0.0
QIZ				LR	LR		
	comp=Z,660nm,16.7s						
QIZ				LR	LR		
	comp=Z,680nm,11.6s						
QIZ				LR	LR		
	comp=Z,750nm,19.6s						
GYA	Guiyang	45.66	54	⇓P	P	04 13 59.5	+5.4
GYA				S	S	04 20 39.5	+2.9
GYA				pmax	pmax		
	comp=Z,53nm,1.2s						
GYA				pmax	pmax		
	comp=Z,410nm,4.4s						
GYA				LR	LR		
	comp=Z,910nm,22.6s						
GYA				LR	LR		
	comp=Z,780nm,23.3s						
GYA				LR	LR		
	comp=Z,790nm,20.6s						
ZEI	Tsey	45.94	337	eP	P	04 13 55.5	-0.7
ZEI				pmax	pmax		
	comp=Z,14nm,1.4s						
ONI	Oni	45.95	336	P	P	04 13 56.2	+0.1
ONI	Oni	45.95	336	P	P	04 13 56.2	+0.1
ONI				pmax	pmax		
	comp=Z,19nm,1.6s						
WMQ	Urumqi	46.08	21	eP	P	04 13 58.0	+0.8
WMQ				pP	pwP	04 14 03.5	-2.2
WMQ				sP	sP	04 14 05.0	+1.8
WMQ				S	S	04 20 47.3	+5.2
WMQ				pmax	pmax		
	comp=Z,31nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,370nm,3.9s						
WMQ				LR	LR		
	comp=Z,890nm,16.7s						
WMQ				LR	LR		
	comp=Z,570nm,17.9s						
WMQ				LR	LR		
	comp=Z,690nm,29.5s						
MAKZ	Makanchi	47.05	14	P	P	04 14 04.0	-0.7
MAKZ				IAmb	IAmb	04 14 10.9	
	comp=Z,42nm,1.2s						
MAKZ	Makanchi	47.05	14	P	P	04 14 04.0	-0.7
MAKZ				pmax	pmax		
	comp=Z,42nm,1.3s						
MK31	Makanchi Array	47.12	15	IAmb	IAmb	04 14 11.3	
	comp=Z,18nm,1.1s						
MK31	Makanchi Array	47.12	15	i P	P	04 14 03.8	-1.4
MKAR	Makanchi Array	47.12	15	P	P	04 14 03.4	-1.8
MKAR	Makanchi Array	47.12	15	P	P	04 14 04.2	-1.0
	comp=Z,3.3nm,0.8s,baz=208,slow=8.2,SNR=16						
MKAR				PcP	PcP	04 15 36.7	-0.2
	comp=Z,1.0nm,0.9s,baz=142,slow=2.7,SNR=1.4						
MKAR				LR	LR	04 34 17.5	
	comp=Z,776nm,20.0s,baz=221,slow=37						
	comp=Z,3.3nm,0.8s						
KBZ	Khabaz	47.13	336	P	P	04 14 05.5	+0.3
	comp=Z,8.4nm,0.9s,baz=151,slow=8.3,SNR=14						
KBZ				LR	LR	04 34 51.0	
	comp=Z,240nm,19.8s,baz=144,slow=37						
	comp=Z,8.4nm,0.9s						
KVAR	Kislovodsk Arr	47.40	336	LR	LR	04 34 55.2	
	comp=Z,230nm,19.5s,baz=76,slow=37						
KIV	Kislovodsk	47.40	336	⇓P	P	04 14 02.2	-5.3
KIV	Kislovodsk	47.40	336	P	P	04 14 08.0	+0.5
KIV				IAmb	IAmb	04 14 15.1	
	comp=Z,30nm,1.2s						
KIV	Kislovodsk	47.40	336	P	P	04 14 07.8	+0.3
KIV	Kislovodsk	47.40	336	eP	P	04 14 06.8	-0.7
KIV				eS	S	04 21 02.0	+1.0
KIV				pmax	pmax		
	comp=Z,22nm,1.1s						
KIV				MLR	MLR		
	comp=Z,153nm,17.0s						
LBTB	Lobatse	47.79	234	P	P	04 14 11.8	+1.0
LBTB				IAmb	IAmb	04 14 14.3	
	comp=Z,49nm,1.4s						
LBTB	Lobatse	47.79	234	P	P	04 14 11.8	+1.0
LBTB				pmax	pmax		
	comp=Z,49nm,1.4s						
ABKAR	Akbulak array	47.95	354	P	P	04 14 11.2	-0.3
ABKAR				IAmb	IAmb	04 14 18.5	
	comp=Z,37nm,1.2s						
GOF	Gofitskoye	48.18	337	ceP	P	04 14 13.9	+0.5
GTA	Gaotai	48.28	34	eP	P	04 14 15.8	+1.3
GTA				pP	pwP	04 14 20.5	-2.5
GTA				S	S	04 21 17.5	+3.7
GTA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GTA				LR	LR		
	comp=Z,750nm,17.8s						
GTA				LR	LR		
	comp=Z,870nm,17.1s						
GTA				LR	LR		
	comp=Z,1µm,17.8s						
SOC	Sochi	48.35	334	eP	P	04 14 10.5	-4.2
SOC				e		04 16 03.5	
SOC				ePPP	PPP	04 16 56.2	
SOC				eS	S	04 21 11.0	-3.3
SOC				eSSS	SSS	04 25 50.3	
SOC				MLR	MLR		
	comp=Z,230nm,17.0s						
ZSN	Zaisan	48.41	16	eP	P	04 14 14.7	-0.5
	baz=16						
ZSN	Zaisan	48.41	16	eP	P	04 14 14.6	-0.5
BR131	Keskin Array S	48.55	326	P	P	04 14 16.0	-0.5
BR131				IAmb	IAmb	04 14 23.7	
	comp=Z,26nm,1.4s						
BR131	Keskin Array S	48.55	326	P	P	04 14 16.9	+0.3
	SNR=6.1						
BR131				P	P	04 14 16.9	+0.3
	SNR=6.1						
BR131	Keskin Array S	48.55	326	P	P	04 14 16.0	-0.5
BR131				pmax	pmax		
	comp=Z,26nm,1.4s						
BRTR	Keskin Array B	48.55	326	P	P	04 14 16.1	-0.4
	comp=Z,3.2nm,0.8s,baz=148,slow=10.0,SNR=21						
BRTR				PcP	PcP	04 15 41.0	-1.3
	comp=Z,1.0nm,1.0s,baz=125,slow=4.1,SNR=2.0						
BRTR				LR	LR	04 35 10.2	
	comp=Z,631nm,20.0s,baz=134,slow=37						
	comp=Z,3.2nm,0.8s						
BRZS	Berezniki	48.58	5	eP	P	04 14 14.5	-1.9
	comp=Z,29nm,2.2s,baz=5.0						
BRZS	Berezniki	48.58	5	eP	P	04 14 14.5	-1.9
BRZS				pmax	pmax		
	comp=Z,29nm,2.2s						
LZH	Lanzhou	48.61	41	eP	P	04 14 21.3	+4.2
LZH				pP	pwP	04 14 26.0	+0.3
LZH				sP	sP	04 14 30.5	+7.3
LZH				S	S	04 21 19.0	+0.4
LZH				pmax	pmax		
	comp=Z,13nm,1.5s						
LZH				LR	LR		
	comp=Z,530nm,14.1s						
LZH				LR	LR		
	comp=Z,690nm,14.1s						
LZH				LR	LR		
	comp=Z,1µm,14.4s						
ELL	Elmali	48.87	320	P	P	04 14 19.1	0.0
ELL	Elmali	48.87	320	P	P	04 14 19.1	0.0
ELL				pmax	pmax		
	comp=Z,82nm,1.1s						
BR231	Keskin MP Arra	49.12	325	P	P	04 14 21.1	+0.3
BR231				IAmb	IAmb	04 14 21.6	
	comp=Z,15nm,1.1s						
H04N2	CROZET ISLANDS	49.25	194	T	T	05 07 28.8	
	baz=18,slow=75,SNR=59						
H04N1	CROZET ISLANDS	49.26	194	T	T	05 07 28.2	
	baz=18,slow=75,SNR=41						
H04N3	CROZET ISLANDS	49.27	194	T	T	05 07 28.8	
	baz=18,slow=75,SNR=50						
AKTO	Aktyubinsk	49.34	353	LR	LR	04 36 40.8	
	comp=Z,275nm,20.0s,baz=118,slow=38						
BOSA	Boshof	49.77	230	P	P	04 14 26.6	+0.5
BOSA	Boshof	49.77	230	P	P	04 14 26.6	+0.5
BOSA				pmax	pmax		
	comp=Z,107nm,2.0s						
BOSA	Boshof	49.77	230	P	P	04 14 25.9	-0.2
	comp=Z,10nm,0.8s,baz=62,slow=9.1,SNR=13						
BOSA				LR	LR	04 32 57.1	
	comp=Z,1µm,19.8s,baz=64,slow=33						
	comp=Z,10nm,0.8s						
KURBB	Kurchatov Arra	49.97	10	P	P	04 14 25.9	-1.1
	comp=Z,6.2nm,1.0s,baz=206,slow=7.8,SNR=23						
KURBB				PcP	PcP	04 15 46.3	-0.6
	comp=Z,1.0nm,0.8s,baz=208,slow=3.8,SNR=2.5						
KURBB				LR	LR	04 35 03.5	
	comp=Z,956nm,21.1s,baz=198,slow=36						
	comp=Z,6.2nm,1.0s						
KURK	Kurchatov	50.07	10	P	P	04 14 26.9	-0.9
KURK				IAmb	IAmb	04 14 34.2	
	comp=Z,27nm,1.1s						
KURK	Kurchatov	50.07	10	P	P	04 14 25.9	-1.9
KURK						04 15 46.3	
ANN	Anapa	50.32	333	eP	P	04 14 28.1	-1.7
ANN				pmax	pmax		
	comp=Z,194nm,1.9s						
MDUB	Mudurnu	50.44	325	P	P	04 14 31.8	+0.9
XAN	Xi'an	50.97	46	⇑P	P	04 14 34.0	-0.9
XAN				pP	sP	04 14 39.8	-1.2
XAN				S	S	04 21 51.5	+0.1
XAN				pmax	pmax		
	comp=Z,90nm,1.2s						
XAN				pmax	pmax		
	comp=Z,490nm,4.6s						
DGZ	Jazzator, Alta	51.18	17	i P	P	04 14 35.2	-1.2
DGZ				pmax	pmax		
	comp=Z,22nm,1.1s						
BVAR	Borovoye Array	51.45	3	P	P	04 14 37.2	-1.0
	comp=Z,3.6nm,0.7s,baz=169,slow=8.8,SNR=14						
BVAR				PcP	PcP	04 15 51.3	-1.1
	comp=Z,1.7nm,0.8s,baz=151,slow=3.3,SNR=2.2						
BVAR				LR	LR	04 37 27.9	
	comp=Z,1µm,18.9s,baz=189,slow=37						
	comp=Z,3.6nm,0.7s						
BRVK	Borovoye	51.48	3	P	P	04 14 38.0	-0.4
BRVK				IAmb	IAmb	04 14 45.1	
	comp=Z,23nm,1.3s						
BRVK	Borovoye	51.48	3	P	P	04 14 38.0	-0.4
BRVK				pmax	pmax		
	comp=Z,23nm,1.3s						
TSUM	Tsumeb	52.48	244	P	P	04 14 46.7	+0.2
TSUM				IAmb	IAmb	04 14 50.4	
	comp=Z,67nm,1.9s						
TSUM	Tsumeb	52.48	244	LR	LR	04 35 20.0	
	comp=Z,2µm,18.9s,baz=146,slow=34						
BELG	Belogornoye	53.20	345	i P	P	04 14 48.3	-2.8
BELG				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BELG	Belogornoye	53.20	345	LR	LR	04 40 02.1	
	comp=Z,392nm,19.3s,baz=152,slow=39						
TTSI	Tana Toraja	53.22	95	P	P	04 14 51.6	-0.4
	comp=Z,15nm,1.0s						
KAPI	Kappang	53.32	97	P	P	04 14 51.8	-0.9
KAPI				IAmb	IAmb	04 15 01.8	
	comp=Z,22nm,1.1s						
KAPI	Kappang	53.32	97	P	P	04 14 51.8	-0.9
KAPI				pmax	pmax		
	comp=Z,23nm,1.2s						
KAPI	Kappang	53.32	97	LR	LR	04 35 53.0	
	comp=Z,197nm,21.0s,baz=273,slow=34						
WHN	Wuhan	53.50	52	P	P	04 14 54.3	+0.5
WHN				pP	sP	04 14 58.8	-1.1
BKSI	Bulukumba	53.71	98	P	P	04 14 53.6	-2.0
	comp=Z,61nm,1.2s,comp=Z,672nm						
ALN	Alexandroupoli	53.77	322	IAmb	IAmb	04 15 02.8	
	comp=Z,46nm,1.2s						
LYN	LuoYang	53.78	47	⇓P	P	04 14 55.0	-0.8
LYN				S	S	04 22 30.8	+1.0
LYN				pmax	pmax		
	comp=Z,18nm,0.7s						
LYN				LR	LR		
	comp=Z,870nm,12.9s						
LYN				LR	LR		
	comp=Z,1µm,20.2s						
VRH	Novokhopyorsk	53.86	341	eP	P	04 14 53.4	-2.6
VRH				pmax	pmax		
	comp=Z,50nm,1.8s						
RDO	Rodhopi	54.23	322	IAmb	IAmb	04 15 06.1	
	comp=Z,25nm,1.2s						
ZALV	Zalesovo Beam	54.37	13	P	P	04 14 58.0	-1.6
ZALV	Zalesovo Beam	54.37	13	P	P	04 14 58.3	-1.3
	comp=Z,14nm,0.7s,baz=210,slow=7.5,SNR=52						
ZALV				LR	LR	04 38 13.2	
	comp=Z,814nm,19.4s,baz=194,slow=36						
	comp=Z,14nm,0.7s						
VORD	Divnogorie	54.50	339	eP	P	04 14 58.3	-2.4
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VSR	Storozhevoye	54.75	339	eP	P	04 14 59.6	-2.9
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SUR	Sutherland	54.95	228	LR	LR	04 35 19.8	
	comp=Z,2µm,20.4s,baz=58,slow=32						
TGY	Tagaytay City	54.97	74	LR	LR	04 34 47.2	
	comp=Z,279nm,21.9s,baz=292,slow=32						
HARR	Harsova	55.01	327	⇑P	P	04 15 03.3	-1.2
HARR	Harsova	55.01	327	⇑P	P	04 15 03.3	-1.2
VORR	Voronezh	55.11	339	eP	P	04 15 01.7	-3.4
VORR				pmax	pmax		
	comp=Z,20nm,0.3s						
MRSI	Marisa	55.17	90	P	P	04 15 04.1	-2.1
	comp=Z,63nm,1.4s,comp=Z,821nm						
ARU	Arti	55.18	354	P	P	04 15 04.7	-0.8
ARU				IAmb	IAmb	04 15 11.6	
	comp=Z,67nm,1.6s						
ARU	Arti	55.18	354	d iP	P	04 15 04.7	-0.8
ARU						04 16 03.0	
ARU						04 17 06.5	
ARU				S	S	04 22 52.7	+4.9
ARU				pmax	pmax		
	comp=Z,18nm,1.5s						
ARU				MLR	MLR		
	comp=Z,484nm,17.0s						
ARU	Arti	55.18	354	LR	LR	04 40 39.9	
	comp=Z,469nm,18.8s,baz=156,slow=38						
BTO	Baotou	55.18	39	eP	P	04 15 08.0	+2.1
BTO				pP	pwP	04 15 12.3	-2.3
BTO				sP	sP	04 15 15.3	+3.2
BTO				PP	PP	04 17 13.8	+4.3
BTO				S	S	04 22 53.0	+4.3
BTO				SS	SS	04 26 33.0	0.0
BTO				pmax	pmax		
	comp=Z,28nm,0.5s						
BTO				pmax	pmax		
	comp=Z,760nm,5.1s						
BTO				LR	LR		
	comp=Z,1µm,9.5s						
BTO				LR	LR		
	comp=Z,740nm,7.2s						
BTO				LR	LR		
	comp=Z,2µm,20.4s						
CFR	Carcaliu	55.22	327	⇓P	P	04 15 05.0	-1.0
CFR	Carcaliu	55.22	327	⇓P	P	04 15 05.0	-1.0
TIY	Taiyuan	55.27	44	eP	P	04 15 12.8	+6.2
TIY				pmax	pmax		
	comp=Z,16nm,0.5s						
SVE	Sverdlovsk	55.40	356	eP	P	04 15 06.4	-0.7
SVE				eS	S	04 22 55.8	+5.0
SVE				pmax	pmax		
	comp=Z,35nm,1.6s						
SVE				MLR	MLR		
	comp=Z,855nm,22.0s						
EDFI	Ende, Flores	55.66	102	P	P	04 15 06.4	-3.5
	comp=Z,25nm,1.5s						
LPSR	Galich'ya Gora	55.98	340	eP	P	04 15 08.7	-2.6
LPSR				pmax	pmax		
	comp=Z,20nm,1.5s						
LUWI	Luwuk	56.05	92	P	P	04 15 11.9	-0.7
LUWI	Luwuk	56.05	92	P	P	04 15 11.5	-1.1
	comp=Z,63nm,0.5s,comp=Z,11µm						
GTOI	Gorontalo	56.23	90	P	P	04 15 11.9	-2.0
	comp=Z,13nm,1.8s,comp=Z,291nm						
HHC	Hu-ho-hao-te	56.30	40	eP	P	04 15 17.3	+3.3
HHC				sP	pwP	04 15 24.0	+1.4
HHC				S	S	04 23 05.8	+2.2
HHC				pmax	pmax		
	comp=Z,47nm,1.1s						
HHC				pmax	pmax		
	comp=Z,750nm,6.4s						
HHC				LR	LR		
	comp=Z,930nm,17.9s						
HHC				LR	LR		
	comp=Z,920nm,17.9s						
HHC				LR	LR		
	comp=Z,1µm,17.0s						
VRI	Vrincioaia	56.42	327	⇑P	P	04 15 14.5	-0.2
VRI	Vrincioaia	56.42	327	⇑P	P	04 15 14.5	-0.2
PLOR	Plostina	56.45	327	⇓P	P	04 15 14.5	-0.4
PLOR	Plostina	56.45	327	⇓P	P	04 15 14.5	-0.4
VTS	Vitosha	56.48	322	⇓P	P	04 15 14.3	-1.0
VTS	Vitosha	56.48	322	⇓P	P	04 15 14.3	-1.0
MLR	Muntele Rosu	56.61	327	⇑P	P	04 15 14.0	-2.1
MLR	Muntele Rosu	56.61	327	⇑P	P	04 15 14.0	-2.1
MLR	Muntele Rosu	56.61	327	LR	LR	04 39 47.3	
	comp=Z,257nm,20.5s,baz=112,slow=36						
PSA00	Pilbara Seismi	56.66	117	P	P	04 15 16.6	-0.1
PSA00				IAmb	IAmb	04 15 18.3	
	comp=Z,18nm,1.3s						
HNS	HongShan	56.71	45	⇑P	P	04 15 16.8	0.0
HNS				S	S	04 23 13.8	+4.9
HNS				pmax	pmax		
	comp=Z,14nm,1.2s						
HNS				LR	LR		
	comp=Z,710nm,13.8s						
HNS				LR	LR		
	comp=Z,630nm,23.7s						
TESR	Tescani	56.87	328	⇓P	P	04 15 17.2	-0.6
VOIR		57.07	326	⇑P	P	04 15 18.1	-1.3
VOIR		57.07	326	⇑P	P	04 15 18.1	-1.3
H01W3	Cape Leeuwin H	57.18	134	T	T	05 17 04.9	
	baz=299,slow=75,SNR=721						
H01W2	Cape Leeuwin H	57.18	134	T	T	05 17 05.3	
	baz=299,slow=75,SNR=623						
H01W1	Cape Leeuwin H	57.20	134	T	T	05 17 06.2	
	baz=299,slow=75,SNR=688						
DOPR	Dopca	57.21	327	⇑P	P	04 15 18.8	-1.5
ARR	Arges	57.26	326	⇓P	P	04 15 19.6	-1.1
SONM	Songino Array	57.47	31	P	P	04 15 21.9	-0.3
SONM	Songino Array	57.47	31	P	P	04 15 21.9	-0.3
SONM				pmax	pmax		
	comp=Z,53nm,1.2s						
SONM	Songino Array	57.47	31	P	P	04 15 21.6	-0.6
	comp=Z,9.9nm,1.1s,baz=228,slow=6.7,SNR=22						
SONM				LR	LR	04 40 08.0	
	comp=Z,2µm,21.7s,baz=232,slow=36						
	comp=Z,9.9nm,1.1s						
NJ2	Nanjing	57.64	52	eP	P	04 15 23.8	+0.3

NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 pmax pmax
comp=Z,600nm,4.5s
ZAK Zakamensk 57.71 27 *e*P **P 04 15 23.3 -0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.6s
ULN Ulaanbaatar 57.82 31 P **P 04 15 23.9 -0.8**
ULN IAmb IAmb 04 15 31.8
comp=Z,40nm,1.4s
ULN Ulaanbaatar 57.82 31 P **P 04 15 23.9 -0.8**
ULN pmax pmax
comp=Z,40nm,1.4s
BOVS Bovan 57.97 323 ⇑P **P 04 15 22.6 -3.0**
SOEI Soe 58.32 102 P **P 04 15 28.4 -0.3**
SOEI Soe 58.32 102 P **P 04 15 27.9 -0.8**
comp=Z,62nm,1.2s
GZR Gura Zlata 58.33 325 ⇓P **P 04 15 26.5 -1.7**
GZR Gura Zlata 58.33 325 ⇓P **P 04 15 26.5 -1.7**
AKASG Malin Array Be 58.41 333 P **P 04 15 28.6 +0.1**
AKASG Malin Array Be 58.41 333 P **P 04 15 28.6 +0.1**
AKASG pmax pmax
comp=Z,15nm,1.6s
AKASG Malin Array Be 58.41 333 P **P 04 15 26.6 -1.9**
comp=Z,0.8nm,0.5s,baz=136,slow=5.8,SNR=8.8
AKASG LR LR 04 43 16.5
comp=Z,151nm,18.7s,baz=129,slow=39
comp=Z,0.8nm,0.5s
AKBB Malin Array Si 58.41 333 IAmb IAmb 04 15 34.0
comp=Z,47nm,1.7s
AKBB Malin Array Si 58.41 333 *i* P **P 04 15 25.6 -2.9**
AKBB pmax pmax
comp=Z,30nm,1.8s
ARCR ARCALIA 58.46 327 ⇑P **P 04 15 27.9 -1.1**
KIRV Kirov 58.56 349 *ce*P **P 04 15 27.5 -1.9**
KIRV Kirov 58.56 349 LR LR 04 41 26.1
comp=Z,243nm,20.4s,baz=159,slow=37
NWAO Narrogin (SRO) 58.58 131 LR LR 04 35 56.5
comp=Z,247nm,18.9s,baz=49,slow=31
OBN Obninsk 58.84 340 P **P 04 15 31.6 +0.2**
OBN Obninsk 58.84 340 ⇓*e*P **P 04 15 30.5 -0.9**
OBN *e* 04 16 18.5
OBN *e* 04 17 40.5
OBN *e*S **S 04 23 34.8 -1.4**
OBN pmax pmax
comp=Z,22nm,1.5s
DAV Davao City (W) 58.87 83 LR LR 04 41 26.2
comp=Z,148nm,20.4s,baz=223,slow=37
BJT Baijiatuau 58.93 43 P **P 04 15 33.2 +0.8**
BJT IAmb IAmb 04 15 38.6
comp=Z,36nm,1.5s
BJT Baijiatuau 58.93 43 P **P 04 15 33.2 +0.8**
BJT pmax pmax
comp=Z,36nm,1.5s
BJI Beijing 58.94 43 P **P 04 15 32.3 -0.2**
BJI pmax pmax
comp=Z,8.0nm,1.2s
BJI LR LR
comp=Z,340nm,14.6s
MOS Moscow 59.00 341 *e*P **P 04 15 29.7 -2.9**
MOS *e*S **S 04 23 36.0 -2.3**
MOS pmax pmax
comp=Z,110nm,1.7s
BZS Buzias 59.13 325 ⇑P **P 04 15 31.9 -1.8**
BZS Buzias 59.13 325 ⇑P **P 04 15 31.9 -1.8**
DIVS Divibare 59.27 322 IAmb IAmb 04 15 36.6
comp=Z,44nm,2.0s
SANI Sanana 59.31 93 P **P 04 15 33.5 -2.0**
comp=Z,16nm,0.9s
TRPA Tarpa 60.07 327 ⇓P P 04 15 35.6 -4.5
NLAI Namlea 60.49 95 P **P 04 15 41.3 -2.3**
comp=Z,12nm,0.9s
TNTI Ternate 60.59 90 P **P 04 15 44.2 -0.1**
KOLS Kolonicke sedl 60.69 328 *e*P **P 04 15 44.8 +0.4**
KOLS Kolonicke sedl 60.69 328 *e*P **P 04 15 44.8 +0.4**
KOLS pmax pmax
comp=Z,9.0nm,1.1s
XLT XiLinHaoTe 60.73 39 *e*P P 04 15 51.0 +6.2
XLT pP pwP 04 15 56.5 +3.0
XLT pmax pmax
comp=Z,16nm,1.6s
XLT pmax pmax
comp=Z,320nm,4.6s
CRVS Cervenica-Dubn 61.10 328 *e*P **P 04 15 46.0 -1.2**
CRVS Cervenica-Dubn 61.10 328 *e*P **P 04 15 46.0 -1.2**
CRVS pmax pmax
comp=Z,41nm,1.5s
MORH Mrgy, Hungar 61.20 324 ⇑P **P 04 15 46.8 -1.0**
PSZ Piszkesteto 61.40 326 P **P 04 15 49.3 0.0**
PSZ IAmb IAmb 04 15 54.8
comp=Z,28nm,1.7s
PSZ Piszkesteto 61.40 326 P **P 04 15 49.3 0.0**
PSZ pmax pmax
comp=Z,28nm,1.7s
MNK Minsk 61.66 335 *i* P **P 04 15 47.5 -3.3**
comp=E,6.0nm,0.8s
MNK *i* P **P 04 15 47.5 -3.3**
comp=N,17nm,0.8s
MNK *i* P **P 04 15 47.5 -3.3**
comp=Z,12nm,0.8s,baz=134
MNK *i* PcP **PcP 04 16 28.5 -3.7**
MNK *i* PP **PP 04 18 03.3 -3.3**
MNK *i* PPP PPP 04 19 28.7
MNK *i* S **S 04 24 11.1 -1.4**
MNK *i* SS SS 04 27 52.0 -22
MNK *i* LQ LQ 04 38 38.9
MNK *i* LR LR 04 42 58.8
MNK *i* LRM MLR 04 45 07.7
comp=Z,113nm,17.4s
MNK *i* LRM MLR 04 45 19.8
comp=E,43nm,17.4s
MNK *i* LRM MLR 04 46 22.1
comp=N,147nm,17.4s
MNK Minsk 61.66 335 *i* P **P 04 15 47.4 -3.3**
MNK *i* 04 16 28.5
MNK *i* 04 18 03.3
MNK *i* S **S 04 24 11.0 -1.4**
MNK pmax pmax
comp=N,17nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=Z,113nm,17.0s
MNK MLR MLR
comp=E,43nm,17.0s
MNK MLR MLR
comp=N,147nm,17.0s
PRGR Permogore 62.11 349 *e*P P 04 15 48.5 -5.1
PRGR pmax pmax
comp=Z,20nm,1.3s
VYHS Vyhne 62.31 326 *e*P **P 04 15 53.9 -1.4**
VYHS Vyhne 62.31 326 *e*P **P 04 15 53.9 -1.4**
LANS Liptovska Anna 62.32 327 *e*P **P 04 15 54.5 -0.9**
LANS Liptovska Anna 62.32 327 *e*P **P 04 15 54.5 -0.9**
LANS pmax pmax
comp=Z,5.0nm,1.2s
CAMP Campotosto 62.73 318 P **P 04 15 58.2 -0.2**
CAMP IAmb IAmb 04 16 05.1
comp=Z,29nm,1.2s
KLMR Klimovskoe 62.78 345 *e*P **P 04 15 55.1 -3.1**
KLMR AMP 04 16 03.8
comp=Z,109nm,1.5s
KLMR LQ LQ 04 35 54.5
KLMR LQ LQ 04 35 54.5
KLMR LR LR 04 38 20.8
KLMR LRM MLR 04 45 07.1
KLMR Klimovskoe 62.78 345 *e*P **P 04 15 55.0 -3.1**
KLMR pmax pmax
comp=Z,109nm,1.5s
GUMA Gualdo di Mace 63.00 319 P **P 04 15 59.0 -1.1**
GUMA IAmb IAmb 04 16 00.0
comp=Z,24nm,0.9s
MODS Modra-Piesok 63.12 325 *e*P **P 04 15 59.3 -1.5**
MODS Modra-Piesok 63.12 325 *e*P **P 04 15 59.3 -1.5**
MODS pmax pmax
comp=Z,34nm,1.2s
FDMO Fiordimonte 63.16 319 IAmb IAmb 04 16 02.2
comp=Z,26nm,1.0s
JAVC Velka Javorina 63.16 326 *e*P **P 04 16 00.3 -0.7**
CESX Cesi 63.31 318 P **P 04 16 00.5 -1.6**
CESX IAmb IAmb 04 16 08.2
comp=Z,43nm,1.5s
RONA Rosalia, Austr 63.34 324 *e*P **P 04 16 00.5 -1.8**
comp=Z,3.8nm,0.8s
ARSA Arzberg 63.57 324 *e*P **P 04 16 02.2 -1.5**
comp=Z,9.4nm,1.4s
SOKA Soboth 63.59 323 *e*P **P 04 16 02.0 -1.9**
comp=Z,5.3nm,1.1s
MURB Monte Urbino 63.62 319 P **P 04 16 04.0 -0.3**
MURB IAmb IAmb 04 16 29.6
comp=Z,35nm,1.4s
CONA Conrad Observa 63.71 324 *e*P **P 04 16 03.0 -1.7**
comp=Z,13nm,1.0s
MORC Moravsky Berou 63.72 327 *e*P **P 04 16 03.2 -1.5**
KRUC Moravsky 63.98 326 *e*P **P 04 16 04.2 -2.2**
VRAC Vranov 64.00 326 *e*P **P 04 16 03.8 -2.7**
VRAC Vranov 64.00 326 LR LR 04 45 37.8
comp=Z,173nm,18.4s,baz=120,slow=38
JOW Kunigami 64.04 61 LR LR 04 45 18.8
comp=Z,468nm,19.4s,baz=4.0,slow=37
MOA Molln 64.61 324 *e*P **P 04 16 08.5 -2.0**
comp=Z,9.2nm,1.0s,SNR=5.4
DPC Dobruska-Polom 64.69 327 *e*P **P 04 16 08.9 -2.2**
DPC Dobruska-Polom 64.69 327 *e*P **P 04 16 08.9 -2.2**
BIOA Bad Ischl, Aus 64.90 323 *e*P **P 04 16 10.3 -2.2**
comp=Z,7.6nm,1.5s
CHVC Chvalec 64.96 327 *e*P **P 04 16 11.2 -1.6**
CHVC Chvalec 64.96 327 *e*P **P 04 16 11.2 -1.6**
TEOL Teolo 65.07 320 P **P 04 16 14.9 +1.3**
TEOL IAmb IAmb 04 16 19.5
comp=Z,31nm,1.4s
ABTA Abfaltersbach 65.15 322 *e*P **P 04 16 11.9 -2.3**
comp=Z,9.0nm,1.0s,SNR=6.0
LESA Schwarzleotal 65.36 323 *e*P **P 04 16 12.9 -2.6**
comp=Z,6.0nm,1.2s
TOA0 Torodi Ar. Sit 65.41 284 P **P 04 16 17.9 +1.6**
TOA0 IAmb IAmb 04 16 36.4
comp=Z,26nm,2.0s
TORD Torodi Ar. Bea 65.41 284 P **P 04 16 16.3 0.0**
TORD Torodi Ar. Bea 65.41 284 P **P 04 16 16.0 -0.3**
comp=Z,1.9nm,0.9s,baz=83,slow=6.5,SNR=11
TORD LR LR 04 45 09.9
comp=Z,306nm,18.4s,baz=114,slow=36
comp=Z,1.9nm,0.9s
GERES GERESS Array B 65.41 324 LR LR 04 46 04.8
comp=Z,117nm,18.3s,baz=58,slow=37
PRU Pruhonice 65.49 326 *e*P **P 04 16 14.3 -1.9**
PRU Pruhonice 65.49 326 *e*P **P 04 16 14.3 -1.9**
HIA Hailar 65.56 35 P **P 04 16 17.4 +0.7**
HIA Hailar 65.56 35 P **P 04 16 17.4 +0.7**
HIA pmax pmax
comp=Z,64nm,1.6s
KHC Kasperske Hory 65.62 325 *e*P **P 04 16 14.3 -2.8**
KHC Kasperske Hory 65.62 325 *e*P **P 04 16 14.3 -2.8**
WTTA Wattenberg 65.92 322 P **P 04 16 16.5 -2.8**
comp=Z,4.0nm,0.8s
WATA Walderalm 65.99 322 *e*P **P 04 16 15.9 -3.7**
comp=Z,6.5nm,1.1s
SQTA Sankt Quirin 66.16 322 *e*P **P 04 16 18.2 -2.5**
comp=Z,5.2nm,0.9s
MOTA Moosalm 66.28 322 *e*P **P 04 16 18.1 -3.5**
comp=Z,7.2nm,1.2s
FETA Feichten 66.37 322 *e*P **P 04 16 19.1 -3.1**
comp=Z,6.7nm,1.3s
KSRS Korea Array 66.46 49 P **P 04 16 21.2 -1.4**
comp=Z,1.8nm,0.8s,baz=240,slow=6.5,SNR=4.4
KSRS LR LR 04 46 28.1
comp=Z,278nm,20.9s,baz=250,slow=37
comp=Z,1.8nm,0.8s
FUORN Ofenpass-Fuorn 66.49 321 P **P 04 16 22.2 -0.9**
FUORN IAmb IAmb 04 16 31.1
comp=Z,23nm,1.4s
RETA Reutte 66.55 322 P **P 04 16 20.7 -2.5**
comp=Z,4.3nm,1.2s
CLL Collm 66.99 327 P **P 04 16 25.8 0.0**
CLL Collm 66.99 327 *i* P **P 04 16 24.5 -1.3**
CLL *i* 04 16 29.9
CLL Collm 66.99 327 *i* P **P 04 16 24.5 -1.3**
CLL *i* x x 04 16 29.9
comp=Z,67nm,1.9s
DAVA Damuels 67.01 322 *e*P **P 04 16 24.3 -1.9**
comp=Z,16nm,0.9s
TUE Stuetta 67.01 321 P **P 04 16 24.9 -1.4**
TUE IAmb IAmb 04 16 27.3
comp=Z,32nm,1.7s
FINES FINESS Array B 67.25 340 P **P 04 16 25.7 -1.5**
comp=Z,7.7nm,0.9s,baz=161,slow=8.1,SNR=6.1
FINES LR LR 04 49 11.7
comp=Z,171nm,18.5s,baz=122,slow=39
comp=Z,7.7nm,0.9s
JNU Nakatsue 67.65 55 LR LR 04 46 53.1
comp=Z,460nm,21.5s,baz=262,slow=37
BFO Black Forest 68.39 322 P **P 04 16 34.7 -0.1**
BFO Black Forest 68.39 322 P **P 04 16 34.7 -0.1**
BFO pmax pmax
comp=Z,44nm,1.5s
BNX BinXian 68.80 41 ⇓P **P 04 16 38.0 +0.7**
BNX pmax pmax
comp=Z,22nm,1.1s
BNX pmax pmax
comp=Z,450nm,5.2s
MAW Mawson 69.00 182 P **P 04 16 39.1 +1.1**
MAW Mawson 69.00 182 P **P 04 16 39.1 +1.1**
MAW pmax pmax
comp=Z,5.0nm,1.6s
MAW Mawson 69.00 182 P **P 04 16 38.5 +0.5**
comp=Z,2.1nm,0.7s,baz=8.3,slow=7.2,SNR=7.3
MAW LR LR 04 41 23.3
comp=Z,727nm,18.2s,baz=1.5,slow=31
comp=Z,2.1nm,0.7s
WRA Warramunga Arr 69.50 112 P **P 04 16 41.6 -0.6**
comp=Z,8.4nm,0.8s,baz=287,slow=5.9,SNR=40
WRA LR LR 04 43 16.9
comp=Z,148nm,21.1s,baz=238,slow=33
comp=Z,8.4nm,0.8s
WRAB Tennant Creek 69.51 112 P **P 04 16 42.0 -0.2**
WRAB Tennant Creek 69.51 112 P **P 04 16 42.0 -0.2**
WRAB pmax pmax
comp=Z,54nm,1.6s
WB2 Warramunga Arr 69.51 112 IAmb IAmb 04 16 49.1
comp=Z,38nm,1.4s
WB0 Warramunga Arr 69.53 112 IAmb IAmb 04 16 48.9
comp=Z,30nm,1.3s
ASAR Alice Springs 69.76 116 P **P 04 16 43.3 -0.5**
ASAR Alice Springs 69.76 116 P **P 04 16 43.3 -0.5**
ASAR Alice Springs 69.76 116 P **P 04 16 42.9 -0.9**
comp=Z,3.8nm,0.8s,baz=286,slow=5.8,SNR=28
comp=Z,3.8nm,0.8s
AS31 Alice Springs 69.76 116 P **P 04 16 44.7 +0.9**
APA Apatity 69.87 347 ⇓*i*P **P 04 16 41.1 -2.4**
APA *i* 04 17 07.9
APA pmax pmax
comp=Z,10.0nm,1.4s
MDJ Mudanjiang 69.87 43 P **P 04 16 44.0 0.0**
MDJ S **S 04 25 54.5 +1.4**
MDJ pmax pmax
comp=Z,21nm,2.2s
MDJ pmax pmax
comp=Z,280nm,6.1s
MDJ LR LR
comp=Z,460nm,23.5s
MDJ Mudanjiang 69.87 43 P **P 04 16 44.6 +0.6**
MDJ IAmb IAmb 04 16 52.3
comp=Z,42nm,1.4s
HEH HeiHe 70.47 36 *e*P **P 04 16 47.0 -0.5**
HFS Hagfors 71.17 335 P **P 04 16 49.6 -2.0**
comp=Z,7.2nm,0.8s,baz=134,slow=6.4,SNR=17
comp=Z,7.2nm,0.8s
USRK Ussuriysk Ar. 71.38 44 P **P 04 16 51.6 -1.6**
comp=Z,1.9nm,0.7s,baz=275,slow=5.5,SNR=5.2
USRK LR LR 04 51 03.1
comp=Z,345nm,18.7s,baz=232,slow=38
comp=Z,1.9nm,0.7s
KIC Kosan Boka 71.46 276 ⇑*e*P **P 04 16 54.5 +0.2**
comp=Z,21nm,0.8s
DBIC Dimbokro 71.58 276 P **P 04 16 54.3 -0.7**
DBIC IAmb IAmb 04 16 57.1
comp=Z,18nm,1.1s
DBIC Dimbokro 71.58 276 P **P 04 16 54.3 -0.7**
DBIC pmax pmax
comp=Z,18nm,1.1s
DBIC Dimbokro 71.58 276 P **P 04 16 54.2 -0.7**
comp=Z,12nm,0.9s,baz=82,slow=7.7,SNR=11
DBIC LR LR 04 48 20.0
comp=Z,129nm,18.2s,baz=84,slow=36
comp=Z,12nm,0.9s
ZEA Zeya 71.74 33 *e*P **P 04 16 55.2 0.0**
ZEA pmax pmax
comp=Z,20nm,1.4s
ZEA MLR MLR
comp=Z,500nm,22.0s
TIC Toumodi 71.74 276 ⇓*i*P **P 04 16 56.2 +0.2**
comp=Z,4.4nm,0.3s
LIC Lamto 71.75 276 ⇑*i*P **P 04 16 55.6 -0.4**
comp=Z,3.2nm,0.2s
NOA NORSAR Array B 72.69 335 P **P 04 16 58.5 -2.2**
comp=Z,1.1nm,0.9s,baz=112,slow=6.5,SNR=4.0
comp=Z,1.1nm,0.9s
KLR Kul'dur 72.75 38 *i* P **P 04 16 59.2 -2.1**
KLR pmax pmax
comp=Z,29nm,1.6s
KLR Kul'dur 72.75 38 LR LR 04 50 29.5
comp=Z,415nm,18.2s,baz=230,slow=37
ARCES ARCESS Array B 73.24 346 P **P 04 17 02.6 -1.3**
comp=Z,4.8nm,0.9s,baz=133,slow=6.3,SNR=11
ARCES LR LR 04 51 01.7
comp=Z,224nm,21.5s,baz=125,slow=37
comp=Z,4.8nm,0.9s
MDT Midelt 73.58 304 LR LR 04 50 26.9
comp=Z,156nm,18.6s,baz=119,slow=37
MJAR Matsushiro Arr 74.25 52 P **P 04 17 10.2 -0.2**
comp=Z,1.8nm,0.9s,baz=256,slow=3.7,SNR=4.2
MJAR LR LR 04 52 15.2
comp=Z,260nm,19.3s,baz=255,slow=38
comp=Z,1.8nm,0.9s
ESBB Sonseca Array 74.28 311 IAmb IAmb 04 17 12.7
comp=Z,52nm,2.0s
ESDC Sonseca Array 74.28 311 IAmb IAmb 04 17 12.6
comp=Z,38nm,1.9s
ESDC Sonseca Array 74.28 311 P **P 04 17 09.7 -0.9**
comp=Z,7.0nm,0.9s,baz=86,slow=4.8,SNR=54
comp=Z,7.0nm,0.9s
CASY Casey 74.42 163 P **P 04 17 12.9 +2.2**
PAB San Pablo 74.55 311 P **P 04 17 11.3 -0.9**
PAB San Pablo 74.55 311 P **P 04 17 11.3 -0.9**
PAB pmax pmax
comp=Z,8.0nm,0.9s
YAK Yakutsk 76.27 26 *e*P **P 04 17 23.4 +1.9**
YAK pmax pmax
comp=Z,7.0nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.8s
YAK pmax pmax
comp=E,6.0nm,1.4s
JCJ Chichijima 76.34 63 LR LR 04 48 19.5
comp=E,161nm,21.5s,baz=125,slow=34
PMRV Marv??o 76.85 310 *e*P **P 04 17 24.6 -0.7**
comp=E,18nm,1.8s
MVO Moncorvo 76.86 312 *e*P **P 04 17 25.8 +0.4**
PCBR Castelo Branco 76.98 310 *e*P **P 04 17 25.0 -1.0**
comp=E,16nm,1.7s
PCVE Castro Verde 77.08 308 *e*P **P 04 17 26.3 -0.3**
MTE Manteigas 77.12 311 *e*P **P 04 17 27.5 +0.7**
EVO Evora 77.19 309 *e*P **P 04 17 25.9 -1.3**
comp=E,14nm,1.6s
PVIS Viseu 77.43 311 *e*P **P 04 17 28.2 -0.4**
EKA Eskdalemuir Ar 77.46 327 P **P 04 17 26.8 -1.5**
comp=E,2.5nm,0.8s,baz=109,slow=7.1,SNR=3.5
comp=E,2.5nm,0.8s
STKA Stephens Creek 77.93 123 LR LR 04 47 02.3
comp=E,204nm,21.8s,baz=246,slow=32
PSBE So Bento 77.93 310 *e*P **P 04 17 32.0 +0.6**
GUMO Guam 78.08 77 LR LR 04 47 15.4
comp=E,39nm,20.1s,baz=212,slow=32
ELIB Princess Elisa 78.35 193 *d*P **P 04 17 34.4 +1.3**
ELIB *d*PcP **PcP 04 17 44.5 +2.1**
ASAJ Asahikawa 78.81 45 LR LR 04 54 18.0
comp=E,150nm,19.7s,baz=311,slow=37
TIXI Tiksi 80.06 17 P **P 04 17 41.4 -0.9**
TIXI IAmb IAmb 04 17 48.9
comp=Z,28nm,1.2s
TIXI Tiksi 80.06 17 P **P 04 17 41.4 -0.9**
TIXI pmax pmax
comp=Z,28nm,1.2s
NVL N'lazarevskaya 80.44 196 *e*P **P 04 17 43.4 -0.9**
NVL pmax pmax
comp=Z,38nm,2.2s
CTA Charters Tower 80.63 111 LR LR 04 52 04.8
comp=Z,170nm,18.1s,baz=268,slow=35
CTAO Charters Tower 80.63 111 P **P 04 17 45.6 -0.9**
CTAO Charters Tower 80.63 111 P **P 04 17 45.6 -0.9**
CTAO pmax pmax
comp=Z,12nm,1.1s
SPITS Spitsbergen Ar 80.99 351 LR LR 04 57 40.2
comp=Z,196nm,20.7s,baz=88,slow=39
TROLL Troll, Antarti 83.65 196 ⇑P **P 04 18 03.2 +1.8**
comp=Z,364nm,0.8s
JMIC Jan Mayen 83.83 341 LR LR 04 57 27.1
comp=Z,209nm,20.7s,baz=12,slow=37
PMAR Madeira 83.89 303 *e*P **P 04 18 01.8 -1.7**
MA2 Magadan 85.68 31 LR LR 04 57 41.2
comp=Z,918nm,18.5s,baz=283,slow=37
ARMA Armidale 86.31 120 P **P 04 18 15.2 -0.4**
ARMA IAmb IAmb 04 18 20.3
comp=Z,18nm,1.3s
VNA1 Neumayer--Stat 86.46 199 ⇑P **P 04 18 16.7 +1.4**
comp=Z,5.6nm,0.8s
VNA3 Neumayer Olymp 87.05 198 ⇑P **P 04 18 18.9 +0.6**
comp=Z,7.6nm,0.8s
DAG Danmarks Havn 87.51 347 *i* P **P 04 18 20.0 -0.4**
BORG Borgarnes 87.85 335 LR LR 05 01 43.7
comp=Z,94nm,19.1s,baz=90,slow=38
PETK Petropavlovsk- 89.38 37 LR LR 05 00 27.4
comp=Z,448nm,20.5s,baz=267,slow=37
PET Petropavlovsk 89.96 37 *e*P P 04 18 19.2 -13
PET MLR MLR
comp=Z,600nm,16.0s
PET MLR MLR
comp=Z,700nm,15.0s
QSPA South Pole Qui 91.46 180 P **P 04 18 39.8 +0.6**
QSPA IAmb IAmb 04 18 42.4
comp=Z,24nm,2.0s
QSPA South Pole Qui 91.46 180 P **P 04 18 38.9 -0.3**
comp=Z,1.4nm,0.6s,baz=273,slow=2.2,SNR=14
comp=Z,1.4nm,0.6s
VNDA Vanda 92.54 167 LR LR 04 54 23.6
comp=Z,508nm,21.5s,baz=258,slow=32
BELA Belgrano 2 93.83 192 P **P 04 18 50.4 +0.6**
SFJD Kangerlussuaq 99.04 339 LR LR 05 06 32.4
comp=Z,140nm,18.9s,baz=52,slow=37
SHEM Shemya Is, Ala 99.25 36 LR LR 05 07 36.4
comp=Z,200nm,18.5s,baz=314,slow=38
DZM Mont Dzumac 99.52 112 LR LR 05 05 53.9
comp=Z,124nm,18.0s,baz=236,slow=36
ETMB Extrema 132.54 258 **PKPdf 04 24 46.1 -2.6**
G08A Pilot Rock 133.15 6 **PKPdf 04 24 50.1 +0.8**
RSSD Black Hills 133.86 351 PKPdf **PKPdf 04 24 50.9 +0.1**
RSSD Black Hills 133.86 351 PKIKP **PKPdf 04 24 50.9 +0.1**
PINE Pine Mountain 134.40 8 **PKPdf 04 24 49.2 -2.5**
REDW Red Top Meadow 135.31 358 **PKPdf 04 24 53.6 +0.1**
PDAR Pinedale Array 135.83 356 PKPdf **PKPdf 04 24 53.2 -1.3**
PDAR Pinedale Array 135.83 356 PKP **PKPdf 04 24 53.0 -1.5**
comp=Z,0.9nm,0.7s,baz=315,slow=0.4,SNR=8.4
MSU Marysvale 140.19 359 **PKPdf 04 25 02.3 -0.3**
MSU Marysvale 140.19 359 PKIKP **PKPdf 04 25 02.3 -0.3**
U15A North Rim 142.27 359 PKPdf **PKPdf 04 25 06.1 -0.4**
V12A Nelson 142.95 2 **PKPdf 04 25 06.0 -1.5**
WUAZ Wupatki 143.15 357 PKPdf **PKPdf 04 25 07.9 -0.1**
ANMO Albuquerque 143.21 351 PKPdf PKPbc 04 25 06.1 +1.2
ANMO Albuquerque 143.21 351 PKIKP PKPbc 04 25 06.1 +1.1
ANMO Albuquerque 143.21 351 PKP PKPab 04 25 05.3 +1.6
comp=Z,4.7nm,0.9s,baz=145,slow=3.3,SNR=17
W13A Hualapai Mount 143.60 1 PKPdf PKPbc 04 25 08.4 +2.3
BNM Barren Site 144.02 351 PKPdf PKPab 04 25 08.1 +1.2
TULM Tulcn-Chalpat 144.49 273 **PKPab 04 25 09.9 +0.3**
HKT Hockley 144.60 333 **PKPab 04 25 09.1 +0.3**
HKT Hockley 144.60 333 PKIKP **PKPab 04 25 09.1 +0.3**
IMBA Imbabura, San 144.93 273 PKPdf **PKPab 04 25 08.9 -2.2**
BLYC Blythe 144.93 2 **PKPab 04 25 09.9 0.0**
PFO Pinyon Flats O 144.96 5 **PKPab 04 25 09.4 -0.8**
PFO Pinyon Flats O 144.96 5 PKP **PKPab 04 25 09.9 -0.3**
comp=Z,4.2nm,0.9s,baz=304,slow=6.7,SNR=5.8
BCIP Isla Barro Col 145.09 288 PKPbc **PKPbc 04 25 10.2 -0.9**
BCIP Isla Barro Col 145.09 288 PKIKP **PKPbc 04 25 10.2 -0.9**
OTAV Otavalo 145.18 273 PKPbc **PKPbc 04 25 11.7 -0.3**
OTAV Otavalo 145.18 273 PKIKP **PKPbc 04 25 11.7 -0.3**
SLOR San Lorenzo - 145.27 271 PKPbc **PKPbc 04 25 11.9 -0.3**
COHC Cochancay 146.03 268 PKPbc **PKPdf 04 25 13.9 +0.6**
TUC Tucson 146.31 356 **PKPdf 04 25 13.1 -0.3**
TUC Tucson 146.31 356 PKP2 **PKPdf 04 25 13.1 -0.3**
833A Chaparral WMA, 147.52 337 PKPbc **PKPdf 04 25 17.1 +1.7**
TXAR Lajitas Array 148.02 344 PKPbc **PKPdf 04 25 17.7 +1.4**
TXAR Lajitas Array 148.02 344 PKP2 **PKPdf 04 25 17.7 +1.4**
TXAR Lajitas Array 148.02 344 PKPbc **PKPdf 04 25 16.9 +0.5**
comp=Z,12nm,0.9s,baz=90,slow=1.3,SNR=85
ACON Acoyapa 149.09 296 PKPbc **PKPdf 04 25 20.7 +2.4**

HSIG		149.59	356	PKPbc	PKPdf	04 25 19.3 +0.5
TGUH	Tegucigalpa,Un	150.00	302	PKPbc	PKPdf	04 25 22.0 +2.1
PETF	Flores	150.58	309		PKPdf	04 25 23.9 +3.3

*IDC **29** 04:12:25.7±0.8, 16°.36S×178°.40E, h0km, mb4.2/9, mbtmp4.2/9, MS3.5/7, Error ellipse: s-maj=30.2km s-min=16.2km az=120.0*
*NEIC **29** 04:12:29.3±2.4, 16°.4S±0°.1×178°.4E±0°.2, h22km±6km, mb4.6/19, Error ellipse: s-maj=28.7km s-min=14.1km az=107.0*

ISC 29 04:12:29.2±0.7, 16°.33S±0°.09×178°.3E±0°.2, h22km, n42, σ0s86/35, mb4.5/17, MS3.5/6, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	1.43	191		Pn	04 12 53.0	-0.9
MSVF	Nonsavu	1.43	191	Pn	Pn	04 12 52.7	-1.2
	96nm,0.3s,baz=222,slow=5.9,SNR=68						
MSVF				Sn	Sb	04 13 13.0	0.0
	318nm,0.3s,baz=278,slow=22,SNR=9.5						
DZM	Mont Dzumac	12.61	241	LR	LR	04 19 29.4	
	comp=Z,332nm,20.7s,baz=85,slow=34						
HNR	Honiara	19.19	289	LR	LR	04 23 11.1	
	comp=Z,3μm,19.0s,baz=94,slow=34						
RAR	Rarotonga	21.28	107	LR	LR	04 23 48.1	
	comp=Z,66nm,22.0s,baz=331,slow=32						
TOZ	Tahuroa Road	21.47	186	P	P	04 17 17.0	+0.8
URZ	Urewera	21.88	183	LR	LR	04 24 38.3	
	comp=Z,188nm,19.2s,baz=32,slow=34						
KRVT	Keravat (AS076	28.46	292	LR	LR	04 28 56.2	
	comp=Z,162nm,19.8s,baz=177,slow=35						
CTA	Charters Tower	30.68	258	LR	LR	04 28 42.4	
	comp=Z,145nm,18.4s,baz=198,slow=32						
PPT	Papeete	30.70	97	LR	LR	04 29 37.4	
	comp=Z,36nm,18.7s,baz=244,slow=34						
STKA	Stephens Creek	36.74	238	P	P	04 19 35.4	+0.3
	4.5nm,1.0s,baz=39,slow=13,SNR=2.4						
	4.5nm,1.0s						
WRAB	Tennant Creek	41.88	258	P	P	04 20 16.9	-1.3
WRAB				IAmb	IAmb	04 20 18.1	
	comp=Z,10nm,1.1s						
WRA	Warramunga Arr	41.89	258	P	P	04 20 17.9	-0.4
WRA	Warramunga Arr	41.89	258	P	P	04 20 18.1	-0.2
	comp=Z,1.0nm,0.9s,baz=90,slow=8.4,SNR=5.8						
	comp=Z,1.0nm,0.9s						
AS31	Alice Springs	42.26	253	P	P	04 20 20.6	-0.8
ASAR	Alice Springs	42.26	253	P	P	04 20 20.4	-1.0
ASAR	Alice Springs	42.26	253	P	P	04 20 21.4	+0.1
	comp=Z,3.4nm,0.8s,baz=83,slow=8.9,SNR=22						
	comp=Z,3.4nm,0.8s						
RPN	Rapa Nui	67.26	113	LR	LR	04 48 32.0	
	comp=Z,29nm,19.1s,baz=54,slow=32						
QSPA	South Pole Qui	73.72	180	P	P	04 24 02.8	+1.4
QSPA				IAmb	IAmb	04 24 14.7	
	comp=Z,5.6nm,1.1s						
QSPA	South Pole Qui	73.72	180	P	P	04 24 00.5	-0.9
	comp=Z,1.5nm,0.9s,baz=27,slow=6.3,SNR=3.4						
	comp=Z,1.5nm,0.9s						
ISA	Isabella, Lake	79.01	48	P	P	04 24 31.6	-0.3
YBH	Yreka Blue Hor	79.31	41	P	P	04 24 33.0	-0.4
YBH				IAmb	IAmb	04 24 35.9	
	comp=Z,8.9nm,1.4s						
YBH	Yreka Blue Hor	79.31	41	P	P	04 24 33.4	0.0
	comp=Z,3.2nm,1.0s,baz=170,slow=2.7,SNR=4.9						
	comp=Z,3.2nm,1.0s						
NVAR	Mina Array Bea	80.49	45	P	P	04 24 40.3	+0.3
	comp=Z,1.2nm,0.9s,baz=227,slow=9.0,SNR=8.7						
	comp=Z,1.2nm,0.9s						
KVN	Kaiserville	80.93	45	P	P	04 24 43.0	+0.7
KVN				IAmb	IAmb	04 24 44.1	
	comp=Z,3.3nm,1.1s						
J05D	Fort Rock, OR	81.07	40	P	P	04 24 43.2	+0.3
GNW	Green Mountain	82.47	36	P	P	04 24 49.5	-0.4
M26K	Nabesna, AK	84.15	17	P	P	04 24 58.8	+0.4
M26K				IAmb	IAmb	04 24 59.6	
	comp=Z,6.1nm,1.1s						
MAW	Mawson	84.27	200	P	P	04 25 00.4	+1.5
	comp=Z,0.9nm,0.7s,baz=150,slow=6.1,SNR=1.8						
	comp=Z,0.9nm,0.7s						
CCB	Clear Creek Bu	84.77	14		P	04 24 59.7	-1.7
IL31		85.09	14		P	04 25 02.3	-0.6
IL31				IAmb	IAmb	04 25 03.4	
	comp=Z,4.0nm,0.8s						
ILAR	Eielson Array	85.09	14	P	P	04 25 02.6	-0.4
	comp=Z,4.1nm,1.0s,baz=234,slow=5.1,SNR=26						
	comp=Z,4.1nm,1.0s						
IL03	Eielson Array	85.10	14	P	P	04 25 02.1	-0.9
J25K	Salcha River,	85.32	15	P	P	04 25 04.3	+0.1
J25K				IAmb	IAmb	04 25 05.2	
	comp=Z,5.3nm,1.2s						
CMAR	Chiang Mai Arr	85.43	291	P	P	04 25 06.4	+0.7
CMAR	Chiang Mai Arr	85.43	291	P	P	04 25 06.2	+0.5
	comp=Z,2.4nm,0.3s,baz=102,slow=3.0,SNR=6.3						
	comp=Z,2.4nm,0.3s						
HLID	Hailey	85.52	42	P	P	04 25 06.1	+0.3
HLID				IAmb	IAmb	04 25 07.9	
	comp=Z,1.8nm,0.8s						
Q16A	Castle Valley	85.67	48	P	P	04 25 04.6	-2.2
J26L	Joseph Creek	85.69	16	P	P	04 25 06.9	+0.8
J26L				IAmb	IAmb	04 25 07.6	
	comp=Z,6.6nm,1.1s						
M30M	Minto, Yukon	86.13	19		P	04 25 07.5	-0.8
M30M				IAmb	IAmb	04 25 11.8	
	comp=Z,8.7nm,1.5s						
M31M	Drury Creek, Y	86.64	20	P	P	04 25 10.5	-0.2
ESDC	Sonseca Array	156.65	4	PKPab	PKPab	04 32 52.2	+0.1
	comp=Z,0.8nm,0.9s,baz=336,slow=5.4,SNR=4.5						

*IDC **29** 04:14:45.9±1.5, 33°.79S×56°.32E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=50.5km s-min=30.5km az=77.0*

ISC 29 04:14:47.3±1.3, 33°.8S±0°.2×56°.2E±0°.4, h10km, n17, σ1s00/8, mb4.1/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	12.84	194	T	T	04 30 41.3	
	baz=17,slow=75,SNR=810						
H04N1	CROZET ISLANDS	12.84	194	T	T	04 30 41.9	
	baz=17,slow=75,SNR=353						
H04N3	CROZET ISLANDS	12.86	194	T	T	04 30 41.3	
	baz=17,slow=75,SNR=662						
H08S1	Diego Carcia H	30.01	34	T	T	04 52 05.5	
	baz=208,slow=75,SNR=5.8						
H08S2	Diego Garcia H	30.02	34	T	T	04 52 04.9	
	baz=208,slow=75,SNR=6.5						
H08S3	Diego Garcia H	30.03	34	T	T	04 52 08.7	
	baz=208,slow=75,SNR=11						
H01W2	Cape Leeuwin H	47.23	108	T	T	05 13 47.6	
	baz=253						
H01W3	Cape Leeuwin H	47.24	108	T	T	05 13 52.5	
	baz=253						
H01W1	Cape Leeuwin H	47.25	108	T	T	05 13 45.7	
	baz=253						
QSPA	South Pole Qui	56.41	180	P	P	04 24 28.8	+0.1
	2.6nm,0.8s,baz=5.8,slow=4.1,SNR=2.8						
	2.6nm,0.8s						
CMAR	Chiang Mai Arr	65.98	45	P	P	04 25 34.8	+0.8
	2.9nm,0.3s,baz=220,slow=8.3,SNR=4.2						
	2.9nm,0.3s						
ASAR	Alice Springs	67.42	104	P	P	04 25 42.9	-0.4
	0.8nm,0.8s,baz=232,slow=6.1,SNR=8.9						
	0.8nm,0.8s						
WRA	Warramunga Arr	69.56	101	P	P	04 25 56.7	0.0
	1.5nm,0.8s,baz=238,slow=5.5,SNR=11						
	1.5nm,0.8s						
MKAR	Makanchi Array	83.56	18	P	P	04 27 13.6	-1.6
	0.5nm,0.8s,baz=208,slow=5.9,SNR=2.2						
	0.5nm,0.8s						
KURBB	Kurchatov Arra	86.30	14	P	P	04 27 29.9	+1.0
	0.5nm,0.7s,baz=214,slow=5.7,SNR=5.1						
	0.5nm,0.7s						
BVAR	Borovoye Array	87.30	8	P	P	04 27 34.5	+0.8
	0.9nm,0.8s,baz=183,slow=2.9,SNR=2.5						
	0.9nm,0.8s						
ILAR	Eielson Array	145.91	17	PKPbc	PKPdf	04 34 25.6	+0.1
	0.4nm,0.7s,baz=327,slow=3.7,SNR=6.0						

*IDC **29** 04:29:17.3±0.5, 15°.36N×61°.13W, h126km±5km, mb3.3/7, mbtmp3.8/9, Error ellipse: s-maj=22.6km s-min=7.4km az=82.0*
*TRN **29** 04:29:17.2, 15°.36N×61°.16W, h127km, MD4.1*

ISC 29 04:29:17.5±0.7, 15°.39N±0°.03×61°.07W±0°.06, h130km±5km, n50, σ1s07/68, mb3.7/7, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVN	Savane Anatole	0.55	190	eP	Pn	04 29 37.5	+0.5
SVN				eS	Sn	04 29 51.8	+0.1
BAMF	Morne Balai	0.57	188	eP	Pn	04 29 37.5	+0.4
CXM	Morne La Croix	0.58	190	eP	Pn	04 29 38.0	+0.7
PCM	Pelee Case Pet	0.58	194	eP	Pn	04 29 37.4	+0.3
GBMF	Grand Be	0.59	189	eP	Pn	04 29 37.6	+0.3
MAGL	Barre de l'ile	0.60	340	eP	Pn	04 29 37.9	+0.7
MAGL				eS	Sn	04 29 52.4	+0.3
PML	Morne Lenard	0.61	190	eP	Pn	04 29 37.8	+0.5
ILAM	Ilet Lapin Mar	0.64	163	eP	Pn	04 29 38.0	+0.5
ILAM				eS	Sn	04 29 52.5	-0.1
FDF	Fort de France	0.65	187	⇑iP	Pn	04 29 38.0	+0.3
FDF				eS	Sn	04 29 53.2	+0.3
TDBA	Terre de Bas,	0.71	310	e	Pn	04 29 39.6	+1.6
LPMF	Morne Lapointe	0.81	173	eP	Pn	04 29 38.6	-0.2
MVM	Montagne Vaucl	0.84	169	eP	Pn	04 29 39.3	+0.2
CBE	Ff, Capester	0.85	323	e	Pn	04 29 42.5	+3.4
BIM	Bigot	0.86	180	eP	Pn	04 29 39.8	+0.5
BIM				eS	Sn	04 29 56.9	+1.1
H05N1	Guadeloupe/Mar	0.93	1	P	Pn	04 29 40.3	+0.5
H05N1				S	Sn	04 29 56.4	-0.3
MPOM	Morne Pois Mar	0.96	168	e	Pn	04 29 38.8	-1.2
H05S1	Guadeloupe/Mar	0.98	167	P	Pn	04 29 40.4	+0.1
H05S1				S	Sn	04 29 56.5	-1.0
ABD	La Joyeuse, An	1.15	340	e	Pn	04 29 40.4	-1.5
ABD	La Joyeuse, An	1.15	340	eP	Pn	04 29 42.5	+0.6
SLBI	Saint Lucia, B	1.36	176	⇑iP	Pn	04 29 43.9	-0.1
SLBI				eS	Sn	04 30 02.9	-1.4
SLCP	Castries, St.	1.37	177	eP	Pn	04 29 44.2	0.0
SLCP				eS	Sn	04 30 03.8	-0.7
SLB	Belfond	1.55	179	eP	Pn	04 29 47.5	+1.2
SLB				eS	Sn	04 30 07.7	-0.5
SLDE	Delcer	1.57	180	eP	Pn	04 29 46.5	0.0
SLDE				eS	Sn	04 30 08.9	+0.4
MCLT	Moule a Chique	1.67	176	eP	Pn	04 29 48.3	+0.7
MCLT				eS	Sn	04 30 10.4	-0.2
MLYT	Lee's Yard	1.71	321	eP	Pn	04 29 49.2	+1.2
MLYT				eS	Sn	04 30 12.0	+0.6
MBFL	Flemmings, Mon	1.74	321	eP	Pn	04 29 48.9	+0.4
MBFL				eS	Sn	04 30 12.4	+0.3
ANBD	Bethesda, Anti	1.78	338	eP	Pn	04 29 48.9	+0.1
ANDO	Antigua, Disas	1.86	337	eP	Pn	04 29 50.1	+0.3
ANDO				eS	Sn	04 30 13.9	-0.8
SVB	Belmont	2.11	185	eP	Pn	04 29 53.0	+0.2
SVB				eS	Sn	04 30 19.4	-0.5
BCHC	Barbados, Cave	2.64	148	eP	Pn	04 30 01.9	+2.5
BCHC				eS	Sn	04 30 32.8	+1.0
BBGH	Gun Hill	2.67	147	eP	Pn	04 30 01.7	+1.9
BBGH				eS	Sn	04 30 32.8	+0.3
GCMP	Grenada, Carri	2.90	187	eP	Pn	04 30 03.0	+0.1
GCMP				eS	Sn	04 30 38.0	+0.1
GRHS	Sauteurs	3.19	190	eP	Pn	04 30 06.5	-0.2
GRGR	Grenville	3.28	190	eP	Pn	04 30 08.5	+0.6
GRGR				eS	Sn	04 30 45.9	-0.9
TRN	Trinidad (W)	4.72	184	eP	Pn	04 30 27.7	+0.8
TRN	Trinidad (W)	4.72	184	eS	Sn	04 31 17.9	-2.9
SJG	San Juan	5.57	300	eP	Pn	04 30 38.6	+0.4
PCRV	Puerto La Cruz	6.24	214	P	Pn	04 30 47.1	-0.2
	4.9nm,0.5s,baz=15,slow=9.0,SNR=9.5						
PCRV				S	Sn	04 32 00.8	+3.3
	1.1nm,0.3s,baz=63,slow=14,SNR=0.7						
BAUV	El Baul	9.35	228	eP	Pn	04 31 27.2	-1.9
MDP	Montagnes des	13.15	140	P	Pn	04 32 17.6	-1.8
	2.3nm,0.3s,baz=329,slow=17,SNR=10						
MDP				S	Sn	04 34 33.7	-11
	9.1nm,0.4s,baz=234,slow=22,SNR=16						
SCHQ	Schefferville	39.62	355	P	P	04 36 37.4	+1.3
	2.4nm,0.8s,baz=299,slow=16,SNR=2.1						
	2.4nm,0.8s						
TXAR	Lajitas Array	41.54	297	P	P	04 36 52.1	-0.2
	0.2nm,0.6s,baz=115,slow=8.1,SNR=6.0						
	0.2nm,0.6s						
ULM	Lac du Bonnet	44.71	329	P	P	04 37 16.9	-0.6
	1.4nm,0.4s,baz=129,slow=6.5,SNR=1.7						
	1.4nm,0.4s						
PDAR	Pinedale Array	49.52	314	P	P	04 37 55.0	-0.2
	0.9nm,0.5s,baz=117,slow=10.0,SNR=14						
	0.9nm,0.5s						
H10N3	ASCENSION HYDR	51.59	113	T	T	05 33 47.7	
	baz=296,slow=75,SNR=9.5						
H10N2	ASCENSION HYDR	51.59	113	T	T	05 33 48.5	
	baz=296,slow=75,SNR=6.5						
H10N1	ASCENSION HYDR	51.61	113	T	T	05 33 50.0	
	baz=296,slow=75,SNR=9.1						
NVAR	Mina Array Bea	55.02	306	P	P	04 38 36.1	+0.2
	0.7nm,0.7s,baz=104,slow=5.8,SNR=7.3						
	0.7nm,0.7s						
TORD	Torodi Ar. Bea	60.68	83	P	P	04 39 16.6	+1.1
	0.5nm,0.9s,baz=264,slow=5.7,SNR=4.7						
	0.5nm,0.9s						
ILAR	Eielson Array	74.43	334	P	P	04 40 40.9	-0.1
	0.2nm,0.5s,baz=90,slow=5.6,SNR=6.6						
	0.2nm,0.5s						

IDC 29 04:40:17.2±5.6, 5°.80S×152°.24E, h52km±44km, mb3.4/2, mbtmp3.7/2, Error ellipse: s-maj=91.3km s-min=23.2km az=102.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	1.50	352	P	Pn	04 40 42.0	+0.2
	109nm,0.3s,baz=230,slow=24,SNR=23						
KRVT				S	Sn	04 41 00.2	0.0
	255nm,0.4s,baz=32,slow=1.7,SNR=10						
WRA	Warramunga Arr	22.37	229	P	P	04 45 10.7	-0.6
	1.6nm,0.6s,baz=53,slow=9.8,SNR=23						
	1.6nm,0.6s						
ASAR	Alice Springs	25.04	223	P	P	04 45 37.0	+0.2
	0.8nm,0.6s,baz=59,slow=8.6,SNR=18						
	0.8nm,0.6s						
TORD	Torodi Ar. Bea	150.07	286	PKPbc	PKPbc	05 00 02.7	-0.4
	0.3nm,0.6s,baz=82,slow=1.9,SNR=2.0						

*JMA **29** 04:41:44.0±0.1, 40°.4N±0°.3×142°.1E±0°.7, h50km, MV3.6/40, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .
*IDC **29** 04:41:45.5±2.9, 40°.39N×142°.22E, h77km±23km, mb3.5/5, mbtmp3.7/8, Error ellipse: s-maj=44.0km s-min=22.6km az=86.0*

ISC 29 04:41:43.8±1.2, 40°.37N±0°.04×142°.06E±0°.09, h51km±8km, n24, σ1s05/26, mb3.9/5, 13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	Kujiedanarisaw	0.32	239	iP	Pn	04 41 53.4	+0.2
JKEN				S	Sn	04 41 59.8	0.0
JANG	Nango	0.42	271	⇓iP	Pn	04 41 54.4	+0.2
JANG				⇓S	Sn	04 42 01.6	0.0
JTH	Tanohata	0.45	200	iP	Pn	04 41 54.6	+0.1
JTH				S	Sn	04 42 01.9	-0.4
JKZ	Kuzumaki	0.68	236	⇓iP	Pn	04 41 57.8	+0.4
JKZ				⇓S	Sn	04 42 07.4	+0.2
JARK	Aomorirokkasho	0.83	321	⇓iP	Pn	04 41 59.2	-0.1
JARK				⇓S	Sn	04 42 10.1	-0.5
JTM	Tenmabayashi	0.87	299	⇓iP	Pn	04 41 59.8	0.0
JTM				⇓S	Sn	04 42 11.1	-0.3
JOM	Ohasama	1.07	214	⇓iP	Pn	04 42 02.9	+0.4
JOM				⇓S	Sn	04 42 16.3	-0.1
JAH	Hinai	1.11	261	⇓iP	Pn	04 42 03.4	+0.5
JAH				⇓S	Sn	04 42 17.8	+0.7
JOT	Ohata	1.27	323	⇓iP	Pn	04 42 05.1	-0.1
JRG	Rokugo	1.47	229	iP	Pn	04 42 08.7	+0.9
ASAJ	Asahikawa	3.77	6	P	Pn	04 42 40.5	+1.1
	7.5nm,0.3s,baz=192,slow=9.3,SNR=25						
ASAJ				S	Sn	04 43 11.4	-11
	8.1nm,0.5s,baz=229,slow=25,SNR=3.7						
MJAR	Matsushiro Arr	4.87	220	P	Pn	04 42 57.3	+2.7
	1.9nm,0.5s,baz=27,slow=13,SNR=13						
USRK	Ussuriysk Ar.	8.39	300	P	Pn	04 43 46.1	+3.4
	3.3nm,0.6s,baz=112,slow=15,SNR=7.5						
H11N2	WAKE ISLAND Hy	29.58	127	T	T	05 18 33.4	
	baz=318,slow=75,SNR=46						
H11N1	WAKE ISLAND Hy	29.59	127	T	T	05 18 35.3	
	baz=318,slow=75,SNR=38						
H11N3	WAKE ISLAND Hy	29.59	127	T	T	05 18 35.0	
	baz=318,slow=75,SNR=38						
H11S1	WAKE ISLAND Hy	30.39	129	T	T	05 19 47.0	
	baz=322,slow=76,SNR=14						
H11S3	WAKE ISLAND Hy	30.39	129	T	T	05 20 07.9	
	baz=322,slow=76,SNR=9.0						
H11S2	WAKE ISLAND Hy	30.41	129	T	T	05 20 09.6	
	baz=322,slow=76,SNR=7.8						
ZALV	Zalesovo Beam	40.12	310	P	P	04 49 14.1	-0.2
	1.5nm,0.6s,baz=85,slow=9.2,SNR=5.3						
	1.5nm,0.6s						
MKAR	Makanchi Array	42.86	299	P	P	04 49 36.6	-0.3
	0.7nm,0.7s,baz=84,slow=10.0,SNR=4.3						
	0.7nm,0.7s						
KURBB	Kurchatov Arra	44.42	305	P	P	04 49 48.6	-0.7
	1.0nm,0.5s,baz=81,slow=8.8,SNR=12						
	1.0nm,0.5s						
BVAR	Borovoye Array	48.76	310	P	P	04 50 23.0	-0.3
	0.6nm,0.5s,baz=58,slow=11,SNR=3.1						
	0.6nm,0.5s						
WRA	Warramunga Arr	60.43	188	P	P	04 51 47.1	-0.9
	0.7nm,0.9s,baz=4.9,slow=7.0,SNR=3.1						
	0.7nm,0.9s						

NOU 29 04:52:51.2, 15°.77S×167°.87E, h117km, MLv4.1/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	2.08	165	P	Pn	04 53 26.3	+0.8
LIFNC	LIFOU	5.02	187	P	Pn	04 54 02.6	-1.7
YATNC	Mamie plateau,	6.32	188	P	Pn	04 54 21.1	-0.9
DZM	Mont Dzumac	6.41	192	P	Pn	04 54 23.4	+0.1
NOUC	Port Laguerre	6.47	193	P	Pn	04 54 24.8	+0.8
ONTNC	Ouen Toro	6.64	191	P	Pn	04 54 27.4	+1.1
OUENC	Ouen Island, N	6.68	188	P	Pn	04 54 27.2	+0.3

NNC 29 05:00:26.8±1.6, 52°.66N×87°.66E, h0km, mb4.1, mpv3.7, 7C-7D, Error ellipse: s-maj=13.5km s-min=5.3km az=82.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	2.14	308	⇓Pn	Pn	05 01 03.0	-0.7
	3.2nm,0.3s						
ZAA0				⇑Sn	Sb	05 01 32.3	-1.2
	5.1nm,0.3s						
KURK	Kurchatov	5.95	255	⇑Pn	Pn	05 01 56.4	+0.4
	5.7nm,0.8s						
KURK				⇓Sn	Sn	05 03 05.3	+0.5
	7.4nm,1.1s						
KURK				⇑Lg	Lg	05 03 36.7	
	20nm,0.8s						
KURBB	Kurchatov Arra	6.04	254	⇓Pn	Pn	05 01 57.9	+0.7
	6.2nm,0.6s						
KURBB				⇑Sn	Sn	05 03 06.8	-0.2
	9.1nm,0.6s						
KURBB				⇓Lg	Lg	05 03 40.2	
	24nm,0.8s						
MK31	Makanchi Array	6.82	213	⇑Pn	Pn	05 02 09.4	+1.4
	4.7nm,0.5s,baz=30,slow=11,SNR=71						
MK31				⇑Sn	Sn	05 03 28.8	+2.5
	3.1nm,0.6s,baz=36,slow=25,SNR=4.0						
MK31				⇑Lg	Lg	05 04 04.1	
	12nm,0.9s						
MAKZ	Makanchi	6.91	214	⇓Pn	Pn	05 02 08.2	-1.1
	9.5nm,0.8s						
MAKZ				⇓Sn	Sn	05 03 30.1	+1.4
	10nm,1.1s						
MAKZ				⇓Lg	Lg	05 04 02.8	
	12nm,1.1s						

*STR **29** 05:19:26.5±2.1, 43°.N±9°.×°.±1°.7, h10km, MLv2.8/14, Error ellipse: s-maj=0.0km s-min=0.0km az=90.8, preliminary*
*MDD **29** 05:19:28.3±0.2, 43°.24N×1°.83W, h11km, mb_Lg2.8/16, Error ellipse: s-maj=2.4km s-min=1.5km az=161.0*
*INMG **29** 05:19:28.9±1.3, 43°.30N×1°.69W, h31km, ML2.0, Error ellipse: s-maj=4.0km s-min=3.1km az=11.0*
*LDG **29** 05:19:29.0±0.1, 43°.31N×1°.70W, h25km, Md2.9/1, Ml2.8/25, Error ellipse: s-maj=2.5km s-min=1.9km az=100.0*

ISC 29 05:19:26.6±0.8, 43°.32N±0°.03×1°.80W±0°.02, h18km, n73, σ2s58/130, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.23	115	Pg	Pg	05 19 34.5	+2.4
EALK				Sg	Sg	05 19 38.7	+2.8
EALK				i Vmb_Lg		05 19 39.6	
EALK	Alkurruntz	0.23	115	Pg	Pg	05 19 34.4	+2.2
EALK				Sg	Sg	05 19 38.7	+2.8
OSSF	Osses	0.40	99	Pg	Pg	05 19 36.5	+1.6
OSSF				Sg	Sb	05 19 42.0	+1.1
SJPF	Ste Jean	0.47	116	ePn	Pg	05 19 37.3	+1.2
	SNR=1.0						
SJPF				eSg	Sb	05 19 44.1	+1.2
	148nm,0.2s						
EORO	Oroz-Betelu	0.56	140	Pg	Pg	05 19 38.8	+1.0
EORO				Sg	Sg	05 19 45.6	+0.3
EORO				i Vmb_Lg		05 19 47.7	
EARA	Aranguren	0.57	164	Pg	Pg	05 19 39.2	+1.3
EARA				Sg	Sg	05 19 45.6	0.0
EARA				i Vmb_Lg		05 19 49.1	
EARA	Aranguren	0.57	164	Pg	Pg	05 19 39.2	+1.3
EARA				Sg	Sb	05 19 47.1	+1.3
TERF	Tercis-les-Bai	0.61	54	Pg	Pg	05 19 40.7	+1.9
ATE	Arette	0.83	106	Pg	Pb	05 19 41.2	-1.4
URDF	Urds	0.89	82	Pg	Pb	05 19 44.7	+1.2
ETSF	Etsaut	1.00	114	ePg	Pb	05 19 45.5	+0.1
	SNR=1.0						
ETSF				eSg	Sb	05 19 57.6	-0.7
	85nm,0.3s,SNR=1.0						
CANF	Canfranc	1.09	120	Pg	Pb	05 19 47.4	+0.4
ELAN	Lanestosa	1.20	266	Pn	Pn	05 19 50.1	+1.6
ELAN				Sn	Sn	05 20 07.2	+2.8
ELAN				i Vmb_Lg		05 20 12.5	
PYLO	Lourdes	1.30	99	Pn	Pn	05 19 51.7	+1.8
VIEF	Viey	1.40	107	Pn	Pn	05 19 52.5	+1.2
VIEF				Sn	Sn	05 20 10.1	+0.6

EMOS			Sn	Sn	05 20 48.8	-3.1
EMOS			Sg	Sb	05 21 02.0	+2.8
EMOS			*i* Vmb_Lg		05 21 09.4	
GUD	**Guadarrama**	**3.20 214**	Pn	**Pn**	**05 20 15.8**	**-0.3**
GUD			Sn	**Sn**	**05 20 51.3**	**-2.6**
CAF	**Calviac**	**3.21 59**	*e*Pn	**Pn**	**05 20 15.2**	**-1.0**
CAF			*e*Sn	**Sn**	**05 20 49.5**	**-4.5**
4.1nm,0.1s						
FILF	**Fillols**	**3.29 102**	Pn	**Pn**	**05 20 17.7**	**+0.4**
MFF	**Saint Martin d**	**3.49 19**	*e*Pn	**Pn**	**05 20 19.4**	**-0.6**
SNR=1.0						
MFF			*e*Sn	**Sn**	**05 20 56.2**	**-4.6**
2.2nm,0.2s						
SJAF	**Saint Jean de**	**3.54 102**	Pn	**Pn**	**05 20 21.6**	**+0.9**
EJON	**La Jonquera**	**3.55 103**	Pn	**Pn**	**05 20 22.1**	**+1.2**
EJON			Sn	**Sn**	**05 21 03.6**	**+1.2**
ECAL	**Calabor**	**3.90 251**	Sn	**Sn**	**05 21 09.8**	**-1.1**
EPON	**Pontenova**	**3.91 272**	Pn	**Pn**	**05 20 27.4**	**+1.6**
EPON			Sn	**Sn**	**05 21 10.5**	**-0.6**
PBRG	**Braganca**	**3.95 249**	*e*Pn	**Pn**	**05 20 28.2**	**+1.8**
PBRG			*e*Sn	**Sn**	**05 21 11.3**	**-1.0**
PBRG			A	A	05 21 14.8	
2.4nm,0.5s						
ESDC	**Sonseca Array**	**3.99 205**	Sn	**Sn**	**05 21 09.1**	**-4.1**
TCF	**Toulx Ste Croi**	**4.12 42**	*e*Pn	**Pn**	**05 20 27.4**	**-1.2**
SNR=1.0						
TCF			*e*Sn	**Sn**	**05 21 11.8**	**-4.5**
2.8nm,0.2s						
LASF	**Ste Croix**	**4.17 78**	*e*Pn	**Pn**	**05 20 28.6**	**-0.8**
SNR=1.0						
LASF			*e*Sn	**Sn**	**05 21 12.8**	**-4.8**
3.1nm,0.3s,SNR=1.0						
PAB	**San Pablo**	**4.23 208**	Pn	**Pn**	**05 20 29.8**	**-0.4**
PAB			Sn	**Sn**	**05 21 14.8**	**-4.4**
MVO	**Moncorvo**	**4.44 243**	*e*Pn	**Pn**	**05 20 33.6**	**+0.5**
MVO			*e*Sn	**Sn**	**05 21 23.5**	**-0.9**
MVO			A	A	05 21 26.9	
3.0nm,0.6s						
EPLA	**Plasencia**	**4.57 226**	Pn	**Pn**	**05 20 34.4**	**-0.4**
EPLA			Sn	**Sn**	**05 21 23.1**	**-4.3**
EPLA			*i* Vmb_Lg		05 21 31.4	
BGF	**Bois d'Agland**	**4.62 44**	*e*Pn	**Pn**	**05 20 33.8**	**-1.8**
BGF			*e*Sn	**Sn**	**05 21 23.2**	**-5.5**
4.6nm,0.3s						
EAGO	**Agolada(Pontev**	**4.64 266**	Pn	**Pn**	**05 20 37.2**	**+1.4**
ETOB	**Tobarra**	**4.67 178**	Pn	**Pn**	**05 20 37.1**	**+0.8**
QUIF	**Quistinic**	**4.70 349**	*e*Pn	**Pn**	**05 20 36.4**	**-0.2**
SNR=1.0						
QUIF			*e*Sn	**Sn**	**05 21 26.3**	**-4.3**
4.2nm,0.2s,SNR=1.0						
PSIM	**Granatula de C**	**4.73 199**	Pn	**Pn**	**05 20 36.5**	**-0.6**
PSIM			Sn	**Sn**	**05 21 26.8**	**-4.7**
PVRL	**Vila Real**	**4.84 247**	*e*Pn	**Pn**	**05 20 40.3**	**+1.7**
PVRL			*e*Sn	**Sn**	**05 21 34.0**	**-0.2**
PVRL			A	A	05 21 36.6	
2.0nm,0.1s						
POLO	**Lamas de Olo**	**4.85 248**	*e*Sn	**Sn**	**05 21 33.5**	**-1.0**
VIVF	**Saint-Julien-l**	**4.91 70**	*e*Pn	**Pn**	**05 20 39.2**	**-0.3**
SNR=1.0						
VIVF			*e*Sn	**Sn**	**05 21 29.5**	**-6.3**
1.8nm,0.3s						
PGAV	**Gavieira, Arco**	**4.96 256**	*e*Pn	**Pn**	**05 20 42.4**	**+2.1**
SGMF	**Saint Gilles**	**4.97 354**	*e*Pn	**Pn**	**05 20 40.7**	**+0.4**
SNR=1.0						
SGMF			*e*Sn	**Sn**	**05 21 32.3**	**-4.9**
1.7nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**5.04 45**	*e*Pn	**Pn**	**05 20 38.9**	**-2.3**
SNR=1.0						
AVF			*e*Sn	**Sn**	**05 21 32.8**	**-6.1**
1.0nm,0.2s						
GRR	**Gorron**	**5.11 7**	*e*Pn	**Pn**	**05 20 41.8**	**-0.5**
SNR=1.0						
GRR			*e*Sn	**Sn**	**05 21 35.3**	**-5.5**
3.4nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**5.12 349**	*e*Pn	**Pn**	**05 20 43.2**	**+0.8**
SNR=1.0						
ROSF			*e*Sn	**Sn**	**05 21 38.5**	**-2.6**
6.8nm,0.3s						
MTE	**Manteigas**	**5.19 238**	*e*Pn	**Pn**	**05 20 44.3**	**+0.9**
MTE			*e*Sn	**Sn**	**05 21 40.9**	**-1.9**
MTE			A	A	05 21 42.6	
1.9nm,0.5s						
SMF	**Signal de Mont**	**5.20 48**	*e*Pn	**Pn**	**05 20 42.2**	**-1.3**
SNR=1.0						
SMF			*e*Sn	**Sn**	**05 21 37.3**	**-5.7**
1.2nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**5.30 43**	*e*Pn	**Pn**	**05 20 42.7**	**-2.1**
SNR=1.0						
SSF			*e*Sn	**Sn**	**05 21 39.6**	**-5.8**
1.0nm,0.2s						
LDF	**La Druitiere**	**5.40 12**	*e*Pn	**Pn**	**05 20 45.4**	**-0.9**
SNR=1.0						
LDF			*e*Sn	**Sn**	**05 21 42.2**	**-5.8**
2.2nm,0.3s						
FLN	**La Foliniere**	**5.52 9**	*e*Pn	**Pn**	**05 20 47.2**	**-0.7**
SNR=1.0						
FLN			*e*Sn	**Sn**	**05 21 46.4**	**-4.5**
1.0nm,0.2s,SNR=1.0						
LOR	**Lormes**	**5.61 43**	*e*Pn	**Pn**	**05 20 47.2**	**-2.0**
SNR=1.0						
LOR			*e*Sn	**Sn**	**05 21 46.7**	**-6.5**
1.1nm,0.3s						
PMRV	**Marv??o**	**5.73 229**	*e*Pn	**Pn**	**05 20 50.0**	**-0.8**
PMRV			*e*Sn	**Sn**	**05 21 50.3**	**-5.7**
PMRV			A	A	05 21 54.7	
2.7nm,0.6s						
PESTR	**Estremoz**	**6.24 226**	*e*Pn	**Pn**	**05 20 57.0**	**-0.8**
PESTR			*e*Sn	**Sn**	**05 22 06.0**	**-2.6**
PESTR			A	A	05 22 08.0	
0.6nm,0.3s						
PBAR	**Barrancos**	**6.50 220**	*e*Pn	**Pn**	**05 21 01.4**	**+0.1**
EVO	**Evora**	**6.71 227**	*e*Sn	**Sn**	**05 22 14.9**	**-5.2**
EVO			A	A	05 22 17.9	
0.9nm,0.2s						
PVAQ	**Vaqueiros**	**7.44 219**	*e*Pn	**Pn**	**05 21 15.5**	**+1.3**
PVAQ			*e*Sn	**Sn**	**05 22 33.5**	**-4.6**
BAIF	**Baives**	**7.90 29**	*e*Pn	**Pn**	**05 21 20.3**	**-0.3**
BAIF			*e*Sn	Sn	05 22 40.9	-8.6
6.4nm,0.9s,SNR=1.0						
MORF	**Marmelete**	**7.97 223**	*e*Pn	**Pn**	**05 21 20.4**	**-1.1**

*NEIC **29** 05:30:00.6±1.5, 16°.42S±0°.07×73°.56W±0°.09, h35km±2km, mb4.3/17, Error ellipse: s-maj=15.3km s-min=10.5km az=237.0*
*IDC **29** 05:30:06.0±1.7, 16°.36S×73°.38W, h87km±16km, mb3.5/8, mbtmp4.0/13, MS3.1/5, Error ellipse: s-maj=19.1km s-min=10.4km az=38.0*

ISC 29 05:30:00.4±0.5, 16°.49S±0°.05×73°.51W±0°.06, h39km, n78, σ1°79/75, mb4.1/12, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.55**	**122**	Pn	**Pn**		**05 30 54.0**	**+1.0**
AP01				Sn	**Sn**		**05 31 35.3**	**+1.5**
PB12	**IPOC Station P**	**3.69**	**125**	Pn	**Pn**		**05 30 56.4**	**+1.4**
PB12	**IPOC Station P**	**3.69**	**125**	*i* P	**Pn**		**05 30 55.8**	**+0.8**
PB12				IAML			05 31 53.5	
comp=E,326nm,0.7s								
PB18	**Visviri**	**4.00**	**106**	Pn	**Pn**		**05 31 02.4**	**+2.6**
PB16	**IPOC Station P**	**4.24**	**116**	Pn	**Pn**		**05 31 05.3**	**+2.4**
PB16	**IPOC Station P**	**4.24**	**116**	IAML			05 32 09.4	
comp=N,274nm,0.6s								
TA02	**Huaiquique**	**4.94**	**140**		**Pn**		**05 31 13.4**	**+1.3**
TA01	**Diego Aracena**	**5.14**	**143**		**Pn**		**05 31 16.2**	**+1.4**
LPAZ	**La Paz**	**5.17**	**89**	Pn	**Pn**		**05 31 16.5**	**+0.7**
LPAZ	**La Paz**	**5.17**	**89**	P	**Pn**		**05 31 20.5**	**+4.8**
comp=N,20nm,0.4s,baz=265,slow=9.6,SNR=120								
LPAZ				S	**Sn**		**05 32 18.2**	**+3.8**
comp=N,22nm,0.8s,baz=206,slow=16,SNR=1.7								
LPAZ				LR	LR		05 33 38.6	
comp=N,195nm,21.2s,baz=204,slow=42								
GO01	**Chusmiza**	**5.18**	**128**		**Pn**		**05 31 17.4**	**+1.6**
PATCX	**Punta Patache**	**5.35**	**144**	Pn	**Pn**		**05 31 19.5**	**+1.6**
PB08	**IPOC Station P**	**5.50**	**132**		**Pn**		**05 31 21.5**	**+1.3**
NNA	**Nana**	**5.52**	**324**		**Pn**		**05 31 21.1**	**+1.0**
NNA	**Nana**	**5.52**	**324**	P	**Pn**		**05 31 23.5**	**+3.3**
comp=N,30nm,0.3s,baz=145,slow=10,SNR=17								
NNA				S	**Sn**		**05 32 29.0**	**+6.6**
comp=N,88nm,0.3s,baz=197,slow=23,SNR=7.0								
PB02	**IPOC Station P**	**5.89**	**145**		**Pn**		**05 31 26.5**	**+1.2**
PB01	**IPOC Station P**	**5.92**	**141**		**Pn**		**05 31 26.9**	**+1.4**
PB07	**IPOC Station P**	**6.23**	**147**		**Pn**		**05 31 31.3**	**+1.3**
PB04	**IPOC Station P**	**6.62**	**152**		**Pn**		**05 31 36.3**	**+1.0**
PB09	**IPOC Station P**	**6.64**	**143**		**Pn**		**05 31 37.5**	**+1.9**
PB06	**IPOC Station P**	**7.21**	**150**	Pn	**Pn**		**05 31 44.5**	**+1.1**
LVC	**Limon Verde**	**7.47**	**145**	Pn	**Pn**		**05 31 48.5**	**+1.3**
LVC	**Limon Verde**	**7.47**	**145**	P	**Pn**		**05 31 49.9**	**+2.8**
comp=N,3.6nm,0.3s,baz=346,slow=8.8,SNR=27								
LVC				S	**Sn**		**05 33 09.7**	**-1.1**
comp=N,37nm,0.5s,baz=92,slow=18,SNR=19								
LVC				LR	LR		05 33 43.0	
comp=N,31nm,20.4s,baz=352,slow=29								
PB15	**IPOC Station P**	**7.69**	**151**		**Pn**		**05 31 51.4**	**+1.4**
CZSB	**Cruzeiro do Su**	**8.74**	**5**		**Pn**		**05 32 03.7**	**-0.7**
GO02	**Mina Guanaco**	**9.37**	**158**	Pn	**Pn**		**05 32 12.9**	**-0.3**
ETMB	**Extrema**	**9.72**	**48**	Pn	**Pn**		**05 32 16.8**	**-0.9**
AC01	**Pan de Azucar**	**9.98**	**165**	Pn	**Pn**		**05 32 21.0**	**-0.3**
ATAH	**Atahualpa**	**10.46**	**332**	P	Pn		05 32 33.8	+5.6
comp=N,13nm,0.9s,baz=140,slow=12,SNR=6.8								
ATAH				S	**Sn**		**05 34 27.4**	**+3.0**
comp=N,8.0nm,0.8s,baz=185,slow=8.9,SNR=2.4								
AC06	**Mina Casimiro**	**11.20**	**165**	Pn	**Pn**		**05 32 39.0**	**+1.0**
SIV	**San Ignacio**	**11.95**	**89**	P	**Pn**		**05 32 50.1**	**+1.7**
comp=N,4.5nm,0.6s,baz=279,slow=9.6,SNR=40								
SIV				S	**Sn**		**05 35 01.4**	**+0.9**
comp=N,1.6nm,0.8s,baz=352,slow=8.3,SNR=3.4								
SIV				LR	LR		05 38 03.0	
comp=N,79nm,21.3s,baz=300,slow=40								
SAML	**Samuel**	**12.55**	**55**		**Pn**		**05 32 54.3**	**-2.2**
VILB	**Vilhena**	**13.34**	**76**		**Pn**		**05 33 07.5**	**+0.1**
MCRA	**Macar, Loja**	**13.61**	**332**		**Pn**		**05 33 09.7**	**-1.3**
CO01	**Juntas del Tor**	**13.78**	**167**	Pn	**Pn**		**05 33 12.8**	**-0.7**
PTLB	**Pontes e Lacer**	**13.86**	**88**	Pn	**Pn**		**05 33 14.5**	**+0.2**
BOSC	**San Juan Bosco**	**14.13**	**339**	Pn	**Pn**		**05 33 17.6**	**-0.6**
COHC	**Cochancay**	**15.04**	**337**		**Pn**		**05 33 29.5**	**-0.8**
ZON	**Zonda**	**15.62**	**165**	Pn	**Pn**		**05 33 37.1**	**-0.6**
CFA	**Coronel Fontan**	**15.79**	**163**	P	**P**		**05 33 44.0**	**+0.6**
comp=N,5.1nm,0.9s,baz=341,slow=11,SNR=12								
SALI	**Salinas**	**16.01**	**332**	Pn	**Pn**		**05 33 41.3**	**-1.5**
SLOR	**San Lorenzo -**	**16.42**	**342**		**Pn**		**05 33 46.6**	**-1.8**
IMBA	**Imbabura, San**	**17.29**	**344**	P	**Pn**		**05 33 58.6**	**-0.8**
IMBA				IAmb	IAmb		05 34 25.3	
comp=Z,26nm,1.4s								
OTAV	**Otavalo**	**17.32**	**343**		**Pn**		**05 33 56.6**	**-3.2**
H03N1	**Juan Fernandez**	**17.57**	**195**	T	T		05 52 30.5	
baz=17,slow=74,SNR=1448								
H03N2	**Juan Fernandez**	**17.57**	**195**	T	T		05 52 32.4	
baz=17,slow=74,SNR=1678								
H03N3	**Juan Fernandez**	**17.58**	**195**	T	T		05 52 29.7	
baz=17,slow=74,SNR=1283								
MACA	**Manacapuru-AM**	**18.29**	**45**	P	**P**		**05 34 08.8**	**-2.2**
MACA				IAmb	IAmb		05 34 11.7	
comp=Z,11nm,0.7s								
ROSC	**El Rosal**	**21.21**	**358**	P	**P**		**05 34 45.6**	**+2.3**
comp=Z,2.9nm,0.5s,baz=148,slow=19,SNR=2.7								
comp=Z,2.9nm,0.5s								
RUSC	**La Rusia**	**22.25**	**1**	P	**P**		**05 34 54.1**	**-0.4**
RUSC				IAmb	IAmb		05 35 10.7	
comp=Z,6.3nm,0.7s								
ITAB	**Concordia**	**22.50**	**122**	P	**P**		**05 34 57.7**	**+1.0**
BOAV	**Boa Vista**	**22.73**	**36**	P	**P**		**05 34 57.9**	**-1.3**
TRQA	**Tornquist**	**23.76**	**157**	P	**P**		**05 35 08.8**	**-0.4**
TRQA				IAmb	IAmb		05 35 35.2	
comp=Z,18nm,1.5s								
PLCA	**Paso Flores**	**24.29**	**175**	P	**P**		**05 35 15.5**	**+1.3**
comp=Z,1.9nm,0.9s,baz=14,slow=12,SNR=1.6								
PLCA				LR	LR		05 43 06.0	
comp=Z,89nm,19.0s,baz=156,slow=32								
comp=Z,1.9nm,0.9s								
BDFB	**Brasilia**	**24.51**	**92**	P	**P**		**05 35 16.8**	**+0.3**
BDFB				IAmb	IAmb		05 35 51.2	
comp=Z,5.2nm,1.1s								
BDFB	**Brasilia**	**24.51**	**92**	P	**P**		**05 35 16.5**	**0.0**
comp=Z,0.9nm,0.4s,baz=258,slow=9.6,SNR=3.7								
comp=Z,0.9nm,0.4s								
BAUV	**El Baul**	**25.84**	**12**	P	**P**		**05 35 25.6**	**-2.7**
BCIP	**Isla Barro Col**	**26.25**	**346**	P	**P**		**05 35 30.5**	**-1.5**
MDP	**Montagnes des**	**29.77**	**46**	LR	LR		05 47 24.1	
comp=Z,69nm,18.1s,baz=104,slow=35								
TXAR	**Lajitas Array**	**54.07**	**327**	P	**P**		**05 39 19.8**	**-1.6**
comp=Z,0.3nm,0.6s,baz=146,slow=9.1,SNR=3.5								
comp=Z,0.3nm,0.6s								
BELA	**Belgrano 2**	**64.30**	**172**	P	**P**		**05 40 30.6**	**-0.8**
BELA				IAmb	IAmb		05 40 32.9	
comp=Z,4.3nm,1.3s								
SNAA	**Sanae**	**68.40**	**161**	P	**P**		**05 40 58.7**	**+0.9**
baz=274,slow=9.2								
NVAR	**Mina Array Bea**	**68.90**	**324**	P	**P**		**05 41 01.0**	**-0.5**
comp=Z,0.1nm,0.4s,baz=165,slow=8.4,SNR=2.1								
comp=Z,0.1nm,0.4s								
QSPA	**South Pole Qui**	**73.67**	**180**	P	**P**		**05 41 31.8**	**+1.9**
QSPA				IAmb	IAmb		05 41 49.0	
comp=Z,5.3nm,1.4s								
QSPA	**South Pole Qui**	**73.67**	**180**	P	**P**		**05 41 31.7**	**+1.9**
comp=Z,1.2nm,0.6s,baz=228,slow=1.5,SNR=23								
comp=Z,1.2nm,0.6s								
SBA	**Scott Base**	**79.92**	**191**	P	**P**		**05 42 05.2**	**+0.4**
TOA0	**Torodi Ar. Sit**	**79.93**	**73**	P	**P**		**05 42 04.5**	**-1.4**
TOA0				IAmb	IAmb		05 42 18.4	
comp=Z,3.7nm,0.8s								
TORD	**Torodi Ar. Bea**	**79.93**	**73**	P	**P**		**05 42 04.5**	**-1.4**
TORD				IAmb	IAmb		05 42 18.4	
comp=Z,2.9nm,0.8s								
TORD	**Torodi Ar. Bea**	**79.93**	**73**	P	**P**		**05 42 04.5**	**-1.4**
comp=Z,2.4nm,0.7s,baz=270,slow=5.3,SNR=16								
comp=Z,2.4nm,0.7s								
ESDC	**Sonseca Array**	**85.45**	**47**	P	**P**		**05 42 33.7**	**-0.5**
comp=Z,0.6nm,0.7s,baz=256,slow=4.4,SNR=5.3								
comp=Z,0.6nm,0.7s								
H11S2	**WAKE ISLAND Hyl**	**22.77**	**282**	T	T		08 04 01.4	
baz=99,slow=75,SNR=10								
H11S1	**WAKE ISLAND Hyl**	**22.78**	**282**	T	T		08 04 01.5	
baz=99,slow=75,SNR=3.6								
H11S3	**WAKE ISLAND Hyl**	**22.78**	**282**	T	T		08 04 05.0	
baz=99,slow=75,SNR=4.4								
ASAR	**Alice Springs**	**131.93**	**215**	PKP	**PKPdf**		**05 49 10.1**	**-0.4**
comp=Z,0.4nm,0.7s,baz=132,slow=2.0,SNR=6.4								
WRA	**Warramunga Arr**	**134.62**	**218**	PKP	**PKPdf**		**05 49 15.6**	**0.0**
comp=Z,1.0nm,0.7s,baz=142,slow=1.9,SNR=10								
ZALV	**Zalesovo Beam**	**138.99**	**19**	PKP	**PKPdf**		**05 49 22.3**	**-0.2**
comp=Z,0.6nm,0.5s,baz=241,slow=3.0,SNR=4.1								
SONM	**Songino Array**	**148.74**	**0**	PKPbc	**PKPbc**		**05 49 43.4**	**-0.4**
comp=Z,1.5nm,0.6s,baz=306,slow=1.6,SNR=7.9								
PZH	**PanZhiHua**	**169.10**	**23**	PKP	**PKPdf**		**05 50 03.0**	**-1.2**

IDC 29 05:44:05.3±3.8, 17°.43S×178°.66W, h625km±22km, mb2.7/3, mbtmp3.7/5, Error ellipse: s-maj=143.1km s-min=31.1km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.16**	**264**	P	P		05 45 27.5	0.0
10nm,0.6s,baz=198,slow=22,SNR=5.6								
DZM	**Mont Dzumac**	**14.76**	**249**	P	P		05 47 10.0	-0.4
5.0nm,1.0s,baz=90,slow=11,SNR=2.1								
WRA	**Warramunga Arr**	**44.49**	**259**	P	P		05 51 23.4	0.0
0.2nm,0.3s,baz=95,slow=7.4,SNR=9.9								
WRA				PcP	PcP		05 52 52.6	-0.2
0.3nm,0.6s,baz=92,slow=3.5,SNR=1.8								
0.2nm,0.3s								
ASAR	**Alice Springs**	**44.70**	**254**	P	P		05 51 25.0	0.0
1.4nm,0.5s,baz=87,slow=8.5,SNR=30								
ASAR				PcP	PcP		05 52 53.2	-0.2
0.3nm,0.6s,baz=113,slow=3.9,SNR=4.3								
1.4nm,0.5s								
ILAR	**Eielson Array**	**85.48**	**13**	P	P		05 55 38.0	-0.1
0.2nm,0.7s,baz=225,slow=5.1,SNR=4.6								
0.2nm,0.7s								

IDC 29 05:57:32.7±2.9, 6°.61S×128°.50E, h0km, mb3.8/1, mbtmp3.7/3, ML3.9/2, MS4.4/1, Error ellipse: s-maj=311.1km s-min=31.4km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.41**	**157**	Pn	Pn		06 00 57.3	-0.9
0.6nm,0.3s,baz=334,slow=13,SNR=12								
WRA				Sn	Sn		06 03 27.8	-11
0.8nm,0.3s,baz=334,slow=22,SNR=12								
0.4nm,0.5s								
ASAR	**Alice Springs**	**17.74**	**164**	P	P		06 01 41.9	-0.4
0.5nm,0.3s,baz=345,slow=9.5,SNR=36								
ASAR				S	Sn		06 04 50.2	-9.4
0.2nm,0.4s,baz=348,slow=25,SNR=1.2								
2.0nm,0.6s								
BRDH	**Bariadhala**	**46.34**	**310**	LR	LR		06 29 26.3	
comp=Z,412nm,18.8s,baz=84,slow=41								
MKAR	**Makanchi Array**	**67.09**	**327**	P	P		06 08 28.1	0.0
0.6nm,0.5s,baz=115,slow=7.5,SNR=5.1								
0.6nm,0.5s								

*RSPR **29** 06:02:19.0, 18°.88N×68°.15W, h87km±10km, MD2.8/3*
*NEIC **29** 06:02:19.3±0.4, 18°.9N±0°.2×68°.11W±0°.08, h87km±17km, ML2.5/10, Md2.8/3(RSPR), Error ellipse: s-maj=35.7km s-min=5.2km az=195.0*

ISC 29 06:02:20.7±1.7, 17°.9N±0°.1×68°.29W±0°.05, h35km, n12, σ1°28/14, 3C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.64**	**352**	*e*P		**Pn**	**06 02 32.2**	**-1.1**
PCDR	**Punta Cana, DR**	**0.64**	**352**	*e*S		**Sn**	**06 02 42.9**	**+0.7**
PCDR	**Punta Cana, DR**	**0.64**	**352**			**Pn**	**06 02 32.3**	**-1.1**
PCDR						**Sn**	**06 02 43.5**	**+1.3**
PRSN	**Puerto Rico Se**	**1.14**	**73**	Pn		**Pn**	**06 02 40.1**	**0.0**
PRSN				IAML			06 03 01.8	
comp=N,66nm,0.3s								
LSP	**Las Mesas**	**1.18**	**75**	*e*P		**Pn**	**06 02 41.0**	**+0.2**
LSP	**Las Mesas**	**1.18**	**75**	*e*S		**Sn**	**06 02 57.2**	**+1.5**
LSP	**Las Mesas**	**1.18**	**75**			**Pn**	**06 02 41.0**	**+0.2**
LSP						**Sn**	**06 02 57.2**	**+1.5**
SDD	**Santo Domingo**	**1.65**	**291**	Pn		**Pn**	**06 02 48.3**	**+1.1**
SDD				IAML			06 03 06.5	
comp=E,49nm,1.9s								
SJG	**San Juan**	**2.05**	**83**	*e*P		**Pn**	**06 02 50.7**	**-2.0**
SJG	**San Juan**	**2.05**	**83**	*e*S		**Sn**	**06 03 16.9**	**-0.1**
SJG	**San Juan**	**2.05**	**83**			**Pn**	**06 02 51.6**	**-1.1**
SJG				IAML			06 03 17.5	
comp=E,28nm,0.6s								
SJG				IAML			06 03 19.7	
comp=E,26nm,0.2s								
SDDR	**Presa de Saban**	**3.05**	**292**	Pn		**Pn**	**06 03 05.0**	**-1.6**
SDDR				IAML			06 03 29.5	
comp=E,11nm,2.7s								
SDDR				IAML			06 04 23.4	
comp=E,12nm,2.7s								

*NEIC **29** 06:03:48.7±1.9, 23°.16S±0°.06×174°.22W±0°.09, h10km±1km, mb4.4/14, Error ellipse: s-maj=17.0km s-min=4.4km az=54.0*
*IDC **29** 06:04:03.1±4.6, 22°.90S×175°.26W, h79km±39km, mb3.8/10, mbtmp4.1/12, ML4.7/2, MS3.4/3, Error ellipse: s-maj=26.1km s-min=20.5km az=102.0*

ISC 29 06:03:49.8±0.6, 23°.25±0°.1×174°.35W±0°.08, h10km, n36, σ2°.03/30, mb4.3/17, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.80**	**46**			**Pn**	**06 05 14.5**	**-1.4**
MSVF	**Nonsavu**	**8.94**	**306**			**Pn**	**06 05 59.8**	**+0.6**
MSVF	**Nonsavu**	**8.94**	**306**	P		**Pn**	**06 05 59.4**	**+0.2**
1.1nm,0.3s,baz=149,slow=16,SNR=4.8								
MSVF				LR		LR	06 08 57.5	
comp=Z,289nm,19.5s,baz=119,slow=36								
16nm,0.3s								
AFI	**Afiamalu**	**9.53**	**15**	Pn		**Pn**	**06 06 05.7**	**-1.6**
RAR	**Rarotonga**	**13.65**	**85**	Pn		**Pn**	**06 07 01.6**	**-1.9**
RAR	**Rarotonga**	**13.65**	**85**	LR		LR	06 12 48.0	
comp=Z,124nm,18.1s,baz=220,slow=36								
DZM	**Mont Dzumac**	**17.76**	**270**	P		**Pn**	**06 07 57.9**	**+0.5**
DZM	**Mont Dzumac**	**17.76**	**270**	P		**Pn**	**06 07 57.1**	**-0.3**
0.3nm,0.3s,baz=82,slow=18,SNR=7.6								
11nm,0.8s								
LTZ	**Lake Taylor**	**22.49**	**206**	P		**P**	**06 08 49.9**	**+0.4**
LTZ				IAmb		IAmb	06 08 58.5	
comp=Z,14nm,1.2s								
PPT	**Papeete**	**23.87**	**81**	LR		LR	06 18 24.3	
comp=Z,90nm,18.2s,baz=224,slow=35								
ARMA	**Armidale**	**31.13**	**249**	P		**P**	**06 10 09.6**	**+0.8**
EIDS	**Eidsvold**	**31.54**	**259**	P		**P**	**06 10 11.2**	**-1.2**
EIDS				IAmb		IAmb	06 10 27.6	
comp=Z,5.9nm,1.1s								
CTAO	**Charters Tower**	**36.67**	**267**	P		**P**	**06 10 55.8**	**-1.2**
CTAO				IAmb		IAmb	06 10 55.9	
comp=Z,4.0nm,0.7s								
PMG	**Port Moresby**	**39.26**	**284**	P		**P**	**06 11 17.7**	**-1.2**
PMG				IAmb		IAmb	06 11 17.9	
comp=Z,8.8nm,0.8

DZM Mont Dzumac 7.09 187 P **Pn 06 23 25.4 -0.1**
110nm,0.3s,baz=26,slow=14,SNR=134
DZM S **Sn 06 24 45.5 +0.6**
66nm,0.5s,baz=343,slow=22,SNR=2.3
DZM LR LR 06 25 06.2
comp=Z,57nm,18.9s,baz=15,slow=28
NOUC Port Laguerre 7.14 188 P **Pn 06 23 26.5 +0.4**
ONTNC Ouen Toro 7.32 187 Pn **Pn 06 23 28.6 0.0**
ONTNC Ouen Toro 7.32 187 P **Pn 06 23 28.9 +0.4**
OUENC Ouen Island, N 7.39 184 **Pn 06 23 29.2 -0.3**
OUENC Ouen Island, N 7.39 184 P **Pn 06 23 29.7 +0.2**
PINNC Pines Island, 7.57 180 Pn **Pn 06 23 31.3 -0.5**
PINNC Pines Island, 7.57 180 P **Pn 06 23 32.3 +0.5**
HNR Honiara 9.18 306 Pn **Pn 06 23 54.0 +0.5**
HNR Honiara 9.18 306 P **Pn 06 23 51.6 -1.9**
HNR Honiara 9.18 306 P **Pn 06 23 52.1 -1.4**
1μm,0.4s,baz=190,slow=13,SNR=4.3
HNR S **Sn 06 25 29.1 -6.1**
1μm,0.3s,baz=74,slow=18,SNR=2.0
HNR LR LR 06 27 06.7
comp=Z,2μm,21.0s,baz=122,slow=36
MSVF Nonsavu 10.54 106 P Pn 06 24 21.8 +10
44nm,0.8s,baz=274,slow=12,SNR=18
MSVF LR LR 06 27 50.6
comp=Z,232nm,19.3s,baz=266,slow=35
DGTI Dogotuki 11.92 98 P **Pn 06 24 28.1 -1.7**
RK1H Rockhampton Ha 18.03 240 P **Pn 06 25 45.7 -0.2**
EIDS Eidsvold 18.47 234 P **Pn 06 25 51.4 +0.3**
EIDS IAmb IAmb 06 25 52.3
comp=Z,16nm,0.6s
EIDS Eidsvold 18.47 234 P **Pn 06 25 51.2 +0.1**
TV1H Townsville Har 20.17 255 P **P 06 26 08.5 +0.8**
PMG Port Moresby 20.58 283 P **P 06 26 11.8 -0.3**
PMG IAmb IAmb 06 26 12.5
comp=Z,31nm,1.0s
PMG Port Moresby 20.58 283 P **P 06 26 11.0 -1.1**
comp=Z,22nm,0.8s,baz=56,slow=7.1,SNR=8.5
comp=Z,22nm,0.8s
CTA Charters Tower 20.81 253 P **P 06 26 14.6 -0.1**
comp=Z,20nm,0.8s,baz=77,slow=11,SNR=31
comp=Z,20nm,0.8s
CTAO Charters Tower 20.81 253 P **P 06 26 15.3 +0.7**
CTAO IAmb IAmb 06 26 15.8
comp=Z,21nm,0.8s
CTAO Charters Tower 20.81 253 P **P 06 26 15.2 +0.6**
RMQ Roma 20.84 234 P **P 06 26 16.3 +1.4**
OUZ Omahuta 20.88 166 P **P 06 26 17.1 +2.0**
ARMA Armidale 21.12 221 P **P 06 26 19.9 +1.9**
ARMA IAmb IAmb 06 26 21.9
comp=Z,25nm,0.8s
MTSU Mount Surprise 22.37 259 P **P 06 26 30.6 -0.4**
KUZ Kuaotunu 22.88 163 P **P 06 26 37.1 +1.6**
MGCD Mangrove Creek 23.40 216 P **P 06 26 41.9 +1.4**
COEN Coen 23.51 269 P **P 06 26 41.0 -0.7**
TOZ Tahuroa Road 23.74 164 P **P 06 26 45.6 +2.2**
HIZ Hauiti 24.31 166 P **P 06 26 51.0 +2.3**
HIZ Hauiti 24.31 166 P **P 06 26 50.9 +2.3**
MXZ Matakaoa Point 24.45 159 P **P 06 26 51.3 +1.4**
MXZ IAmb IAmb 06 26 53.9
comp=Z,43nm,0.7s
MXZ Matakaoa Point 24.45 159 P **P 06 26 51.5 +1.6**
RTZ Ruatahuna 24.98 162 P **P 06 26 55.9 +1.1**
RTZ IAmb IAmb 06 27 00.3
comp=Z,36nm,1.1s
BKZ Black Stump Fm 25.35 163 P **P 06 26 59.1 +1.0**
BKZ Black Stump Fm 25.35 163 P **P 06 26 58.8 +0.7**
CMSA Cobar Meteorol 25.80 227 P **P 06 27 02.7 +0.5**
CNB Canberra Magne 25.92 215 P **P 06 27 04.5 +1.1**
QRZ Quartz Range 26.10 171 P **P 06 27 06.7 +1.9**
QRZ IAmb IAmb 06 27 08.0
comp=Z,34nm,1.1s
QRZ Quartz Range 26.10 171 P **P 06 27 06.7 +1.9**
CAN Canberra 26.13 216 P **P 06 27 06.2 +0.9**
CAN Canberra 26.13 216 P **P 06 27 06.5 +1.2**
MRNZ Matariki Terra 26.70 171 P **P 06 27 11.8 +1.6**
BFZ Birch Farm 26.71 165 P **P 06 27 09.8 -0.5**
DSZ Denniston Nort 26.91 173 P **P 06 27 14.5 +2.4**
DSZ IAmb IAmb 06 27 16.4
comp=Z,21nm,0.9s
SNZO South Karori 26.96 168 P **P 06 27 12.8 +0.3**
SNZO IAmb IAmb 06 27 16.0
comp=Z,30nm,0.9s
SNZO South Karori 26.96 168 P **P 06 27 13.1 +0.7**
QIS Mount Isa 27.05 254 P **P 06 27 13.2 -0.4**
THZ Tophouse 27.08 171 P **P 06 27 14.7 +1.1**
THZ IAmb IAmb 06 27 15.2
comp=Z,18nm,0.7s
RPZ Rata Peaks 28.78 175 P **P 06 27 29.9 +1.2**
RPZ Rata Peaks 28.78 175 LR LR 06 36 45.2
comp=Z,95nm,18.4s,baz=292,slow=31
STKA Stephens Creek 28.94 230 P **P 06 27 31.3 +1.1**
STKA Stephens Creek 28.94 230 P **P 06 27 31.4 +1.2**
STKA Stephens Creek 28.94 230 P **P 06 27 30.8 +0.5**
comp=Z,25nm,0.6s,baz=43,slow=8.7,SNR=36
STKA PcP **PcP 06 30 35.6 -0.2**
comp=Z,1.7nm,0.6s,baz=115,slow=8.5,SNR=3.0
comp=Z,25nm,0.6s
MQZ McQueen's Vall 28.95 172 P **P 06 27 31.0 +0.9**
MQZ IAmb IAmb 06 27 34.3
comp=Z,40nm,1.2s
JCZ Jackson Bay 28.99 178 P **P 06 27 32.4 +1.7**
LBZ Lake Benmore 29.38 176 IAmb IAmb 06 27 35.7
comp=Z,24nm,0.8s
TOO Toolangi 29.72 217 P **P 06 27 37.1 -0.1**
TOO IAmb IAmb 06 27 42.6
comp=Z,6.0nm,0.8s
ODZ Otahua Downs 30.06 175 IAmb IAmb 06 27 40.8
comp=Z,11nm,1.0s
ODZ Otahua Downs 30.06 175 P **P 06 27 40.5 +0.5**
MLZ Mavora Lakes 30.27 179 IAmb IAmb 06 27 44.5
comp=Z,19nm,0.8s
SYZ Scrubby Hill 31.47 178 P **P 06 27 53.1 +0.8**
WR0 Warramunga Arr 31.73 256 P **P 06 27 53.2 -1.8**
WB0 Warramunga Arr 31.85 257 P **P 06 27 54.4 -1.6**
WB0 IAmb IAmb 06 27 55.3
comp=Z,4.3nm,0.6s
WB2 Warramunga Arr 31.90 256 P **P 06 27 55.0 -1.5**
WRAB Tennant Creek 31.90 256 P **P 06 27 55.0 -1.5**
WRA Warramunga Arr 31.91 256 P **P 06 27 55.0 -1.6**
WRA Warramunga Arr 31.91 256 P **P 06 27 54.4 -2.2**
comp=Z,1.6nm,0.5s,baz=85,slow=9.3,SNR=30
WRA PcP **PcP 06 30 43.1 -0.8**
comp=Z,2.2nm,0.9s,baz=85,slow=2.5,SNR=6.1
WRA ScP **ScP 06 34 14.2 -0.1**
comp=Z,0.9nm,0.8s,baz=81,slow=3.9,SNR=3.1
comp=Z,1.6nm,0.5s
AS31 Alice Springs 32.72 250 P **P 06 28 02.4 -1.3**
ASAR Alice Springs 32.72 250 P **P 06 28 02.2 -1.5**
comp=Z,3.1nm,0.4s,baz=80,slow=9.0,SNR=90
ASAR PcP **PcP 06 30 45.2 -0.8**
comp=Z,1.8nm,0.9s,baz=77,slow=2.9,SNR=6.0
ASAR ScP **ScP 06 34 17.3 +0.2**
comp=Z,0.9nm,0.7s,baz=79,slow=3.8,SNR=5.1
ASAR LR LR 06 41 50.6
comp=Z,125nm,18.3s,baz=291,slow=37
comp=Z,3.1nm,0.4s
BBOO Buckleboo 33.54 233 P **P 06 28 11.4 +0.9**
BBOO IAmb IAmb 06 28 11.7
comp=Z,22nm,0.7s
BBOO Buckleboo 33.54 233 P **P 06 28 11.2 +0.6**
MULG Mulgathing 34.19 238 P **P 06 28 16.1 -0.2**
GUMO Guam 36.14 321 LR LR 06 43 50.9
comp=Z,40nm,20.6s,baz=140,slow=37
KNRA Kununurra 37.27 264 P **P 06 28 41.2 -1.4**
KNRA IAmb IAmb 06 28 42.2
comp=Z,13nm,0.8s
KNRA Kununurra 37.27 264 P **P 06 28 41.0 -1.6**
WRKA Warakurna 37.98 248 P **P 06 28 48.1 -0.6**
FORT Forrest 39.29 240 P **P 06 28 59.9 +0.4**
FORT Forrest 39.29 240 P **P 06 28 59.3 -0.2**
PPT Papeete 41.28 100 LR LR 06 42 54.9
comp=Z,35nm,21.4s,baz=326,slow=31
SOEI Soe 42.43 272 P **P 06 29 26.9 +1.4**
EDFI Ende, Flores 45.13 273 P **P 06 29 44.8 -2.3**
comp=Z,9.8nm,1.0s
MBWA Marble Bar 45.63 255 P **P 06 29 50.6 -0.1**
MBWA IAmb IAmb 06 30 08.0
comp=Z,11nm,1.1s
MEEK Meekatharra 46.83 247 P **P 06 29 59.6 -0.5**
NWAO Narrogin (SRO) 48.74 239 P **P 06 30 14.2 -0.7**
NWAO Narrogin (SRO) 48.74 239 P **P 06 30 14.1 -0.7**
MTKN Mount Kenneth 49.83 241 P **P 06 30 25.0 +2.0**
JNU Nakatsue 59.24 324 P **P 06 31 29.8 -1.1**
comp=Z,19nm,1.0s,baz=90,slow=8.1,SNR=3.0
comp=Z,19nm,1.0s

VNDA Vanda 62.59 181 P **P 06 31 53.7 +0.9**
VNDA IAmb IAmb 06 31 55.4
comp=Z,9.3nm,0.8s
VNDA Vanda 62.59 181 P **P 06 31 53.4 +0.6**
comp=Z,6.9nm,0.6s,baz=356,slow=7.6,SNR=93
comp=Z,6.9nm,0.6s
SBA Scott Base 62.86 180 P **P 06 31 56.6 +2.0**
ASAJ Asahikawa 63.06 340 P **P 06 31 56.6 +0.3**
comp=Z,7.3nm,0.9s,baz=102,slow=14,SNR=2.5
comp=Z,7.3nm,0.9s
CASY Casey 63.33 202 P **P 06 31 58.6 +0.7**
CASY IAmb IAmb 06 31 59.3
comp=Z,15nm,0.8s
NJ2 Nanjing 65.98 316 *e*P **P 06 32 18.0 +2.4**
NJ2 pP **pP 06 32 49.8 +0.4**
NJ2 sP **sP 06 33 03.5 -1.0**
NJ2 pmax pmax
comp=Z,16nm,0.6s
NJ2 pmax pmax
comp=Z,840nm,3.6s
USRK Ussuriysk Ar. 67.20 333 P **P 06 32 23.0 0.0**
comp=Z,1.8nm,0.7s,baz=128,slow=7.0,SNR=4.4
comp=Z,1.8nm,0.7s
PETK Petropavlovsk- 68.35 354 P **P 06 32 28.8 -1.3**
comp=Z,6.9nm,1.0s,baz=193,slow=4.4,SNR=2.6
PETK LR LR 06 58 06.2
comp=Z,29nm,19.9s,baz=216,slow=32
comp=Z,6.9nm,1.0s
KLR Kul'dur 71.32 336 P **P 06 32 48.3 0.0**
comp=Z,1.2nm,0.5s,baz=75,slow=1.4,SNR=4.6
comp=Z,1.2nm,0.5s
GYA Guiyang 72.00 305 ⇓P P 06 32 57.5 +4.4
GYA pmax pmax
comp=Z,9.0nm,0.8s
XAN Xi'an 73.99 313 P **P 06 33 04.5 -0.1**
XAN pmax pmax
comp=Z,7.0nm,0.7s
CRAI Chiangrai 74.62 296 P **P 06 33 09.2 +0.8**
QSPA South Pole Qui 75.02 180 P **P 06 33 10.3 +0.3**
QSPA IAmb IAmb 06 33 11.5
comp=Z,25nm,0.8s
QSPA South Pole Qui 75.02 180 P **P 06 33 10.1 0.0**
comp=Z,27nm,0.9s,baz=352,slow=1.2,SNR=134
comp=Z,27nm,0.9s
CMAR Chiang Mai Arr 75.21 294 P **P 06 33 10.4 -1.4**
comp=Z,2.1nm,0.3s,baz=124,slow=4.9,SNR=6.2
CMAR pP **pP 06 33 44.6 -1.8**
comp=Z,1.9nm,0.6s,baz=124,slow=4.6,SNR=2.1
comp=Z,2.1nm,0.3s
HHC Hu-ho-hao-te 75.90 320 *e*P **P 06 33 18.5 +3.1**
HHC pmax pmax
comp=Z,34nm,0.5s
HHC pmax pmax
comp=Z,700nm,5.4s
CD2 Chengdu 76.30 308 *e*P **P 06 33 19.0 +1.1**
BTO Baotou 76.74 319 *e*P **P 06 33 24.0 +3.8**
BTO pP **pP 06 33 58.8 +3.8**
BTO sP **sP 06 34 15.0 +5.1**
BTO PP **PP 06 36 21.0 +6.1**
BTO S **S 06 43 00.0 +4.2**
BTO Baotou 76.74 319 SS SS 06 48 01.5 +6.4
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,400nm,6.3s
BTO LR LR
comp=N,460nm,5.0s
BTO LR LR
comp=E,690nm,5.1s
BTO LR LR
comp=Z,400nm,5.0s
LZH Lanzhou 78.62 312 ⇑P **P 06 33 31.0 +0.2**
LZH pP PcP 06 33 41.0 +1.7
LZH pmax pmax
comp=Z,23nm,1.4s
N19K Bonanza Creek 81.46 18 P **P 06 33 46.4 +1.0**
MAW Mawson 81.69 202 P **P 06 33 47.4 +0.9**
MAW Mawson 81.69 202 P **P 06 33 46.6 +0.2**
comp=Z,6.9nm,0.9s,baz=104,slow=6.3,SNR=14
MAW LR LR 07 05 01.9
comp=Z,30nm,21.3s,baz=73,slow=32
comp=Z,6.9nm,0.9s
YAK Yakutsk 82.34 343 P **P 06 33 50.9 +1.1**
YAK IAmb IAmb 06 33 51.0
comp=Z,18nm,0.6s
ULN Ulaanbaatar 82.45 324 P **P 06 33 52.5 +1.5**
ULN IAmb IAmb 06 33 52.5
comp=Z,3.5nm,0.6s
SONM Songino Array 82.81 324 P **P 06 33 52.5 -0.3**
comp=Z,1.0nm,0.5s,baz=152,slow=7.0,SNR=5.6
comp=Z,1.0nm,0.5s
SHL Shillong 83.84 298 P **P 06 33 58.3 -0.3**
SHL IAmb IAmb 06 33 59.6
comp=Z,12nm,0.9s
BELA Belgrano 2 86.44 175 P **P 06 34 09.5 -0.9**
BELA IAmb IAmb 06 34 10.5
comp=Z,6.6nm,1.0s
ILAR Eielson Array 86.74 18 P **P 06 34 09.8 -2.1**
comp=Z,0.7nm,0.5s,baz=237,slow=5.1,SNR=17
ILAR pP **pP 06 34 46.4 -0.4**
comp=Z,1.3nm,0.7s,baz=241,slow=5.5,SNR=5.5
comp=Z,0.7nm,0.5s
NVAR Mina Array Bea 87.33 49 P **P 06 34 15.8 +0.1**
comp=Z,0.5nm,0.8s,baz=234,slow=8.4,SNR=4.5
NVAR pP **pP 06 34 49.6 -0.9**
comp=Z,0.6nm,0.7s,baz=234,slow=9.3,SNR=4.2
comp=Z,0.5nm,0.8s
ELIB Princess Elisa 89.97 191 *d*P **P 06 34 27.1 -0.3**
comp=Z,13nm,0.9s
X16A Lo Mia Camp, P 91.23 55 P **P 06 34 34.8 +0.8**
NEW Newport 91.67 40 LR LR 07 12 32.3
comp=Z,47nm,18.3s,baz=240,slow=33
TROLL Troll, Antarti 92.60 185 ⇑P **P 06 34 39.3 -0.3**
comp=Z,515nm,0.7s
WMQ Urumqi 93.03 314 *e*P **P 06 34 44.3 +2.4**
VNA3 Neumayer Olymp 93.94 181 ⇑P **P 06 34 44.9 -0.7**
comp=Z,6.0nm,0.6s
VNA2 Neumayer--Watz 94.21 182 ⇑P **P 06 34 46.8 0.0**
comp=Z,5.2nm,0.6s,baz=197,slow=3.0
VNA1 Neumayer--Stat 94.51 181 ⇑P **P 06 34 47.6 -0.5**
comp=Z,5.0nm,0.8s
PDAR Pinedale Array 95.02 47 LR LR 07 12 00.6
comp=Z,35nm,18.9s,baz=245,slow=32
MKAR Makanchi Array 97.51 316 P Pdif 06 35 02.0 -0.3
comp=Z,1.2nm,0.8s,baz=87,slow=6.2,SNR=4.9
comp=Z,1.2nm,0.8s
ZALV Zalesovo Beam 97.71 324 P **P 06 35 00.1 -2.8**
comp=Z,0.5nm,0.3s,baz=96,slow=1.5,SNR=3.8
comp=Z,0.5nm,0.3s
ARCES ARCESS Array B 120.56 345 PKP **PKPdf 06 40 17.4 -1.2**
comp=Z,1.9nm,0.6s,baz=72,slow=4.0,SNR=15
FINES FINESS Array B 126.04 338 PKP **PKPdf 06 40 28.7 -0.5**
comp=Z,5.2nm,1.0s,baz=90,slow=2.3,SNR=7.6
NOA NORSAR Array B 130.93 345 PKP **PKPdf 06 40 37.9 -0.7**
comp=Z,1.4nm,1.0s,baz=54,slow=2.3,SNR=1.9
BCLA Clavier 141.82 341 *d*PKPdf **PKPdf 06 40 59.7 +0.7**
BMRD Maredsous 142.09 342 *d*PKPdf **PKPdf 06 41 00.2 +0.7**
MOTA Moosalm 142.23 334 *e*PKP **PKPdf 06 40 56.2 -3.9**
comp=Z,5.5nm,1.3s
FETA Feichten 142.65 334 *e*PKP **PKPdf 06 40 57.5 -3.4**
comp=Z,6.7nm,1.2s
ESDC Sonseca Array 154.29 345 PKPbc **PKPbc 06 41 27.5 -0.6**
comp=Z,0.7nm,0.9s,baz=14,slow=1.0,SNR=4.0
ESDC PKPab **PKPab 06 41 41.8 -0.7**
comp=Z,0.7nm,0.6s,baz=11,slow=5.2,SNR=4.8
TORD Torodi Ar. Bea 166.04 264 PKP **PKPdf 06 41 32.9 -0.4**
comp=Z,1.6nm,0.9s,baz=57,slow=2.1,SNR=6.6
TORD PKPab **PKPab 06 42 33.5 -1.0**
comp=Z,1.4nm,0.9s,baz=96,slow=5.1,SNR=6.5

*IDC **29** 06:27:24.6±1.6, 3°.56N×125°.22E, h0km, mb4.0/5, mbtmp4.0/5, MS3.9/2, Error ellipse: s-maj=178.4km s-min=21.2km az=64.0*
*DJA **29** 06:27:28.3±0.5, 4°.N±6°×12°.6E±°, h10km, M4.3/9, mb4.3/4, mB5.1/3, MLv4.3/9, Mw(mB)4.5/3*
ISC 29 06:27:24.9±1.3, 4°.1N±0°.1×126°.41E±0°.10, h10km, n14, σ0°47/12, mb3.9/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.97**	**246**	P	**Pg**	**06 27 43.3**	**-0.3**
KMSI	**Cibinong**	**4.25**	**215**	P	**Pn**	**06 28 29.3**	**-0.5**
LBMI	**Labuha**	**4.82**	**167**	P	**Pn**	**06 28 37.6**	**0.0**
GTOI	**Gorontalo**	**4.83**	**225**	P	**Pn**	**06 28 38.0**	**+0.3**
MRSI	**Marisa**	**5.73**	**231**	P	**Pn**	**06 28 50.8**	**+0.7**
	86nm,0.6s,1μm0.6nm						

SANI Sanana 6.11 184 P **Pn 06 28 55.2 -0.1**
15nm,0.8s,731nm0.1nm
NLAI Namlea 7.31 175 P **Pn 06 29 11.8 0.0**
WRA Warramunga Arr 25.12 162 P **P 06 32 50.1 -0.1**
2.6nm,0.6s,baz=337,slow=10,SNR=16
2.6nm,0.6s
ASAR Alice Springs 28.53 166 P **P 06 33 20.6 -0.4**
1.3nm,0.6s,baz=345,slow=7.2,SNR=22
1.3nm,0.6s
STKA Stephens Creek 38.57 159 P **P 06 34 49.0 +0.9**
8.1nm,0.8s,baz=344,slow=7.4,SNR=7.1
8.1nm,0.8s
MSVF Nonsavu 55.35 115 LR LR 06 59 48.1
comp=Z,66nm,18.5s,baz=352,slow=35
MKAR Makanchi Array 57.09 325 P **P 06 37 11.4 -0.1**
0.6nm,0.9s,baz=109,slow=7.1,SNR=1.7
0.6nm,0.9s
KURBB Kurchatov Arra 61.27 327 P **P 06 37 40.0 -0.4**
0.2nm,0.4s,baz=129,slow=6.9,SNR=1.7
0.2nm,0.4s
BELG Belogornoye 79.94 322 LR LR 07 17 43.2
comp=Z,120nm,21.3s,baz=360,slow=38

*IDC **29** 06:41:42.6±0.7, 86°.91N×55°.63E, h0km, mb3.7/13, mbtmp3.7/15, ML3.6/2, MS3.3/11, Error ellipse: s-maj=22.6km s-min=15.1km az=91.0*
*IEPN **29** 06:41:46.1, 86°.81N×56°.09E, h10km*
ISC 29 06:41:44.0±0.6, 86°.87N±0°.09×55°.88E±0°.09, h10km, n36, σ1°10/26, mb3.6/13, MS3.3/10, North of Franz Josef Land

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**6.15**	**192**	*e*P	**Pn**	**06 43 13.3**	**-1.3**
ZFI2				*e*S	Sn	06 44 15.3	-10
42nm,1.2s							
OMEGA	**Omega**	**6.17**	**192**	*e*P	**Pn**	**06 43 13.7**	**-1.3**
OMEGA				*e*S	Sn	06 44 15.7	-10
53nm,2.5s							
NOR	**Nord**	**8.09**	**274**	*i* P	**Pn**	**06 43 40.6**	**-0.6**
SVZ	**Severnaya Zeml**	**8.88**	**120**	*e*P	**Pn**	**06 43 51.3**	**-0.9**
SVZ				*e*S	Sn	06 45 24.1	-8.0
KBS	**Kingsbay**	**9.14**	**238**	*e*P	**Pn**	**06 43 54.1**	**-1.6**
SPA0	**Spitsbergen Ar**	**9.68**	**231**	*e*P	**Pn**	**06 44 01.6**	**-1.4**
SPA0				*e*S	Sn	06 45 40.9	-11
SPITS	**Spitsbergen Ar**	**9.68**	**231**	Pn	**Pn**	**06 44 00.9**	**-2.1**
baz=34,slow=15							
36nm,1.1s							
HSPB	**Hornsund (broa**	**10.87**	**231**	*e*P	**Pn**	**06 44 19.9**	**+0.6**
DAG	**Danmarks Havn**	**12.83**	**268**	*i* P	**Pn**	**06 44 44.0**	**-2.1**
ARCES	**ARCESS Array B**	**17.94**	**215**	*e*P	**Pn**	**06 45 52.7**	**-0.4**
ARCES	**ARCESS Array B**	**17.94**	**215**	P	**Pn**	**06 45 52.7**	**-0.4**
0.1nm,0.3s,baz=304,slow=17,SNR=1.5							
ARCES				LR	LR	06 52 00.5	
comp=Z,77nm,18.3s,baz=71,slow=34							
2.4nm,0.7s							
NOA	**NORSAR Array B**	**26.96**	**229**	*e*P	**P**	**06 47 26.4**	**+1.2**
NOA	**NORSAR Array B**	**26.96**	**229**	P	**P**	**06 47 26.4**	**+1.2**
1.2nm,0.9s,baz=33,slow=8.0,SNR=1.5							
1.2nm,0.9s							
ILAR	**Eielson Array**	**28.31**	**20**	*e*P	**P**	**06 47 37.7**	**+0.5**
ILAR	**Eielson Array**	**28.31**	**20**	P	**P**	**06 47 37.7**	**+0.5**
0.8nm,0.9s,baz=348,slow=8.1,SNR=10							
0.8nm,0.9s							
KIRV	**Kirov**	**28.46**	**187**	LR	LR	07 03 04.6	
comp=Z,42nm,18.4s,baz=83,slow=45							
ARU	**Arti**	**30.60**	**177**	LR	LR	07 00 52.7	
comp=Z,76nm,18.7s,baz=38,slow=38							
YKA	**Yellowknife Ar**	**30.78**	**351**	LR	LR	07 00 14.9	
comp=Z,43nm,20.9s,baz=343,slow=36							
BVAR	**Borovoye Array**	**34.12**	**164**	P	**P**	**06 48 29.1**	**+0.8**
0.6nm,0.6s,baz=23,slow=8.0,SNR=4.1							
0.6nm,0.6s							
AKTO	**Aktyubinsk**	**36.60**	**178**	LR	LR	07 04 22.9	
comp=Z,29nm,20.1s,baz=122,slow=37							
KURBB	**Kurchatov Arra**	**36.67**	**156**	P	**P**	**06 48 50.9**	**+0.5**
0.1nm,0.3s,baz=346,slow=9.3,SNR=2.3							
0.1nm,0.3s							
AKASG	**Malin Array Be**	**36.69**	**209**	LR	LR	07 04 05.6	
comp=Z,45nm,18.5s,baz=34,slow=37							
SONM	**Songino Array**	**40.41**	**127**	P	**P**	**06 49 22.5**	**+0.6**
0.7nm,0.7s,baz=346,slow=5.2,SNR=2.2							
0.7nm,0.7s							
MKAR	**Makanchi Array**	**40.59**	**152**	P	**P**	**06 49 23.0**	**-0.3**
0.7nm,0.8s,baz=341,slow=8.4,SNR=3.3							
0.7nm,0.8s							
BBB	**Bella Bella**	**41.15**	**4**	LR	LR	07 08 01.0	
comp=Z,53nm,18.0s,baz=228,slow=38							
MLR	**Muntele Rosu**	**41.99**	**212**	LR	LR	07 07 15.0	
comp=Z,66nm,18.4s,baz=284,slow=36							
AAK	**Ala-Archa**	**44.58**	**160**	LR	LR	07 09 57.9	
comp=Z,71nm,18.5s,baz=174,slow=38							
GNI	**Garni**	**46.95**	**192**	LR	LR	07 13 24.5	
comp=Z,13nm,20.4s,baz=352,slow=40							
BRTR	**Keskin Array B**	**47.56**	**203**	P	**P**	**06 50 20.0**	**+0.7**
0.5nm,0.5s,baz=33,slow=3.3,SNR=2.0							
0.5nm,0.5s							
ESDC	**Sonseca Array**	**48.99**	**242**	P	**P**	**06 50 31.7**	**+1.5**
0.3nm,0.7s,baz=10,slow=7.8,SNR=2.2							
0.3nm,0.7s							
PDAR	**Pinedale Array**	**50.48**	**346**	P	**P**	**06 50 42.0**	**+0.1**
0.6nm,0.8s,baz=41,slow=4.9,SNR=5.4							
0.6nm,0.8s							
NVAR	**Mina Array Bea**	**54.89**	**354**	P	**P**	**06 51 14.2**	**-0.2**
0.6nm,0.8s,baz=344,slow=4.3,SNR=7.2							
0.6nm,0.8s							
ANMO	**Albuquerque**	**58.24**	**343**	LR	LR	07 18 06.9	
comp=Z,66nm,18.1s,baz=348,slow=38							
TXAR	**Lajitas Array**	**63.79**	**340**	P	**P**	**06 52 14.6**	**-1.2**
0.7nm,0.8s,baz=1.8,slow=2.8,SNR=8.6							
0.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**69.37**	**136**	P	**P**	**06 52 51.0**	**-0.5**
1.0nm,0.2s,baz=354,slow=7.3,SNR=1.8							
1.0nm,0.2s							
TORD	**Torodi Ar. Bea**	**75.11**	**235**	P	**P**	**06 53 25.7**	**-0.1**
0.7nm,0.9s,baz=16,slow=8.4,SNR=3.6							
0.7nm,0.9s							

IDC 29 06:44:14.8±1.9, 7°.76S×127°.28E, h0km, mb3.4/2, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=275.2km s-min=31.6km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.91**	**151**	Pn	Pn	06 47 32.3	-1.1
0.2nm,0.3s,baz=328,slow=13,SNR=12							
WRA				Sn	Sn	06 50 02.2	-6.5
0.1nm,0.3s,baz=330,slow=22,SNR=5.8							
0.6nm,0.7s							
ASAR	**Alice Springs**	**17.04**	**159**	P	P	06 48 15.8	-0.9
0.1nm,0.3s,baz=340,slow=11,SNR=1.9							
ASAR				S	Sn	06 51 22.7	-2.3
0.2nm,0.7s,baz=320,slow=22,SNR=1.8							
0.3nm,0.8s							
MKAR	**Makanchi Array**	**67.42**	**328**	P	P	06 55 11.5	-0.8
0.3nm,0.7s,baz=123,slow=5.3,SNR=1.8							
0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**71.78**	**330**	P	P	06 55 39.9	+0.8
0.2nm,0.6s,baz=127,slow=6.2,SNR=2.2							
0.2nm,0.6s							

*AZER **29** 06:51:30.5±0.0, 39°.30N×47°.85E, h27km, Error ellipse: s-maj=1.0km s-min=0.8km az=41.0*
*TEH **29** 06:51:30.5, 39°.37N×47°.85E, h16km±32km, ML3.5*
*IDC **29** 06:51:31.6±2.1, 39°.69N×48°.12E, h0km, mb3.3/4, mbtmp3.5/6, ML3.7/2, MS3.6/1, Error ellipse: s-maj=55.8km s-min=12.5km az=178.0*
*NSSP **29** 06:51:32.9, 39°.10N×47°.60E, h10km, Ms3.5*
ISC 29 06:51:31.3±1.1, 39°.32N±0°.02×47°.90E±0°.02, h9km±9km, n57, σ1°27/91, mb3.3/3, 1C-1D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLBA	**Clilabad**	**0.39**	**102**	P	**Pn**	**06 51 41.4**	**-1.7**
SNR=105							
GLBA				S	**Sb**	**06 51 48.5**	**+2.0**
QRD	**Qoradiz**	**0.47**	**287**	P	**Pg**	**06 51 40.8**	**+0.3**
SNR=69							
QRD				S	**Sg**	**06 51 47.2**	**+0.6**
BLQ	**Beylaqan**	**0.48**	**327**	P	**Pb**	**06 51 41.3**	**-0.6**
SNR=187							
BLQ				S	**Sb**	**06 51 48.1**	**-0.9**
YRD	**Yardimli**	**0.48**	**147**	P	**Pb**	**06 51 42.4**	**+0.4**
SNR=730							

YRD			S	Sb	06 51 50.2	+0.9
GRMI	**Germi**	**0.51 181**	Pg	Pb	06 51 42.4	-0.1
SAAT	**Saatly**	**0.67 37**	P	Pb	06 51 44.5	-0.7
SAAT	SNR=8.5		S	Sb	06 51 54.8	+0.2
LRK	**Lerik**	**0.76 153**	P	Pb	06 51 46.9	+0.2
LRK	SNR=68		S	Sb	06 51 58.6	+1.4
LKRN	**Lenkeran, Azer**	**0.92 131**	P	Pb	06 51 49.5	+0.1
LKRN	SNR=50		S	Sn	06 52 02.7	-0.9
ZRD	**Zardab**	**0.97 350**	P	Pn	06 51 50.8	-0.2
ZRD	SNR=22		S	Sn	06 52 06.0	+1.1
AGDM	**Agdam**	**0.99 322**	P	Pg	06 51 50.0	-0.4
AGDM	SNR=21		S	Sb	06 52 04.1	+0.2
ASTR	**Astara**	**1.03 137**	P	Pn	06 51 51.3	-0.6
ASTR	SNR=28		S	Sn	06 52 05.7	-0.6
ALIB	**Äli-Bayra**	**1.06 53**	P	Pn	06 51 54.2	+1.8
ALIB	SNR=12		S	Sn	06 52 08.4	+1.2
KDMR	**Kurdemir**	**1.07 12**	P	Pn	06 51 53.0	+0.5
KDMR	SNR=26		S	Sn	06 52 08.6	+1.1
BRDA	**Brd**	**1.09 330**	P	Pn	06 51 53.0	+0.3
BRDA			S	Sn	06 52 08.5	+0.6
GAS1	**Astara - Iran**	**1.19 142**	Pg	Pn	06 51 54.0	0.0
IHRS	**Heris**	**1.21 214**	Pg	Pg	06 51 53.7	-0.7
IHRS			Sg	Sg	06 52 10.4	+0.3
GBS	**Qobustan**	**1.45 33**	P	Pg	06 52 00.6	+1.5
GBS	SNR=7.1		S	Sn	06 52 23.1	+6.2
IML	**Ismayilli**	**1.48 8**	P	Pg	06 51 58.9	-0.9
IML	SNR=7.1		S	Sg	06 52 18.8	-0.2
ISRB	**Sarab**	**1.51 187**	Pg	Pg	06 51 59.8	-0.3
ORD	**Ordubad**	**1.53 256**	P	Pn	06 51 58.4	-0.5
ORD	SNR=77		S	Sn	06 52 17.8	-1.1
PQL	**Pirkuli**	**1.56 20**	P	Pg	06 52 00.6	-0.6
PQL			S	Sg	06 52 22.0	+0.6
MNGR	**Mingechevir, A**	**1.58 337**	P	Pb	06 52 00.3	-0.3
MNGR			S	Sg	06 52 22.6	+0.6
QBL	**Gabala**	**1.62 358**	P	Pb	06 52 01.2	-0.2
QBL	SNR=8.4		S	Sg	06 52 23.0	-0.5
ITBZ	**Tabriz**	**1.75 232**	Pg	Pn	06 52 02.6	+0.7
GANJ	**Ganja**	**1.79 318**	P	Pn	06 52 01.9	-0.5
GANJ	SNR=26		S	Sn	06 52 24.2	-1.1
IMRD	**Marand**	**1.82 251**	Pg	Pn	06 52 03.7	+0.9
SBZ	**Shahbuz**	**1.82 273**	P	Pn	06 52 03.6	+0.7
SBZ	SNR=54		S	Sn	06 52 26.6	+0.5
XNQ	**Khinaliq**	**1.86 6**	P	Pb	06 52 04.5	-1.0
XNQ	SNR=16		S	Sb	06 52 28.7	-0.2
NAX	**Nakhchivan**	**1.87 266**	P	Pn	06 52 04.9	+1.3
NAX	SNR=16		S	Sn	06 52 28.6	+1.2
SIZA	**Siyzn**	**1.91 23**	P	Pg	06 52 07.2	-0.7
SIZA	SNR=10		S	Sg	06 52 35.1	+2.3
SEKA	**Sheki**	**1.96 344**	P	Pn	06 52 04.8	+0.1
SEKA	SNR=18		S	Sb	06 52 32.0	+0.3
CSN1	**Caspian**	**1.99 152**	Pn	Pb	06 52 07.0	-0.6
ISHB	**Shabestar**	**2.06 241**	Pn	Pb	06 52 06.6	+0.3
IHSH	**Hashtrud**	**2.08 194**	Pn	Pn	06 52 07.5	+0.9
QUBA	**Quba, Azerbaij**	**2.08 12**	P	Pb	06 52 08.4	-0.8
QUBA			S	Sb	06 52 35.6	+0.4
GDB	**GEDABAY**	**2.16 311**	P	Pn	06 52 08.0	+0.5
GDB	SNR=5.7		S	Sn	06 52 34.1	-0.5
QSAR	**Qusar**	**2.21 7**	P	Pn	06 52 09.5	+1.4
QSAR			S	Sb	06 52 37.3	-1.5
IAZR	**Azarshahr**	**2.23 223**	Pn	Pn	06 52 09.7	+1.1
HYR	**Heyderabad**	**2.39 281**	P	Pn	06 52 12.6	+2.0
HYR	SNR=4.1		S	Sb	06 52 44.4	+0.3
MAKU	**Maku**	**2.49 272**	Pn	Pn	06 52 12.5	+0.3
ZKTA	**Zakatala**	**2.51 338**	P	Pn	06 52 13.0	+0.7
ZKTA	SNR=8.9		S	Sn	06 52 44.3	+1.3
GNI	**Garni**	**2.57 290**	‖ *i*P	Pb	06 52 18.4	+0.7
GNI			⇑ *i*S	Sg	06 52 52.4	-1.5
GNI	**Garni**	**2.57 290**	Pn	Pb	06 52 18.1	+0.5
	13nm,0.3s,baz=49,slow=9.3,SNR=27					
GNI			Sn	Sb	06 52 52.0	+2.6
	26nm,0.3s,baz=48,slow=11,SNR=9.0					
	45nm,0.4s					
QZX	**Qazax, Azerbai**	**2.60 313**	P	Pn	06 52 14.1	+0.6
QZX	SNR=13		S	Sn	06 52 48.2	+3.0
AMBZ	**Amberd**	**3.00 292**	*e*P	Pb	06 52 24.1	-0.9
AMBZ			*e*S	Sb	06 53 05.0	+3.2
JIR1	**Jirandeh**	**3.01 149**	Pn	Pn	06 52 19.8	+0.5
KLST	**Kelardasht - M**	**3.75 137**	Pn	Pn	06 52 29.7	+0.2
MZPU	**Pul - Mazandar**	**4.09 134**	Pn	Pn	06 52 34.8	+0.7
IPRN	**Peran**	**4.67 130**	Pn	Pn	06 52 42.5	+0.5
IGLO	**Ghaloghah**	**5.47 119**	Pn	Pn	06 52 54.0	+0.9
IKIA	**Kiasar**	**5.54 122**	Pn	Pn	06 52 55.8	+1.7
GEYT	**Alibeck**	**8.12 97**	Pn	Pn	06 53 28.0	-1.3
	1.3nm,0.3s,baz=291,slow=14,SNR=10					
	2.4nm,0.3s					
BVAR	**Borovoye Array**	**20.63 41**	P	P	06 56 08.4	-2.4
	0.2nm,0.4s,baz=238,slow=12,SNR=1.8					
	0.2nm,0.4s					
KURBB	**Kurchatov Arra**	**24.26 52**	P	P	06 56 47.6	-0.9
	0.4nm,0.7s,baz=260,slow=9.9,SNR=5.2					
	0.4nm,0.7s					
FINES	**FINESS Array B**	**25.91 336**	P	P	06 57 01.9	-1.3
	4.2nm,1.1s,baz=139,slow=11,SNR=3.4					
	4.2nm,1.1s					
MKAR	**Makanchi Array**	**26.06 62**	P	P	06 57 04.1	-0.8
	0.7nm,1.0s,baz=264,slow=8.5,SNR=2.3					
	0.7nm,1.0s					
HFS	**Hagfors**	**29.84 326**	LR	LR	07 11 14.5	
	comp=Z,99nm,18.2s,baz=36,slow=40					

*TRN **29** 06:59:05.3, 18°.79N×65°.41W, h41km*
*NEIC **29** 06:59:06.2±0.6, 18°.8N±0°.1×65°.4W±0°.1, h35km±2km, ML2.9/4, Md2.5/4(RSPR), Error ellipse: s-maj=22.5km s-min=13.1km az=136.0*
*RSPR **29** 06:59:08.1, 18°.78N×65°.43W, h32km±21km, MD2.5/4*
ISC 29 06:59:05.7±2.0, 18°.8N±0°.2×65°.42W±0°.04, h26km, n18, σ0s76/24, 3C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**0.96**	**226**	⇑ *e*P	**Pn**	**06 59 23.4**	**-0.1**
SJG	**San Juan**	**0.96**	**226**	*e*S	**Sb**	**06 59 35.8**	**-0.2**
SJG	**San Juan**	**0.96**	**226**		**Pn**	**06 59 23.4**	**-0.1**
SJG	323nm,0.2s			IAML		06 59 36.4	
SJG	334nm,0.2s			IAML		06 59 37.0	
SJG	**San Juan**	**0.96**	**226**	Sn	**Sn**	**06 59 36.2**	**-0.1**
SJG	**San Juan**	**0.96**	**226**	*e*P	**Pb**	**06 59 23.6**	**0.0**
GBPR	**Guanica, Bosqu**	**1.60**	**240**	⇑ *e*P	**Pn**	**06 59 33.0**	**+0.7**
GBPR	**Guanica, Bosqu**	**1.60**	**240**	*e*S	**Sn**	**06 59 52.2**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.60**	**240**		**Pn**	**06 59 33.0**	**+0.7**
GBPR					**Sn**	**06 59 52.2**	**+0.1**
LSP	**Las Mesas**	**1.69**	**249**	‖ *e*P	**Pn**	**06 59 33.9**	**+0.3**
LSP	**Las Mesas**	**1.69**	**249**	*e*S	**Sn**	**06 59 54.2**	**-0.2**
LSP	**Las Mesas**	**1.69**	**249**		**Pn**	**06 59 33.9**	**+0.3**
LSP					**Sn**	**06 59 54.2**	**-0.2**
PRSN	**Puerto Rico Se**	**1.73**	**251**	⇑ *e*P	**Pn**	**06 59 34.6**	**+0.5**
PRSN	**Puerto Rico Se**	**1.73**	**251**	*e*S	**Sn**	**06 59 54.5**	**-0.7**
PRSN	**Puerto Rico Se**	**1.73**	**251**		**Pn**	**06 59 33.5**	**-0.5**
PRSN					**Sn**	**06 59 55.0**	**-0.3**
MBFL	**Flemmings, Mon**	**3.67**	**123**	*e*P	**Pn**	**07 00 01.6**	**+0.8**
MBFL				*e*S	**Sn**	**07 00 43.5**	**+0.3**
MLYT	**Lee's Yard**	**3.70**	**123**	*e*P	**Pn**	**07 00 02.3**	**+1.1**
ANDO	**Antigua, Disas**	**3.80**	**115**	*e*P	**Pn**	**07 00 02.9**	**+0.2**
ANDO				*e*S	**Sn**	**07 00 44.5**	**-2.0**
ANBD	**Bethesda, Anti**	**3.89**	**116**	*e*P	**Pn**	**07 00 05.0**	**+1.2**
ANBD				*e*S	**Sn**	**07 00 47.1**	**-1.5**

*IDC **29** 07:17:00.8±1.4, 49°.29N×159°.97E, h0km, mb3.6/5, mbtmp3.5/6, ML1.9/1, Error ellipse: s-maj=33.5km s-min=28.8km az=109.0*
*KRSC **29** 07:17:03.8±1.4, 49°.52N×159°.71E, h41km±26km, Ml3.8*
ISC 29 07:17:06.4±1.2, 49°.42N±0°.10×159°.8E±0°.1, h35km, n18, σ1s09/26, mb3.6/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**2.62**	**337**	*e*P	**Pn**	**07 17 45.4**	**-0.7**
KDTR				*e*S	**Sn**	**07 18 15.3**	**-1.3**
RUS	**Russkaya**	**3.11**	**346**	*e*P	**Pn**	**07 17 51.9**	**-1.0**
RUS				*e*S	**Sn**	**07 18 27.2**	**-1.6**
ASAK	**Asacha**	**3.19**	**339**	*e*P	**Pn**	**07 17 54.0**	**0.0**
ASAK				*e*S	**Sn**	**07 18 30.2**	**-0.5**
MTVR	**Mutnovka**	**3.22**	**343**	*e*P	**Pn**	**07 17 54.3**	**-0.2**
MTVR				*e*S	**Sn**	**07 18 31.3**	**-0.4**
GRL	**Gorelyy**	**3.31**	**342**	*e*P	**Pn**	**07 17 56.1**	**+0.4**
GRL				*e*S	**Sn**	**07 18 33.9**	**+0.1**
KRMR	**Karymshinskiy**	**3.56**	**344**	*e*P	**Pn**	**07 17 58.9**	**-0.1**
KRMR				*e*S	**Sn**	**07 18 39.4**	**-0.5**
DALK	**Dalny**	**3.67**	**351**	*e*P	**Pn**	**07 17 59.8**	**-0.7**
DALK				*e*S	**Sn**	**07 18 40.7**	**-1.7**
SMAR	**Somma**	**3.89**	**352**	*e*P	**Pn**	**07 18 04.2**	**+0.4**
SDLR	**Sedlovina**	**3.90**	**352**	*e*P	**Pn**	**07 18 03.3**	**-0.5**
AVH	**Avacha**	**3.90**	**351**	*e*P	**Pn**	**07 18 04.2**	**+0.4**
PETK	**Petropavlovsk-**	**3.91**	**342**	Pn	**Pn**	**07 18 03.9**	**+0.1**
	0.4nm,0.3s,baz=186,slow=20,SNR=7.6						
PETK				Sn	**Sn**	**07 18 51.4**	**+2.9**
	0.3nm,0.3s,baz=174,slow=32,SNR=1.1						
	2.5nm,0.8s						
GNL	**Ganaly**	**4.42**	**346**	*e*P	**Pn**	**07 18 12.0**	**+0.9**
TUMD	**Tumrok D**	**5.80**	**4**	*e*P	**Pn**	**07 18 31.5**	**+1.6**
ILAR	**Eielson Array**	**31.65**	**41**	P	**P**	**07 23 26.0**	**+0.2**
	0.2nm,0.6s,baz=258,slow=7.5,SNR=4.6						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**46.07**	**40**	P	**P**	**07 25 25.3**	**-0.9**
	1.5nm,0.9s,baz=288,slow=7.8,SNR=1.9						
	1.5nm,0.9s						
KURBB	**Kurchatov Arra**	**49.66**	**304**	P	**P**	**07 25 55.4**	**+1.2**
	0.4nm,0.3s,baz=65,slow=7.6,SNR=2.3						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**52.55**	**310**	P	**P**	**07 26 17.3**	**+1.3**
	0.5nm,0.7s,baz=36,slow=7.5,SNR=2.0						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**72.66**	**205**	P	**P**	**07 28 29.5**	**-0.8**
	0.3nm,0.7s,baz=16,slow=5.7,SNR=2.1						
	0.3nm,0.7s						

*IDC **29** 07:17:39.6±11.0, 4°.78N×125°.16E, h164km±113km, mb3.0/5, mbtmp3.4/5, Error ellipse: s-maj=73.6km s-min=26.0km az=64.0*
ISC 29 07:17:37.9±1.0, 4°.9N±0°.2×125°.4E±0°.5, h150km, n6, σ0s56/7, mb3.4/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.22**	**161**	P	**P**	**07 22 58.6**	**-0.4**
	0.1nm,0.4s,baz=330,slow=11,SNR=7.5						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**29.60**	**164**	P	**P**	**07 23 29.4**	**+0.3**
	0.8nm,1.0s,baz=341,slow=6.7,SNR=9.5						
	0.8nm,1.0s						
MKAR	**Makanchi Array**	**55.84**	**325**	P	**P**	**07 26 59.9**	**+0.1**
	0.3nm,0.4s,baz=115,slow=8.1,SNR=2.3						
MKAR				PcP	**PcP**	**07 27 56.0**	**-0.9**
	0.3nm,0.5s,baz=132,slow=2.1,SNR=1.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**60.04**	**328**	P	**P**	**07 27 29.4**	**+0.5**
	0.2nm,0.4s,baz=129,slow=7.3,SNR=1.4						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**84.58**	**25**	P	**P**	**07 29 54.2**	**+0.1**
	0.2nm,0.6s,baz=262,slow=4.5,SNR=1.5						
	0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**121.32**	**289**	PKP	**PKiKP**	**07 36 14.5**	**0.0**
	0.5nm,0.9s,baz=54,slow=2.7,SNR=1.6						

*IDC **29** 07:29:22.9±0.7, 37°.29N×21°.04E, h0km, mb4.1/19, mbtmp4.0/29, ML3.6/10, MS3.4/1, Error ellipse: s-maj=14.8km s-min=12.3km az=165.0*
*THE **29** 07:29:25.9, 37°.22N×20°.89E, h6km, ML3.8/23, Error ellipse: s-maj=1.1km s-min=0.3km az=234.0*
*ATH **29** 07:29:26.8, 37°.23N×20°.90E, h12km±3km, ML3.8/25, Error ellipse: s-maj=4.4km s-min=1.7km az=230.0*
*NEIC **29** 07:29:26.9±1.5, 37°.29N±0°.07×21°.02E±0°.07, h22km±7km, mb4.4/42, Error ellipse: s-maj=10.0km s-min=8.0km az=190.0*
*PDG **29** 07:29:28.2±1.1, 37°.25N×20°.73E, h40km±22km, ML3.8/10, Error ellipse: s-maj=3.3km s-min=3.6km az=0.0*
*NAO **29** 07:30:02.7, 40°.79N×20°.94E, h33km, mb3.3*
ISC 29 07:29:25.0±1.2, 37°.24N±0°.03×20°.90E±0°.03, h17km±7km, n235, σ1s42/278, mb4.3/38, 12C-6D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.43**	**351**	P	**Pb**	**07 29 34.6**	**+0.4**
KRI1				S	**Sb**	**07 29 41.2**	**+0.9**
LTHK	**Lithakia**	**0.47**	**354**	P	**Pb**	**07 29 35.4**	**+0.5**
LTHK				S	**Sb**	**07 29 42.6**	**+1.0**
	24μm,0.4s						
LTHK	**Lithakia**	**0.47**	**354**	P	**Pb**	**07 29 35.6**	**+0.7**
LTHK				S	**Sb**	**07 29 43.1**	**+1.5**
LTHK				AML	AML	07 29 43.6	
	comp=N,38364μm,0.4s						
LTHK				AML	AML	07 29 49.6	
	comp=E,55427μm,0.4s						
PYL	**PYLOS**	**0.75**	**117**	P	**Pb**	**07 29 40.1**	**+0.4**
PYL				S	**Sb**	**07 29 51.3**	**+1.6**
	comp=E,8μm,0.6s						
PYL	**PYLOS**	**0.75**	**117**	P	**Pb**	**07 29 39.9**	**+0.1**
PYL				S	**Sb**	**07 29 51.1**	**+1.4**
PYL				AML	AML	07 29 52.2	
	comp=E,21852μm,0.6s						
PYL				AML	AML	07 29 56.0	
	comp=N,11595μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.91**	**344**	P	**Pn**	**07 29 43.1**	**0.0**
PSDA				S	**Sn**	**07 29 57.1**	**+1.3**
	comp=N,6μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.91**	**344**	P	**Pn**	**07 29 43.1**	**0.0**
RLS	**Riolos of Patr**	**0.93**	**29**	P	**Pb**	**07 29 42.9**	**+0.1**
RLS				S	**Sn**	**07 29 57.2**	**+0.8**
	comp=N,6μm,0.7s						
RLS	**Riolos of Patr**	**0.93**	**29**	P	**Pb**	**07 29 42.9**	**+0.1**
RLS				S	**Sn**	**07 29 57.2**	**+0.8**
RLS				AML	AML	07 29 59.5	
	comp=E,10161μm,0.4s						
RLS				AML	AML	07 30 00.6	
	comp=N,15990μm,0.9s						
KLMT	**Kalamata**	**0.94**	**101**	P	**Pb**	**07 29 43.6**	**+0.7**
KLMT				S	**Sn**	**07 29 57.6**	**+1.0**
	comp=N,5μm,1.0s						
VLS	**Valsamata**	**0.97**	**345**	P	**Pn**	**07 29 44.0**	**+0.1**
VLS				S	**Sn**	**07 29 58.6**	**+1.3**
	comp=N,5μm,0.5s						
VLS	**Valsamata**	**0.97**	**345**	P	**Pn**	**07 29 43.8**	**-0.1**
VLS				AML	AML	07 30 02.4	
	comp=N,12906μm,0.5s						
VLS				AML	AML	07 30 06.5	
	comp=E,8507μm,0.5s						
KEF3	**Kipouria, Keph**	**1.06**	**336**	P	**Pn**	**07 29 46.1**	**+1.0**
KEF3				S	**Sn**	**07 30 01.5**	**+2.0**
KEF3	**Kipouria, Keph**	**1.06**	**336**	P	**Pn**	**07 29 46.2**	**+1.1**
DMLN	**Damoulianata-K**	**1.08**	**337**	P	**Pn**	**07 29 46.6**	**+1.1**
DMLN				S	**Sn**	**07 30 02.4**	**+2.3**
	comp=E,10μm,0.4s						
DMLN	**Damoulianata-K**	**1.08**	**337**	P	**Pn**	**07 29 46.8**	**+1.3**
KEF4	**Livadi, Kephal**	**1.08**	**340**	P	**Pn**	**07 29 46.4**	**+0.9**
KEF4				S	**Sn**	**07 30 02.4**	**+2.3**
KEF4	**Livadi, Kephal**	**1.08**	**340**	P	**Pn**	**07 29 46.2**	**+0.7**
FSK	**Fiskardo**	**1.25**	**348**	P	**Pg**	**07 29 49.0**	**-0.1**
FSK				S	**Sn**	**07 30 07.1**	**+3.0**
	comp=E,3μm,0.5s						
FSK	**Fiskardo**	**1.25**	**348**	P	**Pg**	**07 29 49.6**	**+0.5**
FSK				AML	AML	07 30 18.4	
	comp=N,6182μm,0.5s						
FSK				AML	AML	07 30 20.4	
	comp=E,6679μm,0.6s						
KLV	**Kalavryta, Ach**	**1.27**	**51**	P	**Pn**	**07 29 48.7**	**+0.5**
KLV				S	**Sn**	**07 30 08.0**	**+3.1**
	comp=E,3μm,0.9s						
KLV	**Kalavryta, Ach**	**1.27**	**51**	P	**Pn**	**07 29 48.3**	**+0.1**
KLV				AML	AML	07 30 17.0	
	comp=N,6962μm,0.9s						
KLV				AML	AML	07 30 19.3	
	comp=E,5986μm,0.9s						
LAKA	**Lakka**	**1.31**	**40**	P	**Pg**	**07 29 49.9**	**-0.5**
LAKA				S	**Sn**	**07 30 09.4**	**+3.6**
	comp=E,12μm,0.8s						
LAKA	**Lakka**	**1.31**	**40**	P	**Pn**	**07 29 49.1**	**+0.5**
LAKA				AML	AML	07 30 13.9	
	comp=E,26717μm,0.8s						
LAKA				AML	AML	07 30 17.7	
	comp=N,22918μm,0.8s						
GUR	**Goura**	**1.34**	**58**	P	**Pn**	**07 29 49.7**	**+0.6**
GUR				S	**Sn**	**07 30 09.4**	**+2.8**
	comp=N,6μm,0.5s						
GUR	**Goura**	**1.34**	**58**	P	**Pn**	**07 29 48.9**	**-0.1**
GUR				AML	AML	07 30 17.6	
	comp=N,11978μm,0.4s						
GUR				AML	AML	07 30 18.9	
	comp=E,11668μm,0.6s						
EVGI	**Lefkada island**	**1.39**	**352**	P	**Pg**	**07 29 51.0**	**-0.9**
EFP	**Efpalio**	**1.43**	**34**	P	**Pb**	**07 29 51.4**	**+0.2**
EFP				S	**Sg**	**07 30 12.1**	**+1.0**
	comp=E,2μm,0.8s						
EFP	**Efpalio**	**1.43**	**34**	P	**Pn**	**07 29 51.1**	**+0.9**
EFP				AML	AML	07 30 21.1	
	comp=N,4517μm,0.7s						
EFP				AML	AML	07 30 21.8	
	comp=E,3619μm,0.9s						
PVO	**Paravola**	**1.46**	**20**	P	**Pb**	**07 29 51.7**	**-0.1**
PVO				S	**Sg**	**07 30 13.2**	**+1.0**
	comp=E,9μm,0.4s						
PVO	**Paravola**	**1.46**	**20**	P	**Pn**	**07 29 51.4**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.46**	**350**	P	**Pg**	**07 29 53.4**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.48**	**354**	P	**Pg**	**07 29 52.7**	**-0.9**
KALE	**Kalithea**	**1.51**	**40**	P	**Pb**	**07 29 53.0**	**+0.3**
KALE				S	**Sg**	**07 30 13.9**	**+0.1**
	comp=E,3μm,0.8s						
KALE	**Kalithea**	**1.51**	**40**	P	**Pb**	**07 29 52.8**	**+0.1**
KALE				AML	AML	07 30 19.8	
	comp=N,7103μm,0.6s						
KALE				AML	AML	07 30 21.6	
	comp=E,6644μm,0.6s						
LKD2	**Lefkada island**	**1.56**	**353**	P	**Pg**	**07 29 53.9**	**-1.1**
LKD2				AML	AML	07 30 20.3	
	comp=E,9024μm,0.3s						
LKD2				AML	AML	07 30 22.4	
	comp=N,6056μm,0.5s						
ANX	**Ano Chora**	**1.57**	**30**	P	**Pg**	**07 29 54.4**	**-0.9**
ANX				S	**Sg**	**07 30 16.3**	**+0.5**
	comp=N,4μm,0.6s						
ANX	**Ano Chora**	**1.57**	**30**	P	**Pg**	**07 29 54.4**	**-0.9**
ANX				AML	AML	07 30 21.6	
	comp=N,7239μm,0.5s						
ANX				AML	AML	07 30 30.7	
	comp=E,9084μm,0.6s						
TSLK	**Tsoukalades, L**	**1.59**	**353**	P	**Pg**	**07 29 55.7**	**-0.1**
THAL	**Thalero**	**1.61**	**60**	P	**Pb**	**07 29 54.7**	**+0.4**
THAL				S	**Sg**	**07 30 17.3**	**+0.4**
THAL	**Thalero**	**1.61**	**60**	P	**Pb**	**07 29 54.7**	**+0.4**
THAL				AML	AML	07 30 28.0	
	comp=N,17093μm,0.6s						
THAL				AML	AML	07 30 36.8	
	comp=E,26209μm,0.7s						
VLI	**Veliai**	**1.71**	**107**	P	**Pb**	**07 29 56.0**	**0.0**
VLI				S	**Sg**	**07 30 19.6**	**-0.6**
	comp=E,1μm,0.9s						
VLI	**Veliai**	**1.71**	**107**	P	**Pg**	**07 29 56.9**	**-1.1**
VLI				AML	AML	07 30 34.9	
	comp=E,2589μm,0.9s						
VLI				AML	AML	07 30 41.6	
	comp=N,2686μm,0.8s						
DLFA	**Delphi**	**1.77**	**45**	P	**Pb**	**07 29 57.9**	**+0.9**
KRND	**KRANIDI**	**1.80**	**85**	P	**Pb**	**07 29 57.0**	**-0.5**
KRND				S	**Sb**	**07 30 20.8**	**+1.0**
	comp=N,1μm,0.9s						
KRND	**KRANIDI**	**1.80**	**85**	P	**Pb**	**07 29 57.0**	**-0.5**
LOUT	**Loutraki**	**1.81**	**65**	P	**Pb**	**07 29 57.6**	**-0.1**
LOUT				S	**Sb**	**07 30 21.9**	**+1.8**
	comp=N,3μm,0.8s						
LOUT	**Loutraki**	**1.81**	**65**	P	**Pb**	**07 29 57.7**	**+0.1**
EVR	**Evrytania**	**1.82**	**23**	P	**Pg**	**07 29 59.5**	**-0.6**
EVR				AML	AML	07 30 31.0	
	comp=N,3314μm,0.7s						
EVR				AML	AML	07 30 39.0	
	comp=E,3309μm,0.8s						
KTHA	**Kythira Island**	**1.99**	**119**	P	**Pb**	**07 30 00.0**	**-0.9**
KTHA				S	**Sb**	**07 30 25.9**	**+0.5**
	comp=E,945nm,0.7s						
KTHA	**Kythira Island**	**1.99**	**119**	P	**Pb**	**07 30 00.8**	**0.0**
KTHA				AML	AML	07 30 43.8	
	comp=E,2331μm,0.6s						
KTHA				AML	AML	07 30 44.3	
	comp=N,1636μm,0.8s						
MAKR	**Makrakomi, Fth**	**2.02**	**28**	AML	AML	07 30 36.9	
	comp=N,6693μm,0.6s						
MAKR				AML	AML	07 30 38.9	
	comp=E,4610μm,1.0s						
AXAR	**Agios Charalam**	**2.06**	**42**	P	**Pb**	**07 30 02.2**	**+0.1**
AXAR				AML	AML	07 30 42.5	
	comp=E,6325μm,1.0s						
AXAR				AML	AML	07 30 49.8	
	comp=N,6973μm,0.7s						
AGG	**Agios Georgios**	**2.10**	**32**		**Pn**	**07 29 59.1**	**-0.4**
AGG	**Agios Georgios**	**2.10**	**32**	P	**Pb**	**07 30 02.8**	**0.0**
VIL2	**Platees**	**2.11**	**62**	P	**Pn**	**07 30 01.5**	**+1.8**
VIL2				AML	AML	07 30 41.7	
	comp=N,3023μm,0.8s						
VIL2				AML	AML	07 30 48.5	
	comp=E,4106μm,0.8s						
VILL	**Villia**	**2.12**	**64**	P	**Pn**	**07 30 01.6**	**+1.8**
VILL				S	**Sb**	**07 30 29.6**	**+0.4**
	comp=E,2μm,0.8s						
LKR	**Lokris**	**2.17**	**49**	P	**Pb**	**07 30 03.0**	**-0.9**
LKR				AML	AML	07 30 43.4	
	comp=N,2179μm,0.5s						
LKR				AML	AML	07 30 44.5	
	comp=E,1651μm,0.6s						
ATH	**Athens Observa**	**2.35**	**71**	P	**Pn**	**07 30 04.4**	**+1.5**
ATH				AML	AML	07 30 48.0	
	comp=E,2585μm,1.2s						
ATH				AML	AML	07 30 49.7	
	comp=N,2497μm,0.8s						
ANKY	**Antikythira Is**	**2.37**	**125**	P	**Pn**	**07 30 05.1**	**+2.0**
ANKY				S	**Sb**

SANT Santorini 3.76 102 Pn **Pn 07 30 23.5 +1.2**
IDI Anoyia 3.77 120 Pn **Pn 07 30 21.9 -0.5**
IDI Anoyia 3.77 120 Pn **Pn 07 30 23.0 +0.6**
comp=N,0.8nm,0.3s,baz=277,slow=16,SNR=2.2
IDI Sn **Sn 07 31 06.9 +0.5**
comp=N,6.4nm,0.3s,baz=288,slow=20,SNR=8.2
comp=N,23nm,1.1s
OHR Ohrid 3.87 359 *i* Pn **Pn 07 30 26.8 +3.0**
TIR Tirane 4.18 349 **Pn 07 30 28.5 +0.4**
STIP Stip 4.56 12 *i* Pn **Pn 07 30 36.4 +3.1**
MMB Musomishta 4.83 26 P **Pn 07 30 38.6 +1.5**
CUC Castrocucco 4.84 306 **Pn 07 30 39.1 +1.9**
ULC Ulcinj 4.89 345 ⇓*i*Pn **Pn 07 30 39.0 +1.2**
ULC *i* Sn **Sn 07 31 32.0 -2.0**
KKB Krupnik 4.91 20 P **Pn 07 30 40.0 +1.9**
DRME Dracevica, Mon 5.11 346 *e*Pn **Pn 07 30 42.2 +1.4**
DRME Dracevica, Mon 5.11 346 ⇑*i*Pn **Pn 07 30 42.3 +1.4**
DRME *i* Sn **Sn 07 31 37.7 -1.9**
VAE Valguarnera 5.18 275 Pn **Pn 07 30 45.1 +3.3**
comp=N,2.3nm,0.3s,baz=168,slow=6.1,SNR=8.6
VAE Sn **Sn 07 31 42.4 +1.2**
comp=N,3.3nm,0.3s,baz=122,slow=17,SNR=1.1
comp=N,27nm,0.7s
RAFF Raffo Rosso 5.22 272 **Pn 07 30 44.6 +2.2**
BUM Brajici-Budva 5.29 344 ⇑*i*Pn **Pn 07 30 44.2 +0.9**
BUM *e*Sn **Sn 07 31 41.8 -2.1**
RDO Rodhopi 5.31 41 Pn **Pn 07 30 43.3 -0.2**
WDD Wied Dalam 5.32 257 Pn **Pn 07 30 46.4 +2.7**
PDG Podgorica 5.34 347 ⇑P **Pn 07 30 45.6 +1.7**
PDG Podgorica 5.34 347 **Pn 07 30 44.2 +0.3**
PDG Podgorica 5.34 347 *e*Pn **Pn 07 30 43.3 -0.6**
PDG Podgorica 5.34 347 ⇓*i*Pn **Pn 07 30 45.4 +1.5**
PDG *i* Sn **Sn 07 31 43.0 -2.0**
RZN Rozhen 5.35 33 P **Pn 07 30 45.5 +1.2**
PVY Plav 5.40 353 ⇓*i*Pn **Pn 07 30 46.9 +2.0**
PVY *e*Sn **Sn 07 31 44.4 -2.3**
ALN Alexandroupoli 5.42 46 Pn **Pn 07 30 44.7 -0.3**
CEME Cevo 5.51 345 *e*Pn **Pn 07 30 46.9 +0.4**
CEME *e*Sn **Sn 07 31 47.0 -2.5**
HCY Herceg Novi 5.52 341 *e*Pn **Pn 07 30 44.9 -1.6**
HCY Herceg Novi 5.52 341 ⇓*i*Pn **Pn 07 30 47.0 +0.5**
HCY *e*Sn **Sn 07 31 47.0 -2.6**
KDZ Kurdzhali 5.57 37 P **Pn 07 30 48.2 +1.1**
VTS Vitosha 5.66 18 ⇑P **Pn 07 30 50.5 +2.0**
VTS Vitosha 5.66 18 P **Pn 07 30 50.0 +1.4**
IVA Berane 5.68 352 ⇓*i*Pn **Pn 07 30 50.8 +2.1**
IVA *i* Sn **Sn 07 31 50.3 -3.3**
NKME Niksic 5.72 345 ⇑*i*Pn **Pn 07 30 50.5 +1.3**
NKME *e*Sn **Sn 07 31 52.2 -2.3**
TREB Trebinje 5.81 341 *e*Pn **Pn 07 30 50.2 -0.3**
BRY Bratogost 5.94 343 *e*Pn **Pn 07 30 52.1 -0.2**
BRY Bratogost 5.94 343 ⇓*i*Pn **Pn 07 30 52.5 +0.2**
BRY *e*Sn **Sn 07 31 55.6 -4.4**
SGRT San Giovanni R 6.02 320 **Pn 07 30 55.1 +1.7**
SJES Sjenica 6.06 354 *e*Pn **Pn 07 30 55.0 +1.1**
CLTB Caltabellotta 6.13 275 **Pn 07 30 57.6 +2.7**
STON Ston 6.14 337 *e*Pn **Pn 07 30 55.1 +0.2**
PAOL Paolisi 6.21 309 **Pn 07 30 59.2 +3.2**
BOVS Bovan 6.42 5 ⇑P **Pn 07 30 59.0 +0.2**
NEVS Nevesinje 6.42 341 *e*Pn **Pn 07 30 59.0 +0.1**
RUDO Rudo 6.48 350 *e*Pn **Pn 07 31 01.6 +2.0**
BBLS Lazići 6.72 351 *e*Pn **Pn 07 31 03.3 +0.4**
DIVS Divibare 6.88 355 Pn **Pn 07 31 05.9 +0.6**
DIVS Divibare 6.88 355 *e*Pn **Pn 07 31 05.3 0.0**
TEKS Tekeris 7.38 352 *e*Pn **Pn 07 31 10.4 -1.5**
CAMP Campotosto 7.82 315 Pn **Pn 07 31 18.9 +0.7**
FRGS Fruska Gora 7.95 354 *e*Pn **Pn 07 31 18.1 -1.8**
BLY Banja Luka 8.01 341 *e*Pn **Pn 07 31 22.1 +1.5**
NRCA Norcia 8.18 315 **Pn 07 31 25.4 +2.4**
GUMA Gualdo di Mace 8.21 317 Pn **Pn 07 31 24.1 +0.7**
GZR Gura Zlata 8.27 9 ⇑P **Pn 07 31 25.1 +0.9**
FDMO Fiordimonte 8.32 316 **Pn 07 31 26.1 +1.2**
A051A Mrakovica 8.33 340 *e*Pn **Pn 07 31 24.3 -0.8**
ARR Arges 8.59 18 ⇑P **Pn 07 31 30.3 +1.6**
VOIR 8.76 20 ⇑P **Pn 07 31 33.4 +2.4**
MLR Muntele Rosu 9.07 23 ⇑P **Pn 07 31 39.9 +4.6**
MLR Muntele Rosu 9.07 23 Pn **Pn 07 31 37.5 +2.2**
comp=N,0.6nm,0.3s,baz=203,slow=17,SNR=5.1
comp=N,4.0nm,0.9s
BOJS Bojanci 9.28 335 *e*Pn **Pn 07 31 38.9 +0.8**
PLOR Plostina 9.62 25 ⇑P Pn 07 31 47.7 +5.0
VRI Vrincioaia 9.66 25 ⇑P **Pn 07 31 46.3 +3.0**
ANTO Ankara 9.68 71 Pn **Pn 07 31 43.4 -0.2**
CEY Cerknica 9.78 332 *e*Pn **Pn 07 31 45.7 +0.8**
BRTR Keskin Array B 10.29 72 Pn **Pn 07 31 54.5 +2.5**
comp=N,0.1nm,0.3s,baz=251,slow=15,SNR=2.2
comp=N,0.6nm,0.7s
SABO M.te Sabotino 10.30 330 Pn **Pn 07 31 52.4 +0.4**
CSS Mathiatis 10.31 99 Pn **Pn 07 31 51.4 -0.8**
SOKA Soboth 10.39 337 *e*Pn **Pn 07 31 55.1 +1.8**
comp=N,1.4nm,0.4s
OBKA Obir 10.40 335 *e*Pn **Pn 07 31 54.8 +1.3**
comp=N,2.0nm,0.5s
OBKA *i* Sn **Sn 07 33 47.9 -1.6**
comp=N,2.3nm,0.4s
OBKA Obir 10.40 335 *e*Pn **Pn 07 31 55.9 +2.5**
PRED Cave del Predi 10.70 332 Pn **Pn 07 31 56.1 -1.3**
CLUD Cludinico 10.97 330 Pn **Pn 07 32 02.8 +1.5**
CTI Castel Tesino 11.19 325 Pn **Pn 07 32 05.6 +1.3**
DAVOX Davos/Dischmat 12.56 323 Pn **Sn 07 32 24.8 +1.7**
comp=N,0.2nm,0.3s,baz=156,slow=20,SNR=1.8
DAVOX Sn **Sn 07 34 38.2 -4.4**
comp=N,0.1nm,0.3s,baz=158,slow=19,SNR=1.6
comp=N,0.7nm,0.5s
MMAI Mount Meron Ar 12.60 105 Pn **Pn 07 32 23.2 -0.3**
comp=N,1.9nm,0.3s,baz=316,slow=14,SNR=2.1
comp=N,0.7nm,0.3s
EIL Elat 13.94 119 Pn **Pn 07 32 40.1 -1.7**
comp=N,0.3nm,0.3s,baz=348,slow=15,SNR=1.7
comp=N,1.7nm,0.4s
AKASG Malin Array Be 14.71 21 Pn **Pn 07 32 50.0 -2.3**
comp=N,0.6nm,0.3s,baz=208,slow=12,SNR=2.4
AKASG LR LR 07 39 53.6
comp=N,126nm,18.7s,baz=252,slow=43
comp=N,0.3nm,0.3s
CLL Collm 15.14 341 *e*Px Px 07 33 01.0
CLL *i* sP sP 07 33 06.5 -3.0
comp=Z,17nm,1.2s
SUW Suwalki 16.85 5 **Pn 07 33 20.4 +0.4**
SUW IAmb IAmb 07 33 23.9
comp=Z,28nm,0.8s
KBZ Khabaz 17.92 62 P **Pn 07 33 32.8 -0.5**
comp=Z,0.3nm,0.3s,baz=260,slow=9.4,SNR=5.6
comp=Z,4.2nm,0.9s
PABE Paberze 18.39 6 P **Pn 07 33 38.5 -0.5**
ESDC Sonseca Array 19.61 285 P **Pn 07 33 54.1 +0.1**
baz=96,slow=12,SNR=3.2
comp=Z,0.9nm,0.9s
PAB San Pablo 19.91 284 P **P 07 33 55.9 0.0**
OBN Obninsk 20.82 26 P **P 07 34 04.8 -0.8**
comp=Z,12nm,0.3s,baz=193,slow=18,SNR=1.4
comp=Z,12nm,0.3s
MDT Midelt 21.33 266 P **P 07 34 11.5 +0.2**
comp=Z,0.8nm,0.7s,baz=72,slow=13,SNR=2.4
comp=Z,0.8nm,0.7s
HFS Hagfors 23.37 351 P **P 07 34 32.1 -0.5**
comp=Z,3.7nm,0.6s,baz=162,slow=12,SNR=8.6
comp=Z,3.7nm,0.6s
BELG Belogornoye 24.08 42 P **P 07 34 39.1 -0.2**
comp=Z,38nm,0.9s,baz=0.8,slow=3.2,SNR=6.5
comp=Z,38nm,0.9s
NC602 NORSAR Array S 24.25 349 P **P 07 34 40.4 -0.6**
EKA Eskdalemuir Ar 24.37 326 P **P 07 34 43.3 +1.2**
comp=Z,3.2nm,0.5s,baz=127,slow=8.5,SNR=18
comp=Z,3.2nm,0.5s
ESK Eskdalemuir 24.38 326 P **P 07 34 42.0 -0.2**
EKB Eskdalemuir 24.39 326 P **P 07 34 42.3 0.0**
FINES FINESS Array B 24.44 6 P **P 07 34 42.0 -0.7**
FINES FINESS Array B 24.44 6 P **P 07 34 42.1 -0.6**
comp=Z,3.4nm,0.8s,baz=162,slow=11,SNR=17
comp=Z,3.4nm,0.8s
FIA1 FINESS Array S 24.45 6 P **P 07 34 42.2 -0.5**
NB2 NORSAR Subarra 24.59 349 P **P 07 34 44.4 +0.3**
comp=Z,1.3nm,0.7s,baz=159,slow=11
NOA NORSAR Array B 24.59 349 P **P 07 34 44.0 -0.2**
comp=Z,1.3nm,0.8s,baz=156,slow=9.1,SNR=4.0
NOA PcP **PcP 07 38 21.3 -0.2**
comp=Z,1.2nm,1.0s,baz=149,slow=2.6,SNR=1.3
comp=Z,1.3nm,0.8s
GEYT Alibeck 29.38 77 P **P 07 35 26.4 -0.9**
comp=Z,0.5nm,0.3s,baz=284,slow=14,SNR=1.8
comp=Z,0.5nm,0.3s
TOA0 Torodi Ar. Sit 29.50 221 P **P 07 35 28.2 -0.4**
TORD Torodi Ar. Bea 29.50 221 P **P 07 35 29.9 +1.4**
TORD Torodi Ar. Bea 29.50 221 P **P 07 35 30.4 +1.8**
comp=Z,0.5nm,0.5s,baz=31,slow=9.6,SNR=9.0
comp=Z,0.5nm,0.5s
ABKAR Akbulak array 30.53 54 P **P 07 35 36.8 -0.6**
ARU Arti 31.57 40 P **P 07 35 45.9 -0.5**
ARU IAmb IAmb 07 35 56.9
comp=Z,9.4nm,1.3s
ARCES ARCESS Array B 32.45 3 P **P 07 35 53.8 -0.2**
ARCES ARCESS Array B 32.45 3 P **P 07 35 53.9 -0.2**
comp=Z,1.5nm,0.5s,baz=187,slow=8.6,SNR=15
comp=Z,1.5nm,0.5s
KEV Kevo 32.74 4 P **P 07 35 56.8 +0.3**
KEV IAmb IAmb 07 35 57.1
comp=Z,3.8nm,0.7s
BRVK Borovoye 37.44 49 P **P 07 36 37.4 +0.2**
BVAR Borovoye Array 37.50 49 P **P 07 36 37.1 -0.6**
comp=Z,2.6nm,0.6s,baz=261,slow=5.9,SNR=18
comp=Z,2.6nm,0.6s
KK31 Karatay Array 37.90 65 P **P 07 36 41.5 +0.2**
KK31 IAmb IAmb 07 36 42.5
comp=Z,3.4nm,0.7s
KKAR Karatay Array 37.90 65 P **P 07 36 41.5 +0.2**
KKAR IAmb IAmb 07 36 42.5
comp=Z,3.4nm,0.7s
DBIC Dimbokro 38.42 224 P **P 07 36 47.5 +1.6**
comp=Z,2.9nm,0.9s,baz=25,slow=12,SNR=1.7
comp=Z,2.9nm,0.9s
SPB3 Spitsbergen Ar 41.09 359 P **P 07 37 06.3 -1.1**
NIL Nilore 42.35 79 P **P 07 37 17.9 -0.4**
NIL IAmb IAmb 07 37 19.5
comp=Z,10nm,1.0s
KURBB Kurchatov Arra 42.55 53 P **P 07 37 19.1 -0.6**
comp=Z,1.7nm,0.4s,baz=281,slow=8.7,SNR=19
comp=Z,1.7nm,0.4s
KURK Kurchatov 42.60 53 P **P 07 37 19.2 -0.9**
MAKZ Makanchi 45.33 58 P **P 07 37 41.6 -0.4**
MAKZ IAmb IAmb 07 38 04.4
comp=Z,10nm,1.4s
MK31 Makanchi Array 45.54 58 P **P 07 37 43.4 -0.4**
MK31 IAmb IAmb 07 37 43.7
comp=Z,2.1nm,0.5s
MKAR Makanchi Array 45.54 58 P **P 07 37 43.0 -0.8**
comp=Z,2.4nm,0.4s,baz=270,slow=7.4,SNR=39
comp=Z,2.4nm,0.4s
ZAA0 Zalesovo Array 46.09 47 P **P 07 37 47.5 -0.5**
ZAA0 IAmb IAmb 07 37 49.2
comp=Z,3.7nm,0.7s
ZALV Zalesovo Beam 46.09 47 P **P 07 37 47.6 -0.4**
ZALV Zalesovo Beam 46.09 47 P **P 07 37 47.0 -0.9**
comp=Z,2.3nm,0.4s,baz=275,slow=8.6,SNR=10
comp=Z,2.3nm,0.4s
PYUN Piuthan 52.24 81 *eP* **P 07 38 35.3 -0.4**
comp=Z,28nm,0.6s
DANN Dangsing 52.73 80 *eP* **P 07 38 39.0 -0.4**
comp=Z,36nm,0.6s
DMN Daman 54.13 80 *eP* **P 07 38 48.8 -0.8**
comp=Z,20nm,0.5s
GUN Gumba 54.60 80 *eP* **P 07 38 52.2 -1.0**
comp=Z,9.5nm,0.3s
JIRN Jiri 54.96 80 *eP* **P 07 38 55.2 -0.6**
comp=Z,9.0nm,0.5s
RAMN Ramite 55.61 80 *eP* **P 07 38 59.1 -1.3**
comp=Z,31nm,0.4s
TAPN Taplejung 56.29 79 *eP* **P 07 39 04.9 -0.4**
comp=Z,4.8nm,0.3s
SCHQ Schefferville 59.35 318 P **P 07 39 27.1 +1.1**
SCHQ IAmb IAmb 07 39 39.6
comp=Z,6.2nm,1.1s
CMAR Chiang Mai Arr 69.72 82 P **P 07 40 33.8 -0.6**
comp=Z,1.7nm,0.3s,baz=304,slow=6.8,SNR=7.2
comp=Z,1.7nm,0.3s
E22K Anaktuvuk Pass 74.80 357 P **P 07 41 05.6 +1.7**
G29M Pine Creek 74.93 352 P **P 07 41 05.8 +1.1**
E19K Redstone River 75.61 359 P **P 07 41 09.8 +1.2**
H29M Whitestone 75.63 351 P **P 07 41 09.6 +0.8**
H29M IAmb IAmb 07 41 25.1
comp=Z,11nm,1.5s
F21K Alatna River 75.77 358 P **P 07 41 11.3 +1.7**
F21K IAmb IAmb 07 41 32.2
comp=Z,10nm,1.5s
I29M Ogilvie Camp, 76.45 351 P **P 07 41 14.6 +1.2**
I29M IAmb IAmb 07 41 37.5
comp=Z,5.9nm,1.5s
G21K Allakaket 76.48 358 P **P 07 41 15.0 +1.4**
J30M Hart River 76.94 350 P **P 07 41 18.3 +2.0**
IMAR Indian Mountai 77.02 358 P **P 07 41 17.7 +1.1**
G18K Tagagawik 77.19 360 P **P 07 41 19.3 +1.7**
G18K IAmb IAmb 07 41 26.2
comp=Z,6.5nm,1.2s
H21K Melozitna Rive 77.31 357 P **P 07 41 20.5 +2.2**
H21K IAmb IAmb 07 41 42.3
comp=Z,6.0nm,1.4s
H19K Roundabout Mou 77.54 359 P **P 07 41 20.5 +1.0**
H19K IAmb IAmb 07 41 22.8
comp=Z,9.3nm,1.4s
MDM Murphy Dome 77.78 355 P **P 07 41 22.4 +1.6**
MDM IAmb IAmb 07 41 49.1
comp=Z,4.2nm,1.3s
DAWY Dawson 77.83 351 P **P 07 41 22.7 +1.4**
DAWY IAmb IAmb 07 41 44.3
comp=Z,3.1nm,1.3s
ILAR Eielson Array 77.87 355 P **P 07 41 22.8 +1.5**
ILAR Eielson Array 77.87 355 P **P 07 41 22.4 +1.0**
comp=Z,0.3nm,0.8s,baz=348,slow=4.0,SNR=5.7
comp=Z,0.3nm,0.8s
WRH Wood River Hil 78.25 355 P **P 07 41 24.8 +1.3**
J20K Nowinta River 78.84 358 P **P 07 41 28.5 +1.7**
BCAR Beaver Creek A 79.08 352 P **P 07 41 30.0 +1.8**
M29M Somme Creek 79.27 350 P **P 07 41 31.4 +2.1**
M29M IAmb IAmb 07 41 32.4
comp=Z,1.9nm,0.6s
RND Reindeer 79.36 355 P **P 07 41 29.5 -0.2**
DHY Denali Highway 79.58 355 P **P 07 41 32.4 +1.4**
DHY IAmb IAmb 07 41 33.2
comp=Z,2.8nm,1.0s
K20K Telida 79.66 358 P **P 07 41 32.8 +1.5**
K20K IAmb IAmb 07 41 41.0
comp=Z,8.1nm,1.4s
KSRS Korea Array 79.69 51 P **P 07 41 30.7 -1.1**
comp=Z,1.0nm,0.6s,baz=306,slow=4.1,SNR=2.4
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 95.84 314 P **P 07 42 50.7 -0.2**
comp=Z,0.1nm,0.5s,baz=61,slow=4.5,SNR=1.8
comp=Z,0.1nm,0.5s
WRA Warramunga Arr 120.19 93 PKP **PKPdf 07 48 15.9 +0.4**
comp=Z,0.4nm,0.9s,baz=326,slow=1.6,SNR=1.4
ASAR Alice Springs 121.77 97 PKP **PKPdf 07 48 18.8 +0.4**
comp=Z,0.3nm,0.6s,baz=329,slow=2.2,SNR=4.8

---

*IDC **29** 07:36:12.3±0.8, 28°.8N×139°.7E, h398km±12km, mb2.9/9, mbtmp3.7/11, Error ellipse: s-maj=26.1km s-min=14.5km az=72.0*

ISC 29 07:36:12.5±0.8, 28°.8N±0°.1×139°.7E±0°.2, h400km, n11, σ0°.73/12, mb3.0/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.75**	**127**	P	**Pn**		**07 37 13.9**	**+0.1**
	65nm,0.4s,baz=282,slow=8.2,SNR=9.2							
JCJ				S	**S**		**07 38 03.3**	**0.0**
	108nm,0.4s,baz=282,slow=18,SNR=13							
KSRS	**Korea Array**	**13.13**	**314**	P	**P**		**07 39 05.8**	**+1.3**
	0.9nm,0.7s,baz=126,slow=12,SNR=1.8							
SONM	**Songino Array**	**32.00**	**316**	P	**P**		**07 42 03.6**	**+0.1**
	0.5nm,0.5s,baz=122,slow=10,SNR=2.4							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**47.73**	**309**	P	**P**		**07 44 10.5**	**-0.5**
	0.3nm,0.4s,baz=100,slow=8.7,SNR=3.5							
	0.3nm,0.4s							
WRA	**Warramunga Arr**	**48.71**	**187**	P	**P**		**07 44 18.6**	**0.0**
	0.3nm,0.4s,baz=2.7,slow=7.7,SNR=9.1							
	0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**50.31**	**314**	P	**P**		**07 44 29.9**	**-0.3**
	1.0nm,0.5s,baz=88,slow=7.6,SNR=7.3							
	1.0nm,0.5s							
ASAR	**Alice Springs**	**52.43**	**187**	P	**P**		**07 44 46.1**	**+0.1**
	0.3nm,0.6s,baz=0.8,slow=6.7,SNR=7.1							
	0.3nm,0.6s							
BVAR	**Borovoye Array**	**55.33**	**317**	P	**P**		**07 45 05.9**	**-0.5**
	0.9nm,0.5s,baz=79,slow=7.5,SNR=4.0							
	0.9nm,0.5s							
ILAR	**Eielson Array**	**57.31**	**29**	P	**P**		**07 45 19.9**	**0.0**
	0.3nm,0.9s,baz=281,slow=9.1,SNR=2.8							
	0.3nm,0.9s							
FINES	**FINESS Array B**	**75.48**	**333**	P	**P**		**07 47 12.2**	**-1.4**
	4.5nm,1.1s,baz=70,slow=4.6,SNR=5.7							
	4.5nm,1.1s							
NVAR	**Mina Array Bea**	**81.18**	**51**	P	**P**		**07 47 45.9**	**+0.6**
	0.1nm,0.5s,baz=280,slow=5.2,SNR=2.1							
	0.1nm,0.5s							

IDC 29 07:51:04.7±2.1, 6°.30S×128°.84E, h0km, mb3.8/1, mbtmp3.7/3, ML3.7/2, MS2.9/1, Error ellipse: s-maj=115.1km s-min=31.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**13.67**	**346**	LR		LR	08 00 40.8	
	comp=Z,52nm,18.7s,baz=169,slow=42							
WRA	**Warramunga Arr**	**14.58**	**159**	Pn		Pn	07 54 32.2	-0.2
	0.4nm,0.3s,baz=338,slow=13,SNR=19							
WRA				Sn		Sn	07 56 59.4	-15
	0.5nm,0.3s,baz=330,slow=21,SNR=11							
	0.5nm,0.3s							
ASAR	**Alice Springs**	**17.94**	**165**	P		Pn	07 55 15.8	0.0
	0.3nm,0.3s,baz=347,slow=11,SNR=25							
ASAR				S		Sn	07 58 22.2	-14
	0.4nm,0.5s,baz=351,slow=27,SNR=6.1							
	0.9nm,0.5s							
MKAR	**Makanchi Array**	**67.02**	**327**	P		P	08 01 59.7	0.0
	0.4nm,0.4s,baz=111,slow=7.9,SNR=5.3							
	0.4nm,0.4s							

---

*FUNV **29** 07:56:59.0, 9°.65N×63°.15W, h10km, MW3.9*
*TRN **29** 07:57:01.0, 9°.51N×62°.65W, h147km, MD4.0*

ISC 29 07:56:59.3±2.2, 9°.7N±0°.1×63°.21W±0°.05, h28km±15km, n31, σ1°.64/47, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**1.02**	**359**	*eP*		**Pb**	**07 57 16.9**	**-1.5**
CRUV				*eS*		**Sb**	**07 57 29.5**	**-1.8**
CUMV	**Cumana_UDO**	**1.24**	**309**	*eP*		**Pb**	**07 57 22.2**	**+0.2**
CUMV				*eS*		**Sb**	**07 57 39.5**	**+2.0**
PCRV	**Puerto La Cruz**	**1.50**	**291**	*eP*		**Pb**	**07 57 26.2**	**-0.3**
PCRV				*eS*		**Sb**	**07 57 44.6**	**-0.4**
TRN	**Trinidad (W)**	**2.04**	**61**	*eP*		**Pn**	**07 57 33.0**	**+1.2**
TRN				*eS*		**Sn**	**07 57 54.4**	**-1.9**
GRGR	**Grenville**	**2.90**	**32**	*eP*		**Pn**	**07 57 45.1**	**+1.4**
GRGR				*eS*		**Sn**	**07 58 18.5**	**+0.8**
GRW	**Mount Saint Ca**	**2.92**	**31**	*eP*		**Pn**	**07 57 46.5**	**+2.5**
GRW				*eS*		**Sn**	**07 58 18.9**	**+0.7**
GRHS	**Sauteurs**	**2.99**	**31**	*eP*		**Pn**	**07 57 46.2**	**+1.4**
GRHS				*eS*		**Sn**	**07 58 19.9**	**+0.2**
GCMP	**Grenada, Carri**	**3.32**	**32**	*eP*		**Pn**	**07 57 50.0**	**+0.6**
GCMP				*eS*		**Sn**	**07 58 27.6**	**-0.3**
FUNV	**FUNVISIS**	**3.63**	**283**	*eP*		**Pn**	**07 57 54.9**	**+1.0**
FUNV				*eS*		**Sn**	**07 58 36.4**	**+0.5**
CARV	**Caracas**	**3.76**	**283**	*eP*		**Pn**	**07 57 56.3**	**+0.8**
CARV				*eS*		**Sn**	**07 58 39.4**	**+0.5**
TACV	**Tcata**	**3.79**	**278**	*eP*		**Pn**	**07 57 57.1**	**+1.2**
TACV				*eS*		**Sn**	**07 58 40.0**	**+0.4**
CACV	**CAICARA DEL OR**	**3.89**	**238**	*eP*		Pn	07 57 52.5	-4.8
CACV				*eS*		Sn	07 58 33.0	-9.0
SVB	**Belmont**	**4.08**	**28**	*eP*		**Pn**	**07 58 00.8**	**+0.9**
SVB				*eS*		**Sn**	**07 58 45.0**	**-1.8**
BENV	**Beln**	**4.33**	**274**	*eP*		**Pn**	**07 58 05.5**	**+2.1**
BENV				*eS*		**Sn**	**07 58 52.7**	**-0.4**
MCLT	**Moule a Chique**	**4.61**	**29**	*eP*		**Pn**	**07 58 07.9**	**+0.8**
TURV	**Turiamo**	**4.63**	**280**	*eP*		**Pn**	**07 58 08.1**	**+0.7**
TURV				*eS*		**Sn**	**07 58 59.9**	**-0.3**
BAUV	**El Baul**	**4.82**	**262**	*eP*		**Pn**	**07 58 10.6**	**+0.6**
BAUV				*eS*		**Sn**	**07 59 04.0**	**-0.9**
SLBI	**Saint Lucia, B**	**4.87**	**27**	*eP*		**Pn**	**07 58 11.3**	**+0.6**
BIM	**Bigot**	**5.27**	**23**	*eP*		**Pn**	**07 58 17.1**	**+0.8**
BIM	**Bigot**	**5.27**	**23**	*eS*		**Sn**	**07 59 12.1**	**-4.0**
MPOM	**Morne Pois Mar**	**5.29**	**26**	*e*		**Pb**	**07 58 32.2**	**+1.1**
TEPV	**Terepaima**	**5.90**	**274**	*eP*		**Pn**	**07 58 25.2**	**+0.3**
TEPV				*eS*		**Sn**	**07 59 29.3**	**-2.4**
SANV	**Sanarito**	**6.24**	**269**	*eP*		**Pn**	**07 58 29.0**	**-0.7**
SANV				*eS*		**Sn**	**07 59 37.8**	**-2.4**
TDBA	**Terre de Bas,**	**6.35**	**14**	*e*		**Pn**	**07 58 34.9**	**+3.8**
MAGL	**Barre de l'ile**	**6.54**	**17**	*eP*		**Pn**	**07 58 35.1**	**+1.5**
CBE	**Ff, Capester**	**6.57**	**14**	*e*		**Pn**	**07 58 31.9**	**-2.2**
SIQV	**Siquisique**	**6.57**	**279**	*eP*		**Pn**	**07 58 33.6**	**-0.5**
SIQV				*eS*		**Sn**	**07 59 44.1**	**-4.1**
ABD	**La Joyeuse, An**	**6.99**	**14**	*e*		Pb	07 59 11.8	+12
MLYT	**Lee's Yard**	**7.10**	**8**	*eP*		**Pn**	**07 58 42.6**	**+1.2**
MBFL	**Flemmings, Mon**	**7.12**	**8**	*eP*		**Pn**	**07 58 42.6**	**+0.9**
ANBD	**Bethesda, Anti**	**7.49**	**11**	*eP*		**Pn**	**07 58 48.3**	**+1.6**

IDC 29 08:17:39.5±1.4, 35°.52S×99°.86W, h0km, mb3.5/5, mbtmp3.5/5, MS3.5/14, Error ellipse: s-maj=51.0km s-min=33.6km az=102.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**11.63**	**313**	LR		LR	08 23 49.9	
	comp=Z,181nm,20.4s,baz=132,slow=32							
H03S2	**Juan Fernandez**	**17.30**	**90**	T		T	08 39 33.5	
	baz=254,slow=75,SNR=8.1							
H03S1	**Juan Fernandez**	**17.32**	**91**	T		T	08 39 33.7	
	baz=254,slow=75,SNR=4.7							
H03S3	**Juan Fernandez**	**17.38**	**90**	T		T	08 39 33.4	
	baz=254,slow=75,SNR=5.0							
H03N2	**Juan Fernandez**	**17.38**	**89**	T		T	08 39 34.8	
	baz=248,slow=72,SNR=11							
H03N3	**Juan Fernandez**	**17.39**	**89**	T		T	08 39 35.5	
	baz=248,slow=72,SNR=12							
H03N1	**Juan Fernandez**	**17.40**	**89**	T		T	08 39 37.0	
	baz=248,slow=72,SNR=12							
LVC	**Limon Verde**	**29.82**	**73**	LR		LR	08 33 03.0	
	comp=Z,44nm,21.5s,baz=230,slow=31							
NNA	**Nana**	**31.35**	**47**	LR		LR	08 33 04.3	
	comp=Z,77nm,20.8s,baz=220,slow=30							
LPAZ	**La Paz**	**34.15**	**64**	P		P	08 24 27.1	-0.1
	1.0nm,0.7s,baz=225,slow=7.1,SNR=3.4							
LPAZ				LR		LR	08 35 02.3	
	comp=Z,62nm,20.2s,baz=210,slow=30							
	1.0nm,0.7s							
ATAH	**Atahualpa**	**34.44**	**40**	LR		LR	08 35 12.7	
	comp=Z,76nm,21.5s,baz=222,slow=31							
PMSA	**Palmer Station**	**36.29**	**155**	LR		LR	08 36 23.1	
	comp=Z,101nm,19.6s,baz=72,slow=31							
CPUP	**Villa Florida**	**37.38**	**88**	LR		LR	08 36 48.9	
	comp=Z,39nm,18.3s,baz=227,slow=31							
SIV	**San Ignacio**	**39.66**	**71**	LR		LR	08 38 39.5	
	comp=Z,80nm,20.8s,baz=283,slow=32							
ROSC	**El Rosal**	**46.77**	**36**	LR		LR	08 42 37.4	
	comp=Z,77nm,19.1s,baz=202,slow=32							
JTS	**Las Juntas de**	**47.69**	**20**	LR		LR	08 41 22.3	
	comp=Z,65nm,21.7s,baz=279,slow=30							
SDV	**Santo Domingo**	**52.07**	**38**	LR		LR	08 47 58.4	
	comp=Z,42nm,18.7s,baz=200,slow=35							
PCRV	**Puerto La Cruz**	**56.32**	**43**	LR		LR	08 50 05.3	
	comp=Z,68nm,18.2s,slow=34							
VNDA	**Vanda**	**57.39**	**195**	P		P	08 27 29.1	0.0
	0.3nm,0.4s,baz=90,slow=3.0,SNR=2.0							
	0.3nm,0.4s							
MDP	**Montagnes des**	**59

PCG	Pacaya	0.25	193	eP	Pg	08 28 27.7 +0.3
PCG				eS	Sg	08 28 31.4 +0.4
FUG	Fuego 3	0.34	237	⇑eP	Pb	08 28 29.1 -0.8
FUG				eS	Sg	08 28 33.6 -0.1
SLOZ	Alcaldia de Sa	0.96	129	eP	Pg	08 28 39.2 -1.2
STG3	Santiaguito 3,	0.99	275	eP	Pb	08 28 41.2 +0.1
STG3				eS	Sb	08 28 54.5 +0.4
SULM	Suchitepequez,	1.04	252	eP	Pn	08 28 42.7 +0.6
SULM				eS	Sg	08 28 53.4 -2.2
NUBE	Las Nubes	1.04	134	eP	Pg	08 28 41.0 -1.1
NUBE				eS	Sb	08 28 55.2 -0.3
NUBE				IAML		08 28 56.2
	comp=Z,60nm,0.2s					
ESQI	Esquipulas	1.17	93	eP	Pg	08 28 43.7 -0.9
ESQI				eS	Sn	08 29 01.1 +1.1
MTO3	Montecristo	1.17	101	eP	Pg	08 28 43.4 -1.3
CEVE	Cerro Verde	1.20	132	eP	Pb	08 28 44.2 -0.5
CEVE				eS	Sn	08 29 01.2 +0.3
CEVE				IAML		08 29 01.9
	comp=Z,206nm,0.2s					
JAYA	Jayaque - finc	1.44	132	eP	Pb	08 28 48.2 -0.5
JAYA				eS	Sn	08 29 09.9 +3.2
PMON	Piamonte	1.51	127	eP	Pb	08 28 49.2 -0.6
PMON				eS	Sg	08 29 10.4 -0.2

IDC 29 08:32:00.2±5.0, 18°.79S×178°.18W, h521km±39km, mb2.7/4, mbtmp3.6/5, Error ellipse: s-maj=184.0km s-min=23.3km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.73	286	P	P	08 33 18.1	0.0
	44nm,0.7s,baz=131,slow=12,SNR=26						
WRA	Warramunga Arr	44.69	260	P	P	08 39 25.5	-1.3
	0.3nm,0.8s,baz=96,slow=8.2,SNR=1.8						
	0.3nm,0.8s						
ASAR	Alice Springs	44.77	255	P	P	08 39 27.8	+0.4
	1.8nm,0.5s,baz=88,slow=8.1,SNR=27						
	1.8nm,0.5s						
NVAR	Mina Array Bea	79.91	44	P	P	08 43 13.5	-1.5
	0.2nm,0.7s,baz=226,slow=7.2,SNR=2.2						
	0.2nm,0.7s						
TXAR	Lajitas Array	86.28	57	P	P	08 43 48.3	+1.3
	0.4nm,0.8s,baz=208,slow=5.1,SNR=4.4						
	0.4nm,0.8s						

*NNC **29** 08:40:17.1±1.2, 50°.82N×73°.73E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=12.2km s-min=9.5km az=25.0, Suspected Mining explosion.*
*IDC **29** 08:40:21.5±1.3, 51°.06N×73°.73E, h0km, mbtmp2.8/3, ML2.3/3, Error ellipse: s-maj=24.4km s-min=7.6km az=31.0*
ISC 29 08:40:19.2±1.1, 51°.04N±0°.07×73°.54E±0°.07, h0km, n13, σ1§03/15, 8C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVA0	Borovoye Array	2.79	317	⇑Pg	Pg	08 41 12.0	-0.5
	4.8nm,0.8s,baz=140,slow=16,SNR=18						
BVA0				⇑Lg	Lg	08 41 52.8	
	44nm,0.9s,baz=140,slow=32,SNR=18						
BVAR	Borovoye Array	2.79	317	Pg	Pg	08 41 11.9	-0.6
	0.2nm,0.3s,baz=134,slow=16,SNR=14						
BVAR				Lg	Lg	08 41 53.4	
	0.4nm,0.3s,baz=128,slow=27,SNR=10						
BRVK	Borovoye	2.85	317	⇓Pg	Pg	08 41 14.5	+0.7
	10nm,1.0s						
BRVK				⇓Lg	Lg	08 41 55.1	
	66nm,0.9s						
OTUK	Ortayu	2.90	196	⇓Pg	Pn	08 41 08.0	+1.4
	8.9nm,0.8s						
OTUK				⇑Lg	Lg	08 41 45.0	
	67nm,0.9s						
KURBB	Kurchatov Arra	3.19	95	⇓Pg	Pn	08 41 11.0	+0.5
	14nm,0.9s						
KURBB				⇑Lg	Lg	08 41 56.6	
	183nm,0.9s						
KURBB	Kurchatov Arra	3.19	95	Pn	Pn	08 41 10.2	-0.4
	0.2nm,0.3s,baz=278,slow=14,SNR=32						
KURBB				Pg	Pb	08 41 17.0	+0.3
	0.4nm,0.3s,baz=279,slow=15,SNR=9.3						
KURBB				Lg	Lg	08 41 56.9	
	0.3nm,0.3s,baz=277,slow=30,SNR=6.6						
	4.2nm,0.7s						
KURK	Kurchatov	3.23	94	⇑Pg	Pn	08 41 11.7	+0.5
	9.3nm,0.8s						
KURK				⇑Lg	Lg	08 41 56.7	
	78nm,0.9s						
MAKZ	Makanchi	6.98	124	⇑Pg	Lg	08 43 54.3	
	21nm,0.8s						
MK31	Makanchi Array	7.16	123	⇑Pg	Pb	08 42 25.1	+0.8
	2.9nm,0.9s,baz=29,slow=124,SNR=4.1						
MK31				Lg	Lg	08 43 57.2	
	20nm,0.8s,baz=317,slow=25,SNR=4.1						
MKAR	Makanchi Array	7.16	123	Pn	Pn	08 42 05.0	-0.1
	0.1nm,0.3s,baz=303,slow=14,SNR=2.4						
MKAR				Pg	Pb	08 42 23.7	-0.6
	0.1nm,0.3s,baz=304,slow=16,SNR=3.7						
MKAR				Sn	Sn	08 43 25.6	-1.4
	0.2nm,0.3s,baz=277,slow=23,SNR=1.5						
MKAR				Lg	Lg	08 44 01.4	
	0.4nm,0.3s,baz=314,slow=28,SNR=7.9						
	0.3nm,0.5s						
I46RU	ZALESOVO INFRA	7.48	63	I	I	09 23 07.2	
	baz=249,slow=309,SNR=1.1						
ZALV	Zalesovo Beam	7.48	63	Pn	Pn	08 42 11.6	+2.2
	0.3nm,0.3s,baz=290,slow=18,SNR=1.7						
ZALV				Pg	Pb	08 42 29.4	-0.3
	0.2nm,0.3s,baz=253,slow=15,SNR=4.3						
ZALV				Sn	Sn	08 43 33.9	-0.9
	0.3nm,0.3s,baz=248,slow=23,SNR=2.6						
ZALV				Lg	Lg	08 44 14.7	
	0.1nm,0.3s,baz=247,slow=22,SNR=2.0						
	0.3nm,0.3s						
KK31	Karatay Array	8.20	196	⇓Lg	Lg	08 44 33.1	
	9.5nm,1.0s,baz=18,slow=26,SNR=3.9						

*AFAD **29** 10:03:04.9±0.0, 38°.43N×39°.28E, h7km±5km, ML2.1*
*ISK **29** 10:03:04.2, 38°.44N×39°.25E, h3km, ML2.5/10*
ISC 29 10:03:04.7±1.3, 38°.44N±0°.03×39°.29E±0°.03, h4km±11km, n15, σ0§52/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.07	172	Pg	Pg	10 03 06.2	-0.1
PTK	Pertek	0.46	10	Pg	Pg	10 03 13.9	+0.4
PTK				Sg	Sb	10 03 21.6	-1.1
KOVA	Elazig, Kovanc	0.48	57	P	Pg	10 03 14.3	+0.2
KOVA				S	Sb	10 03 23.8	+0.4
DYBB	Diyarbakir	0.83	126	Pg	Pb	10 03 21.5	-0.2
HANI	Diyarbakir_Han	0.87	92	P	Pb	10 03 22.6	+0.2
HANI				S	Sb	10 03 35.1	+0.6
HANM	anlurfa/Hi	0.92	201	P	Pb	10 03 23.5	+0.2
HANM				S	Sn	10 03 37.4	-0.8
HANM				*i* AML	AML	10 03 39.0	
	comp=Z,57nm,0.3s						
ARPR	Arapgir-MALATY	0.99	311	Pg	Pg	10 03 23.6	-0.2
AZEY	Adyaman-Merk	1.04	233	P	Pb	10 03 25.4	+0.1
AZEY				S	Sn	10 03 41.8	+0.6
AZEY				*i* AML	AML	10 03 45.0	
	comp=Z,44nm,0.5s						
URFA	Urfa	1.07	201	Pg	Pg	10 03 24.7	-0.5
URFA				Sg	Sb	10 03 40.6	+0.4
MAZI	Mazidag	1.34	137	Pn	Pn	10 03 30.3	0.0
AKCA	Adyaman/G¶l	1.42	243	P	Pg	10 03 32.7	+0.7
DARE	Darende-Malaty	1.43	276	Pn	Pn	10 03 30.9	-0.6
SVAN	Silvan-Diyarba	1.53	100	Pn	Pb	10 03 33.3	-0.3
GAZ	Gaziantep	2.08	233	Pn	Pn	10 03 40.4	-0.1
SARI	SarD1z-Kayseri	2.26	270	Pn	Pn	10 03 43.4	+0.4

*IDC **29** 10:05:09.3±0.7, 45°.29N×97°.69E, h0km, mb3.8/12, mbtmp3.8/18, ML3.3/6, MS3.2/7, Error ellipse: s-maj=20.5km s-min=12.0km az=22.0*
*NNC **29** 10:05:25.9±7.9, 46°.47N×97°.75E, h0km, mb4.3, Error ellipse: s-maj=139.3km s-min=71.7km az=10.0*
ISC 29 10:05:11.8±0.5, 45°.48N±0°.05×97°.56E±0°.05, h10km, n37, σ1§94/36, mb3.7/12, MS3.4/4, 3C-4D, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	6.29	164	Pn	Pn	10 06 46.3	+1.6
GTA				Pg	Pb	10 07 05.5	+4.1
GTA				Sn	Sn	10 07 54.8	-1.9
GTA				Sg	Sb	10 08 19.3	+2.5
GTA				smax	smax		
	comp=N,260nm,1.2s						
GTA				smax	smax		
	comp=E,360nm,0.9s						
GTA				LR	LR		
	comp=N,600nm,10.9s						
GTA				LR	LR		
	comp=E,1μm,8.7s						
GTA				LR	LR		
	comp=Z,690nm,9.5s						
SONM	Songino Array	6.52	66	Pn	Pn	10 06 46.7	-1.1
	comp=Z,3.6nm,0.3s,baz=246,slow=14,SNR=45						
SONM				Pg	Pb	10 07 06.4	+1.0
	comp=Z,16nm,0.3s,baz=248,slow=17,SNR=15						
SONM				Lg	Lg	10 08 32.3	
	comp=Z,65nm,0.3s,baz=250,slow=31,SNR=18						
SONM				LR	LR	10 09 48.3	
	comp=Z,84nm,18.1s,baz=248,slow=43						
	comp=Z,8.6nm,0.4s						
WMQ	Urumqi	7.23	260	eP	Pn	10 07 03.3	+5.9
WMQ				smax	smax		
	comp=N,180nm,1.3s						
WMQ				smax	smax		
	comp=E,190nm,1.7s						
GOMU	GeErMu	9.50	194	Pn	Pn	10 07 28.0	-1.0
GOMU				Pg		10 08 04.0	
GOMU				Sn	Sn	10 08 51.8	-24
GOMU				Sg		10 09 28.8	
GOMU				smax	smax		
	comp=N,33nm,1.0s						
GOMU				smax	smax		
	comp=E,80nm,0.9s						
GOMU				LR	LR		
	comp=N,370nm,11.7s						
GOMU				LR	LR		
	comp=E,280nm,9.6s						
GOMU				LR	LR		
	comp=Z,500nm,12.1s						
BTO	Baotou	10.34	114	eP	Pn	10 07 40.0	-0.2
BTO				pP		10 07 43.3	
BTO				sP		10 07 46.0	
BTO				PP	PnPn	10 07 48.8	+1.1
BTO				S	Sn	10 09 37.3	+1.2
BTO				pmax	pmax		
	comp=Z,15nm,0.5s						
BTO				pmax	pmax		
	comp=Z,320nm,7.2s						
BTO				LR	LR		
	comp=N,450nm,2.4s						
BTO				LR	LR		
	comp=E,550nm,3.6s						
BTO				LR	LR		
	comp=Z,370nm,4.9s						
MK31	Makanchi Array	10.68	283	⇓Pn	Pn	10 08 00.6	+16
	comp=Z,1.1nm,0.5s,baz=102,slow=14,SNR=5.2						
MK31				⇓Lg	Lg	10 11 02.8	
	comp=Z,30nm,0.9s,baz=109,slow=29,SNR=6.4						
MKAR	Makanchi Array	10.68	283	Pn	Pn	10 07 45.6	+0.9
	comp=Z,0.2nm,0.3s,baz=142,slow=43,SNR=2.1						
MKAR				Sn	Sn	10 09 43.9	-0.4
	comp=Z,0.5nm,0.3s,baz=90,slow=19,SNR=3.8						
MKAR				Lg	Lg	10 10 51.4	
	comp=Z,0.8nm,0.3s,baz=121,slow=14,SNR=2.0						
MKAR				LR	LR	10 11 21.4	
	comp=Z,68nm,19.5s,baz=104,slow=34						
	comp=Z,0.3nm,0.5s						
MAKZ	Makanchi	10.89	283	⇓Lg	Lg	10 11 10.0	
	comp=Z,65nm,1.1s						
ZALV	Zalesovo Beam	11.81	320	Pn	Pn	10 08 01.6	+1.5
	comp=Z,0.1nm,0.3s,baz=122,slow=11,SNR=4.5						
ZALV				Lg	Lg	10 11 24.6	
	comp=Z,0.3nm,0.3s,baz=127,slow=21,SNR=3.5						
	comp=Z,0.8nm,0.6s						
KURK	Kurchatov	13.68	299	⇑Pn	P	10 08 35.9	+1.4
	comp=Z,5.7nm,0.7s						
KURK				⇑Lg	Lg	10 12 32.1	
	comp=Z,53nm,1.3s						
KURBB	Kurchatov Arra	13.71	299	⇓Pn	P	10 08 36.0	+1.1
	comp=Z,8.8nm,1.3s						
KURBB				⇑Lg	Lg	10 12 31.0	
	comp=Z,67nm,0.8s						
KURBB	Kurchatov Arra	13.71	299	Pn	Pn	10 08 26.8	+0.7
	baz=102,slow=14,SNR=4.7						
KURBB				Lg	Lg	10 12 28.5	
	comp=Z,0.1nm,0.3s,baz=69,slow=2.0,SNR=3.6						
KURBB				LR	LR	10 13 54.8	
	comp=Z,86nm,18.3s,baz=150,slow=38						
	comp=Z,1.5nm,0.9s						
AAK	Ala-Archa	16.81	268	Pn	Pn	10 09 06.9	-0.4
	comp=Z,0.3nm,0.3s,baz=83,slow=8.1,SNR=1.8						
	comp=Z,1.0nm,0.5s						
KSH	Kashi	16.97	257	P	P	10 09 21.0	+10
BVAR	Borovoye Array	19.19	303	P	Pn	10 09 37.6	+1.2
	comp=Z,0.1nm,0.3s,baz=105,slow=10,SNR=9.2						
BVAR				Lg	Lg	10 15 19.9	
	baz=234,slow=39,SNR=1.1						
	comp=Z,2.0nm,0.5s						
TAPN	Taplejung	19.73	207	eP	P	10 09 37.4	-4.4
	comp=Z,8.8nm,0.4s						
JIRN	Jiri	19.95	211	eP	P	10 09 42.0	-2.3
	comp=Z,16nm,0.5s						
DANN	Dangsing	20.30	217	eP	Pn	10 09 49.7	-0.3
	comp=Z,11nm,0.5s						
PKIN	Phulchoki	20.32	213	eP	P	10 09 46.9	-1.3
	comp=Z,15nm,0.6s						
PKI	Pulchoki	20.32	213	eP	P	10 09 46.5	-1.8
	comp=Z,19nm,0.7s						
RAMN	Ramite	20.46	209	eP	P	10 09 44.8	-4.9
	comp=Z,20nm,0.8s						
PYUN	Piuthan	20.85	219	eP	P	10 09 55.1	+1.2
	comp=Z,25nm,0.6s						
KSRS	Korea Array	24.02	99	P	P	10 10 24.8	-1.8
	comp=Z,1.6nm,0.7s,baz=287,slow=8.8,SNR=4.7						
	comp=Z,1.6nm,0.7s						
USRK	Ussuriysk Ar.	24.34	81	P	P	10 10 27.8	-1.8
	comp=Z,1.4nm,0.6s,baz=280,slow=8.6,SNR=4.0						
	comp=Z,1.4nm,0.6s						
CMAR	Chiang Mai Arr	26.97	177	P	P	10 10 51.3	-2.3
	comp=Z,0.6nm,0.5s,baz=353,slow=10,SNR=1.4						
CMAR				LR	LR	10 22 16.0	
	comp=Z,60nm,18.4s,baz=235,slow=38						
	comp=Z,0.6nm,0.5s						
ASAJ	Asahikawa	31.68	76	LR	LR	10 25 23.8	
	comp=Z,78nm,18.2s,baz=274,slow=38						
PETK	Petropavlovsk-	38.91	56	P	P	10 12 36.9	-0.4
	comp=Z,6.1nm,0.9s,baz=225,slow=4.0,SNR=3.9						
	comp=Z,6.1nm,0.9s						
ARCES	ARCESS Array B	42.14	330	P	P	10 13 04.5	+0.8
	comp=Z,3.0nm,0.9s,baz=83,slow=9.2,SNR=9.8						
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	43.06	318	P	P	10 13 12.2	+0.9
	comp=Z,4.6nm,1.0s,baz=86,slow=7.7,SNR=7.9						
	comp=Z,4.6nm,1.0s						
DAV	Davao City (W)	45.31	139	LR	LR	10 34 43.9	
	comp=Z,64nm,18.8s,baz=214,slow=39						
BRTR	Keskin Array B	46.30	287	P	P	10 13 38.3	+0.7
	comp=Z,0.3nm,0.7s,baz=67,slow=8.0,SNR=2.3						
	comp=Z,0.3nm,0.7s						
HFS	Hagfors	49.24	319	P	P	10 14 00.5	+0.5
	comp=Z,1.6nm,0.4s,baz=89,slow=9.5,SNR=6.1						
	comp=Z,1.6nm,0.4s						
NOA	NORSAR Array B	50.01	321	P	P	10 14 05.8	0.0
	comp=Z,0.6nm,0.6s,baz=66,slow=7.4,SNR=1.9						
	comp=Z,0.6nm,0.6s						
IDI	Anoyia	54.54	287	LR	LR	10 39 32.7	
	comp=Z,23nm,19.2s,baz=224,slow=38						
ILAR	Eielson Array	59.20	27	P	P	10 15 12.4	-0.1
	comp=Z,1.0nm,0.9s,baz=298,slow=4.1,SNR=11						
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	73.19	144	P	P	10 16 40.0	-2.7
	comp=Z,0.4nm,0.7s,baz=343,slow=6.5,SNR=5.8						
	comp=Z,0.4nm,0.7s						
ASAR	Alice Springs	76.36	146	P	P	10 16 59.0	-2.0
	comp=Z,0.2nm,0.6s,baz=351,slow=5.4,SNR=6.7						
	comp=Z,0.2nm,0.6s						

*NIED **29** 10:05:48.9, 31°.36N×132°.01E, h21km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.52; $M_{\theta\theta}$-1.22; $M_{\phi\phi}$-3.29; $M_{r\theta}$-0.41; $M_{\theta\phi}$-5.77; $M_{\phi r}$-0.82; Fault plane solution: $M_0$6.40000×10^{14} NP1: ϕ_s209.00000°, δ50.00000°, λ75.00000°. NP2:ϕ_s52.00000°, δ42.00000°, λ107.00000°.*
JMA 29 10:05:48.9±0.2, 31°.4N±0°.5×132°.0E±0°.8, h21km±2km,

MV3.8/38, 4D, HYUGANADA REGION, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNKG	Nichinankitago	0.62	299	⇓P	Pb	10 06 00.6	-0.6
JNKG				⇓eS	Sb	10 06 09.0	-0.5
JNAR	Kushima--Naru	0.66	285	⇓P	Pb	10 06 01.6	-0.1
JNAR				⇓S	Sb	10 06 11.1	+0.6
JTSR	Tashiro 2	0.95	259	P	Pb	10 06 06.7	0.0
JTSR				eS	Sn	10 06 19.7	-0.4
JTZ	Takazaki	0.96	305	*i* P	Pb	10 06 06.3	-0.5
JTZ				S	Sn	10 06 20.3	+0.1
JTSN	Tsuno	0.99	334	*i* P	Pb	10 06 07.1	-0.2
JTSN				S	Sn	10 06 20.8	0.0
JHHC	Hyugahichiya	1.13	344	*i* P	Pn	10 06 09.1	-0.3
JHHC				eS	Sb	10 06 24.0	+0.1
JTN	Tanegashima 3	1.13	232	eP	Pb	10 06 09.9	+0.2
JSU	Suzuyama	1.34	277	P	Pn	10 06 12.2	-0.2
JMTN	Minamitane	1.35	225	eP	Pb	10 06 13.5	0.0
JZO	Okuchi	1.44	303	*i* P	Pn	10 06 13.6	-0.2
JZO				eS	Sn	10 06 32.2	+0.2
JIU3	Izumi3	1.57	320	*i* P	Pn	10 06 15.9	+0.4

DJA 29 10:15:24.8±0.3, 8°S±3°×12°8E±°, h103km±12km, M4.1/10, mB6.0/1, mb3.8/10, MLv4.2/10, Mw(mB)5.7/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	3.76	27	P	Pn	10 16 19.2	-1.7
SOEI	Soe	4.31	245	P	Pn	10 16 26.7	-1.6
BATI	Baumata	5.04	243	P	Pn	10 16 38.0	-0.1
	46nm,0.8s,0.2nm						
FAKI	Fak Fak	6.38	39	P	Pn	10 16 57.0	+0.6
	16nm,1.0s,0.1nm						
EDFI	Ende, Flores	6.50	262	P	Pn	10 16 58.5	+0.4
	3.3nm,1.2s,0.0nm						
SWI	Sorong	7.63	24	P	Pn	10 17 13.4	+0.1
	18nm,0.7s,0.1nm						

*WEL **29** 10:22:54.6±0.4, 37°S±3°×17°7E±°, h7km±2km, M3.5/59, ML3.6/44, MLv3.5/59, Error ellipse: s-maj=0.0km s-min=0.0km az=24.0, confirmed*
*NOU **29** 10:22:54.8, 37°.46S×177°.21E, h4km, MLv3.7/9, Off E. Coast of N. Island, N.Z.*
ISC 29 10:22:55.7±0.9, 37°.48S±0°.03×177°.29E±0°.02, h15km±5km, n93, σ1§03/110, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.10	238	P	Pg	10 22 58.8	-0.2
WIZ				S	Sg	10 23 00.9	-0.2
WSRZ	White Island S	0.10	245	P	Pg	10 22 59.5	+0.5
WSRZ				S	Sg	10 23 01.2	0.0
WHRZ	Whale Island	0.46	213	P	Pn	10 23 07.0	-0.7
WHRZ				S	Sb	10 23 12.0	-0.1
HAZ	Te Kaha	0.48	126	P	Pg	10 23 03.6	-1.7
HAZ				S	Sg	10 23 10.4	-1.3
RUGZ	Raukumara Rang	0.58	148	P	Pg	10 23 05.6	-1.6
RUGZ				S	Sg	10 23 14.3	-0.6
OPRZ	Ohinepanea	0.69	238	P	Pb	10 23 09.0	-0.4
OPRZ				S	Sb	10 23 19.5	+0.7
MARZ	Manawahe	0.70	224	P	Pb	10 23 09.5	-0.2
MARZ				S	Sb	10 23 20.5	+1.2
PKGZ	Pakihiroa	0.75	124	P	Pg	10 23 08.5	-1.8
PKGZ				S	Sg	10 23 19.6	-0.5
EDRZ	Edgecumbe	0.77	215	P	Pb	10 23 10.7	-0.1
EDRZ				S	Sb	10 23 22.6	+1.5
URZ	Urewera	0.80	190	P	Pg	10 23 10.1	-1.1
URZ	Urewera	0.80	190	P	Pg	10 23 10.0	-1.1
URZ				S	Sb	10 23 22.1	+0.3
MXZ	Matakaoa Point	0.81	96	P	Pb	10 23 12.0	+0.5
MXZ	Matakaoa Point	0.81	96	P	Pg	10 23 10.2	-1.3
MXZ				S	Sb	10 23 24.1	+1.8
TGRZ	Tauranga	0.86	253	P	Pb	10 23 11.9	-0.4
MYRZ	Mayor Island	0.86	283	P	Pn	10 23 13.1	-0.2
MYRZ				S	Sn	10 23 27.1	+1.5
MWZ	Matawai	0.88	168	P	Pg	10 23 11.2	-1.5
MWZ				S	Sg	10 23 23.3	-1.0
TWGZ	Tauwhareparae	0.89	142	P	Pg	10 23 12.0	-1.0
TWGZ				S	Sb	10 23 25.6	+1.1
LIRZ	Lichensteins R	0.89	234	P	Pb	10 23 13.2	+0.3
WMGZ	Waiomatatini S	0.95	111	P	Pg	10 23 13.3	-0.9
WMGZ				S	Sn	10 23 28.9	+1.0
OMRZ	Omania	0.96	229	P	Pb	10 23 14.1	0.0
PUZ	Puketiti	0.97	128	P	Pg	10 23 13.5	-1.0
PUZ				S	Sb	10 23 28.6	+1.7
TARZ	Mount Tarawera	0.98	219	P	Pn	10 23 15.7	+0.7
KARZ	Kaharoa	0.99	236	P	Pg	10 23 14.0	-0.9
RAGZ	Rawiri	1.02	175	P	Pg	10 23 14.2	-1.3
RAGZ				S	Sg	10 23 27.6	-1.3
TKGZ	Te Karaka	1.06	156	P	Pg	10 23 15.3	-0.9
TKGZ				S	Sb	10 23 31.0	+1.6
RRRZ	Republican Roa	1.06	215	P	Pb	10 23 16.0	+0.3
HLRZ	Highlands Stat	1.07	224	P	Pn	10 23 21.6	+5.4
MUGZ	Murupara	1.08	202	P	Pg	10 23 15.0	-1.6
MUGZ				S	Sg	10 23 28.5	-2.3
UTU	Utuhina	1.12	231	P	Pn	10 23 22.2	+5.4
RTZ	Ruatahuna	1.16	192	P	Pg	10 23 16.3	-1.9
HRRZ	Handcock Road	1.21	221	P	Pn	10 23 20.3	+2.2
CNGZ	Carnagh Statio	1.24	145	P	Pb	10 23 19.8	+1.0
PRRZ	Plateau Road	1.24	215	P	Pn	10 23 19.1	+0.5
RIGZ	Rimuhau	1.28	163	P	Pn	10 23 19.4	+0.3
SNGZ	Shannon Statio	1.30	178	P	Pn	10 23 18.7	-0.7
ALRZ	Allen Road	1.32	214	P	Pg	10 23 20.5	-0.6
MTHZ	Maungataniwha	1.42	194	P	Pn	10 23 21.1	+0.1
TOZ	Tahuroa Road	1.44	259	P	Pn	10 23 20.1	-1.2
RAHZ	Arahi	1.45	186	P	Pb	10 23 22.3	0.0
KUZ	Kuaotunu	1.45	300	P	Pn	10 23 19.9	-1.5
KUZ	Kuaotunu	1.45	300	P	Pn	10 23 19.9	-1.5
PRGZ	Paritu Road	1.52	162	P	Pb	10 23 23.5	-0.1
MRHZ	Matea Rd	1.52	207	P	Pn	10 23 22.9	+0.5
KNZ	Kokohu	1.57	169	P	Pn	10 23 23.2	+0.1
WHHZ	Waihua	1.60	182	P	Pb	10 23 24.9	0.0
NMHZ	Naumai	1.66	193	P	Pg	10 23 27.9	+0.2
MKAZ	Moumakai	1.74	282	P	Pn	10 23 24.5	-0.8
MHGZ	Mahia Peninsul	1.74	164	P	Pg	10 23 28.7	-0.5
ARHZ	Aropaoanui	1.80	187	P	Pn	10 23 27.1	+0.9
BKZ	Black Stump Fm	1.80	200	P	Pn	10 23 25.8	-0.5
BKZ	Black Stump Fm	1.80	200	P	Pn	10 23 25.4	-0.8
WIAZ	Waiheke Island	1.85	291	P	Pn	10 23 26.3	-0.6
RITZ	Rihia Road

QRZ	Quartz Range	4.99 226	P	Pn	10 24 10.8 +0.8
KHZ	Kahutara	5.71 209	P	Pn	10 24 20.3 +0.3
CTZ	Chatham Island	7.78 145	P	Pn	10 24 48.8 +0.5

*WEL **29** 10:24:00,37.°46S×177.°34E,h6km,ML4.1,Mw4.2, Moment Tensor Solution. s10 Moment tensor: Scale 1015Nm; Mrr-1.73; Mθθ2.06; Mφφ-0.32; Mrθ0.26; Mrφ0.29; Mθφ-0.97; Fault plane solution: M0 2.18000×1015 NP1: φs=58.00000°,δ49.00000°,λ-128.00000°. NP2: φs=288.00000°,δ53.00000°,λ-55.00000°. Principal axes: T 209.8800, Plg2.0000°, Azm354.0000°; N -225.5900, Plg28.0000°, Azm84.0000°; P 15.7100, Plg62.0000°, Azm260.0000°;*

*IDC **29** 10:24:24.7±1.3,37.°54S×177.°83E,h0km,mb4.2/6, mbtmp4.2/7,ML3.5/1,MS3.4/5 Error ellipse: s-maj=31.2km s-min=23.1km az=92.0*

*NOU **29** 10:24:28.6,37.°47S×177.°35E,h12km,MLv4.3/12,Off E. Coast of N. Island, N.Z.*

ISC 29 10:24:29.0±0.8,37.°50S±0.°03×177.°33E±0.°02,h16km±4km, n168,σ1§11/184,mb4.2/6,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.12 257		P	Pg	10 24 32.5	-0.1
WIZ				S	Sg	10 24 34.7	-0.3
WSRZ	White Island S	0.12 262		P	Pg	10 24 32.8	+0.1
WSRZ				S	Sg	10 24 34.9	-0.2
HAZ	Te Kaha	0.44 126		P	Pg	10 24 37.5	-0.3
HAZ				S	Sg	10 24 44.4	+0.5
WHRZ	Whale Island	0.46 219		P	Pb	10 24 39.0	+0.3
WHRZ				S	Sb	10 24 45.8	+0.5
RUGZ	Raukumara Rang	0.54 150		P	Pg	10 24 39.4	-0.3
RUGZ				S	Sg	10 24 47.4	+0.4
OPRZ	Ohinepanea	0.71 241		P	Pg	10 24 42.9	+0.1
OPRZ				S	Sb	10 24 53.4	+0.9
PKGZ	Pakihiroa	0.71 124		P	Pg	10 24 42.4	-0.5
PKGZ				S	Sb	10 24 53.2	+0.6
MARZ	Manawahe	0.71 227		P	Pb	10 24 43.3	+0.2
MARZ				S	Sn	10 24 54.1	-1.0
EDRZ	Edgecumbe	0.77 218		P	Pb	10 24 44.2	+0.2
EDRZ				S	Sb	10 24 55.5	+1.2
MXZ	Matakaoa Point	0.78 95		P	Pg	10 24 44.4	+0.2
MXZ	Matakaoa Point	0.78 95		P	Pb	10 24 43.1	-1.1
MXZ				S	Sb	10 24 55.3	+0.8
URZ	Urewera	0.78 193		P	Pb	10 24 44.1	-0.1
URZ	Urewera	0.78 193		P	Pb	10 24 43.9	-0.3
URZ				S	Sb	10 24 55.2	+0.6
URZ	Urewera	0.78 193		Pn	Pb	10 24 43.9	-0.3
	977nm,0.3s,baz=357,slow=3.5,SNR=89						
URZ				Sn	Sg	10 24 52.8	-1.7
	1μm,0.3s,baz=272,slow=19,SNR=19						
MWZ	Matawai	0.85 170		P	Pb	10 24 45.1	-0.3
MWZ				S	Sn	10 24 57.9	-0.6
TWGZ	Tauwhareparae	0.85 143		P	Pg	10 24 45.9	+0.3
TWGZ				S	Sn	10 25 00.3	+1.7
TGRZ	Tauranga	0.88 255		P	Pb	10 24 45.7	-0.3
MYRZ	Mayor Island	0.90 284		P	Pb	10 24 46.0	-0.3
MYRZ				S	Sn	10 25 01.1	+1.4
LIRZ	Lichensteins R	0.90 236		P	Pg	10 24 46.7	+0.2
WMGZ	Waiomatatini S	0.92 111		P	Pn	10 24 47.2	-0.1
WMGZ				S	Sn	10 25 01.9	+1.8
PUZ	Puketiti	0.93 128		P	Pn	10 24 47.4	-0.1
PUZ				S	Sn	10 25 02.7	+2.3
MKRZ	Makatiti	0.94 227		P	Pn	10 24 48.8	+1.2
OMRZ	Omania	0.97 231		P	Pb	10 24 47.5	0.0
TARZ	Mount Tarawera	0.98 221		P	Pg	10 24 48.0	-0.1
RAGZ	Rawiri	1.00 176		P	Pb	10 24 48.1	+0.1
KARZ	Kaharoa	1.01 239		P	Pb	10 24 47.9	-0.3
TKGZ	Te Karaka	1.02 157		P	Pg	10 24 49.1	+0.3
RRRZ	Republican Roa	1.06 217		P	Pb	10 24 48.6	-0.4
MUGZ	Murupara	1.07 204		P	Pb	10 24 48.7	-0.5
HLRZ	Highlands Stat	1.08 226		P	Pb	10 24 49.3	0.0
NGRZ	Ngongotaha	1.09 236		P	Pb	10 24 49.5	-0.1
UTU	Utuhina	1.13 233		P	Pg	10 24 50.6	-0.2
RTZ	Ruatahuna	1.15 194		P	Pn	10 24 50.1	-0.5
KMRZ	Kaimai	1.16 252		P	Pn	10 24 49.9	-0.7
HSRZ	Hossack Road	1.18 226		P	Pg	10 24 52.5	+0.7
CNGZ	Carnagh Statio	1.20 145		P	Pg	10 24 53.5	+1.3
HRRZ	Handcock Road	1.22 223		P	Pg	10 24 53.2	+0.7
PRRZ	Plateau Road	1.24 216		P	Pn	10 24 51.4	-0.4
RIGZ	Rimuhau	1.25 164		P	Pg	10 24 53.3	+0.2
SNGZ	Shannon Statio	1.28 180		P	Pn	10 24 52.5	+0.2
GRRZ	Galatos Road	1.29 228		P	Pg	10 24 54.4	+0.6
ALRZ	Allen Road	1.32 216		P	Pn	10 24 52.9	+0.1
WPRZ	Whakapapatarin	1.38 222		P	Pg	10 24 56.1	+0.6
MTHZ	Maungataniwha	1.41 196		P	Pn	10 24 54.4	+0.3
RAHZ	Arahi	1.43 188		P	Pn	10 24 54.5	+0.2
TOZ	Tahuroa Road	1.47 260		P	Pn	10 24 54.0	-0.9
PRGZ	Paritu Road	1.48 163		P	Pb	10 24 56.9	+0.6
KUZ	Kuaotunu	1.49 300		P	Pn	10 24 53.9	-1.3
KUZ	Kuaotunu	1.49 300		P	Pn	10 24 53.8	-1.3
MRHZ	Matea Rd	1.51 208		P	Pn	10 24 55.5	-0.1
KNZ	Kokohu	1.54 170		P	Pb	10 24 57.0	-0.3
KUTZ	Kaahu Road	1.55 230		P	Pn	10 24 56.2	+0.2
WHHZ	Waihua	1.58 183		P	Pb	10 24 58.0	+0.2
WHTZ	Whakaora	1.59 223		P	Pg	10 24 59.6	-0.1
TLZ	Tolley Road	1.64 239		P	Pn	10 24 56.9	-0.4
NMHZ	Naumai	1.68 194		P	Pb	10 24 58.7	-0.4
MHGZ	Mahia Peninsul	1.71 165		P	Pb	10 24 59.5	-0.6
WATZ	Wairara	1.75 226		P	Pg	10 25 04.8	+2.2
MKAZ	Moumakai	1.78 282		P	Pn	10 24 58.4	-0.7
ARHZ	Aropaoanui	1.78 188		P	Pb	10 25 00.9	-0.4
BKZ	Black Stump Fm	1.79 201		P	Pn	10 25 00.2	+0.9
BKZ	Black Stump Fm	1.79 201		P	Pn	10 24 59.2	-0.1
RATZ	Rangitukua	1.84 222		P	Pg	10 25 05.0	+0.7
RITZ	Rihia Road	1.88 218		P	Pb	10 25 03.4	+0.4
WIAZ	Waiheke Island	1.89 291		P	Pn	10 25 00.0	-0.7
GRZ	Great Barrier	1.95 309		P	Pn	10 25 00.6	-0.9
KATZ	Kakaramea	1.96 221		P	Pg	10 25 06.9	+0.3
ETAZ	East Tamaki Re	2.00 285		P	Pn	10 25 01.8	-0.3
MCHZ	McNeill Hill	2.00 194		P	Pb	10 25 03.9	-1.2
KWHZ	Kaweka Forest	2.05 200		P	Pn	10 25 03.6	+0.7
TMVZ	Te Maari	2.06 218		P	Pb	10 25 05.1	-1.1
NTVZ	North Tongarir	2.06 219		P	Pb	10 25 05.6	-0.6
ETVZ	East Tongariro	2.07 218		P	Pb	10 25 05.5	-0.9
KRVZ	Karewarewa	2.08 219		P	Pb	10 25 06.6	+0.2
MBAZ	Motutapu North	2.08 290		P	Pn	10 25 03.1	-0.1
NNVZ	North Ngauruho	2.12 219		P	Pb	10 25 07.2	+0.1
OTVZ	Oturere	2.12 218		P	Pn	10 25 05.6	+1.6
WTVZ	West Tongariro	2.12 220		P	Pg	10 25 08.7	-1.0
SNVZ	South Ngauruho	2.15 218		P	Pb	10 25 08.0	+0.3
NGZ	Ngauruhoe	2.16 219		P	Pb	10 25 06.8	-1.0
EPAZ	Eden Park BICE	2.16 286		P	Pn	10 25 04.7	+0.3
CKHZ	Cape Kidnapper	2.16 185		P	Pb	10 25 06.3	-1.5
TWVZ	Taurewa	2.16 223		P	Pg	10 25 09.8	-0.7
HBAZ	Herne Bay Bore	2.18 287		P	Pn	10 25 04.8	+0.2
AWAZ	Awhitu Peninsu	2.19 281		P	Pn	10 25 04.8	+0.1
ABAZ	Army Bay	2.19 293		P	Pn	10 25 04.9	+0.1
HIZ	Hauiti	2.20 242		P	Pn	10 25 05.2	+0.2
HIZ	Hauiti	2.20 242		P	Pn	10 25 05.0	+0.1
TUVZ	Tukino	2.20 216		P	Pb	10 25 08.8	+0.2
COVZ	Chateau Observ	2.21 219		P	Pb	10 25 09.4	+0.8
BHRZ	Black Hill Sta	2.22 206		P	Pn	10 25 05.1	-0.4
FWVZ	Far West T-bar	2.24 218		P	Pb	10 25 09.1	-0.2
WHVZ	Whangaehu Hut	2.25 217		P	Pb	10 25 08.8	-0.6
KRHZ	Kereru	2.27 199		P	Pn	10 25 07.1	+1.1
MOVZ	Moawhango	2.27 213		P	Pn	10 25 07.0	+1.0
WTAZ	Waiatarua	2.27 284		P	Pn	10 25 06.1	+0.2
WNVZ	Wahianoa	2.28 216		P	Pb	10 25 08.9	-1.0
TRVZ	Turoa	2.28 217		P	Pb	10 25 09.2	-0.7
KAHZ	Kahuranaki	2.32 189		P	Pn	10 25 07.4	+0.8
RVAZ	Riverhead Bore	2.32 287		P	Pn	10 25 06.5	0.0
PKVZ	Pokaka	2.37 221		P	Pb	10 25 11.9	+0.4
PXZ	Pawanui	2.55 188		P	Pn	10 25 09.1	-0.7
PNHZ	Pukenui	2.57 200		P	Pn	10 25 10.7	+0.6
VRZ	Vera Road	2.59 231		P	Pn	10 25 11.9	+1.6
WPHZ	Waipukurau	2.65 195		P	Pn	10 25 12.3	+1.1
TSZ	Takapari Road	2.77 202		P	Pn	10 25 13.6	+0.8
PRHZ	Porangahau	2.81 191		P	Pn	10 25 12.8	-0.6
WCZ	Waipu Caves	2.86 302		P	Pn	10 25 13.7	-0.3
WAZ	Wanganui	2.91 219		P	Pn	10 25 17.1	+2.5
DVHZ	Dannevirke	2.94 198		P	Pn	10 25 15.5	+0.4
DREZ	Durham Road	2.98 235		P	Pn	10 25 17.6	+1.9
ANWZ	Angora Road	3.03 192		P	Pn	10 25 15.9	-0.4
NEZ	North Egmont	3.10 234		P	Pn	10 25 19.4	+2.1
OHWZ	Ohakea	3.13 210		P	Pn	10 25 20.3	+2.6
POWZ	Post Office Ro	3.13 202		P	Pn	10 25 20.2	+2.4
KHEZ	Kahui Hut	3.16 234		P	Pn	10 25 20.0	+1.8
KHEZ	Kahui Hut	3.16 234		P	Pn	10 25 20.9	+2.6
PRWZ	Pori Road	3.23 199		P	Pn	10 25 21.2	+2.1
NBEZ	Newall Road No	3.25 236		P	Pb	10 25 24.7	-1.6
BFZ	Birch Farm	3.29 195		P	Pn	10 25 19.3	-0.6
BFZ	Birch Farm	3.29 195		P	Pn	10 25 18.9	-1.0
MRZ	Mangatainoka R	3.44 203		P	Pn	10 25 21.5	-0.5
TIWZ	Tintock	3.46 199		P	Pb	10 25 30.0	+0.1
HOWZ	Holdsworth Sta	3.67 202		P	Pn	10 25 24.4	-0.8
OGWZ	Otaki Gorge	3.71 206		P	Pn	10 25 25.2	-0.5
TMWZ	Te Maipa	3.77 197		P	Pn	10 25 25.3	-1.3
OUZ	Omahuta	3.78 306		P	Pn	10 25 26.8	+0.2
OUZ	Omahuta	3.78 306		P	Pn	10 25 26.8	+0.2
KIW	Kapiti Island	3.85 209		P	Pn	10 25 27.3	-0.3
CAW	Cannon Point	4.01 205		P	Pn	10 25 29.1	-0.7
TRWZ	Traveller	4.10 198		P	Pn	10 25 29.9	-1.1
PAWZ	Paruwai Farm	4.15 200		P	Pn	10 25 33.5	+1.8
DUWZ	D'Urville Isla	4.23 218		P	Pn	10 25 33.5	+0.6
SNZO	South Karori	4.32 207		P	Pn	10 25 33.7	-0.3
BHW	Baring Head	4.34 205		P	Pn	10 25 33.7	-0.7
TCW	Tory Channel	4.40 212		P	Pn	10 25 34.2	-0.9
TUWZ	Tuamarina	4.72 213		P	Pn	10 25 39.1	-0.5
NNZ	Nelson	4.81 218		P	Pn	10 25 41.4	+0.6
BSWZ	Blackbirch Sta	4.98 211		P	Pn	10 25 42.9	-0.3
QRZ	Quartz Range	5.00 227		P	Pn	10 25 44.5	+1.2
QRZ	Quartz Range	5.00 227		P	Pn	10 25 44.5	+1.2
MRNZ	Matariki Terra	5.26 221		P	Pn	10 25 47.8	+0.8
THZ	Tophouse	5.46 217		P	Pn	10 25 49.4	-0.4
KHZ	Kahutara	5.71 210		P	Pn	10 25 52.7	-0.4
DSZ	Denniston Nort	6.01 223		P	Pn	10 25 57.2	-0.2
GVZ	Greta Valley S	6.37 210		P	Pn	10 26 00.9	-1.4
LTZ	Lake Taylor	6.55 215		P	Pn	10 26 03.3	-1.4
INZ	Inchbonnie	6.90 219		P	Pn	10 26 11.6	+2.1
OXZ	Oxford	7.08 213		P	Pn	10 26 12.9	+0.9
CTZ	Chatham Island	7.74 145		P	Pn	10 26 20.9	-0.1
CTZ	Chatham Island	7.74 145		P	Pn	10 26 21.1	+0.1
RPZ	Rata Peaks	7.83 216		P	Pn	10 26 23.5	+1.2
RPZ	Rata Peaks	7.83 216		P	Pn	10 26 23.9	+1.7
RPZ	Rata Peaks	7.83 216		Pn	Pn	10 26 21.3	-1.0
	0.7nm,0.3s,baz=159,slow=6.7,SNR=2.3						
RPZ				Sn	Sn	10 27 44.3	-6.3
	1.3nm,0.3s,baz=117,slow=23,SNR=11						
RPZ				LR	LR	10 29 55.4	
	5.0nm,0.7s						
DZM	Mont Dzumac	18.02 326		LR	LR	10 34 31.3	
	comp=Z,119nm,19.8s,baz=129,slow=33						
MSVF	Nonsavu	19.70 2		LR	LR	10 34 41.7	
	comp=Z,168nm,18.6s,baz=45,slow=31						
STKA	Stephens Creek	29.80 270		P	P	10 30 37.3	+2.1
	2.5nm,0.7s,baz=178,slow=20,SNR=3.8						
	2.5nm,0.7s						
CTA	Charters Tower	32.09 294		P	P	10 30 57.2	+1.7
	4.7nm,0.9s,baz=120,slow=9.4,SNR=7.0						
	4.7nm,0.9s						
ASAR	Alice Springs	39.51 278		P	P	10 32 00.6	+1.5
	1.9nm,0.8s,baz=127,slow=8.6,SNR=24						
ASAR				PcP	PcP	10 34 04.7	-2.0
	0.3nm,0.5s,baz=129,slow=3.7,SNR=1.9						
	1.9nm,0.8s						
VNDA	Vanda	40.68 185		LR	LR	10 45 04.9	
	comp=Z,29nm,21.3s,baz=360,slow=30						
WRA	Warramunga Arr	41.17 283		P	P	10 32 14.1	+1.2
	4.3nm,1.0s,baz=122,slow=7.6,SNR=18						
	4.3nm,1.0s						
QSPA	South Pole Qui	52.62 180		LR	LR	10 53 30.4	
	comp=Z,62nm,18.4s,baz=16,slow=33						
MAW	Mawson	64.30 203		P	P	10 35 03.5	+0.4
	1.5nm,0.5s,baz=148,slow=4.8,SNR=12						
	1.5nm,0.5s						
CMAR	Chiang Mai Arr	92.23 291		P	P	10 37 39.9	+1.5
	0.4nm,0.3s,baz=138,slow=6.1,SNR=1.4						
	0.4nm,0.3s						
ARCES	ARCESS Array B	144.49 343		PKP	PKPab	10 43 59.3	-2.6
	5.6nm,0.9s,baz=41,slow=3.9,SNR=5.4						
FINES	FINESS Array B	150.08 332		PKPbc	PKPbc	10 44 16.7	-1.3
	4.6nm,1.1s,baz=86,slow=4.6,SNR=1.5						
BRTR	Keskin Array B	151.66 286		PKPbc	PKPbc	10 44 20.9	-1.8
	1.3nm,0.7s,baz=134,slow=7.2,SNR=5.5						
TORD	Torodi Ar. Bea	155.44 190		PKP	PKPdf	10 44 19.7	-2.6
	0.6nm,0.9s,baz=129,slow=2.0,SNR=3.0						
TORD				PKPab	PKPab	10 44 46.1	-1.5
	0.4nm,0.5s,baz=171,slow=4.3,SNR=2.2						

IDC 29 10:29:26.6±5.9,19.°70S×174.°30W,h0km,mb3.5/3, mbtmp3.5/3,MS3.5/1,Error ellipse: s-maj=408.2km s-min=33.4km az=153.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	36.20 291		LR	LR	10 50 32.1	
	comp=Z,81nm,22.0s,baz=5.1,slow=35						
ASAR	Alice Springs	48.09 256		P	P	10 38 08.1	-0.3
	0.7nm,0.9s,baz=90,slow=6.8,SNR=6.3						
	0.7nm,0.9s						
WRA	Warramunga Arr	48.16 261		P	P	10 38 09.1	+0.1
	0.3nm,0.6s,baz=97,slow=8.1,SNR=5.8						
	0.3nm,0.6s						
NVAR	Mina Array Bea	78.09 42		P	P	10 41 27.8	+0.1
	0.6nm,0.8s,baz=212,slow=8.2,SNR=4.0						
	0.6nm,0.8s						

*IDC **29** 10:44:06.6±2.4,20.°29S×177.°83W,h518km±26km,mb3.0/8, mbtmp3.8/9,Error ellipse: s-maj=31.6km s-min=18.7km az=142.0*

ISC 29 10:44:05.0±0.9,20.°4S±0.°2×177.°7W±0.°2,h500km,n9, σ1§02/9,mb3.3/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.79 302		P	P	10 45 31.6	+1.2
	10nm,0.4s,baz=120,slow=22,SNR=28						
ASAR	Alice Springs	44.82 257		P	P	10 51 34.0	-0.2
	2.5nm,0.8s,baz=95,slow=7.9,SNR=18						
	2.5nm,0.8s						
WRA	Warramunga Arr	44.90 262		P	P	10 51 33.8	-1.0
	0.6nm,0.6s,baz=98,slow=8.4,SNR=16						
	0.6nm,0.6s						
QSPA	South Pole Qui	69.71 180		P	P	10 54 24.2	+0.3
	1.4nm,0.9s,baz=93,slow=1.4,SNR=5.7						
	1.4nm,0.9s						
PETK	Petropavlovsk-	76.21 345		P	P	10 55 00.9	-0.3
	7.9nm,1.1s,baz=117,slow=3.5,SNR=2.1						
	7.9nm,1.1s						
NVAR	Mina Array Bea	80.73 43		P	P	10 55 26.4	+0.3
	0.5nm,0.8s,baz=230,slow=8.2,SNR=3.7						
	0.5nm,0.8s						
TXAR	Lajitas Array	86.75 57		P	P	10 55 57.1	+1.1
	0.2nm,0.7s,baz=224,slow=5.2,SNR=4.5						
	0.2nm,0.7s						
ILAR	Eielson Array	88.12 13		P	P	10 56 00.2	-1.3
	0.4nm,0.9s,baz=223,slow=4.8,SNR=4.2						
	0.4nm,0.9s						
PDAR	Pinedale Array	88.67 43		P	P	10 56 04.2	-0.7
	0.1nm,0.4s,baz=256,slow=3.6,SNR=2.1						
	0.1nm,0.4s						

IDC 29 10:57:31.5±3.0,19.°61S×174.°38W,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=236.1km s-min=26.5km az=155.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	48.04 255		P	P	11 06 12.8	-0.2
	0.5nm,0.6s,baz=97,slow=7.5,SNR=13						
	0.5nm,0.6s						
WRA	Warramunga Arr	48.10 260		P	P	11 06 13.4	0.0
	0.7nm,1.0s,baz=96,slow=7.9,SNR=9.1						
	0.7nm,1.0s						
NVAR	Mina Array Bea	78.07 42		P	P	11 09 33.2	+0.6
	0.9nm,0.9s,baz=218,slow=7.7,SNR=5.7						
	0.9nm,0.9s						
TXAR	Lajitas Array	83.72 56		P	P	11 10 01.9	-0.9
	0.2nm,0.7s,baz=222,slow=4.9,SNR=2.4						
	0.2nm,0.7s						

IDC 29 11:14:40.6±3.8,4.°91S×153.°77E,h0km,mb3.0/2, mbtmp3.1/2,Error ellipse: s-maj=177.5km s-min=53.8km az=124.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.11 230		P	P	11 20 00.2	+1.9
	0.2nm,0.7s,baz=58,slow=10,SNR=5.1						
	0.2nm,0.7s						
ASAR	Alice Springs	26.74 224		P	P	11 20 21.1	-1.0
	0.3nm,0.9s,baz=52,slow=9.5,SNR=1.4						
	0.3nm,0.9s						
TORD	Torodi Ar. Bea	151.26 288		PKPbc	PKPbc	11 34 36.2	-1.1
	0.2nm,0.7s,baz=98,slow=3.3,SNR=1.1						

*IDC **29** 11:16:27.7±0.7,13.°12S×166.°85E,h114km±4km,mb4.3/17, mbtmp4.6/18,MS3.6/8,Error ellipse: s-maj=14.4km s-min=11.8km az=110.0*

*BJI **29** 11:16:29.9±0.0,12.°64S×166.°72E,h126km,mb5.0/49, mB5.2/24*

*NEIC **29** 11:16:30.8±1.7,13.°13S±0.°07×166.°8E±0.°1,h142km±6km, mb4.7/58,Error ellipse: s-maj=18.5km s-min=10.4km az=83.0*

*NOU **29** 11:16:31.4,13.°15S×166.°73E,h135km,MLv5.2/12, Vanuatu Islands*

ISC 29 11:16:29.8±0.5,13.°20S±0.°05×166.°76E±0.°06,h133km±4km, h133km:pP-P,n408,σ1§06/416,mb4.8/70,7C-10D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	7.55 177		Pn	Pn	11 18 17.2	+0.1
LIFNC	LIFOU	7.55 177		P	Pn	11 18 18.0	+0.9
HNR	Honiara	7.66 299		Pn	Pn	11 18 19.3	+0.6
HNR	Honiara	7.66 299		P	Pn	11 18 19.6	+0.9
HNR	Honiara	7.66 299		P	Pn	11 18 18.4	-0.3
	2μm,0.7s,baz=6.4,slow=0.8,SNR=9.3						
HNR				S	Sn	11 19 41.5	-2.6
	2μm,0.7s,baz=40,slow=18,SNR=1.4						
HNR				LR	LR	11 21 33.4	
	comp=Z,2μm,18.1s,baz=81,slow=40						
KOUNC	Koumac, New Ca	7.68 198			Pn	11 18 20.6	+1.7
KOUNC	Koumac, New Ca	7.68 198		P	Pn	11 18 21.3	+2.3
YATNC	Mamie plateau,	8.81 179		P	Pn	11 18 35.0	+0.9
YATNC	Mamie plateau,	8.81 179		P	Pn	11 18 35.1	+0.9
DZM	Mont Dzumac	8.82 182		P	Pn	11 18 36.7	+2.3
DZM	Mont Dzumac	8.82 182		P	Pn	11 18 36.1	+1.7
	15nm,0.4s,baz=327,slow=9.3,SNR=58						
DZM				S	Sn	11 20 10.0	-2.3
	14nm,0.7s,baz=319,slow=17,SNR=1.9						
DZM				LR	LR	11 21 54.9	
	comp=Z,76nm,18.2s,baz=354,slow=37						
NOUC	Port Laguerre	8.86 183		P	Pn	11 18 37.6	+2.8
ONTNC	Ouen Toro	9.06 182			Pn	11 18 39.9	+2.4
ONTNC	Ouen Toro	9.06 182		P	Pn	11 18 40.4	+2.9
OUENC	Ouen Island, N	9.17 180			Pn	11 18 41.5	+2.5
OUENC	Ouen Island, N	9.17 180		P	Pn	11 18 41.7	+2.8
PINNC	Pines Island,	9.38 176			Pn	11 18 44.0	+2.2
PINNC	Pines Island,	9.38 176		P	Pn	11 18 45.0	+3.2
EIDS	Eidsvold	19.09 228		P	P	11 20 44.4	+2.2
EIDS				IAmb	IAmb	11 20 59.8	
	comp=Z,39nm,1.4s						
PMG	Port Moresby	19.59 279		P	Pn	11 20 50.3	-0.1
PMG				IAmb	IAmb	11 20 53.3	
	comp=Z,20nm,0.8s						
PMG	Port Moresby	19.59 279		P	P	11 20 48.9	+1.2
	comp=Z,22nm,0.8s,baz=97,slow=8.5,SNR=7.4						
CTA	Charters Tower	20.79 248		P	P	11 21 02.0	+1.3
	comp=Z,5.4nm,0.6s,baz=79,slow=12,SNR=9.6						
CTA				LR	LR	11 27 52.3	
	comp=Z,224nm,19.9s,baz=64,slow=33						
	comp=Z,5.4nm,0.6s						
CTAO	Charters Tower	20.79 248		P	P	11 21 01.1	+0.4
PATS	Pohnpei	21.61 337		P	P	11 21 07.6	-1.8
ARMA	Armidale	22.11 217		P	P	11 21 16.1	+1.5
COEN	Coen	22.94 265		P	P	11 21 23.4	+0.6
COEN				IAmb	IAmb	11 21 50.9	
	comp=Z,20nm,0.8s						
BKZ	Black Stump Fm	27.26 163		P	P	11 22 00.8	-0.8
MRZ	Mangatainoka R	28.43 166		P	P	11 22 12.2	+0.2
MRZ				IAmb	IAmb	11 22 39.3	
	comp=Z,19nm,1.3s						
STKA	Stephens Creek	29.63 227		P	P	11 22 23.5	+0.8
STKA	Stephens Creek	29.63 227		P	P	11 22 23.1	+0.4
	comp=Z,4.7nm,0.7s,baz=61,slow=7.1,SNR=6.4						
STKA				pP	pP	11 22 49.5	-0.8
	comp=Z,4.1nm,0.7s,baz=40,slow=7.6,SNR=2.6						
STKA				PcP	PcP	11 25 24.4	+0.2
	comp=Z,10nm,0.8s,baz=69,slow=2.4,SNR=9.4						
STKA				LR	LR	11 33 23.2	
	comp=Z,232nm,18.1s,baz=9.2,slow=34						
	comp=Z,4.7nm,0.7s						
LTZ	Lake Taylor	29.86 172		P	P	11 22 24.5	-0.1
TOO	Toolangi	30.80 214		P	P	11 22 34.8	+1.8
TOO				IAmb	IAmb	11 23 10.1	
	comp=Z,40nm,1.5s						
LBZ	Lake Benmore	31.21 175		P	P	11 22 36.6	+0.1
LBZ				IAmb	IAmb	11 23 18.9	
	comp=Z,28nm,1.2s						
H11S2	WAKE ISLAND Hy	31.49 360		T	T	11 57 15.1	
	baz=184,slow=76,SNR=5.5						
H11S3	WAKE ISLAND Hy	31.50 360		T	T	11 57 24.0

comp=Z,50nm,0.8s
MPSI Mapaga 48.35 282 P **P** **11 24 58.3 -0.2**
comp=Z,18nm,1.4s
NWAO Narrogin (SRO) 49.12 238 LR LR 11 45 39.1
comp=Z,154nm,18.1s,baz=71,slow=36
KKM Kota Kinabalu 53.72 288 P **P** **11 25 38.0 -0.7**
UGM Wanagama 55.45 269 P **P** **11 25 50.5 -0.6**
JMN Monobe 56.21 327 P **P** **11 25 55.3 -0.9**
JNU Nakatsue 57.40 324 P **P** **11 26 03.8 -0.8**
YHNB Yeheng 58.12 310 P **P** **11 26 09.1 -0.7**
JKA Kamikawa-asahi 61.15 340 P **P** **11 26 30.0 -0.1**
KSRS Korea Array 62.21 326 P **P** **11 26 37.3 0.0**
comp=Z,5.0nm,0.9s,baz=141,slow=7.3,SNR=7.4
comp=Z,5.0nm,0.9s
NJ2 Nanjing 64.25 316 *e*P **P** **11 26 52.3 +1.4**
NJ2 pP **PcP** **11 27 25.8 +1.2**
NJ2 sP **sP** **11 27 40.8 +5.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,490nm,3.8s
VNDA Vanda 64.37 181 P **P** **11 26 51.8 +0.8**
VNDA Vanda 64.37 181 P **P** **11 26 52.1 +1.1**
comp=Z,2.8nm,0.9s,baz=1.0,slow=7.6,SNR=14
comp=Z,2.8nm,0.9s
SBA Scott Base 64.65 180 P **P** **11 26 54.5 +1.6**
SBA IAmb IAmb 11 26 56.2
comp=Z,16nm,0.9s
CASY Casey 64.75 202 P **P** **11 26 53.5 -0.1**
CASY IAmb IAmb 11 26 54.4
comp=Z,5.3nm,0.7s
USA0B Ussuriysk Arra 65.31 333 P **P** **11 26 57.3 -0.2**
USRK Ussuriysk Ar. 65.31 333 P **P** **11 26 57.8 +0.3**
USRK Ussuriysk Ar. 65.31 333 P **P** **11 26 58.4 +0.8**
comp=Z,16nm,0.9s,baz=147,slow=7.2,SNR=20
comp=Z,16nm,0.9s
PEA0B Petropavlovsk- 66.50 354 P **P** **11 27 04.9 0.0**
PETK Petropavlovsk- 66.50 354 P **P** **11 27 04.5 -0.5**
PETK Petropavlovsk- 66.50 354 P **P** **11 27 04.8 -0.2**
comp=Z,9.5nm,0.9s,baz=155,slow=5.0,SNR=9.6
comp=Z,9.5nm,0.9s
MDJ Mudanjiang 66.71 332 P **P** **11 27 07.0 +0.5**
MDJ pmax pmax
comp=Z,24nm,0.9s
MDJ pmax pmax
comp=Z,230nm,5.7s
CN2 Changchun 68.09 329 P **P** **11 27 15.5 +0.3**
CN2 pmax pmax
comp=Z,30nm,0.8s
BNX BinXian 68.57 332 ⇓P **P** **11 27 18.3 +0.2**
BNX pmax pmax
comp=Z,24nm,0.6s
BNX pmax pmax
comp=Z,290nm,4.3s
NIKH Nikolski High 69.16 15 P **P** **11 27 22.2 +0.6**
baz=205
LYN LuoYang 70.06 315 ⇓P **P** **11 27 28.0 +0.4**
LYN pmax pmax
comp=Z,33nm,1.1s
HNS HongShan 70.14 318 ⇑P **P** **11 27 28.3 +0.3**
HNS pmax pmax
comp=Z,20nm,1.4s
GYA Guiyang 70.45 304 ⇓P **P** **11 27 30.5 +0.2**
GYA pmax pmax
comp=Z,11nm,1.6s
UNV Unalaska Valle 70.58 16 P **P** **11 27 30.8 +0.6**
baz=208
BJI Beijing 70.77 321 P **P** **11 27 32.0 +0.3**
BJI pmax pmax
comp=Z,6.0nm,1.1s
TIY Taiyuan 71.81 317 ⇓P **P** **11 27 39.3 +1.1**
HEH HeiHe 71.97 335 *e*P **P** **11 27 38.8 +0.1**
XAN Xi'an 72.30 312 ⇑P **P** **11 27 41.3 +0.2**
XAN pmax pmax
comp=Z,32nm,0.7s
KMI Kunming 73.09 302 ⇑P **P** **11 27 47.0 +0.8**
KMI pmax pmax
comp=Z,25nm,0.9s
XLT XiLinHaoTe 73.19 324 ⇓*i*P **P** **11 27 47.3 +1.1**
XLT sP sP 11 28 36.5 +4.0
XLT pmax pmax
comp=Z,24nm,1.2s
XLT pmax pmax
comp=Z,240nm,4.9s
MA2 Magadan 73.67 352 LR LR 11 55 46.6
comp=Z,30nm,19.4s,baz=238,slow=32
CMAR Chiang Mai Arr 73.88 294 P **P** **11 27 51.5 +0.8**
comp=Z,5.0nm,0.8s,baz=124,slow=4.3,SNR=30
CMAR pP **pP** **11 28 20.1 -2.3**
comp=Z,1.5nm,0.8s,baz=116,slow=5.0,SNR=2.8
comp=Z,5.0nm,0.8s
HHC Hu-ho-hao-te 74.11 320 *e*P **P** **11 27 53.0 +1.3**
HHC pmax pmax
comp=Z,35nm,0.9s
HHC pmax pmax
comp=Z,490nm,6.0s
PZH PanZhiHua 74.46 303 P **P** **11 27 54.3 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,220nm,5.5s
BTO Baotou 74.96 319 *e*P **P** **11 27 59.5 +2.9**
BTO pP **pwP** **11 28 32.5 -1.0**
BTO PP **PP** **11 30 52.0 +5.7**
BTO S **S** **11 37 25.5 +2.0**
BTO pmax pmax
comp=Z,32nm,1.0s
BTO pmax pmax
comp=Z,300nm,8.3s
BTO LR LR
comp=Z,420nm,4.8s
BTO LR LR
comp=Z,300nm,4.2s
BTO LR LR
comp=Z,270nm,6.1s
CHIR Chirikof Islan 75.64 21 P **P** **11 28 00.2 +0.3**
baz=218
M11K Mekoryuk 76.47 13 P **P** **11 28 04.9 +0.3**
baz=207
O14K Tigyukauivet M 76.72 16 P **P** **11 28 05.9 -0.1**
baz=212
SII Sitkinak Islan 76.72 21 P **P** **11 28 06.4 +0.3**
baz=219
QSPA South Pole Qui 76.81 180 P **P** **11 28 07.5 +0.7**
QSPA South Pole Qui 76.81 180 P **P** **11 28 07.5 +0.7**
comp=Z,31nm,1.0s,baz=16,slow=1.3,SNR=63
comp=Z,31nm,1.0s
LZH Lanzhou 76.93 312 ⇑P **P** **11 28 09.5 +1.5**
LZH pP pP 11 28 38.0 -2.2
LZH pmax pmax
comp=Z,47nm,1.5s
O15K Ungalikthiuk R 77.05 17 P **P** **11 28 08.0 +0.1**
baz=213
Q16K King Salmon 77.58 19 P **P** **11 28 10.3 -0.5**
baz=216
N15K Kwethluk River 77.81 16 P **P** **11 28 12.2 +0.1**
baz=213
M14K Bethel 77.81 15 P **P** **11 28 12.4 +0.4**
baz=211
Q18K Katmai Hardscr 78.08 19 P **P** **11 28 13.4 -0.4**
baz=218
M15K Kasigluk River 78.10 16 P **P** **11 28 13.6 0.0**
baz=212
L14K Kuka Creek 78.14 15 P **P** **11 28 14.1 +0.3**
baz=210
K13K Kusilvak Mount 78.20 13 P **P** **11 28 14.7 +0.5**
baz=208
KDAK Kodiak Island 78.22 21 P **P** **11 28 15.2 +0.8**
baz=220
N16K Nishlik Lake 78.43 17 P **P** **11 28 15.7 +0.1**
baz=214
GAMB Gambell 78.51 10 P **P** **11 28 16.2 +0.4**
baz=201
P18K Big Mountain, 78.60 19 P **P** **11 28 16.7 +0.2**
baz=218
L15K Ungalak Mounta 78.73 15 P **P** **11 28 17.5 +0.4**
baz=211
M16K Timber Creek 78.83 16 P **P** **11 28 17.6 -0.1**
M16K IAmb IAmb 11 28 19.1
comp=Z,26nm,1.0s
M16K Timber Creek 78.83 16 P **P** **11 28 17.9 +0.2**
baz=214
N17K Nushagak Hills 78.92 17 P **P** **11 28 18.4 +0.1**
baz=216
O18K Koktuh Hills 78.97 18 P **P** **11 28 19.1 +0.5**
baz=218
J14K Nanvaranak Lak 79.16 13 P **P** **11 28 19.6 +0.2**
baz=209
K15K Wolf Creek Mou 79.25 14 P **P** **11 28 20.3 +0.4**
K15K Wolf Creek Mou 79.25 14 P **P** **11 28 20.3 +0.4**
baz=211
L16K Owhat River 79.27 16 P **P** **11 28 20.5 +0.4**
baz=213
N18K Kilae Creek 79.43 18 P **P** **11 28 21.7 +0.8**
baz=217
O19K Port Alsworth 79.52 19 P **P** **11 28 22.6 +1.2**
baz=218
M17K Holitna River 79.57 17 P **P** **11 28 22.6 +0.9**
baz=215
L17K Donlin 79.94 16 P **P** **11 28 24.5 +0.8**
baz=214
N19K Bonanza Creek 79.95 18 P **P** **11 28 24.3 +0.4**
baz=218
O20K Slope Mountain 79.97 19 P **P** **11 28 24.4 +0.4**
baz=220
M18K Stony River 80.10 17 P **P** **11 28 25.1 +0.6**
baz=217
J16K Anvik River 80.31 14 P **P** **11 28 26.6 +1.0**
baz=212
BRSE Bradley Lake S 80.33 20 P **P** **11 28 26.4 +0.6**
baz=222
ANM Nome 80.38 12 P **P** **11 28 26.9 +0.9**
baz=207
K17K Iditarod 80.42 16 P **P** **11 28 27.0 +0.8**
baz=214
L18K Granite Mounta 80.44 16 P **P** **11 28 27.3 +0.9**
baz=216
ULN Ulaanbaatar 80.62 324 P **P** **11 28 27.7 -0.2**
ULN IAmb IAmb 11 28 29.4
comp=Z,16nm,0.9s
M19K Big River Lodg 80.84 18 P **P** **11 28 28.8 +0.3**
baz=218
L19K White Mountain 80.93 17 P **P** **11 28 29.3 +0.3**
baz=218
N20K Mount Spurr 80.96 19 P **P** **11 28 30.1 +0.9**
baz=220
CAPN Captain Cook N 80.97 19 P **P** **11 28 29.0 -0.1**
baz=221
SONM Songino Array 80.98 324 P **P** **11 28 28.9 -0.8**
SONM IAmb IAmb 11 28 31.2
comp=Z,12nm,1.1s
SONM Songino Array 80.98 324 P **P** **11 28 29.5 -0.2**
comp=Z,6.0nm,0.9s,baz=140,slow=5.6,SNR=27
comp=Z,6.0nm,0.9s
G15K Niukluk 81.03 12 P **P** **11 28 30.0 +0.5**
baz=209
H16K Elim 81.10 13 P **P** **11 28 30.4 +0.7**
baz=210
M20K Styx River 81.20 18 P **P** **11 28 30.6 +0.1**
baz=219
TTA Tatalina 81.20 16 P **P** **11 28 31.2 +0.7**
baz=216
O22K Cooper Landing 81.22 20 P **P** **11 28 30.6 0.0**
baz=223
GTA Gaotai 81.26 314 *e*P **P** **11 28 32.5 +1.1**
GTA pmax pmax
comp=Z,22nm,1.1s
L20K Farewell, AK 81.44 17 P **P** **11 28 32.4 +0.7**
baz=219
J18K Innoko River 81.45 16 P **P** **11 28 32.6 +0.9**
baz=216
F15K North Star Dit 81.54 12 P **P** **11 28 32.8 +0.6**
baz=208
SUA Susitna One 81.62 19 P **P** **11 28 33.1 +0.3**
baz=222
Q23K Middleton Isla 81.66 22 P **P** **11 28 32.9 +0.1**
baz=226
RC01 Rabbit Creek A 81.67 20 P **P** **11 28 33.1 +0.2**
baz=223
P23K Montague Islan 81.67 21 P **P** **11 28 33.7 +0.8**
baz=225
G16K Koyuk River 81.73 13 P **P** **11 28 33.6 +0.5**
baz=210
SKT Skwentna 81.76 19 P **P** **11 28 33.3 -0.1**
baz=221
H17K Granite Mounta 81.88 14 P **P** **11 28 34.4 +0.5**
baz=213
PWL Port Wells 81.97 20 P **P** **11 28 34.8 +0.3**
baz=224
M22K Willow 82.03 19 P **P** **11 28 35.2 +0.4**
baz=222
K20K Telida 82.08 17 P **P** **11 28 36.0 +0.9**
baz=218
J19K Poorman 82.16 16 P **P** **11 28 36.5 +1.1**
baz=217
G17K Kiwalik Mounta 82.19 13 P **P** **11 28 36.2 +0.7**
baz=212
PMR Palmer 82.24 20 P **P** **11 28 35.9 0.0**
baz=223
PPLA Purkeypile 82.26 18 P **P** **11 28 35.8 -0.4**
baz=220
KNK Knik Glacier 82.33 20 P **P** **11 28 36.3 -0.1**
baz=224
GLI Glacier Island 82.41 21 P **P** **11 28 36.6 -0.2**
baz=225
CUT Chulitna 82.47 19 P **P** **11 28 36.8 -0.3**
baz=222
EYAK Cordova Ski Ar 82.65 22 P **P** **11 28 38.2 +0.2**
baz=226
SML Sawmill 82.66 20 P **P** **11 28 38.0 -0.1**
baz=224
CAST Castle Rocks 82.69 17 P **P** **11 28 37.2 -1.0**
CAST IAmb IAmb 11 28 38.6
comp=Z,10nm,0.8s
CAST Castle Rocks 82.69 17 P **P** **11 28 38.2 0.0**
baz=220,SNR=12
J20K Nowinta River 82.70 16 P **P** **11 28 38.4 +0.2**
J20K Nowinta River 82.70 16 P **P** **11 28 38.2 0.0**
baz=218
M23K Glacier View 82.84 20 P **P** **11 28 38.6 -0.4**
baz=224
F17K Baldwin Pennin 82.87 12 P **P** **11 28 39.4 +0.4**
baz=211
G18K Tagagawik 82.97 14 P **P** **11 28 39.3 -0.3**
baz=214
SCM Sheep Creek Mo 83.01 20 P **P** **11 28 39.6 -0.4**
baz=225
I20K Naaghedeneel 83.10 16 P **P** **11 28 40.1 -0.1**
baz=218
MAW Mawson 83.11 202 P **P** **11 28 41.3 +0.9**
MAW Mawson 83.11 202 P **P** **11 28 41.1 +0.7**
comp=Z,3.8nm,0.9s,baz=104,slow=5.9,SNR=10
comp=Z,3.8nm,0.9s
H19K Roundabout Mou 83.19 15 P **P** **11 28 40.6 -0.1**
baz=216
KLU Klutina 83.25 21 P **P** **11 28 41.1 -0.1**
baz=226
TRF Thorofare Moun 83.25 18 P **P** **11 28 39.5 -1.8**
TRF IAmb IAmb 11 28 43.7
comp=Z,11nm,1.2s
TRF Thorofare Moun 83.25 18 P **P** **11 28 40.7 -0.6**
baz=222
BERG Berg Lake 83.29 22 P **P** **11 28 40.8 -0.5**
WAT1 Susitna Watana 83.33 19 P **P** **11 28 41.4 -0.1**
baz=224
BMRM Bremner River 83.35 22 P **P** **11 28 41.9 +0.2**
baz=227
WAT6 Susitna Watana 83.41 19 P **P** **11 28 41.9 -0.2**
baz=224,SNR=6.4
BPAW Bear Paw Mtn. 83.53 17 P **P** **11 28 42.8 +0.3**
baz=221
G19K Purcell Mounta 83.54 14 P **P** **11 28 42.3 -0.2**
G19K IAmb IAmb 11 28 44.5
comp=Z,10nm,0.9s
G19K Purcell Mounta 83.54 14 P **P** **11 28 42.9 +0.4**
baz=215,SNR=6.1
H20K Anotleneega Mo 83.55 15 P **P** **11 28 43.1 +0.5**
baz=217
M24K Tolsona, Glenn 83.59 20 P **P** **11 28 43.3 +0.4**
baz=226
D17K Noatak River 83.59 11 P **P** **11 28 43.2 +0.5**
baz=209
GOMU GeErMu 83.64 309 P **P** **11 28 41.5 -2.7**
GOMU pP PcP 11 28 47.8 -0.3
GOMU sP pP 11 28 57.0 -20
GOMU pmax pmax
comp=Z,3.0nm,0.9s
GOMU GeErMu 83.64 309 P **P** **11 28 42.0 -2.2**
GOMU pmax pmax
comp=Z,2.0nm,0.6s
WAX Waxell Ridge 83.64 23 P **P** **11 28 42.7 -0.5**
WAX IAmb IAmb 11 28 44.0
comp=Z,15nm,0.8s
CRQM Cirque 83.74 22 P **P** **11 28 42.6 -1.3**
CRQM IAmb IAmb 11 28 44.4
comp=Z,11nm,1.0s
N25K Chitina, Valde 83.78 21 P **P** **11 28 44.0 +0.1**
baz=227,SNR=5.4
MESA MESA 83.81 23 P **P** **11 28 44.4 +0.2**
baz=230
E18K Tukpahlearik C 83.84 12 P **P** **11 28 44.3 +0.3**
baz=212
MCK McKinley 83.86 18 P **P** **11 28 43.2 -1.0**
baz=223,SNR=5.5
DHY Denali Highway 83.88 19 P **P** **11 28 44.1 -0.4**
baz=225
F19K Shaleruckik Mo 83.95 13 P **P** **11 28 45.4 +0.9**
baz=215
SNCC San Nicolas Is 83.97 54 P **P** **11 28 44.7 -0.8**
baz=250
I21K Tanana 84.07 16 P **P** **11 28 45.5 +0.4**
baz=220,SNR=6.1
HARP HAARP 84.13 20 P **P** **11 28 45.7 +0.1**
baz=227
SCZ2 Santa Cruz Isl 84.14 53 P **P** **11 28 45.3 -1.0**
baz=250
MCARA McCarthy VSAT 84.20 22 P **P** **11 28 46.4 +0.4**
baz=229
H21K Melozitna Rive 84.22 16 P **P** **11 28 46.5 +0.6**
baz=219
SBC Santa Barbara 84.23 53 P **P** **11 28 45.7 -1.0**
baz=250
C17K DeLong Mountai 84.25 11 P **P** **11 28 47.0 +0.9**
baz=209
MLY Manley 84.30 17 P **P** **11 28 46.5 0.0**
baz=221
SMMC Simmler 84.32 52 P **P** **11 28 47.0 -0.2**
baz=250
PINM Pinnacle 84.41 24 P **P** **11 28 46.7 -0.4**
baz=231
PAX Paxson 84.42 20 P **P** **11 28 46.5 -0.7**
baz=226
NEA2 Nenana 84.46 18 P **P** **11 28 46.3 -0.8**
baz=223,SNR=5.3
CTG Chitna Glacier 84.55 23 P **P** **11 28 47.3 -0.6**
baz=230,SNR=5.0
CTGM Chitina Glacie 84.55 23 P **P** **11 28 47.3 -0.6**
CTGM IAmb IAmb 11 28 48.4
comp=Z,9.8nm,0.8s
E19K Redstone River 84.58 13 P **P** **11 28 47.6 -0.2**
baz=215
F20K Avaraart Lake 84.60 14 P **P** **11 28 48.0 +0.2**
baz=216
SCI2 San Clemente I 84.66 55 P **P** **11 28 47.4 -1.5**
baz=251
SIT Sitka 84.69 28 P **P** **11 28 48.3 -0.1**
baz=236
G21K Allakaket 84.71 15 P **P** **11 28 48.5 +0.1**
baz=219
C18K Utukok River 84.77 11 P **P** **11 28 49.0 +0.2**
baz=211
H22K Ishtalitna Cre 84.78 16 P **P** **11 28 48.9 +0.1**
baz=221,SNR=5.6
I23K Minto, Yukon-K 84.78 17 P **P** **11 28 48.4 -0.3**
baz=223
S31K Pelican 84.80 27 P **P** **11 28 48.9 -0.1**
baz=235
CRAG Craig 84.85 30 P **P** **11 28 49.0 -0.3**
baz=238
O28M Mount Upton 84.86 23 P **P** **11 28 48.8 -0.9**
baz=231,SNR=5.4
CCB Clear Creek Bu 84.87 18 P **P** **11 28 47.2 -2.0**
CCB IAmb IAmb 11 28 48.9
comp=Z,8.3nm,0.8s
M26K Nabesna, AK 84.88 21 P **P** **11 28 49.2 -0.2**
baz=229
HDA Harding Lake 84.96 18 P **P** **11 28 48.5 -1.2**
baz=225,SNR=24
COLA College 85.02 18 P **P** **11 28 49.0 -0.9**
baz=224
P29M Windy Craggy 85.14 25 P **P** **11 28 50.0 -0.7**
baz=234
L26K Log Cabin Wild 85.17 20 P **P** **11 28 50.4 -0.4**
baz=228
H23K Yukon River 85.23 17 P **P** **11 28 50.3 -0.8**
H23K IAmb IAmb 11 28 51.9
comp=Z,14nm,1.1s
H23K Yukon River 85.23 17 P **P** **11 28 50.7 -0.3**
baz=222,SNR=5.9
IL31 85.24 18 P **P** **11 28 49.7 -1.3**
IL31 IAmb IAmb 11 28 51.0
comp=Z,9.0nm,0.8s
ILAR Eielson Array 85.24 18 P **P** **11 28 49.6 -1.4**
comp=Z,5.9nm,0.8s,baz=244,slow=5.4,SNR=96
ILAR pP pP 11 29 18.2 -6.1
comp=Z,1.6nm,0.9s,baz=236,slow=5.6,SNR=3.0
ILAR sP **pwP** **11 29 31.6 +7.2**
comp=Z,1.7nm,0.8s,baz=232,slow=5.2,SNR=3.5
comp=Z,5.9nm,0.8s
M27K Edge Creek, AK 85.25 21 P **P** **11 28 51.0 -0.3**
baz=230
D19K Kuna River 85.25 12 P **P** **11 28 51.1 0.0**
baz=214
F21K Alatna River 85.27 14 P **P** **11 28 51.8 +0.5**
baz=219
POKR Poker Plat Res 85.32 18 P **P** **11 28 50.7 -0.8**
baz=224,SNR=6.6
YUK8 Steele Glacier 85.34 23 P **P** **11 28 51.1 -0.9**
baz=232,SNR=6.9
YUK3 Moose Creek 85.39 22 P **P** **11 28 51.6 -0.6**
baz=231
C19K Lookout Ridge 85.47 12 P **P** **11 28 52.6 +0.5**
baz=213
E20K Nigu River 85.47 13 P **P** **11 28 52.2 0.0**
baz=216
V35K Ketchikan 85.51 30 P **P** **11 28 52.7 +0.1**
baz=239
G22K Bettles 85.53 15 P **P** **11 28 52.7 +0.2**
baz=220
J25K Salcha River, 85.59 19 P **P** **11 28 52.4 -0.5**
baz=226,SNR=16
SCRK Sand Creek 85.60 20 P **P** **11 28 52.4 -0.6**
baz=228,SNR=6.1
PLBC Pleasant Camp 85.60 25 P **P** **11 28 53.2 +0.2**
baz=235
ISA Isabella, Lake 85.60 52 P **P** **11 28 52.7 -1.0**
baz=250
YUK6 Outpost Mounta 85.67 24 P **P** **11 28 53.2 -0.4**
baz=233
H24K Noodor Dome 85.71 17 P **P** **11 28 53.6 +0.1**
baz=224
EDW2 Edwards Air Fo 85.72 53 P **P** **11 28 53.7 -0.5**
baz=251
L27K Beaver Creek, 85.72 21 P **P** **11 28 53.5 -0.1**
baz=230
WRAK Wrangell Islan 85.72 29 P **P** **11 28 53.6 0.0**
baz=238
BCAR Beaver Creek A 85.74 21 P **P** **11 28 53.4 -0.3**
P30M Million Dollar 85.74 25 P **P** **11 28 53.9 +0.1**
baz=234
D20K Etivluk River 85.75 13 P **P** **11 28 53.7 +0.1**
baz=216
G23K Bananza Creek 85.76 16 P **P** **11 28 53.9 +0.3**
G23K IAmb IAmb 11 28 55.0
comp=Z,11nm,0.9s
G23K Bananza Creek 85.76 16 P **P** **11 28 54.0 +0.3**
baz=222
BFSC Mount Baldy Ra 85.77 54 P **P** **11 28 54.4 -0.2**
baz=251
YUK4 Talbot Arm 85.81 23 P **P** **11 28 54.2 0.0**
baz=233
F22K John River 85.81 15 P **P** **11 28 54.5 +0.6**
baz=220
HYT Haines Junctio 85.94 24 P **P** **11 28 55.3 +0.5**
baz=234
SKAG Skagway 86.04 26 P **P** **11 28 55.8 +0.7**
baz=236
J26L Joseph Creek 86.09 19 P **P** **11 28 55.9 +0.4**
baz=228
COLD Coldfoot 86.10 15 P **P** **11 28 55.9 +0.6**
baz=222,SNR=5.9
E21K Killik River 86.11 14 P **P** **11 28 55.7 +0.3**
baz=218
LRMC Laurel Mtn Rad 86.15 52 P **P** **11 28 55.7 -0.7**
baz=251
CWC Cottonwood Cre 86.16 51 P **P** **11 28 55.4 -1.1**
baz=251
PRP Porcupine Dome 86.17 18 P **P** **11 28 56.4 +0.5**
baz=226
K27K Chicken 86.27 20 P **P** **11 28 56.5 +0.3**
baz=229
BBRC Big Bear Solar 86.35 54 P **P** **11 28 55.9 -1.7**
baz=251

E22K	Anaktuvuk Pass	86.38	14	P	P	11 28 57.5	+0.8
	baz=220						
G24K	Hadweenzic Riv	86.44	17	P	P	11 28 56.0	-1.0
G24K				IAmb	IAmb	11 28 58.7	
	comp=Z,15nm,1.1s						
G24K	Hadweenzic Riv	86.44	17	P	P	11 28 57.6	+0.6
	baz=224						
O30N	Mendenhall	86.47	24	P	P	11 28 57.2	-0.1
	baz=235						
N30M	Aishikik Lake	86.48	24	P	P	11 28 57.6	+0.2
	baz=234						
MPMC	Manual Prospec	86.49	52	P	P	11 28 57.1	-1.0
	baz=251						
IKP	In-Ko-Pah, Jac	86.49	55	P	P	11 28 56.4	-1.7
	baz=252						
C21K	Knifeblade Rid	86.50	13	P	P	11 28 58.3	+1.1
	baz=217						
PFO	Pinyon Flats O	86.51	54	P	P	11 28 57.5	-0.8
	baz=252						
TPFO	Pinon Flats	86.52	54	P	P	11 28 57.2	-1.0
	baz=252						
M29M	Somme Creek	86.54	22	P	P	11 28 58.5	+0.8
	baz=233						
U35K	Hyder	86.59	30	P	P	11 28 58.6	+0.8
	baz=240						
H25L	Birch Creek	86.61	17	P	P	11 28 59.2	+1.4
	baz=226						
NVAR	Mina Array Bea	86.66	49	P	P	11 28 58.1	-0.9
	comp=Z,0.7nm,1.0s,baz=228,slow=7.4,SNR=4.0						
NVAR				pP	pP	11 29 29.2	-3.0
	comp=Z,0.8nm,0.8s,baz=240,slow=6.3,SNR=4.3						
	comp=Z,0.7nm,1.0s						
B20K	Meade River	86.70	12	P	P	11 28 58.7	+0.6
	baz=215						
D22K	Ayikyak River	86.75	14	P	P	11 28 59.8	+1.3
	baz=219						
I26K	Coal Creek Min	86.76	19	P	P	11 28 57.5	-1.0
I26K	Coal Creek Min	86.76	19	P	P	11 28 58.7	+0.2
	baz=228						
SWSC	Sam W. Stewart	86.83	55	P	P	11 28 59.3	-0.3
	baz=252						
E23K	Chandalar	86.87	15	P	P	11 28 59.3	+0.2
	baz=222						
G25K	Bearman Lake	86.88	17	P	P	11 28 59.6	+0.5
	baz=251						
GRAC	Grapevine Rang	86.89	51	P	P	11 28 59.8	-0.1
	baz=251						
B21K	Ikpikpuk River	86.91	13	P	P	11 28 59.9	+0.7
	baz=217						
F24K	Squaw Lake	86.92	16	P	P	11 29 00.1	+0.8
	baz=224						
BELC	Belle Mtn. Jos	87.00	54	P	P	11 29 00.7	+0.1
	baz=252						
EGAK	Eagle	87.05	20	P	P	11 28 59.7	-0.2
	baz=230,SNR=6.4						
S34M	Telegraph Cree	87.06	28	P	P	11 29 00.5	+0.3
	baz=240						
L29M	L29M	87.07	22	P	P	11 28 59.7	-0.4
	baz=233						
Q32M	Nakina River	87.09	27	P	P	11 29 00.0	-0.5
	baz=238						
FURC	Furnace Creek,	87.10	52	P	P	11 29 00.8	0.0
	baz=251						
E24K	Your Creek	87.17	15	P	P	11 29 00.4	-0.2
	baz=223						
DAWY	Dawson	87.20	21	P	P	11 29 00.7	0.0
	baz=232						
M30M	Minto, Yukon	87.24	23	P	P	11 29 00.6	-0.4
	baz=234						
D23K	Nanushuk River	87.29	14	P	P	11 29 02.0	+1.0
	baz=221						
BC3	Big Chuckawall	87.33	55	P	P	11 29 01.0	-1.1
	baz=252						
I27K	Kandik River	87.44	19	P	P	11 29 02.0	+0.1
	baz=230						
GMRC	Granite Mounta	87.50	54	P	P	11 29 02.6	-0.5
	baz=252						
P33M	Teslin, Yukon	87.51	26	P	P	11 29 02.5	+0.1
	baz=238						
F25K	Christian Rive	87.58	16	P	P	11 29 03.2	+0.7
	baz=226						
G26K	Porcupine Rive	87.67	17	P	P	11 29 02.9	0.0
	baz=228						
TPNV	Topopah Spring	87.72	51	P	P	11 29 03.4	-0.7
	baz=252						
IRM	Iron Mountain	87.72	54	P	P	11 29 03.6	-0.4
	baz=252						
K29M	Barlow Dome	87.73	22	P	P	11 29 03.1	-0.3
	baz=234						
B22K	Teshekpuk Lake	87.73	13	P	P	11 29 02.8	-0.2
	baz=219						
DLBC	Dease Lake	87.83	28	P	P	11 29 03.6	-0.3
	baz=240						
H27K	Steamboat Moun	87.87	19	P	P	11 29 04.4	+0.4
	baz=230						
D24K	Happy Valley	87.87	15	P	P	11 29 04.7	+0.9
	baz=223						
A21K	Barrow	87.88	11	P	P	11 29 04.9	+1.2
	baz=216						
R33M	Jennings River	87.89	27	P	P	11 29 04.2	-0.1
	baz=240						
A22K	Sinclair Lake	87.94	12	P	P	11 29 05.3	+1.3
	baz=217						
M31M	Drury Creek, Y	87.95	24	P	P	11 29 05.2	+0.8
	baz=236						
C23K	Itkillik River	87.96	14	P	P	11 29 05.3	+1.1
	baz=221						
F26K	Sheenjek River	88.07	17	P	P	11 29 06.2	+1.4
	baz=227						
G27K	Doyon Strip	88.21	18	P	P	11 29 06.5	+1.0
	baz=230						
BELA	Belgrano 2	88.27	176	P	P	11 29 04.6	-1.2
BELA				IAmb	IAmb	11 29 06.7	
	comp=Z,7.9nm,0.8s						
C24K	Franklin Bluff	88.32	14	P	P	11 29 07.2	+1.3
	baz=223						
I29M	Ogilvie Camp,	88.37	20	P	P	11 29 06.0	-0.3
	baz=233						
J30M	Hart River	88.58	21	P	P	11 29 08.3	+0.9
	baz=235						
D25K	Kavik River	88.60	15	P	P	11 29 08.2	+0.8
	baz=225						
R11B	Troy Canyon, C	88.65	50	P	P	11 29 08.8	+0.4
	baz=252						
H29M	Whitestone	88.87	19	P	P	11 29 09.1	+0.6
	baz=233						
I30M	Mount Dempster	88.94	21	P	P	11 29 09.4	+0.4
	baz=235						
E27K	Coleen River	89.12	17	P	P	11 29 10.3	+0.6
	baz=230						
F28M	Old Crow	89.26	18	P	P	11 29 10.7	+0.3
	baz=231						
MMPY	Sheldon Lake,	89.41	24	P	P	11 29 11.7	+0.5
	baz=239						
EPYK	Eagle Plains	89.49	20	P	P	11 29 12.4	+0.8
	baz=234						
H31M	Peel River	89.97	21	P	P	11 29 14.7	+0.9
	baz=236						
E28M	Babbage River	89.98	17	P	P	11 29 14.1	+0.4
	baz=232						
D27M	Malcolm River	89.98	16	P	P	11 29 13.3	-0.5
	baz=230						
G30M	tAoh Zraii Nji	90.01	19	P	P	11 29 12.7	-1.2
	baz=235						
E29M	Blow River	90.32	18	P	P	11 29 15.1	-0.2
	baz=233						
TUC	Tucson	90.71	57	P	P	11 29 18.1	0.0
	baz=255						
NEW	Newport	90.73	40	P	P	11 29 17.1	-0.6
	baz=251						
F31M	Tsiigehtchic	91.07	19	P	P	11 29 19.8	+1.0
	baz=237						
HLID	Hailey	91.07	46	P	P	11 29 19.6	0.0
	baz=253						
DUG	Dugway, Tooele	91.25	49	P	P	11 29 20.6	+0.2
	baz=254						
WMQ	Urumqi	91.31	315	eP	P	11 29 21.8	+1.3
ELIB	Princess Elisa	91.61	191	dP	P	11 29 21.1	-0.4
	comp=Z,6.4nm,1.1s						
ELIB				dpP	pP	11 29 51.3	-3.6
BOZ	Bozeman (W)	93.55	44	P	P	11 29 30.4	-0.6
	baz=255						
PDAR	Pinedale Array	94.28	47	PKKPbc	PKKPbc	11 46 33.6	-2.3
	comp=Z,0.3nm,0.7s,baz=92,slow=6.3,SNR=4.1						
TROLL	Troll, Antarti	94.33	185	⇑P	P	11 29 34.1	0.0
	comp=Z,276nm,1.0s						
SNAA	Sanae	95.03	183	P	P	11 29 35.6	-1.6
SNAA	Sanae	95.03	183	⇑P	P	11 29 36.5	-0.8
	comp=Z,48nm,0.9s						
SNAA	Sanae	95.03	183	LR	LR	12 12 34.7	
	comp=Z,900nm,18.9s,baz=203,slow=35						
VNA3	Neumayer Olymp	95.72	181	⇑P	P	11 29 40.3	0.0
	comp=Z,1.3nm,0.3s						
MKAR	Makanchi Array	95.76	317	P	P	11 29 40.5	-0.4
	comp=Z,6.9nm,0.7s,baz=94,slow=6.5,SNR=43						
	comp=Z,6.9nm,0.7s						
ZALV	Zalesovo Beam	95.88	324	P	P	11 29 40.3	-0.9
	comp=Z,6.6nm,0.7s,baz=113,slow=4.8,SNR=30						
	comp=Z,6.6nm,0.7s						
SDCO	Great Sand Dun	96.19	53	P	P	11 29 42.2	-1.2
	baz=258						
KURBB	Kurchatov Arra	98.96	320	P	P	11 29 54.0	-1.1
	comp=Z,0.9nm,0.3s,baz=99,slow=4.2,SNR=2.4						
	comp=Z,0.9nm,0.3s						
BVAR	Borovoye Array	104.25	322	Pdiff	Pdif	11 30 17.4	-1.3
	comp=Z,1.2nm,0.7s,baz=90,slow=5.9,SNR=5.6						
LRAL	Lakeview Retre	110.61	59	P	PKiKP	11 34 46.2	-1.0
	baz=267						
SFIN	Lafayette	110.69	52	P	PKiKP	11 34 45.9	-1.2
	baz=270						
P49A	Miami Univ. Ec	112.53	53	P	PKiKP	11 34 50.1	-0.6
	baz=271						
GOGA	Godfrey	113.58	59	P	PKiKP	11 34 52.2	-0.6
	baz=270						
P52A	Corning	114.52	52	P	PKPdf	11 34 53.9	-0.6
	baz=273						
BLA	Blacksburg	115.99	55	P	PKPdf	11 34 56.6	-0.8
	baz=273						
NHSC	New Hope	116.33	60	P	PKPdf	11 34 57.2	-0.9
	baz=271						
SSPA	Standing Stone	117.68	51	P	PKPdf	11 35 00.1	-0.4
	baz=276						
ARCES	ARCESS Array B	118.66	345	PKP	PKPdf	11 35 00.6	-1.0
	comp=Z,3.8nm,0.9s,baz=93,slow=2.0,SNR=11						
FINES	FINESS Array B	124.13	338	PKP	PKPdf	11 35 11.5	-0.7
	comp=Z,4.3nm,1.0s,baz=131,slow=5.3,SNR=5.0						
BOSA	Boshof	124.20	221	PKP	PKPdf	11 35 13.7	+0.1
	comp=Z,4.4nm,0.8s,baz=45,slow=1.9,SNR=6.4						
BSTI	Sart Tilman	139.69	341	dPKPdf	PKPdf	11 35 40.2	-1.6
BMRD	Maredsous	140.18	342	dPKPdf	PKPdf	11 35 41.2	-1.5
WLF	Walferdange	140.30	340	dPKPdf	PKPdf	11 35 41.3	-1.7
PBRG	Braganca	150.95	350	ePKPbc	PKPbc	11 36 07.0	-0.2
POLO	Lamas de Olo	151.55	351	ePKPbc	PKiKP	11 36 08.8	-0.3
POLO	Lamas de Olo	151.53	351	ePKPab	PKPab	11 36 18.1	+0.7
MVO	Moncorvo	151.62	350	ePKPbc	PKiKP	11 36 09.4	+0.2
MVO	Moncorvo	151.62	350	ePKPab	PKPab	11 36 18.5	+0.7
PVRL	Vila Real	151.62	351	ePKPbc	PKiKP	11 36 09.3	+0.1
PVIS	Viseu	152.19	351	ePKPbc	PKiKP	11 36 10.3	-0.1
ESDC	Sonseca Array	152.39	344	PKPbc	PKPbc	11 36 10.4	-0.1
	comp=Z,2.0nm,0.9s,baz=18,slow=6.2,SNR=4.1						
ESDC				PKPab	PKPab	11 36 21.6	+0.5
	comp=Z,4.2nm,0.7s,baz=12,slow=3.9,SNR=26						
MTE	Manteigas	152.45	351	ePKPbc	PKiKP	11 36 11.1	+0.2
PCBR	Castelo Branco	152.99	350	ePKPbc	PKiKP	11 36 11.9	0.0
PMRV	Marv??o	153.37	350	ePKPbc	PKiKP	11 36 12.9	+0.1
PSBE	So Bento	153.50	352	ePKPab	PKPab	11 36 26.4	-0.7
PMTG	Montargil	153.86	351	ePKPbc	PKiKP	11 36 13.6	-0.2
PESTR	Estremoz	153.95	350	ePKPab	PKPab	11 36 28.1	+0.5
PBEJ	Beja	154.82	350	ePKPab	PKPab	11 36 32.3	+1.0
PVAQ	Vaqueiros	155.40	349	ePKPab	PKPab	11 36 34.5	+0.7
MORF	Marmelete	155.65	351	ePKPab	PKPab	11 36 36.0	+1.1
TORD	Torodi Ar. Bea	165.46	271	PKP	PKPdf	11 36 18.5	-1.0
	comp=Z,1.6nm,0.8s,baz=23,slow=3.0,SNR=9.4						
TORD				PKPab	PKPab	11 37 18.8	+0.3
	comp=Z,3.5nm,0.8s,baz=76,slow=6.7,SNR=17						
TORD				pPKPab	pPKPab	11 37 49.4	-2.1
	comp=Z,0.6nm,0.7s,baz=76,slow=3.4,SNR=1.8						

IDC 29 11:26:05.9±3.1, 19°.16S×174°.57W, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=255.3km s-min=27.9km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	47.97	255	P	P	11 34 47.0	+0.1
	0.5nm,0.6s,baz=93,slow=7.9,SNR=8.9						
	0.5nm,0.6s						
WRA	Warramunga Arr	47.99	260	P	P	11 34 46.8	-0.3
	0.1nm,0.3s,baz=97,slow=8.6,SNR=5.9						
	0.1nm,0.3s						
NVAR	Mina Array Bea	77.86	42	P	P	11 38 06.0	+0.2
	0.4nm,0.7s,baz=222,slow=7.6,SNR=3.8						
	0.4nm,0.7s						
TXAR	Lajitas Array	83.62	56	P	P	11 38 36.6	-0.2
	0.2nm,0.8s,baz=218,slow=5.4,SNR=2.3						
	0.2nm,0.8s						

IDC 29 11:29:56.0±5.8, 23°.42S×178°.97W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=250.0km s-min=58.8km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.05	260	P	P	11 37 57.4	-0.4
	0.2nm,0.4s,baz=94,slow=6.8,SNR=6.5						
	0.2nm,0.4s						
WRA	Warramunga Arr	43.39	265	P	P	11 38 00.6	0.0
	0.6nm,0.4s,baz=103,slow=7.9,SNR=14						
	0.6nm,0.4s						
HFS	Hagfors	142.25	350	PKP	PKPdf	11 49 27.7	-2.3
	1.6nm,0.5s,baz=95,slow=4.6,SNR=5.9						
AKASG	Malin Array Be	145.07	328	PKPbc	PKPbc	11 49 34.3	-0.3
	0.4nm,0.4s,baz=56,slow=2.3,SNR=1.9						

*IDC **29** 11:35:20.9±1.6, 53°.79N×163°.90W, h0km, mb3.6/4, mbtmp3.5/5, ML2.0/1, MS3.8/1, Error ellipse: s-maj=39.4km s-min=24.5km az=12.0*
*NEIC **29** 11:35:23.9±1.3, 54°.01N±0°.05×163°.53W±0°.02, h24km±11km, ML3.4/10, ML3.2(AEIC), Error ellipse: s-maj=7.4km s-min=2.0km az=179.0*
*AEIC **29** 11:35:23.4±1.5, 54°.00N±0°.07×163°.52W±0°.09, h18km±7km, Error ellipse: s-maj=11.6km s-min=4.9km az=146.0*
ISC 29 11:35:23.7±2.1, 53°.99N±0°.08×163°.59W±0°.05, h16km±12km, n66, σ0°75/61, mb3.7/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRPK	Brown Peak	0.66	352		Pg	11 35 36.4	-0.3
WESP	Westdahl Peak	0.83	307		Pb	11 35 39.3	-0.6
WESP					Sn	11 35 52.4	-0.5
SSBA	Shishaldin	0.84	338		Pb	11 35 39.5	-0.5
SSBA					Sg	11 35 51.6	+0.4
ISNN	Isanotski Nort	0.85	352		Pb	11 35 39.9	-0.2
ISNN					Sg	11 35 51.8	+0.4
SSLN	Shishaldin Nor	0.85	344		Pb	11 35 40.1	-0.1
SSLN					Sg	11 35 52.5	+0.8
FALS	False Pass	0.87	6		Pb	11 35 39.5	-1.0
FALS					Sb	11 35 51.6	-0.2
WEBT	Westdahl Beart	0.91	312		Pb	11 35 41.1	-0.1
AKSA	Akutan Strait	1.25	277		Pn	11 35 45.8	-0.7
AKSA					Sn	11 36 03.2	+0.2
AKSA	Akutan Strait	1.25	277		Pn	11 35 46.0	-0.6
AKUT	Akutan	1.30	277		Pn	11 35 46.8	-0.3
AKUT	Akutan	1.30	277		Sn	11 36 03.9	-0.2
AKUT	Akutan	1.30	277	IAML		11 36 08.3	
	comp=E,517nm,0.4s						
AKUT				IAML		11 36 11.8	
	comp=N,382nm,0.4s						
AHB	Akutan Harbor	1.32	276		Pn	11 35 47.0	-0.5
DT1	Dutton Round H	1.35	34		Pn	11 35 47.3	-0.6
AKBBA	Akutan Broad B	1.39	275		Pn	11 35 48.0	-0.5
AKLV	Akutan Long Va	1.41	278		Pn	11 35 48.3	-0.5
AKV	Akutan Volcano	1.41	276		Pn	11 35 48.2	-0.6
ZRO	Akutan Zero	1.41	275		Pn	11 35 48.2	-0.6
AKGG	Akutan Green G	1.43	279		Pn	11 35 48.6	-0.4
AKGG					Sb	11 36 08.2	+0.2
LVA	Lava Point	1.45	278		Pn	11 35 49.1	-0.2
AKRB	Akutan Reef Bi	1.47	276		Pn	11 35 49.3	-0.3
HAG	Hague Volcano	1.65	36		Pn	11 35 51.2	-0.8
PS4A	Pavlof South-4	1.69	36		Pn	11 35 51.9	-0.7
PN7A	Pavlof North-7	1.71	32		Pn	11 35 52.7	-0.2
UNV	Unalaska Valle	1.73	266		Pn	11 35 51.8	-1.3
PS1A	Pavlof South-1	1.79	36		Pn	11 35 54.8	+0.9
MTBL	Makushin Table	1.83	270		Pn	11 35 54.5	0.0
MNAT	Makushin Natee	1.83	268		Pn	11 35 53.9	-0.6
MSW	Makushin Switc	1.89	269		Pn	11 35 55.0	-0.3
MAPS	Pakushin South	1.99	266		Pn	11 35 56.2	-0.5
SDPT	Sand Point	2.26	52		Pn	11 35 59.3	-1.1
SDPT	Sand Point	2.26	52	IAML		11 36 35.0	
	comp=E,259nm,0.5s						
SDPT				IAML		11 36 35.1	
	comp=N,220nm,0.7s						
CNBA	Chernabura Isl	2.48	69	Pn	Pn	11 36 02.1	-1.3
VNFG	Fog Glacier, M	3.26	44		Pn	11 36 15.0	+0.7
CHGN	Chignik	3.76	50	Pn	Pn	11 36 21.6	+0.6
CHGN				IAML		11 37 18.8	
	comp=N,85nm,0.1s						
CHGN				IAML		11 37 20.7	
	comp=E,86nm,0.1s						
O14K	Tigyukauivet M	5.43	13	Pn	Pn	11 36 43.6	-0.3
O16K	Kokwok River B	6.37	26	Pn	Pn	11 36 56.8	-0.1
N15K	Kwethluk River	6.48	16	Pn	Pn	11 36 59.6	+1.3
M14K	Bethel	6.83	7	Pn	Pn	11 37 01.4	-1.8
L14K	Kuka Creek	7.38	3	Pn	Pn	11 37 12.1	+1.4
M16K	Timber Creek	7.47	18		Pn	11 37 11.8	-0.2
N18K	Kilae Creek	7.89	29	Pn	Pn	11 37 18.5	+0.8
L16K	Owhat River	8.04	14	Pn	Pn	11 37 19.5	-0.2
M17K	Holitna River	8.12	21	Pn	Pn	11 37 21.4	+0.5
SVW2	Sparrevohn	8.32	28	Pn	Pn	11 37 24.1	+0.6
K15K	Wolf Creek Mou	8.39	7	Pn	Pn	11 37 24.3	-0.3
L18K	Granite Mounta	9.02	21	Pn	Pn	11 37 32.5	-0.5
L19K	White Mountain	9.41	26	Pn	Pn	11 37 38.1	-0.5
M20K	Styx River	9.65	31	Pn	Pn	11 37 43.0	+1.0
SUA	Susitna One	10.14	37	Pn	Pn	11 37 47.0	-1.6
J20K	Nowinta River	11.29	22	Pn	Pn	11 38 04.1	-0.1
ILAR	Eielson Array	13.69	31	Pn	Pn	11 38 38.2	+1.2
	baz=226,slow=15,SNR=1.5						
	comp=E,0.2nm,0.9s						
PETK	Petropavlovsk-	22.83	284	P	P	11 40 25.3	-0.4
	comp=E,3.6nm,1.0s,baz=91,slow=14,SNR=1.5						
	comp=E,3.6nm,1.0s						
NVAR	Mina Array Bea	34.32	98	P	P	11 42 11.1	+1.5
	comp=E,0.5nm,0.9s,baz=299,slow=6.6,SNR=4.1						
	comp=E,0.5nm,0.9s						
H11N2	WAKE ISLAND Hy	40.98	225	T	T	12 26 42.6	
	baz=26,slow=76,SNR=43						
H11N3	WAKE ISLAND Hy	40.99	225	T	T	12 26 40.8	
	baz=26,slow=76,SNR=53						
H11N1	WAKE ISLAND Hy	41.00	225	T	T	12 26 41.9	
	baz=26,slow=76,SNR=35						
H11S1	WAKE ISLAND Hy	42.16	224	T	T	12 28 14.0	
	baz=26,slow=76,SNR=79						
H11S2	WAKE ISLAND Hy	42.17	224	T	T	12 28 16.3	
	baz=26,slow=76,SNR=67						
H11S3	WAKE ISLAND Hy	42.18	224	T	T	12 28 16.9	
	baz=26,slow=76,SNR=57						
TXAR	Lajitas Array	49.32	95	P	P	11 44 12.6	+0.5
	comp=E,0.5nm,0.8s,baz=316,slow=5.2,SNR=6.1						
	comp=E,0.5nm,0.8s						
TKL	Tuckaleechee C	56.40	74	LR	LR	12 09 47.8	
	comp=E,94nm,20.6s,baz=215,slow=36						
BVAR	Borovoye Array	64.31	327	P	P	11 45 57.1	-0.8
	comp=E,0.6nm,0.6s,baz=32,slow=8.5,SNR=3.9						
	comp=E,0.6nm,0.6s						
H03N2	Juan Fernandez	113.37	115	T	T	13 57 08.2	
	baz=323,slow=78,SNR=12						
H03N1	Juan Fernandez	113.38	115	T	T	13 57 10.2	
	baz=323,slow=78,SNR=15						
H03N3	Juan Fernandez	113.39	115	T	T	13 57 11.5	
	baz=323,slow=78,SNR=14						

*PRE **29** 11:38:09.4±1.1, 28°.08S×26°.79E, h2km, ML1.9*
*BUL **29** 11:38:16.1±1.5, 28°.10S×23°.72E, h10km±119km, MD3.7*
*EAF **29** 11:38:16.0, 28°.05S×23°.75E, h10km, MC3.5*
ISC 29 11:38:10.2±0.8, 28°.08S±0°.04×26°.81E±0°.03, h7km, n15, σ1°07/24, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNKL	Senekal, Frees	0.88	103	eP	Pb	11 38 27.0	-0.8
SNKL				eS	Sg	11 38 38.2	-0.2
SNKL				IAML		11 38 41.6	
	comp=Z,39nm,0.2s						
PRYS	Parys	1.25	23	eP	Pn	11 38 33.9	-0.3
PRYS				eS	Sn	11 38 50.3	-1.1
PRYS				IAML		11 38 53.4	
	comp=Z,59nm,0.3s						
BOSA	Boshof	1.47	248	i P	Pg	11 38 42.1	+3.8
BOSA				i S	Sg	11 38 59.2	+1.8
BOSA	Boshof	1.47	248	eP	Pg	11 38 37.1	-1.2
BOSA				eS	Sg	11 38 56.8	-0.5
BOSA				IAML		11 39 03.7	
	comp=Z,9.8nm,0.5s						
BOSA	Boshof	1.47	248	i P	Pg	11 38 42.1	+3.8
	baz=114						
BOSA				i S	Sg	11 38 59.2	+1.8
	baz=114						
SWZ	Schweizer	1.58	304	eP	Pb	11 38 38.7	-1.2
SWZ				eS	Sg	11 39 00.7	-0.5
SWZ				IAML		11 39 04.6	
	comp=Z,25nm,0.2s						
LBTB	Lobatse	3.24	340	i P	Pb	11 39 08.6	+0.5
LBTB				i S	Sb	11 39 49.0	+1.2
LBTB	Lobatse	3.24	340	eP	Pn	11 39 02.4	+0.8
LBTB				eS	Sn	11 39 40.4	-0.1
LBTB				IAML		11 39 57.8	
	comp=Z,8.4nm,0.6s						
LBTB	Lobatse	3.24	340	i P	Pb	11 39 08.6	+0.5
	baz=29						
LBTB				i S	Sb	11 39 49.0	+1.2
	baz=29						
KSTD	Kokstad	3.34	140	eP	Pn	11 39 04.3	+1.3
KSTD				eS	Sn	11 39 43.9	+0.8
KSTD				IAML		11 39 58.7	
	comp=Z,3.7nm,0.4s						
LEPH	Lephalale, Lim	4.30	12	eP	Pn	11 39 16.5	+0.4
LEPH				eS	Sn	11 40 06.8	+0.2
LEPH				IAML		11 40 30.4	
	comp=Z,3.0nm,0.3s						
UPI	Upington	4.91	265	eP	Pn	11 39 25.0	+0.5
UPI				eS	Sn	11 40 20.9	-0.7
UPI				IAML		11 40 49.6	
	comp=Z,3.2nm,0.6s						
FRAZ	Fraserburg	6.05	229	eP	Pn	11 39 40.9	+0.7
FRAZ				eS	Sn	11 40 47.7	-2.1
FRAZ				IAML		11 40 51.9	
	comp=Z,1.9nm,0.7s						
MOPA	Mopani	6.15	43	i P	Pg	11 40 13.3	+5.4
MOPA	Mopani	6.15	43	i P	Pg	11 40 13.3	+5.4
	baz=59						

*NEIC **29** 11:38:30.2±1.6, 19°.46N±0°.01×154°.86W±0°.03, h5km±2km, Error ellipse: s-maj=5.8km s-min=3.0km az=293.0*
HVO 29 11:38:29.6±1.8, 19°.46N±0°.01×154°.87W±0°.03, h2km±9km, ML2.4/15, ML2.5/32(NEIC), Error ellipse: s-maj=4.9km s-min=0.8km az=113.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	Puu Honuaula	0.

UWE IAML 11 38 39.4
comp=N,524nm,1.7s
HLP Hilina Pali 0.45 249 Sb 11 38 45.8 -1.7
HLP Hilina Pali 0.45 249 Pg 11 38 39.0 +0.7
HLP IAML 11 38 52.5
comp=N,397nm,0.4s
HLP Hilina Pali 0.45 249 IAML 11 38 45.2
comp=E,350nm,2.8s
MLH Mauna Loa 0.49 274 Pg 11 38 39.6 +0.6
MLH Sg 11 38 46.9 +1.5
MLH Mauna Loa 0.49 274 IAML 11 38 47.3
comp=E,376nm,1.2s
MLH IAML 11 38 47.9
comp=N,333nm,1.2s
HTC Hot Caves 0.55 246 Pg 11 38 40.3 +0.2
AIN Ainahou 0.56 261 Pg 11 38 40.7 +0.2
AIN Sb 11 38 49.5 -1.4
AIN Ainahou 0.56 261 IAML 11 38 50.7
comp=E,249nm,0.3s
HMH Humu'ula Sheep 0.60 284 Pg 11 38 41.3 +0.2
MLOA Mauna Loa Obse 0.67 276 Pg 11 38 42.0 -0.6
MLOA IAML 11 39 03.1
comp=N,249nm,2.4s
MWH Moku'aweowe 0.69 272 IAML 11 38 59.2
comp=E,259nm,1.2s
MWH Moku'aweowe 0.69 272 Pg 11 38 42.4 -0.5
MWH Sb 11 38 53.5 -1.4
POHA Pohakuloa 0.69 295 Pg 11 38 42.3 -0.7
POHA Pohakuloa 0.69 295 IAML 11 39 07.3
comp=E,272nm,0.6s
ALEP Alea Permanent 0.74 276 Pg 11 38 43.1 -0.7
ALEP Sg 11 38 53.2 -0.2
KHU Kahuku 0.74 253 Pg 11 38 43.5 -0.3
KHU Kahuku 0.74 253 IAML 11 38 50.2
comp=N,245nm,4.4s
KHU IAML 11 39 07.9
comp=E,245nm,4.9s
HUH Hualalai 0.94 284 Pb 11 38 48.5 -0.4
HPAH Hawaii Prepara 0.96 306 Pg 11 38 45.7 -2.5
HPAH IAML 11 39 07.8
comp=N,98nm,2.6s
HPAH IAML 11 39 11.6
comp=E,161nm,4.0s

*IDC **29** 11:49:58.8±9.4, 14°.65N×103°.92W, h0km, mb3.5/4, mbtmp3.6/5, ML3.3/1, MS3.6/19, Error ellipse: s-maj=213.1km s-min=89.7km az=116.0*
*MEX **29** 11:50:03.7±0.5, 15°.15N×104°.47W, h8km±106km, MD4.2*
*NEIC **29** 11:50:08.4±2.0, 15°.4N±0°.1×104°.04W±0°.08, h10km±2km, mb4.2/32, Md4.2/9(MEX), Error ellipse: s-maj=22.8km s-min=5.0km az=212.0*
ISC 29 11:50:07.9±1.7, 15°.4N±0°.1×104°.14W±0°.09, h10km, n97, σ1ˢ30/72, mb3.9/6, MS3.6/17, Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**2.98**	**15**		Pn	11 50 53.1	-2.2
MMIG	**Aquila**	**2.98**	**15**	*i* P	Pn	11 50 53.1	-2.2
MMIG				*i* S	**Sn**	**11 51 31.5**	**+0.4**
ZIIG	**Zihuatanejo**	**3.38**	**49**		**Pn**	**11 50 59.4**	**-1.4**
ZIIG	**Zihuatanejo**	**3.38**	**49**	*i* P	**Pn**	**11 50 59.4**	**-1.4**
ZIIG				*eS*	**Sn**	**11 51 41.9**	**+0.9**
CAIG	**El Cayaco**	**4.07**	**66**		**Pn**	**11 51 09.1**	**-1.2**
CAIG	**El Cayaco**	**4.07**	**66**	*i* P	**Pn**	**11 51 09.1**	**-1.2**
CJM	**Chamela**	**4.18**	**348**	*eP*	**Pn**	**11 51 09.9**	**-1.9**
DAIG	**Los Arroyos**	**4.61**	**69**		**Pn**	**11 51 16.7**	**-1.0**
DAIG	**Los Arroyos**	**4.61**	**69**	*eP*	**Pn**	**11 51 16.7**	**-1.0**
ARIG	**Puente Sto Nin**	**4.63**	**51**	*eP*	**Pn**	**11 51 17.9**	**-0.1**
CRIG	**Cruz Grande**	**5.00**	**74**		**Pn**	**11 51 21.7**	**-1.3**
CRIG	**Cruz Grande**	**5.00**	**74**	*eP*	**Pn**	**11 51 21.7**	**-1.3**
MEIG	**Mezcala**	**5.01**	**59**		**Pn**	**11 51 24.1**	**+0.7**
MEIG	**Mezcala**	**5.01**	**59**	*eP*	**Pn**	**11 51 24.1**	**+0.7**
MOIG	**Morelia**	**5.11**	**33**	*eP*	**Pn**	**11 51 25.0**	**+0.2**
PLIG	**Platanillo**	**5.35**	**55**		**Pn**	**11 51 28.1**	**+0.1**
PLIG	**Platanillo**	**5.35**	**55**	*eP*	**Pn**	**11 51 28.1**	**+0.1**
ANIG	**Ahuacatlan**	**5.64**	**356**	*eP*	**Pn**	**11 51 31.3**	**-0.7**
TLIG	**Tlapa**	**5.76**	**67**	*eP*	**Pn**	**11 51 34.3**	**+0.6**
YAIG	**Yautepec**	**5.95**	**54**	*i* P	**Pn**	**11 51 36.3**	**0.0**
UNM	**Universidad Na**	**6.14**	**50**	Pn	Pn	11 51 37.0	-2.1
TXIG	**Tlaxiaco**	**6.39**	**72**	*eP*	**Pn**	**11 51 42.4**	**0.0**
PPM	**Popocatepetl**	**6.41**	**54**	*i* P	**Pn**	**11 51 43.5**	**+0.5**
YOIG	**Yosondua**	**6.50**	**76**	*eP*	**Pn**	**11 51 43.1**	**-0.9**
AAIG	**Aguscalientes**	**6.75**	**14**	*eP*	**Pn**	**11 51 46.0**	**-1.3**
DEIG	**Demacu**	**6.89**	**44**	*eP*	**Pn**	**11 51 49.7**	**+0.5**
H06E1	**SOCORRO T-PHAS**	**7.31**	**298**	T	T	11 59 03.1	
	SNR=398						
H06S1	**SOCORRO T**	**7.32**	**298**	T	T	11 59 13.0	
	SNR=45						
CMIG	**Matias Romero**	**9.05**	**78**	LR	LR	11 55 28.7	
	comp=Z,408nm,19.1s,baz=262,slow=36						
SLBS	**Sierra La Lagu**	**9.90**	**327**	Pn	**Pn**	**11 52 32.3**	**+1.8**
HBVL	**Hebbronville**	**12.68**	**23**	Pn	**Pn**	**11 53 08.0**	**-0.4**
833A	**Chaparral WMA,**	**13.60**	**18**		**Pn**	**11 53 20.9**	**-0.1**
TX31	**Lajitas Ar. Si**	**13.88**	**2**		**Pn**	**11 53 26.4**	**+1.4**
TX32	**Lajitas Array**	**13.88**	**2**		**Pn**	**11 53 26.8**	**+1.8**
TXAR	**Lajitas Array**	**13.88**	**2**		**Pn**	**11 53 27.4**	**+2.5**
TXAR	**Lajitas Array**	**13.88**	**2**	Pn	**Pn**	**11 53 27.9**	**+2.9**
	baz=176,slow=14,SNR=20						
TXAR				LR	LR	11 59 05.1	
	comp=Z,117nm,20.6s,baz=181,slow=37						
	1.7nm,0.9s						
DRIO	**Del Rio**	**14.34**	**12**		**Pn**	**11 53 32.1**	**+1.0**
HNDO	**Hondo**	**14.77**	**17**		**Pn**	**11 53 35.9**	**-1.1**
ALPN	**Alpine**	**14.92**	**2**		**Pn**	**11 53 37.6**	**-1.6**
425A	**Indio Mountain**	**15.34**	**357**	P	**Pn**	**11 53 42.9**	**-1.9**
425A				IAmb	IAmb	11 53 58.7	
	comp=Z,12nm,1.2s						
JCT	**Junction City**	**15.54**	**14**	P	**Pn**	**11 53 44.3**	**-2.9**
JCT				IAmb	IAmb	11 53 53.3	
	comp=Z,18nm,1.1s						
OZNA	**Ozona**	**15.70**	**10**		**Pn**	**11 53 47.3**	**-2.1**
OZNA				IAmb	IAmb	11 53 55.6	
	comp=Z,12nm,1.0s						
TEIG	**Tepich**	**15.85**	**70**	LR	LR	12 00 14.5	
	comp=Z,2μm,21.5s,baz=357,slow=39						
PECS	**Pecos**	**15.91**	**1**	P	**Pn**	**11 53 51.8**	**-0.3**
PECS				IAmb	IAmb	11 54 05.1	
	comp=Z,13nm,1.2s						
MNHN	**Monahans**	**15.93**	**4**	P	**Pn**	**11 53 53.8**	**+1.5**
MNHN				IAmb	IAmb	11 54 09.3	
	comp=Z,4.2nm,1.0s						
MNTX	**Cornudas Mount**	**16.27**	**356**	P	**Pn**	**11 53 60.0**	**+3.2**
435B	**Jarrell**	**16.46**	**20**	P	**Pn**	**11 54 01.5**	**+2.5**
BRDY	**Brady**	**16.51**	**16**		**Pn**	**11 54 02.0**	**+2.3**
BRDY				IAmb	IAmb	11 54 04.6	
	comp=Z,19nm,1.2s						
319A	**Douglas**	**16.59**	**344**	P	**Pn**	**11 54 00.7**	**-0.2**
319A				IAmb	IAmb	11 54 16.2	
	comp=Z,23nm,1.4s						
SGCY	**Sterling City**	**16.68**	**9**	P	**Pn**	**11 54 02.9**	**+1.0**
SGCY				IAmb	IAmb	11 54 16.3	
	comp=Z,11nm,1.0s						
WHTX	**Lake Whitney,**	**17.61**	**19**	P	**Pn**	**11 54 14.4**	**+0.8**
WHTX				IAmb	IAmb	11 54 24.1	
	comp=Z,29nm,1.3s						
ABTX	**Abilene, Hawle**	**17.64**	**13**		**Pn**	**11 54 14.5**	**+0.6**
ABTX				IAmb	IAmb	11 54 22.0	
	comp=Z,12nm,0.9s						
TUC	**Tucson**	**17.90**	**341**		**Pn**	**11 54 17.4**	**+0.3**
PLPT	**Palo Pinto**	**18.13**	**16**	P	**Pn**	**11 54 19.2**	**-0.7**
PLPT				IAmb	IAmb	11 54 24.9	
	comp=Z,33nm,1.3s						
FW07	**Weatherford**	**18.18**	**17**	P	**Pn**	**11 54 19.3**	**-1.2**
FW07				IAmb	IAmb	11 54 29.2	
	comp=Z,18nm,0.9s						
APMT	**Aspermont**	**18.22**	**11**	P	**Pn**	**11 54 20.1**	**-1.0**
APMT				IAmb	IAmb	11 54 31.7	
	comp=Z,17nm,1.0s						
JTS	**Las Juntas de**	**19.38**	**103**	LR	LR	12 00 01.9	
	comp=Z,54nm,20.9s,baz=282,slow=32						
113A	**Mohawk Valley,**	**19.39**	**335**	P	**P**	**11 54 34.9**	**+0.9**
ANMO	**Albuquerque**	**19.58**	**354**	P	**P**	**11 54 37.5**	**+1.1**
ANMO				IAmb	IAmb	11 54 47.8	
	comp=Z,13nm,1.5s						
ANMO	**Albuquerque**	**19.58**	**354**	P	**P**	**11 54 37.2**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=189,slow=11,SNR=3.6						
	comp=Z,1.1nm,0.7s						
WMOK	**Wichita Mounta**	**19.86**	**13**	P	**P**	**11 54 38.9**	**-0.4**
WMOK				IAmb	IAmb	11 54 47.5	
	comp=Z,24nm,1.4s						
SMWD	**Samnorwood**	**19.94**	**9**	P	**P**	**11 54 39.4**	**-0.7**
SMWD				IAmb	IAmb	11 54 47.4	
	comp=Z,9.5nm,0.9s						
Z41A	**Richland Creek**	**20.54**	**28**	P	**P**	**11 54 45.8**	**-0.9**
W35A	**Tecumseh**	**20.73**	**17**	P	**P**	**11 54 47.7**	**-1.0**
ELIS	**Ellis County**	**21.02**	**11**	P	**P**	**11 54 50.2**	**-1.6**
WUAZ	**Wupatki**	**21.07**	**343**	P	**P**	**11 54 51.4**	**-1.1**
WUAZ				IAmb	IAmb	11 55 02.8	
	comp=Z,9.8nm,1.1s						
DEOK	**Depew**	**21.48**	**17**		**P**	**11 54 55.8**	**-1.0**
OK031	**S. Brethren Rd**	**21.49**	**16**		**P**	**11 54 56.1**	**-0.8**
OK033	**Mehan**	**21.55**	**16**		**P**	**11 54 56.8**	**-0.8**
SDCO	**Great Sand Dun**	**22.30**	**357**	P	**P**	**11 55 05.8**	**-0.1**
T35A	**Sooner Cattle**	**22.49**	**16**	P	**P**	**11 55 07.3**	**-0.3**
GSC	**Goldstone, Bar**	**22.85**	**332**	P	**P**	**11 55 10.6**	**-1.0**
FCAR	**Ozark Folk Cen**	**23.07**	**26**	P	**P**	**11 55 11.8**	**-1.9**
FCAR				IAmb	IAmb	11 55 27.4	
	comp=Z,14nm,1.3s						
QSM	**Queen of Sheba**	**23.44**	**333**	P	**P**	**11 55 17.7**	**+0.2**
QSM				IAmb	IAmb	11 55 19.1	
	comp=Z,9.3nm,1.5s						
NVAR	**Mina Array Bea**	**26.13**	**334**	P	**P**	**11 55 41.8**	**-0.7**
	comp=Z,0.7nm,1.0s,baz=169,slow=10,SNR=4.6						
NVAR				LR	LR	12 04 35.9	
	comp=Z,132nm,19.5s,baz=168,slow=33						
	comp=Z,0.7nm,1.0s						
PDAR	**Pinedale Array**	**27.68**	**351**	P	**P**	**11 55 55.4**	**-1.0**
PDAR	**Pinedale Array**	**27.68**	**351**	P	**P**	**11 55 56.0**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=153,slow=10.0,SNR=4.5						
	comp=Z,0.5nm,0.8s						
YBH	**Yreka Blue Hor**	**30.76**	**332**	LR	LR	12 07 37.5	
	comp=Z,63nm,19.0s,baz=192,slow=34						
ATAH	**Atahualpa**	**33.94**	**129**	LR	LR	12 07 45.9	
	comp=Z,113nm,18.6s,baz=324,slow=32						
ULM	**Lac du Bonnet**	**35.41**	**9**	LR	LR	12 11 09.3	
	comp=Z,103nm,21.2s,baz=194,slow=35						
SJG	**San Juan**	**36.44**	**80**	LR	LR	12 12 27.0	
	comp=Z,31nm,18.0s,baz=277,slow=37						
NNA	**Nana**	**38.34**	**134**	LR	LR	12 09 50.2	
	comp=Z,123nm,21.3s,baz=301,slow=32						
RPN	**Rapa Nui**	**42.56**	**187**	LR	LR	12 11 22.5	
	comp=Z,105nm,21.2s,baz=28,slow=31						
TAOE	**Nuku Hiva Isla**	**43.05**	**238**	*e*LR	LR	12 09 39.9	
	comp=Z,181nm,24.6s						
TAOE	**Nuku Hiva Isla**	**43.05**	**238**	*e*T	T	12 43 18.6	
	comp=Z,47nm,0.2s						
DLBC	**Dease Lake**	**47.10**	**342**	LR	LR	12 17 57.1	
	comp=Z,110nm,18.2s,baz=350,slow=35						
LPAZ	**La Paz**	**47.48**	**130**	LR	LR	12 16 07.8	
	comp=Z,106nm,21.5s,baz=294,slow=34						
SCHQ	**Schefferville**	**48.77**	**28**	LR	LR	12 20 16.1	
	comp=Z,66nm,19.3s,baz=290,slow=37						
PMOR	**Pomariorio Ree**	**52.74**	**237**	*e*T	T	12 55 31.9	
	comp=Z,8.4nm,0.2s						
L29M	**L29M**	**53.23**	**341**	P	**P**	**11 59 28.3**	**+1.8**
FRB	**Frobisher Bay**	**54.19**	**19**	LR	LR	12 21 17.5	
	comp=Z,53nm,19.9s,baz=268,slow=34						
PPT	**Papeete**	**55.49**	**236**	LR	LR	12 18 01.8	
	comp=Z,38nm,19.5s,baz=32,slow=30						
PPT2	**Papeete2**	**55.50**	**236**	*e*LR	LR	12 15 25.2	
	comp=Z,139nm,24.8s						
ILAR	**Eielson Array**	**57.19**	**340**	P	P	11 59 52.5	-2.4
	comp=Z,0.9nm,0.9s,baz=150,slow=6.3,SNR=8.9						
	comp=Z,0.9nm,0.9s						
SFJD	**Kangerlussuaq**	**62.10**	**21**	LR	LR	12 28 11.6	
	comp=Z,62nm,18.0s,baz=226,slow=37						
BDFB	**Brasilia**	**63.43**	**117**	LR	LR	12 24 11.0	
	comp=Z,13nm,18.5s,baz=94,slow=33						
NOA	**NORSAR Array B**	**88.32**	**26**	LR	LR	12 42 53.6	
	comp=Z,36nm,18.0s,baz=85,slow=36						

*ROM **29** 12:02:01.5±0.2, 47°.100N±0°.009×11°.15E±0°.01, h9km±1km, ML2.1/36, Error ellipse: s-maj=0.9km s-min=0.7km az=6.0*
*LDG **29** 12:02:01.1±0.2, 47°.01N×11°.12E, h11km, ML2.7/7, Error ellipse: s-maj=7.4km s-min=3.4km az=30.0*
*VIE **29** 12:02:01.4±0.2, 47°.10N×11°.11E, h8km±4km, mb1.9/13, ml2.6/19, Error ellipse: s-maj=1.0km s-min=0.9km az=19.0*
12 km SSW of Gries im Sellrain felt 3-4 ems98 near Laengenfeld / Tyrol
*BGR **29** 12:02:02.6±0.2, 47°.11N×11°.14E, h10km, ML2.3/18, Error ellipse: s-maj=3.3km s-min=2.2km az=169.0*
*PRU **29** 12:02:03.0, 47°.19N×11°.14E, h3km*
ISC 29 12:02:01.7±0.8, 47°.11N±0°.01×11°.12E±0°.01, h14km±5km, n98, σ1ˢ31/160, 3C-7D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SQTA	**Sankt Quirin**	**0.13**	**28**	*i* Pg	**Pg**	**12 02 04.9**	**-0.5**
	285nm,0.1s,SNR=3378						
SQTA				*e*Sg	**Sg**	**12 02 06.8**	**-1.1**
	2μm,0.1s						
MOTA	**Moosalm**	**0.24**	**357**	*i* Pg	**Pg**	**12 02 06.7**	**-0.3**
	207nm,0.1s,SNR=674						
MOTA				*e*Sg	**Sg**	**12 02 10.0**	**-0.7**
	104nm,0.1s						
ROSI	**Rosskopf**	**0.27**	**132**	⇓P	**Pg**	**12 02 07.4**	**-0.2**
ROSI				S	**Sg**	**12 02 11.0**	**-0.5**
ROSI				AML	AML		
	comp=N,1830μm,0.5s						
ROSI				AML	AML		
	comp=E,2225μm,0.5s						
ROSI				AML	AML		
	comp=N,1825μm,0.5s						
ROSI				AML	AML		
	comp=E,2020μm,0.4s						
ROSI				AML	AML		
	comp=N,1825μm,0.5s						
FETA	**Feichten**	**0.28**	**252**	*i* Pg	**Pg**	**12 02 07.4**	**-0.3**
	comp=N,53nm,0.1s,SNR=292						
FETA				*e*Sg	**Sg**	**12 02 11.2**	**-0.7**
	comp=N,99nm,0.1s						
WATA	**Walderalm**	**0.39**	**54**	*i* Pg	**Pg**	**12 02 09.2**	**-0.4**
	comp=N,72nm,0.1s,SNR=199						
WATA				*e*Sg	**Sg**	**12 02 14.4**	**-0.5**
	comp=N,61nm,0.1s						
WTTA	**Wattenberg**	**0.39**	**66**	*i* Pg	**Pg**	**12 02 09.3**	**-0.3**
	comp=N,81nm,0.1s,SNR=131						
WTTA				*e*Sg	**Sg**	**12 02 14.4**	**-0.5**
	comp=N,27nm,0.1s						
WTTA	**Wattenberg**	**0.39**	**66**	⇑P	**Pg**	**12 02 09.4**	**-0.3**
WTTA				S	**Sg**	**12 02 14.8**	**-0.2**
WTTA				AML	AML		
	comp=E,242μm,0.7s						
WTTA				AML	AML		
	comp=E,268μm,0.2s						
WTTA				AML	AML		
	comp=N,238μm,0.8s						
WTTA				AML	AML		
	comp=E,242μm,0.7s						
WTTA				AML	AML		
	comp=N,228μm,0.4s						
WTTA				AML	AML		
	comp=E,268μm,1.8s						
WTTA				AML	AML		
	comp=N,238μm,1.2s						
WTTA	**Wattenberg**	**0.39**	**66**	*e*Pg	**Pg**	**12 02 09.4**	**-0.3**
WTTA				*e*Sg	**Sg**	**12 02 15.1**	**+0.1**
PART	**Garmisch-Parte**	**0.39**	**359**	*e*Pg	**Pg**	**12 02 09.0**	**-0.6**
PART				*e*Sg	**Sg**	**12 02 14.5**	**-0.5**
RETA	**Reutte**	**0.45**	**328**	*i* Pg	**Pg**	**12 02 09.9**	**-0.9**
	comp=N,1.3nm,0.0s,SNR=38						
RETA				*e*Sg	**Sg**	**12 02 16.4**	**-0.4**
	comp=N,33nm,0.2s						
BRES	**Bressanone**	**0.59**	**134**	AML	AML		
	comp=E,327μm,0.2s						
BRES				AML	AML		
	comp=N,432μm,1.2s						
BOSI	**Bolzano**	**0.63**	**167**	P	**Pb**	**12 02 14.1**	**-0.4**
BOSI				S	**Sb**	**12 02 22.6**	**-0.5**
BOSI				AML	AML		
	comp=E,406μm,1.3s						
BOSI				AML	AML		
	comp=E,407μm,1.3s						
BOSI				AML	AML		
	comp=N,423μm,0.2s						
BOSI				AML	AML		
	comp=E,377μm,0.2s						
BOSI				AML	AML		
	comp=N,454μm,1.1s						
MOSI	**Grossmontoni**	**0.63**	**219**	⇓P	**Pg**	**12 02 14.2**	**+0.1**
MOSI				S	**Sg**	**12 02 22.1**	**-0.3**
MOSI				AML	AML		
	comp=E,556μm,0.9s						
MOSI				AML	AML		
	comp=N,690μm,0.3s						
MOSI				AML	AML		
	comp=E,538μm,0.3s						
MOSI				AML	AML		
	comp=E,556μm,1.1s						
APPI	**Appiano**	**0.63**	**173**	P	**Pg**	**12 02 13.1**	**-1.1**
APPI				AML	AML		
	comp=E,184μm,0.8s						
APPI				AML	AML		
	comp=E,183μm,0.8s						
APPI				AML	AML		
	comp=N,160μm,0.4s						
APPI				AML	AML		
	comp=N,151μm,0.3s						
APPI				AML	AML		
	comp=E,157μm,0.1s						
APPI				AML	AML		
	comp=N,198μm,0.8s						
APPI				AML	AML		
	comp=E,184μm,1.2s						
OBER	**Oberstdorf**	**0.64**	**298**	*e*Pg	**Pg**	**12 02 14.0**	**-0.2**
OBER				*e*Sg	**Sg**	**12 02 23.2**	**+0.5**
OZOL	**Ozolo**	**0.70**	**184**	P	**Pg**	**12 02 15.3**	**-0.2**
OZOL				S	**Sg**	**12 02 24.6**	**-0.2**
CARE	**Lago del Cares**	**0.74**	**203**	P	**Pg**	**12 02 15.9**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**0.76**	**231**	P	**Pg**	**12 02 16.2**	**-0.4**
FUORN				AML	AML		
	comp=E,91μm,0.4s						
FUORN				AML	AML		
	comp=N,82μm,1.1s						
FUORN				AML	AML		
	comp=N,69μm,0.2s						
FUORN				AML	AML		
	comp=E,91μm,0.4s						
FUORN				AML	AML		
	comp=E,91μm,0.4s						
BRMO	**Bormio**	**0.81**	**219**	P	**Pg**	**12 02 17.2**	**-0.4**
BRMO				AML	AML		
	comp=N,121μm,1.6s						
BRMO				AML	AML		
	comp=N,117μm,0.2s						
BRMO				AML	AML		
	comp=E,131μm,0.6s						
BRMO				AML	AML		
	comp=E,132μm,0.6s						
DAVA	**Damuels**	**0.86**	**282**	*e*Pg	**Pg**	**12 02 18.1**	**-0.5**
	comp=E,2.1nm,0.2s						
DAVA				*e*Sg	**Sg**	**12 02 29.9**	**0.0**
	comp=E,4.4nm,0.1s,SNR=12						
DAVA	**Damuels**	**0.86**	**282**	*e*Pg	**Pg**	**12 02 18.5**	**0.0**
DAVA				*e*Sg	**Sb**	**12 02 31.0**	**+0.9**
ZIAN	**Ziano**	**0.89**	**160**	P	**Pg**	**12 02 18.5**	**-0.4**
ZIAN				S	**Sg**	**12 02 30.0**	**-0.5**
UBR	**Ueberruh**	**0.90**	**310**	*e*Pg	**Pb**	**12 02 19.3**	**+0.3**
UBR				*e*Sg	**Sb**	**12 02 32.0**	**+1.2**
DAVOX	**Davos/Dischmat**	**0.91**	**249**	⇑P	**Pg**	**12 02 18.6**	**-0.8**
DAVOX				AML	AML		
	comp=N,67μm,1.4s						
DAVOX				AML	AML		
	comp=E,53μm,0.2s						
DAVOX				AML	AML		
	comp=N,67μm,1.4s						
DAVOX				AML	AML		
	comp=E,53μm,0.2s						
DAVOX				AML	AML		
	comp=N,55μm,0.5s						
DAVOX				AML	AML		
	comp=N,67μm,0.6s						
ABTA	**Abfaltersbach**	**1.02**	**110**	*i* Pg	**Pg**	**12 02 20.9**	**-0.5**
	comp=N,0.9nm,0.1s,SNR=6.6						
ABTA				*e*Sg	**Sb**	**12 02 34.3**	**-0.2**
	comp=N,30nm,0.2s,SNR=9.5						
BERNI	**Berninapass**	**1.02**	**228**	P	**Pg**	**12 02 20.3**	**-1.3**
GAGG	**Gaggia**	**1.03**	**186**	P	**Pg**	**12 02 21.3**	**-0.4**
GAGG				AML	AML		
	comp=E,73μm,0.8s						
GAGG				AML	AML		
	comp=N,55μm,0.3s						
GAGG				AML	AML		
	comp=N,65μm,0.5s						
GAGG				AML	AML		
	comp=E,48μm,0.2s						
GAGG				AML	AML		
	comp=N,55μm,0.3s						
AGOR	**Agordo**	**1.04**	**142**	P	**Pb**	**12 02 21.6**	**+0.1**
AGOR				AML	AML		
	comp=E,176μm,0.4s						
AGOR				AML	AML		
	comp=N,235μm,0.4s						
AGOR				AML	AML		
	comp=E,224μm,0.3s						
AGOR				AML	AML		
	comp=N,228μm,0.3s						
AGOR				AML	AML		
	comp=N,292μm,0.4s						
AGOR				AML	AML		
	comp=E,174μm,0.3s						
FUR	**Furstenfeldbru**	**1.06**	**6**	*e*Pg	**Pn**	**12 02 22.6**	**+0.4**
FUR				*e*Sg	**Sn**	**12 02 37.4**	**+0.6**
PANI	**Panarotta**	**1.07**	**172**	P	**Pg**	**12 02 21.6**	**-0.8**
LESA	**Schwarzleotal**	**1.11**	**73**	*e*Pg	**Pg**	**12 02 22.3**	**-0.8**
	comp=E,5.1nm,0.2s						
LESA				*e*Sg	**Sn**	**12 02 38.2**	**+0.2**
	comp=E,10nm,0.3s						
CTI	**Castel Tesino**	**1.12**	**161**	P	**Pg**	**12 02 22.4**	**-0.9**
CTI				AML	AML		
	comp=N,372μm,0.2s						
CTI				AML	AML		
	comp=E,311μm,0.2s						
CTI				AML	AML		
	comp=N,372μm,0.2s						
CTI				AML	AML		
	comp=E,312μm,0.2s						
CTI				AML	AML		
	comp=N,372μm,1.8s						
MABI	**Malga Bissina**	**1.13**	**202**	⇑P	**Pg**	**12 02 23.0**	**-0.6**
MABI				AML	AML		
	comp=N,75μm,0.2s						
MABI				AML	AML		
	comp=E,52μm,0.1s						
MABI				AML	AML		
	comp=N,75μm,0.2s						
MABI				AML	AML		
	comp=E,65μm,0.5s						
LUSI	**Trento, Gardas**	**1.16**	**186**	P	**Pg**	**12 02 23.1**	**-0.9**
LUSI				AML	AML		
	comp=E,58μm,1.3s						
LUSI				AML	AML		
	comp=E,50μm,0.3s						
LUSI				AML	AML		
	comp=N,125μm,0.2s						
LUSI				AML	AML		
	comp=N,126μm,0.2s						
LUSI				AML	AML		
	comp=E,58μm,0.7s						
PLONS	**Plons/SG**	**1.19**	**268**	P	**Pb**	**12 02 24.1**	**0.0**
PLONS	**Plons/SG**	**1.19**	**268**	*e*Pn	**Pb**	**12 02 24.5**	**+0.4**
PLONS				*e*Sg	**Sn**	**12 02 41.2**	**+1.2**
CIMO	**Cimolais**	**1.21**	**131**	P	**Pb**	**12 02 24.3**	**-0.1**
CIMO				AML	AML		
	comp=N,31μm,0.4s						
CIMO				AML	AML		
	comp=E,30μm,0.3s						
CIMO				AML	AML		
	comp=E,35μm,0.7s						
CIMO				AML	AML		
	comp=N,37μm,0.6s						
DOSS	**Dosso del Somm**	**1.23**	**178**	P	**Pb**	**12 02 24.3**	**-0.5**
DOSS				AML	AML		
	comp=E,132μm,0.5s						
DOSS				AML	AML		
	comp=N,109μm,0.2s						
DOSS				AML	AML		
	comp=N,108μm,0.3s						
DOSS				AML	AML		
	comp=E,103μm,0.2s						
DOSS				AML	AML		
	comp=N,109μm,0.2s						
DOSS				AML	AML		
	comp=E,119μm,0.3s						
DOSS				AML	AML		
	comp=E,132μm,1.5s						
FVI	**Forni Avoltri**	**1.25**	**114**	⇓P	**P

FVI AML AML
comp=N,59μm,0.3s
FVI AML AML
comp=E,67μm,0.1s
FVI AML AML
comp=N,63μm,0.4s
FVI AML AML
comp=E,67μm,1.9s
RJOB Jochberg 1.30 60 *e*Pn **Pg 12 02 27.2 +0.4**
RJOB *e*Pg **Pb 12 02 28.1 +2.1**
TUE Stuetta 1.37 243 P **Pn 12 02 26.8 +0.2**
TUE AML AML
comp=N,37μm,0.3s
STAL STALIGIAL 1.39 127 P **Pn 12 02 26.8 +0.1**
STAL AML AML
comp=E,116μm,0.3s
STAL AML AML
comp=E,116μm,0.3s
STAL AML AML
comp=E,138μm,0.6s
STAL AML AML
comp=N,89μm,0.2s
STAL AML AML
comp=N,106μm,0.6s
ROVR Rover Verones 1.46 181 P **Pb 12 02 28.8 0.0**
ROVR AML AML
comp=N,101μm,0.2s
ROVR AML AML
comp=N,40μm,0.2s
ROVR AML AML
comp=E,14μm,0.2s
ROVR AML AML
comp=E,18μm,0.7s
ROVR AML AML
comp=N,46μm,1.0s
KBA Koelnbreinsper 1.52 90 *e*Pg **Pb 12 02 29.8 0.0**
comp=N,6.0nm,0.2s
KBA *e*Sn **Sn 12 02 48.9 +0.6**
comp=N,25nm,0.4s
KBA Koelnbreinsper 1.52 90 *e*Pn **Pb 12 02 29.9 +0.1**
KBA *e*Sg **Sn 12 02 48.9 +0.6**
WILA Wila 1.54 282 *e*Pg **Pg 12 02 31.9 +0.6**
WILA *e*Sg **Sg 12 02 52.4 +1.1**
NORI Noerdlinger Ri 1.65 349 *e*Pg **Pg 12 02 33.0 -0.4**
NORI *e*Sn **Sn 12 02 51.8 +0.6**
NORI *e*Sg **Sg 12 02 55.0 +0.3**
PTCC Patocco-Chiusa 1.69 114 P **Pg 12 02 34.1 0.0**
PTCC AML AML
comp=E,32μm,1.3s
PTCC AML AML
comp=N,43μm,0.3s
PTCC AML AML
comp=E,31μm,0.8s
PTCC AML AML
comp=N,43μm,0.3s
PTCC AML AML
comp=E,32μm,0.7s
MYKA Terra Mystica 1.79 105 *e*Pn **Pn 12 02 33.3 +1.0**
comp=E,1.6nm,0.2s
MYKA *e*Sn **Sb 12 02 57.7 +1.0**
comp=E,2.8nm,0.2s
BIOA Bad Ischl, Aus 1.81 70 *e*Pg **Pg 12 02 35.9 -0.5**
comp=E,7.6nm,0.3s
SLE Schleitheim 1.90 291 *e*Pg **Pg 12 02 37.9 -0.3**
SLE *e*Sg **Sg 12 03 02.6 -0.3**
SULZ Cheisacher 2.09 283 *e*Pg **Pg 12 02 41.9 +0.1**
SULZ *e*Sg **Sg 12 03 08.6 -0.3**
BFO Black Forest 2.25 304 *e*Pn **Pn 12 02 40.2 +1.7**
BFO *e*Pg **Pg 12 02 44.9 +0.1**
BFO *e*Sg **Sg 12 03 13.2 -0.7**
MOA Molln 2.26 70 *e*Pg **Pg 12 02 43.9 -1.2**
comp=E,2.4nm,0.2s
MOA Sg **Sg 12 03 14.6 +0.2**
comp=E,3.7nm,0.2s
MOA Molln 2.26 70 *e*Pg **Pg 12 02 43.9 -1.2**
MOA *e*Sg **Sg 12 03 14.4 +0.1**
BALST Balsthal 2.34 277 *e*Pg **Pg 12 02 46.2 -0.5**
BALST *e*Sg **Sg 12 03 16.7 -0.4**
WET Wettzell 2.35 29 *e*Pn **Pn 12 02 40.8 +0.8**
WET *e*Sn **Sn 12 03 09.4 +0.7**
WET *e*Sg **Sg 12 03 15.8 -1.6**
OBKA Obir 2.43 103 *e*Pn **Pn 12 02 42.5 +1.4**
comp=E,1.3nm,0.2s
OBKA Obir 2.43 103 *e*Sg **Sg 12 03 18.2 -1.6**
GEC2 GERESS Array S 2.46 44 *e*Pn **Pn 12 02 42.2 +0.8**
GEC2 *e*Sn **Sn 12 03 08.5 -2.7**
GEC2 *e*Sg **Sg 12 03 19.9 -0.7**
GRF Grafenberg Arr 2.59 1 *e*Pg **Pg 12 02 51.3 0.0**
GRF *e*Sg **Sg 12 03 23.9 -1.0**
KHC Kasperske Hory 2.61 38 *e*PN **Pn 12 02 46.1 +2.6**
KHC *e*PG **Pb 12 02 48.9 +0.6**
KHC *e*SN **Sn 12 03 16.2 +1.2**
KHC *e*SG **Sg 12 03 24.0 -1.6**
comp=E,19nm,0.7s
SOKA Soboth 2.72 98 Pn **Pn 12 02 46.8 +1.8**
comp=E,0.9nm,0.3s
CKRC Cesky Krumlov 2.74 50 *e*PG **Pb 12 02 51.4 +0.9**
CKRC *e*SG **Sg 12 03 28.0 -1.9**
comp=E,5.8nm,0.4s
ROTZ Rotzenmuhle 2.76 15 *e*Pn **Pn 12 02 45.3 -0.2**
ROTZ *e*Pg **Pg 12 02 53.7 -0.9**
ROTZ *e*Sn **Sn 12 03 17.6 -1.0**
ROTZ *e*Sg **Sb 12 03 27.2 +2.7**
CIRO Champorcher 2.88 240 S **Sb 12 03 26.2 -2.0**
BRSN Barisano 2.90 166 ⇓P **Pb 12 02 54.8 +1.6**
CDF Champ du Feu 2.90 298 *e*P **Pn 12 02 49.6 +2.1**
CDF Champ du Feu 2.90 298 *e*Pg **Pg 12 02 56.9 -0.5**
CDF *e*Sg **Sg 12 03 34.1 -0.9**
comp=E,3.3nm,0.2s
MANZ Manzenberg 2.96 12 *e*Sn **Sn 12 03 22.6 -0.8**
MANZ *e*Sg **Sg 12 03 35.8 -0.8**
HINF Hinteralfeld 2.98 285 *e*P **Pn 12 02 49.8 +1.2**
HINF *e*Sn **Sn 12 03 20.7 -3.4**
HINF *e*Sg **Sg 12 03 36.5 -0.9**
comp=E,5.8nm,0.3s
ARSA Arzberg 3.01 86 Pg **Pg 12 02 57.0 -2.3**
comp=E,3.1nm,0.5s
MONC Moncucco Torin 3.01 229 ⇓P **Pg 12 03 02.6 +3.1**
MONC S **Sb 12 03 31.9 +0.2**
WERN Wernitzgruen 3.29 14 *e*Sn **Sn 12 03 30.2 -1.5**
WERN *e*Sg **Sg 12 03 45.3 -2.1**
TRIB Obertriebel 3.32 11 *e*Sn **Sn 12 03 31.0 -1.4**
TRIB *e*Sg **Sg 12 03 46.6 -1.6**
HAU Haudompre 3.35 287 *e*P **Pn 12 02 56.0 +2.3**
HAU *e*Sn **Sn 12 03 29.6 -3.7**
HAU *e*Sg **Sg 12 03 46.9 -2.5**
comp=E,11nm,0.3s
GUNZ Gunzen 3.36 13 *e*Sn **Sn 12 03 32.3 -1.1**
GUNZ *e*Sg **Sg 12 03 47.9 -1.6**
CPGN Carpegna, Ital 3.41 165 P **Pb 12 03 01.7 -0.3**
CABF La Chapelle 3.49 264 *e*Sg **Sg 12 03 51.0 -2.7**
comp=E,1.8nm,0.4s
MOX Moxa 3.56 5 *e*Pn **Pn 12 02 57.2 +0.8**
MOX *e*Sn **Sn 12 03 37.3 -0.9**
MOX *e*Sg **Sg 12 03 54.9 -1.0**
TNS Taunus Mts 3.58 331 *e*Pn **Pn 12 02 58.3 +1.4**
TNS *e*Sn **Sn 12 03 38.3 -0.8**
CSNT Castellina Chi 3.64 178 S **Sg 12 03 56.2 -2.3**
PRU Pruhonice 3.67 37 *e*SG **Sg 12 03 57.7 -1.9**
SENI Senigallia 3.71 156 ⇓P **Pg 12 03 11.3 -1.5**
HSKC Hora Svate Kat 3.82 23 *e*SG **Sg 12 04 01.7 -2.7**
comp=E,7.3nm,0.6s
CAFI Castiglion Fio 3.83 171 S **Sb 12 03 57.6 +2.5**
PAGF Fort de Pagny 3.91 294 *e*Sg **Sg 12 04 04.8 -2.5**
comp=E,4.0nm,0.3s
SFTF Sexfontaines 4.25 287 *e*Pn **Pn 12 03 04.3 -1.7**
SFTF *e*Sg **Sg 12 04 15.3 -2.9**
comp=E,4.5nm,0.3s
CSP1 Cessapalombo 4.28 159 P **Pb 12 03 18.1 +1.4**
SAVF Savonnieres en 4.31 293 *e*Pn **Pn 12 03 04.6 -2.2**
SAVF *e*Sg **Sg 12 04 17.5 -2.5**
comp=E,2.1nm,0.4s
GAVE Gavelli 4.59 163 S **Sn 12 04 05.1 +1.1**
GAVE AML AML
comp=E,220μm,1.4s
GAVE AML AML
comp=N,248μm,1.6s
GAVE AML AML
comp=E,220μm,0.6s
GAVE AML AML
comp=N,248μm,0.4s
DPC Dobruska-Polom 4.73 45 *e*SG **Sg 12 04 30.7 -2.8**
SMF Signal de Mont 5.01 267 *e*P **Pn 12 03 18.5 +2.0**
AVF Avril sur Loir 5.33 269 *e*P **Pn 12 03 22.8 +2.0**
LAV9 Lanuvio 5.54 168 ⇓P **Pb 12 03 40.9 +2.7**
BGF Bois d'Agland 5.70 267 *e*P **Pn 12 03 27.6 +1.7**
TCF Toulx Ste Croi 6.18 266 *e*P **Pn 12 03 34.9 +2.3**
PTRJ Pietraroja 6.24 156 P **Pb 12 03 49.1 -1.1**

---

*IDC **29** 12:09:45.3±6.6, 22°.55N×143°.11E, h187km±43km, mb3.4/7, mbtmp4.0/8, Error ellipse: s-maj=63.3km s-min=26.4km az=7.0*
ISC 29 12:09:39.7±2.7, 22°2N±0°.6×143°0E±0°3, h150km, n9, σ0°69/8, mb3.8/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.92**	**351**	P	Pn	12 10 55.0	+2.9
	32nm,0.3s,baz=101,slow=22,SNR=6.8						
JCJ				S	Sn	12 11 48.4	-0.2
	62nm,0.6s,baz=238,slow=17,SNR=2.0						
ZALV	**Zalesovo Beam**	**53.73**	**321**	P	**P**	**12 18 46.3**	**+0.2**
	0.5nm,0.5s,baz=92,slow=10,SNR=1.9						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**57.06**	**317**	P	**P**	**12 19 10.9**	**+0.9**
	0.5nm,0.5s,baz=92,slow=7.7,SNR=13						
	0.5nm,0.5s						
ILAR	**Eielson Array**	**61.65**	**27**	P	**P**	**12 19 41.1**	**-0.1**
	0.4nm,0.6s,baz=253,slow=5.3,SNR=8.4						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**62.20**	**319**	P	**P**	**12 19 45.5**	**+0.4**
	0.8nm,0.3s,baz=93,slow=9.1,SNR=7.3						
	0.8nm,0.3s						
ARCES	**ARCESS Array B**	**78.39**	**341**	P	**P**	**12 21 22.9**	**-0.4**
	1.4nm,0.7s,baz=70,slow=9.0,SNR=1.1						
	1.4nm,0.7s						
FINES	**FINESS Array B**	**82.66**	**334**	P	**P**	**12 21 45.2**	**-0.9**
	2.5nm,0.9s,baz=75,slow=4.1,SNR=5.3						
	2.5nm,0.9s						
NVAR	**Mina Array Bea**	**82.93**	**51**	P	**P**	**12 21 48.9**	**+0.5**
	0.4nm,0.6s,baz=284,slow=5.4,SNR=4.6						
	0.4nm,0.6s						
LPAZ	**La Paz**	**150.02**	**84**	PKPbc	**PKPbc**	**12 29 13.8**	**-0.3**
	0.6nm,0.5s,baz=96,slow=2.8,SNR=2.7						

---

*SJA **29** 12:20:10.6±1.8, 22°.70S×68°.77W, h90km, ML3.8, MW3.8*
*NEIC **29** 12:20:11.7±1.7, 22°.74S±0°.05×68°.85W±0°.05, h98km±7km, mb4.0/3, ML3.9(GUC), Error ellipse: s-maj=8.4km s-min=5.5km az=224.0*
*GUC **29** 12:20:12.6±0.7, 22°.65S×68°.83W, h94km±4km, ML3.9*
ISC 29 12:20:12.2±0.9, 22°63S±0°.03×68°88W±0°.04, h96km±6km, n45, σ1°81/63, mb4.0/3, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.04**	**302**		**Pn**	**12 20 25.7**	**-0.3**
LVC	**Limon Verde**	**0.04**	**302**	*e*P	**Pn**	**12 20 25.1**	**-0.9**
LVC				*i* S	**Sn**	**12 20 35.1**	**-1.1**
LVC				IAML		12 20 36.6	
	18μm,0.3s						
PB06	**IPOC Station P**	**0.65**	**263**		**Pn**	**12 20 29.2**	**+0.3**
PB06	**IPOC Station P**	**0.65**	**263**	⇑*i* P	**Pn**	**12 20 28.9**	**0.0**
PB06				*i* S	**Sn**	**12 20 42.0**	**+0.6**
PB06				IAML		12 20 43.4	
	comp=E,3μm,0.1s						
PB06	**IPOC Station P**	**0.65**	**263**	*e*P	**Pn**	**12 20 28.7**	**-0.2**
PB06				IAML		12 20 45.8	
	comp=Z,2μm,0.1s						
AF01	**San Pedro de A**	**0.72**	**117**		**Pn**	**12 20 29.3**	**-0.5**
AF01	**San Pedro de A**	**0.72**	**117**	⇓*i* P	**Pn**	**12 20 29.3**	**-0.5**
AF01				*i* S	**Sn**	**12 20 43.0**	**+0.1**
AF01				IAML		12 20 43.4	
	comp=E,11μm,0.5s						
PB15	**IPOC Station P**	**0.80**	**223**		**Pn**	**12 20 30.2**	**-0.2**
PB15	**IPOC Station P**	**0.80**	**223**	*e*P	**Pn**	**12 20 30.5**	**+0.1**
PB15				*i* S	**Sn**	**12 20 44.5**	**+0.5**
PB15	**IPOC Station P**	**0.80**	**223**	*e*P	**Pn**	**12 20 30.6**	**+0.1**
PB15				*e*S	**Sn**	**12 20 45.1**	**+1.1**
PB09	**IPOC Station P**	**0.89**	**338**		**Pn**	**12 20 32.4**	**+1.0**
PB09	**IPOC Station P**	**0.89**	**338**	*i* P	**Pn**	**12 20 32.4**	**+1.0**
PB09				*i* S	**Sn**	**12 20 47.6**	**+1.9**
PB09				IAML		12 20 48.7	
	comp=N,2μm,0.3s						
PB09	**IPOC Station P**	**0.89**	**338**	*e*P	**Pn**	**12 20 32.4**	**+1.0**
PB09				*e*S	**Sn**	**12 20 48.1**	**+2.4**
PB09				IAML		12 20 49.2	
	comp=Z,1μm,0.6s						
PB04	**IPOC Station P**	**1.21**	**284**		**Pn**	**12 20 35.2**	**+0.3**
PB04	**IPOC Station P**	**1.21**	**284**	⇑*i* P	**Pn**	**12 20 35.1**	**+0.2**
PB04				*i* S	**Sn**	**12 20 53.1**	**+1.0**
PB04				IAML		12 20 58.7	
	comp=N,2μm,0.3s						
PB04	**IPOC Station P**	**1.21**	**284**	*e*P	**Pn**	**12 20 34.6**	**-0.2**
PB04				*e*S	**Sn**	**12 20 53.9**	**+1.9**
PB04				IAML		12 20 58.0	
	comp=Z,1μm,0.2s						
PB07	**IPOC Station P**	**1.30**	**314**		**Pn**	**12 20 36.7**	**+0.7**
PB07	**IPOC Station P**	**1.30**	**314**	⇑*i* P	**Pn**	**12 20 36.6**	**+0.7**
PB07				*i* S	**Sn**	**12 20 55.2**	**+1.4**
PB07				IAML		12 20 56.5	
	comp=N,2μm,0.5s						
PB07	**IPOC Station P**	**1.30**	**314**	*e*P	**Pn**	**12 20 36.5**	**+0.6**
PB07				*e*S	**Sn**	**12 20 55.8**	**+2.0**
PB07				IAML		12 20 56.3	
	comp=Z,1μm,0.2s						
PB02	**IPOC Station P**	**1.61**	**324**	⇑*i* P	**Pn**	**12 20 40.4**	**+0.7**
PB02				*e*S	**Sn**	**12 21 01.7**	**+1.1**
PB02				IAML		12 21 05.0	
	comp=E,2μm,0.3s						
PB02	**IPOC Station P**	**1.61**	**324**	*e*P	**Pn**	**12 20 39.8**	**+0.1**
PB02				*e*S	**Sn**	**12 21 02.7**	**+2.1**
PB02				IAML		12 21 06.0	
	comp=Z,3μm,0.4s						
PB01	**IPOC Station P**	**1.68**	**340**	*e*P	**Pn**	**12 20 41.4**	**+0.8**
PB01				*i* S	**Sn**	**12 21 03.6**	**+1.5**
PB01	**IPOC Station P**	**1.68**	**340**	*e*P	**Pn**	**12 20 41.4**	**+0.8**
PB01				*e*S	**Sn**	**12 21 04.5**	**+2.4**
PB01				IAML		12 21 06.4	
	comp=Z,1μm,0.3s						
PATCX	**Punta Patache**	**2.15**	**326**	Pn	**Pn**	**12 20 46.8**	**+0.1**
PATCX	**Punta Patache**	**2.15**	**326**	*e*P	**Pn**	**12 20 46.7**	**0.0**
PATCX				*i* S	**Sn**	**12 21 13.1**	**0.0**
PATCX				IAML		12 21 21.5	
	comp=N,874nm,0.2s						
TA01	**Diego Aracena**	**2.38**	**329**		**Pn**	**12 20 49.5**	**-0.1**
PB08	**IPOC Station P**	**2.49**	**354**	*e*P	**Pn**	**12 20 52.2**	**+0.8**
PB08	**IPOC Station P**	**2.49**	**354**	*e*P	**Pn**	**12 20 52.4**	**+1.0**
PB08				*e*S	**Sn**	**12 21 13.4**	**-8.0**
HMBC	**Humberstone**	**2.52**	**338**	*e*P	**Pn**	**12 20 51.1**	**-0.5**
GO02	**Mina Guanaco**	**2.60**	**194**	Pn	**Pn**	**12 20 52.9**	**0.0**
GO02	**Mina Guanaco**	**2.60**	**194**	*e*P	**Pn**	**12 20 51.8**	**-1.1**
GO02				*e*S	**Sn**	**12 21 27.2**	**+3.1**
GO02				IAML		12 21 34.6	
	comp=Z,302nm,0.1s						
GO01	**Chusmiza**	**2.96**	**354**		**Pn**	**12 20 58.0**	**+0.2**
GO01	**Chusmiza**	**2.96**	**354**	*e*P	**Pn**	**12 20 58.4**	**+0.6**
GO01				*e*S	Sn	12 21 45.6	+13
YJA	**Yavi**	**3.15**	**82**	*e*P	**Pn**	**12 21 02.5**	**+2.3**
SLA	**San Lorenzo**	**3.73**	**125**	*e*P	**Pn**	**12 21 10.6**	**+2.8**
SLA				*e*S	Sn	12 22 03.8	+13
AC01	**Pan de Azucar**	**3.84**	**204**	*e*P	**Pn**	**12 21 06.8**	**-2.3**
AC01				*e*S	Sn	12 22 05.0	+12
AC01				IAML		12 22 07.8	
	comp=Z,124nm,0.3s						
GO03	**Copiap**	**5.09**	**194**		**Pn**	**12 21 23.5**	**-2.7**
GO03	**Copiap**	**5.09**	**194**	*e*P	**Pn**	**12 21 23.6**	**-2.7**
GO03				*e*S	**Sn**	**12 22 27.9**	**+4.1**
LPAZ	**La Paz**	**6.35**	**7**	Pn	**Pn**	**12 21 44.5**	**+0.7**
LCO	**Las Campanas**	**6.56**	**194**	Pn	**Pn**	**12 21 42.7**	**-3.7**
QSPA	**South Pole Qui**	**67.57**	**180**	P	**P**	**12 30 58.3**	**+0.1**
QSPA				IAmb	IAmb	12 31 07.2	
	comp=Z,2.6nm,1.4s						
PSMN	**Pico do Norte,**	**72.27**	**36**	*e*P	P	12 31 36.6	+9.4
PSMN				A	A	12 31 45.1	
	comp=Z,5.0nm,0.2s						
BART	**Pico Bartolome**	**72.79**	**35**	*e*P	**P**	**12 31 30.7**	**+0.3**
BART				A	A	12 31 35.4	
	comp=Z,96nm,0.2s						
TOA0	**Torodi Ar. Sit**	**77.71**	**70**	P	**P**	**12 31 57.2**	**-1.8**
TOA0				IAmb	IAmb	12 32 12.4	
	comp=Z,4.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**77.71**	**70**	P	**P**	**12 31 57.1**	**-1.9**
TORD				IAmb	IAmb	12 32 12.5	
	comp=Z,3.3nm,1.5s						

---

*IDC **29** 12:35:54.2±0.7, 38°.57N×144°.65E, h0km, mb4.0/17, mbtmp4.1/20, ML4.0/3, MS3.5/4, Error ellipse: s-maj=17.5km s-min=16.9km az=103.0*
*MOS **29** 12:35:57.1±1.2, 38°.70N×144°.73E, h34km, mb4.6/7, Error ellipse: s-maj=10.8km s-min=5.8km az=103.4*
*JMA **29** 12:35:59.6±0.2, 38°.7N±0°.8×14°4E±°, h45km, MV4.7/36, FAR E OFF NORTH HONSHU*
*NIED **29** 12:35:59.6, 38°.66N×144°.38E, h45km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.65; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$1.09; $M_{r\theta}$-0.18; $M_{\theta\phi}$0.13; $M_{\phi r}$-1.08; Fault plane solution: $M_0$1.40000×10^{15} NP1:ϕ_s10.00000°, δ71.00000°, λ-85.00000°. NP2:ϕ_s175.00000°, δ20.00000°, λ-105.00000°.*
*NEIC **29** 12:35:59.5±1.4, 38°.64N±0°.07×144°.4E±0°.1, h25km±6km, mb4.6/18 Error ellipse: s-maj=14.2km s-min=10.2km az=111.0*
ISC 29 12:35:59.3±0.6, 38°71N±0°.05×144°46E±0°05, h29km, n124, σ2°16/144, mb4.4/37, MS3.7/4, 6C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.21**	**280**	P	**Pb**	**12 36 34.4**	**-4.2**
OFUJ				*e*S	**Sn**	**12 36 59.9**	**-0.5**
MIYJ	**Miyakonagasawa**	**2.23**	**294**	P	**Pn**	**12 36 34.6**	**+0.3**
MIYJ				S	**Sn**	**12 37 00.3**	**-0.5**
JKMT	**Kesennumamotoy**	**2.34**	**273**	*i* P	**Pn**	**12 36 36.0**	**+0.3**
JKMT				S	**Sn**	**12 37 02.5**	**-0.9**
JIKH	**Ishinomakikobu**	**2.38**	**261**	*i* P	**Pn**	**12 36 36.0**	**-0.4**
JIKH				S	**Sn**	**12 37 03.3**	**-1.3**
JMK	**Ichinoseki**	**2.54**	**276**	*i* P	Pb	12 36 39.2	-5.0
JMK				S	**Sn**	**12 37 08.2**	**-0.4**
JOM	**Ohasama**	**2.58**	**288**	P	**Pn**	**12 36 39.9**	**+0.8**
JOM				S	**Sn**	**12 37 10.2**	**+0.7**
JANG	**Nango**	**2.82**	**307**	P	**Pn**	**12 36 42.1**	**-0.3**
JANG				S	**Sn**	**12 37 14.9**	**-0.4**
JMM	**Marumori**	**3.01**	**255**	Pn	**Pn**	**12 36 44.6**	**-0.4**
JMM	**Marumori**	**3.01**	**255**	P	**Pn**	**12 36 44.6**	**-0.4**
JYK	**Kaneyama**	**3.21**	**275**	P	**Pn**	**12 36 48.7**	**+0.9**
JYK				*e*S	**Sn**	**12 37 25.5**	**+0.4**
JTM	**Tenmabayashi**	**3.34**	**309**		**Pn**	**12 36 50.0**	**+0.5**
JTM	**Tenmabayashi**	**3.34**	**309**	P	**Pn**	**12 36 50.1**	**+0.6**
ERM	**Erimo**	**3.45**	**344**		**Pn**	**12 36 51.7**	**+0.7**
ERM	**Erimo**	**3.45**	**344**	P	**Pn**	**12 36 51.6**	**+0.6**
ERM	**Erimo**	**3.45**	**344**	P	**Pn**	**12 36 51.7**	**+0.7**
JEM	**Erimo**	**3.45**	**344**	P	**Pn**	**12 36 51.7**	**+0.7**
JOTO	**OTAMA OYAMA**	**3.45**	**252**	*i* P	**Pn**	**12 36 51.5**	**+0.4**
JOTO				S	**Sn**	**12 37 30.4**	**-0.6**
JOT	**Ohata**	**3.74**	**317**	P	**Pn**	**12 36 55.6**	**+0.7**
JOT				S	**Sn**	**12 37 36.5**	**-1.6**
JCH	**Churui**	**3.99**	**348**	*e*P	**Pn**	**12 36 57.5**	**-0.9**
JCH				S	**Sn**	**12 37 41.7**	**-2.4**
NEM2	**Nemuro 2**	**4.75**	**11**	P	**Pn**	**12 37 06.6**	**-2.3**
NEM2				S	**Sn**	**12 37 57.0**	**-5.9**
NMR	**Nemuro--Hokkai**	**4.75**	**11**	⇑*i* P	**Pn**	**12 37 06.6**	**-2.3**
NMR				*i* S	**Sn**	**12 37 56.2**	**-6.8**
JSD	**Sado**	**4.92**	**264**	Pn	**Pn**	**12 37 11.1**	**-0.1**
JSD	**Sado**	**4.92**	**264**	P	**Pn**	**12 37 12.2**	**+1.0**
BSO1	**Boso 1**	**4.92**	**216**	*e*P	**Pn**	**12 37 09.0**	**-1.8**
BSO1				S	**Sn**	**12 38 03.5**	**-3.1**
JOSM	**Okushiri--Mats**	**5.08**	**313**	*e*S	**Sn**	**12 38 09.0**	**-2.1**
JRY	**Ryogami san**	**5.18**	**240**	P	**Pn**	**12 37 14.4**	**-0.5**
JRY				*e*S	**Sn**	**12 38 09.8**	**-3.9**
JTKR	**Abashiri--Toko**	**5.27**	**356**	*i* P	**Pn**	**12 37 15.4**	**-0.7**
JTKR				S	**Sn**	**12 38 12.5**	**-3.3**
MAJO	**Matsushiro**	**5.42**	**248**	Pn	**Pn**	**12 37 19.2**	**+1.1**
MAJO	**Matsushiro**	**5.42**	**248**	P	**Pn**	**12 37 19.5**	**+1.4**
MAJO	**Matsushiro**	**5.42**	**248**	P	**Pn**	**12 37 19.2**	**+1.1**
RUSJ	**Misakicho**	**5.42**	**6**	*e*P	**Pn**	**12 37 17.0**	**-1.1**
RUSJ				*e*S	**Sn**	**12 38 16.8**	**-2.7**
YUK	**Yuzh-Kuril'sk**	**5.42**	**11**	*d i* P	**Pn**	**12 37 16.4**	**-1.7**
YUK				*i* S	**Sn**	**12 38 12.8**	**-6.7**
YUK				pmax	pmax		
	comp=Z,485nm,0.2s						
YUK				pmax	pmax		
	comp=N,153nm,0.1s						
YUK				pmax	pmax		
	comp=E,129nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.6s						
JHR	**Hokuryu**	**5.43**	**339**	P	**Pn**	**12 37 20.1**	**+1.8**
JHR				S	**Sn**	**12 38 19.9**	**+0.1**
SHO	**Shikotan**	**5.45**	**18**	⇓*i* P	**Pn**	**12 37 15.7**	**-2.9**
SHO				*i* S	**Sn**	**12 38 12.6**	**-7.7**
SHO				pmax	pmax		
	comp=Z,112nm,0.2s						
SHO				pmax	pmax		
	comp=N,33nm,0.1s						
SHO				pmax	pmax		
	comp=E,23nm,0.1s						
SHO				smax	smax		
	comp=N,620nm,0.3s						
SHO				smax	smax		
	comp=E,188nm,0.2s						
JOD2	**Odawara 2**	**5.51**	**233**	S	**Sn**	**12 38 17.5**	**-4.3**
JKA	**Kamikawa-asahi**	**5.58**	**346**	Pn	**Pn**	**12 37 20.5**	**+0.2**
ASAJ	**Asahikawa**	**5.58**	**346**	Pn	**Pn**	**12 37 21.0**	**+0.7**
	comp=E,9.1nm,0.3s,baz=195,slow=11,SNR=86						
ASAJ				Sn	**Sn**	**12 38 21.2**	**-2.2**
	comp=E,5.7nm,0.3s,baz=135,slow=32,SNR=2.1						
	comp=E,19nm,0.2s						
INU	**Inuyama**	**6.83**	**243**		**Pn**	**12 37 38.5**	**+1.0**
INU	**Inuyama**	**6.83**	**243**	P	**Pn**	**12 37 38.3**	**+0.7**
KUR	**Kuril'sk**	**6.99**	**20**	*e*P	**Pn**	**12 37 37.5**	**-2.2**
KUR				*e*S	Sn	12 38 49.4	-8.8
KUR				pmax	pmax		
	comp=Z,84nm,0.5s						
KUR				pmax	pmax		
	comp=N,47nm,0.2s						
KUR				pmax	pmax		
	comp=E,50nm,0.2s						
KUR				smax	smax		
	comp=N,285nm,0.5s						
KUR				smax	smax		
	comp=E,132nm,0.2s						
YSS	**Yuzh-Sakhalins**	**8.33**	**352**	Pn	**Pn**	**12 37 58.2**	**+0.2**
YSS	**Yuzh-Sakhalins**	**8.33**	**352**	*e*P	**Pn**	**12 37 58.5**	**+0.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
USRK	**Ussuriysk Ar.**	**10.84**	**304**	Pn	**Pn**	**12 38 34.9**	**+2.4**
USRK	**Ussuriysk Ar.**	**10.84**	**304**	Pn	**Pn**	**12 38 35.2**	**+2.8**
	comp=Z,0.9nm,0.3s,baz=100,slow=14,SNR=16						
	comp=Z,7.3nm,0.6s						
USA0B	**Ussuriysk Arra**	**10.84**	**304**	Pn	**Pn**	**12 38 34.0**	**+1.5**
USA0B	**Ussuriysk Arra**	**10.84**	**304**	P	**Pn**	**12 38 34.0**	**+1.5**
JNU	**Nakatsue**	**12.34**	**247**	**Pn**	**Pn**	**12 38 52.4**	**-0.6**
JNU	**Nakatsue**	**12.34**	**247**	Pn	**Pn**	**12 38 52.7**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=96,slow=9.2,SNR=4.6						
	comp=Z,1.5nm,0.8s						
MDJ	**Mudanjiang**	**12.58**	**303**	P	**Pn**	**12 38 58.0**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,21nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,310nm,6.2s						
KSRS	**Korea Array**	**13.09**	**270**	Pn	P	12 39 07.5	-5.6
	comp=Z,0.3nm,0.3s,baz=77,slow=14,SNR=5.4						
KSRS				LR	LR	12 43 54.3	
	comp=Z,98nm,18.1s,baz=90,slow=36						
KLR	**Kul'dur**	**13.92**	**323**	⇑*e*P	**Pn**	**12 39 15.3**	**+0.8**
KLR				pmax	pmax		
	comp=Z,

YAK Yakutsk 25.05 344 *e*P **P 12 41 22.1 +1.4**
YAK *e**PP **sP 12 41 29.1 -0.7**
YAK *e*PPP PPP 12 42 10.5
YAK *e*S **S 12 45 46.0 +3.1**
YAK *e**SS **sS 12 45 58.4 +5.2**
YAK *e*SS **SnSn 12 46 37.5 +4.3**
YAK pmax pmax
comp=Z,29nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,382nm,5.1s
YAK pmax pmax
comp=N,431nm,4.3s
YAK pmax pmax
comp=E,432nm,4.5s
YAK smax smax
comp=N,247nm,4.8s
YAK smax smax
comp=E,175nm,4.0s
HHC Hu-ho-hao-te 25.29 285 *e*P **P 12 41 24.8 +1.5**
HHC S **S 12 45 39.3 -8.2**
HHC pmax pmax
comp=Z,35nm,0.7s
HHC pmax pmax
comp=Z,410nm,5.5s
HHC LR LR
comp=N,320nm,15.8s
HHC LR LR
comp=E,710nm,14.9s
HHC LR LR
comp=Z,540nm,15.8s
LYN LuoYang 25.93 271 ⇑P **P 12 41 33.5 +4.5**
LYN pmax pmax
comp=Z,21nm,0.6s
H11N2 WAKE ISLAND Hy 27.10 128 T T 13 09 37.0
baz=320,slow=74,SNR=9.4
H11N1 WAKE ISLAND Hy 27.11 128 T T 13 09 35.9
baz=320,slow=74,SNR=9.1
H11N3 WAKE ISLAND Hy 27.12 128 T T 13 09 41.1
baz=320,slow=74,SNR=9.7
BOD Bodaibo 27.50 324 *e*P **P 12 41 42.9 +0.1**
BOD pmax pmax
comp=Z,9.0nm,1.7s
H11S1 WAKE ISLAND Hy 27.91 130 T T 13 10 38.4
baz=323
H11S3 WAKE ISLAND Hy 27.91 130 T T 13 10 38.4
baz=323
H11S2 WAKE ISLAND Hy 27.93 130 T T 13 10 40.1
baz=323
SONM Songino Array 28.93 301 P **P 12 41 57.2 +1.3**
comp=Z,0.3nm,0.5s,baz=92,slow=10,SNR=2.3
SONM LR LR 12 54 10.3
comp=Z,77nm,18.8s,baz=156,slow=38
comp=Z,0.3nm,0.5s
TIXI Tiksi 33.96 351⇓*e*P **P 12 42 39.5 -0.1**
PZH PanZhiHua 37.67 264 P **P 12 43 13.3 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,130nm,5.9s
CHGN Chignik 41.08 45 P **P 12 43 43.8 +3.8**
DGZ Jazzator, Alta 41.40 305⇓*e*P **P 12 43 44.6 +1.6**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
WMQ Urumqi 42.26 296 *e*P **P 12 43 52.3 +2.3**
ZAA0 Zalesovo Array 42.60 311 P **P 12 43 53.4 +0.9**
ZAA0 IAmb IAmb 12 44 04.1
comp=Z,5.4nm,0.6s
ZALV Zalesovo Beam 42.60 311 P **P 12 43 53.3 +0.8**
ZALV Zalesovo Beam 42.60 311 P **P 12 43 53.5 +1.0**
comp=Z,1.2nm,0.5s,baz=100,slow=7.7,SNR=7.1
ZALV PcP **PcP 12 45 44.2 -0.1**
comp=Z,2.5nm,0.5s,baz=89,slow=3.5,SNR=7.7
comp=Z,1.2nm,0.5s
E19K Redstone River 42.85 29 P **P 12 43 56.2 +1.8**
E19K IAmb IAmb 12 44 16.4
comp=Z,8.6nm,1.1s
B20K Meade River 43.45 25 P **P 12 44 00.8 +1.6**
B20K IAmb IAmb 12 44 03.2
comp=Z,41nm,1.2s
B21K Ikpikpuk River 44.23 26 P **P 12 44 06.8 +1.4**
B21K IAmb IAmb 12 44 22.2
comp=Z,5.6nm,0.9s
CMAR Chiang Mai Arr 44.25 256 P **P 12 44 08.0 +1.7**
comp=Z,0.2nm,0.3s,baz=46,slow=7.8,SNR=1.4
comp=Z,0.2nm,0.3s
MK31 Makanchi Array 45.29 301 P **P 12 44 14.7 +0.4**
MK31 IAmb IAmb 12 44 53.4
comp=Z,7.6nm,1.5s
MK31 Makanchi Array 45.29 301 P **P 12 44 14.7 +0.4**
MK31 pmax pmax
comp=Z,8.0nm,1.5s
MKAR Makanchi Array 45.29 301 P **P 12 44 14.4 +0.1**
MKAR Makanchi Array 45.29 301 P **P 12 44 14.9 +0.6**
comp=Z,1.4nm,0.7s,baz=83,slow=9.4,SNR=9.8
comp=Z,1.4nm,0.7s
ILAR Eielson Array 46.78 33 P **P 12 44 25.0 -0.7**
comp=Z,0.5nm,0.8s,baz=250,slow=6.9,SNR=6.7
comp=Z,0.5nm,0.8s
KURK Kurchatov 46.82 307 P **P 12 44 26.7 +0.5**
KURK IAmb IAmb 12 44 42.0
comp=Z,8.9nm,1.1s
KURK Kurchatov 46.82 307 P **P 12 44 27.3 +1.1**
KURBB Kurchatov Arra 46.89 307 P **P 12 44 27.3 +0.6**
comp=Z,4.1nm,0.6s,baz=81,slow=8.2,SNR=40
comp=Z,4.1nm,0.6s
BMAR Burnt Mountain 47.69 30 P **P 12 44 36.6 +3.7**
JIRN Jiri 49.27 275 *e*P P 12 44 51.5 +5.6
comp=Z,5.6nm,0.4s
RAMN Ramite 49.29 274 *e*P P 12 44 58.3 +12
comp=Z,27nm,0.7s
GUN Gumba 49.39 276 *e*P **P 12 44 48.3 +1.5**
comp=Z,8.5nm,0.4s
DANN Dangsing 50.83 277 *e*P **P 12 44 57.8 +0.1**
comp=Z,48nm,0.7s
BOOM Boomskoye usch 50.87 297 P **P 12 44 58.5 +0.8**
BOOM Boomskoye usch 50.87 297 P **P 12 44 58.5 +0.8**
BOOM pmax pmax
comp=Z,3.0nm,0.8s
I30M Mount Dempster 51.18 32 P **P 12 45 00.9 +1.3**
BVAR Borovoye Array 51.24 312 P **P 12 45 00.9 +0.8**
comp=Z,1.2nm,0.6s,baz=79,slow=7.7,SNR=7.9
BVAR PcP **PcP 12 46 15.1 +0.1**
comp=Z,1.6nm,0.7s,baz=67,slow=3.9,SNR=4.6
comp=Z,1.2nm,0.6s
BRVK Borovoye 51.29 312⇑*e*P **P 12 45 01.6 +1.2**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
HYT Haines Junctio 51.51 38 P **P 12 45 04.0 +1.9**
HYT IAmb IAmb 12 45 45.2
comp=Z,3.3nm,0.8s
PYUN Piuthan 51.54 278 *e*P **P 12 45 04.1 +1.2**
comp=Z,28nm,1.0s
P29M Windy Craggy 51.65 39 P **P 12 45 04.5 +1.5**
P29M IAmb IAmb 12 45 26.6
comp=Z,4.4nm,0.9s
H31M Peel River 51.91 31 P **P 12 45 06.1 +1.2**
H31M IAmb IAmb 12 45 38.8
comp=Z,17nm,1.5s
KKAR Karatay Array 54.37 300 P **P 12 45 23.4 0.0**
KKAR Karatay Array 54.37 300 P **P 12 45 23.4 0.0**
ARU Arti 56.70 318*d*/P **P 12 45 40.1 +0.2**
ARU S **S 12 53 31.7 +1.4**
ARU SS **SS 12 57 16.5 -1.2**
ARU pmax pmax
comp=Z,12nm,1.6s
ABKAR Abkulak array 58.70 310 P **P 12 45 54.3 +0.3**
ABKAR Abkulak array 58.70 310 P **P 12 45 54.8 +0.8**
WB0 Warramunga Arr 58.93 191 P **P 12 45 53.9 -1.9**
WR0 Warramunga Arr 59.10 191 P **P 12 45 54.6 -2.3**
WRAB Tennant Creek 59.10 191⇑*e*P **P 12 45 55.6 -1.4**
WRAB pmax pmax
comp=Z,7.0nm,1.1s
WB2 Warramunga Arr 59.11 191 P **P 12 45 54.7 -2.4**
WRA Warramunga Arr 59.11 191 P **P 12 45 55.2 -1.9**
WRA Warramunga Arr 59.11 191 P **P 12 45 55.1 -1.9**
comp=Z,3.9nm,0.7s,baz=11,slow=7.2,SNR=17
comp=Z,3.9nm,0.7s
ASAR Alice Springs 62.83 191 P **P 12 46 21.1 -1.3**
comp=Z,1.6nm,0.8s,baz=18,slow=7.2,SNR=8.6
comp=Z,1.6nm,0.8s
GEYT Alibeck 65.12 300 P **P 12 46 37.9 +0.5**
comp=Z,2.2nm,0.7s,baz=328,slow=5.3,SNR=5.6
comp=Z,2.2nm,0.7s
FINES FINESS Array B 68.44 333 P **P 12 46 58.2 +0.1**
comp=Z,4.1nm,0.6s,baz=45,slow=7.4,SNR=25
comp=Z,4.1nm,0.6s
NVAR Mina Array Bea 72.05 55 P **P 12 47 21.3 +0.3**
comp=Z,0.8nm,0.8s,baz=286,slow=5.9,SNR=6.8
comp=Z,0.8nm,0.8s
HFS Hagfors 73.53 337 LR LR 13 23 30.6
comp=Z,42nm,19.5s,baz=336,slow=39
AKASG Malin Array Be 74.42 323 *e*P **P 12 47 35.0 +0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 74.42 323 P **P 12 47 34.5 +0.1**
comp=Z,1.6nm,0.7s,baz=43,slow=5.6,SNR=5.5
comp=Z,1.6nm,0.7s
PDAR Pinedale Array 74.77 47 P **P 12 47 36.4 -0.5**
comp=Z,0.5nm,0.7s,baz=258,slow=0.7,SNR=6.0
comp=Z,0.5nm,0.7s
EKA Eskdalemuir Ar 82.32 342 P **P 12 48 17.3 -0.6**
comp=Z,1.9nm,0.9s,baz=39,slow=7.3,SNR=1.9
comp=Z,1.9nm,0.9s
PPT Papeete 83.27 119 LR LR 13 19 31.4
comp=Z,29nm,19.4s,baz=223,slow=32
TXAR Lajitas Array 87.19 54 P **P 12 48 42.7 -0.3**
comp=Z,0.3nm,0.5s,baz=304,slow=3.0,SNR=7.6
comp=Z,0.3nm,0.5s
TORD Torodi Ar. Bea 117.77 318 PKP **PKPdf 12 54 41.9 -1.4**
comp=Z,0.2nm,0.4s,baz=26,slow=3.3,SNR=2.1

*IDC **29** 12:37:12.4±0.9, 6°.73S×144°.79E, h0km, mb3.8/8, mbtmp3.9/12, ML3.8/2, MS3.5/4, Error ellipse: s-maj=35.4km s-min=18.2km az=70.0*
ISC 29 12:37:17.8±0.8, 6°.9S±0°.1×144°.6E±0°.1, h35km, n15, σ1§15/13, mb3.7/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.55**	**135**	Pn	**Pn**	**12 38 10.4**	**-0.1**
	18nm,0.4s,baz=13,slow=5.9,SNR=15						
PMG				Sn	**Sn**	**12 38 52.9**	**+1.7**
	3.4nm,0.3s,baz=356,slow=22,SNR=5.7						
KRVT	**Keravat (AS076**	**7.80**	**71**	LR	LR	12 42 02.1	
	comp=Z,169nm,21.4s,baz=49,slow=38						
CTA	**Charters Tower**	**13.22**	**173**	Pn	**Pn**	**12 40 21.4**	**-1.7**
	3.0nm,1.0s,baz=15,slow=16,SNR=2.2						
CTA				LR	LR	12 45 40.2	
	comp=Z,155nm,18.2s,baz=280,slow=38						
WRA	**Warramunga Arr**	**16.37**	**217**	Pn	**Pn**	**12 41 04.8**	**-0.3**
	0.3nm,0.3s,baz=34,slow=13,SNR=13						
	2.4nm,0.9s						
ASAR	**Alice Springs**	**19.61**	**211**	P	**Pn**	**12 41 46.1**	**+1.2**
	0.4nm,0.3s,baz=37,slow=11,SNR=50						
	9.8nm,0.8s						
KAPI	**Kappang**	**24.81**	**273**	LR	LR	12 55 16.3	
	comp=Z,107nm,19.4s,baz=41,slow=43						
LEM	**Lembang**	**36.74**	**268**	LR	LR	13 01 46.0	
	comp=Z,201nm,18.4s,baz=152,slow=40						
CMAR	**Chiang Mai Arr**	**51.61**	**300**	P	**P**	**12 46 22.5**	**+1.2**
	0.7nm,0.8s,baz=126,slow=6.2,SNR=5.2						
	0.7nm,0.8s						
SONM	**Songino Array**	**64.06**	**332**	P	**P**	**12 47 49.2**	**+0.8**
	0.5nm,0.7s,baz=166,slow=4.4,SNR=3.5						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**76.69**	**321**	P	**P**	**12 49 04.8**	**-0.6**
	0.6nm,0.7s,baz=104,slow=8.9,SNR=4.1						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**78.52**	**329**	P	**P**	**12 49 14.3**	**-1.1**
	0.6nm,0.3s,baz=114,slow=6.1,SNR=4.3						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**80.53**	**324**	P	**P**	**12 49 26.4**	**0.0**
	0.4nm,0.7s,baz=100,slow=4.8,SNR=2.6						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.09**	**180**	P	**P**	**12 49 40.4**	**+0.6**
	0.9nm,0.6s,baz=314,slow=1.3,SNR=12						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**86.10**	**324**	P	**P**	**12 49 54.8**	**-0.3**
	0.9nm,0.7s,baz=116,slow=5.8,SNR=4.3						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**87.22**	**24**	P	**P**	**12 49 59.0**	**-1.3**
	0.4nm,0.8s,baz=260,slow=5.9,SNR=3.1						
	0.4nm,0.8s						

*AEIC **29** 12:41:44.9±2.6, 51°.55N±0°.09×178°.50E±0°.09, h7km±6km, Error ellipse: s-maj=13.3km s-min=5.7km az=154.0*
*NEIC **29** 12:41:45.2±1.8, 51°.48N±0°.09×178°.52E±0°.03, h18km±6km, mb4.3/26, ML4.2(AEIC), Error ellipse: s-maj=12.6km s-min=2.6km az=174.0*
*IDC **29** 12:41:47.0±2.4, 51°.63N×178°.34E, h44km±20km, mb3.8/19, mbtmp4.1/21, ML4.1/3, MS3.4/11, Error ellipse: s-maj=24.5km s-min=11.3km az=175.0*
ISC 29 12:41:42.8±0.5, 51°.43N±0°.06×178°.42E±0°.04, h10km, n94, σ1§42/86, mb4.4/35, MS3.6/6, 1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.51**	**10**		**Pg**	**12 41 53.7**	**+0.9**
LSSA	**Little Sitkin**	**0.52**	**6**		**Pg**	**12 41 53.7**	**+0.7**
LSPA	**Little Sitkin**	**0.53**	**10**		**Pg**	**12 41 54.0**	**+0.7**
LSPA					**Sg**	**12 42 00.3**	**0.0**
AMKA	**Amchitka**	**0.55**	**95**		**Pb**	**12 41 55.7**	**+1.1**
AMKA					**Sb**	**12 42 03.3**	**+0.7**
CESW	**Semis' Southwe**	**0.85**	**56**		**Pg**	**12 41 59.8**	**+0.5**
CERB	**Semis' Cerberu**	**0.90**	**56**		**Pg**	**12 42 01.0**	**+0.8**
CERB					**Sb**	**12 42 13.0**	**+0.4**
CEAP	**Semis' Anvil P**	**0.92**	**51**		**Pg**	**12 42 00.8**	**+0.3**
SHEM	**Shemya Is, Ala**	**2.97**	**298**	P	**Pn**	**12 42 29.1**	**-0.8**
	206nm,0.3s,baz=86,slow=2.7,SNR=66						
SHEM				LR	LR	12 43 02.3	
	comp=Z,103nm,19.2s,baz=145,slow=27						
SHEM				S	**Sn**	**12 43 03.1**	**-2.5**
	499nm,0.6s,baz=105,slow=21,SNR=9.6						
ADK	**Adak**	**3.08**	**80**		**Pn**	**12 42 32.1**	**+0.6**
ATKA	**Atka Island**	**4.64**	**78**	Pn	**Pn**	**12 42 53.3**	**+0.4**
ATKA				Sn	**Sn**	**12 43 44.3**	**-2.5**
SPIA	**Saint Paul Isl**	**8.77**	**45**	Pn	**Pn**	**12 43 50.6**	**+1.1**
UNV	**Unalaska Valle**	**9.48**	**69**	Pn	**Pn**	**12 44 00.3**	**+1.1**
AKUT	**Akutan**	**9.95**	**68**		**Pn**	**12 44 05.9**	**+0.2**
PET	**Petropavlovsk**	**12.23**	**285**		**Pn**	**12 44 38.1**	**+1.3**
PEA0B	**Petropavlovsk-**	**12.80**	**286**		**Pn**	**12 44 48.1**	**+3.4**
PETK	**Petropavlovsk-**	**12.80**	**286**	P	**Pn**	**12 44 46.5**	**+1.7**
	0.6nm,0.3s,baz=100,slow=17,SNR=15						
PETK				LR	LR	12 49 17.8	
	comp=Z,153nm,21.5s,baz=94,slow=36						
	8.3nm,0.8s						
SDPT	**Sand Point**	**13.17**	**64**		**Pn**	**12 44 49.3**	**-0.4**
M16K	**Timber Creek**	**15.74**	**44**	P	**Pn**	**12 45 27.6**	**+3.3**
M16K				IAmb	IAmb	12 46 09.5	
	comp=Z,29nm,1.5s						
N17K	**Nushagak Hills**	**16.31**	**47**		**Pn**	**12 45 31.2**	**-0.5**
K17K	**Iditarod**	**16.85**	**39**	P	**Pn**	**12 45 38.6**	**+0.1**
SVW2	**Sparrevohn**	**17.26**	**46**	P	**Pn**	**12 45 44.5**	**+0.8**
SVW2				IAmb	IAmb	12 45 58.8	
	comp=Z,29nm,1.4s						
MA2	**Magadan**	**17.55**	**308**	LR	LR	12 52 04.8	
	comp=Z,109nm,18.8s,baz=160,slow=36						
H17K	**Granite Mounta**	**17.57**	**31**	P	**P**	**12 45 49.9**	**+1.3**
KDAK	**Kodiak Island**	**17.86**	**58**	P	**Pn**	**12 45 49.4**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=324,slow=5.7,SNR=9.5						
KDAK				LR	LR	12 53 01.8	
	comp=Z,95nm,20.1s,baz=261,slow=38						
	comp=Z,7.5nm,0.7s						
SEY	**Seymchan**	**18.06**	**320**	LR	LR	12 52 22.6	
	comp=Z,110nm,18.6s,baz=31,slow=36						
SKT	**Skwentna**	**19.39**	**45**	P	**P**	**12 46 09.8**	**+1.2**
SKT				IAmb	IAmb	12 46 29.6	
	comp=Z,18nm,0.9s						
SUA	**Susitna One**	**19.58**	**47**	P	**P**	**12 46 11.2**	**+0.4**
SUA				IAmb	IAmb	12 46 28.9	
	comp=Z,14nm,0.8s						
SEW	**Seward**	**19.86**	**52**	P	**P**	**12 46 15.0**	**+1.2**
F21K	**Alatna River**	**21.04**	**31**	P	**P**	**12 46 24.7**	**-1.9**
F21K				IAmb	IAmb	12 46 38.3	
	comp=Z,16nm,0.9s						
GLI	**Glacier Island**	**21.16**	**50**	P	**P**	**12 46 27.5**	**-0.3**
SCM	**Sheep Creek Mo**	**21.25**	**47**	P	**P**	**12 46 28.7**	**-0.2**
ILAR	**Eielson Array**	**22.30**	**40**	P	**P**	**12 46 39.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=236,slow=8.3,SNR=12						
	comp=Z,0.3nm,0.5s						
GLB	**Gilahina Butte**	**22.83**	**49**	P	**P**	**12 46 45.1**	**-0.6**
GLB				IAmb	IAmb	12 47 01.9	
	comp=Z,8.2nm,0.9s						
G24K	**Hadweenzic Riv**	**22.83**	**35**	P	**P**	**12 46 46.5**	**+0.9**
G24K				IAmb	IAmb	12 46 55.4	
	comp=Z,23nm,1.3s						
J25K	**Salcha River,**	**22.87**	**41**	P	**P**	**12 46 46.5**	**+0.3**
VRDI	**Verde Repeater**	**22.97**	**50**	P	**P**	**12 46 47.4**	**+0.1**
VRDI				IAmb	IAmb	12 47 18.4	
	comp=Z,8.7nm,0.9s						
TOLK	**Toolik Lake Re**	**23.06**	**30**	P	**P**	**12 46 48.6**	**+0.6**
TOLK				IAmb	IAmb	12 46 57.3	
	comp=Z,13nm,0.8s						
J26L	**Joseph Creek**	**23.59**	**42**	P	**P**	**12 46 54.4**	**+1.0**
J26L				IAmb	IAmb	12 47 09.1	
	comp=Z,6.7nm,0.8s						
BARN	**Barnard Glacie**	**23.81**	**51**	P	**P**	**12 46 55.5**	**-0.2**
BARN				IAmb	IAmb	12 47 02.8	
	comp=Z,9.2nm,0.8s						
M27K	**Edge Creek, AK**	**23.87**	**47**	P	**P**	**12 46 57.5**	**+1.2**
M27K				IAmb	IAmb	12 47 05.7	
	comp=Z,11nm,1.0s						
TABL	**Table Mountain**	**24.01**	**52**	P	**P**	**12 46 57.7**	**0.0**
L27K	**Beaver Creek,**	**24.01**	**46**	P	**P**	**12 46 58.0**	**+0.5**
L27K				IAmb	IAmb	12 47 05.5	
	comp=Z,8.5nm,0.9s						
BCAR	**Beaver Creek A**	**24.03**	**46**	P	**P**	**12 46 58.0**	**+0.3**
E25K	**Arctic Village**	**24.11**	**33**	P	**P**	**12 46 60.0**	**+1.7**
JKA	**Kamikawa-asahi**	**24.97**	**267**	P	**P**	**12 47 07.7**	**+1.4**
I28M	**Miner Creek**	**25.32**	**40**	P	**P**	**12 47 07.9**	**-1.5**
I28M				IAmb	IAmb	12 47 18.5	
	comp=Z,6.1nm,0.7s						
HYT	**Haines Junctio**	**25.82**	**51**	P	**P**	**12 47 14.2**	**+0.2**
F28M	**Old Crow**	**25.93**	**36**	P	**P**	**12 47 16.4**	**+1.6**
KLR	**Kul'dur**	**29.49**	**284**	P	**P**	**12 47 45.7**	**-1.1**
	comp=Z,7.5nm,0.7s,baz=64,slow=9.1,SNR=20						
KLR				LR	LR	13 00 26.7	
	comp=Z,83nm,18.9s,baz=204,slow=38						
	comp=Z,7.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**31.56**	**275**	P	**P**	**12 48 04.1**	**-1.1**
	comp=Z,4.3nm,0.8s,baz=72,slow=6.0,SNR=7.6						
	comp=Z,4.3nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**32.91**	**200**	T	T	13 23 23.8	
	baz=11,slow=76,SNR=84						
H11N3	**WAKE ISLAND Hy**	**32.92**	**200**	T	T	13 23 22.5	
	baz=11,slow=76,SNR=70						
H11N1	**WAKE ISLAND Hy**	**32.93**	**200**	T	T	13 23 22.2	
	baz=11,slow=76,SNR=95						
BNX	**BinXian**	**33.65**	**281**	⇓P	**P**	**12 48 21.5**	**-1.9**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BNX				pmax	pmax		
	comp=Z,250nm,5.2s						
H11S1	**WAKE ISLAND Hy**	**34.14**	**200**	T	T	13 24 56.9	
	baz=19,slow=75,SNR=61						
H11S2	**WAKE ISLAND Hy**	**34.15**	**200**	T	T	13 24 53.0	
	baz=19,slow=75,SNR=41						
H11S3	**WAKE ISLAND Hy**	**34.15**	**200**	T	T	13 24 52.9	
	baz=19,slow=75,SNR=31						
YKA	**Yellowknife Ar**	**36.45**	**46**	P	**P**	**12 48 47.3**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=280,slow=8.1,SNR=4.2						
YKA				LR	LR	13 04 57.6	
	comp=Z,66nm,18.2s,baz=268,slow=38						
	comp=Z,0.7nm,0.6s						
KSRS	**Korea Array**	**37.90**	**269**	P	**P**	**12 49 00.5**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=36,slow=8.3,SNR=4.2						
	comp=Z,2.4nm,0.8s						
XLT	**XiLinHaoTe**	**41.51**	**285**	*e*P	P	12 49 27.0	-3.0
XLT				pP	pP	12 49 34.5	+1.6
XLT				sP	sP	12 49 39.0	+4.9
XLT				pmax	pmax		
	comp=Z,12nm,1.6s						
XLT				pmax	pmax		
	comp=Z,200nm,5.4s						
SONM	**Songino Array**	**45.06**	**295**	P	**P**	**12 49 57.6**	**-1.2**
	comp=Z,5.0nm,0.7s,baz=61,slow=8.1,SNR=28						
SONM				LR	LR	13 09 59.5	
	comp=Z,66nm,18.3s,baz=134,slow=38						
	comp=Z,5.0nm,0.7s						
NVAR	**Mina Array Bea**	**45.27**	**81**	P	**P**	**12 50 01.3**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=299,slow=7.5,SNR=6.4						
	comp=Z,0.6nm,0.6s						
HHC	**Hu-ho-hao-te**	**45.99**	**284**	*e*P	**P**	**12 50 07.5**	**+1.3**
HHC				pmax	pmax		
	comp=Z,31nm,0.7s						
HHC				pmax	pmax		
	comp=Z,340nm,5.0s						
PDAR	**Pinedale Array**	**47.94**	**71**	P	**P**	**12 50 19.4**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=319,slow=3.6,SNR=6.1						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**52.72**	**312**	P	P	12 50 54.2	-3.0
	comp=Z,0.5nm,0.3s,baz=57,slow=8.8,SNR=1.6						
ZALV				LR	LR	13 13 38.5	
	comp=Z,46nm,20.3s,baz=50,slow=36						
	comp=Z,0.5nm,0.3s						
GTA	**Gaotai**	**53.92**	**290**	*e*P	**P**	**12 51 05.3**	**-1.2**
GTA				pP	sP	12 51 14.0	+3.4
GTA				sP	pP	12 51 18.0	+8.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**57.73**	**349**	P	**P**	**12 51 31.4**	**-1.8**
	comp=Z,5.7nm,0.9s,baz=11,slow=10,SNR=1.6						
	comp=Z,5.7nm,0.9s						
KURBB	**Kurchatov Arra**	**57.82**	**312**	P	**P**	**12 51 32.2**	**-1.8**
	comp=Z,3.8nm,0.7s,baz=42,slow=6.8,SNR=37						
KURBB				LR	LR	13 16 30.4	
	comp=Z,60nm,19.3s,baz=174,slow=36						
	comp=Z,3.8nm,0.7s						
WMQ	**Urumqi**	**57.84**	**301**	*e*P	**P**	**12 51 37.5**	**+3.1**
MKAR	**Makanchi Array**	**58.62**	**307**	P	P	12 51 37.3	-2.5
	comp=Z,2.7nm,0.7s,baz=52,slow=6.1,SNR=20						
	comp=Z,2.7nm,0.7s						
BVAR	**Borovoye Array**	**59.71**	**318**	P	**P**	**12 51 44.9**	**-2.3**
	comp=Z,2.6nm,0.6s,baz=51,slow=7.3,SNR=16						
BVAR				LR	LR	13 19 15.0	
	comp=Z,77nm,18.1s,baz=70,slow=38						
	comp=Z,2.6nm,0.6s						
TXAR	**Lajitas Array**	**60.36**	**79**	P	**P**	**12 51 51.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=308,slow=5.7,SNR=5.2						
	comp=Z,0.5nm,0.7s						
PZH	**PanZhiHua**	**61.62**	**278**	P	**P**	**12 52 03.0**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
KSH	**Kashi**	**67.06**	**305**	P	**P**	**12 52 38.5**	**+2.3**
KSH				pP	sP	12 52 47.8	+7.5
KSH				PcP	**PcP**	**12 53 09.3**	**+4.9**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**69.28**	**274**	P	**P**	**12 52 49.2**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=25,slow=6.4,SNR=12						
	comp=Z,1.5nm,0.6s						
TAPN	**Taplejung**	**69.55**	**288**	*e*P	**P**	**12 52 50.9**	**-1.3**
	comp=Z,15nm,0.8s						
GUN	**Gumba**	**70.21**	**290**	*e*P	**P**	**12 52 55.3**	**-1.0**
	comp=Z,27nm,0.5s						
JIRN	**Jiri**	**70.22**	**290**	*e*P	**P**	**12 52 55.3**	**-1.1**
	comp=Z,23nm,0.6s						
RAMN	**Ramite**	**70.50**	**289**	*e*P	**P**	**12 52 57.1**	**-0.9**
	comp=Z,33nm,0.7s						
PKI	**Pulchoki**	**70.74**	**290**	*e*P	**P**	**12 52 58.1**	**-1.4**
	comp=Z,11nm,0.6s						
PKIN	**Phulchoki**	**70.75**	**290**	*e*P	**P**	**12 52 58.2**	**-1.3**
	comp=Z,16nm,0.5s						
GKN	**Gorkha**	**70.87**	**291**	*e*P	**P**	**12 52 58.7**	**-1.4**
DMN	**Daman**	**70.89**	**290**	*e*P	**P**	**12 52 59.1**	**-1.3**
DANN	**Dangsing**	**71.12**	**292**	*e*P	**P**	**12 53 00.8**	**-1.0**
	comp=Z,32nm,0.9s						
KOLN	**Koldanda**	**71.65**	**292**	*e*P	**P**	**12 53 03.7**	**-1.2**
	comp=Z,42nm,2.5s						
PYUN	**Piuthan**	**71.76**	**292**	*e*P	**P**	**12 53 04.3**	**-1.2**
AKASG	**Malin Array Be**	**74.94**	**340**	P	**P**	**12 53 22.7**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=21,slow=6.2,SNR=2.7						
	comp=Z,0.5nm,0.5s						
GEYT	**Alibeck**	**76.85**	**315**	P	**P**	**12 53 33.8**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=4.2,slow=40,SNR=2.7						
	comp=Z,1.4nm,0.7s						
WRA	**Warramunga Arr**	**80.87**	**222**	P	**P**	**12 53 55.9**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=28,slow=5.9,SNR=1.9						
	comp=Z,0.4nm,0.7s						
**ASA

*IDC **29** 13:13:05.6±2.7,2°.55N×97°.63E,h0km,mb3.5/5, mbtmp3.5/6,ML3.9/1,MS3.6/1,Error ellipse: s-maj=128.2km s-min=21.7km az=57.0*
*DJA **29** 13:13:12.6±0.3,3°.N±2°×9°.9E±°,h10km,M4.1/11,mb4.4/1, MLv3.9/11*
ISC 29 13:13:11.6±0.9,3°.15N±0°.06×98°.62E±0°.07,h10km,n15, σ1§90/15,mb3.6/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**0.92**	**294**	P	**Pg**	**13 13 27.1**	**-2.3**
KCSI				S	**Sg**	**13 13 42.4**	**+0.9**
GSI	**Gunungsitoli**	**2.11**	**210**	P	**Pn**	**13 13 47.5**	**+0.5**
GSI				S	**Sn**	**13 14 14.1**	**+0.9**
MLSI	**Meulaboh, Aceh**	**2.47**	**297**	P	**Pn**	**13 13 54.0**	**+2.0**
LHMI	**Lhok Sumawe**	**2.66**	**321**	P	**Pn**	**13 13 55.5**	**+1.0**
PBSI	**Pulau Batu**	**3.20**	**186**	P	**Pn**	**13 14 04.2**	**+2.2**
BKNI	**Bangkinang**	**3.70**	**139**	P	**Pn**	**13 14 10.0**	**+1.1**
PDSI	**Padang**	**4.43**	**155**	P	**Pn**	**13 14 19.6**	**+0.6**
SISI	**Saibi**	**4.47**	**174**	P	**Pn**	**13 14 21.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**15.22**	**1**	Pn	**Pn**	**13 16 50.5**	**+3.8**
	0.2nm,0.3s,baz=190,slow=10,SNR=1.6 0.3nm,0.3s						
KAPI	**Kappang**	**22.62**	**111**	LR	LR	13 28 14.1	
	comp=Z,144nm,19.2s,baz=240,slow=39						
WRA	**Warramunga Arr**	**41.91**	**125**	P	**P**	**13 21 01.9**	**-0.9**
	0.9nm,0.7s,baz=301,slow=9.3,SNR=12 0.9nm,0.7s						
ASAR	**Alice Springs**	**43.49**	**130**	P	**P**	**13 21 14.5**	**-1.0**
	0.4nm,0.7s,baz=297,slow=8.1,SNR=5.3 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**50.26**	**343**	P	P	13 22 04.4	-3.6
	0.2nm,0.6s,baz=163,slow=7.9,SNR=3.6 0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**51.89**	**350**	P	**P**	**13 22 19.5**	**-0.7**
	0.5nm,0.5s,baz=169,slow=8.8,SNR=2.1 0.5nm,0.5s						
BVAR	**Borovoye Array**	**54.91**	**340**	P	**P**	**13 22 40.0**	**-2.4**
	0.9nm,1.0s,baz=134,slow=12,SNR=2.9 0.9nm,1.0s						

*SJA **29** 13:21:05.6±1.7,22°.89S×68°.42W,h100km,ML3.7,MW3.6*
*GUC **29** 13:21:08.6±0.6,22°.86S×68°.55W,h108km±2km,ML3.8*
ISC 29 13:21:06.0±1.3,22°.85S±0°.03×68°.59W±0°.05,h127km±7km, n36,σ1§58/62,9C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.39**	**309**	*e*P	**Pn**	**13 21 24.6**	**0.0**
LVC				*e*S	**Sn**	**13 21 36.3**	**-2.3**
LVC				IAML		13 21 37.6	
	comp=Z,8μm,0.2s						
LVC	**Limon Verde**	**0.39**	**309**	*e*P	**Pn**	**13 21 24.6**	**0.0**
LVC				*e*S	**Sn**	**13 21 37.3**	**-1.3**
LVC				IAML		13 21 38.4	
	comp=Z,1μm,0.2s						
AF01	**San Pedro de A**	**0.39**	**105⇓**	*e*P	**Pn**	**13 21 24.5**	**-0.1**
AF01				*e*S	**Sn**	**13 21 36.9**	**-1.6**
AF01				IAML		13 21 38.3	
	comp=N,4μm,0.3s						
PB15	**IPOC Station P**	**0.89**	**246⇑**	*i*P	**Pn**	**13 21 28.8**	**+0.9**
PB15				*e*S	**Sn**	**13 21 44.4**	**0.0**
PB15				IAML		13 21 47.7	
	comp=N,6μm,0.2s						
PB15	**IPOC Station P**	**0.89**	**246**	*e*P	Pn	13 21 23.1	-4.8
PB15				*e*P		13 21 28.1	
PB15				*e*S	**Sn**	**13 21 44.5**	**0.0**
PB15				IAML		13 21 46.3	
	comp=Z,5μm,0.1s						
PB06	**IPOC Station P**	**0.92**	**279⇑**	*i*P	**Pn**	**13 21 28.8**	**+0.7**
PB06				*e*S	**Sn**	**13 21 44.5**	**-0.4**
PB06				IAML		13 21 45.1	
	comp=N,3μm,0.2s						
PB06	**IPOC Station P**	**0.92**	**279**	*e*P	Pn	13 21 23.1	-5.0
PB06				*e*P		13 21 28.1	
PB06				*e*S	**Sn**	**13 21 45.0**	**+0.1**
PB06				IAML		13 21 48.2	
	comp=Z,816nm,0.3s						
PB09	**IPOC Station P**	**1.22**	**330⇑**	*i*P	**Pn**	**13 21 32.4**	**+1.3**
PB09				*e*S	**Sn**	**13 21 50.6**	**+0.6**
PB09				IAML		13 21 51.8	
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**1.22**	**330**	*e*P	**Pn**	**13 21 31.8**	**+0.7**
PB09				*e*S	**Sn**	**13 21 51.0**	**+1.0**
PB09				IAML		13 21 52.8	
	comp=Z,848nm,0.2s						
PB04	**IPOC Station P**	**1.54**	**289⇑**	*i*P	**Pn**	**13 21 35.4**	**+0.8**
PB04				*e*S	**Sn**	**13 21 56.2**	**+0.1**
PB04				IAML		13 22 03.3	
	comp=E,669nm,0.1s						
PB04	**IPOC Station P**	**1.54**	**289**	*e*P	**Pn**	**13 21 34.8**	**+0.3**
PB04				*e*S	**Sn**	**13 21 57.1**	**+0.9**
PB04				IAML		13 22 00.9	
	comp=Z,382nm,0.1s						
PB07	**IPOC Station P**	**1.65**	**313⇑**	*i*P	**Pn**	**13 21 36.9**	**+1.1**
PB07				*e*S	**Sn**	**13 21 58.7**	**+0.2**
PB07				IAML		13 22 00.6	
	comp=E,1μm,0.3s						
PB07	**IPOC Station P**	**1.65**	**313**	*e*P	**Pn**	**13 21 36.2**	**+0.4**
PB07				*e*S	**Sn**	**13 21 59.1**	**+0.6**
PB07				IAML		13 22 00.0	
	comp=Z,773nm,0.2s						
PB02	**IPOC Station P**	**1.95**	**321⇑**	*e*P	**Pn**	**13 21 40.4**	**+1.0**
PB02				*e*S	**Sn**	**13 22 05.3**	**+0.4**
PB02				IAML		13 22 08.3	
	comp=E,941nm,0.1s						
PB02	**IPOC Station P**	**1.95**	**321**	*e*P	**Pn**	**13 21 39.8**	**+0.4**
PB02				*e*S	**Sn**	**13 22 06.1**	**+1.2**
PB02				*e*S		13 22 06.8	
PB02				IAML		13 22 13.1	
	comp=Z,660nm,0.3s						
PB01	**IPOC Station P**	**1.99**	**335**	*i*P	**Pn**	**13 21 40.8**	**+1.0**
PB01				*e*S	**Sn**	**13 22 06.2**	**+0.6**
PB01				IAML		13 22 08.3	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**1.99**	**335**	*e*P	**Pn**	**13 21 40.3**	**+0.5**
PB01				*e*S	**Sn**	**13 22 06.8**	**+1.2**
PB01				IAML		13 22 08.7	
	comp=Z,724nm,0.5s						
GO02	**Mina Guanaco**	**2.48**	**202⇓**	*e*P	**Pn**	**13 21 47.4**	**+1.3**
GO02				*e*S	**Sn**	**13 22 17.7**	**+0.8**
GO02				IAML		13 22 21.1	
	comp=N,550nm,0.1s						
GO02	**Mina Guanaco**	**2.48**	**202**	*e*P	**Pn**	**13 21 46.8**	**+0.7**
GO02				*e*S	**Sn**	**13 22 18.5**	**+1.7**
GO02				IAML		13 22 24.1	
	comp=Z,201nm,0.3s						
PATCX	**Punta Patache**	**2.49**	**324⇑**	*e*P	**Pn**	**13 21 46.4**	**+0.3**
PATCX	**Punta Patache**	**2.49**	**324**	*e*P	**Pn**	**13 21 46.5**	**+0.3**
PATCX				*e*S	**Sn**	**13 22 14.2**	**-2.7**
PATCX				IAML		13 22 25.2	
	comp=Z,169nm,0.8s						
TA01	**Diego Aracena**	**2.72**	**327⇑**	*e*P	**Pn**	**13 21 48.9**	**0.0**
TA01				*e*S	**Sn**	**13 22 17.1**	**-4.8**
TA01	**Diego Aracena**	**2.72**	**327**	*e*P	**Pn**	**13 21 49.0**	**+0.1**
TA01				*e*S	**Sn**	**13 22 18.5**	**-3.4**
TA01				IAML		13 22 46.0	
	comp=Z,113nm,0.5s						
PB08	**IPOC Station P**	**2.75**	**349**	*e*P	**Pn**	**13 21 51.4**	**+1.6**
PB08				*e*S	**Sn**	**13 22 24.8**	**+1.5**
PB08	**IPOC Station P**	**2.75**	**349**	*e*P	**Pn**	**13 21 50.9**	**+1.2**
PB08				*e*S	**Sn**	**13 22 23.0**	**-0.3**
HMBC	**Humberstone**	**2.84**	**334⇑**	*e*P	**Pn**	**13 21 50.5**	**0.0**
HMBC				*e*S	**Sn**	**13 22 20.0**	**-4.8**
HMBC	**Humberstone**	**2.84**	**334**	*e*P	**Pn**	**13 21 50.7**	**+0.1**
HMBC				*e*S	Sn	13 22 15.1	-10
HMBC				IAML		13 22 48.7	
	comp=Z,187nm,0.4s						
GO01	**Chusmiza**	**3.22**	**350**	*e*P	**Pn**	**13 21 57.5**	**+1.6**
GO01	**Chusmiza**	**3.22**	**350**	*e*P	**Pn**	**13 21 56.9**	**+1.0**
GO01				*e*S	Sn	13 22 23.1	-11
AZAP	**Zapla**	**3.51**	**114**	*e*P	**Pn**	**13 22 02.6**	**+3.2**
AZAP				*e*S	**Sn**	**13 22 36.2**	**-4.5**
AC01	**Pan de Azucar**	**3.76**	**209**	*e*P	**Pn**	**13 22 02.7**	**+0.2**
AC01				*e*S	**Sn**	**13 22 43.9**	**-2.4**
AC01	**Pan de Azucar**	**3.76**	**209**	*e*P	**Pn**	**13 22 02.6**	**+0.1**
AC01				*e*S	**Sn**	**13 22 45.5**	**-0.8**
AC06	**Mina Casimiro**	**4.76**	**199**	*e*P	**Pn**	**13 22 15.4**	**-0.5**
AHML	**Horco Molle**	**4.90**	**144**	*e*P	**Pn**	**13 22 19.5**	**+1.7**
GO03	**Copiap**	**4.95**	**197**	*e*P	**Pn**	**13 22 18.1**	**-0.3**
GO03	**Copiap**	**4.95**	**197**	*e*P	**Pn**	**13 22 18.5**	**0.0**
GO03				IAML		13 23 15.8	
	comp=Z,44nm,0.4s						

*NEIC **29** 13:26:23.0±1.4,10°.5S±0°.1×161°.1E±0°.1,h63km±9km, mb4.4/10,Error ellipse: s-maj=19.4km s-min=10.9km az=224.0*
*IDC **29** 13:26:23.1±3.0,10°.64S×161°.05E,h51km±26km,mb3.3/3, mbtmp3.7/4,ML3.8/1,Error ellipse: s-maj=46.0km s-min=17.7km az=60.0*
ISC 29 13:26:22.6±0.8,10°.61S±0°.09×161°.1E±0°.1,h62km,n21, σ1§09/23,mb4.2/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.63**	**316**	Pn	**Pn**	**13 26 47.8**	**-1.4**
HNR	**Honiara**	**1.63**	**316**	P	**Pn**	**13 26 48.1**	**-1.1**
	2μm,0.3s,baz=143,slow=5.1,SNR=49						
HNR				S	**Sn**	**13 27 09.4**	**+0.2**
	8μm,0.3s,baz=40,slow=21,SNR=11						
HNR				LR	LR	13 27 44.7	
	comp=Z,1μm,21.6s,baz=241,slow=50						
KOUNC	**Koumac, New Ca**	**10.35**	**163**	Pn	**Pn**	**13 28 49.6**	**+1.3**
LIFNC	**LIFOU**	**11.71**	**150**	Pn	**Pn**	**13 29 06.7**	**-0.2**
DZM	**Mont Dzumac**	**12.49**	**156**	Pn	**Pn**	**13 29 18.6**	**+0.8**
DZM	**Mont Dzumac**	**12.49**	**156**	P	**Pn**	**13 29 19.0**	**+1.3**
	0.6nm,0.3s,baz=315,slow=17,SNR=26						
DZM				S	**Sn**	**13 31 33.2**	**-2.2**
	2.8nm,0.9s,baz=12,slow=20,SNR=1.5 1.4nm,0.3s						
MARNC	**Mare, Loyalty**	**12.69**	**149**	Pn	**Pn**	**13 29 20.9**	**+0.6**
PATS	**Pohnpei**	**17.55**	**351**		**Pn**	**13 30 22.6**	**-0.6**
WR0	**Warramunga Arr**	**27.23**	**247**	P	**P**	**13 32 01.0**	**0.0**
WR0				IAmb	IAmb	13 32 16.1	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**27.31**	**247**	P	**P**	**13 32 02.6**	**+0.9**
WRAB	**Tennant Creek**	**27.39**	**247**	P	**P**	**13 32 03.2**	**+0.7**
WRAB				IAmb	IAmb	13 32 06.5	
	comp=Z,7.0nm,1.2s						
WB2	**Warramunga Arr**	**27.39**	**247**	P	**P**	**13 32 03.3**	**+0.7**
WRA	**Warramunga Arr**	**27.40**	**247**	P	**P**	**13 32 03.6**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=77,slow=8.9,SNR=8.3 comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**28.99**	**240**	P	**P**	**13 32 15.1**	**-1.7**
ASAR	**Alice Springs**	**28.99**	**240**	P	**P**	**13 32 17.5**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=62,slow=9.9,SNR=5.7 comp=Z,0.3nm,0.8s						
KKM	**Kota Kinabalu**	**47.66**	**288**	P	**P**	**13 34 52.6**	**-0.8**
CASY	**Casey**	**65.17**	**200**	P	**P**	**13 36 57.2**	**+0.2**
CASY				IAmb	IAmb	13 37 21.8	
	comp=Z,4.8nm,1.4s						
SONM	**Songino Array**	**75.67**	**325**	P	**P**	**13 38 03.4**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=120,slow=6.8,SNR=2.0 comp=Z,0.3nm,0.4s						
PWL	**Port Wells**	**81.59**	**22**	P	**P**	**13 38 33.4**	**-0.1**
F17K	**Baldwin Pennin**	**81.64**	**14**	P	**P**	**13 38 34.3**	**+0.7**
F17K				IAmb	IAmb	13 38 56.0	
	comp=Z,13nm,1.2s						
LOGN	**Logan Glacier**	**84.45**	**25**	P	**P**	**13 38 48.3**	**-0.3**
LOGN				IAmb	IAmb	13 39 27.3	
	comp=Z,8.7nm,1.5s						

*IDC **29** 13:27:14.5±1.1,48°.36S×31°.47E,h0km,mb3.9/6, mbtmp3.9/7,ML3.4/1,MS3.4/6,Error ellipse: s-maj=55.6km s-min=22.7km az=67.0*
ISC 29 13:27:17.2±1.0,48°.4S±0°.2×31°.4E±0°.4,h18km,n13, σ1§32/7,mb3.8/6,MS3.4/5,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**13.94**	**91**	T	T	13 44 34.5	
	baz=258,slow=76,SNR=20						
H04S3	**CROZET ISLANDS**	**13.94**	**91**	T	T	13 44 35.1	
	baz=258,slow=76,SNR=24						
H04S1	**CROZET ISLANDS**	**13.95**	**91**	T	T	13 44 45.6	
	baz=258,slow=76,SNR=16						
SUR	**Sutherland**	**17.85**	**330**	P	**P**	**13 31 24.8**	**-0.5**
	0.1nm,0.3s,baz=137,slow=17,SNR=1.2						
SUR				LR	LR	13 36 46.2	
	comp=Z,108nm,19.7s,baz=161,slow=32 3.1nm,0.8s						
BOSA	**Boshof**	**20.29**	**344**	LR	LR	13 38 22.6	
	comp=Z,36nm,20.2s,baz=206,slow=33						
MAW	**Mawson**	**25.01**	**152**	P	**P**	**13 32 39.8**	**+0.2**
	7.2nm,0.9s,baz=308,slow=11,SNR=16						
MAW				LR	LR	13 40 43.2	
	comp=Z,32nm,19.6s,baz=16,slow=32 7.2nm,0.9s						
TSUM	**Tsumeb**	**31.17**	**334**	LR	LR	13 45 15.2	
	comp=Z,84nm,19.0s,baz=332,slow=35						
QSPA	**South Pole Qui**	**41.84**	**180**	P	**P**	**13 35 05.6**	**-0.2**
	5.7nm,0.7s,baz=219,slow=1.6,SNR=52 5.7nm,0.7s						
VNDA	**Vanda**	**50.71**	**168**	P	**P**	**13 36 15.1**	**0.0**
	0.9nm,0.7s,baz=212,slow=19,SNR=7.0						
VNDA				LR	LR	13 59 07.4	
	comp=Z,64nm,18.3s,baz=278,slow=38 0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**66.68**	**328**	P	**P**	**13 38 07.3**	**+0.5**
	0.4nm,0.6s,baz=168,slow=5.9,SNR=4.1 0.4nm,0.6s						
ASAR	**Alice Springs**	**80.52**	**115**	P	**P**	**13 39 26.5**	**-1.9**
	0.5nm,0.9s,baz=211,slow=5.2,SNR=2.2 0.5nm,0.9s						
WRA	**Warramunga Arr**	**83.58**	**113**	P	**P**	**13 39 46.1**	**+1.7**
	0.5nm,0.9s,baz=221,slow=4.4,SNR=2.0 0.5nm,0.9s						
KVAR	**Kislovodsk Arr**	**92.49**	**8**	LR	LR	14 23 33.9	
	comp=Z,52nm,18.5s,baz=272,slow=36						

IDC 29 13:44:09.6±2.1,52°.04S×141°.89E,h0km,mb3.7/3, mbtmp3.7/3,MS3.7/3,Error ellipse: s-maj=478.7km s-min=27.7km az=78.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**26.20**	**300**	T	T	14 15 46.1	
	baz=140,slow=75,SNR=10						
H01W2	**Cape Leeuwin H**	**26.21**	**300**	T	T	14 15 44.7	
	baz=140,slow=75,SNR=8.0						
H01W3	**Cape Leeuwin H**	**26.22**	**300**	T	T	14 15 46.0	
	baz=140,slow=75,SNR=8.7						
VNDA	**Vanda**	**26.63**	**170**	P	P	13 49 49.3	0.0
	0.5nm,0.8s,baz=323,slow=11,SNR=2.5 0.5nm,0.8s						
ASAR	**Alice Springs**	**28.99**	**345**	P	P	13 50 11.0	+0.1
	1.1nm,1.0s,baz=164,slow=9.1,SNR=6.2 1.1nm,1.0s						
WRA	**Warramunga Arr**	**32.58**	**347**	P	P	13 50 42.5	-0.1
	1.5nm,0.9s,baz=172,slow=8.3,SNR=7.9 1.5nm,0.9s						
MAW	**Mawson**	**39.51**	**216**	LR	LR	14 05 47.5	
	comp=Z,61nm,18.5s,baz=76,slow=33						
PMG	**Port Moresby**	**42.73**	**8**	LR	LR	14 10 25.6	
	comp=Z,102nm,18.5s,baz=292,slow=37						
KAPI	**Kappang**	**50.34**	**331**	LR	LR	14 16 17.4	
	comp=Z,81nm,19.9s,baz=198,slow=38						
H04S1	**CROZET ISLANDS**	**55.10**	**237**	T	T	14 52 13.8	
	baz=130,slow=75,SNR=10						
H04S2	**CROZET ISLANDS**	**55.11**	**237**	T	T	14 52 12.3	
	baz=130,slow=75,SNR=13						
H04S3	**CROZET ISLANDS**	**55.12**	**237**	T	T	14 52 12.0	
	baz=130,slow=75,SNR=11						

*IDC **29** 14:32:31.0±1.8,18°.09S×178°.27W,h574km±21km, mb3.7/16,mbtmp4.6/17,Error ellipse: s-maj=14.3km s-min=10.3km az=138.0*
*NEIC **29** 14:32:31.9±2.1,18°.0S±0°.1×178°.5W±0°.1,h578km±6km, mb4.4/248,Error ellipse: s-maj=17.6km s-min=13.6km az=127.0*
*NOU **29** 14:32:33.2,18°.04S×178°.36W,h604km,mb4.5/70,Fiji Islands Region*
ISC 29 14:32:31.8±0.3,18°.04S±0°.07×178°.38W±0°.07,h579km, n661,σ0§96/668,mb4.4/144,15C-12D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGTI	**Dogotuki**	**2.50**	**313**	P	**P**	**14 33 50.0**	**+3.5**
MSVF	**Nonsavu**	**3.42**	**275**		**P**	**14 33 55.7**	**+3.8**
MSVF	**Nonsavu**	**3.42**	**275**	P	**P**	**14 33 56.0**	**+4.1**
MSVF	**Nonsavu**	**3.42**	**275**	P	**P**	**14 33 56.0**	**+4.1**
	284nm,0.8s,baz=140,slow=3.0,SNR=166						
MSVF				S	**S**	**14 35 02.6**	**+5.5**
	16nm,0.9s,baz=319,slow=22,SNR=6.0						
FUTU	**Fugatoga**	**3.72**	**4**	P	**P**	**14 33 57.6**	**+3.7**
YSA	**Yasawairara**	**4.09**	**288**	P	**P**	**14 33 59.5**	**+3.1**
AFI	**Afiamalu**	**7.56**	**58**	P	**P**	**14 34 26.3**	**0.0**
FUNA	**Funafuti**	**9.74**	**346**	P	**P**	**14 34 47.5**	**-0.2**
RTV	**Rentapao**	**12.57**	**269**	P	**P**	**14 35 17.8**	**+1.5**
MARNC	**Mare, Loyalty**	**13.25**	**253**		**P**	**14 35 22.2**	**-1.0**
MARNC	**Mare, Loyalty**	**13.25**	**253**	P	**P**	**14 35 23.7**	**+0.5**
LIFNC	**LIFOU**	**13.84**	**256**		**P**	**14 35 28.0**	**-1.3**
LIFNC	**LIFOU**	**13.84**	**256**	P	**P**	**14 35 29.6**	**+0.3**
PINNC	**Pines Island,**	**14.05**	**249**	P	**P**	**14 35 31.8**	**+0.3**
PINNC	**Pines Island,**	**14.05**	**249**	P	**P**	**14 35 31.9**	**+0.5**
YATNC	**Mamie plateau,**	**14.41**	**251**	P	**P**	**14 35 34.9**	**-0.1**
OUENC	**Ouen Island, N**	**14.54**	**250**	P	**P**	**14 35 36.5**	**+0.3**
OUENC	**Ouen Island, N**	**14.54**	**250**	P	**P**	**14 35 36.9**	**+0.7**
DZM	**Mont Dzumac**	**14.82**	**252**	P	**P**	**14 35 39.5**	**+0.5**
DZM	**Mont Dzumac**	**14.82**	**252**	P	**P**	**14 35 39.1**	**+0.1**
	7.1nm,0.4s,baz=87,slow=18,SNR=24						
ONTNC	**Ouen Toro**	**14.86**	**251**	P	**P**	**14 35 39.4**	**+0.1**
ONTNC	**Ouen Toro**	**14.86**	**251**	P	**P**	**14 35 41.0**	**+1.7**
NOUC	**Port Laguerre**	**14.95**	**252**	P	**P**	**14 35 41.2**	**+1.1**
KOUNC	**Koumac, New Ca**	**16.56**	**259**	P	**P**	**14 35 55.3**	**0.0**
KOUNC				IAmb	IAmb	14 35 58.8	
	comp=Z,22nm,0.9s						
KOUNC	**Koumac, New Ca**	**16.56**	**259**	P	**P**	**14 35 56.9**	**+1.6**
OUZ	**Omahuta**	**18.54**	**201**	P	**P**	**14 36 15.8**	**+2.7**
URZ	**Urewera**	**20.53**	**190**	P	**P**	**14 36 29.9**	**-1.2**
URZ	**Urewera**	**20.53**	**190**	P	**P**	**14 36 29.6**	**-1.5**
	comp=Z,6.3nm,0.4s,baz=31,slow=5.9,SNR=11 comp=Z,6.3nm,0.4s						
RTZ	**Ruatahuna**	**20.90**	**190**	P	**P**	**14 36 32.7**	**-1.8**
RTZ				IAmb	IAmb	14 36 34.8	
	comp=Z,17nm,1.4s						
BKZ	**Black Stump Fm**	**21.52**	**191**	P	**P**	**14 36 37.9**	**-2.2**
BKZ				IAmb	IAmb	14 36 39.2	
	comp=Z,10nm,1.2s						
BKZ	**Black Stump Fm**	**21.52**	**191**	P	**P**	**14 36 38.5**	**-1.6**
BFZ	**Birch Farm**	**23.04**	**190**	P	**P**	**14 36 54.3**	**+0.8**
MRZ	**Mangatainoka R**	**23.14**	**192**	P	**P**	**14 36 52.7**	**-1.7**
MRZ				IAmb	IAmb	14 37 17.6	
	comp=Z,22nm,1.4s						
SNZO	**South Karori**	**23.94**	**193**	P	**P**	**14 36 59.7**	**-1.8**
SNZO	**South Karori**	**23.94**	**193**	P	**P**	**14 37 00.4**	**-1.1**
BHW	**Baring Head**	**24.00**	**193**	P	**P**	**14 37 00.2**	**-1.8**
QRZ	**Quartz Range**	**24.02**	**197**	P	**P**	**14 37 02.4**	**+0.2**
QRZ				IAmb	IAmb	14 37 03.5	
	comp=Z,11nm,0.9s						
QRZ	**Quartz Range**	**24.02**	**197**	P	**P**	**14 37 02.8**	**+0.6**
PLWZ	**Palliser**	**24.08**	**192**	P	**P**	**14 37 01.7**	**-1.1**
MRNZ	**Matariki Terra**	**24.50**	**196**	P	**P**	**14 37 05.8**	**-0.6**
THZ	**Tophouse**	**24.80**	**196**	P	**P**	**14 37 09.2**	**+0.1**
THZ				IAmb	IAmb	14 37 11.3	
	comp=Z,11nm,0.8s						
DSZ	**Denniston Nort**	**25.08**	**198**	P	**P**	**14 37 12.1**	**+0.5**
LTZ	**Lake Taylor**	**25.91**	**196**	P	**P**	**14 37 18.0**	**-0.9**
LTZ				IAmb	IAmb	14 37 22.0	
	comp=Z,11nm,0.7s						
INZ	**Inchbonnie**	**26.09**	**197**	P	**P**	**14 37 20.0**	**-0.4**
OXZ	**Oxford**	**26.48**	**196**	P	**P**	**14 37 23.0**	**-0.9**
RPZ	**Rata Peaks**	**27.11**	**197**	P	**P**	**14 37 28.3**	**-1.1**
FOZ	**Fox Glacier**	**27.31**	**199**	P	**P**	**14 37 30.4**	**-0.6**
LBZ	**Lake Benmore**	**27.97**	**198**	P	**P**	**14 37 35.6**	**-1.3**
LBZ				IAmb	IAmb	14 37 39.9	
	comp=Z,16nm,1.0s						
JCZ	**Jackson Bay**	**28.12**	**200**	P	**P**	**14 37 38.4**	**+0.1**
ODZ	**Otahua Downs**	**28.45**	**196**	P	**P**	**14 37 40.3**	**-0.7**
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**14 37 48.1**	**-0.2**
EIDS	**Eidsvold**	**29.25**	**250**	P	**P**	**14 37 48.4**	**+0.1**
MLZ	**Mavora Lakes**	**29.49**	**200**	P	**P**	**14 37 50.4**	**+0.4**
ARMA	**Armidale**	**29.90**	**240**	P	**P**	**14 37 54.8**	**+0.8**
ARMA	**Armidale**	**29.90**	**240**	P	**P**	**14 37 55.1**	**+1.1**
SYZ	**Scrubby Hill**	**30.24**	**197**	P	**P**	**14 37 57.2**	**+0.8**
MGCD	**Mangrove Creek**	**31.25**	**235**	P	**P**	**14 38 06.7**	**+1.4**
RMQ	**Roma**	**31.49**	**249**	P	**P**	**14 38 08.1**	**+0.6**
TV1H	**Townsville Har**	**32.99**	**262**	P	**P**	**14 38 19.8**	**-0.4**
CNB	**Canberra Magne**	**33.37**	**233**	P	**P**	**14 38 24.5**	**+1.2**
CTA	**Charters Tower**	**33.46**	**261**	P	**P**	**14 38 24.0**	**-0.1**
CTAO	**Charters Tower**	**33.46**	**261**	P	**P**	**14 38 24.1**	**-0.1**
CTAO	**Charters Tower**	**33.46**	**261**	P	**P**	**14 38 24.1**	**-0.1**
CAN	**Canberra**	**33.65**	**233**	P	**P**	**14 38 26.5**	**+0.8**
CAN	**Canberra**	**33.65**	**233**	P	**P**	**14 38 26.6**	**+0.9**
MILA	**Mila**	**34.23**	**230**	P	**P**	**14 38 30.6**	**+0.2**
PMG	**Port Moresby**	**34.51**	**280**	P	**P**	**14 38 33.9**	**+0.9**
PMG	**Port Moresby**	**34.51**	**280**	P	**P**	**14 38 32.8**	**-0.2**
PMG	**Port Moresby**	**34.51**	**280**	P	**P**	**14 38 32.9**	**-0.1**
CMSA	**Cobar Meteorol**	**35.12**	**241**	P	**P**	**14 38 38.3**	**+0.5**
MTSU	**Mount Surprise**	**35.43**	**264**	P	**P**	**14 38 40.5**	**-0.1**
QLP	**Quilpie**	**35.52**	**249**	P	**P**	**14 38 41.4**	**+0.1**
TOO	**Toolangi**	**37.11**	**231**	P	**P**	**14 38 55.0**	**+0.8**
TOO	**Toolangi**	**37.11**	**231**	P	**P**	**14 38 55.3**	**+1.1**
COEN	**Coen**	**37.14**	**271**	P	**P**	**14 38 55.3**	**+0.6**
COEN	**Coen**	**37.14**	**271**	P	**P**	**14 38 55.3**	**+0.6**
TAU	**Tasmania Unive**	**38.17**	**222**	P	**P

MBWA IAmb IAmb 14 41 58.2
comp=Z,24nm,1.5s
MBWA Marble Bar 58.07 256 P P 14 41 30.3 -0.6
MEEK Meekatharra 58.42 249 P P 14 41 32.4 -0.8
KLBR Kellerberrin 58.80 244 P P 14 41 34.3 -1.3
comp=Z,45nm,0.7s
EDFI Ende, Flores 58.82 271 P P 14 41 35.2 -0.9
comp=Z,5.7nm,1.1s
BBSI Bau Bau 58.92 274 P P 14 41 34.4 -2.2
comp=Z,15nm,0.9s
NWAO Narrogin (SRO) 59.18 242 P P 14 41 36.0 -2.1
NWAO IAmb IAmb 14 42 09.7
comp=Z,61nm,1.4s
BLDU Ballidu 59.76 245 P P 14 41 41.3 -0.7
SBA Scott Base 60.29 184 P P 14 41 46.5 +1.9
VNDA Vanda 60.32 185 P P 14 41 45.5 +0.6
VNDA Vanda 60.32 185 P P 14 41 45.1 +0.2
comp=Z,1.6nm,0.9s,baz=22,slow=5.5,SNR=13
comp=Z,1.6nm,0.9s
MORW Morawa 60.46 246 P P 14 41 45.9 -0.7
MORW IAmb IAmb 14 42 16.7
comp=Z,33nm,1.4s
MORW Morawa 60.46 246 P P 14 41 46.1 -0.6
GIRL Giralia 62.89 253 P P 14 42 02.4 -0.1
CASY Casey 66.03 205 P P 14 42 22.0 +0.5
MAJO Matsushiro 68.03 323 P P 14 42 33.6 -0.7
MAJO IAmb IAmb 14 42 36.1
comp=Z,16nm,1.1s
ADK Adak 69.64 1 P P 14 42 42.6 -0.9
UGM Wanagama 69.67 268 P P 14 42 44.0 -0.7
JKA Kamikawa-asahi 71.40 331 P P 14 42 55.3 +1.2
QSPA South Pole Qui 72.02 180 P P 14 42 57.2 -0.4
comp=Z,6.8nm,0.8s,baz=28,slow=2.7,SNR=38
comp=Z,6.8nm,0.8s
UNV Unalaska Valle 72.31 7 P P 14 42 57.9 -1.3
UNV Unalaska Valle 72.31 7 P P 14 42 57.9 -1.3
SSLB Suanglung 72.33 303 P P 14 42 58.2 -1.8
SSLB Suanglung 72.33 303 P P 14 42 58.9 -1.1
TPUB Ta-pu 72.36 302 P P 14 42 58.6 -1.6
AKUT Akutan 72.69 8 P P 14 43 01.7 +0.4
PET Petropavlovsk 73.51 346 P P 14 43 05.4 -0.6
PEA0B Petropavlovsk- 73.81 345 P P 14 43 07.5 -0.2
PETK Petropavlovsk- 73.81 345 P P 14 43 07.2 -0.5
PETK Petropavlovsk- 73.81 345 P P 14 43 07.0 -0.7
comp=Z,6.8nm,0.6s,baz=116,slow=7.2,SNR=19
comp=Z,6.8nm,0.6s
KSRS Korea Array 74.82 318 P P 14 43 14.4 +0.6
comp=Z,0.9nm,0.7s,baz=118,slow=5.3,SNR=1.8
comp=Z,0.9nm,0.7s
CHIR Chirikof Islan 76.05 13 P P 14 43 19.7 -0.4
CHIR Chirikof Islan 76.05 13 P P 14 43 22.1 +1.9
baz=202
SAO San Andreas Ge 76.49 44 P P 14 43 23.8 +0.7
SAO IAmb IAmb 14 43 25.3
comp=Z,12nm,0.8s
PMPB Monarch Peak 76.61 45 P P 14 43 24.6 +0.8
PMPB IAmb IAmb 14 43 48.4
comp=Z,27nm,1.3s
USRK Ussuriysk Ar. 76.74 326 P P 14 43 25.3 +1.1
comp=Z,2.4nm,0.8s,baz=118,slow=3.7,SNR=4.4
comp=Z,2.4nm,0.8s
SII Sitkinak Islan 77.04 13 P P 14 43 27.5 +1.9
baz=204
KMRM Mail Ridge 77.09 40 P P 14 43 26.7 +0.4
KMRM IAmb IAmb 14 43 28.9
comp=Z,20nm,0.9s
BFSC Mount Baldy Ra 77.69 48 P P 14 43 30.0 +0.2
baz=238
EDW2 Edwards Air Fo 77.80 47 P P 14 43 31.4 +1.1
baz=238,SNR=6.8
ISA Isabella, Lake 77.88 46 P P 14 43 32.1 +1.3
baz=237,SNR=7.8
CMB Columbia Colle 77.91 43 P P 14 43 31.1 +0.3
IKP In-Ko-Pah, Jac 77.98 50 P P 14 43 31.8 +0.5
baz=239
AFDM Forest Hills D 78.05 42 P P 14 43 31.9 +0.4
YUH Yuha Desert 78.11 50 P P 14 43 32.6 +0.7
LRMC Laurel Mtn Rad 78.33 47 P P 14 43 34.0 +0.8
baz=238
SWSC Sam W. Stewart 78.35 50 P P 14 43 33.5 +0.3
baz=240
CWC Cottonwood Cre 78.57 46 P P 14 43 35.2 +0.7
baz=237
YBH Yreka Blue Hor 78.60 39 P P 14 43 35.8 +1.3
EMB Emerald Bay 78.62 43 P P 14 43 35.6 +0.8
MLAC Mammoth, Mammo 78.71 44 P P 14 43 36.4 +1.1
baz=237
BELC Belle Mtn. Jos 78.74 49 P P 14 43 36.7 +1.2
baz=239,SNR=5.4
MPMC Manual Prospec 78.77 46 P P 14 43 37.0 +1.4
baz=238,SNR=6.1
MPK Martis Peak 78.85 42 P P 14 43 36.8 +0.7
MPK IAmb IAmb 14 43 37.6
comp=Z,13nm,0.6s
N14K Kuskokwak Cree 78.86 8 P P 14 43 35.3 +0.1
baz=196
BC3 Big Chuckawall 78.96 49 P P 14 43 37.5 +1.0
baz=240
P17K Kvichak River 79.03 11 P P 14 43 35.9 -0.2
baz=201
O16K Kokwok River B 79.11 10 P P 14 43 35.2 -1.4
O16K IAmb IAmb 14 43 44.1
comp=Z,15nm,1.2s
O16K Kokwok River B 79.11 10 P P 14 43 35.4 -1.2
baz=200
GLA Glamis 79.11 50 P P 14 43 38.1 +0.8
baz=240
L04D Klamath Falls 79.14 39 P P 14 43 38.1 +0.7
DSP Deep Springs 79.14 45 P P 14 43 38.2 +0.9
QSM Queen of Sheba 79.15 47 P P 14 43 37.9 +0.5
YERR Yerington 79.19 43 P P 14 43 38.3 +0.5
YERR IAmb IAmb 14 43 39.1
comp=Z,8.5nm,0.7s
N15K Kwethluk River 79.33 9 P P 14 43 37.7 0.0
N15K IAmb IAmb 14 44 13.2
comp=Z,35nm,1.4s
N15K Kwethluk River 79.33 9 P P 14 43 39.2 +1.4
baz=198
GMRC Granite Mounta 79.38 48 P P 14 43 39.5 +0.7
baz=239
FURC Furnace Creek, 79.41 46 P P 14 43 39.7 +1.0
baz=238
I03D Drain, OR 79.41 37 P P 14 43 39.0 +0.5
I03D IAmb IAmb 14 43 47.7
comp=Z,24nm,1.4s
IRM Iron Mountain 79.43 49 P P 14 43 40.1 +1.1
baz=240
O17K Koliganek Bris 79.45 11 P P 14 43 39.8 +1.5
baz=201
NVAR Mina Array Bea 79.49 44 P P 14 43 39.9 +0.5
NVAR Mina Array Bea 79.49 44 P P 14 43 40.4 +0.9
comp=Z,4.6nm,0.8s,baz=224,slow=8.7,SNR=47
comp=Z,4.6nm,0.8s
PAHR Pah Rah Range 79.50 42 P P 14 43 39.8 +0.5
TUQ Turquoise Mon 79.53 47 P P 14 43 40.9 +1.4
baz=239,SNR=6.4
NV11 Mina Array Sit 79.59 44 P P 14 43 40.3 +0.5
M14K Bethel 79.62 8 P P 14 43 39.4 +0.2
M14K Bethel 79.62 8 P P 14 43 40.7 +1.5
baz=196
M15K Kasigluk River 79.75 9 P P 14 43 40.5 +0.6
baz=197
113A Mohawk Valley, 79.75 51 P P 14 43 41.4 +0.8
N16K Nishlik Lake 79.83 10 P P 14 43 39.8 -0.6
baz=199
O18K Koktuh Hills 79.87 12 P P 14 43 40.0 -0.7
O18K IAmb IAmb 14 43 41.0
comp=Z,28nm,0.9s
O18K Koktuh Hills 79.87 12 P P 14 43 40.8 +0.2
baz=202
BUCK Buck Mountain 79.93 37 P P 14 43 42.1 +0.8
BUCK IAmb IAmb 14 43 52.9
comp=Z,18nm,1.4s
KVN Kaiserville 79.97 43 P P 14 43 42.2 +0.4
I04A Tendick Farm, 80.01 38 P P 14 43 42.3 +0.5
214A Organ Pipe Nat 80.07 52 P P 14 43 42.8 +0.5
baz=242
TPNV Topopah Spring 80.09 46 P P 14 43 43.2 +0.8
TPNV Topopah Spring 80.09 46 P P 14 43 43.3 +0.8
baz=239,SNR=7.7
N17K Nushagak Hills 80.14 10 P P 14 43 41.6 -0.4
N17K IAmb IAmb 14 44 21.7
comp=Z,18nm,1.4s
N17K Nushagak Hills 80.14 10 P P 14 43 42.6 +0.6
baz=200
PDMCI Parker Dam,Lak 80.23 49 P P 14 43 43.8 +0.8
baz=240
K05A Summer Lake 80.28 39 P P 14 43 44.5 +1.1
K05A IAmb IAmb 14 43 45.5
comp=Z,20nm,1.0s
M16K Timber Creek 80.32 9 P P 14 43 43.5 +0.6
M16K IAmb IAmb 14 43 44.2
comp=Z,12nm,0.8s
M16K Timber Creek 80.32 9 P P 14 43 43.5 +0.6
baz=199
O19K Port Alsworth 80.36 12 P P 14 43 42.3 -0.8
O19K IAmb IAmb 14 43 43.2
comp=Z,25nm,1.0s
O19K Port Alsworth 80.36 12 P P 14 43 42.7 -0.4
baz=203
J05D Fort Rock, OR 80.40 38 P P 14 43 45.1 +1.1
ILSW Iliamna Southw 80.40 13 P P 14 43 42.7 -0.8
ILSW IAmb IAmb 14 43 43.4
comp=Z,20nm,0.8s
K13K Kusilvak Mount 80.44 7 P P 14 43 44.4 +0.9
baz=193
N18K Kilae Creek 80.51 11 P P 14 43 43.3 -0.6
baz=202
L15K Ungalak Mounta 80.58 8 P P 14 43 43.9 -0.3
baz=196
SHPR Sheep Range 80.61 47 P P 14 43 46.2 +1.0
H04A Detroit Lake 80.68 37 P P 14 43 45.6 +0.4
H04A IAmb IAmb 14 43 46.0
comp=Z,8.5nm,0.6s
BRLK Bradley Lake 80.69 14 P P 14 43 44.5 -0.4
BRSE Bradley Lake S 80.70 14 P P 14 43 45.0 +0.1
baz=207
PINE Pine Mountain 80.87 38 P P 14 43 46.7 +0.3
PINE IAmb IAmb 14 43 48.6
comp=Z,19nm,1.0s
L16K Owhat River 80.89 9 P P 14 43 46.1 +0.3
L16K IAmb IAmb 14 43 47.3
comp=Z,11nm,1.1s
L16K Owhat River 80.89 9 P P 14 43 46.4 +0.6
baz=198
N19K Bonanza Creek 80.90 12 P P 14 43 45.1 -0.9
M17K Holitna River 80.92 10 P P 14 43 46.6 +0.6
M17K IAmb IAmb 14 43 47.4
comp=Z,20nm,0.9s
M17K Holitna River 80.92 10 P P 14 43 46.6 +0.6
baz=200
RSO Redoubt South 80.92 13 P P 14 43 45.5 -0.8
SVW2 Sparrevohn 80.96 11 P P 14 43 45.5 -0.7
SVW2 IAmb IAmb 14 43 48.8
comp=Z,15nm,1.4s
SVW2 Sparrevohn 80.96 11 P P 14 43 46.0 -0.2
comp=Z,8.5nm,1.8s
PRN Pahroc Range 81.14 46 P P 14 43 49.3 +1.4
PRN IAmb IAmb 14 43 50.2
comp=Z,9.8nm,0.9s
K15K Wolf Creek Mou 81.17 8 P P 14 43 47.9 +0.7
K15K Wolf Creek Mou 81.17 8 P P 14 43 48.4 +1.1
baz=196,SNR=5.1
R11B Troy Canyon, C 81.26 45 P P 14 43 48.6 0.0
R11B Troy Canyon, C 81.26 45 P P 14 43 48.8 +0.3
baz=239,SNR=5.0
M18K Stony River 81.28 11 P P 14 43 47.2 -0.6
baz=202
F04A Amboy 81.30 36 P P 14 43 48.6 +0.4
F04A IAmb IAmb 14 44 13.5
comp=Z,8.6nm,0.8s
SEW Seward 81.33 14 P P 14 43 47.2 -0.9
baz=208
HOLB Holberg 81.36 30 P P 14 43 48.9 +0.4
NLWA Neilton Lookou 81.40 34 P P 14 43 49.8 +1.0
L17K Donlin 81.48 9 P P 14 43 49.1 +0.3
baz=199
WVOR Wild Horse Val 81.48 40 P P 14 43 50.4 +0.9
WVOR IAmb IAmb 14 43 51.5
comp=Z,10nm,1.0s
N20K Mount Spurr 81.70 12 P P 14 43 49.5 -0.6
baz=205
SPCR Spurr Chakacha 81.71 12 P P 14 43 49.7 -0.4
baz=205
P23K Montague Islan 81.72 15 P P 14 43 51.0 +0.9
baz=210
TUC Tucson 81.75 52 P P 14 43 52.0 +1.0
baz=243
L18K Granite Mounta 81.81 10 P P 14 43 50.9 +0.3
L18K IAmb IAmb 14 43 52.2
comp=Z,24nm,1.5s
L18K Granite Mounta 81.81 10 P P 14 43 50.8 +0.3
baz=201
G06A Carlson Farm, 81.89 37 P P 14 43 52.0 +0.5
M19K Big River Lodg 81.92 11 P P 14 43 51.0 -0.2
baz=203
B04A Port Angeles 82.01 34 P P 14 43 51.9 +0.1
B04A IAmb IAmb 14 44 13.2
comp=Z,11nm,1.0s
K17K Iditarod 82.03 9 P P 14 43 52.0 +0.4
K17K IAmb IAmb 14 44 09.9
comp=Z,14nm,1.2s
K17K Iditarod 82.03 9 P P 14 43 51.6 0.0
baz=199
BELA Belgrano 2 82.03 173 P P 14 43 51.6 0.0
GNW Green Mountain 82.06 34 P P 14 43 52.5 +0.3
J08A Circle Bar Ran 82.10 40 P P 14 43 52.8 +0.2
J08A IAmb IAmb 14 43 54.4
comp=Z,14nm,1.1s
L19K White Mountain 82.10 11 P P 14 43 51.9 -0.1
L19K IAmb IAmb 14 43 53.6
comp=Z,13nm,1.1s
L19K White Mountain 82.10 11 P P 14 43 52.2 +0.2
baz=203
RC01 Rabbit Creek A 82.14 14 P P 14 43 52.7 +0.5
baz=207
M20K Styx River 82.14 12 P P 14 43 51.9 -0.5
baz=204
CLRS Cowichan Lake 82.15 33 P P 14 43 53.2 +0.7
LCMT Little Creek M 82.19 47 P P 14 43 53.7 +0.4
X16A Lo Mia Camp, P 82.24 50 P P 14 43 54.2 +0.6
J16K Anvik River 82.24 8 P P 14 43 53.0 +0.3
J16K IAmb IAmb 14 43 53.6
comp=Z,8.4nm,0.6s
J16K Anvik River 82.24 8 P P 14 43 52.9 +0.3
baz=197
SUA Susitna One 82.25 13 P P 14 43 52.3 -0.6
SUA IAmb IAmb 14 43 53.0
comp=Z,16nm,0.8s
SUA Susitna One 82.25 13 P P 14 43 53.3 +0.4
baz=206
PWL Port Wells 82.25 14 P P 14 43 52.1 -0.8
PWL IAmb IAmb 14 43 52.9
comp=Z,9.6nm,0.9s
PWL Port Wells 82.25 14 P P 14 43 52.5 -0.3
baz=209
D05A Enumclaw 82.29 35 P P 14 43 54.3 +1.0
D05A IAmb IAmb 14 43 55.4
comp=Z,23nm,1.4s
CCUT Cedar City 82.38 47 P P 14 43 55.2 +0.9
PGC Sidney 82.40 33 P P 14 43 54.4 +0.6
SPR3 Spring Creek 3 82.44 45 P P 14 43 54.6 -0.1
PSUT Pine Spring 82.53 46 P P 14 43 55.5 +0.5
SKT Skwentna 82.55 12 P P 14 43 53.6 -0.7
baz=206
GLI Glacier Island 82.57 15 P P 14 43 53.5 -0.8
GLI IAmb IAmb 14 43 54.4
comp=Z,12nm,0.7s
GLI Glacier Island 82.57 15 P P 14 43 53.7 -0.7
baz=210
U15A North Rim 82.58 48 P P 14 43 56.5 +1.1
U15A IAmb IAmb 14 43 57.8
comp=Z,13nm,0.9s
TTA Tatalina 82.59 10 P P 14 43 53.9 -0.6
TTA Tatalina 82.59 10 P P 14 43 54.7 +0.1
TTA Tatalina 82.59 10 P P 14 43 54.9 +0.4
baz=202,SNR=5.1
EYAK Cordova Ski Ar 82.62 16 P P 14 43 54.7 +0.1
EYAK IAmb IAmb 14 43 59.7
comp=Z,23nm,1.4s
EYAK Cordova Ski Ar 82.62 16 P P 14 43 52.5 -2.1
baz=211
CRAG Craig 82.62 24 P P 14 43 55.1 +0.4
baz=223
M22K Willow 82.64 13 P P 14 43 53.8 -0.9
M22K Willow 82.64 13 P P 14 43 53.5 -1.2
baz=207
KNK Knik Glacier 82.71 14 P P 14 43 54.8 -0.4
KNK IAmb IAmb 14 43 55.4
comp=Z,12nm,0.8s
KNK Knik Glacier 82.71 14 P P 14 43 54.4 -0.7
baz=209
PMR Palmer 82.72 14 P P 14 43 54.4 -0.7
PMR IAmb IAmb 14 43 54.8
comp=Z,6.0nm,0.6s
PMR Palmer 82.72 14 P P 14 43 54.6 -0.5
PMR Palmer 82.72 14 P P 14 43 54.9 -0.1
baz=208
ELK Elko 82.73 43 P P 14 43 55.2 -0.8
WUAZ Wupatki 82.80 49 P P 14 43 57.8 +1.4
baz=242
G08A Pilot Rock 82.89 38 P P 14 43 57.2 +0.6
GHO Glory Hole Cre 82.92 14 P P 14 43 55.8 -0.5
J18K Innoko River 82.98 10 P P 14 43 56.4 0.0
J18K IAmb IAmb 14 43 57.2
comp=Z,11nm,0.8s
J18K Innoko River 82.98 10 P P 14 43 56.7 +0.3
baz=201,SNR=6.2
LTY Liberty 83.05 35 P P 14 43 57.1 -0.2
SNH Sunshine Point 83.08 17 P P 14 43 57.0 0.0
SML Sawmill 83.09 14 P P 14 43 56.2 -0.8
SML IAmb IAmb 14 44 12.4
comp=Z,14nm,1.2s
SML Sawmill 83.09 14 P P 14 43 56.9 -0.2
baz=209
U33K Whale Pass 83.09 24 P P 14 43 57.6 +0.5
U33K Whale Pass 83.09 24 P P 14 43 57.1 +0.1
baz=223
V35K Ketchikan 83.11 25 P P 14 43 57.0 -0.2
baz=224
DIV Divide 83.11 15 P P 14 43 56.7 -0.5
DIV IAmb IAmb 14 43 57.4
comp=Z,12nm,0.7s
HAWA Hanford 83.19 37 P P 14 43 58.6 +0.7
HAWA IAmb IAmb 14 43 59.6
comp=Z,13nm,1.1s
CUT Chulitna 83.20 13 P P 14 43 56.8 -0.6
CUT Chulitna 83.20 13 P P 14 43 56.5 -0.9
baz=207
M23K Glacier View 83.22 14 P P 14 43 56.6 -1.0
baz=209
PPLA Purkeypile 83.25 12 P P 14 43 56.7 -1.3
PPLA IAmb IAmb 14 44 20.4
comp=Z,22nm,1.4s
PPLA Purkeypile 83.25 12 P P 14 43 56.5 -1.4
baz=205
BMRM Bremner River 83.27 16 P P 14 43 57.5 -0.5
BMRM IAmb IAmb 14 43 58.0
comp=Z,9.6nm,0.7s
BMRM Bremner River 83.27 16 P P 14 43 57.9 -0.1
baz=212,SNR=5.3
WAX Waxell Ridge 83.31 17 P P 14 43 58.3 +0.2
WAX IAmb IAmb 14 43 59.1
comp=Z,16nm,0.9s
K20K Telida 83.33 11 P P 14 43 57.9 -0.2
baz=203
MESA MESA 83.33 17 P P 14 43 58.6 +0.1
MESA MESA 83.33 17 P P 14 43 57.8 -0.7
baz=215
SCM Sheep Creek Mo 83.34 14 P P 14 43 57.8 -0.5
SCM Sheep Creek Mo 83.34 14 P P 14 43 58.0 -0.3
baz=210,SNR=5.1
S31K Pelican 83.36 21 P P 14 43 58.9 +0.6
KLU Klutina 83.39 15 P P 14 43 57.9 -0.6
KLU IAmb IAmb 14 44 14.2
comp=Z,13nm,1.4s
KLU Klutina 83.39 15 P P 14 43 58.2 -0.3
baz=211
CRQE Cirque 83.49 17 P P 14 43 59.0 -0.2
baz=214
G15K Niukluk 83.50 6 P P 14 43 58.8 -0.1
baz=194
S32K Killisnoo 83.56 22 P P 14 43 59.2 -0.1
baz=222
WRAK Wrangell Islan 83.61 24 P P 14 43 59.9 +0.3
baz=224
BMO Blue Mountains 83.62 39 P P 14 44 00.2 +0.1
J19K Poorman 83.65 10 P P 14 43 59.6 -0.1
J19K Poorman 83.65 10 P P 14 43 59.9 +0.2
baz=202
PNL Peninsula 83.67 19 P P 14 43 60.0 0.0
baz=217
CAST Castle Rocks 83.75 12 P P 14 43 58.6 -1.7
CAST IAmb IAmb 14 43 59.4
comp=Z,12nm,0.8s
CAST Castle Rocks 83.75 12 P P 14 43 58.8 -1.4
baz=205,SNR=9.8
MAW Mawson 83.75 200 P P 14 44 00.6 +0.3
MAW Mawson 83.75 200 P P 14 44 00.6 +0.3
comp=Z,1.9nm,0.5s,baz=127,slow=6.4,SNR=16
comp=Z,1.9nm,0.5s
PINM Pinnacle 83.76 18 P P 14 43 59.0 -1.4
baz=216
TABL Table Mountain 83.78 18 P P 14 44 00.5 -0.2
TABL IAmb IAmb 14 44 01.4
comp=Z,15nm,0.8s
VRDI Verde Repeater 83.79 16 P P 14 43 60.0 -0.8
N25K Chitina, Valde 83.82 16 P P 14 44 00.3 -0.4
N25K IAmb IAmb 14 44 01.3
comp=Z,12nm,0.7s
N25K Chitina, Valde 83.82 16 P P 14 44 00.6 -0.1
baz=212,SNR=7.6
M24K Tolsona, Glenn 83.86 15 P P 14 44 01.0 +0.2
GLB Gilahina Butte 83.88 16 P P 14 44 00.6 -0.4
GLB IAmb IAmb 14 44 01.4
comp=Z,8.5nm,0.6s
WAT6 Susitna Watana 83.90 14 P P 14 44 00.7 -0.5
baz=209,SNR=7.5
D08A Wollman Farm, 83.91 36 P P 14 44 01.9 +0.5
D08A IAmb IAmb 14 44 02.6
comp=Z,6.7nm,0.8s
WAT1 Susitna Watana 83.94 13 P P 14 44 00.5 -0.7
baz=208
MCARA McCarthy VSAT 84.04 16 P P 14 44 00.7 -1.0
baz=214
DUG Dugway, Tooele 84.05 45 P P 14 44 01.7 -0.7
baz=241
J20K Nowinta River 84.07 10 P P 14 44 01.5 -0.3
J20K IAmb IAmb 14 44 02.4
comp=Z,6.5nm,0.8s
J20K Nowinta River 84.07 10 P P 14 44 01.4 -0.4
baz=203
KTH Kantishna Hill 84.09 12 P P 14 44 00.3 -1.7
KTH IAmb IAmb 14 44 01.7
comp=Z,8.2nm,0.8s
121A Cookes Peak, D 84.12 53 P P 14 44 03.8 +0.8
baz=244
CHUM Lake Minchumin 84.13 11 P P 14 44 01.1 -0.9
baz=205,SNR=5.1
TRF Thorofare Moun 84.13 12 P P 14 44 01.2 -1.1
TRF Thorofare Moun 84.13 12 P P 14 44 01.2 -1.1
baz=207,SNR=10
LOGN Logan Glacier 84.13 17 P P 14 44 02.1 -0.3
LOGN IAmb IAmb 14 44 03.1
comp=Z,17nm,1.2s
BARN Barnard Glacie 84.14 17 P P 14 44 02.0 -0.4
BARN IAmb IAmb 14 44 03.3
comp=Z,12nm,0.9s
CTG Chitna Glacier 84.15 17 P P 14 44 02.4 -0.1
baz=215
CTGM Chitina Glacie 84.15 17 P P 14 44 01.7 -0.7
CTGM IAmb IAmb 14 44 03.2
comp=Z,7.7nm,0.9s
P29M Windy Craggy 84.16 19 P P 14 44 02.4 0.0
P29M IAmb IAmb 14 44 03.8
comp=Z,8.6nm,0.8s
P29M Windy Craggy 84.16 19 P P 14 44 02.4 0.0
baz=219
JIS Juneau Island 84.24 22 P P 14 44 02.5 -0.1
JIS IAmb IAmb 14 44 13.9
comp=Z,12nm,1.2s
F10A Beach Ranch, E 84.28 38 P P 14 44 03.6 +0.2
F10A IAmb IAmb 14 44 05.0
comp=Z,11nm,0.9s
O28M Mount Upton 84.32 18 P P 14 44 03.3 -0.2
baz=216
H18K Honhosa River 84.33 8 P P 14 44 03.4 +0.4
baz=199
HARP HAARP 84.35 15 P P 14 44 03.3 +0.1
baz=212
RND Reindeer 84.39 13 P P 14 44 02.8 -0.6
DHY Denali Highway 84.42 14 P P 14 44 02.7 -1.0
DHY IAmb IAmb 14 44 03.3
comp=Z,3.9nm,0.5s
DHY Denali Highway 84.42 14 P P 14 44 02.5 -1.2
baz=210
PLBC Pleasant Camp 84.46 20 P P 14 44 04.3 +0.5
baz=220,SNR=5.0

PLID	Pearl Lake	84.53	39	P	P	14 44 04.6	-0.2
MCK	McKinley	84.66	13	P	P	14 44 04.1	-0.6
MCK				IAmb	IAmb	14 44 04.7	
	comp=Z,15nm,1.1s						
MCK	McKinley	84.66	13	P	P	14 44 04.8	+0.1
	baz=208,SNR=5.3						
HLID	Hailey	84.70	41	P	P	14 44 06.8	+1.2
	baz=239,SNR=12						
PAX	Paxson	84.77	14	P	P	14 44 04.8	-0.6
	baz=211						
P30M	Million Dollar	84.79	19	P	P	14 44 06.3	+0.9
	baz=219						
SKAG	Skagway	84.81	20	P	P	14 44 05.4	-0.1
	baz=221						
T35M	Bob Quinn	84.83	24	P	P	14 44 06.8	+1.1
	baz=225						
YUK8	Steele Glacier	84.86	18	P	P	14 44 06.3	+0.2
	baz=217,SNR=5.2						
M26K	Nabesna, AK	84.90	16	P	P	14 44 05.5	-0.4
M26K				IAmb	IAmb	14 44 06.8	
	comp=Z,11nm,1.0s						
M26K	Nabesna, AK	84.90	16	P	P	14 44 06.0	0.0
	baz=214,SNR=8.2						
BWN	Browne	84.94	12	P	P	14 44 05.7	-0.3
H19K	Roundabout Mou	84.96	9	P	P	14 44 05.7	-0.4
H19K	Roundabout Mou	84.96	9	P	P	14 44 05.7	-0.4
	baz=201						
G18K	Tagagawik	84.99	8	P	P	14 44 05.3	-1.0
G18K	Tagagawik	84.99	8	P	P	14 44 05.7	-0.6
	baz=199						
YUK6	Outpost Mounta	85.00	18	P	P	14 44 06.2	-0.5
	baz=218						
YUK3	Moose Creek	85.06	17	P	P	14 44 06.8	-0.1
	baz=216,SNR=10.0						
S34M	Telegraph Cree	85.15	23	P	P	14 44 07.9	+0.7
S34M				IAmb	IAmb	14 44 08.9	
	comp=Z,13nm,0.8s						
S34M	Telegraph Cree	85.15	23	P	P	14 44 07.2	+0.1
	baz=225,SNR=6.5						
M27K	Edge Creek, AK	85.15	16	P	P	14 44 07.0	-0.3
M27K				IAmb	IAmb	14 44 08.5	
	comp=Z,13nm,1.1s						
M27K	Edge Creek, AK	85.15	16	P	P	14 44 07.1	-0.1
	baz=215,SNR=7.6						
H20K	Anotleneega Mo	85.17	10	P	P	14 44 06.7	-0.4
	baz=202						
HYT	Haines Junctio	85.17	19	P	P	14 44 06.7	-0.7
	baz=219						
F17K	Baldwin Pennin	85.20	7	P	P	14 44 07.5	+0.4
F17K				IAmb	IAmb	14 44 13.2	
	comp=Z,20nm,1.5s						
F17K	Baldwin Pennin	85.20	7	P	P	14 44 06.8	-0.4
	baz=196						
YUK4	Talbot Arm	85.23	18	P	P	14 44 07.2	-0.6
	baz=218						
L26K	Log Cabin Wild	85.33	15	P	P	14 44 07.2	-0.8
	baz=213						
I21K	Tanana	85.37	11	P	P	14 44 07.3	-0.7
I21K				IAmb	IAmb	14 44 08.5	
	comp=Z,17nm,1.4s						
I21K	Tanana	85.37	11	P	P	14 44 07.9	-0.1
	baz=205						
K24K	Donnelly Dome	85.41	14	P	P	14 44 08.0	-0.3
	baz=211						
G19K	Purcell Mounta	85.44	9	P	P	14 44 08.5	+0.1
	baz=200						
P32M	Atlin	85.45	21	P	P	14 44 09.1	+0.4
P32M	Atlin	85.45	21	P	P	14 44 08.3	-0.3
	baz=222						
MLY	Manley	85.46	11	P	P	14 44 07.3	-1.3
MLY	Manley	85.46	11	P	P	14 44 07.2	-1.4
	baz=206						
BVCY	Beaver Creek	85.47	17	P	P	14 44 08.4	-0.3
	baz=216						
WRH	Wood River Hil	85.49	13	P	P	14 44 07.6	-1.0
WRH				IAmb	IAmb	14 44 08.7	
	comp=Z,19nm,1.3s						
Q32M	Nakina River	85.49	22	P	P	14 44 09.6	+0.6
Q32M				IAmb	IAmb	14 44 10.0	
	comp=Z,7.3nm,0.7s						
Q32M	Nakina River	85.49	22	P	P	14 44 09.6	+0.6
	baz=224						
HWUT	Hardware Ranch	85.56	44	P	P	14 44 09.9	+0.1
O30N	Mendenhall	85.56	19	P	P	14 44 09.1	0.0
	baz=220						
BSUT	Blindstream Ca	85.59	45	P	P	14 44 10.3	+0.2
NEW	Newport	85.59	36	P	P	14 44 09.5	-0.1
NEW	Newport	85.59	36	P	P	14 44 09.2	-0.4
	baz=237						
MNTX	Cornudas Mount	85.62	55	P	P	14 44 07.1	-3.0
MNTX	Cornudas Mount	85.62	55	P	P	14 44 09.5	-0.6
	baz=246						
MVCO	Mesa Verde	85.64	49	P	P	14 44 09.2	-1.2
	baz=244						
H21K	Melozitna Rive	85.66	10	P	P	14 44 08.9	-0.6
H21K				IAmb	IAmb	14 44 11.6	
	comp=Z,8.9nm,1.5s						
H21K	Melozitna Rive	85.66	10	P	P	14 44 08.7	-0.8
	baz=204						
HDA	Harding Lake	85.68	13	P	P	14 44 08.7	-0.9
HDA				IAmb	IAmb	14 44 09.1	
	comp=Z,5.3nm,0.7s						
HDA	Harding Lake	85.68	13	P	P	14 44 08.7	-0.9
	baz=210,SNR=6.9						
CCB	Clear Creek Bu	85.70	13	P	P	14 44 08.3	-1.3
CCB				IAmb	IAmb	14 44 08.9	
	comp=Z,6.8nm,0.6s						
L27K	Beaver Creek,	85.75	16	P	P	14 44 09.0	-0.9
	baz=215						
BCAR	Beaver Creek A	85.76	16	P	P	14 44 09.8	-0.2
N30M	Aishikik Lake	85.79	19	P	P	14 44 06.5	-3.7
	baz=219						
IMAR	Indian Mountai	85.80	10	P	P	14 44 09.6	-0.5
I23K	Minto, Yukon-K	85.83	12	P	P	14 44 08.5	-1.7
I23K	Minto, Yukon-K	85.83	12	P	P	14 44 09.0	-1.3
	baz=208						
WHY	Whitehorse	85.86	20	P	P	14 44 10.9	+0.2
WHY	Whitehorse	85.86	20	P	P	14 44 10.4	-0.3
	baz=221						
MDM	Murphy Dome	85.89	12	P	P	14 44 08.9	-1.7
MDM				IAmb	IAmb	14 44 10.2	
	comp=Z,10nm,1.1s						
COLA	College	85.89	13	P	P	14 44 09.6	-0.9
COLA	College	85.89	13	P	P	14 44 09.8	-0.7
	baz=209						
DLBC	Dease Lake	85.94	23	P	P	14 44 11.2	+0.2
DLBC				IAmb	IAmb	14 44 33.1	
	comp=Z,11nm,1.5s						
DLBC	Dease Lake	85.94	23	P	P	14 44 10.3	-0.7
	baz=226						
SCRK	Sand Creek	85.98	14	P	P	14 44 10.5	-0.7
	baz=213						
F19K	Shaleruckik Mo	86.00	8	P	P	14 44 10.3	-0.7
	baz=200						
IL31		86.00	13	P	P	14 44 10.1	-0.9
IL31				IAmb	IAmb	14 44 10.9	
	comp=Z,4.7nm,0.6s						
ILAR	Eielson Array	86.00	13	P	P	14 44 09.8	-1.3
	comp=Z,2.6nm,0.4s,baz=222,slow=5.0,SNR=94						
	comp=Z,2.6nm,0.4s						
IL03	Eielson Array	86.01	13	P	P	14 44 09.9	-1.2
TX31	Lajitas Ar. Si	86.04	58	P	P	14 44 12.8	+0.6
TX32	Lajitas Array	86.04	58	P	P	14 44 13.7	+1.4
TX32				IAmb	IAmb	14 44 15.1	
	comp=Z,8.3nm,0.9s						
TXAR	Lajitas Array	86.04	58	P	P	14 44 13.5	+1.3
	comp=Z,5.7nm,0.8s,baz=218,slow=5.7,SNR=60						
	comp=Z,5.7nm,0.8s						
H22K	Ishtalitna Cre	86.12	11	P	P	14 44 11.1	-0.5
	baz=206						
ANMO	Albuquerque	86.15	52	P	P	14 44 12.8	+0.1
ANMO	Albuquerque	86.15	52	P	P	14 44 12.8	+0.1
	baz=245						
M29M	Somme Creek	86.16	17	P	P	14 44 11.6	-0.4
M29M				IAmb	IAmb	14 44 14.0	
	comp=Z,6.3nm,1.1s						
M29M	Somme Creek	86.16	17	P	P	14 44 12.1	0.0
	baz=218,SNR=6.2						
POKR	Poker Plat Res	86.19	13	P	P	14 44 10.8	-1.2
POKR				IAmb	IAmb	14 44 11.4	
	comp=Z,6.5nm,0.7s						
POKR	Poker Plat Res	86.19	13	P	P	14 44 10.6	-1.4
	baz=209						
J25K	Salcha River,	86.20	14	P	P	14 44 11.1	-1.0
J25K				IAmb	IAmb	14 44 11.9	
	comp=Z,5.2nm,0.7s						
J25K	Salcha River,	86.20	14	P	P	14 44 11.8	-0.3
	baz=211,SNR=8.3						
N31M	Braeburn, Yuko	86.21	19	P	P	14 44 12.3	+0.1
N31M				IAmb	IAmb	14 44 13.3	
	comp=Z,7.9nm,1.1s						
E18K	Tukpahlearik C	86.22	7	P	P	14 44 12.5	+0.4
	baz=197						
D17K	Noatak River	86.22	6	P	P	14 44 11.9	-0.1
	baz=195						
R33M	Jennings River	86.27	22	P	P	14 44 12.9	+0.2
R33M				IAmb	IAmb	14 44 13.8	
	comp=Z,7.5nm,1.1s						
R33M	Jennings River	86.27	22	P	P	14 44 12.2	-0.5
	baz=225						
G21K	Allakaket	86.33	10	P	P	14 44 12.0	-0.6
G21K	Allakaket	86.33	10	P	P	14 44 11.9	-0.8
	baz=204						
H23K	Yukon River	86.40	11	P	P	14 44 11.3	-1.7
	baz=207						
F20K	Avaraart Lake	86.49	9	P	P	14 44 12.3	-1.0
	baz=202						
J26L	Joseph Creek	86.52	14	P	P	14 44 13.7	+0.1
J26L				IAmb	IAmb	14 44 14.6	
	comp=Z,7.3nm,0.7s						
J26L	Joseph Creek	86.52	14	P	P	14 44 13.9	+0.2
	baz=213,SNR=12						
E19K	Redstone River	86.66	8	P	P	14 44 13.6	-0.5
E19K				IAmb	IAmb	14 44 29.5	
	comp=Z,11nm,1.4s						
E19K	Redstone River	86.66	8	P	P	14 44 13.8	-0.4
	baz=200						
MSO	Missoula	86.66	38	P	P	14 44 14.5	-0.3
DLMT	Dillon	86.74	40	P	P	14 44 15.8	+0.6
DLMT				IAmb	IAmb	14 44 16.5	
	comp=Z,5.8nm,0.8s						
M30M	Minto, Yukon	86.75	18	P	P	14 44 14.6	-0.1
M30M				IAmb	IAmb	14 44 15.5	
	comp=Z,7.7nm,0.9s						
M30M	Minto, Yukon	86.75	18	P	P	14 44 14.7	-0.1
	baz=219,SNR=11						
BPMT	Black Pine Rid	86.76	39	P	P	14 44 14.9	-0.5
L29M	L29M	86.78	17	P	P	14 44 15.0	+0.1
L29M				IAmb	IAmb	14 44 15.8	
	comp=Z,12nm,1.3s						
L29M	L29M	86.78	17	P	P	14 44 15.2	+0.3
	baz=218,SNR=7.8						
N32M	Quiet Lake	86.82	20	P	P	14 44 15.4	+0.3
	baz=223						
REDW	Red Top Meadow	86.86	42	P	P	14 44 16.0	0.0
PRP	Porcupine Dome	86.94	13	P	P	14 44 14.5	-1.2
	baz=211						
C17K	DeLong Mountai	86.97	6	P	P	14 44 16.0	+0.4
	baz=194						
F21K	Alatna River	86.98	9	P	P	14 44 14.8	-0.9
F21K				IAmb	IAmb	14 44 52.5	
	comp=Z,12nm,1.4s						
F21K	Alatna River	86.98	9	P	P	14 44 15.5	-0.2
	baz=204						
IMW	Indian Meadow	87.06	42	P	P	14 44 17.7	+0.7
IMW				IAmb	IAmb	14 44 18.9	
	comp=Z,7.4nm,0.8s						
G23K	Bananza Creek	87.10	11	P	P	14 44 16.0	-0.3
	baz=207						
CHMT	Chamberlain Mo	87.11	39	P	P	14 44 16.7	-0.3
O20A	White River Ci	87.12	46	P	P	14 44 16.9	-0.3
	baz=244						
LOHW	Long Hollow	87.14	42	P	P	14 44 17.3	0.0
M31M	Drury Creek, Y	87.19	19	P	P	14 44 16.4	-0.3
	baz=222						
QLMT	Earthquake Lak	87.20	41	P	P	14 44 17.6	+0.1
DAWY	Dawson	87.20	16	P	P	14 44 16.6	-0.2
DAWY	Dawson	87.20	16	P	P	14 44 16.8	0.0
	baz=217						
I26K	Coal Creek Min	87.29	14	P	P	14 44 16.6	-0.5
	baz=213						
FLWY	Flagg Ranch	87.30	42	P	P	14 44 18.7	+0.7
FLWY				IAmb	IAmb	14 44 20.2	
	comp=Z,9.0nm,1.0s						
EGAK	Eagle	87.33	15	P	P	14 44 17.2	-0.1
EGAK				IAmb	IAmb	14 44 17.9	
	comp=Z,4.5nm,0.8s						
EGAK	Eagle	87.33	15	P	P	14 44 16.8	-0.5
	baz=215						
OVMT	Ovando	87.34	38	P	P	14 44 18.0	0.0
HHC	Hu-ho-hao-te	87.39	314	*e*P	P	14 44 16.8	-1.5
HHC				pmax	pmax		
	comp=Z,36nm,0.8s						
HHC				pmax	pmax		
	comp=Z,220nm,6.3s						
BW06	Boulder Array	87.42	43	P	P	14 44 18.9	+0.3
BW06				IAmb	IAmb	14 44 19.3	
	comp=Z,3.9nm,0.8s						
BW06	Boulder Array	87.42	43	P	P	14 44 18.6	0.0
	baz=243						
PD31	Pinedale Array	87.42	43	P	P	14 44 19.0	+0.4
PDAR	Pinedale Array	87.42	43	P	P	14 44 18.7	+0.1
PDAR	Pinedale Array	87.42	43	P	P	14 44 18.6	0.0
	comp=Z,2.8nm,0.6s,baz=224,slow=2.5,SNR=38						
	comp=Z,2.8nm,0.6s						
BOZ	Bozeman (W)	87.44	40	P	P	14 44 18.7	+0.2
	baz=241						
F22K	John River	87.45	10	P	P	14 44 18.7	+0.8
	baz=205						
SAND	Sanderson	87.52	58	P	P	14 44 19.2	+0.1
SAND				IAmb	IAmb	14 44 21.0	
	comp=Z,4.1nm,0.8s						
H17A	Grant Village	87.53	42	P	P	14 44 20.7	+1.6
	baz=242,SNR=5.4						
K29M	Barlow Dome	87.53	17	P	P	14 44 18.4	-0.1
K29M				IAmb	IAmb	14 44 53.8	
	comp=Z,9.0nm,1.4s						
K29M	Barlow Dome	87.53	17	P	P	14 44 19.2	+0.7
	baz=219						
FARO	Faro, Yukon	87.53	19	P	P	14 44 18.3	-0.1
	baz=222						
COLD	Coldfoot	87.53	11	P	P	14 44 17.9	-0.3
COLD				IAmb	IAmb	14 44 19.2	
	comp=Z,7.6nm,1.0s						
COLD	Coldfoot	87.53	11	P	P	14 44 18.3	0.0
	baz=207						
E20K	Nigu River	87.56	8	P	P	14 44 17.8	-0.6
	baz=201						
WTLY	Watson Lake, Y	87.56	22	P	P	14 44 17.6	-1.0
	baz=226						
G24K	Hadweenzic Riv	87.57	12	P	P	14 44 17.6	-0.9
G24K				IAmb	IAmb	14 44 18.7	
	comp=Z,9.4nm,1.4s						
G24K	Hadweenzic Riv	87.57	12	P	P	14 44 17.3	-1.1
	baz=209						
LYMT	Lyon Mountain	87.72	39	P	P	14 44 19.2	-0.6
MAYO	Mayo, Yukon	87.80	18	P	P	14 44 19.8	+0.2
MAYO	Mayo, Yukon	87.80	18	P	P	14 44 19.5	0.0
	baz=220,SNR=9.4						
I27K	Kandik River	87.90	14	P	P	14 44 20.0	-0.1
	baz=215						
FYU	Fort Yukon	87.91	13	P	P	14 44 18.7	-1.2
FYU				IAmb	IAmb	14 44 20.2	
	comp=Z,3.7nm,0.8s						
SDCO	Great Sand Dun	88.02	49	P	P	14 44 20.1	-1.5
	baz=246						
E22K	Anaktuvuk Pass	88.08	10	P	P	14 44 20.3	-0.5
E22K				IAmb	IAmb	14 44 21.3	
	comp=Z,6.5nm,1.0s						
E22K	Anaktuvuk Pass	88.08	10	P	P	14 44 20.0	-0.8
	baz=205						
I28M	Miner Creek	88.18	15	P	P	14 44 20.5	-0.9
I28M				IAmb	IAmb	14 44 22.1	
	comp=Z,3.1nm,0.6s						
I28M	Miner Creek	88.18	15	P	P	14 44 20.9	-0.5
	baz=216						
F24K	Squaw Lake	88.21	11	P	P	14 44 21.5	0.0
	baz=209						
E23K	Chandalar	88.38	10	P	P	14 44 22.2	-0.1
	baz=207						
J30M	Hart River	88.43	17	P	P	14 44 23.0	+0.3
J30M	Hart River	88.43	17	P	P	14 44 21.8	-0.9
	baz=220						
H27K	Steamboat Moun	88.44	14	P	P	14 44 21.9	-0.6
	baz=215						
I29M	Ogilvie Camp,	88.52	16	P	P	14 44 22.5	-0.4
I29M				IAmb	IAmb	14 44 23.1	
	comp=Z,3.4nm,0.8s						
I29M	Ogilvie Camp,	88.52	16	P	P	14 44 22.1	-0.9
	baz=218						
DRIO	Del Rio	88.53	59	P	P	14 44 24.5	+0.7
DRIO				IAmb	IAmb	14 44 25.9	
	comp=Z,9.0nm,0.9s						
G26K	Porcupine Rive	88.54	13	P	P	14 44 22.5	-0.4
	baz=213						
T25A	Trinidad	88.57	50	P	P	14 44 22.4	-1.7
	baz=246						
C21K	Knifeblade Rid	88.58	8	P	P	14 44 23.4	+0.3
	baz=202						
E24K	Your Creek	88.59	11	P	P	14 44 22.6	-0.6
	baz=208						
D22K	Ayikyak River	88.63	9	P	P	14 44 23.1	-0.2
D22K	Ayikyak River	88.63	9	P	P	14 44 23.0	-0.3
	baz=204						
RLMT	Red Lodge	88.69	41	P	P	14 44 23.6	-0.9
	baz=243						
F25K	Christian Rive	88.70	12	P	P	14 44 23.2	-0.6
	baz=211						
TGTN	Hyland Airport	88.72	22	P	P	14 44 24.1	+0.2
	baz=227						
GCMT	Greycliff	88.75	41	P	P	14 44 25.3	+0.7
BMAR	Burnt Mountain	88.78	12	P	P	14 44 24.4	+0.3
TOLK	Toolik Lake Re	88.91	10	P	P	14 44 24.5	-0.2
TOLK				IAmb	IAmb	14 45 07.0	
	comp=Z,11nm,1.4s						
I30M	Mount Dempster	88.92	16	P	P	14 44 24.5	-0.4
I30M				IAmb	IAmb	14 44 25.5	
	comp=Z,8.6nm,1.1s						
I30M	Mount Dempster	88.92	16	P	P	14 44 24.7	-0.2
	baz=220						
CMAR	Chiang Mai Arr	88.96	290	P	P	14 44 26.8	+0.8
	comp=Z,0.7nm,0.8s,baz=108,slow=2.9,SNR=6.0						
	comp=Z,0.7nm,0.8s						
D23K	Nanushuk River	89.02	10	P	P	14 44 24.0	-1.1
	baz=206						
N23A	Red Feather La	89.03	46	P	P	14 44 24.5	-1.6
	baz=245						
ELIB	Princess Elisa	89.04	187	*d*P	P	14 44 25.4	-0.2
	comp=Z,7.4nm,0.7s						
B21K	Ikpikpuk River	89.04	8	P	P	14 44 25.1	-0.1
B21K	Ikpikpuk River	89.04	8	P	P	14 44 23.8	-1.3
	baz=203						
B20K	Meade River	89.08	7	P	P	14 44 25.4	+0.1
	baz=200						
F26K	Sheenjek River	89.09	12	P	P	14 44 25.5	0.0
	baz=212						
E25K	Arctic Village	89.17	12	P	P	14 44 25.7	-0.2
E25K				IAmb	IAmb	14 44 55.1	
	comp=Z,6.3nm,1.4s						
E25K	Arctic Village	89.17	12	P	P	14 44 25.2	-0.7
	baz=211						
H29M	Whitestone	89.19	15	P	P	14 44 25.8	-0.2
H29M				IAmb	IAmb	14 44 27.1	
	comp=Z,8.7nm,1.0s						
H29M	Whitestone	89.19	15	P	P	14 44 25.7	-0.3
	baz=218						
PZH	PanZhiHua	89.25	298	P	P	14 44 27.5	+0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
KOTAN	Kotaneelee Air	89.35	24	P	P	14 44 26.5	-0.4
	baz=231						
K22A	Casper	89.38	45	P	P	14 44 27.0	-0.7
	baz=245						
EPYK	Eagle Plains	89.72	16	P	P	14 44 28.4	-0.1
EPYK				IAmb	IAmb	14 44 29.0	
	comp=Z,7.3nm,0.9s						
EPYK	Eagle Plains	89.72	16	P	P	14 44 28.1	-0.3
	baz=219						
G29M	Pine Creek	89.82	15	P	P	14 44 28.6	-0.3
	baz=218						
H31M	Peel River	89.91	17	P	P	14 44 29.0	-0.3
H31M				IAmb	IAmb	14 44 39.1	
	comp=Z,11nm,1.4s						
H31M	Peel River	89.91	17	P	P	14 44 28.4	-0.9
	baz=221						
F28M	Old Crow	89.95	14	P	P	14 44 29.8	+0.3
F28M				IAmb	IAmb	14 44 34.1	
	comp=Z,6.6nm,1.4s						
C24K	Franklin Bluff	90.01	10	P	P	14 44 28.8	-0.9
	baz=208						
E27K	Coleen River	90.04	13	P	P	14 44 29.5	-0.4
	baz=215						
TROLL	Troll, Antarti	90.18	180	⇑P	P	14 44 30.4	-0.5
	comp=Z,116nm,0.5s						
A22K	Sinclair Lake	90.28	7	P	P	14 44 30.1	-0.8
	baz=202						
G30M	tAoh Zraii Nji	90.32	15	P	P	14 44 30.6	-0.6
G30M	tAoh Zraii Nji	90.32	15	P	P	14 44 30.7	-0.6
	baz=220						
VNA3	Neumayer Olymp	90.61	176	⇑P	P	14 44 33.0	+0.3
	comp=Z,6.7nm,0.6s						
G31M	Satah River	90.77	16	P	P	14 44 32.8	-0.5
G31M	Satah River	90.77	16	P	P	14 44 33.2	0.0
	baz=222						
E28M	Babbage River	90.82	13	P	P	14 44 33.1	-0.4
	baz=217						
C26K	Camden Bay	90.84	11	P	P	14 44 33.5	0.0
	baz=212						
F30M	Barrier River	90.91	15	P	P	14 44 34.5	+0.5
	baz=220						
E29M	Blow River	91.02	14	P	P	14 44 34.2	-0.2
	baz=218						
VNA2	Neumayer--Watz	91.05	177	⇑P	P	14 44 34.9	+0.2
	comp=Z,3.1nm,0.6s,baz=198,slow=4.0						
VNA1	Neumayer--Stat	91.28	177	⇑P	P	14 44 36.5	+0.8
	comp=Z,5.2nm,0.9s						
F31M	Tsiigehtchic	91.30	16	P	P	14 44 35.1	-0.5
F31M	Tsiigehtchic	91.30	16	P	P	14 44 35.4	-0.3
	baz=222						
RSSD	Black Hills	91.64	44	P	P	14 44 37.4	-0.7
	baz=246						
INK	Inuvik	92.00	15	P	P	14 44 38.2	-0.7
INK	Inuvik	92.00	15	P	P	14 44 37.5	-1.3
	baz=222						
SONM	Songino Array	93.67	319	P	P	14 44 47.2	0.0
	comp=Z,0.5nm,0.7s,baz=144,slow=5.1,SNR=2.9						
	comp=Z,0.5nm,0.7s						
MKAR	Makanchi Array	109.25	314	PKiKP	PKiKP	14 49 55.1	-1.6
	comp=Z,0.5nm,0.5s,baz=192,slow=0.8,SNR=7.0						
BVAR	Borovoye Array	116.96	321	PKP	PKPdf	14 50 10.0	-1.2
	comp=Z,1.6nm,0.4s,baz=124,slow=1.8,SNR=11						
ARCES	ARCESS Array B	126.45	350	PKP	PKPdf	14 50 28.1	-0.9
	comp=Z,5.5nm,1.0s,baz=47,slow=1.7,SNR=7.8						
FINES	FINESS Array B	133.32	344	PKP	PKPdf	14 50 40.3	-1.8
	comp=Z,3.4nm,0.9s,baz=79,slow=3.0,SNR=8.0						
AKASG	Malin Array Be	140.69	332	PKP	PKPdf	14 50 56.4	+0.3
	comp=Z,0.8nm,0.3s,baz=37,slow=3.1,SNR=5.5						
EKA	Eskdalemuir Ar	142.59	4	PKP	PKPdf	14 50 56.8	-2.5
	comp=Z,0.6nm,0.5s,baz=46,slow=3.3,SNR=2.5						
SORM	Soroca	142.92	330	⇑P	PKPdf	14 50 56.7	-3.3
BUR08	Bucovina Ar. S	144.73	332	PKPbc	PKPdf	14 51 04.3	+0.9
BURAR	Bucovina Array	144.74	332	⇑P	PKPdf	14 51 04.3	+0.9
OJC	Ojcow	144.74	340		PKPdf	14 51 03.2	+0.1
BR131	Keskin Array S	144.90	315	PKPdf	PKPdf	14 51 04.1	+0.1
BRTR	Keskin Array B	144.90	315		PKPdf	14 51 03.4	-0.6
BRTR	Keskin Array B	144.90	315	PKPbc	PKPdf	14 51 03.8	-0.2
	comp=Z,2.0nm,0.4s,baz=105,slow=2.5,SNR=12						
KOLS	Kolonicke sedl	144.93	336	*e*PKP	PKPdf	14 51 04.7	+1.1
CRVS	Cervenica-Dubn	145.27	337	*e*PKP	PKPdf	14 51 05.2	+1.1
TRPA	Tarpa	145.48	335	⇑P	PKPdf	14 51 05.5	+1.0
OSTC	Ostas	145.52	344	*e*PKP	PKPdf	14 51 05.8	+1.3
CLL	Collm	145.59	347		PKPdf	14 51 06.0	+1.4
CLL	Collm	145.59	347	*i* PKPbc	PKPdf	14 51 05.4

MEM	Membach	147.31 355	dPKP		PKPbc	14 51 10.5	-0.3
BTNL	Ternell	147.33 355	dPKiKP		PKPbc	14 51 10.7	-0.2
BSTI	Sart Tilman	147.38 355	dPKiKP		PKPbc	14 51 11.1	+0.1
KHC	Kasperske Hory	147.51 345			PKPbc	14 51 11.3	-0.1
KHC	Kasperske Hory	147.51 345	ePKP		PKPbc	14 51 11.2	-0.3
KHC			ex		x	14 51 15.4	
GZR	Gura Zlata	147.53 332	⇑P		PKPdf	14 51 10.6	+2.5
SURR	Surduc	147.53 333	⇑P		PKPdf	14 51 10.7	+2.7
BCLA	Clavier	147.56 356	dPKP		PKPab	14 51 16.4	+0.7
BGES	Gesves	147.61 356	dPKiKP		PKPbc	14 51 11.9	+0.3
CKRC	Cesky Krumlov	147.61 344	ePKP		PKPbc	14 51 11.5	-0.2
BMRD	Maredsous	147.71 356	dPKPdf		PKPdf	14 51 07.7	-0.5
BMRD			dPKiKP		PKPbc	14 51 12.2	+0.4
BMRD			dPKP		PKiKP	14 51 15.2	+1.9
GEC2	GERESS Array S	147.74 345			PKPbc	14 51 11.7	-0.4
GERES	GERESS Array B	147.74 345	PKPbc		PKPbc	14 51 11.8	-0.4
	comp=Z,5.3nm,0.6s,baz=27,slow=3.3,SNR=14						
RCHB	Rochefort	147.83 356	dPKiKP		PKPbc	14 51 12.1	-0.1
BZS	Buzias	147.86 333	⇑P		PKPbc	14 51 11.8	-0.6
CONA	Conrad Observa	148.00 342	ePKP		PKPbc	14 51 12.6	-0.2
	comp=Z,13nm,1.1s						
RONA	Rosalia, Austr	148.07 341	ePKP		PKPbc	14 51 13.1	+0.2
	comp=Z,5.3nm,0.6s						
WLF	Walferdange	148.24 354	dPKiKP		PKPbc	14 51 13.7	+0.5
MDVR	Moldovita	148.48 332	⇑P		PKPdf	14 51 08.6	-1.1
MORH	Mrgy, Hungar	148.56 337	⇑P		PKPdf	14 51 12.8	+3.1
BIOA	Bad Ischl, Aus	148.83 344	ePKP		PKPbc	14 51 14.1	-0.7
	comp=Z,11nm,1.1s						
LESA	Schwarzleotal	149.32 345	ePKP		PKPbc	14 51 15.3	-0.7
	comp=Z,2.9nm,0.5s						
BOVS	Bovan	149.37 331	⇓P		PKPbc	14 51 15.0	-1.2
SOKA	Soboth	149.37 342	ePKP		PKPbc	14 51 15.4	-0.8
	comp=Z,9.7nm,1.1s						
WATA	Walderalm	149.66 347	i PKP		PKPbc	14 51 16.0	-0.9
	comp=Z,4.3nm,0.7s						
OBKA	Obir	149.66 342	ePKP		PKPbc	14 51 15.9	-1.0
	comp=Z,10.0nm,1.2s						
RETA	Reutte	149.69 348	ePKP		PKPbc	14 51 16.3	-0.6
	comp=Z,3.0nm,0.7s						
WTTA	Wattenberg	149.71 346	ePKP		PKPbc	14 51 16.5	-0.6
	comp=Z,8.6nm,0.7s,SNR=5.1						
MOTA	Moosalm	149.75 347	i PKP		PKPbc	14 51 16.3	-0.9
	comp=Z,7.1nm,0.9s						
DIVS	Divibare	149.77 333			PKPdf	14 51 11.3	-0.4
MYKA	Terra Mystica	149.81 343	ePKP		PKPbc	14 51 16.1	-1.1
	comp=Z,4.9nm,0.6s						
SQTA	Sankt Quirin	149.85 347	ePKP		PKPbc	14 51 16.7	-0.6
	comp=Z,8.0nm,0.6s,SNR=6.6						
ABTA	Abfaltersbach	149.99 345	ePKP		PKPbc	14 51 16.7	-1.0
	comp=Z,10.0nm,0.7s						
DAVA	Damuels	150.05 349	ePKiKP		PKPbc	14 51 17.8	0.0
	comp=Z,16nm,1.3s						
FETA	Feichten	150.14 347	i PKP		PKPbc	14 51 17.6	-0.5
	comp=Z,6.9nm,0.8s,SNR=5.0						
STAL	STALIGIAL	150.39 344			PKPbc	14 51 17.5	-1.0
FUORN	Ofenpass-Fuorn	150.62 348			PKPbc	14 51 19.1	-0.2
TUE	Stuetta	150.93 349			PKPbc	14 51 20.0	0.0
ESDC	Sonseca Array	157.90 12	PKPab		PKPab	14 51 59.2	-0.7
	comp=Z,0.4nm,0.5s,baz=352,slow=4.7,SNR=5.8						

*GCG **29** 14:39:23.0±2.6, 14°.55N×92°.40W, h40km, MD4.0*
*MEX **29** 14:39:25.4±0.8, 14°.36N×92°.13W, h74km±17km, MD4.1*
*NEIC **29** 14:39:25.4±1.6, 14°.26N±0°.06×92°.25W±0°.06, h45km±4km, mb4.6/42, Md4.1/29(MEX), Error ellipse: s-maj=8.3km s-min=7.7km az=222.0*
*IDC **29** 14:39:26.4±6.3, 14°.44N×92°.10W, h49km±41km, mb3.4/2, mbtmp3.4/4, ML3.5/2, MS3.4/2, Error ellipse: s-maj=59.9km s-min=19.9km az=178.0*
*SNET **29** 14:39:28.4±1.0, 14°.38N×91°.92W, h54km±5km, ML4.2*

ISC 29 14:39:24.9±1.0, 14°.24N±0°.05×92°.28W±0°.03, h43km±10km, n109, σ1°.62/143, mb4.6/24, 1C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.63	64		Pn	14 39 37.0	-0.4
RTAL	Retalhuleu	0.63	64	eP	Pn	14 39 37.1	-0.4
RTAL				eS	Sn	14 39 45.2	-1.3
THIG		0.66	1		Pn	14 39 37.8	-0.1
THIG					Sn	14 39 48.0	+0.8
THIG		0.66	1	eP	Pn	14 39 37.8	-0.1
THIG				i S	Sn	14 39 48.0	+0.8
SULM	Suchitepequez,	0.69	85	⇓iP	Pn	14 39 39.4	+1.1
SULM				eS	Sn	14 39 49.9	+1.9
STG3	Santiaguito 3,	0.83	56	⇓iP	Pn	14 39 40.0	-0.3
STG3				eS	Sn	14 39 47.6	-3.9
CHUJ	Union Juarez	0.86	11	i P	Pn	14 39 39.7	-1.1
CHUJ				i S	Sn	14 39 51.2	-1.2
PATR	El Naranjo	0.87	3	eP	Pn	14 39 39.4	-1.5
PATR				eS	Sn	14 39 51.2	-1.4
PAVE	Pavencul	0.95	6	eP	Pn	14 39 41.0	-1.0
PAVE				eS	Sn	14 39 53.3	-1.2
HUEH	Huehuetenango	1.30	35		Pn	14 39 47.1	+0.2
HUEH	Huehuetenango	1.30	35	eP	Pn	14 39 47.3	+0.5
FUG	Fuego 3	1.41	82	eP	Pn	14 39 48.1	-0.1
FUG				eS	Sn	14 40 05.6	-0.1
PCG	Pacaya	1.62	85	⇑iP	Pn	14 39 51.6	+0.3
PCG				eS	Sn	14 40 11.6	+0.5
PCIG		1.71	328		Pn	14 39 52.0	-0.2
PCIG					Sn	14 40 11.6	-1.4
PCIG		1.71	328	eP	Pn	14 39 52.0	-0.2
PCIG				i S	Sn	14 40 11.6	-1.4
NBG	Las Nubes	1.90	79	eP	Pn	14 39 56.7	+1.6
NBG				eS	Sn	14 40 19.4	+1.4
CCIG	Comitan	2.03	4	Pn	Pn	14 39 58.5	+1.7
CCIG	Comitan	2.03	4	eP	Pn	14 39 58.9	+2.1
CCIG				eS	Sn	14 40 23.3	+2.3
LOAL	Lomas de Alarc	2.44	95	eP	Pn	14 40 02.2	0.0
NUBE	Las Nubes	2.45	98	eP	Pn	14 40 01.9	-0.6
NUBE				eS	Sn	14 40 27.5	-3.8
CARR	Arriaga	2.54	322	eP	Pn	14 40 04.5	+0.9
CARR				eS	Sn	14 40 34.7	+1.3
CEVE	Cerro Verde	2.61	99	eP	Pn	14 40 04.5	-0.3
CEVE				IAML		14 40 42.4	
	comp=Z,1μm,0.3s						
TGIG		2.65	342		Pn	14 40 05.2	0.0
TGIG					Sn	14 40 36.9	+0.8
TGIG		2.65	342	eP	Pn	14 40 05.2	0.0
TGIG				i S	Sn	14 40 36.9	+0.8
JAYA	Jayaque - finc	2.81	102	eP	Pn	14 40 06.6	-0.9
JAYA				IAML		14 40 48.2	
	comp=Z,1μm,0.4s						
MTO3	Montecristo	2.83	87		Pn	14 40 06.9	-0.9
MTO3	Montecristo	2.83	87	eP	Pn	14 40 06.9	-0.9
ESQI	Esquipulas	2.86	83		Pn	14 40 08.1	-0.1
PMON	Piamonte	2.92	100	eP	Pn	14 40 09.2	+0.2
SNET	Serv Nac Est T	3.01	100	Pn	Pn	14 40 11.2	+1.1
LOMA	Loma Larga	3.07	101	eP	Pn	14 40 11.4	+0.3
NILT	Santiago Nilte	3.23	316	eP	Pn	14 40 13.8	+0.7
NILT				eS	Sn	14 40 48.7	-1.5
COEG	Centro de Oper	3.36	100	eP	Pn	14 40 15.3	+0.4
PETF	Flores	3.53	41		Pn	14 40 16.9	-0.3
PETF	Flores	3.53	41	eP	Pn	14 40 16.7	-0.5
UXUV	UXUV	3.55	330	eP	Pn	14 40 18.8	+1.4
UXUV				eS	Sn	14 40 55.6	-2.5
CMIG	Matias Romero	3.78	319		Pn	14 40 21.2	+0.5
CMIG					Sn	14 41 05.6	+1.6
CMIG	Matias Romero	3.78	319	P	Pn	14 40 21.0	+0.3
	comp=Z,2.7nm,0.3s,baz=137,slow=12,SNR=42						
CMIG				S	Sn	14 41 05.3	+1.3
	comp=Z,56nm,0.4s,baz=265,slow=21,SNR=7.7						
	comp=Z,8.0nm,0.3s						
CMIG	Matias Romero	3.78	319	eP	Pn	14 40 21.2	+0.5
CMIG				eS	Sn	14 41 05.6	+1.6
HUIG	Huatulco	4.00	293	eP	Pn	14 40 24.1	+0.4
HUIG				eS	Sn	14 41 03.0	-6.4
TUIG	Tuzandepetl	4.29	332	eP	Pn	14 40 29.3	+1.5
TUIG				eS	Sn	14 41 11.3	-5.3
NEUV	Arroyo Zacate	4.83	316	eP	Pn	14 40 37.1	+2.0
NEUV				eS	Sn	14 41 32.4	+2.5
PEIG	Puerto Escondi	5.02	291		Pn	14 40 38.7	+1.0
PEIG	Puerto Escondi	5.02	291	eP	Pn	14 40 38.7	+1.0
PEIG				eS	Sn	14 41 30.6	-3.9
CNGN	Cerro Negro	5.70	107	Pn	Pn	14 40 47.0	-0.1
YOIG	Yosondua	5.70	298	eP	Pn	14 40 50.3	+3.0
YOIG				eS	Sn	14 41 49.6	-2.2
PNIG	Pinotepa	6.03	291	eP	Pn	14 40 53.0	+1.3
PNIG				eS	Sn	14 41 57.5	-2.0
TXIG	Tlaxiaco	6.07	300		Pn	14 40 55.5	+3.0
TXIG					Sn	14 42 01.2	+0.4
TXIG	Tlaxiaco	6.07	300	eP	Pn	14 40 55.5	+3.0
TXIG				eS	Sn	14 42 01.2	+0.4
HLIG	Huajuapan de L	6.40	305	eP	Pn	14 40 59.4	+2.6
HLIG				eS	Sn	14 42 11.1	+2.3
JAUV	Jalcomulco	6.69	320	eP	Pn	14 40 51.6	-9.1
JAUV				eS	Sn	14 42 08.7	-6.9
TEIG	Tepich	7.07	32		Pn	14 41 05.1	-0.8
TEIG	Tepich	7.07	32	P	Pn	14 41 05.0	-0.9
	comp=Z,215nm,0.4s,baz=177,slow=3.9,SNR=37						
TEIG				S	Sn	14 42 20.1	-4.9
	comp=Z,72nm,0.4s,baz=209,slow=19,SNR=1.0						
TEIG				LR	LR	14 44 27.8	
	comp=Z,429nm,20.6s,baz=46,slow=44						
DAIG	Los Arroyos	7.62	292	eP	Pn	14 41 14.6	+1.1
DAIG				eS	Sn	14 42 40.1	+1.6
ORTG	Ortega, Santa	7.70	119	Pn	Pn	14 41 13.8	-0.8
DUNO	Dulce Nombre,	7.82	121	Pn	Pn	14 41 16.8	+0.6
YAIG	Yautepec	7.97	306	eP	Pn	14 41 20.8	+2.5
YAIG				eS	Sn	14 42 44.3	-2.9
SRBA	San Rafael, Bu	10.05	119	Pn	Pn	14 41 47.6	+0.7
SOR	Soroa	12.22	45	Pn	Pn	14 42 16.1	-0.4
656A	Willston	17.54	29	Pn	Pn	14 43 24.3	-2.0
TXAR	Lajitas Array	18.35	327	P	Pn	14 43 37.2	+0.9
	baz=148,slow=13,SNR=3.6						
	comp=Z,0.2nm,0.4s						
TKL	Tuckaleechee C	22.65	18	LR	LR	14 53 43.6	
	comp=Z,67nm,18.5s,baz=1.5,slow=38						
ANMO	Albuquerque	24.26	331	P	P	14 44 38.5	+0.3
O48B	Farmland	26.66	12	P	P	14 44 59.4	-0.2
O48B				IAmb	IAmb	14 45 27.2	
	comp=Z,18nm,1.4s						
MCWV	Mont Chateau	27.57	21	P	P	14 45 08.5	+0.6
MCWV				IAmb	IAmb	14 45 11.9	
	comp=Z,35nm,1.5s						
NVAR	Mina Array Bea	33.31	321	P	P	14 46 00.9	+2.1
	comp=Z,0.6nm,0.6s,baz=133,slow=8.7,SNR=6.6						
	comp=Z,0.6nm,0.6s						
PLID	Pearl Lake	36.73	332	P	P	14 46 28.5	+0.2
F10A	Beach Ranch, E	37.97	331	P	P	14 46 39.1	+0.6
L29M	L29M	58.34	337	P	P	14 49 15.6	+0.2
L29M				IAmb	IAmb	14 49 50.5	
	comp=Z,7.4nm,1.5s						
I30M	Mount Dempster	58.99	340	P	P	14 49 19.8	-0.2
G31M	Satah River	59.42	342	P	P	14 49 22.3	-0.4
G31M				IAmb	IAmb	14 50 02.1	
	comp=Z,14nm,1.5s						
BCAR	Beaver Creek A	59.71	336	P	P	14 49 25.3	+0.3
L27K	Beaver Creek,	59.72	336	P	P	14 49 24.7	-0.3
L27K				IAmb	IAmb	14 49 48.5	
	comp=Z,4.1nm,1.3s						
N25K	Chitina, Valde	60.13	334	P	P	14 49 29.1	+1.2
N25K				IAmb	IAmb	14 49 53.7	
	comp=Z,7.1nm,1.2s						
K27K	Chicken	60.32	337	P	P	14 49 29.2	+0.2
K27K				IAmb	IAmb	14 49 35.9	
	comp=Z,4.9nm,1.4s						
J26L	Joseph Creek	61.12	337	P	P	14 49 34.6	0.0
I26K	Coal Creek Min	61.39	338	P	P	14 49 36.0	-0.2
I26K				IAmb	IAmb	14 49 48.2	
	comp=Z,5.8nm,1.4s						
F28M	Old Crow	61.55	341	P	P	14 49 37.6	+0.2
F28M				IAmb	IAmb	14 50 10.3	
	comp=Z,7.3nm,1.4s						
J25K	Salcha River,	61.86	337	P	P	14 49 40.7	+1.2
J25K				IAmb	IAmb	14 49 43.5	
	comp=Z,5.0nm,1.5s						
GHO	Glory Hole Cre	62.06	333	P	P	14 49 41.4	+0.4
CNPM	China Poot	62.28	330	P	P	14 49 42.1	-0.2
ILAR	Eielson Array	62.51	337	P	P	14 49 45.3	+1.5
ILAR	Eielson Array	62.51	337	P	P	14 49 43.4	-0.4
	comp=Z,0.6nm,0.8s,baz=144,slow=6.6,SNR=6.4						
	comp=Z,0.6nm,0.8s						
BMAR	Burnt Mountain	62.97	340	P	P	14 49 46.8	-0.1
SKT	Skwentna	63.28	333	P	P	14 49 48.6	-0.4
SKT				IAmb	IAmb	14 49 57.6	
	comp=Z,11nm,1.4s						
TRF	Thorofare Moun	63.30	335	P	P	14 49 49.4	+0.1
TRF				IAmb	IAmb	14 50 15.0	
	comp=Z,7.1nm,1.3s						
I23K	Minto, Yukon-K	63.62	337	P	P	14 49 51.2	+0.1
CAST	Castle Rocks	64.04	334	P	P	14 49 52.7	-1.3
CAST				IAmb	IAmb	14 49 56.2	
	comp=Z,5.4nm,1.5s						
MLY	Manley	64.11	336	P	P	14 49 53.7	-0.7
KEKH	Kekaha	64.13	288	P	P	14 49 53.3	-1.9
M19K	Big River Lodg	64.53	332	P	P	14 49 56.6	-0.6
M19K				IAmb	IAmb	14 50 12.0	
	comp=Z,17nm,1.5s						
SVW2	Sparrevohn	64.83	331	P	P	14 49 58.7	-0.4
K20K	Telida	64.86	334	P	P	14 49 58.2	-1.1
K20K				IAmb	IAmb	14 50 07.6	
	comp=Z,4.9nm,1.4s						
I20K	Naaghedeneel	65.51	335	P	P	14 50 03.0	-0.4
TTA	Tatalina	65.56	333	P	P	14 50 03.5	-0.5
TTA				IAmb	IAmb	14 50 20.8	
	comp=Z,8.9nm,1.5s						
J19K	Poorman	65.72	334	P	P	14 50 04.0	-0.8
J19K				IAmb	IAmb	14 50 30.4	
	comp=Z,11nm,1.4s						
E22K	Anaktuvuk Pass	65.74	339	P	P	14 50 04.3	-0.7
F21K	Alatna River	65.98	338	P	P	14 50 06.6	+0.1
D22K	Ayikyak River	66.33	340	P	P	14 50 08.8	+0.1
D22K				IAmb	IAmb	14 50 18.4	
	comp=Z,8.8nm,1.2s						
K17K	Iditarod	66.51	333	P	P	14 50 09.8	-0.1
H19K	Roundabout Mou	66.53	336	P	P	14 50 09.7	-0.3
H19K				IAmb	IAmb	14 50 46.0	
	comp=Z,6.7nm,1.4s						
F20K	Avaraart Lake	66.74	338	P	P	14 50 11.6	+0.3
F20K				IAmb	IAmb	14 50 12.3	
	comp=Z,9.7nm,1.4s						
J16K	Anvik River	67.67	333	P	P	14 50 18.0	+0.7
K15K	Wolf Creek Mou	67.87	332	P	P	14 50 19.5	+0.9
J14K	Nanvaranak Lak	68.88	332	P	P	14 50 25.5	+0.7
F15K	North Star Dit	69.87	335	P	P	14 50 31.5	+0.5
ECH	Echery	85.67	41	P	P	14 52 00.4	+1.1
ECH				IAmb	IAmb	14 52 39.2	
	comp=Z,6.3nm,1.3s						
ARCES	ARCESS Array B	85.99	18	P	P	14 52 00.3	-0.1
ARCES				IAmb	IAmb	14 52 28.8	
	comp=Z,6.5nm,1.3s						
CMAR	Chiang Mai Arr	145.67	341	PKPbc	PKPdf	14 58 58.8	-0.8
	comp=Z,1.2nm,0.7s,baz=355,slow=3.8,SNR=9.1						

*IDC **29** 15:09:43.4±0.8, 30°.42S×72°.49W, h0km, mb4.0/5, mbtmp4.0/8, ML4.0/3, MS3.2/5, Error ellipse: s-maj=34.1km s-min=21.7km az=99.0*
*NEIC **29** 15:09:44.1±1.0, 30°.39S±0°.06×72°.69W±0°.04, h10km±2km, mb4.2/5, ML3.9(GUC), Error ellipse: s-maj=10.2km s-min=5.2km az=182.0*
*GUC **29** 15:09:47.2±0.7, 30°.35S×72°.54W, h24km±3km, ML3.9*

ISC 29 15:09:42.8±1.8, 30°.45S±0°.04×72°.75W±0°.05, h6km±11km, n95, σ1°.83/118, mb4.2/6, 5C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.99	103		Pg	15 10 02.4	+0.6
CO06	Fray Jorge	0.99	103	⇑iP	Pg	15 10 02.4	+0.6
CO06				eS	Sg	15 10 14.1	-0.6
CO05	La Serena	1.41	68		Pn	15 10 08.7	-0.3
CO05	La Serena	1.41	68	eP	Pn	15 10 08.6	-0.5
CO05				eS	Sb	15 10 25.3	-2.6
CO05				IAML		15 10 26.4	
	comp=E,6μm,0.5s						
GO04	Tololo Observa	1.71	81		Pn	15 10 13.7	+0.3
GO04	Tololo Observa	1.71	81	eP	Pn	15 10 13.8	+0.4
GO04				eS	Sn	15 10 33.7	-2.0
CO03	El Pedregal	1.82	103		Pn	15 10 15.0	+0.2
CO03	El Pedregal	1.82	103	⇑iP	Pn	15 10 15.4	+0.6
CO03				i S	Sn	15 10 36.2	-2.0
CO03				IAML		15 10 37.6	
	comp=N,2μm,0.3s						
LCO	Las Campanas	2.29	52		Pn	15 10 21.5	+0.1
LCO	Las Campanas	2.29	52	eP	Pn	15 10 21.9	+0.5
LCO				eS	Sn	15 10 47.7	-2.4
LCO				IAML		15 10 52.6	
	comp=N,3μm,0.3s						
CO01	Juntas del Tor	2.35	79		Pn	15 10 22.9	+0.7
CO01	Juntas del Tor	2.35	79	eP	Pn	15 10 23.5	+1.3
CO01				i S	Sn	15 10 51.0	-0.5
CO01				IAML		15 10 53.6	
	comp=N,987nm,0.6s						
AC04	Llanos de Chal	2.67	34		Pn	15 10 25.7	-0.7
AC04	Llanos de Chal	2.67	34	⇓eP	Pn	15 10 25.9	-0.6
AC04				eS	Sn	15 10 55.6	-3.6
AC05	El Transito	2.69	54		Pn	15 10 27.6	+0.8
AC05	El Transito	2.69	54	⇓eP	Pn	15 10 27.8	+1.0
AC05				eS	Sn	15 10 58.8	-1.0
AC05				IAML		15 11 03.0	
	comp=E,419nm,0.4s						
VA01	Torpederas	2.73	160	Pn	Pn	15 10 27.2	0.0
ROCH	El Roble	2.92	150	eP	Pn	15 10 30.4	+0.4
ROCH				eS	Sn	15 11 00.8	-4.7
ROC1	El Roble	2.92	150		Pn	15 10 30.1	+0.1
VA03	San Esteban	2.97	141		Pn	15 10 31.5	+0.9
VA03	San Esteban	2.97	141	⇑eP	Pn	15 10 32.2	+1.5
VA03				i S	Sn	15 11 04.3	-2.4
MT02	Curacav	3.12	154		Pn	15 10 33.0	+0.4
MT02	Curacav	3.12	154	eP	Pn	15 10 33.3	+0.7
PEL	Peldehue	3.21	147		Pn	15 10 34.6	+0.7
PEL	Peldehue	3.21	147	eP	Pn	15 10 34.9	+1.0
VA05	Santo Domingo	3.34	163		Pn	15 10 35.5	0.0
VA05	Santo Domingo	3.34	163	eP	Pn	15 10 35.8	+0.3
VA05				eS	Sn	15 11 10.9	-4.6
MT10	Hacienda Santa	3.39	147	eP	Pn	15 10 37.6	+1.2
MT10				i S	Sn	15 11 13.8	-3.2
MT05	Renca	3.40	150		Pn	15 10 36.8	+0.4
FCH	Farellones	3.55	145	eP	Pn	15 10 40.0	+1.2
FCH				eS	Sn	15 11 19.4	-1.8
MT03	Universidad Ad	3.58	148		Pn	15 10 40.1	+1.0
MT03	Universidad Ad	3.58	148	eP	Pn	15 10 40.3	+1.3
MT03				eS	Sn	15 11 18.9	-2.9
GO03	Copiap	3.60	38		Pn	15 10 38.8	-0.4
GO03	Copiap	3.60	38	eP	Pn	15 10 39.4	+0.1
GO03				i S	Sn	15 11 19.9	-2.3
MT01	Popeta	3.63	160		Pn	15 10 40.0	+0.4
MT01	Popeta	3.63	160	⇑eP	Pn	15 10 40.3	+0.6
MT01				eS	Sn	15 11 17.6	-5.3
MT09	Talagante	3.64	156		Pn	15 10 41.0	+1.2
MT09	Talagante	3.64	156	eP	Pn	15 10 41.2	+1.4
MT09				i S	Sn	15 11 21.1	-2.1
MT04	Ro Olivares	3.69	144	eP	Pn	15 10 42.9	+2.3
MT04				eS	Sn	15 11 24.5	-0.1
AC06	Mina Casimiro	3.73	35		Pn	15 10 40.9	-0.1
AC06	Mina Casimiro	3.73	35	eP	Pn	15 10 41.5	+0.5
AC06				eS	Sn	15 11 23.0	-2.3
AC06				IAML		15 11 24.4	
	comp=N,119nm,0.4s						
MT13	San Alfonso	3.89	148		Pn	15 10 43.8	+0.4
BO04	La Punta	3.97	153	Pn	Pn	15 10 45.2	+1.0
BO04	La Punta	3.97	153	eP	Pn	15 10 45.9	+1.6
BO04				i S	Sn	15 11 27.7	-3.4
LMEL	Las Melosas	4.02	148		Pn	15 10 46.6	+1.5
LMEL	Las Melosas	4.02	148	⇑eP	Pn	15 10 46.7	+1.7
LMEL				eS	Sn	15 11 30.0	-2.6
BO03	Pichilemu	4.09	171	⇓eP	Pn	15 10 46.0	+0.1
BO03				eS	Sn	15 11 28.3	-5.7
BO01	Tunca	4.17	161	Pn	Pn	15 10 47.3	+0.3
BO01	Tunca	4.17	161	eP	Pn	15 10 47.8	+0.7
BO01				i S	Sn	15 11 32.1	-4.1
GO05	Huala	4.60	172		Pn	15 10 52.9	-0.1
GO05	Huala	4.60	172	eP	Pn	15 10 53.1	+0.1
BO02	Sierra Bellavi	4.64	160	eP	Pn	15 10 55.0	+1.5
BO02				eS	Sn	15 11 43.8	-4.0
AC01	Pan de Azucar	4.69	24	Pn	Pn	15 10 52.6	-1.6
AC01	Pan de Azucar	4.69	24	eP	Pn	15 10 52.7	-1.5
GO02	Mina Guanaco	5.97	29	Pn	Pn	15 11 11.2	-0.8
H03N1	Juan Fernandez	6.03	239	Pn	Pn	15 11 12.5	+0.3
	baz=112,slow=18						
H03N1				T	T	15 18 35.3	
	baz=72,slow=72,SNR=14						
H03N2	Juan Fernandez	6.04	239	Pn	Pn	15 11 12.5	+0.1
	baz=112,slow=18						
H03N2				T	T	15 18 35.3	
	baz=72,slow=72,SNR=10.0						
H03N3	Juan Fernandez	6.04	239	Pn	Pn	15 11 12.1	-0.4
	baz=112,slow=18						
H03N3				T	T	15 18 33.5	
	baz=72,slow=72,SNR=8.8						
VA04	Juan Fernndez	6.06	237	Pn	Pn	15 11 12.6	-0.4
H03S3	Juan Fernandez	6.21	236	Pn	Pn	15 11 14.0	-0.8
	baz=57,slow=21						
H03S3				T	T	15 17 30.5	
	baz=196,slow=74,SNR=41						
H03S1	Juan Fernandez	6.22	235	Pn	Pn	15 11 13.8	-1.1
	baz=57,slow=21						
H03S1				T	T	15 17 34.2	
	baz=196,slow=74,SNR=49						
H03S2	Juan Fernandez	6.23	236	Pn	Pn	15 11 14.5	-0.5
	baz=57,slow=21						
H03S2				T	T	15 17 29.0	
	baz=196,slow=74,SNR=40						
PB15	IPOC Station P	7.79	23		Pn	15 11 35.1	-1.8
PB06	IPOC Station P	8.22	21	Pn	Pn	15 11 40

ISC 29 15:10:55.7±1.0, 18°.05S±0°.04×28°.8E±0°.1, h10km, n14, σ2°03/22, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLWY	**Bulawayo**	**2.09**	**185**	*i* P	**Pb**	**15 11 33.3**	**-0.5**
BLWY				*i* S	**Sn**	**15 11 57.7**	**+0.5**
BLWY	**Bulawayo** baz=179	**2.09**	**185**	*i* P	**Pb**	**15 11 33.3**	**-0.5**
BLWY	baz=179			*i* S	**Sn**	**15 11 57.7**	**+0.5**
MATP	**Matopo**	**2.39**	**187**	*i* P	**Pb**	**15 11 37.8**	**-1.0**
MATP				*i* S	**Sn**	**15 12 04.8**	**+0.4**
MATP	**Matopo** baz=182	**2.39**	**187**	*i* P	**Pb**	**15 11 37.8**	**-1.0**
MATP	baz=182			*i* S	**Sn**	**15 12 04.8**	**+0.4**
LSZ	**Lusaka**	**2.82**	**348**	*i* P	**Pb**	**15 11 46.3**	**+0.1**
LSZ				*i* S	**Sb**	**15 12 19.2**	**-1.7**
LSZ	**Lusaka** baz=353	**2.82**	**348**	*i* P	**Pb**	**15 11 46.3**	**+0.1**
LSZ	baz=353			*i* S	**Sb**	**15 12 19.2**	**-1.7**
MUSN	**Musina, Limpop**	**4.33**	**167**	*i* P	**Pn**	**15 12 03.1**	**+1.4**
MUSN				*i* S	**Sn**	**15 12 48.0**	**-4.4**
MUSN	**Musina, Limpop** baz=164	**4.33**	**167**	*i* P	**Pn**	**15 12 03.1**	**+1.4**
MUSN	baz=164			*i* S	**Sn**	**15 12 48.0**	**-4.4**
MOPA	**Mopani**	**5.96**	**157**	*i* P	Pn	15 12 30.0	+6.0
MOPA				*i* S	**Sn**	**15 13 34.9**	**+2.6**
MOPA	**Mopani** baz=154	**5.96**	**157**	*i* P	Pn	15 12 30.0	+6.0
MOPA	baz=154			*i* S	**Sn**	**15 13 34.9**	**+2.6**
LBTB	**Lobatse**	**7.55**	**203**	*i* P	**Pn**	**15 12 48.6**	**+2.6**
LBTB	**Lobatse** baz=202	**7.55**	**203**	*i* P	**Pn**	**15 12 48.6**	**+2.6**
BOSA	**Boshof**	**11.01**	**197**	*i* P	**Pn**	**15 13 33.6**	**+0.1**
BOSA	**Boshof** baz=196	**11.01**	**197**	*i* P	**Pn**	**15 13 33.6**	**+0.1**

IDC 29 15:13:02.5±1.9, 2°.60S×98°.83E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=212.9km s-min=31.3km az=37.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=290,slow=11,SNR=4.9 0.4nm,0.8s	**38.71**	**119**	P	P	15 20 27.2	-1.4
ASAR	**Alice Springs** 0.3nm,0.6s,baz=302,slow=8.6,SNR=6.2 0.3nm,0.6s	**39.86**	**125**	P	P	15 20 39.3	+1.1
BRTR	**Keskin Array B** 0.4nm,0.6s,baz=128,slow=5.1,SNR=2.5 0.4nm,0.6s	**72.87**	**313**	P	P	15 24 33.7	0.0

*NEIC **29** 15:15:36.3±1.8, 38°.23N±0°.05×74°.65E±0°.10, h146km±9km, mb4.0/6, Error ellipse: s-maj=11.9km s-min=5.0km az=66.0*
*NNC **29** 15:15:37.3±5.6, 38°.52N×74°.42E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=42.1km s-min=39.5km az=144.0*

ISC 29 15:15:33.4±0.8, 38°.16N±0°.06×74°.73E±0°.07, h100km, n35, σ2°39/28, mb4.3/6, 4C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.67**	**35**	P	**Pn**	**15 16 04.0**	**+2.1**
KSH				S	**Sn**	**15 16 24.0**	**+0.4**
KSH	comp=Z,76nm,0.5s			pmax	pmax		
KSH	comp=N,300nm,0.4s			smax	smax		
KSH	comp=E,330nm,0.4s			smax	smax		
NRN	**Naryn**	**3.42**	**16**		**Pn**	**15 16 27.9**	**+2.9**
ARSB	**Arslanbob**	**3.44**	**337**		**Pn**	**15 16 28.5**	**+3.3**
BTK	**Batken**	**3.59**	**303**		**Pn**	**15 16 31.0**	**+3.9**
AML	**Almayashu** comp=E,0.1nm,0.2s	**4.05**	**349**	⇑Pn	**Pn**	**15 16 36.4**	**+2.8**
AML	comp=E,1.7nm,0.6s			⇑Sn	**Sn**	**15 17 21.8**	**+1.6**
TARG	**Taragay, Kyrgy**	**4.28**	**33**	Pn	**Pn**	**15 16 39.2**	**+2.5**
BOOM	**Boomskoye usch**	**4.43**	**12**		**Pn**	**15 16 40.7**	**+2.2**
AAK	**Ala-Archa**	**4.48**	**358**		**Pn**	**15 16 42.2**	**+3.0**
NIL	**Nilore**	**4.65**	**195**	Pn	**Pn**	**15 16 45.2**	**+3.7**
TKM2	**Tokmak 2** comp=E,1.8nm,0.5s	**4.80**	**8**	⇑Pn	**Pn**	**15 16 46.2**	**+2.5**
TKM2	comp=E,8.0nm,0.7s			⇓Sn	**Sn**	**15 17 40.0**	**+1.8**
KBL	**Kabul**	**5.84**	**234**	Pn	**Pn**	**15 17 01.2**	**+3.5**
KK31	**Karatay Array** comp=E,1.4nm,0.2s,baz=134,slow=10,SNR=48	**5.89**	**328**	Pn	**Pn**	**15 16 59.8**	**+1.5**
KK31	comp=E,1.0nm,0.3s,baz=140,slow=24,SNR=4.7			⇑Sn	**Sn**	**15 18 03.0**	**-1.3**
KK31	**Karatay Array**	**5.89**	**328**		**Pn**	**15 16 59.7**	**+1.5**
KKAR	**Karatay Array**	**5.89**	**328**		**Pn**	**15 16 59.9**	**+1.6**
DHRM	**DHARAMSHALA**	**6.03**	**167**	*e*P	**Pn**	**15 17 03.5**	**+3.2**
DHRM				*e*S	**Sn**	**15 18 07.6**	**-0.6**
DHRM	comp=N,70nm,0.2s			IAML		15 18 12.8	
WMQ	**Urumqi**	**11.31**	**56**	*e*P	**Pn**	**15 18 12.8**	**+0.9**
WMQ	comp=Z,16nm,0.8s			pmax	pmax		
PYUN	**Piuthan** comp=Z,7.1nm,0.3s	**12.18**	**143**	*e*P	Pn	15 18 20.7	-3.0
DANN	**Dangsing** comp=Z,7.9nm,0.3s	**12.35**	**140**	*e*P	Pn	15 18 22.9	-3.1
GKN	**Gorkha** comp=Z,5.2nm,0.2s	**13.09**	**138**	*e*P	Pn	15 18 32.3	-3.3
DMN	**Daman** comp=Z,4.9nm,0.4s	**13.65**	**137**	*e*P	Pn	15 18 39.3	-3.7
PKIN	**Phulchoki** comp=Z,3.5nm,0.4s	**13.83**	**137**	*e*P	Pn	15 18 41.1	-4.3
GUN	**Gumba** comp=Z,4.2nm,0.3s	**13.84**	**134**	*e*P	Pn	15 18 41.6	-4.0
PKI	**Pulchoki** comp=Z,3.6nm,0.3s	**13.84**	**137**	*e*P	Pn	15 18 41.5	-4.1
JIRN	**Jiri** comp=Z,7.8nm,0.4s	**14.21**	**134**	*e*P	Pn	15 18 46.0	-4.4
RAMN	**Ramite** comp=Z,8.3nm,0.5s	**14.98**	**135**	*e*P	Pn	15 18 54.1	-6.1
TAPN	**Taplejung** comp=Z,12nm,1.0s	**15.32**	**131**	*e*P	Pn	15 18 58.1	-6.4
ABKAR	**Akbulak array**	**15.38**	**321**	Pn	**Pn**	**15 19 03.5**	**-1.3**
PZH	**PanZhiHua**	**25.52**	**109**	P	**P**	**15 20 53.0**	**+0.2**
PZH	comp=Z,10.0nm,0.7s			pmax	pmax		
PZH	comp=Z,100nm,4.8s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**28.41**	**73**	*e*P	**P**	**15 21 18.3**	**-0.3**
HHC	comp=Z,33nm,0.8s			pmax	pmax		
HHC	comp=Z,280nm,8.2s			pmax	pmax		
ANTO	**Ankara**	**32.42**	**286**	P	P	15 21 49.9	-4.0
MLR	**Muntele Rosu**	**36.62**	**297**	P	P	15 22 26.4	-3.6
MLR	comp=Z,4.7nm,1.2s			IAmb	IAmb	15 22 38.8	
RES	**Resolute Bay**	**67.23**	**357**	P	**P**	**15 26 14.1**	**-2.3**
RES	comp=Z,7.6nm,1.3s			IAmb	IAmb	15 26 17.7	
TOA0	**Torodi Ar. Sit**	**68.71**	**270**	P	**P**	**15 26 24.5**	**-2.1**
TOA0	comp=Z,4.0nm,1.4s			IAmb	IAmb	15 26 27.6	
TORD	**Torodi Ar. Bea**	**68.71**	**270**	P	**P**	**15 26 24.4**	**-2.2**
TORD	comp=Z,0.7nm,1.1s			IAmb	IAmb	15 26 41.2	
BMAR	**Burnt Mountain**	**70.60**	**15**	P	**P**	**15 26 36.2**	**-1.3**

IDC 29 15:32:35.4±3.5, 18°.76S×172°.79W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=371.0km s-min=70.4km az=170.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.4nm,0.7s,baz=93,slow=7.3,SNR=9.2 0.4nm,0.7s	**49.70**	**255**	P	P	15 41 30.1	+0.5
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=99,slow=6.6,SNR=5.3 0.2nm,0.6s	**49.73**	**259**	P	P	15 41 28.9	-0.9
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=208,slow=1.3,SNR=1.5	**172.30**	**136**	PKP	PKPdf	15 52 46.9	-0.3

*IDC **29** 15:35:11.3±0.6, 5°.43S×106°.62W, h0km, mb4.3/12, mbtmp4.3/12, MS3.9/32, Error ellipse: s-maj=29.4km s-min=15.0km az=66.0*
*NEIC **29** 15:35:13.9±2.1, 5°.6S±0°.1×106°.7W±0°.1, h10km±1km, mb4.6/208, Error ellipse: s-maj=25.7km s-min=18.0km az=250.0*

ISC 29 15:35:13.5±0.5, 5°.57S±0°.08×106°.6W±0°.1, h10km, n546, σ0°92/516, mb4.6/106, MS3.9/33, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**17.03**	**74**		**Pn**	**15 39 13.4**	**+1.4**
PAYG				IAmb	IAmb	15 39 26.4	
	comp=Z,59nm,1.4s						
RPN	**Rapa Nui**	**21.59**	**187**	LR	LR	15 46 17.4	
	comp=Z,211nm,21.2s,baz=40,slow=31						
CMIG	**Matias Romero**	**25.34**	**27**	LR	LR	15 48 21.6	
	comp=Z,554nm,20.3s,baz=210,slow=31						
MTO3	**Montecristo**	**26.22**	**41**	P	**P**	**15 40 50.3**	**+1.3**
MTO3				IAmb	IAmb	15 41 08.4	
	comp=Z,17nm,1.1s						
MCRA	**Macar, Loja**	**26.61**	**89**	P	**P**	**15 40 53.6**	**+1.1**
JTS	**Las Juntas de**	**26.73**	**54**	LR	LR	15 48 50.9	
	comp=Z,592nm,18.5s,baz=228,slow=31						
COHC	**Cochancay**	**27.49**	**85**	P	**P**	**15 41 00.4**	**+0.1**
ATAH	**Atahualpa**	**28.11**	**95**	LR	LR	15 49 28.9	
	comp=Z,299nm,18.7s,baz=266,slow=30						
BOSC	**San Juan Bosco**	**28.16**	**86**		**P**	**15 41 07.2**	**+0.6**
NNA	**Nana**	**30.11**	**104**	LR	LR	15 50 15.7	
	comp=Z,262nm,18.0s,baz=260,slow=30						
TEIG	**Tepich**	**31.35**	**35**	LR	LR	15 52 14.1	
	comp=Z,4μm,20.3s,baz=1.5,slow=33						
CZSB	**Cruzeiro do Su**	**33.77**	**96**	P	**P**	**15 41 56.4**	**+0.6**
ROSC	**El Rosal**	**33.89**	**73**	LR	LR	15 52 57.8	
	comp=Z,132nm,20.1s,baz=235,slow=32						
TX31	**Lajitas Ar. Si**	**34.82**	**5**	P	**P**	**15 42 04.6**	**-0.3**
TX31				IAmb	IAmb	15 42 21.6	
	comp=Z,19nm,1.4s						
TX32	**Lajitas Array**	**34.82**	**5**	P	**P**	**15 42 04.3**	**-0.5**
TXAR	**Lajitas Array**	**34.82**	**5**	P	**P**	**15 42 04.6**	**-0.3**
TXAR	**Lajitas Array**	**34.82**	**5**	P	**P**	**15 42 04.3**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=183,slow=10,SNR=12						
TXAR				PcP	**PcP**	**15 44 37.1**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=180,slow=6.3,SNR=7.6						
	comp=Z,1.4nm,0.9s						
DRIO	**Del Rio**	**35.27**	**9**	P	**P**	**15 42 08.2**	**-0.5**
DRIO				IAmb	IAmb	15 42 09.8	
	comp=Z,5.5nm,0.9s						
SAND	**Sanderson**	**35.59**	**7**	P	**P**	**15 42 11.4**	**0.0**
SAND				IAmb	IAmb	15 42 13.2	
	comp=Z,9.1nm,0.9s						
ALPN	**Alpine**	**35.85**	**4**	P	**P**	**15 42 13.6**	**-0.2**
ALPN				IAmb	IAmb	15 42 16.5	
	comp=Z,6.9nm,1.2s						
425A	**Indio Mountain**	**36.18**	**2**	P	**P**	**15 42 16.6**	**0.0**
425A				IAmb	IAmb	15 42 18.3	
	comp=Z,8.4nm,1.1s						
JCT	**Junction City** baz=192	**36.44**	**10**	P	**P**	**15 42 19.7**	**+1.0**
319A	**Douglas**	**36.82**	**356**	P	**P**	**15 42 20.3**	**-1.7**
319A				IAmb	IAmb	15 42 24.3	
	comp=Z,12nm,1.1s						
MNHN	**Monahans**	**36.89**	**6**	P	**P**	**15 42 23.0**	**+0.5**
MNHN				IAmb	IAmb	15 42 37.7	
	comp=Z,5.6nm,1.3s						
MNTX	**Cornudas Mount**	**37.08**	**2**	P	**P**	**15 42 23.5**	**-0.5**
MNTX				IAmb	IAmb	15 42 25.5	
	comp=Z,9.0nm,1.0s						
MNTX	**Cornudas Mount** baz=182,SNR=14	**37.08**	**2**	P	**P**	**15 42 23.6**	**-0.5**
BRDY	**Brady**	**37.37**	**11**	P	**P**	**15 42 26.0**	**-0.6**
BRDY				IAmb	IAmb	15 42 29.2	
	comp=Z,6.9nm,0.9s						
HNVL	**Huntsville, TX**	**37.67**	**16**	P	**P**	**15 42 27.9**	**-1.1**
HNVL				IAmb	IAmb	15 42 32.8	
	comp=Z,26nm,1.0s						
214A	**Organ Pipe Nat**	**37.78**	**351**	P	**P**	**15 42 30.7**	**+0.7**
214A	**Organ Pipe Nat** baz=170	**37.78**	**351**	P	**P**	**15 42 30.9**	**+0.9**
H03N2	**Juan Fernandez** baz=314,slow=77,SNR=30	**37.84**	**141**	T	T	16 22 43.3	
H03N1	**Juan Fernandez** baz=314,slow=77,SNR=23	**37.85**	**141**	T	T	16 22 44.0	
H03N3	**Juan Fnandez** baz=314,slow=77,SNR=24	**37.86**	**141**	T	T	16 22 41.0	
TUC	**Tucson**	**37.88**	**354**	P	**P**	**15 42 31.6**	**+0.7**
TUC	**Tucson** baz=173	**37.88**	**354**	P	**P**	**15 42 31.9**	**+1.0**
121A	**Cookes Peak, D**	**37.91**	**358**	P	**P**	**15 42 31.2**	**-0.1**
121A	**Cookes Peak, D** baz=178	**37.91**	**358**	P	**P**	**15 42 32.7**	**+1.4**
DUN6	**Lazy B Ranch**	**37.98**	**357**	P	**P**	**15 42 32.4**	**+0.5**
WHTX	**Lake Whitney,**	**38.36**	**13**	P	**P**	**15 42 35.0**	**+0.1**
WHTX				IAmb	IAmb	15 42 36.0	
	comp=Z,8.7nm,0.8s						
WHTX	**Lake Whitney,** baz=195	**38.36**	**13**	P	**P**	**15 42 35.3**	**+0.4**
PB16	**IPOC Station P**	**38.38**	**113**		**P**	**15 42 35.8**	**-0.2**
PB16				IAmb	IAmb	15 42 38.9	
	comp=Z,16nm,0.8s						
ABTX	**Abilene, Hawle** baz=191	**38.56**	**9**	P	**P**	**15 42 36.8**	**+0.1**
SDV	**Santo Domingo**	**38.66**	**68**	LR	LR	15 55 44.3	
	comp=Z,85nm,19.1s,baz=248,slow=32						
113A	**Mohawk Valley,**	**38.72**	**350**	P	**P**	**15 42 36.7**	**-1.2**
NATX	**Nacogdoches** baz=199	**38.84**	**16**	P	**P**	**15 42 39.4**	**+0.5**
PB07	**IPOC Station P**	**39.01**	**118**	P	**P**	**15 42 40.9**	**+0.1**
PB07				IAmb	IAmb	15 42 43.4	
	comp=Z,15nm,0.9s						
YUH	**Yuha Desert**	**39.02**	**348**	P	**P**	**15 42 40.3**	**-0.1**
IKP	**In-Ko-Pah, Jac** baz=165	**39.06**	**347**	P	**P**	**15 42 41.8**	**+0.9**
PB01	**IPOC Station P**	**39.15**	**117**	P	**P**	**15 42 43.3**	**+1.4**
PB01				IAmb	IAmb	15 42 45.5	
	comp=Z,29nm,1.2s						
PB08	**IPOC Station P**	**39.19**	**115**	P	**P**	**15 42 43.4**	**+0.9**
PB08				IAmb	IAmb	15 42 45.7	
	comp=Z,16nm,0.9s						
GLA	**Glamis**	**39.19**	**349**	P	**P**	**15 42 41.1**	**-0.8**
GLA	**Glamis** baz=167	**39.19**	**349**	P	**P**	**15 42 43.0**	**+1.2**
LPAZ	**La Paz**	**39.20**	**109**		**P**	**15 42 43.5**	**+0.5**
LPAZ	**La Paz**	**39.20**	**109**	P	**P**	**15 42 42.5**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=297,slow=5.8,SNR=8.9						
LPAZ				LR	LR	15 55 22.0	
	comp=Z,117nm,20.1s,baz=254,slow=31						
	comp=Z,3.2nm,0.8s						
SWSC	**Sam W. Stewart** baz=166	**39.28**	**348**	P	**P**	**15 42 44.2**	**+1.6**
MONP2	**Monument Peak** baz=165	**39.36**	**347**	P	**P**	**15 42 44.9**	**+1.4**
Y22D	**IRIS PASSCAL I** baz=180	**39.43**	**360**	P	**P**	**15 42 45.2**	**+1.2**
Y22F	**Passcal Instru** baz=180	**39.43**	**360**	P	**P**	**15 42 45.0**	**+1.0**
MSTX	**Muleshoe**	**39.49**	**5**	P	**P**	**15 42 44.8**	**+0.3**
MSTX	**Muleshoe** baz=186	**39.49**	**5**	P	**P**	**15 42 45.5**	**+1.0**
109C	**Camp Elliot, M** baz=164	**39.52**	**346**	P	**P**	**15 42 45.1**	**+0.5**
PB09	**IPOC Station P**	**39.60**	**118**	P	**P**	**15 42 46.4**	**+0.6**
PB09				IAmb	IAmb	15 42 49.1	
	comp=Z,20nm,1.0s						
BC3	**Big Chuckawall** baz=166,SNR=6.7	**39.90**	**349**	P	**P**	**15 42 49.0**	**+1.2**
SCI2	**San Clemente I** baz=162	**39.97**	**344**	P	**P**	**15 42 49.2**	**+0.9**
X16A	**Lo Mia Camp, P**	**40.03**	**354**	P	**P**	**15 42 49.1**	**+0.1**
TPFO	**Pinon Flats** baz=165	**40.06**	**347**	P	**P**	**15 42 49.9**	**+0.7**
PFO	**Pinyon Flats O**	**40.06**	**347**	P	**P**	**15 42 50.2**	**+0.9**
PFO	**Pinyon Flats O** baz=165	**40.06**	**347**	P	**P**	**15 42 50.0**	**+0.7**
PFO	**Pinyon Flats O**	**40.06**	**347**	LR	LR	15 56 38.0	
	comp=Z,112nm,19.7s,baz=173,slow=32						
PMD	**Palm Desert**	**40.08**	**347**	P	**P**	**15 42 50.0**	**+0.7**
LVC	**Limon Verde**	**40.16**	**119**	LR	LR	15 55 03.8	
	comp=Z,196nm,18.9s,baz=266,slow=30						
MURC	**Murrieta** baz=164	**40.22**	**346**	P	**P**	**15 42 51.6**	**+1.1**
ETMB	**Extrema**	**40.26**	**99**	P	**P**	**15 42 50.8**	**-0.3**
PDMCI	**Parker Dam,Lak** baz=169	**40.29**	**350**	P	**P**	**15 42 52.3**	**+1.4**
ANMO	**Albuquerque**	**40.30**	**0**	P	**P**	**15 42 52.0**	**+0.7**
ANMO	**Albuquerque** baz=180	**40.30**	**0**	P	**P**	**15 42 52.2**	**+0.9**
IRM	**Iron Mountain** baz=167	**40.32**	**349**	P	**P**	**15 42 52.5**	**+1.2**
CIS	**Catalina Islan** baz=162	**40.34**	**345**	P	**P**	**15 42 52.7**	**+1.3**
BELC	**Belle Mtn. Jos** baz=166,SNR=7.2	**40.34**	**348**	P	**P**	**15 42 52.6**	**+1.1**
WMOK	**Wichita Mounta** baz=192	**40.77**	**10**	P	**P**	**15 42 56.9**	**+1.9**
Z41A	**Richland Creek**	**40.78**	**18**	P	**P**	**15 42 54.4**	**-0.7**
BFSC	**Mount Baldy Ra** baz=163,SNR=6.8	**40.94**	**346**	P	**P**	**15 42 58.1**	**+1.5**
W13A	**Hualapai Mount**	**41.02**	**351**	P	**P**	**15 42 56.9**	**-0.4**
GMRC	**Granite Mounta** baz=166,SNR=5.4	**41.03**	**349**	P	**P**	**15 42 58.2**	**+1.0**
BRAL	**Brewton** baz=210	**41.05**	**26**	P	**P**	**15 42 58.4**	**+1.1**
BAUV	**El Baul**	**41.09**	**70**	P	**P**	**15 42 56.9**	**-1.0**
BAUV				IAmb	IAmb	15 43 08.4	
	comp=Z,20nm,0.9s						
WUAZ	**Wupatki**	**41.11**	**354**	P	**P**	**15 42 58.8**	**+0.9**
WUAZ	**Wupatki** baz=173,SNR=5.1	**41.11**	**354**	P	**P**	**15 42 59.1**	**+1.1**
DECC	**Green Verdugo** baz=162	**41.12**	**345**	P	**P**	**15 42 58.4**	**+0.5**
HEC	**Hector,Ludlow** baz=165,SNR=7.8	**41.21**	**348**	P	**P**	**15 42 59.8**	**+1.1**
SCZ2	**Santa Cruz Isl** baz=160	**41.23**	**344**	P	**P**	**15 43 00.3**	**+1.5**
RRX	**Edison Barstow** baz=164	**41.40**	**347**	P	**P**	**15 43 01.6**	**+1.5**
146A	**Union**	**41.51**	**23**	P	**P**	**15 43 00.6**	**-0.5**
OSI	**Osito Audit: C** baz=162	**41.56**	**345**	P	**P**	**15 43 03.0**	**+1.4**
EDW2	**Edwards Air Fo** baz=163,SNR=8.8	**41.63**	**346**	P	**P**	**15 43 02.8**	**+0.7**
SBC	**Santa Barbara** baz=160	**41.67**	**344**	P	**P**	**15 43 03.2**	**+0.9**
TUQ	**Turquoise Moun** baz=166	**41.71**	**349**	P	**P**	**15 43 03.9**	**+1.1**
MIAR	**Mount Ida**	**41.76**	**16**	P	**P**	**15 43 02.8**	**-0.4**
MIAR				IAmb	IAmb	15 43 04.0	
	comp=Z,12nm,0.8s						
MIAR	**Mount Ida** baz=200,SNR=7.9	**41.76**	**16**	P	**P**	**15 43 03.1**	**0.0**
GSC	**Goldstone, Bar**	**41.77**	**347**	P	**P**	**15 43 03.6**	**+0.3**
GSC				IAmb	IAmb	15 43 05.8	
	comp=Z,12nm,1.1s						
GSC	**Goldstone, Bar** baz=165,SNR=8.6	**41.77**	**347**	P	**P**	**15 43 04.4**	**+1.1**
V12A	**Nelson**	**41.80**	**350**	P	**P**	**15 43 04.0**	**+0.4**
CCAC	**Calif City Air**	**41.90**	**346**	P	**P**	**15 43 05.2**	**+0.9**
CCAC				IAmb	IAmb	15 43 06.5	
	comp=Z,15nm,1.1s						
ELIS	**Ellis County**	**41.97**	**9**	P	**P**	**15 43 05.1**	**+0.2**
U15A	**North Rim**	**42.11**	**353**	P	**P**	**15 43 06.8**	**+0.5**
Z47A	**Carrollton**	**42.39**	**23**	P	**P**	**15 43 08.1**	**-0.1**
Z47A				IAmb	IAmb	15 43 09.4	
	comp=Z,15nm,0.8s						
QSM	**Queen of Sheba**	**42.42**	**348**	P	**P**	**15 43 09.2**	**+0.7**
QSM				IAmb	IAmb	15 43 11.0	
	comp=Z,13nm,1.1s						
ISA	**Isabella, Lake**	**42.50**	**346**	P	**P**	**15 43 09.4**	**+0.2**
ISA	**Isabella, Lake** baz=163	**42.50**	**346**	P	**P**	**15 43 10.5**	**+1.3**
TUL3	**Leonard**	**42.50**	**13**	P	**P**	**15 43 09.1**	**-0.1**
TUL3	**Leonard** baz=196	**42.50**	**13**	P	**P**	**15 43 11.6**	**+2.5**
T25A	**Trinidad** baz=183	**42.54**	**3**	P	**P**	**15 43 10.2**	**+0.5**
GWY	**Greenwater Val**	**42.59**	**348**	P	**P**	**15 43 10.2**	**+0.1**
GWY				IAmb	IAmb	15 43 12.4	
	comp=Z,11nm,1.1s						
MVCO	**Mesa Verde**	**42.59**	**358**	P	**P**	**15 43 09.7**	**-0.5**
MVCO				IAmb	IAmb	15 43 12.1	
	comp=Z,10nm,1.1s						
MVCO	**Mesa Verde** baz=177,SNR=6.5	**42.59**	**358**	P	**P**	**15 43 10.7**	**+0.5**
SHPR	**Sheep Range**	**42.61**	**350**	P	**P**	**15 43 10.5**	**+0.3**
MPMC	**Manual Prospec** baz=164,SNR=8.2	**42.64**	**347**	P	**P**	**15 43 11.9**	**+1.4**
LRAL	**Lakeview Retre**	**42.68**	**25**	P	**P**	**15 43 10.8**	**+0.1**
LRAL				IAmb	IAmb	15 43 16.0	
	comp=Z,18nm,1.4s						
LRAL	**Lakeview Retre** baz=210	**42.68**	**25**	P	**P**	**15 43 11.0**	**+0.3**
KNB	**Kanab**	**42.76**	**353**	P	**P**	**15 43 11.9**	**+0.5**
KNB				IAmb	IAmb	15 43 14.0	
	comp=Z,9.4nm,1.1s						
LCMT	**Little Creek M**	**42.81**	**352**	P	**P**	**15 43 12.3**	**+0.5**
VES	**Vestal, Richgr** baz=162	**42.82**	**345**	P	**P**	**15 43 13.4**	**+1.7**
WHAR	**Wooly Hollow**	**42.83**	**17**	P	**P**	**15 43 11.2**	**-0.6**
FURC	**Furnace Creek,** baz=165	**42.90**	**348**	P	**P**	**15 43 13.9**	**+1.6**
OXF	**Oxford** baz=206	**43.06**	**21**	P	**P**	**15 43 15.4**	**+1.7**
SDCO	**Great Sand Dun**	**43.10**	**1**	P	**P**	**15 43 14.3**	**0.0**
SDCO	**Great Sand Dun** baz=182	**43.10**	**1**	P	**P**	**15 43 15.6**	**+1.2**
PKCU	**Pink Cliffs**	**43.12**	**353**	P	**P**	**15 43 15.3**	**+0.8**
PKCU				IAmb	IAmb	15 43 17.6	
	comp=Z,18nm,1.2s						
CWC	**Cottonwood Cre** baz=163	**43.14**	**346**	P	**P**	**15 43 15.5**	**+1.0**
SAML	**Samuel**	**43.22**	**97**		**P**	**15 43 14.7**	**-0.6**
SAML				IAmb	IAmb	15 43 16.5	
	comp=Z,10nm,0.8s						
TPNV	**Topopah Spring**	**43.24**	**349**	P	**P**	**15 43 15.8**	**+0.5**
TPNV	**Topopah Spring** baz=166,SNR=7.3	**43.24**	**349**	P	**P**	**15 43 16.9**	**+1.5**
HHAR	**Hobbs**	**43.30**	**15**	P	**P**	**15 43 14.6**	**-1.1**
HHAR				IAmb	IAmb	15 43 16.2	
	comp=Z,7.8nm,0.9s						
T35A	**Sooner Cattle**	**43.31**	**12**	P	**P**	**15 43 15.4**	**-0.3**
T35A				IAmb	IAmb	15 43 24.4	
	comp=Z,8.0nm,0.9s						
U38A	**Gravette**	**43.34**	**14**	P	**P**	**15 43 16.4**	**+0.5**
CCUT	**Cedar City**	**43.35**	**352**	P	**P**	**15 43 17.2**	**+0.8**
SZCU	**Shurtz Canyon**	**43.36**	**353**	P	**P**	**15 43 17.1**	**+0.8**
HMU	**Henry Mountain**	**43.45**	**355**	P	**P**	**15 43 17.7**	**+0.6**
HMU				IAmb	IAmb	15 43 20.8	
	comp=Z,11nm,1.1s						
PRN	**Pahroc Range**	**43.47**	**350**	P	**P**	**15 43 17.2**	**+0.1**
GRAC	**Grapevine Rang**	**43.52**	**348**	P	**P**	**15 43 17.4**	**0.0**
GRAC				IAmb	IAmb	15 43 19.9	
	comp=Z,11nm,0.8s						
GRAC	**Grapevine Rang** baz=165	**43.52**	**348**	P	**P**	**15 43 19.1**	**+1.7**
PPT	**Papeete**	**43.61**	**250**	LR	LR	15 57 17.9	
	comp=Z,82nm,19.6s,baz=30,slow=30						
MTPU	**Mount Pierson**	**43.69**	**354**	P	**P**	**15 43 19.3**	**+0.1**
MT13	**San Alfonso**	**43.84**	**135**		**P**	**15 43 20.7**	**+0.4**
MT13				IAmb	IAmb	15 43 22.2	

MGMO				IAmb	IAmb	15 43 29.7	
	comp=Z,13nm,1.1s						
CBKS	**Cedar Bluff**	**44.62**	**8**	P	**P**	**15 43 27.1**	**+0.9**
CBKS	**Cedar Bluff**	**44.62**	**8**	P	**P**	**15 43 26.0**	**-0.3**
	baz=190						
PCRV	**Puerto La Cruz**	**44.66**	**70**	LR	LR	16 00 47.9	
	comp=Z,110nm,21.9s,slow=34						
PBMO	**Poplar Bluff**	**44.77**	**19**	P	**P**	**15 43 26.9**	**-0.5**
S39A	**Bolivar**	**44.79**	**15**	P	**P**	**15 43 26.5**	**-1.0**
S39A				IAmb	IAmb	15 43 32.9	
	comp=Z,12nm,1.2s						
T42A	**Van Buren**	**44.80**	**18**	P	**P**	**15 43 26.6**	**-1.0**
T42A				IAmb	IAmb	15 43 28.6	
	comp=Z,11nm,1.1s						
TMUT	**Trail Mountain**	**44.84**	**355**	P	**P**	**15 43 28.8**	**+0.5**
TMUT				IAmb	IAmb	15 43 30.7	
	comp=Z,9.4nm,1.4s						
SPR3	**Spring Creek 3**	**44.91**	**352**	P	**P**	**15 43 28.0**	**-0.9**
LHV	**Little Huntoon**	**44.97**	**347**	P	**P**	**15 43 29.8**	**+0.8**
LHV				IAmb	IAmb	15 43 32.0	
	comp=Z,13nm,1.0s						
P17A	**Butcher Ranch,**	**44.98**	**356**	P	**P**	**15 43 29.5**	**+0.2**
P17A				IAmb	IAmb	15 43 31.4	
	comp=Z,8.4nm,1.1s						
NV11	**Mina Array Sit**	**45.07**	**347**	P	**P**	**15 43 29.5**	**-0.5**
NVAR	**Mina Array Bea**	**45.10**	**347**	P	**P**	**15 43 30.3**	**0.0**
NVAR	**Mina Array Bea**	**45.10**	**347**	P	**P**	**15 43 29.8**	**-0.5**
	comp=Z,3.1nm,0.9s,baz=172,slow=10,SNR=21						
NVAR				PcP	**PcP**	**15 45 09.8**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=151,slow=3.9,SNR=2.4						
NVAR				LR	LR	15 57 28.2	
	comp=Z,112nm,19.3s,baz=180,slow=30						
	comp=Z,3.1nm,0.9s						
V48A	**Smith Brothers**	**45.11**	**23**	P	**P**	**15 43 29.5**	**-0.7**
V48A				IAmb	IAmb	15 43 31.1	
	comp=Z,10nm,0.9s						
ISCO	**Idaho Springs**	**45.15**	**1**	P	**P**	**15 43 30.5**	**-0.3**
ISCO	**Idaho Springs**	**45.15**	**1**	P	**P**	**15 43 31.6**	**+0.8**
	baz=182						
CMB	**Columbia Colle**	**45.23**	**345**	P	**P**	**15 43 31.6**	**+0.5**
CMB				IAmb	IAmb	15 43 33.3	
	comp=Z,7.3nm,1.1s						
CGM3	**Cape Girardeau**	**45.50**	**19**	P	**P**	**15 43 31.9**	**-1.3**
CGM3				IAmb	IAmb	15 43 34.0	
	comp=Z,14nm,1.1s						
O20A	**White River Ci**	**45.50**	**358**	P	**P**	**15 43 33.7**	**+0.3**
O20A	**White River Ci**	**45.50**	**358**	P	**P**	**15 43 34.4**	**+0.9**
	baz=178,SNR=10						
NLU	**North Lily Min**	**45.58**	**354**	P	**P**	**15 43 34.5**	**+0.5**
NLU				IAmb	IAmb	15 43 41.2	
	comp=Z,8.5nm,1.4s						
MPU	**Maple Canyon**	**45.59**	**355**	P	**P**	**15 43 34.0**	**-0.1**
MPU				IAmb	IAmb	15 43 36.5	
	comp=Z,12nm,1.2s						
R40A	**Maddies Statio**	**45.63**	**16**	P	**P**	**15 43 33.7**	**-0.6**
R40A				IAmb	IAmb	15 43 35.1	
	comp=Z,9.7nm,1.1s						
KVN	**Kaiserville**	**45.65**	**348**	P	**P**	**15 43 34.8**	**+0.2**
KVN				IAmb	IAmb	15 43 37.1	
	comp=Z,7.5nm,1.1s						
CCM	**Cathedral Cave**	**45.70**	**17**	P	**P**	**15 43 33.4**	**-1.4**
CCM				IAmb	IAmb	15 43 35.0	
	comp=Z,11nm,1.1s						
CCM	**Cathedral Cave**	**45.70**	**17**	P	**P**	**15 43 34.3**	**-0.5**
	baz=202						
W52A	**Murphy**	**45.75**	**26**	P	**P**	**15 43 35.3**	**0.0**
CPCT	**Cooper Cave**	**45.80**	**25**	P	**P**	**15 43 34.5**	**-1.1**
YERR	**Yerington**	**45.84**	**346**	P	**P**	**15 43 36.8**	**+0.6**
DUG	**Dugway, Tooele**	**45.89**	**353**	P	**P**	**15 43 35.1**	**-1.4**
DUG				IAmb	IAmb	15 43 39.9	
	comp=Z,7.9nm,1.2s						
DUG	**Dugway, Tooele**	**45.89**	**353**	P	**P**	**15 43 37.0**	**+0.6**
	baz=172,SNR=5.4						
NHSC	**New Hope**	**45.93**	**31**	P	**P**	**15 43 37.2**	**+0.5**
	baz=218						
S44A	**Carbondale**	**45.99**	**19**	P	**P**	**15 43 36.2**	**-0.8**
RDMU	**Red Mountain**	**45.99**	**357**	P	**P**	**15 43 37.5**	**+0.2**
RDMU				IAmb	IAmb	15 43 39.3	
	comp=Z,8.9nm,1.2s						
BSUT	**Blindstream Ca**	**46.04**	**356**	P	**P**	**15 43 37.6**	**-0.3**
BSUT				IAmb	IAmb	15 43 39.9	
	comp=Z,8.7nm,1.3s						
EMB	**Emerald Bay**	**46.04**	**345**	P	**P**	**15 43 38.6**	**+0.9**
BG3	**Lake Jocassee**	**46.12**	**27**	P	**P**	**15 43 37.0**	**-1.1**
AFDM	**Forest Hills D**	**46.24**	**344**	P	**P**	**15 43 39.7**	**+0.7**
AFDM				IAmb	IAmb	15 43 41.4	
	comp=Z,7.1nm,1.2s						
N23A	**Red Feather La**	**46.24**	**1**	P	**P**	**15 43 39.7**	**+0.3**
	baz=181						
TKL	**Tuckaleechee C**	**46.30**	**26**	LR	LR	16 03 03.8	
	comp=Z,78nm,19.0s,baz=206,slow=36						
MPK	**Martis Peak**	**46.33**	**346**	P	**P**	**15 43 40.1**	**+0.1**
SJG	**San Juan**	**46.36**	**59**	LR	LR	16 01 01.2	
	comp=Z,83nm,19.5s,baz=180,slow=34						
OGNE	**Ogallala**	**46.48**	**5**	P	**P**	**15 43 41.7**	**+0.7**
	baz=186						
PAHR	**Pah Rah Range**	**46.56**	**346**	P	**P**	**15 43 42.2**	**+0.5**
PAHR				IAmb	IAmb	15 43 44.4	
	comp=Z,9.9nm,1.1s						
BGU	**Big Grassy Mou**	**46.64**	**353**	P	**P**	**15 43 42.5**	**+0.2**
PHWY	**Pilot Hill**	**46.66**	**1**	P	**P**	**15 43 41.6**	**-1.0**
PHWY				IAmb	IAmb	15 43 44.0	
	comp=Z,11nm,1.2s						
TCUT	**Toone Canyon**	**46.66**	**355**	P	**P**	**15 43 42.9**	**+0.3**
TCUT				IAmb	IAmb	15 44 04.4	
	comp=Z,7.2nm,0.9s						
ELK	**Elko**	**46.76**	**351**	P	**P**	**15 43 43.5**	**+0.1**
ELK				IAmb	IAmb	15 43 45.7	
	comp=Z,4.2nm,1.1s						
P40A	**Paris**	**46.85**	**15**	P	**P**	**15 43 42.7**	**-1.2**
ORV	**Oroville**	**46.95**	**344**	P	**P**	**15 43 45.5**	**+0.9**
KMSC	**Kings Mountain**	**46.98**	**29**	P	**P**	**15 43 44.8**	**-0.1**
	baz=216						
TZTN	**Tazewell**	**47.14**	**26**	P	**P**	**15 43 46.4**	**+0.3**
	baz=212						
HWUT	**Hardware Ranch**	**47.16**	**355**	P	**P**	**15 43 46.5**	**+0.1**
HWUT				IAmb	IAmb	15 43 50.1	
	comp=Z,10nm,1.2s						
Q44A	**Meyer Farm, Va**	**47.16**	**19**	P	**P**	**15 43 45.3**	**-1.0**
BGNE	**Belgrade**	**47.39**	**9**	P	**P**	**15 43 48.7**	**+0.7**
	baz=192						
HVU	**Hansel Valley**	**47.45**	**354**	P	**P**	**15 43 48.2**	**-0.5**
HVU				IAmb	IAmb	15 44 12.2	
	comp=Z,6.1nm,1.1s						
WCI	**Wyandotte Cave**	**47.50**	**22**	P	**P**	**15 43 48.8**	**-0.1**
	baz=208						
PTLB	**Pontes e Lacer**	**47.63**	**106**		**P**	**15 43 50.1**	**-0.1**
PTLB				IAmb	IAmb	15 43 51.6	
	comp=Z,7.7nm,1.0s						
PLCA	**Paso Flores**	**47.63**	**143**	P	**P**	**15 43 50.1**	**+0.1**
	comp=Z,4.2nm,1.0s,baz=331,slow=12,SNR=3.3						
PLCA				PcP	**PcP**	**15 45 18.8**	**-0.9**
	comp=Z,5.6nm,1.1s,baz=292,slow=11,SNR=3.3						
PLCA				LR	LR	15 59 18.4	
	comp=Z,210nm,18.1s,baz=340,slow=30						
	comp=Z,4.2nm,1.0s						
K22A	**Casper**	**47.99**	**0**	P	**P**	**15 43 52.7**	**-0.1**
	baz=180						
BW06	**Boulder Array**	**48.18**	**357**	P	**P**	**15 43 53.1**	**-1.3**
BW06				IAmb	IAmb	15 43 55.2	
	comp=Z,4.6nm,1.1s						
BW06	**Boulder Array**	**48.18**	**357**	P	**P**	**15 43 54.4**	**0.0**
	baz=176						
PD31	**Pinedale Array**	**48.18**	**357**	P	**P**	**15 43 53.1**	**-1.2**
PD31				IAmb	IAmb	15 43 55.2	
	comp=Z,4.6nm,1.1s						
PDAR	**Pinedale Array**	**48.18**	**357**	P	**P**	**15 43 52.9**	**-1.5**
PDAR	**Pinedale Array**	**48.18**	**357**	P	**P**	**15 43 53.0**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=156,slow=7.5,SNR=13						
PDAR				PcP	**PcP**	**15 45 20.2**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=157,slow=5.9,SNR=1.5						
	comp=Z,1.5nm,0.7s						
P46A	**Rosedale**	**48.41**	**20**	P	**P**	**15 43 55.0**	**-0.9**
LL02	**Futaleuf**	**48.43**	**146**		**P**	**15 43 56.6**	**+0.5**
TPAW	**Teton Pass**	**48.99**	**356**	P	**P**	**15 43 59.3**	**-1.3**
TPAW				IAmb	IAmb	15 44 01.2	
	comp=Z,3.8nm,0.8s						
WVOR	**Wild Horse Val**	**49.01**	**348**	P	**P**	**15 44 01.4**	**+0.8**
WVOR				IAmb	IAmb	15 44 04.6	
	comp=Z,11nm,1.5s						
LOHW	**Long Hollow**	**49.08**	**356**	P	**P**	**15 44 00.5**	**-0.8**
SFIN	**Lafayette**	**49.13**	**20**	P	**P**	**15 44 01.6**	**+0.2**
	baz=206						
FXWY	**Fox Creek**	**49.14**	**356**	P	**P**	**15 44 00.8**	**-1.0**
FXWY				IAmb	IAmb	15 44 06.4	
	comp=Z,10nm,1.3s						
MOOW	**Moose Ponds**	**49.23**	**356**	P	**P**	**15 44 01.6**	**-0.8**
P49A	**Miami Univ. Ec**	**49.23**	**22**	P	**P**	**15 44 00.8**	**-1.5**
	baz=209						
YBH	**Yreka Blue Hor**	**49.31**	**344**	LR	LR	15 59 58.8	
	comp=Z,174nm,19.9s,baz=188,slow=30						
IMW	**Indian Meadow**	**49.39**	**356**	P	**P**	**15 44 02.7**	**-1.1**
IMW				IAmb	IAmb	15 44 04.9	
	comp=Z,9.4nm,1.1s						
HLID	**Hailey**	**49.41**	**353**	P	**P**	**15 44 03.2**	**-0.5**
HLID				IAmb	IAmb	15 44 06.8	
	comp=Z,4.8nm,0.9s						
HLID	**Hailey**	**49.41**	**353**	P	**P**	**15 44 04.1**	**+0.3**
	baz=170,SNR=7.7						
MFID	**Camas Ranch**	**49.46**	**351**	P	**P**	**15 44 04.4**	**+0.3**
RSSD	**Black Hills**	**49.52**	**2**	P	**P**	**15 44 04.8**	**+0.2**
RSSD				IAmb	IAmb	15 44 05.7	
	comp=Z,5.8nm,1.1s						
RSSD	**Black Hills**	**49.52**	**2**	P	**P**	**15 44 04.7**	**+0.1**
	baz=184						
FLWY	**Flagg Ranch**	**49.56**	**356**	P	**P**	**15 44 03.9**	**-1.1**
O48B	**Farmland**	**49.70**	**22**	P	**P**	**15 44 04.3**	**-1.6**
	baz=208						
K05A	**Summer Lake**	**49.78**	**346**	P	**P**	**15 44 07.3**	**+0.7**
ECSD	**EROS Data Cent**	**49.90**	**9**	P	**P**	**15 44 06.0**	**-1.4**
	baz=193						
YHH	**Holmes Hill**	**50.27**	**356**	P	**P**	**15 44 10.6**	**+0.1**
P52A	**Corning**	**50.35**	**25**	P	**P**	**15 44 09.4**	**-1.3**
	baz=212						
YHL	**Hebgen Lake**	**50.36**	**356**	P	**P**	**15 44 10.6**	**-0.5**
YHL				IAmb	IAmb	15 44 13.1	
	comp=Z,10nm,1.1s						
J05D	**Fort Rock, OR**	**50.39**	**346**	P	**P**	**15 44 11.2**	**0.0**
L44A	**Lake County Fo**	**50.49**	**18**	P	**P**	**15 44 11.5**	**-0.3**
	baz=204						
JFWS	**Jewell Farm**	**50.50**	**16**	P	**P**	**15 44 11.0**	**-0.8**
	baz=201						
ACSO	**Alum Creek Sta**	**50.51**	**23**	P	**P**	**15 44 11.7**	**-0.3**
	baz=211						
RLMT	**Red Lodge**	**50.52**	**358**	P	**P**	**15 44 11.0**	**-1.2**
RLMT				IAmb	IAmb	15 44 13.1	
	comp=Z,7.2nm,1.2s						
RLMT	**Red Lodge**	**50.52**	**358**	P	**P**	**15 44 11.9**	**-0.3**
	baz=177						
P53A	**Whipple**	**50.53**	**25**	P	**P**	**15 44 11.2**	**-0.9**
PINE	**Pine Mountain**	**50.80**	**347**	P	**P**	**15 44 14.2**	**-0.2**
PINE				IAmb	IAmb	15 44 16.7	
	comp=Z,12nm,1.1s						
DLMT	**Dillon**	**50.98**	**355**	P	**P**	**15 44 16.6**	**+1.0**
DLMT				IAmb	IAmb	15 44 17.9	
	comp=Z,14nm,1.4s						
PLID	**Pearl Lake**	**51.12**	**351**	P	**P**	**15 44 16.1**	**-0.7**
BOZ	**Bozeman (W)**	**51.13**	**356**	P	**P**	**15 44 16.8**	**0.0**
BOZ	**Bozeman (W)**	**51.13**	**356**	P	**P**	**15 44 16.1**	**-0.6**
	baz=174						
I04A	**Tendick Farm,**	**51.16**	**345**	P	**P**	**15 44 16.2**	**-0.6**
O53A	**New Philadelph**	**51.25**	**25**	P	**P**	**15 44 16.8**	**-0.7**
	baz=213						
CPUP	**Villa Florida**	**51.32**	**119**		**P**	**15 44 18.5**	**+0.1**
CPUP				IAmb	IAmb	15 44 20.0	
	comp=Z,7.9nm,0.9s						
CPUP	**Villa Florida**	**51.32**	**119**	P	**P**	**15 44 18.3**	**-0.1**
	comp=Z,5.8nm,0.9s,baz=288,slow=7.3,SNR=12						
CPUP				LR	LR	16 02 12.5	
	comp=Z,102nm,21.3s,baz=263,slow=32						
	comp=Z,5.8nm,0.9s						
CBN	**Corbin Frederi**	**51.34**	**30**	P	**P**	**15 44 17.6**	**-0.6**
	baz=218						
MCWV	**Mont Chateau**	**51.35**	**26**	P	**P**	**15 44 17.9**	**-0.4**
	baz=215						
G08A	**Pilot Rock**	**51.82**	**349**	P	**P**	**15 44 22.6**	**+0.7**
H04A	**Detroit Lake**	**51.94**	**346**	P	**P**	**15 44 22.1**	**-0.6**
H04A				IAmb	IAmb	15 44 36.4	
	comp=Z,8.8nm,1.1s						
SPMN	**Marine on St.**	**52.06**	**12**	P	**P**	**15 44 23.9**	**+0.4**
	baz=198						
G06A	**Carlson Farm,**	**52.11**	**347**	P	**P**	**15 44 23.6**	**-0.3**
G06A				IAmb	IAmb	15 44 27.5	
	comp=Z,16nm,1.5s						
F10A	**Beach Ranch, E**	**52.18**	**351**	P	**P**	**15 44 24.5**	**0.0**
F10A				IAmb	IAmb	15 44 26.9	
	comp=Z,7.7nm,1.1s						
HOOD	**Mount Hood Mea**	**52.42**	**347**	P	**P**	**15 44 26.2**	**-0.1**
HOOD				IAmb	IAmb	15 44 49.5	
	comp=Z,9.3nm,1.0s						
SSPA	**Standing Stone**	**53.02**	**27**	P	**P**	**15 44 29.9**	**-0.8**
	baz=217						
EGMT	**Eagleton**	**53.44**	**357**	P	**P**	**15 44 32.3**	**-1.5**
	baz=176						
L56A	**Greenwood**	**54.37**	**26**	P	**P**	**15 44 39.3**	**-1.3**
NEW	**Newport**	**54.39**	**351**	P	**P**	**15 44 41.0**	**+0.4**
	baz=167						
NEW	**Newport**	**54.39**	**351**	LR	LR	16 04 02.0	
	comp=Z,81nm,18.7s,baz=188,slow=32						
GNW	**Green Mountain**	**54.80**	**347**	P	**P**	**15 44 42.5**	**-1.1**
GNW				IAmb	IAmb	15 44 44.8	
	comp=Z,6.5nm,1.2s						
EYMN	**Ely**	**54.93**	**12**	P	**P**	**15 44 45.1**	**+0.5**
	baz=199						
BINY	**Binghamton**	**55.13**	**27**	P	**P**	**15 44 46.4**	**+0.3**
	baz=218						
PAL	**Palisades**	**55.20**	**30**	P	**P**	**15 44 48.6**	**+2.0**
	baz=221						
SADO	**Sadowa**	**55.86**	**23**		**P**	**15 44 49.8**	**-1.5**
SADO	**Sadowa**	**55.86**	**23**	LR	LR	16 08 45.3	
	comp=Z,57nm,18.3s,baz=270,slow=36						
KSCT	**Kent School, K**	**55.95**	**30**	P	**P**	**15 44 50.1**	**-1.9**
ULM	**Lac du Bonnet**	**56.37**	**8**	P	**P**	**15 44 52.1**	**-2.7**
	comp=Z,4.2nm,0.9s,baz=217,slow=7.4,SNR=3.8						
ULM				LR	LR	16 07 17.0	
	comp=Z,123nm,18.5s,baz=241,slow=34						
	comp=Z,4.2nm,0.9s						
L61B	**Northampton**	**56.89**	**30**	P	**P**	**15 45 00.1**	**+1.4**
	baz=222						
BDFB	**Brasilia**	**58.32**	**105**	P	**P**	**15 45 08.2**	**-1.2**
	comp=Z,2.6nm,0.7s,baz=208,slow=2.8,SNR=3.4						
BDFB				LR	LR	16 07 47.8	
	comp=Z,169nm,20.2s,baz=327,slow=34						
	comp=Z,2.6nm,0.7s						
LBNH	**Lisbon**	**58.60**	**29**	P	**P**	**15 45 12.0**	**+1.3**
	baz=222						
EDM	**Edmonton**	**58.84**	**355**	P	**P**	**15 45 11.7**	**-0.6**
LMQ	**La Malbaie**	**61.81**	**27**	P	**P**	**15 45 32.6**	**-0.1**
WRAK	**Wrangell Islan**	**65.28**	**345**	P	**P**	**15 45 56.9**	**+1.5**
	baz=152						
PMSA	**Palmer Station**	**66.35**	**162**	LR	LR	16 07 13.8	
	comp=Z,167nm,20.9s,baz=252,slow=29						
DLBC	**Dease Lake**	**66.51**	**347**	P	**P**	**15 46 03.1**	**-0.3**
DLBC				IAmb	IAmb	15 46 04.7	
	comp=Z,4.8nm,0.9s						
DLBC	**Dease Lake**	**66.51**	**347**	P	**P**	**15 46 04.4**	**+1.0**
	baz=155						
Q32M	**Nakina River**	**67.51**	**346**	P	**P**	**15 46 11.7**	**+1.8**
	baz=152						
R33M	**Jennings River**	**67.59**	**347**	P	**P**	**15 46 10.3**	**0.0**
R33M				IAmb	IAmb	15 46 11.6	
	comp=Z,6.3nm,1.1s						
R33M	**Jennings River**	**67.59**	**347**	P	**P**	**15 46 11.2**	**+0.9**
	baz=154						
YKA	**Yellowknife Ar**	**68.14**	**356**	P	**P**	**15 46 10.9**	**-2.7**
	comp=Z,2.7nm,1.0s,baz=169,slow=6.3,SNR=5.1						
	comp=Z,2.7nm,1.0s						
P32M	**Atlin**	**68.42**	**346**	P	**P**	**15 46 16.1**	**+0.7**
	baz=151						
SCHQ	**Schefferville**	**68.67**	**23**	LR	LR	16 15 29.0	
	comp=Z,56nm,20.0s,baz=273,slow=35						
SKAG	**Skagway**	**68.72**	**345**	P	**P**	**15 46 18.6**	**+1.5**
	baz=149						
P33M	**Teslin, Yukon**	**68.75**	**346**	P	**P**	**15 46 18.6**	**+1.1**
	baz=152						
PLBC	**Pleasant Camp**	**68.99**	**344**	P	**P**	**15 46 20.6**	**+1.7**
	baz=148						
P29M	**Windy Craggy**	**69.51**	**344**	P	**P**	**15 46 22.3**	**+0.1**
	baz=147						
N32M	**Quiet Lake**	**69.64**	**347**	P	**P**	**15 46 23.7**	**+0.7**
	baz=152						
P30M	**Million Dollar**	**69.71**	**344**	P	**P**	**15 46 23.6**	**+0.1**
	baz=148						
PNL	**Peninsula**	**70.02**	**343**	P	**P**	**15 46 25.7**	**+0.4**
	baz=145						
O30N	**Mendenhall**	**70.04**	**345**	P	**P**	**15 46 26.1**	**+0.6**
	baz=149						
O29M	**Mount Kennedy**	**70.31**	**344**	P	**P**	**15 46 27.8**	**+0.6**
	baz=146						
N31M	**Braeburn, Yuko**	**70.58**	**346**	P	**P**	**15 46 28.9**	**+0.2**
	baz=149						
YUK6	**Outpost Mounta**	**70.78**	**344**	P	**P**	**15 46 30.3**	**+0.1**
	baz=146						
M31M	**Drury Creek, Y**	**70.87**	**347**	P	**P**	**15 46 32.4**	**+2.0**
	baz=151						
N30M	**Aishikik Lake**	**70.88**	**345**	P	**P**	**15 46 31.9**	**+1.3**
	baz=148						
O28M	**Mount Upton**	**71.15**	**343**	P	**P**	**15 46 33.0**	**+0.5**
	baz=145						
MESA	**MESA**	**71.19**	**342**	P	**P**	**15 46 34.2**	**+1.6**
	baz=143						
YUK4	**Talbot Arm**	**71.19**	**344**	P	**P**	**15 46 34.3**	**+1.7**
	baz=146						
YUK8	**Steele Glacier**	**71.45**	**344**	P	**P**	**15 46 35.1**	**+0.8**
	baz=145						
CTG	**Chitna Glacier**	**71.64**	**343**	P	**P**	**15 46 36.2**	**+0.9**
	baz=144						
WAX	**Waxell Ridge**	**71.68**	**342**	P	**P**	**15 46 34.6**	**-0.8**
M30M	**Minto, Yukon**	**71.76**	**346**	P	**P**	**15 46 36.8**	**+1.0**
	baz=148						
KAIM	**Kayak Island**	**71.77**	**341**	P	**P**	**15 46 34.7**	**-1.2**
KAIM	**Kayak Island**	**71.77**	**341**	P	**P**	**15 46 37.3**	**+1.4**
	baz=140						
CRQE	**Cirque**	**71.99**	**342**	P	**P**	**15 46 38.8**	**+1.5**
	baz=142						
YUK3	**Moose Creek**	**72.04**	**344**	P	**P**	**15 46 38.6**	**+0.8**
	baz=144,SNR=5.5						
M29M	**Somme Creek**	**72.06**	**345**	P	**P**	**15 46 36.7**	**-1.1**
M29M	**Somme Creek**	**72.06**	**345**	P	**P**	**15 46 38.3**	**+0.5**
	baz=147						
L29M	**L29M**	**72.54**	**346**	P	**P**	**15 46 39.9**	**-0.6**
L29M	**L29M**	**72.54**	**346**	P	**P**	**15 46 41.2**	**+0.7**
	baz=147,SNR=7.6						
BMRM	**Bremner River**	**72.63**	**342**	P	**P**	**15 46 42.6**	**+1.5**
	baz=140,SNR=5.0						
M27K	**Edge Creek, AK**	**72.91**	**344**	P	**P**	**15 46 44.0**	**+1.2**
	baz=143						
K29M	**Barlow Dome**	**73.01**	**346**	P	**P**	**15 46 43.0**	**-0.4**
K29M				IAmb	IAmb	15 47 02.2	
	comp=Z,6.0nm,1.2s						
K29M	**Barlow Dome**	**73.01**	**346**	P	**P**	**15 46 43.9**	**+0.5**
	baz=148						
N25K	**Chitina, Valde**	**73.12**	**342**	P	**P**	**15 46 45.1**	**+1.0**
	baz=140						
KDAK	**Kodiak Island**	**73.18**	**336**	LR	LR	16 11 29.6	
	comp=Z,142nm,19.0s,baz=165,slow=30						
M26K	**Nabesna, AK**	**73.26**	**343**	P	**P**	**15 46 45.1**	**+0.3**
M26K				IAmb	IAmb	15 46 48.0	
	comp=Z,11nm,1.4s						
M26K	**Nabesna, AK**	**73.26**	**343**	P	**P**	**15 46 45.3**	**+0.5**
	baz=142						
GLI	**Glacier Island**	**73.36**	**341**	P	**P**	**15 46 45.9**	**+0.5**
	baz=138						
J30M	**Hart River**	**73.36**	**347**	P	**P**	**15 46 45.5**	**0.0**
	baz=149						
KLU	**Klutina**	**73.44**	**342**	P	**P**	**15 46 45.6**	**-0.3**
	baz=139						
BCAR	**Beaver Creek A**	**73.45**	**344**	P	**P**	**15 46 45.5**	**-0.5**
L27K	**Beaver Creek,**	**73.46**	**344**	P	**P**	**15 46 45.4**	**-0.6**
L27K				IAmb	IAmb	15 46 47.3	
	comp=Z,11nm,1.2s						
L27K	**Beaver Creek,**	**73.46**	**344**	P	**P**	**15 46 46.6**	**+0.7**
	baz=143,SNR=6.5						
DAWY	**Dawson**	**73.65**	**346**	P	**P**	**15 46 47.2**	**+0.2**
DAWY				IAmb	IAmb	15 47 03.2	
	comp=Z,7.1nm,1.2s						
DAWY	**Dawson**	**73.65**	**346**	P	**P**	**15 46 47.4**	**+0.3**
	baz=146						
R18K	**Karluk**	**73.80**	**335**	P	**P**	**15 46 49.1**	**+1.1**
	baz=130						
BRSE	**Bradley Lake S**	**73.81**	**338**	P	**P**	**15 46 48.0**	**-0.1**
	baz=134						
I30M	**Mount Dempster**	**73.93**	**347**	P	**P**	**15 46 48.8**	**0.0**
	baz=149						
H31M	**Peel River**	**74.02**	**349**	P	**P**	**15 46 49.3**	**+0.2**
	baz=151						
KNK	**Knik Glacier**	**74.20**	**341**	P	**P**	**15 46 50.8**	**+0.5**
	baz=136						
M23K	**Glacier View**	**74.24**	**341**	P	**P**	**15 46 51.0**	**+0.5**
	baz=137						
K27K	**Chicken**	**74.31**	**345**	P	**P**	**15 46 50.3**	**-0.5**
K27K				IAmb	IAmb	15 46 52.6	
	comp=Z,12nm,1.1s						
K27K	**Chicken**	**74.31**	**345**	P	**P**	**15 46 51.4**	**+0.5**
	baz=143						
RC01	**Rabbit Creek A**	**74.40**	**340**	P	**P**	**15 46 52.7**	**+1.2**
	baz=135						
PAX	**Paxson**	**74.43**	**343**	P	**P**	**15 46 51.9**	**+0.2**
	baz=140						
CHNA	**Chernabura Isl**	**74.44**	**331**	P	**P**	**15 46 52.7**	**+1.0**
	baz=125						
SML	**Sawmill**	**74.45**	**341**	P	**P**	**15 46 52.0**	**+0.2**
	baz=137						
I29M	**Ogilvie Camp,**	**74.48**	**347**	P	**P**	**15 46 52.8**	**+1.0**
	baz=147						
PMR	**Palmer**	**74.56**	**340**	P	**P**	**15 46 53.3**	**+1.0**
	baz=136						
CAPN	**Captain Cook N**	**74.67**	**339**	P	**P**	**15 46 53.5**	**+0.5**
	baz=134						
EGAK	**Eagle**	**74.68**	**345**	P	**P**	**15 46 52.8**	**-0.2**
EGAK				IAmb	IAmb	15 47 08.2	
	comp=Z,11nm,1.0s						
EGAK	**Eagle**	**74.68**	**345**	P	**P**	**15 46 54.2**	**+1.3**
	baz=144,SNR=5.5						
Q18K	**Katmai Hardscr**	**74.72**	**336**	P	**P**	**15 46 54.2**	**+0.7**
	baz=130						
O20K	**Slope Mountain**	**74.74**	**338**	P	**P**	**15 46 52.9**	**-0.6**
	ba

N19K	Bonanza Creek	75.91 338	P	P	15 46 59.4	-0.9
	baz=131					
H27K	Steamboat Moun	75.95 346	P	P	15 47 00.3	-0.1
	baz=144,SNR=5.2					
HDA	Harding Lake	75.95 343	P	P	15 46 59.6	-0.7
	baz=138					
MCK	McKinley	76.04 342	P	P	15 47 01.1	+0.2
	baz=136					
INK	Inuvik	76.08 350	P	P	15 47 01.6	+0.7
INK			IAmb	IAmb	15 47 03.0	
	comp=Z,10nm,1.4s					
INK	Inuvik	76.08 350	P	P	15 47 01.6	+0.7
	baz=152					
INK	Inuvik	76.08 350	LR	LR	16 17 49.1	
	comp=Z,78nm,18.1s,baz=212,slow=34					
M20K	Styx River	76.13 339	P	P	15 47 01.5	0.0
	baz=132					
P16K	Nushagak River	76.18 335	P	P	15 47 01.3	-0.4
	baz=127					
ILAR	Eielson Array	76.20 343	P	P	15 47 00.1	-1.7
ILAR	Eielson Array	76.20 343	P	P	15 47 00.6	-1.2
	comp=Z,2.5nm,0.9s,baz=154,slow=4.2,SNR=23					
	comp=Z,2.5nm,0.9s					
TRF	Thorofare Moun	76.26 341	P	P	15 47 01.3	-1.0
	baz=135					
O17K	Koliganek Bris	76.26 336	P	P	15 47 01.8	-0.4
	baz=128					
WRH	Wood River Hil	76.33 343	P	P	15 47 01.6	-0.8
N18K	Kilae Creek	76.36 337	P	P	15 47 01.9	-0.9
	baz=129					
PRP	Porcupine Dome	76.39 344	P	P	15 47 01.9	-1.1
PRP	Porcupine Dome	76.39 344	P	P	15 47 01.7	-1.3
	baz=140					
G27K	Doyon Strip	76.45 346	P	P	15 47 03.5	+0.3
	baz=144					
PPLA	Purkeypile	76.49 340	P	P	15 47 03.3	-0.3
	baz=133					
BWN	Browne	76.52 342	P	P	15 47 02.3	-1.3
KTH	Kantishna Hill	76.53 341	P	P	15 47 02.7	-1.1
O16K	Kokwok River B	76.56 336	P	P	15 47 03.7	-0.1
	baz=127					
M19K	Big River Lodg	76.59 339	P	P	15 47 03.4	-0.6
	baz=131					
NEA2	Nenana	76.71 343	P	P	15 47 03.5	-1.1
NEA2			IAmb	IAmb	15 47 05.4	
	comp=Z,9.1nm,1.1s					
NEA2	Nenana	76.71 343	P	P	15 47 03.6	-1.0
	baz=136					
F28M	Old Crow	76.71 348	P	P	15 47 03.7	-0.9
F28M			IAmb	IAmb	15 47 06.1	
	comp=Z,7.5nm,1.1s					
F28M	Old Crow	76.71 348	P	P	15 47 03.3	-1.4
	baz=146					
MDM	Murphy Dome	76.73 343	P	P	15 47 03.3	-1.4
MDM			IAmb	IAmb	15 47 05.7	
	comp=Z,6.2nm,1.1s					
N17K	Nushagak Hills	76.76 337	P	P	15 47 03.5	-1.5
N17K	Nushagak Hills	76.76 337	P	P	15 47 05.0	0.0
	baz=126					
CAST	Castle Rocks	76.82 341	P	P	15 47 03.8	-1.5
CAST			IAmb	IAmb	15 47 05.9	
	comp=Z,9.0nm,1.2s					
CAST	Castle Rocks	76.82 341	P	P	15 47 04.8	-0.5
	baz=133,SNR=5.3					
M18K	Stony River	76.85 338	P	P	15 47 05.2	-0.3
	baz=129					
L19K	White Mountain	76.94 339	P	P	15 47 05.6	-0.4
	baz=130					
BPAW	Bear Paw Mtn.	76.94 342	P	P	15 47 05.7	-0.3
	baz=134					
E29M	Blow River	76.96 349	P	P	15 47 05.9	-0.1
	baz=148					
O15K	Ungalikthiuk R	77.03 335	P	P	15 47 06.1	-0.4
	baz=125					
H25L	Birch Creek	77.05 345	P	P	15 47 06.5	0.0
	baz=140					
G26K	Porcupine Rive	77.07 346	P	P	15 47 06.5	-0.1
	baz=142					
I23K	Minto, Yukon-K	77.19 343	P	P	15 47 06.1	-1.2
I23K			IAmb	IAmb	15 47 08.6	
	comp=Z,11nm,1.4s					
I23K	Minto, Yukon-K	77.19 343	P	P	15 47 07.1	-0.2
	baz=136					
CHUM	Lake Minchumin	77.21 341	P	P	15 47 07.5	0.0
	baz=133					
H24K	Noodor Dome	77.28 344	P	P	15 47 06.6	-1.3
H24K	Noodor Dome	77.28 344	P	P	15 47 08.1	+0.2
	baz=138					
N16K	Nishlik Lake	77.36 336	P	P	15 47 08.2	-0.2
	baz=126					
UNV	Unalaska Valle	77.38 328	P	P	15 47 09.2	+0.6
	baz=118					
M17K	Holitna River	77.40 338	P	P	15 47 08.4	-0.1
	baz=128					
K20K	Telida	77.44 340	P	P	15 47 07.7	-1.1
	baz=131					
E28M	Babbage River	77.47 348	P	P	15 47 08.8	-0.1
	baz=146					
G25K	Bearman Lake	77.50 345	P	P	15 47 09.6	+0.6
	baz=140					
MLY	Manley	77.52 342	P	P	15 47 07.9	-1.3
MLY	Manley	77.52 342	P	P	15 47 08.2	-1.0
	baz=135					
E27K	Coleen River	77.56 347	P	P	15 47 08.5	-0.9
	baz=144					
L18K	Granite Mounta	77.63 338	P	P	15 47 08.5	-1.3
	baz=129					
BMAR	Burnt Mountain	77.64 346	P	P	15 47 09.2	-0.7
O14K	Tigyukauivet M	77.68 335	P	P	15 47 09.5	-0.7
	baz=124					
H23K	Yukon River	77.74 343	P	P	15 47 09.8	-0.7
	baz=136					
F26K	Sheenjek River	77.74 346	P	P	15 47 09.5	-0.9
	baz=142					
M16K	Timber Creek	77.76 337	P	P	15 47 09.9	-0.7
	baz=126					
G24K	Hadweenzic Riv	77.81 345	P	P	15 47 10.3	-0.5
	baz=138					
I21K	Tanana	78.00 342	P	P	15 47 10.9	-1.0
	baz=134					
J20K	Nowinta River	78.01 341	P	P	15 47 11.3	-0.6
	baz=132					
F25K	Christian River	78.03 346	P	P	15 47 11.5	-0.5
	baz=140					
L17K	Donlin	78.17 338	P	P	15 47 12.4	-0.4
	baz=127					
N14K	Kuskokwak Cree	78.23 335	P	P	15 47 12.8	-0.4
	baz=124					
M15K	Kasigluk River	78.26 336	P	P	15 47 13.2	-0.1
	baz=125					
H22K	Ishtalitna Cre	78.32 343	P	P	15 47 13.6	0.0
	baz=134					
L16K	Owhat River	78.36 337	P	P	15 47 13.8	-0.2
	baz=126					
J19K	Poorman	78.38 340	P	P	15 47 13.8	-0.2
	baz=130					
E25K	Arctic Village	78.41 346	P	P	15 47 14.9	+0.7
	baz=140					
J18K	Innoko River	78.42 339	P	P	15 47 13.8	-0.4
	baz=129					
G23K	Bananza Creek	78.51 344	P	P	15 47 13.0	-1.7
G23K	Bananza Creek	78.51 344	P	P	15 47 14.0	-0.7
	baz=136					
K17K	Iditarod	78.52 338	P	P	15 47 15.1	+0.3
	baz=127					
I20K	Naaghedeneel	78.53 341	P	P	15 47 14.9	+0.2
	baz=131					
F24K	Squaw Lake	78.53 345	P	P	15 47 14.4	-0.4
F24K			IAmb	IAmb	15 47 16.1	
	comp=Z,12nm,1.4s					
F24K	Squaw Lake	78.53 345	P	P	15 47 14.8	0.0
	baz=138					
H21K	Melozitna Rive	78.58 342	P	P	15 47 13.9	-1.1
H21K			IAmb	IAmb	15 47 15.8	
	comp=Z,9.1nm,1.1s					
H21K	Melozitna Rive	78.58 342	P	P	15 47 15.3	+0.2
	baz=133					
M14K	Bethel	78.81 336	P	P	15 47 16.7	+0.3
	baz=124					
COLD	Coldfoot	78.93 344	P	P	15 47 17.3	+0.4
	baz=136					
G22K	Bettles	79.08 344	P	P	15 47 18.6	+0.8
	baz=134					
H20K	Anotleneega Mo	79.11 342	P	P	15 47 18.2	+0.2
	baz=131					
L15K	Ungalak Mounta	79.13 337	P	P	15 47 18.4	+0.3
	baz=124					
M13K	Dall Lake	79.20 335	P	P	15 47 19.7	+1.2
	baz=122					
GCSA	Galena City Sc	79.28 340	P	P	15 47 19.1	+0.2
	baz=129					
G21K	Allakaket	79.38 343	P	P	15 47 19.3	-0.1
	baz=132					
E23K	Chandalar	79.38 345	P	P	15 47 19.9	+0.4
	baz=136					
L14K	Kuka Creek	79.42 336	P	P	15 47 20.7	+1.0
	baz=123					
K15K	Wolf Creek Mou	79.50 337	P	P	15 47 21.6	+1.5
	baz=124					
D25K	Kavik River	79.53 347	P	P	15 47 21.2	+0.9
	baz=140					
H19K	Roundabout Mou	79.64 341	P	P	15 47 21.5	+0.7
	baz=130					
C26K	Camden Bay	79.66 347	P	P	15 47 21.9	+1.1
	baz=141					
F22K	John River	79.67 344	P	P	15 47 21.8	+0.8
	baz=134					
J16K	Anvik River	79.71 338	P	P	15 47 21.2	0.0
J16K			IAmb	IAmb	15 47 22.6	
	comp=Z,15nm,1.2s					
J16K	Anvik River	79.71 338	P	P	15 47 22.4	+1.1
	baz=125					
TOLK	Toolik Lake Re	79.79 345	P	P	15 47 22.5	+0.8
	baz=137					
F21K	Alatna River	79.85 343	P	P	15 47 22.6	+0.6
	baz=133					
E22K	Anaktuvuk Pass	80.01 344	P	P	15 47 23.3	+0.4
	baz=134					
H18K	Honhosa River	80.03 340	P	P	15 47 23.6	+0.6
	baz=128					
I17K	Unalakleet	80.09 339	P	P	15 47 23.3	0.0
I17K	Unalakleet	80.09 339	P	P	15 47 24.6	+1.3
	baz=125					
G19K	Purcell Mounta	80.23 341	P	P	15 47 24.9	+0.9
	baz=129					
D23K	Nanushuk River	80.31 345	P	P	15 47 25.0	+0.6
	baz=136					
C24K	Franklin Bluff	80.37 346	P	P	15 47 25.0	+0.3
	baz=138					
F20K	Avaraart Lake	80.39 343	P	P	15 47 25.8	+0.9
	baz=130					
M11K	Mekoryuk	80.40 334	P	P	15 47 25.6	+0.6
	baz=120					
J14K	Nanvaranak Lak	80.53 337	P	P	15 47 26.7	+1.0
	baz=122					
K13K	Kusilvak Mount	80.54 336	P	P	15 47 27.7	+1.9
	baz=121					
G18K	Tagagawik	80.58 341	P	P	15 47 26.0	0.0
G18K	Tagagawik	80.58 341	P	P	15 47 27.4	+1.5
	baz=127					
RPZ	Rata Peaks	80.62 227	LR	LR	16 17 00.6	
	comp=Z,142nm,19.1s,baz=283,slow=31					
D22K	Ayikyak River	80.76 345	P	P	15 47 28.4	+1.6
	baz=134					
SPIA	Saint Paul Isl	80.79 330	P	P	15 47 28.5	+1.3
	baz=116					
BELA	Belgrano 2	80.84 168		P	15 47 26.6	-0.6
BELA			IAmb	IAmb	15 47 28.8	
	comp=Z,4.3nm,0.8s					
F19K	Shaleruckik Mo	80.88 342	P	P	15 47 30.3	+2.8
	baz=128					
E19K	Redstone River	81.10 342	P	P	15 47 30.5	+1.8
	baz=129					
E20K	Nigu River	81.31 343	P	P	15 47 31.3	+1.5
	baz=130					
C21K	Knifeblade Rid	81.51 344	P	P	15 47 31.7	+0.9
	baz=132					
G16K	Koyuk River	81.54 340	P	P	15 47 32.9	+1.9
	baz=124					
F17K	Baldwin Pennin	81.75 341	P	P	15 47 33.7	+1.6
	baz=125					
D19K	Kuna River	82.01 343	P	P	15 47 35.1	+1.5
	baz=128					
E18K	Tukpahlearik C	82.11 342	P	P	15 47 35.6	+1.5
	baz=126					
ANM	Nome	82.18 338	P	P	15 47 35.9	+1.4
	baz=121					
F15K	North Star Dit	82.51 339	P	P	15 47 38.7	+2.5
	baz=122					
C18K	Utukok River	83.01 343	P	P	15 47 40.2	+1.4
	baz=125					
D17K	Noatak River	83.06 341	P	P	15 47 40.4	+1.5
	baz=123					
A21K	Barrow	83.40 346	P	P	15 47 41.8	+1.1
	baz=130					
QSPA	South Pole Qui	84.49 180	P	P	15 47 47.0	+0.4
QSPA	South Pole Qui	84.49 180	P	P	15 47 47.0	+0.4
	comp=Z,17nm,1.0s,baz=125,slow=2.1,SNR=32					
	comp=Z,17nm,1.0s					
VNDA	Vanda	84.93 193		P	15 47 48.2	-0.2
VNDA	Vanda	84.93 193	P	P	15 47 49.7	+1.3
	comp=Z,4.6nm,1.2s,baz=11,slow=2.4,SNR=11					
	comp=Z,4.6nm,1.2s					
SHEM	Shemya Is, Ala	87.92 323	LR	LR	16 18 54.1	
	comp=Z,110nm,21.6s,baz=318,slow=30					
H11N3	WAKE ISLAND Hy	88.53 290	T	T	17 25 56.9	
	baz=96,slow=74,SNR=8.7					
H11N2	WAKE ISLAND Hy	88.54 290	T	T	17 26 03.7	
	baz=96,slow=74,SNR=9.7					
H11N1	WAKE ISLAND Hy	88.55 290	T	T	17 25 52.8	
	baz=96,slow=74,SNR=4.9					
H11S2	WAKE ISLAND Hy	88.58 289	T	T	17 26 02.0	
	baz=100					
H11S1	WAKE ISLAND Hy	88.59 289	T	T	17 26 02.0	
	baz=100					
H11S3	WAKE ISLAND Hy	88.60 289	T	T	17 26 08.2	
	baz=100					
PETK	Petropavlovsk-	97.82 323	LR	LR	16 24 17.9	
	comp=Z,75nm,20.4s,baz=100,slow=30					
SEY	Seymchan	99.93 333	LR	LR	16 27 13.9	
	comp=Z,66nm,21.3s,baz=102,slow=31					
SONM	Songino Array	129.31 332	PKP	PKPdf	15 54 21.6	-1.0
	comp=Z,0.4nm,0.5s,baz=67,slow=4.8,SNR=4.1					
BRTR	Keskin Array B	130.68 41	PKP	PKPdf	15 54 23.4	-2.1
	comp=Z,1.8nm,1.0s,baz=6.9,slow=4.1,SNR=5.3					
ZALV	Zalesovo Beam	130.87 351	PKP	PKPdf	15 54 23.9	-1.3
	comp=Z,1.2nm,0.8s,baz=26,slow=3.8,SNR=6.1					
BVAR	Borovoye Array	132.63 2	PKP	PKPdf	15 54 27.7	-0.9
	comp=Z,1.1nm,0.7s,baz=350,slow=2.4,SNR=7.1					
KURBB	Kurchatov Arra	134.89 355	PKP	PKPdf	15 54 31.1	-1.7
	comp=Z,0.8nm,0.3s,baz=6.1,slow=1.9,SNR=5.8					
MKAR	Makanchi Array	138.21 351	PKP	PKPdf	15 54 38.4	-0.9
	comp=Z,1.3nm,0.8s,baz=56,slow=0.9,SNR=7.5					
GEYT	Alibeck	144.93 21	PKP	PKPab	15 54 50.2	-0.4
	comp=Z,2.2nm,0.7s,baz=268,slow=13,SNR=5.5					
PZH	PanZhiHua	145.84 311	PKPbc	PKPdf	15 54 51.8	-1.8
KSH	Kashi	146.12 356	PKPbc	PKPdf	15 54 55.8	+2.1
CMAR	Chiang Mai Arr	151.94 299	PKP	PKPdf	15 55 01.4	-2.0
	comp=Z,0.4nm,0.3s,baz=104,slow=1.9,SNR=3.1					
CMAR			PKPbc	sPKPdf	15 55 09.5	+2.8
	comp=Z,0.8nm,0.3s,baz=46,slow=0.8,SNR=10					
CMAR			PKPab	sPKPbc	15 55 15.9	+2.8
	comp=Z,3.6nm,0.7s,baz=22,slow=1.1,SNR=8.1					

*GUC **29** 15:37:43.3±0.7,21°.42S×67°.04W,h259km±10km,ML3.7*
*SCB **29** 15:37:43.0±1.4,21°.38S×66°.77W,h211km±9km,ML3.7/5,*
MW3.8,Error ellipse: s-maj=3.9km s-min=3.3km az=0.0

ISC 29 15:37:41.9±1.8,21°.39S±0°.04×66°.76W±0°.04,
h224km±14km,n39,σ1°31/57,4C-1D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.05	83	Pg	Pn	15 38 15.6	+0.6
MOCB				Sg	S	15 38 39.5	-1.2
MOCB				IAML		15 38 40.5	
	317nm,0.3s						
YJA	Yavi	1.40	124	Pg	Pn	15 38 18.1	+0.7
AOVT	TarijaAcel	1.92	95	Pg	Pn	15 38 21.8	+0.1
LVC	Limon Verde	2.34	238	*i* S	S	15 39 00.6	+0.3
PB09	IPOC Station P	2.35	260⇑	*e*P	Pn	15 38 27.4	+1.6
PB08	IPOC Station P	2.56	299	Pg	Pn	15 38 29.9	+1.4
PB08	IPOC Station P	2.56	299⇓	*e*P	Pn	15 38 29.8	+1.4
PB08				*e*S	S	15 39 05.7	+1.1
PB01	IPOC Station P	2.57	277	*e*P	Pn	15 38 29.3	+1.2
PB01				*e*S	S	15 39 03.8	-0.4
PB01				IAML		15 39 05.8	
	comp=N,74nm,0.3s						
GO01	Chusmiza	2.85	306	Pg	Pn	15 38 33.1	+1.4
GO01	Chusmiza	2.85	306⇑	*e*P	Pn	15 38 33.0	+1.2
GO01				*e*S	S	15 39 11.2	+0.7
GO01				IAML		15 39 20.6	
	comp=N,163nm,0.1s						
PB06	IPOC Station P	2.92	243	Pg	Pn	15 38 33.7	+1.6
PB06	IPOC Station P	2.92	243	*e*P	Pn	15 38 33.3	+1.3
PB06				*e*S	S	15 39 11.0	-0.2
PB06				IAML		15 39 12.3	
	comp=E,106nm,0.2s						
PB02	IPOC Station P	2.93	271	Pg	Pn	15 38 33.0	+0.9
PB02				Sg	S	15 39 10.0	-1.2
PB02				IAML		15 39 11.2	
	comp=E,212nm,0.3s						
PB02	IPOC Station P	2.93	271	*e*P	Pn	15 38 32.8	+0.7
PB02				*e*S	S	15 39 09.9	-1.4
PB07	IPOC Station P	2.93	263	*e*P	Pn	15 38 32.9	+0.7
PB07				*e*S	S	15 39 10.2	-1.3
PB07				IAML		15 39 11.6	
	comp=E,161nm,0.1s						
SOEO	Opoqueri	3.01	339	Pg	Pn	15 38 34.3	+0.8
PB15	IPOC Station P	3.10	234	Pg	Pn	15 38 35.3	+1.2
PB15				Sg	S	15 39 14.6	-0.3
PB15				IAML		15 39 18.9	
	comp=E,500nm,0.2s						
PB15	IPOC Station P	3.10	234	*i* S	S	15 39 14.9	-0.1
HMBC	Humberstone	3.13	290	Pg	Pn	15 38 34.6	+0.1
HMBC				Sg	S	15 39 13.8	-1.7
HMBC				IAML		15 39 17.8	
	comp=E,66nm,0.5s						
HMBC	Humberstone	3.13	290	*e*P	Pn	15 38 34.5	+0.1
HMBC				*e*S	S	15 39 13.6	-1.9
PATCX	Punta Patache	3.22	280	*e*P	Pn	15 38 35.9	+0.5
PATCX				*e*S	S	15 39 15.7	-1.5
PB04	IPOC Station P	3.29	253	Pg	Pn	15 38 37.0	+0.7
PB04	IPOC Station P	3.29	253	*e*P	Pn	15 38 36.9	+0.6
PB04				*i* S	S	15 39 16.8	-2.0
SOTI	Planta Incahua	3.30	62	Pg	Pn	15 38 36.8	+0.4
TA01	Diego Aracena	3.30	284	Pg	Pn	15 38 36.7	+0.4
TA01	Diego Aracena	3.30	284	*e*P	Pn	15 38 36.3	0.0
TA01				*e*S	S	15 39 16.4	-2.5
TA02	Huaiquique	3.35	289	Pg	Pn	15 38 37.3	+0.5
TA02	Huaiquique	3.35	289	*e*S	S	15 39 18.2	-1.6
SOET	ToroToro	3.38	15	Pg	Pn	15 38 38.4	+0.8
SOET				Sg	S	15 39 19.8	-1.4
SOET				IAML		15 39 21.4	
	comp=E,45nm,0.4s						
AOEA	Aiquile	3.50	24	Pg	Pn	15 38 39.3	+0.3
SLA	San Lorenzo	3.51	161	Pg	Pn	15 38 40.4	+1.5
PB16	IPOC Station P	3.99	319	*e*P	Pn	15 38 47.0	+1.9
PB16			⇑	*e*S	S	15 39 35.9	+1.2
PB12	IPOC Station P	4.35	309	*e*P	Pn	15 38 48.7	-0.3
PB12				*i* S	S	15 39 37.9	-3.8
GO02	Mina Guanaco	4.57	214	Pg	Pn	15 38 52.5	+0.7
GO02	Mina Guanaco	4.57	214⇑	*e*P	Pn	15 38 52.4	+0.7
GO02				*e*S	S	15 39 45.0	-1.9
SOEJ	Jacaque	4.60	343	Pg	Pn	15 38 54.2	+1.7
BBOE	La Paz, Chanca	4.70	346	Pg	Pn	15 38 55.2	+1.4
BBOD	La Paz, Gloria	5.04	339	Pg	Pn	15 38 59.3	+1.3
LPAZ	La Paz	5.24	345	Pg	Pn	15 39 02.2	+1.6

*EAF **29** 15:39:53.6,18°.67S×26°.53E,h10km,MC3.6*

BUL 29 15:39:53.2±0.9,18°.72S×26°.56E,h10km,MD3.9,
Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLWY	Bulawayo	2.39	127	*i* P	Pn	15 40 32.3	-0.4
BLWY				*i* S	Sn	15 41 00.9	-1.2
BLWY	Bulawayo	2.39	127	*i* P	Pn	15 40 32.3	-0.4
	baz=127						
BLWY				*i* S	Sn	15 41 00.9	-1.2
	baz=127						
MATP	Matopo	2.49	133	*i* P	Pn	15 40 34.0	0.0
MATP				*i* S	Sn	15 41 02.8	-1.8
MATP	Matopo	2.49	133	*i* P	Pn	15 40 34.0	0.0
	baz=134						
MATP				*i* S	Sn	15 41 02.8	-1.8
	baz=134						
LSZ	Lusaka	3.76	25	*i* P	Pn	15 40 51.6	+0.2
LSZ				*i* S	Sn	15 41 32.4	-3.4
LSZ	Lusaka	3.76	25	*i* P	Pn	15 40 51.6	+0.2
	baz=25						
LSZ				*i* S	Sn	15 41 32.4	-3.4
	baz=25						
MUSN	Musina, Limpop	4.71	140	*i* P	Pn	15 41 03.5	-0.9
MUSN				*i* S	Sn	15 41 55.1	-4.0
MUSN	Musina, Limpop	4.71	140	*i* P	Pn	15 41 03.5	-0.9
	baz=140						
MUSN				*i* S	Sn	15 41 55.1	-4.0
	baz=140						
MOPA	Mopani	6.57	137	*i* P	Pn	15 41 35.3	+5.4
MOPA				*i* S	Sn	15 42 48.5	+3.5
MOPA	Mopani	6.57	137	*i* P	Pn	15 41 35.3	+5.4
	baz=138						
MOPA				*i* S	Sn	15 42 48.5	+3.5
	baz=138						
BOSA	Boshof	9.92	187	*i* P	Pn	15 42 12.6	-3.5
BOSA	Boshof	9.92	187	*i* P	Pn	15 42 12.6	-3.5
	baz=186						

*LDG **29** 15:47:17.1±0.1,45°.40N×6°.37E,h2km,Md1.7/3,Ml2.6/1,*
Error ellipse: s-maj=3.5km s-min=1.8km az=139.0

STR 29 15:47:17.1±0.3,45°.N±2°×°±°,h5km,MLv2.1/14,Error
ellipse: s-maj=0.0km s-min=0.0km az=90.2,preliminary,
France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDM	Grand'Maison	0.26	213	Pg	Pg	15 47 22.2	0.0
GDM				Sg	Sg	15 47 25.6	-0.2
LPL	La Plagne	0.30	72	*e*Pg	Pg	15 47 23.2	+0.1
LPL				*e*Sg	Sg	15 47 26.4	-0.8
	24nm,0.3s						
LPG	La Plagne	0.31	76	*e*Pg	Pg	15 47 23.4	+0.1
LPG				*e*Sg	Sg	15 47 26.9	-0.6
	31nm,0.3s						
OGMO	Fort Saint-Gob	0.34	130	Pg	Pg	15 47 24.4	+0.7
OGMO				Sg	Sg	15 47 29.0	+0.9
RSL	Roselend	0.34	39	Pg	Pg	15 47 23.5	-0.3
RSL				Sg	Sg	15 47 27.8	-0.5
ORIF	Oris-en-Rattie	0.59	212	*e*Pg	Pg	15 47 28.3	-0.2
ORIF				*e*Sg	Sg	15 47 35.7	-0.5
	32nm,0.2s						
ORIF	Oris-en-Rattie	0.59	212	Pg	Pg	15 47 28.3	-0.2
ORIF				Sg	Sg	15 47 35.8	-0.4
OGSI	Sixt	0.71	25	Pg	Pg	15 47 30.3	-0.5
OG35	Corcelles	0.81	320	Pg	Pg	15 47 32.8	+0.1
OG35				Sg	Sg	15 47 43.6	+0.3
CREF	Crivoux	0.90	166	Pg	Pg	15 47 34.4	0.0
CREF				Sg	Sg	15 47 46.4	+0.4
DIX	Grande Dixence	1.01	49	Pg	Pg	15 47 35.9	-0.6
CABF	La Chapelle	1.20	352	*e*Pg	Pg	15 47 40.2	+0.1
CABF	La Chapelle	1.20	352	*e*P	Pn	15 47 41.2	+0.5
CABF				*e*Sg	Sb	15 47 56.6	+0.3
SSB	Saint Sauveur	1.26	264	Pg	Pn	15 47 41.5	0.0
VIVF	Saint-Julien-l	1.30	245	*e*Pg	Pb	15 47 42.1	+0.1
EMBD	Embd, Matterta	1.32	53	Pn	Pn	15 47 41.5	-0.8
RIVEL	MONT RIVEL	1.36	348	Pg	Pg	15 47 43.9	+0.6
TORNY	Torny/Romont	1.42	18	Pg	Pg	15 47 45.3	+0.9
TURF	col de Turini	1.64	152	Pg	Pg	15 47 49.8	+1.3
SAOF	Saorge	1.69	148	Pg	Pg	15 47 50.8	+1.4
CALF	Calern	1.73	165	Pg	Pg	15 47 50.0	-0.1
CHMF	Charmoille	1.84	7	Pn	Pn	15 47 49.0	-0.4
CHMF				Pg	Pg	15 47 52.0	-0.4

IDC 29 16:05:46.0±2.1,3°.67N×122°.76E,h0km,mb3.5/3,
mbtmp3.5/3,MS3.8/2,Error ellipse: s-maj=311.0km
s-min=27.1km az=62.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.08	155	P	P	16 11 21.8	+0.3
	0.3nm,0.4s,baz=335,slow=9.5,SNR=5.3						
	0.3nm,0.4s						
ASAR	Alice Springs	29.26	159	P	P	16 11 49.8	-0.3
	0.3nm,0.6s,baz

*VAO **29** 16:08:47.7±1.2,28°.73S×67°.30W,h118km±7km,mb4.7*
*IDC **29** 16:08:49.6±2.5,28°.59S×66°.88W,h118km±21km,mb4.1/10,*
mbtmp4.5/13,MS3.1/4,Error ellipse: s-maj=17.8km
s-min=14.7km az=75.0
*SJA **29** 16:08:52.0±1.1,28°.61S×67°.08W,h158km±4km,ML4.3,*
MW4.2
*NEIC **29** 16:08:52.4±1.1,28°.60S±0°.05×66°.98W±0°.08,h133km±4km,*
mb4.5/122,Error ellipse: s-maj=10.5km s-min=6.7km
az=112.0

ISC 29 16:08:52.4±0.6,28°.57S±0°.04×67°.07W±0°.05,h142km±5km,
n279,σ1°.44/285,mb4.5/68,3C,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AANI	**Anillaco**	**0.27**	**155**	*iP*		**Pn**	**16 09 15.9**	**+3.8**
AANI				*iS*		**Sn**	**16 09 30.5**	**+3.3**
TINO	**Tinogasta**	**0.67**	**319**	*iP*		**Pn**	**16 09 15.8**	**+1.8**
ACLC	**CERRO LA CRUZ**	**0.86**	**173**	*iP*		**Pn**	**16 09 17.1**	**+1.6**
ACLC				*iS*		**Sn**	**16 09 34.9**	**+1.8**
ACLC				IAML			16 09 35.4	
	comp=Z,5μm,0.4s							
VCA	**Vinchina**	**1.01**	**260**	*iP*		**Pn**	**16 09 18.7**	**+2.0**
VCA				*iS*		**Sn**	**16 09 37.2**	**+2.0**
APLL	**PUNTA DE LOS L**	**1.88**	**166**	*iP*		**Pn**	**16 09 26.8**	**+1.1**
GUSE	**Guasayan**	**2.08**	**71**	*eP*		**Pn**	**16 09 29.0**	**+1.0**
AHML	**Horco Molle**	**2.35**	**41**	*iP*		**Pn**	**16 09 32.3**	**+1.0**
ACDV	**Cuesta del Vie**	**2.40**	**228**	*iP*		**Pn**	**16 09 33.5**	**+1.5**
ACDV					IAML		16 10 11.3	
	comp=Z,992nm,1.2s							
AROD	**Rodeo**	**2.64**	**232**	*iP*		**Pn**	**16 09 36.8**	**+1.7**
AROD				*iS*		**Sn**	**16 10 10.1**	**+2.0**
ACCO	**Cerro Coronel**	**2.66**	**220**	*eP*		**Pn**	**16 09 36.3**	**+0.9**
ACCO				*iS*		**Sn**	**16 10 09.7**	**+1.1**
ACCO				IAML			16 10 12.7	
	comp=Z,567nm,0.4s							
AC05	**El Transito**	**2.83**	**264**			**Pn**	**16 09 39.0**	**+1.7**
AC05	**El Transito**	**2.83**	**264**	*iP*		**Pn**	**16 09 38.5**	**+1.1**
AC05				IAML			16 10 16.8	
	comp=Z,1μm,0.9s							
DOCA	**Reserva Natura**	**2.95**	**216**	*iP*		**Pn**	**16 09 39.7**	**+0.6**
DOCA				*iS*		**Sn**	**16 10 15.7**	**+0.4**
GO03	**Copiap**	**2.96**	**288**			**Pn**	**16 09 40.0**	**+1.0**
GO03	**Copiap**	**2.96**	**288**	*iP*		**Pn**	**16 09 40.0**	**+1.0**
CO01	**Juntas del Tor**	**2.99**	**241**			**Pn**	**16 09 41.6**	**+2.0**
CO01	**Juntas del Tor**	**2.99**	**241**	*iP*		**Pn**	**16 09 41.8**	**+2.2**
RTLL	**Cerro Villicun**	**3.01**	**204**	*iP*		**Pn**	**16 09 40.1**	**+0.5**
RTLL				*iS*		**Sn**	**16 10 15.6**	**-0.5**
AC06	**Mina Casimiro**	**3.15**	**292**			**Pn**	**16 09 41.8**	**+0.5**
LCO	**Las Campanas**	**3.22**	**261**			**Pn**	**16 09 43.1**	**+0.6**
SJA	**San Juan**	**3.22**	**203**	*iP*		**Pn**	**16 09 43.2**	**+0.9**
SJA				*iS*		**Sn**	**16 10 20.1**	**-0.9**
SJA				IAML			16 10 24.2	
	comp=Z,559nm,0.2s							
ZON	**Zonda**	**3.28**	**205**			**Pn**	**16 09 43.4**	**+0.4**
ZON	**Zonda**	**3.28**	**205**	*iP*		**Pn**	**16 09 43.6**	**+0.5**
ZON				*iS*		**Sn**	**16 10 21.5**	**-0.9**
ZON				IAML			16 10 23.8	
	comp=Z,792nm,0.6s							
AC04	**Llanos de Chal**	**3.55**	**275**			**Pn**	**16 09 46.5**	**0.0**
AC04	**Llanos de Chal**	**3.55**	**275**	*eP*		**Pn**	**16 09 46.5**	**0.0**
AC04				IAML			16 10 32.2	
	comp=Z,288nm,0.8s							
GO04	**Tololo Observa**	**3.63**	**243**			**Pn**	**16 09 48.1**	**+0.4**
GO04	**Tololo Observa**	**3.63**	**243**	*iP*		**Pn**	**16 09 48.1**	**+0.4**
RTLS	**Leoncito**	**3.75**	**210**	*iP*		**Pn**	**16 09 50.4**	**+0.9**
RTLS				*iS*		**Sn**	**16 10 33.3**	**-0.5**
CO03	**El Pedregal**	**3.88**	**233**			**Pn**	**16 09 51.1**	**+0.2**
CO03	**El Pedregal**	**3.88**	**233**	*iP*		**Pn**	**16 09 51.3**	**+0.4**
CO03				IAML			16 10 40.0	
	comp=Z,467nm,0.2s							
CO05	**La Serena**	**3.88**	**249**			**Pn**	**16 09 50.1**	**-0.7**
AC01	**Pan de Azucar**	**3.96**	**307**			**Pn**	**16 09 52.1**	**+0.3**
AC01	**Pan de Azucar**	**3.96**	**307**	*eP*		**Pn**	**16 09 52.2**	**+0.3**
AC01				IAML			16 10 40.7	
	comp=Z,205nm,0.2s							
GO02	**Mina Guanaco**	**4.07**	**326**			**Pn**	**16 09 54.1**	**+0.4**
SLA	**San Lorenzo**	**4.08**	**20**	*iP*		**Pn**	**16 09 55.9**	**+2.3**
SLA				*iS*		**Sn**	**16 10 43.0**	**+1.8**
SLA				IAML			16 11 10.0	
	comp=Z,181nm,1.6s							
ASAL	**Salagasta**	**4.29**	**200**	*iP*		**Pn**	**16 09 56.7**	**+0.3**
ASAL				*iS*		**Sn**	**16 10 45.5**	**-0.5**
ASAL				IAML			16 10 50.0	
	comp=Z,341nm,0.5s							
CO06	**Fray Jorge**	**4.50**	**241**	Pn		**Pn**	**16 09 57.0**	**-1.9**
ARCO	**CERRO ARCO**	**4.55**	**200**	*iP*		**Pn**	**16 10 00.6**	**+0.7**
ARCO				IAML			16 10 55.1	
	comp=Z,374nm,0.7s							
AZAP	**Zapla**	**4.68**	**23**	*iP*		**Pn**	**16 10 03.1**	**+1.4**
AZAP				IAML			16 11 05.1	
	comp=Z,233nm,0.8s							
AAGR	**Agrelo**	**4.75**	**198**	*eP*		**Pn**	**16 10 02.3**	**-0.1**
AAGR				IAML			16 10 58.7	
	comp=Z,322nm,0.8s							
AVIZ	**Vizcacheras**	**5.05**	**194**	*iP*		**Pn**	**16 10 06.4**	**+0.1**
VA03	**San Esteban**	**5.15**	**215**			**Pn**	**16 10 07.2**	**-0.5**
VA03	**San Esteban**	**5.15**	**215**	*iP*		**Pn**	**16 10 08.0**	**+0.3**
PEL	**Peldehue**	**5.52**	**213**			**Pn**	**16 10 11.5**	**-1.1**
ROC1	**El Roble**	**5.55**	**217**			**Pn**	**16 10 11.2**	**-2.0**
MT03	**Universidad Ad**	**5.73**	**210**			**Pn**	**16 10 14.8**	**-0.7**
MT05	**Renca**	**5.75**	**212**			**Pn**	**16 10 14.5**	**-1.2**
PB15	**IPOC Station P**	**5.76**	**337**			**Pn**	**16 10 16.2**	**+0.2**
MT02	**Curacav**	**5.84**	**216**			**Pn**	**16 10 15.0**	**-1.9**
MT13	**San Alfonso**	**5.85**	**207**	Pn		**Pn**	**16 10 16.5**	**-0.6**
LMEL	**Las Melosas**	**5.91**	**206**			**Pn**	**16 10 17.5**	**-0.4**
VA01	**Torpederas**	**5.94**	**220**	Pn		**Pn**	**16 10 16.3**	**-1.8**
LVC	**Limon Verde**	**6.16**	**344**	Pn		**Pn**	**16 10 22.3**	**+0.8**
LVC	**Limon Verde**	**6.16**	**344**	P		**Pn**	**16 10 20.6**	**-0.9**
	comp=Z,5.8nm,0.3s,baz=160,slow=8.6,SNR=18							
LVC				S		**Sn**	**16 11 27.6**	**-3.5**
	comp=Z,12nm,0.5s,baz=168,slow=12,SNR=4.6							
LVC				LR		LR	16 13 20.1	
	comp=Z,110nm,19.4s,baz=180,slow=44							
MT09	**Talagante**	**6.18**	**212**			**Pn**	**16 10 19.6**	**-2.0**
BO04	**La Punta**	**6.20**	**208**	Pn		**Pn**	**16 10 20.3**	**-1.3**
PB06	**IPOC Station P**	**6.26**	**338**	Pn		**Pn**	**16 10 22.9**	**+0.2**
MT01	**Popeta**	**6.38**	**213**			**Pn**	**16 10 21.3**	**-2.8**
VA05	**Santo Domingo**	**6.40**	**216**			**Pn**	**16 10 21.4**	**-2.9**
BO01	**Tunca**	**6.74**	**210**	Pn		**Pn**	**16 10 25.9**	**-3.1**
PB04	**IPOC Station P**	**6.80**	**335**	Pn		**Pn**	**16 10 28.9**	**-1.0**
BO02	**Sierra Bellavi**	**6.97**	**206**			**Pn**	**16 10 30.2**	**-1.7**
PB09	**IPOC Station P**	**7.02**	**343**			**Pn**	**16 10 33.7**	**+0.8**
PB07	**IPOC Station P**	**7.27**	**339**			**Pn**	**16 10 36.2**	**0.0**
SCCA	**San Cayetano,**	**7.52**	**84**	*eP*		**Pn**	**16 10 38.2**	**-1.1**
GO05	**Huala**	**7.64**	**212**	Pn		**Pn**	**16 10 36.8**	**-4.2**
PB02	**IPOC Station P**	**7.66**	**340**			**Pn**	**16 10 40.6**	**-0.8**
PB01	**IPOC Station P**	**7.80**	**343**			**Pn**	**16 10 41.8**	**-1.5**
MECA	**Mercedes**	**7.83**	**97**	*eP*		**Pn**	**16 10 42.9**	**-0.6**
ML02	**Panimavida**	**8.07**	**206**			**Pn**	**16 10 42.9**	**-3.7**
PATCX	**Punta Patache**	**8.20**	**339**	Pn		**Pn**	**16 10 48.0**	**-1.7**
PB08	**IPOC Station P**	**8.60**	**347**	Pn		**Pn**	**16 10 54.3**	**+0.1**
CPUP	**Villa Florida**	**8.94**	**78**	Pn		**Pn**	**16 10 56.7**	**-1.6**
CPUP	**Villa Florida**	**8.94**	**78**	*eP*		**Pn**	**16 10 56.4**	**-1.9**
CPUP	**Villa Florida**	**8.94**	**78**	P		Pn	16 10 53.2	-5.1
	comp=Z,31nm,0.8s,baz=259,slow=11,SNR=72							
CPUP				LR		LR	16 14 31.3	
	comp=Z,44nm,18.5s,baz=209,slow=39							
GO01	**Chusmiza**	**9.07**	**347**	Pn		**Pn**	**16 10 59.6**	**-0.9**
ITQB	**Itaqui**	**9.20**	**99**	Pn		**Pn**	**16 11 00.8**	**-1.1**
ITQB	**Itaqui**	**9.20**	**99**	*eP*		**Pn**	**16 11 00.7**	**-1.1**
BI05	**Punta Hualpn**	**9.65**	**211**	Pn		**Pn**	**16 11 04.1**	**-3.7**
TRQA	**Tornquist**	**10.38**	**157**	Pn		**Pn**	**16 11 15.1**	**-2.3**
RODS	**Rosario do Sul**	**10.50**	**103**	*eP*		**Pn**	**16 11 15.6**	**-3.5**
UNIS	**Unistalda (Bra**	**10.54**	**96**	*eP*		**Pn**	**16 11 18.0**	**-1.7**
MURT	**Porto Murtinho**	**10.98**	**53**	*eP*		**Pn**	**16 11 25.1**	**-0.5**
CRSM	**Crissiumal (Br**	**11.56**	**88**	*eP*		**Pn**	**16 11 31.8**	**-1.3**
GO06	**Curarrehue**	**11.58**	**197**	Pn		**Pn**	**16 11 31.3**	**-2.1**
ANTJ	**Antonio Joao (**	**11.95**	**59**	*eP*		**Pn**	**16 11 38.4**	**+0.1**
CPSB	**Cacapava Do Su**	**12.02**	**102**	*eP*		**Pn**	**16 11 35.9**	**-3.2**
PLTB	**Pedras Altas**	**12.08**	**109**	Pn		**Pn**	**16 11 37.1**	**-2.8**
PLTB	**Pedras Altas**	**12.08**	**109**	*eP*		**Pn**	**16 11 37.4**	**-2.5**
BBRB	**Robore, Bolivi**	**12.21**	**35**	*eP*		**Pn**	**16 11 39.9**	**-1.8**
LPAZ	**La Paz**	**12.26**	**355**	Pn		**Pn**	**16 11 43.1**	**+0.2**
LPAZ	**La Paz**	**12.26**	**355**	P		**Pn**	**16 11 40.8**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=161,slow=13,SNR=11							
LPAZ				S		**Sn**	**16 13 51.0**	**-7.6**
	comp=Z,1.2nm,0.7s,baz=180,slow=20,SNR=1.1							
ALGR	**Alto Alegre (B**	**12.33**	**94**	*eP*		**Pn**	**16 11 41.7**	**-1.6**
MCR1	**Marechal Candi**	**12.37**	**74**	*eP*		**Pn**	**16 11 44.0**	**+0.4**
BDQN	**Bodoquena, MS**	**12.39**	**52**	*eP*		**Pn**	**16 11 42.8**	**-1.1**
FRBT	**Francisco Belt**	**12.72**	**82**	*eP*		**Pn**	**16 11 47.4**	**-1.0**
BBSD	**Serra de San D**	**12.79**	**29**	*eP*		**Pn**	**16 11 47.2**	**-2.0**
AQDB	**Aquidauana**	**13.11**	**55**	Pn		**Pn**	**16 11 52.3**	**-0.9**
ITAB	**Concordia**	**13.28**	**88**	Pn		**Pn**	**16 11 53.5**	**-2.0**
ITAB	**Concordia**	**13.28**	**88**	*eP*		**Pn**	**16 11 53.7**	**-1.7**
PTGB	**Pitanga**	**13.96**	**78**	*eP*		**Pn**	**16 12 04.3**	**+0.2**
LL01	**San Ignacio de**	**14.45**	**196**	P		**P**	**16 12 13.1**	**+0.3**
PTLB	**Pontes e Lacer**	**14.97**	**31**	Pn		**Pn**	**16 12 16.5**	**-0.3**
PTLB	**Pontes e Lacer**	**14.97**	**31**	*eP*		**Pn**	**16 12 17.2**	**+0.3**
PP1B	**Ponte de Pedra**	**15.64**	**48**	*eP*		**Pn**	**16 12 25.3**	**+0.2**
PCMB	**Pacaembu**	**15.90**	**68**	*eP*		**Pn**	**16 12 28.3**	**-0.1**
C2SB	**Chapadao do Su**	**16.27**	**56**	*eP*		**P**	**16 12 35.1**	**+1.9**
SALV	**Santo Antonio**	**16.41**	**42**	*eP*		**Pn**	**16 12 34.0**	**-0.6**
FRTB	**Fartura**	**16.58**	**76**	*eP*		**Pn**	**16 12 35.4**	**-1.3**
VILB	**Vilhena**	**16.80**	**24**	P		**P**	**16 12 38.1**	**-1.0**
COYC	**Coyhaique**	**17.43**	**192**			**P**	**16 12 46.0**	**+0.3**
COYC				IAmb	IAmb		16 12 50.4	
	comp=Z,19nm,0.9s							
ITRB	**Iturama**	**17.60**	**64**	*eP*		**P**	**16 12 48.2**	**+0.2**
PET01	**Itanhaem-SP**	**18.23**	**81**	*eP*		**P**	**16 12 54.9**	**+0.2**
BB19B	**Bebedouro**	**18.40**	**70**	*eP*		**P**	**16 12 56.5**	**-0.1**
RCLB	**Rio Claro- Sao**	**18.66**	**75**	*eP*		**P**	**16 12 59.2**	**-0.3**
ETMB	**Extrema**	**18.67**	**3**	P		**P**	**16 13 00.5**	**+0.9**
ETMB	**Extrema**	**18.67**	**3**	*eP*		**P**	**16 12 59.1**	**-0.4**
PDRB	**Porto dos Gac**	**19.44**	**32**	*eP*		**P**	**16 13 07.0**	**-1.0**
SAML	**Samuel**	**19.85**	**11**	P		**P**	**16 13 12.6**	**+0.2**
SAML				IAmb	IAmb		16 13 14.3	
	comp=Z,19nm,0.8s							
SAML	**Samuel**	**19.85**	**11**	*eP*		**P**	**16 13 12.4**	**0.0**
PARB	**Paraibuna**	**19.97**	**80**	*eP*		**P**	**16 13 13.1**	**-0.6**
IPMB	**Ipameri, GO**	**20.25**	**63**	*eP*		**P**	**16 13 16.2**	**-0.4**
CLDB	**Colider**	**20.53**	**33**	*eP*		**P**	**16 13 17.7**	**-1.9**
CZSB	**Cruzeiro do Su**	**21.40**	**345**	P		**P**	**16 13 30.0**	**+1.1**
CZSB				IAmb	IAmb		16 13 32.8	
	comp=Z,27nm,0.9s							
CZSB	**Cruzeiro do Su**	**21.40**	**345**	*eP*		**P**	**16 13 26.9**	**-2.1**
BDFB	**Brasilia**	**21.80**	**58**	P		**P**	**16 13 31.6**	**-1.7**
BDFB				IAmb	IAmb		16 13 33.4	
	comp=Z,9.4nm,0.5s							
BDFB	**Brasilia**	**21.80**	**58**	P		**P**	**16 13 30.4**	**-2.9**
	comp=Z,6.3nm,0.3s,baz=217,slow=8.2,SNR=17							
	comp=Z,6.3nm,0.3s							
GO09	**Cerro Castillo**	**23.02**	**188**	P		**P**	**16 13 45.0**	**+0.2**
GO09				IAmb	IAmb		16 14 28.5	
	comp=Z,20nm,1.1s							
MG05	**Puerto Natales**	**23.44**	**189**	P		**P**	**16 13 49.0**	**+0.4**
MG05				IAmb	IAmb		16 14 05.2	
	comp=Z,30nm,1.1s							
DIAM	**Diamantina, MG**	**23.74**	**70**	*eP*		**P**	**16 13 51.3**	**-0.5**
TEFE	**Tefe**	**25.03**	**6**	*eP*		**P**	**16 14 04.3**	**+1.0**
ITTB	**Itaituba**	**26.37**	**26**	*eP*		**P**	**16 14 15.3**	**-0.2**
COHC	**Cochancay**	**28.44**	**334**	P		**P**	**16 14 35.8**	**+1.9**
BOAV	**Boa Vista**	**31.42**	**13**	P		**P**	**16 15 00.7**	**+0.5**
BOAV				IAmb	IAmb		16 15 02.3	
	comp=Z,6.3nm,0.7s							
ROSC	**El Rosal**	**33.94**	**347**	P		**P**	**16 15 19.8**	**-2.8**
	comp=Z,7.6nm,0.3s,baz=163,slow=19,SNR=2.5							
MDP	**Montagnes des**	**36.24**	**25**	LR		LR	16 32 45.4	
	comp=Z,44nm,21.4s,baz=359,slow=40							
VA02	**Isla de Pascua**	**37.34**	**262**	P		**P**	**16 15 51.6**	**+0.5**
MPOM	**Morne Pois Mar**	**43.18**	**9**	P		**P**	**16 16 39.1**	**0.0**
MTO3	**Montecristo**	**47.85**	**330**	P		**P**	**16 17 17.6**	**+1.4**
MTO3				IAmb	IAmb		16 17 18.5	
	comp=Z,8.9nm,0.9s							
GTBY	**Guantanamo Bay**	**48.83**	**350**	P		**P**	**16 17 24.3**	**+0.9**
BELA	**Belgrano 2**	**51.55**	**172**	P		**P**	**16 17 44.1**	**+0.9**
BELA				IAmb	IAmb		16 17 44.8	
	comp=Z,4.6nm,0.7s							
TEIG	**Tepich**	**52.66**	**335**	P		**P**	**16 17 52.7**	**+0.7**
VNA3	**Neumayer Olymp**	**52.88**	**160**	⇑P		**P**	**16 17 54.0**	**+0.8**
	comp=Z,7.2nm,0.6s							
SOR	**Soroa**	**53.32**	**342**	P		**P**	**16 17 56.9**	**+0.1**
VNA2	**Neumayer--Watz**	**53.47**	**159**	⇑P		**P**	**16 17 56.8**	**-0.6**
	comp=Z,8.7nm,0.7s,baz=288,slow=9.0							
TROLL	**Troll, Antarti**	**56.81**	**160**	⇑P		**P**	**16 18 21.8**	**+0.3**
	comp=Z,309nm,0.6s							
456A	**Hilliard**	**60.66**	**345**	P		**P**	**16 18 49.9**	**+1.5**
QSPA	**South Pole Qui**	**61.66**	**180**	P		**P**	**16 18 56.1**	**+1.2**
QSPA	**South Pole Qui**	**61.66**	**180**	P		**P**	**16 18 54.8**	**-0.1**
	comp=Z,13nm,0.6s,baz=168,slow=1.3,SNR=91							
QSPA				PcP		**PcP**	**16 19 32.2**	**-2.8**
	comp=Z,8.0nm,0.9s,baz=158,slow=3.4,SNR=6.6							
	comp=Z,13nm,0.6s							
HBVL	**Hebbronville**	**63.08**	**328**	P		**P**	**16 19 05.7**	**+1.1**
HBVL				IAmb	IAmb		16 19 33.5	
	comp=Z,8.7nm,1.2s							
346A	**Big Creek Wild**	**63.32**	**339**	P		**P**	**16 19 07.8**	**+1.6**
833A	**Chaparral WMA,**	**64.48**	**329**	P		**P**	**16 19 15.1**	**+1.3**
W57A	**Gilead**	**64.54**	**348**	P		**P**	**16 19 14.7**	**+0.7**
HNDO	**Hondo**	**65.46**	**329**	P		**P**	**16 19 21.2**	**+1.1**
HNDO				IAmb	IAmb		16 19 22.4	
	comp=Z,7.9nm,0.8s							
X48A	**Hartselle**	**65.46**	**342**	P		**P**	**16 19 20.4**	**+0.4**
V48A	**Smith Brothers**	**66.62**	**343**	P		**P**	**16 19 27.3**	**-0.1**
V48A				IAmb	IAmb		16 19 57.9	
	comp=Z,12nm,1.5s							
CLTN	**Cedars of Leba**	**66.82**	**343**	P		**P**	**16 19 29.1**	**+0.4**
CLTN				IAmb	IAmb		16 19 52.2	
	comp=Z,12nm,1.4s							
BRDY	**Brady**	**66.84**	**330**	P		**P**	**16 19 29.7**	**+0.8**
BRDY				IAmb	IAmb		16 19 30.7	
	comp=Z,5.7nm,0.8s							
SAND	**Sanderson**	**67.13**	**327**	P		**P**	**16 19 32.4**	**+1.6**
SAND				IAmb	IAmb		16 19 33.3	
	comp=Z,6.8nm,0.9s							
TX31	**Lajitas Ar. Si**	**67.37**	**326**	P		**P**	**16 19 33.3**	**+0.9**
TX31				IAmb	IAmb		16 19 35.7	
	comp=Z,3.4nm,0.8s							
TX32	**Lajitas Array**	**67.37**	**326**	P		**P**	**16 19 33.7**	**+1.3**
TXAR	**Lajitas Array**	**67.37**	**326**	P		**P**	**16 19 33.5**	**+1.1**
TXAR	**Lajitas Array**	**67.37**	**326**	P		**P**	**16 19 32.8**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=149,slow=8.2,SNR=11							
	comp=Z,1.2nm,0.7s							
OZNA	**Ozona**	**67.48**	**329**	P		**P**	**16 19 33.9**	**+0.9**
OZNA				IAmb	IAmb		16 19 34.9	
	comp=Z,6.0nm,0.8s							
WHAR	**Wooly Hollow**	**67.83**	**338**	P		**P**	**16 19 35.8**	**+0.8**
ALPN	**Alpine**	**68.21**	**326**	P		**P**	**16 19 38.9**	**+1.2**
ALPN				IAmb	IAmb		16 19 39.4	
	comp=Z,2.0nm,0.7s							
FCAR	**Ozark Folk Cen**	**68.32**	**338**	P		**P**	**16 19 38.5**	**+0.5**
FCAR				IAmb	IAmb		16 19 38.9	
	comp=Z,7.2nm,1.3s							
P57A	**Homestead Farm**	**68.46**	**351**	P		**P**	**16 19 40.4**	**+1.6**
MNHN	**Monahans**	**68.59**	**328**	P		**P**	**16 19 41.1**	**+1.2**
MNHN				IAmb	IAmb		16 19 42.1	
	comp=Z,7.3nm,0.7s							
PBMO	**Poplar Bluff**	**68.61**	**340**	P		**P**	**16 19 40.2**	**+0.4**
PBMO				IAmb	IAmb		16 19 41.1	
	comp=Z,7.0nm,0.8s							
WTFS	**Witchita Falls**	**68.76**	**332**	P		**P**	**16 19 41.7**	**+0.8**
WTFS				IAmb	IAmb		16 19 42.5	
	comp=Z,11nm,1.2s							
S44A	**Carbondale**	**69.12**	**341**	P		**P**	**16 19 42.9**	**0.0**
S44A				IAmb	IAmb		16 19 43.6	
	comp=Z,6.3nm,0.7s							
425A	**Indio Mountain**	**69.21**	**326**	P		**P**	**16 19 45.3**	**+1.5**
DBIC	**Dimbokro**	**69.36**	**70**	P		**P**	**16 19 44.9**	**-0.1**
DBIC				IAmb	IAmb		16 19 45.5	
	comp=Z,8.7nm,0.9s							
DBIC	**Dimbokro**	**69.36**	**70**	P		**P**	**16 19 43.5**	**-1.5**
	comp=Z,4.5nm,0.3s,baz=213,slow=3.9,SNR=22							
	comp=Z,4.5nm,0.3s							
MGMO	**Mountain Grove**	**69.52**	**339**	P		**P**	**16 19 46.4**	**+0.9**
MGMO				IAmb	IAmb		16 20 23.0	
	comp=Z,6.4nm,1.1s							
SSPA	**Standing Stone**	**69.58**	**351**	P		**P**	**16 19 46.9**	**+1.2**
SSPA				IAmb	IAmb		16 19 49.9	
	comp=Z,14nm,1.1s							
FVM	**French Village**	**69.72**	**340**	P		**P**	**16 19 46.8**	**+0.1**
FVM				IAmb	IAmb		16 19 48.6	
	comp=Z,3.3nm,0.6s							
CCM	**Cathedral Cave**	**70.03**	**340**	P		**P**	**16 19 49.5**	**+1.0**
CCM				IAmb	IAmb		16 20 25.9	
	comp=Z,3.3nm,0.7s							
MNTX	**Cornudas Mount**	**70.15**	**326**	P		**P**	**16 19 49.6**	**+0.1**
MNTX				IAmb	IAmb		16 19 50.8	
	comp=Z,5.0nm,1.1s							
VNDA	**Vanda**	**70.21**	**190**	P		**P**	**16 19 49.4**	**+0.2**
VNDA	**Vanda**	**70.21**	**190**	P		**P**	**16 19 49.0**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=136,slow=5.1,SNR=16							
	comp=Z,2.6nm,0.8s							
S39A	**Bolivar**	**70.35**	**338**	P		**P**	**16 19 51.4**	**+0.8**
M55A	**Ridgway**	**70.52**	**351**	P		**P**	**16 19 52.6**	**+1.1**
L59A	**Walton**	**70.79**	**354**	P		**P**	**16 19 54.7**	**+1.6**
N49A	**Columbus Grove**	**70.94**	**346**	P		**P**	**16 19 54.2**	**+0.3**
L56A	**Greenwood**	**71.01**	**352**	P		**P**	**16 19 55.7**	**+1.2**
L56A				IAmb	IAmb		16 19 55.9	
	comp=Z,12nm,1.1s							
121A	**Cookes Peak, D**	**72.03**	**325**	P		**P**	**16 20 03.0**	**+2.0**
121A				IAmb	IAmb		16 20 04.1	
	comp=Z,5.8nm,0.9s							
FRNY	**Flat Rock**	**73.29**	**355**	P		**P**	**16 20 09.0**	**+1.2**
FRNY				IAmb	IAmb		16 20 45.6	
	comp=Z,11nm,1.4s							
PKME	**Peaks-Kenny Pk**	**73.50**	**358**	P		**P**	**16 20 09.5**	**+0.4**
PKME				IAmb	IAmb		16 20 10.6	
	comp=Z,12nm,1.1s							
SUR	**Sutherland**	**73.68**	**118**	P		**P**	**16 20 12.1**	**+1.1**
L40A	**Anamosa**	**73.73**	**341**	P		**P**	**16 20 10.5**	**0.0**
F64A	**Sherman**	**74.08**	**359**	P		**P**	**16 20 14.1**	**+1.6**
F64A				IAmb	IAmb		16 20 15.2	
	comp=Z,8.6nm,1.0s							
LMN	**Caledonia Moun**	**74.09**	**2**	P		**P**	**16 20 13.9**	**+1.3**
LMN				IAmb	IAmb		16 20 41.7	
	comp=Z,12nm,1.3s							
T25A	**Trinidad**	**74.16**	**330**	P		**P**	**16 20 14.7**	**+1.2**
T25A				IAmb	IAmb		16 20 15.9	
	comp=Z,3.7nm,0.7s							
TRQ	**Mont Tremblant**	**74.74**	**355**	P		**P**	**16 20 17.2**	**+0.8**
TRQ				IAmb	IAmb		16 20 19.2	
	comp=Z,12nm,1.4s							
E62A	**Clayton Lake**	**74.86**	**358**	P		**P**	**16 20 18.0**	**+1.0**
E62A				IAmb	IAmb		16 20 19.6	
	comp=Z,4.1nm,0.8s							
D62A	**Allapoint, All**	**75.31**	**359**	P		**P**	**16 20 20.8**	**+1.2**
D62A				IAmb	IAmb		16 20 21.5	
	comp=Z,4.3nm,0.8s							
X16A	**Lo Mia Camp, P**	**75.39**	**323**	P		**P**	**16 20 22.4**	**+1.8**
X16A				IAmb	IAmb		16 20 23.8	
	comp=Z,10nm,1.2s							
E46A	**Sault Ste Mari**	**76.20**	**348**	P		**P**	**16 20 24.7**	**+0.1**
E46A				IAmb	IAmb		16 20 42.5	
	comp=Z,21nm,1.4s							
WUAZ	**Wupatki**	**76.21**	**324**	P		**P**	**16 20 26.8**	**+1.6**
WUAZ				IAmb	IAmb		16 20 28.4	
	comp=Z,8.0nm,1.1s					

SNR=11
CHMS Chumysh 146.15 55 P pPKPab 16 28 55.8 +1.9
SNR=9.3
KBK Karagaybulak 146.37 55 P pPKPab 16 28 56.9 +2.0
SNR=7.8
TKM2 Tokmak 2 146.78 54 P pPKPab 16 28 57.7 +1.1
SNR=7.8
ZALV Zalesovo Beam 147.38 31 PKPbc **PKPdf 16 28 17.2 +0.9**
comp=Z,9.3nm,0.4s,baz=331,slow=5.8,SNR=43
ULHL Ulahol 147.39 55 P pPKPab 16 29 00.9 +1.9
SNR=7.2
KSH Kashi 147.69 60 PKPbc **PKPdf 16 28 15.8 -1.6**
KSH pPKP pPKPbc 16 28 59.0 +0.8
MKAR Makanchi Array 149.95 44 PKPbc **PKPbc 16 28 25.8 +0.1**
comp=Z,6.2nm,0.8s,baz=294,slow=2.8,SNR=23
WMQ Urumqi 154.71 46 *eP* **PKPdf 16 28 28.3 +0.4**
SONM Songino Array 160.10 13 PKP **PKPdf 16 28 34.8 +0.2**
comp=Z,0.2nm,0.3s,baz=60,slow=4.1,SNR=4.0
CMAR Chiang Mai Arr 163.71 125 PKP **PKPdf 16 28 39.6 +0.6**
comp=Z,0.3nm,0.3s,baz=231,slow=2.9,SNR=2.3
HHC Hu-ho-hao-te 167.69 5 *eP* **PKPdf 16 28 39.0 -2.7**
PZH PanZhiHua 169.86 99 PKP **PKPdf 16 28 43.3 -0.2**
NJ2 Nanjing 173.81 306 *eP* **PKPdf 16 28 46.5 +1.5**

---

*IDC **29** 16:32:35.0±1.4, 6°.31N×127°.54E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=87.1km s-min=19.0km az=65.0*
*NEIC **29** 16:32:36.9±1.3, 6°.4N±0°.1×127°.8E±0°.3, h10km±1km, mb4.2/10, Error ellipse: s-maj=59.9km s-min=9.4km az=70.0*
ISC 29 16:32:36.3±0.8, **6°.4N**±0°.1×**127°.6E**±0°.3, **h10**km, **n22, σ0^{s}85/22, mb4.0**/14, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNRA	**Kununurra**	**21.95**	**177**	P	**P**	**16 37 30.8**	**+0.5**
KNRA				IAmb	IAmb	16 38 05.5	
	comp=Z,21nm,1.1s						
WB0	**Warramunga Arr**	**26.83**	**166**	P	**P**	**16 38 16.7**	**-0.4**
WB0				IAmb	IAmb	16 38 54.8	
	comp=Z,3.2nm,1.1s						
WRAB	**Tennant Creek**	**26.98**	**166**	P	**P**	**16 38 18.6**	**+0.2**
WRA	**Warramunga Arr**	**26.98**	**166**	P	**P**	**16 38 18.4**	**-0.1**
WRA	**Warramunga Arr**	**26.98**	**166**	P	**P**	**16 38 18.6**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=346,slow=10.0,SNR=16						
	comp=Z,0.4nm,0.6s						
WB2	**Warramunga Arr**	**26.98**	**166**	P	**P**	**16 38 18.9**	**+0.4**
WB2				IAmb	IAmb	16 38 21.1	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**27.05**	**166**	P	**P**	**16 38 19.1**	**0.0**
WR0				IAmb	IAmb	16 38 46.4	
	comp=Z,11nm,1.4s						
CMAR	**Chiang Mai Arr**	**30.42**	**296**	P	**P**	**16 38 49.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=101,slow=7.6,SNR=1.6						
	comp=Z,0.1nm,0.3s						
AS31	**Alice Springs**	**30.49**	**169**	P	**P**	**16 38 49.2**	**-0.5**
AS31				IAmb	IAmb	16 39 01.8	
	comp=Z,3.1nm,1.4s						
ASAR	**Alice Springs**	**30.49**	**169**	P	**P**	**16 38 48.4**	**-1.3**
ASAR	**Alice Springs**	**30.49**	**169**	P	**P**	**16 38 49.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=339,slow=7.0,SNR=7.9						
	comp=Z,0.2nm,0.3s						
STKA	**Stephens Creek**	**40.31**	**162**	P	**P**	**16 40 14.7**	**+0.7**
MKAR	**Makanchi Array**	**55.93**	**324**	P	**P**	**16 42 13.8**	**-0.9**
MKAR	**Makanchi Array**	**55.93**	**324**	P	**P**	**16 42 15.4**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=132,slow=6.4,SNR=2.0						
	comp=Z,0.4nm,0.5s						
KURK	**Kurchatov**	**60.02**	**326**	P	**P**	**16 42 45.1**	**+1.9**
KURK				IAmb	IAmb	16 42 50.0	
	comp=Z,2.7nm,1.2s						
KURBB	**Kurchatov Arra**	**60.02**	**326**	P	**P**	**16 42 43.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=126,slow=6.3,SNR=6.0						
	comp=Z,0.4nm,0.4s						
BVAR	**Borovoye Array**	**65.62**	**326**	P	**P**	**16 43 22.0**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=120,slow=8.8,SNR=5.7						
	comp=Z,0.7nm,0.5s						
GEYT	**Alibeck**	**69.96**	**308**	P	**P**	**16 43 46.8**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=70,slow=9.3,SNR=2.0						
	comp=Z,0.6nm,0.5s						
ABKAR	**Akbulak array**	**70.69**	**320**	P	**P**	**16 43 52.2**	**-0.3**
BMAR	**Burnt Mountain**	**83.30**	**23**	P	**P**	**16 45 03.1**	**-0.1**
E27K	**Coleen River**	**84.41**	**22**	P	**P**	**16 45 08.1**	**-0.7**
ARCES	**ARCESS Array B**	**88.28**	**340**	P	**P**	**16 45 28.2**	**+0.5**
	comp=Z,5.8nm,1.1s,baz=13,slow=8.3,SNR=1.3						
	comp=Z,5.8nm,1.1s						

---

*IDC **29** 16:40:08.5±2.9, 16°.36S×178°.11W, h417km±23km, mb2.9/5, mbtmp3.7/6, Error ellipse: s-maj=117.4km s-min=23.1km az=147.0*
ISC 29 16:40:06.2±2.2, **16°.6S**±0°.7×**177°.8W**±0°.5, **h400**km, **n6, σ1^{s}35/6, mb3.2**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.11**	**254**	P	**Pn**	**16 41 21.0**	**+1.5**
	8.4nm,0.7s,baz=132,slow=15,SNR=8.1						
STKA	**Stephens Creek**	**39.75**	**240**	P	**P**	**16 47 01.6**	**-0.7**
	2.9nm,0.7s,baz=96,slow=2.4,SNR=1.8						
	2.9nm,0.7s						
WRA	**Warramunga Arr**	**45.44**	**258**	P	**P**	**16 47 47.0**	**-0.6**
	0.4nm,0.6s,baz=90,slow=7.9,SNR=13						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**45.70**	**253**	P	**P**	**16 47 49.0**	**-0.7**
	1.9nm,0.6s,baz=91,slow=7.8,SNR=50						
	1.9nm,0.6s						
NVAR	**Mina Array Bea**	**78.11**	**44**	P	**P**	**16 51 23.6**	**+1.0**
	0.2nm,0.6s,baz=220,slow=8.3,SNR=1.8						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**84.53**	**13**	P	**P**	**16 51 54.1**	**-0.9**
	0.2nm,0.4s,baz=230,slow=7.0,SNR=2.6						
	0.2nm,0.4s						

---

*TEH **29** 17:00:00.1, 27°.53N×55°.69E, h20km±53km, ML3.3*
*DSN **29** 17:00:00.0±1.1, 27°.62N×56°.39E, h15km, ML3.3/9, Error ellipse: s-maj=27.0km s-min=10.2km az=99.0*
*OMAN **29** 17:00:04.7±0.4, 27°.35N×56°.07E, h15km, mb4.0/3, ml3.3/18, Error ellipse: s-maj=7.2km s-min=5.8km az=284.0*
*IDC **29** 17:00:11.6±7.0, 31°.53N×52°.59E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=364.0km s-min=30.2km az=150.0*
ISC 29 17:00:01.1±1.3, **27°.55N**±0°.04×**55°.75E**±0°.05, **h29**km±11km, **n74, σ1^{s}70/89, mb3.7**/3, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.41**	**112**	Pg	**Pb**	**17 00 09.0**	**-1.2**
IBND	**Bandar-abas**	**0.71**	**98**	Pg	**Pb**	**17 00 15.2**	**+0.2**
LAR1	**LAR**	**1.22**	**276**	Pg	**Pn**	**17 00 21.8**	**-0.5**
SHME	**Shamm**	**1.54**	**167**	*eP*	**Pn**	**17 00 27.5**	**+1.0**
	SNR=20						
SHME				S	**Sb**	**17 00 48.6**	**+0.5**
SHME	**Shamm**	**1.54**	**167**	P	**Pn**	**17 00 27.6**	**+1.0**
	SNR=9.7						
SHME				S	**Sb**	**17 00 48.0**	**-0.1**
SHME	**Shamm**	**1.54**	**167**	Pg	**Pn**	**17 00 27.7**	**+1.1**
KHNJ	**Kahnooj**	**1.78**	**77**	Pn	**Pn**	**17 00 31.4**	**+1.4**
UMQ	**Umm Al-Quwin**	**2.02**	**182**	P	**Pb**	**17 00 37.6**	**+0.4**
UMQ				S	**Sb**	**17 01 01.2**	**-0.8**
MASF	**Masafi**	**2.20**	**170**	P	**Pn**	**17 00 37.1**	**+1.3**
MSFE	**Esma-Masafi**	**2.22**	**170**	P	**Pn**	**17 00 37.2**	**+1.3**
MSFE	**Esma-Masafi**	**2.22**	**170**	Pn	**Pn**	**17 00 38.0**	**+2.1**
NGRK	**Negar Kerman**	**2.26**	**22**	Pn	**Pn**	**17 00 37.9**	**+1.1**
MDH	**Madha**	**2.30**	**167**	*eP*	**Pn**	**17 00 38.4**	**+1.3**
	SNR=5.7						
MDH	**Madha**	**2.30**	**167**	P	**Pn**	**17 00 38.7**	**+1.7**
MDH				S	**Sn**	**17 01 06.6**	**+2.3**
MDH	**Madha**	**2.30**	**167**	Pn	**Pn**	**17 00 38.7**	**+1.7**
JASK	**Jask - Hormozg**	**2.53**	**131**	P	**Pn**	**17 00 41.3**	**+1.0**
NAZ	**Nazwa, Dubai**	**2.56**	**182**	P	**Pn**	**17 00 43.1**	**+2.5**
NAZ	**Nazwa, Dubai**	**2.56**	**182**	P	**Pn**	**17 00 43.2**	**+2.6**
NAZ	**Nazwa, Dubai**	**2.56**	**182**	Pn	**Pn**	**17 00 43.4**	**+2.9**
TVBK	**TV Kerman**	**2.58**	**20**	Pn	**Pn**	**17 00 43.5**	**+2.2**
UOSS	**Minazif**	**2.63**	**171**	*eP*	**Pn**	**17 00 42.9**	**+1.3**
	SNR=16						
UOSS	**Minazif**	**2.63**	**171**	P	**Pn**	**17 00 43.3**	**+1.7**
UOSS	**Minazif**	**2.63**	**171**	Pn	**Pn**	**17 00 43.2**	**+1.7**
ESRB	**Sir Abu**	**2.69**	**211**	Pn	**Pn**	**17 00 44.9**	**+2.5**
HATD	**Hatta, Dubai**	**2.74**	**173**	P	**Pn**	**17 00 45.0**	**+1.9**
HATD	**Hatta, Dubai**	**2.74**	**173**	P	**Pn**	**17 00 45.2**	**+2.1**
HATD	**Hatta, Dubai**	**2.74**	**173**	Pn	**Pn**	**17 00 45.0**	**+1.9**
CHMN	**Cheshme madani**	**2.79**	**34**	Pn	**Pn**	**17 00 46.2**	**+2.1**
FAQ	**Al Faqa, Dubai**	**2.80**	**183**	P	**Pn**	**17 00 46.0**	**+2.1**
FAQ	**Al Faqa, Dubai**	**2.80**	**183**	P	**Pn**	**17 00 46.0**	**+2.1**
FAQ	**Al Faqa, Dubai**	**2.80**	**183**	Pn	**Pn**	**17 00 46.5**	**+2.6**
KBAM	**BAM**	**2.86**	**56**	Pn	**Pn**	**17 00 47.3**	**+2.4**
ASHO	**Ashiyiah**	**2.87**	**174**	*eP*	**Pn**	**17 00 46.8**	**+1.9**
	SNR=20						
ASHO	**Ashiyiah**	**2.87**	**174**	P	**Pn**	**17 00 47.0**	**+2.0**
	SNR=57						
ASHO				S	**Sn**	**17 01 20.9**	**+2.4**
ASHO	**Ashiyiah**	**2.87**	**174**	Pn	**Pn**	**17 00 46.9**	**+1.9**
KHGB	**Koh Gabri**	**2.88**	**13**	Pn	**Pn**	**17 00 47.7**	**+2.3**
ASUD	**Al Ashush, Dub**	**2.94**	**187**	*i P*	**Pn**	**17 00 48.5**	**+2.7**
	SNR=6.5						
ASUD	**Al Ashush, Dub**	**2.94**	**187**	P	**Pn**	**17 00 48.6**	**+2.8**
	SNR=6.6						
ZRDN	**Zarand Kerman**	**3.47**	**11**	Pn	**Pn**	**17 00 55.4**	**+2.0**
SOHO	**SOHO**	**3.48**	**168**	P	**Pn**	**17 00 52.6**	**-0.6**
SOHO	**SOHO**	**3.48**	**168**	P	**Pn**	**17 00 53.0**	**-0.2**
SOHO	**SOHO**	**3.48**	**168**	Pn	**Pn**	**17 00 53.4**	**+0.2**
ALNE	**Al Ain**	**3.48**	**180**	P	**Pn**	**17 00 55.2**	**+1.9**
ALNE				S	**Sn**	**17 01 35.2**	**+1.6**
ALNE	**Al Ain**	**3.48**	**180**	Pn	**Pn**	**17 00 56.6**	**+3.2**
IMEH	**Mehriz**	**3.95**	**346**	Pn	**Pn**	**17 01 01.3**	**+1.3**
IBAF	**Bafgh**	**4.03**	**358**	Pn	**Pn**	**17 01 02.0**	**+1.0**
DSBU	**Dashti - Bushe**	**4.05**	**283**	Pn	**Pn**	**17 01 01.6**	**+0.5**
HOQ	**Hoqain**	**4.20**	**160**	P	**Pn**	**17 01 02.4**	**-0.8**
HOQ				S	**Sn**	**17 01 49.6**	**-1.7**
HOQ	**Hoqain**	**4.20**	**160**	Pn	**Pn**	**17 01 04.5**	**+1.3**
ARQ	**Araqi**	**4.26**	**170**	P	**Pn**	**17 01 05.5**	**+1.5**
	SNR=8.0						
ARQ				S	**Sn**	**17 01 54.6**	**+1.9**
BIDO	**Bidbid**	**4.55**	**151**	P	**Pn**	**17 01 07.7**	**-0.4**
BIDO				S	**Sn**	**17 01 59.3**	**-0.8**
CHBR	**Chabahar**	**4.67**	**114**	Pn	**Pn**	**17 01 11.3**	**+1.6**
ISAD	**Sadrabad**	**4.70**	**338**	Pn	**Pn**	**17 01 12.3**	**+2.0**
SMDO	**Samad**	**4.94**	**155**	P	**Pn**	**17 01 14.8**	**+1.4**
	SNR=11						
SMDO				S	**Sn**	**17 02 09.5**	**-0.1**
BSY	**Bisya**	**4.97**	**164**	P	**Pn**	**17 01 15.7**	**+2.0**
BSY				S	**Sn**	**17 02 09.9**	**-0.3**
WSAR	**Wadi Sarin**	**5.03**	**148**	P	**Pn**	**17 01 15.7**	**+1.1**
	SNR=29						
WSAR				S	**Sn**	**17 02 11.6**	**-0.1**
IRAM	**Ramesheh**	**5.15**	**326**	Pn	**Pn**	**17 01 17.9**	**+1.4**
NGCH	**Negor - Chabah**	**5.30**	**113**	P	**Pn**	**17 01 20.1**	**+1.8**
	SNR=21						
NGCH				S	**Sn**	**17 02 17.8**	**-0.6**
NGCH	**Negor - Chabah**	**5.30**	**113**	Pn	**Pn**	**17 01 20.2**	**+1.8**
TPRV	**Parvadeh(Tabas**	**5.52**	**8**	Pn	**Pn**	**17 01 23.8**	**+2.4**
JMDO	**Jabal Madar**	**5.59**	**157**	P	**Pn**	**17 01 24.1**	**+1.8**
	SNR=5.4						
JMDO				S	**Sn**	**17 02 24.6**	**-0.9**
IKOO	**Kooshah**	**5.62**	**29**	Pn	**Pn**	**17 01 25.6**	**+2.7**
WBK	**Wadi Bani Khal**	**5.72**	**149**	P	**Pn**	**17 01 25.0**	**+0.8**
	SNR=10						
WBK				S	**Sn**	**17 02 26.8**	**-2.1**
WBK	**Wadi Bani Khal**	**5.72**	**149**	Pn	**Pn**	**17 01 24.8**	**+0.6**
IGAR	**Gharneh**	**5.80**	**327**	Pn	**Pn**	**17 01 26.1**	**+0.6**
SRVN	**Saravan**	**5.91**	**90**	Pn	**Pn**	**17 01 28.8**	**+2.0**
JLN	**Jalan Bani Buh**	**6.33**	**147**	P	**Pn**	**17 01 33.0**	**+0.6**
	SNR=7.1						
JLN				S	**Sn**	**17 02 41.1**	**-2.6**
IPIR	**Pirpir**	**6.62**	**322**	Pn	**Pn**	**17 01 38.0**	**+1.3**
IKLH	**Kolahrood**	**6.78**	**329**	Pn	**Pn**	**17 01 39.9**	**+1.0**
MHTO	**MHTO**	**6.84**	**162**	P	**Pn**	**17 01 40.2**	**+0.6**
	SNR=6.8						
SHAO	**Shalim**	**9.49**	**181**	P	**Pn**	**17 02 15.7**	**-0.1**
	SNR=16						
MKAR	**Makanchi Array**	**28.35**	**40**	P	P	17 05 58.9	+6.4
	0.3nm,0.7s,baz=238,slow=7.1,SNR=1.6						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**33.92**	**31**	P	**P**	**17 06 40.6**	**-0.8**
	0.5nm,0.3s,baz=243,slow=9.8,SNR=2.3						
	0.5nm,0.3s						
TORD	**Torodi Ar. Bea**	**52.28**	**265**	P	**P**	**17 09 08.1**	**-2.1**
	0.4nm,0.4s,baz=56,slow=6.7,SNR=4.8						
	0.4nm,0.4s						

---

*IDC **29** 17:08:01.4±1.1, 31°.37N×130°.39E, h159km±11km, mb3.5/17, mbtmp4.0/17, MS3.6/3, Error ellipse: s-maj=24.6km s-min=11.9km az=72.0*
*JMA **29** 17:08:02.5±0.1, 31°.3N±0°.4×130°.4E±0°.7, h151km±1km, MV3.8/34, SATSUMA PENINSULA REGION*
ISC 29 17:08:01.2±0.6, **31°.29N**±0°.05×**130°.32E**±0°.09, **h158**km±5km, **n32, σ1^{s}01/39, mb3.9**/18, **2D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.24**	**28**	*i P*	**Pn**	**17 08 23.1**	**+0.5**
JSU				*eS*	**Sn**	**17 08 38.8**	**-0.2**
JTSR	**Tashiro 2**	**0.53**	**104**	*i P*	**Pn**	**17 08 23.8**	**+0.2**
JTSR				S	**Sn**	**17 08 39.4**	**-1.3**
JSJ	**Shimokoshiki**	**0.65**	**307**	⇓P	**Pn**	**17 08 24.9**	**+0.6**
JSJ				⇓*eS*	**Sn**	**17 08 42.1**	**+0.2**
JTN	**Tanegashima 3**	**0.85**	**138**	*i P*	**Pn**	**17 08 26.0**	**+0.4**
JTN				S	**Sn**	**17 08 43.5**	**-0.8**
JTZ	**Takazaki**	**0.89**	**47**	*i P*	**Pn**	**17 08 26.1**	**+0.2**
JTZ				S	**Sn**	**17 08 43.9**	**-0.9**
JMTN	**Minamitane**	**1.02**	**151**	*eP*	**Pn**	**17 08 27.4**	**+0.4**
JMTN				*eS*	**Sn**	**17 08 46.1**	**-0.5**
JYAK	**Yakushimahirau**	**1.06**	**171**	*i P*	**Pn**	**17 08 27.9**	**+0.6**
JYAK				*eS*	**Sn**	**17 08 46.7**	**-0.6**
JIU3	**Izumi3**	**1.32**	**18**	*i P*	**Pn**	**17 08 30.2**	**+0.6**
JNU	**Nakatsue**	**1.88**	**14**	P	**Pn**	**17 08 34.2**	**-1.3**
	242nm,0.7s,baz=215,slow=6.2,SNR=373						
JNU				S	**Sn**	**17 09 00.9**	**-1.2**
	45nm,0.3s,baz=127,slow=17,SNR=5.6						
JOW	**Kunigami**	**4.79**	**202**	S	**Sn**	**17 10 03.3**	**-4.0**
	26nm,0.3s,baz=121,slow=27,SNR=6.6						
KSRS	**Korea Array**	**6.46**	**343**	P	**Pn**	**17 09 34.5**	**+0.6**
	2.0nm,0.8s,baz=157,slow=14,SNR=2.9						
TGY	**Tagaytay City**	**19.16**	**209**	LR	LR	17 19 29.1	
	comp=Z,154nm,21.2s,baz=100,slow=36						
SONM	**Songino Array**	**24.61**	**319**	P	**P**	**17 13 05.6**	**-1.2**
	0.3nm,0.3s,baz=154,slow=10.0,SNR=1.9						
	0.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**31.09**	**253**	P	**P**	**17 14 05.8**	**+1.1**
	0.7nm,0.5s,baz=49,slow=7.3,SNR=7.0						
	0.7nm,0.5s						
MA2	**Magadan**	**31.44**	**20**	LR	LR	17 27 05.1	
	comp=Z,48nm,19.0s,baz=223,slow=36						
MKAR	**Makanchi Array**	**39.75**	**307**	P	**P**	**17 15 17.1**	**-1.1**
	0.4nm,0.8s,baz=92,slow=16,SNR=2.5						
MKAR				PcP	**PcP**	**17 17 21.7**	**+0.2**
	0.2nm,0.5s,baz=71,slow=5.3,SNR=1.9						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**42.63**	**312**	P	**P**	**17 15 41.9**	**+0.2**
	0.4nm,0.4s,baz=90,slow=8.4,SNR=5.3						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**47.86**	**315**	P	**P**	**17 16 22.1**	**-0.7**
	0.6nm,0.5s,baz=95,slow=9.2,SNR=4.6						
BVAR				PcP	**PcP**	**17 17 49.6**	**+0.7**
	0.3nm,0.3s,baz=144,slow=1.6,SNR=2.5						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**51.09**	**175**	P	**P**	**17 16 47.9**	**+0.3**
	0.8nm,0.4s,baz=354,slow=7.9,SNR=24						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**54.76**	**176**	P	**P**	**17 17 14.8**	**+0.5**
	1.0nm,0.3s,baz=358,slow=6.3,SNR=74						
	1.0nm,0.3s						
STKA	**Stephens Creek**	**63.73**	**169**	P	**P**	**17 18 16.9**	**+1.1**
	1.8nm,0.5s,baz=342,slow=8.5,SNR=3.0						
	1.8nm,0.5s						
SPITS	**Spitsbergen Ar**	**64.27**	**348**	P	**P**	**17 18 19.1**	**+0.2**
	18nm,1.0s,baz=31,slow=14,SNR=1.8						
OBN	**Obninsk**	**66.99**	**321**	LR	LR	17 52 46.8	
	comp=Z,111nm,18.1s,baz=358,slow=40						
KBZ	**Khabaz**	**67.42**	**308**	P	**P**	**17 18 41.2**	**+1.7**
	2.1nm,0.8s,baz=33,slow=1.3,SNR=4.2						
	2.1nm,0.8s						
FINES	**FINESS Array B**	**69.39**	**330**	P	**P**	**17 18 51.2**	**-0.2**
	1.6nm,0.4s,baz=67,slow=5.1,SNR=17						
	1.6nm,0.4s						
AKASG	**Malin Array Be**	**72.89**	**319**	P	**P**	**17 19 12.8**	**+0.1**
	0.7nm,0.3s,baz=57,slow=6.0,SNR=5.8						
	0.7nm,0.3s						
HFS	**Hagfors**	**75.20**	**332**	P	**P**	**17 19 25.6**	**-0.4**
	2.0nm,0.5s,baz=52,slow=9.6,SNR=6.5						
	2.0nm,0.5s						
BRTR	**Keskin Array B**	**75.39**	**308**	P	**P**	**17 19 28.2**	**+0.6**
	2.0nm,0.8s,baz=90,slow=6.2,SNR=7.6						
	2.0nm,0.8s						
NOA	**NORSAR Array B**	**75.59**	**334**	P	**P**	**17 19 27.9**	**-0.3**
	0.5nm,0.5s,baz=58,slow=10,SNR=1.7						
	0.5nm,0.5s						
GERES	**GERESS Array B**	**82.26**	**323**	P	**P**	**17 20 04.6**	**-0.3**
	1.1nm,0.5s,baz=56,slow=7.0,SNR=2.3						
	1.1nm,0.5s						
EKA	**Eskdalemuir Ar**	**84.97**	**335**	P	**P**	**17 20 18.1**	**-0.3**
	2.4nm,0.9s,baz=52,slow=5.6,SNR=3.6						
	2.4nm,0.9s						
NVAR	**Mina Array Bea**	**85.70**	**47**	P	**P**	**17 20 22.3**	**-0.4**
	0.2nm,0.5s,baz=310,slow=5.6,SNR=3.8						
	0.2nm,0.5s						

---

*OMAN **29** 17:38:42.6±0.2, 27°.52N×55°.80E, h10km, mb4.1/4, ml3.1/11, Error ellipse: s-maj=7.6km s-min=3.5km az=248.0*
*TEH **29** 17:38:42.2, 27°.53N×55°.67E, h20km±54km, ML3.2*
*DSN **29** 17:38:43.1±0.8, 27°.58N×55°.93E, h15km, ML3.0/6, Error ellipse: s-maj=27.2km s-min=7.2km az=77.0*
ISC 29 17:38:41.5±3.4, **27°.54N**±0°.05×**55°.75E**±0°.05, **h2**km±26km, **n57, σ1^{s}05/73, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.40**	**110**	Pg	**Pb**	**17 38 51.5**	**0.0**
IBND	**Bandar-abas**	**0.71**	**97**	Pg	**Pn**	**17 38 57.6**	**-1.0**
IBND				Sg	**Sn**	**17 39 09.1**	**-1.0**
LAR1	**LAR**	**1.23**	**276**	Pg	**Pn**	**17 39 04.1**	**-1.7**
SHME	**Shamm**	**1.53**	**167**	P	**Pn**	**17 39 09.9**	**0.0**
SHME				S	**Sb**	**17 39 30.8**	**+0.4**
SHME	**Shamm**	**1.53**	**167**	P	**Pn**	**17 39 09.9**	**0.0**
	SNR=7.0						
SHME				S	**Sb**	**17 39 30.9**	**+0.4**
SHME	**Shamm**	**1.53**	**167**	Pg	**Pn**	**17 39 09.8**	**0.0**
KHNJ	**Kahnooj**	**1.78**	**76**	Pn	**Pb**	**17 39 13.7**	**-1.3**
MASF	**Masafi**	**2.19**	**170**	P	**Pn**	**17 39 20.1**	**+1.0**
MASF				S	**Sn**	**17 39 47.7**	**+0.9**
MSFE	**Esma-Masafi**	**2.20**	**170**	P	**Pn**	**17 39 20.0**	**+0.8**
MSFE	**Esma-Masafi**	**2.20**	**170**	Pn	**Pn**	**17 39 20.4**	**+1.2**
NGRK	**Negar Kerman**	**2.27**	**22**	Pn	**Pn**	**17 39 20.2**	**-0.2**
MDH	**Madha**	**2.29**	**167**	P	**Pn**	**17 39 20.2**	**-0.1**
MDH	**Madha**	**2.29**	**167**	P	**Pn**	**17 39 20.7**	**+0.4**
MDH				S	**Sn**	**17 39 48.6**	**-0.5**
MDH				S	**Sn**	**17 39 48.6**	**-0.5**
MDH	**Madha**	**2.29**	**167**	Pn	**Pn**	**17 39 20.9**	**+0.6**
JASK	**Jask - Hormozg**	**2.52**	**131**	P	**Pn**	**17 39 23.6**	**0.0**
JASK	**Jask - Hormozg**	**2.52**	**131**	Pn	**Pn**	**17 39 23.5**	**-0.1**
TVBK	**TV Kerman**	**2.59**	**20**	Pn	**Pn**	**17 39 25.6**	**+0.7**
UOSS	**Minazif**	**2.62**	**171**	P	**Pn**	**17 39 25.3**	**+0.4**
UOSS	**Minazif**	**2.62**	**171**	P	**Pn**	**17 39 25.5**	**+0.6**
UOSS				S	**Sn**	**17 39 58.3**	**+1.1**
UOSS	**Minazif**	**2.62**	**171**	Pn	**Pn**	**17 39 25.7**	**+0.8**
HATD	**Hatta, Dubai**	**2.73**	**173**	P	**Pn**	**17 39 27.2**	**+0.8**
HATD	**Hatta, Dubai**	**2.73**	**173**	P	**Pn**	**17 39 27.4**	**+1.1**
HATD				S	**Sn**	**17 40 00.5**	**+0.6**
HATD	**Hatta, Dubai**	**2.73**	**173**	Pn	**Pn**	**17 39 27.5**	**+1.1**
FAQ	**Al Faqa, Dubai**	**2.79**	**183**	P	**Pn**	**17 39 27.8**	**+0.6**
FAQ	**Al Faqa, Dubai**	**2.79**	**183**	P	**Pn**	**17 39 28.5**	**+1.2**
FAQ	**Al Faqa, Dubai**	**2.79**	**183**	Pn	**Pn**	**17 39 28.8**	**+1.6**
CHMN	**Cheshme madani**	**2.80**	**34**	Pn	**Pn**	**17 39 28.9**	**+1.2**
ASHO	**Ashiyiah**	**2.86**	**174**	P	**Pn**	**17 39 29.1**	**+0.8**
ASHO	**Ashiyiah**	**2.86**	**174**	P	**Pn**	**17 39 29.4**	**+1.1**
ASHO				S	**Sn**	**17 40 04.4**	**+1.1**
ASHO	**Ashiyiah**	**2.86**	**174**	Pn	**Pn**	**17 39 29.4**	**+1.1**
KBAM	**BAM**	**2.86**	**56**	Pn	**Pn**	**17 39 29.5**	**+1.2**
KHGB	**Koh Gabri**	**2.90**	**13**	Pn	**Pn**	**17 39 30.2**	**+1.3**
ASUD	**Al Ashush, Dub**	**2.93**	**187**	Pn	**Pn**	**17 39 31.2**	**+2.0**
SOHO	**SOHO**	**3.47**	**168**	P	**Pn**	**17 39 35.4**	**-1.1**
SOHO				S	**Sn**	**17 40 16.4**	**-1.8**
SOHO	**SOHO**	**3.47**	**168**	Pn	**Pn**	**17 39 35.7**	**-0.8**
IMEH	**Mehriz

OSPL ***29*** *17:44:33.1±2.7, 18°.49N×70°.42W, h0km±11km, ML4.5*
GCMT ***29*** *17:44:34.8±0.4, 18°.59N±0°.04×70°.46W×0°.04, h23km±1km, MW4.8/68, Moment Tensor Solution. s23,c26; s68,c78; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.06±.19; Mθθ-0.60±.12; Mφφ-1.46±.11; Mrθ0.18±.18; Mrφ0.97±.07; Mθφ-0.41±.15; Best double couple: M=2.12400×10^16 NP1:φs149.00000°, δ51.00000°, λ92.00000°. NP2: φs325.00000°, δ39.00000°, λ87.00000°. Principal axes: T 2.1080, Plg84.0000°, Azm75.0000°; N 0.0310, Plg2.0000°, Azm327.0000°; P -2.1400, Plg6.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 17:44:33.0±0.9, 18°.46N±0°.03×70°.44W±0°.03, h27km±6km, n237, σ1§67/198, mb4.8/83, MS4.0/45, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOSC1	**San Cristbal**	**0.32**	**100**	*i* P	**Pb**	**17 44 38.7**	**-1.7**
LOSC1				*e*S	**Sb**	**17 44 44.3**	**-1.2**
LOSC1				IAML		17 44 46.4	
	comp=Z,88μm,0.3s						
SDDR	**Presa de Saban**	**0.96**	**303**		**Pb**	**17 44 49.5**	**-1.5**
SDDR				Sg	**Sb**	**17 45 02.8**	**-0.5**
SDDR	**Presa de Saban**	**0.96**	**303**	*i* P	**Pb**	**17 44 49.5**	**-1.5**
SDDR				*e*S	**Sb**	**17 45 02.7**	**-0.7**
SDDR				IAML		17 45 10.9	
	comp=Z,9μm,0.5s						
SDDR				IAML		17 45 10.9	
	comp=Z,9μm,0.3s						
SDDR	**Presa de Saban**	**0.96**	**303**	*e*P	**Pb**	**17 44 49.5**	**-1.5**
SDDR				*e*S	**Sb**	**17 45 02.5**	**-0.9**
SDDR	**Presa de Saban**	**0.96**	**303**	*i* P	**Pb**	**17 44 49.6**	**-1.4**
SDDR				IAmb	IAmb	17 44 56.6	
	comp=Z,3μm,1.1s						
SDDR				*e*S	**Sn**	**17 45 03.5**	**0.0**
SDDR				IAML		17 45 11.6	
	comp=Z,9μm,0.6s						
LONA1	**Toro Cenizo, N**	**1.06**	**31**	*i* P	**Pn**	**17 44 50.2**	**-1.8**
LONA1				*e*S	**Sb**	**17 45 04.6**	**-1.5**
LONA1				IAML		17 45 05.5	
	comp=Z,11μm,0.3s						
LOPE2	**Hotel El Peder**	**1.32**	**251**	*i* P	**Pn**	**17 44 55.8**	**+0.3**
LOPE2				*e*S	**Sb**	**17 45 15.9**	**+2.4**
LOPE2				IAML		17 45 22.6	
	comp=Z,7μm,0.9s						
LOPP1	**Punta Rusia, P**	**1.56**	**333**	*i* P	**Pn**	**17 44 59.7**	**+0.8**
LOPP1				*e*S	**Sb**	**17 45 21.4**	**+0.9**
LOPP1				IAML		17 45 26.9	
	comp=Z,6μm,0.4s						
LODA1	**ITESIL, Dajabo**	**1.61**	**312**	*i* P	**Pn**	**17 45 00.2**	**+0.6**
LODA1				*e*S	**Sb**	**17 45 22.1**	**+0.1**
LODA1				IAML		17 45 23.2	
	comp=Z,11μm,0.6s						
PAPH	**Port-au-Prince**	**1.77**	**272**	Pn	**Pn**	**17 45 02.4**	**+0.6**
PAPH	**Port-au-Prince**	**1.77**	**272**	*e*P	**Pn**	**17 45 02.5**	**+0.6**
PAPH	**Port-au-Prince**	**1.77**	**272**	*i* P	**Pn**	**17 45 02.5**	**+0.7**
MASC	**Masc**	**3.97**	**296**	*e*P	**Pn**	**17 45 32.1**	**+0.1**
MASC				*e*S	**Sn**	**17 46 18.0**	**+0.3**
MASC				IAML		17 46 40.0	
	comp=N,414nm,1.3s						
MASC				IAML		17 46 40.8	
	comp=E,380nm,0.4s						
MASC	**Masc**	**3.97**	**296**	*i* P	**Pn**	**17 45 33.0**	**+1.0**
SJG	**San Juan**	**4.09**	**94**		**Pn**	**17 45 36.1**	**+2.4**
SJG	**San Juan**	**4.09**	**94**	*e*P	**Pn**	**17 45 37.0**	**+3.3**
GTBY	**Guantanamo Bay**	**4.65**	**289**	Pn	**Pn**	**17 45 41.4**	**-0.1**
GTBY	**Guantanamo Bay**	**4.65**	**289**	*e*P	**Pn**	**17 45 41.3**	**-0.1**
GTBY				*e*S	**Sn**	**17 46 34.5**	**0.0**
GTBY				IAML		17 46 54.3	
	comp=E,364nm,0.6s						
GTBY				IAML		17 47 00.4	
	comp=E,325nm,1.1s						
GTBY	**Guantanamo Bay**	**4.65**	**289**	*i* P	**Pn**	**17 45 41.6**	**+0.2**
GTMO	**Guantanamo**	**4.73**	**291**	*e*P	**Pn**	**17 45 41.4**	**-1.1**
RCC	**Rio Carpintero**	**5.20**	**288**	*e*P	**Pn**	**17 45 49.2**	**+0.3**
RCC				*e*S	**Sn**	**17 46 48.0**	**-0.1**
RCC				*e*Sg	**Sb**	**17 47 03.4**	**-1.8**
RCC				IAML		17 47 10.9	
	comp=N,152nm,0.9s						
RCC				IAML		17 47 19.1	
	comp=E,137nm,0.4s						
HLGC	**Holguin**	**5.82**	**295**	*e*P	**Pn**	**17 46 01.6**	**+4.0**
LMGC	**Las Mercedes**	**6.41**	**285**	*e*P	**Pn**	**17 46 05.5**	**0.0**
HATO	**Hato, Curacao**	**6.41**	**167**		**Pn**	**17 46 06.1**	**+0.5**
MTDJ	**Mount Denham**	**6.75**	**269**	Pn	**Pn**	**17 46 10.5**	**+0.1**
MTDJ	**Mount Denham**	**6.75**	**269**	*e*P	Pn	17 46 17.0	+6.6
URIC	**Uribia, Colomb**	**6.89**	**193**	*e*P	**Pn**	**17 46 11.7**	**-0.6**
SMRT	**St. Maarten**	**7.01**	**92**		**Pn**	**17 46 13.9**	**0.0**
CCCC	**Cccc**	**7.42**	**293**	*e*P	Pn	17 46 14.4	-5.0
CCCC				*e*S	**Sn**	**17 47 35.3**	**-7.4**
CCCC				IAML		17 47 36.4	
	comp=N,1.7nm,0.1s						
CCCC				IAML		17 47 36.4	
	comp=E,11nm,0.4s						
MBFL	**Flemmings, Mon**	**8.03**	**101**	*e*P	**Pn**	**17 46 31.8**	**+4.0**
MLYT	**Lee's Yard**	**8.05**	**101**	*e*P	Pn	17 46 33.0	+4.8
ANBD	**Bethesda, Anti**	**8.38**	**98**	*e*P	**Pn**	**17 46 34.8**	**+2.1**
CBE	**Ff, Capester**	**8.76**	**104**	Pn	**Pn**	**17 46 39.0**	**+1.0**
MAGL	**Barre de l'ile**	**9.10**	**105**	Pn	**Pn**	**17 46 44.2**	**+1.7**
MAGL	**Barre de l'ile**	**9.10**	**105**	*e*P	**Pn**	**17 46 44.9**	**+2.3**
GDSD	**La Dsirade Is**	**9.20**	**102**	Pn	**Pn**	**17 46 44.1**	**+0.2**
H05N1	**Guadeloupe/Mar**	**9.21**	**102**	Pn	**Pn**	**17 46 42.6**	**-1.4**
SDV	**Santo Domingo**	**9.52**	**181**	Pn	**Pn**	**17 46 49.4**	**+0.9**
SDV	**Santo Domingo**	**9.52**	**181**	*e*P	**Pn**	**17 46 50.7**	**+2.2**
SDV	**Santo Domingo**	**9.52**	**181**	Pn	**Pn**	**17 46 49.1**	**+0.6**
	comp=E,14nm,0.3s,baz=35,slow=4.4,SNR=9.9						
SDV				Sn	**Sn**	**17 48 28.1**	**-6.7**
	comp=E,3.5nm,0.3s,baz=327,slow=23,SNR=4.4						
SDV				LR	LR	17 50 52.9	
	comp=E,1μm,18.8s,baz=4.5,slow=40						
SVN	**Savane Anatole**	**9.58**	**111**	Pn	**Pn**	**17 46 51.9**	**+2.7**
SVN	**Savane Anatole**	**9.58**	**111**	*e*P	Pn	17 46 54.9	+5.6
BAUV	**El Baul**	**9.74**	**166**	Pn	**Pn**	**17 46 51.4**	**-0.1**
BIM	**Bigot**	**9.80**	**112**	*e*P	**Pn**	**17 46 52.6**	**+0.4**
PCRV	**Puerto La Cruz**	**9.97**	**145**	Pn	**Pn**	**17 46 54.7**	**+0.1**
	comp=E,2.8nm,0.3s,baz=310,slow=1.3,SNR=29						
PCRV				LR	LR	17 51 03.6	
	comp=E,713nm,18.4s,slow=40						
	comp=E,12nm,0.4s						
H05S1	**Guadeloupe/Mar**	**10.05**	**112**	Pn	**Pn**	**17 46 57.0**	**+1.5**
SLBI	**Saint Lucia, B**	**10.10**	**115**	*e*P	**Pn**	**17 46 56.6**	**+0.3**
GRGR	**Grenville**	**10.55**	**125**	Pn	**Pn**	**17 47 02.7**	**+0.2**
PAMC	**Pamplona, Colo**	**11.28**	**192**	*e*P	**Pn**	**17 47 11.7**	**-1.2**
ZARC	**Zaragoza, Cauc**	**11.72**	**202**	*e*P	**Pn**	**17 47 20.3**	**+1.8**
BRRC	**Barranca, Sant**	**11.73**	**196**	*e*P	**Pn**	**17 47 18.4**	**-0.3**
UREC	**San Jos de Ur**	**11.75**	**206**	*e*P	**Pn**	**17 47 20.3**	**+1.5**
CAPC	**Capurgana**	**11.86**	**215**	*e*P	**Pn**	**17 47 20.3**	**0.0**
APAC	**Apartado, Choc**	**12.08**	**210**	*e*P	**Pn**	**17 47 24.2**	**+0.8**
BARC	**Barichara**	**12.10**	**193**	*e*P	**Pn**	**17 47 24.2**	**+0.3**
DBBC	**Dabeiba**	**12.69**	**207**	*e*P	**Pn**	**17 47 32.0**	**+0.2**
RUSC	**La Rusia**	**12.76**	**192**	*e*P	**Pn**	**17 47 33.9**	**+0.7**
UPA	**Univ. de Panam**	**12.92**	**224**	*e*P	**Pn**	**17 47 34.0**	**-0.9**
BCIP	**Isla Barro Col**	**12.98**	**226**	Pn	**Pn**	**17 47 33.4**	**-2.4**
BCIP	**Isla Barro Col**	**12.98**	**226**	*e*P	**Pn**	**17 47 35.0**	**-0.8**
SPBC	**San Pablo de B**	**13.22**	**196**	*e*P	**Pn**	**17 47 39.8**	**+0.7**
NORC	**Norcasia**	**13.53**	**199**	*e*P	**Pn**	**17 47 41.8**	**-1.5**
GUY2C	**Guyana, Caldas**	**14.01**	**201**	*e*P	**Pn**	**17 47 52.0**	**+1.7**
ROSC	**El Rosal**	**14.06**	**196**	Pn	**Pn**	**17 47 52.5**	**+1.6**
	comp=E,3.0nm,0.3s,baz=18,slow=18,SNR=6.5						
ROSC				Sn	**Sn**	**17 50 23.1**	**-3.3**
	baz=89,slow=21						
CHIC	**Chingaza**	**14.12**	**194**	*e*P	**Pn**	**17 47 53.5**	**+1.8**
AZU	**Azuero**	**14.29**	**223**	*e*P	**Pn**	**17 47 51.6**	**-1.9**
PLMC	**San Jos del P**	**14.64**	**204**	*e*P	**Pn**	**17 48 00.3**	**+1.9**
ESPN	**Las Esperanzas**	**14.75**	**247**		**Pn**	**17 48 01.0**	**+1.2**
ORTC	**Ortega, Tolima**	**15.21**	**199**	*e*P	**Pn**	**17 48 07.1**	**+1.0**
PRAC	**Prado**	**15.29**	**197**	*e*P	**Pn**	**17 48 06.9**	**-0.2**
YOTC	**Yotoco, Valle**	**15.51**	**203**	*e*P	**Pn**	**17 48 11.0**	**+1.0**
SRBA	**San Rafael, Bu**	**15.54**	**236**	Pn	**Pn**	**17 48 10.8**	**+0.4**
CDITO	**Canoas**	**15.57**	**232**		**Pn**	**17 48 10.4**	**-0.4**
CDITO				IAmb	IAmb	17 48 16.0	
	comp=Z,112nm,1.8s						
ACON	**Acoyapa**	**15.62**	**248**		**Pn**	**17 48 11.6**	**+0.3**
ACON	**Acoyapa**	**15.62**	**248**	*e*P	**P**	**17 48 21.6**	**+6.4**
MATN	**Matagalpa**	**15.89**	**252**		**Pn**	**17 48 16.1**	**+1.1**
JTS	**Las Juntas de**	**16.23**	**242**	P	**Pn**	**17 48 21.2**	**+1.9**
JTS	**Las Juntas de**	**16.23**	**242**	Pn	**Pn**	**17 48 18.3**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=51,slow=11,SNR=1.2						
	comp=Z,1.2nm,0.3s						
JAMC	**Jamundi, Valle**	**16.34**	**203**	*e*P	**P**	**17 48 25.6**	**+2.1**
ORTG	**Ortega, Santa**	**16.62**	**243**		**P**	**17 48 27.1**	**+0.6**
GARC	**Garzon, Huila**	**16.92**	**198**	*e*P	**P**	**17 48 31.5**	**+1.5**
TEIG	**Tepich**	**16.93**	**279**		**P**	**17 48 30.1**	**+0.3**
POPC	**Popayan, Colom**	**16.97**	**202**	*e*P	**Pn**	**17 48 30.5**	**+1.8**
Y60A	**Bolivia**	**16.97**	**337**	Pn	**Pn**	**17 48 28.8**	**+0.4**
Y60A				IAmb	IAmb	17 48 32.5	
	comp=Z,159nm,1.1s						
BBAC	**Balboa, Cauca**	**17.65**	**203**	*e*P	**Pn**	**17 48 38.8**	**+1.5**
X58A	**Rowland**	**17.88**	**335**		**Pn**	**17 48 40.5**	**+0.8**
GCUF	**Volcan Galeras**	**18.42**	**202**	*e*P	**Pn**	**17 48 53.9**	**+6.9**
W57A	**Gilead**	**18.66**	**335**	P	**P**	**17 48 49.5**	**+0.6**
W57A				IAmb	IAmb	17 48 52.4	
	comp=Z,148nm,1.6s						
PTLC	**Puerto Leguiza**	**18.68**	**194**	*e*P	**Pn**	**17 48 53.0**	**+3.4**
BOAV	**Boa Vista**	**18.69**	**148**		**P**	**17 48 50.7**	**+1.3**
BOAV	**Boa Vista**	**18.69**	**148**	*e*P	**Pn**	**17 48 53.9**	**+4.1**
PAULI	**Pauline**	**19.18**	**330**	P	**P**	**17 48 55.2**	**+0.7**
T60A	**Surry**	**19.41**	**345**	P	**P**	**17 48 57.3**	**+0.3**
T60A				IAmb	IAmb	17 49 07.7	
	comp=Z,80nm,1.1s						
T59A	**Double "B" Far**	**19.47**	**343**	P	**P**	**17 48 58.5**	**+0.8**
T59A				IAmb	IAmb	17 49 00.9	
	comp=Z,70nm,1.4s						
IMBA	**Imbabura, San**	**19.62**	**204**	P	**Pn**	**17 49 02.0**	**+0.6**
IMBA				IAmb	IAmb	17 49 12.8	
	comp=Z,46nm,0.9s						
OTAV	**Otavalo**	**19.75**	**204**	Pn	**P**	**17 49 03.0**	**+1.6**
OTAV				IAmb	IAmb	17 49 15.7	
	comp=Z,55nm,1.2s						
OTAV	**Otavalo**	**19.75**	**204**	*e*P	**Pn**	**17 49 06.6**	**+3.6**
BG3	**Lake Jocassee**	**19.86**	**328**	P	**Pn**	**17 49 04.2**	**+0.5**
BG3				IAmb	IAmb	17 49 14.5	
	comp=Z,130nm,1.9s						
PULU	**Pululahua**	**19.97**	**204**	P	**Pn**	**17 49 05.9**	**+0.4**
V53A	**Saluda**	**20.34**	**330**	P	**P**	**17 49 09.3**	**+2.0**
V53A				IAmb	IAmb	17 49 15.0	
	comp=Z,52nm,1.2s						
CBN	**Corbin Frederi**	**20.58**	**344**	P	**P**	**17 49 09.8**	**+0.1**
CBN				IAmb	IAmb	17 49 20.4	
	comp=Z,82nm,1.2s						
SLOR	**San Lorenzo -**	**20.66**	**203**	P	**P**	**17 49 11.7**	**+0.5**
LRAL	**Lakeview Retre**	**20.77**	**318**	P	**P**	**17 49 13.0**	**+1.2**
TKL	**Tuckaleechee C**	**20.80**	**328**	P	**P**	**17 49 11.4**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=143,slow=15,SNR=2.2						
TKL				S	S	17 52 53.1	-10
	comp=Z,3.5nm,1.0s,baz=234,slow=19,SNR=1.4						
TKL				LR	LR	17 57 26.1	
	comp=Z,430nm,19.6s,baz=136,slow=37						
	comp=Z,2.1nm,0.7s						
PIAT	**Ana Tenorio**	**20.82**	**203**	*e*P	Pn	17 49 19.3	+3.9
TZTN	**Tazewell**	**21.40**	**330**	P	**P**	**17 49 19.8**	**+1.2**
TZTN				IAmb	IAmb	17 49 29.2	
	comp=Z,98nm,1.4s						
S54A	**Dingess, Beckl**	**21.49**	**336**	P	**P**	**17 49 20.7**	**+1.1**
S54A				IAmb	IAmb	17 49 30.5	
	comp=Z,36nm,0.9s						
CHSH	**Refugio Sur-Vo**	**21.50**	**204**	P	**P**	**17 49 22.5**	**+2.1**
CHSH				IAmb	IAmb	17 49 32.1	
	comp=Z,25nm,0.8s						
Q56A	**Snyder Ridge,**	**21.87**	**341**	P	**P**	**17 49 22.8**	**-0.8**
Q56A				IAmb	IAmb	17 49 34.8	
	comp=Z,42nm,1.2s						
MDP	**Montagnes des**	**21.87**	**125**	P	**P**	**17 49 23.9**	**0.0**
	comp=Z,5.2nm,0.8s,baz=342,slow=12,SNR=3.7						
	comp=Z,5.2nm,0.8s						
P57A	**Homestead Farm**	**21.95**	**344**	P	**P**	**17 49 24.9**	**+0.4**
P57A				IAmb	IAmb	17 49 35.5	
	comp=Z,68nm,1.7s						
MVL	**Millersville**	**22.06**	**348**	P	**P**	**17 49 26.6**	**+1.0**
MVL				IAmb	IAmb	17 49 38.2	
	comp=Z,30nm,1.0s						
Q54A	**Coxs Mills**	**22.36**	**338**	P	**P**	**17 49 28.0**	**-0.8**
Q54A				IAmb	IAmb	17 49 39.9	
	comp=Z,33nm,1.1s						
T50A	**Nancy**	**22.40**	**329**	IAmb	IAmb	17 49 40.2	
	comp=Z,44nm,1.3s						
344A	**Westbrook Farm**	**22.44**	**309**	P	**P**	**17 49 29.4**	**-0.4**
344A				IAmb	IAmb	17 49 42.2	
	comp=Z,39nm,0.9s						
LUPA	**Lehigh Univers**	**22.46**	**350**	P	**P**	**17 49 29.8**	**-0.2**
LUPA				IAmb	IAmb	17 49 34.5	
	comp=Z,50nm,1.2s						
V48A	**Smith Brothers**	**22.50**	**323**	IAmb	IAmb	17 49 42.0	
	comp=Z,22nm,0.8s						
TBTG	**Tabatinga, AM**	**22.51**	**179**	P	**P**	**17 49 30.7**	**0.0**
PLAL	**Pickwick Lake**	**22.72**	**320**	P	**P**	**17 49 33.2**	**+0.4**
PLAL				IAmb	IAmb	17 49 43.7	
	comp=Z,18nm,0.8s						
Q52A	**Bidwell**	**22.87**	**336**	P	**P**	**17 49 33.0**	**-1.3**
Y45A	**Yeager Farm, C**	**22.95**	**316**	P	**P**	**17 49 36.0**	**+0.8**
Y45A				IAmb	IAmb	17 49 40.0	
	comp=Z,56nm,1.3s						
SSPA	**Standing Stone**	**23.01**	**345**	P	**P**	**17 49 36.3**	**+0.6**
SSPA				IAmb	IAmb	17 49 40.5	
	comp=Z,73nm,1.4s						
M57A	**Sunshine Farm,**	**23.51**	**347**	IAmb	IAmb	17 49 51.3	
	comp=Z,57nm,1.4s						
MACA	**Manacapuru-AM**	**23.54**	**155**	P	**P**	**17 49 41.5**	**+0.4**
MACA				IAmb	IAmb	17 49 47.8	
	comp=Z,20nm,0.8s						
Q52A	**Adamsville**	**23.71**	**338**	P	**P**	**17 49 42.6**	**-0.1**
BCX	**Boston College**	**23.80**	**359**	P	**P**	**17 49 43.2**	**-0.3**
BCX				IAmb	IAmb	17 49 46.5	
	comp=Z,76nm,1.7s						
HRV	**Adam Dziewonsk**	**23.98**	**358**	P	**P**	**17 49 46.7**	**+1.5**
L56A	**Greenwood**	**24.36**	**347**	IAmb	IAmb	17 50 00.5	
	comp=Z,28nm,1.0s						
MCRA	**Macar, Loja**	**24.55**	**203**	P	**P**	**17 49 52.7**	**+2.0**
USIN	**University of**	**24.58**	**326**	P	**P**	**17 49 48.6**	**-2.1**
USIN				IAmb	IAmb	17 50 01.9	
	comp=Z,74nm,1.6s						
J61A	**Chester**	**24.87**	**356**	P	**P**	**17 49 53.2**	**-0.1**
J61A				IAmb	IAmb	17 50 14.2	
	comp=Z,72nm,1.8s						
MMNY	**Mt. Morris Dam**	**25.01**	**347**	P	**P**	**17 49 56.4**	**+1.9**
MMNY				IAmb	IAmb	17 49 58.8	
	comp=Z,62nm,1.2s						
O48B	**Farmland**	**25.15**	**333**	P	**P**	**17 49 57.8**	**+1.9**
O48B				IAmb	IAmb	17 50 06.5	
	comp=Z,57nm,1.5s						
OLIL	**Olney**	**25.38**	**326**	P	**P**	**17 49 56.0**	**-1.9**
OLIL				IAmb	IAmb	17 50 09.3	
	comp=Z,31nm,1.1s						
NCB	**Newcomb**	**25.63**	**354**	P	**P**	**17 49 59.1**	**-1.1**
NCB				IAmb	IAmb	17 50 11.6	
	comp=Z,37nm,1.4s						
FCAR	**Ozark Folk Cen**	**25.86**	**317**	P	**P**	**17 50 02.7**	**+0.4**
N47A	**Urbana**	**25.90**	**333**	P	**P**	**17 50 03.8**	**+1.1**
N47A				IAmb	IAmb	17 50 14.6	
	comp=Z,58nm,1.6s						
CZSB	**Cruzeiro do Su**	**26.12**	**185**	P	**P**	**17 50 06.3**	**+1.4**
CZSB				IAmb	IAmb	17 50 16.5	
	comp=Z,13nm,0.7s						
CCM	**Cathedral Cave**	**26.66**	**321**	P	**P**	**17 50 10.0**	**+0.4**
G62A	**West of Eustis**	**26.68**	**360**	IAmb	IAmb	17 50 14.2	
	comp=Z,41nm,1.4s						
MGMO	**Mountain Grove**	**26.71**	**319**	P	**P**	**17 50 11.4**	**+1.3**
PKME	**Peaks-Kenny Pk**	**26.74**	**2**	P	**P**	**17 50 12.0**	**+1.9**
PKME				IAmb	IAmb	17 50 13.7	
	comp=Z,54nm,1.4s						
SADO	**Sadowa**	**27.22**	**346**	LR	LR	18 00 39.3	
	comp=Z,331nm,20.8s,baz=171,slow=36						
LMN	**Caledonia Moun**	**27.71**	**8**	P	**P**	**17 50 20.3**	**+1.4**
LMN				IAmb	IAmb	17 50 21.9	
	comp=Z,35nm,1.1s						
SAML	**Samuel**	**28.16**	**165**	P	**P**	**17 50 24.3**	**+1.1**
SAML				IAmb	IAmb	17 50 29.9	
	comp=Z,20nm,0.9s						
PQI	**Presque Isle**	**28.20**	**4**	P	**P**	**17 50 23.7**	**+0.4**
PQI				IAmb	IAmb	17 50 26.4	
	comp=Z,49nm,1.6s						
ETMB	**Extrema**	**28.41**	**171**	P	**P**	**17 50 26.1**	**+0.8**
D62A	**Allapoint, All**	**28.56**	**2**	P	**P**	**17 50 27.6**	**+1.1**
D62A				IAmb	IAmb	17 50 29.9	
	comp=Z,34nm,1.4s						
NNA	**Nana**	**30.91**	**192**	LR	LR	18 05 04.9	
	comp=Z,221nm,19.0s,baz=5.5,slow=40						
TXAR	**Lajitas Array**	**32.15**	**296**	P	**P**	**17 50 57.0**	**-1.6**
	comp=Z,1.1nm,1.0s,baz=112,slow=8.2,SNR=7.7						
TXAR				LR	LR	18 06 20.5	
	comp=Z,53nm,18.5s,baz=84,slow=41						
	comp=Z,1.1nm,1.0s						
ALPN	**Alpine**	**32.36**	**298**	P	**P**	**17 51 01.6**	**+1.2**
ALPN				IAmb	IAmb	17 51 10.9	
	comp=Z,21nm,1.5s						
DRLN	**Deer Lake**	**32.44**	**16**	IAmb	IAmb	17 51 03.0	
	comp=Z,26nm,1.1s						
425A	**Indio Mountain**	**33.58**	**298**	IAmb	IAmb	17 51 25.3	
	comp=Z,14nm,1.5s						
LPAZ	**La Paz**	**34.61**	**176**	P	**P**	**17 51 19.0**	**-1.6**
	comp=Z,1.3nm,1.0s,baz=11,slow=15,SNR=2.0						
LPAZ				LR	LR	18 06 34.6	
	comp=Z,311nm,18.1s,baz=347,slow=38						
	comp=Z,1.3nm,1.0s						
SIV	**San Ignacio**	**35.46**	**164**	LR	LR	18 06 44.5	
	comp=Z,340nm,18.2s,baz=290,slow=38						
PTLB	**Pontes e Lacer**	**35.49**	**161**	P	**P**	**17 51 28.3**	**+0.9**
ANMO	**Albuquerque**	**35.89**	**305**	LR	LR	18 08 45.7	
	comp=Z,211nm,18.4s,baz=203,slow=41						
SCHQ	**Schefferville**	**36.41**	**4**	P	**P**	**17 51 36.1**	**+1.1**
	comp=Z,16nm,0.9s,baz=195,slow=8.7,SNR=10						
SCHQ				LR	LR	18 06 28.7	
	comp=Z,146nm,19.1s,baz=280,slow=36						
	comp=Z,16nm,0.9s						
319A	**Douglas**	**37.31**	**298**	IAmb	IAmb	17 52 04.1	
	comp=Z,14nm,1.2s						
ULM	**Lac du Bonnet**	**37.66**	**333**	P	**P**	**17 51 45.4**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=100,slow=7.8,SNR=3.8						
ULM				LR	LR	18 07 27.8	
	comp=Z,213nm,19.3s,baz=149,slow=37						
	comp=Z,2.9nm,0.7s						
BDFB	**Brasilia**	**40.45**	**146**	P	**P**	**17 52 09.2**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=338,slow=10,SNR=8.4						
BDFB				LR	LR	18 10 07.3	
	comp=Z,315nm,18.3s,baz=312,slow=38						
	comp=Z,1.3nm,0.4s						
LVC	**Limon Verde**	**40.85**	**178**	LR	LR	18 10 37.7	
	comp=Z,201nm,19.3s,baz=354,slow=38						
PDAR	**Pinedale Array**	**40.95**	**315**	P	**P**	**17 52 13.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=112,slow=9.9,SNR=4.2						
PDAR				PcP	**PcP**	**17 54 13.7**	**0.0**
	comp=Z,0.2nm,0.3s,baz=116,slow=5.5,SNR=3.1						
PDAR				LR	LR	18 10 51.6	
	comp=Z,155nm,18.4s,baz=120,slow=39						
	comp=Z,0.2nm,0.3s						
RCBR	**Riachuelo**	**41.74**	**122**	LR	LR	18 11 55.7	
	comp=Z,96nm,18.1s,baz=252,slow=40						
DUG	**Dugway, Tooele**	**42.32**	**310**	P	**P**	**17 52 24.0**	**-0.7**
FRB	**Frobisher Bay**	**45.26**	**1**	LR	LR	18 12 34.8	
	comp=Z,206nm,18.0s,baz=190,slow=37						
DSP	**Deep Springs**	**45.51**	**305**	P	**P**	**17 52 51.0**	**+0.9**
DSP				IAmb	IAmb	17 53 15.1	
	comp=Z,13nm,1.6s						
NVAR	**Mina Array Bea**	**45.98**	**306**	P	**P**	**17 52 53.5**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=103,slow=5.8,SNR=12						
NVAR				PcP	**PcP**	**17 54 28.9**	**-1.7**
	comp=Z,0.1nm,0.5s,baz=116,slow=4.1,SNR=2.7						
NVAR				LR	LR	18 14 41.6	
	comp=Z,321nm,18.7s,baz=110,slow=40						
	comp=Z,1.3nm,0.8s						
CPUP	**Villa Florida**	**46.31**	**164**	P	**P**	**17 52 54.9**	**-1.6**
	comp=Z,3.8nm,0.9s,baz=348,slow=7.8,SNR=6.0						
CPUP				LR	LR	18 13 23.9	
	comp=Z,174nm,18.7s,baz=352,slow=38						
	comp=Z,3.8nm,0.9s						
YERR	**Yerington**	**46.81**	**306**	IAmb	IAmb	17 53 04.2	
	comp=Z,12nm,1.3s						
WVOR	**Wild Horse Val**	**47.16**	**311**	IAmb	IAmb	17 53 06.1	
	comp=Z,9.8nm,1.4s						
EMB	**Emerald Bay**	**47.46**	**306**	IAmb	IAmb	17 54 53.8	
	comp=Z,12nm,0.6s						
NEW	**Newport**	**47.99**	**319**	P	**P**	**17 53 08.4**	**-1.1**
NEW				IAmb	IAmb	17 53 11.8	
	comp=Z,10nm,1.2s						
NEW	**Newport**	**47.99**	**319**	LR	LR	18 13 48.8	
	comp=Z,163nm,19.0s,baz=113,slow=37						
E09A	**Wood Farm, Sta**	**48.03**	**

CAST	Castle Rocks	69.93	332	IAmb	IAmb		17 55 43.2	
	comp=Z,14nm,1.4s							
NOA	NORSAR Array B	70.00	31	P		P	17 55 41.1	-0.9
	comp=Z,1.2nm,0.8s,baz=273,slow=6.4,SNR=2.1							
NOA				LR	LR		18 23 34.0	
	comp=Z,64nm,18.8s,baz=340,slow=34							
	comp=Z,1.2nm,0.8s							
DAVOX	Davos/Dischmat	70.22	46	LR	LR		18 20 07.2	
	comp=Z,35nm,20.9s,baz=265,slow=30							
KDAK	Kodiak Island	70.41	326	LR	LR		18 28 24.2	
	comp=Z,147nm,18.6s,baz=117,slow=37							
FUORN	Ofenpass-Fuorn	70.50	46	P		P	17 55 45.8	+0.2
FUORN				IAmb	IAmb		17 55 49.5	
	comp=Z,18nm,1.6s							
F20K	Avaraart Lake	71.33	336	IAmb	IAmb		17 55 52.6	
	comp=Z,22nm,1.4s							
SPITS	Spitsbergen Ar	71.40	13	LR	LR		18 24 24.3	
	comp=Z,109nm,21.9s,baz=240,slow=34							
H19K	Roundabout Mou	71.72	334	P		P	17 55 53.1	+0.9
H19K				IAmb	IAmb		17 55 55.3	
	comp=Z,18nm,1.2s							
GERES	GERESS Array B	72.52	44	P		P	17 55 58.1	+0.5
	comp=Z,1.2nm,0.9s,baz=350,slow=3.0,SNR=2.1							
GERES				LR	LR		18 24 38.2	
	comp=Z,72nm,19.2s,baz=234,slow=33							
	comp=Z,1.2nm,0.9s							
ARCES	ARCESS Array B	74.92	21	P		P	17 56 09.3	-1.8
	comp=Z,2.7nm,0.8s,baz=359,slow=12,SNR=1.5							
	comp=Z,2.7nm,0.8s							
VYHS	Vyhne	75.93	43	eP		P	17 56 26.4	+9.1
FINES	FINESS Array B	77.03	29	P		P	17 56 23.3	0.0
	comp=Z,5.5nm,1.1s,baz=238,slow=3.6,SNR=1.9							
	comp=Z,5.5nm,1.1s							
PPT	Papeete	85.63	250	LR	LR		18 29 39.9	
	comp=Z,49nm,19.1s,baz=72,slow=32							
BRTR	Keskin Array B	88.72	48	P		P	17 57 23.4	-1.1
	comp=Z,0.5nm,0.6s,baz=316,slow=5.2,SNR=2.6							
	comp=Z,0.5nm,0.6s							
KIRV	Kirov	88.81	27	LR	LR		18 35 08.0	
	comp=Z,55nm,18.6s,baz=320,slow=34							
BELG	Belogornoye	91.42	33	LR	LR		18 37 24.9	
	comp=Z,44nm,18.6s,baz=356,slow=35							
SEY	Seymchan	92.21	342	LR	LR		18 43 19.9	
	comp=Z,81nm,18.0s,baz=30,slow=38							
ARU	Arti	94.02	26	LR	LR		18 36 42.3	
	comp=Z,53nm,19.9s,baz=168,slow=33							
MA2	Magadan	95.31	340	LR	LR		18 44 47.1	
	comp=Z,137nm,18.8s,baz=94,slow=38							
GNI	Garni	96.16	44	LR	LR		18 38 16.3	
	comp=Z,28nm,19.4s,baz=16,slow=34							
PETK	Petropavlovsk-	97.51	333	LR	LR		18 42 54.4	
	comp=Z,70nm,21.1s,baz=67,slow=36							
AKTO	Aktyubinsk	97.78	30	LR	LR		18 41 05.7	
	comp=Z,45nm,18.6s,baz=218,slow=35							
PZH	PanZhiHua	134.66	10	PKP		PKPdf	18 03 50.3	+0.4
CMAR	Chiang Mai Arr	141.85	16	PKhKP		PKPpre	18 03 59.2	
	comp=Z,0.2nm,0.3s,baz=306,slow=3.7,SNR=2.4							
CTA	Charters Tower	145.37	261	PKPbc		PKPbc	18 04 08.6	-0.5
	comp=Z,5.9nm,1.2s,baz=146,slow=6.5,SNR=3.5							
WRA	Warramunga Arr	156.56	262	PKP		PKPdf	18 04 24.6	-1.7
	comp=Z,1.2nm,1.2s,baz=12,slow=0.4,SNR=3.7							
ASAR	Alice Springs	156.72	253	PKP		PKPdf	18 04 25.7	-0.7
	comp=Z,2.2nm,1.2s,baz=131,slow=2.4,SNR=1.3							
ASAR				PKPab		PKPab	18 04 54.1	-1.8
	comp=Z,1.7nm,0.8s,baz=104,slow=4.3,SNR=7.9							

*PRE **29** 18:06:04.3±0.8, 23°.83S×25°.47E, h5km, ML2.6*
*BUL **29** 18:06:18.9±0.8, 23°.14S×25°.98E, h10km, MD3.6*
*EAF **29** 18:06:20.0, 22°.92S×25°.88E, h10km, MC3.5*

ISC 29 18:06:04.1±2.1, 23°.9S±0°.1×25°.4E±0°.1, h10km, n19, σ2°49/34, Botswana

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LEPH	Lephalale, Lim	2.17	90	eP		Pn	18 06 41.8	+1.5
LEPH				eS		Sn	18 07 07.6	+0.3
LEPH				IAML			18 07 07.8	
	comp=Z,67nm,0.3s							
KSR	Koster	2.39	146	eP		Pn	18 06 45.0	+1.5
KSR				eS		Sn	18 07 14.8	+1.9
KSR				IAML			18 07 32.8	
	comp=Z,126nm,0.2s							
SLR	Silverton	3.19	126	eP		Pn	18 06 56.4	+1.9
SLR				eS		Sn	18 07 34.6	+1.9
SLR				IAML			18 07 48.7	
	comp=Z,43nm,0.4s							
PRYS	Parys	3.52	151	eP		Pn	18 07 00.7	+1.7
PRYS				eS		Sn	18 07 41.4	+0.7
PRYS				IAML			18 08 08.9	
	comp=Z,16nm,0.4s							
MUSN	Musina, Limpop	4.37	70	i P		Pn	18 07 15.7	+5.0
MUSN				i S		Sn	18 07 57.6	-4.0
MUSN	Musina, Limpop	4.37	70	eP		Pn	18 07 12.4	+1.8
MUSN				eS		Sn	18 08 00.8	-0.8
MUSN				IAML			18 08 18.0	
	comp=Z,20nm,0.6s							
MUSN	Musina, Limpop	4.37	70	i P		Pn	18 07 15.7	+5.0
	baz=81							
MUSN				i S		Sn	18 07 57.6	-4.0
	baz=81							
MATP	Matopo	4.45	40	i P		Pn	18 07 14.4	+2.7
MATP				i S		Sn	18 07 54.1	-10
MATP	Matopo	4.45	40	i P		Pn	18 07 14.4	+2.7
	baz=45							
MATP				i S		Sn	18 07 54.1	-10
	baz=45							
SNKL	Senekal, Frees	4.88	155	eP		Pn	18 07 19.3	+1.6
SNKL				eS		Sn	18 08 14.2	-0.1
SNKL				IAML			18 08 52.1	
	comp=Z,15nm,0.4s							
MOPA	Mopani	5.48	88	i P		Pb	18 07 36.9	-3.1
MOPA				i S		Sn	18 08 33.4	+4.4
MOPA	Mopani	5.48	88	i P		Pb	18 07 36.9	-3.1
	baz=98							
MOPA				i S		Sn	18 08 33.4	+4.4
	baz=98							
KSTD	Kokstad	7.56	154	eP		Pn	18 07 56.3	+1.7
KSTD				eS		Sn	18 09 19.3	-1.2
KSTD				IAML			18 09 41.1	
	comp=Z,1.6nm,1.0s							
BFON	Badsfontein, M	8.06	191	eP		Pn	18 08 04.5	+3.1
BFON				eS		Sn	18 09 31.1	-1.5
BFON				IAML			18 10 33.4	
	comp=Z,8.4nm,0.4s							
BRAK	Brakfontein	8.21	195	eP		Pn	18 08 05.9	+2.6
BRAK				eS		Sn	18 09 34.7	-1.4
BRAK				IAML			18 10 34.0	
	comp=Z,6.2nm,0.8s							
GRAF	Camdeboo Natio	8.43	185	eP		Pn	18 08 08.6	+2.2
GRAF				eS		Sn	18 09 40.1	-1.6
GRAF				IAML			18 10 40.0	
	comp=Z,3.8nm,0.4s							
ROOI	Rooidraai Farm	8.76	190	eP		Pn	18 08 13.6	+2.7
ROOI				eS		Sn	18 09 47.9	-1.9
ROOI				IAML			18 10 01.7	
	comp=Z,2.2nm,0.3s							
FRAZ	Fraserburg	8.79	203	eP		Pn	18 08 13.8	+2.4
FRAZ				eS		Sn	18 09 48.8	-1.9
FRAZ				IAML			18 10 00.5	
	comp=Z,2.6nm,0.2s							
GRAN	Grantham	8.89	198	eP		Pn	18 08 14.9	+2.2
GRAN				eS		Sn	18 09 51.0	-2.0
GRAN				IAML			18 10 18.8	
	comp=Z,2.6nm,0.8s							

*NEIC **29** 18:24:57.1±2.5, 7°.12S±0°.08×129°.66E±0°.09, h144km±8km, mb4.2/16, Error ellipse: s-maj=12.8km s-min=10.5km az=66.0*
*DJA **29** 18:24:57.0±0.3, 7°S±2°×13°0E±°, h192km±6km, M4.6/17, mB5.1/10, mb4.7/13, MLv4.8/17, Mw(mB)4.5/10*
*IDC **29** 18:24:58.3±2.5, 7°.17S×129°.58E, h143km±22km, mb3.8/11, mbtmp4.3/14, Error ellipse: s-maj=22.4km s-min=13.7km az=69.0*

ISC 29 18:24:57.8±0.4, 7°.32S±0°.04×129°.72E±0°.05, h150km, n77, σ2°12/83, mb4.2/19, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.70	113	Pn		Pn	18 25 31.1	+1.6
SAUI	Saumlaki	1.70	113	P		Pn	18 25 31.7	+2.2
SAUI	Saumlaki	1.70	113	P		Pn	18 25 31.2	+1.7
SAUI				S		Sn	18 25 57.1	+3.3
BNDI	Bandanaira	2.79	4	P		Pn	18 25 42.2	-0.3
BNDI	Bandanaira	2.79	4	P		Pn	18 25 41.4	-1.1
BNDI				S		Sn	18 26 18.2	+1.2
NLAI	Namlea	4.82	327	P		Pn	18 26 09.9	+1.1
FAKI	Fak Fak	5.04	30	Pn		Pn	18 26 08.1	-3.8
FAKI	Fak Fak	5.04	30	P		Pn	18 26 08.1	-3.8
KMPI	Kaimana, Papua	5.38	48	P		Pn	18 26 13.5	-2.8
	229nm,0.7s,6μm3.2nm							
MTN	Manton Dam	5.66	166	Pn		Pn	18 26 22.0	+1.9
MTN	Manton Dam	5.66	166	P		Pn	18 26 22.4	+2.4
SOEI	Soe	5.91	245	Pn		Pn	18 26 25.5	+2.1
SOEI	Soe	5.91	245	P		Pn	18 26 25.5	+2.1
SOEI	Soe	5.91	245	P		Pn	18 26 25.6	+2.1
	230nm,0.7s,2μm2.5nm							
KDU	Kakadu	5.98	153	P		Pn	18 26 26.1	+1.8
SANI	Sanana	6.42	324	P		Pn	18 26 31.3	+1.2
SANI	Sanana	6.42	324	P		Pn	18 26 30.6	+0.5
	14nm,0.8s,0.1nm							
SWI	Sorong	6.59	14	P		Pn	18 26 28.5	-4.0
	31nm,0.4s,1μm0.4nm							
BATI	Baumata	6.64	244	P		Pn	18 26 35.1	+2.1
	161nm,0.5s,2μm1.5nm							
BATI	Baumata	6.64	244	P		Pn	18 26 34.6	+1.5
	132nm,0.4s,baz=122,slow=2.7,SNR=94							
BATI				S		Sn	18 27 46.4	-1.3
	209nm,0.5s,baz=71,slow=16,SNR=11							
LBMI	Labuha	7.00	341	P		Pn	18 26 37.5	-0.3
	79nm,0.9s,0.3nm							
RKPI	Ransiki, Papua	7.28	38	P		Pn	18 26 38.9	-2.8
	168nm,0.5s,4μm2.3nm							
BBSI	Bau Bau	7.33	284	P		Pn	18 26 45.6	+3.3
	22nm,1.5s,0.1nm							
MMRI	Maumere	7.52	259			Pn	18 26 43.4	-1.5
EDFI	Ende, Flores	8.08	259	P		Pn	18 26 55.1	+2.8
	17nm,0.7s,584nm							
KNRA	Kununurra	8.36	186	Pn		Pn	18 26 57.2	+1.2
KNRA	Kununurra	8.36	186	P		Pn	18 26 57.2	+1.2
TNTI	Ternate	8.37	344	Pn		Pn	18 26 50.7	-5.5
TNTI	Ternate	8.37	344	P		Pn	18 26 54.4	-1.8
	22nm,0.6s							
BASI	Baing, Sumba	9.48	252	P		Pn	18 27 12.9	+1.9
TABU	Tabubil	11.62	81	P		Pn	18 27 41.5	+2.3
TOLI2	Tolitoli	12.23	313	Pn		Pn	18 27 42.1	-5.0
WB0	Warramunga Arr	13.18	160	Pn		Pn	18 27 58.8	-0.5
WRAB	Tennant Creek	13.32	161	Pn		Pn	18 28 00.7	-0.4
WRA	Warramunga Arr	13.32	161	P		Pn	18 27 59.9	-1.3
	2.4nm,0.3s,baz=340,slow=13,SNR=91							
WRA				S		Sn	18 30 22.8	-5.9
	12nm,0.3s,baz=335,slow=22,SNR=12							
WB2	Warramunga Arr	13.33	161	Pn		Pn	18 28 01.3	+0.1
WB1	Warramunga Ar.	13.34	161	P		P	18 28 04.3	-1.4
WR0	Warramunga Arr	13.41	160	Pn		Pn	18 28 01.5	-0.7
COEN	Coen	14.77	118	Pn		Pn	18 28 20.3	+0.8
JAGI	Jajag, Banyuwa	15.46	265			Pn	18 28 27.4	-0.7
QIS	Mount Isa	16.27	145	P		P	18 28 41.0	+2.8
AS31	Alice Springs	16.74	167			Pn	18 28 45.5	+1.9
AS31				IAmb		IAmb	18 29 02.2	
	comp=Z,3.6nm,0.5s							
ASAR	Alice Springs	16.74	167	P		Pn	18 28 44.4	+0.8
	comp=Z,2.5nm,0.4s,baz=344,slow=9.7,SNR=99							
ASAR				S		S	18 31 45.5	-4.3
	comp=Z,3.2nm,0.3s,baz=349,slow=28,SNR=5.2							
ASAR				ScP		ScP	18 36 46.0	+1.7
	comp=Z,1.8nm,0.5s,baz=0.9,slow=1.5,SNR=6.6							
MBWA	Marble Bar	16.81	214			Pn	18 28 46.0	+1.6
MBWA				IAmb		IAmb	18 28 54.8	
	comp=Z,9.8nm,0.7s							
PSA00	Pilbara Seismi	17.08	213	P		Pn	18 28 47.3	-0.4
PSA00	Pilbara Seismi	17.08	213	P		Pn	18 28 50.3	+2.6
PMG	Port Moresby	17.38	98	P		Pn	18 28 53.1	+1.8
	comp=Z,6.8nm,0.9s,baz=315,slow=16,SNR=2.9							
PMG				S		S	18 31 58.2	-5.7
	comp=Z,2.2nm,0.5s,baz=255,slow=14,SNR=2.1							
MANU	Manus Island	18.35	74	P		Pn	18 29 04.0	+1.2
SBUM	Sibu	19.98	298			P	18 29 14.9	-3.8
SBUM				IAmb		IAmb	18 29 22.2	
	comp=Z,5.1nm,0.7s							
KSM	Kuching	21.25	294	P		P	18 29 31.6	-0.6
KSM				IAmb		IAmb	18 29 36.6	
	comp=Z,11nm,0.8s							
KSM	Kuching	21.25	294	P		P	18 29 34.9	+2.7
MORW	Morawa	25.19	209	P		P	18 30 10.0	+0.5
MORW				IAmb		IAmb	18 30 23.9	
	comp=Z,11nm,1.1s							
STKA	Stephens Creek	26.83	157	P		P	18 30 25.2	+1.1
STKA	Stephens Creek	26.83	157	P		P	18 30 26.9	+2.7
	comp=Z,4.8nm,1.1s,baz=332,slow=17,SNR=3.0							
	comp=Z,4.8nm,1.1s							
GSI	Gunungsitoli	33.19	284	P		P	18 31 16.5	-4.1
CMAR	Chiang Mai Arr	39.72	311	P		P	18 32 14.1	-1.8
	comp=Z,1.7nm,0.9s,baz=141,slow=7.6,SNR=12							
CMAR				PcP		PcP	18 34 18.4	-1.1
	comp=Z,0.5nm,0.6s,baz=159,slow=2.3,SNR=5.0							
	comp=Z,1.7nm,0.9s							
CRAI	Chiangrai	39.78	314	P		P	18 32 15.8	-0.6
CHTO	Chiang Mai	39.94	311	P		P	18 32 15.8	-1.8
CHTO				IAmb		IAmb	18 32 19.1	
	comp=Z,3.1nm,0.8s							
PZH	PanZhiHua	43.21	322	P		P	18 32 45.3	+1.0
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,90nm,4.8s							
HHC	Hu-ho-hao-te	50.76	342	eP		P	18 33 44.5	+1.9
HHC				pmax		pmax		
	comp=Z,27nm,0.8s							
HHC				pmax		pmax		
	comp=Z,160nm,6.2s							
SONM	Songino Array	58.66	342	P		P	18 34 39.9	+0.5
	comp=Z,0.5nm,0.6s,baz=150,slow=6.6,SNR=3.7							
	comp=Z,0.5nm,0.6s							
WMQ	Urumqi	63.51	327	⇓P		P	18 35 11.3	-0.8
WMQ				pmax		pmax		
	comp=Z,29nm,0.7s							
PETK	Petropavlovsk-	64.71	18	P		P	18 35 20.4	+0.7
	comp=Z,4.3nm,1.1s,baz=273,slow=10.0,SNR=1.2							
	comp=Z,4.3nm,1.1s							
KSH	Kashi	68.06	318	P		P	18 35 42.0	+0.5
MKAR	Makanchi Array	68.34	327	P		P	18 35 43.6	+0.7
	comp=Z,5.0nm,0.3s,baz=115,slow=8.5,SNR=107							
	comp=Z,5.0nm,0.3s							
MAKZ	Makanchi	68.52	327	P		P	18 35 43.1	-0.9
AAK	Ala-Archa	70.61	320	P		P	18 35 56.0	-1.1
AAK				IAmb		IAmb	18 35 59.4	
	comp=Z,2.3nm,0.6s							
ZALV	Zalesovo Beam	71.75	334	P		P	18 36 03.0	-0.5
	comp=Z,1.9nm,0.6s,baz=135,slow=3.4,SNR=11							
	comp=Z,1.9nm,0.6s							
KURBB	Kurchatov Arra	72.64	329	P		P	18 36 09.2	+0.4
	comp=Z,3.3nm,0.7s,baz=130,slow=4.8,SNR=45							
	comp=Z,3.3nm,0.7s							
KURK	Kurchatov	72.64	329	P		P	18 36 08.8	0.0
KURK				IAmb		IAmb	18 36 10.2	
	comp=Z,4.9nm,0.9s							
MAW	Mawson	74.55	201	P		P	18 36 20.6	+0.9
MAW	Mawson	74.55	201	P		P	18 36 22.9	+3.1
	comp=Z,1.1nm,0.7s,baz=52,slow=5.7,SNR=4.4							
	comp=Z,1.1nm,0.7s							
BVAR	Borovoye Array	78.18	328	P		P	18 36 40.9	+0.4
	comp=Z,3.0nm,0.8s,baz=111,slow=7.1,SNR=12							
	comp=Z,3.0nm,0.8s							
GEYT	Alibeck	80.21	310	P		P	18 36 52.6	+0.8
	comp=Z,1.0nm,0.7s,baz=76,slow=12,SNR=4.2							
	comp=Z,1.0nm,0.7s							
QSPA	South Pole Qui	82.66	180	P		P	18 37 04.9	+0.6
QSPA	South Pole Qui	82.66	180	P		P	18 37 06.4	+2.1
	comp=Z,1.0nm,0.6s,baz=265,slow=2.6,SNR=11							
	comp=Z,1.0nm,0.6s							
LPAZ	La Paz	150.63	143	PKPbc		PKiKP	18 44 35.2	+0.7
	comp=Z,1.1nm,0.4s,baz=187,slow=0.6,SNR=7.5							

*IDC **29** 19:06:19.8±10.0, 37°.23N×142°.50E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=370.9km s-min=34.3km az=64.0*
*JMA **29** 19:06:22.7±0.2, 37°.3N±0°.4×142°.3E±0°.8, h20km±2km, MV3.6/32, E OFF FUKUSHIMA PREF*

ISC 29 19:06:22.1±1.4, 37°.29N±0°.08×142°.31E±0°.09, h10km, n22, σ0°81/19, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.14	274	eP		Pb	19 06 43.4	-0.6
JMST	Minamisoumatoc	1.21	291	P		Pn	19 06 44.3	-0.8
JMST				eS		Sb	19 06 59.8	-0.9
JIKH	Ishinomakikobu	1.22	327	P		Pn	19 06 44.4	-0.8
JMM	Marumori	1.33	296	eS		Sb	19 07 03.5	-0.8
JIO	Ouri	1.39	327	P		Pn	19 06 47.1	-0.4
JOTO	OTAMA OYAMA	1.59	280	P		Pn	19 06 50.9	+0.6
JOTO				S		Sn	19 07 11.2	+0.2
JOU	Okura	1.69	310	P		Pn	19 06 52.0	+0.4
JOU				eS		Sn	19 07 13.6	+0.2
JMK	Ichinoseki	1.87	333	P		Pn	19 06 54.3	+0.2
JYS	Shiratake	2.00	298	S		Sn	19 07 22.9	+1.8
JYK	Kaneyama	2.24	317	P		Pn	19 06 59.8	+0.6
JOM	Ohasama	2.32	340	P		Pn	19 07 01.2	+0.9
JAG	Ashikaga	2.44	250	eP		Pn	19 07 02.9	+0.9
H11N2	WAKE ISLAND Hy	27.68	122	T		T	19 41 00.1	
	baz=315,slow=75,SNR=26							
H11N1	WAKE ISLAND Hy	27.68	122	T		T	19 41 01.0	
	baz=315,slow=75,SNR=22							
H11N3	WAKE ISLAND Hy	27.69	122	T		T	19 41 01.8	
	baz=315,slow=75,SNR=29							
SONM	Songino Array	28.24	303	P		P	19 12 15.9	+0.6
	0.7nm,0.9s,baz=96,slow=10,SNR=3.5							
	0.7nm,0.9s							
H11S1	WAKE ISLAND Hy	28.41	125	T		T	19 41 55.1	
	baz=316,slow=76,SNR=18							
H11S3	WAKE ISLAND Hy	28.41	125	T		T	19 41 55.2	
	baz=316,slow=76,SNR=19							
H11S2	WAKE ISLAND Hy	28.43	125	T		T	19 41 56.3	
	baz=316,slow=76,SNR=22							
MKAR	Makanchi Array	44.59	302	P		P	19 14 34.7	+0.4
	0.5nm,0.8s,baz=62,slow=7.9,SNR=2.4							
	0.5nm,0.8s							
KURBB	Kurchatov Arra	46.41	308	P		P	19 14 49.0	+0.4
	0.7nm,0.5s,baz=81,slow=8.2,SNR=4.4							
	0.7nm,0.5s							
WRA	Warramunga Arr	57.42	189	P		P	19 16 09.8	-1.1
	0.7nm,1.1s,baz=6.2,slow=7.1,SNR=2.1							
	0.7nm,1.1s							

*IDC **29** 19:24:48.8±0.8, 6°.99N×73°.20W, h157km±12km, mb2.7/2, mbtmp3.6/5, MS2.9/1, Error ellipse: s-maj=34.5km s-min=8.0km az=132.0*
*RSNC **29** 19:24:50.0±2.1, 6°.83N×73°.12W, h154km±7km, ML3.4, Fault plane solution: NP1:φs52.00000°, δ28.00000°, λ38.00000°.*

ISC 29 19:24:48.4±0.8, 6°.84N±0°.03×73°.13W±0°.04, h159km±6km, n45, σ1°39/82, 4C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.25	193	⇑i P		Pn	19 25 10.6	+0.3
BARC				eS		Sn	19 25 25.9	-1.0
BARC				i			19 25 28.4	
	comp=Z,1μm,0.3s							
BRRC	Barranca, Sant	0.64	295	⇑i P		Pn	19 25 12.4	+0.9
BRRC				eS		Sn	19 25 29.5	+0.4
BRRC				i			19 25 33.4	
	comp=Z,645nm,0.3s							
PAMC	Pamplona, Colo	0.65	40	⇑i P		Pn	19 25 13.4	+1.2
PAMC				eS		Sn	19 25 30.8	+0.4
PAMC				i			19 25 33.9	
	comp=Z,269nm,0.4s							
RUSC	La Rusia	0.94	177	⇓i P		Pn	19 25 14.5	+0.3
RUSC				eS		Sn	19 25 33.2	-0.7
RUSC				i			19 25 34.6	
	comp=Z,478nm,0.3s							
PTBC	PUERTO BERRIO,	1.36	257	eP		Pn	19 25 17.1	-0.1
PTBC				eS		Sn	19 25 38.2	-1.1
PTBC				i			19 25 44.1	
	comp=Z,196nm,0.2s							
TAMC	Tame, Arauca	1.38	107	⇑i P		Pn	19 25 19.0	+1.5
TAMC				eS		Sn	19 25 40.6	+0.7
TAMC				i			19 25 42.9	
	comp=Z,149nm,0.5s							
SPBC	San Pablo de B	1.51	219	eP		Pn	19 25 19.5	+0.6
SPBC				eS		Sn	19 25 40.9	-1.4
SPBC				i			19 25 46.4	
	comp=Z,519nm,0.2s							
ZARC	Zaragoza, Cauc	1.84	291	eP		Pn	19 25 23.1	+0.8
ZARC				eS		Sn	19 25 48.9	+0.6
ZARC				i			19 25 54.0	
	comp=Z,406nm,0.4s							
NORC	Norcasia	2.15	234	eP		Pn	19 25 26.2	+0.4
NORC				eS		Sn	19 25 54.5	-0.3
NORC				i			19 26 02.4	
	comp=Z,191nm,0.2s							
CHIC	Chingaza	2.28	195	eP		Pn	19 25 28.3	+0.6
CHIC				eS		Sn	19 25 58.1	0.0
CHIC				i			19 26 04.2	
	comp=Z,169nm,0.3s							
ROSC	El Rosal	2.31	211	⇓eP		Pn	19 25 30.2	+2.1
ROSC				eS		Sn	19 26 00.9	+2.1
ROSC				i			19 26 05.3	
	comp=Z,533nm,0.4s							
ROSC	El Rosal	2.31	211	P		Pn	19 25 30.2	+2.1
	comp=Z,168nm,0.4s,baz=60,slow=20,SNR=96							
ROSC				S		Sn	19 26 01.2	+2.4
	comp=Z,348nm,0.5s,baz=140,slow=22,SNR=8.0							
UREC	San Jos de Ur	2.56	291	eP		Pn	19 25 31.2	+0.6
UREC				eS		Sn	19 26 02.0	-1.3
GUY2C	Guyana, Caldas	2.75	234	eP		Pn	19 25 34.7	+1.3
GUY2C				eS		Sn	19 26 09.3	+1.1
GUY2C				i			19 26 16.8	
	comp=Z,152nm,0.3s							
VILC	Villavicencio,	2.77	192	eP		Pn	19 25 33.7	+0.3
VILC				eS		Sn	19 26 08.3	0.0
VILC				i			19 26 18.3	
	comp=Z,276nm,0.4s							
PTGC	Puerto Gaitan,	2.80	159	⇓i P		Pn	19 25 33.7	0.0
PTGC				eS		Sn	19 26 07

CAPC	**Capurgana**	**4.55**	**293**	*e*P	**Pn**	**19 25 55.0**	**-1.1**
CAPC				*e*S	**Sn**	**19 26 48.0**	**-1.0**
CAPC				*i*		19 26 50.3	
	comp=Z,22nm,0.2s						
MACC	**Macarena, Meta**	**4.72**	**189**	*e*P	**Pn**	**19 25 57.6**	**-0.8**
MACC				*e*S	**Sn**	**19 26 49.2**	**-3.7**
MACC				*i*		19 26 54.8	
	comp=Z,98nm,0.9s						
URIC	**Uribia, Colomb**	**4.96**	**13**	*e*P	**Pn**	**19 26 01.1**	**-0.3**
URIC				*e*S	**Sn**	**19 26 56.0**	**-2.5**
URIC				*i*		19 27 03.5	
	comp=Z,18nm,0.4s						
JAMC	**Jamundi, Valle**	**5.05**	**225**	*e*P	**Pn**	**19 26 05.0**	**+2.2**
JAMC				*e*S	**Sn**	**19 27 01.5**	**+0.6**
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P	**Pn**	**19 26 04.7**	**-0.1**
GARC				*e*S	**Sn**	**19 27 01.6**	**-2.8**
GARC				*i*		19 27 07.1	
	comp=Z,46nm,0.5s						
FLOC	**Florencia**	**5.80**	**206**	*e*P	**Pn**	**19 26 13.2**	**+0.6**
FLOC				*e*S	**Sn**	**19 27 18.3**	**-0.3**
FLOC				*i*		19 27 24.5	
	comp=Z,7.8nm,0.5s						
BBAC	**Balboa, Cauca**	**6.31**	**221**	*e*P	**Pn**	**19 26 21.4**	**+1.9**
BBAC				*e*S	**Sn**	**19 27 27.2**	**-3.7**
PCRV	**Puerto La Cruz**	**9.03**	**68**	P	**Pn**	**19 26 56.6**	**+1.1**
	comp=Z,5.1nm,0.6s,baz=243,slow=8.4,SNR=1.7						
MDP	**Montagnes des**	**20.45**	**94**	LR	LR	19 38 17.7	
	comp=Z,34nm,18.8s,baz=101,slow=39						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**19 31 37.0**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=126,slow=9.1,SNR=2.5						
	comp=Z,0.1nm,0.5s						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**19 33 11.6**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=118,slow=11,SNR=2.0						
	comp=Z,0.1nm,0.5s						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**19 44 19.0**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=112,slow=3.6,SNR=8.0						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**19 44 22.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=110,slow=2.6,SNR=14						

*BUL **29** 19:36:55.3±1.3,24°.00S×33°.44E,h10km,MD3.8*
*EAF **29** 19:36:55.4,24°.61S×32°.86E,h10km,MC3.7*
*PRE **29** 19:37:00.1±0.7,24°.80S×32°.22E,h5km,ML2.9*

ISC 29 19:36:58.6±1.6,24°.75S±0°.04×32°.16E±0°.10,h10km,n20,σ2§49/40,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**1.41**	**330**	*i* P	**Pn**	**19 37 24.6**	**+0.2**
MOPA				*i* S	**Sg**	**19 37 44.1**	**0.0**
MOPA	**Mopani**	**1.41**	**330**	*i* P	**Pn**	**19 37 24.6**	**+0.2**
	baz=309						
MOPA				*i* S	**Sg**	**19 37 44.1**	**0.0**
	baz=309						
HAGI	**HAGI**	**1.62**	**213**	*e*P	**Pg**	**19 37 29.3**	**-0.4**
HAGI				*e*S	**Sg**	**19 37 50.1**	**-0.6**
HAGI				IAML		19 37 58.9	
	comp=Z,490nm,0.3s						
CRLN	**Carolina, Mapu**	**2.30**	**237**	*e*P	**Pb**	**19 37 40.4**	**+0.1**
CRLN				*e*S	**Sb**	**19 38 09.0**	**+0.2**
CRLN				IAML		19 38 26.7	
	comp=Z,68nm,0.3s						
POGA	**Pongola**	**2.62**	**189**	*e*P	**Pn**	**19 37 42.7**	**+1.7**
POGA				*e*S	**Sn**	**19 38 15.1**	**+2.3**
POGA				IAML		19 38 27.1	
	comp=Z,15nm,0.5s						
MUSN	**Musina, Limpop**	**3.24**	**319**	*i* P	**Pn**	**19 37 51.5**	**+1.9**
MUSN				*i* S	**Sb**	**19 38 35.1**	**-0.6**
MUSN	**Musina, Limpop**	**3.24**	**319**	*i* P	**Pn**	**19 37 51.5**	**+1.9**
	baz=309						
MUSN				*i* S	**Sb**	**19 38 35.1**	**-0.6**
	baz=309						
NWCL	**Newcastle**	**3.60**	**214**	*e*P	**Pn**	**19 37 57.6**	**+3.0**
NWCL				*e*S	**Sn**	**19 38 39.1**	**+1.7**
NWCL				IAML		19 38 56.6	
	comp=Z,36nm,0.4s						
SLR	**Silverton**	**3.65**	**254**	*e*P	**Pn**	**19 37 58.4**	**+3.1**
SLR				*e*S	**Sn**	**19 38 41.3**	**+2.8**
SLR				IAML		19 39 17.0	
	comp=Z,61nm,0.5s						
LEPH	**Lephalale, Lim**	**4.08**	**282**	*e*P	**Pn**	**19 38 05.5**	**+4.4**
LEPH				*e*S	**Sn**	**19 38 52.4**	**+3.3**
LEPH				IAML		19 39 21.5	
	comp=Z,93nm,0.4s						
PRYS	**Parys**	**4.84**	**242**	*e*P	**Pn**	**19 38 15.2**	**+3.5**
PRYS				*e*S	**Sn**	**19 39 09.2**	**+1.4**
PRYS				IAML		19 39 47.7	
	comp=Z,24nm,0.5s						
KSR	**Koster**	**4.89**	**256**	*e*P	**Pn**	**19 38 15.4**	**+3.0**
KSR				*e*S	**Sn**	**19 39 11.7**	**+2.5**
KSR				IAML		19 39 50.4	
	comp=Z,127nm,0.4s						
MATP	**Matopo**	**5.48**	**321**	*i* P	**Pn**	**19 38 20.9**	**+0.5**
MATP				*i* S	**Sn**	**19 39 22.8**	**-0.7**
MATP	**Matopo**	**5.48**	**321**	*i* P	**Pn**	**19 38 20.9**	**+0.5**
	baz=315						
MATP				*i* S	**Sn**	**19 39 22.8**	**-0.7**
	baz=315						
KSTD	**Kokstad**	**6.37**	**203**	*e*P	**Pn**	**19 38 35.0**	**+2.3**
KSTD				*e*S	**Sn**	**19 39 45.0**	**-0.5**
KSTD				IAML		19 39 51.5	
	comp=Z,20nm,1.0s						
GRAF	**Camdeboo Natio**	**10.09**	**220**	*e*P	**Pn**	**19 39 27.3**	**+3.7**
GRAF				*e*S	**Sn**	**19 41 14.1**	**-2.8**
GRAF				IAML		19 41 28.8	
	comp=Z,3.5nm,0.5s						
BFON	**Badsfontein, M**	**10.25**	**225**	*e*P	**Pn**	**19 39 28.6**	**+2.7**
BFON				*e*S	**Sn**	**19 41 18.1**	**-2.8**
BFON				IAML		19 41 26.2	
	comp=Z,8.6nm,0.5s						
BRAK	**Brakfontein**	**10.76**	**227**	*e*P	**Pn**	**19 39 37.1**	**+4.3**
BRAK				*e*S	**Sn**	**19 41 30.4**	**-3.0**
BRAK				IAML		19 41 43.9	
	comp=Z,3.6nm,0.5s						
GRAN	**Grantham**	**11.56**	**227**	*e*P	**Pn**	**19 39 47.1**	**+3.3**
GRAN				*e*S	**Sn**	**19 41 49.3**	**-3.7**
GRAN				IAML		19 42 04.0	
	comp=Z,3.7nm,0.3s						
KOMG	**Komaggas**	**13.99**	**246**	*e*P	**P**	**19 40 22.1**	**-2.8**
KOMG				*e*S	**Sn**	**19 42 47.9**	**-4.3**
KOMG				IAML		19 43 10.7	
	comp=Z,3.3nm,1.2s						

IDC 29 19:44:24.0±1.9,1°.08N×124°.65E,h0km,mb3.3/3,mbtmp3.3/3,Error ellipse: s-maj=170.4km s-min=26.1km az=63.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.95**	**156**	P	P	19 49 30.3	+0.1
	0.5nm,0.4s,baz=334,slow=11,SNR=14						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**26.20**	**160**	P	P	19 50 00.5	-0.1
	0.3nm,0.6s,baz=350,slow=14,SNR=8.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.58**	**327**	P	P	19 54 22.7	0.0
	0.1nm,0.3s,baz=135,slow=6.4,SNR=4.4						
	0.1nm,0.3s						

*NEIC **29** 19:47:30.8±2.7,23°.3S±0°.1×175°.1W±0°.2,h10km±1km, mb4.3/10,Error ellipse: s-maj=33.3km s-min=16.1km az=128.0*
*IDC **29** 19:47:32.6±0.8,22°.99S×175°.58W,h0km,mb3.9/7, mbtmp3.9/8,ML4.6/1,Error ellipse: s-maj=30.6km s-min=23.0km az=149.0*

ISC 29 19:47:33.4±0.8,23°.5S±0°.1×175°.5W±0°.2,h10km,n24,σ1§33/21,mb4.2/14,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.18**	**200**	Pn	**Pn**	**19 49 03.9**	**-0.9**
NIUE	**Niue**	**6.76**	**51**	Pn	Pn	19 49 02.5	-10
MSVF	**Nonsavu**	**8.32**	**312**	Pn	Pn	19 49 29.0	-5.4
	0.3nm,0.3s,baz=210,slow=22,SNR=1.5						
	1.4nm,0.3s						
RTZ	**Ruatahuna**	**16.43**	**201**		**P**	**19 51 27.8**	**+0.9**
CTAO	**Charters Tower**	**35.64**	**268**	P	**P**	**19 54 30.6**	**-1.3**
CTAO				IAmb	IAmb	19 54 54.2	
	comp=Z,3.7nm,1.1s						
STKA	**Stephens Creek**	**38.74**	**248**	P	**P**	**19 54 57.6**	**-0.5**
AS31	**Alice Springs**	**46.20**	**259**	P	**P**	**19 55 57.5**	**-1.4**
AS31				IAmb	IAmb	19 56 03.0	
	comp=Z,1.2nm,1.0s						
ASAR	**Alice Springs**	**46.20**	**259**	P	**P**	**19 55 59.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=87,slow=6.1,SNR=8.0						
	comp=Z,0.3nm,0.5s						
WR0	**Warramunga Arr**	**46.40**	**264**	P	**P**	**19 55 58.6**	**-1.8**
WR0				IAmb	IAmb	19 56 04.5	
	comp=Z,3.3nm,1.1s						
WB2	**Warramunga Arr**	**46.58**	**264**	P	**P**	**19 56 02.2**	**+0.3**
WB2				IAmb	IAmb	19 56 07.2	
	comp=Z,2.4nm,0.9s						
WB0	**Warramunga Arr**	**46.58**	**264**	P	**P**	**19 56 02.1**	**+0.2**
WB0				IAmb	IAmb	19 56 08.9	
	comp=Z,3.8nm,1.0s						
WRAB	**Tennant Creek**	**46.58**	**264**	P	**P**	**19 56 01.5**	**-0.4**
WRAB				IAmb	IAmb	19 56 16.2	
	comp=Z,4.9nm,1.1s						
WRA	**Warramunga Arr**	**46.59**	**264**	P	**P**	**19 56 01.9**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=96,slow=8.4,SNR=86						
	comp=Z,1.0nm,0.5s						
KNRA	**Kununurra**	**52.85**	**268**	P	**P**	**19 56 50.1**	**+0.4**
QSPA	**South Pole Qui**	**66.63**	**180**	P	**P**	**19 58 22.7**	**-1.3**
QSPA	**South Pole Qui**	**66.63**	**180**	P	P	19 58 27.8	+3.8
	comp=Z,1.8nm,0.9s,baz=48,slow=1.6,SNR=8.7						
	comp=Z,1.8nm,0.9s						
MAW	**Mawson**	**79.58**	**199**	P	**P**	**19 59 43.4**	**+3.0**
	comp=Z,1.4nm,0.8s,baz=80,slow=8.0,SNR=4.7						
	comp=Z,1.4nm,0.8s						
NVAR	**Mina Array Bea**	**81.60**	**42**	P	**P**	**19 59 51.7**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=224,slow=9.2,SNR=16						
	comp=Z,1.6nm,0.8s						
TXAR	**Lajitas Array**	**86.70**	**56**	P	**P**	**20 00 17.5**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=236,slow=4.2,SNR=5.1						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**89.53**	**42**	P	**P**	**20 00 30.4**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=219,slow=3.8,SNR=3.7						
	comp=Z,0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.30**	**289**	P	**P**	**20 00 51.9**	**+2.9**
	comp=Z,1.3nm,1.0s,baz=124,slow=2.4,SNR=6.0						
BVAR	**Borovoye Array**	**122.84**	**319**	PKP	**PKiKP**	**20 06 29.5**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=98,slow=2.9,SNR=2.8						
BRTR	**Keskin Array B**	**150.55**	**310**	PKPbc	**PKiKP**	**20 07 25.4**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=112,slow=1.6,SNR=2.3						
CLL	**Collm**	**151.44**	**349**	*e*PKPbc	**PKiKP**	**20 07 28.0**	**+0.2**

*IDC **29** 19:48:23.9±1.1,23°.62S×175°.33W,h0km,mb3.9/6, mbtmp3.8/6,MS3.4/1,Error ellipse: s-maj=48.4km s-min=28.7km az=153.0*

ISC 29 19:48:28.7±1.1,23°.7S±0°.3×175°.3W±0°.2,h30km,n8,σ0§94/7,mb4.0/6,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.30**	**259**	P	**P**	**19 56 51.8**	**-0.3**
	0.5nm,0.7s,baz=106,slow=6.8,SNR=1.5						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**46.71**	**264**	P	**P**	**19 56 54.2**	**-1.0**
	0.9nm,0.4s,baz=93,slow=8.4,SNR=8.9						
	0.9nm,0.4s						
GUMO	**Guam**	**53.78**	**309**	LR	LR	20 16 32.5	
	comp=Z,39nm,20.9s,baz=126,slow=32						
QSPA	**South Pole Qui**	**66.36**	**180**	P	**P**	**19 59 14.6**	**+0.1**
	1.7nm,1.0s,baz=29,slow=5.1,SNR=2.6						
	1.7nm,1.0s						
NVAR	**Mina Array Bea**	**81.70**	**42**	P	**P**	**20 00 44.5**	**0.0**
	0.8nm,0.7s,baz=222,slow=8.2,SNR=7.2						
	0.8nm,0.7s						
PDAR	**Pinedale Array**	**89.62**	**42**	P	**P**	**20 01 23.2**	**-0.6**
	0.3nm,0.8s,baz=219,slow=7.0,SNR=2.4						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.53**	**288**	P	**P**	**20 01 43.6**	**+1.4**
	0.9nm,1.0s,baz=116,slow=4.1,SNR=3.0						
	0.9nm,1.0s						
BVAR	**Borovoye Array**	**123.15**	**319**	PKP	**PKPdf**	**20 07 21.6**	**-0.5**
	0.5nm,0.7s,baz=38,slow=5.4,SNR=2.4						

*NEIC **29** 19:56:22.9±0.5,19°.406N±0°.008×155°.61W±0°.01, h5km±9km,Error ellipse: s-maj=2.2km s-min=1.2km az=83.0*

HVO 29 19:56:22.4±0.9,19°.413N±0°.006×155°.62W±0°.01, h3km±5km,ML2.9/14,ML2.7/46(NEIC),Error ellipse: s-maj=2.1km s-min=0.8km az=83.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Moku'aweowe**	**0.08**	**18**	Pg	Pg	19 56 24.7	+0.5
MWH					Sg	19 56 26.2	+0.8
ALEP	**Alea Permanent**	**0.13**	**351**		Pg	19 56 25.8	+0.7
ALEP					Sg	19 56 28.2	+1.3
MLOA	**Mauna Loa Obse**	**0.13**	**19**		Pg	19 56 25.9	+0.8
MLOA					Sg	19 56 28.2	+1.3
MLOA	**Mauna Loa Obse**	**0.13**	**19**	IAML		19 56 29.0	
	comp=E,3μm,0.6s						
MLOA				IAML		19 56 29.2	
	comp=N,2μm,0.4s						
AIN	**Ainahou**	**0.16**	**105**		Pg	19 56 26.4	+0.8
AIN	**Ainahou**	**0.16**	**105**	IAML		19 56 31.0	
	comp=N,4μm,0.3s						
AIN				IAML		19 56 31.1	
	comp=E,4μm,0.5s						
KHU	**Kahuku**	**0.17**	**178**		Pg	19 56 26.1	+0.4
KHU	**Kahuku**	**0.17**	**178**	IAML		19 56 31.1	
	comp=N,687nm,0.8s						
KHU				IAML		19 56 31.4	
	comp=E,556nm,0.3s						
HMH	**Humu'ula Sheep**	**0.23**	**35**		Pg	19 56 27.5	+0.6
HMH					Sg	19 56 31.3	+1.3
HMH	**Humu'ula Sheep**	**0.23**	**35**	IAML		19 56 32.1	
	comp=E,774nm,0.5s						
HMH				IAML		19 56 34.7	
	comp=N,361nm,0.5s						
MLH	**Mauna Loa**	**0.24**	**70**		Pg	19 56 27.7	+0.7
MLH	**Mauna Loa**	**0.24**	**70**	IAML		19 56 31.9	
	comp=E,880nm,0.5s						
MLH				IAML		19 56 34.7	
	comp=N,1μm,0.5s						
HTC	**Hot Caves**	**0.27**	**129**		Pg	19 56 27.9	+0.3
WRMHI	**West Rim**	**0.30**	**91**		Pg	19 56 28.6	+0.3
WRMHI	**West Rim**	**0.30**	**91**	IAML		19 56 38.5	
	comp=N,1μm,0.5s						
SDHHI	**Sand Hill**	**0.31**	**94**		Pg	19 56 28.0	-0.4
SDHHI				IAML		19 56 39.0	
	comp=N,2μm,0.6s						
UWE	**Uwekahuna**	**0.31**	**88**		Pg	19 56 28.8	+0.4
HLP	**Hilina Pali**	**0.32**	**111**		Pg	19 56 28.9	+0.3
HLP	**Hilina Pali**	**0.32**	**111**	IAML		19 56 36.9	
	comp=N,738nm,0.7s						
HLP				IAML		19 56 39.6	
	comp=E,1μm,0.8s						
OBL	**Observatory Le**	**0.32**	**89**		Pg	19 56 28.4	-0.2
NPH	**North Pit**	**0.32**	**90**		Pg	19 56 28.8	+0.2
NPH				IAML		19 56 38.6	
	comp=N,705nm,0.6s						
UWB	**Uwekahuna B**	**0.33**	**88**		Pg	19 56 29.1	+0.4
RSD	**Rainshed**	**0.33**	**81**		Pg	19 56 29.2	+0.5
RSD					Sg	19 56 34.1	+1.0
RSD	**Rainshed**	**0.33**	**81**	IAML		19 56 37.7	
	comp=E,889nm,0.8s						
RSD				IAML		19 56 39.4	
	comp=N,894nm,0.7s						
RIM	**Rim**	**0.33**	**93**		Pg	19 56 28.8	+0.1
RIM				IAML		19 56 37.3	
	comp=N,1μm,0.5s						
RIM				IAML		19 56 40.2	
	comp=E,778nm,0.5s						
SBLHI	**Steaming Bluff**	**0.33**	**88**		Pg	19 56 28.7	-0.2
SBLHI				IAML		19 56 38.1	
	comp=E,1μm,1.0s						
SBLHI				IAML		19 56 38.8	
	comp=N,870nm,0.6s						
KKO	**Keanakako'i**	**0.34**	**92**	Pg	Pg	19 56 28.6	-0.3
KKO				IAML		19 56 38.5	
	comp=E,905nm,1.0s						
HUH	**Hualalai**	**0.34**	**323**		Pb	19 56 30.5	-0.7
HUH					Sg	19 56 33.7	+0.3
HUH	**Hualalai**	**0.34**	**323**	IAML		19 56 40.9	
	comp=N,1μm,0.5s						
BYL	**Byron's Ledge**	**0.34**	**90**		Pg	19 56 29.2	+0.2
BYL				IAML		19 56 38.1	
	comp=E,811nm,0.6s						
BYL				IAML		19 56 39.9	
	comp=N,1μm,0.6s						
HATHI	**Halema'uma'u T**	**0.34**	**88**		Pg	19 56 28.9	-0.1
HATHI				IAML		19 56 39.7	
	comp=N,982nm,0.6s						
POHA	**Pohakuloa**	**0.35**	**14**		Pg	19 56 29.4	+0.1
POHA				IAML		19 56 39.6	
	comp=N,705nm,0.4s						
POHA				IAML		19 56 41.9	
	comp=N,756nm,0.6s						
PUH	**Pauahi**	**0.39**	**96**		Pg	19 56 29.5	-0.4
PUH	**Pauahi**	**0.39**	**96**		Sb	19 56 36.7	-1.6
PUH	**Pauahi**	**0.39**	**96**	IAML		19 56 37.3	
	comp=E,747nm,0.5s						
PUH				IAML		19 56 43.5	
	comp=N,688nm,0.6s						
KNHH	**Kane Nui o Ham**	**0.43**	**94**		Pg	19 56 30.6	-0.1
STCH	**Steam Cracks**	**0.47**	**93**		Pg	19 56 31.6	+0.1
STCH	**Steam Cracks**	**0.47**	**93**	IAML		19 56 39.7	
	comp=E,539nm,0.6s						
STCH				IAML		19 56 42.3	
	comp=N,438nm,0.5s						

*IDC **29** 20:08:24.9±1.5,6°.15S×131°.13E,h0km,mb3.8/6, mbtmp3.9/9,ML4.1/3,Error ellipse: s-maj=42.4km s-min=25.2km az=89.0*
*DJA **29** 20:08:34.4±0.3,6°.5±3°.×13°.1E±°,h125km±8km,M4.3/13, mb4.0/10,mB5.2/6,MLv4.3/13,Mw(mB)4.5/6*
*NEIC **29** 20:08:34.4±1.1,6°.27S±0°.04×131°.2E±0°.1,h123km±12km, mb4.2/7,Error ellipse: s-maj=21.3km s-min=5.5km az=97.0*

ISC 29 20:08:34.0±0.6,6°.38S±0°.05×131°.10E±0°.06,h100km,n53,σ2§16/56,mb3.7/8,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.60**	**173**	Pn	**Pn**	**20 09 04.7**	**+3.2**
SAUI	**Saumlaki**	**1.60**	**173**	P	**Pn**	**20 09 04.8**	**+3.2**
SAUI	**Saumlaki**	**1.60**	**173**	P	**Pn**	**20 09 05.2**	**+3.6**
BNDI	**Bandanaira**	**2.20**	**327**	P	**Pn**	**20 09 06.4**	**-2.8**
BNDI	**Bandanaira**	**2.20**	**327**	P	**Pn**	**20 09 06.4**	**-2.8**
FAKI	**Fak Fak**	**3.62**	**18**	Pn	**Pn**	**20 09 27.1**	**-1.1**
FAKI	**Fak Fak**	**3.62**	**18**	P	**Pn**	**20 09 27.2**	**-1.0**
FAKI	**Fak Fak**	**3.62**	**18**	P	**Pn**	**20 09 27.0**	**-1.1**
KMPI	**Kaimana, Papua**	**3.74**	**44**	P	**Pn**	**20 09 30.8**	**+1.0**
NLAI	**Namlea**	**5.07**	**308**	P	**Pn**	**20 09 49.2**	**+1.5**
SWI	**Sorong**	**5.48**	**2**	P	**Pn**	**20 09 51.6**	**-1.8**
RKPI	**Ransiki, Papua**	**5.73**	**32**	P	**Pn**	**20 09 56.2**	**-0.5**
	63nm,0.8s,1μm1.0nm						
KDU	**Kakadu**	**6.41**	**168**	P	**Pn**	**20 10 07.7**	**+1.8**
MTN	**Manton Dam**	**6.42**	**180**		**Pn**	**20 10 07.6**	**+1.5**
MTN	**Manton Dam**	**6.42**	**180**	P	**Pn**	**20 10 07.8**	**+1.7**
SANI	**Sanana**	**6.67**	**310**	P	**Pn**	**20 10 08.4**	**-1.1**
	19nm,0.8s,0.1nm						
LBMI	**Labuha**	**6.74**	**328**	P	**Pn**	**20 10 08.5**	**-2.0**
	16nm,1.0s,0.1nm						
SOEI	**Soe**	**7.55**	**243**	Pn	**Pn**	**20 10 23.5**	**+1.9**
SOEI	**Soe**	**7.55**	**243**	P	**Pn**	**20 10 22.1**	**+0.5**
	11nm,1.0s,0.1nm						
BATI	**Baumata**	**8.29**	**242**	P	**Pn**	**20 10 32.1**	**+0.6**
	8.9nm,0.9s						
BATI	**Baumata**	**8.29**	**242**	Pn	**Pn**	**20 10 30.2**	**-1.3**
	1.2nm,0.3s,baz=220,slow=19,SNR=1.8						
BATI				Sn	**Sn**	**20 12 03.2**	**-0.2**
	1.8nm,0.3s,baz=32,slow=23,SNR=1.8						
	3.4nm,0.3s						
BBSI	**Bau Bau**	**8.54**	**276**	P	**Pn**	**20 10 34.4**	**-0.5**
	4.9nm,1.1s						
SMPI	**Sarmi**	**8.75**	**60**	P	**Pn**	**20 10 37.8**	**0.0**
	17nm,2.5s						
MMRI	**Maumere**	**9.07**	**255**	P	**Pn**	**20 10 42.3**	**+0.1**
	22nm,0.5s,1μm						
KNRA	**Kununurra**	**9.52**	**194**		**Pn**	**20 10 48.5**	**+0.2**
KNRA	**Kununurra**	**9.52**	**194**	P	**Pn**	**20 10 48.4**	**+0.2**
WB0	**Warramunga Arr**	**13.69**	**167**	Pn	**Pn**	**20 11 44.0**	**0.0**
WRAB	**Tennant Creek**	**13.84**	**167**	Pn	**Pn**	**20 11 45.5**	**-0.5**
WRA	**Warramunga Arr**	**13.84**	**167**	Pn	**Pn**	**20 11 45.1**	**-0.9**
	1.0nm,0.3s,baz=332,slow=14,SNR=50						
WRA				Sn	**Sn**	**20 14 11.3**	**-7.2**
	1.6nm,0.3s,baz=341,slow=21,SNR=9.4						
	1.7nm,0.4s						
WB2	**Warramunga Arr**	**13.85**	**167**	Pn	**Pn**	**20 11 45.0**	**-1.1**
WR0	**Warramunga Arr**	**13.90**	**166**	Pn	**Pn**	**20 11 46.6**	**-0.2**
COEN	**Coen**	**14.06**	**123**		**P**	**20 11 51.8**	**-1.7**
COEN	**Coen**	**14.06**	**123**	P	**P**	**20 11 53.3**	**-0.1**
QIS	**Mount Isa**	**16.33**	**150**	P	**P**	**20 12 20.9**	**+2.3**
	3.4nm,0.5s						
MTKI	**Muara Teweh, K**	**17.05**	**288**	P	**P**	**20 12 26.5**	**-0.1**
AS31	**Alice Springs**	**17.40**	**171**	Pn	**Pn**	**20 12 31.4**	**+0.8**
AS31				IAmb	IAmb	20 12 36.0	
	comp=Z,2.8nm,0.3s						
ASAR	**Alice Springs**	**17.40**	**171**	P	**Pn**	**20 12 31.9**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=350,slow=14,SNR=36						
ASAR				S	**Sn**	**20 15 39.2**	**-5.1**
	comp=Z,1.4nm,0.5s,baz=350,slow=26,SNR=7.5						
	comp=Z,2.0nm,0.6s						
MBWA	**Marble Bar**	**18.36**	**216**	P	**P**	**20 12 40.6**	**-0.4**
MBWA				IAmb	IAmb	20 12 43.3	
	comp=Z,18nm,1.3s						
MBWA	**Marble Bar**	**18.36**	**216**	P	**Pn**	**20 12 43.8**	**+1.6**
PSA00	**Pilbara Seismi**	**18.62**	**215**	P	**P**	**20 12 43.6**	**-0.2**
PSA00				IAmb	IAmb	20 12 48.0	
	comp=Z,8.7nm,0.5s						
PSA00	**Pilbara Seismi**	**18.62**	**215**	P	**Pn**	**20 12 47.7**	**+2.4**
WRKA	**Warakurna**	**18.75**	**188**	P	**Pn**	**20 12 48.8**	**+2.0**
KLI	**Kotabumi**	**26.16**	**272**	P	**P**	**20 13 56.2**	**-3.1**
MORW	**Morawa**	**26.68**	**210**	P	**P**	**20 14 02.9**	**-0.9**
MORW				IAmb	IAmb	20 14 35.9	
	comp=Z,18nm,1.2s						
GSI	**Gunungsitoli**	**34.33**	**282**	P	**P**	**20 15 12.9**	**+1.4**
CMAR	**Chiang Mai Arr**	**40.19**	**308**	P	**P**	**20 16 01.5**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=131,slow=6.9,SNR=6.2						
	comp=Z,0.7nm,0.

HAST Sg 20 11 30.9 +1.2
BPCNC Pine Canyon 0.33 272 Pg 20 11 26.3 +0.7
HLTM Lone Tree Road 0.33 348 Pb 20 11 27.3 +0.3
HSFM Saint Francis 0.34 318 Pb 20 11 27.3 +0.2
BCWM Chews Ridge 0.38 228 Pg 20 11 27.2 +0.7
HBTM San Juan Bauti 0.39 318 Pg 20 11 27.1 +0.2
OCR O'Connell Ranc 0.42 327 Pg 20 11 27.5 +0.1
HTUM Tustin Road 0.43 308 Pg 20 11 27.6 0.0
BPRM Ponciano Ridge 0.44 250 Pg 20 11 28.3 +0.6
ANZ Anzar Road 0.44 318 Pg 20 11 27.7 0.0
HFEM San Felipe 0.45 341 Pg 20 11 28.4 +0.6
PACP Pacheco Peak 0.45 353 Pg 20 11 28.4 +0.5
HERM Elkhorn Road 0.46 301 Pg 20 11 28.5 +0.4
PCCM Crazy Canyon 0.47 174 Pg 20 11 28.7 +0.5
PMPB Monarch Peak 0.48 135 Pg 20 11 28.4 -0.1
PMPB Monarch Peak 0.48 135 IAML 20 11 42.2
comp=N,1μm,0.7s
PMPB IAML 20 11 44.3
comp=E,2μm,0.7s
HPCM Pacheco Lake 0.50 355 Pg 20 11 29.2 +0.3
CDC Canada Road 0.51 336 Pg 20 11 29.7 +0.7
HCOM Corn Cob Canyo 0.51 310 Pg 20 11 29.2 +0.2
BAPM Anderson Peak 0.51 222 Pg 20 11 29.7 +0.6
HCBM Chamberlain 0.51 316 Pg 20 11 29.7 +0.7
SLD San Luis Dam 0.51 360 Pg 20 11 29.2 +0.1
HULI Fort Hunter Li 0.54 181 Pg 20 11 29.8 +0.3
BPOM Post Ranch 0.55 233 Pg 20 11 30.2 +0.5
HMOM Monterey 0.56 274 Pg 20 11 30.5 +0.5
GHS Gilroy Hot Spr 0.56 341 Pg 20 11 30.5 +0.5
HLPM Lions Peak 0.58 326 Pg 20 11 30.6 +0.3
PSAM San Ardo 0.60 153 Pg 20 11 30.5 -0.2
PPTM Peach Tree Val 0.60 138 Pg 20 11 30.5 -0.3
PJUM Juniper Ridge 0.61 123 Pg 20 11 31.1 +0.3
JELB Ellicott, Sant 0.61 307 Pg 20 11 31.3 +0.4
PAPM Alder Peak 0.66 190 Pg 20 11 32.2 +0.4
CADM Anderson Res. 0.68 332 Pg 20 11 32.6 +0.4
PSMM Smith Mountain 0.70 134 Pg 20 11 32.6 -0.1
JLAB Laurel Hill 0.72 325 Pg 20 11 33.3 +0.3
PDRM Domengine Ranc 0.72 108 Pg 20 11 33.5 +0.5
PHSB Hesperia Broad 0.75 170 Pg 20 11 33.4 0.0
PHPM Hope Ranch 0.76 139 Pg 20 11 33.2 -0.6
CCOB Coe Ranch Numb 0.79 333 Pb 20 11 35.0 +0.2
CMPM Mikes Peak 0.80 354 Pg 20 11 35.0 +0.5
PANM San Antonio Re 0.82 162 Pg 20 11 34.8 -0.1
PWMM Westland Maint 0.82 99 Pb 20 11 35.6 +0.2
ARN Arnold Ranch 0.83 342 Pg 20 11 35.4 +0.4
C072 Blauer Lane Sa 0.84 330 Pb 20 11 36.3 +0.6
PVCM Vineyard Canyo 0.84 139 Pg 20 11 34.7 -0.6
PPO Portuguese Can 0.85 145 Pg 20 11 35.2 -0.2
MHC Mount Hamilton 0.85 337 Pg 20 11 35.9 +0.4
PSTM Stockdale Moun 0.85 137 Pg 20 11 34.9 -0.6
C054 Valleyhaven Wa 0.86 326 Pg 20 11 36.1 +0.5
PHCM Hearst Castle 0.88 176 Pg 20 11 35.9 -0.1
JJOM Saint Joseph's 0.89 317 Pg 20 11 35.6 -0.5
CMMM Mount Mocho 0.92 346 Pg 20 11 37.0 +0.2
PWKM Work Ranch 0.94 142 Pg 20 11 36.8 -0.3
MTOS Mt Oso, Westle 0.95 355 Pg 20 11 37.6 +0.3
PHFM Heflinger Ranc 0.95 135 Pg 20 11 36.9 -0.4
CTM Castle Mountai 0.95 131 Pg 20 11 37.5 +0.1
RAMR Ramage Ranch 0.96 163 Pg 20 11 37.3 -0.3
CMLM Mount Lewis 0.98 340 Pg 20 11 37.8 -0.1
CALM Calaveras Res. 1.00 333 Pg 20 11 38.0 -0.4
PKEM Kettleman Hill 1.03 119 Pb 20 11 39.2 +0.3
PSRM Scobie Ranch 1.03 132 Pg 20 11 38.6 -0.4
JSJM St Joseph 1.04 318 Pg 20 11 38.5 -0.5
PKLM Kerr Lake 1.06 138 Pg 20 11 38.6 -0.8
JBMM Black Mountain 1.06 316 Pg 20 11 38.4 -1.2
PSNM Stone Corral 1.07 136 Pg 20 11 39.1 -0.6
TCAS Cass Winery, P 1.09 150 Pg 20 11 39.3 -0.6
TCHL Shandon 1.09 142 Pg 20 11 39.7 -0.4
CSTL Corral Hollow 1.10 348 Pg 20 11 40.1 -0.1
JPSM 1.11 306 Pg 20 11 39.3 -1.0
PMRM Maxey Ranch 1.11 134 Pg 20 11 39.5 -0.8
ARDC Alexander Ranc 1.11 170 Pg 20 11 39.7 -0.7
JFP Foothills Park 1.11 316 Pg 20 11 39.2 -1.3
JSFB Stanford Teles 1.14 318 Pg 20 11 39.6 -1.3
WENL Wente Vineyard 1.14 338 Pg 20 11 40.3 -0.7
TRAM Private Proper 1.17 139 Pg 20 11 40.4 -1.1
CVLM Vallecito 1.17 335 Pg 20 11 40.7 -0.8
JRSC Jasper Ridge 1.17 316 Pg 20 11 39.9 -1.7
BGH Bear Gulch 1.18 311 Pg 20 11 40.9 -1.0
CNIC Niles Canyon 1.20 341 Pg 20 11 40.8 -1.4
TSCN Private Proper 1.24 145 Pg 20 11 41.6 -1.2
PTAM Tassajara Cree 1.24 160 Pg 20 11 41.4 -1.4
LSDC Los Osos Digit 1.30 166 Pn 20 11 43.1 0.0
EFD Emergency Oper 1.30 162 Pn 20 11 41.9 -1.3
TSCS Shell Creek So 1.32 148 Pn 20 11 42.0 -1.4
JCHM Cahill Ridge 1.33 316 Pn 20 11 42.3 -1.3
CMOB Morgan Territo 1.33 340 Pn 20 11 43.0 -0.7
TRAY Twisselman Ran 1.34 138 Pn 20 11 43.0 -0.8
PBPM Bitterwater Pu 1.35 136 Pn 20 11 43.2 -0.7
JCPM Coyote Point 1.35 320 Pn 20 11 42.5 -1.4
CSLM San Leandro Hi 1.37 329 Pn 20 11 43.2 -0.9
DPD Davis Peak 1.37 165 Pn 20 11 43.3 -0.9
DCD Diablo Creek 1.38 167 Pn 20 11 43.5 -0.8
BGC Bolinger Road 1.42 332 Pn 20 11 44.1 -0.8
JSBM San Bruno Moun 1.46 320 Pn 20 11 43.5 -1.9
JMGM Milagra Ridge 1.47 317 Pn 20 11 44.3 -1.3
VOG Valley Oaks Go 1.50 99 P Pn 20 11 44.8 -1.2
baz=281,SNR=8.0
VOG S Sn 20 12 04.7 -0.8
baz=281
SMMC Simmler 1.59 141 P Pn 20 11 47.1 -0.2
baz=323,SNR=21
SMMC S Sn 20 12 08.3 +0.5
baz=323
CMB Columbia Colle 1.61 24 Pn 20 11 46.8 -0.7
VES Vestal, Richgr 1.87 112 P Pn 20 11 50.0 -1.0
baz=294,SNR=22
VES S Sn 20 12 13.9 -0.8
baz=294
MRDM Red Cones 2.02 58 Pn 20 11 54.4 +1.1
MDPB Devils Postpil 2.02 57 Pn 20 11 54.4 +1.0
PKM Mcpherson Peak 2.02 145 P Pn 20 11 53.0 -0.3
baz=327,SNR=11
PKM S Sn 20 12 20.5 +1.7
baz=327
MCCM Marconi Confer 2.06 321 Pn Pn 20 11 52.0 -1.6
MCCM IAML 20 12 31.8
comp=E,120nm,0.6s
MCCM IAML 20 12 33.0
comp=N,98nm,1.9s
MLIM Lincoln Peak 2.06 58 Pn 20 11 55.7 +1.7
MDYM Dry Creek 2.08 58 Pn 20 11 55.7 +1.5
FIGC Figueroa Mtn. 2.08 151 Pn 20 11 53.3 -0.8
MDCM Deadman Creek 2.08 56 Pn 20 11 55.2 +0.9
MMLB Mammoth Lakes 2.10 58 Pn 20 11 56.2 +1.7
MLCM Laurel Creek C 2.12 60 Pn 20 11 56.2 +1.4
MEMM East Mammoth H 2.13 58 Pn 20 11 56.6 +1.7
MCBM Casa Benchmark 2.15 59 Pn 20 11 56.9 +1.8
MCVM Convict Lake 2.17 61 Pn 20 11 56.9 +1.4
SCHCA Scheelite 2.18 68 Pn 20 11 57.6 +2.0
BCW Bitter Crk WRg 2.19 137 Pn 20 11 55.0 -0.5
BCW IAML 20 12 36.3
comp=N,112nm,0.6s
BCW IAML 20 12 53.9
comp=E,116nm,0.8s
MLAC Mammoth, Mammo 2.19 60 Sb Sb 20 12 25.7 -0.3
baz=241
MDRNC Doe Ridge 2.19 60 Pn 20 11 57.5 +1.9
RCCR Rock Creek Can 2.20 64 Pn 20 11 57.7 +1.8
NBPM Berryessa Peak 2.24 340 Pn 20 11 56.2 +0.1
MTUM Tungsten Hills 2.27 69 Pn 20 11 57.9 +1.1
CASR Casa Diablo Mo 2.36 64 Pn 20 11 59.9 +1.9
AFDM Forest Hills D 2.39 5 Pn 20 11 57.3 -1.0
ISA Isabella, Lake 2.40 111 Pn 20 11 58.6 +0.2
ISA Isabella, Lake 2.40 111 Pn Pn 20 11 57.0 -1.3
ISA Isabella, Lake 2.40 111 IAML 20 12 32.6
comp=N,61nm,1.1s
ISA Isabella, Lake 2.40 111 P Pn 20 11 58.3 0.0
baz=294,SNR=30
ISA S Sn 20 12 28.6 +0.8
baz=294
MFBM Five Bridges 2.40 68 Pb 20 12 01.1 -1.2
BENR Benton 2.41 61 Pn 20 12 00.7 +2.0
ARVC Arvin 2.41 126 P Pn 20 11 58.7 +0.2
baz=308,SNR=5.3
ARVC S Sn 20 12 29.9 +1.9
baz=308
NMTM Middletown 2.44 337 Pn 20 11 57.8 -1.1
TIN Tinemaha, Big 2.45 78 Sb Sb 20 12 34.1 +0.7
baz=260
CWC Cottonwood Cre 2.53 92 S Sn 20 12 31.7 +0.4
baz=274
EMB Emerald Bay 2.57 20 Pn 20 12 02.0 +1.2
EMB IAML 20 12 43.1
comp=N,95nm,0.7s
DSP Deep Springs 2.73 72 Pn 20 12 03.1 +0.3
DSP IAML 20 12 48.0
comp=E,47nm,0.9s
DSP IAML 20 12 50.2
comp=N,35nm,1.0s
LHV Little Huntoon 2.74 51 Pn 20 12 01.7 -1.3
HOPS Hopland Field 2.84 329 Pn Pn 20 12 02.8 -1.6
HOPS IAML 20 12 36.4
comp=N,56nm,3.0s
HOPS IAML 20 13 16.4
comp=E,61nm,3.4s
YERR Yerington 2.88 32 Pn 20 12 03.3 -1.9
YERR IAML 20 12 53.6
comp=N,70nm,0.5s
MPK Martis Peak 2.89 19 Pn 20 12 02.9 -2.4
CCAC Calif City Air 2.96 117 Pn 20 12 04.2 -1.8
CCAC IAML 20 13 04.8
comp=E,64nm,1.2s
ORV Oroville 3.00 356 Pn 20 12 04.6 -2.0
MPMC Manual Prospec 3.06 98 Pb Pb 20 12 11.4 -2.2
baz=281,SNR=16
MPMC Sb Sb 20 12 53.5 +2.5
baz=281
EDW2 Edwards Air Fo 3.12 122 P Pn 20 12 08.4 +0.2
baz=304,SNR=8.2
GRAC Grapevine Rang 3.12 81 Sg Sg 20 13 00.6 +1.2
baz=263
KVN Kaiserville 3.51 44 Pn 20 12 13.1 -0.6
KVN IAML 20 13 11.9
comp=E,32nm,1.5s
KVN IAML 20 13 16.1
comp=N,37nm,0.8s
QSM Queen of Sheba 3.57 98 Pn Pn 20 12 13.4 -1.0
QSM IAML 20 13 22.6
comp=N,19nm,1.0s
GSC Goldstone, Bar 3.80 108 Pn 20 12 17.3 -0.3
GSC IAML 20 13 25.6
comp=E,23nm,1.3s
GSC IAML 20 13 31.0
comp=N,19nm,1.1s
TPNV Topopah Spring 4.01 83 Pn 20 12 21.4 +0.8
TPNV IAML 20 13 34.6
comp=N,23nm,1.9s
TPNV IAML 20 14 02.9
comp=N,16nm,4.7s
HEC Hector,Ludlow 4.33 112 P Pn 20 12 25.2 +0.2
baz=295
GMRC Granite Mounta 4.86 110 P Pn 20 12 31.8 -0.5
baz=294
SHPR Sheep Range 4.88 89 Pn Pn 20 12 30.9 -1.7
PFO Pinyon Flats O 4.89 126 Pn Pn 20 12 30.3 -2.3
PFO IAML 20 14 04.6
comp=N,6.2nm,3.0s
PFO IAML 20 14 23.7
comp=N,6.4nm,4.2s

*IDC **29** 20:19:45.8±1.1, 3.°40S×68.°00E, h0km, mb3.6/7, mbtmp3.6/7, MS3.7/17, Error ellipse: s-maj=37.4km s-min=25.5km az=21.0*

ISC 29 20:19:48.4±1.2, 3.°3S±0.°3×68.°0E±0.°2, h15km, n30, σ0.°91/9, mb3.8/7, MS3.8/16, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	Diego Garcia H	6.16	134	T	T	20 27 36.0	
baz=308							
H08S1	Diego Carcia H	6.17	134	T	T	20 27 41.8	
baz=308							
H08S2	Diego Garcia H	6.18	134	T	T	20 27 36.9	
baz=308							
PALK	Pallekele	16.47	50	LR	LR	20 28 32.2	
comp=Z,320nm,20.0s,baz=346,slow=32							
WSAR	Wadi Sarin	27.95	341	LR	LR	20 34 20.7	
comp=Z,102nm,19.8s,baz=228,slow=31							
MBAR	Mbarara	37.35	273	LR	LR	20 41 14.9	
comp=Z,30nm,20.0s,baz=64,slow=34							
CMAR	Chiang Mai Arr	37.37	53	P	P	20 27 02.3	+1.4
1.1nm,0.9s,baz=250,slow=10,SNR=9.9							
CMAR				LR	LR	20 40 54.4	
comp=Z,88nm,19.5s,baz=250,slow=34							
1.1nm,0.9s							
LEM	Lembang	39.59	97	LR	LR	20 39 41.8	
comp=Z,243nm,20.0s,baz=250,slow=30							
LSZ	Lusaka	40.97	251	LR	LR	20 41 54.1	
comp=Z,162nm,18.9s,baz=140,slow=32							
GEYT	Alibeck	42.06	348	LR	LR	20 43 43.8	
comp=Z,138nm,20.5s,baz=154,slow=34							
H04N2	CROZET ISLANDS	44.95	196	T	T	21 16 17.5	
baz=21							
H04N1	CROZET ISLANDS	44.95	196	T	T	21 16 18.9	
baz=21							
H04N3	CROZET ISLANDS	44.97	196	T	T	21 16 19.8	
baz=21							
BOSA	Boshof	47.79	234	LR	LR	20 47 39.8	
comp=Z,75nm,18.0s,baz=66,slow=35							
TSUM	Tsumeb	51.70	248	LR	LR	20 48 25.3	
comp=Z,87nm,19.2s,baz=146,slow=33							
SUR	Sutherland	52.80	231	LR	LR	20 47 32.6	
comp=Z,160nm,21.8s,baz=89,slow=32							
AKTO	Aktyubinsk	54.24	352	LR	LR	20 50 15.2	
comp=Z,59nm,21.7s,baz=240,slow=34							
KURBB	Kurchatov Arra	54.49	8	P	P	20 29 14.1	-1.3
0.1nm,0.5s,baz=194,slow=7.3,SNR=2.0							
0.1nm,0.5s							
BVAR	Borovoye Array	56.18	2	LR	LR	20 53 02.3	
comp=Z,54nm,20.7s,baz=149,slow=36							
DAV	Davao City (W)	58.37	80	LR	LR	20 57 32.2	
comp=Z,58nm,18.7s,baz=306,slow=39							
ZALV	Zalesovo Beam	58.77	12	LR	LR	20 54 23.6	
comp=Z,44nm,18.3s,baz=197,slow=35							
SONM	Songino Array	61.01	29	P	P	20 30 01.2	-0.3
0.3nm,0.4s,baz=221,slow=7.9,SNR=4.3							
SONM				LR	LR	20 56 06.5	
comp=Z,138nm,21.4s,baz=192,slow=36							
0.3nm,0.4s							
ASAR	Alice Springs	66.61	114	P	P	20 30 38.4	-0.4
0.8nm,0.9s,baz=284,slow=5.7,SNR=5.1							
0.8nm,0.9s							
WRA	Warramunga Arr	66.62	110	P	P	20 30 38.4	-0.5
1.1nm,0.8s,baz=282,slow=6.3,SNR=7.0							
1.1nm,0.8s							
TORD	Torodi Ar. Bea	67.82	286	P	P	20 30 46.8	+0.2
0.7nm,0.9s,baz=93,slow=10,SNR=3.6							
0.7nm,0.9s							
KSRS	Korea Array	68.69	48	LR	LR	21 02 10.1	
comp=Z,55nm,19.2s,baz=185,slow=37							
ESDC	Sonseca Array	78.37	311	P	P	20 31 49.2	+0.6
0.6nm,0.8s,baz=96,slow=6.6,SNR=3.3							
0.6nm,0.8s							
QSPA	South Pole Qui	86.68	180	LR	LR	21 07 07.7	
comp=Z,81nm,18.0s,baz=332,slow=33							
PDAR	Pinedale Array	140.67	357	PKP	PKPdf	20 39 18.6	+0.4
0.2nm,0.4s,baz=358,slow=5.4,SNR=2.6							
TXAR	Lajitas Array	152.96	344	PKPbc	PKPbc	20 39 45.8	-0.3
0.2nm,0.7s,baz=23,slow=3.0,SNR=2.3							

*IDC **29** 20:35:24.4±1.2, 37.°65N×22.°59E, h0km, mb3.2/5, mbtmp3.3/6, ML3.1/1, Error ellipse: s-maj=28.9km s-min=24.6km az=8.0*

*ISK **29** 20:35:29.9, 37.°51N×22.°61E, h89km, ML3.1/18*

*ATH **29** 20:35:32.7, 37.°52N×22.°66E, h30km±3km, ML3.4/15, Manual Solution by A.Fokaefs First location: 2019/05/02 11:39:53, This location: 2019/05/02 11:39:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*

*THE **29** 20:35:32.9, 37.°56N×22.°65E, h50km±2km, ML3.3/9, Error ellipse: s-maj=2.5km s-min=0.7km az=337.0*

ISC 29 20:35:31.5±0.8, 37.°54N±0.°03×22.°65E±0.°03, h60km±6km, n61, σ0.°73/85, mb3.2/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRND	KRANIDI	0.43	111	P	Pn	20 35 43.4	+0.6
KRND				S	Sn	20 35 51.1	+0.2
4μm,0.2s							
GUR	Goura	0.47	329	P	Pn	20 35 43.6	+0.3
GUR				S	Sn	20 35 50.9	-0.9
13μm,0.3s							
GUR	Goura	0.47	329	P	Pn	20 35 43.4	+0.1
GUR				S	Sn	20 35 51.1	-0.7
KIAA	Kiato	0.48	10	P	Pn	20 35 43.8	+0.5
THAL	Thalero	0.50	1	P	Pn	20 35 43.9	+0.4
THAL				S	Sn	20 35 51.6	-0.6
10μm,0.2s							
THAL	Thalero	0.50	1	P	Pn	20 35 43.7	+0.2
THAL				S	Sn	20 35 50.9	-1.2
LOUT	Loutraki	0.52	30	P	Pn	20 35 44.0	+0.3
LOUT				S	Sn	20 35 52.7	+0.1
3μm,0.4s							
LOUT	Loutraki	0.52	30	P	Pn	20 35 44.1	+0.4
LOUT				S	Sn	20 35 52.1	-0.5
KLV	Kalavryta, Ach	0.64	322	P	Pn	20 35 45.2	0.0
KLV				S	Sn	20 35 55.0	-0.1
2μm,0.4s							
KLV	Kalavryta, Ach	0.64	322	P	Pn	20 35 45.1	0.0
KLV				S	Sn	20 35 55.1	-0.1
KLMT	Kalamata	0.67	225	P	Pn	20 35 46.1	+0.7
KLMT				S	Sn	20 35 56.7	+1.2
1μm,0.6s							
KLMT	Kalamata	0.67	225	P	Pn	20 35 46.1	+0.7
KLMT				S	Sn	20 35 56.7	+1.2
YDRA	Hydra	0.68	106	P	Pn	20 35 46.1	+0.7
ZARO	Zacharo	0.80	267	P	Pn	20 35 48.4	+1.4
VIL2	Platees	0.83	36	P	Pn	20 35 47.7	+0.2
VIL2				S	Sn	20 35 59.4	+0.2
DRO	Drossia	0.85	299	P	Pn	20 35 48.4	+0.7
VLI	Veliai	0.85	164	P	Pn	20 35 48.0	+0.3
VLI	Veliai	0.85	164	P	Pn	20 35 47.9	+0.2
VLI				S	Sn	20 35 59.0	-0.5
ELFA	Athens-Elefsin	0.87	54	P	Pn	20 35 49.1	+1.3
ELFA				S	Sn	20 36 01.1	+1.2
DRPA	Athens-Drapets	0.88	62	P	Pn	20 35 48.9	+0.9
DRPA				S	Sn	20 36 00.7	+0.5
LAKA	Lakka	0.88	323	P	Pn	20 35 48.3	+0.2
MNVA	Monemvasia	0.91	160	P	Pn	20 35 49.2	+0.8
KALE	Kalithea	0.94	335	P	Pn	20 35 49.4	+0.5
DLFA	Delphi	0.94	353	P	Pn	20 35 49.3	+0.4
ATH	Athens Observa	0.95	63	P	Pn	20 35 49.5	+0.6
ATH				S	Sn	20 36 02.3	+0.5
ATH	Athens Observa	0.95	63	P	Pn	20 35 49.5	+0.6
ACRA	Athens-Acropol	0.96	63	P	Pn	20 35 49.8	+0.7
VLY	Voula,Athens	0.96	71	P	Pn	20 35 49.8	+0.7
VLY				S	Sn	20 36 02.2	+0.1
1μm,0.6s							
PYL	PYLOS	0.97	229	P	Pn	20 35 50.0	+0.8
PYL				S	Sn	20 36 03.0	+0.8
465nm,0.4s							
ATHU	Athens Univers	1.00	64	P	Pn	20 35 50.2	+0.7
ATHU				S	Sn	20 36 02.9	0.0
ATHU	Athens Univers	1.00	64	P	Pn	20 35 50.1	+0.5
RLS	Riolos of Patr	1.07	299	P	Pn	20 35 51.7	+1.2
PTL	Penteli	1.09	62	P	Pn	20 35 52.5	+1.7
PTL				S	Sn	20 36 06.5	+1.4
2μm,0.4s							
KTHA	Kythira Island	1.32	165	Pn	Pn	20 35 54.3	+0.4
KTHA				Sn	Sn	20 36 10.9	+0.3
AGG	Agios Georgios	1.50	350	Pn	Pn	20 35 56.9	+0.6
RODP	Rodopos	2.17	155	Pn	Pn	20 36 05.4	+0.1
RODP				Sn	Sn	20 36 31.3	+0.3
IMMV	Iera Moni Meta	2.34	152	Pn	Pn	20 36 07.7	+0.1
IMMV				Sn	Sn	20 36 35.3	+0.2
APE	Apeiranthos	2.34	101	Pn	Pn	20 36 08.2	+0.5
IDI	Anoyia	2.88	141	Pn	Pn	20 36 14.8	-0.3
IDI	Anoyia	2.88	141	Pn	Pn	20 36 14.6	-0.5
2.6nm,0.3s,baz=320,slow=17,SNR=38							
IDI				Sn	Sn	20 36 46.5	-2.2
12nm,0.3s,baz=73,slow=21,SNR=8.1							
11nm,0.2s							
GVD	Gavdhos	2.94	156	Pn	Pn	20 36 15.8	0.0
HRKL	Herakleio	2.98	138	Pn	Pn	20 36 16.4	+0.1
OUR	Ouranopolis	2.98	20	Pn	Pn	20 36 16.9	+0.6
HORT	Hortiatis	3.07	6	Pn	Pn	20 36 17.9	+0.2
URLA	Izmir	3.23	74	Pn	Pn	20 36 20.6	+0.9
FNA	Florina	3.39	343	Pn	Pn	20 36 22.4	+0.4
GRG	Griva	3.42	357	Pn	Pn	20 36 22.8	+0.4
KNT	Kendrikon	3.62	3	Pn	Pn	20 36 25.6	+0.4
BODT	Bodrum	3.75	96	Pn	Pn	20 36 27.9	+1.0
MMB	Musomishta	4.09	12	*i* P	Pn	20 36 32.6	+1.0
GELI	Tayfur-Gelibol	4.13	45	Pn	Pn	20 36 32.5	+0.5
RDO	Rodhopi	4.24	31	Pn	Pn	20 36 33.9	+0.3
KKB	Krupnik	4.31	5	*i* P	Pn	20 36 35.6	+1.0
KDZ	Kurdzhali	4.58	26	Pn	Pn	20 36 38.5	+0.2
VTS	Vitosha	5.09	5	*i* P	Pn	20 36 46.4	+1.0
MPEP	Malo Peshtene	5.87	8	*i* P	Pn	20 36 57.0	+1.1
ESDC	Sonseca Array	20.88	284	P	P	20 40 07.5	-1.2
0.3nm,0.7s,baz=87,slow=9.9,SNR=1.6							
0.3nm,0.7s							
EKA	Eskdalemuir Ar	24.93	324	P	P	20 40 48.6	-0.2
0.4nm,0.3s,baz=124,slow=9.0,SNR=9.0							
0.4nm,0.3s							
TORD	Torodi Ar. Bea	30.65	223	P	P	20 41 40.4	+0.1
0.4nm,0.8s,baz=34,slow=10.0,SNR=2.6							
0.4nm,0.8s							
KURBB	Kurchatov Arra	41.26	53	P	P	20 43 10.4	-0.2
0.2nm,0.5s,baz=276,slow=8.7,SNR=2.7							
0.2nm,0.5s							
MKAR	Makanchi Array	44.20	58	P	P	20 43 34.5	-0.1
0.4nm,1.0s,baz=281,slow=7.5,SNR=1.6							
0.4nm,1.0s							

RSNC 29 20:36:19.6±1.7, 4.°64N×76.°29W, h116km±6km, ML2.9, Mw3.5, 4C-2D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	San Jos del P	0.27	2⇑	*i*P	Pn	20 36 34.9	-1.1
PLMC				*e*S	Sn	20 36 47.5	-1.0
YOTC	Yotoco, Valle	0.65	185	*e*P	Pn	20 36 37.5	-0.9
YOTC				*e*S	Sn	20 36 52.8	+0.4
YOTC				*i*		20 36 53.3	
comp=Z,409nm,0.2s							
ANIL	Santa Ana	0.90	99⇑	*i*P	Pn	20 36 39.6	-1.0
ANIL				*e*S	Sn	20 36 56.0	-0.5
GUY2C	Guyana, Caldas	1.09	58⇓	*i*P	Pn	20 36 42.5	-0.3
GUY2C				*e*S	Sn	20 36 60.0	-0.2
GUY2C				*i*		20 37 04.8	
comp=Z,134nm,0.7s							
PIZC	Pizarro, Choco	1.11	287⇑	*i*P	Pn	20 36 42.4	0.0
PIZC				*e*S	Sn	20 37 00.4	+0.6
PIZC				*i*		20 37 10.1	
comp=Z,312nm,0.4s							
ORTC	Ortega, Tolima	1.27	125⇑	*i*P	Pn	20 36 43.6	-0.6
ORTC				*e*S	Sn	20 37 02.3	-0.6
ORTC				*i*		20 37 04.1	
comp=Z,131nm,0.1s							
JAMC	Jamundi, Valle	1.47	195	*e*P	Pn	20 36 46.2	-0.4
JAMC				*e*S	Sn	20 37 07.5	+0.3
JAMC				*i*		20 37 11.3	
comp=Z,223nm,0.6s							
PRAC	Prado	1.68	123	*e*P	Pn	20 36 48.6	-0.3
PRAC				*e*S	Sn	20 37 11.3	0.0
PRAC				*i*		20 37 12.8	
comp=Z,127nm,0.4s							
NORC	Norcasia	1.69	57	*e*P	Pn	20 36 48.8	-0.3
NORC				*e*S	Sn	20 37 11.9	+0.3
NORC				*i*		20 37 15.4	
comp=Z,37nm,0.4s							
ROSC	El Rosal	1.98	84	*e*P	Pn	20 36 54.4	+1.5
ROSC				*e*S	Sn	20 37 22.0	+3.6
POPC	Popayan, Colom	2.12	190	*e*P	Pn	20 36 53.7	-0.9
POPC				*e*S	Sn	20 37 20.4	-1.0
POPC				*i*		20 37 24.3	
comp=Z,30nm,0.3s							
BETC	Betania	2.12	156	*e*P	Pn	20 36 54.4	-0.1
BETC				*e*S	Sn	20 37 20.8	-0.4
BETC				*i*		20 37 22.6	
comp=Z,127nm,0.4s							
DBBC	Dabeiba	2.36	2	*e*P	Pn	20 36 57.5	-0.1
DBBC				*e*S	Sn	20 37 25.7	-1.1
DBBC				*i*		20 37 31.3	
comp=Z,15nm,0.4s							
GR1C	Gorgona, Isla	2.48	229	*e*P	Pn	20 36 56.9	-2.1
GR1C				*e*S	Sn	20 37 25.7	-3.5
CHIC	Chingaza	2.55	90	*e*P	Pn	20 37 01.7	+1.4
CHIC				*e*S	Sn	20 37 34.8	+3.2
GARC	Garzon, Huila	2.56	162	*e*P	Pn	20 36 59.6	-0.8
GARC				*e*S	Sn	20 37 30.0	-1.6
PTBC	PUERTO BERRIO,	2.63	44	*e*P	Pn	20 37 00.2	-0.8
PTBC				*e*S	Sn	20 37 31.5	-1.2

PTBC *i* 20 37 33.2
comp=Z,18nm,0.5s
VILC Villavicencio, 2.64 101 *e*P Pn 20 37 02.9 +1.6
VILC *e*S Sn 20 37 35.9 +2.7
VILC *i* 20 37 40.1
comp=Z,50nm,0.4s
BBAC Balboa, Cauca 2.77 200 *e*P Pn 20 37 02.5 -0.5
BBAC *e*S Sn 20 37 36.9 +0.6
BBAC *i* 20 37 38.7
comp=Z,43nm,0.4s
FLOC Florencia 3.10 168 *e*P Pn 20 37 06.8 -0.5
FLOC *e*S Sn 20 37 42.6 -1.3
ZARC Zaragoza, Cauc 3.17 27 *e*P Pn 20 37 07.5 -0.6
ZARC *e*S Sn 20 37 44.5 -1.0
ZARC *i* 20 37 45.3
comp=Z,24nm,0.8s
UREC San Jos de Ur 3.18 14 *e*P Pn 20 37 07.4 -0.9
APAC Apartado, Choc 3.25 355 *e*P Pn 20 37 11.0 +1.9
RUSC La Rusia 3.43 69 *e*P Pn 20 37 12.4 +0.5
RUSC *e*S Sn 20 37 51.9 -0.4
MACC Macarena, Meta 3.48 135 *e*P Pn 20 37 11.3 -0.8
MACC *e*S Sn 20 37 50.8 -2.0
BRRC Barranca, Sant 3.55 46⇓ *e*P Pn 20 37 12.1 -1.0
BRRC *e*S Sn 20 37 52.3 -2.1
BRRC *i* 20 37 55.8
comp=Z,11nm,0.3s
GCUF Volcan Galeras 3.55 197 *e*P Pn 20 37 12.6 -1.0
GCUF *e*S Sn 20 37 52.6 -2.6
GCUF *i* 20 37 55.0
comp=Z,14nm,0.2s
CAPC Capurgana 4.11 345 *e*P Pn 20 37 19.5 -1.1

IDC 29 20:39:28.6±1.1, 61°.19S×23°.90W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=54.1km s-min=33.1km az=85.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**41.49**	**182**	P	P	20 47 16.0	-0.6
	0.8nm,0.7s,baz=162,slow=3.2,SNR=6.8 0.8nm,0.7s						
LPAZ	**La Paz**	**54.75**	**305**	P	P	20 48 59.8	-0.6
	0.4nm,0.4s,baz=164,slow=7.4,SNR=2.1 0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.83**	**26**	P	P	20 51 21.3	-0.6
	0.6nm,0.6s,baz=199,slow=5.5,SNR=3.9 0.6nm,0.6s						
SONM	**Songino Array**	**149.04**	**93**	PKPbc	PKPbc	20 59 17.5	0.0
	0.2nm,0.8s,baz=219,slow=1.8,SNR=1.1						
ILAR	**Eielson Array**	**154.62**	**303**	PKPbc	PKiKP	20 59 30.8	+1.2
	0.7nm,0.9s,baz=116,slow=2.1,SNR=6.5						

*EAF **29** 20:40:14.5, 24°.55S×32°.54E, h0km, MC3.2*
BUL 29 20:40:09.7±1.4, 25°.16S×32°.59E, h11km±58km, MD3.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**1.97**	**326**	*i* P	Pn	20 40 37.5	-5.5
MOPA				*i* S	Sn	20 40 55.7	-12
MOPA	**Mopani**	**1.97**	**326**	*i* P	Pn	20 40 37.5	-5.5
	baz=314						
MOPA				*i* S	Sn	20 40 55.7	-12
	baz=314						
MUSN	**Musina, Limpop**	**3.80**	**318**	*i* P	Pn	20 41 07.3	-1.0
MUSN				*i* S	Sn	20 41 50.8	-2.3
MUSN	**Musina, Limpop**	**3.80**	**318**	*i* P	Pn	20 41 07.3	-1.0
	baz=312						
MUSN				*i* S	Sn	20 41 50.8	-2.3
	baz=312						
MATP	**Matopo**	**6.04**	**320**	*i* P	Pn	20 41 37.6	-1.5
MATP				*i* S	Sn	20 42 43.3	-5.0
MATP	**Matopo**	**6.04**	**320**	*i* P	Pn	20 41 37.6	-1.5
	baz=317						
MATP				*i* S	Sn	20 42 43.3	-5.0
	baz=317						

*NEIC **29** 21:01:50.8±1.8, 13°.8N±0°.1×120°.8E±0°.2, h137km±5km, mb4.3/54, Error ellipse: s-maj=22.6km s-min=14.9km az=76.0*
*IDC **29** 21:01:50.0±0.4, 13°.87N×120°.89E, h136km±3km, mb3.9/18, mbtmp4.3/19, Error ellipse: s-maj=27.0km s-min=9.3km az=66.0*
*DJA **29** 21:01:53.1±0.4, 14°.N±2°.×12°.1E±°., h187km±7km, M4.5/21, mB4.3/1, mb4.5/21, Mw(mB)3.4/1*
ISC 29 21:01:51.6±0.5, 13°.85N±0°.07×120°.8E±0°.1, h152km, n97, σ19°.16/101, mb4.2/51, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.29**	**28**	P	**Pn**	**21 02 10.2**	**-2.3**
	3μm,0.5s,baz=300,slow=2.8,SNR=33						
TGY				S	**Sn**	**21 02 24.3**	**-4.0**
	13μm,0.5s,baz=352,slow=23,SNR=19						
SGSI	**Sangihe**	**11.12**	**155**	P	**Pn**	**21 04 28.6**	**+2.2**
	38nm,0.6s						
GTOI	**Gorontalo**	**13.31**	**170**	P	**Pn**	**21 04 56.3**	**+1.6**
	8.1nm,1.1s						
MPSI	**Mapaga**	**13.45**	**184**	P	**P**	**21 04 59.6**	**-0.9**
	11nm,0.9s						
SBUM	**Sibu**	**14.14**	**218**		**P**	**21 05 09.9**	**+1.7**
SANI	**Sanana**	**16.61**	**162**	P	**Pn**	**21 05 37.0**	**+1.3**
	6.8nm,1.1s						
KAPI	**Kappang**	**18.77**	**183**	P	**P**	**21 05 58.0**	**-1.2**
KAPI				IAmb	IAmb	21 06 03.0	
	comp=Z,13nm,0.7s						
KAPI	**Kappang**	**18.77**	**183**	P	**Pn**	**21 06 00.9**	**-0.4**
	comp=Z,13nm,0.6s,baz=332,slow=5.9,SNR=12						
BBSI	**Bau Bau**	**19.29**	**175**	P	**Pn**	**21 06 06.7**	**-0.8**
	comp=Z,15nm,1.3s						
CRAI	**Chiangrai**	**20.52**	**291**	P	**P**	**21 06 18.4**	**+0.3**
CRAI				IAmb	IAmb	21 06 20.4	
	comp=Z,8.5nm,0.9s						
DSRI	**Dabo**	**21.46**	**230**	P	**P**	**21 06 29.6**	**+1.4**
	comp=Z,18nm,0.7s						
CM31	**Chiang Mai Arr**	**21.48**	**285**	P	**P**	**21 06 29.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**21.48**	**285**	P	**P**	**21 06 29.0**	**+0.6**
	comp=Z,9.2nm,0.8s,baz=96,slow=7.9,SNR=77 comp=Z,9.2nm,0.8s						
CHTO	**Chiang Mai**	**21.54**	**286**	P	**P**	**21 06 28.4**	**-0.6**
KULM	**Kulim**	**21.59**	**249**	P	**P**	**21 06 27.4**	**-2.2**
KULM				IAmb	IAmb	21 06 59.4	
	comp=Z,19nm,1.4s						
GRJI	**Gresik**	**22.22**	**202**	P	**P**	**21 06 35.6**	**-0.3**
	comp=Z,113nm,1.1s						
MMRI	**Maumere**	**22.38**	**176**	P	**P**	**21 06 37.9**	**+0.4**
	comp=Z,25nm,1.2s						
EDFI	**Ende, Flores**	**22.47**	**178**	P	**P**	**21 06 38.8**	**+0.4**
	comp=Z,58nm,0.7s						
PLAI	**Plampang**	**22.72**	**188**	P	**P**	**21 06 42.5**	**+1.8**
	comp=Z,77nm,0.9s						
TNCH	**TengChong**	**23.73**	**301**	*e*P	**P**	**21 06 50.3**	**+0.2**
TNCH				pP	sP	21 07 31.5	-6.1
TNCH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BATI	**Baumata**	**24.07**	**173**	P	**P**	**21 06 53.1**	**+0.1**
	comp=Z,29nm,1.0s						
BATI	**Baumata**	**24.07**	**173**	P	**P**	**21 06 52.5**	**-0.5**
	comp=Z,19nm,0.5s,baz=87,slow=0.2,SNR=8.8 comp=Z,19nm,0.5s						
RPSI	**Rantau Prapat**	**24.28**	**245**	P	**P**	**21 06 53.7**	**-1.3**
RPSI				IAmb	IAmb	21 06 55.8	
	comp=Z,11nm,0.7s						
GSI	**Gunungsitoli**	**26.13**	**244**	P	**P**	**21 07 09.3**	**-2.4**
SHL	**Shillong**	**29.54**	**298**	P	**P**	**21 07 41.9**	**-0.3**
KNRA	**Kununurra**	**30.37**	**165**	P	**P**	**21 07 49.4**	**0.0**
GTA	**Gaotai**	**31.47**	**328**	*e*P	**P**	**21 07 59.8**	**+0.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TAPN	**Taplejung**	**33.64**	**299**	*e*P	**P**	**21 08 18.2**	**0.0**
	comp=Z,9.2nm,0.9s						
RAMN	**Ramite**	**34.48**	**298**	*e*P	**P**	**21 08 25.8**	**+0.4**
	comp=Z,10nm,0.7s						
JIRN	**Jiri**	**35.02**	**299**	*e*P	**P**	**21 08 30.5**	**+0.3**
	comp=Z,11nm,0.6s						
GUN	**Gumba**	**35.35**	**299**	*e*P	**P**	**21 08 33.0**	**-0.1**
	comp=Z,14nm,0.6s						
PKI	**Pulchoki**	**35.66**	**298**	*e*P	**P**	**21 08 35.4**	**-0.3**
	comp=Z,9.5nm,0.7s						
PKIN	**Phulchoki**	**35.68**	**298**	*e*P	**P**	**21 08 35.8**	**+0.1**
	comp=Z,9.2nm,0.6s						
SONM	**Songino Array**	**35.95**	**343**	P	**P**	**21 08 38.2**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=160,slow=10,SNR=20 comp=Z,2.1nm,0.6s						
WRA	**Warramunga Arr**	**36.12**	**158**	P	**P**	**21 08 38.2**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=342,slow=9.0,SNR=34						
WRA				PcP	**PcP**	**21 11 02.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=340,slow=3.5,SNR=1.4 comp=Z,2.2nm,0.6s						
WB2	**Warramunga Arr**	**36.13**	**158**	P	**P**	**21 08 38.1**	**-1.1**
WB2				IAmb	IAmb	21 09 00.8	
	comp=Z,6.1nm,1.2s						
WR0	**Warramunga Arr**	**36.21**	**158**	P	**P**	**21 08 39.2**	**-0.8**
WR0				IAmb	IAmb	21 09 17.6	
	comp=Z,8.4nm,1.4s						
GKN	**Gorkha**	**36.44**	**299**	*e*P	**P**	**21 08 42.3**	**+0.2**
	comp=Z,9.9nm,0.9s						
DANN	**Dangsing**	**37.27**	**299**	*e*P	**P**	**21 08 49.4**	**+0.1**
	comp=Z,16nm,1.0s						
PYUN	**Piuthan**	**37.87**	**298**	*e*P	**P**	**21 08 54.4**	**+0.2**
	comp=Z,13nm,0.8s						
AS31	**Alice Springs**	**39.42**	**161**	P	**P**	**21 09 06.3**	**-0.6**
ASAR	**Alice Springs**	**39.42**	**161**	P	**P**	**21 09 06.5**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=333,slow=6.9,SNR=21						
ASAR				PcP	**PcP**	**21 11 12.2**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=356,slow=3.7,SNR=2.6 comp=Z,1.9nm,0.7s						
CTA	**Charters Tower**	**42.00**	**143**	P	**P**	**21 09 28.9**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=318,slow=13,SNR=5.4 comp=Z,3.5nm,0.6s						
FORT	**Forrest**	**44.91**	**171**	P	**P**	**21 09 50.3**	**-0.8**
MK31	**Makanchi Array**	**45.97**	**323**	P	**P**	**21 10 00.3**	**+0.9**
MKAR	**Makanchi Array**	**45.97**	**323**	P	**P**	**21 10 00.6**	**+1.1**
	comp=Z,4.2nm,0.9s,baz=130,slow=8.9,SNR=22						
MKAR				PcP	**PcP**	**21 11 33.6**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=136,slow=5.2,SNR=1.3 comp=Z,4.2nm,0.9s						
MAKZ	**Makanchi**	**46.16**	**323**	P	**P**	**21 10 02.0**	**+1.1**
NRN	**Naryn**	**47.54**	**314**	P	**P**	**21 10 12.1**	**0.0**
BBOO	**Buckleboo**	**48.63**	**163**	P	**P**	**21 10 19.2**	**-0.8**
ZAA0	**Zalesovo Array**	**48.97**	**333**	P	**P**	**21 10 22.8**	**+0.3**
ZAA0				IAmb	IAmb	21 10 23.0	
	comp=Z,2.8nm,0.6s						
ZALV	**Zalesovo Beam**	**48.97**	**333**	P	**P**	**21 10 22.4**	**0.0**
	comp=Z,2.4nm,0.4s,baz=123,slow=6.6,SNR=15 comp=Z,2.4nm,0.4s						
ARSB	**Arslanbob**	**49.63**	**313**	P	**P**	**21 10 28.9**	**+1.1**
KURBB	**Kurchatov Arra**	**50.12**	**326**	P	**P**	**21 10 32.2**	**+1.0**
	comp=Z,8.1nm,0.8s,baz=133,slow=7.7,SNR=93 comp=Z,8.1nm,0.8s						
KURK	**Kurchatov**	**50.12**	**326**	P	**P**	**21 10 32.1**	**+1.0**
BVAR	**Borovoye Array**	**55.71**	**326**	P	**P**	**21 11 12.6**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=116,slow=9.3,SNR=22 comp=Z,2.5nm,0.6s						
BRVK	**Borovoye**	**55.78**	**326**	P	**P**	**21 11 12.4**	**-0.2**
GEYT	**Alibeck**	**60.13**	**306**	P	**P**	**21 11 43.0**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=124,slow=7.9,SNR=8.5 comp=Z,2.7nm,0.9s						
ABKAR	**Akbulak array**	**60.69**	**319**	P	**P**	**21 11 46.8**	**+0.1**
ABKAR				IAmb	IAmb	21 11 48.1	
	comp=Z,3.4nm,0.7s						
ARU	**Arti**	**63.31**	**327**	P	**P**	**21 12 03.8**	**-0.3**
L16K	**Owhat River**	**73.05**	**29**	P	**P**	**21 13 04.3**	**-0.3**
L16K				IAmb	IAmb	21 13 24.7	
	comp=Z,10nm,1.3s						
K17K	**Ilditarod**	**73.63**	**28**	P	**P**	**21 13 07.8**	**-0.3**
D19K	**Kuna River**	**73.95**	**22**	P	**P**	**21 13 11.8**	**+1.9**
J18K	**Innoko River**	**74.37**	**28**	P	**P**	**21 13 12.1**	**-0.3**
J18K				IAmb	IAmb	21 13 50.5	
	comp=Z,12nm,1.4s						
L18K	**Granite Mounta**	**74.38**	**29**	P	**P**	**21 13 14.9**	**+2.5**
L18K				IAmb	IAmb	21 13 42.3	
	comp=Z,5.3nm,1.2s						
H19K	**Roundabout Mou**	**74.50**	**25**	P	**P**	**21 13 15.3**	**+2.2**
H19K				IAmb	IAmb	21 13 16.3	
	comp=Z,4.5nm,0.8s						
TTA	**Tatalina**	**74.69**	**28**	P	**P**	**21 13 14.9**	**+0.6**
TTA				IAmb	IAmb	21 13 15.2	
	comp=Z,6.7nm,1.4s						
F20K	**Avaraart Lake**	**74.81**	**24**	P	**P**	**21 13 16.6**	**+1.7**
F20K				IAmb	IAmb	21 13 30.3	
	comp=Z,5.6nm,1.2s						
L19K	**White Mountain**	**75.23**	**29**	P	**P**	**21 13 19.3**	**+1.9**
L19K				IAmb	IAmb	21 13 53.0	
	comp=Z,12nm,1.4s						
B21K	**Ikpikpuk River**	**75.24**	**21**	P	**P**	**21 13 18.9**	**+1.7**
J20K	**Nowinta River**	**75.50**	**27**	P	**P**	**21 13 18.2**	**-0.6**
J20K				IAmb	IAmb	21 13 49.8	
	comp=Z,8.6nm,1.5s						
G21K	**Allakaket**	**75.70**	**24**	P	**P**	**21 13 21.2**	**+1.3**
G21K				IAmb	IAmb	21 13 57.9	
	comp=Z,5.8nm,1.3s						
H21K	**Melozitna Rive**	**76.01**	**25**	P	**P**	**21 13 23.2**	**+1.4**
H21K				IAmb	IAmb	21 13 25.5	
	comp=Z,9.0nm,1.4s						
CAST	**Castle Rocks**	**76.45**	**28**	P	**P**	**21 13 25.6**	**+1.3**
CAST				IAmb	IAmb	21 13 27.1	
	comp=Z,4.6nm,0.8s						
BPAW	**Bear Paw Mtn.**	**76.89**	**27**	P	**P**	**21 13 27.9**	**+1.2**
MLY	**Manley**	**76.92**	**26**	P	**P**	**21 13 28.6**	**+1.7**
H23K	**Yukon River**	**77.35**	**25**	P	**P**	**21 13 31.4**	**+2.2**
F24K	**Squaw Lake**	**77.82**	**23**	P	**P**	**21 13 33.4**	**+1.5**
F24K				IAmb	IAmb	21 13 52.5	
	comp=Z,7.4nm,1.5s						
RND	**Reindeer**	**77.90**	**27**	P	**P**	**21 13 32.7**	**+0.3**
RND				IAmb	IAmb	21 13 40.2	
	comp=Z,8.5nm,1.2s						
MDM	**Murphy Dome**	**77.99**	**26**	P	**P**	**21 13 32.9**	**+0.1**
H24K	**Noodor Dome**	**78.03**	**25**	P	**P**	**21 13 34.9**	**+1.8**
G24K	**Hadweenzic Riv**	**78.08**	**24**	P	**P**	**21 13 35.5**	**+2.2**
G24K				IAmb	IAmb	21 14 08.5	
	comp=Z,7.4nm,1.3s						
WRH	**Wood River Hil**	**78.11**	**26**	P	**P**	**21 13 34.1**	**+0.7**
WRH				IAmb	IAmb	21 13 40.4	
	comp=Z,5.8nm,1.3s						
ILAR	**Eielson Array**	**78.58**	**26**	P	**P**	**21 13 36.1**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=280,slow=3.7,SNR=4.2 comp=Z,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**78.98**	**339**	P	**P**	**21 13 38.4**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=67,slow=7.1,SNR=10.0 comp=Z,1.6nm,0.5s						
I26K	**Coal Creek Min**	**80.05**	**25**	P	**P**	**21 13 44.2**	**+0.2**
I26K				IAmb	IAmb	21 14 21.5	
	comp=Z,9.6nm,1.4s						
E27K	**Coleen River**	**80.07**	**22**	P	**P**	**21 13 45.6**	**+1.5**
E27K				IAmb	IAmb	21 13 54.2	
	comp=Z,6.0nm,1.4s						
FINES	**FINESS Array B**	**80.20**	**331**	P	**P**	**21 13 44.5**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=66,slow=7.8,SNR=5.9 comp=Z,2.9nm,0.9s						
AKASG	**Malin Array Be**	**80.41**	**320**	P	**P**	**21 13 45.4**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=64,slow=1.6,SNR=1.5 comp=Z,1.0nm,0.3s						
E28M	**Babbage River**	**80.72**	**22**	P	**P**	**21 13 49.3**	**+1.8**
F28M	**Old Crow**	**80.83**	**23**	P	**P**	**21 13 49.4**	**+1.2**
I28M	**Miner Creek**	**81.33**	**25**	P	**P**	**21 13 51.6**	**+0.7**
I28M				IAmb	IAmb	21 13 59.9	
	comp=Z,9.0nm,1.4s						
E29M	**Blow River**	**81.36**	**22**	P	**P**	**21 13 51.5**	**+0.6**
G29M	**Pine Creek**	**81.71**	**23**	P	**P**	**21 13 54.1**	**+1.3**
G29M				IAmb	IAmb	21 14 28.6	
	comp=Z,6.2nm,1.2s						
H29M	**Whitestone**	**81.76**	**24**	P	**P**	**21 13 54.1**	**+1.0**
H29M				IAmb	IAmb	21 13 55.9	
	comp=Z,4.0nm,0.8s						
HFS	**Hagfors**	**86.39**	**331**	P	**P**	**21 14 16.8**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=82,slow=2.0,SNR=0.9 comp=Z,2.5nm,0.8s						
NOA	**NORSAR Array B**	**87.17**	**333**	P	**P**	**21 14 19.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=68,slow=4.7,SNR=1.8 comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**94.17**	**172**	P	**P**	**21 14 52.6**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=317,slow=7.6,SNR=5.5 comp=Z,0.5nm,0.8s						

IDC 29 21:10:15.7±1.5, 1°.44S×128°.42E, h0km, mb3.3/3, mbtmp3.2/4, ML3.1/1, MS3.6/1, Error ellipse: s-maj=91.1km s-min=26.8km az=74.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.28**	**163**	P	P	21 14 41.2	-1.0
	0.1nm,0.3s,baz=342,slow=11,SNR=1.1 0.1nm,0.5s						
ASAR	**Alice Springs**	**22.73**	**167**	P	P	21 15 20.0	+0.5
	0.5nm,0.5s,baz=340,slow=10,SNR=8.4						
ASAR				LR	LR	21 24 23.5	
	comp=Z,143nm,19.0s,baz=157,slow=37 0.5nm,0.5s						
MKAR	**Makanchi Array**	**62.74**	**326**	P	P	21 20 42.9	+0.1
	0.3nm,0.8s,baz=141,slow=4.8,SNR=2.5 0.3nm,0.8s						
ILAR	**Eielson Array**	**89.02**	**25**	P	P	21 23 12.3	0.0
	0.2nm,0.5s,baz=269,slow=5.6,SNR=1.9 0.2nm,0.5s						

*EAF **29** 21:14:44.1, 24°.78S×33°.00E, h10km, MC3.6*
*BUL **29** 21:14:44.0±1.2, 24°.14S×33°.64E, h10km, MD3.8*
*PRE **29** 21:14:49.1±0.7, 24°.94S×32°.68E, h5km, ML2.6*
ISC 29 21:14:48.0±1.7, 24°.71S±0°.04×32°.45E±0°.10, h10km, n15, σ2°.28/30, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**1.52**	**321**	*i* P	**Pb**	**21 15 16.1**	**-0.2**
MOPA				*i* S	**Sg**	**21 15 37.4**	**+0.3**
MOPA	**Mopani**	**1.52**	**321**	*i* P	**Pb**	**21 15 16.1**	**-0.2**
	baz=310						
MOPA				*i* S	**Sg**	**21 15 37.4**	**+0.3**
	baz=310						
HAGI	**HAGI**	**1.81**	**219**	*e*P	**Pb**	**21 15 20.6**	**-0.7**
HAGI				*e*S	**Sb**	**21 15 43.8**	**-0.3**
HAGI				IAML		21 15 52.2	
	comp=Z,161nm,0.4s						
CRLN	**Carolina, Mapu**	**2.54**	**239**	*e*P	**Pb**	**21 15 33.0**	**-0.9**
CRLN				*e*S	**Sb**	**21 16 05.1**	**-0.2**
CRLN				IAML		21 16 18.2	
	comp=Z,22nm,0.5s						
POGA	**Pongola**	**2.71**	**194**	*e*P	**Pn**	**21 15 31.9**	**+0.3**
POGA				*e*S	**Sn**	**21 16 03.0**	**-1.6**
POGA				IAML		21 16 18.0	
	comp=Z,5.9nm,0.7s						
MUSN	**Musina, Limpop**	**3.38**	**315**	*i* P	**Pn**	**21 15 43.4**	**+2.4**
MUSN				*i* S	**Sb**	**21 16 28.2**	**-1.1**
MUSN	**Musina, Limpop**	**3.38**	**315**	*i* P	**Pn**	**21 15 43.4**	**+2.4**
	baz=310						
MUSN				*i* S	**Sb**	**21 16 28.2**	**-1.1**
	baz=310						
LEPH	**Lephalale, Lim**	**4.33**	**280**	*e*P	**Pb**	**21 16 00.5**	**-3.8**
LEPH				*e*S	**Sb**	**21 16 52.0**	**-4.6**
LEPH				IAML		21 17 15.6	
	comp=Z,37nm,0.5s						
PRYS	**Parys**	**5.09**	**243**	*e*P	**Pn**	**21 16 07.8**	**+3.3**
PRYS				*e*S	**Sn**	**21 17 06.3**	**+2.9**
PRYS				IAML		21 18 06.1	
	comp=Z,11nm,0.5s						
SNKL	**Senekal, Frees**	**5.50**	**229**	*e*P	**Pn**	**21 16 13.0**	**+2.9**
SNKL				*e*S	**Sn**	**21 17 14.6**	**+1.1**
SNKL				IAML		21 17 58.9	
	comp=Z,22nm,0.5s						
MATP	**Matopo**	**5.61**	**319**	*i* P	**Pn**	**21 16 11.9**	**+0.3**
MATP				*i* S	**Sn**	**21 17 17.5**	**+1.3**
MATP	**Matopo**	**5.61**	**319**	*i* P	**Pn**	**21 16 11.9**	**+0.3**
	baz=315						
MATP				*i* S	**Sn**	**21 17 17.5**	**+1.3**
	baz=315						
KSTD	**Kokstad**	**6.51**	**205**	*e*P	**Pn**	**21 16 25.1**	**+1.0**
KSTD				*e*S	**Sn**	**21 17 35.5**	**-3.0**
KSTD				IAML		21 17 42.6	
	comp=Z,19nm,0.4s						
SWZ	**Schweizer**	**6.87**	**247**	*e*P	**Pn**	**21 16 33.1**	**+4.2**
SWZ				*e*S	**Sn**	**21 17 48.3**	**+1.1**
SWZ				IAML		21 18 33.5	
	comp=Z,7.6nm,0.5s						
BRAK	**Brakfontein**	**10.98**	**228**	*e*P	**Pn**	**21 17 29.5**	**+4.3**
BRAK				*e*S	**Sn**	**21 19 25.3**	**-2.9**
BRAK				IAML		21 19 44.0	
	comp=Z,2.5nm,0.5s						

IDC 29 21:36:47.1±2.1, 5°.83N×127°.22E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=195.1km s-min=28.5km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.55**	**165**	P	P	21 42 27.0	0.0
	0.4nm,1.0s,baz=345,slow=10,SNR=1.6 0.4nm,1.0s						
MKAR	**Makanchi Array**	**56.13**	**324**	P	P	21 46 28.6	+0.1
	1.0nm,0.5s,baz=119,slow=8.3,SNR=13 1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**58.96**	**332**	P	P	21 46 47.5	-0.8
	0.5nm,0.4s,baz=115,slow=7.0,SNR=2.6 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**60.25**	**327**	P	P	21 46 57.4	+0.1
	1.2nm,0.5s,baz=127,slow=6.6,SNR=24 1.2nm,0.5s						
BVAR	**Borovoye Array**	**65.84**	**326**	P	P	21 47 34.6	+0.2
	1.4nm,0.5s,baz=128,slow=7.6,SNR=6.6 1.4nm,0.5s						

*IDC **29** 21:48:16.1±1.0, 39°.45S×77°.91E, h0km, mb3.8/10, mbtmp3.8/10, MS3.9/1, Error ellipse: s-maj=38.0km s-min=19.8km az=105.0*
*NEIC **29** 21:48:17.3±1.1, 39°.36S±0°.10×77°.8E±0°.3, h10km±1km, mb4.5/14, Error ellipse: s-maj=33.7km s-min=16.1km az=269.0*
*NEIC **29** 21:48:17.1±0.8, 39°.40S±0°.06×77°.8E±0°.3, h10km±1km, mb4.6/9, Error ellipse: s-maj=33.9km s-min=10.5km az=266.0*
ISC 29 21:48:17.4±0.6, 39°.38S±0°.08×78°.0E±0°.2, h10km, n53, σ0°.67/41, mb4.2/18, 4C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**1.61**	**349**	Pn	**Pn**	**21 48 44.8**	**-1.0**
AIS	**Amsterdam Isla**	**1.61**	**349**	Pn	**Pn**	**21 48 45.2**	**-0.6**
H04N2	**CROZET ISLANDS**	**20.31**	**242**	T	T	22 14 01.8	
	baz=80,slow=75,SNR=225						
H04N1	**CROZET ISLANDS**	**20.33**	**242**	T	T	22 14 03.8	
	baz=80,slow=75,SNR=188						
H04N3	**CROZET ISLANDS**	**20.33**	**242**	T	T	22 13 57.6	
	baz=80,slow=75,SNR=221						
H04S1	**CROZET ISLANDS**	**20.37**	**240**	T	T	22 14 08.2	
	baz=82,slow=76,SNR=11						
H04S2	**CROZET ISLANDS**	**20.38**	**240**	T	T	22 14 09.9	
	baz=82,slow=76,SNR=6.3						
H04S3	**CROZET ISLANDS**	**20.38**	**240**	T	T	22 14 06.1	
	baz=82,slow=76,SNR=9.0						
H01W2	**Cape Leeuwin H**	**29.05**	**93**	T	T	22 24 25.5	
	baz=250,slow=74,SNR=144						
H01W3	**Cape Leeuwin H**	**29.06**	**93**	T	T	22 24 25.8	
	baz=250,slow=74,SNR=108						
H01W1	**Cape Leeuwin H**	**29.07**	**93**	T	T	22 24 19.3	
	baz=250,slow=74,SNR=86						
MAW	**Mawson**	**29.50**	**192**	P	**P**

QSPA	**South Pole Qui**	**50.78**	**180**	P	**P**	**21 57 17.4**	**-0.3**
QSPA				IAmb	IAmb	21 57 18.8	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**50.78**	**180**	P	**P**	**21 57 17.1**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=300,slow=4.3,SNR=5.6						
	comp=Z,2.9nm,0.9s						
TAU	**Tasmania Unive**	**50.99**	**118**	P	**P**	**21 57 19.1**	**-0.2**
WRA	**Warramunga Arr**	**51.83**	**85**	P	**P**	**21 57 25.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=234,slow=7.4,SNR=8.1						
	comp=Z,0.7nm,0.5s						
WB2	**Warramunga Arr**	**51.84**	**85**	P	**P**	**21 57 26.3**	**+0.3**
WB2				IAmb	IAmb	21 57 39.9	
	comp=Z,7.6nm,1.3s						
VNA2	**Neumayer--Watz**	**51.88**	**205**	⇑P	**P**	**21 57 26.0**	**+0.5**
	baz=100,slow=8.0						
WB0	**Warramunga Arr**	**51.97**	**85**	P	**P**	**21 57 26.8**	**-0.2**
WB0				IAmb	IAmb	21 57 40.7	
	comp=Z,11nm,1.3s						
WR0	**Warramunga Arr**	**51.98**	**85**	P	**P**	**21 57 27.0**	**+0.1**
WR0				IAmb	IAmb	21 57 27.9	
	comp=Z,11nm,1.4s						
VNA1	**Neumayer--Stat**	**52.21**	**205**	⇑P	**P**	**21 57 28.6**	**+0.6**
VNA3	**Neumayer Olymp**	**52.54**	**204**	⇑P	**P**	**21 57 31.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**60.79**	**23**	P	**P**	**21 58 29.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=208,slow=5.1,SNR=2.1						
	comp=Z,0.4nm,0.3s						
COEN	**Coen**	**62.17**	**85**	P	**P**	**21 58 38.6**	**-0.6**
KBL	**Kabul**	**74.01**	**352**	P	**P**	**21 59 53.7**	**+0.4**
KBL				IAmb	IAmb	21 59 56.8	
	comp=Z,3.1nm,0.8s						
BTK	**Batken**	**79.33**	**354**	P	**P**	**22 00 22.4**	**-0.6**
BTK	**Batken**	**79.33**	**354**	P	**P**	**22 00 23.0**	**-0.1**
BTK				IAmb	IAmb	22 00 29.3	
	comp=Z,14nm,1.2s						
ARSB	**Arslanbob**	**80.45**	**356**	P	**P**	**22 00 29.7**	**+0.5**
ARSB	**Arslanbob**	**80.45**	**356**	P	**P**	**22 00 28.8**	**-0.4**
ARSB				IAmb	IAmb	22 00 31.5	
	comp=Z,2.5nm,1.3s						
NRN	**Naryn**	**80.45**	**359**	P	**P**	**22 00 29.4**	**-0.1**
KK03	**Karatay Array**	**82.38**	**354**	P	**P**	**22 00 40.2**	**+1.0**
KK31	**Karatay Array**	**82.38**	**355**	P	**P**	**22 00 37.6**	**-1.6**
KK31				IAmb	IAmb	22 00 41.8	
	comp=Z,5.6nm,1.4s						
KKAR	**Karatay Array**	**82.38**	**355**	P	**P**	**22 00 38.8**	**-0.5**
KKAR				IAmb	IAmb	22 00 41.8	
	comp=Z,5.6nm,1.4s						
KK05	**Karatay Array**	**82.39**	**355**	P	**P**	**22 00 38.6**	**-0.6**
KK09	**Karatay Array**	**82.40**	**354**	P	**P**	**22 00 39.1**	**-0.3**
MK08	**Makanchi Array**	**85.84**	**3**	P	**P**	**22 00 56.2**	**-0.6**
MKAR	**Makanchi Array**	**85.88**	**3**	P	**P**	**22 00 57.0**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=167,slow=6.1,SNR=5.6						
	comp=Z,0.9nm,0.9s						
KURBB	**Kurchatov Arra**	**89.62**	**0**	P	**P**	**22 01 15.5**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=200,slow=5.5,SNR=3.2						
	comp=Z,0.4nm,0.9s						
SONM	**Songino Array**	**90.44**	**19**	P	**P**	**22 01 20.5**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=220,slow=3.8,SNR=2.0						
	comp=Z,0.2nm,0.4s						

*JMA **29** 21:50:43.9±0.1,24°.0N±0°.4×12°1E±1°, h34km±3km,*
MV3.7/15, TAIWAN REGION
*TAP **29** 21:50:43.1,23°.97N×121°.12E, h36km, ML4.2, B*
ISC 29 21:50:44.4±1.2,23°.97N±0°.02×121°.13E±0°.02,h35km,n142,
σ0.95/257,17C-19D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WUSB	**Renai**	**0.03**	**329**	⇓	*i*	P	**Pn**	**21 50 49.5**	**-0.9**
	baz=352								
WUSB					*i*	S	**Sn**	**21 50 53.9**	**-0.6**
	baz=352								
OWD	**Renai**	**0.04**	**111**	⇓	*i*	P	**Pn**	**21 50 49.5**	**-0.9**
	baz=108								
OWD					*i*	S	**Sn**	**21 50 53.6**	**-0.9**
	baz=108								
CHGB	**Renai**	**0.10**	**23**	⇓	*i*	P	**Pn**	**21 50 49.9**	**-0.9**
	baz=29								
CHGB						S	**Sn**	**21 50 54.6**	**-0.5**
	baz=29								
WPL	**Puli Township**	**0.17**	**285**	⇑	*i*	P	**Pn**	**21 50 50.1**	**-0.8**
	baz=285								
WPL						S	**Sn**	**21 50 54.9**	**-0.5**
	baz=285								
DPDB	**Guoxing**	**0.20**	**289**	⇑	*i*	P	**Pn**	**21 50 50.5**	**-0.8**
	baz=296								
DPDB						S	**Sn**	**21 50 55.9**	**-0.1**
	baz=296								
WHF	**Hehuan Shan**	**0.21**	**35**	⇓	*i*	P	**Pn**	**21 50 51.2**	**-0.7**
	baz=33								
WHF					*i*	S	**Sn**	**21 50 56.5**	**-0.5**
	baz=33								
VWDT	**VWDT**	**0.21**	**178**	⇓	*i*	P	**Pn**	**21 50 50.9**	**-0.5**
	baz=175								
VWDT					*i*	S	**Sn**	**21 50 56.0**	**-0.1**
	baz=175								
WCS	**Beigang Elemen**	**0.22**	**293**	⇑	*i*	P	**Pn**	**21 50 50.7**	**-0.8**
	baz=300								
WCS					*i*	S	**Sn**	**21 50 55.8**	**-0.4**
	baz=300								
SMLT	**Sun Moon Lake**	**0.23**	**248**	⇑	*i*	P	**Pn**	**21 50 50.8**	**-0.9**
	baz=239								
SMLT					*i*	S	**Sn**	**21 50 56.1**	**-0.5**
	baz=239								
SSLB	**Suanglung**	**0.24**	**222**			P	**Pn**	**21 50 50.6**	**-1.1**
SSLB	**Suanglung**	**0.24**	**222**	⇑	*i*	P	**Pn**	**21 50 50.7**	**-1.1**
	baz=226								
SSLB					*i*	S	**Sn**	**21 50 55.9**	**-0.9**
	baz=226								
TYC	**Yuchr**	**0.26**	**255**	⇑	*i*	P	**Pn**	**21 50 50.9**	**-0.9**
	baz=249								
TYC					*i*	S	**Sn**	**21 50 56.4**	**-0.5**
	baz=249								
LXIB	**Xiulin Townshi**	**0.26**	**79**	⇓		P	**Pn**	**21 50 51.0**	**-1.1**
	baz=84								
LXIB					*e*	S	**Sn**	**21 50 57.4**	**+0.1**
	baz=84								
TDCB	**Techi**	**0.28**	**5**	⇑		P	**Pn**	**21 50 51.2**	**-1.1**
	baz=2.0								
TDCB					*e*	S	**Sn**	**21 50 56.9**	**-0.8**
	baz=2.0								
TWT	**Tachien**	**0.28**	**8**	⇑	*i*	P	**Pn**	**21 50 51.3**	**-1.1**
	baz=3.0								
TWT					*i*	S	**Sn**	**21 50 57.1**	**-0.7**
	baz=3.0								
ESL	**Shilin**	**0.32**	**119**	⇓	*i*	P	**Pn**	**21 50 51.6**	**-1.0**
	baz=113								
ESL						S	**Sn**	**21 50 57.6**	**-0.6**
	baz=113								
ETM	**Tongmen**	**0.33**	**91**	⇓	*i*	P	**Pn**	**21 50 51.7**	**-1.0**
	baz=95								
ETM					*e*	S	**Sn**	**21 50 59.1**	**+0.6**
	baz=95								
WARBT	**Fenglin Townsh**	**0.34**	**137**	⇓	*i*	P	**Pn**	**21 50 51.7**	**-1.2**
	baz=131								
WARBT						S	**Sn**	**21 50 57.6**	**-1.1**
	baz=131								
WHP	**Taichung City**	**0.35**	**331**	⇑	*i*	P	**Pn**	**21 50 52.3**	**-0.8**
	baz=336								
WHP					*i*	S	**Sn**	**21 50 58.9**	**-0.2**
	baz=336								
WHYT	**Xinyi Township**	**0.37**	**223**	⇑	*i*	P	**Pn**	**21 50 52.5**	**-0.8**
	baz=222								
WHYT						S	**Sn**	**21 50 59.2**	**-0.2**
	baz=222								
ETLH	**Xiulin Townshi**	**0.40**	**54**		*e*	P	**Pn**	**21 50 52.5**	**-1.2**
	baz=45								
ETLH					*e*	S	**Sn**	**21 50 59.2**	**-0.9**
	baz=45								
WJS	**Zhushan**	**0.40**	**248**	⇑	*i*	P	**Pn**	**21 50 52.9**	**-0.8**
	baz=249								
WJS					*i*	S	**Sn**	**21 51 00.3**	**+0.3**
	baz=249								
EGFH	**Guangfu**	**0.40**	**138**		*e*	P	**Pn**	**21 50 52.6**	**-1.1**
	baz=133								
EGFH					*e*	S	**Sn**	**21 50 59.2**	**-0.9**
	baz=133								
WNT1	**Nantou City**	**0.42**	**261**	⇑	*i*	P	**Pn**	**21 50 53.4**	**-0.5**
	baz=262								
WNT1					*i*	S	**Sn**	**21 51 01.1**	**+0.7**
	baz=262								
WNT	**Mingjian**	**0.42**	**258**	⇑		P	**Pn**	**21 50 53.3**	**-0.6**
	baz=258								
WNT						S	**Sn**	**21 51 01.0**	**+0.5**
	baz=258								
HWA	**Hwalien**	**0.43**	**89**	⇓	*i*	P	**Pn**	**21 50 53.6**	**-0.5**
	baz=92								
HWA					*i*	S	**Sn**	**21 51 01.2**	**+0.4**
	baz=92								
TWD	**Chiawan**	**0.44**	**75**	⇓	*i*	P	**Pn**	**21 50 53.2**	**-1.0**
	baz=75								
TWD						S	**Sn**	**21 51 00.2**	**-0.8**
	baz=75								
TCU	**Taichung**	**0.45**	**293**		*e*	P	**Pn**	**21 50 53.8**	**-0.7**
	baz=293								
TCU					*e*	S	**Sn**	**21 51 01.3**	**0.0**
	baz=293								
TEGC	**Jichi Village**	**0.46**	**125**		*e*	P	**Pn**	**21 50 53.2**	**-1.2**
	baz=128								
NACB	**Ninganchiao**	**0.47**	**64**			P	**Pn**	**21 50 53.5**	**-1.2**
NACB	**Ninganchiao**	**0.47**	**64**	⇓		P	**Pn**	**21 50 53.5**	**-1.2**
	baz=65								
NACB						S	**Sn**	**21 51 00.7**	**-1.1**
	baz=65								
ETL	**Fush Village**	**0.49**	**67**			P	**Pn**	**21 50 53.9**	**-1.0**
	baz=67								
ETL					*e*	S	**Sn**	**21 51 02.5**	**+0.3**
	baz=67								
EHY	**Hungye**	**0.49**	**159**			P	**Pn**	**21 50 54.1**	**-0.9**
	baz=155								
EHY						S	**Sn**	**21 51 01.2**	**-1.2**
	baz=155								
TWQ1	**Liyutan**	**0.50**	**319**	⇑	*i*	P	**Pn**	**21 50 54.5**	**-0.6**
	baz=320								
TWQ1					*i*	S	**Sn**	**21 51 02.8**	**+0.3**
	baz=320								
WYL	**Yuanlin Townsh**	**0.51**	**269**		*e*	P	**Pn**	**21 50 54.5**	**-0.6**
	baz=261								
WYL					*e*	S	**Sn**	**21 51 03.4**	**+0.8**
	baz=261								
NNSB	**Datong**	**0.51**	**27**			P	**Pn**	**21 50 54.5**	**-0.9**
	baz=28								
NNSB						S	**Sn**	**21 51 01.8**	**-1.2**
	baz=28								
NNSH	**Datong**	**0.51**	**27**			P	**Pn**	**21 50 54.5**	**-0.8**
	baz=27								
NNSH						S	**Sn**	**21 51 01.8**	**-1.2**
	baz=27								
NNS	**Nan Shan**	**0.52**	**25**			P	**Pn**	**21 50 54.6**	**-0.8**
	baz=27								
NNS						S	**Sn**	**21 51 02.2**	**-1.0**
	baz=27								
WCHH	**Zhanghua**	**0.54**	**282**		*e*	P	**Pn**	**21 50 54.9**	**-0.7**
	baz=281								
WCHH					*e*	S	**Sn**	**21 51 04.0**	**+0.7**
	baz=281								
HGSD	**Ruisui**	**0.55**	**151**		*e*	P	**Pn**	**21 50 55.1**	**-0.6**
	baz=150								
HGSD					*e*	S	**Sn**	**21 51 04.5**	**+0.9**
	baz=150								
ALS	**Alishan**	**0.55**	**213**	⇓		P	**Pn**	**21 50 55.1**	**-0.9**
	baz=212								
ALS					*e*	S	**Sn**	**21 51 03.6**	**-0.4**
	baz=212								
CHN5	**Tsauling**	**0.56**	**228**	⇓	*i*	P	**Pn**	**21 50 55.0**	**-1.0**
	baz=228								
CHN5					*i*	S	**Sn**	**21 51 03.7**	**-0.3**
	baz=228								
NSY	**Sanyi**	**0.56**	**323**	⇑		P	**Pn**	**21 50 55.5**	**-0.5**
	baz=324								
NSY					*e*	S	**Sn**	**21 51 04.8**	**+0.8**
	baz=324								
WDJ	**Dajia District**	**0.59**	**310**		*e*	P	**Pn**	**21 50 55.8**	**-0.5**
	baz=311								
WDJ					*e*	S	**Sn**	**21 51 05.8**	**+1.2**
	baz=311								
YULB	**Yu-li**	**0.59**	**165**			P	**Pn**	**21 50 55.4**	**-1.1**
YULB	**Yu-li**	**0.59**	**165**	⇓		P	**Pn**	**21 50 55.3**	**-1.1**
	baz=164								
YULB					*e*	S	**Sn**	**21 51 03.2**	**-1.6**
	baz=164								
WDLH	**Douliu**	**0.61**	**243**		*e*	P	**Pn**	**21 50 56.1**	**-0.5**
	baz=234								
WDLH					*e*	S	**Sn**	**21 51 06.3**	**+1.1**
	baz=234								
TWF1	**Yuli**	**0.63**	**166**			P	**Pn**	**21 50 56.1**	**-0.9**
	baz=165								
TWF1						S	**Sn**	**21 51 04.3**	**-1.6**
	baz=165								
EYUL	**Yuli**	**0.64**	**164**		*e*	P	**Pn**	**21 50 56.1**	**-1.0**
	baz=154								
EYUL					*e*	S	**Sn**	**21 51 05.2**	**-0.8**
	baz=154								
NFF	**Wufeng Townshi**	**0.66**	**359**		*e*	P	**Pn**	**21 50 57.0**	**-0.3**
	baz=360								
NFF						S	**Sn**	**21 51 06.4**	**-0.1**
	baz=360								
LATG	**Datong**	**0.67**	**33**			P	**Pn**	**21 50 56.8**	**-0.7**
	baz=33								
LATG					*e*	S	**Sn**	**21 51 06.4**	**-0.4**
	baz=33								
NSTT	**Nanjuang**	**0.67**	**350**		*e*	P	**Pn**	**21 50 56.8**	**-0.6**
	baz=351								
NSTT					*e*	S	**Sn**	**21 51 06.9**	**+0.2**
	baz=351								
LIOB	**Emei**	**0.68**	**351**		*e*	P	**Pn**	**21 50 57.0**	**-0.6**
	baz=352								
LIOB					*e*	S	**Sn**	**21 51 06.9**	**-0.2**
	baz=352								
WRL	**Guolierlin Hig**	**0.69**	**265**			P	**Pn**	**21 50 54.5**	**-3.3**
	baz=265								
WRL						S	**Sn**	**21 51 05.4**	**-1.9**
	baz=265								
ECBN	**Changbin**	**0.71**	**156**		*e*	P	**Pn**	**21 50 57.8**	**-0.3**
	baz=155								
ECBN					*e*	S	**Sn**	**21 51 09.2**	**+1.4**
	baz=155								
WCKO	**Fanlu**	**0.72**	**223**		*e*	P	**Pn**	**21 50 57.1**	**-0.9**
	baz=222								
WCKO					*e*	S	**Sn**	**21 51 08.0**	**+0.1**
	baz=222								
ENA	**Nanau**	**0.72**	**51**			P	**Pn**	**21 50 57.4**	**-0.7**
	baz=43								
ENA					*e*	S	**Sn**	**21 51 08.1**	**+0.2**
	baz=43								
NDT	**Datong Townshi**	**0.72**	**29**		*e*	P	**Pn**	**21 50 58.1**	**0.0**
	baz=22								
NDT					*e*	S	**Sn**	**21 51 07.1**	**-0.9**
	baz=22								
YHNB	**Yeheng**	**0.73**	**18**			P	**Pn**	**21 50 58.1**	**-0.3**
YHNB	**Yeheng**	**0.73**	**18**			P	**Pn**	**21 50 58.1**	**-0.3**
	baz=26								
YHNB						S	**Sn**	**21 51 07.5**	**-0.9**
	baz=26								
NSK	**Sanguang**	**0.73**	**16**	⇑	*i*	P	**Pn**	**21 50 58.1**	**-0.3**
	baz=25								
NSK					*i*	S	**Sn**	**21 51 07.7**	**-0.7**
	baz=25								
WTK	**Tuku**	**0.74**	**248**		*e*	P	**Pn**	**21 50 57.8**	**-0.6**
	baz=248								
WTK					*e*	S	**Sn**	**21 51 09.1**	**+0.8**
	baz=248								
CHN2	**Minshiung**	**0.74**	**234**		*e*	P	**Pn**	**21 50 57.8**	**-0.6**
	baz=234								
CHN2						S	**Sn**	**21 51 09.6**	**+1.1**
	baz=234								
EWUT	**Wuta**	**0.76**	**51**		*e*	P	**Pn**	**21 50 58.1**	**-0.5**
	baz=44								
EWUT					*e*	S	**Sn**	**21 51 08.0**	**-0.8**
	baz=44								
ENTT	**Nioudou**	**0.78**	**31**			P	**Pn**	**21 50 58.6**	**-0.3**
	baz=31								
ENTT						S	**Sn**	**21 51 09.4**	**+0.1**
	baz=31								
FULB	**Fuli**	**0.78**	**169**		*e*	P	**Pn**	**21 50 59.3**	**+0.3**
	baz=160								
FULB					*e*	S	**Sn**	**21 51 10.9**	**+1.4**
	baz=160								
ELDTW	**Lidau**	**0.78**	**188**	⇑	*i*	P	**Pn**	**21 50 58.4**	**-0.7**
	baz=182								
ELDTW					*i*	S	**Sn**	**21 51 09.1**	**-0.6**
	baz=182								
WTCT	**Ta-ch'eng**	**0.79**	**262**			P	**Pn**	**21 50 58.3**	**-0.7**
	baz=263								
WTCT						S	**Sn**	**21 51 10.4**	**+0.9**
	baz=263								
CHN4	**Tsaushan**	**0.79**	**219**			P	**Pn**	**21 50 58.4**	**-0.6**
	baz=219								
CHN4						S	**Sn**	**21 51 11.4**	**+1.8**
	baz=219								
CHY	**Chiayi**	**0.80**	**234**		*e*	P	**Pn**	**21 50 59.0**	**-0.3**
	baz=234								
CHY					*e*	S	**Sn**	**21 51 10.5**	**+0.6**
	baz=234								
TPUB	**Ta-pu**	**0.81**	**215**		*e*	P	**Pn**	**21 50 58.9**	**-0.5**
	baz=215								
TPUB	**Ta-pu**	**0.81**	**215**		*e*	P	**Pn**	**21 50 58.7**	**-0.7**
	baz=215								
TPUB					*e*	S	**Sn**	**21 51 10.3**	**+0.2**
	baz=215								
EHD	**Haiduan**	**0.82**	**175**		*e*	P	**Pn**	**21 50 58.2**	**-1.3**
	baz=175								
EHD					*e*	S	**Sn**	**21 51 09.8**	**-0.7**
	baz=175								
SBCB	**Hsinchu**	**0.83**	**351**		*e*	P	**Pn**	**21 50 58.8**	**-0.9**
	baz=351								
SBCB					*e*	S	**Sn**	**21 51 11.5**	**+0.8**
	baz=351								
HSN	**Hsinchu**	**0.84**	**350**		*e*	P	**Pn**	**21 50 59.9**	**+0.1**
	baz=341								
HSN					*e*	S	**Sn**	**21 51 12.2**	**+1.3**
	baz=341								
NDS	**Dongshan**	**0.85**	**39**		*e*	P	**Pn**	**21 50 59.7**	**-0.2**
	baz=46								
NDS					*e*	S	**Sn**	**21 51 12.1**	**+1.0**
	baz=46								
STYH	**Taoyuan**	**0.86**	**202**		*e*	P	**Pn**	**21 50 59.7**	**-0.3**
	baz=209								
STYH					*e*	S	**Sn**	**21 51 11.4**	**0.0**
	baz=209								
WTP	**Ta-pu**	**0.86**	**213**		*e*	P	**Pn**	**21 50 59.8**	**-0.3**
	baz=213								
WTP					*e*	S	**Sn**	**21 51 12.0**	**+0.5**
	baz=213								
NWLT	**Wulai**	**0.87**	**23**		*e*	P	**Pn**	**21 51 00.3**	**0.0**
	baz=23								
NWLT					*e*	S	**Sn**	**21 51 12.7**	**+0.9**
	baz=23								
FUSB	**Fushanzhiwuyua**	**0.89**	**28**		*e*	P	**Pn**	**21 51 01.0**	**+0.4**
	baz=16								
FUSB					*e*	S	**Sn**	**21 51 12.4**	**+0.1**
	baz=16								
CHKT	**Chengkung**	**0.89**	**166**			P	**Pn**	**21 50 59.8**	**-0.7**
	baz=152								
CHKT						S	**Sn**	**21 51 12.8**	**+0.6**
	baz=152								
TWE	**Neicheng**	**0.89**	**33**	⇓		P	**Pn**	**21 51 00.7**	**+0.2**
	baz=34								
TWE						S	**Sn**	**21 51 12.8**	**+0.6**
	baz=34								
WSF	**Szhu**	**0.90**	**249**			P	**Pn**	**21 51 00.0**	**-0.5**
	baz=249								
WSF						S	**Sn**	**21 51 12.9**	**+0.6**
	baz=249								
TWC	**Suao**	**0.91**	**46**		*e*	P	**Pn**	**21 51 01.0**	**+0.3**
	baz=46								
TWC					*e*	S	**Sn**	**21 51 13.0**	**+0.3**
	baz=46								
TWK	**Hsinying**	**0.92**	**220**	⇓	*i*	P	**Pn**	**21 51 00.5**	**-0.4**
	baz=220								
TWK						S	**Sn**	**21 51 14.2**	**+1.3**
	baz=220								
WSL	**Shuilin Townsh**	**0.94**	**242**		*e*	P	**Pn**	**21 51 01.1**	**-0.1**
	baz=243								
WSL					*e*	S	**Sn**	**21 51 14.6**	**+1.2**
	baz=243								
SNST	**Tainan City**	**0.95**	**218**			P	**Pn**	**21 51 01.1**	**-0.2**
	baz=208								
SNST					*e*	S	**Sn**	**21 51 14.2**	**+0.7**
	baz=208								
CHN1	**Nanshi**	**0.96**	**215**			P	**Pn**	**21 51 01.0**	**-0.4**
	baz=216								
CHN1						S	**Sn**	**21 51 14.8**	**+0.9**
	baz=216								
ICHU	**Yijhu**	**0.99**	**232**			P	**Pn**	**21 51 01.6**	**-0.2**
	baz=233								
ICHU						S	**Sn**	**21 51 16.5**	**+1.9**
	baz=233								
NCUH	**Zhongli**	**0.99**	**3**		*e*	P	**Pn**	**21 51 03.0**	**+1.1**
	baz=3.0								
NCUH					*e*	S	**Sn**	**21 51 16.2**	**+1.5**
	baz=3.0								
NCU	**National Centr**	**1.00**	**3**		*e*	P	**Pn**	**21 51 01.8**	**-0.1**
	baz=4.0								
NCU					*e*	S	**Sn**	**21 51 16.3**	**+1.5**
	baz=4.0								
EDH	**Donghe**	**1.00**	**171**		*e*	P	**Pn**	**21 51 01.5**	**-0.5**
	baz=158								
EDH					*e*	S	**Sn**	**21 51 16.4**	**+1.5**
	baz=158								
SGST	**Jiashian**	**1.02**	**210**	⇓	*i*	P	**Pn**	**21 51 01.0**	**-1.2**
	baz=210								
SGST					*i*	S	**Sn**	**21 51 15.5**	**+0.2**
	baz=210								
CHN8	**Yiju**	**1.05**	**234**	⇓	*i*	P	**Pn**	**21 51 02.2**	**-0.4**
	baz=234								
CHN8					*i*	S	**Sn**	**21 51 17.6**	**+1.6**
	baz=234								
NHDH	**Xindian Distri**	**1.05**	**20**		*e*	P	**Pn**	**21 51 03.4**	**+0.7**
	baz=9.0								
NHDH					*e*	S	**Sn**	**21 51 18.3**	**+2.2**
	baz=9.0								
TATO	**Taipei**	**1.05**	**18**			P	**Pn**	**21 51 03.7**	**+1.0**
LONT	**Longtian**	**1.06**	**180**		*e*	P	**Pn**	**21 51 02.6**	**-0.2**
	baz=180								
LONT					*e*	S	**Sn**	**21 51 16.9**	**+0.6**
	baz=180								
SLGT	**Liugui**	**1.07**	**205**		*e*	P	**Pn**	**21 51 03.1**	**+0.2**
	baz=217								
SLGT					*e*	S	**Sn**	**21 51 18.8**	**+2.2**
	baz=217								
EOS4	**EOS4**	**1.09**	**82**		*e*	P	**Pn**	**21 51 02.5**	**-0.4**
	baz=81								
EOS3	**EOS3**	**1.13**	**74**		*e*	P	**Pn**	**21 51 04.2**	**+0.6**
	baz=83								
CHN3	**Shinhua**	**1.13**	**218**		*e*	P	**Pn**	**21 51 04.0**	**+0.2**
	baz=219								
CHN3					*e*	S	**Sn**	**21 51 20.8**	**+2.7**
	baz=219								
TWG	**Pinlang**	**1.15**	**183**			P	**Pn**	**21 51 03.5**	**-0.4**
	baz=177								
TWG					*e*	S	**Sn**	**21 51 19.0**	**+0.6**
	baz=177								
TWGBT	**Beinan**	**1.15**	**182**		*e*	P	**Pn**	**21 51 03.7**	**-0.4**
	baz=177								
TWGBT					*e*	S	**Sn**	**21 51 18.9**	**+0.4**
	baz=177								
TWS1	**Kuangyinshan**	**1.16**	**13**		*e*	P	**Pn**	**21 51 03.8**	**-0.3**
	baz=358								
TWS1					*e*	S	**Sn**	**21 51 19.4**	**+0.8**
	baz=358								
SCLT	**Jiali**	**1.17**	**228**		*e*	S	**Sn**	**21 51 20.8**	**+1.8**
	baz=216								
SHHT	**Tainan City**	**1.19**	**217**		*e*	P	**Pn**	**21 51 04.7**	**+0.1**
	baz=218								
SHHT					*e*	S	**Sn**	**21 51 21.8**	**+2.3**
	baz=218								
SCST	**Cishan**	**1.23**	**209**		*e*	P	**Pn**	**21 51 05.7**	**+0.6**
	baz=209								
SCST					*e*	S	**Sn**	**21 51 22.1**	**+1.6**
	baz=209				

baz=176
ECL eS Sn 21 51 25.3 +1.2
baz=176
MASBT Mashibuluo 1.43 199 eP Pn 21 51 08.2 +0.3
baz=199
MASBT eS Sn 21 51 26.6 +1.2
baz=199
PNG Penghu 1.50 255 P Pn 21 51 07.4 -1.5
baz=256
PNG eS Sn 21 51 26.5 -0.7
baz=256
PHUB P'eng-hu 1.50 253 eP Pn 21 51 07.4 -1.4
baz=254
PHUB eS Sn 21 51 26.2 -0.9
baz=254
WDGT Dungji 1.52 243 eP Pn 21 51 08.2 -1.0
baz=244
WDGT eS Sn 21 51 27.6 -0.2
baz=244
EAST Anshuo 1.60 189 eP Pn 21 51 11.0 +0.7
baz=188
TAWH Dawu Township 1.64 188 eP Pn 21 51 11.8 +1.0
baz=174
SCZT Fangliau 1.66 197 eP Pn 21 51 11.2 +0.2
baz=211
SCZT eS Sn 21 51 31.9 +0.8
baz=211
VCHM Qimei 1.74 244 eP Pn 21 51 10.8 -1.2
baz=233
VCHM eS Sn 21 51 32.6 -0.4
baz=233
YOJ Yonaguni jima 1.78 74 S Sn 21 51 35.4 +1.2
VWUC VWUC 1.84 304 eP Pn 21 51 11.6 -2.0
baz=305
LYUB Lan-yu 2.00 168 eP Pn 21 51 14.2 -1.6
baz=158
LYUB eS Sn 21 51 38.2 -1.4
baz=158
PTMZ Houxiangcun 2.12 301 eP Pn 21 51 15.4 -1.9
baz=302
IRIF Iriomote-Funau 2.40 81 P Pn 21 51 21.1 -0.1
IRIF eS Sn 21 51 49.6 +0.2
HATJ Hateruma jima 2.45 87 S Sn 21 51 51.0 +0.4
KNM Kinmen 2.50 281 P Pn 21 51 22.7 0.0
baz=281
KNMB Chin-men Tao 2.55 282 eP Pn 21 51 21.5 -1.8
baz=283
JKRS Kuro-shima 2.64 84 P Pn 21 51 25.1 +0.5
JIJ Ishigaki jima 2.78 81 P Pn 21 51 26.2 -0.2
JIJ S Sn 21 51 57.9 -0.9
MHZQ Yeshan 2.85 318 eP Pn 21 51 26.2 -1.2
baz=320
JISG Ishigakijimahi 2.96 77 P Pn 21 51 28.9 -0.1
JISG S Sn 21 52 02.8 -0.6
JTJ Tarama 3.33 78 P Pn 21 51 34.4 +0.4
JTJ S Sn 21 52 12.6 +0.4
JMJ2 Miyako jima3 3.90 78 P Pn 21 51 43.2 +1.3
JMJ2 S Sn 21 52 27.3 +0.8
SXFK Yanhouchang 3.98 308 eP Pn 21 51 41.3 -1.7
baz=309

*IDC **29** 22:06:39.7±0.8, 39°.28S×77°.94E, h0km, mb4.2/11, mbtmp4.2/11, MS4.1/32, Error ellipse: s-maj=29.2km s-min=19.2km az=100.0*
*NEIC **29** 22:06:41.6±1.9, 39°.24S±0°.07×78°.2E±0°.2, h10km±1km, mb4.7/18, Error ellipse: s-maj=22.5km s-min=11.3km az=253.0*
*GCMT **29** 22:06:44.6±0.3, 39°.42S±0°.04×78°.10E±0°.04, h17km±1km, MW4.9/73, Moment Tensor Solution. s17,c19; s73,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.54±.22; $M_{\theta\theta}$0.84±.13; $M_{\phi\phi}$1.70±.14; $M_{r\theta}$1.08±.44; $M_{\theta\phi}$-0.89±.08; $M_{r\phi}$0.25±.37; Best double couple: $M_0$2.59900×10^{16} NP1:ϕ_s309.00000°, δ52.00000°, λ-113.00000°. NP2: ϕ_s164.00000°, δ43.00000°, λ-63.00000°. Principal axes: T 2.2890, Plg5.0000°, Azm55.0000°; N 0.6170, Plg18.0000°, Azm324.0000°; P -2.9090, Plg71.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 22:06:41.2±0.5, 39°.27S±0°.08×78°.2E±0°.1, h10km, n70, σ1$02/34, mb4.4/20, MS4.2/33, 4C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**1.55**	**341**		**Pn**	**22 07 08.9**	**+0.2**
H04N2	**CROZET ISLANDS**	**20.53**	**242**	T	T	22 32 26.8	
baz=80, slow=75, SNR=2562							
H04N1	**CROZET ISLANDS**	**20.54**	**242**	T	T	22 32 26.8	
baz=80, slow=75, SNR=1594							
H04N3	**CROZET ISLANDS**	**20.54**	**242**	T	T	22 32 25.6	
baz=80, slow=75, SNR=2373							
H04S1	**CROZET ISLANDS**	**20.58**	**240**	T	T	22 32 29.4	
baz=82, slow=74, SNR=20							
H04S2	**CROZET ISLANDS**	**20.60**	**240**	T	T	22 32 27.3	
baz=82							
H04S3	**CROZET ISLANDS**	**20.60**	**240**	T	T	22 32 28.2	
baz=82, slow=74, SNR=25							
H01W2	**Cape Leeuwin H**	**28.88**	**93**	T	T	22 42 52.5	
baz=250, slow=74, SNR=694							
H01W3	**Cape Leeuwin H**	**28.88**	**93**	T	T	22 42 52.1	
baz=250, slow=74, SNR=641							
H01W1	**Cape Leeuwin H**	**28.89**	**93**	T	T	22 42 52.1	
baz=250, slow=74, SNR=606							
MAW	**Mawson**	**29.64**	**192**	P	**P**	**22 12 46.0**	**-0.4**
MAW	**Mawson**	**29.64**	**192**	P	**P**	**22 12 45.2**	**-1.2**
6.4nm,1.2s, baz=20, slow=11, SNR=8.0							
MAW				LR	LR	22 22 07.5	
comp=Z,338nm,19.4s, baz=22, slow=31							
6.4nm,1.2s							
H08S2	**Diego Garcia H**	**31.90**	**349**	T	T	22 46 44.7	
baz=172, slow=76, SNR=11							
H08S1	**Diego Garcia H**	**31.90**	**349**	T	T	22 46 41.6	
baz=172, slow=76, SNR=8.6							
H08S3	**Diego Garcia H**	**31.92**	**349**	T	T	22 46 42.7	
baz=172, slow=76, SNR=22							
NWAO	**Narrogin (SRO)**	**31.99**	**91**	LR	LR	22 23 32.6	
comp=Z,407nm,21.9s, baz=230, slow=32							
CASY	**Casey**	**32.67**	**156**	P	**P**	**22 13 14.0**	**+1.0**
MORW	**Morawa**	**32.72**	**84**	P	**P**	**22 13 13.1**	**-0.8**
MORW				IAmb	IAmb	22 13 48.0	
comp=Z,20nm,1.2s							
LEM	**Lembang**	**41.76**	**47**	LR	LR	22 28 33.5	
comp=Z,436nm,19.5s, baz=221, slow=31							
BOSA	**Boshof**	**44.63**	**267**	LR	LR	22 29 49.2	
comp=Z,263nm,19.3s, baz=160, slow=31							
PALK	**Pallekele**	**46.36**	**3**	LR	LR	22 30 57.9	
comp=Z,332nm,19.0s, baz=259, slow=31							
SUR	**Sutherland**	**46.37**	**260**	LR	LR	22 30 05.8	
comp=Z,184nm,20.5s, baz=123, slow=30							
TROLL	**Troll, Antarti**	**48.79**	**204**	⇑P	**P**	**22 15 26.0**	**0.0**
comp=Z,145nm,0.9s							
ASAR	**Alice Springs**	**49.26**	**89**	P	**P**	**22 15 31.9**	**+1.8**
comp=Z,2.9nm,1.2s, baz=226, slow=8.5, SNR=6.1							
ASAR				LR	LR	22 34 16.4	
comp=Z,386nm,18.1s, baz=190, slow=34							
comp=Z,2.9nm,1.2s							
BATI	**Baumata**	**49.69**	**67**	LR	LR	22 34 22.3	
comp=Z,382nm,19.4s, baz=254, slow=33							
LSZ	**Lusaka**	**49.72**	**284**	P	**P**	**22 15 33.6**	**-0.3**
LSZ				IAmb	IAmb	22 15 36.5	
comp=Z,10nm,1.3s							
LSZ	**Lusaka**	**49.72**	**284**	LR	LR	22 32 58.6	
comp=Z,159nm,21.7s, baz=146, slow=32							
VNDA	**Vanda**	**50.66**	**164**	P	**P**	**22 15 41.0**	**+0.9**
VNDA				IAmb	IAmb	22 15 41.8	
comp=Z,8.1nm,1.4s							
VNDA	**Vanda**	**50.66**	**164**	P	**P**	**22 15 40.7**	**+0.7**
comp=Z,2.9nm,1.1s, baz=267, slow=8.3, SNR=11							
VNDA				LR	LR	22 35 35.9	
comp=Z,166nm,18.4s, baz=289, slow=34							
comp=Z,2.9nm,1.1s							
KAPI	**Kappang**	**50.69**	**59**	LR	LR	22 34 01.0	
comp=Z,173nm,20.3s, baz=203, slow=32							
QSPA	**South Pole Qui**	**50.89**	**180**	P	**P**	**22 15 42.7**	**+0.5**
QSPA				IAmb	IAmb	22 15 46.6	
comp=Z,15nm,1.2s							
QSPA	**South Pole Qui**	**50.89**	**180**	P	**P**	**22 15 42.1**	**-0.1**
comp=Z,7.7nm,1.1s, baz=285, slow=5.8, SNR=12							
QSPA				LR	LR	22 35 48.4	
comp=Z,349nm,18.8s, baz=299, slow=34							
comp=Z,7.7nm,1.1s							
STKA	**Stephens Creek**	**51.17**	**102**	P	**P**	**22 15 43.0**	**-1.5**
STKA	**Stephens Creek**	**51.17**	**102**	LR	LR	22 32 06.2	
comp=Z,325nm,21.8s, baz=210, slow=30							
WRA	**Warramunga Arr**	**51.64**	**85**	P	**P**	**22 15 50.1**	**+1.9**
comp=Z,4.3nm,1.1s, baz=234, slow=7.1, SNR=9.5							
comp=Z,4.3nm,1.1s							
SBA	**Scott Base**	**51.67**	**164**	P	**P**	**22 15 48.5**	**+0.9**
SBA				IAmb	IAmb	22 15 52.6	
comp=Z,9.9nm,1.4s							
WB0	**Warramunga Arr**	**51.78**	**85**	P	**P**	**22 15 49.5**	**+0.3**
WB0				IAmb	IAmb	22 15 52.4	
comp=Z,21nm,1.4s							
VNA2	**Neumayer--Watz**	**52.05**	**205**	⇑P	**P**	**22 15 50.8**	**+0.3**
comp=Z,2.9nm,1.0s, baz=88, slow=7.0							
VNA1	**Neumayer--Stat**	**52.39**	**205**	⇑P	**P**	**22 15 53.3**	**+0.3**
comp=Z,6.3nm,1.2s							
VNA3	**Neumayer Olymp**	**52.71**	**204**	⇑P	**P**	**22 15 55.9**	**+0.4**
comp=Z,0.6nm,0.3s							
CAN	**Canberra**	**55.14**	**110**	P	**P**	**22 16 11.8**	**-2.0**
TSUM	**Tsumeb**	**55.52**	**273**	LR	LR	22 36 40.7	
comp=Z,303nm,19.6s, baz=150, slow=33							
MBAR	**Mbarara**	**57.90**	**300**	LR	LR	22 38 22.6	
comp=Z,98nm,18.9s, baz=120, slow=33							
CMAR	**Chiang Mai Arr**	**60.61**	**23**	P	**P**	**22 16 53.1**	**+0.9**
comp=Z,3.0nm,0.3s, baz=210, slow=5.2, SNR=6.0							
CMAR				LR	LR	22 40 20.2	
comp=Z,142nm,18.2s, baz=215, slow=33							
comp=Z,3.0nm,0.3s							
CTA	**Charters Tower**	**60.80**	**93**	LR	LR	22 41 00.7	
comp=Z,307nm,19.2s, baz=240, slow=34							
DAV	**Davao City (W)**	**63.60**	**55**	LR	LR	22 46 39.0	
comp=Z,75nm,18.4s, baz=218, slow=38							
RPZ	**Rata Peaks**	**66.04**	**128**	LR	LR	22 39 41.7	
comp=Z,276nm,21.6s, baz=268, slow=30							
PMG	**Port Moresby**	**67.83**	**84**	P	**P**	**22 17 39.3**	**-0.5**
PMG	**Port Moresby**	**67.83**	**84**	P	**P**	**22 17 40.0**	**+0.2**
comp=Z,3.6nm,0.3s, baz=293, slow=8.8, SNR=3.3							
comp=Z,3.6nm,0.3s							
LSA	**Lhasa**	**69.67**	**12**	P	**P**	**22 17 49.6**	**-1.7**
LSA				IAmb	IAmb	22 17 57.2	
comp=Z,5.1nm,1.2s							
PMSA	**Palmer Station**	**72.15**	**196**	P	**P**	**22 18 04.4**	**-1.1**
PMSA	**Palmer Station**	**72.15**	**196**	LR	LR	22 46 58.4	
comp=Z,165nm,20.5s, baz=130, slow=34							
KBL	**Kabul**	**73.93**	**352**	P	**P**	**22 18 17.2**	**+0.7**
KBL				IAmb	IAmb	22 18 23.3	
comp=Z,14nm,1.5s							
KRVT	**Keravat (AS076**	**74.77**	**83**	LR	LR	22 50 29.8	
comp=Z,167nm,20.1s, baz=27, slow=35							
HNR	**Honiara**	**77.73**	**92**	LR	LR	22 51 07.4	
comp=Z,3μm,18.1s, baz=216, slow=34							
BTK	**Batken**	**79.23**	**354**	P	**P**	**22 18 48.4**	**+2.1**
NRN	**Naryn**	**80.34**	**358**	P	**P**	**22 18 52.5**	**-0.1**
ARSB	**Arslanbob**	**80.35**	**356**	P	**P**	**22 18 53.7**	**+1.3**
AAK	**Ala-Archa**	**81.59**	**357**	LR	LR	22 52 12.7	
comp=Z,116nm,19.2s, baz=179, slow=34							
MKAR	**Makanchi Array**	**85.76**	**3**	P	**P**	**22 19 20.5**	**+0.4**
comp=Z,0.9nm,0.9s, baz=169, slow=2.5, SNR=6.5							
MKAR				LR	LR	22 55 11.7	
comp=Z,111nm,20.4s, baz=136, slow=34							
comp=Z,0.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**88.05**	**289**	P	**P**	**22 19 32.0**	**0.0**
comp=Z,0.1nm,0.5s, baz=113, slow=3.9, SNR=1.2							
TORD				LR	LR	22 57 10.3	
comp=Z,59nm,19.1s, baz=128, slow=34							
comp=Z,0.1nm,0.5s							
KBZ	**Khabaz**	**88.56**	**335**	LR	LR	22 56 10.9	
comp=Z,43nm,18.2s, baz=137, slow=34							
DBIC	**Dimbokro**	**88.83**	**280**	LR	LR	22 56 34.9	
comp=Z,69nm,18.1s, baz=126, slow=34							
KURBB	**Kurchatov Arra**	**89.51**	**0**	P	**P**	**22 19 37.8**	**-0.2**
comp=Z,0.5nm,1.0s, baz=192, slow=4.5, SNR=4.3							
KURBB				LR	LR	22 58 06.1	
comp=Z,78nm,18.7s, baz=172, slow=34							
comp=Z,0.5nm,1.0s							
AKTO	**Aktyubinsk**	**91.07**	**347**	LR	LR	22 54 18.4	
comp=Z,48nm,19.1s, baz=272, slow=31							
BVAR	**Bovoye Array**	**92.17**	**355**	P	**P**	**22 19 49.7**	**-0.6**
comp=Z,0.1nm,0.3s, baz=160, slow=4.6, SNR=2.1							
BVAR				LR	LR	22 56 39.5	
comp=Z,58nm,21.5s, baz=158, slow=32							
comp=Z,0.1nm,0.3s							
ZALV	**Zalesovo Beam**	**93.02**	**4**	LR	LR	23 00 19.6	
comp=Z,71nm,19.5s, baz=192, slow=35							
PLCA	**Paso Flores**	**95.43**	**203**	LR	LR	22 56 03.6	
comp=Z,60nm,20.0s, baz=180, slow=31							
KEST	**Kesra**	**97.97**	**310**	LR	LR	23 04 23.6	
comp=Z,43nm,18.3s, slow=35							
TXAR	**Lajitas Array**	**169.97**	**171**	PKPab	**PKPab**	**22 28 04.8**	**+0.7**
baz=191, slow=7.2, SNR=3.8							

*IDC **29** 22:27:40.2±1.3, 21°.57N×121°.41E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=55.8km s-min=19.5km az=62.0*
*JMA **29** 22:27:41.0±0.6, 21°.6N±2°.×12°.1E±°, h19km, MV4.1/13, TAIWAN REGION*
*TAP **29** 22:27:45.8, 21°.63N×121°.15E, h43km±1km, ML3.8, D*

ISC 29 22:27:44.8±1.3, 21°.60N±0°.08×121°.12E±0°.03, h22km±9km, n97, σ0$96/124, mb3.6/7, 6C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWKBT	**Hengchun**	**0.44**	**320**	⇑*i*P	**Pn**	**22 27 56.2**	**+0.3**
baz=314							
TWKBT				*i* S	**Sn**	**22 28 03.9**	**+0.7**
baz=314							
TWK1	**Hengchun**	**0.45**	**319**	⇑*i*P	**Pn**	**22 27 56.2**	**+0.2**
baz=314							
TWK1				*i* S	**Sn**	**22 28 04.1**	**+0.7**
baz=314							
SMST	**Manzhou Townsh**	**0.49**	**328**	P	**Pn**	**22 27 56.9**	**+0.3**
baz=323							
SMST				S	**Sn**	**22 28 06.0**	**+1.6**
baz=323							
HEN	**Hengchun**	**0.54**	**319**	*i* P	**Pn**	**22 27 57.9**	**+0.8**
baz=314							
HEN				*i* S	**Sn**	**22 28 07.3**	**+1.8**
baz=314							
LYUB	**Lan-yu**	**0.59**	**47**	⇑*i*P	**Pn**	**22 27 57.8**	**0.0**
baz=47							
LYUB				*i* S	**Sn**	**22 28 06.5**	**-0.3**
baz=47							
LAY	**Lan-yu**	**0.59**	**42**	*i* P	**Pn**	**22 27 58.5**	**+0.6**
baz=43							
LAY				*i* S	**Sn**	**22 28 07.1**	**+0.2**
baz=43							
TAWH	**Dawu Township**	**0.77**	**344**	⇑*i*P	**Pn**	**22 28 00.1**	**-0.3**
baz=341							
TAWH				*i* S	**Sn**	**22 28 10.8**	**-0.4**
baz=341							
TAW	**Tawu**	**0.78**	**345**	⇑*i*P	**Pn**	**22 28 00.2**	**-0.4**
baz=342							
TAW				*i* S	**Sn**	**22 28 11.4**	**-0.1**
baz=342							
EAST	**Anshuo**	**0.82**	**342**	⇑*i*P	**Pn**	**22 28 00.8**	**-0.3**
baz=340							
EAST				*i* S	**Sn**	**22 28 12.5**	**-0.1**
baz=340							
SCZT	**Fangliau**	**0.90**	**329**	*i* P	**Pn**	**22 28 03.1**	**+0.9**
baz=326							
SCZT				S	**Sn**	**22 28 14.6**	**+0.1**
baz=326							
ECL	**Taimali**	**1.00**	**351**	*i* P	**Pb**	**22 28 02.6**	**-1.0**
baz=349							
ECL				*i* S	**Sb**	**22 28 15.7**	**-0.6**
baz=349							
MASBT	**Mashibuluo**	**1.10**	**336**	*i* P	**Pb**	**22 28 05.6**	**+0.3**
baz=334							
MASBT				S	**Sb**	**22 28 19.5**	**+0.3**
baz=334							
LDUT	**Ludao**	**1.12**	**17**	*e*P	**Pn**	**22 28 05.1**	**0.0**
baz=16							
LDUT				S	**Sn**	**22 28 20.4**	**+0.5**
baz=16							
TTN	**Taitung**	**1.15**	**1**	*e*P	**Pn**	**22 28 05.5**	**-0.1**
TTN				*e*S	**Sb**	**22 28 20.3**	**-0.2**
TSMG	**Majia**	**1.19**	**338**	P	**Pb**	**22 28 07.0**	**+0.4**
baz=336							
TSMG				S	**Sn**	**22 28 22.6**	**+1.0**
baz=336							
TWGBT	**Beinan**	**1.21**	**358**	P	**Pn**	**22 28 06.0**	**-0.4**
baz=357							
TWG	**Pinlang**	**1.22**	**358**	P	**Pn**	**22 28 06.0**	**-0.5**
baz=357							
TWG				S	**Sb**	**22 28 22.6**	**+0.1**
baz=357							
SSD	**Sandimen**	**1.23**	**338**	P	**Pb**	**22 28 07.3**	**-0.1**
baz=337							
SSD				S	**Sn**	**22 28 23.3**	**+0.7**
baz=337							
LONT	**Longtian**	**1.30**	**0**	P	**Pn**	**22 28 07.6**	**-0.1**
baz=359							
LONT				S	**Sn**	**22 28 24.5**	**+0.1**
baz=359							
WSSB	**Gushan**	**1.31**	**323**	*e*P	**Pn**	**22 28 08.2**	**+0.4**
baz=320							
SNJT	**Kaohsiung City**	**1.36**	**328**	*e*P	**Pb**	**22 28 09.0**	**-0.6**
baz=326							
EDH	**Donghe**	**1.38**	**7**	P	**Pn**	**22 28 08.3**	**-0.4**
baz=6.0							
EDH				S	**Sn**	**22 28 26.8**	**+0.5**
baz=6.0							
TWM1	**Shoushan**	**1.38**	**332**	*e*P	**Pn**	**22 28 08.9**	**+0.2**
baz=330							
SCST	**Cishan**	**1.41**	**336**	*e*P	**Pb**	**22 28 11.1**	**+0.8**
baz=334							
SLGT	**Liugui**	**1.46**	**343**	*e*P	**Pb**	**22 28 12.3**	**+1.0**
baz=341							
ECS	**Chishang**	**1.49**	**3**	P	**Pn**	**22 28 10.2**	**-0.1**
baz=2.0							
ECS				S	**Sn**	**22 28 29.7**	**+0.6**
baz=2.0							
CHKT	**Chengkung**	**1.51**	**9**	*i* P	**Pn**	**22 28 10.7**	**+0.2**
baz=8.0							
CHKT				S	**Sn**	**22 28 29.6**	**0.0**
baz=8.0							
EHD	**Haiduan**	**1.54**	**3**	P	**Pn**	**22 28 09.5**	**-1.6**
baz=2.0							
EHD				*e*S	**Sn**	**22 28 29.6**	**-0.8**
baz=2.0							
SGST	**Jiashian**	**1.56**	**341**	P	**Pb**	**22 28 13.2**	**+0.2**
baz=340							
ELDTW	**Lidau**	**1.58**	**357**	P	**Pn**	**22 28 11.7**	**0.0**
baz=355							
STYH	**Taoyuan**	**1.60**	**349**	*e*P	**Pn**	**22 28 12.2**	**+0.4**
baz=347							
FULB	**Fuli**	**1.60**	**6**	P	**Pn**	**22 28 12.0**	**+0.2**
baz=5.0							
CHN1	**Nanshi**	**1.67**	**341**	*e*P	**Pb**	**22 28 14.6**	**-0.4**
baz=339							
WTP	**Ta-pu**	**1.71**	**344**	*e*P	**Pb**	**22 28 15.5**	**0.0**
baz=343							
SNST	**Tainan City**	**1.71**	**340**	*e*P	**Pb**	**22 28 14.9**	**-0.7**
baz=339							
EYUL	**Yuli**	**1.75**	**6**	*e*P	**Pn**	**22 28 14.1**	**+0.2**
baz=5.0							
TWF1	**Yuli**	**1.75**	**5**	P	**Pn**	**22 28 13.9**	**0.0**
baz=4.0							
TPUB	**Ta-pu**	**1.75**	**345**	*e*P	**Pb**	**22 28 15.5**	**-0.8**
baz=343							
TWK	**Hsinying**	**1.76**	**341**	*e*P	**Pb**	**22 28 16.4**	**0.0**
baz=339							
YULB	**Yu-li**	**1.79**	**5**	*e*P	**Pn**	**22 28 13.2**	**-1.2**
baz=4.0							
CHN4	**Tsaushan**	**1.81**	**344**	*e*P	**Pb**	**22 28 17.0**	**-0.3**
baz=343							
TSCK	**Chigu Township**	**1.81**	**328**	*e*P	**Pn**	**22 28 15.1**	**+0.4**
baz=326							
WCKO	**Fanlu**	**1.89**	**345**	*e*P	**Pn**	**22 28 16.3**	**+0.4**
baz=344							
HGSD	**Ruisui**	**1.90**	**8**	*e*P	**Pn**	**22 28 15.8**	**-0.2**
baz=7.0							
EHY	**Hungye**	**1.91**	**6**	*e*P	**Pn**	**22 28 15.6**	**-0.4**
baz=5.0							
ALS	**Alishan**	**1.92**	**351**	*e*P	**Pn**	**22 28 17.5**	**+0.9**
baz=350							
CHN5	**Tsauling**	**2.03**	**348**	*e*P	**Pn**	**22 28 18.5**	**+0.7**
baz=347							
EGFH	**Guangfu**	**2.08**	**8**	*e*P	**Pn**	**22 28 18.0**	**-0.3**
baz=7.0							
WHYT	**Xinyi Township**	**2.10**	**353**	*e*P	**Pn**	**22 28 19.8**	**+1.1**
baz=352							
WARBT	**Fenglin Townsh**	**2.12**	**7**	*e*P	**Pn**	**22 28 19.4**	**+0.4**
baz=6.0							
VWDT	**VWDT**	**2.14**	**1**	*e*P	**Pn**	**22 28 19.9**	**+0.7**
baz=359							
SSLB	**Suanglung**	**2.18**	**356**	*e*P	**Pn**	**22 28 21.2**	**+1.4**
baz=355							
WTK	**Tuku**	**2.19**	**342**	*e*P	**Pn**	**22 28 20.8**	**+1.0**
baz=341							
ESL	**Shilin**	**2.22**	**7**	*e*P	**Pn**	**22 28 20.2**	**-0.2**
baz=7.0							
SMLT	**Sun Moon Lake**	**2.28**	**355**	*e*P	**Pn**	**22 28 22.8**	**+1.5**
baz=354							
WNT	**Mingjian**	**2.30**	**350**	*e*P	**Pb**	**22 28 23.6**	**-2.0**
baz=349							
OWD	**Renai**	**2.34**	**1**	*e*P	**Pn**	**22 28 23.6**	**+1.5**
ETM	**Tongmen**	**2.38**	**8**	*e*P	**Pn**	**22 28 23.1**	**+0.6**
baz=7.0							
WUSB	**Renai**	**2.38**	**360**	*e*P	**Pn**	**22 28 23.0**	**+0.4**
baz=359							
LXIB	**Xiulin Townshi**	**2.42**	**6**	*e*P	**Pn**	**22 28 22.8**	**-0.5**
baz=5.0							
PNG	**Penghu**	**2.44**	**324**	*e*P	**Pn**	**22 28 23.8**	**+0.5**
baz=322							
CHGB	**Renai**	**2.45**	**1**	*e*P	**Pn**	**22 28 24.3**	**+0.6**
WCS	**Beigang Elemen**	**2.45**	**356**	*e*P	**Pn**	**22 28 24.7**	**+1.1**
baz=354							
WHF	**Hehuan Shan**	**2.54**	**3**	*e*P	**Pn**	**22 28 25.9**	**+0.9**
baz=2.0							
NACB	**Ninganchiao**	**2.60**	**10**	*e*P	**Pn**	**22 28 25.4**	**-0.1**
baz=9.0							
ETLH	**Xiulin Townshi**	**2.62**	**7**	*e*P	**Pn**	**22 28 25.7**	**-0.2**
baz=6.0							
TDCB	**Techi**	**2.64**	**1**	*e*P	**Pn**	**22 28 26.6**	**+0.3**
TWT	**Tachien**	**2.64**	**1**	*e*P	**Pn**	**22 28 27.5**	**+1.2**
WHP	**Taichung City**	**2.67**	**357**	*e*P	**Pn**	**22 28 26.9**	**+0.2**
baz=355							
EOS4	**EOS4**	**2.74**	**24**	*e*P	**Pn**	**22 28 27.7**	**+0.6**
baz=23							
TWQ1	**Liyutan**	**2.75**	**353**	*e*P	**Pn**	**22 28 28.5**	**+0.8**
baz=352							
NNSB	**Datong**	**2.83**	**5**	*e*P	**Pn**	**22 28 30.8**	**+2.0**
baz=4.0							
NNS	**Nan Shan**	**2.84**	**5**	*e*P	**Pn**	**22 28 30.4**	**+1.5**
baz=4.0							
EOS3	**EOS3**	**2.89**	**22**	*e*P	**Pn**	**22 28 30.6**	**+1.1**
baz=22							
LATG	**Datong**	**2.95**	**7**	*e*P	**Pn**	**22 28 31.7**	**+1.3**
baz=6.0							
NDT	**Datong Townshi**	**3.01**	**7**	*e*P	**Pn**	**22 28 32.7**	**+1.5**
baz=6.0							
LIOB	**Emei**	**3.03**	**358**	*e*P	**Pn**	**22 28 33.2**	**+1.7**
baz=357							
ENTT	**Nioudou**	**3.05**	**8**	*e*P	**Pn**	**22 28 32.2**	**+0.4**
baz=7.0							
YHNB	**Yeheng**	**3.06**	**4**	*e*P	**Pn**	**22 28 33.1**	**+1.1**
baz=3.0							
NSK	**Sanguang**	**3.07**	**4**	*e*P	**Pn**	**22 28 32.6**	**+0.5**
baz=3.0							
TWC	**Suao**	**3.07**	**12**	*e*P	**Pn**	**22 28 33.5**	**+1.5**
baz=12							
TWE	**Neicheng**	**3.15**	**9**	*e*P	**Pn**	**22 28 34.0**	**+0.9**
baz=9.0							
FUSB	**Fushanzhiwuyua**	**3.17**	**8**	*e*P	**Pn**	**22 28 34.6**	**+1.1**
baz=7.0							
NWLT	**Wulai**	**3.18**	**6**	*e*P	**Pn**	**22 28 35.3**	**+1.7**
baz=5.0							
HATJ	**Hateruma jima**	**3.48**	**45**	*e*P	**Pn**	**22 28 39.7**	**+2.1**
HATJ				S	**Sn**	**22 29 18.6**	**+0.4**
IRIF	**Iriomote-Funau**	**3.63**	**41**	P	**Pn**	**22 28 41.7**	**+1.9**
IRIF				*e*S	**Sn**	**22 29 23.8**	**+1.8**
JKRS	**Kuro-

BVAR Borovoye Array 49.65 322 P P 22 36 34.8 +0.1
0.5nm,0.5s,baz=95,slow=6.7,SNR=4.9
0.5nm,0.5s

---

*IDC **29** 22:33:49.3±1.4, 34°.75N×23°.20E, h0km, mb3.9/4, mbtmp3.8/5, ML2.6/1, MS4.2/2, Error ellipse: s-maj=63.3km s-min=24.2km az=139.0*
*ATH **29** 22:33:51.5, 34°.42N×23°.15E, h9km±4km, ML3.3/2, Error ellipse: s-maj=8.0km s-min=2.6km az=138.0*
*THE **29** 22:33:55.8, 34°.55N×23°.33E, h23km±3km, ML2.9/3, Error ellipse: s-maj=4.7km s-min=1.6km az=179.0*
*ISK **29** 22:34:02.2, 34°.90N×24°.03E, h27km, ML3.1/10*
ISC 29 22:33:53.9±1.9, 34°.44N±0°.08×23°.35E±0°.07, h29km±12km, n30, σ1s18/35, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.72**	**57**	Pg	**Pb**	**22 34 07.3**	**-0.7**
GVD	**Gavdhos**	**0.72**	**57**	P	**Pb**	**22 34 08.1**	**+0.1**
GVD				S	**Sb**	**22 34 18.9**	**+1.3**
	2μm,0.4s						
GVD	**Gavdhos**	**0.72**	**57**	P	**Pb**	**22 34 07.5**	**-0.5**
GVD				S	**Sn**	**22 34 20.6**	**+2.3**
GVD				AML	AML	22 34 23.1	
	comp=E,4583μm,0.4s						
GVD				AML	AML	22 34 23.6	
	comp=N,4153μm,0.5s						
IMMV	**Iera Moni Meta**	**1.14**	**27**	Pg	**Pn**	**22 34 14.6**	**+0.7**
IMMV	**Iera Moni Meta**	**1.14**	**27**	P	**Pn**	**22 34 14.5**	**+0.7**
IMMV				S	**Sb**	**22 34 28.7**	**-0.7**
	comp=N,665nm,0.4s						
IMMV	**Iera Moni Meta**	**1.14**	**27**	P	**Pn**	**22 34 14.4**	**+0.5**
IMMV				S	**Sn**	**22 34 30.6**	**+2.0**
IMMV				AML	AML	22 34 37.1	
	comp=N,1403μm,0.4s						
IMMV				AML	AML	22 34 39.6	
	comp=E,2348μm,0.7s						
RODP	**Rodopos**	**1.16**	**16**	Pg	**Pb**	**22 34 16.4**	**+1.0**
RODP	**Rodopos**	**1.16**	**16**	P	**Pn**	**22 34 14.5**	**+0.3**
RODP				S	**Sb**	**22 34 28.2**	**-2.0**
ANKY	**Antikythira Is**	**1.42**	**358**	P	**Pn**	**22 34 17.7**	**-0.1**
ANKY	**Antikythira Is**	**1.42**	**358**	P	**Pn**	**22 34 17.8**	**+0.1**
IDI	**Anoyia**	**1.52**	**56**	Pg	**Pn**	**22 34 18.6**	**-0.5**
IDI	**Anoyia**	**1.52**	**56**	P	**Pn**	**22 34 20.1**	**+1.0**
IDI				S	**Sn**	**22 34 38.8**	**+0.8**
	comp=E,222nm,0.9s						
IDI	**Anoyia**	**1.52**	**56**	P	**Pn**	**22 34 20.2**	**+1.0**
HRKL	**Herakleio**	**1.68**	**58**	Pg	**Pn**	**22 34 20.9**	**-0.4**
KTHA	**Kythira Island**	**1.83**	**353**	Pn	**Pb**	**22 34 28.6**	**+1.9**
KTHA				Sn	**Sb**	**22 34 48.3**	**-0.8**
ZKR	**Zakros**	**2.45**	**73**	Pn	**Pn**	**22 34 32.6**	**+0.7**
ZKR	**Zakros**	**2.45**	**73**	P	**Pn**	**22 34 34.0**	**+2.1**
APE	**Apeiranthos**	**3.16**	**33**	Pn	**Pn**	**22 34 41.5**	**-0.2**
KARP	**Karpathos**	**3.31**	**69**	Pn	**Pn**	**22 34 44.4**	**+0.6**
DAT	**Datca**	**4.13**	**55**	Pn	**Pn**	**22 34 55.2**	**+0.1**
ARG	**Arkhangelos**	**4.28**	**64**	Pn	**Pn**	**22 34 57.3**	**+0.2**
TURN	**Turunc**	**4.61**	**58**	Pn	**Pn**	**22 35 01.9**	**+0.3**
YER	**Yerkesik**	**4.82**	**55**	Pn	**Pn**	**22 35 04.8**	**+0.2**
BRTR	**Keskin Array B**	**9.76**	**54**	Pn	**Pn**	**22 36 12.2**	**-0.2**
	comp=E,0.1nm,0.3s,baz=242,slow=14,SNR=2.2						
	comp=E,0.2nm,0.2s						
FINES	**FINESS Array B**	**27.07**	**3**	P	**P**	**22 39 30.6**	**-3.0**
	comp=E,15nm,1.2s,baz=180,slow=6.8,SNR=2.6						
	comp=E,15nm,1.2s						
TORD	**Torodi Ar. Bea**	**28.90**	**228**	P	**P**	**22 39 51.0**	**+0.7**
	comp=E,0.6nm,1.0s,baz=31,slow=9.5,SNR=5.7						
	comp=E,0.6nm,1.0s						
KURBB	**Kurchatov Arra**	**42.73**	**50**	P	**P**	**22 41 47.0**	**-1.2**
	comp=E,0.3nm,0.5s,baz=271,slow=8.8,SNR=7.4						
	comp=E,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.41**	**56**	P	**P**	**22 42 09.2**	**-0.6**
	comp=E,0.6nm,0.3s,baz=268,slow=7.2,SNR=21						
	comp=E,0.6nm,0.3s						
LSZ	**Lusaka**	**49.66**	**174**	LR	LR	23 03 33.0	
	comp=E,50nm,19.3s,baz=160,slow=36						
JHJ	**Hachijo jima 2**	**90.15**	**49**	LR	LR	23 33 56.2	
	comp=E,464nm,18.3s,baz=76,slow=40						

---

*IDC **29** 22:48:03.5±1.9, 24°.27N×122°.45E, h0km, mb3.5/7, mbtmp3.5/7, Error ellipse: s-maj=149.2km s-min=20.8km az=65.0*
*JMA **29** 22:48:08.4±0.1, 24°.N±1°.×122°.3E±0°.4, h27km±3km, MV3.3/15, TAIWAN REGION*
*TAP **29** 22:48:08.6, 24°.11N×122°.27E, h25km, ML3.8, C*
ISC 29 22:48:08.2±0.8, 24°.08N±0°.02×122°.29E±0°.02, h29km±5km, n129, σ0s90/213, mb3.5/7, 2C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.05**	**33**	*i* P	**Pb**	**22 48 12.7**	**0.0**
	baz=78						
EOS4				*i* S	**Sb**	**22 48 15.7**	**0.0**
	baz=78						
EOS3	**EOS3**	**0.21**	**7**	*i* P	**Pb**	**22 48 14.2**	**-0.1**
	baz=346						
EOS3				*i* S	**Sb**	**22 48 18.5**	**+0.2**
	baz=346						
EOS2	**EOS2**	**0.34**	**351**	*i* P	**Pb**	**22 48 16.2**	**+0.1**
	baz=336						
EOS2				*i* S	**Sn**	**22 48 21.8**	**-1.2**
	baz=336						
EWUT	**Wuta**	**0.59**	**308**	P	**Pb**	**22 48 19.4**	**-0.6**
	baz=314						
EWUT				S	**Sb**	**22 48 27.2**	**-1.0**
	baz=314						
ENA	**Nanau**	**0.61**	**305**	*i* P	**Pb**	**22 48 19.7**	**-0.7**
	baz=311						
ENA				*i* S	**Sb**	**22 48 27.7**	**-1.0**
	baz=311						
ETL	**Fush Village**	**0.61**	**277**	P	**Pb**	**22 48 20.9**	**+0.4**
	baz=259						
ETL				S	**Sn**	**22 48 30.1**	**+0.3**
	baz=259						
TWD	**Chiawan**	**0.63**	**270**	P	**Pb**	**22 48 20.6**	**-0.1**
	baz=267						
NACB	**Ninganchiao**	**0.64**	**278**	P	**Pb**	**22 48 21.0**	**+0.1**
	baz=261						
NACB				*e*S	**Sn**	**22 48 30.7**	**+0.1**
	baz=261						
TWC	**Suao**	**0.66**	**323**	⇓*i*P	**Pb**	**22 48 20.3**	**-1.0**
	baz=322						
TWC				*i* S	**Sb**	**22 48 28.1**	**-2.0**
	baz=322						
JYNG	**Yonagunijimaku**	**0.70**	**58**	P	**Pb**	**22 48 21.6**	**-0.3**
JYNG				*e*S	**Sb**	**22 48 31.0**	**-0.3**
ETM	**Tongmen**	**0.74**	**261**	P	**Pb**	**22 48 22.1**	**-0.4**
	baz=249						
ETM				S	**Sb**	**22 48 31.9**	**-0.4**
	baz=249						
ETLH	**Xiulin Townshi**	**0.75**	**280**	P	**Pb**	**22 48 22.6**	**-0.1**
	baz=277						
NDS	**Dongshan**	**0.76**	**317**	P	**Pb**	**22 48 22.1**	**-0.8**
	baz=319						
NDS				S	**Sb**	**22 48 31.5**	**-1.4**
	baz=319						
YOJ	**Yonaguni jima**	**0.76**	**60**	P	**Pn**	**22 48 23.1**	**+0.2**
YOJ				S	**Sb**	**22 48 32.5**	**-0.5**
YOJ	**Yonaguni jima**	**0.76**	**60**	P	**Pn**	**22 48 23.0**	**+0.1**
	baz=61						
YOJ				S	**Sn**	**22 48 33.1**	**-0.3**
	baz=61						
LXIB	**Xiulin Townshi**	**0.80**	**266**	P	**Pb**	**22 48 23.9**	**+0.2**
	baz=253						
LXIB				S	**Sb**	**22 48 34.3**	**0.0**
	baz=253						
EGS		**0.83**	**337**	P	**Pn**	**22 48 24.7**	**+0.9**
	baz=327						
EGS				*i* S	**Sb**	**22 48 34.5**	**-0.3**
	baz=327						
ESL	**Shilin**	**0.83**	**251**	P	**Pb**	**22 48 23.3**	**-0.7**
	baz=239						
LATG	**Datong**	**0.83**	**303**	⇓*i*P	**Pb**	**22 48 24.0**	**-0.2**
	baz=301						
LATG				S	**Sb**	**22 48 35.2**	**+0.2**
	baz=301						
TWE	**Neicheng**	**0.85**	**318**	*i* P	**Pb**	**22 48 23.9**	**-0.5**
	baz=324						
TWE				*i* S	**Sb**	**22 48 34.8**	**-0.8**
	baz=324						
ENTT	**Nioudou**	**0.86**	**310**	*i* P	**Pb**	**22 48 24.6**	**-0.1**
	baz=319						
ENTT				*i* S	**Sb**	**22 48 34.7**	**-1.2**
	baz=319						
NNSB	**Datong**	**0.90**	**293**	P	**Pb**	**22 48 24.8**	**-0.4**
	baz=291						
NNSB				S	**Sb**	**22 48 37.0**	**0.0**
	baz=291						
WARBT	**Fenglin Townsh**	**0.90**	**247**	P	**Pn**	**22 48 24.6**	**-0.3**
	baz=235						
WARBT				S	**Sb**	**22 48 36.9**	**-0.1**
	baz=235						
NNS	**Nan Shan**	**0.91**	**293**	*i* P	**Pb**	**22 48 25.3**	**-0.2**
	baz=291						
NNS				S	**Sn**	**22 48 38.0**	**+0.7**
	baz=291						
FUSB	**Fushanzhiwuyua**	**0.93**	**317**	*i* P	**Pn**	**22 48 25.6**	**+0.3**
	baz=315						
FUSB				*i* S	**Sn**	**22 48 38.0**	**+0.2**
	baz=315						
WHF	**Hehuan Shan**	**0.94**	**274**	*i* P	**Pb**	**22 48 25.7**	**-0.5**
	baz=259						
TWB1	**Santiao Chiao**	**0.96**	**344**	*i* P	**Pb**	**22 48 26.1**	**-0.2**
	baz=331						
TWB1				*i* S	**Sb**	**22 48 38.1**	**-0.6**
	baz=331						
HGSD	**Ruisui**	**0.99**	**234**	P	**Pn**	**22 48 25.5**	**-0.5**
	baz=233						
HGSD				S	**Sb**	**22 48 39.2**	**-0.1**
	baz=233						
NWLT	**Wulai**	**1.00**	**314**	*i* P	**Pb**	**22 48 26.9**	**0.0**
	baz=321						
NWLT				*i* S	**Sn**	**22 48 39.8**	**+0.4**
	baz=321						
YHNB	**Yeheng**	**1.02**	**305**	P	**Pn**	**22 48 27.1**	**+0.5**
YHNB	**Yeheng**	**1.02**	**305**	⇑*i*P	**Pn**	**22 48 27.0**	**+0.5**
	baz=291						
YHNB				S	**Sb**	**22 48 39.8**	**-0.6**
	baz=291						
CHGB	**Renai**	**1.02**	**269**	P	**Pn**	**22 48 27.0**	**+0.3**
	baz=255						
CHGB				*e*S	**Sb**	**22 48 40.8**	**+0.2**
	baz=255						
TWT	**Tachien**	**1.03**	**280**	P	**Pb**	**22 48 28.2**	**+0.6**
	baz=265						
NSK	**Sanguang**	**1.04**	**305**	⇓*i*P	**Pn**	**22 48 27.3**	**+0.5**
	baz=291						
NSK				*i* S	**Sb**	**22 48 40.2**	**-0.6**
	baz=291						
TDCB	**Techi**	**1.05**	**280**	*e*P	**Pn**	**22 48 27.8**	**+0.7**
	baz=266						
EHY	**Hungye**	**1.05**	**237**	P	**Pn**	**22 48 27.4**	**+0.4**
	baz=227						
WUSB	**Renai**	**1.07**	**266**	P	**Pn**	**22 48 28.0**	**+0.6**
	baz=264						
WUSB				*e*S	**Sn**	**22 48 41.7**	**+0.3**
	baz=264						
SXI1	**Grass Mountain**	**1.08**	**340**	⇑*i*P	**Pn**	**22 48 27.6**	**+0.2**
	baz=338						
SXI1				S	**Sn**	**22 48 41.7**	**+0.3**
	baz=338						
ECBN	**Changbin**	**1.08**	**225**	*i* P	**Pn**	**22 48 27.6**	**+0.2**
	baz=225						
ECBN				S	**Sn**	**22 48 41.0**	**-0.3**
	baz=225						
NWF	**Wu-fen Shan**	**1.09**	**335**	*i* P	**Pn**	**22 48 27.9**	**+0.4**
	baz=333						
NWF				*i* S	**Sn**	**22 48 42.0**	**+0.3**
	baz=333						
WFSB	**Wu-fen Shan**	**1.09**	**335**	*i* P	**Pn**	**22 48 27.9**	**+0.4**
	baz=333						
WFSB				*i* S	**Sn**	**22 48 42.0**	**+0.4**
	baz=333						
VWDT	**VWDT**	**1.10**	**253**	P	**Pn**	**22 48 28.0**	**+0.4**
	baz=240						
VWDT				S	**Sn**	**22 48 42.8**	**+1.0**
	baz=240						
YULB	**Yu-li**	**1.14**	**233**	P	**Pn**	**22 48 28.3**	**+0.1**
YULB	**Yu-li**	**1.14**	**233**	P	**Pn**	**22 48 28.2**	**0.0**
	baz=248						
YULB				*e*S	**Sn**	**22 48 43.5**	**+0.7**
	baz=248						
EYUL	**Yuli**	**1.15**	**231**	P	**Pn**	**22 48 28.9**	**+0.5**
	baz=219						
EYUL				S	**Sn**	**22 48 43.1**	**0.0**
	baz=219						
TATO	**Taipei**	**1.15**	**321**	P	**Pb**	**22 48 29.7**	**+0.2**
TWF1	**Yuli**	**1.16**	**232**	*i* P	**Pn**	**22 48 29.4**	**+0.8**
	baz=247						
TWF1				S	**Sn**	**22 48 43.2**	**-0.2**
	baz=247						
TNOU	**National Taiwa**	**1.16**	**336**	P	**Pb**	**22 48 29.9**	**+0.2**
	baz=334						
TNOU				S	**Sb**	**22 48 43.6**	**-0.8**
	baz=334						
TAP	**Taipei**	**1.19**	**323**	P	**Pb**	**22 48 30.3**	**+0.2**
	baz=322						
TAP				S	**Sb**	**22 48 46.1**	**+0.9**
	baz=322						
NFF	**Wufeng Townshi**	**1.20**	**297**	*e*P	**Pb**	**22 48 30.1**	**-0.2**
	baz=296						
YM01	**YM01**	**1.25**	**328**	P	**Pb**	**22 48 30.9**	**-0.2**
	baz=342						
YM01				S	**Sb**	**22 48 46.4**	**-0.5**
	baz=342						
SSLB	**Suanglung**	**1.26**	**257**	P	**Pn**	**22 48 30.6**	**+0.8**
SSLB	**Suanglung**	**1.26**	**257**	P	**Pn**	**22 48 30.0**	**+0.2**
	baz=256						
SSLB				S	**Sn**	**22 48 46.0**	**+0.2**
	baz=256						
WCS	**Beigang Elemen**	**1.26**	**269**	P	**Pn**	**22 48 30.8**	**+1.0**
	baz=260						
WCS				*e*S	**Sn**	**22 48 46.0**	**+0.3**
	baz=260						
FULB	**Fuli**	**1.27**	**226**	P	**Pn**	**22 48 29.9**	**0.0**
	baz=213						
FULB				S	**Sn**	**22 48 45.4**	**-0.6**
	baz=213						
YM08	**YM08**	**1.27**	**330**	P	**Pn**	**22 48 30.0**	**0.0**
	baz=344						
SMLT	**Sun Moon Lake**	**1.29**	**261**	*i* P	**Pn**	**22 48 31.1**	**+0.8**
	baz=260						
SMLT				S	**Sn**	**22 48 47.8**	**+1.2**
	baz=260						
TWS1	**Kuangyinshan**	**1.29**	**322**	*i* P	**Pb**	**22 48 31.4**	**-0.4**
	baz=332						
TWS1				*i* S	**Sb**	**22 48 48.8**	**+0.8**
	baz=332						
CHKT	**Chengkung**	**1.29**	**221**	*i* P	**Pn**	**22 48 30.1**	**-0.1**
	baz=210						
CHKT				*i* S	**Sn**	**22 48 45.2**	**-1.4**
	baz=210						
NSTT	**Nanjuang**	**1.30**	**295**	*i* P	**Pb**	**22 48 32.0**	**+0.1**
	baz=294						
ANP	**Anpu**	**1.30**	**328**	P	**Pb**	**22 48 31.8**	**-0.4**
	baz=326						
TYC	**Yuchr**	**1.32**	**263**	P	**Pn**	**22 48 31.4**	**+0.7**
	baz=261						
NTST	**Danshui**	**1.32**	**325**	P	**Pb**	**22 48 32.0**	**-0.4**
	baz=340						
IRIF	**Iriomote-Funau**	**1.34**	**79**	P	**Pb**	**22 48 32.3**	**-0.3**
IRIF				*e*S	**Sb**	**22 48 50.5**	**+1.1**
NCU	**National Centr**	**1.34**	**312**	P	**Pb**	**22 48 32.6**	**-0.1**
	baz=310						
NCU				S	**Sb**	**22 48 50.9**	**+1.5**
	baz=310						
NCUH	**Zhongli**	**1.34**	**312**	P	**Pb**	**22 48 32.2**	**-0.5**
	baz=310						
NCUH				*e*S	**Sb**	**22 48 51.0**	**+1.6**
	baz=310						
TWY	**Chenhua**	**1.35**	**332**	*i* P	**Pb**	**22 48 32.5**	**-0.3**
	baz=330						
TWY				S	**Sb**	**22 48 49.8**	**+0.2**
	baz=330						
EHD	**Haiduan**	**1.36**	**227**	P	**Pn**	**22 48 31.1**	**-0.1**
	baz=241						
EHD				S	**Sn**	**22 48 48.4**	**+0.1**
	baz=241						
SBCB	**Hsinchu**	**1.38**	**301**	P	**Pb**	**22 48 32.8**	**-0.7**
	baz=300						
HATJ	**Hateruma jima**	**1.39**	**91**	P	**Pb**	**22 48 34.2**	**+0.8**
HATJ				*e*S	**Sb**	**22 48 51.7**	**+1.0**
ECS	**Chishang**	**1.39**	**225**	*e*P	**Pn**	**22 48 31.3**	**-0.3**
	baz=214						
ECS				*e*S	**Sn**	**22 48 50.1**	**+1.2**
	baz=214						
TWQ1	**Liyutan**	**1.41**	**281**	*i* P	**Pb**	**22 48 34.0**	**+0.1**
	baz=268						
TWQ1				S	**Sb**	**22 48 52.9**	**+1.4**
	baz=268						
EDH	**Donghe**	**1.43**	**220**	*i* P	**Pn**	**22 48 32.0**	**-0.1**
	baz=210						
EDH				*i* S	**Sn**	**22 48 49.5**	**-0.4**
	baz=210						
WJS	**Zhushan**	**1.45**	**260**	P	**Pb**	**22 48 35.0**	**+0.4**
	baz=259						
ELDTW	**Lidau**	**1.47**	**233**	P	**Pn**	**22 48 32.9**	**+0.1**
	baz=220						
ELDTW				S	**Sn**	**22 48 51.2**	**+0.1**
	baz=220						
ALS	**Alishan**	**1.47**	**248**	*i* P	**Pn**	**22 48 34.4**	**+1.4**
	baz=247						
ALS				*i* S	**Sn**	**22 48 52.4**	**+0.9**
	baz=247						
TCU	**Taichung**	**1.48**	**273**	P	**Pb**	**22 48 35.4**	**+0.4**
	baz=272						
TCU				S	**Sb**	**22 48 55.1**	**+1.7**
	baz=272						
WNT	**Mingjian**	**1.48**	**263**	P	**Pb**	**22 48 35.4**	**+0.3**
	baz=262						
WNT				S	**Sb**	**22 48 54.1**	**+0.6**
	baz=262						
CHN5	**Tsauling**	**1.55**	**252**	*i* P	**Pb**	**22 48 36.0**	**-0.3**
	baz=241						
CHN5				*i* S	**Sb**	**22 48 55.8**	**+0.2**
	baz=241						
JKRS	**Kuro-shima**	**1.58**	**84**	P	**Pb**	**22 48 36.4**	**-0.3**
JKRS				*e*S	**Sb**	**22 48 56.3**	**0.0**
LONT	**Longtian**	**1.58**	**223**	P	**Pn**	**22 48 33.9**	**-0.4**
	baz=214						
LONT				S	**Sn**	**22 48 55.1**	**+1.3**
	baz=214						
LDUT	**Ludao**	**1.59**	**208**	*e*P	**Pn**	**22 48 33.4**	**-1.0**
	baz=209						
LDUT				*e*S	**Sn**	**22 48 52.9**	**-1.0**
	baz=209						
WDLH	**Douliu**	**1.65**	**257**	*e*P	**Pb**	**22 48 37.6**	**-0.3**
	baz=242						
STYH	**Taoyuan**	**1.66**	**237**	*e*P	**Pn**	**22 48 36.6**	**+1.3**
	baz=237						
STYH				S	**Sn**	**22 48 57.6**	**+2.0**
	baz=237						
WCKO	**Fanlu**	**1.67**	**248**	P	**Pb**	**22 48 38.1**	**-0.2**
	baz=237						
WCKO				S	**Sb**	**22 48 59.9**	**+1.0**
	baz=237						
TWGBT	**Beinan**	**1.68**	**222**	P	**Pn**	**22 48 35.6**	**0.0**
TWGBT	**Beinan**	**1.68**	**222**	P	**Pn**	**22 48 35.8**	**+0.2**
	baz=233						
TWGBT				S	**Sn**	**22 48 55.3**	**-0.8**
	baz=233						
TWG	**Pinlang**	**1.68**	**222**	*i* P	**Pn**	**22 48 35.5**	**-0.2**
	baz=233						
TWG				S	**Sn**	**22 48 55.6**	**-0.6**
	baz=233						
TPUB	**Ta-pu**	**1.71**	**243**	P	**Pb**	**22 48 38.3**	**-0.7**
TPUB	**Ta-pu**	**1.71**	**243**	P	**Pn**	**22 48 38.1**	**+2.1**
	baz=243						
TPUB				S	**Sb**	**22 49 00.2**	**+0.2**
	baz=243						
JIJ	**Ishigaki jima**	**1.71**	**80**	P	**Pn**	**22 48 37.1**	**+1.0**
JIJ				*e*S	**Sn**	**22 48 58.2**	**+1.2**
CHN4	**Tsaushan**	**1.72**	**245**	*i* P	**Pb**	**22 48 39.0**	**-0.1**
	baz=245						
WTP	**Ta-pu**	**1.75**	**242**	P	**Pb**	**22 48 39.0**	**-0.6**
	baz=242						
WTP				S	**Sb**	**22 49 01.6**	**+0.4**
	baz=242						
CHN2	**Minshiung**	**1.75**	**252**	S	**Sb**	**22 49 02.5**	**+1.3**
	baz=252						
WRL	**Guolierlin Hig**	**1.76**	**265**	*e*P	**Pb**	**22 48 38.9**	**-0.8**
	baz=264						
WRL				*e*S	**Sb**	**22 49 00.9**	**-0.6**
	baz=264						
WTK	**Tuku**	**1.78**	**258**	*e*P	**Pb**	**22 48 39.6**	**-0.6**
	baz=257						
CHY	**Chiayi**	**1.81**	**252**	*e*P	**Pb**	**22 48 40.1**	**-0.5**
	baz=251						
CHY				*e*S	**Sb**	**22 49 03.1**	**+0.3**
	baz=251						
TWK	**Hsinying**	**1.84**	**244**	P	**Pn**	**22 48 39.2**	**+1.3**
	baz=244						
TWK				*e*S	**Sn**	**22 49 02.2**	**+2.1**
	baz=244						
CHN1	**Nanshi**	**1.84**	**241**	P	**Pn**	**22 48 39.9**	**+2.0**
	baz=242						
CHN1				S	**Sb**	**22 49 04.0**	**0.0**
	baz=242						
SGST	**Jiashian**	**1.85**	**238**	*i* P	**Pn**	**22 48 39.9**	**+1.8**
	baz=238						
SGST				S	**Sb**	**22 49 03.9**	**-0.4**
	baz=238						
JISG	**Ishigakijimahi**	**1.91**	**74**	*e*P	**Pn**	**22 48 39.6**	**+0.9**
JISG				*e*S	**Sn**	**22 49 02.9**	**+1.1**
ECL	**Taimali**	**1.92**	**220**	*e*P	**Pn**	**22 48 38.2**	**-0.7**
	baz=221						
ECL				S	**Sn**	**22 49 01.6**	**-0.4**
	baz=221						
WSF	**Szhu**	**1.94**	**257**	S	**Sb**	**22 49 06.6**	**-0.1**
	baz=257						
WSL	**Shuilin Townsh**	**1.97**	**254**	*e*S	**Sb**	**22 49 06.9**	**-0.5**
	baz=254						
ICHU	**Yijhu**	**1.98**	**249**	*e*P	**Pn**	**22 48 41.6**	**+2.0**
	baz=249						
ICHU				*e*S	**Sb**	**22 49 06.6**	**-1.1**
	baz=249						
SSD	**Sandimen**	**2.02**	**229**	P	**Pn**	**22 48 42.9**	**+2.6**
	baz=220						
SCST	**Cishan**	**2.03**	**235**	*e*P	**Pb**	**22 48 43.7**	**-0.8**
	baz=223						
SCST				*e*S	**Sb**	**22 49 10.1**	**+0.7**
	baz=223						
TSMG	**Majia**	**2.04**	**228**	*e*P	**Pn**	**22 48 43.2**	**+2.7**
	baz=219						
CHN8	**Yiju**	**2.04**	**249**	*e*S	**Sn**	**22 49 07.9**	**+2.8**
	baz=249						
SHHT	**Tainan City**	**2.07**	**240**	*e*P	**Pb**	**22 48 44.5**	**-0.6**
	baz=240						
MASBT	**Mashibuluo**	**2.11**	**227**	*e*P	**Pn**	**22 48 43.4**	**+1.8**
	baz=218						
LAY	**Lan-yu**	**2.14**	**199**	*e*P	**Pn**	**22 48 42.3**	**+0.3**
	baz=209						
LAY				*e*S	**Sn**	**22 49 06.2**	**-1.5**
	baz=209						
EAST	**Anshuo**	**2.15**	**218**	P	**Pn**	**22 48 42.4**	**+0.4**
	baz=219						
TAWH	**Dawu Township**	**2.16**	**217**	*e*P	**Pn**	**22 48 43.8**	**+1.6**
	baz=217						
LYUB	**Lan-yu**	**2.17**	**198**	P	**Pn**	**22 48 40.6**	**-1.8**
	baz=208						
LYUB				*e*S	**Sn**	**22 49 07.7**	**-0.6**
	baz=208						
TSCK	**Chigu Township**	**2.23**	**246**	*e*P	**Pn**	**22 48 45.2**	**+2.2**
	baz=246						
TSCK				*e*S	**Sb**	**22 49 13.5**	**-1.3**
	baz=246						
JTJ	**Tarama**	**2.27**	**75**	P	**Pn**	**22 48 45.9**	**+2.2**
SCZT	**Fangliau**	**2.29**	**222**	*e*P	**Pn**	**22 48 46.5**	**+2.5**
	baz=216						
TWKBT	**Hengchun**	**2.53**	**213**	*e*P	**Pn**	**22 48 48.4**	**+1.1**
	baz=214						
PHUB	**P'eng-hu**	**2.55**	**258**	P	**Pn**	**22 48 48.7**	**+1.1**
	baz=258						
PHUB				S	**Sn**	**22 49 19.1**	**+1.4**
	baz=258						
PNG	**Penghu**	**2.56**	**259**	*e*P	**Pn**	**22 48 49.6**	**+2.0**
	baz=259						
PNG				*e*S	**Sn**	**22 49 19.1**	**+1.3**
	baz=259						
VWUC	**VWUC**	**2.74**	**290**	*e*P	**Pn**	**22 48 51.0**	**+0.8**
	baz=289						
SONM	**Songino Array**	**26.86**	**336**	P	**P**	**22 53 45.1**	**-1.3**
	1.6nm,0.8s,baz=152,slow=10,SNR=8.9						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**39.12**	**316**	P	**P**	**22 55 32.8**	**-0.2**
	0.2nm,0.4s,baz=97,slow=9.3,SNR=6.8						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**40.88**	**327**	P	**P

0.3nm,0.6s,baz=352,slow=12,SNR=1.3
0.3nm,0.6s

*NNC **29** 22:56:16.5±2.5,38°.19N×58°.17E,h0km,mb3.6,Error ellipse: s-maj=107.6km s-min=12.3km az=100.0*
*IDC **29** 22:56:16.0±1.1,38°.17N×58°.33E,h0km,mb3.3/2, mbtmp3.4/5,ML2.9/3,Error ellipse: s-maj=6.6km s-min=2.2km az=34.0*
*TEH **29** 22:56:17.4,38°.09N×58°.26E,h9km±55km,ML3.2*
ISC 29 22:56:17.0±0.7,38°.17N±0°.04×58°.26E±0°.04,h10km,n29,σ1§29/33,3C-5D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**0.26**	**206**	Pg			**Pg**	**22 56 22.0**	**-0.4**
	904nm,0.3s,baz=31,slow=15,SNR=9091								
GEYT				Lg			Lg	22 56 25.5	
	694nm,0.3s,baz=35,slow=36,SNR=46								
GEYT				LR			LR	22 56 48.3	
	comp=Z,169nm,20.8s,baz=316,slow=110								
GYA0B	**ALIBECK ARRAY**	**0.26**	**206**	⇓P			**Pg**	**22 56 21.9**	**-0.5**
GYA0B				⇓S			**Sg**	**22 56 25.4**	**-0.5**
IEMG	**Emamgholi**	**0.81**	**158**	Pg			**Pg**	**22 56 32.4**	**-0.3**
ISFR	**Sfrayin**	**1.13**	**191**	Pg			**Pg**	**22 56 38.2**	**-0.6**
IAKL	**Akhelmad**	**1.61**	**166**	Pg			**Pb**	**22 56 47.3**	**+0.3**
IKRD	**Kardeh**	**1.71**	**144**	Pg			**Pb**	**22 56 48.9**	**+0.2**
MRVT	**Maraveh tapeh**	**1.79**	**254**	Pg			**Pb**	**22 56 49.5**	**-0.5**
IPAY	**Payeh**	**1.81**	**161**	Pg			**Pb**	**22 56 50.8**	**+0.4**
SBZV	**Sabzevar**	**1.85**	**197**	Pg			**Pb**	**22 56 50.3**	**-0.7**
IMOG	**Moghan**	**2.23**	**157**	Pn			**Pb**	**22 56 57.5**	**-0.1**
IMYA	**Miami**	**2.34**	**141**	Pn			**Pb**	**22 56 57.8**	**-1.5**
IMND	**Minoodasht**	**2.44**	**249**	Pn			**Pb**	**22 57 00.4**	**-0.6**
TBJM	**Torbat-e-JAM**	**3.33**	**150**	Pn			**Pn**	**22 57 11.0**	**+1.6**
TNSJ	**Nastanj**	**4.40**	**198**	Pn			**Pn**	**22 57 25.9**	**+1.8**
ISHM	**Shahmirzad**	**4.62**	**241**	Pn			**Pn**	**22 57 29.7**	**+2.5**
TKDS	**Koohdasht(Taba**	**4.63**	**192**	Pn			**Pn**	**22 57 29.0**	**+1.7**
SHRT	**Shahrakht**	**4.80**	**159**	Pn			**Pn**	**22 57 30.9**	**+1.4**
IMON	**Monand**	**5.09**	**167**	Pn			**Pn**	**22 57 35.8**	**+2.1**
ITEG	**Tejag**	**5.27**	**176**	Pn			**Pn**	**22 57 37.6**	**+1.6**
ANAR	**Anarak**	**6.18**	**218**	Pn			**Pn**	**22 57 49.9**	**+1.3**
KRSH	**Karshahi**	**6.49**	**232**	Pn			**Pn**	**22 57 54.0**	**+1.2**
KK31	**Karatay Array**	**10.53**	**58**	⇓Pn			**Pn**	**22 58 46.8**	**-1.2**
	0.3nm,0.3s,baz=245,slow=13,SNR=9.4								
KK31				⇓Sn			**Sn**	**23 00 48.0**	**+2.0**
	1.2nm,0.6s								
AB31	**Akbulak array**	**11.15**	**6**	⇓Pn			**Pn**	**22 58 56.0**	**-0.5**
	0.2nm,0.3s,baz=210,slow=14,SNR=7.0								
AB31				⇑Sn			**Sn**	**23 01 02.2**	**+1.1**
	1.6nm,0.7s,baz=216,slow=24,SNR=4.6								
AKTO	**Aktyubinsk**	**12.27**	**359**	⇑Pn			**Pn**	**22 59 12.6**	**+0.9**
	2.9nm,1.2s								
AKTO				⇑Sn			**Sn**	**23 01 28.8**	**+0.3**
	2.0nm,0.6s								
AAK	**Ala-Archa**	**13.15**	**65**	Pn			**Pn**	**22 59 21.1**	**-2.8**
	0.2nm,0.3s,baz=257,slow=6.2,SNR=5.5								
	0.7nm,0.4s								
BVAR	**Borovoye Array**	**17.07**	**26**	P			**Pn**	**23 00 14.8**	**-1.0**
	baz=219,slow=11,SNR=4.5								
	0.9nm,0.5s								
MKAR	**Makanchi Array**	**19.65**	**56**	P			**P**	**23 00 45.7**	**-0.2**
	baz=242,slow=12,SNR=3.8								
	0.4nm,0.8s								
ZALV	**Zalesovo Beam**	**24.06**	**40**	P			**P**	**23 01 32.9**	**+0.7**
	0.3nm,0.4s,baz=248,slow=7.6,SNR=2.0								
	0.3nm,0.4s								
TORD	**Torodi Ar. Bea**	**55.80**	**259**	P			**P**	**23 05 54.0**	**-0.6**
	0.2nm,0.3s,baz=55,slow=8.0,SNR=4.1								
	0.2nm,0.3s								

*SJA **29** 22:58:55.3±0.8,31°.04S×71°.63W,h51km±14km,ML4.5, MW4.4*
*NEIC **29** 22:58:57.8±2.1,31°.04S±0°.05×71°.51W±0°.07,h57km±4km, mb4.4/8,Mwr4.3/29,Mwr4.5(GUC),Error ellipse: s-maj=9.3km s-min=6.7km az=85.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=2.14; $M_{\theta\theta}$=0.78; $M_{\phi\phi}$=2.92; $M_{r\theta}$=0.98; $M_{\theta\phi}$=-1.70; $M_{\phi r}$=2.35; Fault plane solution: M_o=4.03000×10^{15} NP1:ϕ_s=306.16000°, δ39.16000°,λ=-146.64000°. NP2:ϕ_s=189.11000°, δ69.68000°,λ=-55.78000°. Principal axes: T 4.1719, Plg18.0000°, Azm254.0000°; N -0.2951, Plg32.0000°, Azm356.0000°; P -3.8768, Plg53.0000°, Azm140.0000°;*
*IDC **29** 22:58:57.8±0.5,31°.02S×71°.51W,h60km±3km,mb4.0/6, mbtmp4.2/10,MS3.3/6 Error ellipse: s-maj=14.8km s-min=10.3km az=17.0*
*NEIC **29** 22:58:57.7,31°.05S×71°.54W,h54km*
*GUC **29** 22:58:58.0±0.8,31°.05S×71°.36W,h68km±5km,ML4.6*
ISC 29 22:58:57.4±0.4,31°.03S±0°.03×71°.51W±0°.04,h60km±3km, h60km:pP-P,n131,σ1§95/165,mb4.4/11,MS3.5/3,8C-12D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.37**	**343**				**Pn**	**22 59 09.6**	**+1.5**
CO06					Sn		**Sn**	**22 59 18.7**	**+2.8**
CO06	**Fray Jorge**	**0.37**	**343**	⇓P			**Pn**	**22 59 09.9**	**+1.8**
CO06					*i* S		**Sn**	**22 59 18.6**	**+2.8**
CO06					IAML			22 59 19.7	
	comp=E,42μm,0.6s								
CO03	**El Pedregal**	**0.73**	**75**				**Pn**	**22 59 11.6**	**-0.5**
CO03					Sn		**Sn**	**22 59 21.6**	**-1.3**
CO03	**El Pedregal**	**0.73**	**75**	⇑P			**Pn**	**22 59 11.8**	**-0.3**
CO03					*i* S		**Sn**	**22 59 22.0**	**-0.9**
CO03					IAML			22 59 23.2	
	comp=E,45μm,0.4s								
CO03	**El Pedregal**	**0.73**	**75**	*e*P			**Pn**	**22 59 11.5**	**-0.5**
CO03					*e*S		**Sn**	**22 59 22.2**	**-0.6**
CO03					IAML			22 59 23.6	
	comp=Z,12μm,0.2s								
GO04	**Tololo Observa**	**1.05**	**36**				**Pn**	**22 59 16.8**	**+0.5**
GO04					Sn		**Sn**	**22 59 30.6**	**+0.3**
GO04	**Tololo Observa**	**1.05**	**36**	⇑*i*P			**Pn**	**22 59 16.9**	**+0.5**
GO04					*i* S		**Sn**	**22 59 30.9**	**+0.5**
GO04	**Tololo Observa**	**1.05**	**36**	*e*P			Pn	22 59 11.5	-4.8
GO04				*e*P				22 59 16.2	
GO04					*e*S		**Sn**	**22 59 31.5**	**+1.2**
GO04					IAML			22 59 32.2	
	comp=Z,31μm,0.2s								
CO05	**La Serena**	**1.13**	**12**				**Pn**	**22 59 18.6**	**+1.4**
CO05					Sn		**Sn**	**22 59 33.2**	**+1.3**
CO05	**La Serena**	**1.13**	**12**	⇓*i*P			**Pn**	**22 59 18.5**	**+1.4**
CO05					*i* S		**Sn**	**22 59 31.5**	**-0.4**
CO05					IAML			22 59 35.9	
	comp=E,17μm,0.7s								
CO01	**Juntas del Tor**	**1.61**	**50**	Pn			**Pn**	**22 59 25.0**	**+1.2**
CO01	**Juntas del Tor**	**1.61**	**50**	⇑*i*P			**Pn**	**22 59 25.0**	**+1.2**
CO01					*i* S		**Sn**	**22 59 44.8**	**+1.0**
CO01					IAML			22 59 46.1	
	comp=E,14μm,0.3s								
CO01	**Juntas del Tor**	**1.61**	**50**	*e*P			**Pn**	**22 59 24.3**	**+0.5**
CO01					*e*S		**Sn**	**22 59 45.1**	**+1.4**
CO01					IAML			22 59 46.2	
	comp=Z,3μm,0.4s								
VA03	**San Esteban**	**1.91**	**155**				**Pn**	**22 59 27.9**	**+0.2**
VA03	**San Esteban**	**1.91**	**155**	⇓*i*P			**Pn**	**22 59 27.9**	**+0.2**
VA03					*i* S		**Sn**	**22 59 50.7**	**0.0**
VA03					IAML			22 59 58.2	
	comp=E,8μm,0.3s								
VA03	**San Esteban**	**1.91**	**155**	*e*P			**Pn**	**22 59 27.8**	**+0.1**
VA03					*e*S		**Sn**	**22 59 51.5**	**+0.8**
VA03					IAML			22 59 58.0	
	comp=Z,3μm,0.3s								
AROD	**Rodeo**	**1.96**	**64**	*e*P			**Pn**	**22 59 31.2**	**+2.6**
AROD					*e*S		**Sn**	**22 59 51.0**	**-1.1**
ROC1	**El Roble**	**1.98**	**168**				**Pn**	**22 59 28.4**	**-0.5**
VA01	**Torpederas**	**1.99**	**183**				**Pn**	**22 59 28.4**	**-0.2**
VA01	**Torpederas**	**1.99**	**183**	*e*P			**Pn**	**22 59 28.6**	**-0.1**
VA01	**Torpederas**	**1.99**	**183**	*e*P			**Pn**	**22 59 28.3**	**-0.3**
VA01					*e*S		**Sn**	**22 59 46.0**	**-6.4**
VA01					IAML			22 59 57.4	
	comp=Z,1μm,0.8s								
RTLS	**Leoncito**	**2.04**	**113**	*e*P			**Pn**	**22 59 31.8**	**+2.1**
RTLS					*e*S		**Sn**	**22 59 57.4**	**+3.2**
RTLS					IAML			22 59 57.5	
	comp=Z,12μm,0.3s								
DOCA	**Reserva Natura**	**2.09**	**88**	*e*P			**Pn**	**22 59 31.3**	**+1.0**
DOCA					*e*S		**Sn**	**22 59 59.5**	**+4.1**
DOCA					IAML			23 00 02.0	
	comp=Z,1μm,0.3s								
LCO	**Las Campanas**	**2.13**	**19**				**Pn**	**22 59 32.2**	**+1.3**
LCO	**Las Campanas**	**2.13**	**19**	*e*P			**Pn**	**22 59 31.6**	**+0.7**
LCO					*e*S		**Sn**	**22 59 59.2**	**+2.8**
LCO					IAML			23 00 05.2	
	comp=Z,3μm,0.5s								
ACCO	**Cerro Coronel**	**2.15**	**79**	*e*P			**Pn**	**22 59 33.5**	**+2.3**
ACCO					*e*S		**Sn**	**22 59 48.5**	**-8.4**
PEL	**Peldehue**	**2.22**	**162**				**Pn**	**22 59 32.0**	**+0.2**
PEL	**Peldehue**	**2.22**	**162**	⇓*i*P			**Pn**	**22 59 32.1**	**+0.2**
PEL					*i* S		**Sn**	**22 59 56.6**	**-1.5**
PEL					IAML			23 00 03.8	
	comp=N,2μm,0.5s								
ACDV	**Cuesta del Vie**	**2.23**	**68**	*e*P			**Pn**	**22 59 34.9**	**+2.8**
ACDV					*e*S		**Sn**	**22 59 51.5**	**-7.2**
ACDV					*e*S			22 59 51.7	
ACDV					IAML			23 00 06.6	
	comp=Z,1μm,0.6s								
MT02	**Curacav**	**2.24**	**172**				**Pn**	**22 59 31.8**	**-0.4**
MT02	**Curacav**	**2.24**	**172**	⇑*e*P			**Pn**	**22 59 31.8**	**-0.4**
MT02	**Curacav**	**2.24**	**172**	*e*P			**Pn**	**22 59 31.9**	**-0.2**
MT02					*e*S		**Sn**	**22 59 59.0**	**+0.3**
MT02					IAML			23 00 12.7	
	comp=Z,2μm,0.7s								
MT10	**Hacienda Santa**	**2.38**	**160**	⇓*i*P			**Pn**	**22 59 34.4**	**+0.2**
MT10					IAML			23 00 14.3	
	comp=N,9μm,0.4s								
AC05	**El Transito**	**2.44**	**26**				**Pn**	**22 59 36.9**	**+2.0**
AC05	**El Transito**	**2.44**	**26**	⇑*i*P			**Pn**	**22 59 36.7**	**+1.8**
AC05	**El Transito**	**2.44**	**26**	*e*P			**Pn**	**22 59 31.5**	**-3.4**
AC05				*e*P				22 59 36.2	
AC05					*e*S		**Sn**	**23 00 09.0**	**+5.3**
AC05					IAML			23 00 20.8	
	comp=Z,4μm,0.9s								
MT05	**Renca**	**2.44**	**165**				**Pn**	**22 59 35.1**	**+0.3**
MT05	**Renca**	**2.44**	**165**	⇓*i*P			**Pn**	**22 59 35.2**	**+0.3**
MT05					IAML			23 00 18.8	
	comp=E,6μm,0.4s								
MT05	**Renca**	**2.44**	**165**	*e*P			**Pn**	**22 59 35.3**	**+0.4**
MT05					*e*S		Sn	22 59 54.4	-9.2
MT05					IAML			23 00 15.9	
	comp=Z,2μm,0.7s								
ZON	**Zonda**	**2.48**	**103**				**Pn**	**22 59 37.7**	**+2.3**
ZON	**Zonda**	**2.48**	**103**	*e*P			**Pn**	**22 59 37.2**	**+1.8**
ZON					*e*S		**Sn**	**23 00 09.2**	**+4.6**
ZON					IAML			23 00 11.2	
	comp=Z,2μm,0.4s								
MT14	**Cerro Calı¡n**	**2.50**	**161**	*i* P			**Pn**	**22 59 36.1**	**+0.5**
MT14				*i* S			**Sn**	**23 00 05.3**	**+0.3**
MT14					IAML			23 00 19.7	
	comp=E,8μm,0.6s								
FCH	**Farellones**	**2.51**	**156**	*e*P			**Pn**	**22 59 36.6**	**+0.5**
FCH				*i* S			**Sn**	**23 00 06.4**	**+0.7**
FCH					IAML			23 00 20.7	
	comp=E,1μm,0.1s								
MT03	**Universidad Ad**	**2.60**	**161**				**Pn**	**22 59 37.4**	**+0.4**
MT03	**Universidad Ad**	**2.60**	**161**	⇓*i*P			**Pn**	**22 59 37.5**	**+0.4**
MT03					IAML			23 00 22.4	
	comp=E,5μm,0.5s								
MT03	**Universidad Ad**	**2.60**	**161**	*e*P			**Pn**	**22 59 37.0**	**-0.1**
MT03					*e*S		**Sn**	**23 00 16.0**	**+8.5**
MT03					IAML			23 00 22.4	
	comp=Z,3μm,0.4s								
RTLL	**Cerro Villicun**	**2.62**	**97**	*e*P			**Pn**	**22 59 38.9**	**+1.6**
RTLL					*e*S		**Sn**	**23 00 10.8**	**+2.9**
VA05	**Santo Domingo**	**2.62**	**182**				**Pn**	**22 59 37.0**	**-0.3**
VA05	**Santo Domingo**	**2.62**	**182**	*e*P			**Pn**	**22 59 36.9**	**-0.4**
MT04	**Ro Olivares**	**2.64**	**154**	*e*P			**Pn**	**22 59 39.5**	**+1.8**
MT15	**Las Vizcachas**	**2.70**	**162**	⇓*i*P			**Pn**	**22 59 38.7**	**+0.3**
MT15					*e*S		**Sn**	**23 00 08.4**	**-1.5**
ASAL	**Salagasta**	**2.76**	**125**	*e*P			**Pn**	**22 59 41.9**	**+2.6**
ASAL					*e*S		**Sn**	**23 00 16.4**	**+5.0**
ASAL					IAML			23 00 18.2	
	comp=Z,589nm,0.7s								
MT09	**Talagante**	**2.77**	**171**				**Pn**	**22 59 39.8**	**+0.3**
MT09	**Talagante**	**2.77**	**171**	⇓*i*P			**Pn**	**22 59 39.8**	**+0.3**
MT09					IAML			23 00 26.5	
	comp=N,3μm,0.6s								
MT01	**Popeta**	**2.83**	**176**				**Pn**	**22 59 40.2**	**0.0**
MT01	**Popeta**	**2.83**	**176**	⇓*i*P			**Pn**	**22 59 40.1**	**0.0**
MT01					IAML			23 00 29.5	
	comp=E,1μm,0.5s								
MT01	**Popeta**	**2.83**	**176**	*e*P			**Pn**	**22 59 40.2**	**0.0**
MT01					*e*S		**Sn**	**23 00 15.4**	**+2.3**
MT01					*e*S			23 00 16.0	
MT01					IAML			23 00 27.8	
	comp=Z,1μm,0.4s								
AC04	**Llanos de Chal**	**2.84**	**8**	Pn			**Pn**	**22 59 41.4**	**+1.1**
AC04	**Llanos de Chal**	**2.84**	**8**	*e*P			**Pn**	**22 59 40.8**	**+0.4**
AC04					*e*S		Sn	23 00 02.3	-11
AC04					IAML			23 00 28.7	
	comp=Z,2μm,0.3s								
CFA	**Coronel Fontan**	**2.86**	**102**	P			**Pn**	**22 59 42.1**	**+1.6**
	comp=Z,159nm,0.4s,baz=256,slow=8.8,SNR=682								
CFA					S		**Sn**	**23 00 15.2**	**+1.4**
	comp=Z,1μm,0.4s,baz=148,slow=18,SNR=16								
CFA					LR		LR	23 00 23.9	
	comp=Z,243nm,18.5s,baz=261,slow=30								
CFA	**Coronel Fontan**	**2.86**	**102**	*e*P			**Pn**	**22 59 42.2**	**+1.6**
CFA					*e*S		Sn	23 00 02.4	-11
MT13	**San Alfonso**	**2.90**	**159**	Pn			**Pn**	**22 59 41.8**	**+0.7**
MT13	**San Alfonso**	**2.90**	**159**	*e*P			**Pn**	**22 59 42.1**	**+1.0**
LMEL	**Las Melosas**	**3.02**	**159**				**Pn**	**22 59 44.0**	**+1.1**
LMEL	**Las Melosas**	**3.02**	**159**	⇓*i*P			**Pn**	**22 59 43.9**	**+1.0**
LMEL					*i* S		**Sn**	**23 00 17.5**	**-0.4**
LMEL					IAML			23 00 39.3	
BO04	**La Punta**	**3.04**	**166**	Pn			**Pn**	**22 59 43.4**	**+0.3**
BO04	**La Punta**	**3.04**	**166**	⇓*i*P			**Pn**	**22 59 43.4**	**+0.3**
BO04					IAML			23 00 34.3	
	comp=E,2μm,0.5s								
AAGR	**Agrelo**	**3.06**	**133**	*e*P			**Pn**	**22 59 46.4**	**+3.0**
AAGR					*e*S		Sn	23 00 02.8	-16
AAGR					IAML			23 00 09.8	
	comp=Z,866nm,1.0s								
BO01	**Tunca**	**3.37**	**174**	Pn			**Pn**	**22 59 47.1**	**-0.5**
BO01	**Tunca**	**3.37**	**174**	*e*P			**Pn**	**22 59 46.8**	**-0.7**
BO01					*e*S		**Sn**	**23 00 26.1**	**-0.2**
BO01					IAML			23 00 46.7	
	comp=Z,650nm,0.8s								
GO03	**Copiap**	**3.60**	**18**				**Pn**	**22 59 51.9**	**+1.1**
GO03	**Copiap**	**3.60**	**18**	*e*P			**Pn**	**22 59 51.2**	**+0.4**
GO03					*e*S		**Sn**	**23 00 31.5**	**-0.6**
GO03					IAML			23 00 58.7	
	comp=Z,1μm,0.8s								
AC06	**Mina Casimiro**	**3.80**	**16**	Pn			**Pn**	**22 59 54.1**	**+0.7**
BO02	**Sierra Bellavi**	**3.80**	**171**				**Pn**	**22 59 53.3**	**-0.2**
GO05	**Huala**	**3.98**	**185**	Pn			**Pn**	**22 59 54.9**	**-1.0**
RFA	**San Rafael**	**4.52**	**146**	*e*P			**Pn**	**23 00 04.0**	**+0.7**
ML02	**Panimavida**	**4.72**	**179**				**Pn**	**23 00 05.1**	**-0.9**
AC01	**Pan de Azucar**	**4.93**	**10**	Pn			**Pn**	**23 00 08.2**	**-0.7**
GO02	**Mina Guanaco**	**6.09**	**17**	Pn			**Pn**	**23 00 24.1**	**-0.9**
H03N1	**Juan Fernandez**	**6.71**	**247**	T			T	23 07 26.5	
	baz=73,slow=72,SNR=568								
VA04	**Juan Fernndez**	**6.72**	**245**	Pn			**Pn**	**23 00 34.0**	**+0.6**
H03N3	**Juan Fernandez**	**6.73**	**247**	T			T	23 07 29.8	
	baz=73,slow=72,SNR=438								
H03N2	**Juan Fernandez**	**6.73**	**247**	T			T	23 07 27.4	
	baz=73,slow=72,SNR=435								
H03S3	**Juan Fernandez**	**6.85**	**244**	T			T	23 07 29.0	
	baz=71,slow=75,SNR=8.1								
H03S1	**Juan Fernandez**	**6.85**	**244**	T			T	23 07 27.9	
	baz=71,slow=75,SNR=11								
H03S2	**Juan Fernandez**	**6.87**	**244**	T			T	23 07 28.7	
	baz=71,slow=75,SNR=15								
PB15	**IPOC Station P**	**8.00**	**14**				Pn	23 00 46.7	-4.5
GO06	**Curarrehue**	**8.53**	**180**	Pn			**Pn**	**23 00 57.7**	**-0.6**
LR03	**Panguipulli**	**8.61**	**184**				**Pn**	**23 00 56.8**	**-2.5**
LVC	**Limon Verde**	**8.70**	**16**	Pn			**Pn**	**23 00 59.1**	**-1.9**
LVC	**Limon Verde**	**8.70**	**16**	P			**Pn**	**23 00 58.2**	**-2.8**
	comp=Z,2.0nm,0.3s,baz=198,slow=6.1,SNR=7.7								
LVC					S		**Sn**	**23 02 31.8**	**-6.0**
	comp=Z,14nm,0.5s,baz=170,slow=13,SNR=1.8								
LVC					LR		LR	23 04 56.4	
	comp=Z,162nm,20.8s,baz=191,slow=41								
PLCA	**Paso Flores**	**9.71**	**176**	P			**Pn**	**23 01 13.4**	**-1.0**
	comp=Z,2.5nm,0.4s,baz=340,slow=12,SNR=14								
PLCA					LR		LR	23 05 16.4	
	comp=Z,99nm,19.0s,baz=231,slow=39								
TRQA	**Tornquist**	**10.53**	**134**	Pn			**Pn**	**23 01 23.9**	**-1.5**
ITQB	**Itaqui**	**12.93**	**88**	Pn			**Pn**	**23 01 55.2**	**-3.0**
CPUP	**Villa Florida**	**13.30**	**73**	P			**Pn**	**23 01 59.2**	**-4.2**
	comp=Z,1.5nm,0.6s,baz=222,slow=13,SNR=5.3								
LPAZ	**La Paz**	**15.00**	**13**	P			**Pn**	**23 02 28.1**	**+1.7**
	comp=Z,1.6nm,0.5s,baz=175,slow=8.1,SNR=12								
SIV	**San Ignacio**	**17.75**	**35**	P			**Pn**	**23 02 59.8**	**-0.7**
	comp=Z,5.8nm,0.6s,baz=210,slow=8.5,SNR=30								
PTLB	**Pontes e Lacer**	**19.20**	**39**	P			**P**	**23 03 16.7**	**+0.3**
VILB	**Vilhena**	**20.80**	**33**	P			**P**	**23 03 33.9**	**+0.1**
VILB					IAmb		IAmb	23 03 49.6	
	comp=Z,17nm,1.0s								
ETMB	**Extrema**	**21.68**	**14**	P			**P**	**23 03 44.3**	**+1.1**
BDFB	**Brasilia**	**26.38**	**60**	P			**P**	**23 04 27.2**	**-1.1**
	comp=Z,3.5nm,0.6s,baz=241,slow=8.8,SNR=9.4								
BDFB					LR		LR	23 16 15.1	
	comp=Z,86nm,21.4s,baz=142,slow=39								
	comp=Z,3.5nm,0.6s								
PMSA	**Palmer Station**	**34.08**	**174**	LR			LR	23 20 18.2	
	comp=Z,159nm,18.5s,baz=64,slow=38								
BOAV	**Boa Vista**	**34.85**	**19**	P			**P**	**23 05 43.6**	**+0.7**
BOAV					IAmb		IAmb	23 05 59.9	
	comp=Z,3.8nm,0.7s								
MDP	**Montagnes des**	**40.20**	**30**	LR			LR	23 22 23.3	
	comp=Z,61nm,18.2s,baz=199,slow=35								
BELA	**Belgrano 2**	**49.72**	**170**	P			**P**	**23 07 43.9**	**+0.8**
BELA							**pP**	**23 07 58.5**	**-0.4**
BELA					IAmb		IAmb	23 08 08.1	
	comp=Z,9.9nm,1.3s								
VNA3	**Neumayer Olymp**	**51.94**	**159**	⇑P			**P**	**23 07 59.9**	**+0.1**
	comp=Z,4.4nm,0.7s								
VNA2	**Neumayer--Watz**	**52.58**	**158**	⇑P			**P**	**23 08 04.6**	**+0.1**
	comp=Z,5.6nm,0.5s,baz=292,slow=10.0								
TROLL	**Troll, Antarti**	**55.88**	**159**	⇑P			**P**	**23 08 28.7**	**+0.1**
	comp=Z,179nm,0.5s								
QSPA	**South Pole Qui**	**59.20**	**180**	P			**P**	**23 08 52.7**	**+0.7**
QSPA	**South Pole Qui**	**59.20**	**180**	P			**P**	**23 08 52.5**	**+0.4**
	comp=Z,3.5nm,0.5s,baz=208,slow=0.4,SNR=43								
QSPA					pP		**pP**	**23 09 09.5**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=166,slow=4.3,SNR=3.1								
QSPA					sP		**sP**	**23 09 16.7**	**+1.8**
	comp=Z,7.6nm,0.8s,baz=144,slow=2.9,SNR=8.8								
	comp=Z,3.5nm,0.5s								
H06E1	**SOCORRO T-PHAS**	**62.34**	**317**	T			T	00 16 44.8	
	SNR=8.8								
TXAR	**Lajitas Array**	**67.39**	**330**	P			**P**	**23 09 47.6**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=152,slow=5.7,SNR=3.6								
TXAR					pP		**pP**	**23 10 03.7**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=153,slow=7.6,SNR=3.6								
TXAR					sP		**sP**	**23 10 10.3**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=156,slow=8.3,SNR=3.7								
	comp=Z,0.3nm,0.8s								
DBIC	**Dimbokro**	**73.82**	**72**	P			**P**	**23 10 26.0**	**+0.1**
	comp=Z,4.3nm,0.7s,baz=214,slow=6.3,SNR=8.1								
DBIC					pP		**pP**	**23 10 42.9**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=222,slow=7.2,SNR=1.7								
	comp=Z,4.3nm,0.7s								
MAW	**Mawson**	**75.89**	**164**	P			**P**	**23 10 37.4**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=209,slow=6.2,SNR=6.3								
MAW					sP		**sP**	**23 10 59.1**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=22,slow=11,SNR=3.3								
	comp=Z,1.8nm,0.5s								
NVAR	**Mina Array Bea**	**81.72**	**325**	pP			pP	23 11 27.9	+1.5
	comp=Z,0.3nm,0.5s,baz=158,slow=6.3,SNR=3.6								
TORD	**Torodi Ar. Bea**	**82.78**	**70**	P			**P**	**23 11 15.4**	**0.0**
	comp=Z,2.1nm,0.8s,baz=275,slow=3.9,SNR=15								
TORD					pP		**pP**	**23 11 32.5**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=229,slow=5.5,SNR=3

	baz=81							
EOS4					S		Sb	23 15 52.0 -1.6
	baz=81							
EOS3	**EOS3**	**0.23**	**6**		P		**Pb**	23 15 50.2 -1.6
	baz=337							
EOS3					S		**Sb**	23 15 54.7 -1.5
	baz=337							
EOS2	**EOS2**	**0.36**	**351**		P		**Pb**	23 15 52.2 -1.3
	baz=331							
EOS2					S		**Sb**	23 15 58.2 -1.0
	baz=331							
EHP	**Heping Village**	**0.56**	**296**		P		**Pb**	23 15 56.1 -0.5
	baz=290							
EWUT	**Wuta**	**0.61**	**309**		P		**Pb**	23 15 55.4 -1.9
	baz=304							
EWUT					S		**Sb**	23 16 04.4 -1.4
	baz=304							
ETL	**Fush Village**	**0.62**	**279**		P		**Pb**	23 15 56.9 -0.7
	baz=258							
ETL					S		**Sn**	23 16 07.0 +0.4
	baz=258							
ENA	**Nanau**	**0.62**	**306**	*i*	P		**Pb**	23 15 55.7 -1.9
	baz=308							
ENA					S		**Sb**	23 16 04.7 -1.5
	baz=308							
HWA	**Hwalien**	**0.64**	**263**	*i*	P		**Pb**	23 15 57.6 -0.2
	baz=258							
HWA					S		**Sn**	23 16 07.0 +0.2
	baz=258							
TWD	**Chiawan**	**0.64**	**272**	⇑*i*	P		**Pb**	23 15 56.8 -1.0
	baz=267							
TWD				*i*	S		**Sn**	23 16 07.1 +0.2
	baz=267							
NACB	**Ninganchiao**	**0.65**	**280**				**Pb**	23 15 56.5 -1.5
NACB					Sg		**Sb**	23 16 06.3 -0.6
NACB	**Ninganchiao**	**0.65**	**280**		P		**Pb**	23 15 57.1 -0.9
NACB	**Ninganchiao**	**0.65**	**280**	⇑	P		**Pb**	23 15 56.9 -1.1
	baz=261							
NACB					S		**Sn**	23 16 07.2 0.0
	baz=261							
TWC	**Suao**	**0.68**	**324**	*i*	P		**Pn**	23 15 56.2 -2.2
	baz=320							
TWC				*i*	S		**Sb**	23 16 04.8 -3.0
	baz=320							
JYNG	**Yonagunijimaku**	**0.71**	**57**	*i*	P		**Pn**	23 15 58.0 -0.8
JYNG					S		**Sb**	23 16 07.2 -1.4
JYNG	**Yonagunijimaku**	**0.71**	**57**		A		A	23 15 58.0
	comp=E,186nm,0.7s,comp=N,198nm,1.8s							
ETM	**Tongmen**	**0.74**	**263**		P		**Pn**	23 15 58.4 -0.9
	baz=250							
ETM					S		**Sb**	23 16 09.2 -0.1
	baz=250							
ETLH	**Xiulin Townshi**	**0.76**	**281**		P		**Pn**	23 15 58.9 -0.7
	baz=277							
ETLH					S		**Sn**	23 16 10.4 +0.5
	baz=277							
YOJ	**Yonaguni jima**	**0.77**	**58**				**Pn**	23 15 59.0 -0.6
YOJ					Sg		**Sb**	23 16 08.9 -1.3
YOJ	**Yonaguni jima**	**0.77**	**58**		P		**Pb**	23 15 59.7 -0.3
YOJ	**Yonaguni jima**	**0.77**	**58**		P		**Pn**	23 15 59.1 -0.6
YOJ					S		**Sb**	23 16 08.8 -1.4
YOJ	**Yonaguni jima**	**0.77**	**58**		A		A	23 15 59.1
	comp=E,123nm,2.6s,comp=N,190nm,2.2s							
YOJ	**Yonaguni jima**	**0.77**	**58**		P		**Pb**	23 15 60.0 0.0
	baz=61							
YOJ					S		**Sb**	23 16 08.9 -1.3
	baz=61							
TEGC	**Jichi Village**	**0.77**	**243**		P		**Pb**	23 15 60.0 -0.2
	baz=240							
TEGC					S		**Sn**	23 16 10.3 0.0
	baz=240							
NDS	**Dongshan**	**0.78**	**317**		P		**Pn**	23 15 58.6 -1.1
	baz=313							
NDS					S		**Sn**	23 16 09.2 -1.1
	baz=313							
LXIB	**Xiulin Townshi**	**0.81**	**267**	⇑	P		**Pn**	23 15 59.3 -1.0
	baz=254							
LXIB					S		**Sn**	23 16 10.3 -1.0
	baz=254							
ESL	**Shilin**	**0.82**	**253**	*i*	P		**Pn**	23 15 59.5 -0.9
	baz=243							
ESL					S		**Sn**	23 16 10.5 -1.0
	baz=243							
LATG	**Datong**	**0.84**	**304**		P		**Pn**	23 16 00.1 -0.7
	baz=300							
LATG					S		**Sn**	23 16 11.9 -0.3
	baz=300							
EGS		**0.85**	**337**	⇑*i*	P		**Pn**	23 16 00.1 -0.6
	baz=327							
EGS				*i*	S		**Sn**	23 16 11.9 -0.2
	baz=327							
TWE	**Neicheng**	**0.87**	**319**	*i*	P		**Pn**	23 16 00.1 -1.0
	baz=322							
TWE				*i*	S		**Sn**	23 16 11.4 -1.2
	baz=322							
ENTT	**Nioudou**	**0.88**	**311**	*i*	P		**Pn**	23 16 00.5 -0.8
	baz=307							
ENTT				*i*	S		**Sn**	23 16 11.9 -1.0
	baz=307							
EGFH	**Guangfu**	**0.88**	**244**		P		**Pn**	23 16 00.5 -0.7
	baz=231							
EGFH					S		**Sn**	23 16 12.6 -0.4
	baz=231							
NDT	**Datong Townshi**	**0.89**	**307**		P		**Pn**	23 16 01.1 -0.3
	baz=312							
NDT					S		**Sn**	23 16 12.4 -0.8
	baz=312							
NTC	**Toucheng**	**0.90**	**332**		P		**Pn**	23 16 00.3 -1.1
	baz=328							
NTC					S		**Sn**	23 16 12.7 -0.5
	baz=328							
WARBT	**Fenglin Townsh**	**0.90**	**248**		P		**Pn**	23 16 00.7 -0.8
	baz=236							
WARBT					S		**Sn**	23 16 12.4 -0.9
	baz=236							
NNSH	**Datong**	**0.91**	**294**	*i*	P		**Pn**	23 16 01.3 -0.4
	baz=290							
NNSH					S		**Sb**	23 16 15.2 +0.9
	baz=290							
NNSB	**Datong**	**0.91**	**294**	⇑	P		**Pn**	23 16 01.2 -0.5
	baz=290							
NNSB					S		**Sn**	23 16 13.4 -0.4
	baz=290							
NNS	**Nan Shan**	**0.92**	**294**	⇑*i*	P		**Pn**	23 16 01.4 -0.5
	baz=290							
NNS					S		**Sb**	23 16 14.8 +0.1
	baz=290							
WHF	**Hehuan Shan**	**0.94**	**275**	*i*	P		**Pn**	23 16 02.1 -0.3
	baz=260							
WHF				*i*	S		**Sn**	23 16 15.2 +0.1
	baz=260							
FUSB	**Fushanzhiwuyua**	**0.95**	**317**	⇓	P		**Pn**	23 16 01.6 -0.6
	baz=313							
FUSB					S		**Sn**	23 16 14.4 -0.3
	baz=313							
HGSD	**Ruisui**	**0.98**	**235**	⇓	P		**Pn**	23 16 02.0 -0.6
	baz=233							
HGSD					S		**Sb**	23 16 16.7 +0.6
	baz=233							
TWB1	**Santiao Chiao**	**0.98**	**344**	*i*	P		**Pn**	23 16 02.1 -0.5
	baz=357							
TWB1					S		**Sn**	23 16 15.0 -0.4
	baz=357							
NWLT	**Wulai**	**1.01**	**315**	*i*	P		**Pn**	23 16 03.1 0.0
	baz=311							
NWLT					S		**Sn**	23 16 16.0 -0.2
	baz=311							
CHGB	**Renai**	**1.02**	**270**	⇑	P		**Pn**	23 16 03.0 -0.4
	baz=255							
CHGB					S		**Sn**	23 16 16.9 +0.1
	baz=255							
OWD	**Renai**	**1.03**	**264**		P		**Pn**	23 16 03.1 -0.3
	baz=262							
OWD					S		**Sn**	23 16 16.3 -0.4
	baz=262							
YHNB	**Yeheng**	**1.03**	**306**				**Pn**	23 16 03.1 -0.3
YHNB							**Sn**	23 16 17.1 +0.3
YHNB	**Yeheng**	**1.03**	**306**		P		**Pn**	23 16 03.3 -0.1
YHNB	**Yeheng**	**1.03**	**306**	⇑	P		**Pn**	23 16 03.2 -0.3
	baz=290							
YHNB					S		**Sb**	23 16 17.8 0.0
	baz=290							
TWT	**Tachien**	**1.04**	**281**	*i*	P		**Pn**	23 16 04.0 +0.4
	baz=277							
TWT					S		**Sb**	23 16 18.0 -0.1
	baz=277							
EHY	**Hungye**	**1.05**	**238**	⇓*i*	P		**Pn**	23 16 03.0 -0.5
	baz=226							
EHY					S		**Sn**	23 16 17.5 +0.5
	baz=226							
NSK	**Sanguang**	**1.05**	**306**	⇑*i*	P		**Pn**	23 16 03.3 -0.3
	baz=290							
NSK					S		**Sb**	23 16 18.4 +0.1
	baz=290							
TDCB	**Techi**	**1.05**	**281**		P		**Pn**	23 16 03.7 0.0
	baz=267							
TDCB				*e*	S		**Sb**	23 16 19.2 +0.8
	baz=267							
ECBN	**Changbin**	**1.07**	**226**	⇓	P		**Pn**	23 16 03.6 -0.2
	baz=226							
ECBN					S		**Sn**	23 16 17.5 0.0
	baz=226							
WUSB	**Renai**	**1.08**	**267**	⇑	P		**Pn**	23 16 03.8 -0.2
	baz=264							
WUSB				*i*	S		**Sn**	23 16 17.6 -0.3
	baz=264							
SXI1	**Grass Mountain**	**1.10**	**340**		P		**Pn**	23 16 03.7 -0.6
	baz=336							
SXI1					S		**Sb**	23 16 19.2 -0.4
	baz=336							
VWDT	**VWDT**	**1.10**	**254**	⇑	P		**Pn**	23 16 04.3 +0.1
	baz=241							
VWDT				*i*	S		**Sn**	23 16 17.6 -0.7
	baz=241							
NWF	**Wu-fen Shan**	**1.11**	**335**	⇑*i*	P		**Pn**	23 16 04.0 -0.4
	baz=331							
NWF				*i*	S		**Sb**	23 16 19.2 -0.8
	baz=331							
WFSB	**Wu-fen Shan**	**1.11**	**335**	⇑	P		**Pn**	23 16 04.0 -0.4
	baz=331							
WFSB					S		**Sb**	23 16 19.2 -0.7
	baz=331							
YULB	**Yu-li**	**1.13**	**234**				**Pn**	23 16 04.4 -0.3
YULB						Sn	**Sn**	23 16 19.4 +0.4
YULB	**Yu-li**	**1.13**	**234**		P		**Pn**	23 16 04.4 -0.3
YULB	**Yu-li**	**1.13**	**234**	⇓	P		**Pn**	23 16 04.2 -0.4
	baz=248							
YULB					S		**Sb**	23 16 20.0 -0.5
	baz=248							
NHDH	**Xindian Distri**	**1.14**	**322**	⇑	P		**Pb**	23 16 05.4 -0.8
	baz=310							
NHDH					S		**Sn**	23 16 19.6 +0.4
	baz=310							
EYUL	**Yuli**	**1.14**	**232**	*i*	P		**Pn**	23 16 05.3 +0.5
	baz=219							
EYUL				*i*	S		**Sb**	23 16 21.2 +0.4
	baz=219							
TWF1	**Yuli**	**1.15**	**233**	⇓*i*	P		**Pn**	23 16 04.7 -0.3
	baz=247							
TWF1				*i*	S		**Sb**	23 16 20.9 -0.2
	baz=247							
TATO	**Taipei**	**1.17**	**321**				**Pn**	23 16 05.8 +0.6
TATO						Sg	**Sb**	23 16 21.4 -0.2
TATO	**Taipei**	**1.17**	**321**		P		**Pb**	23 16 06.0 -0.8
TATO	**Taipei**	**1.17**	**321**		P		**Pb**	23 16 05.9 -0.8
	baz=317							
TATO					S		**Sn**	23 16 20.4 +0.4
	baz=317							
NHY	**Taipei**	**1.18**	**326**		P		**Pb**	23 16 07.1 +0.2
	baz=322							
NHY					S		**Sb**	23 16 22.5 +0.7
	baz=322							
TNOU	**National Taiwa**	**1.18**	**337**		P		**Pn**	23 16 04.8 -0.6
	baz=333							
TNOU					S		**Sn**	23 16 20.5 +0.1
	baz=333							
TAP	**Taipei**	**1.21**	**324**	*i*	P		**Pb**	23 16 07.2 -0.2
	baz=320							
TAP					S		**Sb**	23 16 22.3 -0.4
	baz=320							
BACT	**New Taipei Cit**	**1.21**	**320**		P		**Pb**	23 16 07.2 -0.3
	baz=317							
BACT				*e*	S		**Sb**	23 16 24.2 +1.3
	baz=317							
NFF	**Wufeng Townshi**	**1.21**	**298**		P		**Pb**	23 16 09.2 +1.6
	baz=295							
NFF					S		**Sb**	23 16 22.6 -0.3
	baz=295							
WPL	**Puli Township**	**1.22**	**268**		P		**Pn**	23 16 06.5 +0.5
	baz=257							
WPL					S		**Sb**	23 16 23.1 -0.1
	baz=257							
DPDB	**Guoxing**	**1.25**	**269**		P		**Pn**	23 16 06.8 +0.4
	baz=259							
DPDB					S		**Sb**	23 16 23.0 -1.0
	baz=259							
WHP	**Taichung City**	**1.25**	**280**		P		**Pb**	23 16 07.2 -0.9
	baz=266							
WHP					S		**Sb**	23 16 24.6 +0.6
	baz=266							
FULB	**Fuli**	**1.26**	**227**		P		**Pn**	23 16 06.1 -0.3
	baz=214							
FULB					S		**Sn**	23 16 22.4 +0.2
	baz=214							
SSLB	**Suanglung**	**1.26**	**258**				**Pn**	23 16 06.0 -0.3
SSLB	**Suanglung**	**1.26**	**258**		P		**Pn**	23 16 06.7 +0.3
SSLB	**Suanglung**	**1.26**	**258**	⇑	P		**Pn**	23 16 06.5 +0.1
	baz=256							
SSLB					S		**Sn**	23 16 22.1 -0.1
	baz=256							
WCS	**Beigang Elemen**	**1.26**	**270**		P		**Pn**	23 16 07.0 +0.5
	baz=260							
WCS				*e*	S		**Sn**	23 16 22.8 +0.5
	baz=260							
YM01	**YM01**	**1.27**	**329**		P		**Pn**	23 16 06.7 +0.2
	baz=340							
YM01					S		**Sb**	23 16 23.9 -0.6
	baz=340							
NWRT	**Kuosheng**	**1.27**	**333**		P		**Pn**	23 16 07.2 +0.6
	baz=329							
NWRT					S		**Sn**	23 16 23.1 +0.5
	baz=329							
CHKT	**Chengkung**	**1.28**	**222**	⇓*i*	P		**Pn**	23 16 05.9 -0.8
	baz=211							
CHKT				*i*	S		**Sn**	23 16 21.7 -1.1
	baz=211							
SMLT	**Sun Moon Lake**	**1.29**	**262**	⇑*i*	P		**Pn**	23 16 07.2 +0.3
	baz=260							
SMLT				*i*	S		**Sb**	23 16 24.5 -0.6
	baz=260							
NJD	**Zhudong**	**1.29**	**302**		P		**Pb**	23 16 08.1 -0.6
	baz=298							
NJD					S		**Sb**	23 16 25.2 +0.2
	baz=298							
YM08	**YM08**	**1.29**	**330**		P		**Pn**	23 16 06.6 -0.3
	baz=327							
YM08				*e*	S		**Sn**	23 16 23.4 +0.3
	baz=327							
LIOB	**Emei**	**1.30**	**297**	⇑	P		**Pb**	23 16 08.1 -1.0
	baz=294							
LIOB				*e*	S		**Sb**	23 16 24.9 -0.5
	baz=294							
NTY	**Taoyuan**	**1.30**	**316**		P		**Pb**	23 16 07.9 -1.1
	baz=327							
TWS1	**Kuangyinshan**	**1.31**	**323**	*i*	P		**Pn**	23 16 07.6 +0.6
	baz=330							
TWS1					S		**Sb**	23 16 26.4 +0.9
	baz=330							
NSTT	**Nanjuang**	**1.31**	**296**	⇑*i*	P		**Pn**	23 16 07.9 +0.8
	baz=293							
NSTT					S		**Sb**	23 16 26.8 +1.2
	baz=293							
TYC	**Yuchr**	**1.32**	**264**	⇑*i*	P		**Pn**	23 16 07.6 +0.3
	baz=262							
TYC					S		**Sb**	23 16 25.4 -0.6
	baz=262							
ANP	**Anpu**	**1.32**	**328**	*i*	P		**Pn**	23 16 07.5 +0.1
	baz=338							
ANP				*e*	S		**Sn**	23 16 22.6 -1.4
	baz=338							
IRIF	**Iriomote-Funau**	**1.34**	**78**		P		**Pn**	23 16 08.4 +0.9
IRIF					S		**Sb**	23 16 26.7 +0.2
IRIF	**Iriomote-Funau**	**1.34**	**78**		A		A	23 16 08.4
	comp=E,131nm,2.2s,comp=N,177nm,1.4s							
NTST	**Danshui**	**1.34**	**325**	*i*	P		**Pn**	23 16 08.2 +0.6
	baz=337							
NTST				*e*	S		**Sb**	23 16 26.5 +0.1
	baz=337							
EHD	**Haiduan**	**1.35**	**228**		P		**Pn**	23 16 06.9 -0.7
	baz=243							
EHD					S		**Sn**	23 16 25.0 +0.5
	baz=243							
NCU	**National Centr**	**1.35**	**312**	*i*	P		**Pn**	23 16 08.5 +0.7
	baz=309							
NCU					S		**Sb**	23 16 28.3 +1.4
	baz=309							
NCUH	**Zhongli**	**1.35**	**312**	*i*	P		**Pb**	23 16 08.7 -1.2
	baz=308							
NCUH					S		**Sb**	23 16 26.6 -0.3
	baz=308							
HSN1	**Hsinchu**	**1.36**	**302**		P		**Pb**	23 16 09.0 -1.0
	baz=298							
HSN1				*e*	S		**Sb**	23 16 28.7 +1.5
	baz=298							
TWY	**Chenhua**	**1.36**	**333**	*i*	P		**Pb**	23 16 09.3 -0.7
	baz=329							
TWY				*e*	S		**Sn**	23 16 25.7 +0.9
	baz=329							
WHYT	**Xinyi Township**	**1.37**	**255**		P		**Pb**	23 16 09.4 -0.7
	baz=242							
WHYT					S		**Sb**	23 16 27.3 0.0
	baz=242							
ECS	**Chishang**	**1.38**	**226**		P		**Pn**	23 16 08.5 +0.4
	baz=215							
ECS					S		**Sb**	23 16 27.0 -0.5
	baz=215							
NSM	**Shimen**	**1.38**	**332**		P		**Pn**	23 16 07.1 -1.0
	baz=329							
NSM				*e*	S		**Sb**	23 16 28.4 +0.8
	baz=329							
HATJ	**Hateruma jima**	**1.38**	**90**		P		**Pb**	23 16 09.4 -1.0
HATJ				*e*	S		**Sb**	23 16 29.0 +1.4
HATJ	**Hateruma jima**	**1.38**	**90**		A		A	23 16 09.4
	comp=E,135nm,3.5s,comp=N,154nm,2.4s							
SBCB	**Hsinchu**	**1.40**	**302**		P		**Pb**	23 16 09.4 -1.2
	baz=298							
SBCB				*e*	S		**Sb**	23 16 28.2 +0.1
	baz=298							
EDH	**Donghe**	**1.41**	**220**	*i*	P		**Pn**	23 16 08.1 -0.4
	baz=211							
EDH				*i*	S		**Sn**	23 16 25.7 -0.4
	baz=211							
HSN	**Hsinchu**	**1.42**	**302**	*i*	P		**Pn**	23 16 09.0 +0.5
	baz=300							
HSN					S		**Sb**	23 16 28.3 -0.3
	baz=300							
TWQ1	**Liyutan**	**1.42**	**282**	*i*	P		**Pb**	23 16 10.2 -0.8
	baz=280							
TWQ1					S		**Sb**	23 16 29.1 +0.4
	baz=280							
NJN	**Zhunan**	**1.44**	**296**		P		**Pb**	23 16 10.6 -0.6
	baz=293							
NJN				*e*	S		**Sb**	23 16 31.1 +1.9
	baz=293							
WJS	**Zhushan**	**1.45**	**261**	*i*	P		**Pb**	23 16 11.1 -0.4
	baz=259							
WJS				*i*	S		**Sb**	23 16 30.9 +1.2
	baz=259							
ELDTW	**Lidau**	**1.46**	**234**	⇓*i*	P		**Pn**	23 16 08.9 -0.3
	baz=221							
ELDTW					S		**Sn**	23 16 27.4 +0.1
	baz=221							
ALS	**Alishan**	**1.47**	**248**	⇑*i*	P		**Pn**	23 16 10.4 +0.9
	baz=247							
ALS				*i*	S		**Sb**	23 16 29.2 -1.2
	baz=247							
NHW	**Xinwu Township**	**1.48**	**310**		P		**Pb**	23 16 10.7 -1.3
	baz=307							
TCU	**Taichung**	**1.48**	**274**	*i*	P		**Pb**	23 16 11.1 -0.9
	baz=272							
TCU				*i*	S		**Sb**	23 16 31.0 +0.5
	baz=272							
WNT	**Mingjian**	**1.48**	**263**	*i*	P		**Pb**	23 16 11.2 -0.9
	baz=262							
WNT				*i*	S		**Sb**	23 16 31.4 +0.8
	baz=262							
WNT1	**Nantou City**	**1.48**	**264**		P		**Pb**	23 16 11.8 -0.2
	baz=263							
WNT1					S		**Sb**	23 16 31.8 +1.2
	baz=263							
WDJ	**Dajia District**	**1.54**	**281**		P		**Pb**	23 16 11.8 -1.1
	baz=279							
WDJ				*e*	S		**Sb**	23 16 31.8 -0.3
	baz=279							
CHN5	**Tsauling**	**1.55**	**253**	⇑*i*	P		**Pn**	23 16 11.8 +1.3
	baz=252							
CHN5				*i*	S		**Sb**	23 16 33.2 +0.7
	baz=252							
LONT	**Longtian**	**1.57**	**223**	*i*	P		**Pn**	23 16 10.8 +0.1
	baz=236							
LONT				*i*	S		**Sn**	23 16 30.7 +0.8
	baz=236							
WYL	**Yuanlin Townsh**	**1.57**	**267**		P		**Pb**	23 16 13.2 -0.3
	baz=265							
WYL					S		**Sb**	23 16 34.6 +1.6
	baz=265							
LDUT	**Ludao**	**1.57**	**209**	*i*	P		**Pn**	23 16 10.4 -0.3
	baz=210							
LDUT				*i*	S		**Sn**	23 16 28.9 -1.1
	baz=210							
PCYT	**Pengchaiyu**	**1.57**	**353**	*i*	P		**Pn**	23 16 10.6 -0.2
	baz=350							
JKRS	**Kuro-shima**	**1.58**	**83**		P		**Pb**	23 16 13.0 -0.6
JKRS				*e*	S		**Sb**	23 16 33.7 +0.5
JKRS	**Kuro-shima**	**1.58**	**83**		A		A	23 16 13.0
	comp=E,186nm,1.8s,comp=N,181nm,1.7s							
WCHH	**Zhanghua**	**1.59**	**271**	*i*	P		**Pb**	23 16 12.8 -1.0
	baz=269							
WCHH				*i*	S		**Sb**	23 16 35.1 +1.6
	baz=269							
WDLH	**Douliu**	**1.65**	**257**	*i*	P		**Pb**	23 16 13.7 -1.2
	baz=256							
WDLH				*i*	S		**Sb**	23 16 36.4 +1.1
	baz=256							
STYH	**Taoyuan**	**1.65**	**238**		P		**Pn**	23 16 12.9 +1.1
	baz=238							
STYH					S		**Sb**	23 16 33.7 -1.6
	baz=238							
TWGBT	**Beinan**	**1.67**	**222**		P		**Pn**	23 16 11.9 -0.1
TWGBT	**Beinan**	**1.67**	**222**	⇓	P		**Pn**	23 16 11.3 -0.7
	baz=234							
TWGBT					S		**Sn**	23 16 32.3 0.0
	baz=234							
WCKO	**Fanlu**	**1.67**	**249**		P		**Pb**	23 16 14.4 -0.7
	baz=238							
WCKO					S		**Sb**	23 16 35.4 -0.4
	baz=238							
TWG	**Pinlang**	**1.67**	**223**				**Pn**	23 16 11.4 -0.6
TWG	**Pinlang**	**1.67**	**223**	⇓*i*	P		**Pn**	23 16 11.5 -0.6
	baz=234							
TWG				*i*	S		**Sn**	23 16 32.6 +0.3
	baz=234							
TTN	**Taitung**	**1.67**	**219**	*i*	P		**Pn**	23 16 12.7 +0.5
	baz=210							
TTN				*i*	S		**Sn**	23 16 34.0 +1.5
	baz=210							
TPUB	**Ta-pu**	**1.70**	**244**				**Pn**	23 16 13.2 +0.6
TPUB	**Ta-pu**	**1.70**	**244**		P		**Pb**	23 16 14.2 -1.5
TPUB	**Ta-pu**	**1.70**	**244**		P		**Pb**	23 16 14.3 -1.5
	baz=244							
TPUB					S		**Sb**	23 16 36.4 -0.4
	baz=244							
CHN4	**Tsaushan**	**1.71**	**246**	⇓*i*	P		**Pb**	23 16 14.4 -1.5
	baz=236							
CHN4					S		**Sb**	23 16 37.4 +0.3
	baz=236							
JIJ	**Ishigaki jima**	**1.71**	**79**		P		**Pn**	23 16 13.3 +0.7
JIJ					S		**Sn**	23 16 34.6 +1.1
JIJ	**Ishigaki jima**	**1.71**	**79**		A		A	23 16 13.3
	comp=E,23nm,1.1s,comp=N,41nm,1.9s							
WTP	**Ta-pu**	**1.74**	**243**	⇓*i*	P		**Pb**	23 16 14.8 -1.7
	baz=242							
WTP					S		**Sb**	23 16 36.6 -1.4
	baz=242							
CHN2	**Minshiung**	**1.75**	**253**	*i*	P		**Pb**	23 16 15.7 -0.8
	baz=252							
CHN2				*i*	S		**Sb**	23 16 38.2 +0.2
	baz=252							
WRL	**Guolierlin Hig**	**1.76**	**265**		P		**Pb**	23 16 15.0 -1.8
	baz=264							
WRL					S		**Sb**	23 16 36.6 -1.9
	baz=264							
RLNB	**Erlin**	**1.78**	**265**		P		**Pb**	23 16 15.3 -1.7
	baz=264							
RLNB					S		**Sb**	23 16 39.3 +0.4
	baz=264							
WTK	**Tuku**	**1.78**	**258**	*i*	P		**Pb**	23 16 15.7 -1.4
	baz=246							
WTK				*i*	S		**Sb**	23

TWK	**Hsinying**	**1.83 245**	⇓*i*P		**Pb**	**23 16 16.5 -1.6**
	baz=245					
TWK			*i* S		**Sb**	**23 16 39.7 -1.0**
	baz=245					
CHN1	**Nanshi**	**1.84 242**	⇓*i*P		**Pb**	**23 16 16.5 -1.6**
	baz=242					
CHN1			*i* S		**Sb**	**23 16 40.3 -0.4**
	baz=242					
SGST	**Jiashian**	**1.85 239**	*i* P		**Pn**	**23 16 15.5 +0.9**
	baz=238					
SGST			*i* S		**Sb**	**23 16 40.6 -0.4**
	baz=238					
SLGT	**Liugui**	**1.85 235**	P		**Pb**	**23 16 16.7 -1.5**
	baz=226					
SLGT			S		**Sb**	**23 16 40.7 -0.3**
	baz=226					
SNST	**Tainan City**	**1.85 243**	P		**Pb**	**23 16 16.8 -1.4**
	baz=243					
SNST			S		**Sb**	**23 16 41.3 +0.3**
	baz=243					
WTCT	**Ta-ch'eng**	**1.85 264**	*i* P		**Pb**	**23 16 16.8 -1.5**
	baz=263					
WTCT			*i* S		**Sb**	**23 16 40.4 -0.7**
	baz=263					
ECL	**Taimali**	**1.91 220**	P		**Pn**	**23 16 14.7 -0.6**
	baz=222					
ECL			S		**Sn**	**23 16 38.2 -0.1**
	baz=222					
WMLT	**Mailiao**	**1.91 263**	*e*P		**Pn**	**23 16 17.3 +1.9**
	baz=262					
WMLT			S		**Sb**	**23 16 43.9 +1.1**
	baz=262					
JISG	**Ishigakijimahi**	**1.91 74**	*i* P		**Pn**	**23 16 15.9 +0.5**
JISG			*e*S		**Sn**	**23 16 39.2 +0.8**
JISG	**Ishigakijimahi**	**1.91 74**	A		A	23 16 15.9
	comp=E,32nm,0.8s,comp=N,38nm,1.7s					
WSF	**Szhu**	**1.94 258**	*i* P		**Pn**	**23 16 17.6 +1.8**
	baz=257					
WSF			*i* S		**Sb**	**23 16 43.6 -0.1**
	baz=257					
WSL	**Shuilin Townsh**	**1.97 255**	P		**Pb**	**23 16 18.6 -1.6**
	baz=254					
WSL			S		**Sb**	**23 16 43.8 -0.5**
	baz=254					
ICHU	**Yijhu**	**1.97 250**	*i* P		**Pb**	**23 16 18.4 -1.9**
	baz=250					
ICHU			*i* S		**Sb**	**23 16 44.9 +0.4**
	baz=250					
SSD	**Sandimen**	**2.01 230**	*i* P		**Pn**	**23 16 18.6 +1.8**
	baz=223					
SSD			*e*S		**Sn**	**23 16 42.9 +2.1**
	baz=223					
CHN3	**Shinhua**	**2.02 241**	*i* P		**Pb**	**23 16 20.6 -0.6**
	baz=242					
CHN3			*i* S		**Sb**	**23 16 47.4 +1.4**
	baz=242					
SCST	**Cishan**	**2.02 235**	*i* P		**Pb**	**23 16 20.1 -1.1**
	baz=223					
SCST			S		**Sb**	**23 16 45.6 -0.4**
	baz=223					
TSMG	**Majia**	**2.03 229**	*i* P		**Pb**	**23 16 19.7 -1.6**
	baz=223					
TSMG			*e*S		**Sb**	**23 16 44.6 -1.6**
	baz=223					
CHN8	**Yiju**	**2.04 250**	*i* P		**Pn**	**23 16 18.6 +1.5**
	baz=250					
CHN8			*i* S		**Sb**	**23 16 44.8 -1.6**
	baz=250					
SSHA	**Shanhua**	**2.06 244**	P		**Pb**	**23 16 20.5 -1.2**
	baz=244					
SSHA			S		**Sb**	**23 16 47.6 +0.7**
	baz=244					
SHHT	**Tainan City**	**2.06 240**	P		**Pb**	**23 16 20.8 -1.1**
	baz=241					
SHHT			S		**Sb**	**23 16 48.7 +1.5**
	baz=241					
MASBT	**Mashibuluo**	**2.10 227**	P		**Pn**	**23 16 19.1 +1.1**
	baz=222					
MASBT			*e*S		**Sb**	**23 16 46.4 -1.8**
	baz=222					
TWM1	**Shoushan**	**2.11 235**	*i* P		**Pb**	**23 16 21.9 -0.9**
	baz=234					
TWM1			*i* S		**Sb**	**23 16 50.2 +1.5**
	baz=234					
SCLT	**Jiali**	**2.12 246**	*i* P		**Pn**	**23 16 20.4 +2.1**
	baz=246					
SCLT			*i* S		**Sb**	**23 16 46.6 -2.1**
	baz=246					
SGLT	**Jiouru**	**2.12 232**	*i* P		**Pb**	**23 16 22.0 -0.9**
	baz=221					
SGLT			*i* S		**Sb**	**23 16 49.8 +1.0**
	baz=221					
LAY	**Lan-yu**	**2.12 199**	*i* P		**Pn**	**23 16 17.5 -0.8**
	baz=209					
LAY			*i* S		**Sn**	**23 16 42.0 -1.7**
	baz=209					
TAW	**Tawu**	**2.13 217**	*e*P		**Pn**	**23 16 18.6 +0.2**
	baz=219					
TAW			*i* S		**Sn**	**23 16 43.4 -0.3**
	baz=219					
EAST	**Anshuo**	**2.13 219**	*i* P		**Pn**	**23 16 18.2 -0.3**
	baz=220					
EAST			*e*S		**Sn**	**23 16 45.3 +1.4**
	baz=220					
TAWH	**Dawu Township**	**2.15 217**	P		**Pn**	**23 16 18.8 +0.2**
	baz=219					
TAWH			S		**Sn**	**23 16 44.0 -0.1**
	baz=219					
TAI1	**Yung-k'ang**	**2.15 242**	*i* P		**Pb**	**23 16 21.8 -1.5**
	baz=243					
TAI1			*i* S		**Sb**	**23 16 49.5 -0.1**
	baz=243					
TSPT	**Pingtung City**	**2.15 231**	P		**Pb**	**23 16 23.2 -0.2**
	baz=220					
TSPT			S		**Sb**	**23 16 51.1 +1.5**
	baz=220					
LYUB	**Lan-yu**	**2.15 198**	⇓P		**Pn**	**23 16 17.3 -1.4**
	baz=208					
LYUB			S		**Sn**	**23 16 42.8 -1.4**
	baz=208					
SNJT	**Kaohsiung City**	**2.22 235**	P		**Pb**	**23 16 23.1 -1.4**
	baz=236					
SNJT			S		**Sb**	**23 16 50.2 -1.4**
	baz=236					
TSCK	**Chigu Township**	**2.22 246**	P		**Pn**	**23 16 21.4 +1.8**
	baz=247					
TSCK			S		**Sb**	**23 16 50.3 -1.3**
	baz=247					
JTJ	**Tarama**	**2.27 75**	P		**Pn**	**23 16 21.7 +1.4**
JTJ			*e*S		**Sb**	**23 16 50.2 -2.9**
JTJ	**Tarama**	**2.27 75**	A		A	23 16 21.7
	comp=E,52nm,2.1s,comp=N,70nm,1.5s					
SCZT	**Fangliau**	**2.28 223**	*i* P		**Pb**	**23 16 23.9 -1.6**
	baz=219					
SCZT			*e*S		**Sb**	**23 16 51.4 -1.9**
	baz=219					
WSSB	**Gushan**	**2.34 233**	P		**Pb**	**23 16 24.3 -2.3**
	baz=235					
WSSB			S		**Sb**	**23 16 54.9 -0.2**
	baz=235					
KAU	**Kaohsiung**	**2.35 231**	P		**Pb**	**23 16 27.0 +0.2**
	baz=233					
KAU			S		**Sb**	**23 16 53.6 -1.8**
	baz=233					
SMST	**Manzhou Townsh**	**2.43 214**	P		**Pn**	**23 16 23.3 +0.7**
	baz=216					
SMST			S		**Sn**	**23 16 51.5 +0.2**
	baz=216					
HEN	**Hengchun**	**2.50 215**	*i* P		**Pn**	**23 16 24.8 +1.4**
	baz=217					
HEN			*i* S		**Sn**	**23 16 55.9 +3.1**
	baz=217					
TWKBT	**Hengchun**	**2.51 213**	P		**Pn**	**23 16 23.9 +0.2**
	baz=215					
TWKBT			*e*S		**Sn**	**23 16 55.0 +1.8**
	baz=215					
TWK1	**Hengchun**	**2.51 213**	*i* P		**Pn**	**23 16 24.4 +0.7**
	baz=215					
TWK1			*i* S		**Sn**	**23 16 54.2 +1.0**
	baz=215					
WDGT	**Dungji**	**2.54 252**	*i* P		**Pn**	**23 16 25.6 +1.5**
	baz=241					
WDGT			*i* S		**Sn**	**23 16 54.6 +0.7**
	baz=241					
PHUB	**P'eng-hu**	**2.55 258**	P		**Pn**	**23 16 25.1 +0.9**
	baz=258					
PHUB			S		**Sn**	**23 16 55.6 +1.5**
	baz=258					
PNG	**Penghu**	**2.56 259**	*i* P		**Pn**	**23 16 25.0 +0.8**
	baz=259					
PNG			*i* S		**Sn**	**23 16 56.7 +2.4**
	baz=259					
JIRB	**Irabujima**	**2.73 73**	P		**Pn**	**23 16 28.5 +1.8**
JIRB			*e*S		**Sn**	**23 17 00.2 +1.6**
JIRB	**Irabujima**	**2.73 73**	A		A	23 16 28.5
	comp=E,25nm,1.7s,comp=N,27nm,2.5s					
VWUC	**VWUC**	**2.75 290**	P		**Pn**	**23 16 26.6 -0.3**
	baz=288					
VWUC			S		**Sn**	**23 16 58.9 -0.2**
	baz=288					
VCHM	**Qimei**	**2.76 253**	P		**Pn**	**23 16 27.8 +0.7**
	baz=242					
VCHM			S		**Sn**	**23 17 01.1 +1.8**
	baz=242					
JIKM	**Ikemajima**	**2.83 72**	*e*P		**Pn**	**23 16 30.0 +2.0**
JIKM			S		**Sn**	**23 17 02.3 +1.4**
JIKM	**Ikemajima**	**2.83 72**	A		A	23 16 30.0
	comp=E,29nm,2.2s,comp=N,49nm,2.1s					
JMJ	**Miyako jima 2**	**2.83 74**	P		**Pn**	**23 16 31.0 +2.9**
JMJ2	**Miyako jima3**	**2.85 76**	P		**Pn**	**23 16 30.6 +2.3**
JMJ2			S		**Sn**	**23 17 03.7 +2.2**
JMJ2	**Miyako jima3**	**2.85 76**	A		A	23 16 30.6
	comp=E,42nm,2.4s,comp=N,38nm,1.8s					
JOGS	**Gusukube**	**2.92 76**	*e*P		**Pn**	**23 16 31.4 +2.1**
JOGS			*e*S		**Sn**	**23 17 06.3 +3.0**
JOGS	**Gusukube**	**2.92 76**	A		A	23 16 31.4
	comp=E,68nm,3.0s,comp=N,51nm,2.6s					
MATB	**Ma-tsu**	**2.98 315**	P		**Pn**	**23 16 29.7 -0.4**
	baz=311					
MATB			*e*S		**Sn**	**23 17 07.3 +2.7**
	baz=311					
PTMZ	**Houxiangcun**	**3.05 289**	P		**Pn**	**23 16 30.7 -0.4**
	baz=288					
LYJJ	**Jianjiangzhen**	**3.38 318**	P		**Pn**	**23 16 34.9 -0.6**
	baz=315					
XPSS	**Dashiqiu**	**3.43 327**	P		**Pn**	**23 16 35.9 -0.3**
	baz=333					
QZH	**Quanzhou**	**3.48 285**	Pn		**Pn**	**23 16 36.5 -0.5**
QZH			Sn		**Sn**	**23 17 15.8 -1.4**
QZH			Sg		**Sb**	**23 17 29.8 +1.8**
QZH			smax		smax	
	comp=N,2μm,1.5s					
QZH			smax		smax	
	comp=N,980nm,1.5s					
QZH			LR		LR	
	comp=N,11μm,13.0s					
QZH			LR		LR	
	comp=N,11μm,14.8s					
KNM	**Kinmen**	**3.54 277**	*i* P		**Pn**	**23 16 39.1 +1.3**
	baz=275					
KNMB	**Chin-men Tao**	**3.59 277**	Pn		**Pn**	**23 16 38.0 -0.4**
KNMB	**Chin-men Tao**	**3.59 277**	P		**Pn**	**23 16 38.3 -0.2**
	baz=276					
MHZQ	**Yeshan**	**3.59 305**	P		**Pn**	**23 16 37.5 -0.9**
	baz=303					
AXDP	**Jialang**	**4.03 283**	P		**Pn**	**23 16 44.5 +0.1**
	baz=282					
ZPLA	**Ao Xicun**	**4.16 269**	P		**Pn**	**23 16 45.0 -1.3**
	baz=269					
DSXP	**Dongshan**	**4.47 266**	P		**Pn**	**23 16 50.9 +0.4**
	baz=266					
SXFK	**Yanhouchang**	**4.81 300**	P		**Pn**	**23 16 54.7 -0.6**
	baz=298					
JOW	**Kunigami**	**6.07 62**			**Pn**	**23 17 11.7 -0.9**
JOW	**Kunigami**	**6.07 62**	P		**Pn**	**23 17 14.2 +1.6**
	comp=N,198nm,1.1s					
JOW	**Kunigami**	**6.07 62**	P		**Pn**	**23 17 11.8 -0.7**
	comp=N,14nm,0.3s,baz=139,slow=15,SNR=9.3					
	comp=N,29nm,0.3s					
SSE	**Sheshan**	**7.08 352**	Pn		**Pn**	**23 17 22.3 -4.1**
SSE			smax		smax	
	comp=N,76nm,1.1s					
SSE			smax		smax	
	comp=N,150nm,1.3s					
SSE			LR		LR	
	comp=N,2μm,15.2s					
SSE			LR		LR	
	comp=N,2μm,14.9s					
GZH	**Guangzhou**	**8.27 265**	P		Pn	23 17 36.0 -6.7
GZH			S		Sn	23 19 05.0 -10
GZH			smax		smax	
	comp=N,360nm,1.4s					
GZH			smax		smax	
	comp=N,270nm,1.1s					
NJ2	**Nanjing**	**8.52 340**	*e*P		**Pn**	**23 17 44.5 -1.7**
NJ2			pP			23 17 48.5
NJ2			sP			23 17 51.0
NJ2			S		**Sn**	**23 19 19.8 -1.4**
NJ2			sS			23 19 26.5
NJ2			pmax		pmax	
	comp=N,24nm,0.5s					
NJ2			smax		smax	
	comp=N,200nm,1.2s					
NJ2			smax		smax	
	comp=N,280nm,1.5s					
NJ2			LR		LR	
	comp=N,7μm,10.4s					
NJ2			LR		LR	
	comp=N,3μm,10.4s					
NJ2			LR		LR	
	comp=N,9μm,12.8s					
CNSH	**ChangSha**	**9.36 298**	⇑P		**Pn**	**23 18 01.0 +3.3**
CNSH			S		Sn	23 19 53.3 +11
CNSH			smax		smax	
	comp=N,640nm,2.0s					
CNSH			smax		smax	
	comp=N,510nm,1.3s					
WHN	**Wuhan**	**9.57 314**	P		Pn	23 18 11.0 +10
WHN			S		Sn	23 20 03.5 +17
WHN			LR		LR	
	comp=Z,16μm,13.4s					
TGY	**Tagaytay City**	**9.99 188**	P		**Pn**	**23 18 09.1 +2.7**
	comp=Z,20nm,0.3s,baz=308,slow=4.8,SNR=5.1					
TGY			LR		LR	23 22 07.3
	comp=Z,2μm,21.3s,baz=76,slow=38					
GULI	**GuiLin**	**10.92 279**	P		Pn	23 18 28.5 +9.4
GULI			S		Sn	23 20 38.3 +18
GULI			LR		LR	
	comp=N,3μm,10.6s					
GULI			LR		LR	
	comp=E,3μm,12.2s					
GULI			LR		LR	
	comp=Z,4μm,13.6s					
JNU	**Nakatsue**	**11.76 38**	P		**Pn**	**23 18 32.5 +1.9**
	comp=Z,32nm,1.1s,baz=238,slow=19,SNR=4.2					
JNU			LR		LR	23 23 31.5
	comp=Z,2μm,19.0s,baz=212,slow=40					
QIZ	**Qiongzhong**	**12.62 249**	P		**Pn**	**23 18 42.0 -0.4**
QIZ			S		**Sn**	**23 21 07.0 +5.2**
QIZ			pmax		pmax	
	comp=Z,37nm,2.2s					
QIZ			LR		LR	
	comp=Z,2μm,11.8s					
QIZ			LR		LR	
	comp=Z,1μm,18.5s					
QIZ			LR		LR	
	comp=Z,930nm,12.6s					
TIA	**Tai'an**	**12.91 341**	*e*P		**Pn**	**23 18 48.5 +2.3**
TIA			pmax		pmax	
	comp=Z,15nm,2.0s					
TIA			pmax		pmax	
	comp=Z,360nm,12.4s					
TIA			LR		LR	
	comp=Z,3μm,16.2s					
TIA			LR		LR	
	comp=Z,3μm,13.2s					
TIA			LR		LR	
	comp=Z,6μm,13.2s					
LYN	**LuoYang**	**13.51 323**	⇑P		**P**	**23 19 05.0 +1.8**
LYN			sP		Pn	23 19 17.3 +23
LYN			pmax		pmax	
	comp=Z,59nm,1.1s					
LYN			LR		LR	
	comp=N,7μm,15.1s					
LYN			LR		LR	
	comp=E,4μm,17.2s					
LYN			LR		LR	
	comp=Z,9μm,17.2s					
KSRS	**Korea Array**	**14.20 19**	P		**Pn**	**23 19 04.7 +0.9**
	comp=Z,12nm,0.6s,baz=198,slow=11,SNR=24					
KSRS			LR		LR	23 25 04.7
	comp=Z,2μm,19.3s,baz=200,slow=40					
GYA	**Guiyang**	**14.34 283**	⇓P		**Pn**	**23 19 07.5 +1.5**
GYA			sP		P	23 19 17.8 +5.1
GYA			S		**Sn**	**23 21 47.0 +2.9**
GYA			pmax		pmax	
	comp=Z,16nm,1.1s					
GYA			pmax		pmax	
	comp=Z,400nm,8.2s					
GYA			LR		LR	
	comp=Z,980nm,6.8s					
GYA			LR		LR	
	comp=Z,4μm,12.5s					
GYA			LR		LR	
	comp=Z,4μm,20.9s					
HNS	**HongShan**	**14.80 336**	⇓P		**Pn**	**23 19 14.5 +2.5**
HNS			S		**Sn**	**23 22 01.0 +6.1**
HNS			pmax		pmax	
	comp=Z,24nm,1.7s					
HNS			LR		LR	
	comp=Z,5μm,14.0s					
HNS			LR		LR	
	comp=Z,3μm,14.4s					
HNS			LR		LR	
	comp=Z,6μm,14.3s					
DL2	**Dalian**	**14.81 358**	P		**P**	**23 19 22.0 +4.3**
DL2			S		**S**	**23 22 15.8 +3.1**
DL2			pmax		pmax	
	comp=Z,45nm,1.2s					
DL2			pmax		pmax	
	comp=Z,320nm,10.0s					
DL2			LR		LR	
	comp=N,3μm,11.8s					
DL2			LR		LR	
	comp=E,860nm,13.3s					
DL2			LR		LR	
	comp=Z,3μm,13.1s					
XAN	**Xi'an**	**15.34 313**	⇓P		**P**	**23 19 23.5 -0.1**
XAN			S		**S**	**23 22 16.3 -7.3**
XAN			pmax		pmax	
	comp=Z,71nm,1.0s					
XAN			pmax		pmax	
	comp=Z,410nm,3.8s					
XAN			LR		LR	
	comp=Z,2μm,9.6s					
XAN			LR		LR	
	comp=Z,3μm,11.2s					
XAN			LR		LR	
	comp=Z,5μm,15.6s					
TIY	**Taiyuan**	**16.01 331**	*e*P		**P**	**23 19 30.0 -1.1**
TIY			S		**Sn**	**23 22 27.5 +3.1**
TIY			SS		**SnSn**	**23 22 47.5 +10**
TIY			pmax		pmax	
	comp=Z,34nm,0.6s					
TIY			pmax		pmax	
	comp=Z,620nm,4.7s					
TIY			LR		LR	
	comp=Z,4μm,13.5s					
TIY			LR		LR	
	comp=Z,2μm,12.8s					
TIY			LR		LR	
	comp=Z,4μm,13.3s					
BJT	**Baijiatuau**	**16.73 343**	P		**Pn**	**23 19 35.7 -1.3**
BJI	**Beijing**	**16.75 344**	P		**P**	**23 19 38.8 -0.3**
BJI			PP		**pwP**	**23 19 49.0 -1.0**
BJI			S		**Sn**	**23 22 47.0 +4.8**
BJI			pmax		pmax	
	comp=Z,15nm,1.2s					
BJI			pmax		pmax	
	comp=Z,330nm,5.6s					
BJI			LR		LR	
	comp=Z,260nm,16.4s					
BJI			LR		LR	
	comp=Z,1μm,18.7s					
BJI			LR		LR	
	comp=Z,2μm,14.5s					
SLVN	**Son La**	**17.18 265**			**Pn**	**23 19 41.8 -1.1**
DAV	**Davao City (W)**	**17.19 169**	LR		LR	23 26 10.8
	comp=Z,1μm,20.6s,baz=12,slow=36					
SNY	**Shenyang**	**17.75 3**	⇑P		**P**	**23 19 52.3 +2.1**
SNY			S		**Sn**	**23 23 02.0 -4.4**
SNY			pmax		pmax	
	comp=Z,15nm,0.7s					
SNY			pmax		pmax	
	comp=Z,620nm,5.0s					
SNY			LR		LR	
	comp=Z,2μm,11.7s					
SNY			LR		LR	
	comp=Z,910nm,15.9s					
SNY			LR		LR	
	comp=Z,3μm,13.3s					
CD2	**Chengdu**	**17.79 297**	P		**Pn**	**23 19 50.5 +0.2**
CD2			S		**Sn**	**23 23 06.8 -1.0**
CD2			pmax		pmax	
	comp=Z,60nm,0.9s					
CD2			pmax		pmax	
	comp=Z,560nm,7.2s					
CD2			LR		LR	
	comp=Z,2μm,8.8s					
CD2			LR		LR	
	comp=Z,3μm,11.6s					
CD2			LR		LR	
	comp=Z,4μm,12.4s					
KMI	**Kunming**	**17.82 277**	⇑P		**P**	**23 19 54.3 +3.0**
KMI			S		**Sn**	**23 23 09.0 +0.4**
KMI			pmax		pmax	
	comp=Z,14nm,1.3s					
KMI			LR		LR	
	comp=Z,1μm,11.5s					
KMI			LR		LR	
	comp=Z,2μm,14.5s					
KMI			LR		LR	
	comp=Z,3μm,15.6s					
JCJ	**Chichijima**	**18.20 76**	LR		LR	23 25 59.9
	comp=Z,627nm,18.2s,baz=282,slow=34					
MAJO	**Matsushiro**	**18.50 44**	P		**P**	**23 19 58.2 -0.4**
PZH	**PanZhiHua**	**18.74 282**	P		**Pn**	**23 20 04.0 +2.0**
PZH			PP		**PnPn**	**23 20 17.5 +3.1**
PZH			S		**S**	**23 23 32.3 -0.8**
PZH			SS		**SnSn**	**23 23 48.0 +3.1**
PZH			pmax		pmax	
	comp=Z,20nm,1.4s					
PZH			pmax		pmax	
	comp=Z,250nm,4.1s					
PZH			LR		LR	
	comp=Z,2μm,15.9s					
PZH			LR		LR	
	comp=Z,2μm,14.5s					
PZH			LR		LR	
	comp=Z,3μm,17.2s					
KKM	**Kota Kinabalu**	**18.84 199**	P		**P**	**23 20 02.0 -0.5**
KKM			IAmb		IAmb	23 20 14.6
	comp=Z,73nm,1.1s					
HHC	**Hu-ho-hao-te**	**19.00 334**	*e*P		**Pn**	**23 20 06.0 +0.9**
HHC			sP		sP	23 20 16.8 +1.2
HHC			S		**S**	**23 23 39.8 +1.7**
HHC			SS		**SnSn**	**23 23 55.3 +4.0**
HHC			pmax		pmax	
	comp=Z,60nm,1.1s					
HHC			pmax		pmax	
	comp=Z,900nm,5.9s					
HHC			LR		LR	
	comp=Z,7μm,14.9s					
HHC			LR		LR	
	comp=Z,4μm,14.9s					
HHC			LR		LR	
	comp=Z,9μm,13.7s					
MYLDM	**Lahad Datu**	**19.12 192**			**P**	**23 20 04.4 -1.1**
MYLDM			IAmb		IAmb	23 20 22.8
	comp=Z,91nm,1.1s					
BTO	**Baotou**	**19.45 331**	*e*P		**Pn**	**23 20 12.0 +1.6**
BTO			pP		**sP**	**23 20 21.0 +0.5**
BTO			sP		**pwP**	**23 20 24.3 +3.8**
BTO			PP		**PnPn**	**23 20 30.3 +6.3**
BTO			S		**Sn**	**23 23 52.0 +4.3**
BTO			pmax		pmax	
	comp=Z,42nm,1.0s					
BTO			pmax		pmax	
	comp=Z,530nm,4.3s					
BTO			LR		LR	
	comp=Z,8μm,14.4s					
BTO			LR		LR	
	comp=Z,5μm,13.0s					
BTO			LR		LR	
	comp=Z,11μm,14.1s					
CN2	**Changchun**	**19.86 7**	P		**P**	**23 20 13.3 -0.1**
CN2			S		**S**	**23 23 48.8 -6.4**
CN2			pmax		pmax	
	comp=Z,20nm,0.7s					
CN2			LR		LR	

comp=Z,4μm,14.0s
CN2 LR LR
comp=Z,700nm,14.0s
CN2 LR LR
comp=Z,3μm,14.0s
LZH Lanzhou 19.93 311 ⇑P Pn 23 20 16.0 -0.1
LZH sP pwP 23 20 27.3 +1.2
LZH S S 23 23 57.3 +0.3
LZH pmax pmax
comp=Z,36nm,1.5s
LZH pmax pmax
comp=Z,520nm,5.2s
LZH LR LR
comp=Z,2μm,10.3s
LZH LR LR
comp=Z,2μm,12.0s
LZH LR LR
comp=Z,4μm,13.7s
XLT XiLinHaoTe 20.44 347 ⇑iP P 23 20 19.3 -0.4
XLT S S 23 24 05.5 -1.4
XLT sS Sn 23 24 13.3 +1.9
XLT SS SnSn 23 24 30.0 +3.6
XLT pmax pmax
comp=Z,42nm,2.0s
XLT pmax pmax
comp=Z,500nm,5.1s
XLT LR LR
comp=Z,240nm,14.2s
XLT LR LR
comp=Z,830nm,15.7s
XLT LR LR
comp=Z,4μm,14.9s
CRAI Chiangrai 20.65 264 P 23 20 21.1 -1.1
JMM Marumori 20.95 45 P Pn 23 20 27.1 -0.8
comp=Z,82nm,2.7s
MDJ Mudanjiang 21.36 14 P P 23 20 38.5 +9.0
MDJ pP sP 23 20 44.8 +3.2
MDJ sP pP 23 20 48.5 +11
MDJ PP PnPn 23 20 55.5 +5.5
MDJ S Sn 23 24 29.3 -4.0
MDJ sS sS 23 24 45.5 +7.3
MDJ pmax pmax
comp=Z,28nm,2.2s
MDJ pmax pmax
comp=Z,580nm,8.7s
MDJ LR LR
comp=N,2μm,12.5s
MDJ LR LR
comp=E,2μm,15.2s
MDJ LR LR
comp=Z,3μm,13.0s
USRK Ussuriysk Ar. 21.60 19 P **P 23 20 31.2 -0.9**
comp=Z,11nm,0.7s,baz=199,slow=10,SNR=19
USRK LR LR 23 29 35.7
comp=Z,854nm,18.3s,baz=195,slow=39
comp=Z,11nm,0.7s
TNCH TengChong 21.64 277 ⇑P P 23 20 35.5 +2.5
TNCH pP pP 23 20 42.5 +1.6
TNCH sP pwP 23 20 46.5 +1.8
TNCH S S 23 24 27.3 -4.0
TNCH sS Sn 23 24 38.3 -2.6
TNCH ScP ScP 23 28 11.5 +2.8
TNCH pmax pmax
comp=Z,42nm,1.0s
TNCH pmax pmax
comp=Z,270nm,4.8s
TNCH LR LR
comp=Z,770nm,8.1s
TNCH LR LR
comp=Z,2μm,15.3s
TNCH LR LR
comp=Z,2μm,15.1s
BNX BinXian 22.02 10 ⇑P P 23 20 36.3 -0.4
BNX pmax pmax
comp=Z,8.0nm,0.6s
BNX pmax pmax
comp=Z,480nm,5.4s
CHTO Chiang Mai 22.34 261 P **P 23 20 40.8 +0.4**
CMAR Chiang Mai Arr 22.45 260 P **P 23 20 43.7 +2.2**
comp=Z,3.8nm,1.0s,baz=55,slow=8.4,SNR=24
CMAR PcP **PcP 23 24 35.3 -0.1**
comp=Z,0.5nm,0.3s,baz=331,slow=0.5,SNR=4.1
CMAR ScP **ScP 23 28 07.6 -3.0**
comp=Z,0.4nm,0.3s,baz=60,slow=2.2,SNR=1.1
CMAR LR LR 23 30 12.8
comp=Z,783nm,18.2s,baz=80,slow=38
comp=Z,3.8nm,1.0s
TOLI2 Tolitoli 22.86 184 P **P 23 20 44.8 -1.1**
TOLI2 Tolitoli 22.86 184 P **P 23 20 47.3 +1.5**
GTOI Gorontalo 23.30 178 P **P 23 20 49.6 -0.6**
comp=Z,58nm,1.1s,comp=Z,708nm
KMSI Cibinong 23.40 176 P **P 23 20 51.5 +0.2**
comp=Z,141nm,1.1s,comp=Z,3μm
MRSI Marisa 23.45 181 P **P 23 20 54.0 +2.3**
comp=Z,60nm,0.7s
SBUM Sibu 23.59 206 P **P 23 20 50.7 -2.4**
TNTI Ternate 23.67 167 P **P 23 20 53.3 -0.5**
TNTI Ternate 23.67 167 P **P 23 20 56.4 +2.6**
comp=Z,150nm,0.9s,comp=Z,3μm
MPSI Mapaga 23.70 186 P **P 23 20 55.5 +1.4**
comp=Z,38nm,0.9s
GUMO Guam 23.73 112 P **P 23 20 53.5 -1.1**
GUMO Guam 23.73 112 LR LR 23 29 59.4
comp=Z,860nm,18.9s,baz=296,slow=36
GTA Gaotai 24.39 314 ⇑P P 23 21 00.3 -0.3
GTA pP pP 23 21 08.3 -1.1
GTA sP pwP 23 21 12.0 +0.1
GTA S S 23 25 18.3 0.0
GTA sS sS 23 25 31.8 -0.3
GTA pmax pmax
comp=Z,19nm,2.0s
GTA pmax pmax
comp=Z,360nm,4.4s
GTA LR LR
comp=Z,650nm,16.0s
GTA LR LR
comp=Z,2μm,16.4s
GTA LR LR
comp=Z,2μm,15.3s
LUWI Luwuk 24.96 179 P **P 23 21 07.5 +1.8**
comp=Z,131nm,1.3s
LBMI Labuha 25.07 168 P **P 23 21 08.5 +1.8**
comp=Z,395nm,1.0s,comp=Z,4μm
KSM Kuching 25.27 209 P **P 23 21 08.5 -0.1**
KSM IAmb IAmb 23 21 10.0
comp=Z,16nm,0.8s
BKB Balikpapan 25.71 193 P **P 23 21 13.1 +0.6**
MTKI Muara Teweh, K 25.87 197 P **P 23 21 15.3 +1.3**
comp=Z,92nm,0.9s
ASAJ Asahikawa 26.01 35 LR LR 23 31 48.8
comp=Z,835nm,18.6s,baz=232,slow=37
KLR Kul'dur 26.20 14 LR LR 23 32 21.3
comp=Z,1μm,20.0s,baz=196,slow=38
SANI Sanana 26.20 172 P **P 23 21 17.5 +0.5**
comp=Z,41nm,1.1s
SWI Sorong 26.26 159 P **P 23 21 19.2 +1.7**
comp=Z,51nm,1.0s,comp=Z,1μm
HEH HeiHe 26.45 7 *eP* **P 23 21 21.3 +2.4**
HEH pP **pwP 23 21 29.5 -1.1**
HEH S **S 23 25 54.8 +4.3**
HEH pmax pmax
comp=Z,12nm,0.7s
HEH pmax pmax
comp=Z,490nm,5.1s
HEH LR LR
comp=Z,2μm,13.0s
HEH LR LR
comp=Z,1μm,14.1s
HEH LR LR
comp=Z,3μm,14.2s
GOMU GeErMu 26.57 303 P **P 23 21 21.5 +0.8**
GOMU pP pP 23 21 26.5 -2.5
GOMU sP pwP 23 21 36.0 +2.8
GOMU S **S 23 26 02.5 +9.0**
GOMU pmax pmax
comp=Z,5.0nm,1.1s
GOMU LR LR
comp=Z,560nm,17.3s
GOMU LR LR
comp=Z,900nm,17.3s
GOMU LR LR
comp=Z,1μm,16.4s
ULN Ulaanbaatar 26.67 337 P **P 23 21 20.1 -1.1**
SONM Songino Array 26.88 336 P **P 23 21 22.9 -0.2**
comp=Z,67nm,0.8s,baz=149,slow=9.0,SNR=350
SONM PcP **PcP 23 24 44.4 -0.4**
comp=Z,1.3nm,0.7s,baz=84,slow=1.6,SNR=3.6
SONM ScP **ScP 23 28 22.1 -0.6**
comp=Z,3.7nm,1.1s,baz=157,slow=3.4,SNR=11
SONM LR LR 23 33 56.6
comp=Z,612nm,19.6s,baz=148,slow=41
comp=Z,67nm,0.8s
NLAI Namlea 27.54 170 P **P 23 21 30.9 +1.9**
comp=Z,68nm,0.9s
SHL Shillong 27.62 280 P **P 23 21 29.6 -0.4**
SHL IAmb IAmb 23 21 48.6
comp=Z,42nm,1.2s
LSA Lhasa 28.29 288 P **P 23 21 37.0 +0.8**
LSA LR LR
comp=Z,490nm,16.7s
LSA LR LR
comp=Z,1μm,15.3s
LSA LR LR
comp=Z,2μm,15.5s
LSA Lhasa 28.29 288 P **P 23 21 36.7 +0.4**
BBKI Banjar Baru 28.30 196 P **P 23 21 37.9 +2.0**
comp=Z,70nm,0.7s
MYKOM Kota Tinggi 28.44 222 P **P 23 21 36.1 -1.0**
FAKI Fak Fak 28.51 159 P **P 23 21 37.3 -0.4**
FAKI Fak Fak 28.51 159 P **P 23 21 38.5 +0.8**
comp=Z,71nm,0.8s
KAPI Kappang 29.00 185 P **P 23 21 41.0 -1.0**
KAPI IAmb IAmb 23 21 56.8
comp=Z,15nm,0.9s
KAPI Kappang 29.00 185 LR LR 23 33 52.7
comp=Z,356nm,20.8s,baz=359,slow=37
BNDI Bandanaira 29.36 164 P **P 23 21 48.4 +3.2**
comp=Z,110nm,0.9s
LHMI Lhok Sumawe 30.75 237 P **P 23 21 57.1 -0.5**
RPSI Rantau Prapat 31.00 230 P **P 23 21 59.9 +0.1**
TAPN Taplejung 31.27 283 *eP* **P 23 22 03.2 +0.7**
comp=Z,46nm,1.0s
RAMN Ramite 32.28 283 *eP* **P 23 22 12.3 +1.0**
comp=Z,65nm,1.3s
MMRI Maumere 32.50 180 P **P 23 22 12.1 -0.8**
MMRI Maumere 32.50 180 P **P 23 22 14.0 +1.1**
comp=Z,49nm,0.9s
JIRN Jiri 32.61 284 *eP* **P 23 22 14.9 +0.5**
comp=Z,26nm,0.9s
EDFI Ende, Flores 32.62 181 P **P 23 22 14.0 0.0**
comp=Z,78nm,0.7s,comp=Z,717nm
GUN Gumba 32.88 285 *eP* **P 23 22 17.1 +0.4**
comp=Z,29nm,1.0s
SAUI Saumlaki 33.04 163 P **P 23 22 17.7 0.0**
SAUI Saumlaki 33.04 163 P **P 23 22 18.1 +0.4**
comp=Z,209nm,0.9s,comp=Z,29μm
JAGI Jajag, Banyuwa 33.30 195 P **P 23 22 20.1 +0.2**
JAGI IAmb IAmb 23 22 26.2
comp=Z,28nm,1.0s
PKI Pulchoki 33.31 284 *eP* **P 23 22 20.9 +0.5**
comp=Z,18nm,0.9s
PKIN Phulchoki 33.32 284 *eP* **P 23 22 20.9 +0.5**
comp=Z,16nm,0.8s
DMN Daman 33.58 284 *eP* **P 23 22 23.2 +0.6**
comp=Z,27nm,0.9s
GKN Gorkha 33.98 285 *eP* **P 23 22 26.2 +0.2**
comp=Z,18nm,0.7s
WMQ Urumqi 34.47 313 *eP* **P 23 22 28.0 -2.0**
WMQ pP pwP 23 22 41.3 -0.1
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ LR LR
comp=Z,500nm,13.1s
WMQ LR LR
comp=Z,970nm,10.9s
WMQ LR LR
comp=Z,400nm,16.7s
DANN Dangsing 34.74 286 *eP* **P 23 22 32.9 +0.2**
comp=Z,23nm,0.9s
PYUN Piuthan 35.43 285 *eP* **P 23 22 38.5 -0.1**
comp=Z,15nm,0.7s
MTN Manton Dam 37.68 166 P **P 23 22 57.2 -0.3**
ZSN Zaisan 37.77 318 *eP* **P 23 22 57.5 -0.6**
baz=317
MKAR Makanchi Array 39.13 316 P **P 23 23 09.2 -0.4**
comp=Z,8.5nm,0.8s,baz=104,slow=10,SNR=42
MKAR PcP **PcP 23 25 17.8 -0.9**
comp=Z,2.4nm,0.7s,baz=93,slow=5.4,SNR=3.7
MKAR ScP **ScP 23 29 02.4 -2.4**
comp=Z,2.3nm,0.9s,baz=103,slow=5.4,SNR=8.0
MKAR LR LR 23 40 51.0
comp=Z,1μm,18.5s,baz=118,slow=38
comp=Z,8.5nm,0.8s
MAKZ Makanchi 39.34 315 P **P 23 23 10.1 -1.2**
MAKZ IAmb IAmb 23 23 12.2
comp=Z,24nm,1.1s
PETK Petropavlovsk- 39.41 33 LR LR 23 40 17.5
comp=Z,540nm,18.6s,baz=227,slow=38
SHLS Shalkode 39.92 309 *eP* **P 23 23 13.5 -2.8**
baz=309
KNRA Kununurra 40.00 170 P **P 23 23 17.1 +0.1**
KNRA IAmb IAmb 23 23 19.4
comp=Z,14nm,0.8s
UZB Uzynbulak 40.23 309 *eP* **P 23 23 18.6 -0.3**
baz=309
KRVT Keravat (AS076 40.42 130 LR LR 23 37 12.0
comp=Z,389nm,21.3s,baz=150,slow=32
PRZ Przheval'sk 40.53 308 P **P 23 23 21.9 +0.5**
KPKS Kokpek 40.55 309 *eP* **P 23 23 21.0 -0.5**
comp=Z,23nm,1.7s,baz=309
SATY Saty 40.65 309 *eP* **P 23 23 21.9 -0.4**
comp=Z,21nm,1.7s,baz=308
ZHN Zhinishke 40.66 309 *eP* **P 23 23 22.4 0.0**
baz=309
MA2 Magadan 40.72 22 LR LR 23 41 05.1
comp=Z,735nm,19.5s,baz=220,slow=38
ZALV Zalesovo Beam 40.90 327 P **P 23 23 22.6 -1.5**
comp=Z,32nm,0.8s,baz=114,slow=7.9,SNR=117
ZALV PcP **PcP 23 25 22.9 -1.3**
comp=Z,2.3nm,0.6s,baz=106,slow=4.4,SNR=3.0
ZALV ScP **ScP 23 29 09.1 -2.4**
comp=Z,1.1nm,0.7s,baz=116,slow=3.4,SNR=5.1
ZALV LR LR 23 41 40.0
comp=Z,2μm,18.1s,baz=124,slow=38
comp=Z,32nm,0.8s
TDK Taldyqorghan 41.14 312 *eP* **P 23 23 26.0 -0.2**
comp=Z,24nm,1.2s,baz=311
PMG Port Moresby 41.19 141 P **P 23 23 27.6 +0.8**
PMG IAmb IAmb 23 23 29.1
comp=Z,18nm,0.8s
PMG Port Moresby 41.19 141 LR LR 23 38 01.2
comp=Z,412nm,20.3s,baz=318,slow=32
H11N1 WAKE ISLAND Hy 41.48 87 T T 00 09 03.6
baz=282
H11N2 WAKE ISLAND Hy 41.48 87 T T 00 09 03.1
baz=282
H11N3 WAKE ISLAND Hy 41.50 87 T T 00 09 03.1
baz=282
H11S3 WAKE ISLAND Hy 41.61 89 T T 00 09 10.1
baz=284,slow=74,SNR=4.3
H11S1 WAKE ISLAND Hy 41.62 89 T T 00 09 11.8
baz=284,slow=74,SNR=4.4
H11S2 WAKE ISLAND Hy 41.63 89 T T 00 09 11.8
baz=284,slow=74,SNR=4.0
MDOK Medeo 41.65 309 *eP* **P 23 23 30.3 -0.3**
baz=308
TNSS Tian-Shan 41.69 308 *eP* **P 23 23 31.3 0.0**
baz=308
KSH Kashi 41.82 303 P **P 23 23 35.5 +3.5**
KSH pP pP 23 23 41.8 +1.2
KSH sP pwP 23 23 45.0 +0.2
KSH sS sS 23 30 05.8 +3.9
KSH pmax pmax
comp=Z,11nm,1.2s
KSH LR LR
comp=Z,470nm,13.4s
KSH LR LR
comp=Z,1μm,17.7s
KSH LR LR
comp=Z,2μm,16.8s
CHKK Chushkaly 41.84 310 *eP* **P 23 23 31.4 -0.6**
baz=309
ULHL Ulahol 42.05 307 P **P 23 23 35.2 +1.3**
SNR=12
NRN Naryn 42.08 306 P **P 23 23 34.2 -0.1**
NRN IAmb IAmb 23 23 36.5
comp=Z,19nm,1.0s
KUU Kurty 42.31 309 *eP* **P 23 23 35.6 -0.2**
comp=Z,58nm,1.7s,baz=309
BOOM Boomskoye usch 42.31 307 P **P 23 23 34.7 -1.3**
TKM2 Tokmak 2 42.64 308 P **P 23 23 39.5 +0.7**
SNR=15
KURK Kurchatov 42.84 320 P **P 23 23 39.0 -1.0**
KURK IAmb IAmb 23 23 39.7
comp=Z,19nm,1.1s
KURBB Kurchatov Arra 42.86 320 P **P 23 23 39.3 -0.8**
comp=Z,8.7nm,0.9s,baz=114,slow=7.5,SNR=49
KURBB PcP **PcP 23 25 29.0 -1.7**
comp=Z,2.1nm,0.7s,baz=120,slow=3.6,SNR=3.9
KURBB ScP **ScP 23 29 18.0 -1.4**
comp=Z,0.8nm,0.2s,baz=113,slow=3.6,SNR=5.7
KURBB LR LR 23 43 36.6
comp=Z,362nm,18.9s,baz=178,slow=39
comp=Z,8.7nm,0.9s
COEN Coen 42.94 149 P **P 23 23 41.9 +0.7**
COEN Coen 42.94 149 P **P 23 23 42.8 +1.6**
KBK Karagaybulak 43.06 307 P **P 23 23 43.6 +1.4**
SNR=13
PALK Pallekele 43.18 254 LR LR 23 42 07.2
comp=Z,338nm,20.4s,baz=167,slow=36
CHMS Chumysh 43.26 308 P **P 23 23 44.5 +0.9**
SNR=7.6
FRU1 Bishkek 43.32 308 P **P 23 23 43.9 -0.2**
FRU1 IAmb IAmb 23 23 46.0
comp=Z,13nm,1.0s
AAK Ala-Archa 43.39 307 P **P 23 23 45.9 +1.2**
SNR=8.0
AAK Ala-Archa 43.39 307 P **P 23 23 44.7 0.0**
AAK Ala-Archa 43.39 307 P **P 23 23 44.7 0.0**
comp=Z,3.7nm,0.6s,baz=125,slow=4.2,SNR=17
AAK LR LR 23 44 49.4
comp=Z,1μm,18.3s,baz=92,slow=40
comp=Z,3.7nm,0.6s
SGDS Sogindy 43.43 308 *eP* **P 23 23 44.8 -0.2**
baz=308
USP Ospenovka 43.49 308 P **P 23 23 46.2 +0.8**
SNR=8.2
NIL Nilore 43.66 294 P **P 23 23 46.3 -0.6**
SEY Seymchan 43.75 19 LR LR 23 43 59.6
comp=Z,623nm,18.1s,baz=208,slow=39
AML Almayashu 43.89 306 P **P 23 23 50.2 +1.1**
SNR=16
EKS2 Erkin-Say 43.91 307 P **P 23 23 49.6 +0.6**
SNR=12
BTLS Baital 44.15 311 *eP* **P 23 23 49.6 -1.1**
baz=310
ARSB Arslanbob 44.31 305 P **P 23 23 51.3 -0.9**
MBWA Marble Bar 45.02 183 P **P 23 23 56.0 -1.7**
MBWA IAmb IAmb 23 23 58.0
comp=Z,15nm,0.7s
MBWA Marble Bar 45.02 183 P **P 23 23 56.9 -0.8**
comp=Z,13nm,0.7s
WB0 Warramunga Arr 45.13 164 P **P 23 23 58.2 -0.5**
WB0 IAmb IAmb 23 24 10.5
comp=Z,20nm,0.9s
WRAB Tennant Creek 45.28 164 P **P 23 23 59.2 -0.6**
WRAB Tennant Creek 45.28 164 P **P 23 24 00.5 +0.7**
comp=Z,35nm,1.2s
WRA Warramunga Arr 45.28 164 P **P 23 24 00.3 +0.5**
comp=Z,16nm,0.8s,baz=346,slow=8.7,SNR=101
comp=Z,16nm,0.8s
WB2 Warramunga Arr 45.29 164 P **P 23 23 59.4 -0.5**
WR0 Warramunga Arr 45.35 164 P **P 23 24 00.8 +0.4**
PSA00 Pilbara Seismi 45.42 183 P **P 23 24 00.4 -0.5**
PSA00 Pilbara Seismi 45.42 183 P **P 23 23 59.8 -1.1**
PSA00 IAmb IAmb 23 24 01.4
comp=Z,21nm,0.8s
PSA00 Pilbara Seismi 45.42 183 P **P 23 24 00.8 -0.1**
comp=Z,57nm,0.8s
DZA Taraz 45.73 307 *eP* **P 23 24 02.7 -0.6**
baz=307
BTK Batken 45.82 303 P **P 23 24 03.7 -0.4**
BRZS Berezniki 46.21 317 *eP* **P 23 24 05.5 -1.5**
baz=317
KK31 Karatay Array 46.35 307 P **P 23 24 07.9 -0.3**
KKAR Karatay Array 46.35 307 P **P 23 24 08.3 +0.1**
IUG Iuzhnay 46.60 306 *eP* **P 23 24 09.9 -0.4**
comp=Z,16nm,1.0s,baz=306
GIRL Giralia 47.08 190 P **P 23 24 14.1 +0.2**
GIRL Giralia 47.08 190 P **P 23 24 15.2 +1.3**
comp=Z,255nm,1.7s
KBL Kabul 47.13 296 P **P 23 24 14.6 0.0**
KBL IAmb IAmb 23 24 16.6
comp=Z,19nm,1.0s
QIS Mount Isa 47.45 158 P **P 23 24 18.9 +2.0**
TIXI Tiksi 47.76 3 P **P 23 24 17.2 -1.4**
TIXI IAmb IAmb 23 24 18.2
comp=Z,9.7nm,0.7s
SHEM Shemya Is, Ala 48.27 40 LR LR 23 43 40.3
comp=Z,132nm,21.7s,baz=274,slow=35
BVAR Borovoye Array 48.41 321 P **P 23 24 23.4 -0.7**
comp=Z,9.9nm,0.6s,baz=103,slow=8.1,SNR=76
BVAR PcP **PcP 23 25 49.7 -0.3**
comp=Z,5.7nm,0.7s,baz=85,slow=3.2,SNR=7.7
BVAR ScP **ScP 23 29 41.8 -0.7**
comp=Z,3.7nm,0.9s,baz=110,slow=3.5,SNR=12
BVAR LR LR 23 47 11.5
comp=Z,429nm,18.4s,baz=103,slow=39
comp=Z,9.9nm,0.6s
BRVK Borovoye 48.48 321 P **P 23 24 23.4 -1.1**
BRVK IAmb IAmb 23 24 25.0
comp=Z,18nm,0.8s
AS31 Alice Springs 48.76 166 P **P 23 24 27.5 +0.5**
ASAR Alice Springs 48.76 166 P **P 23 24 28.2 +1.2**
comp=Z,14nm,0.9s,baz=343,slow=6.6,SNR=63
ASAR LR LR 23 44 51.4
comp=Z,239nm,20.4s,baz=1.5,slow=36
comp=Z,14nm,0.9s
WRKA Warakurna 49.15 173 P **P 23 24 31.1 +1.1**
HNR Honiara 49.60 128 LR LR 23 44 02.4
comp=Z,4μm,20.0s,baz=310,slow=34
CTA Charters Tower 49.70 150 LR LR 23 43 32.8
comp=Z,427nm,21.3s,baz=332,slow=34
CTAO Charters Tower 49.70 150 P **P 23 24 34.7 +0.5**
CTAO IAmb IAmb 23 24 38.6
comp=Z,15nm,0.9s
MEEK Meekatharra 50.53 184 P **P 23 24 39.9 -0.5**
HRA Herat 52.75 296 P **P 23 24 57.1 -0.2**
OOD Oodnadatta 53.15 165 P **P 23 25 01.6 +1.8**
comp=Z,97nm,0.7s
MORW Morawa 53.16 187 P **P 23 24 60.0 0.0**
MORW IAmb IAmb 23 25 00.1
comp=Z,16nm,0.9s
MORW Morawa 53.16 187 P **P 23 24 59.7 -0.3**
comp=Z,30nm,1.8s
ABKAR Akbulak array 54.25 314 P **P 23 25 08.1 +0.3**
FORT Forrest 54.81 174 P **P 23 25 11.8 -0.1**
MULG Mulgathing 55.20 168 P **P 23 25 16.3 +1.5**
comp=Z,54nm,1.6s
ATKA Atka Island 55.22 42 P **P 23 25 14.8 0.0**
AKTO Aktyubinsk 55.57 316 LR LR 23 51 03.2
comp=Z,452nm,18.1s,baz=76,slow=38
GEYT Alibeck 55.73 301 P **P 23 25 19.9 +1.1**
comp=Z,11nm,0.9s,baz=90,slow=4.4,SNR=32
GEYT LR LR 23 51 58.0
comp=Z,567nm,21.6s,baz=102,slow=39
comp=Z,11nm,0.9s
GYA0B ALIBECK ARRAY 55.73 301 **P 23 25 18.6 -0.2**
GYA0B IAmb IAmb 23 25 21.1
comp=Z,16nm,0.9s
ARU Arti 55.82 323 P **P 23 25 18.2 -0.8**
ARU IAmb IAmb 23 25 18.7
comp=Z,13nm,0.7s
ARU Arti 55.82 323 LR LR 23 50 55.0
comp=Z,499nm,20.9s,baz=96,slow=38
LCRK Leigh Creek 56.31 163 P **P 23 25 24.7 +2.0**
comp=Z,94nm,1.2s
EIDS Eidsvold 56.49 148 P **P 23 25 23.6 -0.6**
EIDS IAmb IAmb 23 25 26.1
comp=Z,11nm,0.7s
NWAO Narrogin (SRO) 56.87 185 P **P 23 25 25.8 -0.9**
NWAO Narrogin (SRO) 56.87 185 P **P 23 25 25.5 -1.2**
NWAO IAmb IAmb 23 25 36.0
comp=Z,11nm,0.9s
NWAO Narrogin (SRO) 56.87 185 LR LR 23 49 50.8
comp=Z,144nm,19.1s,baz=258,slow=36
WSAR Wadi Sarin 57.85 283 LR LR 23 54 07.4
comp=Z,182nm,19.4s,baz=64,slow=40
BBOO Buckleboo 58.06 166 P **P 23 25 34.1 -1.0**
STKA Stephens Creek 58.60 161 P **P 23 25 38.8 -0.1**
STKA Stephens Creek 58.60 161 P **P 23 25 40.0 +1.1**
comp=Z,18nm,0.8s,baz=340,slow=7.6,SNR=18
STKA LR LR 23 52 11.8
comp=Z,199nm,20.4s,baz=228,slow=37
comp=Z,18nm,0.8s
CMSA Cobar Meteorol 59.65 157 P **P 23 25 48.2 +2.1**
comp=Z,40nm,1.1s
KOUNC Koumac, New Ca 60.32 134 P **P 23 25 51.9 +0.9**
KOUNC IAmb IAmb 23 26 10.9
comp=Z,18nm,1.0s

KIRV Kirov 60.90 325 LR LR 23 54 42.6
comp=Z,1µm,18.9s,baz=95,slow=38
ARMA Armidale 61.04 151 P **P** **23 25 55.5 -0.3**
ARMA IAmb IAmb 23 26 02.3
comp=Z,11nm,1.0s
F15K North Star Dit 61.36 27 P **P** **23 25 58.2 +0.7**
F15K IAmb IAmb 23 26 03.8
comp=Z,9.4nm,1.1s
BELG Belogornoye 62.06 318 LR LR 23 56 39.9
comp=Z,227nm,18.7s,baz=85,slow=40
O14K Tigyukauivet M 62.75 34 P **P** **23 26 07.6 +0.8**
DZM Mont Dzumac 62.81 133 P **P** **23 26 08.2 +0.4**
DZM Mont Dzumac 62.81 133 LR LR 23 48 49.0
comp=Z,306nm,21.9s,baz=270,slow=32
ARPS Mount Arapiles 63.25 162 P **P** **23 26 12.1 +1.7**
SDPT Sand Point 63.37 39 P **P** **23 26 10.1 -1.0**
CNBA Chernabura Isl 63.92 39 P **P** **23 26 14.5 -0.2**
D19K Kuna River 64.04 24 P **P** **23 26 14.9 -0.4**
D19K IAmb IAmb 23 26 19.2
comp=Z,14nm,1.0s
K17K Iditarod 64.07 30 P **P** **23 26 16.1 +0.5**
K17K IAmb IAmb 23 26 17.4
comp=Z,6.9nm,0.9s
F19K Shaleruckik Mo 64.18 26 P **P** **23 26 15.5 -0.6**
E19K Redstone River 64.38 25 P **P** **23 26 17.7 +0.2**
E19K IAmb IAmb 23 26 18.8
comp=Z,6.6nm,0.9s
B20K Meade River 64.39 22 P **P** **23 26 17.7 +0.3**
B20K IAmb IAmb 23 26 19.5
comp=Z,17nm,1.1s
CHGN Chignik 64.45 37 P **P** **23 26 17.8 -0.4**
M17K Holitna River 64.55 32 P **P** **23 26 18.2 -0.5**
M17K IAmb IAmb 23 26 31.9
comp=Z,6.0nm,1.1s
N17K Nushagak Hills 64.73 33 P **P** **23 26 19.6 -0.3**
N17K IAmb IAmb 23 26 26.4
comp=Z,6.6nm,1.1s
J18K Innoko River 64.75 29 P **P** **23 26 19.9 -0.2**
H19K Roundabout Mou 64.76 27 P **P** **23 26 19.6 -0.4**
H19K IAmb IAmb 23 26 21.6
comp=Z,13nm,1.1s
L18K Granite Mounta 64.85 31 P **P** **23 26 21.2 +0.5**
F20K Avaraart Lake 64.98 25 P **P** **23 26 22.9 +1.5**
TOO Toolangi 65.07 160 P **P** **23 26 23.4 +1.1**
TOO IAmb IAmb 23 26 33.7
comp=Z,20nm,1.1s
TOO Toolangi 65.07 160 P **P** **23 26 24.3 +1.9**
comp=Z,30nm,2.1s
TTA Tatalina 65.11 30 P **P** **23 26 22.8 +0.3**
TTA Tatalina 65.11 30 P **P** **23 26 22.5 +0.1**
J19K Poorman 65.20 29 P **P** **23 26 23.1 +0.1**
J19K IAmb IAmb 23 26 24.9
comp=Z,8.6nm,1.1s
B21K Ikpikpuk River 65.28 23 P **P** **23 26 23.7 +0.4**
B21K IAmb IAmb 23 26 25.6
comp=Z,11nm,0.8s
N18K Kilae Creek 65.36 32 P **P** **23 26 23.9 -0.1**
SVW2 Sparrevohn 65.47 32 P **P** **23 26 25.4 +0.6**
SVW2 IAmb IAmb 23 26 31.5
comp=Z,7.5nm,1.1s
SVW2 Sparrevohn 65.47 32 P **P** **23 26 25.8 +1.1**
comp=Z,9.9nm,2.4s
E21K Killik River 65.57 24 P **P** **23 26 25.1 -0.2**
E21K IAmb IAmb 23 26 26.7
comp=Z,6.1nm,0.8s
B22K Teshekpuk Lake 65.65 22 P **P** **23 26 26.2 +0.5**
B22K IAmb IAmb 23 26 40.5
comp=Z,18nm,1.1s
GNI Garni 65.71 305 P **P** **23 26 27.3 +0.5**
GNI IAmb IAmb 23 26 38.9
comp=Z,8.8nm,0.9s
GNI Garni 65.71 305 P **P** **23 26 27.0 +0.1**
comp=Z,5.2nm,0.8s,baz=177,slow=5.4,SNR=4.4
GNI LR LR 23 59 14.1
comp=Z,238nm,18.4s,baz=82,slow=40
comp=Z,5.2nm,0.8s
KLMR Klimovskoe 65.81 328 *eP* **P** **23 26 22.2 -4.7**
KLMR AMP 23 26 41.3
comp=Z,50nm,1.7s
KLMR LQ LQ 23 54 01.9
KLMR LQ LQ 23 54 01.9
KLMR LR LR 23 55 09.2
KLMR LRM MLR 23 57 34.4
J20K Nowinta River 65.83 28 P **P** **23 26 26.7 -0.3**
ONI Oni 66.17 308 P **P** **23 26 29.3 -0.4**
H21K Melozitna Rive 66.26 27 P **P** **23 26 29.3 -0.5**
H21K IAmb IAmb 23 26 31.8
comp=Z,6.8nm,0.9s
KBZ Khabaz 66.35 309 P **P** **23 26 30.6 0.0**
comp=Z,9.8nm,1.0s,baz=103,slow=3.5,SNR=13
KBZ LR LR 23 59 09.4
comp=Z,361nm,19.9s,baz=64,slow=39
comp=Z,9.8nm,1.0s
AKH Akhalkalaki 66.38 306 P **P** **23 26 30.8 -0.4**
KIV Kislovodsk 66.45 309 P **P** **23 26 30.0 -1.5**
CAST Castle Rocks 66.83 29 P **P** **23 26 32.4 -1.1**
CAST IAmb IAmb 23 26 37.5
comp=Z,5.2nm,0.9s
KARS Kars 66.85 306 P **P** **23 26 34.0 -0.1**
TOLK Toolik Lake Re 67.16 23 P **P** **23 26 35.0 -0.5**
TOLK IAmb IAmb 23 26 37.0
comp=Z,6.6nm,0.8s
MLY Manley 67.19 27 P **P** **23 26 35.6 -0.2**
MLY IAmb IAmb 23 26 38.2
comp=Z,5.4nm,0.9s
G23K Bananza Creek 67.25 26 P **P** **23 26 35.8 -0.3**
G23K IAmb IAmb 23 26 52.2
comp=Z,7.0nm,1.1s
D24K Happy Valley 67.36 23 P **P** **23 26 35.8 -0.9**
D24K IAmb IAmb 23 26 38.4
comp=Z,8.9nm,0.8s
KDAK Kodiak Island 67.42 35 LR LR 23 57 36.3
comp=Z,92nm,19.6s,baz=265,slow=37
H23K Yukon River 67.57 26 P **P** **23 26 37.7 -0.4**
H23K IAmb IAmb 23 26 40.6
comp=Z,6.5nm,0.8s
F24K Squaw Lake 67.95 25 P **P** **23 26 39.6 -0.9**
F24K IAmb IAmb 23 26 42.4
comp=Z,12nm,0.8s
NEA2 Nenana 67.97 28 P **P** **23 26 39.9 -0.7**
NEA2 IAmb IAmb 23 26 41.2
comp=Z,14nm,1.2s
SIRT Sirnak 68.05 302 P **P** **23 26 41.6 -0.1**
GURO Guroymak-BITLI 68.11 304 P **P** **23 26 42.4 +0.3**
GURO IAmb IAmb 23 26 44.1
comp=Z,11nm,1.0s
OBN Obninsk 68.22 322 P **P** **23 26 41.4 -0.9**
OBN IAmb IAmb 23 26 55.1
comp=Z,8.4nm,0.5s
OBN Obninsk 68.22 322 LR LR 23 59 28.1
comp=Z,620nm,18.0s,baz=14,slow=38
H24K Noodor Dome 68.25 26 P **P** **23 26 42.6 +0.2**
H24K IAmb IAmb 23 26 48.5
comp=Z,7.5nm,1.1s
G24K Hadweenzic Riv 68.25 25 P **P** **23 26 42.1 -0.2**
G24K IAmb IAmb 23 26 44.0
comp=Z,7.0nm,0.8s
MDM Murphy Dome 68.26 27 P **P** **23 26 41.9 -0.6**
MDM IAmb IAmb 23 26 43.2
comp=Z,14nm,1.1s
RND Reindeer 68.27 29 P **P** **23 26 41.1 -1.5**
RND IAmb IAmb 23 26 45.3
comp=Z,11nm,0.8s
WRH Wood River Hil 68.41 28 P **P** **23 26 42.7 -0.6**
MSVF Nonsavu 68.44 122 P **P** **23 26 43.1 -1.2**
MSVF IAmb IAmb 23 26 47.6
comp=Z,11nm,0.9s
MSVF Nonsavu 68.44 122 LR LR 23 53 50.8
comp=Z,169nm,19.6s,baz=17,slow=33
POKR Poker Flat Res 68.56 27 P **P** **23 26 44.1 -0.2**
POKR IAmb IAmb 23 26 46.1
comp=Z,5.4nm,0.8s
E25K Arctic Village 68.71 24 P **P** **23 26 45.3 +0.1**
ILAR Eielson Array 68.86 27 P **P** **23 26 44.8 -1.4**
comp=Z,0.8nm,0.6s,baz=303,slow=6.9,SNR=21
ILAR LR LR 23 59 46.1
comp=Z,113nm,18.1s,baz=278,slow=38
comp=Z,0.8nm,0.6s
HDA Harding Lake 68.90 28 P **P** **23 26 45.1 -1.4**
HDA IAmb IAmb 23 26 55.5
comp=Z,6.2nm,1.1s
DHY Denali Highway 68.99 29 P **P** **23 26 45.5 -1.7**
PRP Porcupine Dome 69.27 26 P **P** **23 26 48.6 -0.2**
SPB1 Spitsbergen Ar 69.81 348 P **P** **23 26 51.2 -0.7**
SPITS Spitsbergen Ar 69.82 348 P **P** **23 26 50.9 -1.0**
comp=Z,7.9nm,0.5s,baz=81,slow=10,SNR=18
SPITS LR LR 00 01 40.3
comp=Z,661nm,18.3s,baz=23,slow=40
comp=Z,7.9nm,0.5s
SPB3 Spitsbergen Ar 69.82 348 P **P** **23 26 51.6 -0.3**
ARCES ARCESS Array B 70.03 338 P **P** **23 26 52.5 -0.9**
comp=Z,6.9nm,0.8s,baz=68,slow=6.3,SNR=8.9
ARCES LR LR 00 02 47.7
comp=Z,316nm,18.7s,baz=86,slow=40
comp=Z,6.9nm,0.8s
D27M Malcolm River 70.09 22 P **P** **23 26 53.8 +0.1**
D27M IAmb IAmb 23 26 54.8
comp=Z,5.9nm,0.7s
E27K Coleen River 70.14 23 P **P** **23 26 54.1 +0.1**
I26K Coal Creek Min 70.28 26 P **P** **23 26 55.4 +0.5**
J26L Joseph Creek 70.31 27 P **P** **23 26 54.9 -0.4**
G27K Doyon Strip 70.48 25 P **P** **23 26 55.7 -0.5**
E28M Babbage River 70.76 23 P **P** **23 26 57.5 -0.3**
E28M IAmb IAmb 23 26 59.4
comp=Z,6.3nm,0.7s
F28M Old Crow 70.93 24 P **P** **23 26 57.8 -1.1**
F28M IAmb IAmb 23 27 00.9
comp=Z,6.6nm,0.8s
K27K Chicken 71.06 28 P **P** **23 27 00.0 +0.3**
M26K Nabesna, AK 71.11 29 P **P** **23 26 59.6 -0.5**
M26K IAmb IAmb 23 27 00.8
comp=Z,5.8nm,0.8s
EGAK Eagle 71.24 27 P **P** **23 26 59.7 -1.1**
EGAK IAmb IAmb 23 27 01.3
comp=Z,5.4nm,0.8s
MCARA McCarthy VSAT 71.37 30 P **P** **23 27 01.3 -0.4**
MCARA IAmb IAmb 23 27 15.2
comp=Z,8.3nm,1.0s
E29M Blow River 71.41 23 P **P** **23 27 01.9 +0.3**
L27K Beaver Creek, 71.44 29 P **P** **23 27 02.0 0.0**
I28M Miner Creek 71.54 26 P **P** **23 27 02.8 +0.2**
I28M IAmb IAmb 23 27 04.1
comp=Z,4.4nm,0.7s
TGL Tana Glacier 71.64 31 P **P** **23 27 02.8 -0.6**
TGL IAmb IAmb 23 27 04.9
comp=Z,16nm,1.1s
G29M Pine Creek 71.83 24 P **P** **23 27 04.1 -0.2**
G29M IAmb IAmb 23 27 18.1
comp=Z,5.9nm,0.8s
H29M Whitestone 71.91 25 P **P** **23 27 04.3 -0.5**
FINES FINESS Array B 72.06 330 P **P** **23 27 04.0 -1.7**
comp=Z,4.3nm,0.7s,baz=43,slow=4.1,SNR=13
FINES LR LR 00 02 03.1
comp=Z,1µm,19.0s,baz=70,slow=39
comp=Z,4.3nm,0.7s
GAZ Gaziantep 72.15 303 P **P** **23 27 06.4 -0.4**
GAZ IAmb IAmb 23 27 08.5
comp=Z,21nm,1.0s
DAWY Dawson 72.18 27 P **P** **23 27 05.5 -1.0**
DAWY IAmb IAmb 23 27 07.4
comp=Z,4.4nm,0.6s
I29M Ogilvie Camp, 72.21 26 P **P** **23 27 06.0 -0.7**
I29M IAmb IAmb 23 27 19.8
comp=Z,5.0nm,0.6s
CTGM Chitina Glacie 72.28 31 P **P** **23 27 07.2 0.0**
CTGM IAmb IAmb 23 27 19.7
comp=Z,6.7nm,0.9s
G30M tAoh Zrail Nji 72.47 24 P **P** **23 27 07.2 -0.9**
G30M IAmb IAmb 23 27 08.0
comp=Z,10nm,1.1s
LOGN Logan Glacier 72.47 31 P **P** **23 27 08.0 -0.4**
EPYK Eagle Plains 72.50 25 P **P** **23 27 07.9 -0.5**
EPYK IAmb IAmb 23 27 08.7
comp=Z,8.0nm,0.7s
J29N Klondike Camp 72.54 27 P **P** **23 27 08.3 -0.4**
J29N IAmb IAmb 23 27 10.8
comp=Z,11nm,0.5s
BNN Bunyan 72.69 305 P **P** **23 27 09.6 -0.5**
INK Inuvik 72.96 22 P **P** **23 27 10.0 -0.9**
INK IAmb IAmb 23 27 11.0
comp=Z,7.7nm,0.8s
INK Inuvik 72.96 22 LR LR 00 02 52.6
comp=Z,213nm,18.7s,baz=315,slow=39
I30M Mount Dempster 73.02 26 P **P** **23 27 10.6 -0.9**
L29M L29M 73.03 28 P **P** **23 27 11.7 +0.2**
L29M IAmb IAmb 23 27 27.4
comp=Z,6.1nm,0.8s
K29M Barlow Dome 73.04 27 P **P** **23 27 11.1 -0.5**
M29M Somme Creek 73.11 29 P **P** **23 27 11.8 -0.3**
F31M Tsiigehtchic 73.21 23 P **P** **23 27 11.7 -0.7**
F31M IAmb IAmb 23 27 13.3
comp=Z,10nm,0.7s
G31M Satah River 73.21 24 P **P** **23 27 11.1 -1.3**
BCPM Bancas Point 73.40 31 P **P** **23 27 13.6 -0.1**
BCPM IAmb IAmb 23 27 29.3
comp=Z,7.2nm,1.0s
H31M Peel River 73.60 25 P **P** **23 27 14.5 -0.4**
AKASG Malin Array Be 73.64 319 P **P** **23 27 14.1 -1.2**
comp=Z,2.6nm,0.6s,baz=59,slow=6.2,SNR=13
AKASG LR LR 00 00 20.1
comp=Z,299nm,21.6s,baz=68,slow=36
comp=Z,2.6nm,0.6s
AKBB Malin Array Si 73.64 319 P **P** **23 27 14.2 -1.1**
AKBB IAmb IAmb 23 27 15.0
comp=Z,6.8nm,0.8s
M30M Minto, Yukon 73.79 28 P **P** **23 27 16.0 0.0**
N30M Aishikik Lake 74.06 29 P **P** **23 27 18.3 +0.6**
BR131 Keskin Array S 74.06 307 P **P** **23 27 16.8 -1.3**
BRTR Keskin Array B 74.06 307 P **P** **23 27 17.9 -0.3**
comp=Z,15nm,0.9s,baz=101,slow=6.4,SNR=50
BRTR LR LR 00 05 07.4
comp=Z,200nm,19.3s,baz=76,slow=40
comp=Z,15nm,0.9s
HYT Haines Junctio 74.09 30 P **P** **23 27 17.4 -0.5**
HYT IAmb IAmb 23 27 24.9
comp=Z,7.9nm,1.2s
AIS Amsterdam Isla 74.51 215 P **P** **23 27 20.8 +0.4**
ANTO Ankara 74.63 307 P **P** **23 27 21.1 -0.3**
BR231 Keskin MP Arra 74.66 307 P **P** **23 27 20.9 -0.7**
MMAI Mount Meron Ar 74.84 300 LR LR 00 06 36.5
comp=Z,296nm,18.6s,baz=35,slow=41
M31M Drury Creek, Y 74.97 28 P **P** **23 27 21.7 -1.1**
GHAJ Ghor Haditha 75.27 298 P **P** **23 27 23.9 -1.2**
GHAJ IAmb IAmb 23 27 40.8
comp=Z,18nm,1.0s
WHY Whitehorse 75.35 30 P **P** **23 27 25.0 -0.2**
HMH Humu'ula Sheep 75.42 75 P **P** **23 27 26.1 -0.4**
HMH IAmb IAmb 23 27 32.8
comp=Z,19nm,0.9s
C36M Paulatuk 75.58 20 P **P** **23 27 26.8 +0.6**
C36M IAmb IAmb 23 27 30.7
comp=Z,17nm,1.1s
MDUB Mudurnu 75.59 308 P **P** **23 27 26.2 -0.7**
SKAG Skagway 75.61 31 P **P** **23 27 27.2 +0.7**
SKAG IAmb IAmb 23 27 28.4
comp=Z,5.8nm,0.8s
EIL Elat 76.32 297 LR LR 00 06 03.1
comp=Z,137nm,21.3s,baz=68,slow=40
P33M Teslin, Yukon 76.47 30 P **P** **23 27 31.1 -0.5**
R32K Eaglecrest 76.47 32 P **P** **23 27 31.4 -0.1**
R32K IAmb IAmb 23 27 33.0
comp=Z,8.7nm,1.1s
S32K Killisnoo 76.77 33 P **P** **23 27 32.9 -0.2**
Q32M Nakina River 77.25 31 P **P** **23 27 36.6 +0.5**
MLR Muntele Rosu 77.46 314 P **P** **23 27 36.5 -1.0**
comp=Z,6.4nm,0.8s,baz=120,slow=20,SNR=4.6
MLR LR LR 00 06 04.5
comp=Z,391nm,18.2s,baz=89,slow=39
comp=Z,6.4nm,0.8s
R33M Jennings River 77.67 30 P **P** **23 27 38.0 -0.4**
ELL Elmali 77.82 305 P **P** **23 27 38.8 -0.9**
KWP Kalwaria Pacla 77.93 319 P **P** **23 27 39.3 -0.6**
U33K Whale Pass 78.06 34 P **P** **23 27 40.6 +0.3**
U33K IAmb IAmb 23 27 55.5
comp=Z,15nm,1.1s
HFS Hagfors 78.17 331 P **P** **23 27 39.4 -1.6**
comp=Z,5.8nm,0.8s,baz=73,slow=6.5,SNR=3.3
HFS LR LR 00 05 51.4
comp=Z,2µm,18.1s,baz=65,slow=38
comp=Z,5.8nm,0.8s
WTLY Watson Lake, Y 78.31 29 P **P** **23 27 41.9 0.0**
WTLY IAmb IAmb 23 27 42.6
comp=Z,6.3nm,0.9s
WRAK Wrangell Islan 78.32 33 P **P** **23 27 41.7 -0.1**
WRAK IAmb IAmb 23 27 42.7
comp=Z,9.6nm,1.1s
DLBC Dease Lake 78.53 31 P **P** **23 27 43.1 0.0**
DLBC Dease Lake 78.53 31 LR LR 00 06 41.1
comp=Z,152nm,18.2s,baz=294,slow=39
RES Resolute Bay 78.62 9 LR LR 00 06 19.6
comp=Z,299nm,19.3s,baz=348,slow=39
NB2 NORSAR Subarra 78.81 332 P **P** **23 27 43.4 -1.1**
comp=Z,20nm,1.2s,baz=59,slow=5.6
NB2 NORSAR Subarra 78.81 332 P **P** **23 27 43.4 -1.1**
baz=59,slow=5.6
NOA NORSAR Array B 78.81 332 P **P** **23 27 43.4 -1.1**
comp=Z,3.4nm,0.7s,baz=56,slow=5.6,SNR=12
NOA LR LR 00 06 16.3
comp=Z,943nm,18.2s,baz=60,slow=38
comp=Z,3.4nm,0.7s
WRGLY Wrigley 78.96 25 P **P** **23 27 44.4 -0.8**
WRGLY IAmb IAmb 23 27 45.6
comp=Z,14nm,1.2s
JMIC Jan Mayen 79.21 345 LR LR 00 06 54.1
comp=Z,350nm,18.8s,baz=320,slow=39
OJC Ojcow 79.42 320 P **P** **23 27 47.5 -0.6**
OJC IAmb IAmb 23 27 48.7
comp=Z,14nm,1.0s
KARP Karpathos 80.33 305 P **P** **23 27 52.4 -0.9**
PSZ Piszkesteto 80.33 318 P **P** **23 27 52.3 -0.9**
PSZ IAmb IAmb 23 27 53.9
comp=Z,12nm,1.1s
URZ Urewera 80.52 139 LR LR 00 03 08.2
comp=Z,151nm,19.3s,baz=31,slow=35
VYHS Vyhne 80.72 319 *eP* **P** **23 27 55.4 +0.3**
RPZ Rata Peaks 80.92 146 P **P** **23 27 56.1 +0.1**
RPZ IAmb IAmb 23 27 58.0
comp=Z,12nm,0.9s
RPZ Rata Peaks 80.92 146 LR LR 00 01 11.5
comp=Z,208nm,20.8s,baz=314,slow=34
SNZO South Karori 81.17 143 P **P** **23 27 58.3 +0.9**
IDI Anoyia 82.14 305 LR LR 00 11 21.2
comp=Z,87nm,18.4s,baz=73,slow=41
YKA Yellowknife Ar 82.69 23 P **P** **23 28 04.3 -0.9**
comp=Z,4.9nm,0.7s,baz=313,slow=5.0,SNR=15
YKA LR LR 00 08 57.0
comp=Z,86nm,18.2s,baz=285,slow=39
comp=Z,4.9nm,0.7s
SUMG Summit 82.73 354 P **P** **23 28 05.0 -0.7**
SUMG IAmb IAmb 23 28 05.8
comp=Z,11nm,0.9s
CONA Conrad Observa 82.75 319 P **P** **23 28 05.8 -0.1**
comp=Z,2.6nm,0.7s
ARSA Arzberg 83.28 319 P **P** **23 28 07.5 -1.1**
comp=Z,2.8nm,0.9s
KHC Kasperske Hory 83.51 321 P **P** **23 28 09.2 -0.5**
GERES GERESS Array B 83.58 321 P **P** **23 28 09.5 -0.7**
comp=Z,2.9nm,0.8s,baz=75,slow=5.8,SNR=5.4
GERES LR LR 00 09 02.8
comp=Z,389nm,19.3s,baz=62,slow=38
comp=Z,2.9nm,0.8s
MOA Molin 83.74 320 *eP* **P** **23 28 10.6 -0.3**
comp=Z,4.1nm,0.8s
SOKA Soboth 83.84 319 *eP* **P** **23 28 10.8 -0.8**
comp=Z,3.6nm,0.9s
BIOA Bad Ischl, Aus 84.18 320 *eP* **P** **23 28 12.1 -1.1**
comp=Z,3.5nm,0.8s
HILA High Level 84.22 27 P **P** **23 28 12.4 -0.8**
GRA1 Grafenberg Arr 84.56 323 P **P** **23 28 14.4 -0.6**
GRA1 IAmb IAmb 23 28 26.4
comp=Z,11nm,0.9s
GRFO Grafenberg 84.56 323 P **P** **23 28 14.7 -0.3**
GRFO IAmb IAmb 23 28 26.4
comp=Z,11nm,0.9s
LESA Schwarzleotal 84.88 320 *eP* **P** **23 28 15.7 -1.1**
comp=Z,8.8nm,1.3s
ABTA Abfaltersbach 85.32 320 *eP* **P** **23 28 17.7 -1.3**
comp=Z,6.9nm,1.1s
WTTA Wattenberg 85.57 320 *eP* **P** **23 28 19.6 -0.8**
comp=Z,9.2nm,1.0s
KIBK Kibwezi 85.69 266 P **P** **23 28 20.8 -0.6**
KIBK IAmb IAmb 23 28 38.4
comp=Z,12nm,1.1s
SQTA Sankt Quirin 85.84 320 *eP* **P** **23 28 20.8 -0.9**
comp=Z,11nm,1.2s
KMBO Kilima Mbogo 85.92 267 P **P** **23 28 22.2 -0.6**
KMBO IAmb IAmb 23 28 25.1
comp=Z,11nm,1.1s
FETA Feichten 86.23 320 *eP* **P** **23 28 22.2 -1.4**
comp=Z,8.2nm,1.2s
DAVA Damuels 86.58 321 *eP* **P** **23 28 24.9 -0.4**
comp=Z,7.1nm,1.2s
DAVOX Davos/Dischmat 86.85 320 LR LR 00 11 18.9
comp=Z,379nm,18.6s,baz=76,slow=38
BORG Borgarnes 87.10 345 LR LR 00 11 53.9
comp=Z,379nm,18.3s,baz=10,slow=39
NLWA Neilton Lookou 87.34 38 P **P** **23 28 29.2 +0.3**
NLWA IAmb IAmb 23 28 30.6
comp=Z,11nm,0.9s
GNW Green Mountain 87.83 38 P **P** **23 28 31.3 +0.2**
GNW IAmb IAmb 23 28 33.3
comp=Z,9.3nm,0.9s
RAR Rarotonga 88.14 114 LR LR 00 03 27.5
comp=Z,104nm,18.6s,baz=218,slow=32
EKA Eskdalemuir Ar 88.30 332 P **P** **23 28 31.3 -1.9**
comp=Z,2.2nm,0.8s,baz=37,slow=3.1,SNR=6.1
comp=Z,2.2nm,0.8s
D05A Enumclaw 88.51 38 P **P** **23 28 35.0 +0.6**
LON Longmire 88.86 38 P **P** **23 28 35.2 -1.0**
LON IAmb IAmb 23 28 37.7
comp=Z,9.1nm,0.9s
F04A Amboy 88.98 39 P **P** **23 28 37.3 +0.7**
SFJD Kangerlussuaq 89.07 357 LR LR 00 11 05.4
comp=Z,184nm,18.6s,baz=358,slow=37
LTY Liberty 89.21 37 P **P** **23 28 37.1 -0.7**
LTY IAmb IAmb 23 28 38.7
comp=Z,9.3nm,0.8s
HOOD Mount Hood Mea 89.77 39 P **P** **23 28 40.1 -0.5**
G05A Wamic 90.01 39 P **P** **23 28 42.0 +0.5**
E07A Sunnyside 90.07 38 P **P** **23 28 42.2 +0.3**
I04A Tendick Farm, 90.19 41 P **P** **23 28 42.3 -0.2**
C09A Chrisman Ranch 90.20 36 P **P** **23 28 41.9 -0.5**
C09A IAmb IAmb 23 28 43.6
comp=Z,14nm,1.1s
D08A Wollman Farm, 90.29 37 P **P** **23 28 43.2 +0.4**
HAWA Hanford 90.35 38 P **P** **23 28 43.0 0.0**
HAWA IAmb IAmb 23 28 44.6
comp=Z,11nm,0.9s
G06A Carlson Farm, 90.40 39 P **P** **23 28 43.7 +0.3**
G06A IAmb IAmb 23 28 45.0
comp=Z,12nm,0.9s
NEW Newport 90.52 35 P **P** **23 28 44.3 +0.4**
E09A Wood Farm, Sta 91.05 37 P **P** **23 28 46.7 +0.4**
PINE Pine Mountain 91.06 40 P **P** **23 28 47.2 +0.5**
L04D Klamath Falls 91.14 42 P **P** **23 28 46.8 -0.2**
J05D Fort Rock, OR 91.18 41 P **P** **23 28 46.7 -0.5**
G08A Pilot Rock 91.33 38 P **P** **23 28 47.4 -0.4**
G08A IAmb IAmb 23 28 49.3
comp=Z,4.5nm,1.0s
MBAR Mbarara 91.66 270 LR LR 00 11 58.2
comp=Z,92nm,19.0s,baz=48,slow=37
K05A Summer Lake 91.71 41 P **P** **23 28 50.0 +0.3**
I07A Izee 91.73 39 P **P** **23 28 50.2 +0.4**
I07A IAmb IAmb 23 28 51.3
comp=Z,5.9nm,1.0s
FRB Frobisher Bay 92.07 5 LR LR 00 14 07.1
comp=Z,176nm,19.1s,baz=355,slow=38
BMO Blue Mountains 92.53 38 P **P** **23 28 53.0 -0.4**
BMO IAmb IAmb 23 28 54.4
comp=Z,3.8nm,0.9s
J08A Circle Bar Ran 92.77 40 P **P** **23 28 54.8 +0.3**
PLID Pearl Lake 93.11 37 P **P** **23 28 56.2 0.0**
PLID IAmb IAmb 23 28 59.0
comp=Z,3.1nm,0.8s
WVOR Wild Horse Val 93.22 40 P **P** **23 28 56.3 -0.3**
WVOR IAmb IAmb 23 28 57.9
comp=Z,5.4nm,1.1s
OVMT Ovando 93.44 34 P **P** **23 28 56.9 -0.6**
PAHR Pah Rah Range 94.39 43 P **P** **23 29 02.0 -0.1**
PAHR IAmb IAmb 23 29 03.3
comp=Z,4.7nm,1.0s
HLID Hailey 94.95 38 P **P** **23 29 04.2 -0.4**
HLID IAmb IAmb 23 29 08.0
comp=Z,3.4nm,0.9s
PPT Papeete 95.35 107 LR LR 00 04 24.2
comp=Z,128nm,19.5s,baz=254,slow=31
NVAR Mina Array Bea 95.83 43 P **P** **23 29 09.2 +0.4**
comp=Z,1.5nm,0.7s,baz=300,slow=5.3,SNR=14
comp=Z,1.5nm,0.7s
PDAR Pinedale Array 98.14 36 LR LR 00 16 22.7
comp=Z,56nm,18.3s,baz=343,slow=37
ULM Lac du Bonnet 98.66 24 LR LR 00 18 34.6
comp=Z,121nm,18.4s,baz=3.5,slow=38
ESDC Sonseca Array 99.17 321 LR LR 00 19 26.8
comp=Z,246nm,18.4s,baz=38,slow=39
LSZ Lusaka 99.75 258 LR LR 00 11 42.2

comp=Z,126nm,20.7s,baz=148,slow=34
PFO Pinyon Flats O 99.92 46 LR LR 00 14 33.5
comp=Z,61nm,19.2s,baz=266,slow=35
TXAR Lajitas Array 110.93 42 PKiKP **PKiKP 23 34 14.7 -1.0**
comp=Z,0.5nm,0.9s,baz=219,slow=1.6,SNR=4.0
TORD Torodi Ar. Bea 111.20 296 PKiKP **PKiKP 23 34 15.8 -0.6**
comp=Z,0.3nm,0.6s,baz=69,slow=4.3,SNR=2.6
DBIC Dimbokro 120.11 294 PKP **PKPdf 23 34 32.3 -1.2**
comp=Z,4.1nm,1.0s,baz=139,slow=1.4,SNR=3.3
CRIN San Cristobal 133.55 41 *eP* PKPdf 23 34 51.3 -7.9
CNGN Cerro Negro 133.92 41 PKPdf **PKPdf 23 34 58.2 -1.6**
ZARC Zaragoza, Cauc 144.45 30 *eP* **PKPab 23 35 14.5 -2.7**
BRRC Barranca, Sant 145.31 29 *eP* **PKPbc 23 35 18.3 -1.9**
PTBC PUERTO BERRIO 145.47 30 *eP* **PKPbc 23 35 19.9 -0.8**
PAMC Pamplona, Colo 145.53 27 *eP* **PKPdf 23 35 20.9 -0.5**
BAUV El Baul 145.68 18 PKPdf **PKPdf 23 35 19.1 -2.0**
PLMC San Jos del P 145.99 35 *eP* **PKPbc 23 35 22.1 -0.4**
BARC Barichara 146.00 28 *eP* **PKPdf 23 35 22.0 0.0**
NORC Norcasia 146.13 32 *eP* **PKPdf 23 35 22.0 +0.1**
GUY2C Guyana, Caldas 146.18 33 *eP* **PKPdf 23 35 22.3 -0.3**
SPBC San Pablo de B 146.43 30 *eP* **PKPdf 23 35 22.2 -0.3**
RUSC La Rusia 146.66 29 *eP* **PKPdf 23 35 24.1 +0.7**
YOTC Yotoco, Valle 146.74 36 *eP* **PKPdf 23 35 23.6 +0.6**
ROSC El Rosal 147.03 32 PKPbc **PKPdf 23 35 23.6 -0.2**
comp=Z,7.7nm,0.6s,baz=17,slow=9.2,SNR=4.9
JAMC Jamundi, Valle 147.20 37 *eP* **PKPab 23 35 27.6 -0.2**
ORTC Ortega, Tolima 147.37 34 *eP* **PKPdf 23 35 24.9 +0.9**
CHIC Chingaza 147.49 31 *eP* **PKPbc 23 35 26.8 -0.4**
PRAC Prado 147.72 33 *eP* **PKPdf 23 35 24.9 +0.3**
POPC Popayan, Colom 147.76 37 *eP* **PKPbc 23 35 26.9 -0.9**
VILC Villavicencio, 147.96 31 *eP* **PKPbc 23 35 28.2 +0.1**
OTAV Otavalo 148.56 43 PKPab **PKPbc 23 35 30.1 0.0**
OTAV Otavalo 148.56 43 *eP* **PKPdf 23 35 27.3 +0.7**
GARC Garzon, Huila 148.70 36 *eP* **PKPbc 23 35 30.1 -0.2**
FLOC Florencia 149.12 37 *eP* **PKPbc 23 35 29.9 -1.2**
PIAT Ana Tenorio 149.63 44 *eP* **PKiKP 23 35 33.5 -0.3**
MCRA Macar, Loja 150.97 51 PKPbc 23 35 34.8 -0.7
MCRA Macar, Loja 150.97 51 *eP* **PKiKP 23 35 36.2 0.0**
BOSC San Juan Bosco 151.10 47 PKiKP 23 35 36.6 +0.1
BOAV Boa Vista 153.56 6 *eP* **PKPbc 23 35 40.4 -0.9**
ETMB Extrema 163.68 31 PKPab **PKPab 23 36 35.1 -2.2**
LPAZ La Paz 167.53 54 PKP **PKPdf 23 35 48.9 -0.6**
comp=Z,2.1nm,0.8s,baz=355,slow=1.8,SNR=9.1
LPAZ PKPab **PKPab 23 36 53.2 -1.9**
comp=Z,2.1nm,0.9s,baz=340,slow=7.6,SNR=4.7
BDFB Brasilia 167.62 311 PKP **PKPdf 23 35 48.2 -0.6**
comp=Z,2.4nm,0.9s,baz=30,slow=20,SNR=2.5

NEIC ***29*** *23:17:25.8±1.9, 27°.89S±0°.06×66°.9W±0°.1, h210km±13km, mb4.4/9, Error ellipse: s-maj=14.5km s-min=8.1km az=94.0*
SJA ***29*** *23:17:25.2±0.8, 27°.89S×66°.75W, h182km±4km, ML3.1, MW3.6*
IDC ***29*** *23:17:25.5±1.6, 27°.78S×66°.72W, h172km±16km, mb3.3/4, mbtmp4.0/8, Error ellipse: s-maj=26.5km s-min=14.6km az=93.0*
ISC 29 23:17:24.9±0.7, 27°.88S±0°.04×66°.78W±0°.05, h182km±6km, n86, σ1°32/115, mb4.0/7, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TINO	**Tinogasta**	**0.72**	**255**	*eP*	**Pn**	**23 17 52.3**	**+1.2**
TINO				*eS*	**Sn**	**23 18 11.7**	**+0.3**
VCA	**Vinchina**	**1.52**	**235**	*eP*	**Pn**	**23 17 58.7**	**+1.3**
VCA				*eS*	**Sn**	**23 18 23.0**	**+0.5**
ACLC	**CERRO LA CRUZ**	**1.55**	**185**	*eP*	**Pn**	**23 17 58.7**	**+1.0**
ACLC				*eS*	**Sn**	**23 18 23.0**	**-0.2**
AHML	**Horco Molle**	**1.69**	**50**	*eP*	**Pn**	**23 17 59.4**	**+0.4**
AHML				IAML		23 18 27.8	
comp=Z,38nm,0.9s							
FSA	**Cafayete**	**1.90**	**22**	*eP*	**Pn**	**23 18 02.7**	**+1.4**
FSA				*eS*	**Sn**	**23 18 29.5**	**0.0**
APLL	**PUNTA DE LOS L**	**2.52**	**175**	*eP*	**Pn**	**23 18 08.8**	**+0.9**
APLL				*eS*	**Sn**	**23 18 40.4**	**-1.2**
APLL				IAML		23 18 40.5	
comp=Z,89nm,0.4s							
ACDV	**Cuesta del Vie**	**3.07**	**221**	*eP*	**Pn**	**23 18 16.0**	**+1.5**
ACDV				IAML		23 18 58.3	
comp=Z,53nm,0.2s							
GO03	**Copiap**	**3.07**	**274**		**Pn**	**23 18 15.9**	**+1.3**
GO03				Sn	**Sn**	**23 18 53.0**	**-0.3**
GO03	**Copiap**	**3.07**	**274**	*eP*	**Pn**	**23 18 16.1**	**+1.5**
GO03				*eS*	**Sn**	**23 18 53.1**	**-0.3**
AC06	**Mina Casimiro**	**3.21**	**278**	Pn	**Pn**	**23 18 17.5**	**+1.3**
AC06				Sn	**Sn**	**23 18 56.5**	**+0.2**
AC05	**El Transito**	**3.22**	**252**		**Pn**	**23 18 18.4**	**+1.9**
AC05				Sn	**Sn**	**23 18 57.6**	**+1.0**
AC05	**El Transito**	**3.22**	**252**	*eP*	**Pn**	**23 18 18.4**	**+1.9**
AC05				*eS*	**Sn**	**23 18 56.9**	**+0.2**
AROD	**Rodeo**	**3.28**	**225**	*eP*	**Pn**	**23 18 19.2**	**+1.9**
AROD				*eS*	**Sn**	**23 18 59.0**	**+0.7**
ACCO	**Cerro Coronel**	**3.36**	**216**	*eP*	**Pn**	**23 18 19.4**	**+1.2**
ACCO				*eS*	**Sn**	**23 19 00.7**	**+0.6**
CO01	**Juntas del Tor**	**3.58**	**233**	Pn	**Pn**	**23 18 23.3**	**+2.4**
CO01				Sn	**Sn**	**23 19 06.3**	**+1.5**
LCO	**Las Campanas**	**3.63**	**251**	Pn	**Pn**	**23 18 22.8**	**+1.1**
LCO				Sn	**Sn**	**23 19 05.9**	**0.0**
GO02	**Mina Guanaco**	**3.69**	**316**	Pn	**Pn**	**23 18 24.8**	**+2.3**
GO02				Sn	**Sn**	**23 19 09.0**	**+1.5**
AC04	**Llanos de Chal**	**3.81**	**264**	Pn	**Pn**	**23 18 24.1**	**+0.5**
AC04				Sn	**Sn**	**23 19 07.7**	**-1.8**
AC04	**Llanos de Chal**	**3.81**	**264**	*eP*	**Pn**	**23 18 24.5**	**+0.9**
AC04				*eS*	**Sn**	**23 19 09.1**	**-0.4**
AC01	**Pan de Azucar**	**3.81**	**296**	Pn	**Pn**	**23 19 26.1**	**+1.4**
AC01				Sn	**Sn**	**23 19 07.7**	**-2.1**
CFA	**Coronel Fontan**	**3.92**	**198**	P	**Pn**	**23 18 25.7**	**+0.7**
comp=Z,110nm,0.3s,baz=12,slow=11,SNR=1540							
CFA				S	**Sn**	**23 19 10.4**	**-1.9**
comp=Z,191nm,0.3s,baz=338,slow=19,SNR=56							
ZON	**Zonda**	**4.01**	**204**		**Pn**	**23 18 27.0**	**+0.8**
ZON				Sn	**Sn**	**23 19 13.4**	**-0.9**
GO04	**Tololo Observa**	**4.19**	**236**		**Pn**	**23 18 29.5**	**+0.8**
GO04				Sn	**Sn**	**23 19 19.6**	**+0.9**
CO05	**La Serena**	**4.40**	**241**		**Pn**	**23 18 31.3**	**+0.1**
CO05				Sn	**Sn**	**23 19 22.1**	**-1.0**
CO03	**El Pedregal**	**4.51**	**228**	Pn	**Pn**	**23 18 33.0**	**+0.5**
CO03				Sn	**Sn**	**23 19 26.1**	**+0.3**
PB14	**IPOC Station P**	**4.59**	**314**	Pn	**Pn**	**23 18 34.9**	**+1.0**
PB14				Sn	**Sn**	**23 19 29.5**	**+1.5**
AF01	**San Pedro de A**	**5.07**	**345**	Pn	**Pn**	**23 18 39.2**	**-0.9**
CO06	**Fray Jorge**	**5.07**	**236**		**Pn**	**23 18 39.4**	**-0.3**
PB15	**IPOC Station P**	**5.25**	**332**		**Pn**	**23 18 43.7**	**+1.4**
LVC	**Limon Verde**	**5.59**	**339**	Pn	**Pn**	**23 18 47.6**	**+0.7**
LVC				Sn	**Sn**	**23 19 50.0**	**-1.4**
LVC	**Limon Verde**	**5.59**	**339**	P	**Pn**	**23 18 48.2**	**+1.3**
comp=Z,13nm,0.2s,baz=145,slow=11,SNR=68							
LVC				S	**Sn**	**23 19 49.4**	**-2.0**
comp=Z,22nm,0.5s,baz=258,slow=20,SNR=24							
PB06	**IPOC Station P**	**5.74**	**333**	Pn	**Pn**	**23 18 49.6**	**+1.0**
VA03	**San Esteban**	**5.86**	**213**		**Pn**	**23 18 50.6**	**+0.5**
PEL	**Peldehue**	**6.23**	**212**		**Pn**	**23 18 54.6**	**-0.4**
ROC1	**El Roble**	**6.26**	**215**		**Pn**	**23 18 54.9**	**-0.5**
PB04	**IPOC Station P**	**6.31**	**330**		**Pn**	**23 18 56.7**	**+0.6**
MT03	**Universidad Ad**	**6.45**	**209**		**Pn**	**23 18 58.1**	**+0.3**
PB09	**IPOC Station P**	**6.45**	**339**		**Pn**	**23 18 59.1**	**+1.1**
PB09				Sn	**Sn**	**23 20 10.8**	**-0.8**
MT05	**Renca**	**6.46**	**211**	Pn	**Pn**	**23 18 57.2**	**-0.7**
MT02	**Curacav**	**6.55**	**214**	Pn	**Pn**	**23 18 58.7**	**-0.3**
MT13	**San Alfonso**	**6.58**	**206**	Pn	**Pn**	**23 19 00.7**	**+1.2**
MT13				Sn	**Sn**	**23 20 15.2**	**+0.9**
VA01	**Torpederas**	**6.63**	**218**	Pn	**Pn**	**23 18 58.7**	**-1.3**
VA01				Sn	**Sn**	**23 20 12.1**	**-3.1**
LMEL	**Las Melosas**	**6.64**	**205**		**Pn**	**23 19 00.6**	**+0.3**
PB07	**IPOC Station P**	**6.74**	**335**		**Pn**	**23 19 02.2**	**+0.4**
MT09	**Talagante**	**6.90**	**211**		**Pn**	**23 19 03.3**	**-0.5**
BO04	**La Punta**	**6.92**	**207**	Pn	**Pn**	**23 19 04.1**	**+0.2**
MT01	**Popeta**	**7.02**	**214**	Pn	**Pn**	**23 19 05.2**	**-0.9**
VA05	**Santo Domingo**	**7.10**	**215**	Pn	**Pn**	**23 19 04.9**	**-1.3**
PB02	**IPOC Station P**	**7.12**	**336**		**Pn**	**23 19 07.2**	**+0.5**
PB01	**IPOC Station P**	**7.24**	**340**		**Pn**	**23 19 08.0**	**-0.2**
BO01	**Tunca**	**7.46**	**209**	Pn	**Pn**	**23 19 10.2**	**-0.8**
PATCX	**Punta Patache**	**7.67**	**336**	Pn	**Pn**	**23 19 13.4**	**-0.5**
BO02	**Sierra Bellavi**	**7.69**	**205**		**Pn**	**23 19 14.1**	**0.0**
TA01	**Diego Aracena**	**7.91**	**336**	Pn	**Pn**	**23 19 16.2**	**-0.8**
PB08	**IPOC Station P**	**8.00**	**344**		**Pn**	**23 19 18.9**	**+0.3**
TA02	**Huaiquique**	**8.17**	**337**	Pn	**Pn**	**23 19 19.2**	**-1.2**
GO05	**Huala**	**8.36**	**210**	Pn	**Pn**	**23 19 21.2**	**-1.6**
GO01	**Chusmiza**	**8.46**	**344**		**Pn**	**23 19 24.8**	**+0.1**
ML02	**Panimavida**	**8.79**	**205**	Pn	**Pn**	**23 19 26.8**	**-1.7**
PB12	**IPOC Station P**	**9.78**	**340**	Pn	**Pn**	**23 19 38.4**	**-3.3**
PB16	**IPOC Station P**	**9.82**	**345**	Pn	**Pn**	**23 19 43.9**	**+1.2**
BI05	**Punta Hualpn**	**10.37**	**210**	Pn	**Pn**	**23 19 46.7**	**-2.4**
TRQA	**Tornquist**	**10.92**	**160**	Pn	**Pn**	**23 19 57.3**	**+1.0**
LPAZ	**La Paz**	**11.60**	**354**	P	**Pn**	**23 20 08.6**	**+2.8**
LPAZ	**La Paz**	**11.60**	**354**	P	**Pn**	**23 20 06.7**	**+0.9**
comp=Z,1.4nm,0.3s,baz=160,slow=7.7,SNR=12							
LC02	**Puerto Saavedr**	**12.20**	**205**	Pn	**Pn**	**23 20 11.6**	**-1.0**
AQDB	**Aquidauana**	**12.51**	**56**	Pn	**Pn**	**23 20 16.0**	**-0.8**
LR03	**Panguipulli**	**12.60**	**200**	P	**Pn**	**23 20 19.5**	**+1.8**
SIV	**San Ignacio**	**12.96**	**25**	P	**Pn**	**23 20 22.6**	**+0.1**
comp=Z,2.1nm,0.7s,baz=199,slow=12,SNR=16							
LR04	**Corral**	**13.18**	**203**	Pn	**Pn**	**23 20 21.8**	**-3.2**
VILB	**Vilhena**	**16.07**	**24**	P	**Pn**	**23 21 01.9**	**+0.9**
VILB				IAmb	IAmb	23 21 02.6	
comp=Z,15nm,0.6s							
ETMB	**Extrema**	**17.98**	**2**	P	**Pn**	**23 21 23.6**	**0.0**
SAML	**Samuel**	**19.13**	**11**		**P**	**23 21 36.3**	**+2.0**
BDFB	**Brasilia**	**21.23**	**59**	P	**P**	**23 21 55.9**	**-1.0**
comp=Z,1.6nm,0.6s,baz=248,slow=4.3,SNR=4.4							
comp=Z,1.6nm,0.6s							
MACA	**Manacapuru-AM**	**25.26**	**14**	P	**P**	**23 22 34.5**	**+0.2**
MACA				IAmb	IAmb	23 22 37.0	
comp=Z,7.4nm,0.6s							
GO10	**Punta Arenas**	**25.45**	**186**	P	**P**	**23 22 33.9**	**-1.9**
BOAV	**Boa Vista**	**30.70**	**12**	P	**P**	**23 23 23.1**	**+0.5**
BOAV				IAmb	IAmb	23 23 25.9	
comp=Z,3.8nm,0.9s							
HOPE	**Hope Point**	**34.41**	**148**	P	**P**	**23 23 53.2**	**-1.4**
BCIP	**Isla Barro Col**	**38.93**	**339**	P	**P**	**23 24 30.6**	**-2.6**
BCIP				IAmb	IAmb	23 24 39.0	
comp=Z,7.4nm,0.8s							
QSPA	**South Pole Qui**	**62.34**	**180**	P	**P**	**23 27 30.2**	**+2.5**
comp=Z,1.1nm,0.5s,baz=240,slow=1.9,SNR=6.4							
comp=Z,1.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**77.81**	**68**	P	**P**	**23 29 04.1**	**+1.7**
comp=Z,0.8nm,0.7s,baz=258,slow=5.3,SNR=9.5							
comp=Z,0.8nm,0.7s							
PDAR	**Pinedale Array**	**80.57**	**330**	P	**P**	**23 29 16.9**	**-0.2**
comp=Z,0.3nm,0.7s,baz=103,slow=5.3,SNR=3.5							
comp=Z,0.3nm,0.7s							
WRA	**Warramunga Arr**	**128.25**	**206**	PKP	**PKiKP**	**23 36 13.0**	**+2.1**
comp=Z,0.5nm,1.0s,baz=154,slow=2.0,SNR=7.8							
ZALV	**Zalesovo Beam**	**146.67**	**31**	PKPbc	**PKPdf**	**23 36 43.9**	**+1.2**
comp=Z,0.5nm,0.3s,baz=320,slow=4.2,SNR=2.2							
MKAR	**Makanchi Array**	**149.28**	**44**	PKPbc	**PKiKP**	**23 36 54.4**	**+1.5**
comp=Z,0.4nm,0.8s,baz=266,slow=2.4,SNR=2.7							
PZH	**PanZhiHua**	**169.69**	**95**	PKP	**PKPdf**	**23 37 09.5**	**-1.6**

TAP 29 23:18:04.9, 24°.11N×122°.27E, h24km, ML3.5, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.04**	**69**	P	Pb	23 18 08.8	+0.1
baz=68							
EOS4				S	Sb	23 18 11.8	+0.6
baz=68							
EOS3	**EOS3**	**0.18**	**13**	P	Pb	23 18 10.5	+0.3
baz=347							
EOS3				S	Sb	23 18 14.9	+1.1
baz=347							
EOS2	**EOS2**	**0.32**	**353**	P	Pb	23 18 12.5	+0.5
baz=336							
EOS2				S	Sn	23 18 18.6	-1.0
baz=336							
EWUT	**Wuta**	**0.56**	**307**	P	Pb	23 18 16.7	+0.5
baz=314							
EWUT				S	Sb	23 18 24.5	+0.7
baz=314							
ENA	**Nanau**	**0.58**	**304**	*i* P	Pb	23 18 16.1	-0.4
baz=311							
ENA				*i* S	Sb	23 18 24.5	+0.1
baz=311							
ETL	**Fush Village**	**0.60**	**275**	P	Pb	23 18 16.9	+0.1
baz=259							
ETL				S	Sn	23 18 26.2	-0.6
baz=259							
TWD	**Chiawan**	**0.62**	**268**	*i* P	Pb	23 18 16.8	-0.3
baz=254							
TWD				*i* S	Sn	23 18 26.8	-0.5
baz=254							
NACB	**Ninganchiao**	**0.62**	**276**	P	Pb	23 18 17.2	0.0
baz=262							
NACB				*e*S	Sb	23 18 26.3	+0.7
baz=262							
TWC	**Suao**	**0.63**	**322**	*i* P	Pb	23 18 16.5	-0.8
baz=322							
TWC				*i* S	Sb	23 18 24.9	-1.0
baz=322							
ETM	**Tongmen**	**0.73**	**259**	P	Pb	23 18 18.1	-0.8
baz=248							
ETM				S	Sb	23 18 28.4	0.0
baz=248							
ETLH	**Xiulin Townshi**	**0.73**	**278**	P	Pb	23 18 18.2	-0.8
baz=265							
ETLH				S	Sn	23 18 30.2	+0.1
baz=265							
NDS	**Dongshan**	**0.73**	**316**	P	Pb	23 18 18.8	-0.2
baz=319							
NDS				S	Sb	23 18 29.0	+0.4
baz=319							
YOJ	**Yonaguni jima**	**0.76**	**62**	*e*P	Pb	23 18 19.8	+0.3
baz=61							
YOJ				S	Sb	23 18 30.0	+0.6
baz=61							
LXIB	**Xiulin Townshi**	**0.79**	**264**	P	Pb	23 18 19.9	-0.2
baz=254							
LXIB				S	Sb	23 18 31.1	+0.6
baz=254							
LATG	**Datong**	**0.81**	**302**	P	Pb	23 18 20.2	-0.1
baz=307							
LATG				S	Sn	23 18 31.9	-0.1
baz=307							
ESL	**Shilin**	**0.82**	**250**	*i* P	Pb	23 18 19.9	-0.6
baz=241							
ESL				S	Sb	23 18 30.7	-0.4
baz=241							
TWE	**Neicheng**	**0.82**	**318**	*i* P	Pn	23 18 20.8	-0.2
baz=325							
TWE				*i* S	Sn	23 18 31.9	-0.5
baz=325							
ENTT	**Nioudou**	**0.84**	**310**	*i* P	Pb	23 18 20.9	+0.1
baz=316							
ENTT				S	Sb	23 18 31.9	+0.3
baz=316							
NDT	**Datong Townshi**	**0.85**	**306**	P	Pn	23 18 21.4	0.0
baz=310							
NDT				S	Sb	23 18 32.3	+0.2
baz=310							
NNSB	**Datong**	**0.87**	**292**	P	Pb	23 18 20.5	-1.0
baz=291							
NNSB				S	Sn	23 18 34.6	+0.8
baz=291							
NNS	**Nan Shan**	**0.89**	**292**	P	Pn	23 18 22.5	+0.6
baz=292							
NNS				*e*S	Sn	23 18 35.0	+0.9
baz=292							
EGFH	**Guangfu**	**0.89**	**241**	*e*P	Pb	23 18 20.9	-0.7
baz=231							
EGFH				S	Sb	23 18 32.6	-0.4
baz=231							
WARBT	**Fenglin Townsh**	**0.90**	**245**	P	Pb	23 18 20.6	-1.2
baz=236							
WARBT				S	Sb	23 18 32.9	-0.6
baz=236							
FUSB	**Fushanzhiwuyua**	**0.90**	**316**	P	Pb	23 18 21.7	-0.2
baz=315							
FUSB				S	Sn	23 18 34.5	+0.1
baz=315							
WHF	**Hehuan Shan**	**0.92**	**273**	*i* P	Pb	23 18 21.6	-0.9
baz=261							
WHF				S	Sn	23 18 36.0	+0.6
baz=261							
NWLT	**Wulai**	**0.97**	**314**	*i* P	Pb	23 18 23.4	+0.3
baz=321							
NWLT				S	Sn	23 18 36.6	+0.6
baz=321							
YHNB	**Yeheng**	**0.99**	**305**	P	Pn	23 18 23.4	0.0
baz=291							
YHNB				S	Sb	23 18 36.0	-0.2
baz=291							
CHGB	**Renai**	**1.00**	**268**	P	Pn	23 18 23.0	-0.7
baz=256							
CHGB				*e*S	Sn	23 18 37.3	+0.1
baz=256							
NSK	**Sanguang**	**1.01**	**304**	*i* P	Pb	23 18 24.4	+0.6
baz=291							
NSK				S	Sn	23 18 37.5	+0.5
baz=291							
TWT	**Tachien**	**1.01**	**279**	*e*P	Pb	23 18 25.9	+2.0
baz=266							
TWT				*e*S	Sn	23 18 39.4	+2.1
baz=266							
OWD	**Renai**	**1.01**	**262**	P	Pn	23 18 23.1	-0.6
baz=262							
OWD				*e*S	Sb	23 18 35.3	-1.5
baz=262							
TDCB	**Techi**	**1.03**	**278**	*e*P	Pb	23 18 24.2	0.0
baz=266							
TDCB				*e*S	Sb	23 18 37.2	-0.1
baz=266							
SXI1	**Grass Mountain**	**1.05**	**340**	P	Pn	23 18 24.0	-0.2
baz=338							
SXI1				*e*S	Sn	23 18 38.7	+0.7
baz=338							
EHY	**Hungye**	**1.06**	**236**	*e*P	Pn	23 18 23.5	-0.7
baz=228							
EHY				*e*S	Sb	23 18 36.5	-1.4
baz=228							
NWF	**Wu-fen Shan**	**1.06**	**335**	*e*P	Pb	23 18 25.6	+1.0
baz=333							
NWF				*i* S	Sn	23 18 39.1	+0.8
baz=333							
WFSB	**Wu-fen Shan**	**1.06**	**335**	P	Pb	23 18 25.0	+0.4
baz=333							
WFSB				S	Sn	23 18 39.0	+0.7
baz=333							
WUSB	**Renai**	**1.06**	**264**	P	Pn	23 18 24.1	-0.2
baz=264							
WUSB				S	Sn	23 18 38.9	+0.4
baz=264							
NHDH	**Xindian Distri**	**1.09**	**322**	P	Pb	23 18 25.9	+0.7
baz=320							
NHDH				*e*S	Sn	23 18 40.3	+1.3
baz=320							
VWDT	**VWDT**	**1.09**	**252**	P	Pn	23 18 24.6	0.0
baz=241							
VWDT				S	Sn	23 18 39.2	+0.2
baz=241							
YULB	**Yu-li**	**1.14**	**232**	P	Pn	23 18 23.9	-1.5
baz=222							
YULB				*e*S	Sn	23 18 39.3	-1.0
baz=222							
EYUL	**Yuli**	**1.16**	**229**	*e*P	Pn	23 18 24.3	-1.2
baz=218							
EYUL				S	Sn	23 18 40.6	+0.1
baz=218							
TWF1	**Yuli**	**1.17**	**230**	P	Pn	23 18 24.8	-0.9
baz=220							
TWF1				S	Sn	23 18 40.0	-0.9
baz=220							
NFF	**Wufeng Townshi**	**1.18**	**297**	*e*P	Pb	23 18 27.1	+0.5
baz=296							
YM01	**YM01**	**1.22**	**328**	P	Pb	23 18 27.3	0.0
baz=326							
YM01				*e*S	Sb	23 18 42.8	+0.2
baz=326							
WHP	**Taichung City**	**1.22**	**278**	P	Pb	23 18 28.0	+0.5
baz=267							
WHP				*e*S	Sb	23 18 43.5	+0.6
baz=267							
WCS	**Beigang Elemen**	**1.25**	**268**	*e*P	Pb	23 18 27.2	-0.5
baz=260							
WCS				*e*S	Sb	23 18 43.1	-0.2
baz=260							
SSLB	**Suanglung**	**1.25**	**256**	P	Pb	23 18 27.5	-0.3
baz=246							
SSLB				*e*S	Sb	23 18 44.0	+0.5
baz=246							
TWS1	**Kuangyinshan**	**1.26**	**322**	P	Pn	23 18 27.1	+0.1
baz=331							
TWS1				*e*S	Sb	23 18 45.0	+1.2
baz=331							
LIOB	**Emei**	**1.27**	**295**	P	Pb	23 18 28.4	+0.3
baz=295							
LIOB				*e*S	Sb	23 18 44.9	+0.9
baz=295							
FULB	**Fuli**	**1.27**	**225**	*e*S	Sn	23 18 42.7	-0.8
baz=213							
CHKT	**Chengkung**	**1.30**	**220**	S	Sn	23 18 41.5	-2.6
baz=210							

SNET ***29*** *23:34:01.3±1.1, 12°.77N×88°.92W, h46km±34km, ML3.2*
ISC 29 23:34:00.1±1.9, 12°.66N±0°.09×88°.96W±0°.07, h50km, n17, σ0°82/19, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.77**	**30**	*e*S	**Sn**	**23 34 24.5**	**-0.9**
TECO	**Alcaldia de Te**	**0.89**	**11**	*e*P	**Pn**	**23 34 15.9**	**-0.5**
COEB	**Comit de Eme**	**0.93**	**26**	IAML		23 34 31.0	
comp=Z,521nm,0.1s							
COEG	**Centro de Oper**	**0.96**	**4**	*e*P	**Pn**	**23 34 16.7**	**-0.7**
LFRS	**El Faro**	**0.97**	**354**	*e*P	**Pn**	**23 34 17.1**	**-0.5**
PQSS	**Presa 15 de Se**	**1.04**	**22**	*e*P	**Pn**	**23 34 18.8**	**+0.4**
PAVA	**Las Pavas**	**1.05**	**1**	*e*P	**Pn**	**23 34 18.4**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.06**	**12**	*e*S	**Sn**	**23 34 32.3**	**-0.3**
LFU	**La Fuente**	**1.10**	**352**	*e*S	**Sn**	**23 34 32.9**	**-0.5**
JAYA	**Jayaque - finc**	**1.10**	**334**	*e*P	**Pn**	**23 34 19.5**	**+0.1**
JAYA				*e*S	**Sn**	**23 34 32.3**	**-1.3**
BOQS	**Boqueron**	**1.12**	**344**	*i* P	**Pn**	**23 34 19.8**	**+0.1**
CNCH	**Conchagua**	**1.26**	**61**	*e*P	**Pn**	**23 34 21.8**	**+0.3**
CNCH				*e*S	**Sn**	**23 34 37.3**	**0.0**
CEVE	**Cerro Verde**	**1.33**	**331**	*e*P	**Pn**	**23 34 23.1**	**+0.5**
CEVE				*e*S	**Sn**	**23 34 41.3**	**+1.9**
CEVE				IAML		23 34 43.3	
comp=Z,613nm,0.3s							
MTO3	**Montecristo**	**1.77**	**347**	*e*P	**Pn**	**23 34 29.2**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.15**	**49**	*e*P	**Pn**	**23 34 35.2**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB0				IAmb	IAmb	23 47 25.1	
	comp=Z,1.3nm,0.9s						
WB2	**Warramunga Arr**	**32.21**	**252**	P	**P**	**23 47 24.6**	**-2.1**
WRA	**Warramunga Arr**	**32.22**	**252**	P	**P**	**23 47 26.2**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=84,slow=8.8,SNR=4.7						
	comp=Z,0.5nm,0.8s						
MLZ	**Mavora Lakes**	**33.26**	**178**	P	**P**	**23 47 33.5**	**-1.9**
MLZ				IAmb	IAmb	23 47 34.1	
	comp=Z,5.1nm,0.8s						
DCZ	**Deep Cove**	**33.34**	**180**	P	**P**	**23 47 36.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**73.52**	**293**	P	**P**	**23 52 31.1**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=138,slow=4.9,SNR=5.2						
	comp=Z,0.5nm,0.3s						
MKAR	**Makanchi Array**	**94.98**	**317**	P	**P**	**23 54 19.1**	**+2.2**
	comp=Z,0.9nm,0.5s,baz=101,slow=5.1,SNR=13						
	comp=Z,0.9nm,0.5s						

*NEIC **29** 23:46:43.9±2.3, 16°.22N±0°.07×95°.14W±0°.04, h10km±1km, mb4.3/91, Md4.6/79(MEX), Error ellipse: s-maj=11.3km s-min=5.6km az=192.0*
*MEX **29** 23:46:45.6±1.0, 16°.14N×95°.21W, h7km±6km, MD4.6*
*IDC **29** 23:46:48.5±1.0, 17°.33N×94°.31W, h0km, mb3.9/7, mbtmp3.9/9, ML3.3/2, MS3.2/4, Error ellipse: s-maj=21.0km s-min=8.7km az=152.0*

ISC 29 23:46:42.8±0.5, 16°.18N±0°.03×95°.18W±0°.02, h10km, n181, σ2s 01/235, mb4.2/20, MS3.0/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.67**	**55**	*eP*	**Pg**	**23 46 55.5**	**-0.2**
NILT				*eS*	**Sg**	**23 47 04.3**	**-0.2**
CMIG	**Matias Romero**	**0.95**	**18**		**Pg**	**23 46 59.6**	**-1.6**
CMIG	**Matias Romero**	**0.95**	**18**	LR	LR	23 46 55.5	
	comp=Z,31nm,18.3s,baz=133,slow=12						
CMIG				Pg	**Pg**	**23 46 59.7**	**-1.4**
	242nm,0.3s,baz=216,slow=13,SNR=774						
CMIG				Lg	Lg	23 47 08.9	
	245nm,0.3s,baz=98,slow=19,SNR=10						
CMIG	**Matias Romero**	**0.95**	**18**	*eP*	**Pg**	**23 46 59.6**	**-1.6**
CMIG				*eS*	**Sg**	**23 47 11.5**	**-2.0**
HUIG	**Huatulco**	**0.98**	**245**		**Pg**	**23 47 00.9**	**-0.7**
HUIG					**Sg**	**23 47 13.3**	**-1.0**
HUIG	**Huatulco**	**0.98**	**245**	*eP*	**Pg**	**23 47 00.9**	**-0.7**
HUIG				*eS*	**Sg**	**23 47 13.3**	**-1.0**
CARR	**Arriaga**	**1.22**	**87**	*eP*	**Pb**	**23 47 05.3**	**-0.7**
CARR				*eS*	**Sb**	**23 47 21.6**	**-0.3**
UXUV	**UXUV**	**1.51**	**41**	*eP*	**Pn**	**23 47 10.1**	**+0.2**
UXUV				*eS*	**Sb**	**23 47 29.8**	**-0.3**
NEUV	**Arroyo Zacate**	**1.64**	**339**	*eP*	**Pn**	**23 47 11.5**	**-0.1**
NEUV				*eS*	**Sn**	**23 47 31.6**	**-1.1**
OXLC	**Oaxaca**	**1.70**	**301**	*eP*	**Pn**	**23 47 12.6**	**-0.1**
OXLC				*eS*	**Sn**	**23 47 34.1**	**-0.6**
OXBJ	**Oaxaca**	**1.72**	**301**		**Pn**	**23 47 12.9**	**-0.1**
OXBJ					**Sn**	**23 47 34.1**	**-1.1**
OXBJ	**Oaxaca**	**1.72**	**301**	*eP*	**Pn**	**23 47 12.9**	**-0.1**
OXBJ				*eS*	**Sn**	**23 47 34.1**	**-1.1**
OXIG	**Oaxaca**	**1.73**	**301**		**Pn**	**23 47 13.2**	**0.0**
OXIG					**Sn**	**23 47 34.5**	**-0.9**
VHO	**Vista Hermosa**	**1.73**	**301**	*eP*	**Pn**	**23 47 13.2**	**0.0**
VHO				*eS*	**Sn**	**23 47 34.5**	**-0.9**
PEIG	**Puerto Escondi**	**1.90**	**265**		**Pn**	**23 47 15.9**	**+0.6**
PEIG					**Sn**	**23 47 39.5**	**+0.2**
PEIG	**Puerto Escondi**	**1.90**	**265**	*eP*	**Pn**	**23 47 15.0**	**-0.3**
PEIG				*eS*	**Sn**	**23 47 39.5**	**+0.2**
PCIG		**1.95**	**104**		**Pn**	**23 47 16.0**	**+0.1**
PCIG					**Sn**	**23 47 40.2**	**-0.3**
PCIG		**1.95**	**104**	*eP*	**Pn**	**23 47 16.0**	**+0.1**
PCIG				*eS*	**Sn**	**23 47 40.2**	**-0.3**
TUIG	**Tuzandepetl**	**1.98**	**21**	*eP*	**Pn**	**23 47 17.2**	**+0.8**
TUIG				*eS*	**Sg**	**23 47 45.8**	**-0.8**
TGIG		**2.07**	**73**		**Pb**	**23 47 20.4**	**0.0**
TGIG					**Sb**	**23 47 46.0**	**-0.2**
TGIG		**2.07**	**73**	*eP*	**Pn**	**23 47 19.4**	**+1.7**
TGIG				*eS*	**Sn**	**23 47 44.5**	**+1.0**
PMUV	**Sontecomapan**	**2.35**	**1**	*eP*	**Pn**	**23 47 21.3**	**-0.3**
PMUV				*eS*	**Sg**	**23 47 57.3**	**-1.3**
YOIG	**Yosondua**	**2.36**	**287**		**Pn**	**23 47 23.2**	**+1.3**
YOIG					**Sn**	**23 47 51.7**	**+0.5**
YOIG	**Yosondua**	**2.36**	**287**	*eP*	**Pn**	**23 47 23.2**	**+1.3**
YOIG				*eS*	**Sn**	**23 47 50.1**	**-1.1**
TXIG	**Tlaxiaco**	**2.70**	**294**		**Pn**	**23 47 28.7**	**+2.2**
TXIG					**Sn**	**23 48 00.3**	**+0.9**
TXIG	**Tlaxiaco**	**2.70**	**294**	*eP*	**Pn**	**23 47 27.9**	**+1.4**
TXIG				*eS*	**Sn**	**23 47 59.1**	**-0.3**
PNIG	**Pinotepa**	**2.83**	**275**		**Pn**	**23 47 27.4**	**-0.7**
PNIG					**Sn**	**23 48 06.2**	**+3.8**
PNIG	**Pinotepa**	**2.83**	**275**	*eP*	**Pn**	**23 47 28.1**	**-0.1**
PNIG				*eS*	**Sn**	**23 48 02.5**	**0.0**
CCIG	**Comitan**	**2.93**	**88**	*eP*	**Pn**	**23 47 31.9**	**+2.3**
CCIG				*eS*	**Sb**	**23 48 09.5**	**-1.7**
HLIG	**Huajuapan de L**	**3.00**	**304**		**Pn**	**23 47 33.6**	**+3.1**
HLIG					**Sn**	**23 48 10.4**	**+3.7**
HLIG	**Huajuapan de L**	**3.00**	**304**	*eP*	**Pn**	**23 47 32.8**	**+2.3**
HLIG				*eS*	**Sn**	**23 48 07.9**	**+1.2**
PATR	**El Naranjo**	**3.03**	**110**	*eP*	**Pn**	**23 47 33.3**	**+2.2**
PATR				*eS*	**Sn**	**23 48 07.0**	**-0.6**
TPIG	**Tehuac#an**	**3.05**	**317**		**Pn**	**23 47 32.9**	**+1.7**
TPIG					**Sn**	**23 48 11.8**	**+3.9**
TPIG	**Tehuac#an**	**3.05**	**317**	*eP*	**Pn**	**23 47 33.8**	**+2.5**
TPIG				*eS*	**Sn**	**23 48 07.9**	**-0.1**
PAVE	**Pavencul**	**3.06**	**108**	*eP*	**Pn**	**23 47 33.5**	**+2.1**
PAVE				*eS*	**Sn**	**23 48 09.2**	**+1.0**
THIG		**3.08**	**114**	*eP*	**Pn**	**23 47 32.5**	**+0.9**
THIG				*eS*	**Sn**	**23 48 07.6**	**-0.9**
CHUJ	**Union Juarez**	**3.15**	**110**	*eP*	**Pn**	**23 47 33.8**	**+1.0**
CHUJ				*eS*	**Sn**	**23 48 08.4**	**-2.2**
FTIG	**Fresnillo de T**	**3.30**	**302**		**Pb**	**23 47 39.9**	**-1.7**
FTIG					**Sb**	**23 48 21.3**	**-0.6**
FTIG	**Fresnillo de T**	**3.30**	**302**	*eP*	**Pn**	**23 47 38.1**	**+3.4**
FTIG				*eS*	**Sn**	**23 48 12.4**	**-1.8**
TLIG	**Tlapa**	**3.52**	**294**	*eP*	**Pn**	**23 47 39.4**	**+1.7**
TLIG				*eS*	**Sn**	**23 48 23.7**	**+4.2**
JAUV	**Jalcomulco**	**3.53**	**334**	*eP*	**Pn**	**23 47 37.5**	**-0.2**
JAUV				*eS*	**Sb**	**23 48 29.1**	**+0.8**
HUEH	**Huehuetenango**	**3.65**	**103**		**Pn**	**23 47 40.8**	**+1.2**
HUEH				Sn	**Sn**	**23 48 22.1**	**-0.7**
LVIG	**Laguna Verde**	**3.72**	**342**	*eP*	**Pn**	**23 47 38.9**	**-1.4**
LVIG				*eS*	**Sn**	**23 48 28.8**	**+4.6**
RTAL	**Retalhuleu**	**3.75**	**116**	Pn	**Pn**	**23 47 41.9**	**+1.2**
RTAL				Sn	**Sn**	**23 48 25.1**	**+0.2**
CRIG	**Cruz Grande**	**3.83**	**279**		**Pn**	**23 47 40.5**	**-1.3**
CRIG					**Sn**	**23 48 31.1**	**+4.1**
CRIG	**Cruz Grande**	**3.83**	**279**	*eP*	**Pn**	**23 47 40.5**	**-1.3**
CRIG				*eS*	**Sn**	**23 48 29.1**	**+2.2**
PPM	**Popocatepetl**	**4.36**	**312**	*eP*	Pn	23 47 55.3	+5.7
PPM				*eS*	**Sb**	**23 48 48.9**	**-3.9**
PPIG	**Popocatepetl**	**4.36**	**312**		Pn	23 47 55.3	+5.7
PPIG					**Sb**	**23 48 48.9**	**-4.0**
DAIG	**Los Arroyos**	**4.36**	**282**		**Pb**	**23 47 57.0**	**-2.6**
DAIG					**Sn**	**23 48 40.8**	**+0.6**
DAIG	**Los Arroyos**	**4.36**	**282**	*eP*	**Pn**	**23 47 48.7**	**-0.5**
DAIG				*eS*	**Sn**	**23 48 40.8**	**+0.6**
YAIG	**Yautepec**	**4.57**	**306**		**Pb**	**23 48 02.0**	**-1.1**
YAIG					**Sn**	**23 48 45.6**	**+0.2**
YAIG	**Yautepec**	**4.57**	**306**	*eP*	Pn	23 47 57.2	+5.1
YAIG				*eS*	**Sn**	**23 48 45.6**	**+0.2**
CXUV	**Coxquihui**	**4.58**	**330**	*eP*	**Pn**	**23 47 52.0**	**-0.3**
CXUV				*eS*	**Sn**	**23 48 47.4**	**+1.8**
MEIG	**Mezcala**	**4.58**	**293**		**Pn**	**23 47 54.4**	**+2.1**
MEIG					**Sn**	**23 48 50.8**	**+5.0**
MEIG	**Mezcala**	**4.58**	**293**	*eP*	**Pn**	**23 47 54.4**	**+2.1**
MEIG				*eS*	**Sn**	**23 48 50.8**	**+5.0**
PLIG	**Platanillo**	**4.68**	**299**		**Pn**	**23 47 55.8**	**+2.2**
PLIG					**Sn**	**23 48 54.5**	**+6.5**
PLIG	**Platanillo**	**4.68**	**299**	*eP*	**Pn**	**23 47 56.8**	**+3.2**
PLIG				*eS*	**Sn**	**23 48 54.5**	**+6.5**
SCIG	**Sabancuy**	**4.71**	**53**	*eP*	**Pn**	**23 47 54.8**	**+0.8**
SCIG				*eS*	**Sn**	**23 48 47.2**	**-1.6**
UNM	**Universidad Na**	**4.93**	**310**	Sn	**Sb**	**23 49 04.8**	**-4.1**
UNM	**Universidad Na**	**4.93**	**310**	*eP*	**Pb**	**23 48 06.8**	**-2.6**
UNM				*eS*	**Sn**	**23 49 01.4**	**+6.9**
CAIG	**El Cayaco**	**4.95**	**281**	*eP*	Pn	23 47 53.0	-4.3
CAIG				*eS*	**Sn**	**23 48 57.5**	**+2.9**
PETF	**Flores**	**5.15**	**81**		**Pn**	**23 48 00.6**	**+0.5**
ARIG	**Puente Sto Nin**	**5.36**	**294**		**Pb**	**23 48 13.4**	**-3.2**
ARIG					**Sn**	**23 49 10.8**	**+6.0**
ARIG	**Puente Sto Nin**	**5.36**	**294**	*eP*	**Pn**	**23 48 05.5**	**+2.6**
ARIG				*eS*	**Sn**	**23 49 10.8**	**+6.0**
DHIG	**Demacu**	**5.50**	**319**		**Pb**	**23 48 16.2**	**-2.9**
DHIG					**Sn**	**23 49 15.5**	**+7.1**
DEIG	**Demacu**	**5.50**	**319**	*eP*	Pn	23 48 10.3	+5.3
DEIG				*eS*	**Sn**	**23 49 10.9**	**+2.5**
MTO3	**Montecristo**	**5.89**	**107**	Pn	**Pn**	**23 48 11.0**	**+0.6**
CTUV	**Llano Grande**	**6.06**	**331**	*eP*	**Pn**	**23 48 11.2**	**-1.4**
CTUV				*eS*	**Sn**	**23 49 24.2**	**+2.2**
ZIIG	**Zihuatanejo**	**6.18**	**284**	*eP*	**Pn**	**23 48 15.4**	**+1.3**
ZIIG				*eS*	**Sn**	**23 49 26.2**	**+1.3**
MOIG	**Morelia**	**6.69**	**302**	*eP*	Pn	23 48 27.0	+5.6
MOIG				*eS*	**Sn**	**23 49 43.4**	**+5.5**
TEIG	**Tepich**	**7.70**	**57**	Pn	**Pn**	**23 48 33.8**	**-1.2**
TEIG	**Tepich**	**7.70**	**57**	Pn	**Pn**	**23 48 32.5**	**-2.6**
	37nm,0.3s,baz=309,slow=0.1,SNR=20						
TEIG				Lg	Lg	23 49 57.0	
	38nm,0.3s,baz=261,slow=13,SNR=13						
GTIG	**Gomez Farias**	**7.81**	**332**	*eP*	**Pn**	**23 48 39.1**	**+2.5**
GTIG				*eS*	**Sn**	**23 50 11.5**	**+6.3**
TGUH	**Tegucigalpa,Un**	**7.92**	**104**	Pn	**Pn**	**23 48 38.8**	**+0.5**
ESPN	**Las Esperanzas**	**11.27**	**109**		**Pn**	**23 49 23.9**	**-0.1**
JTS	**Las Juntas de**	**11.55**	**119**	Pn	Pn	23 49 33.7	+5.8
	0.8nm,0.3s,baz=316,slow=22,SNR=1.8						
JTS				LR	LR	23 54 12.2	
	comp=Z,98nm,18.6s,baz=279,slow=39						
	2.4nm,0.3s						
833A	**Chaparral WMA,**	**12.70**	**343**	Pn	**Pn**	**23 49 44.3**	**+0.7**
HNDO	**Hondo**	**13.81**	**345**		**Pn**	**23 49 59.7**	**+0.9**
435B	**Jarrell**	**14.70**	**352**	Pn	**Pn**	**23 50 11.3**	**+0.4**
JCT	**Junction City**	**14.85**	**344**		**Pn**	**23 50 13.4**	**+0.4**
SAND	**Sanderson**	**15.12**	**336**		**Pn**	**23 50 18.4**	**+1.8**
SAND				IAmb	IAmb	23 50 34.2	
	comp=Z,3.6nm,1.0s						
TXAR	**Lajitas Array**	**15.24**	**331**	Pn	**Pn**	**23 50 19.7**	**+1.4**
	baz=153,slow=12,SNR=3.7						
	comp=Z,0.3nm,0.7s						
BRDY	**Brady**	**15.44**	**348**	Pn	**Pn**	**23 50 20.2**	**-0.6**
BRDY				IAmb	IAmb	23 50 42.9	
	comp=Z,9.0nm,0.9s						
NATX	**Nacogdoches**	**15.52**	**2**	Pn	**Pn**	**23 50 22.5**	**+0.7**
NATX				IAmb	IAmb	23 50 30.6	
	comp=Z,12nm,0.7s						
OZNA	**Ozona**	**15.65**	**341**	P	**P**	**23 50 29.0**	**+1.3**
OZNA				IAmb	IAmb	23 50 31.6	
	comp=Z,9.5nm,0.7s						
WHTX	**Lake Whitney,**	**15.88**	**353**	Pn	**Pn**	**23 50 26.0**	**-0.4**
WHTX				IAmb	IAmb	23 50 38.5	
	comp=Z,18nm,0.7s						
ALPN	**Alpine**	**16.11**	**333**	Pn	**Pn**	**23 50 30.2**	**+0.6**
ALPN				IAmb	IAmb	23 50 37.3	
	comp=Z,9.9nm,0.9s						
FW13	**Cleburne**	**16.23**	**353**		**Pn**	**23 50 32.5**	**+1.5**
FW13				IAmb	IAmb	23 50 35.5	
	comp=Z,17nm,0.8s						
FW14	**Alvarado**	**16.25**	**354**		**Pn**	**23 50 31.8**	**+0.6**
FW14				IAmb	IAmb	23 50 36.8	
	comp=Z,26nm,0.7s						
FW16	**Waxahatchie**	**16.31**	**355**	Pn	**Pn**	**23 50 33.1**	**+1.1**
FW16				IAmb	IAmb	23 50 37.5	
	comp=Z,36nm,0.8s						
SGCY	**Sterling City**	**16.57**	**342**		**Pn**	**23 50 37.0**	**+1.5**
SGCY				IAmb	IAmb	23 50 45.2	
	comp=Z,7.1nm,0.8s						
MNHN	**Monahans**	**16.60**	**337**	P	**P**	**23 50 39.7**	**+1.4**
MNHN				IAmb	IAmb	23 50 42.2	
	comp=Z,14nm,0.7s						
FW07	**Weatherford**	**16.62**	**352**	P	**Pn**	**23 50 37.5**	**+1.5**
FW07				IAmb	IAmb	23 50 48.6	
	comp=Z,26nm,1.0s						
BRAL	**Brewton**	**16.67**	**25**		**Pn**	**23 50 34.2**	**-2.3**
PLPT	**Palo Pinto**	**16.80**	**351**	P	**Pn**	**23 50 39.8**	**+1.5**
PLPT				IAmb	IAmb	23 50 43.7	
	comp=Z,13nm,0.7s						
FW06	**Azle**	**16.86**	**353**	P	**P**	**23 50 40.9**	**-0.2**
FW06				IAmb	IAmb	23 50 44.3	
	comp=Z,24nm,0.7s						
ABTX	**Abilene, Hawle**	**16.86**	**347**	P	**Pn**	**23 50 40.2**	**+1.1**
ABTX				IAmb	IAmb	23 50 44.5	
	comp=Z,17nm,0.8s						
FW03	**Perrin-Whitt E**	**16.99**	**352**	P	**P**	**23 50 42.5**	**0.0**
FW03				IAmb	IAmb	23 50 46.1	
	comp=Z,24nm,0.6s						
Z38A	**Mt. Pleasant**	**17.01**	**1**	P	**Pn**	**23 50 42.3**	**+1.5**
Z38A				IAmb	IAmb	23 50 46.7	
	comp=Z,32nm,0.9s						
PECS	**Pecos**	**17.07**	**334**	P	**P**	**23 50 44.7**	**+1.2**
PECS				IAmb	IAmb	23 51 06.8	
	comp=Z,10.0nm,1.0s						
425A	**Indio Mountain**	**17.08**	**330**	P	**P**	**23 50 45.9**	**+2.2**
Z41A	**Richland Creek**	**17.14**	**7**		**Pn**	**23 50 43.0**	**+0.5**
ODSA	**Odessa**	**17.23**	**338**	P	**P**	**23 50 46.0**	**+0.8**
ODSA				IAmb	IAmb	23 50 48.9	
	comp=Z,13nm,0.8s						
SN01	**Snyder 1**	**17.40**	**344**	P	**P**	**23 50 47.4**	**+0.3**
SN01				IAmb	IAmb	23 50 51.0	
	comp=Z,15nm,0.6s						
WLAR	**White Oak Lake**	**17.53**	**6**		**Pn**	**23 50 47.8**	**+0.4**
WLAR				IAmb	IAmb	23 51 12.8	
	comp=Z,18nm,1.1s						
APMT	**Aspermont**	**17.65**	**346**	IAmb	IAmb	23 50 54.5	
	comp=Z,9.7nm,0.9s						
POST	**Post**	**17.76**	**342**	P	**Pn**	**23 50 50.9**	**+0.6**
POST				IAmb	IAmb	23 50 55.0	
	comp=Z,7.1nm,0.8s						
WTFS	**Witchita Falls**	**17.76**	**351**	P	**Pn**	**23 50 51.3**	**+1.1**
WTFS				IAmb	IAmb	23 50 57.1	
	comp=Z,14nm,0.9s						
LOOK	**Love County**	**17.83**	**355**		**P**	**23 50 52.8**	**+1.0**
LOOK				IAmb	IAmb	23 50 57.8	
	comp=Z,28nm,0.8s						
CCAR	**Cane Creek**	**17.93**	**9**	P	**Pn**	**23 50 52.3**	**+0.1**
CCAR				IAmb	IAmb	23 51 16.4	
	comp=Z,15nm,0.6s						
MNTX	**Cornudas Mount**	**18.03**	**331**	P	**P**	**23 50 54.8**	**+0.8**
Y45A	**Yeager Farm, C**	**18.33**	**15**	P	**Pn**	**23 50 56.0**	**-1.3**
Y45A				IAmb	IAmb	23 51 05.8	
	comp=Z,33nm,1.5s						
X37A	**Clayton**	**18.34**	**360**		**Pn**	**23 50 57.4**	**+0.2**
X37A				IAmb	IAmb	23 51 08.1	
	comp=Z,13nm,0.7s						
MIAR	**Mount Ida**	**18.35**	**4**	P	**Pn**	**23 50 57.1**	**-0.3**
X34A	**Smith Ranch, M**	**18.50**	**353**		**Pn**	**23 51 00.2**	**+0.9**
X34A				IAmb	IAmb	23 51 07.1	
	comp=Z,17nm,0.7s						
WMOK	**Wichita Mounta**	**18.76**	**351**	P	**P**	**23 51 02.6**	**+0.5**
MSTX	**Muleshoe**	**18.99**	**340**	P	**P**	**23 51 05.8**	**+1.1**
OKCSW	**OKLAHOMA CITY**	**19.25**	**354**	P	**Pn**	**23 51 08.7**	**+0.3**
SMWD	**Samnorwood**	**19.39**	**347**	P	**P**	**23 51 10.2**	**+1.2**
SMWD				IAmb	IAmb	23 51 12.4	
	comp=Z,21nm,0.6s						
AMTX	**Amarillo**	**19.52**	**344**	P	**P**	**23 51 11.2**	**+0.8**
AMTX				IAmb	IAmb	23 51 22.3	
	comp=Z,13nm,1.1s						
DEOK	**Depew**	**19.62**	**357**		**P**	**23 51 11.2**	**-0.3**
CSTR	**Hydro, Custer**	**19.64**	**351**	P	**P**	**23 51 12.6**	**+0.9**
TUL3	**Leonard**	**19.66**	**359**	P	**P**	**23 51 11.7**	**-0.2**
OK031	**S. Brethren Rd**	**19.75**	**356**		**P**	**23 51 12.8**	**-0.1**
OK052	**Battle Ridge R**	**19.79**	**356**		**P**	**23 51 13.5**	**+0.2**
FCAR	**Ozark Folk Cen**	**19.82**	**7**	P	**P**	**23 51 12.8**	**-0.8**
FCAR				IAmb	IAmb	23 51 15.9	
	comp=Z,12nm,0.6s						
OK033	**Mehan**	**19.85**	**356**		**P**	**23 51 13.8**	**-0.2**
OK033				IAmb	IAmb	23 51 17.4	
	comp=Z,18nm,0.9s						
319A	**Douglas**	**19.85**	**322**	P	**Pn**	**23 51 18.8**	**+3.0**
319A				IAmb	IAmb	23 51 26.2	
	comp=Z,15nm,1.3s						
121A	**Cookes Peak, D**	**19.89**	**327**		**Pn**	**23 51 17.3**	**+1.0**
QUOK	**Quay**	**19.96**	**356**		**P**	**23 51 15.2**	**0.0**
HHAR	**Hobbs**	**20.05**	**3**	P	**P**	**23 51 17.0**	**+0.8**
U38A	**Gravette**	**20.19**	**2**	P	**P**	**23 51 18.0**	**+0.3**
U38A				IAmb	IAmb	23 51 20.8	
	comp=Z,9.1nm,0.9s						
OK048	**Pawnee Station**	**20.22**	**356**		**P**	**23 51 17.5**	**-0.4**
OK048				IAmb	IAmb	23 51 29.9	
	comp=Z,14nm,0.8s						
OK051	**E0350 and S346**	**20.30**	**356**	P	**P**	**23 51 19.6**	**+0.8**
OK051				IAmb	IAmb	23 51 21.5	
	comp=Z,13nm,0.9s						
CROK	**Carrier**	**20.40**	**354**		**P**	**23 51 19.9**	**0.0**
BLOK	**Blackwell**	**20.58**	**355**	P	**P**	**23 51 22.2**	**+0.3**
DUN6	**Lazy B Ranch**	**20.61**	**325**	P	Pn	23 51 25.3	+0.6
DUN6				IAmb	IAmb	23 51 33.2	
	comp=Z,14nm,0.9s						
T35A	**Sooner Cattle**	**20.69**	**357**	P	**P**	**23 51 21.6**	**-1.4**
T35A				IAmb	IAmb	23 51 24.4	
	comp=Z,15nm,0.7s						
OK032	**Salt Plains WL**	**20.72**	**353**	P	**P**	**23 51 23.9**	**+0.5**
OK032				IAmb	IAmb	23 51 28.3	
	comp=Z,13nm,0.7s						
KAN14	**Manchester OK**	**20.84**	**354**	P	**P**	**23 51 24.3**	**-0.4**
KAN13	**South Haven SW**	**20.85**	**355**	P	**P**	**23 51 24.3**	**-0.5**
KAN13				IAmb	IAmb	23 51 25.9	
	comp=Z,11nm,0.8s						
PBMO	**Poplar Bluff**	**20.95**	**11**	P	**P**	**23 51 26.0**	**+0.1**
PBMO				IAmb	IAmb	23 51 32.1	
	comp=Z,20nm,1.2s						
HICK	**Hickman**	**20.96**	**14**	P	**P**	**23 51 24.1**	**-1.9**
MGMO	**Mountain Grove**	**21.05**	**6**	P	**P**	**23 51 26.3**	**-0.7**
KS20	**Mayfield South**	**21.07**	**355**		**P**	**23 51 23.7**	**-3.5**
ANMO	**Albuquerque**	**21.25**	**334**	P	**P**	**23 51 31.8**	**+2.4**
ANMO	**Albuquerque**	**21.25**	**334**	P	**P**	**23 51 30.2**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=238,slow=14,SNR=6.5						
	comp=Z,1.7nm,0.7s						
RTBA	**Rita Blanca**	**21.27**	**343**	P	**P**	**23 51 30.1**	**+0.6**
RTBA				IAmb	IAmb	23 51 32.9	
	comp=Z,13nm,0.8s						
TUC	**Tucson**	**21.41**	**321**	P	**P**	**23 51 33.5**	**+2.5**
TUC				IAmb	IAmb	23 51 39.3	
	comp=Z,11nm,0.8s						
S39A	**Bolivar**	**21.49**	**4**	P	**P**	**23 51 30.9**	**-0.8**
S39A				IAmb	IAmb	23 51 34.2	
	comp=Z,6.3nm,0.7s						
JSC	**Jenkinsville**	**21.95**	**32**	P	**P**	**23 51 33.4**	**-3.3**
CCM	**Cathedral Cave**	**22.07**	**8**	P	**P**	**23 51 36.6**	**-1.3**
CCM				IAmb	IAmb	23 51 39.4	
	comp=Z,6.0nm,0.7s						
R40A	**Maddies Statio**	**22.18**	**6**	P	**P**	**23 51 37.8**	**-1.3**
R40A				IAmb	IAmb	23 51 41.9	
	comp=Z,7.2nm,0.7s						
T25A	**Trinidad**	**22.42**	**340**	P	**P**	**23 51 42.8**	**+0.9**
T25A				IAmb	IAmb	23 51 46.7	
	comp=Z,9.6nm,1.1s						
KSU1	**Kansas State U**	**22.87**	**357**	P	**P**	**23 51 45.7**	**-0.8**
KSU1				IAmb	IAmb	23 51 49.8	
	comp=Z,11nm,0.8s						
X16A	**Lo Mia Camp, P**	**23.30**	**324**	P	**P**	**23 51 53.0**	**+1.8**
SDCO	**Great Sand Dun**	**23.34**	**339**	P	**P**	**23 51 52.7**	**+1.1**
ROSC	**El Rosal**	**23.37**	**117**	P	**P**	**23 51 56.9**	**+4.6**
	comp=Z,3.1nm,0.5s,baz=338,slow=15,SNR=3.8						
	comp=Z,3.1nm,0.5s						
P38A	**Dawn**	**23.41**	**3**	P	**P**	**23 51 50.2**	**-1.7**
P38A				IAmb	IAmb	23 52 13.8	
	comp=Z,9.5nm,0.9s						
P40A	**Paris**	**23.43**	**6**	P	**P**	**23 51 51.0**	**-1.1**
P40A				IAmb	IAmb	23 51 53.7	
	comp=Z,8.6nm,0.7s						
MVCO	**Mesa Verde**	**24.04**	**333**	P	**P**	**23 51 59.9**	**+1.6**
MVCO				IAmb	IAmb	23 52 11.1	
	comp=Z,4.4nm,0.8s						
SDV	**Santo Domingo**	**25.02**	**104**	LR	LR	00 02 21.6	
	comp=Z,44nm,20.1s,baz=292,slow=38						
SMCO	**Snowmass**	**25.13**	**338**	P	**P**	**23 52 08.7**	**+0.3**
SMCO				IAmb	IAmb	23 52 13.2	
	comp=Z,4.9nm,1.1s						
SCIA	**State Center**	**25.70**	**3**	P	**P**	**23 52 13.2**	**+0.1**
JFWS	**Jewell Farm**	**26.98**	**8**	P	**P**	**23 52 23.6**	**-1.1**
ATAH	**Atahualpa**	**28.51**	**143**	LR	LR	00 02 11.0	
	comp=Z,38nm,18.7s,baz=237,slow=32						
TCUT	**Toone Canyon**	**28.54**	**334**	P	**P**	**23 52 40.0**	**+1.0**
PDAR	**Pinedale Array**	**29.21**	**338**	P	**P**	**23 52 46.3**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=143,slow=9.1,SNR=3.6						
	comp=Z,0.4nm,0.8s			

BVAR	Borovoye Array	118.35	320	PKHP		PKPdf	00 12 10.8	-0.1
	comp=Z,0.5nm,0.5s,baz=70,slow=0.6,SNR=4.0							
HFS	Hagfors	138.87	351	PKhKP		PKPpre	00 12 43.7	
	comp=Z,12nm,1.1s,baz=74,slow=6.8,SNR=4.5							
AKASG	Malin Array Be	142.28	331	PKhKP		PKPpre	00 12 52.6	
	comp=Z,0.8nm,0.6s,baz=37,slow=4.4,SNR=5.0							
EKA	Eskdalemuir Ar	144.42	5	PKP		PKPdf	00 12 59.9	+0.4
	comp=Z,1.2nm,0.7s,baz=12,slow=4.4,SNR=2.0							
BRTR	Keskin Array B	146.13	313	PKPbc		PKPbc	00 13 06.0	+0.7
	comp=Z,0.6nm,0.6s,baz=77,slow=2.7,SNR=2.5							
MMAI	Mount Meron Ar	147.16	300	PKPbc		PKiKP	00 13 09.9	+0.1
	comp=Z,2.8nm,0.9s,baz=74,slow=6.2,SNR=6.1							

*IDC **30** 00:12:00.9±0.9, 37°.59N×20°.06E, h0km, mb3.7/8, mbtmp3.6/18, ML3.2/10, Error ellipse: s-maj=17.0km s-min=14.6km az=24.0*
*GII **30** 00:12:03.6±0.0, 36°.82N×20°.47E, h1km, Mm3.7/3*
*BEO **30** 00:12:04.6±2.7, 37°.50N×19°.73E, h50km±9km, ML3.6/5*
*THE **30** 00:12:06.3, 37°.70N×20°.18E, h8km±1km, ML3.4/6, Error ellipse: s-maj=2.2km s-min=0.9km az=56.0*

ISC 30 00:12:03.6±0.6, 37°.62N±0°.04×20°.00E±0°.04, h20km±4km, n91, σ1§71/97, mb3.7/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	Kipouria, Keph	0.64	25	P	Pb	00 12 16.5	+0.4
KEF3				S	Sb	00 12 23.5	-1.2
	16μm,0.6s						
KRI1	kERI	0.65	86	P	Pb	00 12 16.5	+0.2
KRI1				S	Sb	00 12 23.1	-1.8
	11μm,0.5s						
LTHK	Lithakia	0.67	82	P	Pb	00 12 16.4	-0.2
LXR1	Lixouri, Cepha	0.67	31	P	Pb	00 12 16.7	+0.1
LXR1				S	Sb	00 12 24.7	-0.8
DMLN	Damoulianata-K	0.68	26	P	Pb	00 12 16.8	0.0
KEF4	Livadi, Kephal	0.72	28	P	Pb	00 12 17.3	-0.1
VLS	Valsamata	0.72	40	P	Pb	00 12 17.2	-0.3
VSK1	VASILIKIADES	0.90	29	P	Pb	00 12 20.4	-0.1
FSK	Fiskardo	0.94	28	P	Pb	00 12 20.9	-0.4
FSK				S	Sn	00 12 34.6	0.0
	1μm,0.6s						
EVGI	Lefkada island	1.12	27	P	Pn	00 12 24.1	0.0
DRAG	Dragano-Lefkad	1.15	23	P	Pb	00 12 25.5	+0.7
NYDR	Nydri-Lefkada	1.22	27	P	Pb	00 12 26.9	+1.0
RLS	Riolos of Patr	1.24	69	P	Pb	00 12 26.2	-0.1
RLS				S	Sn	00 12 42.3	+0.4
	1μm,0.4s						
AST1	Astakos	1.26	43	P	Pb	00 12 27.6	+1.0
LKD2	Lefkada island	1.27	24	P	Pb	00 12 28.4	+1.5
LKD2				S	Sb	00 12 44.0	+1.2
	1μm,0.4s						
TSLK	Tsoukalades, L	1.30	23	P	Pb	00 12 29.0	+1.6
PYL	PYLOS	1.57	117	P	Pb	00 12 32.2	+0.3
PYL				S	Sb	00 12 52.6	+1.3
	485nm,0.6s						
FNA	Florina	3.33	18	ePn	Pn	00 12 56.8	+2.2
OHR	Ohrid	3.54	10	ePn	Pn	00 12 59.3	+1.9
OHR				eSn	Sn	00 13 37.8	-0.8
OHR	Ohrid	3.54	10	i Pn	Pn	00 13 01.2	+3.8
OHR	Ohrid	3.54	10	i Pn	Pn	00 13 01.3	+3.9
TIR	Tirane	3.72	358	ePn	Pn	00 13 01.1	+1.2
VAY	Valandovo	4.19	28	ePn	Pn	00 13 08.2	+1.9
VAY	Valandovo	4.19	28	i Pn	Pn	00 13 08.4	+2.1
STIP	Stip	4.40	22	i Pn	Pn	00 13 13.5	+4.2
STIP	Stip	4.40	22	i Pn	Pn	00 13 13.4	+4.2
APE	Apeiranthos	4.44	95	Pn	Pn	00 13 07.5	-2.3
APE				Sn	Sn	00 13 55.8	-5.2
VAE	Valguarnera	4.44	270	Pn	Pn	00 13 10.9	+1.1
	0.8nm,0.3s,baz=138,slow=20,SNR=2.9						
VAE				Sn	Sn	00 13 59.1	-1.8
	4.4nm,0.3s,baz=29,slow=9.4,SNR=6.9						
	20nm,1.0s						
SRS	Serrai	4.46	37	ePn	Pn	00 13 11.7	+1.6
IDI	Anoyia	4.58	119	Pn	Pn	00 13 12.2	+0.5
	2.5nm,0.3s,baz=254,slow=11,SNR=22						
IDI				Sn	Sn	00 14 05.3	+0.9
	3.5nm,0.3s,baz=304,slow=18,SNR=2.0						
	21nm,1.0s						
DRME	Dracevica, Mon	4.60	352	ePn	Pn	00 13 09.6	-2.3
PDG	Podgorica	4.83	353	ePn	Pn	00 13 14.5	-0.6
PDG				eSn	Sn	00 14 07.8	-2.7
PDG	Podgorica	4.83	353	ePn	Pn	00 13 14.0	-1.1
HCY	Herceg Novi	4.95	347	ePn	Pn	00 13 17.5	+0.7
TREB	Trebinje	5.24	347	ePn	Pn	00 13 20.0	-0.8
TREB				eSn	Sn	00 14 16.0	-4.6
TREB	Trebinje	5.24	347	ePn	Pn	00 13 20.4	-0.4
BARS	Barje	5.37	14	ePn	Pn	00 13 23.1	+0.6
BRY	Bratogost	5.39	348	ePn	Pn	00 13 21.0	-1.9
STON	Ston	5.53	342	ePn	Pn	00 13 24.0	-0.7
STON				eSn	Sn	00 14 23.6	-4.0
STON	Ston	5.53	342	ePn	Pn	00 13 23.8	-0.9
VTS	Vitosha	5.57	25	ePn	Pn	00 13 26.9	+1.5
SJES	Sjenica	5.63	360	ePn	Pn	00 13 26.8	+0.6
SJES	Sjenica	5.63	360	ePn	Pn	00 13 27.8	+1.6
SELS	Selova	5.65	8	ePn	Pn	00 13 26.6	+0.2
NEVS	Nevesinje	5.85	346	ePn	Pn	00 13 26.5	-2.7
ZAPS	Zavoj	5.99	19	ePn	Pn	00 13 32.5	+1.4
RUDO	Rudo	6.01	356	ePn	Pn	00 13 31.2	-0.1
BOVS	Bovan	6.14	12	ePn	Pn	00 13 33.1	0.0
BBLS	Lazići	6.25	356	ePn	Pn	00 13 34.9	+0.2
BBLS	Lazići	6.25	356	ePn	Pn	00 13 37.5	+2.8
DIVS	Divibare	6.47	360	ePn	Pn	00 13 37.8	+0.1
DIVS				eSn	Sn	00 14 48.0	-2.9
DIVS	Divibare	6.47	360	ePn	Pn	00 13 36.5	-1.2
TEKS	Tekeris	6.93	357	ePn	Pn	00 13 46.4	+2.5
BLY	Banja Luka	7.43	344	ePn	Pn	00 13 51.1	+0.4
BLY	Banja Luka	7.43	344	ePn	Pn	00 13 50.9	+0.2
A051A	Mrakovica	7.74	343	ePn	Pn	00 13 54.4	-0.7
BOJS	Bojanci	8.64	337	ePn	Pn	00 14 07.0	-0.3
KEST	Kesra	8.77	261	Pn	Pn	00 14 09.9	+0.7
	0.2nm,0.3s,baz=41,slow=7.8,SNR=5.7						
KEST				Sn	Sn	00 15 45.7	-1.8
	baz=97,slow=12,SNR=2.3						
	2.0nm,0.5s						
CEY	Cerknica	9.11	335	ePn	Pn	00 14 14.3	+0.4
OBKA	Obir	9.76	337	ePn	Pn	00 14 23.4	+0.6
	0.5nm,0.2s						
OBKA	Obir	9.76	337	ePn	Pn	00 14 23.8	+1.0
SOKA	Soboth	9.77	339	ePn	Pn	00 14 22.3	-0.6
	2.7nm,0.5s						
ARSA	Arzberg	10.17	342	ePn	Pn	00 14 25.6	-2.8
	0.2nm,0.2s						
BRTR	Keskin Array B	10.87	75	Pn	Pn	00 14 40.3	+2.2
	baz=244,slow=13,SNR=1.5						
	0.8nm,1.1s						
MOA	Molln	11.05	339	ePn	Pn	00 14 40.3	-0.1
	2.5nm,0.3s						
DAVOX	Davos/Dischmat	11.82	324	Pn	Pn	00 14 52.0	+0.9
	0.1nm,0.3s,baz=156,slow=20,SNR=2.5						
DAVOX				Sn	Sn	00 16 59.8	-2.8
	0.2nm,0.3s,baz=308,slow=19,SNR=1.6						
	1.9nm,0.8s						
GERES	GERESS Array B	12.11	340	Pn	Pn	00 14 56.8	+1.8
	0.1nm,0.3s,baz=160,slow=15,SNR=1.2						
GERES				Sn	Sn	00 17 09.4	-0.1
	0.2nm,0.3s,baz=135,slow=18,SNR=1.9						
	0.3nm,0.4s						
MMAI	Mount Meron Ar	13.39	105	Pn	Pn	00 15 11.7	-0.8
	0.4nm,0.3s,baz=316,slow=12,SNR=1.6						
	6.0nm,1.0s						
MMA2	Mount Meron ar	13.39	105	Pn	Pn	00 15 07.7	-4.8
MMA2				Sn	Sn	00 17 31.5	-9.3
GEM	Giv'at Ha'Em	13.51	104	Pn	Pn	00 15 09.2	-4.9
SALP	Salfit	13.65	109	Pn	Pn	00 15 10.0	-6.0
KZIT	Kziot	13.65	115	Pn	Pn	00 15 09.5	-6.6
KZIT				Sn	Sn	00 17 34.7	-12
HMDT	Nahal Hemdat	13.81	108	Pn	Pn	00 15 13.3	-4.9
UJAP	Al Uja	13.91	109	Pn	Pn	00 15 14.0	-5.4
YTIR	Yattir	13.94	112	Pn	Pn	00 15 14.0	-6.0
YTIR				Sn	Sn	00 17 43.6	-11
DSI	Dead Sea	14.03	111	Pn	Pn	00 15 15.2	-6.0
DSI				Sn	Sn	00 17 45.6	-11
MSBI	Mazada	14.14	112	Sn	Sn	00 17 47.5	-11
KRMI	Paran Flat	14.33	117	Pn	Pn	00 15 18.3	-7.1
KRMI				Sn	Sn	00 17 51.1	-13
PRNI	Paran	14.40	116	Pn	Pn	00 15 19.0	-7.2
PRNI				Sn	Sn	00 17 52.8	-13
AKASG	Malin Array Be	14.64	24	Pn	Pn	00 15 29.5	+0.1
	0.2nm,0.3s,baz=213,slow=11,SNR=1.2						
	0.1nm,0.2s						
MBRI	Mt Berech	14.65	118	Pn	Pn	00 15 23.0	-6.8
MBRI				Sn	Sn	00 17 59.7	-12
EIL	Elat	14.75	118	Pn	Pn	00 15 29.8	-1.3
	0.2nm,0.3s,baz=298,slow=3.2,SNR=7.5						
EIL				Sn	Sn	00 18 04.1	-10
	0.5nm,0.3s,baz=333,slow=14,SNR=1.8						
	1.8nm,0.4s						
ESDC	Sonseca Array	18.82	284	P	Pn	00 16 22.9	+0.3
	baz=93,slow=13,SNR=2.4						
	0.8nm,1.1s						
HFS	Hagfors	22.89	352	P	P	00 17 06.3	+0.7
	2.9nm,0.7s,baz=160,slow=9.5,SNR=8.2						
	2.9nm,0.7s						
EKA	Eskdalemuir Ar	23.65	326	P	P	00 17 14.1	+0.8
	1.7nm,0.8s,baz=136,slow=12,SNR=2.5						
	1.7nm,0.8s						
NOA	NORSAR Array B	24.08	350	P	P	00 17 18.5	+1.0
	0.9nm,0.8s,baz=161,slow=9.7,SNR=2.4						
	0.9nm,0.8s						
FINES	FINESS Array B	24.15	7	P	P	00 17 18.9	+0.9
	1.5nm,0.5s,baz=178,slow=8.6,SNR=8.0						
	1.5nm,0.5s						
TORD	Torodi Ar. Bea	29.34	219	P	P	00 18 05.4	+0.3
	0.8nm,0.6s,baz=30,slow=9.4,SNR=13						
	0.8nm,0.6s						
BVAR	Borovoye Array	37.79	49	P	P	00 19 18.6	+0.4
	0.2nm,0.5s,baz=289,slow=4.4,SNR=2.1						
	0.2nm,0.5s						
MKAR	Makanchi Array	45.94	58	P	P	00 20 24.8	-0.1
	0.3nm,0.4s,baz=277,slow=7.4,SNR=9.9						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	46.37	48	P	P	00 20 27.3	-0.8
	0.8nm,0.4s,baz=268,slow=7.6,SNR=6.0						
	0.8nm,0.4s						

HEL 30 00:23:57.5±0.1, 67°.64N×33°.79E, h0km, ML1.3, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.42	51	PG	Pg	00 24 05.0	-0.6
LVZ				SG	Sg	00 24 10.6	-0.4
VRF	Varrio	1.60	276	MSG		00 24 45.5	
	comp=Z,2.8nm,0.2s						
VRF				SG	Sn	00 24 45.6	-2.7
OLKF	Oulanka, Finla	2.17	235	PG	Pb	00 24 36.5	-1.2
OLKF				MSG		00 25 02.0	
	comp=Z,0.8nm,0.2s						
OLKF				SG	Sb	00 25 04.2	-0.9
KU6	Riekki	2.24	225	PG	Pb	00 24 37.4	-1.3
KU6				MSG		00 25 03.8	
	comp=Z,0.9nm,0.2s						
KU6				SG	Sb	00 25 06.3	-0.6
MSF	Maaselka	2.56	230	SG	Sb	00 25 16.5	+0.3
SGF	Sodankyl	2.79	269	SG	Sb	00 25 22.0	-0.9
RNF	Rovaniemi	3.21	255	SN	Sn	00 25 28.0	0.0
KEV	Kevo	3.26	314	PN	Pn	00 24 49.6	-0.2
KEV				SB	Sb	00 25 35.3	-1.1
ARA0	ARCESS Array S	3.58	306	PN	Pn	00 24 53.2	-1.1
ARA0				SN	Sn	00 25 36.3	-0.9
HEF	Hetta	3.88	286	SG	Sg	00 25 58.8	-3.4
ERTU	Ertsjaerv	4.66	262	SN	Sn	00 26 01.0	-2.7

*HEL **30** 00:25:09.8±0.4, 67°.79N×20°.39E, h0km, ML1.6, Suspected explosion*

UPP 30 00:25:09.4±0.0, 67°.82N×20°.20E, h0km, ML2.6, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	21	P	Pg	00 25 12.4	+0.2
KUA				S	Sg	00 25 14.4	+0.4
RATU	Laukkuluspa	0.23	272	P	Pg	00 25 14.0	+0.1
KOVU	Salmi	0.41	358	P	Pg	00 25 17.1	0.0
DUNU	Dundret	0.71	168	P	Pg	00 25 22.8	-0.3
DUNU				S	Sg	00 25 32.8	+0.5
LANU	Lannavaara	0.72	70	P	Pg	00 25 22.8	-0.3
LANU	Lannavaara	0.72	70	PB	Pg	00 25 22.7	-0.3
LANU				SG	Sg	00 25 27.3	-5.0
MASU	Masugnsbyn	0.78	117	P	Pg	00 25 24.1	-0.1
SALU	Saltoluokta	0.79	237	P	Pg	00 25 24.2	-0.2
KIF	Kilpisjarvi	1.21	10	eP	Pg	00 25 32.8	+0.2
KIF	Kilpisjarvi	1.21	10	PG	Pb	00 25 32.9	-0.3
KIF				MSG		00 25 48.2	
	comp=Z,6.9nm,0.2s						
KIF				SG	Sb	00 25 48.8	-0.5
PAJU	Pajala	1.38	124	P	Pg	00 25 34.5	-1.2
PAJU	Pajala	1.38	124	PN	Pg	00 25 34.3	-1.5
PAJU				SN	Sg	00 25 53.3	-0.3
HEF	Hetta	1.43	64	eP	Pn	00 25 35.6	-0.9
HEF	Hetta	1.43	64	PN	Pn	00 25 35.5	-1.0
HEF				MSG		00 25 51.3	
	comp=Z,4.0nm,0.2s						
ERTU	Ertsjaerv	1.49	148	P	Pn	00 25 36.6	-0.8
ERTU	Ertsjaerv	1.49	148	PN	Pn	00 25 36.3	-1.1
ERTU				SN	Sn	00 25 57.5	0.0
KLF	Kolari	1.56	110	PN	Pn	00 25 37.7	-0.6
KLF				MSG		00 25 54.4	
	comp=Z,3.2nm,0.2s						
KTK1	Kautokeino	1.64	42	SB	Sg	00 26 03.3	+1.2
KTK1	Kautokeino	1.64	42	PG	Pn	00 25 39.2	-0.3
KTK1				SN	Sg	00 26 03.3	+1.2
HARU	Harads	1.69	169	P	Pn	00 25 40.0	-0.1
TRO	Tromso	1.88	346	PG	Pb	00 25 43.6	-0.9
TRO				SG	Sb	00 26 08.5	-0.1
KALU	Kalix	2.33	146	PG	Pn	00 25 49.9	+1.1
TOF	Tornio	2.38	135	PG	Pn	00 25 50.8	+1.2
TOF				MSG		00 26 18.2	
	comp=Z,2.4nm,0.2s						
TOF				SG	Sb	00 26 22.8	-0.2
SGF	Sodankyl	2.45	96	PG	Pb	00 25 52.6	-1.6
	baz=277						
RNF	Rovaniemi	2.57	116	PG	Pn	00 25 54.2	+2.0
ARA0	ARCESS Array S	2.59	46	PB	Pn	00 25 53.8	+1.2
	baz=229						
ARA0				SB	Sn	00 26 25.7	+1.0
KEV	Kevo	3.15	49	SN	Sn	00 26 39.0	+0.8
KEV				MSG		00 26 41.3	
	comp=Z,2.0nm,0.2s						
VRF	Varrio	3.58	87	SG	Sb	00 26 56.5	-0.8

*KRSC **30** 01:04:24.5±0.7, 52°.46N×158°.68E, h89km±5km, Ml4.4*
*MOS **30** 01:04:24.7±0.7, 52°.48N×158°.49E, h93km, mb3.9/3, Error ellipse: s-maj=14.3km s-min=5.1km az=79.2*
*IDC **30** 01:04:26.1±1.0, 52°.71N×158°.12E, h102km±5km, mb3.3/11, mbtmp3.7/12, Error ellipse: s-maj=22.9km s-min=16.1km az=157.0*

ISC 30 01:04:25.0±0.6, 52°.49N±0°.04×158°.58E±0°.04, h91km±4km, n101, σ1§53/124, mb3.7/15, 6C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.07	214	eP	Pn	01 04 37.9	+0.1
RUS				eS	Sn	01 04 47.4	+0.1
RUS	Russkaya	0.07	214	PN	Pn	01 04 37.9	+0.1
RUS				S	Sn	01 04 47.4	+0.1
MTVR	Mutnovka	0.24	268	eP	Pn	01 04 38.9	+0.4
MTVR				eS	Sn	01 04 49.8	+1.3
MTVR	Mutnovka	0.24	268	PN	Pn	01 04 38.9	+0.4
MTVR				S	Sn	01 04 49.8	+1.3
GRL	Gorelyy	0.31	282	eP	Pn	01 04 40.0	+1.2
GRL	Gorelyy	0.31	282	PN	Pn	01 04 40.0	+1.2
ASAK	Asacha	0.43	256	eP	Pn	01 04 40.2	+0.8
ASAK				eS	Sn	01 04 52.1	+2.0
ASAK	Asacha	0.43	256	PN	Pn	01 04 40.2	+0.8
ASAK				S	Sn	01 04 52.1	+2.0
KRMR	Karymshinskiy	0.43	322	eP	Pn	01 04 39.8	+0.5
KRMR				eS	Sn	01 04 51.0	+1.0
KRMR	Karymshinskiy	0.43	322	PN	Pn	01 04 39.8	+0.5
KRMR				S	Sn	01 04 51.0	+1.0
PET	Petropavlovsk	0.54	5	eP	Pn	01 04 40.5	+0.3
PET				eS	Sn	01 04 51.9	+0.5
PET	Petropavlovsk	0.54	5	i PN	Pn	01 04 40.4	+0.3
PET				eS	Sn	01 04 51.7	+0.3
PET				pmax	pmax		
	comp=Z,2μm,0.3s						
PET				smax	smax		
	comp=E,6μm,0.4s						
PET				smax	smax		
	comp=N,3μm,0.3s						
DALK	Dalny	0.55	11	eP	Pn	01 04 40.7	+0.5
DALK				eS	Sn	01 04 52.0	+0.4
DALK	Dalny	0.55	11	PN	Pn	01 04 40.7	+0.5
DALK				S	Sn	01 04 52.0	+0.4
INSR	Institute	0.58	2	eP	Pn	01 04 40.8	+0.3
INSR				eS	Sn	01 04 52.7	+0.7
UGLR	Uglovaya	0.73	12	eP	Pn	01 04 43.2	+1.1
UGLR				eS	Sn	01 04 56.1	+1.3
UGLR	Uglovaya	0.73	12	PN	Pn	01 04 43.2	+1.1
UGLR				S	Sn	01 04 56.1	+1.3
KDTR	Khodutka, Kamc	0.75	204	eP	Pn	01 04 42.3	+0.3
KDTR				eS	Sn	01 04 55.1	+0.4
KDTR	Khodutka, Kamc	0.75	204	PN	Pn	01 04 42.3	+0.3
KDTR				S	Sn	01 04 55.1	+0.4
AVH	Avacha	0.78	7	eP	Pn	01 04 43.7	+1.2
AVH				eS	Sn	01 04 57.5	+1.9
AVH	Avacha	0.78	7	PN	Pn	01 04 43.7	+1.2
AVH				S	Sn	01 04 57.5	+1.9
SMAR	Somma	0.79	10	eP	Pn	01 04 43.3	+0.6
SMAR	Somma	0.79	10	PN	Pn	01 04 43.3	+0.6
KOK	Koryaka	0.80	3	eP	Pn	01 04 43.9	+1.1
KOK	Koryaka	0.80	3	PN	Pn	01 04 43.9	+1.1
SDLR	Sedlovina	0.81	13	eP	Pn	01 04 43.2	+0.4
SDLR				eS	Sn	01 04 56.6	+0.4
SDLR	Sedlovina	0.81	13	PN	Pn	01 04 43.2	+0.4
SDLR				S	Sn	01 04 56.6	+0.4
PEA0B	Petropavlovsk-	0.82	320	c i PN	Pn	01 04 43.3	+0.5
PETK	Petropavlovsk-	0.82	320	P	Pn	01 04 42.7	-0.1
	comp=N,591nm,0.3s,baz=115,slow=16,SNR=1433						
PETK				S	Sn	01 04 55.6	-0.5
	comp=N,125nm,0.5s,baz=46,slow=10,SNR=6.1						
KRER	Koryakskii	0.82	7	eP	Pn	01 04 44.0	+1.0
KRER				eS	Sn	01 04 58.1	+1.6
KRER	Koryakskii	0.82	7	PN	Pn	01 04 44.0	+1.0
KRER				S	Sn	01 04 58.1	+1.6
NLC	Nalytchevo	0.83	34	eP	Pn	01 04 43.8	+0.9
NLC				eS	Sn	01 04 56.8	+0.6
NLC	Nalytchevo	0.83	34	PN	Pn	01 04 43.8	+0.9
NLC				S	Sn	01 04 56.8	+0.6
KRX	Arik	0.87	3	eP	Pn	01 04 44.3	+0.8
KRX	Arik	0.87	3	PN	Pn	01 04 44.3	+0.8
APC	Apacha	0.97	297	eP	Pn	01 04 45.5	+1.2
APC				eS	Sn	01 05 00.7	+1.9
APC	Apacha	0.97	297	PN	Pn	01 04 45.5	+1.2
APC				S	Sn	01 05 00.7	+1.9
SPN	Mys Shipunski	1.07	55	eP	Pn	01 04 46.0	+0.5
SPN				eS	Sn	01 05 03.1	+2.1
SPN	Mys Shipunski	1.07	55	PN	Pn	01 04 46.0	+0.5
SPN				S	Sn	01 05 03.1	+2.1
GNL	Ganaly	1.27	343	eP	Pn	01 04 48.4	+0.4
GNL	Ganaly	1.27	343	PN	Pn	01 04 48.4	+0.4
PAU	Pauzhetka	1.50	227	eP	Pn	01 04 53.2	+2.5
PAU	Pauzhetka	1.50	227	PN	Pn	01 04 53.2	+2.5
KII	Karymskiy	1.64	18	eP	Pn	01 04 53.7	+1.1
KII	Karymskiy	1.64	18	PN	Pn	01 04 53.7	+1.1
SKR	Severo-Kuril's	2.37	221	eP	Pn	01 05 03.1	+1.0
SKR	Severo-Kuril's	2.37	221	ePN	Pn	01 05 03.1	+1.0
SKR				eS	Sn	01 05 34.8	+4.3
SKR				pmax	pmax		
	comp=Z,367nm,0.5s						
SKR				smax	smax		
	comp=N,557nm,0.9s						
SKR				smax	smax		
	comp=E,464nm,0.8s						
KZV	Kizimen	2.82	21	eP	Pn	01 05 11.0	+2.8
KZV	Kizimen	2.82	21	PN	Pn	01 05 11.0	+2.8
TUMD	Tumrok D	2.92	21	eP	Pn	01 05 11.0	+1.5
TUMR	Tumrok	2.95	18	eP	Pn	01 05 12.4	+2.5
TUMR	Tumrok	2.95	18	PN	Pn	01 05 12.4	+2.5
KMNR	Kamenistaya	3.42	16	eP	Pn	01 05 18.4	+2.2
KMNR	Kamenistaya	3.42	16	PN	Pn	01 05 18.4	+2.2
BZP	Bezymyannyi-Pe	3.62	18	eP	Pn	01 05 21.2	+2.2
BZMR	Bezymyannaya	3.63	17	eP	Pn	01 05 21.3	+2.2
BZMR	Bezymyannaya	3.63	17	PN	Pn	01 05 21.3	+2.2
BZWR	Bezymyannyi-We	3.66	17	eP	Pn	01 05 22.0	+2.5
BZWR	Bezymyannyi-We	3.66	17	PN	Pn	01 05 22.0	+2.5
BZGR	Bezymyannyi-Gr	3.67	19	eP	Pn	01 05 22.4	+2.7
BZGR	Bezymyannyi-Gr	3.67	19	PN	Pn	01 05 22.4	+2.7
LGNR	Loginova	3.81	18	eP	Pn	01 05 19.5	-2.1
LGNR	Loginova	3.81	18	PN	Pn	01 05 19.5	-2.1
CIRR	Tsirk	3.85	18	eP	Pn	01 05 22.6	+0.5
CIRR	Tsirk	3.85	18	PN	Pn	01 05 22.6	+0.5
SRDR	Sredinnyy	3.89	9	eP	Pn	01 05 24.6	+2.0
SRDR	Sredinnyy	3.89	9	PN	Pn	01 05 24.6	+2.0
KBTR	Krutoberegovo	4.48	32	eP	Pn	01 05 32.4	+2.0
KBTR	Krutoberegovo	4.48	32	PN	Pn	01 05 32.4	+2.0
MA2	Magadan	8.33	332	‖ ePN	Pn	01 06 22.8	-0.1
MA2				pmax	pmax		
	comp=Z,189nm,2.1s						
TYV	Tymovskoe	10.02	267	ePN	Pn	01 06 46.0	+0.1
TYV				pmax	pmax		
	comp=Z,700nm,2.5s						
TYV				pmax	pmax		
	comp=Z,8.0nm,0.9s						
YSS	Yuzh-Sakhalins	11.63	248	⇑ ePN	Pn	01 07 08.2	+0.4
ASAJ	Asahikawa	13.52	238	P	Pn	01 07 32.6	-0.2
	comp=Z,14nm,0.9s,baz=31,slow=18,SNR=

H03N1 Juan Fernandez 135.14 88 T T 03 54 06.1
baz=315,slow=78,SNR=43
H03N3 Juan Fernandez 135.14 88 T T 03 54 06.1
baz=315,slow=78,SNR=34

*IDC **30** 01:17:11.2±4.9, 7°.22S×126°.96E, h505km±65km, mb2.9/4, mbtmp3.8/6, Error ellipse: s-maj=109.7km s-min=20.8km az=71.0*
ISC 30 01:17:10.6±1.4, 7°.0S±0°.5×127°.3E±0°.9, h500km, n6, σ0§63/7, mb3.3/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.54**	**153**	P	**P**	**01 20 15.6**	**-0.4**
	2.5nm,0.5s,baz=330,slow=11,SNR=38						
WRA				S	**S**	**01 22 49.4**	**+0.6**
	0.9nm,0.8s,baz=323,slow=18,SNR=6.0						
ASAR	**Alice Springs**	**17.71**	**160**	P	**P**	**01 20 49.0**	**+0.7**
	1.2nm,0.7s,baz=344,slow=13,SNR=6.0						
MKAR	**Makanchi Array**	**66.81**	**328**	P	**P**	**01 27 12.2**	**+0.2**
	0.3nm,0.4s,baz=143,slow=7.0,SNR=4.1						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**70.45**	**335**	P	**P**	**01 27 33.9**	**-0.1**
	0.4nm,0.4s,baz=134,slow=4.2,SNR=2.2						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**71.16**	**330**	P	**P**	**01 27 38.6**	**+0.5**
	0.4nm,0.4s,baz=132,slow=5.0,SNR=7.7						
	0.4nm,0.4s						
VNDA	**Vanda**	**72.74**	**173**	P	**P**	**01 27 46.4**	**-0.6**
	0.5nm,0.8s,baz=285,slow=12,SNR=8.1						
	0.5nm,0.8s						

*IDC **30** 01:26:37.9±1.0, 12°.28N×144°.13E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=40.2km s-min=22.4km az=93.0*
ISC 30 01:26:42.1±1.0, 12°.3N±0°.2×144°.1E±0°.3, h27km, n10, σ1§06/9, mb3.8/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.54**	**31**	LR	LR	01 27 32.4	
	comp=Z,63nm,21.8s,baz=126,slow=37						
WRA	**Warramunga Arr**	**33.40**	**197**	P	**P**	**01 33 18.6**	**-0.1**
	0.6nm,0.8s,baz=21,slow=9.9,SNR=6.4						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**37.07**	**196**	P	**P**	**01 33 50.3**	**+0.1**
	0.2nm,0.3s,baz=19,slow=12,SNR=4.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**61.89**	**317**	P	**P**	**01 36 59.9**	**+0.6**
	0.4nm,0.7s,baz=94,slow=9.2,SNR=2.2						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**65.12**	**320**	P	**P**	**01 37 21.1**	**+0.6**
	0.7nm,0.5s,baz=105,slow=7.2,SNR=11						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**70.10**	**25**	P	**P**	**01 37 50.6**	**-1.1**
	0.4nm,0.8s,baz=265,slow=5.5,SNR=6.1						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**70.47**	**322**	P	**P**	**01 37 54.9**	**+0.7**
	1.5nm,0.5s,baz=108,slow=7.3,SNR=16						
	1.5nm,0.5s						
NVAR	**Mina Array Bea**	**88.36**	**51**	P	**P**	**01 39 33.6**	**+1.4**
	0.5nm,0.6s,baz=262,slow=4.9,SNR=4.6						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**92.02**	**335**	P	**P**	**01 39 47.5**	**-0.9**
	3.0nm,0.9s,baz=57,slow=5.1,SNR=6.3						
	3.0nm,0.9s						
DBIC	**Dimbokro**	**143.81**	**300**	PKP	**PKPdf**	**01 46 14.7**	**-1.3**
	0.8nm,0.5s,baz=117,slow=2.3,SNR=1.3						

*IDC **30** 01:57:12.4±0.7, 5°.26S×151°.03E, h123km±8km, mb3.5/8, mbtmp3.9/9, Error ellipse: s-maj=24.0km s-min=10.0km az=130.0*
ISC 30 01:57:11.1±0.7, 5°.3S±0°.1×151°.0E±0°.1, h100km, n10, σ2§29/13, mb3.5/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.39**	**48**	P	**Pn**	**01 57 38.5**	**+2.4**
	692nm,0.6s,baz=61,slow=24,SNR=51						
KRVT				S	**Sn**	**01 57 58.2**	**+3.2**
	594nm,0.6s,baz=293,slow=0.3,SNR=8.5						
PMG	**Port Moresby**	**5.61**	**222**	P	**Pn**	**01 58 35.0**	**+2.8**
	80nm,0.5s,baz=30,slow=7.9,SNR=25						
PMG				S	**Sn**	**01 59 38.3**	**+3.0**
	115nm,0.6s,baz=141,slow=23,SNR=9.9						
WRA	**Warramunga Arr**	**21.82**	**227**	P	**P**	**02 01 54.7**	**-0.7**
	0.8nm,0.3s,baz=49,slow=10,SNR=21						
WRA				S	**S**	**02 05 48.2**	**-2.7**
	1.4nm,1.0s,baz=52,slow=19,SNR=8.3						
	0.8nm,0.3s						
DZM	**Mont Dzumac**	**22.43**	**140**	P	**P**	**02 02 01.4**	**-0.5**
	3.3nm,0.4s,baz=264,slow=8.1,SNR=12						
	3.3nm,0.4s						
ASAR	**Alice Springs**	**24.62**	**220**	P	**P**	**02 02 22.6**	**+0.3**
	1.4nm,0.6s,baz=55,slow=8.9,SNR=16						
	1.4nm,0.6s						
PETK	**Petropavlovsk-**	**58.42**	**5**	P	**P**	**02 06 55.4**	**-0.8**
	3.1nm,0.6s,baz=174,slow=5.1,SNR=2.1						
	3.1nm,0.6s						
SONM	**Songino Array**	**65.76**	**329**	P	**P**	**02 07 46.4**	**+0.8**
	0.3nm,0.5s,baz=155,slow=7.8,SNR=1.9						
	0.3nm,0.5s						
VNDA	**Vanda**	**72.45**	**178**	P	**P**	**02 08 25.9**	**-0.3**
	0.5nm,0.8s,baz=307,slow=5.8,SNR=3.6						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**83.26**	**22**	P	**P**	**02 09 23.4**	**-2.9**
	0.3nm,0.6s,baz=256,slow=5.3,SNR=4.9						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**84.71**	**180**	P	**P**	**02 09 32.5**	**-1.3**
	0.8nm,0.7s,baz=231,slow=0.7,SNR=7.8						
	0.8nm,0.7s						

*IDC **30** 02:02:13.6±0.9, 24°.21N×122°.44E, h0km, mb4.0/9, mbtmp4.0/9, MS3.7/12, Error ellipse: s-maj=61.3km s-min=15.8km az=65.0*
*NEIC **30** 02:02:16.1, 24°.06N×122°.29E, h10km*
*JMA **30** 02:02:17.6±0.1, 24°.0N±0°.8×122°.3E±0°.3, h25km±2km, MD4.1/15, MV3.8/15, TAIWAN REGION*
*NEIC **30** 02:02:17.6±2.4, 24°.06N±0°.05×122°.29E±0°.05, h25km±3km, mb4.5/11, Mwr4.0/19, Error ellipse: s-maj=7.3km s-min=5.5km az=143.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.09; $M_{\theta\theta}$0.81; $M_{\phi\phi}$0.28; $M_{r\theta}$0.59; $M_{\theta\phi}$0.85; $M_{\phi r}$-0.42; Fault plane solution: $M_0$1.49000×10^{15} NP1:ϕ_s261.03000°, δ57.51000°, λ-53.42000°. NP2:ϕ_s26.93000°, δ47.36000°, λ-133.10000°. Principal axes: T 1.4553, Plg6.0000°, Azm326.0000°; N 0.0599, Plg30.0000°, Azm59.0000°; P -1.5152, Plg59.0000°, Azm226.0000°;*
*NIED **30** 02:02:17.6, 24°.01N×122°.30E, h25km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.25; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$1.31; $M_{r\theta}$0.27; $M_{\theta\phi}$0.73; $M_{\phi r}$-0.42; Fault plane solution: $M_0$1.54000×10^{15} NP1:ϕ_s4.00000°, δ54.00000°, λ-116.00000°. NP2:ϕ_s224.00000°, δ43.00000°, λ-58.00000°.*
*ASIES **30** 02:02:18.0, 24°.10N×122°.29E, h25km, ML4.4, Mw4.1, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}-1.08; $M_{\theta\theta}$0.45; $M_{\phi\phi}$0.62; $M_{r\theta}$1.30; $M_{\theta\phi}$0.55; $M_{\phi r}$0.25; Fault plane solution: $M_0$1.71591×10^{22} NP1: ϕ_s247.55000°, δ71.30000°, λ-72.50000°. NP2:ϕ_s23.03000°, δ25.39000°, λ-131.62000°. Principal axes: T Plg24.3400°, Azm324.0590°; N Plg16.5460°, Azm61.7820°; P Plg59.9360°, Azm182.6620°;*
*TAP **30** 02:02:18.0, 24°.10N×122°.29E, h25km, ML4.4, C*
ISC 30 02:02:17.8±0.8, 24°.05N±0°.02×122°.31E±0°.02, h27km±5km, n209, σ0§88/278, mb4.2/15, MS3.9/8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.07**	**9**	P	**Pb**	**02 02 22.0**	**-0.2**
	baz=42						
EOS4				*e*S	**Sb**	**02 02 25.0**	**0.0**
	baz=42						
EOS3	**EOS3**	**0.23**	**3**	*i* P	**Pb**	**02 02 23.6**	**-0.4**
	baz=343						
EOS3				*i* S	**Sb**	**02 02 28.3**	**+0.1**
	baz=343						
EOS2	**EOS2**	**0.37**	**350**	*i* P	**Pb**	**02 02 25.8**	**-0.2**
	baz=334						
EOS2				*e*S	**Sn**	**02 02 31.7**	**-1.8**
	baz=334						
EWUT	**Wuta**	**0.62**	**309**	P	**Pb**	**02 02 29.1**	**-1.1**
	baz=314						
ETL	**Fush Village**	**0.63**	**280**	P	**Pn**	**02 02 30.5**	**-0.5**
	baz=259						
ENA	**Nanau**	**0.64**	**306**	*e*P	**Pb**	**02 02 29.5**	**-0.9**
	baz=311						
ENA				*e*S	**Sn**	**02 02 38.7**	**-1.6**
	baz=311						
HWA	**Hwalien**	**0.65**	**263**	*e*P	**Pn**	**02 02 31.1**	**-0.1**
	baz=245						
HWA				*e*S	**Sn**	**02 02 40.4**	**-0.1**
	baz=245						
TWD	**Chiawan**	**0.65**	**273**	P	**Pb**	**02 02 30.5**	**-0.1**
	baz=255						
TWD				*e*S	**Sb**	**02 02 39.5**	**+0.1**
	baz=255						
NACB	**Ninganchiao**	**0.66**	**281**		**Pb**	**02 02 30.3**	**-0.5**
NACB	**Ninganchiao**	**0.66**	**281**	*i* P	**Pb**	**02 02 30.4**	**-0.4**
	baz=261						
TWC	**Suao**	**0.69**	**323**	*i* P	**Pb**	**02 02 29.9**	**-1.5**
	baz=327						
JYNG	**Yonagunijimaku**	**0.71**	**56**	P	**Pb**	**02 02 31.2**	**-0.4**
JYNG				S	**Sn**	**02 02 41.2**	**-0.8**
JYNG	**Yonagunijimaku**	**0.71**	**56**	A	A	02 02 31.2	
	comp=E,9.0nm,1.4s,comp=N,8.0nm,2.4s						
ETM	**Tongmen**	**0.75**	**263**	P	**Pb**	**02 02 31.8**	**-0.5**
	baz=249						
ETM				*e*S	**Sb**	**02 02 42.2**	**0.0**
	baz=249						
YOJ	**Yonaguni jima**	**0.76**	**58**		**Pb**	**02 02 31.8**	**-0.7**
YOJ	**Yonaguni jima**	**0.76**	**58**	P	**Pn**	**02 02 33.1**	**+0.3**
YOJ	**Yonaguni jima**	**0.76**	**58**	P	**Pn**	**02 02 32.7**	**-0.1**
YOJ				S	**Sn**	**02 02 42.8**	**-0.6**
YOJ	**Yonaguni jima**	**0.76**	**58**	A	A	02 02 32.7	
	comp=E,8.0nm,2.2s,comp=N,7.0nm,1.4s						
YOJ	**Yonaguni jima**	**0.76**	**58**	P	**Pn**	**02 02 32.8**	**+0.1**
	baz=60						
YOJ				*e*S	**Sn**	**02 02 43.9**	**+0.5**
	baz=60						
ETLH	**Xiulin Townshi**	**0.77**	**282**	*e*P	**Pb**	**02 02 32.1**	**-0.6**
	baz=265						
ETLH				*e*S	**Sn**	**02 02 42.9**	**-0.8**
	baz=265						
TEGC	**Jichi Village**	**0.78**	**244**	*e*P	**Pn**	**02 02 33.2**	**+0.2**
	baz=240						
NDS	**Dongshan**	**0.79**	**317**	P	**Pb**	**02 02 32.1**	**-0.9**
	baz=315						
LXIB	**Xiulin Townshi**	**0.82**	**268**	*i* P	**Pb**	**02 02 33.0**	**-0.5**
	baz=255						
LXIB				S	**Sn**	**02 02 44.4**	**-0.6**
	baz=255						
ESL	**Shilin**	**0.83**	**254**	*e*P	**Pb**	**02 02 32.9**	**-0.9**
	baz=242						
ESL				*e*S	**Sb**	**02 02 43.7**	**-0.9**
	baz=242						
LATG	**Datong**	**0.86**	**304**	*e*P	**Pn**	**02 02 33.8**	**-0.5**
	baz=301						
EGS		**0.86**	**337**	*e*P	**Pn**	**02 02 34.0**	**-0.2**
	baz=326						
EGS				*e*S	**Sn**	**02 02 44.9**	**-0.8**
	baz=326						
TWE	**Neicheng**	**0.88**	**319**	*e*P	**Pb**	**02 02 33.8**	**-0.8**
	baz=324						
TWE				*e*S	**Sn**	**02 02 45.9**	**-0.5**
	baz=324						
EGFH	**Guangfu**	**0.89**	**245**	P	**Pb**	**02 02 33.8**	**-0.9**
	baz=232						
EGFH				*e*S	**Sb**	**02 02 45.9**	**-0.3**
	baz=232						
ENTT	**Nioudou**	**0.89**	**311**	P	**Pn**	**02 02 34.1**	**-0.5**
	baz=308						
WARBT	**Fenglin Townsh**	**0.91**	**249**	P	**Pb**	**02 02 33.9**	**-1.1**
	baz=237						
WARBT				*e*S	**Sb**	**02 02 45.8**	**-0.8**
	baz=237						
NDT	**Datong Townshi**	**0.91**	**307**	P	**Pn**	**02 02 34.8**	**0.0**
	baz=305						
NNSB	**Datong**	**0.92**	**294**	P	**Pn**	**02 02 34.7**	**-0.4**
	baz=291						
NNSB				*e*S	**Sn**	**02 02 47.4**	**-0.1**
	baz=291						
NNS	**Nan Shan**	**0.93**	**295**	P	**Pn**	**02 02 35.2**	**-0.1**
	baz=292						
NNS				*e*S	**Sn**	**02 02 47.7**	**-0.1**
	baz=292						
WHF	**Hehuan Shan**	**0.95**	**276**	P	**Pb**	**02 02 35.4**	**-0.6**
	baz=261						
WHF				*e*S	**Sb**	**02 02 48.2**	**-0.3**
	baz=261						
FUSB	**Fushanzhiwuyua**	**0.96**	**317**	P	**Pn**	**02 02 35.6**	**0.0**
	baz=314						
FUSB				*e*S	**Sn**	**02 02 48.2**	**-0.2**
	baz=314						
HGSD	**Ruisui**	**0.98**	**236**	P	**Pn**	**02 02 35.2**	**-0.6**
	baz=233						
TWB1	**Santiao Chiao**	**0.99**	**343**	*e*P	**Pb**	**02 02 36.0**	**-0.4**
	baz=342						
NWLT	**Wulai**	**1.03**	**315**	P	**Pb**	**02 02 36.7**	**-0.3**
	baz=312						
NWLT				*e*S	**Sn**	**02 02 50.2**	**+0.2**
	baz=312						
CHGB	**Renai**	**1.03**	**271**	*e*P	**Pn**	**02 02 36.6**	**-0.2**
	baz=256						
CHGB				*e*S	**Sn**	**02 02 50.2**	**-0.2**
	baz=256						
OWD	**Renai**	**1.04**	**265**	*i* P	**Pn**	**02 02 36.5**	**-0.2**
	baz=262						
OWD				*e*S	**Sb**	**02 02 49.7**	**-0.8**
	baz=262						
YHNB	**Yeheng**	**1.05**	**306**		**Pn**	**02 02 36.2**	**-0.6**
YHNB	**Yeheng**	**1.05**	**306**	P	**Pb**	**02 02 37.1**	**-0.3**
YHNB	**Yeheng**	**1.05**	**306**	*e*P	**Pb**	**02 02 36.8**	**-0.6**
	baz=303						
TWT	**Tachien**	**1.05**	**281**	*e*P	**Pb**	**02 02 37.9**	**+0.4**
	baz=266						
EHY	**Hungye**	**1.05**	**239**	*e*P	**Pn**	**02 02 36.2**	**-0.6**
	baz=228						
NSK	**Sanguang**	**1.06**	**306**	*i* P	**Pb**	**02 02 37.1**	**-0.6**
	baz=291						
NSK				*e*S	**Sn**	**02 02 50.8**	**-0.1**
	baz=291						
TDCB	**Techi**	**1.07**	**281**	*e*P	**Pb**	**02 02 37.2**	**-0.6**
	baz=266						
ECBN	**Changbin**	**1.07**	**227**	P	**Pn**	**02 02 36.8**	**-0.3**
	baz=226						
ECBN				*e*S	**Sb**	**02 02 50.4**	**-1.0**
	baz=226						
WUSB	**Renai**	**1.09**	**267**	*i* P	**Pn**	**02 02 37.4**	**0.0**
	baz=265						
WUSB				*e*S	**Sn**	**02 02 51.7**	**0.0**
	baz=265						
VWDT	**VWDT**	**1.11**	**255**	*i* P	**Pn**	**02 02 37.8**	**+0.2**
	baz=244						
SXI1	**Grass Mountain**	**1.11**	**339**	P	**Pn**	**02 02 37.2**	**-0.5**
	baz=337						
SXI1				*e*S	**Sn**	**02 02 52.3**	**+0.3**
	baz=337						
NWF	**Wu-fen Shan**	**1.12**	**335**	*e*P	**Pb**	**02 02 38.1**	**-0.5**
	baz=332						
NWF				*e*S	**Sn**	**02 02 52.8**	**+0.4**
	baz=332						
WFSB	**Wu-fen Shan**	**1.12**	**335**	*e*P	**Pb**	**02 02 37.8**	**-0.7**
	baz=332						
WFSB				*e*S	**Sn**	**02 02 52.9**	**+0.7**
	baz=332						
YULB	**Yu-li**	**1.13**	**235**		**Pn**	**02 02 37.1**	**-0.8**
YULB	**Yu-li**	**1.13**	**235**	P	**Pn**	**02 02 37.4**	**-0.6**
	baz=223						
EYUL	**Yuli**	**1.15**	**232**	P	**Pn**	**02 02 38.2**	**+0.2**
	baz=219						
EYUL				S	**Sn**	**02 02 53.1**	**+0.2**
	baz=219						
NHDH	**Xindian Distri**	**1.15**	**322**	*e*P	**Pb**	**02 02 39.2**	**+0.1**
	baz=333						
TWF1	**Yuli**	**1.16**	**233**	P	**Pn**	**02 02 38.1**	**-0.2**
	baz=221						
TWF1				*e*S	**Sn**	**02 02 53.4**	**+0.2**
	baz=221						
TATO	**Taipei**	**1.18**	**321**		**Pn**	**02 02 38.3**	**-0.3**
TATO	**Taipei**	**1.18**	**321**	P	**Pb**	**02 02 39.7**	**+0.1**
TNOU	**National Taiwa**	**1.20**	**336**	*e*P	**Pb**	**02 02 38.7**	**-1.2**
	baz=333						
TNOU				*e*S	**Sb**	**02 02 53.7**	**-1.2**
	baz=333						
TAP	**Taipei**	**1.22**	**324**	*e*P	**Pb**	**02 02 40.7**	**+0.4**
	baz=321						
TAP				*e*S	**Sb**	**02 02 56.2**	**+0.5**
	baz=321						
NFF	**Wufeng Townshi**	**1.23**	**298**	*e*P	**Pb**	**02 02 40.3**	**-0.1**
	baz=296						
NFF				*e*S	**Sb**	**02 02 56.3**	**+0.4**
	baz=296						
FULB	**Fuli**	**1.26**	**228**	P	**Pn**	**02 02 39.2**	**-0.4**
	baz=214						
FULB				S	**Sn**	**02 02 55.2**	**-0.5**
	baz=214						
WHP	**Taichung City**	**1.26**	**280**	*e*P	**Pb**	**02 02 40.8**	**-0.2**
	baz=268						
SSLB	**Suanglung**	**1.27**	**258**	Pn	**Pn**	**02 02 38.8**	**-0.9**
SSLB	**Suanglung**	**1.27**	**258**	P	**Pn**	**02 02 40.1**	**+0.4**
SSLB	**Suanglung**	**1.27**	**258**	*e*P	**Pn**	**02 02 39.8**	**0.0**
	baz=245						
WCS	**Beigang Elemen**	**1.27**	**270**	*e*P	**Pb**	**02 02 40.4**	**-0.8**
	baz=268						
YM01	**YM01**	**1.28**	**329**	*e*P	**Pb**	**02 02 40.6**	**-0.7**
	baz=326						
YM01				*e*S	**Sb**	**02 02 57.3**	**-0.1**
	baz=326						
CHKT	**Chengkung**	**1.28**	**222**	*i* P	**Pn**	**02 02 39.3**	**-0.6**
	baz=211						
CHKT				*i* S	**Sn**	**02 02 54.3**	**-1.9**
	baz=211						
SMLT	**Sun Moon Lake**	**1.30**	**263**	*i* P	**Pn**	**02 02 40.8**	**+0.5**
	baz=261						
SMLT				*e*S	**Sn**	**02 02 57.1**	**+0.3**
	baz=261						
YM08	**YM08**	**1.30**	**330**	*e*P	**Pb**	**02 02 41.1**	**-0.6**
	baz=343						
LIOB	**Emei**	**1.32**	**297**	*e*P	**Pb**	**02 02 41.9**	**-0.1**
	baz=295						
TWS1	**Kuangyinshan**	**1.32**	**322**	*e*P	**Pb**	**02 02 41.2**	**-0.7**
	baz=331						
TWS1				*e*S	**Sb**	**02 02 59.2**	**+0.8**
	baz=331						
NSTT	**Nanjuang**	**1.32**	**296**	*e*P	**Pb**	**02 02 41.9**	**-0.1**
	baz=294						
NSTT				*e*S	**Sb**	**02 02 58.7**	**+0.2**
	baz=294						
IRIF	**Iriomote-Funau**	**1.33**	**78**	*e*S	**Sb**	**02 02 59.4**	**+0.6**
IRIF	**Iriomote-Funau**	**1.33**	**78**	A	A	02 02 59.4	
	comp=E,6.0nm,6.9s,comp=N,8.0nm,2.1s						
TYC	**Yuchr**	**1.33**	**264**	*e*P	**Pn**	**02 02 41.2**	**+0.5**
	baz=262						
TYC				*e*S	**Sb**	**02 02 58.2**	**-0.7**
	baz=262						
ANP	**Anpu**	**1.34**	**328**	*e*P	**Pb**	**02 02 41.8**	**-0.5**
	baz=325						
EHD	**Haiduan**	**1.35**	**228**	*e*P	**Pn**	**02 02 40.4**	**-0.5**
	baz=217						
EHD				*e*S	**Sn**	**02 02 57.6**	**-0.3**
	baz=217						
NTST	**Danshui**	**1.35**	**325**	*e*P	**Pb**	**02 02 42.1**	**-0.5**
	baz=339						
NCU	**National Centr**	**1.37**	**312**	*e*P	**Pb**	**02 02 41.7**	**-1.1**
	baz=309						
NCU				*e*S	**Sb**	**02 03 00.8**	**+0.9**
	baz=309						
NCUH	**Zhongli**	**1.37**	**312**	*e*P	**Pb**	**02 02 42.8**	**0.0**
	baz=309						
HATJ	**Hateruma jima**	**1.37**	**90**	P	**Pb**	**02 02 42.4**	**-0.4**
HATJ				*e*S	**Sb**	**02 03 02.1**	**+2.2**
HATJ	**Hateruma jima**	**1.37**	**90**	A	A	02 02 42.4	
	comp=E,12nm,3.8s,comp=N,12nm,4.6s						
TWY	**Chenhua**	**1.38**	**332**	*e*P	**Pb**	**02 02 43.7**	**+0.8**
	baz=345						
WHYT	**Xinyi Township**	**1.38**	**255**	P	**Pb**	**02 02 42.2**	**-0.7**
	baz=245						
WHYT				*e*S	**Sn**	**02 02 59.4**	**+0.7**
	baz=245						
ECS	**Chishang**	**1.38**	**226**	*e*P	**Pn**	**02 02 42.1**	**+0.8**
	baz=215						
ECS				*e*S	**Sn**	**02 02 59.8**	**+1.1**
	baz=215						
SBCB	**Hsinchu**	**1.41**	**302**	*e*P	**Pb**	**02 02 43.4**	**-0.2**
	baz=299						
EDH	**Donghe**	**1.42**	**221**	P	**Pn**	**02 02 41.0**	**-0.7**
	baz=210						
EDH				*e*S	**Sn**	**02 02 58.3**	**-1.2**
	baz=210						
HSN	**Hsinchu**	**1.43**	**302**	*e*S	**Sb**	**02 03 01.9**	**+0.3**
	baz=301						
TWQ1	**Liyutan**	**1.43**	**282**	*e*P	**Pb**	**02 02 44.1**	**+0.2**
	baz=268						
TWQ1				*e*S	**Sb**	**02 03 02.4**	**+0.8**
	baz=268						
NSY	**Sanyi**	**1.46**	**285**	*e*P	**Pb**	**02 02 44.6**	**+0.3**
	baz=283						
ELDTW	**Lidau**	**1.46**	**234**	*e*P	**Pn**	**02 02 42.3**	**-0.2**
	baz=233						
WJS	**Zhushan**	**1.46**	**261**	*e*P	**Pb**	**02 02 44.9**	**+0.5**
	baz=260						
WJS				*e*S	**Sb**	**02 03 04.1**	**+1.5**
	baz=260						
NMLH	**Miaoli**	**1.46**	**290**	*e*P	**Pb**	**02 02 44.5**	**+0.1**
	baz=287						
NMLH				*e*S	**Sb**	**02 03 03.5**	**+0.8**
	baz=287						
ALS	**Alishan**	**1.48**	**249**	P	**Pn**	**02 02 43.8**	**+0.9**
	baz=248						
ALS				*e*S	**Sn**	**02 03 02.3**	**+0.8**
	baz=248						
TCU	**Taichung**	**1.49**	**274**	*e*P	**Pb**	**02 02 44.4**	**-0.5**
	baz=272						
TCU				*e*S	**Sb**	**02 03 04.3**	**+0.9**
	baz=272						
WNT	**Mingjian**	**1.49**	**264**	P	**Pb**	**02 02 45.2**	**+0.3**
	baz=262						
WNT				*i* S	**Sb**	**02 03 04.0**	**+0.5**
	baz=262						
WDJ	**Dajia District**	**1.55**	**281**	*e*P	**Pb**	**02 02 45.6**	**-0.2**
	baz=279						
CHN5	**Tsauling**	**1.56**	**253**	*i* P	**Pb**	**02 02 45.2**	**-0.9**
	baz=242						
CHN5				S	**Sb**	**02 03 05.3**	**-0.1**
	baz=242						
JKRS	**Kuro-shima**	**1.57**	**83**	P	**Pb**	**02 02 45.0**	**-1.1**
JKRS				S	**Sb**	**02 03 06.6**	**+1.0**
JKRS	**Kuro-shima**	**1.57**	**83**	A	A	02 02 45.0	
	comp=E,9.0nm,2.5s,comp=N,9.0nm,2.6s						
LONT	**Longtian**	**1.57**	**224**	*e*P	**Pn**	**02 02 43.8**	**-0.1**
	baz=215						
LONT				*e*S	**Sn**	**02 03 03.2**	**-0.2**
	baz=215						
LDUT	**Ludao**	**1.57**	**209**	*e*P	**Pn**	**02 02 43.4**	**-0.5**
	baz=210						
LDUT				*e*S	**Sn**	**02 03 01.4**	**-2.0**
	baz=210						
WCHH	**Zhanghua**	**1.60**	**271**	*e*S	**Sb**	**02 03 07.2**	**+0.8**
	baz=270						
STYH	**Taoyuan**	**1.66**	**238**	*e*P	**Pn**	**02 02 45.8**	**+0.8**
	baz=227						
STYH				S	**Sn**	**02 03 06.4**	**+0.9**
	baz=227						
WDLH	**Douliu**	**1.66**	**258**	*e*P	**Pb**	**02 02 47.0**	**-0.7**
	baz=245						
WDLH				S	**Sb**	**02 03 08.3**	**+0.1**
	baz=245						
TWGBT	**Beinan**	**1.67**	**223**	P	**Pn**	**02 02 45.0**	**-0.3**
TWGBT	**Beinan**	**1.67**	**223**	P	**Pn**	**02 02 44.8**	**-0.5**
	baz=222						
TWG	**Pinlang**	**1.67**	**223**	Pn	**Pn**	**02 02 43.9**	**-1.4**
TWG	**Pinlang**	**1.67**	**223**	*e*P	**Pn**	**02 02 44.8**	**-0.5**
	baz=222						
WCKO	**Fanlu**	**1.67**	**249**	*e*P	**Pb**	**

CHN2 eS **Sb** **02 03 11.8 +0.8**
baz=252
WRL Guolierlin Hig 1.77 265 eP **Pb** **02 02 48.6 -1.1**
baz=264
WRL S **Sb** **02 03 11.2 -0.2**
baz=264
WTK Tuku 1.79 259 eP **Pb** **02 02 49.2 -0.8**
baz=246
WTK eS **Sb** **02 03 12.2 +0.2**
baz=246
CHY Chiayi 1.81 253 eP **Pb** **02 02 49.2 -1.1**
baz=252
CHY eS **Sb** **02 03 12.5 0.0**
baz=252
TWK Hsinying 1.84 245 eP **Pb** **02 02 49.6 -1.3**
baz=245
TWK eS **Sb** **02 03 13.1 -0.4**
baz=245
CHN1 Nanshi 1.84 242 eP **Pb** **02 02 49.8 -1.1**
baz=242
CHN1 eS **Sb** **02 03 13.5 -0.1**
baz=242
SGST Jiashian 1.85 239 eP **Pn** **02 02 49.0 +1.2**
baz=238
SGST eS **Sb** **02 03 13.0 -0.8**
baz=238
SLGT Liugui 1.85 236 P **Pn** **02 02 49.5 +1.7**
baz=226
SLGT eS **Sb** **02 03 12.8 -1.0**
baz=226
SNST Tainan City 1.85 244 eP **Pb** **02 02 50.7 -0.4**
baz=243
SNST S **Sb** **02 03 13.1 -0.7**
baz=243
WTCT Ta-ch'eng 1.86 265 eS **Sb** **02 03 13.9 -0.1**
baz=264
JISG Ishigakijimahi 1.91 73 P **Pn** **02 02 49.3 +0.8**
JISG S **Sb** **02 03 13.4 -1.8**
ECL Taimali 1.91 221 eP **Pn** **02 02 48.4 -0.2**
baz=230
WSF Szhu 1.95 258 eS **Sb** **02 03 16.1 -0.5**
baz=257
WSL Shuilin Townsh 1.98 255 eS **Sb** **02 03 16.9 -0.4**
baz=254
ICHU Yijhu 1.98 250 eP **Pn** **02 02 51.4 +1.8**
baz=250
ICHU eS **Sb** **02 03 15.8 -1.6**
baz=250
CHN3 Shinhua 2.03 242 eS **Sb** **02 03 19.7 +0.8**
baz=242
SCST Cishan 2.03 235 eP **Pb** **02 02 53.4 -0.6**
baz=224
SCST eS **Sb** **02 03 19.6 +0.7**
baz=224
TSMG Majia 2.03 229 eP **Pb** **02 02 52.9 -1.2**
baz=219
CHN8 Yiju 2.04 250 eS **Sb** **02 03 18.1 -1.2**
baz=250
SSHA Shanhua 2.06 244 eS **Sb** **02 03 19.7 -0.2**
baz=244
SHHT Tainan City 2.07 241 eP **Pb** **02 02 53.0 -1.7**
baz=240
MASBT Mashibuluo 2.10 227 eP **Pn** **02 02 52.5 +1.3**
baz=218
TWM1 Shoushan 2.12 235 eP **Pb** **02 02 55.1 -0.5**
baz=234
LAY Lan-yu 2.12 199 eP **Pn** **02 02 51.7 +0.1**
baz=200
SCLT Jiali 2.12 246 eS **Sb** **02 03 20.2 -1.4**
baz=246
SGLT Jiouru 2.13 232 eP **Pn** **02 02 53.9 +2.3**
baz=232
TAW Tawu 2.13 218 eP **Pn** **02 02 53.6 +2.0**
baz=218
EAST Anshuo 2.14 219 eP **Pn** **02 02 51.8 +0.1**
baz=219
LYUB Lan-yu 2.15 198 eP **Pn** **02 02 50.5 -1.3**
baz=199
TAWH Dawu Township 2.15 218 eP **Pn** **02 02 52.2 +0.3**
baz=218
SNJT Kaohsiung City 2.23 235 eP **Pb** **02 02 56.5 -0.9**
baz=235
SNJT eS **Sb** **02 03 25.3 +0.8**
baz=235
TSCK Chigu Township 2.23 247 eP **Pn** **02 02 54.8 +1.9**
baz=246
TSCK eS **Sn** **02 03 21.9 +2.3**
baz=246
JTJ Tarama 2.26 75 P **Pn** **02 02 55.1 +1.7**
SCZT Fangliau 2.28 223 eP **Pn** **02 02 56.0 +2.3**
baz=217
WSSB Gushan 2.35 234 eP **Pn** **02 02 56.9 +2.3**
baz=234
HEN Hengchun 2.50 216 eS **Sn** **02 03 27.5 +1.3**
baz=217
TWKBT Hengchun 2.51 213 eP **Pn** **02 02 57.7 +0.8**
baz=215
TWKBT eS **Sn** **02 03 27.1 +0.5**
baz=215
TWK1 Hengchun 2.51 214 P **Pn** **02 02 57.7 +0.8**
baz=215
TWK1 eS **Sn** **02 03 27.0 +0.4**
baz=215
WDGT Dungji 2.55 253 eP **Pn** **02 02 59.2 +1.8**
baz=240
WDGT eS **Sn** **02 03 28.9 +1.4**
baz=240
PHUB P'eng-hu 2.56 258 eP **Pn** **02 02 58.9 +1.4**
baz=258
PHUB eS **Sn** **02 03 29.0 +1.2**
baz=258
PNG Penghu 2.56 260 eP **Pn** **02 02 58.9 +1.3**
baz=259
PNG eS **Sn** **02 03 28.6 +0.7**
baz=259
VWUC VWUC 2.76 290 eP **Pn** **02 03 00.6 +0.3**
baz=289
VCHM Qimei 2.77 253 eP **Pn** **02 03 02.4 +2.0**
baz=241
VCHM eS **Sn** **02 03 34.7 +1.7**
baz=241
MATB Ma-tsu 2.99 315 eP **Pn** **02 03 04.4 +1.0**
baz=312
PTMZ Houxiangcun 3.06 289 eP **Pn** **02 03 05.0 +0.6**
baz=288
LYJJ Jianjiangzhen 3.39 318 eP **Pn** **02 03 09.3 +0.3**
baz=315
XPSS Dashiqiu 3.44 327 eP **Pn** **02 03 09.7 0.0**
baz=334
KNM Kinmen 3.55 277 eP **Pn** **02 03 13.8 +2.7**
baz=275
KNMB Chin-men Tao 3.60 277 Pn **Pn** **02 03 10.4 -1.4**
KNMB Chin-men Tao 3.60 277 eP **Pn** **02 03 12.6 +0.8**
baz=276
MHZQ Yeshan 3.60 305 eP **Pn** **02 03 11.8 0.0**
baz=303
AXDP Jialang 4.04 283 eP **Pn** **02 03 18.6 +0.8**
baz=281
DSXP Dongshan 4.48 267 eP **Pn** **02 03 25.1 +1.2**
baz=266
SXFK Yanhouchang 4.82 300 eP **Pn** **02 03 30.0 +1.3**
baz=298
JNU Nakatsue 11.76 38 LR LR 02 09 30.0
comp=N,115nm,21.6s,baz=226,slow=38
KSRS Korea Array 14.20 19 LR LR 02 11 19.9
comp=N,140nm,19.0s,baz=200,slow=39
DAV Davao City (W) 17.18 169 LR LR 02 12 41.7
comp=N,116nm,20.9s,baz=342,slow=36
MJAR Matsushiro Arr 18.50 44 LR LR 02 14 21.7
comp=N,120nm,20.1s,baz=216,slow=40
ASAJ Asahikawa 26.01 35 LR LR 02 18 16.8
comp=N,62nm,18.9s,baz=288,slow=37
KLR Kul'dur 26.20 14 LR LR 02 19 17.9
comp=N,90nm,18.4s,baz=244,slow=39
SONM Songino Array 26.89 336 P **P** **02 07 54.8 -1.8**
SONM Songino Array 26.89 336 P **P** **02 07 56.2 -0.4**
comp=N,2.1nm,0.7s,baz=150,slow=10,SNR=15
SONM LR LR 02 19 27.6
comp=N,138nm,18.9s,baz=164,slow=39
comp=N,2.1nm,0.7s
MKAR Makanchi Array 39.15 316 P **P** **02 09 42.4 -0.7**
MKAR Makanchi Array 39.15 316 P **P** **02 09 43.2 0.0**
comp=N,0.4nm,0.5s,baz=93,slow=10,SNR=4.2
comp=N,0.4nm,0.5s
ZALV Zalesovo Beam 40.91 327 P **P** **02 09 56.4 -1.2**
comp=N,1.3nm,0.8s,baz=109,slow=8.0,SNR=4.1
ZALV LR LR 02 28 06.9
comp=N,123nm,18.8s,baz=133,slow=38
comp=N,1.3nm,0.8s
KURBB Kurchatov Arra 42.87 320 P **P** **02 10 13.8 +0.1**
comp=N,0.2nm,0.5s,baz=268,slow=3.9,SNR=4.3
comp=N,0.2nm,0.5s
COEN Coen 42.93 149 P **P** **02 10 15.3 +0.7**
COEN IAmb IAmb 02 10 17.2
comp=Z,8.2nm,0.8s
MBWA Marble Bar 45.01 183 P **P** **02 10 30.3 -0.8**
WB0 Warramunga Arr 45.12 164 P **P** **02 10 32.6 +0.6**
WB0 IAmb IAmb 02 10 35.2
comp=Z,2.7nm,0.9s
WRA Warramunga Arr 45.27 164 P **P** **02 10 33.6 +0.3**
WRA Warramunga Arr 45.27 164 P **P** **02 10 33.8 +0.5**
comp=Z,2.3nm,0.8s,baz=345,slow=8.7,SNR=20
comp=Z,2.3nm,0.8s
WB2 Warramunga Arr 45.28 164 P **P** **02 10 33.6 +0.3**
WB2 IAmb IAmb 02 10 52.8
comp=Z,8.6nm,1.3s
WR0 Warramunga Arr 45.34 164 P **P** **02 10 34.4 +0.6**
WR0 IAmb IAmb 02 10 34.8
comp=Z,5.1nm,0.9s
PSA00 Pilbara Seismi 45.41 183 P **P** **02 10 33.2 -1.1**
PSA00 IAmb IAmb 02 10 34.5
comp=Z,9.8nm,0.8s
BVAR Borovoye Array 48.42 321 P **P** **02 10 55.6 -2.0**
comp=Z,1.4nm,0.6s,baz=115,slow=13,SNR=5.4
comp=Z,1.4nm,0.6s
ASAR Alice Springs 48.75 166 P **P** **02 11 01.4 +1.1**
comp=Z,1.9nm,0.9s,baz=354,slow=14,SNR=10
comp=Z,1.9nm,0.9s
CTA Charters Tower 49.69 150 LR LR 02 32 37.4
comp=Z,159nm,19.4s,baz=210,slow=37
MORW Morawa 53.16 187 P **P** **02 11 32.5 -0.9**
ABKAR Akbulak array 54.27 314 P **P** **02 11 41.5 +0.1**
EIDS Eidsvold 56.48 149 P **P** **02 11 59.2 +1.6**
EIDS IAmb IAmb 02 11 59.8
comp=Z,12nm,1.4s
STKA Stephens Creek 58.59 161 P **P** **02 12 13.4 +1.1**
STKA IAmb IAmb 02 12 14.2
comp=Z,2.2nm,0.9s
STKA Stephens Creek 58.59 161 P **P** **02 12 13.2 +0.9**
comp=Z,5.7nm,0.8s,baz=332,slow=5.8,SNR=6.2
comp=Z,5.7nm,0.8s
BMAR Burnt Mountain 69.22 24 P **P** **02 13 22.1 +0.2**
FINES FINESS Array B 72.07 330 LR LR 02 49 20.8
comp=Z,139nm,19.0s,baz=197,slow=39
BRTR Keskin Array B 74.07 307 P **P** **02 13 51.5 -0.2**
HFS Hagfors 78.18 331 LR LR 02 52 28.2
comp=Z,207nm,19.6s,baz=48,slow=39
NOA NORSAR Array B 78.82 332 LR LR 02 52 52.3
comp=Z,70nm,19.4s,baz=330,slow=39
BBB Bella Bella 82.49 36 P **P** **02 14 36.9 -1.0**
comp=Z,9.4nm,1.0s,baz=154,slow=4.4,SNR=3.0
comp=Z,9.4nm,1.0s

---

*ASIES **30** 02:02:44.8, 24.°02N×122.°30E, h24km, ML4.4, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-5.55; $M_{\theta\theta}$2.49; $M_{\phi\phi}$3.06; $M_{r\theta}$2.73; $M_{\theta\phi}$-7.50; $M_{\phi r}$3.01; Fault plane solution: $M_0$9.79159×10^{21} NP1: ϕ_s=169.86000°, δ59.24000°, λ-38.76000°. NP2: ϕ_s=282.18000°, δ57.46000°, λ-142.65000°. Principal axes: T Plg1.0710°, Azm226.3890°; N Plg42.0790°, Azm317.3560°; P Plg47.9010°, Azm135.2030°;*

TAP 30 02:02:44.8, 24.°02N×122.°30E, h24km±1km, ML4.4, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.10**	**10**	*e*P			Pb	02 02 49.3	+0.4
EOS4				S			Sb	02 02 52.3	+0.6
EOS3	**EOS3**	**0.26**	**4**	*i* P			Pb	02 02 50.9	-0.2
EOS3				S			Sb	02 02 55.6	+0.2
EOS2	**EOS2**	**0.40**	**351**	*i* P			Pb	02 02 53.1	-0.1
EOS2				*e*S			Sb	02 02 59.2	+0.2
EWUT	**Wuta**	**0.64**	**312**	*e*P			Pb	02 02 57.2	-0.1
ENA	**Nanau**	**0.65**	**309**	*e*P			Pb	02 02 57.0	-0.5
TWC	**Suao**	**0.71**	**325**	*e*P			Pb	02 02 57.5	-1.1
NDS	**Dongshan**	**0.81**	**319**	*e*P			Pb	02 02 59.5	-0.7
NDS				*e*S			Sb	02 03 10.5	-0.2
TWE	**Neicheng**	**0.90**	**321**	*e*P			Pb	02 03 01.5	-0.3

---

*IDC **30** 02:03:54.1±1.1, 22.°47S×67.°89W, h128km±23km, mb3.1/1, mbtmp3.7/4, Error ellipse: s-maj=41.6km s-min=20.1km az=103.0*
*GUC **30** 02:03:55.6±0.6, 22.°38S×68.°21W, h146km±5km, ML3.5*

ISC 30 02:03:54.3±1.1, 22.°41S±0.°07×68.°11W±0.°09, h146km±10km, n21, σ0.°90/26, 4C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.54**	**186**	*e*P			**Pn**	**02 04 16.4**	**+0.7**
AF01				*i* S			**Sn**	**02 04 32.1**	**-0.1**
LVC	**Limon Verde**	**0.76**	**255**	P			**Pn**	**02 04 17.8**	**+0.6**
45nm,0.3s,baz=69,slow=7.5,SNR=312									
LVC				S			**Sn**	**02 04 34.2**	**-0.3**
124nm,0.3s,baz=5.2,slow=3.5,SNR=16									
LVC				LR			LR	02 04 47.2	
comp=Z,48nm,21.1s,baz=140,slow=55									
LVC	**Limon Verde**	**0.76**	**255**	*i* P			**Pn**	**02 04 17.8**	**+0.6**
LVC				*e*S			**Sn**	**02 04 33.9**	**-0.7**
LVC				IAML				02 04 35.2	
2μm,0.2s									
PB09	**IPOC Station P**	**1.21**	**300**	*e*P			**Pn**	**02 04 21.5**	**+0.6**
PB09				*e*S			**Sn**	**02 04 40.6**	**-0.4**
PB06	**IPOC Station P**	**1.38**	**258**	⇑*i*P			**Pn**	**02 04 22.9**	**+0.4**
PB15	**IPOC Station P**	**1.48**	**237**	⇑*e*P			**Pn**	**02 04 24.2**	**+0.6**
PB15				*i* S			**Sn**	**02 04 45.8**	**-0.2**
PB07	**IPOC Station P**	**1.78**	**292**	⇑*i*P			**Pn**	**02 04 27.4**	**+0.5**
PB07				*i* S			**Sn**	**02 04 51.1**	**-0.6**
PB01	**IPOC Station P**	**1.87**	**317**	*e*P			**Pn**	**02 04 27.9**	**+0.2**
PB01				IAML				02 04 54.7	
comp=E,336nm,0.2s									
PB02	**IPOC Station P**	**1.98**	**303**	⇑*i*P			**Pn**	**02 04 29.2**	**+0.2**
PB08	**IPOC Station P**	**2.46**	**337**	*e*P			**Pn**	**02 04 36.2**	**+1.0**
PB08				*e*S			**Sn**	**02 05 06.8**	**+0.3**
PB08				IAML				02 05 09.6	
comp=E,72nm,0.3s									
PATCX	**Punta Patache**	**2.47**	**310**	*e*P			**Pn**	**02 04 35.0**	**0.0**
PATCX				IAML				02 05 11.9	
comp=E,196nm,0.2s									
TA01	**Diego Aracena**	**2.66**	**313**	*e*P			**Pn**	**02 04 37.4**	**+0.2**
TA01				IAML				02 05 11.4	
comp=E,234nm,0.3s									
HMBC	**Humberstone**	**2.69**	**322**	*e*P			**Pn**	**02 04 37.8**	**0.0**
HMBC				IAML				02 05 11.1	
comp=E,165nm,0.3s									
GO01	**Chusmiza**	**2.91**	**340**	*e*P			**Pn**	**02 04 41.6**	**+0.7**
LPAZ	**La Paz**	**6.09**	**360**	P			**Pn**	**02 05 23.9**	**+1.1**
comp=E,1.7nm,0.3s,baz=168,slow=6.7,SNR=17									
LPAZ				S			**Sn**	**02 06 33.4**	**+1.5**
comp=E,0.6nm,0.4s,baz=70,slow=8.5,SNR=1.8									
SIV	**San Ignacio**	**9.22**	**47**	P			**Pn**	**02 06 01.2**	**-3.0**
comp=E,4.7nm,0.3s,baz=232,slow=12,SNR=49									
SIV				S			Sn	02 07 36.5	-10
comp=E,0.7nm,0.3s,baz=305,slow=23,SNR=5.7									
H03N1	**Juan Fernandez**	**14.54**	**219**	T			T	02 20 52.1	
baz=38,slow=72,SNR=32									
H03N2	**Juan Fernandez**	**14.55**	**219**	T			T	02 20 51.4	
baz=38,slow=72,SNR=31									
H03N3	**Juan Fernandez**	**14.56**	**219**	T			T	02 20 50.4	
baz=38,slow=72,SNR=33									
BDFB	**Brasilia**	**20.15**	**74**	P			**P**	**02 08 17.1**	**-0.4**
comp=E,1.6nm,0.5s,baz=244,slow=11,SNR=5.3									
TORD	**Torodi Ar. Bea**	**76.97**	**70**	P			**P**	**02 15 31.6**	**+0.2**
comp=E,0.2nm,0.5s,baz=257,slow=6.0,SNR=4.3									
comp=E,0.2nm,0.5s									

---

*CNRM **30** 02:07:48.8, 34.°99N×2.°97W, h8km, ml2.5*
*SFS **30** 02:07:48.8, 35.°06N×2.°92W, h15km, ML2.6/12, ML2.7/12, MLv2.6/12*
*MDD **30** 02:07:49.6±0.5, 34.°99N×2.°97W, h4km±3km, mb_Lg2.4/19, Error ellipse: s-maj=4.4km s-min=2.6km az=151.0*
*INMG **30** 02:07:50.4±0.8, 35.°04N×3.°06W, h5km, ML2.0, Error ellipse: s-maj=3.8km s-min=2.3km az=149.0*

ISC 30 02:07:48.8±0.9, 35.°03N±0.°02×2.°94W±0.°02, h14km±7km, n91, σ1.°26/131, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.20**	**346**	P			**Pb**	**02 07 54.2**	**-0.1**
GOG	**Mont Gurugu**	**0.20**	**346**	P			**Pb**	**02 07 54.3**	**+0.1**
GOG				S			**Sg**	**02 07 56.6**	**+0.2**
GOG	**Mont Gurugu**	**0.20**	**346**	S			**Sb**	**02 07 58.0**	**+0.1**
EMEL	**Melilla**	**0.27**	**357**	P			**Pb**	**02 07 55.7**	**+0.2**
EMEL				S			**Sg**	**02 07 59.4**	**+1.2**
WMELI	**Melilla**	**0.29**	**358**	S			**Sb**	**02 08 01.1**	**+0.7**
WMELI				P			**Pb**	**02 07 56.0**	**+0.3**
CHAS	**Isla Isabel II**	**0.44**	**70**	P			**Pg**	**02 07 58.1**	**+0.5**
TAF	**Taforalt**	**0.48**	**117**	S			**Sg**	**02 07 59.0**	**-5.8**
TAF	**Taforalt**	**0.48**	**117**	P			**Pg**	**02 07 58.7**	**+0.4**
TAF				S			**Sg**	**02 08 05.0**	**+0.3**
TAF	**Taforalt**	**0.48**	**117**	P			**Pg**	**02 07 58.3**	**0.0**
TAF				S			**Sb**	**02 08 07.0**	**+0.9**
JBK	**JBK**	**0.76**	**156**	P			**Pg**	**02 08 03.0**	**-0.6**
JBK	**JBK**	**0.76**	**156**	P			**Pg**	**02 08 03.1**	**-0.4**
JBK				S			**Sg**	**02 08 13.3**	**-0.2**
JBK	**JBK**	**0.76**	**156**	P			**Pg**	**02 08 03.0**	**-0.6**
PALE	**Palemas**	**0.84**	**283**	P			**Pn**	**02 08 07.0**	**+0.7**
PALE	**Palemas**	**0.84**	**283**	P			**Pg**	**02 08 05.4**	**+0.4**
PALE				S			**Sb**	**02 08 16.0**	**-0.4**
EALB	**Alboran**	**0.91**	**355**	P			**Pg**	**02 08 06.8**	**+0.4**
EALB				S			**Sn**	**02 08 20.6**	**+0.5**
EALB				*i* Vmb_Lg				02 08 22.8	
EALB	**Alboran**	**0.91**	**355**	S			**Sn**	**02 08 19.7**	**-0.4**
EALB				P			**Pg**	**02 08 06.7**	**+0.4**
PVLZ	**Peæn de**	**1.13**	**278**	P			**Pb**	**02 08 09.9**	**-0.1**
EBER	**Berja**	**1.86**	**1**	P			**Pn**	**02 08 20.5**	**0.0**
EBER				S			**Sn**	**02 08 43.4**	**-0.6**
EBER				*i* Vmb_Lg				02 08 47.0	
EBER	**Berja**	**1.86**	**1**	S			**Sn**	**02 08 43.2**	**-0.8**
EBER				P			**Pn**	**02 08 19.3**	**-1.2**
ELGU	**Los Guajares,**	**1.92**	**343**	P			**Pn**	**02 08 20.4**	**-0.7**
ELGU				S			**Sn**	**02 08 44.4**	**-0.7**
ELGU				*i* Vmb_Lg				02 08 51.3	
ELGU	**Los Guajares,**	**1.92**	**343**	P			**Pn**	**02 08 19.7**	**-1.4**
CHEFC	**Chefchaouen**	**1.97**	**273**	P			**Pb**	**02 08 24.2**	**-0.3**
CHEFC				S			**Sn**	**02 08 47.5**	**+1.0**
ENIJ	**Nijar**	**2.02**	**17**	P			**Pn**	**02 08 22.3**	**-0.3**
ENIJ				S			**Sn**	**02 08 46.5**	**-1.2**
ENIJ				*i* Vmb_Lg				02 08 51.8	
ENIJ	**Nijar**	**2.02**	**17**	P			**Pn**	**02 08 21.6**	**-0.9**
LCRM	**LCR**	**2.08**	**230**	P			**Pb**	**02 08 27.1**	**+0.7**
LCRM	**LCR**	**2.08**	**230**	P			**Pb**	**02 08 25.7**	**-0.7**
LCRM				S			**Sb**	**02 08 52.8**	**+0.7**
SMIR	**Smir Dam**	**2.10**	**289**	P			**Pn**	**02 08 23.5**	**-0.1**
SMIR				S			**Sn**	**02 08 50.7**	**+1.2**
EMAL	**Malaga-Limoner**	**2.11**	**325**	P			**Pn**	**02 08 22.2**	**-1.5**
EMIJ	**Mijas**	**2.14**	**316**	P			**Pn**	**02 08 22.9**	**-1.2**
EMIJ				*i* Vmb_Lg				02 08 55.3	
ECEU	**Ceuta**	**2.17**	**294**	P			**Pn**	**02 08 23.6**	**-1.0**
ECEU				S			**Sn**	**02 08 49.6**	**-1.7**
ECEU				*i* Vmb_Lg				02 08 56.0	
SICH	**Sidi Chahed**	**2.17**	**245**	P			**Pn**	**02 08 25.4**	**+0.9**
SICH				S			**Sn**	**02 08 52.0**	**+0.8**
EQUE	**Quentar**	**2.21**	**350**	P			**Pn**	**02 08 26.1**	**+0.9**
EQUE				S			**Sn**	**02 08 53.1**	**+0.8**
EQUE				*i* Vmb_Lg				02 08 59.1	
EQTA	**Presa de Quent**	**2.21**	**349**	P			**Pn**	**02 08 24.9**	**-0.3**
EGOR	**Sierra Gorda,**	**2.28**	**336**	P			**Pn**	**02 08 25.9**	**-0.3**
EGOR				S			**Sb**	**02 08 57.5**	**-0.5**
EGOR				*i* Vmb_Lg				02 09 08.7	
EGOR	**Sierra Gorda,**	**2.28**	**336**	P			**Pn**	**02 08 25.6**	**-0.5**
IFR	**Ifrane**	**2.36**	**231**	P			**Pn**	**02 08 27.0**	**-0.3**
EJIM	**Jimena Fronter**	**2.50**	**305**	P			**Pb**	**02 08 31.8**	**-1.7**
MDT	**Midelt**	**2.61**	**213**	P			**Pn**	**02 08 31.1**	**+0.5**
MDT	**Midelt**	**2.61**	**213**	P			**Pn**	**02 08 30.2**	**-0.4**
MDT				S			**Sn**	**02 09 03.9**	**+1.7**
MDT	**Midelt**	**2.61**	**213**	P			**Pn**	**02 08 30.2**	**-0.4**
CZD	**Col de Zad**	**2.65**	**222**	P			**Pn**	**02 08 31.5**	**+0.1**
CZD				S			**Sn**	**02 09 04.4**	**+0.9**
EQES	**Quesada**	**2.77**	**358**	P			**Pn**	**02 08 35.2**	**+2.4**
EQES				S			**Sb**	**02 09 09.2**	**-2.7**
EQES				*i* Vmb_Lg				02 09 11.3	
ELOR	**Lorca, Murcia**	**2.77**	**20**	P			**Pn**	**02 08 34.2**	**+1.4**
TLOR	**Lorca, Murcia**	**2.81**	**21**	S			**Sn**	**02 09 08.8**	**+1.8**
CART	**Cartagena**	**2.99**	**31**	P			**Pn**	**02 08 36.6**	**+0.9**
ESPR	**Espera**	**3.00**	**309**	P			**Pn**	**02 08 38.2**	**+2.3**
ESPR				S			**Sb**	**02 09 15.5**	**-2.8**
ESPR				*i* Vmb_Lg				02 09 23.9	
EZAR	**Zarzadilla de**	**3.01**	**19**	P			**Pn**	**02 08 38.2**	**+2.1**
EZAR				S			**Sn**	**02 09 11.1**	**-1.0**
EZAR				*i* Vmb_Lg				02 09 20.3	
EMUR	**La Murta**	**3.12**	**26**	P			**Pn**	**02 08 38.5**	**+0.9**
EMUR				S			**Sn**	**02 09 12.7**	**-2.1**
EMUR	**La Murta**	**3.12**	**26**	P			**Pn**	**02 08 38.2**	**+0.5**
EMUR				S			**Sn**	**02 09 13.5**	**-1.2**
FIGM	**Figuig**	**3.21**	**154**	P			**Pn**	**02 08 40.3**	**+1.4**
EADA	**Adamuz**	**3.40**	**338**	P			**Pn**	**02 08 42.5**	**+1.1**
EADA				S			**Sn**	**02 09 21.5**	**-0.1**
EADA				*i* Vmb_Lg				02 09 35.7	
EADA	**Adamuz**	**3.40**	**338**	P			**Pn**	**02 08 41.6**	**+0.2**
ZHG	**ZHG**	**3.45**	**244**	P			**Pn**	**02 08 44.6**	**+2.4**
ETRV	**Los Montesinos**	**3.46**	**30**	P			**Pn**	**02 08 44.1**	**+1.9**
ETRV				S			**Sn**	**02 09 24.8**	**+1.9**
ECAB	**El Cabril**	**3.64**	**327**	P			**Pn**	**02 08 45.6**	**+0.9**
ECAB				S			**Sn**	**02 09 28.9**	**+1.5**
ECAB				*i* Vmb_Lg				02 09 41.2	
ECAB	**El Cabril**	**3.64**	**327**	P			**Pn**	**02 08 45.1**	**+0.4**
ETOB	**Tobarra**	**3.77**	**17**	P			**Pn**	**02 08 49.0**	**+2.4**
ETOB				S			**Sn**	**02 09 30.5**	**-0.4**
PSIM	**Granatula de C**	**3.84**	**350**	P			**Pn**	**02 08 49.6**	**+2.1**
EMIN	**Mina Concepcio**	**4.07**	**313**	P			**Pn**	**02 08 51.6**	**+1.0**
EGRO	**El Granado**	**4.44**	**306**	P			**Pn**	**02 08 55.4**	**-0.3**
EGRO				S			**Sn**	**02 09 46.8**	**-0.4**
EGRO				*i* Vmb_Lg				02 09 53.4	
EGRO	**El Granado**	**4.44**	**306**	P			**Pn**	**02 08 55.9**	**+0.2**
PVAQ	**Vaqueiros**	**4.53**	**303**	*e*P			**Pn**	**02 08 57.4**	**+0.4**
PVAQ				*e*S			**Sn**	**02 09 48.2**	**-1.3**
PVAQ				A			A	02 09 51.8	
1.3nm,0.4s									
PBAR	**Barrancos**	**4.55**	**315**	*e*P			**Pn**	**02 08 57.9**	**+0.6**
PBAR				*e*S			**Sn**	**02 09 48.4**	**-1.6**
PBAR				A			A	02 09 56.6	
1.2nm,0.6s									
PBAR	**Barrancos**	**4.55**	**315**	P			**Pn**	**02 08 57.6**	**+0.3**
PBDV	**Barranco-do-Ve**	**4.61**	**300**	*e*P			**Pn**	**02 08 58.5**	**+0.5**
PAB	**San Pablo**	**4.64**	**346**	P			**Pn**	**02 09 00.4**	**+1.8**
PAB	**San Pablo**	**4.64**	**346**	P			**Pn**	**02 09 00.2**	**+1.6**
PAB				S			**Sn**	**02 09 52.0**	**-0.4**
PAB				*i* Vmb_Lg				02 10 16.2	
ESDC	**Sonseca Array**	**4.71**	**350**	P			**Pn**	**02 09 01.5**	**+2.1**
ESDC				S			**Sn**	**02 09 53.6**	**-0.2**
PCVE	**Castro Verde**	**4.87**	**304**	*e*P			**Pn**	**02 09 02.7**	**+1.1**
EBAD	**Badajoz**	**4.95**	**320**	P			**Pn**	**02 09 03.0**	**+0.3**
EBAD				S			**Sn**	**02 09 58.5**	**-1.2**
MORF	**Marmelete**	**5.15**	**298**	*e*P			**Pn**	**02 09 06.4**	**+0.9**
MORF				*e*S			**Sn**	**02 10 04.2**	**-0.6**
EIBI	**Ibiza**	**5.26**	**39**	P			**Pn**	**02 09 07.9**	**+1.0**
PESTR	**Estremoz**	**5.34**	**317**	*e*P			**Pn**	**02 09 09.1**	**+1.0**
PESTR				*e*S			**Sn**	**02 10 08.3**	**-1.2**
PESTR				A			A	02 10 13.2	
1.6nm,0.7s									
PESTR	**Estremoz**	**5.34**	**317**	P			**Pn**	**02 09 08.5**	**+0.4**
EVO	**Evora**	**5.37**	**312**	*e*P			**Pn**	**02 09 08.5**	**+0.1**
ZGR	**Zagora**	**5.40**	**206**	P			**Pn**	**02 09 08.6**	**-0.4**
EPLA	**Plasencia**	**5.61**	**335**	P			**Pn**	**02 09 13.2**	**+1.4**
PMRV	**Marv??o**	**5.65**	**322**	*e*P			**Pn**	**02 09 13.0**	**+0.7**
GUD	**Guadarrama**	**5.68**	**351**	P			**Pn**	**02 09 14.5**	**+1.6**
GUD				S			**Sb**	**02 10 37.7**	**+1.9**
ETOR	**Torete**	**5.82**	**7**	P			**Pn**	**02 09 16.6**	**+1.8**
PMTG	**Montargil**	**5.84**	**315**	*e*P			**Pn**	**02 09 15.7**	**+0.8**
PCBR	**Castelo Branco**	**6.01**	**324**	*e*P			**Pn**	**02 09 18.7**	**+1.5**
PSBE	**So Bento**	**6.47**	**315**	*e*P			**Pn**	**02 09 24.7

ECAL	Calabor	7.51	338	P	Pn	02 09 39.7 +1.7
PGAV	Gavieira, Arco	8.09	330	*e*P	Pn	02 09 48.1 +2.2

*IDC **30** 02:11:06.9±0.7,56°.01N×149°.10W,h0km,mb4.0/20, mbtmp4.1/25,ML3.9/5,MS3.7/34,Error ellipse: s-maj=19.4km s-min=11.0km az=38.0*
*NEIC **30** 02:11:06.4±2.1,55°.96N±0°.07×149°.21W±0°.09,h6km±4km, mb4.3/69,ML4.3/50,ML4.1(AEIC),Error ellipse: s-maj=10.7km s-min=7.5km az=169.0*
*AEIC **30** 02:11:11.3±2.4,55°.95N±0°.06×149°.14W±0°.07,h12km±4km, Error ellipse: s-maj=9.7km s-min=4.2km az=152.0*
ISC 30 02:11:07.8±0.5,56°.06N±0°.06×149°.15W±0°.04,h10km, n301,σt§11/271,mb4.3/45,MS3.7/28,Gulf of Alaska

Code	Station Name	Δ°	AΔ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.56**	**314**	Pn	**Pn**	**02 11 48.1**	**-1.2**
KDAK					**Sn**	**02 12 17.7**	**-2.7**
KDAK	**Kodiak Island**	**2.56**	**314**	Pn	**Pn**	**02 11 48.8**	**-0.5**
	15nm,0.3s,baz=142,slow=7.0,SNR=275						
KDAK				Sn	**Sn**	**02 12 18.6**	**-1.8**
	27nm,0.3s,baz=208,slow=24,SNR=18						
KDAK				LR	LR	02 13 04.7	
	comp=Z,2μm,20.1s,baz=228,slow=45						
	57nm,0.4s						
SII	**Sitkinak Islan**	**2.85**	**282**	Pn	**Pn**	**02 11 51.3**	**-2.1**
SII					**Sn**	**02 12 23.9**	**-3.8**
SII				IAML		02 12 29.7	
	comp=N,1μm,0.7s						
SII				IAML		02 12 31.9	
	comp=E,1μm,0.7s						
SII	**Sitkinak Islan**	**2.85**	**282**	P	**Pn**	**02 11 51.9**	**-1.4**
R18K	**Karluk**	**3.28**	**300**		**Pn**	**02 11 58.2**	**-1.1**
R18K				Sn	**Sn**	**02 12 35.3**	**-3.0**
R18K				IAML		02 12 40.7	
	comp=N,825nm,0.5s						
R18K				IAML		02 12 43.5	
	comp=E,692nm,0.4s						
CHIR	**Chirikof Islan**	**3.65**	**269**	Pn	**Pn**	**02 12 01.7**	**-2.6**
CHIR				Sn	**Sn**	**02 12 42.1**	**-5.2**
CHIR				IAML		02 12 42.9	
	comp=N,456nm,0.9s						
CNPM	**China Poot**	**3.65**	**343**	Pn	**Pn**	**02 12 03.9**	**-0.5**
CNPM				IAML		02 12 48.4	
	comp=N,414nm,0.4s						
CNPM				IAML		02 12 50.2	
	comp=E,419nm,0.8s						
Q23K	**Middleton Isla**	**3.70**	**23**	Pn	**Pn**	**02 12 04.2**	**-0.8**
Q23K				IAML		02 12 49.1	
	comp=E,414nm,1.8s						
MID	**Middleton Isla**	**3.70**	**23**	Pn	**Pn**	**02 12 03.9**	**-1.1**
MID				IAML		02 12 49.1	
	comp=E,367nm,1.8s						
MID	**Middleton Isla**	**3.70**	**23**	P	**Pn**	**02 12 04.4**	**-0.6**
BRSE	**Bradley Lake S**	**3.79**	**348**		**Pn**	**02 12 05.8**	**-0.5**
BRSE					**Sn**	**02 12 48.9**	**-2.0**
KABR	**Katmai Barrier**	**3.79**	**306**		**Pn**	**02 12 06.4**	**0.0**
KAPH	**Katmai Pasha**	**3.80**	**314**		**Pn**	**02 12 06.9**	**+0.5**
KAPH					**Sn**	**02 12 50.6**	**-0.6**
KAHG	**Katmai Hook Gl**	**3.81**	**312**		**Pn**	**02 12 07.3**	**+0.7**
BRLK	**Bradley Lake**	**3.83**	**347**	Pn	**Pn**	**02 12 06.1**	**-0.7**
BRLK				Sn	**Sn**	**02 12 49.8**	**-2.1**
BRLK				IAML		02 12 54.6	
	comp=E,520nm,0.5s						
KAKN	**Katmai Knife C**	**3.92**	**307**		**Pn**	**02 12 08.4**	**+0.2**
ACHA	**Angle Creek He**	**4.00**	**305**		**Pn**	**02 12 09.9**	**+0.7**
KABU	**Katmai Buttres**	**4.01**	**306**		**Pn**	**02 12 10.3**	**+1.0**
P23K	**Montague Islan**	**4.06**	**13**		**Pn**	**02 12 09.4**	**-0.5**
P23K					**Sn**	**02 12 54.3**	**-3.2**
SEW	**Seward**	**4.06**	**358**	Pn	**Pn**	**02 12 09.0**	**-1.0**
ANCK	**Angle Creek**	**4.07**	**304**		**Pn**	**02 12 10.4**	**+0.3**
KVTA	**Katmai Vly 10**	**4.07**	**307**		**Pn**	**02 12 10.8**	**+0.7**
KAHC	**Katmai Hardscr**	**4.10**	**312**		**Pn**	**02 12 10.9**	**+0.3**
KAHC	**Katmai Hardscr**	**4.10**	**312**		**Pn**	**02 12 11.2**	**+0.6**
PLK3	**Peulik 3**	**4.23**	**296**		**Pn**	**02 12 11.9**	**-0.5**
R17K	**Ugashik Creek**	**4.28**	**295**	Pn	**Pn**	**02 12 12.8**	**-0.2**
R17K				Sn	**Sn**	**02 12 59.4**	**-3.4**
CNTC	**Contact Creek**	**4.28**	**304**		**Pn**	**02 12 13.4**	**+0.3**
O20K	**Slope Mountain**	**4.44**	**337**		**Pn**	**02 12 15.0**	**-0.2**
PLK1	**Peulik 1**	**4.44**	**296**		**Pn**	**02 12 15.3**	**+0.1**
O22K	**Cooper Landing**	**4.45**	**356**	Pn	**Pn**	**02 12 15.2**	**-0.1**
IVE	**Iliamna Volcan**	**4.47**	**334**		**Pn**	**02 12 15.4**	**-0.3**
IVE					**Sn**	**02 13 06.7**	**-1.1**
ILSW	**Iliamna Southw**	**4.47**	**333**	Pn	**Pn**	**02 12 15.0**	**-0.8**
ILSW				IAML		02 13 08.7	
	comp=N,312nm,0.7s						
ILW	**Iliamna West**	**4.54**	**334**		**Pn**	**02 12 16.1**	**-0.6**
HIN	**Hinchinbrook I**	**4.57**	**17**	Pn	**Pn**	**02 12 16.6**	**-0.4**
HIN				IAML		02 13 12.8	
	comp=E,286nm,0.8s						
KAIM	**Kayak Island**	**4.63**	**31**	Pn	**Pn**	**02 12 16.9**	**-0.9**
KAIM				IAML		02 13 21.9	
	comp=N,326nm,1.5s						
KAIM				IAML		02 13 27.5	
	comp=E,320nm,1.5s						
P18K	**Big Mountain,**	**4.67**	**318**	Pn	**Pn**	**02 12 18.0**	**-0.4**
RSO	**Redoubt South**	**4.81**	**338**	Pn	**Pn**	**02 12 20.5**	**+0.1**
PWL	**Port Wells**	**4.84**	**5**	Pn	**Pn**	**02 12 20.3**	**-0.3**
PWL				IAML		02 13 17.9	
	comp=N,215nm,0.5s						
CAPN	**Captain Cook N**	**4.84**	**348**	Pn	**Pn**	**02 12 21.3**	**+0.6**
RDT	**Redoubt**	**4.84**	**341**		**Pn**	**02 12 20.0**	**-0.8**
EYAK	**Cordova Ski Ar**	**4.85**	**20**	P	**Pn**	**02 12 20.7**	**-0.1**
RDWB	**Redoubt West**	**4.85**	**338**		**Pn**	**02 12 20.3**	**-0.6**
FID	**Port Fidalgo**	**4.91**	**16**	Pn	**Pn**	**02 12 20.9**	**-0.7**
FID				IAML		02 13 18.0	
	comp=E,252nm,0.7s						
FID				IAML		02 13 21.5	
	comp=N,169nm,0.8s						
DFR	**Drift River**	**4.92**	**339**		**Pn**	**02 12 21.3**	**-0.5**
SUCK	**Suckling Hills**	**4.94**	**33**	Pn	**Pn**	**02 12 20.7**	**-1.3**
SUCK				IAML		02 13 35.9	
	comp=E,216nm,1.6s						
SUCK				IAML		02 14 00.7	
	comp=N,195nm,1.9s						
NCT	**North Crescent**	**4.94**	**338**		**Pn**	**02 12 21.5**	**-0.6**
RDJH	**Redoubt Jeurge**	**4.94**	**339**		**Pn**	**02 12 21.7**	**-0.4**
GLI	**Glacier Island**	**4.96**	**12**	Pn	**Pn**	**02 12 21.6**	**-0.6**
GLI				IAML		02 13 19.2	
	comp=E,180nm,0.5s						
O19K	**Port Alsworth**	**4.97**	**329**	Pn	**Pn**	**02 12 21.2**	**-1.3**
O18K	**Koktuh Hills**	**4.99**	**322**	Pn	**Pn**	**02 12 22.1**	**-0.6**
O18K				IAML		02 13 32.8	
	comp=N,169nm,0.9s						
HMT	**Hamilton**	**5.01**	**29**	Pn	**Pn**	**02 12 23.1**	**0.0**
NICHA	**Nichawak Mount**	**5.01**	**31**		**Pn**	**02 12 23.1**	**+0.1**
RC01	**Rabbit Creek A**	**5.06**	**357**	Pn	**Pn**	**02 12 23.3**	**-0.3**
RC01				IAML		02 13 22.4	
	comp=N,179nm,0.5s						
RC01				IAML		02 13 22.9	
	comp=E,200nm,0.5s						
CHGN	**Chignik**	**5.18**	**277**	Pn	**Pn**	**02 12 23.8**	**-1.5**
CHGN				IAML		02 13 26.5	
	comp=E,171nm,0.9s						
CHGN				IAML		02 13 28.2	
	comp=N,191nm,0.8s						
BERG	**Berg Lake**	**5.21**	**31**	Pn	**Pn**	**02 12 25.4**	**-0.5**
BERG				IAML		02 13 28.3	
	comp=E,214nm,0.7s						
GRIN	**Grindle Hills**	**5.24**	**34**		**Pn**	**02 12 26.2**	**0.0**
SNH	**Sunshine Point**	**5.32**	**36**	Pn	**Pn**	**02 12 27.1**	**-0.2**
CYK	**Cape Yakataga**	**5.37**	**38**		**Pn**	**02 12 27.8**	**0.0**
KNK	**Knik Glacier**	**5.39**	**4**	Pn	**Pn**	**02 12 28.6**	**+0.4**
SPCR	**Spurr Chakacha**	**5.40**	**344**		**Pn**	**02 12 27.9**	**-0.6**
SPCP	**Crater Peak Br**	**5.46**	**345**		**Pn**	**02 12 29.1**	**-0.1**
SPCG	**Spurr Capps Gl**	**5.46**	**345**		**Pn**	**02 12 29.1**	**-0.2**
SUA	**Susitna One**	**5.49**	**352**	Pn	**Pn**	**02 12 29.3**	**-0.3**
N19K	**Bonanza Creek**	**5.53**	**332**	Pn	**Pn**	**02 12 29.6**	**-0.7**
PMR	**Palmer**	**5.55**	**0**	Pn	**Pn**	**02 12 30.3**	**-0.1**
PMR	**Palmer**	**5.55**	**0**	P	**Pn**	**02 12 30.7**	**+0.3**
P16K	**Nushagak River**	**5.62**	**306**		**Pn**	**02 12 31.7**	**+0.4**
MESA	**MESA**	**5.62**	**40**		**Pn**	**02 12 31.2**	**-0.4**
STLK	**Strandline Lak**	**5.63**	**347**		**Pn**	**02 12 31.5**	**-0.1**
SPNN	**North Nagishla**	**5.64**	**342**		**Pn**	**02 12 31.5**	**-0.3**
KLU	**Klutina**	**5.71**	**16**		**Pn**	**02 12 32.8**	**+0.2**
GHO	**Glory Hole Cre**	**5.74**	**1**		**Pn**	**02 12 33.2**	**+0.2**
SML	**Sawmill**	**5.79**	**4**	Pn	**Pn**	**02 12 34.2**	**+0.5**
N18K	**Kilae Creek**	**5.83**	**325**	Pn	**Pn**	**02 12 33.5**	**-0.9**
SCM	**Sheep Creek Mo**	**5.87**	**8**	Pn	**Pn**	**02 12 35.9**	**+1.0**
O16K	**Kokwok River B**	**5.95**	**310**	Pn	**Pn**	**02 12 35.7**	**-0.2**
VRDI	**Verde Repeater**	**5.98**	**27**	Pn	**Pn**	**02 12 36.2**	**-0.3**
SKT	**Skwentna**	**6.07**	**349**		**Pn**	**02 12 37.6**	**0.0**
CNBA	**Chernabura Isl**	**6.07**	**263**	Pn	**Pn**	**02 12 34.8**	**-2.7**
SVW2	**Sparrevohn**	**6.07**	**329**	Pn	**Pn**	**02 12 36.7**	**-0.9**
SVW2	**Sparrevohn**	**6.07**	**329**	P	**Pn**	**02 12 37.1**	**-0.5**
GLB	**Gilahina Butte**	**6.07**	**25**	Pn	**Pn**	**02 12 37.4**	**-0.3**
PTPK	**Patty Peak**	**6.22**	**31**		**Pn**	**02 12 39.7**	**0.0**
MCARA	**McCarthy VSAT**	**6.22**	**28**		**Pn**	**02 12 39.5**	**-0.1**
M24K	**Tolsona, Glenn**	**6.26**	**13**	Pn	**Pn**	**02 12 40.9**	**+0.7**
PNL	**Peninsula**	**6.34**	**51**	P	**Pn**	**02 12 41.2**	**-0.1**
CUT	**Chulitna**	**6.39**	**355**	Pn	**Pn**	**02 12 42.0**	**0.0**
CTGM	**Chitina Glacie**	**6.40**	**37**	Pn	**Pn**	**02 12 41.8**	**-0.4**
LOGN	**Logan Glacier**	**6.41**	**38**	Pn	**Pn**	**02 12 42.0**	**-0.4**
WASW	**Wrangell South**	**6.43**	**22**		**Pn**	**02 12 43.1**	**+0.4**
SDPT	**Sand Point**	**6.44**	**268**	Pn	**Pn**	**02 12 41.2**	**-1.5**
SDPT	**Sand Point**	**6.44**	**268**	P	**Pn**	**02 12 41.6**	**-1.0**
WACK	**Wrangell Chich**	**6.45**	**21**		**Pn**	**02 12 43.4**	**+0.5**
M18K	**Stony River**	**6.46**	**330**		**Pn**	**02 12 42.0**	**-0.8**
O15K	**Ungalikthiuk R**	**6.53**	**303**		**Pn**	**02 12 44.0**	**+0.1**
HARP	**HAARP**	**6.68**	**16**		**Pn**	**02 12 47.2**	**+1.2**
N16K	**Nishlik Lake**	**6.73**	**315**		**Pn**	**02 12 47.4**	**+0.7**
WAT7	**Susitna Watana**	**6.80**	**1**		**Pn**	**02 12 48.5**	**+0.8**
L19K	**White Mountain**	**6.81**	**337**	Pn	**Pn**	**02 12 46.7**	**-1.0**
M17K	**Holitna River**	**6.88**	**325**		**Pn**	**02 12 48.3**	**-0.3**
P29M	**Windy Craggy**	**7.07**	**55**		**Pn**	**02 12 50.8**	**-0.4**
DHY	**Denali Highway**	**7.10**	**7**	Pn	**Pn**	**02 12 52.5**	**+0.7**
M26K	**Nabesna, AK**	**7.10**	**24**		**Pn**	**02 12 52.4**	**+0.7**
N15K	**Kwethluk River**	**7.11**	**310**	Pn	**Pn**	**02 12 52.3**	**+0.5**
M16K	**Timber Creek**	**7.15**	**318**	Pn	**Pn**	**02 12 52.1**	**-0.2**
YUK2	**White River**	**7.17**	**33**		**Pn**	**02 12 53.7**	**+0.9**
PAX	**Paxson**	**7.18**	**14**		**Pn**	**02 12 53.4**	**+0.5**
L18K	**Granite Mounta**	**7.29**	**331**	Pn	**Pn**	**02 12 53.0**	**-1.2**
S31K	**Pelican**	**7.31**	**70**	Pn	**Pn**	**02 12 52.0**	**-2.5**
RND	**Reindeer**	**7.38**	**1**		**Pn**	**02 12 56.3**	**+0.8**
TRF	**Thorofare Moun**	**7.44**	**356**	Pn	**Pn**	**02 12 56.9**	**+0.4**
YUK6	**Outpost Mounta**	**7.47**	**45**		**Pn**	**02 12 57.5**	**+0.5**
CAST	**Castle Rocks**	**7.53**	**350**	Pn	**Pn**	**02 12 57.9**	**+0.3**
KTH	**Kantishna Hill**	**7.57**	**354**	Pn	**Pn**	**02 13 00.2**	**+1.9**
L26K	**Log Cabin Wild**	**7.58**	**20**	Pn	**Pn**	**02 12 59.0**	**+0.7**
P30M	**Million Dollar**	**7.63**	**53**		**Pn**	**02 12 59.4**	**+0.4**
M15K	**Kasigluk River**	**7.64**	**312**		**Pn**	**02 12 59.5**	**+0.5**
PLBC	**Pleasant Camp**	**7.64**	**58**		**Pn**	**02 12 58.8**	**-0.3**
BVCY	**Beaver Creek**	**7.66**	**30**		**Pn**	**02 13 00.8**	**+1.4**
MCK	**McKinley**	**7.70**	**1**		**Pn**	**02 13 01.1**	**+1.2**
N14K	**Kuskokwak Cree**	**7.70**	**305**		**Pn**	**02 13 00.4**	**+0.5**
SIT	**Sitka**	**7.71**	**77**	P	**Pn**	**02 12 56.7**	**-3.3**
TTA	**Tatalina**	**7.72**	**336**	Pn	**Pn**	**02 12 60.0**	**-0.3**
TTA	**Tatalina**	**7.72**	**336**	P	**Pn**	**02 13 01.8**	**+1.5**
K20K	**Telida**	**7.73**	**343**	Pn	**Pn**	**02 12 59.8**	**-0.5**
HYT	**Haines Junctio**	**7.75**	**47**	Pn	**Pn**	**02 13 00.8**	**0.0**
YUK5	**Granite Creek**	**7.78**	**45**		**Pn**	**02 13 00.9**	**-0.3**
L16K	**Owhat River**	**7.79**	**321**	Pn	**Pn**	**02 13 00.8**	**-0.3**
BPAW	**Bear Paw Mtn.**	**8.12**	**354**	Pn	**Pn**	**02 13 04.7**	**-1.0**
S32K	**Killisnoo**	**8.13**	**74**		**Pn**	**02 13 03.0**	**-2.9**
SKAG	**Skagway**	**8.14**	**60**	Pn	**Pn**	**02 13 05.4**	**-0.5**
SKAG	**Skagway**	**8.14**	**60**	P	**Pn**	**02 13 06.2**	**+0.3**
K17K	**Iditarod**	**8.14**	**329**	Pn	**Pn**	**02 13 05.1**	**-0.8**
M14K	**Bethel**	**8.20**	**310**	Pn	**Pn**	**02 13 07.0**	**+0.3**
R32K	**Eaglecrest**	**8.26**	**68**	Pn	**Pn**	**02 13 06.3**	**-1.3**
N30M	**Aishikik Lake**	**8.28**	**44**		**Pn**	**02 13 08.0**	**+0.2**
O30N	**Mendenhall**	**8.32**	**50**		**Pn**	**02 13 08.5**	**+0.1**
JIS	**Juneau Island**	**8.33**	**68**		**Pn**	**02 13 07.5**	**-0.9**
JIS	**Juneau Island**	**8.33**	**68**	P	**Pn**	**02 13 07.8**	**-0.7**
J18K	**Innoko River**	**8.35**	**336**	Pn	**Pn**	**02 13 07.0**	**-1.8**
SCRK	**Sand Creek**	**8.35**	**16**	Pn	**Pn**	**02 13 09.8**	**+0.8**
HDA	**Harding Lake**	**8.45**	**7**	Pn	**Pn**	**02 13 11.2**	**+1.0**
WRH	**Wood River Hil**	**8.46**	**3**	Pn	**Pn**	**02 13 10.6**	**+0.3**
J20K	**Nowinta River**	**8.52**	**345**	Pn	**Pn**	**02 13 11.0**	**-0.1**
NEA2	**Nenana**	**8.57**	**0**	Pn	**Pn**	**02 13 11.2**	**-0.5**
J19K	**Poorman**	**8.59**	**341**	Pn	**Pn**	**02 13 10.8**	**-1.3**
CCB	**Clear Creek Bu**	**8.65**	**4**	Pn	**Pn**	**02 13 13.2**	**+0.4**
M13K	**Dall Lake**	**8.66**	**306**	Pn	**Pn**	**02 13 13.7**	**+0.7**
K27K	**Chicken**	**8.74**	**21**	Pn	**Pn**	**02 13 14.8**	**+0.6**
WHY	**Whitehorse**	**8.80**	**53**	Pn	**Pn**	**02 13 15.2**	**+0.1**
L14K	**Kuka Creek**	**8.80**	**313**	Pn	**Pn**	**02 13 15.4**	**+0.4**
ILAR	**Eielson Array**	**8.82**	**6**	Pn	**Pn**	**02 13 15.4**	**+0.2**
ILAR	**Eielson Array**	**8.82**	**6**	Pn	**Pn**	**02 13 14.8**	**-0.4**
	comp=E,1.3nm,0.3s,baz=191,slow=13,SNR=59						
ILAR				Sn	**Sn**	**02 14 48.9**	**-5.6**
	comp=E,1.4nm,0.3s,baz=181,slow=22,SNR=9.5						
ILAR				LR	LR	02 16 53.0	
	comp=E,218nm,19.4s,baz=229,slow=39						
	comp=E,2.4nm,0.3s						
N31M	**Braeburn, Yuko**	**8.82**	**46**		**Pn**	**02 13 15.9**	**+0.7**
COLA	**College**	**8.87**	**4**	Pn	**Pn**	**02 13 15.6**	**-0.3**
COLA	**College**	**8.87**	**4**	P	**Pn**	**02 13 17.5**	**+1.6**
K15K	**Wolf Creek Mou**	**8.90**	**320**	Pn	**Pn**	**02 13 17.1**	**+0.7**
J26L	**Joseph Creek**	**8.91**	**16**	Pn	**Pn**	**02 13 16.6**	**0.0**
MDM	**Murphy Dome**	**8.95**	**3**	Pn	**Pn**	**02 13 16.8**	**-0.2**
P32M	**Atlin**	**8.96**	**60**	Pn	**Pn**	**02 13 16.4**	**-0.8**
U33K	**Whale Pass**	**8.97**	**83**		**Pn**	**02 13 14.1**	**-3.1**
L29M	**L29M**	**9.00**	**34**	Pn	**Pn**	**02 13 18.2**	**+0.4**
MLY	**Manley**	**9.04**	**356**	Pn	**Pn**	**02 13 17.8**	**-0.5**
CRAG	**Craig**	**9.06**	**87**	P	**Pn**	**02 13 15.7**	**-2.8**
M30M	**Minto, Yukon**	**9.08**	**39**	Pn	**Pn**	**02 13 19.0**	**+0.2**
I23K	**Minto, Yukon-K**	**9.12**	**359**	Pn	**Pn**	**02 13 19.7**	**+0.3**
DAWY	**Dawson**	**9.39**	**27**	Pn	**Pn**	**02 13 23.0**	**-0.1**
PRP	**Porcupine Dome**	**9.66**	**9**	Pn	**Pn**	**02 13 27.0**	**+0.2**
K29M	**Barlow Dome**	**9.73**	**32**	Pn	**Pn**	**02 13 28.6**	**+0.8**
H21K	**Melozitna Rive**	**9.79**	**351**	Pn	**Pn**	**02 13 27.4**	**-1.1**
H24K	**Noodor Dome**	**9.84**	**3**	Pn	**Pn**	**02 13 30.4**	**+1.2**
J14K	**Nanvaranak Lak**	**9.93**	**318**	Pn	**Pn**	**02 13 30.7**	**+0.3**
MAYO	**Mayo, Yukon**	**10.06**	**36**	Pn	**Pn**	**02 13 31.8**	**-0.5**
H18K	**Honhosa River**	**10.17**	**337**	Pn	**Pn**	**02 13 32.3**	**-1.5**
IMAR	**Indian Mountai**	**10.21**	**349**	Pn	**Pn**	**02 13 32.9**	**-1.3**
R33M	**Jennings River**	**10.28**	**64**	Pn	**Pn**	**02 13 34.6**	**-0.7**
I28M	**Miner Creek**	**10.43**	**22**	Pn	**Pn**	**02 13 38.7**	**+1.4**
DLBC	**Dease Lake**	**10.63**	**69**	Pn	**Pn**	**02 13 39.8**	**-0.3**
	comp=E,0.9nm,0.3s,baz=265,slow=12,SNR=12						
DLBC				Sn	**Sn**	**02 15 35.0**	**-4.0**
	comp=E,0.4nm,0.3s,baz=208,slow=18,SNR=2.0						
DLBC				LR	LR	02 17 05.2	
	comp=E,284nm,19.7s,baz=264,slow=34						
	comp=E,6.1nm,0.6s						
G23K	**Bananza Creek**	**10.70**	**358**	Pn	**Pn**	**02 13 41.5**	**+0.5**
I29M	**Ogilvie Camp,**	**10.72**	**25**	Pn	**Pn**	**02 13 42.6**	**+1.3**
G18K	**Tagagawik**	**10.88**	**339**	Pn	**Pn**	**02 13 43.1**	**-0.4**
MMPY	**Sheldon Lake,**	**11.23**	**47**	Pn	**Pn**	**02 13 49.0**	**+0.8**
G27K	**Doyon Strip**	**11.36**	**15**	Pn	**Pn**	**02 13 50.7**	**+0.7**
H29M	**Whitestone**	**11.43**	**23**	Pn	**Pn**	**02 13 51.7**	**+0.8**
F24K	**Squaw Lake**	**11.52**	**2**	Pn	**Pn**	**02 13 53.5**	**+1.3**
BMAR	**Burnt Mountain**	**11.61**	**9**	Pn	**Pn**	**02 13 53.7**	**+0.2**
E19K	**Redstone River**	**12.05**	**345**	Pn	**Pn**	**02 14 00.2**	**+0.8**
H31M	**Peel River**	**12.10**	**30**	Pn	**Pn**	**02 14 00.8**	**+0.7**
BBB	**Bella Bella**	**12.92**	**99**	LR	LR	02 17 47.3	
	comp=E,221nm,22.0s,baz=290,slow=31						
G31M	**Satah River**	**12.96**	**27**	Pn	**Pn**	**02 14 12.1**	**+0.4**
INK	**Inuvik**	**14.22**	**24**	Pn	**Pn**	**02 14 30.1**	**+1.1**
INK	**Inuvik**	**14.22**	**24**	Pn	**Pn**	**02 14 30.5**	**+1.5**
	comp=E,0.2nm,0.3s,baz=207,slow=14,SNR=25						
INK				LR	LR	02 20 07.4	
	comp=E,217nm,18.2s,baz=181,slow=38						
	comp=E,31nm,1.0s						
WRGLY	**Wrigley**	**14.76**	**50**	Pn	**Pn**	**02 14 37.2**	**+0.9**
CLRS	**Cowichan Lake**	**16.82**	**105**		**P**	**02 15 03.2**	**-2.1**
CLRS				IAmb	IAmb	02 15 07.5	
	comp=Z,27nm,1.3s						
C36M	**Paulatuk**	**17.40**	**30**	Pn	**Pn**	**02 15 10.2**	**-0.1**
C36M				IAmb	IAmb	02 15 13.7	
	comp=Z,30nm,1.0s						
NLWA	**Neilton Lookou**	**17.82**	**108**		**P**	**02 15 15.5**	**-1.0**
NLWA				IAmb	IAmb	02 15 16.7	
	comp=Z,22nm,1.2s						
YKA	**Yellowknife Ar**	**18.61**	**56**	P	**Pn**	**02 15 25.8**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=264,slow=12,SNR=9.3						
YKA				LR	LR	02 22 30.1	
	comp=Z,177nm,18.1s,baz=254,slow=37						
	comp=Z,5.8nm,0.9s						
D05A	**Enumclaw**	**18.95**	**106**	P	**Pn**	**02 15 29.4**	**0.0**
D05A				IAmb	IAmb	02 15 31.2	
	comp=Z,27nm,1.3s						
LTY	**Liberty**	**19.62**	**105**	P	**Pn**	**02 15 37.1**	**-0.5**
LTY				IAmb	IAmb	02 15 39.2	
	comp=Z,24nm,1.4s						
H04A	**Detroit Lake**	**20.48**	**112**	P	**P**	**02 15 44.6**	**-0.9**
E07A	**Sunnyside**	**20.49**	**105**	IAmb	IAmb	02 15 49.3	
	comp=Z,11nm,0.9s						
I03D	**Drain, OR**	**20.58**	**116**	P	Pn	02 15 46.7	-2.1
HAWA	**Hanford**	**20.77**	**105**	P	**P**	**02 15 47.3**	**-1.3**
E08A	**Dider Farm, El**	**20.96**	**104**	P	**P**	**02 15 50.0**	**-0.8**
I04A	**Tendick Farm,**	**20.98**	**115**	P	Pn	02 15 50.9	-2.7
NEW	**Newport**	**20.98**	**98**	P	**P**	**02 15 51.4**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=316,slow=3.1,SNR=6.8						
NEW				LR	LR	02 22 41.6	
	comp=Z,128nm,19.8s,baz=300,slow=33						
	comp=Z,5.4nm,0.9s						
DBO	**Dodson Butte**	**21.05**	**117**	IAmb	IAmb	02 15 55.8	
	comp=Z,15nm,1.0s						
I05D	**Terrebonne, OR**	**21.15**	**112**	P	**P**	**02 15 52.4**	**-0.5**
I05D				IAmb	IAmb	02 15 57.1	
	comp=Z,18nm,1.1s						
SHEM	**Shemya Is, Ala**	**21.49**	**277**	LR	LR	02 23 58.4	
	comp=Z,88nm,21.2s,baz=137,slow=36						
PINE	**Pine Mountain**	**21.74**	**112**	P	**P**	**02 15 58.1**	**-1.2**
J05D	**Fort Rock, OR**	**21.95**	**114**	P	**P**	**02 16 01.0**	**-0.5**
I07A	**Izee**	**22.29**	**110**	P	**P**	**02 16 04.7**	**-0.5**
I07A				IAmb	IAmb	02 16 06.4	
	comp=Z,14nm,1.0s						
YBH	**Yreka Blue Hor**	**22.34**	**119**	IAmb	IAmb	02 16 09.1	
	comp=Z,18nm,1.4s						
YBH	**Yreka Blue Hor**	**22.34**	**119**	P	**P**	**02 16 06.1**	**+0.4**
	comp=Z,4.7nm,1.1s,baz=330,slow=5.2,SNR=7.4						
YBH				LR	LR	02 22 33.6	
	comp=Z,260nm,20.3s,baz=320,slow=31						
	comp=Z,4.7nm,1.1s						
K05A	**Summer Lake**	**22.52**	**114**	IAmb	IAmb	02 16 20.1	
	comp=Z,12nm,1.0s						
J08A	**Circle Bar Ran**	**23.33**	**110**	P	**P**	**02 16 15.8**	**-0.2**
MSO	**Missoula**	**23.57**	**98**	IAmb	IAmb	02 16 23.1	
	comp=Z,12nm,1.4s						
WVOR	**Wild Horse Val**	**23.89**	**112**	IAmb	IAmb	02 16 24.2	
	comp=Z,13nm,1.1s						
LYMT	**Lyon Mountain**	**24.41**	**96**	P	**P**	**02 16 25.8**	**-0.7**
MFID	**Camas Ranch**	**24.70**	**107**	IAmb	IAmb	02 16 30.3	
	comp=Z,7.0nm,1.1s						
HLID	**Hailey**	**25.37**	**105**	P	**P**	**02 16 34.2**	**-0.9**
PAHR	**Pah Rah Range**	**25.52**	**117**	IAmb	IAmb	02 16 37.5	
	comp=Z,7.4nm,1.1s						
YERR	**Yerington**	**26.15**	**118**	IAmb	IAmb	02 16 45.5	
	comp=Z,8.7nm,1.1s						
YHH	**Holmes Hill**	**26.53**	**99**	P	**P**	**02 16 45.8**	**0.0**
ELK	**Elko**	**26.88**	**110**	P	**P**	**02 16 49.5**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=345,slow=13,SNR=7.7				

comp=Z,66nm,20.2s,baz=32,slow=39
KURBB Kurchatov Arra 66.57 329 P P 02 21 58.2 +0.6
comp=Z,0.8nm,0.6s,baz=30,slow=6.5,SNR=7.4
comp=Z,0.8nm,0.6s
MK31 Makanchi Array 68.82 325 P P 02 22 11.6 -0.4
MK31 IAmb IAmb 02 22 22.0
comp=Z,2.2nm,1.1s
MKAR Makanchi Array 68.82 325 P P 02 22 12.0 0.0
MKAR Makanchi Array 68.82 325 P P 02 22 12.7 +0.8
comp=Z,0.6nm,0.4s,baz=28,slow=5.7,SNR=11
comp=Z,0.6nm,0.4s
WMQ Urumqi 69.56 320 *eP* P 02 22 23.0 +6.3
BELG Belogornoye 71.03 349 LR LR 02 56 52.3
comp=Z,83nm,18.5s,baz=157,slow=39
ABKAR Akbulak array 72.29 340 P P 02 22 33.3 +0.3
AKASG Malin Array Be 73.60 1 P P 02 22 41.3 +0.6
comp=Z,1.1nm,0.5s,baz=0.5,slow=5.8,SNR=5.4
comp=Z,1.1nm,0.5s
GERES GERESS Array B 74.49 12 P P 02 22 47.4 +1.3
comp=Z,1.1nm,0.7s,baz=52,slow=24,SNR=2.7
GERES LR LR 02 58 31.7
comp=Z,38nm,18.1s,baz=210,slow=38
comp=Z,1.1nm,0.7s
AAK Ala-Archa 74.98 328 LR LR 02 57 44.5
comp=Z,73nm,19.0s,baz=111,slow=37
KK31 Karatay Array 75.68 331 P P 02 22 52.5 -0.5
KKAR Karatay Array 75.68 331 P P 02 22 53.1 +0.1
KSH Kashi 77.38 326 P P 02 23 08.0 +5.2
KSH pmax pmax
comp=Z,2.0nm,1.0s
PZH PanZhiHua 78.29 300 P P 02 23 12.3 +4.2
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
KBZ Khabaz 80.07 351 P P 02 23 18.8 +1.4
comp=Z,2.2nm,0.9s,baz=50,slow=6.1,SNR=3.6
KBZ LR LR 03 04 32.9
comp=Z,17nm,18.3s,baz=46,slow=40
comp=Z,2.2nm,0.9s
ESDC Sonseca Array 80.16 27 P P 02 23 18.8 +0.8
comp=Z,0.9nm,0.8s,baz=341,slow=5.8,SNR=6.6
ESDC LR LR 02 59 07.9
comp=Z,32nm,18.4s,baz=344,slow=36
comp=Z,0.9nm,0.8s
GEYT Alibeck 83.54 339 LR LR 03 05 25.4
comp=Z,80nm,18.6s,baz=238,slow=39
BRTR Keskin Array B 84.56 358 P P 02 23 42.3 +1.2
comp=Z,0.9nm,0.8s,baz=142,slow=33,SNR=2.5
comp=Z,0.9nm,0.8s
CMAR Chiang Mai Arr 86.45 298 P P 02 23 51.6 +0.9
comp=Z,1.3nm,0.3s,baz=9.1,slow=5.5,SNR=7.8
CMAR LR LR 03 06 14.5
comp=Z,36nm,18.7s,baz=215,slow=38
comp=Z,1.3nm,0.3s
MDT Midelt 86.46 29 LR LR 03 02 04.8
comp=Z,45nm,18.1s,baz=60,slow=35
NNA Nana 90.23 111 LR LR 03 04 32.2
comp=Z,21nm,19.3s,baz=276,slow=36
QSPA South Pole Qui 145.85 180 PKPbc **PKPab 02 30 45.2 -1.1**
comp=Z,4.2nm,1.0s,baz=350,slow=0.2,SNR=13

NEIC 30 02:23:44.3±1.5, 31°.15N±0°.02×103°.23W±0°.03, h2km±7km, mb_Lg2.6/27, ML2.5/44, Error ellipse: s-maj=3.1km s-min=2.4km az=75.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNHN	**Monahans**	**0.44**	**65**		Pg	02 23 52.2	-0.6
MNHN				Sg	Sg	02 23 58.8	+0.2
MNHN				IAML		02 24 04.1	
459nm,0.5s							
MNHN				IAML		02 24 05.0	
368nm,0.4s							
PECS	**Pecos**	**0.58**	**292**		Pg	02 23 53.5	-2.1
PECS				Sg	Sg	02 24 02.8	-0.4
PECS				IAML		02 24 06.0	
406nm,0.4s							
PECS				IAML		02 24 10.3	
340nm,0.6s							
ALPN	**Alpine**	**0.85**	**204**	Pg	Pg	02 23 59.2	-1.5
ALPN				Sg	Sg	02 24 10.7	-1.0
ALPN				IAML		02 24 18.7	
64nm,0.5s							
ALPN				IAML		02 24 23.0	
88nm,0.3s							
ODSA	**Odessa**	**1.13**	**31**	Pg	Pg	02 24 03.9	-2.0
ODSA				Sg	Sg	02 24 19.1	-1.5
ODSA				IAML		02 24 33.5	
126nm,0.8s							
ODSA				IAML		02 24 34.5	
164nm,0.8s							
CLNB	**Carlsbad**	**1.24**	**334**	Pg	Pg	02 24 06.9	-1.2
CLN7	**Carlsbad 7**	**1.35**	**339**	Pg	Pg	02 24 08.6	-1.6
HTMS	**Hat Mesa**	**1.36**	**346**	Pg	Pg	02 24 09.0	-1.4
GDL2	**Guadalupe Moun**	**1.42**	**318**		Pn	02 24 08.9	-2.3
SAND	**Sanderson**	**1.53**	**141**		Pn	02 24 12.3	-0.4
SAND				IAmb_Lg		02 24 35.3	
comp=Z,5.9nm,0.8s							
SAND				IAML		02 24 38.5	
comp=Z,84nm,0.6s							
SAND				IAML		02 24 39.2	
comp=Z,60nm,0.4s							
425A	**Indio Mountain**	**1.55**	**257**		Pn	02 24 11.1	-1.9
425A				IAML		02 24 38.2	
comp=Z,75nm,0.5s							
425A				IAML		02 24 44.7	
comp=Z,42nm,0.8s							
OZNA	**Ozona**	**1.82**	**97**	Pn	Pn	02 24 17.1	+0.4
OZNA				IAML		02 24 44.7	
comp=Z,52nm,0.7s							
OZNA				IAmb_Lg		02 24 47.1	
comp=Z,8.7nm,0.8s							
OZNA				IAML		02 24 50.6	
comp=Z,52nm,0.7s							
TX31	**Lajitas Ar. Si**	**1.85**	**192**	Pn	Pn	02 24 16.8	-0.4
TX32	**Lajitas Array**	**1.85**	**192**	Pn	Pn	02 24 17.0	-0.2
TXAR	**Lajitas Array**	**1.85**	**192**	Pn	Pn	02 24 16.7	-0.5
MNTX	**Cornudas Mount**	**1.92**	**287**	Pn	Pn	02 24 16.9	-1.1
MNTX				IAML		02 24 45.9	
comp=Z,30nm,0.3s							
CPRX	**Cap Rock**	**1.95**	**344**	Pn	Pn	02 24 18.3	-0.3
SGCY	**Sterling City**	**1.95**	**67**	Pn	Pn	02 24 18.6	+0.1
SGCY				IAmb_Lg		02 24 48.9	
comp=Z,34nm,0.9s							
SGCY				IAML		02 24 51.2	
comp=Z,68nm,0.6s							
SGCY				IAML		02 24 51.8	
comp=Z,74nm,1.0s							
POST	**Post**	**2.41**	**37**	Pn	Pn	02 24 24.7	-0.1
POST				IAML		02 25 00.1	
comp=Z,120nm,0.7s							
POST				IAML		02 25 03.5	
comp=Z,84nm,0.6s							
POST				IAmb_Lg		02 25 05.6	
comp=Z,25nm,0.8s							
SN01	**Snyder 1**	**2.62**	**49**	Pn	Pn	02 24 27.0	-0.7
SN01				IAML		02 25 10.1	
comp=Z,89nm,0.5s							
SN01				IAmb_Lg		02 25 10.9	
comp=Z,28nm,0.8s							
SN01				IAML		02 25 12.8	
comp=Z,101nm,0.5s							
MSTX	**Muleshoe**	**2.83**	**8**	Pn	Pn	02 24 30.8	+0.1
DRIO	**Del Rio**	**2.84**	**127**	Pn	Pn	02 24 31.0	+0.2
DRIO				IAmb_Lg		02 25 13.4	
comp=Z,25nm,0.8s							
DRIO				IAML		02 25 14.5	
comp=Z,50nm,0.3s							
DRIO				IAML		02 25 14.7	
comp=Z,58nm,0.5s							
JCT	**Junction City**	**3.03**	**102**	IAmb_Lg		02 25 28.0	
comp=Z,17nm,0.7s							
ABTX	**Abilene, Hawle**	**3.39**	**63**	Pn	Pn	02 24 39.0	+0.7
ABTX				IAmb_Lg		02 25 34.6	
comp=Z,17nm,0.9s							
APMT	**Aspermont**	**3.41**	**50**	Pn	Pn	02 24 37.4	-1.1
APMT				IAML		02 25 37.6	
comp=Z,58nm,0.6s							
APMT				IAML		02 25 38.6	
comp=Z,47nm,0.5s							
APMT				IAmb_Lg		02 25 40.2	
comp=Z,18nm,0.7s							
BRDY	**Brady**	**3.63**	**87**	Pn	Pn	02 24 41.4	-0.2
BRDY				IAML		02 25 44.5	
comp=Z,27nm,0.8s							
BRDY				IAML		02 25 44.5	
comp=Z,16nm,0.5s							
BRDY				IAmb_Lg		02 25 48.4	
comp=Z,12nm,0.8s							
HNDO	**Hondo**	**3.78**	**114**	Pn	Pn	02 24 44.5	+0.8
HNDO				IAML		02 25 52.2	
comp=Z,23nm,1.0s							
HNDO				IAML		02 25 53.2	
comp=Z,21nm,0.5s							
HNDO				IAmb_Lg		02 25 53.7	
comp=Z,11nm,0.9s							
AMTX	**Amarillo**	**3.94**	**19**	IAmb_Lg		02 25 59.9	
comp=Z,15nm,0.8s							
PLPT	**Palo Pinto**	**4.49**	**67**	Pn	Pn	02 24 51.8	-1.7
PLPT				IAML		02 26 11.4	
comp=Z,24nm,0.6s							
PLPT				IAML		02 26 13.1	
comp=Z,31nm,0.6s							
ANMO	**Albuquerque**	**4.65**	**325**	IAmb_Lg		02 26 20.3	
comp=Z,5.3nm,0.8s							
SMWD	**Samnorwood**	**4.67**	**32**	IAmb_Lg		02 26 18.2	
comp=Z,12nm,0.8s							
435B	**Jarrell**	**4.87**	**93**	IAmb_Lg		02 26 24.2	
comp=Z,12nm,0.8s							
FW07	**Weatherford**	**4.88**	**70**	Pn	Pn	02 24 58.8	0.0
FW07				IAML		02 26 25.4	
comp=Z,48nm,0.6s							
FW07				IAML		02 26 27.6	
comp=Z,43nm,0.6s							
WHTX	**Lake Whitney,**	**5.00**	**79**	Pn	Pn	02 24 59.6	-0.8
WMOK	**Wichita Mounta**	**5.17**	**45**	Pn	Pn	02 25 01.8	-1.0
RTBA	**Rita Blanca**	**5.29**	**4**	Pn	Pn	02 25 03.0	-1.5
T25A	**Trinidad**	**6.05**	**351**	Pn	Pn	02 25 13.7	-1.3

*TAP **30** 02:31:04.2, 24°.07N×122°.24E, h20km, ML3.0, C*
*JMA **30** 02:31:04.3±0.1, 24°N±1°×122°.3E±0°.5, h42km±4km, MV2.6/10, TAIWAN REGION*
ISC 30 02:31:04.1±0.9, **24°.04N**±0°.02×**122°.26E**±0°.02, **h26**km±5km, **n73**, σ0°**62**/101, **1D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.10**	**32**	*i* P	**Pb**	**02 31 08.3**	**-0.1**
baz=55							
EOS4				S	**Sn**	**02 31 11.4**	**+0.1**
baz=55							
EOS3	**EOS3**	**0.25**	**12**	*i* P	**Pb**	**02 31 10.1**	**-0.3**
baz=18							
EOS3				*i* S	**Sb**	**02 31 14.7**	**0.0**
baz=18							
EOS2	**EOS2**	**0.38**	**356**	⇓*i* P	**Pb**	**02 31 12.2**	**-0.2**
baz=358							
EOS2				*e*S	**Sb**	**02 31 18.2**	**+0.3**
baz=358							
ETL	**Fush Village**	**0.59**	**282**	*e*P	**Pn**	**02 31 16.7**	**-0.3**
baz=278							
EWUT	**Wuta**	**0.60**	**313**	*e*P	**Pb**	**02 31 15.6**	**-0.5**
baz=311							
EWUT				*e*S	**Sb**	**02 31 23.5**	**-0.7**
baz=311							
TWD	**Chiawan**	**0.61**	**274**	*e*P	**Pn**	**02 31 16.9**	**-0.3**
baz=271							
ENA	**Nanau**	**0.61**	**309**	*e*P	**Pb**	**02 31 16.2**	**-0.1**
baz=308							
ENA				S	**Sb**	**02 31 24.5**	**-0.1**
baz=308							
NACB	**Ninganchiao**	**0.62**	**283**	P	**Pb**	**02 31 16.6**	**+0.1**
baz=279							
TWC	**Suao**	**0.68**	**327**	*e*P	**Pb**	**02 31 16.2**	**-1.2**
baz=327							
TWC				*e*S	**Sb**	**02 31 24.3**	**-2.2**
baz=327							
ETM	**Tongmen**	**0.71**	**264**	*e*P	**Pb**	**02 31 17.9**	**0.0**
baz=261							
ETM				*e*S	**Sn**	**02 31 28.6**	**+0.1**
baz=261							
ETLH	**Xiulin Townshi**	**0.73**	**284**	*e*P	**Pb**	**02 31 18.5**	**+0.2**
baz=281							
ETLH				*e*S	**Sn**	**02 31 29.1**	**-0.2**
baz=281							
JYNG	**Yonagunijimaku**	**0.75**	**56**	P	**Pb**	**02 31 19.2**	**+0.6**
JYNG				S	**Sn**	**02 31 30.1**	**+0.5**
NDS	**Dongshan**	**0.77**	**320**	*e*P	**Pn**	**02 31 18.7**	**-0.8**
baz=319							
LXIB	**Xiulin Townshi**	**0.78**	**269**	P	**Pn**	**02 31 19.0**	**-0.5**
baz=266							
LXIB				*e*S	**Sn**	**02 31 30.1**	**-0.3**
baz=266							
ESL	**Shilin**	**0.79**	**254**	*e*P	**Pb**	**02 31 20.2**	**+0.9**
baz=250							
ESL				*e*S	**Sb**	**02 31 29.7**	**+0.1**
baz=250							
YOJ	**Yonaguni jima**	**0.81**	**58**	P	**Pn**	**02 31 19.4**	**-0.4**
YOJ				*e*S	**Sn**	**02 31 30.6**	**-0.3**
LATG	**Datong**	**0.83**	**307**	*e*P	**Pb**	**02 31 20.1**	**0.0**
baz=305							
WARBT	**Fenglin Townsh**	**0.86**	**249**	*e*P	**Pn**	**02 31 20.0**	**-0.6**
baz=245							
TWE	**Neicheng**	**0.87**	**322**	P	**Pb**	**02 31 20.6**	**-0.1**
baz=321							
TWE				*e*S	**Sb**	**02 31 32.1**	**+0.3**
baz=321							
ENTT	**Nioudou**	**0.87**	**314**	*e*P	**Pb**	**02 31 20.6**	**0.0**
baz=312							
NDT	**Datong Townshi**	**0.89**	**310**	*e*P	**Pb**	**02 31 21.2**	**+0.3**
baz=308							
NNSB	**Datong**	**0.89**	**296**	*e*P	**Pb**	**02 31 21.1**	**+0.1**
baz=294							
NNS	**Nan Shan**	**0.90**	**297**	*e*P	**Pb**	**02 31 21.5**	**+0.2**
baz=294							
NNS				*e*S	**Sb**	**02 31 33.7**	**+0.7**
baz=294							
WHF	**Hehuan Shan**	**0.92**	**277**	*e*P	**Pb**	**02 31 21.7**	**0.0**
baz=274							
WHF				*e*S	**Sb**	**02 31 34.4**	**+0.8**
baz=274							
HGSD	**Ruisui**	**0.94**	**235**	*e*P	**Pb**	**02 31 23.3**	**+1.5**
baz=232							
FUSB	**Fushanzhiwuyua**	**0.95**	**320**	*e*P	**Pb**	**02 31 21.9**	**-0.1**
baz=319							
FUSB				*e*S	**Sb**	**02 31 34.8**	**+0.7**
baz=319							
CHGB	**Renai**	**0.99**	**272**	P	**Pb**	**02 31 22.6**	**-0.3**
baz=269							
TWB1	**Santiao Chiao**	**1.00**	**346**	*e*P	**Pn**	**02 31 21.9**	**-0.6**
baz=346							
EHY	**Huagye**	**1.01**	**239**	*e*P	**Pb**	**02 31 24.1**	**+1.1**
baz=235							
NWLT	**Wulai**	**1.01**	**317**	*e*P	**Pb**	**02 31 23.3**	**+0.3**
baz=316							
NWLT				S	**Sb**	**02 31 36.2**	**+0.3**
baz=316							
YHNB	**Yeheng**	**1.02**	**308**	P	**Pb**	**02 31 23.0**	**-0.3**
baz=307							
NSK	**Sanguang**	**1.04**	**308**	*e*P	**Pb**	**02 31 23.4**	**-0.2**
baz=307							
WUSB	**Renai**	**1.05**	**268**	*e*P	**Pb**	**02 31 23.8**	**+0.1**
baz=265							
VWDT	**VWDT**	**1.06**	**255**	*e*P	**Pb**	**02 31 23.9**	**0.0**
baz=252							
YULB	**Yu-li**	**1.09**	**234**	*e*P	**Pb**	**02 31 24.0**	**-0.4**
baz=231							
YULB				*e*S	**Sb**	**02 31 38.4**	**+0.1**
baz=231							
EYUL	**Yuli**	**1.10**	**232**	*e*S	**Sb**	**02 31 39.4**	**+0.9**
baz=229							
SXI1	**Grass Mountain**	**1.11**	**342**	*e*P	**Pn**	**02 31 23.7**	**-0.4**
baz=341							
TWF1	**Yuli**	**1.12**	**233**	*e*S	**Sb**	**02 31 39.2**	**+0.3**
baz=230							
NWF	**Wu-fen Shan**	**1.12**	**337**	*e*P	**Pn**	**02 31 24.2**	**-0.1**
baz=337							
NWF				*e*S	**Sb**	**02 31 39.0**	**-0.1**
baz=337							
WFSB	**Wu-fen Shan**	**1.12**	**337**	*e*P	**Pn**	**02 31 24.2**	**0.0**
baz=337							
WFSB				*e*S	**Sb**	**02 31 38.7**	**-0.3**
baz=337							
NHDH	**Xindian Distri**	**1.14**	**324**	*e*S	**Sb**	**02 31 39.8**	**+0.2**
baz=323							
NFF	**Wufeng Townshi**	**1.20**	**300**	*e*P	**Pb**	**02 31 26.9**	**+0.6**
baz=298							
FULB	**Fuli**	**1.22**	**227**	*e*P	**Pn**	**02 31 25.4**	**-0.1**
baz=224							
SSLB	**Suanglung**	**1.22**	**259**	*e*P	**Pb**	**02 31 26.5**	**-0.1**
baz=256							
WHP	**Taichung City**	**1.23**	**282**	*e*P	**Pb**	**02 31 26.9**	**+0.2**
baz=279							
WCS	**Beigang Elemen**	**1.23**	**271**	*e*P	**Pb**	**02 31 26.8**	**0.0**
baz=269							
SMLT	**Sun Moon Lake**	**1.25**	**263**	*e*P	**Pb**	**02 31 26.9**	**-0.3**
baz=261							
YM01	**YM01**	**1.27**	**330**	*e*P	**Pb**	**02 31 27.3**	**-0.2**
baz=330							
LIOB	**Emei**	**1.29**	**298**	*e*P	**Pb**	**02 31 28.1**	**+0.4**
baz=297							
TYC	**Yuchr**	**1.29**	**264**	*e*P	**Pb**	**02 31 27.5**	**-0.3**
baz=262							
NSTT	**Nanjuang**	**1.29**	**297**	*e*P	**Pb**	**02 31 27.6**	**-0.2**
baz=296							
YM08	**YM08**	**1.30**	**332**	*e*P	**Pb**	**02 31 27.2**	**-0.7**
baz=332							
EHD	**Haiduan**	**1.31**	**228**	*e*P	**Pn**	**02 31 26.9**	**+0.1**
baz=225							
EHD				*e*S	**Sb**	**02 31 43.8**	**-0.7**
baz=225							
ANP	**Anpu**	**1.33**	**330**	*e*P	**Pn**	**02 31 27.6**	**+0.5**
baz=329							
WHYT	**Xinyi Township**	**1.33**	**256**	*e*P	**Pb**	**02 31 28.9**	**+0.5**
baz=253							
WHYT				*e*S	**Sb**	**02 31 45.6**	**+0.4**
baz=253							
EDH	**Donghe**	**1.38**	**220**	*e*P	**Pn**	**02 31 27.4**	**-0.4**
baz=218							
EDH				*e*S	**Sn**	**02 31 44.2**	**-0.9**
baz=218							
HATJ	**Hateruma jima**	**1.41**	**89**	P	**Pn**	**02 31 28.0**	**-0.2**
HATJ				S	**Sn**	**02 31 45.5**	**-0.5**
ALS	**Alishan**	**1.43**	**249**	*e*S	**Sb**	**02 31 48.0**	**-0.3**
baz=246							
CHN5	**Tsauling**	**1.51**	**254**	*e*P	**Pb**	**02 31 31.3**	**-0.3**
baz=251							
CHN5				*e*S	**Sb**	**02 31 51.1**	**+0.7**
baz=251							
STYH	**Taoyuan**	**1.61**	**238**	*e*S	**Sb**	**02 31 52.7**	**-0.4**
baz=236							
WCKO	**Fanlu**	**1.63**	**249**	*e*S	**Sb**	**02 31 55.1**	**+1.4**
baz=247							
TPUB	**Ta-pu**	**1.67**	**244**	*e*P	**Pb**	**02 31 33.3**	**-0.9**
baz=242							
CHN4	**Tsaushan**	**1.68**	**246**	*e*P	**Pb**	**02 31 33.8**	**-0.5**
baz=244							
WTP	**Ta-pu**	**1.70**	**243**	*e*P	**Pb**	**02 31 34.2**	**-0.6**
baz=240							
JIJ	**Ishigaki jima**	**1.75**	**79**	P	**Pn**	**02 31 33.3**	**+0.5**
JIJ				S	**Sn**	**02 31 54.8**	**+0.5**
CHN1	**Nanshi**	**1.80**	**242**	*e*P	**Pb**	**02 31 36.0**	**-0.5**
baz=240							
SGST	**Jiashian**	**1.81**	**239**	*e*P	**Pb**	**02 31 36.1**	**-0.5**
baz=236							
SGST				*e*S	**Sb**	**02 31 59.3**	**+0.4**
baz=236							
SLGT	**Liugui**	**1.81**	**235**	*e*P	**Pb**	**02 31 35.6**	**-1.0**
baz=233							
JISG	**Ishigakijimahi**	**1.95**	**73**	*e*P	**Pn**	**02 31 36.0**	**+0.4**
JISG				S	**Sn**	**02 31 59.8**	**+0.6**
MASBT	**Mashibuluo**	**2.06**	**227**	*e*P	**Pb**	**02 31 39.5**	**-1.5**
baz=225							
EAST	**Anshuo**	**2.10**	**219**	*e*P	**Pb**	**02 31 39.9**	**-1.6**
baz=217							
PHUB	**P'eng-hu**	**2.52**	**259**	*e*S	**Sn**	**02 32 14.8**	**+1.5**
baz=257							
MHZQ	**Yeshan**	**3.58**	**306**	*e*P	**Pn**	**02 31 59.3**	**+1.4**
baz=304							

*TAP **30** 02:33:16.2, 24°.04N×122°.30E, h25km, ML2.7, D*
*JMA **30** 02:33:16.2±0.2, 24°N±1°×122°.3E±0°.4, h23km±4km, TAIWAN REGION*
ISC 30 02:33:16.5±1.1, **24°.05N**±0°.04×**122°.27E**±0°.05, **h26**km±7km, **n34**, σ0°**41**/47, **1D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.08**	**31**	*i* P	**Pb**	**02 33 20.6**	**-0.1**
baz=9.0							
EOS4				S	**Sb**	**02 33 23.6**	**+0.1**
baz=9.0							
EOS3	**EOS3**	**0.23**	**10**	*i* P	**Pb**	**02 33 22.2**	**-0.3**
baz=2.0							
EOS3				*i* S	**Sb**	**02 33 26.7**	**0.0**
baz=2.0							
EOS2	**EOS2**	**0.36**	**354**	⇓*i* P	**Pb**	**02 33 24.3**	**-0.2**
baz=350							
EOS2				*i* S	**Sb**	**02 33 30.1**	**+0.2**
baz=350							
EWUT	**Wuta**	**0.60**	**311**	*e*P	**Pb**	**02 33 28.0**	**-0.4**
baz=309							
EWUT				*e*S	**Sb**	**02 33 36.2**	**-0.2**
baz=309							
ENA	**Nanau**	**0.61**	**308**	*e*P	**Pb**	**02 33 28.3**	**-0.3**
baz=307							
NACB	**Ninganchiao**	**0.63**	**281**	*e*P	**Pb**	**02 33 28.8**	**-0.1**
baz=281							
TWC	**Suao**	**0.68**	**325**	P	**Pb**	**02 33 28.5**	**-1.2**
baz=324							
ETM	**Tongmen**	**0.72**	**263**	*e*P	**Pb**	**02 33 30.2**	**-0.2**
baz=264							
ETLH	**Xiulin Townshi**	**0.74**	**282**	*e*P	**Pb**	**02 33 30.6**	**-0.2**
baz=282							
ETLH				*e*S	**Sb**	**02 33 41.4**	**+0.8**
baz=282							
LXIB	**Xiulin Townshi**	**0.79**	**268**	P	**Pb**	**02 33 31.4**	**-0.3**
baz=268							
LXIB				*e*S	**Sb**	**02 33 42.2**	**+0.2**
baz=268							
LATG	**Datong**	**0.83**	**305**	*e*P	**Pb**	**02 33 32.2**	**-0.2**
baz=304							
TWE	**Neicheng**	**0.86**	**320**	*e*P	**Pb**	**02 33 32.5**	**-0.4**
baz=319							
EGFH	**Guangfu**	**0.86**	**244**	*e*S	**Sb**	**02 33 44.5**	**+0.5**
baz=245							
ENTT	**Nioudou**	**0.87**	**312**	P	**Pb**	**02 33 32.7**	**-0.2**
baz=311							
WARBT	**Fenglin Townsh**	**0.88**	**248**	*e*P	**Pb**	**02 33 32.4**	**-0.8**
baz=248							
WARBT				*e*S	**Sb**	**02 33 44.0**	**-0.5**
baz=248							
NDT	**Datong Townshi**	**0.88**	**308**	*e*P	**Pb**	**02 33 33.2**	**0.0**
baz=307							
NDT				*e*S	**Sb**	**02 33 44.1**	**-0.5**
baz=307							
NNSB	**Datong**	**0.90**	**295**	*e*P	**Pb**	**02 33 32.9**	**-0.6**
baz=294							
WHF	**Hehuan Shan**	**0.93**	**276**	*e*P	**Pb**	**02 33 33.8**	**-0.3**
baz=276							
FUSB	**Fushanzhiwuyua**	**0.94**	**318**	*e*P	**Pn**	**02 33 34.0**	**-0.1**
baz=317							
HGSD	**Ruisui**	**0.96**	**234**	*e*P	**Pn**	**02 33 34.8**	**+0.6**
baz=235							
CHGB	**Renai**	**1.00**	**271**	*e*P	**Pn**	**02 33 34.9**	**-0.2**
baz=270							
CHGB				*e*S	**Sb**	**02 33 48.6**	**+0.3**
baz=270							
NWLT	**Wulai**	**1.01**	**316**	*e*P	**Pn**	**02 33 35.2**	**+0.3**
baz=315							
NWLT				*e*S	**Sb**	**02 33 48.1**	**0.0**
baz=315							
YHNB	**Yeheng**	**1.02**	**307**	*e*P	**Pn**	**02 33 35.4**	**+0.2**
baz=306							
YHNB				*e*S	**Sb**	**02 33 49.2**	**+0.6**
baz=306							
NSK	**Sanguang**	**1.04**	**307**	*e*P	**Pn**	**02 33 35.5**	**+0.1**
baz=306							
WUSB	**Renai**	**1.06**	**267**	*e*P	**Pn**	**02 33 35.8**	**0.0**
baz=267							
VWDT	**VWDT**	**1.08**	**254**	*e*P	**Pn**	**02 33 36.2**	**+0.3**
baz=254							
VWDT				*e*S	**Sb**	**02 33 50.4**	**+0.3**
baz=254							
SXI1	**Grass Mountain**	**1.10**	**341**	*e*P	**Pn**	**02 33 36.0**	**-0.2**
baz=339							
YULB	**Yu-li**	**1.11**	**234**	*e*P	**Pn**	**02 33 36.2**	**-0.1**
baz=234							
NFF	**Wufeng Townshi**	**1.20**	**299**	*e*P	**Pn**	**02 33 38.3**	**+0.7**
baz=298							
WHP	**Taichung City**	**1.23**	**281**	*e*P	**Pn**	**02 33 38.5**	**+0.4**
baz=280							
FULB	**Fuli**	**1.24**	**227**	*e*P	**Pn**	**02 33 37.7**	**-0.4**
baz=227							
FULB				*e*S	**Sn**	**02 33 53.9**	**-0.1**
baz=227							
WCS	**Beigang Elemen**	**1.25**	**270**	*e*P	**Pn**	**02 33 38.5**	**+0.4**
baz=270							

EHD	Haiduan	1.33	228	*e*P	Pn	02 33 39.2	-0.1
	baz=228						
JIJ	Ishigaki jima	1.73	79	*e*S	Sn	02 34 06.7	+0.6

ISN ***30*** *02:48:53.6±2.8, 37°.24N×45°.19E, h6km, ML2.6*
TEH ***30*** *02:48:53.1, 37°.22N×45°.16E, h6km±60km, ML2.6*
AFAD ***30*** *02:48:56.4±0.0, 37°.35N×45°.02E, h6km±1km, ML2.6*
ISC 30 02:48:53.4±1.2, 37°.23N±0°.04×45°.16E±0°.03, h3km±13km, n12, σ0°68/18, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAHB	Mahabad	0.64	136	Pg	Pg	02 49 05.3	-0.3
MAHB				Sg	Sg	02 49 13.8	-0.1
YOVA	Hakkari_Yksek	0.78	298	P	Pg	02 49 08.8	+0.5
YOVA				S	Sg	02 49 17.9	-0.5
IAZR	Azarshahr	0.80	55	Pg	Pg	02 49 09.0	+0.3
ISHB	Shabestar	1.11	19	Pg	Pg	02 49 13.9	-0.9
HAKT	HAKKARI	1.20	286	P	Pb	02 49 16.8	-0.1
HAKT				S	Sg	02 49 32.1	+0.1
CUKT	Cukurca	1.24	271	P	Pg	02 49 16.8	-0.3
CUKT				S	Sn	02 49 34.6	-0.3
CUKT				*i* AML	AML	02 49 40.0	
	comp=N,137nm,0.5s						
ITBZ	Tabriz	1.27	38	Pg	Pg	02 49 16.8	-1.0
IMRD	Marand	1.54	16	Pg	Pb	02 49 22.6	-0.1
MSL	Mosul	1.84	244	*e*Pg	Pn	02 49 25.0	-0.8
	baz=63						
MSL				*e*Sg	Sg	02 49 53.0	+0.6
MSL				AML	AML	02 49 56.2	
	comp=E,51nm,0.6s						
MSL				AML	AML	02 49 56.2	
	comp=N,85nm,0.6s						
IHRS	Heris	1.85	53	Pn	Pb	02 49 28.2	+0.3
ISRB	Sarab	2.08	73	Pn	Pn	02 49 30.5	+1.1
PERV	Siirt/Pervari-	2.20	290	P	Pb	02 49 34.1	+0.3
PERV				S	Sg	02 50 05.2	+1.2
PERV				*i* AML	AML	02 50 12.0	
	comp=N,50nm,0.7s						
PERV				*i* AML	AML	02 50 13.0	
	comp=N,53nm,0.6s						

IDC ***30*** *03:20:48.8±1.1, 16°.26N×95°.09W, h0km, mb3.9/7, mbtmp3.8/8, ML3.0/1, MS3.4/13, Error ellipse: s-maj=24.2km s-min=11.6km az=95.0*
MEX ***30*** *03:20:51.0±1.0, 16°.10N×95°.20W, h66km±13km, MD4.6*
NEIC ***30*** *03:20:51.3±2.0, 16°.14N±0°.03×95°.24W±0°.03, h28km±6km, mb4.2/68, Md4.6/70(MEX), Error ellipse: s-maj=5.7km s-min=3.3km az=136.0*
ISC 30 03:20:48.8±1.4, 16°.20N±0°.03×95°.18W±0°.02, h10km±9km, n163, σ16°57/201, mb4.2/19, MS3.3/12, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	Santiago Nilte	0.65	56	*i* P	Pg	03 21 00.4	-1.0
NILT				*i* S	Sb	03 21 10.6	-0.9
CMIG	Matias Romero	0.93	17	Pg	Pb	03 21 05.4	-1.7
	281nm,0.3s,baz=211,slow=15,SNR=1821						
CMIG				Lg	Lg	03 21 17.3	
	822nm,0.3s,baz=232,slow=13,SNR=20						
CMIG	Matias Romero	0.93	17	*i* P	Pb	03 21 05.2	-1.8
CMIG				*i* S	Sb	03 21 17.3	-2.3
HUIG	Huatulco	0.99	245		Pb	03 21 06.9	-1.1
HUIG					Sb	03 21 19.6	-1.6
HUIG	Huatulco	0.99	245	*e*P	Pb	03 21 06.7	-1.4
HUIG				*i* S	Sb	03 21 19.6	-1.6
CARR	Arriaga	1.22	87	*i* P	Pn	03 21 11.0	-0.8
CARR				*i* S	Sb	03 21 27.3	-0.4
UXUV	UXUV	1.49	41	*e*P	Pn	03 21 15.5	-0.1
UXUV				*e*S	Sb	03 21 35.3	-0.3
NEUV	Arroyo Zacate	1.62	338	*i* P	Pn	03 21 16.6	-0.9
NEUV				*i* S	Sn	03 21 37.6	-0.8
OXLC	Oaxaca	1.70	301	*i* P	Pn	03 21 18.4	-0.3
OXLC				*i* S	Sn	03 21 39.9	-0.7
OXBJ	Oaxaca	1.72	301		Pn	03 21 18.7	-0.3
OXBJ					Sn	03 21 39.9	-1.2
OXBJ	Oaxaca	1.72	301	*i* P	Pn	03 21 18.7	-0.3
OXBJ				*i* S	Sn	03 21 39.9	-1.2
OXIG	Oaxaca	1.73	301		Pn	03 21 18.8	-0.4
OXIG					Sn	03 21 40.6	-0.7
VHO	Vista Hermosa	1.73	301	*i* P	Pn	03 21 18.8	-0.4
VHO				*i* S	Sn	03 21 40.6	-0.7
PEIG	Puerto Escondi	1.90	264		Pn	03 21 21.1	-0.2
PEIG					Sn	03 21 44.6	-0.9
PEIG	Puerto Escondi	1.90	264	*e*P	Pn	03 21 20.3	-1.1
PEIG				*e*S	Sn	03 21 43.3	-2.2
PCIG		1.95	104		Sn	03 21 46.3	-0.2
PCIG		1.95	104	*e*P	Pn	03 21 21.6	-0.4
PCIG				*e*S	Sn	03 21 44.0	-2.5
TUIG	Tuzandepetl	1.96	21	*e*P	Pn	03 21 21.6	-0.6
TUIG				*e*S	Sg	03 21 53.2	+1.2
TGIG		2.06	73		Pb	03 21 24.9	-1.3
TGIG					Sb	03 21 52.4	+0.5
TGIG		2.06	73	*e*P	Pb	03 21 24.9	-1.3
TGIG				*e*S	Sb	03 21 52.4	+0.5
PMUV	Sontecomapan	2.34	1	*e*P	Pn	03 21 25.6	-1.8
PMUV				*e*S	Sn	03 21 53.6	-2.6
YOIG	Yosondua	2.37	286		Pn	03 21 28.6	+0.7
YOIG					Sn	03 21 59.2	+2.0
YOIG	Yosondua	2.37	286	*e*P	Pn	03 21 28.6	+0.7
YOIG				*e*S	Sn	03 21 57.9	+0.7
TXIG	Tlaxiaco	2.70	293		Pn	03 21 33.8	+1.3
TXIG					Sn	03 22 08.4	+3.0
TXIG	Tlaxiaco	2.70	293	*e*P	Pn	03 21 33.8	+1.3
TXIG				*i* S	Sn	03 22 06.9	+1.5
PNIG	Pinotepa	2.84	274		Pn	03 21 33.7	-0.5
PNIG					Sb	03 22 12.6	-1.9
PNIG	Pinotepa	2.84	274	*e*P	Pn	03 21 33.7	-0.5
PNIG				*e*S	Sb	03 22 12.6	-1.9
CCIG	Comitan	2.92	88	*e*P	Pn	03 21 37.4	+1.8
CCIG				*e*S	Sb	03 22 17.1	+0.1
HLIG	Huajuapan de L	2.99	303		Pb	03 21 41.4	-1.0
HLIG					Sb	03 22 17.2	-1.8
HLIG	Huajuapan de L	2.99	303	*e*P	Pn	03 21 39.1	+2.5
HLIG				*e*S	Sn	03 22 14.1	+1.5
PATR	El Naranjo	3.03	110	*e*P	Pn	03 21 37.9	+0.8
PATR				*e*S	Sn	03 22 14.3	+0.7
TPIG	Tehuac#an	3.04	317		Pb	03 21 42.3	-0.8
TPIG					Sb	03 22 20.6	+0.2
TPIG	Tehuac#an	3.04	317	*e*P	Pn	03 21 39.1	+1.9
TPIG				*e*S	Sn	03 22 10.8	-3.0
PAVE	Pavencul	3.06	109	*e*P	Pn	03 21 38.9	+1.5
PAVE				*e*S	Sn	03 22 16.1	+1.8
THIG		3.08	114	*e*P	Pn	03 21 38.6	+1.0
THIG				*e*S	Sn	03 22 10.5	-4.1
CHUJ	Union Juarez	3.15	110	*e*P	Pn	03 21 40.0	+1.2
CHUJ				*e*S	Sn	03 22 17.3	+0.7
FTIG	Fresnillo de T	3.30	301		Pn	03 21 43.4	+2.7
FTIG					Sb	03 22 27.0	-0.8
FTIG	Fresnillo de T	3.30	301	*e*P	Pn	03 21 44.2	+3.5
FTIG				*e*S	Sb	03 22 27.0	-0.8
MGIG	Malinaltepec	3.47	288		Pb	03 21 49.3	-1.1
MGIG					Sn	03 22 23.0	-1.3
MGIG	Malinaltepec	3.47	288	*e*P	Pn	03 21 44.2	+1.2
MGIG				*e*S	Sn	03 22 23.0	-1.3
JAUV	Jalcomulco	3.51	334	*e*P	Pn	03 21 40.5	-3.0
JAUV				*e*S	Sn	03 22 22.6	-2.4
TLIG	Tlapa	3.52	293	*e*P	Pn	03 21 46.5	+2.8
TLIG				*e*S	Sn	03 22 28.8	+3.3
HUEH	Huehuetenango	3.64	103		Pn	03 21 46.8	+1.3
LVIG	Laguna Verde	3.70	342	*e*P	Pn	03 21 45.0	-1.1
LVIG				*e*S	Sn	03 22 30.5	+0.7
RTAL	Retalhuleu	3.75	116	Pn	Pn	03 21 48.2	+1.4
CRIG	Cruz Grande	3.83	279		Pn	03 21 48.7	+0.8
CRIG					Sn	03 22 34.6	+1.6
CRIG	Cruz Grande	3.83	279	*e*P	Pn	03 21 47.2	-0.7
CRIG				*e*S	Sn	03 22 34.6	+1.6
PPM	Popocatepetl	4.36	311	*e*P	Pn	03 22 00.1	+4.5
PPM				*e*S	Sn	03 22 44.1	-2.6
PPIG	Popocatepetl	4.36	311		Pn	03 21 56.5	+1.0
YAIG	Yautepec	4.56	306	*e*P	Pn	03 22 03.0	+4.9
YAIG				*e*S	Sn	03 22 52.5	+1.2
CXUV	Coxquihui	4.57	330	*e*P	Pn	03 21 56.9	-1.2
CXUV				*e*S	Sn	03 22 50.3	-1.1
MEIG	Mezcala	4.58	293	*e*P	Pn	03 22 00.7	+2.4
MEIG				*e*S	Sn	03 22 56.7	+5.0
SCIG	Sabancuy	4.70	54	*e*P	Pn	03 21 60.0	+0.2
SCIG				*e*S	Sn	03 22 51.9	-2.6
UNM	Universidad Na	4.92	310	Pn	Pn	03 22 06.0	+2.8
CAIG	El Cayaco	4.95	281	*e*P	Pn	03 22 03.3	0.0
CAIG				*e*S	Sn	03 22 51.5	-9.2
PETF	Flores	5.14	81	Pn	Pn	03 22 07.0	+1.0
ARIG	Puente Sto Nin	5.36	294	*e*P	Pn	03 22 10.8	+1.9
ARIG				*e*S	Sn	03 23 09.9	-0.9
DEIG	Demacu	5.49	319	*e*P	Pn	03 22 14.9	+4.0
DEIG				*e*S	Sn	03 23 16.5	+2.3
MTO3	Montecristo	5.89	107	Pn	Pn	03 22 18.5	+2.1
CTUV	Llano Grande	6.05	331	*e*	Pb	03 22 29.7	-4.6
CTUV				*e*		03 23 44.5	
ZIIG	Zihuatanejo	6.18	284	*e*P	Pn	03 22 21.8	+1.6
ZIIG				*e*S	Sn	03 23 31.5	+0.6
MOIG	Morelia	6.69	302	*e*	Pn	03 22 36.2	+8.8
MOIG				*e*		03 23 53.1	
RPIG	Rio Verde	7.26	322	*e*P	Pn	03 22 44.7	+10
TEIG	Tepich	7.69	58	Pn	Pn	03 22 41.4	+0.6
TEIG	Tepich	7.69	58	Pn	Pn	03 22 40.7	-0.2
	45nm,0.3s,baz=100,slow=16,SNR=36						
TEIG				Sn	Sn	03 24 04.0	-4.0
	59nm,0.3s,baz=88,slow=20,SNR=13						
TEIG				LR	LR	03 25 56.8	
	comp=Z,786nm,19.6s,baz=354,slow=41						
TGUH	Tegucigalpa,Un	7.92	105	Pn	Pn	03 22 48.1	+3.9
MMIG	Aquila	8.08	286	*e*P	Pn	03 22 47.5	+1.3
DUNO	Dulce Nombre,	11.22	122	Pn	Pn	03 23 30.3	+1.0
JTS	Las Juntas de	11.55	119	Pn	Pn	03 23 35.6	+1.6
JTS	Las Juntas de	11.55	119	Pn	Pn	03 23 37.0	+3.1
	0.7nm,0.3s,baz=300,slow=17,SNR=3.5						
833A	Chaparral WMA,	12.68	343	Pn	Pn	03 23 51.1	+1.8
HNDO	Hondo	13.80	345	Pn	Pn	03 24 04.8	+0.3
435B	Jarrell	14.69	352	Pn	Pn	03 24 17.2	+0.5
JCT	Junction City	14.84	344	Pn	Pn	03 24 20.8	+2.0
SAND	Sanderson	15.11	336		P	03 24 25.6	-2.1
SAND				IAmb	IAmb	03 24 39.8	
	comp=Z,3.2nm,0.9s						
TX31	Lajitas Ar. Si	15.23	331	Pn	Pn	03 24 26.5	+2.4
TX32	Lajitas Array	15.23	331	Pn	Pn	03 24 26.1	+2.0
TXAR	Lajitas Array	15.23	331	Pn	Pn	03 24 26.7	+2.6
	baz=153,slow=17,SNR=5.5						
	comp=Z,0.8nm,1.0s						
BRDY	Brady	15.42	348	Pn	Pn	03 24 28.1	+1.6
BRDY				IAmb	IAmb	03 24 48.6	
	comp=Z,8.1nm,0.8s						
OZNA	Ozona	15.63	341		P	03 24 32.7	-0.9
OZNA				IAmb	IAmb	03 24 37.6	
	comp=Z,18nm,1.2s						
WHTX	Lake Whitney,	15.86	353	Pn	Pn	03 24 33.7	+1.5
WHTX				IAmb	IAmb	03 24 44.1	
	comp=Z,18nm,0.7s						
ALPN	Alpine	16.10	333	Pn	Pn	03 24 36.7	+1.2
ALPN				IAmb	IAmb	03 24 42.5	
	comp=Z,8.9nm,0.8s						
FW14	Alvarado	16.23	354	Pn	Pn	03 24 38.2	+1.1
FW14				IAmb	IAmb	03 24 42.0	
	comp=Z,34nm,1.0s						
FW16	Waxahatchie	16.29	355	Pn	Pn	03 24 37.8	0.0
FW16				IAmb	IAmb	03 25 00.1	
	comp=Z,29nm,0.9s						
MNHN	Monahans	16.59	337		P	03 24 44.8	+0.6
MNHN				IAmb	IAmb	03 24 47.8	
	comp=Z,13nm,0.8s						
FW07	Weatherford	16.60	352	Pn	Pn	03 24 42.2	+0.5
FW07				IAmb	IAmb	03 24 55.1	
	comp=Z,19nm,0.7s						
PLPT	Palo Pinto	16.79	351		P	03 24 46.4	+0.1
PLPT				IAmb	IAmb	03 24 49.7	
	comp=Z,29nm,1.2s						
FW03	Perrin-Whitt E	16.97	352	Pn	Pn	03 24 46.5	+0.1
FW03				IAmb	IAmb	03 24 51.7	
	comp=Z,17nm,0.8s						
PECS	Pecos	17.06	334		P	03 24 48.9	-0.5
PECS				IAmb	IAmb	03 25 11.2	
	comp=Z,10nm,0.9s						
425A	Indio Mountain	17.07	330		Pn	03 24 48.9	+1.1
Z35A	Perchaven, San	17.16	354	Pn	Pn	03 24 47.4	-1.4
Z35A				IAmb	IAmb	03 25 03.2	
	comp=Z,23nm,0.8s						
ODSA	Odessa	17.21	338		P	03 24 50.8	-0.3
ODSA				IAmb	IAmb	03 24 55.0	
	comp=Z,13nm,0.8s						
SN01	Snyder 1	17.38	344		P	03 24 52.9	0.0
SN01				IAmb	IAmb	03 24 56.0	
	comp=Z,13nm,0.9s						
APMT	Aspermont	17.63	346		Pn	03 24 55.2	+0.6
APMT				IAmb	IAmb	03 25 13.2	
	comp=Z,7.6nm,0.8s						
POST	Post	17.75	342		P	03 24 58.4	+1.4
POST				IAmb	IAmb	03 25 01.1	
	comp=Z,7.5nm,0.8s						
LOOK	Love County	17.81	355		P	03 24 58.0	+0.4
CLNB	Carlsbad	17.84	335	P	P	03 24 59.7	+1.6
HTMS	Hat Mesa	17.93	336	P	P	03 25 00.4	+1.4
MNTX	Cornudas Mount	18.01	331	P	P	03 25 00.0	+0.2
MIAR	Mount Ida	18.33	4	P	Pn	03 25 03.3	+0.1
WMOK	Wichita Mounta	18.75	351	P	P	03 25 07.7	-0.3
W35A	Tecumseh	18.94	356	P	P	03 25 09.5	-0.6
W35A				IAmb	IAmb	03 25 14.7	
	comp=Z,14nm,0.8s						
MSTX	Muleshoe	18.97	340	P	P	03 25 10.7	+0.2
SMWD	Samnorwood	19.37	347	P	P	03 25 15.2	+0.4
SMWD				IAmb	IAmb	03 25 18.1	
	comp=Z,15nm,0.7s						
AMTX	Amarillo	19.50	344	P	P	03 25 16.6	+0.3
AMTX				IAmb	IAmb	03 25 27.9	
	comp=Z,12nm,0.9s						
DEOK	Depew	19.60	357	P	P	03 25 16.9	-0.4
DEOK				IAmb	IAmb	03 25 19.2	
	comp=Z,11nm,0.7s						
OK031	S. Brethren Rd	19.73	356	P	P	03 25 17.9	-0.8
OK031				IAmb	IAmb	03 25 21.0	
	comp=Z,16nm,0.7s						
OK052	Battle Ridge R	19.77	356		P	03 25 18.4	-0.7
FCAR	Ozark Folk Cen	19.80	7	P	P	03 25 18.3	-1.1
FCAR				IAmb	IAmb	03 25 21.7	
	comp=Z,7.8nm,0.7s						
OK033	Mehan	19.83	356	P	P	03 25 18.9	-0.8
121A	Cookes Peak, D	19.88	327	P	P	03 25 21.7	+1.1
121A				IAmb	IAmb	03 25 27.1	
	comp=Z,8.7nm,0.9s						
QUOK	Quay	19.94	356	P	P	03 25 19.8	-1.1
HHAR	Hobbs	20.04	3	P	P	03 25 22.2	+0.2
HHAR				IAmb	IAmb	03 25 28.7	
	comp=Z,18nm,1.5s						
U38A	Gravette	20.18	2	P	P	03 25 22.6	-0.9
U38A				IAmb	IAmb	03 25 26.2	
	comp=Z,9.8nm,0.8s						
OK051	E0350 and S346	20.28	356	P	P	03 25 22.3	-2.4
OK051				IAmb	IAmb	03 25 30.9	
	comp=Z,17nm,1.1s						
DUN6	Lazy B Ranch	20.60	325	P	P	03 25 28.3	0.0
T35A	Sooner Cattle	20.67	357	P	P	03 25 27.2	-1.7
T35A				IAmb	IAmb	03 25 49.8	
	comp=Z,17nm,1.0s						
MGMO	Mountain Grove	21.03	6	P	P	03 25 32.3	-0.5
MGMO				IAmb	IAmb	03 26 06.0	
	comp=Z,11nm,1.1s						
ANMO	Albuquerque	21.23	334	P	P	03 25 34.6	-0.6
ANMO	Albuquerque	21.23	334	P	P	03 25 36.7	+1.5
	comp=Z,1.9nm,0.9s,baz=245,slow=14,SNR=7.8						
	comp=Z,1.9nm,0.9s						
RTBA	Rita Blanca	21.25	343	P	P	03 25 34.9	-0.4
RTBA				IAmb	IAmb	03 25 38.5	
	comp=Z,14nm,0.8s						
S39A	Bolivar	21.47	4	P	P	03 25 36.3	-1.3
S39A				IAmb	IAmb	03 25 42.6	
	comp=Z,5.8nm,0.8s						
CCM	Cathedral Cave	22.05	8	P	P	03 25 41.6	-2.1
CCM				IAmb	IAmb	03 25 45.0	
	comp=Z,5.5nm,0.7s						
KSU1	Kansas State U	22.85	357	P	P	03 25 50.2	-2.1
IMBA	Imbabura, San	23.04	132	P	P	03 25 54.3	-0.5
X16A	Lo Mia Camp, P	23.30	324	P	P	03 25 57.6	+0.5
SDCO	Great Sand Dun	23.32	339	P	P	03 25 57.0	-0.5
ROSC	El Rosal	23.38	117	LR	LR	03 35 17.6	
	comp=Z,75nm,18.6s,baz=78,slow=37						
P38A	Dawn	23.39	3	P	P	03 25 56.0	-1.8
P38A				IAmb	IAmb	03 25 58.7	
	comp=Z,7.0nm,0.8s						
P40A	Paris	23.41	6	P	P	03 25 55.9	-2.1
P40A				IAmb	IAmb	03 26 00.0	
	comp=Z,15nm,1.1s						
113A	Mohawk Valley,	23.57	318	P	P	03 25 59.0	-0.6
WUAZ	Wupatki	24.07	326	P	P	03 26 04.1	-0.5
WUAZ				IAmb	IAmb	03 26 26.4	
	comp=Z,4.7nm,0.9s						
N38A	Joes South For	24.57	4	P	P	03 26 07.9	-1.0
SDV	Santo Domingo	25.02	104	LR	LR	03 36 37.7	
	comp=Z,57nm,19.2s,baz=280,slow=38						
SMCO	Snowmass	25.12	338	P	P	03 26 14.6	+0.2
SMCO				IAmb	IAmb	03 26 20.2	
	comp=Z,5.0nm,1.1s						
SCIA	State Center	25.68	3	P	P	03 26 18.2	-0.8
L34A	Svendsen Farm,	25.70	358	P	P	03 26 18.3	-0.9
PFO	Pinyon Flats O	25.86	316	LR	LR	03 36 07.7	
	comp=Z,89nm,21.4s,baz=138,slow=36						
SJG	San Juan	27.79	82	LR	LR	03 36 31.3	
	comp=Z,22nm,20.1s,baz=280,slow=34						
ATAH	Atahualpa	28.52	143	LR	LR	03 36 23.9	
	comp=Z,66nm,18.1s,baz=353,slow=33						
NV11	Mina Array Sit	29.97	322	P	P	03 26 57.1	-0.6
NV11				IAmb	IAmb	03 27 02.5	
	comp=Z,3.2nm,0.9s						
MDPB	Devils Postpil	30.01	320	P	P	03 26 56.5	-1.6
MDPB				IAmb	IAmb	03 27 03.4	
	comp=Z,3.2nm,0.9s						
NVAR	Mina Array Bea	30.05	322	P	P	03 26 58.9	+0.5
NVAR	Mina Array Bea	30.05	322	P	P	03 27 00.9	+2.4
	comp=Z,3.6nm,0.8s,baz=137,slow=7.9,SNR=33						
NVAR				LR	LR	03 40 38.8	
	comp=Z,172nm,18.8s,baz=178,slow=40						
	comp=Z,3.6nm,0.8s						
REDW	Red Top Meadow	30.19	337	P	P	03 26 59.0	-0.6
SNOW	Snow King Moun	30.24	337	P	P	03 26 59.3	-0.8
SNOW				IAmb	IAmb	03 27 03.7	
	comp=Z,4.4nm,0.7s						
HLID	Hailey	31.81	333	P	P	03 27 13.8	-0.1
NNA	Nana	33.36	146	LR	LR	03 38 26.3	
	comp=Z,35nm,19.5s,baz=308,slow=32						
J08A	Circle Bar Ran	33.56	329	P	P	03 27 29.7	+0.6
YBH	Yreka Blue Hor	34.76	323	LR	LR	03 43 42.9	
	comp=Z,92nm,18.4s,baz=178,slow=40						
ETMB	Extrema	38.60	130	P	P	03 28 11.3	-1.1
ETMB				IAmb	IAmb	03 28 16.7	
	comp=Z,5.5nm,1.4s						
LMN	Caledonia Moun	38.96	34	P	P	03 28 13.0	-2.1
LPAZ	La Paz	41.88	139	P	P	03 28 42.2	+1.9
	comp=Z,0.6nm,0.5s,baz=281,slow=5.2,SNR=2.4						
LPAZ				LR	LR	03 44 23.4	
	comp=Z,51nm,20.8s,baz=270,slow=34						
	comp=Z,0.6nm,0.5s						
MDP	Montagnes des	43.14	100	LR	LR	03 49 16.7	
	comp=Z,28nm,19.0s,baz=184,slow=40						
SIV	San Ignacio	46.43	132	LR	LR	03 47 13.5	
	comp=Z,46nm,18.1s,baz=288,slow=34						
YKA	Yellowknife Ar	48.22	348	P	P	03 29 30.5	+1.0
	comp=Z,1.8nm,0.8s,baz=149,slow=6.7,SNR=3.6						
	comp=Z,1.8nm,0.8s						
CPUP	Villa Florida	56.04	138	LR	LR	03 53 32.9	
	comp=Z,30nm,18.4s,baz=344,slow=35						
BDFB	Brasilia	56.28	122	P	P	03 30 31.2	+1.0
	comp=Z,2.6nm,0.8s,baz=291,slow=6.6,SNR=3.9						
	comp=Z,2.6nm,0.8s						
ILAR	Eielson Array	59.63	337	P	P	03 30 53.5	+0.7
	comp=Z,0.2nm,0.9s,baz=127,slow=6.7,SNR=4.1						
	comp=Z,0.2nm,0.9s						
PAB	San Pablo	80.50	52	P	P	03 33 00.9	-0.6
ESBB	Sonseca Array	80.76	51	P	P	03 33 02.5	-0.4
NOA	NORSAR Array B	83.67	28	P	P	03 33 18.4	+0.8
	comp=Z,2.0nm,0.8s,baz=289,slow=5.1,SNR=4.2						
	comp=Z,2.0nm,0.8s						
PZH	PanZhiHua	134.48	339	PKP	PKPdf	03 40 07.0	-1.3

CNRM ***30*** *03:31:41.5, 35°.93N×4°.75W, h95km, ml3.2*
SFS ***30*** *03:31:42.4, 36°.01N×4°.66W, h72km, ML3.2/24, ML3.3/22, MLv3.2/24*
INMG ***30*** *03:31:42.7±2.5, 36°.00N×4°.64W, h88km±9km, ML3.1, Error ellipse: s-maj=7.3km s-min=6.6km az=16.0*
LDG ***30*** *03:31:42.6±0.3, 36°.04N×4°.62W, h80km, Ml3.3/12, Error ellipse: s-maj=5.5km s-min=4.3km az=17.0*
MDD ***30*** *03:31:43.3±0.3, 36°.02N×4°.65W, h86km±4km, Mb3.3/56, Error ellipse: s-maj=2.0km s-min=1.7km az=163.0*
IGIL ***30*** *03:31:43.4, 36°.02N×4°.65W, h40km, ML3.1*
ISC 30 03:31:40.3±1.0, 36°.02N±0°.03×4°.62W±0°.02, h109km±7km, n137, σ2°16/227, 45C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	Mijas	0.56	347	⇑P	Pn	03 31 57.6	+0.2
EMIJ				⇑*i*Vmb_V		03 31 58.8	
	5μm,SNR=138						
EMIJ				S	Sn	03 32 09.0	-1.3
CEU	Ceuta	0.62	259	S	Sn	03 32 09.0	-2.0
CEU				P	Pn	03 31 58.2	+0.4
ECEU	Ceuta	0.63	259	S	Sn	03 32 10.3	-0.8
SMIR	Smir Dam	0.71	241	P	Pn	03 31 59.2	+0.7
SMIR				S	Sn	03 32 09.6	-2.6
EMAL	Malaga-Limoner	0.75	12	S	Sn	03 32 11.7	-1.3
EMAL				P	Pn	03 31 59.7	+0.8
EJIM	Jimena Fronter	0.81	302	*e*Pg	Pn	03 32 01.7	+2.2
EJIM				*e*Sg	Sn	03 32 13.7	-0.2
EJIM	Jimena Fronter	0.81	302	⇑P	Pn	03 32 01.7	+2.2
EJIM				S	Sn	03 32 13.7	-0.2
PVLZ	Peæn de	0.89	163	P	Pn	03 32 00.5	+0.3
PALE	Palemas	0.98	145	P	Pn	03 32 01.5	+0.3
PALE				S	Sn	03 32 15.9	-1.0
CH

ENIJ				⇑iVmb_V			03 32 17.1
	267nm,SNR=4.4						
ENIJ				S		Sn	**03 32 43.4 +1.4**
ENIJ	**Nijar**	**2.16**	**63**	P		Pn	**03 32 16.4 +1.1**
EQES	**Quesada**	**2.17**	**34**	⇑P		Pn	**03 32 17.6 +2.2**
EQES				⇑iVmb_V			03 32 19.0
	467nm,SNR=11						
EQES				S		Sn	**03 32 42.6 +0.3**
TAF	**Taforalt**	**2.17**	**123**	P		Pn	**03 32 16.2 +0.8**
LCRM	**LCR**	**2.34**	**185**	P		Pn	**03 32 18.1 +0.4**
LCRM				S		Sn	**03 32 44.3 -2.0**
JBK	**JBK**	**2.38**	**134**	P		Pn	**03 32 19.1 +0.8**
EMIN	**Mina Concepcio**	**2.40**	**317**	⇓P		Pn	**03 32 19.6 +1.3**
EMIN				⇑iVmb_V			03 32 20.2
	4μm,SNR=77						
EMIN				S		Sn	**03 32 45.9 -1.5**
EMIN	**Mina Concepcio**	**2.40**	**317**	P		Pn	**03 32 19.6 +1.3**
EMIN				S		Sn	**03 32 46.1 -1.3**
IFR	**Ifrane**	**2.54**	**190**	P		Pn	**03 32 21.2 +1.0**
IFR				S		Sn	**03 32 48.7 -2.2**
RTC	**Rabat Centre**	**2.74**	**223**	P		Pn	**03 32 22.2 -0.6**
RTC				S		Sn	**03 32 52.8 -2.6**
EGRO	**El Granado**	**2.75**	**304**	⇓P		Pn	**03 32 24.3 +1.4**
EGRO				⇑iVmb_V			03 32 24.4
	6μm,SNR=98						
EGRO				S		Sn	**03 32 54.3 -1.4**
EGRO	**El Granado**	**2.75**	**304**	P		Pn	**03 32 24.3 +1.4**
EGRO				S		Sn	**03 32 54.4 -1.3**
PVAQ	**Vaqueiros**	**2.84**	**300**	*e*P		Pn	**03 32 25.4 +1.3**
PVAQ				*e*S		Sn	**03 32 56.4 -1.5**
PVAQ				A		A	03 32 58.0
	80nm,0.3s						
PVAQ	**Vaqueiros**	**2.84**	**300**	P		Pn	**03 32 24.9 +0.8**
PVAQ				S		Sn	**03 32 55.2 -2.7**
PVAQ	**Vaqueiros**	**2.84**	**300**	P		Pn	**03 32 25.4 +1.3**
PSIM	**Granatula de C**	**2.88**	**14**	P		Pn	**03 32 26.3 +1.7**
PSIM				S		Sn	**03 32 57.4 -1.3**
PBAR	**Barrancos**	**2.89**	**319**	*e*P		Pn	**03 32 26.3 +1.6**
PBAR				*e*S		Sn	**03 32 57.6 -1.4**
PBAR				A		A	03 32 59.7
	81nm,0.2s						
PBAR	**Barrancos**	**2.89**	**319**	P		Pn	**03 32 26.3 +1.6**
PBDV	**Barranco-do-Ve**	**2.93**	**296**	*e*P		Pn	**03 32 26.4 +1.1**
PBDV				*e*S		Sn	**03 32 58.5 -1.5**
PBDV				A		A	03 33 01.6
	33nm,0.3s						
CZD	**Col de Zad**	**3.00**	**187**	P		Pn	**03 32 27.3 +0.8**
CZD	**Col de Zad**	**3.00**	**187**	P		Sn	**03 33 02.0 -0.1**
ZHG	**ZHG**	**3.06**	**214**	P		Pn	**03 32 28.3 +1.1**
ZHG				S		Sn	**03 33 00.9 -2.3**
MD31	**MD31**	**3.15**	**182**	P		Pn	**03 32 29.4 +1.0**
MD31				S		Sn	**03 33 03.0 -2.4**
PCVE	**Castro Verde**	**3.18**	**301**	*e*P		Pn	**03 32 29.8 +1.2**
PCVE				*e*S		Sn	**03 33 04.3 -1.6**
PCVE				A		A	03 33 06.8
	35nm,0.4s						
PCVE	**Castro Verde**	**3.18**	**301**	P		Pn	**03 32 29.8 +1.2**
MDT	**Midelt**	**3.20**	**180**	P		Pn	**03 32 30.2 +1.2**
MDT	**Midelt**	**3.20**	**180**	P		Sn	**03 33 05.3 -1.2**
PBEJ	**Beja**	**3.28**	**309**	*e*P		Pn	**03 32 31.4 +1.5**
PBEJ				*e*S		Sn	**03 33 06.6 -1.6**
PBEJ				A		A	03 33 07.4
	73nm,0.1s						
CART	**Cartagena**	**3.30**	**61**	P		Pn	**03 32 31.5 +1.4**
EBAD	**Badajoz**	**3.33**	**326**	P		Pn	**03 32 32.2 +1.7**
EBAD				⇑iVmb_V			03 32 34.7
	503nm,SNR=11						
EBAD				S		Sn	**03 33 08.5 -0.9**
EBAD	**Badajoz**	**3.33**	**326**	P		Pn	**03 32 32.3 +1.7**
MORF	**Marmelete**	**3.49**	**293**	*e*P		Pn	**03 32 33.7 +1.0**
MORF				*e*S		Sn	**03 33 11.8 -1.4**
MORF				A		A	03 33 14.6
	30nm,0.1s						
MORF	**Marmelete**	**3.49**	**293**	*e*P		Pn	**03 32 33.6 +1.0**
MORF				*e*S		Sn	**03 33 10.7 -2.5**
MORF				IAML			03 33 14.5
	comp=N,54nm,0.1s						
PAB	**San Pablo**	**3.52**	**3**	P		Sn	**03 33 12.6 -1.6**
PAB	**San Pablo**	**3.52**	**3**	⇑P		Pn	**03 32 34.8 +1.5**
PAB				⇑iVmb_V			03 32 37.2
	comp=N,105nm,SNR=2.5						
PAB				S		Sn	**03 33 12.4 -1.8**
AVE	**Averroes**	**3.56**	**221**	P		Pn	**03 32 35.2 +1.5**
PFVI	**Vila Bisbo**	**3.56**	**289**	*e*P		Pn	**03 32 35.0 +1.3**
PFVI				*e*S		Sn	**03 33 13.4 -1.6**
PFVI				A		A	03 33 14.8
	comp=N,27nm,0.3s						
PFVI	**Vila Bisbo**	**3.56**	**289**	P		Pn	**03 32 34.8 +1.1**
PFVI				S		Sn	**03 33 13.6 -1.4**
PFVI	**Vila Bisbo**	**3.56**	**289**	P		Sn	**03 33 13.6 -1.4**
PFVI	**Vila Bisbo**	**3.56**	**289**	P		Pn	**03 32 34.9 +1.3**
ETOB	**Tobarra**	**3.58**	**42**	P		Pn	**03 32 35.9 +1.9**
ETOB				⇑iVmb_V			03 32 36.3
	comp=N,342nm,SNR=4.1						
ETOB				S		Sn	**03 33 13.9 -1.7**
ETOB	**Tobarra**	**3.58**	**42**	P		Pn	**03 32 36.0 +1.9**
PTEO	**Sao Teotonio**	**3.63**	**296**	*e*P		Pn	**03 32 36.0 +1.5**
PTEO				*e*S		Sn	**03 33 15.2 -1.4**
PTEO				A		A	03 33 18.6
	comp=N,19nm,0.3s						
ETRV	**Los Montesinos**	**3.67**	**56**	P		Pn	**03 32 37.7 +2.5**
ETRV				⇑iVmb_V			03 32 40.5
	comp=N,232nm,SNR=1.2						
ESDC	**Sonseca Array**	**3.68**	**8**	P		Pn	**03 32 37.0 +1.7**
ESDC				⇑iVmb_V			03 32 39.4
	comp=N,61nm,SNR=1.4						
ESDC				S		Sn	**03 33 16.1 -1.9**
EVO	**Evora**	**3.69**	**314**	*e*P		Pn	**03 32 36.0 +0.6**
EVO				*e*S		Sn	**03 33 15.7 -2.3**
EVO				A		A	03 33 17.5
	comp=N,75nm,0.1s						
EVO	**Evora**	**3.69**	**314**	P		Pn	**03 32 35.9 +0.6**
PESTR	**Estremoz**	**3.69**	**321**	*e*P		Pn	**03 32 37.2 +1.7**
PESTR				*e*S		Sn	**03 33 17.2 -1.0**
PESTR				A		A	03 33 31.0
	comp=N,22nm,0.3s						
PESTR	**Estremoz**	**3.69**	**321**	P		Pn	**03 32 37.2 +1.7**
PESTR				S		Sn	**03 33 16.6 -1.6**
PESTR	**Estremoz**	**3.69**	**321**	P		Sn	**03 33 16.6 -1.6**
PESTR	**Estremoz**	**3.69**	**321**	P		Pn	**03 32 37.2 +1.7**
PNCL	**Nicolau / Gran**	**3.76**	**305**	*e*S		Sn	**03 33 18.0 -1.7**
PNCL				A		A	03 33 20.1
	comp=N,31nm,0.4s						
PMRV	**Marv??o**	**4.05**	**328**	*e*P		Pn	**03 32 42.0 +1.8**
PMRV				*e*S		Sn	**03 33 24.9 -1.8**
PMRV				A		A	03 33 41.0
	comp=N,27nm,0.5s						
PMTG	**Montargil**	**4.18**	**318**	*e*P		Pn	**03 32 43.5 +1.6**
PMTG				*e*S		Sn	**03 33 28.4 -1.4**
PMTG				A		A	03 33 30.3
	comp=N,12nm,0.3s						
AFON	**Font Roja**	**4.18**	**50**	⇑iVmb_V			03 32 46.4
	comp=N,207nm,SNR=2.5						
AFON				S		Sn	**03 33 31.1 +1.0**
EPLA	**Plasencia**	**4.20**	**344**	P		Pn	**03 32 44.2 +2.0**
EPLA				⇑iVmb_V			03 32 44.4
	comp=N,158nm,SNR=2.1						
EPLA				S		Sn	**03 33 28.3 -2.0**
EVIV	**Cofrentes, Val**	**4.27**	**40**	P		Pn	**03 32 44.9 +1.7**
EVIV				⇑iVmb_V			03 32 46.4
	comp=N,184nm,SNR=2.1						
EVIV				S		Sn	**03 33 29.1 -2.9**
PACT	**Alcochete**	**4.33**	**310**	*e*P		Pn	**03 32 46.3 +2.3**
PACT				*e*S		Sn	**03 33 33.0 -0.5**
PACT				A		A	03 33 41.8
	comp=N,26nm,0.5s						
EBEN2	**Beniarda presa**	**4.41**	**52**	⇑iVmb_V			03 32 48.2
	comp=N,145nm,SNR=0.9						
EBEN2				S		Sn	**03 33 37.4 +1.9**
UCM	**Universidad Co**	**4.41**	**14**	P		Pn	**03 32 47.5 +2.4**
PCBR	**Castelo Branco**	**4.43**	**330**	*e*P		Pn	**03 32 47.2 +1.9**
PCBR				*e*S		Sn	**03 33 34.0 -1.8**
PCBR				A		A	03 33 36.8
	comp=N,25nm,0.4s						
ECHE	**Chera**	**4.59**	**38**	P		Pn	**03 32 49.2 +1.8**
ECHE				⇑iVmb_V			03 32 50.4
	comp=N,86nm,SNR=0.9						
ECHE				S		Sn	**03 33 35.3 -4.5**
ECHE	**Chera**	**4.59**	**38**	P		Pn	**03 32 49.1 +1.6**
GUD	**Guadarrama**	**4.63**	**4**	P		Pn	**03 32 50.4 +2.3**
GUD				⇑iVmb_V			03 32 52.0
	comp=N,46nm,SNR=1.0						
GUD				S		Sn	**03 33 38.8 -2.0**
PSBE	**So Bento**	**4.80**	**318**	*e*P		Pn	**03 32 52.1 +1.7**
PSBE				*e*S		Sn	**03 33 44.2 -0.8**
PSBE				A		A	03 33 58.8
	comp=N,11nm,0.4s						
MTE	**Manteigas**	**4.94**	**333**	*e*P		Pn	**03 32 54.4 +2.1**
MTE				*e*S		Sn	**03 33 47.7 -0.6**
MTE				A		A	03 34 14.0
	comp=N,18nm,0.5s						
PCAS	**Casmilo, Conde**	**5.05**	**324**	*e*S		Sn	**03 33 49.8 -1.2**
PCAS				A		A	03 34 17.8
	comp=N,16nm,0.5s						
EJUZ	**Juzbado, Salam**	**5.15**	**349**	P		Pn	**03 32 57.1 +1.9**
EJUZ				S		Sn	**03 33 51.2 -2.3**
ETOR	**Torete**	**5.20**	**22**	P		Pn	**03 32 57.9 +2.2**
ETOR				⇑iVmb_V			03 32 58.4
	comp=N,195nm,SNR=1.9						
ETOR				S		Sn	**03 33 51.0 -3.5**
PVIS	**Viseu**	**5.34**	**332**	*e*P		Pn	**03 32 59.5 +1.8**
PVIS				*e*S		Sn	**03 33 58.2 +0.1**
PVIS				A		A	03 33 59.2
	comp=N,16nm,0.3s						
OUZM	**OUZ**	**5.41**	**200**	P		Pn	**03 33 00.3 +1.6**
EMOS	**Mosqueruela**	**5.43**	**36**	P		Pn	**03 33 01.8 +2.9**
EMOS				⇑iVmb_V			03 33 04.4
	comp=N,137nm,SNR=1.3						
EMOS				S		Sn	**03 33 57.9 -2.3**
MVO	**Moncorvo**	**5.47**	**341**	*e*P		Pn	**03 33 01.9 +2.5**
MVO				*e*S		Sn	**03 33 59.5 -1.6**
MVO				A		A	03 34 20.8
	comp=N,11nm,0.3s						
OUK	**Oukaimeden**	**5.51**	**210**	P		Pn	**03 33 01.6 +1.2**
TIO	**Tiouine**	**5.54**	**204**	P		Pn	**03 33 02.1 +1.5**
PVRL	**Vila Real**	**5.78**	**336**	*e*S		Sn	**03 34 07.5 -1.0**
PVRL				A		A	03 34 10.1
	comp=N,39nm,0.1s						
POLO	**Lamas de Olo**	**5.89**	**336**	*e*P		Pn	**03 33 07.7 +2.5**
POLO				*e*S		Sn	**03 34 10.9 -0.5**
POLO				A		A	03 34 11.5
	comp=N,4.2nm,0.6s						
ZGR	**Zagora**	**5.95**	**188**	P		Pn	**03 33 07.0 +1.0**
PBRG	**Braganca**	**6.01**	**345**	*e*P		Pn	**03 33 09.2 +2.5**
PBRG				*e*S		Sn	**03 34 11.5 -2.6**
PBRG				A		A	03 34 14.1
	comp=N,6.6nm,0.4s						
ECAL	**Calabor**	**6.14**	**345**	P		Pn	**03 33 11.1 +2.7**
ECAL				⇑iVmb_V			03 33 11.3
	comp=N,85nm,SNR=1.2						
ECAL				S		Sn	**03 34 15.8 -1.4**
ERTA	**Horta de San J**	**6.27**	**37**	P		Pn	**03 33 13.9 +3.7**
ERTA				⇑iVmb_V			03 33 14.5
	comp=N,251nm,SNR=1.4						
ERTA				S		Sn	**03 34 20.3 -0.2**
ELOB	**Lobios**	**6.42**	**336**	P		Pn	**03 33 14.7 +2.4**
ELOB				⇑iVmb_V			03 33 15.1
	comp=N,91nm,SNR=0.9						
ELOB				S		Sn	**03 34 20.9 -3.4**
ESAC	**San Caprasio**	**6.55**	**28**	⇑iVmb_V			03 33 20.5
	comp=N,255nm,SNR=1.0						
ESAC				S		Sn	**03 34 28.4 +1.2**
PGAV	**Gavieira, Arco**	**6.58**	**336**	*e*P		Pn	**03 33 17.4 +2.9**
PGAV				*e*S		Sn	**03 34 26.8 -1.2**
PGAV				A		A	03 34 28.5
	comp=N,7.3nm,0.5s						
EZAM	**Zamans**	**6.89**	**334**	⇑iVmb_V			03 33 22.6
	comp=N,237nm,SNR=1.6						
EZAM				S		Sn	**03 34 32.8 -2.7**
EPOB	**Poblet**	**6.94**	**38**	P		Pn	**03 33 21.9 +2.6**
EPOB				⇑iVmb_V			03 33 24.7
	comp=N,265nm,SNR=1.5						
EPOB				S		Sn	**03 34 35.4 -1.3**
ELAN	**Lanestosa**	**7.26**	**7**	P		Pn	**03 33 27.5 +3.9**
ELAN				⇑iVmb_V			03 33 29.6
	comp=N,81nm,SNR=0.5						
ELAN				S		Sn	**03 34 41.3 -3.1**
EAGO	**Agolada(Pontev**	**7.28**	**339**	⇑iVmb_V			03 33 27.1
	comp=N,139nm,SNR=1.2						
EAGO				S		Sn	**03 34 42.1 -2.9**
EARI	**Arriondas**	**7.28**	**357**	P		Pn	**03 33 28.6 +4.6**
EARI				⇑iVmb_V			03 33 30.8
	comp=N,151nm,SNR=0.7						
EARI				S		Sn	**03 34 42.3 -2.8**
EORO	**Oroz-Betelu**	**7.32**	**19**	S		Sn	**03 34 44.4 -1.7**
ETSF	**Etsaut**	**7.55**	**23**	*e*Pn		Pn	**03 33 31.6 +4.0**
ETSF				*e*Sn		Sn	**03 34 48.1 -3.5**
	comp=N,6.3nm,0.4s						
SJPF	**Ste Jean**	**7.55**	**19**	*e*Pn		Pn	**03 33 30.6 +3.0**
SJPF				*e*Sn		Sn	**03 34 46.2 -5.3**
	comp=N,1.9nm,0.2s						
EPON	**Pontenova**	**7.55**	**346**	P		Pn	**03 33 32.1 +4.6**
EPON				⇑iVmb_V			03 33 34.7
	comp=N,184nm,SNR=1.4						
EPON				S		Sn	**03 34 48.8 -2.8**
EALK	**Alkurruntz**	**7.58**	**18**	P		Pn	**03 33 31.5 +3.5**
EALK				⇑iVmb_V			03 33 33.9
	comp=N,117nm,SNR=0.7						
EALK				S		Sn	**03 34 49.5 -2.7**
ECHI	**Chisagues Biel**	**7.61**	**28**	P		Pn	**03 33 30.7 +2.3**
ECHI				⇑iVmb_V			03 33 32.9
	comp=N,79nm,SNR=0.9						
ECHI				S		Sn	**03 34 51.1 -2.0**
EPF	**Esparros**	**7.98**	**27**	*e*Pn		Pn	**03 33 36.3 +2.9**
EPF				*e*Sn		Sn	**03 34 59.2 -2.7**
	comp=N,2.5nm,0.2s						
LFF	**La Frestale**	**9.79**	**23**	*e*Pn		Pn	**03 34 00.6 +2.6**
LFF				*e*Sn		Sn	**03 35 40.7 -5.3**
	comp=N,0.8nm,0.3s						
CAF	**Calviac**	**10.24**	**28**	*e*Pn		Pn	**03 34 06.6 +2.5**
CAF				*e*Sn		Sn	**03 35 53.0 -3.9**
	comp=N,0.5nm,0.2s						
RJF	**Les Rejaudoux**	**10.37**	**25**	*e*Sn		Sn	**03 35 55.2 -4.8**
	comp=N,0.2nm,0.2s						
MFF	**Saint Martin d**	**11.09**	**16**	*e*Sn		Sn	**03 36 13.1 -4.3**
	comp=N,0.3nm,0.3s						
QUIF	**Quistinic**	**11.93**	**5**	*e*Sn		Sn	**03 36 31.5 -6.3**
	comp=N,0.7nm,0.4s						
SGMF	**Saint Gilles**	**12.32**	**6**	*e*Pn		Pn	**03 34 35.1 +3.3**
SGMF				*e*Sn		Sn	**03 36 41.4 -5.7**
	comp=N,0.8nm,0.4s						
ROSF	**Rostrenen**	**12.35**	**4**	*e*Pn		Pn	**03 34 35.1 +3.0**
ROSF				*e*Sn		Sn	**03 36 41.6 -6.2**
	comp=N,1.2nm,0.3s						
GRR	**Gorron**	**12.66**	**12**	*e*Sn		Sn	**03 36 48.6 -6.9**
	comp=N,0.8nm,0.3s						

*NEIC **30** 04:04:14.2±1.4, 19°.28N±0°.02×155°.10W±0°.02, h11km±1km, Error ellipse: s-maj=3.8km s-min=0.7km az=136.0*

HVO 30 04:04:15.3±1.0, 19°.33N±0°.02×155°.14W±0°.01, h7km±1km, ML2.8/26,**ML2.8**/40(NEIC), **Error ellipse: s-maj=3.1km s-min=1.4km az=153.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.06**	**10**	Pg	Pg	04 04 17.2	+0.2
STCH					Sg	04 04 18.4	+0.1
KNHH	**Kane Nui o Ham**	**0.06**	**327**		Pg	04 04 17.4	+0.3
JCUZ	**Jacuzzi**	**0.06**	**30**	Pg	Pg	04 04 17.1	0.0
JCUZ				Sg	Sg	04 04 18.7	+0.2
JCUZ				IAML		04 04 19.8	
	comp=E,5μm,0.2s						
NPOC	**North of Pu'u**	**0.07**	**21**	Pg	Pg	04 04 17.4	+0.2
NPOC				Sg	Sg	04 04 18.9	+0.4
PUH	**Pauahi**	**0.09**	**301**	Pg	Pg	04 04 17.7	+0.2
PUH				IAML		04 04 19.8	
	comp=E,4μm,0.1s						
PUH				IAML		04 04 20.1	
	comp=N,5μm,0.3s						
KKO	**Keanakako`i**	**0.14**	**299**	Pg	Pg	04 04 18.5	+0.2
KKO				Sg	Sg	04 04 20.8	+0.3
KKO				IAML		04 04 21.9	
	comp=N,3μm,0.7s						
BYL	**Byron's Ledge**	**0.14**	**305**	Sg	Sg	04 04 20.8	+0.3
RIM	**Rim**	**0.15**	**297**	Pg	Pg	04 04 18.6	+0.2
RIM				Sg	Sg	04 04 20.9	+0.3
RIM				IAML		04 04 21.7	
	comp=N,4μm,0.4s						
RIM				IAML		04 04 21.8	
	comp=E,3μm,0.5s						
HATHI	**Halema'uma'u T**	**0.15**	**308**	Sg	Sg	04 04 21.2	+0.5
SBLHI	**Steaming Bluff**	**0.16**	**308**	Pg	Pg	04 04 18.7	+0.1
SBLHI				Sg	Sg	04 04 21.5	+0.6
SBLHI				IAML		04 04 21.9	
	comp=E,2μm,0.5s						
NPH	**North Pit**	**0.16**	**301**	Pg	Pg	04 04 18.7	0.0
JOKA	**Jonika Flow**	**0.16**	**50**		Pg	04 04 18.8	+0.2
JOKA					Sg	04 04 21.4	+0.5
SDHHI	**Sand Hill**	**0.16**	**292**	Pg	Pg	04 04 18.8	+0.2
SDHHI				IAML		04 04 23.6	
	comp=E,3μm,0.3s						
SDHHI				IAML		04 04 24.4	
	comp=N,2μm,0.3s						
UWB	**Uwekahuna B**	**0.17**	**305**	Pg	Pg	04 04 18.4	-0.3
HLP	**Hilina Pali**	**0.17**	**259**	Pg	Pg	04 04 19.1	+0.4
HLP				Sg	Sg	04 04 22.1	+1.0
HLP				IAML		04 04 22.6	
	comp=E,3μm,0.2s						
HLP				IAML		04 04 25.0	
	comp=N,2μm,0.4s						
OBL	**Observatory Le**	**0.17**	**302**	Pg	Pg	04 04 18.6	-0.1
OBL				IAML		04 04 22.6	
	comp=N,3μm,0.6s						
OBL				IAML		04 04 24.8	
	comp=E,2μm,0.5s						
WRMHI	**West Rim**	**0.17**	**296**	Pg	Pg	04 04 18.8	0.0
WRMHI				IAML		04 04 24.2	
	comp=E,2μm,0.4s						
UWE	**Uwekahuna**	**0.17**	**302**	Pg	Pg	04 04 18.9	0.0
UWE				IAML		04 04 24.9	
	comp=N,2μm,0.6s						
RSD	**Rainshed**	**0.19**	**315**	Pg	Pg	04 04 19.2	0.0
HTC	**Hot Caves**	**0.26**	**250**		Pg	04 04 21.1	+0.6
MLH	**Mauna Loa**	**0.29**	**305**	Pg	Pg	04 04 21.0	0.0
MLH				Sg	Sg	04 04 25.9	+1.0
MLH				IAML		04 04 27.1	
	comp=E,1μm,0.1s						
MLH				IAML		04 04 29.9	
	comp=N,1μm,0.1s						
AIN	**Ainahou**	**0.31**	**278**	Pg	Pg	04 04 22.1	+0.6
AIN				Sg	Sb	04 04 27.4	-1.1
HMH	**Humu'ula Sheep**	**0.43**	**310**	Sg	Sg	04 04 30.3	+1.0
KHU	**Kahuku**	**0.46**	**260**	Pg	Pg	04 04 23.8	-0.5
KHU				Sg	Sg	04 04 30.9	+0.6
KHU				IAML		04 04 32.5	
	comp=N,627nm,0.4s						
KHU				IAML		04 04 36.2	
	comp=E,584nm,0.5s						
HPO	**Honuapo**	**0.46**	**239**		Pg	04 04 24.3	+0.1
MWH	**Moku'aweowe**	**0.46**	**290**	Pg	Pg	04 04 24.3	-0.1
MWH				Sg	Sg	04 04 31.7	+1.2
MLOA	**Mauna Loa Obse**	**0.46**	**296**	Pg	Pg	04 04 24.0	-0.4
MLOA				Sg	Sg	04 04 31.3	+0.8
MLOA				IAML		04 04 32.6	
	comp=N,974nm,0.2s						
ALEP	**Alea Permanent**	**0.53**	**294**		Pg	04 04 25.0	-0.5
ALEP					Sg	04 04 33.3	+0.9
HUH	**Hualalai**	**0.75**	**298**	Pg	Pg	04 04 29.3	-0.5
CPH	**Captain Cook**	**0.76**	**282**		Pg	04 04 29.2	-0.6
HPAH	**Hawaii Prepara**	**0.88**	**323**	Pg	Pg	04 04 29.6	-2.5
HLK	**Haleakala**	**1.77**	**324**	Pn	Pn	04 04 41.6	-4.9

*NERS **30** 04:09:05.7±0.0, 67°.77N×142°.70E, h12km*
*IDC **30** 04:09:07.9±0.6, 67°.65N×142°.93E, h0km, mb4.1/17, mbtmp4.1/20, ML3.2/3, MS3.6/23, Error ellipse: s-maj=17.6km s-min=12.8km az=163.0*
*YARS **30** 04:09:07.6, 67°.68N×142°.69E, h13km*
*MOS **30** 04:09:08.0±1.0, 67°.61N×143°.09E, h14km, mb4.5/11, Error ellipse: s-maj=19.1km s-min=8.9km az=89.1*
*NEIC **30** 04:09:09.2±1.0, 67°.7N±0°.1×142°.9E±0°.2, h10km±1km, mb4.6/95, Error ellipse: s-maj=18.3km s-min=13.7km az=208.0*

ISC 30 04:09:09.1±0.3, 67°.62N±0°.03×143°.03E±0°.04, h10km, n398, σ1§19/371, mb4.5/75, MS3.5/22, 4C-7D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBGR	**Belaya Gora**	**1.50**	**51**	*i* Pg	**Pb**	**04 09 35.9**	**-1.0**
	15nm,0.1s						
YBGR				*e*Sg	**Sg**	**04 09 57.4**	**+0.2**
	110nm,0.1s						
UNR	**Ust'-Nera**	**3.06**	**178**	*i* Pn	**Pn**	**04 09 57.1**	**-0.4**
UNR				*i* Pn	**Pn**	**04 09 57.1**	**-0.4**
UNR				*i* Pn	**Pn**	**04 09 57.1**	**-0.4**
UNR				*e*Pg	**Pb**	**04 10 03.6**	**0.0**
	6.8nm,0.1s						
UNR				*e*Sn	**Sn**	**04 10 34.4**	**+0.2**
UNR				*e*Sn	**Sn**	**04 10 34.4**	**+0.2**
UNR				*e*Sg	**Sg**	**04 10 45.7**	**-1.7**
	104nm,0.3s						
SUUS	**Susuman**	**5.32**	**154**	*e*P	**Pn**	**04 10 29.0**	**+0.5**
SUUS				Pgmax		04 10 39.6	
	20nm,0.4s						
SUUS				*e*Pg	**Pb**	**04 10 44.0**	**+2.0**
SUUS				*e*Sg	**Sg**	**04 11 55.8**	**-3.8**
SUUS				Sgmax		04 12 02.1	
	510nm,0.5s						
SUUS				Sgmax		04 12 02.1	
	120nm,0.6s						
SEY	**Seymchan**	**6.12**	**136**	*e*P	**Pn**	**04 10 39.9**	**+0.5**
SEY				*e*		04 10 55.6	
SEY				Pmax		04 10 57.4	
	10.0nm,0.4s						
SEY				*e*Sg	**Sg**	**04 12 21.8**	**-3.5**
SEY				Sgmax		04 12 30.0	
	360nm,0.8s						
SEY				Sgmax		04 12 30.0	
	110nm,0.6s						
SEY	**Seymchan**	**6.12**	**136**	Pn	**Pn**	**04 10 39.8**	**+0.4**
	1.2nm,0.3s,baz=310,slow=10,SNR=8.6						
SEY				Lg	Lg	04 12 12.2	
	7.1nm,0.3s,baz=327,slow=13,SNR=4.6						
	4.1nm,0.4s						
TIXI	**Tiksi**	**6.38**	**316**	Pn	**Pn**	**04 10 41.6**	**-1.3**
TIXI	**Tiksi**	**6.38**	**316**	*e*Pn	**Pn**	**04 10 41.3**	**-1.5**
TIXI				*e*Pg	**Pb**	**04 10 59.8**	**-0.1**
	4.8nm,0.0s						
TIXI				*e*Sn	**Sn**	**04 11 50.8**	**-4.8**
TIXI				*e*Sn	**Sn**	**04 11 50.8**	**-4.8**
TIXI				*e*Sg	Sg	04 12 22.4	-11
	49nm,0.1s						
TIXI	**Tiksi**	**6.38**	**316**	⇓*i*P	**Pn**	**04 10 42.1**	**-0.8**
TLAR	**Talaya**	**

TNA	Tin City	19.18	73	P	Pn	04 13 32.8	-0.5
	baz=299						
KLR	Kul'dur	19.30	203	*ce*P	Pn	04 13 35.2	+0.3
KLR				pmax	pmax		
	comp=Z,11nm,1.3s						
KLR	Kul'dur	19.30	203	P	Pn	04 13 34.4	-0.5
	comp=Z,0.2nm,0.3s,baz=22,slow=7.8,SNR=6.3						
KLR				Lg	Lg	04 19 24.3	
	comp=Z,0.1nm,0.3s,baz=112,slow=18,SNR=5.7						
KLR				LR	LR	04 21 15.4	
	comp=Z,176nm,21.6s,baz=351,slow=38						
	comp=Z,3.4nm,0.7s						
C17K	DeLong Mountai	19.60	63	P	Pn	04 13 36.7	-1.6
	baz=293						
B18K	Kokolik River	19.73	60	P	Pn	04 13 38.2	-1.5
	baz=292						
F14K	Arctic Creek	19.81	72	P	P	04 13 38.5	-0.8
	baz=299						
D17K	Noatak River	19.95	65	P	P	04 13 40.5	-0.3
	baz=295						
C18K	Utukok River	20.20	61	P	Pn	04 13 43.6	-1.9
	baz=294						
F15K	North Star Dit	20.30	71	P	Pn	04 13 45.2	-1.5
F15K				IAmb	IAmb	04 13 47.4	
	comp=Z,28nm,1.1s						
F15K	North Star Dit	20.30	71	P	Pn	04 13 45.5	-1.1
	baz=299						
C19K	Lookout Ridge	20.55	59	P	Pn	04 13 48.5	-1.1
C19K				IAmb	IAmb	04 13 50.3	
	comp=Z,33nm,1.1s						
C19K	Lookout Ridge	20.55	59	P	Pn	04 13 47.7	-1.9
	baz=294						
G15K	Niukluk	20.89	72	P	Pn	04 13 51.2	-2.2
	baz=301						
E18K	Tukpahlearik C	20.93	64	P	Pn	04 13 51.6	-2.2
E18K				IAmb	IAmb	04 13 57.1	
	comp=Z,27nm,1.1s						
E18K	Tukpahlearik C	20.93	64	P	Pn	04 13 51.7	-2.2
	baz=297						
B20K	Meade River	20.99	56	P	Pn	04 13 52.9	-1.6
	baz=293						
F17K	Baldwin Pennin	21.16	67	P	P	04 13 55.1	+1.2
	baz=299						
G16K	Koyuk River	21.29	70	P	P	04 13 55.4	+0.1
G16K	Koyuk River	21.29	70	P	P	04 13 57.0	+1.7
	baz=301						
D19K	Kuna River	21.30	60	P	P	04 13 56.7	+1.3
	baz=296						
D20K	Etivluk River	21.70	59	P	P	04 14 00.8	+1.1
	baz=296						
HIA	Hailar	21.82	224	P	P	04 14 00.5	-0.5
HIA				IAmb	IAmb	04 14 07.5	
	comp=Z,29nm,1.3s						
HIA	Hailar	21.82	224⇓	*e*P	P	04 14 01.2	+0.1
HIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
G17K	Kiwalik Mounta	21.84	69	P	P	04 14 02.7	+1.4
	baz=301						
B21K	Ikpikpuk River	21.95	56	P	P	04 14 03.7	+1.4
	baz=295						
B22K	Teshekpuk Lake	22.03	54	P	P	04 14 04.7	+1.5
	baz=294						
E20K	Nigu River	22.04	60	P	P	04 14 05.0	+1.6
	baz=297						
E19K	Redstone River	22.07	62	P	P	04 14 05.1	+1.5
	baz=298						
C21K	Knifeblade Rid	22.10	57	P	P	04 14 05.0	+1.1
	baz=296						
F19K	Shaleruckik Mo	22.18	64	P	P	04 14 04.9	+0.1
	baz=300						
J14K	Nanvaranak Lak	22.31	77	P	P	04 14 07.1	+1.0
	baz=306						
G18K	Tagagawik	22.35	67	P	P	04 14 07.4	+0.8
	baz=301						
K13K	Kusilvak Mount	22.39	79	P	P	04 14 08.2	+1.2
	baz=307						
H17K	Granite Mounta	22.41	70	P	P	04 14 08.6	+1.3
H17K				IAmb	IAmb	04 14 11.2	
	comp=Z,18nm,1.1s						
H17K	Granite Mounta	22.41	70	P	P	04 14 07.3	0.0
	baz=303,SNR=5.5						
E21K	Killik River	22.69	59	P	P	04 14 10.9	+0.6
	baz=298						
G19K	Purcell Mounta	22.77	65	P	P	04 14 11.1	0.0
G19K	Purcell Mounta	22.77	65	P	P	04 14 11.6	+0.5
	baz=301						
F20K	Avaraart Lake	22.78	63	P	P	04 14 12.1	+1.0
	baz=300						
H18K	Honhosa River	22.85	68	P	P	04 14 12.5	+0.6
	baz=303						
D22K	Ayikyak River	22.90	57	P	P	04 14 13.4	+0.9
	baz=298						
J16K	Anvik River	23.09	74	P	P	04 14 15.9	+1.4
	baz=306						
C23K	Itkillik River	23.11	54	P	P	04 14 15.8	+1.2
	baz=297						
H19K	Roundabout Mou	23.32	66	P	P	04 14 17.6	+0.9
H19K	Roundabout Mou	23.32	66	P	P	04 14 17.7	+1.0
	baz=303,SNR=6.9						
K15K	Wolf Creek Mou	23.34	76	P	P	04 14 18.1	+1.1
	baz=307						
BNX	BinXian	23.41	208	⇓P	P	04 14 16.5	-1.3
BNX				pmax	pmax		
	comp=Z,12nm,0.9s						
BNX				pmax	pmax		
	comp=Z,190nm,4.3s						
F21K	Alatna River	23.45	61	P	P	04 14 18.7	+0.6
	baz=301						
L14K	Kuka Creek	23.49	79	P	P	04 14 19.6	+1.1
	baz=309						
D23K	Nanushuk River	23.50	56	P	P	04 14 19.4	+0.9
	baz=299						
E22K	Anaktuvuk Pass	23.54	58	P	P	04 14 19.1	+0.1
	baz=300						
ASAJ	Asahikawa	23.56	181	LR	LR	04 24 57.9	
	comp=Z,158nm,18.6s,baz=30,slow=40						
GCSA	Galena City Sc	23.60	68	P	P	04 14 20.7	+1.2
	baz=304						
F22K	John River	23.73	60	P	P	04 14 21.7	+0.8
	baz=301						
C24K	Franklin Bluff	23.76	54	P	P	04 14 21.5	+0.5
	baz=298						
G21K	Allakaket	23.81	63	P	P	04 14 22.4	+0.9
	baz=302						
H20K	Anotleneega Mo	23.89	66	P	P	04 14 22.6	+0.2
	baz=304,SNR=9.4						
D24K	Happy Valley	23.99	55	P	P	04 14 24.0	+0.7
D24K	Happy Valley	23.99	55	P	P	04 14 23.9	+0.6
	baz=299,SNR=11						
IMAR	Indian Mountai	24.01	64	P	P	04 14 23.9	+0.4
TOLK	Toolik Lake Re	24.01	56	P	P	04 14 23.8	+0.2
TOLK	Toolik Lake Re	24.01	56	P	P	04 14 23.6	+0.1
	baz=300,SNR=9.3						
MDJ	Mudanjiang	24.13	204	P	P	04 14 25.3	+0.5
MDJ				pP	sP	04 14 29.5	+0.4
MDJ				sP	pP	04 14 32.5	+4.6
MDJ				S	**S**	**04 18 45.3**	**+3.1**
MDJ				sS	sS	04 18 50.0	+2.6
MDJ				pmax	pmax		
	comp=Z,21nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,150nm,4.1s						
MDJ	Mudanjiang	24.13	204	P	P	04 14 24.5	-0.2
M14K	Bethel	24.14	80	P	P	04 14 25.5	+0.8
	baz=310						
USA0B	Ussuriysk Arra	24.20	200⇑	*e*P	P	04 14 24.6	-0.8
USRK	Ussuriysk Ar.	24.20	200	P	P	04 14 24.8	-0.6
	comp=Z,9.9nm,1.0s,baz=10,slow=8.9,SNR=5.8						
USRK				LR	LR	04 24 12.0	
	comp=Z,157nm,19.4s,baz=4.3,slow=37						
	comp=Z,9.9nm,1.0s						
G22K	Bettles	24.26	61	P	P	04 14 26.2	+0.4
	baz=302						
K17K	Iditarod	24.27	73	P	P	04 14 26.2	+0.3
K17K				IAmb	IAmb	04 14 28.2	
	comp=Z,15nm,0.9s						
K17K	Iditarod	24.27	73	P	P	04 14 26.5	+0.6
	baz=307						
E23K	Chandalar	24.29	57	P	P	04 14 26.6	+0.5
	baz=301						
J18K	Innoko River	24.40	71	P	P	04 14 27.5	+0.4
	baz=307						
I20K	Naaghedeneel	24.42	67	P	P	04 14 28.1	+0.9
I20K	Naaghedeneel	24.42	67	P	P	04 14 28.1	+0.9
	baz=305						
J19K	Poorman	24.48	69	P	P	04 14 27.9	+0.1
J19K	Poorman	24.48	69	P	P	04 14 28.4	+0.6
	baz=306,SNR=11						
H21K	Melozitna Rive	24.51	64	P	P	04 14 28.2	+0.1
H21K				IAmb	IAmb	04 14 43.1	
	comp=Z,14nm,1.1s						
H21K	Melozitna Rive	24.51	64	P	P	04 14 28.4	+0.2
	baz=304,SNR=7.8						
COLD	Coldfoot	24.53	59	P	P	04 14 29.2	+0.9
	baz=302,SNR=20						
L17K	Donlin	24.63	74	P	P	04 14 30.1	+0.9
	baz=308						
E24K	Your Creek	24.64	57	P	P	04 14 30.1	+0.8
	baz=302						
M15K	Kasigluk River	24.66	79	P	P	04 14 30.2	+0.8
	baz=310						
D25K	Kavik River	24.67	53	P	P	04 14 30.5	+1.0
	baz=300						
C26K	Camden Bay	24.81	52	P	P	04 14 32.0	+1.3
	baz=299						
H22K	Ishtalitna Cre	24.87	63	P	P	04 14 32.5	+1.1
	baz=304,SNR=21						
G23K	Bananza Creek	24.87	60	P	P	04 14 32.2	+0.8
G23K				IAmb	IAmb	04 14 33.9	
	comp=Z,13nm,0.9s						
G23K	Bananza Creek	24.87	60	P	P	04 14 32.5	+1.1
	baz=303						
J20K	Nowinta River	24.90	68	P	P	04 14 32.1	+0.5
J20K	Nowinta River	24.90	68	P	P	04 14 32.3	+0.7
	baz=306,SNR=14						
TTA	Tatalina	24.98	71	P	P	04 14 33.2	+0.9
	baz=308						
I21K	Tanana	25.07	65	P	P	04 14 34.6	+1.5
	baz=305						
M16K	Timber Creek	25.09	77	P	P	04 14 34.8	+1.5
	baz=310						
F24K	Squaw Lake	25.13	58	P	P	04 14 35.2	+1.5
	baz=303						
L18K	Granite Mounta	25.17	73	P	P	04 14 35.7	+1.7
	baz=309						
M17K	Holitna River	25.41	75	P	P	04 14 38.0	+1.8
	baz=310						
K20K	Telida	25.41	69	P	P	04 14 37.2	+0.9
K20K	Telida	25.41	69	P	P	04 14 38.1	+1.8
	baz=308						
N16K	Nishlik Lake	25.52	78	P	P	04 14 39.4	+2.1
	baz=311						
H23K	Yukon River	25.53	62	P	P	04 14 39.9	+2.6
	baz=305						
E25K	Arctic Village	25.55	55	P	P	04 14 37.9	+0.5
E25K	Arctic Village	25.55	55	P	P	04 14 38.9	+1.4
	baz=303,SNR=25						
MLY	Manley	25.59	64	P	P	04 14 38.5	+0.7
MLY				IAmb	IAmb	04 14 55.2	
	comp=Z,18nm,1.4s						
MLY	Manley	25.59	64	P	P	04 14 39.4	+1.6
	baz=306						
G24K	Hadweenzic Riv	25.72	59	P	P	04 14 40.4	+1.4
	baz=304						
F25K	Christian Rive	25.82	57	P	P	04 14 41.7	+1.7
	baz=304						
L19K	White Mountain	25.86	72	P	P	04 14 41.0	+0.6
	baz=309						
M18K	Stony River	25.95	74	P	P	04 14 42.5	+1.4
	baz=310						
I23K	Minto, Yukon-K	25.99	63	P	P	04 14 42.0	+0.5
	baz=306						
O15K	Ungalikthiuk R	25.99	81	P	P	04 14 42.4	+0.9
	baz=313						
BPAW	Bear Paw Mtn.	26.05	66	P	P	04 14 43.1	+1.0
	baz=307						
CAST	Castle Rocks	26.09	68	P	P	04 14 42.9	+0.5
CAST				IAmb	IAmb	04 14 59.1	
	comp=Z,12nm,1.2s						
CAST	Castle Rocks	26.09	68	P	P	04 14 43.4	+1.0
	baz=308						
H24K	Noodor Dome	26.09	61	P	P	04 14 42.9	+0.5
H24K				IAmb	IAmb	04 14 49.5	
	comp=Z,12nm,0.9s						
H24K	Noodor Dome	26.09	61	P	P	04 14 43.2	+0.9
	baz=306						
ZAK	Zakamensk	26.09	249	*e*P	P	04 14 43.0	+0.4
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
G25K	Bearman Lake	26.14	58	P	P	04 14 43.8	+1.1
	baz=305						
M19K	Big River Lodg	26.21	72	P	P	04 14 45.1	+1.6
	baz=310						
F26K	Sheenjek River	26.23	56	P	P	04 14 44.7	+1.0
	baz=304						
BMAR	Burnt Mountain	26.25	56	P	P	04 14 44.6	+0.8
D27M	Malcolm River	26.35	51	P	P	04 14 45.7	+0.9
	baz=303						
KTH	Kantishna Hill	26.41	67	P	P	04 14 44.9	-0.5
H25L	Birch Creek	26.52	59	P	P	04 14 47.1	+0.9
	baz=306						
FYU	Fort Yukon	26.53	58	P	P	04 14 47.0	+0.7
POKR	Poker Flat Res	26.66	62	P	P	04 14 48.2	+0.7
	baz=307						
COLA	College	26.67	63	P	P	04 14 47.4	-0.1
COLA				IAmb	IAmb	04 14 49.3	
	comp=Z,9.6nm,0.6s						
COLA	College	26.67	63	*e*P	P	04 14 47.4	-0.1
TRF	Thorofare Moun	26.70	67	P	P	04 14 48.4	+0.3
TRF				IAmb	IAmb	04 14 50.2	
	comp=Z,13nm,1.0s						
TRF	Thorofare Moun	26.70	67	P	P	04 14 48.4	+0.3
	baz=309						
E27K	Coleen River	26.75	53	P	P	04 14 49.3	+0.9
	baz=305						
G26K	Porcupine Rive	26.78	57	P	P	04 14 49.4	+0.8
	baz=306						
ULN	Ulaanbaatar	26.92	241⇓	*e*P	P	04 14 51.8	+1.6
ULN				pmax	pmax		
	comp=Z,2.0nm,1.2s						
D28M	Stokes Point	26.96	50	P	P	04 14 51.1	+0.9
	baz=304						
MCK	McKinley	27.00	65	P	P	04 14 51.5	+0.9
	baz=309						
IL31		27.06	62	IAmb	IAmb	04 14 52.8	
	comp=Z,9.4nm,0.9s						
ILAR	Eielson Array	27.06	62	P	P	04 14 51.0	-0.1
ILAR	Eielson Array	27.06	62	P	P	04 14 51.8	+0.6
	comp=Z,6.4nm,0.8s,baz=298,slow=7.9,SNR=63						
ILAR				LR	LR	04 26 12.8	
	comp=Z,88nm,20.0s,baz=274,slow=38						
	comp=Z,6.4nm,0.8s						
PRP	Porcupine Dome	27.06	60	P	P	04 14 51.8	+0.5
	baz=307						
E28M	Babbage River	27.14	52	P	P	04 14 52.7	+0.9
	baz=305						
SONM	Songino Array	27.17	242	P	P	04 14 52.8	+0.4
SONM	Songino Array	27.17	242	*e*P	P	04 14 55.6	+3.2
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	Songino Array	27.17	242	P	P	04 14 54.2	+1.8
	comp=Z,2.2nm,0.9s,baz=26,slow=9.0,SNR=11						
SONM				Lg	Lg	04 23 31.3	
	comp=Z,0.3nm,0.3s,baz=26,slow=26,SNR=2.1						
	comp=Z,2.2nm,0.9s						
SKT	Skwentna	27.20	70	P	P	04 14 53.5	+1.1
	baz=310						
HDA	Harding Lake	27.26	63	P	P	04 14 53.9	+0.9
	baz=308						
O18K	Koktuh Hills	27.26	76	P	P	04 14 53.5	+0.5
	baz=313						
SPCR	Spurr Chakacha	27.46	72	P	P	04 14 55.8	+1.0
	baz=312						
N20K	Mount Spurr	27.46	72	P	P	04 14 55.6	+0.8
	baz=312						
G27K	Doyon Strip	27.54	56	P	P	04 14 56.9	+1.4
	baz=307						
F28M	Old Crow	27.61	54	P	P	04 14 57.0	+0.9
	baz=306						
J25K	Salcha River,	27.67	62	P	P	04 14 57.7	+1.0
	baz=309						
WAT1	Susitna Watana	27.70	67	P	P	04 14 57.6	+0.6
	baz=310						
E29M	Blow River	27.75	51	P	P	04 14 57.6	+0.3
	baz=306						
SUA	Susitna One	27.82	70	P	P	04 14 59.0	+0.9
	baz=312						
M22K	Willow	27.85	69	P	P	04 14 58.6	+0.4
	baz=311						
H27K	Steamboat Moun	27.93	57	P	P	04 14 58.0	-0.9
	baz=308						
DHY	Denali Highway	27.96	66	P	P	04 14 59.2	-0.2
	baz=310						
R16K	Pilot Point	27.96	82	P	P	04 14 59.2	-0.1
	baz=316						
I26K	Coal Creek Min	27.97	59	P	P	04 14 59.0	-0.3
	baz=308						
WAT6	Susitna Watana	28.15	67	P	P	04 15 00.2	-0.9
	baz=311						
PMR	Palmer	28.31	69	P	P	04 15 01.9	-0.4
	baz=312						
J26L	Joseph Creek	28.35	61	P	P	04 15 02.5	-0.2
	baz=310						
RIDG	Independent Ri	28.40	63	P	P	04 15 03.3	+0.1
	baz=310						
G29M	Pine Creek	28.61	54	P	P	04 15 05.4	+0.4
	baz=308						
PAX	Paxson	28.69	64	P	P	04 15 04.7	-1.1
	baz=311						
O22K	Cooper Landing	28.85	71	P	P	04 15 07.1	0.0
	baz=313						
F30M	Barrier River	28.86	52	P	P	04 15 05.4	-1.7
	baz=308						
I28M	Miner Creek	28.93	57	P	P	04 15 07.5	-0.5
	baz=310						
H29M	Whitestone	28.94	55	P	P	04 15 06.9	-1.0
	baz=309						
BRSE	Bradley Lake S	28.99	73	P	P	04 15 08.1	-0.2
	baz=314						
INK	Inuvik	29.09	49	LR	LR	04 28 40.4	
	comp=Z,94nm,19.3s,baz=15,slow=40						
EPYK	Eagle Plains	29.36	54	P	P	04 15 11.4	-0.3
	baz=310						
KLU	Klutina	29.52	67	P	P	04 15 12.6	-0.6
	baz=313						
KDAK	Kodiak Island	29.69	77	LR	LR	04 28 28.7	
	comp=Z,202nm,19.6s,baz=333,slow=39						
G31M	Satah River	29.75	52	P	P	04 15 15.2	+0.2
	baz=310						
OHAK	Old Harbor	29.83	79	P	P	04 15 16.6	+0.8
	baz=316						
L27K	Beaver Creek,	29.87	62	P	P	04 15 16.5	+0.3
	baz=312						
BCAR	Beaver Creek A	29.89	62	P	P	04 15 16.1	-0.2
N25K	Chitina, Valde	29.91	66	P	P	04 15 16.2	-0.4
	baz=313						
M26K	Nabesna, AK	29.92	64	P	P	04 15 16.0	-0.6
	baz=313						
CHIR	Chirikof Islan	29.98	82	P	P	04 15 17.3	+0.2
	baz=318						
SII	Sitkinak Islan	29.98	80	P	P	04 15 16.8	-0.3
	baz=317						
DAWY	Dawson	30.01	59	P	P	04 15 15.6	-1.9
	baz=312						
P23K	Montague Islan	30.02	70	P	P	04 15 18.0	+0.5
	baz=314						
ZALV	Zalesovo Beam	30.19	272	P	P	04 15 18.4	-0.7
ZALV	Zalesovo Beam	30.19	272	P	P	04 15 19.8	+0.8
	comp=Z,0.8nm,0.6s,baz=23,slow=8.0,SNR=4.5						
ZALV				LR	LR	04 28 30.1	
	comp=Z,62nm,20.9s,baz=351,slow=38						
	comp=Z,0.8nm,0.6s						
I30M	Mount Dempster	30.22	56	P	P	04 15 19.2	-0.1
	baz=312						
M27K	Edge Creek, AK	30.33	63	IAmb	IAmb	04 15 22.8	
	comp=Z,12nm,0.9s						
M27K	Edge Creek, AK	30.33	63	P	P	04 15 21.0	+0.6
	baz=313,SNR=6.2						
BMRM	Bremner River	30.34	67	P	P	04 15 20.3	-0.1
	baz=314						
BVCY	Beaver Creek	30.64	62	P	P	04 15 23.0	0.0
	baz=313						
J30M	Hart River	30.66	57	P	P	04 15 23.2	-0.1
	baz=312						
K29M	Barlow Dome	30.78	58	P	P	04 15 24.0	-0.3
	baz=313						
C36M	Paulatuk	31.04	43	P	P	04 15 26.3	-0.1
	baz=312						
L29M	L29M	31.08	60	P	P	04 15 27.0	+0.1
	baz=314						
KSRS	Korea Array	31.39	203	LR	LR	04 28 52.4	
	comp=Z,131nm,18.4s,baz=5.0,slow=38						
CTG	Chitna Glacier	31.49	65	P	P	04 15 30.8	+0.2
	baz=315						
YUK8	Steele Glacier	31.80	63	P	P	04 15 33.5	0.0
	baz=315						
HHC	Hu-ho-hao-te	31.82	229	*e*P	P	04 15 31.8	-1.9
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,420nm,5.1s						
M30M	Minto, Yukon	31.89	60	P	P	04 15 34.5	+0.4
	baz=315						
O28M	Mount Upton	32.02	64	P	P	04 15 35.5	0.0
	baz=316						
YUK4	Talbot Arm	32.14	63	P	P	04 15 35.9	-0.5
	baz=315						
PINM	Pinnacle	32.48	65	P	P	04 15 39.5	+0.2
	baz=316						
YUK6	Outpost Mounta	32.52	63	P	P	04 15 39.8	0.0
	baz=316						
N30M	Aishikik Lake	32.59	61	P	P	04 15 40.3	+0.1
	baz=316						
HYT	Haines Junctio	32.90	62	P	P	04 15 43.2	+0.2
	baz=316						
O29M	Mount Kennedy	32.91	64	IAmb	IAmb	04 15 47.3	
	comp=Z,7.9nm,1.1s						
O29M	Mount Kennedy	32.91	64	P	P	04 15 43.4	+0.3
	baz=316						
M31M	Drury Creek, Y	32.95	59	P	P	04 15 43.6	+0.3
	baz=316						
N31M	Braeburn, Yuko	33.01	61	P	P	04 15 44.4	+0.6
	baz=316						
RES	Resolute Bay	33.22	24	LR	LR	04 31 02.7	
	comp=Z,44nm,18.2s,baz=4.0,slow=40						
FARO	Faro, Yukon	33.27	58	P	P	04 15 46.4	+0.3
	baz=316						
O30N	Mendenhall	33.42	62	P	P	04 15 48.3	+0.9
O30N	Mendenhall	33.42	62	P	P	04 15 48.0	+0.6
	baz=317,SNR=8.5						
P30M	Million Dollar	33.60	63	P	P	04 15 49.8	+0.8
	baz=317						
MMPY	Sheldon Lake,	33.66	56	P	P	04 15 50.1	+0.7
	baz=317						
P29M	Windy Craggy	33.70	64	P	P	04 15 50.7	+0.9
	baz=318						
WHY	Whitehorse	33.91	61	P	P	04 15 52.2	+0.5
	baz=317						
PLBC	Pleasant Camp	34.30	63	P	P	04 15 55.9	+0.9
	baz=318						
P33M	Teslin, Yukon	34.93	60	P	P	04 16 01.0	+0.5
	baz=318						
KURK	Kurchatov	35.09	274	P	P	04 16 01.4	-0.5
KURK	Kurchatov	35.09	274	P	P	04 16 03.0	+1.1
KURBB	Kurchatov Arra	35.20	274	P	P	04 16 03.0	+0.1
	comp=Z,1.0nm,0.7s,baz=44,slow=8.8,SNR=8.5						
	comp=Z,1.0nm,0.7s						
JNU	Nakatsue	35.26	198	LR	LR	04 30 44.1	
	comp=Z,73nm,18.0s,baz=52,slow=37						
S31K	Pelican	35.47	65	P	P	04 16 06.4	+1.4
	baz=320						
R32K	Eaglecrest	35.82	64	P	P	04 16 09.2	+1.1
	baz=320						
Q32M	Nakina River	36.06	61	P	P	04 16 10.7	+0.3
	baz=320						
R33M	Jennings River	36.16	60	P	P	04 16 12.0	+0.8
	baz=320						
BVAR	Borovoye Array	36.37	284	P	P	04 16 13.0	+0.1
BVAR	Borovoye Array	36.37	284	P	P	04 16 13.0	+0.1
	comp=Z,4.5nm,1.1s,baz=54,slow=7.7,SNR=7.4						
	comp=Z,4.5nm,1.1s						
BRVK	Borovoye	36.38	284	P	P	04 16 12.2	-0.7
BRVK	Borovoye	36.38	284⇑	*e*P	P	04 16 13.2	+0.2
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
S32K	Killisnoo	36.42	64	P	P	04 16 13.8	+0.7
	baz=320						
SIT	Sitka	36.48	65	P	P	04 16 14.0	+0.4
	baz=321						
MK31	Makanchi Array	36.89	267	P	P	04 16 16.6	-0.8
MK31	Makanchi Array	36.89	267	P	P	04 16 16.6	-0.8
MK31				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	Makanchi Array	36.89	267	P	P	04 16 16.6	-0.8
MKAR	Makanchi Array	36.89	267	P	P	04 16 17.0	-0.4
	comp=Z,0.9nm,0.5s,baz=33,slow=5.9,SNR=9.8						
MKAR				LR	LR	04 32 32.7	
	comp=Z,54nm,18.6s,baz=36,slow=38						
	comp=Z,0.9nm,0.5s						
DLBC	Dease Lake	37.21	60	P	P	04 16 21.2	+1.1
DLBC				IAmb	IAmb	04 16 24.9	
	comp=Z,12nm,1.4s						
DLBC	Dease Lake	37.21	60	P	P	04 16 21.0	+1.0

baz=321
DLBC Dease Lake 37.21 60 LR LR 04 34 18.1
comp=Z,86nm,18.9s,baz=330,slow=41
S34M Telegraph Cree 37.25 62 P **P 04 16 21.6 +1.4**
baz=321
WMQ Urumqi 37.34 259 *e*P **P 04 16 23.0 +1.7**
WMQ pmax pmax
comp=Z,20nm,0.7s
LYN LuoYang 37.47 224 *e*P **P 04 16 23.5 +1.1**
LYN pmax pmax
comp=Z,12nm,1.1s
LYN pmax pmax
comp=Z,470nm,4.8s
WRAK Wrangell Islan 38.00 64 P **P 04 16 28.2 +1.5**
baz=322
T35M Bob Quinn 38.28 62 P **P 04 16 30.6 +1.6**
baz=322
NJ2 Nanjing 38.32 214 *e*P **P 04 16 28.5 -1.1**
NJ2 pP **sP 04 16 33.0 -1.1**
NJ2 sP **pP 04 16 35.3 +2.5**
NJ2 pmax pmax
comp=Z,18nm,0.5s
CRAG Craig 38.49 65 P **P 04 16 32.0 +1.3**
baz=322
LZH Lanzhou 38.54 235 *e*P **P 04 16 35.3 +3.7**
LZH pP sP 04 16 40.8 +4.7
LZH pmax pmax
comp=Z,15nm,1.5s
YKA Yellowknife Ar 38.73 46 LR LR 04 36 36.3
comp=Z,34nm,18.2s,baz=340,slow=42
GOMU GeErMu 41.45 246 P **P 04 16 57.5 +1.5**
GOMU pP sP 04 17 01.0 +0.5
GOMU sP pP 04 17 02.3 +3.1
GOMU pmax pmax
comp=Z,8.0nm,1.1s
AKTO Aktyubinsk 42.99 291 LR LR 04 36 44.7
comp=Z,81nm,19.3s,baz=254,slow=39
ABKAR Akbulak array 43.28 288 P **P 04 17 09.2 -1.1**
AAK Ala-Archa 43.38 271‖ *e*P **P 04 17 12.8 +1.4**
AAK pmax pmax
comp=Z,9.0nm,1.9s
AAK Ala-Archa 43.38 271 LR LR 04 34 51.6
comp=Z,67nm,20.0s,baz=77,slow=36
FINES FINESS Array B 43.39 321 *e*P **P 04 17 11.2 +0.2**
FINES pmax pmax
comp=Z,8.0nm,1.0s
FINES FINESS Array B 43.39 321 P **P 04 17 10.8 -0.2**
comp=Z,8.3nm,1.0s,baz=19,slow=8.1,SNR=6.9
comp=Z,8.3nm,1.0s
SFJD Kangerlussuaq 45.32 7 LR LR 04 37 35.1
comp=Z,32nm,19.4s,baz=310,slow=38
FRB Frobisher Bay 46.98 19 LR LR 04 38 29.4
comp=Z,44nm,19.6s,baz=292,slow=38
PZH PanZhiHua 48.10 233 P **P 04 17 50.5 +1.7**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,180nm,5.1s
LSA Lhasa 48.62 246 P **P 04 17 53.7 +0.5**
LSA IAmb IAmb 04 17 58.4
comp=Z,7.0nm,1.1s
LSA Lhasa 48.62 246 P **P 04 17 53.7 +0.5**
LSA pmax pmax
comp=Z,7.0nm,1.1s
LTY Liberty 49.63 63 P **P 04 17 60.0 -0.3**
LTY IAmb IAmb 04 18 01.1
comp=Z,4.8nm,0.9s
NEW Newport 49.94 59 LR LR 04 40 35.9
comp=Z,81nm,19.7s,baz=295,slow=38
E08A Dider Farm, El 50.84 62 IAmb IAmb 04 18 11.4
comp=Z,16nm,1.5s
AKASG Malin Array Be 52.07 312 P **P 04 18 17.7 -0.8**
comp=Z,0.8nm,0.5s,baz=28,slow=7.6,SNR=2.8
comp=Z,0.8nm,0.5s
PINE Pine Mountain 52.56 65 P **P 04 18 23.2 +0.7**
PINE IAmb IAmb 04 18 24.9
comp=Z,6.7nm,0.8s
GEYT Alibeck 53.68 282 P **P 04 18 31.1 +0.6**
comp=Z,0.9nm,0.5s,baz=336,slow=7.0,SNR=4.5
comp=Z,0.9nm,0.5s
KBZ Khabaz 54.02 298‖ *e*P **P 04 18 33.6 +0.7**
KBZ pmax pmax
comp=Z,15nm,2.0s
BOZ Bozeman (W) 54.08 57 P **P 04 18 34.5 +1.0**
baz=333
CRAI Chiangrai 54.41 231 P **P 04 18 35.6 -0.5**
ULM Lac du Bonnet 54.46 43 LR LR 04 43 52.1
comp=Z,50nm,19.7s,baz=46,slow=38
YHH Holmes Hill 55.05 57 P **P 04 18 41.1 +0.4**
RLMT Red Lodge 55.25 55 P **P 04 18 42.4 +0.3**
baz=334,SNR=7.7
STHS Stebnicka Huta 55.40 318 *e*P **P 04 18 45.5 +2.6**
STHS Stebnicka Huta 55.40 318 *e*P **P 04 18 45.5 +2.6**
LOHW Long Hollow 56.18 57 P **P 04 18 48.9 0.0**
LOHW IAmb IAmb 04 18 51.5
comp=Z,13nm,1.4s
CMAR Chiang Mai Arr 56.51 232 *e*P **P 04 18 53.9 +2.7**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR Chiang Mai Arr 56.51 232 P **P 04 18 50.8 -0.4**
comp=Z,1.6nm,0.3s,baz=20,slow=9.2,SNR=5.3
CMAR LR LR 04 45 37.3
comp=Z,67nm,18.7s,baz=115,slow=39
comp=Z,1.6nm,0.3s
PAHR Pah Rah Range 56.71 66 IAmb IAmb 04 18 54.5
comp=Z,7.2nm,1.3s
VYHS Vyhne 56.87 319 *e*P **P 04 18 54.1 +0.7**
VYHS Vyhne 56.87 319 *e*P **P 04 18 54.2 +0.8**
HVU Hansel Valley 57.11 60 IAmb IAmb 04 18 57.8
comp=Z,5.3nm,0.9s
BW06 Boulder Array 57.27 57 P **P 04 18 57.3 +0.7**
baz=334
PDAR Pinedale Array 57.27 57 P **P 04 18 56.6 0.0**
PDAR Pinedale Array 57.27 57 P **P 04 18 57.4 +0.7**
comp=Z,2.0nm,0.8s,baz=9.3,slow=2.6,SNR=20
comp=Z,2.0nm,0.8s
YERR Yerington 57.41 66 IAmb IAmb 04 19 01.6
comp=Z,6.0nm,1.1s
HWUT Hardware Ranch 57.67 59 P **P 04 19 00.0 +0.7**
HWUT IAmb IAmb 04 19 01.2
comp=Z,4.2nm,0.9s
KVN Kaiserville 57.75 65 P **P 04 19 00.1 +0.2**
KVN Kaiserville 57.75 65 P **P 04 19 00.1 +0.2**
KVN pmax pmax
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 58.23 66 P **P 04 19 04.2 +0.8**
NVAR Mina Array Bea 58.23 66 P **P 04 19 04.7 +1.3**
comp=Z,2.2nm,0.8s,baz=322,slow=5.7,SNR=6.0
comp=Z,2.2nm,0.8s
NV11 Mina Array Sit 58.28 66 IAmb IAmb 04 19 06.0
comp=Z,8.5nm,1.4s
DUG Dugway, Tooele 58.52 61 P **P 04 19 05.4 +0.1**
DUG IAmb IAmb 04 19 08.3
comp=Z,7.3nm,1.3s
DUG Dugway, Tooele 58.52 61 P **P 04 19 06.0 +0.7**
baz=334,SNR=5.3
DUG Dugway, Tooele 58.52 61 P **P 04 19 05.4 +0.1**
DUG pmax pmax
comp=Z,7.0nm,1.3s
NLU North Lily Min 58.99 60 P **P 04 19 09.2 +0.6**
NLU IAmb IAmb 04 19 11.0
comp=Z,7.1nm,1.1s
R11B Troy Canyon, C 59.24 64 IAmb IAmb 04 19 12.6
comp=Z,4.1nm,1.0s
R11B Troy Canyon, C 59.24 64 P **P 04 19 11.3 +0.9**
baz=334,SNR=7.2
DSP Deep Springs 59.30 66 IAmb IAmb 04 19 15.0
comp=Z,6.1nm,1.3s
GMN Gold Mountain 59.61 66 IAmb IAmb 04 19 15.6
comp=Z,3.7nm,1.0s
PSUT Pine Spring 59.67 62 IAmb IAmb 04 19 15.9
comp=Z,6.1nm,1.0s
GRAC Grapevine Rang 59.84 66 P **P 04 19 15.1 +0.8**
baz=334
P17A Butcher Ranch, 59.86 59 P **P 04 19 15.4 +0.7**
P17A IAmb IAmb 04 19 16.9
comp=Z,4.9nm,0.9s
O20A White River Ci 60.08 57 P **P 04 19 17.0 +0.9**
baz=335
CWC Cottonwood Cre 60.09 67 P **P 04 19 17.4 +1.1**
baz=334
N23A Red Feather La 60.11 55 P **P 04 19 16.5 +0.1**
baz=336
MSU Marysvale 60.25 61 P **P 04 19 17.8 +0.4**
MSU Marysvale 60.25 61 P **P 04 19 17.8 +0.4**
ECSD EROS Data Cent 60.26 46 IAmb IAmb 04 19 18.3
comp=Z,6.6nm,1.1s
ECSD EROS Data Cent 60.26 46 P **P 04 19 16.4 -0.7**
baz=338
TPNV Topopah Spring 60.27 65 P **P 04 19 18.1 +0.6**
baz=334
PRN Pahroc Range 60.28 64 IAmb IAmb 04 19 29.7
comp=Z,4.7nm,1.0s
WCT Wildcat Mounta 60.28 65 IAmb IAmb 04 19 20.8
comp=Z,4.6nm,1.1s
MPMC Manual Prospec 60.64 66 P **P 04 19 21.0 +1.0**
baz=334
ISA Isabella, Lake 60.65 68 P **P 04 19 20.2 +0.3**
baz=334
GWY Greenwater Val 60.81 66 P **P 04 19 21.4 +0.3**
GWY IAmb IAmb 04 19 28.4
comp=Z,5.9nm,1.4s
PKM Mcpherson Peak 60.87 69 P **P 04 19 22.2 +0.6**
baz=334
QSM Queen of Sheba 60.94 66 P **P 04 19 22.7 +0.9**
QSM IAmb IAmb 04 19 24.0
comp=Z,3.3nm,0.8s
SHPR Sheep Range 61.05 64 P **P 04 19 23.6 +0.9**
ISCO Idaho Springs 61.21 55 P **P 04 19 24.5 +0.5**
baz=336
OGNE Ogallala 61.26 52 P **P 04 19 23.4 -0.6**
baz=337
SBC Santa Barbara 61.31 69 P **P 04 19 23.3 -1.0**
baz=334
SMCO Snowmass 61.35 56 IAmb IAmb 04 19 26.8
comp=Z,5.0nm,1.1s
EDW2 Edwards Air Fo 61.52 67 P **P 04 19 26.5 +0.6**
baz=335
GSC Goldstone, Bar 61.56 66 P **P 04 19 26.8 +0.7**
baz=335
TUQ Turquoise Moun 61.75 65 P **P 04 19 28.9 +1.4**
baz=335
BFSC Mount Baldy Ra 62.22 68 P **P 04 19 30.9 +0.2**
baz=335
GMRC Granite Mounta 62.43 66 P **P 04 19 32.4 +0.4**
baz=335
MVCO Mesa Verde 62.65 58 P **P 04 19 33.7 +0.1**
baz=336
BELC Belle Mtn. Jos 63.02 66 P **P 04 19 36.6 +0.6**
baz=335
SDCO Great Sand Dun 63.13 56 IAmb IAmb 04 19 38.9
comp=Z,6.2nm,1.4s
SDCO Great Sand Dun 63.13 56 P **P 04 19 37.5 +0.7**
baz=337
IRM Iron Mountain 63.18 65 P **P 04 19 38.2 +1.3**
baz=335
PFO Pinyon Flats O 63.21 67 P **P 04 19 38.2 +1.0**
baz=335
WUAZ Wupatki 63.24 62 P **P 04 19 38.5 +1.0**
baz=336
PDMCI Parker Dam,Lak 63.39 65 P **P 04 19 39.1 +0.9**
baz=336
BC3 Big Chuckawall 63.52 66 P **P 04 19 39.7 +0.5**
baz=335
BLYC Blythe 63.76 65 P **P 04 19 41.0 +0.3**
BLYC IAmb IAmb 04 19 43.1
comp=Z,4.8nm,0.9s
MONP2 Monument Peak 63.88 67 P **P 04 19 42.1 +0.4**
baz=335
L44A Lake County Fo 63.98 40 P **P 04 19 41.7 -0.3**
baz=341
SWSC Sam W. Stewart 64.05 67 P **P 04 19 41.6 -0.9**
baz=336
ANMO Albuquerque 65.38 58 P **P 04 19 51.4 -0.2**
baz=337
ANMO Albuquerque 65.38 58 LR LR 04 51 04.2
comp=Z,74nm,20.1s,baz=5.5,slow=38
O48B Farmland 66.47 38 P **P 04 19 58.2 0.0**
baz=342
CCM Cathedral Cave 67.01 44 P **P 04 20 00.2 -1.5**
baz=340
OK031 S. Brethren Rd 67.42 49 P **P 04 20 03.7 -0.6**
MSTX Muleshoe 67.46 55 P **P 04 20 04.4 -0.4**
baz=338
SSPA Standing Stone 67.72 33 P **P 04 20 04.1 -2.0**
baz=344
TUL3 Leonard 67.76 49 P **P 04 20 05.5 -0.9**
baz=339
MNTX Cornudas Mount 68.72 58 P **P 04 20 12.4 -0.2**
MNTX Cornudas Mount 68.72 58 P **P 04 20 13.0 +0.5**
baz=338
ABTX Abilene, Hawle 69.68 53 P **P 04 20 18.7 +0.2**
baz=339
ESDC Sonseca Array 70.15 333 P **P 04 20 20.2 -1.1**
ESDC IAmb IAmb 04 20 24.6
comp=Z,6.3nm,1.4s
ESDC Sonseca Array 70.15 333 P **P 04 20 21.1 -0.3**
comp=Z,2.8nm,1.2s,baz=12,slow=6.6,SNR=7.7
comp=Z,2.8nm,1.2s
TZTN Tazewell 70.38 38 P **P 04 20 23.0 +0.3**
baz=343
ALPN Alpine 70.50 57 P **P 04 20 23.6 -0.2**
ALPN IAmb IAmb 04 20 24.6
comp=Z,5.9nm,1.2s
OXF Oxford 70.84 44 P **P 04 20 24.6 -1.0**
baz=341
WHTX Lake Whitney, 70.93 51 P **P 04 20 26.3 +0.2**
baz=340
BRDY Brady 71.12 53 P **P 04 20 26.9 -0.4**
BRDY IAmb IAmb 04 20 28.4
comp=Z,4.8nm,1.1s
TX31 Lajitas Ar. Si 71.46 58 P **P 04 20 29.1 -0.4**
TX32 Lajitas Array 71.46 58 P **P 04 20 29.5 0.0**
TXAR Lajitas Array 71.46 58 P **P 04 20 29.5 0.0**
TXAR Lajitas Array 71.46 58 P **P 04 20 29.8 +0.3**
comp=Z,0.7nm,0.9s,baz=7.5,slow=3.7,SNR=8.9
TXAR LR LR 04 55 38.8
comp=Z,79nm,19.9s,baz=283,slow=39
comp=Z,0.7nm,0.9s
JCT Junction City 71.62 54 P **P 04 20 29.8 -0.6**
JCT Junction City 71.62 54 P **P 04 20 30.7 +0.3**
baz=339
JCT Junction City 71.62 54 P **P 04 20 29.8 -0.6**
JCT pmax pmax
comp=Z,12nm,1.3s
PALK Pallekele 72.99 247 LR LR 04 54 24.5
comp=Z,111nm,19.2s,baz=191,slow=37
GOGA Godfrey 73.39 39 P **P 04 20 40.8 -0.1**
baz=343
WRA Warramunga Arr 87.54 188 P **P 04 21 56.0 -0.7**
WRA Warramunga Arr 87.54 188 P **P 04 21 56.0 -0.7**
comp=Z,0.4nm,0.8s,baz=8.6,slow=4.8,SNR=1.9
comp=Z,0.4nm,0.8s
TORD Torodi Ar. Bea 94.73 322 P **P 04 22 30.5 +0.1**
comp=Z,1.0nm,1.0s,baz=26,slow=5.9,SNR=4.6
comp=Z,1.0nm,1.0s
MAW Mawson 145.91 222 PKPbc **PKPab 04 28 46.1 -1.2**
comp=Z,2.0nm,1.0s,baz=127,slow=3.2,SNR=3.7
PLCA Paso Flores 147.45 51 PKPbc **PKPbc 04 28 51.6 -0.6**
comp=Z,4.2nm,0.9s,baz=350,slow=6.1,SNR=3.8
QSPA South Pole Qui 157.41 180 PKPab **PKPab 04 29 35.4 +0.2**
comp=Z,1.4nm,0.8s,baz=278,slow=1.9,SNR=5.6

IDC ***30*** *04:33:59.8±1.6, 14°.74N×93°.48W, h0km, mb3.9/3, mbtmp3.8/5, ML3.3/1, MS3.5/8, Error ellipse: s-maj=50.0km s-min=24.9km az=44.0*
GCG ***30*** *04:34:05.8±2.9, 15°.29N×93°.74W, h35km, MD4.3*
NEIC ***30*** *04:34:08.9±2.0, 15°.11N±0°.06×93°.49W±0°.04, h35km±16km, mb4.1/27, Md4.3/30(MEX), Error ellipse: s-maj=8.8km s-min=5.7km az=200.0*
MEX ***30*** *04:34:10.1±0.9, 15°.10N×93°.48W, h50km±20km, MD4.4*
ISC 30 04:34:08.0±0.9**, 15°.07N**±0°.04×**93°.52W**±0°.03**, h52**km±10km**, n121,** σ2^{2}**29**/159**, mb4.0**/9**, MS3.4**/6**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.69**	**25**		**Pn**	**04 34 21.6**	**-0.1**
PCIG					**Sn**	**04 34 31.0**	**-0.7**
PCIG		**0.69**	**25**	*i* P	**Pn**	**04 34 21.6**	**-0.1**
PCIG				*e*S	**Sn**	**04 34 31.0**	**-0.7**
CARR	**Arriaga**	**1.23**	**342**	*e*P	**Pn**	**04 34 29.4**	**+0.6**
CARR				*e*S	**Sn**	**04 34 44.5**	**+0.2**
THIG		**1.23**	**98**		**Pn**	**04 34 29.0**	**+0.3**
THIG					**Sn**	**04 34 43.4**	**-0.9**
THIG		**1.23**	**98**	*e*P	**Pn**	**04 34 29.0**	**+0.3**
THIG				*e*S	**Sn**	**04 34 43.4**	**-0.9**
PATR	**El Naranjo**	**1.25**	**88**	*i* P	**Pn**	**04 34 28.9**	**-0.4**
PATR				*i* S	**Sn**	**04 34 43.4**	**-1.7**
PAVE	**Pavencul**	**1.30**	**85**	*i* P	**Pn**	**04 34 30.1**	**0.0**
PAVE				*i* S	**Sn**	**04 34 45.5**	**-1.1**
CHUJ	**Union Juarez**	**1.37**	**89**	*i* P	**Pn**	**04 34 30.8**	**-0.1**
CHUJ				*i* S	**Sn**	**04 34 46.8**	**-1.3**
TGIG		**1.74**	**13**		**Pn**	**04 34 35.7**	**-0.1**
TGIG					**Sn**	**04 34 55.5**	**-1.4**
TGIG		**1.74**	**13**	*i* P	**Pn**	**04 34 35.7**	**-0.1**
TGIG				*i* S	**Sn**	**04 34 55.5**	**-1.4**
TGBT	**Tuxtla Gutierr**	**1.74**	**14**	*i* P	**Pn**	**04 34 36.2**	**+0.4**
TGBT				*e*S	**Sn**	**04 34 56.0**	**-0.9**
CCIG	**Comitan**	**1.79**	**48**	*e*P	**Pn**	**04 34 37.0**	**+0.3**
CCIG				*e*S	**Sn**	**04 34 59.5**	**+1.1**
NILT	**Santiago Nilte**	**1.82**	**325**	*e*P	**Pn**	**04 34 37.5**	**+0.6**
NILT				*e*S	**Sn**	**04 34 58.4**	**-0.4**
RTAL	**Retalhuleu**	**1.85**	**107**	Pn	**Pn**	**04 34 37.1**	**-0.2**
STG3	**Santiaguito 3,**	**1.92**	**101**	*e*P	**Pn**	**04 34 39.8**	**+1.4**
HUEH	**Huehuetenango**	**1.96**	**83**		**Pn**	**04 34 39.6**	**+0.5**
SULM	**Suchitepequez,**	**2.04**	**112**	*e*P	**Pn**	**04 34 42.4**	**+2.5**
SULM				*e*S	**Sn**	**04 34 60.0**	**-4.3**
UXUV	**UXUV**	**2.31**	**345**	*e*P	**Pn**	**04 34 44.5**	**+0.9**
UXUV				*e*S	**Sn**	**04 35 11.6**	**+0.8**
CMIG	**Matias Romero**	**2.40**	**327**		**Pn**	**04 34 45.3**	**+0.6**
CMIG					**Sn**	**04 35 08.7**	**-4.3**
CMIG	**Matias Romero**	**2.40**	**327**	Pn	**Pn**	**04 34 45.4**	**+0.7**
4.8nm,0.3s,baz=154,slow=14,SNR=44							
CMIG				Sn	**Sn**	**04 35 14.1**	**+1.2**
40nm,0.3s,baz=353,slow=20,SNR=6.0							
CMIG				LR	LR	04 35 32.7	
comp=Z,188nm,19.6s,baz=156,slow=34							
18nm,0.3s							
CMIG	**Matias Romero**	**2.40**	**327**	*i* P	**Pn**	**04 34 45.3**	**+0.6**
CMIG				*e*S	**Sn**	**04 35 12.3**	**-0.7**
HUIG	**Huatulco**	**2.59**	**286**		**Pn**	**04 34 47.6**	**+0.2**
HUIG					**Sn**	**04 35 13.6**	**-4.1**
HUIG	**Huatulco**	**2.59**	**286**	*e*P	**Pn**	**04 34 47.6**	**+0.2**
HUIG				*e*S	**Sn**	**04 35 13.6**	**-4.1**
FUG	**Fuego 3**	**2.67**	**103**	*e*P	**Pn**	**04 34 52.1**	**+3.4**
FUG				*e*S	**Sn**	**04 35 18.2**	**-1.7**
TUIG	**Tuzandepetl**	**3.07**	**344**	*e*P	**Pn**	**04 34 55.7**	**+1.7**
TUIG				*i* S	Sn	04 35 19.5	-10
NBG	**Las Nubes**	**3.11**	**99**	*e*P	**Pn**	**04 34 59.2**	**+4.4**
NEUV	**Arroyo Zacate**	**3.42**	**320**	*e*P	**Pn**	**04 34 59.1**	**+0.3**
NEUV				*e*S	**Sn**	**04 35 34.7**	**-3.3**
PEIG	**Puerto Escondi**	**3.61**	**285**		**Pn**	**04 35 02.1**	**+0.6**
PEIG					**Sn**	**04 35 39.5**	**-3.4**
PEIG	**Puerto Escondi**	**3.61**	**285**	*e*P	**Pn**	**04 35 02.1**	**+0.6**
PEIG				*e*S	**Sn**	**04 35 39.5**	**-3.4**
VHO	**Vista Hermosa**	**3.67**	**303**	*e*P	Pn	04 35 07.1	+4.7
VHO				*e*S	**Sn**	**04 35 41.6**	**-3.0**
PMUV	**Sontecomapan**	**3.78**	**336**	*e*P	**Pn**	**04 35 04.1**	**+0.3**
PMUV				*e*S	**Sn**	**04 35 40.2**	**-6.8**
PETF	**Flores**	**3.96**	**62**	Pn	**Pn**	**04 35 06.5**	**+0.2**
ESQI	**Esquipulas**	**4.08**	**97**	Pn	**Pn**	**04 35 08.0**	**+0.1**
MTO3	**Montecristo**	**4.08**	**99**	Pn	**Pn**	**04 35 09.1**	**+1.0**
YOIG	**Yosondua**	**4.26**	**295**	*e*P	**Pn**	**04 35 14.2**	**+3.7**
YOIG				*e*S	**Sn**	**04 35 55.4**	**-3.8**
SNET	**Serv Nac Est T**	**4.38**	**108**	Pn	**Pn**	**04 35 14.2**	**+2.1**
SCIG	**Sabancuy**	**4.47**	**30**	*e*P	**Pn**	**04 35 12.7**	**-0.5**
SCIG				*e*S	**Sn**	**04 36 03.0**	**-1.0**
TXIG	**Tlaxiaco**	**4.62**	**299**		**Pn**	**04 35 19.9**	**+4.4**
TXIG					**Sn**	**04 36 09.2**	**+1.2**
TXIG	**Tlaxiaco**	**4.62**	**299**	*e*P	**Pn**	**04 35 19.9**	**+4.4**
TXIG				*e*S	**Sn**	**04 36 09.2**	**+1.2**
PNIG	**Pinotepa**	**4.62**	**287**	*e*P	**Pn**	**04 35 16.4**	**+1.1**
HLIG	**Huajuapan de L**	**4.94**	**304**	*e*P	**Pn**	**04 35 23.2**	**+3.4**
HLIG				*e*S	**Sn**	**04 36 15.8**	**0.0**
TPIG	**Tehuac#an**	**4.96**	**313**	*e*P	Pn	04 35 26.6	+6.5
TPIG				*e*S	**Sn**	**04 36 10.0**	**-6.3**
FTIG	**Fresnillo de T**	**5.24**	**303**	*e*P	**Pn**	**04 35 28.1**	**+4.2**
FTIG				*e*S	**Sn**	**04 36 17.9**	**-5.3**
JAUV	**Jalcomulco**	**5.30**	**324**	*e*P	**Pn**	**04 35 24.9**	**+0.3**
JAUV				*e*S	**Sn**	**04 36 22.0**	**-2.4**
MGIG	**Malinaltepec**	**5.36**	**294**		**Pn**	**04 35 28.6**	**+3.0**
MGIG					**Sn**	**04 36 23.9**	**-2.3**
MGIG	**Malinaltepec**	**5.36**	**294**	*e*P	**Pn**	**04 35 28.6**	**+3.0**
MGIG				*e*S	**Sn**	**04 36 23.9**	**-2.3**
LVIG	**Laguna Verde**	**5.39**	**330**	*e*P	**Pn**	**04 35 25.8**	**0.0**
LVIG				*e*S	**Sn**	**04 36 24.6**	**-1.9**
TLIG	**Tlapa**	**5.44**	**298**	*e*P	**Pn**	**04 35 30.9**	**+4.3**
TLIG				*i* S	**Sn**	**04 36 24.1**	**-3.9**
CRIG	**Cruz Grande**	**5.64**	**288**		**Pn**	**04 35 31.1**	**+1.7**
CRIG					**Sn**	**04 36 34.3**	**+1.4**
CRIG	**Cruz Grande**	**5.64**	**288**	*e*P	**Pn**	**04 35 31.1**	**+1.7**
CRIG				*e*S	**Sn**	**04 36 34.3**	**+1.4**
TGUH	**Tegucigalpa,Un**	**6.13**	**99**	Pn	**Pn**	**04 35 37.8**	**+1.6**
DAIG	**Los Arroyos**	**6.20**	**289**	*e*P	**Pn**	**04 35 39.5**	**+2.5**
DAIG				*e*S	**Sn**	**04 36 44.7**	**-2.0**
PPM	**Popocatepetl**	**6.29**	**310**	*e*P	Pn	04 35 45.2	+6.5
PPM				*e*S	**Sn**	**04 36 47.4**	**-2.1**
CXUV	**Coxquihui**	**6.38**	**323**	*e*P	**Pn**	**04 35 40.5**	**+1.0**
CXUV				*e*S	**Sn**	**04 36 47.8**	**-3.3**
YAIG	**Yautepec**	**6.51**	**306**	*e*P	**Pn**	**04 35 44.6**	**+3.3**
YAIG				*e*S	**Sn**	**04 36 52.2**	**-2.1**
PLIG	**Platanillo**	**6.61**	**301**	*e*P	**Pn**	**04 35 43.1**	**+0.4**
PLIG				*e*S	**Sn**	**04 36 53.0**	**-3.8**
CAIG	**El Cayaco**	**6.78**	**288**	*e*P	**Pn**	**04 35 46.7**	**+1.9**
CAIG				*e*S	**Sn**	**04 37 08.7**	**+8.0**
CNGN	**Cerro Negro**	**7.11**	**110**	Pn	**Pn**	**04 35 51.0**	**+1.6**
TEIG	**Tepich**	**7.16**	**44**	Pn	**Pn**	**04 35 49.9**	**-0.6**
TEIG	**Tepich**	**7.16**	**44**	Pn	**Pn**	**04 35 48.3**	**-1.8**
88nm,0.3s,baz=6.6,slow=1.8,SNR=26							
TEIG				Sn	**Sn**	**04 37 04.1**	**-6.0**
47nm,0.3s,baz=176,slow=19,SNR=2.3							
TEIG				LR	LR	04 39 01.0	
comp=Z,3μm,20.5s,baz=8.5,slow=41							
ARIG	**Puente Sto Nin**	**7.28**	**297**	*e*P	**Pn**	**04 35 55.2**	**+3.5**
ARIG				*e*S	**Sn**	**04 37 13.4**	**+0.3**
MATN	**Matagalpa**	**7.67**	**105**	Pn	**Pn**	**04 35 57.9**	**+0.6**
ORTG	**Ortega, Santa**	**9.15**	**120**	Pn	**Pn**	**04 36 19.6**	**+2.0**
DUNO	**Dulce Nombre,**	**9.28**	**121**	Pn	**Pn**	**04 36 20.3**	**+1.1**
JTS	**Las Juntas de**	**9.62**	**119**	Pn	**Pn**	**04 36 26.2**	**+2.3**
JTS	**Las Juntas de**	**9.62**	**119**	Pn	**Pn**	**04 36 26.8**	**+3.0**
1.4nm,0.3s,baz=306,slow=12,SNR=7.3							
COVE	**Coope Vega, Sa**	**9.89**	**115**	Pn	**Pn**	**04 36 29.6**	**+2.0**
SOR	**Soroa**	**12.56**	**51**	Pn	**Pn**	**04 37 01.3**	**-2.7**
HKT	**Hockley**	**14.96**	**352**	Pn	**Pn**	**04 37 37.1**	**+1.0**
JCT	**Junction City**	**16.38**	**340**		**P**	**04 37 57.0**	**+0.3**
SAND	**Sanderson**	**16.80**	**333**		**P**	**04 38 01.4**	**+0.2**
SAND				IAmb	IAmb	04 38 02.7	
comp=Z,6.2nm,1.1s							
TX31	**Lajitas Ar. Si**	**17.00**	**328**		**P**	**04 38 05.9**	**+2.3**
TX31				IAmb	IAmb	04 38 09.7	
comp=Z,15nm,1.1s							
TX32	**Lajitas Array**	**17.00**	**328**		**P**	**04 38 05.0**	**+1.5**
TXAR	**Lajitas Array**	**17.00**	**328**		**P**	**04 38 06.1**	**+2.6**
TXAR	**Lajitas Array**	**17.00**	**328**	P	**P**	**04 38 04.3**	**+0.7**
comp=Z,1.0nm,1.0s,baz=151,slow=7.9,SNR=7.0							
OZNA	**Ozona**	**17.25**	**337**		**P**	**04 38 07.7**	**+1.5**
OZNA				IAmb	IAmb	04 38 10.3	
comp=Z,12nm,1.2s							
ALPN	**Alpine**	**17.84**	**330**		**P**	**04 38 15.1**	**+2.3**
ALPN				IAmb	IAmb	04 38 32.4	
comp=Z,8.6nm,1.4s							
Z41A	**Richland Creek**	**18.11**	**2**		**P**	**04 38 15.5**	**-0.1**
SGCY	**Sterling City**	**18.14**	**339**	P	**Pn**	**04 38 16.4**	**+0.1**
SGCY				IAmb	IAmb	04 38 19.7	
comp=Z,29nm,1.3s							
MNHN	**Monahans**	**18.27**	**334**	P	**Pn**	**04 38 19.1**	**+1.3**
MNHN				IAmb	IAmb	04 38 22.1	
comp=Z,14nm,1.2s							
PECS	**Pecos**	**18.78**	**332**	P	**Pn**	**04 38 24.3**	**+0.2**
PECS				IAmb	IAmb	04 38 28.4	
comp=Z,4.0nm,0.9s							
MIAR	**Mount Ida**	**19.39**	**360**	P	**P**	**04 38 29.9**	**+0.3**
MIAR				IAmb	IAmb	04 38 34.1	
comp=Z,12nm,0.9s							
ZARC	**Zaragoza, Cauc**	**19.78**	**110**	*e*P	**P**	**04 38 27.4**	**-6.7**
YOTC	**Yotoco, Valle**	**20.19**	**121**	*e*P	**P**	**04 38 39.2**	**+0.6**
GUY2C	**Guyana, Caldas**	**20.36**	**117**	*e*P	**P**	**04 38 41.5**	**+0.7**
JAMC	**Jamundi, Valle**	**20.36**	**124**	*e*P	**P**	**04 38 41.1**	**+0.5**
MSTX	**Muleshoe**	**20.59**	**338**	P	**P**	**04 38 42.9**	**+0.1**
MSTX				IAmb	IAmb	04 38 48.2	
comp=Z,8.8nm,1.1s							
BBAC	**Balboa, Cauca**	**20.64**	**127**	*e*P	**P**	**04 38 44.0**	**+0.4**
POPC	**Popayan, Colom**	**20.76**	**125**	*e*P	Pn	04 38 46.8	-1.0
SMWD	**Samnorwood**	**20.84**	**344**	P	**P**	**04 38 44.8**	**-0.7**
SMWD				IAmb	IAmb	04 38 50.5	
comp=Z,8.8nm,0.8s							
TUL3	**Leonard**	**20.85**	**355**	P	**P**	**04 38 46.6**	**+1.1**
IMBA	**Imbabura, San**	**21.11**	**133**	P	**P**	**04 38 51.0**	**+2.1**
ORTC	**Ortega, Tolima**	**21.14**	**120**	*e*P	**P**	**04 38 50.4**	**+1.5**
QUOK	**Quay**	**21.20**	**353**	P	**P**	**04 38 52.2**	**+2.9**
PRAC	**Prado**	**21.55**	**120**	*e*P	**P**	**04 38 53.9**	**+0.7**
121A	**Cookes Peak, D**	**21.69**	**326**	P	**P**	**04 38 56.6**	**+1.9**

121A IAmb IAmb 04 39 02.0
comp=Z,9.7nm,0.8s
RUSC La Rusia 22.05 112 *e*P **P 04 38 57.9 -1.1**
CHIC Chingaza 22.06 116 *e*P **P 04 38 59.7 +0.5**
FLOC Florencia 22.16 126 *e*P **P 04 39 00.9 +1.2**
TKL Tuckaleechee C 22.28 21 LR LR 04 48 49.7
comp=Z,72nm,18.5s,baz=178,slow=39
ANMO Albuquerque 22.95 332 P **P 04 39 09.2 +1.0**
SDV Santo Domingo 23.21 103 LR LR 04 49 04.6
comp=Z,52nm,19.9s,baz=292,slow=39
T25A Trinidad 24.02 338 P **P 04 39 19.4 +1.1**
T25A IAmb IAmb 04 39 21.0
comp=Z,19nm,1.4s
SDCO Great Sand Dun 24.95 337 P **P 04 39 27.9 +1.0**
SDCO IAmb IAmb 04 39 28.6
comp=Z,5.1nm,1.3s
MVCO Mesa Verde 25.75 332 P **P 04 39 35.5 +1.4**
MVCO IAmb IAmb 04 39 36.5
comp=Z,3.4nm,1.0s
PFO Pinyon Flats O 27.77 316 LR LR 04 52 44.6
comp=Z,115nm,18.5s,baz=218,slow=40
NV11 Mina Array Sit 31.83 322 P **P 04 40 30.3 +2.2**
NV11 IAmb IAmb 04 40 31.1
comp=Z,3.1nm,1.1s
REDW Red Top Meadow 31.86 336 P **P 04 40 28.9 +0.6**
SNOW Snow King Moun 31.90 336 P **P 04 40 29.7 +1.0**
NVAR Mina Array Bea 31.92 321 P **P 04 40 30.8 +1.9**
NVAR Mina Array Bea 31.92 321 P **P 04 40 30.6 +1.6**
comp=Z,1.3nm,0.8s,baz=140,slow=9.4,SNR=13
comp=Z,1.3nm,0.8s
TPAW Teton Pass 32.00 336 P **P 04 40 29.4 -0.2**
SADO Sadowa 32.01 19 LR LR 04 55 02.7
comp=Z,67nm,18.4s,baz=306,slow=39
ELMT Elliston 35.14 337 P **P 04 40 57.6 +0.8**
SAML Samuel 38.39 127 P **P 04 41 22.8 -1.8**
SAML IAmb IAmb 04 41 23.5
comp=Z,2.3nm,0.8s
SCHQ Schefferville 44.75 22 LR LR 05 02 19.7
comp=Z,52nm,20.9s,baz=215,slow=38
BBB Bella Bella 46.11 331 LR LR 05 02 57.7
comp=Z,84nm,18.1s,baz=201,slow=37
BDFB Brasília 54.34 122 P **P 04 43 28.0 -1.8**
comp=Z,2.3nm,0.8s,baz=45,slow=5.7,SNR=3.8
comp=Z,2.3nm,0.8s
ILAR Eielson Array 61.28 337 P **P 04 44 18.0 +0.3**
comp=Z,0.7nm,0.9s,baz=144,slow=4.4,SNR=9.4
comp=Z,0.7nm,0.9s
PZH PanZhiHua 136.09 340 PKP **PKPdf 04 53 24.0 -0.3**
CMAR Chiang Mai Arr 144.49 339 PKP **PKPab 04 53 37.6 -0.2**
comp=Z,0.8nm,0.3s,baz=341,slow=3.7,SNR=6.4

*NEIC **30** 04:55:33.3±2.7, 20°.3S±0°.1×177°.7W±0°.1, h514km±7km, mb4.3/32, Error ellipse: s-maj=17.9km s-min=17.5km az=160.0*
*IDC **30** 04:55:39.0±1.7, 20°.27S×178°.18W, h564km±18km, mb3.4/12, mbtmp4.3/13, Error ellipse: s-maj=16.6km s-min=14.7km az=118.0*
ISC 30 04:55:36.7±0.5, 20°.28S±0°.09×177°.96W±0°.08, h550km, n71, σ1§37/71, mb4.2/28, 3C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.55**	**303**	P	**P**	**04 57 02.7**	**-0.2**
MSVF	**Nonsavu**	**4.55**	**303**	P	**P**	**04 57 04.3**	**+1.4**
42nm,0.5s,baz=162,slow=7.9,SNR=21							
NIUE	**Niue**	**7.66**	**82**	P	**P**	**04 57 29.3**	**-1.8**
AFI	**Afiamalu**	**8.66**	**44**	P	**P**	**04 57 37.1**	**-4.2**
PINNC	**Pines Island,**	**13.79**	**258**	P	**P**	**04 58 33.4**	**-0.2**
DZM	**Mont Dzumac**	**14.66**	**260**	P	**P**	**04 58 45.2**	**+2.5**
3.4nm,0.4s,baz=129,slow=20,SNR=10							
KOUNC	**Koumac, New Ca**	**16.65**	**266**	P	**P**	**04 59 03.8**	**+1.6**
TOZ	**Tahuroa Road**	**18.29**	**197**	P	**P**	**04 59 17.6**	**+0.6**
URZ	**Urewera**	**18.42**	**192**	P	**P**	**04 59 16.5**	**-1.7**
14nm,0.3s,baz=177,slow=4.9,SNR=5.6							
RTZ	**Ruatahuna**	**18.79**	**192**	P	**P**	**04 59 19.0**	**-2.6**
RTZ				IAmb	IAmb	04 59 19.3	
comp=Z,8.5nm,1.1s							
MRZ	**Mangatainoka R**	**21.05**	**194**	P	**P**	**04 59 38.8**	**-3.3**
MRZ				IAmb	IAmb	04 59 47.2	
comp=Z,11nm,1.0s							
TCW	**Tory Channel**	**21.88**	**196**	P	**P**	**04 59 47.8**	**-1.7**
BHW	**Baring Head**	**21.92**	**195**	P	**P**	**04 59 47.6**	**-2.3**
TKNZ	**Takaka Hill**	**22.08**	**199**	P	**P**	**04 59 49.8**	**-1.6**
DSZ	**Denniston Nort**	**23.09**	**200**	P	**P**	**04 59 58.6**	**-1.7**
INZ	**Inchbonnie**	**24.09**	**199**	P	**P**	**05 00 06.8**	**-2.3**
INZ				IAmb	IAmb	05 00 16.3	
comp=Z,9.5nm,1.0s							
WHZ	**Wether Hill Ro**	**28.05**	**201**	P	**P**	**05 00 43.8**	**-0.2**
WHZ				IAmb	IAmb	05 00 58.5	
comp=Z,14nm,1.0s							
EIDS	**Eidsvold**	**28.94**	**254**	P	**P**	**05 00 51.5**	**-0.5**
CTAO	**Charters Tower**	**33.55**	**264**	P	**P**	**05 01 31.3**	**-0.2**
CTAO				IAmb	IAmb	05 01 32.4	
comp=Z,9.2nm,0.7s							
COEN	**Coen**	**37.61**	**273**	P	**P**	**05 02 05.2**	**0.0**
COEN				IAmb	IAmb	05 02 06.4	
comp=Z,7.0nm,0.8s							
STKA	**Stephens Creek**	**37.92**	**244**	P	**P**	**05 02 08.0**	**+0.5**
WR0	**Warramunga Arr**	**44.48**	**262**	P	**P**	**05 02 58.6**	**-1.0**
WR0				IAmb	IAmb	05 03 00.1	
comp=Z,6.0nm,0.4s							
AS31	**Alice Springs**	**44.60**	**257**	P	**P**	**05 03 00.6**	**-0.1**
ASAR	**Alice Springs**	**44.61**	**257**	P	**P**	**05 02 59.9**	**-0.8**
ASAR	**Alice Springs**	**44.61**	**257**	P	**P**	**05 03 00.5**	**-0.1**
comp=Z,7.5nm,0.5s,baz=93,slow=7.6,SNR=114							
ASAR				PcP	**PcP**	**05 04 31.8**	**+0.2**
comp=Z,0.7nm,0.5s,baz=93,slow=4.6,SNR=4.8							
comp=Z,7.5nm,0.5s							
WB0	**Warramunga Arr**	**44.65**	**262**	P	**P**	**05 03 00.1**	**-0.9**
WB2	**Warramunga Arr**	**44.66**	**262**	P	**P**	**05 03 00.0**	**-1.0**
WB2				IAmb	IAmb	05 03 00.7	
comp=Z,7.2nm,0.7s							
WRA	**Warramunga Arr**	**44.67**	**262**	P	**P**	**05 02 59.8**	**-1.3**
WRA	**Warramunga Arr**	**44.67**	**262**	P	**P**	**05 03 00.6**	**-0.6**
comp=Z,5.1nm,0.3s,baz=96,slow=7.6,SNR=198							
WRA				S	**S**	**05 08 54.5**	**-3.5**
comp=Z,0.3nm,0.7s,baz=96,slow=13,SNR=2.9							
comp=Z,5.1nm,0.3s							
MTN	**Manton Dam**	**49.20**	**270**	P	**P**	**05 03 34.5**	**-0.8**
KNRA	**Kununurra**	**50.71**	**266**	P	**P**	**05 03 45.8**	**-0.5**
KNRA				IAmb	IAmb	05 03 46.8	
comp=Z,10nm,0.6s							
PSA00	**Pilbara Seismi**	**57.75**	**257**	P	**P**	**05 04 34.4**	**-1.4**
PSA00				IAmb	IAmb	05 04 36.0	
comp=Z,7.2nm,0.8s							
MBWA	**Marble Bar**	**57.94**	**257**	P	**P**	**05 04 35.9**	**-1.2**
MBWA				IAmb	IAmb	05 05 02.4	
comp=Z,9.1nm,1.1s							
SBA	**Scott Base**	**58.09**	**184**	P	**P**	**05 04 38.7**	**+1.7**
VNDA	**Vanda**	**58.13**	**185**	P	**P**	**05 04 39.2**	**+1.8**
VNDA	**Vanda**	**58.13**	**185**	P	**P**	**05 04 38.9**	**+1.5**
comp=Z,0.9nm,0.7s,baz=0.5,slow=7.1,SNR=7.8							
comp=Z,0.9nm,0.7s							
MORW	**Morawa**	**59.95**	**248**	P	**P**	**05 04 50.1**	**-0.3**
GIRL	**Giralia**	**62.65**	**254**	P	**P**	**05 05 08.9**	**+0.8**
QSPA	**South Pole Qui**	**69.78**	**180**	P	**P**	**05 05 52.8**	**+1.1**
QSPA				IAmb	IAmb	05 05 53.4	
comp=Z,3.5nm,0.7s							
QSPA	**South Pole Qui**	**69.78**	**180**	P	**P**	**05 05 52.8**	**+1.1**
comp=Z,3.3nm,0.7s,baz=326,slow=0.7,SNR=30							
comp=Z,3.3nm,0.7s							
MJAR	**Matsushiro Arr**	**70.06**	**324**	P	**P**	**05 05 53.8**	**+0.1**
comp=Z,2.6nm,0.5s,baz=164,slow=5.7,SNR=5.6							
comp=Z,2.6nm,0.5s							
PEA0B	**Petropavlovsk-**	**76.07**	**345**	P	**P**	**05 06 28.6**	**+1.0**
PETK	**Petropavlovsk-**	**76.07**	**345**	P	**P**	**05 06 28.1**	**+0.4**
PETK	**Petropavlovsk-**	**76.07**	**345**	P	**P**	**05 06 28.6**	**+0.9**
comp=Z,5.5nm,0.7s,baz=252,slow=12,SNR=6.4							
comp=Z,5.5nm,0.7s							
KSRS	**Korea Array**	**76.75**	**319**	P	**P**	**05 06 32.7**	**+0.9**
comp=Z,1.0nm,0.5s,baz=134,slow=5.9,SNR=2.3							
comp=Z,1.0nm,0.5s							
M16K	**Timber Creek**	**82.46**	**9**	P	**P**	**05 07 02.3**	**+1.1**
M16K				IAmb	IAmb	05 07 22.4	
comp=Z,5.0nm,0.9s							
L18K	**Granite Mounta**	**83.95**	**10**	P	**P**	**05 07 09.9**	**+1.3**
L18K				IAmb	IAmb	05 07 10.6	
comp=Z,4.1nm,0.9s							
M19K	**Big River Lodg**	**84.04**	**11**	P	**P**	**05 07 09.7**	**+0.5**
M19K				IAmb	IAmb	05 07 25.6	
comp=Z,7.3nm,1.1s							
PMR	**Palmer**	**84.80**	**13**	P	**P**	**05 07 12.4**	**-0.4**
GHO	**Glory Hole Cre**	**85.00**	**13**	P	**P**	**05 07 13.7**	**-0.3**
GHO				IAmb	IAmb	05 07 15.6	
comp=Z,11nm,1.2s							
TXAR	**Lajitas Array**	**86.91**	**57**	P	**P**	**05 07 25.7**	**+1.9**
comp=Z,0.5nm,0.7s,baz=210,slow=6.3,SNR=9.3							
comp=Z,0.5nm,0.7s							
TROLL	**Troll, Antarti**	**87.95**	**180**	⇑P	**P**	**05 07 27.9**	**-0.1**
comp=Z,53nm,0.6s							
ILAR	**Eielson Array**	**88.09**	**13**	P	**P**	**05 07 28.4**	**+0.1**
comp=Z,0.7nm,0.4s,baz=214,slow=5.2,SNR=23							
comp=Z,0.8nm,0.4s							
VNA3	**Neumayer Olymp**	**88.36**	**176**	⇑P	**P**	**05 07 29.7**	**0.0**
comp=Z,5.4nm,0.6s							
PDAR	**Pinedale Array**	**88.78**	**43**	P	**P**	**05 07 34.1**	**+1.7**
comp=Z,0.1nm,0.5s,baz=224,slow=8.8,SNR=1.6							
comp=Z,0.1nm,0.5s							
VNA2	**Neumayer--Watz**	**88.80**	**177**	⇑P	**P**	**05 07 32.0**	**+0.2**
comp=Z,3.0nm,0.6s,baz=195,slow=4.0							
CMAR	**Chiang Mai Arr**	**90.08**	**290**	P	**P**	**05 07 40.6**	**+1.9**
comp=Z,2.0nm,0.6s,baz=120,slow=3.1,SNR=13							
comp=Z,2.0nm,0.6s							
SONM	**Songino Array**	**95.62**	**319**	P	**P**	**05 08 04.0**	**+0.5**
comp=Z,0.3nm,0.4s,baz=106,slow=3.1,SNR=2.1							
comp=Z,0.3nm,0.4s							
MKAR	**Makanchi Array**	**111.08**	**313**	PKiKP	**PKiKP**	**05 13 07.3**	**-0.6**
comp=Z,0.4nm,0.5s,baz=214,slow=0.9,SNR=5.4							
KURBB	**Kurchatov Arra**	**113.91**	**317**	PKiKP	**PKiKP**	**05 13 12.3**	**-0.8**
comp=Z,0.6nm,0.6s,baz=128,slow=2.0,SNR=4.8							
BVAR	**Borovoye Array**	**118.94**	**320**	PKP	**PKiKP**	**05 13 22.5**	**-0.3**
comp=Z,1.5nm,0.4s,baz=146,slow=1.3,SNR=6.7							
ARCES	**ARCESS Array B**	**128.72**	**350**	PKP	**PKiKP**	**05 13 41.7**	**0.0**
comp=Z,2.8nm,0.8s,baz=25,slow=3.2,SNR=4.7							
FINES	**FINESS Array B**	**135.58**	**344**	PKP	**PKPdf**	**05 13 52.7**	**-1.3**
comp=Z,6.9nm,1.1s,baz=247,slow=1.5,SNR=4.2							
HFS	**Hagfors**	**139.33**	**351**	PKhKP	PKPpre	05 13 54.2	
comp=Z,4.6nm,1.0s,baz=80,slow=3.5,SNR=6.0							
AKASG	**Malin Array Be**	**142.84**	**331**	PKhKP	PKPpre	05 14 04.5	
comp=Z,1.3nm,0.3s,baz=43,slow=4.5,SNR=18							
EKA	**Eskdalemuir Ar**	**144.78**	**5**	PKP	**PKPab**	**05 14 11.3**	**-0.7**
comp=Z,0.9nm,0.6s,baz=352,slow=3.5,SNR=6.0							
BRTR	**Keskin Array B**	**146.72**	**313**	PKPbc	**PKiKP**	**05 14 17.8**	**-1.8**
comp=Z,1.4nm,0.6s,baz=146,slow=4.3,SNR=7.2							
MMAI	**Mount Meron Ar**	**147.74**	**300**	PKPbc	**PKiKP**	**05 14 21.4**	**-0.3**
comp=Z,5.0nm,0.6s,baz=46,slow=6.0,SNR=4.1							
CLL	**Collm**	**147.86**	**347**	⇓iPKPbc	**PKiKP**	**05 14 20.5**	**-0.8**
comp=Z,8.0nm,0.8s							
KHC	**Kasperske Hory**	**149.77**	**345**	*e*PKP	**PKPdf**	**05 14 19.5**	**+0.2**
KHC				x	x	05 14 25.5	
GERES	**GERESS Array B**	**150.00**	**345**	PKPbc	**PKiKP**	**05 14 26.0**	**0.0**
comp=Z,1.0nm,0.6s,baz=92,slow=2.3,SNR=3.6							

*IDC **30** 05:13:52.2±0.7, 15°.29N×94°.53W, h0km, mb4.6/20, mbtmp4.6/22, ML3.8/2, MS4.3/54, Error ellipse: s-maj=23.8km s-min=11.7km az=61.0*
*GCG **30** 05:13:53.7±3.6, 15°.60N×94°.59W, h10km, MD5.0*
*SNET **30** 05:13:53.3±1.7, 14°.42N×95°.04W, h15km±999km, ML5.2*
*MEX **30** 05:13:56.1±2.2, 15°.26N×94°.64W, h16km±767km, MD5.1*
*NEIC **30** 05:13:57.9±2.0, 15°.32N±0°.06×94°.52W±0°.05, h38km±7km, mb4.9/175, Md5.1/61(MEX), Error ellipse: s-maj=9.2km s-min=6.0km az=205.0*
*GCMT **30** 05:13:58.8±0.3, 15°.53N±0°.02×94°.48W±0°.02, h23km±2km, MW5.0/94, Moment Tensor Solution. s37,c47; s94,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.81±.18; $M_{\theta\theta}$-1.89±.12; $M_{\phi\phi}$0.07±.09; $M_{r\theta}$3.28±.34; $M_{\theta\phi}$0.47±.07; $M_{\phi r}$-2.34±.28; Best double couple: $M_0$4.45800×10^{16} NP1:ϕ_s123.00000°, δ78.00000°, λ99.00000°. NP2: ϕ_s264.00000°, δ15.00000°, λ52.00000°. Principal axes: T 4.4980, Plg56.0000°, Azm45.0000°; N -0.0860, Plg9.0000°, Azm301.0000°; P -4.4190, Plg32.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 05:13:55.5±0.4, 15°.25N±0°.04×94°.56W±0°.03, h25km±2km, h25km:pP-P, n896, σ1§65/933, mb4.9/96, MS4.4/55, 12C-25D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.17**	**32**	*i* P	**Pn**	**05 14 15.1**	**-1.2**
CARR				*i* S	**Sn**	**05 14 29.1**	**-2.4**
NILT	**Santiago Nilte**	**1.31**	**357**	*i* P	**Pn**	**05 14 16.1**	**-2.1**
NILT				*i* S	**Sn**	**05 14 30.9**	**-4.0**
PCIG		**1.37**	**70**		**Pn**	**05 14 17.9**	**-1.0**
PCIG					**Sn**	**05 14 34.7**	**-1.6**
PCIG		**1.37**	**70**	*e*P	**Pn**	**05 14 18.0**	**-1.0**
PCIG				*i* S	**Sn**	**05 14 34.7**	**-1.6**
HUIG	**Huatulco**	**1.58**	**289**	⇑*i*P	**Pn**	**05 14 19.4**	**-2.6**
baz=126,slow=18							
HUIG				*i* S	**Sn**	**05 14 36.3**	**-5.3**
CMIG	**Matias Romero**	**1.86**	**350**		**Pn**	**05 14 24.5**	**-1.3**
CMIG					**Sn**	**05 14 45.7**	**-2.8**
CMIG	**Matias Romero**	**1.86**	**350**	Pn	**Pn**	**05 14 24.9**	**-0.9**
789nm,0.3s,baz=168,slow=12,SNR=3080							
CMIG				Sn	**Sn**	**05 14 46.6**	**-1.9**
3μm,0.3s,baz=120,slow=15,SNR=44							
CMIG				LR	LR	05 15 21.1	
comp=Z,10μm,22.0s,baz=152,slow=49							
CMIG	**Matias Romero**	**1.86**	**350**	⇓*i*P	**Pn**	**05 14 24.6**	**-1.3**
CMIG				*i* S	**Sn**	**05 14 45.7**	**-2.8**
TGIG		**2.05**	**42**		**Pn**	**05 14 28.8**	**+0.3**
TGIG					**Sn**	**05 14 54.6**	**+1.2**
TGIG		**2.05**	**42**	*e*P	**Pn**	**05 14 28.8**	**+0.3**
TGIG				*e*S	**Sn**	**05 14 54.6**	**+1.2**
TGBT	**Tuxtla Gutierr**	**2.07**	**43**		**Pn**	**05 14 29.9**	**+1.2**
TGBT	**Tuxtla Gutierr**	**2.07**	**43**	*i* P	**Pn**	**05 14 29.9**	**+1.2**
TGBT				*i* S	**Sb**	**05 14 56.0**	**-1.8**
UXUV	**UXUV**	**2.10**	**11**	⇓*e*P	**Pn**	**05 14 29.1**	**+0.1**
UXUV				*i* S	**Sn**	**05 14 54.3**	**0.0**
THIG		**2.24**	**98**		**Pn**	**05 14 31.8**	**+0.8**
THIG					**Sn**	**05 14 58.0**	**+0.2**
THIG		**2.24**	**98**	*e*P	**Pn**	**05 14 30.8**	**-0.2**
THIG				*e*S	**Sn**	**05 14 58.0**	**+0.2**
PATR	**El Naranjo**	**2.25**	**93**	*i* P	**Pn**	**05 14 30.6**	**-0.7**
PATR				*i* S	**Sn**	**05 14 57.8**	**-0.5**
PAVE	**Pavencul**	**2.30**	**91**	*i* P	**Pn**	**05 14 31.7**	**-0.3**
PAVE				*i* S	**Sn**	**05 14 59.8**	**+0.2**
CHUJ	**Union Juarez**	**2.37**	**93**	*i* P	**Pn**	**05 14 32.9**	**-0.2**
CHUJ				*i* S	**Sn**	**05 15 00.5**	**-0.9**
CCIG	**Comitan**	**2.54**	**66**	*e*P	**Pn**	**05 14 36.7**	**+1.3**
CCIG				*e*S	**Sb**	**05 15 10.2**	**-1.4**
PEIG	**Puerto Escondi**	**2.61**	**287**	*e*P	**Pn**	**05 14 33.6**	**-2.4**
PEIG				*e*S	**Sn**	**05 15 00.3**	**-6.6**
NEUV	**Arroyo Zacate**	**2.73**	**334**	*e*P	**Pn**	**05 14 36.7**	**-1.0**
NEUV				*e*S	**Sn**	**05 15 02.4**	**-7.5**
OXLC	**Oaxaca**	**2.74**	**311**	*i* P	**Pn**	**05 14 39.0**	**+0.9**
OXLC				*i* S	**Sn**	**05 15 08.5**	**-2.1**
OXBJ	**Oaxaca**	**2.76**	**311**		**Pn**	**05 14 38.9**	**+0.5**
OXBJ					**Sn**	**05 15 09.5**	**-1.5**
OXBJ	**Oaxaca**	**2.76**	**311**	*i* P	**Pn**	**05 14 38.9**	**+0.5**
OXBJ				*i* S	**Sn**	**05 15 09.5**	**-1.5**
OXIG	**Oaxaca**	**2.77**	**311**		**Pn**	**05 14 38.9**	**+0.4**
VHO	**Vista Hermosa**	**2.77**	**311**	⇑*e*P	**Pn**	**05 14 38.8**	**+0.3**
VHO				*e*S	**Sn**	**05 15 06.6**	**-4.6**
TUIG	**Tuzandepetl**	**2.77**	**3**	⇓*e*P	**Pn**	**05 14 38.4**	**+0.1**
TUIG				*e*S	**Sn**	**05 15 12.4**	**+1.4**
RTAL	**Retalhuleu**	**2.86**	**104**		**Pn**	**05 14 40.3**	**+0.8**
STG3	**Santiaguito 3,**	**2.93**	**100**	*e*P	**Pn**	**05 14 41.5**	**+0.7**
HUEH	**Huehuetenango**	**2.95**	**88**		**Pn**	**05 14 42.6**	**+1.6**
SULM	**Suchitepequez,**	**3.04**	**108**	*e*P	**Pn**	**05 14 43.5**	**+1.4**
VHSA	**Villahermosa**	**3.13**	**29**	*e*P	**Pn**	**05 14 43.4**	**+0.1**
VHSA				*e*S	**Sn**	**05 15 18.8**	**-1.0**
YOIG	**Yosondua**	**3.29**	**299**		**Pn**	**05 14 45.9**	**+0.1**
YOIG	**Yosondua**	**3.29**	**299**	⇑*e*P	**Pn**	**05 14 45.9**	**+0.1**
YOIG				*e*S	**Sn**	**05 15 20.8**	**-3.5**
PMUV	**Sontecomapan**	**3.32**	**351**	⇓*e*P	**Pn**	**05 14 43.9**	**-2.1**
PMUV				*e*S	**Sn**	**05 15 21.2**	**-3.6**
PNIG	**Pinotepa**	**3.62**	**289**		**Pn**	**05 14 49.8**	**-0.3**
PNIG	**Pinotepa**	**3.62**	**289**	⇓*e*P	**Pn**	**05 14 48.6**	**-1.5**
PNIG				*e*S	**Sn**	**05 15 24.8**	**-7.3**
TXIG	**Tlaxiaco**	**3.67**	**303**		**Pn**	**05 14 51.6**	**+0.6**
TXIG					**Sn**	**05 15 31.6**	**-2.1**
TXIG	**Tlaxiaco**	**3.67**	**303**	*e*P	**Pn**	**05 14 51.6**	**+0.6**
TXIG				*e*S	**Sn**	**05 15 31.6**	**-2.1**
FUG	**Fuego 3**	**3.68**	**102**	*e*P	**Pn**	**05 14 52.9**	**+1.9**
HLIG	**Huajuapan de L**	**4.04**	**310**		**Pn**	**05 14 58.0**	**+2.0**
HLIG	**Huajuapan de L**	**4.04**	**310**	⇑*e*P	**Pn**	**05 14 57.2**	**+1.3**
HLIG				*e*S	**Sn**	**05 15 39.9**	**-2.7**
NBG	**Las Nubes**	**4.12**	**99**	*e*P	**Pb**	**05 15 03.3**	**-4.2**
TPIG	**Tehuac#an**	**4.14**	**320**		**Pn**	**05 14 58.1**	**+0.8**
TPIG					**Sn**	**05 15 46.4**	**+1.3**
TPIG	**Tehuac#an**	**4.14**	**320**	*e*P	**Pn**	**05 14 58.1**	**+0.8**
TPIG				*e*S	**Sn**	**05 15 46.4**	**+1.3**
FTIG	**Fresnillo de T**	**4.33**	**308**		**Pn**	**05 15 01.7**	**+1.8**
FTIG	**Fresnillo de T**	**4.33**	**308**	*e*P	**Pn**	**05 15 01.3**	**+1.4**
FTIG				*e*S	**Sn**	**05 15 44.1**	**-5.5**
MGIG	**Malinaltepec**	**4.39**	**297**		**Pn**	**05 15 01.3**	**+0.6**
MGIG	**Malinaltepec**	**4.39**	**297**	⇑*e*P	**Pn**	**05 15 01.5**	**+0.7**
MGIG				*e*S	**Sn**	**05 15 46.3**	**-4.8**
TLIG	**Tlapa**	**4.49**	**301**	⇑*e*P	**Pn**	**05 15 03.2**	**+1.2**
TLIG				*e*S	**Sn**	**05 15 49.9**	**-3.6**
JAUV	**Jalcomulco**	**4.62**	**333**	⇑*e*P	**Pn**	**05 15 02.4**	**-1.5**
JAUV				*e*S	Sn	05 15 47.2	-10
CRIG	**Cruz Grande**	**4.64**	**289**	*e*P	**Pn**	**05 15 03.1**	**-1.0**
CRIG				*e*S	Sn	05 15 47.6	-10
LVIG	**Laguna Verde**	**4.79**	**339**	*e*P	**Pn**	**05 15 04.5**	**-1.6**
LVIG				*e*S	**Sn**	**05 15 53.7**	**-7.2**
PETF	**Flores**	**4.80**	**69**		**Pn**	**05 15 07.4**	**+1.1**
NUBE	**Las Nubes**	**4.81**	**106**	*e*P	**Pn**	**05 15 08.5**	**+1.9**
SCIG	**Sabancuy**	**4.91**	**41**	*e*P	**Pn**	**05 15 06.4**	**-1.3**
SCIG				*e*S	**Sn**	**05 16 01.6**	**-2.1**
CEVE	**Cerro Verde**	**4.98**	**106**	*e*P	**Pn**	**05 15 12.8**	**+3.9**
CEVE				*e*S	**Sb**	**05 16 14.3**	**-7.4**
ESQI	**Esquipulas**	**5.09**	**97**		**Pn**	**05 15 11.3**	**+1.0**
MTO3	**Montecristo**	**5.09**	**99**	Pn	**Pn**	**05 15 12.1**	**+1.6**
JAYA	**Jayaque - finc**	**5.20**	**107**	*e*P	**Pn**	**05 15 13.7**	**+1.8**
CEDA	**San Andres**	**5.20**	**105**	*e*P	**Pn**	**05 15 15.4**	**+3.6**
CEDA				IAML		05 16 48.0	
comp=Z,982nm,0.8s							
DAIG	**Los Arroyos**	**5.20**	**290**	⇑*e*P	**Pn**	**05 15 11.3**	**-0.5**
DAIG				*e*S	Sn	05 15 57.6	-14
LALI	**Alcalda de L**	**5.37**	**108**	*e*P	**Pn**	**05 15 15.8**	**+1.7**
SNET	**Serv Nac Est T**	**5.39**	**106**		**Pn**	**05 15 16.1**	**+1.7**
PPM	**Popocatepetl**	**5.44**	**315**	*e*P	**Pn**	**05 15 18.8**	**+3.3**
PPM				*e*S	**Sn**	**05 16 13.9**	**-3.6**
PPIG	**Popocatepetl**	**5.44**	**315**		**Pn**	**05 15 18.8**	**+3.3**
LOMA	**Loma Larga**	**5.45**	**106**	*e*P	**Pn**	**05 15 17.7**	**+2.3**
MEIG	**Mezcala**	**5.54**	**299**	*e*P	**Pn**	**05 15 16.8**	**+0.4**
MEIG				*e*S	Sn	05 16 06.0	-13
AMVM	**AMECAMECA**	**5.59**	**314**	*e*P	**Pn**	**05 15 19.9**	**+2.5**
AMVM				*e*S	**Sn**	**05 16 27.4**	**+6.4**
YAIG	**Yautepec**	**5.62**	**310**	*e*P	**Pn**	**05 15 19.4**	**+1.8**
YAIG				*e*S	**Sn**	**05 16 16.6**	**-4.8**
PLIG	**Platanillo**	**5.68**	**304**	*e*P	**Pn**	**05 15 20.2**	**+1.9**
PLIG				*e*S	**Sn**	**05 16 17.6**	**-5.2**
CXUV	**Coxquihui**	**5.69**	**330**	*e*P	**Pn**	**05 15 18.5**	**0.0**
CXUV				*e*S	**Sn**	**05 16 15.6**	**-7.4**
COEG	**Centro de Oper**	**5.73**	**106**	*e*P	**Pn**	**05 15 22.8**	**+3.7**
CAIG	**El Cayaco**	**5.77**	**289**	*e*P	**Pn**	**05 15 19.1**	**-0.6**
CAIG				*e*S	Sn	05 16 13.4	-12
MPVM	**San Francisco**	**5.79**	**313**	*e*P	**Pn**	**05 15 22.7**	**+2.5**
MPVM				*e*S	**Sn**	**05 16 28.8**	**+2.9**
MPVM				*e*S	**Sb**	**05 16 39.5**	**-5.6**
THVM	**De Xico**	**5.84**	**314**	*e*P	**Pn**	**05 15 24.5**	**+3.7**
THVM				*e*S	**Sn**	**05 16 32.6**	**+5.4**
TLVM	**San Miguel Top**	**5.90**	**313**	*e*P	**Pn**	**05 15 24.8**	**+3.1**
TLVM				*e*S	**Sn**	**05 16 30.4**	**+1.7**
XCVM	**Xochimilco**	**5.90**	**313**	*e*P	**Pn**	**05 15 24.8**	**+3.1**
XCVM				*e*S	**Sn**	**05 16 30.6**	**+1.9**
UNM	**Universidad Na**	**6.00**	**313**	Pn	**Pn**	**05 15 26.4**	**+3.4**
UNM	**Universidad Na**	**6.00**	**313**	*e*P	**Pn**	**05 15 22.3**	**-0.7**
UNM				*e*S	**Sn**	**05 16 32.5**	**+1.5**
PBVM	**Pinon**	**6.01**	**315**	*e*P	**Pn**	**05 15 26.0**	**+3.2**
PBVM				*e*S	**Sn**	**

DRIO IAmb IAmb 05 17 34.6
comp=Z,40nm,1.1s
441A DeRidder 15.48 4 Pn **Pn** **05 17 30.5 -1.7**
441A IAmb IAmb 05 17 38.0
comp=Z,61nm,0.7s
HPIG 15.56 320 *i* P **P** **05 17 36.8 -0.9**
435B Jarrell 15.71 350 Pn **Pn** **05 17 35.4 +0.2**
435B Jarrell 15.71 350 P **Pn** **05 17 36.3 +1.1**
baz=169
JCT Junction City 15.91 343 P **Pn** **05 17 39.5 +1.7**
JCT Junction City 15.91 343 P **Pn** **05 17 39.5 +1.7**
baz=161,SNR=22
SAND Sanderson 16.21 336 P **P** **05 17 43.8 -0.9**
SAND IAmb IAmb 05 17 50.6
comp=Z,21nm,0.9s
TXAR Lajitas Array 16.34 331 Pn **P** **05 17 44.9 -1.3**
comp=Z,0.2nm,0.3s,baz=155,slow=9.8,SNR=108
TXAR LR LR 05 24 29.8
comp=Z,451nm,19.4s,baz=140,slow=39
comp=Z,13nm,0.9s
TX31 Lajitas Ar. Si 16.35 331 **P** **05 17 45.3 -0.9**
TX32 Lajitas Array 16.35 331 **P** **05 17 45.2 -1.0**
NATX Nacogdoches 16.44 360 **Pn** **05 17 45.1 +0.6**
NATX Nacogdoches 16.44 360 P **Pn** **05 17 45.6 +1.1**
baz=180
BRDY Brady 16.47 346 P **P** **05 17 46.5 -1.0**
BRDY IAmb IAmb 05 17 53.0
comp=Z,57nm,0.8s
344A Westbrook Farm 16.50 12 Pn **Pn** **05 17 45.2 -0.2**
344A IAmb IAmb 05 17 52.0
comp=Z,157nm,1.1s
MTDJ Mount Denham 16.57 77 *eP* **P** **05 17 54.1 +5.3**
237A Washetta, Mont 16.72 356 **P** **05 17 49.9 -0.3**
237A IAmb IAmb 05 17 56.2
comp=Z,137nm,1.4s
OZNA Ozona 16.72 340 P **Pn** **05 17 48.9 +0.7**
OZNA IAmb IAmb 05 17 56.9
comp=Z,119nm,1.0s
346A Big Creek Wild 16.73 15 Pn **Pn** **05 17 46.1 -2.1**
346A IAmb IAmb 05 17 53.1
comp=Z,90nm,0.9s
WHTX Lake Whitney, 16.88 351 **Pn** **05 17 50.6 +0.6**
WHTX IAmb IAmb 05 17 58.4
comp=Z,68nm,0.7s
WHTX Lake Whitney, 16.88 351 P **Pn** **05 17 50.6 +0.6**
baz=170,SNR=19
ALPN Alpine 17.21 333 P **P** **05 17 55.7 -0.2**
ALPN IAmb IAmb 05 17 58.4
comp=Z,62nm,0.9s
FW13 Cleburne 17.23 352 P **P** **05 17 55.2 -0.7**
FW13 IAmb IAmb 05 18 03.1
comp=Z,88nm,0.7s
FW14 Alvarado 17.24 352 P **P** **05 17 55.9 -0.1**
FW14 IAmb IAmb 05 18 03.9
comp=Z,259nm,1.0s
BRAL Brewton 17.27 22 P **Pn** **05 17 54.5 -0.5**
baz=205
FW16 Waxahatchie 17.29 353 P **P** **05 17 56.3 -0.2**
FW16 IAmb IAmb 05 18 04.5
comp=Z,124nm,1.0s
VBMS Vicksburg 17.29 12 P **Pn** **05 17 55.6 +0.4**
baz=193
TREL Terrell 17.46 356 **Pn** **05 17 56.2 -1.1**
TREL IAmb IAmb 05 18 07.5
comp=Z,114nm,0.9s
143A Socs Landing, 17.61 9 P **Pn** **05 17 59.0 -0.2**
143A IAmb IAmb 05 18 08.3
comp=Z,145nm,1.0s
FW07 Weatherford 17.62 351 P **P** **05 18 00.0 -0.2**
FW07 IAmb IAmb 05 18 09.4
comp=Z,106nm,1.0s
SGCY Sterling City 17.64 341 P **Pn** **05 17 60.0 +0.3**
SGCY IAmb IAmb 05 18 07.9
comp=Z,77nm,0.7s
DWPF Disney Wildern 17.66 41 P **Pn** **05 17 59.8 0.0**
baz=226
MNHN Monahans 17.69 336 P **Pn** **05 18 00.4 +0.1**
MNHN IAmb IAmb 05 18 11.8
comp=Z,79nm,1.1s
PLPT Palo Pinto 17.82 350 P **Pn** **05 18 01.2 -0.5**
PLPT IAmb IAmb 05 18 12.4
comp=Z,116nm,1.2s
FW06 Azle 17.86 352 P **Pn** **05 18 02.0 -0.3**
FW06 IAmb IAmb 05 18 12.5
comp=Z,111nm,1.1s
ABTX Abilene, Hawle 17.91 346 **P** **05 18 03.5 +0.1**
ABTX Abilene, Hawle 17.91 346 P **P** **05 18 04.4 +1.0**
baz=164,SNR=24
Z38A Mt. Pleasant 17.94 359 P **Pn** **05 18 02.3 -0.9**
FW03 Perrin-Whitt E 18.00 350 P **P** **05 18 05.4 +1.0**
FW03 IAmb IAmb 05 18 14.6
comp=Z,124nm,1.1s
Z41A Richland Creek 18.00 5 P **Pn** **05 18 04.0 0.0**
146A Union 18.02 15 P **Pn** **05 18 03.2 -1.0**
PECS Pecos 18.17 334 P **P** **05 18 07.7 +1.4**
PECS IAmb IAmb 05 18 14.4
comp=Z,28nm,1.0s
Z35A Perchaven, San 18.17 353 **P** **05 18 07.6 +1.3**
Z35A IAmb IAmb 05 18 16.3
comp=Z,153nm,1.1s
425A Indio Mountain 18.18 330 **P** **05 18 08.3 +1.8**
250A Grady 18.29 23 P **Pn** **05 18 07.9 +0.4**
250A IAmb IAmb 05 18 14.0
comp=Z,112nm,1.5s
ODSA Odessa 18.31 338 **Pn** **05 18 07.9 0.0**
ODSA IAmb IAmb 05 18 16.2
comp=Z,72nm,0.9s
352A Blakely 18.40 27 P **P** **05 18 08.7 -0.1**
WLAR White Oak Lake 18.41 4 **P** **05 18 08.7 -0.2**
SN01 Snyder 1 18.45 343 P **Pn** **05 18 10.1 +0.4**
SN01 IAmb IAmb 05 18 22.1
comp=Z,59nm,0.9s
APMT Aspermont 18.69 345 P **P** **05 18 11.8 -0.2**
APMT IAmb IAmb 05 18 22.8
comp=Z,55nm,0.8s
Z47A Carrollton 18.82 17 P **P** **05 18 12.4 -0.9**
TIGA Tifton 18.98 30 P **P** **05 18 14.7 -0.5**
baz=214
LRAL Lakeview Retre 18.99 20 P **P** **05 18 15.2 -0.1**
baz=203,SNR=6.2
HTMS Hat Mesa 19.03 336 P **P** **05 18 15.6 -0.3**
CLN7 Carlsbad 7 19.05 335 P **P** **05 18 16.2 +0.2**
APAC Apartado, Choc 19.05 111 *eP* **Pn** **05 18 20.7 +3.8**
GDL2 Guadalupe Moun 19.10 334 P **Pn** **05 18 17.2 -0.3**
GTBY Guantanamo Bay 19.11 73 *eP* **Pn** **05 18 19.8 +2.2**
MNTX Cornudas Mount 19.13 331 P **Pn** **05 18 17.9 +0.1**
MNTX Cornudas Mount 19.13 331 P **Pn** **05 18 18.7 +0.9**
baz=146,SNR=32
MIAR Mount Ida 19.23 2 P **P** **05 18 16.3 -1.7**
MIAR Mount Ida 19.23 2 P **P** **05 18 18.1 +0.1**
baz=183,SNR=15
UALR University of 19.55 5 P **P** **05 18 20.3 -1.0**
UALR IAmb IAmb 05 18 30.2
comp=Z,64nm,0.8s
SJCC San Jacinto, C 19.64 103 *eP* **Pn** **05 18 23.6 -0.5**
OXF Oxford 19.73 13 P **P** **05 18 22.9 -0.4**
baz=195,SNR=6.3
DBBC Dabeiba 19.76 112 *eP* **Pn** **05 18 25.1 -0.4**
WMOK Wichita Mounta 19.78 350 P **P** **05 18 23.7 -0.2**
WMOK Wichita Mounta 19.78 350 P **Pn** **05 18 24.8 -0.7**
baz=168,SNR=15
WHAR Wooly Hollow 20.06 5 P Pn 05 18 28.2 -0.6
WHAR IAmb IAmb 05 18 38.9
comp=Z,61nm,1.1s
UREC San Jos de Ur 20.06 110 *eP* Pn 05 18 30.7 +1.7
MSTX Muleshoe 20.06 340 P **P** **05 18 27.1 0.0**
MSTX IAmb IAmb 05 18 35.7
comp=Z,63nm,0.9s
MSTX Muleshoe 20.06 340 P Pn 05 18 28.3 -0.8
baz=156,SNR=17
SMRC Santa Marta, M 20.20 99 *eP* **P** **05 18 27.5 -1.2**
GR1C Gorgona, Isla 20.22 125 *eP* P 05 18 17.2 -12
NZIG Nacozari, Sono 20.40 320 *eP* Pn 05 18 32.5 -0.6
SMWD Samnorwood 20.42 347 P **P** **05 18 30.9 0.0**
SMWD IAmb IAmb 05 18 46.3
comp=Z,82nm,0.7s
PLAL Pickwick Lake 20.50 15 P **P** **05 18 30.6 -1.1**
ARGC Ariguani, Magd 20.53 103 *eP* **P** **05 18 33.1 +0.9**
AMTX Amarillo 20.58 343 P **P** **05 18 32.2 -0.4**
AMTX IAmb IAmb 05 18 46.6
comp=Z,63nm,0.8s
AMTX Amarillo 20.58 343 P **P** **05 18 33.4 +0.7**
baz=160
TUL3 Leonard 20.61 357 P **P** **05 18 32.1 -0.8**
TUL3 Leonard 20.61 357 P **P** **05 18 33.6 +0.8**
baz=176
OK029 Liberty Lake 20.63 353 **P** **05 18 32.6 -0.5**
GOGA Godfrey 20.69 27 P **P** **05 18 32.7 -1.1**
baz=212
PLMC San Jos del P 20.70 118 *eP* **P** **05 18 34.0 -0.1**
OK031 S. Brethren Rd 20.72 355 **P** **05 18 33.4 -0.7**
OK052 Battle Ridge R 20.76 355 **P** **05 18 33.7 -0.8**
FPAL Fort Paine 20.83 21 P **P** **05 18 34.0 -1.4**
FPAL IAmb IAmb 05 18 47.6
comp=Z,35nm,0.8s
RLO Rose Lookout 20.84 359 P **P** **05 18 34.6 -0.7**
RLO IAmb IAmb 05 18 45.8
comp=Z,26nm,0.8s
121A Cookes Peak, D 21.00 327 P **P** **05 18 38.6 +1.2**
baz=142,SNR=34
YOTC Yotoco, Valle 21.13 120 *eP* **P** **05 18 39.7 +0.8**
JAMC Jamundi, Valle 21.29 122 *eP* **P** **05 18 41.2 +0.5**
GUY2C Guyana, Caldas 21.33 116 *eP* **P** **05 18 41.8 +0.5**
W50A Signal Mountai 21.53 21 P **P** **05 18 41.4 -1.5**
W50A IAmb IAmb 05 18 53.5
comp=Z,46nm,0.9s
PTBC PUERTO BERRIO, 21.53 112 *eP* **P** **05 18 43.9 +0.8**
PAC1 Pacto, Paraso 21.55 132 *eP* P 05 18 33.6 -10
BBAC Balboa, Cauca 21.55 126 *eP* **P** **05 18 43.8 +0.4**
NORC Norcasia 21.60 114 *eP* **P** **05 18 44.9 +1.1**
POPC Popayan, Colom 21.68 124 *eP* **P** **05 18 45.5 +0.6**
DUN6 Lazy B Ranch 21.71 325 P **P** **05 18 45.5 +0.5**
OK032 Salt Plains WL 21.71 352 **P** **05 18 44.9 +0.1**
OK032 IAmb IAmb 05 18 56.2
comp=Z,63nm,0.8s
PBMO Poplar Bluff 21.76 9 P **P** **05 18 45.1 -0.1**
PBMO IAmb IAmb 05 19 03.0
comp=Z,40nm,0.9s
OTAV Otavalo 21.81 132 P **P** **05 18 46.3 -0.2**
OTAV Otavalo 21.81 132 *eP* **P** **05 18 47.0 +0.6**
OTAV Otavalo 21.81 132 *eP* **P** **05 18 46.7 +0.2**
Y22D IRIS PASSCAL I 21.82 331 P **P** **05 18 47.3 +1.2**
baz=146
Y22F Passcal Instru 21.82 331 P **P** **05 18 47.4 +1.3**
baz=146
GCUF Volcan Galeras 21.97 128 *eP* P 05 18 35.1 -13
TULM Tulcn-Chalpat 21.97 130 *eP* **P** **05 18 49.8 +1.5**
BRRC Barranca, Sant 21.97 109 *eP* **P** **05 18 48.8 +1.0**
CPCT Cooper Cave 22.04 22 P **P** **05 18 46.9 -1.4**
CPCT IAmb IAmb 05 19 07.8
comp=Z,76nm,1.4s
NHSC New Hope 22.05 34 P **P** **05 18 47.8 -0.6**
baz=220,SNR=5.4
ORTC Ortega, Tolima 22.10 119 *eP* **P** **05 18 46.0 -3.2**
SPBC San Pablo de B 22.27 113 *eP* **P** **05 18 51.9 +0.9**
RTBA Rita Blanca 22.33 342 P **P** **05 18 52.6 +1.1**
RTBA IAmb IAmb 05 19 01.0
comp=Z,62nm,1.0s
BONI La Bonita 22.34 130 *eP* **P** **05 18 55.5 +3.6**
ANMO Albuquerque 22.34 334 P **P** **05 18 51.4 -0.4**
ANMO Albuquerque 22.34 334 P **P** **05 18 52.8 +1.0**
baz=148
ANMO Albuquerque 22.34 334 LR LR 05 28 58.2
comp=Z,303nm,19.1s,baz=256,slow=41
S39A Bolivar 22.38 3 P **P** **05 18 51.4 -0.6**
S39A IAmb IAmb 05 19 01.7
comp=Z,33nm,0.8s
V51A Loudon 22.41 22 P **P** **05 18 51.1 -1.3**
V51A IAmb IAmb 05 19 08.9
comp=Z,54nm,1.3s
ROSC El Rosal 22.43 115 P **P** **05 18 53.1 +0.1**
ROSC El Rosal 22.43 115 *eP* **P** **05 18 55.7 +2.7**
ROSC El Rosal 22.43 115 P **P** **05 18 54.9 +1.9**
comp=Z,42nm,1.2s,baz=107,slow=22,SNR=20
comp=Z,42nm,1.2s
TKL Tuckaleechee C 22.50 23 LR LR 05 30 17.8
comp=Z,1µm,18.3s,baz=198,slow=44
PRAC Prado 22.50 119 *eP* **P** **05 18 55.9 +2.3**
TUC Tucson 22.51 322 P **P** **05 18 53.8 +0.3**
TUC Tucson 22.51 322 P **P** **05 18 54.6 +1.1**
baz=135
SDDR Presa de Saban 22.54 77 *eP* **P** **05 18 56.4 +2.5**
V52A Sevierville 22.73 24 P **P** **05 18 53.7 -2.0**
V52A IAmb IAmb 05 19 06.9
comp=Z,52nm,1.0s
GARC Garzon, Huila 22.84 123 *eP* **P** **05 18 54.4 -3.0**
S44A Carbondale 22.84 11 P **P** **05 18 55.4 -1.5**
S44A IAmb IAmb 05 19 06.4
comp=Z,41nm,0.8s
SIUC Southern Illin 22.87 11 P **P** **05 18 55.3 -1.9**
SIUC IAmb IAmb 05 19 06.6
comp=Z,52nm,1.0s
V53A Saluda 22.89 25 P **P** **05 18 55.8 -1.7**
V53A IAmb IAmb 05 19 12.8
comp=Z,47nm,0.8s
CCM Cathedral Cave 22.91 7 P **P** **05 18 55.1 -2.4**
CCM Cathedral Cave 22.91 7 P **P** **05 18 57.5 0.0**
baz=188
FLOC Florencia 23.07 124 *eP* **P** **05 19 01.5 +2.1**
KMSC Kings Mountain 23.10 29 P **P** **05 18 58.7 -0.8**
baz=214
COHC Cochancay 23.22 138 *eP* **P** **05 19 02.2 +1.3**
TZTN Tazewell 23.37 23 P **P** **05 19 02.0 -0.2**
baz=208
T25A Trinidad 23.50 340 P **P** **05 19 04.9 +1.2**
baz=156,SNR=25
214A Organ Pipe Nat 23.53 318 P **P** **05 19 05.1 +1.2**
214A Organ Pipe Nat 23.53 318 P **P** **05 19 04.8 +0.9**
baz=131,SNR=8.5
CBKS Cedar Bluff 23.91 350 P **P** **05 19 07.4 0.0**
baz=168,SNR=10
W18A Petrified Fore 24.03 328 P **P** **05 19 09.4 +0.6**
baz=142
WCI Wyandotte Cave 24.03 16 P **P** **05 19 06.6 -1.9**
WCI IAmb IAmb 05 19 35.9
comp=Z,45nm,0.9s
WCI Wyandotte Cave 24.03 16 P **P** **05 19 08.2 -0.3**
baz=200
Q44A Meyer Farm, Va 24.06 11 P **P** **05 19 06.6 -2.2**
Q44A IAmb IAmb 05 19 36.3
comp=Z,34nm,0.8s
MACC Macarena, Meta 24.22 121 *eP* **P** **05 19 11.4 +0.9**
SDV Santo Domingo 24.22 102 P **P** **05 19 09.0 -1.7**
SDV Santo Domingo 24.22 102 *eP* **P** **05 19 11.6 +0.9**
SDV Santo Domingo 24.22 102 LR LR 05 30 37.8
comp=Z,715nm,19.5s,baz=298,slow=42
MCRA Macar, Loja 24.27 142 *eP* **P** **05 19 10.1 -0.9**
P38A Dawn 24.30 2 P **P** **05 19 10.2 -0.8**
P38A IAmb IAmb 05 19 42.8
comp=Z,22nm,0.8s
SDCO Great Sand Dun 24.42 339 P **P** **05 19 12.3 -0.1**
baz=154,SNR=26
PTLC Puerto Leguiza 24.61 126 *eP* **P** **05 19 17.5 +3.5**
PTGC Puerto Gaitan, 24.64 114 *eP* **P** **05 19 15.3 +0.9**
113A Mohawk Valley, 24.67 318 P **P** **05 19 13.9 -0.5**
KSCO Kaye Shedlock' 24.71 345 P **P** **05 19 15.5 +0.6**
baz=161
BLO Bloomington 24.86 15 P **P** **05 19 13.5 -2.5**
BLO IAmb IAmb 05 19 47.0
comp=Z,37nm,1.1s
CNNC Cliffs of the 24.90 34 P **P** **05 19 15.1 -1.4**
baz=221
S22A 4UR Ranch, Cre 24.91 336 P **P** **05 19 15.1 -1.8**
S22A 4UR Ranch, Cre 24.91 336 P **P** **05 19 17.0 +0.1**
baz=151,SNR=7.2
MVCO Mesa Verde 25.14 333 P **P** **05 19 19.3 +0.4**
baz=147,SNR=13
WUAZ Wupatki 25.19 326 P **P** **05 19 21.3 +2.0**
baz=139,SNR=23
BLA Blacksburg 25.22 27 P **P** **05 19 18.4 -1.0**
baz=214
Q24A Divide 25.40 340 P **P** **05 19 22.2 +0.9**
baz=156
SSFO Shawnee State 25.41 21 P **P** **05 19 18.4 -2.7**
P48A Milroy 25.41 17 P **P** **05 19 19.0 -2.1**
P48A IAmb IAmb 05 19 36.2
comp=Z,30nm,1.1s
P49A Miami Univ. Ec 25.69 18 P **P** **05 19 22.9 -0.7**
baz=202
SFIN Lafayette 25.87 13 P **P** **05 19 24.6 -0.6**
baz=197
PDMCI Parker Dam,Lak 25.92 321 P **P** **05 19 26.6 +0.9**
baz=132
IKP In-Ko-Pah, Jac 26.14 315 P **P** **05 19 28.7 +0.8**
baz=126
SMCO Snowmass 26.22 338 P **P** **05 19 28.8 0.0**
SMCO IAmb IAmb 05 19 44.7
comp=Z,24nm,0.9s
O48B Farmland 26.23 16 P **P** **05 19 27.1 -1.4**
baz=201
BGNE Belgrade 26.25 354 P **P** **05 19 28.6 -0.1**
baz=172
ISCO Idaho Springs 26.30 341 P **P** **05 19 29.7 +0.2**
baz=155,SNR=7.3
BC3 Big Chuckawall 26.32 318 P **P** **05 19 30.8 +1.2**
baz=129,SNR=7.6
OGNE Ogallala 26.42 347 P **P** **05 19 29.9 -0.4**
baz=164
IRM Iron Mountain 26.45 319 P **P** **05 19 30.8 +0.3**
baz=130
MONP2 Monument Peak 26.50 315 P **P** **05 19 31.3 0.0**
baz=126
SCIA State Center 26.59 2 P **P** **05 19 31.5 -0.2**
baz=183
P52A Corning 26.62 22 P **P** **05 19 30.5 -1.5**
baz=208
BRIGG Briggsdale 26.64 343 P **P** **05 19 31.8 -0.5**
BRIGG IAmb IAmb 05 20 10.2
comp=Z,21nm,0.8s
BAUV El Baul 26.66 101 P **P** **05 19 31.2 -1.4**
BAUV IAmb IAmb 05 20 13.7
comp=Z,19nm,0.8s
ACSO Alum Creek Sta 26.86 20 P **P** **05 19 33.1 -1.1**
baz=205
BELC Belle Mtn. Jos 26.89 318 P **P** **05 19 35.0 +0.3**
baz=129
TPFO Pinon Flats 26.95 317 P **P** **05 19 35.8 +0.6**
baz=127
PFO Pinyon Flats O 26.95 317 P **P** **05 19 36.1 +0.9**
baz=127
PFO Pinyon Flats O 26.95 317 LR LR 05 29 51.2
comp=Z,573nm,18.5s,baz=132,slow=36
KNB Kanab 27.09 327 P **P** **05 19 37.1 +0.6**
KNB IAmb IAmb 05 20 02.4
comp=Z,33nm,1.4s
GMRC Granite Mounta 27.17 320 P **P** **05 19 37.7 +0.5**
baz=130
K38A Parkersburg 27.35 3 P **P** **05 19 37.5 -1.0**
K38A IAmb IAmb 05 19 47.2
comp=Z,32nm,0.8s
N23A Red Feather La 27.41 341 P **P** **05 19 40.2 +0.8**
baz=156
ATAH Atahualpa 27.41 143 LR LR 05 29 03.4
comp=Z,509nm,19.9s,baz=315,slow=33
MURC Murrieta 27.44 316 P **P** **05 19 40.5 +1.0**
baz=126
L44A Lake County Fo 27.44 11 P **P** **05 19 39.4 0.0**
baz=194
CBN Corbin Frederi 27.44 30 P **P** **05 19 38.6 -0.8**
baz=218
O53A New Philadelph 27.50 22 P **P** **05 19 39.3 -0.6**
baz=209
O20A White River Ci 27.52 337 P **P** **05 19 41.4 +1.0**
baz=150
PHWY Pilot Hill 27.63 342 P **P** **05 19 41.4 0.0**
HEC Hector,Ludlow 27.63 319 P **P** **05 19 42.6 +1.3**
baz=129
BBRC Big Bear Solar 27.65 317 P **P** **05 19 42.7 +1.1**
baz=128
TUQ Turquoise Moun 27.76 320 P **P** **05 19 43.3 +0.8**
baz=131
JFWS Jewell Farm 27.82 7 P **P** **05 19 42.1 -0.6**
baz=189,SNR=7.4
MVU Marysvale 27.91 329 P **P** **05 19 42.7 -1.2**
MVU IAmb IAmb 05 20 11.3
comp=Z,44nm,1.2s
SHPR Sheep Range 28.02 323 P **P** **05 19 44.5 -0.4**
BFSC Mount Baldy Ra 28.13 316 P **P** **05 19 47.1 +1.3**
baz=126
CIS Catalina Islan 28.16 314 P **P** **05 19 46.9 +1.0**
baz=124
GSC Goldstone, Bar 28.23 319 P **P** **05 19 46.8 +0.2**
baz=129
FMP Fort Macarthur 28.25 315 P **P** **05 19 47.7 +1.0**
baz=125
ECSD EROS Data Cent 28.45 357 P **P** **05 19 47.7 -0.6**
baz=176,SNR=12
AAM Ann Arbor 28.55 17 P **P** **05 19 48.7 -0.5**
baz=202
QSM Queen of Sheba 28.69 320 P **P** **05 19 50.1 -0.5**
GWY Greenwater Val 28.71 321 P **P** **05 19 50.7 -0.3**
EDW2 Edwards Air Fo 28.73 317 P **P** **05 19 52.0 +0.9**
baz=127
M53A WI Miller and 28.73 22 P **P** **05 19 49.8 -1.1**
baz=209
PSUT Pine Spring 28.76 327 P **P** **05 19 51.2 -0.3**
TPNV Topopah Spring 28.96 322 P **P** **05 19 54.1 +0.8**
baz=132
FURC Furnace Creek, 29.01 321 P **P** **05 19 55.1 +1.7**
baz=131
OSI Osito Audit: C 29.06 316 P **P** **05 19 55.9 +1.9**
baz=126
MPMC Manual Prospec 29.14 320 P **P** **05 19 56.5 +1.7**
baz=129,SNR=6.0
S11A Rachel 29.15 324 P **P** **05 19 54.7 -0.1**
SSPA Standing Stone 29.16 27 P **P** **05 19 55.0 +0.3**
baz=214
K22A Casper 29.18 342 P **P** **05 19 53.1 -2.0**
K22A IAmb IAmb 05 20 32.9
comp=Z,28nm,1.4s
K22A Casper 29.18 342 P **P** **05 19 56.2 +1.1**
baz=156
SCZ2 Santa Cruz Isl 29.33 314 P **P** **05 19 57.6 +1.2**
baz=123
SUSD Miller 29.34 354 P **P** **05 19 56.9 +0.6**
baz=171
ARVC Arvin 29.43 317 P **P** **05 19 58.4 +1.2**
baz=126
ISA Isabella, Lake 29.52 318 P **P** **05 19 58.3 +0.3**
baz=127
DUG Dugway, Tooele 29.52 331 P **P** **05 19 59.0 +0.8**
baz=142
R11B Troy Canyon, C 29.55 325 P **P** **05 19 58.5 0.0**
baz=135
ERPA Erie 29.58 22 P **P** **05 19 57.8 -0.6**
baz=209
PCRV Puerto La Cruz 29.60 96 LR LR 05 32 14.1
comp=Z,468nm,21.9s,slow=37
SBC Santa Barbara 29.63 315 P **P** **05 19 59.4 +0.5**
baz=124
GRAC Grapevine Rang 29.66 321 P **P** **05 19 59.4 +0.1**
baz=131
CWC Cottonwood Cre 29.75 320 P **P** **05 20 00.2 +0.1**
baz=129
GMN Gold Mountain 29.80 322 P **P** **05 20 01.4 +0.7**
RSSD Black Hills 29.89 346 P **P** **05 20 01.3 -0.1**
baz=161
SPMN Marine on St. 29.92 2 P **P** **05 19 59.1 -2.3**
SPMN Marine on St. 29.92 2 P **P** **05 20 00.6 -0.7**
baz=183,SNR=12
PKM Mcpherson Peak 29.95 315 P **P** **05 20 02.0 0.0**
baz=124
VES Vestal, Richgr 30.02 318 P **P** **05 20 02.3 -0.1**
baz=127
TIN Timemaha, Big 30.23 320 P **P** **05 20 04.4 0.0**
baz=130
BW06 Boulder Array 30.30 338 P **P** **05 20 04.8 -0.3**
baz=150
PD31 Pinedale Array 30.30 338 P **P** **05 20 05.3 +0.2**
PDAR Pinedale Array 30.30 338 P **P** **05 20 05.3 +0.2**
PDAR Pinedale Array 30.30 338 P **P** **05 20 05.9 +0.8**
comp=Z,3.9nm,0.9s,baz=142,slow=7.9,SNR=22
PDAR LR LR 05 33 19.7
comp=Z,212nm,20.6s,baz=159,slow=39
comp=Z,3.9nm,0.9s
F33A 5 Mile Ranch, 30.53 358 P **P** **05 20 06.0 -0.8**
F33A IAmb IAmb 05 20 15.1
comp=Z,12nm,0.7s
GLMI Grayling 30.66 14 P **P** **05 20 05.8 -2.1**
GLMI Grayling 30.66 14 P **P** **05 20 06.5 -1.4**
baz=199
MLAC Mammoth, Mammo 30.97 321 P **P** **05 20 11.1 +0.1**
baz=130
MDPB Devils Postpil 31.12 320 P **P** **05 20 11.9 -0.5**
TBTG Tabatinga, AM 31.12 126 *eP* **P** **05 20 13.8 +1.4**
NVAR Mina Array Bea 31.16 322 P **P** **05 20 14.9 +2.2**
comp=Z,6.6nm,0.8s,baz=139,slow=8.2,SNR=63
NVAR PcP **PcP** **05 23 07.7 +0.2**
comp=Z,1.7nm,0.8s,baz=141,slow=4.9,SNR=4.3
NVAR LR LR 05 32 55.6
comp=Z,585nm,19.0s,baz=135,slow=37
comp=Z,6.6nm,0.8s
SGCB SCo Gabriel d 31.19 117 *eP* **P** **05 20 11.7 -1.2**
BINY Binghamton 31.26 27 P **P** **05 20 11.9 -1.5**
baz=216
PAL Palisades 31.30 31 P **P** **05 20 12.6 -1.1**
baz=221

E38A The Farm, Brul 31.36 4 P P 05 20 12.0 -2.1
TPAW Teton Pass 31.44 337 P P 05 20 15.5 +0.3
TPAW IAmb IAmb 05 20 23.3
comp=Z,16nm,1.0s
KVN Kaiserville 31.46 323 P P 05 20 15.9 +0.6
CZSB Cruzeiro do Su 31.47 135 P P 05 20 16.0 +0.6
CZSB IAmb IAmb 05 20 19.5
comp=Z,37nm,1.3s
CZSB Cruzeiro do Su 31.47 135 *e*P **P 05 20 16.9 +1.5**
H17A Grant Village 32.08 338 P P 05 20 20.8 +0.1
baz=150
YERR Yerington 32.08 322 P P 05 20 20.0 -0.8
YERR IAmb IAmb 05 20 47.7
comp=Z,27nm,1.7s
SADO Sadowa 32.19 21 LR LR 05 35 42.2
comp=Z,623nm,18.7s,baz=224,slow=41
YMP Mirror Lake Pl 32.23 339 P P 05 20 22.5 +0.4
YMP IAmb IAmb 05 20 44.7
comp=Z,21nm,1.1s
NNA Nana 32.25 146 LR LR 05 30 53.9
comp=Z,521nm,21.7s,baz=341,slow=32
RLMT Red Lodge 32.27 340 P P 05 20 23.1 +0.7
RLMT IAmb IAmb 05 20 26.7
comp=Z,12nm,0.9s
RLMT Red Lodge 32.27 340 P P 05 20 21.2 -1.2
baz=153,SNR=9.8
EYMN Ely 32.70 4 P P 05 20 23.5 -2.4
EYMN Ely 32.70 4 P P 05 20 24.8 -1.1
baz=185
MPK Martis Peak 32.75 322 P P 05 20 26.5 -0.2
MPK IAmb IAmb 05 20 38.7
comp=Z,14nm,1.0s
MDND Maddock 32.77 354 P P 05 20 25.7 -0.8
baz=171
LAO LASA Array 32.83 345 P P 05 20 26.5 -0.6
baz=159
HLID Hailey 32.92 333 P P 05 20 28.0 -0.1
baz=143,SNR=19
L61B Northampton 32.99 30 P P 05 20 26.8 -1.7
baz=221
M65A Busby, Falmout 33.39 34 P P 05 20 30.6 -1.4
baz=225
BOZ Bozeman (W) 33.49 338 P P 05 20 32.4 -0.6
baz=149,SNR=7.1
HRV Adam Dziewonsk 33.59 31 P P 05 20 32.1 -1.6
baz=223
LONY Lake Ozonia 33.82 26 P P 05 20 34.2 -1.5
baz=216
DGMT Dagmar 34.07 349 P P 05 20 37.8 0.0
baz=163
WVOR Wild Horse Val 34.10 327 P P 05 20 38.5 +0.2
WVOR IAmb IAmb 05 20 50.7
comp=Z,18nm,1.1s
LBNH Lisbon 34.71 29 P P 05 20 41.4 -2.0
baz=221
ULM Lac du Bonnet 34.93 359 P P 05 20 44.0 -1.1
comp=Z,15nm,0.8s,baz=166,slow=6.4,SNR=11
ULM LR LR 05 37 46.0
comp=Z,360nm,20.3s,baz=173,slow=41
comp=Z,15nm,0.8s
TEFE Tefe 35.00 120 *e*P **P 05 20 47.3 +1.1**
EGMT Eagleton 35.01 342 P P 05 20 46.0 -0.1
EGMT Eagleton 35.01 342 P P 05 20 45.7 -0.4
baz=154,SNR=7.3
MSO Missoula 35.39 337 P P 05 20 49.9 +0.5
baz=146,SNR=7.2
YBH Yreka Blue Hor 35.87 323 LR LR 05 35 05.2
comp=Z,696nm,21.4s,baz=148,slow=36
BOAV Boa Vista 35.90 108 P P 05 20 52.6 -1.3
BOAV Boa Vista 35.90 108 *e*P **P 05 20 54.1 +0.2**
F10A Beach Ranch, E 36.05 333 P P 05 20 55.5 +0.5
PKME Peaks-Kenny Pk 36.73 30 P P 05 21 00.3 -0.4
baz=224
ETMB Extrema 37.53 130 P P 05 21 07.0 -0.8
ETMB IAmb IAmb 05 21 10.0
comp=Z,26nm,1.1s
ETMB Extrema 37.53 130 *e*P **P 05 21 07.4 -0.5**
NEW Newport 37.81 335 P P 05 21 11.1 +1.1
baz=143
NEW Newport 37.81 335 LR LR 05 39 19.2
comp=Z,750nm,19.4s,baz=136,slow=40
MACA Manacapuru-AM 38.20 116 *e*P **P 05 21 12.6 -0.9**
SAML Samuel 39.30 126 P P 05 21 20.8 -1.9
SAML Samuel 39.30 126 *e*P **P 05 21 22.5 -0.2**
SAML Samuel 39.30 126 P P 05 21 20.6 -2.1
SAML pP **pP 05 21 30.5 +0.2**
FFC Flin Flon 39.81 353 P P 05 21 26.1 -0.4
FFC IAmb IAmb 05 21 36.5
comp=Z,16nm,0.8s
FFC Flin Flon 39.81 353 P P 05 21 26.1 -0.4
FFC pP **sP 05 21 35.9 -1.2**
NLWA Neilton Lookou 40.22 329 P P 05 21 30.6 +0.6
NLWA IAmb IAmb 05 21 33.3
comp=Z,26nm,1.1s
LPAZ La Paz 40.77 139 P P 05 21 35.4 -0.3
LPAZ La Paz 40.77 139 *e*P **P 05 21 36.4 +0.7**
LPAZ La Paz 40.77 139 P P 05 21 35.4 -0.3
comp=Z,2.9nm,0.8s,baz=336,slow=11,SNR=12
LPAZ LR LR 05 38 32.7
comp=Z,254nm,18.9s,baz=316,slow=36
comp=Z,2.9nm,0.8s
LPAZ La Paz 40.77 139 P P 05 21 35.4 -0.3
LPAZ pP **sP 05 21 45.0 -1.0**
MDP Montagnes des 42.39 99 LR LR 05 40 29.8
comp=Z,502nm,21.6s,baz=321,slow=38
ITTB Itaituba 43.10 114 *e*P **P 05 21 53.7 -0.3**
MALB Monte Alegre 43.32 110 *e*P **P 05 21 54.6 -1.3**
VILB Vilhena 44.06 128 *e*P **P 05 22 01.6 -0.1**
RPN Rapa Nui 44.50 199 LR LR 05 35 55.2
comp=Z,384nm,20.0s,baz=20,slow=30
NPGB Novo Progresso 44.72 117 *e*P **P 05 22 05.3 -1.7**
MCPB Macapa, AP 44.76 106 *e*P **P 05 22 07.0 -0.4**
SCHQ Schefferville 44.97 22 P P 05 22 07.5 -1.0
comp=Z,9.8nm,1.1s,baz=253,slow=7.4,SNR=4.1
SCHQ LR LR 05 43 21.7
comp=Z,1μm,19.1s,baz=216,slow=39
comp=Z,9.8nm,1.1s
LVC Limon Verde 45.24 146 P P 05 22 12.5 +1.1
LVC IAmb IAmb 05 22 15.1
comp=Z,41nm,1.8s
LVC Limon Verde 45.24 146 *e*P **P 05 22 12.8 +1.4**
LVC Limon Verde 45.24 146 LR LR 05 37 50.1
comp=Z,226nm,21.1s,baz=317,slow=32
BBB Bella Bella 45.48 331 LR LR 05 41 52.6
comp=Z,299nm,18.2s,baz=167,slow=37
PDRB Porto dos Gac 45.99 123 *e*P **P 05 22 15.4 -1.8**
CLDB Colider 46.34 122 *e*P **P 05 22 18.6 -1.3**
HILA High Level 46.36 344 P P 05 22 18.6 -0.8
PTLB Pontes e Lacer 46.42 130 P P 05 22 19.4 -1.0
PTLB Pontes e Lacer 46.42 130 *e*P **P 05 22 19.4 -1.0**
BBSD Serra de San D 46.48 133 *e*P **P 05 22 19.8 -1.1**
BBRB Robore, Bolivi 47.77 133 *e*P **P 05 22 30.6 -0.4**
AC06 Mina Casimiro 48.43 151 P P 05 22 37.7 +1.8
U35K Hyder 48.81 334 P P 05 22 38.2 -0.2
baz=132
V35K Ketchikan 49.11 333 P P 05 22 40.9 +0.2
baz=130
PRPB Paraupebas 49.17 112 *e*P **P 05 22 40.5 -1.4**
YKA Yellowknife Ar 49.27 348 P P 05 22 42.8 +0.9
comp=Z,4.8nm,0.7s,baz=209,slow=4.4,SNR=8.3
YKA LR LR 05 46 20.7
comp=Z,177nm,18.3s,baz=175,slow=40
comp=Z,4.8nm,0.7s
SALV Santo Antonio 49.30 127 *e*P **P 05 22 42.2 -0.6**
FLDN Fort Liard 49.61 342 P P 05 22 44.7 +0.2
baz=142
T35M Bob Quinn 49.62 335 P P 05 22 43.5 -1.1
T35M IAmb IAmb 05 23 04.5
comp=Z,30nm,1.7s
T35M Bob Quinn 49.62 335 P P 05 22 45.0 +0.3
baz=132
KOTAN Kotaneelee Air 49.70 341 P P 05 22 45.9 +0.6
baz=141,SNR=7.2
CRAG Craig 49.86 332 P P 05 22 46.2 -0.3
baz=128
WRAK Wrangell Islan 50.12 334 P P 05 22 48.6 +0.2
baz=130
U33K Whale Pass 50.26 333 P P 05 22 49.5 0.0
baz=128
DLBC Dease Lake 50.52 337 P P 05 22 52.0 +0.4
DLBC Dease Lake 50.52 337 P P 05 22 52.4 +0.8
baz=133
DLBC Dease Lake 50.52 337 LR LR 05 45 25.1
comp=Z,397nm,20.8s,baz=155,slow=38
S34M Telegraph Cree 50.60 336 P P 05 22 53.0 +0.9
S34M IAmb IAmb 05 22 57.8
comp=Z,16nm,1.4s
S34M Telegraph Cree 50.60 336 P P 05 22 53.3 +1.2
baz=132
TAOE Nuku Hiva Isla 51.13 245 *e*LR LR 05 37 21.5
comp=Z,952nm,24.3s
TAOE Nuku Hiva Isla 51.13 245 *e*T T 06 17 42.6
comp=Z,66nm,0.2s
BDQN Bodoquena, MS 51.36 133 *e*P **P 05 22 58.5 +0.1**
R33M Jennings River 51.54 337 P P 05 22 58.5 -0.8
baz=133
MURT Porto Murtinho 51.56 134 *e*P **P 05 22 59.3 -0.4**
FRB Frobisher Bay 51.69 14 LR LR 05 47 08.2
comp=Z,353nm,19.6s,baz=200,slow=39
S32K Killisnoo 51.73 334 P P 05 23 00.8 +0.3
baz=128
Q32M Nakina River 51.74 336 P P 05 23 01.2 +0.3
baz=131
SIT Sitka 51.81 333 P P 05 23 00.8 -0.3
baz=127
WRGLY Wrigley 52.00 344 P P 05 23 02.5 0.0
baz=144
TGTN Hyland Airport 52.11 340 P P 05 23 02.7 -0.7
baz=137,SNR=7.6
AQDB Aquidauana 52.13 132 *e*P **P 05 23 04.1 +0.1**
R32K Eaglecrest 52.21 335 P P 05 23 03.2 -0.9
baz=128
ARAG Araguaiana, MT 52.23 124 *e*P **P 05 23 03.4 -1.5**
SMTB Santa Maria do 52.34 114 *e*P **P 05 23 05.3 -0.5**
P32M Atlin 52.72 336 P P 05 23 07.4 -0.6
P32M IAmb IAmb 05 23 34.9
comp=Z,12nm,1.1s
P32M Atlin 52.72 336 P P 05 23 06.9 -1.0
baz=130
S31K Pelican 52.74 334 P P 05 23 07.1 -0.9
baz=126
P33M Teslin, Yukon 52.78 337 P P 05 23 09.4 +1.0
P33M IAmb IAmb 05 23 20.6
comp=Z,13nm,1.2s
P33M Teslin, Yukon 52.78 337 P P 05 23 08.2 -0.2
baz=131
R31K City Hall, Gus 52.80 334 P P 05 23 07.3 -1.2
baz=127
ANTJ Antonio Joao (52.90 134 *e*P **P 05 23 11.6 +1.9**
CFA Coronel Fontan 52.99 152 LR LR 05 41 13.0
comp=Z,315nm,21.4s,baz=305,slow=31
ROSB Rosrio 53.06 106 *e*P **P 05 23 10.8 -0.3**
SKAG Skagway 53.27 335 P P 05 23 11.6 -0.3
baz=128
N32M Quiet Lake 53.50 338 P P 05 23 13.2 -0.5
baz=132
PLBC Pleasant Camp 53.69 335 P P 05 23 14.1 -1.0
baz=127
WHY Whitehorse 53.85 337 P P 05 23 16.0 -0.3
baz=129
MMPY Sheldon Lake, 53.88 340 P P 05 23 16.5 +0.1
baz=134,SNR=8.4
AMBA Amambai (Brazi 54.21 134 *e*P **P 05 23 18.1 -1.3**
FARO Faro, Yukon 54.32 339 P P 05 23 19.4 -0.2
baz=132,SNR=5.7
P30M Million Dollar 54.33 335 P P 05 23 19.6 -0.2
baz=127
P29M Windy Craggy 54.36 335 P P 05 23 21.3 +1.3
P29M IAmb IAmb 05 23 39.3
comp=Z,15nm,1.2s
P29M Windy Craggy 54.36 335 P P 05 23 19.2 -0.7
baz=126
O30N Mendenhall 54.38 336 P P 05 23 22.0 +1.8
baz=128
M31M Drury Creek, Y 54.67 338 P P 05 23 23.5 +1.3
M31M IAmb IAmb 05 23 25.2
comp=Z,25nm,1.8s
M31M Drury Creek, Y 54.67 338 P P 05 23 19.9 -2.2
baz=131
N31M Braeburn, Yuko 54.71 337 P P 05 23 24.1 +1.6
N31M IAmb IAmb 05 23 25.6
comp=Z,11nm,0.9s
N31M Braeburn, Yuko 54.71 337 P P 05 23 22.0 -0.5
baz=129
CPUP Villa Florida 54.94 138 P P 05 23 23.0 -1.5
CPUP IAmb IAmb 05 23 25.6
comp=Z,15nm,1.2s
CPUP Villa Florida 54.94 138 *e*P **P 05 23 23.4 -1.1**
CPUP Villa Florida 54.94 138 P P 05 23 24.9 +0.3
comp=Z,4.5nm,0.9s,baz=313,slow=6.2,SNR=7.9
CPUP LR LR 05 47 03.3
comp=Z,182nm,21.7s,baz=330,slow=36
comp=Z,4.5nm,0.9s
CPUP Villa Florida 54.94 138 P P 05 23 24.1 -0.5
CPUP pP **sP 05 23 33.7 -1.6**
CPUP sP **pP 05 23 38.6 +6.3**
HYT Haines Junctio 54.97 336 P P 05 23 23.0 -1.5
baz=126
PNL Peninsula 55.07 334 P P 05 23 24.4 -0.7
baz=124
O29M Mount Kennedy 55.09 335 P P 05 23 25.4 0.0
baz=125
N30M Aishikik Lake 55.19 337 P P 05 23 23.4 -2.6
baz=127
BDFB Brasilia 55.28 122 P P 05 23 27.2 -0.1
BDFB IAmb IAmb 05 23 36.6
comp=Z,9.4nm,0.9s
BDFB Brasilia 55.28 122 P P 05 23 28.9 +1.5
comp=Z,4.8nm,0.7s,baz=268,slow=5.6,SNR=9.2
comp=Z,4.8nm,0.7s
YUK6 Outpost Mounta 55.38 336 P P 05 23 26.8 -0.8
baz=126
PINM Pinnacle 55.67 334 P P 05 23 28.2 -1.2
baz=123
YUK4 Talbot Arm 55.73 336 P P 05 23 28.9 -1.1
baz=126
M30M Minto, Yukon 55.77 338 P P 05 23 29.7 -0.4
baz=128
O28M Mount Upton 56.02 335 P P 05 23 30.7 -1.5
baz=124
PCMB Pacaembu 56.08 130 *e*P **P 05 23 32.7 -0.2**
MAYO Mayo, Yukon 56.09 339 P P 05 23 31.5 -0.9
baz=130
YUK8 Steele Glacier 56.13 336 P P 05 23 31.7 -1.3
baz=124
M29M Somme Creek 56.30 337 P P 05 23 33.7 -0.3
baz=126,SNR=14
SDBA SAO DESIDERIO 56.31 117 *e*P **P 05 23 33.6 -1.1**
MESA MESA 56.43 334 P P 05 23 34.2 -0.9
baz=122
MECA Mercedes 56.53 142 *e*P **P 05 23 36.8 +0.9**
L29M L29M 56.58 338 P P 05 23 35.8 -0.1
baz=127,SNR=6.5
CTG Chitna Glacier 56.59 335 P P 05 23 36.2 +0.1
baz=122
YUK3 Moose Creek 56.68 336 P P 05 23 36.6 -0.3
baz=124
K29M Barlow Dome 56.81 339 P P 05 23 37.1 -0.5
baz=128
J30M Hart River 56.87 340 P P 05 23 36.9 -1.1
baz=130
BGLC Bering Glacier 56.97 333 P P 05 23 38.9 +0.2
baz=120
H31M Peel River 57.06 342 P P 05 23 38.7 -0.6
baz=133
C36M Paulatuk 57.16 348 P P 05 23 40.0 +0.2
baz=146
BVCY Beaver Creek 57.20 336 P P 05 23 39.9 -0.4
baz=124
I30M Mount Dempster 57.30 340 P P 05 23 40.6 -0.6
baz=130
KAIM Kayak Island 57.37 333 P P 05 23 39.7 -1.8
baz=119
J29N Klondike Camp 57.43 339 P P 05 23 41.3 -0.6
baz=128
MCARA McCarthy VSAT 57.51 335 P P 05 23 43.1 +0.6
MCARA McCarthy VSAT 57.51 335 P P 05 23 42.3 -0.2
baz=121,SNR=5.1
M27K Edge Creek, AK 57.56 336 P P 05 23 42.5 -0.5
baz=123
DAWY Dawson 57.61 338 P P 05 23 43.1 -0.1
DAWY Dawson 57.61 338 P P 05 23 43.0 -0.1
baz=126
G31M Satah River 57.80 343 P P 05 23 43.0 -1.4
baz=133,SNR=5.8
BB19B Bebedouro 57.82 127 *e*P **P 05 23 46.3 +1.0**
BCAR Beaver Creek A 57.91 337 P P 05 23 46.1 +0.8
L27K Beaver Creek, 57.93 337 P P 05 23 46.0 +0.6
L27K IAmb IAmb 05 23 58.5
comp=Z,12nm,1.2s
L27K Beaver Creek, 57.93 337 P P 05 23 45.0 -0.4
baz=123
BMRM Bremner River 57.96 334 P P 05 23 44.6 -1.1
baz=119
F31M Tsiigehtchic 58.01 343 P P 05 23 44.9 -0.9
baz=134
Q23K Middleton Isla 58.01 332 P P 05 23 45.0 -1.0
baz=116
I29M Ogilvie Camp, 58.02 340 P P 05 23 45.4 -0.6
baz=128
M26K Nabesna, AK 58.03 336 P P 05 23 44.5 -1.6
baz=122
JANB Januaria 58.07 119 *e*P **P 05 23 47.1 0.0**
PMNB Patos De Minas 58.08 124 *e*P **P 05 23 48.0 +0.8**
EPYK Eagle Plains 58.16 341 P P 05 23 45.8 -1.1
baz=130
EYAK Cordova Ski Ar 58.25 333 P P 05 23 47.2 -0.5
baz=118
N25K Chitina, Valde 58.27 334 P P 05 23 47.1 -0.8
baz=120,SNR=5.5
UNIS Unistalda (Bra 58.27 139 *e*P **P 05 23 48.4 +0.1**
G30M tAoh Zraii Nji 58.41 342 P P 05 23 49.2 +0.5
baz=131
L26K Log Cabin Wild 58.49 336 P P 05 23 48.4 -0.9
baz=122
K27K Chicken 58.55 338 P P 05 23 48.2 -1.6
baz=123
INK Inuvik 58.56 344 P P 05 23 49.4 -0.2
INK Inuvik 58.56 344 P P 05 23 48.6 -1.1
baz=135
INK Inuvik 58.56 344 LR LR 05 53 10.3
comp=Z,622nm,18.0s,baz=176,slow=40
H29M Whitestone 58.58 341 P P 05 23 50.3 +0.4
baz=128
I28M Miner Creek 58.62 340 P P 05 23 50.6 +0.3
baz=126
EGAK Eagle 58.65 339 P P 05 23 49.6 -0.7
baz=125
F30M Barrier River 58.70 343 P P 05 23 51.1 +0.4
baz=132
P23K Montague Islan 58.74 332 P P 05 23 51.8 +0.7
baz=116
KLU Klutina 58.77 334 P P 05 23 51.9 +0.5
baz=118
HARP HAARP 58.89 335 P P 05 23 52.6 +0.4
baz=119
G29M Pine Creek 58.91 342 P P 05 23 52.3 +0.2
baz=129
GLI Glacier Island 58.99 333 P P 05 23 53.3 +0.4
baz=117
RODS Rosario do Sul 59.09 140 *e*P **P 05 23 54.8 +0.9**
SFJD Kangerlussuaq 59.10 19 LR LR 05 52 27.9
comp=Z,260nm,18.1s,baz=231,slow=39
M24K Tolsona, Glenn 59.17 335 P P 05 23 54.1 0.0
baz=118
SCRK Sand Creek 59.24 337 P P 05 23 55.1 +0.4
SCRK IAmb IAmb 05 23 59.2
comp=Z,9.7nm,1.0s
SCRK Sand Creek 59.24 337 P P 05 23 54.7 +0.1
baz=121
I27K Kandik River 59.28 339 P P 05 23 54.3 -0.5
baz=125
PAX Paxson 59.30 336 P P 05 23 56.9 +1.9
PAX IAmb IAmb 05 23 57.8
comp=Z,7.6nm,0.8s
PAX Paxson 59.30 336 P P 05 23 55.4 +0.3
baz=119
J26L Joseph Creek 59.36 338 P P 05 23 56.0 +0.6
J26L IAmb IAmb 05 23 60.0
comp=Z,9.3nm,1.1s
J26L Joseph Creek 59.36 338 P P 05 23 55.1 -0.4
baz=122
ALGR Alto Alegre (B 59.41 137 *e*P **P 05 23 56.0 -0.2**
RES Resolute Bay 59.44 360 LR LR 05 52 17.2
comp=Z,258nm,20.2s,baz=212,slow=39
RIDG Independent Ri 59.44 337 P P 05 23 56.9 +0.9
RIDG Independent Ri 59.44 337 P P 05 23 55.3 -0.7
baz=120
SCM Sheep Creek Mo 59.52 334 P P 05 23 56.3 -0.3
baz=117
PWL Port Wells 59.53 333 P P 05 23 56.8 +0.2
baz=115
A36M Sachs Harbour 59.56 349 P P 05 23 55.9 -0.7
baz=145
H27K Steamboat Moun 59.61 340 P P 05 23 56.9 -0.2
baz=125
I26K Coal Creek Min 59.65 339 P P 05 23 56.0 -1.3
baz=123
M23K Glacier View 59.68 334 P P 05 23 57.7 +0.2
baz=116
SEW Seward 59.72 332 P P 05 23 58.1 +0.3
baz=114
E29M Blow River 59.81 343 P P 05 23 58.2 -0.1
baz=130
KNK Knik Glacier 59.82 333 P P 05 23 58.3 -0.3
baz=116
K24K Donnelly Dome 59.83 336 P P 05 23 58.3 -0.3
baz=120,SNR=5.4
F28M Old Crow 59.91 342 P P 05 23 59.6 +0.5
baz=128,SNR=14
SML Sawmill 59.94 334 P P 05 23 59.6 +0.1
baz=116
G27K Doyon Strip 59.98 340 P P 05 23 59.3 -0.3
baz=125,SNR=6.4
PLCA Paso Flores 59.99 159 P P 05 24 00.2 +0.2
PLCA Paso Flores 59.99 159 *e*P **P 05 24 00.2 +0.2**
PLCA Paso Flores 59.99 159 P P 05 24 00.2 +0.2
comp=Z,15nm,1.0s,baz=338,slow=7.2,SNR=12
PLCA LR LR 05 44 38.2
comp=Z,164nm,20.7s,baz=358,slow=31
comp=Z,15nm,1.0s
PLCA Paso Flores 59.99 159 P P 05 23 59.5 -0.5
PLCA pP **sP 05 24 08.9 -1.9**
PLCA sP **pP 05 24 13.6 +6.1**
O22K Cooper Landing 59.99 332 P P 05 23 57.7 -2.0
baz=114
WAT6 Susitna Watana 60.04 335 P P 05 23 58.4 -1.8
baz=117
J25K Salcha River, 60.08 337 P P 05 24 00.2 -0.2
baz=120
DHY Denali Highway 60.12 335 P P 05 24 00.0 -0.7
baz=118
BRSE Bradley Lake S 60.17 331 P P 05 23 60.0 -1.0
baz=112
GHO Glory Hole Cre 60.18 334 P P 05 24 01.7 +0.6
DY2G Dye2 60.19 20 *i* P **P 05 24 05.3 +4.0**
DY2G IAmb IAmb 05 24 19.9
comp=Z,4.8nm,0.8s
PMR Palmer 60.19 333 P P 05 24 00.2 -0.9
baz=115
DIAM Diamantina, MG 60.20 122 *e*P **P 05 24 02.4 +0.5**
KDAK Kodiak Island 60.36 328 P P 05 24 01.6 -0.7
baz=110
KDAK Kodiak Island 60.36 328 LR LR 05 48 46.4
comp=Z,248nm,20.9s,baz=152,slow=35
E28M Babbage River 60.42 343 P P 05 24 01.2 -1.3
baz=128
WAT1 Susitna Watana 60.48 335 P P 05 24 01.1 -2.0
baz=116
HDA Harding Lake 60.58 337 P P 05 24 02.2 -1.4
baz=119
PRP Porcupine Dome 60.60 338 P P 05 24 04.3 +0.3
PRP IAmb IAmb 05 24 06.3
comp=Z,12nm,1.0s
PRP Porcupine Dome 60.60 338 P P 05 24 03.0 -1.0
baz=121,SNR=8.0
D28M Stokes Point 60.65 344 P P 05 24 03.1 -0.9
baz=129
PMOR Pomariorio Ree 60.68 243 *e*T T 06 30 06.0
comp=Z,5.1nm,0.2s
M22K Willow 60.69 333 P P 05 24 03.9 -0.5
baz=114
IL03 Eielson Array 60.72 337 P P 05 24 04.9 +0.3
IL31 60.73 337 P P 05 24 04.2 -0.4
IL31 IAmb IAmb 05 24 08.5
comp=Z,13nm,1.1s
ILAR Eielson Array 60.73 337 P P 05 24 04.5 -0.2
ILAR Eielson Array 60.73 337 P P 05 24 04.3 -0.4
comp=Z,5.4nm,0.9s,baz=135,slow=3.8,SNR=46
ILAR LR LR 05 53 47.1
comp=Z,568nm,18.2s,baz=104,slow=40
comp=Z,5.4nm,0.9s
CAPN Captain Cook N 60.76 332 P P 05 24 05.0 +0.1
baz=112
G26K Porcupine Rive 60.76 340 P P 05 24 04.4 -0.4
baz=123
E27K Colleen River 60.77 342 P P 05 24 05.1 +0.1
baz=126
SII Sitkinak Islan 60.80 327 P P 05 24 05.3 -0.1
baz=107

SUA	**Susitna One**	60.85	333	P	P	05 24 05.6	-0.1
	baz=113						
CUT	**Chulitna**	61.02	334	P	P	05 24 06.6	-0.1
	baz=114						
MCK	**McKinley**	61.04	336	P	P	05 24 06.7	-0.1
	baz=116						
UMMG	**Uummannaq**	61.08	15	*i* P	P	05 24 07.1	+0.1
UMMG				IAmb	IAmb	05 24 23.9	
	comp=Z,12nm,0.8s						
H25L	**Birch Creek**	61.09	339	P	P	05 24 06.5	-0.5
	baz=121						
POKR	**Poker Plat Res**	61.10	337	P	P	05 24 06.9	-0.3
	baz=118						
COLA	**College**	61.14	337	P	P	05 24 08.8	+1.3
COLA	**College**	61.14	337	P	P	05 24 07.9	+0.4
	baz=118						
COLA	**College**	61.14	337	P	P	05 24 08.7	+1.3
COLA				pP	sP	05 24 19.8	+1.7
O20K	**Slope Mountain**	61.18	331	P	P	05 24 07.4	-0.5
	baz=111						
TRQA	**Tornquist**	61.21	151	P	P	05 24 09.0	+0.6
D27M	**Malcolm River**	61.22	343	P	P	05 24 09.3	+1.3
D27M	**Malcolm River**	61.22	343	P	P	05 24 08.0	-0.1
	baz=127						
R18K	**Karluk**	61.25	328	P	P	05 24 08.8	+0.5
	baz=108						
BMAR	**Burnt Mountain**	61.28	340	P	P	05 24 08.8	+0.4
F26K	**Sheenjek River**	61.29	341	P	P	05 24 08.8	+0.3
	baz=123						
MDM	**Murphy Dome**	61.32	337	P	P	05 24 09.3	+0.6
MDM				IAmb	IAmb	05 24 55.5	
	comp=Z,12nm,1.4s						
CHIR	**Chirikof Islan**	61.36	326	P	P	05 24 08.2	-1.0
	baz=106						
SKT	**Skwentna**	61.39	333	P	P	05 24 09.0	-0.3
	baz=113,SNR=7.6						
N20K	**Mount Spurr**	61.40	332	P	P	05 24 10.2	+0.8
	baz=112						
SPCR	**Spurr Chakacha**	61.40	332	P	P	05 24 09.9	+0.5
	baz=112						
NUUG	**Nuugaatsiaq**	61.41	14	*i* P	P	05 24 10.0	+0.8
NUUG				IAmb	IAmb	05 24 19.5	
	comp=Z,135nm,0.7s						
G25K	**Bearman Lake**	61.44	339	P	P	05 24 10.6	+1.1
	baz=121						
BWN	**Browne**	61.44	336	P	P	05 24 10.0	+0.5
TRF	**Thorofare Moun**	61.46	335	P	P	05 24 10.1	+0.2
	baz=115,SNR=5.9						
NEA2	**Nenana**	61.48	336	P	P	05 24 10.3	+0.5
	baz=116						
H24K	**Noodor Dome**	61.61	338	P	P	05 24 10.0	-0.7
H24K	**Noodor Dome**	61.61	338	P	P	05 24 11.7	+0.9
	baz=118,SNR=9.7						
F25K	**Christian Rive**	61.72	340	P	P	05 24 12.4	+1.0
	baz=121						
RCBR	**Riachuelo**	61.76	105	LR	LR	05 52 45.1	
	comp=Z,259nm,20.2s,baz=268,slow=38						
LL02	**Futaleuf**	61.77	161	P	P	05 24 12.3	+0.3
I23K	**Minto, Yukon-K**	61.84	337	P	P	05 24 12.6	+0.5
I23K	**Minto, Yukon-K**	61.84	337	P	P	05 24 12.7	+0.5
	baz=116,SNR=12						
Q18K	**Katmai Hardscr**	61.86	329	P	P	05 24 13.1	+0.5
	baz=108						
G24K	**Hadweenzic Riv**	61.88	339	P	P	05 24 12.8	+0.3
G24K				IAmb	IAmb	05 24 14.9	
	comp=Z,14nm,1.0s						
G24K	**Hadweenzic Riv**	61.88	339	P	P	05 24 12.6	+0.1
	baz=119						
E25K	**Arctic Village**	61.97	341	P	P	05 24 14.5	+1.4
E25K				IAmb	IAmb	05 24 34.8	
	comp=Z,15nm,1.4s						
E25K	**Arctic Village**	61.97	341	P	P	05 24 13.2	+0.1
	baz=122						
O19K	**Port Alsworth**	62.02	331	P	P	05 24 13.4	-0.1
	baz=109						
BPAW	**Bear Paw Mtn.**	62.02	336	P	P	05 24 12.2	-1.3
BPAW				IAmb	IAmb	05 24 17.7	
	comp=Z,18nm,1.2s						
BPAW	**Bear Paw Mtn.**	62.02	336	P	P	05 24 13.3	-0.2
	baz=114						
PPLA	**Purkeypile**	62.03	334	P	P	05 24 12.6	-1.1
	baz=113						
M20K	**Styx River**	62.06	333	P	P	05 24 12.8	-1.1
	baz=111						
Q17K	**Contact Creek**	62.18	328	P	P	05 24 12.7	-2.1
	baz=107						
CAST	**Castle Rocks**	62.19	335	P	P	05 24 14.0	-0.7
	baz=113,SNR=5.8						
P18K	**Big Mountain,**	62.20	330	P	P	05 24 12.6	-2.1
	baz=108						
H23K	**Yukon River**	62.21	338	P	P	05 24 13.2	-1.5
	baz=117						
R17K	**Ugashik Creek**	62.26	328	P	P	05 24 13.4	-1.7
	baz=106						
N19K	**Bonanza Creek**	62.30	331	P	P	05 24 13.9	-1.6
	baz=109						
MLY	**Manley**	62.31	337	P	P	05 24 15.2	-0.2
	baz=115,SNR=6.8						
O18K	**Koktuh Hills**	62.33	330	P	P	05 24 14.5	-1.1
	baz=108						
F24K	**Squaw Lake**	62.42	340	P	P	05 24 15.8	-0.4
	baz=119						
CHUM	**Lake Minchumin**	62.47	335	P	P	05 24 16.8	+0.4
	baz=113						
L20K	**Farewell, AK**	62.60	333	P	P	05 24 18.2	+0.8
	baz=111						
M19K	**Big River Lodg**	62.62	333	P	P	05 24 17.9	+0.4
	baz=110						
Q16K	**King Salmon**	62.69	329	P	P	05 24 19.4	+1.4
	baz=106						
P17K	**Kvichak River**	62.73	329	P	P	05 24 17.7	-0.5
	baz=107						
C26K	**Camden Bay**	62.74	343	P	P	05 24 18.3	+0.2
	baz=123						
G23K	**Bananza Creek**	62.78	338	P	P	05 24 18.5	-0.1
	baz=116						
ANGG	**Ammassalik, Gr**	62.84	23	*i* P	P	05 24 17.7	-1.1
ANGG				IAmb	IAmb	05 24 19.4	
	comp=Z,11nm,0.6s						
I21K	**Tanana**	62.85	336	P	P	05 24 18.3	-0.6
	baz=114						
D25K	**Kavik River**	62.85	342	P	P	05 24 18.1	-0.9
	baz=122						
R16K	**Pilot Point**	62.86	327	P	P	05 24 19.1	-0.1
	baz=105						
E24K	**Your Creek**	62.89	340	P	P	05 24 19.6	+0.3
E24K				IAmb	IAmb	05 24 33.6	
	comp=Z,9.7nm,1.1s						
E24K	**Your Creek**	62.89	340	P	P	05 24 19.8	+0.5
	baz=119						
N18K	**Kilae Creek**	62.91	331	P	P	05 24 19.3	-0.2
	baz=108						
H22K	**Ishtalitna Cre**	62.92	337	P	P	05 24 19.6	+0.1
	baz=115,SNR=7.2						
L19K	**White Mountain**	62.92	333	P	P	05 24 19.6	+0.1
	baz=110						
K20K	**Telida**	62.99	334	P	P	05 24 19.9	-0.1
	baz=111,SNR=5.7						
CHGN	**Chignik**	63.00	326	P	P	05 24 19.3	-0.7
	baz=103						
COLD	**Coldfoot**	63.08	339	P	P	05 24 19.1	-1.3
	baz=117						
TIAR	**Tiarei**	63.09	241	*e*T	T	06 32 47.4	
	comp=Z,1.0nm,0.2s						
TVO	**Taravao**	63.12	241	*e*T	T	06 32 45.0	
	comp=Z,2.1nm,0.2s						
M18K	**Stony River**	63.13	332	P	P	05 24 19.6	-1.3
	baz=108						
O17K	**Koliganek Bris**	63.22	330	P	P	05 24 21.4	-0.1
	baz=106						
E23K	**Chandalar**	63.26	340	P	P	05 24 20.8	-1.0
	baz=118						
PPT	**Papeete**	63.29	241	LR	LR	05 43 47.1	
	comp=Z,361nm,21.5s,baz=72,slow=28						
J20K	**Nowinta River**	63.32	335	P	P	05 24 22.0	-0.1
	baz=111,SNR=5.7						
CHNA	**Chernabura Isl**	63.33	324	P	P	05 24 22.9	+0.6
	baz=102						
H21K	**Melozitna Rive**	63.36	337	P	P	05 24 22.9	+0.6
H21K	**Melozitna Rive**	63.36	337	P	P	05 24 22.4	+0.1
	baz=113						
G22K	**Bettles**	63.40	338	P	P	05 24 22.5	-0.1
	baz=115						
P16K	**Nushagak River**	63.45	329	P	P	05 24 24.2	+1.1
	baz=105						
N17K	**Nushagak Hills**	63.47	331	P	P	05 24 22.1	-1.1
	baz=107						
TOLK	**Toolik Lake Re**	63.52	340	P	P	05 24 21.8	-1.6
	baz=118						
D24K	**Happy Valley**	63.52	341	P	P	05 24 22.2	-1.2
	baz=119						
O16K	**Kokwok River B**	63.65	329	P	P	05 24 24.0	-0.3
	baz=105						
TTA	**Tatalina**	63.68	333	P	P	05 24 24.4	-0.2
	baz=109						
I20K	**Naaghedeneel**	63.68	336	P	P	05 24 23.8	-0.6
	baz=111						
ICESG	**Greenland Ices**	63.69	19	*i* P	P	05 24 24.6	-0.3
ICESG				IAmb	IAmb	05 24 40.3	
	comp=Z,24nm,1.1s						
L18K	**Granite Mounta**	63.75	332	P	P	05 24 24.5	-0.5
	baz=108						
C24K	**Franklin Bluff**	63.76	342	P	P	05 24 23.7	-1.2
	baz=119						
M17K	**Holitna River**	63.84	332	P	P	05 24 26.0	+0.4
	baz=107						
J19K	**Poorman**	63.87	335	P	P	05 24 25.3	-0.5
J19K	**Poorman**	63.87	335	P	P	05 24 25.2	-0.5
	baz=110,SNR=10						
COYC	**Coyhaique**	63.87	163	P	P	05 24 27.1	+1.2
COYC	**Coyhaique**	63.87	163	P	P	05 24 26.1	+0.2
COYC				pP	sP	05 24 37.1	+0.4
F22K	**John River**	63.89	339	P	P	05 24 24.6	-1.2
	baz=115						
SDPT	**Sand Point**	63.93	325	P	P	05 24 26.3	+0.1
	baz=101						
G21K	**Allakaket**	63.96	338	P	P	05 24 26.6	+0.3
	baz=113						
D23K	**Nanushuk River**	64.03	341	P	P	05 24 27.3	+0.6
	baz=117						
E22K	**Anaktuvuk Pass**	64.03	339	P	P	05 24 27.0	+0.2
	baz=115						
H20K	**Anotleneega Mo**	64.10	336	P	P	05 24 27.9	+0.6
	baz=111						
J18K	**Innoko River**	64.15	334	P	P	05 24 27.8	+0.1
	baz=106						
N16K	**Nishlik Lake**	64.21	330	P	P	05 24 28.6	+0.6
	baz=105						
F21K	**Alatna River**	64.23	338	P	P	05 24 28.9	+0.8
F21K	**Alatna River**	64.23	338	P	P	05 24 28.0	-0.1
	baz=113						
C23K	**Itkillik River**	64.40	341	P	P	05 24 29.9	+0.7
C23K	**Itkillik River**	64.40	341	P	P	05 24 28.6	-0.5
	baz=117						
O15K	**Ungalikthiuk R**	64.41	329	P	P	05 24 29.7	+0.4
	baz=104						
L17K	**Donlin**	64.45	332	P	P	05 24 30.1	+0.5
	baz=106						
M16K	**Timber Creek**	64.45	331	P	P	05 24 29.4	-0.2
	baz=105						
K17K	**Iditarod**	64.61	333	P	P	05 24 31.3	+0.7
	baz=107						
GCSA	**Galena City Sc**	64.63	335	P	P	05 24 29.6	-1.1
	baz=109						
D22K	**Ayikyak River**	64.64	340	P	P	05 24 30.5	-0.3
	baz=115						
H19K	**Roundabout Mou**	64.72	336	P	P	05 24 30.6	-0.7
	baz=110,SNR=7.0						
N15K	**Kwethluk River**	64.77	330	P	P	05 24 32.2	+0.5
	baz=104						
L16K	**Owhat River**	64.87	332	P	P	05 24 31.7	-0.6
	baz=105						
E21K	**Killik River**	64.89	339	P	P	05 24 31.1	-1.3
	baz=113						
EUNU	**Eureka**	64.94	2	P	P	05 24 32.3	-0.3
EUNU				IAmb	IAmb	05 24 51.7	
	comp=Z,12nm,0.9s						
F20K	**Avaraart Lake**	64.98	338	P	P	05 24 33.6	+0.7
F20K				IAmb	IAmb	05 24 37.0	
	comp=Z,17nm,1.2s						
F20K	**Avaraart Lake**	64.98	338	P	P	05 24 32.9	0.0
	baz=111						
O14K	**Tigyukauivet M**	65.14	329	P	P	05 24 33.0	-1.1
	baz=102						
G19K	**Purcell Mounta**	65.17	337	P	P	05 24 33.9	-0.4
	baz=109,SNR=5.9						
M15K	**Kasigluk River**	65.19	330	P	P	05 24 33.5	-0.8
	baz=103						
H18K	**Honhosa River**	65.36	335	P	P	05 24 34.6	-0.9
	baz=108						
C21K	**Knifeblade Rid**	65.44	340	P	P	05 24 35.5	-0.4
	baz=113						
B22K	**Teshekpuk Lake**	65.49	341	P	P	05 24 36.1	0.0
	baz=115						
N14K	**Kuskokwak Cree**	65.50	329	P	P	05 24 35.4	-0.9
	baz=102						
FALS	**False Pass**	65.51	324	P	P	05 24 36.3	-0.3
	baz=98						
B21K	**Ikpikpuk River**	65.57	341	P	P	05 24 35.5	-1.2
	baz=113						
E20K	**Nigu River**	65.58	339	P	P	05 24 35.3	-1.6
	baz=111						
F19K	**Shaleruckik Mo**	65.66	337	P	P	05 24 37.7	+0.3
	baz=109						
E19K	**Redstone River**	65.67	338	P	P	05 24 37.4	-0.1
	baz=110						
G18K	**Tagagawik**	65.70	336	P	P	05 24 39.2	+1.6
G18K				IAmb	IAmb	05 25 21.4	
	comp=Z,25nm,1.6s						
G18K	**Tagagawik**	65.70	336	P	P	05 24 37.3	-0.4
	baz=108						
SUMG	**Summit**	65.71	16	P	P	05 24 38.2	+0.1
SUMG				IAmb	IAmb	05 24 48.8	
	comp=Z,11nm,0.8s						
SUMG	**Summit**	65.71	16	*i* P	P	05 24 38.9	+0.8
SUMG				IAmb	IAmb	05 24 49.2	
	comp=Z,11nm,0.5s						
J16K	**Anvik River**	65.78	333	P	P	05 24 37.3	-0.9
	baz=105						
M14K	**Bethel**	65.81	330	P	P	05 24 37.7	-0.6
	baz=102						
D20K	**Etivluk River**	65.89	339	P	P	05 24 38.6	-0.3
	baz=111						
NEEM	**North Greenlan**	65.91	9	*i* P	P	05 24 38.5	-0.7
NEEM				IAmb	IAmb	05 24 49.1	
	comp=Z,27nm,1.0s						
H17K	**Granite Mounta**	65.93	335	P	P	05 24 38.7	-0.4
	baz=106						
K15K	**Wolf Creek Mou**	65.95	332	P	P	05 24 39.3	0.0
	baz=103						
I17K	**Unalakleet**	65.97	334	P	P	05 24 39.9	+0.5
	baz=105						
A22K	**Sinclair Lake**	66.23	342	P	P	05 24 40.4	-0.6
	baz=113						
L14K	**Kuka Creek**	66.28	331	P	P	05 24 40.6	-0.8
	baz=102						
D19K	**Kuna River**	66.33	339	P	P	05 24 41.4	-0.3
	baz=109						
G17K	**Kiwalik Mounta**	66.38	335	P	P	05 24 42.0	-0.1
	baz=106						
M13K	**Dall Lake**	66.41	330	P	P	05 24 43.3	+1.0
	baz=101						
B20K	**Meade River**	66.54	341	P	P	05 24 42.2	-0.7
	baz=111						
H16K	**Elim**	66.81	334	P	P	05 24 44.1	-0.7
	baz=104						
F17K	**Baldwin Pennin**	66.87	336	P	P	05 24 44.4	-0.7
	baz=105						
E18K	**Tukpahlearik C**	66.89	337	P	P	05 24 45.3	0.0
	baz=106						
J14K	**Nanvaranak Lak**	66.97	332	P	P	05 24 44.6	-1.1
	baz=102						
C19K	**Lookout Ridge**	67.04	339	P	P	05 24 45.9	-0.3
	baz=108						
G16K	**Koyuk River**	67.04	335	P	P	05 24 45.7	-0.6
	baz=104						
UNV	**Unalaska Valle**	67.18	322	P	P	05 24 47.7	+0.4
	baz=95						
K13K	**Kusilvak Mount**	67.31	331	P	P	05 24 46.6	-1.4
	baz=100						
C18K	**Utukok River**	67.46	339	P	P	05 24 48.3	-0.6
	baz=106						
G15K	**Niukluk**	67.64	335	P	P	05 24 49.6	-0.4
	baz=102						
M11K	**Mekoryuk**	67.80	329	P	P	05 24 51.6	+0.6
	baz=98						
A19K	**Wainwright**	67.87	340	P	P	05 24 49.7	-1.7
	baz=107						
B18K	**Kokolik River**	67.87	339	P	P	05 24 50.8	-0.6
	baz=106						
D17K	**Noatak River**	67.89	337	P	P	05 24 50.9	-0.6
	baz=104						
F15K	**North Star Dit**	68.04	335	P	P	05 24 51.8	-0.7
	baz=102						
C17K	**DeLong Mountai**	68.11	338	P	P	05 24 52.2	-0.8
	baz=104						
ANM	**Nome**	68.12	334	P	P	05 24 51.4	-1.7
	baz=101						
NIKH	**Nikolski High**	68.52	321	P	P	05 24 54.7	-1.1
	baz=93						
F14K	**Arctic Creek**	68.68	335	P	P	05 24 54.5	-2.1
	baz=100						
C16K	**Lisburne Hills**	68.85	338	P	P	05 24 54.9	-2.6
	baz=102						
BORG	**Borgarnes**	69.17	26	LR	LR	05 54 02.3	
	comp=Z,188nm,21.9s,baz=272,slow=35						
TNA	**Tin City**	69.35	335	P	P	05 24 59.3	-1.4
	baz=99						
GAMB	**Gambell**	70.76	333	P	P	05 25 07.1	-2.3
	baz=95						
DAG	**Danmarks Havn**	72.03	14	*i* P	P	05 25 15.1	-1.8
DAG				IAmb	IAmb	05 25 26.4	
	comp=Z,25nm,0.9s						
NOR	**Nord**	73.24	9	*i* P	P	05 25 22.4	-1.6
NOR				IAmb	IAmb	05 25 44.6	
	comp=Z,4.2nm,1.0s						
RAR	**Rarotonga**	73.53	242	LR	LR	05 49 20.2	
	comp=Z,167nm,19.9s,baz=118,slow=29						
JMIC	**Jan Mayen**	74.41	20	LR	LR	05 59 20.5	
	comp=Z,381nm,20.7s,baz=251,slow=37						
ESK	**Eskdalemuir**	78.38	36	P	P	05 25 53.5	-0.3
EKA	**Eskdalemuir Ar**	78.40	36	P	P	05 25 53.4	-0.5
	comp=Z,9.2nm,0.8s,baz=278,slow=4.2,SNR=19						
	comp=Z,9.2nm,0.8s						
SHEM	**Shemya Is, Ala**	78.83	322	LR	LR	05 58 08.3	
	comp=Z,58nm,20.2s,baz=96,slow=34						
SPITS	**Spitsbergen Ar**	79.36	11	P	P	05 25 59.5	+0.7
	comp=Z,14nm,1.1s,baz=219,slow=3.7,SNR=1.5						
SPITS				LR	LR	06 05 32.9	
	comp=Z,380nm,18.2s,baz=267,slow=39						
	comp=Z,14nm,1.1s						
ESDC	**Sonseca Array**	80.88	51	P	P	05 26 07.5	-0.3
ESDC				IAmb	IAmb	05 26 26.5	
	comp=Z,17nm,1.6s						
ESDC	**Sonseca Array**	80.88	51	P	P	05 26 07.7	-0.1
	comp=Z,2.1nm,0.8s,baz=285,slow=5.2,SNR=12						
ESDC				LR	LR	05 56 56.1	
	comp=Z,341nm,20.0s,baz=274,slow=32						
	comp=Z,2.1nm,0.8s						
MDT	**Midelt**	81.85	58	LR	LR	05 59 15.5	
	comp=Z,146nm,18.7s,baz=315,slow=33						
DOU	**Dourbes**	84.20	40	*d*P	P	05 26 28.8	+4.0
DOU				*d*x	x	05 26 33.3	
NB2	**NORSAR Subarra**	84.22	28	P	P	05 26 24.8	0.0
	comp=Z,89nm,1.7s,baz=292,slow=4.8						
NB2	**NORSAR Subarra**	84.22	28	P	P	05 26 24.8	0.0
	baz=292,slow=4.8						
NOA	**NORSAR Array B**	84.22	28	P	P	05 26 25.9	+1.1
	comp=Z,2.0nm,0.7s,baz=299,slow=5.1,SNR=5.2						
NOA				LR	LR	06 02 17.4	
	comp=Z,238nm,21.9s,baz=280,slow=34						
	comp=Z,2.0nm,0.7s						
BMRD	**Maredsous**	84.25	39	*d*P	P	05 26 25.3	+0.3
BGES	**Gesves**	84.42	39	*d*P	P	05 26 25.6	-0.2
BGES				*d*x	x	05 26 35.8	
BCLA	**Clavier**	84.54	39	*d*x	pP	05 26 36.1	+1.5
RCHB	**Rochefort**	84.57	40	*d*P	P	05 26 25.9	-0.8
RCHB				*d*x	x	05 26 36.4	
BSTI	**Sart Tilman**	84.65	39	*d*x	pP	05 26 37.0	+1.8
MEM	**Membach**	84.91	39	*d*P	P	05 26 28.6	+0.2
MEM				*d*x	x	05 26 38.4	
BHOU	**Houvegnez**	84.99	39	*d*x	pP	05 26 39.5	+2.6
BTNL	**Ternell**	84.99	39	*d*P	P	05 26 27.1	-1.7
BTNL				*d*x	x	05 26 38.9	
WLF	**Walferdange**	85.29	40	*d*P	P	05 26 28.7	-1.6
WLF				*d*x	x	05 26 41.4	
HFS	**Hagfors**	85.70	28	P	P	05 26 33.3	+1.1
	comp=Z,4.7nm,0.9s,baz=235,slow=5.1,SNR=2.4						
HFS				LR	LR	06 05 14.4	
	comp=Z,212nm,18.6s,baz=260,slow=36						
	comp=Z,4.7nm,0.9s						
ARCES	**ARCESS Array B**	85.72	18	P	P	05 26 33.2	+1.1
	comp=Z,5.0nm,0.7s,baz=316,slow=5.1,SNR=7.6						
ARCES				LR	LR	06 06 31.8	
	comp=Z,232nm,18.8s,baz=295,slow=37						
	comp=Z,5.0nm,0.7s						
ECH	**Echery**	86.37	41	P	P	05 26 35.0	-0.7
SENIN	**Lac Senin/Sane**	87.06	43	P	P	05 26 38.9	-0.5
TIC	**Toumodi**	87.83	84 ⇓	*i* P	P	05 26 44.3	+0.8
	comp=Z,2.4nm,0.3s						
LIC	**Lamto**	87.93	84 ⇑	*i* P	P	05 26 44.5	+0.6
	comp=Z,8.6nm,0.5s						
DBIC	**Dimbokro**	87.98	84	P	P	05 26 45.1	+0.9
	comp=Z,3.7nm,0.8s,baz=294,slow=10.0,SNR=4.9						
DBIC				LR	LR	06 03 21.4	
	comp=Z,110nm,20.6s,baz=302,slow=34						
	comp=Z,3.7nm,0.8s						
KIC	**Kosan Boka**	88.17	84 ⇓	*i* P	P	05 26 45.9	+0.8
	comp=Z,22nm,0.8s						
PETK	**Petropavlovsk-**	88.21	325	LR	LR	06 07 02.5	
	comp=Z,46nm,18.1s,baz=62,slow=36						
TUE	**Stuetta**	88.36	42	P	P	05 26 44.6	-1.0
DAVA	**Damuels**	88.42	41	*e*PcP	P	05 26 45.0	-0.8
	comp=Z,9.8nm,1.1s						
DAVA				*e*pP	sP	05 26 56.7	-0.2
	comp=Z,16nm,1.0s						
TIXI	**Tiksi**	88.52	347	P	P	05 26 44.5	-1.0
TIXI				IAmb	IAmb	05 27 04.9	
	comp=Z,12nm,1.4s						
DAVOX	**Davos/Dischmat**	88.60	42	LR	LR	06 01 56.9	
	comp=Z,238nm,21.5s,baz=292,slow=33						
CLL	**Collm**	88.81	37	*e*Px	Px	05 26 51.0	
CLL				*es*P	sP	05 27 03.0	+4.6
MA2	**Magadan**	88.86	332	LR	LR	06 09 10.9	
	comp=Z,80nm,19.4s,baz=82,slow=37						
FUORN	**Ofenpass-Fuorn**	88.90	42	P	P	05 26 48.5	+0.3
FUORN				IAmb	IAmb	05 27 03.4	
	comp=Z,5.7nm,0.9s						
RETA	**Reutte**	88.90	41	*e*P	P	05 26 46.9	-1.0
	comp=Z,5.1nm,1.0s						
RETA				*e*pP	sP	05 26 59.3	+0.2
	comp=Z,7.3nm,0.9s						
FETA	**Feichten**	89.05	41	*e*P	P	05 26 47.5	-1.3
	comp=Z,5.5nm,1.0s						
MOTA	**Moosalm**	89.17	41	*e*PcP	P	05 26 48.4	-0.9
	comp=Z,3.5nm,1.0s						
SQTA	**Sankt Quirin**	89.28	41	*e*P	P	05 26 48.6	-1.2
	comp=Z,7.2nm,1.3s						
KHC	**Kasperske Hory**	90.01	39	*e*P	P	05 26 52.0	-1.1
KHC				pP	sP	05 27 03.0	-1.2
GERES	**GERESS Array B**	90.20	39	LR	LR	06 04 52.4	
	comp=Z,198nm,21.0s,baz=262,slow=34						
FINES	**FINESS Array B**	90.41	24	P	P	05 26 56.9	+2.3
	comp=Z,7.5nm,1.1s,baz=194,slow=31,SNR=3.7						
	comp=Z,7.5nm,1.1s						
MOA	**Molln**	90.95	40	*e*P	P	05 26 55.7	-1.7
	comp=Z,1.8nm,0.5s						
KEST	**Kesra**	92.10	52	LR	LR	06 05 32.9	
	comp=Z,223nm,18.6s,baz=216,slow=34						
MSVF	**Nonsavu**	92.14	252	LR	LR	05 59 45.1	
	comp=Z,402nm,18.9s,baz=40,slow=30						
TORD	**Torodi Ar. Bea**	92.48	76	P	P	05 27 06.6	+1.4
	comp=Z,0.4nm,0.6s,baz=291,slow=3.6,SNR=5.3						
TORD				LR	LR	06 06 33.7	
	comp=Z,199nm,18.9s,baz=317,slow=34						
	comp=Z,0.4nm,0.6s						
VYHS	**Vyhne**	93.43	38	*e*P	P	05

ASAR Alice Springs 133.73 252 PKhKP PKPpre 05 33 07.3
comp=Z,0.5nm,0.8s,baz=93,slow=1.9,SNR=2.9
PZH PanZhiHua 135.58 339 PKP **PKPdf 05 33 13.5 -1.0**
CMAR Chiang Mai Arr 143.96 338 PKP PKPbc 05 33 28.5 +1.0
comp=Z,2.0nm,0.3s,baz=354,slow=4.1,SNR=9.4

IDC 30 05:14:06.9±2.6, 7°.19N×125°.39E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=226.5km s-min=28.2km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.36**	**162**	P	P	05 20 03.1	+0.1
	0.5nm,0.3s,baz=341,slow=9.1,SNR=9.4						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**31.78**	**165**	P	P	05 20 33.0	-0.2
	0.4nm,0.6s,baz=350,slow=6.7,SNR=6.5						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**53.97**	**325**	P	P	05 23 32.7	0.0
	0.3nm,0.4s,baz=123,slow=9.8,SNR=3.8						
	0.3nm,0.4s						

IDC 30 05:38:09.3±47.0, 15°.13S×171°.47W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=931.1km s-min=191.7km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.78**	**240**	P	P	05 46 33.2	+0.2
	3.3nm,0.8s,baz=74,slow=9.9,SNR=4.2						
	3.3nm,0.8s						
WRA	**Warramunga Arr**	**51.72**	**256**	P	P	05 47 18.3	-0.5
	0.8nm,0.7s,baz=94,slow=6.9,SNR=11						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**51.96**	**252**	P	P	05 47 20.7	0.0
	6.4nm,0.6s,baz=89,slow=8.1,SNR=101						
	6.4nm,0.6s						

*NOU **30** 05:57:42.5, 23°.38S×120°.18E, h0km, MLv4.3/7, Western Australia*
*AUST **30** 05:57:43.7±9.8, 23°.35S×120°.14E, h11km±75km, Error ellipse: s-maj=37.8km s-min=22.1km az=93.0, Mining explosion.*
ISC 30 05:57:42.8±1.6, 23°.39S±0°.09×120°.2E±0°.1, h0km, n10, σ0§87/10, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSA00	**Pilbara Seismi**	**1.83**	**351**	P	**Pn**	05 58 15.2	-0.4
MBWA	**Marble Bar**	**2.26**	**350**	P	**Pn**	05 58 20.3	-1.1
MEEK	**Meekatharra**	**3.52**	**203**	P	**Pn**	05 58 39.8	+1.0
	baz=3.6,SNR=5.2						
MEEK	**Meekatharra**	**3.52**	**203**	P	**Pn**	05 58 39.7	+0.8
GIRL	**Giralia**	**5.52**	**277**	P	**Pn**	05 59 06.6	+0.4
MORW	**Morawa**	**6.76**	**212**	P	**Pn**	05 59 21.9	-1.4
WRKA	**Warakurna**	**7.60**	**104**	P	**Pn**	05 59 35.0	+0.1
	baz=7.6						
WRKA	**Warakurna**	**7.60**	**104**	P	**Pn**	05 59 34.5	-0.4
BLDU	**Ballidu**	**7.83**	**202**	P	**Pn**	05 59 37.6	-0.3
	baz=7.9,SNR=5.0						
BLDU	**Ballidu**	**7.83**	**202**	P	**Pn**	05 59 37.7	-0.3

*IDC **30** 06:11:22.1±0.6, 10°.50N×126°.27E, h0km, mb4.1/17, mbtmp4.1/17, MS3.3/1, Error ellipse: s-maj=35.2km s-min=13.4km az=71.0*
*NEIC **30** 06:11:24.7±1.0, 10°.49N±0°.09×126°.2E±0°.2, h10km±1km, mb4.6/25, Error ellipse: s-maj=27.1km s-min=15.5km az=81.0*
ISC 30 06:11:29.3±0.5, 10°.43N±0°.07×126°.1E±0°.2, h51km, n54, σ0§79/52, mb4.4/29, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.38**	**189**	Pn	**Pn**	06 12 18.5	-1.1
DAV	**Davao City (W)**	**3.38**	**189**	LR	LR	06 14 07.9	
	comp=Z,407nm,20.1s,baz=356,slow=48						
SOEI	**Soe**	**20.13**	**185**	P	**P**	06 15 59.9	+0.5
SOEI				IAmb	IAmb	06 16 19.1	
	comp=Z,21nm,0.7s						
BATI	**Baumata**	**20.64**	**187**	P	**P**	06 16 05.2	+0.4
	comp=Z,60nm,0.5s,baz=317,slow=14,SNR=1.5						
KNRA	**Kununurra**	**26.07**	**174**	P	**P**	06 16 60.0	+1.8
KNRA				IAmb	IAmb	06 17 03.1	
	comp=Z,12nm,0.7s						
CRAI	**Chiangrai**	**26.62**	**295**	P	**P**	06 17 03.9	+0.6
CMAR	**Chiang Mai Arr**	**27.45**	**290**	P	**P**	06 17 12.4	+1.7
	comp=Z,1.0nm,0.3s,baz=101,slow=6.8,SNR=5.3						
	comp=Z,1.0nm,0.3s						
COEN	**Coen**	**29.56**	**145**	P	**P**	06 17 29.1	-0.4
COEN				IAmb	IAmb	06 17 56.8	
	comp=Z,5.1nm,1.1s						
WB0	**Warramunga Arr**	**31.10**	**165**	P	**P**	06 17 41.3	-1.7
WB0				IAmb	IAmb	06 17 42.4	
	comp=Z,11nm,1.4s						
WRAB	**Tennant Creek**	**31.24**	**165**	P	**P**	06 17 44.7	+0.4
WRA	**Warramunga Arr**	**31.25**	**165**	P	**P**	06 17 43.6	-0.7
WRA	**Warramunga Arr**	**31.25**	**165**	P	**P**	06 17 43.2	-1.1
	comp=Z,0.6nm,0.5s,baz=346,slow=7.9,SNR=7.6						
	comp=Z,0.6nm,0.5s						
PSA00	**Pilbara Seismi**	**32.39**	**191**	P	**P**	06 17 54.1	-0.2
PSA00				IAmb	IAmb	06 17 55.9	
	comp=Z,6.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**34.03**	**8**	P	**P**	06 18 06.9	-1.5
	comp=Z,0.5nm,0.3s,baz=181,slow=21,SNR=1.8						
	comp=Z,0.5nm,0.3s						
AS31	**Alice Springs**	**34.73**	**167**	P	**P**	06 18 14.5	-0.2
ASAR	**Alice Springs**	**34.73**	**167**	P	**P**	06 18 13.8	-0.9
ASAR	**Alice Springs**	**34.73**	**167**	P	**P**	06 18 14.1	-0.6
	comp=Z,0.8nm,0.3s,baz=349,slow=6.9,SNR=29						
	comp=Z,0.8nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**40.37**	**72**	T	T	07 02 23.2	
	baz=265,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**40.37**	**72**	T	T	07 02 22.1	
	baz=265,slow=74,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**40.38**	**72**	T	T	07 02 30.8	
	baz=265,slow=74,SNR=12						
MORW	**Morawa**	**40.45**	**194**	P	**P**	06 19 03.1	+0.2
MORW				IAmb	IAmb	06 19 21.4	
	comp=Z,27nm,1.4s						
SONM	**Songino Array**	**40.81**	**340**	P	**P**	06 19 06.2	+0.2
	comp=Z,0.8nm,0.6s,baz=116,slow=6.8,SNR=4.3						
SONM				PcP	**PcP**	06 21 06.2	0.0
	comp=Z,0.9nm,0.6s,baz=188,slow=2.7,SNR=5.3						
	comp=Z,0.8nm,0.6s						
FORT	**Forrest**	**41.01**	**177**	P	**P**	06 19 07.9	+0.4
NWAO	**Narrogin (SRO)**	**43.93**	**191**	P	**P**	06 19 31.9	+0.7
BBOO	**Buckleboo**	**44.03**	**168**	P	**P**	06 19 32.6	+0.6
STKA	**Stephens Creek**	**44.60**	**161**	P	**P**	06 19 36.6	-0.1
STKA	**Stephens Creek**	**44.60**	**161**	P	**P**	06 19 37.0	+0.4
	comp=Z,2.0nm,0.6s,baz=325,slow=10,SNR=5.0						
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**51.80**	**323**	P	**P**	06 20 32.2	+0.1
MKAR	**Makanchi Array**	**51.80**	**323**	P	**P**	06 20 31.9	-0.2
MKAR	**Makanchi Array**	**51.80**	**323**	P	**P**	06 20 32.5	+0.5
	comp=Z,2.8nm,0.8s,baz=123,slow=7.7,SNR=19						
MKAR				PcP	**PcP**	06 21 45.1	+0.5
	comp=Z,1.0nm,0.8s,baz=94,slow=5.6,SNR=3.6						
	comp=Z,2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**54.41**	**331**	P	**P**	06 20 51.1	0.0
	comp=Z,1.0nm,0.5s,baz=104,slow=6.3,SNR=4.7						
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**55.84**	**326**	P	**P**	06 21 01.6	+0.1
KURK				IAmb	IAmb	06 21 02.5	
	comp=Z,3.0nm,0.7s						
KURBB	**Kurchatov Arra**	**55.85**	**325**	P	**P**	06 21 01.8	+0.2
	comp=Z,2.1nm,0.5s,baz=125,slow=6.8,SNR=22						
	comp=Z,2.1nm,0.5s						
KK31	**Karatay Array**	**58.02**	**315**	P	**P**	06 21 16.7	-0.4
KKAR	**Karatay Array**	**58.02**	**315**	P	**P**	06 21 16.5	-0.6
BVAR	**Borovoye Array**	**61.44**	**325**	P	**P**	06 21 40.7	+0.3
	comp=Z,0.6nm,0.3s,baz=147,slow=8.3,SNR=4.9						
	comp=Z,0.6nm,0.3s						
ABKAR	**Akbulak array**	**66.65**	**319**	P	**P**	06 22 14.0	-0.6
RTZ	**Ruatahuna**	**68.01**	**139**	P	**P**	06 22 23.5	+0.1
BKZ	**Black Stump Fm**	**68.01**	**140**	P	**P**	06 22 23.8	+0.4
AKTO	**Aktyubinsk**	**68.09**	**320**	P	**P**	06 22 23.4	-0.4
	comp=Z,1.2nm,0.5s,baz=352,slow=1.2,SNR=2.7						
	comp=Z,1.2nm,0.5s						
ARU	**Arti**	**69.00**	**327**	P	**P**	06 22 28.8	-0.5
	comp=Z,6.4nm,0.2s,baz=337,slow=3.3,SNR=6.2						
D19K	**Kuna River**	**75.16**	**22**	P	**P**	06 23 06.7	+0.7
D19K				IAmb	IAmb	06 23 23.9	
	comp=Z,16nm,1.4s						
E19K	**Redstone River**	**75.32**	**23**	P	**P**	06 23 08.9	+2.0
E19K				IAmb	IAmb	06 23 45.9	
	comp=Z,9.1nm,1.4s						
IMAR	**Indian Mountai**	**76.53**	**24**	P	**P**	06 23 15.8	+2.0
E21K	**Killik River**	**76.66**	**22**	P	**P**	06 23 15.2	+0.6
E21K				IAmb	IAmb	06 23 55.0	
	comp=Z,8.7nm,1.5s						
D22K	**Ayikyak River**	**77.17**	**22**	P	**P**	06 23 17.6	+0.2
D22K				IAmb	IAmb	06 23 30.9	
	comp=Z,12nm,1.4s						
CASY	**Casey**	**77.35**	**186**	P	**P**	06 23 18.6	+0.3
CASY				IAmb	IAmb	06 23 43.8	
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**79.37**	**26**	P	**P**	06 23 29.4	-0.2
	comp=Z,0.3nm,0.7s,baz=209,slow=5.8,SNR=4.6						
	comp=Z,0.3nm,0.7s						
SPITS	**Spitsbergen Ar**	**83.83**	**349**	P	**P**	06 23 52.9	0.0
	comp=Z,12nm,0.8s,baz=67,slow=11,SNR=2.1						
	comp=Z,12nm,0.8s						
ARCES	**ARCESS Array B**	**83.99**	**340**	P	**P**	06 23 53.7	-0.1
	comp=Z,7.1nm,1.0s,baz=8.5,slow=2.5,SNR=5.2						
	comp=Z,7.1nm,1.0s						
BRTR	**Keskin Array B**	**85.30**	**309**	P	**P**	06 23 59.9	-1.3
	comp=Z,0.8nm,0.8s,baz=39,slow=5.5,SNR=1.9						
	comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**85.67**	**332**	P	**P**	06 24 02.3	-0.1
	comp=Z,4.6nm,1.1s,baz=66,slow=4.8,SNR=6.2						
	comp=Z,4.6nm,1.1s						
VNDA	**Vanda**	**90.11**	**173**	P	**P**	06 24 23.5	+0.3
	comp=Z,0.6nm,0.7s,baz=336,slow=4.6,SNR=6.1						
	comp=Z,0.6nm,0.7s						
TXAR	**Lajitas Array**	**117.85**	**49**	PKP	**PKiKP**	06 30 11.7	+0.7
	comp=Z,0.1nm,0.6s,baz=236,slow=0.5,SNR=2.1						

*NEIC **30** 06:16:26.4±1.4, 55°.91S±0°.03×27°.3W±0°.2, h74km±8km, mb4.9/33, Error ellipse: s-maj=15.2km s-min=1.8km az=77.0*
*IDC **30** 06:16:29.4±1.7, 55°.94S×27°.28W, h106km±14km, mb4.4/13, mbtmp4.7/14, MS3.4/13, Error ellipse: s-maj=16.2km s-min=12.6km az=73.0*
ISC 30 06:16:29.9±0.3, 55°.96S±0°.06×27°.28W±0°.07, h112km, n310, σ1§27/311, mb4.8/27, 13C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.54**	**284**	Pn	**Pn**	06 17 45.5	-4.5
VNA1	**Neumayer--Stat**	**16.90**	**158**	⇑P	**Pn**	06 20 17.9	-1.3
VNA1				⇑S	**ScP**	06 28 24.8	+1.8
	comp=Z,9.0nm,0.5s						
	comp=Z,9.7nm,1.1s						
VNA3	**Neumayer Olymp**	**17.09**	**161**	⇑P	**P**	06 20 19.1	-2.4
	comp=Z,82nm,0.7s						
VNA3				⇑S	**ScP**	06 28 24.7	+1.2
	comp=Z,5.9nm,0.8s						
VNA2	**Neumayer--Watz**	**17.30**	**158**	⇑P	**P**	06 20 21.7	-2.1
	baz=315,slow=13						
VNA2				⇑S	**ScP**	06 28 25.1	+1.3
	comp=Z,4.9nm,0.6s,baz=320,slow=5.0						
PMSA	**Palmer Station**	**19.92**	**229**	P	**P**	06 20 52.7	+0.4
PMSA	**Palmer Station**	**19.92**	**229**	P	**P**	06 20 52.6	+0.3
	comp=Z,23nm,0.5s,baz=63,slow=6.0,SNR=13						
TROLL	**Troll, Antarti**	**20.35**	**154**	⇑P	**P**	06 20 56.3	-0.8
	comp=Z,4μm,0.5s						
TROLL				⇑S	**ScP**	06 28 33.0	+2.2
	comp=Z,131nm,1.1s						
SMAI	**San Martin Ant**	**21.80**	**220**	P	**P**	06 21 11.3	-1.1
SMAI				IAmb	IAmb	06 21 19.4	
	comp=Z,75nm,1.6s						
BELA	**Belgrano 2**	**22.16**	**184**	P	**P**	06 21 14.9	-1.2
MG02	**Cerro Sombrero**	**24.37**	**260**	P	**P**	06 21 36.3	-0.8
MG04	**Isla Riesco**	**25.63**	**258**	P	**P**	06 21 47.5	-1.0
TRQA	**Tornquist**	**29.24**	**293**	P	**P**	06 22 21.1	0.0
TRQA				IAmb	IAmb	06 22 56.7	
	comp=Z,55nm,1.9s						
PLTB	**Pedras Altas**	**30.40**	**312**	P	**P**	06 22 30.8	-0.5
PLTB				IAmb	IAmb	06 22 56.9	
	comp=Z,63nm,1.9s						
PLCA	**Paso Flores**	**31.93**	**280**	P	**P**	06 22 45.1	+0.3
	comp=Z,1.5nm,0.7s,baz=77,slow=6.7,SNR=3.0						
PLCA				LR	LR	06 34 45.8	
	comp=Z,66nm,21.2s,baz=133,slow=34						
	comp=Z,1.5nm,0.7s						
LR04	**Corral**	**34.12**	**278**	P	**P**	06 23 01.9	-1.7
QSPA	**South Pole Qui**	**34.29**	**180**	P	**P**	06 23 05.0	-0.1
QSPA	**South Pole Qui**	**34.29**	**180**	P	**P**	06 23 05.4	+0.2
	comp=Z,23nm,0.5s,baz=208,slow=1.5,SNR=280						
QSPA				ScP	**ScP**	06 29 13.0	+0.1
	comp=Z,2.4nm,0.5s,baz=268,slow=0.3,SNR=13						
QSPA				LR	LR	06 36 09.5	
	comp=Z,73nm,20.5s,baz=180,slow=34						
	comp=Z,23nm,0.5s						
QSPA	**South Pole Qui**	**34.29**	**180**	⇑P	**P**	06 23 05.3	+0.2
QSPA				ScP	**ScP**	06 29 14.1	+1.1
LC02	**Puerto Saavedr**	**34.85**	**280**	P	**P**	06 23 10.5	+0.5
BO02	**Sierra Bellavi**	**36.35**	**287**	P	**P**	06 23 22.6	-0.3
BO02				IAmb	IAmb	06 23 22.9	
	comp=Z,28nm,1.6s						
CPUP	**Villa Florida**	**36.71**	**311**	P	**P**	06 23 25.1	-0.9
CPUP	**Villa Florida**	**36.71**	**311**	P	**P**	06 23 24.9	-1.0
	comp=Z,2.3nm,0.7s,baz=153,slow=6.6,SNR=6.5						
CPUP				ScP	**ScP**	06 29 22.5	+0.3
	comp=Z,1.3nm,0.9s,baz=200,slow=8.5,SNR=3.3						
CPUP				LR	LR	06 38 00.1	
	comp=Z,20nm,19.8s,baz=154,slow=35						
	comp=Z,2.3nm,0.7s						
GO05	**Huala**	**36.81**	**286**	P	**P**	06 23 24.6	-2.1
CO01	**Juntas del Tor**	**39.73**	**293**	P	**P**	06 23 51.2	-0.3
CO01				IAmb	IAmb	06 25 12.0	
	comp=Z,28nm,1.6s						
MAW	**Mawson**	**40.25**	**144**	P	**P**	06 23 55.4	+0.3
MAW	**Mawson**	**40.25**	**144**	P	**P**	06 23 55.1	0.0
	comp=Z,4.0nm,0.3s,baz=230,slow=7.9,SNR=18						
MAW				ScP	**ScP**	06 29 36.0	+1.0
	comp=Z,2.1nm,0.7s,baz=243,slow=3.5,SNR=7.3						
MAW				LR	LR	06 39 02.3	
	comp=Z,69nm,19.5s,baz=239,slow=34						
	comp=Z,4.0nm,0.3s						
SUR	**Sutherland**	**40.66**	**75**	LR	LR	06 37 44.6	
	comp=Z,34nm,20.1s,baz=198,slow=31						
AQDB	**Aquidauana**	**41.30**	**317**	P	**P**	06 24 02.2	-2.0
AC06	**Mina Casimiro**	**41.98**	**295**	P	**P**	06 24 09.1	-0.7
AC06				IAmb	IAmb	06 25 04.6	
	comp=Z,32nm,1.4s						
BDFB	**Brasilia**	**43.26**	**330**	P	**P**	06 24 20.0	-0.2
	comp=Z,3.4nm,0.8s,baz=90,slow=2.9,SNR=4.7						
BDFB				LR	LR	06 38 49.4	
	comp=Z,41nm,21.7s,baz=104,slow=31						
	comp=Z,3.4nm,0.8s						
LVC	**Limon Verde**	**45.21**	**300**	LR	LR	06 42 50.0	
	comp=Z,26nm,21.4s,baz=204,slow=35						
BOSA	**Boshof**	**46.00**	**76**	P	**P**	06 24 41.8	-0.2
	comp=Z,3.1nm,0.5s,baz=219,slow=5.9,SNR=8.4						
BOSA				LR	LR	06 41 52.0	
	comp=Z,53nm,19.8s,baz=200,slow=33						
	comp=Z,3.1nm,0.5s						
SBA	**Scott Base**	**46.17**	**184**	P	**P**	06 24 43.4	+0.9
SBA				IAmb	IAmb	06 24 45.5	
	comp=Z,10nm,0.8s						
SBA	**Scott Base**	**46.17**	**184**	P	**P**	06 24 43.7	+1.2
PB07	**IPOC Station P**	**46.43**	**300**	P	**P**	06 24 45.4	-0.1
VNDA	**Vanda**	**46.66**	**183**	P	**P**	06 24 47.1	+0.7
VNDA				IAmb	IAmb	06 24 48.5	
	comp=Z,15nm,0.7s						
VNDA	**Vanda**	**46.66**	**183**	P	**P**	06 24 46.5	+0.1
	comp=Z,14nm,0.7s,baz=188,slow=6.4,SNR=100						
VNDA				LR	LR	06 41 53.0	
	comp=Z,96nm,21.7s,baz=177,slow=33						
	comp=Z,14nm,0.7s						
VNDA	**Vanda**	**46.66**	**183**	⇑P	**P**	06 24 47.0	+0.7
VNDA				sP	**pP**	06 25 13.0	+1.3
PB01	**IPOC Station P**	**46.82**	**301**	P	**P**	06 24 48.2	-0.1
PB01				IAmb	IAmb	06 25 17.1	
	comp=Z,16nm,1.0s						
PTLB	**Pontes e Lacer**	**47.20**	**316**	P	**P**	06 24 50.8	-0.3
H04S2	**CROZET ISLANDS**	**47.63**	**114**	T	T	07 17 19.4	
	baz=230,slow=75,SNR=8.8						
H04S3	**CROZET ISLANDS**	**47.64**	**114**	T	T	07 17 24.6	
	baz=230,slow=75,SNR=11						
H04S1	**CROZET ISLANDS**	**47.65**	**114**	T	T	07 17 27.8	
	baz=230,slow=75,SNR=13						
CCD	**Concordia, Ant**	**47.77**	**170**	⇑P	**P**	06 24 55.6	+0.1
GO01	**Chusmiza**	**47.85**	**302**	P	**P**	06 24 55.1	-1.7
GO01				IAmb	IAmb	06 25 25.7	
	comp=Z,10nm,0.8s						
LBTB	**Lobatse**	**49.03**	**73**	P	**P**	06 25 04.8	-0.6
LBTB				IAmb	IAmb	06 25 06.5	
	comp=Z,14nm,0.9s						
LBTB	**Lobatse**	**49.03**	**73**	P	**P**	06 25 05.5	+0.1
LBTB				pP	**pP**	06 25 23.4	-6.0
LBTB				sP	**pwP**	06 25 32.7	-6.1
H10N1	**ASCENSION HYDR**	**49.05**	**17**	T	T	07 18 22.7	
	baz=189						
H10N3	**ASCENSION HYDR**	**49.05**	**17**	T	T	07 18 23.3	
	baz=189						
H10N2	**ASCENSION HYDR**	**49.06**	**17**	T	T	07 18 21.4	
	baz=189						
TSUM	**Tsumeb**	**49.68**	**61**	LR	LR	06 43 33.4	
	comp=Z,65nm,19.0s,baz=153,slow=33						
TSUM	**Tsumeb**	**49.68**	**61**	⇓P	**P**	06 25 10.7	+0.3
VILB	**Vilhena**	**49.88**	**316**	P	**P**	06 25 10.5	-1.3
VILB				IAmb	IAmb	06 25 42.0	
	comp=Z,8.6nm,1.0s						
LPAZ	**La Paz**	**50.28**	**305**	P	**P**	06 25 15.0	-0.5
LPAZ				IAmb	IAmb	06 25 45.5	
	comp=Z,6.9nm,0.8s						
LPAZ	**La Paz**	**50.28**	**305**	P	**P**	06 25 15.7	+0.1
	comp=Z,3.6nm,0.6s,baz=132,slow=6.2,SNR=21						
LPAZ				ScP	**ScP**	06 30 18.2	+0.2
	comp=Z,0.6nm,0.4s,baz=141,slow=4.3,SNR=2.5						
	comp=Z,3.6nm,0.6s						
LPAZ	**La Paz**	**50.28**	**305**	P	**P**	06 25 15.4	-0.1
CASY	**Casey**	**54.01**	**160**	P	**P**	06 25 43.9	+2.1
SAML	**Samuel**	**54.70**	**315**	P	**P**	06 25 46.3	-1.1
SAML	**Samuel**	**54.70**	**315**	P	**P**	06 25 46.4	-1.0
ETMB	**Extrema**	**55.17**	**311**	P	**P**	06 25 50.5	-0.2
DRV	**Dumont d'Urvil**	**57.32**	**174**	P	**P**	06 26 04.9	-0.4
LSZ	**Lusaka**	**58.39**	**69**	P	**P**	06 26 14.2	+0.6
LSZ				IAmb	IAmb	06 26 14.9	
	comp=Z,12nm,0.9s						
BOAV	**Boa Vista**	**64.18**	**323**	P	**P**	06 26 51.2	-1.2
LIC	**Lamto**	**64.63**	**25**	⇓iP	**P**	06 26 55.5	+0.1
	comp=Z,41nm,0.6s						
KIC	**Kosan Boka**	**64.83**	**25**	⇑iP	**P**	06 26 57.1	+0.4
	comp=Z,33nm,0.7s						
TIC	**Toumodi**	**65.04**	**25**	⇑iP	**P**	06 26 58.5	+0.4
	comp=Z,6.8nm,0.3s						
DBIC	**Dimbokro**	**65.10**	**25**	P	**P**	06 26 58.5	+0.1
DBIC				IAmb	IAmb	06 26 59.4	
	comp=Z,15nm,0.8s						
DBIC	**Dimbokro**	**65.10**	**25**	P	**P**	06 26 58.5	+0.1
	comp=Z,12nm,0.7s,baz=172,slow=7.0,SNR=25						
DBIC				LR	LR	06 50 01.9	
	comp=Z,36nm,19.2s,baz=146,slow=31						
	comp=Z,12nm,0.7s						
DBIC	**Dimbokro**	**65.10**	**25**	⇓P	**P**	06 26 58.6	+0.1
OTAV	**Otavalo**	**69.56**	**304**	P	**P**	06 27 27.4	+0.3
ROSC	**El Rosal**	**71.78**	**310**	LR	LR	07 00 54.2	
	comp=Z,33nm,19.7s,baz=204,slow=37						
TOA0	**Torodi Ar. Sit**	**73.00**	**30**	P	**P**	06 27 47.6	+0.4
TOA0				IAmb	IAmb	06 27 48.5	
	comp=Z,26nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.00**	**30**	P	**P**	06 27 47.5	+0.4
TORD				IAmb	IAmb	06 27 48.5	
	comp=Z,20nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.00**	**30**	P	**P**	06 27 47.6	+0.5
	comp=Z,22nm,0.5s,baz=201,slow=6.1,SNR=277						
TORD				LR	LR	06 53 45.8	
	comp=Z,30nm,20.6s,baz=140,slow=31						
	comp=Z,22nm,0.5s						
STKA	**Stephens Creek**	**92.00**	**171**	P	**P**	06 29 26.2	+0.3
	comp=Z,2.8nm,0.8s,baz=357,slow=1.5,SNR=3.9						
	comp=Z,2.8nm,0.8s						
ESDC	**Sonseca Array**	**97.31**	**18**	P	Pdif	06 29 50.5	+0.8
	comp=Z,0.8nm,0.8s,baz=172,slow=4.5,SNR=5.5						
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**99.09**	**163**	P	**Pdif**	06 29 58.1	-0.2
	comp=Z,1.7nm,0.7s,baz=181,slow=3.8,SNR=14						
ASAR				PP	**PP**	06 33 57.3	-3.5
	comp=Z,0.7nm,0.9s,baz=195,slow=6.9,SNR=4.4						
	comp=Z,1.7nm,0.7s						
TIGA	**Tifton**	**99.36**	**314**	P	**Pdif**	06 30 00.7	+1.8
	baz=152						
NHSC	**New Hope**	**99.48**	**317**	P	**Pdif**	06 30 01.2	+1.8
	baz=153						
WRA	**Warramunga Arr**	**102.81**	**162**	P	**Pdif**	06 30 14.6	-0.2
	comp=Z,0.2nm,0.4s,baz=198,slow=4.3,SNR=1.8						
L61B	**Northampton**	**105.30**	**327**	P	**PKiKP**	06 34 39.9	+1.5
	baz=156						
WCI	**Wyandotte Cave**	**106.35**	**315**	P	**PKiKP**	06 34 41.8	+1.3
	baz=150						
LBNH	**Lisbon**	**106.70**	**328**	P	**PKiKP**	06 34 42.6	+1.7
	baz=156						
O48B	**Farmland**	**107.66**	**317**	P	**PKiKP**	06 34 44.9	+2.0
	baz=150						
214A	**Organ Pipe Nat**	**113.47**	**292**	P	**PKiKP**	06 34 55.3	+1.1
	baz=142						
SDCO	**Great Sand Dun**	**114.40**	**302**	P	**PKiKP**	06 34 57.4	+1.3
	baz=143						
S22A	**4UR Ranch, Cre**	**115.04**	**301**	P	**PKiKP**	06 34 58.8	+1.4

	baz=114					
YUK6	Outpost Mounta	145.13 307	P	PKPab	06 35 53.6	+0.6
	baz=113					
LYN	LuoYang	145.19 111	*e*PKPbc	PKPbc	06 35 53.0	-0.5
H31M	Peel River	145.23 316	P	PKPbc	06 35 52.4	-0.2
	baz=110					
YUK4	Talbot Arm	145.41 308	P	PKPdf	06 35 53.2	-0.1
	baz=113,SNR=6.9					
F31M	Tsiigehtchic	145.52 319	P	PKPbc	06 35 53.3	-0.1
	baz=108					
G31M	Satah River	145.56 318	P	PKPbc	06 35 53.8	+0.2
	baz=108					
J30M	Hart River	145.60 314	P	PKPdf	06 35 53.6	+0.1
	baz=110					
PINM	Pinnacle	145.65 305	P	PKPdf	06 35 53.5	-0.1
	baz=113					
INK	Inuvik	145.70 321	P	PKPbc	06 35 53.8	-0.1
	baz=107					
M29M	Somme Creek	145.74 310	P	PKPdf	06 35 53.9	+0.2
	baz=111,SNR=11					
I30M	Mount Dempster	145.83 315	P	PKPdf	06 35 54.3	+0.4
	baz=109,SNR=12					
K29M	Barlow Dome	145.84 312	P	PKPdf	06 35 54.1	+0.2
	baz=110,SNR=6.2					
L29M	L29M	145.84 311	P	PKPdf	06 35 54.0	+0.1
	baz=111,SNR=18					
O28M	Mount Upton	145.88 306	P	PKPbc	06 35 55.1	-0.1
	baz=112					
YUK8	Steele Glacier	145.89 307	P	PKPbc	06 35 55.0	-0.2
	baz=112					
G30M	tAoh Zraii Nji	146.31 318	P	PKPbc	06 35 55.4	-0.5
	baz=106					
EPYK	Eagle Plains	146.32 317	P	PKPbc	06 35 56.4	+0.4
	baz=107					
F30M	Barrier River	146.32 319	P	PKPbc	06 35 56.1	+0.2
	baz=106					
J29N	Klondike Camp	146.33 313	P	PKPab	06 35 56.8	-0.4
	baz=109					
YUK3	Moose Creek	146.38 308	P	PKPbc	06 35 56.2	-0.3
	baz=111					
MESA	MESA	146.46 305	P	PKPbc	06 35 56.4	-0.4
	baz=112					
CTG	Chitna Glacier	146.48 306	P	PKPdf	06 35 55.7	+0.6
	baz=112					
I29M	Ogilvie Camp,	146.65 315	P	PKPbc	06 35 56.4	-0.6
	baz=107,SNR=5.4					
DAWY	Dawson	146.69 312	P	PKPbc	06 35 56.6	-0.6
	baz=108,SNR=9.4					
H29M	Whitestone	146.92 316	P	PKPbc	06 35 57.5	-0.1
	baz=106					
G29M	Pine Creek	146.97 317	P	PKPbc	06 35 57.5	-0.3
	baz=105,SNR=12					
M27K	Edge Creek, AK	147.21 308	P	PKPbc	06 35 57.9	-0.8
	baz=109					
E29M	Blow River	147.29 320	P	PKPbc	06 35 57.6	-1.0
	baz=103					
I28M	Miner Creek	147.33 314	P	PKPbc	06 35 58.6	-0.3
	baz=106					
L27K	Beaver Creek,	147.41 310	P	PKPbc	06 35 58.5	-0.7
	baz=108,SNR=5.2					
EGAK	Eagle	147.64 313	P	PKPbc	06 35 59.1	-0.5
	baz=106					
M26K	Nabesna, AK	147.71 308	P	PKPbc	06 35 59.1	-0.9
	baz=108					
D28M	Stokes Point	147.78 322	P	PKPbc	06 35 59.3	-0.5
	baz=101					
K27K	Chicken	147.81 311	P	PKPbc	06 35 59.4	-0.8
	baz=107					
F28M	Old Crow	147.84 318	P	PKPbc	06 35 59.8	-0.4
	baz=103,SNR=12					
E28M	Babbage River	147.93 320	P	PKPbc	06 35 59.9	-0.4
	baz=101					
BMRM	Bremner River	147.97 305	P	PKPbc	06 36 00.6	-0.2
	baz=110					
I27K	Kandik River	148.04 314	P	PKPbc	06 36 00.8	0.0
	baz=104,SNR=6.9					
L26K	Log Cabin Wild	148.06 309	P	PKPbc	06 36 00.7	-0.2
	baz=107					
H27K	Steamboat Moun	148.16 316	P	PKPbc	06 36 01.1	0.0
	baz=104,SNR=11					
N25K	Chitina, Valde	148.18 306	P	PKPbc	06 36 02.0	+0.7
	baz=109					
G27K	Doyon Strip	148.34 317	P	PKPbc	06 36 01.9	+0.4
	baz=103					
EYAK	Cordova Ski Ar	148.36 304	P	PKPbc	06 36 01.9	+0.3
	baz=110					
HNS	HongShan	148.53 110	*e*PKPbc	PKPbc	06 36 02.0	-0.8
D27M	Malcolm River	148.55 321	P	PKPbc	06 36 01.9	-0.1
	baz=99					
J26L	Joseph Creek	148.56 312	P	PKPbc	06 36 02.3	+0.1
	baz=105					
I26K	Coal Creek Min	148.59 314	P	PKPbc	06 36 02.0	-0.1
	baz=104,SNR=9.5					
E27K	Coleen River	148.60 319	P	PKPbc	06 36 01.8	-0.3
	baz=100					
SCRK	Sand Creek	148.60 311	P	PKPbc	06 36 02.0	-0.3
	baz=105,SNR=5.4					
HARP	HAARP	148.67 308	P	PKPbc	06 36 02.3	-0.1
	baz=107					
KLU	Klutina	148.74 306	P	PKPbc	06 36 02.6	-0.1
	baz=108					
RIDG	Independent Ri	148.91 310	P	PKPbc	06 36 02.5	-0.5
	baz=105					
P23K	Montague Islan	148.95 303	P	PKPbc	06 36 03.6	+0.5
	baz=109					
PAX	Paxson	148.97 309	P	PKPbc	06 36 03.1	-0.2
	baz=106					
M24K	Tolsona, Glenn	149.04 307	P	PKPbc	06 36 03.4	0.0
	baz=107					
G26K	Porcupine Rive	149.19 317	P	PKPbc	06 36 03.9	+0.3
	baz=101					
K24K	Donnelly Dome	149.32 310	P	PKPbc	06 36 04.1	0.0
	baz=104					
J25K	Salcha River,	149.35 312	P	PKPbc	06 36 04.2	+0.1
	baz=103					
F26K	Sheenjek River	149.46 318	P	PKiKP	06 36 05.0	-0.4
	baz=99,SNR=7.3					
SCM	Sheep Creek Mo	149.48 306	P	PKPbc	06 36 04.8	+0.3
	baz=106					
PRP	Porcupine Dome	149.61 313	P	PKPbc	06 36 04.5	-0.4
	baz=102					
M23K	Glacier View	149.65 306	P	PKPbc	06 36 04.7	-0.2
	baz=106					
PWL	Port Wells	149.66 304	P	PKPbc	06 36 04.4	-0.6
	baz=108					
DHY	Denali Highway	149.84 308	P	PKPbc	06 36 05.2	-0.3
	baz=104					
H25L	Birch Creek	149.87 315	P	PKPbc	06 36 05.6	+0.4
	baz=100					
WAT6	Susitna Watana	149.87 307	P	PKPbc	06 36 05.6	+0.1
	baz=105					
KNK	Knik Glacier	149.88 305	P	PKPbc	06 36 05.7	+0.2
	baz=106					
SML	Sawmill	149.93 306	P	PKPbc	06 36 05.9	+0.3
	baz=106					
SEW	Seward	149.96 302	P	PKPbc	06 36 05.6	0.0
	baz=108					
HDA	Harding Lake	149.97 311	P	PKPbc	06 36 06.0	+0.4
	baz=102					
C26K	Camden Bay	150.01 322	P	PKPbc	06 36 05.8	+0.4
	baz=95					
F25K	Christian Rive	150.01 318	P	PKiKP	06 36 06.2	-0.3
	baz=98,SNR=5.2					
ILAR	Eielson Array	150.02 312	PKPbc	PKPbc	06 36 05.0	-0.7
	comp=Z,7.9nm,0.8s,baz=129,slow=1.5,SNR=77					
E25K	Arctic Village	150.06 319	P	PKPbc	06 36 06.0	+0.2
	baz=97,SNR=7.9					
G25K	Bearman Lake	150.06 316	P	PKPbc	06 36 06.0	+0.3
	baz=99,SNR=5.5					
O22K	Cooper Landing	150.20 303	P	PKPbc	06 36 06.0	-0.2
	baz=107					
PMR	Palmer	150.24 305	P	PKPbc	06 36 06.0	-0.3
	baz=106					
WAT1	Susitna Watana	150.30 308	P	PKPbc	06 36 06.5	+0.1
	baz=104					
POKR	Poker Flat Res	150.31 312	P	PKPbc	06 36 05.7	-0.6
	baz=101					
RC01	Rabbit Creek A	150.38 304	P	PKPbc	06 36 06.3	-0.3
	baz=106					
COLA	College	150.44 312	P	PKPbc	06 36 06.5	-0.1
	baz=101					
BRSE	Bradley Lake S	150.46 301	P	PKPbc	06 36 07.1	+0.2
	baz=108					
D25K	Kavik River	150.47 321	P	PKPbc	06 36 06.2	-0.5
	baz=94					
G24K	Hadweenzic Riv	150.59 316	P	PKPbc	06 36 06.9	0.0
	baz=98					
H24K	Noodor Dome	150.62 314	P	PKPbc	06 36 07.2	+0.1
	baz=99					
MCK	McKinley	150.67 309	P	PKPbc	06 36 07.3	0.0
	baz=102					
KDAK	Kodiak Island	150.73 297	P	PKPbc	06 36 07.4	-0.1
	baz=110					
M22K	Willow	150.74 305	P	PKPbc	06 36 07.2	-0.2
	baz=105					
SONM	Songino Array	150.77 86	PKPbc	PKPbc	06 36 08.0	-0.1
	comp=Z,7.6nm,0.7s,baz=218,slow=3.4,SNR=37					
F24K	Squaw Lake	150.86 317	P	PKPbc	06 36 07.6	-0.1
	baz=96					
NEA2	Nenana	150.90 311	P	PKPbc	06 36 07.8	0.0
	baz=101					
SUA	Susitna One	150.96 304	P	PKPbc	06 36 08.1	-0.1
	baz=105					
CAPN	Captain Cook N	150.96 303	P	PKPbc	06 36 08.0	0.0
	baz=106					
SII	Sitkinak Islan	151.11 294	P	PKPbc	06 36 07.8	-0.6
	baz=111					
I23K	Minto, Yukon-K	151.12 312	P	PKPbc	06 36 08.2	0.0
	baz=99					
E24K	Your Creek	151.14 318	P	PKPbc	06 36 07.9	-0.4
	baz=95					
TRF	Thorofare Moun	151.21 309	P	PKPbc	06 36 08.4	-0.3
	baz=102					
H23K	Yukon River	151.30 314	P	PKPbc	06 36 08.6	-0.1
	baz=98					
C24K	Franklin Bluff	151.31 322	P	PKiKP	06 36 09.0	0.0
	baz=92					
D24K	Happy Valley	151.33 321	P	PKPbc	06 36 08.4	-0.2
	baz=92					
SKT	Skwentna	151.44 305	P	PKPbc	06 36 07.9	-1.2
	baz=104					
O20K	Slope Mountain	151.47 301	P	PKPbc	06 36 08.3	-1.0
	baz=106					
E23K	Chandalar	151.56 318	P	PKPbc	06 36 08.4	-0.9
	baz=94					
N20K	Mount Spurr	151.57 304	P	PKPbc	06 36 09.0	-0.5
	baz=104					
SPCR	Spurr Chakacha	151.57 304	P	PKiKP	06 36 09.7	-0.2
	baz=104					
TOLK	Toolik Lake Re	151.58 319	P	PKPbc	06 36 09.2	0.0
	baz=93					
G23K	Bananza Creek	151.60 315	P	PKiKP	06 36 09.6	-0.1
	baz=96					
R18K	Karluk	151.60 295	P	PKPbc	06 36 09.7	+0.2
	baz=110					
BPAW	Bear Paw Mtn.	151.63 310	P	PKiKP	06 36 09.8	-0.1
	baz=100					
MLY	Manley	151.68 312	P	PKiKP	06 36 10.1	+0.1
	baz=98					
COLD	Coldfoot	151.72 316	P	PKiKP	06 36 10.0	+0.1
	baz=95					
PPLA	Purkeypile	151.94 307	P	PKPbc	06 36 10.3	-0.1
	baz=101					
C23K	Itkillik River	151.97 322	P	PKPbc	06 36 10.1	0.0
	baz=90					
CAST	Castle Rocks	151.99 308	P	PKPbc	06 36 10.4	0.0
	baz=100					
D23K	Nanushuk River	151.99 320	P	PKiKP	06 36 10.6	+0.2
	baz=91					
H22K	Ishtalitna Cre	152.06 313	P	PKPbc	06 36 10.4	0.0
	baz=96					
M20K	Styx River	152.16 305	P	PKPbc	06 36 10.8	0.0
	baz=102					
CHUM	Lake Minchumin	152.18 309	P	PKPbc	06 36 10.8	+0.1
	baz=99					
G22K	Bettles	152.21 316	P	PKiKP	06 36 11.0	+0.1
	baz=94					
I21K	Tanana	152.22 312	P	PKiKP	06 36 11.6	+0.6
	baz=97					
Q18K	Katmai Hardscr	152.23 297	P	PKiKP	06 36 11.6	+0.3
	baz=107					
O19K	Port Alsworth	152.32 301	P	PKiKP	06 36 11.7	+0.4
	baz=105					
E22K	Anaktuvuk Pass	152.39 318	P	PKiKP	06 36 11.6	+0.2
	baz=92					
F22K	John River	152.50 317	P	PKiKP	06 36 11.5	-0.1
	baz=93					
P18K	Big Mountain,	152.55 299	P	PKPbc	06 36 11.1	-0.6
	baz=106					
H21K	Melozitna Rive	152.62 313	P	PKPbc	06 36 11.1	-0.5
	baz=96					
O18K	Koktuh Hills	152.66 300	P	PKPbc	06 36 11.4	-0.5
	baz=105					
D22K	Ayikyak River	152.72 320	P	PKiKP	06 36 11.9	0.0
	baz=90					
M19K	Big River Lodg	152.75 304	P	PKPbc	06 36 12.0	-0.1
	baz=102					
K20K	Telida	152.86 308	P	PKPbc	06 36 12.3	0.0
	baz=99					
B22K	Teshekpuk Lake	152.92 323	P	PKiKP	06 36 12.3	+0.1
	baz=86					
G21K	Allakaket	152.97 315	P	PKiKP	06 36 12.7	+0.2
	baz=93					
F21K	Alatna River	153.00 316	P	PKiKP	06 36 13.1	+0.5
	baz=92					
L19K	White Mountain	153.01 305	P	PKiKP	06 36 13.5	+0.7
	baz=101					
J20K	Nowinta River	153.02 309	P	PKiKP	06 36 13.3	+0.6
	baz=97					
Q16K	King Salmon	153.06 297	P	PKiKP	06 36 13.3	+0.5
	baz=106					
P17K	Kvichak River	153.09 298	P	PKiKP	06 36 13.2	+0.2
	baz=106					
N18K	Kilae Creek	153.19 301	P	PKiKP	06 36 13.5	+0.4
	baz=103					
E21K	Killik River	153.19 319	P	PKiKP	06 36 13.5	+0.5
	baz=89					
R16K	Pilot Point	153.19 294	P	PKiKP	06 36 13.7	+0.5
	baz=108					
CHGN	Chignik	153.22 291	P	PKiKP	06 36 13.5	+0.2
	baz=110					
I20K	Naaghedeneel	153.23 311	P	PKiKP	06 36 14.2	+1.1
	baz=96					
CHNA	Chernabura Isl	153.31 288	P	PKiKP	06 36 14.3	+0.8
	baz=112					
M18K	Stony River	153.33 303	P	PKiKP	06 36 14.3	+0.9
	baz=101					
A22K	Sinclair Lake	153.37 325	P	PKiKP	06 36 14.9	+1.7
	baz=83					
B21K	Ikpikpuk River	153.38 322	P	PKiKP	06 36 14.0	+0.8
	baz=86					
H20K	Anotleneega Mo	153.46 312	P	PKiKP	06 36 14.5	+0.9
	baz=94					
C21K	Knifeblade Rid	153.46 321	P	PKiKP	06 36 14.2	+0.7
	baz=87					
J19K	Poorman	153.64 309	P	PKiKP	06 36 15.5	+1.6
	baz=97					
TTA	Tatalina	153.67 306	P	PKiKP	06 36 15.8	+1.6
	baz=98					
N17K	Nushagak Hills	153.78 301	P	PKiKP	06 36 15.7	+1.4
	baz=102					
S14K	Fog Glacier	153.81 291	P	PKiKP	06 36 15.7	+1.0
	baz=109					
P16K	Nushagak River	153.82 297	P	PKiKP	06 36 16.4	+1.9
	baz=105					
A21K	Barrow	153.85 326	P	PKiKP	06 36 16.6	+2.4
	baz=81					
F20K	Avaraart Lake	153.87 316	P	PKiKP	06 36 17.0	+2.7
	baz=90					
O16K	Kokwok River B	154.01 299	P	PKiKP	06 36 17.8	+2.9
	baz=104					
M17K	Holitna River	154.08 303	P	PKiKP	06 36 16.5	+1.5
	baz=100					
H19K	Roundabout Mou	154.12 312	P	PKiKP	06 36 16.8	+1.9
	baz=93					
D20K	Etivluk River	154.15 320	P	PKiKP	06 36 17.6	+2.6
	baz=86					
B20K	Meade River	154.22 323	P	PKiKP	06 36 17.7	+2.7
	baz=83					
GCSA	Galena City Sc	154.25 310	P	PKiKP	06 36 17.9	+2.7
	baz=94					
L17K	Donlin	154.60 304	P	PKiKP	06 36 18.1	+2.1
	baz=98					
F19K	Shaleruckik Mo	154.68 315	P	PKiKP	06 36 18.7	+2.7
	baz=89					
M16K	Timber Creek	154.73 302	P	PKiKP	06 36 18.5	+2.2
	baz=100					
O15K	Ungalikthiuk R	154.78 297	P	PKPdf	06 36 10.8	+3.0
	baz=104					
H18K	Honhosa River	154.91 311	P	PKPdf	06 36 10.4	+2.6
	baz=92					
G18K	Tagagawik	155.04 313	P	PKPdf	06 36 10.9	+3.0
	baz=90					
L16K	Owhat River	155.09 303	P	PKPdf	06 36 10.8	+2.8
	baz=98					
N15K	Kwethluk River	155.12 299	P	PKPdf	06 36 10.5	+2.3
	baz=101					
C19K	Lookout Ridge	155.18 321	P	PKPdf	06 36 11.0	+2.9
	baz=82					
A19K	Wainwright	155.51 324	P	PKPdf	06 36 10.9	+2.6
	baz=78					
C18K	Utukok River	155.82 320	P	PKPdf	06 36 11.1	+2.1
	baz=82					
N14K	Kuskokwak Cree	155.86 298	P	PKPdf	06 36 11.3	+2.2
	baz=101					
F17K	Baldwin Pennin	156.08 314	P	PKPdf	06 36 11.2	+2.0
	baz=86					
K15K	Wolf Creek Mou	156.12 304	P	PKPdf	06 36 11.1	+1.6
	baz=96					
M14K	Bethel	156.13 300	P	PKPdf	06 36 11.5	+2.0
	baz=99					
C17K	DeLong Mountai	156.57 320	P	PKPdf	06 36 12.2	+2.3
	baz=80					
G16K	Koyuk River	156.58 312	P	PKPdf	06 36 12.4	+2.5
	baz=88					
D17K	Noatak River	156.66 318	P	PKPdf	06 36 12.7	+2.7
	baz=82					
UNV	Unalaska Valle	156.70 282	P	PKPdf	06 36 13.0	+2.5
	baz=112					
M13K	Dall Lake	156.76 299	P	PKPdf	06 36 12.7	+2.4
	baz=98					
J14K	Nanvaranak Lak	157.09 305	P	PKPdf	06 36 13.0	+2.4
	baz=93					
G15K	Niukluk	157.31 311	P	PKPdf	06 36 13.3	+2.4
	baz=87					
NIKH	Nikolski High	157.66 278	P	PKPdf	06 36 14.0	+2.3
	baz=113					
F14K	Arctic Creek	158.23 312	P	PKPdf	06 36 14.7	+2.6
	baz=84					
TNA	Tin City	158.88 313	P	PKPdf	06 36 15.6	+2.8
	baz=82					
USRK	Ussuriysk Ar.	162.32 123	PKPab	PKPab	06 37 03.7	-1.6
	comp=Z,2.1nm,0.6s,baz=225,slow=1.0,SNR=2.0					

*BER **30** 06:20:13.7±5.1, 82°.85N×6°.37W, h10km, mb(Pn)3.8, ML1.9(DNK), Confirmed Earthquake*
*KOLA **30** 06:20:15.8, 83°.00N×3°.35W, h0km, ML2.6, Arctic Ocean, Gakkel ridge*
*DNK **30** 06:20:15.4±5.0, 82°.63N×6°.02W, h18km±47km, ML1.9*

ISC 30 06:20:06.7±1.8, 83°.0N±0°.1×6°.17W±0°.05, h10km, n24, σ3°.96/40, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.00**	**230**	*e*			**Pb**	**06 20 43.3**	**+0.1**
	baz=77,slow=11								
NOR				*i* P			**Pg**	**06 20 45.0**	**-0.1**
NOR				*e*S			**Sb**	**06 21 07.9**	**-0.2**
NOR				IAML				06 21 11.0	
	comp=Z,18nm,0.3s								
NOR	**Nord**	**2.00**	**230**	*e*			**Pb**	**06 20 43.3**	**+0.1**
	baz=77,slow=11								
NOR				*i* P			**Pg**	**06 20 45.0**	**-0.1**
NOR				*e*S			**Sb**	**06 21 07.9**	**-0.2**
NOR				IAML				06 21 11.0	
	comp=Z,18nm,0.3s								
KBS	**Kingsbay**	**4.96**	**136**	P			**Pn**	**06 21 24.1**	**+2.9**
KBS				S			**Sn**	**06 22 14.9**	**-3.6**
KBS	**Kingsbay**	**4.96**	**136**	P			**Pn**	**06 21 23.9**	**+2.8**
KBS				S			**Sn**	**06 22 15.3**	**-3.2**
KBS	**Kingsbay**	**4.96**	**136**	*i* P			**Pn**	**06 21 24.8**	**+3.6**
KBS				*e*S			**Sn**	**06 22 15.4**	**-3.1**
KBS	**Kingsbay**	**4.96**	**136**	*i* P			**Pn**	**06 21 24.8**	**+3.6**
KBS				*e*S			**Sn**	**06 22 14.6**	**-3.9**
BRBB	**Barentsburg B**	**5.92**	**135**	P			**Pn**	**06 21 38.0**	**+3.9**
BRBB				S			**Sn**	**06 22 39.2**	**-2.7**
BRBB	**Barentsburg B**	**5.92**	**135**	P			**Pn**	**06 21 38.1**	**+3.9**
BRBB				S			**Sn**	**06 22 39.5**	**-2.4**
BRBB	**Barentsburg B**	**5.92**	**135**	*e*P			**Pn**	**06 21 38.3**	**+4.0**
BRBA	**Barentsburg A**	**5.95**	**136**	*e*P			**Pn**	**06 21 38.8**	**+4.1**
SPA0	**Spitsbergen Ar**	**6.03**	**131**	*e*P			**Pn**	**06 21 39.2**	**+3.4**
SPA0				IAML				06 21 47.4	
	comp=Z,10nm,1.1s								
SPITS	**Spitsbergen Ar**	**6.03**	**131**	P			**Pn**	**06 21 38.7**	**+2.9**
SPITS				S			**Sn**	**06 22 42.0**	**-2.9**
SPITS	**Spitsbergen Ar**	**6.03**	**131**	P			**Pn**	**06 21 39.0**	**+3.2**
SPITS				S			**Sn**	**06 22 42.7**	**-2.1**
DAG	**Danmarks Havn**	**6.62**	**206**	*i* P			**Pn**	**06 21 47.0**	**+3.1**
DAG				*i* S			**Sn**	**06 22 58.2**	**-1.1**
DAG				IAML				06 23 13.8	
	comp=Z,2.5nm,0.3s								
DAG	**Danmarks Havn**	**6.62**	**206**	*i* P			**Pn**	**06 21 47.0**	**+3.1**
DAG				*i* S			**Sn**	**06 22 58.2**	**-1.1**
DAG				IAML				06 23 13.8	
	comp=Z,2.5nm,0.3s								
HSPB	**Hornsund (broa**	**7.04**	**137**	P			**Pn**	**06 21 52.6**	**+3.0**
HSPB	**Hornsund (broa**	**7.04**	**137**	P			**Pn**	**06 21 54.3**	**+4.7**
HSPB	**Hornsund (broa**	**7.04**	**137**	*e*P			**Pn**	**06 21 53.9**	**+4.3**
HSPB				IAML				06 21 54.8	
	comp=Z,13nm,0.3s								
NEEM	**North Greenlan**	**9.10**	**257**	*e*P			**Pn**	**06 22 20.8**	**+2.6**
NEEM				*e*S			**Sn**	**06 23 56.0**	**-4.6**
NEEM	**North Greenlan**	**9.10**	**257**	*e*P			**Pn**	**06 22 20.8**	**+2.6**
NEEM				*e*S			**Sn**	**06 23 56.0**	**-4.6**
DBG	**Daneborg**	**9.13**	**205**	*e*P			**Pn**	**06 22 19.4**	**+1.2**
DBG	**Daneborg**	**9.13**	**205**	*e*P			**Pn**	**06 22 19.4**	**+1.2**
SUMG	**Summit**	**12.17**	**230**	*e*P			**Pn**	**06 23 01.8**	**+1.7**
SUMG	**Summit**	**12.17**	**230**	*e*P			**Pn**	**06 23 01.8**	**+1.7**

*NNC **30** 06:33:16.9±4.9, 49°.68N×75°.46E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=221.9km s-min=32.6km az=149.0*
*IDC **30** 06:33:31.9±3.5, 50°.11N×76°.25E, h0km, mbtmp2.5/2, ML1.9/2, Error ellipse: s-maj=30.6km s-min=19.0km az=101.0*

ISC 30 06:33:19.2±1.4, 49°.4N±0°.1×75°.51E±0°.09, h10km, n8, σ2°.75/7, 3C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.31**	**56**		Pg		**Pn**	**06 33 60.0**	**+2.7**
	0.3nm,0.3s,baz=255,slow=15,SNR=32								
KURBB					Lg		Lg	06 34 22.2	
	0.4nm,0.3s,baz=252,slow=32,SNR=17								
OTUK	**Ortayu**	**2.39**	**243**	⇑Sn			**Sb**	**06 34 30.8**	**-0.9**
	11nm,1.0s								
KURK	**Kurchatov**	**2.41**	**55**	⇑P			**Pn**	**06 33 57.9**	**-0.7**
	5.4nm,0.7s								
KURK				⇑S			**Sn**	**06 34 24.5**	**-3.7**
	12nm,0.8s								
MK31	**Makanchi Array**	**5.23**	**117**	⇓Lg			Lg	06 36 09.2	
	1.3nm,0.8s,baz=316,slow=24,SNR=3.6								
MKAR	**Makanchi Array**	**5.23**	**117**	Pn			**Pb**	**06 34 51.3**	**+0.7**
	baz=320,slow=13,SNR=2.0								
MKAR				Lg			Lg	06 36 15.0	
	0.1nm,0.3s,baz=317,slow=25,SNR=6.4								
	0.1nm,0.3s								
I46RU	**ZALESOVO INFRA**	**7.37**	**48**	I			I	07 12 00.0	
	baz=234,slow=327,SNR=2.3								
ZALV	**Zalesovo Beam**	**7.37**	**48**	Pn			**Pn**	**06 35 09.5**	**+2.7**
	0.2nm,0.3s,baz=259,slow=16,SNR=2.3								
	0.4nm,0.3s								
WMQ	**Urumqi**	**10.06**	**119**	*e*P			**Pn**	**06 35 43.0**	**-0.7**

WEL 30 06:38:17.5±1.0, 38°S±8°×17°7E±°, h2km±3km, M2.2/13, mB5.6/1, ML2.5/14, MLv2.2/13, Mw(mB)5.1/1, Error ellipse: s-maj=0.0km s-min=0.0km az=12.8, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.13**	**273**	P			Pg	06 38 19.6	-0.4
WIZ				S			Sg	06 38 22.0	+0.3
WSRZ	**White Island S**	**0.14**	**276**	P			Pg	06 38 20.7	+0.5
WSRZ				S			Sg	06 38 22.4	+0.4
HAZ	**Te Kaha**	**0.41**	**123**	P			Pg	06 38 25.0	-0.4
HAZ				S			Sg	06 38 31.7	+1.0
RUGZ	**Raukumara Rang**	**0.50**	**149**	P			Pg	06 38 26.7	-0.5
PKGZ	**Pakihiroa**	**0.68**	**122**	P			Pg	06 38 29.7	-0.8
MARZ	**Manawahe**	**0.70**	**230**	P			Pg	06 38 30.6	-0.4
OPRZ	**Ohinepanea**	**

MTHZ	Maungataniwha	1.38 197	P	Pn	06 38 43.0	-0.8
KWHZ	Kaweka Forest	2.02 201	P	Pn	06 38 52.4	-0.2
ARCZ	Arundel	7.94 214	P	Pn	06 40 14.3	+0.4

IDC ***30*** *06:42:31.3±1.1, 14°.34N×91°.63W, h0km, mb4.3/12, mbtmp4.3/13, ML4.2/1, MS3.7/22, Error ellipse: s-maj=41.8km s-min=19.7km az=46.0*
MEX ***30*** *06:42:34.3±0.7, 13°.90N×92°.47W, h15km, MD4.5*
SNET ***30*** *06:42:36.9±1.2, 13°.80N×91°.99W, h0km±672km, ML4.5*
NEIC ***30*** *06:42:39.2±2.6, 14°.16N±0°.06×92°.21W±0°.06, h55km±7km, mb4.4/110, Md4.5/62(MEX), Error ellipse: s-maj=8.9km s-min=7.8km az=209.0*
GCG ***30*** *06:42:40.6±1.4, 14°.33N×92°.06W, h47km±18km, MD4.4*
ISC 30 06:42:37.1±0.9, 14°.10N±0°.05×92°.29W±0°.04, h48km±8km, n553, σ1°38/582, mb4.4/46, MS3.7/20, 1C-4D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.72**	**54**		**Pn**	**06 42 50.4**	**-0.6**
RTAL				Sn	**Sn**	**06 43 02.2**	**+1.1**
SULM	**Suchitepequez,**	**0.73**	**74**	⇓*iP*	**Pn**	**06 42 51.9**	**+0.7**
SULM				*eS*	**Sn**	**06 42 59.4**	**-2.1**
THIG		**0.81**	**2**		**Pn**	**06 42 50.5**	**-1.6**
THIG					**Sn**	**06 43 02.4**	**-0.8**
THIG		**0.81**	**2**	*i* P	**Pn**	**06 42 50.5**	**-1.6**
THIG				*i* S	**Sn**	**06 43 02.4**	**-0.8**
STG3	**Santiaguito 3,**	**0.93**	**49**	⇓*eP*	**Pn**	**06 42 53.5**	**-0.5**
STG3				*eS*	**Sn**	**06 43 07.3**	**+1.0**
CHUJ	**Union Juarez**	**1.01**	**10**	*i* P	**Pn**	**06 42 53.4**	**-1.7**
CHUJ				*i* S	**Sn**	**06 43 08.8**	**+0.4**
PATR	**El Naranjo**	**1.02**	**3**	*i* P	**Pn**	**06 42 53.3**	**-1.9**
PATR				*i* S	**Sn**	**06 43 07.7**	**-0.8**
PAVE	**Pavencul**	**1.10**	**6**	*i* P	**Pn**	**06 42 54.5**	**-1.8**
PAVE				*eS*	**Sn**	**06 43 09.9**	**-0.6**
HUEH	**Huehuetenango**	**1.43**	**32**		**Pn**	**06 43 01.5**	**+0.6**
FUG	**Fuego 3**	**1.45**	**76**	⇓*eP*	**Pn**	**06 43 00.7**	**-0.3**
FUG				*eS*	**Sn**	**06 43 17.8**	**-1.2**
PCG	**Pacaya**	**1.66**	**80**	⇑*iP*	**Pn**	**06 43 04.2**	**+0.2**
PCG				*eS*	**Sn**	**06 43 27.3**	**+3.0**
PCIG		**1.83**	**331**	*i* P	**Pn**	**06 43 03.4**	**-2.7**
PCIG				*i* S	**Sn**	**06 43 25.7**	**-2.5**
NBG	**Las Nubes**	**1.95**	**75**	⇓*eP*	**Pn**	**06 43 09.4**	**+1.5**
CCIG	**Comitan**	**2.18**	**4**	Pn	**Pn**	**06 43 12.4**	**+1.3**
CCIG	**Comitan**	**2.18**	**4**	*i* P	**Pn**	**06 43 13.6**	**+2.5**
CCIG				*i* S	**Sn**	**06 43 43.0**	**+6.1**
SLOZ	**Alcaldia de Sa**	**2.43**	**91**	*eP*	**Pn**	**06 43 14.0**	**-0.4**
NUBE	**Las Nubes**	**2.44**	**94**	*eP*	**Pn**	**06 43 14.6**	**-0.1**
CEVE	**Cerro Verde**	**2.60**	**96**	*eS*	**Sn**	**06 43 48.1**	**+0.6**
CARR	**Arriaga**	**2.65**	**324**	*eP*	**Pn**	**06 43 17.3**	**0.0**
CARR				*eS*	**Sn**	**06 43 48.6**	**+0.3**
TGBT	**Tuxtla Gutierr**	**2.77**	**344**		**Pn**	**06 43 18.3**	**-0.8**
TGBT					**Sn**	**06 43 51.9**	**+0.6**
TGBT	**Tuxtla Gutierr**	**2.77**	**344**	*eP*	**Pn**	**06 43 18.3**	**-0.8**
TGBT				*eS*	**Sn**	**06 43 51.9**	**+0.6**
TGIG		**2.78**	**343**		**Pn**	**06 43 18.3**	**-0.9**
TGIG					**Sn**	**06 43 52.5**	**+0.9**
TGIG		**2.78**	**343**	*eP*	**Pn**	**06 43 18.3**	**-0.9**
TGIG				*eS*	**Sn**	**06 43 52.5**	**+0.9**
JAYA	**Jayaque - finc**	**2.79**	**99**	*eP*	**Pn**	**06 43 19.4**	**0.0**
JAYA				*eS*	**Sn**	**06 43 50.6**	**-1.4**
CEDA	**San Andres**	**2.83**	**96**	*eP*	**Pn**	**06 43 19.0**	**-0.8**
CEDA				IAML		06 44 10.1	
	comp=Z,2μm,0.5s						
MTO3	**Montecristo**	**2.86**	**84**	Pn	**Pn**	**06 43 19.7**	**-0.7**
ESQI	**Esquipulas**	**2.90**	**80**		**Pn**	**06 43 20.3**	**-0.5**
SNET	**Serv Nac Est T**	**3.00**	**97**	Pn	**Pn**	**06 43 21.4**	**-0.8**
LOMA	**Loma Larga**	**3.06**	**98**	*eP*	**Pn**	**06 43 22.5**	**-0.6**
SJTE	**Alcalda de S**	**3.23**	**98**	*eP*	**Pn**	**06 43 25.2**	**-0.1**
PAVA	**Las Pavas**	**3.28**	**96**	*eP*	**Pn**	**06 43 25.1**	**-1.0**
NILT	**Santiago Nilte**	**3.33**	**318**	*eP*	**Pn**	**06 43 25.1**	**-1.5**
NILT				*eS*	**Sn**	**06 44 04.1**	**-0.8**
COEG	**Centro de Oper**	**3.35**	**98**	*eP*	**Pn**	**06 43 26.2**	**-0.8**
SCLA	**Alcaldia de Sa**	**3.48**	**96**	*eP*	**Pn**	**06 43 28.5**	**-0.3**
PETF	**Flores**	**3.65**	**39**		**Pn**	**06 43 33.2**	**+2.1**
PQSS	**Presa 15 de Se**	**3.65**	**97**	*eP*	**Pn**	**06 43 30.1**	**-1.0**
UXUV	**UXUV**	**3.67**	**331**	*eP*	**Pn**	**06 43 31.0**	**-0.3**
UXUV				*eS*	**Sn**	**06 44 14.7**	**+1.4**
CMIG	**Matias Romero**	**3.89**	**320**		**Sn**	**06 44 18.9**	**+0.2**
CMIG	**Matias Romero**	**3.89**	**320**	Pn	**Pn**	**06 43 32.7**	**-1.6**
	comp=Z,20nm,0.3s,baz=143,slow=9.6,SNR=25						
CMIG				Sn	**Sn**	**06 44 23.0**	**+4.3**
	comp=Z,53nm,0.3s,baz=348,slow=21,SNR=7.0						
CMIG				LR	LR	06 45 12.0	
	comp=Z,411nm,20.5s,baz=130,slow=39						
CMIG	**Matias Romero**	**3.89**	**320**	*i* P	**Pn**	**06 43 32.3**	**-2.0**
CMIG				*i* S	**Sn**	**06 44 18.9**	**+0.2**
HUIG	**Huatulco**	**4.05**	**295**	*eP*	**Pn**	**06 43 34.1**	**-2.4**
HUIG				*eS*	Sn	06 44 16.0	-6.7
LCND	**La Caada**	**4.35**	**100**	*eP*	**Pn**	**06 43 40.0**	**-0.7**
TUIG	**Tuzandepetl**	**4.42**	**333**	*eP*	**Pn**	**06 43 39.7**	**-2.0**
TUIG				*eS*	**Sn**	**06 44 31.2**	**-0.6**
TGUH	**Tegucigalpa,Un**	**4.87**	**90**	Pn	**Pn**	**06 43 47.3**	**-0.6**
NEUV	**Arroyo Zacate**	**4.93**	**317**	*eP*	**Pn**	**06 43 47.5**	**-1.2**
NEUV				*eS*	**Sn**	**06 44 45.1**	**+0.6**
SCIG	**Sabancuy**	**4.96**	**12**	*i* P	**Pn**	**06 43 48.7**	**-0.3**
SCIG				*i* S	**Sn**	**06 44 43.9**	**-1.2**
PEIG	**Puerto Escondi**	**5.06**	**293**	*eP*	**Pn**	**06 43 48.4**	**-2.1**
PEIG				*eS*	**Sn**	**06 44 45.4**	**-2.2**
PMUV	**Sontecomapan**	**5.19**	**329**	*eP*	**Pn**	**06 43 49.7**	**-2.6**
PMUV				*eS*	**Sn**	**06 44 46.1**	**-4.9**
OXIG	**Oaxaca**	**5.20**	**305**		**Pn**	**06 43 51.1**	**-1.5**
VHO	**Vista Hermosa**	**5.20**	**305**	*eP*	**Pn**	**06 43 51.1**	**-1.5**
VHO				*eS*	**Sn**	**06 44 48.5**	**-3.0**
CRIN	**San Cristobal**	**5.29**	**105**	Pn	**Pn**	**06 43 53.1**	**-0.5**
CNGN	**Cerro Negro**	**5.67**	**106**	Pn	**Pn**	**06 43 58.2**	**-0.7**
YOIG	**Yosondua**	**5.76**	**299**		**Pn**	**06 44 02.8**	**+2.5**
YOIG	**Yosondua**	**5.76**	**299**	*eP*	**Pn**	**06 44 00.4**	**0.0**
YOIG				*eS*	**Sn**	**06 45 04.6**	**-0.7**
PNIG	**Pinotepa**	**6.08**	**293**	*eP*	**Pn**	**06 44 02.9**	**-1.5**
PNIG				*e*		06 44 02.9	
PNIG				*eS*	Sn	06 45 06.3	-6.4
TXIG	**Tlaxiaco**	**6.14**	**301**		**Pn**	**06 44 07.4**	**+1.9**
TXIG					**Sn**	**06 45 14.9**	**+0.3**
TXIG	**Tlaxiaco**	**6.14**	**301**	*eP*	**Pn**	**06 44 05.3**	**-0.2**
TXIG				*eS*	**Sn**	**06 45 12.4**	**-2.1**
MATN	**Matagalpa**	**6.30**	**100**	Pn	**Pn**	**06 44 06.4**	**-1.1**
HLIG	**Huajuapan de L**	**6.47**	**306**		**Pn**	**06 44 12.6**	**+2.6**
HLIG					**Sn**	**06 45 22.5**	**-0.2**
HLIG	**Huajuapan de L**	**6.47**	**306**	*eP*	**Pn**	**06 44 11.7**	**+1.7**
HLIG				*eS*	**Sn**	**06 45 22.5**	**-0.2**
TPIG	**Tehuac#an**	**6.50**	**312**	*eP*	**Pn**	**06 44 12.4**	**+2.1**
TPIG				*eS*	**Sn**	**06 45 23.8**	**+0.6**
FTIG	**Fresnillo de T**	**6.78**	**305**		**Pn**	**06 44 14.5**	**+0.4**
FTIG	**Fresnillo de T**	**6.78**	**305**	*eP*	**Pn**	**06 44 14.5**	**+0.4**
FTIG				*eS*	**Sn**	**06 45 26.3**	**-3.7**
JAUV	**Jalcomulco**	**6.79**	**321**	*eP*	**Pn**	**06 44 12.5**	**-1.7**
JAUV				*eS*	**Sn**	**06 45 26.8**	**-3.5**
LVIG	**Laguna Verde**	**6.85**	**325**	*eP*	Pn	06 44 10.3	-4.7
LVIG				*eS*	**Sn**	**06 45 28.4**	**-3.3**
MGIG	**Malinaltepec**	**6.86**	**298**		**Pn**	**06 44 16.4**	**+1.1**
MGIG					**Sn**	**06 45 33.5**	**+1.3**
MGIG	**Malinaltepec**	**6.86**	**298**	*eP*	**Pn**	**06 44 15.1**	**-0.2**
MGIG				*eS*	**Sn**	**06 45 30.0**	**-2.2**
TLIG	**Tlapa**	**6.95**	**301**	*eP*	**Pn**	**06 44 16.2**	**-0.3**
TLIG				*i* S	**Sn**	**06 45 28.9**	**-5.5**
CRIG	**Cruz Grande**	**7.10**	**293**		**Pn**	**06 44 17.3**	**-1.1**
CRIG	**Cruz Grande**	**7.10**	**293**	*eP*	**Pn**	**06 44 17.3**	**-1.1**
CRIG				*eS*	Sn	06 45 30.8	-7.0
TEIG	**Tepich**	**7.20**	**32**	Pn	**Pn**	**06 44 20.0**	**+0.2**
TEIG	**Tepich**	**7.20**	**32**	Pn	**Pn**	**06 44 19.5**	**-0.3**
	comp=Z,184nm,0.3s,baz=129,slow=0.5,SNR=106						
TEIG				Sn	**Sn**	**06 45 36.1**	**-4.2**
	baz=152,slow=21						
TEIG				LR	LR	06 47 42.0	
	comp=Z,4μm,18.3s,baz=16,slow=46						
ACON	**Acoyapa**	**7.25**	**106**	Pn	**Pn**	**06 44 20.0**	**-0.5**
HZTE	**Horizontes, Gu**	**7.35**	**116**		**Pn**	**06 44 22.5**	**+0.6**
ORTG	**Ortega, Santa**	**7.64**	**118**		**Pn**	**06 44 26.4**	**+0.4**
DAIG	**Los Arroyos**	**7.67**	**293**	*eP*	**Pn**	**06 44 25.6**	**-0.6**
DAIG				*eS*	Sn	06 45 46.0	-5.7
DUNO	**Dulce Nombre,**	**7.75**	**120**	Pn	**Pn**	**06 44 28.5**	**+1.1**
PPM	**Popocatepetl**	**7.83**	**310**	*eP*	**Pn**	**06 44 29.9**	**+0.9**
PPM				*eS*	**Sn**	**06 45 56.4**	**-0.1**
PPIG	**Popocatepetl**	**7.83**	**310**		**Pn**	**06 44 30.9**	**+1.9**
PPIG					**Sn**	**06 45 56.4**	**-0.1**
CXUV	**Coxquihui**	**7.88**	**321**	*eP*	Pn	06 44 23.4	-5.8
CXUV				*eS*	**Sn**	**06 45 51.8**	**-5.3**
ESPN	**Las Esperanzas**	**8.01**	**103**	Pn	**Pn**	**06 44 31.0**	**+0.1**
YAIG	**Yautepec**	**8.04**	**307**	*eP*	**Pn**	**06 44 33.3**	**+1.8**
YAIG				*eS*	Sn	06 45 54.1	-7.1
JTS	**Las Juntas de**	**8.11**	**117**	Pn	**Pn**	**06 44 32.9**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=319,slow=8.3,SNR=8.1						
PLIG	**Platanillo**	**8.14**	**303**	*eP*	**Pn**	**06 44 33.6**	**+0.9**
PLIG				*eS*	**Sn**	**06 46 07.3**	**+3.9**
CAIG	**El Cayaco**	**8.23**	**292**	*i* P	**Pn**	**06 44 33.1**	**-0.8**
CAIG				*eS*	**Sn**	**06 46 08.2**	**+2.7**
ARE1	**Arenal 1**	**8.23**	**115**	Pn	**Pn**	**06 44 35.4**	**+1.4**
COVE	**Coope Vega, Sa**	**8.40**	**113**	Pn	**Pn**	**06 44 38.1**	**+1.8**
ARIG	**Puente Sto Nin**	**8.79**	**299**	*eP*	**Pn**	**06 44 41.5**	**-0.1**
CTUV	**Llano Grande**	**9.33**	**323**	*eP*	**Pn**	**06 44 46.0**	**-3.0**
CTUV				*eS*	**Sn**	**06 46 30.2**	**-2.5**
ZIIG	**Zihuatanejo**	**9.49**	**293**	*eP*	**Pn**	**06 44 51.8**	**+0.6**
CDITO	**Canoas**	**10.74**	**120**	Pn	**Pn**	**06 45 08.5**	**+0.2**
SOR	**Soroa**	**12.34**	**44**	Pn	**Pn**	**06 45 30.9**	**+0.8**
BCIP	**Isla Barro Col**	**13.14**	**111**	Pn	**Pn**	**06 45 41.6**	**+0.4**
833A	**Chaparral WMA,**	**15.62**	**336**	Pn	**Pn**	**06 46 14.3**	**+0.2**
833A	**Chaparral WMA,**	**15.62**	**336**	P	**Pn**	**06 46 14.1**	**+0.1**
	baz=153						
545A	**Edgard**	**15.96**	**6**	Pn	**Pn**	**06 46 18.6**	**+0.2**
HKT	**Hockley**	**16.11**	**349**	Pn	**Pn**	**06 46 20.3**	**0.0**
441A	**DeRidder**	**16.60**	**357**	Pn	**Pn**	**06 46 25.3**	**-1.1**
441A				IAmb	IAmb	06 46 51.0	
	comp=Z,34nm,0.9s						
HNDO	**Hondo**	**16.66**	**338**		**Pn**	**06 46 28.1**	**+0.8**
HNDO				IAmb	IAmb	06 46 42.1	
	comp=Z,9.4nm,0.7s						
DRIO	**Del Rio**	**17.09**	**335**		**P**	**06 46 34.3**	**+0.5**
DRIO				IAmb	IAmb	06 46 37.3	
	comp=Z,7.1nm,0.8s						
DWPF	**Disney Wildern**	**17.22**	**34**	P	**Pn**	**06 46 32.0**	**-2.2**
	baz=218						
435B	**Jarrell**	**17.31**	**345**	P	**P**	**06 46 36.8**	**+0.7**
	baz=162						
346A	**Big Creek Wild**	**17.41**	**8**	Pn	**Pn**	**06 46 35.5**	**-1.0**
346A				IAmb	IAmb	06 46 41.6	
	comp=Z,40nm,0.8s						
553A	**Crawfordville**	**17.58**	**23**		**P**	**06 46 39.0**	**-0.1**
UREC	**San Jos de Ur**	**17.61**	**109**	*eP*	**P**	**06 46 40.2**	**+0.5**
BRAL	**Brewton**	**17.66**	**15**	Pn	**Pn**	**06 46 38.3**	**-1.3**
BRAL	**Brewton**	**17.66**	**15**	P	**Pn**	**06 46 38.8**	**-0.8**
	baz=197						
656A	**Willston**	**17.68**	**29**	Pn	**Pn**	**06 46 38.5**	**-1.3**
JCT	**Junction City**	**17.71**	**338**	P	**P**	**06 46 42.2**	**+1.5**
JCT	**Junction City**	**17.71**	**338**	P	**P**	**06 46 42.3**	**+1.6**
	baz=155						
NATX	**Nacogdoches**	**17.72**	**353**		**P**	**06 46 41.4**	**+0.7**
NATX	**Nacogdoches**	**17.72**	**353**	P	**P**	**06 46 41.5**	**+0.9**
	baz=172						
VBMS	**Vicksburg**	**18.11**	**5**	P	**P**	**06 46 45.2**	**+0.2**
	baz=185						
BRDY	**Brady**	**18.18**	**341**	P	**Pn**	**06 46 48.0**	**+1.9**
BRDY				IAmb	IAmb	06 47 02.5	
	comp=Z,5.1nm,0.7s						
SAND	**Sanderson**	**18.21**	**332**		**Pn**	**06 46 48.4**	**+2.0**
SAND				IAmb	IAmb	06 46 52.5	
	comp=Z,9.0nm,0.8s						
ZARC	**Zaragoza, Cauc**	**18.33**	**109**	*eP*	**Pn**	**06 46 47.8**	**-0.2**
WHTX	**Lake Whitney,**	**18.43**	**346**	P	**Pn**	**06 46 50.6**	**+1.6**
WHTX	**Lake Whitney,**	**18.43**	**346**	P	**Pn**	**06 46 49.6**	**+0.6**
	baz=164						
TX31	**Lajitas Ar. Si**	**18.46**	**327**	P	**Pn**	**06 46 51.3**	**+1.7**
TX31				IAmb	IAmb	06 46 52.6	
	comp=Z,22nm,1.0s						
TX32	**Lajitas Array**	**18.46**	**327**	P	**Pn**	**06 46 51.3**	**+1.7**
TXAR	**Lajitas Array**	**18.46**	**327**	P	**P**	**06 46 50.3**	**+1.3**
TXAR	**Lajitas Array**	**18.46**	**327**	P	**Pn**	**06 46 51.2**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=153,slow=15,SNR=43						
	comp=Z,3.3nm,0.8s						
143A	**Socs Landing,**	**18.54**	**2**	P	**Pn**	**06 46 50.4**	**+0.1**
143A				IAmb	IAmb	06 47 12.2	
	comp=Z,30nm,1.1s						
OZNA	**Ozona**	**18.61**	**336**		**Pn**	**06 46 52.9**	**+1.6**
OZNA				IAmb	IAmb	06 46 57.4	
	comp=Z,17nm,1.3s						
250A	**Grady**	**18.63**	**16**	P	**Pn**	**06 46 51.3**	**-0.2**
250A				IAmb	IAmb	06 46 58.4	
	comp=Z,19nm,0.8s						
YOTC	**Yotoco, Valle**	**18.66**	**121**	*eP*	**Pn**	**06 46 52.0**	**-0.1**
FW14	**Alvarado**	**18.76**	**347**	P	**P**	**06 46 52.5**	**+0.3**
FW14				IAmb	IAmb	06 46 56.8	
	comp=Z,19nm,0.5s						
FW13	**Cleburne**	**18.77**	**346**	P	**Pn**	**06 46 54.5**	**+1.4**
FW13				IAmb	IAmb	06 46 55.7	
	comp=Z,7.7nm,0.8s						
JAMC	**Jamundi, Valle**	**18.83**	**124**	*eP*	**P**	**06 46 49.4**	**-3.9**
GUY2C	**Guyana, Caldas**	**18.86**	**116**	*eP*	**Pn**	**06 46 55.2**	**+0.4**
TIGA	**Tifton**	**19.02**	**23**	P	**P**	**06 46 53.7**	**-1.3**
	baz=206						
PTBC	**PUERTO BERRIO,**	**19.07**	**111**	*eP*	**P**	**06 46 55.8**	**+0.1**
Z41A	**Richland Creek**	**19.08**	**359**		**Pn**	**06 46 56.8**	**0.0**
NORC	**Norcasia**	**19.13**	**115**	*eP*	**Pn**	**06 46 57.1**	**-0.6**
FW07	**Weatherford**	**19.19**	**346**	P	**P**	**06 46 57.6**	**+0.8**
FW07				IAmb	IAmb	06 47 04.1	
	comp=Z,18nm,0.7s						
POPC	**Popayan, Colom**	**19.23**	**125**	*eP*	**Pn**	**06 46 58.8**	**-0.2**
ALPN	**Alpine**	**19.28**	**329**		**P**	**06 46 58.5**	**+0.4**
ALPN				IAmb	IAmb	06 47 04.4	
	comp=Z,9.0nm,0.8s						
FW06	**Azle**	**19.39**	**347**	P	**Pn**	**06 47 01.2**	**+0.6**
FW06				IAmb	IAmb	06 47 06.4	
	comp=Z,12nm,0.7s						
PLPT	**Palo Pinto**	**19.43**	**345**		**P**	**06 47 00.8**	**+1.3**
PLPT				IAmb	IAmb	06 47 02.7	
	comp=Z,12nm,0.7s						
LRAL	**Lakeview Retre**	**19.46**	**13**	P	**P**	**06 46 59.1**	**-0.7**
	baz=195						
WLAR	**White Oak Lake**	**19.52**	**358**		**Pn**	**06 47 02.2**	**+0.2**
WLAR				IAmb	IAmb	06 47 06.9	
	comp=Z,23nm,0.9s						
ORTC	**Ortega, Tolima**	**19.62**	**119**	*eP*	**Pn**	**06 47 03.3**	**-0.2**
ABTX	**Abilene, Hawle**	**19.63**	**341**	P	**Pn**	**06 47 03.7**	**+0.3**
ABTX				IAmb	IAmb	06 47 05.2	
	comp=Z,26nm,1.5s						
ABTX	**Abilene, Hawle**	**19.63**	**341**	P	**Pn**	**06 47 03.6**	**+0.3**
	baz=158						
MNHN	**Monahans**	**19.67**	**332**		**Pn**	**06 47 04.5**	**+0.5**
MNHN				IAmb	IAmb	06 47 06.0	
	comp=Z,43nm,0.8s						
Z35A	**Perchaven, San**	**19.67**	**348**	P	**P**	**06 47 03.2**	**+1.1**
Z35A				IAmb	IAmb	06 47 08.6	
	comp=Z,21nm,0.8s						
SPBC	**San Pablo de B**	**19.80**	**113**	*eP*	**P**	**06 47 04.2**	**+0.4**
ROSC	**El Rosal**	**19.95**	**116**	P	**P**	**06 47 06.3**	**+0.6**
ROSC				IAmb	IAmb	06 47 09.5	
	comp=Z,26nm,0.8s						
ROSC	**El Rosal**	**19.95**	**116**	*eP*	**Pn**	**06 47 07.6**	**-0.2**
ROSC	**El Rosal**	**19.95**	**116**	P	**Pn**	**06 47 07.5**	**-0.2**
	comp=Z,21nm,0.8s,baz=112,slow=23,SNR=18						
PRAC	**Prado**	**20.03**	**119**	*eP*	**P**	**06 47 07.2**	**+0.9**
BARC	**Barichara**	**20.21**	**110**	*eP*	Pn	06 47 12.5	+1.9
PECS	**Pecos**	**20.21**	**330**	P	Pn	06 47 10.7	+0.3
PECS				IAmb	IAmb	06 47 11.9	
	comp=Z,10nm,0.7s						
ODSA	**Odessa**	**20.25**	**334**	P	**P**	**06 47 09.7**	**+1.2**
ODSA				IAmb	IAmb	06 47 11.0	
	comp=Z,33nm,0.8s						
SN01	**Snyder 1**	**20.26**	**339**	P	**P**	**06 47 10.5**	**+2.0**
SN01				IAmb	IAmb	06 47 14.4	
	comp=Z,19nm,0.7s						
BOG	**Bogota**	**20.28**	**116**	*eP*	P	06 46 57.5	-12
X40A	**Basin Creek Fa**	**20.31**	**359**	P	**P**	**06 47 09.5**	**+0.5**
WTFS	**Witchita Falls**	**20.37**	**345**	P	**P**	**06 47 10.2**	**+0.5**
WTFS				IAmb	IAmb	06 47 11.5	
	comp=Z,13nm,0.8s						
PAMC	**Pamplona, Colo**	**20.38**	**107**	*eP*	**P**	**06 47 09.5**	**-0.9**
MIAR	**Mount Ida**	**20.39**	**357**	P	**P**	**06 47 09.3**	**-0.6**
	baz=176,SNR=10.0						
APMT	**Aspermont**	**20.43**	**341**		**P**	**06 47 11.0**	**+0.6**
APMT				IAmb	IAmb	06 47 12.9	
	comp=Z,18nm,1.0s						
OXF	**Oxford**	**20.49**	**7**	P	**P**	**06 47 10.4**	**-0.6**
	baz=188						
CHIC	**Chingaza**	**20.57**	**115**	*eP*	Pn	06 47 13.8	-1.2
RUSC	**La Rusia**	**20.58**	**111**	*eP*	**P**	**06 47 12.8**	**+0.1**
UALR	**University of**	**20.59**	**360**	P	**P**	**06 47 11.4**	**-0.7**
UALR				IAmb	IAmb	06 47 33.1	
	comp=Z,30nm,0.8s						
FLOC	**Florencia**	**20.62**	**126**	*eP*	**P**	**06 47 13.8**	**+1.2**
GOGA	**Godfrey**	**20.84**	**21**	P	**P**	**06 47 12.8**	**-1.9**
	baz=204						
FPAL	**Fort Paine**	**21.23**	**15**	P	**P**	**06 47 19.6**	**+0.5**
FPAL				IAmb	IAmb	06 47 33.5	
	comp=Z,37nm,1.1s						
MNTX	**Cornudas Mount**	**21.23**	**328**	P	**P**	**06 47 20.5**	**+1.4**
MNTX	**Cornudas Mount**	**21.23**	**328**	P	**P**	**06 47 20.5**	**+1.4**
	baz=142,SNR=15						
WMOK	**Wichita Mounta**	**21.37**	**345**	P	**P**	**06 47 21.1**	**+0.6**
	baz=162,SNR=5.0						
MACC	**Macarena, Meta**	**21.75**	**121**	*eP*	**P**	**06 47 26.7**	**+1.9**
SWET	**Sewanee**	**21.80**	**14**	P	**P**	**06 47 24.7**	**-0.4**
SWET				IAmb	IAmb	06 47 45.7	
	comp=Z,34nm,1.4s						
TUL3	**Leonard**	**21.95**	**352**	P	**P**	**06 47 27.5**	**+0.8**
	baz=171						
MSTX	**Muleshoe**	**21.95**	**336**	P	**P**	**06 47 27.4**	**+0.6**
	baz=152						
OK029	**Liberty Lake**	**22.10**	**349**		**P**	**06 47 27.2**	**-1.1**
OK029				IAmb	IAmb	06 47 28.7	
	comp=Z,20nm,0.8s						
V48A	**Smith Brothers**	**22.11**	**12**	P	**P**	**06 47 27.6**	**-0.7**
V48A				IAmb	IAmb	06 47 29.0	
	comp=Z,13nm,1.0s						
SMWD	**Samnorwood**	**22.11**	**342**	P	**P**	**06 47 29.8**	**+1.3**
SMWD				IAmb	IAmb	06 47 32.1	
	comp=Z,55nm,0.8s						
HHAR	**Hobbs**	**22.14**	**356**	P	**P**	**06 47 28.8**	**0.0**
HHAR				IAmb	IAmb	06 47 49.7	
	comp=Z,14nm,1.2s						
OK031	**S. Brethren Rd**	**22.14**	**350**		**P**	**06 47 28.0**	**-0.8**
OK031				IAmb	IAmb	06 47 29.8	
	comp=Z,12nm,0.7s						
PTGC	**Puerto Gaitan,**	**22.18**	**114**	*eP*	**P**	**06 47 29.5**	**+0.2**
AMTX	**Amarillo**	**22.37**	**339**	P	**P**	**06 47 31.7**	**+0.5**
AMTX	**Amarillo**	**22.37**	**339**	P	**P**	**06 47 31.8**	**+0.5**
	baz=155						
CLTN	**Cedars of Leba**	**22.55**	**13**	P	**P**	**06 47 33.1**	**+0.1**
CLTN				IAmb	IAmb	06 47 33.8	
	comp=Z,12nm,0.8s						
CROK	**Carrier**	**22.89**	**348**		**P**	**06 47 35.8**	**-0.9**
CROK				IAmb	IAmb	06 47 37.1	
	comp=Z,16nm,0.7s						
T45A	**Paducah**	**23.06**	**7**	P	**P**	**06 47 37.6**	**-0.8**
U49A	**Red Boiling Sp**	**23.07**	**13**	P	**P**	**06 47 37.5**	**-1.0**
U49A				IAmb	IAmb	06 47 38.5	
	comp=Z,12nm,0.7s						
121A	**Cookes Peak, D**	**23.17**	**325**	P	**P**	**06 47 42.0**	**+2.2**
121A				IAmb	IAmb	06 47 44.0	
	comp=Z,11nm,0.8s						
121A	**Cookes Peak, D**	**23.17**	**325**	P	**P**	**06 47 41.4**	**+1.7**
	baz=139,SNR=9.7						
319A	**Douglas**	**23.21**	**321**	P	**P**	**06 47 41.1**	**+1.0**
319A				IAmb	IAmb	06 48 05.4	
	comp=Z,11nm,1.0s						
S39A	**Bolivar**	**23.52**	**358**	P	**P**	**06 47 41.6**	**-1.2**
S39A				IAmb	IAmb	06 47 56.4	
	comp=Z,18nm,1.4s						
S44A	**Carbondale**	**23.66**	**6**	P	**P**	**06 47 43.5**	**-0.6**
SIUC	**Southern Illin**	**23.68**	**6**	P	**P**	**06 47 43.9**	**-0.5**
**TZT

comp=Z,7.9nm,1.4s
SPMN Marine on St. 31.03 359 P P 06 48 50.6 +0.4
baz=179,SNR=6.8
TPNV Topopah Spring 31.22 321 P P 06 48 54.1 +1.9
baz=130
PAL Palisades 31.24 27 P P 06 48 50.3 -1.7
baz=216
FURC Furnace Creek, 31.29 320 P P 06 48 54.5 +1.9
baz=129
GLMI Grayling 31.32 11 P P 06 48 52.7 0.0
baz=194
MPMC Manual Prospec 31.44 319 P P 06 48 55.7 +1.5
baz=128
RSSD Black Hills 31.56 344 P P 06 48 56.1 +0.9
baz=158
DUG Dugway, Tooele 31.61 329 P P 06 48 57.5 +1.9
baz=140
R11B Troy Canyon, C 31.76 324 P P 06 48 58.6 +1.6
baz=133
ARVC Arvin 31.77 316 P P 06 48 59.2 +2.3
baz=124
ISA Isabella, Lake 31.84 317 P P 06 49 00.2 +2.6
baz=126
GRAC Grapevine Rang 31.94 320 P P 06 49 01.2 +2.8
baz=129
SBC Santa Barbara 32.00 314 P P 06 49 02.2 +3.3
baz=122
CWC Cottonwood Cre 32.05 319 P P 06 49 01.2 +1.8
baz=127
BW06 Boulder Array 32.22 336 P P 06 49 01.9 +1.0
baz=147
PDAR Pinedale Array 32.22 336 P P 06 49 01.9 +0.9
comp=Z,1.4nm,0.8s,baz=144,slow=9.6,SNR=8.3
PDAR PcP PcP 06 51 49.5 +0.8
comp=Z,0.5nm,0.7s,baz=142,slow=5.1,SNR=4.5
PDAR LR LR 07 03 35.5
comp=Z,53nm,18.4s,baz=168,slow=39
comp=Z,1.4nm,0.8s
PKM Mcpherson Peak 32.31 315 P P 06 49 03.3 +1.5
baz=123
SADO Sadowa 32.55 18 LR LR 07 04 09.7
comp=Z,160nm,18.1s,baz=29,slow=40
NV11 Mina Array Sit 33.33 321 P P 06 49 13.1 +2.4
NVAR Mina Array Bea 33.42 321 P P 06 49 14.1 +2.5
comp=Z,3.2nm,0.7s,baz=133,slow=8.5,SNR=38
NVAR PcP PcP 06 51 54.1 +1.9
comp=Z,0.4nm,0.6s,baz=106,slow=3.2,SNR=3.9
NVAR LR LR 07 04 53.4
comp=Z,147nm,18.2s,baz=131,slow=40
comp=Z,3.2nm,0.7s
HRV Adam Dziewonsk 33.49 28 P P 06 49 09.1 -2.7
baz=218
FXWY Fox Creek 33.54 335 P P 06 49 14.1 +1.6
KVN Kaiserville 33.70 322 P P 06 49 16.1 +2.2
KVN IAmb IAmb 06 49 17.2
comp=Z,6.6nm,1.2s
IMW Indian Meadow 33.71 335 P P 06 49 16.0 +1.9
RLMT Red Lodge 34.12 338 P P 06 49 16.8 -0.6
baz=150
EMB Emerald Bay 34.86 320 P P 06 49 26.6 +2.6
EMB IAmb IAmb 06 49 44.7
comp=Z,7.7nm,1.3s
HLID Hailey 34.96 331 P P 06 49 26.7 +2.0
HLID IAmb IAmb 06 49 27.5
comp=Z,4.1nm,0.9s
HLID Hailey 34.96 331 P P 06 49 26.1 +1.3
baz=140,SNR=8.9
ETMB Extrema 35.12 131 P P 06 49 25.9 -0.3
ETMB IAmb IAmb 06 49 26.1
comp=Z,3.3nm,0.8s
BOZ Bozeman (W) 35.40 336 P P 06 49 29.5 +1.1
baz=146
MFID Camas Ranch 35.52 330 P P 06 49 31.4 +2.0
MFID IAmb IAmb 06 49 34.4
comp=Z,8.6nm,1.2s
DGMT Dagmar 35.66 346 P P 06 49 31.2 +0.6
DGMT Dagmar 35.66 346 P P 06 49 31.3 +0.8
baz=160
MACA Manacapuru-AM 35.72 116 P P 06 49 29.8 -1.6
MACA IAmb IAmb 06 49 31.2
comp=Z,8.8nm,1.0s
PKME Peaks-Kenny Pk 36.67 28 P P 06 49 38.0 -1.1
baz=219
LYMT Lyon Mountain 36.80 337 P P 06 49 41.9 +1.4
EGMT Eagleton 36.80 340 P P 06 49 40.9 +0.6
EGMT Eagleton 36.80 340 P P 06 49 41.7 +1.3
baz=151
J08A Circle Bar Ran 36.81 328 P P 06 49 42.4 +1.9
PLID Pearl Lake 36.86 332 P P 06 49 42.5 +1.5
SAML Samuel 36.86 127 P P 06 49 39.6 -1.4
CHMT Chamberlain Mo 37.12 336 P P 06 49 44.2 +1.0
MSO Missoula 37.33 335 P P 06 49 46.7 +1.8
baz=144
F10A Beach Ranch, E 38.09 332 P P 06 49 52.6 +1.3
YBH Yreka Blue Hor 38.12 322 LR LR 07 07 52.5
comp=Z,161nm,20.5s,baz=153,slow=40
G08A Pilot Rock 38.42 329 P P 06 49 55.8 +1.7
LPAZ La Paz 38.49 141 P P 06 49 54.4 -1.2
comp=Z,1.1nm,0.9s,baz=1.0,slow=6.6,SNR=3.8
LPAZ LR LR 07 05 12.4
comp=Z,57nm,18.1s,baz=281,slow=36
comp=Z,1.1nm,0.9s
HAWA Hanford 39.49 330 P P 06 50 04.4 +1.5
HAWA IAmb IAmb 06 50 06.2
comp=Z,3.9nm,0.8s
G05A Wamic 39.59 327 P P 06 50 05.9 +2.2
G05A IAmb IAmb 06 50 09.5
comp=Z,7.8nm,0.8s
NEW Newport 39.79 334 P P 06 50 06.0 +0.6
baz=140
NEW Newport 39.79 334 LR LR 07 08 54.1
comp=Z,76nm,19.6s,baz=124,slow=40
H04D Lebanon 39.87 326 P P 06 50 07.6 +1.5
C09A Chrisman Ranch 39.94 333 P P 06 50 08.2 +1.6
C09A IAmb IAmb 06 50 11.3
comp=Z,6.3nm,0.6s
LTY Liberty 40.65 330 P P 06 50 14.6 +2.0
LTY IAmb IAmb 06 50 15.9
comp=Z,10nm,1.4s
LON Longmire 40.86 329 P P 06 50 16.2 +1.9
LON IAmb IAmb 06 50 21.4
comp=Z,7.6nm,0.8s
VILB Vilhena 41.63 129 P P 06 50 20.5 -0.4
VILB IAmb IAmb 06 50 30.3
comp=Z,6.1nm,0.9s
SIV San Ignacio 42.96 133 LR LR 07 07 37.3
comp=Z,108nm,18.8s,baz=111,slow=35
LVC Limon Verde 43.08 148 LR LR 07 07 58.7
comp=Z,42nm,18.1s,baz=288,slow=36
RPN Rapa Nui 44.19 202 LR LR 07 04 17.4
comp=Z,76nm,20.1s,baz=328,slow=29
CBB Campbell River 44.82 330 P P 06 50 48.5 +2.2
CBB IAmb IAmb 06 50 53.2
comp=Z,7.1nm,1.1s
SCHQ Schefferville 45.23 21 P P 06 50 46.9 -2.5
comp=Z,4.5nm,0.8s,baz=200,slow=4.7,SNR=3.8
SCHQ LR LR 07 10 47.0
comp=Z,122nm,20.1s,baz=234,slow=38
comp=Z,4.5nm,0.8s
YKA Yellowknife Ar 50.87 347 P P 06 51 32.8 -0.1
comp=Z,7.3nm,0.7s,baz=152,slow=7.1,SNR=12
YKA PcP PcP 06 52 49.8 +1.0
comp=Z,1.8nm,0.8s,baz=158,slow=3.1,SNR=1.6
comp=Z,7.3nm,0.7s
CFA Coronel Fontan 50.97 153 LR LR 07 09 03.5
comp=Z,42nm,19.5s,baz=272,slow=31
V35K Ketchikan 51.13 332 P P 06 51 36.1 +1.2
baz=128
KOTAN Kotaneelee Air 51.50 340 P P 06 51 38.7 +1.0
baz=139,SNR=5.1
T35M Bob Quinn 51.58 335 P P 06 51 39.8 +1.5
baz=130
LIRD Liard River Hi 51.66 339 P P 06 51 40.6 +1.7
baz=136
U33K Whale Pass 52.29 332 P P 06 51 45.7 +2.2
baz=127
DLBC Dease Lake 52.45 336 P P 06 51 46.3 +1.4
DLBC Dease Lake 52.45 336 P P 06 51 46.3 +1.4
baz=131,SNR=8.1
DLBC Dease Lake 52.45 336 P P 06 51 46.4 +1.5
comp=Z,6.7nm,0.8s,baz=158,slow=5.3,SNR=16
comp=Z,6.7nm,0.8s
S34M Telegraph Cree 52.55 335 P P 06 51 47.0 +1.5
S34M IAmb IAmb 06 51 49.7
comp=Z,4.1nm,0.9s
S34M Telegraph Cree 52.55 335 P P 06 51 47.4 +1.9
baz=130

WTLY Watson Lake, Y 53.13 338 P P 06 51 51.6 +1.9
WTLY Watson Lake, Y 53.13 338 P P 06 51 51.4 +1.6
baz=134
R33M Jennings River 53.45 337 P P 06 51 54.2 +2.0
R33M IAmb IAmb 06 51 55.7
comp=Z,5.2nm,1.1s
R33M Jennings River 53.45 337 P P 06 51 53.8 +1.6
baz=131
Q32M Nakina River 53.68 336 P P 06 51 56.8 +2.7
Q32M IAmb IAmb 06 51 59.3
comp=Z,5.3nm,1.1s
Q32M Nakina River 53.68 336 P P 06 51 55.9 +1.8
baz=129
WRGLY Wrigley 53.72 343 P P 06 51 54.7 +0.8
baz=141
S32K Killisnoo 53.74 333 P P 06 51 56.0 +1.9
baz=126
SIT Sitka 53.83 332 P P 06 51 56.8 +2.0
baz=125
TGTN Hyland Airport 53.94 340 P P 06 51 57.0 +1.3
baz=135
R32K Eaglecrest 54.19 334 P P 06 51 59.1 +1.5
baz=126
P32M Atlin 54.66 336 P P 06 52 02.3 +1.4
baz=128
P33M Teslin, Yukon 54.69 337 P P 06 52 02.0 +0.8
baz=129
S31K Pelican 54.75 333 P P 06 52 02.0 +0.5
baz=124
SKAG Skagway 55.23 335 P P 06 52 06.0 +1.0
baz=126
N32M Quiet Lake 55.40 337 P P 06 52 07.8 +1.5
baz=130
PLBC Pleasant Camp 55.66 335 P P 06 52 09.5 +1.4
baz=125
MMPY Sheldon Lake, 55.71 339 P P 06 52 09.8 +1.3
baz=132,SNR=6.0
WHY Whitehorse 55.77 336 P P 06 52 10.5 +1.4
baz=127
FARO Faro, Yukon 56.19 338 P P 06 52 13.6 +1.8
baz=130
P30M Million Dollar 56.29 335 P P 06 52 14.3 +1.6
baz=125
O30N Mendenhall 56.32 336 P P 06 52 13.5 +0.7
baz=126
P29M Windy Craggy 56.34 334 P P 06 52 14.8 +1.8
baz=124
M31M Drury Creek, Y 56.55 338 P P 06 52 16.6 +2.2
baz=129
N31M Braeburn, Yuko 56.62 337 P P 06 52 16.9 +1.9
baz=127
HYT Haines Junctio 56.91 335 P P 06 52 17.9 +0.7
baz=125
PNL Peninsula 57.06 334 P P 06 52 18.6 +0.4
baz=122
N30M Aishihik Lake 57.12 336 P P 06 52 19.0 +0.5
baz=125
YUK6 Outpost Mounta 57.33 335 P P 06 52 20.3 +0.1
baz=124
PINM Pinnacle 57.66 334 P P 06 52 23.3 +0.9
baz=121
M30M Minto, Yukon 57.66 337 P P 06 52 22.7 +0.4
baz=126
YUK4 Talbot Arm 57.67 336 P P 06 52 23.3 +0.8
baz=124
MAYO Mayo, Yukon 57.95 339 P P 06 52 25.0 +0.7
baz=128
O28M Mount Upton 57.99 335 P P 06 52 25.9 +0.9
baz=122
YUK8 Steele Glacier 58.09 335 P P 06 52 26.3 +0.7
baz=122
PLCA Paso Flores 58.16 161 LR LR 07 12 36.3
comp=Z,74nm,19.2s,baz=313,slow=31
M29M Somme Creek 58.22 337 P P 06 52 27.4 +1.1
baz=124,SNR=6.7
MESA MESA 58.43 333 P P 06 52 29.0 +1.1
baz=120
L29M L29M 58.47 337 P P 06 52 29.4 +1.4
baz=125
YUK3 Moose Creek 58.63 335 P P 06 52 30.5 +1.2
baz=122
K29M Barlow Dome 58.68 338 P P 06 52 30.9 +1.4
baz=126
J30M Hart River 58.71 339 P P 06 52 30.9 +1.2
baz=128
H31M Peel River 58.84 341 P P 06 52 31.4 +0.9
baz=130
I30M Mount Dempster 59.12 340 P P 06 52 33.2 +0.6
baz=128
RCBR Riachuelo 59.34 106 LR LR 07 18 39.5
comp=Z,38nm,20.3s,baz=242,slow=37
DAWY Dawson 59.48 338 P P 06 52 35.7 +0.7
baz=124
MCARA McCarthy VSAT 59.48 334 P P 06 52 36.7 +1.8
baz=119
M27K Edge Creek, AK 59.51 336 P P 06 52 36.4 +1.1
baz=121
SFJD Kangerlussuaq 59.51 18 LR LR 07 18 45.2
comp=Z,67nm,20.5s,baz=216,slow=37
G31M Satah River 59.55 342 P P 06 52 36.2 +0.9
baz=131
F31M Tsgehtchic 59.74 343 P P 06 52 37.3 +0.7
baz=132
L27K Beaver Creek, 59.85 336 P P 06 52 38.7 +1.1
L27K Beaver Creek, 59.85 336 P P 06 52 38.9 +1.4
baz=121
I29M Ogilvie Camp, 59.85 340 P P 06 52 38.6 +1.1
baz=126
EPYK Eagle Plains 59.95 341 P P 06 52 38.9 +0.8
baz=128
BMRM Bremner River 59.96 334 P P 06 52 39.5 +1.2
baz=117
M26K Nabesna, AK 59.98 335 P P 06 52 39.7 +1.3
baz=120
G30M tAoh Zraii Nji 60.18 342 P P 06 52 40.7 +1.0
baz=129
N25K Chitina, Valde 60.25 334 P P 06 52 41.3 +0.9
baz=118
INK Inuvik 60.27 344 P P 06 52 41.1 +0.9
INK Inuvik 60.27 344 P P 06 52 41.3 +1.1
baz=132
INK Inuvik 60.27 344 P P 06 52 40.5 +0.3
comp=Z,6.2nm,0.8s,baz=130,slow=7.1,SNR=10
INK LR LR 07 22 35.9
comp=Z,61nm,19.0s,baz=212,slow=40
comp=Z,6.2nm,0.8s
EYAK Cordova Ski Ar 60.27 333 P P 06 52 41.9 +1.6
baz=116
H29M Whitestone 60.39 340 P P 06 52 42.7 +1.6
baz=126
L26K Log Cabin Wild 60.43 336 P P 06 52 42.6 +1.2
baz=120
F30M Barrier River 60.45 342 P P 06 52 42.4 +0.9
baz=130
K27K Chicken 60.45 337 P P 06 52 42.6 +1.0
baz=122
I28M Miner Creek 60.46 339 P P 06 52 42.5 +0.8
baz=124
EGAK Eagle 60.52 338 P P 06 52 41.9 -0.1
baz=123
G29M Pine Creek 60.69 341 P P 06 52 42.7 -0.5
baz=127
KLU Klutina 60.77 334 P P 06 52 44.7 +0.8
baz=116
HARP HAARP 60.86 335 P P 06 52 45.3 +0.9
baz=118
GLI Glacier Island 61.01 333 P P 06 52 46.8 +1.4
baz=115
I27K Kandik River 61.13 339 P P 06 52 47.1 +0.9
baz=123
M24K Tolsona, Glenn 61.15 334 P P 06 52 47.1 +0.7
baz=116
SCRK Sand Creek 61.15 337 P P 06 52 47.3 +0.8
baz=120
PAX Paxson 61.25 335 P P 06 52 48.5 +1.3
baz=118
J26L Joseph Creek 61.26 337 P P 06 52 48.1 +1.0
baz=120,SNR=5.9
RIDG Independent Ri 61.37 336 P P 06 52 48.5 +0.6
baz=119
H27K Steamboat Moun 61.44 340 P P 06 52 49.3 +1.0
baz=123
I26K Coal Creek Min 61.52 338 P P 06 52 49.4 +0.7
baz=121
SCM Sheep Creek Mo 61.52 334 P P 06 52 49.9 +1.0
baz=115
PWL Port Wells 61.56 333 P P 06 52 50.1 +1.0
baz=114

E29M Blow River 61.56 342 P P 06 52 50.4 +1.4
baz=128
M23K Glacier View 61.67 334 P P 06 52 51.6 +1.7
baz=115
F28M Old Crow 61.69 341 P P 06 52 51.5 +1.6
baz=126,SNR=9.1
K24K Donnelly Dome 61.76 336 P P 06 52 51.5 +1.0
baz=118
SEW Seward 61.77 331 P P 06 52 51.6 +1.1
baz=112
G27K Doyon Strip 61.80 340 P P 06 52 51.8 +1.0
baz=123
KNK Knik Glacier 61.84 333 P P 06 52 50.7 -0.4
baz=114
J25K Salcha River, 61.99 337 P P 06 52 53.7 +1.7
J25K IAmb IAmb 06 52 59.4
comp=Z,4.1nm,0.8s
J25K Salcha River, 61.99 337 P P 06 52 52.7 +0.7
baz=118
WAT6 Susitna Watana 62.01 334 P P 06 52 53.2 +0.8
baz=115
O22K Cooper Landing 62.04 332 P P 06 52 52.5 +0.1
baz=112
DHY Denali Highway 62.08 335 P P 06 52 53.3 +0.5
baz=116
E28M Babbage River 62.17 342 P P 06 52 54.0 +0.9
E28M Babbage River 62.17 342 P P 06 52 53.3 +0.2
baz=126,SNR=5.4
GHO Glory Hole Cre 62.18 333 P P 06 52 54.5 +1.1
PMR Palmer 62.20 333 P P 06 52 53.6 +0.2
baz=113
BRSE Bradley Lake S 62.24 331 P P 06 52 53.4 -0.3
baz=111
RC01 Rabbit Creek A 62.27 332 P P 06 52 54.0 +0.1
baz=112
D28M Stokes Point 62.38 343 P P 06 52 55.3 +0.8
baz=127
WAT1 Susitna Watana 62.46 334 P P 06 52 54.9 -0.2
baz=114
PRP Porcupine Dome 62.48 338 P P 06 52 56.1 +0.7
PRP IAmb IAmb 06 52 59.6
comp=Z,5.6nm,0.9s
PRP Porcupine Dome 62.48 338 P P 06 52 55.5 0.0
baz=119
KDAK Kodiak Island 62.49 328 P P 06 52 55.4 0.0
baz=108
KDAK Kodiak Island 62.49 328 P P 06 52 57.2 +1.8
comp=Z,10nm,1.0s,baz=136,slow=19,SNR=1.6
comp=Z,10nm,1.0s
HDA Harding Lake 62.50 336 P P 06 52 55.5 +0.1
baz=117
E27K Coleen River 62.55 341 P P 06 52 56.2 +0.5
baz=124
G26K Porcupine Rive 62.59 340 P P 06 52 56.2 +0.3
baz=121
IL03 Eielson Array 62.63 337 P P 06 52 56.5 +0.3
IL31 62.64 337 P P 06 52 57.1 +0.9
ILAR Eielson Array 62.64 337 P P 06 52 57.1 +0.8
ILAR Eielson Array 62.64 337 P P 06 52 57.0 +0.7
comp=Z,3.3nm,0.9s,baz=156,slow=3.7,SNR=23
comp=Z,3.3nm,0.9s
M22K Willow 62.70 333 P P 06 52 56.9 +0.2
baz=112
SUA Susitna One 62.87 333 P P 06 52 58.4 +0.4
baz=112
H25L Birch Creek 62.95 339 P P 06 52 58.8 +0.5
baz=119
SII Sitkinak Islan 62.96 327 P P 06 52 58.7 +0.1
baz=106
D27M Malcolm River 62.97 343 P P 06 52 58.6 +0.1
baz=125
MCK McKinley 62.99 335 P P 06 52 59.0 +0.3
baz=114
POKR Poker Plat Res 63.01 337 P P 06 52 58.7 0.0
baz=117
COLA College 63.05 337 P P 06 52 59.5 +0.5
baz=116
F26K Sheenjek River 63.10 340 P P 06 52 59.6 +0.3
baz=121
O20K Slope Mountain 63.25 331 P P 06 53 01.2 +0.7
baz=109
G25K Bearman Lake 63.29 339 P P 06 53 01.0 +0.4
baz=119
R18K Karluk 63.38 328 P P 06 53 02.1 +0.8
baz=106
SKT Skwentna 63.41 333 P P 06 53 02.4 +0.9
baz=111
TRF Thorofare Moun 63.43 335 P P 06 53 02.3 +0.5
baz=113
N20K Mount Spurr 63.43 332 P P 06 53 02.9 +1.1
baz=110
H24K Noodor Dome 63.49 338 P P 06 53 03.3 +1.3
baz=116
CHIR Chirikof Islan 63.54 326 P P 06 53 03.7 +1.2
baz=104
F25K Christian Rive 63.54 340 P P 06 53 03.5 +1.2
baz=120
G24K Hadweenzic Riv 63.74 339 P P 06 53 04.3 +0.7
baz=117
I23K Minto, Yukon-K 63.75 337 P P 06 53 04.8 +1.1
I23K Minto, Yukon-K 63.75 337 P P 06 53 04.8 +1.1
baz=115
E25K Arctic Village 63.78 340 P P 06 53 05.1 +1.2
baz=120
BPAW Bear Paw Mtn. 63.97 335 P P 06 53 05.6 +0.5
BPAW IAmb IAmb 06 53 10.6
comp=Z,4.3nm,0.9s
BPAW Bear Paw Mtn. 63.97 335 P P 06 53 05.7 +0.5
baz=113
PPLA Purkeypile 64.02 334 P P 06 53 06.1 +0.4
baz=111
M20K Styx River 64.08 333 P P 06 53 06.4 +0.4
baz=110
O19K Port Alsworth 64.09 331 P P 06 53 05.2 -0.7
baz=108
H23K Yukon River 64.11 337 P P 06 53 05.9 -0.1
baz=115
CAST Castle Rocks 64.17 334 P P 06 53 06.0 -0.5
baz=111
MLY Manley 64.24 336 P P 06 53 07.1 +0.2
baz=113,SNR=5.1
F24K Squaw Lake 64.26 339 P P 06 53 07.6 +0.6
baz=117
N19K Bonanza Creek 64.35 331 P P 06 53 08.2 +0.4
baz=108
R17K Ugashik Creek 64.41 328 P P 06 53 08.0 0.0
baz=104
O18K Koktuh Hills 64.41 330 P P 06 53 08.8 +0.7
baz=107
CHUM Lake Minchumin 64.43 335 P P 06 53 08.5 +0.3
baz=111
C26K Camden Bay 64.50 342 P P 06 53 09.0 +0.5
baz=121
L20K Farewell, AK 64.61 333 P P 06 53 10.1 +0.7
baz=109
D25K Kavik River 64.63 341 P P 06 53 10.1 +0.6
baz=120
M19K Big River Lodg 64.65 332 P P 06 53 10.4 +0.8
baz=108
G23K Bananza Creek 64.66 338 P P 06 53 09.9 +0.3
baz=115
E24K Your Creek 64.72 340 P P 06 53 10.6 +0.6
baz=117
I21K Tanana 64.78 336 P P 06 53 11.1 +0.7
baz=112
Q16K King Salmon 64.81 329 P P 06 53 10.9 +0.3
baz=105
H22K Ishtalitna Cre 64.82 337 P P 06 53 11.3 +0.6
baz=113
P17K Kvichak River 64.83 329 P P 06 53 11.3 +0.5
baz=105
COLD Coldfoot 64.94 339 P P 06 53 12.1 +0.7
baz=115
L19K White Mountain 64.95 333 P P 06 53 11.4 -0.2
baz=108
K20K Telida 64.98 334 P P 06 53 11.6 -0.2
baz=109
E23K Chandalar 65.09 340 P P 06 53 13.4 +0.9
baz=116
M18K Stony River 65.18 332 P P 06 53 11.3 -1.7
baz=107
H21K Melozitna Rive 65.28 337 P P 06 53 13.6 -0.1
baz=112
J20K Nowinta River 65.29 335 P P 06 53 14.6 +0.9
baz=110
O17K Koliganek Bris 65.31 330 P P 06 53 14.4 +0.5
baz=105
D24K Happy Valley 65.32 341 P P 06 53 13.9 +0.1

baz=117
TOLK Toolik Lake Re 65.33 340 P P 06 53 14.2 +0.2
baz=116
CHNA Chernabura Isl 65.54 324 P P 06 53 15.5 0.0
baz=100
C24K Franklin Bluff 65.54 341 P P 06 53 16.2 +1.0
baz=117
N17K Nushagak Hills 65.55 331 P P 06 53 14.6 -0.9
baz=105
P16K Nushagak River 65.57 329 P P 06 53 15.3 -0.3
baz=104
I20K Naaghedeneel 65.64 335 P P 06 53 15.9 0.0
baz=110
TTA Tatalina 65.69 333 P P 06 53 16.5 +0.1
baz=107
F22K John River 65.75 339 P P 06 53 16.8 +0.1
baz=113
L18K Granite Mounta 65.78 332 P P 06 53 17.7 +0.8
baz=106
S14K Fog Glacier 65.79 326 P P 06 53 18.2 +1.0
baz=101
D23K Nanushuk River 65.84 340 P P 06 53 17.7 +0.5
baz=115
J19K Poorman 65.84 334 P P 06 53 18.0 +0.7
baz=108
G21K Allakaket 65.86 337 P P 06 53 18.0 +0.6
baz=111
E22K Anaktuvuk Pass 65.87 339 P P 06 53 18.0 +0.5
baz=114
H20K Anotleneega Mo 66.03 336 P P 06 53 19.3 +0.8
baz=109
F21K Alatna River 66.11 338 P P 06 53 20.7 +1.7
baz=112
J18K Innoko River 66.15 334 P P 06 53 20.3 +1.1
baz=107
C23K Itkillik River 66.19 341 P P 06 53 20.2 +0.8
baz=115
N16K Nishlik Lake 66.29 330 P P 06 53 21.5 +1.2
baz=104
D22K Ayikyak River 66.47 340 P P 06 53 22.1 +0.9
baz=113
M16K Timber Creek 66.52 331 P P 06 53 22.1 +0.4
baz=104
O15K Ungalikthiuk R 66.52 329 P P 06 53 22.3 +0.6
baz=102
K17K Iditarod 66.64 333 P P 06 53 22.8 +0.5
baz=105
H19K Roundabout Mou 66.66 336 P P 06 53 22.5 +0.1
H19K Roundabout Mou 66.66 336 P P 06 53 22.0 -0.5
baz=108
E21K Killik River 66.73 339 P P 06 53 23.1 +0.1
baz=112
N15K Kwethluk River 66.87 330 P P 06 53 24.2 +0.3
baz=102
F20K Avaraart Lake 66.87 338 P P 06 53 24.4 +0.6
baz=109
L16K Owhat River 66.92 331 P P 06 53 24.9 +0.7
baz=104
G19K Purcell Mounta 67.10 336 P P 06 53 26.1 +0.8
baz=108
M15K Kasigluk River 67.27 330 P P 06 53 27.4 +1.0
baz=102
C21K Knifeblade Rid 67.27 340 P P 06 53 26.8 +0.5
baz=111
B21K Ikpikpuk River 67.38 340 P P 06 53 28.0 +1.0
baz=111
E20K Nigu River 67.44 339 P P 06 53 28.1 +0.6
baz=109
E19K Redstone River 67.56 338 P P 06 53 28.5 +0.3
baz=108
F19K Shaleruckik Mo 67.57 337 P P 06 53 28.6 +0.3
baz=107
N14K Kuskokwak Cree 67.60 329 P P 06 53 28.8 +0.3
baz=101
G18K Tagagawik 67.64 336 P P 06 53 29.3 +0.6
baz=106
D20K Etivluk River 67.74 339 P P 06 53 29.8 +0.4
baz=109
J16K Anvik River 67.79 333 P P 06 53 30.3 +0.6
baz=103
M14K Bethel 67.89 330 P P 06 53 31.5 +1.2
baz=101
I17K Unalakleet 67.97 334 P P 06 53 29.4 -1.4
baz=103
K15K Wolf Creek Mou 67.99 332 P P 06 53 31.1 +0.1
baz=102
A22K Sinclair Lake 68.01 342 P P 06 53 31.2 +0.3
baz=112
D19K Kuna River 68.19 339 P P 06 53 31.9 -0.3
baz=108
G17K Kiwalik Mounta 68.33 335 P P 06 53 32.5 -0.6
baz=104
L14K Kuka Creek 68.35 331 P P 06 53 32.7 -0.4
baz=100
M13K Dall Lake 68.51 330 P P 06 53 32.6 -1.5
baz=99
J14K Nanvaranak Lak 69.00 332 P P 06 53 36.4 -0.9
baz=100
BORG Borgarnes 69.25 26 LR LR 07 25 27.0
comp=Z,44nm,18.6s,baz=285,slow=38
UNV Unalaska Valle 69.43 322 P P 06 53 39.4 -0.7
baz=94
B18K Kokolik River 69.71 339 P P 06 53 40.8 -0.7
baz=104
EKA Eskdalemuir Ar 78.05 36 P P 06 54 28.6 -2.0
comp=Z,3.1nm,0.7s,baz=274,slow=6.3,SNR=11
comp=Z,3.1nm,0.7s
ESDC Sonseca Array 79.88 52 P P 06 54 38.9 -2.1
comp=Z,0.8nm,0.8s,baz=265,slow=3.9,SNR=4.8
comp=Z,0.8nm,0.8s
NOA NORSAR Array B 84.19 28 LR LR 07 29 56.9
comp=Z,24nm,21.9s,baz=350,slow=34
FINES FINESS Array B 90.53 25 LR LR 07 35 48.7
comp=Z,34nm,20.2s,baz=276,slow=36
TORD Torodi Ar. Bea 90.63 76 P P 06 55 33.1 -2.0
comp=Z,0.2nm,0.4s,baz=307,slow=4.4,SNR=1.9
comp=Z,0.2nm,0.4s
KURBB Kurchatov Arra 115.06 6 PKP PKiKP 07 01 12.9 0.0
comp=Z,0.1nm,0.3s,baz=351,slow=2.3,SNR=3.8
MKAR Makanchi Array 119.20 4 PKP PKiKP 07 01 22.8 +1.7
comp=Z,0.1nm,0.3s,baz=62,slow=2.1,SNR=2.2
PZH PanZhiHua 137.40 341 PKP PKPdf 07 01 56.0 -0.3
CMAR Chiang Mai Arr 145.81 341 PKPbc PKPdf 07 02 12.7 +1.3
comp=Z,5.9nm,0.6s,baz=340,slow=3.7,SNR=29

*IDC **30** 06:49:43.1±1.6, 41°.59N×140°.32E, h172km±17km, mb3.5/10, mbtmp4.0/12, Error ellipse: s-maj=21.3km s-min=15.5km az=63.0*
*JMA **30** 06:49:44.2±0.1, 41°.6N±0°.4×140°.2E±0°.8, h166km±1km, MV3.6/39, OSHIMA PEN REG HOKKAIDO*
ISC 30 06:49:43.3±0.8, 41°.60N±0°.05×140°.21E±0°.06, h171km±5km, n29, σ0$53/41, mb3.9/10, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOMM	Oshimamatsumae	0.17	245	eP	Pn	06 50 06.4	+0.3
JOMM				eS	Sn	06 50 23.4	0.0
JSR	Shiriuchi	0.17	113	eP	Pn	06 50 06.4	+0.3
JSR				eS	Sn	06 50 23.8	+0.3
JYM2	Yakumo 2	0.54	13	eP	Pn	06 50 07.6	+0.4
JSI2	Shiura 2	0.56	164	eP	Pn	06 50 08.0	+0.6
JSI2				eS	Sn	06 50 26.1	+0.3
JOT	Ohata	0.67	108	eP	Pn	06 50 08.3	+0.4
JKB	Kayabe	0.68	64	eP	Pn	06 50 08.4	+0.5
JOSM	Okushiri--Mats	0.73	312	eP	Pn	06 50 08.4	+0.1
JOSM				eS	Sn	06 50 26.4	-1.1
JHST	Hiyamasetana	0.86	344	eP	Pn	06 50 09.4	+0.3
JHST				eS	Sn	06 50 28.6	-0.5
JIW	Iwasaki	1.01	189	eP	Pn	06 50 11.0	+0.7
JIW				eS	Sn	06 50 31.3	+0.3
JTM	Tenmabayashi	1.04	141	eP	Pn	06 50 11.0	+0.6
JTM				eS	Sn	06 50 31.2	-0.1
JSH	Shimam	1.05	353	eP	Pn	06 50 10.8	+0.3
JSH				eS	Sn	06 50 31.1	-0.6
JNB	Noboribetsu	1.07	35	eP	Pn	06 50 10.8	+0.1
JEW	Eniwo	1.55	36	eP	Pn	06 50 16.0	+1.0
JANG	Nango	1.57	141	eP	Pn	06 50 15.3	0.0
JANG				eS	Sn	06 50 39.3	-0.6
JNBK	Urakawa-nobuka	2.02	69	eP	Pn	06 50 20.6	+0.7
JNBK				eS	Sn	06 50 48.1	-0.2
JOM	Ohasama	2.28	158	eP	Pn	06 50 23.2	+0.2
JHR	Hokuryu	2.42	27	eP	Pn	06 50 25.8	+1.3
ASAJ	Asahikawa	3.07	34	P	Pn	06 50 32.9	+0.5
	13nm,0.3s,baz=217,slow=15,SNR=23						
ASAJ				S	Sn	06 51 09.7	-1.0
	32nm,0.6s,baz=56,slow=29,SNR=12						
USRK	Ussuriysk Ar.	6.57	296	P	Pn	06 51 18.6	+0.9
	18nm,0.7s,baz=99,slow=13,SNR=24						
SONM	Songino Array	24.69	296	P	P	06 54 48.5	+0.1
	0.3nm,0.3s,baz=118,slow=9.3,SNR=5.2						
	0.3nm,0.3s						
ZALV	Zalesovo Beam	38.25	308	P	P	06 56 46.4	-0.1
	1.9nm,0.3s,baz=101,slow=12,SNR=5.4						
ZALV				PcP	PcP	06 58 56.9	-0.1
	1.2nm,0.3s,baz=105,slow=4.6,SNR=3.4						
	1.9nm,0.3s						
MKAR	Makanchi Array	41.04	298	P	P	06 57 09.7	+0.1
	0.5nm,0.6s,baz=83,slow=11,SNR=3.8						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	42.56	304	P	P	06 57 22.1	+0.1
	2.2nm,0.5s,baz=80,slow=9.0,SNR=14						
	2.2nm,0.5s						
BVAR	Borovoye Array	46.89	309	P	P	06 57 56.3	+0.2
	2.0nm,0.3s,baz=82,slow=9.9,SNR=12						
	2.0nm,0.3s						
WRA	Warramunga Arr	61.47	186	P	P	06 59 41.3	-0.4
	0.7nm,0.6s,baz=2.5,slow=7.5,SNR=12						
	0.7nm,0.6s						
FINES	FINESS Array B	64.36	331	P	P	07 00 00.3	0.0
	2.9nm,1.0s,baz=35,slow=10,SNR=5.6						
	2.9nm,1.0s						
ASAR	Alice Springs	65.19	186	P	P	07 00 05.6	-0.5
	0.4nm,0.6s,baz=359,slow=5.6,SNR=5.1						
	0.4nm,0.6s						
HFS	Hagfors	69.56	335	P	P	07 00 33.2	+0.1
	1.0nm,0.3s,baz=57,slow=5.5,SNR=7.3						
	1.0nm,0.3s						
NOA	NORSAR Array B	69.63	336	P	P	07 00 33.4	-0.2
	0.8nm,0.8s,baz=51,slow=5.7,SNR=1.3						
	0.8nm,0.8s						

*UCR **30** 06:52:06.4±1.4, 4°.67N×82°.76W, h35km±999km, MW3.7*
ISC 30 06:52:06.5±1.4, 4°.65N±0°.08×82°.82W±0°.08, h35km, n56, σ1$53/62, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	El Cacao, Vera	3.31	36	eP	Pn	06 52 54.0	-1.9
CACAO				eS	Sn	06 53 28.9	-5.1
CACAO				i		06 53 39.7	
	comp=Z,12nm,0.4s						
CDITO	Canoas	3.90	359	eP	Pn	06 53 03.2	-0.8
EDAD	Golfito	3.99	355	eP	Pn	06 53 03.5	-1.8
EDPN	Palmar Norte	4.33	352	eP	Pn	06 53 09.7	-0.2
EDPN				eS	Sn	06 53 59.7	+0.5
POTG	Potrero Grande	4.38	356	eP	Pn	06 53 10.6	-0.1
EDBA	Buenos Aires	4.50	354	eP	Pn	06 53 12.4	0.0
EDBA				eS	Sn	06 54 04.2	+0.6
ZELE	Perez Zeledon	4.77	349	eP	Pn	06 53 16.5	+0.4
BUS1	Rivas	4.96	349	eP	Pn	06 53 19.3	+0.3
CDM	Cerro de Muert	4.96	349	eP	Pn	06 53 19.3	+0.3
RAZU	San Marcos de	5.12	347	eP	Pn	06 53 21.4	+0.5
ABE2	San Pablo	5.17	346	eP	Pn	06 53 21.8	+0.1
REPA	Paraso	5.25	349	eP	Pn	06 53 23.8	+1.1
ACOS	Acosta	5.28	345	eP	Pn	06 53 22.8	-0.4
JACO	JACO, Garabito	5.30	340	eP	Pn	06 53 23.1	-0.3
PCAYA	Pacayas	5.32	349	eP	Pn	06 53 25.0	+1.2
VERB	Verbena	5.33	351	eP	Pn	06 53 24.6	+0.8
TRIO	Tres Rios	5.35	347	eP	Pn	06 53 24.3	+0.2
AMPA	Desamparados	5.36	347	eP	Pn	06 53 24.5	+0.4
RAFA	San Farael, Vo	5.36	349	eP	Pn	06 53 25.6	+1.1
BCIP	Isla Barro Col	5.37	33	eP	Pn	06 53 24.7	+0.4
BCIP				eS	Sn	06 54 22.8	-2.1
BCIP				i		06 54 25.9	
	comp=Z,3.4nm,0.7s						
ICR3	Volcano Irazu	5.39	349	eP	Pn	06 53 26.5	+1.7
SJS3	Mercedes San J	5.39	347	eP	Pn	06 53 25.3	+0.7
VICA	Volcano Irazu	5.40	349	eP	Pn	06 53 25.2	+0.2
BATAN	Batan	5.44	354	eP	Pn	06 53 26.3	+1.1
IRES	Siquirres	5.45	353	eP	Pn	06 53 27.0	+1.7
CVIMO	Finca Echandi	5.45	348	eP	Pn	06 53 26.5	+0.9
BELE	Belen	5.46	346	eP	Pn	06 53 26.0	+0.4
EDIA	Heredia	5.47	346	eP	Pn	06 53 26.5	+0.8
HDC	Heredia	5.47	346	eP	Pn	06 53 26.4	+0.6
HDC3	Heredia 3	5.47	347	eP	Pn	06 53 26.5	+0.7
VPTE	Poasito	5.65	346	eP	Pn	06 53 29.1	+0.7
RIFO	Rio Frio, Sara	5.74	349	eP	Pn	06 53 30.4	+1.2
CPMI	Catarata Coope	5.80	345	eP	Pn	06 53 31.0	+0.6
NYURE	Nandayure	5.83	336	eP	Pn	06 53 30.4	-0.2
PAC1	Pacto, Paraso	5.93	137	eP	Pn	06 53 31.6	-0.4
NARJA	Naranjal	5.94	333	eP	Pn	06 53 32.8	+0.7
JTS	Las Juntas de	5.99	339	eP	Pn	06 53 33.7	+0.9
BBAC	Balboa, Cauca	6.14	115	eP	Pn	06 53 35.1	+0.1
OTAV	Otavalo	6.18	135	eP	Pn	06 53 35.9	0.0
JAMC	Jamundi, Valle	6.29	103	eP	Pn	06 53 39.1	+2.0
GCUF	Volcan Galeras	6.44	122	eP	Pn	06 53 40.9	+1.6
POPC	Popayan, Colom	6.48	109	eP	Pn	06 53 39.7	0.0
YOTC	Yotoco, Valle	6.49	96	eP	Pn	06 53 40.3	+0.6
PLMC	San Jos del P	6.52	88	eP	Pn	06 53 39.6	-0.4
CRUC	La Cruz	6.61	117	eP	Pn	06 53 42.5	+0.9
CRUC				eS	Sn	06 54 44.2	-12
CRUC				i		06 55 02.8	
	comp=Z,185nm,0.2s						
CAPC	Capurgana	6.72	54	eP	Pn	06 53 45.2	+2.4
CAPC				eS	Sn	06 54 58.8	+0.6
CAPC				i		06 55 02.3	
	comp=Z,4.9nm,0.4s						
APAC	Apartado, Choc	6.99	62	eP	Pn	06 53 49.6	+3.1
APAC				eS	Sn	06 55 04.2	-0.6
APAC				i		06 55 14.6	
	comp=Z,12nm,0.4s						
ANIL	Santa Ana	7.39	91	eP	Pn	06 53 53.8	+1.5
ANIL				eS	Sn	06 55 10.8	-4.3
ANIL				i		06 55 21.1	
	comp=Z,19nm,0.4s						
GUY2C	Guyana, Caldas	7.45	85	eP	Pn	06 53 54.6	+1.4
ORTC	Ortega, Tolima	7.59	95	eP	Pn	06 53 57.6	+2.9
UREC	San Jos de Ur	7.87	67	eP	Pn	06 54 01.8	+3.2
PRAC	Prado	7.96	96	eP	Pn	06 54 02.9	+2.9
NORC	Norcasia	7.97	83	eP	Pn	06 54 02.1	+2.1
ZARC	Zaragoza, Cauc	8.40	70	eP	Pn	06 54 11.1	+5.2
MACC	Macarena, Meta	9.29	105	eP	Pn	06 54 18.9	+0.8
MCRA	Macar, Loja	9.41	162	eP	Pn	06 54 20.2	+0.5

*MEX **30** 06:52:06.2±0.5, 14°.01N×92°.41W, h15km, MD4.1*
*GCG **30** 06:52:11.6±0.3, 14°.38N×91°.94W, h59km±8km, MD3.8*
ISC 30 06:52:06.1±2.4, 14°.1N±0°.1×92°.32W±0°.05, h25km±16km, n15, σ1$71/27, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.75	76	eP	Pn	06 52 22.2	+1.1
THIG		0.78	4	iP	Pb	06 52 21.1	0.0
THIG				iS	Sb	06 52 32.9	+1.6
STG3	Santiaguito 3,	0.93	51	eP	Pn	06 52 24.1	+0.3
CHUJ	Union Juarez	0.99	12	iP	Pn	06 52 23.9	-0.7
CHUJ				iS	Sb	06 52 37.7	+0.2
PATR	El Naranjo	0.99	5	iP	Pn	06 52 23.7	-0.9
PATR				iS	Sb	06 52 37.0	-0.6
PAVE	Pavencul	1.07	7	iP	Pn	06 52 24.9	-0.8
PAVE				iS	Sb	06 52 39.6	-0.4
FUG	Fuego 3	1.47	77	eP	Pn	06 52 31.1	0.0
FUG				eS	Sn	06 52 46.3	-3.3
PCIG		1.80	331	eP	Pn	06 52 34.1	-1.4
PCIG				eS	Sn	06 52 57.2	-0.4
NBG	Las Nubes	1.97	76	eP	Pn	06 52 40.0	+2.0
CCIG	Comitan	2.15	5	eP	Pb	06 52 43.4	-1.2
CCIG				eS	Sb	06 53 11.9	+1.0
TGIG		2.75	344	eP	Pn	06 52 49.2	+0.5
TGIG				eS	Sn	06 53 23.6	+2.4
UXUV	UXUV	3.63	331	eP	Pn	06 53 02.4	+1.6
UXUV				eS	Sn	06 53 47.0	+4.2
CMIG	Matias Romero	3.85	320	eP	Pn	06 53 01.9	-1.8
CMIG				eS	Sn	06 53 45.2	-3.0
NEUV	Arroyo Zacate	4.90	317	eP	Pn	06 53 19.1	+1.0
NEUV				eS	Sn	06 54 14.6	+0.6
TXIG	Tlaxiaco	6.10	301	eP	Pn	06 53 35.7	+0.7
TXIG				eS	Sn	06 54 43.5	-0.6

*NNC **30** 07:27:54.0±1.3, 49°.76N×81°.77E, h0km, mb3.3, mpv3.3, Error ellipse: s-maj=16.8km s-min=4.4km az=53.0, Suspected Mining explosion.*
*IDC **30** 07:27:54.0±1.3, 49°.89N×81°.65E, h0km, mbtmp2.5/3, ML2.0/3, Error ellipse: s-maj=17.9km s-min=10.0km az=60.0*
ISC 30 07:27:51.5±1.0, 49°.70N±0°.06×81°.69E±0°.07, h0km, n13, σ0$95/15, 5C-1D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	Semipalatinsk	1.16	308	P	Pn	07 28 15.0	-0.3
	4.7nm,0.1s						
SEM				S	Sn	07 28 31.4	-0.5
	19nm,0.2s						
KURK	Kurchatov	2.21	298	⇑P	Pg	07 28 33.6	-0.3
	10nm,0.7s						
KURK				⇑S	Sg	07 29 03.1	+0.5
	33nm,0.9s						
KURBB	Kurchatov Arra	2.23	296	Pn	Pn	07 28 30.6	+1.0
	0.7nm,0.3s,baz=112,slow=18,SNR=18						
KURBB				Lg	Lg	07 29 02.1	
	0.5nm,0.3s,baz=108,slow=33,SNR=27						
	3.4nm,0.3s						
MAKZ	Makanchi	2.91	176	⇑Pg	Pg	07 28 47.4	+0.3
	1.9nm,0.7s						
MAKZ				⇑Lg	Lg	07 29 27.3	
	15nm,0.9s						
MK31	Makanchi Array	2.94	172	⇑Pg	Pg	07 28 47.7	-0.1
	0.4nm,0.3s,baz=336,slow=9.4,SNR=8.4						
MK31				⇓Lg	Lg	07 29 28.2	
	12nm,0.8s,baz=4.5,slow=28,SNR=16						
MKAR	Makanchi Array	2.94	172	Pn	Pg	07 28 46.1	-1.7
	0.5nm,0.3s,baz=351,slow=12,SNR=10						
MKAR				Sn	Sb	07 29 22.9	+1.6
	0.4nm,0.3s,baz=0.9,slow=26,SNR=22						
	0.9nm,0.4s						
ZSN	Zaisan	3.09	136	Pg	Pb	07 28 47.2	-0.1
	3.6nm,0.2s						
ZSN				Lg	Lg	07 29 26.9	
	10nm,1.0s						
ZALV	Zalesovo Beam	4.67	23	Pn	Pn	07 29 03.3	+0.1
	0.1nm,0.3s,baz=221,slow=15,SNR=1.7						
ZALV				Lg	Lg	07 30 18.1	
	0.1nm,0.3s,baz=202,slow=26,SNR=1.7						
	0.3nm,0.3s						
I46RU	ZALESOVO INFRA	4.67	23	I	I	07 56 35.0	
	0.1nm,1.2s,baz=200,slow=329,SNR=7.9						
KNOS	Konyrlen	5.62	199	Pg	Pg	07 29 38.4	-0.7
	0.8nm,0.2s						
KNOS				Lg	Lg	07 30 54.7	
	2.2nm,0.6s						
BLB	Baldybastay	6.02	203	Pg	Pg	07 29 46.7	-0.2
	4.1nm,0.4s						
BLB				Lg	Lg	07 31 09.1	
	3.6nm,0.5s						
ARXS	Arharly	6.09	207	Pg	Pg	07 29 47.3	-1.0
	1.8nm,0.2s						
ARXS				Lg	Lg	07 31 09.9	
	4.0nm,0.3s						
KUU	Kurty	6.87	214	Pg	Pg	07 30 01.7	-1.4
	0.6nm,0.1s						
KUU				Lg	Lg	07 31 34.9	
	3.9nm,0.6s						

*IDC **30** 08:11:44.6±1.5, 14°.08N×92°.32W, h0km, mb3.8/4, mbtmp3.8/8, ML3.3/4, MS3.1/5, Error ellipse: s-maj=40.5km s-min=21.6km az=39.0*
*SNET **30** 08:11:48.8±0.8, 14°.10N×92°.01W, h0km±693km, ML3.9*
*GCG **30** 08:11:49.5±0.5, 14°.37N×92°.27W, h80km±11km, MD4.1*
*MEX **30** 08:11:49.1±0.7, 14°.25N×92°.26W, h95km±11km, MD4.3*
ISC 30 08:11:45.0±1.8, 14°.03N±0°.06×92°.45W±0°.04, h9km±10km, n55, σ2$36/77, mb3.9/4, MS3.0/5, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.89	11	iP	Pn	08 12 03.9	+0.1
THIG				iS	Sb	08 12 16.0	+1.2
SULM	Suchitepequez,	0.90	72	⇓iP	Pn	08 12 05.1	+1.2
STG3	Santiaguito 3,	1.09	51	eP	Pn	08 12 06.6	-0.1
STG3				eS	Sn	08 12 24.2	+2.2
PATR	El Naranjo	1.10	11	iP	Pg	08 12 06.3	0.0
PATR				iS	Sg	08 12 19.8	-0.9
CHUJ	Union Juarez	1.11	17	iP	Pg	08 12 06.5	+0.1
CHUJ				iS	Sg	08 12 20.3	-0.6
PAVE	Pavencul	1.19	13	iP	Pg	08 12 07.9	0.0
PAVE				iS	Sg	08 12 21.6	-1.9
FUG	Fuego 3	1.61	75	eP	Pn	08 12 14.0	+0.1
FUG				eS	Sn	08 12 33.0	-1.8
PCG	Pacaya	1.82	78	⇑iP	Pn	08 12 17.4	+0.6
PCG				eS	Sn	08 12 39.2	-0.9
PCIG		1.83	336	eP	Pn	08 12 16.5	-0.2
PCIG				eS	Sn	08 12 38.8	-1.2
PCIG		1.83	336	eS	Sn	08 12 33.0	-6.9
PCIG		1.83	336	eP	Pn	08 12 16.7	+0.1
NBG	Las Nubes	2.11	74	eP	Pb	08 12 22.7	-1.0
NBG				eS	Sn	08 12 42.5	-4.8
CCIG	Comitan	2.26	8	iP	Pb	08 12 25.9	-0.3
CCIG				iS	Sb	08 12 55.6	+1.2
SLOZ	Alcaldia de Sa	2.58	90	eP	Pn	08 12 26.4	-0.7
NUBE	Las Nubes	2.59	92	eP	Pn	08 12 26.0	-1.3
NUBE				eS	Sn	08 12 54.6	-4.4
CEVE	Cerro Verde	2.75	94	eP	Pn	08 12 28.8	-0.8
CEVE				eS	Sn	08 13 01.2	-1.9
TGIG		2.81	347	eP	Pn	08 12 31.6	+1.3
TGIG				eS	Sn	08 13 05.7	+1.3
JAYA	Jayaque - finc	2.93	97	eP	Pn	08 12 31.1	-0.9
JAYA				eS	Sn	08 13 03.8	-3.7
CEDA	San Andres	2.97	94	eP	Pn	08 12 31.7	-0.7
CEDA				IAML		08 13 25.0	
	comp=Z,582nm,0.5s						
LOMA	Loma Larga	3.20	96	eP	Pn	08 12 35.2	-0.5
LOMA				IAML		08 13 25.9	
	comp=Z,476nm,0.4s						
SJTE	Alcalda de S	3.37	97	eP	Pn	08 12 37.0	-0.9
PAVA	Las Pavas	3.42	95	eP	Pn	08 12 38.5	-0.2
COEG	Centro de Oper	3.49	96	eP	Pn	08 12 38.8	-0.8
TECO	Alcaldia de Te	3.59	97	eP	Pn	08 12 40.3	-0.7
SCLA	Alcaldia de Sa	3.62	95	eP	Pn	08 12 41.3	-0.2
UXUV	UXUV	3.66	334	eP	Pn	08 12 39.5	-2.4
UXUV				eS	Sn	08 13 23.7	-1.6
PQSS	Presa 15 de Se	3.79	96	eP	Pn	08 12 42.9	-0.9
COEB	Comit de Eme	3.84	97	eP	Pn	08 12 43.9	-0.6
CMIG	Matias Romero	3.85	323	Pn	Pn	08 12 45.0	+0.5
	comp=Z,6.1nm,0.3s,baz=146,slow=9.1,SNR=6.8						
CMIG				Sn	Sn	08 13 28.1	-1.8
	comp=Z,12nm,0.3s,baz=135,slow=16,SNR=3.7						
CMIG				Lg	Lg	08 13 42.0	
	comp=Z,9.4nm,0.3s,baz=180,slow=20,SNR=6.5						
	comp=Z,15nm,0.4s						
LCND	La Caada	4.49	99	eP	Pn	08 12 53.0	-0.2
NEUV	Arroyo Zacate	4.89	319	eP	Pn	08 13 00.6	+1.9
NEUV				eS	Sn	08 13 54.0	-1.4
PEIG	Puerto Escondi	4.95	294	eP	Pn	08 13 00.6	+1.0
PEIG				eS	Sn	08 13 51.3	-5.8
VHO	Vista Hermosa	5.12	307	eP	Pn	08 13 05.5	+3.3
VHO				eS	Sn	08 14 01.5	-0.1
YOIG	Yosondua	5.67	300	eP	Pn	08 13 13.6	+3.8
YOIG				iS	Sn	08 14 10.7	-4.4
PNIG	Pinotepa	5.97	294	eP	Pn	08 13 15.8	+2.1
PNIG				eS	Sn	08 14 18.3	-3.9
HLIG	Huajuapan de L	6.39	307	eP	Pn	08 13 21.2	+1.5
HLIG				eS	Sn	08 14 31.9	-1.0
TPIG	Tehuac#an	6.43	313	eP	Pn	08 13 19.9	-0.3
TPIG				eS	Sn	08 14 33.4	-0.4
FTIG	Fresnillo de T	6.69	306	eP	Pn	08 13 27.6	+3.9
FTIG				eS	Sn	08 14 35.4	-4.9
JAUV	Jalcomulco	6.75	322	eP	Pn	08 13 24.1	-0.4
JAUV				eS	Sn	08 14 35.3	-6.4
TEIG	Tepich	7.34	32	Pn	Pn	08 13 33.3	+0.8
	comp=Z,83nm,0.3s,baz=278,slow=11,SNR=59						
TEIG				Sn	Sn	08 14 55.6	-0.4
	baz=210,slow=16						
CXUV	Coxquihui	7.84	322	eP	Pn	08 13 40.3	+0.9
CXUV				eS	Sn	08 15 01.8	-6.7
JTS	Las Juntas de	8.21	116	Pn	Pn	08 13 44.2	-0.3
	comp=Z,0.2nm,0.3s,baz=330,slow=20,SNR=1.8						
JTS				Lg	Lg	08 15 45.5	
	comp=Z,0.2nm,0.3s,baz=311,slow=19,SNR=3.6						
	comp=Z,1.3nm

comp=Z,5.4nm,0.7s
SDV Santo Domingo 21.97 101 LR LR 08 26 07.3
comp=Z,51nm,18.3s,baz=312,slow=40
TKL Tuckaleechee C 22.91 18 LR LR 08 27 25.6
comp=Z,53nm,18.5s,baz=304,slow=41
SJG San Juan 25.58 77 LR LR 08 26 54.4
comp=Z,36nm,21.1s,baz=232,slow=36
NNA Nana 30.12 148 LR LR 08 27 30.3
comp=Z,18nm,18.9s,baz=244,slow=31
PDAR Pinedale Array 32.22 336 P **P** **08 18 14.9 +0.9**
comp=Z,0.3nm,0.5s,baz=130,slow=9.6,SNR=2.7
PDAR PcP **PcP** **08 21 04.0 +1.5**
comp=Z,0.2nm,0.7s,baz=128,slow=5.8,SNR=1.5
comp=Z,0.3nm,0.5s
NVAR Mina Array Bea 33.38 321 P **P** **08 18 27.2 +3.1**
comp=Z,0.9nm,0.7s,baz=133,slow=8.2,SNR=12
comp=Z,0.9nm,0.7s
YKA Yellowknife Ar 50.90 347 P **P** **08 20 46.0 -0.3**
comp=Z,2.7nm,0.7s,baz=154,slow=7.3,SNR=9.2
comp=Z,2.7nm,0.7s
SFJD Kangerlussuaq 59.62 18 LR LR 08 47 47.3
comp=Z,41nm,18.6s,baz=242,slow=36
ILAR Eielson Array 62.65 337 P **P** **08 22 09.2 -0.5**
comp=Z,1.0nm,0.9s,baz=132,slow=5.9,SNR=12
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 145.83 341 PKPbc **PKPbc** **08 31 25.8 +0.2**
comp=Z,1.8nm,0.3s,baz=344,slow=3.7,SNR=9.2

MEX 30 08:11:52.0±1.1, 16°.06N×94°.87W, h18km±13km, MD3.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.02**	**359**	*e*P	Pb	08 12 09.3	-1.8
CMIG				*e*S	Sb	08 12 21.3	-3.0
HUIG	**Huatulco**	**1.23**	**256**	*e*P	Pn	08 12 11.1	-3.2
HUIG				*e*S	Sb	08 12 25.2	-4.9
NEUV	**Arroyo Zacate**	**1.87**	**332**	*e*P	Pn	08 12 21.4	-1.7
NEUV				*e*S	Sn	08 12 41.6	-4.6

IDC 30 08:47:03.3±5.4, 16°.16S×176°.17W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=176.3km s-min=106.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.35**	**240**	P	P	08 54 52.0	+0.8
	1.3nm,0.4s,baz=84,slow=9.2,SNR=4.9						
	1.3nm,0.4s						
WRA	**Warramunga Arr**	**47.08**	**258**	P	P	08 55 36.4	-0.9
	0.2nm,0.3s,baz=96,slow=6.2,SNR=5.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**47.34**	**253**	P	P	08 55 38.9	-0.5
	2.8nm,0.4s,baz=89,slow=8.0,SNR=73						
ASAR				PcP	PcP	08 57 10.4	+0.1
	0.2nm,0.6s,baz=99,slow=4.8,SNR=1.7						
	2.8nm,0.4s						

IDC 30 08:47:40.5±11.0, 19°.41S×176°.95W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=293.0km s-min=36.5km az=33.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.74**	**256**	P	P	08 56 03.5	-0.4
	1.5nm,0.6s,baz=97,slow=8.3,SNR=9.6						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**45.74**	**261**	P	P	08 56 04.2	+0.2
	0.7nm,0.3s,baz=96,slow=7.9,SNR=9.8						
	0.7nm,0.3s						
VNDA	**Vanda**	**59.08**	**185**	P	P	08 57 42.5	+0.3
	0.2nm,0.5s,baz=1.9,slow=9.5,SNR=2.2						
	0.2nm,0.5s						
QSPA	**South Pole Qui**	**70.66**	**180**	P	P	08 58 57.7	-0.2
	1.2nm,0.8s,baz=41,slow=1.9,SNR=8.8						
	1.2nm,0.8s						

IDC 30 09:07:52.4±7.1, 17°.47S×171°.65W, h0km, mb4.2/2, mbtmp4.2/2, MS3.3/1, Error ellipse: s-maj=388.6km s-min=106.3km az=151.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**51.04**	**258**	P	P	09 16 56.4	-0.4
	0.3nm,0.4s,baz=97,slow=6.8,SNR=6.7						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**51.10**	**253**	P	P	09 16 57.4	+0.1
	6.4nm,0.6s,baz=89,slow=8.1,SNR=145						
	6.4nm,0.6s						
GUMO	**Guam**	**52.86**	**303**	LR	LR	09 38 02.8	
	comp=Z,26nm,18.0s,baz=164,slow=34						
AKASG	**Malin Array Be**	**142.88**	**338**	PKP	PKPdf	09 27 27.4	-0.4
	1.1nm,0.4s,baz=356,slow=1.2,SNR=5.4						

---

*IDC **30** 09:14:36.4±7.3, 6°.44S×130°.07E, h154km±80km, mb3.5/5, mbtmp4.1/8, Error ellipse: s-maj=65.1km s-min=19.5km az=34.0*
*DJA **30** 09:14:37.1±0.2, 6°.S±.2°×13°.0E±°, h183km±6km, M4.6/15, mB5.1/5, mb4.4/13, MLv4.8/15, Mw(mB)4.5/5*
ISC 30 09:14:37.8±0.7, 6°.38S±0°.05×130°.20E±0°.06, h200km, n33, σ2°.70/37, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.86**	**351**	P	**Pn**	**09 15 14.7**	**-0.3**
BNDI	**Bandanaira**	**1.86**	**351**	P	**Pn**	**09 15 13.9**	**-1.1**
SAUI	**Saumlaki**	**1.93**	**146**	P	**Pn**	**09 15 14.8**	**-0.8**
SAUI				S	**Sn**	**09 15 40.2**	**-4.9**
FAKI	**Fak Fak**	**3.99**	**31**	P	**Pn**	**09 15 37.3**	**-2.2**
FAKI				S	**Sn**	**09 16 22.1**	**-6.0**
NLAI	**Namlea**	**4.39**	**315**	P	**Pn**	**09 15 44.7**	**+0.2**
KMPI	**Kaimana, Papua**	**4.41**	**52**	P	**Pn**	**09 15 44.1**	**-0.6**
SWI	**Sorong**	**5.58**	**11**	P	**Pn**	**09 15 58.3**	**-1.3**
	35nm,0.6s,5μm1.2nm						
SWI				S	**Sn**	**09 16 57.1**	**-7.2**
	35nm,0.6s,5μm1.2nm						
SANI	**Sanana**	**6.01**	**315**	P	**Pn**	**09 16 05.5**	**+0.3**
SANI	**Sanana**	**6.01**	**315**	P	**Pn**	**09 16 04.8**	**-0.4**
	71nm,0.8s,0.3nm						
RKPI	**Ransiki, Papua**	**6.25**	**40**	P	**Pn**	**09 16 08.1**	**-0.2**
	615nm,0.6s,2.7nm						
RKPI				S	**Sn**	**09 17 18.0**	**-2.0**
	615nm,0.6s,2.7nm						
LBMI	**Labuha**	**6.30**	**335**	P	**Pn**	**09 16 08.8**	**-0.3**
	34nm,0.6s,0.6nm						
MTN	**Manton Dam**	**6.49**	**172**	P	**Pn**	**09 16 10.9**	**-0.6**
KDU	**Kakadu**	**6.66**	**161**	P	**Pn**	**09 16 12.5**	**-1.1**
SOEI	**Soe**	**6.77**	**240**	P	**Pn**	**09 16 14.8**	**-0.4**
SOEI	**Soe**	**6.77**	**240**	P	**Pn**	**09 16 14.5**	**-0.7**
	60nm,0.7s,0.6nm						
BATI	**Baumata**	**7.51**	**239**	P	**Pn**	**09 16 24.2**	**-0.5**
	107nm,0.5s,2μm0.4nm						
BATI	**Baumata**	**7.51**	**239**	P	**Pn**	**09 16 22.4**	**-2.3**
	76nm,0.5s,baz=100,slow=12,SNR=7.5						
BATI				S	**Sn**	**09 17 43.5**	**-6.2**
	72nm,0.5s,baz=345,slow=4.6,SNR=2.5						
EDFI	**Ende, Flores**	**8.76**	**254**	P	**Pn**	**09 16 41.1**	**0.0**
	18nm,0.7s						
KNRA	**Kununurra**	**9.35**	**189**	P	**Pn**	**09 16 46.8**	**-1.8**
PLAI	**Plampang**	**12.56**	**258**	P	**Pn**	**09 17 28.5**	**-1.3**
	27nm,1.0s						
WRAB	**Tennant Creek**	**14.07**	**164**	P	**Pn**	**09 17 48.3**	**-0.3**
WRA	**Warramunga Arr**	**14.07**	**164**	P	**Pn**	**09 17 47.1**	**-1.6**
	2.6nm,0.6s,baz=341,slow=13,SNR=22						
WRA				S	S	09 20 15.3	-10
	9.2nm,0.5s,baz=333,slow=24,SNR=10						
COEN	**Coen**	**14.82**	**122**	P	P	09 18 03.0	+4.2
QIS	**Mount Isa**	**16.79**	**148**	P	**Pn**	**09 18 24.4**	**+2.7**
ASAR	**Alice Springs**	**17.56**	**169**	P	**Pn**	**09 18 32.1**	**+1.4**
	4.6nm,0.8s,baz=346,slow=10,SNR=32						
ASAR				S	**S**	**09 21 38.0**	**-3.0**
	2.9nm,0.7s,baz=336,slow=19,SNR=4.3						
MTSU	**Mount Surprise**	**18.06**	**132**	P	**Pn**	**09 18 39.2**	**+2.6**
WRKA	**Warakurna**	**18.65**	**185**	P	**Pn**	**09 18 43.7**	**+0.2**
CTA	**Charters Tower**	**20.70**	**133**	P	**P**	**09 19 04.7**	**+1.9**
	1.2nm,0.6s,baz=306,slow=11,SNR=1.4						
	1.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.49**	**309**	P	**P**	**09 21 51.8**	**+2.6**
	1.3nm,0.3s,baz=134,slow=6.7,SNR=7.1						
	1.3nm,0.3s						
HHC	**Hu-ho-hao-te**	**50.02**	**342**	*e*P	P	09 23 18.0	+6.0
HHC				pmax	pmax		
	comp=Z,18nm,0.8s						
HHC				pmax	pmax		
	comp=Z,400nm,6.2s						
SONM	**Songino Array**	**57.92**	**341**	P	**P**	**09 24 12.4**	**+3.3**
	comp=Z,0.3nm,0.4s,baz=162,slow=5.1,SNR=3.1						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**67.82**	**327**	P	**P**	**09 25 17.9**	**+3.6**
	comp=Z,2.9nm,0.7s,baz=127,slow=7.8,SNR=18						
	comp=Z,2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**72.09**	**328**	P	**P**	**09 25 43.0**	**+2.9**
	comp=Z,0.8nm,0.5s,baz=130,slow=5.2,SNR=2.0						
	comp=Z,0.8nm,0.5s						

OTT 30 09:20:29.7±0.1, 48°.24N×78°.44W, h3km, MN3.5/37, 1C, Mining related event, Laronde Mine, Qc 26km northwest from Malartic, Qc Mining induced., Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLDQ	**Val d'Or**	**0.67**	**101**	⇑PG	Pg	09 20 38.2	-4.4
VLDQ				SG	Sg	09 20 44.0	-7.3
VLDQ				Trac		09 20 45.3	
	comp=Z,284nm,0.1s						
KILO	**Kirkland Lake**	**0.89**	**287**	PG	Pg	09 20 45.7	-1.1
KILO				SG	Sg	09 20 57.2	-1.1
KILO				Trac		09 20 59.4	
	comp=Z,79nm,0.1s						
KIPQ	**Kipawa,Quebec**	**1.51**	**196**	PG	Pn	09 20 57.4	-0.3
KIPQ				SG	Sn	09 21 16.7	-1.2
KIPQ				Trac		09 21 20.2	
	comp=Z,48nm,0.1s						
EEO	**Eldee**	**1.66**	**195**	PN	Pn	09 20 59.5	-0.2
EEO				SG	Sn	09 21 21.4	-0.2
EEO				Trac		09 21 22.4	
	comp=Z,159nm,0.2s						
MALO	**McAlpine Lake**	**1.98**	**335**	PN	Pn	09 21 04.5	+0.3
MALO				SN	Sn	09 21 29.2	-0.3
MALO				Trac		09 21 31.9	
	comp=Z,80nm,0.2s						
CRLO	**Chalk River**	**2.32**	**161**	PN	Pn	09 21 08.4	-0.4
CRLO				SN	Sn	09 21 37.2	-0.7
CRLO				Trac		09 21 42.4	
	comp=Z,111nm,0.2s						
GRQ	**Grand Remous**	**2.40**	**132**	PN	Pn	09 21 09.5	-0.4
GRQ				SN	Sn	09 21 39.8	0.0
GRQ				LG	Lg	09 21 44.0	
GRQ				Trac		09 21 46.9	
	comp=Z,36nm,0.1s						
SUBO	**Sudbury**	**2.45**	**229**	PN	Pn	09 21 10.0	-0.6
SUBO				SN	Sn	09 21 40.5	-0.5
SUBO				LG	Lg	09 21 46.1	
SUBO				Trac		09 21 47.0	
	comp=Z,34nm,0.1s						
SUNO	**Sudbury Onapin**	**2.54**	**232**	PN	Pn	09 21 11.3	-0.5
SUNO				SN	Sn	09 21 42.3	-1.0
SUNO				LG	Lg	09 21 48.6	
SUNO				Trac		09 21 49.4	
	comp=Z,50nm,0.1s						
PEMO	**Pembroke**	**2.69**	**162**	PN	Pn	09 21 13.6	-0.3
PEMO				SN	Sn	09 21 45.9	-1.2
PEMO				Trac		09 21 53.2	
	comp=Z,86nm,0.2s						
PEMO				LG	Lg	09 21 53.7	
BUKO	**Buck Lake**	**2.88**	**194**	PN	Pn	09 21 16.1	-0.3
BUKO				SN	Sn	09 21 50.4	-1.3
BUKO				Trac		09 21 58.5	
	comp=Z,22nm,0.1s						
KAPO	**Kapuskasing**	**2.94**	**296**	PN	Pn	09 21 17.1	-0.3
KAPO				SN	Sn	09 21 52.1	-1.1
KAPO				Trac		09 22 01.1	
	comp=Z,49nm,0.2s						
KAPO				LG	Lg	09 22 01.4	
KLBO	**Killbear Provi**	**3.13**	**203**	PN	Pn	09 21 19.5	-0.5
KLBO				SN	Sn	09 21 56.5	-1.4
KLBO				Trac		09 22 12.9	
	comp=Z,16nm,0.1s						
CHGQ	**Chibougamau**	**3.15**	**57**	PN	Pn	09 21 19.3	-0.9
CHGQ				SN	Sn	09 21 55.6	-2.7
CHGQ				Trac		09 22 08.7	
	comp=Z,59nm,0.2s						
KB1O	**Rock site, Kin**	**3.24**	**151**	PN	Pn	09 21 20.8	-0.7
KB1O				SN	Sn	09 21 58.9	-1.7
KB1O				LG	Lg	09 22 11.0	
KB1O				Trac		09 22 12.9	
	comp=Z,124nm,0.4s						
GAC	**Glen Almond**	**3.25**	**140**	PN	Pn	09 21 21.1	-0.5
GAC				PN	Pb	09 21 21.1	-6.9
GAC				SN	Sn	09 21 58.8	-2.0
GAC				SN	Sb	09 21 59.6	-8.4
GAC				LG	Lg	09 22 11.2	
GAC				Trac		09 22 12.3	
	comp=Z,23nm,0.2s						
GAC				Trac		09 22 12.3	
	comp=Z,29nm,0.2s						
TRQ	**Mont Tremblant**	**3.33**	**126**	PN	Pn	09 21 22.3	-0.5
TRQ				SN	Sn	09 22 01.2	-1.7
TRQ				Trac		09 22 19.8	
	comp=Z,24nm,0.1s						
PLVO	**Plevna**	**3.34**	**163**	PN	Pn	09 21 22.3	-0.5
PLVO				SN	Sn	09 22 01.6	-1.4
PLVO				Trac		09 22 13.2	
	comp=Z,48nm,0.1s						
PLVO				LG	Lg	09 22 13.5	
OTT	**Ottawa**	**3.41**	**146**	PN	Pn	09 21 23.2	-0.6
OTT				SN	Sn	09 22 03.4	-1.3
OTT				Trac		09 22 17.5	
	comp=Z,49nm,0.1s						
ORIO	**Orleans, Innes**	**3.44**	**143**	PN	Pn	09 21 23.3	-0.9
ORIO				SN	Sn	09 22 03.8	-1.7
ORIO				LG	Lg	09 22 16.1	
ORIO				Trac		09 22 16.3	
	comp=Z,34nm,0.2s						
SADO	**Sadowa**	**3.51**	**188**	PN	Pn	09 21 25.1	-0.1
SADO				SN	Sn	09 22 05.2	-1.9
SADO				LG	Lg	09 22 19.1	
SADO				Trac		09 22 20.0	
	comp=Z,29nm,0.2s						
ALFO	**Alfred**	**3.58**	**136**	PN	Pn	09 21 25.6	-0.5
ALFO				SN	Sn	09 22 07.0	-1.8
ALFO				LG	Lg	09 22 21.0	
ALFO				Trac		09 22 46.8	
	comp=Z,9.2nm,0.0s						
TOBO	**Tobermory, Bru**	**3.69**	**216**	PN	Pn	09 21 27.4	-0.2
TOBO				SN	Sn	09 22 09.9	-1.7
TOBO				Trac		09 22 23.3	
	comp=Z,20nm,0.2s						
DELO	**Deloro Mine**	**3.77**	**171**	PN	Pn	09 21 28.3	-0.4
DELO				SN	Sn	09 22 11.5	-2.1
DELO				LG	Lg	09 22 27.4	
DELO				Trac		09 22 29.3	
	comp=Z,24nm,0.1s						
NMSQ	**Nemaska Statio**	**3.81**	**23**	PN	Pn	09 21 28.3	-0.9
NMSQ				SN	Sn	09 22 11.3	-3.2
NMSQ				LG	Lg	09 22 27.7	
NMSQ				Trac		09 22 28.7	
	comp=Z,19nm,0.1s						
WBO	**Williamsburg**	**3.91**	**145**	PN	Pn	09 21 30.1	-0.6
WBO				SN	Sn	09 22 15.1	-1.9
WBO				Trac		09 22 35.6	
	comp=Z,12nm,0.1s						
CLWO	**Collingwood**	**4.01**	**199**	PN	Pn	09 21 32.1	0.0
CLWO				SN	Sn	09 22 17.2	-2.3
CLWO				Trac		09 22 48.8	
	comp=Z,4.1nm,0.0s						
BMRO	**Meriville Lake**	**4.12**	**209**	PN	Pn	09 21 33.9	+0.3
BMRO				SN	Sn	09 22 20.0	-2.3
BMRO				LG	Lg	09 22 37.2	
BMRO				Trac		09 22 42.4	
	comp=Z,41nm,0.3s						
DPQ	**Saint Jean**	**4.15**	**110**	PN	Pn	09 21 31.9	-2.0
DPQ				SN	Sn	09 22 19.7	-3.2
DPQ				LG	Lg	09 22 39.0	
DPQ				Trac		09 22 40.1	
	comp=Z,14nm,0.1s						
MNTQ	**Montreal, Queb**	**4.29**	**128**	SN	Sn	09 22 24.4	-2.1
MNTQ				Trac		09 22 44.0	
	comp=Z,22nm,0.2s						
PKRO	**Pickering**	**4.30**	**186**	SN	Sn	09 22 23.1	-3.7
PKRO				Trac		09 22 46.5	
	comp=Z,53nm,0.2s						
WLVO	**Wesleyville**	**4.32**	**180**	PN	Pn	09 21 35.6	-0.6
WLVO				SN	Sn	09 22 25.0	-2.2
WLVO				LG	Lg	09 22 44.3	
WLVO				Trac		09 22 44.6	
	comp=Z,25nm,0.2s						
E46A	**Sault Ste Mari**	**4.41**	**247**	PN	Pn	09 21 37.1	-0.4
E46A				SN	Sn	09 22 26.6	-2.7
E46A				Trac		09 22 47.7	
	comp=Z,42nm,0.3s						
PECO	**Prince Edward**	**4.43**	**166**	PN	Pn	09 21 36.9	-0.8
PECO				SN	Sn	09 22 27.1	-2.7
PECO				Trac		09 22 46.4	
	comp=Z,34nm,0.3s						
PECO				LG	Lg	09 22 47.4	
LONY	**Lake Ozonia**	**4.50**	**142**	PN	Pn	09 21 38.2	-0.6
LONY				SN	Sn	09 22 28.7	-2.9
LONY				LG	Lg	09 22 49.5	
LONY				Trac		09 22 58.6	
	comp=Z,48nm,0.6s						
BWLO	**Walkerton**	**4.53**	**205**	PN	Pn	09 21 39.7	+0.5
BWLO				SN	Sn	09 22 29.9	-2.5
BWLO				LG	Lg	09 22 51.8	
BWLO				Trac		09 22 53.0	
	comp=Z,65nm,0.6s						
ACTO	**Acton**	**4.77**	**194**	PN	Pn	09 21 41.8	-0.7
ACTO				SN	Sn	09 22 34.1	-4.2
ACTO				Trac		09 22 58.7	
	comp=Z,17nm,0.2s						
FRNY	**Flat Rock**	**4.78**	**134**	PN	Pn	09 21 42.3	-0.3
FRNY				SN	Sn	09 22 35.1	-3.4
FRNY				LG	Lg	09 22 58.8	
FRNY				Trac		09 23 01.4	
	comp=Z,11nm,0.2s						
BASO	**Ashfield**	**4.79**	**209**	PN	Pn	09 21 41.0	-1.7
BASO				SN	Sn	09 22 35.9	-2.8
BASO				LG	Lg	09 22 58.4	
BASO				Trac		09 22 58.8	
	comp=Z,62nm,0.4s						

---

*ISK **30** 09:29:29.9, 37°.58N×37°.69E, h8km, ML2.5/4*
*AFAD **30** 09:29:43.1±0.0, 37°.21N×38°.86E, h7km±3km, ML2.2*
ISC 30 09:29:27.6±1.3, 37°.44N±0°.06×37°.64E±0°.06, h10km, n8, σ3°.26/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.43**	**232**	Pg	**Pn**	**09 29 41.2**	**+1.3**
URFA	**Urfa**	**0.94**	**89**	Pg	**Pn**	**09 29 47.8**	**+0.9**
SURC	**SANLIURFA_SURC**	**0.96**	**125**	P	**Pn**	**09 29 50.9**	**+3.8**
SURC				S	**Sb**	**09 29 57.7**	**-1.3**
SURC				*i* AML	AML	09 30 05.0	
	comp=N,136nm,0.4s						
NARI	**Adyaman-Kaht**	**1.00**	**63**	P	Pn	09 29 56.0	+8.3
NARI				S	**Sn**	**09 30 08.5**	**+6.6**
HANM	**anlurfa/Hi**	**1.00**	**81**	P	**Pn**	**09 29 50.5**	**+2.8**
HANM				S	**Sg**	**09 29 56.4**	**-3.4**
SANL	**SANLIURFA_Merk**	**1.11**	**103**	P	**Pg**	**09 29 45.3**	**-3.6**
SANL				S	Sg	09 29 48.2	-15
SANL				*i* AML	AML	09 29 51.0	
	comp=E,1μm,0.3s						
SANL				*i* AML	AML	09 29 52.0	
	comp=N,1μm,0.3s						
SVRC	**Sivrice-ELAZID**	**1.62**	**54**	Pn	**Pb**	**09 29 57.8**	**+0.1**
SVRC				Sn	**Sb**	**09 30 18.2**	**-0.1**
ARPR	**Arapgir-MALATY**	**1.74**	**18**	Pn	**Pn**	**09 29 59.0**	**+1.0**
ARPR				Sn	**Sn**	**09 30 20.5**	**+0.1**

---

*IDC **30** 09:41:11.2±1.7, 14°.04S×172°.67E, h597km±18km, mb3.0/6, mbtmp4.1/8, Error ellipse: s-maj=26.8km s-min=19.4km az=179.0*
*NEIC **30** 09:41:13.6±0.9, 14°.5S±0°.2×172°.5E±0°.2, h592km±19km, mb4.3/17, Error ellipse: s-maj=34.5km s-min=23.8km az=204.0*
ISC 30 09:41:11.7±1.1, 14°.2S±0°.2×172°.6E±0°.1, h600km, n31, σ0°.97/32, mb4.2/14, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.31**	**125**	P	**P**	**09 42 56.4**	**+0.7**
MSVF	**Nonsavu**	**6.31**	**125**	P	**P**	**09 42 56.0**	**+0.3**
	23nm,0.7s,baz=285,slow=20,SNR=24						
MARNC	**Mare, Loyalty**	**8.46**	**210**	P	**P**	**09 43 13.6**	**-1.7**
PINNC	**Pines Island,**	**9.70**	**210**	P	**P**	**09 43 25.2**	**-2.2**
DZM	**Mont Dzumac**	**9.78**	**216**	P	**P**	**09 43 27.2**	**-1.1**
DZM	**Mont Dzumac**	**9.78**	**216**	P	**P**	**09 43 29.7**	**+1.3**
	4.2nm,0.5s,baz=49,slow=20,SNR=10						
BKZ	**Black Stump Fm**	**25.11**	**173**	P	**P**	**09 45 49.2**	**-1.7**
BKZ				IAmb	IAmb	09 45 53.1	
	comp=Z,21nm,1.4s						
TCW	**Tory Channel**	**26.96**	**177**	P	**P**	**09 46 06.1**	**-0.9**
THZ	**Tophouse**	**27.47**	**180**	P	**P**	**09 46 12.0**	**+0.5**
MLZ	**Mavora Lakes**	**31.30**	**186**	P	**P**	**09 46 44.4**	**0.0**
STKA	**Stephens Creek**	**33.36**	**233**	P	**P**	**09 47 00.3**	**-1.7**
STKA	**Stephens Creek**	**33.36**	**233**	P	**P**	**09 47 02.6**	**+0.7**
	comp=Z,6.9nm,1.1s,baz=57,slow=9.9,SNR=4.7						
	comp=Z,6.9nm,1.1s						
WR0	**Warramunga Arr**	**36.78**	**256**	P	**P**	**09 47 30.4**	**0.0**
WR0				IAmb	IAmb	09 47 55.8	
	comp=Z,12nm,1.5s						
WB0	**Warramunga Arr**	**36.91**	**256**	P	**P**	**09 47 31.5**	**0.0**
WB0				IAmb	IAmb	09 47 32.9	
	comp=Z,5.1nm,0.8s						
WB2	**Warramunga Arr**	**36.95**	**256**	P	**P**	**09 47 31.9**	**0.0**
WB2				IAmb	IAmb	09 47 32.8	
	comp=Z,7.1nm,0.9s						
WRA	**Warramunga Arr**	**36.97**	**256**	P	**P**	**09 47 31.2**	**-0.8**
WRA	**Warramunga Arr**	**36.97**	**256**	P	**P**	**09 47 32.0**	**0.0**
	comp=Z,3.2nm,0.7s,baz=88,slow=8.6,SNR=27						
	comp=Z,3.2nm,0.7s						
AS31	**Alice Springs**	**37.70**	**250**	P	**P**	**09 47 38.5**	**+0.5**
AS31				IAmb	IAmb	09 47 39.0	
	comp=Z,2.8nm,0.6s						
ASAR	**Alice Springs**	**37.70**	**250**	P	**P**	**09 47 37.9**	**0.0**
ASAR	**Alice Springs**	**37.70**	**250**	P	**P**	**09 47 38.5**	**+0.5**
	comp=Z,4.8nm,0.5s,baz=77,slow=9.1,SNR=116						
ASAR				ScP	**ScP**	**09 52 31.6**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=96,slow=4.0,SNR=5.1						
	comp=Z,4.8nm,0.5s						
MTN	**Manton Dam**	**40.31**	**267**	P	**P**	**09 47 59.4**	**+0.4**
MTN				IAmb	IAmb	09 48 00.4	
	comp=Z,7.3nm,0.7s						
KNRA	**Kununurra**	**42.33**	**262**	P	**P**	**09 48 15.4**	**+0.6**
KNRA				IAmb	IAmb	09 48 15.8	
	comp=Z,9.4nm,0.6s						
FORT	**Forrest**	**44.03**	**240**	P	**P**	**09 48 27.9**	**+0.1**
PSA00	**Pilbara Seismi**	**50.55**	**254**	P	**P**	**09 49 16.9**	**+0.2**
PSA00				IAmb	IAmb	09 49 39.6	
	comp=Z,28nm,1.5s						
NWAO	**Narrogin (SRO)**	**53.46**	**239**	P	**P**	**09 49 37.5**	**+0.1**
VNDA	**Vanda**	**63.57**	**183**	P	**P**	**09 50 45.0**	**+0.8**
VNDA	**Vanda**	**63.57**	**183**	P	**P**	**09 50 44.7**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=357,slow=5.9,SNR=5.1						
	comp=Z,0.2nm,0.5s						
SBA	**Scott Base**	**63.74**	**181**	P	**P**	**09 50 46.8**	**+1.5**
QSPA	**South Pole Qui**	**75.83**	**180**	P	**P**	**09 51 57.9**	**+0.6**
QSPA				IAmb	IAmb	09 51 58.8	
	comp=Z,6.0nm,1.4s						
QSPA	**South Pole Qui**	**75.83**	**180**	P	**P**	**09 51 57.7**	**+0.3**

*NNC **30** 09:49:45.7±0.5, 47°.13N×75°.56E, h11km±4km, mb4.2, mpv4.0, Error ellipse: s-maj=3.6km s-min=3.0km az=65.0*
*SOME **30** 09:49:48.1, 47°.08N×75°.58E, h15km*
ISC 30 09:49:45.6±0.7, 47°.22N±0°.03×75°.42E±0°.03, h10km, n70, σ1§70/81, 20C-12D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu** 26nm,0.3s	**2.32**	**297**	⇓Pn	**Pb**	**09 50 26.4**	**-1.1**
OTUK	110nm,0.3s			⇓Lg	Lg	09 51 01.6	
BTLS	**Baital** 50nm,0.2s	**2.38**	**204**	Pg	**Pb**	**09 50 29.5**	**+1.1**
BTLS	230nm,0.1s			Lg	Lg	09 50 59.2	
BTLS	**Baital** 50nm,0.2s	**2.38**	**204**	*e*Pg	**Pb**	**09 50 29.6**	**+1.1**
BTLS	230nm,0.1s			*e*Lg	Lg	09 50 59.0	
TDK	**Taldyqorghan** 155nm,0.2s	**3.04**	**136**	Pg	**Pb**	**09 50 39.8**	**0.0**
TDK	198nm,0.3s			Lg	Lg	09 51 16.3	
TDK	**Taldyqorghan** 155nm,0.2s	**3.04**	**136**	*e*Pg	**Pb**	**09 50 39.8**	**0.0**
TDK	276nm,0.2s			*e*Lg	Lg	09 51 16.3	
BRZS	**Berezniki** 16nm,0.2s	**3.31**	**328**	Pg	**Pg**	**09 50 48.3**	**-0.6**
BRZS	123nm,0.3s			Lg	Lg	09 51 31.1	
BRZS	**Berezniki** 16nm,0.2s	**3.31**	**328**	*e*Pg	**Pg**	**09 50 48.3**	**-0.6**
BRZS	123nm,0.3s			*e*Lg	Lg	09 51 31.1	
KUU	**Kurty** 31nm,0.2s	**3.39**	**169**	Pg	**Pb**	**09 50 46.2**	**+0.5**
KUU	171nm,0.1s			Lg	Lg	09 51 27.4	
KUU	**Kurty** 31nm,0.2s	**3.39**	**169**	*e*Pg	**Pb**	**09 50 46.2**	**+0.5**
KUU	171nm,0.1s			*e*Lg	Lg	09 51 27.4	
ARXS	**Arharly** 35nm,0.2s	**3.45**	**150**	Pg	**Pb**	**09 50 46.9**	**+0.1**
ARXS	123nm,0.3s			Lg	Lg	09 51 28.4	
ARXS	**Arharly** 35nm,0.2s	**3.45**	**150**	*e*Pg	**Pb**	**09 50 46.9**	**+0.1**
ARXS	123nm,0.3s			*e*Lg	Lg	09 51 28.4	
KRBS	**Karabastau** 15nm,0.3s	**3.53**	**177**	Pg	**Pb**	**09 50 48.6**	**+0.5**
KRBS	80nm,0.3s			Lg	Lg	09 51 31.4	
KRBS	**Karabastau** 15nm,0.3s	**3.53**	**177**	*e*Pg	**Pb**	**09 50 48.6**	**+0.5**
KRBS	80nm,0.3s			*e*Lg	Lg	09 51 31.4	
CHKK	**Chushkaly** 26nm,0.2s	**3.54**	**161**	Pg	**Pb**	**09 50 49.2**	**+0.9**
CHKK	300nm,0.2s			Lg	Lg	09 51 32.5	
CHKK	**Chushkaly** 26nm,0.2s	**3.54**	**161**	*e*Pg	**Pb**	**09 50 49.2**	**+0.9**
CHKK	300nm,0.2s			*e*Lg	Lg	09 51 32.5	
KTBS	**Karatobe** 55nm,0.2s	**3.62**	**165**	Pg	**Pb**	**09 50 51.0**	**+1.4**
KTBS	186nm,0.3s			Lg	Lg	09 51 35.4	
KTBS	**Karatobe** 55nm,0.2s	**3.62**	**165**	*e*Pg	**Pb**	**09 50 51.0**	**+1.4**
KTBS	186nm,0.3s			*e*Lg	Lg	09 51 35.4	
BLB	**Baldybastay** 53nm,0.3s	**3.79**	**144**	Pg	**Pb**	**09 50 52.9**	**+0.3**
BLB	53nm,0.4s			Lg	Lg	09 51 38.7	
SGDS	**Sogindy** 11nm,0.2s	**3.81**	**189**	Pg	**Pb**	**09 50 54.6**	**+1.7**
SGDS	50nm,0.3s			Lg	Lg	09 51 41.5	
KNOS	**Konyrlen** 35nm,0.2s	**3.89**	**136**	Pg	**Pb**	**09 50 54.4**	**+0.1**
KNOS	63nm,0.3s			Lg	Lg	09 51 41.4	
DGS	**Degeres** 28nm,0.2s	**3.98**	**176**	Pg	**Pb**	**09 50 57.7**	**+1.8**
DGS	142nm,0.6s			Lg	Lg	09 51 47.2	
DGS	**Degeres** 28nm,0.2s	**3.98**	**176**	*e*Pg	**Pb**	**09 50 57.7**	**+1.8**
DGS	142nm,0.6s			*e*Lg	Lg	09 51 47.2	
KURK	**Kurchatov** 1.6nm,0.5s	**4.09**	**30**	⇓Pn	**Pn**	**09 50 48.5**	**+0.4**
KURK	4.9nm,0.4s			⇓Pg	**Pb**	**09 50 59.3**	**+1.7**
KURK	98nm,0.7s			⇑Lg	Lg	09 51 53.5	
KNDC	**Almaty** 264nm,0.8s	**4.15**	**164**	⇑Lg	Lg	09 51 55.3	
MTBS	**Maitube** 31nm,0.2s	**4.15**	**170**	Pg	**Pb**	**09 51 00.3**	**+1.5**
MTBS	118nm,0.3s			Lg	Lg	09 51 51.3	
MTBS	**Maitube** 31nm,0.2s	**4.15**	**170**	*e*Pg	**Pb**	**09 51 00.3**	**+1.5**
MTBS	118nm,0.3s			*e*Lg	Lg	09 51 51.3	
KOTS	**Kotyrbulak** 27nm,0.3s	**4.16**	**163**	Pg	**Pb**	**09 51 00.2**	**+1.3**
KOTS	305nm,0.3s			Lg	Lg	09 51 51.5	
KOTS	**Kotyrbulak** 27nm,0.3s	**4.16**	**163**	*e*Pg	**Pb**	**09 51 00.2**	**+1.3**
KOTS	305nm,0.3s			*e*Lg	Lg	09 51 51.5	
KST	**Kastek** 23nm,0.2s	**4.19**	**175**	Pg	**Pb**	**09 51 01.4**	**+1.9**
KST	89nm,0.6s			Lg	Lg	09 51 53.4	
KST	**Kastek** 23nm,0.2s	**4.19**	**175**	*e*Pg	**Pb**	**09 51 01.4**	**+1.9**
KST	89nm,0.6s			*e*Lg	Lg	09 51 53.4	
KURS	**Kuram** 23nm,0.4s	**4.20**	**152**	Pg	**Pb**	**09 51 01.1**	**+1.4**
KURS	64nm,0.4s			Lg	Lg	09 51 53.1	
KURS	**Kuram** 23nm,0.4s	**4.20**	**152**	*e*Pg	**Pb**	**09 51 01.1**	**+1.4**
KURS	64nm,0.4s			*e*Lg	Lg	09 51 53.1	
DJR	**Jarkent** 13nm,0.3s	**4.21**	**132**	Pg	**Pb**	**09 51 01.3**	**+1.7**
DJR	59nm,0.3s			Lg	Lg	09 51 53.4	
DJR	**Jarkent** 13nm,0.3s	**4.21**	**132**	*e*Pg	**Pb**	**09 51 01.3**	**+1.7**
DJR	59nm,0.3s			*e*Lg	Lg	09 51 53.4	
MDOK	**Medeo** 15nm,0.2s	**4.21**	**164**	Pg	**Pb**	**09 51 01.4**	**+1.5**
MDOK	114nm,0.4s			Lg	Lg	09 51 53.6	
MDOK	**Medeo** 15nm,0.2s	**4.21**	**164**	*e*Pg	**Pb**	**09 51 01.4**	**+1.5**
MDOK	114nm,0.4s			*e*Lg	Lg	09 51 53.6	
CHMS	**Chumysh** 3.1nm,0.6s	**4.25**	**187**	⇑Pn	**Pn**	**09 50 49.8**	**-0.6**
CHMS	9.8nm,0.8s			⇓Pg	**Pb**	**09 51 02.7**	**+2.4**
CHMS	53nm,0.5s			⇓Lg	Lg	09 51 57.4	
IZV	**Izvestkoviy** 14nm,0.2s	**4.27**	**168**	Pg	**Pb**	**09 51 02.2**	**+1.4**
IZV	105nm,0.4s			Lg	Lg	09 51 54.6	
IZV	**Izvestkoviy** 14nm,0.2s	**4.27**	**168**	*e*Pg	**Pb**	**09 51 02.2**	**+1.4**
IZV	105nm,0.4s			*e*Lg	Lg	09 51 54.6	
TKM2	**Tokmak 2** 1.2nm,0.3s	**4.30**	**178**	⇑Pn	**Pn**	**09 50 50.9**	**-0.3**
TKM2	5.3nm,0.5s			⇑Pg	**Pb**	**09 51 03.3**	**+1.9**
TKM2	42nm,0.4s			⇑Lg	Lg	09 52 00.1	
TNSS	**Tian-Shan** 20nm,0.2s	**4.32**	**165**	Pg	**Pb**	**09 51 03.0**	**+1.2**
TNSS	42nm,0.2s			Lg	Lg	09 51 56.1	
TNSS	**Tian-Shan** 20nm,0.2s	**4.32**	**165**	*e*Pg	**Pb**	**09 51 03.0**	**+1.2**
TNSS	42nm,0.2s			*e*Lg	Lg	09 51 56.1	
KPKS	**Kokpek** 19nm,0.3s	**4.40**	**147**	Pg	**Pb**	**09 51 04.9**	**+1.9**
KPKS	150nm,0.2s			Lg	Lg	09 51 59.3	
KPKS	**Kokpek** 19nm,0.3s	**4.40**	**147**	*e*Pg	**Pb**	**09 51 04.9**	**+1.9**
KPKS	150nm,0.2s			*e*Lg	Lg	09 51 59.3	
MAKZ	**Makanchi** 1.9nm,0.6s	**4.51**	**93**	⇑Pn	**Pn**	**09 50 53.4**	**-0.5**
MAKZ	5.3nm,0.9s			⇓Pg	**Pb**	**09 51 06.4**	**+1.7**
MAKZ	37nm,0.6s			⇑Lg	Lg	09 52 04.2	
SEM	**Semipalatinsk** 14nm,0.2s	**4.51**	**43**	Pg	**Pb**	**09 51 07.4**	**+2.4**
SEM	24nm,0.2s			Lg	Lg	09 52 03.3	
SEM	**Semipalatinsk** 14nm,0.2s	**4.51**	**43**	*e*Pg	**Pb**	**09 51 07.4**	**+2.4**
SEM	24nm,0.2s			*e*Lg	Lg	09 52 03.4	
ZHN	**Zhinishke** 18nm,0.3s	**4.58**	**151**	Pg	**Pb**	**09 51 07.8**	**+1.8**
ZHN	106nm,0.2s			Lg	Lg	09 52 04.6	
ZHN	**Zhinishke** 18nm,0.3s	**4.58**	**151**	*e*Pg	**Pb**	**09 51 07.8**	**+1.8**
ZHN	106nm,0.2s			*e*Lg	Lg	09 52 04.6	
SATY	**Saty** 19nm,0.2s	**4.67**	**152**	Pg	**Pb**	**09 51 08.9**	**+1.4**
SATY	115nm,0.3s			Lg	Lg	09 52 06.1	
SATY	**Saty** 19nm,0.2s	**4.67**	**152**	*e*Pg	**Pb**	**09 51 08.9**	**+1.4**
SATY	115nm,0.3s			*e*Lg	Lg	09 52 06.1	
MK31	**Makanchi Array** 1.6nm,0.5s,baz=265,slow=11,SNR=59	**4.72**	**93**	⇑Pn	**Pn**	**09 50 56.0**	**-0.8**
MK31	2.3nm,0.4s,baz=268,slow=14,SNR=5.0			Pg	**Pb**	**09 51 09.5**	**+1.1**
MK31	13nm,0.7s			⇑Sn	**Sn**	**09 51 49.6**	**-2.1**
MK31	14nm,0.4s,baz=266,slow=26,SNR=16			⇑Lg	Lg	09 52 10.7	
MRKS	**Merke** 5.1nm,0.3s	**4.74**	**200**	Pg	**Pb**	**09 51 12.4**	**+3.7**
MRKS	79nm,0.3s			Lg	Lg	09 52 12.1	
MRKS	**Merke** 5.1nm,0.3s	**4.74**	**200**	*e*Pg	**Pb**	**09 51 12.4**	**+3.7**
MRKS	79nm,0.3s			*e*Lg	Lg	09 52 12.1	
UZB	**Uzynbulak** 11nm,0.3s	**4.80**	**147**	Pg	**Pb**	**09 51 12.4**	**+2.5**
UZB	43nm,0.2s			Lg	Lg	09 52 12.3	
UZB	**Uzynbulak** 11nm,0.3s	**4.80**	**147**	*e*Pg	**Pb**	**09 51 12.4**	**+2.5**
UZB	43nm,0.2s			*e*Lg	Lg	09 52 12.3	
PDGK	**Podgornoye** 6.4nm,0.2s	**4.83**	**142**	Pg	**Pb**	**09 51 12.6**	**+2.2**
PDGK	16nm,0.3s			Lg	Lg	09 52 12.9	
PDGK	**Podgornoye**	**4.83**	**142**	⇓Pn	**Pn**	**09 50 57.4**	**-1.1**
PDGK	14nm,0.8s			⇑Pg	**Pb**	**09 51 11.6**	**+1.1**
PDGK	7.2nm,0.4s			⇓Sn	**Sn**	**09 51 52.5**	**-2.1**
PDGK	26nm,0.6s			⇑Lg	Lg	09 52 15.1	
SHLS	**Shalkode** 23nm,0.2s	**4.97**	**143**	Pg	**Pg**	**09 51 18.7**	**-1.9**
SHLS	68nm,0.4s			Lg	Lg	09 52 23.2	
SHLS	**Shalkode** 23nm,0.2s	**4.97**	**143**	*e*Pg	**Pg**	**09 51 18.7**	**-1.9**
SHLS	68nm,0.4s			*e*Lg	Lg	09 52 23.2	
KTMS	**Ketmen** 4.1nm,0.3s	**5.13**	**136**	Pg	**Pb**	**09 51 17.3**	**+1.9**
KTMS	21nm,0.4s			Lg	Lg	09 52 20.9	
KTMS	**Ketmen** 4.1nm,0.3s	**5.13**	**136**	*e*Pg	**Pb**	**09 51 17.3**	**+1.9**
KTMS	21nm,0.4s			*e*Lg	Lg	09 52 20.9	
AML	**Almayashu** 0.1nm,0.3s	**5.23**	**194**	⇑Pg	**Pb**	**09 51 19.4**	**+2.0**
AML	11nm,0.7s			⇑Lg	Lg	09 52 29.8	
KK31	**Karatay Array** 1.0nm,0.2s,baz=37,slow=13,SNR=52	**5.38**	**222**	Pn	**Pn**	**09 51 06.3**	**+0.4**
KK31	1.4nm,0.2s,baz=38,slow=23,SNR=4.2			⇓Sn	**Sn**	**09 52 06.9**	**-1.0**
KK31	12nm,0.4s,baz=40,slow=29,SNR=7.0			⇑Lg	Lg	09 52 35.0	
IUG	**Iuzhnay** 8.2nm,0.2s	**6.36**	**219**	Pg	**Pg**	**09 51 45.6**	**-1.8**
IUG	54nm,0.4s			Lg	Lg	09 53 09.2	
IUG	**Iuzhnay** 8.2nm,0.2s	**6.36**	**219**	*e*Pg	**Pg**	**09 51 45.5**	**-1.8**
IUG	54nm,0.4s			*e*Lg	Lg	09 53 09.2	
ZSN	**Zaisan** 5.9nm,0.3s	**6.43**	**84**	Pg	**Pb**	**09 51 38.8**	**+1.3**
ZSN	14nm,0.5s			Lg	Lg	09 52 56.8	
ZSN	**Zaisan** 5.9nm,0.3s	**6.43**	**84**	*e*Pg	**Pb**	**09 51 38.8**	**+1.3**
ZSN	14nm,0.5s			*e*Lg	Lg	09 52 56.8	
BVA0	**Borovoye Array** 1.5nm,0.5s,baz=99,slow=43,SNR=26	**6.65**	**333**	⇓Pn	**Pn**	**09 51 25.2**	**+1.9**
BVA0	2.8nm,0.8s,baz=149,slow=16,SNR=7.0			⇑Pg	**Pg**	**09 51 48.2**	**-4.6**
BVA0	2.3nm,0.4s,baz=143,slow=22,SNR=3.5			⇑Sn	**Sn**	**09 52 42.6**	**+3.5**
BVA0	13nm,0.6s,baz=139,slow=28,SNR=9.4			⇑Lg	Lg	09 53 17.6	
AB31	**Akbulak array** 0.3nm,0.3s,baz=103,slow=5.8,SNR=26	**10.52**	**287**	Pn	**Pn**	**09 52 16.9**	**+0.6**
AB31	0.5nm,0.5s,baz=87,slow=26,SNR=4.4			⇑Sn	**Sn**	**09 54 15.1**	**+0.9**
AB31	2.1nm,0.6s,baz=92,slow=28,SNR=4.1			⇓Lg	Lg	09 55 19.0	

*EAF **30** 10:00:51.3, 25°.46S×28°.78E, h10km, MC3.2*
BUL 30 10:00:51.3±0.8, 25°.45S×28°.77E, h10km, MD3.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**2.91**	**278**	*i* P	Pn	10 01 40.2	+2.4
LBTB				*i* S	Sb	10 02 19.9	+0.8
LBTB	**Lobatse**	**2.91**	**278**	*i* P	Pn	10 01 37.0	-0.7
LBTB				*i* S	Sn	10 02 11.4	-1.5
LBTB	**Lobatse** baz=278	**2.91**	**278**	*i* P	Pn	10 01 37.0	-0.7
LBTB	baz=278			*i* S	Sn	10 02 11.4	-1.5
MOPA	**Mopani**	**3.07**	**52**	*i* P	Pn	10 01 42.8	+2.9
MOPA				*i* S	Sb	10 02 21.4	-2.2
MOPA	**Mopani**	**3.07**	**52**	*i* P	Pn	10 01 39.1	-0.8
MOPA				*i* S	Sn	10 02 15.3	-1.4
MOPA	**Mopani** baz=52	**3.07**	**52**	*i* P	Pn	10 01 39.1	-0.8
MOPA	baz=52			*i* S	Sn	10 02 15.3	-1.4
MUSN	**Musina, Limpop**	**3.31**	**18**	*i* P	Pb	10 01 51.3	+1.2
MUSN				*i* S	Sg	10 02 36.0	-1.5
MUSN	**Musina, Limpop** baz=18	**3.31**	**18**	*i* P	Pn	10 01 42.3	-0.8
MUSN	baz=18			*i* S	Sn	10 02 20.7	-1.9
BOSA	**Boshof**	**4.44**	**224**	*i* P	Pn	10 01 53.1	-5.8
BOSA				*i* S	Sn	10 02 39.2	-12
BOSA	**Boshof**	**4.44**	**224**	*i* P	Pn	10 01 58.0	-0.9
BOSA				*i* S	Sn	10 02 47.7	-3.0
BOSA	**Boshof** baz=224	**4.44**	**224**	*i* P	Pn	10 01 58.0	-0.9
BOSA	baz=224			*i* S	Sn	10 02 47.7	-3.0

*IDC **30** 10:06:35.8±0.5, 32°.12N×141°.86E, h0km, mb4.6/31, mbtmp4.6/36, ML3.7/4, MS4.1/32, Error ellipse: s-maj=15.8km s-min=10.9km az=76.0*
*JMA **30** 10:06:36.6±0.3, 32°.3N±0°.9×14°.2E±°, h5km, MV4.7/30, E OFF HACHIJOJIMA ISLAND*
*NIED **30** 10:06:36.6, 32°.32N×141°.97E, h5km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.12; $M_{\theta\theta}$0.21; $M_{\phi\phi}$-0.33; $M_{r\theta}$1.61; $M_{\theta\phi}$-0.07; $M_{\phi r}$-0.55; Fault plane solution: $M_0$1.71000×10^{16} NP1: ϕ_s290.00000°, δ89.00000°, λ-86.00000°. NP2:ϕ_s29.00000°, δ4.00000°, λ-171.00000°.*
*BJI **30** 10:06:37.2±0.0, 32°.20N×141°.74E, h22km, mb4.7/61, mB5.1/38, Ms4.7/46, Ms7 4.4/46*
*MOS **30** 10:06:39.4±1.0, 32°.16N×141°.68E, h32km, mb5.2/43, MS4.5/6, Error ellipse: s-maj=10.3km s-min=4.3km az=121.3*
*NEIC **30** 10:06:41.9±1.9, 32°.16N±0°.07×141°.80E±0°.10, h35km±7km, mb4.8/131, Error ellipse: s-maj=12.9km s-min=8.8km az=63.0*
ISC 30 10:06:41.0±0.4, 32°.20N±0°.04×141°.87E±0°.05, h34km±1km, h34km:pP-P, n400, σ1§53/401, mb4.9/150, MS4.3/44, 10C-10D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.80**	**279**	P	**Pn**	**10 07 09.9**	**+0.3**
JHCJ	**Hachijojimakas**	**1.95**	**297**	⇓P	**Pn**	**10 07 11.1**	**-0.6**
JHCJ				⇓*e*S	**Sn**	**10 07 36.5**	**+1.5**
JHJ2	**Mitsune**	**1.95**	**298**		**Pn**	**10 07 11.4**	**-0.3**
JHJ2	**Mitsune**	**1.95**	**298**	P	**Pn**	**10 07 11.6**	**-0.1**
JHJ2	**Mitsune**	**1.95**	**298**	⇓P	**Pn**	**10 07 11.4**	**-0.3**
JHJ2				⇓*e*S	**Sn**	**10 07 36.8**	**+1.8**
JHJ	**Hachijo jima 2** 282nm,0.3s,baz=169,slow=10,SNR=81	**1.98**	**298**	Pn	**Pn**	**10 07 11.2**	**-0.9**
JHJ	245nm,0.3s,baz=183,slow=23,SNR=7.4			Sn	**Sn**	**10 07 34.7**	**-1.1**
JMKN	**Mikurajimanish**	**2.55**	**312**	*e*S	**Sn**	**10 07 50.9**	**+1.1**
BSO1	**Boso 1**	**2.56**	**343**	P	**Pn**	**10 07 18.9**	**-0.7**
BSO1				*e*S	**Sn**	**10 07 49.2**	**0.0**
JMYK	**Miyake Tsubota**	**2.69**	**314**	*e*P	**Pn**	**10 07 21.6**	**-0.3**
JMYK				*e*S	**Sn**	**10 07 53.5**	**+0.3**
BSO3	**Boso 3**	**2.83**	**337**	P	**Pn**	**10 07 22.5**	**-1.1**
BSO3				*e*S	**Sn**	**10 07 56.8**	**+0.4**
JOD2	**Odawara 2**	**3.83**	**324**	*e*P	**Pn**	**10 07 37.4**	**-0.2**
JOD2				*e*S	**Sn**	**10 08 21.4**	**-0.1**
TK02	**Tokai 2**	**3.86**	**298**	*e*P	**Pn**	**10 07 39.8**	**+2.0**
TK02				S	**Sn**	**10 08 26.7**	**+4.8**
JSG	**Sagara**	**3.94**	**310**	Pn	**Pn**	**10 07 40.2**	**+1.1**
JFNN	**Fujinakano**	**3.99**	**319**	*e*P	**Pn**	**10 07 40.5**	**+0.7**
JYN	**Shimob**	**4.30**	**321**	P	**Pn**	**10 07 45.1**	**+1.1**
JRY	**Ryogami san**	**4.53**	**328**	P	**Pn**	**10 07 47.4**	**+0.1**
JRY				*e*S	**Sn**	**10 08 38.5**	**-0.3**
JAG	**Ashikaga**	**4.66**	**335**	*e*P	**Pn**	**10 07 47.7**	**-1.3**
JAG				*e*S	**Sn**	**10 08 40.2**	**-1.8**
CBIJ	**Chichi jima**	**5.09**	**177**	*e*S	**Sn**	**10 08 49.4**	**-3.1**
JCJ	**Chichijima**	**5.09**	**177**	Pn	**Pn**	**10 07 53.0**	**-1.9**
JCJ	**Chichijima**	**5.09**	**177**	P	**Pn**	**10 07 53.4**	**-1.5**
JCJ	**Chichijima** 141nm,0.4s,baz=288,slow=20,SNR=8.9	**5.09**	**177**	Pn	**Pn**	**10 07 50.8**	**-4.2**
JCJ	105nm,0.3s,baz=320,slow=23,SNR=6.1			Sn	Sn	10 08 42.3	-10
INU	**Inuyama**	**5.12**	**309**		**Pn**	**10 07 55.7**	**+0.5**
INU	**Inuyama**	**5.12**	**309**	P	**Pn**	**10 07 56.7**	**+1.5**
MJAR	**Matsushiro Arr** 1.5nm,0.3s,baz=152,slow=12,SNR=38	**5.28**	**326**	Pn	**Pn**	**10 07 57.5**	**-0.1**
MJAR	1.0nm,0.3s,baz=151,slow=16,SNR=4.5			Sn	**Sn**	**10 08 59.4**	**+2.2**
MJAR	comp=Z,989nm,18.7s,baz=131,slow=40 21nm,0.5s			LR	LR	10 10 08.3	
MAJO	**Matsushiro**	**5.28**	**326**	Pn	**Pn**	**10 07 56.5**	**-1.1**
MAJO	**Matsushiro**	**5.28**	**326**	P	**Pn**	**10 07 58.1**	**+0.6**
MAJO	**Matsushiro**	**5.28**	**326***c*	*i* P	**Pn**	**10 07 58.1**	**+0.6**
MAT	**Matsushiro**	**5.28**	**326**	P	**Pn**	**10 07 57.9**	**+0.3**
MAT				*e*S	**Sn**	**10 08 56.3**	**-1.0**
JMM	**Marumori**	**5.72**	**351**	Pn	**Pn**	**10 08 01.4**	**-2.1**
JMM	**Marumori**	**5.72**	**351**	P	**Pn**	**10 08 01.7**	**-1.8**
JSD	**Sado**	**6.53**	**334**	Pn	**Pn**	**10 08 14.9**	**+0.3**
JSD	**Sado**	**6.53**	**334**	P	**Pn**	**10 08 14.7**	**+0.1**
JMN	**Monobe**	**6.88**	**285**	P	**Pn**	**10 08 21.1**	**+1.6**
JTM	**Tenmabayashi**	**8.60**	**356**	P	**Pn**	**10 08 41.5**	**-1.4**
JNU	**Nakatsue** 0.3nm,0.3s,baz=48,slow=4.7,SNR=4.6	**9.31**	**279**	Pn	**Pn**	**10 08 53.4**	**+0.6**
JNU	comp=Z,887nm,18.3s,baz=124,slow=40 11nm,0.8s			LR	LR	10 12 46.4	
ERM	**Erimo**	**9.85**	**6***ce*	P	**Pn**	**10 09 02.0**	**+1.8**
ERM	comp=Z,187nm,1.7s			pmax	pmax		
ASAJ	**Asahikawa** comp=Z,2.2nm,0.3s,baz=213,slow=7.8,SNR=11	**11.91**	**3**	Pn	**Pn**	**10 09 27.0**	**-1.4**
ASAJ	comp=Z,646nm,20.9s,baz=194,slow=41 comp=Z,7.8nm,0.4s			LR	LR	10 14 48.3	
KSRS	**Korea Array** comp=Z,0.4nm,0.3s,baz=107,slow=13,SNR=8.2	**12.59**	**298**	Pn	**Pn**	**10 09 42.1**	**+4.4**
KSRS	comp=Z,643nm,18.0s,baz=105,slow=38			LR	LR	10 14 40.0	
JOW	**Kunigami** comp=Z,712nm,18.5s,baz=118,slow=38	**12.98**	**249**	LR	LR	10 14 51.0	
USRK	**Ussuriysk Ar.** comp=Z,0.2nm,0.3s,baz=153,slow=9.7,SNR=4.6 comp=Z,5.1nm,0.9s	**14.26**	**330**	Pn	**Pn**	**10 09 58.4**	**-2.0**
YSS	**Yuzh-Sakhalins**	**14.75**	**2**	*e*P	**Pn**	**10 10 07.8**	**+0.8**
YSS	comp=Z,30nm,1.1s			pmax	pmax		
YSS	comp=Z,3μm,18.0s			MLR	MLR		
MDJ	**Mudanjiang**	**15.67**	**326**	P	**Pn**	**10 10 18.8**	**-0.3**
MDJ	comp=Z,16nm,1.1s			pmax	pmax		
MDJ	comp=Z,160nm,4.1s			pmax	pmax		
MDJ	**Mudanjiang**	**15.67**	**326**	Pn	**Pn**	**10 10 18.8**	**-0.3**
CN2	**Changchun**	**17.33**	**317**	*e*P	**Pn**	**10 10 39.0**	**-1.2**
CN2				*e*S	**Sn**	**10 13 51.8**	**-0.1**
CN2	comp=Z,10.0nm,0.8s			pmax	pmax		
CN2	comp=Z,100nm,8.0s			pmax	pmax		
CN2	comp=Z,1μm,14.0s			LR	LR		
CN2	comp=Z,1μm,14.0s			LR	LR		
CN2	comp=Z,1μm,14.0s			LR	LR		
SNY	**Shenyang**	**17.45**	**309**	⇓P	**Pn**	**10 10 42.0**	**+0.3**
SNY				S	**Sn**	**10 13 54.0**	**-0.9**
SNY	comp=Z,42nm,0.9s			pmax	pmax		
SNY	comp=Z,200nm,4.1s			pmax	pmax		
SNY	comp=Z,1μm,14.5s			LR	LR		
SNY	comp=Z,450nm,14.9s			LR	LR		
SNY	comp=Z,980nm,16.7s			LR	LR		
BNX	**BinXian**	**17.55**	**325**	⇑P	**Pn**	**10 10 41.3**	**-1.5**
BNX	comp=Z,23nm,1.0s			pmax	pmax		
BNX	comp=Z,400nm,4.6s			pmax	pmax		
KLR	**Kul'dur**	**18.63**	**339***ce*	P	**P**	**10 10 54.0**	**-1.6**
KLR	comp=Z,23nm,1.7s			pmax	pmax		
KLR	**Kul'dur** comp=Z,5.6nm,0.6s,baz=152,slow=5.9,SNR=15	**18.63**	**339**	P	**P**	**10 10 53.1**	**-2.4**

TYV	**Tymovskoe**	**18.66**	**2**	*e*P	**P**	**10 10 49.5**	**-6.3**
TYV				pmax	pmax		
	comp=Z,22nm,1.0s						
TYV				pmax	pmax		
	comp=Z,800nm,2.8s						
GUMO	**Guam**	**18.73 171**			**Pn**	**10 10 58.2**	**+0.7**
GUMO	**Guam**	**18.73 171**		P	**Pn**	**10 10 58.2**	**+0.7**
GUMO				pmax	pmax		
	comp=Z,301nm,1.0s						
GUMO	**Guam**	**18.73 171**		P	**P**	**10 10 56.6**	**-0.2**
	comp=Z,312nm,1.0s,baz=346,slow=4.2,SNR=9.9						
GRNR	**Gornyy**	**18.99 349**		*e*P	**P**	**10 10 53.6**	**-5.9**
GRNR				MLR	MLR		
	comp=E,450nm,15.0s						
GRNR				MLR	MLR		
	comp=N,520nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,930nm,18.0s						
NJ2	**Nanjing**	**19.49 276**		*e*P	**P**	**10 11 04.8**	**-0.3**
NJ2				pP	**sP**	**10 11 14.0**	**-0.7**
NJ2				sP	**pwP**	**10 11 18.8**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,290nm,5.2s						
SSLB	**Suanglung**	**20.25 251**		P	**P**	**10 11 13.1**	**-0.4**
SSLB				IAmb	IAmb	10 11 21.1	
	comp=Z,70nm,1.1s						
TIA	**Tai'an**	**20.83 288**		*e*P	**P**	**10 11 14.3**	**-5.4**
TIA				pmax	pmax		
	comp=Z,12nm,2.4s						
TIA				LR	LR		
	comp=N,800nm,16.2s						
TIA				LR	LR		
	comp=E,1μm,14.7s						
TIA				LR	LR		
	comp=Z,2μm,15.7s						
HEH	**HeiHe**	**20.99 333**		*e*P	**P**	**10 11 20.0**	**-1.3**
HEH				pmax	pmax		
	comp=Z,41nm,1.1s						
BJI	**Beijing**	**22.13 298**		P	**P**	**10 11 30.8**	**-2.7**
BJI				pP	**pP**	**10 11 38.5**	**-2.1**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BJI				LR	LR		
	comp=Z,310nm,11.7s						
BJI				LR	LR		
	comp=Z,380nm,14.2s						
BJT	**Baijiatuau**	**22.13 298**		P	**P**	**10 11 30.8**	**-2.8**
BJT	**Baijiatuau**	**22.13 298**		P	**P**	**10 11 30.8**	**-2.8**
BJT				pmax	pmax		
	comp=Z,41nm,1.6s						
HNS	**HongShan**	**22.86 291**		⇓P	**P**	**10 11 38.5**	**-2.8**
HNS				*e*S	**S**	**10 15 41.8**	**-6.7**
HNS				pmax	pmax		
	comp=Z,20nm,0.7s						
HNS				LR	LR		
	comp=Z,820nm,15.1s						
HNS				LR	LR		
	comp=Z,1μm,16.4s						
HNS				LR	LR		
	comp=Z,1μm,16.0s						
XLT	**XiLinHaoTe**	**23.33 307**		*e*P	**P**	**10 11 43.3**	**-2.8**
XLT				pP	pP	10 11 52.8	-0.8
XLT				sP	pwP	10 11 59.3	-3.0
XLT				pmax	pmax		
	comp=Z,27nm,1.3s						
XLT				pmax	pmax		
	comp=Z,400nm,5.1s						
XLT				LR	LR		
	comp=Z,94nm,13.7s						
XLT				LR	LR		
	comp=Z,620nm,11.0s						
XLT				LR	LR		
	comp=Z,500nm,16.3s						
WHN	**Wuhan**	**23.53 273**		⇓P	**P**	**10 11 46.3**	**-1.8**
HIA	**Hailar**	**23.77 322**		P	**P**	**10 11 49.2**	**-1.1**
HIA				IAmb	IAmb	10 11 50.4	
	comp=Z,18nm,0.7s						
HIA	**Hailar**	**23.77 322**		P	**P**	**10 11 49.2**	**-1.1**
HIA				pmax	pmax		
	comp=Z,18nm,0.7s						
ZEA	**Zeya**	**23.95 338**		*e*P	**P**	**10 11 52.4**	**+0.6**
ZEA				pmax	pmax		
	comp=N,50nm,0.9s						
ZEA				pmax	pmax		
	comp=E,20nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,100nm,0.8s						
LYN	**LuoYang**	**24.62 284**		⇓P	**P**	**10 11 56.3**	**-2.0**
LYN				pmax	pmax		
	comp=Z,31nm,0.9s						
LYN				pmax	pmax		
	comp=Z,400nm,5.0s						
LYN				LR	LR		
	comp=Z,700nm,12.4s						
LYN				LR	LR		
	comp=Z,1μm,16.1s						
LYN				LR	LR		
	comp=Z,2μm,14.1s						
H11N2	**WAKE ISLAND Hy**	**25.63 113**		T	T	10 38 50.0	
	baz=310,slow=74						
H11N1	**WAKE ISLAND Hy**	**25.64 113**		T	T	10 39 15.0	
	baz=310						
H11N3	**WAKE ISLAND Hy**	**25.65 113**		T	T	10 38 58.0	
	baz=310,slow=74						
HHC	**Hu-ho-hao-te**	**25.74 298**		*e*P	**P**	**10 12 06.5**	**-1.9**
HHC				*e*S	**S**	**10 16 34.8**	**-0.4**
HHC				sS	sS	10 16 46.5	-3.6
HHC				pmax	pmax		
	comp=Z,65nm,0.8s						
HHC				pmax	pmax		
	comp=Z,320nm,5.1s						
HHC				LR	LR		
	comp=Z,1μm,11.8s						
HHC				LR	LR		
	comp=Z,2μm,15.3s						
HHC				LR	LR		
	comp=Z,2μm,13.7s						
BTO	**Baotou**	**26.86 297**		*e*P	**P**	**10 12 19.0**	**+0.5**
BTO				pP	**sP**	**10 12 28.3**	**-0.3**
BTO				sP	**pwP**	**10 12 32.3**	**-2.9**
BTO				PP	**PnPn**	**10 13 04.0**	**+3.0**
BTO				PcP	**PcP**	**10 15 39.0**	**-1.4**
BTO				S	**S**	**10 16 55.5**	**+2.7**
BTO				SS	**SnSn**	**10 18 05.0**	**+6.1**
BTO				pmax	pmax		
	comp=Z,64nm,0.7s						
BTO				pmax	pmax		
	comp=Z,570nm,5.3s						
BTO				LR	LR		
	comp=Z,2μm,10.7s						
BTO				LR	LR		
	comp=Z,1μm,6.3s						
BTO				LR	LR		
	comp=Z,1μm,11.8s						
XAN	**Xi'an**	**27.59 283**		⇓P	**P**	**10 12 23.0**	**-2.1**
XAN				pP	pP	10 12 32.3	-0.7
XAN				pmax	pmax		
	comp=Z,32nm,0.8s						
XAN				pmax	pmax		
	comp=Z,290nm,5.2s						
XAN				LR	LR		
	comp=Z,780nm,10.3s						
XAN				LR	LR		
	comp=Z,640nm,12.5s						
XAN				LR	LR		
	comp=Z,830nm,13.6s						
MA2	**Magadan**	**28.02 10**		LR	LR	10 23 40.8	
	comp=Z,197nm,21.5s,baz=158,slow=36						
DAV	**Davao City (W)**	**29.25 215**		LR	LR	10 23 13.8	
	comp=Z,286nm,20.2s,baz=28,slow=34						
ULN	**Ulaanbaatar**	**30.60 311**		P	**P**	**10 12 52.8**	**+1.0**
ULN				IAmb	IAmb	10 13 01.4	
	comp=Z,22nm,1.1s						
ULN	**Ulaanbaatar**	**30.60 311**		P	**P**	**10 12 53.1**	**+1.2**
ULN				P	**P**	**10 12 53.1**	**+1.2**
ULN	**Ulaanbaatar**	**30.60 311**		P	**P**	**10 12 52.8**	**+1.0**
ULN				pmax	pmax		
	comp=Z,22nm,1.1s						
ULN	**Ulaanbaatar**	**30.60 311**		P	**P**	**10 12 53.0**	**+1.2**
YAK	**Yakutsk**	**30.87 349**		*e*P	**P**	**10 12 54.0**	**+0.2**
YAK				pmax	pmax		
	comp=Z,12nm,0.7s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
SHEM	**Shemya Is, Ala**	**31.01 39**		LR	LR	10 23 16.8	
	comp=E,325nm,19.5s,baz=214,slow=32						
SONM	**Songino Array**	**31.01 311**		P	**P**	**10 12 56.0**	**+0.6**
SONM	**Songino Array**	**31.01 311**		P	**P**	**10 12 56.1**	**+0.6**
SONM				pmax	pmax		
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**31.01 311**		P	**P**	**10 12 56.0**	**+0.6**
	comp=Z,11nm,1.0s,baz=116,slow=8.0,SNR=30						
	comp=Z,11nm,1.0s						
SEY	**Seymchan**	**31.47 9**		*i* P	**P**	**10 13 01.3**	**+2.2**
BOD	**Bodaibo**	**31.89 332**		*e*P	**P**	**10 13 02.7**	**-0.1**
BOD				pmax	pmax		
	comp=Z,23nm,1.7s						
CD2	**Chengdu**	**32.39 278**		*e*P	**P**	**10 13 07.0**	**-0.6**
ZAK	**Zakamensk**	**33.73 314**		*e*P	**P**	**10 13 19.4**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,12nm,1.3s						
GTA	**Gaotai**	**34.61 294**		*e*P	**P**	**10 13 26.3**	**-0.7**
GTA				sP	sP	10 13 39.0	+1.9
GTA				pmax	pmax		
	comp=Z,11nm,1.2s						
GTA				LR	LR		
	comp=Z,510nm,14.2s						
GTA				LR	LR		
	comp=Z,730nm,14.9s						
GTA				LR	LR		
	comp=Z,650nm,16.7s						
PZH	**PanZhiHua**	**35.28 271**		P	**P**	**10 13 32.0**	**-0.9**
PZH				S	**S**	**10 19 06.3**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,210nm,5.5s						
PZH				LR	LR		
	comp=Z,330nm,14.1s						
PZH				LR	LR		
	comp=Z,350nm,15.1s						
PZH				LR	LR		
	comp=Z,330nm,13.7s						
LBMI	**Labuha**	**35.37 205**		P	**P**	**10 13 33.1**	**-0.5**
	comp=Z,34nm,1.3s,comp=Z,1μm						
MRSI	**Marisa**	**36.73 215**		P	**P**	**10 13 43.9**	**-1.3**
	comp=Z,24nm,1.2s,comp=Z,829nm						
TOLI2	**Tolitoli**	**36.76 217**		P	**P**	**10 13 42.9**	**-2.6**
SANI	**Sanana**	**37.24 207**		P	**P**	**10 13 47.3**	**-2.2**
	comp=Z,50nm,0.8s						
LUWI	**Luwuk**	**37.68 212**		P	**P**	**10 13 52.2**	**-1.0**
NLAI	**Namlea**	**37.93 204**		P	**P**	**10 13 54.9**	**-0.4**
	comp=Z,13nm,0.9s,comp=Z,5μm						
TNCH	**TengChong**	**38.52 271**		*e*P	**P**	**10 14 01.5**	**+1.0**
TNCH				pP	pP	10 14 04.5	-4.0
GOMU	**GeErMu**	**38.83 289**		P	**P**	**10 14 03.0**	**-0.2**
GOMU				pmax	pmax		
	comp=Z,34nm,0.9s						
GOMU				LR	LR		
	comp=Z,320nm,15.6s						
GOMU				LR	LR		
	comp=Z,220nm,15.0s						
GOMU				LR	LR		
	comp=Z,390nm,15.8s						
TIXI	**Tiksi**	**40.12 354**		P	**P**	**10 14 13.3**	**+0.3**
TIXI	**Tiksi**	**40.12 354**	*c i* P		**P**	**10 14 13.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**40.87 261**		P	**P**	**10 14 18.2**	**-1.7**
	comp=Z,1.4nm,0.8s,baz=46,slow=8.2,SNR=7.9						
CMAR				LR	LR	10 33 13.3	
	comp=Z,81nm,18.2s,baz=50,slow=39						
	comp=Z,1.4nm,0.8s						
KAPI	**Kappang**	**42.57 214**		P	**P**	**10 14 31.8**	**-2.0**
	comp=Z,2.9nm,0.5s,baz=63,slow=16,SNR=3.8						
	comp=Z,2.9nm,0.5s						
WMQ	**Urumqi**	**43.52 302**		*e*P	**P**	**10 14 42.5**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
WMQ				LR	LR		
	comp=Z,400nm,13.3s						
WMQ				LR	LR		
	comp=Z,140nm,15.1s						
DGZ	**Jazzator, Alta**	**43.66 310**		*i* P	**P**	**10 14 43.0**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,42nm,1.4s						
SOEI	**Soe**	**44.98 205**		P	**P**	**10 14 53.3**	**0.0**
EDFI	**Ende, Flores**	**45.05 209**		P	**P**	**10 14 52.3**	**-1.5**
	comp=Z,27nm,0.8s						
ZSN	**Zaisan**	**45.34 307**		*e*P	**P**	**10 14 55.6**	**-0.2**
	comp=Z,13nm,0.5s,baz=307						
ZSN	**Zaisan**	**45.34 307**		*e*P	**P**	**10 14 55.6**	**-0.2**
ZSN				pmax	pmax		
	comp=Z,13nm,0.5s						
ZAA0	**Zalesovo Array**	**45.55 316**		P	**P**	**10 14 57.3**	**0.0**
ZAA0				IAmb	IAmb	10 14 58.6	
	comp=Z,18nm,1.1s						
ZALV	**Zalesovo Beam**	**45.55 316**		P	**P**	**10 14 56.7**	**-0.5**
ZALV	**Zalesovo Beam**	**45.55 316**		P	**P**	**10 14 57.3**	**+0.1**
	comp=Z,9.1nm,0.6s,baz=95,slow=7.4,SNR=47						
	comp=Z,9.1nm,0.6s						
BATI	**Baumata**	**45.62 205**		P	**P**	**10 14 56.5**	**-1.7**
	comp=Z,17nm,0.3s,baz=269,slow=10,SNR=1.9						
	comp=Z,17nm,0.3s						
MTN	**Manton Dam**	**45.95 195**		P	**P**	**10 15 00.2**	**-0.6**
TAPN	**Taplejung**	**46.85 279**		*e*P	**P**	**10 15 07.5**	**-0.7**
	comp=Z,20nm,0.6s						
MK31	**Makanchi Array**	**47.13 306**		P	**P**	**10 15 10.5**	**+0.6**
MK31	**Makanchi Array**	**47.13 306**		P	**P**	**10 15 10.5**	**+0.6**
MK31				pmax	pmax		
	comp=Z,32nm,1.0s						
MKAR	**Makanchi Array**	**47.13 306**		P	**P**	**10 15 10.8**	**+0.9**
MKAR	**Makanchi Array**	**47.13 306**		P	**P**	**10 15 10.8**	**+0.9**
MKAR	**Makanchi Array**	**47.13 306**		P	**P**	**10 15 10.5**	**+0.7**
	comp=Z,31nm,0.8s,baz=90,slow=9.6,SNR=162						
MKAR				LR	LR	10 35 41.6	
	comp=Z,121nm,18.4s,baz=76,slow=37						
	comp=Z,31nm,0.8s						
MAKZ	**Makanchi**	**47.35 306**		P	**P**	**10 15 12.3**	**+0.8**
MAKZ	**Makanchi**	**47.35 306**		P	**P**	**10 15 12.3**	**+0.8**
MAKZ				pmax	pmax		
	comp=Z,28nm,0.8s						
MAKZ	**Makanchi**	**47.35 306**		P	**P**	**10 15 12.1**	**+0.5**
JIRN	**Jiri**	**48.02 280**		*e*P	**P**	**10 15 16.8**	**-0.6**
	comp=Z,124nm,0.6s						
GUN	**Gumba**	**48.19 280**		*e*P	**P**	**10 15 18.1**	**-0.6**
	comp=Z,103nm,0.8s						
SEM	**Semipalatinsk**	**48.28 311**		*e*P	**P**	**10 15 17.9**	**-1.1**
	comp=Z,8.1nm,0.8s,baz=311						
SEM	**Semipalatinsk**	**48.28 311**		*e*P	**P**	**10 15 17.8**	**-1.1**
SEM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PKI	**Pulchoki**	**48.70 280**		*e*P	**P**	**10 15 21.4**	**-1.2**
	comp=Z,44nm,0.8s						
PKIN	**Phulchoki**	**48.71 280**		*e*P	**P**	**10 15 21.8**	**-0.8**
DMN	**Daman**	**48.94 280**		*e*P	**P**	**10 15 23.9**	**-0.5**
GKN	**Gorkha**	**49.20 281**		*e*P	**P**	**10 15 25.8**	**-0.4**
KNRA	**Kununurra**	**49.23 197**		P	**P**	**10 15 26.4**	**+0.2**
KURK	**Kurchatov**	**49.31 312**		P	**P**	**10 15 26.6**	**+0.1**
KURK	**Kurchatov**	**49.31 312**		P	**P**	**10 15 26.8**	**+0.3**
KURK				P	**P**	**10 15 26.8**	**+0.3**
KURK				S	**S**	**10 22 34.3**	**+3.9**
KURK				S	**S**	**10 22 34.3**	**+3.9**
KURK	**Kurchatov**	**49.31 312**		P	**P**	**10 15 27.3**	**+0.8**
KURK	**Kurchatov**	**49.31 312**		P	**P**	**10 15 26.5**	**0.0**
KURBB	**Kurchatov Arra**	**49.37 311**		P	**P**	**10 15 27.3**	**+0.3**
	comp=Z,98nm,1.2s,baz=86,slow=7.5,SNR=94						
KURBB				LR	LR	10 37 20.5	
	comp=Z,431nm,18.7s,baz=168,slow=37						
	comp=Z,98nm,1.2s						
PDGK	**Podgornoye**	**49.50 302**		P	**P**	**10 15 27.6**	**-0.7**
SHLS	**Shalkode**	**49.55 302**		*e*P	**P**	**10 15 25.5**	**-3.1**
	baz=302						
SHLS	**Shalkode**	**49.55 302**		*e*P	**P**	**10 15 25.5**	**-3.1**
E19K	**Redstone River**	**49.59 26**		IAmb	IAmb	10 15 45.2	
	comp=Z,26nm,1.6s						
DANN	**Dangsing**	**49.81 282**		*e*P	**P**	**10 15 30.5**	**-0.6**
UZB	**Uzynbulak**	**49.87 302**		*e*P	**P**	**10 15 30.4**	**-0.7**
	baz=302						
UZB	**Uzynbulak**	**49.87 302**		*e*P	**P**	**10 15 30.3**	**-0.8**
TDK	**Taldyqorghan**	**50.02 304**		*e*P	**P**	**10 15 32.3**	**+0.1**
	baz=304						
TDK	**Taldyqorghan**	**50.02 304**		*e*P	**P**	**10 15 32.2**	**+0.1**
KPKS	**Kokpek**	**50.06 302**		*e*P	**P**	**10 15 31.7**	**-0.8**
	baz=302						
KPKS	**Kokpek**	**50.06 302**		*e*P	**P**	**10 15 31.7**	**-0.8**
SATY	**Saty**	**50.33 302**		*e*P	**P**	**10 15 34.1**	**-0.5**
	baz=302						
SATY	**Saty**	**50.33 302**		*e*P	**P**	**10 15 34.1**	**-0.5**
KDAK	**Kodiak Island**	**50.52 39**		P	**P**	**10 15 35.4**	**-0.2**
KDAK	**Kodiak Island**	**50.52 39**		P	**P**	**10 15 35.4**	**-0.2**
KDAK				pmax	pmax		
	comp=Z,236nm,2.0s						
KDAK	**Kodiak Island**	**50.52 39**		LR	LR	10 35 08.0	
	comp=Z,259nm,21.7s,baz=268,slow=34						
PYUN	**Piuthan**	**50.53 282**		*e*P	**P**	**10 15 36.0**	**-0.4**
	comp=Z,102nm,0.7s						
LEM	**Lembang**	**50.71 226**		P	**P**	**10 15 36.3**	**-1.4**
	comp=Z,41nm,1.5s						
E21K	**Killik River**	**51.00 25**		P	**P**	**10 15 41.3**	**+2.1**
E21K				IAmb	IAmb	10 16 00.5	
	comp=Z,9.3nm,1.1s						
TARG	**Taragay, Kyrgy**	**51.01 300**		P	**P**	**10 15 40.7**	**+0.6**
TARG				IAmb	IAmb	10 15 41.8	
	comp=Z,12nm,0.8s						
TARG	**Taragay, Kyrgy**	**51.01 300**		P	**P**	**10 15 40.7**	**+0.6**
TARG				pmax	pmax		
	comp=Z,12nm,0.8s						
CAST	**Castle Rocks**	**51.06 32**		P	**P**	**10 15 42.1**	**+2.4**
CAST				IAmb	IAmb	10 16 21.5	
	comp=Z,29nm,1.8s						
CHKK	**Chushkaly**	**51.21 303**		*e*P	**P**	**10 15 40.9**	**-0.2**
	baz=303						
CHKK	**Chushkaly**	**51.21 303**		*e*P	**P**	**10 15 40.8**	**-0.2**
MDOK	**Medeo**	**51.29 302**		*e*P	**P**	**10 15 41.7**	**-0.2**
	baz=302						
MDOK	**Medeo**	**51.29 302**		*e*P	**P**	**10 15 41.6**	**-0.2**
AAA	**Alma-Ata**	**51.37 302**		*e*P	**P**	**10 15 42.7**	**+0.3**
	baz=302						
AAA	**Alma-Ata**	**51.37 302**		*e*P	**P**	**10 15 42.6**	**+0.3**
TNSS	**Tian-Shan**	**51.38 302**		*e*P	**P**	**10 15 42.8**	**-0.1**
	baz=302						
TNSS	**Tian-Shan**	**51.38 302**		*e*P	**P**	**10 15 42.7**	**-0.1**
KUU	**Kurty**	**51.66 303**		*e*P	**P**	**10 15 44.0**	**-0.5**
	baz=303						
KUU	**Kurty**	**51.66 303**		*e*P	**P**	**10 15 44.0**	**-0.5**
CTA	**Charters Tower**	**52.16 175**		P	**P**	**10 15 49.4**	**+1.1**
	comp=Z,1.2nm,0.4s,baz=28,slow=9.1,SNR=2.0						
CTA				LR	LR	10 38 31.5	
	comp=Z,109nm,18.2s,baz=320,slow=37						
	comp=Z,1.2nm,0.4s						
WB0	**Warramunga Arr**	**52.16 189**		P	**P**	**10 15 48.0**	**-0.4**
BOOM	**Boomskoye usch**	**52.22 301**		IAmb	IAmb	10 15 51.0	
	comp=Z,6.6nm,0.8s						
WRAB	**Tennant Creek**	**52.33 189**		P	**P**	**10 15 49.3**	**-0.3**
WRAB				pP	**sP**	**10 16 01.3**	**+0.8**
WRA	**Warramunga Arr**	**52.34 189**		P	**P**	**10 15 48.2**	**-1.5**
WRA	**Warramunga Arr**	**52.34 189**	*i* P		**P**	**10 15 49.4**	**-0.2**
WRA				pmax	pmax		
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**52.34 189**		P	**P**	**10 15 48.9**	**-0.7**
	comp=Z,19nm,0.8s,baz=5.8,slow=7.7,SNR=54						
	comp=Z,19nm,0.8s						
H23K	**Yukon River**	**52.36 29**		P	**P**	**10 15 52.4**	**+3.1**
TKM2	**Tokmak 2**	**52.38 302**	*i* P		**P**	**10 15 50.6**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,11nm,0.7s						
C23K	**Itkillik River**	**52.42 24**		P	**P**	**10 15 52.6**	**+2.9**
TOLK	**Toolik Lake Re**	**52.63 25**		P	**P**	**10 15 53.2**	**+1.8**
TOLK				IAmb	IAmb	10 16 20.4	
	comp=Z,14nm,1.3s						
KSH	**Kashi**	**52.85 298**		P	**P**	**10 15 57.0**	**+3.5**
KSH				pmax	pmax		
	comp=Z,32nm,0.7s						
KSH				LR	LR		
	comp=Z,240nm,15.5s						
KSH				LR	LR		
	comp=Z,540nm,12.9s						
KSH				LR	LR		
	comp=Z,360nm,13.4s						
MDM	**Murphy Dome**	**52.85 30**		P	**P**	**10 15 54.0**	**+1.1**
MDM				IAmb	IAmb	10 16 11.9	
	comp=Z,11nm,1.0s						
SGDS	**Sogindy**	**52.96 303**		*e*P	**P**	**10 15 53.7**	**-0.5**
	baz=303						
SGDS	**Sogindy**	**52.96 303**		*e*P	**P**	**10 15 53.7**	**-0.5**
H24K	**Noodor Dome**	**53.05 29**		P	**P**	**10 15 56.1**	**+1.7**
H24K				IAmb	IAmb	10 16 34.0	
	comp=Z,28nm,1.8s						
BTLS	**Baital**	**53.06 305**		*e*P	**P**	**10 15 54.5**	**-0.4**
	comp=Z,12nm,0.9s,baz=305						
BTLS	**Baital**	**53.06 305**		*e*P	**P**	**10 15 54.4**	**-0.4**
BTLS				pmax	pmax		
	comp=Z,12nm,0.9s						
BRZS	**Berezniki**	**53.17 311**		*e*P	**P**	**10 15 55.0**	**-0.5**
	comp=Z,10nm,1.0s,baz=311						
BRZS	**Berezniki**	**53.17 311**		*e*P	**P**	**10 15 55.0**	**-0.5**
BRZS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AAK	**Ala-Archa**	**53.23 302**		P	**P**	**10 15 56.5**	**+0.2**
AAK				IAmb	IAmb	10 15 58.2	
	comp=Z,10.0nm,0.9s						
AAK	**Ala-Archa**	**53.23 302**		P	**P**	**10 15 56.5**	**+0.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AAK	**Ala-Archa**	**53.23 302**		LR	LR	10 38 44.7	
	comp=Z,199nm,18.0s,baz=80,slow=36						
IL31		**53.42 30**		IAmb	IAmb	10 16 17.5	
	comp=Z,14nm,1.3s						
ILAR	**Eielson Array**	**53.42 30**		P	**P**	**10 15 57.0**	**-0.1**
	comp=Z,1.8nm,1.0s,baz=264,slow=6.5,SNR=11						
	comp=Z,1.8nm,1.0s						
OTUK	**Ortayu**	**53.66 309**		P	**P**	**10 15 59.1**	**-0.1**
AML	**Almayashu**	**53.92 301**	*i* P		**P**	**10 16 01.8**	**+0.2**
AML				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BVA0	**Borovoye Array**	**54.17 315**	*i* P		**P**	**10 16 02.6**	**-0.2**
BVAR	**Borovoye Array**	**54.17 315**		P	**P**	**10 16 03.3**	**+0.4**
	comp=Z,6.5nm,0.6s,baz=88,slow=7.7,SNR=35						
BVAR				LR	LR	10 40 32.3	
	comp=Z,188nm,18.8s,baz=75,slow=38						
	comp=Z,6.5nm,0.6s						
BRVK	**Borovoye**	**54.23 315**		P	**P**	**10 16 03.1**	**-0.1**
BRVK				IAmb	IAmb	10 16 04.7	
	comp=Z,18nm,1.1s						
BRVK	**Borovoye**	**54.23 315**		P	**P**	**10 16 03.9**	**+0.6**
BRVK	**Borovoye**	**54.23 315**	*ce*P		**P**	**10 16 03.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,22nm,1.3s						
BRVK	**Borovoye**	**54.23 315**		P	**P**	**10 16 03.5**	**+0.3**
J26L	**Joseph Creek**	**54.85 31**		IAmb	IAmb	10 17 28.7	
	comp=Z,30nm,1.9s						
DZA	**Taraz**	**55.44 303**		*e*P	**P**	**10 16 11.9**	**-0.4**
	baz=303						
DZA	**Taraz**	**55.44 303**		*e*P	**P**	**10 16 11.8**	**-0.4**
KK31	**Karatay Array**	**55.97 303**	*i* P		**P**	**10 16 16.2**	**+0.2**
KKAR	**Karatay Array**	**55.97 303**		P	**P**	**10 16 15.4**	**-0.6**
KKAR	**Karatay Array**	**55.97 303**		IAmb	IAmb	10 16 17.4	
	comp=Z,27nm,0.9s						
KKAR	**Karatay Array**	**55.97 303**		P	**P**	**10 16 15.4**	**-0.6**
AS31	**Alice Springs**	**56.07 189**		P	**P**	**10 16 17.0**	**+0.2**
ASAR	**Alice Springs**	**56.07 189**		P	**P**	**10 16 15.9**	**-0.9**
ASAR	**Alice Springs**	**56.07 189**		P	**P**	**10 16 16.3**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=18,slow=13,SNR=57						
ASAR				LR	LR	10 40 12.5	
	comp=Z,175nm,18.4s,baz=350,slow=36						
	comp=Z,2.7nm,0.6s						
F28M	**Old Crow**	**56.23 27**		P	**P**	**10 16 18.9**	**+1.5**
E28M	**Babbage River**	**56.30 26**		IAmb	IAmb	10 16 30.1	
	comp=Z,12nm,1.2s						
BTK	**Batken**	**56.55 300**		IAmb	IAmb	10 16 20.8	
	comp=Z,15nm,1.1s						
IUG	**Iuzhnay**

SIMJ	Simiganj	58.29	298	P	P	10 16 32.9 +0.3
N31M	Braeburn, Yuko	58.71	34	IAmb	IAmb	10 16 41.0
	comp=Z,14nm,1.1s					
SVE	Sverdlovsk	59.07	321	eP	P	10 16 37.9 +0.4
SVE				pmax	pmax	
	comp=Z,24nm,0.9s					
M31M	Drury Creek, Y	59.22	33	IAmb	IAmb	10 17 20.5
	comp=Z,12nm,1.1s					
WHY	Whitehorse	59.30	35	IAmb	IAmb	10 17 03.4
	comp=Z,6.9nm,0.9s					
SKAG	Skagway	59.33	36	IAmb	IAmb	10 16 42.4
	comp=Z,15nm,1.3s					
KBL	Kabul	59.60	294	P	P	10 16 41.8 -0.1
KBL	Kabul	59.60	294	P	P	10 16 42.7 +0.9
	SNR=10					
KBL				S	S	10 24 54.2 +4.2
KBL	Kabul	59.60	294	P	P	10 16 41.8 -0.1
KBL				pmax	pmax	
	comp=Z,20nm,1.0s					
FARO	Faro, Yukon	59.69	33	IAmb	IAmb	10 17 17.2
	comp=Z,7.2nm,1.0s					
N32M	Quiet Lake	60.05	34	IAmb	IAmb	10 17 15.2
	comp=Z,8.1nm,0.9s					
P32M	Atlin	60.10	36	IAmb	IAmb	10 17 20.1
	comp=Z,12nm,1.2s					
ARU	Arti	60.27	321	P	P	10 16 46.0 +0.3
ARU	Arti	60.27	321	c iP	P	10 16 46.1 +0.3
ARU						10 17 29.9
ARU						10 18 56.0
ARU				S	S	10 25 00.2 +2.8
ARU				SS	SS	10 28 50.7 -3.9
ARU				pmax	pmax	
	comp=Z,22nm,0.8s					
ARU				MLR	MLR	
	comp=Z,375nm,18.0s					
ARU	Arti	60.27	321	P	P	10 16 46.1 +0.3
P33M	Teslin, Yukon	60.40	35	IAmb	IAmb	10 16 49.0
	comp=Z,18nm,1.4s					
MMPY	Sheldon Lake,	60.55	32	P	P	10 16 49.0 +1.3
AB31	Akbulak array	61.40	312	i P	P	10 16 53.4 -0.2
ABKAR	Akbulak array	61.40	312	P	P	10 16 54.1 +0.5
ABKAR	Akbulak array	61.40	312	IAmb	IAmb	10 16 55.4
	comp=Z,21nm,1.0s					
PALK	Pallekele	61.81	260	LR	LR	10 45 37.5
	comp=Z,95nm,18.8s,baz=187,slow=38					
S34M	Telegraph Cree	61.83	37	IAmb	IAmb	10 16 59.6
	comp=Z,8.4nm,1.2s					
DLBC	Dease Lake	62.24	36	P	P	10 17 00.8 +1.6
DLBC				IAmb	IAmb	10 17 18.7
	comp=Z,7.9nm,1.1s					
T35M	Bob Quinn	62.56	38	IAmb	IAmb	10 17 10.9
	comp=Z,12nm,1.1s					
STKA	Stephens Creek	63.73	180	P	P	10 17 09.2 0.0
	comp=Z,2.4nm,0.8s,baz=342,slow=9.6,SNR=2.0					
	comp=Z,2.4nm,0.8s					
KIRV	Kirov	64.36	325	ceP	P	10 17 13.8 +0.7
HRA	Herat	64.88	296	IAmb	IAmb	10 17 19.0
	comp=Z,7.2nm,0.7s					
EUNU	Eureka	64.90	8	P	P	10 17 16.9 +0.5
EUNU				IAmb	IAmb	10 17 34.1
	comp=Z,8.0nm,1.1s					
PRGR	Permogore	65.04	328	eP	P	10 17 15.2 -2.3
PRGR				pmax	pmax	
	comp=Z,13nm,0.8s					
MORW	Morawa	65.69	205	P	P	10 17 22.3 +0.3
GEYT	Alibeck	66.57	301	P	P	10 17 28.0 +0.2
GEYT				IAmb	IAmb	10 17 29.5
	comp=Z,11nm,0.9s					
GEYT	Alibeck	66.57	301	P	P	10 17 28.1 +0.2
	comp=Z,6.6nm,0.7s,baz=39,slow=2.8,SNR=14					
GEYT				LR	LR	10 48 07.3
	comp=Z,52nm,18.3s,baz=42,slow=37					
	comp=Z,6.6nm,0.7s					
RES	Resolute Bay	67.19	14	LR	LR	10 47 56.2
	comp=Z,56nm,21.8s,baz=345,slow=37					
BELG	Belogornoye	67.63	319	i P	P	10 17 34.0 -0.2
BELG				pmax	pmax	
	comp=Z,4.0nm,0.9s					
YKA	Yellowknife Ar	67.82	29	i P	P	10 17 38.2 +3.0
YKA				pmax	pmax	
	comp=Z,1.0nm,0.6s					
YKA	Yellowknife Ar	67.82	29	P	P	10 17 36.9 +1.7
	comp=Z,1.2nm,0.7s,baz=301,slow=6.9,SNR=5.5					
	comp=Z,1.2nm,0.7s					
KLMR	Klimovskoe	68.06	329	eP	P	10 17 33.2 -3.6
KLMR				AMP		10 17 37.8
	comp=Z,23nm,1.2s					
KLMR	Klimovskoe	68.06	329	eP	P	10 17 33.1 -3.7
KLMR				pmax	pmax	
	comp=Z,23nm,1.2s					
ARCES	ARCESS Array B	68.65	340	P	P	10 17 41.0 +0.6
	comp=Z,2.7nm,0.8s,baz=56,slow=6.6,SNR=3.9					
	comp=Z,2.7nm,0.8s					
NWAO	Narrogin (SRO)	68.82	202	P	P	10 17 41.8 0.0
NWAO	Narrogin (SRO)	68.82	202	P	P	10 17 42.3 +0.6
NWAO	Narrogin (SRO)	68.82	202	P	P	10 17 41.8 0.0
NWAO				pmax	pmax	
	comp=Z,172nm,1.1s					
NWAO	Narrogin (SRO)	68.82	202	P	P	10 17 42.4 +0.6
NWAO				pP	sP	10 17 54.5 +1.5
NWAO				sP	pwP	10 18 00.1 +1.0
DAG	Danmarks Havn	70.61	355	i P	P	10 17 52.0 -0.3
DAG				IAmb	IAmb	10 18 23.2
	comp=Z,4.2nm,0.9s					
DAG				IAML		10 18 23.2
	comp=Z,4.2nm,0.9s					
MOS	Moscow	71.37	325	eP	P	10 17 55.0 -2.3
MOS				e		10 20 33.5
VRH	Novokhopyorsk	71.44	319	eP	P	10 17 56.7 -1.1
VRH				pmax	pmax	
	comp=Z,10.0nm,0.8s					
MAK	Makhachkala	71.77	310	eP	P	10 17 57.8 -2.1
MAK				eS	S	10 27 15.3 -2.5
MAK				eSS	SS	10 31 51.2 -2.3
MAK				pmax	pmax	
	comp=Z,211nm,1.2s					
MAK				MLR	MLR	
	comp=Z,407nm,16.0s					
OBN	Obninsk	72.21	324	i P	P	10 18 01.1 -1.2
OBN				i		10 18 19.0
OBN				i		10 20 47.4
OBN				pmax	pmax	
	comp=Z,15nm,1.0s					
OBN				MLR	MLR	
	comp=Z,274nm,17.0s					
LPSR	Galich'ya Gora	72.27	321	eP	P	10 18 01.2 -1.5
LPSR				pmax	pmax	
	comp=Z,20nm,1.1s					
JLN	Jalan Bani Buh	72.42	285	P	P	10 18 04.7 +0.5
	SNR=6.6					
WSAR	Wadi Sarin	72.55	287	P	P	10 18 06.2 +1.2
WBK	Wadi Bani Khal	72.57	286	P	P	10 18 06.4 +1.4
BIDO	Bidbid	72.82	287	P	P	10 18 08.3 +1.8
VSR	Storozhevoye	72.84	320	eP	P	10 18 04.2 -1.9
VSR				pmax	pmax	
	comp=Z,10.0nm,0.6s					
VORD	Divnogorie	72.89	320	eP	P	10 18 06.3 -0.2
VORD				pmax	pmax	
	comp=Z,20nm,1.2s					
YBH	Yreka Blue Hor	73.04	51	LR	LR	10 43 49.7
	comp=Z,152nm,21.8s,baz=264,slow=31					
SMDO	Samad	73.10	287	P	P	10 18 10.3 +1.9
SMDO				P	P	10 18 10.3 +1.9
PINE	Pine Mountain	73.21	49	IAmb	IAmb	10 18 16.7
	comp=Z,11nm,0.9s					
SHME	Shamm	73.23	290	P	P	10 18 10.1 +1.2
SHME				P	P	10 18 10.1 +1.2
SHME				S	SKiKP	10 27 42.4 +4.3
SHME				S	SKiKP	10 27 42.4 +4.3
FINES	FINESS Array B	73.27	333	P	P	10 18 08.9 +0.4
	comp=Z,7.8nm,0.8s,baz=36,slow=7.3,SNR=16					
FINES				LR	LR	10 52 25.1
	comp=Z,108nm,18.4s,baz=50,slow=38					
	comp=Z,7.8nm,0.8s					
JMDO	Jabal Madar	73.39	286	P	P	10 18 10.7 +0.8
HOQ	Hoqain	73.45	288	P	P	10 18 11.9 +1.6
	SNR=5.4					
HOQ				P	P	10 18 11.9 +1.6
	SNR=5.4					
MDH	Madha	73.46	290	P	P	10 18 13.0 +2.7
MDH				P	P	10 18 13.0 +2.7
MASF	Masafi	73.54	290	P	P	10 18 12.5 +1.7
MASF				P	P	10 18 12.5 +1.7
UOSS	Minazif	73.70	289	P	P	10 18 12.4 +0.7
K05A	Summer Lake	73.75	50	IAmb	IAmb	10 18 56.2
	comp=Z,17nm,1.2s					
HATD	Hatta, Dubai	73.81	289	P	P	10 18 13.3 +0.9
HATD				P	P	10 18 13.3 +0.9
SOHO	SOHO	73.82	289	P	P	10 18 13.3 +0.9
ASHO	Ashiyiah	73.94	289	P	P	10 18 13.3 +0.2
BSY	Bisya	73.94	287	P	P	10 18 13.9 +0.7
	SNR=5.9					
BSY				P	P	10 18 13.9 +0.7
	SNR=5.9					
MHTO	MHTO	74.15	285	P	P	10 18 14.6 +0.2
	SNR=15					
ARQ	Araqi	74.21	288	P	P	10 18 15.5 +0.8
	SNR=6.9					
ARQ				P	P	10 18 15.5 +0.8
	SNR=6.9					
FAQ	Al Faqa, Dubai	74.28	290	P	P	10 18 15.7 +0.6
FAQ				P	P	10 18 15.7 +0.6
KBZ	Khabaz	74.37	312	ceP	P	10 18 16.2 +1.0
KBZ				pmax	pmax	
	comp=Z,30nm,0.9s					
KBZ	Khabaz	74.37	312	P	P	10 18 15.9 +0.6
	comp=Z,23nm,0.9s,baz=51,slow=8.7,SNR=26					
	comp=Z,23nm,0.9s					
KIV	Kislovodsk	74.39	312	eP	P	10 18 16.2 +0.7
KIV				pmax	pmax	
	comp=Z,30nm,1.1s					
ALNE	Al Ain	74.49	289	P	P	10 18 17.3 +1.0
ALNE				P	P	10 18 17.3 +1.0
ASUD	Al Ashush, Dub	74.55	290	P	P	10 18 17.7 +1.1
GNI	Garni	74.93	308	LR	LR	10 54 22.1
	comp=Z,188nm,18.2s,baz=62,slow=38					
BMO	Blue Mountains	74.96	46	IAmb	IAmb	10 18 51.3
	comp=Z,22nm,2.0s					
J08A	Circle Bar Ran	74.99	48	IAmb	IAmb	10 18 44.6
	comp=Z,14nm,1.5s					
SUMG	Summit	75.51	0	i P	P	10 18 22.9 +1.1
SUMG				IAmb	IAmb	10 18 53.3
	comp=Z,6.0nm,1.0s					
JRN	Qarnain Island	76.37	291	P	P	10 18 26.7 -0.4
SOC	Sochi	76.43	313	eP	P	10 18 25.3 -1.8
SOC				e		10 21 14.2
SOC				ePPP	PPP	10 23 03.3
SOC				eS	S	10 28 08.9 -1.2
SOC				eSS	SS	10 33 06.8 +2.6
SOC				eSSS	SSS	10 36 25.9
SOC				MLR	MLR	
	comp=Z,405nm,19.0s					
MFID	Camas Ranch	76.61	47	IAmb	IAmb	10 19 00.0
	comp=Z,27nm,1.9s					
YERR	Yerington	76.70	52	P	P	10 18 27.2 -1.8
YERR				IAmb	IAmb	10 18 43.1
	comp=Z,15nm,1.4s					
MNK	Minsk	76.72	327	i P	P	10 18 26.4 -2.1
	comp=E,18nm,1.2s					
MNK				i P	P	10 18 26.4 -2.1
	comp=N,24nm,0.7s					
MNK				i P	P	10 18 26.4 -2.1
	comp=Z,20nm,0.7s,baz=53					
MNK				i PcP	pwP	10 18 48.5 +2.0
MNK				i PP	PP	10 21 12.8 -7.8
MNK				i PPP	PPP	10 22 50.0
MNK				i S	S	10 28 11.1 -1.7
MNK				i SS	SS	10 32 56.2 -12
MNK				i LQ	LQ	10 47 14.2
MNK				i LR	LR	10 53 03.7
MNK	Minsk	76.72	327	i P	P	10 18 26.4 -2.1
MNK				i S	S	10 28 11.1 -1.7
MNK				pmax	pmax	
	comp=E,18nm,1.2s					
MNK				pmax	pmax	
	comp=N,24nm,0.7s					
MNK				pmax	pmax	
	comp=Z,20nm,0.7s					
NACGM	Naroch	76.98	328	eP	P	10 18 31.7 +1.7
	comp=Z,24nm,0.8s,baz=52					
SHMA	Al-Shehemyia	77.41	293	P	P	10 18 33.2 +0.3
DLMT	Dillon	77.53	44	IAmb	IAmb	10 18 53.7
	comp=Z,22nm,1.6s					
SHAO	Shalim	77.53	283	P	P	10 18 33.4 -0.3
LHV	Little Huntoon	77.57	53	IAmb	IAmb	10 18 41.0
	comp=Z,15nm,1.5s					
NVAR	Mina Array Bea	77.61	52	P	P	10 18 33.8 -0.3
NVAR	Mina Array Bea	77.61	52	P	P	10 18 34.9 +0.8
	comp=Z,1.0nm,0.8s,baz=289,slow=6.8,SNR=7.6					
NVAR				LR	LR	10 49 45.1
	comp=Z,168nm,19.6s,baz=269,slow=33					
	comp=Z,1.0nm,0.8s					
BOZ	Bozeman (W)	77.97	43	IAmb	IAmb	10 19 55.3
	comp=Z,28nm,2.0s					
DMTO	DMTO	78.24	284	P	P	10 18 38.2 +0.6
AKASG	Malin Array Be	78.36	323	P	P	10 18 37.5 -0.2
	comp=Z,2.2nm,0.4s,baz=48,slow=5.6,SNR=18					
	comp=Z,2.2nm,0.4s					
AKBB	Malin Array Si	78.36	323	IAmb	IAmb	10 18 38.7
	comp=Z,14nm,0.9s					
AKBB	Malin Array Si	78.36	323	ceP	P	10 18 37.6 -0.2
AKBB				pmax	pmax	
	comp=Z,47nm,2.0s					
DOK	Doka	78.46	285	P	P	10 18 38.7 -0.1
	SNR=10					
HFS	Hagfors	78.65	336	P	P	10 18 39.6 +0.5
	comp=Z,7.7nm,0.8s,baz=83,slow=3.5,SNR=11					
	comp=Z,7.7nm,0.8s					
NB2	NORSAR Subarra	78.79	338	P	P	10 18 39.7 -0.3
	comp=Z,3.2nm,0.9s,baz=41,slow=5.6					
NOA	NORSAR Array B	78.79	338	P	P	10 18 40.4 +0.4
	comp=Z,4.5nm,0.8s,baz=40,slow=5.3,SNR=11					
NOA				LR	LR	10 59 35.2
	comp=Z,169nm,18.3s,baz=45,slow=40					
	comp=Z,4.5nm,0.8s					
ICESG	Greenland Ices	79.01	1	i P	P	10 18 41.6 +0.2
ICESG				IAmb	IAmb	10 19 12.9
	comp=Z,5.0nm,1.1s					
WHFO	Wadi Hawf	79.11	284	P	P	10 18 42.6 +0.1
	SNR=6.1					
WHFO				P	P	10 18 42.6 +0.1
	SNR=6.1					
R11B	Troy Canyon, C	79.47	51	P	P	10 18 44.9 +0.6
ABTO	Aybut	79.78	284	P	P	10 18 46.4 +0.3
ABTO				P	P	10 18 46.4 +0.3
GWY	Greenwater Val	79.90	54	IAmb	IAmb	10 19 17.9
	comp=Z,12nm,1.2s					
HWUT	Hardware Ranch	80.24	47	P	P	10 18 48.2 -0.3
HWUT				IAmb	IAmb	10 19 21.9
	comp=Z,12nm,1.3s					
DUG	Dugway, Tooele	80.25	49	P	P	10 18 49.3 +0.8
DUG				IAmb	IAmb	10 19 03.5
	comp=Z,19nm,1.5s					
DUG	Dugway, Tooele	80.25	49	P	P	10 18 49.3 +0.8
DUG				pmax	pmax	
	comp=Z,19nm,1.5s					
SHPR	Sheep Range	80.75	53	P	P	10 18 51.5 +0.2
PDAR	Pinedale Array	80.80	45	P	P	10 18 51.0 -0.5
	comp=Z,1.5nm,0.8s,baz=304,slow=2.7,SNR=10					
	comp=Z,1.5nm,0.8s					
CCUT	Cedar City	81.37	51	P	P	10 18 54.5 -0.1
CCUT				IAmb	IAmb	10 19 27.0
	comp=Z,12nm,1.6s					
FRB	Frobisher Bay	81.39	13	LR	LR	10 57 43.7
	comp=Z,61nm,20.9s,baz=359,slow=38					
PFO	Pinyon Flats O	81.43	56	P	P	10 18 56.5 +1.6
PFO	Pinyon Flats O	81.43	56	P	P	10 18 56.5 +1.6
PFO				pmax	pmax	
	comp=Z,9.0nm,1.3s					
PFO	Pinyon Flats O	81.43	56	LR	LR	10 48 56.4
	comp=Z,224nm,20.5s,baz=260,slow=31					
MVU	Masvale	81.59	50	IAmb	IAmb	10 19 05.6
	comp=Z,16nm,1.0s					
P17A	Butcher Ranch,	81.98	48	IAmb	IAmb	10 19 03.5
	comp=Z,8.5nm,0.9s					
KNB	Kanab	82.03	51	IAmb	IAmb	10 19 06.2
	comp=Z,12nm,1.1s					
RDMU	Red Mountain	82.07	47	IAmb	IAmb	10 19 28.1
	comp=Z,9.2nm,0.9s					
PPT	Papeete	82.15	116	LR	LR	10 51 09.8
	comp=Z,151nm,18.8s,baz=256,slow=33					
KWP	Kalwaria Pacla	82.28	325	eP	P	10 18 59.6 +0.7
BUR08	Bucovina Ar. S	82.33	322	IAmb	IAmb	10 19 01.0
	comp=Z,11nm,1.1s					
BURAR	Bucovina Array	82.34	322	P	P	10 18 59.7 +0.3
BURAR				IAmb	IAmb	10 19 01.4
	comp=Z,8.9nm,1.0s					
BR131	Keskin Array S	82.35	312	P	P	10 19 00.6 +1.0
	SNR=5.2					
BRTR	Keskin Array B	82.35	312	P	P	10 18 59.7 0.0
BRTR	Keskin Array B	82.35	312	i P	P	10 19 00.5 +0.8
BRTR				pmax	pmax	
	comp=Z,7.0nm,1.0s					
BRTR	Keskin Array B	82.35	312	P	P	10 19 00.5 +0.8
	comp=Z,6.3nm,0.9s,baz=106,slow=4.0,SNR=14					
BRTR				LR	LR	10 59 55.9
	comp=Z,73nm,18.2s,baz=54,slow=39					
	comp=Z,6.3nm,0.9s					
HMU	Henry Mountain	82.86	50	IAmb	IAmb	10 19 07.1
	comp=Z,6.9nm,1.1s					
KOLS	Kolonicke sedl	82.96	325	eP	P	10 19 03.8 +1.3
KOLS	Kolonicke sedl	82.96	325	eP	P	10 19 03.8 +1.3
KOLS				pmax	pmax	
	comp=Z,8.0nm,0.8s					
STHS	Stebnicka Huta	83.13	326	eP	P	10 19 04.1 +0.7
STHS	Stebnicka Huta	83.13	326	eP	P	10 19 04.1 +0.7
O20A	White River Ci	83.15	47	IAmb	IAmb	10 19 42.7
	comp=Z,9.4nm,1.1s					
OJC	Ojcow	83.27	327	eP	P	10 19 04.9 +0.9
OJC	Ojcow	83.27	327	P	P	10 19 04.0 0.0
OJC	Ojcow	83.27	327	P	P	10 19 04.0 0.0
OJC				pmax	pmax	
	comp=Z,19nm,1.1s					
MLR	Muntele Rosu	83.32	320	P	P	10 19 05.6 +1.0
	comp=Z,1.7nm,0.4s,baz=75,slow=12,SNR=2.4					
	comp=Z,1.7nm,0.4s					
NIE	Niedzica	83.58	326	eP	P	10 19 07.8 +2.1
WUAZ	Wupatki	83.84	52	IAmb	IAmb	10 19 12.5
	comp=Z,7.3nm,1.1s					
LANS	Liptovska Anna	84.16	326	eP	P	10 19 09.8 +1.1
LANS	Liptovska Anna	84.16	326	eP	P	10 19 09.8 +1.1
LANS				pmax	pmax	
	comp=Z,6.0nm,0.9s					
SMCO	Snowmass	84.50	47	IAmb	IAmb	10 19 43.4
	comp=Z,12nm,1.2s					
ASF	Jabal al Asfar	84.53	305	P	P	10 19 11.4 +0.4
	comp=Z,6.4nm,0.7s,baz=29,slow=3.5,SNR=6.5					
	comp=Z,6.4nm,0.7s					
MORC	Moravsky Berou	84.61	327	P	P	10 19 10.3 -0.6
MORC				IAmb	IAmb	10 19 12.6
	comp=Z,9.5nm,1.0s					
MORC	Moravsky Berou	84.61	327	eP	P	10 19 11.1 +0.1
MORC	Moravsky Berou	84.61	327	P	P	10 19 10.4 -0.6
MORC				pmax	pmax	
	comp=Z,9.0nm,1.0s					
VYHS	Vyhne	84.92	326	eP	P	10 19 13.4 +0.9
VYHS	Vyhne	84.92	326	eP	P	10 19 13.4 +0.9
VYHS				pmax	pmax	
	comp=Z,16nm,1.2s					
MMAI	Mount Meron Ar	85.08	306	P	P	10 19 14.0 +0.4
	comp=Z,5.0nm,0.7s,baz=33,slow=6.3,SNR=3.8					
	comp=Z,5.0nm,0.7s					
JAVC	Velka Javorina	85.21	327	eP	P	10 19 15.3 +1.3
VRAC	Vranov	85.38	328	eP	P	10 19 15.5 +0.7
CLL	Collm	85.47	331	i P	P	10 19 15.5 +0.3
CLL				e*SP	sP	10 19 28.0 +1.6
CLL				pmax	pmax	
	comp=Z,11nm,1.0s					
CLL	Collm	85.47	331	i P	P	10 19 15.5 +0.3
	comp=Z,11nm,1.0s					
CLL				i PcP	PcP	10 19 18.5 +0.4
CLL				epP	sP	10 19 28.0 +1.6
SMOL	Smolenice	85.57	327	eP	P	10 19 17.6 +1.9
KRUC	Moravsky	85.65	328	eP	P	10 19 16.7 +0.6
MODS	Modra-Piesok	85.74	327	eP	P	10 19 18.2 +1.6
MODS	Modra-Piesok	85.74	327	eP	P	10 19 18.2 +1.6
MODS				pmax	pmax	
	comp=Z,35nm,1.5s					
GERES	GERESS Array B	87.02	329	P	P	10 19 24.1 +1.2
	comp=Z,0.4nm,0.3s,baz=66,slow=2.4,SNR=2.6					
GERES				LR	LR	11 00 58.3
	comp=Z,114nm,18.4s,baz=38,slow=38					
	comp=Z,0.4nm,0.3s					
ANMO	Albuquerque	87.41	50	LR	LR	10 55 31.9
	comp=Z,216nm,18.5s,baz=36,slow=34					
EKA	Eskdalemuir Ar	87.81	341	P	P	10 19 26.8 +0.3
	comp=Z,2.2nm,0.8s,baz=46,slow=4.1,SNR=2.7					
	comp=Z,2.2nm,0.8s					
SCHQ	Schefferville	89.87	16	LR	LR	11 01 44.8
	comp=Z,44nm,21.6s,baz=294,slow=37					
DAVOX	Davos/Dischmat	90.26	329	P	P	10 19 38.6 +0.2
	comp=Z,1.6nm,0.5s,baz=82,slow=14,SNR=3.9					
	comp=Z,1.6nm,0.5s					
TX32	Lajitas Array	92.76	53	IAmb	IAmb	10 20 09.4
	comp=Z,6.5nm,1.2s					
TXAR	Lajitas Array	92.76	53	P	P	10 19 49.9 -0.3
TXAR	Lajitas Array	92.76	53	P	P	10 19 50.7 +0.4
	comp=Z,2.4nm,0.9s,baz=297,slow=2.9,SNR=13					
TXAR				LR	LR	10 55 53.4
	comp=Z,123nm,21.2s,baz=285,slow=32					
	comp=Z,2.4nm,0.9s					
TORD	Torodi Ar. Bea	120.96	313	PKP	PKPdf	10 25 30.3 -0.3
	comp=Z,0.4nm,0.5s,baz=40,slow=1.2,SNR=5.5					
QSPA	South Pole Qui	121.95	180	PKP	PKPdf	10 25 30.7 -0.2
	comp=Z,1.3nm,1.0s,baz=352,slow=7.5,SNR=3.3					
ELIB	Princess Elisa	129.06	201	dPP	PP	10 27 52.0 -0.9

TAP ***30*** *10:19:54.7,24°.72N×122°.52E,h15km,ML2.9,D*
JMA ***30*** *10:19:55.1±0.0,24°.7N±0°.5×122°.6E±0°.2,h30km,MV2.2/12,*
NW OFF ISHIGAKIJIMA IS

ISC 30 10:19:54.8±1.1,**24°.71N**±0°.03×**122°.56E**±0°.02,**h23**km±12km,
n70,σ0°**76**/125,**5C-1D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.41	226	i P	Pb	10 20 02.8	-0.5
	baz=230						
JYNG	Yonagunijimaku	0.43	126	P	Pb	10 20 03.8	+0.1
JYNG				S	Sb	10 20 10.1	+0.2
EOS3	EOS3	0.47	208	i P	Pb	10 20 03.9	-0.5
	baz=211						
YOJ	Yonaguni jima	0.48	121	P	Pb	10 20 04.5	0.0
YOJ				S	Sb	10 20 11.3	+0.2
YOJ	Yonaguni jima	0.48	121	P	Pb	10 20 05.1	+0.6
	baz=114						
EGS		0.59	284	P	Pb	10 20 06.0	-0.3
	baz=273						
TWB1	Santiao Chiao	0.60	300	i P	Pb	10 20 06.4	-0.2
	baz=301						
TWB1				i S	Sb	10 20 14.1	-0.6
	baz=301						
EOS4	EOS4	0.62	201	i P	Pb	10 20 06.5	-0.3
	baz=190						
EOS4				S	Sb	10 20 15.7	+0.7
	baz=190						
TWC	Suao	0.66	262	P	Pb	10 20 06.4	-1.1
	baz=269						
TWC				S	Sb	10 20 15.8	-0.5
	baz=269						
SXI1	Grass Mountain	0.73	302	P	Pb	10 20 08.8	-0.1
	baz=303						
SXI1				eS	Sb	10 20 19.0	+0.5
	baz=303						
EWUT	Wuta	0.76	250	P	Pb	10 20 08.7	-0.6
	baz=248						
EWUT				S	Sb	10 20 19.2	0.0
	baz=248						
NDS	Dongshan	0.77	265	P	Pb	10 20 09.4	-0.1
	baz=255						
NDS				S	Sb	10 20 19.7	+0.1
	baz=255						
ENA	Nanau	0.80	250	i P	Pb	10 20 09.2	-0.8
	baz=248						
ENA				i S	Sb	10 20 19.3	-0.9
	baz=248						
NWF	Wu-fen Shan	0.80	297	i P	Pb	10 20 10.0	+0.1
	baz=298						
NWF				i S	Sb	10 20 20.4	0.0
	baz=298						
WFSB	Wu-fen Shan	0.80	297	P	Pb	10 20 09.9	-0.1
	baz=298						
WFSB				S	Sb	10 20 20.2	0.0
	baz=298						
TWE	Neicheng	0.81	271	i P	Pb	10 20 09.4	-0.8
	baz=270						
TWE				i S	Sn	10 20 21.7	-0.5
	baz=270						
FUSB	F

LATG			*i* S		Sn	10 20 25.3	-0.7
	baz=259						
NDT	**Datong Townshi**	**0.96 264**	*i* P		Pn	10 20 12.9	0.0
	baz=263						
NDT			*i* S		Sn	10 20 25.4	-0.4
	baz=263						
NWLT	**Wulai**	**0.96 274**	*i* P		Pn	10 20 13.3	+0.3
	baz=274						
NWLT			S		Sb	10 20 25.1	0.0
	baz=274						
NHDH	**Xindian Distri**	**0.97 285**	*e*P		Pn	10 20 13.1	0.0
	baz=285						
NHDH			*e*S		Sb	10 20 25.1	-0.3
	baz=285						
YM01	**YM01**	**1.00 296**	P		Pb	10 20 13.3	-0.2
	baz=296						
YM01			S		Sb	10 20 26.2	0.0
	baz=296						
YM08	**YM08**	**1.00 299**	*e*P		Pb	10 20 12.3	-1.2
	baz=299						
YM08			*e*S		Sb	10 20 25.7	-0.6
	baz=299						
ETL	**Fush Village**	**1.01 238**	P		Pn	10 20 13.6	0.0
	baz=243						
ETL			S		Sn	10 20 26.8	-0.5
	baz=243						
NACB	**Ningnanchiao**	**1.03 239**	P		Pn	10 20 13.3	-0.4
	baz=237						
NACB			S		Sb	10 20 25.6	-1.4
	baz=237						
YHNB	**Yeheng**	**1.08 268**	*i* P		Pb	10 20 14.6	-0.2
	baz=268						
YHNB			S		Sn	10 20 28.5	-0.4
	baz=268						
NSK	**Sanguang**	**1.09 269**	⇑*i*P		Pb	10 20 15.2	+0.2
	baz=268						
NSK			*i* S		Sb	10 20 28.6	-0.3
	baz=268						
ETLH	**Xiulin Townshi**	**1.10 243**	P		Pn	10 20 14.6	-0.3
	baz=250						
ETLH			S		Sb	10 20 28.8	-0.4
	baz=250						
NNSB	**Datong**	**1.11 256**	*i* P		Pb	10 20 15.2	-0.1
	baz=255						
NNSB			S		Sb	10 20 29.2	-0.2
	baz=255						
NNS	**Nan Shan**	**1.11 256**	*i* P		Pb	10 20 15.4	0.0
	baz=255						
NNS			*i* S		Sn	10 20 29.8	0.0
	baz=255						
IRIF	**Iriomote-Funau**	**1.13 109**	*e*P		Pn	10 20 14.7	-0.5
IRIF			*e*S		Sb	10 20 29.0	-0.8
ETM	**Tongmen**	**1.22 233**	*e*P		Pb	10 20 17.0	-0.2
	baz=215						
ETM			*e*S		Sb	10 20 33.2	+0.7
	baz=215						
LXIB	**Xiulin Townshi**	**1.25 237**	P		Pn	10 20 17.1	+0.1
	baz=236						
LXIB			S		Sb	10 20 33.9	+0.4
	baz=236						
WHF	**Hehuan Shan**	**1.31 245**	*i* P		Pb	10 20 19.3	+0.4
	baz=243						
WHF			S		Sb	10 20 35.7	+0.3
	baz=243						
NFF	**Wufeng Townshi**	**1.31 267**	*e*P		Pn	10 20 18.2	+0.4
	baz=257						
NFF			*e*S		Sb	10 20 36.1	+0.9
	baz=257						
TWT	**Tachien**	**1.34 251**	P		Pb	10 20 21.5	+2.2
	baz=259						
TWT			S		Sb	10 20 37.8	+1.7
	baz=259						
TDCB	**Techi**	**1.35 251**	*e*P		Pb	10 20 19.9	+0.4
	baz=259						
TDCB			S		Sb	10 20 37.6	+1.1
	baz=259						
ESL	**Shilin**	**1.36 229**	P		Pn	10 20 18.3	-0.1
	baz=228						
ESL			S		Sb	10 20 37.9	+1.4
	baz=228						
JKRS	**Kuro-shima**	**1.40 109**	*e*P		Pn	10 20 19.0	+0.1
JKRS			S		Sn	10 20 36.1	-0.5
LIOB	**Emei**	**1.41 268**	P		Pb	10 20 21.0	+0.7
	baz=268						
LIOB			*e*S		Sb	10 20 37.7	-0.2
	baz=268						
CHGB	**Renai**	**1.42 243**	P		Pb	10 20 20.4	-0.3
	baz=249						
CHGB			S		Sb	10 20 39.4	+1.0
	baz=249						
NSTT	**Nanjuang**	**1.42 267**	P		Pb	10 20 21.0	+0.4
	baz=267						
NSTT			S		Sb	10 20 40.0	+1.7
	baz=267						
WARBT	**Fenglin Townsh**	**1.46 228**	*e*P		Pn	10 20 19.4	-0.4
	baz=227						
WARBT			*e*S		Sb	10 20 39.6	+0.3
	baz=227						
OWD	**Renai**	**1.47 240**	*e*P		Pb	10 20 20.6	-0.8
	baz=220						
OWD			*e*S		Sb	10 20 40.8	+1.0
	baz=220						
JIJ	**Ishigaki jima**	**1.48 103**	P		Pn	10 20 20.3	+0.3
JIJ			S		Sn	10 20 38.5	-0.2
WUSB	**Renai**	**1.50 242**	*e*P		Pb	10 20 22.0	+0.1
	baz=223						
WUSB			*e*S		Sb	10 20 41.2	+0.7
	baz=223						
WHP	**Taichung City**	**1.53 254**	P		Pb	10 20 23.7	+1.2
	baz=266						
WHP			*e*S		Sb	10 20 42.2	+0.7
	baz=266						
HGSD	**Ruisui**	**1.59 221**	*e*P		Pn	10 20 21.5	-0.1
	baz=205						
HGSD			*e*S		Sb	10 20 42.9	-0.3
	baz=205						
JISG	**Ishigakijimahi**	**1.60 94**	*e*P		Pn	10 20 21.9	+0.2
JISG			S		Sn	10 20 41.7	+0.2
VWDT	**VWDT**	**1.61 234**	*e*P		Pn	10 20 21.7	-0.1
	baz=233						
WCS	**Beigang Elemen**	**1.64 247**	*e*P		Pb	10 20 24.9	+0.6
	baz=232						
EHY	**Hungye**	**1.65 224**	*e*S		Sn	10 20 42.5	-0.3
	baz=222						
TWQ1	**Liyutan**	**1.67 258**	P		Pb	10 20 26.6	+1.9
	baz=269						
TWQ1			*e*S		Sb	10 20 44.4	-0.9
	baz=269						
SMLT	**Sun Moon Lake**	**1.72 242**	*e*P		Pb	10 20 25.6	-0.2
	baz=225						
SMLT			*e*S		Sb	10 20 48.1	+1.1
	baz=225						
SSLB	**Suanglung**	**1.73 238**	*e*P		Pb	10 20 25.0	-0.8
	baz=221						
YULB	**Yu-li**	**1.75 222**	*e*P		Pn	10 20 21.9	-1.7
	baz=220						
YULB			*e*S		Sn	10 20 44.4	-0.8
	baz=220						
TYC	**Yuchr**	**1.75 243**	P		Pb	10 20 26.0	-0.1
	baz=225						
WHYT	**Xinyi Township**	**1.85 238**	*e*P		Pb	10 20 27.1	-0.9
	baz=222						
WHYT			*e*S		Sb	10 20 50.3	-0.5
	baz=222						
FULB	**Fuli**	**1.90 218**	*e*P		Pn	10 20 25.8	0.0
	baz=202						
FULB			*e*S		Sn	10 20 49.8	+0.8
	baz=202						
EHD	**Haiduan**	**1.98 219**	*e*P		Pn	10 20 27.1	+0.1
	baz=232						
EHD			*e*S		Sn	10 20 51.9	+0.7
	baz=232						
ALS	**Alishan**	**2.00 234**	*e*P		Pb	10 20 29.2	-1.4
	baz=218						
ALS			*e*S		Sb	10 20 54.0	-1.1
	baz=218						
CHN5	**Tsauling**	**2.04 238**	*e*P		Pb	10 20 30.8	-0.5
	baz=220						
CHN5			*e*S		Sb	10 20 56.8	+0.5
	baz=220						
EDH	**Donghe**	**2.07 214**	*e*P		Pn	10 20 27.9	-0.3
	baz=202						
EDH			*e*S		Sn	10 20 52.3	-1.1
	baz=202						
CHN4	**Tsaushan**	**2.25 234**	P		Pb	10 20 33.5	-1.2
	baz=216						
TPUB	**Ta-pu**	**2.25 232**	*e*P		Pb	10 20 33.4	-1.4
	baz=215						
TWK	**Hsinying**	**2.38 233**	*e*P		Pn	10 20 34.3	+1.9
	baz=232						
SGST	**Jiashian**	**2.43 229**	*e*P		Pn	10 20 34.9	+1.8
	baz=212						
SLGT	**Liugui**	**2.44 226**	*e*P		Pn	10 20 34.7	+1.3
	baz=225						
MASBT	**Mashibuluo**	**2.73 221**	*e*P		Pn	10 20 39.6	+2.3
	baz=209						

*JMA **30** 10:30:09.5±0.5, 32°N±1°×14°2E±°, h72km, MV3.4/11, FAR E OFF IZU ISLANDS*
*IDC **30** 10:30:11.9±2.6, 31°.69N×140°.40E, h0km, mb3.7/5, mbtmp3.7/6, ML2.7/1, Error ellipse: s-maj=104.7km s-min=16.7km az=76.0*

ISC 30 10:30:11.9±1.3, 32°.20N±0°.08×141°.8E±0°.1, h35km, n14, σ1§33/21, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.93**	**299**	*e*P	**Pn**	**10 30 42.5**	**+0.2**
JHJ	**Hachijo jima 2**	**1.96**	**298**	Pn	**Pn**	**10 30 41.0**	**-1.6**
	20nm,0.3s,baz=42,slow=11,SNR=1.9						
JHJ				Sn	**Sn**	**10 31 03.2**	**-2.8**
	16nm,0.3s,baz=250,slow=22,SNR=1.8						
BSO1	**Boso 1**	**2.55**	**344**	*e*P	**Pn**	**10 30 49.7**	**-0.5**
BSO1				*e*S	**Sn**	**10 31 20.1**	**+0.4**
BSO3	**Boso 3**	**2.82**	**337**	*e*P	**Pn**	**10 30 53.5**	**-0.8**
BSO3				*e*S	**Sn**	**10 31 28.3**	**+1.4**
JYN	**Shimob**	**4.28**	**321**	*e*P	**Pn**	**10 31 15.7**	**+1.1**
JYN				*e*S	**Sn**	**10 32 04.7**	**+1.4**
JRY	**Ryogami san**	**4.52**	**328**	*e*S	**Sn**	**10 32 10.1**	**+0.9**
JAG	**Ashikaga**	**4.65**	**336**	*e*P	**Pn**	**10 31 19.0**	**-0.7**
JAG				*e*S	**Sn**	**10 32 12.0**	**-0.4**
MJAR	**Matsushiro Arr**	**5.27**	**326**	Pn	**Pn**	**10 31 28.4**	**+0.3**
	0.3nm,0.3s,baz=156,slow=12,SNR=11						
MJAR				Sn	**Sn**	**10 32 28.7**	**+1.1**
	0.1nm,0.3s,baz=170,slow=16,SNR=1.8						
	1.7nm,0.3s						
JOTO	**OTAMA OYAMA**	**5.49**	**347**	P	**Pn**	**10 31 30.4**	**-0.7**
JOTO				*e*S	**Sn**	**10 32 29.8**	**-3.2**
ZALV	**Zalesovo Beam**	**45.53**	**316**	P	**P**	**10 38 28.3**	**+0.4**
	0.4nm,0.4s,baz=111,slow=8.0,SNR=2.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**47.11**	**306**	P	**P**	**10 38 40.9**	**+0.4**
	0.9nm,0.6s,baz=89,slow=9.5,SNR=7.2						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**49.35**	**311**	P	**P**	**10 38 58.1**	**+0.5**
	1.1nm,0.4s,baz=85,slow=7.9,SNR=6.4						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**52.34**	**189**	P	**P**	**10 39 20.2**	**-0.2**
	0.6nm,0.6s,baz=2.9,slow=7.7,SNR=6.3						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**56.07**	**189**	P	**P**	**10 39 48.1**	**+0.6**
	0.2nm,0.5s,baz=5.1,slow=6.8,SNR=6.5						
	0.2nm,0.5s						

IDC 30 10:56:41.4±1.4, 51°.53N×82°.95E, h0km, mbtmp2.2/3, ML1.5/3, Error ellipse: s-maj=20.4km s-min=12.6km az=119.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.68**	**24**	I	I	11 12 50.0	
	baz=205,slow=323,SNR=2.0						
ZALV	**Zalesovo Beam**	**2.68**	**24**	Pn	Pn	10 57 25.6	-0.1
	0.4nm,0.3s,baz=215,slow=16,SNR=7.0						
ZALV				Sn	Sn	10 57 58.3	-0.5
	0.2nm,0.3s,baz=219,slow=24,SNR=2.9						
ZALV				Lg	Lg	10 58 06.8	
	0.2nm,0.3s,baz=215,slow=26,SNR=2.2						
	1.2nm,0.4s						
KURBB	**Kurchatov Arra**	**2.93**	**254**	Pn	Pn	10 57 28.9	-0.3
	baz=74,slow=17,SNR=1.3						
KURBB				Pg	Pb	10 57 33.7	-0.8
	baz=72,slow=16,SNR=3.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**4.76**	**185**	Pn	Pn	10 57 56.0	+1.7
	0.1nm,0.3s,baz=3.0,slow=12,SNR=3.7						
MKAR				Lg	Lg	10 59 10.5	
	0.2nm,0.3s,baz=6.6,slow=26,SNR=6.6						
	0.4nm,0.5s						

MEX 30 11:06:01.2±0.5, 16°.28N×97°.99W, h8km±5km, MD3.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**309**	*i* P	Pg	11 06 04.3	-0.5
PNIG				*i* S	Sg	11 06 07.2	-0.1
YOIG	**Yosondua**	**0.71**	**37**	*i* P	Pg	11 06 13.6	-1.4
YOIG				*i* S	Sg	11 06 23.3	-1.0
PEIG	**Puerto Escondi**	**0.86**	**109**	*i* P	Pg	11 06 14.0	-3.7
PEIG				*e*S	Sg	11 06 27.0	-1.9
TXIG	**Tlaxiaco**	**0.99**	**12**	*i* P	Pg	11 06 18.3	-1.9
TXIG				*e*S	Sg	11 06 30.5	-2.6
MGIG	**Malinaltepec**	**1.13**	**327**	*e*P	Pg	11 06 17.8	-5.1
MGIG				*i* S	Sg	11 06 33.6	-4.1
CRIG	**Cruz Grande**	**1.19**	**293**	*i* P	Pb	11 06 20.2	-3.7
CRIG				*i* S	Sg	11 06 34.9	-4.5
FTIG	**Fresnillo de T**	**1.62**	**355**	*e*P	Pn	11 06 24.8	-5.3
FTIG				*e*S	Sn	11 06 44.8	-6.5

MEX 30 11:06:06.6±1.8, 16°.48N×95°.04W, h94km±32km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NILT	**Santiago Nilte**	**0.42**	**78**	*i* P	Pn	11 06 14.3	-6.8
NILT				*i* S	Sn	11 06 21.0	-11
CMIG	**Matias Romero**	**0.63**	**14**	*i* P	Pn	11 06 17.0	-5.8
CMIG				*e*S	Sn	11 06 25.0	-10
UXUV	**UXUV**	**1.20**	**46**	*e*P	Pn	11 06 27.8	-1.1
UXUV				*e*S	Sn	11 06 43.8	-1.9
HUIG	**Huatulco**	**1.24**	**236**	*e*P	Pn	11 06 27.9	-1.5
HUIG				*e*S	Sn	11 06 44.6	-1.9
HUIG	**Huatulco**	**1.24**	**236**	*i* P	Pn	11 06 28.3	-1.1
HUIG				*i* S	Sn	11 06 44.7	-1.9
NEUV	**Arroyo Zacate**	**1.43**	**330**	*i* P	Pn	11 06 30.7	-0.9
NEUV				*i* S	Sn	11 06 49.0	-1.5
VHO	**Vista Hermosa**	**1.72**	**290**	*e*S	Sn	11 06 57.7	+0.1
YOIG	**Yosondua**	**2.43**	**279**	*e*S	Sn	11 07 17.9	+3.8
TXIG	**Tlaxiaco**	**2.72**	**287**	*e*P	Pn	11 06 49.2	+0.4
TXIG				*e*S	Sn	11 07 20.4	-0.7

*KRNET **30** 11:15:11.6±0.1, 43°.42N×69°.46E, mb2.7*
*SOME **30** 11:15:12.6, 43°.60N×69°.80E*
*NNC **30** 11:15:12.5±0.8, 43°.66N×69°.71E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=5.7km s-min=3.5km az=81.0, Suspected Mining explosion.*

ISC 30 11:15:12.8±1.4, 43°.68N±0°.05×69°.93E±0°.07, h0km, n26, σ1§15/36, 16C-8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.72**	**143**	⇓P	**Pb**	**11 15 27.5**	**-0.7**
	1.5nm,0.4s,baz=317,slow=15,SNR=124						
KK31				⇑S	**Sb**	**11 15 39.2**	**+0.6**
	101nm,0.9s,baz=305,slow=24,SNR=98						
KKAR	**Karatay Array**	**0.72**	**143**	⇑*i*P	**Pb**	**11 15 27.7**	**-0.5**
	baz=12						
KKAR				⇑*i*S	**Sb**	**11 15 39.5**	**+0.9**
	baz=12						
IUG	**Iuzhnay**	**1.53**	**177**	P	**Pb**	**11 15 41.4**	**-0.8**
	27nm,0.2s						
IUG				S	**Sb**	**11 16 02.0**	**-0.2**
	50nm,0.5s						
MNAS	**Manas**	**2.23**	**121**	⇑*i*P	**Pg**	**11 15 54.8**	**-0.8**
	baz=12						
MNAS				⇑*i*S	**Sg**	**11 16 26.2**	**+1.6**
	baz=12						
TRKS	**Terek-Say**	**2.33**	**157**	⇓*e*P	**Pn**	**11 15 53.5**	**+1.0**
	baz=46						
TRKS				⇓*e*S	**Sb**	**11 16 24.0**	**-1.1**
	baz=46						
ARK	**Arkit**	**2.41**	**141**	⇑*i*P	**Pb**	**11 15 55.3**	**-1.8**
	baz=30						
ARK				⇑*i*S	**Sb**	**11 16 27.1**	**-0.2**
	baz=30						
MRKS	**Merke**	**2.59**	**110**	Pg	**Pg**	**11 16 03.1**	**+0.7**
	3.3nm,0.5s						
MRKS				Lg	Lg	11 16 39.4	
	16nm,0.2s						
EKS2	**Erkin-Say**	**3.00**	**109**	⇑*i*P	**Pb**	**11 16 06.2**	**-0.9**
	baz=2.0						
EKS2				⇑*i*S	**Sb**	**11 16 46.2**	**+1.9**
	baz=2.0						
AML	**Almayashu**	**3.17**	**118**	⇓Pg	**Pg**	**11 16 12.7**	**-0.9**
	0.3nm,0.8s						
AML				⇑Lg	Lg	11 16 59.2	
	1.2nm,0.7s						
AML	**Almayashu**	**3.17**	**118**	⇑*e*P	**Pb**	**11 16 08.1**	**-2.2**
	baz=11						
AML				⇑*i*S	**Sb**	**11 16 49.4**	**-0.2**
	baz=11						
SGDS	**Sogindy**	**3.43**	**92**	Pg	**Pg**	**11 16 19.1**	**+0.6**
	3.0nm,0.5s						
SGDS				Lg	Lg	11 17 06.2	
	8.9nm,0.3s						
AAK	**Ala-Archa**	**3.50**	**106**	⇓*e*P	**Pb**	**11 16 13.5**	**-2.2**
	baz=0.0						
AAK				⇓*i*S	**Sb**	**11 16 58.6**	**-0.3**
	baz=0.0						
KRBS	**Karabastau**	**4.17**	**88**	Pg	**Pg**	**11 16 32.9**	**+0.2**
	2.5nm,0.3s						
KRBS				Lg	Lg	11 17 30.1	
	5.1nm,0.3s						
TKM2	**Tokmak 2**	**4.21**	**98**	⇓Pg	**Pg**	**11 16 31.7**	**-1.7**
	2.1nm,0.8s						
TKM2				⇓Lg	Lg	11 17 32.0	
	7.3nm,0.5s						
DGS	**Degeres**	**4.28**	**94**	Pg	**Pg**	**11 16 35.4**	**+0.6**
	2.9nm,0.2s						
DGS				Lg	Lg	11 17 34.5	
	9.0nm,0.3s						
KST	**Kastek**	**4.45**	**96**	Pg	**Pg**	**11 16 37.8**	**-0.2**
	2.3nm,0.4s						
KST				Lg	Lg	11 17 38.4	
	9.5nm,0.3s						
KUU	**Kurty**	**4.65**	**85**	Pg	**Pg**	**11 16 41.6**	**-0.3**
	2.1nm,0.1s						
KUU				Lg	Lg	11 17 44.8	
	12nm,0.3s						
OTUK	**Ortayu**	**4.87**	**19**	⇑Pn	**Pn**	**11 16 28.2**	**+0.9**
	1.5nm,0.2s						
OTUK				⇑Sn	**Sn**	**11 17 24.7**	**+0.4**
	1.6nm,0.6s						
OTUK				⇑Lg	Lg	11 17 46.5	
	2.4nm,0.5s						
KTBS	**Karatobe**	**4.90**	**87**	Pg	**Pg**	**11 16 46.5**	**-0.2**
	2.4nm,0.4s						
KTBS				Lg	Lg	11 17 53.1	
	8.3nm,0.4s						
IZV	**Izvestkoviy**	**4.92**	**95**	Pg	**Pg**	**11 16 45.4**	**-1.6**
	0.9nm,0.2s						
IZV				Lg	Lg	11 17 51.6	
	6.6nm,0.3s						
CHKK	**Chushkaly**	**5.12**	**86**	Pg	**Pg**	**11 16 50.9**	**+0.1**
	1.5nm,0.1s						
CHKK				Lg	Lg	11 18 00.9	
	7.4nm,0.2s						
TNSS	**Tian-Shan**	**5.16**	**95**	Pg	**Pg**	**11 16 50.4**	**-1.3**
	1.0nm,0.3s						
TNSS				Lg	Lg	11 17 59.9	
	3.2nm,0.3s						
ARXS	**Arharly**	**5.73**	**82**	Pg	**Pg**	**11 17 01.1**	**-1.5**
	1.3nm,0.2s						
ARXS				Lg	Lg	11 18 18.9	
	5.2nm,0.4s						
BLB	**Baldybastay**	**6.20**	**83**	Pg	**Pg**	**11 17 10.2**	**-1.3**
	1.6nm,0.5s						
BLB				Lg	Lg	11 18 34.5	
	2.1nm,0.3s						
KNOS	**Konyrlen**	**6.71**	**81**	Pg	**Pg**	**11 17 19.7**	**-1.6**
	1.6nm,0.4s						
KNOS				Lg	Lg	11 18 50.9	
	1.8nm,0.3s						
MK31	**Makanchi Array**	**9.26**	**66**	⇑Pn	**Pn**	**11 17 28.7**	**+1.1**
	1.1nm,0.5s,baz=249,slow=15,SNR=9.4						

*IDC **30** 11:25:40.2±2.2, 42°.71N×126°.42W, h0km, mb3.3/2, mbtmp3.3/6, ML3.2/4, MS3.2/8, Error ellipse: s-maj=48.1km s-min=14.9km az=41.0*
*NEIC **30** 11:25:41.4±2.7, 42°.64N±0°.07×126°.5W±0°.2, h10km±2km, ML2.9/56, Error ellipse: s-maj=19.2km s-min=11.4km az=271.0*

ISC 30 11:25:42.0±1.4, 42°.57N±0°.06×126°.4W±0°.1, h12km, n55, σ1§14/44, MS3.4/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.54**	**78**		**Pn**	**11 26 09.0**	**-0.3**
KEBM				IAML		11 26 31.7	
	comp=E,161nm,0.6s						
KBO	**Bosley Butte**	**1.64**	**102**		**Pn**	**11 26 10.4**	**-0.3**
KBO				IAML		11 27 00.1	
	comp=E,104nm,1.9s						
KBO				IAML		11 27 05.3	
	comp=N,91nm,1.5s						
J01E	**Myrtle Point**	**1.90**	**71**		**Pn**	**11 26 13.2**	**-1.0**
KSXB	**Camp Six Broad**	**2.00**	**111**		**Pn**	**11 26 15.2**	**-0.5**
K02D	**Willamette Mer**	**2.01**	**85**		**Pn**	**11 26 15.6**	**-0.3**
KRMB	**Red Mountain**	**2.12**	**119**		**Pn**	**11 26 16.1**	**-1.3**
L02F	**Cave Junction**	**2.13**	**101**		**Pn**	**11 26 17.0**	**-0.5**
KRPM	**Rodgers**	**2.26**	**128**	Pn	**Pn**	**11 26 18.3**	**-0.9**
KRPM				IAML		11 26 36.2	
	comp=E,49nm,2.1s						
KRPM				IAML		11 27 05.0	
	comp=N,62nm,1.7s						
DBO	**Dodson Butte**	**2.37**	**76**		**Pn**	**11 26 20.9**	**0.0**
DBO				IAML		11 26 55.0	
	comp=N,64nm,0.8s						
DBO				IAML		11 26 55.6	
	comp=E,76nm,1.6s						
JCC	**Jacoby Creek,**	**2.48**	**134**	Pn	**Pn**	**11 26 22.3**	**+0.1**
I03D	**Drain, OR**	**2.49**	**62**		**Pn**	**11 26 21.4**	**-1.0**
KHMM	**Horse Mountain**	**2.61**	**130**	Pn	**Pn**	**11 26 23.6**	**-0.5**
YBH	**Yreka Blue Hor**	**2.85**	**106**	Pn	**Pn**	**11 26 28.1**	**+0.6**
YBH	**Yreka Blue Hor**	**2.85**	**106**	Pn	**Pn**	**11 26 28.4**	**+0.9**
	comp=E,1.0nm,0.3s,baz=322,slow=11,SNR=53						
YBH				Sn	**Sb**	**11 27 05.7**	**-2.2**
	comp=E,0.7nm,0.3s,baz=352,slow=19,SNR=1.4						
YBH				LR	LR	11 27 41.5	
	comp=E,359nm,20.6s,baz=276,slow=41						
	comp=E,15nm,0.8s						
BUCK	**Buck Mountain**	**2.96**	**56**	Pn	**Pn**	**11 26 29.6**	**+0.7**
BUCK				IAML		11 27 11.9	
	comp=N,41nm,2.1s						
BUCK				IAML		11 27 14.2	
	comp=E,43nm,1.0s						
COR	**Corvallis**	**3.01**	**47**	Pn	**Pn**	**11 26 28.9**	**-0.7**
COR				IAML		11 27 10.2	
	comp=E,35nm,0.6s						
COR				IAML		11 27 12.9	
	comp=E,29nm,1.6s						
L04D	**Klamath Falls**	**3.04**	**95**		**Pn**	**11 26 31.5**	**+1.4**
KMRM	**Mail Ridge**	**3.09**	**138**	Pn	**Pn**	**11 26 30.8**	**+0.2**
KMRM				IAML		11 27 29.8	
	comp=E,38nm,2.8s						
I04A	**Tendick Farm,**	**3.15**	**66**		**Pn**	**11 26 32.4**	**+0.9**
H04D	**Lebanon**	**3.29**	**52**		**Pn**	**11 26 34.3**	**+0.9**
G03D	**McMinnville, O**	**3.47**	**39**	Pn	**Pn**	**11 26 35.6**	**-0.3**
G03D				IAML		11 27 17.2	
	comp=E,26nm,2.7s						
G03D				IAML		11 27 44.5	
	comp=N,30nm,2.9s						
H04A	**Detroit Lake**	**3.71**	**54**	Pn	**Pn**	**11 26 39.9**	**+0.7**
H04A				IAML		11 27 28.8	
	comp=E,28nm,0.4s						
H04A				IAML		11 27 30.0	
	comp=N,26nm,0.5s						
J05D	**Fort Rock, OR**	**3.85**	**78**		**Pn**	**11 26 42.3**	**+1.1**
K05A	**Summer Lake**	**4.05**	**86**		**Pn**	**11 26 43.0**	**-1.0**
K05A				IAML		11 27 15.5	
	comp=N,19nm,4.9s						
K05A				IAML		11 28 46.0	
	comp=E,15nm,4.3s						
I05D	**Terrebonne, OR**	**4.08**	**63**		**Pn**	**11 26 44.3**	**0.0**
PINE	**Pine Mountain**	**4.16**	**71**		**Pn**	**11 26 46.9**	**+1.3**
PINE				IA

ORV IAML 11 27 53.1
comp=N,8.5nm,0.8s
ORV IAML 11 27 53.9
comp=E,7.2nm,2.0s
G06A Carlson Farm, 4.94 55 Pn Pn 11 26 56.5 +0.5
I07A Izee 5.24 71 Pn Pn 11 27 01.2 +0.9
LON Longmire 5.30 36 Pn Pn 11 27 02.5 +1.4
LON IAML 11 29 34.7
comp=E,8.6nm,3.7s
LON IAML 11 30 19.9
comp=N,7.9nm,4.2s
WVOR Wild Horse Val 5.73 89 Pn Pn 11 27 06.5 -0.5
J08A Circle Bar Ran 5.86 80 Pn Pn 11 27 08.8 +0.1
G08A Pilot Rock 6.01 61 Pn Pn 11 27 12.5 +1.6
LTY Liberty 6.20 39 Pn Pn 11 27 14.1 +0.7
F10A Beach Ranch, E 7.40 59 Pn Pn 11 27 30.8 +0.9
NVAR Mina Array Bea 7.41 121 Pn Pn 11 27 32.6 +2.4
comp=N,0.1nm,0.3s,baz=299,slow=14,SNR=7.4
comp=N,0.5nm,0.6s
PLID Pearl Lake 7.92 68 Pn Pn 11 27 38.5 +1.4
NEW Newport 8.65 46 LR LR 11 30 40.2
comp=N,56nm,19.1s,baz=268,slow=35
PFO Pinyon Flats O 11.87 136 LR LR 11 33 24.7
comp=N,55nm,19.8s,baz=330,slow=39
PDAR Pinedale Array 12.39 83 Pn Pn 11 28 41.9 +3.4
baz=287,slow=14,SNR=2.9
PDAR LR LR 11 33 55.6
comp=N,98nm,19.9s,baz=264,slow=40
comp=N,0.4nm,0.8s
DLBC Dease Lake 16.05 353 Pn Pn 11 29 26.9 -0.6
comp=N,0.1nm,0.3s,baz=166,slow=10,SNR=5.3
comp=N,3.5nm,1.1s
ANMO Albuquerque 17.28 110 LR LR 11 37 19.2
comp=N,134nm,18.4s,baz=33,slow=40
YKA Yellowknife Ar 21.14 15 LR LR 11 39 10.8
comp=N,45nm,19.9s,baz=343,slow=39
KDAK Kodiak Island 22.45 322 LR LR 11 37 14.5
comp=N,121nm,18.7s,baz=174,slow=31
TXAR Lajitas Array 22.55 118 P P 11 30 43.7 +1.6
comp=N,0.5nm,0.8s,baz=302,slow=8.4,SNR=5.7
comp=N,0.5nm,0.8s
ILAR Eielson Array 25.11 339 P P 11 31 04.8 -1.5
comp=N,1.4nm,1.1s,baz=155,slow=7.2,SNR=8.8
comp=N,1.4nm,1.1s
MA2 Magadan 51.17 320 LR LR 11 55 50.0
comp=N,49nm,19.7s,baz=128,slow=36
H11N3 WAKE ISLAND Hy 59.92 270 T T 12 40 16.3
baz=50,slow=75,SNR=17
H11N2 WAKE ISLAND Hy 59.92 270 T T 12 40 16.5
baz=50,slow=75,SNR=15
H11N1 WAKE ISLAND Hy 59.93 270 T T 12 40 17.6
baz=50,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 60.82 269 T T 12 41 28.0
baz=50,slow=75,SNR=11
H11S2 WAKE ISLAND Hy 60.83 269 T T 12 41 29.5
baz=50,slow=75,SNR=7.7
H11S3 WAKE ISLAND Hy 60.84 269 T T 12 41 27.6
baz=50,slow=75,SNR=6.5

---

*NEIC **30** 11:29:21.5±0.9, 17°.9S±0°.3×178°.1W±0°.1, h589km±19km, mb4.2/16, Error ellipse: s-maj=41.8km s-min=18.0km az=191.0*
*IDC **30** 11:29:23.3±1.8, 18°.11S×178°.33W, h582km±21km, mb3.1/9, mbtmp4.0/11, Error ellipse: s-maj=30.2km s-min=16.3km az=141.0*
ISC 30 11:29:24.3±0.7, 18°.2S±0°.2×178°.5W±0°.1, h600km, n31, σ1§04/29, mb4.0/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.35**	**277**	P	**P**	**11 30 43.5**	**-2.1**
MSVF	**Nonsavu**	**3.35**	**277**	P	**P**	**11 30 43.9**	**-1.8**
15nm,0.7s,baz=132,slow=6.7,SNR=17							
AFI	**Afiamalu**	**7.69**	**58**	P	P	11 31 12.0	-8.9
NIUE	**Niue**	**8.14**	**98**	P	P	11 31 18.8	-6.2
DZM	**Mont Dzumac**	**14.70**	**252**	P	**P**	**11 32 30.9**	**+0.9**
DZM				IAmb	IAmb	11 33 13.7	
comp=Z,28nm,1.5s							
DZM	**Mont Dzumac**	**14.70**	**252**	P	**P**	**11 32 30.0**	**0.0**
comp=Z,4.1nm,0.6s,baz=86,slow=19,SNR=6.2							
EIDS	**Eidsvold**	**29.14**	**250**	P	**P**	**11 34 37.5**	**-1.3**
EIDS				IAmb	IAmb	11 35 07.3	
comp=Z,26nm,1.5s							
ARMA	**Armidale**	**29.77**	**240**	P	**P**	**11 34 45.5**	**+1.2**
CTAO	**Charters Tower**	**33.36**	**261**	P	**P**	**11 35 15.5**	**+0.8**
CTAO				IAmb	IAmb	11 35 20.1	
comp=Z,9.7nm,1.3s							
TOO	**Toolangi**	**36.97**	**231**	P	**P**	**11 35 45.2**	**+0.8**
COEN	**Coen**	**37.06**	**271**	P	**P**	**11 35 45.6**	**+0.2**
COEN				IAmb	IAmb	11 35 51.5	
comp=Z,5.1nm,1.0s							
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**11 35 57.5**	**+1.0**
STKA	**Stephens Creek**	**38.47**	**241**	P	**P**	**11 35 57.9**	**+1.3**
comp=Z,2.4nm,0.5s,baz=78,slow=10,SNR=8.5							
comp=Z,2.4nm,0.5s							
BBOO	**Buckleboo**	**43.24**	**241**	P	**P**	**11 36 35.1**	**+0.8**
WR0	**Warramunga Arr**	**44.35**	**260**	P	**P**	**11 36 41.5**	**-1.6**
WB0	**Warramunga Arr**	**44.51**	**260**	P	**P**	**11 36 44.6**	**+0.3**
WB0				IAmb	IAmb	11 36 46.2	
comp=Z,6.7nm,1.4s							
WB2	**Warramunga Arr**	**44.53**	**260**	P	**P**	**11 36 44.3**	**-0.1**
WB2				IAmb	IAmb	11 36 46.0	
comp=Z,2.8nm,0.6s							
WRA	**Warramunga Arr**	**44.54**	**260**	P	**P**	**11 36 44.6**	**+0.1**
WRA	**Warramunga Arr**	**44.54**	**260**	P	**P**	**11 36 45.3**	**+0.8**
comp=Z,1.2nm,0.5s,baz=96,slow=6.8,SNR=16							
comp=Z,1.2nm,0.5s							
AS31	**Alice Springs**	**44.68**	**254**	P	**P**	**11 36 47.0**	**+1.4**
AS31				IAmb	IAmb	11 36 47.9	
comp=Z,3.3nm,0.5s							
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**11 36 46.5**	**+1.0**
ASAR	**Alice Springs**	**44.68**	**254**	P	**P**	**11 36 46.9**	**+1.4**
comp=Z,10nm,0.6s,baz=88,slow=8.7,SNR=184							
comp=Z,10nm,0.6s							
FORT	**Forrest**	**49.86**	**245**	P	**P**	**11 37 24.4**	**+0.3**
VNDA	**Vanda**	**60.19**	**185**	P	**P**	**11 38 33.9**	**-1.1**
QSPA	**South Pole Qui**	**71.89**	**180**	P	**P**	**11 39 47.6**	**-0.1**
QSPA				IAmb	IAmb	11 40 22.4	
comp=Z,6.8nm,1.5s							
QSPA	**South Pole Qui**	**71.89**	**180**	P	**P**	**11 39 48.1**	**+0.4**
comp=Z,1.8nm,1.2s,baz=18,slow=12,SNR=6.6							
comp=Z,1.8nm,1.2s							
PETK	**Petropavlovsk-**	**73.91**	**345**	P	**P**	**11 39 59.7**	**+0.6**
comp=Z,5.9nm,0.9s,baz=103,slow=6.4,SNR=2.3							
comp=Z,5.9nm,0.9s							
NVAR	**Mina Array Bea**	**79.64**	**44**	P	**P**	**11 40 31.1**	**+0.1**
comp=Z,0.5nm,0.8s,baz=230,slow=12,SNR=4.5							
comp=Z,0.5nm,0.8s							
ILAR	**Eielson Array**	**86.14**	**13**	P	**P**	**11 41 01.7**	**-0.8**
comp=Z,0.3nm,0.4s,baz=222,slow=5.0,SNR=19							
comp=Z,0.3nm,0.4s							
TXAR	**Lajitas Array**	**86.17**	**58**	P	**P**	**11 41 04.7**	**+1.1**
comp=Z,0.5nm,0.8s,baz=216,slow=6.2,SNR=5.9							
comp=Z,0.5nm,0.8s							
PDAR	**Pinedale Array**	**87.57**	**43**	P	**P**	**11 41 09.9**	**-0.1**
comp=Z,0.1nm,0.3s,baz=190,slow=4.6,SNR=2.5							
comp=Z,0.1nm,0.3s							

---

*IDC **30** 11:46:28.4±1.4, 24°.34S×66°.91W, h156km±17km, mb3.6/2, mbtmp4.0/7, Error ellipse: s-maj=23.0km s-min=13.7km az=92.0*
*SJA **30** 11:46:29.2±0.7, 24°.23S×67°.15W, h203km±6km, ML3.7, MW3.6*
*GUC **30** 11:46:31.5±0.5, 24°.19S×67°.49W, h220km±7km, ML3.9*
*VAO **30** 11:46:36.0±0.6, 23°.66S×67°.14W, h188km, mb3.6*
ISC 30 11:46:29.2±0.8, 24°.27S±0°.04×67°.00W±0°.04, h165km±9km, n55, σ1§96/81, 4C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.43**	**108**	*eP*	**Pn**	**11 46 56.0**	**-3.4**
AZAP	**Zapla**	**1.76**	**89**	*eP*	**Pn**	**11 46 59.5**	**-3.5**
FSA	**Cafayete**	**2.05**	**153**	*eP*	Pn	11 47 10.0	+4.0
LVC	**Limon Verde**	**2.42**	**313**	*eP*	**Pn**	**11 47 12.2**	**+1.6**
LVC	**Limon Verde**	**2.42**	**313**	P	**Pn**	**11 47 12.1**	**+1.6**
104nm,0.5s,baz=139,slow=6.1,SNR=150							
LVC				S	**Sn**	**11 47 42.7**	**+0.3**
40nm,0.3s,baz=318,slow=22,SNR=13							
LVC	**Limon Verde**	**2.42**	**313**	⇑*iP*	**Pn**	**11 47 12.1**	**+1.6**
LVC				*i* S	**Sn**	**11 47 42.5**	**+0.1**
LVC				IAML		11 47 45.4	
471nm,0.4s							
LVC	**Limon Verde**	**2.42**	**313**	*eP*	**Pn**	**11 47 12.0**	**+1.5**
LVC				*eS*	**Sn**	**11 47 45.0**	**+2.6**
YJA	**Yavi**	**2.49**	**33**	*eP*	Pn	11 47 15.2	+3.7
PB15	**IPOC Station P**	**2.50**	**295**	*eP*	**Pn**	**11 47 12.6**	**+1.2**
PB15				*i* S	**Sn**	**11 47 43.6**	**-0.4**
PB15	**IPOC Station P**	**2.50**	**295**	*eP*	**Pn**	**11 47 12.7**	**+1.2**
PB15				*eS*	**Sn**	**11 47 44.9**	**+0.9**
PB15				IAML		11 47 50.7	
comp=Z,727nm,0.1s							
GO02	**Mina Guanaco**	**2.52**	**249**	⇓*iP*	**Pn**	**11 47 13.3**	**+1.6**
GO02				*i* S	**Sn**	**11 47 45.4**	**+0.9**
GO02	**Mina Guanaco**	**2.52**	**249**	*eP*	**Pn**	**11 47 13.2**	**+1.6**
GO02				*eS*	**Sn**	**11 47 45.9**	**+1.3**
ALOL	**LOMAS DE OLMED**	**2.79**	**81**	*eP*	Pn	11 47 19.9	+5.2
PB06	**IPOC Station P**	**2.83**	**303**	⇑*iP*	**Pn**	**11 47 16.2**	**+0.8**
PB06				*i* S	**Sn**	**11 47 49.9**	**-1.2**
PB06				IAML		11 47 51.0	
comp=E,338nm,0.1s							
PB06	**IPOC Station P**	**2.83**	**303**	*eP*	**Pn**	**11 47 16.3**	**+0.9**
PB06				*eS*	**Sn**	**11 47 50.8**	**-0.3**
PB06				IAML		11 47 55.9	
comp=Z,177nm,0.1s							
AHML	**Horco Molle**	**2.92**	**149**	*eP*	Pn	11 47 20.1	+3.9
AHML				*eS*	**Sn**	**11 47 57.5**	**+4.7**
PB14	**IPOC Station P**	**3.13**	**263**	*eP*	**Pn**	**11 47 19.5**	**+0.4**
PB14				*i* S	**Sn**	**11 47 56.1**	**-1.7**
PB14				IAML		11 47 57.8	
comp=E,138nm,0.5s							
PB14	**IPOC Station P**	**3.13**	**263**	*eP*	**Pn**	**11 47 20.1**	**+1.0**
PB14				*eS*	**Sn**	**11 47 56.3**	**-1.5**
PB14				IAML		11 47 58.1	
comp=Z,121nm,0.5s							
PB09	**IPOC Station P**	**3.22**	**320**	⇑*iP*	**Pn**	**11 47 21.6**	**+1.4**
PB09				*i* S	**Sn**	**11 47 59.4**	**-0.3**
PB09				IAML		11 48 00.7	
comp=N,196nm,0.6s							
PB09	**IPOC Station P**	**3.22**	**320**	*eP*	**Pn**	**11 47 21.6**	**+1.4**
PB09				*eS*	**Sn**	**11 47 59.7**	**0.0**
PB09				IAML		11 48 00.3	
comp=Z,156nm,0.7s							
PB04	**IPOC Station P**	**3.48**	**303**	⇑*iP*	**Pn**	**11 47 23.2**	**-0.3**
PB04				*i* S	**Sn**	**11 48 02.8**	**-2.8**
PB04	**IPOC Station P**	**3.48**	**303**	*eP*	**Pn**	**11 47 24.1**	**+0.6**
PB04				*eS*	**Sn**	**11 48 03.9**	**-1.8**
PB04				IAML		11 48 09.6	
comp=Z,86nm,0.3s							
PB07	**IPOC Station P**	**3.68**	**313**	*eP*	**Pn**	**11 47 26.3**	**+0.3**
PB07				*eS*	**Sn**	**11 48 07.3**	**-2.8**
PB07	**IPOC Station P**	**3.68**	**313**	*eP*	**Pn**	**11 47 26.2**	**+0.3**
PB07				*eS*	**Sn**	**11 48 07.8**	**-2.3**
PB07				IAML		11 48 08.8	
comp=Z,222nm,0.4s							
AC01	**Pan de Azucar**	**3.76**	**239**	*i* P	**Pn**	**11 47 26.6**	**-0.2**
AC01				*i* S	**Sn**	**11 48 09.2**	**-2.5**
AC01	**Pan de Azucar**	**3.76**	**239**	*eP*	**Pn**	**11 47 26.5**	**-0.2**
AC01				*eS*	**Sn**	**11 48 09.4**	**-2.3**
AC01				IAML		11 48 11.6	
comp=Z,83nm,0.1s							
PB01	**IPOC Station P**	**3.95**	**324**	*eP*	**Pn**	**11 47 29.4**	**0.0**
PB01				*eS*	**Sn**	**11 48 14.4**	**-2.0**
PB01				IAML		11 48 16.4	
comp=Z,73nm,0.5s							
PB02	**IPOC Station P**	**3.98**	**317**	*eP*	**Pn**	**11 47 29.6**	**-0.2**
PB02				*eS*	**Sn**	**11 48 13.7**	**-3.2**
PB02	**IPOC Station P**	**3.98**	**317**	*eP*	**Pn**	**11 47 29.4**	**-0.3**
PB02				*eS*	**Sn**	**11 48 14.8**	**-2.0**
PB02				IAML		11 48 18.4	
comp=Z,171nm,0.5s							
GO03	**Copiap**	**4.41**	**221**	*eP*	**Pn**	**11 47 35.1**	**-0.1**
GO03				*eS*	**Sn**	**11 48 25.7**	**-1.1**
PATCX	**Punta Patache**	**4.51**	**319**	*eP*	**Pn**	**11 47 36.4**	**-0.2**
PATCX				*eS*	**Sn**	**11 48 26.0**	**-3.2**
PB08	**IPOC Station P**	**4.57**	**334**	*eP*	**Pn**	**11 47 38.5**	**+0.8**
PB08				*eS*	**Sn**	**11 48 29.7**	**-1.5**
PB08				IAML		11 48 31.2	
comp=Z,52nm,0.5s							
TA01	**Diego Aracena**	**4.72**	**321**	*eP*	**Pn**	**11 47 38.8**	**-0.5**
TA01				*eS*	**Sn**	**11 48 32.6**	**-1.5**
TA01				IAML		11 48 34.8	
comp=Z,61nm,0.7s							
GO01	**Chusmiza**	**5.02**	**336**	*eP*	**Pn**	**11 47 44.5**	**+0.8**
GO01				*eS*	**Sn**	**11 48 40.1**	**-1.7**
ACLC	**CERRO LA CRUZ**	**5.13**	**180**	*eP*	**Pn**	**11 47 47.2**	**+2.5**
ACLC				*eS*	**Sn**	**11 48 48.5**	**+4.6**
AC04	**Llanos de Chal**	**5.36**	**222**	*eP*	**Pn**	**11 47 46.5**	**-1.1**
AC04				*eS*	**Sn**	**11 48 40.8**	**-8.3**
AC04				IAML		11 48 52.2	
comp=Z,35nm,2.8s							
AC05	**El Transito**	**5.41**	**212**	*eP*	**Pn**	**11 47 49.4**	**+0.9**
AC05				*eS*	**Sn**	**11 48 50.7**	**+0.3**
AC05				IAML		11 48 53.9	
comp=Z,17nm,0.9s							
CFA	**Coronel Fontan**	**7.38**	**188**	P	**Pn**	**11 48 14.2**	**-0.3**
comp=Z,2.2nm,0.5s,baz=2.0,slow=12,SNR=4.4							
CFA				S	**Sn**	**11 49 33.7**	**-3.6**
comp=Z,1.8nm,0.2s,baz=105,slow=23,SNR=2.6							
LPAZ	**La Paz**	**8.02**	**352**	*eP*	**Pn**	**11 48 22.0**	**-1.4**
LPAZ	**La Paz**	**8.02**	**352**	P	**Pn**	**11 48 24.2**	**+0.8**
comp=Z,4.3nm,0.4s,baz=162,slow=9.3,SNR=24							
LPAZ				S	**Sn**	**11 49 53.1**	**-0.3**
comp=Z,1.7nm,0.6s,baz=325,slow=20,SNR=2.6							
SIV	**San Ignacio**	**9.94**	**35**	P	**Pn**	**11 48 47.6**	**-0.7**
comp=Z,3.8nm,0.6s,baz=218,slow=13,SNR=22							
PTLB	**Pontes e Lacer**	**11.47**	**42**	*eP*	**Pn**	**11 49 10.0**	**+1.7**
CRSM	**Crissiumal (Br**	**12.09**	**108**	*eP*	**P**	**11 49 25.6**	**+3.5**
FRBT	**Francisco Belt**	**12.74**	**101**	*eP*	P	11 49 34.1	+4.7
PLTB	**Pedras Altas**	**13.98**	**125**	*eP*	P	11 49 53.3	+10
ETMB	**Extrema**	**14.40**	**3**	*eP*	**Pn**	**11 49 44.4**	**-1.2**
SAML	**Samuel**	**15.67**	**14**	*eP*	**Pn**	**11 50 00.9**	**-0.4**
FRTB	**Fartura**	**15.98**	**90**	*eP*	P	11 50 12.4	+7.0
CLDB	**Colider**	**17.06**	**41**	*eP*	**Pn**	**11 50 18.5**	**+0.4**
SNDB	**Serra Nova Dou**	**19.27**	**53**	*eP*	**P**	**11 50 42.1**	**+0.7**
BDFB	**Brasilia**	**19.78**	**68**	P	**P**	**11 50 45.9**	**-1.1**
comp=Z,2.8nm,0.5s,baz=213,slow=9.4,SNR=4.1							
QSPA	**South Pole Qui**	**65.93**	**180**	P	**P**	**11 56 56.8**	**-0.5**
comp=Z,0.6nm,0.5s,baz=179,slow=6.7,SNR=6.4							
comp=Z,0.6nm,0.5s							
BOSA	**Boshof**	**80.61**	**117**	P	**P**	**11 58 23.4**	**-0.5**
comp=Z,1.2nm,0.6s,baz=229,slow=4.3,SNR=3.9							
comp=Z,1.2nm,0.6s							
ASAR	**Alice Springs**	**128.21**	**205**	PKP	**PKPdf**	**12 05 16.2**	**-0.3**
comp=Z,0.2nm,0.7s,baz=137,slow=2.3,SNR=4.3							
MKAR	**Makanchi Array**	**146.73**	**40**	PKPbc	**PKPbc**	**12 05 52.2**	**+0.6**
comp=Z,0.4nm,0.6s,baz=297,slow=2.2,SNR=4.5							

---

*IDC **30** 11:55:50.5±6.3, 34°.77N×133°.34E, h0km, mb3.4/2, mbtmp3.4/3, ML2.6/1, Error ellipse: s-maj=168.5km s-min=29.9km az=136.0*
*JMA **30** 11:56:03.3±0.1, 33°.8N±0°.1×135°.5E±0°.2, h43km, MV3.5/37, CENTRAL WAKAYAMA PREF*
JMA Felt II J1 at CENTRAL WAKAYAMA PREF .
ISC 30 11:56:04.0±1.1, 33°.81N±0°.05×135°.36E±0°.03, h34km±2km, n19, σ1§25/25, 6D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.04**	**350**	⇓*iP*	**Pb**	**11 56 10.1**	**+0.4**
JWM				⇓S	**Sb**	**11 56 15.0**	**+1.4**
JTNC	**Tanabenakahech**	**0.21**	**89**	⇓*iP*	**Pn**	**11 56 10.4**	**+0.8**
JTNC				⇓S	**Sb**	**11 56 15.5**	**+0.1**
JWY	**Kouya**	**0.45**	**25**	P	**Pb**	**11 56 13.4**	**-0.5**
JWY				S	**Sb**	**11 56 20.2**	**-0.5**
JAI	**Aioi**	**0.76**	**269**	*i* P	**Pn**	**11 56 18.3**	**0.0**
JAI				S	**Sn**	**11 56 29.0**	**+0.5**
JAWN	**Awajishima-nag**	**0.77**	**330**	⇓*iP*	**Pn**	**11 56 18.4**	**-0.1**
JAWN				⇓S	**Sn**	**11 56 29.2**	**+0.3**
JKN2	**Miekihoku**	**0.87**	**60**	*i* P	**Pn**	**11 56 18.2**	**-1.5**
JKN2				S	**Sn**	**11 56 29.2**	**-2.0**
JHE	**Heguri**	**0.88**	**18**	*i* P	**Pn**	**11 56 19.1**	**-0.8**
JHE				S	**Sn**	**11 56 30.7**	**-0.8**
TTO1	**TONANKAI O.B.S**	**1.20**	**99**	*eX*		11 56 37.8	
JMN	**Monobe**	**1.24**	**266**	P	**Pn**	**11 56 24.7**	**-0.2**
JKS	**Kasai**	**1.24**	**340**	P	**Pn**	**11 56 24.7**	**-0.2**
JIE	**Ise**	**1.25**	**62**	P	**Pn**	**11 56 23.8**	**-1.3**
JIE				S	**Sn**	**11 56 39.6**	**-1.2**
TTO2	**TONANKAI O.B.S**	**1.39**	**93**	*eX**		11 56 42.4	
INU	**Inuyama**	**2.05**	**41**	P	**Pn**	**11 56 37.2**	**+1.2**
JSG	**Sagara**	**2.49**	**69**	P	**Pb**	**11 56 48.7**	**+0.7**
MAJO	**Matsushiro**	**3.58**	**40**	P	**Pn**	**11 56 59.4**	**+2.3**
MJAR	**Matsushiro Arr**	**3.58**	**40**	Pn	**Pn**	**11 56 57.2**	**0.0**
0.3nm,0.3s,baz=248,slow=15,SNR=14							
MJAR				Sn	**Sb**	**11 57 52.9**	**+3.2**
0.1nm,0.3s,baz=215,slow=27,SNR=4.6							
3.3nm,0.3s							
JNU	**Nakatsue**	**3.81**	**261**	P	**Pn**	**11 57 00.4**	**+0.1**
WRA	**Warramunga Arr**	**53.47**	**181**	P	P	12 05 18.5	-2.4
0.6nm,0.6s,baz=358,slow=7.9,SNR=3.3							
0.6nm,0.6s							
ASAR	**Alice Springs**	**57.18**	**182**	P	**P**	**12 05 46.5**	**-1.0**
0.1nm,0.5s,baz=14,slow=13,SNR=5.8							
0.1nm,0.5s							

---

*NEIC **30** 12:07:55.3±3.0, 18°.52N±0°.05×95°.56W±0°.04, h35km±2km, mb4.0/8, Md4.3/54(MEX), Error ellipse: s-maj=9.1km s-min=5.9km az=198.0*
*MEX **30** 12:07:58.3±1.0, 18°.41N×95°.74W, h39km±34km, MD4.3*
ISC 30 12:07:55.3±0.4, 18°.46N±0°.02×95°.62W±0°.02, h63km±7km, n72, σ1§43/98, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMUV	**Sontecomapan**	**0.48**	**80**	*i* P	Pn	12 08 08.8	+1.3
PMUV				*i* S	**Sn**	**12 08 16.9**	**+0.6**
NEUV	**Arroyo Zacate**	**0.76**	**193**	*i* P	**Pn**	**12 08 10.0**	**-0.6**
NEUV				*i* S	**Sn**	**12 08 18.9**	**-2.8**
TUIG	**Tuzandepetl**	**1.22**	**110**	*eP*	Pn	12 08 18.2	+1.9
TUIG				*eS*	**Sn**	**12 08 33.8**	**+1.8**
JAUV	**Jalcomulco**	**1.44**	**309**	*eP*	**Pn**	**12 08 20.5**	**+1.2**
JAUV				*eS*	**Sn**	**12 08 38.1**	**+0.7**
LVIG	**Laguna Verde**	**1.47**	**329**	*eP*	**Pn**	**12 08 20.7**	**+1.0**
LVIG				*eS*	**Sn**	**12 08 36.9**	**-1.0**
CMIG	**Matias Romero**	**1.53**	**153**		**Pn**	**12 08 21.5**	**+0.9**
CMIG					**Sn**	**12 08 37.9**	**-1.6**
CMIG	**Matias Romero**	**1.53**	**153**	*eP*	**Pn**	**12 08 21.5**	**+0.9**
CMIG				*eS*	**Sn**	**12 08 37.9**	**-1.6**
TPIG	**Tehuac#an**	**1.65**	**269**		Pn	12 08 24.5	+2.1
TPIG					**Sn**	**12 08 44.1**	**+1.4**
TPIG	**Tehuac#an**	**1.65**	**269**	*eP*	Pn	12 08 24.5	+2.1
TPIG				*eS*	**Sn**	**12 08 44.1**	**+1.4**
OXLC	**Oaxaca**	**1.73**	**217**	*eP*	**Pn**	**12 08 24.9**	**+1.5**
OXLC				*eS*	**Sn**	**12 08 43.9**	**-0.7**
OXBJ	**Oaxaca**	**1.74**	**217**		**Pn**	**12 08 24.9**	**+1.4**
OXBJ					**Sn**	**12 08 43.7**	**-1.1**
OXBJ	**Oaxaca**	**1.74**	**217**	*eP*	**Pn**	**12 08 24.9**	**+1.4**
OXBJ				*eS*	**Sn**	**12 08 43.7**	**-1.1**
OXIG	**Oaxaca**	**1.74**	**218**		**Pn**	**12 08 24.8**	**+1.3**
OXIG					**Sn**	**12 08 43.7**	**-1.2**
VHO	**Vista Hermosa**	**1.74**	**218**	*eP*	**Pn**	**12 08 24.8**	**+1.3**
VHO				*eS*	**Sn**	**12 08 43.7**	**-1.2**
UXUV	**UXUV**	**1.81**	**129**	*eP*	**Pn**	**12 08 25.8**	**+1.5**
UXUV				*eS*	**Sn**	**12 08 45.9**	**-0.3**
NILT	**Santiago Nilte**	**2.11**	**153**	*eP*	Pn	12 08 33.1	+4.7
NILT				*eS*	**Sn**	**12 08 53.0**	**-0.6**
HLIG	**Huajuapan de L**	**2.17**	**254**		Pn	12 08 31.4	+2.1
HLIG					**Sn**	**12 08 55.4**	**+0.1**
HLIG	**Huajuapan de L**	**2.17**	**254**	*eP*	Pn	12 08 31.4	+2.1
HLIG				*eS*	**Sn**	**12 08 55.4**	**+0.1**
TXIG	**Tlaxiaco**	**2.37**	**240**		Pn	12 08 34.1	+2.0
TXIG					**Sn**	**12 09 00.6**	**+0.3**
TXIG	**Tlaxiaco**	**2.37**	**240**	*eP*	Pn	12 08 34.1	+2.0
TXIG				*eS*	**Sn**	**12 09 00.6**	**+0.3**
YOIG	**Yosondua**	**2.43**	**229**		Pn	12 08 35.5	+2.5
YOIG					**Sn**	**12 09 02.2**	**+0.4**
YOIG	**Yosondua**	**2.43**	**229**	*eP*	Pn	12 08 35.5	+2.5
YOIG				*eS*	**Sn**	**12 09 02.2**	**+0.4**
FTIG	**Fresnillo de T**	**2.45**	**257**		Pn	12 08 35.7	+2.6
FTIG					**Sn**	**12 09 02.5**	**+0.5**
FTIG	**Fresnillo de T**	**2.45**	**257**	*eP*	Pn	12 08 35.7	+2.6
FTIG				*eS*	**Sn**	**12 09 02.5**	**+0.5**
CXUV	**Coxquihui**	**2.52**	**313**	*eP*	**Pn**	**12 08 36.3**	**+2.3**
CXUV				*eS*	**Sn**	**12 09 04.7**	**+1.1**
HUIG	**Huatulco**	**2.72**	**190**		**Pn**	**12 08 37.6**	**+0.9**
HUIG					**Sn**	**12 09 06.7**	**-1.7**
HUIG	**Huatulco**	**2.72**	**190**	*eP*	**Pn**	**12 08 36.2**	**-0.5**
HUIG				*eS*	**Sn**	**12 09 06.7**	**-1.7**
PEIG	**Puerto Escondi**	**2.85**	**211**		**Pn**	**12 08 39.9**	**+1.5**
PEIG					**Sn**	**12 09 11.9**	**+0.2**
PEIG	**Puerto Escondi**	**2.85**	**211**	*eP*	**Pn**	**12 08 39.9**	**+1.5**
PEIG				*eS*	**Sn**	**12 09 11.9**	**+0.2**
TGIG		**2.91**	**125**		Pn	12 08 41.5	+2.2
TGIG					**Sn**	**12 09 13.3**	**+0.2**
TGIG		**2.91**	**125**	*eP*	Pn	12 08 41.5	+2.2
TGIG				*eS*	**Sn**	**12 09 13.3**	**+0.2**
PPM	**Popocatepetl**	**2.91**	**282**	*eP*	Pn	12 08 42.7	+2.9
PPM				*eS*	**Sn**	**12 09 14.8**	**+0.9**
PPIG	**Popocatepetl**	**2.91**	**282**		Pn	12 08 43.9	+4.1
PPIG					**Sn**	**12 09 18.9**	**+5.0**
TLIG	**Tlapa**	**2.94**	**253**	*eP*	Pn	12 08 42.2	+2.4
TLIG				*eS*	**Sn**	**12 09

mb4.5/22, Error ellipse: s-maj=16.4km s-min=12.4km az=116.0
EAF ***30*** *12:15:38.0, 1.84S×33.70E, h0km*
ISC 30 12:14:32.7±0.4, **5.51S**±0.04×**35.81E**±0.06, **h9km, n100,**
σ1§**82/88, mb4.4/36, MS3.8/28, 4C-2D, Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DODT	**Dodoma, Tanzan**	**0.68**	**185**	*i* P	**Pb**	**12 14 46.8**	**-0.1**
DODT				*i* S	**Sb**	**12 14 56.4**	**0.0**
KIBK	**Kibwezi**	**3.86**	**35**	Pn	**Pn**	**12 15 30.2**	**-2.2**
I32KE	**NAIROBI INFRAS**	**4.36**	**13**	Pn	**Pn**	**12 15 39.6**	**+0.2**
	baz=203,slow=28						
KMBO	**Kilima Mbogo**	**4.58**	**18**	Pn	**Pn**	**12 15 40.5**	**-2.0**
KMBO	**Kilima Mbogo**	**4.58**	**18**	*e*P	**Pn**	**12 15 40.9**	**-1.7**
KMBO	**Kilima Mbogo**	**4.58**	**18**	*e*P	**Pn**	**12 15 40.9**	**-1.7**
	baz=79						
MBAR	**Mbarara**	**7.03**	**314**	Pn	**Pn**	**12 16 16.1**	**0.0**
MBAR	**Mbarara**	**7.03**	**314**	*e*P	**Pn**	**12 16 15.6**	**-0.5**
MBAR	**Mbarara**	**7.03**	**314**	Pn	**Pn**	**12 16 15.8**	**-0.3**
	66nm,0.3s,baz=93,slow=4.8,SNR=36						
MBAR				Sn	**Sn**	**12 17 32.3**	**-4.0**
	257nm,0.3s,baz=216,slow=22,SNR=8.5						
MBAR				Lg	Lg	12 18 13.1	
	223nm,0.3s,baz=127,slow=14,SNR=5.4						
MBAR	**Mbarara**	**7.03**	**314**	*e*P	**Pn**	**12 16 15.6**	**-0.5**
	baz=293						
LODK	**Lodwar**	**8.88**	**357**	Pn	**Pn**	**12 16 39.8**	**-1.7**
LODK	**Lodwar**	**8.88**	**357**	*e*P	**Pn**	**12 16 41.2**	**-0.3**
LODK	**Lodwar**	**8.88**	**357**	*e*P	**Pn**	**12 16 41.2**	**-0.3**
	baz=133						
LSZ	**Lusaka**	**12.26**	**217**	Pn	**Pn**	**12 17 26.8**	**-1.0**
LSZ	**Lusaka**	**12.26**	**217**	Pn	**Pn**	**12 17 27.0**	**-0.8**
	4.1nm,0.3s,baz=40,slow=11,SNR=23						
LSZ				Lg	Lg	12 20 52.2	
	3.9nm,0.3s,baz=138,slow=18,SNR=9.2						
LSZ				LR	LR	12 22 21.2	
	comp=Z,969nm,18.4s,baz=53,slow=38						
	42nm,0.7s						
MATP	**Matopo**	**16.44**	**205**	Pn	**Pn**	**12 18 21.4**	**-2.6**
	0.2nm,0.3s,baz=18,slow=15,SNR=16						
MATP				Lg	Lg	12 23 01.6	
	0.4nm,0.3s,baz=296,slow=23,SNR=4.4						
GRD1	**Great Renaissa**	**16.55**	**357**	*e*P	**P**	**12 18 32.8**	**+4.8**
	baz=6.0						
OPO	**Ambohidratompo**	**17.08**	**140**	P	**Pn**	**12 18 32.9**	**+0.8**
	4.6nm,1.0s,baz=282,slow=20,SNR=1.4						
OPO				S	**Sn**	**12 21 42.0**	**-0.4**
	6.5nm,0.9s,baz=196,slow=22,SNR=2.3						
OPO				LR	LR	12 25 06.6	
	comp=Z,318nm,18.1s,baz=178,slow=37						
ABPO	**Ambohimpanom**	**17.44**	**141**	P	**Pn**	**12 18 34.7**	**-1.8**
MUSN	**Musina, Limpop**	**17.64**	**198**	*i* P	**Pn**	**12 18 38.2**	**-0.8**
MUSN	**Musina, Limpop**	**17.64**	**198**	*i* P	**Pn**	**12 18 38.2**	**-0.8**
	baz=196						
ATD	**Arta Tunnel**	**18.32**	**22**	Lg	Lg	12 24 01.6	
	0.1nm,0.3s,baz=108,slow=8.8,SNR=4.5						
MOPA	**Mopani**	**18.40**	**193**	*i* P	**Pn**	**12 18 47.6**	**-0.7**
MOPA	**Mopani**	**18.40**	**193**	*i* P	**Pn**	**12 18 47.6**	**-0.7**
	baz=192						
LBTB	**Lobatse**	**21.73**	**206**	P	**P**	**12 19 24.5**	**-0.1**
LBTB	**Lobatse**	**21.73**	**206**	*i* P	**P**	**12 19 21.5**	**-3.1**
LBTB	**Lobatse**	**21.73**	**206**	*i* P	**P**	**12 19 21.5**	**-3.1**
	baz=203						
POGA	**Pongola**	**22.07**	**190**	P	**P**	**12 19 27.9**	**-0.2**
TSUM	**Tsumeb**	**22.38**	**231**	P	**P**	**12 19 29.4**	**-2.3**
TSUM				IAmb	IAmb	12 19 38.6	
	comp=Z,13nm,1.0s						
TSUM	**Tsumeb**	**22.38**	**231**	LR	LR	12 28 34.0	
	comp=Z,506nm,18.6s,baz=309,slow=38						
WIN	**Windhoek**	**24.79**	**225**	P	**P**	**12 19 54.9**	**-0.5**
BOSA	**Boshof**	**25.06**	**202**	P	**P**	**12 19 57.3**	**-0.4**
BOSA	**Boshof**	**25.06**	**202**	*i* P	**P**	**12 19 51.1**	**-6.7**
BOSA	**Boshof**	**25.06**	**202**	P	**P**	**12 19 58.1**	**+0.3**
	comp=Z,26nm,1.0s,baz=22,slow=9.6,SNR=17						
	comp=Z,26nm,1.0s						
BOSA	**Boshof**	**25.06**	**202**	*i* P	**P**	**12 19 51.1**	**-6.7**
	baz=201						
GRHM	**Grahamstown, E**	**28.99**	**196**	P	**P**	**12 20 33.6**	**+0.6**
SUR	**Sutherland**	**30.18**	**206**	LR	LR	12 33 18.7	
	comp=Z,128nm,18.1s,baz=28,slow=37						
EIL	**Elat**	**34.99**	**359**	LR	LR	12 34 18.1	
	comp=Z,116nm,19.1s,baz=239,slow=34						
WSAR	**Wadi Sarin**	**36.24**	**37**	LR	LR	12 34 40.2	
	comp=Z,125nm,19.9s,baz=228,slow=33						
MMAI	**Mount Meron Ar**	**38.31**	**359**	LR	LR	12 38 30.2	
	comp=Z,101nm,18.2s,baz=156,slow=38						
TOA0	**Torodi Ar. Sit**	**38.63**	**299**	P	**P**	**12 21 57.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**38.63**	**299**	P	**P**	**12 21 57.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**38.63**	**299**	P	**P**	**12 21 57.9**	**+1.1**
	comp=Z,4.6nm,1.0s,baz=107,slow=9.1,SNR=16						
TORD				LR	LR	12 36 48.2	
	comp=Z,191nm,21.0s,baz=126,slow=35						
	comp=Z,4.6nm,1.0s						
DBIC	**Dimbokro**	**42.35**	**286**	P	**P**	**12 22 27.1**	**-0.6**
DBIC				IAmb	IAmb	12 22 30.3	
	comp=Z,12nm,1.3s						
DBIC	**Dimbokro**	**42.35**	**286**	P	**P**	**12 22 28.6**	**+0.9**
	comp=Z,5.5nm,0.9s,baz=96,slow=10,SNR=5.8						
DBIC				LR	LR	12 40 14.5	
	comp=Z,124nm,19.4s,baz=84,slow=36						
	comp=Z,5.5nm,0.9s						
GNI	**Garni**	**46.17**	**9**	LR	LR	12 43 28.9	
	comp=Z,153nm,18.5s,baz=187,slow=38						
FNA	**Florina**	**47.94**	**345**	P	**P**	**12 23 11.5**	**-0.2**
FNA				IAmb	IAmb	12 23 13.6	
	comp=Z,6.2nm,1.2s						
KEST	**Kesra**	**47.97**	**331**	LR	LR	12 42 46.4	
	comp=Z,182nm,18.1s,baz=240,slow=35						
KBZ	**Khabaz**	**49.43**	**7**	LR	LR	12 44 29.4	
	comp=Z,56nm,18.8s,baz=182,slow=36						
BUR08	**Bucovina Ar. S**	**53.75**	**351**	P	**P**	**12 23 53.3**	**-2.1**
BUR08				IAmb	IAmb	12 24 13.6	
	comp=Z,5.8nm,1.4s						
MDT	**Midelt**	**54.08**	**318**	LR	LR	12 49 15.2	
	comp=Z,84nm,19.1s,baz=135,slow=38						
AKASG	**Malin Array Be**	**56.27**	**355**	P	**P**	**12 24 14.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=177,slow=6.2,SNR=6.2						
	comp=Z,0.3nm,0.3s						
DAVOX	**Davos/Dischmat**	**56.91**	**339**	LR	LR	12 50 51.1	
	comp=Z,72nm,20.0s,baz=344,slow=38						
GERES	**GERESS Array B**	**57.48**	**343**	P	**P**	**12 24 23.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=125,slow=6.6,SNR=1.9						
GERES				LR	LR	12 49 03.1	
	comp=Z,38nm,21.7s,baz=243,slow=36						
	comp=Z,0.4nm,0.3s						
KK31	**Karatay Array**	**57.69**	**30**	P	**P**	**12 24 23.8**	**0.0**
KKAR	**Karatay Array**	**57.69**	**30**	P	**P**	**12 24 23.5**	**-0.3**
ESDC	**Sonseca Array**	**58.01**	**324**	P	**P**	**12 24 26.7**	**+0.6**
ESDC				IAmb	IAmb	12 24 29.1	
	comp=Z,4.2nm,1.3s						
ESDC	**Sonseca Array**	**58.01**	**324**	P	**P**	**12 24 27.8**	**+1.6**
	comp=Z,1.5nm,0.9s,baz=138,slow=8.1,SNR=8.9						
ESDC				LR	LR	12 51 16.5	
	comp=Z,117nm,18.2s,baz=138,slow=38						
	comp=Z,1.5nm,0.9s						
KSH	**Kashi**	**58.13**	**36**	P	**P**	**12 24 26.8**	**-0.2**
KSH				pP	pP	12 24 28.3	-2.0
KSH				sP	sP	12 24 34.5	+3.0
KSH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ABKAR	**Akbulak array**	**58.46**	**18**	P	**P**	**12 24 28.9**	**0.0**
BELG	**Belogornoye**	**58.55**	**8**	LR	LR	12 54 13.6	
	comp=Z,59nm,19.0s,baz=295,slow=41						
AAK	**Ala-Archa**	**59.40**	**32**	LR	LR	12 52 55.2	
	comp=Z,68nm,20.9s,baz=143,slow=39						
ARU	**Arti**	**64.49**	**14**	LR	LR	12 55 52.8	
	comp=Z,100nm,18.6s,baz=216,slow=38						
MAW	**Mawson**	**64.67**	**169**	P	**P**	**12 25 11.5**	**+0.8**
	comp=Z,3.1nm,1.1s,baz=351,slow=8.5,SNR=5.6						
MAW				LR	LR	12 50 31.6	
	comp=Z,50nm,18.6s,baz=57,slow=33						
	comp=Z,3.1nm,1.1s						
KIRV	**Kirov**	**64.82**	**8**	LR	LR	12 55 00.4	
	comp=Z,71nm,19.6s,baz=179,slow=38						
BVAR	**Borovoye Array**	**65.22**	**22**	LR	LR	12 57 45.4	
	comp=Z,109nm,18.2s,baz=224,slow=40						
MAKZ	**Makanchi**	**66.16**	**33**	P	**P**	**12 25 20.8**	**+0.2**
MAKZ				IAmb	IAmb	12 25 25.1	
	comp=Z,6.9nm,1.3s						
MK31	**Makanchi Array**	**66.32**	**33**	P	**P**	**12 25 21.3**	**-0.4**
MK31				IAmb	IAmb	12 25 25.9	
	comp=Z,11nm,1.5s						
MKAR	**Makanchi Array**	**66.32**	**33**	P	**P**	**12 25 20.8**	**-1.0**
MKAR	**Makanchi Array**	**66.32**	**33**	P	**P**	**12 25 21.2**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=230,slow=6.1,SNR=19						
MKAR				LR	LR	12 55 37.0	
	comp=Z,34nm,19.5s,baz=275,slow=37						
	comp=Z,2.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**66.61**	**67**	P	**P**	**12 25 22.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**66.61**	**67**	P	**P**	**12 25 24.1**	**0.0**
	comp=Z,0.5nm,0.3s,baz=266,slow=7.5,SNR=4.7						
	comp=Z,0.5nm,0.3s						
ELIB	**Princess Elisa**	**66.82**	**184**	*d*P	**P**	**12 25 26.7**	**+2.1**
	comp=Z,4.5nm,1.2s						
ELIB				*d*PcP	**PcP**	**12 25 53.5**	**+0.1**
KURBB	**Kurchatov Arra**	**66.90**	**28**	P	**P**	**12 25 25.3**	**0.0**
	comp=Z,1.1nm,0.7s,baz=230,slow=7.2,SNR=11						
KURBB				LR	LR	12 58 43.4	
	comp=Z,78nm,18.4s,baz=173,slow=40						
	comp=Z,1.1nm,0.7s						
KURK	**Kurchatov**	**67.01**	**28**	P	**P**	**12 25 26.1**	**+0.1**
KURK				IAmb	IAmb	12 25 29.1	
	comp=Z,4.1nm,1.1s						
FINES	**FINESS Array B**	**67.18**	**355**	LR	LR	12 56 16.5	
	comp=Z,36nm,18.5s,baz=312,slow=37						
HFS	**Hagfors**	**67.73**	**348**	P	**P**	**12 25 29.2**	**-1.2**
	comp=Z,13nm,1.1s,baz=152,slow=13,SNR=2.9						
HFS				LR	LR	12 57 30.0	
	comp=Z,74nm,18.2s,baz=100,slow=38						
	comp=Z,13nm,1.1s						
WMQ	**Urumqi**	**67.73**	**38**	*e*P	**P**	**12 25 34.3**	**+3.5**
WMQ				pP	sP	12 25 37.5	+2.1
WMQ				sP	pP	12 25 40.5	+6.4
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
EKA	**Eskdalemuir Ar**	**68.66**	**337**	P	**P**	**12 25 35.8**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=134,slow=6.1,SNR=3.6						
	comp=Z,3.0nm,0.9s						
PMBI	**Palembang**	**68.79**	**91**	P	**P**	**12 25 34.2**	**-3.8**
NOA	**NORSAR Array B**	**69.07**	**347**	P	**P**	**12 25 37.8**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=157,slow=6.0,SNR=3.8						
NOA				LR	LR	12 59 41.2	
	comp=Z,23nm,19.7s,baz=300,slow=39						
	comp=Z,1.7nm,0.9s						
TROLL	**Troll, Antarti**	**69.56**	**190**	⇑P	**P**	**12 25 44.5**	**+2.7**
	comp=Z,202nm,0.9s						
VNA2	**Neumayer--Watz**	**70.81**	**194**	⇑P	**P**	**12 25 51.6**	**+2.2**
	comp=Z,1.8nm,0.8s,baz=34,slow=6.0						
VNA1	**Neumayer--Stat**	**70.83**	**194**	⇑P	**P**	**12 25 52.5**	**+3.0**
	comp=Z,7.6nm,1.0s						
VNA3	**Neumayer Olymp**	**71.58**	**194**	⇑P	**P**	**12 25 56.1**	**+2.0**
	comp=Z,3.3nm,0.9s						
ZAA0	**Zalesovo Array**	**72.00**	**28**	P	**P**	**12 25 57.5**	**+0.7**
ZAA0				IAmb	IAmb	12 25 58.9	
	comp=Z,5.1nm,1.3s						
ZALV	**Zalesovo Beam**	**72.00**	**28**	P	**P**	**12 25 56.4**	**-0.4**
ZALV	**Zalesovo Beam**	**72.00**	**28**	P	**P**	**12 25 55.1**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=238,slow=4.6,SNR=3.7						
ZALV				LR	LR	13 02 58.8	
	comp=Z,50nm,19.2s,baz=202,slow=40						
	comp=Z,0.8nm,0.6s						
GTA	**Gaotai**	**73.88**	**46**	*e*P	**P**	**12 26 12.0**	**+3.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ARCES	**ARCESS Array B**	**75.22**	**356**	P	**P**	**12 26 15.1**	**-0.3**
	comp=Z,5.6nm,1.0s,baz=173,slow=3.6,SNR=2.0						
	comp=Z,5.6nm,1.0s						
BELA	**Belgrano 2**	**80.58**	**192**	P	**P**	**12 26 46.3**	**+1.1**
BELA				IAmb	IAmb	12 26 47.7	
	comp=Z,3.8nm,1.0s						
SONM	**Songino Array**	**81.23**	**40**	P	**P**	**12 26 50.0**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=235,slow=5.1,SNR=7.0						
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**82.89**	**48**	*e*P	**P**	**12 26 57.5**	**-0.7**
HHC				pmax	pmax		
	comp=Z,26nm,0.5s						
HHC				pmax	pmax		
	comp=Z,400nm,6.0s						
QSPA	**South Pole Qui**	**84.55**	**180**	P	**P**	**12 27 06.5**	**+0.2**
QSPA	**South Pole Qui**	**84.55**	**180**	P	**P**	**12 27 06.3**	**0.0**
	comp=Z,5.6nm,1.0s,baz=256,slow=2.6,SNR=13						
QSPA				LR	LR	13 03 04.2	
	comp=Z,56nm,18.6s,baz=338,slow=34						
	comp=Z,5.6nm,1.0s						
NJ2	**Nanjing**	**87.02**	**58**	*e*P	**P**	**12 27 18.3**	**-0.7**
NJ2				pP	**pP**	**12 27 22.5**	**+0.1**
NJ2				sP	**sP**	**12 27 24.5**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
MDP	**Montagnes des**	**88.95**	**275**	LR	LR	13 05 20.6	
	comp=Z,26nm,18.2s,baz=74,slow=34						
VNDA	**Vanda**	**91.97**	**170**	P	**P**	**12 27 41.5**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=258,slow=6.1,SNR=5.2						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**95.19**	**114**	P	**P**	**12 27 58.3**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=267,slow=4.2,SNR=1.7						
	comp=Z,0.2nm,0.7s						
NVAR	**Mina Array Bea**	**139.68**	**328**	PKP	**PKiKP**	**12 34 04.0**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=84,slow=1.4,SNR=9.9						

NEIC ***30*** *12:46:40.5±1.2, 22.5N±0.1×144.4E±0.2, h35km±2km, mb4.6/25, Error ellipse: s-maj=29.3km s-min=17.4km az=74.0*
IDC ***30*** *12:46:46.6±5.3, 22.46N×144.38E, h100km±48km, mb3.9/15, mbtmp4.3/17, Error ellipse: s-maj=23.1km s-min=15.2km az=84.0*
ISC 30 12:46:39.4±0.7, **22.50N**±0.10×**144.5E**±0.1, **h33km, n57,**
σ0§**76/50, mb4.5/28, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.03**	**336**	Pn	**Pn**	**12 47 52.1**	**-0.4**
MJAR	**Matsushiro Arr**	**15.01**	**340**	P	**P**	**12 50 14.3**	**+0.1**
	6.6nm,0.9s,baz=167,slow=7.7,SNR=7.7						
JNU	**Nakatsue**	**16.00**	**314**	P	**P**	**12 50 26.5**	**+1.3**
JNU	**Nakatsue**	**16.00**	**314**	P	**P**	**12 50 26.4**	**+1.1**
	12nm,0.8s,baz=115,slow=2.7,SNR=5.7						
KSRS	**Korea Array**	**20.63**	**320**	P	Pn	12 51 18.3	-0.2
	3.5nm,0.8s,baz=138,slow=12,SNR=8.7						
	3.5nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**21.10**	**93**	T	T	13 13 38.0	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**21.10**	**93**	T	T	13 13 36.3	
	baz=283						
H11N3	**WAKE ISLAND Hy**	**21.12**	**93**	T	T	13 13 44.3	
	baz=283						
H11S3	**WAKE ISLAND Hy**	**21.19**	**97**	T	T	13 13 37.7	
	baz=286						
H11S1	**WAKE ISLAND Hy**	**21.19**	**97**	T	T	13 13 45.3	
	baz=286						
H11S2	**WAKE ISLAND Hy**	**21.20**	**97**	T	T	13 13 45.5	
	baz=286						
SSLB	**Suanglung**	**21.66**	**278**	P	**P**	**12 51 27.8**	**+0.5**
USRK	**Ussuriysk Ar.**	**23.97**	**338**	P	**P**	**12 51 52.0**	**+1.2**
USRK	**Ussuriysk Ar.**	**23.97**	**338**	P	**P**	**12 51 52.1**	**+1.4**
	7.0nm,0.7s,baz=160,slow=12,SNR=11						
	7.0nm,0.7s						
KLR	**Kul'dur**	**28.52**	**342**	P	**P**	**12 52 32.8**	**+1.1**
	3.5nm,0.6s,baz=159,slow=5.4,SNR=8.2						
	3.5nm,0.6s						
COEN	**Coen**	**36.25**	**182**	P	**P**	**12 53 40.4**	**+0.7**
COEN				IAmb	IAmb	12 53 56.2	
	comp=Z,15nm,1.2s						
SONM	**Songino Array**	**39.50**	**319**	P	**P**	**12 54 06.5**	**-0.5**
SONM	**Songino Array**	**39.50**	**319**	P	**P**	**12 54 07.2**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=130,slow=9.0,SNR=6.7						
	comp=Z,1.3nm,0.5s						
WB0	**Warramunga Arr**	**43.14**	**194**	P	**P**	**12 54 36.9**	**-0.1**
WB0				IAmb	IAmb	12 54 58.4	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**43.32**	**194**	P	**P**	**12 54 38.3**	**-0.1**
WRA	**Warramunga Arr**	**43.32**	**194**	P	**P**	**12 54 38.3**	**-0.1**
WRA	**Warramunga Arr**	**43.32**	**194**	P	**P**	**12 54 38.0**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=16,slow=8.9,SNR=12						
	comp=Z,1.4nm,0.5s						
AS31	**Alice Springs**	**47.02**	**193**	P	**P**	**12 55 07.8**	**0.0**
ASAR	**Alice Springs**	**47.02**	**193**	P	**P**	**12 55 07.4**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=10,slow=6.9,SNR=7.7						
ZALV	**Zalesovo Beam**	**54.33**	**321**	P	**P**	**12 56 01.8**	**-0.8**
ZALV	**Zalesovo Beam**	**54.33**	**321**	P	**P**	**12 56 02.1**	**-0.5**
	comp=Z,3.8nm,0.5s,baz=97,slow=7.4,SNR=19						
	comp=Z,3.8nm,0.5s						
MKAR	**Makanchi Array**	**55.04**	**312**	P	**P**	**12 56 07.8**	**-0.1**
MKAR	**Makanchi Array**	**55.04**	**312**	P	**P**	**12 56 08.1**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=95,slow=9.0,SNR=13						
	comp=Z,1.4nm,0.7s						
K17K	**Iditarod**	**55.37**	**28**	P	**P**	**12 56 11.2**	**+1.3**
C18K	**Utukok River**	**56.53**	**21**	P	**P**	**12 56 18.9**	**+0.6**
C19K	**Lookout Ridge**	**57.26**	**21**	P	**P**	**12 56 24.7**	**+1.3**
J20K	**Nowinta River**	**57.59**	**27**	P	**P**	**12 56 26.4**	**+0.6**
J20K				IAmb	IAmb	12 56 45.9	
	comp=Z,10.0nm,1.4s						
KURBB	**Kurchatov Arra**	**57.76**	**317**	P	**P**	**12 56 26.7**	**-0.4**
	comp=Z,5.8nm,0.7s,baz=93,slow=7.8,SNR=31						
	comp=Z,5.8nm,0.7s						
F20K	**Avaraart Lake**	**57.84**	**24**	P	**P**	**12 56 28.1**	**+0.7**
F20K				IAmb	IAmb	12 57 09.3	
	comp=Z,3.8nm,1.1s						
IMAR	**Indian Mountai**	**58.26**	**25**	P	**P**	**12 56 31.0**	**+0.6**
H21K	**Melozitna Rive**	**58.54**	**26**	P	**P**	**12 56 32.8**	**+0.4**
H21K				IAmb	IAmb	12 56 34.6	
	comp=Z,7.0nm,1.1s						
D22K	**Ayikyak River**	**59.50**	**22**	P	**P**	**12 56 39.6**	**+0.6**
BOOM	**Boomskoye usch**	**59.57**	**307**	P	**P**	**12 56 40.6**	**+0.4**
BOOM				IAmb	IAmb	12 56 41.8	
	comp=Z,3.9nm,0.7s						
I23K	**Minto, Yukon-K**	**59.82**	**27**	P	**P**	**12 56 41.4**	**+0.2**
I23K				IAmb	IAmb	12 56 58.0	
	comp=Z,8.5nm,1.4s						
H24K	**Noodor Dome**	**60.56**	**26**	P	**P**	**12 56 46.5**	**+0.1**
H24K				IAmb	IAmb	12 57 19.1	
	comp=Z,5.7nm,1.4s						
IL31		**60.79**	**27**	P	**P**	**12 56 47.1**	**-0.7**
IL31				IAmb	IAmb	12 57 25.9	
	comp=Z,6.1nm,1.2s						
ILAR	**Eielson Array**	**60.79**	**27**	P	**P**	**12 56 47.0**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=257,slow=5.6,SNR=20						
	comp=Z,1.5nm,0.8s						
F24K	**Squaw Lake**	**60.89**	**24**	P	**P**	**12 56 49.1**	**+0.5**
F24K				IAmb	IAmb	12 57 10.7	
	comp=Z,5.5nm,1.2s						
BMAR	**Burnt Mountain**	**62.13**	**24**	P	**P**	**12 56 57.9**	**+0.9**
J26L	**Joseph Creek**	**62.17**	**28**	P	**P**	**12 56 56.9**	**-0.5**
J26L				IAmb	IAmb	12 56 57.8	
	comp=Z,8.3nm,1.2s						
BVAR	**Borovoye Array**	**62.84**	**319**	P	**P**	**12 57 01.8**	**-0.1**
	comp=Z,9.0nm,0.6s,baz=90,slow=7.5,SNR=40						
	comp=Z,9.0nm,0.6s						
BRVK	**Borovoye**	**62.91**	**319**	P	**P**	**12 57 01.9**	**-0.4**
KK31	**Karatay Array**	**63.50**	**308**	P	**P**	**12 57 05.7**	**-0.8**
KK31				IAmb	IAmb	12 57 07.6	
	comp=Z,5.2nm,1.0s						
KKAR	**Karatay Array**	**63.50**	**308**	P	**P**	**12 57 06.3**	**-0.1**
KKAR				IAmb	IAmb	12 57 07.6	
	comp=Z,5.2nm,1.0s						
ABKAR	**Akbulak array**	**69.81**	**316**	P	**P**	**12 57 45.8**	**-0.8**
ABKAR	**Akbulak array**	**69.81**	**316**	P	**P**	**12 57 45.5**	**-1.0**
YKA	**Yellowknife Ar**	**75.19**	**28**	P	**P**	**12 58 17.7**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=292,slow=5.4,SNR=3.0						
	comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**	**81.72**	**52**	P	**P**	**12 58 56.1**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=270,slow=5.5,SNR=17						
	comp=Z,1.5nm,0.7s						
FINES	**FINESS Array B**	**82.97**	**335**	P	**P**	**12 59 00.0**	**-0.9**
	comp=Z,2.4nm,0.6s,baz=64,slow=4.4,SNR=7.9						
	comp=Z,2.4nm,0.6s						
PDAR	**Pinedale Array**	**85.99**	**45**	P	**P**	**12 59 16.8**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=264,slow=2.7,SNR=3.4						
	comp=Z,0.2nm,0.6s						
HFS	**Hagfors**	**88.45**	**338**	P	**P**	**12 59 26.0**	**-2.1**
	comp=Z,4.9nm,1.0s,baz=54,slow=11,SNR=1.7						
	comp=Z,4.9nm,1.0s						
LPAZ	**La Paz**	**148.68**	**84**	PKPbc	**PKPbc**	**13 06 25.1**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=285,slow=1.0,SNR=5.7						

NOU ***30*** *12:48:40.0, 34.35S×179.26E, h290km, MLv4.1/7, South of Kermadec Islands*
WEL ***30*** *12:48:42.3±1.9, 34.5S±7.×17.9E±1.2, h109km±105km, M4.4/15, ML4.2/6, MLv4.4/15, Error ellipse: s-maj=0.0km s-min=0.0km az=116.6, confirmed*
ISC 30 12:48:33.9±1.4, **34.14S**±0.09×**179.6E**±0.1, **h300km, n63,**
σ2§**38/65, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.58**	**197**	P	**Pn**	**12 49 38.4**	**+2.9**
MXZ	**Matakaoa Point**	**3.58**	**197**	P	**Pn**	**12 49 38.4**	**+2.9**
HAZ	**Te Kaha**	**3.90**	**202**	P	**Pn**	**12 49 41.0**	**+2.1**
HAZ				S	**S**	**12 50 27.3**	**-3.7**
PKGZ	**Pakihiroa**	**3.94**	**198**	P

KII	Karymskiy	0.90	167	PN		Pn		12 52 26.3	-0.4
ESO	Esso	1.04	347	eP		Pn		12 52 27.1	-0.3
ESO				eS		S		12 52 52.1	-0.8
ESO	Esso	1.04	347	PN		Pn		12 52 27.1	-0.3
ESO				S		S		12 52 52.1	-0.8
KMNR	Kamenistaya	1.06	37	i P		Pn		12 52 27.5	-0.1
KMNR	Kamenistaya	1.06	37	PN		Pn		12 52 27.5	-0.1
KOZ	Kozyrevsk	1.22	20	eP		Pn		12 52 28.5	-0.1
KOZ				eS		S		12 52 55.2	+0.2
KOZ	Kozyrevsk	1.22	20	PN		Pn		12 52 28.5	-0.1
KOZ				S		S		12 52 55.2	+0.2
KPT	Kopyto	1.23	31	eP		Pn		12 52 28.4	-0.2
KPT	Kopyto	1.23	31	PN		Pn		12 52 28.5	-0.2
KIRR	Kirishev	1.25	33	i P		Pn		12 52 28.7	-0.3
KIRR	Kirishev	1.25	33	PN		Pn		12 52 28.7	-0.3
BZP	Bezymyannyi-Pe	1.29	39	eP		Pn		12 52 28.8	-0.4
BZMR	Bezymyannaya	1.29	37	eP		Pn		12 52 29.1	-0.1
BZMR	Bezymyannaya	1.29	37	PN		Pn		12 52 29.1	-0.1
BZWR	Bezymyannyi-We	1.31	36	i P		Pn		12 52 29.3	-0.1
BZWR	Bezymyannyi-We	1.31	36	PN		Pn		12 52 29.3	-0.1
BZGR	Bezymyannyi-Gr	1.37	41	eP		Pn		12 52 29.6	-0.1
BZGR	Bezymyannyi-Gr	1.37	41	PN		Pn		12 52 29.6	-0.1
GNL	Ganaly	1.40	210	eP		Pn		12 52 30.3	+0.2
GNL				eS		S		12 52 57.9	+0.3
GNL	Ganaly	1.40	210	PN		Pn		12 52 30.3	+0.2
GNL				S		S		12 52 57.9	+0.3
SRDR	Sredinnyy	1.45	13	i P		Pn		12 52 30.1	-0.2
SRDR				eS		S		12 52 58.1	0.0
SRDR	Sredinnyy	1.45	13	PN		Pn		12 52 30.1	-0.2
SRDR				S		S		12 52 58.1	0.0
LGNR	Loginova	1.47	37	eP		Pn		12 52 31.2	+0.4
LGNR	Loginova	1.47	37	PN		Pn		12 52 31.2	+0.4
CIRR	Tsirk	1.52	37	eP		Pn		12 52 31.2	+0.2
CIRR	Tsirk	1.52	37	PN		Pn		12 52 31.2	+0.2
KRX	Arik	1.58	190	eP		Pn		12 52 31.7	0.0
KRX	Arik	1.58	190	PN		Pn		12 52 31.7	0.0
KRER	Koryakskii	1.63	188	eP		Pn		12 52 32.5	+0.4
KRER	Koryakskii	1.63	188	PN		Pn		12 52 32.5	+0.4
SDLR	Sedlovina	1.65	185	eP		Pn		12 52 32.0	-0.2
SDLR				eS		S		12 53 00.2	-0.9
SDLR	Sedlovina	1.65	185	PN		Pn		12 52 32.0	-0.2
SDLR				S		S		12 53 00.2	-0.9
KLY	Klyuchi	1.65	31	i P		Pn		12 52 32.1	+0.2
KLY				i S		S		12 53 02.0	+1.1
KLY	Klyuchi	1.65	31	PN		Pn		12 52 32.1	+0.2
KLY				S		S		12 53 02.0	+1.1
KOK	Koryaka	1.65	190	eP		Pn		12 52 32.5	+0.3
KOK	Koryaka	1.65	190	PN		Pn		12 52 32.5	+0.3
SMAR	Somma	1.67	186	eP		Pn		12 52 32.3	-0.1
SMAR				eS		S		12 53 01.4	-0.3
SMAR	Somma	1.67	186	PN		Pn		12 52 32.3	-0.1
SMAR				S		S		12 53 01.4	-0.3
AVH	Avacha	1.67	188	eP		Pn		12 52 32.8	+0.5
AVH	Avacha	1.67	188	PN		Pn		12 52 32.8	+0.5
UGLR	Uglovaya	1.72	186	eP		Pn		12 52 32.9	+0.1
UGLR	Uglovaya	1.72	186	PN		Pn		12 52 32.9	+0.1
INSR	Institute	1.88	189	eP		Pn		12 52 33.9	-0.2
INSR				eS		S		12 53 04.1	-0.5
SPN	Mys Shipunski	1.90	163	eP		Pn		12 52 31.7	-2.6
SPN				eS		S		12 52 59.5	-5.4
SPN	Mys Shipunski	1.90	163	PN		Pn		12 52 31.7	-2.6
PET	Petropavlovsk	1.92	188			Pn		12 52 33.9	-0.5
PET	Petropavlovsk	1.92	188	eP		Pn		12 52 34.1	-0.3
PET				eS		S		12 53 03.7	-1.4
PET	Petropavlovsk	1.92	188	⇓i PN		Pn		12 52 34.1	-0.3
PET				eS		S		12 53 03.8	-1.4
PET				pmax		pmax			
	comp=Z,444nm,0.4s								
PET				smax		smax			
	comp=N,756nm,0.7s								
PET				smax		smax			
	comp=E,873nm,0.9s								
PEA0B	Petropavlovsk-	1.99	205	Pn		Pn		12 52 35.4	+0.2
PEA0B	Petropavlovsk-	1.99	205	PN		Pn		12 52 35.4	+0.2
PETK	Petropavlovsk-	1.99	205	Pn		Pn		12 52 34.6	-0.6
PETK	Petropavlovsk-	1.99	205	P		Pn		12 52 34.5	-0.8
	comp=E,25nm,0.4s,baz=56,slow=14,SNR=86								
PETK				S		S		12 53 04.8	-1.8
	comp=E,30nm,0.4s,baz=24,slow=15,SNR=5.4								
BDR	Baidarnaya	2.04	35	eP		Pn		12 52 35.3	-0.3
BDR	Baidarnaya	2.04	35	PN		Pn		12 52 35.3	-0.3
SMKR	Semkarok	2.14	38	eP		Pn		12 52 36.3	-0.3
SMKR				eS		S		12 53 07.9	-1.2
SMKR	Semkarok	2.14	38	PN		Pn		12 52 36.3	-0.3
SMKR				S		S		12 53 07.9	-1.2
KRMR	Karymshinskiy	2.17	196	eP		Pn		12 52 36.7	-0.2
KRMR				eS		S		12 53 09.1	-0.5
KRMR	Karymshinskiy	2.17	196	PN		Pn		12 52 36.7	-0.2
KRMR				S		S		12 53 09.1	-0.5
APC	Apacha	2.31	211	eP		Pn		12 52 39.1	+0.9
APC				eS		S		12 53 12.6	+0.5
APC	Apacha	2.31	211	PN		Pn		12 52 39.1	+0.9
APC				S		S		12 53 12.6	+0.5
KBG	Krutoberegovo	2.44	55	eP		Pn		12 52 38.4	-1.1
KBG				eS		S		12 53 11.0	-3.5
KBG	Krutoberegovo	2.44	55	PN		Pn		12 52 38.4	-1.1
KBG				S		S		12 53 11.0	-3.5
GRL	Gorelyy	2.45	195	eP		Pn		12 52 40.4	+0.5
GRL	Gorelyy	2.45	195	PN		Pn		12 52 40.4	+0.5
KBTR	Krutoberegovo	2.47	57	eP		Pn		12 52 38.7	-1.2
KBTR				eS		S		12 53 10.9	-4.3
KBTR	Krutoberegovo	2.47	57	PN		Pn		12 52 38.7	-1.2
MTVR	Mutnovka	2.50	193	eP		Pn		12 52 40.7	+0.2
MTVR	Mutnovka	2.50	193	PN		Pn		12 52 40.7	+0.2
ASAK	Asacha	2.64	196	eP		Pn		12 52 42.2	+0.3
ASAK	Asacha	2.64	196	PN		Pn		12 52 42.2	+0.3
KDTR	Khodutka, Kamc	3.17	192	eS		S		12 53 25.5	-3.6
BKI	Bering	3.96	83	eS		S		12 53 41.2	-4.5
PALN	Palana	4.21	6	eP		Pn		12 53 00.1	+0.2
PALN	Palana	4.21	6	PN		Pn		12 53 00.1	+0.2
MA2	Magadan	6.50	319			Pn		12 53 27.9	-0.8
MA2	Magadan	6.50	319	P		Pn		12 53 28.5	-0.2
	comp=E,29nm,0.6s,baz=128,slow=10,SNR=16								
SEY	Seymchan	8.76	339	cePN		Pn		12 53 58.9	+1.4
SEY				pmax		pmax			
	comp=Z,33nm,0.9s								
SEY	Seymchan	8.76	339	P		Pn		12 53 58.5	+1.0
	comp=Z,25nm,0.8s,baz=144,slow=12,SNR=34								
TYV	Tymovskoe	10.73	255	ePN		P		12 54 30.6	+1.9
TYV				pmax		pmax			
	comp=Z,33nm,0.8s								
TYV				pmax		pmax			
	comp=Z,900nm,2.7s								
AMKA	Amchitka	12.62	98	Pn		Pn		12 54 45.8	-0.7
YSS	Yuzh-Sakhalins	13.01	239			P		12 54 54.4	+0.4
YSS	Yuzh-Sakhalins	13.01	239	ePN		P		12 54 54.2	+0.2
YSS				pmax		pmax			
	comp=Z,80nm,0.9s								
SHO	Shikotan	13.62	221	⇓i P		Pn		12 54 55.3	-3.7
SHO				S		S		12 57 17.8	-12
GRNR	Gornyy	14.30	262	⇓i P		P		12 55 09.4	+1.1
GRNR				pmax		pmax			
	comp=E,40nm,0.8s								
GRNR				pmax		pmax			
	comp=N,30nm,0.9s								
GRNR				pmax		pmax			
	comp=Z,20nm,1.0s								
JKA	Kamikawa-asahi	15.18	231			P		12 55 20.6	+2.6
ASAJ	Asahikawa	15.18	231	P		P		12 55 20.6	+2.6
ASAJ				pmax		pmax			
	comp=Z,280nm,0.8s								
ASAJ	Asahikawa	15.18	231	P		P		12 55 19.3	+1.3
	comp=Z,268nm,0.7s,baz=56,slow=7.0,SNR=101								
ATKA	Atka Island	16.05	89	P		P		12 55 28.2	+0.7
ERM	Erimo	16.64	226	P		P		12 55 35.3	+1.3
ERM	Erimo	16.64	226	P		P		12 55 35.3	+1.3
ERM				pmax		pmax			
	comp=Z,118nm,0.6s								
YAK	Yakutsk	16.84	307	P		P		12 55 35.8	-0.2
YAK	Yakutsk	16.84	307	eP		P		12 55 35.3	-0.7
YAK				eS		S		12 58 39.7	-0.2
YAK				pmax		pmax			
	comp=Z,115nm,0.9s								
YAK				pmax		pmax			
	comp=N,17nm,1.0s								
YAK				pmax		pmax			
	comp=E,31nm,1.3s								
YAK				smax		smax			
	comp=E,406nm,4.3s								
YAK				smax		smax			
	comp=N,269nm,3.5s								
SPIA	Saint Paul Isl	17.19	70	P		P		12 55 39.8	-0.1
	baz=276								
KLR	Kul'dur	17.69	263	ceP		P		12 55 45.7	+0.3
KLR				pmax		pmax			
	comp=Z,8.0nm,1.7s								
KLR	Kul'dur	17.69	263	P		P		12 55 45.5	0.0
	comp=Z,14nm,0.6s,baz=66,slow=8.9,SNR=27								
JTM	Tenmabayashi	18.53	228	P		P		12 55 54.4	-0.2
ZEA	Zeya	18.54	280	eP		P		12 55 54.9	+0.3
ZEA				pmax		pmax			
	comp=E,10.0nm,0.7s								
ZEA				pmax		pmax			
	comp=Z,20nm,1.0s								
NIKH	Nikolski High	18.87	83	P		P		12 55 59.8	+1.7
	baz=289								
M11K	Mekoryuk	19.19	59	P		P		12 56 02.2	+0.8
	baz=269								
HEH	HeiHe	19.71	269	eP		P		12 56 05.3	-1.9
HEH				pmax		pmax			
	comp=Z,35nm,0.5s								
UNV	Unalaska Valle	19.94	79	P		P		12 56 10.7	+1.2
	baz=287								
ANM	Nome	20.05	47	P		P		12 56 11.1	+0.5
	baz=258								
USRK	Ussuriysk Ar.	20.47	250	P		P		12 56 15.0	-0.3
	comp=Z,3.4nm,0.7s,baz=49,slow=11,SNR=6.2								
	comp=Z,3.4nm,0.7s								
J14K	Nanvaranak Lak	20.58	53	P		P		12 56 17.2	+0.9
	baz=265								
M13K	Dall Lake	20.60	59	P		P		12 56 18.0	+1.5
	baz=272								
F15K	North Star Dit	20.61	44	P		P		12 56 17.4	+0.8
	baz=256								
G15K	Niukluk	20.70	46	P		P		12 56 19.0	+1.4
	baz=259								
L14K	Kuka Creek	20.92	57	P		P		12 56 20.8	+0.9
	baz=270								
JMM	Marumori	21.11	224	P		P		12 56 23.1	+1.0
C16K	Lisburne Hills	21.14	37	P		P		12 56 23.3	+1.3
	baz=249								
TIXI	Tiksi	21.18	334	P		P		12 56 22.0	-0.4
TIXI	Tiksi	21.18	334	ci P		P		12 56 22.3	-0.2
M14K	Bethel	21.28	58	P		P		12 56 24.6	+1.1
M14K	Bethel	21.28	58	P		P		12 56 25.1	+1.6
	baz=272								
H16K	Elim	21.39	48	P		P		12 56 25.3	+0.6
	baz=262								
N14K	Kuskokwak Cree	21.45	61	P		P		12 56 26.4	+1.2
	baz=274								
G16K	Koyuk River	21.48	45	P		P		12 56 25.8	+0.3
	baz=260								
K15K	Wolf Creek Mou	21.49	54	P		P		12 56 26.8	+1.1
K15K				IAmb		IAmb		12 56 28.9	
	comp=Z,21nm,1.0s								
K15K	Wolf Creek Mou	21.49	54	P		P		12 56 26.7	+1.1
	baz=268								
O14K	Tigyukauivet M	21.73	62	P		P		12 56 29.3	+1.4
	baz=276								
D17K	Noatak River	21.75	39	P		P		12 56 28.7	+0.5
	baz=253								
M15K	Kasigluk River	21.91	58	P		P		12 56 30.4	+0.8
	baz=273								
J16K	Anvik River	21.97	51	P		P		12 56 31.4	+1.1
	baz=267								
I17K	Unalakleet	21.97	50	P		P		12 56 31.8	+1.6
	baz=265								
BNX	BinXian	22.06	259	⇑P		P		12 56 29.8	-1.4
BNX				pmax		pmax			
	comp=Z,17nm,0.8s								
BNX				pmax		pmax			
	comp=Z,1μm,5.7s								
F17K	Baldwin Pennin	22.13	43	P		P		12 56 33.8	+2.2
	baz=258								
G17K	Kiwalik Mounta	22.20	45	P		P		12 56 33.8	+1.5
	baz=261								
N15K	Kwethluk River	22.23	60	P		P		12 56 33.9	+1.1
N15K	Kwethluk River	22.23	60	P		P		12 56 34.6	+1.8
	baz=275								
H17K	Granite Mounta	22.42	47	P		P		12 56 35.4	+1.0
	baz=263								
L16K	Owhat River	22.46	56	P		P		12 56 35.9	+1.2
L16K				IAmb		IAmb		12 56 37.0	
	comp=Z,6.2nm,0.6s								
L16K	Owhat River	22.46	56	P		P		12 56 36.1	+1.4
	baz=272								
E18K	Tukpahlearik C	22.60	41	P		P		12 56 36.8	+0.9
E18K				IAmb		IAmb		12 56 38.2	
	comp=Z,7.6nm,0.8s								
E18K	Tukpahlearik C	22.60	41	P		P		12 56 37.1	+1.2
	baz=257								
C18K	Utukok River	22.71	37	P		P		12 56 37.4	+0.4
	baz=253								
M16K	Timber Creek	22.73	57	P		P		12 56 38.9	+1.6
	baz=274								
N16K	Nishlik Lake	22.86	59	P		P		12 56 40.3	+1.8
	baz=275								
SDPT	Sand Point	22.88	72	P		P		12 56 40.2	+1.6
	baz=286								
K17K	Iditarod	23.00	53	P		P		12 56 40.7	+1.1
K17K	Iditarod	23.00	53	P		P		12 56 41.4	+1.8
	baz=270								
L17K	Donlin	23.01	54	P		P		12 56 41.0	+1.4
	baz=272								
G18K	Tagagawik	23.07	45	P		P		12 56 41.0	+0.8
	baz=262								
H18K	Honhosa River	23.10	47	P		P		12 56 41.5	+0.9
	baz=264								
O16K	Kokwok River B	23.30	61	P		P		12 56 43.5	+1.2
	baz=278								
MAJO	Matsushiro	23.31	227	P		P		12 56 43.5	+0.8
MAJO	Matsushiro	23.31	227	P		P		12 56 43.5	+0.8
MAJO				pmax		pmax			
	comp=Z,35nm,0.6s								
MJAR	Matsushiro Arr	23.31	227	P		P		12 56 42.7	+0.1
	comp=Z,14nm,0.5s,baz=21,slow=10,SNR=54								
	comp=Z,14nm,0.5s								
C19K	Lookout Ridge	23.40	37	P		P		12 56 44.4	+1.1
	baz=254								
M17K	Holitna River	23.45	56	P		P		12 56 44.5	+0.8
M17K				IAmb		IAmb		12 56 47.2	
	comp=Z,16nm,0.8s								
M17K	Holitna River	23.45	56	P		P		12 56 45.3	+1.6
	baz=274								
F19K	Shaleruckik Mo	23.56	43	P		P		12 56 46.0	+1.4
	baz=261								
GCSA	Galena City Sc	23.70	48	P		P		12 56 47.8	+1.9
	baz=267								
G19K	Purcell Mounta	23.74	44	P		P		12 56 47.7	+1.5
	baz=263								
L18K	Granite Mounta	23.76	54	P		P		12 56 47.8	+1.3
L18K				IAmb		IAmb		12 56 50.2	
	comp=Z,17nm,1.4s								
L18K	Granite Mounta	23.76	54	P		P		12 56 48.3	+1.8
	baz=273								
CHGN	Chignik	23.76	69	P		P		12 56 47.7	+1.2
	baz=285								
D19K	Kuna River	23.76	38	P		P		12 56 48.2	+1.7
	baz=257								
O17K	Koliganek Bris	23.77	60	P		P		12 56 48.0	+1.4
	baz=278								
E19K	Redstone River	23.88	41	P		P		12 56 48.6	+1.1
	baz=260								
H19K	Roundabout Mou	23.94	46	P		P		12 56 49.2	+1.1
H19K				IAmb		IAmb		12 56 53.6	
	comp=Z,22nm,1.4s								
H19K	Roundabout Mou	23.94	46	P		P		12 56 49.1	+1.1
	baz=265								
P17K	Kvichak River	24.19	62	P		P		12 56 52.1	+1.7
	baz=280								
M18K	Stony River	24.21	56	P		P		12 56 52.2	+1.6
	baz=275								
J19K	Poorman	24.22	50	P		P		12 56 51.3	+0.6
J19K				IAmb		IAmb		12 57 21.0	
	comp=Z,17nm,1.5s								
J19K	Poorman	24.22	50	P		P		12 56 51.8	+1.2
	baz=270								
N18K	Kilae Creek	24.26	58	P		P		12 56 52.7	+1.6
	baz=277								
D20K	Etivluk River	24.35	38	P		P		12 56 53.6	+1.8
	baz=258								
E20K	Nigu River	24.41	39	P		P		12 56 53.5	+1.1
	baz=260								
H20K	Anotleneega Mo	24.59	46	P		P		12 56 55.9	+1.9
	baz=267								
L19K	White Mountain	24.62	54	P		P		12 56 56.1	+1.7
	baz=274								
I20K	Naaghedeneel	24.73	48	P		P		12 56 57.1	+1.9
	baz=269								
P18K	Big Mountain,	24.77	61	P		P		12 56 57.3	+1.6
	baz=280								
BOD	Bodaibo	24.80	295	eP		P		12 56 55.0	-0.9
BOD				pmax		pmax			
	comp=Z,12nm,0.8s								
INU	Inuyama	24.83	227	P		P		12 56 58.3	+1.9
J20K	Nowinta River	24.86	49	P		P		12 56 57.3	+0.8
	baz=271								
K20K	Telida	24.92	51	P		P		12 56 58.1	+1.2
	baz=272								
Q18K	Katmai Hardscr	25.02	63	P		P		12 56 59.3	+1.2
	baz=282								
IMAR	Indian Mountai	25.08	45	P		P		12 56 58.9	+0.5
B21K	Ikpikpuk River	25.24	36	P		P		12 57 00.9	+1.2
	baz=258								
M20K	Styx River	25.45	55	P		P		12 57 03.7	+1.8
	baz=276								
R18K	Karluk	25.55	65	P		P		12 57 05.0	+2.3
	baz=284								
SII	Sitkinak Islan	25.95	67	P		P		12 57 07.3	+0.9
	baz=286								
N20K	Mount Spurr	25.98	56	P		P		12 57 06.6	0.0
	baz=278								
SPCR	Spurr Chakacha	25.98	56	P		P		12 57 06.6	0.0
	baz=278								
E22K	Anaktuvuk Pass	26.01	40	P		P		12 57 07.8	+1.0
	baz=264								
H22K	Ishtalitna Cre	26.05	45	P		P		12 57 08.3	+1.1
	baz=270								
MLY	Manley	26.32	47	P		P		12 57 10.3	+0.7
	baz=272								
KDAK	Kodiak Island	26.47	64	P		P		12 57 12.2	+1.3
	baz=285								
SUA	Susitna One	26.64	55	P		P		12 57 12.9	+0.4
	baz=279								
CNPM	China Poot	26.75	60	P		P		12 57 12.3	-1.1
E23K	Chandalar	26.82	41	P		P		12 57 14.8	+0.7
	baz=267								
TOLK	Toolik Lake Re	26.88	39	P		P		12 57 15.6	+1.0
	baz=266								
M22K	Willow	26.89	55	P		P		12 57 14.7	+0.1
	baz=279								
I23K	Minto, Yukon-K	26.90	47	P		P		12 57 15.7	+1.0
	baz=273								
BRSE	Bradley Lake S	26.95	59	P		P		12 57 15.1	-0.1
	baz=282								
E24K	Your Creek	27.25	41	P		P		12 57 18.8	+0.9
	baz=268								
KSRS	Korea Array	27.44	243	P		P		12 57 19.9	+0.1
	comp=Z,3.3nm,0.8s,baz=40,slow=8.6,SNR=12								
	comp=Z,3.3nm,0.8s								
F24K	Squaw Lake	27.46	42	P		P		12 57 20.7	+0.9
	baz=270								
H24K	Noodor Dome	27.49	45	P		P		12 57 20.9	+1.0
	baz=273								
CCB	Clear Creek Bu	27.59	48	P		P		12 57 21.4	+0.5
G24K	Hadweenzic Riv	27.62	44	P		P		12 57 22.4	+1.3
	baz=271								
POKR	Poker Plat Res	27.71	47	P		P		12 57 22.7	+0.7
POKR				IAmb		IAmb		12 58 06.3	
	comp=Z,5.6nm,1.0s								
POKR	Poker Plat Res	27.71	47	P		P		12 57 22.9	+0.9
	baz=274								
SML	Sawmill	27.72	54	P		P		12 57 23.1	+1.1
SML				IAmb		IAmb		12 57 24.7	
	comp=Z,16nm,1.1s								
SML	Sawmill	27.72	54	P		P		12 57 23.2	+1.1
	baz=280								
KNK	Knik Glacier	27.73	55	P		P		12 57 23.2	+1.1
	baz=281								
IL31		27.98	48	P		P		12 57 24.3	+0.1
ILAR	Eielson Array	27.98	48	P		P		12 57 24.3	+0.1
ILAR	Eielson Array	27.98	48	P		P		12 57 25.0	+0.7
ILAR	Eielson Array	27.98	48	P		P		12 57 24.9	+0.7
	comp=Z,1.5nm,0.4s,baz=262,slow=7.7,SNR=57								
	comp=Z,1.5nm,0.4s								
M23K	Glacier View	28.00	54	P		P		12 57 25.5	+0.9
	baz=280								
D25K	Kavik River	28.08	38	P		P		12 57 26.1	+1.0
	baz=267								
G25K	Bearman Lake	28.17	43	P		P		12 57 26.5	+0.6
	baz=272								
SCM	Sheep Creek Mo	28.18	54	P		P		12 57 27.4	+1.3
SCM	Sheep Creek Mo	28.18	54	P		P		12 57 27.1	+0.9
	baz=281								
SCM	Sheep Creek Mo	28.18	54	P		P		12 57 27.5	+1.3
SCM				pmax		pmax			
	comp=Z,28nm,1.2s								
F25K	Christian Rive	28.32	42	P		P		12 57 28.3	+1.0
	baz=271								
E25K	Arctic Village	28.35	40	P		P		12 57 28.5	+1.0
E25K				IAmb		IAmb		12 58 01.1	
	comp=Z,8.0nm,1.5s								
E25K	Arctic Village	28.35	40	P		P		12 57 28.2	+0.7
	baz=270								
PRP	Porcupine Dome	28.48	46	P		P		12 57 29.7	+0.8
PRP	Porcupine Dome	28.48	46	P		P		12 57 29.8	+0.9
	baz=275								
FYU	Fort Yukon	28.52	44	P		P		12 57 30.0	+1.0
FYU				IAmb		IAmb		12 58 09.5	
	comp=Z,15nm,1.4s								
K24K	Donnelly Dome	28.57	50	P		P		12 57 32.0	+2.5
	baz=278								
J25K	Salcha River,	28.64	48	P		P		12 57 29.9	-0.4
	baz=277								
M24K	Tolsona, Glenn	28.67	53	P		P		12 57 31.3	+0.9
	baz=281								
BMAR	Burnt Mountain	28.74	42	P		P		12 57 32.1	+1.2
PAX	Paxson	28.84	51	P		P		12 57 33.0	+1.0
	baz=280								
F26K	Sheenjek River	28.89	41	P		P		12 57 33.1	+0.8
	baz=272								
HARP	HAARP	29.08	52	P		P		12 57 34.2	+0.1
	baz=281								
SCRK	Sand Creek	29.33	49	P		P		12 57 36.3	-0.1
SCRK				IAmb		IAmb		12 57 37.0	
	comp=Z,5.5nm,0.6s								
SCRK	Sand Creek	29.33	49	P		P		12 57 36.1	-0.2
	baz=279								
J26L	Joseph Creek	29

DAWY	Dawson	31.30	48	P	P	12 57 54.7	+1.1
	baz=283						
H29M	Whitestone	31.31	44	P	P	12 57 54.6	+1.1
	baz=280						
G29M	Pine Creek	31.33	42	P	P	12 57 55.2	+1.4
	baz=279						
YUK3	Moose Creek	31.38	53	P	P	12 57 55.1	+0.7
	baz=286						
I29M	Ogilvie Camp,	31.49	45	P	P	12 57 56.1	+0.9
I29M				IAmb	IAmb	12 57 57.2	
	comp=Z,5.1nm,0.8s						
I29M	Ogilvie Camp,	31.49	45	P	P	12 57 56.3	+1.2
	baz=281						
J29N	Klondike Camp	31.71	47	P	P	12 57 58.3	+1.1
	baz=283						
O28M	Mount Upton	31.78	54	P	P	12 57 59.0	+0.9
	baz=287						
YUK8	Steele Glacier	31.83	53	P	P	12 57 59.9	+1.4
	baz=287						
EPYK	Eagle Plains	31.94	43	P	P	12 57 59.8	+0.8
	baz=281						
PINM	Pinnacle	31.96	56	P	P	12 58 00.3	+0.9
	baz=288						
G30M	tAoh Zraii Nji	32.02	42	P	P	12 58 00.4	+0.6
	baz=280						
L29M	L29M	32.07	50	P	P	12 58 01.7	+1.4
L29M	L29M	32.07	50	P	P	12 58 01.2	+0.9
	baz=285						
F30M	Barrier River	32.08	41	P	P	12 58 01.2	+1.0
	baz=280						
M29M	Somme Creek	32.10	51	P	P	12 58 01.3	+0.6
M29M				IAmb	IAmb	12 58 03.3	
	comp=Z,4.2nm,0.6s						
M29M	Somme Creek	32.10	51	P	P	12 58 02.1	+1.4
	baz=286						
K29M	Barlow Dome	32.15	48	P	P	12 58 02.1	+1.0
	baz=284						
I30M	Mount Dempster	32.31	45	P	P	12 58 03.5	+1.1
I30M				IAmb	IAmb	12 58 04.3	
	comp=Z,5.7nm,0.9s						
I30M	Mount Dempster	32.31	45	P	P	12 58 03.2	+0.8
	baz=283						
J30M	Hart River	32.48	47	P	P	12 58 04.4	+0.5
	baz=284						
PNL	Peninsula	32.50	56	P	P	12 58 04.6	+0.5
	baz=290						
YUK6	Outpost Mounta	32.58	54	P	P	12 58 05.9	+1.0
	baz=288,SNR=6.4						
O29M	Mount Kennedy	32.69	55	P	P	12 58 07.0	+1.3
	baz=289						
G31M	Satah River	32.79	42	P	P	12 58 07.6	+1.3
	baz=282						
INK	Inuvik	32.80	39	P	P	12 58 07.3	+0.9
	baz=281						
M30M	Minto, Yukon	32.81	50	P	P	12 58 08.2	+1.5
	baz=287						
F31M	Tsiigehtchic	32.88	41	P	P	12 58 07.6	+0.4
	baz=282						
SONM	Songino Array	32.97	280	P	P	12 58 07.4	-0.9
	comp=Z,1.6nm,0.3s,baz=56,slow=8.3,SNR=11						
SONM				PcP	PcP	13 00 46.7	+0.1
	comp=Z,1.9nm,0.5s,baz=53,slow=1.4,SNR=8.3						
	comp=Z,1.6nm,0.3s						
N30M	Aishikik Lake	33.01	52	P	P	12 58 10.5	+2.0
	baz=288						
HYT	Haines Junctio	33.02	54	P	P	12 58 10.6	+2.0
HYT				IAmb	IAmb	12 58 11.5	
	comp=Z,4.8nm,0.6s						
HYT	Haines Junctio	33.02	54	P	P	12 58 10.6	+2.0
	baz=289,SNR=18						
P29M	Windy Craggy	33.31	56	P	P	12 58 12.1	+1.1
	baz=290						
ZAK	Zakamensk	33.40	286	eP	P	12 58 10.9	-1.1
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
N31M	Braeburn, Yuko	33.60	52	P	P	12 58 15.5	+2.0
	baz=289						
O30N	Mendenhall	33.69	53	P	P	12 58 16.0	+1.6
O30N				IAmb	IAmb	12 58 17.1	
	comp=Z,4.7nm,0.6s						
O30N	Mendenhall	33.69	53	P	P	12 58 15.9	+1.6
	baz=290,SNR=7.4						
M31M	Drury Creek, Y	33.99	50	P	P	12 58 19.2	+2.3
M31M				IAmb	IAmb	12 58 19.9	
	comp=Z,5.5nm,0.6s						
M31M	Drury Creek, Y	33.99	50	P	P	12 58 19.1	+2.3
	baz=289						
PLBC	Pleasant Camp	34.02	55	P	P	12 58 19.0	+1.9
	baz=292						
HHC	Hu-ho-hao-te	34.15	266	eP	P	12 58 16.0	-2.5
HHC				pmax	pmax		
	comp=Z,23nm,0.7s						
HHC				pmax	pmax		
	comp=Z,810nm,6.0s						
WHY	Whitehorse	34.29	53	P	P	12 58 21.8	+2.2
WHY				IAmb	IAmb	12 58 22.3	
	comp=Z,4.4nm,0.7s						
WHY	Whitehorse	34.29	53	P	P	12 58 21.0	+1.5
	baz=291,SNR=5.1						
FARO	Faro, Yukon	34.44	50	P	P	12 58 22.2	+1.5
	baz=290						
SKAG	Skagway	34.51	55	P	P	12 58 23.1	+1.8
SKAG				IAmb	IAmb	12 58 24.8	
	comp=Z,5.7nm,0.8s						
SKAG	Skagway	34.51	55	P	P	12 58 23.4	+2.1
	baz=292						
S31K	Pelican	34.66	58	P	P	12 58 24.2	+1.7
	baz=294						
R31K	City Hall, Gus	34.72	57	P	P	12 58 24.3	+1.2
	baz=293						
MMPY	Sheldon Lake,	35.22	49	P	P	12 58 30.3	+2.9
MMPY				IAmb	IAmb	12 59 07.2	
	comp=Z,12nm,1.5s						
MMPY	Sheldon Lake,	35.22	49	P	P	12 58 29.3	+1.9
	baz=290						
P32M	Atlin	35.23	54	P	P	12 58 29.5	+2.0
	baz=293						
R32K	Eaglecrest	35.37	57	P	P	12 58 30.6	+2.0
R32K	Eaglecrest	35.37	57	P	P	12 58 30.2	+1.6
	baz=294						
P33M	Teslin, Yukon	35.40	53	P	P	12 58 30.6	+1.6
	baz=293,SNR=5.4						
SIT	Sitka	35.48	59	P	P	12 58 31.8	+2.3
	baz=295						
S32K	Killisnoo	35.67	58	P	P	12 58 33.1	+1.9
	baz=295						
C36M	Paulatuk	35.90	36	P	P	12 58 34.5	+1.6
	baz=287						
Q32M	Nakina River	36.16	55	P	P	12 58 37.8	+2.3
	baz=295,SNR=6.2						
R33M	Jennings River	36.59	54	P	P	12 58 42.0	+2.9
R33M	Jennings River	36.59	54	P	P	12 58 41.4	+2.3
	baz=295						
TGTN	Hyland Airport	36.94	50	P	P	12 58 44.0	+2.1
	baz=294						
U33K	Whale Pass	36.99	60	P	P	12 58 44.2	+1.9
	baz=298						
S34M	Telegraph Cree	37.15	56	P	P	12 58 45.6	+1.9
	baz=296						
WRAK	Wrangell Islan	37.23	59	P	P	12 58 46.2	+1.9
	baz=298						
WTLY	Watson Lake, Y	37.28	52	P	P	12 58 46.7	+1.8
	baz=295						
CRAG	Craig	37.29	60	P	P	12 58 47.4	+2.6
	baz=298						
DLBC	Dease Lake	37.44	55	P	P	12 58 48.4	+2.1
	baz=296						
LYN	LuoYang	37.99	257	eP	P	12 58 50.5	-0.5
LYN				pmax	pmax		
	comp=Z,27nm,0.6s						
LYN				pmax	pmax		
	comp=Z,240nm,5.7s						
T35M	Bob Quinn	38.00	57	P	P	12 58 53.9	+3.1
T35M				IAmb	IAmb	12 58 55.4	
	comp=Z,7.3nm,0.8s						
T35M	Bob Quinn	38.00	57	P	P	12 58 53.1	+2.3
	baz=298						
V35K	Ketchikan	38.11	60	P	P	12 58 54.0	+2.3
	baz=299						
WRGLY	Wrigley	38.29	46	P	P	12 58 55.7	+2.6
	baz=295						
LIRD	Liard River Hi	38.82	52	P	P	12 59 00.2	+2.6
	baz=298						
ZAA0	Zalesovo Array	41.33	300	P	P	12 59 16.3	-1.8
ZALV	Zalesovo Beam	41.33	300	P	P	12 59 16.6	-1.6
ZALV	Zalesovo Beam	41.33	300	P	P	12 59 16.8	-1.4
	comp=Z,3.4nm,0.7s,baz=55,slow=6.7,SNR=15						
ZALV				PP	PP	13 00 55.7	-2.6
	comp=Z,0.7nm,0.3s,baz=61,slow=10,SNR=3.6						
	comp=Z,3.4nm,0.7s						
LZH	Lanzhou	41.82	267	⇑P	P	12 59 22.5	-0.1
LZH				pP	pP	13 00 13.0	+3.1
LZH				pmax	pmax		
	comp=Z,32nm,1.4s						
GTA	Gaotai	41.87	274	⇑P	P	12 59 23.0	0.0
GTA				pmax	pmax		
	comp=Z,13nm,0.6s						
YKA	Yellowknife Ar	42.22	44	P	P	12 59 26.4	+1.1
	comp=Z,1.4nm,0.8s,baz=299,slow=9.0,SNR=4.0						
	comp=Z,1.4nm,0.8s						
DGZ	Jazzator, Alta	42.37	294	i P	P	12 59 26.6	-0.3
DGZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SPITS	Spitsbergen Ar	45.24	350	P	P	12 59 48.8	-0.3
	comp=Z,1.6nm,0.3s,baz=66,slow=8.3,SNR=18						
	comp=Z,1.6nm,0.3s						
WMQ	Urumqi	45.85	287	eP	P	12 59 53.5	-0.9
WMQ				pmax	pmax		
	comp=Z,37nm,0.7s						
KURK	Kurchatov	46.30	300	P	P	12 59 56.8	-0.9
KURK	Kurchatov	46.30	300	P	P	12 59 57.5	-0.2
KURK						13 01 28.9	
KURBB	Kurchatov Arra	46.40	300	P	P	12 59 57.5	-1.0
	comp=Z,8.4nm,0.4s,baz=56,slow=7.7,SNR=20						
KURBB				PcP	PcP	13 01 28.9	-0.4
	comp=Z,1.5nm,0.4s,baz=48,slow=3.4,SNR=6.3						
	comp=Z,8.4nm,0.4s						
MK31	Makanchi Array	46.87	294	P	P	13 00 00.8	-1.4
MK31	Makanchi Array	46.87	294	i P	P	13 00 00.8	-1.4
MKAR	Makanchi Array	46.87	294	P	P	13 00 00.8	-1.4
	comp=Z,5.5nm,0.5s,baz=57,slow=7.7,SNR=72						
	comp=Z,5.5nm,0.5s						
GOMU	GeErMu	46.95	274	P	P	13 00 02.3	-1.1
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAKZ	Makanchi	47.02	294	P	P	13 00 02.0	-1.4
MAKZ	Makanchi	47.02	294	P	P	13 00 02.0	-1.4
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BVAR	Borovoye Array	48.82	307	P	P	13 00 16.1	-0.9
	comp=Z,12nm,0.4s,baz=59,slow=7.5,SNR=50						
BVAR				PcP	PcP	13 01 37.6	-0.3
	comp=Z,1.8nm,0.4s,baz=73,slow=2.7,SNR=6.4						
BVAR				PP	PP	13 02 14.4	+2.3
	comp=Z,3.3nm,0.8s,baz=72,slow=9.7,SNR=6.1						
	comp=Z,12nm,0.4s						
BRVK	Borovoye	48.84	307	P	P	13 00 16.3	-0.9
BRVK				IAmb	IAmb	13 00 17.1	
	comp=Z,12nm,0.5s						
BRVK	Borovoye	48.84	307	P	P	13 00 16.3	-0.9
BRVK				pmax	pmax		
	comp=Z,12nm,0.5s						
NEW	Newport	49.51	61	P	P	13 00 24.2	+1.8
	baz=311						
PZH	PanZhiHua	50.11	260	P	P	13 00 29.0	+1.8
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
ARCES	ARCESS Array B	51.37	341	P	P	13 00 34.8	-1.2
	comp=Z,1.8nm,0.7s,baz=52,slow=7.9,SNR=8.5						
ARCES				PcP	PcP	13 01 46.5	-0.6
	comp=Z,5.6nm,0.9s,baz=4.3,slow=4.8,SNR=5.9						
	comp=Z,1.8nm,0.7s						
ARU	Arti	51.67	316	c iP	P	13 00 37.5	-0.8
ARU				S	S	13 07 41.3	-0.2
ARU				SS	SS	13 11 16.7	-3.4
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BMO	Blue Mountains	51.70	64	P	P	13 00 40.8	+2.0
BMO	Blue Mountains	51.70	64	P	P	13 00 40.8	+2.0
BMO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MSO	Missoula	52.07	60	P	P	13 00 43.3	+1.8
	baz=313						
ELMT	Elliston	53.00	60	P	P	13 00 50.0	+1.5
BOOM	Boomskoye usch	53.11	293	P	P	13 00 48.9	-0.4
BOOM	Boomskoye usch	53.11	293	P	P	13 00 48.9	-0.4
BOOM				pmax	pmax		
	comp=Z,6.0nm,1.4s						
AAK	Ala-Archa	53.77	294	ceP	P	13 00 53.0	-1.1
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LSA	Lhasa	53.77	271	P	P	13 00 53.9	-0.7
LSA				IAmb	IAmb	13 00 55.2	
	comp=Z,12nm,0.6s						
LSA	Lhasa	53.77	271	P	P	13 00 53.9	-0.7
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
BOZ	Bozeman (W)	54.08	60	P	P	13 00 57.7	+1.5
	baz=315						
HLID	Hailey	54.09	64	P	P	13 00 58.6	+2.2
	baz=315						
PAHR	Pah Rah Range	54.17	70	P	P	13 00 58.8	+1.8
PAHR				IAmb	IAmb	13 01 00.3	
	comp=Z,5.9nm,0.9s						
EMB	Emerald Bay	54.30	71	P	P	13 01 00.0	+2.0
EMB				IAmb	IAmb	13 01 04.0	
	comp=Z,5.4nm,0.8s						
YERR	Yerington	54.76	71	P	P	13 01 02.5	+1.2
YERR				IAmb	IAmb	13 01 04.8	
	comp=Z,8.7nm,0.9s						
KVN	Kaiserville	55.34	70	P	P	13 01 08.1	+2.7
KVN	Kaiserville	55.34	70	P	P	13 01 08.1	+2.7
KVN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KK31	Karatay Array	55.51	297	P	P	13 01 05.3	-1.1
KK31				IAmb	IAmb	13 01 05.7	
	comp=Z,4.0nm,0.6s						
KK31	Karatay Array	55.51	297	P	P	13 01 05.3	-1.1
KK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KKAR	Karatay Array	55.51	297	P	P	13 01 04.8	-1.5
KKAR	Karatay Array	55.51	297	P	P	13 01 04.2	-2.1
KKAR				IAmb	IAmb	13 01 05.7	
	comp=Z,4.0nm,0.6s						
KKAR	Karatay Array	55.51	297	P	P	13 01 04.8	-1.5
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
RLMT	Red Lodge	55.59	59	P	P	13 01 09.2	+2.1
	baz=316						
ELK	Elko	55.66	67	P	P	13 01 10.5	+2.8
ELK	Elko	55.66	67	P	P	13 01 10.5	+2.8
ELK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVAR	Mina Array Bea	55.67	71	P	P	13 01 09.8	+2.0
NVAR	Mina Array Bea	55.67	71	P	P	13 01 10.5	+2.7
	comp=Z,4.3nm,0.7s,baz=299,slow=7.3,SNR=31						
	comp=Z,4.3nm,0.7s						
LAO	LASA Array	55.95	56	P	P	13 01 10.0	+0.6
	baz=316						
ABKAR	Akbulak array	56.18	309	P	P	13 01 10.1	-0.9
ABKAR				IAmb	IAmb	13 01 10.5	
	comp=Z,4.1nm,0.7s						
TPH	Tonopah	56.52	70	P	P	13 01 15.6	+1.9
TPH	Tonopah	56.52	70	P	P	13 01 15.6	+1.9
TPH				pmax	pmax		
	comp=Z,24nm,0.8s						
MZP	Montezuma Peak	56.70	71	P	P	13 01 17.5	+2.4
TIN	Tinemaha, Big	56.71	72	P	P	13 01 17.0	+2.0
	baz=317						
HWUT	Hardware Ranch	56.96	63	P	P	13 01 19.2	+2.4
HWUT				IAmb	IAmb	13 01 20.3	
	comp=Z,4.9nm,0.8s						
VES	Vestal, Richgr	57.12	73	P	P	13 01 19.8	+2.0
	baz=317						
BW06	Boulder Array	57.14	61	P	P	13 01 20.0	+1.9
BW06				IAmb	IAmb	13 01 20.7	
	comp=Z,4.4nm,0.6s						
BW06	Boulder Array	57.14	61	P	P	13 01 20.2	+2.1
	baz=317						
PD31	Pinedale Array	57.14	61	P	P	13 01 19.8	+1.7
PD31				IAmb	IAmb	13 01 20.7	
	comp=Z,3.8nm,0.6s						
PDAR	Pinedale Array	57.14	61	P	P	13 01 20.3	+2.2
	comp=Z,4.2nm,0.7s,baz=337,slow=2.4,SNR=38						
PDAR				PcP	pP	13 02 08.7	+0.2
	comp=Z,0.8nm,0.7s,baz=323,slow=1.4,SNR=3.9						
	comp=Z,4.2nm,0.7s						
R11B	Troy Canyon, C	57.20	69	P	P	13 01 20.9	+2.4
	baz=317						
GRAC	Grapevine Rang	57.22	71	P	P	13 01 20.9	+2.4
	baz=317						
CWC	Cottonwood Cre	57.24	72	P	P	13 01 21.2	+2.5
	baz=317						
DUG	Dugway, Tooele	57.33	65	P	P	13 01 21.6	+2.2
	baz=317						
PKM	Mcpherson Peak	57.41	75	P	P	13 01 22.1	+2.1
	baz=318						
ISA	Isabella, Lake	57.59	73	P	P	13 01 23.1	+2.0
	baz=318						
CHTO	Chiang Mai	57.74	256	P	P	13 01 21.9	-0.3
CHTO				IAmb	IAmb	13 01 23.5	
	comp=Z,9.9nm,0.6s						
CHTO	Chiang Mai	57.74	256	P	P	13 01 21.9	-0.3
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MPMC	Manual Prospec	57.84	72	P	P	13 01 25.7	+2.7
	baz=318						
TPNV	Topopah Spring	57.87	70	P	P	13 01 26.3	+3.1
	baz=318						
FURC	Furnace Creek,	57.88	71	P	P	13 01 26.1	+3.1
	baz=318						
CMAR	Chiang Mai Arr	58.02	256	P	P	13 01 23.8	-0.4
	comp=Z,2.1nm,0.6s,baz=20,slow=7.6,SNR=14						
	comp=Z,2.1nm,0.6s						
GUN	Gumba	58.16	274	eP	P	13 01 24.0	-1.5
	comp=Z,15nm,0.6s						
LRMC	Laurel Mtn Rad	58.16	73	P	P	13 01 27.5	+2.3
	baz=318						
JIRN	Jiri	58.17	274	eP	P	13 01 24.5	-1.1
	comp=Z,7.3nm,0.5s						
MDND	Maddock	58.17	51	P	P	13 01 26.8	+1.9
	baz=318						
FINES	FINESS Array B	58.22	336	i P	P	13 01 24.7	-0.2
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
FINES	FINESS Array B	58.22	336	P	P	13 01 24.4	-0.5
	comp=Z,3.5nm,0.5s,baz=36,slow=8.2,SNR=16						
	comp=Z,3.5nm,0.5s						
QSM	Queen of Sheba	58.25	72	P	P	13 01 27.2	+1.6
QSM				IAmb	IAmb	13 01 30.3	
	comp=Z,4.6nm,0.8s						
EDW2	Edwards Air Fo	58.43	73	P	P	13 01 29.0	+2.1
	baz=318						
RAMN	Ramite	58.47	273	eP	P	13 01 26.2	-1.3
	comp=Z,20nm,0.5s						
PKI	Pulchoki	58.69	274	eP	P	13 01 27.6	-1.5
	comp=Z,16nm,0.7s						
PKIN	Phulchoki	58.69	274	eP	P	13 01 27.5	-1.6
	comp=Z,10nm,0.6s						
GSC	Goldstone, Bar	58.77	72	P	P	13 01 31.3	+1.9
	baz=318						
DMN	Daman	58.83	274	eP	P	13 01 29.1	-0.9
	comp=Z,16nm,0.7s						
RSSD	Black Hills	58.88	57	P	P	13 01 31.6	+1.5
	baz=318						
DANN	Dangsing	59.04	276	eP	P	13 01 30.6	-0.9
BFSC	Mount Baldy Ra	59.09	74	P	P	13 01 33.7	+2.1
	baz=318						
TUQ	Turquoise Moun	59.16	71	P	P	13 01 34.5	+2.5
	baz=318						
CIS	Catalina Islan	59.29	75	P	P	13 01 35.1	+2.3
	baz=318						
HEC	Hector,Ludlow	59.38	72	P	P	13 01 36.0	+2.5
	baz=318						
PYUN	Piuthan	59.67	276	eP	P	13 01 34.1	-1.6
O20A	White River Ci	59.75	62	P	P	13 01 37.8	+1.8
	baz=318						
GMRC	Granite Mounta	59.79	72	P	P	13 01 38.3	+2.0
	baz=318						
MURC	Murrieta	59.82	74	P	P	13 01 38.7	+2.3
	baz=319						
HMU	Henry Mountain	60.08	66	P	P	13 01 40.4	+1.9
BELC	Belle Mtn. Jos	60.19	72	P	P	13 01 40.6	+1.6
	baz=319						
PFO	Pinyon Flats O	60.22	73	P	P	13 01 40.0	+0.8
	baz=319						
N23A	Red Feather La	60.35	60	P	P	13 01 42.0	+1.8
	baz=319						
IRM	Iron Mountain	60.54	72	P	P	13 01 43.5	+2.2
	baz=319						
BORG	Borgarnes	60.67	0	i P	P	13 01 39.0	-2.6
BC3	Big Chuckawall	60.74	72	P	P	13 01 44.5	+1.7
	baz=319						
SMCO	Snowmass	61.11	62	P	P	13 01 47.0	+1.4
ISCO	Idaho Springs	61.34	61	P	P	13 01 48.5	+1.6
	baz=319						
WUAZ	Wupatki	61.56	68	P	P	13 01 50.3	+2.0
	baz=319						
EYMN	Ely	61.60	46	P	P	13 01 49.8	+1.5
	baz=322						
NB2	NORSAR Subarra	61.63	343	P	P	13 01 47.6	-0.5
	comp=Z,0.7nm,0.3s,baz=21,slow=6.9						
NOA	NORSAR Array B	61.63	343	P	P	13 01 47.7	-0.5
	comp=Z,1.6nm,0.6s,baz=20,slow=7.3,SNR=8.3						
	comp=Z,1.6nm,0.6s						
MVCO	Mesa Verde	61.81	65	P	P	13 01 51.0	+0.9
	baz=319						
HFS	Hagfors	62.03	341	P	P	13 01 50.1	-0.7
	comp=Z,2.2nm,0.4s,baz=57,slow=5.5,SNR=17						
	comp=Z,2.2nm,0.4s						
S22A	4UR Ranch, Cre	62.27	63	P	P	13 01 54.6	+1.4
	baz=320						
W18A	Petrified Fore	62.74	67	P	P	13 01 58.0	+1.8
	baz=320						
SDCO	Great Sand Dun	62.95	62	P	P	13 01 59.3	+1.7
	baz=320						
BGNE	Belgrade	63.75	55	P	P	13 02 04.1	+1.6
	baz=321						
T25A	Trinidad	63.97	62	P	P	13 02 06.0	+1.8
	baz=321						
TUC	Tucson	64.31	70	P	P	13 02 08.5	+2.2
	baz=320						
ANMO	Albuquerque	64.60	65	P	P	13 02 10.4	+2.1
	baz=321						
GEYT	Alibeck	65.62	302	P	P	13 02 13.2	-1.4
GEYT				IAmb	IAmb	13 02 14.7	
	comp=Z,6.3nm,0.7s						
GEYT	Alibeck	65.62	302	P	P	13 02 14.0	-0.7
GEYT	Alibeck	65.62	302	P	P	13 02 13.9	-0.7
	comp=Z,7.0nm,0.7s,baz=33,slow=3.5,SNR=12						
	comp=Z,7.0nm,0.7s						
121A	Cookes Peak, D	65.76	68	P	P	13 02 17.5	+1.8
	baz=321						
AKASG	Malin Array Be	66.75	328	P	P	13 02 20.3	-1.2
	comp=Z,0.5nm,0.2s,baz=29,slow=6.4,SNR=4.7						
	comp=Z,0.5nm,0.2s						
MNTX	Cornudas Mount	67.68	67	P	P	13 02 29.5	+1.8
MNTX	Cornudas Mount	67.68	67	P	P	13 02 29.7	+2.0
	baz=322						
KBZ	Khabaz	67.82	315	P	P	13 02 27.3	-1.0
	comp=Z,6.1nm,0.9s,baz=63,slow=2.3,SNR=6.4						
	comp=Z,6.1nm,0.9s						
EKA	Eskdalemuir Ar	69.16	349	P	P	13 02 35.6	-0.7
	comp=Z,1.1nm,0.4s,baz=18,slow=5.0,SNR=7.9						
	comp=Z,1.1nm,0.4s						
CLL	Collm	70.44	338	i P	P	13 02 44.1	-0.1
CLL	Collm	70.44	338	i P	P	13 02 44.1	-0.1
TX31	Lajitas Ar. Si	70.45	67	P	P	13 02 47.1	+2.3
TX32	Lajitas Array	70.45	67	P	P	13 02 46.6	+1.8
TX32				IAmb	IAmb	13 02 47.6	
	comp=Z,12nm,1.4s						
TXAR	Lajitas Array	70.45	67	P	P	13 02 46.8	+2.0
TXAR	Lajitas Array	70.45	67	P	P	13 02 47.1	+2.3
	comp=Z,2.6nm,0.5s,baz=295,slow=5.2,SNR=62						
	comp=Z,2.6nm,0.5s						
GERES	GERESS Array B	72.60	337	P	P	13 02 57.1	-0.2
	comp=Z,0.9nm,0.4s,baz=17,slow=7.2,SNR=3.3						
	comp=Z,0.9nm,0.4s						
BRTR	Keskin Array B	74.85	319	P	P	13 03 10.3	-0.3
	comp=Z,1.7nm,0.6s,baz=20,slow=3.9,SNR=3.6						
	comp=Z,1.7nm,0.6s						
WRAB	Tennant Creek	77.50	204	ceP	P	13 03 27.2	+1.9
WRAB				pmax	pmax		
	comp=Z,16nm,2.5s						
WR

s-maj=20.7km s-min=13.4km az=82.0
*NEIC **30** 12:54:27.9±1.1, 20°21N±0°09×143°9E±0°2, h61km±8km, mb4.7/70, Error ellipse: s-maj=23.0km s-min=13.7km az=86.0*
ISC 30 12:54:27.6±0.9, 20°21N±0°06×143°9E±0°1, h64km±7km, n165, σ0s97/128, mb4.6/68, 5C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.64**	**172**	Pn	**Pn**	**12 56 03.1**	**+0.5**
GUMO	**Guam**	**6.64**	**172**	LR	LR	12 58 03.6	
comp=Z,325nm,21.0s,baz=10,slow=34							
JCJ	**Chichijima**	**7.04**	**347**	LR	LR	12 58 02.4	
comp=Z,122nm,21.3s,baz=81,slow=32							
JHJ	**Hachijo jima 2**	**13.38**	**345**	LR	LR	13 02 13.2	
comp=Z,275nm,19.2s,baz=20,slow=36							
JOW	**Kunigami**	**15.79**	**298**	LR	LR	13 03 10.4	
comp=Z,290nm,20.3s,baz=104,slow=34							
JMN	**Monobe**	**16.16**	**329**		**P**	**12 58 12.6**	**-0.2**
JMN				IAmb	IAmb	12 58 32.9	
comp=Z,61nm,1.4s							
MJAR	**Matsushiro Arr**	**17.03**	**344**	Pn	**Pn**	**12 58 19.3**	**-2.2**
baz=162,slow=12,SNR=2.7							
MJAR				LR	LR	13 03 54.8	
comp=Z,165nm,21.2s,baz=168,slow=34							
comp=Z,3.2nm,0.9s							
JNU	**Nakatsue**	**17.34**	**321**	P	**Pn**	**12 58 23.1**	**-2.2**
comp=Z,0.1nm,0.3s,baz=151,slow=10,SNR=2.2							
comp=Z,8.8nm,1.0s							
H11S3	**WAKE ISLAND Hy**	**21.54**	**91**	T	T	13 21 27.8	
baz=279,slow=75,SNR=56							
H11S1	**WAKE ISLAND Hy**	**21.55**	**91**	T	T	13 21 27.4	
baz=279,slow=75,SNR=75							
H11S2	**WAKE ISLAND Hy**	**21.56**	**91**	T	T	13 21 29.2	
baz=279,slow=75,SNR=57							
H11N1	**WAKE ISLAND Hy**	**21.59**	**87**	T	T	13 21 28.0	
baz=275,slow=75,SNR=177							
H11N2	**WAKE ISLAND Hy**	**21.59**	**87**	T	T	13 21 28.3	
baz=275,slow=75,SNR=139							
H11N3	**WAKE ISLAND Hy**	**21.61**	**87**	T	T	13 21 29.3	
baz=275,slow=75,SNR=128							
DAV	**Davao City (W)**	**22.07**	**236**	LR	LR	13 06 00.3	
comp=Z,489nm,21.1s,baz=63,slow=32							
KSRS	**Korea Array**	**22.12**	**324**	P	**P**	**12 59 17.4**	**-0.3**
comp=Z,2.8nm,0.7s,baz=147,slow=7.7,SNR=13							
comp=Z,2.8nm,0.7s							
KSAR	**Wonju Array Be**	**22.14**	**324**	P	**P**	**12 59 16.9**	**-0.9**
TGY	**Tagaytay City**	**22.78**	**258**	LR	LR	13 06 25.8	
comp=Z,484nm,21.0s,baz=113,slow=32							
JKA	**Kamikawa-asahi**	**23.87**	**358**	P	**P**	**12 59 36.5**	**+1.5**
ASAJ	**Asahikawa**	**23.87**	**358**	LR	LR	13 08 08.3	
comp=Z,80nm,20.5s,baz=182,slow=35							
NJ2	**Nanjing**	**25.35**	**303**	*e*P	**P**	**12 59 49.5**	**+0.9**
NJ2				pP	**pP**	**13 00 02.5**	**-0.3**
NJ2				sP	**sP**	**13 00 10.5**	**+0.6**
NJ2				pmax	pmax		
comp=Z,7.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**25.91**	**340**	P	**P**	**12 59 54.2**	**+0.6**
comp=Z,3.3nm,0.7s,baz=147,slow=13,SNR=4.4							
USRK				LR	LR	13 09 08.1	
comp=Z,140nm,20.3s,baz=160,slow=34							
comp=Z,3.3nm,0.7s							
BNX	**BinXian**	**28.87**	**336**	⇑P	**P**	**13 00 19.5**	**-0.6**
BNX				pmax	pmax		
comp=Z,10.0nm,1.0s							
BNX				pmax	pmax		
comp=Z,410nm,6.5s							
KLR	**Kul'dur**	**30.56**	**344**	P	**P**	**13 00 34.1**	**-0.8**
comp=Z,15nm,0.7s,baz=147,slow=8.3,SNR=24							
KLR				LR	LR	13 12 02.0	
comp=Z,106nm,19.0s,baz=214,slow=35							
comp=Z,15nm,0.7s							
HEH	**HeiHe**	**32.72**	**340**	*e*P	**P**	**13 00 53.0**	**-0.9**
HEH				pmax	pmax		
comp=Z,23nm,1.3s							
HNR	**Honiara**	**33.41**	**150**	LR	LR	13 13 09.7	
comp=Z,2μm,20.9s,baz=334,slow=34							
HHC	**Hu-ho-hao-te**	**34.36**	**314**	*e*P	**P**	**13 01 11.3**	**+2.9**
HHC				pmax	pmax		
comp=Z,18nm,0.6s							
HHC				pmax	pmax		
comp=Z,520nm,5.7s							
PETK	**Petropavlovsk-**	**34.52**	**15**	P	**P**	**13 01 08.6**	**-1.0**
comp=Z,7.6nm,1.0s,baz=222,slow=5.0,SNR=2.3							
PETK				LR	LR	13 13 43.9	
comp=Z,176nm,19.5s,baz=223,slow=34							
comp=Z,7.6nm,1.0s							
KAPI	**Kappang**	**34.53**	**226**	LR	LR	13 13 54.6	
comp=Z,125nm,20.4s,baz=75,slow=34							
MTN	**Manton Dam**	**35.17**	**202**	P	**P**	**13 01 14.4**	**-1.0**
MTN				IAmb	IAmb	13 01 37.5	
comp=Z,11nm,1.1s							
BATI	**Baumata**	**36.21**	**215**	LR	LR	13 17 23.2	
comp=Z,234nm,18.5s,baz=250,slow=38							
LZH	**Lanzhou**	**38.42**	**303**	⇑P	**P**	**13 01 45.8**	**+2.6**
LZH				sP	sP	13 02 07.0	+1.7
LZH				pmax	pmax		
comp=Z,15nm,1.5s							
KNRA	**Kununurra**	**38.65**	**204**	P	**P**	**13 01 44.5**	**-0.4**
KNRA				IAmb	IAmb	13 01 46.0	
comp=Z,11nm,0.7s							
PZH	**PanZhiHua**	**39.10**	**287**	P	**P**	**13 01 49.5**	**+0.5**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,380nm,6.5s							
MA2	**Magadan**	**39.63**	**5**	LR	LR	13 16 18.0	
comp=Z,53nm,20.5s,baz=284,slow=33							
SHEM	**Shemya Is, Ala**	**39.97**	**28**	LR	LR	13 14 57.3	
comp=Z,213nm,21.7s,baz=252,slow=31							
CTAO	**Charters Tower**	**40.11**	**177**	P	**P**	**13 01 57.1**	**0.0**
CTAO				IAmb	IAmb	13 02 09.3	
comp=Z,14nm,1.4s							
WB0	**Warramunga Arr**	**40.81**	**194**	P	**P**	**13 02 02.6**	**-0.3**
SONM	**Songino Array**	**40.93**	**321**	P	**P**	**13 02 03.9**	**+0.1**
SONM	**Songino Array**	**40.93**	**321**	P	**P**	**13 02 03.2**	**-0.6**
comp=Z,0.8nm,0.7s,baz=135,slow=7.0,SNR=4.4							
SONM				PcP	**PcP**	**13 04 03.9**	**+0.7**
comp=Z,2.1nm,0.7s,baz=136,slow=3.8,SNR=3.7							
SONM				LR	LR	13 20 10.1	
comp=Z,103nm,18.2s,baz=144,slow=38							
comp=Z,0.8nm,0.7s							
WR0	**Warramunga Arr**	**40.96**	**194**	P	**P**	**13 02 04.3**	**+0.2**
WB2	**Warramunga Arr**	**40.99**	**194**	P	**P**	**13 02 04.5**	**+0.2**
WRA	**Warramunga Arr**	**40.99**	**194**	P	**P**	**13 02 04.3**	**-0.1**
WRA	**Warramunga Arr**	**40.99**	**194**	P	**P**	**13 02 04.3**	**-0.1**
comp=Z,2.7nm,0.7s,baz=12,slow=9.0,SNR=20							
WRA				PcP	**PcP**	**13 04 04.6**	**+1.0**
comp=Z,1.0nm,0.7s,baz=6.4,slow=3.8,SNR=3.2							
comp=Z,2.7nm,0.7s							
GTA	**Gaotai**	**42.31**	**307**	*e*P	**P**	**13 02 15.5**	**+0.3**
GTA				pP	pP	13 02 22.0	-8.2
GTA				PcP	**PcP**	**13 04 09.0**	**+1.1**
GTA				pmax	pmax		
comp=Z,4.0nm,2.0s							
CMAR	**Chiang Mai Arr**	**42.39**	**276**	P	**P**	**13 02 14.4**	**-1.6**
comp=Z,0.3nm,0.3s,baz=64,slow=7.1,SNR=1.2							
CMAR				PcP	**PcP**	**13 04 09.2**	**+0.8**
comp=Z,0.3nm,0.3s,baz=83,slow=1.8,SNR=4.8							
CMAR				LR	LR	13 17 47.9	
comp=Z,100nm,21.6s,baz=95,slow=33							
comp=Z,0.3nm,0.3s							
LEM	**Lembang**	**44.68**	**237**	LR	LR	13 22 45.5	
comp=Z,95nm,19.4s,baz=46,slow=38							
AS31	**Alice Springs**	**44.69**	**193**	P	**P**	**13 02 34.9**	**+0.6**
ASAR	**Alice Springs**	**44.69**	**193**	P	**P**	**13 02 33.8**	**-0.5**
comp=Z,0.8nm,0.6s,baz=15,slow=8.6,SNR=10.0							
ASAR				PcP	**PP**	**13 04 17.6**	**-2.3**
comp=Z,1.0nm,0.7s,baz=14,slow=3.4,SNR=2.4							
ASAR				LR	LR	13 22 49.7	
comp=Z,159nm,18.2s,baz=14,slow=38							
comp=Z,0.8nm,0.6s							
GOMU	**GeErMu**	**45.64**	**301**	P	**P**	**13 02 44.5**	**+2.2**
GOMU				pP	pP	13 02 50.0	-7.5
GOMU				pmax	pmax		
comp=Z,7.0nm,1.8s							
DZM	**Mont Dzumac**	**47.43**	**151**	LR	LR	13 21 09.9	
comp=Z,143nm,21.0s,baz=20,slow=34							
MSVF	**Nonsavu**	**50.43**	**136**	LR	LR	13 20 34.7	
comp=Z,92nm,20.8s,baz=324,slow=31							
STKA	**Stephens Creek**	**51.83**	**183**	P	**P**	**13 03 29.9**	**+0.7**
STKA	**Stephens Creek**	**51.83**	**183**	P	**P**	**13 03 28.8**	**-0.4**
comp=Z,3.7nm,0.7s,baz=356,slow=6.6,SNR=6.4							
comp=Z,3.7nm,0.7s							
WMQ	**Urumqi**	**52.06**	**310**	*e*P	**P**	**13 03 31.3**	**+0.3**
WMQ				pmax	pmax		
comp=Z,11nm,0.7s							
TIXI	**Tiksi**	**52.20**	**354**	P	**P**	**13 03 34.1**	**+2.7**
BBOO	**Buckleboo**	**53.25**	**188**	P	**P**	**13 03 39.8**	**+0.2**
M14K	**Bethel**	**55.29**	**29**	P	**P**	**13 03 55.5**	**+1.4**
ZAA0	**Zalesovo Array**	**55.81**	**322**	P	**P**	**13 03 57.8**	**-0.2**
ZAA0				IAmb	IAmb	13 04 05.0	
comp=Z,5.0nm,0.8s							
ZALV	**Zalesovo Beam**	**55.81**	**322**	P	**P**	**13 03 57.3**	**-0.7**
comp=Z,2.9nm,0.6s,baz=99,slow=6.3,SNR=13							
ZALV				PcP	**PcP**	**13 04 55.9**	**-0.5**
comp=Z,1.8nm,0.7s,baz=120,slow=5.2,SNR=2.4							
ZALV				LR	LR	13 27 24.6	
comp=Z,90nm,18.3s,baz=72,slow=36							
comp=Z,2.9nm,0.6s							
MK31	**Makanchi Array**	**56.22**	**313**	P	**P**	**13 04 01.5**	**+0.3**
MKAR	**Makanchi Array**	**56.22**	**313**	P	**P**	**13 04 01.2**	**+0.1**
comp=Z,1.6nm,0.8s,baz=95,slow=9.4,SNR=10.0							
MKAR				PcP	**PcP**	**13 04 58.4**	**+0.3**
comp=Z,1.0nm,0.7s,baz=78,slow=4.7,SNR=4.5							
MKAR				LR	LR	13 28 44.1	
comp=Z,71nm,18.4s,baz=60,slow=37							
comp=Z,1.6nm,0.8s							
MAKZ	**Makanchi**	**56.43**	**313**	P	**P**	**13 04 02.8**	**+0.1**
MAKZ				IAmb	IAmb	13 04 10.6	
comp=Z,5.2nm,0.9s							
M17K	**Holitna River**	**57.58**	**29**	P	**P**	**13 04 11.6**	**+1.1**
K17K	**Iditarod**	**57.62**	**27**	P	**P**	**13 04 11.4**	**+0.7**
NWAO	**Narrogin (SRO)**	**58.67**	**206**	LR	LR	13 29 31.7	
comp=Z,75nm,19.0s,baz=167,slow=36							
L19K	**White Mountain**	**58.98**	**29**	P	**P**	**13 04 20.9**	**+0.6**
L19K				IAmb	IAmb	13 04 28.0	
comp=Z,10.0nm,1.1s							
KDAK	**Kodiak Island**	**59.04**	**34**	LR	LR	13 26 22.8	
comp=Z,134nm,21.7s,baz=249,slow=33							
KURK	**Kurchatov**	**59.04**	**318**	P	**P**	**13 04 20.4**	**-0.4**
KURK				IAmb	IAmb	13 04 28.0	
comp=Z,7.2nm,0.8s							
KURBB	**Kurchatov Arra**	**59.09**	**318**	P	**P**	**13 04 20.8**	**-0.3**
comp=Z,3.8nm,0.7s,baz=95,slow=7.7,SNR=32							
KURBB				LR	LR	13 31 45.9	
comp=Z,100nm,18.1s,baz=171,slow=38							
comp=Z,3.8nm,0.7s							
H19K	**Roundabout Mou**	**59.34**	**25**	P	**P**	**13 04 24.0**	**+1.4**
CAST	**Castle Rocks**	**60.53**	**28**	P	**P**	**13 04 31.1**	**+0.2**
CAST				IAmb	IAmb	13 04 38.8	
comp=Z,7.6nm,0.8s							
IMAR	**Indian Mountai**	**60.54**	**25**	P	**P**	**13 04 31.8**	**+0.9**
KSH	**Kashi**	**60.64**	**305**	P	P	13 04 36.3	+4.1
KSH				pmax	pmax		
comp=Z,4.0nm,0.8s							
G21K	**Allakaket**	**60.79**	**24**	P	**P**	**13 04 33.4**	**+0.8**
G21K				IAmb	IAmb	13 04 40.2	
comp=Z,9.0nm,1.1s							
H21K	**Melozitna Rive**	**60.82**	**25**	P	**P**	**13 04 33.7**	**+0.9**
BPAW	**Bear Paw Mtn.**	**61.17**	**27**	P	**P**	**13 04 35.6**	**+0.3**
AAK	**Ala-Archa**	**61.63**	**308**	LR	LR	13 33 31.3	
comp=Z,49nm,18.4s,baz=138,slow=38							
SML	**Sawmill**	**61.89**	**30**	P	**P**	**13 04 40.1**	**0.0**
G23K	**Bananza Creek**	**62.18**	**24**	P	**P**	**13 04 41.9**	**-0.1**
SCM	**Sheep Creek Mo**	**62.37**	**30**	P	**P**	**13 04 43.7**	**+0.3**
PALK	**Pallekele**	**62.42**	**268**	LR	LR	13 31 40.8	
comp=Z,91nm,18.6s,baz=182,slow=36							
C23K	**Itkillik River**	**62.79**	**21**	P	**P**	**13 04 45.9**	**0.0**
ILAR	**Eielson Array**	**63.05**	**27**	P	**P**	**13 04 46.5**	**-1.3**
comp=Z,2.0nm,0.8s,baz=261,slow=5.3,SNR=16							
ILAR				LR	LR	13 29 34.1	
comp=Z,94nm,21.6s,baz=252,slow=34							
comp=Z,2.0nm,0.8s							
E24K	**Your Creek**	**63.08**	**23**	P	**P**	**13 04 48.1**	**+0.1**
E24K				IAmb	IAmb	13 04 56.0	
comp=Z,8.0nm,0.9s							
F24K	**Squaw Lake**	**63.18**	**24**	P	**P**	**13 04 49.6**	**+1.0**
F24K				IAmb	IAmb	13 04 56.7	
comp=Z,6.7nm,1.0s							
D24K	**Happy Valley**	**63.22**	**22**	P	**P**	**13 04 49.2**	**+0.4**
E25K	**Arctic Village**	**64.16**	**23**	P	**P**	**13 04 55.6**	**+0.5**
E25K				IAmb	IAmb	13 04 58.3	
comp=Z,7.9nm,1.2s							
SCRK	**Sand Creek**	**64.18**	**28**	P	**P**	**13 04 55.9**	**+0.5**
SCRK				IAmb	IAmb	13 05 02.0	
comp=Z,11nm,1.0s							
BVAR	**Borovoye Array**	**64.25**	**320**	P	**P**	**13 04 55.5**	**-0.4**
comp=Z,5.5nm,0.5s,baz=91,slow=7.4,SNR=25							
BVAR				LR	LR	13 34 01.5	
comp=Z,82nm,19.6s,baz=87,slow=37							
comp=Z,5.5nm,0.5s							
BRVK	**Borovoye**	**64.32**	**320**	P	**P**	**13 04 56.1**	**-0.2**
BMAR	**Burnt Mountain**	**64.42**	**24**	P	**P**	**13 04 58.2**	**+1.5**
J26L	**Joseph Creek**	**64.42**	**27**	P	**P**	**13 04 56.6**	**-0.3**
J26L				IAmb	IAmb	13 05 03.6	
comp=Z,5.4nm,0.9s							
KK31	**Karatay Array**	**64.52**	**309**	P	**P**	**13 04 58.1**	**+0.2**
KK31				IAmb	IAmb	13 05 06.1	
comp=Z,5.3nm,0.9s							
KKAR	**Karatay Array**	**64.52**	**309**	P	**P**	**13 04 57.5**	**-0.4**
KKAR	**Karatay Array**	**64.52**	**309**	P	**P**	**13 04 58.3**	**+0.4**
KKAR				IAmb	IAmb	13 05 06.1	
comp=Z,5.3nm,0.9s							
BCAR	**Beaver Creek A**	**65.07**	**29**	P	**P**	**13 05 02.1**	**+1.0**
D27M	**Malcolm River**	**65.99**	**22**	P	**P**	**13 05 07.2**	**+0.2**
D27M				IAmb	IAmb	13 05 15.1	
comp=Z,7.9nm,0.9s							
I28M	**Miner Creek**	**66.05**	**26**	P	**P**	**13 05 07.8**	**+0.3**
DAWY	**Dawson**	**66.20**	**28**	P	**P**	**13 05 08.5**	**+0.2**
E28M	**Babbage River**	**66.45**	**23**	P	**P**	**13 05 10.1**	**+0.3**
M29M	**Somme Creek**	**66.57**	**30**	P	**P**	**13 05 11.3**	**+0.5**
M29M				IAmb	IAmb	13 05 19.3	
comp=Z,6.1nm,0.8s							
KBL	**Kabul**	**66.67**	**300**	P	**P**	**13 05 11.9**	**-0.2**
L29M	**L29M**	**66.73**	**29**	P	**P**	**13 05 12.2**	**+0.4**
L29M				IAmb	IAmb	13 05 19.9	
comp=Z,9.3nm,0.9s							
H29M	**Whitestone**	**66.74**	**26**	P	**P**	**13 05 12.4**	**+0.7**
P29M	**Windy Craggy**	**66.91**	**33**	P	**P**	**13 05 13.6**	**+0.6**
HYT	**Haines Junctio**	**67.01**	**31**	P	**P**	**13 05 14.9**	**+1.2**
HYT				IAmb	IAmb	13 05 22.4	
comp=Z,13nm,1.1s							
E29M	**Blow River**	**67.03**	**23**	P	**P**	**13 05 14.1**	**+0.6**
E29M				IAmb	IAmb	13 05 21.6	
comp=Z,11nm,1.4s							
WHY	**Whitehorse**	**68.31**	**32**	P	**P**	**13 05 22.9**	**+1.1**
WHY				IAmb	IAmb	13 05 29.8	
comp=Z,6.4nm,1.0s							
H31M	**Peel River**	**68.38**	**26**	P	**P**	**13 05 22.9**	**+0.8**
H31M				IAmb	IAmb	13 05 29.6	
comp=Z,6.3nm,1.0s							
INK	**Inuvik**	**68.65**	**23**	P	**P**	**13 05 24.4**	**+0.7**
INK				IAmb	IAmb	13 05 30.6	
comp=Z,6.6nm,0.9s							
INK	**Inuvik**	**68.65**	**23**	LR	LR	13 33 40.9	
comp=Z,54nm,21.4s,baz=174,slow=34							
MMPY	**Sheldon Lake,**	**69.90**	**29**	P	**P**	**13 05 32.2**	**+0.7**
ARU	**Arti**	**70.87**	**324**	LR	LR	13 37 10.1	
comp=Z,60nm,20.8s,baz=81,slow=36							
DLBC	**Dease Lake**	**70.97**	**34**	P	**P**	**13 05 38.3**	**+0.1**
DLBC				IAmb	IAmb	13 05 46.5	
comp=Z,6.4nm,0.9s							
ABKAR	**Akbulak array**	**71.10**	**316**	P	**P**	**13 05 38.4**	**-0.7**
ABKAR	**Akbulak array**	**71.10**	**316**	P	**P**	**13 05 38.0**	**-1.0**
ABKAR				IAmb	IAmb	13 05 46.4	
comp=Z,9.6nm,0.7s							
AKTO	**Aktyubinsk**	**72.13**	**318**	LR	LR	13 37 53.0	
comp=Z,66nm,20.2s,baz=105,slow=36							
BBB	**Bella Bella**	**73.08**	**40**	LR	LR	13 30 24.5	
comp=Z,88nm,20.7s,baz=290,slow=30							
GEYT	**Alibeck**	**74.67**	**305**	P	**P**	**13 06 01.4**	**+0.9**
comp=Z,0.8nm,0.3s,baz=100,slow=6.1,SNR=1.9							
GEYT				LR	LR	13 42 29.6	
comp=Z,56nm,18.4s,baz=146,slow=39							
comp=Z,0.8nm,0.3s							
PPT	**Papeete**	**75.27**	**115**	LR	LR	13 31 56.3	
comp=Z,149nm,19.3s,baz=266,slow=30							
SPITS	**Spitsbergen Ar**	**77.41**	**350**	LR	LR	13 41 29.8	
comp=Z,27nm,18.9s,baz=20,slow=37							
YKA	**Yellowknife Ar**	**77.44**	**28**	P	**P**	**13 06 13.5**	**-2.2**
comp=Z,2.3nm,0.8s,baz=291,slow=5.7,SNR=5.9							
YKA				LR	LR	13 40 36.4	
comp=Z,85nm,20.1s,baz=289,slow=36							
comp=Z,2.3nm,0.8s							
WSAR	**Wadi Sarin**	**78.14**	**290**	LR	LR	13 41 49.5	
comp=Z,39nm,20.5s,baz=42,slow=36							
YBH	**Yreka Blue Hor**	**79.25**	**50**	P	**P**	**13 06 26.7**	**+0.4**
YBH	**Yreka Blue Hor**	**79.25**	**50**	LR	LR	13 34 17.1	
comp=Z,59nm,20.7s,baz=272,slow=30							
J05D	**Fort Rock, OR**	**79.82**	**48**	P	**P**	**13 06 28.8**	**-0.6**
PINE	**Pine Mountain**	**79.87**	**47**	P	**P**	**13 06 29.6**	**-0.1**
PINE				IAmb	IAmb	13 06 38.6	
comp=Z,11nm,0.8s							
K05A	**Summer Lake**	**80.23**	**48**	P	**P**	**13 06 32.7**	**+1.0**
K05A				IAmb	IAmb	13 06 40.0	
comp=Z,8.4nm,1.0s							
ARCES	**ARCESS Array B**	**80.55**	**342**	P	**P**	**13 06 32.9**	**+0.3**
comp=Z,3.6nm,0.7s,baz=46,slow=7.7,SNR=5.4							
ARCES				LR	LR	13 46 12.1	
comp=Z,61nm,18.5s,baz=85,slow=39							
comp=Z,3.6nm,0.7s							
G08A	**Pilot Rock**	**80.73**	**45**	P	**P**	**13 06 35.9**	**+1.8**
NEW	**Newport**	**80.92**	**42**	LR	LR	13 34 40.5	
comp=Z,125nm,20.6s,baz=287,slow=30							
J08A	**Circle Bar Ran**	**81.70**	**47**	P	**P**	**13 06 40.5**	**+1.1**
J08A				IAmb	IAmb	13 06 47.4	
comp=Z,5.5nm,0.9s							
WVOR	**Wild Horse Val**	**81.91**	**48**	P	**P**	**13 06 40.2**	**-0.2**
BMO	**Blue Mountains**	**81.98**	**45**	P	**P**	**13 06 40.8**	**+0.1**
BMO				IAmb	IAmb	13 06 48.6	
comp=Z,10nm,1.1s							
OBN	**Obninsk**	**83.11**	**326**	LR	LR	13 43 44.1	
comp=Z,87nm,21.4s,baz=159,slow=36							
NVAR	**Mina Array Bea**	**83.52**	**52**	P	**P**	**13 06 49.7**	**+0.6**
comp=Z,1.5nm,0.7s,baz=268,slow=5.5,SNR=17							
comp=Z,1.5nm,0.7s							
KBZ	**Khabaz**	**83.90**	**314**	P	**P**	**13 06 51.0**	**+0.5**
comp=Z,4.1nm,0.8s,baz=102,slow=3.2,SNR=5.6							
KBZ				LR	LR	13 48 41.9	
comp=Z,41nm,18.2s,baz=112,slow=39							
comp=Z,4.1nm,0.8s							
DSP	**Deep Springs**	**84.14**	**52**	P	**P**	**13 06 52.9**	**+1.0**
FINES	**FINESS Array B**	**84.82**	**335**	P	**P**	**13 06 53.7**	**-1.2**
comp=Z,9.9nm,0.9s,baz=62,slow=4.5,SNR=9.4							
FINES				LR	LR	13 49 01.1	
comp=Z,36nm,18.1s,baz=65,slow=39							
comp=Z,9.9nm,0.9s							
R11B	**Troy Canyon, C**	**85.54**	**51**	P	**P**	**13 06 59.3**	**0.0**
R11B				IAmb	IAmb	13 07 08.1	
comp=Z,5.0nm,1.4s							
TPNV	**Topopah Spring**	**85.58**	**52**	P	**P**	**13 07 00.1**	**+0.7**
TPNV				IAmb	IAmb	13 07 07.3	
comp=Z,5.3nm,0.9s							
YHL	**Hebgen Lake**	**86.01**	**44**	P	**P**	**13 07 01.7**	**+0.2**
YHL				IAmb	IAmb	13 07 09.9	
comp=Z,7.6nm,0.9s							
SHPR	**Sheep Range**	**86.56**	**52**	P	**P**	**13 07 03.2**	**-1.0**
SHPR				IAmb	IAmb	13 07 12.5	
comp=Z,4.9nm,1.4s							
PFO	**Pinyon Flats O**	**86.66**	**56**	LR	LR	13 38 57.7	
comp=Z,50nm,21.6s,baz=235,slow=31							
PDAR	**Pinedale Array**	**87.96**	**45**	P	**P**	**13 07 10.4**	**-0.6**
comp=Z,0.2nm,0.5s,baz=340,slow=4.8,SNR=1.5							
PDAR				LR	LR	13 38 55.1	
comp=Z,75nm,20.8s,baz=304,slow=30							
comp=Z,0.2nm,0.5s							
AKASG	**Malin Array Be**	**89.12**	**325**	P	**P**	**13 07 14.9**	**-1.0**
comp=Z,0.9nm,0.6s,baz=53,slow=4.6,SNR=5.2							
comp=Z,0.9nm,0.6s							
HFS	**Hagfors**	**90.36**	**338**	P	**P**	**13 07 19.9**	**-1.7**
comp=Z,4.2nm,0.8s,baz=53,slow=9.6,SNR=3.8							
HFS				LR	LR	13 48 28.0	
comp=Z,37nm,19.4s,baz=52,slow=36							
comp=Z,4.2nm,0.8s							
NB2	**NORSAR Subarra**	**90.58**	**339**	P	**P**	**13 07 21.2**	**-1.4**
comp=Z,14nm,1.1s,baz=46,slow=5.1							
NB2	**NORSAR Subarra**	**90.58**	**339**	P	**P**	**13 07 21.2**	**-1.4**
baz=46,slow=5.1							
NOA	**NORSAR Array B**	**90.58**	**339**	P	**P**	**13 07 21.0**	**-1.6**
comp=Z,1.3nm,0.7s,baz=47,slow=4.5,SNR=4.5							
comp=Z,1.3nm,0.7s							
SFJD	**Kangerlussuaq**	**92.38**	**6**	LR	LR	13 48 44.6	
comp=Z,43nm,20.8s,baz=292,slow=35							
ANMO	**Albuquerque**	**93.63**	**51**	LR	LR	13 42 02.3	
comp=Z,54nm,20.5s,baz=30,slow=31							
VRAC	**Vranov**	**96.50**	**328**	LR	LR	13 53 18.6	
comp=Z,57nm,18.2s,baz=40,slow=37							
VNDA	**Vanda**	**98.09**	**176**	LR	LR	13 51 18.9	
comp=Z,33nm,18.1s,baz=352,slow=35							
GERES	**GERESS Array B**	**98.22**	**329**	LR	LR	13 55 08.4	
comp=Z,53nm,19.1s,baz=42,slow=37							
TXAR	**Lajitas Array**	**98.35**	**55**	LR	LR	13 50 10.0	
comp=Z,31nm,18.2s,baz=252,slow=34							
TROLL	**Troll, Antarti**	**123.67**	**193**	⇑PKPdf	**PKiKP**	**13 13 18.6**	**+1.0**
comp=Z,70nm,0.9s							
VNA2	**Neumayer--Watz**	**126.52**	**191**	⇑PKPdf	**PKiKP**	**13 13 23.7**	**+0.6**
comp=Z,2.1nm,0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.83**	**32**	*i* P	**Pn**	**13 34 46.5**	**+2.1**
MOPA				*i* S	**Sn**	**13 35 15.4**	**-3.1**
MOPA	**Mopani**	**2.83**	**32**	*i* P	**Pn**	**13 34 46.5**	**+2.1**
MOPA	baz=31			*i* S	**Sn**	**13 35 15.4**	**-3.1**
MUSN	**Musina, Limpop**	**3.62**	**1**	*i* P	**Pn**	**13 34 56.9**	**+1.4**
MUSN				*i* S	**Sn**	**13 35 37.4**	**-1.0**
MUSN	**Musina, Limpop**	**3.62**	**1**	*i* P	**Pn**	**13 34 56.9**	**+1.4**
MUSN	baz=0.0			*i* S	**Sn**	**13 35 37.4**	**-1.0**
LBTB	**Lobatse**	**3.87**	**283**	*i* P	**Pn**	**13 35 00.1**	**+1.2**
LBTB				*i* S	**Sn**	**13 35 43.2**	**-1.2**
LBTB	**Lobatse**	**3.87**	**283**	*i* P	**Pn**	**13 35 00.1**	**+1.2**
LBTB	baz=283			*i* S	**Sn**	**13 35 43.2**	**-1.2**
BOSA	**Boshof**	**4.82**	**235**	*i* P	**Pn**	**13 35 13.2**	**+1.3**
BOSA				*i* S	**Sn**	**13 36 06.0**	**-1.9**
BOSA	**Boshof**	**4.82**	**235**	*i* P	**Pn**	**13 35 13.2**	**+1.3**
BOSA	baz=236			*i* S	**Sn**	**13 36 06.0**	**-1.9**
	baz=236						

*IDC **30** 13:57:02.9±2.8, 25°.44N×100°.54W, h0km, mb3.3/1, mbtmp3.2/6, ML3.4/5, Error ellipse: s-maj=108.2km s-min=26.4km az=55.0*
*MEX **30** 13:57:02.4±0.3, 25°.18N×101°.27W, h5km, MD4.0*
ISC 30 13:57:02.6±1.1, 25°.19N±0°.07×100°.99W±0°.07, h10km, n10, σ1.95/14, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNIG	**Monterrey**	**0.76**	**56**	*e* P	**Pn**	**13 57 18.8**	**-0.6**
MNIG				*e* S	**Sn**	**13 57 31.9**	**+0.8**
LNIG	**Linares**	**1.42**	**102**	*e* P	**Pn**	**13 57 28.6**	**+0.2**
LNIG				*e* S	**Sg**	**13 57 49.2**	**+1.1**
GTIG	**Gomez Farias**	**2.69**	**141**	*e* P	**Pn**	**13 57 45.0**	**-1.0**
GTIG				*e* S	**Sn**	**13 58 16.1**	**-2.5**
MCIG	**Muzquiz**	**2.71**	**351**	*e* P	**Pn**	**13 57 44.2**	**-2.1**
MCIG				*e* S	**Sb**	**13 58 21.1**	**-3.6**
TXAR	**Lajitas Array**	**4.76**	**331**	Pn	**Pn**	**13 58 14.5**	**-0.1**
	0.6nm,0.3s,baz=150,slow=15,SNR=32						
TXAR				Lg	Lg	13 59 31.8	
	3.5nm,0.3s,baz=159,slow=30,SNR=6.0						
	1.2nm,0.6s						
ANMO	**Albuquerque**	**10.81**	**335**	Pn	**Pn**	**13 59 37.1**	**-0.5**
	0.1nm,0.3s,baz=97,slow=17,SNR=1.6						
ANMO				Lg	Lg	14 02 45.9	
	0.2nm,0.3s,baz=126,slow=5.6,SNR=2.9						
	1.2nm,0.8s						
PDAR	**Pinedale Array**	**18.90**	**340**	P	**Pn**	**14 01 25.5**	**+1.4**
	baz=142,slow=12,SNR=2.2						
	0.3nm,0.6s						
ELK	**Elko**	**19.54**	**326**	P	**Pn**	**14 01 33.6**	**+1.8**
	baz=117,slow=12,SNR=5.5						
	1.0nm,0.8s						
NVAR	**Mina Array Bea**	**19.72**	**316**	P	**Pn**	**14 01 37.0**	**+3.0**
	baz=119,slow=11,SNR=3.3						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**49.26**	**336**	P	**P**	**14 05 52.0**	**+0.9**
	0.4nm,0.9s,baz=110,slow=7.6,SNR=3.8						
	0.4nm,0.9s						

*IDC **30** 14:10:21.7±1.7, 59°.79N×153°.23W, h102km±18km, mb4.0/11, mbtmp4.3/17, Error ellipse: s-maj=19.2km s-min=16.2km az=147.0*
*NEIC **30** 14:10:21.9±1.3, 59°.73N±0°.03×153°.13W±0°.06, h109km±3km, Error ellipse: s-maj=5.0km s-min=4.3km az=157.0*
*AEIC **30** 14:10:23.3±1.5, 59°.74N±0°.03×153°.14W±0°.06, h102km±3km, ML3.9, mb4.5/15(NEIC), ML4.0/162(NEIC), Error ellipse: s-maj=4.8km s-min=4.4km az=135.0*
ISC 30 14:10:21.9±0.5, 59°.74N±0°.03×153°.10W±0°.03, h109km±5km, n488, σ0.974/505, mb4.3/16, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.11**	**216**		**Pn**	**14 10 37.1**	**0.0**
P19K					**Sn**	**14 10 48.4**	**-0.1**
P19K	**Oil Pt**	**0.11**	**216**	IAML		14 10 49.5	
	comp=N,9μm,0.5s						
P19K	**Oil Pt**	**0.11**	**216**	P	**Pn**	**14 10 37.1**	**0.0**
	baz=25						
P19K				S	**Sn**	**14 10 48.5**	**0.0**
	baz=25						
ILSW	**Iliamna Southw**	**0.24**	**355**		**Pn**	**14 10 37.4**	**-0.2**
ILSW					**Sn**	**14 10 48.6**	**-0.6**
ILSW	**Iliamna Southw**	**0.24**	**355**	IAML		14 10 49.5	
	comp=E,6μm,0.7s						
ILSW				IAML		14 10 50.3	
	comp=N,3μm,0.7s						
IVE	**Iliamna Volcan**	**0.28**	**9**		**Pn**	**14 10 37.6**	**-0.1**
IVE					**Sn**	**14 10 49.1**	**-0.4**
ILW	**Iliamna West**	**0.32**	**357**		**Pn**	**14 10 37.8**	**-0.1**
ILW					**Sn**	**14 10 49.7**	**-0.2**
AUL	**Augustine Lava**	**0.40**	**205**		**Pn**	**14 10 38.4**	**+0.3**
AUL					**Sn**	**14 10 50.0**	**-0.3**
O20K	**Slope Mountain**	**0.42**	**35**		**Pn**	**14 10 38.5**	**+0.3**
O20K					**Sn**	**14 10 51.0**	**+0.4**
O20K	**Slope Mountain**	**0.42**	**35**	P	**Pn**	**14 10 38.6**	**+0.3**
	baz=218						
O20K				S	**Sn**	**14 10 51.0**	**+0.4**
	baz=218						
RED	**Redoubt Volcan**	**0.70**	**14**		**Pn**	**14 10 40.4**	**+0.1**
RED					**Sn**	**14 10 53.7**	**-0.4**
RDSO	**Redoubt South**	**0.74**	**14**		**Pn**	**14 10 40.8**	**+0.1**
RSO	**Redoubt South**	**0.74**	**13**		**Pn**	**14 10 40.7**	**-0.1**
HOM	**Homer**	**0.74**	**96**		**Pn**	**14 10 41.2**	**+0.7**
HOM	**Homer**	**0.74**	**96**	P	**Pn**	**14 10 41.2**	**+0.7**
	baz=277						
RDWB	**Redoubt West**	**0.76**	**10**		**Pn**	**14 10 40.9**	**0.0**
O19K	**Port Alsworth**	**0.76**	**307**		**Pn**	**14 10 40.4**	**-0.2**
O19K	**Port Alsworth**	**0.76**	**307**		**Sn**	**14 10 54.1**	**-0.7**
O19K	**Port Alsworth**	**0.76**	**307**	IAML		14 10 54.8	
	comp=N,9μm,0.5s						
O19K				IAML		14 10 55.8	
	comp=E,6μm,0.5s						
O19K	**Port Alsworth**	**0.76**	**307**	P	**Pn**	**14 10 40.5**	**-0.2**
	baz=127						
O19K				S	**Sn**	**14 10 54.1**	**-0.7**
	baz=127						
Q19K	**Cape Douglas,**	**0.86**	**199**		**Pn**	**14 10 41.7**	**-0.1**
Q19K	**Cape Douglas,**	**0.86**	**199**	IAML		14 11 00.2	
	comp=E,4μm,0.8s						
Q19K				IAML		14 11 01.9	
	comp=N,4μm,1.0s						
Q19K	**Cape Douglas,**	**0.86**	**199**	P	**Pn**	**14 10 41.7**	**-0.1**
	baz=17						
RDJH	**Redoubt Jeurge**	**0.86**	**10**		**Pn**	**14 10 42.0**	**+0.2**
RDJH					**Sn**	**14 10 56.7**	**-0.1**
RDT	**Redoubt**	**0.90**	**22**		**Pn**	**14 10 42.3**	**+0.2**
CNPM	**China Poot**	**0.97**	**102**	Pn	**Pn**	**14 10 42.9**	**+0.1**
CNPM	**China Poot**	**0.97**	**102**		**Sn**	**14 10 58.5**	**0.0**
CNPM	**China Poot**	**0.97**	**102**	IAML		14 10 58.9	
	comp=E,3μm,0.4s						
CNPM				IAML		14 10 59.5	
	comp=N,5μm,0.4s						
O18K	**Koktuh Hills**	**1.07**	**277**	Pn	**Pn**	**14 10 43.2**	**-0.6**
O18K	**Koktuh Hills**	**1.07**	**277**		**Sn**	**14 10 59.0**	**-1.3**
O18K	**Koktuh Hills**	**1.07**	**277**	IAML		14 10 59.7	
	comp=E,724nm,0.8s						
O18K				IAML		14 10 59.8	
	comp=N,1μm,0.7s						
O18K	**Koktuh Hills**	**1.07**	**277**	P	**Pn**	**14 10 43.4**	**-0.4**
	baz=95						
O18K				S	**Sn**	**14 10 59.0**	**-1.3**
	baz=95						
BRLK	**Bradley Lake**	**1.12**	**88**		**Pn**	**14 10 44.2**	**-0.1**
BRLK				IAML		14 11 02.1	
	comp=N,2μm,0.1s						
BRLK				IAML		14 11 03.4	
	comp=E,3μm,0.2s						
P18K	**Big Mountain,**	**1.14**	**253**	Pn	**Pn**	**14 10 43.8**	**-0.8**
P18K	**Big Mountain,**	**1.14**	**253**		**Sn**	**14 11 00.2**	**-1.5**
P18K	**Big Mountain,**	**1.14**	**253**	P	**Pn**	**14 10 43.9**	**-0.7**
	baz=71						
P18K				S	**Sn**	**14 11 00.2**	**-1.5**
	baz=71						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Q20K	**Shuyak Island**	**1.19**	**162**	P	**Pn**	**14 10 45.5**	**+0.4**
	baz=342						
SYI	**Shuyak Island**	**1.19**	**162**		**Pn**	**14 10 45.5**	**+0.4**
SYI	**Shuyak Island**	**1.19**	**162**	IAML		14 11 04.7	
	comp=E,3μm,0.4s						
SYI				IAML		14 11 04.7	
	comp=N,3μm,0.7s						
BRSE	**Bradley Lake S**	**1.20**	**89**		**Pn**	**14 10 45.2**	**+0.1**
BRSE					**Sn**	**14 11 02.8**	**0.0**
BRSE	**Bradley Lake S**	**1.20**	**89**	P	**Pn**	**14 10 45.5**	**+0.4**
	baz=271						
BRSE				S	**Sn**	**14 11 02.9**	**+0.1**
	baz=271						
N19K	**Bonanza Creek**	**1.28**	**328**		**Pn**	**14 10 45.9**	**-0.2**
N19K	**Bonanza Creek**	**1.28**	**328**		**Sn**	**14 11 03.4**	**-1.1**
N19K	**Bonanza Creek**	**1.28**	**328**	IAML		14 11 03.9	
	comp=E,498nm,0.6s						
N19K				IAML		14 11 04.7	
	comp=N,958nm,0.8s						
N19K	**Bonanza Creek**	**1.28**	**328**	P	**Pn**	**14 10 46.1**	**-0.1**
	baz=148						
N19K				S	**Sn**	**14 11 03.4**	**-1.1**
	baz=148						
KAPH	**Katmai Pasha**	**1.32**	**210**		**Pn**	**14 10 46.8**	**+0.2**
CAPN	**Captain Cook N**	**1.41**	**43**	Pn	**Pn**	**14 10 49.5**	**+1.9**
CAPN	**Captain Cook N**	**1.41**	**43**	P	**Pn**	**14 10 49.7**	**+2.1**
	baz=225						
KAHG	**Katmai Hook Gl**	**1.46**	**211**		**Pn**	**14 10 48.4**	**+0.1**
KAHG					**Sn**	**14 11 08.2**	**+0.1**
KAHC	**Katmai Hardscr**	**1.47**	**223**		**Pn**	**14 10 48.4**	**-0.1**
KAHC	**Katmai Hardscr**	**1.47**	**223**		**Pn**	**14 10 48.4**	**-0.1**
KAHC					**Sn**	**14 11 07.4**	**-1.2**
KAHC	**Katmai Hardscr**	**1.47**	**223**	P	**Pn**	**14 10 48.4**	**-0.1**
	baz=40						
Q18K	**Katmai Hardscr**	**1.47**	**223**	P	**Pn**	**14 10 48.2**	**-0.2**
	baz=40						
Q18K				S	**Sn**	**14 11 07.4**	**-1.2**
	baz=40						
SPCR	**Spurr Chakacha**	**1.53**	**16**		**Pn**	**14 10 49.4**	**+0.4**
SPCR	**Spurr Chakacha**	**1.53**	**16**	P	**Pn**	**14 10 49.4**	**+0.4**
	baz=198						
SPCN	**Chakachatna No**	**1.56**	**17**		**Pn**	**14 10 49.9**	**+0.5**
SPBG	**Spurr Blockage**	**1.56**	**13**		**Pn**	**14 10 50.2**	**+0.7**
SPBG					**Sn**	**14 11 11.0**	**+0.5**
SPCP	**Crater Peak Br**	**1.60**	**17**		**Pn**	**14 10 50.7**	**+0.7**
SLKM	**Skilak Lake**	**1.63**	**61**		**Pn**	**14 10 50.4**	**+0.2**
SLKM					**Sn**	**14 11 11.8**	**0.0**
SPNN	**North Nagishla**	**1.64**	**7**		**Pn**	**14 10 51.0**	**+0.5**
SPCG	**Spurr Capps Gl**	**1.64**	**19**		**Pn**	**14 10 51.1**	**+0.6**
N18K	**Kilae Creek**	**1.68**	**305**		**Pn**	**14 10 50.4**	**-0.5**
N18K	**Kilae Creek**	**1.68**	**305**	P	**Pn**	**14 10 50.5**	**-0.3**
	baz=123						
KAKN	**Katmai Knife C**	**1.77**	**216**		**Pn**	**14 10 52.1**	**+0.1**
P17K	**Kvichak River**	**1.79**	**254**		**Pn**	**14 10 52.2**	**+0.1**
P17K					**Sn**	**14 11 14.8**	**-0.5**
P17K	**Kvichak River**	**1.79**	**254**	P	**Pn**	**14 10 52.2**	**+0.1**
	baz=70						
P17K				S	**Sn**	**14 11 14.8**	**-0.5**
	baz=70						
SVW2	**Sparrevohn**	**1.83**	**319**		**Pn**	**14 10 52.2**	**-0.6**
SVW2				IAML		14 11 16.0	
	comp=E,389nm,1.0s						
SVW2	**Sparrevohn**	**1.83**	**319**	P	**Pn**	**14 10 52.3**	**-0.4**
O22K	**Cooper Landing**	**1.85**	**65**		**Pn**	**14 10 53.5**	**+0.7**
O22K					**Sn**	**14 11 17.0**	**+0.5**
O22K	**Cooper Landing**	**1.85**	**65**	P	**Pn**	**14 10 53.5**	**+0.7**
	baz=248						
O22K				S	**Sn**	**14 11 17.0**	**+0.5**
	baz=248						
KCE	**Katmai Mt Cerb**	**1.85**	**217**		**Pn**	**14 10 53.7**	**+0.7**
KABU	**Katmai Buttres**	**1.86**	**218**		**Pn**	**14 10 53.5**	**+0.4**
STLK	**Strandline Lak**	**1.87**	**19**		**Pn**	**14 10 53.7**	**+0.5**
SEW	**Seward**	**1.87**	**77**		**Pn**	**14 10 53.4**	**+0.2**
SEW	**Seward**	**1.87**	**77**	P	**Pn**	**14 10 53.4**	**+0.2**
	baz=261						
KABR	**Katmai Barrier**	**1.89**	**212**		**Pn**	**14 10 53.5**	**+0.1**
ACHA	**Angle Creek He**	**1.92**	**218**		**Pn**	**14 10 54.0**	**+0.1**
ANCK	**Angle Creek**	**1.98**	**220**		**Pn**	**14 10 55.0**	**+0.3**
ANCK					**Sn**	**14 11 19.4**	**-0.3**
KDAK	**Kodiak Island**	**1.98**	**172**	Pn	**Pn**	**14 10 53.8**	**-0.8**
KDAK				IAML		14 11 20.9	
	comp=E,1μm,0.3s						
KDAK				IAML		14 11 27.5	
	comp=E,939nm,0.5s						
KDAK	**Kodiak Island**	**1.98**	**172**	P	**Pn**	**14 10 54.0**	**-0.6**
	comp=E,779nm,0.3s,baz=37,slow=8.6,SNR=1859						
KDAK				S	**Sn**	**14 11 18.1**	**-1.4**
	comp=E,251nm,0.3s,baz=161,slow=23,SNR=23						
O17K	**Koliganek Bris**	**2.02**	**273**		**Pn**	**14 10 54.9**	**-0.2**
O17K	**Koliganek Bris**	**2.02**	**273**	P	**Pn**	**14 10 54.9**	**-0.2**
	baz=89						
CNTC	**Contact Creek**	**2.07**	**225**		**Pn**	**14 10 55.9**	**+0.1**
Q17K	**Contact Creek**	**2.07**	**225**	P	**Pn**	**14 10 55.9**	**+0.1**
	baz=42						
SUA	**Susitna One**	**2.08**	**33**		**Pn**	**14 10 56.8**	**+0.9**
M20K	**Styx River**	**2.15**	**360**		**Pn**	**14 10 57.4**	**+0.6**
M20K	**Styx River**	**2.15**	**360**	P	**Pn**	**14 10 57.4**	**+0.6**
	baz=180						
RC01	**Rabbit Creek A**	**2.15**	**50**		**Pn**	**14 10 57.1**	**+0.4**
RC01	**Rabbit Creek A**	**2.15**	**50**		**Sn**	**14 11 22.8**	**-0.5**
RC01	**Rabbit Creek A**	**2.15**	**50**	P	**Pn**	**14 10 57.4**	**+0.7**
	baz=233						
RC01				S	**Sn**	**14 11 22.8**	**-0.5**
	baz=233						
N17K	**Nushagak Hills**	**2.19**	**293**	Pn	**Pn**	**14 10 56.9**	**-0.3**
N17K	**Nushagak Hills**	**2.19**	**293**	P	**Pn**	**14 10 57.1**	**-0.1**
	baz=110						
M18K	**Stony River**	**2.21**	**324**		**Pn**	**14 10 57.2**	**-0.3**
M18K	**Stony River**	**2.21**	**324**	P	**Pn**	**14 10 57.2**	**-0.3**
	baz=142						
M19K	**Big River Lodg**	**2.26**	**344**		**Pn**	**14 10 58.0**	**-0.1**
R18K	**Karluk**	**2.29**	**199**		**Pn**	**14 10 57.9**	**-0.7**
R18K	**Karluk**	**2.29**	**199**	IAML		14 11 29.7	
	comp=N,1μm,0.5s						
R18K				IAML		14 11 31.9	
	comp=E,1μm,0.3s						
R18K	**Karluk**	**2.29**	**199**	P	**Pn**	**14 10 57.9**	**-0.7**
	baz=17						
SKT	**Skwentna**	**2.37**	**18**	Pn	**Pn**	**14 10 59.4**	**-0.2**
SKT				IAML		14 11 31.6	
	comp=E,372nm,0.3s						
SKT				IAML		14 11 38.4	
	comp=N,380nm,0.3s						
SKT	**Skwentna**	**2.37**	**18**	P	**Pn**	**14 10 59.9**	**+0.3**
	baz=200						
M22K	**Willow**	**2.49**	**35**		**Pn**	**14 11 02.1**	**+1.0**
M22K					**Sn**	**14 11 32.3**	**+1.1**
M22K	**Willow**	**2.49**	**35**	P	**Pn**	**14 11 02.2**	**+1.1**
	baz=218						
M22K				S	**Sn**	**14 11 32.3**	**+1.1**
	baz=218						
O16K	**Kokwok River B**	**2.54**	**269**	Pn	**Pn**	**14 11 01.7**	**0.0**
O16K	**Kokwok River B**	**2.54**	**269**	P	**Pn**	**14 11 01.8**	**+0.1**
	baz=84						
L19K	**White Mountain**	**2.59**	**341**	Pn	**Pn**	**14 11 02.3**	**-0.1**
L19K	**White Mountain**	**2.59**	**341**	P	**Pn**	**14 11 02.5**	**0.0**
	baz=160						
P16K	**Nushagak River**	**2.60**	**256**		**Pn**	**14 11 03.1**	**+0.6**
PWL	**Port Wells**	**2.62**	**63**		**Pn**	**14 11 02.5**	**-0.4**
PWL	**Port Wells**	**2.62**	**63**		**Sn**	**14 11 33.3**	**-1.0**
PWL	**Port Wells**	**2.62**	**63**	P	**Pn**	**14 11 02.5**	**-0.4**
	baz=247						
PWL				S	**Sn**	**14 11 33.3**	**-1.0**
	baz=247						
PLK3	**Peulik 3**	**2.64**	**220**		**Pn**	**14 11 03.8**	**+0.7**
PMR	**Palmer**	**2.69**	**45**		**Pn**	**14 11 03.5**	**-0.2**
PMR	**Palmer**	**2.69**	**45**	IAML		14 11 36.4	
	comp=N,806nm,0.2s						
PMR				IAML		14 11 37.2	
	comp=E,542nm,0.3s						
PMR	**Palmer**	**2.69**	**45**	P	**Pn**	**14 11 04.7**	**+1.0**
PMR	**Palmer**	**2.69**	**45**	P	**Pn**	**14 11 03.6**	**-0.1**
	baz=229						
M17K	**Holitna River**	**2.71**	**310**	Pn	**Pn**	**14 11 03.7**	**-0.3**
M17K				IAML		14 11 35.9	
	comp=N,199nm,1.6s						
M17K				IAML		14 11 40.5	
	comp=E,184nm,1.0s						
M17K	**Holitna River**	**2.71**	**310**	P	**Pn**	**14 11 03.9**	**-0.1**
	baz=126						
R17K	**Ugashik Creek**	**2.72**	**221**		**Pn**	**14 11 04.4**	**+0.3**
R17K				IAML		14 11 37.2	
	comp=E,303nm,1.2s						
R17K				IAML		14 11 38.5	
	comp=N,354nm,1.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
L20K	**Farewell, AK**	**2.77**	**352**		**Pn**	**14 11 05.3**	**+0.5**
L20K	**Farewell, AK**	**2.77**	**352**	P	**Pn**	**14 11 05.3**	**+0.5**
	baz=172						
KNK	**Knik Glacier**	**2.84**	**52**		**Pn**	**14 11 05.5**	**-0.2**
KNK	**Knik Glacier**	**2.84**	**52**		**Sn**	**14 11 38.2**	**-1.2**
KNK	**Knik Glacier**	**2.84**	**52**	P	**Pn**	**14 11 05.5**	**-0.2**
	baz=236						
KNK				S	**Sn**	**14 11 38.2**	**-1.2**
	baz=236						
P23K	**Montague Islan**	**2.88**	**82**		**Pn**	**14 11 06.7**	**+0.4**
P23K	**Montague Islan**	**2.88**	**82**	P	**Pn**	**14 11 07.0**	**+0.8**
	baz=268						
GHO	**Glory Hole Cre**	**2.89**	**43**		**Pn**	**14 11 06.7**	**+0.3**
N16K	**Nishlik Lake**	**2.93**	**287**		**Pn**	**14 11 07.3**	**+0.4**
N16K	**Nishlik Lake**	**2.93**	**287**	P	**Pn**	**14 11 07.3**	**+0.4**
	baz=102						
CUT	**Chulitna**	**3.00**	**26**		**Pn**	**14 11 08.4**	**+0.5**
CUT	**Chulitna**	**3.00**	**26**	P	**Pn**	**14 11 08.6**	**+0.8**
	baz=209						
L18K	**Granite Mounta**	**3.04**	**326**		**Pn**	**14 11 07.9**	**-0.3**
L18K	**Granite Mounta**	**3.04**	**326**	P	**Pn**	**14 11 08.0**	**-0.3**
	baz=144						
SML	**Sawmill**	**3.12**	**46**		**Pn**	**14 11 09.3**	**-0.2**
SML	**Sawmill**	**3.12**	**46**	IAML		14 11 46.8	
	comp=N,876nm,0.7s						
SML				IAML		14 11 46.9	
	comp=E,699nm,1.0s						
SML	**Sawmill**	**3.12**	**46**	P	**Pn**	**14 11 09.4**	**-0.1**
	baz=231						
M16K	**Timber Creek**	**3.18**	**296**		**Pn**	**14 11 10.5**	**+0.3**
PPLA	**Purkeypile**	**3.19**	**8**		**Pn**	**14 11 11.5**	**+1.0**
PPLA	**Purkeypile**	**3.19**	**8**	P	**Pn**	**14 11 11.5**	**+1.0**
	baz=189						
GLI	**Glacier Island**	**3.20**	**67**		**Pn**	**14 11 09.1**	**-1.3**
GLI	**Glacier Island**	**3.20**	**67**	IAML		14 11 46.5	
	comp=N,794nm,0.6s						
GLI	**Glacier Island**	**3.20**	**67**	P	**Pn**	**14 11 09.3**	**-1.1**
	baz=252						
SII	**Sitkinak Islan**	**3.24**	**191**		**Pn**	**14 11 09.6**	**-1.5**
SII	**Sitkinak Islan**	**3.24**	**191**	IAML		14 11 49.6	
	comp=E,682nm,0.4s						
SII				IAML		14 11 58.6	
	comp=N,501nm,1.0s						
SII	**Sitkinak Islan**	**3.24**	**191**	P	**Pn**	**14 11 10.0**	**-1.1**
M23K	**Glacier View**	**3.34**	**50**		**Pn**	**14 11 12.3**	**-0.1**
M23K	**Glacier View**	**3.34**	**50**	P	**Pn**	**14 11 12.3**	**-0.1**
	baz=235						
HIN	**Hinchinbrook I**	**3.37**	**76**	Pn	**Pn**	**14 11 12.1**	**-0.6**
HIN				IAML		14 11 52.9	
	comp=N,703nm,0.9s						
HIN				IAML		14 11 54.3	
	comp=E,555nm,0.8s						
Q23K	**Middleton Isla**	**3.45**	**92**		**Pn**	**14 11 13.9**	**+0.2**
Q23K	**Middleton Isla**	**3.45**	**92**	IAML		14 12 06.9	
	comp=N,392nm,2.5s						
Q23K				IAML		14 12 15.0	
	comp=E,376nm,1.9s						
FID	**Port Fidalgo**	**3.45**	**70**	Pn	**Pn**	**14 11 12.4**	**-1.5**
MID	**Middleton Isla**	**3.45**	**92**		**Pn**	**14 11 13.9**	**+0.1**
MID				IAML		14 11 57.8	
	comp=N,322nm,2.0s						
MID				IAML		14 12 15.0	
	comp=E,398nm,2.0s						
MID	**Middleton Isla**	**3.45**	**92**	P	**Pn**	**14 11 14.1**	**+0.3**
O15K	**Ungalikthiuk R**	**3.48**	**264**		**Pn**	**14 11 15.0**	**+0.8**
O15K	**Ungalikthiuk R**	**3.48**	**264**	P	**Pn**	**14 11 14.5**	**+0.4**
	baz=78						
L17K	**Donlin**	**3.49**	**316**		**Pn**	**14 11 14.0**	**-0.3**
L17K	**Donlin**	**3.49**	**316**	P	**Pn**	**14 11 14.0**	**-0.3**
	baz=131						
TTA	**Tatalina**	**3.49**	**338**		**Pn**	**14 11 13.9**	**-0.5**
TTA	**Tatalina**	**3.49**	**338**	P	**Pn**	**14 11 13.9**	**-0.5**
	baz=155						
SCM	**Sheep Creek Mo**	**3.52**	**51**		**Pn**	**14 11 14.9**	**0.0**
SCM	**Sheep Creek Mo**	**3.52**	**51**	P	**Pn**	**14 11 14.9**	**0.0**
	baz=236						
N15K	**Kwethluk River**	**3.54**	**280**	Pn	**Pn**	**14 11 15.6**	**+0.6**
N15K	**Kwethluk River**	**3.54**	**280**	P	**Pn**	**14 11 15.9**	**+0.9**
	baz=94						
K20K	**Telida**	**3.66**	**353**		**Pn**	**14 11 16.6**	**0.0**
K20K	**Telida**	**3.66**	**353**	P	**Pn**	**14 11 16.9**	**+0.3**
	baz=173						
L16K	**Owhat River**	**3.70**	**305**	Pn	**Pn**	**14 11 17.1**	**0.0**
L16K	**Owhat River**	**3.70**	**305**	P	**Pn**	**14 11 17.1**	**0.0**
	baz=120						
WAT7	**Susitna Watana**	**3.72**	**32**		**Pn**	**14 11 17.9**	**+0.5**
CAST	**Castle Rocks**	**3.72**	**7**	Pn	**Pn**	**14 11 17.7**	**+0.3**
CAST	**Castle Rocks**	**3.72**	**7**	P	**Pn**	**14 11 18.0**	**+0.6**
	baz=188						
EYAK	**Cordova Ski Ar**	**3.76**	**74**		**Pn**	**14 11 17.2**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.76**	**74**	P	**Pn**	**14 11 17.6**	**-0.3**
EYAK	**Cordova Ski Ar**	**3.76**	**74**	P	**Pn**	**14 11 17.5**	**-0.5**
	baz=261						
WAT1	**Susitna Watana**	**3.80**	**33**		**Pn**	**14 11 18.8**	**+0.3**
WAT1	**Susitna Watana**	**3.80**	**33**	P	**Pn**	**14 11 18.8**	**+0.3**
	baz=218						
WAT6	**Susitna Watana**	**3.85**	**40**		**Pn**	**14 11 19.2**	**-0.1**
WAT6	**Susitna Watana**	**3.85**	**40**	P	**Pn**	**14 11 19.2**	**-0.1**
	baz=225						
DIV	**Divide**	**3.89**	**66**		**Pn**	**14 11 19.2**	**-0.5**
K17K	**Iditarod**	**3.90**	**322**	Pn	**Pn**	**14 11 19.5**	**-0.3**
K17K				IAML		14 12 20.7	
	comp=E,80nm,1.0s						
K17K	**Iditarod**	**3.90**	**322**	P	**Pn**	**14 11 19.8**	**0.0**
	baz=138			

J19K	Poorman	4.43	345	P	Pn	14 11 26.1	-0.8
	baz=164						
CHGN	Chignik	4.46	222	Pn	Pn	14 11 27.1	-0.2
CHGN				IAML		14 12 16.4	
	comp=N,169nm,0.5s						
CHGN				IAML		14 12 18.7	
	comp=E,258nm,0.2s						
MCK	McKinley	4.47	25		Pn	14 11 27.4	0.0
MCK	McKinley	4.47	25	P	Pn	14 11 27.9	+0.5
	baz=208						
HMT	Hamilton	4.47	79	Pn	Pn	14 11 27.2	-0.4
J20K	Nowinta River	4.48	354	Pn	Pn	14 11 27.5	0.0
J20K	Nowinta River	4.48	354	P	Pn	14 11 27.8	+0.3
	baz=174						
BPAW	Bear Paw Mtn.	4.49	12		Pn	14 11 27.2	-0.5
BPAW	Bear Paw Mtn.	4.49	12	IAML		14 12 18.4	
	comp=N,61nm,0.6s						
BPAW				IAML		14 12 27.2	
	comp=E,58nm,0.5s						
BPAW	Bear Paw Mtn.	4.49	12	P	Pn	14 11 27.5	-0.2
	baz=194						
M14K	Bethel	4.53	287	Pn	Pn	14 11 28.7	+0.5
M14K				IAML		14 12 50.3	
	comp=E,96nm,3.5s						
M14K				IAML		14 13 34.5	
	comp=N,102nm,4.2s						
M14K	Bethel	4.53	287	P	Pn	14 11 29.0	+0.8
	baz=99						
L15K	Ungalak Mounta	4.55	299		Pn	14 11 29.0	+0.4
N25K	Chitina, Valde	4.58	62	Pn	Pn	14 11 28.5	-0.5
N25K				IAML		14 12 22.8	
	comp=N,223nm,0.5s						
N25K	Chitina, Valde	4.58	62	P	Pn	14 11 28.8	-0.2
	baz=250						
NICHA	Nichawak Mount	4.61	80		Pn	14 11 30.1	+0.7
HARP	HAARP	4.69	52		Pn	14 11 30.6	+0.2
HARP	HAARP	4.69	52	P	Pn	14 11 30.9	+0.5
	baz=239						
SUCK	Suckling Hills	4.71	82	Pn	Pn	14 11 30.7	0.0
SUCK				IAML		14 12 50.8	
	comp=N,179nm,2.1s						
SUCK				IAML		14 14 03.6	
	comp=E,178nm,2.2s						
BERG	Berg Lake	4.75	78		Pn	14 11 31.2	-0.1
BERG				IAML		14 12 27.1	
	comp=N,262nm,0.2s						
BWN	Browne	4.76	20		Pn	14 11 32.0	+0.6
BWN	Browne	4.76	20	IAML		14 13 01.4	
	comp=E,194nm,1.2s						
BWN				IAML		14 13 05.4	
	comp=N,180nm,0.7s						
K15K	Wolf Creek Mou	4.83	306		Pn	14 11 32.8	+0.5
K15K	Wolf Creek Mou	4.83	306	IAML		14 12 56.1	
	comp=N,42nm,3.6s						
WACK	Wrangell Chich	4.84	59		Pn	14 11 32.4	-0.3
GLB	Gilahina Butte	4.89	66	Pn	Pn	14 11 32.4	-0.7
GLB				IAML		14 12 29.9	
	comp=E,170nm,0.6s						
GLB				IAML		14 12 30.4	
	comp=N,216nm,0.6s						
WASW	Wrangell South	4.89	60		Pn	14 11 33.8	+0.5
PAX	Paxson	4.89	45		Pn	14 11 33.3	0.0
PAX	Paxson	4.89	45	P	Pn	14 11 33.7	+0.4
	baz=232						
GRIN	Grindle Hills	4.94	80		Pn	14 11 33.5	-0.3
BGLC	Bering Glacier	4.95	81		Pn	14 11 34.9	+1.0
KHIT	Khitrov Hills	4.98	78		Pn	14 11 33.6	-0.9
L14K	Kuka Creek	5.00	293		Pn	14 11 35.2	+0.7
L14K				IAML		14 13 40.6	
	comp=E,55nm,3.7s						
L14K				IAML		14 13 42.0	
	comp=N,68nm,3.9s						
VRDI	Verde Repeater	5.00	69		Pn	14 11 34.1	-0.6
VRDI	Verde Repeater	5.00	69	IAML		14 12 32.2	
	comp=N,150nm,0.6s						
VRDI				IAML		14 12 32.7	
	comp=E,83nm,0.5s						
J16K	Anvik River	5.05	318	Pn	Pn	14 11 35.0	-0.2
J16K				IAML		14 12 30.9	
	comp=N,35nm,3.2s						
J16K				IAML		14 13 03.0	
	comp=E,32nm,3.6s						
J16K	Anvik River	5.05	318	P	Pn	14 11 34.9	-0.4
	baz=132						
I20K	Naaghedeneel	5.11	353		Pn	14 11 36.6	+0.5
I20K				IAML		14 13 12.5	
	comp=N,133nm,2.2s						
I20K				IAML		14 13 14.8	
	comp=E,136nm,1.4s						
I20K	Naaghedeneel	5.11	353	P	Pn	14 11 37.0	+0.9
	baz=172						
SNH	Sunshine Point	5.18	81		Pn	14 11 37.4	+0.3
SNH				IAML		14 12 36.1	
	comp=E,115nm,1.1s						
SNH				IAML		14 12 36.3	
	comp=N,154nm,1.6s						
M13K	Dall Lake	5.18	282		Pn	14 11 38.4	+1.4
WAX	Waxell Ridge	5.18	78		Pn	14 11 36.8	-0.3
NEA2	Nenana	5.22	19		Pn	14 11 36.7	-0.9
NEA2				IAML		14 12 35.8	
	comp=N,41nm,0.8s						
NEA2				IAML		14 12 57.6	
	comp=E,32nm,3.5s						
NEA2	Nenana	5.22	19	P	Pn	14 11 37.5	-0.1
	baz=203						
MCARA	McCarthy VSAT	5.24	67		Pn	14 11 37.7	-0.1
MCARA				IAML		14 12 46.4	
	comp=E,167nm,0.8s						
MCARA	McCarthy VSAT	5.24	67	P	Pn	14 11 38.7	+0.9
	baz=256						
WRH	Wood River Hil	5.29	24		Pn	14 11 38.4	-0.2
WRH	Wood River Hil	5.29	24	IAML		14 12 39.4	
	comp=N,56nm,0.6s						
WRH				IAML		14 12 41.3	
	comp=E,54nm,0.5s						
GCSA	Galena City Sc	5.32	342		Pn	14 11 38.9	0.0
GCSA	Galena City Sc	5.32	342	P	Pn	14 11 38.8	0.0
	baz=159						
K24K	Donnelly Dome	5.35	37		Pn	14 11 40.5	+1.1
K24K	Donnelly Dome	5.35	37	P	Pn	14 11 40.5	+1.1
	baz=224						
BARK	Barkley Ridge	5.36	78		Pn	14 11 40.1	+0.6
MLY	Manley	5.42	11		Pn	14 11 39.8	-0.5
MLY	Manley	5.42	11	P	Pn	14 11 40.0	-0.3
	baz=193						
ISLE	Juniper Island	5.44	76		Pn	14 11 41.2	+0.5
PTPK	Patty Peak	5.46	70		Pn	14 11 41.0	0.0
KIAG	Kiagna River	5.47	73		Pn	14 11 40.8	-0.3
I21K	Tanana	5.48	5		Pn	14 11 41.0	-0.1
I17K	Unalakleet	5.50	322		Pn	14 11 41.0	-0.2
HDA	Harding Lake	5.50	29		Pn	14 11 41.0	-0.4
CCB	Clear Creek Bu	5.51	24		Pn	14 11 40.9	-0.5
MENT	Mentasta	5.54	51		Pn	14 11 41.4	-0.5
BAGL	Bagley Icefiel	5.56	78		Pn	14 11 43.4	+1.3
M26K	Nabesna, AK	5.58	57		Pn	14 11 42.5	0.0
M26K	Nabesna, AK	5.58	57	P	Pn	14 11 43.0	+0.5
	baz=246						
RIDG	Independent Ri	5.61	41		Pn	14 11 43.0	+0.2
RIDG	Independent Ri	5.61	41	P	Pn	14 11 43.9	+1.1
	baz=228						
MESA	MESA	5.62	81		Pn	14 11 43.8	+0.6
MESA	MESA	5.62	81	P	Pn	14 11 43.7	+0.6
	baz=270						
I23K	Minto, Yukon-K	5.70	16		Pn	14 11 43.7	-0.2
I23K	Minto, Yukon-K	5.70	16	P	Pn	14 11 43.9	-0.1
	baz=200						
COLA	College	5.70	23		Pn	14 11 43.5	-0.5
COLA	College	5.70	23	P	Pn	14 11 43.9	-0.1
MDM	Murphy Dome	5.70	21		Pn	14 11 43.4	-0.7
L26K	Log Cabin Wild	5.73	51		Pn	14 11 45.6	+1.1
IL31		5.82	27	Pn	Pn	14 11 45.1	-0.5
ILAR	Eielson Array	5.82	27	P	Pn	14 11 45.0	-0.6
	comp=E,47nm,0.5s,baz=216,slow=13,SNR=537						
ILAR				S	Sn	14 12 46.6	-4.3
	comp=E,12nm,0.6s,baz=220,slow=21,SNR=5.2						
BARN	Barnard Glacie	5.82	72		Pn	14 11 46.1	+0.2
H20K	Anotleneega Mo	5.83	353		Pn	14 11 46.2	+0.4
H20K	Anotleneega Mo	5.83	353	P	Pn	14 11 46.2	+0.4
	baz=171						
J14K	Nanvaranak Lak	5.88	305	Pn	Pn	14 11 47.1	+0.7
RKAV	Rock Avalanche	5.92	80		Pn	14 11 47.9	+0.7
H21K	Melozitna Rive	5.94	1		Pn	14 11 47.4	+0.1
H21K	Melozitna Rive	5.94	1	P	Pn	14 11 47.6	+0.3
	baz=182						
H18K	Honhosa River	5.95	338	Pn	Pn	14 11 47.3	-0.1
H18K	Honhosa River	5.95	338	P	Pn	14 11 47.3	-0.1
	baz=154						
CTG	Chitna Glacier	5.96	73	P	Pn	14 11 48.6	+0.8
	baz=263						
CTGM	Chitina Glacie	5.97	73		Pn	14 11 48.6	+0.7
POKR	Poker Plat Res	6.00	24		Pn	14 11 47.7	-0.4
POKR	Poker Plat Res	6.00	24	P	Pn	14 11 47.9	-0.2
	baz=209						
H19K	Roundabout Mou	6.01	347		Pn	14 11 47.8	-0.3
H19K	Roundabout Mou	6.01	347	P	Pn	14 11 48.5	+0.4
	baz=164						
TABL	Table Mountain	6.03	78		Pn	14 11 48.7	0.0
M27K	Edge Creek, AK	6.05	59		Pn	14 11 49.2	+0.3
M27K	Edge Creek, AK	6.05	59	P	Pn	14 11 49.2	+0.3
	baz=249						
SCRK	Sand Creek	6.05	42		Pn	14 11 48.7	-0.2
SCRK	Sand Creek	6.05	42	P	Pn	14 11 49.2	+0.3
	baz=230						
J25K	Salcha River,	6.08	33		Pn	14 11 49.0	-0.2
J25K	Salcha River,	6.08	33	P	Pn	14 11 49.0	-0.2
	baz=220						
H17K	Granite Mounta	6.10	332		Pn	14 11 49.3	-0.1
H17K	Granite Mounta	6.10	332	P	Pn	14 11 49.5	+0.1
	baz=146						
LOGN	Logan Glacier	6.12	75		Pn	14 11 49.9	0.0
SAMH	Samovar Hills	6.21	81		Pn	14 11 52.1	+1.1
H22K	Ishtalitna Cre	6.22	7		Pn	14 11 51.0	-0.2
H22K	Ishtalitna Cre	6.22	7	P	Pn	14 11 51.0	-0.2
	baz=188						
IMAR	Indian Mountai	6.27	358		Pn	14 11 52.0	+0.3
H23K	Yukon River	6.32	13		Pn	14 11 51.6	-0.8
YUK2	White River	6.35	66		Pn	14 11 53.2	+0.3
L27K	Beaver Creek,	6.35	54		Pn	14 11 53.4	+0.5
L27K	Beaver Creek,	6.35	54	P	Pn	14 11 53.4	+0.5
	baz=244						
BCAR	Beaver Creek A	6.37	54	Pn	Pn	14 11 53.2	0.0
PCA	Pinnacle	6.47	81		Pn	14 11 55.0	+0.4
PINM	Pinnacle	6.47	81	P	Pn	14 11 55.2	+0.7
	baz=272						
O28M	Mount Upton	6.51	75		Pn	14 11 56.4	+1.1
O28M	Mount Upton	6.51	75	P	Pn	14 11 56.4	+1.1
	baz=267						
YUK3	Moose Creek	6.52	66		Pn	14 11 55.8	+0.5
YUK3	Moose Creek	6.52	66	P	Pn	14 11 55.8	+0.5
	baz=258						
J26L	Joseph Creek	6.54	39		Pn	14 11 55.0	-0.4
J26L	Joseph Creek	6.54	39	P	Pn	14 11 55.2	-0.3
	baz=228						
H24K	Noodor Dome	6.57	19	Pn	Pn	14 11 55.2	-0.6
H24K	Noodor Dome	6.57	19	P	Pn	14 11 55.3	-0.6
	baz=204						
G18K	Tagagawik	6.68	340		Pn	14 11 57.0	-0.3
G19K	Purcell Mounta	6.68	346	Pn	Pn	14 11 56.4	-0.8
K27K	Chicken	6.75	46		Pn	14 11 58.1	-0.2
PRP	Porcupine Dome	6.76	28		Pn	14 11 58.5	0.0
PRP	Porcupine Dome	6.76	28	P	Pn	14 11 58.2	-0.3
	baz=215						
BCPM	Bancas Point	6.79	82		Pn	14 11 59.3	+0.5
G21K	Allakaket	6.80	359		Pn	14 11 59.4	+0.5
YKU2	Yakutat	6.82	86	Pn	Pn	14 12 01.3	+2.2
YKU2	Yakutat	6.82	86	P	Pn	14 12 01.3	+2.2
PNL	Peninsula	6.94	85		Pn	14 12 01.1	+0.3
PNL	Peninsula	6.94	85	P	Pn	14 12 01.1	+0.3
PNL	Peninsula	6.94	85	P	Pn	14 12 01.1	+0.3
	baz=277						
G16K	Koyuk River	7.09	327	Pn	Pn	14 12 02.7	-0.2
G23K	Bananza Creek	7.13	10	Pn	Pn	14 12 02.9	-0.5
I26K	Coal Creek Min	7.23	35		Pn	14 12 03.9	-0.8
O29M	Mount Kennedy	7.30	79		Pn	14 12 06.3	+0.4
YUK4	Talbot Arm	7.31	71	P	Pn	14 12 07.0	+1.0
	baz=263						
YUK6	Outpost Mounta	7.41	74		Pn	14 12 07.9	+0.5
YUK6	Outpost Mounta	7.41	74	P	Pn	14 12 07.9	+0.5
	baz=267						
F19K	Shaleruckik Mo	7.42	346	Pn	Pn	14 12 08.0	+0.7
F20K	Avaraart Lake	7.43	352		Pn	14 12 07.9	+0.5
G24K	Hadweenzic Riv	7.43	18		Pn	14 12 06.6	-0.9
ANM	Nome	7.50	315	Pn	Pn	14 12 09.2	+0.7
F21K	Alatna River	7.51	359		Pn	14 12 09.2	+0.7
EGAK	Eagle	7.51	43	Pn	Pn	14 12 08.2	-0.3
YUK7	Dusty Glacier	7.51	78		Pn	14 12 09.6	+0.8
M29M	Somme Creek	7.59	63		Pn	14 12 10.3	+0.5
M29M	Somme Creek	7.59	63	P	Pn	14 12 10.3	+0.5
	baz=256						
COLD	Coldfoot	7.62	9		Pn	14 12 09.5	-0.6
COLD	Coldfoot	7.62	9	P	Pn	14 12 10.3	+0.2
	baz=191						
F17K	Baldwin Pennin	7.67	335		Pn	14 12 10.0	-0.6
FYU	Fort Yukon	7.71	24	Pn	Pn	14 12 10.6	-0.6
P29M	Windy Craggy	7.78	84		Pn	14 12 12.8	+0.6
P29M	Windy Craggy	7.78	84	P	Pn	14 12 12.8	+0.6
	baz=278						
DAWY	Dawson	7.78	50	Pn	Pn	14 12 12.7	+0.4
HYT	Haines Junctio	7.83	75	Pn	Pn	14 12 13.4	+0.4
I27K	Kandik River	7.89	37		Pn	14 12 14.2	+0.4
I27K	Kandik River	7.89	37	P	Pn	14 12 14.2	+0.4
	baz=227						
L29M	L29M	7.93	58		Pn	14 12 15.0	+0.7
L29M	L29M	7.93	58	P	Pn	14 12 14.8	+0.6
	baz=252						
E19K	Redstone River	7.96	348		Pn	14 12 15.3	+0.7
F15K	North Star Dit	7.99	323	Pn	Pn	14 12 15.7	+0.7
N30M	Aishikik Lake	8.06	71		Pn	14 12 15.9	-0.3
N30M	Aishikik Lake	8.06	71	P	Pn	14 12 15.8	-0.3
	baz=265						
F24K	Squaw Lake	8.14	14	Pn	Pn	14 12 16.6	-0.5
I28M	Miner Creek	8.33	41		Pn	14 12 19.3	-0.4
I28M	Miner Creek	8.33	41	P	Pn	14 12 19.8	0.0
	baz=233						
H27K	Steamboat Moun	8.36	34		Pn	14 12 19.0	-1.1
H27K	Steamboat Moun	8.36	34	P	Pn	14 12 20.0	-0.1
	baz=224						
M30M	Minto, Yukon	8.38	63		Pn	14 12 20.1	-0.2
M30M	Minto, Yukon	8.38	63	P	Pn	14 12 20.5	+0.1
	baz=258						
E18K	Tukpahlearik C	8.39	340	Pn	Pn	14 12 20.8	+0.3
K29M	Barlow Dome	8.44	54	Pn	Pn	14 12 22.0	+0.7
E22K	Anaktuvuk Pass	8.44	3	Pn	Pn	14 12 22.0	+0.8
O30N	Mendenhall	8.52	76		Pn	14 12 22.5	+0.2
O30N	Mendenhall	8.52	76	P	Pn	14 12 22.7	+0.4
	baz=271						
BMAR	Burnt Mountain	8.59	23	Pn	Pn	14 12 21.6	-1.5
E24K	Your Creek	8.61	12		Pn	14 12 22.9	-0.5
N31M	Braeburn, Yuko	8.69	71		Pn	14 12 25.0	+0.4
N31M	Braeburn, Yuko	8.69	71	P	Pn	14 12 25.2	+0.5
	baz=266						
E21K	Killik River	8.74	358		Pn	14 12 25.3	+0.1
G27K	Doyon Strip	8.75	31	Pn	Pn	14 12 24.1	-1.3
I29M	Ogilvie Camp,	8.84	44		Pn	14 12 26.6	0.0
S31K	Pelican	8.92	94		Pn	14 12 27.1	-0.6
S31K	Pelican	8.92	94	P	Pn	14 12 27.7	0.0
	baz=289						
SKAG	Skagway	9.02	84		Pn	14 12 29.5	+0.6
SKAG	Skagway	9.02	84	P	Pn	14 12 29.9	+1.0
E25K	Arctic Village	9.03	18	Pn	Pn	14 12 28.0	-1.1
E25K	Arctic Village	9.03	18	P	Pn	14 12 28.0	-1.1
	baz=205						
D19K	Kuna River	9.05	348	Pn	Pn	14 12 30.1	+0.6
TOLK	Toolik Lake Re	9.06	8	Pn	Pn	14 12 30.5	+0.9
WHY	Whitehorse	9.12	76	Pn	Pn	14 12 30.8	+0.3
D22K	Ayikyak River	9.18	1		Pn	14 12 31.3	+0.2
J30M	Hart River	9.21	51	Pn	Pn	14 12 33.4	+1.7
H29M	Whitestone	9.31	40	Pn	Pn	14 12 33.2	+0.3
M31M	Drury Creek, Y	9.42	67		Pn	14 12 34.8	+0.4
UNV	Unalaska Valle	9.42	237	P	Pn	14 12 34.0	-0.5
I30M	Mount Dempster	9.47	47	Pn	Pn	14 12 35.6	+0.3
C18K	Utukok River	9.60	342		Pn	14 12 36.4	-0.4
D24K	Happy Valley	9.62	9	Pn	Pn	14 12 36.9	-0.3
R32K	Eaglecrest	9.70	91		Pn	14 12 39.7	+1.5
SIT	Sitka	9.71	98		Pn	14 12 37.1	-1.2
SIT	Sitka	9.71	98	P	Pn	14 12 37.8	-0.5
JIS	Juneau Island	9.76	91		Pn	14 12 40.8	+1.8
JIS	Juneau Island	9.76	91	P	Pn	14 12 41.0	+2.0
C19K	Lookout Ridge	9.80	346		Pn	14 12 40.4	+0.8
P32M	Atlin	9.81	83	Pn	Pn	14 12 40.0	+0.3
F28M	Old Crow	9.82	31		Pn	14 12 39.1	-0.6
F28M	Old Crow	9.82	31	P	Pn	14 12 39.6	-0.2
	baz=223						
E27K	Coleen River	9.85	26	Pn	Pn	14 12 38.7	-1.5
G29M	Pine Creek	9.86	37		Pn	14 12 39.9	-0.4
FARO	Faro, Yukon	9.90	67	Pn	Pn	14 12 41.4	+0.3
S32K	Killisnoo	9.93	95		Pn	14 12 41.5	+0.3
B21K	Ikpikpuk River	9.94	357	Pn	Pn	14 12 41.0	-0.4
EPYK	Eagle Plains	9.94	41		Pn	14 12 42.2	+0.7
N32M	Quiet Lake	9.98	73		Pn	14 12 42.8	+0.7
D25K	Kavik River	10.04	14		Pn	14 12 42.6	-0.2
D25K	Kavik River	10.04	14	P	Pn	14 12 42.4	-0.4
	baz=200						
P33M	Teslin, Yukon	10.17	79	Pn	Pn	14 12 45.5	+0.9
C23K	Itkillik River	10.19	5		Pn	14 12 45.1	+0.3
B20K	Meade River	10.45	352	Pn	Pn	14 12 47.9	-0.4
G30M	tAoh Zraii Nji	10.46	39	Pn	Pn	14 12 48.0	-0.5
H31M	Peel River	10.49	47	Pn	Pn	14 12 48.0	-1.0
B22K	Teshekpuk Lake	10.64	359		Pn	14 12 49.4	-1.5
E28M	Babbage River	10.65	28		Pn	14 12 50.2	-0.8
Q32M	Nakina River	10.66	85		Pn	14 12 51.7	+0.3
D27M	Malcolm River	10.85	23	Pn	Pn	14 12 52.6	-1.2
E29M	Blow River	10.89	31		Pn	14 12 53.2	-1.2
MMPY	Sheldon Lake,	10.91	65		Pn	14 12 55.2	+0.6
G31M	Satah River	11.06	42		Pn	14 12 57.3	+0.7
U33K	Whale Pass	11.21	100	Pn	Pn	14 12 58.0	-0.7
R33M	Jennings River	11.22	82		Pn	14 12 59.4	+0.5
WRAK	Wrangell Islan	11.46	98		Pn	14 13 02.1	+0.1
F31M	Tsiigehtchic	11.52	40	Pn	Pn	14 13 01.8	-0.8
S34M	Telegraph Cree	11.52	90		Pn	14 13 03.5	+0.8
CRAG	Craig	11.52	103	Pn	Pn	14 13 01.8	-1.0
CRAG	Craig	11.52	103	P	Pn	14 13 03.7	+0.9
DLBC	Dease Lake	11.92	86	P	Pn	14 13 09.5	+1.4
	comp=E,11nm,0.3s,baz=241,slow=9.7,SNR=51						
DLBC				S	Sn	14 15 17.4	-1.7
	comp=E,3.6nm,0.6s,baz=180,slow=23,SNR=2.0						
INK	Inuvik	12.07	37	Pn	Pn	14 13 10.4	+0.4
INK	Inuvik	12.07	37	P	Pn	14 13 09.9	-0.1
	comp=E,3.7nm,0.7s,baz=240,slow=20,SNR=17						
INK				S	Sn	14 15 16.1	-6.4
	comp=E,1.3nm,0.7s,baz=146,slow=18,SNR=1.1						
T35M	Bob Quinn	12.29	93	Pn	Pn	14 13 14.2	+1.2
V35K	Ketchikan	12.34	102		Pn	14 13 14.5	+1.0
DIB	Dawson Inlet,	13.11	111	Pn	Pn	14 13 23.8	+0.1
GRNB	Grenville Isla	13.94	105	Pn	Pn	14 13 35.6	+1.1
ATKA	Atka Island	13.97	247	Pn	Pn	14 13 35.5	+0.7
ATKA	Atka Island	13.97	247	P	Pn	14 13 36.7	+1.9
ADK	Adak	15.35	250	Pn	P	14 13 53.6	-0.9
KIWB	Kanaga Island	15.59	250	Pn	P	14 13 56.7	-0.5
BBB	Bella Bella	15.83	108	P	P	14 14 01.1	+1.3
	comp=E,4.7nm,0.8s,baz=296,slow=7.8,SNR=6.2						
BBB				S	Sn	14 16 50.7	-2.7
	comp=E,7.8nm,1.0s,baz=270,slow=17,SNR=1.9						
A36M	Sachs Harbour	16.50	31	Pn	Pn	14 14 06.2	-0.2
A36M				IAmb	IAmb	14 14 37.0	
	comp=Z,58nm,1.1s						
YKA	Yellowknife Ar	18.61	65	P	P	14 14 30.9	+0.6
YKA	Yellowknife Ar	18.61	65	P	Pn	14 14 31.8	0.0
	comp=Z,1.7nm,0.6s,baz=256,slow=10,SNR=19						
RES	Resolute Bay	25.55	32	P	P	14 15 42.3	+2.4
PEA0B	Petropavlovsk-	27.45	278	P	P	14 15 57.4	+0.3
PETK	Petropavlovsk-	27.45	278	P	P	14 15 57.5	+0.4
PETK	Petropavlovsk-	27.45	278	P	P	14 15 56.9	-0.3
	comp=Z,3.2nm,0.8s,baz=66,slow=14,SNR=1.6						
	comp=Z,3.2nm,0.8s						
SPITS	Spitsbergen Ar	42.17	3	P	P	14 18 03.2	+0.2
	comp=Z,14nm,1.1s,baz=15,slow=7.3,SNR=7.5						
	comp=Z,14nm,1.1s						
SCHQ	Schefferville	43.75	57	P	P	14 18 16.4	+0.5
SCHQ	Schefferville	43.75	57	P	P	14 18 16.6	+0.7
	comp=Z,3.0nm,0.7s,baz=281,slow=10,SNR=2.1						
	comp=Z,3.0nm,0.7s						
KS19	Wonju Array Si	53.18	283	P	P	14 19 29.1	+0.8
KSRS	Korea Array	53.19	283	P	P	14 19 29.4	+1.0
	comp=Z,3.2nm,0.5s,baz=40,slow=7.2,SNR=12						
	comp=Z,3.2nm,0.5s						
KSAR	Wonju Array Be	53.21	283	P	P	14 19 28.9	+0.3
ULN	Ulaanbaatar	54.61	306	P	P	14 19 39.1	+0.3
ULN				IAmb	IAmb	14 19 39.9	
	comp=Z,3.9nm,0.6s						
JTU	Tsushima	54.76	279	P	P	14 19 39.9	0.0
SONM	Songino Array	54.90	306	P	P	14 19 41.6	+0.7
SONM				IAmb	IAmb	14 19 42.5	
	comp=Z,4.4nm,0.6s						
SONM	Songino Array	54.90	306	P	P	14 19 41.9	+1.0
	comp=Z,4.0nm,0.5s,baz=49,slow=5.9,SNR=20						
	comp=Z,4.0nm,0.5s						
ZAA0	Zalesovo Array	57.55	324	P	P	14 19 59.5	+0.1
ZAA0				IAmb	IAmb	14 20 00.5	
	comp=Z,5.2nm,0.6s						
ZALV	Zalesovo Beam	57.55	324	P	P	14 19 59.4	0.0
ZALV	Zalesovo Beam	57.55	324	P	P	14 19 59.6	+0.2
	comp=Z,7.3nm,0.5s,baz=35,slow=6.7,SNR=27						
	comp=Z,7.3nm,0.5s						
KURK	Kurchatov	62.21	326	P	P	14 20 31.0	-0.3
KURK				IAmb	IAmb	14 20 31.8	
	comp=Z,2.1nm,0.7s						
BRVK	Borovoye	62.27	332	P	P	14 20 31.5	-0.2
BVAR	Borovoye Array	62.27	332	P	P	14 20 31.8	+0.1
	comp=Z,2.7nm,0.5s,baz=31,slow=6.4,SNR=14						
	comp=Z,2.7nm,0.5s			

mB5.4/7, mb4.8/31, MLv5.0/6, Mw(mB)4.8/7
NEIC ***30*** *14:22:53.1±1.4, 5°.99S±0°.06×146°.37E±0°.09, h35km±2km, mb4.9/53, Error ellipse: s-maj=14.6km s-min=10.5km az=91.0*

ISC 30 14:22:51.4±0.5, 6°.05S±0°.04×146°.45E±0°.06, h28km±2km, h28km:pP-P, n170, σ1§67/156, mb4.8/47, MS3.9/20, 1C-4D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.41**	**168**	P	**Pn**	**14 23 44.6**	**+1.7**
PMG	**Port Moresby**	**3.41**	**168**	Pn	**Pn**	**14 23 44.3**	**+1.4**
	121nm,0.4s,baz=36,slow=9.3,SNR=129						
PMG				Sn	**Sn**	**14 24 25.3**	**+2.9**
	73nm,0.3s,baz=84,slow=22,SNR=7.0						
PMG				LR	LR	14 25 37.3	
	comp=Z,2μm,19.6s,baz=8.5,slow=47						
MANU	**Manus Island**	**4.08**	**13**		**Pn**	**14 23 52.1**	**+0.1**
MANU	**Manus Island**	**4.08**	**13**	P	**Pb**	**14 23 58.7**	**-3.9**
TABU	**Tabubil**	**5.26**	**278**	P	**Pn**	**14 24 10.0**	**+1.7**
KAVG	**Kavieng**	**5.54**	**52**	P	Pb	14 24 20.1	-7.5
RABL	**Rabaul**	**5.98**	**72**		**Pn**	**14 24 19.0**	**+0.8**
JAY	**Jayapura**	**6.71**	**301**	P	**Pn**	**14 24 31.1**	**+2.8**
	39nm,1.1s,0.2nm						
GENI	**Genyem**	**7.14**	**298**	P	**Pn**	**14 24 37.8**	**+3.7**
GENI	**Genyem**	**7.14**	**298**	P	**Pn**	**14 24 37.1**	**+3.0**
	102nm,1.1s,0.7nm						
COEN	**Coen**	**8.50**	**202**	Pn	**Pn**	**14 24 53.6**	**+0.9**
COEN	**Coen**	**8.50**	**202**	P	**Pn**	**14 24 54.3**	**+1.5**
MTSU	**Mount Surprise**	**12.20**	**190**	P	**Pn**	**14 25 45.4**	**+2.0**
HNR	**Honiara**	**13.79**	**105**	LR	LR	14 30 55.4	
	comp=Z,3μm,21.7s,baz=320,slow=35						
CTA	**Charters Tower**	**13.96**	**181**	Pn	**Pn**	**14 26 10.7**	**+3.1**
	1.1nm,0.3s,baz=360,slow=14,SNR=23						
CTA				LR	LR	14 31 57.5	
	comp=Z,541nm,19.3s,baz=5.0,slow=39						
CTAO	**Charters Tower**	**13.96**	**181**	Pn	**Pn**	**14 26 10.5**	**+2.9**
FAKI	**Fak Fak**	**14.49**	**282**		**P**	**14 26 18.0**	**-3.2**
KDU	**Kakadu**	**15.28**	**243**	P	**Pn**	**14 26 24.6**	**-0.8**
QIS	**Mount Isa**	**15.88**	**204**	P	**P**	**14 26 35.1**	**-1.6**
SWI	**Sorong**	**16.00**	**288**	P	**Pn**	**14 26 35.0**	**+0.2**
	89nm,0.7s						
BNDI	**Bandanaira**	**16.54**	**274**	P	**P**	**14 26 44.4**	**+0.4**
BNDI	**Bandanaira**	**16.54**	**274**	P	**P**	**14 26 43.0**	**-1.0**
	62nm,0.9s						
MTN	**Manton Dam**	**16.54**	**245**		**Pn**	**14 26 40.8**	**-0.9**
MTN	**Manton Dam**	**16.54**	**245**	P	**Pn**	**14 26 41.6**	**0.0**
WB0	**Warramunga Arr**	**17.98**	**220**	P	**Pn**	**14 26 58.7**	**-0.9**
WR0	**Warramunga Arr**	**18.03**	**219**	P	**Pn**	**14 26 59.6**	**-0.6**
WRAB	**Tennant Creek**	**18.13**	**219**	P	**Pn**	**14 27 01.2**	**-0.2**
WB2	**Warramunga Arr**	**18.14**	**219**	P	**Pn**	**14 27 00.8**	**-0.7**
WRA	**Warramunga Arr**	**18.15**	**219**	P	**Pn**	**14 27 00.9**	**-0.7**
	0.8nm,0.3s,baz=42,slow=12,SNR=42						
WRA				S	**Sn**	**14 30 17.8**	**-5.7**
	1.9nm,1.0s,baz=40,slow=22,SNR=3.3						
	9.9nm,0.8s						
NLAI	**Namlea**	**19.48**	**277**	P	**Pn**	**14 27 18.1**	**+0.3**
	19nm,1.2s,5μm						
GUMO	**Guam**	**19.57**	**355**	LR	LR	14 34 24.0	
	comp=Z,178nm,19.2s,baz=179,slow=36						
LBMI	**Labuha**	**19.66**	**285**	P	**Pn**	**14 27 19.5**	**-0.4**
	75nm,1.0s,1μm						
EIDS	**Eidsvold**	**19.72**	**167**	P	**Pn**	**14 27 20.4**	**-0.2**
EIDS	**Eidsvold**	**19.72**	**167**	P	**Pn**	**14 27 21.2**	**+0.7**
KNRA	**Kununurra**	**19.81**	**240**	P	**P**	**14 27 17.5**	**-2.5**
KNRA				IAmb	IAmb	14 27 33.5	
	comp=Z,125nm,1.8s						
KNRA	**Kununurra**	**19.81**	**240**	P	**P**	**14 27 20.5**	**+0.5**
TNTI	**Ternate**	**20.22**	**289**	P	Pn	14 27 26.7	+0.2
TNTI	**Ternate**	**20.22**	**289**	P	**P**	**14 27 23.7**	**-0.8**
	comp=Z,33nm,1.1s						
RMQ	**Roma**	**20.45**	**174**	P	Pn	14 27 29.5	+0.4
QLP	**Quilpie**	**20.53**	**186**	P	Pn	14 27 29.8	-0.3
SANI	**Sanana**	**20.79**	**280**	P	Pn	14 27 33.5	+0.3
SANI	**Sanana**	**20.79**	**280**	P	**P**	**14 27 29.3**	**-1.3**
	comp=Z,35nm,1.0s						
AS31	**Alice Springs**	**21.27**	**213**	P	**P**	**14 27 35.5**	**-0.4**
ASAR	**Alice Springs**	**21.28**	**213**	P	**P**	**14 27 35.5**	**-0.4**
ASAR	**Alice Springs**	**21.28**	**213**	P	**P**	**14 27 35.0**	**-0.8**
	comp=Z,4.2nm,1.0s,baz=52,slow=8.5,SNR=40						
ASAR				S	**S**	**14 31 33.8**	**+2.7**
	comp=Z,1.0nm,0.8s,baz=42,slow=20,SNR=4.3						
	comp=Z,4.2nm,1.0s						
INKA	**Innaminka**	**22.25**	**193**	P	**P**	**14 27 48.0**	**+1.8**
SOEI	**Soe**	**22.27**	**259**	P	**P**	**14 27 46.6**	**-0.2**
SOEI				IAmb	IAmb	14 28 06.2	
	comp=Z,23nm,0.8s						
SOEI	**Soe**	**22.27**	**259**	P	**P**	**14 27 48.7**	**+1.9**
SOEI	**Soe**	**22.27**	**259**	P	**P**	**14 27 46.6**	**-0.2**
	comp=Z,30nm,0.8s						
BATI	**Baumata**	**22.93**	**258**	P	P	14 28 02.2	+8.6
BATI	**Baumata**	**22.93**	**258**	P	**P**	**14 27 55.8**	**+2.2**
	comp=Z,10nm,0.4s,baz=64,slow=7.5,SNR=2.8						
	comp=Z,10nm,0.4s						
AULRC	**Lightning Ridg**	**23.31**	**177**	P	**P**	**14 27 57.5**	**+0.3**
KMSI	**Cibinong**	**23.37**	**286**	P	**P**	**14 28 05.0**	**+6.9**
OOD	**Oodnadatta**	**23.92**	**204**	P	**P**	**14 28 02.8**	**-0.4**
LUWI	**Luwuk**	**24.14**	**281**	P	**P**	**14 28 07.0**	**+1.6**
	comp=Z,110nm,1.0s						
LUWI	**Luwuk**	**24.14**	**281**	P	**P**	**14 28 06.1**	**+0.7**
	comp=Z,62nm,0.8s,comp=Z,8μm						
MMRI	**Maumere**	**24.15**	**262**	P	**P**	**14 28 04.6**	**-0.9**
MMRI				IAmb	IAmb	14 28 15.8	
	comp=Z,51nm,1.2s						
MMRI	**Maumere**	**24.15**	**262**	P	**P**	**14 28 04.5**	**-0.9**
	comp=Z,29nm,0.9s						
DAV	**Davao City (W)**	**24.56**	**302**	LR	LR	14 38 39.8	
	comp=Z,118nm,19.8s,baz=2.5,slow=38						
EDFI	**Ende, Flores**	**24.70**	**262**	P	**P**	**14 28 08.8**	**-1.8**
	comp=Z,17nm,0.6s						
ARMA	**Armidale**	**24.73**	**169**	P	**P**	**14 28 12.1**	**+1.4**
ARMA				IAmb	IAmb	14 28 26.6	
	comp=Z,60nm,1.6s						
LIFNC	**LIFOU**	**24.92**	**128**	P	**P**	**14 28 12.8**	**+0.5**
DZM	**Mont Dzumac**	**25.05**	**131**	P	**P**	**14 28 14.0**	**+0.4**
DZM	**Mont Dzumac**	**25.05**	**131**	P	**P**	**14 28 16.2**	**+2.6**
MRSI	**Marisa**	**25.31**	**284**	P	P	14 28 29.0	+13
CMSA	**Cobar Meteorol**	**25.37**	**182**	P	**P**	**14 28 17.0**	**+0.6**
YATNC	**Mamie plateau,**	**25.37**	**131**	P	**P**	**14 28 19.8**	**+3.3**
STKA	**Stephens Creek**	**26.10**	**189**	P	**P**	**14 28 22.6**	**-0.4**
STKA	**Stephens Creek**	**26.10**	**189**	P	**P**	**14 28 22.9**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=348,slow=11,SNR=7.6						
STKA				LR	LR	14 39 55.0	
	comp=Z,378nm,21.4s,baz=0.7,slow=39						
	comp=Z,3.7nm,0.5s						
BKSI	**Bulukumba**	**26.20**	**270**	P	P	14 28 31.6	+7.5
KAPI	**Kappang**	**26.59**	**271**	P	**P**	**14 28 29.4**	**+1.8**
KAPI	**Kappang**	**26.59**	**271**	LR	LR	14 41 50.4	
	comp=Z,196nm,18.0s,baz=88,slow=43						
TOLI2	**Tolitoli**	**26.59**	**285**	P	**P**	**14 28 26.4**	**-1.3**
TOLI2				IAmb	IAmb	14 28 38.2	
	comp=Z,13nm,0.7s						
TOLI2	**Tolitoli**	**26.59**	**285**	P	**P**	**14 28 28.9**	**+1.3**
MPSI	**Mapaga**	**27.25**	**283**	P	P	14 28 46.6	+13
CAN	**Canberra**	**29.23**	**176**	P	**P**	**14 28 51.1**	**+0.1**
CAN				IAmb	IAmb	14 28 54.8	
	comp=Z,101nm,1.8s						
STKI	**Sintang**	**35.43**	**279**	P	P	14 29 56.1	+11
JOW	**Kunigami**	**37.12**	**332**	LR	LR	14 44 52.0	
	comp=Z,80nm,18.2s,baz=288,slow=36						
NWAO	**Narrogin (SRO)**	**38.13**	**222**	LR	LR	14 47 38.6	
	comp=Z,244nm,19.4s,baz=47,slow=39						
JNU	**Nakatsue**	**41.66**	**340**	LR	LR	14 46 33.8	
	comp=Z,138nm,18.9s,baz=162,slow=34						
QRZ	**Quartz Range**	**41.76**	**150**	P	**P**	**14 30 40.0**	**+1.6**
QRZ				IAmb	IAmb	14 31 09.3	
	comp=Z,54nm,1.6s						
MRNZ	**Matariki Terra**	**42.30**	**150**	P	**P**	**14 30 44.0**	**+1.2**
URZ	**Urewera**	**42.44**	**143**	LR	LR	14 47 42.2	
	comp=Z,142nm,18.9s,baz=31,slow=35						
NNZ	**Nelson**	**42.48**	**150**	P	**P**	**14 30 45.7**	**+1.5**
NNZ				IAmb	IAmb	14 30 46.5	
	comp=Z,64nm,1.6s						
RTZ	**Ruatahuna**	**42.60**	**144**	P	**P**	**14 30 46.7**	**+1.3**
RTZ				IAmb	IAmb	14 30 48.4	
	comp=Z,14nm,0.7s						
THZ	**Tophouse**	**42.65**	**151**	P	**P**	**14 30 46.7**	**+1.0**
BKZ	**Black Stump Fm**	**42.69**	**145**	P	**P**	**14 30 46.9**	**+0.9**
BKZ				IAmb	IAmb	14 30 49.1	
	comp=Z,13nm,0.9s						
TUWZ	**Tuamarina**	**42.92**	**149**	P	**P**	**14 30 48.7**	**+1.0**
TCW	**Tory Channel**	**42.93**	**149**	P	**P**	**14 30 49.0**	**+1.1**
BSWZ	**Blackbirch Sta**	**43.09**	**150**	P	**P**	**14 30 50.3**	**+1.0**
MRZ	**Mangatainoka R**	**43.22**	**147**	P	**P**	**14 30 50.9**	**+0.7**
MRZ				IAmb	IAmb	14 30 52.2	
	comp=Z,29nm,1.0s						
RPZ	**Rata Peaks**	**43.31**	**154**	P	**P**	**14 30 51.7**	**+0.7**
RPZ				IAmb	IAmb	14 30 53.5	
	comp=Z,14nm,0.9s						
RPZ	**Rata Peaks**	**43.31**	**154**	LR	LR	14 46 40.4	
	comp=Z,112nm,20.2s,baz=307,slow=33						
GVZ	**Greta Valley S**	**43.63**	**152**	P	**P**	**14 30 54.7**	**+1.2**
PLWZ	**Palliser**	**43.69**	**148**	P	**P**	**14 30 54.9**	**+0.8**
NJ2	**Nanjing**	**46.12**	**327**	*e*P	**P**	**14 31 14.5**	**+1.1**
NJ2				pP	**pP**	**14 31 24.0**	**+1.3**
NJ2				sP	**sP**	**14 31 28.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KSRS	**Korea Array**	**46.60**	**340**	P	**P**	**14 31 15.6**	**-1.5**
	comp=Z,3.5nm,0.8s,baz=156,slow=9.7,SNR=11						
KSRS				LR	LR	14 48 46.3	
	comp=Z,110nm,20.4s,baz=150,slow=33						
	comp=Z,3.5nm,0.8s						
KULM	**Kulim**	**47.09**	**283**	P	**P**	**14 31 21.2**	**-0.2**
KULM				IAmb	IAmb	14 32 20.2	
	comp=Z,32nm,1.3s						
CRAI	**Chiangrai**	**52.27**	**301**	P	**P**	**14 31 59.9**	**-0.8**
HNS	**HongShan**	**52.39**	**328**	*e*P	**P**	**14 32 00.5**	**-0.8**
CM31	**Chiang Mai Arr**	**52.79**	**299**	P	**P**	**14 32 04.2**	**-0.4**
CM31				IAmb	IAmb	14 32 07.1	
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**52.79**	**299**	P	**P**	**14 32 03.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**52.79**	**299**	P	**P**	**14 32 04.7**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=123,slow=5.7,SNR=28						
CMAR				LR	LR	14 55 45.4	
	comp=Z,40nm,19.7s,baz=230,slow=37						
	comp=Z,4.8nm,0.8s						
CHTO	**Chiang Mai**	**52.93**	**299**	P	**P**	**14 32 07.1**	**+1.4**
CHTO				sP	**sP**	**14 32 18.6**	**+0.1**
XAN	**Xi'an**	**53.37**	**321**	⇓P	**P**	**14 32 07.0**	**-1.7**
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
XAN				pmax	pmax		
	comp=Z,140nm,4.0s						
PZH	**PanZhiHua**	**54.06**	**309**	P	**P**	**14 32 17.8**	**+3.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,4.9s						
CD2	**Chengdu**	**54.91**	**315**	*e*P	**P**	**14 32 21.0**	**+1.0**
HHC	**Hu-ho-hao-te**	**56.58**	**329**	*e*P	**P**	**14 32 33.0**	**+1.1**
HHC				pmax	pmax		
	comp=Z,33nm,0.5s						
HHC				pmax	pmax		
	comp=Z,610nm,8.4s						
BTO	**Baotou**	**57.22**	**327**	*e*P	**P**	**14 32 40.5**	**+4.1**
BTO				pP	**sP**	**14 32 53.3**	**+3.7**
BTO				sP	pP	14 32 58.5	+13
BTO				pmax	pmax		
	comp=Z,16nm,0.6s						
BTO				pmax	pmax		
	comp=Z,660nm,6.4s						
GTA	**Gaotai**	**62.43**	**321**	*e*P	**P**	**14 33 11.5**	**-0.8**
GTA				pP	pP	14 33 21.5	-0.4
GTA				sP	sP	14 33 25.0	-0.6
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SHEM	**Shemya Is, Ala**	**63.08**	**18**	LR	LR	14 53 40.5	
	comp=Z,69nm,20.9s,baz=120,slow=29						
GOMU	**GeErMu**	**64.04**	**315**	P	**P**	**14 33 27.3**	**+4.0**
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**64.18**	**331**	P	**P**	**14 33 22.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=147,slow=6.2,SNR=7.6						
SONM				LR	LR	15 01 34.4	
	comp=Z,52nm,19.6s,baz=150,slow=36						
	comp=Z,0.4nm,0.3s						
CASY	**Casey**	**65.07**	**195**	P	**P**	**14 33 28.8**	**-0.2**
CASY				IAmb	IAmb	14 33 29.5	
	comp=Z,6.3nm,0.8s						
CASY	**Casey**	**65.07**	**195**	P	**P**	**14 33 28.8**	**-0.2**
CASY				pP	**pP**	**14 33 37.6**	**-0.8**
MA2	**Magadan**	**65.50**	**2**	LR	LR	15 05 38.5	
	comp=Z,59nm,18.0s,baz=136,slow=39						
SEY	**Seymchan**	**68.93**	**3**	LR	LR	15 07 20.8	
	comp=Z,77nm,18.0s,baz=77,slow=39						
CCD	**Concordia, Ant**	**70.27**	**186**	P	**P**	**14 34 02.1**	**-0.1**
CCD				pP	**pP**	**14 34 10.1**	**-1.6**
CCD				sP	**sP**	**14 34 13.6**	**-1.5**
VNDA	**Vanda**	**71.90**	**177**	P	**P**	**14 34 11.5**	**-0.1**
VNDA	**Vanda**	**71.90**	**177**	P	**P**	**14 34 11.6**	**0.0**
	comp=Z,3.5nm,0.8s,baz=327,slow=6.7,SNR=34						
	comp=Z,3.5nm,0.8s						
VNDA	**Vanda**	**71.90**	**177**	P	**P**	**14 34 11.6**	**0.0**
VNDA				pP	**pP**	**14 34 19.4**	**-1.6**
VNDA				sP	**sP**	**14 34 22.9**	**-1.5**
WMQ	**Urumqi**	**72.47**	**320**	*e*P	**P**	**14 34 17.5**	**+1.8**
SBA	**Scott Base**	**72.56**	**176**	P	**P**	**14 34 16.8**	**+1.3**
M13K	**Dall Lake**	**76.99**	**23**	P	**P**	**14 34 41.9**	**+0.5**
MKAR	**Makanchi Array**	**77.18**	**321**	P	**P**	**14 34 41.3**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=95,slow=7.1,SNR=3.9						
	comp=Z,0.3nm,0.4s						
M14K	**Bethel**	**77.74**	**23**	P	**P**	**14 34 46.6**	**+1.0**
L14K	**Kuka Creek**	**77.82**	**22**	P	**P**	**14 34 47.1**	**+1.1**
O16K	**Kokwok River B**	**78.65**	**25**	P	**P**	**14 34 51.3**	**+0.6**
O16K				IAmb	IAmb	14 35 52.2	
	comp=Z,48nm,1.5s						
ZALV	**Zalesovo Beam**	**78.76**	**328**	P	**P**	**14 34 49.1**	**-2.3**
	comp=Z,0.7nm,0.4s,baz=123,slow=5.3,SNR=2.8						
ZALV				LR	LR	15 10 40.4	
	comp=Z,53nm,18.8s,baz=78,slow=36						
	comp=Z,0.7nm,0.4s						
K15K	**Wolf Creek Mou**	**78.84**	**22**	P	**P**	**14 34 52.4**	**+0.7**
KURBB	**Kurchatov Arra**	**80.94**	**323**	P	**P**	**14 35 01.7**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=118,slow=3.9,SNR=4.9						
	comp=Z,0.4nm,0.7s						
MAW	**Mawson**	**82.00**	**203**	P	**P**	**14 35 07.8**	**-0.7**
	comp=Z,2.7nm,0.9s,baz=85,slow=5.7,SNR=5.3						
	comp=Z,2.7nm,0.9s						
IMAR	**Indian Mountai**	**83.73**	**21**	P	**P**	**14 35 17.2**	**-0.3**
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**14 35 17.9**	**-0.8**
QSPA				IAmb	IAmb	14 35 19.0	
	comp=Z,9.8nm,1.0s						
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**14 35 17.7**	**-1.0**
	comp=Z,5.5nm,0.6s,baz=191,slow=1.0,SNR=52						
	comp=Z,5.5nm,0.6s						
DHY	**Denali Highway**	**84.85**	**25**	P	**P**	**14 35 24.0**	**+0.5**
DHY				IAmb	IAmb	14 35 32.9	
	comp=Z,30nm,1.6s						
WRH	**Wood River Hil**	**85.14**	**23**	P	**P**	**14 35 26.2**	**+1.5**
E22K	**Anaktuvuk Pass**	**85.45**	**19**	P	**P**	**14 35 26.3**	**0.0**
E22K				IAmb	IAmb	14 35 36.3	
	comp=Z,5.0nm,0.9s						
ILAR	**Eielson Array**	**85.74**	**23**	P	**P**	**14 35 25.8**	**-1.9**
ILAR	**Eielson Array**	**85.74**	**23**	P	**P**	**14 35 25.4**	**-2.3**
	comp=Z,3.3nm,0.8s,baz=252,slow=4.9,SNR=42						
ILAR				LR	LR	15 07 37.0	
	comp=Z,113nm,20.7s,baz=250,slow=31						
	comp=Z,3.3nm,0.8s						
SNH	**Sunshine Point**	**85.78**	**28**	P	**P**	**14 35 26.1**	**-2.0**
J25K	**Salcha River,**	**86.28**	**24**	P	**P**	**14 35 29.3**	**-1.1**
J25K				IAmb	IAmb	14 35 30.0	
	comp=Z,7.6nm,0.9s						
BVAR	**Borovoye Array**	**86.48**	**324**	P	**P**	**14 35 28.4**	**-3.2**
	comp=Z,0.4nm,0.6s,baz=112,slow=9.5,SNR=3.9						
	comp=Z,0.4nm,0.6s						
F24K	**Squaw Lake**	**86.50**	**21**	P	**P**	**14 35 32.2**	**+0.7**
BARN	**Barnard Glacie**	**86.62**	**28**	P	**P**	**14 35 31.9**	**-0.5**
J26L	**Joseph Creek**	**86.96**	**24**	P	**P**	**14 35 33.3**	**-0.5**
J26L				IAmb	IAmb	14 38 15.9	
	comp=Z,22nm,1.5s						
BCAR	**Beaver Creek A**	**87.22**	**26**	P	**P**	**14 35 35.3**	**+0.2**
E25K	**Arctic Village**	**87.55**	**20**	P	**P**	**14 35 37.8**	**+1.3**
BMAR	**Burnt Mountain**	**87.64**	**21**	P	**P**	**14 35 37.5**	**+0.5**
M29M	**Somme Creek**	**88.49**	**27**	P	**P**	**14 35 41.4**	**+0.2**
HYT	**Haines Junctio**	**88.49**	**28**	P	**P**	**14 35 41.3**	**0.0**
DAWY	**Dawson**	**88.54**	**25**	P	**P**	**14 35 41.5**	**+0.1**
DAWY				IAmb	IAmb	14 35 42.9	
	comp=Z,8.9nm,1.1s						
I28M	**Miner Creek**	**88.73**	**24**	P	**P**	**14 35 42.4**	**+0.1**
I28M				IAmb	IAmb	14 35 43.5	
	comp=Z,7.1nm,1.1s						
E27K	**Coleen River**	**88.96**	**21**	P	**P**	**14 35 43.3**	**0.0**
E27K				IAmb	IAmb	14 38 23.3	
	comp=Z,7.8nm,0.8s						
K29M	**Barlow Dome**	**89.28**	**25**	P	**P**	**14 35 44.8**	**-0.1**
D27M	**Malcolm River**	**89.52**	**20**	P	**P**	**14 35 46.2**	**+0.3**
H29M	**Whitestone**	**89.57**	**23**	P	**P**	**14 35 46.2**	**+0.1**
J30M	**Hart River**	**89.97**	**25**	P	**P**	**14 35 48.9**	**+0.8**
J30M				IAmb	IAmb	14 35 58.9	
	comp=Z,26nm,1.9s						
BBB	**Bella Bella**	**91.93**	**38**	LR	LR	15 10 07.0	
	comp=Z,66nm,19.8s,baz=216,slow=31						
ELIB	**Princess Elisa**	**94.01**	**195**	*d*P	**P**	**14 36 04.3**	**-2.5**
	comp=Z,3.5nm,1.0s						
YBH	**Yreka Blue Hor**	**94.61**	**49**	LR	LR	15 09 51.8	
	comp=Z,78nm,21.8s,baz=234,slow=30						
NEW	**Newport**	**98.76**	**42**	LR	LR	15 15 15.1	
	comp=Z,47nm,18.9s,baz=275,slow=32						
KIRV	**Kirov**	**98.79**	**328**	LR	LR	15 20 43.7	
	comp=Z,65nm,21.6s,baz=73,slow=35						
LPAZ	**La Paz**	**139.22**	**123**	PKP	**PKPdf**	**14 42 16.7**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=273,slow=2.5,SNR=5.9						
TORD	**Torodi Ar. Bea**	**144.57**	**284**	PKP	**PKPab**	**14 42 24.1**	**-0.9**
	comp=Z,5.5nm,0.8s,baz=60,slow=3.9,SNR=31						
KIC	**Kosan Boka**	**151.36**	**272**	⇓*i*PKP1	**PKPbc**	**14 42 43.7**	**0.0**
	comp=Z,21nm,0.9s						
DBIC	**Dimbokro**	**151.47**	**273**	PKPbc	**PKPbc**	**14 42 43.4**	**-0.6**
	comp=Z,7.7nm,0.8s,baz=129,slow=1.1,SNR=10						
TIC	**Toumodi**	**151.64**	**273**	⇓*i*PKP1	**PKPbc**	**14 42 42.5**	**-1.9**
	comp=Z,8.2nm,0.3s						
LIC	**Lamto**	**151.64**	**272**	⇑*e*PKP1	**PKPbc**	**14 42 43.7**	**-0.7**
	comp=Z,7.7nm,0.3s						
BDFB	**Brasilia**	**154.13**	**147**	PKPbc	**PKPbc**	**14 42 48.6**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=194,slow=4.2,SNR=3.8						

GCG ***30*** *14:27:52.0±2.0, 13°.51N×92°.35W, h95km±77km, MD4.4*
SNET ***30*** *14:27:58.7±1.0, 13°.81N×92°.03W, h31km±8km, ML4.5*
NEIC ***30*** *14:28:00.5±2.8, 13°.95N±0°.05×92°.01W±0°.05, h35km±2km, mb4.5/106, Md4.4/14(MEX), Error ellipse: s-maj=9.2km s-min=7.4km az=215.0*
IDC ***30*** *14:28:02.0±5.9, 14°.20N×91°.34W, h50km±52km, mb3.9/7, mbtmp4.2/8, ML4.4/1, MS3.5/22, Error ellipse: s-maj=48.2km s-min=23.1km az=53.0*

ISC 30 14:28:00.1±0.6, 13°.93N±0°.06×92°.05W±0°.04, h35km±7km, n429, σ1§48/382, mb4.5/51, MS3.4/18, 1C-3D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.60**	**52**	⇓*i*P	**Pn**	**14 28 13.4**	**+1.1**
SULM				*e*S	Sn	14 28 30.8	+10
RTAL	**Retalhuleu**	**0.69**	**30**	Pn	**Pn**	**14 28 13.1**	**-0.3**
RTAL				Sn	**Sn**	**14 28 22.9**	**0.0**
RTAL	**Retalhuleu**	**0.69**	**30**	*e*P	**Pn**	**14 28 13.1**	**-0.3**
RTAL				*e*S	**Sn**	**14 28 24.9**	**+2.0**
STG3	**Santiaguito 3,**	**0.91**	**31**	⇓*e*P	**Pn**	**14 28 16.3**	**-0.3**
STG3				*e*S	Sn	14 28 41.6	+13
THIG		**0.99**	**348**		**Pn**	**14 28 16.9**	**-0.7**
THIG					**Sn**	**14 28 31.4**	**+1.0**
FUG	**Fuego 3**	**1.28**	**66**	⇓*e*P	**Pn**	**14 28 21.4**	**-0.4**
FUG				*e*S	**Sn**	**14 28 44.5**	**+6.6**
PCG	**Pacaya**	**1.48**	**72**	⇑*e*P	**Pn**	**14 28 24.4**	**-0.1**
HUEH	**Huehuetenango**	**1.48**	**21**		**Pn**	**14 28 25.0**	**+0.5**
HUEH	**Huehuetenango**	**1.48**	**21**	*e*P	**Pn**	**14 28 25.2**	**+0.7**
NBG	**Las Nubes**	**1.78**	**68**	*e*P	**Pn**	**14 28 29.9**	**+1.3**
NBG				*e*S	**Sn**	**14 28 51.3**	**+1.0**
PCIG		**2.09**	**328**		**Pn**	**14 28 31.4**	**-1.3**
PCIG					**Sn**	**14 28 54.9**	**-2.7**
SLOZ	**Alcaldia de Sa**	**2.21**	**87**	*e*P	**Pn**	**14 28 32.9**	**-1.5**
NUBE	**Las Nubes**	**2.21**	**90**	*e*P	**Pn**	**14 28 32.6**	**-1.8**
NUBE				*e*S	**Sn**	**14 28 59.4**	**-1.2**
CEVE	**Cerro Verde**	**2.36**	**92**	*e*P	**Pn**	**14 28 36.0**	**-0.7**
JAYA	**Jayaque - finc**	**2.55**	**96**	*e*P	**Pn**	**14 28 38.2**	**-0.9**
CEDA	**San Andres**	**2.59**	**92**	*e*S	**Sn**	**14 29 10.2**	**+0.4**
CEDA				IAML		14 29 18.3	
	comp=Z,2μm,0.3s						
MTO3	**Montecristo**	**2.65**	**80**	Pn	**

ROSC	El Rosal	19.67 116	LR	LR	14 40 44.3
	comp=Z,75nm,18.3s,baz=132,slow=40				
SGCY	Sterling City	19.74 337		Pn	14 32 28.6 0.0
SGCY			IAmb	IAmb	14 32 29.6
	comp=Z,13nm,0.9s				
PRAC	Prado	19.75 119	eP	Pn	14 32 30.0 +1.1
ABTX	Abilene, Hawle	19.86 341	P	Pn	14 32 30.3 +0.2
	baz=158				
MNHN	Monahans	19.93 332	P	Pn	14 32 31.1 +0.2
MNHN			IAmb	IAmb	14 32 33.1
	comp=Z,28nm,0.8s				
PAMC	Pamplona, Colo	20.11 107	eP	P	14 32 32.2 +0.6
RUSC	La Rusia	20.31 111	eP	P	14 32 34.4 +0.6
PECS	Pecos	20.47 330	IAmb	IAmb	14 32 38.1
	comp=Z,9.4nm,0.8s				
ODSA	Odessa	20.50 334	IAmb	IAmb	14 32 37.5
	comp=Z,21nm,0.8s				
MIAR	Mount Ida	20.57 356	P	P	14 32 36.5 +0.5
MIAR			IAmb	IAmb	14 32 58.2
	comp=Z,29nm,1.4s				
MIAR	Mount Ida	20.57 356	P	Pn	14 32 37.3 -1.1
	baz=176				
OXF	Oxford	20.63 6	P	P	14 32 36.8 +0.2
	baz=187				
APMT	Aspermont	20.66 341	IAmb	IAmb	14 32 40.0
	comp=Z,13nm,0.7s				
POST	Post	20.91 337	IAmb	IAmb	14 32 41.6
	comp=Z,22nm,0.9s				
GOGA	Godfrey	20.91 20	P	P	14 32 39.3 -0.3
	baz=204				
MNTX	Cornudas Mount	21.50 328	IAmb	IAmb	14 32 48.6
	comp=Z,16nm,0.9s				
MNTX	Cornudas Mount	21.50 328	P	P	14 32 47.4 +1.4
	baz=142,SNR=23				
SDV	Santo Domingo	21.58 101	LR	LR	14 42 27.8
	comp=Z,99nm,18.4s,baz=284,slow=41				
WMOK	Wichita Mounta	21.59 345	P	P	14 32 49.2 +2.2
	baz=162				
NHSC	New Hope	21.94 28	P	P	14 32 48.7 -2.0
	baz=212				
TUL3	Leonard	22.14 352	P	P	14 32 53.1 +0.2
	baz=170				
MSTX	Muleshoe	22.20 336	IAmb	IAmb	14 32 56.1
	comp=Z,18nm,1.1s				
MSTX	Muleshoe	22.20 336	P	P	14 32 54.6 +1.1
	baz=151				
V48A	Smith Brothers	22.22 11	P	P	14 32 52.3 -1.4
SMWD	Samnorwood	22.34 342	IAmb	IAmb	14 32 57.7
	comp=Z,42nm,0.7s				
AMTX	Amarillo	22.60 339	IAmb	IAmb	14 33 10.0
	comp=Z,22nm,0.8s				
AMTX	Amarillo	22.60 339	P	P	14 32 58.7 +0.8
	baz=155				
PBMO	Poplar Bluff	22.80 3	IAmb	IAmb	14 32 59.6
	comp=Z,10nm,0.8s				
TKL	Tuckaleechee C	22.88 18	LR	LR	14 43 13.1
	comp=Z,134nm,18.8s,baz=194,slow=41				
U49A	Red Boiling Sp	23.18 13	P	P	14 33 02.4 -1.4
U49A			IAmb	IAmb	14 33 04.3
	comp=Z,11nm,0.9s				
T47A	Sharon Grove	23.39 10	IAmb	IAmb	14 33 04.9
	comp=Z,16nm,0.8s				
121A	Cookes Peak, D	23.44 325	IAmb	IAmb	14 33 10.9
	comp=Z,20nm,0.9s				
121A	Cookes Peak, D	23.44 325	P	P	14 33 09.0 +2.5
	baz=139,SNR=14				
319A	Douglas	23.48 321	P	P	14 33 08.1 +1.2
319A			IAmb	IAmb	14 33 10.4
	comp=Z,27nm,1.3s				
TZTN	Tazewell	23.77 17	P	P	14 33 08.3 -1.2
	baz=201				
S44A	Carbondale	23.80 6	P	P	14 33 08.1 -1.6
CCM	Cathedral Cave	24.04 2	P	P	14 33 11.1 -0.9
	baz=182				
ANMO	Albuquerque	24.64 331	P	P	14 33 19.1 +1.4
ANMO	Albuquerque	24.64 331	P	P	14 33 19.3 +1.6
	baz=145				
WCI	Wyandotte Cave	24.74 11	P	P	14 33 17.5 -0.8
	baz=193				
ATAH	Atahualpa	24.94 146	LR	LR	14 41 49.4
	comp=Z,109nm,18.1s,baz=71,slow=33				
TUC	Tucson	25.06 320	P	P	14 33 23.7 +2.3
	baz=133				
SJG	San Juan	25.23 77	LR	LR	14 43 07.6
	comp=Z,112nm,20.4s,baz=284,slow=37				
KSU1	Kansas State U	25.39 352	P	P	14 33 25.8 +1.6
	baz=170				
BLA	Blacksburg	25.41 22	P	P	14 33 23.3 -1.2
	baz=207				
T25A	Trinidad	25.61 337	IAmb	IAmb	14 33 31.0
	comp=Z,13nm,1.1s				
T25A	Trinidad	25.61 337	P	P	14 33 28.6 +2.1
	baz=151				
CBKS	Cedar Bluff	25.70 346	P	P	14 33 28.0 +0.9
	baz=162				
214A	Organ Pipe Nat	26.13 317	P	P	14 33 33.6 +2.5
	baz=129				
SDCO	Great Sand Dun	26.57 336	P	P	14 33 37.3 +2.1
	baz=150				
SFIN	Lafayette	26.71 8	P	P	14 33 35.4 -0.7
	baz=191				
O48B	Farmland	26.92 12	P	P	14 33 38.1 +0.1
	baz=195				
P52A	Corning	27.05 17	P	P	14 33 39.6 +0.4
	baz=201				
S22A	4UR Ranch, Cre	27.12 334	P	P	14 33 42.7 +2.5
	baz=147				
ACSO	Alum Creek Sta	27.39 15	P	P	14 33 42.7 +0.5
	baz=199				
MVCO	Mesa Verde	27.44 331	IAmb	IAmb	14 33 46.4
	comp=Z,14nm,0.9s				
MVCO	Mesa Verde	27.44 331	P	P	14 33 45.3 +2.3
	baz=143,SNR=8.3				
WUAZ	Wupatki	27.64 324	P	P	14 33 47.6 +2.8
	baz=136				
OGNE	Ogallala	28.29 344	P	P	14 33 50.8 +0.4
	baz=159				
ISCO	Idaho Springs	28.39 338	P	P	14 33 54.4 +2.7
	baz=151				
PDMCI	Parker Dam,Lak	28.48 319	P	P	14 33 53.8 +1.7
	baz=130				
BC3	Big Chuckawall	28.93 317	P	P	14 33 59.1 +2.9
	baz=127				
M53A	WI Miller and	29.14 18	P	P	14 33 56.6 -1.3
	baz=203				
SSPA	Standing Stone	29.35 22	P	P	14 33 58.8 -1.0
	baz=209				
N23A	Red Feather La	29.48 338	P	P	14 34 02.1 +0.9
	baz=152				
BELC	Belle Mtn. Jos	29.50 317	P	P	14 34 04.1 +2.8
	baz=127				
TPFO	Pinon Flats	29.57 316	P	P	14 34 04.4 +2.5
	baz=126				
PFO	Pinyon Flats O	29.58 316	LR	LR	14 45 52.8
	comp=Z,61nm,21.0s,baz=140,slow=36				
GMRC	Granite Mounta	29.75 318	P	P	14 34 06.1 +2.6
	baz=128				
NNA	Nana	29.84 149	LR	LR	14 43 45.8
	comp=Z,77nm,20.0s,baz=346,slow=32				
V12A	Nelson	29.84 321	IAmb	IAmb	14 34 07.5
	comp=Z,8.8nm,0.9s				
ERPA	Erie	29.97 18	P	P	14 34 04.7 -0.5
	baz=204				
SZCU	Shurtz Canyon	30.10 325	IAmb	IAmb	14 34 10.2
	comp=Z,6.4nm,0.8s				
CCUT	Cedar City	30.22 325	IAmb	IAmb	14 34 11.5
	comp=Z,6.4nm,0.9s				
MVU	Marysvale	30.29 328	IAmb	IAmb	14 34 32.6
	comp=Z,7.3nm,1.0s				
P17A	Butcher Ranch,	30.30 331	IAmb	IAmb	14 34 11.1
	comp=Z,5.7nm,0.8s				
TUQ	Turquoise Moun	30.33 319	P	P	14 34 11.2 +2.5
	baz=129				
TMUT	Trail Mountain	30.39 330	IAmb	IAmb	14 34 13.6
	comp=Z,8.3nm,1.2s				
BFSC	Mount Baldy Ra	30.75 316	P	P	14 34 14.9 +2.5
	baz=125				
FMP	Fort Macarthur	30.90 314	P	P	14 34 16.5 +3.0
	baz=123				
K22A	Casper	31.23 339	P	P	14 34 18.6 +2.0
	baz=152				
EDW2	Edwards Air Fo	31.35 316	P	P	14 34 20.7 +3.2
	baz=125				
BINY	Binghamton	31.42 23	P	P	14 34 17.6 -0.5
	baz=211				
LRMC	Laurel Mtn Rad	31.49 317	P	P	14 34 22.0 +3.1
	baz=126				
TPNV	Topopah Spring	31.50 321	P	P	14 34 21.5 +2.5
	baz=130				
S11A	Rachel	31.65 323	IAmb	IAmb	14 34 24.7
	comp=Z,9.3nm,0.9s				
MPMC	Manual Prospec	31.71 319	P	P	14 34 23.3 +2.4
	baz=128,SNR=5.0				
RSSD	Black Hills	31.79 344	P	P	14 34 22.6 +1.2
	baz=158				
DUG	Dugway, Tooele	31.87 329	P	P	14 34 24.5 +2.3
	baz=139				
TCUT	Toone Canyon	31.91 332	IAmb	IAmb	14 34 25.5
	comp=Z,8.6nm,0.9s				
R11B	Troy Canyon, C	32.03 324	P	P	14 34 25.7 +2.0
	baz=133				
GRAC	Grapevine Rang	32.21 320	P	P	14 34 28.2 +3.1
	baz=129				
SBC	Santa Barbara	32.28 314	P	P	14 34 27.7 +2.1
	baz=122				
CWC	Cottonwood Cre	32.32 319	P	P	14 34 28.3 +2.0
	baz=127				
HWUT	Hardware Ranch	32.37 332	IAmb	IAmb	14 34 29.6
	comp=Z,5.5nm,0.9s				
BW06	Boulder Array	32.46 336	P	P	14 34 28.6 +1.2
	baz=147				
PDAR	Pinedale Array	32.46 336	P	P	14 34 28.3 +0.8
	comp=Z,1.2nm,0.9s,baz=142,slow=9.5,SNR=5.9				
PDAR			PcP	PcP	14 37 13.7 -0.4
	comp=Z,0.4nm,0.5s,baz=101,slow=3.8,SNR=4.3				
PDAR			LR	LR	14 51 11.2
	comp=Z,45nm,20.0s,baz=148,slow=43				
	comp=Z,1.2nm,0.9s				
SMMC	Simmler	32.95 315	P	P	14 34 34.3 +2.7
	baz=123				
L61B	Northampton	32.99 27	P	P	14 34 30.5 -1.2
	baz=216				
BOAV	Boa Vista	33.19 107	P	P	14 34 31.9 -2.0
HRV	Adam Dziewonsk	33.53 28	P	P	14 34 36.2 -0.3
	baz=218				
NV11	Mina Array Sit	33.60 321	IAmb	IAmb	14 34 41.1
	comp=Z,8.7nm,0.9s				
NVAR	Mina Array Bea	33.69 321	P	P	14 34 41.0 +2.7
	comp=Z,5.9nm,0.7s,baz=133,slow=8.4,SNR=49				
NVAR			PcP	PcP	14 37 18.7 +1.1
	comp=Z,0.7nm,0.7s,baz=122,slow=4.4,SNR=4.7				
	comp=Z,5.9nm,0.7s				
LHV	Little Huntoon	33.70 321	IAmb	IAmb	14 34 42.1
	comp=Z,6.5nm,0.8s				
KVN	Kaiserville	33.97 322	IAmb	IAmb	14 34 44.0
	comp=Z,6.1nm,1.0s				
LONY	Lake Ozonia	34.02 23	P	P	14 34 40.6 -0.1
	baz=211				
RLMT	Red Lodge	34.35 338	P	P	14 34 45.0 +1.1
	baz=149				
YERR	Yerington	34.61 321	IAmb	IAmb	14 34 49.1
	comp=Z,4.9nm,1.0s				
LAO	LASA Array	34.76 343	P	P	14 34 48.2 +1.1
	baz=155				
EMB	Emerald Bay	35.13 320	P	P	14 34 52.7 +2.0
EMB			IAmb	IAmb	14 34 56.6
	comp=Z,5.5nm,0.7s				
HLID	Hailey	35.21 331	IAmb	IAmb	14 34 55.7
	comp=Z,4.8nm,0.8s				
HLID	Hailey	35.21 331	P	P	14 34 53.1 +1.9
	baz=140,SNR=7.6				
BOZ	Bozeman (W)	35.65 336	P	P	14 34 56.2 +1.3
	baz=146				
MFID	Camas Ranch	35.77 330	IAmb	IAmb	14 35 01.0
	comp=Z,3.9nm,0.9s				
DGMT	Dagmar	35.88 346	P	P	14 34 58.0 +1.3
	baz=160				
ELMT	Elliston	36.75 336	P	P	14 35 05.3 +0.9
EGMT	Eagleton	37.04 340	P	P	14 35 08.1 +1.4
	baz=151				
PLID	Pearl Lake	37.11 332	P	P	14 35 08.1 +0.5
PLID			IAmb	IAmb	14 35 09.4
	comp=Z,9.2nm,1.1s				
BMO	Blue Mountains	37.55 330	IAmb	IAmb	14 35 12.7
	comp=Z,6.6nm,1.3s				
MSO	Missoula	37.58 335	P	P	14 35 12.8 +1.4
	baz=144				
LPAZ	La Paz	38.21 141	P	P	14 35 16.1 -1.5
	comp=Z,0.7nm,0.6s,baz=309,slow=11,SNR=3.7				
LPAZ			LR	LR	14 50 38.1
	comp=Z,38nm,19.0s,baz=304,slow=36				
	comp=Z,0.7nm,0.6s				
YBH	Yreka Blue Hor	38.39 322	LR	LR	14 53 46.6
	comp=Z,104nm,18.2s,baz=178,slow=40				
MDP	Montagnes des	39.79 99	LR	LR	14 52 16.3
	comp=Z,65nm,20.0s,baz=314,slow=37				
H04A	Detroit Lake	39.94 326	IAmb	IAmb	14 35 35.0
	comp=Z,8.4nm,0.8s				
NEW	Newport	40.04 334	LR	LR	14 56 19.0
	comp=Z,53nm,21.4s,baz=161,slow=42				
LVC	Limon Verde	42.81 148	LR	LR	14 50 53.5
	comp=Z,48nm,20.0s,baz=326,slow=32				
SCHQ	Schefferville	45.31 20	LR	LR	14 55 14.5
	comp=Z,112nm,18.1s,baz=236,slow=36				
YKA	Yellowknife Ar	51.08 347	P	P	14 36 58.2 -0.6
	comp=Z,2.1nm,0.6s,baz=150,slow=7.0,SNR=12				
YKA			PcP	PcP	14 38 14.2 -0.1
	comp=Z,2.4nm,0.9s,baz=166,slow=3.6,SNR=4.4				
	comp=Z,2.1nm,0.6s				
V35K	Ketchikan	51.39 332	P	P	14 37 02.5 +1.3
	baz=128				
T35M	Bob Quinn	51.83 334	P	P	14 37 06.3 +1.7
	baz=130				
CPUP	Villa Florida	52.36 140	LR	LR	14 58 47.8
	comp=Z,51nm,18.1s,baz=339,slow=35				
FRB	Frobisher Bay	52.39 13	LR	LR	14 59 48.7
	comp=Z,40nm,18.8s,baz=236,slow=37				
DLBC	Dease Lake	52.70 336	P	P	14 37 12.9 +1.8
DLBC	Dease Lake	52.70 336	P	P	14 37 12.7 +1.6
	baz=131,SNR=7.4				
S34M	Telegraph Cree	52.80 335	P	P	14 37 13.3 +1.5
	baz=130				
WTLY	Watson Lake, Y	53.37 338	P	P	14 37 17.0 +1.0
	baz=134				
R33M	Jennings River	53.70 336	P	P	14 37 19.6 +1.1
R33M			IAmb	IAmb	14 37 21.1
	comp=Z,5.0nm,0.9s				
R33M	Jennings River	53.70 336	P	P	14 37 19.7 +1.1
	baz=131				
Q32M	Nakina River	53.93 336	P	P	14 37 22.1 +1.8
Q32M			IAmb	IAmb	14 37 23.4
	comp=Z,7.1nm,1.0s				
Q32M	Nakina River	53.93 336	P	P	14 37 22.2 +1.9
	baz=129				
WRGLY	Wrigley	53.95 343	P	P	14 37 22.0 +1.9
	baz=141				
S32K	Kilisnoo	53.99 333	P	P	14 37 22.4 +2.0
	baz=126				
TGTN	Hyland Airport	54.17 340	P	P	14 37 23.7 +1.8
	baz=135				
P32M	Atlin	54.90 336	P	P	14 37 28.7 +1.5
	baz=128				
P33M	Teslin, Yukon	54.94 337	P	P	14 37 29.3 +1.8
	baz=129				
S31K	Pelican	55.00 333	P	P	14 37 29.9 +2.1
	baz=124				
SKAG	Skagway	55.48 335	P	P	14 37 33.2 +2.0
	baz=126				
N32M	Quiet Lake	55.64 337	P	P	14 37 34.0 +1.5
	baz=129				
PLBC	Pleasant Camp	55.91 334	P	P	14 37 35.6 +1.3
	baz=125				
MMPY	Sheldon Lake,	55.95 339	P	P	14 37 36.3 +1.7
	baz=132,SNR=8.3				
WHY	Whitehorse	56.02 336	P	P	14 37 36.3 +1.0
	baz=127				
FARO	Faro, Yukon	56.42 338	P	P	14 37 39.3 +1.3
	baz=130				
P30M	Million Dollar	56.54 335	P	P	14 37 40.6 +1.7
	baz=125				
O30N	Mendenhall	56.56 336	IAmb	IAmb	14 37 41.3
	comp=Z,7.3nm,1.0s				
O30N	Mendenhall	56.56 336	P	P	14 37 40.7 +1.6
	baz=126				
P29M	Windy Craggy	56.59 334	P	P	14 37 40.4 +1.2
	baz=124				
M31M	Drury Creek, Y	56.79 338	P	P	14 37 41.9 +1.3
	baz=129				
N31M	Braeburn, Yuko	56.87 337	P	P	14 37 42.9 +1.7
	baz=127				
O29M	Mount Kennedy	57.31 335	P	P	14 37 46.6 +2.2
	baz=123				
PNL	Peninsula	57.31 334	P	P	14 37 46.2 +1.8
	baz=122				
N30M	Aishikik Lake	57.36 336	IAmb	IAmb	14 37 47.2
	comp=Z,6.4nm,1.0s				
N30M	Aishikik Lake	57.36 336	P	P	14 37 46.9 +2.2
	baz=125				
YUK6	Outpost Mounta	57.58 335	P	P	14 37 48.1 +1.7
	baz=124				
M30M	Minto, Yukon	57.90 337	P	P	14 37 49.8 +1.3
	baz=126				
PINM	Pinnacle	57.91 334	P	P	14 37 50.4 +1.8
	baz=121				
YUK4	Talbot Arm	57.91 336	P	P	14 37 50.0 +1.2
	baz=124				
MAYO	Mayo, Yukon	58.19 339	P	P	14 37 52.3 +1.8
	baz=128				
O28M	Mount Upton	58.23 335	P	P	14 37 52.8 +1.6
	baz=122				
YUK8	Steele Glacier	58.33 335	P	P	14 37 53.4 +1.6
	baz=122				
M29M	Somme Creek	58.46 337	P	P	14 37 54.0 +1.5
	baz=124,SNR=12				
MESA	MESA	58.68 333	P	P	14 37 55.2 +1.1
	baz=120				
L29M	L29M	58.71 337	IAmb	IAmb	14 37 56.3
	comp=Z,6.1nm,1.1s				
L29M	L29M	58.71 337	P	P	14 37 54.8 +0.7
	baz=125				
YUK3	Moose Creek	58.88 335	P	P	14 37 57.5 +2.0
	baz=122				
K29M	Barlow Dome	58.92 338	P	P	14 37 57.0 +1.3
	baz=126				
J30M	Hart River	58.95 339	P	P	14 37 56.2 +0.4
J30M			IAmb	IAmb	14 37 59.2
	comp=Z,3.2nm,0.8s				
J30M	Hart River	58.95 339	P	P	14 37 56.3 +0.5
	baz=128				
C36M	Paulatuk	58.95 347	P	P	14 37 57.5 +1.9
	baz=143				
H31M	Peel River	59.07 341	P	P	14 37 57.7 +1.1
	baz=130				
RCBR	Riachuelo	59.07 106	LR	LR	15 04 01.5
	comp=Z,34nm,18.6s,baz=78,slow=37				
BGLC	Bering Glacier	59.24 333	P	P	14 37 59.3 +1.6
	baz=118				
I30M	Mount Dempster	59.36 340	P	P	14 37 58.7 0.0
I30M	Mount Dempster	59.36 340	P	P	14 37 59.3 +0.6
	baz=128				
SFJD	Kangerlussuaq	59.60 18	LR	LR	15 03 26.1
	comp=Z,56nm,20.9s,baz=222,slow=36				
KAIM	Kayak Island	59.65 332	P	P	14 38 02.0 +1.3
	baz=117				
DAWY	Dawson	59.72 338	P	P	14 38 02.2 +1.1
	baz=124				
M27K	Edge Creek, AK	59.75 336	P	P	14 38 03.0 +1.5
	baz=121				
G31M	Satah River	59.78 342	P	P	14 38 02.2 +0.8
	baz=131				
F31M	Tsiigehtchic	59.97 343	P	P	14 38 03.1 +0.5
	baz=132				
I29M	Ogilvie Camp,	60.09 340	IAmb	IAmb	14 38 04.8
	comp=Z,3.4nm,0.8s				
I29M	Ogilvie Camp,	60.09 340	P	P	14 38 03.6 0.0
	baz=126				
L27K	Beaver Creek,	60.10 336	IAmb	IAmb	14 38 06.0
	comp=Z,5.4nm,0.8s				
L27K	Beaver Creek,	60.10 336	P	P	14 38 05.1 +1.4
	baz=121				
EPYK	Eagle Plains	60.18 341	P	P	14 38 04.6 +0.4
	baz=128				
BMRM	Bremner River	60.21 333	P	P	14 38 05.6 +1.1
	baz=117				
M26K	Nabesna, AK	60.22 335	P	P	14 38 05.6 +1.0
	baz=120				
Q23K	Middleton Isla	60.31 331	P	P	14 38 05.5 +0.3
	baz=115				
G30M	tAoh Zraii Nji	60.41 342	P	P	14 38 06.5 +0.7
	baz=129				
INK	Inuvik	60.49 344	P	P	14 38 07.2 +1.0
	baz=132				
N25K	Chitina, Valde	60.50 334	P	P	14 38 07.6 +1.0
	baz=118				
EYAK	Cordova Ski Ar	60.52 333	P	P	14 38 08.5 +1.9
	baz=116				
H29M	Whitestone	60.62 340	P	P	14 38 07.6 +0.5
	baz=126				
L26K	Log Cabin Wild	60.67 336	P	P	14 38 08.7 +1.0
	baz=120				
F30M	Barrier River	60.68 342	P	P	14 38 08.1 +0.5
	baz=130				
K27K	Chicken	60.70 337	P	P	14 38 09.3 +1.6
	baz=121				
I28M	Miner Creek	60.70 339	P	P	14 38 09.4 +1.5
	baz=124				
EGAK	Eagle	60.76 338	P	P	14 38 08.7 +0.6
	baz=123				
G29M	Pine Creek	60.92 341	P	P	14 38 10.0 +0.8
	baz=127				
KLU	Klutina	61.02 334	P	P	14 38 12.0 +1.9
	baz=116				
P23K	Montague Islan	61.04 332	P	P	14 38 12.3 +2.2
	baz=114				
HARP	HAARP	61.11 335	P	P	14 38 12.6 +2.0
	baz=118				
GLI	Glacier Island	61.27 333	P	P	14 38 13.9 +2.3
	baz=115				
I27K	Kandik River	61.37 339	P	P	14 38 13.9 +1.6
	baz=123				
SCRK	Sand Creek	61.40 337	P	P	14 38 13.9 +1.2
	baz=119				
M24K	Tolsona, Glenn	61.40 334	P	P	14 38 14.4 +1.8
	baz=116				
J26L	Joseph Creek	61.50 337	P	P	14 38 14.3 +1.0
	baz=120				
PAX	Paxson	61.50 335	P	P	14 38 14.6 +1.3
	baz=118				
H27K	Steamboat Moun	61.68 340	P	P	14 38 15.6 +1.2
	baz=123				
I26K	Coal Creek Min	61.76 338	P	P	14 38 16.2 +1.3
	baz=121				
SCM	Sheep Creek Mo	61.77 334	P	P	14 38 16.3 +1.1
	baz=115				
E29M	Blow River	61.79 342	P	P	14 38 15.2 +0.2
E29M			IAmb	IAmb	14 38 16.1
	comp=Z,4.2nm,0.9s				
E29M	Blow River	61.79 342	P	P	14 38 16.2 +1.2
	baz=128				
PWL	Port Wells	61.81 332	P	P	14 38 16.7 +1.4
	baz=114				
F28M	Old Crow	61.92 341	P	P	14 38 16.9 +0.9
	baz=125,SNR=16				
G27K	Doyon Strip	62.04 340	P	P	14 38 17.1 +0.3
	baz=123				
KNK	Knik Glacier	62.09 333	P	P	14 38 18.4 +1.2
	baz=114				
SML	Sawmill	62.19 333	P	P	14 38 19.3 +1.4
	baz=114				
J25K	Salcha River,	62.23 337	IAmb	IAmb	14 38 21.4
	comp=Z,3.9nm,0.8s				
J25K	Salcha River,	62.23 337	P	P	14 38 19.0 +0.8
	baz=118				
WAT6	Susitna Watana	62.26 334	P	P	14 38 19.3 +0.8
	baz=115				
DHY	Denali Highway	62.32 335	P	P	14 38 19.6 +0.6
	baz=116				
E28M	Babbage River	62.40 342	P	P	14 38 19.8 +0.6
	baz=126				
D28M	Stokes Point	62.60 343	P	P	14 38 21.2 +0.7
	baz=127				
WAT1	Susitna Watana	62.71 334	P	P	14 38 22.9 +1.6
	baz=114				
PRP	Porcupine Dome	62.72 338	IAmb	IAmb	14 38 22.8
	comp=Z,5.5nm,0.8s				
PRP	Porcupine Dome	62.72 338	P	P	14 38 22.3 +0.8
	baz=119,SNR=6.0				
KDAK	Kodiak Island	62.75 328	P	P	14 38 22.9 +1.3
	baz=108				
E27K	Coleen River	62.78 341	P	P	14 38 22.2 +0.5
E27K	Coleen River	62.78 341	P	P	14 38 22.7 +1.0
	baz=124,SNR=7.3				
G26K	Porcupine Rive	62.83 340	P	P	14 38 22.9 +0.9
	baz=121				
IL31		62.88 337	IAmb	IAmb	14 38 24.2
	comp=Z,7.4nm,1.1s				
ILAR	Eielson Array	62.88 337	P	P	14 38 22.8 +0.3
	comp=Z,5.5nm,1.0s,baz=127,slow=5.0,SNR=25				
ILAR			PcP	PcP	14 38 59.8 -0.6
	comp=Z,0.3nm,0.7s,baz=150,slow=2.1,SNR=5.1				
	comp=Z,5.5nm,1.0s				
H25L	Birch Creek	63.19 339	P	P	14 38 25.2 +0.7
	baz=119				
D27M	Malcolm River	63.19 342	P	P	14 38 24.8 +0.3

D27M			IAmb	IAmb	14 38 25.9	
	comp=Z,4.1nm,0.8s					
D27M	**Malcolm River**	**63.19 342**	P	**P**	**14 38 25.3**	**+0.8**
	baz=125					
MCK	**McKinley**	**63.24 335**	P	**P**	**14 38 26.2**	**+1.3**
	baz=114					
POKR	**Poker Plat Res**	**63.25 337**	P	**P**	**14 38 25.5**	**+0.6**
	baz=116					
CUT	**Chulitna**	**63.27 334**	P	**P**	**14 38 26.4**	**+1.4**
	baz=112					
COLA	**College**	**63.30 337**	P	**P**	**14 38 26.0**	**+0.8**
	baz=116					
F26K	**Sheenjek River**	**63.33 340**	P	**P**	**14 38 26.1**	**+0.7**
	baz=121					
O20K	**Slope Mountain**	**63.50 331**	P	**P**	**14 38 28.1**	**+1.4**
	baz=109					
G25K	**Bearman Lake**	**63.53 339**	P	**P**	**14 38 27.5**	**+0.8**
	baz=119					
NEA2	**Nenana**	**63.65 336**	P	**P**	**14 38 29.0**	**+1.4**
	baz=115					
P19K	**Oil Pt**	**63.66 330**	P	**P**	**14 38 28.9**	**+1.3**
	baz=108					
SKT	**Skwentna**	**63.66 333**	P	**P**	**14 38 28.8**	**+1.2**
	baz=111					
TRF	**Thorofare Moun**	**63.68 335**	P	**P**	**14 38 28.7**	**+0.7**
	baz=113					
N20K	**Mount Spurr**	**63.69 332**	P	**P**	**14 38 28.5**	**+0.6**
	baz=110					
SPCR	**Spurr Chakacha**	**63.69 332**	P	**P**	**14 38 28.3**	**+0.3**
	baz=110					
H24K	**Noodor Dome**	**63.74 338**	IAmb	IAmb	14 38 29.5	
	comp=Z,6.3nm,0.8s					
H24K	**Noodor Dome**	**63.74 338**	P	**P**	**14 38 29.2**	**+1.1**
	baz=116					
F25K	**Christian Rive**	**63.78 340**	P	**P**	**14 38 29.6**	**+1.3**
	baz=119					
CHIR	**Chirikof Islan**	**63.81 326**	P	**P**	**14 38 30.5**	**+1.8**
	baz=104					
G24K	**Hadweenzic Riv**	**63.98 339**	P	**P**	**14 38 30.5**	**+0.8**
	baz=117					
I23K	**Minto, Yukon-K**	**64.00 337**	P	**P**	**14 38 30.7**	**+1.0**
	baz=115,SNR=8.0					
E25K	**Arctic Village**	**64.01 340**	IAmb	IAmb	14 38 31.6	
	comp=Z,5.0nm,0.8s					
E25K	**Arctic Village**	**64.01 340**	P	**P**	**14 38 31.0**	**+1.1**
	baz=120,SNR=6.0					
BPAW	**Bear Paw Mtn.**	**64.22 335**	P	**P**	**14 38 32.3**	**+1.0**
	baz=112					
M20K	**Styx River**	**64.33 333**	P	**P**	**14 38 33.2**	**+1.0**
	baz=109					
O19K	**Port Alsworth**	**64.34 331**	P	**P**	**14 38 33.3**	**+1.2**
	baz=108					
H23K	**Yukon River**	**64.35 337**	P	**P**	**14 38 32.7**	**+0.6**
	baz=115					
CAST	**Castle Rocks**	**64.42 334**	P	**P**	**14 38 33.1**	**+0.5**
	baz=111					
MLY	**Manley**	**64.48 336**	P	**P**	**14 38 34.5**	**+1.4**
	baz=113,SNR=7.4					
F24K	**Squaw Lake**	**64.50 339**	P	**P**	**14 38 34.2**	**+1.0**
	baz=117					
N19K	**Bonanza Creek**	**64.61 331**	P	**P**	**14 38 34.6**	**+0.5**
	baz=108					
R17K	**Ugashik Creek**	**64.67 328**	P	**P**	**14 38 36.0**	**+1.7**
	baz=104					
CHUM	**Lake Minchumin**	**64.68 335**	P	**P**	**14 38 35.3**	**+1.0**
	baz=111					
C26K	**Camden Bay**	**64.72 342**	P	**P**	**14 38 35.5**	**+1.0**
	baz=121					
L20K	**Farewell, AK**	**64.86 333**	P	**P**	**14 38 35.5**	**0.0**
	baz=109					
D25K	**Kavik River**	**64.86 341**	P	**P**	**14 38 36.1**	**+0.6**
	baz=119					
G23K	**Bananza Creek**	**64.90 338**	P	**P**	**14 38 36.4**	**+0.7**
	baz=115					
M19K	**Big River Lodg**	**64.91 332**	P	**P**	**14 38 36.3**	**+0.5**
	baz=108					
E24K	**Your Creek**	**64.96 340**	P	**P**	**14 38 36.5**	**+0.4**
	baz=117					
H22K	**Ishtalitna Cre**	**65.07 337**	P	**P**	**14 38 37.3**	**+0.5**
	baz=113					
COLD	**Coldfoot**	**65.18 339**	P	**P**	**14 38 38.4**	**+0.9**
	baz=115					
K20K	**Telida**	**65.23 334**	P	**P**	**14 38 38.7**	**+0.8**
	baz=109					
E23K	**Chandalar**	**65.33 340**	P	**P**	**14 38 39.7**	**+1.2**
	baz=116					
M18K	**Stony River**	**65.43 332**	P	**P**	**14 38 40.0**	**+0.8**
	baz=107					
CHGN	**Chignik**	**65.44 326**	P	**P**	**14 38 40.2**	**+0.9**
	baz=102					
G22K	**Bettles**	**65.52 338**	P	**P**	**14 38 40.1**	**+0.5**
	baz=113					
H21K	**Melozitna Rive**	**65.52 337**	P	**P**	**14 38 40.8**	**+1.0**
	baz=111					
J20K	**Nowinta River**	**65.54 335**	P	**P**	**14 38 39.8**	**0.0**
	baz=110					
D24K	**Happy Valley**	**65.56 341**	P	**P**	**14 38 40.3**	**+0.5**
	baz=117					
O17K	**Koliganek Bris**	**65.57 330**	P	**P**	**14 38 41.5**	**+1.4**
	baz=105					
TOLK	**Toolik Lake Re**	**65.57 340**	P	**P**	**14 38 40.6**	**+0.5**
	baz=116					
C24K	**Franklin Bluff**	**65.78 341**	P	**P**	**14 38 41.8**	**+0.6**
	baz=117					
N17K	**Nushagak Hills**	**65.81 331**	P	**P**	**14 38 42.4**	**+0.8**
	baz=105					
P16K	**Nushagak River**	**65.83 329**	P	**P**	**14 38 43.4**	**+1.7**
	baz=104					
I20K	**Naaghedeneel**	**65.88 335**	P	**P**	**14 38 42.9**	**+0.9**
	baz=109					
F22K	**John River**	**65.99 339**	P	**P**	**14 38 44.1**	**+1.4**
	baz=113,SNR=7.2					
O16K	**Kokwok River B**	**66.01 329**	P	**P**	**14 38 44.1**	**+1.2**
	baz=104					
L18K	**Granite Mounta**	**66.03 332**	P	**P**	**14 38 44.9**	**+1.9**
	baz=106					
D23K	**Nanushuk River**	**66.07 340**	P	**P**	**14 38 44.8**	**+1.6**
	baz=115					
J19K	**Poorman**	**66.09 334**	P	**P**	**14 38 44.6**	**+1.2**
	baz=108					
G21K	**Allakaket**	**66.10 337**	P	**P**	**14 38 44.6**	**+1.1**
	baz=111					
E22K	**Anaktuvuk Pass**	**66.11 339**	P	**P**	**14 38 44.5**	**+1.0**
	baz=113,SNR=6.9					
M17K	**Holitna River**	**66.15 331**	P	**P**	**14 38 45.3**	**+1.4**
	baz=105					
EUNU	**Eureka**	**66.20 1**	P	**P**	**14 38 42.1**	**-1.8**
H20K	**Anotleneega Mo**	**66.27 336**	P	**P**	**14 38 45.5**	**+0.9**
	baz=109					
F21K	**Alatna River**	**66.35 338**	P	**P**	**14 38 46.7**	**+1.6**
	baz=111					
C23K	**Itkillik River**	**66.42 341**	P	**P**	**14 38 46.4**	**+1.0**
	baz=115					
D22K	**Ayikyak River**	**66.70 340**	P	**P**	**14 38 48.2**	**+0.9**
	baz=113					
L17K	**Donlin**	**66.74 332**	P	**P**	**14 38 48.5**	**+0.9**
	baz=105					
M16K	**Timber Creek**	**66.77 331**	P	**P**	**14 38 48.4**	**+0.6**
	baz=104					
H19K	**Roundabout Mou**	**66.91 336**	P	**P**	**14 38 49.5**	**+1.0**
	baz=108					
F20K	**Avaraart Lake**	**67.11 338**	P	**P**	**14 38 50.8**	**+0.9**
	baz=109					
G19K	**Purcell Mounta**	**67.34 336**	P	**P**	**14 38 52.7**	**+1.3**
	baz=107					
C21K	**Knifebiade Rid**	**67.51 340**	P	**P**	**14 38 53.2**	**+0.9**
	baz=111					
B22K	**Teshekpuk Lake**	**67.51 341**	P	**P**	**14 38 53.3**	**+1.0**
	baz=113					
M15K	**Kasigluk River**	**67.53 330**	P	**P**	**14 38 55.0**	**+2.5**
	baz=102					
O14K	**Tigyukauivet M**	**67.53 329**	P	**P**	**14 38 54.7**	**+2.1**
	baz=101					
H18K	**Honhosa River**	**67.56 335**	P	**P**	**14 38 54.0**	**+1.2**
	baz=106					
B21K	**Ikpikpuk River**	**67.62 340**	P	**P**	**14 38 53.7**	**+0.7**
	baz=111					
E20K	**Nigu River**	**67.68 339**	P	**P**	**14 38 54.6**	**+1.1**
	baz=109					
E19K	**Redstone River**	**67.80 338**	P	**P**	**14 38 54.9**	**+0.7**
	baz=108					
F19K	**Shaleruckik Mo**	**67.81 337**	P	**P**	**14 38 55.5**	**+1.2**
	baz=107					
N14K	**Kuskokwak Cree**	**67.86 329**	P	**P**	**14 38 55.9**	**+1.3**
	baz=101					
G18K	**Tagagawik**	**67.89 336**	P	**P**	**14 38 55.9**	**+1.1**
	baz=106					
D20K	**Etivluk River**	**67.98 339**	P	**P**	**14 38 56.4**	**+1.1**
	baz=109					
FALS	**False Pass**	**68.00 324**	P	**P**	**14 38 57.8**	**+2.1**
	baz=97					
J16K	**Anvik River**	**68.05 333**	P	**P**	**14 38 57.0**	**+1.2**
	baz=103					
H17K	**Granite Mounta**	**68.14 335**	P	**P**	**14 38 58.3**	**+1.8**
	baz=104					
M14K	**Bethel**	**68.15 330**	P	**P**	**14 38 57.8**	**+1.3**
	baz=101					
I17K	**Unalakleet**	**68.22 334**	P	**P**	**14 38 58.2**	**+1.3**
	baz=103					
A22K	**Sinclair Lake**	**68.24 342**	P	**P**	**14 38 58.3**	**+1.4**
	baz=111					
K15K	**Wolf Creek Mou**	**68.25 332**	P	**P**	**14 38 58.8**	**+1.7**
	baz=102					
D19K	**Kuna River**	**68.43 339**	P	**P**	**14 38 59.5**	**+1.3**
	baz=107					
B20K	**Meade River**	**68.58 340**	P	**P**	**14 39 00.3**	**+1.2**
	baz=109					
G17K	**Kiwalik Mounta**	**68.58 335**	P	**P**	**14 39 00.5**	**+1.4**
	baz=104					
L14K	**Kuka Creek**	**68.60 331**	P	**P**	**14 39 01.6**	**+2.3**
	baz=100					
M13K	**Dall Lake**	**68.77 330**	P	**P**	**14 39 01.1**	**+0.8**
	baz=99					
E18K	**Tukpahlearik C**	**69.04 337**	P	**P**	**14 39 02.2**	**+0.3**
	baz=104					
F17K	**Baldwin Pennin**	**69.05 336**	P	**P**	**14 39 03.2**	**+1.2**
	baz=104					
C19K	**Lookout Ridge**	**69.12 339**	P	**P**	**14 39 03.7**	**+1.2**
	baz=106					
G16K	**Koyuk River**	**69.25 335**	P	**P**	**14 39 04.0**	**+0.7**
	baz=102					
J14K	**Nanvaranak Lak**	**69.26 332**	P	**P**	**14 39 04.7**	**+1.4**
	baz=100					
E17K	**Hotham Inlet**	**69.42 337**	P	**P**	**14 39 05.4**	**+1.1**
	baz=103					
C17K	**DeLong Mountai**	**70.23 338**	P	**P**	**14 39 10.3**	**+1.0**
	baz=102					
F15K	**North Star Dit**	**70.25 335**	P	**P**	**14 39 10.5**	**+1.1**
	baz=100					
ANM	**Nome**	**70.36 334**	P	**P**	**14 39 11.7**	**+1.6**
	baz=99					
TNA	**Tin City**	**71.57 335**	P	**P**	**14 39 19.0**	**+1.6**
	baz=97					
EKA	**Eskdalemuir Ar**	**78.05 36**	P	**P**	**14 39 51.7**	**-3.4**
	comp=Z,1.8nm,0.6s,baz=277,slow=7.1,SNR=7.5					
	comp=Z,1.8nm,0.6s					
SHEM	**Shemya Is, Ala**	**81.36 322**	LR	LR	15 14 34.4	
	comp=Z,52nm,20.3s,baz=103,slow=34					
NOA	**NORSAR Array B**	**84.23 28**	P	**P**	**14 40 25.9**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=292,slow=5.2,SNR=3.4					
	comp=Z,0.6nm,0.8s					
KURBB	**Kurchatov Arra**	**115.20 7**	PKP	**PKiKP**	**14 46 37.1**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=349,slow=2.0,SNR=5.4					
SONM	**Songino Array**	**116.35 346**	PKP	**PKiKP**	**14 46 39.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=318,slow=1.9,SNR=2.5					
WRA	**Warramunga Arr**	**135.33 256**	PKP	**PKPdf**	**14 47 17.7**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=85,slow=2.8,SNR=2.2					
ASAR	**Alice Springs**	**135.59 250**	PKhKP	PKPpre	14 47 14.3	
	comp=Z,0.4nm,0.8s,baz=93,slow=2.4,SNR=3.2					
PZH	**PanZhiHua**	**137.63 342**	PKP	**PKPdf**	**14 47 21.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**146.04 341**	PKPbc	**PKPbc**	**14 47 37.0**	**-0.2**
	comp=Z,8.4nm,0.7s,baz=333,slow=3.3,SNR=45					

*ANF **30** 14:49:48.4±0.5, 36°.51N×98°.47W, h5km, ML4.0/11, Error ellipse: s-maj=6.1km s-min=4.5km az=64.0*
*TUL **30** 14:49:48.8±0.3, 36°.51N±0°.02×98°.47W±0°.01, h6km±5km, ML3.3, mb_Lg3.1/52(NEIC), ML3.3/52(NEIC), Error ellipse: s-maj=2.3km s-min=1.5km az=153.0*
*NEIC **30** 14:49:49.4±0.3, 36°.50N±0°.01×98°.47W±0°.03, h8km±7km, Error ellipse: s-maj=3.2km s-min=2.0km az=99.0*

ISC 30 14:49:49.0±1.1, 36°.49N±0°.02×98°.45W±0°.02, h8km±9km, n89, σ0°.47/74, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.23**	**266**		**Pg**	**14 49 53.6**	**-0.1**
OK038				Sg	**Sg**	**14 49 57.0**	**+0.2**
OK038				IAML		14 50 00.2	
	8μm,0.3s						
OK035	**E0210 Rd and N**	**0.30**	**316**		**Pg**	**14 49 54.8**	**-0.1**
OK035				Sg	**Sg**	**14 49 59.1**	**+0.2**
OK032	**Salt Plains WL**	**0.37**	**32**		**Pg**	**14 49 56.3**	**+0.1**
OK032				IAML		14 50 01.9	
	3μm,0.5s						
CROK	**Carrier**	**0.38**	**88**		**Pg**	**14 49 56.8**	**+0.3**
CROK				IAML		14 50 02.9	
	comp=N,4μm,0.3s						
NOKA	**Waynoka**	**0.41**	**290**	Pg	**Pg**	**14 49 56.7**	**-0.3**
NOKA				Sg	**Sg**	**14 50 02.4**	**0.0**
NOKA				IAML		14 50 05.6	
	comp=E,3μm,0.2s						
GC02	**Grant County #**	**0.60**	**53**	Pg	**Pg**	**14 50 00.5**	**-0.1**
GC02				Sg	**Sg**	**14 50 08.8**	**+0.5**
KAN14	**Manchester OK**	**0.61**	**40**	Pg	**Pg**	**14 50 00.7**	**-0.1**
KAN10	**Anthony SW Sta**	**0.69**	**25**	Pg	**Pg**	**14 50 02.1**	**-0.2**
KAN05	**Bluff City Nor**	**0.77**	**37**	Pg	**Pg**	**14 50 03.6**	**-0.3**
KAN05				IAML		14 50 14.4	
	comp=E,855nm,1.0s						
KAN05				IAML		14 50 14.9	
	comp=N,1μm,0.2s						
KAN17	**Caldwell West**	**0.78**	**45**	Pg	**Pg**	**14 50 03.7**	**-0.3**
KAN17				IAML		14 50 14.8	
	comp=E,2μm,0.3s						
KAN08	**Anthony NE Sta**	**0.83**	**28**	Pg	**Pg**	**14 50 04.5**	**-0.4**
KAN01	**Argonia South**	**0.86**	**40**		**Pg**	**14 50 05.2**	**-0.4**
KAN01				IAML		14 50 17.2	
	comp=E,861nm,0.5s						
KAN01				IAML		14 50 17.5	
	comp=N,716nm,0.4s						
CSTR	**Hydro, Custer**	**0.87**	**193**	Pg	**Pg**	**14 50 05.5**	**-0.2**
KAN12	**Harper NE Stat**	**0.88**	**24**	Pg	**Pg**	**14 50 05.5**	**-0.5**
KAN12				IAML		14 50 25.6	
	comp=N,1μm,0.3s						
KAN12				IAML		14 50 29.0	
	comp=E,1μm,0.3s						
ELIS	**Ellis County**	**0.89**	**241**	Pg	**Pg**	**14 50 05.3**	**-0.8**
ELIS				IAML		14 50 27.6	
	comp=E,1μm,0.2s						
ELIS				IAML		14 50 33.0	
	comp=N,1μm,0.3s						
KAN06	**Argonia West S**	**0.89**	**32**	Pg	**Pg**	**14 50 05.8**	**-0.4**
KAN06				IAML		14 50 19.4	
	comp=E,670nm,0.2s						
KAN09	**Caldwell North**	**0.93**	**46**	Pg	**Pg**	**14 50 06.4**	**-0.5**
KAN09				IAML		14 50 21.6	
	comp=N,1μm,0.3s						
KAN13	**South Haven SW**	**0.94**	**56**		**Pg**	**14 50 06.6**	**-0.5**
KAN13				IAML		14 50 19.9	
	comp=E,1μm,0.3s						
KAN13				IAML		14 50 27.5	
	comp=N,957nm,0.3s						
KS21	**Milan North St**	**1.01**	**39**		**Pg**	**14 50 07.9**	**-0.6**
KS21	**Milan North St**	**1.01**	**39**	IAML		14 50 22.3	
	comp=N,628nm,0.3s						
KS21				IAML		14 50 24.3	
	comp=N,538nm,0.6s						
KS20	**Mayfield South**	**1.03**	**44**	Pg	**Pg**	**14 50 08.1**	**-0.7**
KS20				IAML		14 50 24.5	
	comp=N,633nm,0.3s						
KS20				IAML		14 50 25.5	
	comp=N,542nm,0.2s						
BLOK	**Blackwell**	**1.03**	**75**		**Pg**	**14 50 08.1**	**-0.7**
BLOK				IAML		14 50 24.5	
	comp=E,873nm,0.2s						
OK029	**Liberty Lake**	**1.07**	**130**		**Pg**	**14 50 08.8**	**-0.8**
OK029				IAML		14 50 24.1	
	comp=E,924nm,0.4s						
ADOK	**Arcadia Dam**	**1.22**	**133**	Pg	**Pg**	**14 50 11.5**	**-0.9**
OK048	**Pawnee Station**	**1.22**	**93**	Pg	**Pg**	**14 50 11.6**	**-0.9**
OK048				IAML		14 50 32.2	
	comp=E,664nm,0.2s						
OK051	**E0350 and S346**	**1.30**	**89**		**Pn**	**14 50 13.0**	**-0.6**
OK033	**Mehan**	**1.30**	**110**		**Pn**	**14 50 13.1**	**-0.5**
OK033				IAML		14 50 34.5	
	comp=E,640nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**1.36**	**143**		**Pn**	**14 50 13.9**	**-0.5**
OK031	**S. Brethren Rd**	**1.41**	**112**		**Pn**	**14 50 14.6**	**-0.5**
OK052	**Battle Ridge R**	**1.43**	**110**		**Pn**	**14 50 14.9**	**-0.3**
QUOK	**Quay**	**1.45**	**102**		**Pn**	**14 50 15.3**	**-0.3**
T35A	**Sooner Cattle**	**1.62**	**74**		**Pn**	**14 50 18.1**	**+0.2**
DEOK	**Depew**	**1.71**	**112**		**Pn**	**14 50 19.4**	**+0.2**
WMOK	**Wichita Mounta**	**1.77**	**189**		**Pn**	**14 50 19.9**	**-0.1**
WMOK	**Wichita Mounta**	**1.77**	**189**	P	**Pn**	**14 50 20.0**	**0.0**
	baz=8.1						
WMOK				S	**Sb**	**14 50 43.9**	**-0.3**
	baz=8.1						
R32A	**Long Quarter,**	**1.94**	**354**		**Pn**	**14 50 22.7**	**+0.4**
X34A	**Smith Ranch, M**	**1.96**	**165**		**Pn**	**14 50 23.3**	**+0.8**
X34A				IAmb_Lg		14 50 52.2	
	comp=Z,78nm,0.7s						
SMWD	**Samnorwood**	**2.01**	**227**		**Pn**	**14 50 24.1**	**+0.7**
TUL3	**Leonard**	**2.23**	**104**		**Pn**	**14 50 26.5**	**+0.2**
TUL3	**Leonard**	**2.23**	**104**	P	**Pn**	**14 50 26.6**	**+0.2**
	baz=286						
TUL3				S	**Sn**	**14 50 55.0**	**+0.9**
	baz=286						
CBKS	**Cedar Bluff**	**2.53**	**337**	P	**Pn**	**14 50 29.9**	**-0.6**
	baz=156						
CBKS				S	**Sn**	**14 51 01.7**	**+0.2**
	baz=156						
LOOK	**Love County**	**2.71**	**157**		**Pn**	**14 50 33.4**	**+0.5**
WTFS	**Witchita Falls**	**2.72**	**180**		**Pn**	**14 50 33.4**	**+0.3**
RLO	**Rose Lookout**	**2.79**	**96**	Pn	**Pn**	**14 50 34.4**	**+0.3**
KSU1	**Kansas State U**	**2.98**	**29**	IAmb_Lg		14 51 29.0	
	comp=Z,58nm,0.8s						
AMTX	**Amarillo**	**3.08**	**239**	P	**Pn**	**14 50 38.0**	**-0.1**
	baz=57						
AMTX				S	**Sn**	**14 51 15.3**	**+0.1**
	baz=57						
X37A	**Clayton**	**3.15**	**126**	Pn	**Pn**	**14 50 39.5**	**+0.5**
U38A	**Gravette**	**3.28**	**90**	Pn	**Pn**	**14 50 41.1**	**+0.3**
Z35A	**Perchaven, San**	**3.31**	**162**	Pn	**Pn**	**14 50 41.4**	**+0.3**
RTBA	**Rita Blanca**	**3.45**	**270**	IAmb_Lg		14 51 35.7	
	comp=Z,14nm,1.0s						
FW06	**Azle**	**3.59**	**168**	IAmb_Lg		14 51 50.6	
	comp=Z,16nm,0.7s						
HHAR	**Hobbs**	**3.65**	**92**	Pn	**Pn**	**14 50 46.0**	**+0.1**
PLPT	**Palo Pinto**	**3.67**	**178**	IAmb_Lg		14 51 54.7	
	comp=Z,19nm,0.7s						
ABTX	**Abilene, Hawle**	**3.98**	**195**	IAmb_Lg		14 51 54.6	
	comp=Z,31nm,1.0s						
ABTX	**Abilene, Hawle**	**3.98**	**195**	P	**Pn**	**14 50 51.0**	**+0.6**
	baz=14						
SN01	**Snyder 1**	**4.14**	**210**	IAmb_Lg		14 52 01.7	
	comp=Z,58nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.15**	**308**	IAmb_Lg		14 52 01.9	
	comp=Z,49nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.15**	**308**	P	**Pn**	**14 50 52.3**	**-0.6**
	baz=126						
KSCO				S	**Sn**	**14 51 42.2**	**+0.4**
	baz=126						
POST	**Post**	**4.24**	**217**	IAmb_Lg		14 52 07.1	
	comp=Z,45nm,0.8s						
S39A	**Bolivar**	**4.27**	**72**	Pn	**Pn**	**14 50 54.3**	**-0.1**
S39A				IAmb_Lg		14 52 09.4	
	comp=Z,29nm,0.8s						
Z38A	**Mt. Pleasant**	**4.31**	**138**	IAmb_Lg		14 52 10.9	
	comp=Z,55nm,0.8s						
N33A	**J Bar K, Exete**	**4.31**	**10**	Pn	**Pn**	**14 50 54.2**	**-0.8**
MSTX	**Muleshoe**	**4.34**	**236**	P	**Pn**	**14 50 55.2**	**-0.3**
	baz=53						
MSTX				S	**Sn**	**14 51 47.2**	**+0.9**
	baz=53						
MIAR	**Mount Ida**	**4.43**	**115**	Pn	**Pn**	**14 50 57.2**	**+0.6**
MIAR				IAmb_Lg		14 52 20.4	
	comp=Z,30nm,0.8s						
MIAR	**Mount Ida**	**4.43**	**115**	P	**Pn**	**14 50 56.8**	**+0.2**
	baz=298						
WHTX	**Lake Whitney,**	**4.57**	**169**	Pn	**Pn**	**14 50 58.6**	**+0.2**
WHTX	**Lake Whitney,**	**4.57**	**169**	P	**Pn**	**14 50 58.1**	**-0.4**
	baz=350						
T25A	**Trinidad**	**4.82**	**279**	P	**Pn**	**14 51 01.4**	**-0.8**
	baz=96						
BGNE	**Belgrade**	**4.91**	**3**	IAmb_Lg		14 52 34.6	
	comp=Z,48nm,0.7s						
P38A	**Dawn**	**4.99**	**50**	IAmb_Lg		14 52 37.4	
	comp=Z,24nm,0.8s						
MGMO	**Mountain Grove**	**5.01**	**81**	Pn	**Pn**	**14 51 04.9**	**+0.4**
WHAR	**Wooly Hollow**	**5.15**	**102**	Pn	**Pn**	**14 51 06.7**	**+0.3**
WLAR	**White Oak Lake**	**5.20**	**121**	IAmb_Lg		14 52 47.3	
	comp=Z,30nm,0.8s						
BRDY	**Brady**	**5.21**	**185**	Pn	**Pn**	**14 51 06.6**	**-0.8**
R40A	**Maddies Statio**	**5.24**	**68**	Pn	**Pn**	**14 51 08.1**	**+0.3**
OGNE	**Ogallala**	**5.25**	**329**	Pn	**Pn**	**14 51 08.0**	**0.0**
OGNE	**Ogallala**	**5.25**	**329**	P	**Pn**	**14 51 07.9**	**0.0**
	baz=147						
UALR	**University of**	**5.26**	**107**	IAmb_Lg		14 52 47.1	
	comp=Z,30nm,0.8s						
435B	**Jarrell**	**5.74**	**173**	IAmb_Lg		14 53 04.4	
	comp=Z,21nm,0.7s						
Q24A	**Divide**	**5.85**	**297**	IAmb_Lg		14 52 59.1	
	comp=Z,22nm,0.7s						
P40A	**Paris**	**5.90**	**57**	IAmb_Lg		14 52 56.3	
	comp=Z,32nm,0.8s						
T42A	**Van Buren**	**5.93**	**83**	IAmb_Lg		14 53 00.2	
	comp=Z,23nm,1.1s						
BRIGG	**Briggsdale**	**6.15**	**313**	IAmb_Lg		14 53 17.2	
	comp=Z,30nm,0.9s						
ISCO	**Idaho Springs**	**6.54**	**302**	IAmb_Lg		14 53 21.4	
	comp=Z,30nm,1.1s						
CGM3	**Cape Girardeau**	**7.09**	**81**	IAmb_Lg		14 53 33.4	
	comp=Z,22nm,0.9s						
N23A	**Red Feather La**	**7.32**	**309**	IAmb_Lg		14 53 43.5	
	comp=Z,22nm,0.8s						
S44A	**Carbondale**	**7.45**	**78**	IAmb_Lg		14 53 46.4	
	comp=Z,21nm,1.1s						
K22A	**Casper**	**8.75**	**317**	IAmb_Lg		14 54 47.3	
	comp=Z,16nm,0.9s						
I40A	**Norwalk**	**9.51**	**37**	IAmb_Lg		14 54 54.4	
	comp=Z,14nm,0.9s						

DJA 30 14:53:33.7±0.2, 2°S±3°×12°3E±°, h10km, M4.1/12, mb4.3/6, mB5.0/3, MLv4.0/12, Mw(mB)4.3/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.44**	**7**	P	Pn	14 53 59.6	-0.2
LUWI				S	Sg	14 54 19.6	-0.5
TTSI	**Tana Toraja**	**2.83**	**259**	P	Pn	14 54 18.6	-0.5
MRSI	**Marisa**	**3.01**	**347**	P	Pn	14 54 21.0	-0.5
GTOI	**Gorontalo**	**3.12**	**8**	P	Pn	14 54 23.4	+0.4
SANI	**Sanana**	**3.41**	**83**	P	Pn	14 54 24.7	-2.3
BKSI	**Bulukumba**	**3.75**	**221**	P	Pn	14 54 31.8	+0.1
MPSI	**Mapaga**	**3.89**	**316**	P	Pn	14 54 33.0	-0.6
LBMI	**Labuha**	**5.23**	**70**	P	Pn	14 54 52.3	+0.3
	49nm,0.8s,1μm0.3nm						
TNTI	**Ternate**	**5.76**	**56**	P	Pn	14 54 59.1	-0.2
	11nm,0.4s,0.1nm						
EDFI	**Ende, Flores**	**6.29**	**188**	P

	comp=Z,44nm,0.3s						
LODA1	ITESIL, Dajabo	2.48	97	eS	Sn	14 54 49.6	-1.4
LODA1				IAML		14 54 57.8	
	comp=Z,2μm,3.5s						
LMGC	Las Mercedes	2.53	275	eP	Pn	14 54 24.4	+2.2
LMGC				eS	Sn	14 54 53.2	+1.0
LMGC				IAML		14 55 01.0	
	comp=E,54nm,0.3s						
LMGC				IAML		14 55 01.4	
	comp=N,91nm,0.6s						
SDDR	Presa de Saban	3.00	107	eP	Pn	14 54 29.5	+0.8
SDDR				eS	Sn	14 55 03.1	-0.7
SDDR	Presa de Saban	3.00	107	iP	Pn	14 54 29.5	+0.8
SDDR				eS	Sn	14 55 03.3	-0.5
SDDR				IAML		14 55 05.6	
	comp=Z,46nm,0.6s						
LOPE2	Hotel El Peder	3.05	127	iP	Pn	14 54 29.3	-0.1
MTDJ	Mount Denham	3.46	242	iP	Pn	14 54 35.6	+0.6
MTDJ				eS	Sn	14 55 13.5	-1.7
MTDJ				IAML		14 55 16.9	
	comp=Z,30nm,2.8s						
CCCC	Cccc	3.49	293	eP	Pn	14 54 33.3	-2.1

*WEL **30** 14:54:03.9±0.5, 37°S±4°×17°7E±°, h10km±3km, M3.2/75, ML3.6/27, MLv3.2/75, Error ellipse: s-maj=0.0km s-min=0.0km az=15.7, confirmed*
*NOU **30** 14:54:04.0, 37.48S×177.31E, h10km, MLv3.6/10, Off E. Coast of N. Island, N.Z.*

ISC 30 14:54:04.4±1.0, 37.48S±0.04×177.33E±0.02, h14km±8km, n122, σ0.80/129, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.12	249	P	Pb	14 54 08.2	-0.3
WIZ				S	Sg	14 54 10.5	+0.5
WSRZ	White Island S	0.13	254	P	Pb	14 54 08.5	-0.2
WSRZ				S	Sb	14 54 10.8	-0.6
HAZ	Te Kaha	0.45	127	P	Pg	14 54 12.8	-0.6
HAZ				S	Sg	14 54 19.8	+0.4
WHRZ	Whale Island	0.47	217	P	Pb	14 54 14.2	-0.3
RUGZ	Raukumara Rang	0.55	150	P	Pg	14 54 15.0	-0.3
RUGZ				S	Sg	14 54 22.8	+0.1
OPRZ	Ohinepanea	0.71	239	P	Pb	14 54 18.5	-0.1
OPRZ				S	Sb	14 54 29.2	+1.0
PKGZ	Pakihiroa	0.72	124	P	Pg	14 54 18.0	-0.4
MARZ	Manawahe	0.72	226	P	Pb	14 54 18.9	+0.1
EDRZ	Edgecumbe	0.78	217	P	Pb	14 54 19.9	+0.2
MXZ	Matakaoa Point	0.78	96	P	Pb	14 54 19.7	-0.1
MXZ	Matakaoa Point	0.78	96	P	Pb	14 54 19.9	+0.1
MXZ				S	Sn	14 54 33.3	+0.8
URZ	Urewera	0.79	193	P	Pg	14 54 19.7	-0.1
URZ	Urewera	0.79	193	P	Pg	14 54 19.6	-0.2
URZ				S	Sg	14 54 30.4	+0.2
TWGZ	Tauwhareparae	0.86	144	P	Pb	14 54 21.5	+0.3
MWZ	Matawai	0.86	174	P	Pg	14 54 20.7	-0.4
TGRZ	Tauranga	0.88	254	P	Pg	14 54 21.3	-0.2
MYRZ	Mayor Island	0.89	283	P	Pb	14 54 21.8	+0.1
LIRZ	Lichensteins R	0.91	235	P	Pn	14 54 22.6	-0.2
WMGZ	Waiomatatini S	0.92	112	P	Pg	14 54 22.5	+0.2
PUZ	Puketiti	0.94	129	P	Pg	14 54 22.7	+0.1
MKRZ	Makatiti	0.94	226	P	Pn	14 54 23.3	-0.1
OMRZ	Omania	0.98	230	P	Pb	14 54 23.1	-0.1
TARZ	Mount Tarawera	0.99	221	P	Pg	14 54 23.7	+0.1
RAGZ	Rawiri	1.01	176	P	Pb	14 54 23.8	0.0
KARZ	Kaharoa	1.01	238	P	Pb	14 54 23.5	-0.3
TKGZ	Te Karaka	1.04	157	P	Pn	14 54 24.8	+0.2
RRRZ	Republican Roa	1.07	217	P	Pb	14 54 24.2	-0.5
NGRZ	Ngongotaha	1.09	235	P	Pg	14 54 26.2	+0.7
UTU	Utuhina	1.14	232	P	Pg	14 54 26.3	0.0
KMRZ	Kaimai	1.16	251	P	Pb	14 54 25.2	-1.0
RTZ	Ruatahuna	1.16	194	P	Pn	14 54 25.5	-0.8
HSRZ	Hossack Road	1.19	226	P	Pg	14 54 28.6	+1.2
CNGZ	Carnagh Statio	1.22	145	P	Pg	14 54 29.1	+1.3
HRRZ	Handcock Road	1.23	222	P	Pg	14 54 28.9	+0.9
PRRZ	Plateau Road	1.25	216	P	Pg	14 54 29.4	+0.9
RIGZ	Rimuhau	1.27	165	P	Pg	14 54 29.0	+0.2
SNGZ	Shannon Statio	1.29	180	P	Pn	14 54 28.1	0.0
ALRZ	Allen Road	1.33	216	P	Pn	14 54 28.4	-0.1
WPRZ	Whakapapatarin	1.39	221	P	Pg	14 54 31.8	+0.8
MTHZ	Maungataniwha	1.42	196	P	Pn	14 54 29.3	-0.6
RAHZ	Arahi	1.44	188	P	Pn	14 54 29.9	-0.3
TOZ	Tahuroa Road	1.47	260	P	Pn	14 54 29.6	-1.0
KUZ	Kuaotunu	1.48	299	P	Pn	14 54 29.3	-1.3
KUZ	Kuaotunu	1.48	299	P	Pn	14 54 29.3	-1.3
PRGZ	Paritu Road	1.50	163	P	Pg	14 54 33.1	-0.1
MRHZ	Matea Rd	1.53	208	P	Pn	14 54 30.9	-0.5
KUTZ	Kaahu Road	1.56	229	P	Pg	14 54 34.1	-0.2
KNZ	Kokohu	1.56	170	P	Pb	14 54 32.6	-0.4
WHHZ	Waihua	1.59	183	P	Pb	14 54 33.3	-0.3
TLZ	Tolley Road	1.65	239	P	Pn	14 54 32.3	-0.7
NMHZ	Naumai	1.66	194	P	Pn	14 54 33.6	+0.3
MHGZ	Mahia Peninsul	1.73	165	P	Pn	14 54 35.0	-0.9
MKAZ	Moumakai	1.77	282	P	Pn	14 54 33.9	-0.7
ARHZ	Aropaoanui	1.80	188	P	Pb	14 54 36.5	-0.5
BKZ	Black Stump Fm	1.80	201	P	Pn	14 54 34.9	-0.2
BKZ	Black Stump Fm	1.80	201	P	Pn	14 54 34.8	-0.4
RATZ	Rangitukua	1.85	221	P	Pg	14 54 40.3	+0.5
WIAZ	Waiheke Island	1.89	291	P	Pn	14 54 35.6	-0.6
RITZ	Rihia Road	1.89	217	P	Pg	14 54 40.5	-0.1
GRZ	Great Barrier	1.94	309	P	Pn	14 54 36.1	-0.9
KATZ	Kakaramea	1.97	220	P	Pg	14 54 42.3	+0.1
ETAZ	East Tamaki Re	1.99	285	P	Pn	14 54 37.4	-0.3
MCHZ	McNeill Hill	2.02	194	P	Pn	14 54 39.4	+1.4
KWHZ	Kaweka Forest	2.06	200	P	Pn	14 54 39.2	+0.4
MBAZ	Motutapu North	2.07	289	P	Pn	14 54 38.4	-0.3
TMVZ	Te Maari	2.07	218	P	Pb	14 54 40.9	-0.9
NTVZ	North Tongarir	2.07	218	P	Pb	14 54 41.3	-0.6
ETVZ	East Tongariro	2.08	217	P	Pb	14 54 40.9	-1.2
KRVZ	Karewarewa	2.09	219	P	Pb	14 54 42.7	+0.6
NNVZ	North Ngauruho	2.13	219	P	Pb	14 54 43.7	+0.8
OTVZ	Oturere	2.13	217	P	Pn	14 54 40.5	+0.8
WTVZ	West Tongariro	2.13	220	P	Pb	14 54 44.0	+1.2
EPAZ	Eden Park BICE	2.15	286	P	Pn	14 54 40.4	+0.5
SNVZ	South Ngauruho	2.16	218	P	Pb	14 54 42.0	-1.3
NGZ	Ngauruhoe	2.17	218	P	Pb	14 54 43.9	+0.4
HBAZ	Herne Bay Bore	2.17	286	P	Pn	14 54 40.4	+0.3
TWVZ	Taurewa	2.17	223	P	Pb	14 54 44.8	+1.2
CKHZ	Cape Kidnapper	2.18	185	P	Pb	14 54 42.3	-1.3
AWAZ	Awhitu Peninsu	2.18	280	P	Pn	14 54 40.3	0.0
HIZ	Hauiti	2.21	242	P	Pn	14 54 40.8	+0.1
HIZ	Hauiti	2.21	242	P	Pn	14 54 40.8	+0.1
TUVZ	Tukino	2.21	216	P	Pb	14 54 43.9	-0.4
COVZ	Chateau Observ	2.22	219	P	Pb	14 54 44.3	0.0
BHHZ	Black Hill Sta	2.24	206	P	Pn	14 54 41.3	+0.2
FWVZ	Far West T-bar	2.25	218	P	Pb	14 54 43.4	-1.6
WHVZ	Whangaehu Hut	2.26	217	P	Pb	14 54 44.7	-0.4
WTAZ	Waiatarua	2.27	283	P	Pn	14 54 41.8	+0.3
KRHZ	Kereru	2.28	199	P	Pn	14 54 42.6	+0.8
MOVZ	Moawhango	2.28	212	P	Pn	14 54 42.5	+0.8
WNVZ	Wahianoa	2.29	216	P	Pn	14 54 43.4	+1.5
TRVZ	Turoa	2.29	217	P	Pb	14 54 44.4	-1.2
RVAZ	Riverhead Bore	2.31	287	P	Pn	14 54 39.9	-2.1
KAHZ	Kahuranaki	2.33	189	P	Pn	14 54 42.9	+0.5
PKVZ	Pokaka	2.38	220	P	Pb	14 54 47.0	-0.1
MTVZ	Mangateitei	2.39	217	P	Pb	14 54 46.4	-0.9
PXZ	Pawanui	2.57	188	P	Pn	14 54 45.0	-0.6
PNHZ	Pukenui	2.58	200	P	Pn	14 54 46.3	+0.4
VRZ	Vera Road	2.60	230	P	Pb	14 54 49.8	-1.0
WPHZ	Waipukurau	2.67	195	P	Pn	14 54 47.5	+0.5
TSZ	Takapari Road	2.78	202	P	Pn	14 54 48.8	+0.2
PRHZ	Porangahau	2.83	191	P	Pn	14 54 48.5	-0.7
WCZ	Waipu Caves	2.85	302	P	Pn	14 54 49.2	-0.2
WAZ	Wanganui	2.92	218	P	Pn	14 54 52.8	+2.4
LREZ	Lake Rotokare	3.03	228	P	Pn	14 54 55.8	-2.3
ANWZ	Angora Road	3.04	192	P	Pn	14 54 51.7	-0.5
NEZ	North Egmont	3.10	234	P	Pn	14 54 55.1	+2.1
PKE	Pukeiti	3.13	236	P	Pb	14 54 59.1	-0.8
KHEZ	Kahui Hut	3.17	234	P	Pb	14 54 59.0	-1.6
BFZ	Birch Farm	3.30	194	P	Pn	14 54 54.1	-1.6
MRZ	Mangatainoka R	3.45	203	P	Pn	14 54 57.0	-0.8
HOWZ	Holdsworth Sta	3.69	202	P	Pn	14 54 59.9	-1.1
OUZ	Omahuta	3.77	306	P	Pn	14 55 02.4	+0.3
OUZ	Omahuta	3.77	306	P	Pn	14 55 02.4	+0.3
KIW	Kapiti Island	3.86	208	P	Pn	14 55 02.8	-0.6
CAW	Cannon Point	4.02	205	P	Pn	14 55 04.4	-1.2
DUWZ	D'Urville Isla	4.24	218	P	Pn	14 55 08.6	0.0
SNZO	South Karori	4.33	207	P	Pn	14 55 09.3	-0.5
QRZ	Quartz Range	5.00	227	P	Pn	14 55 20.1	+1.0
QRZ	Quartz Range	5.00	227	P	Pn	14 55 19.8	+0.8
MRNZ	Matariki Terra	5.27	221	P	Pn	14 55 22.1	-0.7
CTZ	Chatham Island	7.76	146	P	Pn	14 55 57.5	+0.7
CTZ	Chatham Island	7.76	146	P	Pn	14 55 55.6	-1.2

*IDC **30** 15:24:34.1±2.4, 0.49N×98.50E, h0km, mb3.8/7, mbtmp3.8/7, Error ellipse: s-maj=115.5km s-min=21.6km az=55.0*
*NEIC **30** 15:24:44.1±1.9, 0.6N×98.67E±0.07, h75km±12km, mb4.1/3, Error ellipse: s-maj=15.7km s-min=8.6km az=206.0*

ISC 30 15:24:37.3±1.1, 0.5N±0.1×98.63E±0.10, h10km, n28, σ2.20/16, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	1.32	308	Pn	Pg	15 25 06.9	+4.1
RPSI	Rantau Prapat	2.21	8	Pn	Pb	15 25 16.5	-1.0
BKNI	Bangkinang	2.42	94	Pn	Pb	15 25 22.1	+1.1
LHMI	Lhok Sumawe	5.00	340	Pn	Pn	15 25 54.5	+2.1
KULM	Kulim	5.18	23	Pn	Pn	15 25 57.2	+2.2
MYKOM	Kota Tinggi	5.38	76	Pn	Pn	15 26 00.3	+2.5
TOLI2	Tolitoli	22.16	88	P	P	15 29 34.6	+0.9
TOLI2				IAmb	IAmb	15 30 17.4	
	comp=Z,5.0nm,1.1s						
H08S2	Diego Garcia H	27.28	252	T	T	15 58 00.8	
	baz=73,slow=74						
H08S3	Diego Garcia H	27.29	252	T	T	15 57 52.2	
	baz=73,slow=74						
H08S1	Diego Carcia H	27.30	252	T	T	15 57 58.2	
	baz=73						
WRA	Warramunga Arr	40.45	122	P	P	15 32 13.8	-2.6
WRA	Warramunga Arr	40.45	122	P	P	15 32 15.3	-1.2
	comp=Z,0.3nm,0.6s,baz=299,slow=9.2,SNR=2.1						
	comp=Z,0.3nm,0.6s						
WR0	Warramunga Arr	40.63	122	P	P	15 32 15.1	-2.8
WR0				IAmb	IAmb	15 32 32.2	
	comp=Z,8.9nm,1.5s						
ASAR	Alice Springs	41.83	127	P	P	15 32 27.0	-0.8
	comp=Z,0.3nm,0.7s,baz=300,slow=7.2,SNR=5.4						
	comp=Z,0.3nm,0.7s						
SONM	Songino Array	47.64	7	P	P	15 33 12.2	-1.7
	comp=Z,0.4nm,0.4s,baz=194,slow=8.9,SNR=3.6						
	comp=Z,0.4nm,0.4s						
MK31	Makanchi Array	48.28	345	P	P	15 33 16.9	-1.8
MK31				IAmb	IAmb	15 33 34.6	
	comp=Z,2.4nm,0.9s						
MKAR	Makanchi Array	48.28	345	P	P	15 33 16.7	-2.0
MKAR	Makanchi Array	48.28	345	P	P	15 33 17.1	-1.6
	comp=Z,1.0nm,0.4s,baz=160,slow=8.6,SNR=19						
	comp=Z,1.0nm,0.4s						
KURBB	Kurchatov Arra	52.79	344	P	P	15 33 50.6	-2.0
	comp=Z,0.4nm,0.3s,baz=165,slow=7.5,SNR=7.0						
	comp=Z,0.4nm,0.3s						
ZALV	Zalesovo Beam	54.49	350	P	P	15 34 02.9	-2.2
	comp=Z,0.7nm,0.4s,baz=177,slow=5.6,SNR=5.9						
	comp=Z,0.7nm,0.4s						
ABKAR	Akbulak array	58.81	331	P	P	15 34 32.8	-3.2
H04N2	CROZET ISLANDS	62.00	215	T	T	16 42 12.7	
	baz=54,slow=75,SNR=8.6						
H04N1	CROZET ISLANDS	62.01	215	T	T	16 42 11.8	
	baz=54,slow=75,SNR=9.6						
H04N3	CROZET ISLANDS	62.02	215	T	T	16 42 10.1	
	baz=54,slow=75,SNR=7.1						
H04S1	CROZET ISLANDS	62.32	214	T	T	16 42 35.0	
	baz=52						
H04S3	CROZET ISLANDS	62.33	214	T	T	16 42 29.7	
	baz=52						
H04S2	CROZET ISLANDS	62.34	214	T	T	16 42 35.4	
	baz=52						
FINES	FINESS Array B	81.28	332	P	P	15 36 51.6	-2.0
	comp=Z,4.2nm,1.0s,baz=94,slow=7.5,SNR=2.1						
	comp=Z,4.2nm,1.0s						

IDC 30 15:27:44.2±3.5, 29.22S×178.16W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=94.9km s-min=34.8km az=44.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.05	266	P	P	15 35 45.0	-0.9
	0.1nm,0.4s,baz=105,slow=7.6,SNR=1.6						
	0.1nm,0.4s						
WRA	Warramunga Arr	43.93	271	P	P	15 35 53.8	+0.7
	0.3nm,0.4s,baz=110,slow=7.9,SNR=3.0						
	0.3nm,0.4s						
VNDA	Vanda	49.25	186	P	P	15 36 34.2	+0.2
	0.3nm,0.6s,baz=354,slow=5.7,SNR=1.7						
	0.3nm,0.6s						
QSPA	South Pole Qui	60.88	180	P	P	15 37 58.3	-0.1
	1.6nm,0.6s,baz=56,slow=3.6,SNR=15						
	1.6nm,0.6s						
FINES	FINESS Array B	143.99	340	PKP	PKPdf	15 47 20.2	-0.8
	6.2nm,1.1s,baz=64,slow=3.2,SNR=8.0						

*JMA **30** 15:29:18.1±0.1, 22.6N±0.5×121.4E±0.4, h26km, MV3.6/13, TAIWAN REGION*
*TAP **30** 15:29:18.9, 22.64N×121.35E, h23km, ML3.3, B*

ISC 30 15:29:18.7±0.9, 22.62N±0.02×121.41E±0.02, h26km±6km, n115, σ0.96/142, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	Ludao	0.07	48	iP	Pb	15 29 23.6	+0.3
	baz=74						
LDUT				iS	Sb	15 29 27.0	+0.6
	baz=74						
TTN	Taitung	0.28	298	iP	Pb	15 29 25.0	-0.4
	baz=301						
EDH	Donghe	0.36	344	iP	Pb	15 29 26.3	-0.4
	baz=358						
EDH				S	Sb	15 29 31.8	-0.4
	baz=358						
TWGBT	Beinan	0.36	302	P	Pb	15 29 26.0	-0.7
	baz=304						
TWGBT				S	Sb	15 29 31.7	-0.6
	baz=304						
TWG	Pinlang	0.37	302	iP	Pb	15 29 26.2	-0.7
	baz=304						
TWG				S	Sb	15 29 31.6	-0.8
	baz=304						
LONT	Longtian	0.38	317	iP	Pb	15 29 26.4	-0.7
	baz=327						
ECL	Taimali	0.42	266	↓iP	Pb	15 29 26.6	-1.1
	baz=275						
ECL				iS	Sb	15 29 32.3	-1.5
	baz=275						
CHKT	Chengkung	0.47	355	P	Pb	15 29 28.0	-0.5
	baz=12						
CHKT				S	Sb	15 29 34.8	-0.5
	baz=12						
ECS	Chishang	0.50	339	eP	Pn	15 29 29.3	-0.9
	baz=330						
ECS				eS	Sn	15 29 36.7	-1.3
	baz=330						
TAW	Tawu	0.55	241	iP	Pb	15 29 28.8	-0.9
	baz=245						
EHD	Haiduan	0.56	340	P	Pb	15 29 29.2	-0.7
	baz=330						
EHD				eS	Sb	15 29 37.3	-0.3
	baz=330						
TAWH	Dawu Township	0.56	240	iP	Pb	15 29 29.1	-0.9
	baz=235						
TAWH				S	Sb	15 29 36.5	-1.1
	baz=235						
EAST	Anshuo	0.57	245	eP	Pb	15 29 29.2	-0.9
	baz=250						
FULB	Fuli	0.58	349	eP	Pb	15 29 30.0	-0.3
	baz=339						
FULB				eS	Sb	15 29 38.4	+0.1
	baz=339						
LAY	Lan-yu	0.60	167	iP	Pb	15 29 30.8	+0.2
	baz=153						
LYUB	Lan-yu	0.64	165	eP	Pb	15 29 30.1	-1.2
	baz=152						
ELDTW	Lidau	0.67	327	P	Pb	15 29 30.7	-1.1
	baz=322						
ECBN	Changbin	0.69	3	eP	Pn	15 29 32.6	-0.1
	baz=15						
ECBN				eS	Sb	15 29 40.9	-0.4
	baz=15						
TSMG	Majia	0.71	277	eP	Pb	15 29 31.1	-1.4
	baz=275						
MASBT	Mashibuluo	0.72	269	↓iP	Pb	15 29 31.5	-1.1
	baz=267						
EYUL	Yuli	0.72	353	eP	Pb	15 29 32.4	-0.3
	baz=345						
SSD	Sandimen	0.73	280	P	Pb	15 29 31.4	-1.4
	baz=279						
TWF1	Yuli	0.73	352	eP	Pb	15 29 32.5	-0.3
	baz=345						
YULB	Yu-li	0.77	352	eP	Pb	15 29 32.5	-1.1
	baz=345						
SCZT	Fangliau	0.77	251	eP	Pb	15 29 32.5	-1.0
	baz=241						
SLGT	Liugui	0.80	298	eP	Pb	15 29 32.9	-1.0
	baz=298						
STYH	Taoyuan	0.80	313	P	Pb	15 29 33.2	-0.8
	baz=314						
STYH				S	Sb	15 29 43.1	-1.3
	baz=314						
SMST	Manzhou Townsh	0.80	222	eP	Pn	15 29 34.1	-0.2
	baz=217						
SGLT	Jiouru	0.85	277	eP	Pn	15 29 34.8	-0.3
	baz=280						
HGSD	Ruisui	0.86	1	eP	Pn	15 29 34.9	-0.3
	baz=11						
HEN	Hengchun	0.88	225	eP	Pn	15 29 36.2	+0.9
	baz=221						
TWKBT	Hengchun	0.88	219	eP	Pn	15 29 35.4	0.0
	baz=206						
TWK1	Hengchun	0.88	220	eP	Pn	15 29 35.2	-0.1
	baz=206						
EHY	Hungye	0.88	355	P	Pb	15 29 34.2	-1.2
	baz=347						
SCST	Cishan	0.89	287	P	Pn	15 29 35.3	-0.2
	baz=285						
SGST	Jiashian	0.89	301	eP	Pb	15 29 34.3	-1.2
	baz=305						
TWM1	Shoushan	0.93	282	eP	Pn	15 29 36.6	+0.5
	baz=282						
WTP	Ta-pu	0.96	310	eP	Pn	15 29 36.6	+0.1
	baz=319						
TPUB	Ta-pu	0.99	313	eP	Pb	15 29 37.0	-0.2
	baz=322						
CHN1	Nanshi	0.99	305	P	Pb	15 29 37.2	0.0
	baz=311						
CHN1				eS	Sn	15 29 50.7	+0.7
	baz=311						
SNJT	Kaohsiung City	1.00	278	eP	Pb	15 29 37.2	-0.1
	baz=276						
SNST	Tainan City	1.03	305	eP	Pb	15 29 38.0	+0.1
	baz=316						
EGFH	Guangfu	1.04	1	eP	Pb	15 29 37.9	-0.2
	baz=9.0						
ALS	Alishan	1.04	328	eP	Pb	15 29 38.0	-0.3
	baz=329						
CHN4	Tsaushan	1.04	314	eP	Pb	15 29 38.3	+0.2
	baz=314						
SHHT	Tainan City	1.06	292	eP	Pb	15 29 40.2	+1.8
	baz=291						
WSSB	Gushan	1.06	271	eP	Pb	15 29 40.1	+1.7
	baz=269						
CHN3	Shinhua	1.06	295	eP	Pb	15 29 40.3	+1.9
	baz=294						
TWK	Hsinying	1.06	307	eP	Pb	15 29 38.6	+0.1
	baz=317						
WARBT	Fenglin Townsh	1.09	359	P	Pn	15 29 37.4	-1.0
	baz=3.0						
WCKO	Fanlu	1.10	318	eP	Pb	15 29 39.4	+0.3
	baz=318						
VWDT	VWDT	1.15	348	P	Pn	15 29 38.9	-0.2
	baz=360						
WHYT	Xinyi Township	1.18	334	eP	Pb	15 29 40.5	0.0
	baz=335						
ESL	Shilin	1.19	1	eP	Pb	15 29 40.3	-0.2
	baz=355						
SSLB	Suanglung	1.23	340	eP	Pb	15 29 40.8	-0.5
	baz=341						
SCLT	Jiali	1.25	296	eS	Sb	15 29 59.5	+2.3
	baz=294						
CHY	Chiayi	1.26	314	eP	Pb	15 29 42.4	+0.6
	baz=314						
CHY				eS	Sb	15 29 58.8	+1.3
	baz=314						
TSCK	Chigu Township	1.33	293	eP	Pb	15 29 42.5	-0.4
	baz=291						
TSCK				S	Sb	15 30 00.4	+0.8
	baz=291						
ETM	Tongmen	1.34	3	eP	Pb	15 29 42.2	-1.0
	baz=8.0						
SMLT	Sun Moon Lake	1.34	340	eP	Pb	15 29 43.1	-0.1
	baz=340						
OWD	Renai	1.34	351	eP	Pb	15 29 42.3	-1.0
	baz=4.0						
WJS	Zhushan	1.35	332	eP	Pb	15 29 42.5	-0.8
	baz=332						
TYC	Yuchr	1.37	338	eP	Pb	15 29 43.6	-0.1
	baz=350						
WUSB	Renai	1.39	349	eP	Pb	15 29 43.0	-1.0
	baz=5.0						
WUSB				eS	Sb	15 30 00.5	-0.9
	baz=5.0						
LXIB	Xiulin Townshi	1.39	0	eP	Pn	15 29 41.7	-0.9
	baz=5.0						
WNT	Mingjian	1.42	332	eP	Pb	15 29 44.6	+0.1
	baz=332						
WTK	Tuku	1.42	319	eP	Pb	15 29 43.9	-0.6
	baz=316						
WTK				eS	Sb	15 30 02.8	+0.7
	baz=316						
CHGB	Renai	1.45	351	eP	Pb	15 29 43.9	-1.2
	baz=10.0						
TWD	Chiawan	1.46	7	eP	Pb	15 29 44.3	-0.9
	baz=357						
WSF	Szhu	1.49	313	eP	Pn	15 29 44.1	+0.3
	baz=311						
WCS	Beigang Elemen	1.50	342	eP	Pb	15 29 45.6	-0.2
	baz=342						
WHF	Hehuan Shan	1.52	355	eP	Pn	15 29 44.9	+0.3
	baz=13						
ETL	Fush Village	1.54	7	eP	Pn	15 29 45.2	+0.6
	baz=357						
NACB	Ninganchiao	1.55	6	eP	Pn	15 29 44.5	-0.1
	baz=357						
ETLH	Xiulin Townshi	1.58	2	eP	Pb	15 29 46.5	-0.7
	baz=7.0						
WRL	Guolierlin Hig	1.59	323	eP	Pn	15 29 45.7	+0.6
	baz=321						
TCU	Taichung	1.66	336	eP	Pb	15 29 47.9	-0.7
	baz=336						
WHP	Taichung City	1.70	346	eP	Pb	15 29 49.7	+0.3
	baz=360						
EOS4	EOS4	1.71	29	eP	Pn	15 29 47.3	+0.8
	baz

NSTT	Nanjuang	2.03	349	eP		Pb	15 29 52.8	-2.1
	baz=4.0							
YHNB	Yeheng	2.04	359	eP		Pb	15 29 53.0	-2.1
	baz=16							
NSK	Sanguang	2.04	359	eP		Pn	15 29 53.0	+1.5
	baz=15							
LIOB	Emei	2.04	350	eP		Pn	15 29 52.9	+1.4
	baz=6.0							
TWE	Neicheng	2.10	6	eP		Pb	15 29 54.0	-2.1
	baz=11							
FUSB	Fushanzhiwuyua	2.13	4	eP		Pn	15 29 54.3	+1.6
	baz=9.0							
NWLT	Wulai	2.15	2	eP		Pn	15 29 54.5	+1.7
	baz=20							
SXI1	Grass Mountain	2.50	10	eP		Pn	15 29 59.2	+1.5
	baz=1.0							
YM01	YM01	2.52	3	eP		Pn	15 29 59.5	+1.6
	baz=5.0							
ANP	Anpu	2.55	2	eP		Pn	15 30 00.1	+1.6
	baz=21							
HATJ	Hateruma jima	2.62	57	P		Pn	15 30 00.0	+0.7
HATJ				S		Sn	15 30 31.1	+0.7
IRIF	Iriomote-Funau	2.73	51	eP		Pn	15 30 01.6	+0.8
IRIF				S		Sn	15 30 33.8	+0.9
JKRS	Kuro-shima	2.88	56	P		Pn	15 30 03.9	+1.1
JKRS				eS		Sn	15 30 36.6	0.0
JIJ	Ishigaki jima	3.05	55	P		Pn	15 30 06.0	+0.8
JIJ				eS		Sn	15 30 40.9	+0.1
PTMZ	Houxiangcun	3.19	319	eP		Pn	15 30 07.9	+0.7
	baz=314							
KNM	Kinmen	3.26	304	eP		Pn	15 30 10.2	+2.1
	baz=298							
JISG	Ishigakijimahi	3.30	53	P		Pn	15 30 09.2	+0.5
JISG				S		Sn	15 30 46.7	-0.4
KNMB	Chin-men Tao	3.32	304	eP		Pn	15 30 09.7	+0.7
	baz=300							
JTJ	Tarama	3.62	56	P		Pn	15 30 14.0	+0.8
JTJ				eS		Sn	15 30 55.6	+0.5
AXDP	Jialang	3.88	306	eP		Pn	15 30 17.5	+0.8
	baz=302							
JMJ2	Miyako jima3	4.16	59	P		Pn	15 30 21.6	+1.1

*IDC **30** 15:29:48.2±1.7, 40°.41N×139°.62E, h196km±20km, mb3.3/7, mbtmp3.7/9, Error ellipse: s-maj=34.3km s-min=15.5km az=78.0*
*JMA **30** 15:29:48.0±0.2, 40°.5N±0°.5×14°.0E±°, h192km±1km, MV2.8/29, W OFF AOMORI PREF*
ISC 30 15:29:48.1±0.9, 40°.45N±0°.06×139°.61E±0°.10, h200km, n21, σ0°.85/23, mb3.7/7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIW	Iwasaki	0.34	65	P	Pn	15 30 14.0	-0.6
JIW				S	Sn	15 30 33.7	-1.5
JNTW	Noshirotokiwa	0.46	113	eP	Pn	15 30 14.5	-0.5
JOG3	Oga3	0.67	217	eP	Pn	15 30 14.7	-1.2
JAH	Hinai	0.83	108	P	Pn	15 30 16.3	-0.5
JOMM	Oshimamatsumae	1.11	16	eP	Pn	15 30 17.9	-0.6
JSR	Shiriuchi	1.24	29	P	Pn	15 30 19.1	-0.3
JOT	Ohata	1.44	49	P	Pn	15 30 21.1	0.0
JANG	Nango	1.46	92	P	Pn	15 30 21.5	+0.1
JOM	Ohasama	1.62	126	P	Pn	15 30 22.8	-0.1
JYK	Kaneyama	1.64	159	P	Pn	15 30 22.8	-0.3
JMK	Ichinoseki	1.95	140	iP	Pn	15 30 25.9	-0.2
JSD	Sado	2.63	204	eP	Pn	15 30 32.8	-0.6
MJAR	Matsushiro Arr	4.05	196	P	Pn	15 30 50.3	-0.3
	1.4nm,0.6s,baz=357,slow=13,SNR=4.2						
ASAJ	Asahikawa	4.28	30	P	Pn	15 30 53.6	+0.3
	17nm,1.1s,baz=226,slow=14,SNR=12						
ASAJ				S	Sn	15 31 42.1	-2.5
	7.4nm,0.7s,baz=337,slow=19,SNR=1.4						
ZALV	Zalesovo Beam	38.61	309	P	P	15 36 52.1	+0.6
	0.9nm,0.4s,baz=86,slow=8.7,SNR=4.3						
	0.9nm,0.4s						
MKAR	Makanchi Array	41.17	299	P	P	15 37 13.3	+0.5
	0.3nm,0.6s,baz=87,slow=9.5,SNR=2.3						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	42.84	305	P	P	15 37 26.7	+0.6
	1.2nm,0.4s,baz=80,slow=8.6,SNR=10						
	1.2nm,0.4s						
BVAR	Borovoye Array	47.27	310	P	P	15 38 01.9	+0.9
	0.4nm,0.4s,baz=90,slow=6.1,SNR=2.3						
	0.4nm,0.4s						
WRA	Warramunga Arr	60.28	186	P	P	15 39 36.0	+0.5
	0.6nm,0.4s,baz=3.4,slow=7.3,SNR=8.3						
	0.6nm,0.4s						
ASAR	Alice Springs	64.01	186	P	P	15 40 00.0	-0.2
	0.2nm,0.8s,baz=7.8,slow=7.5,SNR=1.9						
	0.2nm,0.8s						
FINES	FINESS Array B	65.14	331	P	P	15 40 07.9	+0.8
	8.2nm,1.1s,baz=39,slow=9.0,SNR=2.3						
	8.2nm,1.1s						

*SJA **30** 15:33:55.7±0.7, 24°.63S×69°.68W, h118km±8km, ML3.0, MW3.5*
*GUC **30** 15:33:56.8±0.7, 24°.73S×69°.48W, h94km±3km, ML3.2*
ISC 30 15:33:55.2±1.5, 24°.73S±0°.04×69°.53W±0°.08, h111km±11km, n27, σ1°.78/40, 5C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	0.43	187	eP	Pn	15 34 11.5	-0.7
GO02				eS	Sn	15 34 22.7	-2.2
GO02				IAML		15 34 23.5	
	comp=E,2μm,0.4s						
PB14	IPOC Station P	0.80	277	iP	Pn	15 34 15.7	+0.8
PB14				eS	Sn	15 34 29.7	-0.1
PB14	IPOC Station P	0.80	277	eP	Pn	15 34 15.7	+0.8
PB14				eS	Sn	15 34 30.3	+0.5
PB14				IAML		15 34 31.2	
	comp=Z,214nm,0.2s						
PB15	IPOC Station P	1.52	2	iP	Pn	15 34 23.5	+0.9
PB15				eS	Sn	15 34 43.6	+0.3
PB15	IPOC Station P	1.52	2	eP	Pn	15 34 23.6	+1.1
PB15				eS	Sn	15 34 44.1	+0.9
AC01	Pan de Azucar	1.71	214	eP	Pn	15 34 25.6	+1.0
AC01				eS	Sn	15 34 48.3	+1.2
AC01				IAML		15 34 51.3	
	comp=N,145nm,0.2s						
PB06	IPOC Station P	2.02	359	iP	Pn	15 34 29.5	+0.9
PB06				eS	Sn	15 34 54.2	+0.1
PB06				IAML		15 34 59.1	
	comp=E,199nm,0.2s						
PB06	IPOC Station P	2.02	359	eP	Pn	15 34 29.6	+0.9
PB06				eS	Sn	15 34 53.5	-0.7
PB06				IAML		15 34 56.8	
	comp=Z,114nm,0.2s						
AF01	San Pedro de A	2.16	35	eP	Pn	15 34 31.6	+1.0
AF01				eS	Sn	15 34 58.1	+0.5
AF01				IAML		15 35 02.9	
	comp=N,306nm,0.4s						
LVC	Limon Verde	2.19	15	iP	Pn	15 34 31.9	+1.0
LVC				iS	Sn	15 34 57.7	-0.7
LVC				IAML		15 35 05.6	
	comp=N,336nm,0.3s						
LVC	Limon Verde	2.19	15	eP	Pn	15 34 32.0	+1.0
LVC				eS	Sn	15 34 58.7	+0.4
LVC				IAML		15 35 08.6	
	comp=Z,46nm,0.5s						
PB04	IPOC Station P	2.45	346	eP	Pn	15 34 35.4	+1.2
PB04				eS	Sn	15 35 02.7	-1.5
PB04				IAML		15 35 17.8	
	comp=E,92nm,0.1s						
PB04	IPOC Station P	2.45	346	eP	Pn	15 34 36.5	+2.2
PB04				IAML		15 35 16.1	
	comp=Z,58nm,0.1s						
AC06	Mina Casimiro	2.72	196	eP	Pn	15 34 40.1	+2.5
AC06				IAML		15 35 20.1	
	comp=N,43nm,0.3s						
GO03	Copiap	2.92	192	eP	Pn	15 34 38.2	-2.0
GO03				eS	Sn	15 35 14.4	-0.5
GO03				IAML		15 35 16.2	
	comp=E,56nm,0.2s						
PB09	IPOC Station P	2.93	5	eP	Pn	15 34 42.4	+1.9
PB09				IAML		15 35 26.1	
	comp=E,45nm,0.5s						
PB09	IPOC Station P	2.93	5	eP	Pn	15 34 42.6	+2.1
PB09				IAML		15 35 40.8	
	comp=Z,46nm,0.6s						
PB07	IPOC Station P	3.01	354	eP	Pn	15 34 42.0	+0.5
PB07				IAML		15 35 33.6	
	comp=E,51nm,0.4s						
PB07	IPOC Station P	3.01	354	eP	Pn	15 34 42.0	+0.5
PB07				eS	Sn	15 35 09.3	-7.9
PB07				IAML		15 35 43.6	
	comp=Z,53nm,0.3s						
PB02	IPOC Station P	3.41	354	eP	Pn	15 34 46.8	-0.1
PB02				eS	Sn	15 35 25.7	-1.0
PB02				IAML		15 35 48.7	
	comp=E,70nm,0.3s						
FSA	Cafayete	3.49	114	eP	Pn	15 34 56.3	+8.4
FSA				eS	Sn	15 35 50.2	+22
PB01	IPOC Station P	3.67	1	iP	Pn	15 34 50.9	+0.6
PB01				eS	Sn	15 35 32.5	-0.3
PB01	IPOC Station P	3.67	1	eP	Pn	15 34 50.6	+0.3
PB01				IAML		15 35 40.8	
	comp=Z,29nm,0.2s						
HMBC	Humberstone	4.44	356	eS	Sn	15 35 49.8	-1.8
HMBC	Humberstone	4.44	356	eP	Pn	15 35 08.8	+8.1
PB08	IPOC Station P	4.58	4	eS	Sn	15 35 54.4	-0.8
AROD	Rodeo	5.42	179	eP	Pn	15 35 03.9	-10

*IDC **30** 15:46:27.1±0.6, 27°.37N×140°.10E, h444km±8km, mb3.4/13, mbtmp4.2/15, Error ellipse: s-maj=22.7km s-min=11.8km az=78.0*
*JMA **30** 15:46:31.0±0.1, 28°N±2°×14°1E±°, h472km, MV3.8/26, W OFF OGASAWARA*
ISC 30 15:46:29.8±0.9, 27°.6N±0°.1×140°.4E±0°.1, h472km, n27, σ2°.12/29, mb3.7/13, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	1.66	106	eP	P	15 47 31.0	+0.2
CBIJ				eS	S	15 48 18.6	-1.5
JCJ	Chichijima	1.66	106	P	P	15 47 27.0	-3.7
	101nm,0.6s,baz=279,slow=19,SNR=10						
JCJ				S	S	15 48 14.3	-5.8
	200nm,0.3s,baz=326,slow=18,SNR=15						
JHH2	Haha-jima-NKT2	1.83	120	eP	P	15 47 32.6	+1.0
JHH2				eS	S	15 48 21.0	-0.6
JIE	Ise	7.51	336	eP	P	15 48 23.1	+2.9
JEG	Eigenji	8.29	337	eP	P	15 48 31.9	+3.3
JYT	Yasato	8.64	359	eP	P	15 48 33.4	+1.2
JYT				eS	S	15 50 10.8	-2.0
JAG	Ashikaga	8.87	355	eP	P	15 48 35.0	+0.3
JAG				eS	S	15 50 14.9	-2.5
JHO	Hitachi	9.02	1	eP	P	15 48 38.3	+2.0
JHO				eS	S	15 50 19.1	-1.3
MJAR	Matsushiro Arr	9.14	349	P	P	15 48 38.3	+0.7
	3.1nm,0.7s,baz=166,slow=10,SNR=7.6						
MJAR				S	S	15 50 19.6	-3.1
	1.4nm,0.9s,baz=162,slow=22,SNR=2.0						
JNU	Nakatsue	9.91	306	P	P	15 48 46.6	+0.6
	2.2nm,0.3s,baz=165,slow=6.7,SNR=15						
JAMN	Amaminishikomi	9.95	276	eP	P	15 48 45.9	-0.6
JOW	Kunigami	10.82	269	eP	P	15 48 54.3	-1.6
JOW	Kunigami	10.82	269	P	P	15 48 53.7	-2.2
	80nm,0.5s,baz=122,slow=8.8,SNR=11						
USRK	Ussuriysk Ar.	17.93	340	P	P	15 50 11.3	+0.7
	3.6nm,0.6s,baz=181,slow=9.1,SNR=7.3						
WRA	Warramunga Arr	47.59	188	P	P	15 54 19.8	-2.2
	0.4nm,0.3s,baz=6.8,slow=7.8,SNR=8.1						
	0.4nm,0.3s						
ZALV	Zalesovo Beam	48.09	319	P	P	15 54 24.1	-1.1
	0.8nm,0.3s,baz=122,slow=7.1,SNR=6.4						
	0.8nm,0.3s						
MKAR	Makanchi Array	48.95	309	P	P	15 54 30.2	-1.7
	0.5nm,0.4s,baz=100,slow=8.7,SNR=2.6						
	0.5nm,0.4s						
ASAR	Alice Springs	51.32	188	P	P	15 54 47.3	-2.2
	0.2nm,0.5s,baz=358,slow=4.5,SNR=17						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	51.58	314	P	P	15 54 50.1	-1.0
	4.3nm,0.5s,baz=91,slow=7.8,SNR=56						
	4.3nm,0.5s						
BVAR	Borovoye Array	56.62	317	P	P	15 55 26.3	-0.5
	6.4nm,0.4s,baz=86,slow=6.9,SNR=56						
	6.4nm,0.4s						
ILAR	Eielson Array	58.06	29	P	P	15 55 37.8	+1.3
	0.3nm,0.8s,baz=253,slow=5.7,SNR=5.8						
	0.3nm,0.8s						
SPITS	Spitsbergen Ar	69.64	349	P	P	15 56 51.5	+1.2
	11nm,0.9s,baz=71,slow=9.3,SNR=1.7						
	11nm,0.9s						
ARCES	ARCESS Array B	72.57	340	P	P	15 57 08.2	+0.5
	4.2nm,0.8s,baz=70,slow=8.2,SNR=8.5						
	4.2nm,0.8s						
FINES	FINESS Array B	76.82	333	P	P	15 57 31.3	-0.5
	3.4nm,0.5s,baz=72,slow=4.6,SNR=27						
	3.4nm,0.5s						
NVAR	Mina Array Bea	81.47	51	P	P	15 58 00.1	+2.8
	0.4nm,0.5s,baz=293,slow=6.2,SNR=4.4						
	0.4nm,0.5s						
HFS	Hagfors	82.36	336	P	P	15 57 60.0	-1.2
	2.3nm,0.6s,baz=0.0,slow=1.5,SNR=5.7						
	2.3nm,0.6s						
NOA	NORSAR Array B	82.58	338	P	P	15 58 01.5	-0.8
	1.4nm,0.7s,baz=47,slow=5.1,SNR=3.4						
	1.4nm,0.7s						

*WEL **30** 15:47:53.5±0.6, 37°S±5°×17°7E±°, h10km±4km, M3.4/81, ML3.7/18, MLv3.4/81, Error ellipse: s-maj=0.0km s-min=0.0km az=16.4, confirmed*
*NOU **30** 15:47:54.6, 37°.51S×177°.27E, h13km, MLv3.8/6, Off E. Coast of N. Island, N.Z.*
ISC 30 15:47:54.4±1.0, 37°.49S±0°.04×177°.32E±0°.02, h16km±7km, n122, σ0°.89/128, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.11	250	P	Pb	15 47 57.9	-0.2
WIZ				S	Sg	15 48 00.2	0.0
WSRZ	White Island S	0.12	256	P	Pb	15 47 58.2	0.0
WSRZ				S	Sg	15 48 01.1	+0.7
HAZ	Te Kaha	0.45	126	P	Pg	15 48 03.1	-0.3
HAZ				S	Sg	15 48 09.3	-0.3
WHRZ	Whale Island	0.46	217	P	Pb	15 48 04.2	+0.1
WHRZ				S	Sb	15 48 12.4	+1.8
RUGZ	Raukumara Rang	0.55	149	P	Pg	15 48 04.8	-0.6
RUGZ				S	Sg	15 48 12.5	-0.3
OPRZ	Ohinepanea	0.70	240	P	Pb	15 48 08.3	0.0
MARZ	Manawahe	0.71	226	P	Pb	15 48 08.6	+0.2
PKGZ	Pakihiroa	0.72	124	P	Pg	15 48 07.3	-1.1
EDRZ	Edgecumbe	0.77	217	P	Pb	15 48 09.7	+0.3
MXZ	Matakaoa Point	0.79	96	P	Pn	15 48 10.8	0.0
MXZ	Matakaoa Point	0.79	96	P	Pb	15 48 10.4	+0.8
URZ	Urewera	0.79	192	P	Pb	15 48 09.6	-0.1
URZ	Urewera	0.79	192	P	Pg	15 48 09.4	-0.3
URZ				S	Sb	15 48 20.3	+0.2
MWZ	Matawai	0.86	169	P	Pg	15 48 10.5	-0.6
TWGZ	Tauwhareparae	0.86	143	P	Pb	15 48 11.2	+0.2
TGRZ	Tauranga	0.88	254	P	Pb	15 48 11.0	-0.1
MYRZ	Mayor Island	0.89	283	P	Pb	15 48 11.4	0.0
LIRZ	Lichensteins R	0.90	235	P	Pn	15 48 12.2	-0.2
WMGZ	Waiomatatini S	0.93	111	P	Pb	15 48 12.3	+0.2
MKRZ	Makatiti	0.94	226	P	Pn	15 48 13.2	+0.3
PUZ	Puketiti	0.94	128	P	Pb	15 48 12.8	+0.5
OMRZ	Omania	0.97	230	P	Pb	15 48 13.0	+0.1
TARZ	Mount Tarawera	0.99	221	P	Pn	15 48 13.5	-0.1
KARZ	Kaharoa	1.01	238	P	Pg	15 48 13.2	-0.6
RAGZ	Rawiri	1.01	176	P	Pg	15 48 13.4	-0.5
TKGZ	Te Karaka	1.04	156	P	Pn	15 48 14.5	+0.3
RRRZ	Republican Roa	1.06	217	P	Pb	15 48 14.1	-0.2
MUGZ	Murupara	1.08	204	P	Pb	15 48 14.1	-0.5
HLRZ	Highlands Stat	1.08	225	P	Pb	15 48 14.7	0.0
NGRZ	Ngongotaha	1.09	235	P	Pb	15 48 14.8	0.0
UTU	Utuhina	1.13	232	P	Pn	15 48 16.0	+0.5
KMRZ	Kaimai	1.15	252	P	Pb	15 48 15.0	-0.9
RTZ	Ruatahuna	1.16	193	P	Pb	15 48 15.2	-0.8
HSRZ	Hossack Road	1.18	226	P	Pg	15 48 19.5	+2.3
CNGZ	Carnagh Statio	1.22	145	P	Pg	15 48 18.7	+0.9
PRRZ	Plateau Road	1.25	216	P	Pn	15 48 16.8	-0.4
RIGZ	Rimuhau	1.26	164	P	Pg	15 48 18.7	-0.1
SNGZ	Shannon Statio	1.29	179	P	Pn	15 48 17.8	0.0
WPRZ	Whakapapatarin	1.38	221	P	Pg	15 48 22.8	+1.9
MTHZ	Maungataniwha	1.41	195	P	Pn	15 48 19.0	-0.5
RAHZ	Arahi	1.44	187	P	Pn	15 48 19.6	-0.2
TOZ	Tahuroa Road	1.47	260	P	Pn	15 48 19.2	-0.9
KUZ	Kuaotunu	1.48	300	P	Pn	15 48 19.1	-1.2
PRGZ	Paritu Road	1.50	163	P	Pg	15 48 22.5	-0.7
MRHZ	Matea Rd	1.52	208	P	Pn	15 48 20.8	-0.2
KNZ	Kokohu	1.56	170	P	Pn	15 48 22.3	+0.9
WHHZ	Waihua	1.59	182	P	Pb	15 48 23.1	-0.2
TLZ	Tolley Road	1.64	239	P	Pn	15 48 22.2	-0.4
NMHZ	Naumai	1.66	194	P	Pb	15 48 24.8	+0.3
MHGZ	Mahia Peninsul	1.72	165	P	Pn	15 48 24.8	+1.1
MKAZ	Moumakai	1.77	282	P	Pn	15 48 23.7	-0.6
ARHZ	Aropaoanui	1.79	188	P	Pb	15 48 25.9	-0.8
BKZ	Black Stump Fm	1.80	201	P	Pn	15 48 24.5	-0.3
BKZ	Black Stump Fm	1.80	201	P	Pn	15 48 24.5	-0.3
RATZ	Rangitukua	1.84	221	P	Pg	15 48 30.5	+0.8
RITZ	Rihia Road	1.88	217	P	Pg	15 48 30.4	-0.1
WIAZ	Waiheke Island	1.88	291	P	Pn	15 48 25.5	-0.3
GRZ	Great Barrier	1.94	309	P	Pn	15 48 25.8	-0.8
KATZ	Kakaramea	1.96	220	P	Pg	15 48 31.9	-0.1
ETAZ	East Tamaki Re	1.98	285	P	Pn	15 48 27.4	+0.1
MCHZ	McNeill Hill	2.01	194	P	Pn	15 48 29.2	+1.5
KWHZ	Kaweka Forest	2.06	200	P	Pn	15 48 29.0	+0.7
NTVZ	North Tongarir	2.06	218	P	Pb	15 48 30.6	-0.9
TMVZ	Te Maari	2.06	218	P	Pn	15 48 29.9	+1.5
MBAZ	Motutapu North	2.07	290	P	Pn	15 48 28.2	-0.1
ETVZ	East Tongariro	2.08	217	P	Pn	15 48 29.6	+1.0
KRVZ	Karewarewa	2.08	219	P	Pb	15 48 31.0	-0.8
NNVZ	North Ngauruho	2.12	219	P	Pn	15 48 30.7	+1.5
OTVZ	Oturere	2.12	217	P	Pn	15 48 30.4	+1.1
WTVZ	West Tongariro	2.12	219	P	Pg	15 48 33.9	-1.2
EPAZ	Eden Park BICE	2.15	286	P	Pn	15 48 30.1	+0.6
SNVZ	South Ngauruho	2.15	217	P	Pn	15 48 30.7	+1.0
NGZ	Ngauruhoe	2.16	218	P	Pb	15 48 33.7	+0.5
TWVZ	Taurewa	2.17	223	P	Pg	15 48 34.7	-1.2
CKHZ	Cape Kidnapper	2.17	185	P	Pn	15 48 31.1	+1.2
AWAZ	Awhitu Peninsu	2.18	280	P	Pn	15 48 30.1	+0.2
TUVZ	Tukino	2.21	216	P	Pb	15 48 34.3	+0.3
COVZ	Chateau Observ	2.21	219	P	Pb	15 48 34.3	+0.3
BHHZ	Black Hill Sta	2.23	206	P	Pn	15 48 30.8	+0.1
FWVZ	Far West T-bar	2.25	218	P	Pb	15 48 34.6	-0.1
WHVZ	Whangaehu Hut	2.25	217	P	Pb	15 48 34.7	0.0
WTAZ	Waiatarua	2.26	283	P	Pn	15 48 31.5	+0.4
KRHZ	Kereru	2.28	199	P	Pn	15 48 32.3	+1.0
MOVZ	Moawhango	2.28	212	P	Pn	15 48 32.3	+0.9
WNVZ	Wahianoa	2.28	216	P	Pn	15 48 33.3	+1.8
TRVZ	Turoa	2.28	217	P	Pb	15 48 33.7	-1.6
RVAZ	Riverhead Bore	2.31	287	P	Pn	15 48 31.8	+0.1
KAHZ	Kahuranaki	2.33	188	P	Pn	15 48 32.8	+0.7
PKVZ	Pokaka	2.38	220	P	Pb	15 48 35.9	-0.9
MTVZ	Mangateitei	2.39	217	P	Pn	15 48 34.7	+1.8
PXZ	Pawanui	2.56	188	P	Pn	15 48 34.5	-0.8
PNHZ	Pukenui	2.58	200	P	Pn	15 48 35.8	+0.3
VRZ	Vera Road	2.59	230	P	Pb	15 48 38.4	-2.1
WPHZ	Waipukurau	2.66	195	P	Pn	15 48 37.0	+0.4
TSZ	Takapari Road	2.78	202	P	Pn	15 48 38.5	+0.3
PRHZ	Porangahau	2.83	191	P	Pn	15 48 38.2	-0.6
WCZ	Waipu Caves	2.85	302	P	Pn	15 48 39.1	-0.1
WAZ	Wanganui	2.91	218	P	Pn	15 48 42.5	+2.5
DVHZ	Dannevirke	2.95	197	P	Pn	15 48 40.1	-0.4
LREZ	Lake Rotokare	3.02	228	P	Pb	15 48 45.6	-2.2
ANWZ	Angora Road	3.04	192	P	Pn	15 48 41.3	-0.5
NEZ	North Egmont	3.10	234	P	Pn	15 48 45.3	+2.6
PKE	Pukeiti	3.13	236	P	Pb	15 48 49.0	-0.5
KHEZ	Kahui Hut	3.16	234	P	Pb	15 48 49.2	-1.0
MRZ	Mangatainoka R	3.45	203	P	Pn	15 48 46.5	-0.8
TIWZ	Tintock	3.47	198	P	Pn	15 48 46.8	-0.9
HOWZ	Holdsworth Sta	3.68	202	P	Pn	15 48 49.3	-1.3
OGWZ	Otaki Gorge	3.72	206	P	Pn	15 48 50.5	-0.6
OUZ	Omahuta	3.76	306	P	Pn	15 48 52.0	+0.3
OUZ	Omahuta	3.76	306	P	Pn	15 48 52.4	+0.7
TMWZ	Te Maipa	3.78	197	P	Pn	15 48 50.1	-1.9
KIW	Kapiti Island	3.85	208	P	Pn	15 48 52.6	-0.4
CAW	Cannon Point	4.01	205	P	Pn	15 48 54.2	-1.0
DUWZ	D'Urville Isla	4.23	218	P	Pn	15 48 58.5	+0.2
SNZO	South Karori	4.32	207	P	Pn	15 48 59.1	+0.1
TCW	Tory Channel	4.40	211	P	Pn	15 48 59.1	-1.4
TUWZ	Tuamarina	4.72	213	P	Pn	15 49 03.6	-1.3
QRZ	Quartz Range	5.00	227	P	Pn	15 49 08.8	+0.1
QRZ	Quartz Range	5.00	227	P	Pn	15 49 09.6	+0.9
MRNZ	Matariki Terra	5.26	221	P	Pn	15 49 11.9	-0.5
THZ	Tophouse	5.46	217	P	Pn	15 49 14.3	-0.8
CTZ	Chatham Island	7.76	145	P	Pn	15 49 47.4	+0.9

*JMA **30** 15:52:54.6±0.1, 24°N±1°×122°.5E±0°.4, h45km±2km, MV2.6/15, NW OFF ISHIGAKIJIMA IS*
*TAP **30** 15:52:54.6, 24°.32N×122°.51E, h49km, ML3.1, C*
ISC 30 15:52:55.0±1.2, 24°.28N±0°.03×122°.53E±0°.02, h49km±7km, n108, σ1°.09/187, 1C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS3	EOS3	0.20	272	iP	Pn	15 53 03.0	0.0
	baz=257						
EOS3				iS	Sn	15 53 09.3	+0.7
	baz=257						
EOS4	EOS4	0.25	231	iP	Pn	15 53 03.4	+0.3
	baz=221						
EOS4				S	Sn	15 53 10.4	+1.4
	baz=221						
EOS2	EOS2	0.31	297	iP	Pn	15 53 04.0	+0.1
	baz=278						
JYNG	Yonagunijimaku	0.41	66	iP	Pn	15 53 04.8	-0.4
JYNG				eS	Sn	15 53 11.8	-0.6
YOJ	Yonaguni jima	0.47

FUSB	**Fushanzhiwuyua**	**0.98 299**	*i* P	**Pn**	**15 53 12.5**	**-0.1**
	baz=308					
FUSB			S	**Sn**	**15 53 24.7**	**-0.8**
	baz=308					
ETM	**Tongmen**	**1.00 252**	P	**Pn**	**15 53 11.5**	**-1.2**
	baz=242					
ETM			S	**Sn**	**15 53 24.4**	**-1.4**
	baz=242					
SXI1	**Grass Mountain**	**1.01 324**	P	**Pn**	**15 53 12.2**	**-0.7**
	baz=330					
SXI1			S	**Sn**	**15 53 24.7**	**-1.3**
	baz=330					
NWF	**Wu-fen Shan**	**1.04 319**	*i* P	**Pn**	**15 53 12.4**	**-0.9**
	baz=318					
NWF			*i* S	**Sn**	**15 53 25.5**	**-1.4**
	baz=318					
WFSB	**Wu-fen Shan**	**1.04 319**	*i* P	**Pn**	**15 53 12.7**	**-0.6**
	baz=318					
WFSB			S	**Sn**	**15 53 25.4**	**-1.4**
	baz=318					
LXIB	**Xiulin Townshi**	**1.05 256**	P	**Pn**	**15 53 12.2**	**-1.3**
	baz=253					
LXIB			S	**Sn**	**15 53 26.1**	**-1.2**
	baz=253					
NNSB	**Datong**	**1.06 278**	*i* P	**Pn**	**15 53 13.2**	**-0.5**
	baz=265					
NNSB			S	**Sn**	**15 53 26.9**	**-0.5**
	baz=265					
NWLT	**Wulai**	**1.06 298**	P	**Pn**	**15 53 13.9**	**+0.4**
	baz=304					
NWLT			S	**Sn**	**15 53 27.4**	**+0.2**
	baz=304					
NNS	**Nan Shan**	**1.07 279**	*i* P	**Pn**	**15 53 13.2**	**-0.6**
	baz=266					
NNS			*i* S	**Sn**	**15 53 27.3**	**-0.3**
	baz=266					
IRIF	**Iriomote-Funau**	**1.09 87**	P	**Pn**	**15 53 13.8**	**-0.1**
IRIF			S	**Sn**	**15 53 28.2**	**+0.2**
ESL	**Shilin**	**1.11 245**	P	**Pn**	**15 53 13.2**	**-1.0**
	baz=233					
ESL			S	**Sn**	**15 53 26.8**	**-1.5**
	baz=233					
TNOU	**National Taiwa**	**1.11 322**	S	**Sn**	**15 53 27.0**	**-1.4**
	baz=320					
YHNB	**Yeheng**	**1.12 290**	P	**Pn**	**15 53 14.6**	**+0.2**
YHNB	**Yeheng**	**1.12 290**	P	**Pn**	**15 53 14.4**	**0.0**
	baz=276					
YHNB			S	**Sn**	**15 53 28.9**	**+0.1**
	baz=276					
NSK	**Sanguang**	**1.14 291**	⇑*i* P	**Pn**	**15 53 14.9**	**+0.2**
	baz=276					
NSK			*i* S	**Sn**	**15 53 29.3**	**+0.1**
	baz=276					
NHDH	**Xindian Distri**	**1.14 307**	*e*P	**Pn**	**15 53 14.3**	**-0.3**
	baz=316					
NHDH			*e*S	**Sn**	**15 53 28.3**	**-0.9**
	baz=316					
WHF	**Hehuan Shan**	**1.16 264**	P	**Pn**	**15 53 14.6**	**-0.8**
	baz=249					
WHF			*e*S	**Sn**	**15 53 28.8**	**-1.6**
	baz=249					
TATO	**Taipei**	**1.18 306**	P	**Pn**	**15 53 17.1**	**+2.0**
EGFH	**Guangfu**	**1.18 239**	P	**Pn**	**15 53 14.3**	**-0.8**
	baz=228					
EGFH			*e*S	**Sn**	**15 53 29.4**	**-0.7**
	baz=228					
HATJ	**Hateruma jima**	**1.19 101**	*e*P	**Pn**	**15 53 16.2**	**+1.0**
WARBT	**Fenglin Townsh**	**1.19 242**	P	**Pn**	**15 53 14.1**	**-1.2**
	baz=231					
WARBT			*e*S	**Sn**	**15 53 28.6**	**-1.7**
	baz=231					
YM01	**YM01**	**1.23 315**	P	**Pn**	**15 53 14.8**	**-1.1**
	baz=313					
YM01			S	**Sn**	**15 53 29.9**	**-1.5**
	baz=313					
TWT	**Tachien**	**1.24 269**	P	**Pn**	**15 53 16.6**	**+0.5**
	baz=259					
TDCB	**Techi**	**1.25 269**	P	**Pn**	**15 53 16.5**	**+0.2**
	baz=266					
TDCB			*e*S	**Sn**	**15 53 31.1**	**-1.0**
	baz=266					
CHGB	**Renai**	**1.26 260**	P	**Pn**	**15 53 16.1**	**-0.3**
	baz=247					
CHGB			*e*S	**Sn**	**15 53 32.1**	**-0.2**
	baz=247					
OWD	**Renai**	**1.28 256**	P	**Pn**	**15 53 16.4**	**-0.3**
	baz=253					
OWD			*e*S	**Sn**	**15 53 29.6**	**-3.2**
	baz=253					
HGSD	**Ruisui**	**1.28 233**	P	**Pn**	**15 53 15.3**	**-1.2**
	baz=222					
HGSD			S	**Sn**	**15 53 31.3**	**-1.3**
	baz=222					
ANP	**Anpu**	**1.29 315**	*e*P	**Pn**	**15 53 15.9**	**-0.8**
	baz=312					
TWS1	**Kuangyinshan**	**1.30 309**	P	**Pn**	**15 53 16.5**	**-0.3**
	baz=317					
TWS1			S	**Sn**	**15 53 32.4**	**-0.7**
	baz=317					
WUSB	**Renai**	**1.32 258**	*e*P	**Pn**	**15 53 16.8**	**-0.4**
	baz=246					
WUSB			*e*S	**Sn**	**15 53 33.5**	**-0.3**
	baz=246					
NFF	**Wufeng Townshi**	**1.33 286**	*e*P	**Pn**	**15 53 17.9**	**+0.6**
	baz=283					
EHY	**Hungye**	**1.35 235**	P	**Pn**	**15 53 16.6**	**-0.9**
	baz=233					
EHY			S	**Sn**	**15 53 33.0**	**-1.3**
	baz=233					
JKRS	**Kuro-shima**	**1.35 91**	P	**Pn**	**15 53 18.0**	**+0.6**
JKRS			S	**Sn**	**15 53 34.9**	**+0.7**
VWDT	**VWDT**	**1.38 248**	P	**Pn**	**15 53 17.9**	**+0.1**
	baz=245					
VWDT			S	**Sn**	**15 53 34.5**	**-0.4**
	baz=245					
ECBN	**Changbin**	**1.38 226**	*e*P	**Pn**	**15 53 17.7**	**-0.1**
	baz=215					
ECBN			*e*S	**Sn**	**15 53 33.1**	**-1.8**
	baz=215					
LIOB	**Emei**	**1.43 285**	P	**Pn**	**15 53 19.2**	**+0.7**
	baz=274					
LIOB			*e*S	**Sn**	**15 53 37.8**	**+1.6**
	baz=274					
YULB	**Yu-li**	**1.43 232**	P	**Pn**	**15 53 17.8**	**-0.8**
YULB	**Yu-li**	**1.43 232**	P	**Pn**	**15 53 17.8**	**-0.8**
	baz=242					
YULB			S	**Sn**	**15 53 34.9**	**-1.5**
	baz=242					
NSTT	**Nanjuang**	**1.44 284**	P	**Pn**	**15 53 19.1**	**+0.5**
	baz=282					
NSTT			S	**Sn**	**15 53 37.7**	**+1.3**
	baz=282					
EYUL	**Yuli**	**1.45 230**	*e*P	**Pn**	**15 53 18.0**	**-0.8**
	baz=241					
EYUL			*e*S	**Sn**	**15 53 36.4**	**-0.2**
	baz=241					
WHP	**Taichung City**	**1.45 270**	*e*P	**Pn**	**15 53 19.7**	**+0.8**
	baz=259					
WHP			*e*S	**Sn**	**15 53 36.9**	**+0.1**
	baz=259					
TWF1	**Yuli**	**1.46 231**	P	**Pn**	**15 53 17.9**	**-1.0**
	baz=241					
TWF1			*e*S	**Sn**	**15 53 35.4**	**-1.6**
	baz=241					
JIJ	**Ishigaki jima**	**1.47 86**	P	**Pn**	**15 53 19.0**	**-0.1**
JIJ			*e*S	**Sn**	**15 53 37.0**	**-0.3**
WCS	**Beigang Elemen**	**1.50 262**	*e*P	**Pn**	**15 53 19.4**	**0.0**
	baz=252					
SSLB	**Suanglung**	**1.52 252**	P	**Pn**	**15 53 19.6**	**-0.3**
SSLB	**Suanglung**	**1.52 252**	*e*P	**Pn**	**15 53 18.9**	**-1.0**
	baz=249					
SSLB			*e*S	**Sn**	**15 53 38.6**	**+0.1**
	baz=249					
SMLT	**Sun Moon Lake**	**1.54 256**	*i* P	**Pn**	**15 53 20.4**	**+0.2**
	baz=244					
SMLT			S	**Sn**	**15 53 38.7**	**-0.4**
	baz=244					
FULB	**Fuli**	**1.56 227**	*e*P	**Pn**	**15 53 19.0**	**-1.4**
	baz=215					
FULB			*e*S	**Sn**	**15 53 39.3**	**-0.2**
	baz=215					
TYC	**Yuchr**	**1.57 257**	P	**Pn**	**15 53 20.4**	**-0.1**
	baz=245					
CHKT	**Chengkung**	**1.59 223**	*e*P	**Pn**	**15 53 19.2**	**-1.5**
	baz=213					
CHKT			S	**Sn**	**15 53 37.1**	**-3.0**
	baz=213					
TWQ1	**Liyutan**	**1.60 273**	P	**Pn**	**15 53 22.0**	**+1.0**
	baz=270					
TWQ1			S	**Sn**	**15 53 41.7**	**+1.2**
	baz=270					
NMLH	**Miaoli**	**1.61 280**	*e*P	**Pn**	**15 53 21.0**	**+0.1**
	baz=277					
NMLH			*e*S	**Sn**	**15 53 41.6**	**+1.1**
	baz=277					
WHYT	**Xinyi Township**	**1.64 250**	*e*P	**Pn**	**15 53 22.3**	**+0.8**
	baz=240					
WHYT			*e*S	**Sn**	**15 53 43.4**	**+1.9**
	baz=240					
JISG	**Ishigakijimahi**	**1.65 79**	P	**Pn**	**15 53 21.2**	**-0.3**
JISG			*e*S	**Sn**	**15 53 41.1**	**-0.5**
EHD	**Haiduan**	**1.66 227**	*e*P	**Pn**	**15 53 20.5**	**-1.2**
	baz=237					
EHD			*e*S	**Sn**	**15 53 40.6**	**-1.2**
	baz=237					
TCU	**Taichung**	**1.70 266**	*e*P	**Pn**	**15 53 23.5**	**+1.2**
	baz=262					
WJS	**Zhushan**	**1.71 255**	*e*P	**Pn**	**15 53 23.3**	**+0.9**
	baz=246					
WJS			*e*S	**Sn**	**15 53 46.0**	**+2.9**
	baz=246					
EDH	**Donghe**	**1.72 221**	*e*P	**Pn**	**15 53 20.7**	**-1.8**
	baz=212					
EDH			*e*S	**Sn**	**15 53 41.2**	**-2.1**
	baz=212					
WNT	**Mingjian**	**1.73 257**	P	**Pn**	**15 53 24.3**	**+1.6**
	baz=254					
WNT			*e*S	**Sn**	**15 53 45.6**	**+1.9**
	baz=254					
ALS	**Alishan**	**1.76 244**	P	**Pn**	**15 53 23.8**	**+0.5**
	baz=242					
ELDTW	**Lidau**	**1.76 232**	*e*P	**Pn**	**15 53 22.6**	**-0.6**
	baz=221					
ELDTW			*e*S	**Sn**	**15 53 42.8**	**-1.7**
	baz=221					
CHN5	**Tsauling**	**1.83 249**	*e*P	**Pn**	**15 53 24.7**	**+0.6**
	baz=237					
CHN5			*e*S	**Sn**	**15 53 47.1**	**+1.0**
	baz=237					
LONT	**Longtian**	**1.88 224**	*e*P	**Pn**	**15 53 23.9**	**-0.7**
	baz=231					
LONT			*e*S	**Sn**	**15 53 46.1**	**-1.1**
	baz=231					
STYH	**Taoyuan**	**1.95 236**	*e*P	**Pn**	**15 53 26.0**	**+0.3**
	baz=234					
STYH			*e*S	**Sn**	**15 53 49.0**	**+0.1**
	baz=234					
WCKO	**Fanlu**	**1.95 245**	*e*P	**Pn**	**15 53 27.1**	**+1.4**
	baz=243					
WCKO			*e*S	**Sn**	**15 53 51.5**	**+2.5**
	baz=243					
TWGBT	**Beinan**	**1.97 223**	*e*P	**Pn**	**15 53 25.1**	**-0.9**
	baz=229					
TWG	**Pinlang**	**1.98 223**	*e*P	**Pn**	**15 53 25.1**	**-0.9**
	baz=229					
TPUB	**Ta-pu**	**2.00 241**	P	**Pn**	**15 53 27.2**	**+0.8**
TPUB	**Ta-pu**	**2.00 241**	P	**Pn**	**15 53 27.1**	**+0.8**
	baz=239					
TPUB			S	**Sn**	**15 53 51.6**	**+1.5**
	baz=239					
CHN4	**Tsaushan**	**2.00 243**	*e*P	**Pn**	**15 53 27.8**	**+1.4**
	baz=234					
CHN4			*e*S	**Sn**	**15 53 53.0**	**+2.8**
	baz=234					
WRL	**Guolierlin Hig**	**2.00 260**	*e*P	**Pn**	**15 53 27.0**	**+0.6**
	baz=257					
WRL			*e*S	**Sn**	**15 53 51.2**	**+0.9**
	baz=257					
JTJ	**Tarama**	**2.01 79**	P	**Pn**	**15 53 26.9**	**+0.4**
JTJ			*e*S	**Sn**	**15 53 50.6**	**+0.2**
WTP	**Ta-pu**	**2.04 240**	*e*P	**Pn**	**15 53 28.3**	**+1.4**
	baz=238					
WTP			*e*S	**Sn**	**15 53 52.4**	**+1.3**
	baz=238					
WTK	**Tuku**	**2.05 254**	*e*P	**Pn**	**15 53 28.5**	**+1.5**
	baz=242					
WTK			*e*S	**Sn**	**15 53 53.7**	**+2.4**
	baz=242					
CHY	**Chiayi**	**2.08 248**	*e*P	**Pn**	**15 53 29.2**	**+1.7**
	baz=246					
CHY			*e*S	**Sn**	**15 53 54.3**	**+2.1**
	baz=246					
TWK	**Hsinying**	**2.13 242**	*e*P	**Pn**	**15 53 29.4**	**+1.2**
	baz=239					
CHN1	**Nanshi**	**2.13 240**	*e*P	**Pn**	**15 53 29.9**	**+1.6**
	baz=237					
SNST	**Tainan City**	**2.14 241**	*e*P	**Pn**	**15 53 29.9**	**+1.6**
	baz=238					
SGST	**Jiashian**	**2.15 237**	*e*P	**Pn**	**15 53 29.2**	**+0.8**
	baz=234					
SGST			*e*S	**Sn**	**15 53 55.7**	**+1.8**
	baz=234					
SLGT	**Liugui**	**2.15 234**	*e*P	**Pn**	**15 53 29.5**	**+1.0**
	baz=223					
SSD	**Sandimen**	**2.32 229**	*e*P	**Pn**	**15 53 31.5**	**+0.8**
	baz=222					
SCST	**Cishan**	**2.33 234**	*e*P	**Pn**	**15 53 32.8**	**+1.9**
	baz=243					
TSMG	**Majia**	**2.33 228**	*e*P	**Pn**	**15 53 32.2**	**+1.2**
	baz=220					
MASBT	**Mashibuluo**	**2.41 227**	*e*P	**Pn**	**15 53 32.4**	**+0.4**
	baz=219					
VWUC	**VWUC**	**2.89 285**	*e*P	**Pn**	**15 53 37.4**	**-1.2**
	baz=281					

*IDC **30** 15:53:34.8±2.3, 32°.17N×142°.01E, h0km, mb3.7/7, mbtmp3.7/10, ML3.1/3, Error ellipse: s-maj=80.9km s-min=19.1km az=68.0*
*JMA **30** 15:53:37.0±0.4, 32°№1°×14°2E±°, h74km, MV3.3/18, FAR E OFF IZU ISLANDS*
ISC 30 15:53:39.3±1.3, 32°.21N±0°.08×141°.9E±0°.1, h29km, n18, σ1§06/24, mb3.9/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.99**	**296**	*e*P	**Pn**	**15 54 09.7**	**-1.3**
JHJ2	**Mitsune**	**1.99**	**298**	*e*P	**Pn**	**15 54 10.0**	**-1.0**
JHJ2				*e*S	**Sn**	**15 54 35.1**	**+0.1**
JHJ	**Hachijo jima 2**	**2.02**	**297**	Pn	**Pn**	**15 54 10.4**	**-0.9**
	33nm,0.3s,baz=50,slow=17,SNR=7.1						
JHJ				Sn	**Sn**	**15 54 35.7**	**+0.1**
	25nm,0.3s,baz=84,slow=20,SNR=2.2						
	94nm,0.3s						
BSO1	**Boso 1**	**2.57**	**342**	*e*P	**Pn**	**15 54 17.6**	**-0.8**
BSO1				*e*S	**Sn**	**15 54 48.1**	**-0.2**
BSO2	**Boso 2**	**2.72**	**339**	*e*S	**Sn**	**15 54 53.7**	**+1.2**
BSO3	**Boso 3**	**2.84**	**336**	*e*P	**Pn**	**15 54 21.6**	**-0.9**
BSO3				*e*S	**Sn**	**15 54 55.4**	**-0.3**
JYN	**Shimob**	**4.32**	**320**	*e*S	**Sn**	**15 55 33.8**	**+1.2**
JRY	**Ryogami san**	**4.55**	**327**	*e*S	**Sn**	**15 55 38.7**	**+0.5**
JAG	**Ashikaga**	**4.68**	**335**	*e*P	**Pn**	**15 54 47.2**	**-0.7**
JAG				*e*S	**Sn**	**15 55 40.1**	**-1.1**
MJAR	**Matsushiro Arr**	**5.30**	**326**	Pn	**Pn**	**15 54 56.5**	**-0.1**
	0.2nm,0.3s,baz=148,slow=11,SNR=11						
MJAR				Sn	**Sn**	**15 55 55.9**	**-0.8**
	0.1nm,0.3s,baz=130,slow=22,SNR=1.9						
	2.5nm,0.6s						
KLR	**Kul'dur**	**18.64**	**339**	P	**Pn**	**15 57 53.4**	**-1.6**
	0.1nm,0.3s,baz=185,slow=11,SNR=1.9						
	0.9nm,0.6s						
SONM	**Songino Array**	**31.04**	**311**	P	**P**	**15 59 56.9**	**+2.2**
	0.4nm,0.5s,baz=111,slow=8.0,SNR=2.8						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**45.58**	**316**	P	**P**	**16 01 56.3**	**-0.1**
	0.9nm,0.8s,baz=89,slow=7.8,SNR=1.7						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**47.17**	**306**	P	**P**	**16 02 09.0**	**-0.1**
	0.8nm,0.4s,baz=87,slow=8.8,SNR=6.2						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**49.40**	**311**	P	**P**	**16 02 25.8**	**-0.4**
	1.1nm,0.5s,baz=88,slow=7.6,SNR=10						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**52.36**	**189**	P	**P**	**16 02 47.9**	**-0.9**
	0.7nm,0.4s,baz=5.6,slow=7.7,SNR=4.1						
	0.7nm,0.4s						
BVAR	**Borovoye Array**	**54.20**	**315**	P	**P**	**16 03 04.2**	**+2.2**
	0.7nm,0.5s,baz=90,slow=7.2,SNR=2.9						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**56.08**	**189**	P	**P**	**16 03 16.0**	**+0.2**
	0.2nm,0.5s,baz=7.7,slow=6.9,SNR=10.0						
	0.2nm,0.5s						

IDC 30 15:58:39.7±8.4, 52°.74N×171°.88W, h75km±79km, mb3.3/3, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=99.8km s-min=40.2km az=162.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**12.09**	**58**	P	Pn	16 01 28.7	-0.1
	0.4nm,0.3s,baz=278,slow=7.8,SNR=5.5						
KDAK				S	Sn	16 03 37.6	-4.0
	6.4nm,0.8s,baz=30,slow=20,SNR=1.5						
	8.4nm,0.8s						
ILAR	**Eielson Array**	**17.54**	**37**	P	P	16 02 39.1	+0.1
	0.1nm,0.3s,baz=230,slow=9.7,SNR=18						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**41.83**	**78**	P	P	16 06 22.1	-0.1
	0.7nm,0.4s,baz=328,slow=5.3,SNR=5.0						
	0.7nm,0.4s						
TXAR	**Lajitas Array**	**54.27**	**87**	P	P	16 07 57.8	-0.2
	0.3nm,0.4s,baz=315,slow=6.4,SNR=4.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**89.48**	**228**	P	P	16 11 28.2	0.0
	0.3nm,0.7s,baz=28,slow=4.7,SNR=5.1						
	0.3nm,0.7s						

*SJA **30** 16:10:22.5±0.7, 21°.86S×68°.58W, h130km±4km, ML4.0, MW4.0*
*IDC **30** 16:10:24.1±0.8, 21°.94S×68°.30W, h105km±10km, mb3.6/5, mbtmp3.9/7, MS3.2/2, Error ellipse: s-maj=31.7km s-min=17.6km az=122.0*
*VAO **30** 16:10:24.3±0.4, 21°.96S×68°.73W, h124km, mb4.3*
*NEIC **30** 16:10:24.7±0.5, 21°.87S±0°.07×68°.4W±0°.1, h106km±8km, mb4.0/14, ML3.9(GUC), Error ellipse: s-maj=19.2km s-min=8.7km az=110.0*
*GUC **30** 16:10:25.8±0.7, 21°.90S×68°.64W, h111km±4km, ML3.9*
ISC 30 16:10:24.7±0.6, 21°.85S±0°.03×68°.62W±0°.04, h116km±5km, n86, σ1§49/110, mb4.0/9, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.58**	**275**	⇑*i*P	**Pn**	**16 10 43.4**	**+0.5**
PB09				*e*S	**Sn**	**16 10 57.1**	**+0.5**
PB09	**IPOC Station P**	**0.58**	**275**	*e*P	**Pn**	**16 10 43.1**	**+0.2**
PB09				*e*S	**Sn**	**16 10 58.2**	**+1.6**
PB09				IAML		16 10 58.7	
	comp=Z,1μm,0.6s						
LVC	**Limon Verde**	**0.80**	**200**	*e*P	**Pn**	**16 10 45.0**	**+0.1**
LVC				*e*S	**Sn**	**16 10 59.8**	**-0.3**
LVC	**Limon Verde**	**0.80**	**200**	P	**Pn**	**16 10 45.0**	**+0.1**
	comp=Z,394nm,0.3s,baz=28,slow=8.5,SNR=737						
LVC				S	**Sn**	**16 10 59.5**	**-0.6**
	comp=Z,1μm,0.4s,baz=187,slow=19,SNR=34						
LVC	**Limon Verde**	**0.80**	**200**	*e*P	**Pn**	**16 10 44.9**	**+0.1**
LVC				*e*S	**Sn**	**16 10 59.3**	**-0.9**
LVC	**Limon Verde**	**0.80**	**200**	*e*P	**Pn**	**16 10 45.0**	**+0.1**
PB01	**IPOC Station P**	**1.14**	**315**	⇑*i*P	**Pn**	**16 10 48.1**	**+0.1**
PB01				*e*S	**Sn**	**16 11 05.7**	**+0.2**
PB01				IAML		16 11 07.8	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**1.14**	**315**	*e*P	**Pn**	**16 10 47.9**	**0.0**
PB01				*e*S	**Sn**	**16 11 06.2**	**+0.8**
PB01				IAML		16 11 08.2	
	comp=Z,1μm,0.1s						
AF01	**San Pedro de A**	**1.17**	**160**	*e*P	**Pn**	**16 10 48.7**	**+0.2**
AF01				*e*S	**Sn**	**16 11 06.4**	**0.0**
AF01				IAML		16 11 22.8	
	comp=E,3μm,0.6s						
PB07	**IPOC Station P**	**1.19**	**276**	⇑*i*P	**Pn**	**16 10 48.6**	**+0.1**
PB07				*e*S	**Sn**	**16 11 06.4**	**0.0**
PB07				IAML		16 11 07.3	
	comp=N,3μm,0.1s						
PB07	**IPOC Station P**	**1.19**	**276**	*e*P	**Pn**	**16 10 48.4**	**-0.1**
PB07				*e*S	**Sn**	**16 11 08.0**	**+1.6**
PB07				IAML		16 11 09.2	
	comp=Z,2μm,0.1s						
PB06	**IPOC Station P**	**1.23**	**226**	⇑*i*P	**Pn**	**16 10 49.0**	**+0.1**
PB06				*e*S	**Sn**	**16 11 07.0**	**-0.3**
PB06				IAML		16 11 08.2	
	comp=E,4μm,0.4s						
PB06	**IPOC Station P**	**1.23**	**226**	*e*P	**Pn**	**16 10 49.0**	**+0.1**
PB06				*e*S	**Sn**	**16 11 07.9**	**+0.6**
PB06				IAML		16 11 09.0	
	comp=Z,2μm,0.2s						
PB02	**IPOC Station P**	**1.30**	**294**	⇑*i*P	**Pn**	**16 10 49.7**	**0.0**
PB02				*e*S	**Sn**	**16 11 08.3**	**-0.3**
PB02				IAML		16 11 09.2	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**1.30**	**294**	*e*P	**Pn**	**16 10 49.6**	**-0.1**
PB02				*e*S	**Sn**	**16 11 08.9**	**+0.2**
PB02				IAML		16 11 09.6	
	comp=Z,3μm,0.3s						
PB04	**IPOC Station P**	**1.50**	**251**	⇑*i*P	**Pn**	**16 10 51.8**	**-0.2**
PB04				*e*S	**Sn**	**16 11 11.7**	**-1.1**
PB04				IAML		16 11 14.6	
	comp=N,2μm,0.3s						
PB04	**IPOC Station P**	**1.50**	**251**	*e*P	**Pn**	**16 10 51.8**	**-0.2**
PB04				IAML		16 11 16.9	
	comp=Z,1μm,0.6s						
PB15	**IPOC Station P**	**1.56**	**210**	*e*P	**Pn**	**16 10 52.9**	**+0.1**
PB15				*e*S	**Sn**	**16 11 14.4**	**+0.2**
PB15	**IPOC Station P**	**1.56**	**210**	*e*P	**Pn**	**16 10 52.9**	**+0.1**
PB15				*e*S	**Sn**	**16 11 14.6**	**+0.4**
PB15				IAML		16 11 21.3	
	comp=Z,4μm,0.2s						
PATCX	**Punta Patache**	**1.76**	**305**	*e*P	**Pn**	**16 10 54.9**	**-0.2**
PATCX				*e*S	**Sn**	**16 11 18.1**	**-0.1**
PATCX				IAML		16 11 21.4	
	comp=E,1μm,0.6s						
PATCX	**Punta Patache**	**1.76**	**305**	*e*P	**Pn**	**16 10 54.9**	**-0.2**
PATCX				*e*S	**Sn**	**16 11 19.3**	**+1.1**
PB08	**IPOC Station P**	**1.77**	**343**	*e*P	**Pn**	**16 10 56.8**	**+1.3**
PB08				*e*S	**Sn**	**16 11 20.4**	**+1.4**
PB08				IAML		16 11 22.7	
	comp=E,1μm,0.7s						
PB08	**IPOC Station P**	**1.77**	**343**	*e*P	**Pn**	**16 10 56.9**	**+1.3**
PB08				*e*S	**Sn**	**16 11 21.8**	**+2.8**
TA01	**Diego Aracena**	**1.94**	**311**	*e*P	**Pn**	**16 10 56.7**	**-0.5**
TA01				*e*S	**Sn**	**16 11 21.2**	**-0.8**
TA01				IAML		16 11 23.8	
	comp=E,1μm,0.3s						
HMBC	**Humberstone**	**1.96**	**323**	*e*P	**Pn**	**16 10 57.2**	**-0.4**
HMBC				*e*S	**Sn**	**16 11 22.0**	**-0.7**
HMBC				IAML		16 11 25.9	
	comp=E,1μm,0.6s						
HMBC	**Humberstone**	**1.96**	**323**	*e*P	**Pn**	**16 10 57.1**	**-0.6**
HMBC				*e*S	**Sn**	**16 11 23.0**	**+0.2**
GO01	**Chusmiza**	**2.24**	**346**	*e*P	**Pn**	**16 11 02.3**	**+0.9**
GO01				*e*S	**Sn**	**16 11 31.1**	**+1.6**
GO01				IAML		16 11 35.7	
	comp=N,1μm,0.1s						
YJA	**Yavi**	**2.90**	**97**	*e*P	**Pn**	**16 11 13.2**	**+3.3**
PB14	**IPOC Station P**	**3.21**	**210**	*e*P	**Pn**	**16 11 13.2**	**-0.8**
PB14				IAML		16 12 03.5	
	comp=Z,164nm,0.9s						
AZAP	**Zapla**	**4.03**	**127**	*e*P	**Pn**	**16 11 26.1**	**+1.2**
SLA	**San Lorenzo**	**4.04**	**136**	*e*P	**Pn**	**16 11 27.3**	**+2.5**
LPAZ	**La Paz**	**5.55**	**5**	Pn	**Pn**	**16 11 45.6**	**-0.1**
LPAZ	**La Paz**	**5.55**	**5**	*e*P	**Pn**	**16 11 47.7**	**+2.0**
LPAZ	**La Paz**	**5.55**	**5**	P	**Pn**	**16 11 47.4**	**+1.7**
	comp=Z,1.4nm,0.4s,baz=175,slow=6.3,SNR=7.2						
SIV	**San Ignacio**	**9.21**	**52**	P	**Pn**	**16 12 31.8**	**-2.9**
	comp=Z,4.7nm,0.5s,baz=242,slow=8.2,SNR=18						
SIV				S	**Sn**	**16 14 08.1**	**-8.6**
	comp=Z,2.7nm,0.8s,baz=145,slow=23,SNR=1.7						
**PTLB

FRTB	Fartura	17.66	98	eP		P	16 14 22.5	-0.3
PLCA	Paso Flores	18.90	185	eP		P	16 14 33.6	-2.6
NPGB	Novo Progresso	19.51	43	eP		P	16 14 42.1	-0.9
RCLB	Rio Claro- Sao	19.54	96	eP		P	16 14 42.6	-0.8
IPMB	Ipameri, GO	19.57	82	eP		P	16 14 43.4	-0.3
PET01	Itanhaem-SP	19.79	101	eP		P	16 14 45.1	-0.9
VAO	Valinhos	20.05	97	eP		P	16 14 47.9	-1.0
BDFB	Brasilia	20.45	76	P		P	16 14 49.3	-4.0
BDFB				IAmb	IAmb		16 14 54.2	
	comp=Z,14nm,1.2s							
BDFB	Brasilia	20.45	76	P		P	16 14 49.9	-3.5
	comp=Z,4.8nm,0.8s,baz=240,slow=8.1,SNR=3.5							
	comp=Z,4.8nm,0.8s							
MCRA	Macar, Loja	20.56	326	P		P	16 14 56.0	+1.5
BOSC	San Juan Bosco	20.92	331	P		P	16 14 59.6	+1.2
BOSC				IAmb	IAmb		16 15 02.1	
	comp=Z,2.3nm,0.5s							
PMNB	Patos De Minas	21.07	85	eP		P	16 14 59.5	-0.5
ITTB	Itaituba	21.41	38	eP		P	16 15 03.3	-0.2
JANB	Januaria	24.01	78	eP		P	16 15 28.1	-0.9
GUA01	Guaratinga, BA	27.68	84	eP		P	16 16 01.4	-0.7
SRBA	San Rafael, Bu	34.11	333	P		P	16 17 00.2	+1.6
BELA	Belgrano 2	58.37	172	P		P	16 20 08.0	+0.6
VNA3	Neumayer Olymp	59.66	161	⇑P		P	16 20 16.7	+0.4
	comp=Z,1.8nm,0.6s							
VNA2	Neumayer--Watz	60.23	161	⇑P		P	16 20 20.7	+0.4
	comp=Z,2.0nm,0.5s,baz=286,slow=8.0							
TROLL	Troll, Antarti	63.58	161	⇑P		P	16 20 43.4	+0.6
	comp=Z,123nm,0.6s							
QSPA	South Pole Qui	68.34	180	P		P	16 21 14.4	+0.9
QSPA				IAmb	IAmb		16 21 46.8	
	comp=Z,1.8nm,0.9s							
QSPA	South Pole Qui	68.34	180	P		P	16 21 14.1	+0.7
	comp=Z,0.5nm,0.7s,baz=148,slow=2.8,SNR=6.7							
	comp=Z,0.5nm,0.7s							
DBIC	Dimbokro	68.57	73	P		P	16 21 14.8	-0.7
DBIC	Dimbokro	68.57	73	P		P	16 21 14.4	-1.1
	comp=Z,4.6nm,0.8s,baz=214,slow=5.3,SNR=6.4							
	comp=Z,4.6nm,0.8s							
BSUT	Blindstream Ca	73.42	328	P		P	16 21 46.1	+1.5
BSUT				IAmb	IAmb		16 21 47.4	
	comp=Z,2.4nm,0.8s							
PDAR	Pinedale Array	74.55	330	P		P	16 21 52.0	+0.9
	comp=Z,0.2nm,0.6s,baz=146,slow=7.1,SNR=1.9							
	comp=Z,0.2nm,0.6s							
VNDA	Vanda	76.55	190	LR	LR		16 54 55.3	
	comp=Z,61nm,18.2s,baz=336,slow=35							
TOA0	Torodi Ar. Sit	77.22	70	P		P	16 22 05.5	-1.0
TOA0				IAmb	IAmb		16 22 06.5	
	comp=Z,2.1nm,1.0s							
TORD	Torodi Ar. Bea	77.22	70	P		P	16 22 05.6	-0.8
TORD				IAmb	IAmb		16 22 09.4	
	comp=Z,1.2nm,0.7s							
TORD	Torodi Ar. Bea	77.22	70	P		P	16 22 05.7	-0.8
	comp=Z,0.8nm,0.4s,baz=257,slow=5.3,SNR=9.7							
	comp=Z,0.8nm,0.4s							
PLID	Pearl Lake	79.37	328	P		P	16 22 19.3	+1.3
PLID				IAmb	IAmb		16 22 19.7	
	comp=Z,5.8nm,1.4s							
MAW	Mawson	83.92	163	P		P	16 22 42.2	+0.9
MKAR	Makanchi Array	145.75	36	PKPbc		PKPbc	16 29 50.4	+0.1
	comp=Z,0.8nm,0.8s,baz=336,slow=3.2,SNR=3.0							
PZH	PanZhiHua	170.06	60	PKP		PKPdf	16 30 18.5	-1.0

*NEIC **30** 16:21:20.7±1.7, 20°.45S±0°.07×178°.1W±0°.2, h552km±5km, mb4.3/16, Error ellipse: s-maj=25.8km s-min=10.7km az=93.0*
*IDC **30** 16:21:24.6±9.9, 20°.41S×178°.39W, h596km±112km, mb3.1/5, mbtmp4.0/5, Error ellipse: s-maj=63.4km s-min=23.9km az=66.0*

ISC 30 16:21:23.5±0.9, 20°.5S±0°.1×178°.3W±0°.2, h587km, n26, σ1§48/26, mb4.1/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.38	308	P	P	16 22 49.7	-1.2
DZM	Mont Dzumac	14.30	261	P	P	16 24 26.9	+1.3
MRZ	Mangatainoka R	20.79	193	P	P	16 25 21.9	-2.8
MRZ				IAmb	IAmb	16 25 50.7	
	comp=Z,12nm,1.2s						
QRZ	Quartz Range	21.74	199	P	P	16 25 29.8	-3.4
THZ	Tophouse	22.49	197	P	P	16 25 38.6	-1.4
THZ				IAmb	IAmb	16 25 47.7	
	comp=Z,9.9nm,1.1s						
GVZ	Greta Valley S	23.58	196	P	P	16 25 47.0	-2.6
WHZ	Wether Hill Ro	27.76	201	P	P	16 26 26.4	+0.2
CTA	Charters Tower	33.20	264	P	P	16 27 13.1	-0.2
	comp=Z,7.5nm,0.5s,baz=90,slow=9.6,SNR=14						
	comp=Z,7.5nm,0.5s						
CTAO	Charters Tower	33.20	264	P	P	16 27 12.9	-0.3
CTAO				IAmb	IAmb	16 27 13.7	
	comp=Z,7.9nm,0.6s						
SBA	Scott Base	57.88	184	P	P	16 30 22.3	+2.6
VNDA	Vanda	57.91	185	P	P	16 30 20.8	+0.9
VNDA	Vanda	57.91	185	P	P	16 30 21.1	+1.2
	comp=Z,0.4nm,0.7s,baz=358,slow=7.4,SNR=2.2						
	comp=Z,0.4nm,0.7s						
MORW	Morawa	59.56	248	P	P	16 30 31.7	-0.1
MORW				IAmb	IAmb	16 30 45.5	
	comp=Z,33nm,1.5s						
QSPA	South Pole Qui	69.60	180	P	P	16 31 35.2	+0.8
QSPA	South Pole Qui	69.60	180	P	P	16 31 35.2	+0.8
	comp=Z,2.4nm,0.9s,baz=2.4,slow=1.0,SNR=19						
	comp=Z,2.4nm,0.9s						
YULB	Yu-li	73.23	303	P	P	16 31 56.0	-0.2
BELA	Belgrano 2	79.63	173	P	P	16 32 30.0	-0.2
BELA				IAmb	IAmb	16 32 58.5	
	comp=Z,5.2nm,1.5s						
TRF	Thorofare Moun	86.48	12	P	P	16 33 04.4	-0.1
TRF				IAmb	IAmb	16 33 47.0	
	comp=Z,13nm,1.5s						
RND	Reindeer	86.73	13	P	P	16 33 05.9	+0.3
RND				IAmb	IAmb	16 33 28.3	
	comp=Z,4.9nm,1.2s						
CCB	Clear Creek Bu	88.05	13	P	P	16 33 12.0	+0.4
L27K	Beaver Creek,	88.06	16	P	P	16 33 11.9	+0.1
L27K				IAmb	IAmb	16 33 40.2	
	comp=Z,8.0nm,1.5s						
IMAR	Indian Mountai	88.18	10	P	P	16 33 12.7	+0.5
ILAR	Eielson Array	88.35	13	P	P	16 33 14.2	+1.1
ILAR	Eielson Array	88.35	13	P	P	16 33 13.4	+0.4
	comp=Z,0.5nm,1.0s,baz=212,slow=4.9,SNR=5.3						
	comp=Z,0.5nm,1.0s						
CMAR	Chiang Mai Arr	89.82	290	P	P	16 33 22.2	+1.2
	comp=Z,0.5nm,0.8s,baz=143,slow=3.2,SNR=4.6						
	comp=Z,0.5nm,0.8s						
AKASG	Malin Array Be	142.84	331	PKP	PKPdf	16 39 48.5	-2.2
	comp=Z,1.5nm,0.5s,baz=45,slow=1.6,SNR=8.9						

*IDC **30** 16:21:36.6±3.5, 7°.21S×129°.79E, h72km±31km, mb3.9/11, mbtmp4.3/12, MS3.8/2, Error ellipse: s-maj=29.6km s-min=13.5km az=67.0*
*DJA **30** 16:21:39.0±0.2, 7°.5±2°×13°.0E±°, h80km±6km, M4.8/25, mB5.4/10, mb4.6/25, MLv4.9/16, Mw(mB)4.8/10*
*NEIC **30** 16:21:39.5±2.2, 7°.45S±0°.07×129°.82E±0°.06, h118km±6km, mb4.5/27, Error ellipse: s-maj=9.6km s-min=8.1km az=170.0*

ISC 30 16:21:38.2±0.3, 7°.47S±0°.04×129°.84E±0°.05, h100km, n140, σ2§21/143, mb4.4/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.54	110		Pn	16 22 07.3	+2.4
SAUI	Saumlaki	1.54	110	P	Pn	16 22 07.7	+2.8
SAUI	Saumlaki	1.54	110	P	Pn	16 22 08.0	+3.1
BNDI	Bandanaira	2.93	1	P	Pn	16 22 24.0	+1.0
BNDI	Bandanaira	2.93	1	P	Pn	16 22 23.5	+0.5
BNDI				S	Sn	16 22 56.3	-1.2
NLAI	Namlea	5.01	327	P	Pn	16 22 53.2	+2.2
	52nm,0.7s,7μm0.1nm						
FAKI	Fak Fak	5.12	28	Pn	Pn	16 22 51.1	-1.5
FAKI	Fak Fak	5.12	28	P	Pn	16 22 51.6	-0.9
FAKI	Fak Fak	5.12	28	P	Pn	16 22 51.4	-1.1
	322nm,0.6s,5μm1.1nm						
KMPI	Kaimana, Papua	5.39	46	P	Pn	16 22 56.7	+0.4
MTN	Manton Dam	5.49	167	Pn	Pn	16 22 58.4	+0.8
MTN	Manton Dam	5.49	167	P	Pn	16 23 00.0	+2.4
KDU	Kakadu	5.80	154	P	Pn	16 23 02.7	+0.9
SOEI	Soe	5.96	247	Pn	Pn	16 23 03.8	-0.3
SOEI	Soe	5.96	247	P	Pn	16 23 04.4	+0.3
SOEI	Soe	5.96	247	P	Pn	16 23 03.9	-0.2
	286nm,0.8s,3μm3.2nm						
SANI	Sanana	6.61	324	P	Pn	16 23 15.6	+2.8
SANI	Sanana	6.61	324	P	Pn	16 23 14.8	+2.0
	26nm,0.9s,472nm0.1nm						
BATI	Baumata	6.68	246	P	Pn	16 23 14.1	+0.3
	285nm,0.4s,4μm1.4nm						
BATI	Baumata	6.68	246	P	Pn	16 23 13.6	-0.2
	297nm,0.4s,baz=106,slow=3.1,SNR=135						
BATI				S	Sn	16 24 24.4	-4.1
	144nm,0.4s,baz=248,slow=23,SNR=13						
SWI	Sorong	6.71	12	P	Pn	16 23 12.8	-1.4
	26nm,0.5s,1μm0.5nm						
LBMI	Labuha	7.17	341	P	Pn	16 23 23.2	+2.7
	46nm,1.2s,1μm0.2nm						
RKPI	Ransiki, Papua	7.33	36	P	Pn	16 23 22.1	-0.5
	227nm,0.5s,4μm2.2nm						
BBSI	Bau Bau	7.49	285	P	Pn	16 23 27.6	+2.9
	24nm,0.9s,0.1nm						
MMRI	Maumere	7.62	261	Pn	Pn	16 23 25.8	-0.7
MMRI	Maumere	7.62	261	P	Pn	16 23 26.3	-0.2
MMRI	Maumere	7.62	261	P	Pn	16 23 25.5	-1.0
	57nm,0.7s,0.3nm						
EDFI	Ende, Flores	8.17	260	P	Pn	16 23 35.8	+1.7
	20nm,0.5s						
KNRA	Kununurra	8.23	187	Pn	Pn	16 23 34.0	-0.8
KNRA	Kununurra	8.23	187	P	Pn	16 23 34.5	-0.3
BKSI	Bulukumba	9.89	282	P	Pn	16 24 00.3	+2.9
	13nm,0.8s						
KAPI	Kappang	10.32	283	LR	LR	16 28 39.6	
	comp=Z,73nm,18.2s,baz=120,slow=41						
SMPI	Sarmi	10.38	59	P	Pn	16 24 05.1	+1.0
	76nm,0.4s						
MRSI	Marisa	11.15	315	P	Pn	16 24 17.5	+2.9
	23nm,1.1s						
TABU	Tabubil	11.52	80	P	Pn	16 24 20.0	+0.4
PLAI	Plampang	12.02	263	P	Pn	16 24 24.4	-1.8
PLAI	Plampang	12.02	263	P	Pn	16 24 26.4	+0.2
	44nm,0.7s						
TOLI2	Tolitoli	12.42	313	Pn	Pn	16 24 31.9	+0.4
TOLI2	Tolitoli	12.42	313	P	P	16 24 35.3	-4.0
WB0	Warramunga Arr	13.00	161	Pn	Pn	16 24 36.8	-2.3
WRAB	Tennant Creek	13.14	161	Pn	Pn	16 24 37.6	-3.4
WRA	Warramunga Arr	13.15	161	Pn	Pn	16 24 37.6	-3.5
WRA	Warramunga Arr	13.15	161	P	Pn	16 24 38.5	-2.6
	3.0nm,0.4s,baz=343,slow=13,SNR=22						
WRA				S	Sn	16 26 55.8	-10
	13nm,0.6s,baz=342,slow=22,SNR=14						
WB2	Warramunga Arr	13.15	161	Pn	Pn	16 24 38.3	-2.8
WR0	Warramunga Arr	13.23	160	P	Pn	16 24 39.4	-2.8
COEN	Coen	14.60	117	Pn	Pn	16 24 59.4	-0.5
COEN	Coen	14.60	117	P	Pn	16 24 59.7	-0.2
BBKI	Banjar Baru	15.45	284	P	P	16 25 15.2	+2.2
QIS	Mount Isa	16.09	145	P	Pn	16 25 18.9	+0.3
MTKI	Muara Teweh, K	16.24	293	P	P	16 25 24.0	+2.2
	48nm,0.6s						
AS31	Alice Springs	16.57	167	P	Pn	16 25 23.5	-1.1
ASAR	Alice Springs	16.57	167	Pn	Pn	16 25 23.3	-1.4
ASAR	Alice Springs	16.57	167	P	Pn	16 25 24.4	-0.2
	2.9nm,0.6s,baz=340,slow=9.1,SNR=80						
ASAR				S	Sn	16 28 19.9	-8.7
	1.6nm,0.5s,baz=354,slow=26,SNR=7.3						
MBWA	Marble Bar	16.75	215	P	Pn	16 25 25.5	-1.4
MBWA	Marble Bar	16.75	215	P	Pn	16 25 26.7	-0.1
MYLDM	Lahad Datu	16.91	318		Pn	16 25 26.3	-2.5
MYLDM				IAmb	IAmb	16 25 44.9	
	comp=Z,32nm,1.1s						
PSA00	Pilbara Seismi	17.02	213	P	Pn	16 25 29.7	-0.4
PSA00				IAmb	IAmb	16 25 34.6	
	comp=Z,18nm,0.5s						
PSA00	Pilbara Seismi	17.02	213	P	Pn	16 25 29.0	-1.1
PSA00				IAmb	IAmb	16 25 59.7	
	comp=Z,4.7nm,0.9s						
PSA00	Pilbara Seismi	17.02	213	P	P	16 25 31.8	+1.4
PMG	Port Moresby	17.24	98	P	P	16 25 32.8	0.0
PMG				IAmb	IAmb	16 25 39.2	
	comp=Z,62nm,1.5s						
PMG	Port Moresby	17.24	98	P	Pn	16 25 37.9	+5.0
PMG	Port Moresby	17.24	98	P	P	16 25 33.2	+0.3
	comp=Z,17nm,0.8s,baz=255,slow=11,SNR=2.4						
PMG				S	Sn	16 28 35.8	-9.0
	comp=Z,2.5nm,0.5s,baz=324,slow=19,SNR=1.7						
WRKA	Warakurna	17.53	185	P	Pn	16 25 37.5	+1.1
MTSU	Mount Surprise	17.64	128	P	Pn	16 25 39.6	+1.9
KKM	Kota Kinabalu	19.10	314	P	P	16 25 52.5	-0.9
KKM				IAmb	IAmb	16 26 06.6	
	comp=Z,27nm,1.0s						
KKM	Kota Kinabalu	19.10	314	P	Pn	16 25 55.0	-0.2
UGM	Wanagama	19.15	267	P	P	16 25 52.5	-1.3
STKI	Sintang	19.78	291	P	Pn	16 26 03.1	0.0
	comp=Z,10nm,0.7s						
SBUM	Sibu	20.15	299	P	P	16 26 03.9	-0.7
CTA	Charters Tower	20.26	130	P	Pn	16 26 11.4	+2.7
	comp=Z,4.6nm,0.8s,baz=312,slow=13,SNR=6.0						
CTA				S	S	16 29 48.1	+0.4
	comp=Z,2.3nm,0.7s,baz=103,slow=19,SNR=2.1						
OOD	Oodnadatta	20.96	165	P	Pn	16 26 16.5	-0.3
GIRL	Giralia	21.29	223	P	P	16 26 21.0	+4.2
MEEK	Meekatharra	21.85	208	P	P	16 26 25.8	+3.0
INKA	Innaminka	22.66	154	P	P	16 26 35.5	+4.4
MULG	Mulgathing	23.04	171	P	P	16 26 37.9	+3.0
TGY	Tagaytay City	23.18	338	P	P	16 26 36.2	-0.2
	comp=Z,78nm,0.5s,baz=127,slow=10,SNR=1.9						
FORT	Forrest	23.25	184	P	P	16 26 37.1	+0.2
FORT				IAmb	IAmb	16 27 03.8	
	comp=Z,39nm,1.1s						
FORT	Forrest	23.25	184	P	P	16 26 38.5	+1.6
LCRK	Leigh Creek	24.17	162	P	P	16 26 48.8	+3.6
MORW	Morawa	25.12	209	P	P	16 26 57.4	+3.6
BBOO	Buckleboo	25.87	168	P	P	16 27 00.1	-0.5
BLDU	Ballidu	26.11	206	P	P	16 27 06.2	+3.4
KLBR	Kellerberrin	26.52	204	P	P	16 27 08.6	+2.1
STKA	Stephens Creek	26.64	157	P	P	16 27 07.0	-0.6
STKA	Stephens Creek	26.64	157	P	P	16 27 10.8	+3.2
STKA	Stephens Creek	26.64	157	P	P	16 27 10.4	+2.8
	comp=Z,3.0nm,0.8s,baz=327,slow=11,SNR=4.7						
	comp=Z,3.0nm,0.8s						
CMSA	Cobar Meteorol	28.15	150	P	P	16 27 24.9	+3.8
HNR	Honiara	29.84	96	LR	LR	16 40 10.9	
	comp=Z,1μm,18.5s,baz=336,slow=37						
ARPS	Mount Arapiles	31.15	161	P	P	16 27 51.6	+4.1
KULM	Kulim	31.76	293	P	P	16 27 52.5	-0.7
TPUB	Ta-pu	31.88	344	P	P	16 27 51.1	-2.9
CMAR	Chiang Mai Arr	39.91	311	P	P	16 29 01.5	-1.2
CMAR	Chiang Mai Arr	39.91	311	P	P	16 29 02.4	-0.3
	comp=Z,3.9nm,0.7s,baz=139,slow=7.0,SNR=37						
	comp=Z,3.9nm,0.7s						
CHTO	Chiang Mai	40.12	311	P	P	16 29 03.4	-1.1
CHTO				IAmb	IAmb	16 29 04.8	
	comp=Z,8.6nm,0.7s						
NJ2	Nanjing	40.67	346	eP	P	16 29 10.0	+1.2
NJ2				pP	pwP	16 29 35.5	-0.6
NJ2				sP	sP	16 29 48.3	+6.8
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
PZH	PanZhiHua	43.40	322	P	P	16 29 31.8	+0.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,350nm,6.1s						
HHC	Hu-ho-hao-te	50.94	342	eP	P	16 30 30.8	+1.3
HHC				pmax	pmax		
	comp=Z,32nm,0.6s						
HHC				pmax	pmax		
	comp=Z,780nm,5.8s						
NNZ	Nelson	51.17	138	P	P	16 30 30.0	-1.2
USA0B	Ussuriysk Arra	51.46	2	P	P	16 30 33.1	-0.1
USA0B				IAmb	IAmb	16 30 45.7	
	comp=Z,14nm,1.4s						
USRK	Ussuriysk Ar.	51.46	2	P	P	16 30 32.9	-0.3
USRK	Ussuriysk Ar.	51.46	2	P	P	16 30 33.1	-0.1
	comp=Z,1.0nm,0.6s,baz=161,slow=6.7,SNR=6.0						
	comp=Z,1.0nm,0.6s						
TAPN	Taplejung	53.48	312	eP	P	16 30 48.1	-0.7
	comp=Z,15nm,0.3s						
RAMN	Ramite	54.08	311	eP	P	16 30 52.8	-0.4
	comp=Z,18nm,0.4s						
GTA	Gaotai	54.30	331	eP	P	16 30 54.5	+0.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
JIRN	Jiri	54.77	311	eP	P	16 30 57.4	-0.9
	comp=Z,6.6nm,0.2s						
GUN	Gumba	55.14	312	eP	P	16 31 00.4	-0.5
	comp=Z,19nm,0.5s						
PKI	Pulchoki	55.31	311	eP	P	16 31 00.8	-1.3
	comp=Z,5.4nm,0.5s						
PKIN	Phulchoki	55.32	311	eP	P	16 31 00.8	-1.3
	comp=Z,5.5nm,0.4s						
GKN	Gorkha	56.12	311	eP	P	16 31 07.0	-0.7
	comp=Z,15nm,0.3s						
DANN	Dangsing	56.96	311	eP	P	16 31 12.6	-1.2
PYUN	Piuthan	57.41	310	eP	P	16 31 16.0	-0.9
SONM	Songino Array	58.83	342	P	P	16 31 25.2	-1.2
	comp=Z,0.7nm,0.4s,baz=162,slow=6.0,SNR=3.9						
	comp=Z,0.7nm,0.4s						
WMQ	Urumqi	63.70	327	eP	P	16 32 00.5	+1.3
MK31	Makanchi Array	68.53	327	P	P	16 32 30.3	+0.4
MK31				IAmb	IAmb	16 32 31.4	
	comp=Z,3.1nm,0.5s						
MKAR	Makanchi Array	68.53	327	P	P	16 32 30.1	+0.2
MKAR	Makanchi Array	68.53	327	P	P	16 32 30.2	+0.3
	comp=Z,4.7nm,0.4s,baz=115,slow=8.5,SNR=112						
	comp=Z,4.7nm,0.4s						
MAKZ	Makanchi	68.71	327	P	P	16 32 30.8	-0.3
MAKZ				IAmb	IAmb	16 32 32.0	
	comp=Z,14nm,1.4s						
ZAA0	Zalesovo Array	71.93	334	P	P	16 32 49.1	-1.4
ZAA0				IAmb	IAmb	16 32 50.7	
	comp=Z,5.2nm,0.9s						
ZALV	Zalesovo Beam	71.93	334	P	P	16 32 48.9	-1.6
ZALV	Zalesovo Beam	71.93	334	P	P	16 32 49.7	-0.8
	comp=Z,4.3nm,0.8s,baz=116,slow=4.6,SNR=13						
	comp=Z,4.3nm,0.8s						
VNDA	Vanda	72.01	173	P	P	16 32 53.5	+2.8
	comp=Z,0.8nm,0.8s,baz=320,slow=7.0,SNR=5.3						
	comp=Z,0.8nm,0.8s						
KURBB	Kurchatov Arra	72.82	329	P	P	16 32 55.6	-0.3
	comp=Z,3.3nm,0.6s,baz=131,slow=5.0,SNR=31						
	comp=Z,3.3nm,0.6s						
KURK	Kurchatov	72.83	329	P	P	16 32 54.7	-1.2
KURK				IAmb	IAmb	16 32 56.7	
	comp=Z,7.4nm,1.1s						
SBA	Scott Base	72.90	172	P	P	16 32 53.8	-2.1
KKAR	Karatay Array	73.58	319	P	P	16 32 59.5	-1.1
MHA	Mahukona	77.97	68	P	P	16 33 23.1	-2.9
BVAR	Borovoye Array	78.37	328	P	P	16 33 27.5	0.0
	comp=Z,3.8nm,0.9s,baz=123,slow=5.5,SNR=14						
	comp=Z,3.8nm,0.9s						
BRVK	Borovoye	78.44	328	P	P	16 33 26.4	-1.5
BRVK				IAmb	IAmb	16 33 28.8	
	comp=Z,4.5nm,0.8s						
TIXI	Tiksi	78.95	360	P	P	16 33 30.2	-0.1
TIXI				IAmb	IAmb	16 33 31.4	
	comp=Z,8.2nm,1.4s						
QSPA	South Pole Qui	82.51	180	P	P	16 33 51.9	+2.2
	comp=Z,1.5nm,0.6s,baz=311,slow=0.9,SNR=9.1						
	comp=Z,1.5nm,0.6s						
ABKAR	Akbulak array	82.77	322	P	P	16 33 50.6	-0.5
ARU	Arti	86.02	328	P	P	16 34 06.9	-0.4
ARU				IAmb	IAmb	16 34 08.0	
	comp=Z,5.6nm,0.8s						
ILAR	Eielson Array	93.83	25	P	P	16 34 43.4	-0.6
	comp=Z,0.2nm,0.5s,baz=278,slow=3.8,SNR=4.2						
	comp=Z,0.2nm,0.5s						
PDAR	Pinedale Array	117.33	46	PKP	PKiKP	16 40 14.8	+2.2
	comp=Z,0.2nm,0.5s,baz=207,slow=3.7,SNR=2.9						
TXAR	Lajitas Array	125.30	59	PKP	PKiKP	16 40 30.5	+2.0
	comp=Z,0.1nm,0.3s,baz=253,slow=0.9,SNR=2.1						
TORD	Torodi Ar. Bea	128.74	281	PKP	PKiKP	16 40 36.0	+0.5
	comp=Z,1.8nm,0.5s,baz=66,slow=2.4,SNR=13						
DBIC	Dimbokro	135.05	272	PKP	PKiKP	16 40 49.5	+1.2
	comp=Z,1.3nm,0.4s,baz=90,slow=4.1,SNR=4.1						
CPUP	Villa Florida	145.69	169	PKPbc	PKiKP	16 41 08.5	-1.3
	comp=Z,1.6nm,0.5s,baz=161,slow=1.5,SNR=4.7						
LPAZ	La Paz	150.45	143	PKPbc	PKiKP	16 41 23.2	+2.6
	comp=Z,1.2nm,0.4s,baz=207,slow=4.5,SNR=7.8						
SIV	San Ignacio	154.31	155	PKPab	PKPab	16 41 44.8	+2.8
	comp=Z,0.4nm,0.3s,baz=217,slow=7.8,SNR=7.0						

*IDC **30** 16:26:10.6±1.1, 55°.58S×29°.38W, h0km, mb3.9/6, mbtmp3.9/6, MS3.4/7, Error ellipse: s-maj=39.3km s-min=24.6km az=72.0*
*NEIC **30** 16:26:12.3±2.0, 55°.62S±0°.08×29°.5W±0°.2, h10km±1km, mb4.5/9, Error ellipse: s-maj=24.8km s-min=10.7km az=69.0*

ISC 30 16:26:14.9±0.7, 55°.6S±0°.1×29°.6W±0°.2, h28km, n36, σ0§75/29, mb4.3/9, MS3.3/7, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.17	286	Pn	Pn	16 27 15.6	-0.9
VNA1	Neumayer--Stat	17.75	157	⇑P	P	16 30 20.7	+0.5
	comp=Z,4.2nm,0.5s						
VNA3	Neumayer Olymp	17.89	159	⇑P	P	16 30 22.1	+0.3
	comp=Z,19nm,0.7s						
VNA2	Neumayer--Watz	18.15	156	⇑P	P	16 30 24.1	-0.4
	comp=Z,1.5nm,0.5s,baz=315,slow=15						
TROLL	Troll, Antarti	21.27	153	⇑P	P	16 30 57.2	-1.6
	comp=Z,162nm,0.7s						
TRQA	Tornquist

NEIC **30** 17:12:06.8, 10°.85S×74°.70W, h110km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.89; $M_{\theta\theta}$=0.01; $M_{\phi\phi}$0.89; $M_{r\theta}$0.09; $M_{\theta\phi}$=0.40; $M_{\phi r}$=0.92; Fault plane solution: $M_0$1.34000×10^{17} NP1: ϕ_s=350.63000°, δ67.19000°, λ=-79.68000°. NP2: ϕ_s=145.48000°, δ24.92000°, λ=-113.07000°. Principal axes: T 1.3961, Plg22.0000°, Azm73.0000°; N -0.1165, Plg10.0000°, Azm167.0000°; P -1.2796, Plg66.0000°, Azm279.0000°;

IDC **30** 17:12:06.7±0.4, 10°.78S×74°.73W, h112km±3km, mb4.7/25, mbtmp5.1/31, MS4.1/28 Error ellipse: s-maj=8.1km s-min=7.2km az=158.0

NEIC **30** 17:12:06.8, 10°.75S×74°.70W, h102km

NEIC **30** 17:12:06.8, 10°.75S×74°.70W, h110km

NEIC **30** 17:12:06.6±2.0, 10°.76S±0°.05×74°.69W±0°.07, h101km±4km, mb5.7/68, Mwb5.4/12, Mww5.4/24, Error ellipse: s-maj=10.7km s-min=7.7km az=103.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=1.75; $M_{\theta\theta}$0.76; $M_{\phi\phi}$0.99; $M_{r\theta}$-0.03; $M_{\theta\phi}$-0.83; $M_{\phi r}$-0.65; Fault plane solution: $M_0$1.85000×10^{17} NP1: ϕ_s=332.02000°, δ54.15000°, λ=-74.64000°. NP2: ϕ_s=126.89000°, δ38.59000°, λ=-110.13000°. Principal axes: T 1.7792, Plg8.0000°, Azm51.0000°; N 0.1368, Plg12.0000°, Azm143.0000°; P -1.9160, Plg75.0000°, Azm289.0000°;

VAO **30** 17:12:07.5±0.3, 10°.76S×74°.60W, h112km, mb5.4

GCMT **30** 17:12:08.6±0.1, 10°.68S±0°.01×74°.67W±0°.01, h128km, MW5.5/137, Moment Tensor Solution. s131,c215; s137,c245; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}=1.34±.02; $M_{\theta\theta}$0.03±.03; $M_{\phi\phi}$ 1.32±.03; $M_{r\theta}$=0.08±.02; $M_{\theta\phi}$=-1.05±.02; $M_{\phi r}$=1.02±.02; Best double couple: $M_0$1.96000×10^{17} NP1: ϕ_s=352.00000°, δ63.00000°, λ=-64.00000°. NP2: ϕ_s=126.00000°, δ37.00000°, λ=-130.00000°. Principal axes: T 2.1230, Plg14.0000°, Azm64.0000°; N -0.3190, Plg23.0000°, Azm160.0000°; P -1.7970, Plg63.0000°, Azm304.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 30 17:12:07.1±0.2, **10°.73S**±0°.03×**74°.68W**±0°.04, **h115**km±2km, **h116**km:**pP-P,n1349**,σ1**§22**/1152,**mb5.6**/366,**19C-32D, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.47**	**239**	Pn	**Pn**	**17 12 44.7**	**-1.6**
NNA	**Nana**	**2.47**	**239**	⇑iP	**Pn**	**17 12 45.0**	**-1.3**
NNA				eS	**Sn**	**17 13 14.1**	**-2.4**
NNA	**Nana**	**2.47**	**239**	ceP	**Pn**	**17 12 45.0**	**-1.3**
NNA	**Nana**	**2.47**	**239**	P	**Pn**	**17 12 45.0**	**-1.3**
	15μm,0.3s,baz=66,slow=9.1,SNR=1126						
NNA				S	**Sn**	**17 13 14.2**	**-2.3**
	15μm,0.3s,baz=225,slow=19,SNR=41						
CZSB	**Cruzeiro do Su**	**3.56**	**33**		**Pn**	**17 13 01.7**	**+1.1**
CZSB	**Cruzeiro do Su**	**3.56**	**33**	⇑iP	**Pn**	**17 13 02.0**	**+1.3**
CZSB	**Cruzeiro do Su**	**3.56**	**33**	eP	**Pn**	**17 13 01.5**	**+0.9**
ATAH	**Atahualpa**	**5.12**	**314**	P	**Pn**	**17 13 21.8**	**-0.2**
	4μm,0.7s,baz=130,slow=11,SNR=234						
ATAH				S	**Sn**	**17 14 20.9**	**+0.6**
	2μm,0.5s,baz=257,slow=19,SNR=7.3						
TBTG	**Tabatinga, AM**	**8.03**	**36**	Pn	**Pn**	**17 14 00.6**	**-0.5**
TBTG	**Tabatinga, AM**	**8.03**	**36**	⇑iP	**Pn**	**17 14 00.8**	**-0.3**
TBTG				*i*		17 16 06.6	
	comp=Z,886nm,0.4s						
TBTG	**Tabatinga, AM**	**8.03**	**36**	eP	**Pn**	**17 14 00.5**	**-0.5**
MCRA	**Macar, Loja**	**8.20**	**320**		Pn	17 13 58.5	-4.9
MCRA	**Macar, Loja**	**8.20**	**320**	eP	**Pn**	**17 14 00.6**	**-2.8**
MCRA				eS	**Sn**	**17 15 26.8**	**-7.7**
MCRA				*i*		17 15 28.7	
	comp=Z,1μm,0.4s						
ETMB	**Extrema**	**8.38**	**85**	Pn	**Pn**	**17 14 04.0**	**-1.6**
ETMB	**Extrema**	**8.38**	**85**	eP	**Pn**	**17 14 05.0**	**-0.7**
BOSC	**San Juan Bosco**	**8.43**	**333**	Pn	**Pn**	**17 14 02.5**	**-4.1**
LPAZ	**La Paz**	**8.43**	**132**	Pn	**Pn**	**17 14 06.9**	**-0.1**
LPAZ	**La Paz**	**8.43**	**132**	eP	**Pn**	**17 14 08.0**	**+1.0**
LPAZ	**La Paz**	**8.43**	**132**	P	**Pn**	**17 14 07.8**	**+0.9**
	comp=Z,79nm,0.6s,baz=320,slow=10,SNR=302						
LPAZ				S	**Sn**	**17 15 39.8**	**-0.9**
	comp=Z,48nm,0.5s,baz=280,slow=19,SNR=1.4						
COHC	**Cochancay**	**9.38**	**331**		**Pn**	**17 14 16.9**	**-2.4**
COHC	**Cochancay**	**9.38**	**331**	eP	**Pn**	**17 14 17.6**	**-1.7**
CHSH	**Refugio Sur-Vo**	**10.07**	**335**		**Pn**	**17 14 28.8**	**-0.4**
PIAT	**Ana Tenorio**	**10.30**	**340**	eP	**Pn**	**17 14 30.3**	**-1.8**
SALI	**Salinas**	**10.55**	**323**		**Pn**	**17 14 33.6**	**-1.5**
SLOR	**San Lorenzo -**	**10.63**	**339**		**Pn**	**17 14 36.1**	**-0.6**
PTLC	**Puerto Leguiza**	**10.83**	**359**	eP	Pn	17 14 31.7	-7.1
PULU	**Pululahua**	**11.34**	**340**		**Pn**	**17 14 45.5**	**-0.5**
SAML	**Samuel**	**11.46**	**82**	Pn	**Pn**	**17 14 44.4**	**-2.9**
SAML	**Samuel**	**11.46**	**82**	⇑iP	**Pn**	**17 14 44.8**	**-2.5**
SAML				eS	Sn	17 16 43.5	-10
SAML	**Samuel**	**11.46**	**82**	P	**Pn**	**17 14 44.4**	**-2.9**
SAML	**Samuel**	**11.46**	**82**	eP	**Pn**	**17 14 45.4**	**-1.9**
BONI	**La Bonita**	**11.46**	**345**	eP	**Pn**	**17 14 46.4**	**-1.2**
IMBA	**Imbabura, San**	**11.48**	**342**		**Pn**	**17 14 48.3**	**+0.3**
OTAV	**Otavalo**	**11.52**	**341**	Pn	**Pn**	**17 14 47.0**	**-1.6**
OTAV	**Otavalo**	**11.52**	**341**	eP	**Pn**	**17 14 45.6**	**-2.9**
OTAV	**Otavalo**	**11.52**	**341**	P	**Pn**	**17 14 47.0**	**-1.6**
CUSE	**Cuicocha Este**	**11.57**	**341**	eP	**Pn**	**17 14 50.2**	**+1.0**
PAC1	**Pacto, Paraso**	**11.66**	**339**	eP	**Pn**	**17 14 51.5**	**+1.3**
TULM	**Tulcn-Chalpat**	**11.78**	**345**		**Pn**	**17 14 52.1**	**0.0**
TULM	**Tulcn-Chalpat**	**11.78**	**345**	eP	**Pn**	**17 14 53.2**	**+1.1**
FLOC	**Florencia**	**12.27**	**355**	eP	**Pn**	**17 14 56.9**	**-1.1**
CRUC	**La Cruz**	**12.42**	**349**	eP	**Pn**	**17 15 01.2**	**+0.8**
MACC	**Macarena, Meta**	**12.81**	**4**	eP	**Pn**	**17 15 01.8**	**-3.3**
GARC	**Garzon, Huila**	**12.86**	**356**	eP	**Pn**	**17 15 07.9**	**+2.0**
BBAC	**Balboa, Cauca**	**12.92**	**348**	eP	**Pn**	**17 15 07.4**	**+0.6**
LVC	**Limon Verde**	**13.04**	**156**	Pn	**Pn**	**17 15 07.2**	**-1.1**
LVC	**Limon Verde**	**13.04**	**156**	eP	**Pn**	**17 15 10.2**	**+1.9**
LVC	**Limon Verde**	**13.04**	**156**	eP	**Pn**	**17 15 07.6**	**-0.8**
LVC	**Limon Verde**	**13.04**	**156**	P	**Pn**	**17 15 08.4**	**0.0**
	comp=Z,6.2nm,0.7s,baz=322,slow=9.6,SNR=8.6						
LVC				S	Sn	17 17 22.4	-10
	comp=Z,9.5nm,0.7s,baz=90,slow=20,SNR=1.2						
TUMC	**Tumaco**	**13.10**	**342**	eP	**Pn**	**17 15 10.4**	**+1.5**
POPC	**Popayan, Colom**	**13.33**	**351**	eP	**Pn**	**17 15 12.5**	**+0.4**
BETC	**Betania**	**13.34**	**357**	eP	**Pn**	**17 15 14.6**	**+2.6**
GUVC	**San Jose del G**	**13.34**	**9**	eP	**Pn**	**17 15 10.8**	**-1.2**
JAMC	**Jamundi, Valle**	**13.99**	**352**	eP	**Pn**	**17 15 21.7**	**+1.1**
GR1C	**Gorgona, Isla**	**14.08**	**346**	eP	**P**	**17 15 24.0**	**-1.5**
SIV	**San Ignacio**	**14.23**	**113**	P	**Pn**	**17 15 22.3**	**-1.1**
	comp=Z,26nm,0.5s,baz=280,slow=12,SNR=67						
SIV				S	**Sn**	**17 17 58.1**	**-2.5**
	comp=Z,71nm,0.7s,baz=53,slow=18,SNR=2.6						
SIV				LR	LR	17 21 25.4	
	comp=Z,890nm,18.1s,baz=291,slow=39						
VILB	**Vilhena**	**14.34**	**100**	Pn	**Pn**	**17 15 23.3**	**-1.6**
VILB	**Vilhena**	**14.34**	**100**	eP	**Pn**	**17 15 23.7**	**-1.2**
PRAC	**Prado**	**14.35**	**359**	eP	**Pn**	**17 15 25.7**	**+0.7**
ORTC	**Ortega, Tolima**	**14.55**	**358**	eP	**Pn**	**17 15 28.1**	**+0.5**
YOTC	**Yotoco, Valle**	**14.71**	**353**	eP	**Pn**	**17 15 29.6**	**-0.1**
VILC	**Villavicencio,**	**14.77**	**4**	eP	**Pn**	**17 15 30.8**	**+0.4**
MALC	**Bahia Malaga**	**14.88**	**350**	eP	**P**	**17 15 36.1**	**+1.6**
PTGC	**Puerto Gaitan,**	**15.04**	**10**	eP	**Pn**	**17 15 33.7**	**0.0**
BBSD	**Serra de San D**	**15.08**	**117**	eP	**Pn**	**17 15 33.7**	**-0.5**
CHIC	**Chingaza**	**15.29**	**4**	eP	**P**	**17 15 38.7**	**-0.7**
ROSC	**El Rosal**	**15.47**	**1**		**Pn**	**17 15 38.2**	**-1.3**
ROSC	**El Rosal**	**15.47**	**1**	eP	**P**	**17 15 40.8**	**-0.6**
ROSC	**El Rosal**	**15.47**	**1**	P	**P**	**17 15 40.9**	**-0.6**
	comp=Z,52nm,0.6s,baz=147,slow=12,SNR=16						
ROSC				S	**S**	**17 18 35.5**	**-3.0**
	comp=Z,45nm,0.6s,baz=42,slow=22,SNR=1.0						
PLMC	**San Jos del P**	**15.61**	**354**	eP	**P**	**17 15 44.4**	**+1.7**
NIZA	**Niza - Manizal**	**15.70**	**357**	eP	**P**	**17 15 48.8**	**+5.0**
MACA	**Manacapuru-AM**	**15.78**	**63**	Pn	**Pn**	**17 15 40.6**	**-2.4**
PIZC	**Pizarro, Choco**	**15.82**	**350**	eP	**P**	**17 15 47.5**	**+2.7**
PTLB	**Pontes e Lacer**	**15.84**	**109**		**Pn**	**17 15 42.7**	**-1.0**
PTLB	**Pontes e Lacer**	**15.84**	**109**	eP	**Pn**	**17 15 43.0**	**-0.7**
GUY2C	**Guyana, Caldas**	**15.86**	**357**	eP	**Pn**	**17 15 45.1**	**+0.7**
NORC	**Norcasia**	**16.18**	**359**	eP	**P**	**17 15 49.2**	**+0.2**
BBRB	**Robore, Bolivi**	**16.23**	**119**	eP	**Pn**	**17 15 47.6**	**-0.8**
SPBC	**San Pablo de B**	**16.28**	**2**	eP	P	17 16 04.2	+14
RUSC	**La Rusia**	**16.59**	**6**	eP	**P**	**17 15 55.8**	**+1.9**
RUSC				*i* Sg	**Sn**	**17 18 50.8**	**-7.3**
PTBC	**PUERTO BERRIO,**	**17.16**	**1**	eP	**P**	**17 15 59.6**	**0.0**
BARC	**Barichara**	**17.27**	**5**	eP	**Pn**	**17 16 03.0**	**+1.5**
TAMC	**Tame, Arauca**	**17.29**	**10**	eP	**Pn**	**17 16 02.8**	**+1.3**
PDRB	**Porto dos Gac**	**17.63**	**95**	eP	**Pn**	**17 16 05.6**	**0.0**
DBBC	**Dabeiba**	**17.69**	**355**	eP	**Pn**	**17 16 08.2**	**+1.8**
BRRC	**Barranca, Sant**	**17.74**	**3**	eP	**Pn**	**17 16 06.6**	**-0.3**
PAMC	**Pamplona, Colo**	**18.05**	**6**	eP	**Pn**	**17 16 11.7**	**+0.6**
ZARC	**Zaragoza, Cauc**	**18.10**	**359**	eP	**Pn**	**17 16 10.9**	**-0.3**
ZARC				eS	**S**	**17 19 29.6**	**-2.2**
ZARC				*i*		17 19 57.6	
	comp=Z,52nm,0.4s						
UREC	**San Jos de Ur**	**18.38**	**357**	⇑iP	**Pn**	**17 16 14.1**	**-0.4**
UREC				eS	**S**	**17 19 37.9**	**+0.6**
UREC	**San Jos de Ur**	**18.38**	**357**	eP	**Pn**	**17 16 14.1**	**-0.4**
PAYG	**Puerto Ayora**	**18.45**	**302**	P	**P**	**17 16 14.6**	**+0.7**
PAYG	**Puerto Ayora**	**18.45**	**302**	eP	**P**	**17 16 14.1**	**+0.1**
CLDB	**Colider**	**18.55**	**92**	eP	**P**	**17 16 15.2**	**+0.2**
LCO	**Las Campanas**	**18.57**	**169**	P	**P**	**17 16 16.1**	**+0.8**
LCO	**Las Campanas**	**18.57**	**169**	eP	**Pn**	**17 16 16.3**	**-0.6**
APAC	**Apartado, Choc**	**18.60**	**354**	eP	**Pn**	**17 16 18.8**	**+1.7**
CACAO	**El Cacao, Vera**	**18.98**	**341**	eP	**Pn**	**17 16 21.2**	**-0.4**
SALV	**Santo Antonio**	**19.17**	**108**	eP	**P**	**17 16 21.2**	**-0.5**
BOAV	**Boa Vista**	**19.19**	**48**	P	**P**	**17 16 22.4**	**+0.4**
BOAV	**Boa Vista**	**19.19**	**48**	⇑iP	**P**	**17 16 22.4**	**+0.4**
BOAV	**Boa Vista**	**19.19**	**48**	eP	**P**	**17 16 22.6**	**+0.6**
CAPC	**Capurgana**	**19.42**	**352**	eP	**Pn**	**17 16 26.6**	**-0.2**
NPGB	**Novo Progresso**	**19.43**	**81**	eP	**P**	**17 16 23.8**	**-0.8**
LCBC	**Los crdobas,**	**19.53**	**355**	⇓eP	**Pn**	**17 16 28.9**	**+0.9**
ITTB	**Itaituba**	**19.80**	**73**	eP	**P**	**17 16 28.3**	**-0.4**
SDV	**Santo Domingo**	**19.89**	**12**	P	**P**	**17 16 30.2**	**+0.4**
SDV	**Santo Domingo**	**19.89**	**12**	eP	**P**	**17 16 30.4**	**+0.6**
SDV	**Santo Domingo**	**19.89**	**12**	eP	**P**	**17 16 30.8**	**+1.0**
SDV	**Santo Domingo**	**19.89**	**12**	P	**P**	**17 16 30.6**	**+0.8**
	comp=Z,436nm,0.9s,baz=188,slow=10,SNR=217						
SDV				S	**S**	**17 20 04.8**	**-2.9**
	comp=Z,27nm,0.8s,baz=81,slow=21,SNR=1.8						
CHOR3	**La Chorrera**	**20.14**	**345**	eP	**P**	**17 16 32.8**	**+0.5**
UPA	**Univ. de Panam**	**20.17**	**346**	⇓iP	Pn	17 16 34.5	-1.0
UPA				eS	**S**	**17 20 10.9**	**-1.8**
UPA	**Univ. de Panam**	**20.17**	**346**	eP	Pn	17 16 34.6	-0.8
ARRA3	**Arraijan, Pana**	**20.18**	**346**	eP	**P**	**17 16 33.1**	**+0.4**
CHPO	**Chepo, Panama**	**20.25**	**347**	eP	Pn	17 16 35.3	-1.1
PP1B	**Ponte de Pedra**	**20.36**	**112**	eP	**P**	**17 16 35.3**	**+0.7**
LL5C	**La Loma 5 El P**	**20.36**	**3**	eP	**P**	**17 16 34.7**	**+0.1**
LL6C	**La Loma 6 Bece**	**20.38**	**4**	eP	**P**	**17 16 33.7**	**-1.1**
BCIP	**Isla Barro Col**	**20.42**	**345**	P	**P**	**17 16 36.1**	**+0.9**
BCIP	**Isla Barro Col**	**20.42**	**345**	eP	**P**	**17 16 36.8**	**+1.5**
BCIP				eP	Pn	17 16 37.0	-1.4
BCIP	**Isla Barro Col**	**20.42**	**345**	eP	Pn	17 16 37.1	-1.3
BCIP	**Isla Barro Col**	**20.42**	**345**	P	**P**	**17 16 36.1**	**+0.9**
ARGC	**Ariguani, Magd**	**20.45**	**1**	eP	**P**	**17 16 36.6**	**+1.0**
SJCC	**San Jacinto, C**	**20.50**	**359**	⇑iP	**P**	**17 16 37.7**	**+1.6**
AQDB	**Aquidauana**	**20.67**	**120**	P	**P**	**17 16 37.4**	**-0.5**
AQDB	**Aquidauana**	**20.67**	**120**	eP	**P**	**17 16 38.1**	**+0.3**
CDITO	**Canoas**	**20.84**	**337**	eP	Pn	17 16 41.6	-1.7
BCO2	**Palmira**	**20.84**	**338**	eP	**P**	**17 16 41.5**	**+1.6**
CHGR2	**Aguacate**	**20.90**	**339**	eP	**P**	**17 16 41.7**	**+1.3**
ANTJ	**Antonio Joao (**	**21.10**	**124**	eP	**P**	**17 16 42.5**	**-0.2**
ZON	**Zonda**	**21.45**	**166**	P	**P**	**17 16 46.8**	**+0.6**
ZON	**Zonda**	**21.45**	**166**	P	**P**	**17 16 46.8**	**+0.6**
CRJC	**Cerrejon, Guaj**	**21.68**	**5**	eP	**P**	**17 16 46.8**	**-2.0**
SMRC	**Santa Marta, M**	**21.75**	**1**	eP	**P**	**17 16 49.3**	**-0.1**
MALB	**Monte Alegre**	**22.10**	**68**	eP	**P**	**17 16 52.3**	**-0.9**
URIC	**Uribia, Colomb**	**22.44**	**7**	⇓eP	**P**	**17 16 53.7**	**-2.9**
SCCA	**San Cayetano,**	**22.54**	**140**	eP	**P**	**17 16 56.5**	**-1.1**
C2SB	**Chapadao do Su**	**22.56**	**113**	eP	**P**	**17 16 58.5**	**+0.7**
CPUP	**Villa Florida**	**22.57**	**136**	P	**P**	**17 16 57.6**	**-0.2**
CPUP	**Villa Florida**	**22.57**	**136**	P	**P**	**17 16 57.5**	**-0.3**
	comp=Z,59nm,1.0s,baz=322,slow=9.3,SNR=48						
	comp=Z,59nm,1.0s						
PEL	**Peldehue**	**22.61**	**171**	P	**P**	**17 16 58.1**	**-0.1**
PEL	**Peldehue**	**22.61**	**171**	P	**P**	**17 16 58.1**	**-0.1**
HDC	**Heredia**	**22.63**	**335**	eP	**P**	**17 17 00.7**	**+2.0**
ARAG	**Araguaiana, MT**	**22.79**	**105**	eP	**P**	**17 16 59.7**	**-0.4**
SNDB	**Serra Nova Dou**	**22.96**	**95**	eP	**P**	**17 17 01.7**	**0.0**
JTS	**Las Juntas de**	**23.25**	**334**	P	**P**	**17 17 06.0**	**+1.5**
JTS	**Las Juntas de**	**23.25**	**334**	⇓eP	**P**	**17 17 06.8**	**+2.3**
JTS	**Las Juntas de**	**23.25**	**334**	P	**P**	**17 17 06.0**	**+1.5**
ORTG	**Ortega, Santa**	**23.54**	**333**	P	**P**	**17 17 09.0**	**+1.8**
MCR1	**Marechal Candi**	**23.90**	**128**	eP	**P**	**17 17 10.2**	**-0.1**
MECA	**Mercedes**	**24.06**	**143**	eP	**P**	**17 17 12.2**	**+0.5**
MCPB	**Macapa, AP**	**24.73**	**67**	eP	**P**	**17 17 18.2**	**+0.3**
ACON	**Acoyapa**	**24.84**	**335**	eP	**P**	**17 17 20.6**	**+1.7**
PRVC	**Isla de Provid**	**24.85**	**344**	⇓iP	**P**	**17 17 21.2**	**+2.3**
PRVC	**Isla de Provid**	**24.85**	**344**	eP	**P**	**17 17 21.2**	**+2.3**
PCMB	**Pacaembu**	**24.92**	**119**	eP	**P**	**17 17 19.4**	**-0.1**
PRPB	**Paraua pebas**	**25.00**	**82**	eP	**P**	**17 17 19.9**	**-0.5**
TRN	**Trinidad (W)**	**25.00**	**32**	eP	**P**	**17 17 17.7**	**-2.6**
ITRB	**Iturama**	**25.07**	**114**	eP	**P**	**17 17 21.5**	**+0.4**
ITQB	**Itaqui**	**25.27**	**141**	P	**P**	**17 17 23.0**	**+0.3**
ITQB	**Itaqui**	**25.27**	**141**	eP	**P**	**17 17 23.1**	**+0.3**
FRBT	**Francisco Belt**	**25.45**	**130**	eP	**P**	**17 17 24.3**	**-0.1**
PTGB	**Pitanga**	**25.58**	**126**	eP	**P**	**17 17 25.5**	**-0.2**
CRSM	**Crissiumal (Br**	**25.59**	**134**	eP	**P**	**17 17 25.5**	**-0.1**
UNIS	**Unistalda (Bra**	**25.86**	**138**	eP	**P**	**17 17 28.3**	**+0.3**
CNGN	**Cerro Negro**	**25.98**	**332**	P	**P**	**17 17 29.4**	**+0.1**
GRGR	**Grenville**	**26.14**	**30**	eP	**P**	**17 17 30.3**	**-0.3**
GRGR	**Grenville**	**26.14**	**30**	eP	**P**	**17 17 29.7**	**-0.9**
GRW	**Mount Saint Ca**	**26.16**	**30**	eP	**P**	**17 17 29.8**	**-1.1**
GRHS	**Sauteurs**	**26.22**	**30**	eP	**P**	**17 17 30.8**	**-0.5**
BDFB	**Brasilia**	**26.40**	**104**	P	**P**	**17 17 32.6**	**-0.5**
BDFB	**Brasilia**	**26.40**	**104**	P	**P**	**17 17 32.9**	**-0.3**
	comp=Z,32nm,0.9s,baz=269,slow=11,SNR=18						
BDFB				LR	LR	17 29 51.8	
	comp=Z,409nm,18.3s,baz=282,slow=40						
	comp=Z,32nm,0.9s						
GCMP	**Grenada, Carri**	**26.55**	**30**	eP	**P**	**17 17 33.6**	**-0.7**
IPMB	**Ipameri, GO**	**26.61**	**109**	eP	**P**	**17 17 34.8**	**-0.2**
RODS	**Rosario do Sul**	**26.63**	**140**	eP	**P**	**17 17 35.6**	**+0.6**
MDP	**Montagnes des**	**26.99**	**55**	P	**P**	**17 17 38.5**	**+0.1**
	comp=Z,19nm,0.5s,baz=240,slow=9.8,SNR=7.1						
MDP				LR	LR	17 28 41.5	
	comp=Z,900nm,20.6s,baz=264,slow=37						
	comp=Z,19nm,0.5s						
FRTB	**Fartura**	**27.03**	**121**	eP	**P**	**17 17 37.6**	**-1.1**
ALGR	**Alto Alegre (B**	**27.08**	**135**	eP	**P**	**17 17 38.9**	**-0.2**
SVB	**Belmont**	**27.31**	**30**	eP	**P**	**17 17 38.5**	**-2.6**
TGUH	**Tegucigalpa,Un**	**27.61**	**333**	IAmb	IAmb	17 17 46.5	
	comp=Z,266nm,1.8s						
TMAB	**Tom-Au,PA,Br**	**27.66**	**74**	eP	**P**	**17 17 45.7**	**+1.4**
CPSB	**Cacapava Do Su**	**27.81**	**138**	eP	**P**	**17 17 45.5**	**0.0**
BBGH	**Gun Hill**	**28.06**	**33**	*e*	**P**	**17 17 51.4**	**+3.6**
SLBI	**Saint Lucia, B**	**28.09**	**29**	*e*	P	17 17 40.1	-8.0
PMNB	**Patos De Minas**	**28.37**	**109**	eP	**P**	**17 17 50.5**	**-0.3**
RCLB	**Rio Claro- Sao**	**28.44**	**118**	eP	**P**	**17 17 51.1**	**-0.2**
BIM	**Bigot**	**28.48**	**29**	eP	**P**	**17 17 48.2**	**-3.4**
MPOM	**Morne Pois Mar**	**28.52**	**29**	P	**P**	**17 17 49.9**	**-2.0**
MPOM				IAmb	IAmb	17 17 51.0	
	comp=Z,84nm,0.6s						
PLTB	**Pedras Altas**	**28.60**	**140**	eP	**P**	**17 17 52.9**	**+0.4**
FDF	**Fort de France**	**28.63**	**28**	IAmb	IAmb	17 17 53.5	
	comp=Z,242nm,1.0s						
FDF	**Fort de France**	**28.63**	**28**	eP	**P**	**17 17 49.3**	**-3.6**
SVN	**Savane Anatole**	**28.71**	**28**	IAmb	IAmb	17 17 55.4	
	comp=Z,221nm,0.8s						
SVN	**Savane Anatole**	**28.71**	**28**	eP	**P**	**17 17 50.5**	**-3.2**
MTO3	**Montecristo**	**28.90**	**329**	IAmb	IAmb	17 17 58.3	
	comp=Z,163nm,1.2s						
MTDJ	**Mount Denham**	**28.91**	**354**	IAmb	IAmb	17 18 07.2	
	comp=Z,128nm,0.8s						
ESQI	**Esquipulas**	**29.03**	**330**	IAmb	IAmb	17 17 59.7	
	comp=Z,160nm,1.1s						
VAO	**Valinhos**	**29.13**	**118**	eP	**P**	**17 17 57.1**	**-0.3**
SDBA	**SAO DESIDERIO**	**29.21**	**96**	eP	**P**	**17 17 58.7**	**+0.6**
TRQA	**Tornquist**	**29.50**	**159**	P	**P**	**17 17 59.7**	**-0.7**
TRQA	**Tornquist**	**29.50**	**159**	P	**P**	**17 17 59.7**	**-0.7**
TRQA				pmax	pmax		
	comp=Z,36nm,1.2s						
MAGL	**Barre de l'ile**	**29.64**	**27**	*e*	**P**	**17 18 00.2**	**-1.6**
SDDR	**Presa de Saban**	**29.71**	**6**	P	**P**	**17 18 02.8**	**+0.4**
SDDR	**Presa de Saban**	**29.71**	**6**	eP	**P**	**17 18 04.3**	**+1.9**
SJG	**San Juan**	**29.87**	**16**	P	**P**	**17 18 03.8**	**0.0**
SJG	**San Juan**	**29.87**	**16**	eP	**P**	**17 18 04.0**	**+0.3**
SJG	**San Juan**	**29.87**	**16**	P	**P**	**17 18 03.8**	**0.0**
SJG				pmax	pmax		
	comp=Z,187nm,0.8s						
JANB	**Januaria**	**29.89**	**102**	eP	**P**	**17 18 03.9**	**-0.3**
PLCA	**Paso Flores**	**30.11**	**174**	eP	**P**	**17 18 05.8**	**0.0**
PLCA	**Paso Flores**	**30.11**	**174**	eP	**P**	**17 18 05.6**	**-0.2**
PLCA	**Paso Flores**	**30.11**	**174**	P	**P**	**17 18 05.4**	**-0.4**
	comp=Z,15nm,0.7s,baz=352,slow=9.5,SNR=23						
	comp=Z,15nm,0.7s						
PLCA	**Paso Flores**	**30.11**	**174**	⇓P	**P**	**17 18 05.6**	**-0.2**
PLCA				pP	**pP**	**17 18 32.2**	**+0.1**
PLCA				sP	**sP**	**17 18 46.2**	**+0.3**
PLCA				PcP	**PcP**	**17 21 05.0**	**+0.3**
PLCA				ScP	**ScP**	**17 24 37.5**	**+1.0**
ANBD	**Bethesda, Anti**	**30.41**	**25**	eP	**P**	**17 18 05.7**	**-2.8**
BSCB	**Bom Sucesso**	**30.47**	**113**	eP	**P**	**17 18 08.0**	**-1.3**
DIAM	**Diamantina, MG**	**30.91**	**108**	eP	**P**	**17 18 13.2**	**0.0**
ROSB	**Rosrio**	**31.29**	**78**	eP	**P**	**17 18 16.2**	**-0.2**
SJMB	**Sao Joao De Ma**	**33.30**	**108**	eP	**P**	**17 18 33.5**	**-0.5**
TEIG	**Tepich**	**33.55**	**336**	P	**P**	**17 18 36.8**	**+0.8**
TEIG	**Tepich**	**33.55**	**336**	eP	**P**	**17 18 36.8**	**+0.8**
TEIG	**Tepich**	**33.55**	**336**	⇓P	**P**	**17 18 36.9**	**+0.9**
TEIG				pP	**pP**	**17 19 03.6**	**+1.9**
TEIG				sP	**sP**	**17 19 16.9**	**+2.0**
TEIG				PcP	**PcP**	**17 21 14.7**	**+0.5**
ALF01	**Guarapari-ES**	**34.07**	**111**	eP	**P**	**17 18 40.4**	**-0.2**
GUA01	**Guaratinga, BA**	**34.35**	**104**	eP	**P**	**17 18 42.8**	**-0.3**
COYC	**Coyhaique**	**34.79**	**177**	P	**P**	**17 18 45.9**	**-0.7**
RPN	**Rapa Nui**	**36.46**	**239**	LR	LR	17 29 05.1	
	comp=Z,354nm,20.6s,baz=69,slow=28						
RCBR	**Riachuelo**	**38.66**	**86**	eP	**P**	**17 19 20.9**	**+1.1**
RCBR	**Riachuelo**	**38.66**	**86**	P	**P**	**17 19 20.3**	**+0.5**
	comp=Z,46nm,1.0s,baz=262,slow=8.6,SNR=15						
RCBR				LR	LR	17 36 54.2	
	comp=Z,321nm,19.1s,baz=265,slow=38						
	comp=Z,46nm,1.0s						
RCBR	**Riachuelo**	**38.66**	**86**	P	**P**	**17 19 19.9**	**+0.2**
RCBR				pP	**pP**	**17 19 47.2**	**+1.2**
RCBR				sP	**sP**	**17 20 00.9**	**+

	baz=148					
W50A	Signal Mountai	46.77 348	IAmb	IAmb	17 20 38.8	
	comp=Z,64nm,0.8s					
W50A	Signal Mountai	46.77 348	P	P	17 20 24.5	-0.5
	baz=166,SNR=17					
V53A	Saluda	46.78 351	IAmb	IAmb	17 20 37.9	
	comp=Z,76nm,0.7s					
V53A	Saluda	46.78 351	P	P	17 20 25.1	+0.1
	baz=169					
V53A			P	P	17 20 25.1	+0.1
	baz=169					
TKL	Tuckaleechee C	46.93 350	P	P	17 20 25.7	-0.4
	baz=168,SNR=8.0					
Z41A	Richland Creek	47.03 339	P	P	17 20 26.6	-0.4
	baz=155					
Z41A			P	P	17 20 26.6	-0.4
	baz=155					
237A	Washetta, Mont	47.06 335	P	P	17 20 28.0	+0.8
237A			IAmb	IAmb	17 20 56.8	
	comp=Z,129nm,0.9s					
237A	Washetta, Mont	47.06 335	P	P	17 20 28.5	+1.4
	baz=151,SNR=10.0					
V52A	Sevierville	47.08 350	IAmb	IAmb	17 20 40.2	
	comp=Z,132nm,0.9s					
V52A	Sevierville	47.08 350	P	P	17 20 26.8	-0.4
	baz=168,SNR=14					
DRIO	Del Rio	47.11 329	P	P	17 20 27.7	+0.1
DRIO			IAmb	IAmb	17 20 29.2	
	comp=Z,222nm,1.4s					
OXF	Oxford	47.11 343	IAmb	IAmb	17 20 28.2	
	comp=Z,97nm,0.9s					
OXF	Oxford	47.11 343	P	P	17 20 26.3	-1.3
	baz=160,SNR=12					
OXF	Oxford	47.11 343	P	P	17 20 25.9	-1.6
	baz=160,SNR=12					
U56A	King	47.13 354	IAmb	IAmb	17 20 39.8	
	comp=Z,69nm,0.8s					
U56A	King	47.13 354	P	P	17 20 28.7	+1.0
	baz=172,SNR=5.4					
U56A			P	P	17 20 28.7	+1.0
	baz=172,SNR=5.4					
V51A	Loudon	47.17 349	IAmb	IAmb	17 20 41.3	
	comp=Z,74nm,0.8s					
V51A	Loudon	47.17 349	P	P	17 20 27.8	-0.2
	baz=167,SNR=8.4					
CCAR	Cane Creek	47.28 341	IAmb	IAmb	17 20 57.7	
	comp=Z,99nm,0.8s					
U54A	Nelsons Funny	47.47 352	IAmb	IAmb	17 20 42.9	
	comp=Z,64nm,0.7s					
U54A	Nelsons Funny	47.47 352	P	P	17 20 30.3	-0.1
	baz=170,SNR=5.8					
U54A			P	P	17 20 30.3	-0.1
	baz=170,SNR=5.8					
JCT	Junction City	47.56 330	P	P	17 20 30.6	-0.5
JCT	Junction City	47.56 330	P	P	17 20 31.6	+0.5
	baz=146,SNR=14					
JCT	Junction City	47.56 330	P	P	17 20 31.5	+0.3
	baz=146,SNR=14					
JCT	Junction City	47.56 330	P	P	17 20 30.7	-0.5
JCT			pmax	pmax		
	comp=Z,69nm,1.3s					
V48A	Smith Brothers	47.62 347	IAmb	IAmb	17 20 31.9	
	comp=Z,212nm,1.4s					
V48A	Smith Brothers	47.62 347	P	P	17 20 30.6	-0.9
	baz=164,SNR=24					
T57A	Hurt	47.67 355	IAmb	IAmb	17 20 43.4	
	comp=Z,72nm,0.7s					
T57A	Hurt	47.67 355	P	P	17 20 32.1	+0.3
	baz=174,SNR=20					
T57A			P	P	17 20 32.1	+0.3
	baz=174,SNR=20					
WHTX	Lake Whitney,	47.75 334	P	P	17 20 33.3	+0.8
	baz=149,SNR=23					
WHTX	Lake Whitney,	47.75 334	P	P	17 20 32.6	+0.1
	baz=149,SNR=23					
TZTN	Tazewell	47.76 350	IAmb	IAmb	17 20 45.4	
	comp=Z,92nm,0.7s					
TZTN	Tazewell	47.76 350	P	P	17 20 32.1	-0.4
	baz=168					
TZTN	Tazewell	47.76 350	P	P	17 20 30.8	-1.7
	baz=168,SNR=9.1					
TREL	Terrell	47.81 335	IAmb	IAmb	17 21 02.6	
	comp=Z,143nm,0.7s					
Z38A	Mt. Pleasant	47.83 337	P	P	17 20 33.9	+0.7
	baz=153,SNR=9.5					
BRDY	Brady	47.85 332	IAmb	IAmb	17 20 34.7	
	comp=Z,106nm,1.4s					
FW16	Waxahatchie	47.93 334	IAmb	IAmb	17 20 36.1	
	comp=Z,316nm,1.3s					
FW14	Alvarado	47.98 334	IAmb	IAmb	17 20 36.2	
	comp=Z,135nm,0.9s					
BLA	Blacksburg	47.99 354	IAmb	IAmb	17 20 47.3	
	comp=Z,218nm,1.8s					
BLA	Blacksburg	47.99 354	P	P	17 20 34.9	+0.5
	baz=172,SNR=5.2					
BLA	Blacksburg	47.99 354	P	P	17 20 34.8	+0.5
	baz=172,SNR=5.2					
FW13	Cleburne	48.04 334	IAmb	IAmb	17 20 36.5	
	comp=Z,220nm,1.2s					
U49A	Red Boiling Sp	48.14 348	P	P	17 20 34.3	-1.1
	baz=165,SNR=5.8					
UALR	University of	48.25 340	IAmb	IAmb	17 21 04.7	
	comp=Z,102nm,0.8s					
SAND	Sanderson	48.32 328	IAmb	IAmb	17 21 07.0	
	comp=Z,50nm,0.9s					
S57A	Dark Hollow, R	48.40 355	IAmb	IAmb	17 20 50.1	
	comp=Z,51nm,0.7s					
S57A	Dark Hollow, R	48.40 355	P	P	17 20 37.6	+0.2
	baz=174,SNR=8.8					
S57A			P	P	17 20 37.6	+0.2
	baz=174,SNR=8.8					
MIAR	Mount Ida	48.47 339	P	P	17 20 38.0	+0.1
	baz=155,SNR=18					
MIAR	Mount Ida	48.47 339	P	P	17 20 37.7	-0.3
	baz=155,SNR=18					
FW07	Weatherford	48.50 334	IAmb	IAmb	17 20 39.6	
	comp=Z,155nm,0.7s					
R58B	Mineral	48.53 357	IAmb	IAmb	17 20 40.6	
	comp=Z,123nm,1.6s					
SLBS	Sierra La Lagu	48.57 315	P	P	17 20 40.0	+0.9
OZNA	Ozona	48.58 329	IAmb	IAmb	17 20 40.5	
	comp=Z,260nm,1.4s					
FW06	Azle	48.63 334	IAmb	IAmb	17 20 41.3	
	comp=Z,265nm,1.3s					
TXAR	Lajitas Array	48.67 326	P	P	17 20 40.1	+0.3
	comp=Z,24nm,0.8s,baz=146,slow=9.1,SNR=190					
TXAR			PcP	PcP	17 22 04.2	+0.7
	comp=Z,10.0nm,1.0s,baz=156,slow=4.9,SNR=3.9					
	comp=Z,24nm,0.8s					
TX31	Lajitas Ar. Si	48.67 326	IAmb	IAmb	17 20 40.8	
	comp=Z,112nm,0.9s					
TX31	Lajitas Ar. Si	48.67 326	P	P	17 20 40.4	+0.6
	baz=141,SNR=68					
S54A	Dingess, Beckl	48.67 353	IAmb	IAmb	17 20 51.8	
	comp=Z,104nm,0.8s					
S54A	Dingess, Beckl	48.67 353	P	P	17 20 39.4	-0.2
	baz=171					
S54A			P	P	17 20 39.4	-0.2
	baz=171					
WHAR	Wooly Hollow	48.71 341	IAmb	IAmb	17 21 07.7	
	comp=Z,64nm,0.9s					
Z35A	Perchaven, San	48.81 335	P	P	17 20 41.9	+1.2
	baz=150,SNR=28					
PLPT	Palo Pinto	48.82 333	IAmb	IAmb	17 20 42.0	
	comp=Z,89nm,0.7s					
T47A	Sharon Grove	48.88 347	IAmb	IAmb	17 20 41.1	
	comp=Z,85nm,1.2s					
T47A	Sharon Grove	48.88 347	P	P	17 20 39.8	-1.3
	baz=164,SNR=9.0					
FW03	Perrin-Whitt E	48.91 334	IAmb	IAmb	17 20 44.4	
	comp=Z,155nm,1.5s					
R55A	Marlinton	49.02 354	P	P	17 20 42.7	+0.4
	baz=173					
R55A			P	P	17 20 42.7	+0.4
	baz=173					
ABTX	Abilene, Hawle	49.26 332	P	P	17 20 44.8	+0.6
	baz=147,SNR=64					
ABTX	Abilene, Hawle	49.26 332	P	P	17 20 44.7	+0.6
	baz=147,SNR=64					
R53A	Hurricane	49.27 352	IAmb	IAmb	17 20 56.3	
	comp=Z,57nm,0.8s					
R53A	Hurricane	49.27 352	P	P	17 20 44.0	-0.1
	baz=171					
R53A			P	P	17 20 44.0	-0.1
	baz=171					
SGCY	Sterling City	49.38 330	IAmb	IAmb	17 21 14.6	
	comp=Z,137nm,1.1s					
ALPN	Alpine	49.45 327	IAmb	IAmb	17 21 15.6	
	comp=Z,67nm,0.9s					
PBMO	Poplar Bluff	49.52 343	IAmb	IAmb	17 20 46.3	
	comp=Z,165nm,1.4s					
PBMO	Poplar Bluff	49.52 343	P	P	17 20 45.0	-1.0
	baz=160,SNR=22					
R50A	Paris	49.58 350	IAmb	IAmb	17 20 59.9	
	comp=Z,129nm,1.4s					
R50A	Paris	49.58 350	P	P	17 20 45.5	-1.0
	baz=168,SNR=9.7					
R50A			P	P	17 20 45.5	-1.0
	baz=168,SNR=9.7					
Q56A	Snyder Ridge,	49.69 355	IAmb	IAmb	17 20 59.2	
	comp=Z,44nm,0.7s					
Q56A	Snyder Ridge,	49.69 355	P	P	17 20 48.3	+1.0
	baz=174,SNR=5.5					
Q56A			P	P	17 20 48.3	+1.0
	baz=174,SNR=5.5					
WTFS	Witchita Falls	49.70 334	IAmb	IAmb	17 20 49.2	
	comp=Z,453nm,1.5s					
R49A	Shelbyville	49.74 349	IAmb	IAmb	17 21 01.9	
	comp=Z,154nm,1.6s					
R49A	Shelbyville	49.74 349	P	P	17 20 47.0	-0.7
	baz=166,SNR=7.3					
R49A			P	P	17 20 47.0	-0.7
	baz=166,SNR=7.3					
MNHN	Monahans	49.75 328	IAmb	IAmb	17 20 49.0	
	comp=Z,84nm,0.8s					
Q54A	Coxs Mills	49.78 354	IAmb	IAmb	17 20 59.8	
	comp=Z,55nm,0.6s					
Q54A	Coxs Mills	49.78 354	P	P	17 20 47.5	-0.5
	baz=172					
Q54A			P	P	17 20 47.5	-0.5
	baz=172					
CGM3	Cape Girardeau	49.80 344	IAmb	IAmb	17 20 48.3	
	comp=Z,124nm,1.3s					
U40A	Yellville	49.87 341	P	P	17 20 47.8	-0.8
	baz=156,SNR=26					
U40A			P	P	17 20 47.8	-0.8
	baz=156,SNR=26					
WCI	Wyandotte Cave	49.90 348	P	P	17 20 47.0	-1.9
WCI	Wyandotte Cave	49.90 348	P	P	17 20 47.8	-1.0
	baz=165					
WCI	Wyandotte Cave	49.90 348	P	P	17 20 47.5	-1.3
	baz=165,SNR=9.9					
WCI	Wyandotte Cave	49.90 348	P	P	17 20 47.0	-1.9
WCI			pmax	pmax		
	comp=Z,85nm,0.6s					
WCI	Wyandotte Cave	49.90 348	P	P	17 20 47.9	-1.0
SDMD	Soldier's Deli	49.92 358	P	P	17 20 49.8	+0.9
	baz=177					
Q52A	Bidwell	49.94 352	IAmb	IAmb	17 21 02.0	
	comp=Z,75nm,1.1s					
T42A	Van Buren	49.95 343	IAmb	IAmb	17 21 16.6	
	comp=Z,42nm,0.8s					
T42A	Van Buren	49.95 343	P	P	17 20 47.5	-1.7
	baz=159,SNR=18					
SN01	Snyder 1	50.05 331	IAmb	IAmb	17 21 19.7	
	comp=Z,66nm,0.8s					
S44A	Carbondale	50.07 345	P	P	17 20 49.0	-1.1
	baz=161,SNR=18					
APMT	Aspermont	50.07 332	IAmb	IAmb	17 20 52.0	
	comp=Z,251nm,1.1s					
ODSA	Odessa	50.26 329	IAmb	IAmb	17 20 53.0	
	comp=Z,346nm,1.5s					
PECS	Pecos	50.35 327	IAmb	IAmb	17 20 54.4	
	comp=Z,156nm,1.4s					
MCWV	Mont Chateau	50.36 355	P	P	17 20 52.6	+0.3
	baz=173					
RLO	Rose Lookout	50.43 339	IAmb	IAmb	17 21 21.6	
	comp=Z,114nm,0.8s					
U38A	Gravette	50.46 339	IAmb	IAmb	17 20 54.0	
	comp=Z,104nm,1.4s					
U38A	Gravette	50.46 339	P	P	17 20 52.6	-0.5
	baz=155,SNR=14					
TUL3	Leonard	50.49 338	P	P	17 20 53.3	0.0
	baz=153,SNR=16					
TUL3	Leonard	50.49 338	P	P	17 20 53.1	-0.2
	baz=153,SNR=16					
MVL	Millersville	50.49 358	IAmb	IAmb	17 21 36.3	
	comp=Z,42nm,0.9s					
POST	Post	50.51 331	IAmb	IAmb	17 21 22.6	
	comp=Z,184nm,0.8s					
425A	Indio Mountain	50.51 326	IAmb	IAmb	17 21 23.1	
	comp=Z,83nm,0.9s					
P51A	Williamsport	50.56 352	IAmb	IAmb	17 21 21.2	
	comp=Z,65nm,1.2s					
P51A	Williamsport	50.56 352	P	P	17 20 52.8	-0.9
	baz=169					
P51A			P	P	17 20 52.8	-0.9
	baz=169					
P52A	Corning	50.58 353	P	P	17 20 53.4	-0.6
	baz=171,SNR=7.1					
FVM	French Village	50.65 344	IAmb	IAmb	17 21 22.5	
	comp=Z,87nm,0.8s					
FVM	French Village	50.65 344	P	P	17 20 53.2	-1.3
	baz=160,SNR=30					
WMOK	Wichita Mounta	50.66 334	P	P	17 20 54.5	-0.2
	baz=149					
WMOK	Wichita Mounta	50.66 334	P	P	17 20 53.9	-0.9
	baz=149					
DKNS	Dickens	50.73 332	IAmb	IAmb	17 21 24.5	
	comp=Z,144nm,0.8s					
OLIL	Olney	50.77 346	P	P	17 20 54.6	-0.8
	baz=163,SNR=14					
P49A	Miami Univ. Ec	50.87 350	IAmb	IAmb	17 21 23.1	
	comp=Z,51nm,1.0s					
P49A	Miami Univ. Ec	50.87 350	P	P	17 20 54.7	-1.4
	baz=167					
P48A	Milroy	50.92 349	P	P	17 20 55.3	-1.2
	baz=166,SNR=8.5					
P48A			P	P	17 20 55.3	-1.2
	baz=166,SNR=8.5					
CCM	Cathedral Cave	50.95 343	P	P	17 20 55.3	-1.4
CCM			IAmb	IAmb	17 20 56.9	
	comp=Z,79nm,1.2s					
CCM	Cathedral Cave	50.95 343	P	P	17 20 55.7	-1.1
	baz=159					
CCM	Cathedral Cave	50.95 343	P	P	17 20 55.9	-0.8
	baz=159,SNR=18					
CCM	Cathedral Cave	50.95 343	P	P	17 20 55.3	-1.4
CCM			pmax	pmax		
	comp=Z,79nm,1.3s					
CCM	Cathedral Cave	50.95 343	P	P	17 20 55.6	-1.1
CCM			pP	pP	17 21 23.0	-1.0
CCM			PcP	PcP	17 22 11.2	-0.3
CCM			ScP	ScP	17 25 56.4	-0.9
O52A	Adamsville	51.02 353	IAmb	IAmb	17 21 09.2	
	comp=Z,68nm,0.8s					
O52A	Adamsville	51.02 353	P	P	17 20 56.6	-0.7
	baz=171					
O52A			P	P	17 20 56.6	-0.7
	baz=171					
QUOK	Quay	51.06 337	IAmb	IAmb	17 20 58.9	
	comp=Z,78nm,0.8s					
O53A	New Philadelph	51.08 354	P	P	17 20 57.4	-0.2
	baz=172,SNR=6.0					
Q44A	Meyer Farm, Va	51.15 346	P	P	17 20 57.0	-1.2
	baz=162,SNR=39					
SSPA	Standing Stone	51.19 357	P	P	17 20 59.2	+0.7
SSPA			IAmb	IAmb	17 22 30.1	
	comp=Z,90nm,1.5s					
SSPA	Standing Stone	51.19 357	P	P	17 20 59.2	+0.7
	baz=176					
SSPA	Standing Stone	51.19 357	P	P	17 20 59.4	+0.9
	baz=176					
SSPA	Standing Stone	51.19 357	P	P	17 20 59.1	+0.7
SSPA			PcP	PcP	17 22 12.0	-0.4
UPAO	U. Pittsburgh	51.19 355	P	P	17 20 58.8	+0.3
	baz=173					
SLM	Saint Louis	51.21 344	IAmb	IAmb	17 20 59.1	
	comp=Z,68nm,0.8s					
SLM	Saint Louis	51.21 344	P	P	17 20 57.8	-0.8
	baz=160					
S39A	Bolivar	51.24 341	IAmb	IAmb	17 20 59.5	
	comp=Z,127nm,1.3s					
S39A	Bolivar	51.24 341	P	P	17 20 58.2	-0.8
	baz=156,SNR=31					
ACSO	Alum Creek Sta	51.28 352	IAmb	IAmb	17 21 11.8	
	comp=Z,161nm,1.6s					
ACSO	Alum Creek Sta	51.28 352	P	P	17 20 58.4	-0.8
	baz=170					
ACSO	Alum Creek Sta	51.28 352	P	P	17 20 58.4	-0.8
	baz=170					
P46A	Rosedale	51.42 348	IAmb	IAmb	17 21 15.8	
	comp=Z,63nm,0.7s					
P46A	Rosedale	51.42 348	P	P	17 20 58.9	-1.4
	baz=164,SNR=7.2					
MNTX	Cornudas Mount	51.42 326	IAmb	IAmb	17 21 01.7	
	comp=Z,118nm,1.5s					
MNTX	Cornudas Mount	51.42 326	P	P	17 21 00.1	-0.3
	baz=140,SNR=40					
MNTX	Cornudas Mount	51.42 326	P	P	17 20 59.5	-0.9
	baz=140,SNR=40					
O49A	Covington	51.44 351	IAmb	IAmb	17 21 12.5	
	comp=Z,55nm,0.9s					
O49A	Covington	51.44 351	P	P	17 20 59.1	-1.3
	baz=168,SNR=6.0					
O49A			P	P	17 20 59.1	-1.3
	baz=168,SNR=6.0					
R40A	Maddies Statio	51.46 342	IAmb	IAmb	17 21 00.9	
	comp=Z,133nm,1.4s					
R40A	Maddies Statio	51.46 342	P	P	17 20 59.5	-1.1
	baz=158,SNR=21					
PAL	Palisades	51.48 1	P	P	17 21 01.7	+1.1
	baz=181					
PAL	Palisades	51.48 1	P	P	17 21 02.2	+1.6
	baz=181					
SMWD	Samnorwood	51.61 333	IAmb	IAmb	17 21 30.9	
	comp=Z,305nm,0.8s					
O48B	Farmland	51.65 350	P	P	17 21 00.9	-1.0
	baz=167,SNR=10.0					
O48B	Farmland	51.65 350	P	P	17 21 01.0	-1.0
	baz=167,SNR=10.0					
T35B	Sooner Cattle	51.65 338	P	P	17 21 02.1	+0.1
	baz=152,SNR=10					
M57A	Sunshine Farm,	51.85 358	IAmb	IAmb	17 21 16.3	
	comp=Z,40nm,0.7s					
CROK	Carrier	51.85 336	IAmb	IAmb	17 21 32.1	
	comp=Z,73nm,0.7s					
MSTX	Muleshoe	51.86 330	IAmb	IAmb	17 21 04.7	
	comp=Z,138nm,1.2s					
MSTX	Muleshoe	51.86 330	P	P	17 21 03.4	-0.4
	baz=144,SNR=5.4					
MSTX	Muleshoe	51.86 330	P	P	17 21 03.5	-0.3
	baz=144,SNR=5.4					
P43A	Skaggs, Pawnee	51.98 345	P	P	17 21 03.7	-0.7
	baz=162,SNR=25					
KSPA	Keystone Colle	52.03 359	P	P	17 21 06.1	+1.3
	baz=179					
M55A	Ridgway	52.07 356	IAmb	IAmb	17 21 40.2	
	comp=Z,48nm,0.9s					
AMTX	Amarillo	52.08 332	IAmb	IAmb	17 21 06.3	
	comp=Z,100nm,1.2s					
AMTX	Amarillo	52.08 332	P	P	17 21 05.2	-0.1
	baz=146					
AMTX	Amarillo	52.08 332	P	P	17 21 05.1	-0.3
	baz=146					
SFIN	Lafayette	52.13 348	IAmb	IAmb	17 21 19.4	
	comp=Z,48nm,0.6s					
SFIN	Lafayette	52.13 348	P	P	17 21 03.9	-1.7
	baz=165,SNR=6.6					
SFIN	Lafayette	52.13 348	P	P	17 21 03.7	-1.8
	baz=165,SNR=6.6					
N49A	Columbus Grove	52.13 351	IAmb	IAmb	17 21 17.6	
	comp=Z,81nm,0.7s					
N49A	Columbus Grove	52.13 351	P	P	17 21 04.2	-1.3
	baz=168,SNR=5.5					
N49A			P	P	17 21 04.2	-1.3
	baz=168,SNR=5.5					
M53A	Wl Miller and	52.20 354	P	P	17 21 06.5	+0.5
	baz=173,SNR=7.0					
NPNY	Mohonk Preserv	52.22 1	P	P	17 21 07.9	+1.7
	baz=181					
KAN14	Manchester OK	52.24 336	IAmb	IAmb	17 21 07.6	
	comp=Z,75nm,1.1s					
N47A	Urbana	52.35 349	P	P	17 21 05.5	-1.6
	baz=166,SNR=6.9					
N47A			P	P	17 21 05.5	-1.6
	baz=166,SNR=6.9					
P40A	Paris	52.55 343	IAmb	IAmb	17 21 36.1	
	comp=Z,49nm,0.8s					
P40A	Paris	52.55 343	P	P	17 21 07.4	-1.2
	baz=158,SNR=11					
L59A	Walton	52.66 360	P	P	17 21 09.6	+0.2
	baz=180,SNR=5.3					
L59A			P	P	17 21 09.6	+0.2
	baz=180,SNR=5.3					
L56A	Greenwood	52.67 357	IAmb	IAmb	17 21 11.3	
	comp=Z,189nm,1.6s					
BINY	Binghamton	52.68 359	P	P	17 21 10.9	+1.3
	baz=178,SNR=6.7					
BINY	Binghamton	52.68 359	P	P	17 21 10.5	+1.0
	baz=178,SNR=6.7					
QUA2	Belchertown	52.79 2	P	P	17 21 11.0	+0.7
	baz=183					
ERPA	Erie	52.81 355	P	P	17 21 09.9	-0.6
	baz=174					
L61B	Northampton	52.95 2	P	P	17 21 12.3	+0.8
	baz=182					
HRV	Adam Dziewonsk	53.05 3	P	P	17 21 14.1	+1.8
	baz=184					
HRV	Adam Dziewonsk	53.05 3	P	P	17 21 13.7	+1.5
	baz=184					
HRV	Adam Dziewonsk	53.05 3	P	P	17 21 14.2	+2.0
P38A	Dawn	53.07 342	IAmb	IAmb	17 21 13.0	
	comp=Z,51nm,0.9s					
P38A	Dawn	53.07 342	P	P	17 21 11.8	-0.7
	baz=157,SNR=7.6					
HCNY	Howe Caverns	53.16 0	P	P	17 21 14.7	+1.7
	baz=180					
TRY	Troy	53.20 1	P	P	17 21 15.3	+2.0
	baz=181					
N41A	Harden Midland	53.32 345	P	P	17 21 13.4	-0.9
	baz=160,SNR=6.7					
121A	Cookes Peak, D	53.39 325	IAmb	IAmb	17 21 45.5	
	comp=Z,80nm,0.9s					
121A	Cookes Peak, D	53.39 325	P	P	17 21 16.3	+1.1
	baz=138,SNR=41					
121A	Cookes Peak, D	53.39 325	P	P	17 21 16.1	+0.9
	baz=138,SNR=41					
KSU1	Kansas State U	53.62 339	IAmb	IAmb	17 21 46.1	
	comp=Z,80nm,0.8s					
K50A	Casco	53.74 353	IAmb	IAmb	17 21 28.6	
	comp=Z,62nm,0.8s					
R32A	Long Quarter,	53.80 337	P	P	17 21 18.0	+0.1
	baz=150,SNR=15					
RTBA	Rita Blanca	53.85 332	IAmb	IAmb	17 21 19.6	
	comp=Z,245nm,1.8s					
ACCN	Adirondack Com	53.86 1	P	P	17 21 19.5	+1.4
	baz=181					
J59A	Piesco	53.93 0	P	P	17 21 19.7	+1.0
	baz=180					
J59A			P	P	17 21 19.7	+1.0
	baz=180					
Y22A	Socorro	53.99 327	P	P	17 21 19.7	+0.2
	baz=140,SNR=14					
Y22D	IRIS PASSCAL I	54.07 327	P	P	17 21 20.8	+0.7
	baz=140					
Y22F	Passcal Instru	54.07 327	P	P	17 21 20.9	+0.8
	baz=140					
L42A	Oliver, Polo	54.25 346	IAmb	IAmb	17 21 20.8	
	comp=Z,145nm,1.6s					
L42A	Oliver, Polo	54.25 346	P	P	17 21 19.4	-1.6
	baz=162,SNR=5.3					
PMSA	Palmer Station	54.48 174	LR	LR	17 42 39.6	
	comp=Z,107nm,18.4s,baz=360,slow=34					
ANMO	Albuquerque	54.49 328	P	P	17 21 22.8	-0.4
ANMO	Albuquerque	54.49 328	P	P	17 21 23.5	+0.4
	baz=141					
ANMO	Albuquerque	54.49 328	P	P	17 21 23.4	+0.2
	baz=141,SNR=19					
ANMO	Albuquerque	54.49 328 *i*	P	P	17 21 23.5	+0.4
ANMO			pmax	pmax		
	comp=Z,41nm,0.8s					
ANMO	Albuquerque	54.49 328 ⇓	P	P	17 21 23.6	+0.4
ANMO			pP	pP	17 21 51.6	+0.8
ANMO			ScP	ScP	17 26 13.8	+0.8
J47A	Sunmer	54.50 351	IAmb	IAmb	17 21 34.6	
	comp=Z,122nm,1.1s					
CBKS	Cedar Bluff	54.55 336	P	P	17 21 23.6	+0.3
	baz=149,SNR=9.4					
CBKS	Cedar Bluff	54.55 336	P	P	17 21 23.1	-0.2
	baz=149,SNR=9.4					
L40A	Anamosa	54.69 345	IAmb	IAmb	17 21 52.2	
	comp=Z,82nm,1.0s					
L40A	Anamosa	54.69 345	P	P	17 21 22.8	-1.3
	baz=160,SNR=10					
LBNH	Lisbon	54.76 2	P	P	17 21 26.2	+1.5
	baz=183					
LBNH	Lisbon	54.76 2	P	P	17 21 25.3	+0.6
	baz=183					
TUC	Tucson	54.98 322	P	P	17 21 26.2	-0.4
TUC	Tucson	54.98 322	P	P	17 21 26.9	+0.4
	baz=135					
TUC	Tucson	54.98 322	P	P	17 21 26.2	-0.4
TUC			pmax	pmax		

comp=Z,54nm,1.2s
TUC Tucson 54.98 322 P P 17 21 26.7 +0.2
TUC pP **pP 17 21 55.1 +0.9**
TUC sP **sP 17 22 07.4 +0.3**
LONY Lake Ozonia 55.08 0 P P 17 21 27.7 +0.7
LONY IAmb IAmb 17 21 29.9
comp=Z,62nm,1.1s
LONY Lake Ozonia 55.08 0 P P 17 21 27.6 +0.7
baz=180
T25A Trinidad 55.20 331 P P 17 21 28.9 +0.7
baz=144,SNR=69
JFWS Jewell Farm 55.25 346 IAmb IAmb 17 21 55.7
comp=Z,57nm,0.8s
JFWS Jewell Farm 55.25 346 P P 17 21 30.2 +2.0
baz=161
JFWS Jewell Farm 55.25 346 P P 17 21 26.7 -1.5
baz=161
BMNY Brushton-Moira 55.30 0 P P 17 21 29.1 +0.6
baz=180
FRNY Flat Rock 55.31 1 P P 17 21 29.4 +0.8
baz=181,SNR=6.9
K38A Parkersburg 55.64 344 IAmb IAmb 17 21 58.4
comp=Z,45nm,0.8s
G62A West of Eustis 55.81 4 P P 17 21 33.3 +1.1
baz=185,SNR=5.2
G62A P **P 17 21 33.3 +1.1**
baz=185,SNR=5.2
I42A Draeger Farm, 55.88 348 IAmb IAmb 17 22 01.2
comp=Z,56nm,0.9s
I42A Draeger Farm, 55.88 348 P P 17 21 31.8 -0.9
baz=163,SNR=6.7
KSCO Kaye Shedlock' 55.92 334 IAmb IAmb 17 22 02.6
comp=Z,102nm,0.9s
KSCO Kaye Shedlock' 55.92 334 P P 17 21 33.3 +0.1
baz=146,SNR=5.3
KSCO Kaye Shedlock' 55.92 334 P P 17 21 33.0 -0.2
baz=146,SNR=5.3
PKME Peaks-Kenny Pk 55.94 5 P P 17 21 32.8 -0.3
baz=186
214A Organ Pipe Nat 55.97 321 IAmb IAmb 17 21 35.7
comp=Z,150nm,1.3s
214A Organ Pipe Nat 55.97 321 P P 17 21 34.5 +0.9
baz=133,SNR=22
MNTQ Montreal, Queb 55.97 1 IAmb IAmb 17 22 16.3
comp=Z,106nm,1.0s
G65A Princeton 56.03 6 IAmb IAmb 17 21 35.8
comp=Z,84nm,1.4s
X18A Snowflake 56.08 325 IAmb IAmb 17 22 05.4
comp=Z,67nm,1.0s
L34A Svendsen Farm, 56.10 341 P P 17 21 33.3 -1.0
SDCO Great Sand Dun 56.20 331 P P 17 21 36.0 +0.5
baz=143,SNR=129
SDCO Great Sand Dun 56.20 331 P P 17 21 36.0 +0.5
baz=143,SNR=129
H43A Windswept, Lux 56.21 349 IAmb IAmb 17 21 35.1
comp=Z,56nm,0.7s
BGNE Belgrade 56.21 339 P P 17 21 34.7 -0.4
baz=152,SNR=6.7
BGNE Belgrade 56.21 339 P P 17 21 34.1 -1.0
baz=152,SNR=6.7
I40A Norwalk 56.26 346 IAmb IAmb 17 22 03.2
comp=Z,80nm,0.9s
I40A Norwalk 56.26 346 P P 17 21 34.4 -1.0
baz=161,SNR=5.7
W18A Petrified Fore 56.39 326 P P 17 21 37.0 +0.3
W18A Petrified Fore 56.39 326 P P 17 21 37.5 +0.8
baz=138,SNR=8.7
SACV Santiago Islan 56.67 64 P P 17 21 38.9 0.0
SACV IAmb IAmb 17 21 40.0
comp=Z,82nm,1.1s
TRQ Mont Tremblant 56.69 0 P P 17 21 39.2 +0.7
TRQ IAmb IAmb 17 21 40.1
comp=Z,102nm,1.4s
S22A 4UR Ranch, Cre 56.85 330 P P 17 21 40.5 +0.5
baz=142,SNR=30
X16A Lo Mia Camp, P 56.85 324 IAmb IAmb 17 21 42.2
comp=Z,76nm,1.3s
Q24A Divide 57.01 332 P P 17 21 41.5 +0.2
baz=144
LMN Caledonia Moun 57.01 8 P P 17 21 42.1 +1.4
LMN IAmb IAmb 17 21 48.4
comp=Z,74nm,1.2s
I37A Lemond, Waseca 57.08 344 IAmb IAmb 17 22 08.8
comp=Z,44nm,0.8s
I37B Waseca 57.08 344 P P 17 21 40.1 -1.1
baz=158
OGNE Ogallala 57.28 336 IAmb IAmb 17 22 12.2
comp=Z,66nm,0.8s
OGNE Ogallala 57.28 336 P P 17 21 43.1 +0.2
baz=148,SNR=5.4
OGNE Ogallala 57.28 336 P P 17 21 42.0 -0.9
baz=148,SNR=5.4
MVCO Mesa Verde 57.29 328 P P 17 21 43.4 +0.2
baz=140,SNR=30
WUAZ Wupatki 57.60 325 P P 17 21 46.2 +1.0
baz=136,SNR=71
ECSD EROS Data Cent 57.77 341 IAmb IAmb 17 22 14.4
comp=Z,55nm,0.9s
ECSD EROS Data Cent 57.77 341 P P 17 21 45.2 -0.8
baz=154,SNR=20
ECSD EROS Data Cent 57.77 341 P P 17 21 44.9 -1.1
baz=154,SNR=20
D62A Allapoint, All 57.77 5 IAmb IAmb 17 21 48.5
comp=Z,63nm,0.9s
K30B Basset 57.84 338 P P 17 21 46.6 0.0
baz=151,SNR=7.5
ISCO Idaho Springs 57.89 332 IAmb IAmb 17 21 49.0
comp=Z,78nm,1.3s
ISCO Idaho Springs 57.89 332 P P 17 21 47.8 +0.3
baz=144,SNR=35
ISCO Idaho Springs 57.89 332 P P 17 21 47.7 +0.3
baz=144,SNR=35
E43A Lone Tree Farm 57.91 350 IAmb IAmb 17 21 46.8
comp=Z,97nm,1.4s
E43A Lone Tree Farm 57.91 350 P P 17 21 45.3 -1.6
baz=166,SNR=7.4
BRIGG Briggsdale 57.95 334 IAmb IAmb 17 21 49.6
comp=Z,124nm,1.1s
COWI Conover 58.04 348 P P 17 21 46.8 -1.1
baz=163
SMCO Snowmass 58.04 331 IAmb IAmb 17 21 50.4
comp=Z,66nm,1.0s
SPMN Marine on St. 58.05 345 IAmb IAmb 17 22 16.0
comp=Z,90nm,0.8s
SPMN Marine on St. 58.05 345 P P 17 21 46.7 -1.3
baz=159,SNR=11
SPMN Marine on St. 58.05 345 P P 17 21 46.9 -1.1
baz=159,SNR=11
BLYC Blythe 58.24 321 IAmb IAmb 17 21 51.7
comp=Z,111nm,1.1s
PDMCI Parker Dam,Lak 58.38 322 P P 17 21 51.0 +0.5
baz=133,SNR=11
IKP In-Ko-Pah, Jac 58.52 319 P P 17 21 52.5 +0.9
baz=130,SNR=6.5
VLDQ Val d'Or 58.63 358 IAmb IAmb 17 21 53.5
comp=Z,62nm,1.2s
BC3 Big Chuckawall 58.75 320 P P 17 21 54.0 +0.7
baz=132,SNR=40
W13A Hualapai Mount 58.77 323 IAmb IAmb 17 21 55.8
comp=Z,88nm,1.2s
U15A North Rim 58.77 325 IAmb IAmb 17 21 55.8
comp=Z,117nm,1.3s
F36A Milaca 58.83 345 IAmb IAmb 17 22 21.6
comp=Z,63nm,0.9s
F36A Milaca 58.83 345 P P 17 21 52.2 -1.2
baz=158,SNR=13
D41A Chassel 58.85 349 P P 17 21 52.7 -0.8
baz=164
MONP2 Monument Peak 58.87 319 P P 17 21 54.7 +0.5
baz=130,SNR=6.1
IRM Iron Mountain 58.90 321 P P 17 21 55.1 +1.0
baz=132,SNR=78
N23A Red Feather La 58.92 333 IAmb IAmb 17 21 58.0
comp=Z,59nm,1.3s
N23A Red Feather La 58.92 333 P P 17 21 54.8 +0.3
baz=144,SNR=20
NEE2 Needles Airpor 58.98 322 P P 17 21 55.0 +0.3
baz=133
HMU Henry Mountain 59.01 327 IAmb IAmb 17 21 58.3
comp=Z,73nm,1.2s
PHWY Pilot Hill 59.03 333 IAmb IAmb 17 21 56.8
comp=Z,112nm,1.4s
E38A The Farm, Brul 59.04 346 P P 17 21 53.9 -0.9
baz=161
SUSD Miller 59.16 340 P P 17 21 54.9 -0.8
baz=152,SNR=5.4
SUSD Miller 59.16 340 P P 17 21 54.9 -0.8
baz=152,SNR=5.4

109C Camp Elliot, M 59.31 319 P P 17 21 57.3 +0.3
109C IAmb IAmb 17 21 58.9
comp=Z,111nm,1.4s
109C Camp Elliot, M 59.31 319 P P 17 21 57.5 +0.6
baz=130
BELC Belle Mtn. Jos 59.32 320 P P 17 21 58.0 +0.8
baz=131,SNR=34
PMD Palm Desert 59.33 320 IAmb IAmb 17 21 59.2
comp=Z,68nm,1.2s
TPFO Pinon Flats 59.35 320 P P 17 21 58.2 +0.8
baz=131,SNR=25
PFO Pinyon Flats O 59.36 320 P P 17 21 57.8 +0.3
PFO IAmb IAmb 17 21 59.6
comp=Z,77nm,1.1s
PFO Pinyon Flats O 59.36 320 P P 17 21 58.5 +1.0
baz=131,SNR=26
PFO Pinyon Flats O 59.36 320 *i* P **P 17 21 58.2 +0.7**
PFO pmax pmax
comp=Z,112nm,1.1s
PFO Pinyon Flats O 59.36 320 LR LR 17 45 50.2
comp=Z,86nm,18.4s,baz=150,slow=34
PFO Pinyon Flats O 59.36 320 ⇓P **P 17 21 58.4 +0.9**
PFO pP **pP 17 22 27.2 +1.6**
PFO sP **sP 17 22 40.8 +2.5**
PFO PcP **PcP 17 22 44.0 -0.2**
O20A White River Ci 59.40 330 P P 17 21 57.9 +0.2
baz=141,SNR=22
F33A 5 Mile Ranch, 59.57 343 IAmb IAmb 17 22 26.8
comp=Z,40nm,0.8s
F33A 5 Mile Ranch, 59.57 343 P P 17 21 57.4 -1.1
baz=155,SNR=8.7
GMRC Granite Mounta 59.63 321 P P 17 22 00.1 +0.8
baz=132,SNR=46
LCMT Little Creek M 59.72 325 IAmb IAmb 17 22 02.1
comp=Z,89nm,1.3s
V12A Nelson 59.77 323 IAmb IAmb 17 22 02.2
comp=Z,106nm,1.2s
MURC Murrieta 59.82 319 P P 17 22 01.5 +0.9
baz=130,SNR=7.7
MTPU Mount Pierson 59.87 326 IAmb IAmb 17 22 03.2
comp=Z,156nm,2.0s
ELS Elsinore Mount 60.00 319 IAmb IAmb 17 22 03.9
comp=Z,85nm,1.4s
SZCU Shurtz Canyon 60.05 325 IAmb IAmb 17 22 04.4
comp=Z,84nm,1.4s
BBRC Big Bear Solar 60.07 320 P P 17 22 03.5 +1.1
baz=130
HEC Hector,Ludlow 60.08 321 P P 17 22 03.5 +1.3
baz=131,SNR=29
CCUT Cedar City 60.17 325 IAmb IAmb 17 22 05.7
comp=Z,81nm,1.3s
TUQ Turquoise Moun 60.22 322 P P 17 22 04.0 +0.7
baz=132,SNR=19
TMUT Trail Mountain 60.26 328 IAmb IAmb 17 22 05.5
comp=Z,130nm,1.8s
TCRU Three Creeks R 60.42 327 IAmb IAmb 17 22 06.8
comp=Z,109nm,1.3s
SHPR Sheep Range 60.48 323 IAmb IAmb 17 22 07.3
comp=Z,52nm,1.2s
CIS Catalina Islan 60.49 318 P P 17 22 06.0 +0.9
baz=129,SNR=8.8
RRX Edison Barstow 60.52 321 P P 17 22 06.2 +1.0
baz=131
BFSC Mount Baldy Ra 60.53 320 P P 17 22 05.9 +0.5
baz=130,SNR=12
K22A Casper 60.59 333 IAmb IAmb 17 22 07.2
comp=Z,167nm,1.6s
K22A Casper 60.59 333 P P 17 22 05.7 -0.1
baz=144,SNR=14
K22A Casper 60.59 333 P P 17 22 05.6 -0.1
baz=144,SNR=14
FMP Fort Macarthur 60.60 319 P P 17 22 06.8 +1.1
baz=129
GSC Goldstone, Bar 60.68 321 IAmb IAmb 17 22 08.5
comp=Z,65nm,1.2s
GSC Goldstone, Bar 60.68 321 P P 17 22 07.2 +0.8
baz=131,SNR=19
RSSD Black Hills 60.75 336 P P 17 22 06.9 0.0
RSSD IAmb IAmb 17 22 08.6
comp=Z,102nm,1.4s
RSSD Black Hills 60.75 336 P P 17 22 07.3 +0.4
baz=147
RSSD Black Hills 60.75 336 P P 17 22 06.8 -0.1
baz=147,SNR=24
RSSD Black Hills 60.75 336 P P 17 22 06.9 0.0
RSSD pmax pmax
comp=Z,102nm,1.4s
RSSD Black Hills 60.75 336 ⇓P **P 17 22 07.2 +0.4**
RSSD pP **pP 17 22 35.5 +0.5**
PASC Pasadena Art C 60.82 319 IAmb IAmb 17 22 09.5
comp=Z,133nm,1.2s
BSUT Blindstream Ca 60.95 329 IAmb IAmb 17 22 10.3
comp=Z,87nm,0.9s
DECC Green Verdugo 60.97 319 P P 17 22 09.2 +0.9
baz=129
MPU Maple Canyon 61.01 328 IAmb IAmb 17 22 10.4
comp=Z,73nm,1.3s
PRN Pahroc Range 61.03 324 IAmb IAmb 17 22 11.2
comp=Z,66nm,1.3s
SNCC San Nicolas Is 61.12 318 P P 17 22 09.7 +0.4
baz=128
PSUT Pine Spring 61.14 326 IAmb IAmb 17 22 11.7
comp=Z,84nm,1.2s
EDW2 Edwards Air Fo 61.15 320 P P 17 22 10.0 +0.5
baz=130,SNR=22
QSM Queen of Sheba 61.15 322 IAmb IAmb 17 22 11.2
comp=Z,84nm,1.2s
NLU North Lily Min 61.20 328 IAmb IAmb 17 22 11.9
comp=Z,76nm,1.4s
B35A Bob, Littlefor 61.20 346 P P 17 22 08.4 -1.2
baz=159,SNR=7.0
CCAC Calif City Air 61.34 320 IAmb IAmb 17 22 12.6
comp=Z,64nm,0.9s
TPNV Topopah Spring 61.43 323 IAmb IAmb 17 22 13.9
comp=Z,75nm,1.1s
TPNV Topopah Spring 61.43 323 P P 17 22 12.6 +1.1
baz=132,SNR=60
OSI Osito Audit: C 61.45 319 P P 17 22 12.0 +0.4
baz=129
FURC Furnace Creek, 61.48 322 P P 17 22 12.6 +1.0
baz=132,SNR=11
WCT Wildcat Mounta 61.55 322 IAmb IAmb 17 22 14.6
comp=Z,88nm,1.0s
MPMC Manual Prospec 61.59 321 P P 17 22 13.0 +0.4
baz=131,SNR=33
S11A Rachel 61.60 324 IAmb IAmb 17 22 16.7
comp=Z,91nm,1.2s
DRLN Deer Lake 61.61 13 P P 17 22 12.6 +0.4
E28A Huff 61.62 340 P P 17 22 12.9 +0.5
baz=151,SNR=11
SCZ2 Santa Cruz Isl 61.65 318 P P 17 22 13.1 +0.2
baz=128
SPR3 Spring Creek 3 61.73 326 IAmb IAmb 17 22 15.4
comp=Z,122nm,1.3s
DUG Dugway, Tooele 61.76 328 P P 17 22 14.4 +0.7
baz=137,SNR=86
ARVC Arvin 61.83 320 P P 17 22 14.7 +0.6
baz=129
ISA Isabella, Lake 61.95 320 P P 17 22 15.4 +0.5
ISA IAmb IAmb 17 22 16.9
comp=Z,64nm,1.0s
ISA Isabella, Lake 61.95 320 P P 17 22 15.7 +0.8
baz=130,SNR=45
ISA Isabella, Lake 61.95 320 P P 17 22 15.4 +0.5
ISA pmax pmax
comp=Z,64nm,1.0s
R11B Troy Canyon, C 61.98 324 P P 17 22 15.7 +0.4
R11B IAmb IAmb 17 22 17.7
comp=Z,91nm,1.2s
R11B Troy Canyon, C 61.98 324 P P 17 22 16.3 +1.0
baz=133,SNR=104
BW06 Boulder Array 62.06 332 IAmb IAmb 17 22 16.7
comp=Z,74nm,1.2s
BW06 Boulder Array 62.06 332 P P 17 22 15.2 -0.5
baz=141,SNR=43
PD31 Pinedale Array 62.06 332 IAmb IAmb 17 22 16.7
comp=Z,61nm,1.2s
PDAR Pinedale Array 62.06 332 P P 17 22 15.2 -0.6
comp=Z,29nm,1.0s,baz=134,slow=6.4,SNR=102
PDAR pP **pP 17 22 42.7 -1.3**
comp=Z,28nm,1.0s,baz=126,slow=9.0,SNR=7.6
PDAR LR LR 17 52 50.4
comp=Z,35nm,19.4s,baz=126,slow=39
PDAR P4KPbc 17 59 13.7
comp=Z,0.7nm,0.9s,baz=131,slow=2.5,SNR=5.4
comp=Z,29nm,1.0s
BCW Bitter Crk WRg 62.09 319 IAmb IAmb 17 22 18.0
comp=Z,67nm,1.1s

GRAC Grapevine Rang 62.13 322 IAmb IAmb 17 22 18.5
comp=Z,124nm,1.4s
GRAC Grapevine Rang 62.13 322 P P 17 22 17.2 +1.1
baz=131,SNR=38
HWUT Hardware Ranch 62.15 329 IAmb IAmb 17 22 46.0
comp=Z,97nm,0.8s
CWC Cottonwood Cre 62.20 321 P P 17 22 17.3 +0.6
baz=130
GMN Gold Mountain 62.26 322 IAmb IAmb 17 22 19.3
comp=Z,92nm,1.2s
PKM Mcpherson Peak 62.32 319 P P 17 22 18.1 +0.6
baz=128,SNR=20
MDND Maddock 62.38 341 P P 17 22 17.8 +0.3
baz=152,SNR=13
MDND Maddock 62.38 341 P P 17 22 17.7 +0.2
baz=152,SNR=13
SPUT South Promonto 62.38 329 IAmb IAmb 17 22 19.4
comp=Z,104nm,1.1s
MBO M'Bour 62.42 68 P P 17 22 19.2 +0.8
MBO M'Bour 62.42 68 P P 17 22 20.5 +2.1
VES Vestal, Richgr 62.45 320 P P 17 22 19.0 +0.8
baz=129,SNR=17
TIN Tinemaha, Big 62.69 322 P P 17 22 20.9 +1.1
baz=130,SNR=9.6
SMMC Simmler 62.70 319 P P 17 22 20.7 +0.9
baz=128,SNR=22
DSP Deep Springs 62.74 322 IAmb IAmb 17 22 22.4
comp=Z,102nm,1.2s
AHID Auburn Hatcher 62.79 331 IAmb IAmb 17 22 50.1
comp=Z,62nm,0.9s
HVU Hansel Valley 62.89 329 IAmb IAmb 17 22 22.4
comp=Z,92nm,1.2s
VOG Valley Oaks Go 62.93 320 P P 17 22 21.2 -0.1
baz=129
MLAC Mammoth, Mammo 63.43 322 P P 17 22 25.7 +0.8
baz=130
ULM Lac du Bonnet 63.49 345 IAmb IAmb 17 22 53.9
comp=Z,84nm,0.8s
ULM Lac du Bonnet 63.49 345 P P 17 22 23.8 -0.9
comp=Z,50nm,0.8s,baz=160,slow=6.3,SNR=30
comp=Z,50nm,0.8s
NV11 Mina Array Sit 63.54 323 IAmb IAmb 17 22 27.7
comp=Z,77nm,1.2s
MDPB Devils Postpil 63.58 322 IAmb IAmb 17 22 27.8
comp=Z,93nm,1.0s
FLWY Flagg Ranch 63.60 332 IAmb IAmb 17 22 27.8
comp=Z,178nm,1.2s
NVAR Mina Array Bea 63.63 323 P P 17 22 26.9 +0.7
comp=Z,28nm,0.9s,baz=142,slow=6.5,SNR=160
comp=Z,28nm,0.9s
LHV Little Huntoon 63.63 323 IAmb IAmb 17 22 28.5
comp=Z,131nm,1.2s
LAO LASA Array 63.74 336 IAmb IAmb 17 22 27.8
comp=Z,171nm,1.6s
LAO LASA Array 63.74 336 P P 17 22 26.8 +0.3
baz=145
LAO LASA Array 63.74 336 P P 17 22 25.8 -0.7
baz=145
RLMT Red Lodge 63.76 333 P P 17 22 27.0 +0.1
baz=142,SNR=28
PMPB Monarch Peak 63.77 319 P P 17 22 27.3 +0.4
PMPB IAmb IAmb 17 22 29.0
comp=Z,113nm,1.0s
H17A Grant Village 63.78 332 P P 17 22 27.9 +0.8
baz=140
LKWY Lake 63.84 332 IAmb IAmb 17 22 30.1
comp=Z,118nm,1.4s
YFT Old Faithful 63.95 332 IAmb IAmb 17 22 31.2
comp=Z,120nm,1.4s
BBGB Big Mountain B 64.14 320 IAmb IAmb 17 22 34.2
comp=Z,103nm,0.9s
YMR Madison River 64.17 332 IAmb IAmb 17 22 32.0
comp=Z,138nm,1.3s
TAOE Nuku Hiva Isla 64.44 265 *e*LR LR 17 42 06.0
comp=Z,542nm,29.7s
DGMT Dagmar 64.46 339 IAmb IAmb 17 22 33.2
comp=Z,165nm,1.2s
DGMT Dagmar 64.46 339 P P 17 22 32.0 +0.8
baz=148,SNR=20
DGMT Dagmar 64.46 339 P P 17 22 31.2 0.0
baz=148,SNR=20
SAO San Andreas Ge 64.51 320 P P 17 22 30.9 -0.8
SAO IAmb IAmb 17 22 33.6
comp=Z,115nm,1.7s
SAO San Andreas Ge 64.51 320 P P 17 22 30.9 -0.8
SAO pmax pmax
comp=Z,115nm,1.7s
HLID Hailey 65.02 329 IAmb IAmb 17 22 37.1
comp=Z,100nm,1.5s
HLID Hailey 65.02 329 P P 17 22 35.8 +0.7
baz=136,SNR=47
EMB Emerald Bay 65.05 322 IAmb IAmb 17 22 37.9
comp=Z,107nm,1.3s
BOZ Bozeman (W) 65.19 332 IAmb IAmb 17 22 37.7
comp=Z,73nm,1.1s
BOZ Bozeman (W) 65.19 332 P P 17 22 36.5 +0.3
baz=140,SNR=70
MPK Martis Peak 65.21 323 IAmb IAmb 17 22 39.2
comp=Z,165nm,1.3s
DLMT Dillon 65.46 332 IAmb IAmb 17 22 39.6
comp=Z,87nm,1.2s
AFDM Forest Hills D 65.56 322 IAmb IAmb 17 22 40.3
comp=Z,88nm,1.2s
SCHQ Schefferville 65.64 5 P P 17 22 38.5 -0.1
comp=Z,27nm,1.0s,baz=190,slow=6.1,SNR=11
comp=Z,27nm,1.0s
EGMT Eagleton 66.25 335 IAmb IAmb 17 22 44.1
comp=Z,97nm,1.3s
EGMT Eagleton 66.25 335 P P 17 22 42.8 0.0
baz=142,SNR=17
WVOR Wild Horse Val 66.46 326 IAmb IAmb 17 22 46.0
comp=Z,95nm,1.3s
HOPS Hopland Field 66.88 321 IAmb IAmb 17 22 49.3
comp=Z,196nm,1.5s
MSO Missoula 67.17 332 IAmb IAmb 17 22 50.8
comp=Z,174nm,1.2s
MSO Missoula 67.17 332 P P 17 22 49.4 +0.7
baz=138,SNR=64
F10A Beach Ranch, E 68.14 329 IAmb IAmb 17 22 57.0
comp=Z,87nm,1.1s
MACI Morro de la Ar 68.27 54 P P 17 22 56.2 +0.1
MACI IAmb IAmb 17 22 59.0
comp=Z,110nm,0.9s
KHMM Horse Mountain 68.42 322 IAmb IAmb 17 22 58.9
comp=Z,130nm,1.1s
JCC Jacoby Creek, 68.57 322 IAmb IAmb 17 22 59.8
comp=Z,179nm,1.1s
PINE Pine Mountain 68.62 326 IAmb IAmb 17 23 00.4
comp=Z,138nm,1.1s
KRMB Red Mountain 68.92 322 IAmb IAmb 17 23 02.0
comp=Z,169nm,1.2s
L02F Cave Junction 69.08 323 IAmb IAmb 17 23 02.5
comp=Z,153nm,1.4s
FFC Flin Flon 69.15 343 P P 17 23 00.2 -0.5
FFC Flin Flon 69.15 343 *e*P **P 17 23 00.4 -0.4**
FFC Flin Flon 69.15 343 P P 17 23 00.3 -0.4
FFC pP **pP 17 23 29.0 -0.6**
F07A Phinny Hill Vi 69.46 328 IAmb IAmb 17 23 05.5
comp=Z,169nm,1.4s
NEW Newport 69.70 331 P P 17 23 04.3 -0.1
baz=135,SNR=22
G05A Wamic 69.77 327 IAmb IAmb 17 23 07.6
comp=Z,196nm,1.3s
E07A Sunnyside 69.87 329 IAmb IAmb 17 23 07.8
comp=Z,155nm,1.2s
H04A Detroit Lake 69.88 326 IAmb IAmb 17 23 07.0
comp=Z,138nm,1.3s
I03D Drain, OR 69.92 325 IAmb IAmb 17 23 07.7
comp=Z,156nm,1.4s
C09A Chrisman Ranch 69.93 330 IAmb IAmb 17 23 08.1
comp=Z,160nm,1.6s
KEBM Edson Butte 69.98 323 IAmb IAmb 17 23 08.7
comp=Z,181nm,1.2s
HOOD Mount Hood Mea 70.00 327 IAmb IAmb 17 23 08.7
comp=Z,93nm,0.9s
BUCK Buck Mountain 70.02 325 IAmb IAmb 17 23 08.1
comp=Z,234nm,1.3s
COR Corvallis 70.44 325 P P 17 23 09.7 +0.8
COR Corvallis 70.44 325 P P 17 23 09.7 +0.8
COR pmax pmax
comp=Z,388nm,1.5s
COR Corvallis 70.44 325 P P 17 23 10.1 +1.2
COR pP **pP 17 23 39.5 +1.7**
COR sP **sP 17 23 52.7 +2.5**
PMPS Porto Santo 70.56 49 *e*P **P 17 23 09.7 -0.2**
comp=Z,155nm,1.6s
HEBO Mount Hebo 71.08 326 IAmb IAmb 17 23 15.6
comp=Z,220nm,1.2s

F04D Rainier, OR 71.22 327 IAmb IAmb 17 23 15.4
comp=Z,104nm,0.8s
PMOR Pomariorio Ree 71.23 258 *e*P **P 17 23 14.5 +0.2**
comp=Z,220nm,1.1s
LIC Lamto 71.34 80⇑ *i*P **P 17 23 14.6 -0.4**
comp=Z,7.9nm,0.3s
D05A Enumclaw 71.39 328 IAmb IAmb 17 23 16.3
comp=Z,164nm,1.0s
TIC Toumodi 71.45 79⇑ *i*P **P 17 23 15.2 -0.5**
comp=Z,2.7nm,0.2s
DBIC Dimbokro 71.61 79 P **P 17 23 16.2 -0.3**
DBIC Dimbokro 71.61 79 P **P 17 23 16.2 -0.3**
DBIC pmax pmax
comp=Z,57nm,1.1s
DBIC Dimbokro 71.61 79 P **P 17 23 15.9 -0.7**
comp=Z,15nm,0.7s,baz=240,slow=4.5,SNR=15
DBIC LR LR 17 53 32.7
comp=Z,293nm,18.7s,baz=232,slow=35
comp=Z,15nm,0.7s
DBIC Dimbokro 71.61 79 P **P 17 23 16.3 -0.3**
DBIC pP **pP 17 23 45.1 -0.8**
DBIC sP **sP 17 23 58.2 -0.3**
KIC Kosan Boka 71.65 80⇑ *i*P **P 17 23 16.6 -0.3**
comp=Z,9.6nm,0.4s
RADR Rader Ridge 71.86 327 IAmb IAmb 17 23 19.4
comp=Z,83nm,0.8s
VNA3 Neumayer Olymp 71.98 162 ⇓P **P 17 23 18.1 +0.3**
comp=Z,23nm,1.0s
B06A Marblemount 72.00 329 IAmb IAmb 17 23 19.0
comp=Z,68nm,0.8s
GNW Green Mountain 72.06 328 IAmb IAmb 17 23 20.3
comp=Z,132nm,1.4s
VNA1 Neumayer--Stat 72.22 161 ⇓P **P 17 23 19.8 +0.6**
comp=Z,50nm,1.0s
TVO Taravao 72.23 255 *e*P **P 17 23 21.1 +0.8**
comp=Z,39nm,1.2s
WISH Wishkah 72.28 327 IAmb IAmb 17 23 22.9
comp=Z,278nm,1.6s
NLWA Neilton Lookou 72.50 327 IAmb IAmb 17 23 23.9
comp=Z,218nm,1.2s
PAE Paea 72.56 255 *e*P **P 17 23 22.7 +0.5**
comp=Z,36nm,1.4s
VNA2 Neumayer--Watz 72.58 161 ⇓P **P 17 23 21.5 +0.2**
comp=Z,21nm,0.6s,baz=286,slow=7.0
B04A Port Angeles 72.73 328 IAmb IAmb 17 23 25.3
comp=Z,142nm,1.4s
PGC Sidney 73.08 329 IAmb IAmb 17 23 27.0
comp=Z,125nm,1.2s
BRLDA Berland Lookou 73.99 335 IAmb IAmb 17 23 30.7
comp=Z,149nm,1.1s
FRB Frobisher Bay 74.40 3 LR LR 17 59 59.9
comp=Z,88nm,18.1s,baz=185,slow=39
IVI Ivigtut 74.69 13 P **P 17 23 34.5 +0.8**
IVI IAmb IAmb 17 24 04.6
comp=Z,99nm,1.1s
IVI Ivigtut 74.69 13 *e*P **P 17 23 33.6 0.0**
TROLL Troll, Antarti 75.91 162 ⇓P **P 17 23 41.0 +0.2**
comp=Z,986nm,0.7s
OUK Oukaimeden 76.33 54 P **P 17 23 47.0 +2.8**
HOLB Holberg 76.70 328 IAmb IAmb 17 23 47.8
comp=Z,125nm,1.3s
SRHM Skhour des Reh 76.78 53 P **P 17 23 49.0 +2.7**
OUZM OUZ 77.11 55 P **P 17 23 51.0 +2.7**
AVE Averroes 77.46 52 P **P 17 23 52.6 +2.6**
BBB Bella Bella 77.60 330 IAmb IAmb 17 23 52.8
comp=Z,104nm,1.4s
ZGR Zagora 77.76 56 P **P 17 23 54.0 +2.1**
PFVI Vila Bisbo 77.87 48 *e*P **P 17 23 54.4 +2.2**
comp=Z,116nm,1.2s
PFVI *e*pP **pP 17 24 22.7 +0.8**
PFVI Vila Bisbo 77.87 48 IAmb IAmb 17 23 55.4
comp=Z,76nm,0.9s
MORF Marmelete 78.06 48 *e*P **P 17 23 55.6 +2.3**
comp=Z,134nm,1.8s
MORF *e*pP **pP 17 24 23.6 +0.6**
MORF Marmelete 78.06 48 IAmb IAmb 17 23 56.7
comp=Z,86nm,0.9s
MORF Marmelete 78.06 48 *e*P **P 17 23 55.2 +1.9**
MORF IAmb IAmb 17 23 56.5
comp=Z,90nm,0.9s
MORF *e*S **S 17 33 41.9 +3.8**
MORF Marmelete 78.06 48 *e*P **P 17 23 55.2 +1.9**
MORF *e*S **S 17 33 41.9 +3.8**
MORF pmax pmax
comp=Z,90nm,0.9s
PTEO Sao Teotonio 78.11 48 *e*P **P 17 23 56.2 +2.7**
comp=Z,138nm,1.9s
PTEO *e*pP **pP 17 24 23.8 +0.6**
ZHG ZHG 78.12 52 P **P 17 23 56.0 +2.2**
PACT Alcochete 78.52 47 *e*P **P 17 23 58.0 +2.3**
PACT *e*pP **pP 17 24 26.2 +0.7**
PBDV Barranco-do-Ve 78.57 48 *e*P **P 17 23 58.5 +2.4**
comp=Z,106nm,1.4s
PBDV *e*pP **pP 17 24 26.5 +0.7**
PCVE Castro Verde 78.64 48 *e*P **P 17 23 58.6 +2.1**
comp=Z,86nm,1.5s
PCVE *e*pP **pP 17 24 26.7 +0.5**
PVAQ Vaqueiros 78.79 48 *e*P **P 17 23 59.6 +2.3**
comp=Z,33nm,1.3s
PVAQ *e*pP **pP 17 24 27.7 +0.7**
NVL N'lazarevskaya 78.80 160 *e*P **P 17 23 57.6 +0.9**
NVL pmax pmax
comp=Z,48nm,1.5s
PSBE So Bento 78.84 46 *e*P **P 17 23 59.7 +2.1**
comp=Z,105nm,1.8s
PBEJ Beja 78.92 48 *e*P **P 17 24 00.3 +2.3**
comp=Z,45nm,1.7s
PBEJ *e*pP **pP 17 24 28.3 +0.6**
EVO Evora 79.01 47 *e*P **P 17 23 59.3 +0.8**
comp=Z,43nm,1.1s
EVO *e*pP **pP 17 24 27.0 -1.2**
PMTG Montargil 79.07 47 *e*P **P 17 24 00.4 +1.6**
comp=Z,85nm,1.5s
PMTG *e*pP **pP 17 24 28.7 +0.2**
CZD Col de Zad 79.22 53 P **P 17 24 03.0 +2.8**
PCAS Casmilo, Conde 79.27 46 *e*P **P 17 24 01.5 +1.6**
comp=Z,72nm,1.6s
YKA Yellowknife Ar 79.28 342 P **P 17 23 58.6 -0.7**
comp=Z,31nm,1.0s,baz=138,slow=5.5,SNR=55
YKA pP **pP 17 24 28.2 -0.6**
comp=Z,1.8nm,0.6s,baz=140,slow=5.9,SNR=2.6
comp=Z,31nm,1.0s
ARF Arif 79.34 55 P **P 17 24 03.0 +2.4**
COI Coimbra 79.39 45 *e*P **P 17 24 03.0 +2.5**
comp=Z,150nm,1.0s
COI *e*pP **pP 17 24 31.0 +0.7**
COI Coimbra 79.39 45 IAmb IAmb 17 24 03.4
comp=Z,110nm,1.0s
QSPA South Pole Qui 79.40 180 P **P 17 24 00.1 -0.2**
QSPA South Pole Qui 79.40 180 P **P 17 24 00.4 +0.1**
comp=Z,24nm,1.1s,baz=142,slow=2.8,SNR=42
comp=Z,24nm,1.1s
TORD Torodi Ar. Bea 79.41 74 P **P 17 24 01.0 -0.1**
comp=Z,25nm,0.8s,baz=276,slow=4.9,SNR=116
TORD pP **pP 17 24 28.6 -2.3**
comp=Z,43nm,0.9s,baz=282,slow=4.7,SNR=12
comp=Z,25nm,0.8s
PESTR Estremoz 79.45 47 *e*P **P 17 24 02.6 +1.7**
comp=Z,86nm,1.4s
PESTR *e*pP **pP 17 24 31.2 +0.5**
PESTR Estremoz 79.45 47 P **P 17 24 03.4 +2.5**
MDT Midelt 79.49 54 P **P 17 24 03.6 +2.3**
MDT Midelt 79.49 54 LR LR 17 56 15.0
comp=Z,139nm,21.4s,baz=281,slow=33
PBAR Barrancos 79.58 48 *e*P **P 17 24 03.5 +1.9**
comp=Z,47nm,1.5s
PBAR *e*pP **pP 17 24 32.1 +0.7**
LCRM LCR 79.59 53 P **P 17 24 05.0 +3.0**
PTO Porto 79.64 45 *e*P **P 17 24 04.0 +2.2**
comp=Z,88nm,1.2s
CHEFC Chefchaouen 79.72 51 P **P 17 24 06.0 +3.5**
DY2G Dye2 79.77 11 *e*P **P 17 24 02.5 +0.3**
PMRV Marv??o 79.81 47 *e*P **P 17 24 04.7 +1.9**
comp=Z,27nm,1.9s
PMRV *e*pP **pP 17 24 32.3 -0.3**
SMIR Smir Dam 79.89 51 P **P 17 24 06.0 +2.7**
PCBR Castelo Branco 79.91 46 *e*P **P 17 24 04.5 +1.2**
comp=Z,61nm,1.7s
PCBR *e*pP **pP 17 24 33.3 +0.2**
PVIS Viseu 79.96 45 *e*P **P 17 24 05.0 +1.4**
PVIS *e*pP **pP 17 24 33.1 -0.4**
MTE Manteigas 80.08 46 *e*P **P 17 24 05.7 +1.4**
comp=Z,30nm,1.2s
MTE *e*pP **pP 17 24 33.7 -0.4**
PGAV Gavieira, Arco 80.20 44 *e*P **P 17 24 06.3 +1.3**
POLO Lamas de Olo 80.29 45 *e*P **P 17 24 06.7 +1.2**
POLO *e*pP **pP 17 24 35.3 0.0**
PVRL Vila Real 80.31 45 *e*P **P 17 24 06.9 +1.4**
PVRL *e*pP **pP 17 24 35.3 0.0**
FLDN Fort Liard 80.64 338 IAmb IAmb 17 24 08.8
comp=Z,126nm,1.3s
FLDN Fort Liard 80.64 338 P **P 17 24 07.2 +0.5**
baz=132
MVO Moncorvo 80.74 45 *e*P **P 17 24 09.7 +1.9**
comp=Z,55nm,1.1s
MVO *e*pP **pP 17 24 37.5 -0.2**
KOTAN Kotaneelee Air 80.78 337 P **P 17 24 08.2 +0.7**
baz=131,SNR=23
PALE Palemas 80.83 52 P **P 17 24 12.0 +3.6**
V35K Ketchikan 81.11 331 P **P 17 24 10.2 +0.9**
baz=124,SNR=11
LIRD Liard River Hi 81.11 336 P **P 17 24 09.4 +0.1**
baz=129
PBRG Braganca 81.19 45 *e*P **P 17 24 11.6 +1.4**
comp=Z,53nm,1.6s
PBRG *e*pP **pP 17 24 39.9 -0.2**
T35M Bob Quinn 81.41 333 P **P 17 24 11.7 +0.7**
baz=125,SNR=26
GOG Mont Gurugu 81.56 52 P **P 17 24 15.0 +2.6**
JBK JBK 81.60 53 P **P 17 24 14.3 +1.5**
TAF Taforalt 81.88 52 P **P 17 24 16.3 +2.3**
CRAG Craig 81.91 331 P **P 17 24 14.4 +0.9**
baz=122
FIGM Figuig 81.94 55 P **P 17 24 17.0 +2.5**
PAB San Pablo 82.04 47 P **P 17 24 16.5 +1.8**
PAB San Pablo 82.04 47 P **P 17 24 17.2 +2.4**
PAB San Pablo 82.04 47 P **P 17 24 16.5 +1.8**
PAB pmax pmax
comp=Z,91nm,1.5s
WRAK Wrangell Islan 82.05 332 P **P 17 24 14.9 +0.7**
baz=123,SNR=13
DLBC Dease Lake 82.15 334 P **P 17 24 15.7 +0.8**
baz=125,SNR=22
DLBC Dease Lake 82.15 334 LR LR 18 03 26.2
comp=Z,102nm,18.4s,baz=117,slow=38
U33K Whale Pass 82.25 331 P **P 17 24 15.9 +0.6**
baz=122,SNR=12
S34M Telegraph Cree 82.33 333 P **P 17 24 16.5 +0.8**
baz=134,SNR=15
ELIB Princess Elisa 82.36 162 *d*P **P 17 24 15.9 0.0**
comp=Z,17nm,1.1s
ELIB *d*pP **pP 17 24 46.7 +0.9**
ESDC Sonseca Array 82.36 47 P **P 17 24 18.0 +1.6**
comp=Z,36nm,1.1s,baz=254,slow=5.7,SNR=88
ESDC pP **pP 17 24 45.9 -0.5**
comp=Z,9.8nm,1.0s,baz=253,slow=6.2,SNR=3.7
ESDC LR LR 17 57 01.8
comp=Z,128nm,20.9s,baz=253,slow=33
comp=Z,36nm,1.1s
WTLY Watson Lake, Y 82.62 336 P **P 17 24 17.4 +0.2**
baz=127
WRGLY Wrigley 82.62 340 IAmb IAmb 17 24 18.8
comp=Z,108nm,1.3s
WRGLY Wrigley 82.62 340 P **P 17 24 17.2 +0.1**
baz=132,SNR=6.3
R33M Jennings River 83.10 335 P **P 17 24 20.7 +0.8**
baz=125,SNR=28
TGTN Hyland Airport 83.27 337 P **P 17 24 21.8 +1.2**
baz=127,SNR=32
ICESG Greenland Ices 83.32 12 *e*P **P 17 24 20.5 -0.6**
ICESG IAmb IAmb 17 24 22.7
comp=Z,51nm,1.0s
Q32M Nakina River 83.41 334 P **P 17 24 22.4 +0.9**
baz=123,SNR=18
S32K Killisnoo 83.64 332 P **P 17 24 22.8 +0.4**
baz=121,SNR=15
SIT Sitka 83.78 331 P **P 17 24 23.3 +0.2**
baz=121
R32K Eaglecrest 84.04 333 P **P 17 24 25.1 +0.6**
baz=121,SNR=15
P33M Teslin, Yukon 84.33 335 P **P 17 24 26.5 +0.5**
baz=123,SNR=26
P32M Atlin 84.38 334 P **P 17 24 26.9 +0.7**
baz=122,SNR=13
S31K Pelican 84.66 332 IAmb IAmb 17 24 29.8
comp=Z,120nm,1.8s
S31K Pelican 84.66 332 P **P 17 24 28.0 +0.4**
baz=120
N32M Quiet Lake 84.95 335 P **P 17 24 29.6 +0.5**
baz=123
SKAG Skagway 85.01 333 P **P 17 24 30.0 +0.7**
baz=121
HMH Humu'ula Sheep 85.05 291 IAmb IAmb 17 24 47.1
comp=Z,180nm,1.4s
MMPY Sheldon Lake, 85.05 337 P **P 17 24 30.3 +0.7**
baz=125,SNR=27
SBA Scott Base 85.34 191 P **P 17 24 31.4 +0.6**
SBA Scott Base 85.34 191 P **P 17 24 31.4 +0.6**
SBA pmax pmax
comp=Z,30nm,1.3s
WHY Whitehorse 85.44 335 P **P 17 24 31.9 +0.3**
baz=121,SNR=9.0
PLBC Pleasant Camp 85.47 333 P **P 17 24 32.9 +1.3**
baz=120
FARO Faro, Yukon 85.64 336 P **P 17 24 33.2 +0.7**
baz=123,SNR=16
O30N Mendenhall 86.01 334 IAmb IAmb 17 24 36.5
O30N Mendenhall 86.01 334 P **P 17 24 35.2 +0.9**
baz=120,SNR=18
M31M Drury Creek, Y 86.04 336 P **P 17 24 35.2 +0.7**
baz=122,SNR=9.7
P30M Million Dollar 86.06 334 P **P 17 24 35.3 +0.7**
baz=119
P29M Windy Craggy 86.16 333 IAmb IAmb 17 24 37.0
comp=Z,63nm,1.3s
P29M pP pP 17 25 05.5 +0.5
P29M Windy Craggy 86.16 333 P **P 17 24 35.8 +0.7**
baz=119,SNR=6.7
N31M Braeburn, Yuko 86.24 335 IAmb IAmb 17 24 37.3
comp=Z,78nm,1.1s
N31M Braeburn, Yuko 86.24 335 P **P 17 24 36.0 +0.5**
baz=120,SNR=17
VNDA Vanda 86.41 190 P **P 17 24 36.1 0.0**
VNDA Vanda 86.41 190 P **P 17 24 36.6 +0.5**
comp=Z,10nm,1.0s,baz=132,slow=3.9,SNR=48
VNDA LR LR 17 57 12.4
comp=Z,142nm,18.8s,baz=125,slow=31
comp=Z,10nm,1.0s
SUMG Summit 86.42 10 P **P 17 24 36.9 +0.4**
SUMG IAmb IAmb 17 24 38.8
comp=Z,96nm,1.2s
SUMG Summit 86.42 10 P **P 17 24 36.9 +0.4**
SUMG pmax pmax
comp=Z,96nm,1.2s
SUMG Summit 86.42 10 *i*P **P 17 24 37.0 +0.4**
SUMG IAmb IAmb 17 24 39.0
comp=Z,84nm,1.1s
HYT Haines Junctio 86.64 334 P **P 17 24 38.4 +0.9**
baz=119,SNR=12
N30M Aishikik Lake 86.77 335 IAmb IAmb 17 24 40.5
comp=Z,104nm,1.3s
N30M Aishikik Lake 86.77 335 P **P 17 24 39.2 +1.1**
baz=119,SNR=25
O29M Mount Kennedy 86.85 333 IAmb IAmb 17 24 40.6
comp=Z,73nm,1.4s
O29M Mount Kennedy 86.85 333 P **P 17 24 39.2 +0.6**
baz=118,SNR=7.9
C36M Paulatuk 86.90 344 P **P 17 24 40.2 +1.8**
baz=132
PNL Peninsula 86.92 333 P **P 17 24 39.5 +0.7**
baz=117
YUK6 Outpost Mounta 87.06 334 P **P 17 24 40.8 +1.1**
baz=118,SNR=19
BCPM Bancas Point 87.16 333 IAmb IAmb 17 24 42.0
comp=Z,81nm,1.2s
M30M Minto, Yukon 87.20 336 P **P 17 24 40.3 +0.2**
baz=120,SNR=18
MAYO Mayo, Yukon 87.36 337 P **P 17 24 41.4 +0.6**
baz=120
YUK4 Talbot Arm 87.37 334 P **P 17 24 41.9 +0.7**
baz=118,SNR=12
PINM Pinnacle 87.50 333 P **P 17 24 42.4 +0.8**
baz=116,SNR=5.9
O28M Mount Upton 87.78 333 P **P 17 24 44.1 +0.9**
baz=116,SNR=8.7
M29M Somme Creek 87.81 335 IAmb IAmb 17 24 45.1
comp=Z,112nm,1.1s
M29M Somme Creek 87.81 335 P **P 17 24 44.0 +0.8**
baz=118,SNR=44
YUK8 Steele Glacier 87.82 334 P **P 17 24 44.0 +0.6**
baz=117
H31M Peel River 87.93 339 IAmb IAmb 17 24 45.1
comp=Z,93nm,1.2s
H31M Peel River 87.93 339 P **P 17 24 43.9 +0.4**
baz=122,SNR=22
L29M L29M 87.99 336 P **P 17 24 44.5 +0.6**
baz=118,SNR=62
J30M Hart River 88.02 338 P **P 17 24 44.6 +0.5**
baz=120,SNR=13
TABL Table Mountain 88.05 333 IAmb IAmb 17 24 46.2
comp=Z,82nm,1.2s
K29M Barlow Dome 88.11 337 IAmb IAmb 17 24 46.0
comp=Z,53nm,1.1s
K29M Barlow Dome 88.11 337 P **P 17 24 44.6 +0.1**
baz=119,SNR=24
LOGN Logan Glacier 88.16 333 IAmb IAmb 17 24 47.0
comp=Z,180nm,1.9s
MESA MESA 88.31 333 P **P 17 24 46.7 +1.1**
baz=115
YUK3 Moose Creek 88.34 334 P **P 17 24 46.1 +0.4**
baz=116,SNR=23
I30M Mount Dempster 88.36 338 IAmb IAmb 17 24 47.3
comp=Z,122nm,1.4s
I30M Mount Dempster 88.36 338 P **P 17 24 46.3 +0.7**
baz=120,SNR=35
CTGM Chitina Glacie 88.37 333 IAmb IAmb 17 24 47.9
comp=Z,49nm,1.0s
CTG Chitna Glacier 88.37 333 P **P 17 24 46.7 +0.9**
baz=116,SNR=8.0
EKA Eskdalemuir Ar 88.50 33 P **P 17 24 46.7 +0.4**
comp=Z,1.3nm,0.7s,baz=234,slow=5.3,SNR=4.0
EKA pP **pP 17 25 15.2 -1.5**
comp=Z,14nm,1.0s,baz=242,slow=5.3,SNR=9.2
comp=Z,1.3nm,0.7s
G31M Satah River 88.50 340 IAmb IAmb 17 24 47.4
comp=Z,121nm,1.4s
G31M Satah River 88.50 340 P **P 17 24 46.2 +0.1**
baz=122,SNR=14
BARN Barnard Glacie 88.55 333 IAmb IAmb 17 24 48.7
comp=Z,90nm,1.3s
F31M Tsiigehtchic 88.61 341 IAmb IAmb 17 24 47.9
comp=Z,136nm,1.4s
F31M Tsiigehtchic 88.61 341 P **P 17 24 46.6 0.0**
baz=123,SNR=14
TSUM Tsumeb 88.63 109 LR LR 18 02 34.9
comp=Z,79nm,19.5s,baz=326,slow=34
ISLE Juniper Island 88.66 333 IAmb IAmb 17 24 48.8
comp=Z,102nm,1.3s
J29N Klondike Camp 88.67 337 IAmb IAmb 17 24 48.9
comp=Z,65nm,1.3s
J29N Klondike Camp 88.67 337 P **P 17 24 47.9 +0.8**
baz=118,SNR=5.8
BVCY Beaver Creek 88.79 335 P **P 17 24 48.3 +0.7**
baz=116
WAX Waxell Ridge 88.83 333 IAmb IAmb 17 24 50.0
comp=Z,121nm,1.3s
BGLC Bering Glacier 88.89 332 P **P 17 24 47.0 -1.0**
baz=114
SUR Sutherland 88.91 123 LR LR 18 02 17.9
comp=Z,150nm,18.2s,baz=257,slow=34
DAWY Dawson 88.94 337 IAmb IAmb 17 24 49.5
comp=Z,76nm,1.3s
DAWY Dawson 88.94 337 P **P 17 24 48.4 +0.1**
baz=117,SNR=27
A36M Sachs Harbour 88.94 346 P **P 17 24 47.9 -0.2**
baz=131
INK Inuvik 89.01 341 P **P 17 24 48.7 +0.3**
baz=123,SNR=27
NEEM North Greenlan 89.05 5 *e*P **P 17 24 48.4 -0.6**
EPYK Eagle Plains 89.06 339 IAmb IAmb 17 24 50.2
comp=Z,62nm,1.3s
EPYK Eagle Plains 89.06 339 P **P 17 24 49.0 +0.1**
baz=120,SNR=8.2
I29M Ogilvie Camp, 89.14 338 IAmb IAmb 17 24 50.5
comp=Z,90nm,1.4s
I29M Ogilvie Camp, 89.14 338 P **P 17 24 49.3 +0.1**
baz=118,SNR=34
G30M tAoh Zraii Nji 89.19 340 P **P 17 24 49.4 0.0**
baz=120
M27K Edge Creek, AK 89.20 335 IAmb IAmb 17 24 51.4
comp=Z,86nm,1.4s
M27K Edge Creek, AK 89.20 335 P **P 17 24 50.2 +0.5**
baz=115,SNR=14
MCARA McCarthy VSAT 89.29 333 IAmb IAmb 17 24 51.8
comp=Z,111nm,1.2s
MCARA McCarthy VSAT 89.29 333 P **P 17 24 50.7 +0.7**
baz=114,SNR=9.8
CLF Chambon-Foret 89.31 41 IAmb IAmb 17 25 22.3
comp=Z,35nm,0.8s
F30M Barrier River 89.37 340 P **P 17 24 50.4 +0.2**
baz=121
VRDI Verde Repeater 89.41 333 IAmb IAmb 17 24 52.2
comp=Z,86nm,1.2s
L27K Beaver Creek, 89.47 335 IAmb IAmb 17 24 52.6
comp=Z,76nm,1.4s
L27K Beaver Creek, 89.47 335 P **P 17 24 51.3 +0.5**
baz=115,SNR=28
H29M Whitestone 89.57 339 IAmb IAmb 17 25 22.6
comp=Z,32nm,0.8s
H29M Whitestone 89.57 339 P **P 17 24 51.1 0.0**
baz=118,SNR=11
GLB Gilahina Butte 89.66 333 IAmb IAmb 17 24 53.2
comp=Z,50nm,1.2s
M26K Nabesna, AK 89.69 334 P **P 17 24 51.5 -0.3**
baz=114
G29M Pine Creek 89.78 339 IAmb IAmb 17 25 23.4
comp=Z,41nm,0.8s
G29M Pine Creek 89.78 339 P **P 17 24 52.2 0.0**
baz=119
I28M Miner Creek 89.78 338 IAmb IAmb 17 24 53.6
comp=Z,81nm,1.7s
I28M Miner Creek 89.78 338 P **P 17 24 52.2 0.0**
baz=117,SNR=14
BMRM Bremner River 89.82 333 P **P 17 24 52.3 -0.2**
baz=113
EGAK Eagle 89.95 337 IAmb IAmb 17 24 54.2
comp=Z,71nm,1.3s
EGAK Eagle 89.95 337 P **P 17 24 52.9 -0.1**
baz=116,SNR=15
K27K Chicken 89.99 336 P **P 17 24 54.1 +1.0**
baz=115
N25K Chitina, Valde 90.07 333 P **P 17 24 53.5 -0.2**
baz=113
L26K Log Cabin Wild 90.09 335 P **P 17 24 53.8 +0.1**
baz=114
EYAK Cordova Ski Ar 90.19 332 P **P 17 24 54.5 +0.4**
baz=112
E29M Blow River 90.44 341 IAmb IAmb 17 25 26.4
comp=Z,48nm,0.9s
E29M Blow River 90.44 341 P **P 17 24 55.1 -0.1**
baz=119
I27K Kandik River 90.48 338 P **P 17 24 55.5 0.0**
baz=115,SNR=9.2
KLU Klutina 90.61 333 P **P 17 24 56.3 +0.1**
baz=112,SNR=14
HARP HAARP 90.61 334 P **P 17 24 56.1 -0.1**
baz=112
H27K Steamboat Moun 90.71 338 P **P 17 24 56.4 -0.2**
baz=115,SNR=8.9
SCRK Sand Creek 90.73 336 P **P 17 24 56.6 -0.2**
baz=113,SNR=6.2
F28M Old Crow 90.74 340 P **P 17 24 56.3 -0.3**
baz=117,SNR=11
J26L Joseph Creek 90.77 336 IAmb IAmb 17 24 58.2
comp=Z,57nm,1.3s
J26L Joseph Creek 90.77 336 P **P 17 24 56.9 0.0**
baz=114,SNR=22
I26K Coal Creek Min 90.94 337 IAmb IAmb 17 24 58.4
comp=Z,44nm,1.4s
I26K Coal Creek Min 90.94 337 P **P 17 24 57.1 -0.5**
baz=114
M24K Tolsona, Glenn 90.95 334 P **P 17 24 58.3 +0.5**
baz=111,SNR=7.7
PAX Paxson 90.96 334 P **P 17 24 57.4 -0.5**
baz=112,SNR=13
RIDG Independent Ri 90.99 335 IAmb IAmb 17 24 59.2
comp=Z,36nm,1.2s
RIDG Independent Ri 90.99 335 P **P 17 24 57.9 0.0**
baz=112,SNR=9.5
G27K Doyon Strip 91.01 339 P **P 17 24 57.5 -0.3**
baz=115,SNR=6.6
E28M Babbage River 91.08 341 P **P 17 24 57.9 -0.2**
baz=117
D28M Stokes Point 91.16 341 P **P 17 24 58.6 +0.1**
baz=118
DOU Dourbes 91.35 39 *d*P **P 17 24 59.7 -0.1**
DOU *dp*P **pP 17 25 28.9 -1.3**
SCM Sheep Creek Mo 91.36 333 IAmb IAmb 17 25 03.5
comp=Z,83nm,1.3s
SCM Sheep Creek Mo 91.36 333 P **P 17 24 59.6 -0.1**

baz=110
KEST Kesra 91.39 54 P P 17 25 01.8 +1.4
comp=Z,4.3nm,0.6s,baz=228,slow=4.0,SNR=6.9
KEST LR LR 18 05 34.2
comp=Z,84nm,20.0s,baz=254,slow=35
comp=Z,4.3nm,0.6s
PWL Port Wells 91.49 332 P P 17 24 59.5 -0.7
baz=109
BMRD Maredsous 91.52 39 dP P 17 25 02.6 +2.1
BMRD dpP **pP 17 25 30.5 -0.4**
M23K Glacier View 91.53 333 P P 17 25 00.4 0.0
baz=110
J25K Salcha River, 91.54 336 P P 17 25 00.1 -0.3
baz=112,SNR=11
E27K Coleen River 91.58 340 P P 17 25 00.3 -0.2
baz=115
BGES Gesves 91.73 39 dpP pP 17 25 30.4 -1.6
RCHB Rochefort 91.76 39 dpP pP 17 25 31.0 -1.1
SEW Seward 91.77 331 P P 17 25 00.9 -0.5
baz=108
WAT6 Susitna Watana 91.80 334 P P 17 25 01.3 -0.5
baz=110,SNR=13
SML Sawmill 91.80 333 P P 17 25 01.2 -0.5
baz=109,SNR=6.0
DHY Denali Highway 91.81 334 P P 17 25 01.2 -0.6
baz=110,SNR=7.7
D27M Malcolm River 91.83 341 P P 17 25 02.1 +0.4
baz=116
G26K Porcupine Rive 91.83 338 P P 17 25 01.5 -0.2
baz=113
BCLA Clavier 91.88 39 dP **P 17 25 03.3 +1.1**
BCLA dpP **pP 17 25 29.4 -3.2**
PRP Porcupine Dome 91.94 337 IAmb IAmb 17 25 03.6
comp=Z,38nm,1.3s
PRP Porcupine Dome 91.94 337 P P 17 25 02.3 0.0
baz=112,SNR=10
GHO Glory Hole Cre 92.06 333 IAmb IAmb 17 25 03.7
comp=Z,26nm,0.8s
BSTI Sart Tilman 92.08 39 dpP pP 17 25 32.5 -1.0
HDA Harding Lake 92.10 336 P P 17 25 02.5 -0.5
baz=110,SNR=7.6
ILAR Eielson Array 92.20 336 P P 17 25 02.7 -0.7
comp=Z,4.2nm,0.9s,baz=146,slow=3.5,SNR=40
ILAR pP **pP 17 25 33.0 -0.6**
comp=Z,5.0nm,0.8s,baz=145,slow=3.3,SNR=7.6
ILAR PP **PP 17 28 43.0 -2.3**
comp=Z,4.1nm,1.1s,baz=114,slow=6.6,SNR=6.0
comp=Z,4.2nm,0.9s
RC01 Rabbit Creek A 92.21 332 P P 17 25 02.9 -0.6
baz=108
FYU Fort Yukon 92.22 338 IAmb IAmb 17 25 05.2
comp=Z,57nm,1.2s
WLF Walferdange 92.22 40 dpP pP 17 25 33.9 -0.3
WAT1 Susitna Watana 92.23 334 P P 17 25 03.3 -0.4
baz=109
F26K Sheenjek River 92.26 339 P P 17 25 04.3 +0.6
baz=113
BRSE Bradley Lake S 92.27 331 P P 17 25 03.1 -0.7
baz=107
BHOU Houvegnez 92.30 39 dpP pP 17 25 34.0 -0.6
H25L Birch Creek 92.32 337 P P 17 25 04.7 +0.8
baz=112
MEM Membach 92.36 39 dpP pP 17 25 34.4 -0.5
CCB Clear Creek Bu 92.53 336 IAmb IAmb 17 25 05.6
comp=Z,35nm,1.3s
POKR Poker Plat Res 92.54 336 IAmb IAmb 17 25 06.2
comp=Z,79nm,1.5s
POKR Poker Plat Res 92.54 336 P P 17 25 04.6 -0.4
baz=110,SNR=9.3
RND Reindeer 92.55 334 IAmb IAmb 17 25 06.5
comp=Z,54nm,1.3s
JMIC Jan Mayen 92.56 17 LR LR 18 03 34.3
comp=Z,25nm,21.1s,baz=239,slow=33
WRH Wood River Hil 92.59 335 IAmb IAmb 17 25 06.0
comp=Z,47nm,1.4s
M22K Willow 92.59 333 IAmb IAmb 17 25 06.1
comp=Z,40nm,0.9s
M22K Willow 92.59 333 P P 17 25 05.0 -0.2
baz=108
G25K Bearman Lake 92.61 338 P P 17 25 05.8 +0.6
baz=111
COLA College 92.62 336 P P 17 25 04.7 -0.6
COLA IAmb IAmb 17 25 36.9
comp=Z,28nm,0.8s
COLA College 92.62 336 P P 17 25 05.3 -0.1
baz=110
COLA College 92.62 336 P P 17 25 04.7 -0.6
COLA pmax pmax
comp=Z,28nm,0.8s
KDAK Kodiak Island 92.63 328 P P 17 25 05.4 -0.1
baz=106
HOM Homer 92.68 330 P P 17 25 06.0 +0.3
baz=107
MCK McKinley 92.69 335 P P 17 25 05.8 +0.1
baz=109
F25K Christian Rive 92.75 339 P P 17 25 06.4 +0.5
baz=112
Q20K Shuyak Island 92.76 329 P P 17 25 06.1 0.0
baz=106
SUA Susitna One 92.79 332 P P 17 25 06.0 -0.3
baz=107
CUT Chulitna 92.86 333 P P 17 25 06.3 -0.1
baz=108
E25K Arctic Village 92.92 339 P P 17 25 06.8 +0.1
baz=112,SNR=12
H24K Noodor Dome 92.96 337 IAmb IAmb 17 25 08.1
comp=Z,32nm,1.3s
H24K Noodor Dome 92.96 337 P P 17 25 07.0 0.0
baz=110,SNR=12
NEA2 Nenana 93.03 335 IAmb IAmb 17 25 08.1
comp=Z,58nm,1.4s
NEA2 Nenana 93.03 335 P P 17 25 06.9 -0.3
baz=109,SNR=15
BWN Browne 93.06 335 IAmb IAmb 17 26 13.8
comp=Z,52nm,1.1s
DAG Danmarks Havn 93.06 11 *i* P **P 17 25 06.0 -1.1**
G24K Hadweenzic Riv 93.10 338 IAmb IAmb 17 25 09.2
comp=Z,32nm,1.2s
G24K Hadweenzic Riv 93.10 338 P P 17 25 07.8 +0.2
baz=110
TRF Thorofare Moun 93.18 334 P P 17 25 08.0 -0.1
baz=108,SNR=5.5
O20K Slope Mountain 93.28 331 P P 17 25 08.2 -0.3
baz=106
SKT Skwentna 93.30 333 P P 17 25 08.2 -0.3
baz=107,SNR=16
I23K Minto, Yukon-K 93.32 336 P P 17 25 08.1 -0.4
baz=108,SNR=6.1
C26K Camden Bay 93.37 341 P P 17 25 09.2 +0.5
baz=112
N20K Mount Spurr 93.39 332 P P 17 25 07.9 -1.1
baz=106
SPCR Spurr Chakacha 93.39 332 P P 17 25 08.1 -1.0
baz=106,SNR=5.8
P19K Oil Pt 93.46 330 P P 17 25 09.2 -0.1
baz=105
Q19K Cape Douglas, 93.47 329 P P 17 25 09.2 -0.2
baz=105
KTH Kantishna Hill 93.48 334 IAmb IAmb 17 25 10.1
comp=Z,33nm,1.2s
BOSA Boshof 93.49 120 P P 17 25 11.0 +0.5
BOSA Boshof 93.49 120 P P 17 25 11.0 +0.5
comp=Z,1.5nm,0.8s,baz=306,slow=7.0,SNR=1.5
BOSA LR LR 18 04 02.3
comp=Z,142nm,19.6s,baz=261,slow=33
comp=Z,1.5nm,0.8s
F24K Squaw Lake 93.53 338 P P 17 25 09.0 -0.5
baz=110
R18K Karluk 93.54 328 P P 17 25 09.0 -0.7
baz=104
H23K Yukon River 93.61 337 P P 17 25 09.5 -0.4
baz=108
D25K Kavik River 93.63 340 IAmb IAmb 17 25 11.3
comp=Z,34nm,1.4s
D25K Kavik River 93.63 340 P P 17 25 09.5 -0.5
baz=111
BPAW Bear Paw Mtn. 93.67 335 IAmb IAmb 17 25 10.8
comp=Z,38nm,1.2s
BPAW Bear Paw Mtn. 93.67 335 P P 17 25 09.6 -0.7
baz=107,SNR=10
CHIR Chirikof Islan 93.75 326 P P 17 25 10.2 -0.5
baz=104
MLY Manley 93.84 336 IAmb IAmb 17 25 42.0
comp=Z,67nm,2.0s
MLY Manley 93.84 336 P P 17 25 10.2 -0.8
baz=107,SNR=7.3
PPLA Purkeypile 93.85 333 P P 17 25 10.4 -0.9
baz=106,SNR=7.5

E24K Your Creek 93.93 339 P P 17 25 11.3 -0.1
baz=109
CAST Castle Rocks 93.94 334 IAmb IAmb 17 25 11.9
comp=Z,48nm,1.3s
CAST Castle Rocks 93.94 334 P P 17 25 10.4 -1.1
baz=106,SNR=13
M20K Styx River 94.00 332 P P 17 25 11.0 -0.8
baz=105
DAVOX Davos/Dischmat 94.03 43 P P 17 25 13.4 +0.9
comp=Z,4.3nm,0.8s,baz=311,slow=9.3,SNR=6.2
DAVOX pP **pP 17 25 42.2 -0.7**
comp=Z,6.8nm,0.8s,baz=237,slow=5.2,SNR=7.0
DAVOX LR LR 18 05 48.7
comp=Z,86nm,18.6s,baz=261,slow=34
comp=Z,4.3nm,0.8s
G23K Bananza Creek 94.06 337 P P 17 25 12.4 +0.4
baz=108
Q18K Katmai Hardscr 94.09 329 P P 17 25 11.8 -0.6
baz=104
O19K Port Alsworth 94.13 330 P P 17 25 11.9 -0.4
baz=104
DAVA Damuels 94.13 43 *e*P **P 17 25 14.2 +1.3**
DAVA comp=Z,17nm,1.6s *e*pP **pP 17 25 42.8 -0.5**
comp=Z,11nm,0.8s
CHUM Lake Minchumin 94.17 334 P P 17 25 11.8 -0.7
baz=106
COLD Coldfoot 94.28 338 P P 17 25 13.1 +0.1
baz=107
E23K Chandalar 94.33 339 P P 17 25 12.2 -1.1
baz=108
H22K Ishtalitna Cre 94.35 336 P P 17 25 11.4 -1.9
baz=106
N19K Bonanza Creek 94.36 331 IAmb IAmb 17 25 13.7
comp=Z,43nm,1.4s
N19K Bonanza Creek 94.36 331 P P 17 25 12.6 -1.0
baz=104
P18K Big Mountain, 94.38 330 P P 17 25 12.1 -1.5
baz=104
I21K Tanana 94.39 336 P P 17 25 12.5 -1.0
baz=106
D24K Happy Valley 94.39 340 P P 17 25 12.6 -0.8
baz=109
Q17K Contact Creek 94.45 328 P P 17 25 12.5 -1.6
baz=103
O18K Koktuh Hills 94.48 330 P P 17 25 13.3 -0.7
baz=104
L20K Farewell, AK 94.49 333 P P 17 25 13.1 -0.9
baz=104,SNR=5.3
TOLK Toolik Lake Re 94.49 339 P P 17 25 13.7 -0.3
baz=108,SNR=5.3
C24K Franklin Bluff 94.53 340 P P 17 25 14.0 0.0
baz=109
M19K Big River Lodg 94.58 332 IAmb IAmb 17 25 24.3
comp=Z,20nm,1.0s
M19K Big River Lodg 94.58 332 P P 17 25 14.3 -0.1
baz=104
FETA Feichten 94.65 43 *i* PcP **PcP 17 25 17.1 +1.5**
FETA comp=Z,7.9nm,1.1s *e*pP **pP 17 25 44.6 -1.1**
comp=Z,9.6nm,1.0s
FETA *e*PP **PP 17 29 04.1 -1.0**
comp=Z,10nm,1.2s
RETA Reutte 94.75 43 *e*P **P 17 25 17.1 +1.5**
comp=Z,5.4nm,0.9s
K20K Telida 94.79 334 IAmb IAmb 17 25 15.8
comp=Z,34nm,1.4s
K20K Telida 94.79 334 P P 17 25 14.4 -0.9
baz=104,SNR=5.4
H21K Melozitna Rive 94.85 336 P P 17 25 14.9 -0.7
baz=105
L19K White Mountain 94.86 332 P P 17 25 15.2 -0.5
baz=104
Q16K King Salmon 94.94 329 P P 17 25 15.7 -0.4
baz=102
MOTA Moosalm 94.96 43 *e*P **P 17 25 17.6 +1.0**
MOTA comp=Z,16nm,1.2s *e*pP **pP 17 25 46.2 -0.9**
comp=Z,8.4nm,0.8s
MOTA *e*PP **PP 17 29 04.6 -2.8**
comp=Z,13nm,1.3s
D23K Nanushuk River 94.97 339 P P 17 25 16.2 +0.1
baz=107
N18K Kilae Creek 95.00 331 P P 17 25 15.6 -0.8
baz=103
SQTA Sankt Quirin 95.00 43 *e*P **P 17 25 18.1 +1.2**
SQTA comp=Z,9.1nm,0.9s *e*pP **pP 17 25 46.7 -0.6**
comp=Z,7.9nm,0.8s
SQTA *i* PP **PP 17 29 06.5 -1.3**
comp=Z,19nm,1.4s
J20K Nowinta River 95.03 334 IAmb IAmb 17 25 16.8
comp=Z,49nm,1.7s
J20K Nowinta River 95.03 334 P P 17 25 14.9 -1.5
baz=104
F22K John River 95.10 338 P P 17 25 16.2 -0.5
baz=106
E22K Anaktuvuk Pass 95.14 338 P P 17 25 16.2 -0.7
baz=106
M18K Stony River 95.15 332 P P 17 25 16.6 -0.4
baz=103
C23K Itkillik River 95.20 340 P P 17 25 17.0 -0.1
baz=107
WATA Walderalm 95.27 43 *e*P **P 17 25 18.9 +0.8**
WATA comp=Z,8.6nm,0.9s *e*pP **pP 17 25 47.7 -0.8**
comp=Z,12nm,1.3s
WATA *e*PP **PP 17 29 06.6 -3.2**
comp=Z,10nm,1.1s
WTTA Wattenberg 95.30 43 *e*P **P 17 25 19.7 +1.4**
comp=Z,17nm,1.1s
WTTA *i* pP **pP 17 25 48.2 -0.5**
comp=Z,15nm,0.9s
WTTA *i* PP **PP 17 29 07.1 -3.0**
comp=Z,14nm,1.5s
G21K Allakaket 95.34 337 IAmb IAmb 17 27 35.7
comp=Z,41nm,1.8s
G21K Allakaket 95.34 337 P P 17 25 17.6 -0.2
baz=104
O17K Koliganek Bris 95.39 330 P P 17 25 17.7 -0.4
baz=102
F21K Alatna River 95.51 337 P P 17 25 18.3 -0.3
baz=104
J19K Poorman 95.61 334 P P 17 25 18.2 -0.9
baz=103
D22K Ayikyak River 95.64 339 P P 17 25 19.5 +0.3
baz=105
H20K Anotleneega Mo 95.64 336 P P 17 25 18.9 -0.3
baz=103,SNR=5.3
L18K Granite Mounta 95.70 332 P P 17 25 19.8 +0.3
baz=102
VAE Valguarnera 95.72 53 LR LR 18 07 10.7
comp=Z,41nm,19.6s,baz=292,slow=34
ABTA Abfaltersbach 95.80 44 *e*P **P 17 25 21.9 +1.4**
comp=Z,19nm,1.1s
ABTA *e*pP **pP 17 25 50.1 -0.8**
comp=Z,16nm,1.0s
ABTA *e*PP **PP 17 29 11.8 -2.1**
comp=Z,8.1nm,1.6s
M17K Holitna River 95.89 331 P P 17 25 20.0 -0.4
baz=102
J18K Innoko River 95.98 333 P P 17 25 20.0 -0.8
baz=102
E21K Killik River 95.99 339 P P 17 25 20.3 -0.5
baz=104
S14K Fog Glacier 96.00 326 P P 17 25 21.7 +0.6
baz=100
LESA Schwarzleotal 96.02 43 *e*P **P 17 25 22.8 +1.3**
comp=Z,5.4nm,0.8s
LESA *e*pP **pP 17 25 51.1 -0.8**
comp=Z,11nm,1.1s
LESA *e*PP **PP 17 29 13.8 -1.8**
comp=Z,13nm,1.5s
MAW Mawson 96.14 165 P P 17 25 21.6 +0.1
comp=Z,6.9nm,1.0s,baz=220,slow=8.1,SNR=14
MAW LR LR 18 06 19.3
comp=Z,72nm,21.9s,baz=231,slow=34
comp=Z,6.9nm,1.0s
B22K Teshekpuk Lake 96.26 340 P P 17 25 21.5 -0.4
baz=104
H19K Roundabout Mou 96.29 335 IAmb IAmb 17 25 23.3
comp=Z,21nm,1.3s
H19K Roundabout Mou 96.29 335 P P 17 25 22.1 0.0
baz=102
GCSA Galena City Sc 96.31 335 P P 17 25 21.5 -0.7
baz=102
F20K Avaraart Lake 96.32 337 P P 17 25 22.2 0.0
baz=102
N16K Nishlik Lake 96.35 330 P P 17 25 22.4 -0.1

baz=100
SDPT Sand Point 96.36 325 P P 17 25 22.3 -0.3
baz=100
KBA Koelnbreinsper 96.42 43 *e*pP pP 17 25 53.0 -0.8
comp=Z,19nm,0.7s
L17K Donlin 96.43 332 P P 17 25 22.7 -0.2
baz=101
C21K Knifeblade Rid 96.44 339 P P 17 25 23.0 +0.2
baz=103
PRED Cave del Predi 96.47 44 IAmb IAmb 17 29 17.4
comp=Z,26nm,1.6s
B21K Ikpikpuk River 96.49 340 P P 17 25 23.1 +0.2
baz=103
K17K Iditarod 96.54 333 P P 17 25 23.3 0.0
baz=101
MYKA Terra Mystica 96.55 44 *e*P **P 17 25 25.1 +1.3**
comp=Z,8.0nm,1.1s
MYKA *e*pP **pP 17 25 53.6 -0.7**
comp=Z,3.9nm,0.6s
MYKA *e*PP **PP 17 29 17.5 -2.1**
comp=Z,16nm,1.5s
O15K Ungalikthiuk R 96.65 329 P P 17 25 23.3 -0.5
baz=100
G19K Purcell Mounta 96.67 336 IAmb IAmb 17 25 55.1
comp=Z,49nm,2.0s
G19K Purcell Mounta 96.67 336 P P 17 25 23.4 -0.4
baz=101
BIOA Bad Ischl, Aus 96.71 43 *e*PP **PP 17 29 18.6 -2.2**
comp=Z,15nm,1.5s
E20K Nigu River 96.75 338 P P 17 25 24.2 -0.1
baz=102
CLL Collm 96.83 39 *e*P **P 17 25 24.0 -0.9**
CLL *e*S **S 17 36 38.0 +1.0**
CLL Collm 96.83 39 *e*P **P 17 25 24.0 -0.9**
CLL *e*S **S 17 36 38.0 +1.0**
CLL *e*SP **SP 17 37 58.0 -0.3**
CLL *e*PPS PPS 17 38 58.0
CLL *e*SS **SS 17 43 16.0 +0.7**
CLL *e*SSS SSS 17 46 54.0
CLL *e*x x 17 48 18.0
KHC Kasperske Hory 96.88 41 pP pP 17 25 54.5 -1.2
L16K Owhat River 96.90 331 P P 17 25 24.8 -0.2
baz=100
GERES GERESS Array B 96.92 42 P P 17 25 25.2 -0.2
comp=Z,1.7nm,0.7s,baz=256,slow=4.0,SNR=7.3
GERES pP **pP 17 25 55.1 -0.8**
comp=Z,5.1nm,0.9s,baz=250,slow=2.7,SNR=9.6
GERES LR LR 18 06 29.9
comp=Z,75nm,18.0s,baz=213,slow=34
comp=Z,1.7nm,0.7s
A22K Sinclair Lake 96.92 341 P P 17 25 23.7 -1.1
baz=103
N15K Kwethluk River 96.94 330 P P 17 25 24.8 -0.5
baz=99
E19K Redstone River 96.98 337 P P 17 25 25.1 -0.2
baz=101
D20K Etivluk River 97.00 339 P P 17 25 25.0 -0.3
baz=101
H18K Honhosa River 97.00 335 P Pdif 17 25 25.8 +0.3
baz=100
F19K Shaleruckik Mo 97.07 337 P Pdif 17 25 25.7 0.0
baz=101
MOA Molln 97.15 43 *e*P Pdif 17 25 27.8 +1.3
comp=Z,12nm,1.3s
OBKA Obir 97.15 44 *e*PcP Pdif 17 25 28.0 +1.3
OBKA comp=Z,4.8nm,0.7s *i* pP pP 17 25 54.9 -2.1
comp=Z,7.7nm,0.9s
OBKA *e*PP **PP 17 29 20.8 -3.6**
comp=Z,9.2nm,1.3s
G18K Tagagawik 97.25 336 P Pdif 17 25 26.6 +0.1
baz=100
NB2 NORSAR Subarra 97.31 29 P Pdif 17 25 29.2 +2.2
comp=Z,60nm,2.5s,baz=266,slow=4.6
NB2 NORSAR Subarra 97.31 29 P Pdif 17 25 29.2 +2.2
baz=266,slow=4.6
NOA NORSAR Array B 97.31 29 P Pdif 17 25 27.0 0.0
comp=Z,1.1nm,0.7s,baz=271,slow=6.0,SNR=4.3
NOA pP pP 17 25 57.5 +0.2
comp=Z,20nm,1.0s,baz=259,slow=4.6,SNR=26
NOA LR LR 18 07 46.6
comp=Z,39nm,20.2s,baz=255,slow=34
comp=Z,1.1nm,0.7s
URZ Urewera 97.34 229 LR LR 18 01 20.6
comp=Z,142nm,19.5s,baz=210,slow=30
B20K Meade River 97.44 340 P Pdif 17 25 27.6 +0.4
baz=101
SOKA Soboth 97.51 44 *e*P Pdif 17 25 28.9 +0.7
comp=Z,3.6nm,1.1s
N14K Kuskokwak Cree 97.70 329 P Pdif 17 25 29.0 +0.5
baz=98
I17K Unalakleet 97.80 334 P P 17 25 28.8 -0.1
baz=98
L15K Ungalak Mounta 97.84 331 P Pdif 17 25 29.5 +0.3
baz=98
ARSA Arzberg 97.91 43 *e*P Pdif 17 25 31.0 +1.1
comp=Z,7.8nm,1.3s
ARSA *e*pP pP 17 25 59.7 -0.7
comp=Z,7.6nm,1.1s
ARSA *i* PP **PP 17 29 27.3 -2.8**
comp=Z,12nm,1.6s
M14K Bethel 97.95 330 P Pdif 17 25 30.1 +0.4
baz=98,SNR=5.0
CONA Conrad Observa 98.22 43 *i* Pdiff Pdif 17 25 32.8 +1.4
comp=Z,5.2nm,0.9s
CONA *e*pP pP 17 26 00.3 -1.5
comp=Z,8.8nm,0.8s
CONA *i* PP **PP 17 29 29.3 -3.2**
comp=Z,9.6nm,1.6s
HFS Hagfors 98.40 30 pP **pP 17 26 02.0 -0.2**
comp=Z,12nm,0.9s,baz=254,slow=5.4,SNR=6.3
HFS LR LR 18 06 22.0
comp=Z,90nm,21.0s,baz=251,slow=33
RONA Rosalia, Austr 98.49 43 *e*pP pP 17 26 00.5 -2.5
comp=Z,9.9nm,1.0s
E17K Hotham Inlet 98.69 337 P Pdif 17 25 33.3 +0.4
baz=97
KRUC Moravsky 98.71 42 *e*PDIFF Pdif 17 25 35.0 +1.6
KRUC *e* 17 26 02.5
VRAC Vranov 98.86 41 *e*PDIFF Pdif 17 25 35.7 +1.6
VRAC *e* 17 26 02.0
VRAC Vranov 98.86 41 P Pdif 17 25 35.9 +1.8
comp=Z,1.7nm,0.7s,baz=310,slow=5.1,SNR=3.1
comp=Z,1.7nm,0.7s
THZ Tophouse 99.07 224 P Pdif 17 25 38.0 +2.6
THZ IAmb IAmb 17 25 39.7
comp=Z,15nm,1.0s
MODS Modra-Piesok 99.22 42 *e* pP 17 26 06.5 +0.3
LSZ Lusaka 99.36 108 LR LR 18 09 40.4
comp=Z,143nm,18.4s,baz=278,slow=35
JAVC Velka Javorina 99.52 42 *e*PDIFF **Pdif 17 25 39.2 +2.1**
MORC Moravsky Berou 99.52 41 *e*PDIFF **Pdif 17 25 36.3 -0.8**
MORC *e* 17 26 04.2
RPZ Rata Peaks 99.53 222 LR LR 18 03 24.1
comp=Z,152nm,18.2s,baz=95,slow=31
VYHS Vyhne 100.26 42 *e* pP 17 26 10.9 0.0
ARCES ARCESS Array B 103.55 21 Pdiff **Pdif 17 25 55.5 +1.0**
comp=Z,6.5nm,0.9s,baz=256,slow=3.6,SNR=3.6
NACGM Naroch 105.29 36 *e*Pdif **Pdif 17 26 02.3 -0.2**
comp=Z,24nm,0.9s,baz=273
APA Apatity 106.73 22 ‖ *i*P **Pdif 17 26 00.5 -8.1**
APA pmax pmax
comp=Z,8.0nm,1.2s
APA MLR MLR
comp=Z,1μm,21.0s
AKASG Malin Array Be 107.03 40 PP PP 17 30 34.5 -3.6
comp=Z,0.1nm,0.3s,baz=270,slow=5.9,SNR=5.0
AKASG PKKPab **PKKPdf 17 41 51.4 +0.3**
comp=Z,0.8nm,0.7s,baz=92,slow=3.6,SNR=5.5
BRTR Keskin Array B 110.85 52 PKKPab PKKPab 17 41 35.3 0.0
comp=Z,2.0nm,0.8s,baz=72,slow=4.7,SNR=4.0
DZM Mont Dzumac 111.79 241 *e*LR LR 18 03 37.8
comp=Z,291nm,28.4s
KIV Kislovodsk 117.01 46 *e*PKIKP **PKPdf 17 30 37.8 -0.9**
KIV pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 117.20 46 PKP **PKiKP 17 30 39.5 +0.6**
comp=Z,4.6nm,0.8s,baz=206,slow=6.0,SNR=4.7
TIXI Tiksi 117.44 352 *c i* PKIKP **PKPdf 17 30 38.1 -0.4**
PETK Petropavlovsk- 120.61 326 PKP **PKiKP 17 30 45.4 +0.1**
comp=Z,6.5nm,1.0s,baz=116,slow=1.0,SNR=2.3
MAK Makhachkala 120.65 46 *i* P **Pdif 17 27 14.2 +3.1**
MAK *i* 17 30 45.8
MAK *e* 17 31 12.6
MAK *e* 17 32 15.4
MAK *e* 17 37 37.9
MAK pmax pmax

comp=Z,477nm,2.2s
ARU Arti 121.85 28 PKPdf **PKPdf 17 30 47.1 -0.4**
ARU Arti 121.85 28 *i* PKIKP **PKPdf 17 30 47.5 +0.1**
ARU 17 32 25.7
ARU 17 37 47.8
STKA Stephens Creek 125.23 218 PKP **PKPdf 17 30 54.7 -0.1**
comp=Z,5.1nm,0.7s,baz=74,slow=6.4,SNR=6.6
YAK Yakutsk 125.81 346 PKPpre 17 30 48.0
YAK Yakutsk 125.81 346 *e*PKIKP **PKPdf 17 30 53.2 -1.7**
YAK pmax pmax
comp=Z,23nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.6s
YAK pmax pmax
comp=E,9.0nm,1.6s
BRVK Borovoye 129.28 27 PKPdf **PKiKP 17 31 02.6 +0.1**
BRVK Borovoye 129.28 27*c i* PKIKP **PKiKP 17 31 02.9 +0.4**
BRVK pmax pmax
comp=Z,11nm,1.0s
BVAR Borovoye Array 129.35 27 PKP **PKPdf 17 31 02.1 +0.2**
comp=Z,9.0nm,1.0s,baz=259,slow=1.5,SNR=27
CTA Charters Tower 129.40 233 PKP **PKPdf 17 31 02.8 -0.3**
comp=Z,24nm,1.1s,baz=198,slow=0.9,SNR=14
CTAO Charters Tower 129.40 233 PKPdf **PKPdf 17 31 03.0 0.0**
CTAO Charters Tower 129.40 233 PKIKP **PKPdf 17 31 03.0 0.0**
GEYT Alibeck 129.88 49 PKP **PKPdf 17 31 03.8 +0.4**
comp=Z,7.0nm,1.1s,baz=296,slow=4.6,SNR=12
GEYT pPKP **pPKPdf 17 31 34.3 -0.8**
comp=Z,3.5nm,0.8s,baz=348,slow=2.1,SNR=5.1
GEYT SKPbc SKPbc 17 34 16.7 +1.1
comp=Z,4.4nm,0.9s,baz=319,slow=4.2,SNR=8.1
GYA0B ALIBECK ARRAY 129.88 49 PKPdf **PKiKP 17 31 03.9 -0.4**
RABL Rabaul 131.08 255 PKPdf **PKPdf 17 31 05.7 -0.7**
BRZS Berezniki 132.49 28 *e*PKiKP **PKPdf 17 31 07.5 -0.5**
baz=28
BRZS Berezniki 132.49 28 *i* PKIKP **PKPdf 17 31 07.4 -0.5**
PMG Port Moresby 133.83 246 **PKPdf 17 31 11.7 +0.2**
PMG Port Moresby 133.83 246 PKIKP **PKPdf 17 31 11.7 +0.2**
ZALV Zalesovo Beam 133.89 17 PKhKP PKPpre 17 31 03.4
comp=Z,1.1nm,0.6s,baz=284,slow=2.2,SNR=6.0
ZALV PKP **PKPdf 17 31 10.5 0.0**
comp=Z,7.4nm,0.5s,baz=289,slow=2.2,SNR=43
ZALV pPKP pPKPdf 17 31 42.1 0.0
comp=Z,14nm,0.7s,baz=312,slow=3.4,SNR=8.5
KURK Kurchatov 134.50 24 PKPdf **PKPdf 17 31 11.8 +0.1**
KURK Kurchatov 134.50 24 PKIKP **PKPdf 17 31 12.2 +0.5**
KURK 17 31 42.8
KURBB Kurchatov Arra 134.53 24 PKP **PKPdf 17 31 12.2 +0.4**
comp=Z,4.8nm,0.6s,baz=311,slow=2.7,SNR=42
KURBB pPKP **pPKPdf 17 31 42.8 -0.7**
comp=Z,7.8nm,0.9s,baz=317,slow=2.7,SNR=8.7
KURBB PP **PP 17 33 42.3 -2.7**
comp=Z,1.8nm,1.1s,baz=325,slow=5.3,SNR=2.2
KURBB SKKPbc SKKPbc 17 43 41.6 -1.1
comp=Z,1.9nm,1.1s,baz=141,slow=4.5,SNR=4.9
SEM Semipalatinsk 135.37 23 *e*PKiKP **PKPdf 17 31 14.2 +0.5**
baz=23
SEM Semipalatinsk 135.37 23 *i* PKIKP **PKPdf 17 31 14.1 +0.5**
KLR Kul'dur 135.77 335 *i* PKIKP **PKPdf 17 31 13.5 -0.6**
AS31 Alice Springs 135.85 219 PKPdf **PKPdf 17 31 14.3 -0.8**
ASAR Alice Springs 135.85 219 PKhKP PKPpre 17 31 01.5
comp=Z,1.1nm,1.0s,baz=137,slow=2.8,SNR=7.5
ASAR PKP **PKPdf 17 31 14.7 -0.5**
comp=Z,10nm,0.9s,baz=133,slow=2.1,SNR=46
ASAR PP **PP 17 33 50.2 -3.6**
comp=Z,2.5nm,1.0s,baz=139,slow=4.9,SNR=6.7
ASAR PKKP **PKKPdf 17 40 54.8 -0.7**
comp=Z,0.4nm,0.8s,baz=335,slow=1.8,SNR=5.1
BTLS Baital 136.54 32 *e*PKiKP **PKPdf 17 31 16.2 +0.5**
baz=32
BTLS Baital 136.54 32 *i* PKIKP **PKPdf 17 31 16.2 +0.5**
HEH HeiHe 136.58 339 *e*PKP **PKPdf 17 31 14.0 -1.6**
BTK Batken 137.74 40 PKPdf **PKPdf 17 31 18.9 +0.7**
BTK Batken 137.74 40 PKIKP **PKPdf 17 31 18.9 +0.7**
SGDS Sogindy 137.91 34 *e*PKiKP **PKPdf 17 31 19.1 +0.6**
baz=34
SGDS Sogindy 137.91 34 *i* PKIKP **PKPdf 17 31 19.0 +0.6**
EKS2 Erkin-Say 137.96 35 P **PKiKP 17 31 20.2 -0.4**
SNR=13
WB2 Warramunga Arr 138.22 223 PKPdf **PKPdf 17 31 19.8 +0.2**
WRAB Tennant Creek 138.23 223 *i* PKIKP **PKPdf 17 31 19.5 -0.1**
WRA Warramunga Arr 138.23 223 PKhKP PKPpre 17 31 07.8
comp=Z,2.5nm,0.9s,baz=162,slow=2.4,SNR=11
WRA PKP **PKPdf 17 31 19.5 -0.1**
comp=Z,17nm,0.9s,baz=133,slow=1.7,SNR=34
WRA PP **PP 17 34 06.4 -2.4**
comp=Z,2.5nm,1.2s,baz=132,slow=5.6,SNR=6.7
AML Almayashu 138.25 36 P **PKiKP 17 31 21.2 -0.4**
SNR=7.8
AAK Ala-Archa 138.38 35 P **PKiKP 17 31 20.9 -0.5**
SNR=12
AAK Ala-Archa 138.38 35 PKPdf **PKPdf 17 31 20.3 +0.9**
AAK Ala-Archa 138.38 35*c i* PKIKP **PKPdf 17 31 20.3 +0.9**
AAK pmax pmax
comp=Z,16nm,1.3s
DGZ Jazzator, Alta 138.41 17 *i* PKIKP **PKPdf 17 31 19.5 +0.3**
KUU Kurty 138.53 32 *e*PKiKP **PKPdf 17 31 19.5 +0.1**
baz=32
KUU Kurty 138.53 32 *i* PKIKP **PKPdf 17 31 19.5 +0.1**
KBK Karagaybulak 138.62 34 P **PKPdf 17 31 20.0 +0.2**
SNR=5.5
TDK Taldyqorghan 138.76 29 *e*PKiKP **PKPdf 17 31 20.2 +0.4**
baz=29
TDK Taldyqorghan 138.76 29 *i* PKIKP **PKPdf 17 31 20.2 +0.4**
TKM2 Tokmak 2 138.80 34 P **PKiKP 17 31 21.3 -1.1**
SNR=7.1
CHKK Chushkaly 138.89 31 *e*PKiKP **PKPdf 17 31 20.0 -0.1**
baz=31
CHKK Chushkaly 138.89 31 *i* PKIKP **PKPdf 17 31 20.0 -0.1**
MAKZ Makanchi 138.95 24 PKPdf **PKPdf 17 31 20.3 +0.2**
MAKZ Makanchi 138.95 24 PKIKP **PKPdf 17 31 20.3 +0.2**
MOY Mondy 139.03 4 *e*PKiKP **PKiKP 17 31 23.4 +0.9**
MOY pmax pmax
comp=Z,58nm,3.1s
MK31 Makanchi Array 139.09 24 *i* PKIKP **PKPdf 17 31 20.2 -0.2**
MKAR Makanchi Array 139.09 24 PKhKP PKPpre 17 31 12.4
comp=Z,0.6nm,0.4s,baz=303,slow=4.4,SNR=5.7
MKAR PKP **PKPdf 17 31 20.4 +0.1**
comp=Z,4.7nm,0.9s,baz=336,slow=2.7,SNR=17
MKAR pPKP pPKPdf 17 31 50.9 -1.3
comp=Z,7.0nm,0.9s,baz=325,slow=1.5,SNR=6.7
AAA Alma-Ata 139.30 32 *e*PKiKP **PKPdf 17 31 20.9 0.0**
baz=32
AAA Alma-Ata 139.30 32 *i* PKIKP **PKPdf 17 31 20.9 0.0**
MDOK Medeo 139.41 32 *e*PKiKP **PKPdf 17 31 21.1 -0.1**
baz=32
MDOK Medeo 139.41 32 *i* PKIKP **PKPdf 17 31 21.1 -0.1**
TNSS Tian-Shan 139.44 32 *e*PKiKP **PKPdf 17 31 21.8 +0.1**
baz=32
TNSS Tian-Shan 139.44 32 *i* PKIKP **PKPdf 17 31 21.7 +0.1**
USRK Ussuriysk Ar. 139.48 330 **PKPdf 17 31 20.7 -0.4**
USRK Ussuriysk Ar. 139.48 330 PKIKP **PKPdf 17 31 20.7 -0.4**
USRK Ussuriysk Ar. 139.48 330 PKP **PKPdf 17 31 20.6 -0.5**
comp=Z,8.3nm,0.9s,baz=49,slow=3.8,SNR=8.0
ZSN Zaisan 139.53 21 *e*PKP **PKPdf 17 31 19.1 -2.1**
baz=21
ZSN *e*PKiKP **PKiKP 17 31 21.4 -2.2**
baz=21
ZSN Zaisan 139.53 21 *e*PKIKP **PKPdf 17 31 19.0 -2.1**
ULHL Ulahol 139.60 34 P **PKiKP 17 31 23.4 -0.7**
SNR=13
NRN Naryn 140.01 35 PKPdf **PKPdf 17 31 20.4 -2.2**
NRN Naryn 140.01 35 PKIKP **PKPdf 17 31 20.4 -2.2**
KPKS Kokpek 140.03 31 *e*PKP **PKPdf 17 31 19.5 -2.8**
baz=30
KPKS *e*PKiKP **PKiKP 17 31 22.7 -2.1**
baz=30
KPKS Kokpek 140.03 31 *e*PKIKP **PKPdf 17 31 19.5 -2.8**
SATY Saty 140.18 31 *e*PKP **PKPdf 17 31 19.5 -3.1**
baz=31
SATY Saty 140.18 31 *e*PKIKP **PKPdf 17 31 19.5 -3.1**
MDJ Mudanjiang 140.29 333 PKP **PKiKP 17 31 25.5 +0.4**
BNX BinXian 140.33 336 ⇓P **PKPdf 17 31 16.3 -6.3**
BNX pmax pmax
comp=Z,12nm,1.1s
BNX pmax pmax
comp=Z,1μm,6.2s
UZB Uzynbulak 140.43 31 *e*PKP **PKPdf 17 31 21.4 -1.8**
baz=31
UZB Uzynbulak 140.43 31 *e*PKIKP **PKPdf 17 31 21.3 -1.8**
ZAK Zakamensk 140.43 2 *e*PKIKP **PKPdf 17 31 19.7 -3.1**
ZAK *e* 17 34 19.2
ZAK pmax pmax
comp=Z,9.0nm,1.4s
ZAK pmax pmax
comp=Z,6.0nm,1.5s
SHLS Shalkode 140.64 30 *i* PKP **PKPdf 17 31 21.2 -2.2**
baz=30
SHLS *e*PKiKP **PKiKP 17 31 23.7 -2.3**
baz=30
SHLS Shalkode 140.64 30 *i* PKIKP **PKPdf 17 31 21.2 -2.2**
MJAR Matsushiro Arr 140.74 316 PKhKP PKPpre 17 31 15.3
comp=Z,20nm,1.0s,baz=78,slow=2.2,SNR=20
MAJO Matsushiro 140.74 316 PKPpre 17 31 15.5
MAJO Matsushiro 140.74 316 PKHKP PKPpre 17 31 15.5
KSH Kashi 141.24 37 PKP **PKPdf 17 31 26.0 +1.4**
GENI Genyem 142.89 251 PKP **PKPdf 17 31 26.0 -2.1**
SONM Songino Array 143.00 359 PKhKP PKPpre 17 31 24.3
comp=Z,4.0nm,0.5s,baz=330,slow=2.9,SNR=25
SONM pPKP pPKPdf 17 31 56.2 -3.0
comp=Z,2.8nm,0.7s,baz=323,slow=2.5,SNR=2.9
WMQ Urumqi 143.66 22 *e*PKP **PKPdf 17 31 30.0 +1.3**
WMQ LR LR
comp=Z,130nm,26.1s
SMPI Sarmi 144.46 251 PKP **PKPdf 17 31 30.3 -0.6**
KNRA Kununurra 144.97 222 PKPbc 17 31 30.5 -0.7
SNY Shenyang 145.12 336 PKPbc **PKPbc 17 31 30.5 -0.4**
JMN Monobe 145.25 316 **PKPab 17 31 32.2 +0.4**
MBWA Marble Bar 145.29 204 **PKPbc 17 31 31.3 -0.8**
XLT XiLinHaoTe 145.66 346 *i* PKPbc **PKPdf 17 31 32.0 -0.2**
XLT pPKP pPKPdf 17 31 59.0 -4.9
XLT sPKP 17 32 09.5
KSRS Korea Array 146.51 326 PKPbc **PKPdf 17 31 34.0 +0.3**
comp=Z,85nm,1.1s,baz=43,slow=2.7,SNR=87
KSRS pPKPbc **pPKPdf 17 32 05.1 -0.4**
comp=Z,7.7nm,0.8s,baz=40,slow=3.5,SNR=2.0
KSAR Wonju Array Be 146.54 326 **PKPdf 17 31 33.8 0.0**
KSAR Wonju Array Be 146.54 326 PKIKP **PKPdf 17 31 33.8 0.0**
TJN Taejon 147.60 326 **PKPbc 17 31 37.7 -0.7**
TJN Taejon 147.60 326 PKP2 **PKPbc 17 31 37.7 -0.7**
JNU Nakatsue 147.63 317 **PKPbc 17 31 37.6 -1.0**
SAUI Saumlaki 148.16 235 **PKPdf 17 31 35.7 -1.4**
SAUI Saumlaki 148.16 235 PKP **PKiKP 17 31 42.0 -0.2**
KMPI Kaimana, Papua 148.34 245 PKP **PKiKP 17 31 42.7 +0.1**
DL2 Dalian 148.39 335 PKPbc **PKPbc 17 31 39.5 -0.9**
RKPI Ransiki, Papua 148.83 249 PKP **PKPdf 17 31 39.6 +1.3**
BJI Beijing 149.26 344 PKPbc **PKPdf 17 31 38.8 +0.7**
BJT Baijiatuau 149.28 344 **PKPdf 17 31 38.8 +0.6**
BJT Baijiatuau 149.28 344 PKHKP PKPpre 17 31 38.8
HHC Hu-ho-hao-te 149.50 351 PKPbc **PKiKP 17 31 44.0 -0.3**
BTO Baotou 149.95 353 *e*PKPbc **PKPdf 17 31 40.0 +0.6**
BTO PKPab **PKPab 17 31 52.8 +2.5**
BTO pPKP **pPKPdf 17 32 06.8 -4.3**
BTO sPKP 17 32 16.0
BTO LR LR
comp=Z,1μm,6.5s
BTO LR LR
comp=Z,2μm,6.3s
BTO LR LR
comp=Z,1μm,6.5s
FAKI Fak Fak 149.97 245 PKPdf **PKPdf 17 31 40.5 +0.5**
FAKI Fak Fak 149.97 245 PKP **PKPdf 17 31 41.5 +1.4**
GTA Gaotai 151.02 9 ⇓PKPbc **PKPdf 17 31 41.8 +0.7**
GTA sPKP 17 32 19.3
BNDI Bandanaira 151.22 239 PKP **PKPdf 17 31 42.3 +0.3**
SWI Sorong 151.75 248 PKP **PKPdf 17 31 44.6 +1.8**
HNS HongShan 152.13 344 ⇓PKPbc **PKiKP 17 31 49.8 +0.1**
SOEI Soe 152.27 223 PKP **PKiKP 17 31 51.1 +0.3**
BATI Baumata 152.34 222 PKP **PKiKP 17 31 51.7 +0.9**
TIY Taiyuan 152.38 348 *e*PKPbc **PKiKP 17 31 50.3 0.0**
TIA Tai'an 152.47 339 PKPbc **PKPdf 17 31 43.8 +0.6**
PYUN Piuthan 152.84 47 *e*P **PKPdf 17 31 44.5 +0.2**
GOMU GeErMu 152.91 19 PKPbc **PKPdf 17 31 45.5 +1.1**
HYB Hyderabad 153.21 73 *e*PKPdf **PKPdf 17 31 45.2 +0.3**
HYB *e*PKiKP **PKiKP 17 31 52.8 +0.3**
HYB *e*PP **PP 17 35 38.9 +0.1**
HYB *e*SKSdf **SKSdf 17 38 42.2 +0.4**
DANN Dangsing 153.24 46 *e*P **PKPdf 17 31 45.2 +0.2**
GKN Gorkha 154.07 46 *e*P **PKPdf 17 31 46.0 0.0**
DMN Daman 154.64 46 *e*P **PKPdf 17 31 46.8 -0.1**
LZH Lanzhou 154.72 3 ⇑PKPbc **PKPdf 17 31 48.0 +1.3**
LZH pPKP pPKPdf 17 32 19.0 +0.6
LZH sPKP 17 32 28.3
PKIN Phulchoki 154.86 45 *e*P **PKPdf 17 31 46.7 -0.6**
PKI Pulchoki 154.87 45 *e*P **PKPdf 17 31 46.8 -0.5**
GUN Gumba 154.99 44 *e*P **PKPdf 17 31 47.0 +0.1**
NJ2 Nanjing 155.37 332 *e*PKP **PKPdf 17 31 48.0 +0.6**
LYN LuoYang 155.40 346 *e*PKP **PKPdf 17 31 51.5 +4.1**
LYN pPKP PKPab 17 32 13.0 -0.2
LYN PKPab **pPKPdf 17 32 19.5 +0.3**
SANI Sanana 155.84 239 PKP **PKPdf 17 31 48.8 +0.2**
RAMN Ramite 156.09 45 *e*P **PKPdf 17 31 49.3 +0.4**
comp=Z,82nm,1.2s
XAN Xi'an 156.56 352 ⇑PKP **PKPdf 17 31 49.5 +0.5**
XAN pPKP PKPab 17 32 17.8 -0.4
TAPN Taplejung 156.59 43 *e*P **PKPdf 17 31 49.6 0.0**
CD2 Chengdu 159.86 4 PKP **PKPdf 17 31 53.0 -0.1**
PZH PanZhiHua 163.95 12 PKP **PKPdf 17 31 56.5 -1.0**
GYA Guiyang 164.30 356 ⇑PKP **PKPdf 17 31 58.5 +0.7**
GYA PKPab **PKPab 17 32 52.8 +0.6**
TNCH TengChong 164.38 24 PKP **PKPdf 17 31 58.5 +0.5**
TNCH pPKP pPKPdf 17 32 26.5 -3.5
TNCH PKPab **PKPab 17 32 54.0 +1.3**
TNCH PP **PP 17 36 41.0 +3.2**
TNCH AMB AMB
comp=Z,190nm,7.4s
KMI Kunming 165.47 9 ⇑PKP **PKPdf 17 32 00.0 +1.0**
CRAI Chiangrai 169.42 26 PKPab **PKPab 17 33 15.4 +0.6**
CHTO Chiang Mai 169.87 37 **PKPdf 17 32 01.3 -0.7**
CHTO Chiang Mai 169.87 37 PKIKP **PKPdf 17 32 01.3 -0.7**
CMAR Chiang Mai Arr 170.14 38 **PKPdf 17 32 02.0 -0.2**
CMAR Chiang Mai Arr 170.14 38 PKP **PKPdf 17 32 02.4 +0.3**
comp=Z,6.9nm,1.0s,baz=291,slow=1.7,SNR=35
CMAR pPKPab **pPKPab 17 33 47.7 -1.0**
comp=Z,4.1nm,0.9s,baz=319,slow=6.6,SNR=5.3

SOME ***30*** *17:23:06.1,39.°27N×73.°50E,h10km*
KRNET ***30*** *17:23:09.8±0.1,39.°43N×74.°17E,h14km,mb3.3*
NNC ***30*** *17:23:11.8±2.9,39.°40N×73.°78E,h0km,mb3.8,mpv3.5,*
Error ellipse: s-maj=21.9km s-min=13.7km az=172.0
ISC 30 17:23:12.8±1.3,39.°59N±0.°06×74.°14E±0.°03,h10km,n51,
α2°06/73,26C-26D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.65**	**311**	⇑*e*P	**Pg**	**17 23 24.8**	**-0.5**
	baz=19						
SFK				⇑*e*S	**Sb**	**17 23 35.9**	**+0.4**
	baz=19						
OHH	**Osh**	**1.40**	**312**	⇑*e*P	**Pb**	**17 23 38.3**	**-0.7**
	baz=16						
OHH				⇑*e*S	**Sg**	**17 23 59.3**	**+1.6**
	baz=16						
DRK	**Karamyk**	**1.81**	**267**	⇑*e*P	**Pb**	**17 23 44.1**	**-2.1**
	baz=73						
DRK				⇑*e*S	**Sb**	**17 24 08.6**	**-0.5**
	baz=73						
ARSB	**Arslanbob**	**1.94**	**333**	⇑*e*P	**Pb**	**17 23 48.2**	**-0.2**
	baz=35						
ARSB				⇑*e*S	**Sg**	**17 24 16.0**	**+0.8**
	baz=35						
ARLS	**Aral**	**2.27**	**3**	⇑*e*P	**Pb**	**17 23 52.7**	**-1.3**
	baz=3.0						
ARLS				⇑*e*S	**Sg**	**17 24 23.9**	**-1.9**
	baz=3.0						
NRN	**Naryn**	**2.32**	**37**	⇑*e*P	**Pb**	**17 23 52.7**	**-2.3**
	baz=34						
NRN				⇑*e*S	**Sb**	**17 24 23.9**	**0.0**
	baz=34						
AML	**Almayashu**	**2.56**	**353**	P	**Pg**	**17 23 60.0**	**-1.9**
	SNR=13						
AML	**Almayashu**	**2.56**	**353**	⇓Pn	**Pb**	**17 23 59.5**	**+0.4**
	0.9nm,0.4s						
AML				⇓Lg	Lg	17 24 39.9	
	7.0nm,0.6s						
AML	**Almayashu**	**2.56**	**353**	⇓*e*P	**Pb**	**17 23 56.7**	**-2.3**
	baz=52						
AML				⇓*e*S	**Sb**	**17 24 31.7**	**+1.0**
	baz=52						
BTK	**Batken**	**2.60**	**281**	⇑*e*P	**Pn**	**17 23 55.4**	**+0.4**
	baz=85						
BTK				⇑*e*S	**Sb**	**17 24 29.3**	**-2.2**
	baz=85						
ARK	**Arkit**	**2.75**	**324**	⇑*e*P	**Pb**	**17 23 59.3**	**-2.9**
	baz=25						
ARK				⇑*e*S	**Sb**	**17 24 35.3**	**-0.8**
	baz=25						
TRKS	**Terek-Say**	**2.99**	**311**	⇓*e*P	**Pn**	**17 24 01.3**	**+0.8**
	baz=13						
TRKS				⇓*e*S	**Sb**	**17 24 39.2**	**-3.8**
	baz=13						
AAK	**Ala-Archa**	**3.06**	**5**	P	**Pb**	**17 24 07.1**	**-0.2**
	SNR=16						
AAK	**Ala-Archa**	**3.06**	**5**	⇑*e*P	**Pb**	**17 24 03.5**	**-3.8**
	baz=4.0						
AAK				⇑*e*S	**Sb**	**17 24 43.3**	**-1.4**
	baz=4.0						
EKS2	**Erkin-Say**	**3.08**	**355**	P	**Pb**	**17 24 08.2**	**+0.5**
	SNR=12						
EKS2	**Erkin-Say**	**3.08**	**355**	⇓*e*P	**Pb**	**17 24 03.9**	**-3.8**
	baz=55						
EKS2				⇓*e*S	**Sb**	**17 24 43.9**	**-1.5**
	baz=55						
ULHL	**Ulahol**	**3.09**	**30**	P	**Pg**	**17 24 12.7**	**+0.7**
	SNR=17						
ULHL	**Ulahol**	**3.09**	**30**	⇑*e*P	**Pn**	**17 24 03.6**	**+1.7**
	baz=28						
ULHL				⇑*e*S	**Sb**	**17 24 43.6**	**-2.3**
	baz=28						
KBK	**Karagaybulak**	**3.12**	**11**	P	**Pb**	**17 24 08.5**	**0.0**
	SNR=9.5						
KBK	**Karagaybulak**	**3.12**	**11**	⇓*e*P	**Pn**	**17 24 04.4**	**+2.2**
	baz=10.0						
KBK				⇓*e*S	**Sb**	**17 24 44.9**	**-1.8**
	baz=10.0						
MNAS	**Manas**	**3.15**	**337**	⇑*e*P	**Pb**	**17 24 05.1**	**-3.8**
	baz=38						
MNAS				⇑*e*S	**Sb**	**17 24 45.6**	**-1.7**
	baz=38						
BOOM	**Boomskoye usch**	**3.20**	**25**	⇓*e*P	**Pn**	**17 24 04.9**	**+1.6**
	baz=23						
BOOM				⇓*e*S	**Sb**	**17 24 45.7**	**-3.2**
	baz=23						
MRKS	**Merke**	**3.23**	**348**	Pg	**Pb**	**17 24 08.6**	**-1.6**
	4.2nm,0.2s						
MRKS				Lg	Lg	17 24 53.9	
	28nm,0.6s						
MRKS	**Merke**	**3.23**	**348**	*e*Pg	**Pb**	**17 24 08.6**	**-1.6**
	4.2nm,0.2s						
MRKS				*e*Lg	Lg	17 24 53.9	
	28nm,0.6s						
FRU1	**Bishkek**	**3.24**	**6**	⇓*e*P	**Pn**	**17 24 06.0**	**+2.3**
	baz=6.0						
FRU1				⇓*e*S	**Sb**	**17 24 47.6**	**-2.3**
	baz=6.0						
CHMS	**Chumysh**	**3.44**	**8**	⇓Pn	**Pb**	**17 24 10.9**	**-2.9**
	9.5nm,0.8s						
CHMS				⇑Lg	Lg	17 25 07.8	
	21nm,0.8s						
TKM2	**Tokmak 2**	**3.50**	**18**	⇑Pn	**Pb**	**17 24 10.8**	**-4.2**
	7.9nm,0.9s						
TKM2				⇓Lg	Lg	17 25 11.4	
	9.3nm,0.6s						
TARG	**Taragay, Kyrgy**	**3.51**	**51**	⇓*e*P	**Pn**	**17 24 08.8**	**+1.0**
	baz=49						
TARG				⇓*e*S	**Sn**	**17 24 52.8**	**+3.2**
	baz=49						
USP	**Ospenovka**	**3.68**	**4**	⇓*e*P	**Pn**	**17 24 12.3**	**+2.5**
	baz=4.0						
USP				⇓*e*S	**Sb**	**17 24 58.5**	**-4.2**
	baz=4.0						
KST	**Kastek**	**3.71**	**21**	Pg	**Pg**	**17 24 25.0**	**+1.2**
	4.0nm,0.5s						
KST				Lg	Lg	17 25 22.0	
	16nm,0.7s						
KST	**Kastek**	**3.71**	**21**	*e*Pg	**Pg**	**17 24 25.1**	**+1.2**
	4.0nm,0.5s						
KST				*e*Lg	Lg	17 25 22.0	
	16nm,0.7s						
DGS	**Degeres**	**3.85**	**18**	*e*Pg	**Pg**	**17 24 26.4**	**-0.1**
	6.7nm,0.2s						
DGS				*e*Lg	Lg	17 25 24.1	
	8.1nm,0.3s						
SGDS	**Sogindy**	**3.88**	**5**	Pg	**Pg**	**17 24 26.5**	**-0.5**
	6.1nm,0.3s						
SGDS				Lg	Lg	17 25 24.1	
	11nm,0.2s						
IZV	**Izvestkoviy**	**3.91**	**28**	Pg	**Pg**	**17 24 28.0**	**+0.3**
	7.3nm,0.7s						
IZV				Lg	Lg	17 25 26.9	
	12nm,0.7s						
IZV	**Izvestkoviy**	**3.91**	**28**	*e*Pg	**Pg**	**17 24 28.0**	**+0.3**
	7.3nm,0.7s						
IZV				*e*Lg	Lg	17 25 26.9	
	12nm,0.7s						
IUG	**Iuzhnay**	**4.03**	**311**	Pg	**Pn**	**17 24 17.5**	**+2.9**
	12nm,0.3s						
IUG				Lg	Lg	17 25 09.0	
	18nm,0.5s						
IUG	**Iuzhnay**	**4.03**	**311**	*e*Pg	**Pn**	**17 24 17.5**	**+2.9**
	12nm,0.3s						
IUG				*e*Lg	Lg	17 25 09.1	
	18nm,0.5s						
TNSS	**Tian-Shan**	**4.04**	**31**	Pg	**Pg**	**17 24 30.0**	**-0.2**
	8.1nm,0.2s						
TNSS				Lg	Lg	17 25 30.2	
	6.0nm,0.4s						
TNSS	**Tian-Shan**	**4.04**	**31**	*e*Pg	**Pg**	**17 24 30.0**	**-0.2**
	8.1nm,0.2s						
TNSS				*e*Lg	Lg	17 25 30.2	
	6.0nm,0.4s						
MDOK	**Medeo**	**4.19**	**31**	Pg	**Pg**	**17 24 31.6**	**-1.3**
	8.5nm,1.0s						
MDOK				Lg	Lg	17 25 33.1	
	10nm,0.8s						
MDOK	**Medeo**	**4.19**	**31**	*e*Pg	**Pg**	**17 24 31.6**	**-1.3**
	8.5nm,1.0s						
MDOK				*e*Lg	Lg	17 25 33.1	
	10nm,0.8s						
KRBS	**Karabastau**	**4.26**	**15**	Pg	**Pg**	**17 24 33.2**	**-1.1**
	4.1nm,0.4s						
KRBS				Lg	Lg	17 25 35.8	
	9.1nm,0.3s						
KRBS	**Karabastau**	**4.26**	**15**	*e*Pg	**Pg**	**17 24 33.2**	**-1.1**
	4.1nm,0.4s						
KRBS				*e*Lg	Lg	17 25 35.9	
	9.1nm,0.3s						
KOTS	**Kotyrbulak**	**4.27**	**31**	Pg	**Pg**	**17 24 34.3**	**-0.3**
	9.8nm,0.6s						
KOTS				Lg	Lg	17 25 38.0	
	21nm,0.4s						
KOTS	**Kotyrbulak**	**4.27**	**31**	*e*Pg	**Pg**	**17 24 34.3**	**-0.3**
	9.8nm,0.6s						
KOTS				*e*Lg	Lg	17 25 38.0	
	21nm,0.4s						
KK31	**Karatay Array**	**4.45**	**323**	⇓Pn	**Pn**	**17 24 22.4**	**+2.1**
	1.0nm,0.3s,baz=138,slow=14,SNR=16						
KK31				⇑Pg	**Pg**	**17 24 35.1**	**-2.8**
	1.0nm,0.3s,baz=147,slow=14,SNR=6.5						
KK31				⇓Sn	**Sn**	**17 25 16.5**	**+4.4**
	2.9nm,0.5s,baz=150,slow=26,SNR=4.1						
KK31				⇓Lg	Lg	17 25 36.4	
	5.3nm,0.5s,baz=185,slow=23,SNR=3.6						
KKAR	**Karatay Array**	**4.45**	**323**	⇓*e*P	**Pn**	**17 24 22.7**	**+2.4**
	baz=24						
KKAR				⇓*e*S	**Sn**	**17 25 16.1**	**+4.0**
	baz=24						
KTBS	**Karatobe**	**4.54**	**24**	Pg	**Pg**	**17 24 39.0**	**-0.7**
	4.9nm,0.4s						
KTBS				Lg	Lg	17 25 45.9	
KTBS	**Karatobe**	**4.54**	**24**	*e*Pg	**Pg**	**17 24 39.0**	**-0.7**
	4.9nm,0.4s						
KTBS				*e*Lg	Lg	17 25 45.9	
PDGK	**Podgornoye**	**5.49**	**45**	⇑Pg	**Pg**	**17 24 57.1**	**-0.8**
	6.4nm,1.4s						
PDGK				⇓Lg	Lg	17 26 16.3	
	9.8nm,0.9s						
BLB	**Baldybastay**	**5.55**	**34**	Pg	**Pg**	**17 25 00.0**	**+1.0**
	6.3nm,0.3s						
BLB				Lg	Lg	17 26 22.1	
	2.1nm,0.3s						

SOF ***30*** *17:36:17.2,39.°91N×23.°52E,h2km,MD3.9*
ISK ***30*** *17:36:18.7,39.°91N×23.°61E,h9km,ML3.7/32*
IDC ***30*** *17:36:20.4±0.9,39.°85N×23.°79E,h0km,mb3.7/11,*
mbtmp3.7/16,ML3.7/5,MS3.4/7,Error ellipse:
s-maj=17.3km s-min=13.9km az=97.0
ATH ***30*** *17:36:20.4,39.°96N×23.°61E,h11km±1km,

ISC 30 17:36:19.6±1.1, 39°92N±0°02×23°61E±0°02, h1km±8km, n189, σ1°24/212, mb3.7/11, MS3.8/4, 15C-15D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.50**	**35**	Pg	**Pg**	**17 36 29.6**	**+0.4**
OUR				Sg	**Sg**	**17 36 36.7**	**+1.0**
OUR	**Ouranopolis**	**0.50**	**35**	P	**Pg**	**17 36 29.8**	**+0.6**
OUR				S	**Sg**	**17 36 36.7**	**+1.0**
	13μm,0.3s						
OUR	**Ouranopolis**	**0.50**	**35**	P	**Pg**	**17 36 29.9**	**+0.6**
OUR				S	**Sg**	**17 36 36.7**	**+1.0**
OUR				AML	AML	17 36 37.3	
	comp=E,27865μm,0.3s						
OUR				AML	AML	17 36 39.5	
	comp=N,24280μm,0.4s						
XOR	**Xorichti**	**0.64**	**210**	P	**Pb**	**17 36 33.2**	**-0.3**
XOR				S	**Sn**	**17 36 44.2**	**-2.4**
	comp=N,3μm,0.2s						
XOR	**Xorichti**	**0.64**	**210**	P	**Pb**	**17 36 33.0**	**-0.5**
XOR				AML	AML	17 36 47.3	
	comp=E,4425μm,0.3s						
XOR				AML	AML	17 36 51.1	
	comp=N,9021μm,0.6s						
NEO	**Neokhori**	**0.68**	**206**	P	**Pb**	**17 36 34.0**	**-0.2**
NEO				S	**Sn**	**17 36 45.0**	**-2.6**
	comp=N,5μm,0.5s						
NEO	**Neokhori**	**0.68**	**206**	P	**Pn**	**17 36 34.6**	**-1.7**
NEO				S	**Sb**	**17 36 43.9**	**-0.3**
NEO				AML	AML	17 36 45.6	
	comp=E,9514μm,0.7s						
NEO				AML	AML	17 36 46.5	
	comp=N,9347μm,0.6s						
HORT	**Hortiatis**	**0.78**	**330**	Pg	**Pg**	**17 36 33.8**	**-0.8**
HORT	**Hortiatis**	**0.78**	**330**	P	**Pg**	**17 36 33.7**	**-0.8**
HORT				S	**Sg**	**17 36 43.9**	**-0.8**
	comp=N,3μm,0.3s						
HORT	**Hortiatis**	**0.78**	**330**	P	**Pg**	**17 36 33.6**	**-0.9**
HORT				AML	AML	17 36 46.5	
	comp=E,5985μm,0.4s						
HORT				AML	AML	17 36 47.1	
	comp=N,4557μm,0.3s						
ALNA	**Alonissos**	**0.80**	**165**	P	**Pn**	**17 36 36.4**	**-1.5**
ALNA				S	**Sn**	**17 36 47.7**	**-2.6**
ALNA				AML	AML	17 36 49.4	
	comp=N,14080μm,0.6s						
ALNA				AML	AML	17 36 52.3	
	comp=E,17033μm,0.8s						
THE	**Thessaloniki**	**0.86**	**326**	P	**Pg**	**17 36 35.3**	**-0.9**
THE				S	**Sg**	**17 36 47.0**	**-0.4**
	comp=E,2μm,0.6s						
THE	**Thessaloniki**	**0.86**	**326**	P	**Pg**	**17 36 35.3**	**-0.9**
THE				AML	AML	17 36 51.3	
	comp=N,3851μm,0.8s						
THE				AML	AML	17 36 55.8	
	comp=E,3892μm,0.5s						
SOH	**Sokhos**	**0.92**	**348**	P	**Pg**	**17 36 36.2**	**-1.0**
SOH				S	**Sg**	**17 36 48.9**	**-0.3**
	comp=E,5μm,0.7s						
SOH	**Sokhos**	**0.92**	**348**	P	**Pg**	**17 36 36.2**	**-1.0**
SOH				AML	AML	17 36 52.9	
	comp=E,13110μm,0.6s						
SOH				AML	AML	17 36 53.6	
	comp=N,12450μm,0.8s						
KOKK	**Kokkinochori,**	**0.94**	**18**	P	**Pg**	**17 36 37.4**	**-0.2**
KOKK				S	**Sb**	**17 36 50.7**	**-1.0**
	comp=N,2μm,0.7s						
KOKK	**Kokkinochori,**	**0.94**	**18**	P	**Pg**	**17 36 37.5**	**-0.2**
TYRN	**Tyrnavos**	**1.08**	**259**	P	**Pn**	**17 36 40.5**	**-1.3**
TYRN				S	**Sn**	**17 36 55.6**	**-1.8**
	comp=N,1μm,0.8s						
TYRN	**Tyrnavos**	**1.08**	**259**	P	**Pb**	**17 36 40.3**	**-0.7**
THAS	**Thassos island**	**1.09**	**51**	P	**Pb**	**17 36 40.1**	**-1.1**
THAS				S	**Sb**	**17 36 55.0**	**-0.9**
THAS	**Thassos island**	**1.09**	**51**	P	**Pb**	**17 36 39.9**	**-1.3**
THAS				AML	AML	17 36 58.3	
	comp=N,5749μm,0.6s						
THAS				AML	AML	17 36 58.6	
	comp=E,6278μm,0.4s						
KVLA	**Kavala**	**1.18**	**30**	P	**Pb**	**17 36 41.6**	**-1.0**
KVLA				S	**Sb**	**17 36 56.0**	**-2.4**
KVLA				AML	AML	17 37 00.5	
	comp=E,8100μm,0.8s						
KVLA				AML	AML	17 37 02.4	
	comp=N,5532μm,0.5s						
SRS	**Serrai**	**1.20**	**359**	P	**Pb**	**17 36 41.3**	**-1.7**
SRS				S	**Sb**	**17 36 57.5**	**-1.5**
	comp=N,3μm,0.6s						
SRS	**Serrai**	**1.20**	**359**	P	**Pb**	**17 36 41.2**	**-1.7**
SRS				AML	AML	17 37 02.6	
	comp=E,4829μm,0.7s						
SRS				AML	AML	17 37 02.8	
	comp=N,4263μm,0.4s						
LIA	**Limnos Island**	**1.21**	**91**	P	**Pn**	**17 36 42.3**	**-1.3**
LIA				S	**Sn**	**17 36 59.0**	**-1.6**
	comp=N,7μm,0.7s						
LIA	**Limnos Island**	**1.21**	**91**	P	**Pn**	**17 36 42.0**	**-1.5**
LIA				S	**Sb**	**17 36 58.0**	**-1.4**
LIA				AML	AML	17 37 03.5	
	comp=E,13832μm,0.7s						
LIA				AML	AML	17 37 04.0	
	comp=N,14751μm,0.5s						
KTI	**Kastanea**	**1.24**	**293**	P	**Pn**	**17 36 42.3**	**-1.8**
SKY	**Skiros Island**	**1.27**	**145**	P	**Pg**	**17 36 44.0**	**+0.1**
SKY	**Skiros Island**	**1.27**	**145**	P	**Pg**	**17 36 43.9**	**-0.1**
SKY				AML	AML	17 37 05.2	
	comp=N,3854μm,0.5s						
SKY				AML	AML	17 37 05.5	
	comp=E,4919μm,0.7s						
KAVA	**Kavala**	**1.28**	**32**	P	**Pn**	**17 36 42.4**	**-2.1**
KAVA	**Kavala**	**1.28**	**32**	P	**Pn**	**17 36 42.3**	**-2.1**
THL	**Klokotos Trika**	**1.28**	**254**	P	**Pn**	**17 36 43.0**	**-1.5**
THL				S	**Sb**	**17 37 00.0**	**-1.3**
THL	**Klokotos Trika**	**1.28**	**254**	P	**Pn**	**17 36 43.0**	**-1.5**
AGG	**Agios Georgios**	**1.33**	**228**	Pn	**Pn**	**17 36 44.2**	**-1.1**
AGG				Sn	**Sg**	**17 37 02.3**	**-0.1**
AGG	**Agios Georgios**	**1.33**	**228**	P	**Pn**	**17 36 44.1**	**-1.3**
AGG	**Agios Georgios**	**1.33**	**228**	P	**Pn**	**17 36 44.0**	**-1.3**
KYMI	**Kymi, Euboea I**	**1.34**	**163**	P	**Pb**	**17 36 44.6**	**-0.9**
KYMI	**Kymi, Euboea I**	**1.34**	**163**	P	**Pb**	**17 36 44.6**	**-0.9**
KYMI				AML	AML	17 37 16.4	
	comp=E,2171μm,0.6s						
KYMI				AML	AML	17 37 16.5	
	comp=N,1611μm,0.8s						
KNT	**Kendrikon**	**1.35**	**337**	Pn	**Pn**	**17 36 44.4**	**-1.2**
KNT				Sn	**Sg**	**17 37 03.4**	**+0.3**
KNT	**Kendrikon**	**1.35**	**337**	P	**Pn**	**17 36 43.9**	**-1.7**
KNT	**Kendrikon**	**1.35**	**337**	P	**Pn**	**17 36 44.0**	**-1.6**
KNT				AML	AML	17 37 07.8	
	comp=E,2764μm,0.6s						
KNT				AML	AML	17 37 08.4	
	comp=N,2450μm,0.7s						
LKR	**Lokris**	**1.35**	**201**	P	**Pn**	**17 36 44.2**	**-1.4**
AXAR	**Agios Charalam**	**1.37**	**213**	P	**Pn**	**17 36 44.8**	**-1.0**
AXAR	**Agios Charalam**	**1.37**	**213**	P	**Pn**	**17 36 44.7**	**-1.1**
GRG	**Griva**	**1.39**	**319**	Pn	**Pn**	**17 36 44.9**	**-1.1**
GRG				Sn	**Sg**	**17 37 04.0**	**-0.1**
GRG	**Griva**	**1.39**	**319**	P	**Pn**	**17 36 44.9**	**-1.1**
NVR	**Nevrokopi**	**1.44**	**8**	P	**Pb**	**17 36 46.4**	**-0.8**
NVR				AML	AML	17 37 09.4	
	comp=N,2204μm,0.6s						
NVR				AML	AML	17 37 12.8	
	comp=E,3433μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.46**	**232**	P	**Pb**	**17 36 46.6**	**-0.9**
MAKR				S	**Sb**	**17 37 05.5**	**-1.0**
	comp=E,2μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.46**	**232**	P	**Pn**	**17 36 46.3**	**-0.8**
SMTH	**Samothraki Isl**	**1.57**	**69**	P	**Pn**	**17 36 46.9**	**-1.7**
SMTH	**Samothraki Isl**	**1.57**	**69**	P	**Pn**	**17 36 46.9**	**-1.7**
VAY	**Valandovo**	**1.61**	**331**	*i* Pn	**Pb**	**17 36 49.2**	**-0.8**
MMB	**Musomishta**	**1.63**	**4**	*i* P	**Pn**	**17 36 48.7**	**-0.7**
EVR	**Evrytania**	**1.72**	**235**	P	**Pb**	**17 36 50.8**	**-1.1**
KPRO	**Kipourio**	**1.73**	**272**	P	**Pn**	**17 36 50.4**	**-0.3**
VIL2	**Platees**	**1.73**	**189**	P	**Pn**	**17 36 50.2**	**-0.5**
VILL	**Villia**	**1.77**	**188**	P	**Pn**	**17 36 50.6**	**-0.7**
GADA	**Gvkgeada**	**1.78**	**81**	Pn	**Pn**	**17 36 50.0**	**-1.4**
ANX	**Ano Chora**	**1.86**	**225**	P	**Pn**	**17 36 52.3**	**-0.4**
ANX	**Ano Chora**	**1.86**	**225**	P	**Pn**	**17 36 52.2**	**-0.5**
SIGR	**SIGRI**	**1.88**	**111**	Pn	**Pn**	**17 36 51.7**	**-1.0**
SIGR	**SIGRI**	**1.88**	**111**	P	**Pn**	**17 36 52.1**	**-0.6**
SIGR	**SIGRI**	**1.88**	**111**	P	**Pn**	**17 36 51.9**	**-0.8**
SIGR				AML	AML	17 37 31.4	
	comp=E,1187μm,0.6s						
SIGR				AML	AML	17 37 35.7	
	comp=N,1179μm,0.6s						
PTL	**Penteli**	**1.88**	**174**	P	**Pb**	**17 36 53.3**	**-1.4**
PTL	**Penteli**	**1.88**	**174**	P	**Pb**	**17 36 53.1**	**-1.5**
KALE	**Kalithea**	**1.91**	**217**	P	**Pn**	**17 36 52.6**	**-0.6**
KALE	**Kalithea**	**1.91**	**217**	P	**Pn**	**17 36 52.4**	**-0.8**
FNA	**Florina**	**1.91**	**298**	Pn	**Pn**	**17 36 52.7**	**-0.6**
FNA	**Florina**	**1.91**	**298**	P	**Pn**	**17 36 52.8**	**-0.5**
FNA				AML	AML	17 37 30.5	
	comp=E,588μm,0.6s						
FNA				AML	AML	17 37 34.5	
	comp=N,633μm,0.7s						
RDO	**Rodhopi**	**1.91**	**50**	Pn	**Pn**	**17 36 51.5**	**-1.7**
RDO	**Rodhopi**	**1.91**	**50**	P	**Pn**	**17 36 52.0**	**-1.2**
RDO	**Rodhopi**	**1.91**	**50**	P	**Pn**	**17 36 51.7**	**-1.5**
RDO				AML	AML	17 37 26.0	
	comp=N,2436μm,0.9s						
RDO				AML	AML	17 37 27.7	
	comp=E,1410μm,0.7s						
KKB	**Krupnik**	**1.95**	**349**	*i* P	**Pn**	**17 36 53.3**	**-0.5**
ATHU	**Athens Univers**	**1.96**	**176**	P	**Pn**	**17 36 53.4**	**-0.4**
ATHU	**Athens Univers**	**1.96**	**176**	P	**Pn**	**17 36 53.2**	**-0.6**
RZN	**Rozhen**	**1.97**	**25**	*i* P	**Pn**	**17 36 53.3**	**-0.9**
LOUT	**Loutraki**	**1.99**	**195**	P	**Pn**	**17 36 54.0**	**-0.3**
LOUT	**Loutraki**	**1.99**	**195**	P	**Pn**	**17 36 53.3**	**-1.0**
EFP	**Efpalio**	**1.99**	**222**	P	**Pn**	**17 36 53.9**	**-0.4**
EFP	**Efpalio**	**1.99**	**222**	P	**Pn**	**17 36 53.4**	**-0.9**
GPNR	**Gulpinar-Canak**	**2.00**	**103**	Pn	**Pn**	**17 36 53.7**	**-0.8**
THAL	**Thalero**	**2.02**	**202**	P	**Pn**	**17 36 54.0**	**-0.7**
THAL	**Thalero**	**2.02**	**202**	P	**Pn**	**17 36 53.9**	**-0.8**
NEST	**Nestorio**	**2.02**	**285**	P	**Pn**	**17 36 54.8**	**-0.1**
VLY	**Voula,Athens**	**2.07**	**176**	P	**Pn**	**17 36 54.5**	**-0.9**
PVO	**Paravola**	**2.08**	**232**	P	**Pn**	**17 36 53.9**	**-1.6**
STIP	**Stip**	**2.08**	**329**	*i* Pn	**Pn**	**17 36 55.0**	**-0.5**
EZN	**Ezine**	**2.09**	**92**	Pn	**Pn**	**17 36 55.1**	**-0.6**
ALN	**Alexandroupoli**	**2.10**	**62**	Pn	**Pn**	**17 36 55.4**	**-0.4**
ALN	**Alexandroupoli**	**2.10**	**62**	P	**Pn**	**17 36 54.8**	**-1.0**
ALN	**Alexandroupoli**	**2.10**	**62**	P	**Pn**	**17 36 54.4**	**-1.4**
LAKA	**Lakka**	**2.10**	**218**	P	**Pn**	**17 36 55.3**	**-0.6**
ENEZ	**Enez**	**2.11**	**66**	Pn	**Pn**	**17 36 55.5**	**-0.4**
KDZ	**Kurdzhali**	**2.16**	**37**	Pn	**Pn**	**17 36 56.2**	**-0.4**
PRK	**Paraskevi**	**2.17**	**107**	P	**Pn**	**17 36 56.4**	**-0.3**
EAG1	**Polichnitos, L**	**2.19**	**112**	P	**Pn**	**17 36 56.6**	**-0.4**
KLV	**Kalavryta, Ach**	**2.19**	**212**	P	**Pn**	**17 36 56.4**	**-0.7**
COMU	**Canakkale**	**2.21**	**84**	Pn	**Pn**	**17 36 56.4**	**-0.9**
GUR	**Goura**	**2.21**	**207**	P	**Pn**	**17 36 57.0**	**-0.5**
GELI	**Tayfur-Gelibol**	**2.25**	**77**	Pn	**Pn**	**17 36 56.8**	**-1.0**
ERIK	**Erikli-Kesan**	**2.34**	**70**	Pn	**Pn**	**17 36 58.8**	**-0.4**
PLD	**Plovdiv**	**2.39**	**21**	Pn	**Pn**	**17 36 58.2**	**-1.5**
PLD	**Plovdiv**	**2.39**	**21**	*i* P	**Pb**	**17 37 01.6**	**-1.7**
CHOS	**Chios island**	**2.44**	**128**	P	**Pn**	**17 37 00.5**	**-0.1**
CHOS	**Chios island**	**2.44**	**128**	P	**Pn**	**17 37 00.4**	**-0.2**
OHR	**Ohrid**	**2.45**	**300**	*i* Pn	**Pn**	**17 37 01.7**	**+1.0**
LPK	**Lapseki**	**2.46**	**78**	Pn	**Pn**	**17 36 59.9**	**-0.8**
RFT2	**Karaagac**	**2.56**	**100**	Pn	**Pn**	**17 37 01.6**	**-0.6**
DIM	**Dimitrovgrad**	**2.59**	**34**	*i* P	**Pn**	**17 37 03.4**	**+0.8**
UKOP	**Uzunkopru-Edir**	**2.60**	**61**	Pn	**Pn**	**17 37 01.8**	**-0.9**
PGB	**Panagyurishte**	**2.63**	**9**	*eP*	**Pg**	**17 37 10.5**	**+0.6**
CANM	**Can-anakkale**	**2.65**	**87**	Pn	**Pn**	**17 37 02.7**	**-0.7**
DKL	**Dikili**	**2.69**	**107**	Pn	**Pn**	**17 37 02.9**	**-1.0**
VTS	**Vitosha**	**2.71**	**354**	⇑P	**Pn**	**17 37 04.4**	**+0.1**
VTS				⇑S	**Sn**	**17 37 37.4**	**-0.5**
VTS	**Vitosha**	**2.71**	**354**	*i* P	**Pn**	**17 37 03.9**	**-0.5**
RFT7	**Candarli**	**2.74**	**109**	Pn	**Pn**	**17 37 04.4**	**-0.2**
RFT5	**Foca**	**2.74**	**116**	Pn	**Pn**	**17 37 03.8**	**-0.8**
URLA	**Izmir**	**2.80**	**123**	Pn	**Pn**	**17 37 05.1**	**-0.3**
KRBG	**Karabiga-Canak**	**2.87**	**79**	Pn	**Pn**	**17 37 05.3**	**-1.0**
EDRB	**Edirne**	**3.06**	**50**	Pn	**Pn**	**17 37 09.0**	**0.0**
GONE	**Gonen-Balikesi**	**3.13**	**86**	Pn	**Pn**	**17 37 10.4**	**+0.4**
TIR	**Tirane**	**3.19**	**298**	⇓P	**Pn**	**17 37 12.0**	**+1.2**
APE	**Apeiranthos**	**3.22**	**151**	⇓P	**Pn**	**17 37 11.3**	**0.0**
APE				⇑S	**Sn**	**17 37 46.6**	**-3.7**
VLI	**Veliai**	**3.24**	**190**	P	**Pn**	**17 37 10.8**	**-0.7**
EDC	**Edincik**	**3.29**	**81**	Pn	**Pn**	**17 37 12.2**	**0.0**
CRLT	**Corlu**	**3.37**	**68**	Pn	**Pn**	**17 37 13.3**	**0.0**
MPEP	**Malo Peshtene**	**3.44**	**2**	*i* P	**Pn**	**17 37 14.3**	**+0.1**
BLKB	**Belogradchik**	**3.77**	**350**	⇓S	**Sn**	**17 38 00.5**	**-3.2**
SZH	**Strazhitsa**	**3.79**	**27**	*i* P	**Pn**	**17 37 20.1**	**+1.1**
BOVS	**Bovan**	**3.98**	**340**	⇓P	**Pn**	**17 37 22.7**	**+1.1**
DRME	**Dracevica, Mon**	**4.04**	**306**	*e*Pn	**Pn**	**17 37 23.1**	**+0.6**
VLAD	**Vladila**	**4.12**	**8**	⇓P	**Pn**	**17 37 23.1**	**-0.5**
PDG	**Podgorica**	**4.13**	**309**	*e*Pn	**Pn**	**17 37 25.3**	**+1.6**
RAZG	**Razgrad**	**4.24**	**30**	⇓P	**Pn**	**17 37 26.4**	**+1.2**
SJES	**Sjenica**	**4.31**	**322**	*e*Pn	**Pn**	**17 37 28.0**	**+1.7**
COPA	**Copaceanca**	**4.38**	**15**	⇑P	**Pn**	**17 37 28.3**	**+1.2**
HUMR	**Humele**	**4.72**	**12**	⇑P	**Pn**	**17 37 32.0**	**+0.2**
IDI	**Anoyia**	**4.74**	**167**	⇑P	**Pn**	**17 37 33.3**	**+1.2**
IDI	**Anoyia**	**4.74**	**167**	Pn	**Pn**	**17 37 32.4**	**+0.3**
	comp=E,1.8nm,0.3s,baz=342,slow=13,SNR=13						
IDI				Sn	**Sn**	**17 38 25.6**	**-2.0**
	comp=E,0.4nm,0.3s,baz=198,slow=20,SNR=2.0						
IDI				LR	LR	17 39 21.2	
	comp=E,110nm,18.3s,baz=3.5,slow=39						
	comp=E,9.0nm,0.7s						
UPM	**Unac-Piva**	**4.82**	**314**	*e*Pn	**Pn**	**17 37 34.7**	**+1.4**
BRY	**Bratogost**	**4.84**	**310**	*e*Pn	**Pn**	**17 37 34.9**	**+1.3**
TREB	**Trebinje**	**4.85**	**307**	*e*Pn	**Pn**	**17 37 34.2**	**+0.6**
RUDO	**Rudo**	**4.87**	**321**	*e*Pn	**Pn**	**17 37 33.2**	**-0.7**
DIVS	**Divibare**	**4.97**	**328**	*e*Pn	**Pn**	**17 37 35.8**	**+0.5**
BBLS	**Lazići**	**5.04**	**323**	*e*Pn	**Pn**	**17 37 37.7**	**+1.4**
MDVR	**Moldovita**	**5.06**	**344**	⇓P	**Pn**	**17 37 36.1**	**-0.4**
NEVS	**Nevesinje**	**5.33**	**311**	*e*Pn	**Pn**	**17 37 42.4**	**+2.1**
STON	**Ston**	**5.33**	**305**	*e*Pn	**Pn**	**17 37 40.2**	**0.0**
ARR	**Arges**	**5.50**	**8**	⇓P	**Pn**	**17 37 42.1**	**-0.5**
LOT	**Lotru**	**5.53**	**1**	⇑P	**Pn**	**17 37 42.7**	**-0.3**
TEKS	**Tekeris**	**5.53**	**328**	*e*Pn	**Pn**	**17 37 41.9**	**-1.1**
VOIR		**5.62**	**10**	⇓P	**Pn**	**17 37 44.3**	**+0.1**
MLR	**Muntele Rosu**	**5.83**	**16**	⇓P	**Pn**	**17 37 49.7**	**+2.5**
MLR				⇑P	**Pn**	**17 37 50.5**	**+3.3**
MLR	**Muntele Rosu**	**5.83**	**16**	Pn	**Pn**	**17 37 49.9**	**+2.8**
	comp=E,2.2nm,0.3s,baz=264,slow=6.2,SNR=18						
MLR				Sn	**Sn**	**17 38 51.1**	**-3.5**
	comp=E,0.6nm,0.3s,baz=284,slow=20,SNR=1.2						
MLR				Lg	Lg	17 39 25.8	
	comp=E,0.8nm,0.3s,baz=274,slow=19,SNR=4.0						
MLR				LR	LR	17 39 55.9	
	comp=E,170nm,20.1s,baz=128,slow=37						
	comp=E,22nm,0.6s						
NEHR	**Nehoiu**	**5.85**	**19**	⇑P	Pn	17 37 40.4	-7.0
BZS	**Buzias**	**5.88**	**346**	⇑P	**Pn**	**17 37 46.7**	**-1.0**
FRGS	**Fruska Gora**	**5.94**	**333**	⇑P	**Pn**	**17 37 49.3**	**+0.7**
FRGS	**Fruska Gora**	**5.94**	**333**	*e*Pn	**Pn**	**17 37 49.2**	**+0.6**
DOPR	**Dopca**	**6.18**	**12**	⇓P	**Pn**	**17 37 51.9**	**0.0**
COVR	**Voineasa-Covas**	**6.22**	**17**	⇑P	**Pn**	**17 37 53.8**	**+1.3**
CFR	**Carcaliu**	**6.23**	**31**	⇑P	**Pn**	**17 37 53.5**	**+1.0**
PLOR	**Plostina**	**6.33**	**20**	⇑P	**Pn**	**17 37 55.7**	**+1.7**
VRI	**Vrincioaia**	**6.37**	**20**	⇓P	**Pn**	**17 37 55.8**	**+1.4**
OZUR		**6.38**	**14**	⇓P	**Pn**	**17 37 54.9**	**+0.3**
MARR	**Marisel-Cluj**	**6.76**	**357**	⇓P	**Pn**	**17 37 60.0**	**0.0**
BLY	**Banja Luka**	**6.78**	**317**	*e*Pn	**Pn**	**17 38 02.0**	**+1.9**
A051A	**Mrakovica**	**7.10**	**318**	*e*Pn	**Pn**	**17 38 06.2**	**+1.6**
MORH	**Mrgy. Hungar**	**7.26**	**332**	⇓P	**Pn**	**17 38 07.1**	**+0.4**
BRTR	**Keskin Array B**	**7.72**	**88**	Pn	**Pn**	**17 38 13.7**	**+0.5**
	comp=E,0.5nm,0.3s,baz=269,slow=13,SNR=7.2						
BRTR				LR	LR	17 41 15.6	
	comp=E,216nm,19.0s,baz=162,slow=39						
	comp=E,2.2nm,0.5s						
BURAR	**Bucovina Array**	**7.78**	**8**	⇑P	**Pn**	**17 38 13.5**	**-0.5**
BOJS	**Bojanci**	**8.30**	**315**	*e*Pn	**Pn**	**17 38 22.9**	**+1.9**
CEY	**Cerknica**	**8.90**	**314**	*e*Pn	**Pn**	**17 38 27.0**	**-2.3**
AKASG	**Malin Array Be**	**11.48**	**18**	Pn	**Pn**	**17 39 05.3**	**+0.9**
	comp=E,0.6nm,0.3s,baz=203,slow=10,SNR=4.1						
	comp=E,0.5nm,0.5s						
MMAI	**Mount Meron Ar**	**11.72**	**122**	Pn	**Pn**	**17 39 06.4**	**-1.6**
	comp=E,0.5nm,0.3s,baz=308,slow=16,SNR=2.4						
	comp=E,3.7nm,0.8s						
ESDC	**Sonseca Array**	**21.16**	**278**	P	**P**	**17 41 10.0**	**+3.9**
	comp=E,0.8nm,0.7s,baz=69,slow=10,SNR=6.6						
	comp=E,0.8nm,0.7s						
HFS	**Hagfors**	**21.17**	**346**	P	**P**	**17 41 07.9**	**+1.9**
	comp=E,4.4nm,0.8s,baz=156,slow=11,SNR=6.8						
	comp=E,4.4nm,0.8s						
FINES	**FINESS Array B**	**21.60**	**3**	P	**P**	**17 41 11.6**	**+1.1**
	comp=E,2.3nm,0.7s,baz=167,slow=13,SNR=3.3						
	comp=E,2.3nm,0.7s						
NB2	**NORSAR Subarra**	**22.49**	**344**	P	**P**	**17 41 21.7**	**+1.6**
	comp=Z,3.4nm,0.7s,baz=154,slow=11						
NOA	**NORSAR Array B**	**22.49**	**344**	P	**P**	**17 41 21.8**	**+1.6**
	comp=Z,2.0nm,0.7s,baz=153,slow=11,SNR=10						
NOA				LR	LR	17 51 34.4	
	comp=Z,22nm,18.3s,baz=270,slow=40						
	comp=Z,2.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**23.52**	**320**	P	**P**	**17 41 32.0**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=122,slow=9.3,SNR=2.1						
	comp=Z,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**32.91**	**222**	P	**P**	**17 42 57.8**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=32,slow=10.0,SNR=3.3						
	comp=Z,0.4nm,0.5s						
BORG	**Borgarnes**	**35.81**	**329**	LR	LR	18 01 23.8	
	comp=Z,77nm,18.1s,baz=228,slow=42						
KURBB	**Kurchatov Arra**	**39.26**	**55**	P	**P**	**17 43 50.0**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=288,slow=9.1,SNR=4.4						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**42.35**	**61**	P	**P**	**17 44 15.5**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=276,slow=6.9,SNR=7.9						
	comp=Z,1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**42.74**	**50**	P	**P**	**17 44 18.2**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=277,slow=8.9,SNR=8.1						
	comp=Z,2.1nm,0.7s						
SONM	**Songino Array**	**57.49**	**52**	P	**P**	**17 46 09.8**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=307,slow=8.4,SNR=2.4						
	comp=Z,0.5nm,0.9s						
MA2	**Magadan**	**71.71**	**25**	LR	LR	18 20 53.9	
	comp=Z,112nm,19.6s,baz=50,slow=37						
PDAR	**Pinedale Array**	**87.42**	**327**	P	**P**	**17 49 08.8**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=37,slow=4.6,SNR=2.4						
	comp=Z,0.3nm,0.6s						
KAPI	**Kappang**	**97.90**	**90**	LR	LR	18 40 15.5	

*IDC **30** 17:38:35.8±2.5, 72°95N×6°09E, h0km, mbtmp3.7/5, ML3.2/5, Error ellipse: s-maj=33.1km s-min=20.5km az=82.0*
*NAO **30** 17:38:35.9±253.0, 72°94N×5°49E, h15km±206km, ML3.4*
*BER **30** 17:38:38.6±2.5, 73°10N×5°75E, h10km, mb(Pn)4.3, ML3.4(NAO), Confirmed Earthquake*

ISC 30 17:38:37.3±1.6, 73°04N±0°08×6°4E±0°1, h11km, n40, σ1°19/46, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**4.63**	**26**	Pn	**Pn**	**17 39 46.5**	**-0.5**
HSPB	**Hornsund (broa**	**4.63**	**26**	*eP*	**Pn**	**17 39 46.6**	**-0.5**
HSPB				IAML		17 39 47.4	
	comp=Z,3.3nm,0.3s						
TRO	**Tromso**	**5.28**	**124**	*eP*	**Pn**	**17 39 57.1**	**+1.2**
TRO				IAML		17 39 58.2	
	comp=Z,14nm,0.4s						
BRBB	**Barentsburg B**	**5.44**	**17**	Pn	**Pn**	**17 39 59.3**	**+1.2**
BRBB	**Barentsburg B**	**5.44**	**17**	*eP*	**Pn**	**17 39 59.3**	**+1.2**
LOF	**Lofoten**	**5.47**	**151**	*eP*	**Pn**	**17 39 59.1**	**+0.5**
JETT	**Jettan, Norway**	**5.70**	**121**	Pn	**Pn**	**17 40 03.4**	**+1.6**
JETT				Sn	**Sn**	**17 41 08.1**	**+1.0**
JETT	**Jettan, Norway**	**5.70**	**121**	Pn	**Pn**	**17 40 03.4**	**+1.6**
JETT				Sn	**Sn**	**17 41 08.1**	**+1.0**
SPA0	**Spitsbergen Ar**	**5.72**	**21**	Pn	**Pn**	**17 40 01.7**	**-0.3**
	baz=207,slow=16						
SPA0				Pn	**Pn**	**17

PDG	Podgorica	0.49	9	ePg	Pg	18 03 28.2	-0.6
PDG				eSg	Sg	18 03 34.8	-0.6
PDG	Podgorica	0.49	9⇓	iPg	Pg	18 03 28.1	-0.7
PDG				eSg	Sg	18 03 34.8	-0.6
PDG	Podgorica	0.49	9⇑	iPg	Pg	18 03 28.3	-0.5
PDG				i Sg	Sb	18 03 37.0	0.0
CEME	Cevo	0.62	344⇑	iPg	Pg	18 03 30.5	-0.9
CEME				i Sg	Sb	18 03 40.8	-0.2
HCY	Herceg Novi	0.70	316⇓	iPg	Pg	18 03 32.1	-0.6
HCY				eSg	Sg	18 03 42.2	+0.3
HCY	Herceg Novi	0.70	316⇑	iPg	Pg	18 03 31.1	-1.6
HCY				i Sg	Sg	18 03 42.1	+0.2
TIR	Tirane	0.80	138	⇑P	Pb	18 03 35.6	+0.4
TIR				⇓S	Sb	18 03 47.3	+1.3
TIR	Tirane	0.80	138	P	Pg	18 03 34.1	-0.6
TIR				S	Sg	18 03 45.2	0.0
	255nm,0.5s						
PVY	Plav	0.89	43⇑	iPg	Pg	18 03 35.2	-1.1
PVY				i Sg	Sn	18 03 50.8	+0.2
KOME	Kolasin	0.94	17	ePg	Pg	18 03 27.8	-10
TREB	Trebinje	0.97	323	ePg	Pb	18 03 37.9	-0.1
TREB				eSg	Sb	18 03 52.7	+1.8
TREB	Trebinje	0.97	323⇑	iPg	Pg	18 03 36.4	-1.5
TREB				eSg	Sg	18 03 50.2	-0.4
BRY	Bratogost	1.06	335	ePg	Pg	18 03 38.7	-0.9
BRY				eSg	Sg	18 03 53.2	-0.1
BRY	Bratogost	1.06	335⇓	iPg	Pg	18 03 39.2	-0.4
BRY				i Sg	Sn	18 03 55.1	+0.3
IVA	Berane	1.08	31⇑	iPg	Pg	18 03 38.7	-1.3
IVA				i Sg	Sn	18 03 57.3	+2.0
UPM	Unac-Piva	1.27	352⇓	iPg	Pg	18 03 42.5	-1.2
UPM				eSg	Sb	18 04 00.1	+0.5
UPM	Unac-Piva	1.27	352⇓	iPg	Pg	18 03 42.4	-1.2
UPM				i Sg	Sn	18 04 02.8	+2.6
PLE	Pljevlja	1.40	7⇑	iPg	Pg	18 03 45.0	-1.0
PLE				i Sg	Sn	18 04 06.7	+3.5
STON	Ston	1.42	311	ePg	Pn	18 03 45.4	+0.6
STON				eSg	Sg	18 04 03.9	-0.9
SJES	Sjenica	1.45	25	ePg	Pn	18 03 44.4	-1.1
SJES				eSg	Sg	18 04 01.2	-4.7
SJES	Sjenica	1.45	25⇓	iPg	Pn	18 03 45.1	-0.4
SJES				eSg	Sn	18 04 05.5	+1.0
OHR	Ohrid	1.50	123	i Pn	Pn	18 03 46.3	+0.3
NEVS	Nevesinje	1.56	331	ePn	Pb	18 03 48.2	+0.1
NEVS				eSn	Sn	18 04 08.3	+1.2
RUDO	Rudo	1.68	6	ePn	Pn	18 03 49.5	+1.0
RUDO				eSn	Sb	18 04 11.5	+0.2
SKO	Skopje	1.71	88	i Pn	Pn	18 03 49.7	+0.8
BBLS	Lazići	1.93	6	ePg	Pb	18 03 53.7	-0.7
BBLS				eSg	Sn	18 04 16.9	+0.6
BBLS	Lazići	1.93	6	ePn	Pn	18 03 53.2	+1.2
BBLS				eSn	Sn	18 04 17.3	+1.0
SELS	Selova	1.94	48	ePg	Pn	18 03 52.6	+0.6
SELS				eSg	Sn	18 04 13.7	-2.7
FNA	Florina	2.04	124	P	Pn	18 03 54.0	+0.5
FNA				S	Sn	18 04 20.1	+1.1
	115nm,0.7s						
BARS	Barje	2.16	65	ePg	Pn	18 03 55.8	+0.7
BARS				eSg	Sn	18 04 22.5	+0.6
SRN	Sarande	2.16	162	P	Pn	18 03 54.2	-0.9
DIVS	Divibare	2.24	16	ePg	Pn	18 03 57.3	+1.0
DIVS				eSg	Sn	18 04 26.2	+2.3
DIVS	Divibare	2.24	16⇑	iPn	Pn	18 03 57.1	+0.8
DIVS				eSn	Sn	18 04 25.1	+1.2
MATE	Matera	2.25	236	⇑P	Pb	18 03 59.4	-0.4
GRUS	Gruza	2.26	30	ePg	Pn	18 03 57.4	+0.9
GRUS				eSg	Sn	18 04 25.5	+1.2
KEK	Kerkira	2.29	167	P	Pn	18 03 55.0	-1.8
STIP	Stip	2.29	95	i Pn	Pb	18 03 59.3	-1.1
TRUS	Trudelj	2.46	22	ePg	Pn	18 04 00.1	+0.9
TRUS				eSg	Sn	18 04 30.9	+1.7
BOVS	Bovan	2.53	47	⇑P	Pn	18 04 00.3	+0.1
BOVS				⇑S	Sn	18 04 32.2	+1.2
BOVS	Bovan	2.53	47	ePg	Pn	18 04 00.8	+0.6
BOVS				eSg	Sn	18 04 31.8	+0.8
TEKS	Tekeris	2.62	6	ePn	Pn	18 04 01.7	+0.3
TEKS				eSg	Sb	18 04 38.5	+0.2
TEKS	Tekeris	2.62	6	ePn	Pn	18 04 02.3	+0.9
TEKS				eSn	Sn	18 04 34.4	+1.2
GRG	Griva	2.64	111	P	Pn	18 04 02.4	+0.7
MGRS	Mrkonjic Grad	2.89	329	ePn	Pn	18 04 06.8	+1.6
MGRS				eSn	Sn	18 04 41.1	+1.1
ZAPS	Zavoj	2.90	62	ePg	Pn	18 04 07.1	+1.8
ZAPS				eSg	Sn	18 04 43.1	+3.0
ZAGS	Zajecar	2.94	50	ePg	Pn	18 04 08.7	+2.9
ZAGS				eSg	Sb	18 04 45.5	-1.9
VTS	Vitosha	3.11	76	⇓P	Pn	18 04 09.1	+0.8
VTS				⇑S	Sn	18 04 45.6	+0.1
BLY	Banja Luka	3.15	334	ePn	Pn	18 04 10.5	+1.8
BLY				eSn	Sn	18 04 47.9	+1.7
FRGS	Fruska Gora	3.25	8	⇓P	Pn	18 04 10.3	+0.2
FRGS	Fruska Gora	3.25	8	ePn	Pn	18 04 10.2	+0.2
FRGS				eSn	Sn	18 04 45.2	-3.5
FRGS	Fruska Gora	3.25	8⇑	iPn	Pn	18 04 10.2	+0.2
FRGS				eSn	Sn	18 04 50.0	+1.3
MDVR	Moldovita	3.40	33	⇑P	Pn	18 04 12.7	+0.6
A051A	Mrakovica	3.47	333	ePn	Pn	18 04 14.0	+0.8
A051A				eSn	Sn	18 04 55.1	+0.8
BZS	Buzias	4.08	25	⇑P	Pn	18 04 21.9	+0.3
MORH	Mrgy, Hungar	4.28	355	⇑P	Pn	18 04 25.4	+1.1
MORH	Mrgy, Hungar	4.28	355⇑	iPn	Pn	18 04 25.4	+1.1
MORH				eSn	Sn	18 05 14.5	+0.3
BOJS	Bojanci	4.54	323⇑	iPn	Pn	18 04 28.5	+0.7
BOJS				eSn	Sn	18 05 20.0	-0.5
BOJS	Bojanci	4.54	323	i Pn	Pn	18 04 28.5	+0.7
BOJS				eSn	Sn	18 05 21.3	+0.7
BOJS				IAML		18 05 22.9	
	comp=Z,20nm,0.5s						
SIRR	Siria	4.68	22	⇑P	Pn	18 04 30.1	+0.3
HUMR	Humele	4.98	57	⇓P	Pn	18 04 35.3	+1.4
CEY	Cerknica	5.10	320⇑	iPn	Pn	18 04 36.2	+0.7
CEY				eSn	Sn	18 05 34.0	-0.4
SKDS	Skadanscina	5.17	316	i Pn	Pn	18 04 36.2	-0.4
SKDS				eSn	Sn	18 05 33.5	-2.7
SKDS				IAML		18 05 39.3	
	comp=Z,4.5nm,0.1s						
ARR	Arges	5.25	47	⇑P	Pn	18 04 38.4	+0.8
JAVS	Javornik	5.39	319	i Pn	Pn	18 04 39.7	+0.1
JAVS				eSn	Sn	18 05 39.6	-2.0
JAVS				IAML		18 05 44.0	
	comp=Z,3.5nm,0.2s						
VOIR		5.52	49	⇓P	Pn	18 04 41.6	+0.3
OBKA	Obir	5.63	326	ePn	Pn	18 04 44.1	+1.2
	comp=Z,1.2nm,0.2s						
OBKA				i Sn	Sn	18 05 46.4	-1.2
	comp=Z,4.0nm,0.3s						
OBKA	Obir	5.63	326	ePn	Pn	18 04 43.7	+0.8
OBKA				eSn	Sn	18 05 46.5	-1.1
ARSA	Arzberg	5.90	335	ePn	Pn	18 04 48.4	+1.9
	comp=Z,1.2nm,0.4s						
ARSA	Arzberg	5.90	335	ePn	Pn	18 04 47.3	+0.8
PSZ	Piszkesteto	6.00	5	⇓P	Pn	18 04 48.7	+0.8
MLR	Muntele Rosu	6.07	52	⇓P	Pn	18 04 49.4	+0.5
KECS	Kecovo	6.61	8	ePN	Pn	18 04 59.0	+2.8
KECS				eSN	Sn	18 06 11.8	+0.4
PLOR	Plostina	6.68	52	⇑P	Pn	18 04 58.5	+1.3
VRI	Vrincioaia	6.73	52	⇑P	Pn	18 04 59.0	+1.1
CRVS	Cervenica-Dubn	7.14	12	ePN	Pn	18 05 05.2	+1.6
KHC	Kasperske Hory	8.18	333	ePN	Pn	18 05 21.5	+3.7
KHC				eSN	Sn	18 06 49.2	-0.9

NEIC ***30*** *18:21:07.9±1.0, 14°.54N±0°.06×90°.59W±0°.04, h96km±12km, mb4.3/7, Error ellipse: s-maj=8.3km s-min=5.2km az=183.0*
GCG ***30*** *18:21:08.5±0.6, 14°.64N×90°.55W, h6km, MD3.9*
SNET ***30*** *18:21:09.5±1.1, 14°.59N×90°.52W, h5km±5km, MLS.7*
ISC 30 18:21:08.1±1.0,**14°.63N**±0°.04×**90°.52W**±0°.03,**h27**km±8km,
n36, σ2$**37/40,3C,Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBG	Las Nubes			0.18 103⇑ iP	Pb	18 21 14.1	0.0
PCG	Pacaya			0.25 199 i P	Pb	18 21 14.8	0.0
FUG	Fuego 3			0.36 240⇑ iP	Pb	18 21 16.2	-0.1
SLOZ	Alcaldia de Sa			0.93 130 eP	Pn	18 21 26.3	+0.7
LOAL	Lomas de Alarc			0.95 131 eP	Pn	18 21 26.9	+1.0
LOAL				eS	Sn	18 21 40.7	+2.1
STG3	Santiaguito 3,			1.02 275⇑ eP	Pn	18 21 28.2	+1.4
STG3				i S	Sn	18 21 42.5	+2.1
NUBE	Las Nubes			1.02 135 eP	Pn	18 21 28.0	+1.1
NUBE				eS	Sn	18 21 42.1	+1.8
SULM	Suchitepequez,			1.06 252 eP	Pn	18 21 29.8	+2.6
RTAL	Retalhuleu			1.14 265 Pn	Pb	18 21 29.1	-0.1
RTAL				Sn	Sn	18 21 45.3	+2.2
RTAL	Retalhuleu			1.14 265 eS	Sn	18 21 46.1	+3.0
ESQI	Esquipulas			1.15 93	Pb	18 21 30.8	+1.3
ESQI	Esquipulas			1.15 93 eP	Pb	18 21 30.7	+1.3
ESQI				eS	Sn	18 21 46.9	+3.5
MTO3	Montecristo			1.15 101 Pn	Pb	18 21 30.6	+1.1
MTO3				Sn	Sn	18 21 46.1	+2.4
MTO3	Montecristo			1.15 101 eP	Pb	18 21 30.6	+1.1
HUEH	Huehuetenango			1.17 306	Pn	18 21 29.7	+0.8
HUEH				Sn	Sb	18 21 45.0	+0.3
HUEH	Huehuetenango			1.17 306 eS	Sn	18 21 50.4	+6.3
HUEH				IAML		18 21 54.5	
	comp=Z,2μm,0.3s						
CEVE	Cerro Verde			1.18 132 eP	Pb	18 21 31.1	+1.1
CEVE				IAML		18 21 35.7	
	comp=Z,1μm,0.4s						
CEDA	San Andres			1.37 127 eS	Sb	18 21 52.8	+2.6
JAYA	Jayaque - finc			1.42 133 eP	Pb	18 21 35.0	+0.9
JAYA				eS	Sb	18 21 54.1	+2.3
SNET	Serv Nac Est T			1.56 127	Pn	18 21 34.8	+0.6
LLGN	La Laguna			1.60 107 eP	Pb	18 21 37.9	+0.8
LFRS	El Faro			1.73 125 eP	Pb	18 21 40.4	+1.0
SJTE	Alcalda de S			1.78 124 eP	Pb	18 21 41.3	+1.1
PETF	Flores			2.36 15	Pn	18 21 47.2	+2.1
TGUH	Tegucigalpa,Un			3.20 100 Pn	Pn	18 21 55.8	-1.1
CNGN	Cerro Negro			4.28 119 Pn	Pn	18 22 09.3	-2.3
MATN	Matagalpa			4.78 110 Pn	Pn	18 22 17.7	-0.8
TEIG	Tepich			5.97 21 Pn	Pn	18 22 37.0	+2.3
DWPF	Disney Wildern			15.85 31 Pn	Pn	18 24 45.5	-4.0
BRAL	Brewton			16.77 10	Pn	18 24 57.8	-3.4
BRAL				IAmb	IAmb	18 25 17.4	
	comp=Z,31nm,0.6s						
Z47A	Carrollton			18.62 6 P	P	18 25 17.6	-6.0
Z47A				IAmb	IAmb	18 25 36.4	
	comp=Z,13nm,0.7s						
SAND	Sanderson			18.63 327	P	18 25 14.2	-10
SAND				IAmb	IAmb	18 25 15.5	
	comp=Z,4.4nm,0.9s						
Z38A	Mt. Pleasant			18.99 348 P	P	18 25 21.8	-5.8
Z38A				IAmb	IAmb	18 25 32.0	
	comp=Z,14nm,0.7s						
TXAR	Lajitas Array			19.02 322 P	P	18 25 23.6	-4.6
TX31	Lajitas Ar. Si			19.02 322	P	18 25 23.8	-4.4
TX31				IAmb	IAmb	18 25 29.0	
	comp=Z,8.9nm,1.0s						
TX32	Lajitas Array			19.02 322	P	18 25 21.6	-6.6

ISK ***30*** *18:22:40.4, 39°.91N×23°.62E, h7km, ML3.1/25*
SOF ***30*** *18:22:40.5, 39°.97N×23°.68E, h3km, MD3.6*
IDC ***30*** *18:22:41.8±2.1, 39°.87N×23°.69E, h0km, mb3.5/3, mbtmp3.5/7, ML3.6/4, Error ellipse: s-maj=36.9km s-min=17.8km az=80.0*
THE ***30*** *18:22:42.4, 39°.97N×23°.59E, h11km, ML3.3/11, Error ellipse: s-maj=1.0km s-min=0.4km az=313.0*
ATH ***30*** *18:22:42.0, 39°.98N×23°.60E, h15km±4km, ML3.3/25, Manual Solution by A.Fokaefs First location: 2019/05/08 06:46:26, This location: 2019/05/08 06:47:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*
AFAD ***30*** *18:22:45.1±0.0, 39°.82N×24°.05E, h16km±1km, ML3.1*
NAO ***30*** *18:22:47.0, 39°.97N×23°.59E, h33km, mb3.3*
ISC 30 18:22:41.8±1.1,**39°.96N**±0°.02×**23°.64E**±0°.02,**h6**km±9km,
n138, σ0$**97/172,mb3.4/3,13C-5D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	Ouranopolis			0.46 35 Pg	Pb	18 22 52.0	-0.4
OUR				Sg	Sb	18 22 58.3	-1.1
OUR	Ouranopolis			0.46 35 P	Pb	18 22 51.9	-0.4
OUR				S	Sb	18 22 58.7	-0.7
	7μm,0.2s						
XOR	Xorichti			0.69 211 P	Pg	18 22 55.4	+0.4
XOR	Xorichti			0.69 211 P	Pg	18 22 55.3	+0.3
XOR				S	Sg	18 23 04.8	+0.9
NEO	Neokhori			0.73 206 P	Pg	18 22 56.3	+0.5
NEO				S	Sg	18 23 06.4	+1.2
	4μm,0.6s						
NEO	Neokhori			0.73 206 P	Pg	18 22 56.2	+0.5
NEO				S	Sg	18 23 06.6	+1.4
HORT	Hortiatis			0.76 327 Pg	Pg	18 22 55.9	-0.6
HORT	Hortiatis			0.76 327 P	Pg	18 22 55.9	-0.6
HORT				S	Sg	18 23 06.5	+0.1
	2μm,0.2s						
HORT	Hortiatis			0.76 327 P	Pg	18 22 55.9	-0.6
ALNA	Alonissos			0.83 168 P	Pb	18 22 58.4	-0.2
ALNA				S	Sb	18 23 10.4	+0.4
THE	Thessaloniki			0.85 323 P	Pg	18 22 57.4	-0.7
THE				S	Sg	18 23 09.2	0.0
	1μm,0.3s						
THE	Thessaloniki			0.85 323 P	Pg	18 22 57.4	-0.7
THE				S	Sg	18 23 09.0	-0.2
SOH	Sokhos			0.89 346 P	Pg	18 22 58.3	-0.6
SOH				S	Sg	18 23 10.9	+0.4
	4μm,0.4s						
SOH	Sokhos			0.89 346 P	Pg	18 22 58.2	-0.8
SOH				S	Sg	18 23 10.4	-0.1
KOKK	Kokkinochori,			0.90 18 P	Pb	18 22 59.6	-0.3
KOKK				S	Sn	18 23 12.3	-2.2
	882nm,0.5s						
OREA	Oraiokastro			0.95 324 P	Pg	18 22 59.7	-0.3
NGRA	Nigrita			0.95 354 P	Pg	18 23 00.1	0.0
LRSO	Larissa Observ			1.00 254 P	Pb	18 23 01.1	-0.6
GINA	Giannouli			1.01 254 P	Pb	18 23 01.8	+0.1
THAS	Thassos island			1.05 52 P	Pn	18 23 02.1	-1.0
THAS				S	Sn	18 23 16.8	-1.3
	2μm,0.3s						
TYRN	Tyrnavos			1.11 258 P	Pb	18 23 02.5	-1.0
TYRN				S	Sb	18 23 17.5	-0.7
	630nm,0.4s						
KVLA	Kavala			1.13 30 P	Pn	18 23 03.5	-0.8
VERN	Vergina			1.14 298 P	Pb	18 23 03.7	-0.2
SRS	Serrai			1.16 358 P	Pb	18 23 03.7	-0.6
SRS				S	Sn	18 23 20.1	-0.8
	1μm,0.3s						
SRS	Serrai			1.16 358 P	Pb	18 23 03.4	-0.9
LIA	Limnos Island			1.19 92 P	Pg	18 23 04.5	-0.1
LIA				S	Sn	18 23 20.9	-0.6
	2μm,0.5s						
LIA	Limnos Island			1.19 92 P	Pg	18 23 04.3	-0.3
LIA				S	Sn	18 23 20.6	-0.9
KAVA	Kavala			1.23 32 P	Pg	18 23 05.1	-0.4
KAVA				S	Sn	18 23 22.3	-0.3
	2μm,0.3s						
KAVA	Kavala			1.23 32 P	Pb	18 23 04.9	-0.6
SKY	Skiros Island			1.29 147 P	Pb	18 23 06.1	-0.4
SKY				S	Sg	18 23 24.0	+0.8
SKY	Skiros Island			1.29 147 P	Pn	18 23 05.8	-0.6
THL	Klokotos Trika			1.31 253 P	Pn	18 23 05.3	-1.5
THL				S	Sb	18 23 22.2	-1.8
THL	Klokotos Trika			1.31 253 P	Pn	18 23 05.1	-1.6
KNT	Kendrikon			1.33 335 Pn	Pn	18 23 06.7	-0.3
KNT				Sn	Sg	18 23 25.5	+0.9
KNT	Kendrikon			1.33 335 P	Pn	18 23 05.9	-1.1
KNT				S	Sg	18 23 24.7	+0.1
KNT	Kendrikon			1.33 335 P	Pn	18 23 06.0	-1.1
KYMI	Kymi, Euboea I			1.37 165 P	Pn	18 23 06.9	-0.6
KYMI	Kymi, Euboea I			1.37 165 P	Pn	18 23 06.6	-0.9
GRG	Griva			1.37 317 Pn	Pn	18 23 07.0	-0.7
GRG				Sn	Sg	18 23 26.4	+0.4
GRG	Griva			1.37 317 P	Pn	18 23 06.8	-0.8
AGG	Agios Georgios			1.38 228 Pn	Pn	18 23 06.2	-1.5
AGG				Sn	Sn	18 23 24.7	-1.6
AGG	Agios Georgios			1.38 228 P	Pn	18 23 06.2	-1.5
LKR	Lokris			1.40 201 P	Pn	18 23 06.5	-1.4
AXAR	Agios Charalam			1.41 213 P	Pn	18 23 07.2	-0.9
AXAR	Agios Charalam			1.41 213 P	Pn	18 23 07.0	-1.2
MAKR	Makrakomi, Fth			1.50 232 P	Pn	18 23 08.9	-0.5
MAKR	Makrakomi, Fth			1.50 232 P	Pn	18 23 08.6	-0.8
SMTH	Samothraki Isl			1.54 70 P	Pn	18 23 09.0	-0.8
VAY	Valandovo			1.59 329 i Pn	Pn	18 23 10.5	0.0
MMB	Musomishta			1.59 3 i P	Pb	18 23 10.9	-0.8
DLFA	Delphi			1.73 211 P	Pn	18 23 11.3	-1.1
GADA	Gvkgeada			1.75 82 Pn	Pn	18 23 12.2	-0.5
KPRO	Kipourio			1.75 271 P	Pn	18 23 11.7	-1.1
GOKA	anakkale-Gk			1.75 82 P	Pn	18 23 12.3	-0.5
GOKA				S	Sn	18 23 32.7	-2.8
GOKA				i AML	AML	18 23 45.0	
	comp=E,457nm,0.5s						
GOKA				i AML	AML	18 23 47.0	
	comp=N,315nm,0.5s						
EVR	Evrytania			1.76 234 P	Pn	18 23 12.8	-0.2
VIL2	Platees			1.77 190 P	Pn	18 23 12.7	-0.4
VILL	Villia			1.81 188 P	Pn	18 23 12.8	-0.8
BOZC	Bozcaada			1.86 93 P	Pn	18 23 14.1	-0.1
BOZC				S	Sn	18 23 36.3	-1.8
SIGR	SIGRI			1.87 113 Pn	Pn	18 23 13.6	-0.7
SIGR	SIGRI			1.87 113 P	Pb	18 23 14.9	-1.5
SIGR	SIGRI			1.87 113 P	Pn	18 23 13.6	-0.7
RDO	Rodhopi			1.87 50 Pn	Pn	18 23 14.4	0.0
RDO	Rodhopi			1.87 50 P	Pn	18 23 14.1	-0.3
RDO	Rodhopi			1.87 50 P	Pn	18 23 13.6	-0.9
ANX	Ano Chora			1.91 225 P	Pn	18 23 14.3	-0.7
ANX	Ano Chora			1.91 225 P	Pn	18 23 14.3	-0.7
PTL	Penteli			1.92 175 P	Pn	18 23 15.5	+0.4
PTL	Penteli			1.92 175 P	Pn	18 23 14.8	-0.3
FNA	Florina			1.92 296 Pn	Pn	18 23 14.2	-0.9
FNA	Florina			1.92 296 P	Pn	18 23 14.9	-0.2
KKB	Krupnik			1.92 349 i P	Pn	18 23 15.7	+0.5
RZN	Rozhen			1.92 25 eP	Pn	18 23 15.3	0.0
KOCA	Canakkale, Ayv			1.98 103 P	Pn	18 23 15.9	0.0
KOCA				S	Sg	18 23 46.0	+0.6
GPNR	Gulpinar-Canak			1.99 104 Pn	Pn	18 23 15.2	-0.8
LOUT	Loutraki			2.04 195 P	Pn	18 23 15.9	-0.8
EFP	Efpalio			2.04 222 P	Pn	18 23 16.0	-0.7
STIP	Stip			2.06 328 i Pn	Pn	18 23 17.0	+0.1
ALN	Alexandroupoli			2.06 62 Pn	Pn	18 23 16.7	-0.3
ALN	Alexandroupoli			2.06 62 P	Pn	18 23 16.7	-0.3
THAL	Thalero			2.06 202 P	Pn	18 23 16.3	-0.8
CAVK	Edirne/Enez-Ca			2.07 68 P	Pb	18 23 19.3	-0.4
CAVK				S	Sg	18 23 47.7	-0.5
CAVK				i AML	AML	18 23 52.0	
	comp=N,258nm,0.5s						
CAVK				i AML	AML	18 24 00.0	
	comp=Z,140nm,1.0s						
CAVK				i AML	AML	18 24 00.0	
	comp=E,273nm,1.4s						
EZN	Ezine			2.07 93 Pn	Pn	18 23 16.6	-0.5
ENEZ	Enez			2.07 67 Pn	Pn	18 23 16.9	-0.3
KDZ	Kurdzhali			2.11 37 Pn	Pn	18 23 17.9	+0.2
CNKL	anakkale-Mer			2.11 86 P	Pb	18 23 19.9	-0.6
CNKL				S	Sg	18 23 50.4	+0.7
COMU	Canakkale			2.18 85 Pn	Pn	18 23 18.4	-0.3
GELI	Tayfur-Gelibol			2.21 78 Pn	Pn	18 23 19.0	-0.1
KLV	Kalavryta, Ach			2.24 212 P	Pn	18 23 18.5	-1.0
BAYC	CANAKKALE_Bayr			2.25 95 P	Pn	18 23 19.7	+0.1
BAYC				S	Sn	18 23 46.2	-1.5
GUR	Goura			2.26 207 P	Pn	18 23 19.0	-0.9
ERIK	Erikli-Kesan			2.31 71 Pn	Pn	18 23 20.3	-0.1
PLD	Plovdiv			2.34 21 Pn	Pn	18 23 20.3	-0.6
PLD	Plovdiv			2.34 21 eP	Pn	18 23 21.5	+0.6
LPK	Lapseki			2.43 79 Pn	Pn	18 23 21.9	-0.2
AYVA	Ayvalik			2.44 104 P	Pn	18 23 22.6	+0.4
AYVA				S	Sn	18 23 50.6	-1.9
CHOS	Chios island			2.45 129 P	Pn	18 23 22.9	+0.5
OHR	Ohrid			2.45 299 i Pn	Pn	18 23 23.3	+0.8
RFT2	Karaagac			2.54 101 Pn	Pn	18 23 23.3	-0.4
DIM	Dimitrovgrad			2.55 34 eP	Pg	18 23 30.6	-0.1
UKOP	Uzunkopru-Edir			2.56 62 Pn	Pn	18 23 24.3	+0.4
VTS	Vitosha			2.67 354 ⇓P	Pn	18 23 26.3	+0.6
VTS	Vitosha			2.67 354 i P	Pn	18 23 26.3	+0.6
DKL	Dikili			2.68 108 Pn	Pn	18 23 25.2	-0.3
BUHA	Balikesir, Bur			2.69 99 P	Pn	18 23 26.1	+0.4
BUHA				S	Sb	18 24 04.4	+0.8
RFT7	Candarli			2.73 110 Pn	Pn	18 23 25.9	-0.3
URLA	Izmir			2.80 124 Pn	Pn	18 23 26.6	-0.6
URLA	Izmir			2.80 124 P	Pn	18 23 27.5	+0.4
KRBG	Karabiga-Canak			2.83 80 Pn	Pn	18 23 27.8	+0.1
EDRB	Edirne			3.02 50 Pn	Pn	18 23 30.7	+0.5
KIRK	Kırklareli			3.19 54 P	Pg	18 23 40.5	-2.5
KIRK				S	Sg	18 24 24.2	-0.2
APE	Apeiranthos			3.24 152 ⇑P	Pn	18 23 33.9	+0.6
EDC	Edincik			3.26 82 Pn	Pn	18 23 33.8	+0.3
PVL	Pavlikeni			3.36 19 i P	Pn	18 23 35.5	+0.5
MPEP	Malo Peshtene			3.40 1 i P	Pn	18 23 36.3	+0.9
BLKB	Belogradchik			3.73 349 ⇓S	Sn	18 24 24.4	0.0
BOVS	Bovan			3.95 339 ⇑P	Pn	18 23 42.7	-0.3
HUMR	Humele			4.67 12 ⇑P	Pn	18 23 53.8	+0.9
IDI	Anoyia			4.77 168 ⇑P	Pn	18 23 55.7	+1.4
IDI	Anoyia			4.77 168 Pn	Pn	18 23 54.1	-0.2
	1.9nm,0.3s,baz=349,slow=11,SNR=14						
	5.2nm,0.5s						
MDVR

NMR *i* S **Sn** **18 29 47.5 +0.1**
JAK Akkeshi 0.62 282 P **Pn** **18 29 40.9 +1.1**
JAK *e*S **Sn** **18 29 50.1 +0.7**
JAK Akkeshi 0.62 282 A A 18 29 40.9
comp=E,8.0nm,0.2s,comp=N,5.0nm,0.3s
JNK Nakash 0.93 321 P **Pn** **18 29 43.6 -0.1**
JNK *e*S **Sn** **18 29 54.4 -1.8**
JNSB Nemuroshibetsu 0.99 337 *e*P **Pn** **18 29 44.6 +0.2**
JNSB *e*S **Sn** **18 29 56.2 -1.3**
JRA Rausu 1.11 345 *e*P **Pn** **18 29 46.3 +0.2**
JRA *e*S **Sn** **18 29 59.0 -1.4**
YUK Yuzh-Kuril'sk 1.19 12 *i* P **Pn** **18 29 47.3 +0.2**
YUK AMB AMB 18 29 48.5
comp=N,140nm,0.4s
YUK *e*S **Sn** **18 30 01.7 -0.7**
YUK A A 18 30 02.7
comp=N,470nm,0.6s
YUK A A 18 30 02.7
comp=N,730nm,0.6s
JOB Onbets 1.24 272 *e*P **Pn** **18 29 48.9 +1.1**
JOB *e*S **Sn** **18 30 03.8 +0.2**
JAR Ashorobuto 1.36 289 *i* P **Pn** **18 29 50.1 +0.8**
JAR S **Sn** **18 30 05.8 -0.5**
SHO Shikotan 1.38 43 *i* P **Pn** **18 29 50.9 +1.3**
SHO AMB AMB 18 29 51.9
comp=N,30nm,0.4s
SHO *e*S **Sn** **18 30 06.2 -0.7**
SHO A A 18 30 07.9
comp=N,120nm,0.2s
SHO A A 18 30 07.9
comp=N,140nm,0.2s
JCH Churui 1.61 262 *e*P **Pn** **18 29 53.9 +1.2**
JCH *e*S **Sn** **18 30 12.4 -0.1**
JTKR Abashiri--Toko 1.61 314 P **Pn** **18 29 53.4 +0.6**
JTKR *e*S **Sn** **18 30 12.4 -0.1**
ERM Erimo 1.95 245 Pn **Pn** **18 29 58.6 +1.3**
ERM Sn **Sn** **18 30 23.0 +2.4**
JKA Kamikawa-asahi 2.47 301 Pn **Pn** **18 30 05.5 +1.1**
JKA Sn **Sn** **18 30 38.6 +5.2**
JTM Tenmabayashi 3.93 240 Pn **Pn** **18 30 24.4 +0.1**
JTM Sn **Sn** **18 31 08.6 -0.5**
YSS Yuzh-Sakhalins 4.54 335 *e*P **Pn** **18 30 33.9 +1.2**
MAJO Matsushiro 8.46 224 Sn **Sn** **18 32 57.5 -3.1**
JNU Nakatsue 15.08 235 Pn Pn 18 32 48.8 -7.3
JNU IAmb IAmb 18 33 29.4
comp=Z,26nm,1.3s
JTU Tsushima 15.08 242 Pn **Pn** **18 32 52.1 -4.0**
JTU IAmb IAmb 18 33 27.2
comp=Z,108nm,1.5s
SONM Songino Array 27.73 294 P **P** **18 35 09.2 -0.5**
SONM Songino Array 27.73 294 P **P** **18 35 10.1 +0.5**
comp=Z,1.5nm,0.5s,baz=87,slow=8.2,SNR=10
comp=Z,1.5nm,0.5s
H11N2 WAKE ISLAND Hy 29.26 135 T T 19 06 25.3
baz=328,slow=75,SNR=38
H11N1 WAKE ISLAND Hy 29.27 135 T T 19 06 28.7
baz=328,slow=75,SNR=35
H11N3 WAKE ISLAND Hy 29.27 135 T T 19 06 25.8
baz=328,slow=75,SNR=22
H11S1 WAKE ISLAND Hy 30.18 137 T T 19 07 33.3
baz=328,slow=76,SNR=46
H11S3 WAKE ISLAND Hy 30.19 137 T T 19 07 35.9
baz=328,slow=76,SNR=39
H11S2 WAKE ISLAND Hy 30.20 137 T T 19 07 41.6
baz=328,slow=76,SNR=41
MK31 Makanchi Array 43.95 298 P **P** **18 37 28.1 +0.3**
MK31 IAmb IAmb 18 37 36.0
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 43.95 298 P **P** **18 37 28.1 +0.3**
comp=Z,0.8nm,0.6s,baz=82,slow=9.6,SNR=9.2
comp=Z,0.8nm,0.6s
MAKZ Makanchi 44.15 298 P **P** **18 37 29.8 +0.4**
MAKZ IAmb IAmb 18 37 48.3
comp=Z,7.0nm,1.2s
KURK Kurchatov 45.04 304 P **P** **18 37 36.5 +0.1**
KURK IAmb IAmb 18 37 40.2
comp=Z,2.6nm,1.1s
KURBB Kurchatov Arra 45.13 304 P **P** **18 37 37.2 +0.1**
comp=Z,0.9nm,0.4s,baz=72,slow=8.9,SNR=7.3
comp=Z,0.9nm,0.4s
ABKAR Akbulak array 56.69 309 P **P** **18 39 04.4 +0.5**
WRAB Tennant Creek 63.33 192 P P 18 39 46.2 -3.4
FINES FINESS Array B 65.12 333 P **P** **18 40 01.3 +0.4**
comp=Z,4.3nm,1.0s,baz=46,slow=12,SNR=3.5
comp=Z,4.3nm,1.0s

---

*IDC **30** 18:48:48.1±1.2,59°.22S×26°.38W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=92.4km s-min=29.8km az=100.0*
*NEIC **30** 18:48:54.7±2.5,59°.4S±0°.1×26°.1W±0°.2, h35km±2km, mb4.4/14, Error ellipse: s-maj=22.3km s-min=19.9km az=190.0*

ISC 30 18:48:54.0±0.6,59°.35S±0°.09×26°.1W±0°.1, h40km, n28, σ2s00/26, mb4.3/11, 5C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.62**	**307**	Pn	**Pn**	**18 50 38.7**	**-3.7**
HOPE				Sn	**Sn**	**18 52 04.2**	**-3.3**
VNA1	**Neumayer--Stat**	**13.53**	**154**	⇑P	**Pn**	**18 52 00.4**	**-2.6**
	comp=Z,9.7nm,0.2s						
VNA3	**Neumayer Olymp**	**13.69**	**157**	⇑P	**Pn**	**18 52 02.7**	**-2.6**
	comp=Z,8.0nm,0.3s						
VNA3				⇑S	Sn	18 54 19.4	-16
	comp=Z,0.3nm,0.2s						
VNA2	**Neumayer--Watz**	**13.93**	**154**	⇑P	**Pn**	**18 52 05.0**	**-3.5**
	comp=Z,6.0nm,0.6s,baz=324,slow=16						
VNA2				⇓S	Sn	18 54 26.5	-15
	comp=Z,1.0nm,0.3s,baz=311,slow=25						
TROLL	**Troll, Antarti**	**17.06**	**149**	⇑P	**Pn**	**18 52 47.5**	**-1.8**
	comp=Z,88nm,0.5s						
BELA	**Belgrano 2**	**18.82**	**186**	P	**Pn**	**18 53 10.6**	**0.0**
EFI	**East Falkland**	**19.49**	**279**	P	**Pn**	**18 53 22.2**	**+3.4**
TRQA	**Tornquist**	**31.25**	**297**	P	**P**	**18 55 11.9**	**+2.3**
TRQA				IAmb	IAmb	18 55 41.4	
	comp=Z,11nm,1.2s						
PLCA	**Paso Flores**	**33.26**	**284**	P	**P**	**18 55 29.8**	**+2.6**
PLCA				IAmb	IAmb	18 55 51.6	
	comp=Z,5.4nm,1.1s						
CPUP	**Villa Florida**	**39.46**	**313**	P	**P**	**18 56 19.9**	**-0.3**
CPUP				IAmb	IAmb	18 56 36.1	
	comp=Z,12nm,1.4s						
VNDA	**Vanda**	**43.29**	**183**	P	**P**	**18 56 52.8**	**+1.8**
VNDA	**Vanda**	**43.29**	**183**	P	**P**	**18 56 52.7**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=162,slow=7.5,SNR=7.5						
	comp=Z,1.1nm,0.8s						
H04S2	**CROZET ISLANDS**	**45.76**	**110**	T	T	19 47 36.5	
	baz=225,slow=75,SNR=12						
H04S3	**CROZET ISLANDS**	**45.77**	**110**	T	T	19 47 35.8	
	baz=225,slow=75,SNR=6.8						
H04S1	**CROZET ISLANDS**	**45.78**	**110**	T	T	19 47 35.6	
	baz=225,slow=75,SNR=8.8						
BOSA	**Boshof**	**46.34**	**72**	P	**P**	**18 57 16.7**	**+0.7**
BOSA				IAmb	IAmb	18 57 28.2	
	comp=Z,6.8nm,1.4s						
BDFB	**Brasilia**	**46.52**	**330**	P	**P**	**18 57 17.0**	**-0.5**
BDFB				IAmb	IAmb	18 57 37.3	
	comp=Z,5.6nm,1.3s						
SAML	**Samuel**	**57.55**	**315**	P	**P**	**18 58 39.7**	**+0.3**
SAML				IAmb	IAmb	18 58 40.3	
	comp=Z,1.8nm,0.8s						
DBIC	**Dimbokro**	**67.97**	**23**	P	**P**	**18 59 48.2**	**-0.5**
DBIC				IAmb	IAmb	19 00 25.4	
	comp=Z,8.9nm,1.3s						
PTCN	**Pitcairn Islan**	**75.54**	**245**	P	**P**	**19 00 33.7**	**-0.5**
TOA0	**Torodi Ar. Sit**	**75.68**	**28**	P	**P**	**19 00 36.3**	**+1.4**
TOA0				IAmb	IAmb	19 00 36.8	
	comp=Z,2.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**75.68**	**28**	P	**P**	**19 00 36.4**	**+1.5**
TORD	**Torodi Ar. Bea**	**75.68**	**28**	P	**P**	**19 00 35.3**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=200,slow=5.8,SNR=16						
	comp=Z,2.0nm,0.6s						
TEIG	**Tepich**	**94.04**	**304**	P	**P**	**19 02 09.3**	**+1.7**
ASAR	**Alice Springs**	**95.66**	**162**	P	**P**	**19 02 15.2**	**-0.1**
ASAR	**Alice Springs**	**95.66**	**162**	P	**P**	**19 02 15.1**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=184,slow=3.9,SNR=16						
	comp=Z,0.8nm,0.6s						
SONM	**Songino Array**	**150.21**	**91**	PKPbc	**PKPbc**	**19 08 39.3**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=228,slow=1.6,SNR=4.7						
ILAR	**Eielson Array**	**152.66**	**307**	PKPbc	**PKPbc**	**19 08 44.0**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=134,slow=2.6,SNR=5.5						

---

*IDC **30** 18:55:38.5±1.2,59°.28S×25°.74W, h0km, mb4.3/3, mbtmp4.2/3, Error ellipse: s-maj=88.3km s-min=29.5km az=100.0*
*NEIC **30** 18:55:44.2±2.1,59°.45S±0°.07×26°.1W±0°.2, h35km±2km, mb4.3/10, Error ellipse: s-maj=20.1km s-min=11.4km az=286.0*

ISC 30 18:55:44.0±0.7,59°.5S±0°.1×26°.0W±0°.1, h40km, n31, σ1§10/24, mb4.3/7, 6C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.73**	**308**	Pn	**Pn**	**18 57 32.3**	**-1.5**
VNA1	**Neumayer--Stat**	**13.42**	**154**	⇑P	**Pn**	**18 58 50.6**	**-0.9**
	comp=Z,27nm,0.2s						
VNA3	**Neumayer Olymp**	**13.58**	**157**	⇑P	**Pn**	**18 58 52.5**	**-1.2**
	comp=Z,15nm,0.2s						
VNA3				⇑S	Sn	19 01 08.7	-14
	comp=Z,2.1nm,0.4s						
VNA2	**Neumayer--Watz**	**13.82**	**154**	⇑P	**Pn**	**18 58 54.9**	**-2.0**
	comp=Z,5.9nm,0.2s,baz=317,slow=15						
VNA2				⇑S	Sn	19 01 14.3	-14
	comp=Z,1.4nm,0.2s,baz=317,slow=25						
TROLL	**Troll, Antarti**	**16.94**	**149**	⇑P	**Pn**	**18 59 37.4**	**-0.4**
	comp=Z,114nm,0.2s						
PMSA	**Palmer Station**	**18.35**	**237**	P	**Pn**	**18 59 55.1**	**+0.2**
PMSA				IAmb	IAmb	18 59 58.4	
	comp=Z,42nm,1.2s						
BELA	**Belgrano 2**	**18.73**	**186**		**Pn**	**18 59 59.3**	**-0.2**
EFI	**East Falkland**	**19.56**	**279**	P	**Pn**	**19 00 10.1**	**+0.5**
QSPA	**South Pole Qui**	**30.79**	**180**	P	**P**	**19 01 55.0**	**-0.4**
QSPA				IAmb	IAmb	19 02 12.3	
	comp=Z,6.1nm,1.5s						
TRQA	**Tornquist**	**31.34**	**297**	P	**P**	**19 02 01.4**	**+1.0**
TRQA				IAmb	IAmb	19 02 12.3	
	comp=Z,22nm,1.5s						
VNDA	**Vanda**	**43.19**	**182**	P	**P**	**19 03 40.3**	**+0.1**
VNDA	**Vanda**	**43.19**	**182**	P	**P**	**19 03 43.0**	**+2.9**
	comp=Z,1.1nm,0.6s,baz=188,slow=6.6,SNR=7.7						
	comp=Z,1.1nm,0.6s						
H04S2	**CROZET ISLANDS**	**45.67**	**110**	T	T	19 54 23.8	
	baz=225,slow=75,SNR=9.8						
H04S3	**CROZET ISLANDS**	**45.68**	**110**	T	T	19 54 27.7	
	baz=225,slow=75,SNR=8.1						
H04S1	**CROZET ISLANDS**	**45.69**	**110**	T	T	19 54 25.3	
	baz=225,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**52.23**	**15**	T	T	20 01 49.2	
	baz=186						
H10N3	**ASCENSION HYDR**	**52.24**	**14**	T	T	20 01 44.2	
	baz=186						
H10N2	**ASCENSION HYDR**	**52.25**	**14**	T	T	20 01 50.0	
	baz=186						
SAML	**Samuel**	**57.66**	**315**	P	**P**	**19 05 29.2**	**-0.8**
SAML				IAmb	IAmb	19 06 05.4	
	comp=Z,1.5nm,0.9s						
TOA0	**Torodi Ar. Sit**	**75.75**	**28**	P	**P**	**19 07 26.1**	**+0.9**
TOA0				IAmb	IAmb	19 07 26.8	
	comp=Z,2.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**75.75**	**28**	P	**P**	**19 07 25.9**	**+0.7**
TORD				IAmb	IAmb	19 07 26.8	
	comp=Z,2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.75**	**28**	P	**P**	**19 07 25.3**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=198,slow=5.6,SNR=22						
	comp=Z,2.3nm,0.6s						
FORT	**Forrest**	**87.57**	**158**	P	**P**	**19 08 28.9**	**+1.4**
ASAR	**Alice Springs**	**95.55**	**162**		**P**	**19 09 05.1**	**+0.4**
ASAR	**Alice Springs**	**95.55**	**162**	P	**P**	**19 09 04.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=183,slow=4.3,SNR=16						
	comp=Z,0.8nm,0.6s						
BVAR	**Borovoye Array**	**136.01**	**60**	PKP	**PKPdf**	**19 14 59.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=220,slow=3.4,SNR=5.0						
MKAR	**Makanchi Array**	**137.29**	**74**	PKP	**PKPdf**	**19 15 02.3**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=214,slow=0.7,SNR=2.3						
KURBB	**Kurchatov Arra**	**138.11**	**67**	PKP	**PKPdf**	**19 15 01.6**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=251,slow=3.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**143.21**	**67**	PKhKP	PKPpre	19 15 09.1	
	comp=Z,0.4nm,0.3s,baz=239,slow=4.2,SNR=2.0						
SONM	**Songino Array**	**150.15**	**92**	PKPbc	**PKPbc**	**19 15 29.0**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=224,slow=4.2,SNR=8.3						
ILAR	**Eielson Array**	**152.76**	**307**	PKPbc	**PKiKP**	**19 15 35.0**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=148,slow=2.8,SNR=7.4						

---

*NEIC **30** 20:07:02.1±2.7,31°.85S±0°.07×177°.6W±0°.1, h10km±2km, mb4.4/5, Error ellipse: s-maj=19.3km s-min=12.3km az=93.0*
*IDC **30** 20:07:05.5±1.9,31°.85S×178°.25W, h0km, mb4.0/3, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=44.2km s-min=33.5km az=83.0*

ISC 30 20:07:07.3±1.3,31°.8S±0°.1×178°.2W±0°.3, h24km, n14, σ1§74/17, mb4.2/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.52**	**6**	Pn	**Pn**	**20 07 44.5**	**-2.2**
URZ	**Urewera**	**7.53**	**209**	Pn	**Pn**	**20 08 55.2**	**-0.4**
	0.8nm,0.3s,baz=52,slow=18,SNR=1.9						
URZ				Sn	**Sn**	**20 10 20.0**	**-0.2**
	0.9nm,0.3s,baz=252,slow=19,SNR=1.4						
	6.5nm,0.8s						
RTZ	**Ruatahuna**	**7.88**	**209**	Pn	**Pn**	**20 08 57.5**	**-3.1**
RTZ				Sn	**Sn**	**20 10 26.7**	**-2.4**
BKZ	**Black Stump Fm**	**8.55**	**209**	Pn	**Pn**	**20 09 11.8**	**+2.1**
MRZ	**Mangatainoka R**	**10.19**	**208**	Pn	**Pn**	**20 09 30.8**	**-1.4**
ASAR	**Alice Springs**	**42.87**	**268**	P	**P**	**20 15 05.5**	**+1.5**
	0.8nm,0.5s,baz=105,slow=7.6,SNR=17						
	0.8nm,0.5s						
WR0	**Warramunga Arr**	**43.80**	**274**	P	**P**	**20 15 12.7**	**+1.2**
WR0				IAmb	IAmb	20 15 24.0	
	comp=Z,9.5nm,1.5s						
WB2	**Warramunga Arr**	**43.97**	**274**	P	**P**	**20 15 12.9**	**0.0**
WB2				IAmb	IAmb	20 15 54.4	
	comp=Z,8.4nm,1.4s						
WRA	**Warramunga Arr**	**43.98**	**274**	P	**P**	**20 15 13.0**	**+0.1**
WRA	**Warramunga Arr**	**43.98**	**274**	P	**P**	**20 15 14.7**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=112,slow=7.9,SNR=20						
WRA				PcP	**PcP**	**20 16 59.7**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=101,slow=3.4,SNR=1.2						
	comp=Z,1.2nm,0.3s						
WB0	**Warramunga Arr**	**44.01**	**274**	P	**P**	**20 15 14.8**	**+1.6**
WB0				IAmb	IAmb	20 15 41.6	
	comp=Z,6.5nm,1.4s						
KNRA	**Kununurra**	**50.64**	**276**	P	**P**	**20 16 03.7**	**-1.1**
QSPA	**South Pole Qui**	**58.35**	**180**	P	**P**	**20 17 01.4**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=90,slow=3.0,SNR=1.4						
	comp=Z,0.4nm,0.3s						
FINES	**FINESS Array B**	**146.35**	**339**	PKPbc	**PKPbc**	**20 26 47.2**	**+1.9**
	comp=Z,4.3nm,1.0s,baz=29,slow=3.2,SNR=3.9						

IDC 30 20:11:15.2±999.0, 30°.69N×73°.87W, h0km, Error ellipse: s-maj=1922.0km s-min=176.1km az=74.0, Off east coast of United States

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I51GB	**BERMUDA INFRAS**	**8.00**	**76**	I	I	21 00 00.0	
	0.1nm,0.8s,baz=261,slow=306,SNR=5.6						
I42PT	**GRACIOSA ISLAN**	**38.21**	**65**	I	I	00 00 00.0	
	0.1nm,0.8s,baz=272,slow=315,SNR=1.8						
I26DE	**FREYUNG INFRAS**	**66.09**	**46**	I	I	03 02 30.0	
	baz=295,slow=315,SNR=2.4						

---

*BEO **30** 20:25:05.9±0.7, 43°.77N×15°.89E, h0km, ML3.4/13*
*RHSSO **30** 20:25:06.9±0.5, 43°.77N×15°.99E, h3km±2km, ML3.5/21*
*PDG **30** 20:25:06.1±0.5, 43°.71N×15°.88E, h4km±2km, ML3.6/12, Error ellipse: s-maj=1.0km s-min=1.7km az=0.0*
*PRU **30** 20:25:07.7, 43°.77N×16°.09E, h0km*
*LDG **30** 20:25:08.6±0.1, 43°.85N×16°.09E, h10km, Ml3.2/11, Error ellipse: s-maj=3.3km s-min=1.9km az=9.0*

ISC 30 20:25:06.7±1.0, 43°.78N±0°.02×16°.00E±0°.02, h7km±8km, n116, σ1§83/216, 10C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORI	**Morici**	**0.23**	**292**	*e*Pg	**Pg**	**20 25 11.4**	**+0.1**
MORI				Sg	**Sg**	**20 25 15.0**	**+0.6**
ZIRJ	**Zirje**	**0.29**	**245**	*e*Pg	**Pg**	**20 25 11.8**	**-0.5**
ZIRJ				Sg	**Sg**	**20 25 16.5**	**+0.4**
KIJV	**Kijevo**	**0.37**	**52**	*e*Pg	**Pg**	**20 25 13.4**	**-0.4**
KIJV				Sg	**Sg**	**20 25 18.9**	**+0.2**
HVAR	**Hvar**	**0.68**	**151**	*e*Pg	**Pg**	**20 25 18.6**	**-1.2**
HVAR				Sg	**Sg**	**20 25 28.8**	**+0.1**
DUGI	**Dugi Otok**	**0.72**	**288**	*e*Pg	**Pg**	**20 25 19.9**	**-0.5**
DUGI				Sg	**Sb**	**20 25 31.3**	**-0.2**
UDBI	**Udbina**	**0.77**	**347**	*i* Pg	**Pg**	**20 25 21.5**	**+0.1**
UDBI				Sg	**Sb**	**20 25 33.5**	**+0.3**
VIRC	**Vir**	**0.86**	**307**	*e*Pg	**Pg**	**20 25 22.6**	**-0.5**
VIRC				Sg	**Sb**	**20 25 36.5**	**+1.0**
RICI	**Ricice**	**0.87**	**109**	*e*Pg	**Pg**	**20 25 22.0**	**-1.3**
RICI				Sg	**Sg**	**20 25 35.2**	**+0.6**
MAKA	**Makarska**	**0.89**	**123**	*e*Pg	**Pg**	**20 25 21.5**	**-2.2**
MAKA				Sg	**Sg**	**20 25 34.4**	**-0.7**
MGRS	**Mrkonjic Grad**	**1.01**	**50**	⇑*i*Pg	**Pg**	**20 25 24.8**	**-1.2**
MGRS				*e*Sg	**Sg**	**20 25 39.8**	**+0.8**
NVLJ	**Novalja**	**1.13**	**314**	*e*Pg	**Pg**	**20 25 27.4**	**-1.0**
NVLJ				Sg	**Sn**	**20 25 45.8**	**+0.7**
PLIT	**Plitvice**	**1.13**	**346**	*e*Pg	**Pg**	**20 25 27.7**	**-0.7**
PLIT				Sg	**Sn**	**20 25 45.4**	**+0.6**
LSTV	**Lastovo**	**1.20**	**147**	*i* Pg	**Pg**	**20 25 28.4**	**-1.2**
LSTV				Sg	**Sg**	**20 25 45.1**	**-0.1**
BLY	**Banja Luka**	**1.29**	**41**	⇓*i*Pg	**Pg**	**20 25 29.7**	**-1.7**
BLY				*e*Sg	**Sg**	**20 25 48.4**	**+0.3**
PRIJ	**Prijedor**	**1.30**	**23**	*e*Pg	**Pg**	**20 25 30.8**	**-0.8**
PRIJ				*e*Sg	**Sg**	**20 25 48.4**	**-0.1**
RABC	**Rab**	**1.31**	**318**	*e*Pg	**Pg**	**20 25 30.9**	**-0.9**
RABC				Sn	**Sn**	**20 25 51.6**	**+2.5**
A051A	**Mrakovica**	**1.39**	**27**	⇓*i*Pg	**Pn**	**20 25 31.9**	**-0.7**
A051A				*e*Sg	**Sg**	**20 25 51.6**	**+0.1**
STON	**Ston**	**1.53**	**126**	*e*Pn	**Pn**	**20 25 34.2**	**-0.3**
STON				Sg	**Sn**	**20 25 55.0**	**+0.4**
STON	**Ston**	**1.53**	**126**	*e*Pg	**Pn**	**20 25 33.8**	**-0.6**
STON				*e*Sg	**Sg**	**20 25 56.7**	**+0.8**
STON	**Ston**	**1.53**	**126**	*e*Pn	**Pn**	**20 25 34.3**	**-0.1**
STON				*e*Sn	**Sn**	**20 25 55.4**	**+0.8**
NEVS	**Nevesinje**	**1.60**	**107**	*e*Pn	**Pn**	**20 25 36.2**	**+0.7**
NEVS				*e*Sn	**Sn**	**20 25 57.5**	**+1.1**
BOJS	**Bojanci**	**1.81**	**343**	⇑*i*Pn	**Pn**	**20 25 39.2**	**+1.0**
BOJS				*e*Sn	**Sn**	**20 26 02.7**	**+1.3**
BOJS	**Bojanci**	**1.81**	**343**	*e*Pn	**Pn**	**20 25 39.6**	**+1.3**
BOJS				*e*Sn	**Sb**	**20 26 03.7**	**+0.8**
BOJS				IAML		20 26 06.4	
	comp=Z,172nm,0.5s						
SMRN	**Sveta Marina**	**1.83**	**314**	*e*Pn	**Pb**	**20 25 40.6**	**+0.2**
SMRN				Sn	**Sg**	**20 26 00.0**	**+0.7**
OZLJ	**Ozalj**	**1.88**	**348**	*i* Pn	**Pb**	**20 25 41.3**	**+0.1**
OZLJ				Sn	**Sg**	**20 26 07.4**	**+0.5**
RIY	**Rijeka**	**1.89**	**325**	*e*Pn	**Pb**	**20 25 41.6**	**+0.2**
RIY				Sn	**Sb**	**20 26 06.2**	**+0.9**
MOSL	**Moslavina**	**1.91**	**16**	*e*Pn	**Pn**	**20 25 41.2**	**+1.5**
MOSL				Sn	**Sb**	**20 26 05.8**	**+1.7**
DBRK	**Dubrovnik**	**1.92**	**125**	*i* Pn	**Pn**	**20 25 40.8**	**+1.0**
DBRK				Sn	**Sb**	**20 26 06.7**	**+0.5**
GBRS	**Gornja Briga**	**1.95**	**334**	*i* Pn	**Pn**	**20 25 41.8**	**+1.5**
GBRS				*e*Sn	**Sb**	**20 26 08.4**	**+1.4**
GBRS				IAML		20 26 32.4	
	comp=Z,35nm,0.4s						
BRJN	**Brijuni**	**1.97**	**306**	*e*Pn	**Pb**	**20 25 42.3**	**-0.5**
BRJN				Sn	**Sb**	**20 26 08.1**	**+0.5**
TREB	**Trebinje**	**2.02**	**121**	*e*Pn	**Pn**	**20 25 41.6**	**+0.5**
TREB				*e*Sn	**Sn**	**20 26 07.8**	**+1.2**
BRY	**Bratogost**	**2.05**	**114**	*e*Pn	**Pn**	**20 25 42.2**	**+0.5**
BRY				*e*Sn	**Sn**	**20 26 08.2**	**+0.7**
BRY	**Bratogost**	**2.05**	**114**	⇓*i*Pn	**Pn**	**20 25 43.2**	**+1.5**
BRY				*i* Sn	**Sb**	**20 26 11.7**	**+1.7**
GCIS	**Gornji Cirnik**	**2.11**	**353**	*i* Pn	**Pn**	**20 25 43.7**	**+1.3**
GCIS				*e*Sn	**Sn**	**20 26 10.6**	**+1.8**
GCIS				IAML		20 26 19.7	
	comp=Z,29nm,0.3s						
PTJ	**Puntijarka**	**2.13**	**359**	*e*Pn	**Pn**	**20 25 43.7**	**+1.0**
PTJ				Sn	**Sn**	**20 26 11.9**	**+2.4**
UPM	**Unac-Piva**	**2.19**	**104**	*e*Pn	**Pn**	**20 25 44.1**	**+0.4**
UPM				*e*Sn	**Sn**	**20 26 11.9**	**+0.8**
UPM	**Unac-Piva**	**2.19**	**104**	⇓*i*Pn	**Pn**	**20 25 44.3**	**+0.6**
UPM				*i* Sn	**Sg**	**20 26 16.5**	**-0.5**
HCY	**Herceg Novi**	**2.26**	**125**	⇑*i*Pn	**Pn**	**20 25 45.2**	**+0.8**
HCY				*e*Sn	**Sn**	**20 26 13.6**	**+1.1**
HCY	**Herceg Novi**	**2.26**	**125**	⇑*i*Pn	**Pn**	**20 25 45.4**	**+1.0**
HCY				*i* Sn	**Sb**	**20 26 16.7**	**+0.8**
CEY	**Cerknica**	**2.26**	**331**	*e*Pn	**Pn**	**20 25 45.2**	**+0.7**
CEY				*e*Sn	**Sn**	**20 26 13.2**	**+0.6**
KALN	**Kalnik**	**2.38**	**8**	*e*Pn	**Pn**	**20 25 46.6**	**+0.5**
KALN				Sn	**Sb**	**20 26 18.9**	**-0.4**
NKME	**Niksic**	**2.38**	**114**	⇓*i*Pn	**Pn**	**20 25 47.9**	**+1.8**
NKME				*i* Sn	**Sb**	**20 26 21.3**	**+1.9**
RUDO	**Rudo**	**2.45**	**93**	⇑*i*Pn	**Pn**	**20 25 47.7**	**+0.7**
RUDO				*e*Sn	**Sn**	**20 26 18.8**	**+1.6**
CEME	**Cevo**	**2.46**	**119**	⇓*i*Pn	**Pn**	**20 25 48.9**	**+1.6**
CEME				*i* Sn	**Sb**	**20 26 21.9**	**+0.1**
BBLS	**Lazići**	**2.46**	**87**	*e*Pg	**Pn**	**20 25 50.1**	**+2.8**
BBLS				*e*Sn	**Sb**	**20 26 21.1**	**-0.8**
BBLS	**Lazići**	**2.46**	**87**	⇑*i*Pn	**Pn**	**20 25 48.5**	**+1.2**
BBLS				*e*Sn	**Sn**	**20 26 19.3**	**+1.6**
PLE	**Pljevlja**	**2.50**	**99**	⇑*i*Pn	**Pn**	**20 25 49.9**	**+2.0**
PLE				*i* Sn	**Sb**	**20 26 24.0**	**+1.0**
BUM	**Brajici-Budva**	**2.58**	**124**	⇓*i*Pn	**Pn**	**20 25 50.0**	**+1.0**
BUM				*i* Sn	**Sb**	**20 26 25.3**	**0.0**
TEKS	**Tekeris**	**2.65**	**72**	*e*Pn	**Pn**	**20 25 51.4**	**+1.5**
TEKS				*e*Sn	**Sn**	**20 26 24.6**	**+2.3**
TEKS	**Tekeris**	**2.65**	**72**	*e*Pn	**

RONA				*i* Sn		**Sn**	**20 26 54.2 +0.5**
	comp=Z,2.2nm,0.2s						
BOVS	**Bovan**	**4.14**	**90**	*e*Pn		**Pn**	**20 26 10.3 +0.1**
BOVS				*e*Sn		**Sn**	**20 26 59.9 +1.0**
CONA	**Conrad Observa**	**4.15**	**359**	*i* Pn		**Pn**	**20 26 12.1 +1.6**
	comp=Z,1.6nm,0.3s,SNR=8.3						
CONA				*i* Sn		**Sn**	**20 26 59.6 +0.2**
	comp=Z,9.3nm,0.5s						
BIOA	**Bad Ischl, Aus**	**4.25**	**338**	*i* Pn		**Pn**	**20 26 14.6 +2.7**
	comp=Z,2.6nm,0.2s						
BIOA				*e*Sn		**Sn**	**20 27 05.2 +3.5**
	comp=Z,4.0nm,0.3s						
MOA	**Molln**	**4.25**	**344**	*e*Pn		**Pn**	**20 26 13.8 +2.0**
	comp=Z,1.6nm,0.2s						
LESA	**Schwarzleotal**	**4.33**	**329**	*i* Pn		**Pn**	**20 26 14.6 +1.6**
	comp=Z,5.0nm,0.4s						
LESA				*i* Sn		**Sn**	**20 27 06.2 +2.5**
	comp=Z,5.2nm,0.5s						
BARS	**Barje**	**4.35**	**101**	*e*Pn		**Pn**	**20 26 14.5 +1.3**
BARS				*e*Sn		**Sn**	**20 27 05.8 +1.6**
OHR	**Ohrid**	**4.44**	**125**	*i* Pn		**Pn**	**20 26 18.0 +3.6**
ZST	**Bratislava**	**4.48**	**9**	*e*SN		**Sn**	**20 27 06.3 -1.1**
ZAGS	**Zajecar**	**4.51**	**87**	*e*Pn		**Pn**	**20 26 14.8 -0.6**
ZAGS				*e*Sn		**Sn**	**20 27 10.3 +2.2**
WTTA	**Wattenberg**	**4.64**	**320**	*i* Pn		**Pn**	**20 26 19.2 +1.9**
	comp=Z,1.7nm,0.2s						
MODS	**Modra-Piesok**	**4.68**	**10**	*e*PN		**Pn**	**20 26 19.9 +2.2**
MODS				*e*SN		**Sn**	**20 27 10.6 -1.7**
SQTA	**Sankt Quirin**	**4.82**	**317**	*i* Pn		**Pn**	**20 26 22.1 +2.4**
	comp=Z,3.0nm,0.4s						
ZAPS	**Zavoj**	**4.85**	**94**	*e*Pn		**Pn**	**20 26 20.9 +0.8**
ZAPS				*e*Sn		**Sn**	**20 27 15.1 -1.4**
FETA	**Feichten**	**4.93**	**313**	*i* Pn		**Pn**	**20 26 23.1 +1.8**
	comp=Z,0.9nm,0.3s						
MOTA	**Moosalm**	**4.96**	**318**	*i* Pn		**Pn**	**20 26 23.5 +1.9**
	comp=Z,1.4nm,0.4s						
MOTA				*i* Sn		**Sn**	**20 27 22.2 +2.9**
	comp=Z,3.6nm,0.5s						
STIP	**Stip**	**5.01**	**112**	*i* Pn		**Pn**	**20 26 25.1 +2.9**
VYHS	**Vyhne**	**5.11**	**22**	*e*PN		**Pn**	**20 26 26.3 +2.7**
VYHS				*e*SN		**Sn**	**20 27 23.2 +0.3**
CKRC	**Cesky Krumlov**	**5.18**	**347**	*e*PN		**Pn**	**20 26 25.7 +1.1**
CKRC				*e*SN		**Sn**	**20 27 26.1 +1.5**
PGF	**Pioggiola**	**5.27**	**259**	*e*Pn		**Pn**	**20 26 26.6 +0.7**
KRUC	**Moravsky**	**5.29**	**3**	*e*PN		Pn	20 26 19.4 -6.7
KRUC				*e*SN		**Sn**	**20 27 23.3 -4.0**
DAVA	**Damuels**	**5.55**	**311**	*i* Pn		**Pn**	**20 26 32.4 +2.5**
	comp=Z,2.7nm,0.5s						
DAVA				*e*Sn		**Sn**	**20 27 37.6 +3.7**
	comp=Z,4.9nm,0.5s						
KHC	**Kasperske Hory**	**5.61**	**343**	*e*PN		**Pn**	**20 26 30.9 +0.4**
KHC				*e*SN		**Sn**	**20 27 35.8 +0.6**
ZVC	**Zvikov**	**5.80**	**348**	*e*PN		**Pn**	**20 26 35.5 +2.4**
ZVC				*e*SN		**Sn**	**20 27 39.3 -0.5**
MORC	**Moravsky Berou**	**6.09**	**9**	*e*SN		**Sn**	**20 27 47.5 +0.4**
SBF	**Sospel**	**6.20**	**274**	*e*Pn		**Pn**	**20 26 38.8 +0.1**
PRU	**Pruhonice**	**6.29**	**351**	*e*SN		**Sn**	**20 27 50.6 -1.4**
MBDF	**Montbardon**	**6.70**	**281**	*e*Pn		**Pn**	**20 26 46.1 +0.5**
MBDF				*e*Sn		**Sn**	**20 27 57.9 -4.3**
	comp=Z,4.3nm,0.6s						
LPG	**La Plagne**	**6.82**	**288**	*e*Pn		**Pn**	**20 26 47.6 +0.2**
LPG				*e*Sn		**Sn**	**20 28 01.3 -4.1**
	comp=Z,13nm,0.8s						
LPL	**La Plagne**	**6.84**	**288**	*e*Pn		**Pn**	**20 26 47.4 -0.2**
LPL				*e*Sn		**Sn**	**20 28 01.8 -3.9**
	comp=Z,11nm,0.7s						
LMR	**La Mourre**	**6.91**	**270**	*e*Pn		**Pn**	**20 26 48.2 -0.2**
BRG	**Berggiesshubel**	**7.24**	**350**	*e*r			20 28 17.0
BRG				Amp			20 28 29.7
	comp=Z,4.3nm,0.9s						
BRG				r			20 28 43.4
BRG				Amp			20 28 46.9
	comp=Z,5.3nm,1.1s						
ORIF	**Oris-en-Rattie**	**7.35**	**282**	*e*Pn		**Pn**	**20 26 54.8 +0.4**
ORIF				*e*Sn		**Sn**	**20 28 13.9 -4.2**
	comp=Z,26nm,1.2s						
HINF	**Hinteralfeld**	**7.56**	**305**	*e*Pn		**Pn**	**20 26 55.6 -1.7**
HINF				*e*Sn		**Sn**	**20 28 17.2 -6.1**
	comp=Z,2.8nm,0.5s						
CDF	**Champ du Feu**	**7.63**	**310**	*e*Pn		**Pn**	**20 26 57.3 -1.0**
CDF				*e*Sn		**Sn**	**20 28 19.0 -6.1**
	comp=Z,1.1nm,0.4s						
CLL	**Collm**	**7.80**	**346**	*e*Sb		**Sb**	**20 28 54.0 -1.2**
CLL				*e*Sg		**Sg**	**20 29 16.0 -0.9**
	comp=Z,10.0nm,1.1s						
HAU	**Haudompre**	**7.95**	**305**	*e*Pn		**Pn**	**20 27 01.1 -1.5**
HAU				*e*Sn		**Sn**	**20 28 27.6 -5.2**
	comp=Z,2.1nm,0.3s						
VIVF	**Saint-Julien-l**	**8.20**	**281**	*e*Pn		**Pn**	**20 27 05.7 -0.3**
SMF	**Signal de Mont**	**9.05**	**293**	*e*Pn		**Pn**	**20 27 17.3 -0.4**
SMF				*e*Sn		**Sn**	**20 28 53.3 -6.6**
	comp=Z,3.0nm,0.5s						
LOR	**Lormes**	**9.21**	**296**	*e*Pn		**Pn**	**20 27 18.4 -1.5**
LOR				*e*Sn		**Sn**	**20 28 57.5 -6.3**
	comp=Z,2.2nm,0.4s						
AVF	**Avril sur Loir**	**9.41**	**293**	*e*Pn		**Pn**	**20 27 21.5 -1.1**
AVF				*e*Sn		**Sn**	**20 29 02.6 -6.1**
	comp=Z,1.8nm,0.5s						

*NNC **30** 20:31:26.9±3.4, 36°.69N×70°.66E, h166km±61km, mb2.8, mpv3.6, Error ellipse: s-maj=43.2km s-min=14.6km az=41.0*
*IDC **30** 20:31:31.8±8.3, 36°.20N×69°.61E, h294km±130km, mb3.3/1, mbtmp3.4/5, Error ellipse: s-maj=132.5km s-min=56.6km az=175.0*
ISC 30 20:31:27.8±2.1, 36°.8N±0°.2×70°.03E±0°.10, h150km, n17, σ2s31/19, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.07**	**27**	P		**Pn**	**20 32 53.4 -2.5**
	SNR=120						
AML	**Almayashu**	**6.07**	**27**	⇓P		**Pn**	**20 32 53.1 -2.7**
	0.1nm,0.2s						
KK31	**Karatay Array**	**6.35**	**3**	P		**Pn**	**20 32 58.9 -0.3**
	2.2nm,0.3s,baz=178,slow=12,SNR=50						
KK31				⇓S		**Sn**	**20 34 12.0 +1.3**
	0.7nm,0.3s,baz=188,slow=22,SNR=3.5						
EKS2	**Erkin-Say**	**6.57**	**25**	P		**Pn**	**20 33 00.4 -1.8**
	SNR=12						
AAK	**Ala-Archa**	**6.81**	**29**	P		**Pn**	**20 33 02.9 -2.5**
	SNR=14						
CHMS	**Chumysh**	**7.22**	**29**	P		**Pn**	**20 33 08.5 -2.3**
	SNR=7.7						
CHMS	**Chumysh**	**7.22**	**29**	⇑P		**Pn**	**20 33 07.9 -2.9**
	7.8nm,0.5s						
ULHL	**Ulahol**	**7.29**	**39**	P		**Pn**	**20 33 12.9 +1.0**
	SNR=6.6						
USP	**Ospenovka**	**7.35**	**26**	P		**Pn**	**20 33 10.0 -2.6**
	SNR=6.3						
TKM2	**Tokmak 2**	**7.50**	**33**	P		**Pn**	**20 33 11.7 -3.0**
	SNR=5.4						
TKM2	**Tokmak 2**	**7.50**	**33**	⇑P		**Pn**	**20 33 10.5 -4.2**
	3.5nm,0.6s						
GEYT	**Alibeck**	**9.56**	**281**	P		**Pn**	**20 33 42.4 +0.4**
	0.7nm,0.3s,baz=152,slow=9.4,SNR=1.6						
GEYT				S		**Sn**	**20 35 27.4 -0.6**
	0.7nm,0.3s,baz=171,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**13.56**	**38**	P		**P**	**20 34 40.5 +2.5**
	0.2nm,0.3s,baz=216,slow=10,SNR=4.2						
AB31	**Akbulak array**	**14.49**	**333**	⇓P		**P**	**20 34 47.8 -0.4**
	0.9nm,0.3s,baz=160,slow=12,SNR=80						
KURBB	**Kurchatov Arra**	**15.15**	**21**	P		**P**	**20 34 56.6 +1.1**
	0.3nm,0.5s,baz=202,slow=10,SNR=1.5						
BVAR	**Borovoye Array**	**16.27**	**1**	P		**P**	**20 35 09.9 +2.0**
	0.5nm,0.5s,baz=170,slow=9.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**20.02**	**26**	P		**P**	**20 35 49.5 +0.8**
	1.9nm,0.4s,baz=212,slow=11,SNR=10						
	1.9nm,0.4s						

*KRNET **30** 20:47:20.7±0.1, 41°.21N×73°.74E, h25km, mb3.3*
*SOME **30** 20:47:20.8, 41°.27N×73°.68E, h10km*
*NNC **30** 20:47:21.5±0.7, 41°.28N×73°.65E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=4.4km s-min=3.4km az=27.0*
*KNET **30** 20:47:23.4±0.6, 41°.35N×73°.74E, h16km±4km, ml2.9, Error ellipse: s-maj=5.8km s-min=3.0km az=66.0*
ISC 30 20:47:21.5±1.1, 41°.21N±0°.03×73°.68E±0°.02, h9km±9km, n92, σ1s28/125, 37C-36D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.54**	**283**	⇓*e*P		**Pg**	**20 47 32.1 +0.1**
	baz=82						
ARSB				⇓*e*S		**Sg**	**20 47 40.4 +1.2**
	baz=82						
ARLS	**Aral**	**0.81**	**36**	⇓*e*P		**Pg**	**20 47 35.7 -1.4**
	baz=34						
ARLS				⇓*e*S		**Sg**	**20 47 46.4 -1.3**
	baz=34						
AML	**Almayashu**	**0.92**	**0**	P		**Pb**	**20 47 38.4 -1.5**
	56nm,0.1s,SNR=186						
AML				⇓S		**Sg**	**20 47 50.2 -1.2**
	268nm,0.2s						
AML	**Almayashu**	**0.92**	**0**	⇑P		**Pb**	**20 47 38.3 -1.5**
	3.5nm,0.6s						
AML				⇓S		**Sg**	**20 47 50.1 -1.2**
	31nm,0.6s						
AML	**Almayashu**	**0.92**	**0**	⇑*e*P		**Pb**	**20 47 38.1 -1.8**
	baz=58						
AML				⇑*e*S		**Sg**	**20 47 50.9 -0.4**
	baz=58						
OHH	**Osh**	**0.96**	**225**	⇑*e*P		**Pb**	**20 47 39.2 -1.2**
	baz=27						
OHH				⇑*e*S		**Sb**	**20 47 52.6 -0.7**
	baz=27						
SFK	**Sufi-Kurgan**	**1.20**	**187**	⇑*e*P		**Pn**	**20 47 43.0 -1.7**
	baz=89						
SFK				⇑*e*S		**Sb**	**20 47 59.2 -1.0**
	baz=89						
ARK	**Arkit**	**1.42**	**295**	⇓*e*P		**Pn**	**20 47 47.4 -0.2**
	baz=95						
ARK				⇓*e*S		**Sb**	**20 48 06.9 +0.4**
	baz=95						
EKS2	**Erkin-Say**	**1.46**	**3**	⇑P		**Pn**	**20 47 47.9 -0.2**
	16nm,0.2s,SNR=44						
EKS2				⇑S		**Sn**	**20 48 06.7 -0.6**
	28nm,0.2s						
EKS2	**Erkin-Say**	**1.46**	**3**	⇓*e*P		**Pn**	**20 47 47.3 -0.8**
	baz=1.0						
EKS2				⇓*e*S		**Sn**	**20 48 06.7 -0.6**
	baz=1.0						
AAK	**Ala-Archa**	**1.55**	**23**	⇓P		**Pn**	**20 47 49.5 0.0**
	14nm,0.2s,SNR=26						
AAK				⇑S		**Sb**	**20 48 09.8 -0.5**
	61nm,0.2s						
AAK	**Ala-Archa**	**1.55**	**23**	⇓*e*P		**Pn**	**20 47 48.8 -0.6**
	baz=21						
AAK				⇓*e*S		**Sn**	**20 48 09.1 -0.7**
	baz=21						
MNAS	**Manas**	**1.55**	**326**	⇑*e*P		**Pn**	**20 47 49.5 +0.1**
	baz=25						
MNAS				⇑*e*S		**Sb**	**20 48 10.3 0.0**
	baz=25						
MRKS	**Merke**	**1.57**	**348**	P		**Pn**	**20 47 50.0 +0.3**
	35nm,0.2s						
MRKS				S		**Sb**	**20 48 11.0 +0.2**
	125nm,0.3s						
MRKS	**Merke**	**1.57**	**348**	*e*P		**Pn**	**20 47 50.0 +0.3**
	35nm,0.2s						
MRKS				*e*S		**Sb**	**20 48 11.0 +0.2**
	125nm,0.3s						
KBK	**Karagaybulak**	**1.73**	**33**	⇓P		**Pb**	**20 47 53.0 -0.5**
	17nm,0.1s,SNR=37						
KBK				⇓S		**Sb**	**20 48 15.5 +0.1**
	213nm,0.3s						
KBK	**Karagaybulak**	**1.73**	**33**	⇓*e*P		**Pn**	**20 47 51.6 -0.3**
	baz=31						
KBK				⇓*e*S		**Sn**	**20 48 14.1 0.0**
	baz=31						
FRU1	**Bishkek**	**1.75**	**23**	⇑*e*P		**Pn**	**20 47 52.1 0.0**
	baz=22						
FRU1				⇑*e*S		**Sn**	**20 48 14.9 +0.4**
	baz=22						
NRN	**Naryn**	**1.76**	**82**	⇑*i*P		**Pn**	**20 47 51.4 -1.0**
	baz=82						
NRN				⇑*e*S		**Sn**	**20 48 13.6 -1.5**
	baz=82						
TRKS	**Terek-Say**	**1.94**	**280**	⇓*e*P		**Pn**	**20 47 54.9 +0.1**
	baz=78						
TRKS				⇓*e*S		**Sn**	**20 48 19.8 +0.4**
	baz=78						
CHMS	**Chumysh**	**1.96**	**24**	⇓P		**Pb**	**20 47 56.9 -0.4**
	24nm,0.3s,SNR=8.4						
CHMS				⇓S		**Sb**	**20 48 21.0 -0.9**
	82nm,0.4s						
CHMS	**Chumysh**	**1.96**	**24**	⇓P		**Pb**	**20 47 57.0 -0.3**
	25nm,0.5s						
CHMS				⇓S		**Sb**	**20 48 21.6 -0.2**
	66nm,0.5s						
CHMS	**Chumysh**	**1.96**	**24**	⇓*e*P		**Pn**	**20 47 54.7 -0.2**
	baz=22						
CHMS				⇓*e*S		**Sn**	**20 48 19.4 -0.2**
	baz=22						
BOOM	**Boomskoye usch**	**2.12**	**52**	⇓*e*P		**Pn**	**20 47 56.8 -0.4**
	baz=51						
BOOM				⇓*e*S		**Sn**	**20 48 23.1 -0.6**
	baz=51						
USP	**Ospenovka**	**2.15**	**16**	⇑P		**Pb**	**20 47 59.9 -0.6**
	28nm,0.3s,SNR=36						
USP				⇑S		**Sb**	**20 48 27.9 +0.6**
	59nm,0.3s						
USP	**Ospenovka**	**2.15**	**16**	⇑*e*P		**Pn**	**20 47 57.5 0.0**
	baz=15						
USP				⇑*e*S		**Sn**	**20 48 24.1 -0.1**
	baz=15						
ULHL	**Ulahol**	**2.18**	**61**	⇓P		**Pb**	**20 48 00.1 -1.0**
	12nm,0.2s,SNR=37						
ULHL				⇑S		**Sb**	**20 48 28.6 +0.3**
	36nm,0.2s						
ULHL	**Ulahol**	**2.18**	**61**	⇓*e*P		**Pn**	**20 47 57.6 -0.5**
	baz=60						
ULHL				⇓*e*S		**Sn**	**20 48 24.5 -0.8**
	baz=60						
TKM2	**Tokmak 2**	**2.23**	**39**	⇑P		**Pb**	**20 48 01.5 -0.5**
	16nm,0.2s,SNR=35						
TKM2				⇓S		**Sb**	**20 48 29.9 +0.1**
	15nm,0.1s						
TKM2	**Tokmak 2**	**2.23**	**39**	⇑Pn		**Pb**	**20 48 01.4 -0.7**
	10nm,0.3s						
TKM2				⇑Sn		**Sb**	**20 48 29.6 -0.2**
	62nm,0.6s						
TKM2	**Tokmak 2**	**2.23**	**39**	⇑*e*P		**Pn**	**20 47 58.5 -0.3**
	baz=38						
TKM2				⇑*e*S		**Sn**	**20 48 25.9 -0.6**
	baz=38						
SGDS	**Sogindy**	**2.35**	**17**	Pg		**Pb**	**20 48 03.3 -0.8**
	17nm,0.2s						
SGDS				Lg		Lg	20 48 34.1
	65nm,0.7s						
DZA	**Taraz**	**2.43**	**315**	Pg		**Pb**	**20 48 05.3 -0.1**
	28nm,0.1s						
DZA				Lg		Lg	20 48 37.3
	169nm,0.1s						
DZA	**Taraz**	**2.43**	**315**	*e*Pg		**Pb**	**20 48 05.3 -0.1**
	28nm,0.1s						
DZA				*e*Lg		Lg	20 48 37.3
	169nm,0.1s						
BTK	**Batken**	**2.46**	**243**	⇑*e*P		**Pn**	**20 48 02.6 +0.7**
	baz=44						
BTK				⇑*e*S		**Sn**	**20 48 32.9 +0.7**
	baz=44						
KST	**Kastek**	**2.50**	**42**	Pg		**Pb**	**20 48 06.1 -0.4**
	10.0nm,0.2s						
KST				Lg		Lg	20 48 39.0
	79nm,0.2s						
KST	**Kastek**	**2.50**	**42**	*e*Pg		**Pb**	**20 48 06.1 -0.4**
	10.0nm,0.2s						
KST				*e*Lg		Lg	20 48 39.0
	79nm,0.2s						
DGS	**Degeres**	**2.56**	**37**	Pg		**Pb**	**20 48 07.1 -0.5**
	8.6nm,0.5s						
DGS				Lg		Lg	20 48 40.7
	76nm,0.4s						
DGS	**Degeres**	**2.56**	**37**	*e*Pg		**Pb**	**20 48 07.1 -0.5**
	8.6nm,0.5s						
DGS				*e*Lg		Lg	20 48 40.7
	76nm,0.4s						
IZV	**Izvestkoviy**	**2.84**	**49**	Pg		**Pb**	**20 48 12.7 +0.2**
	11nm,0.3s						
IZV				Lg		Lg	20 48 49.8
	80nm,0.4s						
IZV	**Izvestkoviy**	**2.84**	**49**	*e*Pg		**Pb**	**20 48 12.7 +0.2**
	11nm,0.3s						
IZV				*e*Lg		Lg	20 48 49.8
	80nm,0.4s						
KRBS	**Karabastau**	**2.89**	**30**	Pg		**Pb**	**20 48 12.8 -0.4**
	5.0nm,0.2s						
KRBS				Lg		Lg	20 48 50.5
	98nm,0.4s						
KRBS	**Karabastau**	**2.89**	**30**	*e*Pg		**Pb**	**20 48 12.8 -0.4**
	5.0nm,0.2s						
KRBS				*e*Lg		Lg	20 48 50.5
	98nm,0.4s						
IUG	**Iuzhnay**	**2.89**	**290**	Pg		**Pb**	**20 48 13.3 +0.1**
	27nm,0.2s						
IUG				Lg		Lg	20 48 51.4
	50nm,0.4s						
IUG	**Iuzhnay**	**2.89**	**290**	*e*Pg		**Pb**	**20 48 13.3 +0.1**
	27nm,0.2s						
IUG				*e*Lg		Lg	20 48 51.4
	50nm,0.4s						
KASK	**Kaskelen**	**2.98**	**47**	⇑Lg		Lg	20 48 54.7
KK31	**Karatay Array**	**3.02**	**310**	⇑Pg		**Pb**	**20 48 15.2 -0.3**
	2.9nm,0.4s,baz=138,slow=18,SNR=17						
KK31				⇑Lg		Lg	20 48 56.6
	15nm,0.4s,baz=133,slow=28,SNR=16						
KKAR	**Karatay Array**	**3.02**	**310**	⇓*e*P		**Pn**	**20 48 10.4 +0.9**
	baz=9.0						
KKAR				⇓*e*S		**Sn**	**20 48 46.4 +0.5**
	baz=9.0						
TNSS	**Tian-Shan**	**3.04**	**52**	Pg		**Pb**	**20 48 16.3 +0.4**
	16nm,0.2s						
TNSS				Lg		Lg	20 48 56.3
	39nm,0.2s						
TNSS	**Tian-Shan**	**3.04**	**52**	*e*Pg		**Pb**	**20 48 16.3 +0.4**
	16nm,0.2s						
TNSS				*e*Lg		Lg	20 48 56.3
	39nm,0.2s						
AAA	**Alma-Ata**	**3.12**	**49**	Pg		**Pb**	**20 48 18.2 +1.0**
	48nm,0.2s						
AAA				Lg		Lg	20 48 59.3
	122nm,0.4s						
AAA	**Alma-Ata**	**3.12**	**49**	*e*Pg		**Pb**	**20 48 18.2 +1.0**
	48nm,0.2s						
AAA				*e*Lg		Lg	20 48 59.3
	122nm,0.4s						
KNDC	**Almaty**	**3.16**	**49**	⇓Pg		**Pb**	**20 48 18.2 +0.4**
	23nm,0.5s						
KNDC				⇓Lg		Lg	20 48 59.4
	128nm,0.8s						
MDOK	**Medeo**	**3.17**	**51**	Pg		**Pb**	**20 48 18.4 +0.3**
	13nm,0.4s						
MDOK				Lg		Lg	20 48 59.8
	51nm,0.5s						
MDOK	**Medeo**	**3.17**	**51**	*e*Pg		**Pb**	**20 48 18.4 +0.3**
	13nm,0.4s						
MDOK				*e*Lg		Lg	20 48 59.8
	51nm,0.5s						
KOTS	**Kotyrbulak**	**3.25**	**50**	Pg		**Pb**	**20 48 20.2 +0.7**
	23nm,0.2s						
KOTS				Lg		Lg	20 49 03.1
	84nm,0.4s						
KOTS	**Kotyrbulak**	**3.25**	**50**	*e*Pg		**Pb**	**20 48 20.2 +0.7**
	23nm,0.2s						
KOTS				*e*Lg		Lg	20 49 03.1
	84nm,0.4s						
KUU	**Kurty**	**3.32**	**35**	Pg		**Pb**	**20 48 20.9 +0.3**
	5.2nm,0.1s						
KUU				Lg		Lg	20 49 03.9
	47nm,0.3s						
KUU	**Kurty**	**3.32**	**35**	*e*Pg		**Pb**	**20 48 20.9 +0.3**
	5.2nm,0.1s						
KUU				*e*Lg		Lg	20 49 03.9
	47nm,0.3s						
KTBS	**Karatobe**	**3.34**	**41**	Pg		**Pb**	**20 48 21.5 +0.5**
	6.6nm,0.2s						
KTBS				Lg		Lg	20 49 05.1
	117nm,0.3s						
KTBS	**Karatobe**	**3.34**	**41**	*e*Pg		**Pb**	**20 48 21.5 +0.5**
	6.6nm,0.2s						
KTBS				*e*Lg		Lg	20 49 05.1
	117nm,0.3s						
ANVS	**Anan'yevo**	**3.36**	**61**	⇑*e*P		**Pn**	**20 48 14.0 -0.3**
	baz=60						
ANVS				⇑*i*S		**Sn**	**20 48 52.9 -1.5**
	baz=60						
CHKK	**Chushkaly**	**3.60**	**42**	Pg		**Pb**	**20 48 25.9 +0.6**
	2.5nm,0.2s						
CHKK				Lg		Lg	20 49 12.6
	48nm,0.3s						
CHKK	**Chushkaly**	**3.60**	**42**	*e*Pg		**Pb**	**20 48 25.9 +0.6**
	2.5nm,0.2s						
CHKK				*e*Lg		Lg	20 49 12.6
	48nm,0.3s						
PRZ	**Przheval'sk**	**3.75**	**69**	⇑*e*P		**Pn**	**20 48 19.5 -0.1**
	baz=68						
PRZ				⇑*e*S		**Sn**	**20 49 02.2 -1.7**
	baz=68						
BTLS	**Baital**	**3.84**	**4**	Pg		**Pb**	**20 48 30.2 +0.8**
	7.2nm,0.3s						
BTLS				Lg		Lg	20 49 20.1
	15nm,0.6s						
BTLS	**Baital**	**3.84**	**4**	*e*Pg		**Pb**	**20 48 30.2 +0.8**
	7.2nm,0.3s						
BTLS				*e*Lg		Lg	20 49 20.1
	15nm,0.6s						
SATY	**Saty**	**3.97**	**61**	Pg		**Pb**	**20 48 33.2 +1.5**
	6.9nm,0.5s						
SATY				Lg		Lg	20 49 25.3
	26nm,0.5s						
SATY	**Saty**	**3.97**	**61**	*e*Pg		**Pb**	**20 48 33.2 +1.5**
	6.9nm,0.5s						
SATY				*e*Lg		Lg	20 49 25.3
	26nm,0.5s						
KURS	**Kuram**	**4.03**	**54**	Pg		**Pb**	**20 48 34.6 +1.9**
	5.2nm,0.2s						
KURS				Lg		Lg	20 49 27.4
	9.6nm,0.6s						
KURS	**Kuram**	**4.03**	**54**	*e*Pg		**Pb**	**20 48 34.6 +1.9**
	5.2nm,0.2s						
KURS				*e*Lg		Lg	20 49 27.4
	9.6nm,0.6s						
ZHN	**Zhinishke**	**4.04**	**59**	Pg		**Pb**	**20 48 34.2 +1.4**
	5.3nm,0.2s						
ZHN				Lg		Lg	20 49 26.7
	28nm,0.3s						
ZHN	**Zhinishke**	**4.04**	**59**	*e*Pg		**Pb**	**20 48 34.2 +1.4**
	5.3nm,0.2s						
ZHN				*e*Lg		Lg	20 49 26.7
	28nm,0.3s						
ARXS	**Arharly**	**4.28**	**44**	Pg		**Pb**	**20 48 38.1 +1.2**
	4.0nm,0.3s						
ARXS				Lg		Lg	20 49 33.8
	28nm,0.5s						
ARXS	**Arharly**	**4.28**	**44**	*e*Pg		**Pb**	**20 48 38.1 +1.2**
	4.0nm,0.3s						
ARXS				*e*Lg		Lg	20 49 33.8
	28nm,0.5s						
KPKS	**Kokpek**	**4.34**	**57**	Pg		**Pb**	**20 48 40.4 +2.5**
	7.7nm,0.3s						
KPKS				Lg		Lg	20 49 37.6
	31nm,0.2s						
KPKS	**Kokpek**	**4.34**	**57**	*e*Pg	

23nm,0.2s
TDK Lg Lg 20 50 02.4
40nm,0.5s
TDK Taldyqorghan 5.13 41 *e*Pg **Pb 20 48 54.9 +3.5**
23nm,0.2s
TDK *e*Lg Lg 20 50 02.4
40nm,0.5s
KTMS Ketmen 5.42 63 Pg **Pb 20 49 00.3 +3.9**
1.0nm,0.2s
KTMS Lg Lg 20 50 12.0
3.4nm,0.5s
KTMS Ketmen 5.42 63 *e*Pg **Pb 20 49 00.3 +3.9**
1.0nm,0.2s
KTMS *e*Lg Lg 20 50 11.9
3.4nm,0.5s
DJR Jarkent 5.47 53 Pg **Pb 20 49 01.0 +3.8**
2.0nm,0.3s
DJR Lg Lg 20 50 13.1
13nm,0.3s
DJR Jarkent 5.47 53 *e*Pg **Pb 20 49 01.0 +3.8**
2.0nm,0.3s
DJR *e*Lg Lg 20 50 13.1
13nm,0.3s
OTUK Ortayu 7.10 353 ⇑Lg Lg 20 51 03.5
11nm,0.8s

KRNET 30 20:48:16.7±0.1, 41°27′N×73°71′E, h12km, mb2.3, 10C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.55**	**276**	⇑*e*P	Pg	20 48 27.4	-0.1
ARSB	baz=76			⇑*e*S	Sg	20 48 34.9	+0.2
ARLS	**Aral**	**0.75**	**38**	⇑*i*P	Pg	20 48 30.9	-0.4
ARLS	baz=39			⇑*i*S	Sg	20 48 41.2	+0.1
AML	**Almayashu**	**0.86**	**359**	⇑*i*P	Pg	20 48 33.2	-0.2
AML	baz=59			⇑*i*S	Sb	20 48 45.5	0.0
SFK	**Sufi-Kurgan**	**1.27**	**187**	⇑*i*P	Pb	20 48 40.6	0.0
SFK	baz=87			⇑*i*S	Sg	20 48 58.2	+0.7
ARK	**Arkit**	**1.41**	**293**	⇑*e*P	Pb	20 48 43.0	0.0
ARK	baz=93			⇑*i*S	Sg	20 49 02.3	+0.2
TRKS	**Terek-Say**	**1.95**	**278**	⇓*e*P	Pb	20 48 52.3	+0.1
TRKS	baz=77			⇓*e*S	Sg	20 49 18.3	-1.0
	baz=77						

IDC 30 20:50:15.1±10.0, 2°00′N×96°16′E, h0km, mb3.5/4, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=217.2km s-min=114.3km az=145.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.58**	**9**	Pn	Pn	20 54 09.5	+0.4
	baz=206,slow=10.0,SNR=1.6 0.2nm,0.3s						
H08S2	**Diego Garcia H**	**25.48**	**248**	T	T	21 22 12.4	
	baz=69,slow=76						
H08S3	**Diego Garcia H**	**25.48**	**248**	T	T	21 22 15.4	
	baz=69,slow=76						
H08S1	**Diego Carcia H**	**25.50**	**248**	T	T	21 22 14.3	
	baz=69,slow=76						
MKAR	**Makanchi Array**	**46.22**	**347**	P	P	20 58 41.0	-0.9
	0.7nm,0.7s,baz=148,slow=8.2,SNR=4.9 0.7nm,0.7s						
SONM	**Songino Array**	**46.51**	**10**	P	P	20 58 44.0	-0.3
	0.1nm,0.3s,baz=189,slow=7.6,SNR=2.9 0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**50.70**	**346**	P	P	20 59 17.7	+1.3
	0.2nm,0.6s,baz=155,slow=6.8,SNR=2.5 0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**52.61**	**352**	P	P	20 59 30.1	-0.5
	0.7nm,0.6s,baz=181,slow=6.9,SNR=3.6 0.7nm,0.6s						
H04N2	**CROZET ISLANDS**	**61.85**	**213**	T	T	22 07 46.8	
	baz=53,slow=75						
H04N1	**CROZET ISLANDS**	**61.87**	**213**	T	T	22 07 47.4	
	baz=53,slow=75						
H04N3	**CROZET ISLANDS**	**61.87**	**213**	T	T	22 07 47.5	
	baz=53,slow=75						
H04S1	**CROZET ISLANDS**	**62.21**	**213**	T	T	22 08 14.0	
	baz=52,slow=75						
H04S3	**CROZET ISLANDS**	**62.22**	**213**	T	T	22 08 27.6	
	baz=52,slow=75						
H04S2	**CROZET ISLANDS**	**62.23**	**213**	T	T	22 08 18.4	
	baz=52,slow=75						

---

*IDC **30** 21:13:24.2±1.0, 49°66′S×125°84′E, h0km, mb3.9/6, mbtmp4.0/6, MS3.7/13, Error ellipse: s-maj=49.7km s-min=18.9km az=95.0*

ISC 30 21:13:25.6±0.9, 49°7′S±0°1′×125°9′E±0°3, h10km, n23, σ0§57/9, mb3.9/6, MS3.7/12, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.09**	**325**	T	T	21 34 55.9	
	baz=152,slow=75,SNR=82						
H01W2	**Cape Leeuwin H**	**17.09**	**325**	T	T	21 34 49.7	
	baz=152,slow=75,SNR=78						
H01W3	**Cape Leeuwin H**	**17.10**	**325**	T	T	21 34 52.9	
	baz=152,slow=75,SNR=76						
NWAO	**Narrogin (SRO)**	**17.92**	**336**	LR	LR	21 22 40.6	
	comp=Z,332nm,20.6s,baz=212,slow=31						
STKA	**Stephens Creek**	**21.31**	**39**	P	**P**	**21 18 12.7**	**+0.2**
	2.7nm,0.7s,baz=200,slow=11,SNR=5.5						
STKA				LR	LR	21 25 32.6	
	comp=Z,114nm,18.3s,baz=207,slow=34 2.7nm,0.7s						
ASAR	**Alice Springs**	**26.70**	**17**	P	**P**	**21 19 04.8**	**-0.1**
	1.9nm,0.6s,baz=190,slow=9.4,SNR=28						
ASAR				LR	LR	21 28 25.4	
	comp=Z,147nm,20.8s,baz=179,slow=34 1.9nm,0.6s						
WRA	**Warramunga Arr**	**30.42**	**16**	P	**P**	**21 19 37.6**	**-0.5**
	0.7nm,0.6s,baz=196,slow=9.0,SNR=5.0 0.7nm,0.6s						
VNDA	**Vanda**	**31.10**	**166**	P	**P**	**21 19 43.5**	**0.0**
	2.0nm,0.7s,baz=311,slow=9.3,SNR=21						
VNDA				LR	LR	21 31 02.9	
	comp=Z,181nm,20.7s,baz=335,slow=34 2.0nm,0.7s						
CTA	**Charters Tower**	**33.69**	**36**	LR	LR	21 33 24.8	
	comp=Z,122nm,18.4s,baz=240,slow=36						
MAW	**Mawson**	**35.40**	**216**	LR	LR	21 31 29.1	
	comp=Z,84nm,21.1s,baz=82,slow=31						
QSPA	**South Pole Qui**	**40.46**	**180**	P	**P**	**21 21 04.0**	**0.0**
	1.4nm,0.5s,baz=312,slow=5.9,SNR=5.3						
QSPA				LR	LR	21 37 01.4	
	comp=Z,124nm,18.9s,baz=360,slow=35 1.4nm,0.5s						
KAPI	**Kappang**	**44.80**	**351**	LR	LR	21 39 00.6	
	comp=Z,79nm,20.2s,baz=145,slow=34						
H08S2	**Diego Garcia H**	**61.01**	**295**	T	T	22 29 36.3	
	baz=152						
H08S1	**Diego Carcia H**	**61.02**	**295**	T	T	22 29 37.3	
	baz=152						
H08S3	**Diego Garcia H**	**61.03**	**295**	T	T	22 29 33.3	
	baz=152						
PMSA	**Palmer Station**	**65.64**	**175**	LR	LR	21 55 16.1	
	comp=Z,75nm,18.1s,baz=222,slow=38						
PALK	**Pallekele**	**68.97**	**311**	LR	LR	21 51 03.2	
	comp=Z,44nm,18.1s,baz=200,slow=33						
CMAR	**Chiang Mai Arr**	**71.90**	**333**	P	**P**	**21 24 49.5**	**+0.7**
	0.3nm,0.4s,baz=158,slow=1.5,SNR=4.7						
CMAR				LR	LR	21 57 55.9	
	comp=Z,36nm,18.6s,baz=155,slow=37 0.3nm,0.4s						
PLCA	**Paso Flores**	**88.83**	**168**	LR	LR	22 03 08.1	
	comp=Z,19nm,18.8s,baz=196,slow=34						
CFA	**Coronel Fontan**	**98.12**	**168**	LR	LR	22 10 51.7	
	comp=Z,35nm,18.5s,baz=170,slow=35						
TXAR	**Lajitas Array**	**137.62**	**100**	PKP	**PKPdf**	**21 32 50.1**	**+0.4**
	0.1nm,0.3s,baz=183,slow=2.5,SNR=3.9						
YKA	**Yellowknife Ar**	**145.27**	**45**	PKPbc	**PKPdf**	**21 33 02.3**	**+0.1**
	6.3nm,0.9s,baz=266,slow=3.5,SNR=13						
EKA	**Eskdalemuir Ar**	**149.05**	**300**	PKPbc	**PKPbc**	**21 33 11.8**	**-1.0**
	1.3nm,0.7s,baz=107,slow=2.4,SNR=2.7						

IDC 30 21:18:22.1±1.9, 6°82′S×128°95′E, h0km, mb3.4/2, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=116.1km s-min=30.7km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.06**	**159**	Pn	Pn	21 21 42.6	-0.1
	0.2nm,0.3s,baz=338,slow=13,SNR=6.4						
WRA				Sn	Sn	21 24 05.7	-14
	0.4nm,0.3s,baz=330,slow=22,SNR=3.7 0.6nm,0.9s						
ASAR	**Alice Springs**	**17.42**	**165**	P	Pn	21 22 26.9	+0.2
	0.1nm,0.3s,baz=336,slow=10,SNR=9.4						
ASAR				S	Sn	21 25 24.1	-17
	0.2nm,0.4s,baz=211,slow=36,SNR=1.6 0.5nm,0.5s						
MKAR	**Makanchi Array**	**67.51**	**327**	P	P	21 29 21.1	+0.9
	0.2nm,0.6s,baz=137,slow=6.4,SNR=1.7 0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**71.81**	**329**	P	P	21 29 45.7	-0.9
	0.3nm,0.7s,baz=129,slow=5.7,SNR=2.9 0.3nm,0.7s						

---

*IDC **30** 21:41:56.6±3.9, 24°15′S×179°03′E, h555km±40km, mb2.9/2, mbtmp4.0/3, Error ellipse: s-maj=66.1km s-min=33.3km az=154.0*

ISC 30 21:41:55.0±1.8, 24°3′S±0°2′×179°2′E±0°3, h550km, n6, σ1§19/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.61**	**350**	P	**P**	**21 43 39.9**	**+0.5**
	5.1nm,0.3s,baz=133,slow=19,SNR=4.0						
ASAR	**Alice Springs**	**41.25**	**261**	P	**P**	**21 48 52.4**	**-0.4**
	0.5nm,0.3s,baz=84,slow=9.0,SNR=10 0.5nm,0.3s						
WRA	**Warramunga Arr**	**41.66**	**267**	P	**P**	**21 48 56.2**	**+0.2**
	1.3nm,0.5s,baz=104,slow=8.0,SNR=11 1.3nm,0.5s						
HFS	**Hagfors**	**142.78**	**348**	PKP	**PKPdf**	**22 00 23.9**	**-1.6**
	4.4nm,1.1s,baz=44,slow=4.4,SNR=5.6						
MMAI	**Mount Meron Ar**	**147.19**	**294**	PKPbc	**PKiKP**	**22 00 38.7**	**-0.2**
	1.2nm,0.6s,baz=75,slow=2.3,SNR=1.3						
TORD	**Torodi Ar. Bea**	**168.67**	**192**	PKPab	**PKPab**	**22 02 14.7**	**+1.2**
	0.3nm,0.8s,baz=168,slow=7.4,SNR=2.2						

---

*IDC **30** 21:43:20.0±1.2, 31°55′S×68°83′W, h108km±7km, mb3.6/3, mbtmp3.9/7, Error ellipse: s-maj=32.8km s-min=23.2km az=96.0*

*SJA **30** 21:43:19.8±0.7, 31°53′S×68°84′W, h116km±2km, ML4.0, MW4.0*

ISC 30 21:43:20.6±0.7, 31°50′S±0°04×68°82′W±0°04, h114km±5km, n41, σ1§36/68, mb3.7/3, 5C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.12**	**110**	*e*P	**Pn**	**21 43 36.5**	**+0.2**
ZON				*e*S	**Sn**	**21 43 48.6**	**+0.4**
SJA	**San Juan**	**0.22**	**96**	*e*P	**Pn**	**21 43 37.1**	**+0.5**
SJA				*e*S	**Sn**	**21 43 49.2**	**+0.7**
SJA				IAML		21 43 51.4	
	comp=Z,2μm,0.2s						
RTLL	**Cerro Villicun**	**0.34**	**59**	*e*P	**Pn**	**21 43 37.4**	**+0.3**
RTLL				*e*S	**Sn**	**21 43 50.0**	**+0.6**
CFA	**Coronel Fontan**	**0.50**	**102**	P	**Pn**	**21 43 37.7**	**-0.2**
	comp=Z,1μm,0.3s,baz=276,slow=5.9,SNR=5176						
CFA				S	**Sn**	**21 43 50.9**	**-0.1**
	comp=Z,2μm,0.3s,baz=154,slow=20,SNR=66						
CFA	**Coronel Fontan**	**0.50**	**102**	*e*P	**Pn**	**21 43 38.3**	**+0.4**
CFA				*e*S	**Sn**	**21 43 51.8**	**+0.8**
CFA				IAML		21 43 52.5	
	comp=Z,2μm,0.2s						
RTLS	**Leoncito**	**0.51**	**234**	*e*P	**Pn**	**21 43 38.2**	**0.0**
RTLS				*e*S	**Sn**	**21 43 52.1**	**+0.6**
RTLS				IAML		21 43 55.4	
	comp=Z,4μm,0.4s						
DOCA	**Reserva Natura**	**0.60**	**337**	*e*P	**Pn**	**21 43 39.2**	**+0.2**
DOCA				*e*S	**Sn**	**21 43 53.2**	**+0.4**
ACCO	**Cerro Coronel**	**0.94**	**347**	*e*P	**Pn**	**21 43 42.8**	**+0.9**
ASAL	**Salagasta**	**1.08**	**181**	*e*P	**Pn**	**21 43 43.2**	**+0.1**
ASAL				*e*S	**Sn**	**21 44 00.5**	**+0.5**
ASAL				IAML		21 44 01.2	
	comp=Z,1μm,0.6s						
ARCO	**CERRO ARCO**	**1.34**	**184**	*e*P	**Pn**	**21 43 46.0**	**+0.1**
ARCO				*e*S	**Sn**	**21 44 05.3**	**+0.1**
ARCO				IAML		21 44 06.5	
	comp=Z,2μm,0.3s						
ACDV	**Cuesta del Vie**	**1.35**	**349**	*e*P	**Pn**	**21 43 46.9**	**+0.8**
ACDV				*e*S	**Sn**	**21 44 07.0**	**+1.5**
ACDV				IAML		21 44 08.0	
	comp=Z,1μm,0.5s						
AROD	**Rodeo**	**1.45**	**337**	*e*P	**Pn**	**21 43 48.5**	**+1.1**
AROD				*e*S	**Sn**	**21 44 09.1**	**+1.4**
AAGR	**Agrelo**	**1.58**	**180**	*e*P	**Pn**	**21 43 48.7**	**0.0**
AAGR				*e*S	**Sn**	**21 44 09.5**	**-0.5**
AAGR				IAML		21 44 10.3	
	comp=Z,718nm,0.4s						
CO03	**El Pedregal**	**1.74**	**292**	⇑*i*P	**Pn**	**21 43 51.0**	**+0.4**
CO03				*e*S	**Sn**	**21 44 13.5**	**+0.1**
CO01	**Juntas del Tor**	**1.88**	**324**	⇑*i*P	**Pn**	**21 43 54.2**	**+1.7**
CO01				*e*S	**Sn**	**21 44 19.0**	**+2.3**
CO01				IAML		21 44 20.3	
	comp=E,640nm,0.3s						
VA03	**San Esteban**	**1.94**	**229**	⇓*e*P	**Pn**	**21 43 52.9**	**-0.2**
VA03				*e*S	**Sn**	**21 44 17.6**	**-0.2**
VA03				IAML		21 44 21.3	
	comp=E,843nm,0.5s						
AVIZ	**Vizcacheras**	**1.98**	**173**	*e*P	**Pn**	**21 43 53.9**	**+0.3**
GO04	**Tololo Observa**	**2.16**	**307**	⇑*i*P	**Pn**	**21 43 55.9**	**-0.1**
GO04				*e*S	**Sn**	**21 44 22.6**	**-0.5**
MT08	**Bocatoma Ro**	**2.19**	**207**	*e*P	**Pn**	**21 43 56.7**	**+0.3**
MT08				*e*S	**Sn**	**21 44 24.5**	**+0.8**
MT08				IAML		21 44 27.2	
	comp=N,322nm,0.3s						
MT04	**Ro Olivares**	**2.20**	**210**	*e*P	**Pn**	**21 43 57.0**	**+0.5**
MT04				*e*S	**Sn**	**21 44 26.5**	**+2.5**
MT04				IAML		21 44 31.6	
	comp=E,187nm,0.2s						
FCH	**Farellones**	**2.21**	**214**	⇑*i*P	**Pn**	**21 43 57.0**	**+0.3**
FCH				*e*S	**Sn**	**21 44 25.3**	**+1.1**
FCH				IAML		21 44 32.3	
	comp=E,222nm,0.4s						
APLL	**PUNTA DE LOS L**	**2.25**	**61**	*e*P	**Pn**	**21 43 58.0**	**+1.0**
APLL				*e*S	**Sn**	**21 44 25.9**	**+1.0**
PEL	**Peldehue**	**2.28**	**224**	*e*P	**Pn**	**21 43 56.9**	**-0.3**
PEL				*e*S	**Sn**	**21 44 25.0**	**-0.4**
PEL				IAML		21 44 28.4	
	comp=N,295nm,0.4s						
MT10	**Hacienda Santa**	**2.29**	**219**	⇓*e*P	**Pn**	**21 43 57.4**	**-0.1**
MT10				*e*S	**Sn**	**21 44 26.0**	**+0.2**
MT10				IAML		21 44 28.8	
	comp=E,464nm,0.4s						
MT03	**Universidad Ad**	**2.45**	**215**	⇑*e*P	**Pn**	**21 43 59.5**	**0.0**
MT03				*e*S	**Sn**	**21 44 28.8**	**-0.7**
MT03				IAML		21 44 33.2	
	comp=N,483nm,0.4s						
ACLC	**CERRO LA CRUZ**	**2.62**	**38**	*e*P	**Pn**	**21 44 02.7**	**+0.8**
ACLC				IAML		21 45 05.3	
	comp=Z,476nm,0.5s						
MRA	**San Martin**	**2.79**	**110**	*e*P	**Pn**	**21 44 04.6**	**+0.6**
MRA				*e*S	**Sn**	**21 44 37.4**	**+0.1**
MRA				IAML		21 44 38.4	
	comp=Z,1μm,0.4s						
VCA	**Vinchina**	**2.81**	**11**	*e*P	**Pn**	**21 44 05.7**	**+1.3**
VCA				IAML		21 44 42.7	
	comp=Z,679nm,0.3s						
LCO	**Las Campanas**	**2.97**	**326**	*e*P	**Pn**	**21 44 06.6**	**0.0**
LCO				*e*S	**Sn**	**21 44 42.1**	**+0.1**
LCO				IAML		21 44 42.6	
	comp=Z,1μm,0.5s						
RFA	**San Rafael**	**3.27**	**175**	*e*P	**Pn**	**21 44 09.2**	**-1.2**
RFA				*e*S	**Sn**	**21 44 46.4**	**-2.4**
RFA				IAML		21 44 49.6	
	comp=Z,258nm,0.3s						
LVC	**Limon Verde**	**8.86**	**359**	P	**Pn**	**21 45 24.0**	**-2.0**
	comp=Z,7.7nm,0.3s,baz=167,slow=8.4,SNR=16						
LVC				S	**Sn**	**21 46 56.4**	**-8.0**
	comp=Z,3.4nm,0.4s,baz=270,slow=20,SNR=2.0						
PLCA	**Paso Flores**	**9.32**	**188**	P	**Pn**	**21 45 29.2**	**-2.6**
	comp=Z,2.9nm,1.1s,baz=4.7,slow=11,SNR=5.9						
LPAZ	**La Paz**	**15.16**	**3**	P	**Pn**	**21 46 50.3**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=181,slow=8.7,SNR=8.2						
SIV	**San Ignacio**	**16.98**	**26**	P	**P**	**21 47 12.1**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=212,slow=10,SNR=4.2						
DBIC	**Dimbokro**	**71.79**	**70**	P	**P**	**21 54 30.9**	**-0.2**
	comp=Z,2.8nm,1.0s,baz=208,slow=7.9,SNR=3.7 comp=Z,2.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**80.79**	**68**	P	**P**	**21 55 22.0**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=288,slow=6.1,SNR=14 comp=Z,0.9nm,0.6s						
NVAR	**Mina Array Bea**	**83.46**	**323**	P	**P**	**21 55 36.2**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=147,slow=5.4,SNR=2.8 comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**120.99**	**204**	PKP	**PKPdf**	**22 02 00.4**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=99,slow=5.8,SNR=8.8						
KURBB	**Kurchatov Arra**	**149.20**	**42**	PKPbc	**PKPbc**	**22 02 55.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=302,slow=2.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**150.67**	**32**	PKPbc	**PKPbc**	**22 02 58.9**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=318,slow=4.4,SNR=10.0						
MKAR	**Makanchi Array**	**153.08**	**47**	PKPbc	**PKPbc**	**22 03 03.6**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=278,slow=3.9,SNR=1.6						

---

*NEIC **30** 21:54:46.7±1.2, 21°4S±0°1×178°6W±0°2, h492km±10km, mb4.4/32, Error ellipse: s-maj=20.8km s-min=18.4km az=109.0*

*IDC **30** 21:54:46.9±1.3, 21°37S×178°75W, h491km±12km, mb3.6/16, mbtmp4.4/17, Error ellipse: s-maj=16.6km s-min=11.6km az=115.0*

ISC 30 21:54:47.3±0.4, 21°47S±0°06×178°70W±0°08, h500km, n145, σ1§24/146, mb4.2/34, 20C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.82**	**320**	P	**P**	**21 56 12.1**	**-0.7**
MSVF	**Nonsavu**	**4.82**	**320**	P	**P**	**21 56 12.3**	**-0.5**
	41nm,0.7s,baz=135,slow=6.5,SNR=56						
MSVF				S	**S**	**21 57 18.9**	**-3.6**
	11nm,0.2s,baz=216,slow=21,SNR=16						
GLKZ	**Green Lake**	**7.79**	**175**	P	P	21 56 32.1	-9.2
GLKZ				S	**S**	**21 58 12.3**	**-2.6**
NIUE	**Niue**	**8.57**	**75**	P	**P**	**21 56 46.9**	**-2.8**
OUZ	**Omahuta**	**15.27**	**205**	P	**P**	**21 58 01.1**	**+0.9**
MXZ	**Matakaoa Point**	**16.24**	**189**	P	**P**	**21 58 11.4**	**+1.1**
MXZ	**Matakaoa Point**	**16.24**	**189**	P	**P**	**21 58 11.1**	**+0.9**
MKAZ	**Moumakai**	**16.46**	**198**	P	**P**	**21 58 12.2**	**-0.3**
WMGZ	**Waiomatatini S**	**16.48**	**188**	P	**P**	**21 58 14.5**	**+1.8**
HAZ	**Te Kaha**	**16.51**	**190**	P	**P**	**21 58 13.6**	**+0.5**
AWAZ	**Awhitu Peninsu**	**16.58**	**199**	P	**P**	**21 58 15.2**	**+1.4**
RUGZ	**Raukumara Rang**	**16.73**	**190**	P	**P**	**21 58 14.7**	**-0.8**
TWGZ	**Tauwhareparae**	**16.89**	**189**	P	**P**	**21 58 14.7**	**-2.3**
URZ	**Urewera**	**17.11**	**191**	P	**P**	**21 58 17.1**	**-2.1**
URZ	**Urewera**	**17.11**	**191**	P	**P**	**21 58 17.3**	**-1.9**
	4.1nm,0.3s,baz=80,slow=9.5,SNR=3.9						
URZ				S	**S**	**22 01 11.0**	**-1.6**
	8.0nm,0.6s,baz=139,slow=20,SNR=2.8						
MWZ	**Matawai**	**17.11**	**190**	P	**P**	**21 58 18.7**	**-0.6**
RAGZ	**Rawiri**	**17.29**	**190**	P	**P**	**21 58 24.1**	**+3.1**
MUGZ	**Murupara**	**17.39**	**192**	P	**P**	**21 58 19.9**	**-2.0**
RIGZ	**Rimuhau**	**17.44**	**189**	P	**P**	**21 58 25.0**	**+2.6**
RTZ	**Ruatahuna**	**17.48**	**191**	P	**P**	**21 58 25.7**	**+2.9**
SNGZ	**Shannon Statio**	**17.58**	**190**	P	**P**	**21 58 26.7**	**+3.0**
PRGZ	**Paritu Road**	**17.64**	**189**	P	**P**	**21 58 27.1**	**+3.0**
MTHZ	**Maungataniwha**	**17.74**	**191**	P	**P**	**21 58 25.5**	**+0.4**
RAHZ	**Arahi**	**17.76**	**191**	P	**P**	**21 58 29.5**	**+4.2**
KNZ	**Kokohu**	**17.77**	**189**	P	**P**	**21 58 28.2**	**+2.9**
HIZ	**Hauiti**	**17.86**	**197**	P	**P**	**21 58 28.2**	**+2.0**
BKZ	**Black Stump Fm**	**18.11**	**192**	P	**P**	**21 58 25.8**	**-2.7**
KWHZ	**Kaweka Forest**	**18.37**	**192**	P	**P**	**21 58 30.6**	**-0.4**
BHHZ	**Black Hill Sta**	**18.51**	**193**	P	**P**	**21 58 29.8**	**-2.4**
KRHZ	**Kereru**	**18.59**	**192**	P	**P**	**21 58 31.6**	**-1.4**
KAHZ	**Kahuranaki**	**18.65**	**191**	P	**P**	**21 58 36.8**	**+3.3**
LREZ	**Lake Rotokare**	**18.88**	**197**	P	**P**	**21 58 36.0**	**+0.5**
MRZ	**Mangatainoka R**	**19.73**	**193**	P	**P**	**21 58 41.5**	**-1.8**
BHW	**Baring Head**	**20.60**	**194**	P	**P**	**21 58 49.7**	**-1.5**
QRZ	**Quartz Range**	**20.68**	**199**	P	**P**	**21 58 52.4**	**+0.5**
TKNZ	**Takaka Hill**	**20.74**	**198**	P	**P**	**21 58 52.5**	**0.0**
THZ	**Tophouse**	**21.43**	**197**	P	**P**	**21 58 58.6**	**-0.1**
DSZ	**Denniston Nort**	**21.74**	**199**	P	**P**	**21 59 01.7**	**+0.1**
INZ	**Inchbonnie**	**22.74**	**199**	P	**P**	**21 59 11.2**	**+0.7**
RPZ	**Rata Peaks**	**23.76**	**199**	P	**P**	**21 59 21.8**	**+2.2**
	11nm,0.6s,baz=35,slow=5.7,SNR=7.5 11nm,0.6s						
LBZ	**Lake Benmore**	**24.63**	**199**	P	**P**	**21 59 27.2**	**-0.1**
EIDS	**Eidsvold**	**27.97**	**256**	P	**P**	**21 59 57.0**	**0.0**
EIDS				IAmb	IAmb	22 00 01.0	
	comp=Z,7.4nm,1.1s						
CTA	**Charters Tower**	**32.75**	**266**	P	**P**	**22 00 38.4**	**0.0**
	comp=Z,9.8nm,0.7s,baz=90,slow=10,SNR=14 comp=Z,9.8nm,0.7s						
CTAO	**Charters Tower**	**32.75**	**266**	P	**P**	**22 00 38.1**	**-0.3**
CTAO				IAmb	IAmb	22 00 39.6	
	comp=Z,14nm,0.9s						
TOO	**Toolangi**	**34.80**	**235**	P	**P**	**22 00 55.8**	**+0.3**
TOO				IAmb	IAmb	22 00 57.2	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**36.78**	**245**	P	**P**	**22 01 11.9**	**0.0**
STKA	**Stephens Creek**	**36.78**	**245**	P	**P**	**22 01 12.0**	**0.0**
	comp=Z,1.9nm,0.5s,baz=105,slow=8.6,SNR=6.0 comp=Z,1.9nm,0.5s						
COEN	**Coen**	**37.00**	**275**	P	**P**	**22 01 14.3**	**+0.2**
COEN				IAmb	IAmb	22 01 15.6	
	comp=Z,13nm,0.9s						
BBOO	**Buckleboo**	**41.53**	**244**	P	**P**	**22 01 49.4**	**-1.1**
BBOO				IAmb	IAmb	22 01 50.5	
	comp=Z,18nm,1.1s						
WR0	**Warramunga Arr**	**43.64**	**263**	P	**P**	**22 02 06.0**	**-1.2**
AS31	**Alice Springs**	**43.66**	**258**	P	**P**	**22 02 07.6**	**+0.2**
ASAR	**Alice Springs**	**43.66**	**258**	P	**P**	**22 02 07.1**	**-0.3**
	comp=Z,6.6nm,0.8s,baz=90,slow=8.3,SNR=50						
ASAR				PcP	**PcP**	**22 03 44.3**	**+0.5**
	comp=Z,3.9nm,0.7s,baz=109,slow=3.5,SNR=20						
ASAR				ScP	**ScP**	**22 06 50.1**	**+2.6**
	comp=Z,1.0nm,0.9s,baz=103,slow=4.1,SNR=5.3 comp=Z,6.6nm,0.8s						
WB0	**Warramunga Arr**	**43.81**	**263**	P	**P**	**22 02 07.9**	**-0.7**
WB0				IAmb	IAmb	22 02 08.5	
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**43.81**	**263**	P	**P**	**22 02 07.9**	**-0.7**
WB2				IAmb	IAmb	22 02 08.7	
	comp=Z,9.5nm,0.8s						
WRA	**Warramunga Arr**	**

comp=Z,1.1nm,0.7s,baz=179,slow=1.1,SNR=4.8
comp=Z,1.1nm,0.7s
NVAR Mina Array Bea 82.18 44 P **P 22 06 15.9 +0.1**
comp=Z,0.3nm,0.4s,baz=227,slow=8.8,SNR=5.4
comp=Z,0.3nm,0.4s
O16K Kokwok River B 82.52 10 P **P 22 06 16.2 -0.5**
O16K IAmb IAmb 22 06 24.6
comp=Z,12nm,1.1s
N15K Kwethluk River 82.75 9 P **P 22 06 17.9 0.0**
N15K IAmb IAmb 22 06 42.8
comp=Z,14nm,1.1s
M16K Timber Creek 83.74 10 P **P 22 06 23.8 +1.1**
K15K Wolf Creek Mou 84.60 8 P **P 22 06 28.1 +1.1**
K15K IAmb IAmb 22 06 36.0
comp=Z,8.2nm,1.1s
ELIB Princess Elisa 85.60 187 *d*P **P 22 06 32.1 0.0**
comp=Z,5.8nm,0.8s
VNA3 Neumayer Olymp 87.22 176 ⇑P **P 22 06 39.2 -0.4**
comp=Z,2.2nm,0.7s
VNA2 Neumayer--Watz 87.65 177 ⇑P **P 22 06 41.4 -0.3**
comp=Z,1.3nm,0.8s,baz=197,slow=3.0
VNA1 Neumayer--Stat 87.88 177 ⇑P **P 22 06 43.5 +0.9**
comp=Z,3.8nm,0.9s
TXAR Lajitas Array 88.13 58 P **P 22 06 45.3 +0.6**
comp=Z,0.9nm,1.0s,baz=207,slow=5.3,SNR=5.4
comp=Z,0.9nm,1.0s
ILAR Eielson Array 89.41 13 P **P 22 06 49.1 -0.6**
comp=Z,0.9nm,0.6s,baz=224,slow=5.4,SNR=16
comp=Z,0.9nm,0.6s
CMAR Chiang Mai Arr 89.82 290 P **P 22 06 53.1 +0.4**
comp=Z,2.0nm,0.3s,baz=131,slow=3.1,SNR=20
comp=Z,2.0nm,0.3s
PDAR Pinedale Array 90.12 43 P **P 22 06 53.5 -0.3**
comp=Z,0.4nm,0.8s,baz=196,slow=2.6,SNR=4.9
comp=Z,0.4nm,0.8s
ZALV Zalesovo Beam 110.84 321 PKiKP **PKiKP 22 12 21.4 -1.4**
comp=Z,0.5nm,0.5s,baz=87,slow=0.4,SNR=4.1
MKAR Makanchi Array 111.39 313 PKiKP **PKiKP 22 12 23.4 -0.7**
comp=Z,0.3nm,0.4s,baz=205,slow=0.7,SNR=6.4
KURBB Kurchatov Arra 114.31 317 PKiKP PKPdf 22 12 28.4 -1.1
comp=Z,0.3nm,0.6s,baz=105,slow=1.7,SNR=9.4
BVAR Borovoye Array 119.40 320 PKP **PKPdf 22 12 38.6 -0.6**
comp=Z,2.2nm,0.5s,baz=118,slow=1.4,SNR=25
GEYT Alibeck 128.75 302 PKP **PKPdf 22 12 57.6 0.0**
comp=Z,0.5nm,0.3s,baz=35,slow=5.3,SNR=4.4
ARCES ARCESS Array B 129.75 349 PKP **PKPdf 22 12 58.4 -0.2**
comp=Z,3.1nm,0.7s,baz=341,slow=2.6,SNR=9.4
FINES FINESS Array B 136.51 343 PKP **PKPdf 22 13 11.4 -0.1**
comp=Z,4.0nm,0.9s,baz=112,slow=1.5,SNR=6.0
NB2 NORSAR Subarra139.86 353 PKP PKPpre 22 13 10.7
comp=Z,0.4nm,0.5s,baz=18,slow=3.2
NOA NORSAR Array B 139.86 353 PKhKP PKPpre 22 13 09.9
comp=Z,0.7nm,0.9s,baz=266,slow=3.1,SNR=4.8
HFS Hagfors 140.39 350 PKhKP PKPpre 22 13 11.5
comp=Z,1.5nm,0.3s,baz=64,slow=3.4,SNR=17
AKASG Malin Array Be 143.53 330 PKP PKPab 22 13 22.5 -0.3
comp=Z,5.0nm,0.5s,baz=42,slow=4.4,SNR=32
SORM Soroca 145.68 327 ⇓P **PKPbc 22 13 30.0 +0.3**
EKA Eskdalemuir Ar 146.03 5 PKPbc **PKPdf 22 13 29.9 +1.3**
comp=Z,4.3nm,0.7s,baz=342,slow=2.7,SNR=10.0
BRTR Keskin Array B 146.99 311 PKPbc **PKPbc 22 13 33.8 -0.1**
comp=Z,2.9nm,0.7s,baz=132,slow=4.8,SNR=12
BURAR Bucovina Array 147.57 329 ⇓P **PKPbc 22 13 35.9 +0.9**
MMAI Mount Meron Ar 147.71 298 PKPbc **PKPbc 22 13 36.7 +0.9**
comp=Z,8.5nm,0.8s,baz=64,slow=3.4,SNR=5.5
TRPA Tarpa 148.41 332 ⇓P **PKPbc 22 13 37.4 +0.5**
DOPR Dopca 148.63 327 ⇑P **PKPbc 22 13 38.9 +1.2**
OSTC Ostas 148.69 342⇑*e*PKP **PKPbc 22 13 38.9 +1.3**
UPC Upice 148.80 342⇑*e*PKP **PKPbc 22 13 38.1 +0.2**
DPC Dobruska-Polom 148.84 341⇑*e*PKP **PKPbc 22 13 38.6 +0.6**
CLL Collm 148.85 346 *i* PKPbc **PKPbc 22 13 38.7 +0.8**
comp=Z,9.0nm,1.1s
CLL *i* PKPab **PKPab 22 13 44.0 +0.2**
KRLC Kraliky 148.95 341⇑*e*PKP **PKPbc 22 13 39.0 +0.7**
VOIR 149.18 326 ⇓P **PKiKP 22 13 40.4 +0.5**
PVCC Panska Ves 149.18 343⇑*e*PKP **PKPbc 22 13 39.4 +0.6**
MAUC Maruska 149.22 339⇑*e*PKP **PKiKP 22 13 40.3 +0.4**
HSKC Hora Svate Kat 149.40 345⇑*e*PKP **PKPbc 22 13 39.5 +0.2**
ARR Arges 149.43 327 ⇓P **PKiKP 22 13 41.7 +1.2**
GOPC GO Pecny, Ondr 149.68 343⇑*e*PKP **PKPbc 22 13 40.9 +0.9**
VRAC Vranov 149.68 340 *e*PKP **PKPbc 22 13 40.1 +0.1**
PRU Pruhonice 149.68 343⇑*e*PKP **PKPbc 22 13 40.6 +0.6**
JAVC Velka Javorina 149.71 338 *e*PKP **PKPbc 22 13 41.1 +0.9**
HUMR Humele 149.82 325 ⇑P **PKPbc 22 13 40.5 0.0**
KRUC Moravsky 149.96 340 *e*PKP **PKPbc 22 13 40.5 -0.2**
NKC Novy Kostel 149.98 346⇑*e*PKP **PKPbc 22 13 41.7 +1.0**
ZVC Zvikov 150.27 343⇑*e*PKP **PKPbc 22 13 42.1 +0.7**
GZR Gura Zlata 150.34 329 ⇑P **PKPbc 22 13 42.0 +0.2**
SURR Surduc 150.39 330 ⇓P **PKPbc 22 13 41.9 +0.1**
MEM Membach 150.69 354 *d*PKP **PKPbc 22 13 42.7 +0.4**
BTNL Ternell 150.70 354 *d*PKP **PKPbc 22 13 43.0 +0.6**
KHC Kasperske Hory 150.72 343⇑*e*PKP **PKPbc 22 13 43.3 +0.8**
BZS Buzias 150.73 330 ⇑P **PKPbc 22 13 43.1 +0.5**
BCA Clavier 150.94 355 *d*PKP **PKPbc 22 13 42.3 -0.6**
GERES GERESS Array B 150.95 343 PKPbc **PKPbc 22 13 43.4 +0.3**
comp=Z,2.3nm,0.6s,baz=25,slow=3.0,SNR=9.8
BMRD Maredsous 151.10 355 *d*PKP **PKPbc 22 13 42.2 -1.0**
CONA Conrad Observa 151.12 340 *i* PKiKP **PKPbc 22 13 44.1 +0.6**
comp=Z,6.2nm,0.6s
RONA Rosalia, Austr 151.18 339 *i* PKiKP **PKPbc 22 13 44.2 +0.6**
comp=Z,8.3nm,0.6s
MORH Mrgy, Hungar 151.55 334 ⇓P **PKPbc 22 13 44.7 +0.3**
WLF Walferdange 151.61 353 *d*PKP **PKiKP 22 13 45.5 +0.8**
MOA Molln 151.69 341 *i* PKP **PKPbc 22 13 44.8 +0.1**
comp=Z,3.4nm,0.7s
FRGS Fruska Gora 151.90 332 ⇑P **PKPbc 22 13 45.8 +0.5**
BOVS Bovan 152.14 327 ⇓P **PKPbc 22 13 44.6 -1.3**
SOKA Soboth 152.49 339 *i* PKP **PKPbc 22 13 46.3 -0.3**
comp=Z,3.3nm,0.9s
LESA Schwarzleotal 152.52 343 *i* PKiKP **PKPbc 22 13 47.0 +0.3**
comp=Z,4.5nm,1.2s
WATA Walderalm 152.89 345 *i* PKiKP **PKPbc 22 13 47.4 -0.1**
comp=Z,2.6nm,0.6s
WTTA Wattenberg 152.94 344 *i* PKiKP **PKPbc 22 13 47.8 0.0**
comp=Z,5.0nm,0.8s
MOTA Moosalm 153.00 345 *i* PKP **PKPbc 22 13 47.5 -0.3**
comp=Z,2.1nm,0.6s
SQTA Sankt Quirin 153.09 345 *i* PKiKP **PKPbc 22 13 48.0 0.0**
comp=Z,2.4nm,0.8s
ABTA Abfaltersbach 153.19 343 *i* PKP **PKPbc 22 13 47.7 -0.4**
comp=Z,3.3nm,0.6s
TORD Torodi Ar. Bea 171.71 183 PKPab **PKPab 22 15 23.9 -0.1**
comp=Z,0.6nm,0.7s,baz=149,slow=2.7,SNR=4.6

NOU 30 21:55:33.9, 21°.69S×169°.08E, h0km, MLv3.3/7, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.00	282	P	Pb	21 55 53.6	-0.5
LIFNC	LIFOU	1.94	298	P	Pn	21 56 07.7	-0.5
YATNC	Mamie plateau,	2.07	250	P	Pn	21 56 09.1	-0.8
OUENC	Ouen Island, N	2.20	250	P	Pn	21 56 12.0	+0.3
DZM	Mont Dzumac	2.48	261	P	Pn	21 56 15.7	+0.1
NOUC	Port Laguerre	2.61	260	P	Pn	21 56 17.3	-0.1

*EAF **30** 22:05:13.6, 28°.84S×27°.35E, h38km, MC3.6*
*BUL **30** 22:05:14.2±2.2, 28°.81S×27°.31E, h10km±386km, MD3.9*
*PRE **30** 22:05:16.2±0.9, 28°.04S×26°.76E, h2km, ML2.2*
ISC 30 22:05:17.0±0.8, 28°.02S±0°.03×26°.75E±0°.03, h10km, n26, σ1s02/48, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNKL	Senekal, Frees	0.94	106	*e*P	Pg	22 05 34.8	-0.3
SNKL				*e*S	Sg	22 05 46.8	-0.6
SNKL				IAML		22 05 50.7	
	comp=Z,72nm,0.4s						
PRYS	Parys	1.22	27	*e*P	Pg	22 05 40.7	+0.3
PRYS				*e*S	Sn	22 05 57.0	+0.1
PRYS				IAML		22 05 59.8	
	comp=Z,227nm,0.3s						
BOSA	Boshof	1.45	245	*i* P	Pb	22 05 44.7	+0.6
BOSA				*i* S	Sn	22 06 02.7	+0.2
BOSA	Boshof	1.45	245	*i* P	Pb	22 05 44.7	+0.6
	baz=278						
BOSA				*i* S	Sn	22 06 02.7	+0.2
	baz=278						
WDLM	Western Deep L	1.70	21	*e*P	Pn	22 05 47.5	+0.6
WDLM				*e*S	Sg	22 06 11.4	-0.3
WDLM				IAML		22 06 14.2	
	comp=Z,73nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	Koster	2.16	4	*e*P	Pn	22 05 54.0	+0.7
KSR				*e*S	Sb	22 06 22.4	-0.9
KSR				IAML		22 06 27.5	
	comp=Z,230nm,0.2s						
SLR	Silverton	2.65	31	*e*P	Pn	22 06 01.4	+1.4
SLR				*e*S	Sn	22 06 33.5	+1.2
SLR				IAML		22 06 47.7	
	comp=Z,25nm,0.4s						
LBTB	Lobatse	3.16	341	*i* P	Pb	22 06 13.0	-0.4
LBTB				*i* S	Sg	22 06 57.5	-1.2
LBTB	Lobatse	3.16	341	*e*P	Pn	22 06 08.2	+1.2
LBTB				*e*S	Sn	22 06 46.4	+1.5
LBTB				IAML		22 07 03.5	
	comp=Z,19nm,0.4s						
LBTB	Lobatse	3.16	341	*i* P	Pb	22 06 13.0	-0.4
	baz=337						
LBTB				*i* S	Sg	22 06 57.5	-1.2
	baz=337						
KSTD	Kokstad	3.42	140	*e*P	Pn	22 06 11.5	+0.9
KSTD				*e*S	Sn	22 06 51.0	-0.3
KSTD				IAML		22 07 09.5	
	comp=Z,7.6nm,0.4s						
LEPH	Lephalale, Lim	4.25	13	*e*P	Pn	22 06 23.0	+1.1
LEPH				*e*S	Sn	22 07 11.1	-0.5
LEPH				IAML		22 07 38.0	
	comp=Z,6.1nm,0.3s						
BFON	Badsfontein, M	4.61	214	*e*P	Pn	22 06 27.8	+0.9
BFON				*e*S	Sn	22 07 19.9	-0.7
BFON				IAML		22 07 50.6	
	comp=Z,5.8nm,0.7s						
GRAF	Camdeboo Natio	4.68	204	*e*P	Pn	22 06 28.9	+1.1
GRAF				*e*S	Sn	22 07 20.9	-1.3
GRAF				IAML		22 07 57.2	
	comp=Z,5.8nm,0.4s						
PILG	Pilgrimsrest,	4.69	50	*e*P	Pn	22 06 29.3	+1.2
PILG				*e*S	Sn	22 07 22.3	-0.5
PILG				IAML		22 07 51.9	
	comp=Z,7.4nm,0.4s						
UPI	Upington	4.86	265	*e*P	Pn	22 06 31.9	+1.6
UPI				*e*S	Sn	22 07 25.4	-1.4
UPI				IAML		22 08 00.4	
	comp=Z,5.0nm,0.4s						
BRAK	Brakfontein	5.03	221	*e*P	Pn	22 06 33.2	+0.6
BRAK				*e*S	Sn	22 07 30.0	-0.8
BRAK				IAML		22 08 01.1	
	comp=Z,5.5nm,0.5s						
KEIM	Keimoes	5.14	261	*e*P	Pn	22 06 35.4	+1.3
KEIM				*e*S	Sn	22 07 33.2	-0.4
KEIM				IAML		22 08 04.3	
	comp=Z,4.7nm,0.4s						
GRHM	Grahamstown, E	5.25	183	*e*P	Pn	22 06 36.7	+1.1
GRHM				*e*S	Sn	22 07 35.5	-0.9
GRHM				IAML		22 08 08.1	
	comp=Z,2.4nm,0.8s						
GRAN	Grantham	5.83	222	*e*P	Pn	22 06 45.1	+1.6
GRAN				*e*S	Sn	22 07 48.9	-1.7
GRAN				IAML		22 08 27.1	
	comp=Z,3.9nm,0.5s						
FRAZ	Fraserburg	6.05	229	*e*P	Pn	22 06 47.7	+0.9
FRAZ				*e*S	Sn	22 07 55.1	-1.1
FRAZ				IAML		22 08 13.5	
	comp=Z,2.0nm,1.0s						
MOPA	Mopani	6.13	44	*i* P	Pn	22 06 43.1	-4.7
MOPA	Mopani	6.13	44	*i* P	Pn	22 06 43.1	-4.7
	baz=35						
MUSN	Musina, Limpop	6.36	27	*i* P	Pn	22 06 51.2	+0.3
MUSN				*i* S	Sn	22 08 03.7	0.0
MUSN	Musina, Limpop	6.36	27	*i* P	Pn	22 06 51.2	+0.3
	baz=20						
MUSN				*i* S	Sn	22 08 03.7	0.0
	baz=20						
SUR	Sutherland	6.73	228	*e*P	Pn	22 06 56.9	+0.8
SUR				*e*S	Sn	22 08 10.0	-2.9
SUR				IAML		22 08 41.4	
	comp=Z,0.7nm,0.5s						

*FUNV **30** 22:19:50.2, 10°.10N×70°.12W, h5km, MW3.0*
ISC 30 22:19:49.5±1.0, 10°.10N±0°.03×70°.12W±0°.03, h9km±8km, n15, σ1s29/29, 1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	Curarigua	0.18	118	⇓*i*P	Pg	22 19 53.8	+0.3
CURV				*e*S	Sg	22 19 56.2	+0.1
SIQV	Siquisique	0.63	30	*e*P	Pg	22 20 01.8	+0.1
SIQV				*e*S	Sg	22 20 11.1	+1.1
TEPV	Terepaima	0.93	98	*e*P	Pg	22 20 07.8	+0.3
TEPV				*e*S	Sg	22 20 19.1	-0.4
SDV	Santo Domingo	1.31	203	*e*P	Pn	22 20 15.3	+1.1
SDV				*e*S	Sg	22 20 32.2	+0.5
JACV	Jacura	1.61	52	*e*P	Pn	22 20 19.1	+1.0
JACV				*e*S	Sn	22 20 40.0	+1.0
TURV	Turiamo	2.27	81	*e*P	Pn	22 20 27.9	+0.6
TURV				*e*S	Sn	22 20 55.1	-0.4
BAUV	El Baul	2.35	119	*e*P	Pn	22 20 29.3	+0.9
BAUV				*e*S	Sn	22 20 57.8	+0.4
URIC	Uribia, Colomb	2.43	311	*e*P	Pn	22 20 29.9	+0.4
URIC				*e*S	Sn	22 20 59.6	+0.3
BENV	Beln	2.49	93	*e*P	Pn	22 20 31.2	+0.9
BENV				*e*S	Sn	22 21 00.7	-0.3
CRJC	Cerrejon, Guaj	2.86	289	*e*P	Pn	22 20 37.1	+1.7
CRJC				*e*S	Sn	22 21 11.7	+1.5
TACV	Tcata	3.05	89	*e*P	Pn	22 20 38.9	+0.9
TACV				*e*S	Sn	22 21 13.7	-1.0
CAPV	Capacho	3.10	224	*e*P	Pn	22 20 39.1	+0.2
CAPV				*e*S	Sn	22 21 14.8	-1.4
LL6C	La Loma 6 Bece	3.12	264	*e*P	Pb	22 20 43.3	-2.0
LL6C				*e*S	Sb	22 21 21.4	-2.1
PAMC	Pamplona, Colo	3.74	223	*e*P	Pg	22 21 00.9	-0.4
PAMC				*e*S	Sn	22 21 35.3	+2.9
RUSC	La Rusia	5.11	215	*e*P	Pn	22 21 09.5	+2.8

*NEIC **30** 22:34:48.5±1.3, 56°.06S±0°.09×27°.4W±0°.2, h118km±3km, mb4.4/18, Error ellipse: s-maj=15.5km s-min=12.6km az=56.0*
*IDC **30** 22:34:50.4±3.1, 56°.02S×27°.42W, h135km±27km, mb3.9/9, mbtmp4.4/10, Error ellipse: s-maj=18.1km s-min=14.5km az=52.0*
ISC 30 22:34:47.5±0.4, 56°.02S±0°.08×27°.42W±0°.08, h112km, n77, σ0s75/74, mb4.3/13, 6D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.49	285	Pn	Pn	22 36 07.6	+0.9
VNA1	Neumayer--Stat	16.87	158	⇓P	P	22 38 37.6	+1.0
	comp=Z,2.8nm,0.4s						
VNA3	Neumayer Olymp	17.06	160	⇓P	P	22 38 39.2	+0.5
	comp=Z,14nm,0.8s						
VNA3	Neumayer Olymp	17.06	160	⇓S	Sn	22 41 37.5	-11
VNA2	Neumayer--Watz	17.27	158	⇓P	Pn	22 38 41.6	+0.4
	comp=Z,6.2nm,0.3s,baz=317,slow=12						
VNA2	Neumayer--Watz	17.27	158	⇓S	Sn	22 41 42.0	-11
	baz=318,slow=21						
EFI	East Falkland	18.51	271	P	P	22 38 54.1	-0.6
PMSA	Palmer Station	19.82	229	P	P	22 39 10.2	+1.4
PMSA	Palmer Station	19.82	229	P	Pn	22 39 10.7	-0.8
	comp=Z,21nm,0.6s,baz=61,slow=6.3,SNR=12						
TROLL	Troll, Antarti	20.33	153	⇓P	P	22 39 14.8	+0.4
	comp=Z,731nm,0.6s						
BELA	Belgrano 2	22.10	184	P	P	22 39 32.4	-0.7
TRQA	Tornquist	29.19	293	P	P	22 40 37.9	-0.3
PLCA	Paso Flores	31.87	280	PcP	PcP	22 43 49.8	+0.1
	comp=Z,1.6nm,0.8s,baz=170,slow=5.9,SNR=3.6						
QSPA	South Pole Qui	34.23	180	P	P	22 41 22.8	+0.7
QSPA				IAmb	IAmb	22 41 26.1	
	comp=Z,4.5nm,0.9s						
QSPA	South Pole Qui	34.23	180	P	P	22 41 22.6	+0.5
	comp=Z,2.7nm,0.6s,baz=196,slow=2.5,SNR=12						
QSPA				PcP	PcP	22 43 55.9	0.0
	comp=Z,1.4nm,0.5s,baz=228,slow=3.8,SNR=2.4						
QSPA				ScP	ScP	22 47 27.1	-3.2
	comp=Z,1.0nm,0.6s,baz=182,slow=5.9,SNR=2.5						
	comp=Z,2.7nm,0.6s						
CPUP	Villa Florida	36.70	312	PcP	PcP	22 44 04.0	+0.4
	comp=Z,0.6nm,0.3s,baz=123,slow=4.9,SNR=3.0						
CFA	Coronel Fontan	37.43	293	P	P	22 41 48.8	-0.9
	comp=Z,1.5nm,0.4s,baz=123,slow=11,SNR=1.4						
	comp=Z,1.5nm,0.4s						
MAW	Mawson	40.25	144	P	P	22 42 13.2	+0.6
MAW	Mawson	40.25	144	P	P	22 42 12.9	+0.3
	comp=Z,4.8nm,0.7s,baz=242,slow=7.6,SNR=14						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW				PcP	PcP	22 44 14.8	+0.8
	comp=Z,1.0nm,0.5s,baz=271,slow=3.5,SNR=3.0						
	comp=Z,4.8nm,0.7s						
LCO	Las Campanas	40.78	293	P	P	22 42 17.7	-0.1
LVC	Limon Verde	45.18	300	P	P	22 42 54.6	+1.2
LVC				IAmb	IAmb	22 43 23.4	
	comp=Z,8.3nm,1.4s						
LVC	Limon Verde	45.18	300	P	P	22 42 53.9	+0.5
	comp=Z,1.5nm,0.3s,baz=153,slow=2.3,SNR=2.9						
	comp=Z,1.5nm,0.3s						
BOSA	Boshof	46.09	76	P	P	22 43 00.7	+0.5
BOSA				IAmb	IAmb	22 43 12.4	
	comp=Z,14nm,1.5s						
BOSA	Boshof	46.09	76	P	P	22 43 00.1	-0.2
	comp=Z,1.1nm,0.6s,baz=161,slow=7.2,SNR=3.6						
	comp=Z,1.1nm,0.6s						
SBA	Scott Base	46.10	184	P	P	22 42 59.1	-0.4
PTLB	Pontes e Lacer	47.19	316	P	P	22 43 09.1	+0.4
PTLB				IAmb	IAmb	22 43 09.5	
	comp=Z,4.8nm,1.1s						
SIV	San Ignacio	47.46	314	P	P	22 43 11.1	+0.2
	comp=Z,0.4nm,0.4s,baz=203,slow=13,SNR=1.9						
SIV				PcP	PcP	22 44 38.7	-0.7
	comp=Z,1.3nm,0.8s,baz=159,slow=5.0,SNR=4.4						
	comp=Z,0.4nm,0.4s						
H10S2	ASCENSION HYDR	48.01	17	T	T	23 35 35.5	
	baz=186						
H10S3	ASCENSION HYDR	48.01	17	T	T	23 35 23.9	
	baz=34						
LBTB	Lobatse	49.12	73	P	P	22 43 23.2	-0.5
LBTB				IAmb	IAmb	22 43 24.9	
	comp=Z,5.8nm,0.8s						
H10N1	ASCENSION HYDR	49.13	17	T	T	23 36 49.1	
	baz=195						
H10N3	ASCENSION HYDR	49.13	17	T	T	23 37 25.6	
	baz=195,slow=74						
H10N2	ASCENSION HYDR	49.14	17	T	T	23 37 16.4	
	baz=195,slow=74						
LPAZ	La Paz	50.26	305	P	P	22 43 33.4	+0.5
LPAZ				IAmb	IAmb	22 43 34.6	
	comp=Z,2.8nm,0.8s						
LPAZ	La Paz	50.26	305	P	P	22 43 33.8	+0.9
	comp=Z,2.4nm,0.3s,baz=117,slow=3.5,SNR=18						
LPAZ				PcP	PcP	22 44 50.5	+0.2
	comp=Z,1.3nm,0.5s,baz=158,slow=4.9,SNR=2.1						
	comp=Z,2.4nm,0.3s						
LSZ	Lusaka	58.48	69	P	P	22 44 31.2	-0.6
BOAV	Boa Vista	64.18	323	P	P	22 45 09.2	-0.9
BOAV				IAmb	IAmb	22 45 28.1	
	comp=Z,4.4nm,1.3s						
DBIC	Dimbokro	65.19	25	P	P	22 45 17.0	+0.4
DBIC				IAmb	IAmb	22 45 18.1	
	comp=Z,6.8nm,1.0s						
DBIC	Dimbokro	65.19	25	P	P	22 45 17.0	+0.4
	comp=Z,7.0nm,1.1s,baz=179,slow=6.3,SNR=5.2						
	comp=Z,7.0nm,1.1s						
TOA0	Torodi Ar. Sit	73.09	30	P	P	22 46 05.8	+0.5
TOA0				IAmb	IAmb	22 46 07.1	
	comp=Z,8.2nm,1.0s						
TORD	Torodi Ar. Bea	73.09	30	P	P	22 46 05.8	+0.5
TORD				IAmb	IAmb	22 46 07.1	
	comp=Z,6.1nm,0.9s						
TORD	Torodi Ar. Bea	73.09	30	P	P	22 46 06.1	+0.8
	comp=Z,4.9nm,0.5s,baz=201,slow=6.0,SNR=54						
	comp=Z,4.9nm,0.5s						
MRNZ	Matariki Terra	81.45	195	P	P	22 46 50.3	-1.4
BSUT	Blindstream Ca	119.09	300	PKPdf	PKiKP	22 53 23.9	+1.1
PDAR	Pinedale Array	120.22	302	PKPdf	PKPdf	22 53 23.4	-1.2
PDAR	Pinedale Array	120.22	302	PKP	PKPdf	22 53 23.2	-1.4
	comp=Z,0.2nm,0.3s,baz=106,slow=4.7,SNR=5.6						
NVAR	Mina Array Bea	121.27	293	PKP	PKPdf	22 53 27.3	+0.5
	comp=Z,0.5nm,0.6s,baz=127,slow=2.9,SNR=4.9						
TPAW	Teton Pass	121.43	302	PKPdf	PKPdf	22 53 26.4	-0.6
FINES	FINESS Array B	124.42	28	PKPdf	PKPdf	22 53 30.9	-0.8
FINES	FINESS Array B	124.42	28	PKP	PKPdf	22 53 31.2	-0.5
	comp=Z,5.0nm,0.9s,baz=156,slow=5.6,SNR=3.4						
PLID	Pearl Lake	125.05	300	PKPdf	PKPdf	22 53 33.8	0.0
CMAR	Chiang Mai Arr	125.19	111	PKP	PKPdf	22 53 34.3	-0.3
	comp=Z,0.6nm,0.3s,baz=242,slow=3.3,SNR=2.3						
K05A	Summer Lake	125.77	295	PKPdf	PKiKP	22 53 36.0	+0.3
AAK	Ala-Archa	130.09	71	PKP	PKPdf	22 53 43.3	-0.1
	comp=Z,1.0nm,0.3s,baz=180,slow=6.1,SNR=2.5						
ARCES	ARCESS Array B	130.96	22	PKP	PKPdf	22 53 43.6	-0.4
	comp=Z,7.9nm,1.1s,baz=224,slow=3.8,SNR=2.1						
BVAR	Borovoye Array	134.87	58	PKP	PKPdf	22 53 52.2	+0.4
	comp=Z,1.6nm,0.6s,baz=214,slow=2.5,SNR=2.8						
YKA	Yellowknife Ar	136.06	318	PKP	PKPdf	22 53 53.7	-0.1
	comp=Z,0.9nm,0.8s,baz=167,slow=6.7,SNR=2.6						
MKAR	Makanchi Array	137.00	72	PKP	PKiKP	22 53 57.6	-0.3
	comp=Z,1.2nm,0.9s,baz=252,slow=1.6,SNR=2.0						
ZALV	Zalesovo Beam	142.47	64	PKhKP	PKPpre	22 54 01.4	
	comp=Z,1.0nm,0.4s,baz=222,slow=6.2,SNR=2.4						
P29M	Windy Craggy	144.27	305	PKPdf	PKPbc	22 54 08.1	+0.7
H31M	Peel River	145.22	316		PKPbc	22 54 10.0	-0.2
EPYK	Eagle Plains	146.32	317	PKPdf	PKPdf	22 54 13.3	+1.2
I28M	Miner Creek	147.31	314	PKPdf	PKPdf	22 54 15.2	+1.4
BCAR	Beaver Creek A	147.38	310	PKPbc	PKPbc	22 54 16.0	-0.6
G27K	Doyon Strip	148.34	317	PKPbc	PKPbc	22 54 18.9	-0.2
BMAR	Burnt Mountain	149.58	317	PKPbc	PKPbc	22 54 22.5	+0.4
ILAR	Eielson Array	150.00	312	PKPbc	PKPbc	22 54 23.0	-0.2
ILAR	Eielson Array	150.00	312	PKPbc	PKPbc	22 54 22.9	-0.3
	comp=Z,8.1nm,0.8s,baz=136,slow=2.8,SNR=61						
SONM	Songino Array	150.85	87	PKPbc	PKPbc	22 54 25.4	-0.5
SONM	Songino Array	150.85	87	PKPbc	PKPbc	22 54 25.8	-0.2
	comp=Z,8.7nm,0.6s,baz=222,slow=3

KAPI Kappang 3.69 12 P Pn 22 38 16.8 +1.7
3µm,0.5s,baz=187,slow=8.9,SNR=2204
KAPI S **Sn 22 38 58.4 +0.3**
726nm,0.3s,baz=140,slow=18,SNR=11
DNP Denpasar 3.73 269 P Pn 22 38 15.3 -0.2
SRBI Singaraja 3.77 278 P Pn 22 38 15.6 -0.5
IGBI Denpasar 3.79 267 P Pn 22 38 15.5 -0.9
BBSI Bau Bau 4.75 49 P Pn 22 38 32.6 +3.4
ABJI Asem Bagus 4.77 280 P Pn 22 38 30.2 +0.7
JAGI Jajag, Banyuwa 4.78 272 Pn Pn 22 38 26.9 -2.7
JAGI Jajag, Banyuwa 4.78 272 P Pn 22 38 27.8 -1.8
JAGI Jajag, Banyuwa 4.78 272 P Pn 22 38 27.3 -2.3
BATI Baumata 4.87 109 P Pn 22 38 31.2 +0.3
BATI Baumata 4.87 109 P Pn 22 38 31.2 +0.3
2µm,0.4s,baz=272,slow=7.3,SNR=210
BATI S **Sn 22 39 23.5 -2.9**
2µm,0.3s,baz=304,slow=18,SNR=3.9
BATI LR LR 22 40 34.2
comp=Z,2µm,18.7s,baz=1.0,slow=40
SOEI Soe 5.33 102 Pn Pn 22 38 37.7 +0.5
SOEI Soe 5.33 102 P Pn 22 38 38.6 +1.4
SOEI Soe 5.33 102 P Pn 22 38 37.3 +0.1
3µm,0.7s,31µm4µm19nm
BLJI Banyuglugur 5.41 279 P Pn 22 38 38.2 +0.2
2µm,0.4s,29µm17nm
GMJI Gumukmas 5.49 273 P Pn 22 38 36.8 -2.3
1µm,0.7s
TTSI Tana Toraja 5.63 9 P Pn 22 38 45.4 +4.4
2µm,0.9s,13µm3µm5.3nm
BBKI Banjar Baru 6.59 321 P Pn 22 38 57.6 +3.6
2µm,1.1s,20µm6.7nm
GRJI Gresik 6.67 284 P Pn 22 38 55.8 +0.8
2µm,1.1s,15µm5.6nm
BWJI Bawean 6.86 293 P Pn 22 38 59.4 +1.8
2µm,0.8s,22µm7.5nm
NGJI Ngawi 7.55 279 P Pn 22 39 09.0 +2.0
587nm,1.0s,6µm6.0nm
BKB Balikpapan 7.62 344 Pn Pn 22 39 13.9 +6.0
BKB Balikpapan 7.62 344 P Pn 22 39 14.4 +6.5
BKB Balikpapan 7.62 344 P Pn 22 39 14.5 +6.6
641nm,1.3s,8µm4µm2.4nm
WOJI Wonogiri, Jawa 8.02 275 P Pn 22 39 12.4 -0.8
399nm,0.7s,7µm7.8nm
SMKI Samarinda 8.33 348 P Pn 22 39 23.4 +5.9
2µm,1.2s,18µm5.6nm
UGM Wanagama 8.40 274 Pn Pn 22 39 17.8 -0.7
UGM Wanagama 8.40 274 P Pn 22 39 17.7 -0.7
UGM Wanagama 8.40 274 P Pn 22 39 18.6 +0.2
800nm,0.7s,9µm
LUWI Luwuk 8.45 27 Pn Pn 22 39 21.6 +2.6
LUWI Luwuk 8.45 27 P Pn 22 39 22.7 +3.7
LUWI Luwuk 8.45 27 P Pn 22 39 22.2 +3.2
725nm,0.8s,6µm
SMRI Semarang 8.61 280 Pn Pn 22 39 21.4 +0.2
SMRI Semarang 8.61 280 P Pn 22 39 21.9 +0.7
SMRI Semarang 8.61 280 P Pn 22 39 22.6 +1.4
493nm,0.6s,5µm
MTKI Muara Teweh, K 8.67 332 P Pn 22 39 25.1 +3.1
440nm,0.8s,10µm
MPSI Mapaga 8.97 6 P Pn 22 39 30.0 +3.9
59nm,1.1s,1µm
MRSI Marisa 9.53 18 P Pn 22 39 36.6 +3.0
797nm,1.0s,7µm
SANI Sanana 9.57 47 P Pn 22 39 38.1 +3.9
SANI Sanana 9.57 47 P Pn 22 39 37.0 +2.8
575nm,0.8s,10µm3µm
NLAI Namlea 9.70 57 P Pn 22 39 40.9 +5.0
700nm,0.9s,7µm
TOLI2 Tolitoli 9.86 11 Pn 22 39 39.6 +1.5
TOLI2 Tolitoli 9.86 11 P Pn 22 39 41.6 +3.6
KPJI Karang Pucung 10.04 277 P Pn 22 39 37.0 -3.4
455nm,0.6s,5µm
GTOI Gorontalo 10.06 24 P Pn 22 39 43.6 +2.9
97nm,0.6s,992nm
KMSI Cibinong 10.43 29 P Pn 22 39 51.6 +5.9
437nm,1.0s,5µm
CMJI Cimerak 10.46 274 P Pn 22 39 45.5 -0.6
259nm,0.8s,4µm
BBJI Bungbulang 11.28 275 P Pn 22 39 55.4 -1.8
LEM Lembang 11.40 278 P Pn 22 39 57.8 -1.1
353nm,0.7s,3µm
LEM Lembang 11.40 278 P Pn 22 39 57.0 -1.9
194nm,0.5s,baz=33,slow=11,SNR=28
LEM S **Sn 22 42 02.2 -2.4**
160nm,0.8s,baz=162,slow=21,SNR=1.9
LEM LR LR 22 45 22.4
comp=Z,314nm,18.1s,baz=16,slow=42
STKI Sintang 11.44 319 P Pn 22 40 02.3 +3.2
445nm,1.3s,8µm
BNDI Bandanaira 11.60 70 P Pn 22 40 02.4 +1.1
BNDI Bandanaira 11.60 70 P Pn 22 40 04.1 +2.8
1µm,0.6s,11µm
LBMI Labuha 11.63 47 P Pn 22 40 04.1 +2.4
1µm,1.1s,14µm
CNJI Cibinong 11.81 276 P Pn 22 40 03.6 -0.5
148nm,0.7s,2µm
KNRA Kununurra 11.84 127 P Pn 22 40 01.6 -2.9
baz=12,SNR=178
KNRA Kununurra 11.84 127 Pn Pn 22 40 01.2 -3.3
KNRA Kununurra 11.84 127 P Pn 22 40 01.9 -2.6
SAUI Saumlaki 12.21 88 Pn Pn 22 40 07.6 -1.7
SAUI Saumlaki 12.21 88 P Pn 22 40 08.3 -1.0
SAUI Saumlaki 12.21 88 P Pn 22 40 08.1 -1.2
2µm,0.7s,18µm
CBJI Citeko 12.23 280 P Pn 22 40 06.2 -3.3
975nm,0.8s,9µm
MBWA Marble Bar 12.46 177 Pn Pn 22 40 08.4 -4.1
MBWA Marble Bar 12.46 177 P Pn 22 40 09.4 -3.2
TNTI Ternate 12.54 42 Pn Pn 22 40 16.1 +2.4
TNTI Ternate 12.54 42 P P 22 40 17.3 -2.9
185nm,0.8s
TNTI Ternate 12.54 42 P Pn 22 40 16.8 +3.1
187nm,0.8s,2µm
MTN Manton Dam 12.65 110 P Pn 22 40 12.2 -2.8
baz=13,SNR=1000
MTN Manton Dam 12.65 110 Pn Pn 22 40 12.4 -2.6
MTN Manton Dam 12.65 110 P Pn 22 40 12.8 -2.2
PSA00 Pilbara Seismi 12.88 176 Pn Pn 22 40 14.1 -3.9
SBUM Sibu 12.92 328 Pn Pn 22 40 19.9 +1.3
KSM Kuching 13.26 319 Pn Pn 22 40 23.8 +0.8
KSM Kuching 13.26 319 P P 22 40 27.0 -1.1
418nm,1.0s
XMIS Christmas Isla 13.27 261 Pn Pn 22 40 16.7 -6.4
CGJI Cibinong 13.32 278 P Pn 22 40 19.6 -4.2
359nm,0.5s,8µm
SPMM Sapulut 13.50 349 P P 22 40 31.0 +0.2
MYLDM Lahad Datu 13.74 358 Pn Pn 22 40 29.8 +0.6
KDU Kakadu 13.85 108 P Pn 22 40 28.1 -2.5
baz=14,SNR=179
KDU Kakadu 13.85 108 P Pn 22 40 28.9 -1.7
SGSI Sangihe 13.88 28 P P 22 40 33.2 -1.8
411nm,1.1s,4µm
BLSI Bandar Lampung 14.02 283 P P 22 40 37.6 +1.1
552nm,0.8s,9µm
FAKI Fak Fak 14.37 67 Pn Pn 22 40 36.6 -0.6
FAKI Fak Fak 14.37 67 P Pn 22 40 36.5 -0.7
357nm,0.6s,4µm
SWI Sorong 14.47 58 P Pn 22 40 39.3 +0.9
197nm,0.6s,3µm
KLI Kotabumi 14.52 284 P P 22 40 43.3 +1.2
898nm,1.1s,7µm
GIRL Giralia 14.65 198 P Pn 22 40 38.9 -1.7
baz=15,SNR=159
GIRL Giralia 14.65 198 Pn Pn 22 40 39.0 -1.6
GIRL Giralia 14.65 198 P Pn 22 40 38.8 -1.7
KASI Kota Agung 14.70 281 P Pn 22 40 42.5 +1.1
410nm,0.5s,6µm
KKM Kota Kinabalu 14.85 349 P 22 40 45.0 -0.9
LWLI Liwa 15.25 283 P P 22 40 50.4 +0.1
776nm,0.6s,13µm
KMPI Kaimana, Papua 15.45 72 P Pn 22 40 50.8 +0.1
494nm,0.6s,5µm
LHSI Lahat 16.09 286 P P 22 40 59.4 -0.1
190nm,0.8s,2µm
MNAI Manna 16.48 284 Pn Pn 22 41 02.6 -0.8
MNAI Manna 16.48 284 P Pn 22 41 03.6 +0.2
MNAI Manna 16.48 284 P P 22 41 07.5 +3.6
615nm,0.8s
DSRI Dabo 16.48 299 P P 22 41 05.0 +1.1
64nm,0.7s
RKPI Ransiki, Papua 16.71 66 P P 22 41 06.8 +0.4
289nm,0.6s,12µm
DAV Davao City (W) 16.94 23 P Pn 22 41 10.8 +1.8
103nm,0.3s,baz=263,slow=8.1,SNR=2.4
TPRI Tanjung Pinang 17.25 303 P Pn 22 41 16.2 +3.3
103nm,1.0s

MEEK Meekatharra 17.90 181 P P 22 41 19.8 +0.3
baz=18,SNR=131
MEEK Meekatharra 17.90 181 P Pn 22 41 20.2 -0.3
MYKOM Kota Tinggi 18.30 304 P Pn 22 41 24.7 -0.7
WRKA Warakurna 18.56 153 P P 22 41 27.5 +0.8
baz=19,SNR=333
WRKA Warakurna 18.56 153 P Pn 22 41 27.8 -0.7
WB0 Warramunga Arr 18.57 128 P P 22 41 26.2 -0.6
KRJI Kerinci 18.61 289 P P 22 41 26.9 -0.5
1µm,0.7s
WRA Warramunga Arr 18.62 129 P P 22 41 26.9 -0.6
32nm,0.6s,baz=302,slow=13,SNR=129
WRA S **S 22 44 45.2 -8.1**
99nm,0.8s,baz=299,slow=22,SNR=11
WRA ScP **ScP 22 49 15.6 +0.4**
33nm,0.8s,baz=303,slow=2.6,SNR=5.3
WRA LR LR 22 49 31.7
comp=Z,435nm,19.3s,baz=323,slow=39
WRAB Tennant Creek 18.63 129 P P 22 41 26.6 -0.9
WRAB Tennant Creek 18.63 129 *i* P P 22 41 26.8 -0.7
WB2 Warramunga Arr 18.64 129 P P 22 41 26.9 -0.6
WR0 Warramunga Arr 18.79 128 P P 22 41 28.9 -0.3
BKNI Bangkinang 19.97 296 P P 22 41 42.7 +0.6
BKNI Bangkinang 19.97 296 P Pn 22 41 47.3 +2.3
BKNI Bangkinang 19.97 296 P P 22 41 43.1 +1.0
235nm,1.0s
PDSI Padang 19.98 292 P P 22 41 39.6 -2.6
66nm,0.7s
MORW Morawa 20.50 187 P P 22 41 47.7 +0.1
baz=21,SNR=165
MORW Morawa 20.50 187 P P 22 41 47.1 -0.6
MORW Morawa 20.50 187 P P 22 41 47.9 +0.3
JRMM Jerantut 20.64 306 P Pn 22 41 54.0 +1.2
AS31 Alice Springs 20.67 138 P P 22 41 49.0 -0.5
ASAR Alice Springs 20.67 138 P P 22 41 48.7 -0.8
ASAR Alice Springs 20.67 138 P P 22 41 49.8 +0.3
93nm,0.8s,baz=312,slow=9.6,SNR=251
ASAR S **S 22 45 33.1 -0.6**
90nm,0.8s,baz=313,slow=23,SNR=7.7
ASAR ScP **ScP 22 49 19.9 0.0**
60nm,0.8s,baz=330,slow=2.0,SNR=12
ASAR LR LR 22 50 33.2
comp=Z,469nm,19.3s,baz=312,slow=38
93nm,0.8s
SMPI Sarmi 20.72 72 P P 22 41 49.7 -0.4
95nm,0.8s,2µm
GENI Genyem 21.92 75 P P 22 42 03.0 +0.1
GENI Genyem 21.92 75 P P 22 42 01.9 -1.0
165nm,0.6s,3µm
BLDU Ballidu 21.96 185 P P 22 42 02.5 -0.6
baz=22,SNR=489
BLDU Ballidu 21.96 185 P P 22 42 02.8 -0.4
COCO West Island 22.06 259 P P 22 42 05.2 +0.9
COCO West Island 22.06 259 P P 22 42 05.2 +0.9
JAY Jayapura 22.45 76 P P 22 42 07.2 -1.2
50nm,0.8s,1µm
KMBL Kambalda 22.77 174 P P 22 42 10.6 -0.6
baz=23,SNR=110
KMBL Kambalda 22.77 174 P P 22 42 10.7 -0.6
KLBR Kellerberrin 22.86 183 P P 22 42 11.9 -0.2
baz=23,SNR=108
KLBR Kellerberrin 22.86 183 P P 22 42 12.1 0.0
KULM Kulim 22.93 306 P P 22 42 11.9 -1.0
KULM Kulim 22.93 306 P P 22 42 13.0 +0.1
RPSI Rantau Prapat 22.95 299 P P 22 42 11.7 -1.5
DLV T Lat 22.96 333 P P 22 42 12.8 -0.6
PSI Prapat 23.00 299 P P 22 42 11.7 -2.1
QIS Mount Isa 23.17 123 P P 22 42 15.8 +0.7
baz=23,SNR=80
QIS Mount Isa 23.17 123 P P 22 42 15.6 +0.4
MUN Mundaring 23.36 186 P P 22 42 16.6 -0.1
baz=23,SNR=49
MUN Mundaring 23.36 186 P P 22 42 16.6 -0.1
GSI Gunungsitoli 23.51 294 P P 22 42 18.6 +0.3
GSI Gunungsitoli 23.51 294 P P 22 42 20.3 +2.0
GSI Gunungsitoli 23.51 294 P P 22 42 19.6 +1.3
64nm,0.7s
FORT Forrest 23.60 160 P P 22 42 19.0 +0.1
baz=24,SNR=127
FORT Forrest 23.60 160 P P 22 42 19.0 +0.1
FORT Forrest 23.60 160 P P 22 42 19.1 +0.1
NWAO Narrogin (SRO) 24.22 184 P P 22 42 24.8 +0.3
baz=24,SNR=217
NWAO P **P 22 42 24.8 +0.3**
baz=24,SNR=217
NWAO Narrogin (SRO) 24.22 184 P P 22 42 24.9 +0.4
NWAO Narrogin (SRO) 24.22 184 P P 22 42 24.9 +0.4
591nm,0.8s,baz=359,slow=9.5,SNR=179
NWAO LR LR 22 52 17.9
comp=Z,293nm,20.2s,baz=342,slow=37
591nm,0.8s
COEN Coen 24.30 105 P P 22 42 25.4 0.0
COEN Coen 24.30 105 P P 22 42 26.3 +0.9
KCSI Kotacane, Aceh 24.36 299 P P 22 42 28.7 +2.7
81nm,0.7s
OOD Oodnadatta 24.73 143 P P 22 42 29.7 +0.5
MULG Mulgathing 25.74 149 P P 22 42 38.6 +0.3
SRIT Nakonsrittamara 25.81 311 P P 22 42 38.1 -1.0
RKGY Rocky Gully 25.91 184 P P 22 42 41.4 +1.7
baz=26,SNR=91
RKGY Rocky Gully 25.91 184 P P 22 42 41.3 +1.5
MLSI Meulaboh, Aceh 25.91 299 P P 22 42 38.7 -1.3
123nm,0.8s,5µm
MTSU Mount Surprise 26.36 114 P P 22 42 45.2 +1.1
baz=26,SNR=147
MTSU Mount Surprise 26.36 114 P P 22 42 45.2 +1.1
H01W3 Cape Leeuwin H 26.49 189 P P 22 42 46.8 +2.0
baz=15,slow=7.6,SNR=15
H01W1 Cape Leeuwin H 26.50 189 P P 22 42 46.9 +2.1
baz=15,slow=7.6,SNR=16
H01W2 Cape Leeuwin H 26.50 189 P P 22 42 46.8 +1.9
baz=15,slow=7.6,SNR=15
PMG Port Moresby 27.84 94 P P 22 42 55.7 -1.6
PMG Port Moresby 27.84 94 P P 22 43 00.2 +2.9
PMG Port Moresby 27.84 94 P P 22 42 56.6 -0.8
13nm,0.5s,baz=252,slow=3.5,SNR=8.2
PMG ScP **ScP 22 49 40.2 +0.5**
24nm,0.9s,baz=6.4,slow=4.7,SNR=7.6
13nm,0.5s
INKA Innaminka 27.98 136 P P 22 42 59.9 +1.4
LCRK Leigh Creek 28.17 143 P P 22 43 01.0 +0.9
CTA Charters Tower 28.71 116 P P 22 43 06.5 +1.4
CTA Charters Tower 28.71 116 P P 22 43 05.5 +0.5
19nm,0.8s,baz=283,slow=10,SNR=22
CTA pP **pP 22 43 31.2 -0.9**
47nm,1.0s,baz=292,slow=9.4,SNR=8.9
CTA LR LR 22 55 09.8
comp=Z,340nm,20.8s,baz=284,slow=37
19nm,0.8s
CTAO Charters Tower 28.71 116 P P 22 43 05.7 +0.6
CTAO Charters Tower 28.71 116 P P 22 43 05.7 +0.6
CTAO pmax pmax
comp=Z,59nm,1.1s
BBOO Buckleboo 28.78 149 P P 22 43 05.9 +0.5
baz=29,SNR=102
BBOO Buckleboo 28.78 149 P P 22 43 05.3 -0.1
BBOO IAmb IAmb 22 43 06.7
comp=Z,89nm,0.8s
BBOO Buckleboo 28.78 149 P P 22 43 06.0 +0.5
comp=Z,133nm,0.8s
QIZ Qiongzhong 28.94 342 P P 22 43 08.0 +1.0
QIZ pP **pP 22 43 33.5 +0.2**
QIZ S **S 22 47 51.0 +2.4**
QIZ pmax pmax
comp=Z,54nm,1.5s
QLP Quilpie 29.86 130 P P 22 43 16.7 +1.6
STKA Stephens Creek 31.24 141 P P 22 43 28.1 +0.9
baz=31,SNR=85
STKA Stephens Creek 31.24 141 P P 22 43 27.5 +0.3
STKA PcP **PcP 22 46 20.1 +1.1**
STKA Stephens Creek 31.24 141 P P 22 43 28.1 +0.9
comp=Z,53nm,0.5s,baz=317,slow=9.1,SNR=136
STKA PcP **PcP 22 46 20.3 +1.4**
comp=Z,20nm,0.7s,baz=44,slow=3.8,SNR=2.0
STKA ScP **ScP 22 49 50.4 0.0**
comp=Z,30nm,0.8s,baz=342,slow=6.4,SNR=6.3
STKA LR LR 22 56 17.9
comp=Z,303nm,18.9s,baz=313,slow=36
comp=Z,53nm,0.5s
TWG Pinlang 31.34 4 P P 22 43 27.5 -0.6
YULB Yu-li 31.92 4 P P 22 43 31.8 -1.4
YULB IAmb IAmb 22 43 36.2
comp=Z,47nm,0.6s
SSLB Suanglung 32.29 3 P P 22 43 36.8 +0.3
SSLB IAmb IAmb 22 43 44.9

comp=Z,41nm,0.6s
NACB Ninganchiao 32.72 4 P P 22 43 40.2 0.0
NACB IAmb IAmb 22 44 49.2
comp=Z,159nm,1.8s
PBA Port Blair 32.98 307 P P 22 43 39.9 -2.7
KRVT Keravat (AS076 33.11 85 LR LR 22 58 01.5
comp=Z,145nm,18.4s,baz=49,slow=38
YHNB Yeheng 33.20 4 P P 22 43 44.4 0.0
YHNB IAmb IAmb 22 44 33.6
comp=Z,66nm,1.0s
RMQ Roma 33.34 126 P P 22 43 47.4 +1.7
baz=33,SNR=4.3
QZH Quanzhou 33.39 359⇑ *i* P P 22 43 48.5 +2.5
QZH pmax pmax
comp=Z,62nm,0.8s
CM31 Chiang Mai Arr 33.41 324 P P 22 43 46.9 +0.6
CM31 IAmb IAmb 22 43 50.1
comp=Z,47nm,0.8s
CM31 **PcP 22 46 25.2 +0.1**
CMAR Chiang Mai Arr 33.41 324 P P 22 43 47.2 +0.9
CMAR PcP **PcP 22 46 26.3 +1.3**
CMAR Chiang Mai Arr 33.41 324 P P 22 43 47.0 +0.6
comp=Z,30nm,0.7s,baz=152,slow=6.8,SNR=106
CMAR PcP **PcP 22 46 26.6 +1.5**
comp=Z,27nm,0.8s,baz=177,slow=2.9,SNR=15
CMAR ScP **ScP 22 49 58.8 +0.8**
comp=Z,8.4nm,0.8s,baz=174,slow=3.0,SNR=9.9
CMAR LR LR 22 59 28.2
comp=Z,237nm,18.3s,baz=145,slow=40
comp=Z,30nm,0.7s
TATO Taipei 33.51 4 P P 22 43 47.7 +0.7
CHTO Chiang Mai 33.69 324 P P 22 43 49.0 +0.3
CHTO IAmb IAmb 22 43 52.9
comp=Z,71nm,1.0s
CHTO PcP **PcP 22 46 26.6 +0.7**
CHTO Chiang Mai 33.69 324 P P 22 43 47.7 -1.0
CHTO Chiang Mai 33.69 324 P P 22 43 49.6 +0.9
CHTO pP **pP 22 44 16.4 +0.6**
CHTO PcP **PcP 22 46 27.4 +1.5**
CHTO ScP **ScP 22 50 00.1 +1.1**
CMSA Cobar Meteorol 33.70 136 P P 22 43 50.4 +1.7
baz=34,SNR=22
CRAI Chiangrai 34.04 328 P P 22 43 52.1 +0.3
CRAI IAmb IAmb 22 44 07.8
comp=Z,53nm,0.8s
CRAI PcP **PcP 22 46 27.8 +1.0**
ARPS Mount Arapiles 34.85 147 P P 22 43 59.9 +1.4
baz=35,SNR=53
JOW Kunigami 36.40 14 P P 22 44 12.0 +0.2
JOW Kunigami 36.40 14 LR LR 22 58 09.6
comp=Z,146nm,21.1s,baz=124,slow=34
GYA Guiyang 36.89 341 *e* P P 22 44 17.5 +1.4
GYA sP sP 22 44 59.0 +1.7
GYA PcP **PcP 22 46 36.5 +1.2**
GYA S **S 22 49 53.8 +2.0**
GYA ScP **ScP 22 50 11.8 +1.2**
GYA pmax pmax
comp=Z,38nm,0.7s
CNSH ChangSha 37.08 351 ⇓P P 22 44 19.3 +1.8
CNSH pmax pmax
comp=Z,43nm,1.1s
KMI Kunming 37.11 335 ⇑P P 22 44 20.8 +2.7
KMI pP pwP 22 44 49.0 -0.3
KMI sP sP 22 45 01.0 +1.8
KMI pmax pmax
comp=Z,26nm,1.4s
ARMA Armidale 37.40 130 P P 22 44 23.5 +3.0
baz=38,SNR=14
ARMA Armidale 37.40 130 P P 22 44 22.4 +1.9
TOO Toolangi 37.47 144 P P 22 44 23.3 +2.5
baz=38,SNR=23
TOO Toolangi 37.47 144 P P 22 44 22.7 +1.8
TOO IAmb IAmb 22 44 24.0
comp=Z,42nm,0.8s
TOO PcP **PcP 22 46 35.9 -0.9**
TOO Toolangi 37.47 144 P P 22 44 22.7 +1.8
TOO 22 46 35.9
TOO pmax pmax
comp=Z,42nm,0.9s
CAN Canberra 38.18 139 P P 22 44 27.3 +0.4
CAN IAmb IAmb 22 45 38.1
comp=Z,78nm,1.6s
CAN Canberra 38.18 139 P P 22 44 27.3 +0.4
CAN pmax pmax
comp=Z,78nm,1.6s
CAN Canberra 38.18 139 P P 22 44 28.7 +1.8
CAN PcP **PcP 22 46 40.6 +1.6**
CNB Canberra Magne 38.41 138 P P 22 44 30.8 +1.9
baz=38,SNR=12
MGCD Mangrove Creek 38.43 134 P P 22 44 31.7 +2.8
baz=38,SNR=11
PZH PanZhiHua 38.74 335 P P 22 44 32.5 +0.8
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,270nm,4.9s
TNCH TengChong 38.96 330 ⇑P P 22 44 34.8 +1.1
TNCH pP pP 22 45 02.0 +0.8
TNCH sP sP 22 45 16.3 +1.0
TNCH PcP **PcP 22 46 42.8 +1.0**
TNCH ScP **ScP 22 50 19.3 +0.7**
TNCH S **S 22 50 25.0 +1.8**
TNCH pmax pmax
comp=Z,59nm,0.9s
TNCH pmax pmax
comp=Z,220nm,4.6s
WHN Wuhan 39.22 354⇓ *i* P P 22 44 37.3 +1.9
WHN pP **pwP 22 45 06.0 -1.2**
WHN ScP **ScP 22 50 20.0 +0.8**
WHN pmax pmax
comp=Z,210nm,1.1s
HNR Honiara 40.45 94 P P 22 44 45.7 -0.3
HNR Honiara 40.45 94 P P 22 44 45.7 -0.3
HNR pmax pmax
comp=Z,166nm,0.8s
HNR Honiara 40.45 94 LR LR 23 03 07.2
comp=Z,1µm,18.6s,baz=281,slow=38
NJ2 Nanjing 40.47 360 ⇑P P 22 44 47.3 +1.5
NJ2 pP **pP 22 45 14.8 +1.6**
NJ2 sP **sP 22 45 27.5 +0.4**
NJ2 pmax pmax
comp=Z,73nm,1.0s
NJ2 pmax pmax
comp=Z,470nm,4.1s
PALK Pallekele 41.30 291 LR LR 23 02 59.5
comp=Z,110nm,19.1s,baz=216,slow=37
MOO Moorlands 41.81 148 P P 22 44 58.0 +1.3
baz=42,SNR=4.3
CD2 Chengdu 41.95 340 P P 22 45 00.0 +2.0
CD2 pmax pmax
comp=Z,130nm,0.6s
JCJ Chichijima 42.05 32 LR LR 23 01 48.7
comp=Z,98nm,20.7s,baz=114,slow=35
TAU Tasmania Unive 42.21 149 P P 22 45 02.1 +2.2
TAU pP **pP 22 45 29.3 +1.0**
TAU sP **sP 22 45 42.6 +0.1**
SHL Shillong 43.03 323 P P 22 45 06.0 -1.0
SHL Shillong 43.03 323 P P 22 45 06.6 -0.4
SNR=72
SHL Shillong 43.03 323 P P 22 45 06.0 -1.0
SHL pmax pmax
comp=Z,302nm,0.6s
JNU Nakatsue 43.05 15 P P 22 45 05.8 -1.1
JNU IAmb IAmb 22 45 08.5
comp=Z,70nm,0.9s
JNU Nakatsue 43.05 15 LR LR 23 05 26.3
comp=Z,58nm,18.6s,baz=201,slow=39
LYN LuoYang 43.40 352 ⇑P P 22 45 10.0 +0.4
LYN pP pP 22 45 37.0 -0.2
LYN PP **PcP 22 46 57.5 +1.6**
LYN ScP **ScP 22 50 36.8 +1.1**
LYN S **S 22 51 33.3 +5.0**
LYN pmax pmax
comp=Z,66nm,0.9s
LYN pmax pmax
comp=Z,470nm,5.9s
XAN Xi'an 43.51 348 ⇑P P 22 45 10.3 -0.3
XAN sP sP 22 45 51.5 -0.5
XAN ScP **ScP 22 50 37.3 +1.1**
XAN S **S 22 51 30.0 0.0**
XAN pmax pmax
comp=Z,93nm,1.0s
XAN pmax pmax
comp=Z,560nm,5.5s
XAN Xi'an 43.51 348 P P 22 45 11.0 +0.4

JTU	Tsushima	44.05	12	P		P	22 45 15.0	+0.2
TIA	Tai'an	44.65	358	⇑P		P	22 45 19.5	-0.1
TIA				pmax		pmax		
	comp=Z,17nm,0.8s							
KOUNC	Koumac, New Ca	45.27	110	P		P	22 45 24.8	+0.1
TJN	Taejon	45.47	10	P		P	22 45 26.6	+0.6
TJN	Taejon	45.47	10	*ce*P		P	22 45 26.6	+0.6
HNS	HongShan	45.98	355	⇑P		P	22 45 30.0	0.0
HNS				pP		pP	22 45 59.3	+1.5
HNS				PcP		PcP	22 47 05.5	+0.8
HNS				ScP		ScP	22 50 47.0	+0.8
HNS				pmax		pmax		
	comp=Z,28nm,0.7s							
JHJ	Hachijo jima 2	46.01	24	LR		LR	23 03 47.5	
	comp=Z,59nm,21.3s,baz=263,slow=35							
TIY	Taiyuan	46.52	353	*e*P		P	22 45 35.3	+1.0
TIY				pmax		pmax		
	comp=Z,27nm,0.9s							
LSA	Lhasa	46.59	326	P		P	22 45 36.5	+0.9
LSA	Lhasa	46.59	326	*i* P		P	22 45 36.4	+0.9
	SNR=77							
LSA	Lhasa	46.59	326	P		P	22 45 36.4	+0.9
LSA				pP		pP	22 46 04.6	+0.6
KSAR	Wonju Array Be	46.60	10	P		P	22 45 35.5	+0.7
KSAR	Wonju Array Be	46.60	10	P		P	22 45 35.5	+0.7
KSRS	Korea Array	46.62	10	P		P	22 45 35.9	+1.0
	comp=Z,66nm,0.8s,baz=185,slow=8.8,SNR=183							
KSRS				pP		pP	22 46 03.5	+0.7
	comp=Z,28nm,1.0s,baz=192,slow=9.0,SNR=3.0							
KSRS				PcP		PcP	22 47 07.8	+0.9
	comp=Z,9.6nm,0.8s,baz=189,slow=6.2,SNR=2.6							
KSRS				ScP		ScP	22 50 49.1	+0.3
	comp=Z,4.6nm,0.8s,baz=198,slow=3.6,SNR=8.2							
	comp=Z,66nm,0.8s							
KS19	Wonju Array Si	46.65	10	P		P	22 45 35.6	+0.3
KS19				lAmb		lAmb	22 45 37.1	
	comp=Z,176nm,1.3s							
LZH	Lanzhou	46.72	343	⇑P		P	22 45 37.3	+1.3
LZH				sP		sP	22 46 19.3	+1.2
LZH				PcP		PcP	22 47 09.0	+1.4
LZH				ScP		ScP	22 50 51.0	+1.4
LZH				pmax		pmax		
	comp=Z,40nm,1.6s							
ODAN	Odare	46.74	320	*e*P		P	22 45 35.9	-0.5
	comp=Z,441nm,0.8s							
TAPN	Taplejung	46.88	321	*e*P		P	22 45 37.5	-0.1
	comp=Z,604nm,0.5s							
RAMN	Ramite	47.31	319	*e*P		P	22 45 40.5	-0.4
	comp=Z,162nm,0.5s							
NOUC	Port Laguerre	47.35	112	P		P	22 45 42.2	+1.2
DL2	Dalian	47.37	3	P		P	22 45 40.5	-0.3
DL2				pmax		pmax		
	comp=Z,76nm,0.9s							
DZM	Mont Dzumac	47.48	112	P		P	22 45 41.4	-0.8
DZM	Mont Dzumac	47.48	112	LR		LR	23 09 21.5	
	comp=Z,106nm,18.5s,baz=241,slow=40							
DZM	Mont Dzumac	47.48	112	P		P	22 45 44.1	+2.0
DZM				ScP		ScP	22 50 54.4	+1.2
ONTNC	Ouen Toro	47.52	112	P		P	22 45 42.1	-0.2
HYB	Hyderabad	47.61	303	*e*P		P	22 45 43.8	+0.7
HYB				*e*pP		pP	22 46 09.1	-2.8
HYB				*e*PcP		PcP	22 47 11.1	+0.1
HYB				*e*PP		PP	22 47 35.6	-0.2
HYB				*e*S		S	22 52 30.6	+1.2
HYB				⇑*i*Pg		SnSn	22 56 52.8	-2.2
OUENC	Ouen Island, N	47.90	112	P		P	22 45 45.5	+0.3
JIRN	Jiri	48.06	320	*e*P		P	22 45 46.2	-0.6
	comp=Z,435nm,0.7s							
HMDM	Hanimaadhoo	48.15	287	P		P	22 45 46.4	-0.9
GUN	Gumba	48.43	320	*e*P		P	22 45 48.8	-0.8
	comp=Z,515nm,0.7s							
MAJO	Matsushiro	48.45	21	P		P	22 45 47.5	-1.7
MAJO				lAmb		lAmb	22 45 49.8	
	comp=Z,49nm,0.9s							
MAJO	Matsushiro	48.45	21	*i* P		P	22 45 47.8	-1.4
MAJO				pmax		pmax		
	comp=Z,64nm,1.0s							
MAJO	Matsushiro	48.45	21	P		P	22 45 48.1	-1.1
MAJO				ScP		ScP	22 50 57.1	+0.4
MJAR	Matsushiro Arr	48.45	21	P		P	22 45 47.8	-1.4
	comp=Z,38nm,0.9s,baz=192,slow=7.6,SNR=59							
MJAR				PcP		PcP	22 47 13.5	0.0
	comp=Z,13nm,0.9s,baz=203,slow=4.7,SNR=4.4							
MJAR				ScP		ScP	22 50 56.5	-0.2
	comp=Z,9.0nm,0.7s,baz=177,slow=4.6,SNR=13							
	comp=Z,38nm,0.9s							
MJB9	Matsu-Tunnel	48.45	21	P		P	22 45 47.7	-1.5
MJB9				lAmb		lAmb	22 45 49.8	
	comp=Z,50nm,1.0s							
PINNC	Pines Island,	48.48	113	P		P	22 45 49.1	-0.6
BJT	Baijiatuau	48.49	357	⇑P		P	22 45 49.6	+0.2
BJT				ScP		ScP	22 50 57.9	+1.2
PKI	Pulchoki	48.50	319	*e*P		P	22 45 48.8	-1.4
	comp=Z,190nm,0.6s							
BJI	Beijing	48.51	357	P		P	22 45 49.5	0.0
BJI				PcP		PcP	22 47 14.5	+0.9
BJI				pmax		pmax		
	comp=Z,39nm,0.6s							
PKIN	Phulchoki	48.52	319	*e*P		P	22 45 48.8	-1.4
	comp=Z,197nm,0.4s							
DMN	Daman	48.73	319	*e*P		P	22 45 50.8	-1.0
	comp=Z,295nm,0.7s							
KKN	Kakani	48.73	319	*e*P		P	22 45 51.0	-0.8
MNCI	Minicoy	48.74	289	P		P	22 45 50.3	-1.6
MNCI				lAmb		lAmb	22 46 12.1	
	comp=Z,48nm,0.7s							
MARNC	Mare, Loyalty	48.86	111	P		P	22 45 53.8	+1.2
GKN	Gorkha	49.30	319	*e*P		P	22 45 54.9	-1.1
	comp=Z,321nm,0.4s							
BTO	Baotou	49.70	351	*e*P		P	22 46 00.3	+1.6
BTO				pP		pP	22 46 26.0	-1.3
BTO				PcP		PcP	22 47 18.3	+0.2
BTO				PP		PP	22 47 58.3	+3.7
BTO				S		S	22 53 00.0	+1.9
BTO				SS		SS	22 56 33.5	+1.1
BTO				pmax		pmax		
	comp=Z,46nm,0.7s							
BTO				pmax		pmax		
	comp=Z,2μm,6.4s							
BTO				LR		LR		
	comp=Z,2μm,6.7s							
BTO				LR		LR		
	comp=Z,2μm,6.5s							
BTO				LR		LR		
	comp=Z,1μm,6.3s							
HHC	Hu-ho-hao-te	49.72	353	⇑P		P	22 45 59.5	+0.6
HHC				pmax		pmax		
	comp=Z,78nm,0.9s							
HHC				pmax		pmax		
	comp=Z,610nm,6.4s							
JSD	Sado	49.81	20	P		P	22 45 58.4	-1.1
KOLN	Koldanda	49.82	318	*e*P		P	22 45 58.9	-1.2
GOMU	GeErMu	50.07	334	P		P	22 46 02.3	+0.3
GOMU				pmax		pmax		
	comp=Z,16nm,1.2s							
DANN	Dangsing	50.10	319	*e*P		P	22 46 00.9	-1.4
	comp=Z,556nm,0.6s							
SNY	Shenyang	50.40	4	⇑P		P	22 46 02.5	-1.4
SNY				pmax		pmax		
	comp=Z,99nm,0.9s							
PYUN	Piuthan	50.45	318	*e*P		P	22 46 03.4	-1.4
	comp=Z,240nm,0.5s							
JMM	Marumori	50.56	22	P		P	22 46 04.3	-0.9
GTA	Gaotai	51.01	341	⇑P		P	22 46 09.8	+1.1
GTA				pP		pP	22 46 39.0	+1.6
GTA				sP		sP	22 46 52.5	+1.6
GTA				PcP		PcP	22 47 24.5	+1.5
GTA				ScP		ScP	22 51 09.0	+1.2
GTA				S		S	22 53 16.5	+0.1
GTA				ScS		ScS	22 55 46.0	-0.9
GTA				pmax		pmax		
	comp=Z,56nm,1.6s							
GTA				pmax		pmax		
	comp=Z,220nm,4.0s							
MSHR	Mys Shultsa	52.18	11	*i* P		P	22 46 17.0	-0.1
MSHR				pmax		pmax		
	comp=Z,41nm,0.8s							
XLT	XiLinHaoTe	52.36	357	⇑*i*P		P	22 46 19.0	+0.4
XLT				pmax		pmax		
	comp=Z,82nm,1.3s							
XLT				pmax		pmax		
	comp=Z,740nm,6.7s							
CN2	Changchun	52.53	6	*e*P		P	22 46 18.8	-0.9
CN2				pmax		pmax		
	comp=Z,20nm,0.8s							
VLA	Vladivostok	52.84	12	*i* P		P	22 46 21.9	-0.1
MDJ	Mudanjiang	53.87	9	P		P	22 46 30.0	+0.4
MDJ				pP		pP	22 46 58.5	+0.1
MDJ				sP		sP	22 47 12.0	-0.1
MDJ				S		S	22 53 45.3	-10
MDJ				SS		SS	22 57 40.5	+2.4
MDJ				pmax		pmax		
	comp=Z,260nm,0.9s							
MDJ				pmax		pmax		
	comp=Z,330nm,5.8s							
MDJ	Mudanjiang	53.87	9	⇑P		P	22 46 30.0	+0.4
MDJ				pP		pP	22 46 58.5	0.0
USA0B	Ussuriysk Arra	53.90	12	P		P	22 46 29.2	-0.5
USA0B	Ussuriysk Arra	53.90	12	*i* P		P	22 46 29.6	-0.1
USRK	Ussuriysk Ar.	53.90	12	P		P	22 46 29.0	-0.8
USRK	Ussuriysk Ar.	53.90	12	P		P	22 46 29.8	0.0
	comp=Z,85nm,0.7s,baz=190,slow=6.7,SNR=163							
USRK				ScP		ScP	22 51 19.8	-0.2
	comp=Z,3.4nm,0.9s,baz=224,slow=5.3,SNR=4.7							
USRK				LR		LR	23 11 16.3	
	comp=Z,83nm,18.4s,baz=189,slow=38							
	comp=Z,85nm,0.7s							
BNX	BinXian	54.66	7	⇓P		P	22 46 35.0	-0.2
BNX				pmax		pmax		
	comp=Z,58nm,0.6s							
BNX				pmax		pmax		
	comp=Z,800nm,6.0s							
MLZ	Mavora Lakes	55.81	140	P		P	22 46 45.4	+1.7
WHZ	Wether Hill Ro	55.93	141	P		P	22 46 44.7	+0.2
ASAJ	Asahikawa	56.71	20	P		P	22 46 49.5	-0.3
ASAJ				pmax		pmax		
	comp=Z,121nm,1.2s							
JKA	Kamikawa-asahi	56.71	20	P		P	22 46 49.5	-0.3
INZ	Inchbonnie	56.98	136	P		P	22 46 51.2	-0.7
RPZ	Rata Peaks	57.08	137	P		P	22 46 51.7	-0.9
RPZ				lAmb		lAmb	22 47 47.2	
	comp=Z,54nm,0.9s							
RPZ	Rata Peaks	57.08	137	LR		LR	23 13 05.1	
	comp=Z,226nm,18.8s,baz=280,slow=38							
ULN	Ulaanbaatar	57.25	350	P		P	22 46 53.7	-0.1
ULN				lAmb		lAmb	22 46 56.0	
	comp=Z,62nm,0.7s							
ULN	Ulaanbaatar	57.25	350	P		P	22 46 54.7	+0.9
ULN	Ulaanbaatar	57.25	350	*i* P		P	22 46 53.9	+0.1
ULN				pmax		pmax		
	comp=Z,79nm,0.8s							
ULN	Ulaanbaatar	57.25	350	⇑P		P	22 46 54.7	+0.9
ULN				ScP		ScP	22 51 35.4	+0.5
SONM	Songino Array	57.33	350	P		P	22 46 54.4	0.0
SONM	Songino Array	57.33	350	P		P	22 46 55.3	+0.9
	comp=Z,81nm,0.6s,baz=167,slow=8.3,SNR=355							
SONM				ScP		ScP	22 51 35.5	+0.2
	comp=Z,8.1nm,0.9s,baz=166,slow=4.5,SNR=8.8							
SONM				LR		LR	23 15 40.6	
	comp=Z,85nm,18.3s,baz=162,slow=40							
SONM				PKP2bc			23 16 53.5	
	comp=Z,0.3nm,0.3s,baz=358,slow=3.6,SNR=3.7							
SONM				PKP2ab			23 17 07.8	
	comp=Z,0.3nm,0.3s,baz=329,slow=4.4,SNR=4.1							
	comp=Z,81nm,0.6s							
OXZ	Oxford	57.60	136	P		P	22 46 56.7	+0.4
HIA	Hailar	57.67	1	*i* P		P	22 46 56.8	+0.2
HIA				pmax		pmax		
	comp=Z,62nm,1.8s							
THZ	Tophouse	57.68	134	P		P	22 46 56.7	-0.3
THZ				lAmb		lAmb	22 47 27.3	
	comp=Z,58nm,1.3s							
CASY	Casey	57.84	184	P		P	22 46 57.4	-0.1
CASY				lAmb		lAmb	22 46 59.0	
	comp=Z,36nm,0.7s							
CASY	Casey	57.84	184	⇓P		P	22 46 58.0	+0.5
CASY				pP		pP	22 47 28.1	+0.7
CASY				ScP		ScP	22 51 39.0	+2.0
MSVF	Nonsavu	58.02	105	P		P	22 46 58.8	-1.0
MSVF	Nonsavu	58.02	105	P		P	22 46 58.8	-1.0
MSVF				pmax		pmax		
	comp=Z,396nm,0.2s							
MSVF	Nonsavu	58.02	105	P		P	22 47 02.2	+2.4
MSVF				pP		pP	22 47 30.6	+0.7
MSVF				ScP		ScP	22 51 39.5	+0.5
GVZ	Greta Valley S	58.17	136	P		P	22 47 00.9	+0.6
TUWZ	Tuamarina	58.31	134	P		P	22 47 01.4	+0.1
KLR	Kul'dur	58.71	10	*ce*P		P	22 47 03.3	-0.5
KLR				pmax		pmax		
	comp=Z,37nm,1.0s							
HEH	HeiHe	59.11	6	*e*P		P	22 47 06.3	-0.2
HEH				pmax		pmax		
	comp=Z,190nm,0.9s							
YSS	Yuzh-Sakhalins	59.27	19	P		P	22 47 07.4	-0.2
YSS				lAmb		lAmb	22 47 08.4	
	comp=Z,78nm,1.1s							
YSS	Yuzh-Sakhalins	59.27	19	*e*P		P	22 47 07.5	-0.1
YSS				*e*			22 59 04.5	
YSS				pmax		pmax		
	comp=Z,40nm,1.3s							
YSS				pmax		pmax		
	comp=Z,3μm,6.6s							
MRZ	Mangatainoka R	59.27	132	P		P	22 47 07.4	-0.5
WMQ	Urumqi	59.43	334	*e*P		P	22 47 09.8	+0.9
WMQ				pmax		pmax		
	comp=Z,120nm,0.9s							
WMQ				LR		LR		
	comp=Z,130nm,28.9s							
FUNA	Funafuti	59.48	95	P		P	22 47 09.8	0.0
FUNA				lAmb		lAmb	22 47 12.5	
	comp=Z,56nm,0.8s							
BKZ	Black Stump Fm	59.55	130	P		P	22 47 09.8	-0.1
BKZ				lAmb		lAmb	22 47 58.1	
	comp=Z,35nm,1.0s							
DRV	Dumont d'Urvil	59.69	170	⇓P		P	22 47 11.5	+1.2
DRV				ScP		ScP	22 51 47.1	+1.9
RTZ	Ruatahuna	59.78	130	P		P	22 47 11.7	+0.1
URZ	Urewera	59.80	129	LR		LR	23 15 38.4	
	comp=Z,185nm,18.1s,baz=26,slow=38							
ZAK	Zakamensk	60.35	349	*e*P		P	22 47 14.3	-0.8
ZAK				pmax		pmax		
	comp=Z,47nm,1.5s							
NIL	Nilore	60.44	317	P		P	22 47 13.5	-2.5
NIL				lAmb		lAmb	22 47 28.0	
	comp=Z,43nm,0.8s							
NIL	Nilore	60.44	317	P		P	22 47 14.4	-1.6
NIL	Nilore	60.44	317	P		P	22 47 13.5	-2.5
NIL				pmax		pmax		
	comp=Z,43nm,0.8s							
CIT	Chita	60.60	356	*e*P		P	22 47 17.6	+0.8
CIT				*e*			22 47 54.2	
CIT				pmax		pmax		
	comp=Z,218nm,1.3s							
GRNR	Gornyy	61.08	13	⇑*i*P		P	22 47 20.5	+0.6
GRNR				pmax		pmax		
	comp=N,30nm,1.1s							
GRNR				pmax		pmax		
	comp=Z,60nm,0.9s							
WUS	Wushi	61.60	327	P		P	22 47 23.8	-0.1
WUS				ScP		ScP	22 51 55.7	+1.3
IRK	Irkutsk	61.95	350	*e*P		P	22 47 26.2	+0.4
IRK				pmax		pmax		
	comp=Z,120nm,2.2s							
RER	Riviere de l'E	62.02	251	P		P	22 47 28.2	+1.2
MOY	Mondy	62.04	347	*e*P		P	22 47 27.1	+0.6
MOY				pmax		pmax		
	comp=Z,105nm,2.9s							
KSH	Kashi	62.31	323	P		P	22 47 28.0	-0.6
KSH				pP		pP	22 47 56.5	-2.1
KSH				S		S	22 55 42.5	-2.7
KSH				pmax		pmax		
	comp=Z,120nm,0.7s							
ZEA	Zeya	62.54	6	*e*P		P	22 47 29.9	+0.3
ZEA				pmax		pmax		
	comp=E,30nm,0.4s							
ZEA				pmax		pmax		
	comp=N,50nm,1.0s							
ZEA				pmax		pmax		
	comp=Z,110nm,0.8s							
TYV	Tymovskoe	62.72	17	*e*P		P	22 47 30.7	-0.2
TYV				pmax		pmax		
	comp=Z,57nm,0.9s							
TYV				pmax		pmax		
	comp=Z,800nm,2.8s							
SHLS	Shalkode	62.84	328	⇑*i*P		P	22 47 30.8	-1.4
	comp=Z,37nm,0.9s,baz=329							
SHLS	Shalkode	62.84	328	*c i*P		P	22 47 30.7	-1.4
SHLS				pmax		pmax		
	comp=Z,37nm,0.9s							
UZB	Uzynbulak	63.07	328	⇑*i*P		P	22 47 33.4	-0.3
	baz=328							
UZB	Uzynbulak	63.07	328	*c i*P		P	22 47 33.3	-0.3
MSEY	Mahe Island	63.14	269	P		P	22 47 34.3	-0.2
MSEY	Mahe Island	63.14	269	*i* P		P	22 47 34.2	-0.4
	SNR=8.6							
MSEY	Mahe Island	63.14	269	P		P	22 47 35.0	+0.5
MSEY	Mahe Island	63.14	269	P		P	22 47 34.3	-0.2
MSEY				pmax		pmax		
	comp=Z,29nm,0.7s							
MSEY	Mahe Island	63.14	269	P		P	22 47 35.1	+0.6
SATY	Saty	63.33	328	⇑*i*P		P	22 47 35.1	-0.2
	comp=Z,31nm,1.0s,baz=328							
SATY	Saty	63.33	328	*c i*P		P	22 47 35.1	-0.2
SATY				pmax		pmax		
	comp=Z,31nm,1.0s							
ZHN	Zhinishke	63.39	328	*e*P		P	22 47 35.5	-0.2
	baz=328							
ZHN	Zhinishke	63.39	328	*e*P		P	22 47 35.4	-0.2
KPKS	Kokpek	63.47	328	⇑*i*P		P	22 47 35.9	-0.3
	comp=Z,41nm,1.0s,baz=328							
KPKS	Kokpek	63.47	328	*c i*P		P	22 47 35.8	-0.3
KPKS				pmax		pmax		
	comp=Z,41nm,1.0s							
ZSN	Zaisan	63.52	335	*e*P		P	22 47 36.4	+0.1
	comp=Z,49nm,1.1s,baz=335							
ZSN				*e*S		S	22 55 59.7	-0.1
	baz=335							
ZSN				*e*S		S	22 55 59.7	-0.1
	baz=335							
ZSN	Zaisan	63.52	335	*e*P		P	22 47 36.4	+0.1
ZSN				*e*S		S	22 55 59.6	-0.1
ZSN				pmax		pmax		
	comp=Z,49nm,1.1s							
KBL	Kabul	63.83	315	P		P	22 47 36.7	-2.2
KBL				lAmb		lAmb	22 47 51.2	
	comp=Z,67nm,0.8s							
KBL	Kabul	63.83	315	P		P	22 47 37.3	-1.6
	SNR=42							
KBL	Kabul	63.83	315	P		P	22 47 36.7	-2.2
KBL				pmax		pmax		
	comp=Z,67nm,0.8s							
ULHL	Ulahol	63.95	326	P		P	22 47 39.1	-0.3
	SNR=14							
TNSS	Tian-Shan	64.09	327	*e*P		P	22 47 40.2	-0.4
	baz=327							
TNSS	Tian-Shan	64.09	327	*e*P		P	22 47 40.2	-0.4
MDOK	Medeo	64.12	327	*i* P		P	22 47 40.4	-0.2
	baz=327							
MDOK	Medeo	64.12	327	*i* P		P	22 47 40.3	-0.2
MK31	Makanchi Array	64.13	333	P		P	22 47 39.8	-0.5
MK31				lAmb		lAmb	22 47 41.4	
	comp=Z,62nm,0.8s							
MK31	Makanchi Array	64.13	333	*i* P		P	22 47 39.8	-0.5
MK31				pmax		pmax		
	comp=Z,82nm,0.8s							
MKAR	Makanchi Array	64.13	333	P		P	22 47 39.9	-0.4
MKAR	Makanchi Array	64.13	333	P		P	22 47 40.1	-0.2
	comp=Z,54nm,0.7s,baz=143,slow=7.5,SNR=338							
MKAR				pP		pP	22 48 10.1	-0.5
	comp=Z,12nm,0.5s,baz=146,slow=7.0,SNR=2.0							
MKAR				PKP2bc			23 16 36.8	
	comp=Z,3.2nm,0.9s,baz=329,slow=1.4,SNR=11							
MKAR				LR		LR	23 17 22.1	
	comp=Z,94nm,18.6s,baz=130,slow=38							
	comp=Z,54nm,0.7s							
AAA	Alma-Ata	64.23	327	*e*P		P	22 47 40.7	-0.4
	baz=327							
AAA	Alma-Ata	64.23	327	*e*P		P	22 47 40.7	-0.4
BOOM	Boomskoye usch	64.28	326	lAmb		lAmb	22 47 44.0	
	comp=Z,32nm,0.6s							
MAKZ	Makanchi	64.29	333	P		P	22 47 40.8	-0.6
MAKZ				lAmb		lAmb	22 47 42.1	
	comp=Z,43nm,1.1s							
MAKZ	Makanchi	64.29	333	P		P	22 47 40.8	-0.6
MAKZ				pmax		pmax		
	comp=Z,43nm,1.1s							
MAKZ	Makanchi	64.29	333	P		P	22 47 40.8	-0.6
MAKZ				pP		pP	22 48 10.6	-1.0
DGZ	Jazzator, Alta	64.31	338	⇑*i*P		P	22 47 41.9	+0.3
DGZ				pmax		pmax		
	comp=Z,133nm,0.9s							
CHKK	Chushkaly	64.62	328	*e*P		P	22 47 42.9	-0.8
	baz=328							
CHKK	Chushkaly	64.62	328	*e*P		P	22 47 42.8	-0.8
TDK	Taldyqorghan	64.69	329	⇑*i*P		P	22 47 43.7	-0.3
	comp=Z,74nm,0.8s,baz=329							
TDK	Taldyqorghan	64.69	329	*c i*P		P	22 47 43.7	-0.3
TDK				pmax		pmax		
	comp=Z,74nm,0.8s							
TKM2	Tokmak 2	64.75	326	P		P	22 47 44.1	-0.6
	SNR=38							
TKM2	Tokmak 2	64.75	326	*i* P		P	22 47 43.6	-1.1
TKM2				pmax		pmax		
	comp=Z,29nm,0.9s							
KBK	Karagaybulak	64.94	326	P		P	22 47 45.8	-0.1
	SNR=66							
KUU	Kurty	65.00	327	⇑*i*P		P	22 47 45.2	-0.8
	comp=Z,106nm,1.5s,baz=327							
KUU	Kurty	65.00	327	*c i*P		P	22 47 45.2	-0.8
KUU				pmax		pmax		
	comp=Z,106nm,1.5s							
AAK	Ala-Archa	65.18	325	P		P	22 47 47.3	-0.1
	SNR=54							
AAK	Ala-Archa	65.18	325	P		P	22 47 46.8	-0.6
AAK				lAmb		lAmb	22 47 48.4	
	comp=Z,91nm,1.4s							
AAK	Ala-Archa	65.18	325	*i* P		P	22 47 46.9	-0.5
	SNR=62							
AAK	Ala-Archa	65.18	325	P		P	22 47 47.4	-0.1
AAK	Ala-Archa	65.18	325	P		P	22 47 47.3	-0.1
	comp=Z,23nm,0.5s,baz=141,slow=5.3,SNR=82							
AAK				pP		pP	22 48 18.4	+0.2
	comp=Z,22nm,0.9s,baz=132,slow=9.2,SNR=2.6							
AAK				ScP			22 52 11.2	
	comp=Z,3.6nm,0.8s,baz=145,slow=8.4,SNR=3.4							
AAK				LR		LR	23 20 43.4	
	comp=Z,53nm,20.4s,baz=116,slow=40							
	comp=Z,23nm,0.5s							
AAK	Ala-Archa	65.18	325	⇑P		P	22 47 47.3	-0.1
AAK				PcP		PcP	22 48 19.1	+0.1
FRU1	Bishkek	65.22	325	P		P	22 47 46.2	-1.3
FRU1	Bishkek	65.22	325	P		P	22 47 46.2	-1.3
FRU1				pmax		pmax		
	comp=Z,44nm,1.2s							
ARSB	Arslanbob	65.22	323	lAmb		lAmb	22 47 49.1	
	comp=Z,59nm,1.2s							
CHMS	Chumysh	65.27	326	P		P	22 47 46.9	-1.0
	SNR=11							
AML	Almayashu	65.31	324	P		P	22 47 48.2	-0.4
	SNR=106							
AML	Almayashu	65.31	324	*i* P		P	22 47 48.0	-0.6
AML				pmax		pmax		
	comp=Z,22nm,1.2s							
USP	Ospenovka	65.58	326	P		P	22

IUG pmax pmax
comp=Z,67nm,0.9s
BIDO Bidbid 67.49 300 P **P** **22 48 00.5 -1.8**
SEM Semipalatinsk 67.74 334⇑ *i*P **P** **22 48 04.0 +0.4**
comp=Z,32nm,0.6s,baz=334
SEM Semipalatinsk 67.74 334*c i*P **P** **22 48 04.0 +0.4**
SEM pmax pmax
comp=Z,32nm,0.6s
KK31 Karatay Array 67.76 324 P **P** **22 48 01.4 -2.2**
KK31 Karatay Array 67.76 324 P **P** **22 48 01.4 -2.2**
KK31 pmax pmax
comp=Z,28nm,1.0s
KKAR Karatay Array 67.76 324 P **P** **22 48 02.0 -1.7**
KKAR Karatay Array 67.76 324 P **P** **22 48 02.0 -1.7**
SHAO Shalim 67.91 293 P **P** **22 48 03.3 -1.8**
SHAO Shalim 67.91 293 P **P** **22 48 03.9 -1.2**
BSY Bisya 68.02 299 P **P** **22 48 04.1 -1.6**
H04N2 CROZET ISLANDS 68.04 224 T T 00 03 34.2
baz=85,slow=75,SNR=96
H04N1 CROZET ISLANDS 68.06 224 T T 00 03 34.7
baz=85,slow=75,SNR=76
H04N3 CROZET ISLANDS 68.06 224 T T 00 03 33.2
baz=85,slow=75,SNR=126
HOQ Hoqain 68.22 300 P **P** **22 48 05.9 -1.0**
DMTO DMTO 68.44 293 P **P** **22 48 06.9 -1.4**
JASK Jask - Hormozg 68.56 302 P **P** **22 48 10.1 +1.2**
HRA Herat 68.62 312 P **P** **22 48 06.9 -2.6**
KURBB Kurchatov Arra 68.64 334 P **P** **22 48 08.3 -0.6**
comp=Z,30nm,0.7s,baz=143,slow=5.6,SNR=380
KURBB S **S** **22 56 58.8 -2.8**
comp=Z,1.1nm,1.0s,baz=134,slow=13,SNR=3.8
KURBB PKP2bc 23 16 22.9
comp=Z,0.9nm,0.9s,baz=314,slow=4.0,SNR=5.2
KURBB LR LR 23 21 34.2
comp=Z,103nm,19.6s,baz=171,slow=39
comp=Z,30nm,0.7s
KURK Kurchatov 68.67 334 P **P** **22 48 08.0 -1.1**
KURK lAmb lAmb 22 48 09.9
comp=Z,108nm,1.1s
KURK Kurchatov 68.67 334 P **P** **22 48 08.9 -0.2**
KURK Kurchatov 68.67 334*ce*P **P** **22 48 08.6 -0.5**
KURK pmax pmax
comp=Z,116nm,1.3s
KURK Kurchatov 68.67 334⇑P **P** **22 48 08.5 -0.6**
ZAA0 Zalesovo Array 68.70 339 P **P** **22 48 07.1 -2.1**
ZAA0 lAmb lAmb 22 48 09.4
comp=Z,81nm,0.8s
ZALV Zalesovo Beam 68.70 339 P **P** **22 48 07.5 -1.7**
ZALV Zalesovo Beam 68.70 339 P **P** **22 48 08.2 -1.1**
comp=Z,33nm,0.3s,baz=142,slow=5.0,SNR=285
ZALV S **S** **22 56 57.6 -4.6**
comp=Z,2.2nm,0.8s,baz=129,slow=11,SNR=4.4
ZALV PKP2bc 23 16 23.2
comp=Z,1.7nm,0.9s,baz=308,slow=5.3,SNR=5.2
comp=Z,33nm,0.3s
ARQ Araqi 68.81 299 P **P** **22 48 10.3 -0.3**
RBK Rabkut 69.06 292 P **P** **22 48 12.0 -0.3**
SOHO SOHO 69.07 300 P **P** **22 48 10.7 -1.5**
DOK Doka 69.45 294 P **P** **22 48 12.7 -1.8**
SNR=5.1
MAW Mawson 69.56 200 P **P** **22 48 16.0 +1.6**
baz=70,SNR=87
MAW Mawson 69.56 200 P **P** **22 48 15.0 +0.7**
MAW Mawson 69.56 200 P **P** **22 48 16.1 +1.8**
comp=Z,43nm,0.7s,baz=73,slow=5.1,SNR=137
MAW LR LR 23 13 28.0
comp=Z,116nm,19.7s,baz=48,slow=31
MAW PKP2bc 23 16 19.9
comp=Z,10nm,1.1s,baz=249,slow=5.0,SNR=12
comp=Z,43nm,0.7s
WHFO Wadi Hawf 69.57 293 P **P** **22 48 13.4 -2.0**
SNR=30
UOSS Minazif 69.64 301 P **P** **22 48 13.7 -2.0**
UOSS Minazif 69.64 301 P **P** **22 48 13.6 -2.0**
UOSS Minazif 69.64 301 P **P** **22 48 14.1 -1.6**
HATD Hatta, Dubai 69.66 300 *i* P **P** **22 48 14.5 -1.2**
SNR=9.9
HATD Hatta, Dubai 69.66 300 P **P** **22 48 14.6 -1.2**
ASHO Ashiyiah 69.67 300 *i* P **P** **22 48 14.5 -1.4**
SNR=14
ASHO Ashiyiah 69.67 300 P **P** **22 48 14.8 -1.1**
SNR=14
MDH Madha 69.68 301 P **P** **22 48 13.9 -2.0**
ALNE Al Ain 69.72 300 *i* P **P** **22 48 14.2 -2.0**
SNR=11
ALNE Al Ain 69.72 300 P **P** **22 48 14.8 -1.3**
PEA0B Petropavlovsk- 69.76 24 P **P** **22 48 15.6 -0.2**
PEA0B Petropavlovsk- 69.76 24*ce*P **P** **22 48 16.8 +1.0**
PETK Petropavlovsk- 69.76 24 P **P** **22 48 15.1 -0.7**
PETK Petropavlovsk- 69.76 24 P **P** **22 48 16.0 +0.2**
comp=Z,113nm,0.8s,baz=236,slow=1.9,SNR=61
PETK LR LR 23 22 39.4
comp=Z,83nm,18.0s,baz=207,slow=39
comp=Z,113nm,0.8s
MASF Masafi 69.82 301 P **P** **22 48 16.2 -0.6**
ABTO Aybut 69.84 292 P **P** **22 48 15.6 -1.5**
ABPO Ambohimpanom 70.05 253 P **P** **22 48 17.9 -0.6**
ABPO Ambohimpanom 70.05 253 P **P** **22 48 17.9 -0.6**
ABPO pmax pmax
comp=Z,20nm,0.9s
ABPO Ambohimpanom 70.05 253 P **P** **22 48 20.0 +1.5**
SHME Shamm 70.07 302 P **P** **22 48 16.9 -1.4**
SHME Shamm 70.07 302 P **P** **22 48 17.1 -1.2**
FAQ Al Faqa, Dubai 70.09 300 *i* P **P** **22 48 16.7 -1.7**
SNR=38
FAQ Al Faqa, Dubai 70.09 300 P **P** **22 48 17.0 -1.4**
SNR=10
NAZ Nazwa, Dubai 70.11 300 P **P** **22 48 17.1 -1.4**
ASUD Al Ashush, Dub 70.27 300 *i* P **P** **22 48 19.0 -0.6**
SNR=37
ASUD Al Ashush, Dub 70.27 300 P **P** **22 48 18.5 -1.0**
SNR=37
VOI Vohitsoka 70.35 250 P **P** **22 48 21.3 +1.0**
VOI lAmb lAmb 22 48 22.3
comp=Z,36nm,0.6s
VOI Vohitsoka 70.35 250 P P 22 48 25.8 +5.5
VOI Vohitsoka 70.35 250 P **P** **22 48 21.6 +1.4**
AJN Ajban 70.55 300 P **P** **22 48 21.5 +0.3**
BRZS Berezniki 70.92 330⇑ *i*P **P** **22 48 22.6 -0.3**
comp=Z,48nm,1.1s,baz=330
BRZS Berezniki 70.92 330*c i*P **P** **22 48 22.6 -0.3**
BRZS pmax pmax
comp=Z,48nm,1.1s
YAK Yakutsk 70.95 5 P **P** **22 48 22.0 -0.8**
YAK Yakutsk 70.95 5*c i*P **P** **22 48 22.3 -0.5**
YAK *e* 22 48 41.5
YAK *e**PP **pP** **22 48 51.0 -3.0**
YAK *e* 22 51 02.9
YAK *e*PPP PPP 22 52 45.0
YAK *e*S **S** **22 57 30.3 +2.2**
YAK *e* 22 58 14.5
YAK *e*SS **SS** **23 02 01.3 -2.5**
YAK *e*SSS SSS 23 05 12.9
YAK pmax pmax
comp=Z,176nm,0.9s
YAK pmax pmax
comp=N,42nm,1.0s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,604nm,5.7s
YAK pmax pmax
comp=N,681nm,5.2s
YAK pmax pmax
comp=E,858nm,5.4s
YAK smax smax
comp=N,758nm,6.2s
YAK smax smax
comp=E,439nm,4.8s
YAK Yakutsk 70.95 5 P **P** **22 48 22.0 -0.8**
YAK pP **pP** **22 48 51.8 -2.2**
MZR Muzera 71.35 298 *i* P **P** **22 48 24.3 -1.8**
SNR=42
MZR Muzera 71.35 298 P **P** **22 48 24.9 -1.2**
SNR=7.1
JRN Qarnain Island 72.51 299 P **P** **22 48 31.1 -1.8**
MA2 Magadan 72.59 16*ce*P **P** **22 48 31.6 -1.1**
MA2 pmax pmax
comp=Z,282nm,2.5s
GEYT Alibeck 73.18 314 P **P** **22 48 36.3 -0.5**
comp=Z,40nm,0.9s,baz=130,slow=6.0,SNR=48
comp=Z,40nm,0.9s
GYA0B ALIBECK ARRAY 73.18 314 P **P** **22 48 35.6 -1.2**
SBA Scott Base 73.34 171 P **P** **22 48 38.7 +1.8**
SBA Scott Base 73.34 171 P **P** **22 48 38.7 +1.8**

SBA pmax pmax
comp=Z,15nm,0.9s
BVAR Borovoye Array 73.98 332 P **P** **22 48 40.3 -0.7**
comp=Z,29nm,0.7s,baz=131,slow=6.7,SNR=112
BVAR pP **pP** **22 49 10.7 -1.5**
comp=Z,13nm,0.9s,baz=141,slow=5.7,SNR=2.3
BVAR LR LR 23 23 20.0
comp=Z,101nm,19.8s,baz=116,slow=37
comp=Z,29nm,0.7s
BRVK Borovoye 74.05 332 P **P** **22 48 40.1 -1.2**
BRVK lAmb lAmb 22 48 42.1
comp=Z,88nm,1.4s
BRVK Borovoye 74.05 332 P **P** **22 48 41.0 -0.4**
BRVK Borovoye 74.05 332*ce*P **P** **22 48 40.5 -0.9**
BRVK pmax pmax
comp=Z,79nm,1.4s
SMRA Abu-Samra 74.20 299 P **P** **22 48 41.6 -1.2**
SNR=5.2
SAKB Bahrain 74.81 300 P **P** **22 48 47.1 +0.7**
SEY Seymchan 75.83 15*ce*P **P** **22 48 52.2 +0.8**
SEY pmax pmax
comp=Z,91nm,1.3s
ABKAR Akbulak array 77.26 325 P **P** **22 48 59.0 -0.8**
ABKAR lAmb lAmb 22 49 00.2
comp=Z,69nm,0.8s
ATD Arta Tunnel 78.31 284 P **P** **22 49 06.8 +0.3**
ATD lAmb lAmb 22 49 10.6
comp=Z,55nm,1.0s
ATD Arta Tunnel 78.31 284 P **P** **22 49 07.7 +1.3**
SNR=6.1
AKTO Aktyubinsk 78.92 325 S **S** **22 58 52.7 -4.3**
comp=Z,1.4nm,0.7s,baz=298,slow=19,SNR=8.5
AKTO LR LR 23 30 00.4
comp=Z,71nm,18.2s,baz=98,slow=40
TIXI Tiksi 80.39 3 P **P** **22 49 14.4 -2.0**
TIXI lAmb lAmb 22 49 16.6
comp=Z,75nm,0.8s
TIXI Tiksi 80.39 3⇑P **P** **22 49 15.5 -0.9**
KIBK Kibwezi 80.69 269 P **P** **22 49 20.1 +0.6**
KIBK Kibwezi 80.69 269 P **P** **22 49 20.8 +1.4**
SNR=11
SVE Sverdlovsk 80.76 332*d i*P **P** **22 49 17.7 -1.0**
SVE *e*S **S** **22 59 10.0 -6.0**
SVE pmax pmax
comp=Z,70nm,1.3s
QSPA South Pole Qui 81.35 180 P **P** **22 49 23.1 +1.3**
comp=Z,30nm,0.6s,baz=296,slow=0.8,SNR=167
QSPA S **S** **22 59 23.9 +1.7**
comp=Z,1.1nm,0.9s,baz=321,slow=19,SNR=1.9
QSPA PKKPbc **PKKPbc** **23 07 55.8 -3.4**
comp=Z,3.7nm,1.1s,baz=184,slow=3.4,SNR=9.0
QSPA LR LR 23 23 22.1
comp=Z,113nm,20.4s,baz=352,slow=34
comp=Z,30nm,0.6s
ARU Arti 81.55 331 P **P** **22 49 20.9 -2.0**
ARU Arti 81.55 331*c i*P **P** **22 49 21.3 -1.5**
ARU S **S** **22 59 20.5 -3.7**
ARU pmax pmax
comp=Z,58nm,1.4s
ARU Arti 81.55 331 LR LR 23 29 38.5
comp=Z,56nm,19.0s,baz=111,slow=38
KMBO Kilima Mbogo 81.65 270 P **P** **22 49 24.6 -0.1**
KMBO Kilima Mbogo 81.65 270 *i* P **P** **22 49 25.8 +1.1**
SNR=26
KMBO Kilima Mbogo 81.65 270 P **P** **22 49 26.2 +1.5**
KMBO Kilima Mbogo 81.65 270 P **P** **22 49 24.6 -0.1**
KMBO pmax pmax
comp=Z,53nm,1.1s
FURI Furi 81.86 280 P **P** **22 49 27.0 +1.2**
FURI lAmb lAmb 22 49 29.8
comp=Z,143nm,1.1s
MAK Makhachkala 82.58 315 *e*P **P** **22 49 25.5 -3.0**
MAK *e**PP **pP** **22 49 59.7 -0.7**
MAK *e* 22 52 37.7
MAK *e*S **S** **22 59 30.8 -4.4**
MAK *e*SS **SS** **23 05 02.4 +2.5**
MAK *e*SSS SSS 23 08 24.0
MAK pmax pmax
comp=Z,225nm,1.5s
MAK MLR MLR
comp=Z,124nm,15.0s
ELIB Princess Elisa 83.59 198 *d*P **P** **22 49 35.3 +1.8**
comp=Z,44nm,0.8s
GNI Garni 83.69 312 P **P** **22 49 34.8 +0.2**
GNI lAmb lAmb 22 50 13.8
comp=Z,45nm,0.9s
GNI Garni 83.69 312 P **P** **22 49 35.1 +0.5**
GNI Garni 83.69 312 P **P** **22 49 35.2 +0.7**
GNI Garni 83.69 312 P **P** **22 49 34.8 +0.2**
GNI pmax pmax
comp=Z,45nm,0.9s
GNI Garni 83.69 312 LR LR 23 32 11.2
comp=Z,28nm,19.6s,baz=222,slow=39
CUKT Cukurca 83.73 309 P **P** **22 49 34.5 -0.3**
GROC Groznyy 83.84 315⇓ *i*P **P** **22 49 35.3 +0.3**
GROC *e**PP **pP** **22 50 10.4 +3.2**
GROC *e**SP **sP** **22 50 23.9 +3.3**
GROC *e*S **SKSac** **22 59 44.7 -1.7**
GROC pmax pmax
comp=Z,155nm,1.0s
TASB TASBURUN-IGDIR 84.01 312 P **P** **22 49 36.4 +0.3**
CLDR Caldiran 84.01 311 P **P** **22 49 36.7 +0.4**
LODK Lodwar 84.21 274 P **P** **22 49 36.8 -0.8**
LODK Lodwar 84.21 274 P **P** **22 49 38.7 +1.0**
SNR=5.6
VANB Van 84.26 310 P **P** **22 49 40.6 +3.2**
AKDM Akdamar-Van 84.50 310 P **P** **22 49 39.6 +0.9**
SIRT Sirnak 84.69 309 P **P** **22 49 39.6 0.0**
AGRB Hanur-Agry 84.82 311 P **P** **22 49 41.5 +1.2**
AKH Akhalkalaki 84.95 313 P **P** **22 49 41.5 +0.6**
MLAZ Malazgirt-MUS 85.04 311 P **P** **22 49 42.7 +1.3**
KARS Kars 85.04 312 P **P** **22 49 42.5 +1.2**
KARS Kars 85.04 312 P **P** **22 49 41.8 +0.5**
KARS Kars 85.04 312 P **P** **22 49 41.8 +0.5**
KARS pmax pmax
comp=Z,369nm,0.8s
ZEI Tsey 85.05 314 *e*P **P** **22 49 38.2 -3.2**
ZEI pmax pmax
comp=Z,155nm,1.3s
GURO Guroymak-BITLI 85.27 310 P **P** **22 49 43.4 +0.9**
GURO Guroymak-BITLI 85.27 310 P **P** **22 49 42.9 +0.4**
ONI Oni 85.31 314 P **P** **22 49 43.2 +0.7**
ONI Oni 85.31 314 P **P** **22 49 42.8 +0.3**
ONI lAmb lAmb 22 49 55.4
comp=Z,62nm,1.1s
ONI Oni 85.31 314 P **P** **22 49 42.8 +0.3**
ONI pmax pmax
comp=Z,62nm,1.1s
NCK Nalchik 85.46 315 *i* P **P** **22 49 43.2 0.0**
NCK pmax pmax
comp=Z,44nm,0.7s
SENK Senkaya-Erzuru 85.56 312 P **P** **22 49 44.9 +0.9**
BELG Belogornoye 85.66 324 *i* P **P** **22 49 42.8 -1.1**
BELG pmax pmax
comp=Z,67nm,0.9s
KOPR Koprukoy-ERZUR 85.78 311 P **P** **22 49 45.9 +0.8**
SVAN Silvan-Diyarba 85.81 309 P **P** **22 49 45.4 +0.3**
VRTB Varto-Mus 85.86 310 P **P** **22 49 46.6 +1.1**
KBZ Khabaz 86.01 315 P **P** **22 49 45.8 0.0**
comp=Z,42nm,0.8s,baz=112,slow=4.3,SNR=51
KBZ LR LR 23 34 35.5
comp=Z,23nm,20.0s,baz=76,slow=40
comp=Z,42nm,0.8s
MAZI Mazidag 86.22 309 P **P** **22 49 47.6 +0.4**
KIV Kislovodsk 86.22 315⇓P **P** **22 49 47.0 0.0**
KIV Kislovodsk 86.22 315 P **P** **22 49 44.3 -2.7**
KIV Kislovodsk 86.22 315 *i* P **P** **22 49 45.7 -1.4**
SNR=8.0
KIV Kislovodsk 86.22 315 P **P** **22 49 47.0 0.0**
KIV Kislovodsk 86.22 315⇓P **P** **22 49 47.0 0.0**
BNGB Bingl 86.41 310 P **P** **22 49 49.1 +1.0**
DYBB Diyarbakir 86.57 309 P **P** **22 49 49.8 +0.9**
KIRV Kirov 86.93 331*ce*P **P** **22 49 49.0 -0.9**
KIRV Kirov 86.93 331 LR LR 23 33 46.6
comp=Z,67nm,18.6s,baz=107,slow=39
PTK Pertek 87.36 310 P **P** **22 49 53.7 +0.9**
NVL N'lazarevskaya 87.46 198 *e*P **P** **22 49 54.2 +1.8**
NVL pmax pmax
comp=Z,17nm,1.0s
URFA Urfa 87.47 308 P **P** **22 49 53.9 +0.7**
MBAR Mbarara 88.17 270 P **P** **22 49 56.9 -0.3**
MBAR lAmb lAmb 22 50 03.3
comp=Z,44nm,0.8s
MBAR Mbarara 88.17 270 P **P** **22 49 58.4 +1.2**

MBAR Mbarara 88.17 270 *i* P **P** **22 49 58.0 +0.8**
MBAR pmax pmax
comp=Z,84nm,1.3s
MBAR Mbarara 88.17 270 LR LR 23 22 34.7
comp=Z,40nm,21.9s,baz=88,slow=31
ARPR Arapgir-MALATY 88.21 310 P **P** **22 49 57.1 +0.3**
SOC Sochi 88.21 314 *e*P **P** **22 49 53.2 -3.3**
SOC *e**PP **pP** **22 50 28.8 -0.2**
SOC *e* 22 53 18.6
SOC *e*PPP PPP 22 55 18.0
SOC *e*S **SKSac** **23 00 07.9 -5.7**
SOC *e*SS **SS** **23 06 19.3 -3.3**
SOC *e*SSS SSS 23 09 55.0
SOC pmax pmax
comp=Z,92nm,0.9s
LSZ Lusaka 88.52 255 P **P** **22 49 58.1 -0.6**
LSZ lAmb lAmb 22 50 01.0
comp=Z,43nm,1.1s
LSZ Lusaka 88.52 255 P **P** **22 49 59.8 +1.1**
LSZ Lusaka 88.52 255 P **P** **22 49 58.1 -0.6**
LSZ pmax pmax
comp=Z,43nm,1.1s
LSZ Lusaka 88.52 255 LR LR 23 24 05.4
comp=Z,47nm,19.8s,baz=116,slow=32
GAZ Gaziantep 88.67 308 lAmb lAmb 22 50 00.3
comp=Z,34nm,1.0s
VRH Novokhopyorsk 88.79 322 *e*P **P** **22 49 57.9 -1.1**
VRH pmax pmax
comp=Z,75nm,0.6s
EIL Elat 89.08 300 LR LR 23 34 08.1
comp=Z,61nm,18.2s,baz=68,slow=38
BOSA Boshof 89.16 241 P **P** **22 50 02.7 +1.2**
comp=Z,5.8nm,0.5s,baz=115,slow=4.0,SNR=33
BOSA pP **pP** **22 50 32.0 -1.6**
comp=Z,7.0nm,0.7s,baz=97,slow=5.4,SNR=3.1
BOSA LR LR 23 28 11.0
comp=Z,56nm,18.2s,baz=86,slow=34
comp=Z,5.8nm,0.5s
MMAI Mount Meron Ar 89.31 303 P **P** **22 50 03.1 +1.1**
comp=Z,14nm,0.6s,baz=88,slow=7.6,SNR=25
MMAI LR LR 23 35 58.9
comp=Z,34nm,18.3s,baz=90,slow=39
comp=Z,14nm,0.6s
TROLL Troll, Antarti 89.71 196⇑P **P** **22 50 05.3 +2.1**
comp=Z,764nm,1.1s
PRGR Permogore 89.77 333⇑ *i*P **P** **22 50 01.5 -1.8**
PRGR *e* 22 53 39.4
PRGR *e*S **SKSac** **23 00 18.6 -3.3**
PRGR pmax pmax
comp=Z,22nm,0.6s
BNN Bunyan 90.06 309 lAmb lAmb 22 50 08.1
comp=Z,54nm,1.2s
VORD Divnogorie 90.22 322 *e*P **P** **22 50 03.7 -2.0**
VORD pmax pmax
comp=Z,40nm,0.7s
VSR Storozhevoye 90.35 322 *e*P **P** **22 50 02.9 -3.4**
VSR pmax pmax
comp=Z,30nm,0.8s
VORR Voronezh 90.43 322 *e*P **P** **22 50 05.7 -0.9**
VORR pmax pmax
comp=Z,56nm,0.6s
LPSR Galich'ya Gora 90.81 323 *e*P **P** **22 50 05.8 -2.6**
LPSR pmax pmax
comp=Z,40nm,1.0s
CSS Mathiatis 91.35 305 P **P** **22 50 10.0 -1.4**
M13K Dall Lake 91.42 29 P **P** **22 50 11.9 +0.9**
baz=255
F14K Arctic Creek 91.53 24 P **P** **22 50 12.4 +0.9**
baz=253
ANM Nome 91.65 25 P **P** **22 50 12.8 +0.8**
baz=253
SDPT Sand Point 91.71 34 P **P** **22 50 12.1 -0.4**
baz=257
BR131 Keskin Array S 91.90 310 P **P** **22 50 12.3 -1.7**
BR131 lAmb lAmb 22 50 14.2
comp=Z,19nm,0.8s
BR131 Keskin Array S 91.90 310 P **P** **22 50 13.2 -0.7**
BR131 Keskin Array S 91.90 310 *i* P **P** **22 50 12.7 -1.3**
BRTR Keskin Array B 91.90 310*ce*P **P** **22 50 13.0 -1.0**
BRTR pmax pmax
comp=Z,11nm,0.8s
BRTR Keskin Array B 91.90 310 P **P** **22 50 12.5 -1.5**
comp=Z,10.0nm,0.8s,baz=123,slow=5.6,SNR=40
comp=Z,10.0nm,0.8s
J14K Nanvaranak Lak 91.94 27 P **P** **22 50 13.9 +0.5**
baz=255
N14K Kuskokwak Cree 92.11 30 P **P** **22 50 15.4 +1.1**
baz=256
O14K Tigyukauivet M 92.17 30 lAmb lAmb 22 50 15.3
comp=Z,40nm,0.9s
O14K Tigyukauivet M 92.17 30 P **P** **22 50 14.4 -0.1**
baz=257
M14K Bethel 92.17 29 P **P** **22 50 14.8 +0.3**
baz=256
MOS Moscow 92.24 326 *e*P **P** **22 50 13.0 -1.9**
MOS *e* 22 53 57.2
MOS *e*S **SKSac** **23 00 32.0 -4.3**
MOS pmax pmax
comp=Z,39nm,0.7s
SUR Sutherland 92.25 237 P **P** **22 50 17.9 +2.0**
SUR Sutherland 92.25 237 LR LR 23 27 01.6
comp=Z,79nm,19.4s,baz=112,slow=32
F15K North Star Dit 92.27 24 P **P** **22 50 14.9 0.0**
baz=254
G15K Niukluk 92.32 24 P **P** **22 50 15.1 0.0**
baz=255
KLMR Klimovskoe 92.39 331 *e*P **P** **22 50 12.8 -2.7**
KLMR *e*P **P** **22 50 12.8 -2.7**
KLMR *e*P **P** **22 50 12.8 -2.7**
KLMR AMP 22 50 15.1
comp=Z,56nm,1.5s
KLMR *e*pP **pP** **22 50 52.6 +4.6**
KLMR *e*PP **PP** **22 54 03.4 +5.3**
KLMR *e*S **SKSac** **23 00 34.1 -2.8**
KLMR *e*S **SKSac** **23 00 34.1 -2.8**
KLMR Klimovskoe 92.39 331 *e*P **P** **22 50 12.7 -2.7**
KLMR *e* 22 54 03.4
KLMR *e*S **SKSac** **23 00 34.1 -2.8**
KLMR pmax pmax
comp=Z,56nm,1.5s
L15K Ungalak Mounta 92.61 28 P **P** **22 50 16.8 +0.2**
baz=257
OBN Obninsk 92.71 325⇓P **P** **22 50 16.2 -0.9**
OBN Obninsk 92.71 325 P **P** **22 50 15.5 -1.6**
OBN lAmb lAmb 22 50 16.5
comp=Z,38nm,1.1s
OBN Obninsk 92.71 325 *i* P **P** **22 50 15.3 -1.8**
OBN pmax pmax
comp=Z,34nm,1.1s
C16K Lisburne Hills 92.72 21 P **P** **22 50 17.7 +0.8**
baz=254
K15K Wolf Creek Mou 92.73 27 P **P** **22 50 17.3 +0.2**
baz=257
M15K Kasigluk River 92.77 29 P **P** **22 50 17.7 +0.4**
baz=257
O15K Ungalikthiuk R 92.87 31 P **P** **22 50 18.4 +0.6**
baz=258
N15K Kwethluk River 92.94 30 P **P** **22 50 17.8 -0.4**
N15K lAmb lAmb 22 50 19.9
comp=Z,34nm,0.9s
N15K Kwethluk River 92.94 30 P **P** **22 50 18.3 +0.2**
baz=258,SNR=5.1
VNA2 Neumayer--Watz 92.97 195⇑P **P** **22 50 19.9 +1.8**
comp=Z,8.3nm,0.6s,baz=104,slow=3.0
H16K Elim 92.98 25 P **P** **22 50 18.3 +0.1**
baz=256,SNR=5.4
G16K Koyuk River 93.11 24 P **P** **22 50 19.2 +0.5**
baz=256,SNR=10.0
VNA3 Neumayer Olymp 93.35 195⇑P **P** **22 50 21.1 +1.2**
comp=Z,4.4nm,0.6s
VNA1 Neumayer--Stat 93.36 195⇑P **P** **22 50 21.7 +1.8**
comp=Z,6.9nm,0.8s
J16K Anvik River 93.37 27 P **P** **22 50 20.7 +0.7**
baz=258
I17K Unalakleet 93.46 26 P **P** **22 50 20.9 +0.5**
baz=258
C17K DeLong Mountai 93.55 21 P **P** **22 50 21.4 +0.7**
baz=256
L16K Owhat River 93.56 28 lAmb lAmb 22 50 21.9
comp=Z,20nm,0.8s
L16K Owhat River 93.56 28 P **P** **22 50 21.3 +0.4**
baz=258,SNR=6.7
N16K Nishlik Lake 93.65 29 P **P** **22 50 22.1 +0.6**
baz=259,SNR=11
M16K Timber Creek 93.67 29 lAmb lAmb 22 50 22.9
comp=Z,32nm,0.9s

M16K	Timber Creek	93.67	29	P	P	22 50 21.6	+0.2
	baz=259,SNR=7.1						
E17K	Hotham Inlet	93.72	23	P	P	22 50 22.0	+0.5
	baz=257						
P16K	Nushagak River	93.77	31	P	P	22 50 22.1	+0.2
	baz=260						
F17K	Baldwin Pennin	93.79	23	IAmb	IAmb	22 50 23.8	
	comp=Z,23nm,0.8s						
F17K	Baldwin Pennin	93.79	23	P	P	22 50 22.4	+0.6
	baz=257						
O16K	Kokwok River B	93.82	30	P	P	22 50 22.2	+0.1
	baz=260,SNR=7.0						
G17K	Kiwalik Mounta	93.83	24	P	P	22 50 22.6	+0.6
	baz=258						
H17K	Granite Mounta	94.01	25	P	P	22 50 23.6	+0.6
	baz=258,SNR=16						
L17K	Donlin	94.19	28	P	P	22 50 24.6	+0.8
	baz=260						
B18K	Kokolik River	94.25	20	P	P	22 50 24.9	+1.0
	baz=257						
E18K	Tukpahlearik C	94.25	22	P	P	22 50 24.7	+0.7
	baz=258						
K17K	Iditarod	94.29	27	IAmb	IAmb	22 50 25.6	
	comp=Z,27nm,0.9s						
K17K	Iditarod	94.29	27	P	P	22 50 24.6	+0.3
	baz=260,SNR=8.0						
C18K	Utukok River	94.30	21	IAmb	IAmb	22 50 25.7	
	comp=Z,28nm,0.9s						
C18K	Utukok River	94.30	21	P	P	22 50 24.8	+0.5
	baz=257,SNR=11						
O17K	Koliganek Bris	94.35	30	P	P	22 50 24.9	+0.3
	baz=260						
R17K	Ugashik Creek	94.37	32	P	P	22 50 24.8	+0.1
	baz=261						
N17K	Nushagak Hills	94.43	30	P	P	22 50 25.4	+0.5
	baz=260						
M17K	Holitna River	94.46	29	P	P	22 50 25.4	+0.4
M17K				IAmb	IAmb	22 50 26.6	
	comp=Z,25nm,0.9s						
M17K	Holitna River	94.46	29	P	P	22 50 25.5	+0.4
	baz=260						
A19K	Wainwright	94.68	20	P	P	22 50 27.1	+1.3
	baz=258						
H18K	Honhosa River	94.70	25	IAmb	IAmb	22 50 27.2	
	comp=Z,29nm,1.1s						
H18K	Honhosa River	94.70	25	P	P	22 50 26.0	-0.1
	baz=260,SNR=7.0						
G18K	Tagagawik	94.72	24	IAmb	IAmb	22 50 27.0	
	comp=Z,22nm,0.9s						
G18K	Tagagawik	94.72	24	P	P	22 50 25.9	-0.2
	baz=260,SNR=10.0						
Q17K	Contact Creek	94.73	32	P	P	22 50 25.5	-1.0
	baz=261,SNR=5.2						
L18K	Granite Mounta	94.94	28	IAmb	IAmb	22 50 28.5	
	comp=Z,29nm,1.0s						
L18K	Granite Mounta	94.94	28	P	P	22 50 27.6	+0.3
	baz=261,SNR=9.5						
C19K	Lookout Ridge	94.97	21	P	P	22 50 28.2	+0.9
	baz=259,SNR=19						
N18K	Kilae Creek	95.09	29	P	P	22 50 28.0	0.0
	baz=262						
J18K	Innoko River	95.13	27	IAmb	IAmb	22 50 28.9	
	comp=Z,16nm,0.8s						
J18K	Innoko River	95.13	27	P	P	22 50 27.9	-0.2
	baz=261,SNR=9.1						
F19K	Shaleruckik Mo	95.23	23	P	P	22 50 28.5	+0.1
	baz=260						
P18K	Big Mountain,	95.23	31	P	P	22 50 28.6	0.0
	baz=262						
M18K	Stony River	95.24	29	P	P	22 50 28.9	+0.3
	baz=262,SNR=6.1						
Q18K	Katmai Hardscr	95.24	32	P	P	22 50 27.9	-1.0
	baz=262						
GCSA	Galena City Sc	95.25	25	P	P	22 50 28.9	+0.3
	baz=261,SNR=5.3						
SVW2	Sparrevohn	95.30	29	P	P	22 50 29.1	+0.2
SVW2				IAmb	IAmb	22 50 30.1	
	comp=Z,16nm,0.9s						
O18K	Koktuh Hills	95.31	30	P	P	22 50 29.4	+0.4
	baz=262						
TTA	Tatalina	95.36	27	P	P	22 50 29.3	0.0
	baz=262						
D19K	Kuna River	95.38	22	P	P	22 50 29.7	+0.5
	baz=260						
G19K	Purcell Mounta	95.39	24	P	P	22 50 29.6	+0.4
	baz=261						
SII	Sitkinak Islan	95.40	34	P	P	22 50 29.6	+0.1
	baz=263						
E19K	Redstone River	95.54	23	P	P	22 50 30.2	+0.4
	baz=261						
H19K	Roundabout Mou	95.55	25	P	P	22 50 30.4	+0.5
	baz=262,SNR=30						
J19K	Poorman	95.69	26	IAmb	IAmb	22 50 31.8	
	comp=Z,18nm,0.8s						
J19K	Poorman	95.69	26	P	P	22 50 30.9	+0.3
	baz=262,SNR=12						
L19K	White Mountain	95.79	28	IAmb	IAmb	22 50 32.3	
	comp=Z,23nm,1.0s						
L19K	White Mountain	95.79	28	P	P	22 50 31.4	+0.2
	baz=263,SNR=6.9						
N19K	Bonanza Creek	95.79	29	P	P	22 50 31.3	0.0
	baz=263,SNR=9.4						
O19K	Port Alsworth	95.79	30	P	P	22 50 31.4	+0.3
	baz=263						
D20K	Etivluk River	95.96	21	P	P	22 50 32.0	+0.2
	baz=262						
B20K	Meade River	95.96	20	P	P	22 50 32.4	+0.7
	baz=261						
M19K	Big River Lodg	95.97	28	P	P	22 50 32.4	+0.4
	baz=263						
Q19K	Cape Douglas,	95.98	31	P	P	22 50 32.5	+0.4
	baz=263						
E20K	Nigu River	96.05	22	P	P	22 50 32.8	+0.5
	baz=262						
F20K	Avaraart Lake	96.06	23	P	P	22 50 32.8	+0.6
	baz=262						
H20K	Anotleneega Mo	96.20	25	P	P	22 50 33.3	+0.3
	baz=263,SNR=8.3						
APA	Apatity	96.24	337	⇓*i*P	P	22 50 30.9	-2.1
APA				pmax	pmax		
	comp=Z,11nm,1.1s						
APA				MLR	MLR		
	comp=Z,700nm,21.0s						
L20K	Farewell, AK	96.28	28	P	P	22 50 33.5	+0.2
	baz=264,SNR=10.0						
I20K	Naaghedeneel	96.28	25	IAmb	IAmb	22 50 34.7	
	comp=Z,27nm,1.0s						
I20K	Naaghedeneel	96.28	25	P	P	22 50 33.7	+0.4
	baz=263						
K20K	Telida	96.29	27	P	P	22 50 33.6	+0.2
	baz=263						
A21K	Barrow	96.33	19	P	P	22 50 34.0	+0.7
	baz=262						
J20K	Nowinta River	96.35	26	IAmb	IAmb	22 50 35.0	
	comp=Z,15nm,0.8s						
J20K	Nowinta River	96.35	26	P	P	22 50 33.9	+0.3
	baz=263,SNR=6.9						
KDAK	Kodiak Island	96.41	33	P	P	22 50 34.1	+0.1
	baz=264						
AKASG	Malin Array Be	96.46	320	P	P	22 50 32.7	-1.7
	comp=Z,5.2nm,0.8s,baz=80,slow=4.6,SNR=15						
AKASG				PP	PP	22 54 28.2	-1.8
	comp=Z,1.1nm,0.6s,baz=74,slow=7.7,SNR=5.0						
	comp=Z,5.2nm,0.8s						
AKBB	Malin Array Si	96.46	320	*ce*P	P	22 50 33.2	-1.2
M20K	Styx River	96.56	28	P	P	22 50 35.2	+0.5
	baz=264						
CFR	Carcaliu	96.65	315	⇑P	P	22 50 34.8	-0.6
CFR	Carcaliu	96.65	315	⇑P	P	22 50 34.8	-0.6
C21K	Knifeblade Rid	96.67	21	P	P	22 50 35.7	+0.7
	baz=263,SNR=5.1						
IMAR	Indian Mountai	96.72	24	P	P	22 50 35.1	-0.1
SORM	Soroca	96.78	318	⇓P	P	22 50 34.4	-1.5
SORM	Soroca	96.78	318	⇓P	P	22 50 34.4	-1.5
B21K	Ikpikpuk River	96.79	21	P	P	22 50 36.1	+0.6
	baz=264						
A22K	Sinclair Lake	96.82	19	P	P	22 50 36.4	+0.9
	baz=263						
G21K	Allakaket	96.87	24	P	P	22 50 36.3	+0.4
	baz=264,SNR=28						
E21K	Killik River	96.89	22	P	P	22 50 36.2	+0.2
	baz=264						
N20K	Mount Spurr	96.93	29	P	P	22 50 36.0	-0.4
	baz=265						
SPCR	Spurr Chakacha	96.93	29	P	P	22 50 35.9	-0.5
	baz=265,SNR=6.3						
F21K	Alatna River	96.95	23	P	P	22 50 36.4	+0.1
	baz=264						
H21K	Melozitna Rive	97.07	25	IAmb	IAmb	22 50 38.3	
	comp=Z,26nm,1.2s						
H21K	Melozitna Rive	97.07	25	P	Pdif	22 50 37.3	+0.4
	baz=265,SNR=12						
PPLA	Purkeypile	97.09	27	P	P	22 50 37.1	-0.1
	baz=265						
CHUM	Lake Minchumin	97.12	26	P	Pdif	22 50 37.3	+0.1
	baz=265,SNR=7.1						
CAST	Castle Rocks	97.19	27	IAmb	IAmb	22 50 38.7	
	comp=Z,16nm,0.7s						
CAST	Castle Rocks	97.19	27	P	P	22 50 37.3	-0.2
	baz=265,SNR=16						
B22K	Teshekpuk Lake	97.27	20	P	Pdif	22 50 38.2	+0.5
	baz=265						
SKT	Skwentna	97.32	28	IAmb	IAmb	22 50 37.5	
	comp=Z,19nm,0.8s						
SKT	Skwentna	97.32	28	P	P	22 50 36.7	-1.4
	baz=266,SNR=7.5						
D22K	Ayikyak River	97.40	21	P	Pdif	22 50 38.6	+0.3
	baz=265						
PANC	Panciu	97.41	315	⇑P	P	22 50 32.0	-6.8
F22K	John River	97.48	23	P	Pdif	22 50 39.0	+0.3
	baz=266						
BRSE	Bradley Lake S	97.54	31	P	P	22 50 38.5	-0.6
	baz=266						
MNK	Minsk	97.61	324	*i* P	P	22 50 38.9	-0.6
MNK				*i* P	P	22 50 38.9	-0.6
MNK				*i* P	P	22 50 38.9	-0.6
	comp=Z,44nm,1.0s,baz=95						
MNK				*i* pP	pP	22 51 07.7	-4.6
MNK				*i* PP	PP	22 54 38.2	-0.5
MNK				*i* PPP	PPP	22 56 43.4	
MNK				*i* S	SKSac	23 01 04.8	-0.2
MNK				*i* sS	ScS	23 01 58.2	+4.3
MNK				*i* SSS	SSS	23 12 26.9	
MNK	Minsk	97.61	324	*e*P	P	22 50 38.8	-0.6
SUA	Susitna One	97.66	29	P	P	22 50 39.4	-0.3
	baz=266,SNR=7.1						
E22K	Anaktuvuk Pass	97.66	22	P	Pdif	22 50 39.8	+0.3
	baz=266						
H22K	Ishtalitna Cre	97.68	24	P	Pdif	22 50 40.0	+0.4
	baz=266,SNR=9.1						
G22K	Bettles	97.70	23	P	P	22 50 39.4	-0.2
	baz=266						
KTH	Kantishna Hill	97.72	27	IAmb	IAmb	22 50 40.8	
	comp=Z,28nm,1.1s						
BPAW	Bear Paw Mtn.	97.72	26	IAmb	IAmb	22 54 27.5	
	comp=Z,16nm,0.6s						
BPAW	Bear Paw Mtn.	97.72	26	P	P	22 50 39.5	-0.4
	baz=266,SNR=6.8						
PLOR	Plostina	97.75	315	⇑P	P	22 50 39.2	-1.3
PLOR	Plostina	97.75	315	⇑P	P	22 50 39.2	-1.3
TESR	Tescani	97.80	316	⇓P	P	22 50 39.8	-0.8
TSUM	Tsumeb	97.81	249	LR	LR	23 32 31.9	
	comp=Z,56nm,18.1s,baz=150,slow=34						
MLY	Manley	97.89	25	IAmb	IAmb	22 50 41.6	
	comp=Z,12nm,0.9s						
MLY	Manley	97.89	25	P	P	22 50 40.5	-0.2
	baz=267,SNR=11						
CUT	Chulitna	97.94	28	P	P	22 50 40.4	-0.4
	baz=267						
M22K	Willow	97.97	29	P	P	22 50 40.2	-0.7
	baz=267,SNR=5.8						
TRF	Thorofare Moun	97.99	27	IAmb	IAmb	22 50 41.4	
	comp=Z,16nm,0.9s						
TRF	Thorofare Moun	97.99	27	P	P	22 50 40.3	-0.9
	baz=267,SNR=5.8						
RC01	Rabbit Creek A	98.12	29	P	P	22 50 41.0	-0.6
	baz=267						
D23K	Nanushuk River	98.13	21	P	Pdif	22 50 42.2	+0.7
	baz=267						
C23K	Itkillik River	98.19	21	P	Pdif	22 50 42.1	+0.3
	baz=267						
SEW	Seward	98.21	30	P	P	22 50 41.5	-0.5
	baz=267						
MLR	Muntele Rosu	98.22	315	⇑P	P	22 50 42.2	-0.5
MLR	Muntele Rosu	98.22	315	IAmb	IAmb	22 50 42.6	
	comp=Z,12nm,1.0s						
MLR	Muntele Rosu	98.22	315	⇑P	P	22 50 42.2	-0.5
MLR	Muntele Rosu	98.22	315	LR	LR	23 43 28.4	
	comp=Z,43nm,19.2s,baz=284,slow=40						
COLD	Coldfoot	98.22	23	P	Pdif	22 50 42.4	+0.4
	baz=267,SNR=17						
NACGM	Naroch	98.27	324	*e*P	P	22 50 42.3	-0.1
	comp=Z,34nm,0.8s,baz=92						
G23K	Bananza Creek	98.27	24	P	Pdif	22 50 42.6	+0.3
	baz=268						
H23K	Yukon River	98.43	25	P	P	22 50 42.8	-0.2
H23K				IAmb	IAmb	22 50 44.6	
	comp=Z,20nm,1.1s						
H23K	Yukon River	98.43	25	P	Pdif	22 50 43.3	+0.3
	baz=268,SNR=10						
PMR	Palmer	98.44	29	P	P	22 50 42.7	-0.3
	baz=268						
I23K	Minto, Yukon-K	98.48	25	P	Pdif	22 50 43.4	+0.2
	baz=268,SNR=14						
E23K	Chandalar	98.48	22	P	Pdif	22 50 43.4	+0.2
	baz=268,SNR=18						
TOLK	Toolik Lake Re	98.52	22	P	Pdif	22 50 44.0	+0.6
	baz=268,SNR=8.9						
NEA2	Nenana	98.58	26	IAmb	IAmb	22 54 26.6	
	comp=Z,12nm,1.2s						
NEA2	Nenana	98.58	26	P	P	22 50 43.5	-0.1
	baz=268						
MCK	McKinley	98.61	27	P	P	22 50 43.1	-0.7
	baz=268,SNR=9.2						
KNK	Knik Glacier	98.75	29	P	P	22 50 44.3	-0.2
	baz=268,SNR=8.7						
WAT1	Susitna Watana	98.76	28	P	P	22 50 43.8	-0.8
	baz=268						
D24K	Happy Valley	98.80	21	P	Pdif	22 50 45.0	+0.4
	baz=269						
SML	Sawmill	98.83	29	P	P	22 50 44.4	-0.5
	baz=268,SNR=9.1						
BURAR	Bucovina Array	98.85	317	⇓P	P	22 50 45.0	-0.4
BURAR	Bucovina Array	98.85	317	IAmb	IAmb	22 50 46.1	
	comp=Z,7.7nm,0.8s						
BURAR	Bucovina Array	98.85	317	⇓P	P	22 50 45.0	-0.4
C24K	Franklin Bluff	98.85	21	P	Pdif	22 50 45.0	+0.3
	baz=269						
BUR08	Bucovina Ar. S	98.86	317	P	P	22 50 44.0	-1.4
BUR08				IAmb	IAmb	22 50 45.9	
	comp=Z,8.4nm,0.9s						
E24K	Your Creek	98.91	22	P	Pdif	22 50 45.4	+0.3
	baz=269						
FINES	FINESS Array B	98.92	331	*i* P	P	22 50 44.2	-1.0
FINES				pmax	pmax		
	comp=Z,12nm,1.0s						
FINES	FINESS Array B	98.92	331	P	P	22 50 44.2	-1.0
	comp=Z,12nm,1.0s,baz=110,slow=7.8,SNR=11						
FINES				PKiKP	PKiKP	22 55 15.8	+0.5
	comp=Z,2.6nm,0.7s,baz=101,slow=2.8,SNR=1.9						
FINES				LR	LR	23 40 52.1	
	comp=Z,70nm,18.7s,baz=67,slow=39						
	comp=Z,12nm,1.0s						
WRH	Wood River Hil	99.00	26	IAmb	IAmb	22 50 45.6	
	comp=Z,14nm,0.9s						
H24K	Noodor Dome	99.11	25	IAmb	IAmb	22 50 47.8	
	comp=Z,13nm,0.8s						
H24K	Noodor Dome	99.11	25	P	Pdif	22 50 46.4	+0.3
	baz=269,SNR=13						
M23K	Glacier View	99.11	29	P	Pdif	22 50 46.1	-0.1
	baz=269,SNR=8.6						
WAT6	Susitna Watana	99.12	28	P	Pdif	22 50 45.8	-0.6
	baz=269,SNR=16						
F24K	Squaw Lake	99.13	23	P	Pdif	22 50 47.0	+0.8
	baz=270						
CCB	Clear Creek Bu	99.13	26	IAmb	IAmb	22 50 46.0	
	comp=Z,12nm,0.8s						
ARCES	ARCESS Array B	99.26	339	P	Pdif	22 50 45.1	-1.5
	comp=Z,3.0nm,0.6s,baz=85,slow=6.8,SNR=16						
ARCES				PKiKP	PKiKP	22 55 17.1	+1.3
	comp=Z,3.4nm,0.9s,baz=57,slow=4.5,SNR=4.9						
ARCES				PKKPbc	PKKPbc	23 07 11.8	-1.9
	comp=Z,2.0nm,0.9s,baz=316,slow=3.3,SNR=5.4						
	comp=Z,3.0nm,0.6s						
G24K	Hadweenzic Riv	99.28	24	IAmb	IAmb	22 50 49.0	
	comp=Z,30nm,1.6s						
G24K	Hadweenzic Riv	99.28	24	P	Pdif	22 50 47.3	+0.6
	baz=270,SNR=9.2						
DHY	Denali Highway	99.30	27	P	Pdif	22 50 46.6	-0.5
DHY				IAmb	IAmb	22 50 47.8	
	comp=Z,14nm,0.7s						
DHY	Denali Highway	99.30	27	P	Pdif	22 50 47.5	+0.4
	baz=269,SNR=6.6						
SCM	Sheep Creek Mo	99.30	29	P	Pdif	22 50 47.5	+0.5
	baz=269						
HDA	Harding Lake	99.50	26	P	Pdif	22 50 47.2	-0.6
	baz=270,SNR=7.6						
ILAR	Eielson Array	99.53	26	P	Pdif	22 50 46.3	-1.6
	comp=Z,1.8nm,0.7s,baz=251,slow=4.5,SNR=34						
ILAR				PKKPbc	PKKPbc	23 07 11.3	-1.5
	comp=Z,1.4nm,0.7s,baz=52,slow=2.0,SNR=5.0						
	comp=Z,1.8nm,0.7s						
D25K	Kavik River	99.67	21	P	Pdif	22 50 48.6	+0.1
	baz=271						
G25K	Bearman Lake	99.83	24	P	Pdif	22 50 49.3	+0.1
	baz=271						
M24K	Tolsona, Glenn	99.85	28	P	Pdif	22 50 49.8	+0.3
	baz=270,SNR=5.9						
H25L	Birch Creek	99.95	24	P	Pdif	22 50 50.2	+0.5
	baz=271,SNR=6.1						
KLU	Klutina	99.97	29	P	Pdif	22 50 50.1	+0.1
	baz=270						
F25K	Christian Rive	99.99	23	P	Pdif	22 50 50.3	+0.4
	baz=272,SNR=8.2						
E25K	Arctic Village	100.00	22	IAmb	IAmb	22 50 52.9	
	comp=Z,13nm,1.1s						
E25K	Arctic Village	100.00	22	P	Pdif	22 50 50.4	+0.4
	baz=272,SNR=12						
K24K	Donnelly Dome	100.02	27	P	Pdif	22 50 50.2	+0.1
	baz=271						
C26K	Camden Bay	100.17	20	P	Pdif	22 50 51.3	+0.7
	baz=273						
PAX	Paxson	100.17	28	P	Pdif	22 50 51.1	+0.2
	baz=271,SNR=7.2						
J25K	Salcha River,	100.18	26	P	Pdif	22 50 50.2	-0.7
	baz=271						
MARR	Marisel-Cluj	100.24	316	⇑P	Pdif	22 50 51.0	-0.6
HARP	HAARP	100.32	28	P	Pdif	22 50 51.5	0.0
	baz=271						
DEV	Deva	100.37	315	⇑P	Pdif	22 50 51.8	-0.3
DEV	Deva	100.37	315	⇑P	Pdif	22 50 51.8	-0.3
F26K	Sheenjek River	100.56	23	P	Pdif	22 50 52.9	+0.5
	baz=273						
N25K	Chitina, Valde	100.61	29	P	Pdif	22 50 53.1	+0.3
	baz=272						
BMRM	Bremner River	100.62	30	P	Pdif	22 50 53.0	+0.1
	baz=271						
G26K	Porcupine Rive	100.74	23	P	Pdif	22 50 53.8	+0.6
	baz=273						
SCRK	Sand Creek	100.80	26	Pdif	Pdif	22 50 53.6	-0.2
SCRK	Sand Creek	100.80	26	P	Pdif	22 50 53.5	-0.2
	baz=272,SNR=6.3						
KOLS	Kolonicke sedl	100.86	318	*e*PDIFF	Pdif	22 50 55.0	+0.8
KOLS	Kolonicke sedl	100.86	318	*e*P	Pdif	22 50 55.0	+0.8
J26L	Joseph Creek	100.96	26	P	Pdif	22 50 54.5	+0.1
	baz=273						
SPITS	Spitsbergen Ar	100.99	348	P	Pdif	22 50 52.7	-1.4
	comp=Z,7.0nm,0.6s,baz=93,slow=8.4,SNR=7.9						
I26K	Coal Creek Min	101.09	25	P	Pdif	22 50 55.0	+0.2
	baz=274						
L26K	Log Cabin Wild	101.13	27	P	Pdif	22 50 55.3	+0.2
	baz=273						
BZS	Buzias	101.26	315	⇓P	Pdif	22 50 54.9	-1.1
BZS	Buzias	101.26	315	⇓P	Pdif	22 50 54.9	-1.1
M26K	Nabesna, AK	101.33	28	P	Pdif	22 50 56.1	+0.1
	baz=273						
MCARA	McCarthy VSAT	101.37	29	P	Pdif	22 50 56.4	+0.2
	baz=273						
CRVS	Cervenica-Dubn	101.40	318	*e*P	Pdif	22 50 57.2	+0.6
E27K	Coleen River	101.48	22	P	Pdif	22 50 57.2	+0.6
	baz=276						
G27K	Doyon Strip	101.59	24	P	Pdif	22 50 57.6	+0.6
	baz=275						
D27M	Malcolm River	101.60	21	P	Pdif	22 50 57.6	+0.5
	baz=276						
K27K	Chicken	101.64	26	P	Pdif	22 50 58.5	+1.2
	baz=274						
H27K	Steamboat Moun	101.69	24	P	Pdif	22 50 58.6	+1.0
	baz=275,SNR=12						
I27K	Kandik River	101.71	25	P	Pdif	22 50 58.5	+0.8
	baz=275,SNR=14						
L27K	Beaver Creek,	101.82	27	P	Pdif	22 50 58.9	+0.7
	baz=274						
M27K	Edge Creek, AK	101.85	28	P	Pdif	22 50 58.7	+0.2
	baz=274						
EGAK	Eagle	101.98	26	P	Pdif	22 50 59.2	+0.5
	baz=275						
E28M	Babbage River	102.19	22	P	Pdif	22 51 00.3	+0.7
	baz=278						
F28M	Old Crow	102.19	23	P	Pdif	22 51 00.5	+0.8
	baz=277						
CTG	Chitna Glacier	102.21	29	P	Pdif	22 51 00.5	+0.4
	baz=274						
BVCY	Beaver Creek	102.32	28	P	Pdif	22 51 00.9	+0.5
	baz=275						
D28M	Stokes Point	102.37	21	P	Pdif	22 51 01.2	+0.8
	baz=278						
I28M	Miner Creek	102.42	25	P	Pdif	22 51 01.4	+0.6
	baz=276,SNR=14						
YUK3	Moose Creek	102.56	29	P	Pdif	22 51 02.3	+0.6
	baz=275						
O28M	Mount Upton	102.78	30	P	Pdif	22 51 03.2	+0.3
	baz=275						
E29M	Blow River	102.82	22	P	Pdif	22 51 03.2	+0.7
	baz=279						
YUK8	Steele Glacier	102.94	29	P	Pdif	22 51 03.7	+0.2
	baz=276						
H29M	Whitestone	102.96	24	P	Pdif	22 51 03.9	+0.7
	baz=278						
G29M	Pine Creek	103.00	23	P	Pdif	22 51 04.4	+1.1
	baz=279						
I29M	Ogilvie Camp,	103.11	25	P	Pdif	22 51 04.9	+1.1
	baz=278						
PNL	Peninsula	103.28	31	P	Pdif	22 51 05.8	+1.1
	baz=276						
MORH	Mrgy, Hungar	103.34	315	⇓P	Pdif	22 51 04.5	-0.8
M29M	Somme Creek	103.43	28	P	Pdif	22 51 06.3	+0.9
	baz=277,SNR=5.6						
L29M	L29M	103.49	27	Pdif	Pdif	22 51 06.8	+1.1
L29M	L29M	103.49	27	P	Pdif	22 51 06.6	+1.0
	baz=278,SNR=6.4						
EPYK	Eagle Plains	103.60	24	P	Pdif	22 51 07.0	+0.9
	baz=280						
K29M	Barlow Dome	103.66	26	P	Pdif	22 51 07.5	+1.0
	baz=278						
G30M	tAoh Zraii Nji	103.69	23	P	Pdif	22 51 06.9	+0.5
	baz=280						
F30M	Barrier River	103.74	22	P	Pdif	22 51 07.7	+1.1
	baz=281						
I30M	Mount Dempster	103.93	25	P	Pdif	22 51 08.4	+0.8
	baz=280						
J30M	Hart River	104.06	25	P	Pdif	22 51 09.0	+0.8
	baz=280						
HYT	Haines Junctio	104.09	29	P	Pdif	22 51 09.0	+0.6
	baz=278						
P29M	Windy Craggy	104.12	31	P	Pdif	22 51 09.3	+0.8
	baz=277						
M30M	Minto, Yukon	104.17	28	P	Pdif	22 51 09.6	+0.9
	baz=279						
N30M	Aishikik Lake	104.20	29	P	Pdif	22 51 09.4	+0.5
	baz=278						
INK	Inuvik	104.43	21	P	Pdif	22 51 10.3	+0.7
	baz=283						
G31M	Satah River	104.45	23	P	Pdif	22 51 09.9	+0.2
	baz=282						
F31M	Tsiigehtchic	104.54	22	P	Pdif	22 51 10.4	+0.4
	baz=283						
H31M	Peel River	104.66	24	P	Pdif	22 51 11.3	+0.6
	baz=282

comp=Z,6.7nm,1.4s
MOTA Moosalm 108.42 317 *i* PKiKP PKiKP 22 55 33.0 -0.4
comp=Z,3.7nm,0.8s
RETA Reutte 108.63 317 *i* PKiKP PKiKP 22 55 33.3 -0.4
comp=Z,3.2nm,1.1s
FETA Feichten 108.71 317 *i* PKiKP PKiKP 22 55 34.9 +1.0
comp=Z,6.0nm,1.0s
DAVA Damuels 109.25 317 *i* PKiKP PKiKP 22 55 35.9 +1.0
comp=Z,7.2nm,0.8s
KEST Kesra 110.92 305 PKiKP PKiKP 22 55 37.7 -0.7
comp=Z,6.2nm,1.0s,baz=124,slow=3.6,SNR=2.8
YKA Yellowknife Ar 113.88 24 PKiKP PKiKP 22 55 42.9 -0.2
comp=Z,1.3nm,0.4s,baz=309,slow=2.1,SNR=20
YKA SKP 22 59 05.5
comp=Z,1.3nm,0.7s,baz=312,slow=2.2,SNR=4.3
YKA SKKPbc SKKPbc 23 09 59.1 -3.6
comp=Z,1.8nm,0.8s,baz=119,slow=2.6,SNR=5.1
EKA Eskdalemuir Ar 115.03 328 PKP PKPdf 22 55 45.8 +0.3
comp=Z,2.3nm,0.7s,baz=357,slow=1.7,SNR=4.7
J05D Fort Rock, OR 117.43 46 PKiKP 22 55 51.0 +0.3
TORD Torodi Ar. Bea 118.38 280 PKP PKiKP 22 55 53.3 +0.2
comp=Z,11nm,0.5s,baz=38,slow=2.4,SNR=76
TORD SKP 22 59 17.2
comp=Z,4.3nm,0.8s,baz=45,slow=3.5,SNR=6.6
TORD PKKPbc PKKPbc 23 06 10.6 -0.2
comp=Z,0.9nm,0.9s,baz=312,slow=4.6,SNR=4.0
NEW Newport 118.66 39 P PKiKP 22 55 53.2 +0.4
baz=291
F10A Beach Ranch, E 119.38 42 PKPdf PKiKP 22 55 55.0 +0.6
FIGM Figuig 120.10 302 P PKiKP 22 55 57.3 +1.1
SMMC Simmler 120.18 54 P PKiKP 22 55 56.7 +0.5
baz=282
PKM Mcpherson Peak 120.41 55 P PKiKP 22 55 57.2 +0.3
baz=281
ESDC Sonseca Array 120.66 311 PKP PKiKP 22 55 57.3 +0.3
comp=Z,5.8nm,0.9s,baz=25,slow=2.5,SNR=30
ESDC SKP 22 59 21.1
comp=Z,0.6nm,0.8s,baz=33,slow=4.1,SNR=4.6
SCZ2 Santa Cruz Isl 120.73 56 P PKPdf 22 55 57.0 -0.2
baz=281
JBK JBK 120.79 305 P PKiKP 22 55 59.0 +1.4
NVAR Mina Array Bea 120.81 50 PKP PKiKP 22 55 58.3 +0.7
comp=Z,4.2nm,0.7s,baz=250,slow=2.4,SNR=26
NVAR PP PP 22 57 26.1 -1.3
comp=Z,4.5nm,0.9s,baz=270,slow=8.6,SNR=6.6
NVAR SKP 22 59 22.0
comp=Z,0.4nm,0.6s,baz=256,slow=2.5,SNR=2.2
NVAR PKKPbc PKKPbc 23 06 00.6 -2.3
comp=Z,0.4nm,0.6s,baz=138,slow=3.6,SNR=3.9
PAB San Pablo 120.98 311 PKPdf PKiKP 22 55 57.7 0.0
PAB San Pablo 120.98 311 P PKPdf 22 55 57.5 0.0
PAB San Pablo 120.98 311 PKIKP PKiKP 22 55 57.7 0.0
MSO Missoula 121.19 40 P PKiKP 22 55 58.5 +0.6
baz=293
CIS Catalina Islan 121.84 56 P PKiKP 22 56 00.2 +0.7
baz=281
EDW2 Edwards Air Fo 121.88 54 P PKiKP 22 56 00.2 +0.6
baz=283,SNR=6.4
LRMC Laurel Mtn Rad 121.99 54 P PKiKP 22 56 00.6 +0.7
baz=283
MPMC Manual Prospec 122.01 53 P PKiKP 22 56 00.8 +0.8
baz=284,SNR=7.7
PBRG Braganca 122.06 314 *e*PKPdf PKiKP 22 56 02.3 +2.6
HLID Hailey 122.08 44 P PKiKP 22 56 00.9 +1.1
baz=291
BFSC Mount Baldy Ra 122.28 55 P PKiKP 22 56 01.0 +0.5
baz=282
MVO Moncorvo 122.47 314 *e*PKPdf PKiKP 22 56 01.9 +1.4
QSM Queen of Sheba 122.52 53 PKPdf PKPdf 22 56 00.2 -0.3
ARF Arif 122.70 302 P PKiKP 22 56 03.0 +1.6
GSC Goldstone, Bar 122.73 54 P PKiKP 22 56 02.5 +1.3
baz=284
SMIR Smir Dam 122.76 307 P PKiKP 22 56 02.0 +0.8
TPNV Topopah Spring 122.76 51 P PKiKP 22 56 02.1 +0.7
baz=285
MDT Midelt 122.76 303 P PKiKP 22 56 02.5 +1.1
LCRM LCR 122.79 305 P PKiKP 22 56 04.0 +2.5
MURC Murrieta 122.80 56 P PKiKP 22 56 02.7 +1.3
baz=282
CHEFC Chefchaouen 122.86 306 P PKiKP 22 56 03.0 +1.5
R11B Troy Canyon, C 122.89 50 P PKiKP 22 56 02.3 +0.7
baz=286
PVRL Vila Real 122.92 314 *e*PKPdf PKiKP 22 56 02.7 +1.3
POLO Lamas de Olo 122.95 314 *e*PKPdf PKiKP 22 56 02.7 +1.2
MTE Manteigas 123.08 313 *e*PKPdf PKiKP 22 56 02.8 +1.0
PGAV Gavieira, Arco 123.08 315 *e*PKPdf PKiKP 22 56 02.5 +0.7
BOZ Bozeman (W) 123.15 40 P PKiKP 22 56 02.7 +0.8
baz=294
PCBR Castelo Branco 123.21 312 *e*PKPdf PKiKP 22 56 02.9 +1.0
HEC Hector,Ludlow 123.22 54 P PKiKP 22 56 02.8 +0.6
baz=284
PVIS Viseu 123.23 313 *e*PKPdf PKiKP 22 56 03.3 +1.3
EGMT Eagleton 123.26 37 P PKiKP 22 56 02.2 +0.2
baz=297
PMRV Marv??o 123.27 312 *e*PKPdf PKiKP 22 56 02.7 +0.6
PBAR Barrancos 123.38 310 *e*PKPdf PKiKP 22 56 03.2 +0.9
PFO Pinyon Flats O 123.39 55 PKPdf PKPdf 22 56 01.7 -0.7
PFO Pinyon Flats O 123.39 55 P PKiKP 22 56 03.3 +0.6
baz=283
PFO Pinyon Flats O 123.39 55 PKIKP PKPdf 22 56 01.7 -0.7
TUQ Turquoise Moun 123.40 53 P PKiKP 22 56 03.6 +0.9
baz=284
TPFO Pinon Flats 123.40 55 P PKiKP 22 56 03.3 +0.6
baz=283
MONP2 Monument Peak 123.58 56 P PKiKP 22 56 04.0 +0.9
baz=282
PESTR Estremoz 123.59 311 *e*PKPdf PKiKP 22 56 03.4 +0.7
BELC Belle Mtn. Jos 123.68 55 P PKiKP 22 56 04.3 +1.1
baz=283,SNR=7.2
FFC Flin Flon 123.70 27 PKPdf PKiKP 22 56 02.4 0.0
FFC Flin Flon 123.70 27 PKIKP PKiKP 22 56 02.4 0.0
GMRC Granite Mounta 123.77 54 P PKiKP 22 56 04.7 +1.3
baz=284,SNR=7.7
PCAS Casmilo, Conde 123.89 313 *e*PKPdf PKiKP 22 56 04.2 +0.9
IKP In-Ko-Pah, Jac 123.89 56 P PKiKP 22 56 04.0 +0.3
baz=282
PMTG Montargil 124.00 312 *e*PKPdf PKiKP 22 56 03.8 +0.3
PBEJ Beja 124.05 310 *e*PKPdf PKiKP 22 56 05.0 +1.3
SWSC Sam W. Stewart 124.08 56 P PKiKP 22 56 04.4 +0.6
baz=283
PVAQ Vaqueiros 124.12 310 *e*PKPdf PKiKP 22 56 05.1 +1.3
ZGR Zagora 124.13 301 P PKiKP 22 56 06.0 +1.8
KIC Kosan Boka 124.20 272 ⇓*i*PKIKP PKiKP 22 56 04.9 +0.3
comp=Z,19nm,0.6s
BC3 Big Chuckawall 124.20 55 P PKiKP 22 56 05.1 +0.8
baz=284
PSBE So Bento 124.28 312 *e*PKPdf PKiKP 22 56 05.8 +1.7
PCVE Castro Verde 124.29 310 *e*PKPdf PKiKP 22 56 05.3 +1.1
PBDV Barranco-do-Ve 124.33 309 *e*PKPdf PKiKP 22 56 05.5 +1.2
H17A Grant Village 124.33 41 P PKiKP 22 56 05.4 +1.0
baz=294
IRM Iron Mountain 124.33 54 P PKiKP 22 56 05.7 +1.4
baz=284
DBIC Dimbokro 124.34 272 PKPdf PKPdf 22 56 04.1 -0.5
DBIC Dimbokro 124.34 272 PKP PKiKP 22 56 04.9 0.0
comp=Z,15nm,0.5s,baz=85,slow=5.3,SNR=23
DBIC SKPbc SKPbc 22 59 05.2
comp=Z,2.2nm,0.7s,baz=114,slow=10.0,SNR=1.9
DBIC SKP 22 59 28.7
comp=Z,4.6nm,1.0s,baz=55,slow=3.1,SNR=2.0
DUG Dugway, Tooele 124.36 47 P PKiKP 22 56 05.4 +1.0
baz=290
LIC Lamto 124.47 272 ⇓*i*PKIKP PKiKP 22 56 05.4 +0.2
comp=Z,66nm,0.4s
MOOW Moose Ponds 124.48 42 PKPdf PKiKP 22 56 04.6 0.0
TIC Toumodi 124.50 272 ⇓*i*PKIKP PKiKP 22 56 05.4 +0.2
comp=Z,11nm,0.3s
PNCL Nicolau / Gran 124.52 311 *e*PKPdf PKiKP 22 56 05.5 +0.9
PTEO Sao Teotonio 124.84 310 *e*PKPdf PKiKP 22 56 06.9 +1.7
MORF Marmelete 124.86 310 *e*PKPdf PKiKP 22 56 06.4 +1.1
RLMT Red Lodge 124.86 40 P PKiKP 22 56 06.0 +0.6
baz=296
OUZM OUZ 124.94 302 P PKiKP 22 56 07.0 +1.2
PFVI Vila Bisbo 125.04 310 *e*PKPdf PKiKP 22 56 07.0 +1.4
BW06 Boulder Array 125.67 43 P PKiKP 22 56 07.5 +0.4
baz=294
PDAR Pinedale Array 125.67 43 PKP PKPdf 22 56 06.0 -0.7
comp=Z,1.1nm,0.5s,baz=321,slow=1.9,SNR=16
PDAR SKPbc SKPbc 22 59 09.7
comp=Z,0.7nm,0.5s,baz=155,slow=1.9,SNR=6.0
OUK Oukaimeden 125.81 302 P PKiKP 22 56 09.1 +1.3
LAO LASA Array 126.01 37 P PKiKP 22 56 08.3 +0.9
baz=300
LAO LASA Array 126.01 37 P PKiKP 22 56 08.0 +0.6
baz=300
DGMT Dagmar 126.25 34 P PKiKP 22 56 08.9 +1.1
baz=303
DGMT Dagmar 126.25 34 P PKiKP 22 56 08.4 +0.7
baz=303
NRS Narsarsuaq 126.33 351 PKPdf PKPdf 22 56 06.8 -0.2
NRS Narsarsuaq 126.33 351 PKIKP PKPdf 22 56 06.8 -0.2
214A Organ Pipe Nat 126.77 56 P PKiKP 22 56 09.8 +0.5
baz=284
WUAZ Wupatki 126.94 52 P PKiKP 22 56 10.3 +0.5
O20A White River Ci 127.64 45 P PKiKP 22 56 11.8 +0.8
baz=294
K22A Casper 127.74 42 P PKiKP 22 56 11.9 +0.8
baz=297
K22A Casper 127.74 42 P PKiKP 22 56 11.3 +0.2
baz=297
TUC Tucson 128.34 56 PKPdf PKPdf 22 56 11.1 -0.8
TUC Tucson 128.34 56 PKIKP PKPdf 22 56 11.1 -0.8
MVCO Mesa Verde 128.57 49 P PKiKP 22 56 13.5 +0.5
baz=291,SNR=5.5
RSSD Black Hills 128.63 39 PKPdf PKPdf 22 56 11.7 -0.6
RSSD Black Hills 128.63 39 P PKiKP 22 56 13.0 +0.1
baz=300
RSSD Black Hills 128.63 39 P PKiKP 22 56 12.7 -0.2
baz=300
RSSD Black Hills 128.63 39 PKIKP PKPdf 22 56 11.7 -0.6
N23A Red Feather La 128.91 43 P PKiKP 22 56 13.8 +0.2
baz=296
MDND Maddock 129.12 33 P PKiKP 22 56 14.0 +0.5
baz=308
ULM Lac du Bonnet 129.45 28 PKP PKiKP 22 56 13.6 -0.4
comp=Z,2.6nm,0.4s,baz=252,slow=1.7,SNR=6.1
ULM SKPbc SKPab 22 59 22.4 -0.5
comp=Z,5.9nm,0.5s,baz=311,slow=5.2,SNR=9.5
ULM SKP 22 59 36.5
comp=Z,2.6nm,0.6s,baz=245,slow=14,SNR=1.5
S22A 4UR Ranch, Cre 129.60 48 P PKiKP 22 56 15.9 +0.7
baz=293,SNR=7.1
ISCO Idaho Springs 129.62 45 P PKiKP 22 56 15.1 0.0
baz=296
ISCO Idaho Springs 129.62 45 P PKiKP 22 56 15.8 +0.7
baz=296
PLCA Paso Flores 130.09 171 PKP PKiKP 22 56 16.6 +0.8
comp=Z,8.3nm,1.2s,baz=300,slow=5.8,SNR=3.9
PLCA SKPbc SKPbc 22 59 26.9 +0.5
comp=Z,16nm,1.0s,baz=198,slow=4.7,SNR=12
SDCO Great Sand Dun 130.56 47 P PKiKP 22 56 16.9 -0.2
baz=294
SDCO Great Sand Dun 130.56 47 P PKPdf 22 56 15.4 -0.8
baz=294
ANMO Albuquerque 130.93 51 PKPdf PKiKP 22 56 17.7 -0.1
ANMO Albuquerque 130.93 51 PKIKP PKiKP 22 56 17.7 -0.1
T25A Trinidad 131.60 47 P PKiKP 22 56 19.1 0.0
baz=295
PMPST Porto Santo, M 132.17 307 *e*PKPdf PKPpre 22 56 09.7
PMPS Porto Santo 132.18 307 *e*PKPdf PKPpre 22 56 13.7
ECSD EROS Data Cent 133.29 35 P PKiKP 22 56 21.7 -0.3
baz=308
SCHQ Schefferville 133.70 5 PKP PKPdf 22 56 20.7 -0.5
comp=Z,9.5nm,0.8s,baz=296,slow=2.3,SNR=4.7
SCHQ PP PP 22 58 50.3 -0.4
comp=Z,8.7nm,0.9s,baz=11,slow=11,SNR=3.7
SCHQ SKPbc SKPbc 22 59 37.9 -0.7
comp=Z,17nm,0.8s,baz=2.6,slow=3.6,SNR=7.0
TXAR Lajitas Array 135.06 57 PKhKP PKPpre 22 56 10.7
comp=Z,0.6nm,0.6s,baz=226,slow=2.9,SNR=4.0
TXAR PKP PKiKP 22 56 25.4 -0.8
comp=Z,2.3nm,0.8s,baz=197,slow=0.8,SNR=8.9
TXAR SKPbc SKPbc 22 59 43.7 -0.2
comp=Z,8.5nm,0.9s,baz=276,slow=2.4,SNR=20
TXAR SKKPbc SKKPbc 23 08 49.9 -0.1
comp=Z,0.5nm,0.9s,baz=124,slow=5.8,SNR=4.2
S39A Bolivar 138.93 40 P PKPpre 22 56 23.3
baz=307
U38A Gravette 138.96 42 P PKPpre 22 56 22.5
baz=304
R40A Maddies Statio 139.23 39 P PKPpre 22 56 22.0
baz=308
CCM Cathedral Cave 140.01 38 PKPpre PKPpre 22 56 23.2
CCM Cathedral Cave 140.01 38 P PKPpre 22 56 27.1
baz=309
CCM Cathedral Cave 140.01 38 PKHKP PKPpre 22 56 23.2
U40A Yellville 140.02 42 P PKPpre 22 56 26.4
baz=306
U40A P PKPpre 22 56 26.4
baz=306
MIAR Mount Ida 140.56 44 P PKPpre 22 56 28.1
baz=303,SNR=9.5
T42A Van Buren 140.74 39 P PKPpre 22 56 27.6
baz=309
HKT Hockley 141.15 52 PKPpre PKPpre 22 56 30.6
HKT Hockley 141.15 52 PKIKP PKPpre 22 56 30.6
LCAR Lake Charles 141.29 41 P PKPpre 22 56 29.4
baz=308,SNR=11
PBMO Poplar Bluff 141.31 39 P PKPpre 22 56 29.2
baz=309,SNR=5.5
S44A Carbondale 141.44 37 P PKPpre 22 56 30.3
baz=312
N49A Columbus Grove 141.84 29 P PKPpre 22 56 31.6
baz=321
N49A P PKPpre 22 56 31.6
baz=321
O48B Farmland 141.88 30 P PKPpre 22 56 30.3
baz=319
O49A Covington 142.34 30 P PKPpre 22 56 33.1
baz=320
O49A P PKPpre 22 56 33.1
baz=320
P49A Miami Univ. Ec 142.64 31 P PKPpre 22 56 33.6
baz=319
WCI Wyandotte Cave 142.77 34 PKPpre 22 56 33.5
WCI Wyandotte Cave 142.77 34 P PKPpre 22 56 34.2
baz=316,SNR=12
WCI Wyandotte Cave 142.77 34 PKHKP PKPpre 22 56 33.5
ACSO Alum Creek Sta 142.95 28 P PKPpre 22 56 34.2
baz=322
T47A Sharon Grove 143.18 36 P PKPbc 22 56 35.9 -0.5
baz=314,SNR=17
R49A Shelbyville 143.33 33 P PKPbc 22 56 36.6 -0.2
baz=318,SNR=10
R49A P PKPbc 22 56 36.6 -0.2
baz=318,SNR=10
J59A Piesco 143.37 17 P PKPbc 22 56 36.6 -0.1
baz=337
J59A P PKPbc 22 56 36.6 -0.1
baz=337
OXF Oxford 143.37 41 PKPdf PKPbc 22 56 36.9 -0.1
OXF Oxford 143.37 41 P PKPbc 22 56 36.7 -0.3
baz=308,SNR=11
OXF Oxford 143.37 41 PKIKP PKPbc 22 56 36.9 -0.1
N53A Lisbon 143.45 26 P PKPbc 22 56 36.8 -0.2
baz=326
N53A P PKPbc 22 56 36.8 -0.2
baz=326
P51A Williamsport 143.50 29 P PKPab 22 56 36.5 +0.3
baz=322,SNR=7.0
P51A P PKPab 22 56 36.5 +0.3
baz=322,SNR=7.0
O52A Adamsville 143.57 27 P PKPbc 22 56 36.9 -0.5
baz=324
O52A P PKPbc 22 56 36.9 -0.5
baz=324
L56A Greenwood 143.59 21 P PKPbc 22 56 36.9 -0.5
baz=332
L56A P PKPbc 22 56 36.9 -0.5
baz=332
Q51A Peebles 143.72 30 P PKPbc 22 56 37.5 -0.4
baz=321,SNR=12
Q51A P PKPbc 22 56 37.5 -0.4
baz=321,SNR=12
M55A Ridgway 143.73 23 P PKPbc 22 56 38.2 +0.3
baz=330
M55A P PKPbc 22 56 38.2 +0.3
baz=330
R50A Paris 143.78 32 P PKPab 22 56 36.9 -0.4
baz=319,SNR=16
R50A P PKPab 22 56 36.9 -0.4
baz=319,SNR=16
VBMS Vicksburg 143.97 45 P PKPdf 22 56 39.8 -0.8
baz=304
J61A Chester 143.99 14 P PKPbc 22 56 38.8 +0.3
baz=340
J61A P PKPbc 22 56 38.8 +0.3
baz=340
PSDB Penn State Uni 144.03 23 P PKPbc 22 56 38.6 -0.1
baz=329
UPAO U. Pittsburgh 144.06 25 P PKPbc 22 56 39.1 +0.2
baz=327
BINY Binghamton 144.07 19 P PKPbc 22 56 38.6 -0.2
baz=334
HCNY Howe Caverns 144.10 17 P PKPbc 22 56 38.8 -0.1
baz=337
O54A Avella 144.16 26 P PKPab 22 56 37.8 -0.9
baz=326,SNR=7.4
O54A P PKPab 22 56 37.8 -0.9
baz=326,SNR=7.4
V48A Smith Brothers 144.20 37 P PKPab 22 56 38.5 -0.4
baz=313,SNR=34
344A Westbrook Farm 144.24 46 P PKPdf 22 56 41.4 +0.3
baz=303,SNR=19
TRY Troy 144.28 16 PKPab 22 56 38.8 -0.2
TRY Troy 144.28 16 P PKPab 22 56 39.0 0.0
baz=338
U49A Red Boiling Sp 144.28 35 P PKPbc 22 56 39.6 0.0
baz=315,SNR=113
P53A Whipple 144.28 27 P PKPab 22 56 38.8 -0.3
baz=324,SNR=17
P53A P PKPab 22 56 38.8 -0.3
baz=324,SNR=17
Q52A Bidwell 144.29 29 P PKPab 22 56 38.7 -0.5
baz=322,SNR=9.9
Q52A P PKPab 22 56 38.7 -0.5
baz=322,SNR=9.9
L59A Walton 144.38 18 P PKPbc 22 56 39.6 -0.2
baz=336,SNR=5.6
L59A P PKPbc 22 56 39.6 -0.2
baz=336,SNR=5.6
T50A Nancy 144.44 34 P PKPbc 22 56 40.0 -0.1
baz=317
T50A P PKPbc 22 56 40.0 -0.1
baz=317
M57A Sunshine Farm, 144.45 21 PKPdf PKPbc 22 56 40.2 +0.2
M57A Sunshine Farm, 144.45 21 P PKPab 22 56 38.5 -1.2
baz=332,SNR=17
M57A P PKPab 22 56 38.5 -1.2
baz=332,SNR=17
MAN01 Angra dos Reis 144.51 208 *e*P PKPdf 22 56 43.1 +1.2
AHML Horco Molle 144.53 173 *e*P PKPdf 22 56 43.2 +1.3
PET01 Itanhaem-SP 144.62 202 *e*P PKPdf 22 56 43.5 +1.5
K62A Royalston 144.71 14 P PKPab 22 56 40.1 -0.5
baz=341,SNR=6.8
K62A P PKPab 22 56 40.1 -0.5
baz=341,SNR=6.8
KSPA Keystone Colle 144.72 19 P PKPab 22 56 39.9 -0.8
baz=334,SNR=5.9
146A Union 144.74 43 P PKPdf 22 56 41.8 -0.2
baz=307,SNR=26
VAS01 Vassouras-RJ 144.76 209 *e*P PKPdf 22 56 43.7 +1.3
SSPA Standing Stone 144.78 23 PKPab 22 56 40.6 -0.4
SSPA Standing Stone 144.78 23 P PKPab 22 56 40.9 -0.1
baz=330,SNR=38
L61B Northampton 144.80 15 P PKPbc 22 56 41.1 0.0
baz=340,SNR=6.8
L61B Northampton 144.80 15 P PKPab 22 56 40.1 -0.9
baz=340,SNR=6.8
PARB Paraibuna 144.82 205 *e*P PKPdf 22 56 43.3 +0.8
MCWV Mont Chateau 144.83 26 P PKPab 22 56 41.0 -0.2
baz=326,SNR=18
MCWV Mont Chateau 144.83 26 P PKPdf 22 56 41.7 -0.2
baz=326,SNR=18
PABK Blue Knob Stat 144.83 24 P PKPab 22 56 40.7 -0.5
baz=329
X48A Hartselle 144.92 39 P PKPbc 22 56 41.2 -0.5
baz=311,SNR=70
R53A Hurricane 144.94 29 P PKPab 22 56 41.8 +0.2
baz=322,SNR=10
R53A P PKPab 22 56 41.8 +0.2
baz=322,SNR=10
Q54A Coxs Mills 144.94 27 P PKPdf 22 56 42.0 -0.2
baz=324,SNR=40
Q54A P PKPdf 22 56 42.0 -0.2
baz=324,SNR=40
HRV Adam Dziewonsk 145.02 14 P PKPbc 22 56 41.0 -0.7
baz=342,SNR=5.9
N58A Sunbury 145.04 21 P PKPab 22 56 41.8 -0.1
baz=332,SNR=25
N58A P PKPab 22 56 41.8 -0.1
baz=332,SNR=25
NPNY Mohonk Preserv 145.04 17 P PKPbc 22 56 40.1 -1.7
baz=337,SNR=13
QUA2 Belchertown 145.04 15 P PKPbc 22 56 41.6 -0.2
baz=340
CPUP Villa Florida 145.05 186 PKPbc PKPdf 22 56 44.0 +1.3
comp=Z,66nm,0.8s,baz=170,slow=2.3,SNR=103
CPUP SKPbc SKiKP 23 00 11.9 +0.7
comp=Z,15nm,0.8s,baz=170,slow=1.2,SNR=8.3
Z47A Carrollton 145.06 42 P PKPdf 22 56 42.4 0.0
baz=308,SNR=50
FSA Cafayete 145.12 172 *e*P PKPdf 22 56 44.8 +1.8
346A Big Creek Wild 145.18 46 P PKPdf 22 56 43.9 +1.2
baz=305,SNR=10
SPB Sao Paulo 145.31 202 *e*P PKPab 22 56 45.1 +1.7
BRNY Black Rk. Fore 145.40 17 P PKPab 22 56 43.3 +0.1
baz=337,SNR=13
W50A Signal Mountai 145.47 36 PKPdf 22 56 42.4 -0.8
W50A Signal Mountai 145.47 36 P PKPdf 22 56 42.9 -0.3
baz=314,SNR=55
TZTN Tazewell 145.49 33 P PKPab 22 56 43.7 -0.1
baz=318,SNR=42
TZTN Tazewell 145.49 33 P PKPdf 22 56 42.3 -0.9
baz=318,SNR=42
ODNJ Ogdensburg 145.52 18 P PKPab 22 56 43.6 -0.1
baz=336,SNR=16
ABR01 Abrolhos, BA 145.57 220 *e*P PKPdf 22 56 43.0 -0.8
V51A Loudon 145.59 35 P PKPdf 22 56 40.9 -2.4
baz=316,SNR=50
Q56A Snyder Ridge, 145.62 25 P PKPdf 22 56 41.9 -1.5
baz=327,SNR=23
Q56A P PKPdf 22 56 41.9 -1.5
baz=327,SNR=23
S54A Dingess, Beckl 145.67 29 P PKPdf 22 56 42.7 -0.8
baz=323,SNR=20
S54A P PKPdf 22 56 42.7 -0.8
baz=323,SNR=20
VAO Valinhos 145.67 203 *e*P PKPab 22 56 45.4 +0.6
Y49A Blount Mountai 145.71 39 P PKPbc 22 56 44.2 0.0
baz=311,SNR=74
L64A Middleborough 145.73 13 P PKPbc 22 56 43.7 -0.2
baz=343
L64A P PKPbc 22 56 43.7 -0.2
baz=343
P57A Homestead Farm 145.73 24 P PKPbc 22 56 44.1 +0.1
baz=329,SNR=26
P57A P PKPbc 22 56 44.1 +0.1
baz=329,SNR=26
PAL Palisades 145.80 17 P PKPbc 22 56 44.3 +0.1
baz=337,SNR=25
PAL Palisades 145.80 17 P PKPbc 22 56 44.3 +0.1
baz=337,SNR=25
R55A Marlinton 145.84 27 P PKPbc 22 56 44.4 -0.2
baz=325,SNR=44
R55A P PKPbc 22 56 44.4 -0.2
baz=325,SNR=44
LRAL Lakeview Retre 145.86 41 P PKPbc 22 56 44.9 +0.2
baz=310,SNR=51
LRAL Lakeview Retre 145.86 41 P PKPbc 22 56 44.2 -0.4
baz=310,SNR=51
FOR Fordham 145.94 18 P PKPdf 22 56 42.2 -1.5
baz=337,SNR=7.0
V52A Sevierville 145.98 34 P PKPbc 22 56 44.7 -0.3
baz=317,SNR=28
TKL Tuckaleechee C 146.02 34 P PKPbc 22 56 44.6 -0.5
baz=317,SNR=44
X51A Calhoun 146.17 37 P PKPbc 22 56 45.5 -0.1
baz=314,SNR=24
X51A P PKPbc 22 56 45.5 -0.1
baz=314,SNR=24
SDMD Soldier's Deli 146.25 22 P PKPbc 22 56 45.4 -0.2
baz=331,SNR=13
PSUB Penn St. - Bra 146.29 20 P PKPbc 22 56 45.4 -0.3
baz=334
FRTB Fartura 146.29 199 *e*P PKPab 22 56 47.5 +0.3
GEDE Greenville 146.33 21 P PKPbc 22 56 45.6 -0.2
baz=333,SNR=15
W52A Murphy 146.34 35 P PKPbc 22 56 45.8 -0.3
baz=316,SNR=9.2
RCLB Rio Claro- Sao 146.42 203 *e*P PKPbc 22 56 46.5 -0.2
U54A Nelsons Funny 146.42 31 P PKPbc 22 56 45.8 -0.5
baz=321,SNR=14
U54A P PKPbc 22 56 45.8 -0.5
baz=321,SNR=14
BSCB Bom Sucesso 146.49 208 *e*P PKPbc 22 56 46.9 -0.1
SJMB Sao Joao De Ma 146.51 216 *e*P PKPbc 22 56 46.3 -0.7
V53A Saluda 146.54 33 P PKPbc 22 56 46.5 -0.1
baz=318,SNR=59

V53A				P	PKPbc	22 56 46.5	-0.1
	baz=318,SNR=59						
NAN01	Guarapari, ES	146.55	218	eP	PKPdf	22 56 45.8	+0.4
BLA	Blacksburg	146.56	29	P	PKPbc	22 56 46.4	-0.3
	baz=324,SNR=17						
BLA	Blacksburg	146.56	29	P	PKPbc	22 56 45.9	-0.7
	baz=324,SNR=17						
P61A	Hammonton	146.74	20	P	PKPbc	22 56 47.4	+0.4
	baz=335						
P61A				P	PKPbc	22 56 47.4	+0.4
	baz=335						
S57A	Dark Hollow, R	146.79	26	P	PKPbc	22 56 46.4	-0.8
	baz=326,SNR=11						
S57A				P	PKPbc	22 56 46.4	-0.8
	baz=326,SNR=11						
Z51A	Franklin	146.83	39	PKPdf	PKPdf	22 56 44.4	-1.1
Z51A	Franklin	146.83	39	P	PKPbc	22 56 46.6	-0.9
	baz=312,SNR=19						
CASEE	Lake Jocassee	146.97	34	P	PKPbc	22 56 48.4	+0.6
	baz=318,SNR=50						
BRAL	Brewton	146.98	44	P	PKPbc	22 56 48.5	+0.6
	baz=307,SNR=18						
250A	Grady	147.01	42	P	PKPdf	22 56 45.9	+0.1
	baz=309,SNR=30						
R58B	Mineral	147.08	25		PKPbc	22 56 47.4	-0.7
R58B	Mineral	147.08	25	P	PKPbc	22 56 47.5	-0.5
	baz=328,SNR=8.9						
R58B				P	PKPbc	22 56 47.5	-0.5
	baz=328,SNR=8.9						
Y52A	Lilburn	147.13	37	P	PKPbc	22 56 47.8	-0.6
	baz=315,SNR=37						
Y52A				P	PKPbc	22 56 47.8	-0.6
	baz=315,SNR=37						
V55A	Taylorsville	147.24	31	P	PKPbc	22 56 48.9	+0.3
	baz=321,SNR=26						
V55A				P	PKPbc	22 56 48.9	+0.3
	baz=321,SNR=26						
U56A	King	147.27	30	P	PKPbc	22 56 48.8	+0.1
	baz=323,SNR=7.5						
U56A				P	PKPbc	22 56 48.8	+0.1
	baz=323,SNR=7.5						
T57A	Hurt	147.28	28	P	PKPbc	22 56 47.6	-1.0
	baz=325,SNR=19						
T57A				P	PKPbc	22 56 47.6	-1.0
	baz=325,SNR=19						
GUA01	Guaratinga, BA	147.31	220	eP	PKPdf	22 56 47.1	+0.4
152A	Waverly Hall	147.55	39	P	PKPdf	22 56 47.8	+1.1
	baz=312,SNR=51						
PAULI	Pauline	147.72	33	P	PKPbc	22 56 49.5	-0.3
	baz=319,SNR=26						
KMSC	Kings Mountain	147.73	32	PKPbc	PKPbc	22 56 50.1	+0.2
KMSC	Kings Mountain	147.73	32	P	PKPbc	22 56 50.0	+0.2
	baz=320,SNR=30						
KMSC	Kings Mountain	147.73	32	P	PKPbc	22 56 49.6	-0.3
	baz=320,SNR=30						
GOGA	Godfrey	147.81	37	P	PKPbc	22 56 50.6	+0.5
	baz=315,SNR=30						
GOGA	Godfrey	147.81	37	P	PKPdf	22 56 47.4	+0.3
	baz=315,SNR=30						
HODGE	Hodges	147.91	34	P	PKPdf	22 56 47.6	+0.4
	baz=318,SNR=31						
CMC01	Camacan, BA	148.02	222	eP	PKPdf	22 56 47.9	0.0
T59A	Double "B" Far	148.06	26	P	PKPdf	22 56 48.4	+1.0
	baz=328,SNR=30						
T59A				P	PKPdf	22 56 48.4	+1.0
	baz=328,SNR=30						
352A	Blakely	148.20	41	P	PKPbc	22 56 51.9	+0.6
	baz=311,SNR=14						
451A	Vernon	148.21	43	P	PKPbc	22 56 52.0	+0.7
	baz=308,SNR=6.3						
T60A	Surry	148.25	24	P	PKPbc	22 56 51.5	+0.3
	baz=330,SNR=23						
T60A				P	PKPbc	22 56 51.5	+0.3
	baz=330,SNR=23						
V58A	Windy Hill, Pi	148.33	29	PKPbc	PKPbc	22 56 50.8	-0.7
V58A	Windy Hill, Pi	148.33	29	P	PKPbc	22 56 51.2	-0.3
	baz=324,SNR=18						
V58A				P	PKPbc	22 56 51.2	-0.3
	baz=324,SNR=18						
W57A	Gilead	148.41	31	P	PKPbc	22 56 50.7	-1.0
	baz=322,SNR=16						
W57A				P	PKPbc	22 56 50.7	-1.0
	baz=322,SNR=16						
JSC	Jenkinsville	148.42	33	P	PKPbc	22 56 51.3	-0.5
	baz=319,SNR=15						
PCMB	Pacaembu	148.45	198	eP	PKPbc	22 56 50.5	-1.6
U59A	Littleton	148.47	26	P	PKPbc	22 56 51.7	-0.1
	baz=327,SNR=10						
U59A				P	PKPbc	22 56 51.7	-0.1
	baz=327,SNR=10						
BIRD	Birdtown, Kers	148.57	32	P	PKPbc	22 56 52.2	+0.1
	baz=321,SNR=12						
154A	Montrose	148.58	37	P	PKPbc	22 56 52.7	+0.5
	baz=315,SNR=7.3						
HAW	Hawthorne Fire	148.92	35	P	PKiKP	22 56 53.9	-0.4
	baz=318,SNR=22						
TIGA	Tifton	149.09	40	P	PKiKP	22 56 54.3	-0.4
	baz=313,SNR=9.6						
Y57A	Sumter	149.09	32	P	PKiKP	22 56 54.1	-0.6
	baz=320,SNR=6.5						
Y57A				P	PKiKP	22 56 54.1	-0.6
	baz=320,SNR=6.5						
W59A	Clinton	149.16	29	P	PKPbc	22 56 53.8	+0.3
	baz=325,SNR=5.0						
X58A	Rowland	149.21	30	P	PKPbc	22 56 53.7	0.0
	baz=323,SNR=8.8						
X58A				P	PKPbc	22 56 53.7	0.0
	baz=323,SNR=8.8						
CNNC	Cliffs of the	149.35	28	P	PKiKP	22 56 54.8	-0.4
	baz=326						
553A	Crawfordville	149.36	42	P	PKiKP	22 56 54.7	-0.6
	baz=310						
255A	Hazlehurst	149.44	38	P	PKPbc	22 56 54.4	+0.1
	baz=315,SNR=10						
V61A	Roper	149.47	25	P	PKPbc	22 56 54.5	+0.2
	baz=329,SNR=5.6						
V61A				P	PKPbc	22 56 54.5	+0.2
	baz=329,SNR=5.6						
Y58A	Scranton	149.55	32	P	PKPbc	22 56 55.0	+0.4
	baz=322,SNR=8.1						
Y58A				P	PKPbc	22 56 55.0	+0.4
	baz=322,SNR=8.1						
NHSC	New Hope	149.90	33	P	PKPbc	22 56 53.9	-1.5
	baz=320,SNR=5.9						
Y60A	Bolivia	150.21	30	P	PKPbc	22 56 54.0	-2.1
	baz=324						
Y60A				P	PKPbc	22 56 54.0	-2.1
	baz=324						
456A	Hilliard	150.56	39	P	PKiKP	22 56 58.4	+0.7
	baz=314						
TEIG	Tepich	151.26	63		PKiKP	22 56 59.9	+0.4
TEIG	Tepich	151.26	63	eP	PKiKP	22 56 59.4	0.0
BDFB	Brasilia	152.65	208	PKPdf	PKPdf	22 56 55.4	+0.1
BDFB	Brasilia	152.65	208	PKP	PKPdf	22 56 56.4	+1.1
	comp=Z,9.7nm,0.8s,baz=134,slow=1.3,SNR=15						
BDFB				PKPbc	PKiKP	22 57 03.8	+1.1
	comp=Z,11nm,0.6s,baz=115,slow=3.1,SNR=13						
DWPF	Disney Wildern	152.70	42	P	PKiKP	22 57 03.0	+0.7
	baz=312						
LPAZ	La Paz	154.25	164	PKP	PKPdf	22 56 58.7	+0.5
	comp=Z,3.6nm,0.9s,baz=48,slow=2.4,SNR=12						
LPAZ				PKPbc	PKiKP	22 57 08.3	+1.8
	comp=Z,11nm,1.0s,baz=280,slow=2.2,SNR=9.4						
LPAZ				PKPab	PKPab	22 57 21.8	+1.2
	comp=Z,8.6nm,0.5s,baz=94,slow=2.3,SNR=15						
CNGN	Cerro Negro	154.47	79		PKPab	22 57 18.7	-2.5
ACON	Acoyapa	156.01	80	eP	PKPab	22 57 27.5	-0.2
BOSC	San Juan Bosco	159.00	123	PKPdf	PKPdf	22 57 04.0	+0.1
PIAT	Ana Tenorio	160.33	118	eP	PKPdf	22 57 09.1	+3.4
OTAV	Otavalo	160.73	115	PKPdf	PKPdf	22 57 06.7	+0.5
OTAV	Otavalo	160.73	115	eP	PKPdf	22 57 03.4	-2.9
OTAV	Otavalo	160.73	115	PKIKP	PKPdf	22 57 06.7	+0.5
ETMB	Extrema	160.94	164	PKPdf	PKPdf	22 57 05.6	-0.2
ETMB				PKPab	PKPab	22 57 49.1	+0.3
GTBY	Guantanamo Bay	162.35	49	eP	PKPab	22 57 53.2	-1.7
SAML	Samuel	162.39	173	PKPdf	PKPdf	22 57 07.4	+0.1
SAML	Samuel	162.39	173	eP	PKPdf	22 57 09.0	+1.6
SAML	Samuel	162.39	173	PKIKP	PKPdf	22 57 07.4	+0.1
POPC	Popayan, Colom	163.29	110	eP	PKPdf	22 57 08.1	-0.4
ORTC	Ortega, Tolima	165.10	108	eP	PKPab	22 58 07.9	+0.4
GUY2C	Guyana, Caldas	165.36	102	eP	PKPdf	22 57 10.0	-0.6
MACC	Macarena, Meta	165.69	116	eP	PKPdf	22 57 10.4	0.0
NORC	Norcasia	165.92	102	eP	PKPdf	22 57 12.0	+1.4
SJCC	San Jacinto, C	165.97	84	eP	PKPdf	22 57 10.4	-0.1
ZARC	Zaragoza, Cauc	166.25	94	eP	PKPdf	22 57 09.2	-1.6
ROSC	El Rosal	166.26	105	PKP	PKPdf	22 57 11.7	+0.4
	comp=Z,5.4nm,0.4s,baz=315,slow=16,SNR=3.8						
ROSC				PKPab	PKPab	22 58 14.5	+1.4
	comp=Z,7.2nm,0.5s,baz=125,slow=21,SNR=3.9						
PTBC	PUERTO BERRIO	166.52	98	eP	PKPdf	22 57 11.2	+0.3
SPBC	San Pablo de B	166.71	102	eP	PKPdf	22 57 10.5	-0.8
CHIC	Chingaza	166.76	107	eP	PKPdf	22 57 10.2	-1.5
RUSC	La Rusia	167.72	102	eP	PKPdf	22 57 08.4	-4.1
PAMC	Pamplona, Colo	168.36	96	eP	PKPdf	22 57 13.5	+0.6
BOAV	Boa Vista	173.77	185	PKPdf	PKPdf	22 57 14.2	-0.9
BOAV				PKPab	PKPab	22 58 46.5	+1.2

WEL 30 22:45:13.7±1.2, 31°S±9°×17°9W±2°4, h312km±16km, M4.5/6, mB4.4/4, ML4.7/5, MLv4.7/6, Mw(mB)3.6/4, Error ellipse: s-maj=0.0km s-min=0.0km az=107.8, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.13	38	P	Pn	22 46 03.4	+0.9
GLKZ				S	S	22 46 41.4	-0.1
HAZ	Te Kaha	7.18	198	P	Pn	22 46 57.0	-0.2
HAZ				S	S	22 48 21.2	+0.1
OUZ	Omahuta	7.24	232	P	Pn	22 46 58.9	+0.8
PUZ	Puketiti	7.36	194	P	Pn	22 46 55.2	-4.3
PUZ				P	S	22 48 25.0	-0.3
TWGZ	Tauwhareparae	7.53	196	P	S	22 48 30.3	+1.3
MWZ	Matawai	7.79	198	P	Pn	22 47 05.7	+1.0
MWZ				P	S	22 48 36.5	+1.7
TKGZ	Te Karaka	7.81	196	P	S	22 48 34.5	-0.7
URZ	Urewera	7.83	200	P	Pn	22 47 04.2	-1.0
URZ				P	S	22 48 37.3	+1.5
TOZ	Tahuroa Road	7.96	210	P	Pn	22 47 04.3	-2.4
RAGZ	Rawiri	7.97	198	P	Pn	22 47 07.5	+0.6
RAGZ				P	S	22 48 39.3	+0.4
RIGZ	Rimuhau	8.08	196	P	Pn	22 47 08.8	+0.6
RIGZ				P	S	22 48 35.7	-5.6
RTZ	Ruatahuna	8.20	200	P	Pn	22 47 09.7	0.0
RTZ				P	S	22 48 42.2	-1.9
SNGZ	Shannon Statio	8.26	198	P	Pn	22 47 11.2	+0.8
SNGZ				P	S	22 48 45.1	-0.2
PRGZ	Paritu Road	8.26	195	P	S	22 48 42.0	-3.3
RAHZ	Arahi	8.45	199	P	Pn	22 47 12.0	-0.8
RAHZ				P	S	22 48 48.6	-1.0
MTHZ	Maungataniwha	8.46	200	P	Pn	22 47 12.8	-0.1
MTHZ				P	S	22 48 46.5	-3.4

SJA 30 22:55:31.2±0.6, 31°19S×69°28W, h120km±7km, ML2.3, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.61	181	eP	Pn	22 55 50.3	0.0
RTLS				IAML		22 56 04.8	
	comp=Z,179nm,0.2s						
ACCO	Cerro Coronel	0.62	17	eP	Pn	22 55 51.6	+1.2
ACCO				IAML		22 56 09.6	
	comp=Z,33nm,0.9s						
ZON	Zonda	0.63	125	eP	Pn	22 55 50.8	+0.8
ZON				eS	Sn	22 56 05.3	+1.0
RTLL	Cerro Villicun	0.70	102	eP	Pn	22 55 51.0	+0.3
CFA	Coronel Fontan	0.98	115	eP	Pn	22 55 53.9	+0.7
ACDV	Cuesta del Vie	1.02	8	IAML		22 57 34.4	
	comp=Z,42nm,0.8s						
AROD	Rodeo	1.03	351	eP	Sn	22 56 14.3	+3.3
AUSP	Uspallata	1.04	185	eP	Pn	22 55 54.2	+0.3
ASAL	Salagasta	1.45	165	eP	Pn	22 55 59.1	+1.0
ASAL				eS	Sn	22 56 19.8	+1.1
ARCO	CERRO ARCO	1.68	170	eP	Pn	22 56 02.0	+1.2
ARCO				eS	Sn	22 56 24.4	+0.9
ARCO				IAML		22 56 25.7	
	comp=Z,16nm,0.4s						
AAGR	Agrelo	1.93	169	eP	Pn	22 56 06.0	+2.1
AAGR				IAML		22 56 33.8	
	comp=Z,20nm,0.8s						

*IDC **30** 22:57:42.1±0.9, 54°86N×111°72E, h0km, mb3.7/10, mbtmp3.8/13, ML3.6/3, MS3.9/1, Error ellipse: s-maj=21.1km s-min=17.6km az=139.0*
*MOS **30** 22:57:42.2±1.1, 54°88N×111°75E, h12km, mb3.9/2, Error ellipse: s-maj=10.3km s-min=6.7km az=71.7*
*BYKL **30** 22:57:43.2±0.1, 54°89N×111°75E, h8km±3km*
*NEIC **30** 22:57:44.6±1.7, 55°0N±0°1×111°8E±0°2, h10km±2km, mb4.0/16, Error ellipse: s-maj=21.1km s-min=15.0km az=131.0*
ISC 30 22:57:43.0±0.5, 54°91N±0°02×111°86E±0°02, h10km, n99, σ2s52/147, mb3.9/16, 4C-6D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.40	266	⇑iPg	Pg	22 57 49.2	-1.7
YLYR				Pmax		22 57 49.4	
	3μm,0.4s						
YLYR				eSg	Sg	22 57 54.3	-1.9
YLYR				Smax		22 57 54.4	
	13μm,0.5s						
YLYR	Ulyunkhan	0.40	266	⇑iPG	Pg	22 57 49.2	-1.7
YLYR				e		22 57 53.6	
YLYR				pmax	pmax		
	comp=Z,2μm,0.4s						
YLYR				smax	smax		
	comp=N,13μm,0.5s						
KMO	Kumora	1.05	339	⇑iPg	Pg	22 58 01.7	-1.5
KMO				ePb	Pn	22 58 03.7	-0.1
KMO				max		22 58 04.1	
	comp=N,1μm,0.4s						
KMO				e		22 58 06.4	
KMO				eSg	Sb	22 58 15.9	-1.3
KMO				Smax		22 58 32.8	
	comp=N,3μm,1.1s						
KMO	Kumora	1.05	339	⇑iPG	Pg	22 58 01.7	-1.5
KMO				e		22 58 16.0	
KMO				pmax	pmax		
	comp=Z,1μm,0.4s						
KMO				smax	smax		
	comp=N,2μm,1.1s						
UKT	Uakit	1.17	59	ePg	Pg	22 58 04.7	-0.8
UKT				e		22 58 07.8	
UKT				e		22 58 09.2	
UKT				max		22 58 09.4	
	comp=N,949nm,0.4s						
UKT				eSg	Sn	22 58 21.5	-0.1
UKT				e		22 58 27.1	
UKT				max		22 58 27.4	
	comp=N,3μm,0.9s						
UKT	Uakit	1.17	59	⇓iPG	Pg	22 58 04.7	-0.8
UKT				e		22 58 21.4	
UKT				pmax	pmax		
	comp=Z,93nm,0.1s						
UKT				smax	smax		
	comp=E,2μm,0.2s						
YOA	Uoyan	1.23	357	ePg	Pg	22 58 05.7	-1.0
YOA				e		22 58 10.6	
YOA				max		22 58 10.9	
	comp=E,2μm,0.3s						
YOA				eSg	Sn	22 58 22.5	-0.5
YOA				e		22 58 29.2	
YOA				max		22 58 52.9	
	comp=E,9μm,1.9s						
YOA	Uoyan	1.23	357	ePG	Pg	22 58 05.7	-1.0
YOA				e		22 58 22.4	
YOA				pmax	pmax		
	comp=Z,963nm,0.2s						
YOA				smax	smax		
	comp=E,7μm,0.4s						
SVKR	Severomuysk	1.55	38	ePg	Pg	22 58 12.8	0.0
SVKR				Pmax		22 58 15.7	
	comp=E,1μm,0.4s						
SVKR				eSg	Sg	22 58 34.1	+1.2
SVKR				Smax		22 58 42.3	
	comp=E,5μm,0.7s						
SVKR	Severomuysk	1.55	38	ePN	Pg	22 58 12.9	+0.1
SVKR				e		22 58 34.7	
SVKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SVKR				smax	smax		
	comp=N,5μm,0.6s						
NIZB	Nizh Angarsk	1.58	304	ePg	Pb	22 58 11.3	-1.0
NIZB				e		22 58 14.1	
NIZB				max		22 58 14.8	
	comp=N,319nm,0.4s						
NIZB				eSg	Sg	22 58 31.9	-1.9
NIZB				Smax		22 58 35.7	
	comp=N,3μm,0.7s						
NIZB	Nizh Angarsk	1.58	304	ePN	Pb	22 58 11.2	-1.0
NIZB				e		22 58 31.2	
NIZB				pmax	pmax		
	comp=Z,320nm,0.4s						
NIZB				smax	smax		
	comp=E,2μm,0.7s						
SYVR	Suvo	1.66	222	⇓iPg	Pn	22 58 12.0	-0.1
SYVR				Pmax		22 58 13.5	
	comp=E,396nm,0.6s						
SYVR				eSg	Sb	22 58 33.9	-0.6
SYVR				Smax		22 58 37.4	
	comp=E,1μm,0.9s						
SYVR	Suvo	1.66	222	⇓iPN	Pn	22 58 12.0	-0.1
SYVR				e		22 58 33.9	
SYVR				pmax	pmax		
	comp=Z,404nm,0.6s						
SYVR				smax	smax		
	comp=N,1μm,0.6s						
MXMB	Maximikha	2.46	229	ePn	Pn	22 58 23.9	+0.7
MXMB				ePg	Pb	22 58 26.4	-0.9
MXMB				eSg	Sb	22 58 58.1	+0.4
NLYR	Nelyaty	2.70	52	⇓iPn	Pb	22 58 28.3	-3.1
NLYR				ePg	Pg	22 58 33.2	-1.4
NLYR				Pmax		22 58 39.1	
	comp=N,231nm,0.5s						
NLYR				eSg	Sg	22 59 09.0	-0.5
NLYR				Smax		22 59 11.3	
	comp=N,2μm,0.8s						
NLYR	Nelyaty	2.70	52	⇓iPN	Pb	22 58 28.2	-3.1
NLYR				e		22 58 31.5	
NLYR				e		22 59 07.4	
NLYR				pmax	pmax		
	comp=Z,242nm,1.4s						
NLYR				smax	smax		
	comp=N,2μm,0.9s						
OGRR	Ongureny	2.80	245	ePN	Pn	22 58 27.3	-0.5
OGRR				e		22 58 31.8	
OGRR				e		22 59 06.4	
OGRR				pmax	pmax		
	comp=Z,89nm,0.7s						
OGRR				smax	smax		
	comp=E,616nm,0.9s						
CIT	Chita	3.06	160	ePg	Pb	22 58 37.6	0.0
CIT				Pmax		22 58 43.3	
	comp=E,242nm,0.5s						
CIT				eSn	Sn	22 59 07.6	-0.6
CIT				eSg	Sb	22 59 18.0	+3.0
CIT				Smax		22 59 19.1	
	comp=E,2μm,0.2s						
CIT	Chita	3.06	160	ePN	Pb	22 58 37.2	-0.4
CIT				eS	Sn	22 59 09.9	+1.7
CIT				e		22 59 17.2	
CIT				pmax	pmax		
	comp=Z,242nm,0.5s						
CIT				smax	smax		
	comp=E,2μm,0.4s						
KELR	Kotokel	3.10	228	ePn	Pn	22 58 32.2	+0.2
KELR				ePg	Pb	22 58 37.2	-1.0
KELR				eSg	Sb	22 59 18.7	+2.6
BOD	Bodaibo	3.16	21	ePn	Pn	22 58 34.0	+1.3
BOD				ePg	Pg	22 58 40.2	-3.2
BOD				Pmax		22 58 43.5	
	comp=E,135nm,0.5s						
BOD				eSn	Sn	22 59 11.2	+0.8
BOD				eSg	Sg	22 59 20.7	-3.6
BOD				Smax		22 59 24.1	
	comp=E,1μm,0.7s						
BOD	Bodaibo	3.16	21	ePN	Pn	22 58 33.7	+1.0
BOD				e		22 58 40.0	
BOD				e		22 59 20.9	
BOD				pmax	pmax		
	comp=Z,135nm,0.5s						
BOD				smax	smax		
	comp=E,1μm,0.5s						
ZRHB	Zarechye	3.65	232	eSg	Sb	22 59 35.3	+3.3
ZRHB				Smax		23 00 26.5	
	comp=E,1μm,0.9s						
TRG	Tyrgan	3.91	239	ePn	Pn	22 58 43.2	+0.1
TRG				ePg	Pb	22 58 51.8	-0.2
TRG				Pmax		22 59 12.2	
	comp=E,38nm,0.8s						
TRG				e		22 59 32.5	
TRG				eSg	Sb	22 59 41.7	+2.4
TRG				Smax		22 59 47.8	
	comp=E,267nm,0.5s						
TRG	Tyrgan	3.91	239	ePN	Pn	22 58 43.2	+0.1
TRG				e		22 58 52.5	
TRG				eS	Sn	22 59 27.8	-1.2
TRG				e		22 59 41.8	
TRG				pmax	pmax		
	comp=Z,34nm,0.5s						
TRG				smax	smax		
	comp=E,267nm,0.6s						
UUDB	Ulan-Yde	3.94	221	ePn	Pn	22 58 43.9	+0.3
UUDB				ePg	Pb	22 58 52.8	+0.2
UUDB				Pmax		22 58 58.2	
	comp=E,60nm,0.4s						
UUDB				eSn	Sn	22 59 29.7	-0.2
UUDB				eSg	Sg	22 59 45.0	-4.6
UUDB				Smax		22 59 48.6	
	comp=E,350nm,0.8s						
CRS	Chara	4.13	58	ePn	Pn	22 58 48.3	+2.2
CRS				ePg	Pb	22 58 57.6	+1.9
CRS				Pmax		22 59 02.3	
	comp=E,124nm,1.1s						
CRS				eSg	Sg	22 59 52.9	-2.5
CRS				Smax		22 59 55.9	
	comp=E,540nm,1.1s						
FFNB	Fofonovo	4.18	229	ePn	Pn	22 58 46.8	0.0
FFNB				ePg	Pb	22 58 57.7	+1.2
FFNB				e		22 59 30.9	
FFNB				eSg	Sb	22 59 51.1	+4.1
KAB	Kabansk	4.22	229	eSn	Sn	22 59 24.5	-12
KAB				eSg	Sb	22 59 52.6	+4.3
KAB				Smax		23 00 19.8	
	comp=E,1μm,1.6s						
STDB	Stepnoy Dvoret	4.27	232	ePg	Pb	22 58 59.1	+1.0
STDB				eSg	Sb	22 59 53.7	+4.0
HRMR	Khuramsha	4.41	224	ePn	Pn	22 58 50.4	+0.5
HRMR				ePg	Pb	22 59 01.8	+1.3
HRMR				Pmax		22 59 08.7	
	comp=E,135nm,0.7s						
HRMR				eSg	Sb	22 59 58.3	+4.6
HRMR				Smax		23 00 07.1	
	comp=E,990nm,0.9s						
VTMR	Vitim	4.56	4	ePg	Pb	22 59 05.3	+2.2
VTMR				eSg	Sg	23 00 04.1	-5.3
TUP	Tupik	4.73	93	ePn	Pn	22 58 55.9	+1.6
TUP				e		22 59 04.7	
TUP				ePg	Pb	22 59 08.4	+2.5
TUP				Pmax		22 59 11.1	
	comp=E,86nm,0.6s						
TUP				eSn	Sn	22 59 49.4	+0.2
TUP				eSg	Sg	23 00 10.9	-3.7
TUP				Smax		23 00 15.4	
	comp=E,869nm,0.5s						
TUP	Tupik	4.73	93	⇓iPN	Pn	22 58 55.7	+1.4
TUP				e		22 59 08.7	
TUP				eS	Sn	22 59 48.3	-0.8
TUP				e		23 00 10.0	
TUP				pmax	pmax		
	comp=Z,86nm,0.5s						
TUP				smax	smax		
	comp=N,872nm,0.5s						
BGT	Bolshoye Golou	4.80	236	ePn	Pn	22 58 55.5	+0.2
BGT				ePg	Pb	22 59 09.1	+2.0
BGT				Pmax		22 59 27.9	
	comp=N,36nm,1.4s						
BGT				eSn	Sn	22 59 49.0	-1.9
BGT				eSg	Sg	23 00 10.6	-6.4
BGT				Smax		23 00 37.5	
	comp=N,168nm,0.8s						
KHNR	Khani	5.00	63	ePn	Pn	22 59 00.6	+2.6
KHNR				eSg	Sg	23 00 19.9	-3.4
LSTR	Listvyanka	5.19	237	ePn	Pn	22 59 00.6	0.0
LSTR				ePg	Pb	22 59 15.3	+1.5
LSTR				Pmax		22 59 32.3	
	comp=N,30nm,1.2s						
LSTR				eSg	Sb	23 00 21.1	+5.0
LSTR				Smax		23 00 32.6	
	comp=N,189nm,1.4s						
KPC	Khapcheranga	5.22	176

KPC				*e*		22 59 10.4	
KPC				*e*Pg	**Pb**	**22 59 16.1**	**+1.8**
KPC				Pmax		22 59 54.6	
comp=N,48nm,0.9s							
KPC				*e*Sg	**Sg**	**23 00 24.1**	**-6.4**
KPC				Smax		23 00 28.0	
comp=N,456nm,1.0s							
KPC	**Khapcheranga**	**5.22**	**176**	*e*PN	**Pn**	**22 59 01.2**	**+0.1**
KPC				*e*		22 59 15.9	
KPC				*e*		23 00 24.1	
KPC				pmax	pmax		
comp=Z,30nm,0.6s							
KPC				smax	smax		
comp=E,457nm,1.3s							
IRK	**Irkutsk**	**5.25**	**243**	*e*Sg	**Sg**	**23 00 24.2**	**-7.1**
IRK				Smax		23 00 35.2	
comp=E,465nm,0.5s							
IRK	**Irkutsk**	**5.25**	**243**	*e*PN	**Pb**	**22 59 16.7**	**+1.9**
IRK				*e*		23 00 21.7	
IRK				pmax	pmax		
comp=Z,117nm,0.2s							
IRK				smax	smax		
comp=E,469nm,0.4s							
IVK	**Ivanovka**	**5.43**	**238**	*e*Pg	**Pb**	**22 59 20.1**	**+2.2**
IVK				Pmax		23 00 03.2	
comp=E,41nm,1.5s							
IVK				*e*		23 00 24.9	
IVK				*e*Sg	**Sg**	**23 00 30.3**	**-7.0**
IVK				Smax		23 00 45.5	
comp=E,126nm,1.1s							
YKLR	**Yuktali**	**5.79**	**69**	*e*Pn	**Pn**	**22 59 10.5**	**+1.7**
YKLR				*e*		22 59 12.5	
YKLR				*e*Sg	**Sg**	**23 00 44.9**	**-3.7**
TLY	**Talaya**	**5.89**	**240**	*e*Pg	**Pb**	**22 59 28.1**	**+2.4**
TLY				Pmax		23 00 09.2	
comp=E,24nm,1.0s							
TLY				*e*		23 00 39.8	
TLY				*e*Sg	**Sb**	**23 00 43.3**	**+7.1**
TLY				Smax		23 00 57.9	
comp=E,120nm,1.0s							
ARS	**Arshan**	**6.38**	**246**	*e*Pn	**Pn**	**22 59 16.8**	**-0.3**
ARS				*e*Pg	**Pb**	**22 59 36.2**	**+2.1**
ARS				Pmax		22 59 39.7	
comp=E,58nm,0.7s							
ARS				*e*Sg	**Sb**	**23 00 58.0**	**+7.5**
ARS				Smax		23 01 13.9	
comp=E,614nm,0.9s							
ARS	**Arshan**	**6.38**	**246**	*e*PN	**Pn**	**22 59 19.5**	**+2.4**
ARS				*e*		22 59 36.0	
ARS				*e*		23 00 58.1	
ARS				pmax	pmax		
comp=Z,58nm,0.7s							
ARS				smax	smax		
comp=E,617nm,0.9s							
ZAK	**Zakamensk**	**6.91**	**233**	*e*Sg	**Sg**	**23 01 15.9**	**-8.7**
ZAK				Smax		23 01 40.8	
comp=E,111nm,1.0s							
ZAK	**Zakamensk**	**6.91**	**233**	*e*PG	Pb	22 59 47.6	+4.5
ZAK				*e*		23 01 16.3	
ZAK				pmax	pmax		
comp=Z,6.0nm,0.2s							
ZAK				smax	smax		
comp=N,111nm,1.1s							
MOY	**Mondy**	**7.27**	**248**	*e*Pn	**Pn**	**22 59 30.7**	**+1.3**
MOY				*e*Pg	**Pb**	**22 59 52.9**	**+3.6**
MOY				Pmax		23 00 44.0	
comp=N,35nm,1.3s							
MOY				*e*		23 00 52.6	
MOY				*e*		23 01 23.5	
MOY				*e*Sg	Sg	23 01 26.7	-10
MOY				Smax		23 01 40.3	
comp=N,193nm,1.3s							
MOY	**Mondy**	**7.27**	**248**	*e*PN	**Pn**	**22 59 32.0**	**+2.6**
MOY				*e*		22 59 53.9	
MOY				*e*S	**Sn**	**23 00 50.8**	**-1.2**
MOY				*e*		23 01 23.6	
MOY				pmax	pmax		
comp=Z,29nm,0.8s							
MOY				smax	smax		
comp=E,190nm,1.7s							
ORL	**Orlik**	**7.53**	**257**	*e*Pn	**Pn**	**22 59 33.5**	**+0.6**
ORL				*e*Pg	Pb	22 59 57.7	+4.0
ORL				Pmax		23 00 11.8	
comp=E,17nm,1.2s							
ORL				*e*		23 00 59.4	
ORL				*e*Sg	Sg	23 01 33.1	-11
ORL				Smax		23 01 40.9	
comp=E,236nm,1.2s							
ORL	**Orlik**	**7.53**	**257**	*e*PN	**Pn**	**22 59 33.5**	**+0.6**
ORL				*e*		22 59 57.6	
ORL				*e*S	**Sn**	**23 00 55.3**	**-3.0**
ORL				*e*		23 01 33.1	
ORL				pmax	pmax		
comp=Z,24nm,0.8s							
ORL				smax	smax		
comp=N,236nm,1.4s							
CLNS	**Chul'man**	**7.59**	**70**	*e*Sg	**Sg**	**23 01 39.4**	**-6.8**
ULN	**Ulaanbaatar**	**7.66**	**205**		**Pn**	**22 59 34.8**	**+0.1**
ULN	**Ulaanbaatar**	**7.66**	**205**	*i* PN	**Pn**	**22 59 35.9**	**+1.2**
SONM	**Songino Array**	**7.86**	**208**	Pn	**Pn**	**22 59 37.8**	**+0.4**
SONM	**Songino Array**	**7.86**	**208**	Pn	**Pn**	**22 59 37.9**	**+0.5**
comp=N,3.2nm,0.3s,baz=22,slow=12,SNR=48							
SONM				Sn	**Sn**	**23 01 07.8**	**+1.4**
comp=N,1.4nm,0.3s,baz=22,slow=21,SNR=4.7							
SONM				Lg	Lg	23 01 48.4	
comp=N,2.5nm,0.3s,baz=26,slow=28,SNR=4.9							
comp=N,4.8nm,0.3s							
ZEA	**Zeya**	**9.07**	**91**	*e*P	**Pn**	**22 59 57.5**	**+3.6**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.8s							
KLR	**Kul'dur**	**13.47**	**107**	*i* P	**Pn**	**23 00 56.1**	**+2.1**
KLR				pmax	pmax		
comp=Z,2.0nm,0.4s							
KLR	**Kul'dur**	**13.47**	**107**	Pn	**Pn**	**23 00 54.7**	**+0.7**
comp=Z,0.6nm,0.3s,baz=313,slow=13,SNR=10							
KLR				Sn	**Sn**	**23 03 23.6**	**-0.1**
comp=Z,0.3nm,0.3s,baz=323,slow=20,SNR=2.4							
KLR				Lg	Lg	23 04 38.1	
comp=Z,0.4nm,0.3s,baz=306,slow=19,SNR=2.0							
comp=Z,2.3nm,0.4s							
ZAA0	**Zalesovo Array**	**15.73**	**278**	Pn	**Pn**	**23 01 24.8**	**+0.4**
ZALV	**Zalesovo Beam**	**15.73**	**278**	Pn	**Pn**	**23 01 23.4**	**-1.0**
ZALV	**Zalesovo Beam**	**15.73**	**278**	Pn	**Pn**	**23 01 23.8**	**-0.6**
comp=Z,0.2nm,0.3s,baz=72,slow=9.5,SNR=11							
ZALV				Lg	Lg	23 05 53.2	
comp=Z,0.1nm,0.3s,baz=76,slow=24,SNR=2.7							
comp=Z,3.7nm,0.8s							
TIXI	**Tiksi**	**18.33**	**17**	Pn	**Pn**	**23 01 54.2**	**-2.7**
TIXI	**Tiksi**	**18.33**	**17**	P	**Pn**	**23 01 54.2**	**-2.7**
TIXI				pmax	pmax		
comp=Z,3.0nm,0.5s							
MK31	**Makanchi Array**	**20.23**	**259**	P	Pn	23 02 19.4	-0.6
MKAR	**Makanchi Array**	**20.23**	**259**	P	Pn	23 02 20.1	+0.1
MKAR	**Makanchi Array**	**20.23**	**259**	P	Pn	23 02 19.4	-0.5
comp=Z,0.7nm,0.6s,baz=46,slow=8.4,SNR=8.6							
comp=Z,0.7nm,0.6s							
KURK	**Kurchatov**	**20.40**	**272**	P	Pn	23 02 20.0	-1.9
KURK	**Kurchatov**	**20.40**	**272**	P	Pn	23 02 20.0	-1.9
KURK				pmax	pmax		
comp=Z,3.0nm,0.8s							
KURBB	**Kurchatov Arra**	**20.49**	**272**	P	**P**	**23 02 19.5**	**-1.3**
comp=Z,0.8nm,0.5s,baz=67,slow=11,SNR=7.9							
comp=Z,0.8nm,0.5s							
BVAR	**Borovoye Array**	**24.21**	**283**	P	**P**	**23 02 59.5**	**0.0**
comp=Z,1.4nm,0.6s,baz=64,slow=7.1,SNR=7.5							
comp=Z,1.4nm,0.6s							
BRVK	**Borovoye**	**24.26**	**283**	P	**P**	**23 03 00.7**	**+0.7**
BRVK				IAmb	IAmb	23 03 09.9	
comp=Z,2.9nm,0.8s							
BRVK	**Borovoye**	**24.26**	**283**	P	**P**	**23 03 00.7**	**+0.7**
BRVK				pmax	pmax		
comp=Z,3.0nm,0.8s							
ABKAR	**Akbulak array**	**31.77**	**282**	P	**P**	**23 04 08.1**	**+1.0**
D19K	**Kuna River**	**40.65**	**34**	P	**P**	**23 05 24.1**	**+1.3**
E21K	**Killik River**	**42.01**	**33**	P	**P**	**23 05 35.2**	**+1.4**
C23K	**Itkillik River**	**42.31**	**31**	P	**P**	**23 05 38.4**	**+2.1**
FINES	**FINESS Array B**	**42.58**	**315**	P	**P**	**23 05 38.5**	**0.0**
comp=Z,0.6nm,0.4s,baz=57,slow=7.0,SNR=5.8							
comp=Z,0.6nm,0.4s							
E22K	**Anaktuvuk Pass**	**42.85**	**33**	P	**P**	**23 05 42.3**	**+1.5**
E22K				IAmb	IAmb	23 05 46.6	
comp=Z,2.5nm,1.1s							
E24K	**Your Creek**	**43.93**	**32**	P	**P**	**23 05 51.2**	**+1.8**
E24K				IAmb	IAmb	23 06 19.1	
comp=Z,4.1nm,1.4s							
E25K	**Arctic Village**	**44.79**	**31**	P	**P**	**23 05 57.8**	**+1.5**
E25K				IAmb	IAmb	23 06 10.2	
comp=Z,2.1nm,1.2s							
BMAR	**Burnt Mountain**	**45.51**	**32**	P	**P**	**23 06 04.1**	**+2.1**
E28M	**Babbage River**	**46.23**	**29**	P	**P**	**23 06 09.0**	**+1.3**
E28M				IAmb	IAmb	23 06 11.7	
comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**46.43**	**35**	P	**P**	**23 06 11.2**	**+2.0**
comp=Z,1.3nm,0.8s,baz=301,slow=7.2,SNR=17							
comp=Z,1.3nm,0.8s							
E29M	**Blow River**	**46.82**	**28**	P	**P**	**23 06 11.9**	**-0.4**
E29M				IAmb	IAmb	23 06 25.4	
comp=Z,1.6nm,0.9s							
DHY	**Denali Highway**	**47.33**	**37**	P	**P**	**23 06 18.0**	**+1.5**
I28M	**Miner Creek**	**48.22**	**32**	P	**P**	**23 06 25.3**	**+2.0**
HFS	**Hagfors**	**48.26**	**318**	P	**P**	**23 06 23.1**	**-0.5**
comp=Z,3.4nm,0.9s,baz=54,slow=7.5,SNR=4.8							
comp=Z,3.4nm,0.9s							
K27K	**Chicken**	**48.50**	**34**	P	**P**	**23 06 27.4**	**+2.0**
K27K				IAmb	IAmb	23 06 38.3	
comp=Z,3.0nm,1.4s							
NOA	**NORSAR Array B**	**48.60**	**320**	P	**P**	**23 06 26.9**	**+0.6**
comp=Z,0.6nm,0.7s,baz=44,slow=8.1,SNR=1.8							
comp=Z,0.6nm,0.7s							
KDAK	**Kodiak Island**	**48.75**	**45**	LR	LR	23 30 20.3	
comp=Z,128nm,19.8s,baz=264,slow=40							
BCAR	**Beaver Creek A**	**49.25**	**35**	P	**P**	**23 06 32.7**	**+1.5**
ESDC	**Sonseca Array**	**71.03**	**313**	P	**P**	**23 09 02.1**	**+1.2**
comp=Z,0.3nm,0.3s,baz=18,slow=6.1,SNR=3.0							
comp=Z,0.3nm,0.3s							
PLID	**Pearl Lake**	**72.44**	**33**	P	**P**	**23 09 11.6**	**+2.1**
PLID				IAmb	IAmb	23 09 11.7	
comp=Z,1.8nm,1.0s							
WRA	**Warramunga Arr**	**76.98**	**158**	P	**P**	**23 09 35.9**	**+0.2**
comp=Z,0.4nm,0.7s,baz=351,slow=6.4,SNR=2.6							
comp=Z,0.4nm,0.7s							
NVAR	**Mina Array Bea**	**77.60**	**38**	P	**P**	**23 09 40.8**	**+1.4**
comp=Z,0.4nm,0.5s,baz=347,slow=3.7,SNR=4.1							
comp=Z,0.4nm,0.5s							
QSPA	**South Pole Qui**	**144.66**	**180**	PKP	PKPbc	23 17 16.6	-0.6
comp=Z,1.6nm,1.0s,baz=36,slow=1.7,SNR=3.1							

GUC 30 22:57:52.3±0.6, 18°.26S×69°.26W, h126km±3km, ML3.1, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB16	**IPOC Station P**	**0.25**	**251**	⇑*i*P	Pn	22 58 10.5	0.0
PB16				*e*S	Sn	22 58 24.7	+0.5
PB18	**Visviri**	**0.69**	**342**	*e*P	Pn	22 58 12.8	0.0
AP01	**Chacalluta**	**1.03**	**263**	⇑*i*P	Pn	22 58 14.7	-0.4
AP01				*e*S	Sn	22 58 32.2	-0.2
PB12	**IPOC Station P**	**1.07**	**250**	⇑*i*P	Pn	22 58 14.8	-0.8
PB12				*e*S	Sn	22 58 32.4	-0.9
PB12				IAML		22 58 33.3	
comp=E,446nm,0.3s							
GO01	**Chusmiza**	**1.41**	**177**	*e*P	Pn	22 58 19.7	+0.2
GO01				*e*S	Sn	22 58 40.9	+0.7
GO01				IAML		22 58 45.0	
comp=E,294nm,0.2s							
PB08	**IPOC Station P**	**1.88**	**177**	⇓*i*P	Pn	22 58 25.0	+0.1
PB08				*e*S	Sn	22 58 49.8	-0.1
PB08				IAML		22 58 52.1	
comp=E,122nm,0.2s							
HMBC	**Humberstone**	**2.10**	**196**	*e*P	Pn	22 58 26.4	-1.0
HMBC				*e*S	Sn	22 58 53.0	-1.2
HMBC				IAML		22 58 58.3	
comp=E,174nm,0.4s							
TA01	**Diego Aracena**	**2.46**	**201**	⇑*e*P	Pn	22 58 30.7	-1.1
TA01				IAML		22 59 09.2	
comp=N,88nm,0.2s							
PATCX	**Punta Patache**	**2.69**	**198**	*e*P	Pn	22 58 33.9	-0.9
PATCX				IAML		22 59 14.7	
comp=E,76nm,0.3s							
PB01	**IPOC Station P**	**2.78**	**184**	*e*P	Pn	22 58 35.3	-0.7
PB01				*e*S	Sn	22 59 07.2	-2.5
PB02	**IPOC Station P**	**3.11**	**191**	*e*P	Pn	22 58 39.4	-0.9
PB02				*e*S	Sn	22 59 15.0	-2.3
PB07	**IPOC Station P**	**3.50**	**190**	*e*P	Pn	22 58 44.7	-0.9

MOS ***30*** *23:00:52.9±0.9, 42°.93N×146°.61E, h47km, mb4.8/24, Error ellipse: s-maj=8.1km s-min=5.9km az=102.7*
SKHL ***30*** *23:00:54.3±0.3, 42°.90N×146°.60E, h60km±3km, mb5.2/4*
NIED ***30*** *23:00:54.4, 42°.96N×146°.52E, h55km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr2.41; Mθθ0.23; Mφφ-2.64; Mrθ1.25; Mφθ-0.57; Mφr0.16; Fault plane solution: M0 2.88000×10^15 NP1:φs34.00000°, δ54.00000°, λ120.00000°. NP2:φs169.00000°, δ46.00000°, λ55.00000°.*
JMA ***30*** *23:00:54.4±0.2, 43°.0N±0°.5×146°.5E±0°.9, h55km±1km, MD4.2/39, MV4.5/39, OFF NEMURO PENINSULA*
JMA Felt I J1 at OFF NEMURO PENINSULA .
NEIC ***30*** *23:00:54.9±1.4, 42°.83N±0°.10×146°.5E±0°.1, h46km±8km, mb4.7/183, Error ellipse: s-maj=14.7km s-min=10.8km az=152.0*
IDC ***30*** *23:00:56.4±0.7, 42°.92N×146°.59E, h62km±5km, mb4.1/29, mbtmp4.4/33, MS3.4/6, Error ellipse: s-maj=16.3km s-min=9.8km az=7.0*
ISC 30 23:00:54.5±0.5, 42°.89N±0°.04×146°.61E±0°.04, h46km±3km, h46km:pP-P, n544, σ1§11/565, mb4.6/150, MS3.6/5, 4C-1D, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.79**	**307**	*e*P	**Pn**	**23 01 08.4**	**-0.9**
NEM2				*e*S	**Sn**	**23 01 18.6**	**-1.5**
NEM2	**Nemuro 2**	**0.79**	**307**	A	A	23 01 08.4	
comp=E,8.0nm,0.4s,comp=N,22nm,1.1s							
NMR	**Nemuro--Hokkai**	**0.80**	**307**	*i* P	**Pn**	**23 01 08.4**	**-1.1**
NMR				*i* S	**Sn**	**23 01 18.7**	**-1.6**
NMR	**Nemuro--Hokkai**	**0.80**	**307**	⇓*i*PN	**Pn**	**23 01 08.4**	**-1.1**
NMR				*i* S	**Sn**	**23 01 18.7**	**-1.6**
SHO	**Shikotan**	**0.99**	**9**	*i* P	**Pn**	**23 01 10.9**	**-1.1**
SHO				AMB	AMB	23 01 11.6	
comp=N,740nm,0.3s							
SHO				*i* S	**Sn**	**23 01 23.0**	**-1.8**
SHO				A	A	23 01 24.0	
comp=N,2μm,0.3s							
SHO				A	A	23 01 24.0	
comp=N,5μm,0.3s							
SHO	**Shikotan**	**0.99**	**9**	⇑*i*PN	**Pn**	**23 01 10.9**	**-1.1**
SHO				*i* S	**Sn**	**23 01 23.0**	**-1.8**
SHO				pmax	pmax		
comp=E,234nm,0.3s							
SHO				pmax	pmax		
comp=Z,739nm,0.3s							
SHO				smax	smax		
comp=N,2μm,0.3s							
SHO				smax	smax		
comp=E,5μm,0.2s							
JKHN	**Kushirohamanak**	**1.08**	**281**	*e*P	**Pn**	**23 01 12.5**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**1.27**	**335**	*e*P	**Pn**	**23 01 14.6**	**-1.1**
YUK				AMB	AMB	23 01 18.5	
comp=E,700nm,0.4s							
YUK				*i* S	**Sn**	**23 01 28.9**	**-2.6**
YUK				A	A	23 01 29.7	
comp=E,6μm,0.5s							
YUK				A	A	23 01 29.7	
comp=E,15μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.27**	**335**	*e*PN	**Pn**	**23 01 14.6**	**-1.1**
YUK				*i* S	**Sn**	**23 01 29.1**	**-2.4**
YUK				pmax	pmax		
comp=Z,1μm,0.2s							
YUK				pmax	pmax		
comp=E,557nm,0.1s							
YUK				smax	smax		
comp=N,6μm,0.4s							
YUK				smax	smax		
comp=E,15μm,0.5s							
YUK				smax	smax		
comp=N,13μm,0.6s							
YUK				smax	smax		
comp=E,15μm,1.1s							
JAK	**Akkeshi**	**1.41**	**275**	*e*P	**Pn**	**23 01 17.1**	**-0.6**
JAK				*e*S	**Sn**	**23 01 34.1**	**-1.0**
JNSB	**Nemuroshibetsu**	**1.47**	**307**	P	**Pn**	**23 01 17.4**	**-1.1**
JNSB				*e*S	**Sn**	**23 01 34.4**	**-2.1**
JRA	**Rausu**	**1.51**	**314**	*e*P	**Pn**	**23 01 18.2**	**-0.8**
JRA				*e*S	**Sn**	**23 01 35.7**	**-1.8**
JRA	**Rausu**	**1.51**	**314**	A	A	23 01 18.2	
comp=E,8.0nm,0.7s,comp=N,10.0nm,1.5s							
JNK	**Nakash**	**1.55**	**297**	*e*P	**Pn**	**23 01 18.4**	**-1.1**
JNK				*e*S	**Sn**	**23 01 36.1**	**-2.3**
JNK	**Nakash**	**1.55**	**297**	A	A	23 01 18.4	
comp=E,13nm,0.6s,comp=N,8.0nm,0.9s							
RUSJ	**Misakicho**	**1.57**	**321**	*e*PN	**Pn**	**23 01 19.4**	**-0.4**
RUSJ				*i* S	**Sn**	**23 01 38.8**	**-0.1**
JOB	**Onbets**	**2.04**	**271**	*e*P	**Pn**	**23 01 25.9**	**-0.4**
JOB				*e*S	**Sn**	**23 01 49.7**	**-0.9**
JAR	**Ashorobuto**	**2.12**	**282**	*e*P	**Pn**	**23 01 27.1**	**-0.4**
JAR				*e*S	**Sn**	**23 01 51.9**	**-0.7**
JAR	**Ashorobuto**	**2.12**	**282**	A	A	23 01 27.1	
comp=E,4.0nm,1.6s,comp=N,5.0nm,1.1s							
JTKR	**Abashiri--Toko**	**2.25**	**300**	*e*P	**Pn**	**23 01 29.2**	**+0.1**
JTKR				*e*S	**Sn**	**23 01 54.9**	**-0.7**
JCH	**Churui**	**2.41**	**264**	*e*P	**Pn**	**23 01 30.9**	**-0.5**
JCH				*e*S	**Sn**	**23 01 58.5**	**-1.2**
KUR	**Kuril'sk**	**2.51**	**21**	*e*P	**Pn**	**23 01 32.6**	**-0.1**
KUR				AMB	AMB	23 01 34.3	
comp=N,370nm,0.7s							
KUR				*e*S	**Sn**	**23 02 00.3**	**-1.8**
KUR				A	A	23 02 03.6	
comp=N,410nm,0.4s							
KUR				A	A	23 02 03.6	
comp=N,760nm,0.4s							
KUR	**Kuril'sk**	**2.51**	**21**	PN	**Pn**	**23 01 32.9**	**+0.2**
KUR				*e*S	**Sn**	**23 02 00.6**	**-1.5**
KUR				pmax	pmax		
comp=Z,343nm,0.5s							
KUR				smax	smax		
comp=N,413nm,0.5s							
KUR				smax	smax		
comp=E,623nm,0.5s							
JMP	**Maruseppu**	**2.62**	**296**	*e*P	**Pn**	**23 01 34.5**	**+0.2**
JEM	**Erimo**	**2.70**	**252**	*e*P	**Pn**	**23 01 37.1**	**+1.7**
JEM				*e*S	**Sn**	**23 02 07.2**	**+0.3**
ERM	**Erimo**	**2.70**	**252**		**Pn**	**23 01 34.8**	**-0.6**
ERM				Sn	**Sn**	**23 02 05.5**	**-1.4**
ERM	**Erimo**	**2.70**	**252**	PN	**Pn**	**23 01 34.8**	**-0.6**
ERM						23 02 05.5	
JKA	**Kamikawa-asahi**	**3.17**	**294**		**Pn**	**23 01 41.4**	**-0.3**
JKA	**Kamikawa-asahi**	**3.17**	**294**	*e*P	**Pn**	**23 01 42.6**	**+0.8**
ASAJ	**Asahikawa**	**3.17**	**294**	P	**Pn**	**23 01 42.6**	**+0.8**
comp=E,97nm,0.4s,baz=113,slow=10,SNR=97							
ASAJ				S	**Sn**	**23 02 22.4**	**+4.0**
comp=E,162nm,0.8s,baz=78,slow=32,SNR=2.0							
ASAJ				LR	LR	23 03 09.8	
comp=E,637nm,21.1s,baz=53,slow=42							
JTM	**Tenmabayashi**	**4.65**	**245**	Pn	**Pn**	**23 02 01.9**	**-0.2**
JTM				Sn	**Sn**	**23 02 49.5**	**-5.2**
YSS	**Yuzh-Sakhalins**	**4.90**	**327**	*e*P	**Pn**	**23 02 06.3**	**+0.8**
YSS				*e*S	**Sn**	**23 02 58.9**	**-2.0**
YSS	**Yuzh-Sakhalins**	**4.90**	**327**	*e*PN	**Pn**	**23 02 06.3**	**+0.8**
YSS				pmax	pmax		
comp=Z,30nm,1.3s							
JMM	**Marumori**	**6.70**	**223**	Pn	**Pn**	**23 02 29.2**	**-1.2**
MJAR	**Matsushiro Arr**	**9.06**	**228**	P	**Pn**	**23 03 02.6**	**0.0**
comp=Z,0.7nm,0.3s,baz=28,slow=15,SNR=4.1							
MJAR				S	**Sn**	**23 04 39.1**	**-4.2**
comp=Z,1.3nm,0.5s,baz=32,slow=23,SNR=1.5							
USA0B	**Ussuriysk Arra**	**10.70**	**282**	Pn	**Pn**	**23 03 26.9**	**+1.9**
USA0B	**Ussuriysk Arra**	**10.70**	**282**	PN	**Pn**	**23 03 26.9**	**+1.9**
USRK	**Ussuriysk Ar.**	**10.70**	**282**	Pn	**Pn**	**23 03 26.0**	**+1.0**
USRK	**Ussuriysk Ar.**	**10.70**	**282**	P	**Pn**	**23 03 26.8**	**+1.8**
comp=Z,3.7nm,0.6s,baz=84,slow=13,SNR=4.2							
JHJ	**Hachijo jima 2**	**11.14**	**211**	S	Sn	23 05 24.2	-10
comp=Z,93nm,0.4s,baz=76,slow=19,SNR=1.6							
MDJ	**Mudanjiang**	**12.43**	**284**	P	**Pn**	**23 03 49.5**	**+0.8**
MDJ				S	Sn	23 05 57.0	-8.6
MDJ				PcP	**PcP**	**23 09 30.0**	**+3.8**
MDJ				PcS	**PcS**	**23 12 57.5**	**-2.8**
MDJ				ScP	**ScP**	**23 13 01.0**	**+5.7**
MDJ				pmax	pmax		
comp=Z,15nm,1.6s							
MDJ				pmax	pmax		
comp=Z,830nm,5.5s							
PEA0B	**Petropavlovsk-**	**12.62**	**32**	Pn	**Pn**	**23 03 49.7**	**-1.4**
PEA0B	**Petropavlovsk-**	**12.62**	**32**	PN	**Pn**	**23 03 49.7**	**-1.4**
PETK	**Petropavlovsk-**	**12.62**	**32**	Pn	**Pn**	**23 03 49.3**	**-1.8**
PETK	**Petropavlovsk-**	**12.62**	**32**	PN	**Pn**	**23 03 49.3**	**-1.8**
PETK	**Petropavlovsk-**	**12.62**	**32**	P	**Pn**	**23 03 48.8**	**-2.4**
comp=Z,3.8nm,0.6s,baz=205,slow=12,SNR=1.7							
KSRS	**Korea Array**	**15.28**	**255**	P	**Pn**	**23 04 28.5**	**+1.5**
comp=Z,2.4nm,0.8s,baz=64,slow=13,SNR=2.1							
KSRS				LR	LR	23 09 43.8	
comp=Z,87nm,20.6s,baz=45,slow=34							
SEY	**Seymchan**	**20.36**	**8**	P	**P**	**23 05 26.4**	**-0.4**
comp=Z,8.4nm,0.9s,baz=198,slow=9.3,SNR=6.6							
comp=Z,8.4nm,0.9s							
BJI	**Beijing**	**22.93**	**273**	P	**P**	**23 05 53.0**	**-1.5**
BJI				pmax	pmax		
comp=Z,6.0nm,0.9s							
HNS	**HongShan**	**24.91**	**268**	⇑P	**P**	**23 06 14.5**	**+1.5**
HNS				pP	**pwP**	**23 06 27.0**	**-0.5**
HNS				sP	**sP**	**23 06 34.3**	**+4.8**
HNS				PP	**PnPn**	**23 06 52.8**	**+5.4**
HNS				pmax	pmax		
comp=Z,8.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**26.07**	**278**	*e*P	**P**	**23 06 22.5**	**-1.2**
HHC				pmax	pmax		
comp=Z,25nm,0.5s							
HHC				pmax	pmax		
comp=Z,870nm,6.1s							
NACB	**Ninganchiao**	**27.82**	**236**	P	**P**	**23 06 38.6**	**-0.9**
ULN	**Ulaanbaatar**	**28.01**	**294**	P	**P**	**23 06 41.9**	**+0.8**
ULN	**Ulaanbaatar**	**28.01**	**294**	*e*P	**P**	**23 06 41.9**	**+0.8**
ULN	**Ulaanbaatar**	**28.01**	**294**	P	**P**	**23 06 41.9**	**+0.8**
ULN				pmax	pmax		
comp=Z,5.0nm,0.9s							
SONM	**Songino Array**	**28.45**	**294**	P	**P**	**23 06 45.7**	**+0.7**
SONM	**Songino Array**	**28.45**	**294**	P	**P**	**23 06 45.7**	**+0.7**
SONM				pmax	pmax		
comp=Z,4.0nm,0.8s							
SONM	**Songino Array**	**28.45**	**294**	P	**P**	**23 06 45.4**	**+0.4**
comp=Z,5.8nm,0.6s,baz=89,slow=8.6,SNR=9.

baz=255
L16K Owhat River 36.63 40 P P 23 07 57.0 +0.9
L16K IAmb IAmb 23 08 00.2
comp=Z,21nm,1.5s
F17K Baldwin Pennin 36.65 32 P P 23 07 56.7 +0.5
baz=256
G17K Kiwalik Mounta 36.68 34 P P 23 07 57.5 +1.0
baz=258
M16K Timber Creek 36.82 41 P P 23 07 58.9 +1.2
M16K Timber Creek 36.82 41 P P 23 07 58.3 +0.5
baz=266
N16K Nishlik Lake 36.88 42 P P 23 07 58.9 +0.6
baz=267
H17K Granite Mounta 36.88 35 P P 23 07 59.5 +1.3
H17K IAmb IAmb 23 08 22.6
comp=Z,18nm,1.5s
H17K Granite Mounta 36.88 35 P P 23 07 59.0 +0.8
baz=260
E18K Tukpahlearik C 37.13 31 P P 23 08 01.0 +0.7
E18K IAmb IAmb 23 08 05.7
comp=Z,8.8nm,1.2s
E18K Tukpahlearik C 37.13 31 P P 23 08 01.2 +0.9
baz=256
O16K Kokwok River B 37.18 44 P P 23 08 01.3 +0.5
baz=268
C18K Utukok River 37.25 29 P P 23 08 01.4 +0.1
C18K IAmb IAmb 23 08 01.8
comp=Z,7.9nm,0.7s
C18K Utukok River 37.25 29 P P 23 08 01.6 +0.3
baz=254
B18K Kokolik River 37.25 27 P P 23 08 01.9 +0.7
baz=252
K17K Iditarod 37.28 39 P P 23 08 03.3 +1.7
K17K Iditarod 37.28 39 P P 23 08 02.3 +0.8
baz=264
H18K Honhosa River 37.56 35 P P 23 08 04.8 +0.8
H18K IAmb IAmb 23 08 12.3
comp=Z,17nm,1.4s
H18K Honhosa River 37.56 35 P P 23 08 04.9 +0.9
baz=261
G18K Tagagawik 37.57 33 P P 23 08 05.1 +1.0
G18K Tagagawik 37.57 33 P P 23 08 04.8 +0.8
baz=260
M17K Holitna River 37.58 41 P P 23 08 05.7 +1.5
M17K Holitna River 37.58 41 P P 23 08 05.1 +1.0
baz=267
N17K Nushagak Hills 37.66 42 P P 23 08 05.8 +0.9
baz=268
O17K Koliganek Bris 37.69 44 P P 23 08 05.9 +0.9
baz=269
A19K Wainwright 37.75 26 P P 23 08 06.5 +1.0
baz=252
C19K Lookout Ridge 37.93 28 P P 23 08 07.2 +0.1
C19K IAmb IAmb 23 08 08.7
comp=Z,8.2nm,1.1s
C19K Lookout Ridge 37.93 28 P P 23 08 07.4 +0.3
baz=255
L18K Granite Mounta 37.98 40 P P 23 08 08.9 +1.3
L18K IAmb IAmb 23 08 33.9
comp=Z,9.0nm,1.2s
L18K Granite Mounta 37.98 40 P P 23 08 08.1 +0.5
baz=266
J18K Innoko River 38.07 37 P P 23 08 08.8 +0.5
J18K IAmb IAmb 23 08 19.0
comp=Z,10nm,1.2s
J18K Innoko River 38.07 37 P P 23 08 08.8 +0.5
baz=265
F19K Shaleruckik Mo 38.09 32 P P 23 08 08.8 +0.5
F19K IAmb IAmb 23 08 09.5
comp=Z,8.5nm,0.7s
F19K Shaleruckik Mo 38.09 32 P P 23 08 08.6 +0.3
baz=260
R17K Ugashik Creek 38.09 47 P P 23 08 08.6 +0.1
G19K Purcell Mounta 38.24 33 P P 23 08 10.4 +0.8
G19K IAmb IAmb 23 08 10.9
comp=Z,11nm,0.8s
G19K Purcell Mounta 38.24 33 P P 23 08 10.0 +0.3
baz=261
D19K Kuna River 38.30 29 P P 23 08 10.4 +0.2
D19K IAmb IAmb 23 08 10.8
comp=Z,6.6nm,0.8s
D19K Kuna River 38.30 29 P P 23 08 10.3 +0.1
baz=257
N18K Kilae Creek 38.31 42 P P 23 08 10.9 +0.6
baz=269
E19K Redstone River 38.41 31 P P 23 08 12.0 +0.9
E19K IAmb IAmb 23 08 12.7
comp=Z,14nm,0.8s
E19K Redstone River 38.41 31 P P 23 08 11.5 +0.4
baz=259,SNR=8.3
H19K Roundabout Mou 38.41 34 P P 23 08 12.3 +1.2
H19K Roundabout Mou 38.41 34 P P 23 08 12.0 +0.9
baz=262,SNR=9.9
J19K Poorman 38.60 37 P P 23 08 13.5 +0.8
J19K IAmb IAmb 23 08 14.3
comp=Z,10nm,0.9s
J19K Poorman 38.60 37 P P 23 08 13.3 +0.6
baz=265
O18K Koktuh Hills 38.65 43 P P 23 08 13.7 +0.5
D20K Etivluk River 38.89 29 P P 23 08 15.3 +0.2
baz=258
F20K Avaraart Lake 38.92 32 P P 23 08 15.9 +0.6
F20K Avaraart Lake 38.92 32 P P 23 08 16.1 +0.8
baz=261
E20K Nigu River 38.95 30 P P 23 08 15.8 +0.1
baz=259
B20K Meade River 38.98 27 P P 23 08 15.8 0.0
B20K Meade River 38.98 27 P P 23 08 15.8 0.0
baz=256
N19K Bonanza Creek 39.00 42 P P 23 08 17.5 +1.3
N19K IAmb IAmb 23 08 35.9
comp=Z,11nm,1.1s
H20K Anotleneega Mo 39.06 34 P P 23 08 17.2 +0.7
baz=264
K20K Telida 39.25 38 P P 23 08 19.9 +1.7
K20K Telida 39.25 38 P P 23 08 19.2 +1.0
baz=267
J20K Nowinta River 39.26 36 P P 23 08 19.1 +1.0
J20K IAmb IAmb 23 08 20.1
comp=Z,8.7nm,0.8s
J20K Nowinta River 39.26 36 P P 23 08 19.2 +1.0
baz=266
Q19K Cape Douglas, 39.48 45 P P 23 08 21.2 +1.1
IMAR Indian Mountai 39.57 34 P P 23 08 21.8 +1.0
C21K Knifeblade Rid 39.62 29 P P 23 08 21.7 +0.5
baz=260
G21K Allakaket 39.73 33 P P 23 08 22.7 +0.6
G21K Allakaket 39.73 33 P P 23 08 22.9 +0.9
baz=264
B21K Ikpikpuk River 39.77 28 P P 23 08 22.2 -0.2
B21K Ikpikpuk River 39.77 28 P P 23 08 22.7 +0.3
baz=259
E21K Killik River 39.79 30 P P 23 08 22.3 -0.4
E21K Killik River 39.79 30 P P 23 08 22.9 +0.2
baz=261
F21K Alatna River 39.81 32 P P 23 08 23.3 +0.5
F21K IAmb IAmb 23 08 24.7
comp=Z,7.0nm,0.8s
F21K Alatna River 39.81 32 P P 23 08 23.1 +0.3
baz=263
PZH PanZhiHua 39.85 261 P P 23 08 21.5 -2.2
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,240nm,6.4s
A22K Sinclair Lake 39.93 26 P P 23 08 24.1 +0.5
baz=257
H21K Melozitna Rive 39.93 34 P P 23 08 24.1 +0.3
H21K IAmb IAmb 23 08 26.4
comp=Z,14nm,1.4s
H21K Melozitna Rive 39.93 34 P P 23 08 24.5 +0.6
baz=266
GOMU GeErMu 39.97 278 P P 23 08 37.3 +12
GOMU pmax pmax
comp=Z,8.0nm,1.0s
CHUM Lake Minchumin 40.05 37 P P 23 08 25.5 +0.7
baz=268
N20K Mount Spurr 40.10 41 P P 23 08 26.3 +1.0
baz=272
SPCR Spurr Chakacha 40.10 41 P P 23 08 26.1 +0.8
baz=272
KDAK Kodiak Island 40.12 47 P P 23 08 26.1 +0.7
KDAK Kodiak Island 40.12 47 P P 23 08 26.1 +0.7
KDAK pmax pmax
comp=Z,54nm,1.4s
CAST Castle Rocks 40.14 38 P P 23 08 26.9 +1.3
CAST IAmb IAmb 23 08 27.8
comp=Z,7.2nm,0.8s
CAST Castle Rocks 40.14 38 P P 23 08 26.5 +0.9
baz=269
B22K Teshekpuk Lake 40.30 27 P P 23 08 26.7 0.0
B22K IAmb IAmb 23 08 26.9
comp=Z,7.0nm,0.7s
B22K Teshekpuk Lake 40.30 27 P P 23 08 27.0 +0.2
baz=260
D22K Ayikyak River 40.32 29 P P 23 08 27.7 +0.7
D22K IAmb IAmb 23 08 27.9
comp=Z,6.8nm,0.6s
D22K Ayikyak River 40.32 29 P P 23 08 27.5 +0.4
baz=262
F22K John River 40.34 31 P P 23 08 28.1 +0.8
baz=264
H22K Ishtalitna Cre 40.54 34 P P 23 08 29.8 +1.0
baz=267
E22K Anaktuvuk Pass 40.55 30 P P 23 08 29.6 +0.6
E22K IAmb IAmb 23 08 30.3
comp=Z,12nm,0.7s
E22K Anaktuvuk Pass 40.55 30 P P 23 08 29.5 +0.6
baz=264
G22K Bettles 40.55 32 P P 23 08 29.5 +0.6
baz=266
CAPN Captain Cook N 40.63 42 P P 23 08 29.8 +0.2
BPAW Bear Paw Mtn. 40.64 37 P P 23 08 30.3 +0.6
baz=269
KTH Kantishna Hill 40.67 38 P P 23 08 31.7 +1.7
KTH IAmb IAmb 23 08 32.0
comp=Z,9.7nm,0.9s
MLY Manley 40.77 35 P P 23 08 32.0 +1.3
MLY Manley 40.77 35 P P 23 08 31.6 +0.8
baz=268
D23K Nanushuk River 41.05 29 P P 23 08 34.0 +1.0
baz=264
COLD Coldfoot 41.09 32 P P 23 08 34.1 +0.8
baz=266
G23K Bananza Creek 41.13 33 P P 23 08 34.5 +0.8
G23K Bananza Creek 41.13 33 P P 23 08 34.3 +0.6
baz=267
C23K Itkillik River 41.18 28 P P 23 08 34.4 +0.4
C23K IAmb IAmb 23 08 36.6
comp=Z,30nm,1.4s
C23K Itkillik River 41.18 28 P P 23 08 34.5 +0.5
baz=263
ZALV Zalesovo Beam 41.21 308 P P 23 08 34.0 -0.4
comp=Z,0.9nm,0.4s,baz=91,slow=10,SNR=4.3
ZALV PcP **PcP 23 10 33.1 +0.5**
comp=Z,3.0nm,0.6s,baz=72,slow=3.0,SNR=12
ZALV LR LR 23 27 05.9
comp=Z,80nm,19.0s,baz=98,slow=38
comp=Z,0.9nm,0.4s
H23K Yukon River 41.29 34 P P 23 08 36.4 +1.4
H23K Yukon River 41.29 34 P P 23 08 36.0 +1.0
baz=269
I23K Minto, Yukon-K 41.35 35 P P 23 08 36.7 +1.2
I23K Minto, Yukon-K 41.35 35 P P 23 08 36.2 +0.7
baz=270
E23K Chandalar 41.36 31 P P 23 08 36.5 +0.9
baz=266
TOLK Toolik Lake Re 41.42 30 P P 23 08 36.7 +0.6
baz=265
NEA2 Nenana 41.48 36 P P 23 08 37.5 +1.0
NEA2 IAmb IAmb 23 08 38.1
comp=Z,7.5nm,0.7s
NEA2 Nenana 41.48 36 P P 23 08 37.4 +0.9
baz=270,SNR=5.5
MCK McKinley 41.55 37 P P 23 08 37.6 +0.4
baz=272
RND Reindeer 41.60 38 P P 23 08 37.8 +0.2
RND Reindeer 41.60 38 P P 23 08 37.8 +0.2
RND pmax pmax
comp=Z,6.0nm,1.2s
D24K Happy Valley 41.73 29 P P 23 08 39.1 +0.5
D24K Happy Valley 41.73 29 P P 23 08 39.6 +1.0
baz=266
WAT1 Susitna Watana 41.76 39 P P 23 08 39.1 +0.1
baz=273
E24K Your Creek 41.79 31 P P 23 08 40.1 +1.0
E24K IAmb IAmb 23 08 40.9
comp=Z,17nm,0.9s
E24K Your Creek 41.79 31 P P 23 08 39.7 +0.6
baz=267
MDM Murphy Dome 41.83 35 P P 23 08 40.6 +1.1
KNK Knik Glacier 41.90 41 P P 23 08 40.4 +0.4
KNK IAmb IAmb 23 09 19.7
comp=Z,15nm,1.1s
WRH Wood River Hil 41.90 36 P P 23 08 40.8 +0.8
SML Sawmill 41.93 40 P P 23 08 40.5 +0.3
SML IAmb IAmb 23 09 10.7
comp=Z,28nm,1.5s
SML Sawmill 41.93 40 P P 23 08 40.6 +0.3
baz=274
H24K Noodor Dome 41.97 34 P P 23 08 42.0 +1.3
H24K Noodor Dome 41.97 34 P P 23 08 41.3 +0.7
baz=270
F24K Squaw Lake 41.99 32 P P 23 08 41.7 +0.9
F24K Squaw Lake 41.99 32 P P 23 08 41.7 +0.9
baz=268
COLA College 42.00 36 P P 23 08 41.7 +1.0
baz=271
PWL Port Wells 42.00 42 P P 23 08 41.6 +0.7
baz=275
CCB Clear Creek Bu 42.02 36 P P 23 08 42.4 +1.5
WMQ Urumqi 42.05 292 *e*P **P 23 08 44.0 +2.4**
WMQ sP sP 23 09 02.5 +4.0
WMQ pmax pmax
comp=Z,13nm,0.7s
G24K Hadweenzic Riv 42.14 33 P P 23 08 43.4 +1.5
G24K IAmb IAmb 23 08 44.2
comp=Z,21nm,1.1s
G24K Hadweenzic Riv 42.14 33 P P 23 08 43.0 +1.0
baz=270
WAT6 Susitna Watana 42.15 39 P P 23 08 42.1 -0.1
baz=274
POKR Poker Plat Res 42.17 35 P P 23 08 43.5 +1.3
POKR IAmb IAmb 23 08 44.2
comp=Z,13nm,0.8s
POKR Poker Plat Res 42.17 35 P P 23 08 43.1 +0.9
baz=271,SNR=8.6
M23K Glacier View 42.21 40 P P 23 08 43.0 +0.3
baz=275
DHY Denali Highway 42.28 38 P P 23 08 43.8 +0.5
DHY IAmb IAmb 23 08 48.4
comp=Z,19nm,1.4s
DHY Denali Highway 42.28 38 P P 23 08 43.9 +0.5
baz=274
HDA Harding Lake 42.40 36 P P 23 08 44.0 0.0
HDA Harding Lake 42.40 36 P P 23 08 44.3 +0.2
baz=273
ILAR Eielson Array 42.41 36 P P 23 08 44.5 +0.3
ILAR Eielson Array 42.41 36 P P 23 08 44.0 -0.2
comp=Z,3.1nm,0.8s,baz=257,slow=6.0,SNR=11
ILAR PcP **PcP 23 10 35.5 -0.9**
comp=Z,0.6nm,0.6s,baz=286,slow=3.5,SNR=4.2
comp=Z,3.1nm,0.8s
D25K Kavik River 42.62 29 P P 23 08 46.1 +0.3
D25K IAmb IAmb 23 08 48.9
comp=Z,10nm,0.7s
D25K Kavik River 42.62 29 P P 23 08 46.8 +0.9
baz=268
G25K Bearman Lake 42.68 33 P P 23 08 47.2 +0.9
baz=271
H25L Birch Creek 42.81 33 P P 23 08 48.3 +1.0
baz=272
F25K Christian Rive 42.86 31 P P 23 08 48.9 +1.1
baz=270
E25K Arctic Village 42.88 31 P P 23 08 48.7 +0.7
E25K IAmb IAmb 23 08 50.1
comp=Z,13nm,1.1s
E25K Arctic Village 42.88 31 P P 23 08 48.8 +0.9
baz=270,SNR=7.5
M24K Tolsona, Glenn 42.91 40 P P 23 08 49.2 +0.8
M24K IAmb IAmb 23 09 30.1
comp=Z,19nm,0.9s
K24K Donnelly Dome 42.95 37 P P 23 08 49.2 +0.6
baz=274
HIN Hinchinbrook I 42.95 42 P P 23 08 51.4 +2.8
PRP Porcupine Dome 42.95 35 P P 23 08 49.8 +1.1
PRP IAmb IAmb 23 08 51.3
comp=Z,11nm,0.8s
PRP Porcupine Dome 42.95 35 P P 23 08 49.4 +0.7
baz=273,SNR=6.7
FYU Fort Yukon 43.03 33 P P 23 08 50.6 +1.4
FYU IAmb IAmb 23 08 52.4
comp=Z,19nm,1.3s
J25K Salcha River, 43.07 36 P P 23 08 50.3 +0.7
baz=274
KLU Klutina 43.10 40 P P 23 08 50.4 +0.5
baz=277
C26K Camden Bay 43.15 28 P P 23 08 50.9 +0.9
baz=268
BMAR Burnt Mountain 43.27 32 P P 23 08 52.1 +1.0
F26K Sheenjek River 43.43 31 P P 23 08 53.5 +1.1
baz=272
G26K Porcupine Rive 43.59 32 P P 23 08 55.1 +1.5
baz=273
N25K Chitina, Valde 43.72 40 P P 23 08 55.8 +1.0
N25K IAmb IAmb 23 09 34.4
comp=Z,14nm,1.3s
N25K Chitina, Valde 43.72 40 P P 23 08 55.2 +0.4
baz=278
SCRK Sand Creek 43.72 37 P P 23 08 55.1 +0.2
SCRK Sand Creek 43.72 37 P P 23 08 55.6 +0.7
baz=276
RAGM Ragged Mountai 43.85 42 P P 23 08 58.0 +2.1
J26L Joseph Creek 43.86 36 P P 23 08 56.3 +0.4
HMT Hamilton 44.06 42 P P 23 09 00.5 +2.9
GLB Gilahina Butte 44.11 40 P P 23 08 58.2 +0.3
GLB IAmb IAmb 23 09 38.9
comp=Z,16nm,1.4s
L26K Log Cabin Wild 44.11 38 P P 23 08 58.6 +0.7
baz=277
M26K Nabesna, AK 44.36 39 P P 23 09 01.5 +1.6
M26K Nabesna, AK 44.36 39 P P 23 09 00.6 +0.7
baz=278
E27K Coleen River 44.37 31 P P 23 09 01.1 +1.2
E27K IAmb IAmb 23 09 01.9
comp=Z,5.8nm,0.7s
E27K Coleen River 44.37 31 P P 23 09 00.9 +1.0
baz=273
G27K Doyon Strip 44.44 32 P P 23 09 02.5 +2.0
G27K Doyon Strip 44.44 32 P P 23 09 01.5 +1.0
baz=275
D27M Malcolm River 44.54 29 P P 23 09 02.2 +0.9
D27M Malcolm River 44.54 29 P P 23 09 01.9 +0.6
baz=273
H27K Steamboat Moun 44.54 33 P P 23 09 02.2 +0.8
baz=275
K27K Chicken 44.55 36 P P 23 09 02.4 +1.0
K27K IAmb IAmb 23 09 03.2
comp=Z,15nm,1.1s
K27K Chicken 44.55 36 P P 23 09 02.3 +0.9
baz=277
MK31 Makanchi Array 44.64 298 P P 23 09 02.3 -0.1
MK31 Makanchi Array 44.64 298 P P 23 09 02.3 -0.1
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 44.64 298 P P 23 09 02.5 +0.2
MKAR Makanchi Array 44.64 298 *e*P **P 23 09 02.6 +0.2**
MKAR Makanchi Array 44.64 298 P P 23 09 02.6 +0.2
MKAR Makanchi Array 44.64 298 P P 23 09 02.2 -0.1
comp=Z,4.4nm,0.7s,baz=82,slow=8.7,SNR=25
comp=Z,4.4nm,0.7s
WAX Waxell Ridge 44.73 42 P P 23 09 04.6 +1.6
L27K Beaver Creek, 44.80 38 P P 23 09 05.0 +1.6
L27K IAmb IAmb 23 09 05.6
comp=Z,6.8nm,0.8s
L27K Beaver Creek, 44.80 38 P P 23 09 04.3 +0.9
baz=278,SNR=6.7
BCAR Beaver Creek A 44.81 38 P P 23 09 04.9 +1.3
EGAK Eagle 44.86 35 P P 23 09 03.8 0.0
EGAK Eagle 44.86 35 P P 23 09 04.6 +0.8
baz=277
M27K Edge Creek, AK 44.88 39 P P 23 09 05.8 +1.6
M27K IAmb IAmb 23 09 31.4
comp=Z,12nm,1.5s
M27K Edge Creek, AK 44.88 39 P P 23 09 05.1 +0.9
baz=279
F28M Old Crow 45.06 31 P P 23 09 07.1 +1.7
F28M IAmb IAmb 23 09 07.8
comp=Z,12nm,0.8s
F28M Old Crow 45.06 31 P P 23 09 06.8 +1.4
baz=276,SNR=12
E28M Babbage River 45.10 30 P P 23 09 06.6 +0.9
E28M IAmb IAmb 23 09 07.6
comp=Z,9.2nm,1.2s
E28M Babbage River 45.10 30 P P 23 09 06.6 +0.9
baz=275,SNR=7.8
BARN Barnard Glacie 45.20 41 P P 23 09 08.1 +1.3
MESA MESA 45.23 42 P P 23 09 08.7 +1.6
I28M Miner Creek 45.28 34 P P 23 09 08.1 +0.8
I28M IAmb IAmb 23 09 09.1
comp=Z,8.3nm,0.7s
I28M Miner Creek 45.28 34 P P 23 09 07.9 +0.6
baz=278,SNR=6.9
BVCY Beaver Creek 45.34 39 P P 23 09 08.4 +0.7
baz=280
CTG Chitna Glacier 45.37 41 P P 23 09 09.3 +1.2
baz=281
CTGM Chitina Glacie 45.37 41 P P 23 09 09.5 +1.4
CTGM IAmb IAmb 23 09 10.9
comp=Z,22nm,1.3s
TABL Table Mountain 45.57 41 P P 23 09 10.2 +0.4
YUK3 Moose Creek 45.64 39 P P 23 09 11.1 +0.8
baz=281
KURK Kurchatov 45.69 305 P P 23 09 10.3 -0.2
KURK IAmb IAmb 23 09 11.0
comp=Z,8.3nm,0.7s
KURK Kurchatov 45.69 305 *e*P **P 23 09 10.9 +0.4**
KURK Kurchatov 45.69 305 P P 23 09 10.9 +0.4
KURK 23 10 48.4
E29M Blow River 45.72 30 P P 23 09 11.9 +1.3
E29M Blow River 45.72 30 P P 23 09 12.1 +1.5
baz=276
KURBB Kurchatov Arra 45.77 304 P P 23 09 10.9 -0.3
comp=Z,7.0nm,0.6s,baz=73,slow=8.7,SNR=52
KURBB PcP **PcP 23 10 48.4 +0.3**
comp=Z,1.8nm,0.8s,baz=76,slow=3.7,SNR=7.5
comp=Z,7.0nm,0.6s
H29M Whitestone 45.82 33 P P 23 09 12.6 +1.2
H29M IAmb IAmb 23 09 17.9
comp=Z,8.4nm,1.3s
H29M Whitestone 45.82 33 P P 23 09 12.9 +1.5
baz=278
G29M Pine Creek 45.86 32 P P 23 09 13.5 +1.8
G29M IAmb IAmb 23 09 14.6
comp=Z,21nm,1.4s
G29M Pine Creek 45.86 32 P P 23 09 13.1 +1.3
baz=278
I29M Ogilvie Camp, 45.97 34 P P 23 09 13.5 +0.9
I29M IAmb IAmb 23 09 14.3
comp=Z,7.1nm,0.8s
I29M Ogilvie Camp, 45.97 34 P P 23 09 13.6 +0.9
baz=279,SNR=10.0
M29M Somme Creek 46.43 38 P P 23 09 17.4 +1.1
baz=282
L29M L29M 46.45 37 P P 23 09 17.7 +1.3
baz=281
EPYK Eagle Plains 46.45 33 P P 23 09 17.1 +0.7
EPYK IAmb IAmb 23 09 17.9
comp=Z,5.6nm,0.7s
EPYK Eagle Plains 46.45 33 P P 23 09 17.2 +0.7
baz=279
G30M tAoh Zraii Nji 46.55 32 P P 23 09 18.2 +1.0
G30M IAmb IAmb 23 09 19.2
comp=Z,11nm,0.8s
G30M tAoh Zraii Nji 46.55 32 P P 23 09 18.0 +0.8
baz=279
K29M Barlow Dome 46.57 36 P P 23 09 16.3 -1.2
K29M IAmb IAmb 23 09 20.0
comp=Z,5.4nm,1.0s
K29M Barlow Dome 46.57 36 P P 23 09 18.2 +0.7
baz=281
YUK4 Talbot Arm 46.57 40 P P 23 09 18.8 +1.2
baz=282
F30M Barrier River 46.62 31 P P 23 09 19.7 +2.0
baz=279
I30M Mount Dempster 46.79 34 P P 23 09 20.1 +1.0
I30M IAmb IAmb 23 09 21.0
comp=Z,9.7nm,0.8s
I30M Mount Dempster 46.79 34 P P 23 09 20.2 +1.0
baz=281,SNR=10
J30M Hart River 46.94 35 P P 23 09 21.3 +1.0
baz=281
M30M Minto, Yukon 47.16 38 P P 23 09 23.3 +1.4
baz=283
HYT Haines Junctio 47.23 40 P P 23 09 24.6 +1.8
HYT Haines Junctio 47.23 40 P P 23 09 24.4 +1.7
baz=284,SNR=7.9
N30M Aishikik Lake 47.28 39 P P 23 09 23.8 +0.8
N30M IAmb IAmb 23 09 28.9

comp=Z,5.1nm,1.0s
G31M Satah River 47.31 32 P **P 23 09 23.9 +0.9**
G31M IAmb IAmb 23 09 26.6
comp=Z,18nm,1.4s
G31M Satah River 47.31 32 P **P 23 09 24.3 +1.2**
baz=281
INK Inuvik 47.34 30 P **P 23 09 23.9 +0.7**
INK Inuvik 47.34 30 P **P 23 09 24.1 +0.9**
baz=280,SNR=8.5
INK Inuvik 47.34 30 P **P 23 09 23.9 +0.7**
INK pmax pmax
comp=Z,13nm,0.7s
P29M Windy Craggy 47.42 42 P **P 23 09 25.9 +1.9**
P29M Windy Craggy 47.42 42 P **P 23 09 25.5 +1.5**
baz=285
F31M Tsiigehtchic 47.42 31 P **P 23 09 24.3 +0.4**
F31M IAmb IAmb 23 09 25.5
comp=Z,9.4nm,0.8s
F31M Tsiigehtchic 47.42 31 P **P 23 09 24.8 +0.9**
baz=281
H31M Peel River 47.51 33 P **P 23 09 25.8 +1.2**
H31M IAmb IAmb 23 09 26.4
comp=Z,5.9nm,0.7s
H31M Peel River 47.51 33 P **P 23 09 26.1 +1.4**
baz=282
P30M Million Dollar 47.67 41 P **P 23 09 27.5 +1.5**
baz=285
N31M Braeburn, Yuko 47.88 39 P **P 23 09 29.1 +1.5**
N31M IAmb IAmb 23 09 50.7
comp=Z,8.9nm,1.1s
N31M Braeburn, Yuko 47.88 39 P **P 23 09 29.2 +1.5**
baz=285
O30N Mendenhall 47.92 40 P **P 23 09 29.3 +1.4**
PLBC Pleasant Camp 48.14 42 P **P 23 09 31.0 +1.4**
baz=286
WHY Whitehorse 48.52 40 P **P 23 09 33.8 +1.1**
WHY IAmb IAmb 23 09 34.6
comp=Z,10nm,1.3s
WHY Whitehorse 48.52 40 P **P 23 09 34.2 +1.6**
baz=286
FARO Faro, Yukon 48.80 38 P **P 23 09 35.9 +1.3**
FARO IAmb IAmb 23 09 36.6
comp=Z,4.1nm,0.8s
FARO Faro, Yukon 48.80 38 P **P 23 09 36.0 +1.3**
baz=286
P32M Atlin 49.39 41 P **P 23 09 39.7 +0.4**
P32M IAmb IAmb 23 09 49.2
comp=Z,6.3nm,1.1s
R32K Eaglecrest 49.40 43 P **P 23 09 40.2 +0.9**
R32K IAmb IAmb 23 10 16.7
comp=Z,12nm,1.4s
P33M Teslin, Yukon 49.63 40 P **P 23 09 42.0 +0.9**
P33M IAmb IAmb 23 09 44.0
comp=Z,6.5nm,1.2s
P33M Teslin, Yukon 49.63 40 P **P 23 09 42.3 +1.2**
baz=288
TAPN Taplejung 49.64 272 *e*P **P 23 09 41.4 -0.5**
BVAR Borovoye Array 49.75 310 P **P 23 09 41.9 -0.1**
comp=Z,2.2nm,0.5s,baz=82,slow=8.3,SNR=27
BVAR PcP **PcP 23 11 02.2 -0.1**
comp=Z,0.9nm,0.6s,baz=60,slow=5.5,SNR=3.0
comp=Z,2.2nm,0.5s
BRVK Borovoye 49.79 310 P **P 23 09 42.4 +0.1**
BRVK Borovoye 49.79 310 *e*P **P 23 09 42.4 +0.1**
BRVK Borovoye 49.79 310 P **P 23 09 42.4 +0.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BOOM Boomskoye usch 50.48 295 P **P 23 09 48.4 +0.5**
BOOM IAmb IAmb 23 09 49.1
comp=Z,3.6nm,0.7s
BOOM Boomskoye usch 50.48 295 P **P 23 09 48.4 +0.5**
BOOM pmax pmax
comp=Z,4.0nm,0.7s
GUN Gumba 50.67 274 *e*P **P 23 09 49.2 -0.6**
RAMN Ramite 50.69 272 *e*P **P 23 09 48.1 -1.6**
R33M Jennings River 50.78 41 P **P 23 09 51.3 +1.5**
R33M Jennings River 50.78 41 P **P 23 09 51.5 +1.6**
baz=290
S34M Telegraph Cree 51.22 43 P **P 23 09 54.7 +1.7**
baz=291
AAK Ala-Archa 51.38 296 P **P 23 09 54.4 -0.1**
AAK Ala-Archa 51.38 296 *e*P **P 23 09 54.5 -0.1**
AAK Ala-Archa 51.38 296 P **P 23 09 54.5 -0.1**
comp=Z,1.1nm,0.4s,baz=128,slow=5.5,SNR=6.2
comp=Z,1.1nm,0.4s
DANN Dangsing 51.98 275 *e*P **P 23 10 00.2 +0.7**
T35M Bob Quinn 52.01 44 P **P 23 10 01.2 +2.2**
baz=292
PYUN Piuthan 52.69 276 *e*P **P 23 10 04.2 -0.4**
ARSB Arslanbob 52.98 295 P **P 23 10 07.1 +0.6**
ARSB Arslanbob 52.98 295 P **P 23 10 07.1 +0.6**
ARSB pmax pmax
comp=Z,1.0nm,0.7s
LIRD Liard River Hi 53.09 40 P **P 23 10 08.3 +1.5**
baz=293
GRNB Grenville Isla 53.41 47 P **P 23 10 11.1 +1.7**
GRNB IAmb IAmb 23 10 46.4
comp=Z,11nm,1.2s
HNR Honiara 53.48 164 LR LR 23 34 11.1
comp=Z,908nm,18.3s,baz=4.5,slow=37
SVE Sverdlovsk 53.50 317 *e*P **P 23 10 09.7 -0.2**
SVE pmax pmax
comp=Z,10.0nm,0.7s
AIN Ainahou 53.70 97 P **P 23 10 11.2 -0.9**
KK31 Karatay Array 53.77 298 P **P 23 10 11.6 -0.5**
KK31 Karatay Array 53.77 298 P **P 23 10 11.6 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,1.4s
KKAR Karatay Array 53.77 298 P **P 23 10 11.9 -0.3**
KKAR Karatay Array 53.77 298 P **P 23 10 11.7 -0.4**
KKAR Karatay Array 53.77 298 P **P 23 10 11.9 -0.3**
KKAR pmax pmax
comp=Z,4.0nm,1.4s
EUNU Eureka 53.77 10 P **P 23 10 11.2 -0.4**
EUNU IAmb IAmb 23 10 11.8
comp=Z,8.0nm,0.8s
ARU Arti 54.71 317 P **P 23 10 18.1 -0.5**
ARU Arti 54.71 317 *e*P **P 23 10 18.2 -0.5**
ARU Arti 54.71 317 P **P 23 10 18.2 -0.5**
comp=Z,9.6nm,0.5s,baz=80,slow=5.7,SNR=23
comp=Z,9.6nm,0.5s
RES Resolute Bay 55.90 16 P **P 23 10 26.9 -0.1**
RES Resolute Bay 55.90 16 P **P 23 10 26.9 -0.1**
RES pmax pmax
comp=Z,14nm,0.6s
YKA Yellowknife Ar 56.73 33 P **P 23 10 33.6 +0.5**
comp=Z,2.5nm,0.8s,baz=298,slow=7.3,SNR=5.5
comp=Z,2.5nm,0.8s
ABKAR Akbulak array 57.30 309 P **P 23 10 37.5 +0.2**
KIRV Kirov 58.03 322 P **P 23 10 41.4 -0.9**
comp=Z,9.3nm,0.7s,baz=337,slow=9.2,SNR=2.6
comp=Z,9.3nm,0.7s
PRGR Permogore 58.06 326 *e*P **P 23 10 40.7 -1.8**
PRGR pmax pmax
comp=Z,14nm,1.0s
LVZ Lovozero 58.42 336 *ce*P P 23 10 40.9 -4.1
LVZ pmax pmax
comp=Z,17nm,1.3s
ARCES ARCESS Array B 59.91 340 P **P 23 10 54.7 -0.6**
comp=Z,2.7nm,0.7s,baz=47,slow=5.5,SNR=6.7
comp=Z,2.7nm,0.7s
DAG Danmarks Havn 60.25 356 *i* P **P 23 10 56.0 -1.4**
HEF Hetta 61.18 339 *e*P **P 23 11 02.4 -1.5**
KIF Kilpisjarvi 61.47 341 *e*P **P 23 11 04.7 -1.1**
BELG Belogornoye 62.25 317 *i* P **P 23 11 11.1 -0.2**
BELG pmax pmax
comp=Z,4.0nm,0.8s
BELG Belogornoye 62.25 317 P **P 23 11 10.9 -0.4**
comp=Z,26nm,0.8s,baz=30,slow=0.8,SNR=11
comp=Z,26nm,0.8s
NEW Newport 63.19 48 P **P 23 11 18.0 +0.3**
NEW IAmb IAmb 23 11 19.5
comp=Z,5.7nm,0.9s
NEW Newport 63.19 48 P **P 23 11 18.8 +1.1**
baz=305
NEW Newport 63.19 48 P **P 23 11 18.0 +0.3**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 63.19 48 LR LR 23 36 20.2
comp=Z,39nm,21.9s,baz=261,slow=34
WRA Warramunga Arr 63.54 193 P **P 23 11 20.3 +0.2**
comp=Z,0.5nm,0.8s,baz=12,slow=6.8,SNR=3.1
WRA pP **pwP 23 11 36.5 -0.2**
comp=Z,2.2nm,0.9s,baz=13,slow=7.0,SNR=7.8
comp=Z,0.5nm,0.8s
PINE Pine Mountain 63.58 54 P **P 23 11 22.5 +1.9**
PINE IAmb IAmb 23 11 23.3
comp=Z,4.8nm,0.8s
L04D Klamath Falls 63.66 56 P **P 23 11 22.5 +1.5**
YBH Yreka Blue Hor 63.69 57 P **P 23 11 22.4 +1.2**
YBH IAmb IAmb 23 11 23.8
comp=Z,5.8nm,1.1s
YBH Yreka Blue Hor 63.69 57 P **P 23 11 22.4 +1.2**
YBH pmax pmax
comp=Z,6.0nm,1.1s
YBH Yreka Blue Hor 63.69 57 LR LR 23 36 07.8
comp=Z,52nm,22.0s,baz=264,slow=33
K05A Summer Lake 64.22 55 P **P 23 11 26.1 +1.3**
K05A IAmb IAmb 23 11 28.1
comp=Z,16nm,1.4s
GEYT Alibeck 64.51 299 P **P 23 11 26.6 0.0**
GEYT Alibeck 64.51 299 P **P 23 11 26.6 0.0**
GEYT pmax pmax
comp=Z,4.0nm,1.1s
GEYT Alibeck 64.51 299 P **P 23 11 26.3 -0.3**
comp=Z,1.6nm,0.6s,baz=34,slow=3.9,SNR=4.8
comp=Z,1.6nm,0.6s
GYA0B ALIBECK ARRAY 64.51 299 P **P 23 11 26.5 -0.1**
GYA0B IAmb IAmb 23 11 29.9
comp=Z,4.0nm,0.8s
SUMG Summit 64.78 2 P **P 23 11 28.6 +0.4**
SUMG IAmb IAmb 23 11 30.1
comp=Z,12nm,1.0s
SUMG Summit 64.78 2 P **P 23 11 28.6 +0.4**
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 64.78 2 *i* P **P 23 11 27.0 -1.2**
FINES FINESS Array B 65.46 333 P **P 23 11 31.4 -0.9**
comp=Z,9.6nm,0.8s,baz=44,slow=7.3,SNR=18
FINES pP **sP 23 11 49.1 -0.6**
comp=Z,3.6nm,0.6s,baz=53,slow=9.8,SNR=2.7
comp=Z,9.6nm,0.8s
PLID Pearl Lake 65.69 50 P **P 23 11 35.0 +0.7**
PLID IAmb IAmb 23 11 35.8
comp=Z,11nm,1.4s
OBN Obninsk 65.77 324 *e*P **P 23 11 34.0 -0.3**
OBN Obninsk 65.77 324 *i* P **P 23 11 34.0 -0.3**
OBN *i* 23 12 03.6
OBN pmax pmax
comp=Z,4.0nm,0.5s
MSO Missoula 65.78 48 P **P 23 11 35.8 +1.1**
baz=307
ELMT Elliston 66.76 48 P **P 23 11 41.2 +0.1**
MPK Martis Peak 66.77 57 P **P 23 11 41.6 +0.2**
MFID Camas Ranch 66.80 52 P **P 23 11 41.0 -0.3**
PAHR Pah Rah Range 66.92 57 P **P 23 11 42.1 -0.2**
HRY Holter Researc 67.00 47 P **P 23 11 43.6 +1.1**
LRM Limekiln Ridge 67.21 48 P **P 23 11 44.8 +0.7**
ASAR Alice Springs 67.26 193 pP pP 23 12 01.6 +5.4
comp=Z,1.4nm,0.8s,baz=12,slow=6.6,SNR=9.0
EGMT Eagleton 67.27 45 P **P 23 11 45.0 +0.8**
baz=309
SAO San Andreas Ge 67.41 60 P **P 23 11 46.1 +1.0**
SAO San Andreas Ge 67.41 60 P **P 23 11 46.1 +1.0**
SAO pmax pmax
comp=Z,20nm,1.3s
DLMT Dillon 67.42 49 P **P 23 11 45.2 -0.1**
DLMT IAmb IAmb 23 11 47.6
comp=Z,4.9nm,0.8s
YERR Yerington 67.45 57 P **P 23 11 45.9 +0.3**
YERR IAmb IAmb 23 11 47.8
comp=Z,5.6nm,1.0s
HLID Hailey 67.52 51 P **P 23 11 47.0 +1.0**
HLID Hailey 67.52 51 P **P 23 11 47.1 +1.1**
baz=308
BOZ Bozeman (W) 67.80 48 P **P 23 11 47.1 -0.6**
BOZ IAmb IAmb 23 11 49.5
comp=Z,6.8nm,0.7s
BOZ Bozeman (W) 67.80 48 P **P 23 11 48.8 +1.1**
baz=309
BOZ Bozeman (W) 67.80 48 P **P 23 11 47.1 -0.6**
BOZ pmax pmax
comp=Z,7.0nm,0.7s
KVN Kaiserville 68.11 57 P **P 23 11 50.0 +0.3**
KVN IAmb IAmb 23 11 52.0
comp=Z,4.5nm,0.8s
KVN Kaiserville 68.11 57 P **P 23 11 50.1 +0.3**
KVN pmax pmax
comp=Z,5.0nm,0.8s
NVAR Mina Array Bea 68.37 57 P **P 23 11 52.1 +0.7**
NVAR Mina Array Bea 68.37 57 P **P 23 11 52.6 +1.1**
comp=Z,2.5nm,0.7s,baz=286,slow=7.1,SNR=16
NVAR pP **sP 23 12 08.8 +0.3**
comp=Z,0.9nm,0.7s,baz=295,slow=5.7,SNR=3.9
comp=Z,2.5nm,0.7s
QLMT Earthquake Lak 68.40 48 P **P 23 11 51.6 +0.1**
NV11 Mina Array Sit 68.46 57 P **P 23 11 52.9 +1.0**
NV11 IAmb IAmb 23 11 54.2
comp=Z,6.3nm,1.2s
GCMT Greycliff 68.74 47 P **P 23 11 53.9 +0.4**
YHH Holmes Hill 68.74 48 P **P 23 11 54.6 +0.9**
YMR Madison River 68.76 48 P **P 23 11 53.8 0.0**
YMR IAmb IAmb 23 11 56.0
comp=Z,5.4nm,0.9s
ELK Elko 68.79 54 P **P 23 11 54.5 +0.4**
ELK Elko 68.79 54 P **P 23 11 54.5 +0.4**
ELK pmax pmax
comp=Z,2.0nm,1.2s
YFT Old Faithful 68.97 49 P **P 23 11 55.3 +0.2**
YNE Yellowstone No 69.06 48 P **P 23 11 54.9 -0.8**
LKWY Lake 69.13 48 P **P 23 11 56.6 +0.5**
LKWY IAmb IAmb 23 12 06.6
comp=Z,9.7nm,1.5s
LKWY Lake 69.13 48 P **P 23 11 56.6 +0.5**
LKWY pmax pmax
comp=Z,10.0nm,1.5s
H17A Grant Village 69.14 48 P **P 23 11 57.4 +1.1**
H17A IAmb IAmb 23 11 59.9
comp=Z,7.6nm,1.1s
H17A Grant Village 69.14 48 P **P 23 11 58.6 +2.4**
baz=310
YMP Mirror Lake Pl 69.15 48 P **P 23 11 56.5 +0.2**
YMP IAmb IAmb 23 12 37.3
comp=Z,8.3nm,1.3s
DSP Deep Springs 69.23 58 P **P 23 11 56.8 +0.3**
TPH Tonopah 69.25 57 P **P 23 11 56.2 -0.7**
TPH Tonopah 69.25 57 P **P 23 11 56.2 -0.7**
TPH pmax pmax
comp=Z,21nm,0.9s
IMW Indian Meadow 69.26 49 P **P 23 11 56.9 -0.1**
FXWY Fox Creek 69.38 49 P **P 23 11 57.2 -0.5**
RLMT Red Lodge 69.39 47 P **P 23 11 58.4 +0.7**
RLMT Red Lodge 69.39 47 P **P 23 11 58.7 +1.0**
baz=310
MOOW Moose Ponds 69.47 49 P **P 23 11 58.4 +0.3**
TPAW Teton Pass 69.52 49 P **P 23 11 58.5 -0.1**
TPAW IAmb IAmb 23 12 01.3
comp=Z,5.9nm,1.0s
GRAC Grapevine Rang 69.84 58 P **P 23 12 01.8 +1.5**
baz=309
KBZ Khabaz 70.07 311 *e*P **P 23 12 02.1 +0.5**
KBZ Khabaz 70.07 311 P **P 23 12 02.0 +0.5**
comp=Z,4.5nm,0.8s,baz=60,slow=6.8,SNR=7.3
comp=Z,4.5nm,0.8s
R11B Troy Canyon, C 70.09 56 P **P 23 12 02.9 +0.9**
baz=309
NB2 NORSAR Subarra 70.26 339 P **P 23 12 02.1 -0.5**
comp=Z,2.2nm,0.5s,baz=32,slow=6.5
NOA NORSAR Array B 70.26 339 P **P 23 12 02.0 -0.5**
NOA NORSAR Array B 70.26 339 P **P 23 12 01.9 -0.5**
comp=Z,3.2nm,0.6s,baz=31,slow=6.5,SNR=23
comp=Z,3.2nm,0.6s
SCZ2 Santa Cruz Isl 70.28 62 P **P 23 12 04.3 +1.2**
baz=309
HFS Hagfors 70.33 337 P **P 23 12 02.0 -0.9**
comp=Z,6.4nm,0.6s,baz=52,slow=6.0,SNR=26
HFS pP **sP 23 12 20.7 +0.3**
comp=Z,2.5nm,0.6s,baz=42,slow=6.8,SNR=2.0
comp=Z,6.4nm,0.6s
MPMC Manual Prospec 70.35 59 P **P 23 12 04.9 +1.2**
baz=309
TPNV Topopah Spring 70.56 57 P **P 23 12 05.9 +1.0**
baz=309
DUG Dugway, Tooele 70.57 53 P **P 23 12 06.1 +1.2**
baz=310
BW06 Boulder Array 70.76 49 P **P 23 12 06.7 +0.6**
BW06 IAmb IAmb 23 12 07.8
comp=Z,8.9nm,1.4s
BW06 Boulder Array 70.76 49 P **P 23 12 06.9 +0.8**
baz=311
PD31 Pinedale Array 70.76 49 P **P 23 12 06.8 +0.7**
PD31 IAmb IAmb 23 12 07.9
comp=Z,7.2nm,1.4s
PDAR Pinedale Array 70.76 49 P **P 23 12 06.8 +0.7**
PDAR Pinedale Array 70.76 49 P **P 23 12 06.5 +0.3**
comp=Z,2.0nm,0.6s,baz=252,slow=0.6,SNR=25
PDAR LR LR 23 42 45.5
comp=Z,21nm,20.8s,baz=304,slow=36
comp=Z,2.0nm,0.6s
EDW2 Edwards Air Fo 70.77 60 P **P 23 12 07.6 +1.5**
baz=309
SNCC San Nicolas Is 70.82 62 P **P 23 12 07.8 +1.5**
baz=309
HEC Hector,Ludlow 71.86 59 P **P 23 12 13.7 +1.0**
baz=310
AKASG Malin Array Be 72.04 324 P **P 23 12 12.8 -0.6**
comp=Z,3.2nm,0.5s,baz=40,slow=6.0,SNR=24
comp=Z,3.2nm,0.5s
AKBB Malin Array Si 72.04 324 *ce*P **P 23 12 13.1 -0.2**
GMRC Granite Mounta 72.31 59 P **P 23 12 16.1 +0.7**
baz=310
K22A Casper 72.51 48 P **P 23 12 17.1 +0.5**
baz=313
RSSD Black Hills 72.83 45 P **P 23 12 18.7 +0.2**
baz=314
HMU Henry Mountain 73.26 54 P **P 23 12 21.2 -0.1**
HMU IAmb IAmb 23 12 23.1
comp=Z,5.7nm,0.7s
GURO Guroymak-BITLI 73.99 308 P **P 23 12 24.5 -0.8**
GURO IAmb IAmb 23 12 27.4
comp=Z,4.8nm,0.7s
N23A Red Feather La 74.02 49 P **P 23 12 26.8 +1.2**
baz=313
ISCO Idaho Springs 74.96 49 P **P 23 12 31.2 +0.1**
ISCO Idaho Springs 74.96 49 P **P 23 12 32.2 +1.0**
baz=314
ISCO Idaho Springs 74.96 49 P **P 23 12 31.2 +0.1**
ISCO pmax pmax
comp=Z,4.0nm,1.0s
MVCO Mesa Verde 75.07 53 P **P 23 12 32.8 +1.1**
baz=313
S22A 4UR Ranch, Cre 75.68 52 P **P 23 12 36.3 +1.1**
baz=314
Q24A Divide 75.79 50 P **P 23 12 36.4 +0.4**
baz=314
BUR08 Bucovina Ar. S 76.08 324 P **P 23 12 36.8 -0.4**
BUR08 IAmb IAmb 23 12 39.8
comp=Z,5.8nm,0.8s
BURAR Bucovina Array 76.09 323 P **P 23 12 36.9 -0.3**
BURAR IAmb IAmb 23 12 38.4
comp=Z,5.4nm,0.8s
OGNE Ogallala 76.11 47 P **P 23 12 38.0 +0.6**
baz=315
ECSD EROS Data Cent 76.87 42 P **P 23 12 42.1 +0.5**
baz=318
LANS Liptovska Anna 77.28 328 *e*P **P 23 12 44.8 +1.0**
LANS Liptovska Anna 77.28 328 *e*P **P 23 12 44.8 +1.0**
T25A Trinidad 77.48 51 P **P 23 12 46.1 +0.7**
baz=315
BRTR Keskin Array B 77.85 313 P **P 23 12 47.5 +0.2**
comp=Z,1.9nm,0.8s,baz=82,slow=5.5,SNR=5.3
comp=Z,1.9nm,0.8s
CLL Collm 77.89 332 *e*P **P 23 12 47.0 -0.1**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 77.89 332 *e*P **P 23 12 47.0 -0.1**
comp=Z,6.0nm,0.8s
VYHS Vyhne 78.06 327 *e*P **P 23 12 48.4 +0.3**
VYHS Vyhne 78.06 327 *e*P **P 23 12 48.4 +0.3**
N33A J Bar K, Exete 78.66 44 P **P 23 12 48.2 -3.4**
121A Cookes Peak, D 78.70 56 P **P 23 12 53.4 +1.2**
baz=314
EKA Eskdalemuir Ar 78.83 343 P **P 23 12 51.8 -0.4**
comp=Z,2.3nm,0.6s,baz=24,slow=5.2,SNR=12
comp=Z,2.3nm,0.6s
EKB Eskdalemuir 78.83 343 P **P 23 12 52.0 -0.2**
KHC Kasperske Hory 79.52 331 *e*P **P 23 12 56.0 -0.2**
KHC Kasperske Hory 79.52 331 *e*P **P 23 12 56.0 -0.2**
GERES GERESS Array B 79.71 331 *e*P **P 23 12 57.5 +0.2**
GERES GERESS Array B 79.71 331 P **P 23 12 57.1 -0.2**
comp=Z,0.6nm,0.6s,baz=46,slow=5.8,SNR=4.0
comp=Z,0.6nm,0.6s
MNTX Cornudas Mount 80.74 55 P **P 23 13 04.0 +1.0**
baz=315
LESA Schwarzleotal 81.28 330 *e*P **P 23 13 04.9 -0.8**
comp=Z,4.3nm,1.0s
425A Indio Mountain 81.62 56 P **P 23 13 08.4 +0.5**
MMAI Mount Meron Ar 81.70 308 P **P 23 13 07.9 -0.3**
comp=Z,5.8nm,0.8s,baz=6.3,slow=8.4,SNR=4.1
comp=Z,5.8nm,0.8s
WTTA Wattenberg 81.79 331 *e*P **P 23 13 08.1 -0.5**
comp=Z,3.1nm,0.7s
MOTA Moosalm 81.91 331 *i* P **P 23 13 08.8 -0.3**
comp=Z,2.8nm,0.7s
ABTA Abfaltersbach 81.91 330 *i* P **P 23 13 06.9 -2.2**
comp=Z,5.2nm,1.4s
DAVA Damuels 82.39 332 *i* P **P 23 13 11.4 -0.3**
comp=Z,2.3nm,0.7s
TXAR Lajitas Array 83.45 56 P **P 23 13 18.5 +1.1**
comp=Z,1.6nm,0.7s,baz=302,slow=4.2,SNR=18
TXAR pP **sP 23 13 33.8 -1.0**
comp=Z,0.7nm,0.7s,baz=287,slow=2.6,SNR=5.6
comp=Z,1.6nm,0.7s
CCM Cathedral Cave 83.82 42 P **23 13 19.2 +0.2**
CCM IAmb IAmb 23 13 19.9
comp=Z,10.0nm,1.1s
CCM Cathedral Cave 83.82 42 P **P 23 13 19.6 +0.6**
baz=321
CCM Cathedral Cave 83.82 42 P **P 23 13 19.2 +0.2**
CCM pmax pmax
comp=Z,10.0nm,1.1s
EIL Elat 84.38 306 P **P 23 13 22.2 +0.2**
comp=Z,4.3nm,0.9s,baz=51,slow=12,SNR=3.0
comp=Z,4.3nm,0.9s
BRDY Brady 84.80 52 **P 23 13 24.0 -0.1**
BRDY IAmb IAmb 23 13 25.3
comp=Z,2.8nm,0.8s
JCT Junction City 84.93 53 P **P 23 13 25.8 +1.0**
baz=318
S44A Carbondale 85.08 41 **P 23 13 24.9 -0.4**
SIUC Southern Illin 85.08 41 P **P 23 13 25.0 -0.4**
WHTX Lake Whitney, 85.15 50 P **P 23 13 26.4 +0.6**
baz=319
MIAR Mount Ida 85.34 46 P **P 23 13 27.1 +0.4**
baz=320
WHAR Wooly Hollow 85.44 45 P **P 23 13 26.6 -0.6**
ACSO Alum Creek Sta 85.89 36 P **P 23 13 29.1 -0.3**
baz=326
T47A Sharon Grove 86.67 40 P **P 23 13 32.4 -0.9**
TZTN Tazewell 88.69 38 P **P 23 13 42.9 -0.1**
baz=326
LRAL Lakeview Retre 89.90 43 P **P 23 13 48.3 -0.4**
baz=324
ESDC Sonseca Array 93.60 338 P **P 23 14 05.1 -0.7**
comp=Z,0.7nm,0.9s,baz=38,slow=2.5,SNR=2.9
comp=Z,0.7nm,0.9s
DWPF Disney Wildern 96.67 41 P **P 23 14 19.5 -0.4**
baz=327
TORD Torodi Ar. Bea 115.63 322 PKP **PKiKP 23 19 31.4 -0.6**
comp=Z,0.4nm,0.5s,baz=36,slow=1.3,SNR=7.6
QSPA South Pole Qui 132.63 180 PKP **PKiKP 23 20 04.1 0.0**
comp=Z,1.0nm,1.0s,baz=262,slow=2.5,SNR=1.6
BDFB Brasilia 150.09 29 PKPbc **PKPbc 23 20 40.3 -0.3**
comp=Z,2.3nm,0.4s,baz=76,slow=0.2,SNR=6.3

SJA ***30*** *23:06:09.3±0.5, 23°.83S×67°.03W, h214km±5km, ML3.0, MW3.7*

GUC ***30*** *23:06:11.2±0.6, 23°.75S×67°.19W, h219km±12km, ML2.9*

ISC 30 23:06:09.6±2.6, 23°.80S±0°.09×67°.04W±0°.07, h209km±22km, n20, σ0s97/33, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.67**	**124**	*e*P	**Pn**	**23 06 46.3**	**+0.4**
SLA				*e*S	**S**	**23 07 13.7**	**-0.1**
AZAP	**Zapla**	**1.85**	**104**	*e*P	**Pn**	**23 06 47.3**	**-0.3**
LVC	**Limon Verde**	**2.09**	**304**	*e*P	**Pn**	**23 06 50.3**	**+0.1**
LVC				*e*S	**S**	**23 07 20.8**	**-0.5**
LVC				IAML		23 07 23.0	
	33nm,0.4s						
LVC	**Limon Verde**	**2.09**	**304**	*e*P	**Pn**	**23 06 50.8**	**+0.6**
LVC				*e*S	**S**	**23 07 21.7**	**+0.4**
PB15	**IPOC Station P**	**2.31**	**284**	*e*P	**Pn**	**23 06 53.2**	**+0.9**
PB15				*e*S	**S**	**23 07 24.8**	**-0.3**
PB15	**IPOC Station P**	**2.31**	**284**	*e*P	**Pn**	**23 06 53.1**	**+0.8**
PB15				*e*S	**S**	**23 07 25.3**	**+0.2**

PB15				IAML		23 07 27.3	
	comp=Z,152nm,0.2s						
PB06	**IPOC Station P**	**2.57 295**	*e*P		**Pn**	**23 06 55.8**	**+0.6**
PB06			*e*S		**S**	**23 07 29.2**	**-0.9**
PB06				IAML		23 07 31.1	
	comp=N,72nm,0.1s						
PB06	**IPOC Station P**	**2.57 295**	*e*P		**Pn**	**23 06 55.7**	**+0.6**
PB06			*e*S		**S**	**23 07 29.8**	**-0.3**
PB06				IAML		23 07 32.2	
	comp=Z,24nm,0.1s						
PB09	**IPOC Station P**	**2.85 314**	*e*P		**Pn**	**23 06 59.5**	**+1.2**
PB09			*e*S		**S**	**23 07 35.5**	**-0.2**
PB09				IAML		23 07 39.0	
	comp=N,10nm,0.5s						
PB09	**IPOC Station P**	**2.85 314**	*e*P		**Pn**	**23 06 59.9**	**+1.7**
PB09			*e*S		**S**	**23 07 36.1**	**+0.4**
PB09				IAML		23 07 48.3	
	comp=Z,22nm,2.9s						
PB14	**IPOC Station P**	**3.18 254**	*e*P		**Pn**	**23 07 02.9**	**+0.7**
PB14			*e*S		**S**	**23 07 42.4**	**-0.6**
PB14				IAML		23 07 42.4	
	comp=Z,17nm,1.6s						
PB04	**IPOC Station P**	**3.22 296**	*e*P		**Pn**	**23 07 03.0**	**+0.4**
PB04			*e*S		**S**	**23 07 41.6**	**-1.8**
PB04				IAML		23 07 45.5	
	comp=E,25nm,0.2s						
PB04	**IPOC Station P**	**3.22 296**	*e*P		**Pn**	**23 07 03.1**	**+0.6**
PB04			*e*S		**S**	**23 07 42.0**	**-1.5**
PB04				IAML		23 07 45.5	
	comp=Z,28nm,0.3s						
PB07	**IPOC Station P**	**3.34 308**	*e*P		**Pn**	**23 07 04.3**	**+0.3**
PB07	**IPOC Station P**	**3.34 308**	*e*P		**Pn**	**23 07 04.2**	**+0.2**
PB07			*e*S		**S**	**23 07 44.0**	**-2.2**
PB07				IAML		23 07 56.1	
	comp=Z,14nm,1.0s						
PB01	**IPOC Station P**	**3.56 320**	*e*P		**Pn**	**23 07 06.8**	**+0.2**
PB02	**IPOC Station P**	**3.62 312**	*e*P		**Pn**	**23 07 07.7**	**+0.5**
PB02	**IPOC Station P**	**3.62 312**	*e*P		**Pn**	**23 07 08.1**	**+0.8**
PB02			*e*S		**S**	**23 07 50.0**	**-1.9**
PB02				IAML		23 07 53.6	
	comp=Z,21nm,0.2s						
PB08	**IPOC Station P**	**4.14 331**	*e*P		**Pn**	**23 07 15.3**	**+1.4**
ACLC	**CERRO LA CRUZ**	**5.60 179**	*e*P		Pn	23 07 21.6	-10
ACLC				IAML		23 08 55.8	
	comp=Z,9.4nm,3.4s						

TIF ***30*** *23:25:19.2, 43°.66N×45°.07E, h24km±1km*
DRS ***30*** *23:25:20.0±0.0, 43°.53N×44°.76E, h18km*
MOS ***30*** *23:25:20.7±0.0, 43°.57N×45°.00E, h20km, MPVA3.5*
NORS ***30*** *23:25:21.0±0.0, 43°.53N×45°.04E, h22km, MPVA3.6*
ISC 30 23:25:20.0±1.1, **43°.59N**±0°.03×**45°.03E**±0°.02, **h8**km±10km, **n37**, σ1s**20**/72, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.25 301**		*e*Pg	**Pn**	**23 25 28.2**	**-1.8**
TRKR				*e*Sg	**Sb**	**23 25 33.4**	**+2.0**
BTKR	**Batakoyurt**	**0.42 238**		*e*Pg	**Pb**	**23 25 29.5**	**-0.2**
BTKR				*e*Sg	**Sb**	**23 25 36.5**	**+0.3**
KMGR	**Komgaron**	**0.55 193**		*e*Pg	**Pb**	**23 25 31.5**	**-0.5**
KMGR				*e*Sg	**Sb**	**23 25 40.8**	**+0.8**
PRTR	**Priterechnaya**	**0.57 287**		*e*Pg	**Pn**	**23 25 33.7**	**-0.7**
PRTR				*e*Sg	**Sn**	**23 25 42.9**	**-1.1**
VLKR	**Vladikavkaz**	**0.60 205**		*e*Pg	**Pb**	**23 25 32.6**	**-0.3**
VLKR				*e*Sg	**Sg**	**23 25 38.3**	**-1.2**
GROC	**Groznyy**	**0.68 125**		*e*Pg	**Pn**	**23 25 35.1**	**-0.8**
GROC				*e*Sg	**Sn**	**23 25 44.9**	**-1.9**
STDR	**Stavd-Durt**	**0.74 253**		*e*Pg	**Pn**	**23 25 36.8**	**0.0**
STDR				*e*Sg	**Sb**	**23 25 46.0**	**+0.6**
KORR	**Kora**	**0.87 235**		*e*Pg	**Pn**	**23 25 38.8**	**+0.2**
KORR				*e*Sg	**Sn**	**23 25 53.1**	**+1.6**
LACR	**Lac**	**0.94 215**		*e*Pg	**Pb**	**23 25 38.3**	**-0.2**
LACR				*e*Sg	**Sn**	**23 25 54.0**	**+0.8**
SHTL	**Shatili**	**0.94 174**		P	**Pb**	**23 25 38.3**	**-0.3**
SHTL				S	**Sn**	**23 25 53.0**	**-0.4**
NCK	**Nalchik**	**1.05 265**		*e*Pg	**Pn**	**23 25 42.0**	**+0.9**
NCK				*e*Sg	**Sn**	**23 25 56.8**	**+0.9**
ZEI	**Tsey**	**1.15 226**		*e*Pg	**Pn**	**23 25 42.1**	**-0.5**
ZEI				*e*Sg	**Sn**	**23 25 58.7**	**0.0**
KBTC	**Kuba-Taba**	**1.20 281**		*e*Pg	**Pg**	**23 25 44.4**	**+1.4**
KBTC				*e*Sg	**Sn**	**23 26 01.5**	**+1.8**
GUDG	**Gudauri**	**1.20 200**		P	**Pn**	**23 25 42.4**	**-0.9**
GUDG				S	**Sn**	**23 25 59.7**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.27 237**		*e*Pg	**Pb**	**23 25 44.0**	**-0.3**
DIGR				*e*Sg	**Sn**	**23 26 01.3**	**-0.2**
BTLR	**Botlikh**	**1.27 136**		*e*Pg	**Pg**	**23 25 43.9**	**-0.5**
BTLR				*e*Sg	**Sn**	**23 26 02.1**	**+0.5**
DLMR	**Dylym**	**1.28 114**		*e*Pg	**Pg**	**23 25 44.5**	**0.0**
DLMR				*e*Sg	**Sn**	**23 26 03.7**	**+2.1**
DBC	**Dubki**	**1.43 113**		*e*Pg	**Pg**	**23 25 47.3**	**-0.2**
DBC				*e*Sg	**Sg**	**23 26 08.4**	**+2.4**
PYA1	**Pyatigorsk**	**1.48 289**		*e*Pg	**Pg**	**23 25 47.7**	**-0.6**
PYA1				*e*Sg	**Sb**	**23 26 06.6**	**-0.1**
ONI	**Oni**	**1.53 230**		P	**Pb**	**23 25 48.5**	**-0.2**
ONI				S	**Sg**	**23 26 09.2**	**0.0**
KBZ	**Khabaz**	**1.55 276**		*e*Pg	**Pb**	**23 25 48.5**	**-0.5**
KBZ				*e*Sg	**Sb**	**23 26 09.1**	**+0.2**
UNCR	**Uncukul**	**1.56 124**		*e*Pg	**Pg**	**23 25 49.0**	**-0.9**
UNCR				*e*Sg	**Sg**	**23 26 10.8**	**+0.7**
KRNR	**Karanay**	**1.57 119**		*e*Pg	**Pg**	**23 25 49.3**	**-0.8**
KRNR				*e*Sg	**Sg**	**23 26 10.8**	**+0.3**
XNZR	**Khunzakh**	**1.62 130**		*e*Pg	**Pg**	**23 25 49.8**	**-1.2**
XNZR				*e*Sg	**Sg**	**23 26 12.6**	**+0.6**
BEYR	**Belyy Ugol+**	**1.66 285**		*e*Pg	**Pb**	**23 25 49.7**	**-1.1**
BEYR				*e*Sg	**Sb**	**23 26 11.7**	**-0.1**
BUJR	**Buynaksk**	**1.70 116**		*e*Pg	**Pg**	**23 25 52.6**	**-0.1**
BUJR				*e*Sg	**Sg**	**23 26 16.9**	**+2.3**
SHA1	**Shidzhatmaz**	**1.73 276**		*e*Pg	**Pb**	**23 25 51.2**	**-1.0**
SHA1				*e*Sg	**Sb**	**23 26 13.3**	**-0.8**
NEUR	**Neytrino**	**1.73 260**		*e*Pg	**Pb**	**23 25 51.8**	**-0.3**
NEUR				*e*Sg	**Sb**	**23 26 13.8**	**-0.3**
KIV	**Kislovodsk**	**1.74 283**		*e*Pg	**Pb**	**23 25 51.2**	**-1.0**
KIV				*e*Sg	**Sb**	**23 26 14.0**	**-0.2**
ARKR	**Arakani**	**1.75 124**		*e*Pg	**Pb**	**23 25 51.7**	**-0.7**
ARKR				*e*Sg	**Sg**	**23 26 16.6**	**+0.5**
ALIG	**Mtskhetisjvari**	**1.80 215**		P	**Pb**	**23 25 51.9**	**-1.3**
ALIG				S	**Sg**	**23 26 17.3**	**-0.6**
GNBR	**Gunib**	**1.86 130**		*e*Pg	**Pb**	**23 25 53.6**	**-0.7**
GNBR				*e*Sg	**Sg**	**23 26 19.6**	**-0.2**
LGD	**Lagodekhi**	**1.97 153**		P	**Pb**	**23 25 55.9**	**-0.2**
DGRG	**David-gareji**	**2.16 173**		P	**Pb**	**23 25 58.2**	**-1.1**
TRLG	**Trialeti**	**2.16 199**		P	**Pn**	**23 25 57.5**	**+0.9**
TRLG				S	**Sb**	**23 26 25.1**	**-1.5**
DDFL	**Dedoflistskaro**	**2.29 159**		P	**Pg**	**23 26 03.4**	**-0.5**
DDFL				S	**Sg**	**23 26 39.1**	**+5.5**
AHMR	**Akhmetovskaya**	**2.94 282**		*e*Pn	**Pn**	**23 26 08.2**	**+1.2**
AHMR				*e*Sn	**Sb**	**23 26 46.3**	**-2.4**

PRE ***30*** *23:25:44.1±1.1, 26°.37S×27°.46E, h2km, ML1.8*
BUL ***30*** *23:25:49.4±0.7, 26°.48S×27°.24E, h10km±7km, MD3.6*
EAF ***30*** *23:25:49.4, 26°.49S×27°.25E, h12km, MC3.5*
ISC 30 23:25:42.1±1.3, **26°.35S**±0°.03×**27°.60E**±0°.03, **h4**km±11km, **n17**, σ2s**07**/34, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSR	**Koster**	**0.81 308**		*e*P	**Pg**	**23 25 58.2**	**+0.6**
KSR				*e*S	**Sg**	**23 26 08.6**	**+0.5**
KSR				IAML		23 26 15.7	
	comp=Z,76nm,0.9s						
SLR	**Silverton**	**0.86 45**		*e*P	**Pn**	**23 26 03.1**	**+2.0**
SLR				*e*S	**Sn**	**23 26 16.9**	**+2.6**
SLR				IAML		23 26 23.4	
	comp=Z,24nm,0.2s						
SNKL	**Senekal, Frees**	**1.93 176**		*e*P	**Pg**	**23 26 19.1**	**0.0**
SNKL				*e*S	**Sg**	**23 26 43.8**	**-0.3**
SNKL				IAML		23 26 46.6	
	comp=Z,21nm,0.2s						
SWZ	**Schweizer**	**2.19 247**		*e*P	**Pb**	**23 26 21.2**	**-1.3**
SWZ				*e*S	**Sn**	**23 26 46.8**	**-0.4**
SWZ				IAML		23 26 50.9	
	comp=Z,16nm,0.4s						
LBTB	**Lobatse**	**2.25 306**		*i* P	**Pb**	**23 26 23.8**	**+0.5**
LBTB				*i* S	**Sn**	**23 26 49.3**	**+0.9**
LBTB	**Lobatse**	**2.25 306**		*e*P	**Pb**	**23 26 22.1**	**-1.2**
LBTB				*e*S	**Sn**	**23 26 49.4**	**+1.1**
LBTB				IAML		23 26 55.9	
	comp=Z,12nm,0.2s						
LBTB	**Lobatse**	**2.25 306**		*i* P	**Pb**	**23 26 23.8**	**+0.5**
	baz=314						
LBTB				*i* S	**Sn**	**23 26 49.3**	**+0.9**
	baz=314						
LEPH	**Lephalale, Lim**	**2.49 4**		*e*P	**Pb**	**23 26 26.0**	**-1.4**
LEPH				*e*S	**Sb**	**23 26 57.5**	**-0.9**
LEPH				IAML		23 27 08.8	
	comp=Z,4.4nm,0.2s						
BOSA	**Boshof**	**3.07 222**		*i* P	**Pn**	**23 26 33.8**	**+2.3**
BOSA				*i* S	**Sn**	**23 27 05.0**	**-3.8**
BOSA	**Boshof**	**3.07 222**		*e*P	**Pn**	**23 26 32.6**	**+1.1**
BOSA				*e*S	**Sn**	**23 27 08.9**	**+0.2**
BOSA				IAML		23 27 16.9	
	comp=Z,6.2nm,0.2s						
BOSA	**Boshof**	**3.07 222**		*i* P	**Pn**	**23 26 33.8**	**+2.3**
	baz=219						
BOSA				*i* S	**Sn**	**23 27 05.0**	**-3.8**
	baz=219						
PILG	**Pilgrimsrest,**	**3.14 64**		*e*P	**Pb**	**23 26 36.6**	**-2.0**
PILG				*e*S	**Sb**	**23 27 15.8**	**-1.5**
PILG				IAML		23 27 39.1	
	comp=Z,4.2nm,0.7s						
MOPA	**Mopani**	**4.45 52**		*i* P	**Pb**	**23 27 00.6**	**-0.3**
MOPA				*i* S	**Sb**	**23 27 52.8**	**-2.0**
MOPA	**Mopani**	**4.45 52**		*i* P	**Pb**	**23 27 00.6**	**-0.3**
	baz=53						
MOPA				*i* S	**Sb**	**23 27 52.8**	**-2.0**
	baz=53						
KSTD	**Kokstad**	**4.51 161**		*e*P	**Pn**	**23 26 55.0**	**+3.6**
KSTD				*e*S	**Sn**	**23 27 47.2**	**+2.9**
KSTD				IAML		23 28 06.8	
	comp=Z,1.6nm,0.4s						
MUSN	**Musina, Limpop**	**4.54 27**		*i* P	**Pb**	**23 27 00.8**	**-1.6**
MUSN				*i* S	**Sb**	**23 27 53.8**	**-3.6**
MUSN	**Musina, Limpop**	**4.54 27**		*i* P	**Pb**	**23 27 00.8**	**-1.6**
	baz=30						
MUSN				*i* S	**Sb**	**23 27 53.8**	**-3.6**
	baz=30						

GCG ***31*** *00:02:31.7±3.0, 15°.89N×94°.39W, h50km±999km, MD4.4*
NEIC ***31*** *00:02:32.6±2.1, 15°.22N±0°.05×94°.52W±0°.04, h36km±9km, mb4.5/146, Md4.7/63(MEX), Error ellipse: s-maj=7.1km s-min=5.1km az=195.0*
IDC ***31*** *00:02:33.5±1.9, 15°.40N×94°.27W, h45km±17km, mb3.9/13, mbtmp4.2/15, ML4.0/2, MS3.6/22, Error ellipse: s-maj=24.0km s-min=10.5km az=50.0*
MEX ***31*** *00:02:34.2±1.3, 15°.30N×94°.64W, h15km±16km, MD4.7*
ISC 31 00:02:32.4±0.9, **15°.21N**±0°.04×**94°.57W**±0°.03, **h44**km±9km, **n310**, σ2s**12**/358, **mb4.4**/46, **MS3.5**/19, **3D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.21**	**31**	*e*P	**Pn**	**00 02 50.2**	**-2.7**
CARR				*e*S	**Sn**	**00 03 04.0**	**-4.1**
NILT	**Santiago Nilte**	**1.35**	**358**	*e*P	**Pn**	**00 02 52.6**	**-2.3**
NILT				*e*S	**Sn**	**00 03 06.0**	**-5.6**
PCIG		**1.39**	**69**		**Pn**	**00 02 53.0**	**-2.4**
PCIG					**Sn**	**00 03 09.2**	**-3.3**
PCIG		**1.39**	**69**	*e*P	**Pn**	**00 02 53.0**	**-2.4**
PCIG				*i* S	**Sn**	**00 03 09.2**	**-3.3**
HUIG	**Huatulco**	**1.59**	**291**		**Pn**	**00 02 56.9**	**-1.2**
HUIG					**Sn**	**00 03 14.8**	**-2.7**
HUIG	**Huatulco**	**1.59**	**291**	*e*P	**Pn**	**00 02 56.9**	**-1.2**
HUIG				*e*S	**Sn**	**00 03 14.8**	**-2.7**
CMIG	**Matias Romero**	**1.90**	**351**	P	**Pn**	**00 03 01.2**	**-1.2**
	919nm,0.3s,baz=171,slow=15,SNR=2876						
CMIG				S	**Sn**	**00 03 23.3**	**-1.9**
	7μm,0.5s,baz=91,slow=10.0,SNR=44						
CMIG				LR	LR	00 03 58.8	
	comp=Z,1μm,18.5s,baz=218,slow=48						
CMIG	**Matias Romero**	**1.90**	**351**	*i* P	**Pn**	**00 03 01.2**	**-1.2**
CMIG				*i* S	**Sn**	**00 03 23.2**	**-1.9**
TGIG		**2.09**	**41**		**Pn**	**00 03 04.3**	**-0.8**
TGIG					**Sn**	**00 03 30.1**	**+0.2**
TGIG		**2.09**	**41**	*e*P	**Pn**	**00 03 04.2**	**-0.8**
TGIG				*e*S	**Sn**	**00 03 30.1**	**+0.2**
TGBT	**Tuxtla Gutierr**	**2.11**	**42**		**Pn**	**00 03 04.6**	**-0.6**
TGBT					**Sn**	**00 03 28.4**	**-1.8**
TGBT	**Tuxtla Gutierr**	**2.11**	**42**	*e*P	**Pn**	**00 03 04.6**	**-0.6**
TGBT				*e*S	**Sn**	**00 03 28.4**	**-1.8**
UXUV	**UXUV**	**2.14**	**11**	*e*P	**Pn**	**00 03 05.5**	**-0.1**
UXUV				*e*S	**Sn**	**00 03 29.1**	**-1.9**
THIG		**2.24**	**97**		**Pn**	**00 03 05.6**	**-1.5**
THIG					**Sn**	**00 03 34.2**	**+0.7**
THIG		**2.24**	**97**	*e*P	**Pn**	**00 03 05.2**	**-1.9**
THIG				*e*S	**Sn**	**00 03 31.8**	**-1.8**
THIG				*i* S		00 03 34.4	
PATR	**El Naranjo**	**2.25**	**92**	*e*P	**Pn**	**00 03 05.0**	**-2.4**
PATR				*e*S	**Sn**	**00 03 30.0**	**-4.1**
PAVE	**Pavencul**	**2.31**	**90**	*e*P	**Pn**	**00 03 06.4**	**-1.8**
PAVE				*e*S	**Sn**	**00 03 31.4**	**-4.0**
CHUJ	**Union Juarez**	**2.38**	**92**	*e*P	**Pn**	**00 03 07.2**	**-1.9**
CHUJ				*e*S	**Sn**	**00 03 34.0**	**-3.1**
CCIG	**Comitan**	**2.57**	**65**	*e*P	**Pn**	**00 03 12.3**	**+0.5**
CCIG				*i* S	**Sn**	**00 03 43.4**	**+1.5**
PEIG	**Puerto Escondi**	**2.61**	**288**		**Pn**	**00 03 11.4**	**-0.7**
PEIG					**Sn**	**00 03 38.5**	**-4.1**
PEIG	**Puerto Escondi**	**2.61**	**288**	*i* P	**Pn**	**00 03 11.4**	**-0.7**
PEIG				*e*S	**Sn**	**00 03 39.5**	**-3.1**
NEUV	**Arroyo Zacate**	**2.76**	**335**	*i* P	**Pn**	**00 03 13.5**	**-0.8**
NEUV				*i* S	**Sn**	**00 03 50.5**	**+4.2**
OXLC	**Oaxaca**	**2.76**	**312**	*e*P	**Pn**	**00 03 15.7**	**+1.3**
OXLC				*e*S	**Sn**	**00 03 46.9**	**+0.2**
OXBJ	**Oaxaca**	**2.78**	**312**		**Pn**	**00 03 15.7**	**+1.1**
OXBJ					**Sn**	**00 03 47.2**	**+0.1**
OXBJ	**Oaxaca**	**2.78**	**312**	*e*P	**Pn**	**00 03 15.7**	**+1.1**
OXBJ				*e*S	**Sn**	**00 03 47.2**	**+0.1**
OXIG	**Oaxaca**	**2.79**	**312**		**Pn**	**00 03 16.1**	**+1.3**
OXIG					**Sn**	**00 03 47.4**	**+0.1**
VHO	**Vista Hermosa**	**2.79**	**312**	*i* P	**Pn**	**00 03 16.1**	**+1.4**
VHO				*i* S	**Sn**	**00 03 47.4**	**+0.1**
TUIG	**Tuzandepetl**	**2.81**	**3**	*e*P	**Pn**	**00 03 14.6**	**-0.3**
TUIG				*e*S	**Sn**	**00 03 45.9**	**-1.8**
RTAL	**Retalhuleu**	**2.86**	**103**		**Pn**	**00 03 14.8**	**-0.7**
STG3	**Santiaguito 3,**	**2.94**	**99**	*e*P	**Pn**	**00 03 16.2**	**-0.6**
HUEH	**Huehuetenango**	**2.96**	**87**	Pn	**Pn**	**00 03 17.2**	**+0.1**
SULM	**Suchitepequez,**	**3.04**	**107**	*e*P	**Pn**	**00 03 18.3**	**+0.3**
SULM				*e*S	**Sn**	**00 03 56.2**	**+3.0**
YOIG	**Yosondua**	**3.30**	**300**	*e*P	**Pn**	**00 03 23.2**	**+1.4**
YOIG				*e*S	**Sn**	**00 03 56.3**	**-3.8**
PMUV	**Sontecomapan**	**3.36**	**351**	*e*P	**Pn**	**00 03 20.5**	**-2.0**
PMUV				*e*S	**Sn**	**00 03 57.4**	**-3.9**
PNIG	**Pinotepa**	**3.63**	**289**		**Pn**	**00 03 26.0**	**-0.1**
PNIG	**Pinotepa**	**3.63**	**289**	*i* P	**Pn**	**00 03 26.0**	**-0.1**
PNIG				*e*S	**Sn**	**00 04 03.9**	**-3.8**
FUG	**Fuego 3**	**3.68**	**101**	*e*P	**Pn**	**00 03 27.6**	**+0.6**
FUG				*e*S	**Sn**	**00 04 09.9**	**+0.6**
TXIG	**Tlaxiaco**	**3.69**	**304**	*e*P	**Pn**	**00 03 28.9**	**+1.8**
TXIG				*i* S	**Sn**	**00 04 10.4**	**+0.8**
PCG	**Pacaya**	**3.91**	**101**	*e*P	**Pn**	**00 03 31.5**	**+1.3**
PCG				*e*S	**Sn**	**00 04 15.7**	**+0.6**
HLIG	**Huajuapan de L**	**4.06**	**310**		**Pn**	**00 03 34.3**	**+2.1**
HLIG					**Sn**	**00 04 17.8**	**-0.8**
HLIG	**Huajuapan de L**	**4.06**	**310**	*e*P	**Pn**	**00 03 33.9**	**+1.8**
HLIG				*e*S	**Sn**	**00 04 17.8**	**-0.8**
NBG	**Las Nubes**	**4.12**	**98**	*e*P	**Pn**	**00 03 35.8**	**+2.6**
TPIG	**Tehuac#an**	**4.17**	**320**		**Pn**	**00 03 36.5**	**+2.8**
TPIG					**Sn**	**00 04 21.7**	**+0.4**
TPIG	**Tehuac#an**	**4.17**	**320**	*e*P	**Pn**	**00 03 36.5**	**+2.8**
TPIG				*e*S	**Sn**	**00 04 20.2**	**-1.1**
FTIG	**Fresnillo de T**	**4.35**	**309**		**Pn**	**00 03 38.4**	**+2.3**
FTIG					**Sn**	**00 04 22.7**	**-3.0**
FTIG	**Fresnillo de T**	**4.35**	**309**	*e*P	**Pn**	**00 03 38.4**	**+2.3**
FTIG				*e*S	**Sn**	**00 04 24.4**	**-1.2**
TLIG	**Tlapa**	**4.50**	**302**	*i* P	**Pn**	**00 03 40.2**	**+2.1**
TLIG				*e*S	**Sn**	**00 04 29.0**	**-0.3**
CRIG	**Cruz Grande**	**4.65**	**290**		**Pn**	**00 03 40.7**	**+0.6**
CRIG					**Sn**	**00 04 27.1**	**-5.7**
CRIG	**Cruz Grande**	**4.65**	**290**	*e*P	**Pn**	**00 03 40.7**	**+0.6**
CRIG				*e*S	**Sn**	**00 04 27.1**	**-5.7**
JAUV	**Jalcomulco**	**4.66**	**333**	*e*P	**Pn**	**00 03 38.8**	**-1.5**
JAUV				*e*S	**Sn**	**00 04 29.3**	**-3.8**
PETF	**Flores**	**4.83**	**69**	Pn	**Pn**	**00 03 41.9**	**-0.7**
LVIG	**Laguna Verde**	**4.83**	**339**	*e*P	**Pn**	**00 03 41.4**	**-1.2**
LVIG				*e*S	**Sn**	**00 04 29.7**	**-7.5**
SCIG	**Sabancuy**	**4.94**	**40**	*e*P	**Pn**	**00 03 43.3**	**-0.9**
SCIG				*e*S	**Sn**	**00 04 34.6**	**-5.4**
ESQI	**Esquipulas**	**5.09**	**97**		**Pn**	**00 03 46.8**	**+0.5**
MTO3	**Montecristo**	**5.10**	**98**	Pn	**Pn**	**00 03 46.0**	**-0.5**
DAIG	**Los Arroyos**	**5.21 291**			**Pn**	**00 03 48.8**	**+0.9**
DAIG					**Sn**	**00 04 40.9**	**-5.8**
DAIG	**Los Arroyos**	**5.21 291**		*e*P	**Pn**	**00 03 48.7**	**+0.8**
DAIG				*e*S	**Sn**	**00 04 43.6**	**-3.1**
SNET	**Serv Nac Est T**	**5.38 106**	Pn		**Pn**	**00 03 49.2**	**-1.1**
PPM	**Popocatepetl**	**5.46 315**		*e*P	**Pn**	**00 03 55.7**	**+4.0**
PPM				*e*S	**Sn**	**00 04 54.8**	**+1.3**
PPIG	**Popocatepetl**	**5.46 315**			**Pn**	**00 03 55.7**	**+3.9**
PPIG					**Sn**	**00 04 54.8**	**+1.2**
MEIG	**Mezcala**	**5.55 300**			**Pn**	**00 03 55.3**	**+2.7**
MEIG					**Sn**	**00 04 50.9**	**-4.3**
MEIG	**Mezcala**	**5.55 300**		*e*P	**Pn**	**00 03 55.3**	**+2.7**
MEIG				*e*S	**Sn**	**00 04 50.9**	**-4.3**
AMVM	**AMECAMECA**	**5.61 315**		*e*P	**Pn**	**00 03 53.7**	**0.0**
AMVM				*e*S	**Sn**	**00 05 01.9**	**+4.9**
YAIG	**Yautepec**	**5.63 311**			**Pn**	**00 03 56.9**	**+3.1**
YAIG					**Sn**	**00 04 55.3**	**-2.1**
YAIG	**Yautepec**	**5.63 311**		*e*P	**Pn**	**00 03 56.9**	**+3.1**
YAIG				*e*S	**Sn**	**00 04 55.3**	**-2.1**
PLIG	**Platanillo**	**5.69 305**			**Pn**	**00 03 57.5**	**+3.0**
PLIG					**Sn**	**00 04 57.9**	**-0.8**
PLIG	**Platanillo**	**5.69 305**		*e*P	**Pn**	**00 03 57.5**	**+3.0**
PLIG				*e*S	**Sn**	**00 04 57.9**	**-0.8**
CXUV	**Coxquihui**	**5.72 330**		*e*P	**Pn**	**00 03 54.2**	**-0.6**
CXUV				*e*S	**Sn**	**00 04 53.8**	**-5.5**
CAIG	**El Cayaco**	**5.78 289**			**Pn**	**00 03 56.8**	**+1.1**
CAIG					**Sn**	**00 04 54.9**	**-5.7**
CAIG	**El Cayaco**	**5.78 289**		*e*P	**Pn**	**00 03 56.8**	**+1.1**
CAIG				*e*S	**Sn**	**00 04 54.9**	**-5.7**
MPVM	**San Francisco**	**5.82 314**		*e*P	**Pn**	**00 03 59.8**	**+3.4**
MPVM				*e*S	**Sn**	**00 05 05.9**	**+3.9**
TLVM	**San Miguel Top**	**5.92 313**		*e*P	**Pn**	**00 04 00.9**	**+3.0**
TLVM				*e*S	**Sn**	**00 05 11.4**	**+6.7**
UNM	**Universidad Na**	**6.02 314**	Pn		**Pn**	**00 04 01.1**	**+1.9**
PBVM	**Pinon**	**6.03 315**		*e*P	**Pn**	**00 04 00.9**	**+1.8**
PBVM				*e*S	**Sn**	**00 05 05.4**	**-1.4**
VTVM	**Tizayuca**	**6.06 319**		*e*P	Pn	00 04 10.9	+11
VTVM				*e*S	**Sn**	**00 05 12.2**	**+4.1**
CJVM	**Cuajimalpa**	**6.12 313**		*e*S	Sn	00 05 00.7	-8.7
INVM	**La Marquesa**	**6.14 312**		*e*P	**Pn**	**00 04 04.8**	**+3.8**
INVM				*e*S	**Sn**	**00 05 11.4**	**+1.4**
PTVM	**Pico Tres Padr**	**6.15 316**		*e*P	**Pn**	**00 04 00.5**	**-0.6**
PTVM				*e*S	**Sn**	**00 05 09.9**	**-0.4**
ARIG	**Puente Sto Nin**	**6.33 300**			**Pn**	**00 04 06.3**	**+3.1**
ARIG					**Sn**	**00 05 12.3**	**-2.0**
ARIG	**Puente Sto Nin**	**6.33 300**		*i* P	**Pn**	**00 04 06.3**	**+3.1**
ARIG				*e*S	**Sn**	**00 05 12.3**	**-2.0**
TOVM	**TOLUCA**	**6.35 310**		*e*P	**Pn**	**00 04 07.5**	**+3.8**
TOVM				*i* S	**Sn**	**00 05 14.3**	**-0.8**
DHIG	**Demacu**	**6.62 321**			**Pn**	**00 04 10.0**	**+2.6**
DEIG	**Demacu**	**6.62 321**		*e*P	**Pn**	**00 04 10.0**	**+2.6**
DEIG				*e*S	**Sn**	**00 05 29.3**	**+7.6**
ATVM	**ATLACOMULCO**	**6.77 313**		*e*P	Pn	00 04 26.4	+17
ATVM				*e*S	**Sn**	**00 05 29.5**	**+4.0**
ZIIG	**Zihuatanejo**	**7.04 291**			**Pn**	**00 04 15.2**	**+2.3**
ZIIG					Sn	00 05 23.7	-8.0
ZIIG	**Zihuatanejo**	**7.04 291**		*e*P	**Pn**	**00 04 14.8**	**+1.8**
ZIIG				*e*S	**Sn**	**00 05 28.3**	**-3.4**
TGUH	**Tegucigalpa,Un**	**7.15 98**	Pn		**Pn**	**00 04 14.9**	**+0.3**
CTUV	**Llano Grande**	**7.20 331**		*e*P	**Pn**

comp=Z,40nm,0.8s
MNHN Monahans 17.72 336 P P 00 06 37.6 +1.2
MNHN IAmb IAmb 00 06 43.6
comp=Z,42nm,0.9s
PLPT Palo Pinto 17.86 350 P P 00 06 38.6 +0.7
PLPT IAmb IAmb 00 06 58.0
comp=Z,32nm,0.7s
FW06 Azle 17.89 352 P P 00 06 39.8 +1.5
FW06 IAmb IAmb 00 06 57.0
comp=Z,78nm,1.0s
ABTX Abilene, Hawle 17.94 346 P Pn 00 06 38.8 +0.1
ABTX IAmb IAmb 00 06 44.0
comp=Z,31nm,0.8s
Z38A Mt. Pleasant 17.98 359 P Pn 00 06 38.7 -0.4
Z38A IAmb IAmb 00 06 49.6
comp=Z,29nm,0.8s
FW03 Perrin-Whitt E 18.04 350 P Pn 00 06 39.2 -0.7
FW03 IAmb IAmb 00 06 59.5
comp=Z,79nm,1.3s
Z41A Richland Creek 18.04 5 P Pn 00 06 39.5 -0.3
PECS Pecos 18.20 334 P Pn 00 06 42.9 +1.0
PECS IAmb IAmb 00 06 59.8
comp=Z,13nm,0.9s
Z35A Perchaven, San 18.21 353 P Pn 00 06 42.1 +0.2
Z35A IAmb IAmb 00 07 01.3
comp=Z,48nm,1.1s
425A Indio Mountain 18.21 330 Pn 00 06 43.3 +1.1
ODSA Odessa 18.34 338 Pn 00 06 44.8 +1.1
ODSA IAmb IAmb 00 06 48.6
comp=Z,35nm,0.8s
352A Blakely 18.44 27 P Pn 00 06 44.0 -0.7
352A IAmb IAmb 00 06 56.3
comp=Z,21nm,0.9s
WLAR White Oak Lake 18.45 4 P P 00 06 43.1 -1.2
WLAR IAmb IAmb 00 07 09.3
comp=Z,23nm,1.0s
SN01 Snyder 1 18.49 343 P P 00 06 44.3 -0.6
SN01 IAmb IAmb 00 06 50.3
comp=Z,18nm,0.6s
APMT Aspermont 18.73 345 P Pn 00 06 48.4 +0.2
APMT IAmb IAmb 00 06 53.3
comp=Z,27nm,0.8s
CCAR Cane Creek 18.80 7 P Pn 00 06 49.2 +0.2
CCAR IAmb IAmb 00 06 59.1
comp=Z,37nm,1.2s
WTFS Witchita Falls 18.81 350 P P 00 06 47.2 -1.1
WTFS IAmb IAmb 00 07 24.3
comp=Z,21nm,0.8s
LOOK Love County 18.85 353 P P 00 06 48.5 -0.3
Z47A Carrollton 18.86 17 P P 00 06 48.2 -0.6
Z47A IAmb IAmb 00 06 59.7
comp=Z,44nm,1.5s
POST Post 18.86 342 P P 00 06 48.6 -0.3
POST IAmb IAmb 00 06 54.0
comp=Z,31nm,0.8s
MNTX Cornudas Mount 19.16 331 P Pn 00 06 54.1 +0.7
DKNS Dickens 19.26 344 P P 00 06 54.1 +0.7
DKNS IAmb IAmb 00 06 58.8
comp=Z,76nm,1.1s
MIAR Mount Ida 19.28 2 P P 00 06 53.0 -0.4
MIAR IAmb IAmb 00 07 02.6
comp=Z,23nm,1.3s
X37A Clayton 19.31 358 P Pn 00 06 55.0 -0.2
X37A IAmb IAmb 00 07 10.5
comp=Z,15nm,0.7s
X34A Smith Ranch, M 19.53 352 P 00 06 56.5 +0.2
152A Waverly Hall 19.55 26 P P 00 06 54.9 -1.6
WMOK Wichita Mounta 19.82 350 P Pn 00 07 00.8 -0.4
MSTX Muleshoe 20.10 340 P P 00 07 03.2 +0.6
OKCSW OKLAHOMA CITY 20.28 353 P Pn 00 07 06.2 -0.4
X48A Hartselle 20.33 18 P Pn 00 07 06.1 -1.1
SMWD Samnorwood 20.46 347 P P 00 07 06.6 +0.2
SMWD IAmb IAmb 00 07 23.5
comp=Z,26nm,0.6s
AMTX Amarillo 20.61 343 P P 00 07 08.6 +0.5
DEOK Depew 20.62 356 P 00 07 08.0 -0.1
DEOK IAmb IAmb 00 07 21.8
comp=Z,17nm,0.7s
TUL3 Leonard 20.65 357 P P 00 07 08.4 0.0
TUL3 IAmb IAmb 00 07 32.9
comp=Z,18nm,0.9s
OK029 Liberty Lake 20.67 353 P P 00 07 09.7 +1.1
OK029 IAmb IAmb 00 07 32.7
comp=Z,27nm,1.0s
CSTR Hydro, Custer 20.69 350 P Pn 00 07 10.3 -1.2
FCAR Ozark Folk Cen 20.71 6 P P 00 07 08.8 -0.3
OK031 S. Brethren Rd 20.76 355 P 00 07 09.7 +0.1
OK031 IAmb IAmb 00 07 36.9
comp=Z,32nm,1.2s
OK052 Battle Ridge R 20.80 355 P 00 07 10.1 +0.1
OK052 IAmb IAmb 00 07 14.0
comp=Z,20nm,0.7s
OK033 Mehan 20.86 355 P 00 07 11.8 +1.2
OK033 IAmb IAmb 00 07 34.3
comp=Z,26nm,1.0s
Y52A Lilburn 20.86 25 P Pn 00 07 12.0 -1.6
Y52A IAmb IAmb 00 07 26.0
comp=Z,13nm,0.9s
RLO Rose Lookout 20.88 359 P P 00 07 11.5 +0.7
RLO IAmb IAmb 00 07 32.3
comp=Z,8.7nm,0.6s
319A Douglas 20.98 323 P P 00 07 13.8 +1.7
319A IAmb IAmb 00 07 34.3
comp=Z,24nm,1.0s
HHAR Hobbs 21.00 1 P P 00 07 11.6 -0.5
LCAR Lake Charles 21.00 8 P Pn 00 07 13.5 -1.7
LCAR IAmb IAmb 00 07 26.6
comp=Z,17nm,1.3s
121A Cookes Peak, D 21.03 327 P P 00 07 14.4 +1.7
YOTC Yotoco, Valle 21.12 120 *eP* **P 00 07 15.4 +1.6**
ELIS Ellis County 21.22 349 P 00 07 16.5 +1.9
OK048 Pawnee Station 21.23 355 IAmb IAmb 00 07 32.5
comp=Z,19nm,0.9s
JAMC Jamundi, Valle 21.28 122 *eP* **P 00 07 16.8 +1.2**
OK051 E0350 and S346 21.31 355 P P 00 07 16.2 +0.7
GUY2C Guyana, Caldas 21.32 116 *eP* **P 00 07 17.9 +1.6**
BBAC Balboa, Cauca 21.53 126 *eP* **P 00 07 20.1 +1.9**
NORC Norcasia 21.59 114 *eP* **P 00 07 19.9 +1.2**
POPC Popayan, Colom 21.67 124 *eP* **P 00 07 22.0 +2.3**
T35A Sooner Cattle 21.69 356 P P 00 07 18.3 -1.3
T35A IAmb IAmb 00 07 39.1
comp=Z,27nm,1.0s
NOKA Waynoka 21.69 350 P 00 07 19.8 +0.2
OK035 E0210 Rd and N 21.73 351 P 00 07 19.4 -0.6
DUN6 Lazy B Ranch 21.74 325 P P 00 07 19.9 -0.4
OK032 Salt Plains WL 21.75 352 P 00 07 19.1 -1.1
OTAV Otavalo 21.79 132 P P 00 07 20.4 -0.9
KAN13 South Haven SW 21.87 354 P P 00 07 19.9 -1.6
KAN13 IAmb IAmb 00 07 33.4
comp=Z,17nm,0.6s
KAN14 Manchester OK 21.87 353 P P 00 07 21.1 -0.4
KAN14 IAmb IAmb 00 07 52.6
comp=Z,11nm,0.7s
TULM Tulcn-Chalpat 21.95 129 P P 00 07 23.9 +0.8
TULM IAmb IAmb 00 07 31.0
comp=Z,13nm,1.0s
TULM Tulcn-Chalpat 21.95 129 *eP* **P 00 07 27.4 +4.3**
KAN01 Argonia South 22.04 353 IAmb IAmb 00 07 26.6
comp=Z,16nm,0.8s
ORTC Ortega, Tolima 22.09 119 *eP* **P 00 07 26.2 +2.2**
KAN12 Harper NE Stat 22.21 353 P P 00 07 25.1 -0.1
RTBA Rita Blanca 22.37 342 P P 00 07 27.5 +0.6
RTBA IAmb IAmb 00 07 33.7
comp=Z,46nm,1.0s
ANMO Albuquerque 22.38 334 P P 00 07 27.7 +0.6
ANMO Albuquerque 22.38 334 LR LR 00 17 37.3
comp=Z,86nm,21.1s,baz=230,slow=40
ROSC El Rosal 22.41 115 P P 00 07 28.2 +0.3
ROSC El Rosal 22.41 115 P P 00 07 26.3 -1.7
comp=Z,5.6nm,0.4s,baz=307,slow=20,SNR=2.1
ROSC LR LR 00 16 37.0
comp=Z,84nm,19.1s,baz=354,slow=38
comp=Z,5.6nm,0.4s
S39A Bolivar 22.42 3 P P 00 07 27.3 -0.1
SLOR San Lorenzo - 22.43 134 P P 00 07 28.9 +0.7
PRAC Prado 22.49 119 *eP* **P 00 07 28.6 +0.2**
TUC Tucson 22.54 322 P P 00 07 28.1 -0.7
TKL Tuckaleechee C 22.54 23 LR LR 00 17 10.8
comp=Z,69nm,20.1s,baz=162,slow=39
U49A Red Boiling Sp 22.62 19 P P 00 07 27.3 -2.2
BARC Barichara 22.66 110 *eP* **P 00 07 31.2 +0.8**
PIAT Ana Tenorio 22.79 134 *eP* **P 00 07 34.2 +2.4**
CHIC Chingaza 23.03 115 *eP* **P 00 07 36.7 +2.3**
RUSC La Rusia 23.04 111 *eP* **P 00 07 33.6 -1.0**

R32A Long Quarter, 23.41 352 P **P 00 07 37.0 -0.5**
T25A Trinidad 23.53 340 P **P 00 07 39.9 +1.0**
T25A IAmb IAmb 00 07 51.7
comp=Z,15nm,0.9s
X18A Snowflake 23.71 327 P **P 00 07 42.4 +1.8**
X18A IAmb IAmb 00 07 48.7
comp=Z,8.4nm,0.8s
CBKS Cedar Bluff 23.95 350 P **P 00 07 43.3 +0.7**
CBKS IAmb IAmb 00 07 48.7
comp=Z,20nm,0.9s
BOSC San Juan Bosco 24.20 138 P **P 00 07 46.6 +1.3**
SDV Santo Domingo 24.22 102 P **P 00 07 44.5 -1.0**
SDV IAmb IAmb 00 07 47.8
comp=Z,8.6nm,0.9s
SDV Santo Domingo 24.22 102 LR LR 00 18 08.3
comp=Z,123nm,19.6s,baz=248,slow=39
MCRA Macar, Loja 24.25 142 P **P 00 07 45.2 -0.3**
X16A Lo Mia Camp, P 24.44 325 P **P 00 07 49.5 +2.2**
SDCO Great Sand Dun 24.45 339 P **P 00 07 46.5 -1.0**
SDCO IAmb IAmb 00 07 54.9
comp=Z,15nm,1.1s
S22A 4UR Ranch, Cre 24.94 336 P **P 00 07 53.3 +1.4**
MVCO Mesa Verde 25.17 333 P **P 00 07 53.9 0.0**
MVCO IAmb IAmb 00 08 16.8
comp=Z,12nm,1.2s
WUAZ Wupatki 25.22 326 P **P 00 07 56.0 +1.7**
WUAZ IAmb IAmb 00 08 06.1
comp=Z,15nm,1.1s
SMCO Snowmass 26.25 338 P **P 00 08 01.7 -2.2**
SMCO IAmb IAmb 00 08 15.9
comp=Z,12nm,1.2s
ISCO Idaho Springs 26.34 341 P **P 00 08 05.4 +0.7**
U15A North Rim 26.39 326 P **P 00 08 05.4 +0.2**
OGNE Ogallala 26.45 347 P **P 00 08 06.3 +0.9**
OGNE IAmb IAmb 00 08 21.8
comp=Z,14nm,0.8s
PFO Pinyon Flats O 26.98 317 LR LR 00 19 53.3
comp=Z,121nm,19.8s,baz=84,slow=38
ATAH Atahualpa 27.38 143 LR LR 00 17 26.0
comp=Z,152nm,18.9s,baz=338,slow=33
N23A Red Feather La 27.44 341 P **P 00 08 10.5 -4.0**
N23A IAmb IAmb 00 08 26.2
comp=Z,8.5nm,1.1s
MSU Marysvale 27.93 330 P 00 08 18.5 -0.3
TMUT Trail Mountain 28.09 332 P **P 00 08 21.9 +1.5**
RWWY Rawlins 28.57 340 P **P 00 08 24.3 -0.2**
RWWY IAmb IAmb 00 08 32.3
comp=Z,12nm,1.2s
PCRV Puerto La Cruz 29.61 96 LR LR 00 22 31.6
comp=Z,47nm,19.3s,slow=41
TCUT Toone Canyon 29.67 334 P **P 00 08 34.2 -0.1**
TCUT IAmb IAmb 00 08 43.2
comp=Z,7.7nm,0.9s
HWUT Hardware Ranch 30.14 334 P **P 00 08 38.1 -0.2**
PDAR Pinedale Array 30.33 338 P **P 00 08 41.0 +0.8**
comp=Z,0.8nm,1.0s,baz=129,slow=7.1,SNR=4.6
comp=Z,0.8nm,1.0s
HVU Hansel Valley 30.80 333 P **P 00 08 44.1 -0.1**
HVU IAmb IAmb 00 08 58.8
comp=Z,8.3nm,1.4s
AHID Auburn Hatcher 30.92 336 P **P 00 08 45.2 0.0**
F42A Maple Grove Fa 30.93 9 P **P 00 08 46.9 +1.8**
ELK Elko 31.16 329 P **P 00 08 47.3 -0.1**
NVAR Mina Array Bea 31.19 322 P **P 00 08 50.1 +2.3**
NVAR Mina Array Bea 31.19 322 P **P 00 08 50.7 +2.9**
comp=Z,2.5nm,1.0s,baz=143,slow=9.1,SNR=11
NVAR LR LR 00 22 57.7
comp=Z,294nm,18.2s,baz=116,slow=39
comp=Z,2.5nm,1.0s
REDW Red Top Meadow 31.33 337 P **P 00 08 49.0 +0.2**
SNOW Snow King Moun 31.38 337 P **P 00 08 49.7 +0.4**
CZSB Cruzeiro do Su 31.45 135 P **P 00 08 49.0 -0.9**
LOHW Long Hollow 31.45 337 P **P 00 08 50.4 +0.5**
LOHW IAmb IAmb 00 09 06.5
comp=Z,11nm,1.5s
TPAW Teton Pass 31.48 337 P **P 00 08 50.8 +0.6**
TPAW IAmb IAmb 00 09 08.2
comp=Z,9.4nm,1.2s
FXWY Fox Creek 31.63 337 P **P 00 08 53.0 +1.4**
NNA Nana 32.22 146 LR LR 00 19 14.4
comp=Z,108nm,21.6s,baz=342,slow=31
YNE Yellowstone No 32.45 339 P **P 00 09 00.0 +1.3**
YNE IAmb IAmb 00 09 03.6
comp=Z,4.2nm,1.0s
DELO Deloro Mine 32.56 23 P **P 00 08 58.6 -0.8**
HLID Hailey 32.95 333 P **P 00 09 03.9 +0.8**
DLMT Dillon 33.69 337 P **P 00 09 09.8 +0.4**
DLMT IAmb IAmb 00 09 14.5
comp=Z,7.6nm,1.1s
WVOR Wild Horse Val 34.13 327 P **P 00 09 13.8 +0.6**
WVOR IAmb IAmb 00 09 17.2
comp=Z,11nm,1.5s
J08A Circle Bar Ran 34.71 329 P **P 00 09 18.3 0.0**
J08A IAmb IAmb 00 09 21.6
comp=Z,4.6nm,0.8s
PLID Pearl Lake 34.86 333 P **P 00 09 19.8 +0.1**
PLID IAmb IAmb 00 09 32.4
comp=Z,6.6nm,0.9s
ULM Lac du Bonnet 34.97 359 LR LR 00 26 14.8
comp=Z,52nm,18.6s,baz=292,slow=41
CHMT Chamberlain Mo 35.24 338 P **P 00 09 24.0 +1.1**
YBH Yreka Blue Hor 35.90 323 LR LR 00 25 03.4
comp=Z,169nm,21.1s,baz=158,slow=38
F10A Beach Ranch, E 36.09 333 P **P 00 09 30.2 +0.1**
F10A IAmb IAmb 00 09 44.3
comp=Z,9.2nm,1.0s
J05D Fort Rock, OR 36.09 326 P **P 00 09 30.5 +0.3**
HAWA Hanford 37.45 331 P **P 00 09 43.3 +1.8**
HAWA IAmb IAmb 00 10 10.9
comp=Z,6.3nm,1.3s
ETMB Extrema 37.52 130 P **P 00 09 41.7 -0.7**
ETMB IAmb IAmb 00 09 43.3
comp=Z,7.5nm,1.0s
NEW Newport 37.84 335 LR LR 00 28 02.4
comp=Z,136nm,19.4s,baz=184,slow=40
C09A Chrisman Ranch 37.96 334 P **P 00 09 47.1 +1.3**
C09A IAmb IAmb 00 10 02.2
comp=Z,4.7nm,0.9s
F03A Seaside 39.10 328 P **P 00 09 57.1 +1.7**
SAML Samuel 39.28 126 P **P 00 09 55.5 -1.8**
EDM Edmonton 40.72 343 P **P 00 10 10.3 +1.4**
EDM IAmb IAmb 00 10 17.7
comp=Z,7.2nm,0.9s
LPAZ La Paz 40.75 139 P **P 00 10 09.3 -0.8**
LPAZ La Paz 40.75 139 P **P 00 10 10.6 +0.5**
comp=Z,1.4nm,0.6s,baz=334,slow=7.4,SNR=6.0
LPAZ LR LR 00 27 39.0
comp=Z,69nm,18.1s,baz=284,slow=37
comp=Z,1.4nm,0.6s
MDP Montagnes des 42.39 99 LR LR 00 28 58.2
comp=Z,59nm,20.5s,baz=312,slow=38
SCHQ Schefferville 45.01 22 LR LR 00 32 18.3
comp=Z,94nm,18.1s,baz=272,slow=40
LVC Limon Verde 45.21 146 LR LR 00 28 57.6
comp=Z,59nm,18.9s,baz=336,slow=35
SIV San Ignacio 45.33 132 LR LR 00 29 07.3
comp=Z,72nm,20.2s,baz=293,slow=35
BBB Bella Bella 45.51 332 LR LR 00 32 17.0
comp=Z,88nm,19.8s,baz=215,slow=39
PTLB Pontes e Lacer 46.40 129 P **P 00 10 52.5 -2.4**
PTLB IAmb IAmb 00 10 55.2
comp=Z,4.6nm,1.0s
YKA Yellowknife Ar 49.31 348 P **P 00 11 16.5 -0.3**
comp=Z,1.5nm,0.7s,baz=154,slow=7.5,SNR=4.1
comp=Z,1.5nm,0.7s
CPUP Villa Florida 54.91 138 P **P 00 11 58.4 -0.6**
comp=Z,1.8nm,0.8s,baz=336,slow=8.8,SNR=3.4
CPUP LR LR 00 36 35.7
comp=Z,50nm,19.1s,baz=24,slow=37
comp=Z,1.8nm,0.8s
BDFB Brasilia 55.26 122 P **P 00 12 02.2 +0.4**
comp=Z,3.2nm,0.8s,baz=306,slow=7.3,SNR=4.9
comp=Z,3.2nm,0.8s
M29M Somme Creek 56.34 337 P **P 00 12 09.6 +0.8**
M29M IAmb IAmb 00 12 25.3
comp=Z,5.0nm,0.9s
PLCA Paso Flores 59.95 159 P **P 00 12 36.1 +1.8**
comp=Z,3.5nm,0.7s,baz=341,slow=9.0,SNR=5.7
comp=Z,3.5nm,0.7s
ILAR Eielson Array 60.76 337 P **P 00 12 40.0 +0.5**
comp=Z,0.9nm,1.0s,baz=147,slow=3.6,SNR=7.0
comp=Z,0.9nm,1.0s
DAG Danmarks Havn 72.07 14 *i* P **P 00 13 50.0 -1.6**
EKA Eskdalemuir Ar 78.44 36 P **P 00 14 27.1 -1.5**
comp=Z,5.0nm,0.9s,baz=285,slow=5.6,SNR=8.0
comp=Z,5.0nm,0.9s

ESDC Sonseca Array 80.91 51 P **P 00 14 40.3 -2.1**
comp=Z,1.3nm,1.0s,baz=276,slow=4.5,SNR=5.1
comp=Z,1.3nm,1.0s
DOU Dourbes 84.24 40 *d*P **P 00 14 58.3 -1.1**
DOU *d*PcP **PcP 00 15 01.7 -1.4**
NB2 NORSAR Subarra 84.26 28 P **P 00 14 59.6 +0.2**
comp=Z,3.1nm,1.0s,baz=291,slow=5.3
NOA NORSAR Array B 84.26 28 P **P 00 14 59.6 +0.2**
comp=Z,2.1nm,1.0s,baz=292,slow=5.2,SNR=3.7
comp=Z,2.1nm,1.0s
BGES Gesves 84.45 39 *d*P **P 00 15 00.7 +0.2**
ARCES ARCESS Array B 85.76 18 P **P 00 15 06.4 -0.3**
comp=Z,6.5nm,0.9s,baz=298,slow=6.0,SNR=4.9
comp=Z,6.5nm,0.9s
ASAR Alice Springs 133.71 252 PKP **PKPdf 00 21 45.4 +0.2**
comp=Z,0.3nm,0.6s,baz=95,slow=1.6,SNR=2.7
PZH PanZhiHua 135.61 339 PKP **PKPdf 00 21 48.0 -0.9**

---

*NEIC **31** 00:03:09.6±1.9, 35.°1S±0.°1×54.°2E±0.°1, h10km±1km, mb4.9/33, Error ellipse: s-maj=19.8km s-min=16.3km az=226.0*
*IDC **31** 00:03:10.8±1.1, 35.°13S×54.°17E, h0km, mb3.9/4, mbtmp3.9/4, MS3.4/2, Error ellipse: s-maj=50.6km s-min=31.2km az=29.0*
ISC 31 00:03:09.6±0.5, 35.°04S±0.°09×54.°21E±0.°10, h10km, n55, σ1§52/43, mb4.9/21, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**11.27**	**189**	T	T	00 16 39.4	
	baz=10.0,slow=75,SNR=185						
H04N2	**CROZET ISLANDS**	**11.27**	**189**	T	T	00 16 38.2	
	baz=10.0,slow=75,SNR=223						
H04N3	**CROZET ISLANDS**	**11.28**	**189**	T	T	00 16 38.4	
	baz=10.0,slow=75,SNR=225						
FOMA	**Nahampoana Res**	**11.82**	**326**	Pn	**Pn**	**00 05 58.8**	**+0.5**
RER	**Riviere de l'E**	**13.89**	**6**	Pn	**Pn**	**00 06 26.2**	**-0.5**
BOSA	**Boshof**	**25.37**	**277**	P	**P**	**00 08 38.0**	**+0.9**
LBTB	**Lobatse**	**26.63**	**284**	P	**P**	**00 08 48.1**	**-0.5**
MSEY	**Mahe Island**	**30.23**	**3**	P	**P**	**00 09 20.0**	**-0.6**
MSEY				IAmb	IAmb	00 09 20.5	
	comp=Z,21nm,1.4s						
H08S1	**Diego Garcia H**	**32.01**	**36**	T	T	00 43 38.1	
	baz=208						
H08S2	**Diego Garcia H**	**32.02**	**36**	T	T	00 43 46.9	
	baz=208,slow=74						
H08S3	**Diego Garcia H**	**32.03**	**36**	T	T	00 43 41.9	
	baz=208,slow=74						
MAW	**Mawson**	**32.99**	**174**	LR	LR	00 20 08.6	
	comp=Z,66nm,18.3s,baz=333,slow=31						
KIBK	**Kibwezi**	**35.84**	**332**	P	**P**	**00 10 11.9**	**+2.3**
TSUM	**Tsumeb**	**35.98**	**286**	LR	LR	00 23 40.6	
	comp=Z,47nm,19.0s,baz=168,slow=34						
CASY	**Casey**	**45.03**	**152**	P	**P**	**00 11 24.1**	**-0.9**
H01W2	**Cape Leeuwin H**	**48.43**	**108**	T	T	01 03 32.3	
	baz=251,slow=74,SNR=7.4						
H01W3	**Cape Leeuwin H**	**48.43**	**108**	T	T	01 03 52.4	
	baz=251,slow=74,SNR=7.8						
H01W1	**Cape Leeuwin H**	**48.45**	**108**	T	T	01 03 39.6	
	baz=251,slow=74,SNR=6.9						
MORW	**Morawa**	**52.02**	**102**	P	**P**	**00 12 21.4**	**+2.0**
MORW				IAmb	IAmb	00 12 44.0	
	comp=Z,21nm,1.3s						
XMIS	**Christmas Isla**	**52.67**	**75**	P	**P**	**00 12 25.0**	**+0.6**
QSPA	**South Pole Qui**	**55.15**	**180**	P	**P**	**00 12 43.9**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=290,slow=7.8,SNR=2.6						
	comp=Z,0.8nm,0.3s						
RPSI	**Rantau Prapat**	**56.23**	**58**	P	**P**	**00 12 50.0**	**-0.3**
RPSI				IAmb	IAmb	00 13 02.8	
	comp=Z,16nm,1.2s						
PSA00	**Pilbara Seismi**	**58.40**	**95**	P	**P**	**00 13 04.5**	**-1.1**
MBWA	**Marble Bar**	**58.50**	**95**	P	**P**	**00 13 05.6**	**-0.6**
MBWA				IAmb	IAmb	00 13 24.2	
	comp=Z,23nm,1.4s						
KULM	**Kulim**	**59.28**	**57**	P	**P**	**00 13 10.9**	**-0.8**
KULM				IAmb	IAmb	00 13 12.9	
	comp=Z,36nm,1.5s						
JAGI	**Jajag, Banyuwa**	**60.64**	**79**	P	**P**	**00 13 19.3**	**-1.8**
FORT	**Forrest**	**60.82**	**109**	P	P	00 13 16.9	-5.2
FORT				IAmb	IAmb	00 13 29.8	
	comp=Z,19nm,1.0s						
SRIT	**Nakonsritamara**	**60.98**	**54**	P	**P**	**00 13 22.8**	**-0.6**
SRIT				IAmb	IAmb	00 13 39.5	
	comp=Z,25nm,1.2s						
ORCD	**Orcadas**	**64.21**	**213**	P	**P**	**00 13 42.7**	**-1.5**
ASCN	**Ascension**	**67.96**	**276**	P	**P**	**00 14 06.5**	**-2.6**
ASAR	**Alice Springs**	**68.73**	**105**	P	**P**	**00 14 13.9**	**0.0**
ASAR	**Alice Springs**	**68.73**	**105**	P	**P**	**00 14 17.0**	**+3.1**
	comp=Z,0.7nm,0.6s,baz=232,slow=5.8,SNR=9.8						
	comp=Z,0.7nm,0.6s						
AS31	**Alice Springs**	**68.73**	**105**	P	**P**	**00 14 13.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**69.07**	**304**	P	**P**	**00 14 19.3**	**+3.4**
	comp=Z,1.0nm,1.1s,baz=125,slow=4.9,SNR=4.0						
	comp=Z,1.0nm,1.1s						
MCQ	**Macquarie Isla**	**69.98**	**143**	P	**P**	**00 14 21.7**	**+0.7**
STKA	**Stephens Creek**	**70.59**	**116**	P	**P**	**00 14 26.0**	**+0.7**
WRA	**Warramunga Arr**	**70.96**	**101**	P	**P**	**00 14 30.9**	**+3.2**
	comp=Z,1.1nm,0.6s,baz=235,slow=5.4,SNR=9.6						
	comp=Z,1.1nm,0.6s						
WB2	**Warramunga Arr**	**70.97**	**101**	P	**P**	**00 14 30.2**	**+2.5**
WB0	**Warramunga Arr**	**71.10**	**101**	P	**P**	**00 14 31.2**	**+2.7**
WB0				IAmb	IAmb	00 14 40.8	
	comp=Z,2.4nm,0.8s						
WR0	**Warramunga Arr**	**71.12**	**101**	P	**P**	**00 14 28.9**	**+0.3**
WR0				IAmb	IAmb	00 14 34.8	
	comp=Z,3.0nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**72.69**	**3**	P	**P**	**00 14 36.7**	**-0.8**
GYA0B				IAmb	IAmb	00 14 50.9	
	comp=Z,4.6nm,1.3s						
GAZ	**Gaziantep**	**73.56**	**346**	P	**P**	**00 14 44.0**	**+1.3**
GAZ				IAmb	IAmb	00 14 47.8	
	comp=Z,13nm,1.1s						
CAN	**Canberra**	**74.16**	**122**	P	**P**	**00 14 47.0**	**+0.5**
CAN				IAmb	IAmb	00 15 10.2	
	comp=Z,40nm,1.4s						
ELL	**Elmali**	**74.92**	**340**	P	**P**	**00 14 48.5**	**-2.2**
ARG	**Arkhangelos**	**74.94**	**338**	P	**P**	**00 14 50.0**	**-0.6**
ARG				IAmb	IAmb	00 14 51.5	
	comp=Z,40nm,1.2s						
BNN	**Bunyan**	**75.46**	**345**	P	**P**	**00 14 53.0**	**-0.8**
BNN				IAmb	IAmb	00 15 01.2	
	comp=Z,23nm,1.3s						
BR131	**Keskin Array S**	**76.78**	**344**	P	**P**	**00 15 01.4**	**+0.1**
BR131				IAmb	IAmb	00 15 03.4	
	comp=Z,16nm,1.4s						
BRTR	**Keskin Array B**	**76.78**	**344**	P	**P**	**00 15 01.0**	**-0.3**
KIV	**Kislovodsk**	**79.32**	**352**	P	**P**	**00 15 15.2**	**0.0**
KIV				IAmb	IAmb	00 15 30.6	
	comp=Z,13nm,1.1s						
WDD	**Wied Dalam**	**79.63**	**328**	P	**P**	**00 15 16.3**	**-0.7**
MLZ	**Mavora Lakes**	**80.16**	**139**	P	**P**	**00 15 19.2**	**-0.8**
MLZ				IAmb	IAmb	00 15 41.9	
	comp=Z,32nm,1.4s						
GVZ	**Greta Valley S**	**84.39**	**140**	P	**P**	**00 15 41.2**	**-1.0**
RIOS	**Rincon, Osa**	**133.33**	**246**	PKPpre		00 22 11.9	
RIOS				**PKPdf**		**00 22 26.3**	**-0.2**
CNNC	**Cliffs of the**	**141.14**	**285**	**PKPdf**		**00 22 38.2**	**-2.1**
ILAR	**Eielson Array**	**147.62**	**17**	PKPbc	**PKiKP**	**00 22 55.0**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=307,slow=3.4,SNR=5.6						

DJA 31 00:05:41.2±0.3, 3.°S±2.°×12.°3E±.°, h10km, M4.0/10, mb4.3/2, mB5.2/2, MLv3.9/10, Mw(mB)4.5/2, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**2.08**	**195**	P	Pn	00 06 17.2	+0.9
LUWI	**Luwuk**	**2.43**	**352**	P	Pn	00 06 20.9	0.0
LUWI				S	Sn	00 06 50.4	-0.3
SANI	**Sanana**	**3.20**	**64**	P	Pn	00 06 29.3	-2.3
TTSI	**Tana Toraja**	**3.31**	**277**	P	Pg	00 06 53.2	+8.5
BKSI	**Bulukumba**	**3.51**	**238**	P	Pn	00 06 36.7	+0.9
BKSI				S	Sn	00 07 17.2	-0.2
GTOI	**Gorontalo**	**4.07**	**359**	P	Pn	00 06 45.6	+2.0
MPSI	**Mapaga**	**4.95**	**320**	P	Pn	00 06 55.4	-0.3
EDFI	**Ende, Flores**	**5.44**	**195**	P	Pn	00 07 00.7	-1.8
LEM	**Lembang**	**15.79**	**257**	P	Pn	00 09 15.0	-9.0

---

*NNC **31** 00:09:53.0±0.3, 44.°10N×79.°47E, h0km, mb2.3, mpv2.6, Error ellipse: s-maj=2.5km s-min=1.7km az=86.0*
*SOME **31** 00:09:53.6, 44.°12N×79.°45E, h10km*
ISC 31 00:09:53.4±1.1, 44.°12N±0.°03×79.°46E±0.°03, h7km±15km,

n17,σ0°39/32,1C-1D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNOS	**Konyrlen**	**0.32**	**320**	P	**Pg**	**00 09 60.0**	**+0.3**
	8.0nm,0.1s						
KNOS				S	**Sg**	**00 10 04.5**	**+0.6**
	23nm,0.1s						
DJR	**Jarkent**	**0.32**	**48**	P	**Pg**	**00 09 59.6**	**-0.1**
	3.2nm,0.1s						
DJR				S	**Sg**	**00 10 03.5**	**-0.5**
	12nm,0.1s						
DJR	**Jarkent**	**0.32**	**48**	*e*P	**Pg**	**00 09 59.7**	**-0.1**
	2.6nm,0.0s						
DJR				*e*S	**Sg**	**00 10 03.7**	**-0.3**
	12nm,0.1s						
BLB	**Baldybastay**	**0.71**	**269**	P	**Pg**	**00 10 06.7**	**-0.3**
	2.7nm,0.1s						
BLB				S	**Sg**	**00 10 16.6**	**+0.3**
	20nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**178**	P	**Pg**	**00 10 08.2**	**-0.3**
	0.7nm,0.2s						
PDGK				S	**Sg**	**00 10 18.2**	**-0.6**
	2.0nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**178**	⇑P	**Pg**	**00 10 08.3**	**-0.3**
	0.4nm,0.3s						
PDGK				⇓S	**Sg**	**00 10 19.2**	**+0.4**
	3.1nm,0.5s						
KPKS	**Kokpek**	**0.86**	**221**	P	**Pg**	**00 10 10.0**	**+0.1**
	1.7nm,0.1s						
KPKS				S	**Sg**	**00 10 21.6**	**+0.5**
	8.6nm,0.1s						
KPKS	**Kokpek**	**0.86**	**221**	*e*P	**Pg**	**00 10 10.0**	**+0.1**
	1.7nm,0.1s						
KPKS				*e*S	**Sg**	**00 10 21.6**	**+0.5**
	8.6nm,0.1s						
KTMS	**Ketmen**	**0.93**	**136**	*e*P	**Pg**	**00 10 11.3**	**0.0**
KTMS				*e*S	**Sg**	**00 10 23.8**	**+0.5**
SHLS	**Shalkode**	**0.96**	**180**	*e*P	**Pb**	**00 10 12.5**	**+0.1**
	1.4nm,0.1s						
SHLS				*e*S	**Sb**	**00 10 26.1**	**+0.7**
	2.3nm,0.1s						
UZB	**Uzynbulak**	**1.02**	**198**	P	**Pg**	**00 10 12.8**	**-0.2**
	2.7nm,0.2s						
UZB				S	**Sg**	**00 10 26.1**	**-0.1**
	8.7nm,0.2s						
UZB	**Uzynbulak**	**1.02**	**198**	*e*P	**Pg**	**00 10 12.8**	**-0.2**
	2.7nm,0.2s						
UZB				*e*S	**Sg**	**00 10 26.1**	**-0.1**
	8.7nm,0.2s						
ARXS	**Arharly**	**1.18**	**275**	*e*P	**Pg**	**00 10 15.5**	**-0.6**
	0.4nm,0.1s						
ARXS				*e*S	**Sg**	**00 10 30.6**	**-0.7**
	12nm,0.3s						
SATY	**Saty**	**1.30**	**216**	P	**Pg**	**00 10 18.1**	**-0.3**
	2.0nm,0.1s						
SATY				S	**Sb**	**00 10 35.2**	**-0.2**
	7.0nm,0.1s						
SATY	**Saty**	**1.30**	**216**	*e*P	**Pg**	**00 10 18.1**	**-0.3**
	2.0nm,0.1s						
SATY				*e*S	**Sb**	**00 10 35.2**	**-0.2**
	7.0nm,0.1s						
KTBS	**Karatobe**	**2.05**	**260**	S	**Sb**	**00 10 56.9**	**+0.2**
	1.2nm,0.2s						
KTBS	**Karatobe**	**2.05**	**260**	*e*Pg	**Pb**	**00 10 31.1**	**+0.1**
	1.0nm,0.6s						
KTBS				*e*Lg	Lg	00 10 56.9	
	1.2nm,0.2s						

*LDG **31** 00:16:37.3±1.4,36°.48N×11°.26E,h11km,MI3.7/12,Error ellipse: s-maj=30.6km s-min=25.2km az=109.0*
*IDC **31** 00:16:38.4±0.9,36°.62N×11°.11E,h0km,mb3.7/6, mbtmp3.6/13,ML3.4/7,MS3.2/11,Error ellipse: s-maj=24.8km s-min=13.1km az=143.0*
*TUN **31** 00:16:39.9,36°.60N×11°.09E,h11km±2km,MD4.3*
*MED_RC **31** 00:16:39.0±1.3,36°.72N×11°.15E,h10km,MW4.2/13, Moment Tensor Solution.Mantle waves: s13,c16; Duration: 1ꝏ0 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.23±.16; $M_{\theta\theta}$0.11±.17; $M_{\phi\phi}$0.13±.17; $M_{r\theta}$-0.10±.51; $M_{\theta\phi}$-2.12±.10; $M_{\phi r}$0.21±.43; Best double couple: M_0=2.13000×10^{15} NP1:ϕs0.00000°,δ88.00000°,λ5.00000°. NP2:ϕs270.00000°,δ85.00000°,λ178.00000°. Principal axes: T 2.2600, Plg5.0000°, Azm225.0000°; N -0.2500, Plg84.0000°, Azm20.0000°; P -2.0100, Plg2.0000°, Azm135.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

ISC 31 00:16:40.7±0.6,36°.71N±0°.05×10°.95E±0°.05,h14km,n65, σ2ꝏ20/63,mb3.8/6,MS3.3/6,6C-2D,Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HANT	**Hania**	**0.99**	**208**	*i* P	**Pb**	**00 16 59.4**	**-0.3**
KRIT	**Krib**	**1.55**	**257**	*i* P	**Pb**	**00 17 09.4**	**+0.2**
TROT	**Trozza**	**1.58**	**224**	*i* P	**Pn**	**00 17 08.0**	**-0.4**
BLIT	**Baltah**	**1.60**	**271**	*i* P	**Pb**	**00 17 10.1**	**+0.1**
KEST	**Kesra**	**1.62**	**233**	Pn	**Pn**	**00 17 09.1**	**+0.2**
	18nm,0.3s,baz=133,slow=10,SNR=172						
KEST				Sn	**Sg**	**00 17 33.8**	**+0.9**
	86nm,0.3s,baz=31,slow=18,SNR=9.2						
KEST				LR	LR	00 17 38.4	
	comp=Z,392nm,20.5s,baz=344,slow=36						
BTHT	**Jabal bu Thady**	**1.66**	**199**	*i* P	**Pn**	**00 17 07.9**	**-1.5**
GHAT	**Ghardimaou**	**2.13**	**265**	*i* P	**Pn**	**00 17 16.9**	**+0.9**
MEDT	**Meda**	**2.73**	**198**	*i* P	**Pn**	**00 17 23.3**	**-0.7**
VAE	**Valguarnera**	**2.88**	**73**	Pn	**Pn**	**00 17 25.1**	**-1.1**
	3.6nm,0.3s,baz=198,slow=20,SNR=19						
VAE				Sn	**Sn**	**00 17 57.9**	**-2.7**
	12nm,0.3s,baz=290,slow=21,SNR=7.7						
	12nm,0.4s						
BERT	**Berda**	**2.92**	**213**	*i* P	**Pn**	**00 17 26.8**	**0.0**
SGNT	**Sidi Gnaou**	**3.17**	**196**	*i* P	**Pn**	**00 17 29.0**	**-1.0**
PGF	**Pioggiola**	**6.02**	**346**	*e*Pn	**Pn**	**00 18 11.8**	**+2.4**
PGF				*e*Sn	**Sn**	**00 19 17.1**	**-1.1**
	53nm,0.6s						
LMR	**La Mourre**	**7.44**	**334**	*e*Pn	**Pn**	**00 18 29.8**	**+1.1**
LMR				*e*Sn	**Sn**	**00 19 49.8**	**-3.1**
	4.7nm,0.4s						
SBF	**Sospel**	**7.63**	**341**	*e*Pn	**Pn**	**00 18 32.4**	**+1.0**
SBF				*e*Sn	**Sn**	**00 19 56.1**	**-1.6**
	12nm,0.4s						
SMRF	**Simiane la Rot**	**8.33**	**332**	*e*Pn	**Pn**	**00 18 43.4**	**+2.3**
SMRF				*e*Sn	**Sn**	**00 20 11.0**	**-4.0**
	4.1nm,0.4s						
MBDF	**Montbardon**	**8.61**	**340**	*e*Pn	**Pn**	**00 18 48.7**	**+3.7**
MBDF				*e*Sn	**Sn**	**00 20 18.4**	**-3.5**
	1.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**9.05**	**337**	*e*Pn	**Pn**	**00 18 52.4**	**+1.4**
ORIF				*e*Sn	**Sn**	**00 20 29.5**	**-3.2**
	2.1nm,0.4s						
LASF	**Ste Croix**	**9.13**	**326**	*e*Pn	**Pn**	**00 18 52.1**	**+0.2**
LASF				*e*Sn	**Sn**	**00 20 30.0**	**-4.4**
	6.4nm,0.6s						
LPG	**La Plagne**	**9.33**	**342**	*e*P	Pn	00 19 00.5	+5.6
LPL	**La Plagne**	**9.35**	**341**	*e*P	Pn	00 19 01.3	+6.1
MTLF	**Montolieu**	**9.41**	**317**	*e*Pn	**Pn**	**00 18 56.2**	**+0.4**
MTLF				*e*Sn	**Sn**	**00 20 37.1**	**-4.3**
	11nm,0.6s						
VIVF	**Saint-Julien-I**	**9.42**	**332**	*e*Pn	**Pn**	**00 18 57.5**	**+1.5**
DAVOX	**Davos/Dischmat**	**10.09**	**356**	Pn	Pn	00 19 10.4	+5.1
	0.3nm,0.3s,baz=157,slow=16,SNR=4.9						
DAVOX				Sn	**Sn**	**00 21 03.6**	**+5.2**
	0.2nm,0.3s,baz=336,slow=23,SNR=1.4						
DAVOX				LR	LR	00 22 56.9	
	comp=Z,114nm,20.3s,baz=188,slow=37						
ABTA	**Abfaltersbach**	**10.10**	**6**	*i* Pn	Pn	00 19 10.5	+5.2
	1.8nm,0.6s						
EPF	**Esparros**	**10.30**	**311**	*e*Pn	**Pn**	**00 19 10.0**	**+1.9**
FETA	**Feichten**	**10.30**	**359**	*i* Pn	Pn	00 19 13.2	+5.0
	1.4nm,0.4s						
WTTA	**Wattenberg**	**10.56**	**3**	*e*Pn	Pn	00 19 17.5	+5.8
	0.8nm,0.3s						
DAVA	**Damuels**	**10.60**	**356**	*i* Pn	Pn	00 19 19.1	+6.9
	1.9nm,0.5s						
CAF	**Calviac**	**10.61**	**323**	*e*Pn	**Pn**	**00 19 13.4**	**+1.2**
CAF				*e*Sn	**Sn**	**00 21 06.2**	**-4.6**
	1.4nm,0.4s						
MOTA	**Moosalm**	**10.63**	**1**	*i* Pn	Pn	00 19 18.4	+5.8
	0.7nm,0.3s						
RETA	**Reutte**	**10.77**	**359**	*i* Pn	Pn	00 19 19.9	+5.4
	0.5nm,0.3s						
LESA	**Schwarzleotal**	**10.78**	**6**	*i* Pn	Pn	00 19 19.6	+5.0
	0.7nm,0.3s						
ETSF	**Etsaut**	**10.79**	**308**	*e*Pn	**Pn**	**00 19 16.2**	**+1.5**
RJF	**Les Rejaudoux**	**11.15**	**323**	*e*Pn	**Pn**	**00 19 20.5**	**+0.9**
LFF	**La Frestale**	**11.28**	**320**	*e*Pn	**Pn**	**00 19 22.8**	**+1.5**
SJPF	**Ste Jean**	**11.32**	**308**	*e*Pn	**Pn**	**00 19 23.9**	**+2.0**
IDI	**Anoyia**	**11.39**	**93**	Pn	**Pn**	**00 19 21.1**	**-1.8**
	0.1nm,0.3s,baz=280,slow=17,SNR=1.4						
IDI				Sn	Sn	00 21 19.4	-11
	0.2nm,0.3s,baz=330,slow=22,SNR=1.7						
	3.8nm,0.9s						
BGF	**Bois d'Agland**	**11.55**	**331**	*e*Pn	**Pn**	**00 19 27.9**	**+2.9**
AVF	**Avril sur Loir**	**11.55**	**333**	*e*Pn	**Pn**	**00 19 27.3**	**+2.2**
TCF	**Toulx Ste Croi**	**11.59**	**328**	*e*Pn	**Pn**	**00 19 26.5**	**+0.9**
ESDC	**Sonseca Array**	**12.10**	**289**	Pn	**Pn**	**00 19 35.4**	**+2.8**
	0.2nm,0.3s,baz=96,slow=14,SNR=20						
ESDC				Sn	**Sn**	**00 21 45.7**	**-1.6**
	0.1nm,0.3s,baz=95,slow=25,SNR=2.2						
ESDC				LR	LR	00 24 03.4	
	comp=Z,144nm,18.4s,baz=98,slow=36						
	2.1nm,0.7s						
GERES	**GERESS Array B**	**12.29**	**9**	Pn	**Pn**	**00 19 35.8**	**+0.4**
	0.1nm,0.3s,baz=176,slow=8.2,SNR=1.7						
GERES				LR	LR	00 24 40.2	
	comp=Z,113nm,19.9s,baz=198,slow=39						
	0.2nm,0.5s						
MDT	**Midelt**	**13.36**	**258**	Pn	**Pn**	**00 19 51.8**	**+1.8**
	0.1nm,0.3s,baz=98,slow=13,SNR=2.4						
MDT				LR	LR	00 24 50.6	
	comp=Z,43nm,18.0s,baz=68,slow=36						
	0.6nm,0.7s						
VOIR		**13.74**	**46**	⇑P	**P**	**00 20 05.3**	**+1.6**
TRPA	**Tarpa**	**14.25**	**33**	⇑P	**P**	**00 20 10.6**	**+1.4**
MLR	**Muntele Rosu**	**14.29**	**48**	⇑P	**P**	**00 20 11.3**	**+1.4**
MLR	**Muntele Rosu**	**14.29**	**48**	Pn	**P**	**00 20 10.0**	**+0.2**
	0.2nm,0.3s,baz=313,slow=18,SNR=10						
MLR				LR	LR	00 26 57.3	
	comp=Z,145nm,19.2s,baz=280,slow=43						
ODBI	**Odobesti**	**15.10**	**48**	⇑P	**P**	**00 20 19.1**	**+0.4**
BURAR	**Bucovina Array**	**15.16**	**40**	⇑P	**P**	**00 20 22.2**	**+2.7**
BIZ	**Bicaz**	**15.21**	**43**	⇓P	**P**	**00 20 26.4**	**+6.5**
CFR	**Carcaliu**	**15.48**	**52**	⇓P	**P**	**00 20 23.5**	**+0.6**
MILM	**Milestii Mici**	**16.74**	**47**	⇑P	**P**	**00 20 36.1**	**-0.7**
BRTR	**Keskin Array B**	**18.08**	**74**	P	**Pn**	**00 20 50.1**	**-1.3**
	baz=281,slow=1.7,SNR=2.5						
	0.9nm,0.8s						
AKASG	**Malin Array Be**	**19.17**	**37**	P	**P**	**00 21 02.8**	**-0.8**
	0.8nm,0.3s,baz=230,slow=9.9,SNR=13						
	2.2nm,0.6s						
MMAI	**Mount Meron Ar**	**20.39**	**93**	LR	LR	00 32 43.2	
	comp=Z,39nm,18.2s,baz=98,slow=48						
HFS	**Hagfors**	**23.51**	**3**	P	**P**	**00 21 50.0**	**+0.1**
	4.4nm,1.0s,baz=155,slow=14,SNR=2.0						
	4.4nm,1.0s						
NOA	**NORSAR Array B**	**24.35**	**0**	LR	LR	00 32 53.9	
	comp=Z,41nm,19.9s,baz=20,slow=40						
TORD	**Torodi Ar. Bea**	**24.89**	**202**	P	**P**	**00 22 01.8**	**-1.3**
	0.9nm,0.9s,baz=14,slow=6.4,SNR=6.1						
TORD				LR	LR	00 33 08.8	
	comp=Z,110nm,19.2s,baz=60,slow=40						
	0.9nm,0.9s						
DBIC	**Dimbokro**	**33.20**	**210**	P	**P**	**00 23 16.9**	**-0.2**
	2.4nm,0.9s,baz=45,slow=8.6,SNR=2.0						
	2.4nm,0.9s						
KIRV	**Kirov**	**33.22**	**36**	LR	LR	00 37 49.2	
	comp=Z,56nm,18.9s,baz=273,slow=38						
BORG	**Borgarnes**	**33.99**	**336**	LR	LR	00 36 41.8	
	comp=Z,49nm,19.9s,baz=159,slow=35						
MBAR	**Mbarara**	**41.42**	**149**	LR	LR	00 44 02.4	
	comp=Z,42nm,18.4s,baz=338,slow=40						
MKAR	**Makanchi Array**	**52.48**	**55**	P	**P**	**00 25 52.7**	**-0.3**
	0.3nm,0.6s,baz=278,slow=8.9,SNR=1.8						
	0.3nm,0.6s						
SONM	**Songino Array**	**67.14**	**47**	P	**P**	**00 27 33.7**	**-0.4**
	0.7nm,0.5s,baz=308,slow=7.1,SNR=4.3						
	0.7nm,0.5s						
PDAR	**Pinedale Array**	**84.13**	**320**	P	**P**	**00 29 12.0**	**+0.5**
	0.3nm,0.7s,baz=74,slow=6.7,SNR=4.4						
	0.3nm,0.7s						

*IDC **31** 00:20:33.1±1.6,26°.87N×126°.92E,h99km±17km,mb3.8/11, mbtmp4.1/13,Error ellipse: s-maj=29.0km s-min=12.6km az=67.0*
*NEIC **31** 00:20:33.3±1.9,26°.62N±0°.08×126°.99E±0°.03, h106km±7km,mb4.4/56,Error ellipse: s-maj=11.2km s-min=3.6km az=189.0*
*JMA **31** 00:20:33.4±0.2,27°.N±1°.×126°.9E±0°.9,h92km±2km, MD3.7/11,MV4.0/11,NW OFF OKINAWAJIMA IS*
JMA Felt I J1 at NW OFF OKINAWAJIMA IS .

ISC 31 00:20:33.1±0.7,26°.71N±0°.06×126°.96E±0°.06,h107km±6km, n100,σ1ꝏ14/104,mb4.3/38,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.28**	**116**	P	**Pn**	**00 20 47.8**	**-0.5**
JAGN				S	**Sn**	**00 20 58.6**	**-1.2**
JAGN	**Aguni-jima**	**0.28**	**116**	A	A	00 20 47.8	
	comp=E,8.0nm,0.8s,comp=N,17nm,0.7s						
JKE	**Kume jima 2**	**0.41**	**202**	P	**Pn**	**00 20 48.5**	**-0.6**
JKE	**Kume jima 2**	**0.41**	**202**	A	A	00 20 48.5	
	comp=N,4.0nm,1.1s						
JJT3	**Tamagusuku3**	**0.93**	**127**	P	**Pn**	**00 20 54.7**	**+1.4**
JJT3				*e*S	**Sn**	**00 21 10.4**	**+1.8**
JJT3	**Tamagusuku3**	**0.93**	**127**	A	A	00 20 54.7	
	comp=E,4.0nm,1.6s,comp=N,6.0nm,1.5s						
JIH	**Iheya**	**0.96**	**70**	*i* P	**Pn**	**00 20 53.6**	**0.0**
JIH				S	**Sn**	**00 21 08.3**	**-0.7**
JIH	**Iheya**	**0.96**	**70**	A	A	00 20 53.6	
	comp=E,3.0nm,0.8s,comp=N,4.0nm,6.0s						
JNTH	**Nagotoyohara**	**0.97**	**101**	P	**Pn**	**00 20 54.2**	**+0.5**
JNTH				S	**Sn**	**00 21 09.5**	**+0.2**
JNTH	**Nagotoyohara**	**0.97**	**101**	A	A	00 20 54.2	
	comp=E,5.0nm,0.5s,comp=N,5.0nm,0.6s						
JOW	**Kunigami**	**1.18**	**84**		**Pn**	**00 20 56.3**	**+0.3**
JOW				Sn	**Sn**	**00 21 13.1**	**-0.2**
JOW	**Kunigami**	**1.18**	**84**	*i* P	**Pn**	**00 20 56.3**	**+0.3**
JOW				S	**Sn**	**00 21 13.4**	**0.0**
JOW	**Kunigami**	**1.18**	**84**	A	A	00 20 56.3	
	comp=E,5.0nm,0.2s						
JOW	**Kunigami**	**1.18**	**84**	P	**Pn**	**00 20 56.5**	**+0.5**
	comp=E,556nm,0.3s,baz=156,slow=14,SNR=402						
JOW				S	**Sn**	**00 21 12.9**	**-0.5**
	comp=E,2μm,0.3s,baz=131,slow=27,SNR=24						
JYRO	**Yoronjima**	**1.37**	**76**	*i* P	**Pn**	**00 20 58.4**	**+0.3**
JYRO				S	**Sn**	**00 21 16.5**	**-0.6**
JOKE	**Okinoerabujima**	**1.58**	**65**	*i* P	**Pn**	**00 21 00.5**	**-0.1**
JTK	**Tokunoshima**	**2.07**	**58**	P	**Pn**	**00 21 06.6**	**-0.2**
JTK				*e*S	**Sn**	**00 21 31.4**	**-1.3**
JMZ	**Minamidaito 2**	**3.93**	**102**	Pn	**Pn**	**00 21 30.5**	**-0.9**
JMZ				Sn	**Sn**	**00 22 12.5**	**-4.1**
NACB	**Ninganchiao**	**5.47**	**244**	Pn	**Pn**	**00 21 52.5**	**+0.3**
YULB	**Yu-li**	**6.11**	**238**	Pn	**Pn**	**00 21 58.9**	**-2.0**
SSLB	**Suanglung**	**6.17**	**243**	Pn	**Pn**	**00 22 02.1**	**+0.4**
JNU	**Nakatsue**	**7.24**	**27**	Pn	**Pn**	**00 22 17.4**	**+1.3**
JNU	**Nakatsue**	**7.24**	**27**	P	**Pn**	**00 22 16.1**	**-0.1**
	comp=E,10.0nm,0.8s,baz=238,slow=19,SNR=5.1						
JMN	**Monobe**	**9.20**	**39**	Pn	**Pn**	**00 22 40.8**	**-2.1**
KSRS	**Korea Array**	**10.74**	**4**	P	**Pn**	**00 23 05.0**	**+1.3**
	comp=E,2.9nm,0.7s,baz=182,slow=13,SNR=8.1						
BJT	**Baijiatuan**	**16.02**	**329**	P	**P**	**00 24 14.9**	**+1.4**
BJT				IAmb	IAmb	00 24 19.5	
	comp=Z,11nm,0.5s						
USRK	**Ussuriysk Ar.**	**17.92**	**12**	P	**P**	**00 24 34.1**	**-0.2**
USRK	**Ussuriysk Ar.**	**17.92**	**12**	P	**P**	**00 24 33.4**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=186,slow=10,SNR=2.0						
ULN	**Ulaanbaatar**	**26.25**	**329**	P	**P**	**00 25 59.6**	**+1.3**
SONM	**Songino Array**	**26.54**	**328**	P	**P**	**00 26 01.0**	**+0.2**
SONM	**Songino Array**	**26.54**	**328**	P	**P**	**00 26 00.4**	**-0.4**
	comp=Z,6.3nm,0.6s,baz=142,slow=9.8,SNR=29						
	comp=Z,6.3nm,0.6s						
CHTO	**Chiang Mai**	**26.96**	**259**	P	**P**	**00 26 04.6**	**-0.1**
LSA	**Lhasa**	**31.62**	**284**	P	**P**	**00 26 45.1**	**-1.4**
LSA				IAmb	IAmb	00 27 02.1	
	comp=Z,3.7nm,0.5s						
SAUI	**Saumlaki**	**34.74**	**172**	P	**P**	**00 27 11.4**	**-1.7**
PEA0B	**Petropavlovsk-**	**34.90**	**33**	P	**P**	**00 27 12.8**	**-1.3**
YAK	**Yakutsk**	**35.36**	**2**	P	**P**	**00 27 19.1**	**+1.2**
MAG	**Magadan**	**36.74**	**20**	P	**P**	**00 27 31.0**	**+1.3**
JAGI	**Jajag, Banyuwa**	**37.12**	**201**	P	P	00 27 29.2	-4.2
MNAI	**Manna**	**38.64**	**221**	P	**P**	**00 27 43.7**	**-2.6**
MTN	**Manton Dam**	**39.53**	**174**	P	**P**	**00 27 54.0**	**+0.5**
MTN				IAmb	IAmb	00 28 15.8	
	comp=Z,7.5nm,1.2s						
MK31	**Makanchi Array**	**40.37**	**312**	P	**P**	**00 27 59.7**	**-0.6**
MKAR	**Makanchi Array**	**40.37**	**312**	P	**P**	**00 27 59.8**	**-0.5**
MKAR	**Makanchi Array**	**40.37**	**312**	P	**P**	**00 27 59.7**	**-0.6**
	comp=Z,2.6nm,0.5s,baz=93,slow=10,SNR=46						
MKAR				PcP	**PcP**	**00 30 01.6**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=66,slow=3.5,SNR=2.4						
	comp=Z,2.6nm,0.5s						
MAKZ	**Makanchi**	**40.58**	**312**	P	**P**	**00 28 01.6**	**-0.5**
MAKZ				IAmb	IAmb	00 28 24.6	
	comp=Z,7.6nm,1.1s						
ZAA0	**Zalesovo Array**	**41.18**	**323**	P	**P**	**00 28 06.2**	**-0.6**
ZAA0				IAmb	IAmb	00 28 06.6	
	comp=Z,4.2nm,0.5s						
ZALV	**Zalesovo Beam**	**41.18**	**323**	P	**P**	**00 28 06.0**	**-0.8**
ZALV	**Zalesovo Beam**	**41.18**	**323**	P	**P**	**00 28 06.0**	**-0.8**
	comp=Z,4.6nm,0.4s,baz=114,slow=8.7,SNR=26						
	comp=Z,4.6nm,0.4s						
KURBB	**Kurchatov Arra**	**43.72**	**316**	P	**P**	**00 28 26.6**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=105,slow=9.3,SNR=7.8						
	comp=Z,0.8nm,0.5s						
WRA	**Warramunga Arr**	**46.93**	**170**	P	**P**	**00 28 54.7**	**+1.7**
	comp=Z,1.5nm,0.6s,baz=352,slow=8.4,SNR=12						
	comp=Z,1.5nm,0.6s						
KK31	**Karatay Array**	**48.20**	**305**	P	**P**	**00 29 01.9**	**-0.9**
KKAR	**Karatay Array**	**48.20**	**305**	P	**P**	**00 29 02.6**	**-0.2**
PSA00	**Pilbara Seismi**	**48.49**	**189**	P	**P**	**00 29 04.0**	**-1.0**
KIWB	**Kanaga Island**	**48.56**	**43**	P	**P**	**00 29 05.1**	**-0.3**
BVAR	**Borovoye Array**	**49.16**	**318**	P	**P**	**00 29 10.3**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=98,slow=10,SNR=4.8						
	comp=Z,0.6nm,0.3s						
ASAR	**Alice Springs**	**50.53**	**172**	P	**P**	**00 29 22.9**	**+2.3**
	comp=Z,1.1nm,0.5s,baz=358,slow=14,SNR=23						
	comp=Z,1.1nm,0.5s						
K17K	**Iditarod**	**59.65**	**31**	P	**P**	**00 30 26.9**	**+1.3**
STKA	**Stephens Creek**	**59.91**	**166**	P	**P**	**00 30 28.5**	**+0.7**
STKA	**Stephens Creek**	**59.91**	**166**	P	**P**	**00 30 30.1**	**+2.3**
	comp=Z,1.5nm,0.7s,baz=350,slow=11,SNR=2.9						
	comp=Z,1.5nm,0.7s						
MDM	**Murphy Dome**	**63.96**	**28**	P	**P**	**00 30 55.9**	**+1.3**
MDM				IAmb	IAmb	00 30 56.6	
	comp=Z,5.2nm,0.7s						
H24K	**Noodor Dome**	**63.99**	**27**	P	**P**	**00 30 56.4**	**+1.6**
PMR	**Palmer**	**64.02**	**32**	P	**P**	**00 30 55.8**	**+0.8**
G24K	**Hadweenzic Riv**	**64.04**	**26**	P	**P**	**00 30 56.7**	**+1.6**
G24K				IAmb	IAmb	00 30 58.3	
	comp=Z,3.7nm,1.0s						
D25K	**Kavik River**	**64.12**	**23**	P	**P**	**00 30 56.4**	**+0.8**
D25K				IAmb	IAmb	00 30 57.9	
	comp=Z,4.3nm,1.2s						
CCB	**Clear Creek Bu**	**64.18**	**28**	P	**P**	**00 30 56.6**	**+0.6**
POKR	**Poker Plat Res**	**64.27**	**28**	P	**P**	**00 30 56.3**	**-0.3**
POKR				IAmb	IAmb	00 31 01.1	
	comp=Z,4.6nm,0.9s						
IL31		**64.55**	**28**	P	**P**	**00 30 58.6**	**+0.2**
IL31				IAmb	IAmb	00 31 20.3	
	comp=Z,9.8nm,1.5s						
ILAR	**Eielson Array**	**64.55**	**28**	P	**P**	**00 30 58.6**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=269,slow=7.1,SNR=9.3						
	comp=Z,0.4nm,0.7s						
DHY	**Denali Highway**	**64.61**	**30**	P	**P**	**00 30 57.3**	**-1.7**
DHY				IAmb	IAmb	00 31 38.3	
	comp=Z,12nm,1.4s						
J25K	**Salcha River,**	**65.22**	**28**	P	**P**	**00 31 03.2**	**+0.3**
J25K				IAmb	IAmb	00 31 06.5	
	comp=Z,5.2nm,1.2s						
M24K	**Tolsona, Glenn**	**65.32**	**31**	P	**P**	**00 31 03.2**	**-0.3**
SCRK	**Sand Creek**	**65.94**	**29**	P	**P**	**00 31 07.5**	**-0.1**
J26L	**Joseph Creek**	**66.01**	**28**	P	**P**	**00 31 06.4**	**-1.5**
J26L				IAmb	IAmb	00 31 25.3	
	comp=Z,12nm,1.4s						
I26K	**Coal Creek Min**	**66.02**	**27**	P	**P**	**00 31 08.1**	**+0.2**
I26K				IAmb	IAmb	00 31 39.0	
	comp=Z,5.2nm,1.4s						
E27K	**Coleen River**	**66.03**	**24**	P	**P**	**00 31 09.1**	**+1.1**
G27K	**Doyon Strip**	**66.30**	**26**	P	**P**	**00 31 08.5**	**-1.2**
E28M	**Babbage River**	**66.68**	**24**	P	**P**	**00 31 13.5**	**+1.5**
M26K	**Nabesna, AK**	**66.71**	**30**		**P**	**00 31 13.4**	**+1.0**
M26K				IAmb	IAmb	00 31 14.5	
	comp=Z,3.1nm,0.8s						
K27K	**Chicken**	**66.75**	**29**	P	**P**	**00 31 13.7**	**+1.1**
K27K				IAmb	IAmb	00 31 31.2	
	comp=Z,5.6nm,1.4s						
F28M	**Old Crow**	**66.79**	**25**	P	**P**	**00 31 13.5**	**

comp=Z,442nm,19.6s,baz=284,slow=40
CM31 Chiang Mai Arr 15.33 2 Pn 00 35 12.8 +1.5
CM31 IAmb IAmb 00 35 22.5
comp=Z,18nm,0.8s
CMAR Chiang Mai Arr 15.33 2 P P 00 35 14.2 -1.9
CMAR Chiang Mai Arr 15.33 2 Pn P 00 35 15.0 -1.2
baz=194,slow=10
CHTO Chiang Mai 15.68 2 Pn 00 35 16.0 0.0
CRAI Chiangrai 17.18 6 P P 00 35 36.6 -0.1
PALK Pallekele 18.22 284 LR LR 00 41 52.3
comp=Z,218nm,21.4s,baz=201,slow=34
MND Mandalay 19.00 353 P Pn 00 36 01.0 +3.6
comp=Z,20nm,2.0s
MYLDM Lahad Datu 20.06 83 P P 00 36 07.0 -1.4
TNCH TengChong 21.86 0 *e*P **P 00 36 32.5 +4.6**
TNCH pP sP 00 36 35.3 +2.6
TNCH pmax pmax
comp=Z,220nm,0.7s
KMI Kunming 22.33 10 ⇓P **P 00 36 37.5 +4.5**
KMI pmax pmax
comp=Z,16nm,1.3s
TOLI2 Tolitoli 22.35 94 P P 00 36 32.7 -0.4
KAPI Kappang 22.69 111 P P 00 36 35.0 -1.7
KAPI IAmb IAmb 00 36 53.8
comp=Z,13nm,1.1s
SHL Shillong 23.28 345 P P 00 36 42.7 -0.3
PZH PanZhiHua 23.54 7 P P 00 36 47.5 +2.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,5.0s
H08S2 Diego Garcia H 28.04 248 T T 01 05 14.0
baz=69
H08S3 Diego Garcia H 28.04 248 T T 01 05 12.9
baz=69,SNR=3.8
H08S1 Diego Carcia H 28.05 248 T T 01 05 12.3
baz=69
XAN Xi'an 32.34 16 P P 00 38 06.0 +1.7
XAN pmax pmax
comp=Z,16nm,1.3s
LYN LuoYang 33.94 21 ⇑P **P 00 38 21.0 +2.7**
LYN pmax pmax
comp=Z,23nm,0.6s
KNRA Kununurra 35.24 123 P P 00 38 24.8 -4.9
HHC Hu-ho-hao-te 39.44 16 *e*P **P 00 39 07.3 +2.1**
HHC pmax pmax
comp=Z,25nm,0.5s
HHC pmax pmax
comp=Z,490nm,7.0s
WMQ Urumqi 41.73 348 *e*P **P 00 39 26.0 +2.0**
WB0 Warramunga Arr 41.91 124 P **P 00 39 22.9 -2.9**
WB0 IAmb IAmb 00 39 29.3
comp=Z,3.4nm,0.8s
WRA Warramunga Arr 41.95 125 P P 00 39 22.1 -4.1
WRA Warramunga Arr 41.95 125 P P 00 39 26.4 +0.3
comp=Z,4.5nm,0.7s,baz=302,slow=9.2,SNR=21
comp=Z,4.5nm,0.7s
WB2 Warramunga Arr 41.96 125 P P 00 39 25.3 -0.9
WB2 IAmb IAmb 00 39 28.6
comp=Z,8.7nm,1.1s
WR0 Warramunga Arr 42.12 124 P P 00 39 26.8 -0.8
JTU Tsushima 42.50 39 P P 00 39 30.1 -0.3
TARG Taragay, Kyrgy 42.76 337 P P 00 39 33.0 +0.1
NRN Naryn 43.24 335 P P 00 39 36.1 -0.6
AS31 Alice Springs 43.51 130 P P 00 39 36.0 -2.8
ASAR Alice Springs 43.51 130 P P 00 39 34.6 -4.2
ASAR Alice Springs 43.51 130 P P 00 39 39.4 +0.6
comp=Z,2.1nm,0.8s,baz=306,slow=8.4,SNR=9.8
comp=Z,2.1nm,0.8s
KSAR Wonju Array Be 43.57 35 P P 00 39 38.2 -0.9
KS19 Wonju Array Si 43.61 34 P P 00 39 39.5 +0.2
MSEY Mahe Island 43.66 260 P P 00 39 40.4 +0.2
MSEY IAmb IAmb 00 40 04.1
comp=Z,6.7nm,1.0s
ARSB Arslanbob 44.49 332 P P 00 39 46.7 +0.2
BTK Batken 44.56 329 P P 00 39 46.7 -0.4
BTK IAmb IAmb 00 39 50.5
comp=Z,7.7nm,1.3s
SONM Songino Array 45.14 7 P P 00 39 50.9 -0.7
SONM Songino Array 45.14 7 P P 00 39 52.6 +1.0
comp=Z,1.1nm,0.8s,baz=197,slow=4.4,SNR=3.9
SONM PcP **PcP 00 41 32.0 -0.1**
comp=Z,1.0nm,0.8s,baz=199,slow=3.1,SNR=2.9
comp=Z,1.1nm,0.8s
MK31 Makanchi Array 45.80 344 P P 00 39 55.5 -1.2
MK31 IAmb IAmb 00 39 57.3
comp=Z,3.8nm,1.0s
MKAR Makanchi Array 45.80 344 P P 00 39 55.8 -1.0
MKAR Makanchi Array 45.80 344 P P 00 39 56.4 -0.4
comp=Z,2.1nm,0.8s,baz=148,slow=8.5,SNR=10
MKAR PcP **PcP 00 41 34.1 -0.1**
comp=Z,0.6nm,0.7s,baz=138,slow=3.3,SNR=2.0
comp=Z,2.1nm,0.8s
KK31 Karatay Array 47.02 332 P P 00 40 07.6 +1.2
KK31 IAmb IAmb 00 40 11.1
comp=Z,3.1nm,1.4s
KKAR Karatay Array 47.02 332 P P 00 40 08.0 +1.6
KURBB Kurchatov Arra 50.32 344 P P 00 40 30.7 -0.9
comp=Z,1.4nm,0.2s,baz=166,slow=6.7,SNR=5.2
KURBB PcP **PcP 00 41 50.8 +0.5**
comp=Z,1.2nm,0.3s,baz=116,slow=2.2,SNR=5.0
comp=Z,1.4nm,0.2s
USRK Ussuriysk Ar. 50.53 31 P P 00 40 33.8 +0.5
comp=Z,2.4nm,0.8s,baz=240,slow=4.8,SNR=3.0
comp=Z,2.4nm,0.8s
GEYT Alibeck 50.67 319 P P 00 40 33.9 -0.7
GEYT IAmb IAmb 00 40 36.7
comp=Z,4.0nm,0.8s
GEYT Alibeck 50.67 319 P P 00 40 34.6 +0.1
comp=Z,3.8nm,0.8s,baz=147,slow=6.0,SNR=12
comp=Z,3.8nm,0.8s
GYA0B ALIBECK ARRAY 50.67 319 P P 00 40 34.0 -0.6
GYA0B IAmb IAmb 00 40 53.7
comp=Z,7.0nm,1.1s
ZAA0 Zalesovo Array 51.97 350 P P 00 40 43.6 -0.3
ZAA0 IAmb IAmb 00 40 45.5
comp=Z,4.9nm,1.2s
ZALV Zalesovo Beam 51.97 350 P P 00 40 44.3 +0.4
ZALV Zalesovo Beam 51.97 350 P P 00 40 43.6 -0.4
comp=Z,1.1nm,0.5s,baz=177,slow=5.8,SNR=7.6
comp=Z,1.1nm,0.5s
BVAR Borovoye Array 54.97 340 P P 00 41 05.4 -0.6
comp=Z,3.0nm,0.8s,baz=144,slow=8.0,SNR=13
comp=Z,3.0nm,0.8s
BRVK Borovoye 55.03 340 P P 00 41 05.2 -1.3
BRVK IAmb IAmb 00 41 07.8
comp=Z,2.9nm,0.9s
ABKAR Akbulak array 56.53 331 P P 00 41 16.4 -0.8
ABKAR Akbulak array 56.53 331 P P 00 41 16.7 -0.6
ABKAR IAmb IAmb 00 41 18.4
comp=Z,2.7nm,1.0s
YSS Yuzh-Sakhalins 58.10 34 P P 00 41 27.3 -1.1
EIDS Eidsvold 58.23 122 P P 00 41 26.1 -3.6
KIBK Kibwezi 60.67 266 P P 00 41 45.1 -1.8
KIBK IAmb IAmb 00 42 17.9
comp=Z,6.6nm,1.5s
KMBO Kilima Mbogo 61.37 267 P P 00 41 51.9 +0.1
KMBO IAmb IAmb 00 41 58.1
comp=Z,3.0nm,1.2s
H04N2 CROZET ISLANDS 64.02 214 T T 01 50 18.6
baz=53,slow=75,SNR=8.5
H04N1 CROZET ISLANDS 64.03 214 T T 01 50 19.8
baz=53,slow=75,SNR=9.3
H04N3 CROZET ISLANDS 64.03 214 T T 01 50 16.6
baz=53,slow=75,SNR=9.1
H04S1 CROZET ISLANDS 64.36 214 T T 01 50 55.6
baz=51,slow=74
H04S3 CROZET ISLANDS 64.37 214 T T 01 50 42.5
baz=51,slow=74,SNR=3.4
H04S2 CROZET ISLANDS 64.37 214 T T 01 50 47.2
baz=51
BRTR Keskin Array B 68.86 312 P P 00 42 39.5 -0.5
comp=Z,1.4nm,0.7s,baz=115,slow=4.5,SNR=6.2
comp=Z,1.4nm,0.7s
AKASG Malin Array Be 74.61 322 P P 00 43 13.5 -0.7
comp=Z,0.2nm,0.2s,baz=89,slow=5.2,SNR=2.6
comp=Z,0.2nm,0.2s
DPC Dobruska-Polom 82.67 320 *e*P **P 00 43 59.0 +0.3**
CKRC Cesky Krumlov 83.90 319 *e*P **P 00 44 05.3 +0.3**
GERES GERESS Array B 84.30 319 P **P 00 44 08.0 +0.9**
comp=Z,1.1nm,0.9s,baz=63,slow=6.8,SNR=5.0
comp=Z,1.1nm,0.9s
KHC Kasperske Hory 84.39 319 *e*P **P 00 44 07.4 -0.1**

---

*IDC **31** 00:34:36.6±1.2,5.°88S×146.°49E,h0km,mb3.7/4,*
mbtmp3.7/6,ML3.6/1,Error ellipse: s-maj=53.7km
s-min=25.5km az=99.0
ISC 31 00:34:43.8±1.1,6.0S±0.1°×146.4E±0.2,h52km,n8,σ0.98/9,
mb3.7/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
PMG	**Port Moresby**	**3.47**	**168**	Pn		**Pn**		**00 35 33.9**	**-1.5**
	7.2nm,0.4s,baz=292,slow=11,SNR=2.8								
PMG				Sn		**Sn**		**00 36 16.2**	**+0.9**
	7.0nm,0.3s,baz=20,slow=23,SNR=3.0								
WRA	**Warramunga Arr**	**18.16**	**219**	P		**Pn**		**00 38 51.9**	**-0.5**
	0.2nm,0.3s,baz=39,slow=12,SNR=7.7								
	1.2nm,0.9s								
ASAR	**Alice Springs**	**21.30**	**213**	P		**P**		**00 39 26.1**	**-0.1**
	0.7nm,0.6s,baz=48,slow=8.8,SNR=2.5								
	0.7nm,0.6s								
VNDA	**Vanda**	**71.96**	**177**	P		**P**		**00 46 02.3**	**+0.9**
	0.5nm,0.6s,baz=326,slow=6.4,SNR=2.8								
	0.5nm,0.6s								
QSPA	**South Pole Qui**	**83.98**	**180**	P		**P**		**00 47 09.1**	**+0.7**
	0.6nm,0.2s,baz=315,slow=1.2,SNR=3.6								
	0.6nm,0.2s								
ILAR	**Eielson Array**	**85.71**	**23**	P		**P**		**00 47 16.3**	**-0.5**
	0.5nm,0.7s,baz=262,slow=4.9,SNR=6.0								
	0.5nm,0.7s								
TORD	**Torodi Ar. Bea**	**144.51**	**284**	PKP		**PKPdf**		**00 54 15.1**	**-0.4**
	0.8nm,0.7s,baz=65,slow=4.2,SNR=6.5								
DBIC	**Dimbokro**	**151.43**	**273**	PKPbc		**PKiKP**		**00 54 34.4**	**+0.9**
	2.3nm,0.8s,baz=89,slow=2.1,SNR=1.8								

---

*IDC **31** 00:42:05.4±0.4,21.°68S×169.°35E,h0km,mb4.8/29,*
mbtmp4.8/31,ML3.6/2,MS6.2/44,Error ellipse:
s-maj=11.9km s-min=11.3km az=136.0
*NEIC **31** 00:42:08.7±3.0,21.°70S±0.°07×169.°15E±0.°05,h24km±1km,*
mb5.8/440,Ms_20 6.6/582,Mww6.7/68,Error ellipse:
s-maj=11.5km s-min=8.4km az=182.0
*BJI **31** 00:42:08.1±0.0,21.°72S×169.°15E,h20km,mb5.4/60,*
mB6.4/72,Ms6.6/91,Ms7 6.5/87
*NEIC **31** 00:42:08.7,21.°70S×169.°13E,h20km*
*NEIC **31** 00:42:08.7,21.°40S×169.°13E,h20km,Moment Tensor*
Solution. Duration: 12±1.0 Moment tensor: Scale 10^{19}
Nm; M_{rr}1.36; $M_{\theta\theta}$-0.45; $M_{\phi\phi}$-0.91; $M_{r\theta}$-0.02; $M_{\theta\phi}$0.54;
$M_{\phi r}$-0.91; Fault plane solution: $M_0$1.59000×10^{19} NP1:
ϕ_s163.86000°,δ62.10000°,λ105.59000°. NP2:
ϕ_s313.05000°,δ31.65000°,λ63.09000°. Principal axes: T
1.7041, Plg69.0000°, Azm106.0000°; N -0.2249,
Plg14.0000°, Azm336.0000°; P -1.4791, Plg16.0000°,
Azm242.0000°;
*NOU **31** 00:42:09.6,21.°58S×169.°05E,h0km,ML6.5/132,*
Southeast of Loyalty Islands
*MOS **31** 00:42:09.8±1.9,21.°76S×169.°29E,h32km,mb5.9/45,*
MS6.6/34,Error ellipse: s-maj=7.3km s-min=6.7km
az=83.6
*BGR **31** 00:42:11.8,21.°14S×171.°89E,h33km,Ms6.7*
*GCMT **31** 00:42:20.7±0.0,21.°61S×169.°14E,h13km,MW6.7/171,*
Moment Tensor Solution. s171,c460; s168,c807;
Duration: 5±5 Moment tensor: Scale 10^{19}Nm;
M_{rr}1.04±.00; $M_{\theta\theta}$-0.29±.00; $M_{\phi\phi}$-0.75±.00; $M_{r\theta}$0.53±.01;
$M_{\theta\phi}$0.46±.00; $M_{\phi r}$-0.85±.01; Best double couple:
$M_0$1.44200×10^{19} NP1:ϕ_s148.00000°,δ67.00000°,
λ90.00000°. NP2:ϕ_s329.00000°,δ23.00000°,λ91.00000°.
Principal axes: T 1.4470, Plg68.0000°, Azm58.0000°; N
-0.0090, Plg0.0000°, Azm148.0000°; P -1.4370,
Plg22.0000°, Azm238.0000°; nsta1 refers to body waves,
cutoff=50s. nsta2 refers to surface/mantle waves,
cutoff=50s. Triangular moment-rate function
ISC 31 00:42:09.9±0.3,21.°78S±0.°03×169.°27E±0.°03,h20km,2km,
h20km:pP-P,n1880,σ2.905/1714,mb5.8/333,MS6.5/395,
84C-70D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time (h m s)	Res ISC
MARNC	**Mare, Loyalty**	**1.19**	**284**			**Pn**		**00 42 26.9**	**-4.5**
MARNC					Sn		**Sb**	**00 42 41.2**	**-5.5**
MARNC	**Mare, Loyalty**	**1.19**	**284**		P	**Pn**		**00 42 28.5**	**-2.9**
MARNC	**Mare, Loyalty**	**1.19**	**284**		⇑P	**Pn**		**00 42 26.9**	**-4.5**
PINNC	**Pines Island,**	**1.88**	**243**			**Pn**		**00 42 38.1**	**-2.8**
PINNC	**Pines Island,**	**1.88**	**243**		P	**Pn**		**00 42 38.4**	**-2.5**
LIFNC	**LIFOU**	**2.14**	**297**		Pn	Pn		00 42 38.5	-5.9
LIFNC	**LIFOU**	**2.14**	**297**		P	**Pn**		**00 42 43.0**	**-1.4**
YATNC	**Mamie plateau,**	**2.23**	**262**		P	**Pn**		**00 42 45.4**	**-0.3**
OUENC	**Ouen Island, N**	**2.34**	**254**		Pn	**Pn**		**00 42 44.2**	**-3.0**
OUENC	**Ouen Island, N**	**2.34**	**254**		P	**Pn**		**00 42 45.2**	**-2.0**
DZM	**Mont Dzumac**	**2.64**	**263**	*e*Pn		**Pn**		**00 42 48.6**	**-2.8**
	62μm,1.4s								
DZM	**Mont Dzumac**	**2.64**	**263**			**Pn**		**00 42 48.3**	**-3.1**
DZM	**Mont Dzumac**	**2.64**	**263**		P	**Pn**		**00 42 49.1**	**-2.3**
DZM	**Mont Dzumac**	**2.64**	**263**		⇓P	**Pn**		**00 42 48.5**	**-2.8**
DZM	**Mont Dzumac**	**2.64**	**263**		Pn	**Pn**		**00 42 48.6**	**-2.8**
	11nm,0.3s,baz=80,slow=15,SNR=86								
DZM					Sn		**Sn**	**00 43 18.4**	**-4.5**
	236nm,0.3s,baz=83,slow=21,SNR=7.9								
DZM					LR		LR	00 43 24.7	
	comp=Z,441μm,21.9s,baz=134,slow=29								
	41nm,0.3s								
ONTNC	**Ouen Toro**	**2.67**	**258**			**Pn**		**00 42 48.5**	**-3.2**
ONTNC	**Ouen Toro**	**2.67**	**258**		P	**Pn**		**00 42 50.0**	**-1.7**
ONTNC	**Ouen Toro**	**2.67**	**258**		⇓P	**Pn**		**00 42 48.8**	**-2.9**
KOUNC	**Koumac, New Ca**	**4.81**	**284**		Pn	Pn		00 43 16.2	-5.0
KOUNC	**Koumac, New Ca**	**4.81**	**284**		P	**Pn**		**00 43 19.7**	**-1.5**
KOUNC	**Koumac, New Ca**	**4.81**	**284**		⇑P	**Pn**		**00 43 18.8**	**-2.4**
NFK	**Norfolk Island**	**7.33**	**189**		P	**Pn**		**00 43 58.9**	**+3.1**
	baz=7.5,SNR=7.0								
NFK					S	Sn		00 45 28.6	+10
	baz=7.5								
NFK	**Norfolk Island**	**7.33**	**189**		P	**Pn**		**00 43 59.0**	**+3.1**
NFK	**Norfolk Island**	**7.33**	**189**		⇓P	**Pn**		**00 43 56.5**	**+0.6**
MSVF	**Nonsavu**	**9.19**	**66**		Pn	**Pn**		**00 44 22.4**	**+0.9**
MSVF	**Nonsavu**	**9.19**	**66**		P	**Pn**		**00 44 24.3**	**+2.8**
MSVF	**Nonsavu**	**9.19**	**66**		⇑P	**Pn**		**00 44 22.8**	**+1.4**
MSVF	**Nonsavu**	**9.19**	**66**		P	**Pn**		**00 44 22.4**	**+0.9**
MSVF	**Nonsavu**	**9.19**	**66**		Pn	**Pn**		**00 44 22.9**	**+1.4**
	1.1nm,0.3s,baz=222,slow=9.4,SNR=32								
YSA	**Yasawairara**	**9.33**	**59**		P	**Pn**		**00 44 24.5**	**+1.2**
DGTI	**Dogotuki**	**11.29**	**63**		P	**Pn**		**00 44 52.3**	**+2.1**
TAVE	**Taveuni**	**11.40**	**66**		P	**Pn**		**00 44 56.2**	**+4.6**
LKBA	**Tubou, Lakemba**	**11.74**	**75**		P	Pn		00 45 01.5	+5.2
RAO	**Raoul Island**	**13.75**	**125**		LR	LR		00 48 36.5	
	comp=Z,35μm,20.8s,baz=250,slow=28								
OUZ	**Omahuta**	**13.92**	**165**		P	**P**		**00 45 32.1**	**-1.9**
FUTU	**Fugatoga**	**14.10**	**60**		P	**Pn**		**00 45 32.1**	**+3.5**
HNR	**Honiara**	**15.20**	**322**		Pn	Pn		00 45 35.8	-7.7
HNR	**Honiara**	**15.20**	**322**		P	**Pn**		**00 45 43.0**	**-0.5**
HNR	**Honiara**	**15.20**	**322**		Pn	**Pn**		**00 45 43.0**	**-0.5**
	60nm,0.3s,baz=219,slow=11,SNR=1.2								
KUZ	**Kuautunu**	**15.93**	**161**		P	**P**		**00 46 00.9**	**+4.5**
FUNA	**Funafuti**	**16.28**	**37**		Pn	**Pn**		**00 45 54.4**	**-3.0**
FUNA					IAmb	IAmb		00 46 02.4	
	comp=Z,988nm,2.0s								
FUNA	**Funafuti**	**16.28**	**37**		P	**Pn**		**00 45 57.9**	**+0.5**
FUNA	**Funafuti**	**16.28**	**37**		⇑P	**Pn**		**00 45 55.5**	**-1.9**
TOZ	**Tahuroa Road**	**16.79**	**163**		Pn	**Pn**		**00 46 00.5**	**-3.3**
EIDS	**Eidsvold**	**17.05**	**254**		P	**P**		**00 46 08.0**	**-0.8**
	baz=17,SNR=11								
EIDS	**Eidsvold**	**17.05**	**254**		Pn	**Pn**		**00 46 03.4**	**-3.8**
EIDS	**Eidsvold**	**17.05**	**254**		P	**P**		**00 46 08.4**	**-0.5**
EIDS	**Eidsvold**	**17.05**	**254**		⇓P	**P**		**00 46 08.1**	**-0.8**
HIZ	**Hauiti**	**17.36**	**165**			**Pn**		**00 46 09.2**	**-1.7**
RK1H	**Rockhampton Ha**	**17.41**	**261**			**P**		**00 46 14.0**	**+1.1**
MXZ	**Maokaoa Point**	**17.56**	**156**		Pn	**Pn**		**00 46 11.2**	**-2.3**
URZ	**Urewera**	**17.76**	**159**		⇑P	**P**		**00 46 17.9**	**+1.3**
URZ	**Urewera**	**17.76**	**159**		P	**Pn**		**00 46 15.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=180,slow=6.3,SNR=2.1								
URZ					S	**Sn**		**00 49 35.7**	**+2.5**
	comp=Z,10nm,1.0s,baz=68,slow=4.4,SNR=1.1								
	comp=Z,9.1nm,0.7s								
ARMA	**Armidale**	**18.01**	**238**		P	**P**		**00 46 21.0**	**+1.4**
	baz=18,SNR=11								
ARMA	**Armidale**	**18.01**	**238**			**Pn**		**00 46 17.1**	**-2.2**
ARMA	**Armidale**	**18.01**	**238**		P	**P**		**00 46 21.3**	**+1.7**
ARMA	**Armidale**	**18.01**	**238**		⇓P	**P**		**00 46 21.6**	**+2.0**
RTZ	**Ruatahuna**	**18.04**	**160**		P	**Pn**		**00 46 19.2**	**-0.3**
BKZ	**Black Stump Fm**	**18.40**	**162**		P	**Pn**		**00 46 24.5**	**+0.6**
BKZ	**Black Stump Fm**	**18.40**	**162**		P	**Pn**		**00 46 27.1**	**+3.3**
QRZ	**Quartz Range**	**19.19**	**172**		P	**P**		**00 46 31.9**	**-0.5**
RMQ	**Roma**	**19.29**	**252**		P	**Pn**		**00 46 36.5**	**+1.8**
	baz=19,SNR=24								
RMQ	**Roma**	**19.29**	**252**		P	**Pn**		**00 46 38.1**	**+3.4**
TKNZ	**Takaka Hill**	**19.45**	**172**		P	**Pn**		**00 46 35.9**	**-0.6**
MRZ	**Mangatainoka R**	**19.57**	**166**		P	**Pn**		**00 46 37.6**	**-0.2**
AFI	**Afiamalu**	**19.65**	**70**		P	**P**		**00 46 35.8**	**-1.8**
AFI	**Afiamalu**	**19.65**	**70**		P	**Pn**		**00 46 45.0**	**+5.9**
AFI	**Afiamalu**	**19.65**	**70**		P	**P**		**00 46 35.8**	**-1.8**
AFI					pmax	pmax			
	comp=Z,298nm,1.0s								
NIUE	**Niue**	**19.68**	**86**		P	**Pn**		**00 46 42.6**	**+3.2**
	baz=20,SNR=4.5								
NIUE	**Niue**	**19.68**	**86**		P	**Pn**		**00 46 43.7**	**+4.4**
NIUE	**Niue**	**19.68**	**86**		⇑P	**P**		**00 46 38.0**	**+0.2**
NNZ	**Nelson**	**19.69**	**171**		P	**Pn**		**00 46 41.5**	**+2.2**
NNZ					IAmb	IAmb		00 46 45.3	
	comp=Z,724nm,1.8s								
MGCD	**Mangrove Creek**	**19.70**	**231**		P	**Pn**		**00 46 41.4**	**+2.0**
BFZ	**Birch Farm**	**19.75**	**164**		P	**Pn**		**00 46 39.7**	**-0.4**
BFZ	**Birch Farm**	**19.75**	**164**		P	**Pn**		**00 46 41.5**	**+1.5**
MRNZ	**Matariki Terra**	**19.78**	**172**		P	**Pn**		**00 46 40.9**	**+0.5**
TCW	**Tory Channel**	**19.83**	**169**		P	**Pn**		**00 46 41.1**	**+0.1**
RIV	**Riverview**	**19.98**	**229**		P	**Pn**		**00 46 44.6**	**+1.8**
RIV	**Riverview**	**19.98**	**229**		⇓P	**Pn**		**00 46 43.5**	**+0.7**
TUWZ	**Tuamarina**	**19.99**	**170**		P	**Pn**		**00 46 43.3**	**+0.5**
SNZO	**South Karori**	**20.01**	**168**		P	Pn		00 46 42.9	-0.1
SNZO					IAmb	IAmb		00 46 55.5	
	comp=Z,853nm,1.9s								
SNZO	**South Karori**	**20.01**	**168**		P	Pn		00 46 45.1	+2.1
SNZO	**South Karori**	**20.01**	**168**		⇑P	Pn		00 46 44.0	+1.0
DSZ	**Denniston Nort**	**20.02**	**174**		P	Pn		00 46 43.5	+0.2
BHW	**Baring Head**	**20.14**	**168**		P	**P**		**00 46 43.5**	**+0.9**
THZ	**Tophouse**	**20.16**	**172**		P	Pn		00 46 44.7	-0.2
THZ					IAmb	IAmb		00 46 57.4	
	comp=Z,421nm,1.4s								
SYDH	**Sydney Hard Ro**	**20.24**	**230**		P	Pn		00 46 48.7	+2.8
BSWZ	**Blackbirch Sta**	**20.25**	**170**		P	Pn		00 46 46.3	+0.3
PLWZ	**Palliser**	**20.37**	**167**		P	**P**		**00 46 45.5**	**+0.3**
AUAYR	**Ayr State High**	**20.57**	**272**		P	Pn		00 46 48.9	-0.9
AULRC	**Lightning Ridg**	**20.64**	**244**		P	Pn		00 46 50.2	-0.3
KHZ	**Kahutara**	**20.89**	**171**		P	**P**		**00 46 51.4**	**+0.7**
KHZ					IAmb	IAmb		00 47 05.4	
	comp=Z,639nm,1.9s								
KHZ	**Kahutara**	**20.89**	**171**		⇑P	Pn		00 46 52.3	-1.0
INZ	**Inchbonnie**	**20.97**	**176**		P	Pn		00 46 53.6	-0.6
INZ					IAmb	IAmb		00 47 06.2	
	comp=Z,510nm,1.7s								
LTZ	**Lake Taylor**	**21.09**	**174**		P	**P**		**00 46 54.4**	**+1.3**
AUDCS	**Dubbo College**	**21.10**	**236**		P	**P**		**00 46 56.2**	**+3.0**
TV1H	**Townsville Har**	**21.20**	**273**		P	**P**		**00 46 55.2**	**+0.9**
GVZ	**Greta Valley S**	**21.36**	**172**		P	**P**		**00 46 56.7**	**+0.8**
GVZ					IAmb	IAmb		00 47 13.9	
	comp=Z,468nm,1.4s								
CTA	**Charters Tower**	**21.56**	**270**		P	**P**		**00 46 59.5**	**+1.2**
CTA	**Charters Tower**	**21.56**	**270**		P	**P**		**00 46 57.5**	**-0.7**
	comp=Z,10nm,0.8s,baz=93,slow=12,SNR=14								
CTA					S	**S**		**00 50 59.6**	**+3.1**
	comp=Z,5.6nm,0.9s,baz=107,slow=21,SNR=0.9								
	comp=Z,10nm,0.8s								
CTAO	**Charters Tower**	**21.56**	**270**		P	**P**		**00 46 57.4**	**-0.8**
CTAO					IAmb	IAmb		00 47 12.5	
	comp=Z,1μm,1.9s								
CTAO	**Charters Tower**	**21.56**	**270**		P	**P**		**00 46 59.0**	**+0.7**
CTAO	**Charters Tower**	**21.56**	**270**		⇓P	**P**		**00 46 58.1**	**-0.1**
CTAO	**Charters Tower**	**21.56**	**270**		P	**P**		**00 46 57.4**	**-0.8**
CTAO					pmax	pmax			
	comp=Z,1μm,2.0s								
CTAO					MLR	MLR			
	comp=Z,322μm,20.0s								
OXZ	**Oxford**	**21.61**	**175**		P	**P**		**00 46 58.8**	**+0.2**
FOZ	**Fox Glacier**	**21.70**	**179**		P	**P**		**00 47 00.3**	**+0.8**
RPZ	**Rata Peaks**	**21.93**	**177**		P	**P**		**00 47 02.8**	**+0.8**
RPZ	**Rata Peaks**	**21.93**	**177**		P	**P**		**00 47 02.5**	**+0.6**
	comp=Z,6.3nm,0.8s,baz=350,slow=6.1,SNR=8.1								
RPZ					S	**S**		**00 51 02.1**	**-1.1**
	comp=Z,5.5nm,0.7s,baz=82,slow=21,SNR=0.8								
RPZ					LR	LR		00 54 32.3	
	comp=Z,49μm,20.0s,baz=359,slow=34								
	comp=Z,6.3nm,0.8s								
CNB	**Canberra Magne**	**22.03**	**228**		P	**P**		**00 47 05.8**	**+2.5**
	baz=22,SNR=5.5								
CNB	**Canberra Magne**	**22.03**	**228**		P	**P**		**00 47 08.5**	**+5.3**
MQZ	**McQueen's Vall**	**22.05**	**173**		P	**P**		**00 47 03.7**	**+0.5**
YNG	**Young**	**22.20**	**231**		P	**P**		**00 47 08.5**	**+3.5**
JCZ	**Jackson Bay**	**22.24**	**181**		P	**P**		**00 47 10.6**	**+5.2**
CAN	**Canberra**	**22.28**	**228**			**P**		**00 47 05.7**	**-0.2**
CAN	**Canberra**	**22.28**	**228**		P	**P**		**00 47 11.0**	**+5.1**
CAN	**Canberra**	**22.28**	**228**		⇓P	**P**		**00 47 08.0**	**+2.0**
CAN	**Canberra**	**22.28**	**228**		P	**P**		**00 47 05.7**	**-0.2**
CAN					pmax	pmax			
	comp=Z,185nm,1.2s								
CAN					MLR	MLR			
	comp=Z,70μm,20.0s								
LBZ	**Lake Benmore**	**22.56**	**178**			**P**		**00 47 10.9**	**+2.2**
WKZ	**Wanaka**	**22.99**	**180**		P	**P**		**00 47 11.2**	**-2.1**
MILA	**Mila**	**23.14**	**224**		P	**P**		**00 47 17.0**	**+2.0**
	baz=23,SNR=4.2								
MILA	**Mila**	**23.14**	**224**		P	**P**		**00 47 18.4**	**+3.5**
MILA	**Mila**	**23.14**	**224**		⇓P	**P**		**00 47 16.2**	**+1.2**
CMSA	**Cobar Meteorol**	**23.16**	**240**		P	**P**		**00 47 15.5**	**+0.4**
	baz=23,SNR=25								
CMSA	**Cobar Meteorol**	**23.16**	**240**		P	**P**		**00 47 15.3**	**+0.1**
ODZ	**Otahua Downs**	**23.23**	**178**		P	**P**		**00 47 13.4**	**-2.3**
ODZ	**Otahua Downs**	**23.23**	**178**		⇑P	**P**		**00 47

MOO	**Moorlands**	**27.68 217**	P	**P**	**00 48 00.2**	**+3.7**
	baz=28,SNR=6.4					
MOO	**Moorlands**	**27.68 217**	P	**P**	**00 48 00.8**	**+4.3**
TAU	**Tasmania Unive**	**27.92 216**	P	**P**	**00 47 56.0**	**-2.6**
TAU	**Tasmania Unive**	**27.92 216**	P	**P**	**00 48 02.5**	**+3.9**
TAU	**Tasmania Unive**	**27.92 216**	P	**P**	**00 47 56.0**	**-2.6**
TAU			pmax	pmax		
	comp=Z,191nm,1.6s					
ARPS	**Mount Arapiles**	**28.08 232**	P	P	00 48 05.9	+5.7
RAR	**Rarotonga**	**28.79 95**	LR	LR	00 57 17.3	
	comp=Z,14μm,21.3s,baz=261,slow=32					
MANU	**Manus Island**	**28.97 310**		**P**	**00 48 04.3**	**-3.9**
MANU			IAmb	IAmb	00 48 38.8	
	comp=Z,564nm,2.0s					
MANU	**Manus Island**	**28.97 310**	P	**P**	**00 48 09.3**	**+1.1**
LCRK	**Leigh Creek**	**29.12 246**	P	**P**	**00 48 12.1**	**+2.7**
PATS	**Pohnpei**	**30.40 338**	P	**P**	**00 48 22.7**	**+1.8**
	baz=30,SNR=5.3					
PATS	**Pohnpei**	**30.40 338**	P	**P**	**00 48 20.7**	**-0.2**
PATS	**Pohnpei**	**30.40 338**	P	**P**	**00 48 22.4**	**+1.5**
OOD	**Oodnadatta**	**31.01 252**	P	**P**	**00 48 26.2**	**0.0**
BBOO	**Buckleboo**	**31.37 242**	P	**P**	**00 48 27.7**	**-1.7**
BBOO			IAmb	IAmb	00 48 43.1	
	comp=Z,278nm,1.8s					
BBOO	**Buckleboo**	**31.37 242**	P	**P**	**00 48 32.2**	**+2.8**
TABU	**Tabubil**	**31.73 297**	P	**P**	**00 48 33.1**	**+0.4**
WR0	**Warramunga Arr**	**32.46 267**	P	**P**	**00 48 36.1**	**-3.0**
WR0			IAmb	IAmb	00 49 01.1	
	comp=Z,132nm,1.2s					
AS31	**Alice Springs**	**32.63 260**	P	**P**	**00 48 38.6**	**-1.9**
ASAR	**Alice Springs**	**32.63 260**	P	**P**	**00 48 37.7**	**-2.9**
ASAR	**Alice Springs**	**32.63 260**	P	**P**	**00 48 38.6**	**-2.0**
	comp=Z,9.4nm,0.7s,baz=91,slow=9.4,SNR=31					
ASAR			S	**S**	**00 53 50.5**	**-5.1**
	comp=Z,1.3nm,0.8s,baz=62,slow=8.2,SNR=1.9					
ASAR			LR	LR	01 01 53.4	
	comp=Z,70μm,18.2s,baz=90,slow=36					
ASAR			P3KPbc		01 20 07.5	
	comp=Z,1.1nm,0.8s,baz=275,slow=4.0,SNR=7.7					
	comp=Z,9.4nm,0.7s					
WB0	**Warramunga Arr**	**32.63 267**	P	**P**	**00 48 37.4**	**-3.2**
WB0			IAmb	IAmb	00 49 13.6	
	comp=Z,328nm,1.8s					
WB2	**Warramunga Arr**	**32.64 267**	P	**P**	**00 48 41.1**	**+0.5**
	baz=32					
WB2	**Warramunga Arr**	**32.64 267**	P	**P**	**00 48 37.7**	**-3.0**
WB2			IAmb	IAmb	00 49 04.6	
	comp=Z,129nm,1.2s					
WRAB	**Tennant Creek**	**32.64 267**	P	**P**	**00 48 37.6**	**-3.1**
WRAB			IAmb	IAmb	00 48 52.3	
	comp=Z,92nm,1.1s					
WRAB	**Tennant Creek**	**32.64 267**	P	**P**	**00 48 38.7**	**-2.0**
WRAB	**Tennant Creek**	**32.64 267**	⇓P	**P**	**00 48 38.7**	**-2.0**
WRAB	**Tennant Creek**	**32.64 267**	*i* P	**P**	**00 48 38.4**	**-2.3**
WRAB			pmax	pmax		
	comp=Z,114nm,1.3s					
WRAB			MLR	MLR		
	comp=Z,289μm,21.0s					
MULG	**Mulgathing**	**32.65 248**	P	**P**	**00 48 40.6**	**0.0**
WRA	**Warramunga Arr**	**32.65 267**	P	**P**	**00 48 36.9**	**-3.9**
WRA	**Warramunga Arr**	**32.65 267**	P	**P**	**00 48 38.6**	**-2.1**
	comp=Z,3.8nm,0.5s,baz=97,slow=8.1,SNR=27					
WRA			S	**S**	**00 53 51.5**	**-4.5**
	comp=Z,1.2nm,1.0s,baz=110,slow=6.7,SNR=1.5					
	comp=Z,3.8nm,0.5s					
JAY	**Jayapura**	**33.73 301**	P	**P**	**00 48 51.5**	**+1.2**
	comp=Z,116nm,1.4s,comp=Z,6μm					
GENI	**Genyem**	**34.12 300**	P	**P**	**00 48 55.6**	**+2.0**
GENI	**Genyem**	**34.12 300**	P	**P**	**00 48 52.2**	**-1.4**
	comp=Z,166nm,1.4s,comp=Z,8μmcomp=Z,29μm					
SMPI	**Sarmi**	**35.65 299**	P	**P**	**00 49 05.7**	**-1.1**
	comp=Z,140nm,1.7s,comp=Z,8μmcomp=Z,27μm					
KDU	**Kakadu**	**36.21 278**	P	**P**	**00 49 12.2**	**+0.6**
	baz=36,SNR=3.9					
KDU	**Kakadu**	**36.21 278**	P	**P**	**00 49 10.8**	**-0.8**
KDU	**Kakadu**	**36.21 278**	⇑P	**P**	**00 49 11.6**	**0.0**
MTN	**Manton Dam**	**37.39 277**	P	**P**	**00 49 22.7**	**+1.0**
	baz=37,SNR=7.9					
MTN	**Manton Dam**	**37.39 277**	P	**P**	**00 49 19.6**	**-2.1**
MTN			IAmb	IAmb	00 49 57.5	
	comp=Z,304nm,1.8s					
MTN	**Manton Dam**	**37.39 277**	P	**P**	**00 49 20.1**	**-1.6**
MTN	**Manton Dam**	**37.39 277**	⇑P	**P**	**00 49 21.4**	**-0.3**
WRKA	**Warakurna**	**37.64 257**	P	**P**	**00 49 22.5**	**-1.3**
	baz=37,SNR=6.9					
WRKA	**Warakurna**	**37.64 257**	P	**P**	**00 49 22.4**	**-1.3**
WRKA	**Warakurna**	**37.64 257**	⇓P	**P**	**00 49 22.7**	**-1.1**
FORT	**Forrest**	**37.85 248**	P	**P**	**00 49 27.1**	**+1.7**
	baz=38,SNR=7.2					
FORT	**Forrest**	**37.85 248**	P	**P**	**00 49 24.8**	**-0.6**
FORT			IAmb	IAmb	00 49 51.9	
	comp=Z,174nm,1.0s					
FORT	**Forrest**	**37.85 248**	P	**P**	**00 49 25.5**	**+0.1**
FORT	**Forrest**	**37.85 248**	⇑P	**P**	**00 49 25.8**	**+0.3**
KNRA	**Kununurra**	**38.76 272**	P	**P**	**00 49 32.6**	**-0.6**
	baz=38,SNR=4.8					
KNRA	**Kununurra**	**38.76 272**	P	**P**	**00 49 31.1**	**-2.0**
KNRA			IAmb	IAmb	00 50 04.1	
	comp=Z,130nm,1.1s					
KNRA	**Kununurra**	**38.76 272**	P	**P**	**00 49 31.2**	**-2.0**
PPT2	**Papeete2**	**38.89 91**	*e*S	**S**	**00 55 27.6**	**-4.2**
	comp=Z,43μm,27.2s					
PPT2			*e*LQ	LQ	00 58 40.7	
	comp=Z,175μm,30.2s					
PPT2			*e*LR	LR	01 00 09.4	
	comp=Z,70μm,33.2s					
PPT2			*e*LR	LR	01 00 21.7	
	comp=Z,109μm,30.2s					
PPT	**Papeete**	**38.90 91**	LR	LR	01 05 02.0	
	comp=Z,8μm,18.4s,baz=254,slow=36					
SAUI	**Saumlaki**	**39.05 285**	P	**P**	**00 49 35.4**	**-0.2**
SAUI			IAmb	IAmb	00 50 52.4	
	comp=Z,161nm,0.6s					
TIAR	**Tiarei**	**39.11 91**	*e*P	**P**	**00 49 36.4**	**+0.2**
	comp=Z,5.5nm,0.8s					
TVO	**Taravao**	**39.15 92**	*e*P	**P**	**00 49 35.7**	**-0.8**
	comp=Z,19nm,1.0s					
XMAS	**Kiritimati**	**40.23 58**	P	**P**	**00 49 45.6**	**+0.1**
FAKI	**Fak Fak**	**40.55 292**	P	**P**	**00 49 46.0**	**-2.1**
FAKI	**Fak Fak**	**40.55 292**	P	**P**	**00 49 48.4**	**+0.2**
	comp=Z,181nm,1.6s,comp=Z,10μmcomp=Z,27μm					
PMOR	**Pomariorio Ree**	**41.10 88**	*e*P	**P**	**00 49 51.9**	**-0.8**
	comp=Z,169nm,1.3s					
BNDI	**Bandanaira**	**41.82 288**	P	**P**	**00 50 00.2**	**+1.6**
BNDI	**Bandanaira**	**41.82 288**	P	**P**	**00 49 59.6**	**+1.0**
	comp=Z,361nm,1.9s,comp=Z,12μmcomp=Z,27μm					
SWI	**Sorong**	**42.46 294**	P	**P**	**00 50 05.2**	**+1.4**
	comp=Z,169nm,1.5s,comp=Z,9μmcomp=Z,23μm					
GUMO	**Guam**	**42.53 324**	P	**P**	**00 50 01.4**	**-2.8**
GUMO	**Guam**	**42.53 324**	IAMs_20	IAMs_20	01 07 02.4	
	comp=Z,73μm,19.0s					
GUMO	**Guam**	**42.53 324**	P	**P**	**00 50 05.3**	**+1.1**
GUMO	**Guam**	**42.53 324**	P	**P**	**00 50 03.0**	**-1.2**
	comp=Z,96nm,0.8s,baz=162,slow=20,SNR=4.7					
GUMO			LR	LR	01 07 21.6	
	comp=Z,74μm,18.4s,baz=130,slow=36					
	comp=Z,96nm,0.8s					
KMBL	**Kambalda**	**43.17 247**	P	**P**	**00 50 09.6**	**+0.2**
	baz=43,SNR=6.5					
KMBL	**Kambalda**	**43.17 247**	P	**P**	**00 50 07.4**	**-2.0**
JOHN	**Johnston Islan**	**43.55 30**	P	**P**	**00 50 07.8**	**-4.6**
JOHN			IAmb	IAmb	00 50 23.5	
	comp=Z,156nm,0.9s					
JOHN	**Johnston Islan**	**43.55 30**	P	**P**	**00 50 15.2**	**+2.8**
SOEI	**Soe**	**44.77 278**	P	**P**	**00 50 21.8**	**-0.8**
SOEI	**Soe**	**44.77 278**	P	**P**	**00 50 23.4**	**+0.8**
SOEI	**Soe**	**44.77 278**	P	**P**	**00 50 23.7**	**+1.1**
	comp=Z,359nm,2.7s,comp=Z,15μmcomp=Z,41μm					
SOEI	**Soe**	**44.77 278**	S	**S**	**00 57 03.2**	**+4.2**
SOEI			P	**P**	**00 50 23.9**	**+1.3**
SOEI	**Soe**	**44.77 278**	⇓P	**P**	**00 50 25.1**	**+2.5**
NLAI	**Namlea**	**44.89 288**	P	**P**	**00 50 22.6**	**-0.8**
	comp=Z,78nm,1.8s,comp=Z,9μm					
BATI	**Baumata**	**45.17 277**	P	**P**	**00 50 27.8**	**+2.2**
	comp=Z,150nm,1.5s,comp=Z,17μmcomp=Z,32μm					
BATI	**Baumata**	**45.17 277**	P	**P**	**00 50 25.5**	**-0.1**
	comp=Z,32nm,0.6s,baz=89,slow=6.3,SNR=9.1					
BATI			S	**S**	**00 57 09.5**	**+4.9**
	comp=Z,7.1nm,0.3s,baz=322,slow=0.7,SNR=1.3					
	comp=Z,32nm,0.6s					
PSA00	**Pilbara Seismi**	**45.77 261**	P	**P**	**00 50 29.4**	**-0.9**
PSA00			IAmb	IAmb	00 50 55.4	
	comp=Z,136nm,1.1s					
PSA00	**Pilbara Seismi**	**45.77 261**	P	**P**	**00 50 29.4**	**-0.9**
PSA00	**Pilbara Seismi**	**45.77 261**	P	**P**	**00 50 31.4**	**+1.1**
LBMI	**Labuha**	**45.79 292**	P	**P**	**00 50 33.6**	**+3.1**
	comp=Z,225nm,1.8s,comp=Z,12μm					
MBWA	**Marble Bar**	**45.94 261**	P	**P**	**00 50 30.8**	**-0.9**
MBWA			IAmb	IAmb	00 50 56.8	
	comp=Z,164nm,1.1s					
MBWA	**Marble Bar**	**45.94 261**	P	**P**	**00 50 33.4**	**+1.7**
MBWA	**Marble Bar**	**45.94 261**	⇓P	**P**	**00 50 32.7**	**+1.0**
MEEK	**Meekatharra**	**46.22 253**	P	**P**	**00 50 34.6**	**+0.8**
	baz=46,SNR=7.5					
MEEK	**Meekatharra**	**46.22 253**	P	**P**	**00 50 33.1**	**-0.8**
SANI	**Sanana**	**46.42 289**	P	**P**	**00 50 34.1**	**-1.4**
SANI	**Sanana**	**46.42 289**	P	**P**	**00 50 34.6**	**-0.9**
	comp=Z,179nm,1.4s,comp=Z,14μmcomp=Z,29μm					
SANI	**Sanana**	**46.42 289**	S	**S**	**00 57 26.7**	**+4.1**
SANI			P	**P**	**00 50 35.3**	**-0.2**
SANI	**Sanana**	**46.42 289**	⇓P	**P**	**00 50 34.7**	**-0.8**
TNTI	**Ternate**	**46.62 293**	P	**P**	**00 50 36.5**	**-0.6**
TNTI			IAmb	IAmb	00 51 28.3	
	comp=Z,227nm,1.7s					
KLBR	**Kellerberrin**	**46.69 247**	P	**P**	**00 50 38.6**	**+1.1**
	baz=46,SNR=16					
KLBR	**Kellerberrin**	**46.69 247**	P	**P**	**00 50 36.6**	**-0.9**
MMRI	**Maumere**	**47.04 279**	P	**P**	**00 50 40.2**	**-0.2**
MMRI	**Maumere**	**47.04 279**	P	**P**	**00 50 42.1**	**+1.7**
MMRI	**Maumere**	**47.04 279**	P	**P**	**00 50 41.3**	**+0.9**
	comp=Z,191nm,1.1s,comp=Z,11μmcomp=Z,29μm					
NWAO	**Narrogin (SRO)**	**47.12 245**	P	**P**	**00 50 41.4**	**+0.5**
	baz=47,SNR=12					
NWAO			P	**P**	**00 50 41.4**	**+0.5**
	baz=47,SNR=12					
NWAO	**Narrogin (SRO)**	**47.12 245**	P	**P**	**00 50 39.6**	**-1.2**
NWAO			IAmb	IAmb	00 51 05.9	
	comp=Z,150nm,1.1s					
NWAO	**Narrogin (SRO)**	**47.12 245**	P	**P**	**00 50 39.9**	**-0.9**
NWAO			IAmb	IAmb	00 51 05.9	
	comp=Z,454nm,1.0s					
NWAO	**Narrogin (SRO)**	**47.12 245**	P	**P**	**00 50 43.4**	**+2.6**
NWAO	**Narrogin (SRO)**	**47.12 245**	P	**P**	**00 50 39.9**	**-0.9**
NWAO			pmax	pmax		
	comp=Z,454nm,1.0s					
NWAO	**Narrogin (SRO)**	**47.12 245**	LR	LR	01 11 26.7	
	comp=Z,108μm,18.6s,baz=76,slow=37					
RKGY	**Rocky Gully**	**47.35 243**	P	**P**	**00 50 43.2**	**+0.6**
	baz=47,SNR=4.6					
RKGY	**Rocky Gully**	**47.35 243**	P	P	00 50 47.4	+4.8
EDFI	**Ende, Flores**	**47.50 278**	P	**P**	**00 50 45.5**	**+1.4**
BLDU	**Ballidu**	**47.62 248**	P	**P**	**00 50 45.8**	**+1.1**
	baz=47,SNR=5.1					
BLDU	**Ballidu**	**47.62 248**	P	**P**	**00 50 44.6**	**-0.1**
BBSI	**Bau Bau**	**47.96 283**	P	**P**	**00 50 48.3**	**+0.8**
	comp=Z,132nm,1.4s,comp=Z,8μmcomp=Z,17μm					
MUN	**Mundaring**	**48.00 246**	P	**P**	**00 50 49.8**	**+2.2**
	baz=48,SNR=3.9					
MUN	**Mundaring**	**48.00 246**	P	**P**	**00 50 50.6**	**+2.9**
BASI	**Baing, Sumba**	**48.01 276**	P	**P**	**00 50 49.7**	**+1.8**
	comp=Z,400nm,1.5s,comp=Z,12μmcomp=Z,32μm					
MORW	**Morawa**	**48.29 250**	P	**P**	**00 50 51.0**	**+1.1**
	baz=48,SNR=6.3					
MORW	**Morawa**	**48.29 250**	P	**P**	**00 50 48.6**	**-1.3**
MORW	**Morawa**	**48.29 250**	P	**P**	**00 50 50.6**	**+0.7**
MORW	**Morawa**	**48.29 250**	⇓P	**P**	**00 50 51.1**	**+1.1**
LUWI	**Luwuk**	**49.73 288**	P	**P**	**00 51 00.0**	**-1.1**
LUWI	**Luwuk**	**49.73 288**	P	**P**	**00 51 02.9**	**+1.8**
LUWI	**Luwuk**	**49.73 288**	P	**P**	**00 51 00.7**	**-0.4**
	comp=Z,192nm,1.7s,comp=Z,11μmcomp=Z,28μm					
LUWI	**Luwuk**	**49.73 288**	P	**P**	**00 51 01.3**	**+0.1**
LUWI			S	**S**	**00 58 12.7**	**+3.2**
TAOE	**Nuku Hiva Isla**	**50.23 83**	*e*P	**P**	**00 51 04.8**	**-0.3**
	comp=Z,297nm,1.0s					
TAOE			*e*S	**S**	**00 58 17.1**	**+0.4**
	comp=Z,48μm,27.2s					
TAOE			*e*SS	**SS**	**01 01 39.9**	**-10**
	comp=Z,12μm,29.5s					
TAOE			*e*LQ	LQ	01 03 15.9	
	comp=Z,46μm,26.6s					
TAOE			*e*LR	LR	01 05 31.6	
	comp=Z,88μm,29.6s					
TAOE	**Nuku Hiva Isla**	**50.23 83**	P	**P**	**00 51 05.7**	**+0.7**
TAOE			IAmb	IAmb	00 51 09.1	
	comp=Z,141nm,1.0s					
BKSI	**Bulukumba**	**50.25 282**	P	**P**	**00 51 04.4**	**-0.7**
	comp=Z,94nm,2.2s,comp=Z,6μm					
KAPI	**Kappang**	**50.72 282**	P	**P**	**00 51 06.3**	**-2.3**
KAPI			IAMs_20	IAMs_20	01 11 33.2	
	comp=Z,45μm,19.0s					
KAPI	**Kappang**	**50.72 282**	P	**P**	**00 51 10.4**	**+1.8**
KAPI	**Kappang**	**50.72 282**	⇓P	**P**	**00 51 08.5**	**-0.1**
KAPI	**Kappang**	**50.72 282**	*i* P	**P**	**00 51 06.7**	**-1.9**
KAPI			pmax	pmax		
	comp=Z,42nm,1.0s					
KAPI	**Kappang**	**50.72 282**	S	**S**	**00 58 22.3**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=59,slow=20,SNR=1.2					
KAPI			LR	LR	01 15 39.7	
	comp=Z,32μm,18.0s,baz=123,slow=40					
PLAI	**Plampang**	**51.09 276**	P	**P**	**00 51 13.2**	**+1.8**
PLAI	**Plampang**	**51.09 276**	P	**P**	**00 51 12.5**	**+1.1**
	comp=Z,141nm,2.4s,comp=Z,11μmcomp=Z,30μm					
MRSI	**Marisa**	**51.18 289**	P	**P**	**00 51 12.1**	**0.0**
	comp=Z,72nm,1.7s,comp=Z,6μmcomp=Z,22μm					
MIDW	**Midway**	**51.35 15**	P	**P**	**00 51 12.0**	**-0.9**
TTSI	**Tana Toraja**	**51.47 284**	P	**P**	**00 51 14.0**	**-0.3**
	comp=Z,98nm,2.2s,comp=Z,6μmcomp=Z,21μm					
DAV	**Davao City (W)**	**51.54 299**	P	**P**	**00 51 14.0**	**-0.8**
DAV	**Davao City (W)**	**51.54 299**	P	**P**	**00 51 13.4**	**-1.4**
	comp=Z,118nm,0.3s,baz=13,slow=6.7,SNR=1.4					
TWSI	**Taliwang, Sumb**	**51.94 276**	P	**P**	**00 51 17.2**	**-0.6**
	comp=Z,112nm,2.1s,comp=Z,9μmcomp=Z,28μm					
TOLI2	**Tolitoli**	**52.50 289**	P	**P**	**00 51 19.7**	**-2.2**
TOLI2			IAmb	IAmb	00 51 38.2	
	comp=Z,207nm,1.4s					
TOLI2	**Tolitoli**	**52.50 289**	P	**P**	**00 51 23.4**	**+1.5**
MPSI	**Mapaga**	**52.91 288**	P	**P**	**00 51 24.9**	**-0.1**
	comp=Z,60nm,1.8s,comp=Z,5μmcomp=Z,22μm					
IGBI	**Denpasar**	**53.52 275**	P	**P**	**00 51 30.8**	**+1.3**
	comp=Z,166nm,1.1s,comp=Z,9μmcomp=Z,18μm					
SRBI	**Singaraja**	**53.72 276**	P	**P**	**00 51 32.7**	**+1.8**
	comp=Z,196nm,2.0s,comp=Z,11μmcomp=Z,30μm					
JAGI	**Jajag, Banyuwa**	**54.56 275**	P	**P**	**00 51 35.8**	**-1.3**
JAGI			IAMs_20	IAMs_20	01 15 16.4	
	comp=Z,50μm,20.0s					
JAGI	**Jajag, Banyuwa**	**54.56 275**	P	**P**	**00 51 38.6**	**+1.5**
JAGI	**Jajag, Banyuwa**	**54.56 275**	P	**P**	**00 51 38.4**	**+1.3**
	comp=Z,129nm,1.6s,comp=Z,6μmcomp=Z,23μm					
JAGI	**Jajag, Banyuwa**	**54.56 275**	⇓P	**P**	**00 51 38.2**	**+1.1**
BKB	**Balikpapan**	**54.87 285**	P	**P**	**00 51 40.1**	**+0.8**
JCJ	**Chichijima**	**55.21 330**	LR	LR	01 12 10.1	
	comp=Z,28μm,21.5s,baz=138,slow=33					
GMJI	**Gumukmas**	**55.29 275**	P	**P**	**00 51 43.5**	**+1.2**
	comp=Z,74nm,1.2s,comp=Z,6μm					
BLJI	**Banyuglugur**	**55.34 276**	P	**P**	**00 51 44.7**	**+2.0**
	comp=Z,129nm,0.9s,comp=Z,8μmcomp=Z,23μm					
BBKI	**Banjar Baru**	**55.82 281**	P	**P**	**00 51 47.2**	**+1.0**
	comp=Z,142nm,0.9s,comp=Z,16μm					
VNDA	**Vanda**	**55.91 182**	P	**P**	**00 51 45.3**	**-0.6**
VNDA	**Vanda**	**55.91 182**	P	**P**	**00 51 44.7**	**-1.2**
	comp=Z,4.1nm,0.9s,baz=0.5,slow=7.6,SNR=15					
VNDA			S	**S**	**00 59 35.0**	**+2.9**
	comp=Z,0.5nm,0.9s,baz=32,slow=8.7,SNR=0.9					
VNDA			LR	LR	01 11 38.2	
	comp=Z,10μm,21.1s,baz=14,slow=32					
	comp=Z,4.1nm,0.9s					
SBA	**Scott Base**	**56.14 181**	P	**P**	**00 51 46.9**	**-0.6**
SBA			IAmb	IAmb	00 52 11.6	
	comp=Z,112nm,1.0s					
SBA	**Scott Base**	**56.14 181**	P	**P**	**00 51 46.9**	**-0.6**
SBA			pmax	pmax		
	comp=Z,112nm,1.0s					
MYLDM	**Lahad Datu**	**56.47 292**	P	**P**	**00 51 48.8**	**-1.9**
NGJI	**Ngawi**	**57.44 275**	P	**P**	**00 52 01.3**	**+3.6**
	comp=Z,182nm,1.5s,comp=Z,15μm					
WOJI	**Wonogiri, Jawa**	**57.77 274**	P	**P**	**00 52 00.4**	**+0.3**
	comp=Z,207nm,0.9s,comp=Z,9μmcomp=Z,22μm					
CASY	**Casey**	**57.83 204**	P	**P**	**00 51 57.5**	**-2.1**
CASY	**Casey**	**57.83 204**	⇑P	**P**	**00 51 58.7**	**-0.9**
SMRI	**Semarang**	**58.50 275**	P	**P**	**00 52 04.5**	**-0.7**
SMRI			IAMs_20	IAMs_20	01 17 29.2	
	comp=Z,43μm,19.0s					
KKM	**Kota Kinabalu**	**58.87 292**	P	**P**	**00 52 06.2**	**-1.6**
KKM	**Kota Kinabalu**	**58.87 292**	P	**P**	**00 52 09.7**	**+1.9**
TGY	**Tagaytay City**	**59.32 303**	LR	LR	01 16 30.9	
	comp=Z,18μm,20.2s,baz=127,slow=35					
KPJI	**Karang Pucung**	**59.80 274**	P	**P**	**00 52 14.9**	**+0.8**
	comp=Z,109nm,2.0s,comp=Z,6μm					
STKI	**Sintang**	**60.33 283**	P	**P**	**00 52 19.4**	**+1.6**
	comp=Z,127nm,1.5s,comp=Z,12μmcomp=Z,20μm					
SBUM	**Sibu**	**60.70 286**		**P**	**00 52 19.1**	**-1.2**
BBJI	**Bungbulang**	**60.94 274**	P	**P**	**00 52 23.4**	**+1.3**
LEM	**Lembang**	**61.20 274**	LR	LR	01 19 39.4	
	comp=Z,49μm,18.9s,baz=115,slow=37					
JHJ2	**Mitsune**	**61.40 332**	IAMs_20	IAMs_20	01 16 22.1	
	comp=Z,36μm,18.0s					
JHJ	**Hachijo jima 2**	**61.42 332**	LR	LR	01 16 22.4	
	comp=Z,18μm,20.9s,baz=156,slow=34					
XMIS	**Christmas Isla**	**61.78 270**	P	**P**	**00 52 23.1**	**-4.6**
KSM	**Kuching**	**61.99 284**	P	**P**	**00 52 27.8**	**-1.2**
KSM			IAmb	IAmb	00 52 49.8	
	comp=Z,85nm,1.0s					
KSM	**Kuching**	**61.99 284**	P	**P**	**00 52 31.3**	**+2.3**
CBJI	**Citeko**	**62.05 274**	P	**P**	**00 52 30.1**	**+0.6**
	comp=Z,222nm,1.5s,comp=Z,16μmcomp=Z,23μm					
JOW	**Kunigami**	**62.53 319**	P	**P**	**00 52 29.8**	**-2.6**
JOW			IAmb	IAmb	00 52 52.1	
	comp=Z,74nm,1.0s					
JOW	**Kunigami**	**62.53 319**	LR	LR	01 20 03.1	
	comp=Z,20μm,18.1s,baz=146,slow=36					
CGJI	**Cibinong**	**63.06 274**	P	**P**	**00 52 36.5**	**+0.3**
	comp=Z,155nm,1.2s,comp=Z,7μmcomp=Z,20μm					
INU	**Inuyama**	**64.52 331**	P	**P**	**00 52 44.1**	**-1.3**
INU			IAmb	IAmb	00 53 27.8	
	comp=Z,73nm,1.2s					
INU			IAMs_20	IAMs_20	01 17 07.6	
	comp=Z,32μm,20.0s					
INU	**Inuyama**	**64.52 331**	P	**P**	**00 52 47.4**	**+2.0**
KASI	**Kota Agung**	**64.56 274**	P	**P**	**00 52 47.0**	**+0.9**
	comp=Z,185nm,1.0s,comp=Z,5μm					
TWG	**Pinlang**	**64.57 310**	P	**P**	**00 52 44.1**	**-1.8**
TWG			IAmb	IAmb	00 53 23.7	
	comp=Z,90nm,1.3s					
JMN	**Monobe**	**64.68 328**	P	**P**	**00 52 43.9**	**-2.6**
JMN	**Monobe**	**64.68 328**	P	**P**	**00 52 47.9**	**+1.4**
JMN	**Monobe**	**64.68 328**	P	**P**	**00 52 48.7**	**+2.2**
YULB	**Yu-li**	**64.78 311**	P	**P**	**00 52 45.2**	**-2.1**
YULB			IAmb	IAmb	00 53 22.4	
	comp=Z,81nm,1.4s					
MJAR	**Matsushiro Arr**	**65.00 333**	P	**P**	**00 52 46.3**	**-2.2**
	comp=Z,12nm,0.9s,baz=176,slow=7.9,SNR=16					
MJAR			LR	LR	01 20 52.5	
	comp=Z,20μm,19.4s,baz=134,slow=36					
	comp=Z,12nm,0.9s					
MAJO	**Matsushiro**	**65.01 333**	P	**P**	**00 52 44.5**	**-4.0**
MAJO			IAmb	IAmb	00 53 30.2	
	comp=Z,99nm,1.2s					
MAJO	**Matsushiro**	**65.01 333**	P	**P**	**00 52 49.7**	**+1.2**
MAJO	**Matsushiro**	**65.01 333**	⇑P	**P**	**00 52 49.2**	**+0.7**
MAJO	**Matsushiro**	**65.01 333**	*i* P	**P**	**00 52 49.2**	**+0.7**
MAJO			pmax	pmax		
	comp=Z,115nm,2.6s					
MAJO			MLR	MLR		
	comp=Z,22μm,17.0s					
MAT	**Matsushiro**	**65.01 333**	P	**P**	**00 52 50.2**	**+1.7**
MJB9	**Matsu-Tunnel**	**65.01 333**	P	**P**	**00 52 45.3**	**-3.2**
MJB9			IAmb	IAmb	00 53 30.2	
	comp=Z,103nm,1.3s					
NACB	**Ninganchiao**	**65.08 312**	P	**P**	**00 52 46.2**	**-3.0**
NACB			IAmb	IAmb	00 53 20.7	
	comp=Z,118nm,1.1s					
NACB	**Ninganchiao**	**65.08 312**	P	**P**	**00 52 50.9**	**+1.7**
JMM	**Marumori**	**65.09 335**	P	P	00 52 44.0	-5.0
JMM			IAmb	IAmb	00 53 12.6	
	comp=Z,126nm,1.1s					
JMM			IAMs_20	IAMs_20	01 17 14.0	
	comp=Z,26μm,18.0s					
JMM	**Marumori**	**65.09 335**	P	**P**	**00 52 51.2**	**+2.2**
JMM	**Marumori**	**65.09 335**	⇑P	**P**	**00 52 49.7**	**+0.7**
TPUB	**Ta-pu**	**65.19 311**	P	**P**	**00 52 52.2**	**+2.2**
PMBI	**Palembang**	**65.27 277**	IAMs_20	IAMs_20	01 23 09.5	
	comp=Z,39μm,20.0s					
SSLB	**Suanglung**	**65.27 311**	P	**P**	**00 52 49.8**	**-0.7**
SSLB			IAmb	IAmb	00 53 15.6	
	comp=Z,45nm,0.9s					
SSLB			IAMs_20	IAMs_20	01 20 23.7	
	comp=Z,33μm,19.0s					
JAD	**Aida**	**65.52 329**	P	**P**	**00 52 51.5**	**-0.4**
YHNB	**Yeheng**	**65.55 312**	P	**P**	**00 52 50.9**	**-1.5**
YHNB			IAMs_20	IAMs_20	01 16 45.1	
	comp=Z,30μm,22.0s					
YHNB	**Yeheng**	**65.55 312**	P	**P**	**00 52 53.3**	**+0.9**
TATO	**Taipei**	**65.67 312**	P	**P**	**00 52 49.3**	**-3.7**
TATO	**Taipei**	**65.67 312**	IAMs_20	IAMs_20	01 17 10.1	
	comp=Z,30μm,21.0s					
JNU	**Nakatsue**	**65.75 325**	P	**P**	**00 52 51.4**	**-2.0**
JNU			IAmb	IAmb	00 53 46.8	
	comp=Z,166nm,1.5s					
JNU	**Nak

GZH			S	**S**	**01 02 37.0 +2.5**
GZH			SS	**SS**	**01 07 09.3 +3.5**
GZH			pmax	pmax	
	comp=Z,18nm,1.3s				
GZH			pmax	pmax	
	comp=Z,2μm,5.1s				
GZH			LR	LR	
	comp=Z,2μm,14.2s				
GZH			LR	LR	
	comp=Z,4μm,19.0s				
GZH			LR	LR	
	comp=Z,6μm,19.5s				
KSRS	**Korea Array**	**70.61 326**	P	**P**	**00 53 21.6 -2.1**
	comp=Z,8.9nm,1.2s,baz=146,slow=5.9,SNR=11				
KSRS			S	**S**	**01 02 37.2 +0.6**
	comp=Z,0.7nm,0.5s,baz=66,slow=40,SNR=1.3				
KSRS			LR	LR	01 21 49.7
	comp=Z,12μm,20.3s,baz=145,slow=34				
	comp=Z,8.9nm,1.2s				
KSAR	**Wonju Array Be**	**70.62 326**	P	**P**	**00 53 22.5 -1.4**
KSAR	**Wonju Array Be**	**70.62 326**	P	**P**	**00 53 22.5 -1.4**
QIZ	**Qiongzhong**	**70.87 300**	P	**P**	**00 53 27.5 +1.7**
QIZ			PcP	**PcP**	**00 53 47.3 +1.0**
QIZ			S	**S**	**01 02 44.0 +3.7**
QIZ			pmax	pmax	
	comp=Z,5μm,8.3s				
QIZ			LR	LR	
	comp=Z,15μm,20.6s				
QIZ			LR	LR	
	comp=Z,12μm,15.7s				
QIZ			LR	LR	
	comp=Z,14μm,16.0s				
INCN	**Inchon**	**71.31 325**	P	**P**	**00 53 26.7 -1.4**
INCN	**Inchon**	**71.31 325**	P	**P**	**00 53 26.7 -1.4**
INCN			pmax	pmax	
	comp=Z,257nm,1.6s				
NJ2	**Nanjing**	**72.05 317**	*e*P	**P**	**00 53 32.8 +0.2**
NJ2			sP	**pwP**	**00 53 43.3 -1.0**
NJ2			PcP	**PcP**	**00 53 49.8 -1.2**
NJ2			S	**S**	**01 02 53.5 0.0**
NJ2			sS	**sS**	**01 03 02.3 +0.4**
NJ2			pmax	pmax	
	comp=Z,21nm,1.1s				
NJ2			pmax	pmax	
	comp=Z,2μm,5.0s				
NJ2			LR	LR	
	comp=Z,14μm,19.9s				
NJ2			LR	LR	
	comp=Z,10μm,21.8s				
NJ2			LR	LR	
	comp=Z,21μm,19.6s				
KULM	**Kulim**	**72.32 283**	P	**P**	**00 53 32.4 -2.3**
KULM			IAmb	IAmb	00 54 03.8
	comp=Z,94nm,1.5s				
KULM			IAMs_20	IAMs_20	01 26 44.3
	comp=Z,38μm,20.0s				
YSS	**Yuzh-Sakhalins**	**72.48 341**		**P**	**00 53 34.9 +0.1**
YSS	**Yuzh-Sakhalins**	**72.48 341**	P	**P**	**00 53 37.8 +3.0**
YSS	**Yuzh-Sakhalins**	**72.48 341**	*c i*P	**P**	**00 53 36.3 +1.5**
YSS			*e*		00 53 56.1
YSS			*e*PPP	PPP	00 58 04.2
YSS			*e*S	**S**	**01 02 56.0 -1.7**
YSS			pmax	pmax	
	comp=Z,5μm,5.1s				
YSS			pmax	pmax	
	comp=Z,90nm,1.2s				
YSS			MLR	MLR	
	comp=Z,24μm,18.0s				
YSS			MLR	MLR	
	comp=N,15μm,16.0s				
YSS			MLR	MLR	
	comp=E,10μm,16.0s				
RPSI	**Rantau Prapat**	**72.84 280**	P	**P**	**00 53 36.2 -1.6**
TEY	**Ternei**	**72.86 336**⇓	*e*P	**P**	**00 53 33.7 -3.4**
TEY			*e*S	**S**	**01 03 03.1 +0.9**
PSI	**Prapat**	**72.88 280**	P	**P**	**00 53 36.2 -2.0**
PSI			pmax	pmax	
	comp=Z,71nm,1.2s				
PSI			MLR	MLR	
	comp=Z,37μm,19.0s				
MSHR	**Mys Shultsa**	**73.05 332**	*i* P	**P**	**00 53 37.4 -0.9**
MSHR			pmax	pmax	
	comp=Z,78nm,2.7s				
RPN	**Rapa Nui**	**73.07 113**	LR	LR	01 18 35.4
	comp=Z,3μm,19.1s,baz=260,slow=30				
SKR	**Severo-Kuril's**	**73.07 351**	*i* P	**P**	**00 53 39.7 +1.5**
GSI	**Gunungsitoli**	**73.53 278**	P	**P**	**00 53 40.3 -1.6**
GSI			IAmb	IAmb	00 54 03.0
	comp=Z,86nm,1.0s				
GSI	**Gunungsitoli**	**73.53 278**	P	**P**	**00 53 44.0 +2.1**
GSI	**Gunungsitoli**	**73.53 278**	P	**P**	**00 53 44.6 +2.7**
	comp=Z,108nm,1.1s,comp=Z,9μmcomp=Z,19μm				
CNSH	**ChangSha**	**73.65 310**	⇓P	**P**	**00 53 42.3 +0.1**
CNSH			S	**S**	**01 03 13.8 +2.0**
CNSH			LR	LR	
	comp=Z,15μm,17.7s				
CNSH			LR	LR	
	comp=Z,10μm,22.2s				
CNSH			LR	LR	
	comp=Z,15μm,22.6s				
GULI	**GuiLin**	**73.87 306**	⇑P	P	00 53 56.5 +13
GULI			S	**S**	**01 03 23.0 +8.6**
GULI			pmax	pmax	
	comp=Z,60nm,1.4s				
GULI			LR	LR	
	comp=N,10μm,17.4s				
GULI			LR	LR	
	comp=E,14μm,19.5s				
GULI			LR	LR	
	comp=Z,18μm,20.6s				
USA0B	**Ussuriysk Arra**	**74.00 333**	P	**P**	**00 53 42.8 -1.1**
USA0B	**Ussuriysk Arra**	**74.00 333**	*i* P	**P**	**00 53 44.8 +0.9**
USRK	**Ussuriysk Ar.**	**74.00 333**	P	**P**	**00 53 42.8 -1.1**
USRK	**Ussuriysk Ar.**	**74.00 333**	P	**P**	**00 53 43.8 -0.1**
	comp=Z,7.9nm,0.8s,baz=134,slow=4.2,SNR=7.8				
USRK			S	**S**	**01 03 16.3 +1.2**
	comp=Z,0.7nm,0.4s,baz=209,slow=34,SNR=1.8				
USRK			LR	LR	01 24 21.7
	comp=Z,17μm,20.1s,baz=141,slow=34				
	comp=Z,7.9nm,0.8s				
WHN	**Wuhan**	**74.08 313**	P	**P**	**00 53 45.0 +0.4**
WHN			sP	**sP**	**00 53 52.5 +1.1**
WHN			PP	**PP**	**00 56 33.0 +2.6**
WHN			S	**S**	**01 03 21.0 +4.5**
WHN			pmax	pmax	
	comp=Z,650nm,2.3s				
WHN			pmax	pmax	
	comp=Z,4μm,5.3s				
WHN			LR	LR	
	comp=Z,50μm,15.7s				
WHN			LR	LR	
	comp=Z,36μm,16.7s				
WHN			LR	LR	
	comp=Z,58μm,18.6s				
SHEM	**Shemya Is, Ala**	**74.31 3**	LR	LR	01 21 12.3
	comp=Z,40μm,20.7s,baz=185,slow=32				
ADK	**Adak**	**74.37 9**	IAMs_20	IAMs_20	01 22 22.5
	comp=Z,36μm,20.0s				
UGL	**Uglegorsk**	**74.59 342**	*e*P	P	00 53 54.5 +7.3
UGL			pmax	pmax	
	comp=Z,9μm,8.5s				
SRIT	**Nakonsritamara**	**74.66 286**	P	**P**	**00 53 45.9 -2.5**
SRIT			IAmb	IAmb	00 54 13.8
	comp=Z,79nm,1.3s				
SRIT	**Nakonsritamara**	**74.66 286**	P	**P**	**00 53 52.5 +4.1**
SURA	**Surathani**	**74.88 286**	P	**P**	**00 53 52.1 +2.5**
DL2	**Dalian**	**75.06 323**	P	**P**	**00 53 51.0 +0.9**
DL2			S	**S**	**01 03 30.5 +3.4**
DL2			pmax	pmax	
	comp=Z,100nm,1.1s				
DL2			pmax	pmax	
	comp=Z,5μm,8.9s				
DL2			LR	LR	
	comp=Z,13μm,18.8s				
DL2			LR	LR	
	comp=Z,16μm,17.7s				
DL2			LR	LR	
	comp=Z,24μm,17.9s				
PET	**Petropavlovsk**	**75.06 353**	P	**P**	**00 53 47.9 -1.9**
PET			IAMs_20	IAMs_20	01 24 11.7
	comp=Z,28μm,19.0s				
PET	**Petropavlovsk**	**75.06 353**	*e*P	**P**	**00 53 51.8 +2.0**
PET			*e*S	**S**	**01 03 28.6 +2.1**
PET			*e*PS	PnS	01 03 47.0 -16
PET			*e*PPS	PPS	01 04 17.7
PET			pmax	pmax	
	comp=Z,235nm,1.8s				
PET			pmax	pmax	
	comp=Z,6μm,10.1s				
PET			MLR	MLR	
	comp=Z,15μm,16.0s				
ATKA	**Atka Island**	**75.07 10**	P	**P**	**00 53 49.5 -0.3**
ATKA			IAmb	IAmb	00 54 04.3
	comp=Z,131nm,1.0s				
ATKA			IAMs_20	IAMs_20	01 22 56.1
	comp=Z,33μm,20.0s				
ATKA	**Atka Island**	**75.07 10**	P	**P**	**00 53 54.1 +4.2**
PEA0B	**Petropavlovsk-**	**75.25 353**	P	**P**	**00 53 49.2 -1.7**
PEA0B	**Petropavlovsk-**	**75.25 353**	*ce*P	**P**	**00 53 52.8 +1.9**
PETK	**Petropavlovsk-**	**75.25 353**	P	**P**	**00 53 52.0 +1.2**
PETK	**Petropavlovsk-**	**75.25 353**	P	**P**	**00 53 52.1 +1.2**
PETK	**Petropavlovsk-**	**75.25 353**	P	**P**	**00 53 48.5 -2.4**
	comp=Z,17nm,1.0s,baz=163,slow=6.0,SNR=7.6				
PETK			S	**S**	**01 03 29.7 +1.0**
	comp=Z,2.7nm,0.9s,baz=320,slow=53,SNR=1.5				
PETK			LR	LR	01 23 42.8
	comp=Z,30μm,19.4s,baz=162,slow=33				
	comp=Z,17nm,1.0s				
MDJ	**Mudanjiang**	**75.36 332**	P	**P**	**00 53 50.8 -1.0**
MDJ			S	**S**	**01 03 35.3 +5.0**
MDJ			pmax	pmax	
	comp=Z,35nm,1.5s				
MDJ			pmax	pmax	
	comp=Z,3μm,5.0s				
MDJ			LR	LR	
	comp=Z,11μm,19.0s				
MDJ			LR	LR	
	comp=Z,11μm,19.9s				
MDJ			LR	LR	
	comp=Z,33μm,20.7s				
MDJ	**Mudanjiang**	**75.36 332**	IAmb	IAmb	00 54 22.6
	comp=Z,211nm,1.5s				
MDJ			IAMs_20	IAMs_20	01 23 20.7
	comp=Z,27μm,21.0s				
LHMI	**Lhok Sumawe**	**75.66 282**	P	**P**	**00 53 53.1 -1.1**
LHMI			IAMs_20	IAMs_20	01 32 13.7
	comp=Z,28μm,19.0s				
MLSI	**Meulaboh, Aceh**	**75.77 281**	pP	pP	00 54 04.8 +4.7
TIA	**Tai'an**	**75.86 319**	P	**P**	**00 53 53.3 -1.5**
TIA			S	**S**	**01 03 35.5 -0.7**
TIA			pmax	pmax	
	comp=Z,2μm,4.6s				
TIA			LR	LR	
	comp=Z,19μm,17.7s				
TIA			LR	LR	
	comp=Z,16μm,18.6s				
TIA			LR	LR	
	comp=Z,22μm,18.6s				
NONG	**Nongkai**	**75.86 296**	P	**P**	**00 53 54.8 -0.4**
TYV	**Tymovskoe**	**76.04 343**	*e*P	**P**	**00 53 58.2 +2.7**
TYV			*e*S	**S**	**01 03 41.8 +4.3**
TYV			pmax	pmax	
	comp=Z,544nm,1.9s				
TYV			pmax	pmax	
	comp=Z,2μm,4.4s				
TYV			smax	smax	
	comp=N,6μm,6.6s				
TYV			smax	smax	
	comp=E,15μm,6.6s				
SNY	**Shenyang**	**76.10 327**	⇓P	**P**	**00 53 57.8 +1.7**
SNY			S	**S**	**01 03 39.3 +0.7**
SNY			pmax	pmax	
	comp=E,2μm,5.1s				
SNY			LR	LR	
	comp=E,12μm,19.6s				
SNY			LR	LR	
	comp=E,9μm,19.1s				
SNY			LR	LR	
	comp=E,17μm,19.1s				
MAW	**Mawson**	**76.11 202**	P	**P**	**00 53 59.0 +3.2**
	baz=76,SNR=13				
MAW	**Mawson**	**76.11 202**	P	**P**	**00 53 54.6 -1.1**
MAW	**Mawson**	**76.11 202**	⇓P	**P**	**00 53 56.4 +0.6**
MAW	**Mawson**	**76.11 202**	P	**P**	**00 53 55.4 -0.4**
	comp=E,8.8nm,0.8s,baz=112,slow=11,SNR=22				
	comp=E,8.8nm,0.8s				
CN2	**Changchun**	**76.64 329**	*e*P	**P**	**00 53 58.3 -0.8**
CN2			*e*PP	**PP**	**00 56 52.5 +0.7**
CN2			*e*S	**S**	**01 03 43.3 -1.1**
CN2			*e*SS	**SS**	**01 08 42.5 +1.9**
CN2			pmax	pmax	
	comp=E,40nm,1.6s				
CN2			pmax	pmax	
	comp=E,4μm,4.5s				
CN2			LR	LR	
	comp=E,18μm,16.0s				
CN2			LR	LR	
	comp=E,14μm,16.0s				
CN2			LR	LR	
	comp=E,23μm,18.0s				
NIKH	**Nikolski High**	**76.83 13**	P	**P**	**00 54 02.2 +2.3**
NIKH	**Nikolski High**	**76.83 13**	P	**P**	**00 54 00.6 +0.7**
	baz=201				
BNX	**BinXian**	**77.21 331**	P	**P**	**00 54 03.3 +1.1**
BNX			pP	**sP**	**00 54 09.5 +0.3**
BNX			sP	**PcP**	**00 54 12.3 -0.6**
BNX			S	**S**	**01 03 54.5 +4.0**
BNX			sS	**sS**	**01 04 03.3 +4.4**
BNX			pmax	pmax	
	comp=E,46nm,1.9s				
BNX			pmax	pmax	
	comp=E,2μm,4.8s				
BNX			LR	LR	
	comp=E,20μm,17.0s				
BNX			LR	LR	
	comp=E,14μm,17.6s				
BNX			LR	LR	
	comp=E,22μm,18.4s				
GYA	**Guiyang**	**77.30 305**	⇑P	**P**	**00 54 03.8 +0.5**
GYA			pmax	pmax	
	comp=E,36nm,2.5s				
GYA			pmax	pmax	
	comp=E,2μm,5.6s				
GYA			LR	LR	
	comp=E,12μm,17.0s				
GYA			LR	LR	
	comp=E,15μm,18.7s				
GYA			LR	LR	
	comp=E,30μm,19.3s				
LYN	**LuoYang**	**77.77 315**	⇓P	**P**	**00 54 04.8 -0.9**
LYN			pP	sP	00 54 13.0 +0.5
LYN			sP	pwP	00 54 16.5 -0.9
LYN			S	**S**	**01 04 00.5 +3.3**
LYN			pmax	pmax	
	comp=E,50nm,1.0s				
LYN			pmax	pmax	
	comp=E,10μm,6.0s				
LYN			LR	LR	
	comp=E,26μm,19.6s				
LYN			LR	LR	
	comp=E,20μm,16.1s				
LYN			LR	LR	
	comp=E,38μm,22.2s				
GRNR	**Gornyy**	**77.83 339**	*e*P	**P**	**00 54 05.2 -0.4**
GRNR			*e*SS	**S**	**01 03 52.2 -4.9**
HNS	**HongShan**	**78.11 318**	⇓P	**P**	**00 54 07.0 -0.4**
HNS			S	**S**	**01 04 06.0 +5.4**
HNS			pmax	pmax	
	comp=E,67nm,1.5s				
HNS			pmax	pmax	
	comp=E,7μm,10.8s				
HNS			LR	LR	
	comp=E,9μm,19.1s				
HNS			LR	LR	
	comp=E,22μm,18.1s				
HNS			LR	LR	
	comp=E,18μm,19.7s				
UNV	**Unalaska Valle**	**78.16 14**	P	**P**	**00 54 07.8 +0.5**
	baz=203				
KLR	**Kul'dur**	**78.19 336**	*i* P	**P**	**00 54 07.1 -0.5**
KLR			pmax	pmax	
	comp=Z,110nm,2.0s				
KLR	**Kul'dur**	**78.19 336**	P	**P**	**00 54 06.0 -1.6**
	comp=Z,5.8nm,1.0s,baz=135,slow=5.5,SNR=8.2				
KLR			LR	LR	01 26 34.7
	comp=Z,24μm,19.3s,baz=152,slow=34				
	comp=Z,5.8nm,1.0s				
AIS	**Amsterdam Isla**	**78.27 234**	IAMs_20	IAMs_20	01 27 18.6
	comp=Z,27μm,20.0s				
BJI	**Beijing**	**78.92 321**	P	**P**	**00 54 11.8 -0.1**
BJI			S	**S**	**01 04 10.0 +0.7**
BJI			pmax	pmax	
	comp=Z,1μm,4.9s				
BJI			LR	LR	
	comp=Z,5μm,16.9s				
BJI			LR	LR	
	comp=Z,6μm,18.1s				
BJI			LR	LR	
	comp=Z,9μm,16.8s				
CRAI	**Chiangrai**	**79.19 297**	P	**P**	**00 54 11.5 -2.3**
PAF	**Port-aux-Franc**	**79.43 221**	P	**P**	**00 54 12.6 -2.1**
PAF	**Port-aux-Franc**	**79.43 221**	P	**P**	**00 54 12.6 -2.1**
PAF			pmax	pmax	
	comp=Z,394nm,1.5s				
PAF			MLR	MLR	
	comp=Z,13μm,18.0s				
CM31	**Chiang Mai Arr**	**79.58 295**	P	**P**	**00 54 15.5 -0.5**
CM31			IAmb	IAmb	00 54 58.6
	comp=Z,203nm,1.8s				
CMAR	**Chiang Mai Arr**	**79.58 295**	P	**P**	**00 54 15.0 -1.0**
CMAR	**Chiang Mai Arr**	**79.58 295**	P	**P**	**00 54 15.9 -0.1**
	comp=Z,6.5nm,0.8s,baz=130,slow=4.0,SNR=22				
CMAR			S	**S**	**01 04 19.4 +2.3**
	comp=Z,1.4nm,0.3s,baz=122,slow=11,SNR=1.7				
CMAR			LR	LR	01 29 53.9
	comp=Z,8μm,20.6s,baz=120,slow=36				
	comp=Z,6.5nm,0.8s				
BELA	**Belgrano 2**	**79.58 175**	P	**P**	**00 54 14.6 -0.5**
BELA			IAmb	IAmb	00 54 42.8
	comp=Z,219nm,1.6s				
KMI	**Kunming**	**79.64 302**	⇑P	**P**	**00 54 16.5 0.0**
KMI			pmax	pmax	
	comp=Z,67nm,1.4s				
KMI			pmax	pmax	
	comp=Z,5μm,7.8s				
KMI			LR	LR	
	comp=Z,7μm,22.3s				
KMI			LR	LR	
	comp=Z,12μm,20.0s				
KMI			LR	LR	
	comp=Z,16μm,21.2s				
TIY	**Taiyuan**	**79.72 318**	⇑P	**P**	**00 54 17.8 +1.4**
TIY			pP	**PcP**	**00 54 26.0 +1.9**
TIY			S	**SKSac**	**01 04 22.0 -10**
TIY			pmax	pmax	
	comp=Z,37nm,1.2s				
TIY			pmax	pmax	
	comp=Z,2μm,4.5s				
TIY			LR	LR	
	comp=Z,9μm,19.1s				
TIY			LR	LR	
	comp=Z,13μm,25.0s				
TIY			LR	LR	
	comp=Z,11μm,18.1s				
CHTO	**Chiang Mai**	**79.74 295**	P	**P**	**00 54 14.9 -1.9**
CHTO			IAmb	IAmb	00 54 36.8
	comp=Z,77nm,1.1s				
CHTO	**Chiang Mai**	**79.74 295**	P	**P**	**00 54 17.3 +0.5**
CHTO	**Chiang Mai**	**79.74 295**	⇑P	**P**	**00 54 18.1 +1.2**
CHTO	**Chiang Mai**	**79.74 295**	P	**P**	**00 54 15.0 -1.9**
CHTO			pmax	pmax	
	comp=Z,77nm,1.2s				
XAN	**Xi'an**	**79.84 313**	⇑P	**P**	**00 54 17.5 +0.4**
XAN			pP	sP	00 54 24.3 +0.3
XAN			S	**S**	**01 04 21.3 +1.8**
XAN			pmax	pmax	
	comp=Z,70nm,1.4s				
XAN			pmax	pmax	
	comp=Z,3μm,5.0s				
XAN			LR	LR	
	comp=Z,16μm,16.8s				
XAN			LR	LR	
	comp=Z,23μm,17.9s				
XAN			LR	LR	
	comp=Z,38μm,18.7s				
SPIA	**Saint Paul Isl**	**80.51 11**	P	**P**	**00 54 19.8 -0.2**
	baz=199				
HEH	**HeiHe**	**80.70 334**	*e*P	**P**	**00 54 18.8 -2.5**
HEH			S	**S**	**01 04 28.3 +0.7**
HEH			sS	**sS**	**01 04 35.8 -0.3**
HEH			SS	**SS**	**01 09 44.0 +2.5**
HEH			pmax	pmax	
	comp=Z,21nm,1.0s				
HEH			pmax	pmax	
	comp=Z,9μm,6.4s				
HEH			LR	LR	
	comp=Z,19μm,18.0s				
HEH			LR	LR	
	comp=Z,12μm,18.6s				
HEH			LR	LR	
	comp=Z,32μm,19.3s				
CNBA	**Chernabura Isl**	**80.82 18**	P	**P**	**00 54 20.5 -1.2**
CNBA			IAMs_20	IAMs_20	01 24 30.9
	comp=Z,31μm,21.0s				
CHNA	**Chernabura Isl**	**80.83 18**	P	**P**	**00 54 21.8 0.0**
	baz=209				
SDPT	**Sand Point**	**81.04 17**	P	**P**	**00 54 22.4 -0.5**
	baz=208				
PZH	**PanZhiHua**	**81.10 303**	P	**P**	**00 54 24.8 +0.6**
PZH			PP	**PP**	**00 57 32.3 +2.6**
PZH			S	**SKSac**	**01 04 35.0 -7.5**
PZH			SS	**SS**	**01 09 51.3 +2.6**
PZH			pmax	pmax	
	comp=Z,10.0nm,0.8s				
PZH			pmax	pmax	
	comp=Z,5μm,7.4s				
PZH			LR	LR	
	comp=Z,12μm,18.6s				
PZH			LR	LR	
	comp=Z,14μm,19.1s				
PZH			LR	LR	
	comp=Z,18μm,19.6s				
SMAI	**San Martin Ant**	**81.42 162**	P	**P**	**00 54 25.1 +0.1**
SMAI			IAmb	IAmb	00 54 49.7
	comp=Z,227nm,1.7s				
XLT	**XiLinHaoTe**	**81.51 324**	*e*P	**P**	**00 54 26.3 +0.4**
XLT			pP	sP	00 54 34.0 +1.2
XLT			sP	pwP	00 54 38.3 +0.8
XLT			PP	**PP**	**00 57 35.5 +2.9**
XLT			S	**S**	**01 04 36.5 0.0**
XLT			sS	SKKSac	01 04 46.5 -0.7
XLT			SS	**SS**	**01 09 57.0 +3.0**
XLT			pmax	pmax	
	comp=Z,27nm,0.8s				
XLT			pmax	pmax	
	comp=Z,6μm,6.1s				
XLT			LR	LR	
	comp=Z,18μm,16.2s				
XLT			LR	LR	
	comp=Z,22μm,18.3s				
CD2	**Chengdu**	**81.80 308**	P	**P**	**00 54 27.5 -0.2**
CD2			pP	pP	00 54 31.5 -1.3
CD2			S	**SKSac**	**01 04 40.3 -6.6**
CD2			SS	**SS**	**01 10 00.8 +2.0**
CD2			pmax	pmax	
	comp=Z,50nm,1.2s				
CD2			pmax	pmax	
	comp=Z,6μm,7.8s				
CD2			LR	LR	
	comp=Z,18μm,22.5s				
CD2			LR	LR	
	comp=Z,18μm,22.0s				
CD2			LR	LR	
	comp=Z,17μm,20.6s				
S14K	**Fog Glacier**	**82.11 17**	P	**P**	**00 54 28.3 -0.5**
	baz=209				
HHC	**Hu-ho-hao-te**	**82.16 320**⇑	*i*P	**P**	**00 54 30.5 +1.1**
HHC			sP	pwP	00 54 41.5 +0.4
HHC			PP	**PP**	**00 57 38.0 -0.1**
HHC			S	**S**	**01 04 48.5 +5.0**
HHC			sS	ScS	01 04 56.0 -3.4
HHC			pmax	pmax	
	comp=Z,76nm,1.0s				
HHC			pmax	pmax	
	comp=Z,4μm,6.7s				
HHC			LR	LR	
	comp=Z,24μm,16.7s				
HHC			LR	LR	
	comp=Z,33μm,18.6s				
HHC			LR	LR	
	comp=Z,49μm,16.8s				
CHGN	**Chignik**	**82.44 17**	P	**P**	**00 54 29.7 -0.5**
	baz=210				
MA2	**Magadan**	**82.47 351**	LR	LR	01 26 10.2
	comp=Z,14μm,21.6s,baz=168,slow=32				
CHIR	**Chirikof Islan**	**82.84 19**	IAMs_20	IAMs_20	01 29 01.4
	comp=Z,27μm,19.0s				
CHIR	**Chirikof Islan**	**82.84 19**	P	**P**	**00 54 32.5 +0.1**

baz=213
TNCH TengChong 82.95 300 ⇓P **P 00 54 32.3 -1.7**
TNCH PP **PP 00 57 44.8 -0.1**
TNCH SS SS 01 10 16.3 0.0
TNCH pmax pmax
comp=Z,170nm,0.5s
TNCH pmax pmax
comp=Z,1μm,6.1s
TNCH LR LR
comp=Z,7μm,17.3s
TNCH LR LR
comp=Z,6μm,19.7s
TNCH LR LR
comp=Z,11μm,19.3s
BTO Baotou 82.95 319 *e*P **P 00 54 35.0 +1.5**
BTO pP **sP 00 54 41.3 +0.9**
BTO sP **pwP 00 54 44.0 -1.3**
BTO S **S 01 04 55.3 +3.8**
BTO pmax pmax
comp=Z,61nm,2.5s
BTO LR LR
comp=Z,33μm,16.4s
BTO LR LR
comp=Z,9μm,15.7s
BTO LR LR
comp=Z,38μm,17.1s
HIA Hailar 83.31 330 IAMs_20 IAMs_20 01 29 32.4
comp=Z,20μm,19.0s
MND Mandalay 83.54 297 P **P 00 54 38.0 +1.1**
ELIB Princess Elisa 83.66 190 *d*P **P 00 54 34.3 -2.5**
comp=Z,40nm,1.2s
ELIB *d*PP **PP 00 57 44.2 -4.8**
ELIB *d*S **SKSac 01 04 57.7 -0.5**
R16K Pilot Point 83.77 17 P **P 00 54 36.7 -0.5**
baz=211
SII Sitkinak Islan 83.90 19 IAMs_20 IAMs_20 01 29 15.4
comp=Z,24μm,19.0s
SII Sitkinak Islan 83.90 19 P **P 00 54 37.5 -0.5**
baz=214
R17K Ugashik Creek 84.16 18 P **P 00 54 38.1 -1.1**
R17K IAMs_20 IAMs_20 01 26 37.1
comp=Z,28μm,21.0s
R17K Ugashik Creek 84.16 18 P **P 00 54 38.1 -1.1**
baz=212
M11K Mekoryuk 84.27 12 P **P 00 54 38.4 -1.2**
baz=203
O14K Tigyukauivet M 84.30 15 IAMs_20 IAMs_20 01 26 37.6
comp=Z,21μm,20.0s
O14K Tigyukauivet M 84.30 15 P **P 00 54 39.0 -0.8**
baz=207
LZH Lanzhou 84.45 312 ⇑P **P 00 54 42.8 +1.4**
LZH sP pwP 00 54 51.0 -2.1
LZH SKS **S 01 05 03.3 -3.6**
LZH S **SKKSac 01 05 12.0 +2.1**
LZH SS **SS 01 10 39.3 +1.2**
LZH pmax pmax
comp=Z,36nm,1.6s
LZH pmax pmax
comp=Z,2μm,5.2s
LZH LR LR
comp=Z,15μm,17.5s
LZH LR LR
comp=Z,9μm,15.5s
LZH LR LR
comp=Z,20μm,16.5s
PMSA Palmer Station 84.53 160 P **P 00 54 38.6 -2.5**
PMSA IAmb IAmb 00 55 38.8
comp=Z,132nm,1.6s
PMSA Palmer Station 84.53 160 LR LR 01 28 12.0
comp=Z,6μm,18.5s,baz=230,slow=33
O15K Ungalikthiuk R 84.58 15 P **P 00 54 39.9 -1.4**
baz=209
R18K Karluk 84.66 19 P **P 00 54 40.6 -1.1**
baz=214
N14K Kuskokwak Cree 84.80 14 P **P 00 54 42.0 -0.3**
baz=207
Q17K Contact Creek 84.83 18 P **P 00 54 41.8 -0.9**
baz=212
M13K Dall Lake 84.88 13 IAMs_20 IAMs_20 01 26 19.6
comp=Z,20μm,21.0s
M13K Dall Lake 84.88 13 P **P 00 54 42.5 -0.2**
baz=206
P16K Nushagak River 84.92 16 P **P 00 54 42.1 -0.8**
baz=210
Q16K King Salmon 84.97 17 P **P 00 54 42.6 -0.7**
baz=212
O16K Kokwok River B 85.38 16 P **P 00 54 43.3 -1.9**
O16K IAMs_20 IAMs_20 01 32 55.2
comp=Z,22μm,19.0s
O16K Kokwok River B 85.38 16 P **P 00 54 45.0 -0.2**
baz=210
N15K Kwethluk River 85.39 15 P P 00 54 39.5 -5.9
N15K IAMs_20 IAMs_20 01 27 01.4
comp=Z,18μm,20.0s
N15K Kwethluk River 85.39 15 P **P 00 54 44.8 -0.5**
baz=208
Q18K Katmai Hardscr 85.41 18 P **P 00 54 44.7 -0.9**
baz=213
KDAK Kodiak Island 85.41 19 IAMs_20 IAMs_20 01 30 22.2
comp=Z,29μm,20.0s
KDAK Kodiak Island 85.41 19 P **P 00 54 44.9 -0.5**
baz=215
KDAK Kodiak Island 85.41 19 *i* P **P 00 54 46.4 +1.0**
KDAK pmax pmax
comp=Z,112nm,1.9s
KDAK Kodiak Island 85.41 19 LR LR 01 29 19.4
comp=Z,18μm,18.8s,baz=238,slow=33
P17K Kvichak River 85.47 17 P **P 00 54 44.5 -1.2**
baz=212
SEY Seymchan 85.48 352 *i* P **P 00 54 46.4 +0.7**
SEY pmax pmax
comp=Z,123nm,1.7s
SEY Seymchan 85.48 352 P **P 00 54 42.6 -3.1**
comp=Z,6.1nm,0.8s,baz=144,slow=4.9,SNR=4.6
SEY LR LR 01 30 36.6
comp=Z,20μm,19.2s,baz=157,slow=34
comp=Z,6.1nm,0.8s
M14K Bethel 85.48 14 P **P 00 54 42.2 -3.5**
M14K IAmb IAmb 00 54 53.7
comp=Z,58nm,0.8s
M14K IAMs_20 IAMs_20 01 30 30.7
comp=Z,19μm,19.0s
M14K Bethel 85.48 14 P **P 00 54 45.3 -0.4**
baz=207
M15K Kasigluk River 85.72 14 P **P 00 54 46.0 -0.9**
baz=208
O17K Koliganek Bris 85.79 16 P **P 00 54 45.7 -1.6**
baz=211
L14K Kuka Creek 85.86 13 P **P 00 54 45.0 -2.6**
L14K IAmb IAmb 00 55 24.0
comp=Z,86nm,1.2s
L14K IAMs_20 IAMs_20 01 28 10.5
comp=Z,19μm,20.0s
L14K Kuka Creek 85.86 13 P **P 00 54 46.6 -0.9**
baz=206
P18K Big Mountain, 85.97 17 P **P 00 54 46.1 -2.2**
P18K IAmb IAmb 00 55 01.1
comp=Z,65nm,0.9s
P18K IAMs_20 IAMs_20 01 27 42.9
comp=Z,24μm,21.0s
P18K Big Mountain, 85.97 17 P **P 00 54 47.0 -1.3**
baz=213
N16K Nishlik Lake 85.98 15 P **P 00 54 48.2 -0.1**
baz=210
K13K Kusilvak Mount 85.99 12 IAMs_20 IAMs_20 01 29 33.1
comp=Z,20μm,20.0s
K13K Kusilvak Mount 85.99 12 P **P 00 54 47.5 -0.7**
baz=204
TROLL Troll, Antarti 86.02 184 ⇓P **P 00 54 46.8 -1.9**
comp=Z,1μm,0.8s
Q19K Cape Douglas, 86.03 18 IAMs_20 IAMs_20 01 27 26.7
comp=Z,23μm,20.0s
Q19K Cape Douglas, 86.03 18 P **P 00 54 47.3 -1.2**
baz=214
LKP Lekhapani 86.13 301 *e*P **P 00 54 48.9 -0.9**
Q20K Shuyak Island 86.14 19 P **P 00 54 48.4 -0.7**
baz=215
SYI Shuyak Island 86.14 19 IAMs_20 IAMs_20 01 30 12.6
comp=Z,24μm,20.0s
NVL N'lazarevskaya 86.36 187 *e*P **P 00 54 50.7 +0.5**
NVL *e*S **SKSac 01 05 12.0 -3.1**
NVL pmax pmax
comp=Z,21nm,1.1s
NVL smax smax
comp=E,13μm,14.2s
SAIH SAIHA 86.36 296 *e*P **P 00 54 50.7 -0.5**
SAIH IAmb IAmb 00 55 09.2
comp=Z,126nm,1.3s
O18K Koktuh Hills 86.37 17 P **P 00 54 46.8 -3.4**
O18K IAmb IAmb 00 55 13.1
comp=Z,176nm,1.9s
O18K IAMs_20 IAMs_20 01 28 17.4
comp=Z,23μm,20.0s
O18K Koktuh Hills 86.37 17 P **P 00 54 49.1 -1.1**
baz=213
M16K Timber Creek 86.41 15 P **P 00 54 49.6 -0.8**
M16K IAmb IAmb 00 55 09.2
comp=Z,87nm,1.1s
M16K IAMs_20 IAMs_20 01 32 42.3
comp=Z,17μm,20.0s
M16K Timber Creek 86.41 15 P **P 00 54 50.6 +0.2**
baz=209
L15K Ungalak Mounta 86.41 13 P **P 00 54 49.9 -0.4**
baz=207
N17K Nushagak Hills 86.42 16 P **P 00 54 48.9 -1.5**
N17K IAmb IAmb 00 54 55.3
comp=Z,138nm,1.7s
N17K IAMs_20 IAMs_20 01 33 45.6
comp=Z,17μm,18.0s
N17K Nushagak Hills 86.42 16 P **P 00 54 50.4 0.0**
baz=211
GAMB Gambell 86.56 8 P **P 00 54 51.3 +0.3**
baz=198
GAMB Gambell 86.56 8 ⇑P P 00 54 58.7 +7.7
IMP Imphal 86.56 298 *e*P **P 00 54 51.6 -0.5**
IMP IAmb IAmb 00 55 03.7
comp=Z,134nm,1.5s
P19K Oil Pt 86.75 18 IAMs_20 IAMs_20 01 28 08.6
comp=Z,22μm,21.0s
P19K Oil Pt 86.75 18 P **P 00 54 51.0 -1.1**
baz=215
N18K Kilae Creek 86.88 16 IAMs_20 IAMs_20 01 28 33.0
comp=Z,25μm,20.0s
N18K Kilae Creek 86.88 16 P **P 00 54 52.2 -0.5**
baz=212
L16K Owhat River 86.89 14 P **P 00 54 51.7 -1.0**
L16K IAMs_20 IAMs_20 01 30 17.0
comp=Z,20μm,20.0s
L16K Owhat River 86.89 14 P **P 00 54 52.4 -0.3**
baz=209
O19K Port Alsworth 86.90 17 P **P 00 54 50.0 -2.7**
O19K IAmb IAmb 00 55 05.8
comp=Z,44nm,0.9s
O19K IAMs_20 IAMs_20 01 28 34.4
comp=Z,20μm,21.0s
O19K Port Alsworth 86.90 17 P **P 00 54 51.2 -1.6**
baz=214
J14K Nanvaranak Lak 86.95 12 IAMs_20 IAMs_20 01 29 34.5
comp=Z,22μm,20.0s
J14K Nanvaranak Lak 86.95 12 P **P 00 54 52.2 -0.7**
baz=205
K15K Wolf Creek Mou 86.95 13 P **P 00 54 51.0 -2.0**
K15K IAMs_20 IAMs_20 01 28 54.6
comp=Z,23μm,19.0s
K15K Wolf Creek Mou 86.95 13 P **P 00 54 53.3 +0.3**
baz=207
ILSW Iliamna Southw 87.05 18 P **P 00 54 50.9 -2.8**
ILSW IAmb IAmb 00 55 03.2
comp=Z,48nm,1.1s
M17K Holitna River 87.11 15 P **P 00 54 51.4 -2.4**
M17K IAmb IAmb 00 55 14.5
comp=Z,47nm,1.0s
M17K IAMs_20 IAMs_20 01 33 05.8
comp=Z,20μm,19.0s
M17K Holitna River 87.11 15 P **P 00 54 54.1 +0.3**
baz=211
SNCC San Nicolas Is 87.15 53 P **P 00 54 51.4 -3.3**
SNCC IAmb IAmb 00 55 04.8
comp=Z,68nm,0.9s
SNCC San Nicolas Is 87.15 53 P **P 00 54 54.7 0.0**
baz=242
MCCM Marconi Confer 87.17 47 IAMs_20 IAMs_20 01 28 53.5
comp=Z,19μm,19.0s
MCCM Marconi Confer 87.17 47 ⇑P **P 00 54 53.0 -1.6**
HOM Homer 87.22 19 IAMs_20 IAMs_20 01 29 07.0
comp=Z,25μm,21.0s
HOM Homer 87.22 19 P **P 00 54 53.1 -1.2**
baz=216
VNA3 Neumayer Olymp 87.23 180 ⇓P **P 00 54 52.2 -2.3**
comp=Z,24nm,0.8s
CNPM China Poot 87.24 19 IAMs_20 IAMs_20 01 31 07.5
comp=Z,26μm,19.0s
O20K Slope Mountain 87.28 18 P **P 00 54 53.4 -1.3**
baz=215
N19K Bonanza Creek 87.37 17 P **P 00 54 54.5 -0.7**
baz=213
SCZ2 Santa Cruz Isl 87.43 52 P **P 00 54 55.1 -0.9**
baz=242
SAO San Andreas Ge 87.47 49 P **P 00 54 54.0 -2.1**
SAO IAmb IAmb 00 55 05.2
comp=Z,47nm,0.9s
SAO IAMs_20 IAMs_20 01 31 59.5
comp=Z,23μm,18.0s
SAO San Andreas Ge 87.47 49 ⇑P **P 00 54 56.4 +0.3**
SAO ⇑P **sP 00 55 04.7 +1.4**
SAO San Andreas Ge 87.47 49 P **P 00 54 54.0 -2.1**
SAO pmax pmax
comp=Z,47nm,0.9s
HOPS Hopland Field 87.47 46 P **P 00 54 54.4 -1.7**
KCPM Cahto Peak 87.48 45 P **P 00 54 55.4 -0.9**
SILR SILCHAR 87.48 298 *e*P **P 00 54 55.8 -0.6**
KMPM Mount Pierce 87.51 45 P **P 00 54 55.5 -0.8**
VNA2 Neumayer--Watz 87.52 181 ⇓P **P 00 54 53.9 -1.9**
comp=Z,17nm,0.6s,baz=184,slow=4.0
BRLK Bradley Lake 87.53 19 IAMs_20 IAMs_20 01 31 35.0
comp=Z,26μm,19.0s
L17K Donlin 87.54 15 P **P 00 54 56.3 +0.4**
baz=210
BRSE Bradley Lake S 87.56 19 P **P 00 54 54.7 -1.3**
baz=217
GDXM Geysers 87.56 46 P **P 00 54 54.8 -1.8**
GDXM IAmb IAmb 00 55 02.1
comp=Z,134nm,1.7s
SBC Santa Barbara 87.58 51 P **P 00 54 57.0 +0.3**
baz=242
M18K Stony River 87.59 16 P **P 00 54 56.2 +0.1**
baz=212
PMPB Monarch Peak 87.65 49 P **P 00 54 54.9 -2.2**
BBGB Big Mountain B 87.66 49 P **P 00 54 56.1 -1.1**
KMRM Mail Ridge 87.67 45 P **P 00 54 54.1 -3.0**
PKM Mcpherson Peak 87.72 51 P **P 00 54 57.4 -0.3**
baz=242
JCC Jacoby Creek, 87.77 44 IAMs_20 IAMs_20 01 31 14.3
comp=Z,17μm,18.0s
SMMC Simmler 87.79 51 P **P 00 54 58.0 +0.3**
baz=241
VNA1 Neumayer--Stat 87.81 181 ⇓P **P 00 54 55.3 -1.9**
comp=Z,16nm,0.9s
KRPM Rodgers 87.95 44 P **P 00 54 56.7 -1.7**
L18K Granite Mounta 88.00 15 P **P 00 54 55.9 -2.1**
L18K IAMs_20 IAMs_20 01 33 44.3
comp=Z,22μm,19.0s
L18K Granite Mounta 88.00 15 P **P 00 54 58.4 +0.4**
baz=211
KHMM Horse Mountain 88.00 44 P **P 00 54 55.8 -2.9**
KHMM IAmb IAmb 00 55 08.3
comp=Z,78nm,1.0s
BCW Bitter Crk WRg 88.03 51 P **P 00 54 55.8 -3.2**
J16K Anvik River 88.03 13 P **P 00 54 57.7 -0.5**
J16K IAmb IAmb 00 55 07.3
comp=Z,43nm,0.8s
J16K IAMs_20 IAMs_20 01 29 19.1
comp=Z,21μm,20.0s
J16K Anvik River 88.03 13 P **P 00 54 58.4 +0.2**
baz=208
K17K Iditarod 88.04 14 IAMs_20 IAMs_20 01 31 41.4
comp=Z,22μm,20.0s
K17K Iditarod 88.04 14 P **P 00 54 58.4 +0.2**
baz=210
CIS Catalina Islan 88.05 53 P **P 00 54 58.3 -0.7**
baz=242
CIT Chita 88.08 329 *e*P **P 00 54 57.8 -0.9**
CIT *e* 00 58 24.2
KRMB Red Mountain 88.22 44 P **P 00 54 56.6 -3.1**
SEW Seward 88.24 19 P **P 00 54 58.8 -0.4**
baz=218
CAPN Captain Cook N 88.27 18 IAMs_20 IAMs_20 01 28 57.7
comp=Z,26μm,20.0s
CAPN Captain Cook N 88.27 18 P **P 00 54 58.1 -1.2**
baz=216
TEZP TEZPUR 88.27 299 *e*P **P 00 55 01.4 +1.3**
ANM Nome 88.28 11 P **P 00 54 59.3 0.0**
baz=204
FMP Fort Macarthur 88.28 53 P **P 00 54 59.7 -0.4**
baz=242
M19K Big River Lodg 88.31 16 IAMs_20 IAMs_20 01 29 26.6
comp=Z,24μm,20.0s
M19K Big River Lodg 88.31 16 P **P 00 54 59.0 -0.5**
baz=214
N20K Mount Spurr 88.31 18 P **P 00 54 57.5 -2.1**
baz=215
SPCR Spurr Chakacha 88.31 18 P **P 00 54 58.1 -1.6**
baz=215
OSI Osito Audit: C 88.38 52 P **P 00 54 59.8 -0.8**
baz=242
AGT Agartala 88.39 296 *e*P **P 00 55 01.9 +1.2**
KSXB Camp Six Broad 88.40 43 P **P 00 54 58.3 -2.3**
L19K White Mountain 88.42 16 P P 00 54 52.3 -7.8
L19K IAmb IAmb 00 55 17.7
comp=Z,38nm,1.2s
L19K IAMs_20 IAMs_20 01 29 19.6
comp=Z,17μm,20.0s
L19K White Mountain 88.42 16 P **P 00 54 59.2 -0.8**
baz=213
O22K Cooper Landing 88.46 19 IAMs_20 IAMs_20 01 32 22.9
comp=Z,23μm,20.0s
O22K Cooper Landing 88.46 19 P **P 00 54 58.5 -1.7**
baz=218
DECC Green Verdugo 88.50 52 P **P 00 55 00.2 -0.9**
baz=242
ARVC Arvin 88.54 51 P **P 00 55 00.6 -0.6**
baz=242
I17K Unalakleet 88.55 13 IAMs_20 IAMs_20 01 28 21.7
comp=Z,20μm,21.0s
I17K Unalakleet 88.55 13 P **P 00 55 00.8 +0.2**
baz=208
SHL Shillong 88.57 298 *e*P **P 00 55 01.1 -0.7**
PASC Pasadena Art C 88.57 52 P **P 00 54 59.3 -2.2**
PASC IAmb IAmb 00 55 09.1
comp=Z,35nm,0.8s
PASC IAMs_20 IAMs_20 01 33 27.1
comp=Z,21μm,18.0s
M20K Styx River 88.62 17 P **P 00 54 59.7 -1.4**
baz=215
VES Vestal, Richgr 88.69 50 P **P 00 55 01.8 -0.1**
baz=242
VOG Valley Oaks Go 88.71 50 P **P 00 55 01.2 -0.8**
baz=242
Q23K Middleton Isla 88.71 21 P **P 00 55 00.9 -0.5**
baz=221
L02F Cave Junction 88.74 43 P **P 00 55 00.9 -1.2**
TTA Tatalina 88.77 15 P **P 00 54 59.0 -2.7**
TTA Tatalina 88.77 15 P **P 00 55 02.7 +1.0**
TTA Tatalina 88.77 15 P **P 00 55 01.4 -0.4**
baz=212
TTA Tatalina 88.77 15 ⇑P **P 00 55 01.5 -0.2**
TTA Tatalina 88.77 15 P **P 00 54 59.1 -2.7**
109C Camp Elliot, M 88.79 54 P **P 00 54 59.2 -3.3**
109C IAmb IAmb 00 55 12.7
comp=Z,28nm,0.8s
109C IAMs_20 IAMs_20 01 29 58.1
comp=Z,20μm,19.0s
109C Camp Elliot, M 88.79 54 P **P 00 55 01.9 -0.5**
baz=243
TNA Tin City 88.80 9 P **P 00 55 01.9 +0.3**
baz=201
TNA Tin City 88.80 9 ⇑P **P 00 55 02.2 +0.6**
P23K Montague Islan 88.80 20 P **P 00 55 01.2 -0.7**
baz=220
ORV Oroville 88.80 46 P **P 00 54 59.4 -3.0**
ORV IAMs_20 IAMs_20 01 29 53.7
comp=Z,21μm,19.0s
ORV Oroville 88.80 46 P **P 00 54 59.4 -3.0**
ORV pmax pmax
comp=Z,191nm,1.7s
CMB Columbia Colle 88.82 48 P **P 00 54 58.9 -3.7**
CMB IAmb IAmb 00 55 06.6
comp=Z,57nm,1.2s
CMB Columbia Colle 88.82 48 P **P 00 54 58.9 -3.7**
CMB pmax pmax
comp=Z,57nm,1.2s
FIS Fire Island 88.84 18 IAMs_20 IAMs_20 01 30 20.9
comp=Z,27μm,21.0s
AFDM Forest Hills D 88.86 47 P **P 00 54 59.1 -3.6**
AFDM IAmb IAmb 00 55 21.4
comp=Z,55nm,1.0s
CBX Cerro Bola 88.86 55 P **P 00 55 01.6 -1.4**
CBX IAmb IAmb 00 55 08.0
comp=Z,50nm,1.5s
GTA Gaotai 88.89 313 ⇑P **P 00 55 03.3 +0.3**
GTA sP sP 00 55 12.0 +2.1
GTA S **S 01 05 52.3 +2.5**
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,1μm,5.3s
GTA LR LR
comp=Z,17μm,17.8s
GTA LR LR
comp=Z,15μm,18.5s
GTA LR LR
comp=Z,18μm,20.0s
ELS Elsinore Mount 88.89 53 P **P 00 55 01.8 -1.3**
ELS IAmb IAmb 00 55 16.9
comp=Z,144nm,1.9s
G15K Niukluk 88.91 11 P **P 00 55 01.8 -0.5**
baz=205
ULN Ulaanbaatar 88.91 323 P **P 00 54 59.6 -3.2**
ULN Ulaanbaatar 88.91 323 IAMs_20 IAMs_20 01 36 32.5
comp=Z,19μm,18.0s
ULN Ulaanbaatar 88.91 323 ⇑P **P 00 55 03.5 +0.6**
ULN Ulaanbaatar 88.91 323 *i* P **P 00 55 02.9 0.0**
ULN pmax pmax
comp=Z,105nm,1.7s
ULN MLR MLR
comp=Z,19μm,18.0s
H16K Elim 88.92 12 P **P 00 55 02.0 -0.3**
baz=206
L20K Farewell, AK 88.92 16 P **P 00 55 01.1 -1.4**
baz=214
RC01 Rabbit Creek A 88.94 19 IAMs_20 IAMs_20 01 29 31.5
comp=Z,26μm,20.0s
RC01 Rabbit Creek A 88.94 19 P **P 00 55 01.2 -1.3**
baz=218
SUA Susitna One 88.94 18 P **P 00 55 00.9 -1.8**
SUA IAMs_20 IAMs_20 01 30 45.6
comp=Z,18μm,20.0s
SUA Susitna One 88.94 18 P **P 00 55 01.2 -1.5**
baz=217
F14K Arctic Creek 88.96 10 P **P 00 55 01.8 -0.7**
baz=203
K02D Willamette Mer 88.98 43 P **P 00 55 01.7 -1.5**
BFSC Mount Baldy Ra 88.99 52 P **P 00 55 02.9 -0.7**
baz=243,SNR=18
TKX Tecate 89.02 54 P **P 00 55 02.1 -1.5**
TKX IAmb IAmb 00 55 08.6
comp=Z,49nm,1.0s
EDW2 Edwards Air Fo 89.04 52 P **P 00 55 03.2 -0.5**
baz=243,SNR=8.5
MURC Murrieta 89.04 53 P **P 00 55 03.1 -0.6**
baz=243
ISA Isabella, Lake 89.05 51 P **P 00 55 01.3 -2.5**
ISA Isabella, Lake 89.05 51 P **P 00 55 03.5 -0.2**
baz=242,SNR=14
ISA Isabella, Lake 89.05 51 P **P 00 55 01.3 -2.5**
ISA pmax pmax
comp=Z,205nm,1.7s
J01E Myrtle Point 89.05 42 P **P 00 55 01.8 -1.6**
J18K Innoko River 89.06 15 P **P 00 54 59.5 -3.5**
J18K IAMs_20 IAMs_20 01 32 32.3
comp=Z,21μm,20.0s
J18K Innoko River 89.06 15 P **P 00 55 02.7 -0.3**
baz=211
YBH Yreka Blue Hor 89.10 44 P **P 00 55 01.3 -2.5**
YBH Yreka Blue Hor 89.10 44 P **P 00 55 01.3 -2.5**
YBH pmax pmax
comp=Z,221nm,1.9s
YBH Yreka Blue Hor 89.10 44 P **P 00 55 00.4 -3.4**
comp=Z,6.9nm,0.8s,baz=212,slow=1.1,SNR=15
YBH LR LR 01 32 10.6
comp=Z,9μm,18.1s,baz=260,slow=34
comp=Z,6.9nm,0.8s
SKT Skwentna 89.14 17 IAMs_20 IAMs_20 01 29 44.7
comp=Z,26μm,21.0s
SKT Skwentna 89.14 17 P **P 00 55 02.3 -1.1**
baz=216
CCAC Calif City Air 89.15 51 P **P 00 55 01.6 -2.6**
CCAC IAmb IAmb 00 55 23.7
comp=Z,33nm,0.8s
PWL Port Wells 89.18 19 P **P 00 55 02.4 -1.3**
baz=219

USHA	Ushuaia	89.22	151	LR	LR	01 28 34.0		
	comp=Z,3μm,18.0s,baz=236,slow=31							
SONM	Songino Array	89.26	323	P	P	00 55 03.2	-1.3	
SONM	Songino Array	89.26	323	P	P	00 55 03.2	-1.3	
SONM				pmax	pmax			
	comp=Z,128nm,1.6s							
SONM	Songino Array	89.26	323	P	P	00 55 02.8	-1.7	
	comp=Z,5.3nm,1.1s,baz=143,slow=6.1,SNR=16							
SONM				S	SKSac	01 05 34.1	+0.7	
	comp=Z,0.2nm,0.4s,baz=128,slow=51,SNR=1.1							
SONM				PKKPbc	PKKPbc	01 12 43.1	+0.2	
	comp=Z,0.5nm,0.8s,baz=339,slow=3.6,SNR=2.6							
SONM				LR	LR	01 36 48.0		
	comp=Z,18μm,18.3s,baz=123,slow=37							
	comp=Z,5.3nm,1.1s							
ESJX	Sierra Juarez	89.27	55	P	P	00 55 03.5	-1.5	
ESJX				IAmb	IAmb	00 55 10.4		
	comp=Z,123nm,1.8s							
YAK	Yakutsk	89.29	343	*e*P	P	00 55 07.7	+3.6	
YAK				*e*PPP	PPP	01 00 30.7		
YAK				*e*SS	SS	01 11 49.7	+2.1	
YAK				pmax	pmax			
	comp=Z,45nm,1.0s							
YAK				pmax	pmax			
	comp=E,6.0nm,1.1s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,1μm,5.0s							
YAK				pmax	pmax			
	comp=E,776nm,4.3s							
YAK				pmax	pmax			
	comp=N,471nm,4.2s							
YAK				MLR	MLR			
	comp=Z,25μm,17.0s							
YAK				MLR	MLR			
	comp=E,11μm,23.0s							
YAK				MLR	MLR			
	comp=N,18μm,20.0s							
MONP2	Monument Peak	89.30	54	P	P	00 55 04.8	-0.4	
	baz=244,SNR=15							
M22K	Willow	89.36	18	P	P	00 55 01.8	-2.6	
M22K				IAmb	IAmb	00 55 36.3		
	comp=Z,84nm,1.2s							
M22K				IAMs_20	IAMs_20	01 30 59.5		
	comp=Z,23μm,20.0s							
M22K	Willow	89.36	18	P	P	00 55 03.0	-1.4	
	baz=217							
HIN	Hinchinbrook I	89.40	20	IAMs_20	IAMs_20	01 31 19.8		
	comp=Z,24μm,20.0s							
IKP	In-Ko-Pah, Jac	89.43	54	P	P	00 55 05.4	-0.2	
	baz=244							
F15K	North Star Dit	89.45	10	IAMs_20	IAMs_20	01 30 33.4		
	comp=Z,27μm,20.0s							
F15K	North Star Dit	89.45	10	P	P	00 55 04.5	-0.3	
	baz=204							
DBO	Dodson Butte	89.46	43	P	P	00 55 04.7	-0.8	
DBO				IAmb	IAmb	00 55 24.6		
	comp=Z,39nm,1.1s							
EMB	Emerald Bay	89.47	47	P	P	00 55 04.3	-1.5	
EMB				IAmb	IAmb	00 55 18.9		
	comp=Z,60nm,1.0s							
PMR	Palmer	89.52	19	P	P	00 55 06.4	+1.3	
PMR	Palmer	89.52	19	P	P	00 55 03.8	-1.3	
	baz=218							
LRMC	Laurel Mtn Rad	89.54	51	P	P	00 55 05.6	-0.6	
	baz=243							
MDPB	Devils Postpil	89.54	49	P	P	00 55 03.8	-2.4	
BBRC	Big Bear Solar	89.55	53	P	P	00 55 06.2	-0.1	
	baz=243							
G16K	Koyuk River	89.57	11	P	P	00 55 05.2	-0.1	
	baz=206							
KNK	Knik Glacier	89.58	19	P	P	00 55 04.6	-0.9	
	baz=219							
GLI	Glacier Island	89.58	20	IAMs_20	IAMs_20	01 29 57.6		
	comp=Z,19μm,20.0s							
GLI	Glacier Island	89.58	20	P	P	00 55 04.0	-1.6	
	baz=220							
PFO	Pinyon Flats O	89.60	53	P	P	00 55 03.0	-3.4	
PFO				IAmb	IAmb	00 55 20.4		
	comp=Z,110nm,1.6s							
PFO	Pinyon Flats O	89.60	53	IAMs_20	IAMs_20	01 30 12.5		
	comp=Z,20μm,19.0s							
PFO	Pinyon Flats O	89.60	53	P	P	00 55 05.8	-0.6	
	baz=244,SNR=6.4							
PFO	Pinyon Flats O	89.60	53	*i*P	P	00 55 08.7	+2.3	
PFO				pmax	pmax			
	comp=Z,104nm,1.7s							
PFO				MLR	MLR			
	comp=Z,30μm,16.0s							
PFO	Pinyon Flats O	89.60	53	P	P	00 55 03.3	-3.1	
	comp=Z,5.7nm,0.7s,baz=276,slow=3.5,SNR=10.0							
PFO				LR	LR	01 30 07.7		
	comp=Z,14μm,18.0s,baz=259,slow=32							
	comp=Z,5.7nm,0.7s							
TPFO	Pinon Flats	89.60	53	P	P	00 55 06.2	-0.3	
	baz=244,SNR=6.0							
L04D	Klamath Falls	89.60	44	P	P	00 55 02.4	-3.9	
L04D				IAmb	IAmb	00 55 25.4		
	comp=Z,80nm,1.0s							
K20K	Telida	89.60	16	P	P	00 55 03.1	-2.4	
K20K				IAMs_20	IAMs_20	01 34 22.9		
	comp=Z,20μm,20.0s							
K20K	Telida	89.60	16	P	P	00 55 04.5	-1.1	
	baz=214							
H17K	Granite Mounta	89.64	13	P	P	00 55 02.9	-2.8	
H17K				IAMs_20	IAMs_20	01 29 47.5		
	comp=Z,22μm,20.0s							
H17K	Granite Mounta	89.64	13	P	P	00 55 05.4	-0.3	
	baz=208							
PMD	Palm Desert	89.67	53	P	P	00 55 03.2	-3.4	
PMD				IAmb	IAmb	00 55 11.5		
	comp=Z,86nm,1.4s							
FID	Port Fidalgo	89.68	20	IAMs_20	IAMs_20	01 32 17.7		
	comp=Z,24μm,21.0s							
CWC	Cottonwood Cre	89.69	50	P	P	00 55 06.6	-0.2	
	baz=243							
I03D	Drain, OR	89.69	42	P	P	00 55 04.8	-1.6	
PPLA	Purkeypile	89.71	17	P	P	00 55 03.8	-2.4	
	baz=215							
MLAC	Mammoth, Mammo	89.71	49	P	P	00 55 07.0	0.0	
	baz=242							
GHO	Glory Hole Cre	89.72	18	P	P	00 55 04.2	-2.0	
KAIM	Kayak Island	89.73	21	IAMs_20	IAMs_20	01 31 40.8		
	comp=Z,22μm,19.0s							
KAIM	Kayak Island	89.73	21	P	P	00 55 04.7	-1.6	
	baz=222							
EYAK	Cordova Ski Ar	89.76	20	P	P	00 55 05.2	-1.1	
	baz=221							
J19K	Poorman	89.76	15	IAMs_20	IAMs_20	01 32 35.0		
	comp=Z,20μm,20.0s							
J19K	Poorman	89.76	15	P	P	00 55 05.7	-0.6	
	baz=212							
RRX	Edison Barstow	89.77	52	P	P	00 55 06.5	-0.6	
	baz=243							
SWSC	Sam W. Stewart	89.80	54	P	P	00 55 06.6	-0.6	
	baz=244							
CUT	Chulitna	89.83	18	P	P	00 55 05.3	-1.3	
	baz=217							
PNTR	Pine Nut	89.87	47	P	P	00 55 04.5	-3.2	
PNTR				IAmb	IAmb	00 55 23.9		
	comp=Z,58nm,0.8s							
TIN	Tinemaha, Big	89.87	50	P	P	00 55 07.1	-0.5	
	baz=242							
SML	Sawmill	89.92	19	IAMs_20	IAMs_20	01 30 23.5		
	comp=Z,22μm,21.0s							
SML	Sawmill	89.92	19	P	P	00 55 05.8	-1.3	
	baz=219							
MPMC	Manual Prospec	89.94	51	P	P	00 55 07.3	-0.8	
	baz=243,SNR=27							
RAGM	Ragged Mountai	89.99	21	IAMs_20	IAMs_20	01 29 30.5		
	comp=Z,19μm,20.0s							
G17K	Kiwalik Mounta	89.99	12	P	P	00 55 06.6	-0.7	
	baz=208							
DIB	Dawson Inlet,	90.03	31	P	P	00 55 04.7	-3.0	
DIB				IAmb	IAmb	00 55 15.6		
	comp=Z,70nm,0.9s							
H02S1	DAWSON INLET T	90.03	31	P	P	00 55 04.8	-2.9	
	SNR=14							
SUCK	Suckling Hills	90.06	21	IAMs_20	IAMs_20	01 31 30.4		
	comp=Z,21μm,20.0s							
YERR	Yerington	90.06	48	P	P	00 55 05.5	-3.1	
M23K	Glacier View	90.09	19	P	P	00 55 06.7	-1.2	
	baz=219							
HG4B	Hotspring	90.09	32	P	P	00 55 07.2	-0.9	
HG4B				IAmb	IAmb	00 55 16.8		
	comp=Z,63nm,1.0s							
GSC	Goldstone, Bar	90.10	52	P	P	00 55 06.3	-2.4	
GSC	Goldstone, Bar	90.10	52	P	P	00 55 08.0	-0.6	
	baz=243,SNR=19							
GSC	Goldstone, Bar	90.10	52	P	P	00 55 06.3	-2.4	
GSC				pmax	pmax			
	comp=Z,173nm,1.9s							
BELC	Belle Mtn. Jos	90.11	53	P	P	00 55 08.5	-0.4	
	baz=244,SNR=29							
GCSA	Galena City Sc	90.12	14	P	P	00 55 06.9	-1.0	
	baz=211							
H18K	Honhosa River	90.15	13	IAMs_20	IAMs_20	01 30 25.0		
	comp=Z,27μm,20.0s							
H18K	Honhosa River	90.15	13	P	P	00 55 07.1	-1.0	
	baz=210							
CAST	Castle Rocks	90.16	16	IAMs_20	IAMs_20	01 30 03.7		
	comp=Z,21μm,21.0s							
CAST	Castle Rocks	90.16	16	P	P	00 55 08.3	+0.1	
	baz=216							
BUCK	Buck Mountain	90.17	42	P	P	00 55 06.3	-2.5	
COR	Corvallis	90.18	41	P	P	00 55 07.1	-1.6	
COR	Corvallis	90.18	41	IAMs_20	IAMs_20	01 37 03.6		
	comp=Z,17μm,18.0s							
COR	Corvallis	90.18	41	P	P	00 55 07.1	-1.6	
COR				pmax	pmax			
	comp=Z,245nm,1.7s							
COR				MLR	MLR			
	comp=Z,17μm,18.0s							
DSP	Deep Springs	90.20	50	P	P	00 55 05.2	-3.7	
DSP				IAmb	IAmb	00 55 14.2		
	comp=Z,98nm,1.2s							
HEBO	Mount Hebo	90.23	41	P	P	00 55 07.3	-1.7	
HEC	Hector,Ludlow	90.23	52	P	P	00 55 08.6	-0.8	
	baz=244,SNR=40							
LHV	Little Huntoon	90.23	49	P	P	00 55 06.4	-2.7	
SCM	Sheep Creek Mo	90.24	19	P	P	00 55 06.2	-2.5	
SCM				IAmb	IAmb	00 55 17.1		
	comp=Z,44nm,1.1s							
SCM	Sheep Creek Mo	90.24	19	P	P	00 55 07.3	-1.4	
	baz=220							
SCM	Sheep Creek Mo	90.24	19	P	P	00 55 06.2	-2.5	
SCM				pmax	pmax			
	comp=Z,44nm,1.1s							
J20K	Nowinta River	90.27	15	P	P	00 55 07.0	-1.6	
J20K				IAMs_20	IAMs_20	01 35 12.4		
	comp=Z,20μm,19.0s							
J20K	Nowinta River	90.27	15	P	P	00 55 08.3	-0.3	
	baz=214							
PAHR	Pah Rah Range	90.31	47	P	P	00 55 06.7	-2.9	
PAHR				IAmb	IAmb	00 55 14.6		
	comp=Z,117nm,1.5s							
BERG	Berg Lake	90.32	21	IAMs_20	IAMs_20	01 39 24.3		
	comp=Z,24μm,18.0s							
I04A	Tendick Farm,	90.33	42	P	P	00 55 05.6	-3.9	
I04A				IAmb	IAmb	00 55 27.3		
	comp=Z,51nm,1.0s							
QSM	Queen of Sheba	90.35	51	P	P	00 55 06.5	-3.2	
QSM				IAmb	IAmb	00 55 22.6		
	comp=Z,52nm,1.0s							
BC3	Big Chuckawall	90.37	54	P	P	00 55 09.7	-0.3	
	baz=244,SNR=15							
KLU	Klutina	90.42	20	IAMs_20	IAMs_20	01 30 02.7		
	comp=Z,25μm,22.0s							
KLU	Klutina	90.42	20	P	P	00 55 07.4	-2.1	
	baz=221							
BMRM	Bremner River	90.44	21	P	P	00 55 08.0	-1.6	
	baz=222							
NVAR	Mina Array Bea	90.45	48	P	P	00 55 08.0	-2.5	
	comp=Z,12nm,0.7s,baz=228,slow=8.3,SNR=37							
NVAR				LR	LR	01 30 37.7		
	comp=Z,11μm,18.7s,baz=254,slow=32							
	comp=Z,12nm,0.7s							
GRAC	Grapevine Rang	90.46	50	P	P	00 55 07.9	-2.3	
GRAC	Grapevine Rang	90.46	50	P	P	00 55 09.6	-0.7	
	baz=243,SNR=53							
SNH	Sunshine Point	90.46	22	IAMs_20	IAMs_20	01 31 43.0		
	comp=Z,22μm,19.0s							
CHUM	Lake Minchumin	90.48	16	P	P	00 55 08.4	-1.2	
	baz=215							
H04D	Lebanon	90.49	42	P	P	00 55 07.3	-2.9	
G03D	McMinnville, O	90.52	41	P	P	00 55 08.9	-1.4	
G03D				IAmb	IAmb	00 55 29.2		
	comp=Z,70nm,1.0s							
NV11	Mina Array Sit	90.56	49	P	P	00 55 07.3	-3.5	
NV11				IAmb	IAmb	00 55 18.9		
	comp=Z,49nm,0.9s							
FURC	Furnace Creek,	90.58	51	P	P	00 55 10.8	+0.1	
	baz=243,SNR=8.2							
GLA	Glamis	90.58	55	P	P	00 55 11.1	+0.1	
	baz=244							
KTH	Kantishna Hill	90.58	17	P	P	00 55 06.6	-3.7	
KTH				IAMs_20	IAMs_20	01 30 49.7		
	comp=Z,24μm,20.0s							
GWY	Greenwater Val	90.59	51	P	P	00 55 07.2	-3.9	
GWY				IAmb	IAmb	00 55 31.0		
	comp=Z,50nm,1.0s							
SLBS	Sierra La Lagu	90.62	65	P	P	00 55 09.6	-1.8	
SLBS				IAmb	IAmb	00 55 32.7		
	comp=Z,93nm,1.4s							
SLBS				IAMs_20	IAMs_20	01 28 49.6		
	comp=Z,15μm,19.0s							
WAX	Waxell Ridge	90.65	22	IAMs_20	IAMs_20	01 32 09.0		
	comp=Z,22μm,20.0s							
WAT1	Susitna Watana	90.66	18	P	P	00 55 09.0	-1.6	
	baz=219							
TRF	Thorofare Moun	90.67	17	P	P	00 55 08.2	-2.6	
TRF	Thorofare Moun	90.67	17	P	P	00 55 08.1	-2.6	
	baz=217							
GMN	Gold Mountain	90.67	50	P	P	00 55 08.9	-2.6	
HOLB	Holberg	90.69	34	P	P	00 55 09.2	-1.7	
WAT6	Susitna Watana	90.70	18	P	P	00 55 09.4	-1.5	
	baz=219							
GMRC	Granite Mounta	90.71	53	P	P	00 55 10.4	-1.2	
	baz=244,SNR=21							
I20K	Naaghedeneel	90.71	15	P	P	00 55 09.7	-0.9	
I20K				IAmb	IAmb	00 55 24.2		
	comp=Z,36nm,1.1s							
I20K				IAMs_20	IAMs_20	01 33 13.0		
	comp=Z,18μm,19.0s							
I20K	Naaghedeneel	90.71	15	P	P	00 55 10.1	-0.5	
	baz=213							
F03A	Seaside	90.72	40	P	P	00 55 09.3	-1.9	
F17K	Baldwin Pennin	90.72	11	IAMs_20	IAMs_20	01 32 06.9		
	comp=Z,21μm,20.0s							
F17K	Baldwin Pennin	90.72	11	P	P	00 55 10.0	-0.7	
	baz=207							
PLTX	Planet X, Gerl	90.72	46	P	P	00 55 10.2	-1.3	
PLTX				IAmb	IAmb	00 55 27.6		
	comp=Z,62nm,0.9s							
G18K	Tagagawik	90.74	13	P	P	00 55 05.6	-5.2	
G18K				IAMs_20	IAMs_20	01 31 02.5		
	comp=Z,23μm,20.0s							
G18K	Tagagawik	90.74	13	P	P	00 55 09.8	-1.0	
	baz=210							
K05A	Summer Lake	90.76	44	P	P	00 55 07.6	-4.1	
MZP	Montezuma Peak	90.76	49	P	P	00 55 09.1	-2.9	
MESA	MESA	90.77	22	IAMs_20	IAMs_20	01 38 09.1		
	comp=Z,22μm,18.0s							
MESA	MESA	90.77	22	P	P	00 55 08.1	-3.2	
	baz=224							
TUQ	Turquoise Moun	90.80	52	P	P	00 55 11.3	-0.7	
	baz=244,SNR=11							
M24K	Tolsona, Glenn	90.81	19	P	P	00 55 09.4	-1.9	
	baz=221							
J05D	Fort Rock, OR	90.82	43	P	P	00 55 08.8	-3.1	
IRM	Iron Mountain	90.82	53	P	P	00 55 11.4	-0.6	
	baz=244,SNR=23							
RADR	Rader Ridge	90.83	40	P	P	00 55 09.6	-2.1	
LSA	Lhasa	90.88	302	P	P	00 55 13.3	+0.4	
LSA				LR	LR			
	comp=Z,5μm,18.5s							
LSA				LR	LR			
	comp=Z,13μm,26.3s							
LSA				LR	LR			
	comp=Z,10μm,26.3s							
KVN	Kaiserville	90.88	48	P	P	00 55 09.6	-2.8	
KVN				IAmb	IAmb	00 55 20.2		
	comp=Z,40nm,0.8s							
KVN	Kaiserville	90.88	48	P	P	00 55 09.6	-2.8	
KVN				pmax	pmax			
	comp=Z,40nm,0.8s							
H19K	Roundabout Mou	90.88	14	P	P	00 55 08.5	-3.0	
H19K	Roundabout Mou	90.88	14	P	P	00 55 10.6	-0.8	
	baz=212							
GOMU	GeErMu	90.88	309	P	P	00 55 15.0	+2.3	
GOMU				PP	PP	00 58 48.3	-0.7	
GOMU				pmax	pmax			
	comp=Z,14nm,0.4s							
GOMU				LR	LR			
	comp=Z,4μm,17.2s							
GOMU				LR	LR			
	comp=Z,7μm,18.8s							
GOMU				LR	LR			
	comp=Z,6μm,16.7s							
WCT	Wildcat Mounta	90.89	51	P	P	00 55 10.2	-2.2	
WCT				IAmb	IAmb	00 55 21.4		
	comp=Z,54nm,1.1s							
H04A	Detroit Lake	90.92	42	P	P	00 55 08.6	-3.6	
H04A				IAmb	IAmb	00 55 36.5		
	comp=Z,79nm,1.1s							
N25K	Chitina, Valde	90.92	20	P	P	00 55 10.4	-1.5	
N25K				IAmb	IAmb	00 55 23.6		
	comp=Z,84nm,1.6s							
N25K				IAMs_20	IAMs_20	01 32 39.1		
	comp=Z,19μm,20.0s							
N25K	Chitina, Valde	90.92	20	P	P	00 55 09.4	-2.4	
	baz=222							
ISLE	Juniper Island	90.94	22	IAMs_20	IAMs_20	01 32 07.6		
	comp=Z,20μm,20.0s							
PIX	Pinacate	90.99	56	P	P	00 55 10.6	-2.1	
PIX				IAmb	IAmb	00 55 21.1		
	comp=Z,30nm,0.9s							
BPAW	Bear Paw Mtn.	91.00	16	IAMs_20	IAMs_20	01 31 32.9		
	comp=Z,15μm,20.0s							
BPAW	Bear Paw Mtn.	91.00	16	P	P	00 55 12.1	0.0	
	baz=216							
VRDI	Verde Repeater	91.02	21	P	P	00 55 11.3	-1.2	
VRDI				IAmb	IAmb	00 55 35.0		
	comp=Z,130nm,1.8s							
RND	Reindeer	91.03	17	P	P	00 55 09.6	-2.7	
RND				IAmb	IAmb	00 55 24.4		
	comp=Z,36nm,1.1s							
RND				IAMs_20	IAMs_20	01 33 27.5		
	comp=Z,18μm,19.0s							
RND	Reindeer	91.03	17	P	P	00 55 09.6	-2.7	
RND				pmax	pmax			
	comp=Z,36nm,1.1s							
TPH	Tonopah	91.05	49	P	P	00 55 09.3	-3.9	
TPH	Tonopah	91.05	49	P	P	00 55 09.3	-3.9	
GLB	Gilahina Butte	91.06	21	P	P	00 55 11.2	-1.2	
GLB				IAmb	IAmb	00 55 35.1		
	comp=Z,80nm,1.6s							
BLYC	Blythe	91.11	54	P	P	00 55 11.0	-2.3	
BLYC				IAmb	IAmb	00 55 22.6		
	comp=Z,54nm,0.9s							
F04D	Rainier, OR	91.12	40	P	P	00 55 11.0	-2.1	
CRAG	Craig	91.13	29	P	P	00 55 11.5	-1.3	
CRAG				IAmb	IAmb	00 55 26.9		
	comp=Z,50nm,1.2s							
CRAG	Craig	91.13	29	P	P	00 55 15.9	+3.1	
CRAG	Craig	91.13	29	P	P	00 55 12.3	-0.5	
	baz=232							
CRAG	Craig	91.13	29	⇑P	P	00 55 13.0	+0.2	
C03A	Quillayute Air	91.18	38	P	P	00 55 11.9	-1.3	
SIT	Sitka	91.18	27	P	P	00 55 12.3	-0.7	
	baz=230							
E17K	Hotham Inlet	91.19	11	P	P	00 55 13.0	+0.1	
	baz=207							
DHY	Denali Highway	91.19	18	P	P	00 55 11.8	-1.4	
DHY	Denali Highway	91.19	18	P	P	00 55 11.2	-2.0	
	baz=220							
H20K	Anotleneega Mo	91.20	14	P	P	00 55 11.5	-1.5	
	baz=213							
TPNV	Topopah Spring	91.23	51	P	P	00 55 11.3	-2.7	
TPNV				IAmb	IAmb	00 55 34.3		
	comp=Z,67nm,0.9s							
TPNV	Topopah Spring	91.23	51	P	P	00 55 13.4	-0.6	
	baz=244,SNR=38							
TPNV	Topopah Spring	91.23	51	⇓P	P	00 55 11.7	-2.3	
TPNV	Topopah Spring	91.23	51	P	P	00 55 11.3	-2.7	
TPNV				pmax	pmax			
	comp=Z,67nm,1.0s							
TABL	Table Mountain	91.23	22	P	P	00 55 12.0	-1.5	
TABL				IAMs_20	IAMs_20	01 40 24.5		
	comp=Z,17μm,18.0s							
PINE	Pine Mountain	91.25	43	P	P	00 55 11.7	-2.3	
MCK	McKinley	91.26	17	P	P	00 55 11.7	-1.6	
	baz=218							
113A	Mohawk Valley,	91.26	55	P	P	00 55 12.6	-1.4	
113A				IAmb	IAmb	00 55 19.2		
	comp=Z,71nm,1.4s							
I05D	Terrebonne, OR	91.27	42	P	P	00 55 11.1	-2.8	
I05D				IAmb	IAmb	00 55 22.7		
	comp=Z,48nm,1.0s							
MCARA	McCarthy VSAT	91.27	21	P	P	00 55 11.6	-1.8	
	baz=224							
G19K	Purcell Mounta	91.28	13	P	P	00 55 11.4	-1.9	
G19K	Purcell Mounta	91.28	13	P	P	00 55 12.2	-1.2	
	baz=211							
NLWA	Neilton Lookou	91.29	39	P	P	00 55 10.9	-2.9	
NLWA				IAmb	IAmb	00 55 27.9		
	comp=Z,67nm,1.2s							
NLWA	Neilton Lookou	91.29	39	⇓P	P	00 55 11.8	-2.1	
PINM	Pinnacle	91.31	23	P	P	00 55 12.0	-1.7	
	baz=226							
PNL	Peninsula	91.32	23	P	P	00 55 12.0	-1.7	
	baz=227							
PALK	Pallekele	91.34	277	IAMs_20	IAMs_20	01 35 50.0		
	comp=Z,18μm,20.0s							
PALK	Pallekele	91.34	277	LR	LR	01 39 10.8		
	comp=Z,17μm,18.8s,baz=223,slow=38							
HARP	HAARP	91.34	19	P	P	00 55 12.0	-1.7	
	baz=222							
S31K	Pelican	91.40	26	P	P	00 55 12.9	-1.1	
S31K				IAMs_20	IAMs_20	01 31 56.2		
	comp=Z,16μm,19.0s							
S31K	Pelican	91.40	26	P	P	00 55 13.7	-0.3	
	baz=229							
F04A	Amboy	91.40	40	P	P	00 55 11.5	-2.9	
BCPM	Bancas Point	91.43	23	IAMs_20	IAMs_20	01 31 40.9		
	comp=Z,17μm,19.0s							
BWN	Browne	91.46	17	P	P	00 55 12.3	-1.9	
NEE2	Needles Airpor	91.47	53	P	P	00 55 14.3	-0.7	
	baz=244							
BARN	Barnard Glacie	91.50	22	P	P	00 55 11.4	-3.3	
BARN				IAMs_20	IAMs_20	01 32 26.4		
	comp=Z,17μm,20.0s							
U33K	Whale Pass	91.53	28	P	P	00 55 12.2	-2.4	
U33K				IAmb	IAmb	00 55 33.7		
	comp=Z,56nm,0.9s							
U33K				IAMs_20	IAMs_20	01 31 32.0		
	comp=Z,16μm,20.0s							
U33K	Whale Pass	91.53	28	P	P	00 55 14.6	0.0	
	baz=232							
CTG	Chitna Glacier	91.54	22	P	P	00 55 13.7	-1.1	
	baz=225							
CTGM	Chitina Glacie	91.54	22	P	P	00 55 13.7	-1.1	
CTGM				IAmb	IAmb	00 55 37.1		
	comp=Z,54nm,1.0s							
CTGM				IAMs_20	IAMs_20	01 32 28.6		
	comp=Z,16μm,20.0s							
LOGN	Logan Glacier	91.56	22	P	P	00 55 13.8	-1.1	
LOGN				IAMs_20	IAMs_20	01 32 08.0		
	comp=Z,16μm,20.0s							
HOOD	Mount Hood Mea	91.56	41	P	P	00 55 13.0	-2.3	
HOOD				IAmb	IAmb	00 55 33.0		
	comp=Z,48nm,0.8s							
BBB	Bella Bella	91.57	33	P	P	00 55 14.3	-0.6	
BBB				IAmb	IAmb	00 55 28

E18K IAmb IAmb 00 55 31.3
comp=Z,74nm,1.6s
E18K Tukpahlearik C 91.71 11 P P 00 55 14.5 -0.8
baz=208
V12A Nelson 91.72 52 P P 00 55 14.0 -2.2
V12A IAmb IAmb 00 55 21.3
comp=Z,84nm,1.6s
V35K Ketchikan 91.72 29 P P 00 55 12.7 -2.9
V35K IAmb IAmb 00 55 24.0
comp=Z,46nm,0.9s
V35K IAMs_20 IAMs_20 01 38 52.2
comp=Z,16µm,18.0s
V35K Ketchikan 91.72 29 P P 00 55 14.8 -0.8
baz=233
G05A Wamic 91.73 41 P P 00 55 14.3 -1.7
F19K Shaleruckik Mo 91.73 12 P P 00 55 13.7 -1.7
F19K IAmb IAmb 00 55 19.9
comp=Z,62nm,1.5s
F19K IAMs_20 IAMs_20 01 32 42.8
comp=Z,24µm,20.0s
F19K Shaleruckik Mo 91.73 12 P P 00 55 14.6 -0.8
baz=210
S32K Killisnoo 91.76 27 P P 00 55 13.9 -1.8
S32K IAmb IAmb 00 55 20.3
comp=Z,109nm,1.8s
S32K IAMs_20 IAMs_20 01 35 21.8
comp=Z,20µm,18.0s
S32K Killisnoo 91.76 27 P P 00 55 14.5 -1.2
baz=231
RUBB Prince Rupert 91.76 31 P P 00 55 14.4 -1.3
RUBB IAmb IAmb 00 55 43.1
comp=Z,62nm,1.5s
WTNK Soaring Height 91.80 52 P P 00 55 15.2 -1.3
O28M Mount Upton 91.80 22 P P 00 55 14.9 -1.3
baz=226
MLY Manley 91.82 16 P P 00 55 14.0 -1.9
MLY IAMs_20 IAMs_20 01 35 50.3
comp=Z,19µm,20.0s
MLY Manley 91.82 16 P P 00 55 14.1 -1.9
baz=217
H21K Melozitna Rive 91.82 15 P P 00 55 13.7 -2.1
H21K IAMs_20 IAMs_20 01 34 08.4
comp=Z,18µm,19.0s
H21K Melozitna Rive 91.82 15 P P 00 55 14.8 -1.0
baz=215
SHPR Sheep Range 91.83 51 P P 00 55 14.7 -2.1
SHPR IAmb IAmb 00 55 22.1
comp=Z,83nm,1.8s
CBB Campbell River 91.84 36 P P 00 55 14.4 -1.8
CBB IAmb IAmb 00 55 30.3
comp=Z,68nm,1.2s
B04A Port Angeles 91.84 38 P P 00 55 14.4 -1.9
B04A IAmb IAmb 00 55 28.8
comp=Z,50nm,1.0s
SLGI Shiliguri 91.87 298 eP P 00 55 17.8 +0.8
CLRS Cowichan Lake 91.88 37 P P 00 55 16.3 -0.2
CLRS IAmb IAmb 00 55 30.3
comp=Z,46nm,1.1s
MALK Mahakanadarawa 91.90 278 P P 00 55 17.9 +0.5
MALK Mahakanadarawa 91.90 278 ⇓P P 00 55 21.0 +3.6
S11A Rachel 91.90 50 P P 00 55 14.6 -2.5
S11A IAmb IAmb 00 55 33.0
comp=Z,46nm,0.8s
NEA2 Nenana 91.90 17 P P 00 55 13.0 -3.3
NEA2 IAmb IAmb 00 55 58.8
comp=Z,52nm,1.8s
NEA2 IAMs_20 IAMs_20 01 32 21.7
comp=Z,23µm,21.0s
NEA2 Nenana 91.90 17 P P 00 55 14.1 -2.2
baz=218
P29M Windy Craggy 91.92 24 P P 00 55 13.6 -2.9
P29M IAMs_20 IAMs_20 01 37 58.7
comp=Z,22µm,18.0s
P29M Windy Craggy 91.92 24 P P 00 55 15.3 -1.2
baz=228
GTK Tadong 91.97 299 eP P 00 55 13.1 -4.5
GNW Green Mountain 91.98 39 P P 00 55 15.4 -1.6
GNW IAmb IAmb 00 55 35.8
comp=Z,36nm,0.9s
M26K Nabesna, AK 92.02 20 P P 00 55 14.1 -2.9
M26K IAmb IAmb 00 55 27.9
comp=Z,51nm,1.2s
M26K Nabesna, AK 92.02 20 P P 00 55 15.9 -1.0
baz=224
T33K Petersburg 92.04 28 P P 00 55 16.0 -1.0
baz=232
WRAK Wrangell Islan 92.06 28 P P 00 55 15.1 -2.0
WRAK Wrangell Islan 92.06 28 IAMs_20 IAMs_20 01 36 06.9
comp=Z,16µm,19.0s
WRAK Wrangell Islan 92.06 28 P P 00 55 16.3 -0.8
baz=232
WRAK Wrangell Islan 92.06 28 ⇓P P 00 55 14.6 -2.5
O29M Mount Kennedy 92.06 23 IAMs_20 IAMs_20 01 38 06.5
comp=Z,21µm,18.0s
O29M Mount Kennedy 92.06 23 P P 00 55 15.9 -1.4
baz=227
WRH Wood River Hil 92.07 17 P P 00 55 15.7 -1.4
WRH IAmb IAmb 00 55 28.1
comp=Z,97nm,1.7s
WRH IAMs_20 IAMs_20 01 31 47.2
comp=Z,21µm,20.0s
WVOR Wild Horse Val 92.09 45 P P 00 55 15.3 -2.5
WVOR Wild Horse Val 92.09 45 ⇓P P 00 55 15.4 -2.4
WVOR Wild Horse Val 92.09 45 P P 00 55 15.3 -2.5
WVOR pmax pmax
comp=Z,212nm,2.0s
G06A Carlson Farm, 92.14 42 P P 00 55 16.7 -1.2
G06A IAmb IAmb 00 55 37.9
comp=Z,70nm,1.5s
W13A Hualapai Mount 92.16 53 P P 00 55 16.0 -2.4
W13A IAmb IAmb 00 55 23.6
comp=Z,54nm,1.4s
LON Longmire 92.17 40 P P 00 55 17.0 -1.0
LON IAmb IAmb 00 55 30.5
comp=Z,41nm,1.3s
LON Longmire 92.17 40 P P 00 55 17.0 -1.0
LON pmax pmax
comp=Z,41nm,1.3s
PGC Sidney 92.18 38 P P 00 55 17.8 -0.1
PGC IAmb IAmb 00 55 38.0
comp=Z,53nm,1.1s
MENT Mentasta 92.19 20 P P 00 55 16.3 -1.3
MENT IAmb IAmb 00 55 28.0
comp=Z,54nm,1.4s
MENT Mentasta 92.19 20 P P 00 55 17.6 0.0
K24K Donnelly Dome 92.21 18 P P 00 55 16.6 -1.2
baz=221
C17K DeLong Mountai 92.22 10 P P 00 55 16.6 -1.1
baz=206
I23K Minto, Yukon-K 92.27 16 P P 00 55 16.8 -1.1
I23K IAmb IAmb 00 55 41.8
comp=Z,60nm,1.9s
I23K IAMs_20 IAMs_20 01 35 57.2
comp=Z,22µm,19.0s
I23K Minto, Yukon-K 92.27 16 P P 00 55 15.9 -2.0
baz=218
CCB Clear Creek Bu 92.29 17 P P 00 55 15.4 -2.6
CCB IAMs_20 IAMs_20 01 31 52.8
comp=Z,22µm,20.0s
D05A Enumclaw 92.29 40 P P 00 55 16.9 -1.5
R32K Eaglecrest 92.29 26 P P 00 55 17.9 -0.3
baz=231
PRN Pahroc Range 92.30 51 P P 00 55 16.9 -2.0
PRN Pahroc Range 92.30 51 ⇓P P 00 55 16.0 -2.9
I07A Izee 92.30 43 P P 00 55 16.3 -2.5
I07A IAmb IAmb 00 55 24.6
comp=Z,23nm,0.9s
YUK8 Steele Glacier 92.31 22 P P 00 55 17.4 -1.2
baz=226
PLBC Pleasant Camp 92.32 25 P P 00 55 17.1 -1.2
baz=229
R11B Troy Canyon, C 92.32 50 P P 00 55 15.7 -3.4
R11B IAMs_20 IAMs_20 01 34 14.2
comp=Z,17µm,18.0s
R11B Troy Canyon, C 92.32 50 P P 00 55 18.2 -0.9
baz=244,SNR=23
F20K Avaraart Lake 92.33 13 P P 00 55 16.5 -1.7
F20K Avaraart Lake 92.33 13 P P 00 55 17.6 -0.6
baz=212
HDA Harding Lake 92.34 18 P P 00 55 16.1 -2.2
HDA IAMs_20 IAMs_20 01 34 34.3
comp=Z,25µm,20.0s
HDA Harding Lake 92.34 18 P P 00 55 15.6 -2.7
baz=220,SNR=13
JIS Juneau Island 92.35 26 P P 00 55 16.1 -2.3
JIS IAmb IAmb 00 55 42.7
comp=Z,73nm,1.3s
JIS IAMs_20 IAMs_20 01 31 56.4
comp=Z,16µm,20.0s
JIS Juneau Island 92.35 26 P P 00 55 21.4 +3.0
M27K Edge Creek, AK 92.35 21 P P 00 55 15.2 -3.4
M27K IAmb IAmb 00 55 36.9
comp=Z,56nm,1.1s
M27K Edge Creek, AK 92.35 21 P P 00 55 17.7 -0.9
baz=224
H22K Ishtalitna Cre 92.36 15 P P 00 55 17.2 -1.1
baz=216
ZAK Zakamensk 92.36 324 eP P 00 55 16.3 -2.6
ZAK pmax pmax
comp=Z,58nm,1.8s
L26K Log Cabin Wild 92.37 20 IAMs_20 IAMs_20 01 31 05.2
comp=Z,23µm,21.0s
L26K Log Cabin Wild 92.37 20 P P 00 55 17.8 -0.7
baz=223
G21K Allakaket 92.37 14 P P 00 55 16.8 -1.6
G21K IAmb IAmb 00 55 36.1
comp=Z,34nm,1.2s
G21K IAMs_20 IAMs_20 01 34 23.8
comp=Z,20µm,20.0s
G21K Allakaket 92.37 14 P P 00 55 17.5 -0.9
baz=214
E19K Redstone River 92.38 12 P P 00 55 16.4 -2.0
E19K IAmb IAmb 00 55 28.2
comp=Z,33nm,0.9s
E19K IAMs_20 IAMs_20 01 33 12.9
comp=Z,24µm,20.0s
E19K Redstone River 92.38 12 P P 00 55 18.0 -0.4
baz=211
YUK3 Moose Creek 92.41 21 P P 00 55 16.9 -2.0
baz=226,SNR=8.0
MDM Murphy Dome 92.42 17 P P 00 55 15.7 -2.9
MDM IAMs_20 IAMs_20 01 32 06.2
comp=Z,20µm,20.0s
COLA College 92.45 17 P P 00 55 16.2 -2.5
COLA IAmb IAmb 00 55 33.6
comp=Z,30nm,0.8s
COLA College 92.45 17 IAMs_20 IAMs_20 01 31 57.1
comp=Z,22µm,20.0s
COLA College 92.45 17 P P 00 55 17.1 -1.6
COLA College 92.45 17 P P 00 55 16.3 -2.5
baz=219
COLA College 92.45 17 P P 00 55 16.2 -2.5
COLA pmax pmax
comp=Z,30nm,0.8s
P30M Million Dollar 92.54 24 P P 00 55 18.4 -0.9
baz=229
YUK6 Outpost Mounta 92.57 23 P P 00 55 17.5 -2.2
baz=228
IL31 92.64 17 P P 00 55 15.9 -3.6
IL31 IAmb IAmb 00 55 22.7
comp=Z,75nm,1.6s
ILAR Eielson Array 92.64 17 P P 00 55 13.7 -6.0
ILAR Eielson Array 92.64 17 P P 00 55 13.7 -5.9
ILAR Eielson Array 92.64 17 P P 00 55 14.9 -4.7
comp=Z,1.2nm,0.6s,baz=235,slow=5.2,SNR=15
ILAR PKKPbc **PKKPbc 01 12 34.8 +0.1**
comp=Z,0.4nm,0.9s,baz=352,slow=2.0,SNR=2.5
ILAR LR LR 01 34 56.7
comp=Z,16µm,18.7s,baz=222,slow=34
C18K Utukok River 92.70 10 P P 00 55 17.7 -2.2
C18K IAmb IAmb 00 55 24.5
comp=Z,83nm,1.6s
C18K IAMs_20 IAMs_20 01 33 27.2
comp=Z,21µm,20.0s
C18K Utukok River 92.70 10 P P 00 55 18.8 -1.1
baz=207,SNR=5.2
BVCY Beaver Creek 92.73 21 P P 00 55 19.2 -1.0
baz=225
SKAG Skagway 92.73 25 P P 00 55 16.4 -3.8
SKAG Skagway 92.73 25 P P 00 55 19.3 -0.8
baz=230
SKAG Skagway 92.73 25 ⇑P P 00 55 20.6 +0.4
YUK4 Talbot Arm 92.74 22 P P 00 55 18.8 -1.7
baz=227
POKR Poker Plat Res 92.75 17 P P 00 55 18.6 -1.6
POKR IAmb IAmb 00 55 41.9
comp=Z,56nm,1.7s
POKR Poker Plat Res 92.75 17 IAMs_20 IAMs_20 01 31 57.2
comp=Z,20µm,20.0s
POKR Poker Plat Res 92.75 17 P P 00 55 18.0 -2.2
baz=220
H23K Yukon River 92.75 16 P P 00 55 18.7 -1.5
H23K IAmb IAmb 00 55 42.8
comp=Z,79nm,1.9s
H23K IAMs_20 IAMs_20 01 36 49.2
comp=Z,19µm,19.0s
H23K Yukon River 92.75 16 P P 00 55 18.4 -1.8
baz=218
U35K Hyder 92.80 29 IAMs_20 IAMs_20 01 39 50.6
comp=Z,17µm,18.0s
U35K Hyder 92.80 29 P P 00 55 20.0 -0.6
baz=234
HYT Haines Junctio 92.80 23 P P 00 55 18.3 -2.3
HYT IAmb IAmb 00 55 38.6
comp=Z,41nm,1.0s
HYT Haines Junctio 92.80 23 P P 00 55 18.9 -1.8
baz=228
VIS Vishakhapatnam 92.80 288 eP P 00 55 23.8 +2.3
BOK Bokaro 92.86 294 eP P 00 55 21.9 +0.2
SCRK Sand Creek 92.87 19 P P 00 55 17.9 -3.0
SCRK IAmb IAmb 00 55 43.8
comp=Z,37nm,1.1s
SCRK Sand Creek 92.87 19 P P 00 55 19.2 -1.7
baz=223,SNR=12
L27K Beaver Creek, 92.87 20 P P 00 55 18.4 -2.4
L27K IAmb IAmb 00 55 38.8
comp=Z,35nm,1.3s
L27K IAMs_20 IAMs_20 01 33 32.7
comp=Z,16µm,21.0s
L27K Beaver Creek, 92.87 20 P P 00 55 19.4 -1.5
baz=225
BCAR Beaver Creek A 92.89 20 P P 00 55 17.5 -3.4
COYC Coyhaique 92.89 142 P 00 55 22.2 +0.7
F07A Phinny Hill Vi 92.90 41 P P 00 55 19.2 -2.1
J25K Salcha River, 92.94 18 P P 00 55 18.4 -2.7
J25K IAmb IAmb 00 55 24.5
comp=Z,43nm,1.4s
J25K Salcha River, 92.94 18 P P 00 55 19.2 -2.0
baz=222,SNR=5.3
F21K Alatna River 92.96 14 P P 00 55 19.6 -1.5
F21K IAmb IAmb 00 55 37.1
comp=Z,72nm,1.6s
F21K IAMs_20 IAMs_20 01 32 54.4
comp=Z,16µm,20.0s
F21K Alatna River 92.96 14 P P 00 55 19.9 -1.2
baz=214
D19K Kuna River 93.11 11 P P 00 55 19.6 -2.2
D19K Kuna River 93.11 11 P P 00 55 20.9 -0.9
baz=210
G22K Bettles 93.16 14 P P 00 55 21.1 -0.8
baz=216
H24K Noodor Dome 93.19 16 IAMs_20 IAMs_20 01 35 25.7
comp=Z,22µm,19.0s
H24K Noodor Dome 93.19 16 P P 00 55 19.4 -2.8
baz=219
G08A Pilot Rock 93.21 42 P P 00 55 19.8 -3.1
G08A IAmb IAmb 00 55 34.7
comp=Z,25nm,0.9s
B18K Kokolik River 93.24 10 P P 00 55 21.9 -0.4
baz=207
E07A Sunnyside 93.26 41 P P 00 55 20.7 -2.3
E07A IAmb IAmb 00 55 27.9
comp=Z,114nm,1.9s
E20K Nigu River 93.27 12 P P 00 55 22.2 -0.3
baz=212
O30N Mendenhall 93.29 24 P P 00 55 18.7 -4.1
O30N IAmb IAmb 00 55 40.8
comp=Z,39nm,1.1s
O30N IAMs_20 IAMs_20 01 38 36.0
comp=Z,21µm,18.0s
O30N Mendenhall 93.29 24 P P 00 55 21.7 -1.1
baz=229
T35M Bob Quinn 93.32 29 P P 00 55 21.4 -1.6
T35M IAmb IAmb 00 55 37.1
comp=Z,32nm,1.2s
T35M IAMs_20 IAMs_20 01 36 57.4
comp=Z,16µm,18.0s
T35M Bob Quinn 93.32 29 P P 00 55 22.4 -0.7
baz=234
G23K Bananza Creek 93.34 15 P P 00 55 18.8 -4.1
G23K IAmb IAmb 00 55 46.5
comp=Z,61nm,1.6s
G23K Bananza Creek 93.34 15 P P 00 55 21.9 -1.0
baz=217
TUC Tucson 93.37 57 P P 00 55 21.3 -2.6
TUC IAmb IAmb 00 55 29.2
comp=Z,44nm,1.6s
TUC Tucson 93.37 57 IAMs_20 IAMs_20 01 31 59.6
comp=Z,13µm,18.0s
TUC Tucson 93.37 57 P P 00 55 23.9 0.0
baz=246
TUC Tucson 93.37 57 P P 00 55 21.3 -2.6
TUC pmax pmax
comp=Z,44nm,1.6s
HAWA Hanford 93.38 41 P P 00 55 22.1 -1.4
HAWA IAmb IAmb 00 55 28.4
comp=Z,77nm,1.6s
HAWA Hanford 93.38 41 ⇓P P 00 55 26.8 +3.3
N30M Aishikik Lake 93.38 23 P P 00 55 21.1 -2.1
N30M IAmb IAmb 00 55 38.2
comp=Z,30nm,1.2s
N30M IAMs_20 IAMs_20 01 39 17.3
comp=Z,19µm,18.0s
N30M Aishikik Lake 93.38 23 P P 00 55 20.9 -2.4
baz=229
C19K Lookout Ridge 93.38 11 P P 00 55 20.5 -2.5
C19K IAMs_20 IAMs_20 01 33 21.2
comp=Z,23µm,20.0s
C19K Lookout Ridge 93.38 11 P P 00 55 21.9 -1.1
baz=209
J26L Joseph Creek 93.38 19 P P 00 55 19.8 -3.4
J26L IAmb IAmb 00 55 27.3
comp=Z,78nm,1.5s
J26L IAMs_20 IAMs_20 01 33 58.0
comp=Z,17µm,21.0s
J26L Joseph Creek 93.38 19 P P 00 55 22.0 -1.2
baz=223,SNR=9.5
LCMT Little Creek M 93.43 52 P P 00 55 20.8 -3.4
LCMT IAmb IAmb 00 55 29.2
comp=Z,48nm,1.3s
P32M Atlin 93.45 25 P P 00 55 20.6 -2.9
P32M IAmb IAmb 00 55 47.1
comp=Z,56nm,1.3s
P32M Atlin 93.45 25 P P 00 55 21.8 -1.8
baz=231
F22K John River 93.48 14 P P 00 55 22.6 -0.9
baz=216
K27K Chicken 93.49 19 P P 00 55 19.7 -3.9
K27K IAmb IAmb 00 55 35.8
comp=Z,42nm,1.1s
K27K IAMs_20 IAMs_20 01 32 41.9
comp=Z,15µm,20.0s
K27K Chicken 93.49 19 P P 00 55 22.0 -1.6
baz=224,SNR=21
S34M Telegraph Cree 93.49 27 P P 00 55 21.2 -2.5
S34M IAmb IAmb 00 55 37.7
comp=Z,57nm,1.1s
S34M IAMs_20 IAMs_20 01 35 52.7
comp=Z,18µm,19.0s
S34M Telegraph Cree 93.49 27 P P 00 55 23.4 -0.3
baz=234
SPR3 Spring Creek 3 93.49 49 P P 00 55 21.8 -2.9
SPR3 IAmb IAmb 00 55 29.2
comp=Z,65nm,1.6s
M29M Somme Creek 93.56 22 P P 00 55 21.0 -3.1
M29M IAmb IAmb 00 55 37.0
comp=Z,33nm,0.9s
M29M IAMs_20 IAMs_20 01 34 01.9
comp=Z,18µm,21.0s
M29M Somme Creek 93.56 22 P P 00 55 22.0 -2.1
baz=228,SNR=8.1
CCUT Cedar City 93.57 51 P P 00 55 21.7 -3.2
CCUT IAmb IAmb 00 55 30.3
comp=Z,105nm,1.8s
D20K Etivluk River 93.58 12 P P 00 55 22.8 -1.1
baz=212
PRP Porcupine Dome 93.58 17 P P 00 55 22.0 -2.2
PRP IAmb IAmb 00 55 28.3
comp=Z,40nm,1.6s
PRP IAMs_20 IAMs_20 01 35 23.0
comp=Z,18µm,19.0s
PRP Porcupine Dome 93.58 17 P P 00 55 22.2 -1.9
baz=221
ELK Elko 93.61 47 P P 00 55 20.9 -4.2
ELK Elko 93.61 47 ⇓P P 00 55 25.1 +0.1
ELK ⇑P **sP 00 55 33.4 +1.2**
ELK Elko 93.61 47 P P 00 55 22.3 -2.7
comp=Z,4.2nm,1.0s,baz=37,slow=5.8,SNR=12
ELK LR LR 01 33 18.9
comp=Z,11µm,18.4s,baz=285,slow=33
comp=Z,4.2nm,1.0s
PSUT Pine Spring 93.63 50 P P 00 55 21.2 -3.9
PSUT IAmb IAmb 00 55 30.1
comp=Z,62nm,1.6s
Q32M Nakina River 93.64 26 P P 00 55 21.9 -2.8
Q32M IAMs_20 IAMs_20 01 32 36.7
comp=Z,16µm,20.0s
Q32M Nakina River 93.64 26 P P 00 55 23.5 -1.2
baz=233
WHY Whitehorse 93.67 24 P P 00 55 20.4 -4.3
WHY IAmb IAmb 00 55 46.6
comp=Z,113nm,1.9s
WHY Whitehorse 93.67 24 P P 00 55 23.1 -1.5
baz=230
E08A Dider Farm, El 93.71 41 P P 00 55 21.7 -3.3
X16A Lo Mia Camp, P 93.71 54 P P 00 55 23.1 -2.5
X16A IAmb IAmb 00 55 34.9
comp=Z,33nm,0.9s
COLD Coldfoot 93.71 15 P P 00 55 23.9 -0.6
baz=217
KNB Kanab 93.74 52 P P 00 55 23.0 -2.7
KNB Kanab 93.74 52 P P 00 55 23.0 -2.7
KNB pmax pmax
comp=Z,109nm,1.5s
SZCU Shurtz Canyon 93.79 51 P P 00 55 23.6 -2.3
SZCU IAmb IAmb 00 55 40.2
comp=Z,97nm,1.8s
MDRS Chennai 93.87 282 eP P 00 55 28.1 +1.6
N31M Braeburn, Yuko 93.87 23 P P 00 55 21.3 -4.2
N31M IAmb IAmb 00 55 36.6
comp=Z,53nm,1.1s
N31M IAMs_20 IAMs_20 01 39 23.3
comp=Z,22µm,18.0s
N31M Braeburn, Yuko 93.87 23 P P 00 55 24.4 -1.1
baz=230
E21K Killik River 93.87 13 IAMs_20 IAMs_20 01 33 44.4
comp=Z,24µm,20.0s
E21K Killik River 93.87 13 P P 00 55 23.9 -1.4
baz=214
U15A North Rim 93.89 52 P P 00 55 23.4 -3.1
U15A IAmb IAmb 00 55 36.4
comp=Z,36nm,0.9s
JHSG JHARSUGUGA 93.91 292 eP P 00 55 26.4 -0.1
G24K Hadweenzic Riv 93.97 16 P P 00 55 22.8 -3.0
G24K IAmb IAmb 00 55 52.6
comp=Z,51nm,1.5s
G24K IAMs_20 IAMs_20 01 36 00.1
comp=Z,22µm,19.0s
G24K Hadweenzic Riv 93.97 16 P P 00 55 24.7 -1.0
baz=220,SNR=10
BMO Blue Mountains 94.05 43 P P 00 55 22.9 -3.9
BMO IAMs_20 IAMs_20 01 36 37.3
comp=Z,20µm,18.0s
BMO Blue Mountains 94.05 43 ⇑P P 00 55 26.9 +0.1
BMO Blue Mountains 94.05 43 P P 00 55 22.9 -3.9
BMO pmax pmax
comp=Z,42nm,1.8s
BMO MLR MLR
comp=Z,20µm,18.0s
D08A Wollman Farm, 94.06 41 P P 00 55 24.5 -2.1
H25L Birch Creek 94.06 17 P P 00 55 24.9 -1.2
baz=221
E22K Anaktuvuk Pass 94.08 14 IAMs_20 IAMs_20 01 33 29.9
comp=Z,21µm,21.0s
E22K Anaktuvuk Pass 94.08 14 P P 00 55 25.5 -0.7
baz=216
I26K Coal Creek Min 94.09 18 P P 00 55 22.2 -4.1
I26K IAmb IAmb 00 55 50.2
comp=Z,78nm,1.4s
I26K Coal Creek Min 94.09 18 P P 00 55 24.7 -1.6
baz=224,SNR=11
A19K Wainwright 94.11 10 P P 00 55 25.7 -0.5
baz=208
L29M L29M 94.12 21 P P 00 55 22.9 -3.7
L29M IAmb IAmb 00 55 44.9
comp=Z,56nm,1.1s
L29M IAMs_20 IAMs_20 01 41 29.7
comp=Z,15µm,18.0s
L29M L29M 94.12 21 P P 00 55 25.3 -1.2

baz=228,SNR=18
319A Douglas 94.18 58 P P 00 55 26.2 -1.5
319A IAmb IAmb 00 55 36.4
comp=Z,19nm,0.8s
P33M Teslin, Yukon 94.19 25 P P 00 55 23.0 -4.0
P33M Teslin, Yukon 94.19 25 P P 00 55 25.2 -1.8
baz=232
WUAZ Wupatki 94.20 54 P P 00 55 24.9 -2.9
WUAZ IAmb IAmb 00 55 36.9
comp=Z,34nm,0.9s
WUAZ IAMs_20 IAMs_20 01 37 39.3
comp=Z,18µm,18.0s
WUAZ Wupatki 94.20 54 P P 00 55 26.5 -1.3
baz=246
WUAZ Wupatki 94.20 54 ⇑P P 00 55 28.6 +0.8
WUAZ ⇓P **sP 00 55 36.0 +1.0**
M30M Minto, Yukon 94.22 22 IAMs_20 IAMs_20 01 34 04.5
comp=Z,21µm,20.0s
M30M Minto, Yukon 94.22 22 P P 00 55 25.2 -1.9
baz=229,SNR=20
MOY Mondy 94.26 325 *e*P **P 00 55 29.2 +1.6**
DLBC Dease Lake 94.27 27 P P 00 55 25.5 -1.9
DLBC IAmb IAmb 00 55 51.1
comp=Z,37nm,1.2s
DLBC Dease Lake 94.27 27 P P 00 55 26.7 -0.7
baz=234
DLBC Dease Lake 94.27 27 P P 00 55 24.3 -3.1
comp=Z,5.6nm,1.1s,baz=220,slow=7.3,SNR=7.3
comp=Z,5.6nm,1.1s
E09A Wood Farm, Sta 94.28 41 P P 00 55 25.5 -2.1
PKCU Pink Cliffs 94.29 51 P P 00 55 25.9 -2.4
EGAK Eagle 94.30 19 P P 00 55 23.9 -3.4
EGAK IAmb IAmb 00 55 50.1
comp=Z,59nm,1.1s
EGAK Eagle 94.30 19 P P 00 55 25.9 -1.4
baz=225,SNR=20
EGAK Eagle 94.30 19 ⇓P P 00 55 23.6 -3.7
C21K Knifeblade Rid 94.31 12 P P 00 55 26.6 -0.7
baz=213
DAWY Dawson 94.36 20 P P 00 55 25.8 -1.9
baz=227
G25K Bearman Lake 94.37 16 P P 00 55 26.1 -1.4
baz=221
MFID Camas Ranch 94.37 45 P P 00 55 25.5 -2.8
MFID IAMs_20 IAMs_20 01 39 04.9
comp=Z,15µm,18.0s
R33M Jennings River 94.44 26 P P 00 55 25.6 -2.7
R33M IAmb IAmb 00 55 52.0
comp=Z,76nm,1.6s
R33M IAMs_20 IAMs_20 01 33 21.8
comp=Z,16µm,20.0s
R33M Jennings River 94.44 26 P P 00 55 27.2 -1.0
baz=234
FYU Fort Yukon 94.45 17 P P 00 55 24.9 -3.0
FYU IAMs_20 IAMs_20 01 33 07.9
comp=Z,21µm,20.0s
F24K Squaw Lake 94.50 15 P P 00 55 25.2 -3.0
F24K IAmb IAmb 00 55 55.1
comp=Z,45nm,1.3s
F24K IAMs_20 IAMs_20 01 34 53.1
comp=Z,15µm,20.0s
F24K Squaw Lake 94.50 15 P P 00 55 27.2 -1.0
baz=219
D22K Ayikyak River 94.50 13 P P 00 55 26.3 -1.8
D22K IAmb IAmb 00 55 40.3
comp=Z,39nm,1.1s
D22K Ayikyak River 94.50 13 P P 00 55 28.2 0.0
baz=215
E23K Chandalar 94.51 14 P P 00 55 27.3 -1.1
baz=218,SNR=6.0
B20K Meade River 94.59 11 P P 00 55 27.9 -0.6
baz=211
F10A Beach Ranch, E 94.61 42 P P 00 55 26.3 -3.0
MTPU Mount Pierson 94.62 51 P P 00 55 27.2 -2.7
MTPU IAmb IAmb 00 55 51.0
comp=Z,49nm,1.5s
TCRU Three Creeks R 94.67 50 P P 00 55 28.4 -1.5
N32M Quiet Lake 94.67 24 P P 00 55 27.7 -1.4
N32M IAmb IAmb 00 55 42.3
comp=Z,39nm,1.1s
N32M IAMs_20 IAMs_20 01 36 24.5
comp=Z,21µm,18.0s
N32M Quiet Lake 94.67 24 P P 00 55 28.0 -1.1
baz=232
B21K Ikpikpuk River 94.73 12 P P 00 55 26.0 -3.1
B21K IAmb IAmb 00 55 37.7
comp=Z,32nm,0.8s
B21K Ikpikpuk River 94.73 12 P P 00 55 29.0 -0.2
baz=213
VJD Vijayawada 94.75 286 *e*P **P 00 55 31.1 +0.6**
I27K Kandik River 94.75 18 P P 00 55 27.2 -2.2
baz=225
H03S2 Juan Fernandez 94.76 129 T T 02 40 54.6
baz=238,slow=74,SNR=7.3
H03S1 Juan Fernandez 94.77 129 T T 02 41 05.1
baz=238,slow=74,SNR=7.4
H03S3 Juan Fernandez 94.77 129 T T 02 41 06.2
baz=238,slow=74,SNR=8.9
DUN6 Lazy B Ranch 94.78 57 P P 00 55 26.4 -4.1
E24K Your Creek 94.79 15 P P 00 55 26.1 -3.5
E24K IAmb IAmb 00 55 44.6
comp=Z,92nm,2.0s
E24K IAMs_20 IAMs_20 01 35 51.7
comp=Z,19µm,20.0s
E24K Your Creek 94.79 15 P P 00 55 28.8 -0.8
baz=219
MVU Marysvale 94.79 50 P P 00 55 25.6 -4.9
K29M Barlow Dome 94.81 21 P P 00 55 25.6 -4.3
K29M IAmb IAmb 00 55 40.9
comp=Z,47nm,1.3s
K29M IAMs_20 IAMs_20 01 33 30.1
comp=Z,14µm,19.0s
K29M Barlow Dome 94.81 21 P P 00 55 29.1 -0.7
baz=228
MSU Marysvale 94.82 50 P P 00 55 28.7 -1.9
MSU Marysvale 94.82 50 P P 00 55 28.7 -1.9
M31M Drury Creek, Y 94.84 23 P P 00 55 24.8 -5.1
M31M Drury Creek, Y 94.84 23 P P 00 55 28.4 -1.4
baz=231
X18A Snowflake 94.89 55 P P 00 55 27.8 -3.2
X18A IAmb IAmb 00 55 36.0
comp=Z,58nm,1.8s
TOLK Toolik Lake Re 94.98 14 P P 00 55 27.2 -3.2
TOLK IAmb IAmb 00 55 35.8
comp=Z,119nm,2.0s
TOLK IAMs_20 IAMs_20 01 36 46.9
comp=Z,22µm,20.0s
TOLK Toolik Lake Re 94.98 14 P P 00 55 29.2 -1.2
baz=218,SNR=6.9
PLID Pearl Lake 94.99 43 P P 00 55 28.6 -2.7
PLID IAmb IAmb 00 56 01.2
comp=Z,57nm,1.9s
PLID IAMs_20 IAMs_20 01 37 26.1
comp=Z,21µm,18.0s
D23K Nanushuk River 95.00 13 P P 00 55 29.9 -0.5
baz=217
J29N Klondike Camp 95.00 20 IAMs_20 IAMs_20 01 34 25.8
comp=Z,17µm,21.0s
J29N Klondike Camp 95.00 20 P P 00 55 30.2 -0.4
baz=228
DUG Dugway, Tooele 95.05 49 P P 00 55 29.5 -2.1
DUG IAMs_20 IAMs_20 01 33 30.4
comp=Z,19µm,19.0s
DUG Dugway, Tooele 95.05 49 P P 00 55 30.9 -0.7
baz=246
DUG Dugway, Tooele 95.05 49 P P 00 55 29.5 -2.1
DUG pmax pmax
comp=Z,29nm,1.6s
F25K Christian Rive 95.11 16 P P 00 55 30.0 -1.1
baz=221,SNR=6.9
G26K Porcupine Rive 95.12 17 P P 00 55 30.0 -0.9
baz=223
I28M Miner Creek 95.14 19 P P 00 55 28.2 -3.1
I28M IAmb IAmb 00 55 54.0
comp=Z,74nm,1.6s
I28M IAMs_20 IAMs_20 01 34 01.6
comp=Z,19µm,20.0s
I28M Miner Creek 95.14 19 P P 00 55 31.2 0.0
baz=226
MAYO Mayo, Yukon 95.20 22 P P 00 55 29.7 -1.7
baz=230
BGU Big Grassy Mou 95.20 48 P P 00 55 31.5 -0.7
H27K Steamboat Moun 95.22 18 P P 00 55 29.6 -2.0
baz=225,SNR=12
FARO Faro, Yukon 95.23 23 P P 00 55 29.9 -1.8
FARO IAmb IAmb 00 55 57.3
comp=Z,35nm,1.4s
FARO Faro, Yukon 95.23 23 P P 00 55 29.9 -1.8
baz=232
BMAR Burnt Mountain 95.26 16 P P 00 55 28.5 -3.2
W18A Petrified Fore 95.28 54 P P 00 55 30.7 -2.0
baz=247
HLID Hailey 95.36 45 P P 00 55 31.8 -1.2
HLID IAMs_20 IAMs_20 01 39 38.2
comp=Z,19µm,18.0s
HLID Hailey 95.36 45 P P 00 55 33.0 +0.1
baz=245
HLID Hailey 95.36 45 ⇑P P 00 55 30.6 -2.3
KOD Kodaikanal 95.39 279 *e*P **P 00 55 35.0 +1.1**
NLU North Lily Min 95.47 49 P P 00 55 31.0 -2.6
E25K Arctic Village 95.53 15 P P 00 55 29.4 -3.5
E25K IAMs_20 IAMs_20 01 37 21.4
comp=Z,15µm,20.0s
E25K Arctic Village 95.53 15 P P 00 55 32.3 -0.6
baz=222
D24K Happy Valley 95.56 14 IAMs_20 IAMs_20 01 37 07.0
comp=Z,23µm,19.0s
D24K Happy Valley 95.56 14 P P 00 55 32.9 0.0
baz=219
B22K Teshekpuk Lake 95.56 12 P P 00 55 29.6 -3.4
B22K IAmb IAmb 00 55 42.6
comp=Z,30nm,1.1s
B22K Teshekpuk Lake 95.56 12 P P 00 55 32.0 -0.9
baz=214
F26K Sheenjek River 95.57 16 P P 00 55 32.4 -0.7
baz=223
I29M Ogilvie Camp, 95.58 20 P P 00 55 28.3 -4.9
I29M IAmb IAmb 00 55 50.3
comp=Z,66nm,1.4s
I29M IAMs_20 IAMs_20 01 33 25.2
comp=Z,18µm,20.0s
I29M Ogilvie Camp, 95.58 20 P P 00 55 31.2 -2.0
baz=228
G27K Doyon Strip 95.60 17 P P 00 55 29.8 -3.5
G27K IAmb IAmb 00 56 05.6
comp=Z,44nm,1.8s
G27K IAMs_20 IAMs_20 01 33 50.5
comp=Z,25µm,21.0s
G27K Doyon Strip 95.60 17 P P 00 55 31.7 -1.5
baz=225
HMU Henry Mountain 95.63 51 P P 00 55 30.8 -3.6
HMU IAmb IAmb 00 55 39.8
comp=Z,55nm,1.9s
J30M Hart River 95.69 21 P P 00 55 30.9 -2.9
J30M IAMs_20 IAMs_20 01 34 27.2
comp=Z,18µm,19.0s
J30M Hart River 95.69 21 P P 00 55 32.6 -1.2
baz=230
NEW Newport 95.69 40 IAMs_20 IAMs_20 01 42 59.3
comp=Z,15µm,18.0s
NEW Newport 95.69 40 P P 00 55 34.3 +0.1
baz=244
NEW Newport 95.69 40 P P 00 55 32.6 -1.5
comp=Z,0.4nm,0.4s,baz=280,slow=21,SNR=2.0
NEW LR LR 01 35 13.8
comp=Z,8µm,18.1s,baz=259,slow=33
comp=Z,0.4nm,0.4s
Q16A Castle Valley 95.70 50 P P 00 55 29.0 -5.6
Q16A IAmb IAmb 00 55 39.8
comp=Z,84nm,2.0s
C23K Itkillik River 95.71 13 P P 00 55 30.0 -3.6
C23K IAmb IAmb 00 55 58.4
comp=Z,53nm,1.2s
C23K Itkillik River 95.71 13 P P 00 55 34.1 +0.5
baz=217
HVU Hansel Valley 95.73 47 P P 00 55 30.0 -4.6
HVU IAmb IAmb 00 55 39.3
comp=Z,52nm,1.8s
HVU Hansel Valley 95.73 47 P P 00 55 30.0 -4.6
HVU pmax pmax
comp=Z,52nm,1.8s
WTLY Watson Lake, Y 95.75 26 P P 00 55 34.1 0.0
baz=236
121A Cookes Peak, D 95.80 57 P P 00 55 34.5 -0.7
baz=248
MPU Maple Canyon 95.81 49 P P 00 55 31.8 -3.3
A21K Barrow 95.81 10 P P 00 55 32.3 -1.7
baz=212
TMUT Trail Mountain 95.83 50 P P 00 55 34.0 -1.4
A22K Sinclair Lake 95.83 11 P P 00 55 32.3 -1.8
baz=213
EFI East Falkland 95.95 153 *i*P **P 00 55 36.2 +0.9**
EFI pmax pmax
comp=Z,160nm,1.4s
CTU Camp Tracy 96.00 49 P P 00 55 33.8 -2.1
C24K Franklin Bluff 96.03 14 P P 00 55 34.6 -0.5
baz=219
I30M Mount Dempster 96.10 20 P P 00 55 30.2 -5.5
I30M IAmb IAmb 00 55 46.3
comp=Z,35nm,1.0s
I30M IAMs_20 IAMs_20 01 33 30.9
comp=Z,17µm,21.0s
I30M Mount Dempster 96.10 20 P P 00 55 33.8 -1.9
baz=230,SNR=19
H29M Whitestone 96.14 19 P P 00 55 33.2 -2.5
H29M IAmb IAmb 00 55 46.7
comp=Z,37nm,1.1s
H29M IAMs_20 IAMs_20 01 35 12.0
comp=Z,24µm,20.0s
H29M Whitestone 96.14 19 P P 00 55 35.1 -0.6
baz=228
D25K Kavik River 96.24 14 P P 00 55 31.8 -4.4
D25K IAMs_20 IAMs_20 01 37 20.2
comp=Z,22µm,19.0s
D25K Kavik River 96.24 14 P P 00 55 35.1 -1.1
baz=221
TCUT Toone Canyon 96.40 48 P P 00 55 34.9 -2.9
TCUT IAmb IAmb 00 55 50.3
comp=Z,20nm,0.9s
HWUT Hardware Ranch 96.49 48 P P 00 55 36.0 -2.1
HWUT IAMs_20 IAMs_20 01 39 30.2
comp=Z,13µm,18.0s
LIRD Liard River Hi 96.51 28 P P 00 55 36.1 -1.4
baz=238
E27K Coleen River 96.59 17 P P 00 55 34.1 -3.7
E27K IAmb IAmb 00 55 51.4
comp=Z,25nm,1.0s
E27K IAMs_20 IAMs_20 01 34 53.7
comp=Z,16µm,20.0s
E27K Coleen River 96.59 17 P P 00 55 36.9 -0.8
baz=225
PLCA Paso Flores 96.62 139 P P 00 55 35.9 -2.9
PLCA IAmb IAmb 00 58 21.7
comp=Z,62nm,1.9s
PLCA Paso Flores 96.62 139 P P 00 55 35.9 -2.9
PLCA pmax pmax
comp=Z,62nm,1.9s
PLCA Paso Flores 96.62 139 P P 00 55 41.1 +2.4
comp=Z,4.3nm,1.0s,baz=274,slow=14,SNR=2.2
PLCA LR LR 01 35 48.0
comp=Z,850nm,18.1s,baz=235,slow=33
BSUT Blindstream Ca 96.63 49 P P 00 55 33.9 -5.1
F28M Old Crow 96.66 17 P P 00 55 34.3 -3.8
F28M Old Crow 96.66 17 P P 00 55 37.0 -1.1
baz=227
G29M Pine Creek 96.71 18 P P 00 55 34.4 -3.9
G29M IAmb IAmb 00 55 49.2
comp=Z,45nm,1.2s
G29M IAMs_20 IAMs_20 01 34 58.0
comp=Z,18µm,21.0s
G29M Pine Creek 96.71 18 P P 00 55 36.2 -2.1
baz=228
EPYK Eagle Plains 96.74 19 P P 00 55 35.2 -3.2
EPYK IAMs_20 IAMs_20 01 35 11.9
comp=Z,16µm,20.0s
EPYK Eagle Plains 96.74 19 P P 00 55 36.4 -2.1
baz=229
TGTN Hyland Airport 96.76 25 P P 00 55 38.1 -0.6
baz=236
HYB Hyderabad 96.94 286 *e*P **P 00 55 38.2 -2.3**
HYB Hyderabad 96.94 286 *e*P **P 00 55 37.4 -3.1**
HYB IVmBBB 00 55 46.9
comp=Z,371nm,3.2s
HYB *es*P **sP 00 55 48.2 +0.7**
HYB *e*PP **PP 00 59 32.6 -3.8**
HYB *e*SKSac **SKSac 01 06 12.6 -4.4**
HYB *e*SS **SS 01 13 35.4 -3.7**
HYB *e*SKKSac **SKKSdf 01 19 37.0 +3.4**
HYB IVMs_BB IVMs_BB 01 30 28.5
comp=Z,7µm,44.8s
MVCO Mesa Verde 97.00 53 IAMs_20 IAMs_20 01 35 09.3
comp=Z,20µm,19.0s
MVCO Mesa Verde 97.00 53 P P 00 55 40.3 -0.3
baz=248
MSO Missoula 97.03 42 IAMs_20 IAMs_20 01 43 00.9
comp=Z,19µm,18.0s
MSO Missoula 97.03 42 P P 00 55 37.7 -2.6
baz=246
C26K Camden Bay 97.03 14 P P 00 55 39.1 -0.5
baz=222
Y22D IRIS PASSCAL I 97.04 56 P P 00 55 37.7 -3.0
baz=249
Y22F Passcal Instru 97.04 56 P P 00 55 37.7 -3.0
baz=249
H31M Peel River 97.12 20 P P 00 55 36.8 -3.4
H31M IAmb IAmb 00 56 02.9
comp=Z,39nm,1.2s
H31M Peel River 97.12 20 P P 00 55 38.1 -2.1
baz=231
BPMT Black Pine Rid 97.18 43 P P 00 55 38.0 -3.2
TIXI Tiksi 97.22 348 IAMs_20 IAMs_20 01 37 58.5
comp=Z,20µm,19.0s
TIXI Tiksi 97.22 348 *ce*P Pdif 00 55 43.4 +2.9
DLMT Dillon 97.29 44 P P 00 55 39.5 -2.1
DLMT IAMs_20 IAMs_20 01 38 46.0
comp=Z,21µm,18.0s
G30M tAoh Zraii Nji 97.29 19 IAMs_20 IAMs_20 01 35 37.3
comp=Z,21µm,20.0s
G30M tAoh Zraii Nji 97.29 19 P P 00 55 39.6 -1.3
baz=230
425A Indio Mountain 97.38 60 P P 00 55 40.0 -2.3
MNTX Cornudas Mount 97.39 59 P P 00 55 40.5 -1.7
MNTX Cornudas Mount 97.39 59 P P 00 55 40.8 -1.4
baz=249
E28M Babbage River 97.44 17 P P 00 55 38.6 -2.9
E28M IAmb IAmb 00 55 52.9
comp=Z,36nm,1.1s
E28M IAMs_20 IAMs_20 01 38 58.9
comp=Z,19µm,19.0s
E28M Babbage River 97.44 17 P P 00 55 40.7 -0.9
baz=227
CHMT Chamberlain Mo 97.49 42 P P 00 55 41.4 -1.2
D27M Malcolm River 97.50 16 P P 00 55 39.1 -2.8
D27M IAmb IAmb 00 56 05.6
comp=Z,39nm,1.2s
D27M IAMs_20 IAMs_20 01 34 54.7
comp=Z,19µm,21.0s
D27M Malcolm River 97.50 16 P P 00 55 41.0 -0.9
baz=226
TPAW Teton Pass 97.64 46 P P 00 55 42.3 -1.1
TPAW IAMs_20 IAMs_20 01 35 56.4
comp=Z,18µm,20.0s
FXWY Fox Creek 97.64 46 P Pdif 00 55 43.8 +0.4
FXWY IAMs_20 IAMs_20 01 35 56.7
comp=Z,16µm,19.0s
REDW Red Top Meadow 97.66 46 P P 00 55 40.1 -3.3
ANMO Albuquerque 97.71 56 P P 00 55 37.7 -6.1
ANMO Albuquerque 97.71 56 IAMs_20 IAMs_20 01 34 42.4
comp=Z,15µm,19.0s
ANMO Albuquerque 97.71 56 P P 00 55 43.0 -0.8
baz=249
ANMO Albuquerque 97.71 56 ⇑P Pdif 00 55 44.7 +0.8
ANMO Albuquerque 97.71 56 *i*P Pdif 00 55 45.0 +1.1
ANMO Albuquerque 97.71 56 P P 00 55 42.3 -1.5
comp=Z,1.5nm,0.7s,baz=313,slow=5.8,SNR=6.0
ANMO LR LR 01 34 53.8
comp=Z,10µm,18.0s,baz=360,slow=32
comp=Z,1.5nm,0.7s
E29M Blow River 97.74 17 P P 00 55 37.8 -5.0
E29M IAmb IAmb 00 56 12.3
comp=Z,37nm,1.6s
E29M Blow River 97.74 17 P P 00 55 41.3 -1.6
baz=228
SNOW Snow King Moun 97.76 46 IAMs_20 IAMs_20 01 35 50.8
comp=Z,19µm,19.0s
KOTAN Kotaneelee Air 97.77 28 P P 00 55 43.1 -0.1
baz=240
IMW Indian Meadow 97.80 46 P P 00 55 40.6 -3.6
IMW IAMs_20 IAMs_20 01 41 09.7
comp=Z,13µm,18.0s
ELMT Elliston 97.81 43 P P 00 55 42.6 -1.4
F30M Barrier River 97.83 18 P P 00 55 41.8 -1.5
baz=230
G31M Satah River 97.85 19 IAmb IAmb 00 55 54.1
comp=Z,46nm,1.1s
G31M IAMs_20 IAMs_20 01 35 35.1
comp=Z,17µm,20.0s
G31M Satah River 97.85 19 P P 00 55 42.0 -1.3
baz=232
MOOW Moose Ponds 97.88 46 P P 00 55 42.6 -1.8
MOOW IAMs_20 IAMs_20 01 36 12.8
comp=Z,14µm,19.0s
LOHW Long Hollow 97.92 46 P P 00 55 43.8 -0.7
LOHW IAMs_20 IAMs_20 01 36 15.0
comp=Z,16µm,19.0s
TX31 Lajitas Ar. Si 97.94 62 P P 00 55 44.7 -0.2
TX32 Lajitas Array 97.94 62 P P 00 55 44.9 0.0
TXAR Lajitas Array 97.94 62 P P 00 55 42.8 -2.0
TXAR Lajitas Array 97.94 62 P P 00 55 44.3 -0.6
comp=Z,2.0nm,1.1s,baz=209,slow=5.0,SNR=7.6
comp=Z,2.0nm,1.1s
BOZ Bozeman (W) 98.00 44 P P 00 55 42.9 -1.9
BOZ Bozeman (W) 98.00 44 P P 00 55 43.7 -1.1
baz=247
BOZ Bozeman (W) 98.00 44 ⇑P Pdif 00 55 47.0 +2.1
BOZ Bozeman (W) 98.00 44 P P 00 55 42.9 -1.9
BOZ pmax pmax
comp=Z,7.0nm,1.1s
BOZ MLR MLR
comp=Z,23µm,18.0s
BEMT Mount Belmont 98.01 43 P P 00 55 43.4 -1.6
FLWY Flagg Ranch 98.03 46 P P 00 55 41.4 -3.7
FLWY IAMs_20 IAMs_20 01 41 08.0
comp=Z,13µm,19.0s
FLDN Fort Liard 98.07 28 P P 00 55 44.4 -0.1
baz=240
D28M Stokes Point 98.14 16 P P 00 55 44.5 -0.1
baz=228
H17A Grant Village 98.23 46 P P 00 55 45.9 -0.2
baz=248
O20A White River Ci 98.26 50 P P 00 55 43.3 -2.9
O20A White River Ci 98.26 50 Pdiff **P 00 55 45.7 -0.4**
baz=249
BW06 Boulder Array 98.31 47 P P 00 55 45.1 -1.2
BW06 IAMs_20 IAMs_20 01 41 14.4
comp=Z,14µm,18.0s
BW06 Boulder Array 98.31 47 Pdiff **P 00 55 45.5 -0.9**
baz=248
PD31 Pinedale Array 98.31 47 P P 00 55 43.6 -2.8
PDAR Pinedale Array 98.31 47 P P 00 55 44.9 -1.5
comp=Z,0.9nm,0.8s,baz=216,slow=5.6,SNR=7.8
comp=Z,0.9nm,0.8s
ALPN Alpine 98.33 61 P P 00 55 44.0 -2.6
ALPN IAmb IAmb 00 55 51.1
comp=Z,16nm,1.6s
F31M Tsiigehtchic 98.33 19 P P 00 55 42.9 -2.6
F31M IAMs_20 IAMs_20 01 35 28.9
comp=Z,15µm,20.0s
F31M Tsiigehtchic 98.33 19 Pdiff **P 00 55 44.1 -1.4**
baz=232
UNM Universidad Na 98.34 73 IAMs_20 IAMs_20 01 34 46.6
comp=Z,14µm,18.0s
S22A 4UR Ranch, Cre 98.43 53 P P 00 55 44.1 -3.0
S22A 4UR Ranch, Cre 98.43 53 Pdiff **P 00 55 46.5 -0.6**
baz=249
MNCY Minicoy 98.78 275 *e*P Pdif 00 55 50.0 +1.2
SMCO Snowmass 98.83 51 P P 00 55 46.4 -2.6
SMCO IAMs_20 IAMs_20 01 40 36.6
comp=Z,16µm,18.0s
YNE Yellowstone No 98.84 45 P P 00 55 45.4 -3.3
INK Inuvik 98.93 18 P P 00 55 46.5 -1.7
INK IAmb IAmb 00 55 58.8
comp=Z,53nm,1.3s
INK Inuvik 98.93 18 Pdiff **P 00 55 47.3 -0.8**
baz=232
INK Inuvik 98.93 18 P P 00 55 46.5 -1.7
INK pmax pmax
comp=Z,53nm,1.3s
INK Inuvik 98.93 18 LR LR 01 36 48.6
comp=Z,21µm,20.2s,baz=222,slow=33
WMQ Urumqi 98.97 314 *e*P Pdif 00 55 49.8 +0.7
WMQ pP pP 00 55 52.3 -2.3
WMQ S **S 01 07 20.0 +1.3**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ LR LR
comp=Z,9µm,18.5s
WMQ LR LR

comp=Z,10μm,20.9s
WMQ LR LR
RLMT Red Lodge 99.37 45 IAMs_20 IAMs_20 01 42 36.2
comp=Z,17μm,18.0s
RLMT Red Lodge 99.37 45 Pdiff **Pdif 00 55 49.7 -1.3**
baz=249
SDCO Great Sand Dun 99.41 53 IAMs_20 IAMs_20 01 39 09.3
comp=Z,19μm,18.0s
SDCO Great Sand Dun 99.41 53 Pdiff **Pdif 00 55 50.6 -0.9**
baz=250
SAND Sanderson 99.42 62 P **Pdif 00 55 51.0 -0.4**
SAND IAmb IAmb 00 56 11.0
comp=Z,6.4nm,1.1s
RWWY Rawlins 99.55 49 IAMs_20 IAMs_20 01 37 57.3
comp=Z,13μm,19.0s
WRGLY Wrigley 99.57 25 Pdiff **Pdif 00 55 52.1 +0.9**
baz=240
PTH Pithoragarh 99.65 298 *eP* **Pdif 00 55 51.7 -0.9**
BHPL Bhopal 99.92 291 *eP* **Pdif 00 55 50.9 -2.9**
T25A Trinidad 100.02 54 Pdiff **Pdif 00 55 53.1 -1.1**
baz=250
ISCO Idaho Springs 100.03 51 IAMs_20 IAMs_20 01 41 18.5
comp=Z,14μm,18.0s
ISCO Idaho Springs 100.03 51 Pdiff **Pdif 00 55 53.4 -0.9**
baz=250
Q24A Divide 100.09 52 Pdiff **Pdif 00 55 54.1 -0.5**
baz=250
EGMT Eagleton 100.11 42 IAMs_20 IAMs_20 01 43 01.5
comp=Z,13μm,18.0s
EGMT Eagleton 100.11 42 Pdiff **Pdif 00 55 54.1 +0.1**
baz=249
N23A Red Feather La 100.17 50 Pdiff **Pdif 00 55 54.6 -0.1**
baz=250
MSTX Muleshoe 100.23 58 Pdiff **Pdif 00 55 54.0 -1.0**
baz=251
K22A Casper 100.36 48 Pdiff **Pdif 00 55 54.6 -0.9**
baz=250
833A Chaparral WMA, 101.14 64 Pdiff **Pdif 00 55 58.5 -0.6**
baz=251
AMTX Amarillo 101.38 57 IAMs_20 IAMs_20 01 36 40.7
comp=Z,12μm,18.0s
AMTX Amarillo 101.38 57 Pdiff **Pdif 00 55 59.5 -0.5**
baz=252
JCT Junction City 101.49 62 IAMs_20 IAMs_20 01 37 37.0
comp=Z,14μm,18.0s
JCT Junction City 101.49 62 Pdiff **Pdif 00 56 00.0 -0.6**
baz=252
LAO LASA Array 101.91 44 IAMs_20 IAMs_20 01 36 46.2
comp=Z,18μm,20.0s
LAO LASA Array 101.91 44 Pdiff **Pdif 00 56 01.4 -0.7**
baz=251
KSCO Kaye Shedlock' 101.96 53 Pdiff **Pdif 00 56 01.1 -1.5**
baz=252
ABTX Abilene, Hawle 102.29 60 Pdiff **Pdif 00 56 03.1 -1.0**
baz=252
RER Riviere de l'E 102.35 241 IAMs_20 IAMs_20 01 40 09.4
comp=Z,19μm,20.0s
C36M Paulatuk 102.37 19 IAMs_20 IAMs_20 01 37 39.6
comp=Z,16μm,21.0s
C36M Paulatuk 102.37 19 Pdiff **Pdif 00 56 02.5 -1.0**
baz=241
RSSD Black Hills 102.55 47 IAMs_20 IAMs_20 01 44 17.7
comp=Z,18μm,18.0s
RSSD Black Hills 102.55 47 Pdiff **Pdif 00 56 03.6 -1.6**
baz=252
YKA Yellowknife Ar 102.90 28 P **Pdif 00 56 04.5 -1.4**
comp=Z,1.1nm,0.8s,baz=262,slow=4.3,SNR=1.9
OGNE Ogallala 102.99 51 IAMs_20 IAMs_20 01 40 41.7
comp=Z,14μm,19.0s
OGNE Ogallala 102.99 51 Pdiff **Pdif 00 56 06.9 -0.2**
baz=253
A36M Sachs Harbour 103.33 17 IAMs_20 IAMs_20 01 39 49.7
comp=Z,13μm,20.0s
A36M Sachs Harbour 103.33 17 Pdiff **Pdif 00 56 08.1 +0.4**
baz=240
435B Jarrell 103.40 62 IAMs_20 IAMs_20 01 39 02.7
comp=Z,16μm,18.0s
435B Jarrell 103.40 62 Pdiff **Pdif 00 56 08.4 -0.6**
baz=253
MKAR Makanchi Array 103.56 315 Pdiff **Pdif 00 56 08.6 -0.8**
comp=Z,2.6nm,0.8s,baz=99,slow=5.4,SNR=11
MKAR PP **PP 01 00 20.9 -5.1**
comp=Z,1.0nm,0.9s,baz=87,slow=6.2,SNR=3.8
MKAR PKKPbc **PKKPbc 01 12 01.5 -1.9**
comp=Z,0.9nm,0.9s,baz=279,slow=3.8,SNR=2.6
WMOK Wichita Mounta 103.61 58 Pdiff **Pdif 00 56 09.2 -0.7**
baz=253
DGMT Dagmar 103.76 43 IAMs_20 IAMs_20 01 43 13.2
comp=Z,14μm,19.0s
DGMT Dagmar 103.76 43 Pdiff **Pdif 00 56 09.4 -0.8**
baz=253
WHTX Lake Whitney, 103.86 61 Pdiff **Pdif 00 56 10.8 -0.2**
baz=253
CBKS Cedar Bluff 104.05 54 IAMs_20 IAMs_20 01 47 06.2
comp=Z,16μm,18.0s
CBKS Cedar Bluff 104.05 54 Pdiff **Pdif 00 56 11.3 -0.5**
baz=253
OK038 West end E0370 104.14 56 IAMs_20 IAMs_20 01 42 11.8
comp=Z,17μm,18.0s
ZALV Zalesovo Beam 104.15 323 Pdiff **Pdif 00 56 11.5 -0.3**
comp=Z,0.9nm,0.8s,baz=76,slow=6.3,SNR=3.6
ZALV PP **PP 01 00 33.0 +2.9**
comp=Z,0.3nm,0.4s,baz=111,slow=8.0,SNR=1.7
OK035 E0210 Rd and N 104.23 56 IAMs_20 IAMs_20 01 39 00.1
comp=Z,12μm,19.0s
HKT Hockley 104.60 63 IAMs_20 IAMs_20 01 36 20.6
comp=Z,18μm,19.0s
OK032 Salt Plains WL 104.64 56 IAMs_20 IAMs_20 01 41 22.0
comp=Z,13μm,18.0s
OK029 Liberty Lake 104.95 57 IAMs_20 IAMs_20 01 40 23.2
comp=Z,14μm,18.0s
OK033 Mehan 105.42 57 IAMs_20 IAMs_20 01 39 19.7
comp=Z,14μm,18.0s
OK031 S. Brethren Rd 105.47 57 IAMs_20 IAMs_20 01 40 47.1
comp=Z,14μm,18.0s
OK052 Battle Ridge R 105.51 57 IAMs_20 IAMs_20 01 39 22.1
comp=Z,14μm,19.0s
OK048 Pawnee Station 105.52 57 IAMs_20 IAMs_20 01 39 32.2
comp=Z,15μm,19.0s
OK051 E0350 and S346 105.62 57 IAMs_20 IAMs_20 01 39 35.1
comp=Z,14μm,19.0s
PB14 IPOC Station P 105.92 125 PP **PP 01 00 43.2 -0.5**
BGNE Belgrade 105.93 51 PKiKP **PKiKP 01 00 33.9 +1.5**
baz=255
NATX Nacogdoches 106.08 62 IAMs_20 IAMs_20 01 39 15.6
comp=Z,17μm,19.0s
NATX Nacogdoches 106.08 62 PKiKP **PKiKP 01 00 32.9 0.0**
baz=254
SUSD Miller 106.14 48 PKiKP **PKiKP 01 00 32.1 -0.6**
baz=255
TUL3 Leonard 106.28 57 PKiKP **PKiKP 01 00 33.1 -0.1**
baz=255
MDND Maddock 106.56 45 PKiKP **PKiKP 01 00 32.7 -0.7**
baz=256
FFC Flin Flon 106.78 37 IAMs_20 IAMs_20 01 40 13.3
comp=Z,14μm,20.0s
KURK Kurchatov 106.94 318 IAMs_20 IAMs_20 01 42 31.7
comp=Z,16μm,19.0s
KURBB Kurchatov Arra 106.98 318 Pdiff **Pdif 00 56 24.2 -0.2**
comp=Z,0.5nm,0.6s,baz=105,slow=3.3,SNR=7.2
KURBB PKiKP **PKiKP 01 00 34.4 +0.4**
comp=Z,1.0nm,0.4s,baz=93,slow=3.8,SNR=5.0
KURBB PKKPbc **PKKPbc 01 11 52.9 -0.1**
comp=Z,1.3nm,1.0s,baz=281,slow=3.5,SNR=7.2
ECSD EROS Data Cent 107.61 49 IAMs_20 IAMs_20 01 44 55.6
comp=Z,16μm,18.0s
ECSD EROS Data Cent 107.61 49 PKiKP **PKiKP 01 00 36.2 +0.7**
baz=257
MIAR Mount Ida 107.68 59 PKiKP **PKiKP 01 00 37.2 +1.3**
baz=256
AAK Ala-Archa 107.82 309 IAMs_20 IAMs_20 01 51 50.2
comp=Z,12μm,18.0s
LPA La Plata 107.99 141 PKIKP **PKiKP 01 00 33.8 -2.7**
VBMS Vicksburg 109.60 62 IAMs_20 IAMs_20 01 41 27.8
comp=Z,12μm,19.0s
EYMN Ely 111.92 46 IAMs_20 IAMs_20 01 47 52.4
comp=Z,17μm,18.0s
JFWS Jewell Farm 111.99 51 IAMs_20 IAMs_20 01 44 27.0
comp=Z,15μm,19.0s
PLAL Pickwick Lake 112.19 60 IAMs_20 IAMs_20 01 45 19.3
comp=Z,14μm,18.0s
BVAR Borovoye Array 112.37 320 Pdiff **Pdif 00 56 47.9 -0.5**
comp=Z,0.9nm,0.6s,baz=213,slow=38,SNR=3.7
BVAR PKiKP **PKiKP 01 00 45.3 +1.2**
comp=Z,1.7nm,0.8s,baz=130,slow=2.1,SNR=6.5
BVAR PKKPbc **PKKPbc 01 11 34.2 -1.5**
comp=Z,0.5nm,0.6s,baz=3.7,slow=4.5,SNR=3.1

BRVK Borovoye 112.44 320 IAMs_20 IAMs_20 01 48 56.0
comp=Z,14μm,18.0s
BRVK Borovoye 112.44 320 *i* PKIKP **PKiKP 01 00 44.8 +0.6**
BRVK MLR MLR
comp=Z,14μm,18.0s
LRAL Lakeview Retre 112.67 62 IAMs_20 IAMs_20 01 48 36.3
comp=Z,12μm,18.0s
HQIL Hanson Quary C 113.57 53 IAMs_20 IAMs_20 01 45 17.8
comp=Z,12μm,19.0s
GRHM Grahamstown, E 114.81 214 IAMs_20 IAMs_20 01 53 34.0
comp=Z,15μm,18.0s
P49A Miami Univ. Ec 115.60 56 IAMs_20 IAMs_20 01 46 03.1
comp=Z,16μm,20.0s
TZTN Tazewell 116.09 59 IAMs_20 IAMs_20 01 48 16.4
comp=Z,11μm,19.0s
ALE Alert 116.20 7 IAMs_20 IAMs_20 01 52 40.7
comp=Z,11μm,18.0s
AAM Ann Arbor 116.73 53 IAMs_20 IAMs_20 01 47 03.5
comp=Z,15μm,20.0s
ACSO Alum Creek Sta 117.02 55 IAMs_20 IAMs_20 01 45 01.4
comp=Z,12μm,20.0s
P52A Corning 117.60 56 IAMs_20 IAMs_20 01 46 55.9
comp=Z,13μm,19.0s
SVE Sverdlovsk 118.12 324 *i* PKIKP PKiKP 01 01 04.1 +9.1
SVE *e* 01 02 16.5
SVE *e* 01 11 53.4
SVE *e* 01 18 17.7
SUR Sutherland 118.27 210 IAMs_20 IAMs_20 01 55 58.8
comp=Z,14μm,19.0s
O53A New Philadelph 118.36 55 IAMs_20 IAMs_20 01 50 13.1
comp=Z,11μm,19.0s
BLA Blacksburg 118.67 59 IAMs_20 IAMs_20 01 50 03.5
comp=Z,11μm,18.0s
BOSA Boshof 119.05 216 IAMs_20 IAMs_20 01 49 14.4
comp=Z,11μm,20.0s
BOSA Boshof 119.05 216 PKP **PKiKP 01 00 59.2 +1.2**
comp=Z,3.3nm,1.1s,baz=143,slow=15,SNR=2.7
ARU Arti 119.30 323 **PKiKP 01 00 58.5 +1.2**
ARU IAMs_20 IAMs_20 01 52 01.1
comp=Z,12μm,19.0s
ARU Arti 119.30 323 *i* PKIKP **PKiKP 01 00 59.2 +1.9**
ARU 01 02 17.9
ARU 01 08 08.6
ARU SP SP 01 12 01.8 -1.7
ARU MLR MLR
comp=Z,11μm,18.0s
MCWV Mont Chateau 119.36 56 IAMs_20 IAMs_20 01 49 12.5
comp=Z,13μm,18.0s
GEYT Alibeck 119.41 302 PKP **PKiKP 01 00 59.0 +0.8**
comp=Z,4.1nm,0.8s,baz=123,slow=5.3,SNR=9.6
ERPA Erie 119.43 53 IAMs_20 IAMs_20 01 49 33.0
comp=Z,14μm,19.0s
SSPA Standing Stone 120.92 55 IAMs_20 IAMs_20 01 48 50.8
comp=Z,14μm,19.0s
CBN Corbin Frederi 121.16 58 IAMs_20 IAMs_20 01 50 38.5
comp=Z,12μm,19.0s
KBS Kingsbay 121.85 355 IAMs_20 IAMs_20 01 46 33.6
comp=Z,11μm,22.0s
SPITS Spitsbergen Ar 122.11 354 PKP **PKiKP 01 01 02.4 +0.1**
comp=Z,22nm,0.9s,baz=98,slow=5.1,SNR=2.9
KIRV Kirov 123.82 327 *i* PKIKP **PKiKP 01 01 07.9 +1.8**
TRY Troy 124.12 52 IAMs_20 IAMs_20 01 51 21.2
comp=Z,13μm,19.0s
PRGR Permogore 124.75 331 *e*PKIKP **PKPdf 01 01 07.2 -0.4**
PRGR pmax pmax
comp=Z,14nm,0.9s
DAG Danmarks Havn 124.82 2 PP PP 01 02 54.7 -0.5
DAG Danmarks Havn 124.82 2 *i* P **PKPdf 01 01 05.0 -2.4**
QUA2 Belchertown 125.11 53 IAMs_20 IAMs_20 01 52 02.2
comp=Z,15μm,20.0s
HRV Adam Dziewonsk 125.69 53 IAMs_20 IAMs_20 01 52 19.5
comp=Z,12μm,19.0s
BRYW Bryant College 125.72 53 IAMs_20 IAMs_20 01 55 02.6
comp=Z,14μm,18.0s
BELG Belogornoye 126.18 320 *i* PKIKP **PKPdf 01 01 10.2 -0.4**
APA Apatity 126.63 341 ⇓*i*PKIKP **PKiKP 01 01 17.9 +6.4**
APA *i* 01 03 05.0
APA *i* PS **PS 01 13 09.0 -2.5**
APA pmax pmax
comp=Z,19nm,1.0s
KIBK Kibwezi 126.66 250 PKP **PKiKP 01 01 15.2 +1.9**
ILULI Ilulissat 126.68 17 IAMs_20 IAMs_20 01 49 59.7
comp=Z,15μm,22.0s
SUMG Summit 126.84 10 IAMs_20 IAMs_20 01 53 59.3
comp=Z,12μm,21.0s
SUMG Summit 126.84 10 *i* P PKiKP 01 01 21.0 +8.7
SCHQ Schefferville 126.92 37 PKP **PKPdf 01 01 12.1 0.0**
comp=Z,3.6nm,1.0s,baz=209,slow=10.0,SNR=1.3
KEV Kevo 126.99 345 IAMs_20 IAMs_20 01 56 47.4
comp=Z,12μm,21.0s
ARCES ARCESS Array B 127.52 345 PKP **PKiKP 01 01 13.7 +0.5**
comp=Z,9.4nm,0.8s,baz=28,slow=2.1,SNR=7.3
MAK Makhachkala 127.57 308 *eP* **Pdif 00 57 57.2 +1.1**
MAK *e* 01 01 12.1
MAK *e*PPP PPP 01 05 54.0
MAK *e* 01 08 17.0
MAK *e*PS **PS 01 13 20.6 -0.1**
MAK *e*SS SS 01 20 21.9 -3.0
MAK *e*SSS SSS 01 25 07.4
MAK pmax pmax
comp=Z,196nm,1.3s
BDFB Brasilia 127.85 132 PKP **PKPdf 01 01 13.2 -1.9**
comp=Z,3.0nm,0.7s,baz=249,slow=6.2,SNR=4.2
ATD Arta Tunnel 127.89 268 *eP* **PKiKP 01 01 16.5 +0.9**
ATD Arta Tunnel 127.89 268 *eP* **PKiKP 01 01 16.5 +0.9**
baz=23
BOAV Boa Vista 127.94 105 *eP* **PKiKP 01 01 16.1 +0.3**
KMBO Kilima Mbogo 127.94 250 *eP* **PKPdf 01 01 15.1 -0.4**
KMBO Kilima Mbogo 127.94 250 *eP* **PKPdf 01 01 15.1 -0.4**
baz=206
SJG San Juan 128.00 84 **PKPdf 01 01 13.0 -2.1**
SJG San Juan 128.00 84 PKIKP **PKPdf 01 01 13.0 -2.1**
SJG San Juan 128.00 84 *e* **PKiKP 01 01 21.4 +5.7**
SFJD Kangerlussuaq 128.28 19 IAMs_20 IAMs_20 01 57 29.1
comp=Z,15μm,20.0s
EMMW East Machias 128.48 50 IAMs_20 IAMs_20 01 51 42.0
comp=Z,12μm,20.0s
GROC Groznyy 128.79 309 *i* PKIKP **PKiKP 01 01 19.3 +2.7**
GROC pmax pmax
comp=Z,31nm,1.1s
TEND Ethiopian Broa 129.68 267 *eP* **PKiKP 01 01 20.7 +1.5**
baz=11
GNI Garni 129.85 305 IAMs_20 IAMs_20 02 07 15.4
comp=Z,11μm,20.0s
GNI Garni 129.85 305 *i* PKIKP **PKPdf 01 01 17.9 -0.3**
VRH Novokhopyorsk 130.02 319 *e*PKIKP **PKiKP 01 01 18.8 0.0**
VRH *e* 01 03 40.0
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH MLR MLR
comp=Z,8μm,20.0s
TRN Trinidad (W) 130.30 94 *e* **PKPdf 01 01 18.9 -0.7**
DILA Dilla 130.31 260 *eP* **PKiKP 01 01 22.8 +2.1**
DILA Dilla 130.31 260 *eP* **PKiKP 01 01 22.8 +2.1**
baz=339
GOF Gofitskoye 130.51 311 *ce*PKIKP **PKiKP 01 01 25.9 +5.9**
GRGR Grenville 130.54 93 *e* **PKPdf 01 01 17.0 -3.1**
GRW Mount Saint Ca 130.54 92 *e* **PKiKP 01 01 24.6 +3.6**
GRHS Sauteurs 130.58 92 *e* **PKiKP 01 01 23.9 +2.9**
MOS Moscow 130.81 326 *e*PKIKP **PKiKP 01 01 20.8 +0.6**
MOS *e* 01 03 37.8
MOS *e* 01 08 25.4
MOS *e*SS SS 01 20 59.5 -4.3
MOS MLR MLR
comp=N,9μm,19.0s
MOS MLR MLR
comp=Z,12μm,19.0s
MOS MLR MLR
comp=E,6μm,18.0s
SCO Scoresbysund 130.83 5 IAMs_20 IAMs_20 01 52 07.2
comp=Z,11μm,21.0s
GCMP Grenada, Carri 130.86 92 *e* PKPdf 01 01 04.2 -16
FURI Furi 130.87 263 *eP* **PKiKP 01 01 23.5 +1.5**
FURI IAMs_20 IAMs_20 01 54 37.4
comp=Z,18μm,19.7s
FURI Furi 130.87 263 *eP* **PKiKP 01 01 23.5 +1.5**
baz=352
FURI IAMs_20 IAMs_20 01 54 37.4
comp=Z,18μm,19.7s,baz=352
KIV Kislovodsk 130.94 310 *i* PKIKP **PKiKP 01 01 21.3 +0.3**
KIV *e* 01 03 35.5
KIV *e*PS **PS 01 13 47.0 -3.3**
KIV *e*SS SS 01 20 56.8 -10
KIV *e*SSS SSS 01 25 51.1
KIV pmax pmax

comp=Z,8.0nm,1.1s
LPSR Galich'ya Gora 131.25 322 *e*PKIKP **PKiKP 01 01 20.8 -0.4**
LPSR pmax pmax
comp=Z,30nm,1.2s
SVB Belmont 131.26 91 *e* **PKPdf 01 01 20.9 -0.5**
MBFL Flemmings, Mon 131.32 86 *e* **PKPdf 01 01 20.8 -0.6**
MLYT Lee's Yard 131.33 87 *e* **PKiKP 01 01 22.5 +0.1**
VORR Voronezh 131.39 321 *e*PKIKP **PKiKP 01 01 21.6 +0.1**
VORR *e* 01 03 42.9
VORR pmax pmax
comp=Z,20nm,0.5s
VSR Storozhevoye 131.56 320 *e*PKIKP **PKPdf 01 01 20.6 -0.3**
VSR *e* 01 03 44.8
VSR pmax pmax
comp=Z,7.0nm,0.6s
OBN Obninsk 131.61 326⇓*e*PKIKP **PKiKP 01 01 21.9 +0.1**
OBN *i* 01 01 31.7
OBN *e* 01 03 40.5
OBN *e*PPP PPP 01 06 30.7
OBN *e* 01 08 24.9
OBN *e*SS SS 01 21 13.6 0.0
OBN MLR MLR
comp=Z,20μm,19.0s
OBN Obninsk 131.61 326 PKP **PKiKP 01 01 22.2 +0.4**
comp=Z,10nm,0.4s,baz=323,slow=18,SNR=3.3
OBN SKP 01 04 56.2
comp=Z,11nm,0.4s,baz=243,slow=17,SNR=4.5
TDBA Terre de Bas, 131.62 88 *e* PKiKP 01 01 30.7 +7.7
CBE Ff, Capester 131.71 88 *e* **PKiKP 01 01 26.8 +3.6**
LODK Lodwar 131.71 254 *eP* **PKiKP 01 01 24.2 +0.8**
LODK Lodwar 131.71 254 *eP* **PKiKP 01 01 24.2 +0.8**
baz=211
SLBI Saint Lucia, B 131.74 90 *e* **PKPdf 01 01 21.2 -1.0**
FDF Fort de France 131.78 89 *e* **PKiKP 01 01 23.0 -0.4**
BIM Bigot 131.79 90 *e* **PKPdf 01 01 21.2 -1.2**
SVN Savane Anatole 131.79 89 *e* **PKPdf 01 01 18.7 -3.7**
ANBD Bethesda, Anti 131.81 86 *e* **PKPdf 01 01 22.6 +0.3**
ABD La Joyeuse, An 131.92 87 *e* **PKiKP 01 01 25.1 +1.5**
MPOM Morne Pois Mar 131.97 90 *e* **PKiKP 01 01 27.7 +4.0**
MAGL Barre de l'ile 131.98 88 *e* **PKPdf 01 01 20.9 -1.8**
ILAM Ilet Lapin Mar 132.04 89 *e* **PKiKP 01 01 27.6 +3.7**
BCHC Barbados, Cave 132.73 92 *e* PKPdf 01 01 08.7 -15
BBGH Gun Hill 132.80 92 *e* **PKiKP 01 01 30.3 +4.8**
ANGG Ammassalik, Gr 132.82 15 IAMs_20 IAMs_20 01 59 53.7
comp=Z,10μm,20.0s
FINES FINESS Array B 132.93 337 *c i*PKIKP PKiKP 01 01 32.0 +7.7
FINES pmax pmax
comp=Z,11nm,0.9s
FINES FINESS Array B 132.93 337 PKP **PKiKP 01 01 24.8 +0.5**
comp=Z,6.5nm,0.9s,baz=66,slow=4.7,SNR=5.4
FINES SKP 01 04 58.6
comp=Z,9.7nm,1.0s,baz=108,slow=4.5,SNR=4.7
SOC Sochi 133.12 310 *i* PKIKP **PKPdf 01 01 23.3 -0.8**
SOC *e*PS **PS 01 13 55.9 -13**
MBAR Mbarara 133.84 247 *eP* **PKPdf 01 01 24.2 -2.4**
MBAR Mbarara 133.84 247 *eP* **PKPdf 01 01 24.2 -2.4**
baz=245
ANN Anapa 134.46 312 *i* PKIKP **PKPdf 01 01 25.3 -1.2**
ANN *e* 01 01 36.8
ANN *e* 01 08 32.6
ANN pmax pmax
comp=Z,202nm,1.3s
GRD1 Great Renaissa 134.98 264 *eP* **PKiKP 01 01 31.2 +1.2**
baz=331
MNK Minsk 136.32 328 *i* PKP **PKPdf 01 01 28.9 -0.8**
comp=E,7.0nm,0.9s
MNK *i* PKP **PKPdf 01 01 28.9 -0.8**
comp=N,33nm,1.2s
MNK *i* PKP **PKPdf 01 01 28.9 -0.8**
comp=Z,12nm,1.2s,baz=58
MNK *i* PP **PP 01 04 09.1 -1.2**
MNK *i* PPP PPP 01 07 05.5
MNK *i* SKS **SKSdf 01 08 37.3 -2.1**
MNK *i* SKKS **SKKSdf 01 18 18.0 -3.8**
MNK *i* SS **SS 01 22 07.4 -2.9**
MNK *i* SSS SSS 01 27 09.6
MNK *i* LQ LQ 01 54 29.3
MNK *i* LR LR 02 00 08.9
MNK *i* LRM MLR 02 03 11.0
comp=Z,15μm,19.2s
MNK *i* LRM MLR 02 03 13.5
comp=E,4μm,20.4s
MNK *i* LRM MLR 02 03 26.3
comp=N,10μm,21.7s
MNK Minsk 136.32 328 *i* PKIKP **PKPdf 01 01 28.9 -0.8**
MNK *i* 01 04 09.1
MNK *i* PPP PPP 01 07 05.4
MNK *i* 01 08 37.2
MNK *i* SS SS 01 22 07.4 -2.9
MNK *i* SSS SSS 01 27 09.6
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,33nm,1.2s
MNK pmax pmax
comp=Z,12nm,1.2s
MNK MLR MLR
comp=Z,15μm,19.0s
MNK MLR MLR
comp=E,4μm,20.0s
MNK MLR MLR
comp=N,10μm,22.0s
NACGM Naroch 136.63 329 *e*PKP **PKiKP 01 01 35.0 +3.0**
comp=Z,17nm,0.8s,baz=55
AKASG Malin Array Be 137.54 323 PKP **PKPdf 01 01 32.1 0.0**
comp=Z,0.4nm,0.3s,baz=60,slow=1.7,SNR=8.4
AKASG SKPbc **SKiKP 01 05 10.5 +1.4**
comp=Z,0.2nm,0.2s,baz=57,slow=1.5,SNR=2.0
MMAI Mount Meron Ar 137.84 296 PKP **PKPdf 01 01 32.0 -1.4**
comp=Z,2.9nm,0.8s,baz=34,slow=5.4,SNR=1.6
NB2 NORSAR Subarra137.89 344 PKPdf **PKiKP 01 01 34.7 +0.2**
comp=Z,22nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra137.89 344 PKPdf **PKiKP 01 01 34.7 +0.2**
baz=31,slow=1.9
NOA NORSAR Array B 137.89 344 PKP **PKPdf 01 01 32.5 0.0**
comp=Z,1.9nm,0.9s,baz=32,slow=2.0,SNR=4.2
HFS Hagfors 137.98 342 **PKPdf 01 01 31.3 -1.3**
comp=Z,2.8nm,0.8s,baz=80,slow=19,SNR=2.0
BRTR Keskin Array B 138.35 306 PKP **PKPdf 01 01 32.9 -1.3**
comp=Z,0.4nm,0.6s,baz=350,slow=3.4,SNR=2.2
ANTO Ankara 138.96 306 IAMs_20 IAMs_20 02 11 06.5
comp=Z,8μm,21.0s
KIS Kishinev 139.42 318 *e*PKHKP PKPpre 01 01 34.0
KIS Kishinev 139.42 318 *i* PKiKP PKiKP 01 01 51.6 +14
KIS Kishinev 139.42 318 *e*PP PP 01 04 49.0 +19
KIS *e*S 01 07 56.0
KIS *e*SKS SKSdf 01 08 33.0 -12
KIS LRM MLR 02 08 38.0
comp=Z,2μm,18.0s
KIS Kishinev 139.42 318 *e*PKIKP **PKPdf 01 01 34.0 -1.7**
KIS *e* 01 07 31.0
KIS *e* 01 08 33.0
KIS pmax pmax
comp=Z,1μm,6.2s
KONO Kongsberg 139.50 344 IAMs_20 IAMs_20 02 09 47.0
comp=Z,11μm,22.0s
TPGR Topolog 140.53 315 ⇓P **PKiKP 01 01 40.7 +0.4**
LVV L'vov 140.86 324 *e*PKIKP **PKPdf 01 01 33.3 -4.9**
LVV *e* 01 04 38.5
LVV *e*SS SS 01 22 57.3 -6.9
LVV MLR MLR
comp=Z,15μm,22.0s
BURAR Bucovina Array 141.33 321 ⇑P **PKPdf 01 01 38.9 -0.4**
BURAR Bucovina Array 141.33 321 ⇑PKIKP **PKPdf 01 01 38.9 -0.4**
KWP Kalwaria Pacla 141.68 325 *e*PKPdf **PKiKP 01 01 42.6 0.0**
KWP *e*PP PP 01 04 53.6 +10
KWP *e*SS SS 01 23 07.6 -6.2
KWP *e*L L 02 07 24.9
comp=Z,18μm,20.3s
MLR Muntele Rosu 141.87 317 ⇓P **PKPdf 01 01 41.2 +0.8**
MLR Muntele Rosu 141.87 317 IAMs_20 IAMs_20 02 11 36.5
comp=Z,13μm,20.0s
MLR Muntele Rosu 141.87 317 ⇓PKIKP **PKPdf 01 01 41.2 +0.8**
MLR Muntele Rosu 141.87 317 PKP **PKiKP 01 01 42.1 -1.2**
comp=Z,2.7nm,0.6s,baz=77,slow=16,SNR=1.5
GKP Gorka Klasztor 142.00 333 *e*PKPdf PKPdf 01 01 26.7 -13
GKP *e*L L 01 58 44.0
comp=Z,22μm,29.8s
SHEL Horse Pasture 142.18 188 IAMs_20 IAMs_20 02 12 31.2
comp=Z,8μm,18.0s
KOLS Kolonicke sedl 142.31 324 *e*PKP **PKPdf 01 01 39.8 -1.1**
KOLS Kolonicke sedl 142.31 324 *e*PKIKP **PKPdf 01 01 39.8 -1.1**
VOIR 142.45 318 ⇑P **PKPdf 01 01 40.6 -0.7**
VOIR 142.45 318 ⇑PKIKP **PKPdf 01 01 40.6 -0.7**

STHS	**Stebnicka Huta**	**142.59 325**	*e*PKP	**PKPdf**	**01 01 39.9**	**-1.5**
STHS	**Stebnicka Huta**	**142.59 325**	*e*PKIKP	**PKPdf**	**01 01 39.9**	**-1.5**
TRPA	**Tarpa**	**142.61 323**	⇓P	PKPdf	01 01 32.4	-8.9
JMB	**Yambol**	**142.69 312**	P	**PKPdf**	**01 01 37.4**	**-4.3**
ARR	**Arges**	**142.75 318**	⇓P	**PKPdf**	**01 01 38.9**	**-2.9**
CRVS	**Cervenica-Dubn**	**142.77 324**	*e*PKP	**PKPdf**	**01 01 38.5**	**-3.2**
CRVS			*e*PP	PP	01 05 09.3	+19
CRVS			*e*SS	SS	01 23 20.2	-6.2
CRVS			*e*		01 59 50.6	
CRVS			*e*L	L	02 08 46.9	
CRVS	**Cervenica-Dubn**	**142.77 324**	*e*PKIKP	**PKPdf**	**01 01 38.5**	**-3.2**
CRVS			*e*SS	SS	01 23 20.2	-6.2
OJC	**Ojcow**	**142.85 327**	*e*PKPdf	**PKPdf**	**01 01 39.7**	**-2.0**
OJC			*e*PP	PP	01 05 10.1	+20
OJC			*e*SS	SS	01 23 32.5	+5.5
OJC			*e*L	L	02 07 29.1	
	comp=Z,16μm,19.2s					
HUMR	**Humele**	**142.90 316**	⇑P	**PKPdf**	**01 01 39.5**	**-2.6**
MARR	**Marisel-Cluj**	**143.04 320**	⇓P	PKPbc	01 01 40.5	+1.3
NIE	**Niedzica**	**143.08 326**	*e*PKPdf	**PKPdf**	**01 01 42.8**	**+0.5**
NIE			*e*SS	SS	01 23 40.0	+10
NIE			*e*L	L	02 05 15.1	
	comp=Z,7μm,25.2s					
RCBR	**Riachuelo**	**143.10 135**	IAMs_20	IAMs_20	02 07 57.9	
	comp=Z,7μm,18.0s					
LOT	**Lotru**	**143.25 318**	⇑P	PKPbc	01 01 40.8	+1.0
KDZ	**Kurdzhali**	**143.84 312**	P	PKPbc	01 01 42.5	+1.0
RDO	**Rodhopi**	**143.88 311**	P	PKPbc	01 01 42.1	+0.5
GZR	**Gura Zlata**	**143.89 319**	⇑P	PKPbc	01 01 42.1	+0.6
GZR	**Gura Zlata**	**143.89 319**	⇑PKP2	PKPbc	01 01 42.1	+0.5
OKC	**Ostrava-Krasne**	**143.91 328**	*e*PKP	**PKiKP**	**01 01 53.0**	**+5.9**
OKC			*ex*	x	01 01 58.6	
OKC			*e*SS	SS	01 23 37.9	-1.3
OKC			AMS	AMS	02 02 40.0	
	comp=Z,11μm,19.8s					
OKC	**Ostrava-Krasne**	**143.91 328**	*e*PKIKP	**PKiKP**	**01 01 53.0**	**+5.9**
OKC			*e*		01 01 58.6	
OKC			*e*SS	SS	01 23 37.9	-1.3
OKC			MLR	MLR		
	comp=Z,11μm,19.8s					
PLD	**Plovdiv**	**144.05 313**	P	PKPbc	01 01 42.8	+0.7
SURR	**Surduc**	**144.10 320**	⇑P	PKPbc	01 01 42.6	+0.5
SIRR	**Siria**	**144.11 321**	⇑P	PKPbc	01 01 42.4	+0.2
BAIL	**Bailesti**	**144.18 316**	⇑P	**PKiKP**	**01 01 50.9**	**+3.0**
PSZ	**Piszkesteto**	**144.19 324**	⇑P	PKPbc	01 01 42.5	0.0
PSZ	**Piszkesteto**	**144.19 324**	PKPdf	**PKPab**	**01 01 41.1**	**-1.0**
PSZ	**Piszkesteto**	**144.19 324**	⇑PKIKP	PKPbc	01 01 42.5	+0.1
MPEP	**Malo Peshtene**	**144.22 315**	P	**PKPdf**	**01 01 43.9**	**-0.5**
RZN	**Rozhen**	**144.23 312**	P	**PKPab**	**01 01 42.6**	**+0.1**
MORC	**Moravsky Berou**	**144.25 328**	*e*PKP	**PKPab**	**01 01 41.0**	**-1.2**
KARP	**Karpathos**	**144.26 301**	PKPdf	**PKPab**	**01 01 42.4**	**-0.3**
KARP			IAMs_20	IAMs_20	02 16 08.3	
	comp=Z,10μm,21.0s					
KPL	**Plockton**	**144.29 355**	*e*P	**PKPab**	**01 01 41.1**	**-0.8**
OSTC	**Ostas**	**144.35 330**	*e*PKP	**PKPab**	**01 01 42.6**	**+0.1**
OSTC			*ex*	x	01 01 47.3	
OSTC			*e*SS	SS	01 23 53.4	+9.2
OSTC			AMS	AMS	01 58 40.0	
	comp=Z,19μm,28.3s					
OSTC	**Ostas**	**144.35 330**	*e*PKIKP	**PKPab**	**01 01 42.6**	**+0.1**
OSTC			*e*		01 01 47.3	
MAUC	**Maruska**	**144.38 328**	*e*PKP	**PKiKP**	**01 01 47.0**	**-1.1**
MAUC			*ex*	x	01 01 54.1	
MAUC			*e*SS	SS	01 24 04.0	+19
MAUC			AMS	AMS	02 02 10.0	
	comp=Z,20μm,29.1s					
VYHS	**Vyhne**	**144.41 326**	*e*PKP	PKPbc	01 01 43.5	+0.5
VYHS			*e*SS	SS	01 23 42.9	-2.3
VYHS	**Vyhne**	**144.41 326**	*e*PKIKP	PKPbc	01 01 43.5	+0.5
VYHS			*e*SS	SS	01 23 42.9	-2.3
KRLC	**Kraliky**	**144.41 329**	*e*PKP	PKPbc	01 01 43.4	+0.4
KRLC			*ep*PKP	sPKPdf	01 01 50.8	-0.6
KRLC			AMS	AMS	02 09 10.0	
	comp=Z,13μm,18.8s					
KRLC	**Kraliky**	**144.41 329**	*e*PKIKP	PKPbc	01 01 43.4	+0.4
KRLC			*e*		01 01 50.8	
KRLC			MLR	MLR		
	comp=Z,13μm,18.8s					
DPC	**Dobruska-Polom**	**144.44 330**	*e*PKP	**PKPab**	**01 01 40.9**	**-2.0**
DPC			*ep*PKP	**pPKPdf**	**01 01 50.1**	**+0.3**
DPC			*e*SS	SS	01 23 41.1	-4.3
DPC			AMS	AMS	01 59 30.0	
	comp=Z,17μm,27.7s					
DPC	**Dobruska-Polom**	**144.44 330**	*e*PKIKP	**PKPab**	**01 01 40.9**	**-2.0**
DPC			*e*		01 01 50.1	
DPC			*e*SS	SS	01 23 41.1	-4.3
BZS	**Buzias**	**144.48 320**	⇓P	**PKPdf**	**01 01 45.1**	**+0.4**
BZS	**Buzias**	**144.48 320**	⇓PKIKP	**PKPdf**	**01 01 45.1**	**+0.4**
UPC	**Upice**	**144.48 330**	*e*PKP	**PKPdf**	**01 01 46.2**	**+1.6**
UPC			*ep*PKP	**sPKPdf**	**01 01 51.2**	**-0.3**
UPC			*e*SS	SS	01 23 54.1	+8.5
UPC			AMS	AMS	01 58 50.0	
	comp=Z,21μm,27.1s					
UPC	**Upice**	**144.48 330**	*e*PKIKP	**PKPdf**	**01 01 46.2**	**+1.6**
UPC			*e*		01 01 51.2	
KAVA	**Kavala**	**144.65 311**	P	PKPbc	01 01 44.0	0.0
JAVC	**Velka Javorina**	**144.78 327**	*e*PKP	**PKPdf**	**01 01 45.0**	**-0.3**
MDVR	**Moldovita**	**144.84 318**	⇓P	**PKPab**	**01 01 43.1**	**-1.5**
VTS	**Vitosha**	**144.87 314**	⇑P	**PKPdf**	**01 01 45.7**	**0.0**
VTS	**Vitosha**	**144.87 314**	P	**PKPdf**	**01 01 46.2**	**+0.4**
VTS	**Vitosha**	**144.87 314**	⇑PKIKP	**PKPdf**	**01 01 45.7**	**0.0**
MMB	**Musomishta**	**144.97 312**	P	PKPbc	01 01 45.1	0.0
NVR	**Nevrokopi**	**144.97 312**	P	**PKPab**	**01 01 45.1**	**0.0**
VRAC	**Vranov**	**145.02 328**	⇓P	**PKPdf**	**01 01 45.4**	**-0.2**
VRAC	**Vranov**	**145.02 328**	*e*PKP	**PKPbc**	**01 01 44.3**	**-0.7**
VRAC			*e*SS	SS	01 23 56.7	+4.7
VRAC	**Vranov**	**145.02 328**	⇓PKIKP	**PKPdf**	**01 01 45.4**	**-0.2**
VRAC	**Vranov**	**145.02 328**	PKP	**PKPbc**	**01 01 43.6**	**-1.3**
	comp=Z,6.3nm,0.8s,baz=61,slow=3.9,SNR=13					
INVG	**Invergeldie, C**	**145.04 354**	*e*P	**PKPbc**	**01 01 42.6**	**-2.1**
KOKK	**Kokkinochori,**	**145.08 311**	P	**PKPbc**	**01 01 44.1**	**-1.3**
ZKR	**Zakros**	**145.11 301**	P	**PKPdf**	**01 01 46.1**	**-0.1**
FLTG	**Flechtingen**	**145.11 336**	*e*PKPbc	**PKPbc**	**01 01 45.0**	**-0.1**
	baz=34,slow=2.8					
PVCC	**Panska Ves**	**145.12 332**	*e*PKP	**PKPbc**	**01 01 43.0**	**-2.2**
PVCC			*ep*PKP	**PKiKP**	**01 01 48.2**	**-1.4**
PVCC			AMS	AMS	02 12 10.0	
	comp=Z,16μm,19.2s					
PVCC	**Panska Ves**	**145.12 332**	*e*PKP2	**PKPbc**	**01 01 43.0**	**-2.2**
PVCC			MLR	MLR		
	comp=Z,16μm,19.2s					
SMOL	**Smolenice**	**145.12 327**	*e*PKIKP	**PKPdf**	**01 01 46.1**	**+0.3**
BRG	**Berggiesshubel**	**145.14 332**	*i* PKIKP	**PKPbc**	**01 01 43.7**	**-1.5**
BRG			pmax	pmax		
	comp=Z,77nm,1.0s					
BRG	**Berggiesshubel**	**145.14 332**	*e*PKPbc	**PKPdf**	**01 01 46.4**	**+0.7**
	baz=34,slow=2.8					
BRG	**Berggiesshubel**	**145.14 332**	*i* PKP	**PKPbc**	**01 01 43.8**	**-1.5**
BRG			Amp		01 01 57.3	
	comp=Z,77nm,1.0s					
BRG	**Berggiesshubel**	**145.14 332**	Amp		01 05 37.2	
	comp=Z,44nm,1.5s					
BRG	**Berggiesshubel**	**145.14 332**	Amp		01 04 41.2	
	comp=Z,7.5nm,0.9s					
BRG	**Berggiesshubel**	**145.14 332**	PP	PP	01 04 53.9	-10
BRG	**Berggiesshubel**	**145.14 332**	Amp		01 04 57.3	
	comp=Z,19nm,1.4s					
BRG	**Berggiesshubel**	**145.14 332**	SKP		01 05 35.3	
CLL	**Collm**	**145.21 334**	*i* PKIKP	**PKPdf**	**01 01 46.8**	**+1.0**
CLL			*i*		01 01 52.6	
CLL			MLR	MLR		
	comp=Z,15μm,19.4s					
CLL	**Collm**	**145.21 334**	*e*PKPbc	**PKPab**	**01 01 45.7**	**+0.1**
	baz=34,slow=2.8					
CLL	**Collm**	**145.21 334**	*e*PKPbc	**PKPbc**	**01 01 43.0**	**-2.5**
CLL			*i* PKPmax		01 01 46.8	
CLL			*e*PKPlp		01 01 48.0	
	comp=Z,9μm,17.5s					
CLL			*i* pPKPbc	**sPKPdf**	**01 01 52.6**	**-0.1**
	comp=Z,67nm,1.1s					
CLL			*ex*	x	01 02 08.0	
CLL			*i* x	x	01 02 14.4	
	comp=Z,409nm,1.8s					
CLL			*e*PP	**PP**	**01 05 00.0**	**-4.5**
CLL			*e*SKPdf	**SKPdf**	**01 05 18.0**	**-1.1**
CLL			*e*(sSdif)		01 13 54.0	
CLL			*e*PSKS		01 15 24.0	
CLL			*e*PPS	PPS	01 17 44.0	
CLL			*ex*	x	01 19 09.0	
CLL			*ex*	x	01 21 30.0	
CLL			*e*SS	**SS**	**01 23 55.0**	**+1.2**
CLL			*e*SSS	SSS	01 29 06.0	
CLL			*e*SSSS		01 33 06.0	
CLL			AMS	AMS	02 08 00.0	
CLL			AMS	AMS	02 09 00.0	
	comp=N,13μm,19.8s					
CLL			AMS	AMS	02 09 00.0	
	comp=E,7μm,18.5s					
CLL			AMS	AMS	02 09 00.0	
	comp=Z,15μm,19.4s					
SRS	**Serrai**	**145.25 312**	P	**PKPbc**	**01 01 44.5**	**-1.5**
OUR	**Ouranopolis**	**145.27 310**	P	**PKPbc**	**01 01 45.8**	**-0.2**
KKB	**Krupnik**	**145.27 313**	P	**PKPdf**	**01 01 47.2**	**+0.9**
KRUC	**Moravsky**	**145.28 328**	*e*PKP	**PKPbc**	**01 01 41.8**	**-4.0**
MODS	**Modra-Piesok**	**145.29 327**	*e*PKP	**PKPbc**	**01 01 45.9**	**0.0**
MODS			*e*PP	PP	01 05 24.5	+19
MODS			*e*SS	SS	01 24 00.6	+5.4
MODS			*e*		01 59 49.2	
MODS			*e*L	L	02 02 40.3	
MODS	**Modra-Piesok**	**145.29 327**	*e*PKIKP	**PKPbc**	**01 01 45.9**	**0.0**
MODS			*e*SS	SS	01 24 00.6	+5.4
LAWE	**Loch Awe, Argy**	**145.34 355**	*e*P	**PKPbc**	**01 01 44.3**	**-1.4**
NRDL	**Niedersach Rie**	**145.39 337**	*e*PKPbc	**PKPab**	**01 01 46.3**	**+0.3**
	baz=34,slow=2.8					
BOVS	**Bovan**	**145.41 317**	⇑P	**PKPbc**	**01 01 44.2**	**-2.2**
SANT	**Santorini**	**145.41 303**	⇓P	**PKPbc**	**01 01 42.1**	**-4.6**
RETH	**Rethem/Aller,**	**145.45 338**	*e*PKPbc	**PKPab**	**01 01 46.4**	**0.0**
	baz=34,slow=2.8					
GOPC	**GO Pecny, Ondr**	**145.46 331**	*e*PKP	**PKPbc**	**01 01 43.6**	**-2.8**
GOPC			*ep*PKP	**PKPab**	**01 01 48.2**	**+1.6**
GOPC			*e*SS	SS	01 24 02.8	+6.0
GOPC			AMS	AMS	01 59 20.0	
	comp=Z,20μm,29.7s					
GOPC	**GO Pecny, Ondr**	**145.46 331**	*e*PKP2	**PKPbc**	**01 01 43.6**	**-2.8**
GOPC			*e*		01 01 48.2	
ASSE	**Asse, Remlinge**	**145.48 337**	*e*PKPbc	**PKPab**	**01 01 46.8**	**+0.4**
	baz=34,slow=2.8					
ZST	**Bratislava**	**145.50 327**	*e*PKP	**PKPab**	**01 01 46.9**	**+0.2**
ZST			*e*SS	SS	01 23 58.8	+1.3
ZST	**Bratislava**	**145.50 327**	*e*PKIKP	**PKPab**	**01 01 46.9**	**+0.2**
ZST			*e*SS	SS	01 23 58.8	+1.3
PRA	**Prague**	**145.50 331**	*e*PKP	**PKPdf**	**01 01 44.3**	**-2.1**
PRA			*ep*PKP	**PKiKP**	**01 01 49.6**	**-0.8**
PRA			*e*SS	SS	01 24 03.6	+6.3
PRA			AMS	AMS	02 03 30.0	
	comp=Z,15μm,21.8s					
PRA	**Prague**	**145.50 331**	*e*PKP2	**PKPdf**	**01 01 44.3**	**-2.1**
PRA			MLR	MLR		
	comp=Z,15μm,21.8s					
PRU	**Pruhonice**	**145.51 331**	*e*PKP	**PKPdf**	**01 01 43.9**	**-2.5**
PRU			*ex*	x	01 01 47.0	
PRU			*e*SS	SS	01 24 06.7	+9.3
PRU			AMS	AMS	02 01 20.0	
	comp=Z,15μm,25.6s					
PRU	**Pruhonice**	**145.51 331**	*e*PKIKP	**PKPdf**	**01 01 43.9**	**-2.5**
PRU			*e*		01 01 47.0	
PRU			MLR	MLR		
	comp=Z,15μm,25.6s					
SOH	**Sokhos**	**145.53 311**	P	**PKPbc**	**01 01 46.9**	**0.0**
HSKC	**Hora Svate Kat**	**145.55 333**	*e*PKP	**PKPdf**	**01 01 44.1**	**-2.4**
HSKC			*ex*	x	01 01 55.1	
HSKC			AMS	AMS	02 02 40.0	
	comp=Z,14μm,22.9s					
TREC	**Trest**	**145.56 329**	*e*PKP	**PKPab**	**01 01 47.7**	**+0.7**
TREC			*ex*	x	01 01 55.2	
TREC			*e*SS	SS	01 24 09.2	+11
TREC			AMS	AMS	02 02 30.0	
	comp=Z,18μm,24.4s					
TREC	**Trest**	**145.56 329**	*e*PKP2	**PKPab**	**01 01 47.7**	**+0.7**
TREC			MLR	MLR		
	comp=Z,18μm,24.4s					
PGBU	**Glenifferbraes**	**145.70 354**	*e*P	**PKPdf**	**01 01 44.1**	**-2.4**
KNT	**Kendrikon**	**145.71 312**	P	**PKPdf**	**01 01 46.4**	**-0.7**
KYMI	**Kymi, Euboea I**	**145.78 307**	P	**PKPdf**	**01 01 46.9**	**-0.3**
NEUB	**Neuenburg**	**145.78 335**	*e*PKPbc	**PKPab**	**01 01 47.8**	**+0.1**
	baz=34,slow=2.8					
HORT	**Hortiatis**	**145.80 311**	P	**PKPdf**	**01 01 46.7**	**-0.6**
FRGS	**Fruska Gora**	**145.80 320**	⇑P	**PKiKP**	**01 01 50.7**	**-0.5**
FRGS	**Fruska Gora**	**145.80 320**	⇑*i*P	**PKPdf**	**01 01 44.9**	**-2.2**
CLZ	**Clausthal**	**145.82 337**	*e*PKPbc	**PKPab**	**01 01 48.1**	**+0.2**
	baz=34,slow=2.8					
VAY	**Valandovo**	**145.87 313**	*i* P	**PKPab**	**01 01 49.0**	**+0.7**
MORH	**Mrgy, Hungar**	**145.88 323**	⇓P	**PKPbc**	**01 01 47.7**	**-0.1**
STIP	**Stip**	**145.97 313**	*i* P	**PKPdf**	**01 01 47.3**	**-0.2**
EKA	**Eskdalemuir Ar**	**146.02 352**	PKPbc	**PKPdf**	**01 01 44.9**	**-2.2**
	comp=Z,7.3nm,0.7s,baz=1.1,slow=1.9,SNR=14					
ESK	**Eskdalemuir**	**146.04 352**	*e*P	**PKPdf**	**01 01 46.9**	**-0.2**
ESK	**Eskdalemuir**	**146.04 352**		**PKPdf**	**01 01 45.1**	**-2.0**
ESK	**Eskdalemuir**	**146.04 352**	IAMs_20	IAMs_20	02 21 02.5	
	comp=Z,10μm,20.0s					
ESK	**Eskdalemuir**	**146.04 352**	PKIKP	**PKPdf**	**01 01 45.1**	**-2.0**
ZVC	**Zvikov**	**146.07 330**	*e*PKP	**PKPdf**	**01 01 46.0**	**-1.4**
ZVC			*ex*	x	01 01 48.9	
ZVC			AMS	AMS	01 59 30.0	
	comp=Z,15μm,27.0s					
IDI	**Anoyia**	**146.12 301**	⇑P	**PKPab**	**01 01 50.7**	**+1.1**
IDI	**Anoyia**	**146.12 301**	P	**PKPab**	**01 01 49.4**	**-0.2**
IDI	**Anoyia**	**146.12 301**	PKPbc	**PKPbc**	**01 01 48.9**	**-0.1**
	comp=Z,27nm,0.8s,baz=53,slow=4.9,SNR=9.4					
GRG	**Griva**	**146.14 312**	P	**PKPdf**	**01 01 48.1**	**+0.3**
PTL	**Penteli**	**146.15 306**	P	**PKPbc**	**01 01 49.1**	**+0.2**
WERD	**Werda**	**146.15 333**	*e*PKPbc	**PKPab**	**01 01 48.9**	**-0.3**
	baz=34,slow=2.8					
PLN	**Plauen**	**146.18 333**	*e*PKPbc	**PKPab**	**01 01 49.1**	**-0.1**
	baz=34,slow=2.8					
GUNZ	**Gunzen**	**146.20 333**	*e*PKPbc	**PKPab**	**01 01 49.1**	**-0.2**
	baz=34,slow=2.8					
GTTG	**Gottingen**	**146.21 337**	*e*PKPbc	**PKPab**	**01 01 49.2**	**-0.1**
	baz=34,slow=2.8					
RONA	**Rosalia, Austr**	**146.23 326**	*e*PKP	**PKPdf**	**01 01 46.5**	**-1.3**
	comp=Z,100nm,1.2s,SNR=13					
WERN	**Wernitzgruen**	**146.24 333**	*e*PKPbc	**PKPab**	**01 01 49.4**	**-0.2**
	baz=34,slow=2.8					
DIVS	**Divibare**	**146.25 319**	⇑*i*P	**PKPdf**	**01 01 46.8**	**-1.2**
NKC	**Novy Kostel**	**146.25 333**	*e*PKP	**PKPab**	**01 01 50.0**	**+0.5**
NKC			*ep*PKP	pPKPbc	01 01 53.9	0.0
NKC			AMS	AMS	02 09 30.0	
	comp=Z,13μm,19.6s					
NKC	**Novy Kostel**	**146.25 333**	*e*PKP2	**PKPab**	**01 01 50.0**	**+0.5**
NKC			MLR	MLR		
	comp=Z,13μm,19.6s					
VLY	**Voula,Athens**	**146.26 306**	P	**PKPdf**	**01 01 47.4**	**-0.7**
ATH	**Athens Observa**	**146.28 306**	P	**PKPbc**	**01 01 48.7**	**-0.5**
MOX	**Moxa**	**146.28 334**	*e*PKPbc	**PKPab**	**01 01 49.4**	**-0.3**
	baz=34,slow=2.8					
MOX			*e*L	L	02 10 05.6	
	comp=Z,12μm,18.5s					
TEKS	**Tekeris**	**146.30 320**	*e*P	**PKPab**	**01 01 50.0**	**+0.1**
CONA	**Conrad Observa**	**146.30 327**	*e*PKP	**PKPdf**	**01 01 46.6**	**-1.4**
	comp=Z,105nm,1.7s,SNR=18					
EDMD	**Edmundbyers**	**146.34 351**	*e*P	**PKPdf**	**01 01 46.7**	**-1.0**
IBBN	**Ibbenburen**	**146.35 339**	*e*PKPbc	**PKPbc**	**01 01 49.2**	**+0.3**
	baz=34,slow=2.8					
SKO	**Skopje**	**146.35 314**	*i* P	**PKPab**	**01 01 51.2**	**+1.1**
CKRC	**Cesky Krumlov**	**146.45 330**	*e*PKP	**PKPdf**	**01 01 47.1**	**-1.0**
CKRC			*ex*	x	01 01 54.8	
CKRC			*e*SS	SS	01 24 13.8	+5.6
CKRC	**Cesky Krumlov**	**146.45 330**	*e*PKIKP	**PKPdf**	**01 01 47.1**	**-1.0**
CKRC			*e*		01 01 54.8	
CKRC			*e*SS	SS	01 24 13.8	+5.6
CLGH	**Cloghs, Cushen**	**146.56 355**	*e*P	**PKPdf**	**01 01 48.7**	**+0.7**
KHC	**Kasperske Hory**	**146.57 331**	*e*PKP	**PKPdf**	**01 01 47.4**	**-0.9**
KHC			*ex*	x	01 01 50.6	
KHC			*ex*	x	01 02 16.5	
KHC			*e*SS	SS	01 24 15.5	+6.0
KHC			AMS	AMS	02 03 20.0	
	comp=Z,15μm,27.1s					
KHC	**Kasperske Hory**	**146.57 331**	*e*PKIKP	**PKPdf**	**01 01 47.4**	**-0.9**
KHC			*e*		01 01 50.6	
MANZ	**Manzenberg**	**146.58 333**	*e*PKPbc	**PKPab**	**01 01 50.7**	**-0.2**
	baz=34,slow=2.8					
GAL1	**Galloway**	**146.65 354**	*e*P	**PKPdf**	**01 01 48.8**	**+0.6**
SJES	**Sjenica**	**146.69 317**	⇑*i*P	**PKPdf**	**01 01 48.4**	**-0.4**
ROTZ	**Rotzenmuhle**	**146.71 333**	*e*PKPbc	**PKPab**	**01 01 51.2**	**-0.1**
	baz=34,slow=2.8					
GEC2	**GERESS Array S**	**146.72 330**	*e*PKPbc	**PKPab**	**01 01 51.9**	**+0.4**
	baz=34,slow=2.8					
GERES	**GERESS Array B**	**146.72 330**	PKPbc	**PKPdf**	**01 01 47.5**	**-1.2**
	comp=Z,5.7nm,0.8s,baz=29,slow=2.2,SNR=15					
BBLS	**Lazići**	**146.74 319**	*e*P	**PKPdf**	**01 01 47.6**	**-1.2**
KESW	**Keswick, Cumbr**	**146.74 352**	*e*P	**PKPdf**	**01 01 47.2**	**-1.2**
TYRN	**Tyrnavos**	**146.75 310**	P	**PKPdf**	**01 01 49.6**	**+0.8**
IMMV	**Iera Moni Meta**	**146.80 302**	P	**PKPbc**	**01 01 50.2**	**-0.7**
WET	**Wettzell**	**146.87 331**	*e*PKPbc	**PKPab**	**01 01 52.3**	**+0.3**
	baz=34,slow=2.8					
RUDO	**Rudo**	**146.89 318**	*e*P	**PKPdf**	**01 01 49.0**	**0.0**
KRND	**KRANIDI**	**146.90 306**	P	**PKPdf**	**01 01 48.4**	**-0.8**
FNA	**Florina**	**146.92 312**	P	**PKPdf**	**01 01 48.4**	**-0.8**
ARSA	**Arzberg**	**146.92 326**	*i* PKP	**PKPdf**	**01 01 48.9**	**-0.1**
	comp=Z,19nm,1.1s,SNR=9.2					
HPK	**Haverah Park**	**147.13 350**	*e*P	**PKPbc**	**01 01 50.7**	**-0.5**
MOA	**Molln**	**147.15 328**	*e*PKP	**PKPdf**	**01 01 49.0**	**-0.3**
	comp=Z,38nm,1.4s					
OHR	**Ohrid**	**147.17 313**	*i* P	**PKPdf**	**01 01 50.4**	**+0.8**
A052A	**Srbac**	**147.17 322**	*e*P	**PKPab**	**01 01 52.6**	**-0.6**
GRA1	**Grafenberg Arr**	**147.18 333**	IAMs_20	IAMs_20	02 08 05.4	
	comp=Z,12μm,22.0s					
GRF	**Grafenberg Arr**	**147.18 333**	*e*PKPbc	**PKPab**	**01 01 52.4**	**-0.8**
	baz=34,slow=2.8					
GRF			*e*L	L	02 08 04.6	
	comp=Z,11μm,21.9s					
GRFO	**Grafenberg**	**147.18 333**	IAMs_20	IAMs_20	02 08 05.0	
	comp=Z,12μm,22.0s					
IOMK	**Kirk Michael**	**147.23 353**	*e*P	**PKPbc**	**01 01 50.5**	**-1.0**
VLI	**Veliai**	**147.26 305**	P	**PKiKP**	**01 01 54.3**	**-0.1**
KPRO	**Kipourio**	**147.27 311**	P	**PKPdf**	**01 01 49.2**	**-0.6**
NEST	**Nestorio**	**147.30 312**	P	**PKPbc**	**01 01 51.2**	**-1.0**
KTHA	**Kythira Island**	**147.30 304**	P	**PKPdf**	**01 01 50.2**	**+0.3**
EVR	**Evrytania**	**147.36 309**	P	**PKPdf**	**01 01 50.0**	**0.0**
KLV	**Kalavryta, Ach**	**147.42 307**	P	**PKPbc**	**01 01 51.7**	**-0.9**
SOKA	**Soboth**	**147.55 326**	*e*PKP	**PKPdf**	**01 01 49.9**	**-0.2**
	comp=Z,36nm,1.1s					
BIOA	**Bad Ischl, Aus**	**147.56 329**	*i* PKP	**PKPdf**	**01 01 49.7**	**-0.3**
	comp=Z,24nm,1.1s					
PDG	**Podgorica**	**147.56 316**	IAMs_20	IAMs_20	02 15 10.3	
	comp=Z,10μm,21.0s					
PDG	**Podgorica**	**147.56 316**	⇑*i*P	**PKPdf**	**01 01 49.8**	**-0.3**
BLY	**Banja Luka**	**147.57 322**	⇑*i*P	**PKPdf**	**01 01 50.0**	**-0.1**
A051A	**Mrakovica**	**147.57 322**	⇑*i*P	**PKPbc**	**01 01 53.0**	**+0.2**
ILTH	**Belurgan, Co L**	**147.63 355**	*e*P	**PKPbc**	**01 01 51.7**	**-0.8**
LBWR	**Ladybower, Pea**	**147.69 350**	*e*P	**PKPdf**	**01 01 49.3**	**-0.7**
TIR	**Tirane**	**147.69 314**	⇑P	**PKPdf**	**01 01 50.6**	**+0.2**
TIR	**Tirane**	**147.69 314**	⇑PKIKP	**PKPdf**	**01 01 50.6**	**+0.2**
PRIJ	**Prijedor**	**147.71 322**	*e*P	**PKPab**	**01 01 56.3**	**+0.9**
DRME	**Dracevica, Mon**	**147.73 316**	*e*P	**PKPdf**	**01 01 49.9**	**-0.5**
MGRS	**Mrkonjic Grad**	**147.82 321**	*e*P	**PKPab**	**01 01 56.2**	**+0.3**
NEVS	**Nevesinje**	**147.84 319**	*e*P	**PKPab**	**01 02 01.0**	**+4.9**
TNS	**Taunus Mts**	**147.85 337**	*e*PKPbc	**PKPbc**	**01 01 53.8**	**+0.5**
	baz=34,slow=2.8					
CRES	**Cresnjev**	**147.88 325**	⇑*i*P	**PKPdf**	**01 01 50.3**	**-0.3**
WACR	**West Acre**	**147.89 347**	*e*P	**PKPbc**	**01 01 53.3**	**0.0**
OBKA	**Obir**	**147.91 326**	*i* PKP	**PKPdf**	**01 01 50.1**	**-0.6**
	comp=Z,30nm,1.1s					
OBKA	**Obir**	**147.91 326**	*e*P	**PKPdf**	**01 01 50.2**	**-0.5**
STNC	**Stoke**	**148.06 350**	*e*P	**PKPdf**	**01 01 50.5**	**-0.1**
AHRW	**Bad Neuenahr-A**	**148.07 338**	*e*PKPbc	**PKPbc**	**01 01 54.1**	**+0.2**
	baz=34,slow=2.8					
WPS	**Cemaes, Angles**	**148.07 353**	*e*P	**PKPdf**	**01 01 50.0**	**-0.6**
KBA	**Koelnbreinsper**	**148.13 328**	*e*PKP	**PKPdf**	**01 01 50.2**	**-0.9**
	comp=Z,49nm,0.8s					
WLF1	**Llynfaes**	**148.17 353**	*e*P	**PKPbc**	**01 01 52.8**	**-1.2**
BOJS	**Bojanci**	**148.19 324**	⇑*i*P	**PKPdf**	**01

PSBA	Serra de Santa	157.88	36	*e*PKP	PKPdf	01 02 12.8	+7.4
PAGU	Agualva, Azore	157.95	36	*e*PKP	PKPdf	01 02 10.5	+5.1
PSCM	Serra do Cume	158.04	36	*e*PKP	PKPdf	01 02 09.3	+3.8
PSET	Sete Cidades	159.43	36	*e*PKP	PKPdf	01 02 11.0	+3.8
CMLA	Cha da Macela	159.58	35	*e*PKP	PKPdf	01 02 12.5	+5.1
CMLA	Cha da Macela	159.58	35	IAMs_20	IAMs_20	02 26 10.6	
	comp=Z,9µm,21.0s						
ECAL	Calabor	159.62	351	PKP	PKPdf	01 02 08.2	+0.8
PBRG	Braganca	159.75	351	*e*PKPdf	PKPdf	01 02 04.8	-2.7
PBRG	Braganca	159.75	351	*e*PP	PP	01 06 44.5	+18
PBRG	Braganca	159.75	351	*e*SS	SS	01 26 32.6	-0.3
BART	Pico Bartolome	159.76	35	*e*PKP	PKPdf	01 02 11.8	+4.1
PGAV	Gavieira, Arco	159.77	355	*e*PKPdf	PKPdf	01 02 05.7	-1.9
PGAV	Gavieira, Arco	159.77	355	*e*PP	PP	01 06 28.4	+1.5
PGAV	Gavieira, Arco	159.77	355	*e*SS	SS	01 26 49.9	+17
PGAV	Gavieira, Arco	159.77	355	*e*LR	LR	02 01 05.4	
	comp=Z,8µm,20.0s						
EIBI	Ibiza	159.94	332	PKP	PKPdf	01 02 07.6	-0.1
POLO	Lamas de Olo	160.31	353	*e*PKPdf	PKPdf	01 02 07.4	-0.8
POLO	Lamas de Olo	160.31	353	*e*SS	SS	01 26 46.4	+7.6
PSMA	Santa Maria	160.36	36	*e*PKP	PKPdf	01 02 14.0	+5.7
ECHE	Chera	160.38	337	PKP	PKPdf	01 02 08.6	+0.3
PSMN	Pico do Norte,	160.39	36	*e*PKP	PKPdf	01 02 12.8	+4.5
PVRL	Vila Real	160.40	353	*e*PKPdf	PKPdf	01 02 10.8	+2.6
MVO	Moncorvo	160.42	352	*e*PKPdf	PKPdf	01 02 08.1	-0.2
MVO	Moncorvo	160.42	352	*e*PP	PP	01 06 49.9	+19
MVO	Moncorvo	160.42	352	*e*SS	SS	01 26 46.0	+6.0
MVO	Moncorvo	160.42	352	*e*LR	LR	02 06 22.6	
	comp=Z,10µm,20.0s						
PVIS	Viseu	160.97	353	*e*PKPdf	PKPdf	01 02 08.1	-0.8
PVIS	Viseu	160.97	353	*e*PP	PP	01 06 39.8	+6.4
MTE	Manteigas	161.24	352	*e*PKPdf	PKPdf	01 02 09.4	+0.2
MTE	Manteigas	161.24	352	*e*PP	PP	01 06 44.0	+9.1
MTE	Manteigas	161.24	352	*e*SS	SS	01 26 54.7	+6.1
MTE	Manteigas	161.24	352	*e*LR	LR	02 02 54.5	
	comp=Z,10µm,18.0s						
ESDC	Sonseca Array	161.25	344	PKP	PKPdf	01 02 08.4	-0.9
	comp=Z,0.1nm,0.3s,baz=333,slow=0.7,SNR=1.5						
ESDC				PKPab	PKPab	01 02 54.5	+1.7
	comp=Z,5.1nm,0.9s,baz=19,slow=1.2,SNR=8.5						
ESDC				SKP		01 05 41.0	
	comp=Z,0.8nm,0.7s,baz=20,slow=3.7,SNR=4.7						
ESDC				PP	PP	01 06 34.6	-0.4
	comp=Z,0.7nm,0.9s,baz=338,slow=1.4,SNR=2.2						
ETOB	Tobarra	161.43	337	PKP	PKPdf	01 02 10.2	+0.7
COI	Coimbra	161.52	354	*e*PKPdf	PKPdf	01 02 07.6	-1.8
COI	Coimbra	161.52	354	*e*PP	PP	01 06 56.1	+20
PCAS	Casmilo, Conde	161.68	355	*e*PKPdf	PKPdf	01 02 09.2	-0.4
PCAS	Casmilo, Conde	161.68	355	*e*PP	PP	01 06 45.0	+7.9
PCAS	Casmilo, Conde	161.68	355	*e*SS	SS	01 27 01.2	+8.1
PCBR	Castelo Branco	161.78	352	*e*PKPdf	PKPdf	01 02 11.3	+1.6
PMRV	Marv??o	162.18	352	*e*PKPdf	PKPdf	01 02 09.9	-0.3
PMRV	Marv??o	162.18	352	*e*PP	PP	01 06 39.9	+0.1
PMRV	Marv??o	162.18	352	*e*SS	SS	01 27 17.0	+19
PMRV	Marv??o	162.18	352	*e*LR	LR	02 03 06.9	
	comp=Z,12µm,20.0s						
PSBE	So Bento	162.24	355	*e*PKPdf	PKPdf	01 02 12.4	+2.2
PMTG	Montargil	162.63	353	*e*PKPdf	PKPdf	01 02 10.0	-0.6
PMTG	Montargil	162.63	353	*e*PP	PP	01 06 50.7	+8.5
PESTR	Estremoz	162.75	352	*e*PKPdf	PKPdf	01 02 10.4	-0.3
PESTR	Estremoz	162.75	352	*e*PP	PP	01 06 37.7	-5.2
PACT	Alcochete	162.99	355	*e*PKPdf	PKPdf	01 02 19.4	+8.5
LIS	Lisbon	163.06	356	*e*PKPdf	PKPdf	01 02 12.1	+1.1
LIS				IAMs_20	IAMs_20	02 26 12.6	
	comp=E,17µm,19.0s						
LIS	Lisbon	163.06	356	*e*PKIKP	PKPdf	01 02 12.1	+1.1
EVO	Evora	163.14	353	*e*PKPdf	PKPdf	01 02 10.0	-1.1
EVO	Evora	163.14	353	*e*PP	PP	01 06 52.2	+7.3
PBAR	Barrancos	163.35	350	*e*PKPdf	PKPdf	01 02 10.3	-1.0
PBAR	Barrancos	163.35	350	*e*PP	PP	01 06 54.4	+8.4
PBAR	Barrancos	163.35	350	*e*SS	SS	01 27 14.1	+3.7
LIC	Lamto	163.58	200	⇑*i*P	PKPdf	01 02 20.5	+8.3
	comp=E,5.6nm,0.3s						
PNCL	Nicolau / Gran	163.61	354	*e*PKPdf	PKPdf	01 02 12.2	+0.7
PNCL	Nicolau / Gran	163.61	354	*e*PP	PP	01 06 55.6	+8.3
PNCL	Nicolau / Gran	163.61	354	*e*SS	SS	01 27 19.2	+6.2
KIC	Kosan Boka	163.62	202	⇑*i*P	PKPdf	01 02 24.0	+12
	comp=E,24nm,1.0s						
PBEJ	Beja	163.62	352	*e*PKPdf	PKPdf	01 02 02.7	-8.9
DBIC	Dimbokro	163.94	202	PKP	PKPdf	01 02 12.6	0.0
	comp=E,4.6nm,0.9s,baz=288,slow=1.9,SNR=3.8						
DBIC				PKPab	PKPab	01 03 06.8	+1.7
	comp=E,5.4nm,0.8s,baz=182,slow=6.3,SNR=4.6						
TIC	Toumodi	163.97	201	⇑*i*P	PKPdf	01 02 20.8	+8.2
	comp=E,2.3nm,0.3s						
PCVE	Castro Verde	164.03	352	*e*PKPdf	PKPdf	01 02 11.1	-0.9
PTEO	Sao Teotonio	164.19	354	*e*PKPdf	PKPdf	01 02 13.8	+1.7
PTEO	Sao Teotonio	164.19	354	*e*PP	PP	01 06 53.6	+3.2
PVAQ	Vaqueiros	164.21	351	*e*PKPdf	PKPdf	01 02 10.7	-1.4
PVAQ	Vaqueiros	164.21	351	*e*PP	PP	01 07 10.3	+20
PVAQ	Vaqueiros	164.21	351	*e*LR	LR	02 05 19.0	
	comp=E,11µm,20.0s						
PBDV	Barranco-do-Ve	164.40	352	*e*PKPdf	PKPdf	01 02 13.4	+1.1
MORF	Marmelete	164.42	354	*e*PKPdf	PKPdf	01 02 12.6	+0.2
MORF	Marmelete	164.42	354	*e*PKPdf	PKPdf	01 02 13.5	+1.1
MORF				IAMs_20	IAMs_20	02 17 41.3	
	comp=Z,12µm,20.5s						
MORF	Marmelete	164.42	354	*e*PKIKP	PKPdf	01 02 13.4	+1.1
PFVI	Vila Bisbo	164.61	354	*e*PKPdf	PKPdf	01 02 13.4	+0.9
TOA0	Torodi Ar. Sit	165.37	236		PKPdf	01 02 12.2	-1.5
TORD	Torodi Ar. Bea	165.37	236	PKP	PKPdf	01 02 12.1	-1.6
	comp=Z,5.8nm,1.0s,baz=54,slow=0.6,SNR=17						
TORD				PP	PP	01 06 58.2	+0.1
	comp=Z,4.5nm,1.2s,baz=111,slow=8.0,SNR=4.0						
PMOZ	Porto Moniz, M	167.59	26	*e*PKPdf	PKPdf	01 02 16.1	+1.0
PMOZ	Porto Moniz, M	167.59	26	*e*LR	LR	02 04 52.1	
	comp=Z,11µm,20.0s						
PMPST	Porto Santo, M	167.70	23	*e*PKPdf	PKPdf	01 02 14.6	-0.5
PMPS	Porto Santo	167.72	23	*e*PKPdf	PKPdf	01 02 29.3	+14
MDT	Midelt	167.74	335	PKP	PKPdf	01 02 13.7	-1.5
	comp=Z,0.9nm,0.8s,baz=144,slow=7.5,SNR=5.4						
MDT				PKPab	PKPab	01 03 20.4	-1.1
	comp=Z,1.9nm,0.8s,baz=26,slow=3.8,SNR=1.5						
PMAR	Madeira	167.79	25	*e*PKPdf	PKPdf	01 02 17.0	+1.6
FUL	Funchal	167.87	26	*e*PKPdf	PKPdf	01 02 16.5	+1.3

*IDC **31** 00:44:49.3±2.3,21°.00S×169°.18E,h0km,mb4.5/5, mbtmp4.5/6,ML5.1/1,Error ellipse: s-maj=132.6km s-min=25.3km az=156.0*
*NEIC **31** 00:44:54.3±2.0,21°.13S±0°.07×168°.97E±0°.05,h10km±1km, mb4.8/20,Error ellipse: s-maj=13.1km s-min=6.9km az=337.0*
ISC 31 00:44:54.9±0.5,**21°.10S**±0°.08×**169°.02E**±0°.05,**h25**km,**n40,**
σ1§**44**/41,**mb4.8**/13,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.00	248		Pb	00 45 13.5	0.0
LIFNC	LIFOU	1.69	281	Pn	Pn	00 45 21.1	-1.8
PINNC	Pines Island,	2.10	224	Pn	Pn	00 45 28.6	+0.2
OUENC	Ouen Island, N	2.41	237	Pn	Pn	00 45 30.6	-2.1
DZM	Mont Dzumac	2.58	248	Pn	Pn	00 45 34.3	-0.9
	299nm,0.3s,baz=59,slow=2.3,SNR=2.9						
DZM				Sn	Sn	00 46 05.9	0.0
	baz=212,slow=22 6µm,1.0s						
ONTNC	Ouen Toro	2.67	243	Pn	Pn	00 45 35.8	-0.5
MSVF	Nonsavu	9.16	70	Pn	Pn	00 47 08.4	+2.8
RAO	Raoul Island	14.33	127		Pn	00 48 16.9	+0.7
HNR	Honiara	14.53	322	Pn	Pn	00 48 20.5	+1.5
FUNA	Funafuti	15.90	40		P	00 48 40.6	+0.1
FUNA				IAmb	IAmb	00 48 47.3	
	comp=Z,36nm,0.9s						
EIDS	Eidsvold	17.02	252		Pn	00 48 51.0	-0.3
ARMA	Armidale	18.18	236		P	00 49 07.1	+1.2
RTZ	Ruatahuna	18.75	160	P	P	00 49 10.8	-1.3
AFI	Afiamalu	19.65	72		Pn	00 49 24.0	+0.4
AFI				IAmb	IAmb	00 49 42.4	
	comp=Z,35nm,0.9s						
NIUE	Niue	19.88	88	P	P	00 49 25.1	+0.7
THZ	Tophouse	20.86	172	P	P	00 49 35.0	0.0
THZ				IAmb	IAmb	00 49 36.1	
	comp=Z,35nm,1.0s						
CTAO	Charters Tower	21.33	269	P	P	00 49 42.5	+2.2
CTAO				IAmb	IAmb	00 49 44.1	
	comp=Z,35nm,1.1s						
GVZ	Greta Valley S	22.06	172	P	P	00 49 46.4	-1.4
BBOO	Buckleboo	31.48	241	P	P	00 51 14.0	-0.8
BBOO				IAmb	IAmb	00 51 14.6	
	comp=Z,16nm,1.0s						
WR0	Warramunga Arr	32.27	266	P	P	00 51 22.6	+0.8
WR0				IAmb	IAmb	00 51 23.6	
	comp=Z,21nm,1.0s						
WB0	Warramunga Arr	32.44	266	P	P	00 51 23.3	0.0
WB0				IAmb	IAmb	00 51 32.9	
	comp=Z,20nm,0.9s						
WB2	Warramunga Arr	32.45	266	P	P	00 51 23.4	0.0
WB2				IAmb	IAmb	00 51 42.3	
	comp=Z,20nm,1.1s						
WRA	Warramunga Arr	32.46	266	P	P	00 51 24.6	+1.1
WRA	Warramunga Arr	32.46	266	P	P	00 51 22.8	-0.8
	comp=Z,5.5nm,0.8s,baz=95,slow=7.9,SNR=2.1						
	comp=Z,5.5nm,0.8s						
AS31	Alice Springs	32.52	259	P	P	00 51 25.6	+1.5
ASAR	Alice Springs	32.52	259	P	P	00 51 23.8	-0.2
ASAR	Alice Springs	32.52	259	P	P	00 51 23.6	-0.4
	comp=Z,11nm,1.0s,baz=98,slow=9.1,SNR=2.3						
	comp=Z,11nm,1.0s						
FORT	Forrest	37.90	247	P	P	00 52 10.9	+0.7
KNRA	Kununurra	38.51	271	P	P	00 52 16.5	+1.0
KNRA				IAmb	IAmb	00 52 19.6	
	comp=Z,34nm,1.1s						
FAKI	Fak Fak	40.08	292	P	P	00 52 28.9	+0.3
FAKI				IAmb	IAmb	00 52 39.8	
	comp=Z,25nm,1.1s						
PSA00	Pilbara Seismi	45.65	260	P	P	00 53 14.1	+0.3
MBWA	Marble Bar	45.82	261	P	P	00 53 16.3	+1.2
NWAO	Narrogin (SRO)	47.20	244	P	P	00 53 25.6	-0.2
KLR	Kul'dur	77.48	336	P	P	00 56 49.5	+1.5
	comp=Z,3.9nm,0.8s,baz=131,slow=3.4,SNR=2.4						
NVAR	Mina Array Bea	90.18	49	P	P	00 57 51.2	-2.3
	comp=Z,2.3nm,0.8s,baz=224,slow=7.6,SNR=5.1						
	comp=Z,2.3nm,0.8s						
ILAR	Eielson Array	92.06	17	P	P	00 57 57.7	-3.6
	comp=Z,0.7nm,0.7s,baz=235,slow=5.4,SNR=1.8						
	comp=Z,0.7nm,0.7s						
TXAR	Lajitas Array	97.83	62	P	P	00 58 26.2	-2.5
	comp=Z,0.7nm,0.8s,baz=232,slow=4.4,SNR=3.2						
	comp=Z,0.7nm,0.8s						
CLL	Collm	144.50	334	*e*PKiKP	PKiKP	01 04 35.0	+2.4
EKA	Eskdalemuir Ar	145.32	352	PKPbc	PKPbc	01 04 27.5	-2.5
	comp=Z,5.9nm,0.6s,baz=350,slow=2.4,SNR=5.9						
GERES	GERESS Array B	146.02	330	PKPbc	PKPdf	01 04 32.0	+0.2
	comp=Z,3.1nm,0.7s,baz=46,slow=2.8,SNR=2.7						

*IDC **31** 00:56:16.6±1.0,7°.42S×130°.40E,h0km,mb4.1/7, mbtmp4.1/8,ML4.4/1,Error ellipse: s-maj=32.2km s-min=22.4km az=72.0*
*NEIC **31** 00:56:21.6±2.8,7°.67S±0°.06×130°.19E±0°.05,h35km±2km, mb4.3/18,Error ellipse: s-maj=11.0km s-min=9.0km az=181.0*
*DJA **31** 00:56:22.4±0.2,8°.S±2°.×13°.1E±°.,h77km±6km,M5.0/8, mB6.4/5,mb4.3/8,MLv4.9/7,Mw(mB)6.1/5*
ISC 31 00:56:20.0±0.5,**7°.62S**±0°.05×**130°.33E**±0°.05,**h27**km,**n54,**
σ1§**96**/56,**mb4.2**/15,**Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.03	111		Pb	00 56 40.9	+1.7
SAUI				Sn	Sb	00 56 57.3	+5.0
SAUI	Saumlaki	1.03	111	P	Pb	00 56 40.7	+1.5
SAUI				S	Sb	00 56 53.8	+1.5
FAKI	Fak Fak	5.05	22		Pn	00 57 33.6	-0.4
FAKI	Fak Fak	5.05	22	P	Pn	00 57 33.1	-0.9
FAKI				S	Sn	00 58 28.7	-2.8
KMPI	Kaimana, Papua	5.17	41	P	Pn	00 57 36.0	+0.3
MTN	Manton Dam	5.25	171		Pn	00 57 38.8	+2.0
MTN				Sn	Sn	00 58 38.9	+2.5
NLAI	Namlea	5.41	323	P	Pn	00 57 43.6	+4.6
	27nm,0.6s,0.2nm						
SOEI	Soe	6.36	250	Pn	Pn	00 57 53.5	+1.4
SOEI	Soe	6.36	250	P	Pn	00 57 57.1	+5.0
BATI	Baumata	7.07	248	P	Pn	00 58 07.5	+5.7
	39nm,2.8s,0.5nm						
BATI	Baumata	7.07	248	Pn	Pn	00 58 04.0	+2.1
	6.0nm,0.3s,baz=79,slow=7.9,SNR=2.9						
BATI				Sn	Sn	00 59 24.8	+3.5
	3.2nm,0.3s,baz=102,slow=23,SNR=1.4 12nm,0.2s						
KNRA	Kununurra	8.15	191	Pn	Pn	00 58 18.2	+1.6
KNRA					Sn	00 59 45.2	-2.8
EDFI	Ende, Flores	8.62	262	P	Pn	00 58 28.5	+5.2
PLAI	Plampang	12.48	264	P	Pn	00 59 20.2	+4.2
	31nm,0.9s						
WB0	Warramunga Arr	12.70	162	Pn	Pn	00 59 16.6	-2.4
WRAB	Tennant Creek	12.85	163	Pn	Pn	00 59 22.2	+1.2
WRA	Warramunga Arr	12.85	163	Pn	Pn	00 59 17.7	-3.4
	1.0nm,0.3s,baz=344,slow=13,SNR=40						
WRA				Sn	Sn	01 01 31.0	-12
	2.0nm,0.3s,baz=333,slow=22,SNR=11						
WB2	Warramunga Arr	12.86	163	Pn	Pn	00 59 19.1	-2.0
TOLI2	Tolitoli	12.88	312	Pn	Pn	00 59 20.9	-0.6
WR0	Warramunga Arr	12.93	162	Pn	Pn	00 59 20.5	-1.6
COEN	Coen	14.10	118	Pn	Pn	00 59 36.0	-2.2
AS31	Alice Springs	16.32	168	Pn	Pn	01 00 07.3	-0.2
ASAR	Alice Springs	16.32	168	Pn	Pn	01 00 07.1	-0.4
ASAR	Alice Springs	16.32	168	Pn	Pn	01 00 04.6	-2.9
	0.5nm,0.3s,baz=347,slow=9.7,SNR=13						
ASAR				Sn	Sn	01 02 56.6	-11
	0.4nm,0.3s,baz=355,slow=28,SNR=7.2						
MBWA	Marble Bar	16.91	216	P	Pn	01 00 13.8	-1.2
MBWA				IAmb	IAmb	01 00 50.1	
	comp=Z,37nm,1.4s						
PSA00	Pilbara Seismi	17.17	215		Pn	01 00 16.9	-1.3
PSA00				IAmb	IAmb	01 00 57.3	
	comp=Z,27nm,1.3s						
UWJI	Ujung Watu	19.27	272	pP	pP	01 00 56.4	+6.6
GIRL	Giralia	21.52	224	P	P	01 01 03.0	-4.1
STKA	Stephens Creek	26.32	158	P	P	01 01 55.0	+1.4
STKA	Stephens Creek	26.32	158	P	P	01 01 54.8	+1.1
	comp=Z,1.4nm,0.8s,baz=331,slow=19,SNR=1.9						
	comp=Z,1.4nm,0.8s						
NWAO	Narrogin (SRO)	27.96	204	P	P	01 02 07.2	-1.2
CMAR	Chiang Mai Arr	40.38	310	P	P	01 03 55.7	-0.3
	comp=Z,0.8nm,0.3s,baz=133,slow=6.7,SNR=4.6						
	comp=Z,0.8nm,0.3s						
MJAR	Matsushiro Arr	44.55	9	P	P	01 04 27.4	-2.2
	comp=Z,1.1nm,0.4s,baz=180,slow=8.3,SNR=4.4						
	comp=Z,1.1nm,0.4s						
SONM	Songino Array	59.13	341	P	P	01 06 19.4	+1.0
	comp=Z,0.4nm,0.4s,baz=153,slow=7.1,SNR=2.4						
	comp=Z,0.4nm,0.4s						
PETK	Petropavlovsk-	64.81	18		P	01 06 56.9	+0.6
TARG	Taragay, Kyrgy	68.65	320		P	01 07 21.9	+0.3
TARG				IAmb	IAmb	01 07 40.6	
	comp=Z,2.2nm,0.7s						
MK31	Makanchi Array	68.92	327	P	P	01 07 22.9	+0.3
MK31				IAmb	IAmb	01 07 23.4	
	comp=Z,3.7nm,0.6s						
MKAR	Makanchi Array	68.92	327	P	P	01 07 22.9	+0.3
	comp=Z,4.6nm,0.5s,baz=114,slow=8.5,SNR=75						
	comp=Z,4.6nm,0.5s						
MAKZ	Makanchi	69.10	327	P	P	01 07 24.0	+0.2
MAKZ				IAmb	IAmb	01 07 24.4	
	comp=Z,5.5nm,0.6s						
YAK	Yakutsk	69.44	360	P	P	01 07 25.8	+0.3
NRN	Naryn	69.65	319	P	P	01 07 25.8	-1.8
NRN				IAmb	IAmb	01 07 47.4	
	comp=Z,3.1nm,1.3s						
AAK	Ala-Archa	71.22	320	P	P	01 07 37.3	+0.2
AAK				IAmb	IAmb	01 08 06.6	
	comp=Z,2.6nm,1.1s						
ARSB	Arslanbob	71.57	318	P	P	01 07 39.9	+0.8
ARSB				IAmb	IAmb	01 07 41.6	
	comp=Z,1.3nm,0.6s						
VNDA	Vanda	71.80	173	P	P	01 07 38.2	-1.5
AMKA	Amchitka	72.23	30	P	P	01 07 43.8	+1.1
ZAA0	Zalesovo Array	72.28	334	P	P	01 07 42.0	-0.9
ZALV	Zalesovo Beam	72.28	334	P	P	01 07 42.3	-0.6
	comp=Z,0.7nm,0.4s,baz=136,slow=6.7,SNR=4.0						
	comp=Z,0.7nm,0.4s						
SBA	Scott Base	72.68	172	P	P	01 07 43.1	-1.9
SBA				IAmb	IAmb	01 07 47.7	
	comp=Z,4.0nm,1.3s						
RER	Riviere de l'E	72.95	250	P	P	01 07 47.4	-0.4
KURBB	Kurchatov Arra	73.21	328	P	P	01 07 48.2	-0.2
	comp=Z,1.1nm,0.5s,baz=129,slow=5.1,SNR=17						
	comp=Z,1.1nm,0.5s						
KURK	Kurchatov	73.21	329	P	P	01 07 48.7	+0.2
KURK				IAmb	IAmb	01 08 16.2	
	comp=Z,5.0nm,1.4s						
KKAR	Karatay Array	74.02	319		P	01 07 53.1	-0.4
CPUP	Villa Florida	145.44	168	PKPbc	PKPab	01 15 57.6	+1.1
	comp=Z,1.8nm,0.9s,baz=70,slow=6.4,SNR=3.5						
LPAZ	La Paz	150.03	143	PKPbc	PKiKP	01 16 11.6	+0.7
	comp=Z,1.5nm,0.6s,baz=38,slow=17,SNR=5.7						

*ISK **31** 01:01:23.7,36°.69N×27°.21E,h25km,ML2.1/13*
*AFAD **31** 01:01:26.1±0.0,36°.72N×27°.24E,h7km±1km,ML2.1*
ISC 31 01:01:23.7±1.0,**36°.65N**±0°.04×**27°.17E**±0°.04,**h28**km±6km,
n22,σ0§**76**/34,**1C,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	Nisyros Isl.	0.05	169	Pg	Pb	01 01 28.4	-0.1
NIS1				Sg	Sb	01 01 31.7	-0.1
KOSK	Kos Island	0.18	303	Pg	Pb	01 01 30.1	+0.7
KOSK				Sg	Sb	01 01 34.2	+0.8
RFTD	Palamutbuku-Ka	0.27	84	Pg	Pb	01 01 30.2	-0.3
RFTD				Sg	Sb	01 01 34.8	-0.4
RFTB	Kemer-Bodrum	0.32	15	Pg	Pb	01 01 31.2	-0.1
DAT	Datca	0.34	77	Pg	Pb	01 01 31.5	-0.1
DAT				Sg	Sb	01 01 36.8	-0.2
DAT	Datca	0.34	77	P	Pb	01 01 31.6	0.0
DAT				S	Sb	01 01 36.0	-1.0
DAT				*i* AML	AML	01 01 37.0	
	comp=N,212nm,0.2s						
BODT	Bodrum	0.42	16	Pg	Pb	01 01 32.6	-0.2
BODT				Sg	Sb	01 01 38.5	-0.5
BDRM	Kayabasi	0.47	28	P	Pn	01 01 33.8	-0.8
BDRM				S	Sb	01 01 39.1	-1.1
RFTAA	Mazikoy-Bodrum	0.58	53	Pg	Pb	01 01 34.8	-0.5
RFTAA				Sg	Sn	01 01 43.3	-1.3
DDIM	Aydin, Didim	0.80	4	P	Pn	01 01 40.3	+1.2
DDIM				S	Sn	01 01 51.2	+1.0
DDIM				*i* AML	AML	01 02 03.0	
	comp=Z,82nm,2.0s						
DDIM				*i* AML	AML	01 02 07.0	
	comp=N,67nm,1.1s						
DDIM				*i* AML	AML	01 02 09.0	
	comp=E,66nm,1.1s						
MLSB	Milas	0.81	37	Pg	Pn	01 01 39.1	-0.1
MLSB				Sg	Sn	01 01 50.1	-0.2
TURN	Turunc	0.88	82	Pg	Pn	01 01 40.4	+0.3
TURN	Turunc	0.88	82	P	Pn	01 01 41.1	+1.0
TURN				S	Sn	01 01 53.3	+1.4
TURN				*i* AML	AML	01 02 12.0	
	comp=Z,65nm,2.8s						
ARG	Arkhangelos	0.89	119	Pg	Pn	01 01 40.8	+0.5
YER	Yerkesik	1.02	62	Pg	Pb	01 01 42.9	+0.2
GCAM	G?zelcaml?	1.04	3	Pg	Pb	01 01 42.7	-0.4
KARP	Karpathos	1.10	180	Pn	Pn	01 01 43.7	+0.4
KARP	Karpathos	1.10	180	P	Pn	01 01 43.1	-0.2
AYDN	Tasoluk	1.16	29	P	Pb	01 01 46.3	+1.2
AYDN				S	Sb	01 02 00.3	+0.7
AYDN				*i* AML	AML	01 02 01.0	
	comp=N,49nm,1.4s						
AYDN				*i* AML	AML	01 02 30.0	
	comp=Z,82nm,2.5s						
DALY	Dalyan (Mula)	1.21	82	Pn	Pb	01 01 45.1	-0.8
APE	Apeiranthos	1.38	288	⇑P	Pn	01 01 46.3	-0.7
APE	Apeiranthos	1.38	288	Pn	Pn	01 01 45.8	-1.2

*IDC **31** 01:01:36.1±1.4,21°.59S×169°.43E,h0km,mb4.0/4, mbtmp4.0/4,Error ellipse: s-maj=47.5km s-min=34.2km az=169.0*
ISC 31 01:01:39.0±1.1,**21°.5S**±0°.3×**169°.4E**±0°.2,**h21**km,**n8,**
σ0§**39**/8,**mb4.2**/6,**3D,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.81	266	P	P	01 08 10.6	-0.5
	1.2nm,1.1s,baz=100,slow=8.9,SNR=3.8 1.2nm,1.1s						
ASAR	Alice Springs	32.81	259	P	P	01 08 11.7	+0.5
	2.1nm,1.0s,baz=86,slow=9.3,SNR=9.2 2.1nm,1.0s						
QSPA	South Pole Qui	68.54	180	P	P	01 12 40.1	+0.2
	1.7nm,0.7s,baz=21,slow=1.7,SNR=4.8 1.7nm,0.

ILAR	Eielson Array	92.31	17	P	P	01 21 58.3	-1.4
	comp=Z,0.3nm,0.7s,baz=232,slow=4.4,SNR=1.8						
	comp=Z,0.3nm,0.7s						
CLL	Collm	144.78	334	*e*PKPdf	PKPdf	01 28 26.0	-0.6
CLL				*ex*	x	01 28 35.0	
EKA	Eskdalemuir Ar	145.60	352	PKPbc	PKPdf	01 28 26.1	-1.7
	comp=Z,0.4nm,0.4s,baz=1.8,slow=2.6,SNR=3.6						
GERES	GERESS Array B	146.28	330	PKPbc	PKPab	01 28 31.2	-0.1
	comp=Z,0.6nm,0.7s,baz=57,slow=3.6,SNR=2.4						
ABTA	Abfaltersbach	148.34	329	*e*PKiKP	PKiKP	01 28 38.4	+0.4
	comp=Z,4.3nm,0.9s						
WTTA	Wattenberg	148.39	330	*e*PKiKP	PKPab	01 28 39.5	-0.2
	comp=Z,4.8nm,1.4s						
MOTA	Moosalm	148.57	331	*e*PKiKP	PKiKP	01 28 39.1	+0.6
	comp=Z,5.9nm,1.4s						
FETA	Feichten	148.98	331	*e*PKiKP	PKiKP	01 28 39.4	0.0
	comp=Z,4.4nm,1.6s						

*IDC **31** 01:17:18.5±0.9, 70°.69N×14°.28W, h0km, mb3.9/12, mbtmp3.9/18, ML4.2/4, Error ellipse: s-maj=20.0km s-min=17.8km az=66.0*
*REY **31** 01:17:19.1, 70°.26N×13°.03W, h10km*
*NEIC **31** 01:17:19.4±1.7, 70°.79N±0°.08×14°.5W±0°.2, h10km±1km, mb4.3/23, Error ellipse: s-maj=14.1km s-min=11.3km az=201.0*
*DNK **31** 01:17:22.0±2.0, 70°.95N×15°.78W, h7km±38km, ML2.3*
*BER **31** 01:17:23.4±1.5, 70°.93N×15°.56W, h10km, mb(Pn)4.5, ML2.3(DNK), Confirmed Earthquake*

ISC 31 01:17:18.5±0.4, 70°.75N±0°.04×14°.58W±0°.05, h10km, n95, σ2s36/106, mb4.2/23, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	Scoresbysund	2.47	267	Pn	Pn	01 17 58.4	-0.4
SCO	Scoresbysund	2.47	267	*e*P	Pn	01 17 57.7	-1.0
SCO				*i*		01 18 07.2	
SCO				*i* S	Sn	01 18 23.3	-5.7
SCO				IAML		01 18 39.7	
	comp=Z,14nm,0.5s						
SCO	Scoresbysund	2.47	267	*e*P	Pn	01 17 57.7	-1.0
SCO				*i*		01 18 07.2	
SCO				*i* S	Sn	01 18 23.3	-5.7
SCO				IAML		01 18 39.7	
	comp=Z,14nm,0.5s						
DBG	Daneborg	3.96	337	*i* P	Pn	01 18 17.4	-1.8
DBG				*i* S	Sn	01 18 59.6	-6.0
DBG				IAML		01 19 03.8	
	comp=Z,35nm,0.4s						
DBG	Daneborg	3.96	337	*i* P	Pn	01 18 17.4	-1.8
DBG				*i* S	Sn	01 18 59.6	-6.0
DBG				IAML		01 19 03.8	
	comp=Z,35nm,0.4s						
IGRI	Grimsey	4.41	198	P	Pn	01 18 23.7	-1.6
	baz=209						
IGRI				S	Sn	01 19 14.4	-2.1
	baz=209						
ILEI	Leirhofn	4.42	190	P	Pn	01 18 22.4	-3.1
	baz=200						
IGIL	Gilhagi	4.74	189	P	Pn	01 18 26.5	-3.4
	baz=198						
IGIL				S	Sn	01 19 19.9	-4.8
	baz=198						
IHED	Heoinshofoi	4.79	193	P	Pn	01 18 28.0	-2.7
	baz=203						
IHED				S	Sn	01 19 21.4	-4.7
	baz=203						
IBRE	Brettingsstaoi	4.80	196	P	Pn	01 18 28.9	-1.9
	baz=206						
IBRE				S	Sn	01 19 22.9	-3.5
	baz=206						
IDIM	Dimmadalss	4.89	191	P	Pn	01 18 28.9	-3.0
	baz=200						
IDIM				S	Sn	01 19 25.6	-2.9
	baz=200						
ISIG	Siglufjorour	4.90	201	P	Pn	01 18 31.5	-0.7
	baz=211						
IGRA	Granastaoir	4.98	194	P	Pn	01 18 31.1	-2.1
	baz=204						
ISKI	Skildingahlsh	4.98	192	P	Pn	01 18 30.2	-3.0
	baz=201						
IGHA	Grjothals	4.99	190	P	Pn	01 18 30.2	-3.1
	baz=199						
IKVO	Krokottuvotn	5.13	191	P	Pn	01 18 32.2	-3.1
	baz=199						
IGRS	Grimsstaoir	5.17	187	P	Pn	01 18 32.7	-3.1
	baz=196						
IMEL	Melhnausar	5.26	189	P	Pn	01 18 33.9	-3.2
	baz=198						
ISVA	Svartarkot	5.53	192	P	Pn	01 18 38.9	-1.8
	baz=200						
IADA	Aoalbol	5.77	184	P	Pn	01 18 40.6	-3.4
	baz=192						
IASK	Askja	5.77	189	P	Pn	01 18 41.5	-2.7
	baz=196						
IMKO	Mokollar	5.83	187	P	Pn	01 18 42.3	-2.7
	baz=195						
THOR	Thorvaldshraun	5.89	189	P	Pn	01 18 43.0	-2.8
	baz=196						
IKRE	Kreppuhraun	6.03	187	P	Pn	01 18 44.7	-2.9
	baz=195						
IURH	Urdarhals	6.03	191	P	Pn	01 18 45.6	-2.1
	baz=198						
DAG	Danmarks Havn	6.16	351	*i* P	Pn	01 18 48.5	-0.9
DAG				IAML		01 19 56.3	
	comp=Z,14nm,0.3s						
DAG	Danmarks Havn	6.16	351	*i* P	Pn	01 18 48.0	-1.4
DAG				*i* P	Pn	01 18 48.5	-0.9
DAG				IAML		01 19 56.3	
	comp=Z,14nm,0.3s						
BORG	Borgarnes	6.54	206		Pn	01 18 57.7	+3.1
BORG	Borgarnes	6.54	206	Pn	Pn	01 18 57.3	+2.6
	comp=Z,8.2nm,0.3s,baz=0.3,slow=5.9,SNR=53						
	comp=Z,30nm,0.4s						
SUMG	Summit	7.72	295		Pn	01 19 12.2	+1.1
SUMG				Sn	Sn	01 20 39.0	+0.3
SUMG	Summit	7.72	295	*i* P	Pn	01 19 13.4	+2.3
SUMG	Summit	7.72	295	*i* P	Pn	01 19 13.4	+2.3
HSPB	Hornsund (broa	10.31	39	*e*P	Pn	01 19 46.2	0.0
HSPB				IAML		01 19 54.2	
	comp=Z,4.8nm,0.8s						
BRBB	Barentsburg B	10.52	33	*e*P	Pn	01 19 50.7	+1.7
KBS	Kingsbay	10.59	28	Pn	Pn	01 19 49.6	-0.4
KBS	Kingsbay	10.59	28	*i* P	Pn	01 19 50.0	-0.1
KBS	Kingsbay	10.59	28	*i* P	Pn	01 19 50.0	-0.1
NOR	Nord	10.93	358	*i* P	Pn	01 19 53.6	-0.9
NOR				*e*S	Sn	01 21 50.0	-6.7
NOR				IAML		01 21 55.4	
	comp=Z,3.2nm,0.3s						
SPB3	Spitsbergen Ar	10.96	34	Pn	Pn	01 19 55.7	+0.7
SPA3	Spitsbergen Ar	10.96	34	Pn	Pn	01 19 56.0	+1.0
SPITS	Spitsbergen Ar	10.96	34	Pn	Pn	01 19 55.7	+0.6
	baz=223,slow=12						
	comp=Z,4.5nm,0.4s						
SPB2	Spitsbergen Ar	10.96	34	Pn	Pn	01 19 56.0	+1.0
SPA1	Spitsbergen Ar	10.96	34	Pn	Pn	01 19 55.2	+0.2
NOA	NORSAR Array B	14.20	120	Pn	Pn	01 20 38.0	-1.3
	comp=Z,1.6nm,0.9s,baz=318,slow=11,SNR=3.2						
HFS	Hagfors	15.65	118	Pn	Pn	01 20 58.2	-0.6
	comp=Z,3.0nm,0.9s,baz=333,slow=8.3,SNR=2.1						
EKB	Eskdalemuir	16.25	156	Pn	P	01 21 07.2	-2.5
EKB				IAmb	IAmb	01 21 41.8	
	comp=Z,36nm,1.5s						
EKA	Eskdalemuir Ar	16.26	156	Pn	Pn	01 21 06.2	-0.4
	baz=356,slow=13						
	comp=Z,1.4nm,0.4s						
ESK	Eskdalemuir	16.27	156	Pn	P	01 21 07.5	-2.3
ESK				IAmb	IAmb	01 21 47.2	
	comp=Z,28nm,1.4s						
DSB	Dublin	17.95	164		P	01 21 29.5	+1.1
DSB				IAmb	IAmb	01 21 49.2	
	comp=Z,31nm,1.4s						
FIA1	FINESS Array S	18.51	100	P	Pn	01 21 34.1	-0.5
FIA1				IAmb	IAmb	01 21 43.0	
	comp=Z,22nm,0.8s						
FINES	FINESS Array B	18.51	100		Pn	01 21 34.3	-0.4
FINES	FINESS Array B	18.51	100	P	Pn	01 21 33.7	-0.9
	comp=Z,0.4nm,0.3s,baz=268,slow=4.8,SNR=16						
	comp=Z,3.9nm,0.8s						
EUNU	Eureka	18.74	329	P	P	01 21 34.9	-2.1
PABE	Paberze	22.57	113	P	P	01 22 17.9	-0.5
CLL	Collm	23.23	133	*e*P	P	01 22 25.0	-0.4
	comp=Z,14nm,1.5s						
CLL				*i* x	x	01 22 31.7	
	comp=Z,13nm,1.2s						
KLMR	Klimovskoe	23.39	87	*e*P	P	01 22 25.3	-1.6
	comp=Z,54nm,1.7s						
KLMR	Klimovskoe	23.39	87	*e*	P	01 22 25.3	-1.6
KLMR				AMP		01 22 28.7	
	comp=Z,54nm,1.7s						
PRU	Pruhonice	24.83	132	*e*P	P	01 22 42.9	+2.4
PRGR	Permogore	24.83	81	*e*P	P	01 22 35.8	-4.6
	comp=Z,9.4nm,0.9s						
ECH	Echery	24.85	144	P	P	01 22 41.0	+0.3
ECH				IAmb	IAmb	01 22 45.9	
	comp=Z,6.7nm,1.1s						
DPC	Dobruska-Polom	24.95	129	*e*P	P	01 22 42.3	+0.7
BFO	Black Forest	24.97	142	P	P	01 22 42.0	+0.2
BFO				IAmb	IAmb	01 22 50.8	
	comp=Z,15nm,1.5s						
ZVC	Zvikov	25.25	133	*e*P	P	01 22 50.6	+6.3
KRLC	Kraliky	25.32	128	*e*P	P	01 22 46.1	+1.2
KHC	Kasperske Hory	25.39	134	*e*P	P	01 22 49.2	+3.6
GEC2	GERESS Array S	25.68	134	P	P	01 22 49.0	+0.7
GEC2				IAmb	IAmb	01 22 55.7	
	comp=Z,9.6nm,1.3s						
GERES	GERESS Array B	25.68	134	P	P	01 22 49.6	+1.2
	comp=Z,1.4nm,0.8s,baz=330,slow=7.8,SNR=5.5						
	comp=Z,1.4nm,0.8s						
MORC	Moravsky Berou	25.79	128	P	P	01 22 50.8	+1.6
CKRC	Cesky Krumlov	25.85	133	*e*P	P	01 22 54.0	+4.2
SENIN	Lac Senin/Sonde	26.65	145	P	P	01 22 57.9	+0.6
AKASG	Malin Array Be	28.32	112	P	P	01 23 11.8	-0.1
	comp=Z,0.4nm,0.4s,baz=332,slow=9.4,SNR=2.6						
	comp=Z,0.4nm,0.4s						
BURAR	Bucovina Array	29.88	120	P	P	01 23 27.4	+1.5
ARU	Arti	33.09	77	P	P	01 23 53.5	-0.4
FNA	Florina	35.14	129	P	P	01 24 12.9	+1.0
FNA				IAmb	IAmb	01 24 24.5	
	comp=Z,3.4nm,1.0s						
E28M	Babbage River	36.12	329	P	P	01 24 21.3	+1.3
E28M				IAmb	IAmb	01 24 27.6	
	comp=Z,4.0nm,1.0s						
C23K	Itkillik River	36.67	336	P	P	01 24 26.4	+1.7
C23K				IAmb	IAmb	01 24 29.7	
	comp=Z,5.8nm,1.3s						
AGG	Agios Georgios	37.04	129	P	P	01 24 29.3	+1.1
TOLK	Toolik Lake Re	37.64	335	P	P	01 24 34.8	+1.9
TOLK				IAmb	IAmb	01 24 46.1	
	comp=Z,11nm,1.5s						
BMAR	Burnt Mountain	38.01	331	P	P	01 24 35.6	-0.5
E21K	Killik River	38.42	337	P	P	01 24 40.3	+0.8
E21K				IAmb	IAmb	01 25 09.4	
	comp=Z,9.5nm,1.4s						
E22K	Anaktuvuk Pass	38.42	336	P	P	01 24 40.6	+1.0
ABKAR	Akbulak array	39.59	82	P	P	01 24 49.8	+0.4
BVAR	Borovoye Array	39.70	70	P	P	01 24 51.6	+1.2
	comp=Z,3.0nm,1.0s,baz=318,slow=6.4,SNR=10						
	comp=Z,3.0nm,1.0s						
ILAR	Eielson Array	40.83	331	P	P	01 25 03.5	+3.9
	comp=Z,0.6nm,1.0s,baz=4.3,slow=7.1,SNR=5.2						
	comp=Z,0.6nm,1.0s						
ZALV	Zalesovo Beam	43.21	58	P	P	01 25 21.0	+1.9
	comp=Z,1.7nm,0.8s,baz=331,slow=8.8,SNR=7.8						
	comp=Z,1.7nm,0.8s						
KURBB	Kurchatov Arra	44.29	66	P	P	01 25 29.1	+1.2
	comp=Z,1.3nm,0.6s,baz=330,slow=7.7,SNR=13						
	comp=Z,1.3nm,0.6s						
MKAR	Makanchi Array	48.84	65	P	P	01 26 04.4	+0.9
	comp=Z,1.7nm,1.0s,baz=285,slow=4.8,SNR=4.3						
	comp=Z,1.7nm,1.0s						
BOOM	Boomskoye usch	50.75	73	P	P	01 26 19.0	+0.6
BOOM				IAmb	IAmb	01 26 21.7	
	comp=Z,3.3nm,1.2s						
PDAR	Pinedale Array	51.90	291	P	P	01 26 28.6	+1.5
	comp=Z,0.3nm,0.5s,baz=32,slow=8.6,SNR=3.3						
	comp=Z,0.3nm,0.5s						
SONM	Songino Array	54.40	45	P	P	01 26 46.6	+1.4
	comp=Z,0.6nm,0.7s,baz=324,slow=7.1,SNR=3.5						
	comp=Z,0.6nm,0.7s						
TMUT	Trail Mountain	55.57	291	P	P	01 26 54.6	+0.6
TORD	Torodi Ar. Bea	58.44	161	P	P	01 27 14.8	+0.7
	comp=Z,1.2nm,0.8s,baz=355,slow=9.3,SNR=6.7						
	comp=Z,1.2nm,0.8s						
MJAR	Matsushiro Arr	71.24	23	P	P	01 28 38.0	+0.7
	comp=Z,0.8nm,0.3s,baz=357,slow=6.1,SNR=2.2						
	comp=Z,0.8nm,0.3s						
CMAR	Chiang Mai Arr	80.14	62	P	P	01 29 28.8	+0.3
	comp=Z,0.7nm,0.3s,baz=325,slow=7.1,SNR=5.5						
	comp=Z,0.7nm,0.3s						
ASAR	Alice Springs	129.48	38	PKP	PKPdf	01 36 26.5	-0.3
	comp=Z,0.3nm,0.8s,baz=8.5,slow=1.9,SNR=2.4						

IDC 31 01:19:25.3±3.7, 21°.57S×169°.30E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=244.7km s-min=35.2km az=163.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.59	270	P	P	01 24 18.4	+1.5
	1.1nm,0.4s,baz=90,slow=9.1,SNR=1.9						
	1.1nm,0.4s						
ASAR	Alice Springs	32.69	260	P	P	01 25 59.4	-0.3
	0.5nm,0.8s,baz=79,slow=9.2,SNR=5.2						
	0.5nm,0.8s						
WRA	Warramunga Arr	32.70	266	P	P	01 25 58.8	-0.9
	0.2nm,0.6s,baz=97,slow=8.4,SNR=2.4						
	0.2nm,0.6s						
NVAR	Mina Array Bea	90.29	48	P	P	01 32 28.6	+0.1
	0.2nm,0.5s,baz=245,slow=5.8,SNR=1.8						
	0.2nm,0.5s						

*PRE **31** 01:30:16.9±1.5, 24°.57S×15°.93E, h5km, ML2.8*
*NAM **31** 01:30:23.5±1.2, 26°.60S×14°.89E, h15km, MD3.3*

ISC 31 01:30:18.7±2.4, 24°.62S±0°.07×16°.1E±0°.2, h10km, n11, σ2s63/14, Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUSN	Aus	2.04	175	*i* P	Pn	01 30 47.4	-5.9
WIN	Windhoek	2.25	25	*i* P	Sg	01 31 29.4	-1.7
ARMS	Ukamas	4.73	137	*i* P	Pn	01 31 30.9	+0.8
UPI	Upington	5.94	130	*e*P	Pn	01 31 49.9	+3.0
UPI				*e*S	Sn	01 32 56.8	+1.7
UPI				IAML		01 33 17.7	
	comp=Z,17nm,0.4s						
SUR	Sutherland	8.78	153	*e*P	Pn	01 32 27.5	+1.6
SUR				*e*S	Sn	01 34 03.9	-1.1
SUR				IAML		01 34 42.7	
	comp=Z,4.0nm,0.3s						
BOSA	Boshof	9.12	118	*e*P	Pn	01 32 32.4	+1.9
BOSA				*e*S	Sn	01 34 11.4	-1.9
BOSA				IAML		01 34 38.3	
	comp=Z,1.4nm,0.6s						
CER	Ceres	9.15	163	*e*P	Pn	01 32 31.9	+1.1
CER				*e*S	Sn	01 34 11.4	-2.5
CER				IAML		01 34 51.8	
	comp=Z,18nm,0.4s						
BRAK	Brakfontein	9.32	141	*e*P	Pn	01 32 35.4	+2.2
BRAK				*e*P		01 32 38.5	
BRAK				*e*S	Sn	01 34 13.1	-5.1
BRAK				*e*S		01 34 16.5	
BRAK				IAML		01 34 52.5	
	comp=Z,3.1nm,0.4s						
BRAK				IAML		01 35 15.3	
	comp=Z,6.9nm,0.4s						
GRAN	Grantham	9.34	146	*e*P		01 33 58.4	
GRAN				IAML		01 35 06.4	
	comp=Z,7.9nm,0.5s						
BFON	Badsfontein, M	9.80	139	*e*P	Pn	01 32 42.5	+2.7
BFON				*e*P		01 34 15.5	
BFON				*e*S	Sn	01 34 28.1	-2.0
BFON				IAML		01 34 44.0	
	comp=Z,1.8nm,0.5s						
BFON				*e*S		01 35 01.6	
BFON				IAML		01 35 29.6	
	comp=Z,8.8nm,0.5s						
GRAF	Camdeboo Natio	10.62	138	*e*P		01 34 18.6	
GRAF				*e*S	Sn	01 35 08.3	+18
GRAF				IAML		01 35 42.0	
	comp=Z,11nm,0.5s						

*IDC **31** 01:40:08.4±0.7, 21°.64S×169°.42E, h0km, mb4.3/15, mbtmp4.3/16, ML3.4/1, MS4.7/1, Error ellipse: s-maj=20.3km s-min=18.5km az=146.0*
*NOU **31** 01:40:08.6, 21°.72S×169°.44E, h0km, MLv4.7/11, Southeast of Loyalty Islands*

*NEIC **31** 01:40:10.1±1.7, 21°.75S±0°.1×169°.29E±0°.06, h10km±1km, mb5.0/72, Error ellipse: s-maj=17.7km s-min=9.3km az=172.0*

ISC 31 01:40:11.8±0.4, 21°.68S±0°.06×169°.29E±0°.05, h21km, n147, σ1s18/148, mb5.0/52, 11D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.19	279		Pn	01 40 32.5	-0.8
MARNC				Sn	Sn	01 40 48.8	+0.1
MARNC	Mare, Loyalty	1.19	279	P	Pb	01 40 33.3	-0.4
PINNC	Pines Island,	1.95	241		Pn	01 40 43.4	-0.2
PINNC	Pines Island,	1.95	241	P	Pn	01 40 43.3	-0.4
LIFNC	LIFOU	2.11	295		Pn	01 40 44.5	-1.4
LIFNC	LIFOU	2.11	295	P	Pn	01 40 46.1	+0.2
YATNC	Mamie plateau,	2.26	260	P	Pn	01 40 48.2	+0.2
OUENC	Ouen Island, N	2.39	252		Pn	01 40 49.2	-0.5
OUENC	Ouen Island, N	2.39	252	P	Pn	01 40 51.6	+1.9
DZM	Mont Dzumac	2.67	261		Pn	01 40 53.4	-0.4
DZM	Mont Dzumac	2.67	261	P	Pn	01 40 54.9	+1.1
DZM	Mont Dzumac	2.67	261	Pn	Pn	01 40 54.2	+0.5
	5.4nm,0.3s,baz=79,slow=16,SNR=52						
DZM				Sn	Sn	01 41 25.3	-0.3
	24nm,0.3s,baz=87,slow=23,SNR=6.1						
	49nm,0.3s						
ONTNC	Ouen Toro	2.71	256		Pn	01 40 53.4	-0.7
ONTNC	Ouen Toro	2.71	256	P	Pn	01 40 55.2	+1.1
NOUC	Port Laguerre	2.81	261	P	Pn	01 40 57.1	+1.6
RTV	Rentapao	3.95	348	P	Pn	01 41 12.2	+1.0
KOUNC	Koumac, New Ca	4.80	283	Pn	Pn	01 41 24.1	+1.2
KOUNC	Koumac, New Ca	4.80	283	P	Pn	01 41 24.6	+1.6
MSVF	Nonsavu	9.13	66		Pn	01 42 26.6	+4.1
MSVF	Nonsavu	9.13	66	Pn	Pn	01 42 25.7	+3.1
	0.9nm,0.3s,baz=225,slow=11,SNR=28						
RTZ	Ruatahuna	18.13	160		P	01 44 23.4	+0.8
BKZ	Black Stump Fm	18.49	162	P	Pn	01 44 27.2	+0.4
NIUE	Niue	19.65	86	P	P	01 44 37.2	-2.2
MRZ	Mangatainoka R	19.66	166		Pn	01 44 40.6	-0.2
MRNZ	Matariki Terra	19.88	172	P	P	01 44 42.1	+0.3
TUWZ	Tuamarina	20.08	170	P	P	01 44 43.4	-0.5
THZ	Tophouse	20.26	172	P	P	01 44 46.2	+0.3
CTA	Charters Tower	21.58	270	P	P	01 45 02.0	+1.7
	12nm,0.8s,baz=106,slow=11,SNR=14						
	12nm,0.8s						
CTAO	Charters Tower	21.58	270	P	P	01 44 60.0	-0.4
PMG	Port Moresby	24.52	296	P	P	01 45 29.8	-0.2
PMG				IAmb	IAmb	01 45 35.4	
	comp=Z,26nm,1.0s						
PMG	Port Moresby	24.52	296	P	P	01 45 30.0	-0.1
	comp=Z,22nm,0.9s,baz=95,slow=6.0,SNR=3.2						
	comp=Z,22nm,0.9s						
COEN	Coen	25.99	283	P	P	01 45 42.5	-1.0
STKA	Stephens Creek	26.66	242	P	P	01 45 50.0	+0.6
	comp=Z,1.1nm,0.7s,baz=38,slow=16,SNR=1.5						
STKA				LR	LR	01 55 06.0	
	comp=Z,1μm,18.4s,baz=342,slow=34						
	comp=Z,1.1nm,0.7s						
WB0	Warramunga Arr	32.66	267	P	P	01 46 41.6	-1.1
WB0				IAmb	IAmb	01 46 55.3	
	comp=Z,55nm,2.0s						
AS31	Alice Springs	32.66	260	P	P	01 46 42.6	-0.2
ASAR	Alice Springs	32.66	260	P	P	01 46 43.5	+0.7
	comp=Z,5.7nm,1.0s,baz=82,slow=9.2,SNR=29						
ASAR				PcP	PcP	01 49 27.6	-0.9
	comp=Z,0.7nm,0.9s,baz=94,slow=3.0,SNR=2.2						
	comp=Z,5.7nm,1.0s						
WB2	Warramunga Arr	32.67	267	P	P	01 46 42.6	-0.1
WRA	Warramunga Arr	32.68	267	P	P	01 46 42.3	-0.6
WRA	Warramunga Arr	32.68	267	P	P	01 46 42.4	-0.4
	comp=Z,4.2nm,1.1s,baz=99,slow=8.2,SNR=11						
WRA				PcP	PcP	01 49 28.2	-0.3
	comp=Z,1.1nm,1.0s,baz=98,slow=2.7,SNR=2.8						
	comp=Z,4.2nm,1.1s						
FORT	Forrest	37.91	247	P	P	01 47 28.5	+0.8
FORT				IAmb	IAmb	01 47 39.4	
	comp=Z,26nm,0.8s						
KNRA	Kununurra	38.77	272	P	P	01 47 34.5	-0.7
MBWA	Marble Bar	45.98	261	P	P	01 48 34.4	+0.6
MBWA				IAmb	IAmb	01 48 45.8	
	comp=Z,19nm,0.9s						
VNDA	Vanda	56.01	182	P	P	01 49 48.9	+0.5
VNDA	Vanda	56.01	182	P	P	01 49 49.1	+0.7
	comp=Z,0.9nm,0.8s,baz=349,slow=8.9,SNR=6.2						
	comp=Z,0.9nm,0.8s						
SBA	Scott Base	56.24	181	P	P	01 49 51.7	+1.7
SBA				IAmb	IAmb	01 50 17.5	
	comp=Z,8.8nm,1.0s						
CASY	Casey	57.93	204	P	P	01 50 01.9	-0.3
MJAR	Matsushiro Arr	64.92	333	P	P	01 50 50.3	+0.5
	comp=Z,6.6nm,0.9s,baz=158,slow=6.3,SNR=7.3						
	comp=Z,6.6nm,0.9s						
QSPA	South Pole Qui	68.39	180	P	P	01 51 11.9	+0.2
	comp=Z,4.0nm,1.0s,baz=26,slow=6.5,SNR=7.1						
	comp=Z,4.0nm,1.0s						
KSRS	Korea Array	70.54	326	P	P	01 51 26.6	+1.4
	comp=Z,0.6nm,0.4s,baz=134,slow=3.5,SNR=2.4						
	comp=Z,0.6nm,0.4s						
MAW	Mawson	76.21	202	P	P	01 51 59.3	+1.1
	comp=Z,1.8nm,0.7s,baz=108,slow=6.6,SNR=5.3						
	comp=Z,1.8nm,0.7s						
CMAR	Chiang Mai Arr	79.55	295	P	P	01 52 19.1	+1.4
	comp=Z,0.9nm,0.3s,baz=126,slow=4.8,SNR=6.3						
	comp=Z,0.9nm,0.3s						
BELA	Belgrano 2	79.68	175	P	P	01 52 16.7	-0.7
ELIB	Princess Elisa	83.76	190	*d*P	P	01 52 39.0	-0.2
	comp=Z,3.5nm,0.9s						
M14K	Bethel	85.38	14	P	P	01 52 46.2	-0.9
TROLL	Troll, Antarti	86.12	184	||P	P	01 52 50.9	-0.1
	comp=Z,251nm,0.7s						
VNA3	Neumayer Olymp	87.33	180	||P	P	01 52 56.3	-0.5
	comp=Z,4.9nm,0.7s						
VNA2	Neumayer--Watz	87.62	181	||P	P	01 52 58.0	-0.2
	comp=Z,3.8nm,0.6s,baz=175,slow=4.0						
VNA1	Neumayer--Stat	87.91	181	||P	P	01 52 59.5	-0.1
	comp=Z,4.7nm,0.9s						
J16K	Anvik River	87.93	13	P	P	01 52 59.8	+0.2
M19K	Big River Lodg	88.20	16	P	P	01 53 01.4	+0.5
CMB	Columbia Colle	88.74	48	P	P	01 53 02.6	-1.5
CMB				IAmb	IAmb

KVN	Kaiserville	90.80	48		P	01 53 13.7	-0.1
KVN				IAmb	IAmb	01 53 24.5	
comp=Z,9.1nm,1.0s							
WCT	Wildcat Mounta	90.82	51	P	P	01 53 13.7	-0.2
WCT				IAmb	IAmb	01 53 24.7	
comp=Z,10nm,1.0s							
TPH	Tonopah	90.97	49	P	P	01 53 14.0	-0.7
F04D	Rainier, OR	91.03	40		P	01 53 13.7	-0.8
BLYC	Blythe	91.03	54	P	P	01 53 13.9	-0.9
TPNV	Topopah Spring	91.16	51	P	P	01 53 15.0	-0.5
PINE	Pine Mountain	91.16	43		P	01 53 14.4	-1.0
NLWA	Neilton Lookou	91.20	39	P	P	01 53 15.7	+0.4
U33K	Whale Pass	91.43	28	P	P	01 53 16.3	+0.2
SHPR	Sheep Range	91.75	51		P	01 53 18.0	-0.3
S11A	Rachel	91.82	50	P	P	01 53 17.8	-0.8
WRAK	Wrangell Islan	91.96	28	P	P	01 53 18.5	0.0
WRAK				IAmb	IAmb	01 53 19.1	
comp=Z,6.7nm,0.7s							
WVOR	Wild Horse Val	92.00	45	P	P	01 53 17.7	-1.5
WVOR				IAmb	IAmb	01 53 30.7	
comp=Z,9.5nm,1.1s							
I07A	Izee	92.21	43		P	01 53 19.2	-1.0
I07A				IAmb	IAmb	01 53 31.0	
comp=Z,5.0nm,1.0s							
PRN	Pahroc Range	92.22	51	P	P	01 53 20.0	-0.4
R11B	Troy Canyon, C	92.24	50	P	P	01 53 19.5	-1.0
ILAR	Eielson Array	92.53	17	P	P	01 53 18.9	-2.2
comp=Z,0.8nm,0.8s,baz=238,slow=4.7,SNR=10							
comp=Z,0.8nm,0.8s							
J08A	Circle Bar Ran	92.53	44		P	01 53 20.2	-1.5
J08A				IAmb	IAmb	01 53 32.3	
comp=Z,8.3nm,1.0s							
G08A	Pilot Rock	93.12	42		P	01 53 22.9	-1.5
G08A				IAmb	IAmb	01 53 25.7	
comp=Z,6.5nm,1.1s							
LCMT	Little Creek M	93.36	52	P	P	01 53 23.4	-2.2
LCMT				IAmb	IAmb	01 53 36.5	
comp=Z,5.8nm,1.2s							
S34M	Telegraph Cree	93.39	27	P	P	01 53 24.3	-0.8
S34M				IAmb	IAmb	01 53 25.9	
comp=Z,9.0nm,1.1s							
M29M	Somme Creek	93.45	22		P	01 53 23.6	-1.8
M29M				IAmb	IAmb	01 53 35.4	
comp=Z,11nm,1.3s							
CCUT	Cedar City	93.49	51		P	01 53 26.1	-0.4
ELK	Elko	93.52	47		P	01 53 25.8	-0.7
X16A	Lo Mia Camp, P	93.64	54		P	01 53 26.8	-0.3
X16A				IAmb	IAmb	01 53 38.1	
comp=Z,6.3nm,1.0s							
U15A	North Rim	93.81	52		P	01 53 26.8	-1.2
U15A				IAmb	IAmb	01 53 39.2	
comp=Z,8.5nm,1.0s							
L29M	L29M	94.02	21		P	01 53 27.1	-0.9
L29M				IAmb	IAmb	01 53 38.7	
comp=Z,13nm,1.3s							
M30M	Minto, Yukon	94.12	22	P	P	01 53 26.8	-1.6
M30M				IAmb	IAmb	01 53 28.6	
comp=Z,9.6nm,1.0s							
WUAZ	Wupatki	94.13	53		P	01 53 26.7	-2.6
WUAZ				IAmb	IAmb	01 53 40.8	
comp=Z,5.6nm,0.9s							
EGAK	Eagle	94.20	19	P	P	01 53 28.1	-0.6
K29M	Barlow Dome	94.71	21		P	01 53 29.5	-1.7
K29M				IAmb	IAmb	01 53 40.6	
comp=Z,9.4nm,1.3s							
TMUT	Trail Mountain	95.75	50	P	P	01 53 36.3	-0.5
I30M	Mount Dempster	96.00	20	P	P	01 53 35.6	-1.5
I30M				IAmb	IAmb	01 53 36.8	
comp=Z,7.7nm,0.9s							
PDAR	Pinedale Array	98.23	47	P	Pdif	01 53 47.6	-0.3
comp=Z,0.6nm,1.0s,baz=219,slow=6.9,SNR=3.2							
comp=Z,0.6nm,1.0s							
BDFB	Brasilia	127.91	132	PKP	PKPdf	01 59 16.6	-0.4
comp=Z,0.8nm,0.5s,baz=216,slow=5.7,SNR=3.7							
OSTC	Ostas	144.27	330	*e*PKP	PKiKP	01 59 47.3	-2.4
KRLC	Kraliky	144.34	329	*e*PKP	PKPdf	01 59 46.3	0.0
DPC	Dobruska-Polom	144.37	330	*e*PKP	PKPbc	01 59 44.7	0.0
VRAC	Vranov	144.94	328	*e*PKP	PKPdf	01 59 47.0	-0.3
PVCC	Panska Ves	145.03	332	*e*PKP	PKPdf	01 59 47.4	0.0
CLL	Collm	145.13	334	*i* PKPbc	PKPdf	01 59 47.2	-0.3
comp=Z,8.0nm,0.8s							
CLL				*ex*	x	01 59 56.0	
KRUC	Moravsky	145.21	328	*e*PKP	PKPdf	01 59 47.2	-0.6
PRA	Prague	145.43	331	*e*PKP	PKiKP	01 59 57.8	+5.7
PRU	Pruhonice	145.44	331	*e*PKP	PKPab	01 59 48.3	0.0
HSKC	Hora Svate Kat	145.47	333	*e*PKP	PKiKP	01 59 54.3	+2.1
EKA	Eskdalemuir Ar	145.92	352	PKPbc	PKPdf	01 59 48.0	-0.8
comp=Z,5.4nm,0.7s,baz=358,slow=2.4,SNR=16							
ZVC	Zvikov	145.99	331	*e*PKP	PKPab	01 59 49.6	-0.8
RONA	Rosalia, Austr	146.16	327	*e*PKP	PKPab	01 59 50.9	-0.2
comp=Z,9.4nm,0.9s							
CONA	Conrad Observa	146.23	327	*i* PKP	PKPab	01 59 51.1	-0.4
comp=Z,13nm,1.3s							
CKRC	Cesky Krumlov	146.37	330	*e*PKP	PKPbc	01 59 50.1	-1.0
KHC	Kasperske Hory	146.49	331	*e*PKP	PKPbc	01 59 51.1	-0.3
GERES	GERESS Array B	146.64	330	PKPbc	PKPab	01 59 51.9	-1.2
comp=Z,3.6nm,0.9s,baz=40,slow=2.3,SNR=11							
ARSA	Arzberg	146.85	327	*e*PKP	PKPbc	01 59 51.6	-0.9
comp=Z,3.7nm,0.8s							
MOA	Molln	147.07	328	*e*PKP	PKPbc	01 59 52.4	-0.7
comp=Z,8.3nm,1.2s							
LESA	Schwarzleotal	148.13	329	*e*PKP	PKPbc	01 59 54.9	-1.2
comp=Z,6.1nm,1.1s							
BTNL	Ternell	148.26	339	*d*PKP	PKPbc	01 59 56.1	-0.1
MEM	Membach	148.28	340	*d*PKP	PKPbc	01 59 54.9	-1.3
BCLA	Clavier	148.67	340	*d*PKPdf	PKPdf	01 59 50.3	-3.2
ABTA	Abfaltersbach	148.69	329	*i* PKP	PKPbc	01 59 57.4	-0.2
comp=Z,4.9nm,0.9s							
WTTA	Wattenberg	148.74	330	*e*PKiKP	PKiKP	01 59 58.1	-1.2
comp=Z,7.8nm,1.2s							
MOTA	Moosalm	148.92	331	*i* PKP	PKPbc	01 59 57.5	-0.8
comp=Z,8.8nm,0.9s							
BMRD	Maredsous	148.94	341	*d*PKP	PKPbc	01 59 57.6	-0.3
SQTA	Sankt Quirin	148.97	330	*ep*PKP	PKPbc	01 59 56.1	-2.2
comp=Z,7.2nm,0.8s							
WLF	Walferdange	149.04	339	*d*PKP	PKPbc	01 59 58.1	-0.1
DOU	Dourbes	149.17	341	*d*PKP	PKPbc	01 59 58.1	-0.4
FETA	Feichten	149.34	331	*i* PKP	PKPbc	01 59 58.0	-1.3
comp=Z,10nm,1.0s							
DAVA	Damuels	149.51	332	*i* PKiKP	PKiKP	02 00 00.2	-0.7
comp=Z,10.0nm,1.2s							
TORD	Torodi Ar. Bea	165.45	236	PKP	PKPdf	02 00 14.0	-1.7
comp=Z,1.0nm,0.9s,baz=139,slow=0.7,SNR=5.5							

*NOU **31** 01:51:16.9, 39°.52S×177°.52E, h0km, MLv3.5/6, Off E. Coast of N. Island, N.Z.*
*WEL **31** 01:51:19.9±0.4, 39°.S±3°.×17°.7E±°., h24km±4km, M3.4/66, ML3.9/19, MLv3.4/66, Error ellipse: s-maj=0.0km s-min=0.0km az=120.4*

ISC 31 01:51:17.5±1.4, 39°.43S±0°.02×177°.35E±0°.03, h10km±13km, n107, σ1s14/112, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHZ	Cape Kidnapper	0.32	222	P	Pn	01 51 28.9	+0.8
CKHZ				S	Sb	01 51 36.5	+6.1
ARHZ	Aropaoanui	0.32	300	P	Pn	01 51 26.9	-1.3
ARHZ				S	Sb	01 51 32.7	+2.2
WHHZ	Waihua	0.36	345	P	Pn	01 51 27.5	-1.2
WHHZ				S	Sb	01 51 33.2	+1.6
KNZ	Kokohu	0.47	32	P	Pn	01 51 30.0	-0.3
MCHZ	McNeill Hill	0.51	268	P	Pn	01 51 30.8	0.0
MCHZ				S	Sn	01 51 39.3	-0.3
MHGZ	Mahia Peninsul	0.51	58	P	Pn	01 51 31.5	+0.7
KAHZ	Kahuranaki	0.52	225	P	Pn	01 51 32.0	+1.0
NMHZ	Naumai	0.54	308	P	Pn	01 51 30.4	-0.8
NMHZ				S	Sn	01 51 39.0	-1.4
RAHZ	Arahi	0.55	338	P	Pn	01 51 30.5	-0.9
SNGZ	Shannon Statio	0.64	359	P	Pn	01 51 32.3	-0.4
PRGZ	Paritu Road	0.65	40	P	Pn	01 51 33.1	+0.3
MTHZ	Maungataniwha	0.70	325	P	Pn	01 51 32.6	-0.9
PXZ	Pawanui	0.71	212	P	Pn	01 51 34.1	+0.5
BKZ	Black Stump Fm	0.72	291	P	Pn	01 51 33.4	-0.3
BKZ	Black Stump Fm	0.72	291	P	Pn	01 51 33.3	-0.4
KWHZ	Kaweka Forest	0.72	270	P	Pn	01 51 33.8	0.0
RIGZ	Rimuhau	0.79	24	P	Pn	01 51 35.0	+0.4
KRHZ	Kereru	0.79	254	P	Pn	01 51 34.9	+0.1
RTZ	Ruatahuna	0.86	340	P	Pn	01 51 35.3	-0.4
RAGZ	Rawiri	0.93	3	P	Pn	01 51 36.6	-0.1
MRHZ	Matea Rd	0.94	309	P	Pn	01 51 36.6	-0.1
WPHZ	Waipukurau	0.95	228	P	Pn	01 51 37.5	+0.6
BHHZ	Black Hill Sta	1.00	266	P	Pn	01 51 37.9	+0.2
PRHZ	Porangahau	1.00	213	P	Pn	01 51 37.9	+0.3
PNHZ	Pukenui	1.01	241	P	Pn	01 51 37.9	+0.1
MUGZ	Murupara	1.05	334	P	Pn	01 51 38.3	+0.1
TKGZ	Te Karaka	1.06	22	P	Pn	01 51 38.3	0.0
MWZ	Matawai	1.10	7	P	Pn	01 51 38.4	-0.5
HATZ	Hinemaiaia	1.12	298	P	Pg	01 51 39.8	+0.9
CNGZ	Carnagh Statio	1.15	36	P	Pg	01 51 40.2	+0.6
ALRZ	Allen Road	1.17	317	P	Pg	01 51 40.6	+0.7
URZ	Urewera	1.18	351	P	Pg	01 51 39.8	-0.3
URZ	Urewera	1.18	351	P	Pg	01 51 39.8	-0.3
ANWZ	Angora Road	1.23	213	P	Pg	01 51 41.4	+0.2
MOVZ	Moawhango	1.24	270	P	Pg	01 51 41.7	+0.4
RITZ	Rihia Road	1.25	291	P	Pg	01 51 42.0	+0.7
TSZ	Takapari Road	1.25	239	P	Pg	01 51 40.9	-0.5
DVHZ	Dannevirke	1.26	226	P	Pg	01 51 41.3	-0.4
RRRZ	Republican Roa	1.27	329	P	Pg	01 51 43.0	+1.3
WPRZ	Whakapatarin	1.30	314	P	Pg	01 51 42.1	-0.2
ETVZ	East Tongariro	1.31	282	P	Pg	01 51 42.4	-0.1
TMVZ	Te Maari	1.32	283	P	Pg	01 51 42.5	-0.2
WHTZ	Whakaora	1.32	304	P	Pg	01 51 43.6	+0.7
TUVZ	Tukino	1.33	276	P	Pg	01 51 43.1	+0.2
HRRZ	Handcock Road	1.33	321	P	Pg	01 51 44.0	+1.0
OTVZ	Oturere	1.34	281	P	Pg	01 51 42.8	-0.3
TWGZ	Tauwhareparae	1.34	22	P	Pg	01 51 42.3	-0.8
NTVZ	North Tongarir	1.34	284	P	Pg	01 51 43.0	-0.2
RATZ	Rangitukua	1.35	294	P	Pb	01 51 42.7	-0.1
SNVZ	South Ngauruho	1.35	280	P	Pg	01 51 43.1	-0.3
TARZ	Mount Tarawera	1.36	331	P	Pb	01 51 42.8	-0.3
WNVZ	Wahianoa	1.36	274	P	Pg	01 51 44.0	+0.3
KATZ	Kakaramea	1.36	289	P	Pg	01 51 43.7	+0.1
KRVZ	Karewarewa	1.37	283	P	Pg	01 51 43.9	+0.1
WHVZ	Whangaehu Hut	1.38	275	P	Pg	01 51 44.4	+0.5
NNVZ	North Ngauruho	1.38	282	P	Pg	01 51 44.0	+0.1
NGZ	Ngauruhoe	1.38	280	P	Pg	01 51 43.5	-0.5
EDRZ	Edgecumbe	1.40	340	P	Pg	01 51 46.7	+2.3
WTVZ	West Tongariro	1.40	282	P	Pg	01 51 44.8	+0.4
TRVZ	Turoa	1.41	275	P	Pg	01 51 44.5	+0.1
FWVZ	Far West T-bar	1.41	276	P	Pg	01 51 44.5	+0.1
HLRZ	Highlands Stat	1.41	326	P	Pg	01 51 45.3	+0.8
HSRZ	Hossack Road	1.41	322	P	Pb	01 51 43.5	-0.4
COVZ	Chateau Observ	1.42	279	P	Pg	01 51 44.9	+0.1
GRRZ	Galatos Road	1.45	318	P	Pg	01 51 47.1	+1.9
WATZ	Wairara	1.45	299	P	Pb	01 51 44.3	-0.3
MTVZ	Mangateitei	1.46	271	P	Pg	01 51 45.9	+0.5
MKRZ	Makatiti	1.46	331	P	Pg	01 51 47.7	+2.2
RUGZ	Raukumara Rang	1.48	10	P	Pb	01 51 43.9	-1.3
BFZ	Birch Farm	1.52	214	P	Pb	01 51 44.4	-1.3
BFZ	Birch Farm	1.52	214	P	Pb	01 51 44.3	-1.3
KUTZ	Kaahu Road	1.52	308	P	Pb	01 51 45.2	-0.5
OMRZ	Omania	1.52	329	P	Pg	01 51 48.1	+1.4
PUZ	Puketiti	1.53	28	P	Pb	01 51 44.8	-1.0
TWVZ	Taurewa	1.53	283	P	Pg	01 51 46.8	0.0
PRWZ	Pori Road	1.55	223	P	Pb	01 51 45.3	-1.0
POWZ	Post Office Ro	1.56	231	P	Pb	01 51 45.5	-0.8
PKVZ	Pokaka	1.56	274	P	Pg	01 51 47.6	+0.2
PKGZ	Pakihiroa	1.64	20	P	Pb	01 51 46.1	-1.6
HAZ	Te Kaha	1.70	12	P	Pb	01 51 47.1	-1.7
TIWZ	Tintock	1.76	219	P	Pn	01 51 47.8	-0.2
WMGZ	Waiomatatini S	1.81	28	P	Pn	01 51 48.1	-0.6
MRZ	Mangatainoka R	1.84	227	P	Pn	01 51 48.6	-0.5
WAZ	Wanganui	1.86	259	P	Pb	01 51 51.2	-0.4
MXZ	Matakaoa Point	2.00	22	P	Pb	01 51 53.1	-0.9
MXZ	Matakaoa Point	2.00	22	P	Pb	01 51 52.5	-1.5
TMWZ	Te Maipa	2.02	213	P	Pn	01 51 50.8	-0.8
HOWZ	Holdsworth Sta	2.04	223	P	Pn	01 51 51.0	-0.9
VRZ	Vera Road	2.04	278	P	Pg	01 51 55.8	-0.7
OGWZ	Otaki Gorge	2.17	230	P	Pn	01 51 53.0	-0.7
TRWZ	Traveller	2.34	212	P	Pn	01 51 54.3	-1.8
PAWZ	Paruwai Farm	2.44	216	P	Pn	01 51 56.0	-1.5
NEZ	North Egmont	2.53	272	P	Pb	01 52 00.9	-2.1
KHEZ	Kahui Hut	2.59	272	P	Pb	01 52 02.9	-1.2
KHEZ	Kahui Hut	2.59	272	P	Pb	01 52 03.1	-0.9
PKE	Pukeiti	2.62	274	P	Pn	01 52 01.4	+1.5
PLWZ	Palliser	2.67	216	P	Pn	01 51 58.7	-1.9
NBEZ	Newall Road No	2.71	272	P	Pg	01 52 07.6	-1.7
SNZO	South Karori	2.76	226	P	Pn	01 52 02.0	+0.2
NNZ	Nelson	3.52	238	P	Pn	01 52 11.2	-1.0
TKNZ	Takaka Hill	3.73	243	P	Pn	01 52 14.0	-1.0
QRZ	Quartz Range	3.95	248	P	Pn	01 52 16.4	-1.7
THZ	Tophouse	4.11	234	P	Pn	01 52 18.7	-1.7
GVZ	Greta Valley S	4.81	221	P	Pn	01 52 28.7	-1.2
DSZ	Denniston Nort	4.82	239	P	Pn	01 52 28.3	-1.8
CTZ	Chatham Island	6.24	136	P	Pn	01 52 50.3	+0.8
TMZ	Timaru	6.85	222	P	Pn	01 52 56.1	-1.9

*NNC **31** 01:53:19.0±0.9, 44°.42N×80°.33E, h0km±6km, mb2.7, mpv2.8, Error ellipse: s-maj=8.8km s-min=4.2km az=120.0*
*SOME **31** 01:53:19.2, 44°.37N×80°.32E, h15km*

ISC 31 01:53:17.7±1.3, 44°.46N±0°.04×80°.41E±0°.05, h7km±11km, n20, σ1s01/35, 5C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.46	255	P	Pg	01 53 26.8	+0.1
2.7nm,0.1s							
DJR				S	Sg	01 53 32.6	-0.1
22nm,0.1s							
DJR	Jarkent	0.46	255	*e*P	Pg	01 53 26.8	+0.1
3.5nm,0.1s							
DJR				*e*S	Sg	01 53 32.6	-0.1
22nm,0.1s							
KNOS	Konyrlen	0.89	264	P	Pg	01 53 34.5	-0.3
11nm,0.1s							
KNOS				S	Sg	01 53 45.5	-0.8
20nm,0.3s							
KTMS	Ketmen	1.01	183	*e*P	Pn	01 53 40.0	+1.6
KTMS				*e*S	Sn	01 53 54.6	+1.7
27nm,0.1s							
PDGK	Podgornoye	1.31	211	⇑P	Pg	01 53 42.5	-0.3
3.9nm,0.5s							
PDGK				⇑S	Sn	01 53 59.9	-0.4
5.8nm,0.2s							
BLB	Baldybastay	1.44	256	S	Sg	01 54 05.6	+1.8
25nm,0.1s							
SHLS	Shalkode	1.47	208	*e*P	Pn	01 53 43.6	-1.1
5.6nm,0.1s							
SHLS				*e*S	Sn	01 54 01.2	-3.1
29nm,0.2s							
KPKS	Kokpek	1.59	232	P	Pb	01 53 47.1	-0.4
8.2nm,0.1s							
KPKS				S	Sb	01 54 07.9	0.0
48nm,0.2s							
KPKS	Kokpek	1.59	232	*e*P	Pb	01 53 47.1	-0.4
8.2nm,0.1s							
KPKS				*e*S	Sb	01 54 07.9	0.0
48nm,0.2s							
UZB	Uzynbulak	1.65	218	*e*P	Pb	01 53 48.1	-0.4
6.2nm,0.1s							
UZB				*e*S	Sn	01 54 08.8	0.0
19nm,0.2s							
ARXS	Arharly	1.87	263	P	Pb	01 53 51.6	-0.6
3.8nm,0.2s							
ARXS	Arharly	1.87	263	*e*P	Pb	01 53 51.6	-0.6
3.7nm,0.2s							
ARXS				*e*S	Sn	01 54 15.1	+1.0
47nm,0.2s							
KURS	Kuram	1.89	240	*e*P	Pb	01 53 51.9	-0.5
1.9nm,0.3s							
KURS				*e*S	Sn	01 54 15.3	+0.9
8.7nm,0.2s							
SATY	Saty	2.02	227	*e*P	Pb	01 53 54.4	-0.4
4.9nm,0.1s							
SATY				*e*S	Sb	01 54 19.7	-0.4
43nm,0.1s							
MAKZ	Makanchi	2.60	24	⇑Pn	Pb	01 54 03.3	-1.3
6.3nm,1.4s							
MAKZ				⇑Sn	Sb	01 54 37.8	+1.2
1.6nm,0.3s							
KOTS	Kotyrbulak	2.68	244	*e*Pg	Pb	01 54 06.3	+0.2
1.3nm,0.1s							
KOTS				*e*Lg	Lg	01 54 40.1	
6.6nm,0.4s							
MK31	Makanchi Array	2.68	29	⇑Pn	Pb	01 54 04.8	-1.2
0.4nm,0.4s,baz=209,slow=14,SNR=6.6							
MK31				⇓Pg	Pg	01 54 10.2	+1.1
0.1nm,0.2s,baz=211,slow=17,SNR=6.8							
MK31				⇓Sn	Sb	01 54 37.8	-1.4
1.0nm,0.2s,baz=209,slow=25,SNR=11							
KTBS	Karatobe	2.79	256	*e*Pg	Pb	01 54 07.7	-0.1
0.9nm,0.1s							
KTBS				*e*Lg	Lg	01 54 42.5	
9.3nm,0.3s							
KRBS	Karabastau	3.50	259	*e*Pg	Pb	01 54 20.1	+0.2
0.3nm,0.1s							
KRBS				*e*Lg	Lg	01 55 03.9	
1.0nm,0.2s							
DGS	Degeres	3.57	252	*e*Pg	Pb	01 54 21.4	+0.3
1.4nm,0.2s							
DGS				*e*Lg	Lg	01 55 06.2	
3.3nm,0.2s							

*IDC **31** 02:12:14.8±0.8, 26°.11S×11°.58W, h0km, mb4.2/12, mbtmp4.2/12, Error ellipse: s-maj=24.6km s-min=19.5km az=102.0*
*NEIC **31** 02:12:17.7±1.1, 26°.1S±0°.1×11°.44W±0°.07, h10km±1km, mb4.5/18, Error ellipse: s-maj=22.9km s-min=6.5km az=155.0*

ISC 31 02:12:16.8±0.5, 26°.1S±0°.1×11°.50W±0°.10, h10km, n30, σ0s77/30, mb4.4/19, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	32.67	103	P	P	02 18 48.5	-0.8
BOSA				IAmb	IAmb	02 19 19.3	
comp=Z,10nm,1.3s							
BOSA	Boshof	32.67	103	P	P	02 18 48.6	-0.8
comp=Z,2.9nm,0.7s,baz=259,slow=7.5,SNR=7.8							
comp=Z,2.9nm,0.7s							
DBIC	Dimbokro	33.19	12	P	P	02 18 54.1	+0.3
DBIC				IAmb	IAmb	02 18 54.8	
comp=Z,6.9nm,0.8s							
DBIC	Dimbokro	33.19	12	P	P	02 18 54.0	+0.3
comp=Z,7.8nm,0.9s,baz=158,slow=9.5,SNR=9.8							
comp=Z,7.8nm,0.9s							
LBTB	Lobatse	33.42	96	P	P	02 18 55.4	-0.6
LBTB				IAmb	IAmb	02 19 09.1	
comp=Z,7.5nm,1.2s							
BDFB	Brasilia	35.55	280	P	P	02 19 12.6	-2.0
comp=Z,2.8nm,0.9s,baz=110,slow=12,SNR=4.2							
comp=Z,2.8nm,0.9s							
CPUP	Villa Florida	40.95	259	P	P	02 20 00.4	+0.7
CPUP				IAmb	IAmb	02 20 11.0	
comp=Z,14nm,1.4s							
CPUP	Villa Florida	40.95	259	P	P	02 19 59.0	-0.8
comp=Z,4.7nm,1.2s,baz=134,slow=12,SNR=2.9							
comp=Z,4.7nm,1.2s							
TOA0	Torodi Ar. Sit	41.05	20	P	P	02 20 00.5	-0.1
TOA0				IAmb	IAmb	02 20 02.6	
comp=Z,11nm,1.2s							
TORD	Torodi Ar. Bea	41.05	20	P	P	02 20 00.9	+0.3
TORD	Torodi Ar. Bea	41.05	20	P	P	02 20 00.2	-0.4
comp=Z,2.6nm,0.8s,baz=194,slow=5.9,SNR=15							
comp=Z,2.6nm,0.8s							
PTLB	Pontes e Lacer	45.56	274	P	P	02 20 37.6	+0.4
VILB	Vilhena	47.46	276	P	P	02 20 52.9	+0.8
MBAR	Mbarara	47.91	65	P	P	02 20 54.8	-0.9
MBAR				IAmb	IAmb	02 21 00.2	
comp=Z,4.2nm,1.1s							
SAML	Samuel	51.79	279	P	P	02 21 25.5	+0.4
SAML				IAmb	IAmb	02 21 26.9	
comp=Z,6.0nm,1.1s							
LVC	Limon Verde	52.06	261	P	P	02 21 27.3	-0.2
LVC				IAmb	IAmb	02 22 05.9	
comp=Z,12nm,1.3s							
BELA	Belgrano 2	52.97	186	P	P	02 21 33.4	+0.4
BOAV	Boa Vista	55.17	293	P	P	02 21 50.1	+0.1
BOAV				IAmb	IAmb	02 21 53.1	
comp=Z,5.5nm,1.3s							
MAW	Mawson	60.22	155	P	P	02 22 24.8	+0.1
comp=Z,1.0nm,0.8s,baz=328,slow=13,SNR=2.0							
comp=Z,1.0nm,0.8s							
PVAQ	Vaqueiros	63.25	3	P	P	02 22 46.7	+1.3
PVAQ				IAmb	IAmb	02 23 28.0	
comp=Z,7.9nm,1.3s							
QSPA	South Pole Qui	64.14	180	P	P	02 22 53.1	+1.9
QSPA	South Pole Qui	64.14	180	P	P	02 22 50.8	-0.4
comp=Z,1.2nm,0.5s,baz=238,slow=4.0,SNR=6.5							
comp=Z,1.2nm,0.5s							
PESTR	Estremoz	64.71	3	P	P	02 22 55.6	+0.6
ESDC	Sonseca Array	65.79	6	P	P	02 23 02.1	+0.1
ESDC	Sonseca Array	65.79	6	P	P	02 23 02.1	+0.1
comp=Z,1.1nm,0.8s,baz=188,slow=5.5,SNR=9.1							
comp=Z,1.1nm,0.8s							
IDI	Anoyia	70.08	31	P	P	02 23 29.9	+0.8
BRTR	Keskin Array B	77.83	34	P	P	02 24 15.2	+0.7
comp=Z,4.3nm,1.2s,baz=224,slow=3.4,SNR=5.5							
comp=Z,4.3nm,1.2s							
AKASG	Malin Array Be	84.50	25	P	P	02 24 49.5	0.0
comp=Z,1.6nm,0.7s,baz=217,slow=5.7,SNR=6.6							
comp=Z,1.6nm,0.7s							
HFS	Hagfors	88.35	12	P	P	02 25 08.2	-0.1
comp=Z

comp=Z,1.0nm,0.7s,baz=229,slow=8.2,SNR=8.7
comp=Z,1.0nm,0.7s
KVN Kaiserville 90.82 48 P P 02 33 29.3 -1.3
KVN IAmb IAmb 02 33 31.0
comp=Z,2.2nm,0.9s
WCT Wildcat Mounta 90.85 51 P P 02 33 30.0 -0.7
TPH Tonopah 90.99 49 P P 02 33 30.4 -1.1

---

*IDC **31** 02:20:42.4±0.5,21˚.47S×169˚.22E, h0km, mb5.1/18, mbtmp5.1/21,ML4.1/1,MS5.5/31, Error ellipse: s-maj=16.3km s-min=14.2km az=84.0*
*MOS **31** 02:20:43.6±1.2,21˚.44S×168˚.99E, h10km, mb5.6/37, MS5.6/15, Error ellipse: s-maj=9.3km s-min=8.0km az=133.9*
*NEIC **31** 02:20:46.5,21˚.45S×168˚.97E, h16km*
*NEIC **31** 02:20:46.0±1.8,21˚.43S±0˚.06×168˚.92E±0˚.05, h10km±1km, mb5.6/308, Ms_20 5.8/185, Mww5.9/15, Error ellipse: s-maj=11.1km s-min=6.8km az=145.0*
*NEIC **31** 02:20:46.5,21˚.35S×169˚.07E, h16km, Moment Tensor Solution. Duration: 4s5 Moment tensor: Scale 10^17^Nm; Mrr6.34; Mθθ-2.49; Mφφ-3.86; Mrθ2.04; Mθφ1.84; Mφr-4.57; Fault plane solution: M0 7.61000×10^17^ NP1: φs151.81000°, δ65.54000°, λ94.20000°. NP2: φs321.75000°, δ24.79000°, λ80.85000°. Principal axes: T 8.2422, Plg69.0000°, Azm70.0000°; N -1.2665, Plg4.0000°, Azm330.0000°; P -6.9757, Plg20.0000°, Azm239.0000°;*
*BGR **31** 02:20:47.0,21˚.78S×170˚.54E, h33km, Ms6.6*
*GCMT **31** 02:20:51.0±0.2,21˚.46S±0˚.02×169˚.10E±0˚.01, h18km, MW5.9/145, Moment Tensor Solution. s61,c72; s145,c281; Duration: 2s1 Moment tensor: Scale 10^18^ Nm; Mrr0.65±.03; Mθθ-0.19±.02; Mφφ-0.45±.02; Mrθ0.32±.04; Mθφ0.27±.01; Mφr-0.47±.04; Best double couple: M0 0.85300×10^18^ NP1:φs146.00000°, δ66.00000°, λ89.00000°. NP2:φs329.00000°, δ24.00000°, λ93.00000°. Principal axes: T 0.8630, Plg69.0000°, Azm54.0000°; N -0.0220, Plg1.0000°, Azm147.0000°; P -0.8420, Plg21.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 31 02:20:45.4±0.5,21˚.47S±0˚.04×169˚.10E±0˚.04, h14km±2km, h14km:pP-P,n1026,σ1˚.44/854, mb5.5/225, MS5.8/142, 37C-26D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.99**	**269**		**Pb**	**02 21 02.0**	**-2.4**
MARNC				Sn	**Sb**	**02 21 15.0**	**-2.3**
LIFNC	**LIFOU**	**1.86**	**291**	Pn	**Pn**	**02 21 15.1**	**-1.8**
PINNC	**Pines Island,**	**1.91**	**233**	Pn	**Pn**	**02 21 17.9**	**+0.4**
OUENC	**Ouen Island, N**	**2.30**	**245**	Pn	**Pn**	**02 21 22.4**	**-0.5**
DZM	**Mont Dzumac**	**2.54**	**256**	Pn	**Pn**	**02 21 25.1**	**-1.1**
DZM	**Mont Dzumac**	**2.54**	**256**	Pn	**Pn**	**02 21 24.4**	**-1.8**
	31nm,0.3s,baz=58,slow=17,SNR=23						
DZM				Sn	**Sn**	**02 21 55.5**	**-1.5**
	119nm,0.3s,baz=87,slow=22,SNR=3.9						
	221nm,0.8s						
ONTNC	**Ouen Toro**	**2.59**	**251**	Pn	**Pn**	**02 21 26.7**	**-0.2**
KOUNC	**Koumac, New Ca**	**4.59**	**281**	Pn	**Pn**	**02 21 53.7**	**-0.6**
NFK	**Norfolk Island**	**7.62**	**188**	P	**Pn**	**02 22 38.6**	**+2.6**
	baz=7.7,SNR=5.4						
MSVF	**Nonsavu**	**9.22**	**68**	Pn	**Pn**	**02 23 02.2**	**+4.1**
MSVF	**Nonsavu**	**9.22**	**68**	P	**Pn**	**02 23 02.2**	**+4.1**
MSVF	**Nonsavu**	**9.22**	**68**	Pn	**Pn**	**02 23 00.7**	**+2.6**
	1.3nm,0.3s,baz=220,slow=13,SNR=40						
MSVF				LR	LR	02 25 41.8	
	comp=Z,84μm,18.5s,baz=173,slow=33						
HNR	**Honiara**	**14.86**	**322**		**Pn**	**02 24 14.1**	**-1.1**
HNR	**Honiara**	**14.86**	**322**	P	**Pn**	**02 24 15.0**	**-0.2**
HNR	**Honiara**	**14.86**	**322**	Pn	**Pn**	**02 24 15.0**	**-0.2**
	666nm,0.4s,baz=236,slow=9.1,SNR=1.2						
HNR				LR	LR	02 28 58.9	
	comp=Z,77μm,19.5s,baz=139,slow=33						
FUNA	**Funafuti**	**16.14**	**39**	Pn	**Pn**	**02 24 31.2**	**-0.7**
TOZ	**Tahuroa Road**	**17.13**	**163**	Pn	**P**	**02 24 46.0**	**0.0**
HIZ	**Hauiti**	**17.70**	**165**		**P**	**02 24 53.6**	**+1.3**
ARMA	**Armidale**	**18.04**	**237**	P	**P**	**02 24 57.7**	**+1.4**
	baz=18,SNR=11						
ARMA	**Armidale**	**18.04**	**237**	P	**Pn**	**02 24 52.6**	**-3.3**
URZ	**Urewera**	**18.11**	**159**	P	**Pn**	**02 24 55.6**	**-0.8**
	49nm,1.1s,baz=60,slow=7.1,SNR=10						
RTZ	**Ruatahuna**	**18.39**	**160**	P	**Pn**	**02 25 01.5**	**+1.5**
BKZ	**Black Stump Fm**	**18.75**	**162**	P	**Pn**	**02 25 05.6**	**+1.3**
BKZ				IAmb	IAmb	02 25 13.1	
	comp=Z,431nm,1.4s						
RMQ	**Roma**	**19.24**	**251**	P	**Pn**	**02 25 10.9**	**+0.5**
	baz=19,SNR=22						
QRZ	**Quartz Range**	**19.52**	**172**	P	**Pn**	**02 25 13.6**	**+0.1**
AFI	**Afiamalu**	**19.70**	**71**	P	**P**	**02 25 13.2**	**-1.3**
AFI	**Afiamalu**	**19.70**	**71**	P	**P**	**02 25 13.2**	**-1.3**
AFI				pmax	pmax		
	comp=Z,138nm,1.0s						
MGCD	**Mangrove Creek**	**19.77**	**230**	P	**Pn**	**02 25 17.0**	**+0.4**
	baz=20,SNR=5.4						
TKNZ	**Takaka Hill**	**19.78**	**171**	P	**P**	**02 25 15.4**	**+0.2**
MRZ	**Mangatainoka R**	**19.91**	**165**	P	**P**	**02 25 17.2**	**+0.6**
NNZ	**Nelson**	**20.02**	**171**	P	Pn	02 25 19.4	-0.1
NNZ				IAmb	IAmb	02 25 34.3	
	comp=Z,531nm,1.6s						
RIV	**Riverview**	**20.07**	**228**	P	Pn	02 25 19.6	-0.5
	baz=20,SNR=4.3						
BFZ	**Birch Farm**	**20.09**	**164**	P	**P**	**02 25 17.6**	**-1.0**
MRNZ	**Matariki Terra**	**20.11**	**172**	P	Pn	02 25 20.0	-0.6
TCW	**Tory Channel**	**20.16**	**169**	P	**P**	**02 25 20.1**	**+0.8**
TUWZ	**Tuamarina**	**20.32**	**169**	P	Pn	02 25 22.4	-0.6
SNZO	**South Karori**	**20.34**	**168**	P	Pn	02 25 23.2	0.0
SNZO				IAmb	IAmb	02 25 36.8	
	comp=Z,181nm,1.0s						
DSZ	**Denniston Nort**	**20.34**	**174**	P	Pn	02 25 24.8	+1.4
BHW	**Baring Head**	**20.47**	**168**	P	Pn	02 25 24.3	-0.5
BHW				IAmb	IAmb	02 25 39.7	
	comp=Z,360nm,1.7s						
THZ	**Tophouse**	**20.49**	**172**	P	Pn	02 25 24.2	-0.9
BSWZ	**Blackbirch Sta**	**20.59**	**170**	P	**P**	**02 25 25.0**	**+1.1**
PLWZ	**Palliser**	**20.70**	**167**		Pn	02 25 26.8	-0.8
KHZ	**Kahutara**	**21.22**	**171**	P	**P**	**02 25 32.1**	**+1.4**
KHZ				IAmb	IAmb	02 25 37.4	
	comp=Z,210nm,1.3s						
INZ	**Inchbonnie**	**21.29**	**175**	P	**P**	**02 25 32.6**	**+1.2**
CTA	**Charters Tower**	**21.40**	**270**	P	**P**	**02 25 34.0**	**+1.1**
	comp=Z,40nm,0.8s,baz=101,slow=11,SNR=27						
CTA				LR	LR	02 33 14.2	
	comp=Z,15μm,19.2s,baz=93,slow=35						
	comp=Z,40nm,0.8s						
CTAO	**Charters Tower**	**21.40**	**270**	P	**P**	**02 25 33.4**	**+0.5**
CTAO				IAmb	IAmb	02 25 49.2	
	comp=Z,431nm,1.8s						
CTAO	**Charters Tower**	**21.40**	**270**	P	**P**	**02 25 33.4**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,431nm,1.8s						
CTAO				MLR	MLR		
	comp=Z,16μm,20.0s						
LTZ	**Lake Taylor**	**21.42**	**174**	P	**P**	**02 25 34.7**	**+1.7**
LTZ				IAmb	IAmb	02 25 49.9	
	comp=Z,237nm,1.3s						
GVZ	**Greta Valley S**	**21.69**	**172**	P	**P**	**02 25 35.8**	**0.0**
GVZ				IAmb	IAmb	02 25 52.0	
	comp=Z,700nm,1.9s						
AMCZ	**Amberley**	**21.85**	**173**	P	**P**	**02 25 39.3**	**+1.8**
OXZ	**Oxford**	**21.93**	**174**	P	**P**	**02 25 39.6**	**+1.2**
OXZ				IAmb	IAmb	02 25 53.8	
	comp=Z,180nm,1.1s						
FOZ	**Fox Glacier**	**22.01**	**179**	P	**P**	**02 25 41.1**	**+1.9**
FOZ				IAmb	IAmb	02 25 54.0	
	comp=Z,496nm,1.4s						
CNB	**Canberra Magne**	**22.12**	**227**	P	**P**	**02 25 42.1**	**+1.5**
	baz=22,SNR=10.0						
RPZ	**Rata Peaks**	**22.24**	**176**	P	**P**	**02 25 43.3**	**+1.6**
RPZ				IAmb	IAmb	02 25 55.9	
	comp=Z,380nm,1.5s						
RPZ	**Rata Peaks**	**22.24**	**176**	LR	LR	02 33 28.2	
	comp=Z,12μm,19.4s,baz=359,slow=34						
CAN	**Canberra**	**22.37**	**228**	P	**P**	**02 25 43.6**	**+0.4**
CAN				IAmb	IAmb	02 25 59.6	
	comp=Z,234nm,1.4s						
CAN	**Canberra**	**22.37**	**228**	P	**P**	**02 25 43.7**	**+0.4**
CAN				pmax	pmax		
	comp=Z,234nm,1.4s						
MQZ	**McQueen's Vall**	**22.37**	**173**	P	**P**	**02 25 44.7**	**+1.6**
LBZ	**Lake Benmore**	**22.87**	**178**	P	**P**	**02 25 49.9**	**+1.5**
CMSA	**Cobar Meteorol**	**23.18**	**240**	P	**P**	**02 25 53.0**	**+1.3**
	baz=23,SNR=13						
MILA	**Mila**	**23.25**	**224**	P	**P**	**02 25 52.9**	**+0.5**
	baz=23,SNR=4.0						
QLP	**Quilpie**	**23.26**	**252**	P	**P**	**02 25 54.3**	**+1.8**
	baz=23,SNR=6.0						
WKZ	**Wanaka**	**23.30**	**180**	P	**P**	**02 25 54.6**	**+1.8**
WKZ				IAmb	IAmb	02 26 08.0	
	comp=Z,267nm,1.5s						
MTSU	**Mount Surprise**	**23.54**	**274**	P	**P**	**02 25 55.8**	**+0.3**
	baz=23,SNR=31						
ODZ	**Otahua Downs**	**23.55**	**177**	P	**P**	**02 25 57.5**	**+2.2**
ODZ				IAmb	IAmb	02 26 22.1	
	comp=Z,186nm,1.5s						
KRVT	**Keravat (AS076**	**23.78**	**313**	P	**P**	**02 25 57.0**	**-0.8**
	comp=Z,69nm,0.5s,baz=46,slow=0.1,SNR=10.0						
	comp=Z,69nm,0.5s						
MLZ	**Mavora Lakes**	**23.85**	**182**	P	**P**	**02 25 59.8**	**+1.6**
DCZ	**Deep Cove**	**23.99**	**183**	P	**P**	**02 26 00.8**	**+1.4**
DCZ				IAmb	IAmb	02 26 12.8	
	comp=Z,165nm,1.3s						
PMG	**Port Moresby**	**24.27**	**296**	P	**P**	**02 26 02.4**	**0.0**
PMG				IAmb	IAmb	02 26 17.4	
	comp=Z,166nm,0.8s						
PMG	**Port Moresby**	**24.27**	**296**	P	**P**	**02 26 02.4**	**0.0**
PMG				pmax	pmax		
	comp=Z,166nm,0.9s						
PMG				MLR	MLR		
	comp=Z,16μm,19.0s						
PMG	**Port Moresby**	**24.27**	**296**	P	**P**	**02 26 02.3**	**-0.1**
	comp=Z,59nm,0.8s,baz=103,slow=4.7,SNR=16						
PMG				LR	LR	02 32 56.0	
	comp=Z,7μm,19.4s,baz=121,slow=30						
	comp=Z,59nm,0.8s						
WHZ	**Wether Hill Ro**	**24.38**	**182**	P	**P**	**02 26 03.1**	**0.0**
CTZ	**Chatham Island**	**25.18**	**155**	P	**P**	**02 26 11.8**	**+1.5**
COEN	**Coen**	**25.77**	**283**	P	**P**	**02 26 16.0**	**0.0**
COEN				IAmb	IAmb	02 26 32.5	
	comp=Z,228nm,1.6s						
TOO	**Toolangi**	**25.96**	**227**	P	**P**	**02 26 20.4**	**+2.8**
	baz=26,SNR=5.4						
TOO	**Toolangi**	**25.96**	**227**	P	**P**	**02 26 17.2**	**-0.4**
TOO				IAmb	IAmb	02 26 48.4	
	comp=Z,132nm,1.4s						
TOO	**Toolangi**	**25.96**	**227**	P	**P**	**02 26 17.2**	**-0.4**
TOO				pmax	pmax		
	comp=Z,132nm,1.4s						
TOO				MLR	MLR		
	comp=Z,11μm,21.0s						
STKA	**Stephens Creek**	**26.60**	**241**	P	**P**	**02 26 23.9**	**+0.5**
	baz=26,SNR=13						
STKA	**Stephens Creek**	**26.60**	**241**	P	**P**	**02 26 22.4**	**-1.0**
STKA				PcP	**PcP**	**02 29 47.4**	**-0.1**
STKA				ScP	**ScP**	**02 33 30.9**	**+3.6**
STKA	**Stephens Creek**	**26.60**	**241**	P	**P**	**02 26 22.4**	**-1.0**
STKA						02 29 47.4	
STKA				pmax	pmax		
	comp=Z,44nm,1.5s						
STKA				MLR	MLR		
	comp=Z,4μm,18.0s						
STKA	**Stephens Creek**	**26.60**	**241**	P	**P**	**02 26 23.3**	**-0.1**
	comp=Z,15nm,0.9s,baz=76,slow=11,SNR=14						
STKA				LR	LR	02 36 43.2	
	comp=Z,18μm,19.0s,baz=87,slow=36						
	comp=Z,15nm,0.9s						
QIS	**Mount Isa**	**27.53**	**266**	P	**P**	**02 26 31.9**	**+0.1**
	baz=27,SNR=5.1						
MOO	**Moorlands**	**27.83**	**216**	P	**P**	**02 26 36.5**	**+2.2**
	baz=28,SNR=5.5						
TAU	**Tasmania Unive**	**28.07**	**215**	IAms_20	IAms_20	02 36 17.3	
	comp=Z,15μm,18.0s						
PATS	**Pohnpei**	**30.05**	**338**	P	**P**	**02 26 52.9**	**-1.4**
	baz=30,SNR=4.5						
PATS	**Pohnpei**	**30.05**	**338**	P	**P**	**02 26 53.3**	**-1.0**
BBOO	**Buckleboo**	**31.37**	**242**	P	**P**	**02 27 05.1**	**-0.8**
BBOO				IAmb	IAmb	02 27 16.7	
	comp=Z,78nm,1.2s						
BBOO				IAms_20	IAms_20	02 39 38.7	
	comp=Z,26μm,18.0s						
WR0	**Warramunga Arr**	**32.32**	**266**	P	**P**	**02 27 12.0**	**-2.4**
WR0				IAmb	IAmb	02 27 26.8	
	comp=Z,62nm,1.2s						
WR0				IAms_20	IAms_20	02 39 15.4	
	comp=Z,14μm,20.0s						
WR9	**Warramunga Arr**	**32.34**	**266**	IAms_20	IAms_20	02 39 16.1	
	comp=Z,15μm,21.0s						
WR8	**Warramunga Arr**	**32.36**	**266**	IAms_20	IAms_20	02 39 15.4	
	comp=Z,15μm,21.0s						
WR7	**Warramunga Arr**	**32.38**	**266**	IAms_20	IAms_20	02 39 17.0	
	comp=Z,15μm,21.0s						
WR6	**Warramunga Arr**	**32.40**	**266**	IAms_20	IAms_20	02 39 17.6	
	comp=Z,16μm,21.0s						
WR5	**Warramunga Arr**	**32.42**	**266**	IAms_20	IAms_20	02 39 18.2	
	comp=Z,15μm,21.0s						
WR4	**Warramunga Arr**	**32.45**	**266**	IAms_20	IAms_20	02 39 17.8	
	comp=Z,15μm,21.0s						
WR3	**Warramunga Arr**	**32.47**	**266**	IAms_20	IAms_20	02 39 08.3	
	comp=Z,17μm,20.0s						
WC3	**Warramunga Arr**	**32.48**	**266**	IAms_20	IAms_20	02 39 09.6	
	comp=Z,17μm,19.0s						
WB0	**Warramunga Arr**	**32.49**	**267**	P	**P**	**02 27 14.7**	**-1.1**
WB0				IAmb	IAmb	02 27 27.5	
	comp=Z,74nm,1.1s						
WB0				IAms_20	IAms_20	02 39 20.9	
	comp=Z,14μm,21.0s						
WC2	**Warramunga Arr**	**32.49**	**266**	IAms_20	IAms_20	02 39 19.9	
	comp=Z,20μm,22.0s						
WR2	**Warramunga Arr**	**32.49**	**266**	IAms_20	IAms_20	02 39 09.9	
	comp=Z,17μm,19.0s						
WB8	**Warramunga Arr**	**32.49**	**267**	IAms_20	IAms_20	02 39 21.0	
	comp=Z,15μm,21.0s						
WB9	**Warramunga Arr**	**32.49**	**267**	IAms_20	IAms_20	02 39 21.0	
	comp=Z,15μm,21.0s						
WB5	**Warramunga Arr**	**32.49**	**266**	IAms_20	IAms_20	02 39 10.1	
	comp=Z,16μm,20.0s						
WB3	**Warramunga Arr**	**32.50**	**266**	IAms_20	IAms_20	02 39 10.1	
	comp=Z,17μm,20.0s						
WB4	**Warramunga Arr**	**32.50**	**266**	IAms_20	IAms_20	02 39 10.1	
	comp=Z,17μm,20.0s						
WB6	**Warramunga Arr**	**32.50**	**266**	IAms_20	IAms_20	02 39 21.1	
	comp=Z,15μm,21.0s						
WB2	**Warramunga Arr**	**32.50**	**266**	P	**P**	**02 27 13.9**	**-2.0**
WB2				IAmb	IAmb	02 27 27.6	
	comp=Z,64nm,1.1s						
WB2				IAms_20	IAms_20	02 39 10.2	
	comp=Z,17μm,20.0s						
WB1	**Warramunga Ar.**	**32.50**	**266**	IAms_20	IAms_20	02 39 09.2	
	comp=Z,18μm,20.0s						
WRAB	**Tennant Creek**	**32.50**	**266**	P	**P**	**02 27 14.7**	**-1.2**
WRAB				IAmb	IAmb	02 27 28.3	
	comp=Z,101nm,1.4s						
WRAB	**Tennant Creek**	**32.50**	**266**	IAms_20	IAms_20	02 39 10.0	
	comp=Z,17μm,20.0s						
WRAB	**Tennant Creek**	**32.50**	**266**	P	**P**	**02 27 14.7**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,101nm,1.4s						
WRAB				MLR	MLR		
	comp=Z,17μm,20.0s						
WC4	**Warramunga Arr**	**32.51**	**266**	IAms_20	IAms_20	02 39 09.4	
	comp=Z,17μm,20.0s						
WR1	**Warramunga Arr**	**32.51**	**266**	IAms_20	IAms_20	02 39 09.4	
	comp=Z,17μm,19.0s						
WRA	**Warramunga Arr**	**32.51**	**266**	P	**P**	**02 27 14.7**	**-1.3**
WRA				PcP	**PcP**	**02 30 02.9**	**+0.1**
WRA				ScP	**ScP**	**02 33 42.1**	**-4.3**
WRA	**Warramunga Arr**	**32.51**	**266**	P	**P**	**02 27 14.5**	**-1.5**
	comp=Z,16nm,0.8s,baz=101,slow=8.1,SNR=44						
WRA				PcP	**PcP**	**02 30 03.0**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=114,slow=2.7,SNR=2.0						
WRA				S	**S**	**02 32 31.2**	**+0.3**
	comp=Z,3.3nm,1.1s,baz=97,slow=14,SNR=4.3						
WRA				LR	LR	02 39 31.2	
	comp=Z,16μm,21.1s,baz=100,slow=35						
	comp=Z,16nm,0.8s						
WC1	**Warramunga Arr**	**32.51**	**266**	IAms_20	IAms_20	02 39 10.5	
	comp=Z,17μm,19.0s						
AS31	**Alice Springs**	**32.52**	**259**	P	**P**	**02 27 14.6**	**-1.6**
ASAR	**Alice Springs**	**32.52**	**259**	P	**P**	**02 27 15.2**	**-0.9**
	comp=Z,76nm,0.9s,baz=78,slow=9.5,SNR=48						
ASAR				PcP	**PcP**	**02 30 03.0**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=84,slow=3.8,SNR=1.5						
ASAR				LR	LR	02 40 10.7	
	comp=Z,8μm,18.4s,baz=94,slow=36						
ASAR				P3KPbc		02 58 38.4	
	comp=Z,0.9nm,0.9s,baz=255,slow=2.7,SNR=5.6						
	comp=Z,76nm,0.9s						
MCQ	**Macquarie Isla**	**33.86**	**191**	IAms_20	IAms_20	02 38 44.7	
	comp=Z,11μm,18.0s						
KDU	**Kakadu**	**36.01**	**278**	P	**P**	**02 27 47.0**	**+0.6**
	baz=36,SNR=6.3						
MTN	**Manton Dam**	**37.20**	**277**	P	**P**	**02 27 56.4**	**-0.1**
	baz=37,SNR=3.6						
MTN	**Manton Dam**	**37.20**	**277**	P	**P**	**02 27 55.8**	**-0.6**
MTN				IAms_20	IAms_20	02 43 37.6	
	comp=Z,9μm,18.0s						
WRKA	**Warakurna**	**37.56**	**257**	P	**P**	**02 27 58.6**	**-0.9**
	baz=37,SNR=20						
FORT	**Forrest**	**37.82**	**247**	P	**P**	**02 28 01.2**	**-0.4**
	baz=38,SNR=15						
FORT	**Forrest**	**37.82**	**247**	P	**P**	**02 28 01.0**	**-0.6**
FORT				IAms_20	IAms_20	02 42 43.3	
	comp=Z,16μm,21.0s						
KNRA	**Kununurra**	**38.59**	**272**	P	**P**	**02 28 07.9**	**-0.3**
	baz=38,SNR=6.8						
KNRA	**Kununurra**	**38.59**	**272**	P	**P**	**02 28 07.2**	**-1.0**
KNRA				IAmb	IAmb	02 28 21.1	
	comp=Z,140nm,1.1s						
PPT	**Papeete**	**39.07**	**92**	LR	LR	02 42 56.4	
	comp=Z,2μm,18.6s,baz=259,slow=34						
FAKI	**Fak Fak**	**40.29**	**292**	P	**P**	**02 28 20.9**	**-1.6**
FAKI				IAmb	IAmb	02 28 34.8	
	comp=Z,182nm,1.3s						
FAKI	**Fak Fak**	**40.29**	**292**	P	**P**	**02 28 23.2**	**+0.8**
	comp=Z,120nm,1.2s,comp=Z,3μm						
GUMO	**Guam**	**42.19**	**324**	LR	LR	02 45 26.6	
	comp=Z,5μm,18.3s,baz=135,slow=35						
SWI	**Sorong**	**42.19**	**294**	P	**P**	**02 28 38.6**	**+0.6**
	comp=Z,129nm,0.9s						
KMBL	**Kambalda**	**43.14**	**247**	P	**P**	**02 28 45.2**	**-0.5**
	baz=43,SNR=8.4						
SOEI	**Soe**	**44.57**	**278**	IAms_20	IAms_20	02 48 10.0	
	comp=Z,7μm,18.0s						
SOEI	**Soe**	**44.57**	**278**	P	**P**	**02 28 58.3**	**+0.8**
	comp=Z,144nm,1.1s,comp=Z,5μm						
SOEI	**Soe**	**44.57**	**278**	P	**P**	**02 28 53.8**	**-3.7**
BATI	**Baumata**	**44.97**	**277**	P	**P**	**02 29 01.1**	**+0.5**
	comp=Z,90nm,1.6s,comp=Z,3μm						
BATI	**Baumata**	**44.97**	**277**	LR	LR	02 48 06.4	
	comp=Z,10μm,18.2s,baz=138,slow=36						
LBMI	**Labuha**	**45.53**	**292**	P	**P**	**02 29 06.3**	**+1.3**
	comp=Z,147nm,1.2s,comp=Z,5μm						
PSAC2	**Pilbara Seismi**	**45.61**	**260**	IAms_20	IAms_20	02 47 32.5	
	comp=Z,11μm,20.0s						
PSAB2	**Pilbara Seismi**	**45.65**	**260**	IAms_20	IAms_20	02 47 33.5	
	comp=Z,11μm,19.0s						
PSAB3	**Pilbara Seismi**	**45.65**	**260**	IAms_20	IAms_20	02 48 07.5	
	comp=Z,15μm,18.0s						
PSAA3	**Pilbara Seismi**	**45.65**	**260**	IAms_20	IAms_20	02 47 33.6	
	comp=Z,11μm,19.0s						
PSA00	**Pilbara Seismi**	**45.66**	**260**	P	**P**	**02 29 04.7**	**-1.3**
PSA00				IAms_20	IAms_20	02 47 24.8	
	comp=Z,11μm,20.0s						
PSA00	**Pilbara Seismi**	**45.66**	**260**	P	**P**	**02 29 04.9**	**-1.0**
PSA00				IAmb	IAmb	02 29 19.4	
	comp=Z,97nm,1.3s						
PSAA2	**Pilbara Seismi**	**45.66**	**260**	IAms_20	IAms_20	02 47 33.8	
	comp=Z,11μm,19.0s						
PSAA1	**Pilbara Seismi**	**45.67**	**260**	IAms_20	IAms_20	02 47 33.0	
	comp=Z,11μm,19.0s						
PSAB1	**Pilbara Seismi**	**45.68**	**260**	IAms_20	IAms_20	02 47 34.4	
	comp=Z,12μm,19.0s						
PSAD1	**Pilbara Seismi**	**45.69**	**261**	IAms_20	IAms_20	02 51 27.7	
	comp=Z,10μm,20.0s						
PSAC1	**Pilbara Seismi**	**45.70**	**260**	IAms_20	IAms_20	02 48 25.9	
	comp=Z,11μm,18.0s						
PSAD3	**Pilbara Seismi**	**45.71**	**260**	IAms_20	IAms_20	02 48 18.1	
	comp=Z,15μm,18.0s						
MBWA	**Marble Bar**	**45.83**	**261**	P	**P**	**02 29 06.5**	**-0.8**
MBWA	**Marble Bar**	**45.83**	**261**	IAms_20	IAms_20	02 48 36.4	
	comp=Z,11μm,18.0s						
MEEK	**Meekatharra**	**46.15**	**253**	P	**P**	**02 29 09.6**	**-0.2**
	baz=46,SNR=16						
SANI	**Sanana**	**46.17**	**289**	P	**P**	**02 29 10.1**	**+0.1**
	comp=Z,232nm,1.1s,comp=Z,3μm						
SANI	**Sanana**	**46.17**	**289**	S	**S**	**02 35 55.4**	**-0.7**
SANI				P	**P**	**02 29 06.2**	**-3.8**
KLBR	**Kellerberrin**	**46.67**	**246**	P	**P**	**02 29 12.8**	**-1.0**
	baz=46,SNR=23						
NWAO	**Narrogin (SRO)**	**47.11**	**245**	P	**P**	**02 29 17.8**	**+0.6**
	baz=47,SNR=14						
NWAO				P	**P**	**02 29 17.8**	**+0.6**
	baz=47,SNR=14						
NWAO	**Narrogin (SRO)**	**47.11**	**245**	P	**P**	**02 29 17.2**	**0.0**
NWAO	**Narrogin (SRO)**	**47.11**	**245**	P	**P**	**02 29 17.0**	**-0.2**
NWAO				IAmb	IAmb	02 29 29.9	
	comp=Z,913nm,1.7s						
NWAO	**Narrogin (SRO)**	**47.11**	**245**	IAms_20	IAms_20	02 48 22.2	
	comp=Z,15μm,20.0s						
NWAO	**Narrogin (SRO)**	**47.11**	**245**	P	**P**	**02 29 17.2**	**0.0**
NWAO				pmax	pmax		
	comp=Z,277nm,1.7s						
NWAO				MLR	MLR		
	comp=Z,15μm,20.0s						
NWAO	**Narrogin (SRO)**	**47.11**	**245**	LR	LR	02 49 39.7	
	comp=Z,15μm,18.1s,baz=82,slow=37						
EDFI	**Ende, Flores**	**47.30**	**278**	P	**P**	**02 29 20.0**	**+1.0**
	comp=Z,35nm,1.2s						
RKGY	**Rocky Gully**	**47.35**	**242**	P	**P**	**02 29 21.1**	**+2.1**
	baz=47,SNR=3.8						
BLDU	**Balliduu**	**47.

MJAR	**Matsushiro Arr**	**64.66 333**	P	**P**	**02 31 21.6**	**-1.1**
	comp=Z,11nm,0.9s,baz=159,slow=6.8,SNR=13					
MJAR			LR	LR	02 59 26.1	
	comp=Z,1μm,19.2s,baz=112,slow=36					
	comp=Z,11nm,0.9s					
MAJO	**Matsushiro**	**64.66 333**	P	**P**	**02 31 23.4**	**+0.6**
MAJO			IAmb	IAmb	02 31 40.9	
	comp=Z,74nm,1.3s					
MAJO	**Matsushiro**	**64.66 333**	P	**P**	**02 31 23.4**	**+0.6**
MAJO			pmax	pmax		
	comp=Z,74nm,1.3s					
MJB9	**Matsu-Tunnel**	**64.66 333**	P	**P**	**02 31 23.4**	**+0.6**
MJB9			IAmb	IAmb	02 31 40.9	
	comp=Z,76nm,1.3s					
JMM	**Marumori**	**64.75 335**	P	**P**	**02 31 23.2**	**-0.1**
JMM			IAmb	IAmb	02 31 26.9	
	comp=Z,59nm,1.0s					
JNU	**Nakatsue**	**65.40 325**	P	**P**	**02 31 28.0**	**+0.3**
JNU			IAmb	IAmb	02 31 41.5	
	comp=Z,46nm,1.1s					
QSPA	**South Pole Qui**	**68.60 180**	P	**P**	**02 31 46.7**	**-1.1**
QSPA	**South Pole Qui**	**68.60 180**	IAMs_20	IAMs_20	02 58 38.1	
	comp=Z,3μm,18.0s					
QSPA	**South Pole Qui**	**68.60 180**	P	**P**	**02 31 47.0**	**-0.8**
	comp=Z,39nm,1.1s,baz=18,slow=2.5,SNR=13					
QSPA			LR	LR	02 58 48.0	
	comp=Z,2μm,18.9s,baz=272,slow=33					
QSPA			PKP2bc		02 59 59.1	
	comp=Z,1.0nm,0.2s,baz=215,slow=2.9,SNR=5.5					
	comp=Z,39nm,1.1s					
COCO	**West Island**	**69.28 265**	IAMs_20	IAMs_20	02 59 38.3	
	comp=Z,4μm,18.0s					
TJN	**Taejon**	**69.75 325**	P	**P**	**02 31 54.8**	**-0.3**
TJN	**Taejon**	**69.75 325**	P	**P**	**02 31 54.8**	**-0.3**
TJN			pmax	pmax		
	comp=Z,396nm,1.2s					
BKNI	**Bangkinang**	**69.76 279**	P	**P**	**02 31 56.6**	**+1.0**
KSRS	**Korea Array**	**70.27 326**	P	**P**	**02 31 58.9**	**+0.7**
	comp=Z,8.2nm,1.0s,baz=144,slow=6.6,SNR=19					
KSRS			LR	LR	03 00 03.1	
	comp=Z,868nm,20.5s,baz=345,slow=34					
	comp=Z,8.2nm,1.0s					
KSAR	**Wonju Array Be**	**70.28 326**	P	**P**	**02 31 58.3**	**0.0**
KSAR	**Wonju Array Be**	**70.28 326**	P	**P**	**02 31 58.3**	**0.0**
QIZ	**Qiongzhong**	**70.58 300**	P	**P**	**02 32 00.5**	**0.0**
QIZ			S	**S**	**02 41 19.0**	**+4.9**
QIZ			pmax	pmax		
	comp=Z,1μm,8.3s					
QIZ			LR	LR		
	comp=Z,1μm,18.0s					
QIZ			LR	LR		
	comp=Z,1μm,16.4s					
QIZ			LR	LR		
	comp=Z,2μm,12.7s					
NJ2	**Nanjing**	**71.72 317**	*e*P	**P**	**02 32 09.5**	**+2.4**
NJ2			pmax	pmax		
	comp=Z,15nm,0.5s					
YSS	**Yuzh-Sakhalins**	**72.14 341**	*ce*P	**P**	**02 32 10.5**	**+1.2**
YSS			pmax	pmax		
	comp=Z,67nm,1.0s					
RPSI	**Rantau Prapat**	**72.63 280**	P	**P**	**02 32 12.5**	**-0.5**
PSI	**Prapat**	**72.67 280**	P	**P**	**02 32 12.5**	**-0.9**
PSI			pmax	pmax		
	comp=Z,35nm,1.1s					
VLA	**Vladivostok**	**72.82 332**	*i* P	**P**	**02 32 11.9**	**-1.6**
GULI	**GuiLin**	**73.56 306**	P	P	02 32 24.5	+6.2
USA0B	**Ussuriysk Arra**	**73.65 333**	P	**P**	**02 32 18.8**	**+0.4**
USA0B			IAmb	IAmb	02 32 33.8	
	comp=Z,72nm,1.3s					
USA0B	**Ussuriysk Arra**	**73.65 333**	P	**P**	**02 32 18.8**	**+0.4**
USA0B			pmax	pmax		
	comp=Z,72nm,1.3s					
USRK	**Ussuriysk Ar.**	**73.65 333**	P	**P**	**02 32 18.6**	**+0.2**
USRK			PP	**PP**	**02 35 01.4**	**-1.6**
USRK	**Ussuriysk Ar.**	**73.65 333**	P	**P**	**02 32 18.6**	**+0.2**
USRK					02 35 01.4	
USRK	**Ussuriysk Ar.**	**73.65 333**	P	**P**	**02 32 19.0**	**+0.6**
	comp=Z,16nm,1.0s,baz=146,slow=4.4,SNR=14					
	comp=Z,16nm,1.0s					
WHN	**Wuhan**	**73.75 313**	P	**P**	**02 32 23.0**	**+3.7**
WHN			sP	**pwP**	**02 32 30.3**	**+1.3**
WHN			S	**S**	**02 41 52.5**	**+2.4**
WHN			pmax	pmax		
	comp=Z,160nm,1.3s					
WHN			LR	LR		
	comp=Z,5μm,16.2s					
SHEM	**Shemya Is, Ala**	**74.01 3**	LR	LR	02 59 27.4	
	comp=Z,2μm,20.6s,baz=136,slow=31					
DL2	**Dalian**	**74.71 323**	P	**P**	**02 32 26.0**	**+1.3**
DL2			S	**S**	**02 42 01.3**	**+0.7**
DL2			pmax	pmax		
	comp=Z,64nm,1.0s					
DL2			LR	LR		
	comp=Z,1μm,12.0s					
DL2			LR	LR		
	comp=Z,1μm,10.8s					
DL2			LR	LR		
	comp=Z,2μm,13.9s					
PET	**Petropavlovsk**	**74.73 353**	*ce*P	**P**	**02 32 23.8**	**-0.6**
PET			pmax	pmax		
	comp=Z,226nm,1.5s					
PEA0B	**Petropavlovsk-**	**74.92 353**	P	**P**	**02 32 25.5**	**-0.1**
PEA0B	**Petropavlovsk-**	**74.92 353**	*ce*P	**P**	**02 32 26.6**	**+1.0**
PETK	**Petropavlovsk-**	**74.92 353**	P	**P**	**02 32 25.2**	**-0.4**
PETK	**Petropavlovsk-**	**74.92 353**	P	**P**	**02 32 25.2**	**-0.4**
PETK	**Petropavlovsk-**	**74.92 353**	P	**P**	**02 32 24.8**	**-0.8**
	comp=Z,47nm,1.0s,baz=156,slow=4.4,SNR=14					
PETK			LR	LR	03 01 27.7	
	comp=Z,3μm,18.7s,baz=152,slow=33					
	comp=Z,47nm,1.0s					
MDJ	**Mudanjiang**	**75.02 332**	P	**P**	**02 32 27.5**	**+1.2**
MDJ			PcP	**pwP**	**02 32 37.5**	**+1.5**
MDJ			S	**S**	**02 42 08.0**	**+4.3**
MDJ			ScS	**ScS**	**02 42 39.8**	**+1.6**
MDJ			pmax	pmax		
	comp=Z,21nm,1.3s					
MDJ			pmax	pmax		
	comp=Z,2μm,8.7s					
MDJ			LR	LR		
	comp=Z,4μm,16.5s					
MDJ			LR	LR		
	comp=Z,5μm,16.5s					
MDJ			LR	LR		
	comp=Z,3μm,16.9s					
MDJ	**Mudanjiang**	**75.02 332**	P	**P**	**02 32 27.3**	**+1.0**
MDJ			IAmb	IAmb	02 32 41.8	
	comp=Z,62nm,1.3s					
TIA	**Tai'an**	**75.52 319**	P	**P**	**02 32 29.0**	**-0.4**
TIA			pmax	pmax		
	comp=Z,35nm,1.0s					
TYV	**Tymovskoe**	**75.70 343**	*e*P	**P**	**02 32 33.0**	**+2.9**
TYV			pmax	pmax		
	comp=Z,39nm,1.1s					
TYV			pmax	pmax		
	comp=Z,1μm,3.2s					
SNY	**Shenyang**	**75.76 327**	⇓P	P	02 32 44.0	+13
SNY			S	**S**	**02 42 16.0**	**+3.9**
SNY			pmax	pmax		
	comp=Z,27nm,0.9s					
SNY			pmax	pmax		
	comp=Z,690nm,6.0s					
SNY			LR	LR		
	comp=N,2μm,16.0s					
SNY			LR	LR		
	comp=E,1μm,15.0s					
SNY			LR	LR		
	comp=Z,2μm,16.1s					
CN2	**Changchun**	**76.29 329**	*e*P	**P**	**02 32 34.8**	**+1.2**
CN2			*e*PP	**PP**	**02 35 28.8**	**+3.4**
CN2			*e*S	**S**	**02 42 13.8**	**-4.1**
CN2			pmax	pmax		
	comp=Z,30nm,1.5s					
CN2			pmax	pmax		
	comp=Z,750nm,6.0s					
CN2			LR	LR		
	comp=Z,2μm,20.0s					
CN2			LR	LR		
	comp=Z,2μm,20.0s					
CN2			LR	LR		
	comp=Z,2μm,21.0s					
MAW	**Mawson**	**76.33 202**	P	**P**	**02 32 34.1**	**+0.5**
	baz=76,SNR=8.6					
MAW	**Mawson**	**76.33 202**	P	**P**	**02 32 33.1**	**-0.5**
MAW	**Mawson**	**76.33 202**	P	**P**	**02 32 33.3**	**-0.3**
	comp=Z,13nm,0.9s,baz=107,slow=8.1,SNR=18					
MAW			LR	LR	03 02 16.0	
	comp=Z,4μm,19.6s,baz=88,slow=33					
	comp=Z,13nm,0.9s					
NIKH	**Nikolski High**	**76.56 13**	P	**P**	**02 32 33.5**	**-1.5**
	baz=201					
GYA	**Guiyang**	**76.99 305**	*e*P	**P**	**02 32 41.0**	**+2.8**
GYA			S	**S**	**02 42 28.5**	**+2.0**
GYA			pmax	pmax		
	comp=Z,18nm,1.2s					
GYA			pmax	pmax		
	comp=Z,900nm,4.6s					
GYA			LR	LR		
	comp=Z,970nm,10.6s					
GYA			LR	LR		
	comp=Z,1μm,18.8s					
GYA			LR	LR		
	comp=Z,1μm,20.2s					
GRNR	**Gornyy**	**77.48 339**	⇓*i*P	**P**	**02 32 41.4**	**+1.2**
GRNR			pmax	pmax		
	comp=Z,7.0nm,1.1s					
GRNR			MLR	MLR		
	comp=E,1μm,17.0s					
GRNR			MLR	MLR		
	comp=N,2μm,19.0s					
GRNR			MLR	MLR		
	comp=Z,2μm,18.0s					
HNS	**HongShan**	**77.77 319**	⇓P	**P**	**02 32 42.3**	**+0.2**
HNS			S	**S**	**02 42 38.8**	**+4.6**
HNS			pmax	pmax		
	comp=Z,43nm,1.5s					
HNS			LR	LR		
	comp=Z,1μm,16.8s					
HNS			LR	LR		
	comp=Z,2μm,16.0s					
HNS			LR	LR		
	comp=Z,2μm,19.2s					
KLR	**Kul'dur**	**77.84 336**	*ce*P	**P**	**02 32 41.8**	**-0.4**
KLR			pmax	pmax		
	comp=Z,27nm,0.9s					
KLR			MLR	MLR		
	comp=Z,2μm,17.0s					
KLR	**Kul'dur**	**77.84 336**	LR	LR	03 05 08.9	
	comp=Z,2μm,19.2s,baz=22,slow=34					
UNV	**Unalaska Valle**	**77.91 14**	P	**P**	**02 32 41.4**	**-1.0**
	baz=203					
BJT	**Baijiatuau**	**78.57 321**	P	**P**	**02 32 45.8**	**-0.7**
BJT	**Baijiatuau**	**78.57 321**	P	**P**	**02 32 45.8**	**-0.7**
BJT			pmax	pmax		
	comp=Z,36nm,1.2s					
BJI	**Beijing**	**78.58 321**	P	**P**	**02 32 47.0**	**+0.5**
BJI			pP	**sP**	**02 32 51.0**	**+0.6**
BJI			PcP	**PcP**	**02 32 55.3**	**-0.2**
BJI			S	**S**	**02 42 42.5**	**-0.4**
BJI			pmax	pmax		
	comp=Z,10.0nm,1.1s					
BJI			LR	LR		
	comp=Z,660nm,16.5s					
BJI			LR	LR		
	comp=Z,730nm,18.2s					
BJI			LR	LR		
	comp=Z,620nm,16.9s					
CRAI	**Chiangrai**	**78.91 297**	P	**P**	**02 32 49.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**79.30 295**	P	**P**	**02 32 51.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**79.30 295**	P	**P**	**02 32 52.5**	**+1.5**
	comp=Z,3.1nm,0.7s,baz=136,slow=4.3,SNR=14					
	comp=Z,3.1nm,0.7s					
KMI	**Kunming**	**79.34 302**	⇑P	P	02 32 56.3	+4.9
KMI			S	**S**	**02 42 56.8**	**+4.7**
KMI			pmax	pmax		
	comp=Z,46nm,1.3s					
KMI			LR	LR		
	comp=Z,910nm,15.1s					
KMI			LR	LR		
	comp=Z,1μm,18.7s					
KMI			LR	LR		
	comp=Z,1μm,19.5s					
TIY	**Taiyuan**	**79.38 318**	*e*P	**P**	**02 32 53.3**	**+2.2**
TIY			S	**S**	**02 42 59.8**	**+8.1**
TIY			ScS	**ScS**	**02 43 12.5**	**-1.5**
TIY			pmax	pmax		
	comp=Z,19nm,0.6s					
TIY			pmax	pmax		
	comp=Z,590nm,7.1s					
CHTO	**Chiang Mai**	**79.46 295**	P	**P**	**02 32 52.1**	**+0.2**
CHTO	**Chiang Mai**	**79.46 295**	P	**P**	**02 32 52.1**	**+0.2**
CHTO			pmax	pmax		
	comp=Z,29nm,1.0s					
CHTO			MLR	MLR		
	comp=Z,1μm,20.0s					
XAN	**Xi'an**	**79.52 313**	⇑P	**P**	**02 32 53.0**	**+1.1**
XAN			pP	pwP	02 33 03.0	+1.3
XAN			S	**S**	**02 42 52.8**	**-0.5**
XAN			SS	**SS**	**02 48 03.5**	**+1.8**
XAN			pmax	pmax		
	comp=Z,53nm,1.5s					
XAN			pmax	pmax		
	comp=Z,2μm,7.6s					
XAN			LR	LR		
	comp=Z,2μm,19.2s					
XAN			LR	LR		
	comp=Z,2μm,19.2s					
XAN			LR	LR		
	comp=Z,3μm,19.1s					
FALS	**False Pass**	**79.58 16**	P	**P**	**02 32 51.0**	**-0.6**
	baz=206					
HEH	**HeiHe**	**80.36 334**	*e*P	**P**	**02 32 56.3**	**+0.3**
HEH			pmax	pmax		
	comp=Z,27nm,1.0s					
CHNA	**Chernabura Isl**	**80.58 18**	P	**P**	**02 32 55.2**	**-1.8**
	baz=210					
PZH	**PanZhiHua**	**80.80 303**	P	**P**	**02 33 01.0**	**+1.9**
PZH			S	**S**	**02 43 07.8**	**+0.6**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,200nm,8.8s					
PZH			LR	LR		
	comp=Z,1μm,16.8s					
PZH			LR	LR		
	comp=Z,910nm,17.1s					
PZH			LR	LR		
	comp=Z,1μm,15.2s					
XLT	**XiLinHaoTe**	**81.16 324**	*e*P	**P**	**02 33 01.5**	**+0.9**
XLT			pP	sP	02 33 05.5	+1.0
XLT			pmax	pmax		
	comp=Z,14nm,1.1s					
XLT			pmax	pmax		
	comp=Z,2μm,6.8s					
CD2	**Chengdu**	**81.49 308**	*e*P	**P**	**02 33 04.0**	**+1.4**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
SMAI	**San Martin Ant**	**81.76 162**	P	**P**	**02 33 04.1**	**+0.8**
SMAI			IAmb	IAmb	02 33 13.2	
	comp=Z,56nm,0.9s					
HHC	**Hu-ho-hao-te**	**81.82 320**	⇑P	**P**	**02 33 04.3**	**+0.1**
HHC			sP	pwP	02 33 19.8	+5.8
HHC			S	**SKSac**	**02 43 21.3**	**-2.7**
HHC			sS	SKKSac	02 43 27.8	+0.7
HHC			pmax	pmax		
	comp=Z,49nm,0.8s					
HHC			pmax	pmax		
	comp=Z,1μm,6.6s					
HHC			LR	LR		
	comp=Z,2μm,16.7s					
HHC			LR	LR		
	comp=Z,4μm,19.8s					
HHC			LR	LR		
	comp=Z,5μm,18.9s					
MA2	**Magadan**	**82.14 351**	LR	LR	03 04 44.3	
	comp=Z,2μm,20.9s,baz=186,slow=32					
BTO	**Baotou**	**82.61 319**	*e*P	**P**	**02 33 10.5**	**+2.2**
BTO			pP	**PcP**	**02 33 15.0**	**+1.7**
BTO			sP	**pwP**	**02 33 17.5**	**-0.6**
BTO			PP	**PP**	**02 36 22.5**	**+4.2**
BTO			S	**SKSac**	**02 43 28.5**	**-0.8**
BTO			sS	**SKKSac**	**02 43 35.8**	**+2.7**
BTO			SS	**SS**	**02 48 54.5**	**+6.7**
BTO			pmax	pmax		
	comp=Z,36nm,1.3s					
BTO			pmax	pmax		
	comp=Z,2μm,11.1s					
BTO			LR	LR		
	comp=Z,3μm,18.7s					
BTO			LR	LR		
	comp=Z,3μm,18.8s					
BTO			LR	LR		
	comp=Z,3μm,18.2s					
TNCH	**TengChong**	**82.65 300**	*e*P	**P**	**02 33 10.8**	**+1.8**
TNCH			pP	PcP	02 33 13.8	-0.2
TNCH			S	**S**	**02 43 26.8**	**+0.2**
TNCH			SS	**SS**	**02 48 51.5**	**+2.4**
TNCH			pmax	pmax		
	comp=Z,630nm,4.6s					
TNCH			LR	LR		
	comp=Z,950nm,15.3s					
TNCH			LR	LR		
	comp=Z,1μm,13.0s					
TNCH			LR	LR		
	comp=Z,780nm,14.5s					
ZEA	**Zeya**	**83.14 336**	*e*P	**P**	**02 33 12.3**	**+1.7**
ZEA			pmax	pmax		
	comp=Z,30nm,1.2s					
SII	**Sitkinak Islan**	**83.66 19**	P	**P**	**02 33 12.9**	**-0.4**
	baz=214					
R17K	**Ugashik Creek**	**83.92 18**	P	**P**	**02 33 13.8**	**-0.7**
	baz=212					
ELIB	**Princess Elisa**	**83.93 190**	*d*P	**P**	**02 33 13.4**	**-1.4**
	comp=Z,27nm,1.4s					
O14K	**Tigyukauivet M**	**84.04 15**	P	**P**	**02 33 14.4**	**-0.7**
	baz=208					
LZH	**Lanzhou**	**84.12 312**	⇑P	**P**	**02 33 18.5**	**+2.2**
LZH			sP	pwP	02 33 31.5	+5.4
LZH			S	**S**	**02 43 44.5**	**+3.6**
LZH			pmax	pmax		
	comp=Z,39nm,1.5s					
LZH			LR	LR		
	comp=Z,2μm,15.5s					
LZH			LR	LR		
	comp=Z,1μm,14.4s					
LZH			LR	LR		
	comp=Z,2μm,15.1s					
O15K	**Ungalikthiuk R**	**84.33 15**	P	**P**	**02 33 16.1**	**-0.5**
	baz=209					
R18K	**Karluk**	**84.42 19**	P	**P**	**02 33 16.8**	**-0.2**
	baz=214					
N14K	**Kuskokwak Cree**	**84.54 14**	P	**P**	**02 33 17.4**	**-0.2**
	baz=207					
Q17K	**Contact Creek**	**84.59 18**	P	**P**	**02 33 17.3**	**-0.8**
	baz=213,SNR=11					
M13K	**Dall Lake**	**84.61 13**	P	**P**	**02 33 17.8**	**-0.1**
	baz=206					
P16K	**Nushagak River**	**84.67 16**	P	**P**	**02 33 17.2**	**-1.0**
	baz=211					
Q16K	**King Salmon**	**84.72 17**	P	**P**	**02 33 17.4**	**-1.1**
	baz=212,SNR=6.6					
PMSA	**Palmer Station**	**84.87 160**	P	**P**	**02 33 20.3**	**+0.8**
O16K	**Kokwok River B**	**85.13 16**	P	**P**	**02 33 19.2**	**-1.4**
	baz=211					
N15K	**Kwethluk River**	**85.13 15**	P	**P**	**02 33 20.6**	**0.0**
	baz=209,SNR=7.0					
SEY	**Seymchan**	**85.15 352**	*ce*P	**P**	**02 33 21.1**	**+0.5**
SEY			pmax	pmax		
	comp=Z,25nm,1.0s					
SEY	**Seymchan**	**85.15 352**	LR	LR	03 09 28.4	
	comp=Z,3μm,18.8s,baz=162,slow=34					
Q18K	**Katmai Hardscr**	**85.16 18**	P	**P**	**02 33 20.0**	**-0.9**
	baz=213,SNR=10					
KDAK	**Kodiak Island**	**85.17 19**	P	**P**	**02 33 20.3**	**-0.5**
	baz=216					
KDAK	**Kodiak Island**	**85.17 19**	*i* P	**P**	**02 33 20.0**	**-0.8**
KDAK			pmax	pmax		
	comp=Z,75nm,1.3s					
M14K	**Bethel**	**85.22 14**	P	**P**	**02 33 20.0**	**-1.0**
M14K	**Bethel**	**85.22 14**	P	**P**	**02 33 21.1**	**+0.1**
	baz=207,SNR=7.8					
P17K	**Kvichak River**	**85.22 17**	P	**P**	**02 33 20.0**	**-1.0**
	baz=212					
M15K	**Kasigluk River**	**85.46 14**	P	**P**	**02 33 21.2**	**-0.9**
	baz=208,SNR=8.9					
O17K	**Koliganek Bris**	**85.54 16**	P	**P**	**02 33 21.9**	**-0.7**
	baz=212					
L14K	**Kuka Creek**	**85.59 13**	P	**P**	**02 33 22.1**	**-0.7**
	baz=206,SNR=7.9					
N16K	**Nishlik Lake**	**85.72 15**	P	**P**	**02 33 23.1**	**-0.5**
	baz=210,SNR=9.1					
P18K	**Big Mountain,**	**85.72 17**	P	**P**	**02 33 22.5**	**-1.2**
	baz=213,SNR=5.7					
K13K	**Kusilvak Mount**	**85.73 12**	P	**P**	**02 33 23.4**	**-0.1**
	baz=205					
Q19K	**Cape Douglas,**	**85.79 18**	IAMs_20	IAMs_20	03 09 54.3	
	comp=Z,4μm,19.0s					
Q19K	**Cape Douglas,**	**85.79 18**	P	**P**	**02 33 22.8**	**-1.2**
	baz=215					
LKP	**Lekhapani**	**85.84 301**	*e*P	**P**	**02 33 26.2**	**+1.3**
Q20K	**Shuyak Island**	**85.90 19**	P	**P**	**02 33 23.6**	**-0.9**
	baz=216					
SAIH	**SAIHA**	**86.08 296**	*e*P	**P**	**02 33 28.2**	**+1.8**
SAIH			IAmb	IAmb	02 33 43.2	
	comp=Z,46nm,1.2s					
O18K	**Koktuh Hills**	**86.12 17**	P	**P**	**02 33 24.7**	**-0.8**
	baz=213					
L15K	**Ungalak Mounta**	**86.15 14**	P	**P**	**02 33 25.0**	**-0.6**
	baz=207					
M16K	**Timber Creek**	**86.15 15**	P	**P**	**02 33 25.3**	**-0.4**
M16K			IAmb	IAmb	02 33 27.5	
	comp=Z,70nm,1.1s					
M16K	**Timber Creek**	**86.15 15**	P	**P**	**02 33 25.1**	**-0.5**
	baz=210,SNR=10					
N17K	**Nushagak Hills**	**86.17 16**	P	**P**	**02 33 25.8**	**+0.1**
N17K			IAmb	IAmb	02 33 36.1	
	comp=Z,89nm,1.6s					
N17K	**Nushagak Hills**	**86.17 16**	P	**P**	**02 33 25.0**	**-0.8**
	baz=211					
IMP	**Imphal**	**86.28 298**	*e*P	**P**	**02 33 28.6**	**+1.3**
IMP			IAmb	IAmb	02 33 41.1	
	comp=Z,26nm,0.8s					
GAMB	**Gambell**	**86.28 8**	P	**P**	**02 33 25.3**	**-0.8**
	baz=198					
TROLL	**Troll, Antarti**	**86.31 184**	⇑P	**P**	**02 33 25.2**	**-1.5**
	comp=Z,1μm,0.7s					
MOKO	**MOKOCHONG**	**86.46 300**	*e*P	**P**	**02 33 29.0**	**+0.8**
MOKO			IAmb	IAmb	02 33 41.4	
	comp=Z,75nm,1.1s					
P19K	**Oil Pt**	**86.51 18**	P	**P**	**02 33 26.8**	**-0.7**
	baz=215					
KOHI	**KOHIMA**	**86.53 299**	*e*P	**P**	**02 33 29.0**	**+0.4**
N18K	**Kilae Creek**	**86.63 16**	P	**P**	**02 33 27.2**	**-0.8**
	baz=212					
L16K	**Owhat River**	**86.63 14**	IAmb	IAmb	02 33 29.4	
	comp=Z,31nm,1.2s					
L16K	**Owhat River**	**86.63 14**	P	**P**	**02 33 27.7**	**-0.3**
	baz=209					
NVL	**N'lazarevskaya**	**86.64 187**	*e*P	**P**	**02 33 29.2**	**+1.1**
NVL			*e*S	**SKSac**	**02 43 52.7**	**-1.5**
NVL			pmax	pmax		
	comp=Z,41nm,2.0s					
NVL			smax	smax		
	comp=E,3μm,10.1s					
DIBR	**DIBRUGARH**	**86.64 301**	*e*P	**P**	**02 33 31.0**	**+2.1**
O19K	**Port Alsworth**	**86.65 17**	IAmb	IAmb	02 33 28.6	
	comp=Z,30nm,1.1s					
O19K	**Port Alsworth**	**86.65 17**	P	**P**	**02 33 27.6**	**-0.5**
	baz=214					
J14K	**Nanvaranak Lak**	**86.69 12**	P	**P**	**02 33 27.8**	**-0.4**
	baz=206					
K15K	**Wolf Creek Mou**	**86.69 13**	P	**P**	**02 33 27.9**	**-0.3**
	baz=207					
ILSW	**Iliamna Southw**	**86.81 18**	IAmb	IAmb	02 33 29.2	
	comp=Z,35nm,1.2s					
M17K	**Holitna River**	**86.85 15**	P	**P**	**02 33 29.0**	**-0.1**
M17K	**Holitna River**	**86.85 15**	P	**P**	**02 33 28.9**	**-0.2**
	baz=211					
JORH	**JORHAT**	**86.85 300**	*e*P	**P**	**02 33 31.4**	**+1.5**
SNCC	**San Nicolas Is**	**87.09 53**	P	**P**	**02 33 30.2**	**-0.7**
	baz=242					
SILR	**SILCHAR**	**87.19 298**	*e*P	**P**	**02 33 32.2**	**+0.6**
L17K	**Donlin**	**87.28 15**	P	**P**	**02 33 31.5**	**+0.3**
	baz=210					
BRDH	**Bariadhala**	**87.28 296**	LR	LR	03 16 06.0	
	comp=Z,847nm,19.0s,baz=172,slow=38					
BRSE	**Bradley Lake S**	**87.32 19**	P	**P**	**02 33 31.6**	**+0.2**
	baz=217					
M18K	**Stony River**	**87.34 16**	P	**P**	**02 33 31.6**	**+0.2**
	baz=212,SNR=7.5					
SCZ2	**Santa Cruz Isl**	**87.36 52**	P	**P**	**02 33 31.4**	**-0.9**
	baz=242					
SAO	**San Andreas Ge**	**87.38 49**	P	**P**	**02 33 31.3**	**-1.0**
SAO			IAmb	IAmb	02 33 33.7	
	comp=Z,52nm,1.1s					
SAO	**San Andreas Ge**	**87.38 49**	P	**P**	**02 33 31.3**	**-1.0**
SAO			pmax	pmax		
	comp=Z,52nm,1.1s					
ITAN	**ITANAGAR**	**87.45 300**	*e*P	**P**	**02 33 35.0**	**+2.2**
GDXM	**Geysers**	**87.47 47**	IAmb	IAmb	02 33 43.4	

	comp=Z,60nm,1.3s						
SBC	**Santa Barbara**	**87.52**	**52**	P	**P**	**02 33 32.6**	**-0.4**
	baz=242						
VNA3	**Neumayer Olymp**	**87.53**	**180**	⇑P	**P**	**02 33 31.3**	**-1.2**
	comp=Z,22nm,0.8s						
PMPB	**Monarch Peak**	**87.57**	**50**	P	**P**	**02 33 33.0**	**-0.3**
PKM	**Mcpherson Peak**	**87.65**	**51**	P	**P**	**02 33 33.9**	**+0.1**
	baz=242						
BELO	**BELONIA**	**87.68**	**296**	*e*P	**P**	**02 33 36.6**	**+2.6**
SMMC	**Simmler**	**87.72**	**51**	P	**P**	**02 33 33.7**	**-0.3**
	baz=242						
CIT	**Chita**	**87.73**	**329**	*e*P	**P**	**02 33 34.4**	**+0.8**
L18K	**Granite Mounta**	**87.74**	**15**	IAmb	IAmb	02 33 46.2	
	comp=Z,24nm,1.2s						
L18K	**Granite Mounta**	**87.74**	**15**	P	**P**	**02 33 33.4**	**+0.1**
	baz=212						
J16K	**Anvik River**	**87.77**	**13**	P	**P**	**02 33 33.6**	**+0.1**
	baz=208,SNR=5.2						
K17K	**Iditarod**	**87.78**	**14**	P	**P**	**02 33 34.1**	**+0.5**
	baz=210						
VNA2	**Neumayer--Watz**	**87.82**	**181**	⇑P	**P**	**02 33 32.9**	**-1.0**
	comp=Z,21nm,0.6s,baz=183,slow=4.0						
TEZP	**TEZPUR**	**87.97**	**300**	*e*P	**P**	**02 33 35.8**	**+0.5**
TEZP				IAmb	IAmb	02 33 48.4	
	comp=Z,18nm,0.9s						
CIS	**Catalina Islan**	**87.99**	**53**	P	**P**	**02 33 34.7**	**-0.6**
	baz=243						
SEW	**Seward**	**88.00**	**19**	P	**P**	**02 33 35.6**	**+0.9**
	baz=218						
ANM	**Nome**	**88.01**	**11**	P	**P**	**02 33 35.2**	**+0.7**
	baz=204						
M19K	**Big River Lodg**	**88.06**	**16**	IAmb	IAmb	02 34 12.9	
	comp=Z,34nm,1.5s						
M19K	**Big River Lodg**	**88.06**	**16**	P	**P**	**02 33 35.4**	**+0.5**
	baz=214						
AGT	**Agartala**	**88.11**	**296**	*e*P	**P**	**02 33 38.6**	**+2.6**
VNA1	**Neumayer--Stat**	**88.11**	**181**	⇑P	**P**	**02 33 35.5**	**+0.3**
	comp=Z,26nm,1.0s						
L19K	**White Mountain**	**88.17**	**16**	IAmb	IAmb	02 33 37.2	
	comp=Z,29nm,1.4s						
L19K	**White Mountain**	**88.17**	**16**	P	**P**	**02 33 35.8**	**+0.3**
	baz=213						
SHL	**Shillong**	**88.28**	**298**	IAmb	IAmb	02 33 50.5	
	comp=Z,50nm,1.3s						
SHL	**Shillong**	**88.28**	**298**	*e*P	**P**	**02 33 37.7**	**+0.7**
KSXB	**Camp Six Broad**	**88.28**	**44**	P	**P**	**02 33 37.0**	**+0.4**
ARVC	**Arvin**	**88.48**	**51**	P	**P**	**02 33 37.3**	**-0.3**
	baz=242,SNR=7.9						
PASC	**Pasadena Art C**	**88.51**	**52**	IAmb	IAmb	02 33 46.7	
	comp=Z,60nm,1.4s						
TTA	**Tatalina**	**88.51**	**15**	P	**P**	**02 33 37.7**	**+0.6**
TTA	**Tatalina**	**88.51**	**15**	P	**P**	**02 33 37.3**	**+0.2**
	baz=212						
TTA	**Tatalina**	**88.51**	**15**	P	**P**	**02 33 37.7**	**+0.6**
TTA				pmax	pmax		
	comp=Z,17nm,1.2s						
TNA	**Tin City**	**88.52**	**9**	P	**P**	**02 33 36.7**	**-0.3**
	baz=202						
GTA	**Gaotai**	**88.56**	**314**	*e*P	**P**	**02 33 39.3**	**+1.3**
GTA				sP	pwP	02 33 52.0	+4.2
GTA				pmax	pmax		
	comp=Z,17nm,1.2s						
ULN	**Ulaanbaatar**	**88.57**	**323**	P	**P**	**02 33 38.0**	**+0.1**
ULN	**Ulaanbaatar**	**88.57**	**323**	*i* P	**P**	**02 33 38.1**	**+0.3**
ULN				pmax	pmax		
	comp=Z,76nm,2.2s						
ULN				MLR	MLR		
	comp=Z,2μm,18.0s						
P23K	**Montague Islan**	**88.57**	**20**	P	**P**	**02 33 36.9**	**-0.4**
	baz=220						
CCX	**Cicese**	**88.62**	**55**	IAMs_20	IAMs_20	03 13 07.0	
	comp=Z,4μm,18.0s						
VES	**Vestal, Richgr**	**88.62**	**51**	P	**P**	**02 33 37.4**	**-0.8**
	baz=242,SNR=8.7						
VOG	**Valley Oaks Go**	**88.63**	**50**	P	**P**	**02 33 36.9**	**-1.4**
	baz=242						
G15K	**Niukluk**	**88.64**	**11**	P	**P**	**02 33 37.1**	**-0.4**
	baz=205						
H16K	**Elim**	**88.65**	**12**	P	**P**	**02 33 37.5**	**-0.1**
	baz=207						
L20K	**Farewell, AK**	**88.67**	**16**	P	**P**	**02 33 36.9**	**-0.9**
	baz=214,SNR=7.5						
F14K	**Arctic Creek**	**88.69**	**10**	P	**P**	**02 33 37.3**	**-0.5**
	baz=203						
RC01	**Rabbit Creek A**	**88.70**	**19**	P	**P**	**02 33 36.9**	**-1.0**
	baz=218						
SUA	**Susitna One**	**88.70**	**18**	P	**P**	**02 33 37.3**	**-0.8**
	baz=217						
ORV	**Oroville**	**88.71**	**46**	IAmb	IAmb	02 33 48.7	
	comp=Z,62nm,1.2s						
109C	**Camp Elliot, M**	**88.74**	**54**	IAmb	IAmb	02 33 39.8	
	comp=Z,50nm,1.1s						
109C	**Camp Elliot, M**	**88.74**	**54**	P	**P**	**02 33 37.9**	**-0.9**
	baz=244						
J18K	**Innoko River**	**88.80**	**15**	P	**P**	**02 33 37.9**	**-0.5**
	baz=212						
CBX	**Cerro Bola**	**88.82**	**55**	IAmb	IAmb	02 33 40.6	
	comp=Z,65nm,1.6s						
ELS	**Elsinore Mount**	**88.84**	**53**	IAmb	IAmb	02 33 40.4	
	comp=Z,51nm,1.4s						
SKT	**Skwentna**	**88.89**	**17**	P	**P**	**02 33 39.5**	**+0.6**
	baz=216						
SONM	**Songino Array**	**88.92**	**323**	P	**P**	**02 33 40.6**	**+1.1**
	comp=Z,11nm,1.1s,baz=142,slow=4.8,SNR=27						
SONM				LR	LR	03 15 30.8	
	comp=Z,1μm,18.1s,baz=326,slow=37						
	comp=Z,11nm,1.1s						
BFSC	**Mount Baldy Ra**	**88.93**	**53**	P	**P**	**02 33 38.6**	**-1.2**
	baz=243,SNR=16						
PWL	**Port Wells**	**88.94**	**19**	P	**P**	**02 33 38.6**	**-0.5**
	baz=219						
YAK	**Yakutsk**	**88.95**	**343**	IAMs_20	IAMs_20	03 13 02.2	
	comp=Z,3μm,20.0s						
YAK	**Yakutsk**	**88.95**	**343**	*e*P	**P**	**02 33 39.2**	**+0.2**
YAK				*e*PPP	PPP	02 39 04.5	
YAK				*e*S	**SKSac**	**02 44 05.6**	**-2.2**
YAK				*e**SS	**S**	**02 44 26.1**	**-0.2**
YAK				*e*SS	**SS**	**02 50 15.7**	**-4.0**
YAK				pmax	pmax		
	comp=Z,26nm,1.0s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,1μm,7.2s						
YAK				pmax	pmax		
	comp=E,403nm,7.2s						
YAK				pmax	pmax		
	comp=N,664nm,7.4s						
YAK				smax	smax		
	comp=N,729nm,4.8s						
YAK				smax	smax		
	comp=E,390nm,4.7s						
YAK				MLR	MLR		
	comp=Z,4μm,19.0s						
YAK				MLR	MLR		
	comp=N,2μm,20.0s						
YAK				MLR	MLR		
	comp=E,670nm,19.0s						
TKX	**Tecate**	**88.97**	**54**	IAMs_20	IAMs_20	03 13 28.3	
	comp=Z,4μm,19.0s						
EDW2	**Edwards Air Fo**	**88.97**	**52**	P	**P**	**02 33 38.8**	**-1.2**
	baz=243,SNR=15						
ISA	**Isabella, Lake**	**88.98**	**51**	P	**P**	**02 33 38.8**	**-1.2**
	baz=243,SNR=21						
YBH	**Yreka Blue Hor**	**88.99**	**44**	IAmb	IAmb	02 33 50.6	
	comp=Z,55nm,1.3s						
MURC	**Murrieta**	**88.99**	**53**	P	**P**	**02 33 38.9**	**-1.1**
	baz=243,SNR=7.7						
CCAC	**Calif City Air**	**89.08**	**52**	IAmb	IAmb	02 33 50.7	
	comp=Z,50nm,1.2s						
CCAC				IAMs_20	IAMs_20	03 11 30.0	
	comp=Z,5μm,19.0s						
VTX	**Valle De La Tr**	**89.09**	**56**	IAmb	IAmb	02 33 51.0	
	comp=Z,66nm,1.4s						
M22K	**Willow**	**89.11**	**18**	P	**P**	**02 33 40.7**	**+0.9**
	baz=218						
ESJX	**Sierra Juarez**	**89.23**	**55**	IAmb	IAmb	02 33 52.0	
	comp=Z,89nm,1.8s						
MONP2	**Monument Peak**	**89.25**	**54**	P	**P**	**02 33 41.6**	**+0.1**
	baz=244,SNR=15						
PMR	**Palmer**	**89.28**	**19**	P	**P**	**02 33 40.9**	**+0.3**
	baz=218						
G16K	**Koyuk River**	**89.30**	**12**	P	**P**	**02 33 40.9**	**+0.3**
	baz=207						
DBO	**Dodson Butte**	**89.35**	**43**	IAmb	IAmb	02 33 43.0	
	comp=Z,38nm,1.1s						
K20K	**Telida**	**89.35**	**16**	P	**P**	**02 33 40.4**	**-0.6**
	baz=214						
H17K	**Granite Mounta**	**89.38**	**13**	P	**P**	**02 33 40.5**	**-0.6**
	baz=209						
EMB	**Emerald Bay**	**89.38**	**47**	IAmb	IAmb	02 33 52.1	
	comp=Z,56nm,1.2s						
EMB				IAMs_20	IAMs_20	03 10 47.6	
	comp=Z,4μm,21.0s						
IKP	**In-Ko-Pah, Jac**	**89.39**	**55**	P	**P**	**02 33 40.9**	**-1.1**
	baz=244,SNR=8.1						
LRMC	**Laurel Mtn Rad**	**89.47**	**51**	P	**P**	**02 33 41.8**	**-0.6**
	baz=243,SNR=6.4						
BBRC	**Big Bear Solar**	**89.49**	**53**	P	**P**	**02 33 41.8**	**-0.8**
	baz=244,SNR=5.4						
KAIM	**Kayak Island**	**89.50**	**21**	P	**P**	**02 33 42.3**	**+0.6**
	baz=223						
J19K	**Poorman**	**89.51**	**15**	P	**P**	**02 33 41.2**	**-0.4**
	baz=213						
YUH	**Yuha Desert**	**89.53**	**55**	IAmb	IAmb	02 33 43.8	
	comp=Z,55nm,1.2s						
PFO	**Pinyon Flats O**	**89.54**	**54**	P	**P**	**02 33 42.2**	**-0.5**
	baz=244,SNR=12						
PFO	**Pinyon Flats O**	**89.54**	**54**	LR	LR	03 06 47.9	
	comp=Z,2μm,19.4s,baz=57,slow=31						
TPFO	**Pinon Flats**	**89.54**	**54**	P	**P**	**02 33 42.3**	**-0.5**
	baz=244,SNR=14						
I03D	**Drain, OR**	**89.57**	**42**	IAmb	IAmb	02 33 52.9	
	comp=Z,50nm,1.2s						
CUT	**Chulitna**	**89.59**	**18**	P	**P**	**02 33 40.1**	**-1.9**
	baz=218						
CWC	**Cottonwood Cre**	**89.62**	**50**	P	**P**	**02 33 42.6**	**-0.5**
	baz=243						
PMD	**Palm Desert**	**89.62**	**54**	IAmb	IAmb	02 33 53.0	
	comp=Z,69nm,1.3s						
MLAC	**Mammoth, Mammo**	**89.63**	**49**	P	**P**	**02 33 43.0**	**-0.2**
	baz=242						
SML	**Sawmill**	**89.68**	**19**	P	**P**	**02 33 43.3**	**+0.7**
	baz=219						
RRX	**Edison Barstow**	**89.70**	**52**	P	**P**	**02 33 43.5**	**+0.2**
	baz=244						
G17K	**Kiwalik Mounta**	**89.73**	**12**	P	**P**	**02 33 43.4**	**+0.7**
	baz=208						
SWSC	**Sam W. Stewart**	**89.75**	**54**	P	**P**	**02 33 43.5**	**0.0**
	baz=244						
PNTR	**Pine Nut**	**89.78**	**47**	IAMs_20	IAMs_20	03 19 13.2	
	comp=Z,4μm,18.0s						
TIN	**Tinemaha, Big**	**89.79**	**50**	P	**P**	**02 33 43.4**	**-0.4**
	baz=243,SNR=8.2						
DIB	**Dawson Inlet,**	**89.84**	**31**	IAmb	IAmb	02 33 44.7	
	comp=Z,43nm,1.0s						
M23K	**Glacier View**	**89.85**	**19**	P	**P**	**02 33 41.8**	**-1.5**
	baz=220						
GCSA	**Galena City Sc**	**89.86**	**14**	P	**P**	**02 33 43.2**	**0.0**
	baz=212						
MPMC	**Manual Prospec**	**89.87**	**51**	P	**P**	**02 33 43.9**	**-0.4**
	baz=243,SNR=28						
H18K	**Honhosa River**	**89.89**	**13**	P	**P**	**02 33 42.9**	**-0.6**
	baz=210						
CPBX	**Cerro Prieto**	**89.90**	**55**	IAMs_20	IAMs_20	03 07 45.9	
	comp=Z,4μm,21.0s						
CAST	**Castle Rocks**	**89.91**	**16**	P	**P**	**02 33 41.2**	**-2.4**
	baz=216,SNR=6.7						
YERR	**Yerington**	**89.98**	**48**	IAmb	IAmb	02 33 45.9	
	comp=Z,52nm,1.1s						
J20K	**Nowinta River**	**90.02**	**15**	P	**P**	**02 33 43.5**	**-0.6**
	baz=214						
GSC	**Goldstone, Bar**	**90.03**	**52**	IAmb	IAmb	02 33 54.5	
	comp=Z,38nm,1.1s						
GSC	**Goldstone, Bar**	**90.03**	**52**	P	**P**	**02 33 43.9**	**-1.0**
	baz=244,SNR=15						
BUCK	**Buck Mountain**	**90.05**	**42**	IAMs_20	IAMs_20	03 15 33.0	
	comp=Z,5μm,19.0s						
COR	**Corvallis**	**90.05**	**41**	IAMs_20	IAMs_20	03 16 37.9	
	comp=Z,4μm,20.0s						
BELC	**Belle Mtn. Jos**	**90.06**	**53**	P	**P**	**02 33 44.3**	**-0.9**
	baz=244,SNR=26						
HEC	**Hector,Ludlow**	**90.17**	**52**	P	**P**	**02 33 44.7**	**-0.9**
	baz=244,SNR=8.4						
KLU	**Klutina**	**90.18**	**20**	P	**P**	**02 33 45.2**	**+0.2**
	baz=221						
BMRM	**Bremner River**	**90.21**	**21**	P	**P**	**02 33 45.2**	**+0.1**
	baz=222						
PAHR	**Pah Rah Range**	**90.22**	**47**	IAMs_20	IAMs_20	03 18 57.7	
	comp=Z,4μm,18.0s						
CHUM	**Lake Minchumin**	**90.23**	**16**	P	**P**	**02 33 45.2**	**+0.1**
	baz=216						
SNH	**Sunshine Point**	**90.23**	**22**	IAMs_20	IAMs_20	03 21 04.0	
	comp=Z,4μm,19.0s						
QSM	**Queen of Sheba**	**90.28**	**51**	IAMs_20	IAMs_20	03 09 47.8	
	comp=Z,5μm,20.0s						
BC3	**Big Chuckawall**	**90.32**	**54**	P	**P**	**02 33 45.6**	**-0.8**
	baz=244,SNR=18						
NVAR	**Mina Array Bea**	**90.37**	**49**	P	**P**	**02 33 45.0**	**-1.6**
	comp=Z,23nm,0.9s,baz=228,slow=7.6,SNR=26						
	comp=Z,23nm,0.9s						
GRAC	**Grapevine Rang**	**90.38**	**50**	P	**P**	**02 33 46.0**	**-0.5**
	baz=243,SNR=20						
G03D	**McMinnville, O**	**90.39**	**41**	IAMs_20	IAMs_20	03 15 25.0	
	comp=Z,3μm,19.0s						
WAT1	**Susitna Watana**	**90.42**	**18**	P	**P**	**02 33 45.5**	**-0.5**
	baz=219						
TRF	**Thorofare Moun**	**90.42**	**17**	P	**P**	**02 33 45.1**	**-1.0**
	baz=218						
F17K	**Baldwin Pennin**	**90.45**	**11**	IAmb	IAmb	02 33 56.6	
	comp=Z,68nm,1.9s						
F17K	**Baldwin Pennin**	**90.45**	**11**	P	**P**	**02 33 46.0**	**0.0**
	baz=208						
I20K	**Naaghedeneel**	**90.45**	**15**	IAmb	IAmb	02 33 46.8	
	comp=Z,37nm,1.2s						
I20K	**Naaghedeneel**	**90.45**	**15**	P	**P**	**02 33 45.2**	**-0.9**
	baz=214						
WAT6	**Susitna Watana**	**90.46**	**18**	P	**P**	**02 33 45.8**	**-0.6**
	baz=220						
G18K	**Tagagawik**	**90.47**	**13**	P	**P**	**02 33 45.7**	**-0.5**
	baz=210						
FURC	**Furnace Creek,**	**90.51**	**51**	P	**P**	**02 33 45.9**	**-1.0**
	baz=244,SNR=18						
GLA	**Glamis**	**90.53**	**55**	P	**P**	**02 33 46.5**	**-0.8**
	baz=245						
GOMU	**GeErMu**	**90.56**	**309**	P	**P**	**02 33 51.3**	**+3.5**
M24K	**Tolsona, Glenn**	**90.57**	**19**	P	**P**	**02 33 45.7**	**-1.0**
	baz=221						
GMN	**Gold Mountain**	**90.59**	**50**	IAmb	IAmb	02 33 48.6	
	comp=Z,24nm,1.0s						
GMN				IAMs_20	IAMs_20	03 13 05.0	
	comp=Z,4μm,20.0s						
H19K	**Roundabout Mou**	**90.62**	**14**	P	**P**	**02 33 46.3**	**-0.5**
	baz=212						
SLBS	**Sierra La Lagu**	**90.64**	**65**	P	**P**	**02 33 48.7**	**+0.7**
GMRC	**Granite Mounta**	**90.65**	**53**	P	**P**	**02 33 47.4**	**-0.5**
	baz=244,SNR=23						
MZP	**Montezuma Peak**	**90.69**	**50**	IAMs_20	IAMs_20	03 08 11.4	
	comp=Z,3μm,21.0s						
N25K	**Chitina, Valde**	**90.69**	**20**	P	**P**	**02 33 46.7**	**-0.6**
	baz=222						
TUQ	**Turquoise Moun**	**90.74**	**52**	P	**P**	**02 33 47.1**	**-1.2**
	baz=244,SNR=7.1						
IRM	**Iron Mountain**	**90.76**	**53**	P	**P**	**02 33 47.4**	**-0.9**
	baz=245,SNR=20						
H04A	**Detroit Lake**	**90.79**	**42**	IAmb	IAmb	02 33 58.0	
	comp=Z,50nm,1.2s						
GLB	**Gilahina Butte**	**90.82**	**21**	IAmb	IAmb	02 33 49.2	
	comp=Z,37nm,1.3s						
E17K	**Hotham Inlet**	**90.92**	**11**	P	**P**	**02 33 48.4**	**+0.2**
	baz=207,SNR=8.3						
CRAG	**Craig**	**90.94**	**29**	P	**P**	**02 33 48.3**	**-0.2**
	baz=232						
H20K	**Anotleneega Mo**	**90.94**	**14**	P	**P**	**02 33 47.7**	**-0.6**
	baz=213						
PIX	**Pinacate**	**90.95**	**56**	IAmb	IAmb	02 33 59.0	
	comp=Z,34nm,1.1s						
PIX				IAMs_20	IAMs_20	03 06 59.0	
	comp=Z,3μm,20.0s						
SIT	**Sitka**	**90.98**	**27**	P	**P**	**02 33 48.1**	**-0.5**
	baz=230						
TABL	**Table Mountain**	**91.01**	**22**	IAmb	IAmb	02 33 49.1	
	comp=Z,35nm,1.0s						
G19K	**Purcell Mounta**	**91.01**	**13**	P	**P**	**02 33 48.6**	**0.0**
	baz=211,SNR=5.7						
MCK	**McKinley**	**91.02**	**17**	P	**P**	**02 33 48.2**	**-0.5**
	baz=219						
MCARA	**McCarthy VSAT**	**91.04**	**21**	IAmb	IAmb	02 33 57.5	
	comp=Z,35nm,1.2s						
MCARA	**McCarthy VSAT**	**91.04**	**21**	P	**P**	**02 33 48.9**	**0.0**
	baz=224						
PINM	**Pinnacle**	**91.09**	**23**	P	**P**	**02 33 48.7**	**-0.5**
	baz=226						
HARP	**HAARP**	**91.10**	**19**	P	**P**	**02 33 48.6**	**-0.5**
	baz=222						
PNL	**Peninsula**	**91.11**	**23**	P	**P**	**02 33 48.6**	**-0.7**
	baz=227						
PALK	**Pallekele**	**91.14**	**277**	IAMs_20	IAMs_20	03 18 36.1	
	comp=Z,2μm,18.0s						
PALK	**Pallekele**	**91.14**	**277**	LR	LR	03 18 00.5	
	comp=Z,2μm,19.1s,baz=240,slow=38						
I05D	**Terrebonne, OR**	**91.15**	**42**	IAmb	IAmb	02 33 51.1	
	comp=Z,50nm,1.1s						
NLWA	**Neilton Lookou**	**91.15**	**39**	IAmb	IAmb	02 33 51.5	
	comp=Z,55nm,1.4s						
TPNV	**Topopah Spring**	**91.16**	**51**	P	**P**	**02 33 48.9**	**-1.3**
	baz=244,SNR=22						
S31K	**Pelican**	**91.19**	**26**	P	**P**	**02 33 49.8**	**+0.2**
	baz=230						
BCPM	**Bancas Point**	**91.21**	**23**	IAMs_20	IAMs_20	03 21 30.0	
	comp=Z,4μm,18.0s						
113A	**Mohawk Valley,**	**91.22**	**55**	IAmb	IAmb	02 34 00.7	
	comp=Z,56nm,1.3s						
D17K	**Noatak River**	**91.26**	**10**	P	**P**	**02 33 49.7**	**0.0**
	baz=206						
BARN	**Barnard Glacie**	**91.27**	**22**	IAmb	IAmb	02 33 50.5	
	comp=Z,46nm,1.1s						
CTG	**Chitna Glacier**	**91.31**	**22**	P	**P**	**02 33 50.0**	**-0.4**
	baz=225						
U33K	**Whale Pass**	**91.33**	**28**	P	**P**	**02 33 49.9**	**-0.4**
	baz=232,SNR=10						
BBB	**Bella Bella**	**91.40**	**33**	LR	LR	03 11 12.8	
	comp=Z,2μm,18.1s,baz=76,slow=33						
NEE2	**Needles Airpor**	**91.42**	**53**	P	**P**	**02 33 51.5**	**+0.2**
	baz=245						
C16K	**Lisburne Hills**	**91.42**	**9**	P	**P**	**02 33 50.7**	**+0.2**
	baz=204						
PAX	**Paxson**	**91.44**	**19**	P	**P**	**02 33 50.7**	**-0.1**
	baz=222						
HOOD	**Mount Hood Mea**	**91.44**	**41**	IAmb	IAmb	02 33 52.3	
	comp=Z,52nm,1.2s						
GRNB	**Grenville Isla**	**91.44**	**31**	IAmb	IAmb	02 33 52.5	
	comp=Z,24nm,1.1s						
E18K	**Tukpahlearik C**	**91.44**	**11**	IAmb	IAmb	02 33 52.7	
	comp=Z,21nm,1.0s						
E18K	**Tukpahlearik C**	**91.44**	**11**	P	**P**	**02 33 50.9**	**+0.3**
	baz=208,SNR=7.3						
F19K	**Shaleruckik Mo**	**91.47**	**12**	IAmb	IAmb	02 33 51.7	
	comp=Z,44nm,1.6s						
F19K	**Shaleruckik Mo**	**91.47**	**12**	P	**P**	**02 33 49.9**	**-0.8**
	baz=211,SNR=5.8						
V35K	**Ketchikan**	**91.53**	**29**	P	**P**	**02 33 50.6**	**-0.7**
	baz=233,SNR=15						
S32K	**Killisnoo**	**91.56**	**27**	IAmb	IAmb	02 33 52.2	
	comp=Z,32nm,1.1s						
S32K	**Killisnoo**	**91.56**	**27**	P	**P**	**02 33 51.0**	**-0.3**
	baz=231						
H21K	**Melozitna Rive**	**91.56**	**15**	P	**P**	**02 33 50.8**	**-0.4**
	baz=215						
MLY	**Manley**	**91.57**	**16**	P	**P**	**02 33 51.0**	**-0.3**
	baz=217						
O28M	**Mount Upton**	**91.58**	**22**	P	**P**	**02 33 50.5**	**-1.2**
	baz=226,SNR=8.6						
PDMCI	**Parker Dam,Lak**	**91.58**	**54**	P	**P**	**02 33 50.7**	**-1.4**
	baz=245,SNR=21						
214A	**Organ Pipe Nat**	**91.62**	**56**	IAmb	IAmb	02 34 02.8	
	comp=Z,55nm,1.4s						
214A	**Organ Pipe Nat**	**91.62**	**56**	P	**P**	**02 33 51.5**	**-0.9**
	baz=246						
V12A	**Nelson**	**91.65**	**52**	IAmb	IAmb	02 34 02.7	
	comp=Z,48nm,1.2s						
NEA2	**Nenana**	**91.65**	**17**	P	**P**	**02 33 50.9**	**-0.7**
	baz=219						
P29M	**Windy Craggy**	**91.70**	**24**	P	**P**	**02 33 51.2**	**-0.8**
	baz=228,SNR=8.3						
B04A	**Port Angeles**	**91.70**	**38**	IAMs_20	IAMs_20	03 18 54.3	
	comp=Z,5μm,20.0s						
SHPR	**Sheep Range**	**91.76**	**51**	IAmb	IAmb	02 33 54.6	
	comp=Z,25nm,1.2s						
SHPR				IAMs_20	IAMs_20	03 10 06.0	
	comp=Z,2μm,20.0s						
M26K	**Nabesna, AK**	**91.79**	**20**	IAmb	IAmb	02 33 53.3	
	comp=Z,44nm,1.5s						
M26K	**Nabesna, AK**	**91.79**	**20**	P	**P**	**02 33 51.6**	**-0.8**
	baz=224,SNR=6.4						
O29M	**Mount Kennedy**	**91.84**	**23**	P	**P**	**02 33 51.6**	**-1.2**
	baz=228						
WRAK	**Wrangell Islan**	**91.86**	**28**	P	**P**	**02 33 52.0**	**-0.8**
	baz=233,SNR=14						
C17K	**DeLong Mountai**	**91.94**	**10**	P	**P**	**02 33 52.2**	**-0.8**
	baz=206,SNR=5.9						
K24K	**Donnelly Dome**	**91.97**	**18**	P	**P**	**02 33 52.2**	**-1.0**
	baz=222						
I23K	**Minto, Yukon-K**	**92.02**	**16**	P	**P**	**02 33 52.2**	**-1.0**
	baz=218						
ZAK	**Zakamensk**	**92.02**	**324**	*e*P	**P**	**02 33 53.8**	**0.0**
ZAK				pmax	pmax		
	comp=Z,39nm,1.5s						
G06A	**Carlson Farm,**	**92.02**	**42**	IAmb	IAmb	02 34 15.0	
	comp=Z,28nm,1.2s						
PGC	**Sidney**	**92.03**	**38**	IAmb	IAmb	02 34 04.0	
	comp=Z,50nm,1.5s						
LON	**Longmire**	**92.04**	**40**	IAmb	IAmb	02 34 03.8	
	comp=Z,26nm,1.4s						
F20K	**Avaraart Lake**	**92.07**	**13**	IAmb	IAmb	02 33 54.6	
	comp=Z,22nm,1.1s						
F20K	**Avaraart Lake**	**92.07**	**13**	P	**P**	**02 33 52.7**	**-0.8**
	baz=213						
YUK8	**Steele Glacier**	**92.08**	**22**	P	**P**	**02 33 53.1**	**-1.0**
	baz=227						
R32K	**Eaglecrest**	**92.09**	**26**	P	**P**	**02 33 52.9**	**-0.9**
	baz=231						
HDA	**Harding Lake**	**92.09**	**18**	IAMs_20	IAMs_20	03 13 28.9	
	comp=Z,3μm,19.0s						
HDA	**Harding Lake**	**92.09**	**18**	P	**P**	**02 33 53.2**	**-0.5**
	baz=220,SNR=9.2						
H22K	**Ishtalitna Cre**	**92.10**	**15**	P	**P**	**02 33 52.7**	**-1.0**
	baz=216,SNR=6.6						
W13A	**Hualapai Mount**	**92.10**	**53**	IAmb	IAmb	02 34 05.0	
	comp=Z,42nm,1.2s						
W13A				IAMs_20	IAMs_20	03 09 43.2	
	comp=Z,5μm,20.0s						
G21K	**Allakaket**	**92.11**	**14**	IAmb	IAmb	02 33 54.5	
	comp=Z,33nm,1.4s						
G21K	**Allak

HYT	**Haines Junctio**	**92.58**	**23**	IAmb	IAmb	02 33 56.4	
	comp=Z,26nm,0.9s						
HYT	**Haines Junctio**	**92.58**	**23**	P	**P**	**02 33 55.3**	**-0.9**
	baz=229,SNR=9.9						
U35K	**Hyder**	**92.61**	**29**	IAMs_20	IAMs_20	03 09 44.4	
	comp=Z,3µm,20.0s						
SCRK	**Sand Creek**	**92.63**	**19**	IAmb	IAmb	02 33 56.6	
	comp=Z,23nm,1.2s						
SCRK	**Sand Creek**	**92.63**	**19**	P	**P**	**02 33 55.4**	**-0.9**
	baz=223,SNR=7.0						
L27K	**Beaver Creek,**	**92.64**	**20**	IAmb	IAmb	02 33 56.5	
	comp=Z,23nm,1.4s						
L27K	**Beaver Creek,**	**92.64**	**20**	P	**P**	**02 33 55.1**	**-1.2**
	baz=225,SNR=5.5						
J25K	**Salcha River,**	**92.70**	**18**	IAMs_20	IAMs_20	03 06 47.9	
	comp=Z,3µm,22.0s						
J25K	**Salcha River,**	**92.70**	**18**	P	**P**	**02 33 55.8**	**-0.7**
	baz=222						
F21K	**Alatna River**	**92.70**	**14**	IAmb	IAmb	02 33 57.1	
	comp=Z,40nm,1.4s						
F21K	**Alatna River**	**92.70**	**14**	P	**P**	**02 33 55.7**	**-0.8**
	baz=215						
F07A	**Phinny Hill Vi**	**92.77**	**41**	IAmb	IAmb	02 34 07.4	
	comp=Z,30nm,1.3s						
D19K	**Kuna River**	**92.84**	**12**	IAmb	IAmb	02 33 58.2	
	comp=Z,38nm,1.3s						
D19K	**Kuna River**	**92.84**	**12**	P	**P**	**02 33 56.8**	**-0.4**
	baz=210						
G22K	**Bettles**	**92.90**	**15**	P	**P**	**02 33 56.7**	**-0.6**
	baz=216,SNR=13						
H24K	**Noodor Dome**	**92.94**	**16**	P	**P**	**02 33 56.8**	**-0.8**
	baz=220						
B18K	**Kokolik River**	**92.97**	**10**	P	**P**	**02 33 57.9**	**+0.3**
	baz=207						
LTY	**Liberty**	**92.97**	**40**	IAmb	IAmb	02 33 59.1	
	comp=Z,25nm,1.4s						
E20K	**Nigu River**	**93.00**	**12**	P	**P**	**02 33 58.1**	**+0.2**
	baz=212,SNR=24						
O30N	**Mendenhall**	**93.07**	**24**	P	**P**	**02 33 57.2**	**-1.1**
	baz=230						
G23K	**Bananza Creek**	**93.09**	**15**	IAmb	IAmb	02 33 59.1	
	comp=Z,21nm,1.3s						
G23K	**Bananza Creek**	**93.09**	**15**	P	**P**	**02 33 57.5**	**-0.8**
	baz=218,SNR=7.4						
G08A	**Pilot Rock**	**93.09**	**42**	IAmb	IAmb	02 33 59.8	
	comp=Z,18nm,1.1s						
G08A				IAMs_20	IAMs_20	03 11 03.4	
	comp=Z,5µm,20.0s						
C19K	**Lookout Ridge**	**93.11**	**11**	IAmb	IAmb	02 33 59.9	
	comp=Z,28nm,1.1s						
C19K	**Lookout Ridge**	**93.11**	**11**	P	**P**	**02 33 58.1**	**-0.3**
	baz=209						
T35M	**Bob Quinn**	**93.13**	**29**	IAmb	IAmb	02 34 08.3	
	comp=Z,27nm,1.3s						
T35M	**Bob Quinn**	**93.13**	**29**	P	**P**	**02 33 58.9**	**+0.2**
	baz=234,SNR=5.4						
E07A	**Sunnyside**	**93.13**	**41**	IAmb	IAmb	02 34 00.3	
	comp=Z,41nm,1.6s						
J26L	**Joseph Creek**	**93.14**	**19**	IAmb	IAmb	02 34 08.2	
	comp=Z,34nm,1.3s						
J26L	**Joseph Creek**	**93.14**	**19**	P	**P**	**02 33 58.2**	**-0.5**
	baz=224,SNR=9.0						
N30M	**Aishikik Lake**	**93.16**	**23**	P	**P**	**02 33 58.2**	**-0.6**
	baz=229						
F22K	**John River**	**93.22**	**14**	P	**P**	**02 33 58.3**	**-0.6**
	baz=216						
P32M	**Atlin**	**93.24**	**25**	P	**P**	**02 33 58.8**	**-0.3**
	baz=232						
HAWA	**Hanford**	**93.25**	**41**	IAmb	IAmb	02 34 09.7	
	comp=Z,34nm,1.3s						
K27K	**Chicken**	**93.25**	**19**	IAmb	IAmb	02 33 59.9	
	comp=Z,29nm,1.1s						
K27K	**Chicken**	**93.25**	**19**	P	**P**	**02 33 58.4**	**-0.7**
	baz=225						
S34M	**Telegraph Cree**	**93.29**	**28**	P	**P**	**02 33 59.1**	**-0.3**
	baz=234,SNR=12						
D20K	**Etivluk River**	**93.31**	**12**	P	**P**	**02 33 59.3**	**0.0**
	baz=212						
M29M	**Somme Creek**	**93.33**	**22**	IAmb	IAmb	02 33 59.8	
	comp=Z,19nm,0.9s						
M29M	**Somme Creek**	**93.33**	**22**	P	**P**	**02 33 58.5**	**-1.1**
	baz=228,SNR=11						
PRP	**Porcupine Dome**	**93.33**	**17**	P	**P**	**02 33 58.4**	**-1.2**
	baz=222						
TUC	**Tucson**	**93.34**	**57**	P	**P**	**02 34 00.4**	**+0.1**
TUC				IAmb	IAmb	02 34 10.7	
	comp=Z,29nm,1.2s						
TUC	**Tucson**	**93.34**	**57**	P	**P**	**02 33 59.1**	**-1.2**
	baz=247						
TUC	**Tucson**	**93.34**	**57**	P	**P**	**02 34 00.4**	**+0.1**
TUC				pmax	pmax		
	comp=Z,29nm,1.3s						
LCMT	**Little Creek M**	**93.37**	**52**	IAmb	IAmb	02 34 10.6	
	comp=Z,38nm,1.3s						
SPR3	**Spring Creek 3**	**93.41**	**49**	IAmb	IAmb	02 34 01.7	
	comp=Z,45nm,1.7s						
Q32M	**Nakina River**	**93.44**	**26**	IAmb	IAmb	02 34 01.3	
	comp=Z,28nm,1.0s						
Q32M	**Nakina River**	**93.44**	**26**	P	**P**	**02 33 59.7**	**-0.6**
	baz=233,SNR=9.2						
COLD	**Coldfoot**	**93.45**	**15**	P	**P**	**02 33 59.9**	**0.0**
	baz=218,SNR=15						
WHY	**Whitehorse**	**93.46**	**24**	P	**P**	**02 33 59.3**	**-0.9**
	baz=231,SNR=5.3						
CCUT	**Cedar City**	**93.50**	**51**	IAmb	IAmb	02 34 11.7	
	comp=Z,40nm,1.4s						
PSUT	**Pine Spring**	**93.56**	**50**	IAmb	IAmb	02 34 11.6	
	comp=Z,40nm,1.7s						
E08A	**Dider Farm, El**	**93.58**	**41**	IAmb	IAmb	02 34 02.0	
	comp=Z,23nm,1.3s						
E21K	**Killik River**	**93.61**	**13**	IAMs_20	IAMs_20	03 12 19.3	
	comp=Z,3µm,20.0s						
E21K	**Killik River**	**93.61**	**13**	P	**P**	**02 33 59.8**	**-0.8**
	baz=214						
N31M	**Braeburn, Yuko**	**93.65**	**23**	IAmb	IAmb	02 34 01.3	
	comp=Z,39nm,1.1s						
N31M	**Braeburn, Yuko**	**93.65**	**23**	P	**P**	**02 34 00.3**	**-0.7**
	baz=230,SNR=5.7						
KNB	**Kanab**	**93.68**	**52**	IAMs_20	IAMs_20	03 05 30.7	
	comp=Z,4µm,21.0s						
G24K	**Hadweenzic Riv**	**93.71**	**16**	IAmb	IAmb	02 34 02.1	
	comp=Z,43nm,1.6s						
G24K	**Hadweenzic Riv**	**93.71**	**16**	P	**P**	**02 33 60.0**	**-1.1**
	baz=220						
SZCU	**Shurtz Canyon**	**93.72**	**51**	IAmb	IAmb	02 34 12.7	
	comp=Z,78nm,1.9s						
H25L	**Birch Creek**	**93.82**	**17**	P	**P**	**02 34 00.6**	**-1.0**
	baz=222						
E22K	**Anaktuvuk Pass**	**93.82**	**14**	IAmb	IAmb	02 34 12.4	
	comp=Z,39nm,1.3s						
E22K	**Anaktuvuk Pass**	**93.82**	**14**	P	**P**	**02 34 01.2**	**-0.4**
	baz=216						
A19K	**Wainwright**	**93.83**	**10**	P	**P**	**02 34 01.4**	**-0.2**
	baz=208						
I26K	**Coal Creek Min**	**93.85**	**18**	IAmb	IAmb	02 34 02.2	
	comp=Z,30nm,1.1s						
I26K	**Coal Creek Min**	**93.85**	**18**	P	**P**	**02 34 00.7**	**-1.0**
	baz=224						
L29M	**L29M**	**93.89**	**21**	IAmb	IAmb	02 34 02.5	
	comp=Z,38nm,1.1s						
L29M	**L29M**	**93.89**	**21**	P	**P**	**02 34 01.3**	**-0.8**
	baz=228,SNR=14						
P33M	**Teslin, Yukon**	**93.98**	**25**	P	**P**	**02 34 01.2**	**-1.4**
	baz=233						
M30M	**Minto, Yukon**	**94.00**	**22**	P	**P**	**02 34 01.3**	**-1.2**
	baz=229,SNR=19						
C21K	**Knifeblade Rid**	**94.04**	**12**	P	**P**	**02 34 00.9**	**-1.7**
	baz=214						
EGAK	**Eagle**	**94.06**	**19**	P	**P**	**02 34 01.3**	**-1.5**
	baz=226,SNR=17						
DLBC	**Dease Lake**	**94.07**	**27**	IAmb	IAmb	02 34 04.0	
	comp=Z,30nm,1.2s						
DLBC	**Dease Lake**	**94.07**	**27**	P	**P**	**02 34 01.9**	**-1.1**
	baz=235,SNR=11						
G25K	**Bearman Lake**	**94.12**	**16**	P	**P**	**02 34 01.5**	**-1.4**
	baz=221						
DAWY	**Dawson**	**94.12**	**20**	IAmb	IAmb	02 34 03.3	
	comp=Z,31nm,1.1s						
DAWY	**Dawson**	**94.12**	**20**	P	**P**	**02 34 01.7**	**-1.5**
	baz=227						
WUAZ	**Wupatki**	**94.15**	**54**	IAmb	IAmb	02 34 05.5	
	comp=Z,36nm,1.1s						
WUAZ	**Wupatki**	**94.15**	**54**	P	**P**	**02 34 03.0**	**-1.1**
	baz=247,SNR=12						
319A	**Douglas**	**94.15**	**58**	IAmb	IAmb	02 34 05.5	
	comp=Z,19nm,1.0s						
PKCU	**Pink Cliffs**	**94.22**	**51**	IAMs_20	IAMs_20	03 05 17.2	
	comp=Z,5µm,22.0s						
R33M	**Jennings River**	**94.24**	**26**	IAmb	IAmb	02 34 13.9	
	comp=Z,32nm,1.3s						
R33M	**Jennings River**	**94.24**	**26**	P	**P**	**02 34 03.4**	**-0.5**
	baz=234,SNR=8.3						
D22K	**Ayikyak River**	**94.24**	**13**	IAmb	IAmb	02 34 04.8	
	comp=Z,38nm,1.1s						
D22K				IAMs_20	IAMs_20	03 12 10.0	
	comp=Z,4µm,20.0s						
D22K	**Ayikyak River**	**94.24**	**13**	P	**P**	**02 34 02.5**	**-1.1**
	baz=216						
F24K	**Squaw Lake**	**94.24**	**15**	P	**P**	**02 34 03.0**	**-0.6**
	baz=220,SNR=14						
E23K	**Chandalar**	**94.25**	**14**	P	**P**	**02 34 03.3**	**-0.4**
	baz=218						
B20K	**Meade River**	**94.32**	**11**	P	**P**	**02 34 03.6**	**-0.2**
	baz=211						
N32M	**Quiet Lake**	**94.45**	**24**	IAmb	IAmb	02 34 05.1	
	comp=Z,23nm,1.0s						
N32M	**Quiet Lake**	**94.45**	**24**	P	**P**	**02 34 03.9**	**-0.8**
	baz=232						
B21K	**Ikpikpuk River**	**94.46**	**12**	IAmb	IAmb	02 34 05.7	
	comp=Z,30nm,0.9s						
B21K	**Ikpikpuk River**	**94.46**	**12**	P	**P**	**02 34 03.9**	**-0.5**
	baz=214						
I27K	**Kandik River**	**94.51**	**18**	P	**P**	**02 34 04.0**	**-0.9**
	baz=225,SNR=8.1						
E24K	**Your Creek**	**94.53**	**15**	P	**P**	**02 34 04.0**	**-0.9**
	baz=219						
MTPU	**Mount Pierson**	**94.56**	**51**	IAmb	IAmb	02 34 16.2	
	comp=Z,25nm,1.3s						
K29M	**Barlow Dome**	**94.58**	**21**	P	**P**	**02 34 04.6**	**-0.8**
	baz=229,SNR=8.9						
M31M	**Drury Creek, Y**	**94.62**	**23**	P	**P**	**02 34 03.9**	**-1.5**
	baz=231,SNR=6.3						
TOLK	**Toolik Lake Re**	**94.72**	**14**	IAmb	IAmb	02 34 20.5	
	comp=Z,25nm,1.4s						
TOLK	**Toolik Lake Re**	**94.72**	**14**	P	**P**	**02 34 05.0**	**-0.7**
	baz=218,SNR=7.2						
D23K	**Nanushuk River**	**94.74**	**14**	P	**P**	**02 34 05.4**	**-0.4**
	baz=217						
J29N	**Klondike Camp**	**94.76**	**20**	P	**P**	**02 34 05.8**	**-0.3**
	baz=228,SNR=6.0						
X18A	**Snowflake**	**94.84**	**55**	IAmb	IAmb	02 34 08.6	
	comp=Z,23nm,1.3s						
F25K	**Christian Rive**	**94.86**	**16**	P	**P**	**02 34 06.1**	**-0.3**
	baz=222						
G26K	**Porcupine Rive**	**94.87**	**17**	P	**P**	**02 34 06.3**	**-0.1**
	baz=223						
I28M	**Miner Creek**	**94.90**	**19**	IAmb	IAmb	02 34 08.5	
	comp=Z,35nm,1.6s						
I28M	**Miner Creek**	**94.90**	**19**	P	**P**	**02 34 05.6**	**-1.2**
	baz=227,SNR=6.1						
DUG	**Dugway, Tooele**	**94.97**	**49**	P	**P**	**02 34 06.3**	**-1.5**
	baz=246						
MAYO	**Mayo, Yukon**	**94.97**	**22**	P	**P**	**02 34 05.4**	**-1.6**
	baz=230						
H27K	**Steamboat Moun**	**94.98**	**18**	P	**P**	**02 34 06.0**	**-1.0**
	baz=225,SNR=7.1						
FARO	**Faro, Yukon**	**95.02**	**23**	IAmb	IAmb	02 34 06.9	
	comp=Z,28nm,1.6s						
FARO	**Faro, Yukon**	**95.02**	**23**	P	**P**	**02 34 05.7**	**-1.5**
	baz=232						
H03S2	**Juan Fernandez**	**95.08**	**129**	T	T	04 19 38.5	
	baz=239						
H03S1	**Juan Fernandez**	**95.09**	**129**	T	T	04 19 42.1	
	baz=239						
H03S3	**Juan Fernandez**	**95.09**	**129**	T	T	04 19 41.0	
	baz=239						
BGU	**Big Grassy Mou**	**95.12**	**48**	IAMs_20	IAMs_20	03 13 21.5	
	comp=Z,4µm,19.0s						
HLID	**Hailey**	**95.26**	**45**	P	**P**	**02 34 07.8**	**-1.2**
	baz=246,SNR=7.0						
E25K	**Arctic Village**	**95.27**	**16**	P	**P**	**02 34 07.5**	**-0.8**
	baz=222,SNR=7.4						
B22K	**Teshekpuk Lake**	**95.29**	**12**	IAmb	IAmb	02 34 08.8	
	comp=Z,23nm,1.0s						
B22K	**Teshekpuk Lake**	**95.29**	**12**	P	**P**	**02 34 08.0**	**-0.2**
	baz=215						
D24K	**Happy Valley**	**95.30**	**14**	IAmb	IAmb	02 34 09.5	
	comp=Z,17nm,0.9s						
D24K	**Happy Valley**	**95.30**	**14**	P	**P**	**02 34 08.1**	**-0.3**
	baz=219						
F26K	**Sheenjek River**	**95.32**	**16**	P	**P**	**02 34 08.3**	**-0.2**
	baz=223						
I29M	**Ogilvie Camp,**	**95.35**	**20**	P	**P**	**02 34 07.3**	**-1.4**
	baz=228,SNR=13						
G27K	**Doyon Strip**	**95.35**	**18**	P	**P**	**02 34 07.4**	**-1.3**
	baz=225,SNR=5.7						
C23K	**Itkillik River**	**95.45**	**13**	P	**P**	**02 34 08.7**	**-0.3**
	baz=217						
J30M	**Hart River**	**95.46**	**21**	P	**P**	**02 34 08.6**	**-0.7**
	baz=230						
A22K	**Sinclair Lake**	**95.56**	**11**	P	**P**	**02 34 09.1**	**-0.4**
	baz=214						
NEW	**Newport**	**95.56**	**40**	IAMs_20	IAMs_20	03 12 51.4	
	comp=Z,5µm,20.0s						
Q16A	**Castle Valley**	**95.63**	**50**	IAmb	IAmb	02 34 20.5	
	comp=Z,17nm,1.2s						
121A	**Cookes Peak, D**	**95.77**	**57**	P	**P**	**02 34 10.1**	**-1.5**
	baz=248						
C24K	**Franklin Bluff**	**95.77**	**14**	P	**P**	**02 34 10.1**	**-0.4**
	baz=219						
I30M	**Mount Dempster**	**95.86**	**20**	P	**P**	**02 34 09.9**	**-1.2**
	baz=230,SNR=16						
H29M	**Whitestone**	**95.90**	**19**	IAmb	IAmb	02 34 40.8	
	comp=Z,28nm,1.2s						
H29M	**Whitestone**	**95.90**	**19**	P	**P**	**02 34 09.9**	**-1.3**
	baz=228,SNR=5.5						
D25K	**Kavik River**	**95.99**	**15**	P	**P**	**02 34 10.3**	**-1.3**
	baz=221						
LIRD	**Liard River Hi**	**96.31**	**28**	P	**P**	**02 34 12.0**	**-1.1**
	baz=238						
TCUT	**Toone Canyon**	**96.32**	**48**	IAmb	IAmb	02 34 22.4	
	comp=Z,10nm,0.8s						
E27K	**Coleen River**	**96.34**	**17**	IAmb	IAmb	02 34 14.1	
	comp=Z,23nm,1.1s						
E27K	**Coleen River**	**96.34**	**17**	P	**P**	**02 34 11.9**	**-1.3**
	baz=225,SNR=16						
F28M	**Old Crow**	**96.42**	**17**	P	**P**	**02 34 12.6**	**-1.0**
	baz=227,SNR=6.0						
G29M	**Pine Creek**	**96.47**	**18**	IAmb	IAmb	02 34 14.0	
	comp=Z,30nm,1.1s						
G29M				IAMs_20	IAMs_20	03 04 38.5	
	comp=Z,3µm,20.0s						
G29M	**Pine Creek**	**96.47**	**18**	P	**P**	**02 34 12.7**	**-1.1**
	baz=228						
EPYK	**Eagle Plains**	**96.50**	**19**	P	**P**	**02 34 12.6**	**-1.3**
	baz=230,SNR=7.5						
TGTN	**Hyland Airport**	**96.56**	**25**	P	**P**	**02 34 13.4**	**-1.0**
	baz=236						
HYB	**Hyderabad**	**96.70**	**286**	*e*P	**P**	**02 34 16.6**	**+0.6**
HYB				*e*SKSac	**SKSac**	**02 44 53.5**	**+0.5**
C26K	**Camden Bay**	**96.77**	**14**	P	**P**	**02 34 14.3**	**-0.7**
	baz=223						
TIXI	**Tiksi**	**96.89**	**348**	*c i*P	**P**	**02 34 14.9**	**-0.6**
H31M	**Peel River**	**96.89**	**20**	P	**P**	**02 34 14.6**	**-1.1**
	baz=232,SNR=5.0						
PLCA	**Paso Flores**	**96.96**	**139**	LR	LR	03 10 43.1	
	comp=Z,895nm,20.1s,baz=45,slow=31						
G30M	**tAoh Zraii Nji**	**97.05**	**19**	P	**P**	**02 34 15.2**	**-1.3**
	baz=230						
E28M	**Babbage River**	**97.19**	**17**	IAmb	IAmb	02 34 17.6	
	comp=Z,23nm,1.0s						
E28M	**Babbage River**	**97.19**	**17**	P	**P**	**02 34 16.4**	**-0.5**
	baz=227						
D27M	**Malcolm River**	**97.25**	**16**	P	**P**	**02 34 16.8**	**-0.5**
	baz=226						
MNTX	**Cornudas Mount**	**97.37**	**59**	P	**P**	**02 34 17.6**	**-1.1**
	baz=249						
E29M	**Blow River**	**97.49**	**17**	IAmb	IAmb	02 34 20.1	
	comp=Z,20nm,1.6s						
E29M	**Blow River**	**97.49**	**17**	P	**P**	**02 34 17.8**	**-0.5**
	baz=229						
KOTAN	**Kotaneelee Air**	**97.57**	**28**	P	**P**	**02 34 18.3**	**-0.5**
	baz=240						
F30M	**Barrier River**	**97.59**	**18**	P	**P**	**02 34 18.1**	**-0.7**
	baz=231						
G31M	**Satah River**	**97.61**	**19**	P	**P**	**02 34 17.8**	**-1.0**
	baz=232,SNR=6.8						
ANMO	**Albuquerque**	**97.67**	**56**	P	**P**	**02 34 20.0**	**-0.2**
ANMO	**Albuquerque**	**97.67**	**56**	P	**P**	**02 34 18.7**	**-1.5**
	baz=249						
ANMO	**Albuquerque**	**97.67**	**56**	P	**P**	**02 34 20.0**	**-0.2**
ANMO				pmax	pmax		
	comp=Z,13nm,1.7s						
D28M	**Stokes Point**	**97.89**	**16**	P	**P**	**02 34 19.7**	**-0.4**
	baz=226						
YHL	**Hebgen Lake**	**97.90**	**45**	IAmb	IAmb	02 34 33.6	
	comp=Z,13nm,1.3s						
TX31	**Lajitas Ar. Si**	**97.94**	**62**	IAmb	IAmb	02 34 22.4	
	comp=Z,27nm,1.3s						
TXAR	**Lajitas Array**	**97.94**	**62**	P	**P**	**02 34 19.7**	**-1.7**
	comp=Z,2.4nm,0.9s,baz=224,slow=3.5,SNR=7.3						
TXAR				LR	LR	03 13 41.7	
	comp=Z,3µm,18.0s,baz=68,slow=32						
	comp=Z,2.4nm,0.9s						
F31M	**Tsiigehtchic**	**98.09**	**19**	P	**P**	**02 34 19.6**	**-1.4**
	baz=232,SNR=9.3						
H17A	**Grant Village**	**98.13**	**46**	P	**P**	**02 34 21.2**	**-0.9**
	baz=248						
O20A	**White River Ci**	**98.19**	**50**	P	**P**	**02 34 22.4**	**0.0**
	baz=249						
BW06	**Boulder Array**	**98.22**	**47**	P	**P**	**02 34 22.2**	**-0.3**
	baz=249						
PDAR	**Pinedale Array**	**98.22**	**47**	P	**P**	**02 34 20.9**	**-1.6**
	comp=Z,2.4nm,0.9s,baz=240,slow=2.9,SNR=11						
PDAR				PKKPbc	**PKKPbc**	**02 50 52.6**	**-3.0**
	comp=Z,0.3nm,0.8s,baz=93,slow=5.8,SNR=1.6						
	comp=Z,2.4nm,0.9s						
ALPN	**Alpine**	**98.32**	**61**	IAmb	IAmb	02 34 31.9	
	comp=Z,17nm,1.6s						
S22A	**4UR Ranch, Cre**	**98.37**	**53**	IAmb	IAmb	02 34 34.1	
	comp=Z,15nm,1.6s						
S22A	**4UR Ranch, Cre**	**98.37**	**53**	P	**P**	**02 34 23.2**	**-0.2**
	baz=250						
WMQ	**Urumqi**	**98.64**	**314**	*e*P	Pdif	02 34 26.5	+2.3
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
INK	**Inuvik**	**98.69**	**18**	P	**P**	**02 34 23.1**	**-0.5**
	baz=233,SNR=5.8						
SDCO	**Great Sand Dun**	**99.36**	**53**	P	**Pdif**	**02 34 27.6**	**-0.3**
	baz=250						
MSTX	**Muleshoe**	**100.20**	**58**	P	**Pdif**	**02 34 30.8**	**-0.6**
	baz=251						
K22A	**Casper**	**100.27**	**48**	P	**Pdif**	**02 34 31.7**	**+0.1**
	baz=250						
833A	**Chaparral WMA,**	**101.15**	**64**	P	**Pdif**	**02 34 35.6**	**-0.1**
	baz=252						
AMTX	**Amarillo**	**101.35**	**57**	P	**Pdif**	**02 34 36.1**	**-0.3**
	baz=252						
RSSD	**Black Hills**	**102.46**	**47**	P	**Pdif**	**02 34 41.5**	**+0.2**
	baz=252						
MKAR	**Makanchi Array**	**103.22**	**315**	Pdiff	**Pdif**	**02 34 44.2**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=115,slow=5.8,SNR=6.6						
MKAR				PKKPbc	**PKKPbc**	**02 50 39.4**	**-1.6**
	comp=Z,1.5nm,1.0s,baz=270,slow=1.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**103.80**	**323**	Pdiff	**Pdif**	**02 34 49.4**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=90,slow=4.4,SNR=4.0						
BLOK	**Blackwell**	**105.36**	**56**	IAMs_20	IAMs_20	03 08 47.4	
	comp=Z,3µm,20.0s						
KURBB	**Kurchatov Arra**	**106.64**	**318**	Pdiff	**Pdif**	**02 34 59.9**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=103,slow=3.0,SNR=5.7						
KURBB				PP	**PKiKP**	**02 39 11.8**	**+1.8**
	comp=Z,1.1nm,0.9s,baz=92,slow=3.2,SNR=5.0						
KURBB				PKKPbc	**PKKPbc**	**02 50 27.5**	**-3.1**
	comp=Z,0.6nm,0.9s,baz=282,slow=2.7,SNR=3.3						
HDBT	**Hernando Brdge**	**110.62**	**59**	IAMs_20	IAMs_20	03 29 30.9	
	comp=Z,3µm,19.0s						
BRVK	**Borovoye**	**112.10**	**320**	*i* PKIKP	**PKiKP**	**02 39 19.9**	**-0.3**
BRVK				MLR	MLR		
	comp=Z,1µm,16.0s						
V55A	**Taylorsville**	**117.85**	**60**	IAMs_20	IAMs_20	03 24 11.2	
	comp=Z,2µm,18.0s						
M52A	**Chesterland**	**118.32**	**53**	IAMs_20	IAMs_20	03 31 58.0	
	comp=Z,2µm,18.0s						
ARU	**Arti**	**118.95**	**324**	*i* PKIKP	**PKPdf**	**02 39 33.2**	**0.0**
ARU						02 40 49.8	
ARU						02 46 45.1	
ARU				SP	SP	02 50 30.6	-7.1
ARU				SSS	SSS	03 01 41.1	
ARU	**Arti**	**118.95**	**324**	PKP	**PKPdf**	**02 39 30.7**	**-2.5**
	comp=Z,1.2nm,0.3s,baz=244,slow=22,SNR=1.8						
GEYT	**Alibeck**	**119.11**	**302**	PKP	**PKPdf**	**02 39 33.0**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=25,slow=3.8,SNR=5.0						
AKTO	**Aktyubinsk**	**119.60**	**317**	PKP	**PKPdf**	**02 39 34.5**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=148,slow=3.8,SNR=3.7						
W59A	**Clinton**	**120.01**	**61**	IAMs_20	IAMs_20	03 21 15.7	
	comp=Z,3µm,20.0s						
SADO	**Sadowa**	**120.09**	**50**	IAMs_20	IAMs_20	03 28 40.5	
	comp=Z,3µm,18.0s						
MEDO	**Medina**	**120.55**	**52**	IAMs_20	IAMs_20	03 38 42.9	
	comp=Z,2µm,20.0s						
DELO	**Deloro Mine**	**121.17**	**50**	IAMs_20	IAMs_20	03 26 01.2	
	comp=Z,3µm,20.0s						
SPITS	**Spitsbergen Ar**	**121.79**	**354**	PKP	**PKPdf**	**02 39 36.4**	**-1.7**
	comp=Z,7.6nm,0.8s,baz=106,slow=11,SNR=1.9						
MVL	**Millersville**	**122.02**	**56**	IAMs_20	IAMs_20	03 31 07.4	
	comp=Z,3µm,18.0s						
PRGR	**Permogore**	**124.40**	**331**	*e*PKIKP	**PKPdf**	**02 39 39.1**	**-4.4**
PRGR				pmax	pmax		
	comp=Z,11nm,1.1s						
DAG	**Danmarks Havn**	**124.52**	**2**	*i* P	**PKPdf**	**02 39 39.0**	**-4.4**
LVZ	**Lovozero**	**125.71**	**341**	*c i*PKIKP	**PKPdf**	**02 39 45.9**	**0.0**
LVZ				pmax	pmax		
	comp=Z,52nm,1.7s						
BELG	**Belogornoye**	**125.84**	**320**	PKP	**PKPdf**	**02 39 46.4**	**-0.1**
	comp=Z,16nm,0.9s,baz=16,slow=2.0,SNR=5.8						
APA	**Apatity**	**126.28**	**341**	‖ *i*PKIKP	**PKPdf**	**02 39 41.8**	**-5.2**
APA				*i*		02 41 39.3	
APA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
APA				MLR	MLR		
	comp=Z,2µm,18.0s						
ARCES	**ARCESS Array B**	**127.18**	**345**	PKP	**PKPdf**	**02 39 47.0**	**-1.6**
	comp=Z,1.6nm,0.7s,baz=5.7,slow=1.8,SNR=5.6						
MAK	**Makhachkala**	**127.25**	**308**	*e*P	**Pdif**	**02 36 19.9**	**-11**
MAK				*e*		02 46 46.3	
MAK				*e*PS	**PS**	**02 51 48.1**	**-6.3**
MAK				*e*SS	SS	02 58 53.6	-4.6
MAK				pmax	pmax		
	comp=Z,151nm,1.2s						
KLMR	**Klimovskoe**	**127.43**	**332**	*e*PKPdf	**PKPdf**	**02 39 47.7**	**-1.6**
KLMR				AMP		02 40 05.3	
	comp=Z,40nm,1.6s						
KLMR				*e*PP	PP	02 41 30.4	-19

MNK			*i* LRM	MLR	03 41 47.3	
	comp=Z,1μm,22.1s					
MNK			*i* LRM	MLR	03 43 06.2	
	comp=E,525nm,15.3s					
MNK	**Minsk**	**135.97 328**	*i* PKIKP	**PKPdf**	**02 40 02.4**	**-3.3**
MNK			*i*		02 42 41.5	
MNK			*i*		02 47 11.6	
MNK			*i* SS	SS	03 00 42.7	-0.7
MNK			*i* SSS	SSS	03 05 44.4	
MNK			pmax	pmax		
	comp=Z,12nm,1.1s					
MNK			MLR	MLR		
	comp=N,823nm,14.0s					
MNK			MLR	MLR		
	comp=Z,1μm,22.0s					
NACGM	**Naroch**	**136.28 329**	*e*PKP	**PKPdf**	**02 40 02.6**	**-3.7**
	comp=Z,19nm,0.8s,baz=55					
AKASG	**Malin Array Be**	**137.20 323***c*	*i*PKIKP	**PKiKP**	**02 40 10.3**	**+0.4**
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.6s					
AKASG	**Malin Array Be**	**137.20 323**	PKP	**PKPdf**	**02 40 07.5**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=61,slow=1.6,SNR=6.5					
NOA	**NORSAR Array B**	**137.55 344**	PKP	**PKPdf**	**02 40 08.9**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=36,slow=2.0,SNR=2.6					
HFS	**Hagfors**	**137.64 342**	PKIKP	**PKPdf**	**02 40 09.0**	**+0.4**
HFS	**Hagfors**	**137.64 342**	PKP	**PKPdf**	**02 40 09.0**	**+0.4**
	comp=Z,6.1nm,1.1s,baz=38,slow=9.5,SNR=5.0					
BRTR	**Keskin Array B**	**138.04 306***c*	*i*PKIKP	**PKPdf**	**02 40 10.8**	**+0.6**
BRTR			pmax	pmax		
	comp=Z,1.0nm,0.9s					
BRTR	**Keskin Array B**	**138.04 306**	PKP	**PKPdf**	**02 40 08.8**	**-1.4**
	comp=Z,1.3nm,0.9s,baz=8.0,slow=6.0,SNR=3.9					
LVV	**L'vov**	**140.52 324**	*e*PKIKP	**PKPdf**	**02 40 11.5**	**-2.7**
HARR	**Harsova**	**140.58 315**	⇑P	PKPpre	02 39 59.5	
HARR	**Harsova**	**140.58 315**	⇑PKHKP	PKPpre	02 39 59.5	
PSN	**Preselentsi**	**140.85 314**	P	**PKiKP**	**02 40 22.6**	**+5.0**
KWP	**Kalwaria Pacla**	**141.34 325**	*e*PKPdf	**PKiKP**	**02 40 18.1**	**-0.3**
ARR	**Arges**	**142.41 318**	⇓P	**PKPdf**	**02 40 14.7**	**-3.1**
OJC	**Ojcow**	**142.50 327**	*e*PKPdf	**PKiKP**	**02 40 19.5**	**-1.3**
MARR	**Marisel-Cluj**	**142.70 321**	⇑P	**PKPdf**	**02 40 11.7**	**-6.6**
NIE	**Niedzica**	**142.74 326**	*e*PKPdf	**PKPdf**	**02 40 19.7**	**+1.4**
PVL	**Pavlikeni**	**143.04 314**	P	**PKPdf**	**02 40 18.4**	**-0.5**
LANS	**Liptovska Anna**	**143.33 326**	*e*	**PKiKP**	**02 40 26.9**	**+4.3**
LANS	**Liptovska Anna**	**143.33 326**	*e*PKIKP	**PKiKP**	**02 40 26.9**	**+4.3**
GZR	**Gura Zlata**	**143.55 319**	⇑P	PKPbc	02 40 16.8	-0.3
GZR	**Gura Zlata**	**143.55 319**	⇑PKHKP	PKPpre	02 40 16.8	
SURR	**Surduc**	**143.76 320**	⇑P	PKPbc	02 40 18.2	+0.5
SIRR	**Siria**	**143.77 321**	⇓P	PKPab	02 40 14.3	-2.8
PSZ	**Piszkesteto**	**143.85 324**	⇑P	PKPbc	02 40 18.2	+0.2
PSZ	**Piszkesteto**	**143.85 324**	⇑PKIKP	PKPbc	02 40 18.2	+0.2
MPEP	**Malo Peshtene**	**143.89 315**	P	**PKPdf**	**02 40 19.3**	**-1.1**
MORC	**Moravsky Berou**	**143.90 328**	*e*PKP	**PKPdf**	**02 40 19.4**	**-0.9**
PGB	**Panagyurishte**	**143.96 314**	P	**PKPdf**	**02 40 20.3**	**-0.3**
KARP	**Karpathos**	**143.96 301**	PKPdf	**PKPdf**	**02 40 20.5**	**-0.4**
OSTC	**Ostas**	**144.00 330**	*e*PKP	**PKPdf**	**02 40 20.7**	**+0.3**
OSTC			*ex*	x	02 40 32.5	
OSTC	**Ostas**	**144.00 330**	*e*PKIKP	**PKPdf**	**02 40 20.7**	**+0.3**
VYHS	**Vyhne**	**144.06 326**	*e*PKP	PKPbc	02 40 19.2	+0.7
VYHS			*e*		02 40 33.9	
VYHS	**Vyhne**	**144.06 326**	*e*PKIKP	PKPbc	02 40 19.3	+0.8
KRLC	**Kraliky**	**144.07 329**	*e*PKP	**PKPab**	**02 40 17.1**	**-1.0**
KRLC			*ex*	x	02 40 29.9	
KRLC	**Kraliky**	**144.07 329**	*e*PKIKP	**PKPab**	**02 40 17.1**	**-1.0**
DPC	**Dobruska-Polom**	**144.10 330**	*e*PKP	**PKPab**	**02 40 16.5**	**-1.7**
DPC			*ex*	x	02 40 26.7	
DPC	**Dobruska-Polom**	**144.10 330**	*e*PKIKP	**PKPab**	**02 40 16.5**	**-1.7**
UPC	**Upice**	**144.13 330**	*e*PKP	PKPbc	02 40 18.8	+0.1
UPC	**Upice**	**144.13 330**	*e*PKIKP	PKPbc	02 40 18.8	+0.1
BZS	**Buzias**	**144.14 320**	⇓P	**PKPab**	**02 40 17.5**	**-0.9**
BZS	**Buzias**	**144.14 320**	⇓PKIKP	**PKPab**	**02 40 17.5**	**-0.9**
GORT1	**Trebel**	**144.21 337**	*e*PKPbc	PKPbc	02 40 19.3	+0.6
	baz=36,slow=2.9					
JAVC	**Velka Javorina**	**144.43 327**	*e*PKP	**PKPdf**	**02 40 22.5**	**+1.2**
MDVR	**Moldovita**	**144.51 319**	⇑P	PKPbc	02 40 20.6	+0.5
VTS	**Vitosha**	**144.54 314**	⇓P	**PKPdf**	**02 40 21.3**	**-0.5**
VTS	**Vitosha**	**144.54 314**	P	**PKPdf**	**02 40 21.8**	**0.0**
VTS	**Vitosha**	**144.54 314**	⇓PKIKP	**PKPdf**	**02 40 21.3**	**-0.5**
MMB	**Musomishta**	**144.64 312**	P	**PKPdf**	**02 40 21.6**	**-0.2**
NVR	**Nevrokopi**	**144.64 312**	P	**PKPdf**	**02 40 22.3**	**+0.5**
VRAC	**Vranov**	**144.67 328**	⇑P	**PKPdf**	**02 40 21.2**	**-0.4**
VRAC	**Vranov**	**144.67 328**	*e*PKP	PKPbc	02 40 20.6	+0.2
VRAC	**Vranov**	**144.67 328**	⇑PKIKP	**PKPdf**	**02 40 21.2**	**-0.4**
VRAC	**Vranov**	**144.67 328**	PKP	**PKPab**	**02 40 19.1**	**-1.2**
	comp=Z,4.9nm,0.9s,baz=136,slow=2.3,SNR=6.3					
KOKK	**Kokkinochori,**	**144.76 311**	P	PKPbc	02 40 21.4	+0.4
FLTG	**Flechtingen**	**144.76 336**	*e*PKPbc	PKPbc	02 40 20.8	+0.3
	baz=36,slow=2.9					
PVCC	**Panska Ves**	**144.77 332**	*e*PKP	**PKPab**	**02 40 18.9**	**-1.7**
PVCC			*ex*	x	02 40 28.4	
PVCC	**Panska Ves**	**144.77 332**	*e*PKIKP	**PKPab**	**02 40 18.9**	**-1.7**
BRG	**Berggiesshubel**	**144.79 333**	*e*PKIKP	**PKPab**	**02 40 19.7**	**-0.9**
BRG			pmax	pmax		
	comp=Z,52nm,1.2s					
BRG			pmax	pmax		
	comp=Z,38nm,1.0s					
BRG	**Berggiesshubel**	**144.79 333**	*e*PKPbc	**PKPdf**	**02 40 22.2**	**+0.4**
	baz=36,slow=2.9					
BRG	**Berggiesshubel**	**144.79 333**	*e*PKP	**PKPab**	**02 40 19.8**	**-0.9**
BRG			Amp		02 40 23.1	
	comp=Z,52nm,1.2s					
BRG	**Berggiesshubel**	**144.79 333**	P	PKiKP	02 40 34.1	+8.6
BRG			Amp		02 40 38.2	
	comp=Z,38nm,0.9s					
CLL	**Collm**	**144.86 334**	*i* PKIKP	**PKPab**	**02 40 20.6**	**-0.3**
CLL			*i*		02 40 23.8	
CLL			pmax	pmax		
	comp=Z,42nm,1.2s					
CLL			MLR	MLR		
	comp=Z,1μm,19.4s					
CLL	**Collm**	**144.86 334**	*e*PKPbc	**PKPdf**	**02 40 21.4**	**-0.4**
	baz=36,slow=2.9					
CLL	**Collm**	**144.86 334**	*e*PKPdf	**PKPab**	**02 40 19.0**	**-1.9**
CLL			*i* PKPdfmax		02 40 20.6	
	comp=Z,42nm,1.2s					
CLL			*i* PKiKP	**pPKPdf**	**02 40 23.8**	**-1.0**
	comp=Z,37nm,1.1s					
CLL			*i* x	x	02 40 29.7	
CLL			*e*PP	**PP**	**02 43 40.0**	**+1.0**
CLL			*e*SKPdf	**SKPdf**	**02 43 57.0**	**+1.1**
CLL			*e*PKSdf	**SKPdf**	**02 43 57.0**	**+1.1**
CLL			*i* x	x	02 44 09.9	
CLL			AMS	AMS	03 47 00.0	
	comp=Z,1μm,19.4s					
APE	**Apeiranthos**	**144.87 304**	⇓P	**PKPab**	**02 40 19.3**	**-2.1**
APE	**Apeiranthos**	**144.87 304**	⇓PKIKP	**PKPab**	**02 40 19.3**	**-2.1**
SRS	**Serrai**	**144.92 312**	P	PKPbc	02 40 21.9	+0.4
KRUC	**Moravsky**	**144.94 328**	*e*PKP	**PKPab**	**02 40 19.7**	**-1.5**
KKB	**Krupnik**	**144.95 313**	P	**PKPdf**	**02 40 22.1**	**-0.2**
MODS	**Modra-Piesok**	**144.95 327**	*e*PKP	**PKPdf**	**02 40 22.2**	**+0.1**
MODS			*e*		02 58 54.5	
MODS	**Modra-Piesok**	**144.95 327**	*e*PKIKP	**PKPdf**	**02 40 22.2**	**+0.1**
OUR	**Ouranopolis**	**144.95 310**	P	**PKiKP**	**02 40 24.6**	**-1.5**
FBE	**Freiberg**	**145.01 333**	*e*PKPbc	**PKPdf**	**02 40 22.4**	**+0.3**
	baz=36,slow=2.9					
NRDL	**Niedersach Rie**	**145.04 338**	*e*PKPbc	**PKPdf**	**02 40 22.2**	**+0.2**
	baz=36,slow=2.9					
BOVS	**Bovan**	**145.07 317**	⇑P	**PKPbc**	**02 40 20.5**	**-1.4**
RETH	**Rethem/Aller,**	**145.10 338**	*e*PKPbc	**PKPdf**	**02 40 22.2**	**+0.1**
	baz=36,slow=2.9					
SANT	**Santorini**	**145.11 303**	⇑P	**PKPbc**	**02 40 21.8**	**-0.5**
GOPC	**GO Pecny, Ondr**	**145.11 331**	*e*PKP	**PKPbc**	**02 40 20.6**	**-1.2**
GOPC			*ex*	x	02 40 35.5	
GOPC	**GO Pecny, Ondr**	**145.11 331**	*e*PKP2	**PKPbc**	**02 40 20.6**	**-1.2**
ASSE	**Asse, Remlinge**	**145.13 337**	*e*PKPbc	**PKPdf**	**02 40 22.7**	**+0.5**
	baz=36,slow=2.9					
ZST	**Bratislava**	**145.15 327**	*e*PKP	**PKPdf**	**02 40 23.4**	**+1.0**
ZST	**Bratislava**	**145.15 327**	*e*PKIKP	**PKPdf**	**02 40 23.4**	**+1.0**
PRA	**Prague**	**145.16 331**	*e*PKP	**PKPab**	**02 40 22.1**	**+0.1**
PRA			*ex*	x	02 40 33.3	
PRA	**Prague**	**145.16 331**	*e*PKIKP	**PKPab**	**02 40 22.1**	**+0.1**
PRU	**Pruhonice**	**145.17 331**	*e*PKP	**PKPbc**	**02 40 20.2**	**-1.8**
PRU			*ex*	x	02 40 35.6	
PRU	**Pruhonice**	**145.17 331**	*e*PKP2	**PKPbc**	**02 40 20.2**	**-1.8**
HSKC	**Hora Svate Kat**	**145.21 333**	*e*PKP	**PKPbc**	**02 40 20.3**	**-1.8**
HSKC			*ex*	x	02 40 35.3	
TREC	**Trest**	**145.22 329**	*e*PKP	**PKPbc**	**02 40 20.4**	**-1.8**
TREC			*ex*	x	02 40 36.0	
TREC	**Trest**	**145.22 329**	*e*PKP2	**PKPbc**	**02 40 20.4**	**-1.8**
KNT	**Kendrikon**	**145.38 312**	P	**PKPab**	**02 40 23.3**	**+0.1**
NEUB	**Neuenburg**	**145.44 335**	*e*PKPbc	**PKPab**	**02 40 23.7**	**+0.7**
	baz=36,slow=2.9					
FRGS	**Fruska Gora**	**145.46 320**	⇑P	**PKPbc**	**02 40 21.4**	**-1.8**
FRGS	**Fruska Gora**	**145.46 320**	*e*P	**PKPbc**	**02 40 22.5**	**-0.6**
CLZ	**Clausthal**	**145.47 337**	*e*PKPbc	**PKPab**	**02 40 24.1**	**+0.9**
	baz=36,slow=2.9					
MORH	**Mrgy, Hungar**	**145.54 323**	⇓P	**PKPab**	**02 40 24.0**	**+0.5**
EKA	**Eskdalemuir Ar**	**145.69 352**	PKPbc	**PKPdf**	**02 40 21.2**	**-1.9**
	comp=Z,22nm,0.8s,baz=344,slow=2.7,SNR=29					
ESK	**Eskdalemuir**	**145.71 352**	PKPdf	**PKPdf**	**02 40 22.9**	**-0.3**
ESK	**Eskdalemuir**	**145.71 352**	PKP2	**PKPdf**	**02 40 22.9**	**-0.3**
ZVC	**Zvikov**	**145.72 331**	*e*PKP	**PKPdf**	**02 40 22.0**	**-1.4**
ZVC			*ex*	x	02 40 38.5	
WERD	**Werda**	**145.80 333**	*e*PKPbc	**PKPab**	**02 40 24.9**	**+0.5**
	baz=36,slow=2.9					
GRG	**Griva**	**145.81 312**	P	**PKPab**	**02 40 24.6**	**-0.2**
IDI	**Anoyia**	**145.83 302**	⇓P	**PKPab**	**02 40 25.1**	**+0.1**
IDI	**Anoyia**	**145.83 302**	P	**PKPbc**	**02 40 24.4**	**-0.2**
PTL	**Penteli**	**145.83 307**	P	**PKPab**	**02 40 25.6**	**+0.6**
PLN	**Plauen**	**145.84 334**	*e*PKPbc	**PKPab**	**02 40 25.0**	**+0.5**
	baz=36,slow=2.9					
GUNZ	**Gunzen**	**145.85 333**	*e*PKPbc	**PKPab**	**02 40 25.2**	**+0.6**
	baz=36,slow=2.9					
GTTG	**Gottingen**	**145.86 337**	*e*PKPbc	**PKPab**	**02 40 25.2**	**+0.6**
	baz=36,slow=2.9					
RONA	**Rosalia, Austr**	**145.88 327**	*i* PKP	**PKPbc**	**02 40 24.4**	**0.0**
	comp=Z,41nm,1.0s,SNR=15					
WERN	**Wernitzgruen**	**145.89 333**	*e*PKPbc	**PKPab**	**02 40 25.6**	**+0.8**
	baz=36,slow=2.9					
NKC	**Novy Kostel**	**145.90 333**	*e*PKP	**PKPab**	**02 40 24.6**	**-0.2**
NKC			*ep*PKP	sPKPab	02 40 31.8	+3.0
NKC	**Novy Kostel**	**145.90 333**	*e*PKP2	**PKPab**	**02 40 24.6**	**-0.2**
DIVS	**Divibare**	**145.91 319**	*e*P	**PKPdf**	**02 40 23.2**	**-0.8**
ATHU	**Athens Univers**	**145.92 307**	P	**PKPbc**	**02 40 24.8**	**0.0**
MOX	**Moxa**	**145.94 334**	*e*PKPbc	**PKPab**	**02 40 25.1**	**+0.2**
	baz=36,slow=2.9					
MOX			*e*L	L	03 48 39.1	
	comp=Z,1μm,19.6s					
VLY	**Voula,Athens**	**145.95 306**	P	**PKPbc**	**02 40 24.7**	**-0.2**
CONA	**Conrad Observa**	**145.96 327**	*i* PKP	**PKPbc**	**02 40 24.6**	**-0.1**
	comp=Z,60nm,1.2s,SNR=13					
TEKS	**Tekeris**	**145.96 320**	*e*P	**PKPdf**	**02 40 21.9**	**-2.1**
ATH	**Athens Observa**	**145.97 307**	P	**PKPbc**	**02 40 25.0**	**+0.1**
IBBN	**Ibbenburen**	**146.00 339**	*e*PKPbc	**PKPab**	**02 40 25.3**	**+0.3**
	baz=36,slow=2.9					
SKO	**Skopje**	**146.02 314**	*i* P	**PKPab**	**02 40 25.8**	**+0.3**
CKRC	**Cesky Krumlov**	**146.10 330**	*e*PKP	**PKPdf**	**02 40 24.0**	**-0.1**
CKRC			*ex*	x	02 40 38.9	
CKRC	**Cesky Krumlov**	**146.10 330**	*e*PKP2	**PKPdf**	**02 40 24.0**	**-0.1**
KHC	**Kasperske Hory**	**146.22 331**	*e*PKP	**PKPbc**	**02 40 25.2**	**-0.2**
KHC			*ex*	x	02 40 39.3	
KHC	**Kasperske Hory**	**146.22 331**	*e*PKP2	**PKPbc**	**02 40 25.2**	**-0.2**
MANZ	**Manzenberg**	**146.23 333**	*e*PKPbc	**PKPab**	**02 40 26.3**	**+0.2**
	baz=36,slow=2.9					
SJES	**Sjenica**	**146.36 317**	*e*P	**PKPdf**	**02 40 23.7**	**-1.1**
ROTZ	**Rotzenmuhle**	**146.36 333**	*e*PKPbc	**PKPab**	**02 40 26.7**	**+0.2**
	baz=36,slow=2.9					
GEC2	**GERESS Array S**	**146.37 330**	*e*PKPbc	**PKPab**	**02 40 26.7**	**-0.1**
	baz=36,slow=2.9					
GERES	**GERESS Array B**	**146.37 330**	PKPbc	**PKPdf**	**02 40 24.5**	**-0.1**
	comp=Z,12nm,0.9s,baz=64,slow=3.1,SNR=24					
BBLS	**Lazi&#26;i**	**146.40 319**	*e*P	**PKPab**	**02 40 26.9**	**-0.1**
UBBA	**Unterbreizbach**	**146.43 336**	*e*PKPbc	**PKPbc**	**02 40 26.0**	**+0.3**
	baz=36,slow=2.9					
IMMV	**Iera Moni Meta**	**146.50 302**	P	**PKPab**	**02 40 27.7**	**+0.1**
WET	**Wettzell**	**146.53 331**	*e*PKPbc	**PKPab**	**02 40 27.2**	**0.0**
	baz=36,slow=2.9					
RUDO	**Rudo**	**146.55 318**	*e*P	**PKPbc**	**02 40 26.2**	**-0.3**
ARSA	**Arzberg**	**146.58 327**	*i* PKP	**PKPdf**	**02 40 25.7**	**+0.7**
	comp=Z,20nm,1.1s					
FNA	**Florina**	**146.59 313**	P	**PKPbc**	**02 40 27.0**	**+0.2**
MOA	**Molln**	**146.80 328**	*i* PKP	**PKPbc**	**02 40 27.1**	**0.0**
	comp=Z,29nm,1.6s					
GRF	**Grafenberg Arr**	**146.83 333**	*e*PKPbc	**PKPab**	**02 40 28.1**	**-0.3**
	baz=36,slow=2.9					
GRF			*e*L	L	03 46 18.3	
	comp=Z,845nm,21.8s					
GRFO	**Grafenberg**	**146.83 333**		**PKPbc**	**02 40 26.3**	**-0.8**
GRFO	**Grafenberg**	**146.83 333**	PKP2	**PKPbc**	**02 40 26.3**	**-0.8**
OHR	**Ohrid**	**146.84 313**	*i* P	**PKPbc**	**02 40 26.8**	**-0.6**
GUR	**Goura**	**147.00 307**	P	**PKiKP**	**02 40 30.5**	**-0.1**
KBN	**Korca**	**147.06 313**	P	**PKPbc**	**02 40 28.9**	**+0.8**
KLV	**Kalavryta, Ach**	**147.11 308**	P	**PKPbc**	**02 40 28.4**	**+0.1**
SOKA	**Soboth**	**147.21 326**	*i* PKP	**PKPdf**	**02 40 26.1**	**0.0**
	comp=Z,31nm,1.1s					
BIOA	**Bad Ischl, Aus**	**147.22 329**	*e*PKP	**PKPbc**	**02 40 27.5**	**-0.8**
	comp=Z,11nm,1.0s					
BLY	**Banja Luka**	**147.23 322**	*e*P	**PKPdf**	**02 40 27.0**	**+0.9**
PDG	**Podgorica**	**147.23 317**	⇓P	**PKPbc**	**02 40 28.8**	**+0.4**
PDG	**Podgorica**	**147.23 317**	*e*P	**PKPdf**	**02 40 23.6**	**-2.5**
A051A	**Mrakovica**	**147.23 322**	*e*P	**PKPbc**	**02 40 28.8**	**+0.3**
PVO	**Paravola**	**147.36 309**	P	**PKPbc**	**02 40 29.4**	**+0.5**
TIR	**Tirane**	**147.36 314**	⇑P	**PKPbc**	**02 40 29.3**	**+0.5**
TIR	**Tirane**	**147.36 314**	⇑PKP2	**PKPbc**	**02 40 29.3**	**+0.5**
PRIJ	**Prijedor**	**147.36 322**	*e*P	**PKiKP**	**02 40 32.4**	**+1.4**
LSK	**Leskovik**	**147.40 312**	P	**PKPbc**	**02 40 30.0**	**+0.9**
DRME	**Dracevica, Mon**	**147.40 316**	*e*P	**PKPbc**	**02 40 28.8**	**-0.1**
JAN	**Janina**	**147.43 311**	P	**PKPab**	**02 40 30.3**	**-0.8**
MGRS	**Mrkonjic Grad**	**147.48 321**	⇑P	**PKPbc**	**02 40 29.5**	**+0.4**
TNS	**Taunus Mts**	**147.50 337**	*e*PKPbc	**PKPbc**	**02 40 29.6**	**+0.6**
	baz=36,slow=2.9					
CRES	**Cresnjev**	**147.53 325**	*e*P	**PKPbc**	**02 40 28.0**	**-1.2**
OBKA	**Obir**	**147.57 326**	*e*PKP	**PKPdf**	**02 40 26.5**	**-0.2**
	comp=Z,14nm,1.1s					
OBKA	**Obir**	**147.57 326**	*e*P	**PKPbc**	**02 40 29.0**	**-0.4**
AHRW	**Bad Neuenahr-A**	**147.72 338**	*e*PKPbc	**PKPbc**	**02 40 30.1**	**+0.6**
	baz=36,slow=2.9					
BOJS	**Bojanci**	**147.85 324**	*e*P	**PKPdf**	**02 40 27.2**	**+0.1**
LESA	**Schwarzleotal**	**147.86 329**	*e*PKP	**PKPdf**	**02 40 27.8**	**+0.6**
	comp=Z,30nm,1.2s					
LJU	**Ljubljana**	**147.89 326**	*i* PKPdf	**PKPdf**	**02 40 26.1**	**-1.0**
LJU			*i* PKPbc	**pPKPdf**	**02 40 30.3**	**+0.1**
LJU			*i*		02 40 44.5	
MYKA	**Terra Mystica**	**147.95 327**	*e*PKP	**PKPdf**	**02 40 27.5**	**+0.2**
	comp=Z,11nm,0.7s					
FUR	**Furstenfeldbru**	**147.97 332**	*e*PKPbc	**PKPbc**	**02 40 31.0**	**+0.7**
	baz=36,slow=2.9					
STON	**Ston**	**147.98 318**	*e*P	**PKPdf**	**02 40 28.6**	**+1.3**
BTNL	**Ternell**	**148.00 339**	*d*PKP	**PKPbc**	**02 40 30.4**	**+0.1**
MEM	**Membach**	**148.02 340**	*d*PKP	**PKPbc**	**02 40 30.2**	**-0.1**
CEY	**Cerknica**	**148.14 325**	*e*P	**PKPbc**	**02 40 29.8**	**-1.0**
CADS	**Cadrg**	**148.17 327**	*i* PKPbc	**PKPbc**	**02 40 30.4**	**-0.5**
CADS			*i*		02 40 44.4	
BSTI	**Sart Tilman**	**148.19 340**	*d*PKP	**PKPbc**	**02 40 30.4**	**-0.3**
BHOU	**Houvegnez**	**148.24 339**	*d*PKPdf	**PKPdf**	**02 40 27.3**	**-0.3**
STU	**Stuttgart**	**148.38 334**	*e*PKPbc	**PKiKP**	**02 40 32.2**	**-0.8**
	baz=36,slow=2.9					
BCLA	**Clavier**	**148.41 340**	*d*PKP	**PKiKP**	**02 40 33.0**	**+0.1**
ABTA	**Abfaltersbach**	**148.42 329**	*e*PKP	**PKPdf**	**02 40 29.6**	**+1.4**
	comp=Z,30nm,1.3s					
WATA	**Walderalm**	**148.44 330**	*e*PKP	**PKPdf**	**02 40 28.4**	**+0.2**
	comp=Z,20nm,1.4s					
WTTA	**Wattenberg**	**148.47 330**	*i* PKP	**PKPdf**	**02 40 28.8**	**+0.5**
	comp=Z,26nm,1.2s,SNR=5.9					
SKDS	**Skadanscina**	**148.49 326**	*e*P	**PKPbc**	**02 40 30.0**	**-1.7**
BGES	**Gesves**	**148.51 340**	*d*PKP	**PKPbc**	**02 40 30.3**	**-1.3**
MOTA	**Moosalm**	**148.66 331**	*i* PKP	**PKPdf**	**02 40 30.1**	**+1.5**
	comp=Z,45nm,1.0s,SNR=8.2					
RCHB	**Rochefort**	**148.67 340**	*d*PKP	**PKPdf**	**02 40 28.0**	**-0.2**
BMRD	**Maredsous**	**148.68 341**	*d*PKP	**PKPbc**	**02 40 32.3**	**+0.2**
SQTA	**Sankt Quirin**	**148.70 330**	*i* PKP	**PKPdf**	**02 40 28.8**	**+0.2**
	comp=Z,26nm,1.0s,SNR=6.8					
RETA	**Reutte**	**148.70 331**	*e*PKP	**PKPdf**	**02 40 28.9**	**+0.3**
	comp=Z,24nm,1.4s					
WLF	**Walferdange**	**148.78 338**	PKP	**PKPbc**	**02 40 30.5**	**-1.8**
WLF	**Walferdange**	**148.78 338**	*e*PKPbc	**PKiKP**	**02 40 33.6**	**-0.1**
	baz=36,slow=2.9					
UBR	**Ueberruh**	**148.85 332**	*e*PKPbc	**PKPbc**	**02 40 33.0**	**+0.4**
	baz=36,slow=2.9					
DOU	**Dourbes**	**148.92 341**	*d*PKP	**PKPdf**	**02 40 29.4**	**+0.7**
FETA	**Feichten**	**149.07 331**	*i* PKP	**PKPbc**	**02 40 31.4**	**-2.0**
	comp=Z,29nm,1.1s,SNR=8.8					
BFO	**Black Forest**	**149.08 335**		**PKPdf**	**02 40 29.1**	**0.0**
BFO	**Black Forest**	**149.08 335**	PKIKP	**PKPdf**	**02 40 29.1**	**0.0**
BFO	**Black Forest**	**149.08 335**	*e*PKPbc	**PKPbc**	**02 40 33.5**	**+0.4**
	baz=36,slow=2.9					
DAVA	**Damuels**	**149.25 332**	*i* PKP	**PKPbc**	**02 40 31.8**	**-2.0**
	comp=Z,28nm,1.1s,SNR=6.5					
CTI	**Castel Tesino**	**149.34 328**		**PKPdf**	**02 40 30.1**	**+0.4**
CTI	**Castel Tesino**	**149.34 328**	PKIKP	**PKPdf**	**02 40 30.1**	**+0.4**
DAVOX	**Davos/Dischmat**	**149.63 331**	PKPbc	**PKPbc**	**02 40 32.9**	**-1.9**
	comp=Z,27nm,1.0s,baz=293,slow=1.4,SNR=14					
INTR	**Introdacqua**	**150.78 320**	PKPdf	**PKPdf**	**02 40 32.6**	**+0.6**
KEST	**Kesra**	**157.30 313**	PKPab	**PKPab**	**02 41 13.1**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=100,slow=6.1,SNR=2.8					
POLO	**Lamas de Olo**	**159.98 353**	*e*PKPab	**PKPab**	**02 41 23.6**	**-0.2**
PVRL	**Vila Real**	**160.07 353**	*e*PKPab	**PKPab**	**02 41 23.6**	**-0.5**
MVO	**Moncorvo**	**160.09 351**	*e*PKPab	**PKPab**	**02 41 25.1**	**+0.8**
PVIS	**Viseu**	**160.64 353**	*e*PKPab	**PKPab**	**02 41 27.3**	**+0.6**
ESDC	**Sonseca Array**	**160.91 343**	PKPab	**PKPab**	**02 41 27.5**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=16,slow=3.3,SNR=12					
MTE	**Manteigas**	**160.91 352**	*e*PKPab	**PKPab**	**02 41 27.4**	**-0.5**
COI	**Coimbra**	**161.20 354**	*e*PKPab	**PKPab**	**02 41 30.1**	**+1.1**
COI	**Coimbra**	**161.20 354**		**PKPab**	**02 41 29.6**	**+0.6**
COI	**Coimbra**	**161.20 354**	PKP2	**PKPab**	**02 41 29.6**	**+0.6**
PCAS	**Casmilo, Conde**	**161.36 354**	*e*PKPab	**PKPab**	**02 41 30.1**	**+0.4**
PCBR	**Castelo Branco**	**161.46 352**	*e*PKPab	**PKPab**	**02 41 31.1**	**+1.0**
PMRV	**Marv??o**	**161.85 351**	*e*PKPab	**PKPab**	**02 41 32.3**	**+0.4**
PESTR	**Estremoz**	**162.43 351**	*e*PKPab	**PKPab**	**02 41 35.1**	**+0.7**
PBAR	**Barrancos**	**163.02 350**	*e*PKPab	**PKPab**	**02 41 38.3**	**+1.3**
PBEJ	**Beja**	**163.29 352**	*e*PKPab	**PKPab**	**02 41 37.9**	**-0.3**
PCVE	**Castro Verde**	**163.70 352**	*e*PKPab	**PKPab**	**02 41 40.9**	**+0.9**
LIC	**Lamto**	**163.81 201**	⇑*i*PKP1	**PKPab**	**02 41 44.4**	**+3.3**
	comp=Z,52nm,1.2s					
KIC	**Kosan Boka**	**163.84 203**	⇑*i*PKP1	**PKPab**	**02 41 44.3**	**+3.1**
	comp=Z,66nm,1.5s					
PVAQ	**Vaqueiros**	**163.88 351**	*e*PKPab	**PKPab**	**02 41 42.2**	**+1.4**
MORF	**Marmelete**	**164.10 353**	*e*PKPab	**PKPab**	**02 41 42.0**	**+0.2**
DBIC	**Dimbokro**	**164.17 203**	PKP	**PKPdf**	**02 40 48.5**	**-0.8**
	comp=Z,6.5nm,1.1s,baz=115,slow=11,SNR=3.5					
TIC	**Toumodi**	**164.20 202**	⇓*e*PKP

36nm,0.6s
ONTNC **Ouen Toro** 2.44 248 Pn **Pn** 02 26 10.9 0.0
KOUNC **Koumac, New Ca** 4.39 280 Pn **Pn** 02 26 39.0 +1.2
MSVF **Nonsavu** 9.37 69 Pn **Pn** 02 27 48.2 +1.9
0.3nm,0.3s,baz=217,slow=20,SNR=2.3
QRZ **Quartz Range** 19.59 172 P **P** 02 29 57.9 -0.9
AFI **Afiamalu** 19.86 71 Pn **P** 02 30 01.1 -0.9
CTA **Charters Tower** 21.21 269 P **P** 02 30 19.4 +2.7
4.4nm,0.7s,baz=105,slow=8.7,SNR=2.2
4.4nm,0.7s
COEN **Coen** 25.58 283 P **P** 02 30 59.9 +0.1
COEN IAmb IAmb 02 31 02.6
comp=Z,4.5nm,0.9s
WR0 **Warramunga Arr** 32.14 266 P **P** 02 31 58.8 +0.6
WR0 IAmb IAmb 02 32 00.2
comp=Z,9.5nm,1.1s
WB2 **Warramunga Arr** 32.32 266 P **P** 02 32 00.6 +0.8
WRA **Warramunga Arr** 32.33 266 P **P** 02 31 59.8 -0.1
WRA **Warramunga Arr** 32.33 266 P **P** 02 32 00.5 +0.6
comp=Z,1.3nm,0.6s,baz=97,slow=7.6,SNR=6.3
comp=Z,1.3nm,0.6s
AS31 **Alice Springs** 32.35 259 P **P** 02 32 01.2 +1.0
AS31 IAmb IAmb 02 32 03.6
comp=Z,4.2nm,1.4s
ASAR **Alice Springs** 32.35 259 P **P** 02 32 01.2 +1.1
ASAR **Alice Springs** 32.35 259 P **P** 02 32 00.5 +0.3
comp=Z,5.6nm,0.9s,baz=82,slow=8.9,SNR=5.1
comp=Z,5.6nm,0.9s
MTN **Manton Dam** 37.00 277 P **P** 02 32 40.1 -0.3
MTN IAmb IAmb 02 32 44.3
comp=Z,16nm,1.4s
FORT **Forrest** 37.67 247 P **P** 02 32 46.1 +0.3
FORT IAmb IAmb 02 32 50.7
comp=Z,13nm,0.9s
VNDA **Vanda** 56.26 182 P **P** 02 35 11.6 +1.3
CASY **Casey** 58.01 204 P **P** 02 35 23.3 +0.5
CASY IAmb IAmb 02 35 28.3
comp=Z,2.1nm,1.0s
QSPA **South Pole Qui** 68.65 180 P **P** 02 36 33.6 +0.2
NVAR **Mina Array Bea** 90.48 49 P **P** 02 38 31.3 -1.2
comp=Z,1.7nm,0.8s,baz=226,slow=9.0,SNR=7.7
comp=Z,1.7nm,0.8s
ILAR **Eielson Array** 92.39 17 P **P** 02 38 38.0 -2.4
comp=Z,0.5nm,0.7s,baz=218,slow=4.3,SNR=4.6
comp=Z,0.5nm,0.7s
CLL **Collm** 144.73 334 *e*PKPdf **PKPdf** 02 45 06.0 -0.8
EKA **Eskdalemuir Ar** 145.61 352 PKPbc **PKPdf** 02 45 07.8 -0.4
comp=Z,1.2nm,0.6s,baz=5.7,slow=3.4,SNR=3.6
GERES **GERESS Array B** 146.23 330 PKPbc **PKPbc** 02 45 10.6 -0.1
comp=Z,0.9nm,0.8s,baz=42,slow=3.1,SNR=2.2

---

*IDC **31** 02:29:32.2±1.4, 17°.88S×168°.26E, h0km, mb3.6/5, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=33.6km s-min=30.9km az=101.0*
*NOU **31** 02:29:37.8, 18°.28S×168°.22E, h0km, MLv5.0/14, Vanuatu Islands*
ISC 31 02:29:38.2±0.9, 18°.12S±0°.08×168°.3E±0°.1, h35km, n17, σ1°48/17, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTV	Rentapao	0.36	27	P	Pn	02 29 48.5	+1.5
LIFNC	LIFOU	2.81	200	P	Pn	02 30 20.0	-0.7
YATNC	Mamie plateau,	4.12	198	P	Pn	02 30 38.8	0.0
DZM	Mont Dzumac	4.28	203	P	Pn	02 30 42.0	+0.9
DZM	Mont Dzumac	4.28	203	Pn	Pn	02 30 42.3	+1.3
11nm,0.3s,baz=46,slow=5.6,SNR=43							
DZM				Sn	Sn	02 31 29.1	-0.8
22nm,0.3s,baz=150,slow=23,SNR=15							
20nm,0.3s							
NOUC	Port Laguerre	4.37	204	P	Pn	02 30 43.4	+1.3
KOUNC	Koumac, New Ca	4.46	236	P	Pn	02 30 45.5	+2.1
OUENC	Ouen Island, N	4.48	197	P	Pn	02 30 45.8	+2.2
ONTNC	Ouen Toro	4.50	202	P	Pn	02 30 45.4	+1.5
PINNC	Pines Island,	4.54	189	P	Pn	02 30 46.5	+2.1
MSVF	Nonsavu	9.34	89	Pn	Pn	02 31 56.5	+6.1
1.4nm,0.3s,baz=253,slow=10,SNR=16							
URZ	Urewera	21.51	161	P	P	02 34 24.7	+0.6
6.1nm,0.8s,baz=56,slow=21,SNR=1.6							
6.1nm,0.8s							
WRA	Warramunga Arr	32.08	261	P	P	02 36 01.5	-0.7
0.3nm,0.8s,baz=90,slow=6.6,SNR=1.9							
0.3nm,0.8s							
ASAR	Alice Springs	32.51	254	P	P	02 36 05.0	-0.9
0.3nm,0.3s,baz=80,slow=8.9,SNR=4.5							
0.3nm,0.3s							
VNDA	Vanda	59.52	182	P	P	02 39 38.7	+1.2
0.2nm,0.5s,baz=23,slow=6.4,SNR=1.5							
0.2nm,0.5s							
NVAR	Mina Array Bea	88.77	49	P	P	02 42 27.0	-1.8
0.6nm,0.8s,baz=228,slow=6.7,SNR=3.2							
0.6nm,0.8s							
DAVOX	Davos/Dischmat	146.32	333	PKPbc	PKPbc	02 49 14.7	-0.8
2.3nm,0.6s,baz=32,slow=16,SNR=4.4							

---

*IDC **31** 02:36:19.7±1.1, 19°.20N×145°.48E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=33.0km s-min=27.8km az=84.0*
*NEIC **31** 02:36:44.0±1.4, 19°.0N±0°.1×145°.5E±0°.2, h207km±10km, mb4.2/29, Error ellipse: s-maj=22.6km s-min=16.5km az=95.0*
ISC 31 02:36:43.8±0.8, 19°.0N±0°.2×145°.4E±0°.2, h214km, n44, σ1°02/43, mb4.0/23, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB0	Warramunga Arr	40.00	196	P	P	02 43 57.7	-0.4
WB2	Warramunga Arr	40.18	196	P	P	02 43 59.4	-0.1
WRA	Warramunga Arr	40.18	196	P	P	02 43 60.0	+0.5
WRA	Warramunga Arr	40.18	196	P	P	02 43 59.9	+0.3
0.5nm,0.8s,baz=3.9,slow=8.9,SNR=6.7							
0.5nm,0.8s							
SONM	Songino Array	42.71	321	P	P	02 44 18.8	-1.2
0.4nm,0.4s,baz=123,slow=7.1,SNR=2.0							
0.4nm,0.4s							
JOHN	Johnston Islan	42.90	86	P	P	02 44 17.4	-4.3
OBL	Observatory Le	55.79	79	P	P	02 45 58.9	-0.4
MKAR	Makanchi Array	58.03	314	P	P	02 46 15.1	+0.7
MKAR	Makanchi Array	58.03	314	P	P	02 46 13.7	-0.8
0.8nm,0.7s,baz=92,slow=8.5,SNR=4.3							
0.8nm,0.7s							
C19K	Lookout Ridge	60.23	20	P	P	02 46 30.9	+1.7
C19K				IAmb	IAmb	02 46 32.9	
comp=Z,9.6nm,1.4s							
KURBB	Kurchatov Arra	60.89	318	P	P	02 46 34.0	+0.2
comp=Z,0.6nm,0.4s,baz=94,slow=7.6,SNR=12							
comp=Z,0.6nm,0.4s							
CAST	Castle Rocks	60.97	27	P	P	02 46 35.3	+1.0
CAST				IAmb	IAmb	02 46 36.6	
comp=Z,3.2nm,0.9s							
IMAR	Indian Mountai	61.07	24	P	P	02 46 35.1	+0.2
H21K	Melozitna Rive	61.34	25	P	P	02 46 37.6	+1.0
H21K				IAmb	IAmb	02 46 46.8	
comp=Z,5.0nm,1.4s							
B20K	Meade River	61.39	19	P	P	02 46 37.6	+0.8
BPAW	Bear Paw Mtn.	61.63	27	P	P	02 46 39.5	+0.9
MLY	Manley	61.98	26	P	P	02 46 42.2	+1.2
BOOM	Boomskoye usch	62.37	309	P	P	02 46 45.6	+1.4
D22K	Ayikyak River	62.43	21	P	P	02 46 45.2	+1.3
D22K				IAmb	IAmb	02 46 56.9	
comp=Z,10nm,1.5s							
E22K	Anaktuvuk Pass	62.49	22	P	P	02 46 44.9	+0.6
E22K				IAmb	IAmb	02 46 58.4	
comp=Z,9.0nm,1.4s							
MDM	Murphy Dome	63.00	26	P	P	02 46 49.4	+1.7
H24K	Noodor Dome	63.34	25	P	P	02 46 50.6	+0.6
H24K				IAmb	IAmb	02 46 54.3	
comp=Z,4.7nm,1.2s							
HDA	Harding Lake	63.41	27	P	P	02 46 49.8	-0.6
HDA				IAmb	IAmb	02 46 58.1	
comp=Z,4.2nm,1.4s							
C23K	Itkillik River	63.43	20	P	P	02 46 52.0	+1.6
C23K				IAmb	IAmb	02 46 59.9	
comp=Z,6.1nm,1.4s							
ILAR	Eielson Array	63.52	26	P	P	02 46 50.1	-1.0
ILAR	Eielson Array	63.52	26	P	P	02 46 50.5	-0.6
comp=Z,0.6nm,0.7s,baz=264,slow=5.2,SNR=7.8							
comp=Z,0.6nm,0.7s							
E24K	Your Creek	63.66	23	P	P	02 46 53.6	+1.6
E24K				IAmb	IAmb	02 47 34.7	
comp=Z,5.7nm,1.5s							
D24K	Happy Valley	63.84	21	P	P	02 46 53.7	+0.7
D24K				IAmb	IAmb	02 47 06.2	
comp=Z,5.1nm,1.1s							
D25K	Kavik River	64.72	21	P	P	02 47 00.1	+1.2
D25K				IAmb	IAmb	02 47 01.4	
comp=Z,1.7nm,0.7s							
BMAR	Burnt Mountain	64.97	24	P	P	02 47 01.7	+1.2
L27K	Beaver Creek,	65.45	29	P	P	02 47 04.5	+0.8
L27K				IAmb	IAmb	02 47 32.5	
comp=Z,5.8nm,1.4s							
BCAR	Beaver Creek A	65.47	29	P	P	02 47 04.2	+0.4
BVAR	Borovoye Array	66.04	320	P	P	02 47 07.7	+0.2
comp=Z,1.6nm,0.4s,baz=91,slow=6.6,SNR=8.0							
comp=Z,1.6nm,0.4s							
L29M	L29M	67.13	29	P	P	02 47 16.1	+1.8
H29M	Whitestone	67.24	25	P	P	02 47 16.1	+1.2
H29M				IAmb	IAmb	02 47 25.8	
comp=Z,3.5nm,1.1s							
G30M	tAoh Zraii Nji	68.14	25	P	P	02 47 20.2	-0.4
H31M	Peel River	68.86	26	P	P	02 47 26.3	+1.3
H31M				IAmb	IAmb	02 47 45.0	
comp=Z,11nm,1.4s							
G31M	Satah River	68.91	25	P	P	02 47 25.5	+0.3
R33M	Jennings River	70.64	33	P	P	02 47 33.9	-2.2
R33M				IAmb	IAmb	02 47 46.0	
comp=Z,9.3nm,1.5s							
ABKAR	Akbulak array	72.91	317	P	P	02 47 49.0	-0.6
ABKAR	Akbulak array	72.91	317	P	P	02 47 49.6	0.0
ABKAR				IAmb	IAmb	02 48 08.7	
comp=Z,2.7nm,1.4s							
AKTO	Aktyubinsk	73.93	318	P	P	02 47 55.8	+0.2
comp=Z,1.1nm,0.6s,baz=101,slow=4.9,SNR=3.7							
comp=Z,1.1nm,0.6s							
NVAR	Mina Array Bea	83.20	52	P	P	02 48 46.7	0.0
comp=Z,0.7nm,0.7s,baz=273,slow=5.8,SNR=6.5							
comp=Z,0.7nm,0.7s							
PDAR	Pinedale Array	87.84	45	P	P	02 49 09.4	-0.1

---

*IDC **31** 02:39:13.4±0.7, 21°.52S×169°.52E, h0km, mb4.4/13, mbtmp4.4/14, ML3.6/1, Error ellipse: s-maj=22.2km s-min=18.2km az=120.0*
*NEIC **31** 02:39:15.2±1.8, 21°.66S±0°.09×169°.38E±0°.07, h10km±1km, mb5.1/82, Error ellipse: s-maj=15.2km s-min=10.4km az=172.0*
*NOU **31** 02:39:17.4, 21°.53S×169°.20E, h0km, mb4.7/29, Southeast of Loyalty Islands*
ISC 31 02:39:17.0±0.4, 21°.64S±0°.06×169°.39E±0°.06, h21km, n182, σ1°18/180, mb5.0/57, 5D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.27	277		Pn	02 39 37.8	-1.7
MARNC	Mare, Loyalty	1.27	277	P	Pn	02 39 38.5	-1.0
PINNC	Pines Island,	2.04	241	Pn	Pn	02 39 49.0	-1.2
PINNC	Pines Island,	2.04	241	P	Pn	02 39 49.8	-0.4
LIFNC	LIFOU	2.18	293	Pn	Pn	02 39 50.3	-1.7
LIFNC	LIFOU	2.18	293	P	Pn	02 39 51.7	-0.3
YATNC	Mamie plateau,	2.36	259	P	Pn	02 39 54.3	-0.2
OUENC	Ouen Island, N	2.49	251	Pn	Pn	02 39 55.9	-0.4
OUENC	Ouen Island, N	2.49	251	P	Pn	02 39 56.8	+0.6
DZM	Mont Dzumac	2.77	260	Pn	Pn	02 39 58.5	-1.7
DZM	Mont Dzumac	2.77	260	P	Pn	02 40 00.8	+0.6
DZM	Mont Dzumac	2.77	260	Pn	Pn	02 40 00.2	0.0
7.8nm,0.3s,baz=103,slow=19,SNR=102							
DZM				Sn	Sn	02 40 32.2	-0.9
24nm,0.3s,baz=103,slow=22,SNR=6.0							
39nm,0.4s							
ONTNC	Ouen Toro	2.80	256	Pn	Pn	02 39 58.7	-1.9
ONTNC	Ouen Toro	2.80	256	P	Pn	02 40 01.0	+0.4
NOUC	Port Laguerre	2.90	260	P	Pn	02 40 02.4	+0.5
RTV	Rentapao	3.93	347	P	Pn	02 40 17.4	+1.3
KOUNC	Koumac, New Ca	4.88	282	Pn	Pn	02 40 28.9	-0.3
KOUNC	Koumac, New Ca	4.88	282	P	Pn	02 40 30.1	+0.9
MSVF	Nonsavu	9.04	66	Pn	Pn	02 41 25.7	-0.7
MSVF	Nonsavu	9.04	66	P	Pn	02 41 31.7	+5.3
MSVF	Nonsavu	9.04	66	Pn	Pn	02 41 29.6	+3.3
1.4nm,0.3s,baz=224,slow=11,SNR=32							
YSA	Yasawairara	9.17	59	P	Pn	02 41 32.1	+4.0
DGTI	Dogotuki	11.13	63	P	Pn	02 41 59.5	+4.4
TAVE	Taveuni	11.24	66	P	Pn	02 42 00.8	+4.3
FUNA	Funafuti	16.10	37	Pn	Pn	02 43 02.9	+0.8
RTZ	Ruatahuna	18.14	161		Pn	02 43 25.6	-2.1
BKZ	Black Stump Fm	18.50	162	P	P	02 43 28.8	-3.1
BKZ	Black Stump Fm	18.50	162	P	Pn	02 43 36.2	+4.1
RMQ	Roma	19.44	252	P	Pn	02 43 45.2	+1.7
MRZ	Mangatainoka R	19.68	166	P	P	02 43 42.3	-2.5
TCW	Tory Channel	19.95	169	P	P	02 43 46.5	-1.1
TUWZ	Tuamarina	20.11	170	P	Pn	02 43 50.5	-0.7
TV1H	Townsville Har	21.30	272	P	P	02 44 04.5	+2.1
CTA	Charters Tower	21.67	270	P	P	02 44 07.7	+1.3
12nm,1.0s,baz=86,slow=11,SNR=10							
12nm,1.0s							
CTAO	Charters Tower	21.67	270	P	P	02 44 06.8	+0.3
CTAO	Charters Tower	21.67	270	P	P	02 44 08.5	+2.1
CMSA	Cobar Meteorol	23.33	240	P	P	02 44 26.8	+3.0
QLP	Quilpie	23.46	253	P	P	02 44 27.5	+2.3
MTSU	Mount Surprise	23.82	274	P	P	02 44 31.0	+2.2
STKA	Stephens Creek	26.76	242	P	P	02 44 56.6	+1.2
4.0nm,1.0s,baz=130,slow=5.0,SNR=5.0							
4.0nm,1.0s							
OOD	Oodnadatta	31.15	252	P	P	02 45 36.9	+2.4
AS31	Alice Springs	32.76	260	P	P	02 45 49.0	+0.3
ASAR	Alice Springs	32.76	260	P	P	02 45 49.5	+0.7
ASAR	Alice Springs	32.76	260	P	P	02 45 49.0	+0.3
7.4nm,1.0s,baz=84,slow=8.8,SNR=30							
ASAR				PcP	PcP	02 48 34.1	+0.2
1.0nm,1.0s,baz=116,slow=2.2,SNR=4.4							
7.4nm,1.0s							
WRAB	Tennant Creek	32.76	267	P	P	02 45 50.2	+1.5
WRA	Warramunga Arr	32.77	266	P	P	02 45 49.6	+0.8
WRA	Warramunga Arr	32.77	266	P	P	02 45 49.0	+0.2
3.4nm,1.1s,baz=99,slow=9.0,SNR=11							
WRA				PcP	PcP	02 48 33.5	-0.5
0.8nm,1.0s,baz=99,slow=4.2,SNR=3.1							
3.4nm,1.1s							
MTN	Manton Dam	37.48	277	P	P	02 46 29.5	0.0
MTN	Manton Dam	37.48	277	P	P	02 46 31.6	+2.1
KNRA	Kununurra	38.86	272	P	P	02 46 43.5	+2.4
KAPI	Kappang	50.79	282	P	P	02 48 15.5	-0.7
KAPI				IAmb	IAmb	02 48 31.7	
comp=Z,20nm,1.1s							
VNDA	Vanda	56.05	182		P	02 48 54.0	+0.1
VNDA	Vanda	56.05	182	P	P	02 48 54.0	+0.1
comp=Z,1.7nm,1.0s,baz=340,slow=9.1,SNR=4.8							
comp=Z,1.7nm,1.0s							
SBA	Scott Base	56.28	181	P	P	02 48 57.4	+1.8
MJAR	Matsushiro Arr	64.93	333	P	P	02 49 52.5	-2.6
comp=Z,3.0nm,0.6s,baz=166,slow=4.7,SNR=6.5							
comp=Z,3.0nm,0.6s							
QSPA	South Pole Qui	68.43	180	P	P	02 50 17.1	-0.1
QSPA				IAmb	IAmb	02 50 32.0	
comp=Z,13nm,1.1s							
QSPA	South Pole Qui	68.43	180	P	P	02 50 17.2	0.0
comp=Z,2.8nm,0.8s,baz=30,slow=2.2,SNR=7.0							
comp=Z,2.8nm,0.8s							
USRK	Ussuriysk Ar.	73.92	333	P	P	02 50 50.2	-0.2
USRK	Ussuriysk Ar.	73.92	333	P	P	02 50 51.2	+0.8
comp=Z,2.4nm,0.8s,baz=126,slow=2.6,SNR=6.2							
comp=Z,2.4nm,0.8s							
PETK	Petropavlovsk-	75.12	353	P	P	02 50 57.8	+0.6
PETK	Petropavlovsk-	75.12	353	P	P	02 50 55.7	-1.5
comp=Z,14nm,1.0s,baz=123,slow=5.5,SNR=4.5							
comp=Z,14nm,1.0s							
MAW	Mawson	76.28	202	P	P	02 51 05.2	+1.4
MAW	Mawson	76.28	202	P	P	02 51 05.2	+1.4
comp=Z,3.3nm,1.0s,baz=124,slow=8.1,SNR=5.5							
comp=Z,3.3nm,1.0s							
CMAR	Chiang Mai Arr	79.61	295	P	P	02 51 23.9	+0.7
CMAR	Chiang Mai Arr	79.61	295	P	P	02 51 25.1	+1.9
comp=Z,1.5nm,0.3s,baz=130,slow=3.8,SNR=12							
comp=Z,1.5nm,0.3s							
BELA	Belgrano 2	79.71	175	P	P	02 51 21.9	-0.8
ELIB	Princess Elisa	83.82	190	*d*P	P	02 51 43.0	-1.6
comp=Z,4.1nm,1.1s							
TROLL	Troll, Antarti	86.17	184	⇓P	P	02 51 56.5	0.0
comp=Z,214nm,0.8s							
VNA3	Neumayer Olymp	87.37	180	⇓P	P	02 52 01.8	-0.4
comp=Z,4.8nm,0.8s							
VNA2	Neumayer--Watz	87.66	181	⇓P	P	02 52 03.7	+0.1
comp=Z,3.3nm,0.8s,baz=170,slow=5.0							
VNA1	Neumayer--Stat	87.95	181	⇓P	P	02 52 04.9	0.0
comp=Z,4.6nm,0.9s							
SHL	Shillong	88.59	298	P	P	02 52 08.4	-0.6
SHL				IAmb	IAmb	02 52 18.8	
comp=Z,11nm,0.9s							
CMB	Columbia Colle	88.65	48		P	02 52 07.5	-1.3
CMB				IAmb	IAmb	02 52 09.8	
comp=Z,8.1nm,1.1s							
AFDM	Forest Hills D	88.69	47	P	P	02 52 07.9	-1.0
AFDM				IAmb	IAmb	02 52 10.0	
comp=Z,12nm,1.1s							
ISA	Isabella, Lake	88.88	51		P	02 52 09.8	-0.1
ISA				IAmb	IAmb	02 52 15.2	
comp=Z,8.0nm,1.0s							
YBH	Yreka Blue Hor	88.92	44		P	02 52 09.6	-0.5
YBH				IAmb	IAmb	02 52 11.0	
comp=Z,14nm,1.3s							
VTX	Valle De La Tr	88.96	56	P	P	02 52 10.9	+0.5
SONM	Songino Array	89.21	323	P	P	02 52 09.9	-1.4
comp=Z,2.5nm,1.0s,baz=128,slow=2.4,SNR=6.5							
comp=Z,2.5nm,1.0s							
MDPB	Devils Postpil	89.36	49	P	P	02 52 12.3	-0.1
MDPB				IAmb	IAmb	02 52 14.4	
comp=Z,16nm,1.4s							
PNTR	Pine Nut	89.69	47	P	P	02 52 13.5	-0.4
PNTR				IAmb	IAmb	02 52 15.2	
comp=Z,13nm,1.1s							
YERR	Yerington	89.89	48	P	P	02 52 14.8	0.0
YERR				IAmb	IAmb	02 52 15.9	
comp=Z,9.0nm,1.1s							
DSP	Deep Springs	90.03	50		P	02 52 14.2	-1.0
DSP				IAmb	IAmb	02 52 16.6	
comp=Z,11nm,1.0s							
LHV	Little Huntoon	90.06	49	P	P	02 52 14.8	-0.4
LHV				IAmb	IAmb	02 52 16.9	
comp=Z,16nm,1.1s							
PAHR	Pah Rah Range	90.13	47	P	P	02 52 15.2	-0.6
PAHR				IAmb	IAmb	02 52 16.9	
comp=Z,12nm,1.1s							
QSM	Queen of Sheba	90.18	51		P	02 52 16.2	+0.2
NVAR	Mina Array Bea	90.28	48		P	02 52 16.0	-0.6
NVAR	Mina Array Bea	90.28	48	P	P	02 52 15.4	-1.2
comp=Z,4.0nm,0.8s,baz=227,slow=8.3,SNR=29							
comp=Z,4.0nm,0.8s							
GRAC	Grapevine Rang	90.28	50	P	P	02 52 17.0	+0.5
GRAC				IAmb	IAmb	02 52 17.8	
comp=Z,12nm,1.0s							
H04D	Lebanon	90.32	42	P	P	02 52 16.4	+0.1
NV11	Mina Array Sit	90.38	48		P	02 52 17.3	+0.3
NV11				IAmb	IAmb	02 52 18.1	
comp=Z,10nm,1.1s							
GWY	Greenwater Val	90.42	51	P	P	02 52 16.5	-0.8
K05A	Summer Lake	90.58	44	P	P	02 52 17.8	-0.2
K05A				IAmb	IAmb	02 52 19.4	
comp=Z,12nm,1.0s							
J05D	Fort Rock, OR	90.64	43		P	02 52 17.9	-0.2
KVN	Kaiserville	90.71	48		P	02 52 18.5	-0.1
KVN				IAmb	IAmb	02 52 19.5	
comp=Z,8.2nm,0.9s							
WCT	Wildcat Mounta	90.72	51	P	P	02 52 17.8	-0.8
WCT				IAmb	IAmb	02 52 19.7	
comp=Z,10nm,1.1s							
H04A	Detroit Lake	90.74	42		P	02 52 18.2	-0.2
H04A				IAmb	IAmb	02 52 19.1	
comp=Z,11nm,0.9s							
TPH	Tonopah	90.87	49	P	P	02 52 19.0	-0.4
BLYC	Blythe	90.94	54		P	02 52 18.5	-1.0
BLYC				IAmb	IAmb	02 52 20.8	
comp=Z,14nm,1.1s							
TPNV	Topopah Spring	91.06	50	P	P	02 52 20.4	+0.2
TPNV				IAmb	IAmb	02 52 21.4	
comp=Z,14nm,1.2s							
PINE	Pine Mountain	91.07	43		P	02 52 20.7	+0.5
NLWA	Neilton Lookou	91.11	39	P	P	02 52 20.3	+0.3
G19K	Purcell Mounta	91.11	13	P	P	02 52 19.4	-0.2
V12A	Nelson	91.54	52	P	P	02 52 21.3	-1.1
V35K	Ketchikan	91.55	29	P	P	02 52 22.2	+0.4
V35K				IAmb	IAmb	02 52 23.2	
comp=Z,9.7nm,1.1s							
SHPR	Sheep Range	91.65	51		P	02 52 22.7	-0.3
CBB	Campbell River	91.66	36		P	02 52 22.3	-0.2
S11A	Rachel	91.73	50	P	P	02 52 22.0	-1.3
S11A				IAmb	IAmb	02 52 24.3	
comp=Z,11nm,1.1s							
WVOR	Wild Horse Val	91.91	45	P	P	02 52 23.5	-0.5
WVOR				IAmb	IAmb	02 52 25.1	
comp=Z,11nm,1.1s							
W13A	Hualapai Mount	91.99	53	P	P	02 52 24.0	-0.7
W13A				IAmb	IAmb	02 52 25.9	
comp=Z,12nm,1.4s							
PGC	Sidney	92.00	38	P	P	02 52 23.7	-0.3
D05A	Enumclaw	92.11	39	P	P	02 52 24.4	-0.2
PRN	Pahroc Range	92.12	51	P	P	02 52 25.2	+0.1
PRN				IAmb	IAmb	02 52 26.6	
comp=Z,11nm,1.0s							
I07A	Izee	92.12	43		P	02 52 25.4	+0.5
I07A				IAmb	IAmb	02 52 26.1	
comp=Z,6.5nm,1.0s							
R11B	Troy Canyon, C	92.15	49	P	P	02 52 24.6	-0.7
HDA	Harding Lake	92.17	17	P	P	02 52 24.0	-0.5
J08A	Circle Bar Ran	92.44	44		P	02 52 25.0	-1.4
J08A				IAmb	IAmb	02 52 27.3	
comp=Z,6.5nm,0.9s							
ILAR	Eielson Array	92.47	17	P	P	02 52 21.9	-3.9
comp=Z,1.0nm,0.9s,baz=239,slow=3.3,SNR=9.4							
G08A	Pilot Rock	93.03	42		P	02 52 26.9	-2.2
G08A				IAmb	IAmb	02 52 29.9	
comp=Z,7.7nm,1.1s							
HAWA	Hanford	93.20	41	P	P	02 52 29.4	-0.3
HAWA				IAmb	IAmb	02 52 30.9	
comp=Z,6.0nm,1.1s							
J26L	Joseph Creek	93.21	19		P	02 52 29.1	-0.3
J26L				IAmb	IAmb	02 52 30.7	
comp=Z,12nm,1.2s							
K27K	Chicken	93.32	19	P	P	02 52 29.4	-0.5
M29M	Somme Creek	93.38	22	P	P	02 52 29.0	-1.3
M29M				IAmb	IAmb	02 52 30.0	
comp=Z,10nm,1.2s							
CCUT	Cedar City	93.40	51		P	02 52 29.3	-1.9
X16A	Lo Mia Camp, P	93.54	54		P	02 52 30.8	-1.1

comp=Z,1.5nm,0.4s,baz=351,slow=2.6,SNR=15
ZVC Zvikov 146.00 331 *e*PKP **PKPab 02 58 55.3 -0.3**
RONA Rosalia, Austr 146.17 327 *i* PKP **PKPab 02 58 56.7 +0.4**
comp=Z,9.7nm,1.2s
NKC Novy Kostel 146.17 333 *e*PKP **PKPab 02 58 55.9 -0.4**
CONA Conrad Observa 146.24 327 *i* PKP **PKPab 02 58 57.0 +0.4**
comp=Z,16nm,1.6s
CKRC Cesky Krumlov 146.38 330 *e*PKP **PKPab 02 58 56.5 -0.6**
KHC Kasperske Hory 146.50 331 PKPdf 02 58 53.3 -1.9
KHC Kasperske Hory 146.50 331 *e*PKP **PKPbc 02 58 56.6 0.0**
GEC2 GERESS Array S 146.65 330 PKPdf 02 58 55.8 +0.3
GERES GERESS Array B 146.65 330 PKPdf 02 58 55.1 -0.4
GERES GERESS Array B 146.65 330 PKPbc **PKPbc 02 58 57.1 0.0**
comp=Z,2.8nm,0.6s,baz=46,slow=3.9,SNR=13
MOA Molln 147.08 329 *i* PKP **PKPbc 02 58 58.8 +0.5**
comp=Z,9.0nm,1.4s
SOKA Soboth 147.49 326 *i* PKP **PKPbc 02 58 59.6 +0.1**
comp=Z,9.6nm,1.4s
BIOA Bad Ischl, Aus 147.50 329 *e*PKP **PKPbc 02 59 00.0 +0.5**
comp=Z,4.4nm,1.0s
LESA Schwarzleotal 148.14 329 *i* PKP **PKPbc 02 59 01.3 0.0**
comp=Z,7.7nm,1.2s
WTTA Wattenberg 148.75 330 *i* PKP **PKPbc 02 59 03.2 +0.2**
comp=Z,12nm,1.2s
MOTA Moosalm 148.93 331 *e*pPKP **PKPbc 02 59 03.5 0.0**
comp=Z,5.9nm,1.0s
SQTA Sankt Quirin 148.98 331 *e*PKP **PKPbc 02 59 03.7 +0.2**
comp=Z,6.5nm,1.0s
RETA Reutte 148.98 331 *e*pPKP **PKPbc 02 59 03.6 +0.2**
comp=Z,1.7nm,0.8s
WLF Walferdange 149.03 339 PKiKP 02 59 03.9 -0.8
FETA Feichten 149.34 331 *i* PKP **PKiKP 02 59 04.9 -0.7**
comp=Z,12nm,1.3s
BFO Black Forest 149.34 335 PKPdf **PKPdf 02 58 59.5 -0.4**
DAVA Damuels 149.52 332 *i* PKP **PKPbc 02 59 05.2 +0.3**
comp=Z,5.0nm,0.9s
FUORN Ofenpass-Fuorn 149.85 331 PKPbc 02 59 06.1 +0.2
DAVOX Davos/Dischmat 149.91 331 PKPbc **PKPbc 02 59 06.1 +0.2**
comp=Z,5.2nm,0.9s,baz=347,slow=2.1,SNR=6.8
TUE Stuetta 150.38 331 PKPbc 02 59 06.9 -0.2
SENIN Lac Senin/Sane 151.34 334 PKPab 02 59 16.4 -1.0
ESDC Sonseca Array 161.14 344 PKPab **PKPab 02 59 59.5 +0.2**
comp=Z,0.7nm,0.8s,baz=12,slow=7.4,SNR=4.3
TORD Torodi Ar. Bea 165.54 236 PKP **PKPdf 02 59 21.3 +0.4**
comp=Z,1.0nm,1.0s,baz=127,slow=3.8,SNR=4.1

*IDC **31** 02:41:11.9±0.7,22°.15S×68°.09W,h111km±16km,mb3.7/3, mbtmp4.2/6, Error ellipse: s-maj=38.6km s-min=21.7km az=118.0*
*GUC **31** 02:41:13.6±0.8,21°.95S×68°.55W,h128km±4km,ML4.0*
*SJA **31** 02:41:13.2±3.2,22°.04S×68°.48W,h100km,ML4.0,MW3.9*
*VAO **31** 02:41:13.7±0.4,21°.76S×68°.30W,h110km,mb4.4*
ISC 31 02:41:12.5±0.6,21°.96S±0°.03×68°.52W±0°.04,h131km±6km, n84,σ1°30/115,8C-5D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.69**	**284**	⇑*i*P	**Pn**	**02 41 33.5**	**+0.4**
PB09				*i* S	**Sn**	**02 41 48.5**	**-0.2**
PB09				IAML		02 41 50.4	
	comp=N,3μm,0.3s						
PB09	**IPOC Station P**	**0.69**	**284**	*e*P	**Pn**	**02 41 33.3**	**+0.1**
PB09				*e*S	**Sn**	**02 41 48.8**	**+0.1**
PB09				IAML		02 41 50.8	
	comp=Z,2μm,0.5s						
LVC	**Limon Verde**	**0.74**	**209**	*e*P	**Pn**	**02 41 33.9**	**+0.1**
LVC	**Limon Verde**	**0.74**	**209**	P	**Pn**	**02 41 33.8**	**+0.1**
	comp=Z,295nm,0.4s,baz=356,slow=6.6,SNR=942						
LVC				S	**Sn**	**02 41 48.4**	**-1.3**
	comp=Z,709nm,0.4s,baz=268,slow=20,SNR=17						
LVC	**Limon Verde**	**0.74**	**209**	*e*P	**Pn**	**02 41 33.4**	**-0.3**
LVC				*i* S	**Sn**	**02 41 49.1**	**-0.7**
LVC				IAML		02 41 50.5	
	comp=Z,9μm,0.2s						
LVC	**Limon Verde**	**0.74**	**209**	*e*P	**Pn**	**02 41 33.8**	**+0.1**
LVC				*e*S	**Sn**	**02 41 49.4**	**-0.4**
LVC				IAML		02 41 50.7	
	comp=Z,1μm,0.2s						
AF01	**San Pedro de A**	**1.03**	**162**	⇓*i*P	**Pn**	**02 41 36.9**	**+0.7**
AF01				*i* S	**Sn**	**02 41 54.8**	**+0.7**
AF01				IAML		02 42 11.3	
	comp=E,5μm,0.5s						
PB06	**IPOC Station P**	**1.23**	**233**	⇑*i*P	**Pn**	**02 41 38.3**	**+0.4**
PB06				*i* S	**Sn**	**02 41 57.2**	**+0.1**
PB06				IAML		02 41 58.0	
	comp=N,5μm,0.3s						
PB06	**IPOC Station P**	**1.23**	**233**	*e*P	**Pn**	**02 41 38.3**	**+0.4**
PB06				*e*S	**Sn**	**02 41 57.5**	**+0.3**
PB06				IAML		02 41 59.1	
	comp=Z,2μm,0.6s						
PB01	**IPOC Station P**	**1.29**	**315**	⇑*i*P	**Pn**	**02 41 38.4**	**0.0**
PB01				*i* S	**Sn**	**02 41 57.3**	**-0.9**
PB01				IAML		02 41 59.7	
	comp=E,3μm,0.3s						
PB01	**IPOC Station P**	**1.29**	**315**	*e*P	**Pn**	**02 41 38.4**	**0.0**
PB01				*e*S	**Sn**	**02 41 58.5**	**+0.4**
PB01				IAML		02 41 59.3	
	comp=Z,1μm,0.2s						
PB07	**IPOC Station P**	**1.29**	**280**	⇑*i*P	**Pn**	**02 41 38.7**	**+0.1**
PB07				*i* S	**Sn**	**02 41 58.0**	**-0.4**
PB07				IAML		02 41 59.5	
	comp=E,3μm,0.3s						
PB07	**IPOC Station P**	**1.29**	**280**	*e*P	**Pn**	**02 41 38.4**	**-0.2**
PB07				*e*S	**Sn**	**02 41 58.5**	**+0.1**
PB07				IAML		02 41 59.5	
	comp=Z,2μm,0.1s						
PB02	**IPOC Station P**	**1.43**	**296**	⇑*i*P	**Pn**	**02 41 40.0**	**0.0**
PB02				*i* S	**Sn**	**02 41 60.0**	**-1.0**
PB02				IAML		02 42 02.7	
	comp=E,3μm,0.2s						
PB02	**IPOC Station P**	**1.43**	**296**	*e*P	**Pn**	**02 41 40.0**	**0.0**
PB02				*e*S	**Sn**	**02 42 00.9**	**0.0**
PB02				IAML		02 42 04.1	
	comp=Z,2μm,0.2s						
PB15	**IPOC Station P**	**1.52**	**215**	⇑*i*P	**Pn**	**02 41 41.7**	**+0.5**
PB15				*i* S	**Sn**	**02 42 03.7**	**+0.8**
PB15	**IPOC Station P**	**1.52**	**215**	*e*P	**Pn**	**02 41 41.2**	**+0.1**
PB15				*e*S	**Sn**	**02 42 03.9**	**+0.9**
PB15				IAML		02 42 07.7	
	comp=Z,5μm,0.2s						
PB04	**IPOC Station P**	**1.56**	**256**	⇑*i*P	**Pn**	**02 41 41.6**	**+0.1**
PB04				*i* S	**Sn**	**02 42 02.9**	**-0.7**
PB04				IAML		02 42 05.7	
	comp=E,2μm,0.3s						
PB04	**IPOC Station P**	**1.56**	**256**	*e*P	**Pn**	**02 41 40.9**	**-0.6**
PB04				*e*S	**Sn**	**02 42 03.4**	**-0.2**
PB04				IAML		02 42 04.6	
	comp=Z,1μm,0.5s						
PATCX	**Punta Patache**	**1.90**	**306**	⇑*i*P	**Pn**	**02 41 45.2**	**-0.2**
PATCX				*i* S	**Sn**	**02 42 09.3**	**-1.3**
PATCX				IAML		02 42 14.5	
	comp=N,1μm,0.5s						
PATCX	**Punta Patache**	**1.90**	**306**	*e*P	**Pn**	**02 41 45.4**	**-0.1**
PATCX				*e*S	**Sn**	**02 42 11.0**	**+0.4**
PATCX				IAML		02 42 16.1	
	comp=Z,747nm,0.3s						
PB08	**IPOC Station P**	**1.91**	**342**	⇓*i*P	**Pn**	**02 41 46.7**	**+0.8**
PB08				*i* S	**Sn**	**02 42 11.7**	**+0.4**
PB08				IAML		02 42 13.5	
	comp=N,517nm,0.3s						
PB08	**IPOC Station P**	**1.91**	**342**	*e*P	**Pn**	**02 41 46.7**	**+0.8**
PB08				*e*S	**Sn**	**02 42 12.0**	**+0.8**
PB08				*e*S		02 42 12.9	
TA01	**Diego Aracena**	**2.08**	**312**	*e*P	**Pn**	**02 41 46.9**	**-0.7**
TA01				*i* S	**Sn**	**02 42 13.1**	**-1.3**
TA01				IAML		02 42 18.9	
	comp=N,899nm,0.5s						
HMBC	**Humberstone**	**2.11**	**322**	⇓*i*P	**Pn**	**02 41 47.3**	**-0.7**
HMBC				*i* S	**Sn**	**02 42 14.0**	**-1.1**
HMBC				IAML		02 42 16.3	
	comp=N,1μm,0.4s						
HMBC	**Humberstone**	**2.11**	**322**	*e*P	**Pn**	**02 41 47.4**	**-0.7**
HMBC				*e*S	**Sn**	**02 42 13.9**	**-1.3**
HMBC				IAML		02 42 19.0	
	comp=Z,805nm,0.3s						
TA02	**Huaiquique**	**2.26**	**318**	*e*P	**Pn**	**02 41 48.9**	**-0.8**
TA02				*i* S	**Sn**	**02 42 17.6**	**-0.7**
TA02				IAML		02 42 19.1	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**2.37**	**344**	⇓*i*P	**Pn**	**02 41 51.9**	**+0.3**
GO01				*i* S	**Sn**	**02 42 22.5**	**+1.0**
GO01				IAML		02 42 26.1	
	comp=E,781nm,0.2s						
YJA	**Yavi**	**2.79**	**95**	*e*P	**Pn**	**02 41 58.8**	**+1.9**
YJA				*e*S	**Sn**	**02 42 27.2**	**-3.9**
PB14	**IPOC Station P**	**3.17**	**213**	⇓*i*P	**Pn**	**02 42 01.6**	**-0.2**
PB14				IAML		02 42 39.3	
	comp=E,297nm,0.6s						
PB14	**IPOC Station P**	**3.17**	**213**	*e*P	**Pn**	**02 42 01.4**	**-0.2**
PB14				*e*S	**Sn**	**02 42 33.1**	**-6.5**
PB14				IAML		02 42 42.2	
	comp=Z,356nm,0.4s						
GO02	**Mina Guanaco**	**3.33**	**197**	*e*P	**Pn**	**02 42 03.8**	**0.0**
GO02				*i* S	**Sn**	**02 42 43.3**	**-0.2**
AZAP	**Zapla**	**3.89**	**126**	*e*P	**Pn**	**02 42 12.5**	**+1.4**
SLA	**San Lorenzo**	**3.90**	**135**	*e*P	**Pn**	**02 42 13.7**	**+2.6**
ALOL	**LOMAS DE OLMED**	**4.57**	**115**	*e*P	**Pn**	**02 42 20.0**	**+0.1**
ALOL				*e*S	**Sn**	**02 43 13.0**	**+0.7**
LPAZ	**La Paz**	**5.66**	**4**	P	**Pn**	**02 42 36.7**	**+1.7**
	comp=Z,7.3nm,0.3s,baz=192,slow=4.7,SNR=74						
BBSD	**Serra de San D**	**8.84**	**59**	*e*P	**Pn**	**02 43 14.1**	**-3.2**
SIV	**San Ignacio**	**9.21**	**51**	P	**Pn**	**02 43 19.3**	**-3.0**
	comp=Z,31nm,0.4s,baz=234,slow=9.7,SNR=146						
SIV				S	Sn	02 44 53.9	-10
	comp=Z,2.7nm,0.8s,baz=187,slow=18,SNR=1.7						
CFA	**Coronel Fontan**	**9.61**	**179**	P	**Pn**	**02 43 24.6**	**-3.0**
	comp=Z,0.7nm,0.3s,baz=314,slow=12,SNR=16						
CFA				S	Sn	02 45 02.6	-11
	comp=Z,1.5nm,0.7s,baz=359,slow=11,SNR=0.9						
ESFA	**Espinillo Form**	**9.68**	**110**	*e*P	**Pn**	**02 43 29.1**	**+0.6**
PTLB	**Pontes e Lacer**	**10.99**	**55**	*e*P	**Pn**	**02 43 43.4**	**-2.8**
BDQN	**Bodoquena, MS**	**11.08**	**84**	*e*P	**Pn**	**02 43 45.0**	**-2.4**
ANTJ	**Antonio Joao (**	**11.61**	**93**	*e*P	**Pn**	**02 43 53.2**	**-1.1**
MECA	**Mercedes**	**11.84**	**130**	*e*P	**Pn**	**02 43 59.0**	**+1.6**
VILB	**Vilhena**	**11.96**	**43**	*e*P	**Pn**	**02 43 56.8**	**-2.3**
AQDB	**Aquidauana**	**12.05**	**85**	*e*P	**Pn**	**02 43 59.0**	**-1.1**
SALV	**Santo Antonio**	**13.54**	**66**	*e*P	**Pn**	**02 44 17.5**	**-2.0**
PP1B	**Ponte de Pedra**	**13.55**	**74**	*e*P	**Pn**	**02 44 19.5**	**0.0**
CRSM	**Crissiumal (Br**	**14.25**	**116**	*e*P	**Pn**	**02 44 28.1**	**-0.4**
RODS	**Rosario do Sul**	**14.58**	**128**	*e*P	**P**	**02 44 35.9**	**+0.5**
PTGB	**Pitango**	**15.36**	**103**	*e*P	**P**	**02 44 43.4**	**-0.8**
ALGR	**Alto Alegre (B**	**15.56**	**119**	*e*P	**P**	**02 44 47.4**	**+1.0**
CPSB	**Cacapava Do Su**	**15.92**	**125**	*e*P	**P**	**02 44 50.8**	**+0.6**
PCMB	**Pacaembu**	**16.03**	**92**	*e*P	**P**	**02 44 51.3**	**-0.3**
ARAG	**Araguaiana, MT**	**16.98**	**71**	*e*P	**P**	**02 45 02.3**	**+0.1**
ITRB	**Iturama**	**17.12**	**86**	*e*P	**Pn**	**02 45 04.2**	**+0.1**
FRTB	**Fartura**	**17.55**	**98**	*e*P	**Pn**	**02 45 09.3**	**+0.1**
TEFE	**Tefe**	**18.73**	**12**	*e*P	**Pn**	**02 45 22.8**	**-0.4**
PLCA	**Paso Flores**	**18.79**	**185**	*e*P	**Pn**	**02 45 27.1**	**+3.3**
SNDB	**Serra Nova Dou**	**19.22**	**62**	*e*P	**P**	**02 45 25.8**	**-0.8**
RCLB	**Rio Claro- Sao**	**19.44**	**95**	*e*P	**P**	**02 45 29.4**	**+0.4**
IPMB	**Ipameri, GO**	**19.49**	**82**	*e*P	**P**	**02 45 29.6**	**0.0**
SPB	**Sao Paulo**	**19.51**	**99**	*e*P	**P**	**02 45 29.4**	**-0.2**
NPGB	**Novo Progresso**	**19.52**	**43**	*e*P	**P**	**02 45 29.3**	**-0.6**
PET01	**Itanhaem-SP**	**19.67**	**101**	*e*P	**P**	**02 45 31.8**	**+0.4**
VAO	**Valinhos**	**19.94**	**97**	*e*P	**P**	**02 45 34.2**	**-0.2**
MACA	**Manacapuru-AM**	**20.18**	**23**	*e*P	**P**	**02 45 36.1**	**-0.8**
BDFB	**Brasilia**	**20.39**	**76**	*e*P	**P**	**02 45 39.5**	**+0.1**
BDFB	**Brasilia**	**20.39**	**76**	P	**P**	**02 45 36.1**	**-3.2**
	comp=Z,3.5nm,0.5s,baz=238,slow=9.2,SNR=8.9						
	comp=Z,3.5nm,0.5s						
PMNB	**Patos De Minas**	**20.99**	**85**	*e*P	**P**	**02 45 44.9**	**-0.9**
ITTB	**Itaituba**	**21.44**	**37**	*e*P	**P**	**02 45 49.6**	**-0.8**
SGCB	**S£o Gabriel d**	**21.75**	**4**	*e*P	**P**	**02 45 54.2**	**+0.4**
BSCB	**Bom Sucesso**	**22.11**	**92**	*e*P	**P**	**02 45 57.7**	**+0.1**
JANB	**Januaria**	**23.94**	**77**	*e*P	**P**	**02 46 15.2**	**+0.4**
PRPB	**Parauapebas**	**23.94**	**52**	*e*P	**P**	**02 46 14.2**	**-0.5**
MALB	**Monte Alegre**	**24.33**	**37**	*e*P	**P**	**02 46 18.9**	**+0.6**
SDBA	**SAO DESIDERIO**	**24.45**	**71**	*e*P	**P**	**02 46 20.3**	**+0.8**
BOAV	**Boa Vista**	**25.44**	**19**	*e*P	**P**	**02 46 30.3**	**+2.0**
MCPB	**Macapa, AP**	**26.80**	**39**	*e*P	**P**	**02 46 42.7**	**+2.0**
GUA01	**Guaratinga, BA**	**27.60**	**84**	*e*P	**P**	**02 46 48.4**	**+0.6**
DBIC	**Dimbokro**	**68.52**	**73**	P	**P**	**02 52 00.6**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=141,slow=17,SNR=1.0						
	comp=Z,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.17**	**70**	P	**P**	**02 52 52.5**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=260,slow=5.2,SNR=29						
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**142.21**	**26**	PKP	**PKPdf**	**03 00 29.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=321,slow=1.8,SNR=1.8						
MKAR	**Makanchi Array**	**145.79**	**37**	PKPbc	**PKPdf**	**03 00 36.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=272,slow=4.2,SNR=2.5						

IDC 31 02:41:46.5±3.4,21°.08S×169°.06E,h0km,mb3.5/3, mbtmp3.6/4,Error ellipse: s-maj=222.5km s-min=28.9km az=156.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.62**	**247**	Pn	Pn	02 42 30.8	+0.6
	62nm,0.8s,baz=332,slow=20,SNR=0.9						
DZM				Sn	Sn	02 43 02.4	-0.5
	1.6nm,0.3s,baz=96,slow=18,SNR=1.0						
WRA	**Warramunga Arr**	**32.50**	**266**	P	P	02 48 18.9	-0.2
	1.1nm,1.2s,baz=99,slow=7.7,SNR=1.0						
	1.1nm,1.2s						
ASAR	**Alice Springs**	**32.56**	**259**	P	P	02 48 19.9	+0.2
	0.6nm,0.8s,baz=87,slow=7.9,SNR=1.4						
	0.6nm,0.8s						
NVAR	**Mina Array Bea**	**90.14**	**49**	P	P	02 54 48.9	-0.2
	0.1nm,0.3s,baz=239,slow=8.3,SNR=1.7						
	0.1nm,0.3s						

*SCB **31** 03:04:35.6±0.9,21°.51S×66°.74W,h224km±7km,ML3.3/4, MW3.6,Error ellipse: s-maj=4.1km s-min=3.2km az=0.0*
*GUC **31** 03:04:36.3±0.6,21°.55S×66°.84W,h248km±9km,ML3.0*
ISC 31 03:04:35.1±2.6,21°.51S±0°.06×66°.72W±0°.06, h231km±20km,n24,σ0°91/37,2C,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.04**	**76**	Pg	**Pn**	**03 05 09.2**	**+0.3**
MOCB				Sg	**S**	**03 05 34.0**	**-1.1**
MOCB				IAML		03 05 34.8	
	91nm,0.4s						
YJA	**Yavi**	**1.30**	**121**	Pg	**Pn**	**03 05 10.9**	**+0.3**
LVC	**Limon Verde**	**2.31**	**241**	*e*P	**Pn**	**03 05 20.2**	**+0.7**
LVC				*e*S	**S**	**03 05 54.4**	**+0.3**
LVC				IAML		03 05 57.1	
	23nm,0.1s						
PB09	**IPOC Station P**	**2.37**	**263**	Pg	**Pn**	**03 05 20.6**	**+0.8**
PB09	**IPOC Station P**	**2.37**	**263**	*e*P	**Pn**	**03 05 21.1**	**+1.3**
PB09				*e*S	**S**	**03 05 55.3**	**+0.6**
PB01	**IPOC Station P**	**2.63**	**280**	Pg	**Pn**	**03 05 23.3**	**+0.8**
PB01	**IPOC Station P**	**2.63**	**280**	*e*P	**Pn**	**03 05 23.2**	**+0.8**
PB01				*e*S	**S**	**03 05 59.0**	**-0.5**
PB01				IAML		03 06 00.5	
	comp=N,37nm,0.1s						
PB08	**IPOC Station P**	**2.66**	**300**	Pg	**Pn**	**03 05 23.6**	**+0.5**
PB08	**IPOC Station P**	**2.66**	**300**	⇑*e*P	**Pn**	**03 05 24.4**	**+1.3**
PB08				*e*S	**S**	**03 06 01.2**	**+0.6**
PB08				IAML		03 06 03.6	
	comp=E,15nm,0.2s						
PB06	**IPOC Station P**	**2.90**	**245**	Pg	**Pn**	**03 05 26.3**	**+0.8**
PB06	**IPOC Station P**	**2.90**	**245**	*e*P	**Pn**	**03 05 26.4**	**+0.8**
PB06				*e*S	**S**	**03 06 04.5**	**-0.6**
PB06				IAML		03 06 06.0	
	comp=E,26nm,0.3s						
GO01	**Chusmiza**	**2.96**	**308**	*e*S	**S**	**03 06 07.2**	**+0.5**
PB07	**IPOC Station P**	**2.96**	**265**	Pg	**Pn**	**03 05 26.5**	**+0.4**
PB07	**IPOC Station P**	**2.96**	**265**	⇑*e*P	**Pn**	**03 05 26.5**	**+0.4**
PB07				*e*S	**S**	**03 06 04.8**	**-1.4**
PB02	**IPOC Station P**	**2.97**	**273**	Pg	**Pn**	**03 05 26.7**	**+0.4**
PB02				Sg	**S**	**03 06 04.7**	**-1.6**
PB02				IAML		03 06 05.6	
	comp=E,85nm,0.5s						
PB02	**IPOC Station P**	**2.97**	**273**	*e*P	**Pn**	**03 05 26.6**	**+0.4**
PB02				*e*S	**S**	**03 06 04.9**	**-1.4**
PB15	**IPOC Station P**	**3.06**	**236**	Pg	**Pn**	**03 05 28.4**	**+1.1**
PB15				Sg	**S**	**03 06 07.4**	**-0.9**
PB15				IAML		03 06 12.2	
	comp=E,81nm,0.4s						
PB15	**IPOC Station P**	**3.06**	**236**	*e*P	**Pn**	**03 05 28.5**	**+1.2**
PB15				*e*S	**S**	**03 06 08.3**	**0.0**
HMBC	**Humberstone**	**3.21**	**292**	Pg	**Pn**	**03 05 29.3**	**+0.3**
HMBC				Sg	**S**	**03 06 09.5**	**-1.7**
HMBC				IAML		03 06 22.0	
	comp=E,48nm,0.2s						
HMBC	**Humberstone**	**3.21**	**292**	*e*P	**Pn**	**03 05 29.2**	**+0.2**
HMBC				*e*S	**S**	**03 06 09.3**	**-1.9**
PB04	**IPOC Station P**	**3.29**	**255**	Pg	**Pn**	**03 05 30.1**	**+0.2**
PB04	**IPOC Station P**	**3.29**	**255**	*e*P	**Pn**	**03 05 30.0**	**0.0**
SOET	**ToroToro**	**3.48**	**14**	Pg	**Pn**	**03 05 33.1**	**+0.7**
GO02	**Mina Guanaco**	**4.49**	**215**	Pg	**Pn**	**03 05 44.4**	**0.0**

*IDC **31** 03:05:42.4±0.8,10°.21S×161°.51E,h67km±6km,mb3.8/12, mbtmp4.2/14,Error ellipse: s-maj=15.3km s-min=8.5km az=34.0*
*NOU **31** 03:05:44.0,10°.32S×161°.41E,h21km,mb4.6/13,Solomon Islands*
*NEIC **31** 03:05:45.4±1.8,10°.27S±0°.08×161°.42E±0°.08,h75km±7km, mb5.0/36,Error ellipse: s-maj=13.1km s-min=10.2km az=47.0*
ISC 31 03:05:43.5±0.5,10°.24S±0°.06×161°.50E±0°.07,h67km,n83, σ1°39/89,mb4.8/30,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.73**	**298**		**Pn**	**03 06 11.9**	**+0.5**
HNR				Sn	**Sn**	**03 06 33.5**	**+1.0**
HNR	**Honiara**	**1.73**	**298**	P	**Pn**	**03 06 12.8**	**+1.4**
HNR	**Honiara**	**1.73**	**298**	P	**Pn**	**03 06 12.0**	**+0.6**
	24μm,0.5s,baz=178,slow=2.9,SNR=46						
HNR				S	**Sn**	**03 06 31.5**	**-1.1**
	44μm,0.4s,baz=343,slow=22,SNR=17						
HNR				LR	LR	03 06 51.1	
	comp=Z,23μm,18.3s,baz=218,slow=40						
KOUNC	**Koumac, New Ca**	**10.60**	**166**	Pn	**Pn**	**03 08 14.8**	**+2.2**
KOUNC	**Koumac, New Ca**	**10.60**	**166**	P	**Pn**	**03 08 15.1**	**+2.5**
LIFNC	**LIFOU**	**11.85**	**153**	Pn	**Pn**	**03 08 30.4**	**+0.8**
NOUC	**Port Laguerre**	**12.66**	**159**	P	**Pn**	**03 08 42.9**	**+2.1**
DZM	**Mont Dzumac**	**12.68**	**159**	Pn	**Pn**	**03 08 42.7**	**+1.6**
DZM	**Mont Dzumac**	**12.68**	**159**	P	**Pn**	**03 08 43.4**	**+2.2**
DZM	**Mont Dzumac**	**12.68**	**159**	P	**Pn**	**03 08 42.3**	**+1.1**
	11nm,0.3s,baz=311,slow=11,SNR=39						
DZM				S	**Sn**	**03 10 56.3**	**-4.4**
	6.8nm,0.4s,baz=292,slow=23,SNR=4.1						
MARNC	**Mare, Loyalty**	**12.82**	**151**	Pn	**Pn**	**03 08 44.9**	**+2.0**
ONTNC	**Ouen Toro**	**12.90**	**159**		**Pn**	**03 08 47.1**	**+3.0**
OUENC	**Ouen Island, N**	**13.15**	**158**	Pn	**Pn**	**03 08 49.9**	**+2.6**
PINNC	**Pines Island,**	**13.56**	**156**	Pn	**Pn**	**03 08 54.9**	**+2.1**
PATS	**Pohnpei**	**17.26**	**349**		**P**	**03 09 41.8**	**+1.0**
CTA	**Charters Tower**	**17.66**	**235**	P	**P**	**03 09 46.9**	**+1.8**
CTA	**Charters Tower**	**17.66**	**235**	P	**P**	**03 09 46.1**	**+0.9**
	17nm,0.9s,baz=63,slow=11,SNR=15						
CTAO	**Charters Tower**	**17.66**	**235**		**P**	**03 09 46.7**	**+1.5**
CTAO	**Charters Tower**	**17.66**	**235**	P	**P**	**03 09 47.0**	**+1.8**
EIDS	**Eidsvold**	**18.00**	**212**	P	**Pn**	**03 09 50.1**	**+0.8**
EIDS	**Eidsvold**	**18.00**	**212**	P	**Pn**	**03 09 50.4**	**+1.2**
COEN	**Coen**	**18.29**	**257**	Pn	**Pn**	**03 09 53.8**	**+1.0**
COEN	**Coen**	**18.29**	**257**	P	**Pn**	**03 09 55.3**	**+2.5**
MTSU	**Mount Surprise**	**18.40**	**243**	P	**Pn**	**03 09 55.8**	**+1.7**
RMQ	**Roma**	**20.15**	**215**	P	Pn	03 10 17.6	+2.8
ARMA	**Armidale**	**22.08**	**203**	P	**P**	**03 10 34.3**	**+1.1**
WR0	**Warramunga Arr**	**27.72**	**246**	P	**P**	**03 11 24.8**	**-1.1**
WB0	**Warramunga Arr**	**27.80**	**247**	P	**P**	**03 11 25.7**	**-0.9**
WRA	**Warramunga Arr**	**27.90**	**247**	P	**P**	**03 11 26.1**	**-1.3**
	3.5nm,0.7s,baz=76,slow=9.0,SNR=10						
	3.5nm,0.7s						
STKA	**Stephens Creek**	**28.33**	**218**	P	**P**	**03 11 30.5**	**-0.6**
	2.4nm,0.8s,baz=76,slow=7.2,SNR=3.6						
	2.4nm,0.8s						
ASAR	**Alice Springs**	**29.50**	**240**	P	**P**	**03 11 39.8**	**-1.9**
	0.9nm,0.5s,baz=61,slow=10,SNR=16						
ASAR				pP	**pP**	**03 11 57.3**	**+0.5**
	0.9nm,0.4s,baz=64,slow=10,SNR=5.1						
	0.9nm,0.5s						
RTZ	**Ruatahuna**	**31.48**	**156**	P	**P**	**03 12 00.4**	**+1.5**
KNRA	**Kununurra**	**32.33**	**257**	P	**P**	**03 12 06.0**	**-0.6**
KNRA				IAmb	IAmb	03 12 06.8	
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**32.46**	**222**	P	**P**	**03 12 06.7**	**-0.9**
LUWI	**Luwuk**	**39.56**	**281**		**P**	**03 13 07.9**	**-0.6**
LUWI	**Luwuk**	**39.56**	**281**	P	**P**	**03 13 07.8**	**-0.7**
PSA00	**Pilbara Seismi**	**41.49**	**249**	P	**P**	**03 13 23.1**	**-1.2**
MBWA	**Marble Bar**	**41.53**	**250**	P	**P**	**03 13 23.8**	**-0.9**
MORW	**Morawa**	**46.39**	**240

PRN	**Pahroc Range**	**91.00**	**52**	P	**P**	**03 18 41.9**	**+1.1**
PRN				IAmb	IAmb	03 18 46.4	
comp=Z,5.4nm,1.0s							
KURBB	**Kurchatov Arra**	**93.41**	**321**	P	**P**	**03 18 49.1**	**-2.3**
comp=Z,0.2nm,0.3s,baz=100,slow=4.0,SNR=4.2							
comp=Z,0.2nm,0.3s							
Q16A	**Castle Valley**	**94.29**	**51**	P	**P**	**03 18 57.8**	**+1.7**
Q16A				IAmb	IAmb	03 19 06.6	
comp=Z,4.4nm,0.5s							
PDAR	**Pinedale Array**	**96.09**	**48**	P	**P**	**03 19 02.3**	**-1.9**
comp=Z,0.2nm,0.6s,baz=279,slow=1.7,SNR=1.9							
comp=Z,0.2nm,0.6s							

*SCB **31** 03:11:12.8±1.3,21°.51S×66°.76W,h217km±9km,ML3.4/4, MW3.2,Error ellipse: s-maj=4.7km s-min=4.2km az=0.0*
*GUC **31** 03:11:14.2±0.5,21°.55S×67°.05W,h251km±7km,ML3.6*

ISC 31 03:11:12.3±2.1,21°.53S±0°.05×66°.77W±0°.05, h221km±16km,n29,σ1§17/43,3C,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.09**	**76**	Pg	**Pn**	**03 11 45.6**	**+0.1**
MOCB				Sg	**S**	**03 12 10.2**	**-0.9**
MOCB				IAML		03 12 11.9	
123nm,0.5s							
YJA	**Yavi**	**1.33**	**119**	Pg	**Pn**	**03 11 47.4**	**+0.3**
LVC	**Limon Verde**	**2.26**	**241**	Pg	**Pn**	**03 11 56.6**	**+1.1**
LVC	**Limon Verde**	**2.26**	**241**	*e*P	**Pn**	**03 11 57.2**	**+1.7**
LVC				*e*S	**S**	**03 12 29.0**	**0.0**
PB09	**IPOC Station P**	**2.32**	**263**	Pg	**Pn**	**03 11 57.2**	**+1.3**
PB09	**IPOC Station P**	**2.32**	**263**	*e*S	**S**	**03 12 30.0**	**+0.3**
PB01	**IPOC Station P**	**2.58**	**280**	Pg	**Pn**	**03 11 59.5**	**+0.9**
PB08	**IPOC Station P**	**2.62**	**301**	Pg	**Pn**	**03 12 00.8**	**+1.4**
PB08	**IPOC Station P**	**2.62**	**301**	*e*P	**Pn**	**03 12 00.8**	**+1.4**
PB08				*e*S	**S**	**03 12 36.7**	**+0.8**
PB08				IAML		03 12 41.7	
comp=E,48nm,0.1s							
PB06	**IPOC Station P**	**2.85**	**245**	Pg	**Pn**	**03 12 03.4**	**+1.8**
PB06	**IPOC Station P**	**2.85**	**245**	*e*P	**Pn**	**03 12 02.2**	**+0.6**
PB06				IAML		03 12 40.9	
comp=E,68nm,0.3s							
PB07	**IPOC Station P**	**2.91**	**266**	Pg	**Pn**	**03 12 02.9**	**+0.6**
PB07	**IPOC Station P**	**2.91**	**266**	*e*P	**Pn**	**03 12 02.7**	**+0.4**
PB07				∥ *i*P		03 12 02.9	
PB07				*e*S	**S**	**03 12 39.8**	**-1.4**
PB07				IAML		03 12 40.4	
comp=E,84nm,0.4s							
PB02	**IPOC Station P**	**2.92**	**273**	Pg	**Pn**	**03 12 03.0**	**+0.6**
PB02				Sg	**S**	**03 12 40.7**	**-0.6**
PB02				IAML		03 12 40.8	
comp=E,72nm,0.2s							
PB02	**IPOC Station P**	**2.92**	**273**	*e*P	**Pn**	**03 12 02.9**	**+0.5**
PB02				*e*S	**S**	**03 12 39.8**	**-1.5**
PB02				IAML		03 12 42.4	
comp=E,96nm,0.1s							
GO01	**Chusmiza**	**2.93**	**309**	Pg	**Pn**	**03 12 04.0**	**+1.1**
GO01	**Chusmiza**	**2.93**	**309**	∥ *e*P	**Pn**	**03 12 04.2**	**+1.3**
GO01				*e*S	**S**	**03 12 41.7**	**-0.5**
GO01				IAML		03 12 52.3	
comp=N,71nm,0.1s							
PB15	**IPOC Station P**	**3.01**	**236**	Pg	**Pn**	**03 12 04.9**	**+1.4**
PB15				Sg	**S**	**03 12 43.2**	**-0.1**
PB15				IAML		03 12 50.0	
comp=N,176nm,0.3s							
PB15	**IPOC Station P**	**3.01**	**236**	*e*P	**Pn**	**03 12 04.8**	**+1.3**
PB15				*e*S	**S**	**03 12 43.6**	**+0.2**
HMBC	**Humberstone**	**3.17**	**293**	Pg	**Pn**	**03 12 05.3**	**0.0**
HMBC				Sg	**S**	**03 12 45.1**	**-1.4**
HMBC				IAML		03 12 49.8	
comp=N,42nm,0.2s							
HMBC	**Humberstone**	**3.17**	**293**	*e*P	**Pn**	**03 12 05.1**	**-0.2**
HMBC				*e*S	**S**	**03 12 45.1**	**-1.4**
PATCX	**Punta Patache**	**3.24**	**282**	*e*P	**Pn**	**03 12 06.3**	**+0.3**
PATCX				*i* S	**S**	**03 12 46.1**	**-1.7**
PATCX				IAML		03 12 48.4	
comp=E,60nm,0.2s							
PB04	**IPOC Station P**	**3.24**	**255**	Pg	**Pn**	**03 12 06.5**	**+0.4**
PB04	**IPOC Station P**	**3.24**	**255**	∥ *e*P	**Pn**	**03 12 06.2**	**+0.1**
PB04				*e*S	**S**	**03 12 45.5**	**-2.6**
PB04				*e*S	**S**	**03 12 45.5**	**-2.6**
PB04				IAML		03 12 47.8	
comp=N,46nm,0.3s							
SLA	**San Lorenzo**	**3.38**	**160**	Pg	**Pn**	**03 12 08.5**	**+0.8**
SOET	**ToroToro**	**3.51**	**15**	Pg	**Pn**	**03 12 10.1**	**+0.6**
PB16	**IPOC Station P**	**4.09**	**320**	*e*P	**Pn**	**03 12 18.4**	**+1.7**
GO02	**Mina Guanaco**	**4.45**	**215**	Pg	**Pn**	**03 12 21.0**	**+0.3**
LPAZ	**La Paz**	**5.37**	**346**	Pg	**Pn**	**03 12 33.1**	**+0.5**

*NEIC **31** 03:11:32.8±1.6,3°.95N±0°.09×126°.61E±0°.08,h48km±8km, mb4.7/35,Error ellipse: s-maj=14.0km s-min=10.0km az=222.0*
*DJA **31** 03:11:32.4±0.3,4°N±4°×12°7E±°,h10km,M4.7/13, mb4.7/10,mB5.3/1,MLv4.6/13,Mw(mB)4.8/1*
*IDC **31** 03:11:37.5±1.7,3°.90N×126°.51E,h95km±16km,mb4.0/20, mbtmp4.3/22,Error ellipse: s-maj=26.2km s-min=9.4km az=73.0*

ISC 31 03:11:32.4±0.4,3°.89N±0°.05×126°.52E±0°.06,h45km,n101, σ1§46/101,mb4.6/38,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.01**	**259**	P	**Pn**	**03 11 51.3**	**+1.1**
SGSI				S	**Sn**	**03 12 04.4**	**+1.2**
TNTI	**Ternate**	**3.21**	**165**		**Pn**	**03 12 20.8**	**+0.4**
TNTI				Sn	**Sn**	**03 12 59.9**	**+2.5**
TNTI	**Ternate**	**3.21**	**165**	P	**Pn**	**03 12 21.9**	**+1.5**
TNTI	**Ternate**	**3.21**	**165**	P	**Pn**	**03 12 21.6**	**+1.2**
DAV	**Davao City (W)**	**3.30**	**344**	P	Pn	03 12 26.6	+5.0
174nm,0.3s,baz=89,slow=11,SNR=1.3							
DAV				S	**Sn**	**03 13 05.8**	**+6.2**
212nm,0.4s,baz=265,slow=21,SNR=1.5							
KMSI	**Cibinong**	**4.16**	**218**	P	**Pn**	**03 12 32.4**	**-1.0**
LBMI	**Labuha**	**4.60**	**168**	P	**Pn**	**03 12 39.7**	**+0.2**
GTOI	**Gorontalo**	**4.77**	**227**	P	**Pn**	**03 12 44.1**	**+2.3**
MRSI	**Marisa**	**5.69**	**234**	P	**Pn**	**03 12 57.9**	**+3.4**
181nm,0.5s,3μm0.9nm							
SANI	**Sanana**	**5.92**	**185**	P	**Pn**	**03 12 59.2**	**+1.5**
SANI	**Sanana**	**5.92**	**185**	P	**Pn**	**03 12 54.3**	**-3.4**
SANI	**Sanana**	**5.92**	**185**	P	**Pn**	**03 12 59.9**	**+1.8**
LUWI	**Luwuk**	**6.17**	**217**	Pn	**Pn**	**03 13 02.4**	**+1.5**
TOLI2	**Tolitoli**	**6.36**	**244**	Pn	**Pn**	**03 13 04.6**	**+1.0**
SWI	**Sorong**	**6.69**	**135**	P	**Pn**	**03 13 09.0**	**+0.8**
38nm,0.4s,0.2nm							
NLAI	**Namlea**	**7.10**	**175**	P	**Pn**	**03 13 13.1**	**-0.8**
22nm,0.4s,0.3nm							
MPSI	**Mapaga**	**7.50**	**242**	P	**Pn**	**03 13 20.4**	**+1.1**
20nm,0.6s,0.1nm							
MYLDM	**Lahad Datu**	**8.10**	**279**	Pn	**Pn**	**03 13 28.5**	**+1.0**
FAKI	**Fak Fak**	**8.86**	**140**	Pn	**Pn**	**03 13 39.6**	**+1.6**
FAKI	**Fak Fak**	**8.86**	**140**	P	**Pn**	**03 13 39.1**	**+1.1**
26nm,0.9s							
KAPI	**Kappang**	**11.13**	**217**	P	Pn	03 14 14.9	+5.8
3.1nm,0.5s,baz=82,slow=21,SNR=1.6							
SBUM	**Sibu**	**14.35**	**265**	Pn	**Pn**	**03 14 55.8**	**+2.8**
MTN	**Manton Dam**	**17.24**	**165**		**Pn**	**03 15 27.7**	**-2.4**
MTN				IAmb	IAmb	03 15 35.9	
comp=Z,20nm,0.4s							
MTN	**Manton Dam**	**17.24**	**165**	P	**Pn**	**03 15 29.1**	**-1.0**
TABU	**Tabubil**	**17.28**	**122**	P	**P**	**03 15 33.6**	**+2.0**
JAGI	**Jajag, Banyuwa**	**17.40**	**225**	P	**P**	**03 15 32.7**	**-0.3**
JAGI				IAmb	IAmb	03 15 58.7	
comp=Z,44nm,1.2s							
KDU	**Kakadu**	**17.50**	**160**	P	**Pn**	**03 15 32.8**	**-0.5**
KNRA	**Kununurra**	**19.57**	**174**		**P**	**03 15 55.9**	**-0.8**
KNRA				IAmb	IAmb	03 15 59.6	
comp=Z,26nm,0.6s							
KNRA	**Kununurra**	**19.57**	**174**	P	**P**	**03 15 57.3**	**+0.6**
COEN	**Coen**	**24.24**	**137**	P	**P**	**03 16 44.6**	**-0.7**
WB0	**Warramunga Arr**	**24.75**	**162**	P	**P**	**03 16 49.2**	**-0.8**
WB0				IAmb	IAmb	03 17 09.3	
comp=Z,17nm,0.7s							
WRAB	**Tennant Creek**	**24.89**	**162**	P	**P**	**03 16 50.3**	**-1.0**
WRAB				IAmb	IAmb	03 17 03.2	
comp=Z,21nm,0.8s							
WRAB	**Tennant Creek**	**24.89**	**162**	P	**P**	**03 16 51.8**	**+0.5**
WRA	**Warramunga Arr**	**24.90**	**162**	P	**P**	**03 16 49.9**	**-1.4**
WRA	**Warramunga Arr**	**24.90**	**162**	P	**P**	**03 16 51.2**	**-0.1**
comp=Z,8.6nm,0.7s,baz=342,slow=10,SNR=52							
comp=Z,8.6nm,0.7s							
WB2	**Warramunga Arr**	**24.90**	**162**	P	**P**	**03 16 51.3**	**-0.1**
WB2				IAmb	IAmb	03 17 03.8	
comp=Z,26nm,0.9s							
WR0	**Warramunga Arr**	**24.98**	**162**	P	**P**	**03 16 51.0**	**-1.0**
WR0				IAmb	IAmb	03 17 16.6	
comp=Z,15nm,0.8s							
MBWA	**Marble Bar**	**25.77**	**195**	P	**P**	**03 16 58.6**	**-0.5**
MBWA				IAmb	IAmb	03 17 16.3	
comp=Z,10.0nm,0.7s							
PSA00	**Pilbara Seismi**	**26.13**	**194**	P	**P**	**03 17 02.5**	**0.0**
PSA00				IAmb	IAmb	03 17 04.7	
comp=Z,22nm,0.8s							
PSA00	**Pilbara Seismi**	**26.13**	**194**	P	**P**	**03 17 02.1**	**-0.4**
PSA00				IAmb	IAmb	03 17 29.0	
comp=Z,11nm,1.1s							
PSA00	**Pilbara Seismi**	**26.13**	**194**	P	**P**	**03 17 03.8**	**+1.3**
RABL	**Rabaul**	**26.85**	**107**	P	**P**	**03 17 08.2**	**-0.9**
SRIT	**Nakonsritamara**	**27.15**	**281**	P	**P**	**03 17 11.2**	**-0.6**
QIS	**Mount Isa**	**27.48**	**153**	P	**P**	**03 17 15.5**	**+0.8**
AS31	**Alice Springs**	**28.32**	**166**	P	**P**	**03 17 21.9**	**-0.2**
ASAR	**Alice Springs**	**28.32**	**166**	P	**P**	**03 17 21.7**	**-0.5**
ASAR	**Alice Springs**	**28.32**	**166**	P	**P**	**03 17 21.9**	**-0.2**
comp=Z,2.6nm,0.7s,baz=343,slow=6.7,SNR=39							
comp=Z,2.6nm,0.7s							
WHN	**Wuhan**	**28.90**	**338**	P	**P**	**03 17 30.0**	**+2.9**
GIRL	**Giralia**	**28.97**	**204**	P	**P**	**03 17 26.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P	**P**	**03 17 42.7**	**+0.2**
comp=Z,1.4nm,0.3s,baz=119,slow=7.5,SNR=4.7							
comp=Z,1.4nm,0.3s							
CTA	**Charters Tower**	**30.72**	**142**	P	**P**	**03 17 43.9**	**+0.5**
comp=Z,5.3nm,0.8s,baz=329,slow=10,SNR=7.3							
comp=Z,5.3nm,0.8s							
KSRS	**Korea Array**	**33.43**	**2**	P	**P**	**03 18 06.5**	**-0.5**
comp=Z,1.7nm,0.6s,baz=184,slow=10,SNR=8.5							
comp=Z,1.7nm,0.6s							
MORW	**Morawa**	**34.28**	**196**	P	**P**	**03 18 14.0**	**-0.5**
MORW				IAmb	IAmb	03 18 33.5	
comp=Z,17nm,1.1s							
RK1H	**Rockhampton Ha**	**35.80**	**140**	P	**P**	**03 18 29.3**	**+1.6**
LCRK	**Leigh Creek**	**35.93**	**163**	P	**P**	**03 18 29.7**	**+1.1**
BBOO	**Buckleboo**	**37.60**	**167**	P	**P**	**03 18 42.8**	**-0.1**
EIDS	**Eidsvold**	**37.60**	**142**	P	**P**	**03 18 43.4**	**+0.4**
EIDS				IAmb	IAmb	03 18 44.0	
comp=Z,9.6nm,0.8s							
STKA	**Stephens Creek**	**38.35**	**159**	P	**P**	**03 18 49.9**	**+0.7**
STKA	**Stephens Creek**	**38.35**	**159**	P	**P**	**03 18 49.9**	**+0.7**
STKA	**Stephens Creek**	**38.35**	**159**	P	**P**	**03 18 49.6**	**+0.4**
comp=Z,15nm,0.7s,baz=334,slow=8.7,SNR=42							
comp=Z,15nm,0.7s							
PTPS	**Port Pirie**	**38.43**	**164**	P	**P**	**03 18 52.4**	**+2.6**
TW1H	**Toowoomba 1 Ha**	**39.74**	**143**	P	**P**	**03 19 03.2**	**+2.2**
USRK	**Ussuriysk Ar.**	**40.44**	**6**	P	**P**	**03 19 06.8**	**+0.4**
comp=Z,3.5nm,0.8s,baz=183,slow=6.2,SNR=5.5							
comp=Z,3.5nm,0.8s							
XLT	**XiLinHaoTe**	**40.90**	**348**	*e*P	**P**	**03 19 06.8**	**-3.6**
XLT				pP	pP	03 19 20.5	-1.4
XLT				sP	pwP	03 19 25.0	-0.3
XLT				pmax	pmax		
comp=Z,10.0nm,0.7s							
XLT				pmax	pmax		
comp=Z,620nm,6.6s							
ARMA	**Armidale**	**41.71**	**147**	P	**P**	**03 19 18.1**	**+0.8**
ARMA				IAmb	IAmb	03 19 19.1	
comp=Z,12nm,0.8s							
ARPS	**Mount Arapiles**	**42.90**	**162**	P	**P**	**03 19 27.0**	**+0.3**
CAN	**Canberra**	**44.35**	**153**	P	**P**	**03 19 37.3**	**-1.2**
HEH	**HeiHe**	**46.21**	**1**	*e*P	**P**	**03 19 53.0**	**+0.1**
HEH				pmax	pmax		
comp=Z,6.0nm,0.6s							
DZM	**Mont Dzumac**	**46.80**	**125**	P	**P**	**03 19 57.2**	**-0.9**
DZM				IAmb	IAmb	03 20 00.4	
comp=Z,9.2nm,0.9s							
SONM	**Songino Array**	**47.08**	**342**	P	**P**	**03 20 00.1**	**+0.1**
comp=Z,1.3nm,0.6s,baz=150,slow=6.1,SNR=3.0							
comp=Z,1.3nm,0.6s							
YATNC	**Mamie plateau,**	**47.16**	**125**	P	**P**	**03 20 03.0**	**+2.2**
PETK	**Petropavlovsk-**	**55.36**	**22**	P	**P**	**03 21 01.7**	**-0.1**
comp=Z,10nm,1.0s,baz=208,slow=7.5,SNR=2.9							
comp=Z,10nm,1.0s							
MK31	**Makanchi Array**	**57.31**	**325**	P	**P**	**03 21 15.0**	**-0.8**
MKAR	**Makanchi Array**	**57.31**	**325**	P	**P**	**03 21 15.9**	**+0.1**
MKAR	**Makanchi Array**	**57.31**	**325**	P	**P**	**03 21 15.1**	**-0.8**
comp=Z,1.0nm,0.3s,baz=118,slow=6.9,SNR=24							
comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**60.35**	**333**	P	**P**	**03 21 34.9**	**-1.9**
comp=Z,0.4nm,0.3s,baz=120,slow=10,SNR=2.2							
comp=Z,0.4nm,0.3s							
KURBB	**Kurchatov Arra**	**61.49**	**327**	P	**P**	**03 21 44.2**	**-0.4**
comp=Z,2.1nm,0.6s,baz=129,slow=7.0,SNR=13							
comp=Z,2.1nm,0.6s							
KURK	**Kurchatov**	**61.49**	**328**	P	**P**	**03 21 43.4**	**-1.2**
KURK				IAmb	IAmb	03 22 18.6	
comp=Z,4.3nm,0.8s							
LBZ	**Lake Benmore**	**61.93**	**146**	P	**P**	**03 21 48.1**	**+0.5**
THZ	**Tophouse**	**61.95**	**142**	P	**P**	**03 21 49.0**	**+1.1**
BKZ	**Black Stump Fm**	**62.84**	**138**	P	**P**	**03 21 53.1**	**-0.8**
BKZ				IAmb	IAmb	03 22 09.4	
comp=Z,10nm,1.1s							
RTZ	**Ruatahuna**	**62.89**	**137**	P	**P**	**03 21 53.2**	**-1.1**
KK31	**Karatay Array**	**62.97**	**317**	P	**P**	**03 21 55.2**	**+0.5**
KK31				IAmb	IAmb	03 21 55.6	
comp=Z,5.1nm,1.2s							
KKAR	**Karatay Array**	**62.97**	**317**	P	**P**	**03 21 54.2**	**-0.5**
KKAR	**Karatay Array**	**62.97**	**317**	P	**P**	**03 21 55.1**	**+0.4**
KKAR				IAmb	IAmb	03 21 55.6	
comp=Z,5.1nm,1.2s							
BVAR	**Borovoye Array**	**67.07**	**327**	P	**P**	**03 22 20.8**	**-0.3**
comp=Z,1.1nm,0.5s,baz=116,slow=9.8,SNR=4.3							
comp=Z,1.1nm,0.5s							
CASY	**Casey**	**70.95**	**187**	P	**P**	**03 22 45.9**	**+1.1**
ABKAR	**Akbulak array**	**71.89**	**321**	P	**P**	**03 22 50.0**	**-0.9**
ABKAR	**Akbulak array**	**71.89**	**321**	P	**P**	**03 22 49.6**	**-1.3**
VNDA	**Vanda**	**83.61**	**173**	P	**P**	**03 23 55.6**	**+0.1**
comp=Z,1.2nm,0.7s,baz=315,slow=6.4,SNR=12							
comp=Z,1.2nm,0.7s							
NEA2	**Nenana**	**84.11**	**26**	P	**P**	**03 23 57.1**	**-1.3**
NEA2				IAmb	IAmb	03 24 19.6	
comp=Z,10nm,1.2s							
RND	**Reindeer**	**84.14**	**27**	P	**P**	**03 23 55.5**	**-3.1**
RND				IAmb	IAmb	03 24 21.5	
comp=Z,15nm,1.4s							
ILAR	**Eielson Array**	**85.05**	**25**	P	**P**	**03 24 02.7**	**-0.5**
comp=Z,0.4nm,0.8s,baz=246,slow=4.4,SNR=5.2							
comp=Z,0.4nm,0.8s							
KLMR	**Klimovskoe**	**85.17**	**331**	*e*	P	03 23 57.0	-6.7
KLMR				AMP		03 24 10.2	
comp=Z,26nm,1.7s							
BRTR	**Keskin Array B**	**89.76**	**310**	P	**P**	**03 24 25.2**	**-1.4**
comp=Z,0.3nm,0.6s,baz=113,slow=5.6,SNR=1.0							
comp=Z,0.3nm,0.6s							
ARCES	**ARCESS Array B**	**90.23**	**340**	P	**P**	**03 24 26.9**	**-1.0**
comp=Z,5.5nm,1.0s,baz=75,slow=5.1,SNR=5.3							
comp=Z,5.5nm,1.0s							
FINES	**FINESS Array B**	**91.59**	**332**	P	**P**	**03 24 33.0**	**-1.4**
comp=Z,2.3nm,0.8s,baz=94,slow=2.5,SNR=6.3							
comp=Z,2.3nm,0.8s							
AKASG	**Malin Array Be**	**91.64**	**321**	P	**P**	**03 24 34.2**	**-0.6**
comp=Z,0.1nm,0.2s,baz=66,slow=4.8,SNR=2.1							
comp=Z,0.1nm,0.2s							
HFS	**Hagfors**	**97.78**	**332**	P	**P**	**03 25 02.1**	**-0.6**
comp=Z,3.5nm,1.0s,baz=83,slow=12,SNR=1.5							
comp=Z,3.5nm,1.0s							
BRG	**Berggiesshubel**	**100.99**	**323**	*e*P	**Pdif**	**03 25 17.7**	**+0.5**
BRG				Amp		03 25 18.5	
comp=Z,6.8nm,1.2s							
TORD	**Torodi Ar. Bea**	**122.67**	**288**	PKP	**PKPdf**	**03 30 23.8**	**-0.6**
comp=Z,0.5nm,0.8s,baz=83,slow=2.0,SNR=5.2							

*NEIC **31** 03:14:49.8±1.0,14°.37N±0°.07×123°.81E±0°.08,h33km±4km, mb4.9/65,Error ellipse: s-maj=12.8km s-min=8.9km az=121.0*
*DJA **31** 03:14:50.4±2.4,15°N±6°×12°4E±1°0,h52km±23km, M5.0/14,mb5.0/14*
*IDC **31** 03:14:55.0±2.3,14°.15N×123°.49E,h83km±20km,mb4.1/22, mbtmp4.4/24,MS4.1/6,Error ellipse: s-maj=19.5km s-min=9.2km az=78.0*

ISC 31 03:14:51.4±0.4,14°29N±0°.05×123°72E±0°.08,h50km,n136, σ1§31/132,mb4.8/54,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.71**	**266**	P	**Pn**	**03 15 31.7**	**-0.7**
89nm,0.3s,baz=156,slow=20,SNR=1.8							
TGY				LR	LR	03 16 00.4	
comp=Z,1μm,18.9s,baz=76,slow=26							
DAV	**Davao City (W)**	**7.40**	**166**	LR	LR	03 20 09.0	
comp=Z,3μm,19.6s,baz=359,slow=43							
SBUM	**Sibu**	**16.35**	**225**	P	**P**	**03 18 41.0**	**+1.1**
TTSI	**Tana Toraja**	**17.65**	**193**	P	**P**	**03 18 59.4**	**+5.2**
48nm,1.0s							
STKI	**Sintang**	**18.61**	**222**	P	Pn	03 19 20.2	+15
FAKI	**Fak Fak**	**19.07**	**153**	P	**P**	**03 19 09.9**	**0.0**
KAPI	**Kappang**	**19.58**	**192**		**Pn**	**03 19 17.1**	**+0.1**
KAPI				IAmb	IAmb	03 19 19.8	
comp=Z,108nm,1.4s							
KAPI	**Kappang**	**19.58**	**192**	P	**Pn**	**03 19 17.6**	**+0.5**
KAPI	**Kappang**	**19.58**	**192**	P	**P**	**03 19 16.2**	**+0.8**
comp=Z,31nm,0.9s,baz=348,slow=8.0,SNR=17							
KAPI				LR	LR	03 27 11.2	
comp=Z,632nm,20.4s,baz=230,slow=38							
BKSI	**Bulukumba**	**19.81**	**191**	P	**Pn**	**03 19 21.5**	**+1.7**
comp=Z,21nm,0.8s							
JNU	**Nakatsue**	**19.85**	**18**	LR	LR	03 28 41.8	
comp=Z,710nm,18.1s,baz=358,slow=41							
EDFI	**Ende, Flores**	**22.98**	**185**	P	**P**	**03 19 53.0**	**+1.0**
comp=Z,36nm,0.7s							
CRAI	**Chiangrai**	**23.05**	**288**	P	**P**	**03 19 52.3**	**-0.3**
CRAI				IAmb	IAmb	03 19 55.4	
comp=Z,66nm,1.3s							
KSRS	**Korea Array**	**23.37**	**8**	P	**P**	**03 19 57.3**	**+1.8**
comp=Z,4.5nm,1.0s,baz=192,slow=11,SNR=8.0							
comp=Z,4.5nm,1.0s							
PLAI	**Plampang**	**23.71**	**195**	P	**P**	**03 20 01.4**	**+2.5**
comp=Z,130nm,0.9s							
SOEI	**Soe**	**23.90**	**179**	P	P	03 20 16.0	+15
CMAR	**Chiang Mai Arr**	**24.12**	**283**	P	**P**	**03 20 02.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**24.12**	**283**	P	**P**	**03 20 03.1**	**+0.3**
comp=Z,14nm,0.7s,baz=95,slow=8.0,SNR=34							
CMAR				LR	LR	03 29 41.4	
comp=Z,250nm,18.6s,baz=75,slow=37							
comp=Z,14nm,0.7s							
CHTO	**Chiang Mai**	**24.16**	**284**		**P**	**03 20 03.0**	**-0.1**
BATI	**Baumata**	**24.34**	**180**	P	**P**	**03 20 04.3**	**-0.4**
comp=Z,42nm,0.5s							
BATI	**Baumata**	**24.34**	**180**	P	**P**	**03 20 04.0**	**-0.6**
comp=Z,56nm,0.8s,baz=70,slow=8.8,SNR=7.3							
comp=Z,56nm,0.8s							
KULM	**Kulim**	**24.41**	**251**	P	**P**	**03 20 06.8**	**+1.5**
MJAR	**Matsushiro Arr**	**25.67**	**28**	P	**P**	**03 20 19.4**	**+2.7**
comp=Z,3.1nm,0.9s,baz=204,slow=7.4,SNR=4.2							
comp=Z,3.1nm,0.9s							
TABU	**Tabubil**	**26.06**	**137**	P	P	03 20 29.9	+9.5
KNRA	**Kununurra**	**30.19**	**170**	P	**P**	**03 20 53.6**	**-3.5**
KNRA				IAmb	IAmb	03 20 58.5	
comp=Z,23nm,1.4s							
USRK	**Ussuriysk Ar.**	**30.63**	**12**	P	**P**	**03 21 04.5**	**+3.6**
comp=Z,4.8nm,0.8s,baz=170,slow=5.2,SNR=5.0							
comp=Z,4.8nm,0.8s							
SHL	**Shillong**	**31.88**	**296**	P	**P**	**03 21 11.5**	**-0.7**
SHL				IAmb	IAmb	03 21 13.8	
comp=Z,27nm,1.0s							
COEN	**Coen**	**34.04**	**145**	P	**P**	**03 21 34.4**	**+3.5**
COEN				IAmb	IAmb	03 22 03.3	
comp=Z,39nm,1.8s							
WB0	**Warramunga Arr**	**35.44**	**162**	P	**P**	**03 21 41.4**	**-1.6**
WB0				IAmb	IAmb	03 21 42.8	
comp=Z,8.8nm,0.8s							
MBWA	**Marble Bar**	**35.45**	**186**	P	**P**	**03 21 43.2**	**+0.2**
MBWA				IAmb	IAmb	03 21 52.9	
comp=Z,25nm,1.1s							
WRAB	**Tennant Creek**	**35.58**	**163**	P	**P**	**03 21 43.2**	**-1.0**
WRAB	**Tennant Creek**	**35.58**	**163**	P	**P**	**03 21 43.9**	**-0.3**
WRAB				pP	**pP**	**03 21 53.4**	**-3.9**
WRA	**Warramunga Arr**	**35.59**	**163**	P	**P**	**03 21 43.8**	**-0.5**
WRA	**Warramunga Arr**	**35.59**	**163**	P	**P**	**03 21 43.2**	**-1.0**
comp=Z,5.8nm,0.9s,baz=340,slow=9.1,SNR=13							
WRA				PcP	**PcP**	**03 24 12.1**	**-0.3**
comp=Z,1.3nm,0.8s,baz=349,slow=3.4,SNR=4.9							
comp=Z,5.8nm,0.9s							
WB2	**Warramunga Arr**	**35.59**	**163**	P	**P**	**03 21 43.3**	**-1.0**
WB2				IAmb	IAmb	03 21 45.2	
comp=Z,15nm,1.0s							
WR0	**Warramunga Arr**	**35.66**	**162**	P	**P**	**03 21 44.4**	**-0.5**
PSA00	**Pilbara Seismi**	**35.84**	**186**	P	**P**	**03 21 46.7**	**+0.3**
PSA00	**Pilbara Seismi**	**35.84**	**186**	P	**P**	**03 21 46.7

comp=Z,1.4nm,0.6s,baz=331,slow=7.2,SNR=4.6
comp=Z,1.4nm,0.6s
NRN Naryn 49.30 313 P **P 03 23 35.9 +0.1**
NRN IAmb IAmb 03 23 38.1
comp=Z,11nm,1.0s
NIL Nilore 49.46 302 P **P 03 23 36.7 -0.1**
NIL Nilore 49.46 302 P **P 03 23 38.0 +1.1**
NIL pP **pP 03 23 47.6 -2.8**
BOOM Boomskoye usch 49.69 314 P **P 03 23 38.1 -0.6**
ZALV Zalesovo Beam 49.92 331 P **P 03 23 39.8 -0.2**
comp=Z,2.7nm,0.8s,baz=112,slow=6.7,SNR=6.8
ZALV PcP **PcP 03 24 58.8 -0.8**
comp=Z,1.0nm,0.5s,baz=130,slow=5.8,SNR=2.1
comp=Z,2.7nm,0.8s
KURK Kurchatov 51.36 325 P **P 03 23 50.4 -0.5**
KURK IAmb IAmb 03 23 52.6
comp=Z,17nm,0.9s
KURK Kurchatov 51.36 325 P **P 03 23 51.3 +0.4**
KURK pP **pP 03 24 01.5 -3.0**
KURBB Kurchatov Arra 51.37 325 P **P 03 23 51.1 +0.2**
comp=Z,9.9nm,0.8s,baz=121,slow=7.7,SNR=19
comp=Z,9.9nm,0.8s
KK31 Karatay Array 53.68 313 P **P 03 24 08.0 -0.2**
KK31 IAmb IAmb 03 24 10.0
comp=Z,10.0nm,0.8s
KKAR Karatay Array 53.68 313 P **P 03 24 08.0 -0.2**
KKAR IAmb IAmb 03 24 10.0
comp=Z,10.0nm,0.8s
SIMJ Simiganj 53.77 308 P **P 03 24 09.9 +0.8**
SIMJ pP **pP 03 24 20.5 -2.3**
BVAR Borovoye Array 56.96 325 P **P 03 24 31.9 +0.3**
comp=Z,2.0nm,0.5s,baz=123,slow=5.5,SNR=5.1
BVAR PcP **PcP 03 25 25.5 -1.0**
comp=Z,3.1nm,0.8s,baz=122,slow=5.4,SNR=2.7
comp=Z,2.0nm,0.5s
BRVK Borovoye 57.03 325 P **P 03 24 32.9 +0.8**
BRVK pP **pP 03 24 43.5 -2.4**
WSAR Wadi Sarin 61.85 289 LR LR 03 54 53.7
comp=Z,452nm,18.1s,baz=269,slow=39
GEYT Alibeck 62.17 305 P **P 03 25 08.1 +0.2**
comp=Z,1.0nm,0.3s,baz=76,slow=12,SNR=5.2
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 62.23 318 P **P 03 25 07.8 -0.1**
ABKAR Akbulak array 62.23 318 P **P 03 25 07.6 -0.3**
ABKAR IAmb IAmb 03 25 09.2
comp=Z,7.8nm,0.9s
ARU Arti 64.52 326 P **P 03 25 22.8 -0.1**
ARU IAmb IAmb 03 25 23.4
comp=Z,9.6nm,0.9s
DCZ Deep Cove 71.27 149 P **P 03 26 04.0 -1.4**
D19K Kuna River 72.46 22 P **P 03 26 12.6 +0.2**
D19K IAmb IAmb 03 27 51.7
comp=Z,36nm,1.8s
L18K Granite Mounta 72.62 29 P **P 03 26 13.1 -0.3**
B20K Meade River 72.95 21 P **P 03 26 14.3 -0.8**
IMAR Indian Mountai 74.02 25 P **P 03 26 20.5 -1.1**
D22K Ayikyak River 74.47 22 P **P 03 26 22.9 -1.2**
D22K IAmb IAmb 03 27 20.9
comp=Z,31nm,1.8s
KLMR Klimovskoe 74.82 330 *e*P **P 03 26 25.0 -1.3**
KLMR AMP 03 26 29.0
comp=Z,28nm,2.1s
C23K Itkillik River 75.20 21 P **P 03 26 27.8 -0.5**
C23K IAmb IAmb 03 26 44.2
comp=Z,26nm,1.7s
BPAW Bear Paw Mtn. 75.21 27 P **P 03 26 28.0 -0.5**
NEA2 Nenana 76.02 26 P **P 03 26 31.9 -1.2**
NEA2 IAmb IAmb 03 27 10.3
comp=Z,28nm,2.0s
E24K Your Creek 76.03 23 P **P 03 26 32.8 -0.4**
RND Reindeer 76.19 28 P **P 03 26 33.0 -1.2**
RND IAmb IAmb 03 27 07.5
comp=Z,36nm,1.8s
F24K Squaw Lake 76.30 23 P **P 03 26 35.0 +0.3**
D25K Kavik River 76.71 21 P **P 03 26 36.4 -0.6**
D25K IAmb IAmb 03 28 32.1
comp=Z,22nm,1.9s
ILAR Eielson Array 76.94 26 P **P 03 26 38.8 +0.5**
comp=Z,0.3nm,0.6s,baz=265,slow=4.3,SNR=5.0
comp=Z,0.3nm,0.6s
E25K Arctic Village 77.12 23 P **P 03 26 39.0 -0.3**
E25K IAmb IAmb 03 27 40.6
comp=Z,14nm,1.7s
BMAR Burnt Mountain 77.58 23 P **P 03 26 42.4 +0.5**
I26K Coal Creek Min 78.44 25 P **P 03 26 45.9 -0.8**
I26K IAmb IAmb 03 28 49.7
comp=Z,29nm,1.9s
K27K Chicken 79.11 27 P **P 03 26 49.9 -0.4**
K27K IAmb IAmb 03 27 31.9
comp=Z,30nm,1.8s
E28M Babbage River 79.26 22 P **P 03 26 50.8 -0.3**
F28M Old Crow 79.33 23 P **P 03 26 51.2 -0.3**
EGAK Eagle 79.37 26 P **P 03 26 50.8 -1.0**
ARCES ARCESS Array B 79.58 339 P **P 03 26 52.6 -0.2**
ARCES ARCESS Array B 79.58 339 P **P 03 26 52.8 0.0**
comp=Z,4.7nm,0.9s,baz=98,slow=7.5,SNR=4.2
comp=Z,4.7nm,0.9s
I28M Miner Creek 79.74 25 P **P 03 26 54.1 +0.2**
I28M IAmb IAmb 03 27 05.3
comp=Z,9.0nm,1.1s
G29M Pine Creek 80.18 23 P **P 03 26 55.5 -0.7**
G29M IAmb IAmb 03 27 04.3
comp=Z,11nm,0.9s
H29M Whitestone 80.21 24 P **P 03 26 55.0 -1.3**
H29M IAmb IAmb 03 28 35.4
comp=Z,35nm,1.9s
FINES FINESS Array B 81.19 331 P **P 03 27 01.4 -0.2**
comp=Z,3.2nm,0.8s,baz=56,slow=7.2,SNR=5.5
comp=Z,3.2nm,0.8s
AKASG Malin Array Be 81.89 320 P **P 03 27 03.6 -1.9**
comp=Z,0.4nm,0.5s,baz=59,slow=6.0,SNR=4.9
comp=Z,0.4nm,0.5s
BURAR Bucovina Array 85.20 318 **P 03 27 23.4 +0.7**
BURAR IAmb IAmb 03 27 24.5
comp=Z,8.8nm,0.8s
BUR08 Bucovina Ar. S 85.20 318 **P 03 27 23.5 +0.8**
BUR08 IAmb IAmb 03 27 24.7
comp=Z,11nm,1.0s
HFS Hagfors 87.35 332 P **P 03 27 32.4 -0.5**
comp=Z,6.9nm,1.0s,baz=117,slow=0.7,SNR=4.9
comp=Z,6.9nm,1.0s
GERES GERESS Array B 92.01 322 P **P 03 27 54.2 -0.9**
comp=Z,0.5nm,0.6s,baz=94,slow=10,SNR=2.2
comp=Z,0.5nm,0.6s
VNDA Vanda 94.22 172 P **P 03 28 04.3 0.0**
comp=Z,1.0nm,0.9s,baz=294,slow=6.4,SNR=5.1
comp=Z,1.0nm,0.9s
FUORN Ofenpass-Fuorn 95.06 321 P **P 03 28 09.3 -0.1**
PLCA Paso Flores 150.86 157 PKPbc **PKPbc 03 34 37.8 -1.0**
comp=Z,3.9nm,0.7s,baz=241,slow=4.3,SNR=6.3

*IDC **31** 03:25:40.0±3.6,21°.89S×169°.43E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=243.0km s-min=36.9km az=161.0*
*NOU **31** 03:25:43.1,21°.43S×169°.11E,h0km,MLv3.8/8,Southeast of Loyalty Islands*
ISC 31 03:25:42.3±1.7,21°.4S±0°.1×169°.3E±0°.2,h10km,n10, σ0s86/10,mb3.8/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**1.99**	**288**	P	**Pn**	**03 26 14.5**	**-1.6**
PINNC	**Pines Island,**	**2.07**	**234**	P	**Pn**	**03 26 16.1**	**-1.1**
OUENC	**Ouen Island, N**	**2.47**	**245**	P	**Pn**	**03 26 22.3**	**-0.3**
DZM	**Mont Dzumac**	**2.71**	**255**	P	**Pn**	**03 26 26.6**	**+0.6**
ONTNC	**Ouen Toro**	**2.76**	**251**	P	**Pn**	**03 26 26.9**	**+0.2**
NOUC	**Port Laguerre**	**2.84**	**255**	P	**Pn**	**03 26 27.9**	**+0.2**
KOUNC	**Koumac, New Ca**	**4.73**	**279**	P	**Pn**	**03 26 54.7**	**+0.9**
WRA	**Warramunga Arr**	**32.67**	**266**	P	**P**	**03 32 14.9**	**-0.1**
	0.3nm,0.5s,baz=101,slow=8.8,SNR=7.6						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**32.69**	**259**	P	**P**	**03 32 15.2**	**0.0**
	0.8nm,0.7s,baz=84,slow=9.1,SNR=9.1						
	0.8nm,0.7s						
NVAR	**Mina Array Bea**	**90.21**	**48**	P	**P**	**03 38 43.8**	**+0.3**
	0.4nm,0.7s,baz=225,slow=8.9,SNR=0.9						
	0.4nm,0.7s						

*NOU **31** 03:30:12.8,21°.92S×170°.33E,h0km,MLv4.2/6,Southeast of Loyalty Islands*
*IDC **31** 03:30:13.1±6.8,19°.78S×169°.80E,h106km±60km,mb3.7/2, mbtmp4.2/3,Error ellipse: s-maj=128.0km s-min=51.0km az=150.0*
ISC 31 03:30:12.9±1.5,19°.9S±0°.3×169°.8E±0°.2,h100km,n13, σ2s50/13,mb4.3/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.58**	**248**	P	Pn	03 31 02.8	+10
YATNC	**Mamie plateau,**	**3.50**	**230**	P	**Pn**	**03 31 03.5**	**-1.9**
OUENC	**Ouen Island, N**	**3.77**	**227**	P	**Pn**	**03 31 05.1**	**-3.9**
DZM	**Mont Dzumac**	**3.84**	**234**	P	**Pn**	**03 31 10.3**	**+0.2**
DZM	**Mont Dzumac**	**3.84**	**234**	P	**Pn**	**03 31 10.3**	**+0.2**
	94nm,0.3s,baz=134,slow=15,SNR=193						
DZM				S	**Sn**	**03 31 56.1**	**+1.8**
	112nm,0.6s,baz=44,slow=21,SNR=12						
NOUC	**Port Laguerre**	**3.97**	**235**	P	**Pn**	**03 31 11.8**	**+0.1**
ONTNC	**Ouen Toro**	**3.97**	**231**	P	**Pn**	**03 31 10.2**	**-1.5**
WRA	**Warramunga Arr**	**33.31**	**264**	P	**P**	**03 36 41.5**	**+0.1**
	0.3nm,0.3s,baz=98,slow=8.2,SNR=13						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**33.50**	**257**	P	**P**	**03 36 42.0**	**-1.1**
	4.0nm,0.8s,baz=82,slow=9.6,SNR=17						
	4.0nm,0.8s						
VNA3	**Neumayer Olymp**	**89.15**	**180**	P	**P**	**03 42 59.9**	**+3.0**
	comp=Z,1.0nm,0.2s						
VNA2	**Neumayer--Watz**	**89.45**	**181**	P	**P**	**03 43 02.9**	**+4.6**
	comp=Z,0.3nm,0.1s,baz=328,slow=14						
VNA1	**Neumayer--Stat**	**89.74**	**181**	P	**P**	**03 42 57.3**	**-2.3**
	comp=Z,1.0nm,0.2s						
GERES	**GERESS Array B**	**145.27**	**332**	PKPbc	**PKPbc**	**03 49 37.5**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=60,slow=2.4,SNR=2.4						

IDC 31 03:44:45.0±2.2,0°.20N×126°.32E,h0km,mb3.2/2, mbtmp3.2/2,Error ellipse: s-maj=193.4km s-min=29.7km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.51**	**159**	P	P	03 49 36.5	+0.8
	0.3nm,0.5s,baz=338,slow=11,SNR=4.8						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**24.84**	**163**	P	P	03 50 08.6	-0.7
	0.5nm,0.7s,baz=343,slow=8.7,SNR=2.1						
MKAR	**Makanchi Array**	**60.23**	**327**	P	P	03 54 55.1	0.0
	0.4nm,0.7s,baz=135,slow=5.6,SNR=1.9						
	0.4nm,0.7s						

*TAP **31** 04:20:57.6,24°.36N×122°.06E,h37km,ML3.7,C*
*JMA **31** 04:20:57.4±0.1,24°.2N±0°.7×122°.1E±0°.4,h52km±2km, MV2.8/14,TAIWAN REGION*
ISC 31 04:20:57.5±0.8,24°.28N±0°.02×122°.11E±0°.01,h30km±4km, n171,σ1s10/305,26C-27D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.18**	**40**	⇑*i*P	**Pb**	**04 21 03.5**	**+0.2**
	baz=46						
EOS2				S	**Sn**	**04 21 08.5**	**+1.1**
	baz=46						
EOS3	**EOS3**	**0.19**	**89**	⇑*i*P	**Pn**	**04 21 04.1**	**-0.2**
	baz=108						
EOS3				S	**Sn**	**04 21 09.4**	**+1.9**
	baz=108						
EOS4	**EOS4**	**0.25**	**130**	⇑P	**Pn**	**04 21 05.3**	**+0.4**
	baz=135						
EOS4				*e*S	**Sn**	**04 21 10.4**	**+0.7**
	baz=135						
EHP	**Heping Village**	**0.33**	**275**	P	**Pb**	**04 21 05.5**	**+0.1**
	baz=264						
EHP				*e*S	**Sb**	**04 21 10.3**	**-0.5**
	baz=264						
EWUT	**Wuta**	**0.34**	**299**	⇓*e*P	**Pb**	**04 21 04.2**	**-1.3**
	baz=294						
EWUT				*e*S	**Sb**	**04 21 09.2**	**-1.7**
	baz=294						
ENA	**Nanau**	**0.36**	**294**	*e*P	**Pb**	**04 21 04.5**	**-1.4**
	baz=288						
ENA				*e*S	**Sb**	**04 21 10.2**	**-1.3**
	baz=288						
TWC	**Suao**	**0.40**	**324**	*e*P	**Pb**	**04 21 05.0**	**-1.4**
	baz=328						
TWC				*e*S	**Sb**	**04 21 10.0**	**-2.4**
	baz=328						
ETL	**Fush Village**	**0.46**	**255**	P	**Pb**	**04 21 07.5**	**+0.2**
	baz=242						
ETL				S	**Sn**	**04 21 16.0**	**+0.7**
	baz=242						
NACB	**Ninganchiao**	**0.48**	**257**	P	**Pb**	**04 21 07.7**	**+0.1**
NACB	**Ninganchiao**	**0.48**	**257**	⇑P	**Pb**	**04 21 07.3**	**-0.3**
	baz=246						
NACB				*e*S	**Sn**	**04 21 16.5**	**+0.7**
	baz=246						
NDS	**Dongshan**	**0.50**	**315**	⇓*e*P	**Pb**	**04 21 06.8**	**-1.1**
	baz=311						
NDS				S	**Sb**	**04 21 13.8**	**-1.3**
	baz=311						
TWD	**Chiawan**	**0.51**	**247**	*e*P	**Pb**	**04 21 08.3**	**+0.2**
	baz=236						
TWD				*e*S	**Sn**	**04 21 16.0**	**-0.4**
	baz=236						
HWA	**Hwalien**	**0.55**	**237**	⇑*i*P	**Pn**	**04 21 09.5**	**+0.2**
	baz=226						
HWA				*e*S	**Sn**	**04 21 19.6**	**+2.1**
	baz=226						
ETLH	**Xiulin Townshi**	**0.57**	**263**	⇓P	**Pb**	**04 21 08.9**	**-0.3**
	baz=244						
ETLH				S	**Sb**	**04 21 17.7**	**+0.5**
	baz=244						
ILA	**Ilan**	**0.58**	**326**	P	**Pb**	**04 21 08.5**	**-0.8**
	baz=322						
ILA				S	**Sb**	**04 21 16.5**	**-0.8**
	baz=322						
EGS		**0.58**	**344**	⇓P	**Pb**	**04 21 08.5**	**-0.8**
	baz=353						
EGS				S	**Sb**	**04 21 16.0**	**-1.3**
	baz=353						
LATG	**Datong**	**0.58**	**296**	⇓P	**Pb**	**04 21 08.5**	**-0.9**
	baz=290						
LATG				S	**Sb**	**04 21 17.5**	**-0.1**
	baz=290						
TWE	**Neicheng**	**0.59**	**318**	*i* P	**Pb**	**04 21 08.4**	**-1.0**
	baz=316						
TWE				*e*S	**Sb**	**04 21 15.9**	**-1.7**
	baz=316						
ENTT	**Nioudou**	**0.61**	**306**	*i* P	**Pb**	**04 21 08.8**	**-0.9**
	baz=302						
ENTT				*e*S	**Sb**	**04 21 16.7**	**-1.4**
	baz=302						
NTC	**Toucheng**	**0.62**	**336**	P	**Pb**	**04 21 09.1**	**-0.9**
	baz=347						
NTC				*e*S	**Sb**	**04 21 16.8**	**-1.6**
	baz=347						
NDT	**Datong Townshi**	**0.63**	**301**	⇑P	**Pb**	**04 21 09.3**	**-0.8**
	baz=301						
NDT				S	**Sb**	**04 21 18.0**	**-0.6**
	baz=301						
ETM	**Tongmen**	**0.64**	**241**	⇑P	**Pb**	**04 21 10.1**	**-0.2**
	baz=224						
ETM				S	**Sn**	**04 21 20.5**	**+0.7**
	baz=224						
FUSB	**Fushanzhiwuyua**	**0.67**	**315**	⇓P	**Pn**	**04 21 09.9**	**-1.1**
	baz=308						
FUSB				*e*S	**Sb**	**04 21 19.0**	**-0.8**
	baz=308						
NNSB	**Datong**	**0.68**	**283**	⇑P	**Pn**	**04 21 10.4**	**-0.8**
	baz=276						
NNSB				S	**Sb**	**04 21 20.2**	**+0.1**
	baz=276						
NNSH	**Datong**	**0.68**	**283**	⇓P	**Pn**	**04 21 10.6**	**-0.6**
	baz=276						
NNSH				S	**Sb**	**04 21 20.3**	**+0.2**
	baz=276						
LXIB	**Xiulin Townshi**	**0.68**	**248**	⇑P	**Pb**	**04 21 10.9**	**-0.2**
	baz=240						
LXIB				S	**Sn**	**04 21 21.7**	**+0.6**
	baz=240						
NNS	**Nan Shan**	**0.69**	**283**	*i* P	**Pn**	**04 21 10.7**	**-0.6**
	baz=277						
NNS				S	**Sb**	**04 21 20.4**	**0.0**
	baz=277						
TWB1	**Santiao Chiao**	**0.73**	**352**	P	**Pn**	**04 21 11.2**	**-0.6**
	baz=355						
TWB1				*e*S	**Sb**	**04 21 21.7**	**+0.2**
	baz=355						
NWLT	**Wulai**	**0.74**	**312**	P	**Pn**	**04 21 11.2**	**-0.8**
	baz=309						
NWLT				S	**Sb**	**04 21 20.9**	**-0.9**
	baz=309						
YHNB	**Yeheng**	**0.77**	**300**	P	**Pn**	**04 21 12.1**	**-0.3**
YHNB	**Yeheng**	**0.77**	**300**	⇑P	**Pn**	**04 21 11.8**	**-0.6**
	baz=296						
YHNB				S	**Sn**	**04 21 22.6**	**-0.5**
	baz=296						
TEGC	**Jichi Village**	**0.77**	**222**	*e*P	**Pb**	**04 21 13.4**	**+1.0**
	baz=216						
ESL	**Shilin**	**0.77**	**233**	P	**Pn**	**04 21 11.8**	**-0.6**
	baz=225						
ESL				*e*S	**Sn**	**04 21 24.6**	**+1.6**
	baz=225						
WHF	**Hehuan Shan**	**0.78**	**260**	*i* P	**Pb**	**04 21 13.0**	**+0.1**
	baz=253						
WHF				*e*S	**Sn**	**04 21 24.0**	**+0.2**
	baz=253						
JYNG	**Yonagunijimaku**	**0.78**	**77**	P	**Pb**	**04 21 13.3**	**+0.6**
JYNG				S	**Sb**	**04 21 23.8**	**+0.9**
NSK	**Sanguang**	**0.79**	**300**	*i* P	**Pn**	**04 21 12.2**	**-0.5**
	baz=296						
NSK				S	**Sn**	**04 21 22.4**	**-1.1**
	baz=296						
FUSS	**Fushou**	**0.79**	**268**	⇑*e*P	**Pn**	**04 21 12.6**	**-0.3**
	baz=261						
FUSS				*e*S	**Sn**	**04 21 24.3**	**+0.6**
	baz=261						
SXI1	**Grass Mountain**	**0.84**	**346**	⇓P	**Pn**	**04 21 13.0**	**-0.4**
	baz=359						
SXI1				S	**Sn**	**04 21 24.8**	**+0.1**
	baz=359						
NWF	**Wu-fen Shan**	**0.84**	**339**	⇑P	**Pn**	**04 21 13.4**	**0.0**
	baz=351						
NWF				S	**Sn**	**04 21 24.4**	**-0.4**
	baz=351						
WFSB	**Wu-fen Shan**	**0.84**	**339**	⇓P	**Pn**	**04 21 13.3**	**0.0**
	baz=351						
WFSB				S	**Sn**	**04 21 24.1**	**-0.6**
	baz=351						
TWA	**Mucha**	**0.84**	**326**	*e*P	**Pn**	**04 21 13.6**	**+0.2**
	baz=325						
YOJ	**Yonaguni jima**	**0.84**	**78**	P	**Pb**	**04 21 13.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.84**	**78**	P	**Pb**	**04 21 13.8**	**+0.1**
YOJ				*e*S	**Sb**	**04 21 25.4**	**+0.7**
YOJ	**Yonaguni jima**	**0.84**	**78**	⇑*i*P	**Pb**	**04 21 13.8**	**+0.1**
	baz=71						
YOJ				S	**Sb**	**04 21 25.6**	**+0.9**
	baz=71						
TWT	**Tachien**	**0.85**	**268**	*i* P	**Pb**	**04 21 14.0**	**+0.1**
	baz=262						
TWT				S	**Sn**	**04 21 25.2**	**0.0**
	baz=262						
NHDH	**Xindian Distri**	**0.86**	**322**	P	**Pn**	**04 21 13.9**	**+0.3**
	baz=328						
NHDH				*e*S	**Sn**	**04 21 25.7**	**+0.5**
	baz=328						
WARBT	**Fenglin Townsh**	**0.86**	**230**	⇓P	**Pn**	**04 21 12.9**	**-0.8**
	baz=223						
WARBT				*e*S	**Sb**	**04 21 26.4**	**+1.1**
	baz=223						
EGFH	**Guangfu**	**0.87**	**226**	⇑*e*P	**Pb**	**04 21 15.9**	**+1.8**
	baz=208						
EGFH				*e*S	**Sb**	**04 21 28.8**	**+3.4**
	baz=208						
CHGB	**Renai**	**0.88**	**256**	⇓P	**Pn**	**04 21 14.1**	**0.0**
	baz=237						
CHGB				*e*S	**Sb**	**04 21 27.4**	**+1.5**
	baz=237						
TATO	**Taipei**	**0.89**	**321**	P	**Pb**	**04 21 14.7**	**+0.3**
TATO	**Taipei**	**0.89**	**321**	⇑*e*P	**Pb**	**04 21 14.7**	**+0.3**
	baz=320						
TATO				*e*S	**Sn**	**04 21 26.2**	**+0.2**
	baz=320						
NHY	**Taipei**	**0.90**	**327**	*e*P	**Pb**	**04 21 15.1**	**+0.5**
	baz=337						
NHY				*e*S	**Sb**	**04 21 27.0**	**+0.8**
	baz=337						
OWD	**Renai**	**0.91**	**249**	⇓P	**Pn**	**04 21 14.5**	**+0.1**
	baz=232						
OWD				*e*S	**Sb**	**04 21 27.5**	**+0.8**
	baz=232						
TNOU	**National Taiwa**	**0.92**	**341**	*e*P	**Pn**	**04 21 14.2**	**-0.2**
	baz=355						
TNOU				*e*S	**Sn**	**04 21 26.8**	**+0.3**
	baz=355						
TAP	**Taipei**	**0.93**	**324**	*i* P	**Pn**	**04 21 14.5**	**-0.1**
	baz=324						
TAP				*e*S	**Sn**	**04 21 27.1**	**+0.2**
	baz=324						
BACT	**New Taipei Cit**	**0.93**	**320**	*e*P	**Pn**	**04 21 14.7**	**+0.1**
	baz=330						
BACT				*e*S	**Sn**	**04 21 27.1**	**+0.1**
	baz=330						
WUSB	**Renai**	**0.95**	**252**	⇑P	**Pb**	**04 21 15.2**	**-0.3**
	baz=236						
WUSB				*e*S	**Sb**	**04 21 29.5**	**+1.8**
	baz=236						
NFF	**Wufeng Townshi**	**0.96**	**291**	⇓P	**Pn**	**04 21 15.5**	**+0.4**
	baz=287						
NFF				*e*S	**Sb**	**04 21 29.3**	**+1.1**
	baz=287						
YM01	**YM01**	**0.99**	**331**	⇑*e*P	**Pn**	**04 21 16.1**	**+0.7**
	baz=340						
YM01				*e*S	**Sn**	**04 21 28.8**	**+0.3**
	baz=340						
NWRT	**Kuosheng**	**1.00**	**336**	*e*P	**Pn**	**04 21 16.2**	**+0.7**
	baz=337						
NWRT				*e*S	**Sn**	**04 21 29.0**	**+0.3**
	baz=337						
HGSD	**Ruisui**	**1.00**	**219**	⇑*e*P	**Pn**	**04 21 14.8**	**-0.7**
	baz=207						
YM08	**YM08**	**1.02**	**333**	⇓P	**Pn**	**04 21 16.2**	**+0.4**
	baz=333						
YM08				*e*S	**Sn**	**04 21 29.7**	**+0.5**
	baz=333						
NTY	**Taoyuan**	**1.02**	**314**	P	**Pb**	**04 21 16.8**	**+0.1**
	baz=324						
VWDT	**VWDT**	**1.03**	**239**	⇓P	**Pn**	**04 21 16.0**	**+0.1**
	baz=222						
VWDT				*e*S	**Sb**	**04 21 32.0**	**+2.2**
	baz=222						
TWS1	**Kuangyinshan**	**1.03**	**323**	*e*P	**Pb**	**04 21 16.9**	**+0.2**
	baz=330						
TWS1				*e*S	**Sb**	**04 21 31.1**	**+1.2**
	baz=330						
NJD	**Zhudong**	**1.03**	**296**	*e*P	**Pb**	**04 21 17.9**	**+1.0**
	baz=293						
ANP	**Anpu**	**1.05**	**330**	P	**Pn**	**04 21 16.5**	**+0.3**
	baz=329						
ANP				*e*S	**Sn**	**04 21 30.1**	**+0.2**
	baz=329						
EHY	**Hungye**	**1.05**	**223**	⇑P	**Pn**	**04 21 15.5**	**-0.8**
	baz=228						
EHY				*e*S	**Sb**	**04 21 33.4**	**+2.8**
	baz=228						
LIOB	**Emei**	**1.06**	**290**	⇓P	**Pb**	**04 21 17.4**	**+0.2**
	baz=286						
LIOB				S	**Sb**	**04 21 31.5**	**+0.7**
	baz=286						
WHP	**Taichung City**	**1.06**	**270**	*e*P	**Pb**	**04 21 17.5**	**+0.2**
	baz=265						
WHP				*e*S	**Sb**	**04 21 31.9**	**+1.0**
	baz=265						
NTST	**Danshui**	**1.06**	**326**	⇓*e*P	**Pb**	**04 21 17.8**	**+0.4**
	baz=338						
NTST				*e*S	**Sb**	**04 21 32.5**	**+1.7**
	baz=338						
NSTT	**Nanjuang**	**1.06**	**289**	P	**Pb**	**04 21 17.6**	**+0.2**
	baz=285						
NSTT				*e*S	**Sb**	**04 21 32.6**	**+1.6**
	baz=285						
NCU	**National Centr**	**1.08**	**310**	*e*P	**Pn**	**04 21 17.1**	**+0.5**
	baz=307						
NCUH	**Zhongli**	**1.08**	**309**	*e*P	**Pb**	**04 21 18.1**	**+0.5**
	baz=307						
NCUH				*e*S	**Sb**	**04 21 33.7**	**+2.3**
	baz=307						
WPL	**Puli Township**	**1.08**	**256**	*e*P	**Pb**	**04 21 17.5**	**-0.2**
	baz=242						
WPL				*e*S	**Sb**	**04 21 31.9**	**+0.4**
	baz=242						
TWY	**Chenhua**	**1.09**	**335**	*e*P	**Pn**	**04 21 15.6**	**-1.2**
	baz=335						
DPDB	**Guoxing**	**1.10**	**257**	*e*P	**Pb**	**04 21 18.1**	**0.0**
	baz=243						
DPDB				*e*S	**Sb**	**04 21 33.4**	**+1.2**
	baz=243						
HSN1	**Hsinchu**	**1.11**	**297**	*e*P	**Pb**	**04 21 18.6**	**+0.5**
	baz=293						

HSN1			eS	Sb	04 21 34.9	+2.7
	baz=293					
WCS	**Beigang Elemen**	**1.11 259**	eP	Pb	04 21 18.2	0.0
	baz=253					
WCS			eS	Sb	04 21 34.0	+1.7
	baz=253					
ECBN	**Changbin**	**1.13 212**	eP	Pn	04 21 17.1	-0.2
	baz=199					
SBCB	**Hsinchu**	**1.14 297**	eP	Pb	04 21 19.2	+0.6
	baz=293					
YULB	**Yu-li**	**1.15 220**	P	Pn	04 21 16.6	-1.1
YULB	**Yu-li**	**1.15 220**	⇓P	Pn	04 21 16.7	-1.1
	baz=214					
YULB			eS	Sb	04 21 35.2	+1.7
	baz=214					
HSN	**Hsinchu**	**1.16 297**	eP	Pb	04 21 19.9	+1.0
	baz=296					
HSN			eS	Sb	04 21 34.1	+0.5
	baz=296					
SSLB	**Suanglung**	**1.16 245**	P	Pn	04 21 17.9	+0.1
SSLB	**Suanglung**	**1.16 245**	⇓P	Pn	04 21 17.8	0.0
	baz=231					
SSLB			eS	Sb	04 21 35.0	+1.2
	baz=231					
SMLT	**Sun Moon Lake**	**1.17 250**	P	Pb	04 21 19.4	+0.2
	baz=236					
SMLT			eS	Sb	04 21 36.4	+2.3
	baz=236					
EYUL	**Yuli**	**1.18 218**	eP	Pn	04 21 17.5	-0.4
	baz=227					
TWF1	**Yuli**	**1.19 219**	eP	Pn	04 21 17.1	-1.0
	baz=226					
TWF1			eS	Sn	04 21 32.7	-0.5
	baz=226					
NJN	**Zhunan**	**1.19 290**	eS	Sb	04 21 37.2	+2.5
	baz=278					
TYC	**Yuchr**	**1.20 252**	eP	Pb	04 21 19.0	-0.7
	baz=241					
NHW	**Xinwu Township**	**1.20 307**	eP	Pb	04 21 19.5	-0.2
	baz=304					
TWQ1	**Liyutan**	**1.22 273**	eP	Pb	04 21 21.0	+1.0
	baz=268					
TWQ1			eS	Sb	04 21 37.6	+2.3
	baz=268					
NMLH	**Miaoli**	**1.23 282**	⇓P	Pb	04 21 20.3	+0.2
	baz=278					
NMLH			eS	Sb	04 21 37.0	+1.4
	baz=278					
NSY	**Sanyi**	**1.23 276**	eP	Pb	04 21 21.1	+0.8
	baz=272					
NSY			eS	Sb	04 21 37.8	+2.0
	baz=272					
WHYT	**Xinyi Township**	**1.28 243**	⇑P	Pb	04 21 20.5	-0.7
	baz=228					
WHYT			eS	Sb	04 21 39.4	+2.1
	baz=228					
FULB	**Fuli**	**1.31 215**	⇑eP	Pn	04 21 19.1	-0.7
	baz=197					
FULB			eS	Sb	04 21 39.9	+1.9
	baz=197					
TCU	**Taichung**	**1.31 264**	P	Pb	04 21 21.5	-0.1
	baz=259					
TCU			S	Sb	04 21 38.6	+0.6
	baz=259					
WJS	**Zhushan**	**1.34 250**	⇑P	Pb	04 21 22.6	+0.6
	baz=232					
WJS			eS	Sb	04 21 40.9	+2.0
	baz=232					
PCYT	**Pengchaiyu**	**1.34 359**	eP	Pn	04 21 21.0	+0.7
	baz=350					
WNT1	**Nantou City**	**1.35 254**	P	Pb	04 21 22.5	+0.2
	baz=249					
WNT1			S	Sb	04 21 40.9	+1.6
	baz=249					
CHKT	**Chengkung**	**1.36 210**	eP	Pn	04 21 19.3	-1.2
	baz=193					
CHKT			eS	Sn	04 21 36.1	-1.4
	baz=193					
WNT	**Mingjian**	**1.36 253**	⇑P	Pb	04 21 22.6	+0.3
	baz=247					
WNT			S	Sb	04 21 41.0	+1.6
	baz=247					
EHD	**Haiduan**	**1.40 216**	eP	Pn	04 21 20.2	-0.8
	baz=221					
EHD			eS	Sb	04 21 40.4	0.0
	baz=221					
ALS	**Alishan**	**1.42 237**	eP	Pb	04 21 23.2	-0.3
	baz=223					
ALS			eS	Sb	04 21 42.9	+1.6
	baz=223					
WCHH	**Zhanghua**	**1.43 262**	eP	Pb	04 21 23.8	+0.3
	baz=257					
WCHH			eS	Sb	04 21 43.0	+1.7
	baz=257					
ECS	**Chishang**	**1.43 215**	eP	Pb	04 21 24.8	+1.2
	baz=210					
ECS			eS	Sb	04 21 43.1	+1.6
	baz=210					
CHN5	**Tsauling**	**1.47 243**	P	Pb	04 21 23.7	-0.7
	baz=225					
CHN5			eS	Sb	04 21 44.4	+1.7
	baz=225					
ELDTW	**Lidau**	**1.48 223**	eP	Pn	04 21 21.4	-0.8
	baz=210					
IRIF	**Iriomote-Funau**	**1.48 88**	P	Pn	04 21 22.7	+0.5
IRIF			eS	Sb	04 21 41.8	-1.1
EDH	**Donghe**	**1.50 210**	eP	Pn	04 21 21.5	-0.9
	baz=195					
EDH			eS	Sn	04 21 39.7	-1.2
	baz=195					
WDLH	**Douliu**	**1.55 248**	eP	Pb	04 21 25.5	-0.1
	baz=242					
WDLH			eS	Sb	04 21 45.7	+0.9
	baz=242					
HATJ	**Hateruma jima**	**1.57 98**	eP	Pb	04 21 26.9	+1.0
WCKO	**Fanlu**	**1.61 239**	eP	Pb	04 21 25.2	-1.4
	baz=234					
WCKO			eS	Sb	04 21 47.2	+0.6
	baz=234					
WRL	**Guolierlin Hig**	**1.62 257**	P	Pb	04 21 25.9	-0.9
	baz=266					
WRL			S	Sb	04 21 46.6	-0.3
	baz=266					
LONT	**Longtian**	**1.64 213**	eP	Pn	04 21 23.5	-0.8
	baz=211					
RLNB	**Erlin**	**1.64 257**	eP	Pn	04 21 25.2	+0.9
	baz=266					
RLNB			eS	Sb	04 21 48.8	+1.3
	baz=266					
STYH	**Taoyuan**	**1.65 228**	⇓P	Pb	04 21 25.6	-1.6
	baz=213					
STYH			eS	Sb	04 21 48.2	+0.7
	baz=213					
STYT	**Tauyuan**	**1.66 228**	eP	Pn	04 21 25.9	+1.1
	baz=213					
STYT			eS	Sb	04 21 48.5	+0.3
	baz=213					
CHN4	**Tsaushan**	**1.67 237**	⇓P	Pb	04 21 26.8	-0.8
	baz=219					
CHN4			eS	Sb	04 21 49.4	+1.2
	baz=219					
CHN2	**Minshiung**	**1.67 244**	eP	Pb	04 21 26.9	-0.7
	baz=230					
TPUB	**Ta-pu**	**1.67 234**	P	Pb	04 21 26.4	-1.2
TPUB	**Ta-pu**	**1.67 234**	⇓P	Pb	04 21 26.4	-1.2
	baz=221					
TPUB			eS	Sb	04 21 48.9	+0.6
	baz=221					
WTK	**Tuku**	**1.68 250**	P	Pb	04 21 27.1	-0.6
	baz=244					
WTK			eS	Sb	04 21 49.1	+0.6
	baz=244					
WTP	**Ta-pu**	**1.71 233**	eP	Pb	04 21 27.1	-1.3
	baz=228					
WTP			eS	Sb	04 21 49.8	+0.3
	baz=228					
CHY	**Chiayi**	**1.73 243**	eP	Pb	04 21 28.6	0.0
	baz=226					
CHY			eS	Sb	04 21 50.4	+0.5
	baz=226					
TWGBT	**Beinan**	**1.73 213**	eP	Pn	04 21 25.3	-0.4
	baz=208					
TWGBT			eS	Sb	04 21 47.9	-2.2
	baz=208					
TWG	**Pinlang**	**1.74 213**	eP	Pn	04 21 25.2	-0.5
	baz=208					
TWG			eS	Sb	04 21 48.1	-2.1
	baz=208					
JKRS	**Kuro-shima**	**1.74 91**	P	Pb	04 21 27.2	-1.6
JKRS			S	Sb	04 21 48.9	-1.4
TWK	**Hsinying**	**1.79 236**	⇓P	Pb	04 21 28.2	-1.6
	baz=230					
TWK			S	Sb	04 21 51.5	-0.4
	baz=230					
CHN1	**Nanshi**	**1.81 233**	P	Pb	04 21 29.6	-0.5
	baz=228					
CHN1			eS	Sb	04 21 52.8	+0.5
	baz=228					
SNST	**Tainan City**	**1.81 235**	eP	Pb	04 21 29.6	-0.4
	baz=229					
SNST			S	Sb	04 21 52.7	+0.3
	baz=229					
SGST	**Jiashian**	**1.84 230**	⇓eP	Pn	04 21 28.0	+0.9
	baz=213					
SGST			S	Sb	04 21 53.2	+0.2
	baz=213					
WSF	**Szhu**	**1.84 250**	eP	Pb	04 21 29.7	-0.8
	baz=258					
WSF			eS	Sb	04 21 53.3	+0.2
	baz=258					
SLGT	**Liugui**	**1.85 227**	⇑P	Pb	04 21 29.3	-1.5
	baz=221					
SLGT			eS	Sb	04 21 53.9	+0.3
	baz=221					
JIJ	**Ishigaki jima**	**1.86 87**	eS	Sn	04 21 50.2	+0.3
WSL	**Shuilin Townsh**	**1.88 247**	S	Sb	04 21 54.0	-0.3
	baz=241					
ICHU	**Yijhu**	**1.91 242**	P	Pb	04 21 30.5	-1.1
	baz=223					
ICHU			S	Sb	04 21 54.8	-0.3
	baz=223					
CHN8	**Yiju**	**1.97 242**	eP	Pb	04 21 31.0	-1.7
	baz=224					
CHN8			eS	Sb	04 21 57.0	+0.2
	baz=224					
ECL	**Taimali**	**1.98 212**	eP	Pn	04 21 28.2	-0.8
	baz=210					
SCST	**Cishan**	**2.03 227**	eP	Pb	04 21 32.6	-1.2
	baz=222					
SCST			eS	Sb	04 21 57.7	-0.9
	baz=222					
JISG	**Ishigakijimahi**	**2.03 81**	eP	Pn	04 21 30.4	+0.6
JISG			eS	Sn	04 21 55.0	+0.8
SSD	**Sandimen**	**2.04 222**	eP	Pb	04 21 31.8	-2.1
	baz=219					
TSMG	**Majia**	**2.06 221**	eP	Pb	04 21 32.3	-2.0
	baz=204					
TSMG			eS	Sb	04 21 58.8	-0.8
	baz=204					
MASBT	**Mashibuluo**	**2.14 219**	⇑eP	Pn	04 21 32.0	+0.7
	baz=204					
MASBT			eS	Sb	04 22 00.0	-1.8
	baz=204					
TSCK	**Chigu Township**	**2.17 239**	P	Pn	04 21 33.5	+1.9
	baz=221					
TSCK			eS	Sb	04 22 00.6	-1.9
	baz=221					
EAST	**Anshuo**	**2.21 212**	eP	Pn	04 21 33.9	+1.6
	baz=209					
LYUB	**Lan-yu**	**2.32 192**	eP	Pn	04 21 32.0	-1.7
	baz=189					
LYUB			eS	Sn	04 21 59.0	-2.2
	baz=189					
SCZT	**Fangliau**	**2.34 216**	eP	Pb	04 21 36.8	-2.2
	baz=211					
SCZT			eS	Sb	04 22 05.9	-1.6
	baz=211					
SLIU	**Shizi**	**2.38 211**	eP	Pn	04 21 35.6	+1.0
	baz=207					
SLIU			eS	Sb	04 22 07.6	-1.1
	baz=207					
JTJ	**Tarama**	**2.39 81**	eS	Sn	04 22 04.2	+1.2
PNG	**Penghu**	**2.44 254**	eP	Pn	04 21 36.3	+0.9
	baz=248					
PNG			eS	Sn	04 22 05.6	+1.4
	baz=248					
PHUB	**P'eng-hu**	**2.44 252**	⇓P	Pn	04 21 36.1	+0.8
	baz=246					
PHUB			eS	Sn	04 22 05.0	+0.8
	baz=246					
WDGT	**Dungji**	**2.46 246**	eP	Pn	04 21 37.1	+1.5
	baz=240					
WDGT			eS	Sn	04 22 04.8	+0.1
	baz=240					
VWUC	**VWUC**	**2.52 287**	⇓P	Pn	04 21 36.6	+0.2
	baz=283					
VWUC			eS	Sn	04 22 05.6	-0.5
	baz=283					
SMST	**Manzhou Townsh**	**2.54 208**	eP	Pb	04 21 40.1	-2.2
	baz=197					
TWKBT	**Hengchun**	**2.62 207**	eP	Pb	04 21 40.6	-3.2
	baz=197					
VCHM	**Qimei**	**2.67 247**	eP	Pn	04 21 39.6	+1.0
	baz=241					
VCHM			eS	Sn	04 22 11.7	+1.8
	baz=241					
MATB	**Ma-tsu**	**2.70 314**	eP	Pn	04 21 38.7	-0.3
	baz=311					
MATB			eS	Sn	04 22 11.5	+0.9
	baz=311					
MSUT	**Lienchiang**	**2.73 314**	eP	Pn	04 21 40.0	+0.7
	baz=311					
MSUT			eS	Sn	04 22 12.9	+1.6
	baz=311					
PTMZ	**Houxiangcun**	**2.82 286**	⇑P	Pn	04 21 40.7	+0.1
	baz=283					
PTMZ			eS	Sn	04 22 12.0	-1.5
	baz=283					
LYJJ	**Jianjiangzhen**	**3.10 317**	P	Pn	04 21 44.7	+0.3
	baz=315					
LYJJ			S	Sn	04 22 21.3	+0.9
	baz=315					
XPSS	**Dashiqiu**	**3.15 327**	P	Pn	04 21 45.3	+0.2
	baz=337					
XPSS			S	Sn	04 22 21.8	0.0
	baz=337					
MHZQ	**Yeshan**	**3.32 304**	eP	Pn	04 21 45.3	-2.2
	baz=300					
KNM	**Kinmen**	**3.35 273**	eP	Pn	04 21 51.2	+3.3
	baz=269					
KNMB	**Chin-men Tao**	**3.39 274**	eP	Pn	04 21 48.3	-0.2
	baz=269					
KNMB			eS	Sn	04 22 27.5	-0.2
	baz=269					
AXDP	**Jialang**	**3.81 280**	eP	Pn	04 21 54.5	+0.2
	baz=277					
ZPLA	**Ao Xicun**	**4.00 266**	eP	Pn	04 21 55.5	-1.3
	baz=260					
ZPLA			eS	Sn	04 22 40.1	-2.4
	baz=260					
DSXP	**Dongshan**	**4.32 263**	eP	Pn	04 22 01.8	+0.6
	baz=258					
DSXP			eS	Sn	04 22 50.6	0.0
	baz=258					
SXFK	**Yanhouchang**	**4.55 299**	eP	Pn	04 22 04.1	-0.4
	baz=294					
SXFK			eS	Sn	04 22 56.1	-0.3
	baz=294					
JOW	**Kunigami**	**6.12 64**	eP	Pn	04 22 28.4	+2.4
	baz=67					

NOU ***31*** *04:51:35.5,21.°31S×169.°67E,h0km,MLv3.8/9,Southeast of Loyalty Islands*
IDC ***31*** *04:51:42.8±2.0,20.°94S×168.°90E,h0km,mb3.9/5, mbtmp3.9/5,ML2.8/1,Error ellipse: s-maj=116.3km s-min=24.1km az=155.0*
ISC 31 04:51:46.8±1.3,21.°4S±0.°1×169.°0E±0.°1,h35km,n15, σ0ˢ97/15,mb3.9/4,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.94**	**264**	P	**Pn**	**04 52 02.9**	**-0.6**
LIFNC	**LIFOU**	**1.78**	**290**	P	**Pn**	**04 52 13.7**	**-1.4**
PINNC	**Pines Island,**	**1.91**	**230**	P	**Pn**	**04 52 16.0**	**-0.9**
YATNC	**Mamie plateau,**	**2.10**	**251**	P	**Pn**	**04 52 19.7**	**+0.2**
OUENC	**Ouen Island, N**	**2.28**	**243**	P	**Pn**	**04 52 22.2**	**+0.2**
DZM	**Mont Dzumac**	**2.50**	**254**	P	**Pn**	**04 52 26.0**	**+0.9**
DZM	**Mont Dzumac**	**2.50**	**254**	Pn	**Pn**	**04 52 25.4**	**+0.3**
	1.8nm,0.3s,baz=111,slow=11,SNR=50						
DZM				Sn	**Sn**	**04 52 53.2**	**-1.2**
	4.6nm,0.3s,baz=83,slow=19,SNR=5.2						
ONTNC	**Ouen Toro**	**2.56**	**249**	P	**Pn**	**04 52 26.3**	**+0.4**
NOUC	**Port Laguerre**	**2.63**	**254**	P	**Pn**	**04 52 27.8**	**+1.0**
KOUNC	**Koumac, New Ca**	**4.51**	**280**	P	**Pn**	**04 52 54.4**	**+1.7**
WRA	**Warramunga Arr**	**32.45**	**266**	P	**P**	**04 58 14.4**	**+0.3**
	0.6nm,0.7s,baz=98,slow=8.3,SNR=9.3						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**32.48**	**259**	P	**P**	**04 58 15.0**	**+0.7**
	1.6nm,0.9s,baz=87,slow=8.6,SNR=12						
	1.6nm,0.9s						
NVAR	**Mina Array Bea**	**90.36**	**49**	P	**P**	**05 04 45.3**	**+0.5**
	0.6nm,0.9s,baz=236,slow=7.4,SNR=2.9						
	0.6nm,0.9s						
ILAR	**Eielson Array**	**92.33**	**17**	P	**P**	**05 04 52.1**	**-0.9**
	0.3nm,0.8s,baz=217,slow=5.7,SNR=2.2						
	0.3nm,0.8s						
TXAR	**Lajitas Array**	**97.95**	**62**	P	Pdif	05 05 21.3	+1.6
	0.5nm,0.8s,baz=218,slow=5.4,SNR=2.6						
	0.5nm,0.8s						

IDC ***31*** *04:54:11.6±2.9,5.°80S×103.°07E,h0km,mb3.8/6, mbtmp3.8/7,ML3.5/1,Error ellipse: s-maj=109.2km s-min=21.5km az=49.0*
ISC 31 04:54:17.2±2.4,5.°7S±0.°4×103.°2E±0.°4,h35km,n20, σ1ˢ82/8,mb3.9/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**4.51**	**104**	Pn	**Pn**	**04 55 23.4**	**+0.1**
	2.0nm,0.3s,baz=308,slow=18,SNR=1.6						
	16nm,0.5s						
CMAR	**Chiang Mai Arr**	**24.38**	**350**	P	**P**	**04 59 30.6**	**-1.8**
	1.2nm,0.3s,baz=183,slow=9.0,SNR=3.1						
	1.2nm,0.3s						
H08S2	**Diego Garcia H**	**30.57**	**265**	T	T	05 31 20.2	
	baz=89,slow=76						
H08S3	**Diego Garcia H**	**30.58**	**265**	T	T	05 31 17.0	
	baz=89,slow=76						
H08S1	**Diego Garcia H**	**30.59**	**265**	T	T	05 31 17.8	
	baz=89,slow=76						
H01W3	**Cape Leeuwin H**	**30.74**	**162**	T	T	05 32 32.0	
	baz=336,slow=74						
H01W2	**Cape Leeuwin H**	**30.75**	**162**	T	T	05 32 31.3	
	baz=336						
H01W1	**Cape Leeuwin H**	**30.75**	**162**	T	T	05 32 33.6	
	baz=336,slow=74						
WRA	**Warramunga Arr**	**33.39**	**118**	P	**P**	**05 00 52.4**	**-0.4**
	0.3nm,0.7s,baz=293,slow=9.3,SNR=3.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**34.51**	**124**	P	**P**	**05 01 03.3**	**+0.9**
	0.5nm,0.8s,baz=298,slow=7.5,SNR=1.9						
	0.5nm,0.8s						
SONM	**Songino Array**	**53.39**	**3**	P	**P**	**05 03 35.4**	**+1.9**
	2.4nm,0.7s,baz=185,slow=7.1,SNR=1.7						
	2.4nm,0.7s						
MKAR	**Makanchi Array**	**55.47**	**343**	P	**P**	**05 03 50.1**	**+1.6**
	0.9nm,0.7s,baz=146,slow=9.0,SNR=5.6						
	0.9nm,0.7s						
H04N2	**CROZET ISLANDS**	**59.84**	**219**	T	T	06 08 01.0	
	baz=64,slow=75,SNR=428						
H04N1	**CROZET ISLANDS**	**59.86**	**219**	T	T	06 08 02.3	
	baz=64,slow=75,SNR=446						
H04N3	**CROZET ISLANDS**	**59.86**	**219**	T	T	06 08 00.1	
	baz=64,slow=75,SNR=451						
H04S1	**CROZET ISLANDS**	**60.07**	**218**	T	T	06 08 16.9	
	baz=63,slow=76,SNR=109						
H04S3	**CROZET ISLANDS**	**60.09**	**218**	T	T	06 08 14.7	
	baz=63,slow=76,SNR=118						
H04S2	**CROZET ISLANDS**	**60.09**	**218**	T	T	06 08 17.1	
	baz=63,slow=76,SNR=133						
ZALV	**Zalesovo Beam**	**61.41**	**348**	P	**P**	**05 04 28.7**	**-1.1**
	0.6nm,0.4s,baz=165,slow=6.2,SNR=3.9						
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**145.40**	**44**	PKPbc	**PKPbc**	**05 13 50.1**	**-2.3**
	0.4nm,0.7s,baz=305,slow=3.2,SNR=2.0						

IDC ***31*** *04:58:51.7±0.3,15.°54S×173.°21W,h0km,mb5.2/31, mbtmp5.2/31,MS5.0/58,Error ellipse: s-maj=14.6km s-min=10.1km az=127.0*
MOS ***31*** *04:58:52.3±1.2,15.°46S×173.°24W,h10km,mb5.7/46, MS5.3/18,Error ellipse: s-maj=9.3km s-min=7.2km az=61.4*
NEIC ***31*** *04:58:53.7±1.5,15.°50S±0.°10×173.°3W±0.°1,h10km±1km, mb5.8/630,Ms_20 5.4/375,Mwb5.5/20,Mww5.7/19,Error ellipse: s-maj=18.4km s-min=15.6km az=131.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.04; $M_{\theta\theta}$1.80; $M_{\phi\phi}$-0.76; $M_{r\theta}$0.43; $M_{\theta\phi}$0.54; $M_{\phi r}$0.90; Fault plane solution: M_o1.93000×10^{17} NP1: ϕ_s226.16000°,δ67.07000°,λ-132.31000°. NP2: ϕ_s112.99000°,δ47.07000°,λ-32.14000°. Principal axes: T 2.0309, Plg12.0000°, Azm345.0000°; N -0.2179, Plg38.0000°, Azm246.0000°; P -1.8130, Plg49.0000°, Azm89.0000°;*
BGR ***31*** *04:58:54.8,16.°53S×172.°63W,h33km,Ms5.4*
BJI ***31*** *04:58:55.8±0.0,15.°03S×173.°18W,h23km,mb5.1/41, mB5.9/28,Ms5.6/22,Ms7 5.2/21*
NOU ***31*** *04:58:55.6,15.°34S×172.°64W,h35km,mb5.5/11,Samoa Islands Region*
NEIC ***31*** *04:58:58.3,15.°55S×173.°27W,h35km*
NEIC ***31*** *04:58:58.3,15.°52S×173.°32W,h20km*
NEIC ***31*** *04:58:58.3,15.°42S×172.°90W,h20km,Moment Tensor Solution. Duration: 3ˢ6 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.12; $M_{\theta\theta}$3.69; $M_{\phi\phi}$0.43; $M_{r\theta}$-1.55; $M_{\theta\phi}$0.60; $M_{\phi r}$1.08; Fault plane solution: M_o4.36000×10^{17} NP1:ϕ_s95.41000°, δ56.31000°,λ-73.19000°. NP2:ϕ_s246.84000°,δ37.20000°, λ-113.45000°. Principal axes: T 4.0287, Plg10.0000°, Azm173.0000°; N 0.6565, Plg14.0000°, Azm266.0000°; P -4.6852, Plg73.0000°, Azm49.0000°;*
GCMT ***31*** *04:58:58.7±0.1,15.°46S±0.°01×173.°01W±0.°01,h12km, MW5.7/153,Moment Tensor Solution. s119,c206; s153,c314; Duration: 1ˢ7 Moment tensor: Scale 10^{17} Nm; M_{rr}-3.39±.06; $M_{\theta\theta}$3.46±.04; $M_{\phi\phi}$-0.07±.04; $M_{r\theta}$1.67±.12; $M_{\theta\phi}$0.31±.03; $M_{\phi r}$1.24±.14; Best double couple: M_o4.01700×10^{17} NP1:ϕ_s250.00000°,δ60.00000°, λ-106.00000°. NP2:ϕ_s99.00000°,δ33.00000°, λ-65.00000°. Principal axes: T 3.9340, Plg14.0000°, Azm351.0000°; N 0.1630, Plg14.0000°, Azm258.0000°; P -4.1010, Plg70.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 04:58:55.9±0.2,15.°61S±0.°05×173.°05W±0.°04,h29km, n1597,σ1ˢ27/1236,mb5.7/391,MS5.4/277,41C-67D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.09**	**36**				
AFI	**Afiamalu**	**2.09**	**36**	P	Pn	04 59 22.1	-6.9
NIUE	**Niue**	**4.56**	**140**	P	**Pn**	04 59 21.9	-7.1
	baz=4.9,SNR=27					**05 00 01.3**	**-1.7**
NIUE	**Niue**	**4.56**	**140**	Pn	**Pn**	**05 00 01.5**	**-1.5**
NIUE	**Niue**	**4.56**	**140**	P	**Pn**	**05 00 01.0**	**-2.0**
LKBA	**Tubou, Lakemba**	**6.11**	**244**	P	**Pn**	**05 00 29.0**	**+4.8**
TAVE	**Taveuni**	**6.68**	**260**	P	Pn	05 00 37.8	+5.7
DGTI	**Dogotuki**	**6.98**	**263**	P	Pn	05 00 41.3	+5.1
MSVF	**Nonsavu**	**8.79**	**255**		Pn	05 01 06.4	+5.2
MSVF	**Nonsavu**	**8.79**	**255**	P	Pn	05 01 07.2	+6.0
MSVF	**Nonsavu**	**8.79**	**255**	Pn	Pn	05 01 07.3	+6.2
	1.8nm,0.3s,baz=90,slow=13,SNR=33						
MSVF				LR	LR	05 03 26.4	
	comp=Z,2μm,20.1s,baz=75,slow=32						
YSA	**Yasawairara**	**9.07**	**262**	P	Pn	05 01 10.3	+5.3
RAR	**Rarotonga**	**13.77**	**116**		**Pn**	**05 02 06.9**	**-2.4**
RAR	**Rarotonga**	**13.77**	**116**	P	**Pn**	**05 02 06.3**	**-3.0**
RAR	**Rarotonga**	**13.77**	**116**	P	**Pn**	**05 02 06.9**	**-2.4**
RAR	**Rarotonga**	**13.77**	**116**	Pn	**Pn**	**05 02 06.1**	**-3.1**
	1.7nm,0.3s,baz=279,slow=13,SNR=3.5						
RAR				Sn	**Sn**	**05 04 39.8**	**-1.5**
	1.2nm,0.3s,baz=85,slow=19,SNR=2.5						
RAR				LR	LR	05 06 16.6	
	comp=Z,4μm,21.0s,baz=314,slow=32						
RAO	**Raoul Island**	**14.30**	**197**	LR	LR	05 07 08.5	
	comp=Z,17μm,18.7s,baz=27,slow=35						
GLKZ	**Green Lake**	**14.31**	**197**	P	**P**	**05 02 20.8**	**-2.6**
RTV	**Rentapao**	**17.88**	**260**	P	**P**	**05 03 07.1**	**+4.0**
MARNC	**Mare, Loyalty**	**18.86**	**249**	P	**P**	**05 03 10.4**	**-3.5**
LIFNC	**LIFOU**	**19.42**	**252**		**P**	**05 03 18.2**	**-1.8**
PINNC	**Pines Island,**	**19.69**	**246**	P	**P**	**05 03 22.5**	**-0.5**
PINNC				IAmb	IAmb	05 03 28.7	
	comp=Z,827nm,1.6s						
OUENC	**Ouen Island, N**	**20.17**	**247**		**P**	**05 03 27.6**	**-0.6**
DZM	**Mont Dzumac**	**20.44**	**249**	eP	**P**	**05 03 30.8**	**-0.4**

comp=Z,390nm,1.4s
DZM eLR LR 05 08 29.4
comp=Z,8µm,28.6s
DZM Mont Dzumac 20.44 249 P 05 03 29.5 -1.7
DZM Mont Dzumac 20.44 249 P 05 03 30.0 -1.2
comp=Z,71nm,1.0s,baz=87,slow=14,SNR=18
DZM LR LR 05 11 05.6
comp=Z,5µm,18.1s,baz=83,slow=36
comp=Z,71nm,1.0s
ONTNC Ouen Toro 20.49 248 P 05 03 31.2 -0.5
KOUNC Koumac, New Ca 22.09 254 P P 05 03 47.7 -1.2
PAE Paea 22.58 99 eP **P 05 03 55.3 +1.2**
comp=Z,109nm,1.3s
PAE Paea 22.58 99 eT T 05 27 05.8
comp=Z,38nm,0.3s
PPT Papeete 22.58 98 P P 05 03 56.1 +1.9
comp=Z,176nm,1.1s,baz=303,slow=3.7,SNR=18
PPT LR LR 05 10 28.0
comp=Z,2µm,19.2s,baz=272,slow=31
comp=Z,176nm,1.1s
PPT2 Papeete2 22.58 98 eP **P 05 03 55.5 +1.3**
comp=Z,282nm,1.3s
PPT2 eLR LR 05 09 13.4
comp=Z,2µm,22.0s
PPT2 Papeete2 22.58 98 eT T 05 26 54.2
comp=Z,37nm,0.4s
PPTF Pamatai, Papee 22.59 98 P P 05 03 54.6 +0.3
PPTF IAmb IAmb 05 04 04.4
comp=Z,312nm,1.1s
TIAR Tiarei 22.80 98 eP **P 05 03 57.6 +1.1**
comp=Z,20nm,1.2s
TVO Taravao 22.89 99 eP **P 05 03 58.5 +1.0**
comp=Z,226nm,1.4s
TVO Taravao 22.89 99 eT T 05 27 24.1
comp=Z,22nm,0.4s
OUZ Omahuta 22.91 209 IAMs_20 IAMs_20 05 10 49.3
comp=Z,12µm,21.0s
OUZ Omahuta 22.91 209 P P 05 04 00.2 +2.7
GRZ Great Barrier 22.97 204 P P 05 03 59.7 +1.6
WCZ Waipu Caves 23.17 207 P P 05 04 06.6 +6.5
KUZ Kuaotunu 23.30 203 P P 05 04 04.2 +2.8
XMAS Kiritimati 23.36 43 P P 05 04 02.2 0.0
XMAS IAmb IAmb 05 04 03.6
comp=Z,271nm,1.2s
HAZ Te Kaha 23.51 198 P P 05 04 04.3 +0.9
PKGZ Pakihiroa 23.54 198 P P 05 04 07.9 +4.1
MYRZ Mayor Island 23.59 202 P P 05 04 02.9 -1.3
PUZ Puketiti 23.66 197 P P 05 04 12.0 +7.1
RUGZ Raukumara Rang 23.73 198 P P 05 04 08.0 +2.3
MKAZ Moumakai 23.83 204 P P 05 04 08.4 +1.9
AWAZ Awhitu Peninsu 24.00 205 P P 05 04 15.8 +7.7
MEH Mehetia 24.02 99 eT T 05 28 58.6
comp=Z,22nm,0.2s
MWZ Matawai 24.12 198 P P 05 04 15.2 +5.9
URZ Urewera 24.18 199 P P 05 04 11.2 +1.5
URZ Urewera 24.18 199 P P 05 04 10.1 +0.4
comp=Z,23nm,0.8s,baz=34,slow=8.3,SNR=13
URZ S **S 05 08 29.7 +3.6**
comp=Z,8.8nm,0.9s,baz=154,slow=23,SNR=2.2
comp=Z,23nm,0.8s
TOZ Tahuroa Road 24.25 203 P P 05 04 10.5 +0.1
PMOR Pomariorio Ree 24.27 92 eP **P 05 04 11.6 +0.8**
comp=Z,755nm,1.1s
PMOR Pomariorio Ree 24.27 92 eT T 05 29 24.9
comp=Z,17nm,0.2s
RIGZ Rimuhau 24.39 198 P P 05 04 18.6 +6.8
RTZ Ruatahuna 24.55 199 P P 05 04 14.8 +1.6
RATZ Rangitukua 25.17 201 P P 05 04 21.9 +3.0
HIZ Hauiti 25.18 203 P P 05 04 19.3 +0.4
BKZ Black Stump Fm 25.20 199 P P 05 04 19.4 +0.3
BKZ Black Stump Fm 25.20 199 P P 05 04 23.9 +4.8
ETVZ East Tongariro 25.43 201 P P 05 04 25.4 +4.1
OTVZ Oturere 25.47 201 P P 05 04 25.0 +3.3
SNVZ South Ngauruho 25.50 201 P P 05 04 25.9 +4.0
BFZ Birch Farm 26.66 198 P P 05 04 32.9 +0.7
MRZ Mangatainoka R 26.85 199 P P 05 04 33.4 -0.5
HNR Honiara 27.05 280 LR LR 05 13 25.3
comp=Z,46µm,19.8s,baz=120,slow=32
SNZO South Karori 27.72 200 IAMs_20 IAMs_20 05 15 39.6
comp=Z,9µm,19.0s
TCW Tory Channel 27.78 201 P P 05 04 43.0 +0.7
QRZ Quartz Range 28.08 204 P P 05 04 45.8 +0.9
TUWZ Tuamarina 28.09 201 P P 05 04 45.6 +0.6
CTZ Chatham Island 28.20 185 P P 05 04 47.6 +1.7
MRNZ Matariki Terra 28.49 203 P P 05 04 50.1 +1.5
THZ Tophouse 28.75 202 P P 05 04 51.6 +0.6
THZ IAMs_20 IAMs_20 05 14 39.6
comp=Z,8µm,21.0s
KHZ Kahutara 29.10 201 P P 05 04 54.8 +0.8
DSZ Denniston Nort 29.15 204 P P 05 04 54.2 -0.3
GVZ Greta Valley S 29.76 201 P P 05 04 59.5 -0.4
LTZ Lake Taylor 29.87 202 P P 05 05 00.1 -0.8
LTZ IAMs_20 IAMs_20 05 16 39.2
comp=Z,7µm,20.0s
INZ Inchbonnie 30.12 203 P P 05 05 02.7 -0.4
INZ IAMs_20 IAMs_20 05 17 05.9
comp=Z,8µm,19.0s
OXZ Oxford 30.43 202 P P 05 05 03.9 -1.9
RPZ Rata Peaks 31.12 203 P P 05 05 12.3 +0.4
RPZ Rata Peaks 31.12 203 LR LR 05 18 07.8
comp=Z,6µm,18.2s,baz=40,slow=37
FOZ Fox Glacier 31.44 204 P P 05 05 15.4 +0.7
FOZ IAMs_20 IAMs_20 05 16 39.6
comp=Z,8µm,21.0s
LBZ Lake Benmore 32.02 203 IAMs_20 IAMs_20 05 18 14.0
comp=Z,8µm,18.0s
JOHN Johnston Islan 32.32 6 IAMs_20 IAMs_20 05 14 20.5
comp=Z,8µm,21.0s
ODZ Otahua Downs 32.41 202 P P 05 05 23.8 +0.6
ODZ IAMs_20 IAMs_20 05 18 32.6
comp=Z,5µm,18.0s
TAOE Nuku Hiva Isla 32.81 82 eS **S 05 10 40.3 -2.6**
comp=Z,229nm,25.6s
TAOE eLR LR 05 13 54.0
comp=Z,1µm,22.9s
TAOE Nuku Hiva Isla 32.81 82 eT T 05 39 46.2
comp=Z,312nm,0.2s
WKZ Wanaka 32.84 204 IAMs_20 IAMs_20 05 18 25.6
comp=Z,8µm,21.0s
MLZ Mavora Lakes 33.64 204 P P 05 05 32.8 -1.2
MLZ IAMs_20 IAMs_20 05 18 48.8
comp=Z,7µm,20.0s
DCZ Deep Cove 34.11 205 P P 05 05 38.3 +0.3
WHZ Wether Hill Ro 34.14 204 P P 05 05 38.2 -0.1
WHZ IAmb IAmb 05 05 47.7
comp=Z,105nm,1.2s
WHZ IAMs_20 IAMs_20 05 19 15.2
comp=Z,6µm,20.0s
PYZ Puysegur Point 34.87 205 IAMs_20 IAMs_20 05 19 15.3
comp=Z,7µm,21.0s
EIDS Eidsvold 34.88 248 P P 05 05 42.9 -2.1
baz=35,SNR=5.4
EIDS Eidsvold 34.88 248 P P 05 05 42.9 -2.1
ARMA Armidale 35.53 239 P P 05 05 49.1 -1.6
baz=35
RMQ Roma 37.12 247 P P 05 06 02.4 -1.8
baz=37
KHU Kahuku 38.65 27 P P 05 06 17.0 -0.3
KHU IAmb IAmb 05 06 26.1
comp=Z,428nm,1.6s
KHU Kahuku 38.65 27 P P 05 06 17.0 -0.3
KHU pmax pmax
comp=Z,428nm,1.6s
CNB Canberra Magne 38.90 233 P P 05 06 17.7 -1.4
baz=39,SNR=5.2
CTAO Charters Tower 38.93 257 P P 05 06 17.2 -2.3
CTAO Charters Tower 38.93 257 P P 05 06 17.2 -2.3
CTAO pmax pmax
comp=Z,23nm,1.2s
HUH Hualalai 38.94 26 P P 05 06 20.6 +0.8
HMH Humu'ula Sheep 39.02 27 P P 05 06 21.3 +0.8
HMH IAmb IAmb 05 06 30.5
comp=Z,503nm,1.6s
POHA Pohakuloa 39.14 27 P P 05 06 21.8 +0.4
CAN Canberra 39.18 233 P P 05 06 19.7 -1.8
CAN Canberra 39.18 233 P P 05 06 19.7 -1.8
CAN pmax pmax
comp=Z,50nm,1.3s
PMG Port Moresby 39.29 274 P P 05 06 20.8 -1.8
PMG Port Moresby 39.29 274 i P **P 05 06 21.2 -1.3**
PMG pmax pmax
comp=Z,53nm,1.4s
PMG Port Moresby 39.29 274 LR LR 05 19 44.6
comp=Z,2µm,20.8s,baz=84,slow=32
HPAH Hawaii Prepara 39.31 26 P P 05 06 23.1 +0.5
HPAH IAmb IAmb 05 06 24.5
comp=Z,192nm,1.1s
H11S2 WAKE ISLAND Hy 39.31 329 T T 05 48 04.2
baz=148,slow=75,SNR=84
H11S3 WAKE ISLAND Hy 39.33 329 T T 05 48 02.6
baz=148,slow=75,SNR=116
H11S1 WAKE ISLAND Hy 39.33 329 T T 05 48 06.7
baz=148,slow=75,SNR=124
MHA Mahukona 39.36 26 P P 05 06 22.0 -1.0
MHA Mahukona 39.36 26 P P 05 06 22.0 -1.0
KEKH Kekaha 39.58 20 P P 05 06 24.1 -0.6
KIP Kipapa 39.65 22 P P 05 06 25.0 -0.3
KIP IAmb IAmb 05 06 33.3
comp=Z,375nm,1.5s
KIP Kipapa 39.65 22 i P **P 05 06 25.6 +0.3**
KIP pmax pmax
comp=Z,168nm,1.3s
HLK Haleakala 39.73 25 P P 05 06 26.3 0.0
HLK IAmb IAmb 05 06 28.4
comp=Z,193nm,1.1s
KHLH Kahului Airpor 39.78 25 P P 05 06 27.4 +1.0
KHLH IAmb IAmb 05 06 28.5
comp=Z,218nm,1.3s
H11N3 WAKE ISLAND Hy 40.26 330 T T 05 49 12.0
baz=150,slow=76,SNR=102
H11N1 WAKE ISLAND Hy 40.26 330 T T 05 49 10.3
baz=150,slow=76,SNR=91
H11N2 WAKE ISLAND Hy 40.27 330 T T 05 49 10.2
baz=150,slow=76,SNR=120
CMSA Cobar Meteorol 40.74 240 P P 05 06 32.5 -1.9
baz=41,SNR=21
MTSU Mount Surprise 40.81 260 P P 05 06 33.4 -1.8
baz=41,SNR=25
COEN Coen 42.31 266 P P 05 06 46.5 -1.0
baz=42
COEN Coen 42.31 266 P P 05 06 46.6 -1.0
COEN IAmb IAmb 05 06 48.4
comp=Z,192nm,1.4s
TOO Toolangi 42.60 231 P P 05 06 48.2 -1.4
baz=42,SNR=6.5
TOO Toolangi 42.60 231 P P 05 06 47.9 -1.7
TOO Toolangi 42.60 231 P P 05 06 47.9 -1.7
TOO pmax pmax
comp=Z,52nm,1.2s
TAU Tasmania Unive 43.40 223 IAMs_20 IAMs_20 05 24 31.2
comp=Z,4µm,18.0s
STKA Stephens Creek 44.23 240 P P 05 07 01.3 -1.5
baz=44,SNR=42
STKA Stephens Creek 44.23 240 P P 05 07 00.8 -2.0
STKA Stephens Creek 44.23 240 P P 05 07 01.4 -1.5
comp=Z,47nm,0.9s,baz=78,slow=7.8,SNR=42
comp=Z,47nm,0.9s
ARPS Mount Arapiles 45.14 233 P P 05 07 08.6 -1.4
baz=45,SNR=5.6
QIS Mount Isa 45.16 256 P P 05 07 08.2 -2.2
baz=45,SNR=12
BBOO Buckleboo 49.00 240 P P 05 07 38.6 -1.6
baz=49,SNR=6.7
WR0 Warramunga Arr 49.94 257 P P 05 07 44.5 -3.1
WR0 IAmb IAmb 05 07 56.8
comp=Z,107nm,1.4s
WB2 Warramunga Arr 50.12 257 P P 05 07 46.1 -2.8
WB2 IAmb IAmb 05 07 47.7
comp=Z,184nm,1.4s
WRAB Tennant Creek 50.12 257 ceP **P 05 07 46.1 -2.8**
WRAB pmax pmax
comp=Z,121nm,1.4s
WRA Warramunga Arr 50.13 257 P P 05 07 45.9 -3.1
WRA Warramunga Arr 50.13 257 P P 05 07 46.4 -2.6
comp=Z,41nm,1.0s,baz=93,slow=6.7,SNR=201
WRA LR LR 05 29 17.7
comp=Z,2µm,18.9s,baz=92,slow=36
comp=Z,41nm,1.0s
AS31 Alice Springs 50.37 252 P P 05 07 48.6 -2.2
ASAR Alice Springs 50.37 252 P P 05 07 48.6 -2.2
ASAR Alice Springs 50.37 252 P P 05 07 49.0 -1.8
comp=Z,71nm,0.6s,baz=86,slow=8.2,SNR=692
ASAR LR LR 05 26 48.0
comp=Z,2µm,21.7s,baz=95,slow=33
comp=Z,71nm,0.6s
WRKA Warakurna 55.45 250 P P 05 08 26.9 -1.4
baz=55
FORT Forrest 55.63 243 P P 05 08 27.5 -2.0
baz=56,SNR=10
FORT Forrest 55.63 243 P P 05 08 27.7 -1.7
FORT IAmb IAmb 05 08 28.4
comp=Z,100nm,1.0s
SWI Sorong 56.84 279 P P 05 08 36.9 -1.4
comp=Z,70nm,1.1s
RPN Rapa Nui 59.90 113 LR LR 05 29 26.1
comp=Z,595nm,18.4s,baz=284,slow=30
JCJ Chichijima 60.74 314 LR LR 05 30 08.9
comp=Z,1µm,21.4s,baz=106,slow=31
KMBL Kambalda 60.93 243 P P 05 09 04.1 -2.4
baz=61,SNR=4.9
SOEI Soe 61.26 267 P P 05 09 08.7 -0.4
comp=Z,142nm,1.4s
SANI Sanana 61.52 276 P P 05 09 08.5 -2.2
comp=Z,24nm,1.4s
SBA Scott Base 63.07 185 P P 05 09 21.8 +1.7
SBA IAmb IAmb 05 09 25.5
comp=Z,160nm,1.8s
SBA Scott Base 63.07 185 P P 05 09 21.8 +1.7
SBA pmax pmax
comp=Z,160nm,1.8s
VNDA Vanda 63.21 186 P P 05 09 21.9 +0.9
VNDA Vanda 63.21 186 P P 05 09 21.9 +0.9
VNDA pmax pmax
comp=Z,63nm,1.5s
VNDA Vanda 63.21 186 P P 05 09 21.3 +0.3
comp=Z,22nm,1.2s,baz=54,slow=8.7,SNR=9.0
VNDA LR LR 05 36 23.8
comp=Z,638nm,18.0s,baz=15,slow=36
comp=Z,22nm,1.2s
MBWA Marble Bar 63.63 254 IAMs_20 IAMs_20 05 36 16.7
comp=Z,2µm,20.0s
KLBR Kellerberrin 64.44 242 P P 05 09 29.0 -0.9
baz=64,SNR=7.9
NWAO Narrogin (SRO) 64.81 241 P P 05 09 31.6 -0.8
baz=65,SNR=5.8
NWAO P **P 05 09 31.6 -0.8**
baz=65,SNR=5.8
NWAO Narrogin (SRO) 64.81 241 LR LR 05 35 31.0
comp=Z,903nm,20.2s,baz=68,slow=34
DAV Davao City (W) 64.82 286 LR LR 05 35 45.1
comp=Z,416nm,19.1s,baz=131,slow=34
RKGY Rocky Gully 64.96 239 P P 05 09 33.1 -0.1
baz=65,SNR=6.1
BLDU Ballidu 65.40 243 P P 05 09 35.3 -0.9
baz=65,SNR=4.5
JHJ Hachijo jima 2 66.15 318 LR LR 05 33 30.9
comp=Z,443nm,21.7s,baz=102,slow=32
KAPI Kappang 66.72 271 LR LR 05 37 47.2
comp=Z,365nm,20.8s,baz=96,slow=35
ADK Adak 67.28 358 P P 05 09 46.7 -0.9
ADK Adak 67.28 358 P P 05 09 46.7 -0.9
ADK pmax pmax
comp=Z,282nm,1.6s
ATKA Atka Island 67.53 359 P P 05 09 48.5 -0.6
MPSI Mapaga 68.03 277 P P 05 09 51.5 -1.7
comp=Z,30nm,0.9s
NIKH Nikolski High 68.39 3 P P 05 09 55.4 +0.8
baz=185
SHEM Shemya Is, Ala 68.95 352 LR LR 05 33 20.4
comp=Z,3µm,21.7s,baz=130,slow=30
MJAR Matsushiro Arr 69.31 320 P P 05 09 59.9 -0.9
comp=Z,5.6nm,0.9s,baz=151,slow=6.4,SNR=8.8
MJAR LR LR 05 34 54.8
comp=Z,1µm,21.2s,baz=113,slow=31
comp=Z,5.6nm,0.9s
MAJO Matsushiro 69.32 320 P P 05 09 59.0 -1.8
MAJO Matsushiro 69.32 320 IAMs_20 IAMs_20 05 33 47.8
comp=Z,2µm,22.0s
MAJO Matsushiro 69.32 320 i P **P 05 09 59.5 -1.3**
MAJO pmax pmax
comp=Z,59nm,2.0s
UNV Unalaska Valle 69.40 4 P P 05 10 01.6 +0.9
baz=187
CASY Casey 70.36 205 P P 05 10 06.6 -0.1
CASY IAmb IAmb 05 10 09.0
comp=Z,73nm,1.4s
SNCC San Nicolas Is 70.48 46 P P 05 10 08.3 +0.3
SNCC IAmb IAmb 05 10 13.6
comp=Z,112nm,1.3s
SNCC San Nicolas Is 70.48 46 P P 05 10 09.3 +1.4
baz=235
FALS False Pass 70.66 6 P P 05 10 10.4 +1.9
baz=190
SCZ2 Santa Cruz Isl 70.83 45 P P 05 10 11.5 +1.4
baz=235
JOW Kunigami 70.88 306 LR LR 05 35 19.4
comp=Z,978nm,21.9s,baz=129,slow=31
SBC Santa Barbara 71.03 45 P P 05 10 12.6 +1.3
baz=235
CHNA Chernabura Isl 71.09 8 P P 05 10 12.2 +1.0
baz=194
MCCM Marconi Confer 71.20 40 IAMs_20 IAMs_20 05 37 15.6
comp=Z,1µm,19.0s
PKM Mcpherson Peak 71.22 44 P P 05 10 13.5 +0.8
baz=235,SNR=9.7
SAO San Andreas Ge 71.26 42 P P 05 10 13.6 +1.0
SAO IAMs_20 IAMs_20 05 37 36.3
comp=Z,2µm,20.0s
SAO San Andreas Ge 71.26 42 P P 05 10 13.6 +1.0
SAO pmax pmax
comp=Z,81nm,1.6s
CIS Catalina Islan 71.33 46 P P 05 10 13.6 +0.4
baz=236
PMPB Monarch Peak 71.35 42 P P 05 10 14.2 +0.9
PMPB IAmb IAmb 05 10 16.1
comp=Z,205nm,1.7s
SMMC Simmler 71.35 44 P P 05 10 14.2 +1.0
baz=234,SNR=9.2
BBGB Big Mountain B 71.41 42 P P 05 10 15.1 +1.5
SDPT Sand Point 71.47 8 P P 05 10 14.0 +0.6
baz=193
BCW Bitter Crk WRg 71.52 44 P P 05 10 15.4 +1.0
BCW IAmb IAmb 05 10 17.2
comp=Z,111nm,1.4s
FMP Fort Macarthur 71.59 46 P P 05 10 15.5 +0.8
baz=236
HOPS Hopland Field 71.62 39 P P 05 10 15.6 +0.8
HOPS IAmb IAmb 05 10 17.4
comp=Z,98nm,1.4s
HOPS IAMs_20 IAMs_20 05 37 47.4
comp=Z,2µm,18.0s
TGY Tagaytay City 71.62 291 LR LR 05 35 52.0
comp=Z,623nm,21.9s,baz=120,slow=31
GDXM Geysers 71.67 39 P P 05 10 15.0 -0.2
GDXM IAmb IAmb 05 10 25.9
comp=Z,113nm,2.0s
CCX Cicese 71.73 48 P P 05 10 16.7 +1.1
KCPM Cahto Peak 71.75 38 P P 05 10 16.8 +1.1
KCPM IAmb IAmb 05 10 18.3
comp=Z,87nm,1.4s
OSI Osito Audit: C 71.80 45 P P 05 10 17.1 +1.1
baz=236
DECC Green Verdugo 71.86 45 P P 05 10 17.0 +0.6
baz=236
KMPM Mount Pierce 71.90 37 P P 05 10 17.8 +1.3
KMPM IAmb IAmb 05 10 26.3
comp=Z,98nm,1.3s
PASC Pasadena Art C 71.92 45 P P 05 10 17.8 +1.1
PASC IAMs_20 IAMs_20 05 38 11.3
comp=Z,2µm,18.0s
109C Camp Elliot, M 71.97 47 P P 05 10 17.9 +0.9
109C IAMs_20 IAMs_20 05 38 00.8
comp=Z,2µm,18.0s
109C Camp Elliot, M 71.97 47 P P 05 10 18.0 +0.9
baz=237
CBX Cerro Bola 71.97 48 P P 05 10 17.3 +0.1
KMRM Mail Ridge 72.01 38 P P 05 10 18.0 +0.8
KMRM IAmb IAmb 05 10 23.0
comp=Z,87nm,1.1s
ARVC Arvin 72.02 44 P P 05 10 17.8 +0.6
baz=235,SNR=11
VTX Valle De La Tr 72.12 49 P P 05 10 18.9 +0.9
TKX Tecate 72.15 48 P P 05 10 17.9 -0.2
ELS Elsinore Mount 72.16 46 P P 05 10 18.0 -0.2
JNU Nakatsue 72.19 313 P P 05 10 17.3 -1.0
JNU Nakatsue 72.19 313 LR LR 05 36 34.4
comp=Z,551nm,21.5s,baz=119,slow=31
JCC Jacoby Creek, 72.21 37 IAMs_20 IAMs_20 05 37 37.8
comp=Z,2µm,18.0s
VES Vestal, Richgr 72.26 44 P P 05 10 19.3 +0.6
baz=235,SNR=34
MURC Murrieta 72.29 46 P P 05 10 19.3 +0.4
baz=237,SNR=8.9
BFSC Mount Baldy Ra 72.32 46 P P 05 10 19.4 +0.1
baz=236,SNR=9.4
ESJX Sierra Juarez 72.32 48 P P 05 10 20.0 +0.7
VOG Valley Oaks Go 72.34 43 P P 05 10 19.7 +0.6
baz=235
KHMM Horse Mountain 72.42 37 P P 05 10 20.2 +0.5
EDW2 Edwards Air Fo 72.45 45 P P 05 10 20.7 +0.8
baz=236,SNR=26
MONP2 Monument Peak 72.45 47 P P 05 10 20.7 +0.6
baz=238,SNR=12
S14K Fog Glacier 72.51 8 P P 05 10 19.3 -0.5
baz=194
SPIA Saint Paul Isl 72.55 2 P P 05 10 20.9 +1.1
baz=183
IKP In-Ko-Pah, Jac 72.55 48 P P 05 10 21.6 +1.0
baz=238,SNR=10.0
ISA Isabella, Lake 72.56 44 P P 05 10 20.8 +0.2
ISA IAmb IAmb 05 10 23.1
comp=Z,92nm,1.4s
ISA Isabella, Lake 72.56 44 P P 05 10 21.5 +1.0
baz=236,SNR=29
ISA Isabella, Lake 72.56 44 P P 05 10 20.8 +0.2
ISA pmax pmax
comp=Z,92nm,1.4s
CCAC Calif City Air 72.58 45 P P 05 10 21.4 +0.8
CCAC IAmb IAmb 05 10 23.2
comp=Z,94nm,1.4s
SFX San Felipe 72.62 50 P P 05 10 20.4 -0.5
YUH Yuha Desert 72.68 48 P P 05 10 21.8 +0.5
CHGN Chignik 72.68 8 P P 05 10 20.4 -0.3
CHGN Chignik 72.68 8 P P 05 10 21.3 +0.7
baz=195
CMB Columbia Colle 72.69 41 P P 05 10 21.2 -0.1
CMB Columbia Colle 72.69 41 P P 05 10 21.2 -0.1
CMB pmax pmax
comp=Z,82nm,1.8s
KRMB Red Mountain 72.73 36 P P 05 10 23.6 +2.0
PFO Pinyon Flats O 72.81 47 P P 05 10 23.0 +0.8
PFO Pinyon Flats O 72.81 47 IAMs_20 IAMs_20 05 39 18.2
comp=Z,3µm,19.0s
PFO Pinyon Flats O 72.81 47 P P 05 10 23.0 +0.8
baz=238,SNR=14
PFO Pinyon Flats O 72.81 47 P P 05 10 23.0 +0.8
PFO pmax pmax
comp=Z,44nm,1.3s
PFO Pinyon Flats O 72.81 47 P P 05 10 22.5 +0.3
comp=Z,19nm,1.1s,baz=252,slow=5.6,SNR=17
PFO LR LR 05 37 46.1
comp=Z,2µm,18.0s,baz=244,slow=32
comp=Z,19nm,1.1s
TPFO Pinon Flats 72.81 47 P P 05 10 22.6 +0.5
baz=238,SNR=14
BBRC Big Bear Solar 72.84 46 P P 05 10 23.4 +0.9
baz=237
AFDM Forest Hills D 72.88 40 P P 05 10 22.3 0.0
PMD Palm Desert 72.89 47 P P 05 10 23.1 +0.6
ORV Oroville 72.92 39 P P 05 10 23.0 +0.5
ORV Oroville 72.92 39 P P 05 10 23.0 +0.5
ORV pmax pmax
comp=Z,63nm,1.5s
SWSC Sam W. Stewart 72.92 48 P P 05 10 23.3 +0.6
baz=238,SNR=9.4
PETK Petropavlovsk- 72.93 342 P P 05 10 21.8 -0.5
comp=Z,48nm,1.1s,baz=100,slow=7.7,SNR=11
PETK LR LR 05 34 53.0
comp=Z,691nm,21.7s,baz=144,slow=30
comp=Z,48nm,1.1s
KSXB Camp Six Broad 72.95 36 P P 05 10 24.1 +1.3
KSXB IAmb IAmb 05 10 34.6
comp=Z,125nm,1.6s
SLBS Sierra La Lagu 72.97 59 P P 05 10 23.2 -0.1
SLBS IAmb IAmb 05 10 26.1
comp=Z,117nm,1.4s
LRMC Laurel Mtn Rad 72.99 45 P P 05 10 23.7 +0.5
baz=236,SNR=8.8
RRX Edison Barstow 73.13 45 P P 05 10 25.3 +1.4
baz=237
CWC Cottonwood Cre 73.27 44 P P 05 10 26.1 +1.3
baz=236
MDPB Devils Postpil 73.29 42 P P 05 10 25.7 +0.6
L02F Cave Junction 73.31 36 P P 05 10 25.3 +0.5
BELC Belle Mtn. Jos 73.34 47 P P 05 10 25.8 +0.4
baz=238,SNR=23
EMB Emerald Bay 73.43 40 P P 05 10 26.1 +0.3
MPMC Manual Prospec 73.45 44 P P 05 10 26.8 +0.8

baz=236,SNR=79
MLAC Mammoth, Mammo 73.45 42 P P 05 10 27.1 +1.1
baz=235,SNR=10
GSC Goldstone, Bar 73.49 45 P P 05 10 25.8 -0.3
GSC Goldstone, Bar 73.49 45 P P 05 10 26.9 +0.8
baz=237,SNR=30
GSC Goldstone, Bar 73.49 45 P P 05 10 25.8 -0.3
GSC pmax pmax
comp=Z,74nm,1.3s
TIN Tinemaha, Big 73.52 43 P P 05 10 27.5 +1.2
baz=235
BC3 Big Chuckawall 73.55 47 P P 05 10 27.5 +1.1
baz=238,SNR=19
HEC Hector,Ludlow 73.56 46 P P 05 10 27.0 +0.5
baz=237,SNR=11
YBH Yreka Blue Hor 73.56 37 P P 05 10 26.6 +0.3
YBH IAmb IAmb 05 10 29.1
comp=Z,83nm,1.4s
YBH IAMs_20 IAMs_20 05 34 07.5
comp=Z,2µm,22.0s
YBH Yreka Blue Hor 73.56 37 P P 05 10 27.3 +1.0
comp=Z,29nm,1.1s,baz=183,slow=3.0,SNR=24
YBH LR LR 05 38 53.1
comp=Z,1µm,18.1s,baz=234,slow=33
comp=Z,29nm,1.1s
SII Sitkinak Islan 73.61 11 P P 05 10 27.4 +1.2
baz=199
K02D Willamette Mer 73.63 36 P P 05 10 27.9 +1.1
K02D IAmb IAmb 05 10 29.4
comp=Z,89nm,1.4s
MPK Martis Peak 73.67 40 P P 05 10 27.9 +0.6
MPK IAmb IAmb 05 10 39.2
comp=Z,109nm,1.2s
GLA Glamis 73.67 48 P P 05 10 28.1 +0.9
GLA Glamis 73.67 48 P P 05 10 28.2 +0.9
baz=239
GLA Glamis 73.67 48 P P 05 10 28.1 +0.9
GLA pmax pmax
comp=Z,64nm,1.2s
J01E Myrtle Point 73.78 35 P P 05 10 28.9 +1.4
J01E IAmb IAmb 05 10 32.5
comp=Z,92nm,1.1s
QSM Queen of Sheba 73.81 45 P P 05 10 28.2 +0.4
QSM IAmb IAmb 05 10 30.0
comp=Z,112nm,1.3s
PNTR Pine Nut 73.82 41 P P 05 10 28.8 +0.7
YSS Yuzh-Sakhalins 73.83 330 P P 05 10 27.7 0.0
YSS IAmb IAmb 05 10 29.3
comp=Z,188nm,1.4s
YSS Yuzh-Sakhalins 73.83 330 *e*P **P 05 10 27.7 0.0**
YSS *e*S **SKiKP 05 19 54.7 -0.3**
YSS pmax pmax
comp=Z,80nm,1.2s
DSP Deep Springs 73.86 43 P P 05 10 29.1 +1.0
PIX Pinacate 73.91 50 P P 05 10 29.5 +1.0
YERR Yerington 73.98 41 P P 05 10 29.2 +0.2
YERR IAmb IAmb 05 10 31.4
comp=Z,109nm,1.6s
GMRC Granite Mounta 74.00 46 P P 05 10 29.8 +0.6
baz=238,SNR=26
LHV Little Huntoon 74.02 42 P P 05 10 29.3 +0.3
LHV IAmb IAmb 05 10 36.1
comp=Z,86nm,1.3s
R16K Pilot Point 74.02 9 P P 05 10 29.6 +1.0
baz=196
IRM Iron Mountain 74.03 47 P P 05 10 30.2 +1.0
baz=238,SNR=38
GRAC Grapevine Rang 74.05 43 P P 05 10 29.6 +0.3
GRAC IAmb IAmb 05 10 32.1
comp=Z,142nm,1.4s
GRAC Grapevine Rang 74.05 43 P P 05 10 30.4 +1.1
baz=236,SNR=33
GWY Greenwater Val 74.07 44 P P 05 10 29.6 0.0
FURC Furnace Creek, 74.09 44 P P 05 10 30.4 +0.9
baz=236,SNR=25
L04D Klamath Falls 74.10 37 P P 05 10 30.2 +0.6
L04D IAmb IAmb 05 10 32.0
comp=Z,153nm,1.4s
DBO Dodson Butte 74.14 36 P P 05 10 30.5 +0.8
TUQ Turquoise Moun 74.17 45 P P 05 10 30.8 +0.7
baz=237,SNR=12
BLYC Blythe 74.25 48 P P 05 10 31.3 +0.8
NVAR Mina Array Bea 74.25 42 P P 05 10 31.1 +0.4
NVAR Mina Array Bea 74.25 42 P P 05 10 31.3 +0.6
comp=Z,46nm,1.2s,baz=227,slow=7.3,SNR=87
NVAR LR LR 05 39 11.4
comp=Z,1µm,18.1s,baz=238,slow=32
comp=Z,46nm,1.2s
R17K Ugashik Creek 74.27 9 P P 05 10 30.2 +0.2
R17K IAmb IAmb 05 10 31.1
comp=Z,114nm,1.4s
R17K Ugashik Creek 74.27 9 P P 05 10 29.8 -0.3
baz=197,SNR=5.3
GMN Gold Mountain 74.29 43 P P 05 10 31.8 +0.8
113A Mohawk Valley, 74.29 49 P P 05 10 31.4 +0.6
PAHR Pah Rah Range 74.32 40 P P 05 10 31.2 +0.3
NV11 Mina Array Sit 74.35 42 P P 05 10 31.7 +0.6
NV11 IAmb IAmb 05 10 33.6
comp=Z,129nm,1.4s
WCT Wildcat Mounta 74.43 44 P P 05 10 32.3 +0.8
MZP Montezuma Peak 74.44 43 P P 05 10 31.9 +0.1
QSPA South Pole Qui 74.44 180 P P 05 10 31.8 +0.6
QSPA South Pole Qui 74.44 180 P P 05 10 33.4 +2.1
comp=Z,36nm,1.1s,baz=38,slow=2.0,SNR=46
QSPA LR LR 05 41 34.8
comp=Z,722nm,18.4s,baz=42,slow=34
comp=Z,36nm,1.1s
I03D Drain, OR 74.45 35 P P 05 10 31.5 +0.1
I03D IAmb IAmb 05 10 33.9
comp=Z,136nm,1.3s
R18K Karluk 74.52 10 P P 05 10 31.2 -0.2
baz=199
214A Organ Pipe Nat 74.58 50 P P 05 10 32.7 +0.2
214A Organ Pipe Nat 74.58 50 P P 05 10 33.3 +0.8
baz=240,SNR=11
K04D Chiloquin, OR 74.67 37 P P 05 10 33.2 +0.3
K04D IAmb IAmb 05 10 35.3
comp=Z,155nm,1.4s
NEE2 Needles Airpor 74.72 47 P P 05 10 33.9 +0.7
baz=238,SNR=6.2
KVN Kaiserville 74.74 41 P P 05 10 33.9 +0.4
KVN IAmb IAmb 05 10 35.8
comp=Z,90nm,1.4s
KVN Kaiserville 74.74 41 P P 05 10 33.9 +0.4
KVN pmax pmax
comp=Z,90nm,1.4s
TPH Tonopah 74.75 43 P P 05 10 34.1 +0.6
TPH Tonopah 74.75 43 P P 05 10 34.2 +0.6
TPH pmax pmax
comp=Z,597nm,1.3s
TPNV Topopah Spring 74.77 44 P P 05 10 34.4 +0.8
TPNV Topopah Spring 74.77 44 P P 05 10 34.6 +1.0
baz=237,SNR=27
TPNV Topopah Spring 74.77 44 P P 05 10 34.4 +0.8
TPNV pmax pmax
comp=Z,85nm,1.4s
PDMCI Parker Dam,Lak 74.81 47 P P 05 10 34.8 +1.1
baz=239,SNR=21
PLTX Planet X, Gerl 74.86 39 P P 05 10 34.5 +0.5
PLTX IAmb IAmb 05 10 36.5
comp=Z,166nm,1.5s
Q17K Contact Creek 74.95 9 P P 05 10 32.9 -1.2
baz=197,SNR=8.2
BUCK Buck Mountain 74.98 35 P P 05 10 33.9 -0.7
BUCK IAmb IAmb 05 10 37.2
comp=Z,85nm,1.1s
I04A Tendick Farm, 75.04 35 P P 05 10 34.4 -0.4
I04A IAmb IAmb 05 10 49.5
comp=Z,108nm,1.3s
KDAK Kodiak Island 75.06 11 P P 05 10 33.8 -0.7
KDAK Kodiak Island 75.06 11 P P 05 10 34.9 +0.3
baz=201
KDAK Kodiak Island 75.06 11 *i* P **P 05 10 34.2 -0.4**
KDAK Kodiak Island 75.06 11 LR LR 05 36 16.2
comp=Z,3µm,22.0s,baz=231,slow=30
V12A Nelson 75.06 46 P P 05 10 34.8 -0.5
WTNK Soaring Height 75.20 45 P P 05 10 36.2 +0.2
O14K Tigyukauivet M 75.21 6 IAMs_20 IAMs_20 05 38 00.7
comp=Z,2µm,21.0s
O14K Tigyukauivet M 75.21 6 P P 05 10 35.8 +0.4
baz=192
HEBO Mount Hebo 75.22 34 P P 05 10 36.5 +0.6
Q16K King Salmon 75.23 9 P P 05 10 35.1 -0.4
baz=197
K05A Summer Lake 75.23 37 P P 05 10 36.6 +0.3
SHPR Sheep Range 75.27 45 P P 05 10 36.8 +0.3

O15K Ungalikthiuk R 75.29 7 P P 05 10 35.0 -0.9
baz=193,SNR=5.8
H04D Lebanon 75.32 35 P P 05 10 36.1 -0.4
H04D IAmb IAmb 05 10 38.9
comp=Z,127nm,1.3s
J05D Fort Rock, OR 75.38 36 P P 05 10 37.4 +0.4
J05D IAmb IAmb 05 10 39.7
comp=Z,179nm,1.3s
P16K Nushagak River 75.38 8 P P 05 10 36.0 -0.4
baz=195
W13A Hualapai Mount 75.40 47 P P 05 10 37.5 +0.1
Q18K Katmai Hardscr 75.45 10 P P 05 10 36.1 -0.9
baz=198
G03D McMinnville, O 75.48 34 P P 05 10 37.0 -0.3
G03D IAmb IAmb 05 10 39.8
comp=Z,169nm,1.2s
S11A Rachel 75.48 44 P P 05 10 38.1 +0.4
S11A IAmb IAmb 05 11 03.5
comp=Z,94nm,1.2s
H04A Detroit Lake 75.73 35 P P 05 10 38.8 -0.1
H04A IAmb IAmb 05 10 40.7
comp=Z,126nm,1.2s
P17K Kvichak River 75.76 9 P P 05 10 37.8 -0.7
baz=197,SNR=5.6
F03A Seaside 75.79 33 P P 05 10 39.4 +0.3
PRN Pahroc Range 75.82 44 P P 05 10 39.8 +0.1
PRN IAmb IAmb 05 10 42.5
comp=Z,103nm,1.3s
N14K Kuskokwak Cree 75.83 6 P P 05 10 38.3 -0.6
baz=192
PINE Pine Mountain 75.86 36 P P 05 10 40.2 +0.4
Q20K Shuyak Island 75.87 11 P P 05 10 38.7 -0.5
baz=201
SYI Shuyak Island 75.87 11 P P 05 10 38.6 -0.6
SYI IAMs_20 IAMs_20 05 36 31.7
comp=Z,3µm,21.0s
O16K Kokwok River B 75.92 8 P P 05 10 38.8 -0.7
O16K IAmb IAmb 05 10 40.5
comp=Z,109nm,1.4s
O16K IAMs_20 IAMs_20 05 36 12.5
comp=Z,2µm,22.0s
O16K Kokwok River B 75.92 8 P P 05 10 39.0 -0.5
baz=195,SNR=9.4
M11K Mekoryuk 75.93 3 P P 05 10 38.8 -0.7
baz=187
Q19K Cape Douglas, 75.95 10 P P 05 10 38.7 -1.0
Q19K IAmb IAmb 05 10 41.4
comp=Z,103nm,1.2s
Q19K Cape Douglas, 75.95 10 P P 05 10 38.8 -0.9
baz=200
R11B Troy Canyon, C 75.98 43 P P 05 10 40.3 -0.3
R11B IAmb IAmb 05 10 50.8
comp=Z,123nm,1.8s
R11B IAMs_20 IAMs_20 05 41 03.4
comp=Z,2µm,18.0s
R11B Troy Canyon, C 75.98 43 P P 05 10 41.2 +0.6
baz=237,SNR=58
I05D Terrebonne, OR 75.98 35 P P 05 10 40.6 +0.3
RADR Rader Ridge 75.99 33 P P 05 10 40.4 +0.1
RADR IAmb IAmb 05 11 31.9
comp=Z,122nm,1.4s
P18K Big Mountain, 76.13 9 P P 05 10 39.8 -1.0
P18K IAmb IAmb 05 10 42.1
comp=Z,138nm,1.1s
P18K IAMs_20 IAMs_20 05 36 43.4
comp=Z,2µm,22.0s
P18K Big Mountain, 76.13 9 P P 05 10 39.8 -1.0
baz=198,SNR=13
M13K Dall Lake 76.16 5 P P 05 10 39.7 -1.1
M13K Dall Lake 76.16 5 P P 05 10 41.8 +1.0
baz=190,SNR=8.4
F04D Rainier, OR 76.18 33 P P 05 10 41.3 0.0
O17K Koliganek Bris 76.22 8 P P 05 10 40.7 -0.5
baz=196,SNR=12
N15K Kwethluk River 76.23 7 IAMs_20 IAMs_20 05 38 00.8
comp=Z,2µm,20.0s
N15K Kwethluk River 76.23 7 P P 05 10 41.4 +0.1
baz=193
TUC Tucson 76.26 50 P P 05 10 41.9 -0.3
TUC IAmb IAmb 05 10 44.9
comp=Z,73nm,1.2s
TUC Tucson 76.26 50 P P 05 10 43.4 +1.2
baz=242
TUC Tucson 76.26 50 P P 05 10 41.9 -0.3
TUC pmax pmax
comp=Z,73nm,1.2s
WVOR Wild Horse Val 76.38 38 P P 05 10 43.2 +0.5
WVOR IAmb IAmb 05 10 45.1
comp=Z,127nm,1.4s
WVOR IAMs_20 IAMs_20 05 40 45.5
comp=Z,2µm,18.0s
WVOR Wild Horse Val 76.38 38 P P 05 10 43.2 +0.5
WVOR pmax pmax
comp=Z,127nm,1.4s
F04A Amboy 76.40 34 P P 05 10 43.0 +0.5
F04A IAmb IAmb 05 10 44.6
comp=Z,114nm,1.3s
HOOD Mount Hood Mea 76.43 35 P P 05 10 42.8 -0.1
HOOD IAmb IAmb 05 10 44.9
comp=Z,132nm,1.1s
KSRS Korea Array 76.54 315 P P 05 10 44.5 +1.0
comp=Z,4.8nm,0.9s,baz=119,slow=6.4,SNR=8.8
KSRS LR LR 05 38 28.6
comp=Z,578nm,21.9s,baz=115,slow=31
G05A Wamic 76.56 35 P P 05 10 44.0 +0.5
KSAR Wonju Array Be 76.56 315 P P 05 10 41.8 -1.9
KSAR Wonju Array Be 76.56 315 P P 05 10 41.8 -1.9
O18K Koktuh Hills 76.58 9 P P 05 10 43.1 -0.1
O18K IAmb IAmb 05 10 45.1
comp=Z,149nm,1.3s
O18K IAMs_20 IAMs_20 05 37 39.2
comp=Z,2µm,21.0s
O18K Koktuh Hills 76.58 9 P P 05 10 42.9 -0.3
baz=198,SNR=14
NLWA Neilton Lookou 76.59 32 P P 05 10 44.2 +0.5
NLWA IAmb IAmb 05 10 54.0
comp=Z,119nm,1.5s
C03A Quillayute Air 76.61 31 P P 05 10 43.8 +0.1
M14K Bethel 76.61 6 P P 05 10 43.4 0.0
M14K IAMs_20 IAMs_20 05 36 45.8
comp=Z,2µm,20.0s
M14K Bethel 76.61 6 P P 05 10 43.4 0.0
baz=191,SNR=25
M15K Kasigluk River 76.69 6 P P 05 10 43.7 -0.1
baz=192,SNR=18
N16K Nishlik Lake 76.69 7 P P 05 10 43.8 0.0
baz=194
TYV Tymovskoe 76.69 333 *e*P **P 05 10 43.7 -0.3**
TYV pmax pmax
comp=Z,63nm,1.3s
TYV pmax pmax
comp=Z,1µm,3.0s
P19K Oil Pt 76.70 10 P P 05 10 43.6 -0.4
P19K IAmb IAmb 05 10 45.2
comp=Z,201nm,1.6s
P19K Oil Pt 76.70 10 P P 05 10 43.4 -0.6
baz=200
HG4B Hotspring 76.71 25 P P 05 10 44.8 +0.7
X16A Lo Mia Camp, P 76.80 48 P P 05 10 46.4 +1.0
X16A IAmb IAmb 05 10 48.1
comp=Z,92nm,1.2s
HOLB Holberg 76.80 28 P P 05 10 45.0 +0.3
HOLB IAmb IAmb 05 10 46.6
comp=Z,94nm,1.2s
LCMT Little Creek M 76.84 45 P P 05 10 46.2 +0.8
I07A Izee 76.86 37 P P 05 10 45.9 +0.6
I07A IAmb IAmb 05 10 47.8
comp=Z,112nm,1.2s
G06A Carlson Farm, 76.93 35 P P 05 10 46.1 +0.4
N17K Nushagak Hills 76.94 8 P P 05 10 43.7 -1.6
N17K IAMs_20 IAMs_20 05 36 55.6
comp=Z,2µm,22.0s
N17K Nushagak Hills 76.94 8 P P 05 10 44.6 -0.7
baz=196
CNPM China Poot 76.94 11 P P 05 10 45.6 +0.2
CNPM IAmb IAmb 05 10 48.0
comp=Z,183nm,1.5s
319A Douglas 76.95 52 P P 05 10 46.8 +0.7
319A IAmb IAmb 05 10 48.9
comp=Z,104nm,1.3s
HOM Homer 76.99 11 P P 05 10 44.3 -1.2
baz=201
J08A Circle Bar Ran 77.03 38 P P 05 10 46.7 +0.4
J08A IAmb IAmb 05 10 48.6
comp=Z,150nm,1.3s
ILSW Iliamna Southw 77.03 10 P P 05 10 44.7 -1.2

CCUT Cedar City 77.04 45 P P 05 10 46.5 -0.2
CCUT IAmb IAmb 05 10 49.6
comp=Z,70nm,1.2s
O19K Port Alsworth 77.04 9 P P 05 10 45.7 -0.1
O19K IAMs_20 IAMs_20 05 37 44.5
comp=Z,2µm,21.0s
O19K Port Alsworth 77.04 9 P P 05 10 45.4 -0.4
baz=199
KNB Kanab 77.13 45 P P 05 10 48.2 +1.2
KNB Kanab 77.13 45 P P 05 10 48.3 +1.2
KNB pmax pmax
comp=Z,387nm,1.9s
L14K Kuka Creek 77.13 5 P P 05 10 46.5 +0.2
L14K IAmb IAmb 05 10 48.5
comp=Z,144nm,1.3s
L14K Kuka Creek 77.13 5 P P 05 10 46.7 +0.5
baz=190,SNR=15
SPR3 Spring Creek 3 77.15 43 P P 05 10 47.6 +0.2
SPR3 IAmb IAmb 05 10 49.3
comp=Z,73nm,1.3s
M16K Timber Creek 77.20 7 P P 05 10 47.1 +0.4
M16K IAmb IAmb 05 10 49.6
comp=Z,172nm,1.4s
M16K IAMs_20 IAMs_20 05 38 21.3
comp=Z,2µm,20.0s
M16K Timber Creek 77.20 7 P P 05 10 46.9 +0.2
baz=194,SNR=14
U15A North Rim 77.20 46 P P 05 10 48.8 +1.1
U15A IAmb IAmb 05 10 50.6
comp=Z,120nm,1.3s
O20K Slope Mountain 77.21 10 P P 05 10 47.2 +0.3
baz=200
B04A Port Angeles 77.22 32 P P 05 10 48.1 +1.0
B04A IAmb IAmb 05 10 49.7
comp=Z,83nm,1.3s
PSUT Pine Spring 77.22 44 P P 05 10 48.1 +0.5
BRLK Bradley Lake 77.23 11 P P 05 10 46.3 -0.6
BRSE Bradley Lake S 77.24 11 P P 05 10 47.1 +0.1
baz=202,SNR=9.6
GNW Green Mountain 77.24 32 P P 05 10 47.6 +0.4
GNW IAmb IAmb 05 10 49.5
comp=Z,82nm,1.2s
SZCU Shurtz Canyon 77.25 45 P P 05 10 48.7 +0.9
SZCU IAmb IAmb 05 10 50.6
comp=Z,108nm,1.4s
LON Longmire 77.25 33 P P 05 10 47.5 +0.1
LON Longmire 77.25 33 P P 05 10 47.5 +0.1
LON pmax pmax
comp=Z,79nm,1.5s
N18K Kilae Creek 77.27 9 P P 05 10 46.6 -0.5
N18K IAMs_20 IAMs_20 05 37 06.3
comp=Z,2µm,22.0s
N18K Kilae Creek 77.27 9 P P 05 10 47.9 +0.8
baz=197,SNR=6.2
WUAZ Wupatki 77.39 47 P P 05 10 49.0 +0.4
WUAZ IAmb IAmb 05 10 51.4
comp=Z,91nm,1.2s
WUAZ Wupatki 77.39 47 P P 05 10 49.6 +1.0
baz=240,SNR=25
CLRS Cowichan Lake 77.42 31 P P 05 10 48.5 +0.3
CLRS IAmb IAmb 05 10 50.4
comp=Z,68nm,1.2s
D05A Enumclaw 77.43 33 P P 05 10 48.5 +0.1
ELK Elko 77.51 41 P P 05 10 50.0 +0.7
ELK Elko 77.51 41 P P 05 10 50.0 +0.7
comp=Z,20nm,1.1s,baz=77,slow=4.7,SNR=49
ELK LR LR 05 37 19.1
comp=Z,842nm,21.4s,baz=245,slow=30
comp=Z,20nm,1.1s
K13K Kusilvak Mount 77.57 4 P P 05 10 48.5 -0.2
K13K IAmb IAmb 05 10 52.3
comp=Z,128nm,1.5s
L15K Ungalak Mounta 77.57 6 P P 05 10 49.5 +0.8
baz=192
N19K Bonanza Creek 77.60 9 IAmb IAmb 05 10 49.9
comp=Z,116nm,1.3s
N19K IAMs_20 IAMs_20 05 38 01.3
comp=Z,2µm,21.0s
N19K Bonanza Creek 77.60 9 P P 05 10 48.2 -0.9
baz=199,SNR=19
PGC Sidney 77.64 31 IAmb IAmb 05 10 51.5
comp=Z,69nm,1.1s
CBB Campbell River 77.64 29 IAmb IAmb 05 10 51.6
comp=Z,94nm,1.2s
F07A Phinny Hill Vi 77.73 35 IAmb IAmb 05 10 52.2
comp=Z,73nm,1.1s
M17K Holitna River 77.75 8 IAmb IAmb 05 10 54.9
comp=Z,114nm,1.2s
M17K IAMs_20 IAMs_20 05 38 05.0
comp=Z,2µm,21.0s
M17K Holitna River 77.75 8 P P 05 10 50.2 +0.4
baz=196,SNR=17
USA0B Ussuriysk Arra 77.75 323 IAmb IAmb 05 10 54.6
comp=Z,152nm,1.9s
USA0B Ussuriysk Arra 77.75 323 *i* P **P 05 10 50.3 +0.1**
USRK Ussuriysk Ar. 77.75 323 P P 05 10 50.8 +0.6
comp=Z,14nm,1.1s,baz=108,slow=4.4,SNR=17
USRK LR LR 05 38 55.5
comp=Z,1µm,21.3s,baz=155,slow=31
comp=Z,14nm,1.1s
L16K Owhat River 77.81 7 IAmb IAmb 05 10 52.4
comp=Z,157nm,1.4s
L16K IAMs_20 IAMs_20 05 37 57.5
comp=Z,2µm,22.0s
L16K Owhat River 77.81 7 P P 05 10 50.4 +0.3
baz=194,SNR=16
SEW Seward 77.82 12 P P 05 10 50.9 +0.8
baz=204
Q23K Middleton Isla 77.86 14 P P 05 10 51.0 +0.6
baz=206
BBB Bella Bella 77.92 26 IAmb IAmb 05 10 53.5
comp=Z,109nm,1.4s
BBB Bella Bella 77.92 26 P P 05 10 51.9 +1.0
comp=Z,56nm,1.2s,baz=224,slow=8.4,SNR=8.6
BBB LR LR 05 36 28.8
comp=Z,888nm,22.0s,baz=233,slow=29
comp=Z,56nm,1.2s
X18A Snowflake 77.93 49 IAmb IAmb 05 10 54.4
comp=Z,67nm,1.2s
LEM Lembang 77.96 266 P P 05 10 52.4 +0.2
comp=Z,13nm,0.3s,baz=84,slow=9.2,SNR=3.9
LEM LR LR 05 45 37.1
comp=Z,338nm,18.7s,baz=152,slow=36
comp=Z,13nm,0.3s
M18K Stony River 78.05 8 P P 05 10 51.3 -0.1
baz=197,SNR=11
MTPU Mount Pierson 78.09 45 IAmb IAmb 05 10 56.1
comp=Z,106nm,1.2s
CAPN Captain Cook N 78.12 11 P P 05 10 52.3 +0.5
baz=202
O22K Cooper Landing 78.12 12 IAmb IAmb 05 11 07.8
comp=Z,90nm,1.0s
O22K IAMs_20 IAMs_20 05 37 49.2
comp=Z,2µm,22.0s
O22K Cooper Landing 78.12 12 P P 05 10 51.5 -0.3
baz=203
K15K Wolf Creek Mou 78.17 5 IAMs_20 IAMs_20 05 38 43.0
comp=Z,1µm,19.0s
K15K Wolf Creek Mou 78.17 5 P P 05 10 53.4 +1.3
baz=192,SNR=24
E07A Sunnyside 78.18 34 IAmb IAmb 05 10 54.8
comp=Z,130nm,1.2s
TCRU Three Creeks R 78.20 44 P P 05 10 55.2 +2.1
TCRU IAmb IAmb 05 10 56.2
comp=Z,110nm,1.2s
HAWA Hanford 78.25 35 IAmb IAmb 05 10 55.2
comp=Z,139nm,1.2s
HAWA IAMs_20 IAMs_20 05 42 11.4
comp=Z,2µm,19.0s
L17K Donlin 78.36 7 P P 05 10 54.3 +1.2
baz=195,SNR=21
W18A Petrified Fore 78.36 48 IAmb IAmb 05 11 05.6
comp=Z,117nm,1.5s
W18A Petrified Fore 78.36 48 P P 05 10 55.3 +1.3
baz=242,SNR=8.4
CRAG Craig 78.40 22 IAmb IAmb 05 10 55.8
comp=Z,90nm,1.3s
CRAG Craig 78.40 22 P P 05 10 54.0 +0.5
baz=219,SNR=8.0
J14K Nanvaranak Lak 78.45 4 IAMs_20 IAMs_20 05 39 15.3
comp=Z,1µm,20.0s
J14K Nanvaranak Lak 78.45 4 P P 05 10 53.7 +0.1
baz=190
B06A Marblemount 78.55 32 IAmb IAmb 05 11 03.9
comp=Z,174nm,2.0s
E08A Dider Farm, El 78.57 35 IAmb IAmb 05 10 56.9
comp=Z,153nm,1.3s

BMO	**Blue Mountains**	**78.58**	**37**	IAmb	IAmb	05 10 56.9
	comp=Z,101nm,1.2s					
BMO				IAms_20	IAms_20	05 42 57.5
	comp=Z,1µm,19.0s					
121A	**Cookes Peak, D**	**78.61**	**52**	IAmb	IAmb	05 10 58.5
	comp=Z,88nm,1.2s					
121A	**Cookes Peak, D**	**78.61**	**52**	P	**P**	**05 10 56.5 +1.1**
	baz=243					
121A	**Cookes Peak, D**	**78.61**	**52**	P	**P**	**05 10 57.0 +1.5**
	baz=243,SNR=23					
MFID	**Camas Ranch**	**78.63**	**39**	IAmb	IAmb	05 10 57.4
	comp=Z,106nm,1.2s					
L18K	**Granite Mounta**	**78.64**	**8**	IAmb	IAmb	05 10 57.8
	comp=Z,147nm,1.2s					
L18K				IAms_20	IAms_20	05 38 10.5
	comp=Z,2µm,22.0s					
L18K	**Granite Mounta**	**78.64**	**8**	P	**P**	**05 10 55.8 +1.1**
	baz=196,SNR=36					
M19K	**Big River Lodg**	**78.66**	**9**	IAms_20	IAms_20	05 37 49.1
	comp=Z,2µm,22.0s					
M19K	**Big River Lodg**	**78.66**	**9**	P	**P**	**05 10 55.3 +0.5**
	baz=199					
RC01	**Rabbit Creek A**	**78.68**	**11**	IAmb	IAmb	05 10 56.1
	comp=Z,155nm,1.3s					
RC01				IAms_20	IAms_20	05 37 11.9
	comp=Z,2µm,22.0s					
RC01	**Rabbit Creek A**	**78.68**	**11**	P	**P**	**05 10 54.3 -0.6**
	baz=203,SNR=11					
PWL	**Port Wells**	**78.74**	**12**	IAmb	IAmb	05 10 56.2
	comp=Z,128nm,1.3s					
PWL				IAms_20	IAms_20	05 37 30.7
	comp=Z,2µm,22.0s					
PWL	**Port Wells**	**78.74**	**12**	P	**P**	**05 10 54.2 -1.0**
	baz=204,SNR=8.2					
KAIM	**Kayak Island**	**78.76**	**14**		**P**	**05 10 59.1 +3.8**
KAIM	**Kayak Island**	**78.76**	**14**	P	**P**	**05 10 55.2 -0.2**
	baz=208					
DUG	**Dugway, Tooele**	**78.78**	**43**	IAmb	IAmb	05 10 58.4
	comp=Z,81nm,1.2s					
DUG	**Dugway, Tooele**	**78.78**	**43**	P	**P**	**05 10 56.9 +0.7**
	baz=239,SNR=42					
M20K	**Styx River**	**78.83**	**9**	IAms_20	IAms_20	05 39 42.8
	comp=Z,2µm,21.0s					
M20K	**Styx River**	**78.83**	**9**	P	**P**	**05 10 55.0 -0.8**
	baz=200,SNR=17					
SUA	**Susitna One**	**78.84**	**11**	IAmb	IAmb	05 10 59.7
	comp=Z,68nm,1.0s					
SUA	**Susitna One**	**78.84**	**11**	P	**P**	**05 10 55.9 0.0**
	baz=202,SNR=11					
V35K	**Ketchikan**	**78.84**	**23**	IAmb	IAmb	05 10 58.0
	comp=Z,91nm,1.2s					
V35K				IAms_20	IAms_20	05 38 10.0
	comp=Z,2µm,21.0s					
V35K	**Ketchikan**	**78.84**	**23**	P	**P**	**05 10 57.0 +1.0**
	baz=221,SNR=21					
L19K	**White Mountain**	**78.85**	**9**	IAms_20	IAms_20	05 37 54.3
	comp=Z,2µm,22.0s					
L19K	**White Mountain**	**78.85**	**9**	P	**P**	**05 10 55.7 -0.2**
	baz=198,SNR=7.7					
SIT	**Sitka**	**78.90**	**20**	P	**P**	**05 10 56.4 +0.2**
	baz=217					
U33K	**Whale Pass**	**78.91**	**21**	IAmb	IAmb	05 10 58.5
	comp=Z,83nm,1.2s					
U33K				IAms_20	IAms_20	05 38 41.5
	comp=Z,1µm,20.0s					
U33K	**Whale Pass**	**78.91**	**21**	P	**P**	**05 10 57.1 +0.9**
	baz=219,SNR=8.2					
K17K	**Iditarod**	**78.92**	**7**	IAmb	IAmb	05 11 06.6
	comp=Z,227nm,1.6s					
K17K				IAms_20	IAms_20	05 39 34.9
	comp=Z,2µm,20.0s					
K17K	**Iditarod**	**78.92**	**7**	P	**P**	**05 10 57.2 +1.0**
	baz=195,SNR=18					
D08A	**Wollman Farm,**	**78.99**	**34**	IAmb	IAmb	05 10 59.2
	comp=Z,170nm,1.3s					
EYAK	**Cordova Ski Ar**	**79.00**	**13**	P	**P**	**05 10 55.7 -1.0**
	baz=207					
GLI	**Glacier Island**	**79.01**	**13**	P	**P**	**05 10 56.0 -0.8**
	baz=206					
BGU	**Big Grassy Mou**	**79.02**	**42**	IAmb	IAmb	05 11 08.7
	comp=Z,121nm,1.8s					
HMU	**Henry Mountain**	**79.02**	**45**	IAmb	IAmb	05 11 00.1
	comp=Z,150nm,1.3s					
E09A	**Wood Farm, Sta**	**79.09**	**35**	IAmb	IAmb	05 10 59.3
	comp=Z,122nm,1.3s					
RAGM	**Ragged Mountai**	**79.10**	**14**	IAmb	IAmb	05 10 58.7
	comp=Z,94nm,1.2s					
GAMB	**Gambell**	**79.14**	**1**	P	**P**	**05 10 57.2 -0.1**
	baz=182					
SKT	**Skwentna**	**79.18**	**10**	IAmb	IAmb	05 10 57.9
	comp=Z,91nm,1.4s					
SKT	**Skwentna**	**79.18**	**10**	P	**P**	**05 10 56.7 -1.0**
	baz=201,SNR=15					
M22K	**Willow**	**79.22**	**11**	P	**P**	**05 10 57.4 -0.4**
	baz=203,SNR=22					
KNK	**Knik Glacier**	**79.22**	**12**	IAmb	IAmb	05 11 07.0
	comp=Z,259nm,1.9s					
KNK				IAms_20	IAms_20	05 38 31.4
	comp=Z,2µm,21.0s					
KNK	**Knik Glacier**	**79.22**	**12**	P	**P**	**05 10 57.5 -0.4**
	baz=204,SNR=6.1					
J16K	**Anvik River**	**79.23**	**6**	IAms_20	IAms_20	05 39 47.0
	comp=Z,2µm,20.0s					
J16K	**Anvik River**	**79.23**	**6**	P	**P**	**05 10 59.1 +1.2**
	baz=192,SNR=21					
KIDD	**KIDD Seismic O**	**79.24**	**53**	P	**P**	**05 11 00.0 +1.2**
	baz=244,SNR=6.2					
EPT	**El Paso**	**79.24**	**53**	IAms_20	IAms_20	05 41 33.1
	comp=Z,1µm,20.0s					
PMR	**Palmer**	**79.25**	**11**	IAmb	IAmb	05 10 59.8
	comp=Z,132nm,1.3s					
PMR	**Palmer**	**79.25**	**11**	P	**P**	**05 10 57.6 -0.4**
	baz=204,SNR=30					
L20K	**Farewell, AK**	**79.28**	**9**	P	**P**	**05 10 57.6 -0.6**
	baz=199,SNR=22					
F10A	**Beach Ranch, E**	**79.28**	**36**	IAmb	IAmb	05 11 00.4
	comp=Z,149nm,1.2s					
S31K	**Pelican**	**79.34**	**19**	IAms_20	IAms_20	05 37 07.5
	comp=Z,2µm,22.0s					
S31K	**Pelican**	**79.34**	**19**	P	**P**	**05 10 58.9 +0.3**
	baz=216					
TMUT	**Trail Mountain**	**79.38**	**44**	IAmb	IAmb	05 11 02.7
	comp=Z,163nm,1.2s					
MDJ	**Mudanjiang**	**79.39**	**322**	P	**P**	**05 10 59.5 +0.3**
MDJ				PcP	**PcP**	**05 11 07.3 0.0**
MDJ				pP	sP	05 11 09.8 -1.5
MDJ				sP	pP	05 11 17.0 +8.9
MDJ				S	**S**	**05 21 01.5 +3.2**
MDJ				pmax	pmax	
	comp=Z,34nm,1.8s					
MDJ				pmax	pmax	
	comp=Z,1µm,5.4s					
MDJ				LR	LR	
	comp=Z,2µm,12.4s					
MDJ				LR	LR	
	comp=Z,2µm,14.8s					
MDJ				LR	LR	
	comp=Z,2µm,20.8s					
MDJ	**Mudanjiang**	**79.39**	**322**	IAms_20	IAms_20	05 38 25.5
	comp=Z,2µm,22.0s					
TTA	**Tatalina**	**79.41**	**8**	IAmb	IAmb	05 11 04.0
	comp=Z,104nm,1.2s					
TTA	**Tatalina**	**79.41**	**8**	P	**P**	**05 10 59.2 +0.2**
	baz=197,SNR=40					
WRAK	**Wrangell Islan**	**79.42**	**22**	IAms_20	IAms_20	05 38 56.0
	comp=Z,1µm,20.0s					
WRAK	**Wrangell Islan**	**79.42**	**22**	P	**P**	**05 10 59.6 +0.5**
	baz=220,SNR=12					
GHO	**Glory Hole Cre**	**79.46**	**11**	IAmb	IAmb	05 11 00.5
	comp=Z,121nm,1.3s					
S32K	**Killisnoo**	**79.47**	**20**	P	**P**	**05 10 59.5 +0.2**
	baz=218,SNR=6.9					
PLID	**Pearl Lake**	**79.48**	**37**	IAms_20	IAms_20	05 42 37.2
	comp=Z,2µm,19.0s					
GRNR	**Gornyy**	**79.49**	**330**	⇓iP	**P**	**05 10 59.9 +0.3**
GRNR				pmax	pmax	
	comp=Z,20nm,1.1s					
T33K	**Petersburg**	**79.51**	**21**	P	**P**	**05 11 00.1 +0.6**
	baz=219					
HLID	**Hailey**	**79.57**	**39**	IAmb	IAmb	05 11 03.0
	comp=Z,130nm,1.2s					
HLID	**Hailey**	**79.57**	**39**	P	**P**	**05 11 01.5 +1.0**
	baz=237,SNR=142					
MESA	**MESA**	**79.58**	**15**	IAmb	IAmb	05 11 05.3
	comp=Z,166nm,1.1s					
MESA	**MESA**	**79.58**	**15**	P	**P**	**05 10 59.9 -0.2**
	baz=211,SNR=9.9					
WAX	**Waxell Ridge**	**79.59**	**15**	IAmb	IAmb	05 11 01.7
	comp=Z,198nm,1.3s					
SPUT	**South Promonto**	**79.60**	**42**	P	**P**	**05 11 02.7 +2.0**
SPUT				IAmb	IAmb	05 11 03.0
	comp=Z,131nm,1.4s					
SML	**Sawmill**	**79.61**	**12**	IAmb	IAmb	05 11 01.9
	comp=Z,134nm,1.5s					
SML				IAms_20	IAms_20	05 38 54.6
	comp=Z,2µm,21.0s					
SML	**Sawmill**	**79.61**	**12**	P	**P**	**05 10 59.4 -0.7**
	baz=204,SNR=8.7					
BMRM	**Bremner River**	**79.64**	**14**	P	**P**	**05 11 00.1 -0.2**
	baz=208,SNR=23					
HVU	**Hansel Valley**	**79.64**	**41**	IAmb	IAmb	05 11 11.9
	comp=Z,149nm,1.4s					
M23K	**Glacier View**	**79.71**	**12**	P	**P**	**05 10 60.0 -0.6**
	baz=205					
P17A	**Butcher Ranch,**	**79.78**	**44**	IAmb	IAmb	05 11 04.5
	comp=Z,177nm,1.3s					
C09A	**Chrisman Ranch**	**79.79**	**34**	IAmb	IAmb	05 11 03.2
	comp=Z,115nm,1.2s					
CUT	**Chulitna**	**79.80**	**11**	P	**P**	**05 11 00.3 -0.7**
	baz=202,SNR=20					
KLU	**Klutina**	**79.81**	**13**	IAms_20	IAms_20	05 39 07.2
	comp=Z,2µm,20.0s					
KLU	**Klutina**	**79.81**	**13**	P	**P**	**05 11 01.5 +0.3**
	baz=207,SNR=16					
I17K	**Unalakleet**	**79.82**	**6**	IAmb	IAmb	05 11 03.8
	comp=Z,116nm,1.4s					
I17K				IAms_20	IAms_20	05 40 46.4
	comp=Z,1µm,20.0s					
I17K	**Unalakleet**	**79.82**	**6**	P	**P**	**05 11 02.0 +1.0**
	baz=192,SNR=7.6					
PNL	**Peninsula**	**79.82**	**17**	P	**P**	**05 11 01.3 +0.1**
	baz=213,SNR=5.4					
SCM	**Sheep Creek Mo**	**79.83**	**12**	IAmb	IAmb	05 11 02.5
	comp=Z,112nm,1.2s					
SCM				IAms_20	IAms_20	05 39 00.5
	comp=Z,2µm,21.0s					
SCM	**Sheep Creek Mo**	**79.83**	**12**	P	**P**	**05 11 00.6 -0.7**
	baz=205,SNR=9.1					
J18K	**Innoko River**	**79.84**	**7**	IAmb	IAmb	05 11 04.0
	comp=Z,118nm,1.2s					
J18K				IAms_20	IAms_20	05 39 52.1
	comp=Z,2µm,20.0s					
J18K	**Innoko River**	**79.84**	**7**	P	**P**	**05 11 01.6 +0.3**
	baz=196					
Y22A	**Socorro**	**79.85**	**51**	P	**P**	**05 11 03.4 +1.2**
	baz=244					
ISLE	**Juniper Island**	**79.85**	**15**	IAmb	IAmb	05 11 02.9
	comp=Z,134nm,1.2s					
R31K	**City Hall, Gus**	**79.86**	**19**	P	**P**	**05 11 01.8 +0.4**
	baz=217					
U35K	**Hyder**	**79.88**	**23**	IAms_20	IAms_20	05 39 03.5
	comp=Z,2µm,20.0s					
U35K	**Hyder**	**79.88**	**23**	P	**P**	**05 11 01.5 0.0**
	baz=222					
PPLA	**Purkeypile**	**79.93**	**10**	P	**P**	**05 11 01.8 -0.1**
	baz=201					
Y22D	**IRIS PASSCAL I**	**79.94**	**50**	P	**P**	**05 11 05.0 +2.2**
Y22D				IAmb	IAmb	05 11 13.9
	comp=Z,218nm,1.4s					
Y22D	**IRIS PASSCAL I**	**79.94**	**50**	P	**P**	**05 11 04.6 +1.9**
	baz=244					
Y22D	**IRIS PASSCAL I**	**79.94**	**50**	P	**P**	**05 11 04.9 +2.2**
	baz=244					
Y22F	**Passcal Instru**	**79.94**	**50**	P	**P**	**05 11 04.1 +1.5**
	baz=244					
PINM	**Pinnacle**	**79.95**	**16**	P	**P**	**05 11 01.6 -0.4**
	baz=212					
BCPM	**Bancas Point**	**80.00**	**16**	IAmb	IAmb	05 11 03.7
	comp=Z,95nm,1.3s					
425A	**Indio Mountain**	**80.00**	**54**	IAmb	IAmb	05 11 05.8
	comp=Z,144nm,1.3s					
TABL	**Table Mountain**	**80.01**	**15**	IAmb	IAmb	05 11 03.9
	comp=Z,134nm,1.4s					
MNTX	**Cornudas Mount**	**80.08**	**53**	IAmb	IAmb	05 11 06.0
	comp=Z,169nm,1.4s					
MNTX	**Cornudas Mount**	**80.08**	**53**	P	**P**	**05 11 03.8 +0.5**
	baz=245					
MNTX	**Cornudas Mount**	**80.08**	**53**	P	**P**	**05 11 04.8 +1.6**
	baz=245,SNR=32					
K20K	**Telida**	**80.08**	**9**	IAmb	IAmb	05 11 04.8
	comp=Z,117nm,1.3s					
K20K	**Telida**	**80.08**	**9**	P	**P**	**05 11 02.6 0.0**
	baz=199,SNR=30					
VRDI	**Verde Repeater**	**80.13**	**14**	IAmb	IAmb	05 11 04.4
	comp=Z,128nm,1.3s					
VRDI				IAms_20	IAms_20	05 38 07.8
	comp=Z,2µm,22.0s					
R32K	**Eaglecrest**	**80.13**	**20**	P	**P**	**05 11 03.5 +0.6**
	baz=218					
ANM	**Nome**	**80.14**	**3**	IAms_20	IAms_20	05 41 10.7
	comp=Z,1µm,19.0s					
ANM	**Nome**	**80.14**	**3**	P	**P**	**05 11 03.7 +0.9**
	baz=188					
JIS	**Juneau Island**	**80.18**	**20**	IAms_20	IAms_20	05 37 09.8
	comp=Z,2µm,22.0s					
N25K	**Chitina, Valde**	**80.20**	**13**	IAmb	IAmb	05 11 04.7
	comp=Z,122nm,1.3s					
N25K	**Chitina, Valde**	**80.20**	**13**	P	**P**	**05 11 02.8 -0.6**
	baz=208,SNR=25					
MVCO	**Mesa Verde**	**80.23**	**47**	IAms_20	IAms_20	05 41 51.6
	comp=Z,1µm,18.0s					
MVCO	**Mesa Verde**	**80.23**	**47**	P	**P**	**05 11 04.7 +0.4**
	baz=242					
GLB	**Gilahina Butte**	**80.24**	**14**	IAmb	IAmb	05 11 05.4
	comp=Z,127nm,1.3s					
GLB				IAms_20	IAms_20	05 38 24.5
	comp=Z,2µm,22.0s					
P29M	**Windy Craggy**	**80.25**	**17**	P	**P**	**05 11 04.0 +0.4**
	baz=215,SNR=15					
BSUT	**Blindstream Ca**	**80.30**	**43**	IAmb	IAmb	05 11 15.1
	comp=Z,220nm,1.9s					
M24K	**Tolsona, Glenn**	**80.31**	**12**	IAms_20	IAms_20	05 40 15.4
	comp=Z,2µm,20.0s					
M24K	**Tolsona, Glenn**	**80.31**	**12**	P	**P**	**05 11 04.3 +0.4**
	baz=206,SNR=24					
HWUT	**Hardware Ranch**	**80.32**	**42**	IAms_20	IAms_20	05 43 45.2
	comp=Z,2µm,18.0s					
MCARA	**McCarthy VSAT**	**80.37**	**14**	IAmb	IAmb	05 11 06.2
	comp=Z,97nm,1.2s					
MCARA				IAms_20	IAms_20	05 38 16.1
	comp=Z,2µm,22.0s					
MCARA	**McCarthy VSAT**	**80.37**	**14**	P	**P**	**05 11 03.8 -0.4**
	baz=210,SNR=13					
LOGN	**Logan Glacier**	**80.38**	**15**	IAmb	IAmb	05 11 13.6
	comp=Z,158nm,1.4s					
CTG	**Chitna Glacier**	**80.41**	**15**	P	**P**	**05 11 04.0 -0.5**
	baz=211,SNR=9.1					
CTGM	**Chitina Glacie**	**80.42**	**15**	IAmb	IAmb	05 11 06.0
	comp=Z,126nm,1.4s					
BARN	**Barnard Glacie**	**80.42**	**15**	IAmb	IAmb	05 11 06.8
	comp=Z,150nm,1.2s					
H16K	**Elim**	**80.42**	**5**	P	**P**	**05 11 04.5 +0.2**
	baz=191,SNR=6.0					
WAT6	**Susitna Watana**	**80.43**	**12**	P	**P**	**05 11 04.5 -0.1**
	baz=205,SNR=27					
CAST	**Castle Rocks**	**80.44**	**9**	IAms_20	IAms_20	05 40 02.4
	comp=Z,2µm,20.0s					
CAST	**Castle Rocks**	**80.44**	**9**	P	**P**	**05 11 02.8 -1.7**
	baz=201,SNR=17					
TX31	**Lajitas Ar. Si**	**80.44**	**56**	P	**P**	**05 11 06.4 +1.0**
	baz=246					
TX32	**Lajitas Array**	**80.44**	**56**	IAmb	IAmb	05 11 08.4
	comp=Z,175nm,1.4s					
TXAR	**Lajitas Array**	**80.44**	**56**	P	**P**	**05 11 06.7 +1.2**
	comp=Z,58nm,1.1s,baz=224,slow=5.2,SNR=140					
TXAR				LR	LR	05 41 37.0
	comp=Z,875nm,18.4s,baz=234,slow=32					
	comp=Z,58nm,1.1s					
MA2	**Magadan**	**80.46**	**342**	LR	LR	05 42 08.2
	comp=Z,536nm,20.7s,baz=131,slow=32					
J19K	**Poorman**	**80.48**	**8**	IAms_20	IAms_20	05 39 30.3
	comp=Z,2µm,22.0s					
J19K	**Poorman**	**80.48**	**8**	P	**P**	**05 11 05.3 +0.6**
	baz=197,SNR=22					
WAT1	**Susitna Watana**	**80.50**	**11**	P	**P**	**05 11 04.5 -0.3**
	baz=204					
PLBC	**Pleasant Camp**	**80.51**	**18**	P	**P**	**05 11 05.3 +0.3**
	baz=216					
O28M	**Mount Upton**	**80.54**	**16**	P	**P**	**05 11 05.5 0.0**
	baz=212,SNR=10					
NJ2	**Nanjing**	**80.56**	**307**	*e*P	**P**	**05 11 07.8 +2.0**
NJ2				pmax	pmax	
	comp=Z,15nm,0.5s					
O29M	**Mount Kennedy**	**80.58**	**17**	IAmb	IAmb	05 11 07.4
	comp=Z,82nm,1.2s					
O29M	**Mount Kennedy**	**80.58**	**17**	P	**P**	**05 11 05.6 +0.2**
	baz=214,SNR=18					
T35M	**Bob Quinn**	**80.60**	**22**	IAms_20	IAms_20	05 39 34.3
	comp=Z,2µm,20.0s					
T35M	**Bob Quinn**	**80.60**	**22**	P	**P**	**05 11 06.3 +0.8**
	baz=222,SNR=13					
G15K	**Niukluk**	**80.65**	**4**	P	**P**	**05 11 05.6 +0.1**
	baz=189,SNR=8.6					
ANMO	**Albuquerque**	**80.67**	**50**	P	**P**	**05 11 06.7 +0.1**
ANMO				IAmb	IAmb	05 11 12.2
	comp=Z,75nm,1.1s					
ANMO	**Albuquerque**	**80.67**	**50**	P	**P**	**05 11 07.7 +1.0**
	baz=244					
ANMO	**Albuquerque**	**80.67**	**50**	P	**P**	**05 11 07.2 +0.6**
	baz=244,SNR=77					
ANMO	**Albuquerque**	**80.67**	**50**	P	**P**	**05 11 07.9 +1.2**
	comp=Z,48nm,1.1s,baz=318,slow=5.7,SNR=61					
ANMO				LR	LR	05 42 15.9
	comp=Z,877nm,18.2s,baz=331,slow=32					
	comp=Z,48nm,1.1s					
NEW	**Newport**	**80.69**	**34**	P	**P**	**05 11 06.3 +0.1**
	baz=234,SNR=38					
NEW	**Newport**	**80.69**	**34**	P	**P**	**05 11 06.3 +0.1**
	comp=Z,36nm,1.1s,baz=224,slow=4.8,SNR=26					
NEW				LR	LR	05 38 59.9
	comp=Z,1µm,21.5s,baz=232,slow=30					
	comp=Z,36nm,1.1s					
KTH	**Kantishna Hill**	**80.76**	**10**	IAmb	IAmb	05 11 07.5
	comp=Z,186nm,1.5s					
TRF	**Thorofare Moun**	**80.77**	**10**	IAmb	IAmb	05 11 16.1
	comp=Z,129nm,1.2s					
TRF	**Thorofare Moun**	**80.77**	**10**	P	**P**	**05 11 05.8 -0.6**
	baz=202,SNR=19					
HARP	**HAARP**	**80.79**	**13**	P	**P**	**05 11 06.3 -0.1**
	baz=207,SNR=5.4					
SKAG	**Skagway**	**80.83**	**18**	IAmb	IAmb	05 11 09.0
	comp=Z,142nm,1.5s					
SKAG	**Skagway**	**80.83**	**18**	P	**P**	**05 11 07.1 +0.5**
	baz=217,SNR=5.5					
CHUM	**Lake Minchumin**	**80.84**	**9**	P	**P**	**05 11 05.2 -1.4**
	baz=200,SNR=26					
J20K	**Nowinta River**	**80.86**	**8**	IAmb	IAmb	05 11 09.1
	comp=Z,190nm,1.3s					
J20K				IAms_20	IAms_20	05 40 03.2
	comp=Z,1µm,22.0s					
J20K	**Nowinta River**	**80.86**	**8**	P	**P**	**05 11 06.8 +0.2**
	baz=199,SNR=50					
KLR	**Kul'dur**	**80.88**	**327**	*ce*P	**P**	**05 11 06.8 -0.3**
KLR				pmax	pmax	
	comp=Z,42nm,1.7s					
P30M	**Million Dollar**	**80.88**	**17**	P	**P**	**05 11 07.4 +0.4**
	baz=215					
ALPN	**Alpine**	**80.89**	**55**	IAmb	IAmb	05 11 10.4
	comp=Z,132nm,1.2s					
H17K	**Granite Mounta**	**80.92**	**6**	IAmb	IAmb	05 11 16.7
	comp=Z,107nm,1.6s					
H17K				IAms_20	IAms_20	05 40 18.6
	comp=Z,1µm,21.0s					
H17K	**Granite Mounta**	**80.92**	**6**	P	**P**	**05 11 07.0 0.0**
	baz=193,SNR=9.8					
DHY	**Denali Highway**	**80.95**	**12**	IAmb	IAmb	05 11 09.2
	comp=Z,104nm,1.5s					
DHY	**Denali Highway**	**80.95**	**12**	P	**P**	**05 11 07.5 +0.1**
	baz=205,SNR=18					
RND	**Reindeer**	**80.98**	**11**	IAmb	IAmb	05 11 09.4
	comp=Z,129nm,1.3s					
S34M	**Telegraph Cree**	**80.99**	**21**	P	**P**	**05 11 07.5 0.0**
	baz=221,SNR=28					
F14K	**Arctic Creek**	**81.00**	**3**	P	**P**	**05 11 07.8 +0.4**
	baz=187					
TNA	**Tin City**	**81.02**	**2**	P	**P**	**05 11 07.8 +0.4**
	baz=185					
GCSA	**Galena City Sc**	**81.05**	**7**	P	**P**	**05 11 07.8 +0.2**
	baz=196,SNR=7.4					
YUK8	**Steele Glacier**	**81.09**	**16**	P	**P**	**05 11 08.6 +0.2**
	baz=213,SNR=24					
PECS	**Pecos**	**81.11**	**54**	IAmb	IAmb	05 11 11.4
	comp=Z,101nm,1.4s					
G16K	**Koyuk River**	**81.16**	**5**	P	**P**	**05 11 08.2 0.0**
	baz=191					
YUK6	**Outpost Mounta**	**81.17**	**16**	P	**P**	**05 11 09.2 +0.4**
	baz=214,SNR=20					
AHID	**Auburn Hatcher**	**81.21**	**41**	IAmb	IAmb	05 11 11.5
	comp=Z,117nm,1.3s					
PAX	**Paxson**	**81.23**	**12**	P	**P**	**05 11 07.9 -1.0**
	baz=207,SNR=18					
BPAW	**Bear Paw Mtn.**	**81.26**	**10**	IAms_20	IAms_20	05 39 46.0
	comp=Z,2µm,22.0s					
BPAW	**Bear Paw Mtn.**	**81.26**	**10**	P	**P**	**05 11 07.5 -1.4**
	baz=202,SNR=18					
MCK	**McKinley**	**81.26**	**11**	P	**P**	**05 11 08.5 -0.3**
	baz=204,SNR=49					
M26K	**Nabesna, AK**	**81.27**	**14**	IAmb	IAmb	05 11 18.3
	comp=Z,168nm,1.2s					
M26K				IAms_20	IAms_20	05 38 35.7
	comp=Z,3µm,22.0s					
M26K	**Nabesna, AK**	**81.27**	**14**	P	**P**	**05 11 08.4 -0.6**
	baz=210,SNR=56					
H18K	**Honhosa River**	**81.28**	**6**	IAmb	IAmb	05 11 18.4
	comp=Z,91nm,1.4s					
H18K				IAms_20	IAms_20	05 41 41.3
	comp=Z,2µm,20.0s					
H18K	**Honhosa River**	**81.28**	**6**	P	**P**	**05 11 07.8 -1.2**
	baz=195					
BNX	**BinXian**	**81.31**	**322**	⇑P	**P**	**05 11 09.5 0.0**
BNX				pmax	pmax	
	comp=Z,22nm,1.9s					
BNX				pmax	pmax	
	comp=Z,1µm,5.3s					
HYT	**Haines Junctio**	**81.31**	**17**	IAmb	IAmb	05 11 11.3
	comp=Z,102nm,1.3s					
HYT	**Haines Junctio**	**81.31**	**17**	P	**P**	**05 11 09.8 +0.5**
	baz=215,SNR=32					
F15K	**North Star Dit**	**81.32**	**4**	P	**P**	**05 11 09.3 +0.1**
	baz=188					
YUK3	**Moose Creek**	**81.33**	**15**	P	**P**	**05 11 09.6 +0.1**
	baz=212,SNR=26					
I20K	**Naaghedeneel**	**81.40**	**8**	IAmb	IAmb	05 11 15.1
	comp=Z,103nm,1.1s					
I20K				IAms_20	IAms_20	05 40 18.6
	comp=Z,2µm,22.0s					
I20K	**Naaghedeneel**	**81.40**	**8**	P	**P**	**05 11 09.9 +0.4**
	baz=198,SNR=19					
G17K	**Kiwalik Mounta**	**81.41**	**5**	P	**P**	**05 11 09.9 +0.3**
	baz=192					
Q32M	**Nakina River**	**81.41**	**20**	IAms_20	IAms_20	05 38 23.3
	comp=Z,2µm,22.0s					
Q32M	**Nakina River**	**81.41**	**20**	P	**P**	**05 11 10.0 +0.1**
	baz=220,SNR=9.1					
YUK4	**Talbot Arm**	**81.43**	**16**	P	**P**	**05 11 10.4 +0.3**
	baz=214,SNR=12					
P32M	**Atlin**	**81.43**	**19**	IAms_20	IAms_20	05 40 19.9
	comp=Z,2µm,20.0s					
P32M	**Atlin**	**81.43**	**19**	P	**P**	**05 11 10.2 +0.2**
	baz=218,SNR=7.3					
CN2	**Changchun**	**81.46**	**320**	*e*P	**P**	**05 11 09.5 -0.9**
CN2				*e*S	**S**	**05 21 21.0 +1.0**
CN2				*es*S	SKSac	05 21 28.0 +0.1
CN2				p

	baz=216,SNR=31						
TPAW	Teton Pass	81.67	41	IAmb	IAmb	05 11 14.3	
	comp=Z,119nm,1.1s						
FXWY	Fox Creek	81.70	40	IAmb	IAmb	05 11 14.5	
	comp=Z,125nm,1.3s						
L26K	Log Cabin Wild	81.73	13	IAmb	IAmb	05 11 20.9	
	comp=Z,95nm,1.3s						
L26K	Log Cabin Wild	81.73	13	P	P	05 11 11.6	+0.2
	baz=209,SNR=30						
DLBC	Dease Lake	81.77	21	P	P	05 11 12.3	+0.5
	baz=222,SNR=16						
DLBC	Dease Lake	81.77	21	P	P	05 11 12.2	+0.5
	comp=Z,21nm,1.1s,baz=219,slow=7.1,SNR=17						
DLBC				LR	LR	05 41 11.5	
	comp=Z,1μm,20.1s,baz=246,slow=31						
	comp=Z,21nm,1.1s						
BVCY	Beaver Creek	81.78	15	P	P	05 11 11.8	+0.1
	baz=212						
SNOW	Snow King Moun	81.78	41	IAmb	IAmb	05 11 14.9	
	comp=Z,142nm,1.2s						
O20A	White River Ci	81.79	44	IAmb	IAmb	05 11 46.2	
	comp=Z,190nm,1.7s						
O20A	White River Ci	81.79	44	P	P	05 11 12.9	+0.4
	baz=242,SNR=21						
H19K	Roundabout Mou	81.86	7	IAmb	IAmb	05 11 14.2	
	comp=Z,101nm,1.4s						
H19K				IAMs_20	IAMs_20	05 41 15.5	
	comp=Z,2μm,21.0s						
H19K	Roundabout Mou	81.86	7	P	P	05 11 12.3	+0.3
	baz=196,SNR=20						
IMW	Indian Meadow	81.89	40	IAmb	IAmb	05 11 15.5	
	comp=Z,135nm,1.2s						
K24K	Donnelly Dome	81.92	12	P	P	05 11 12.3	-0.1
	baz=207,SNR=24						
SAND	Sanderson	81.92	56	IAmb	IAmb	05 11 15.4	
	comp=Z,83nm,1.1s						
WHY	Whitehorse	81.93	18	IAmb	IAmb	05 11 22.4	
	comp=Z,148nm,1.8s						
WHY	Whitehorse	81.93	18	P	P	05 11 12.5	-0.1
	baz=217,SNR=17						
MOOW	Moose Ponds	81.93	40	IAmb	IAmb	05 11 15.5	
	comp=Z,106nm,1.4s						
N30M	Aishikik Lake	81.95	17	P	P	05 11 12.6	0.0
	baz=215,SNR=12						
LOHW	Long Hollow	81.95	41	IAmb	IAmb	05 11 15.6	
	comp=Z,131nm,1.4s						
MNHN	Monahans	81.97	54	IAmb	IAmb	05 11 15.6	
	comp=Z,80nm,1.1s						
G18K	Tagagawik	81.98	6	IAMs_20	IAMs_20	05 40 49.6	
	comp=Z,2μm,20.0s						
G18K	Tagagawik	81.98	6	P	P	05 11 12.2	-0.4
	baz=194						
H20K	Anotleneega Mo	82.01	8	P	P	05 11 13.2	+0.4
	baz=198,SNR=19						
NEA2	Nenana	82.03	10	P	P	05 11 12.0	-0.9
	baz=204,SNR=28						
L27K	Beaver Creek,	82.11	14	IAMs_20	IAMs_20	05 39 24.0	
	comp=Z,2μm,22.0s						
L27K	Beaver Creek,	82.11	14	P	P	05 11 13.6	+0.2
	baz=210,SNR=20						
MLY	Manley	82.17	9	IAmb	IAmb	05 11 22.1	
	comp=Z,75nm,1.2s						
MLY	Manley	82.17	9	P	P	05 11 13.0	-0.7
	baz=202,SNR=31						
R33M	Jennings River	82.17	20	IAmb	IAmb	05 11 23.7	
	comp=Z,95nm,1.4s						
R33M	Jennings River	82.17	20	P	P	05 11 14.3	+0.4
	baz=221,SNR=24						
BW06	Boulder Array	82.19	42	IAmb	IAmb	05 11 16.4	
	comp=Z,120nm,1.3s						
BW06				IAMs_20	IAMs_20	05 44 28.7	
	comp=Z,2μm,18.0s						
BW06	Boulder Array	82.19	42	P	P	05 11 14.8	+0.2
	baz=241,SNR=48						
PD31	Pinedale Array	82.19	42	IAmb	IAmb	05 11 16.4	
	comp=Z,118nm,1.4s						
PDAR	Pinedale Array	82.19	42	P	P	05 11 14.7	+0.1
	comp=Z,50nm,1.2s,baz=222,slow=2.0,SNR=141						
PDAR				LR	LR	05 44 40.2	
	comp=Z,1μm,18.0s,baz=244,slow=33						
	comp=Z,50nm,1.2s						
P33M	Teslin, Yukon	82.20	19	IAmb	IAmb	05 11 23.6	
	comp=Z,183nm,2.0s						
P33M				IAMs_20	IAMs_20	05 38 59.2	
	comp=Z,2μm,22.0s						
P33M	Teslin, Yukon	82.20	19	P	P	05 11 13.8	-0.2
	baz=219,SNR=13						
SMCO	Snowmass	82.21	46	IAmb	IAmb	05 11 17.6	
	comp=Z,137nm,1.2s						
SMCO				IAMs_20	IAMs_20	05 44 20.7	
	comp=Z,1μm,18.0s						
HDA	Harding Lake	82.24	11	IAmb	IAmb	05 11 22.9	
	comp=Z,92nm,1.1s						
HDA				IAMs_20	IAMs_20	05 40 01.2	
	comp=Z,1μm,22.0s						
HDA	Harding Lake	82.24	11	P	P	05 11 13.3	-0.7
	baz=206,SNR=46						
F17K	Baldwin Pennin	82.28	5	IAmb	IAmb	05 11 17.0	
	comp=Z,179nm,1.7s						
F17K				IAMs_20	IAMs_20	05 42 15.5	
	comp=Z,1μm,20.0s						
F17K	Baldwin Pennin	82.28	5	P	P	05 11 14.6	+0.5
	baz=192,SNR=13						
CCB	Clear Creek Bu	82.30	11	IAmb	IAmb	05 11 23.0	
	comp=Z,117nm,1.1s						
N31M	Braeburn, Yuko	82.33	17	IAmb	IAmb	05 11 24.3	
	comp=Z,124nm,1.2s						
N31M	Braeburn, Yuko	82.33	17	P	P	05 11 14.7	+0.1
	baz=216,SNR=19						
BOZ	Bozeman (W)	82.34	38	IAMs_20	IAMs_20	05 40 16.1	
	comp=Z,1μm,21.0s						
BOZ	Bozeman (W)	82.34	38	P	P	05 11 16.0	+0.8
	baz=239,SNR=112						
G19K	Purcell Mounta	82.38	6	IAmb	IAmb	05 11 24.6	
	comp=Z,108nm,1.6s						
G19K				IAMs_20	IAMs_20	05 42 35.3	
	comp=Z,2μm,20.0s						
G19K	Purcell Mounta	82.38	6	P	P	05 11 15.1	+0.4
	baz=196						
M29M	Somme Creek	82.40	15	IAmb	IAmb	05 11 16.6	
	comp=Z,71nm,1.3s						
M29M	Somme Creek	82.40	15	P	P	05 11 15.2	+0.2
	baz=214,SNR=24						
SCRK	Sand Creek	82.44	12	IAmb	IAmb	05 11 24.4	
	comp=Z,84nm,1.3s						
SCRK				IAMs_20	IAMs_20	05 40 10.5	
	comp=Z,3μm,22.0s						
SCRK	Sand Creek	82.44	12	P	P	05 11 14.9	-0.3
	baz=208,SNR=36						
ODSA	Odessa	82.44	54	IAmb	IAmb	05 11 18.1	
	comp=Z,134nm,1.2s						
H21K	Melozitna Rive	82.45	8	IAmb	IAmb	05 11 17.1	
	comp=Z,103nm,1.4s						
H21K				IAMs_20	IAMs_20	05 41 04.3	
	comp=Z,2μm,21.0s						
H21K	Melozitna Rive	82.45	8	P	P	05 11 15.5	+0.4
	baz=200,SNR=32						
I23K	Minto, Yukon-K	82.50	10	IAmb	IAmb	05 11 16.4	
	comp=Z,116nm,1.4s						
I23K	Minto, Yukon-K	82.50	10	P	P	05 11 14.8	-0.5
	baz=203,SNR=32						
COLA	College	82.50	11	P	P	05 11 14.8	-0.5
COLA	College	82.50	11	P	P	05 11 15.0	-0.3
	baz=205						
COLA	College	82.50	11	P	P	05 11 14.8	-0.5
COLA				pmax	pmax		
	comp=Z,157nm,1.1s						
MDM	Murphy Dome	82.51	10	IAmb	IAmb	05 11 24.2	
	comp=Z,135nm,1.3s						
IL31		82.58	11	IAmb	IAmb	05 11 16.8	
	comp=Z,111nm,1.4s						
ILAR	Eielson Array	82.58	11	P	P	05 11 15.1	-0.7
	comp=Z,24nm,1.1s,baz=214,slow=5.0,SNR=78						
ILAR				LR	LR	05 40 57.2	
	comp=Z,1μm,22.0s,baz=201,slow=31						
	comp=Z,24nm,1.1s						
SDCO	Great Sand Dun	82.60	48	IAmb	IAmb	05 11 19.3	
	comp=Z,88nm,1.2s						
SDCO	Great Sand Dun	82.60	48	P	P	05 11 17.6	+0.7
	baz=244						
SDCO	Great Sand Dun	82.60	48	P	P	05 11 17.3	+0.4
	baz=244						
J25K	Salcha River,	82.72	12	IAmb	IAmb	05 11 18.7	
	comp=Z,106nm,1.3s						
J25K	Salcha River,	82.72	12	P	P	05 11 16.4	-0.2
	baz=207,SNR=40						
POKR	Poker Plat Res	82.80	11	P	P	05 11 16.5	-0.4
	baz=205,SNR=35						
YMP	Mirror Lake Pl	82.80	40	P	P	05 11 19.6	+1.8
SEY	Seymchan	82.81	345	*ceP*	P	05 11 16.9	0.0
SEY				pmax	pmax		
	comp=Z,105nm,1.5s						
SEY	Seymchan	82.81	345	LR	LR	05 42 47.6	
	comp=Z,1μm,21.6s,baz=148,slow=32						
N32M	Quiet Lake	82.86	18	IAmb	IAmb	05 11 27.0	
	comp=Z,87nm,1.2s						
N32M	Quiet Lake	82.86	18	P	P	05 11 17.9	+0.6
	baz=219,SNR=18						
E17K	Hotham Inlet	82.87	4	P	P	05 11 17.6	+0.4
	baz=191,SNR=18						
H22K	Ishtalitna Cre	82.88	9	P	P	05 11 17.2	-0.1
	baz=201,SNR=31						
K27K	Chicken	82.89	13	IAmb	IAmb	05 11 27.4	
	comp=Z,145nm,1.6s						
K27K				IAMs_20	IAMs_20	05 40 01.7	
	comp=Z,2μm,21.0s						
K27K	Chicken	82.89	13	P	P	05 11 18.1	+0.7
	baz=210						
DRIO	Del Rio	82.93	57	IAmb	IAmb	05 11 20.6	
	comp=Z,121nm,1.1s						
M30M	Minto, Yukon	82.95	16	IAmb	IAmb	05 11 19.2	
	comp=Z,69nm,1.3s						
M30M	Minto, Yukon	82.95	16	P	P	05 11 17.7	-0.1
	baz=215,SNR=25						
F19K	Shaleruckik Mo	82.98	6	IAmb	IAmb	05 11 27.3	
	comp=Z,96nm,1.4s						
F19K				IAMs_20	IAMs_20	05 41 32.1	
	comp=Z,2μm,20.0s						
F19K	Shaleruckik Mo	82.98	6	P	P	05 11 17.8	+0.1
	baz=195						
J26L	Joseph Creek	82.99	12	IAmb	IAmb	05 11 20.1	
	comp=Z,131nm,1.4s						
J26L	Joseph Creek	82.99	12	P	P	05 11 18.4	+0.4
	baz=209,SNR=57						
MSTX	Muleshoe	83.02	52	P	P	05 11 19.5	+0.6
	baz=246						
MSTX	Muleshoe	83.02	52	P	P	05 11 19.7	+0.8
	baz=246						
L29M	L29M	83.04	15	P	P	05 11 18.7	+0.5
	baz=214,SNR=62						
OZNA	Ozona	83.09	55	IAmb	IAmb	05 11 21.4	
	comp=Z,98nm,1.4s						
H23K	Yukon River	83.09	10	IAMs_20	IAMs_20	05 40 42.5	
	comp=Z,2μm,22.0s						
H23K	Yukon River	83.09	10	P	P	05 11 18.0	-0.4
	baz=203						
T25A	Trinidad	83.12	49	IAmb	IAmb	05 11 21.7	
	comp=Z,101nm,1.1s						
T25A	Trinidad	83.12	49	P	P	05 11 20.2	+0.7
	baz=245						
G21K	Allakaket	83.17	8	IAmb	IAmb	05 11 21.7	
	comp=Z,138nm,1.5s						
G21K				IAMs_20	IAMs_20	05 41 24.2	
	comp=Z,2μm,22.0s						
G21K	Allakaket	83.17	8	P	P	05 11 19.5	+0.7
	baz=199						
E18K	Tukpahlearik C	83.30	5	IAmb	IAmb	05 11 21.5	
	comp=Z,122nm,1.4s						
E18K				IAMs_20	IAMs_20	05 40 13.3	
	comp=Z,1μm,22.0s						
E18K	Tukpahlearik C	83.30	5	P	P	05 11 19.6	+0.2
	baz=192						
QIZ	Qiongzhong	83.30	292	P	P	05 11 20.5	0.0
QIZ				S	S	05 21 40.5	+0.7
QIZ				LR	LR		
	comp=Z,590nm,10.8s						
QIZ				LR	LR		
	comp=Z,800nm,23.5s						
QIZ				LR	LR		
	comp=Z,940nm,27.8s						
M31M	Drury Creek, Y	83.30	17	IAmb	IAmb	05 11 20.9	
	comp=Z,76nm,1.4s						
M31M	Drury Creek, Y	83.30	17	P	P	05 11 19.1	-0.5
	baz=218,SNR=14						
H24K	Noodor Dome	83.38	10	P	P	05 11 18.9	-1.0
	baz=205,SNR=10						
Q24A	Divide	83.38	47	P	P	05 11 22.1	+1.2
	baz=244						
D17K	Noatak River	83.39	4	P	P	05 11 20.6	+0.7
	baz=190						
F20K	Avaraart Lake	83.41	7	IAmb	IAmb	05 11 29.9	
	comp=Z,53nm,1.2s						
F20K				IAMs_20	IAMs_20	05 42 57.4	
	comp=Z,2μm,20.0s						
F20K	Avaraart Lake	83.41	7	P	P	05 11 20.5	+0.5
	baz=197						
ISCO	Idaho Springs	83.43	46	IAmb	IAmb	05 11 23.6	
	comp=Z,68nm,1.2s						
ISCO				IAMs_20	IAMs_20	05 45 20.0	
	comp=Z,2μm,18.0s						
ISCO	Idaho Springs	83.43	46	P	P	05 11 21.8	+0.6
	baz=244						
ISCO	Idaho Springs	83.43	46	P	P	05 11 21.8	+0.6
	baz=244,SNR=50						
WTLY	Watson Lake, Y	83.44	21	IAmb	IAmb	05 11 22.1	
	comp=Z,71nm,1.3s						
WTLY	Watson Lake, Y	83.44	21	P	P	05 11 20.2	-0.1
	baz=223						
SGCY	Sterling City	83.47	54	IAmb	IAmb	05 11 23.2	
	comp=Z,162nm,1.4s						
PRP	Porcupine Dome	83.51	11	P	P	05 11 20.8	0.0
	baz=207,SNR=95						
833A	Chaparral WMA,	83.52	58	IAmb	IAmb	05 11 23.6	
	comp=Z,67nm,1.1s						
833A	Chaparral WMA,	83.52	58	P	P	05 11 22.4	+0.9
	baz=249						
833A	Chaparral WMA,	83.52	58	P	P	05 11 22.5	+1.1
	baz=249						
RLMT	Red Lodge	83.53	40	P	P	05 11 22.6	+1.2
	baz=241,SNR=71						
DAWY	Dawson	83.54	14	IAmb	IAmb	05 11 23.3	
	comp=Z,110nm,1.3s						
TIA	Tai'an	83.60	310	P	P	05 11 21.8	+0.1
TIA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
FARO	Faro, Yukon	83.62	18	P	P	05 11 21.1	-0.1
	baz=218,SNR=11						
CMIG	Matias Romero	83.63	70	LR	LR	05 41 52.2	
	comp=Z,702nm,18.2s,baz=257,slow=31						
POST	Post	83.63	53	IAmb	IAmb	05 11 23.9	
	comp=Z,209nm,1.3s						
E19K	Redstone River	83.64	6	IAmb	IAmb	05 11 31.0	
	comp=Z,105nm,1.2s						
E19K				IAMs_20	IAMs_20	05 41 19.5	
	comp=Z,2μm,22.0s						
E19K	Redstone River	83.64	6	P	P	05 11 21.8	+0.6
	baz=196						
N23A	Red Feather La	83.69	45	P	P	05 11 23.0	+0.6
	baz=243						
EGAK	Eagle	83.74	13	IAmb	IAmb	05 11 23.5	
	comp=Z,102nm,1.4s						
EGAK	Eagle	83.74	13	P	P	05 11 21.9	+0.1
	baz=211,SNR=31						
BELA	Belgrano 2	83.75	172	IAmb	IAmb	05 11 24.8	
	comp=Z,88nm,1.4s						
HEH	HeiHe	83.77	326	*eP*	P	05 11 21.5	-0.7
HEH				pmax	pmax		
	comp=Z,35nm,1.4s						
I26K	Coal Creek Min	83.78	12	IAMs_20	IAMs_20	05 41 23.0	
	comp=Z,2μm,20.0s						
I26K	Coal Creek Min	83.78	12	P	P	05 11 22.1	+0.2
	baz=209						
K29M	Barlow Dome	83.81	15	IAmb	IAmb	05 11 24.3	
	comp=Z,107nm,1.4s						
K29M	Barlow Dome	83.81	15	P	P	05 11 22.6	+0.3
	baz=214,SNR=30						
G22K	Bettles	83.82	8	P	P	05 11 22.6	+0.5
	baz=201						
C16K	Lisburne Hills	83.83	3	P	P	05 11 23.6	+1.5
C16K				IAmb	IAmb	05 11 24.1	
	comp=Z,86nm,1.4s						
C16K				IAMs_20	IAMs_20	05 42 23.3	
	comp=Z,1μm,20.0s						
C16K	Lisburne Hills	83.83	3	P	P	05 11 22.1	0.0
	baz=188						
G23K	Bananza Creek	83.84	9	IAmb	IAmb	05 11 24.1	
	comp=Z,95nm,1.4s						
G23K	Bananza Creek	83.84	9	P	P	05 11 22.0	-0.2
	baz=202						
F21K	Alatna River	83.84	8	IAmb	IAmb	05 11 24.1	
	comp=Z,75nm,1.4s						
F21K				IAMs_20	IAMs_20	05 42 08.0	
	comp=Z,2μm,21.0s						
F21K	Alatna River	83.84	8	P	P	05 11 22.4	+0.1
	baz=199						
PMSA	Palmer Station	83.85	156	P	P	05 11 23.6	+1.2
PMSA				IAmb	IAmb	05 11 26.3	
	comp=Z,127nm,1.6s						
PMSA	Palmer Station	83.85	156	IAMs_20	IAMs_20	05 39 35.9	
	comp=Z,1μm,20.0s						
PMSA	Palmer Station	83.85	156	LR	LR	05 40 00.0	
	comp=Z,1μm,21.7s,baz=260,slow=29						
LIRD	Liard River Hi	83.88	22	P	P	05 11 22.6	0.0
	baz=225,SNR=19						
JCT	Junction City	83.98	56	IAmb	IAmb	05 11 33.5	
	comp=Z,49nm,1.1s						
JCT	Junction City	83.98	56	P	P	05 11 24.1	+0.2
	baz=248						
JCT	Junction City	83.98	56	P	P	05 11 24.3	+0.4
	baz=248,SNR=11						
MAYO	Mayo, Yukon	84.02	16	IAmb	IAmb	05 11 25.2	
	comp=Z,113nm,1.2s						
MAYO	Mayo, Yukon	84.02	16	P	P	05 11 23.7	+0.5
	baz=216,SNR=11						
SN01	Snyder 1	84.02	54	IAmb	IAmb	05 11 25.9	
	comp=Z,130nm,1.1s						
RTBA	Rita Blanca	84.05	50	IAmb	IAmb	05 11 25.7	
	comp=Z,153nm,1.2s						
HNDO	Hondo	84.05	57	P	P	05 11 25.6	+1.4
HNDO				IAmb	IAmb	05 11 34.8	
	comp=Z,136nm,1.2s						
K22A	Casper	84.10	43	P	P	05 11 24.7	+0.4
	baz=243						
K22A	Casper	84.10	43	P	P	05 11 24.8	+0.4
	baz=243,SNR=43						
H25L	Birch Creek	84.13	11	P	P	05 11 23.2	-0.5
	baz=207						
J29N	Klondike Camp	84.14	14	IAmb	IAmb	05 11 34.1	
	comp=Z,190nm,1.5s						
J29N				IAMs_20	IAMs_20	05 40 26.9	
	comp=Z,2μm,22.0s						
J29N	Klondike Camp	84.14	14	P	P	05 11 24.4	+0.4
	baz=214,SNR=17						
C17K	DeLong Mountai	84.15	4	P	P	05 11 24.2	+0.4
	baz=190						
PHWY	Pilot Hill	84.20	44	IAmb	IAmb	05 11 27.0	
	comp=Z,80nm,1.2s						
PHWY				IAMs_20	IAMs_20	05 45 07.3	
	comp=Z,1μm,18.0s						
AMTX	Amarillo	84.21	52	IAMs_20	IAMs_20	05 45 34.5	
	comp=Z,1μm,18.0s						
AMTX	Amarillo	84.21	52	P	P	05 11 25.3	+0.3
	baz=247						
AMTX	Amarillo	84.21	52	P	P	05 11 25.7	+0.7
	baz=247						
G24K	Hadweenzic Riv	84.23	10	P	P	05 11 23.4	-0.9
	baz=205						
F22K	John River	84.28	8	P	P	05 11 25.0	+0.5
	baz=200						
COLD	Coldfoot	84.29	9	P	P	05 11 25.3	+0.8
	baz=202,SNR=45						
DKNS	Dickens	84.31	53	IAmb	IAmb	05 11 28.3	
	comp=Z,162nm,1.3s						
I27K	Kandik River	84.36	13	P	P	05 11 25.2	+0.2
	baz=211,SNR=35						
C18K	Utukok River	84.46	4	IAmb	IAmb	05 11 27.1	
	comp=Z,73nm,1.4s						
C18K	Utukok River	84.46	4	P	P	05 11 25.2	-0.2
	baz=192						
FYU	Fort Yukon	84.50	11	IAMs_20	IAMs_20	05 41 21.9	
	comp=Z,2μm,22.0s						
E20K	Nigu River	84.52	6	P	P	05 11 26.0	+0.2
	baz=197						
G25K	Bearman Lake	84.53	10	P	P	05 11 25.5	-0.2
	baz=206						
D19K	Kuna River	84.56	5	IAmb	IAmb	05 11 27.7	
	comp=Z,104nm,1.4s						
D19K				IAMs_20	IAMs_20	05 43 16.8	
	comp=Z,2μm,20.0s						
D19K	Kuna River	84.56	5	P	P	05 11 26.0	+0.1
	baz=195						
I28M	Miner Creek	84.59	13	IAmb	IAmb	05 11 27.7	
	comp=Z,74nm,1.4s						
I28M	Miner Creek	84.59	13	P	P	05 11 26.1	-0.1
	baz=212,SNR=25						
TGTN	Hyland Airport	84.66	20	P	P	05 11 26.9	+0.3
	baz=223,SNR=37						
EGMT	Eagleton	84.69	37	P	P	05 11 27.7	+0.6
	baz=240,SNR=33						
J30M	Hart River	84.70	15	IAmb	IAmb	05 11 36.4	
	comp=Z,104nm,1.4s						
J30M	Hart River	84.70	15	P	P	05 11 27.0	+0.1
	baz=216,SNR=9.1						
APMT	Aspermont	84.80	53	IAmb	IAmb	05 11 29.8	
	comp=Z,237nm,1.2s						
H03S2	Juan Fernandez	84.81	124	T	T	06 45 16.4	
	baz=253,slow=75						
H03S1	Juan Fernandez	84.82	124	T	T	06 45 16.3	
	baz=253,slow=75						
H03S3	Juan Fernandez	84.82	124	T	T	06 45 12.9	
	baz=253,slow=75						
I29M	Ogilvie Camp,	84.88	14	IAmb	IAmb	05 11 29.7	
	comp=Z,114nm,1.4s						
I29M				IAMs_20	IAMs_20	05 40 50.3	
	comp=Z,2μm,22.0s						
I29M	Ogilvie Camp,	84.88	14	P	P	05 11 27.6	0.0
	baz=214,SNR=42						
ABTX	Abilene, Hawle	84.91	54	P	P	05 11 29.0	+0.6
	baz=248						
ABTX	Abilene, Hawle	84.91	54	P	P	05 11 29.2	+0.7
	baz=248,SNR=60						
F24K	Squaw Lake	84.92	9	IAmb	IAmb	05 11 37.6	
	comp=Z,91nm,1.4s						
F24K	Squaw Lake	84.92	9	P	P	05 11 28.4	+0.6
	baz=204						
D20K	Etivluk River	84.92	6	P	P	05 11 27.9	+0.3
	baz=196						
BRDY	Brady	84.92	56	IAmb	IAmb	05 11 31.3	
	comp=Z,155nm,1.5s						
E22K	Anaktuvuk Pass	84.92	8	P	P	05 11 28.2	+0.5
	baz=201						
H27K	Steamboat Moun	84.92	12	P	P	05 11 28.1	+0.3
	baz=211,SNR=44						
E21K	Killik River	84.94	7	IAmb	IAmb	05 11 33.0	
	comp=Z,96nm,1.2s						
E21K				IAMs_20	IAMs_20	05 43 56.1	
	comp=Z,2μm,20.0s						
E21K	Killik River	84.94	7	P	P	05 11 28.0	+0.2
	baz=199						
C19K	Lookout Ridge	85.03	5	IAMs_20	IAMs_20	05 43 14.1	
	comp=Z,2μm,21.0s						
C19K	Lookout Ridge	85.03	5	P	P	05 11 28.8	+0.6
	baz=193						
G26K	Porcupine Rive	85.11	11	P	P	05 11 29.2	+0.6
	baz=208						
B18K	Kokolik River	85.12	4	P	P	05 11 29.0	+0.4
	baz=191						
KOTAN	Kotaneelee Air	85.12	22	P	P	05 11 28.7	-0.2
	baz=227,SNR=22						
E23K	Chandalar	85.15	9	P	P	05 11 29.7	+0.8
	baz=203						
KSCO	Kaye Shedlock'	85.18	47	P	P	05 11 30.4	+0.5
	baz=246						
KSCO	Kaye Shedlock'	85.18	47	P	P	05 11 30.9	+1.1
	baz=246,SNR=10						
I30M	Mount Dempster	85.22	15	P	P	05 11 29.6	+0.1
	baz=216,SNR=48						
E24K	Your Creek	85.33	9	IAmb	IAmb	05 11 32.1	
	comp=Z,95nm,1.6s						
E24K				IAMs_20	IAMs_20	05 43 19.6	
	comp=Z,2μm,21.0s						
E24K	Your Creek	85.33	9	P	P	05 11 29.7	-0.1
	baz=204,SNR=22						
F25K	Christian Rive	85.35	10	P	P	05 11 31.0	+1.1
	baz=207						
SMWD	Samnorwood	85.38	52	IAmb	IAmb	05 11 32.7	
	comp=Z,116nm,1.4s						
G27K	Doyon Strip	85.40	12	IAmb	IAmb	05 11 40.1	
	comp=Z,69nm,1.4s						
G27K				IAMs_20	IAMs_20	05 42 44.7	
	comp=Z,2μm,21.0s						
G27K	Doyon Strip	85.40	12	P	P	05 11 30.7	+0.5
	baz=210						
FLDN

TOLK	Toolik Lake Re	85.70	8	IAmb	IAmb	05 11 34.3
	comp=Z,125nm,1.6s					
TOLK	Toolik Lake Re	85.70	8	P	P	05 11 32.1 +0.5
	baz=203,SNR=16					
F26K	Sheenjek River	85.70	11	P	P	05 11 32.5 +0.9
	baz=208					
ZEA	Zeya	85.77	329	eP	P	05 11 36.0 +3.8
ZEA				pmax	pmax	
	comp=Z,20nm,1.0s					
E25K	Arctic Village	85.84	10	IAmb	IAmb	05 11 42.5
	comp=Z,109nm,1.4s					
E25K	Arctic Village	85.84	10	P	P	05 11 32.9 +0.6
	baz=207,SNR=39					
D23K	Nanushuk River	85.85	8	P	P	05 11 33.2 +0.9
	baz=202					
HNS	HongShan	85.85	310	⇓P	P	05 11 33.3 +0.3
HNS				S	SKSac	05 21 59.3 +2.5
HNS				pmax	pmax	
	comp=Z,24nm,1.6s					
HNS				LR	LR	
	comp=Z,680nm,19.3s					
HNS				LR	LR	
	comp=Z,870nm,24.0s					
BJI	Beijing	85.86	313	P	P	05 11 33.3 +0.3
BJI				pP	pP	05 11 42.8 +1.0
BJI				sP	sP	05 11 46.5 +1.5
BJI				S	SKSac	05 22 01.5 +4.8
BJI				pmax	pmax	
	comp=Z,9.0nm,1.6s					
BJI				pmax	pmax	
	comp=Z,390nm,4.8s					
435B	Jarrell	85.87	57	P	P	05 11 34.2 +0.9
	baz=249					
435B	Jarrell	85.87	57	P	P	05 11 34.6 +1.3
	baz=249,SNR=11					
B21K	Ikpikpuk River	86.00	6	IAmb	IAmb	05 11 42.7
	comp=Z,97nm,1.6s					
B21K	Ikpikpuk River	86.00	6	P	P	05 11 33.4 +0.4
	baz=198					
A19K	Wainwright	86.00	4	P	P	05 11 33.1 +0.2
	baz=192					
PLPT	Palo Pinto	86.02	55	IAmb	IAmb	05 11 36.3
	comp=Z,334nm,1.2s					
EPYK	Eagle Plains	86.09	14	P	P	05 11 33.4 -0.2
	baz=215,SNR=20					
B20K	Meade River	86.12	5	IAmb	IAmb	05 11 44.2
	comp=Z,127nm,1.7s					
B20K				IAMs_20	IAMs_20	05 44 30.9
	comp=Z,2μm,19.0s					
B20K	Meade River	86.12	5	P	P	05 11 33.5 0.0
	baz=196					
LAO	LASA Array	86.15	39	P	P	05 11 35.4 +1.0
	baz=243					
LAO	LASA Array	86.15	39	P	P	05 11 35.4 +1.0
	baz=243,SNR=62					
H31M	Peel River	86.20	15	IAmb	IAmb	05 12 01.9
	comp=Z,76nm,1.1s					
H31M	Peel River	86.20	15	P	P	05 11 33.9 -0.3
	baz=217,SNR=14					
G29M	Pine Creek	86.24	13	IAmb	IAmb	05 11 43.8
	comp=Z,89nm,1.3s					
G29M	Pine Creek	86.24	13	P	P	05 11 33.6 -0.7
	baz=214					
WTFS	Witchita Falls	86.25	54	IAmb	IAmb	05 11 37.1
	comp=Z,256nm,1.3s					
D24K	Happy Valley	86.28	8	IAmb	IAmb	05 11 36.6
	comp=Z,88nm,1.6s					
D24K	Happy Valley	86.28	8	P	P	05 11 34.4 0.0
	baz=204					
FW03	Perrin-Whitt E	86.29	54	IAmb	IAmb	05 11 37.7
	comp=Z,360nm,1.2s					
WMOK	Wichita Mounta	86.36	53	IAMs_20	IAMs_20	05 47 34.5
	comp=Z,1μm,19.0s					
WMOK	Wichita Mounta	86.36	53	IAmb	IAmb	05 11 37.1
	comp=Z,61nm,1.3s					
WMOK	Wichita Mounta	86.36	53	P	P	05 11 35.4 -0.2
	baz=248					
WMOK	Wichita Mounta	86.36	53	P	P	05 11 35.8 +0.2
	baz=248					
RSSD	Black Hills	86.38	42	P	P	05 11 35.8 0.0
RSSD				IAmb	IAmb	05 11 37.2
	comp=Z,144nm,1.6s					
RSSD	Black Hills	86.38	42	IAMs_20	IAMs_20	05 48 56.7
	comp=Z,1μm,18.0s					
RSSD	Black Hills	86.38	42	P	P	05 11 35.4 -0.4
	baz=244					
RSSD	Black Hills	86.38	42	P	P	05 11 35.5 -0.3
	baz=244,SNR=28					
RSSD	Black Hills	86.38	42	P	P	05 11 35.8 0.0
RSSD				pmax	pmax	
	comp=Z,144nm,1.6s					
RSSD				MLR	MLR	
	comp=Z,1μm,18.0s					
OGNE	Ogallala	86.39	46	IAMs_20	IAMs_20	05 46 22.4
	comp=Z,1μm,18.0s					
OGNE	Ogallala	86.39	46	P	P	05 11 35.8 0.0
	baz=246					
FW07	Weatherford	86.39	55	IAmb	IAmb	05 11 38.1
	comp=Z,163nm,1.2s					
WHTX	Lake Whitney,	86.40	56	P	P	05 11 36.3 +0.4
	baz=249					
WHTX	Lake Whitney,	86.40	56	P	P	05 11 36.9 +1.0
	baz=249,SNR=14					
F28M	Old Crow	86.45	12	IAMs_20	IAMs_20	05 43 39.5
	comp=Z,2μm,20.0s					
F28M	Old Crow	86.45	12	P	P	05 11 35.4 +0.1
	baz=212,SNR=24					
LYN	LuoYang	86.46	307	⇓P	P	05 11 36.3 +0.2
LYN				S	S	05 22 12.0 +1.4
LYN				sS	sS	05 22 26.5 +1.2
LYN				pmax	pmax	
	comp=Z,29nm,1.0s					
LYN				pmax	pmax	
	comp=Z,820nm,7.1s					
LYN				LR	LR	
	comp=Z,650nm,24.1s					
LYN				LR	LR	
	comp=Z,820nm,23.9s					
LYN				LR	LR	
	comp=Z,2μm,30.0s					
COYC	Coyhaique	86.47	136	P	P	05 11 37.2 +1.1
COYC				IAmb	IAmb	05 11 49.5
	comp=Z,65nm,1.4s					
FW13	Cleburne	86.55	55	IAmb	IAmb	05 11 38.8
	comp=Z,224nm,1.2s					
E27K	Coleen River	86.60	11	IAmb	IAmb	05 11 46.3
	comp=Z,72nm,1.2s					
E27K	Coleen River	86.60	11	P	P	05 11 36.7 +0.6
	baz=210					
FW06	Azle	86.67	55	IAmb	IAmb	05 11 39.4
	comp=Z,217nm,1.3s					
C23K	Itkillik River	86.67	8	IAmb	IAmb	05 11 38.4
	comp=Z,150nm,1.6s					
C23K	Itkillik River	86.67	8	P	P	05 11 36.0 -0.3
	baz=202					
G30M	tAoh Zraii Nji	86.70	14	IAmb	IAmb	05 11 46.0
	comp=Z,118nm,1.2s					
G30M				IAMs_20	IAMs_20	05 42 19.4
	comp=Z,2μm,22.0s					
G30M	tAoh Zraii Nji	86.70	14	P	P	05 11 36.3 -0.3
	baz=216					
D25K	Kavik River	86.79	9	P	P	05 11 36.8 -0.2
	baz=206					
B22K	Teshekpuk Lake	86.81	7	IAmb	IAmb	05 11 46.6
	comp=Z,87nm,1.6s					
B22K				IAMs_20	IAMs_20	05 42 25.4
	comp=Z,1μm,22.0s					
B22K	Teshekpuk Lake	86.81	7	P	P	05 11 36.7 -0.3
	baz=199					
C24K	Franklin Bluff	86.82	8	P	P	05 11 37.3 +0.3
	baz=204					
HKT	Hockley	87.00	58	P	P	05 11 39.8 +1.0
HKT	Hockley	87.00	58	P	P	05 11 40.2 +1.5
	baz=250					
HKT	Hockley	87.00	58	P	P	05 11 39.8 +1.0
HKT				pmax	pmax	
	comp=Z,163nm,1.7s					
FW16	Waxahatchie	87.02	55	IAmb	IAmb	05 11 41.0
	comp=Z,134nm,1.1s					
OK038	West end E0370	87.03	51	IAMs_20	IAMs_20	05 46 23.0
	comp=Z,1μm,18.0s					
Z35A	Perchaven, San	87.03	54	P	P	05 11 39.9 +1.0
	baz=249,SNR=26					
G31M	Satah River	87.11	14	IAMs_20	IAMs_20	05 42 32.3
	comp=Z,2μm,22.0s					
G31M	Satah River	87.11	14	P	P	05 11 38.5 0.0
	baz=217,SNR=24					
OK035	E0210 Rd and N	87.14	51	IAMs_20	IAMs_20	05 46 21.9
	comp=Z,1μm,20.0s					
CBKS	Cedar Bluff	87.17	49	IAmb	IAmb	05 11 42.9
	comp=Z,93nm,1.3s					
CBKS	Cedar Bluff	87.17	49	P	P	05 11 39.4 -0.1
	baz=248					
CBKS	Cedar Bluff	87.17	49	P	P	05 11 39.9 +0.3
	baz=248,SNR=17					
A22K	Sinclair Lake	87.28	6	P	P	05 11 39.3 0.0
	baz=198					
F30M	Barrier River	87.31	13	P	P	05 11 39.7 +0.2
	baz=216					
LOOK	Love County	87.32	54	IAmb	IAmb	05 11 46.2
	comp=Z,90nm,1.3s					
E28M	Babbage River	87.36	12	IAmb	IAmb	05 11 41.6
	comp=Z,67nm,1.6s					
E28M				IAMs_20	IAMs_20	05 45 46.5
	comp=Z,1μm,20.0s					
E28M	Babbage River	87.36	12	P	P	05 11 40.0 +0.3
	baz=212					
WRGLY	Wrigley	87.45	20	IAmb	IAmb	05 11 49.7
	comp=Z,92nm,1.3s					
WRGLY	Wrigley	87.45	20	P	P	05 11 40.3 +0.1
	baz=228,SNR=9.4					
E29M	Blow River	87.50	12	P	P	05 11 40.0 -0.4
	baz=214					
XLT	XiLinHaoTe	87.51	317	eP	P	05 11 41.5 +0.4
XLT				pP	sP	05 11 52.3 -0.9
XLT				pmax	pmax	
	comp=Z,14nm,0.9s					
XLT				pmax	pmax	
	comp=Z,400nm,5.0s					
OK032	Salt Plains WL	87.55	51	IAmb	IAmb	05 11 44.0
	comp=Z,37nm,0.9s					
OK032				IAMs_20	IAMs_20	05 46 23.7
	comp=Z,1μm,19.0s					
C26K	Camden Bay	87.56	9	P	P	05 11 40.6 +0.1
	baz=207					
D27M	Malcolm River	87.64	11	IAmb	IAmb	05 11 51.2
	comp=Z,112nm,1.9s					
D27M				IAMs_20	IAMs_20	05 43 33.7
	comp=Z,2μm,22.0s					
D27M	Malcolm River	87.64	11	P	P	05 11 41.2 +0.1
	baz=211					
TIY	Taiyuan	87.64	310	eP	P	05 11 44.5 +2.6
TIY				pP	sP	05 11 53.8 -0.2
TIY				S	S	05 22 26.8 +4.7
TIY				sS	sS	05 22 35.8 -1.1
TIY				SS	SS	05 28 04.0 -5.0
TIY				pmax	pmax	
	comp=Z,16nm,0.8s					
TIY				pmax	pmax	
	comp=Z,620nm,6.5s					
TIY				LR	LR	
	comp=Z,400nm,14.4s					
TIY				LR	LR	
	comp=Z,560nm,17.2s					
TIY				LR	LR	
	comp=Z,870nm,22.0s					
F31M	Tsiigehtchic	87.65	14	P	P	05 11 41.2 +0.1
	baz=218					
MAW	Mawson	87.71	199	P	P	05 11 42.7 +1.0
	baz=88,SNR=33					
MAW	Mawson	87.71	199	P	P	05 11 42.5 +1.0
MAW	Mawson	87.71	199	P	P	05 11 42.6 +1.0
MAW				pmax	pmax	
	comp=Z,28nm,1.5s					
MAW	Mawson	87.71	199	P	P	05 11 42.5 +1.0
	comp=Z,46nm,1.2s,baz=117,slow=5.9,SNR=41					
MAW				LR	LR	05 48 27.4
	comp=Z,2μm,20.2s,baz=119,slow=34					
	comp=Z,46nm,1.2s					
237A	Washetta, Mont	87.72	56	P	P	05 11 42.9 +0.6
	baz=250,SNR=7.0					
OK029	Liberty Lake	87.75	52	IAMs_20	IAMs_20	05 48 22.3
	comp=Z,2μm,18.0s					
R32A	Long Quarter,	87.77	49	P	P	05 11 42.5 0.0
	baz=248,SNR=22					
MTO3	Montecristo	87.90	75	IAmb	IAmb	05 11 46.6
	comp=Z,50nm,1.2s					
KAN17	Caldwell West	87.97	51	IAmb	IAmb	05 11 54.1
	comp=Z,36nm,1.0s					
KAN09	Caldwell North	88.11	51	IAmb	IAmb	05 11 45.6
	comp=Z,43nm,1.2s					
D28M	Stokes Point	88.13	12	P	P	05 11 43.3 0.0
	baz=213					
KAN13	South Haven SW	88.17	51	IAmb	IAmb	05 11 54.0
	comp=Z,103nm,1.5s					
DGMT	Dagmar	88.18	38	IAMs_20	IAMs_20	05 47 35.5
	comp=Z,2μm,20.0s					
DGMT	Dagmar	88.18	38	P	P	05 11 44.7 +0.6
	baz=244					
DGMT	Dagmar	88.18	38	P	P	05 11 45.0 +0.9
	baz=244					
KS20	Mayfield South	88.19	51	IAmb	IAmb	05 11 47.1
	comp=Z,62nm,1.1s					
OK033	Mehan	88.23	52	IAMs_20	IAMs_20	05 48 02.0
	comp=Z,1μm,18.0s					
OK031	S. Brethren Rd	88.28	52	IAMs_20	IAMs_20	05 48 55.2
	comp=Z,1μm,18.0s					
BLOK	Blackwell	88.28	51	IAmb	IAmb	05 11 50.9
	comp=Z,59nm,1.1s					
OK052	Battle Ridge R	88.32	52	IAMs_20	IAMs_20	05 49 14.3
	comp=Z,2μm,18.0s					
OK048	Pawnee Station	88.36	52	IAMs_20	IAMs_20	05 48 49.3
	comp=Z,1μm,18.0s					
INK	Inuvik	88.39	14	IAmb	IAmb	05 11 53.6
	comp=Z,82nm,1.4s					
INK	Inuvik	88.39	14	P	P	05 11 44.3 -0.3
	baz=218					
INK	Inuvik	88.39	14	P	P	05 11 44.2 -0.3
	comp=Z,28nm,1.1s,baz=193,slow=5.6,SNR=9.5					
INK				LR	LR	05 44 17.4
	comp=Z,1μm,21.7s,baz=182,slow=31					
	comp=Z,28nm,1.1s					
GYA	Guiyang	88.44	298	eP	P	05 11 46.5 +0.5
GYA				S	S	05 22 21.3 -8.9
GYA				pmax	pmax	
	comp=Z,14nm,1.2s					
GYA				pmax	pmax	
	comp=Z,690nm,5.4s					
OK051	E0350 and S346	88.47	52	IAMs_20	IAMs_20	05 49 26.3
	comp=Z,2μm,18.0s					
NATX	Nacogdoches	88.56	57	P	P	05 11 47.0 +0.8
	baz=251					
NATX	Nacogdoches	88.56	57	P	P	05 11 47.9 +1.6
	baz=251,SNR=9.3					
K30B	Basset	88.74	45	P	P	05 11 47.5 +0.6
	baz=248					
Z38A	Mt. Pleasant	88.79	55	P	P	05 11 48.4 +1.1
	baz=251,SNR=6.5					
RPSI	Rantau Prapat	88.82	273	P	P	05 11 46.0 -1.9
RPSI				IAmb	IAmb	05 11 50.9
	comp=Z,94nm,1.9s					
PSI	Prapat	88.85	273	P	P	05 11 46.0 -2.2
PSI				pmax	pmax	
	comp=Z,94nm,1.9s					
T35A	Sooner Cattle	88.86	51	IAmb	IAmb	05 11 53.2
	comp=Z,55nm,1.1s					
T35B	Sooner Cattle	88.86	51	P	P	05 11 47.7 +0.2
	baz=250,SNR=13					
X37A	Clayton	88.93	54	IAmb	IAmb	05 14 25.6
	comp=Z,26nm,0.6s					
X37A	Clayton	88.93	54	P	P	05 11 47.8 -0.1
	baz=250					
XAN	Xi'an	89.03	306	P	P	05 11 48.8 +0.3
XAN				pP	sP	05 12 00.0 -0.6
XAN				SKS	SKSac	05 22 13.8 -2.7
XAN				S	S	05 22 34.3 -1.0
XAN				SS	SS	05 28 28.5 -0.7
XAN				pmax	pmax	
	comp=Z,15nm,1.4s					
XAN				LR	LR	
	comp=Z,610nm,16.5s					
XAN				LR	LR	
	comp=Z,850nm,18.5s					
XAN				LR	LR	
	comp=Z,1μm,19.4s					
TUL3	Leonard	89.06	52	IAMs_20	IAMs_20	05 49 02.9
	comp=Z,1μm,18.0s					
TUL3	Leonard	89.06	52	IAmb	IAmb	05 11 52.5
	comp=Z,57nm,1.1s					
TUL3	Leonard	89.06	52	P	P	05 11 49.0 +0.5
	baz=250					
TUL3	Leonard	89.06	52	P	P	05 11 48.7 +0.2
	baz=250,SNR=16					
PLCA	Paso Flores	89.12	132	P	P	05 11 51.1 +2.1
PLCA				IAmb	IAmb	05 11 56.0
	comp=Z,108nm,2.0s					
PLCA	Paso Flores	89.12	132	P	P	05 11 51.1 +2.1
PLCA				pmax	pmax	
	comp=Z,108nm,2.0s					
PLCA	Paso Flores	89.12	132	P	P	05 11 50.5 +1.6
	comp=Z,4.6nm,1.1s,baz=268,slow=8.2,SNR=5.5					
PLCA				LR	LR	05 44 24.3
	comp=Z,1μm,19.2s,baz=244,slow=31					
	comp=Z,4.6nm,1.1s					
BGNE	Belgrade	89.27	47	IAmb	IAmb	05 11 54.5
	comp=Z,106nm,1.2s					
BGNE	Belgrade	89.27	47	P	P	05 11 49.6 +0.2
	baz=249					
BGNE	Belgrade	89.27	47	P	P	05 11 50.4 +1.0
	baz=249					
HHC	Hu-ho-hao-te	89.42	313	eP	P	05 11 49.3 -0.9
HHC				pP	pP	05 11 57.3 -1.8
HHC				SKS	SKSac	05 22 15.0 -3.6
HHC				eS	ScS	05 22 41.3 -2.1
HHC				sS	sS	05 22 54.8 +1.2
HHC				SS	SS	05 28 27.0 -7.7
HHC				pmax	pmax	
	comp=Z,41nm,0.6s					
HHC				pmax	pmax	
	comp=Z,630nm,4.5s					
HHC				LR	LR	
	comp=Z,1μm,14.1s					
HHC				LR	LR	
	comp=Z,830nm,16.9s					
HHC				LR	LR	
	comp=Z,1μm,20.6s					
YAK	Yakutsk	89.44	337	IAMs_20	IAMs_20	05 43 50.4
	comp=Z,1μm,20.0s					
YAK	Yakutsk	89.44	337	eP	P	05 11 48.7 -0.9
YAK				e		05 15 27.9
YAK				ePPP	PPP	05 17 15.8
YAK				eS	SKSac	05 22 15.5 -2.0
YAK				e*SS	SKKSac	05 22 33.5 +3.7
YAK				eSSS	SSS	05 32 09.3
YAK				pmax	pmax	
	comp=Z,50nm,1.3s					
YAK				pmax	pmax	
	comp=N,15nm,1.3s					
YAK				pmax	pmax	
	comp=E,20nm,1.4s					
YAK				pmax	pmax	
	comp=Z,859nm,5.1s					
YAK				pmax	pmax	
	comp=E,475nm,5.7s					
YAK				pmax	pmax	
	comp=N,650nm,4.8s					
YAK				smax	smax	
	comp=N,506nm,4.3s					
YAK				smax	smax	
	comp=E,368nm,4.8s					
N33A	J Bar K, Exete	89.52	47	IAmb	IAmb	05 11 53.0
	comp=Z,69nm,1.2s					
E28A	Huff	89.54	41	P	P	05 11 50.8 +0.2
	baz=247					
RLO	Rose Lookout	89.73	52	IAmb	IAmb	05 11 56.3
	comp=Z,33nm,1.1s					
GSI	Gunungsitoli	89.75	271	P	P	05 11 50.1 -2.1
GSI	Gunungsitoli	89.75	271	P	P	05 11 53.5 +1.2
	comp=Z,66nm,1.5s					
SUSD	Miller	89.85	44	P	P	05 11 51.5 -0.5
	baz=248					
KCSI	Kotacane, Aceh	90.15	274	P	P	05 11 55.5 +1.3
	comp=Z,28nm,1.5s,comp=Z,2μm					
YKA	Yellowknife Ar	90.15	23	P	P	05 11 53.4 +0.4
	comp=Z,18nm,1.0s,baz=238,slow=4.6,SNR=19					
YKA				LR	LR	05 45 56.6
	comp=Z,1μm,20.3s,baz=234,slow=31					
	comp=Z,18nm,1.0s					
U38A	Gravette	90.31	52	P	P	05 11 54.7 +0.3
	baz=251,SNR=6.3					
MIAR	Mount Ida	90.32	54	IAMs_20	IAMs_20	05 47 58.6
	comp=Z,1μm,18.0s					
MIAR	Mount Ida	90.32	54	P	P	05 11 54.7 +0.2
	baz=252					
MIAR	Mount Ida	90.32	54	P	P	05 11 53.9 -0.6
	baz=252,SNR=5.3					
BTO	Baotou	90.43	312	eP	P	05 11 56.5 +1.6
BTO				pP	sP	05 12 07.5 +0.4
BTO				sP	pP	05 12 11.3 +7.4
BTO				S	S	05 22 48.3 +0.2
BTO				sS	sS	05 23 04.8 +1.8
BTO				pmax	pmax	
	comp=Z,33nm,1.2s					
BTO				pmax	pmax	
	comp=Z,820nm,5.0s					
Z41A	Richland Creek	90.52	56	P	P	05 11 55.7 +0.3
	baz=252,SNR=9.1					
Z41A				P	P	05 11 55.7 +0.3
	baz=252,SNR=9.1					
TEIG	Tepich	90.54	69	P	P	05 11 56.4 +0.6
TEIG	Tepich	90.54	69	LR	LR	05 45 51.4
	comp=Z,2μm,20.6s,baz=16,slow=31					
MDND	Maddock	90.72	40	P	P	05 11 55.5 -0.5
	baz=248					
MDND	Maddock	90.72	40	P	P	05 11 56.7 +0.7
	baz=248,SNR=6.0					
N35A	Tabor	90.85	48	IAmb	IAmb	05 11 58.6
	comp=Z,43nm,1.1s					
JTS	Las Juntas de	90.91	80	P	P	05 11 58.4 +0.7
JTS	Las Juntas de	90.91	80	iP	P	05 11 59.1 +1.4
JTS	Las Juntas de	90.91	80	LR	LR	05 43 49.1
	comp=Z,465nm,19.7s,baz=256,slow=30					
JACO	JACO, Garabito	91.02	80	P	P	05 11 58.4 +0.3
JACO				IAmb	IAmb	05 12 02.1
	comp=Z,69nm,1.3s					
ECSD	EROS Data Cent	91.16	45	IAMs_20	IAMs_20	05 45 19.6
	comp=Z,1μm,21.0s					
ECSD	EROS Data Cent	91.16	45	P	P	05 11 57.3 -0.9
	baz=250					
ECSD	EROS Data Cent	91.16	45	P	P	05 11 57.8 -0.4
	baz=250,SNR=13					
UALR	University of	91.36	54	IAmb	IAmb	05 12 01.7
	comp=Z,66nm,1.1s					
U40A	Yellville	91.45	53	P	P	05 11 59.5 -0.2
	baz=252,SNR=13					
U40A				P	P	05 11 59.5 -0.2
	baz=252,SNR=13					
C36M	Paulatuk	91.47	16	P	P	05 11 58.2 -0.7
	baz=227					
143A	Socs Landing,	91.47	57	P	P	05 12 01.6 +1.8
	baz=253,SNR=8.3					
S39A	Bolivar	91.51	51	IAmb	IAmb	05 12 01.4
	comp=Z,104nm,1.8s					
S39A	Bolivar	91.51	51	P	P	05 12 00.1 +0.2
	baz=252,SNR=12					
CCAR	Cane Creek	91.54	55	P	P	05 12 01.6 +1.4
	baz=252,SNR=8.5					
PEL	Peldehue	91.58	125	P	P	05 12 01.3 +0.7
PEL	Peldehue	91.58	125	P	P	05 12 01.3 +0.7
PEL				pmax	pmax	
	comp=Z,110nm,1.5s					
HDC	Heredia	91.63	80	P	P	05 12 01.3 +0.2
344A	Westbrook Farm	91.64	58	P	P	05 12 02.9 +2.2
	baz=253,SNR=20					
FCAR	Ozark Folk Cen	91.87	53	IAmb	IAmb	05 12 04.1
	comp=Z,84nm,1.4s					
ELIB	Princess Elisa	91.96	185	dP	P	05 12 02.9 +1.2
	comp=Z,55nm,1.4s					
P38A	Dawn	91.97	49	IAmb	IAmb	05 12 03.0
	comp=Z,52nm,1.2s					
P38A	Dawn	91.97	49	P	P	05 12 01.4 -0.6
	baz=252,SNR=8.4					
VBMS	Vicksburg	92.04	57	P	P	05 12 03.4 +1.0
	baz=253					
VBMS	Vicksburg	92.04	57	P	P	05 12 04.8 +2.3
	baz=253					
FFC	Flin Flon	92.09	33	P	P	05 12 02.0 -0.1
FFC				IAmb	IAmb	05 12 03.3
	comp=Z,74nm,1.6s					
FFC				IAMs_20	IAMs_20	05 46 16.2
	comp=Z,1μm,22.0s					
FFC	Flin Flon	92.09	33	P	P	05 12 02.0 -0.1
FFC				pmax	pmax	
	comp=Z,74nm,1.6s					
F33A	5 Mile Ranch,	92.11	43	IAmb	IAmb	05 12 06.8
	comp=Z,36nm,1.1s					
F33A	5 Mile Ranch,	92.11	43	P	P	05 12 02.6 +0.1
	baz=250					
CD2	Chengdu	92.21	301	eP	P	05 12 03.3 -0.1
CD2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
CIT	Chita	92.30	324	eP	P	05 12 03.6 +0.3
CIT				e		05 12 09.1

CIT pmax pmax
comp=Z,140nm,1.9s
R40A Maddies Statio 92.49 51 P P 05 12 04.4 0.0
baz=252,SNR=28
TROLL Troll, Antarti 92.55 179 ⇑P **P 05 12 06.0 +1.7**
comp=Z,744nm,1.3s
ATAH Atahualpa 92.56 98 LR LR 05 44 37.0
comp=Z,809nm,19.1s,baz=257,slow=30
N38A Joes South For 92.56 48 P **P 05 12 05.3 +0.7**
baz=252,SNR=5.4
VNA3 Neumayer Olymp 92.62 175 ⇑P **P 05 12 06.1 +1.6**
comp=Z,18nm,1.4s
PZH PanZhiHua 92.67 297 P **P 05 12 06.3 +0.6**
PZH S **S 05 23 04.5 -4.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,270nm,7.0s
PZH LR LR
comp=Z,330nm,17.4s
PZH LR LR
comp=Z,410nm,16.3s
PZH LR LR
comp=Z,420nm,15.2s
LCAR Lake Charles 92.67 53 P **P 05 12 05.4 +0.1**
baz=253,SNR=22
NNA Nana 92.68 103 LR LR 05 45 15.6
comp=Z,382nm,20.1s,baz=242,slow=30
SCIA State Center 92.92 47 IAMs_20 IAMs_20 05 50 01.4
comp=Z,1μm,18.0s
SCIA State Center 92.92 47 P **P 05 12 06.6 +0.3**
baz=252
CMAR Chiang Mai Arr 93.00 288 P **P 05 12 07.5 +0.2**
comp=Z,2.3nm,0.7s,baz=88,slow=2.4,SNR=8.3
CMAR LR LR 05 49 01.5
comp=Z,264nm,21.3s,baz=95,slow=32
comp=Z,2.3nm,0.7s
T42A Van Buren 93.00 53 IAmb IAmb 05 12 08.0
comp=Z,53nm,1.2s
T42A Van Buren 93.00 53 P **P 05 12 07.0 +0.2**
baz=253
A36M Sachs Harbour 93.02 13 IAMs_20 IAMs_20 05 48 27.4
comp=Z,1μm,21.0s
P40A Paris 93.03 50 P **P 05 12 06.6 -0.4**
baz=252,SNR=13
VNA2 Neumayer--Watz 93.12 175 ⇑P **P 05 12 08.8 +2.0**
comp=Z,18nm,1.2s,baz=186,slow=3.0
CCM Cathedral Cave 93.19 51 P **P 05 12 07.5 -0.2**
CCM IAmb IAmb 05 12 09.7
comp=Z,71nm,1.4s
CCM Cathedral Cave 93.19 51 IAMs_20 IAMs_20 05 50 06.2
comp=Z,985nm,18.0s
CCM Cathedral Cave 93.19 51 P **P 05 12 07.0 -0.7**
baz=253
CCM Cathedral Cave 93.19 51 P **P 05 12 07.4 -0.2**
baz=253,SNR=15
CCM Cathedral Cave 93.19 51 P **P 05 12 07.5 -0.2**
CCM pmax pmax
comp=Z,71nm,1.5s
Y45A Yeager Farm, C 93.30 56 P **P 05 12 09.8 +1.5**
baz=254
VNA1 Neumayer--Stat 93.32 175 ⇑P **P 05 12 09.9 +2.2**
comp=Z,50nm,1.3s
PBMO Poplar Bluff 93.44 53 IAmb IAmb 05 12 10.3
comp=Z,80nm,1.4s
PBMO Poplar Bluff 93.44 53 P **P 05 12 09.1 +0.2**
baz=253,SNR=15
I37B Waseca 93.45 45 P **P 05 12 10.0 +1.3**
baz=252
K38A Parkersburg 93.46 47 P **P 05 12 08.8 0.0**
baz=252
OXF Oxford 93.59 55 IAMs_20 IAMs_20 05 50 35.4
comp=Z,1μm,18.0s
OXF Oxford 93.59 55 P **P 05 12 08.4 -1.2**
baz=254
OXF Oxford 93.59 55 P **P 05 12 10.1 +0.5**
baz=254
LZH Lanzhou 93.62 306 ⇓P P 05 12 18.8 +8.9
LZH sP sP 05 12 31.5 +9.5
LZH pP sP 05 12 31.5 +9.5
LZH sP pP 05 12 38.5 +20
LZH pmax pmax
comp=Z,15nm,1.5s
LZH pmax pmax
comp=Z,32nm,1.5s
LZH pmax pmax
comp=Z,550nm,5.5s
LZH LR LR
comp=N,370nm,14.1s
LZH LR LR
comp=E,300nm,14.1s
LZH LR LR
comp=Z,490nm,13.4s
NVL N'lazarevskaya 93.78 182 *e*P **P 05 12 10.2 +0.4**
NVL *e*S **SKSac 05 22 42.0 -0.2**
NVL pmax pmax
comp=Z,49nm,2.0s
NVL smax smax
comp=E,159nm,9.5s
FVM French Village 93.79 52 P **P 05 12 10.5 0.0**
baz=253,SNR=12
ULM Lac du Bonnet 93.88 39 IAmb IAmb 05 12 11.2
comp=Z,52nm,1.3s
ULM Lac du Bonnet 93.88 39 P **P 05 12 09.5 -1.0**
comp=Z,28nm,1.2s,baz=241,slow=5.0,SNR=8.1
ULM LR LR 05 51 38.5
comp=Z,2μm,18.1s,baz=259,slow=34
comp=Z,28nm,1.2s
F36A Milaca 93.94 44 IAmb IAmb 05 12 18.7
comp=Z,51nm,1.4s
F36A Milaca 93.94 44 P **P 05 12 10.6 -0.4**
baz=252
LNXT Lenox 93.97 54 P **P 05 12 12.9 +1.6**
baz=254,SNR=5.2
CFA Coronel Fontan 94.06 124 LR LR 05 46 38.2
comp=Z,922nm,18.1s,baz=286,slow=30
CGM3 Cape Girardeau 94.18 53 IAmb IAmb 05 12 13.6
comp=Z,64nm,1.2s
SPMN Marine on St. 94.23 44 IAmb IAmb 05 12 14.4
comp=Z,73nm,1.2s
SPMN Marine on St. 94.23 44 P **P 05 12 11.2 -1.1**
baz=252
SPMN Marine on St. 94.23 44 P **P 05 12 12.5 +0.2**
baz=252,SNR=7.9
N41A Harden Midland 94.25 49 P **P 05 12 12.3 -0.2**
baz=253,SNR=12
L40A Anamosa 94.38 48 P **P 05 12 12.8 -0.3**
baz=253,SNR=11
OTAV Otavalo 94.49 91 P **P 05 12 15.2 +0.4**
OTAV Otavalo 94.49 91 P **P 05 12 15.2 +0.4**
OTAV pmax pmax
comp=Z,29nm,1.9s
BRAL Brewton 94.59 59 P **P 05 12 14.6 +0.4**
baz=255
B35A Bob, Littlefor 94.60 41 IAmb IAmb 05 12 14.4
comp=Z,66nm,1.3s
B35A Bob, Littlefor 94.60 41 P **P 05 12 13.8 -0.1**
baz=252
S44A Carbondale 94.60 52 IAmb IAmb 05 12 15.9
comp=Z,59nm,1.2s
S44A Carbondale 94.60 52 P **P 05 12 14.0 -0.2**
baz=254,SNR=8.7
SIUC Southern Illin 94.63 52 IAmb IAmb 05 12 16.0
comp=Z,59nm,1.2s
PLAL Pickwick Lake 94.78 55 IAmb IAmb 05 12 17.5
comp=Z,44nm,1.4s
ULN Ulaanbaatar 94.81 318 P **P 05 12 13.9 -1.2**
ULN Ulaanbaatar 94.81 318 *i* P **P 05 12 14.9 -0.2**
ULN pmax pmax
comp=Z,23nm,2.1s
T45B Paducah 94.88 53 P **P 05 12 16.6 +1.1**
baz=254
P43A Skaggs, Pawnee 94.93 50 P **P 05 12 16.1 +0.4**
baz=254,SNR=12
TNCH TengChong 95.08 294 *e*P **P 05 12 17.5 +0.6**
Q44A Meyer Farm, Va 95.11 51 IAmb IAmb 05 12 17.9
comp=Z,64nm,1.3s
Q44A Meyer Farm, Va 95.11 51 P **P 05 12 16.7 +0.2**
baz=254
LRAL Lakeview Retre 95.12 57 P **P 05 12 16.0 -0.6**
baz=255
LRAL Lakeview Retre 95.12 57 P **P 05 12 16.4 -0.2**
baz=255
SONM Songino Array 95.22 318 P **P 05 12 16.9 -0.1**
comp=Z,1.4nm,0.8s,baz=101,slow=5.3,SNR=4.0
SONM LR LR 05 50 12.1
comp=Z,481nm,21.6s,baz=107,slow=32
comp=Z,1.4nm,0.8s

TIXI Tiksi 95.29 344 P **P 05 12 16.2 -0.2**
TIXI IAMs_20 IAMs_20 05 50 33.3
comp=Z,1μm,20.0s
TIXI Tiksi 95.29 344 P **P 05 12 16.3 -0.2**
TIXI pmax pmax
comp=Z,16nm,1.1s
JFWS Jewell Farm 95.32 47 IAMs_20 IAMs_20 05 51 32.8
comp=Z,1μm,19.0s
JFWS Jewell Farm 95.32 47 P **P 05 12 16.9 -0.4**
baz=254
JFWS Jewell Farm 95.32 47 P **P 05 12 16.8 -0.5**
baz=254,SNR=6.0
I40A Norwalk 95.33 46 P **P 05 12 17.3 -0.1**
baz=254,SNR=6.3
250A Grady 95.45 58 IAmb IAmb 05 12 21.7
comp=Z,46nm,1.1s
250A Grady 95.45 58 P **P 05 12 19.3 +1.1**
baz=255
X48A Hartselle 95.45 56 P **P 05 12 17.9 -0.2**
baz=255
L42A Oliver, Polo 95.48 48 P **P 05 12 17.7 -0.4**
baz=254,SNR=9.8
Y49A Blount Mountai 95.81 57 P **P 05 12 20.0 +0.2**
baz=255
EYMN Ely 95.90 42 IAMs_20 IAMs_20 05 53 00.3
comp=Z,1μm,18.0s
EYMN Ely 95.90 42 P **P 05 12 19.9 +0.1**
baz=254
T47A Sharon Grove 96.06 53 P **P 05 12 21.4 +0.5**
baz=255
SWET Sewanee 96.53 55 IAmb IAmb 05 12 25.7
comp=Z,24nm,1.2s
LVC Limon Verde 96.62 116 LR LR 05 48 12.8
comp=Z,365nm,18.3s,baz=245,slow=31
FPAL Fort Paine 96.62 56 IAmb IAmb 05 12 26.3
comp=Z,21nm,0.9s
L44A Lake County Fo 96.78 48 IAMs_20 IAMs_20 05 53 26.8
comp=Z,1μm,19.0s
L44A Lake County Fo 96.78 48 P **P 05 12 23.8 -0.2**
baz=255
152A Waverly Hall 96.89 58 IAmb IAmb 05 12 37.2
comp=Z,35nm,1.6s
SFIN Lafayette 96.92 50 P **P 05 12 25.9 +1.2**
baz=256
SFIN Lafayette 96.92 50 P **P 05 12 24.9 +0.2**
baz=256
COWI Conover 96.94 44 IAMs_20 IAMs_20 05 48 45.4
comp=Z,1μm,22.0s
COWI Conover 96.94 44 P **P 05 12 24.6 0.0**
baz=255
U49A Red Boiling Sp 96.97 54 IAmb IAmb 05 12 26.8
comp=Z,26nm,1.1s
U49A Red Boiling Sp 96.97 54 P **P 05 12 23.8 -1.2**
baz=256
WCI Wyandotte Cave 97.00 52 P **P 05 12 25.9 +0.8**
baz=256
X51A Calhoun 97.23 56 IAmb IAmb 05 12 28.7
comp=Z,24nm,1.1s
X51A Calhoun 97.23 56 P Pdif 05 12 26.3 0.0
baz=256
X51A P Pdif 05 12 26.3 0.0
baz=256
TIGA Tifton 97.53 60 P **P 05 12 27.5 -0.1**
baz=256
CPCT Cooper Cave 97.71 55 IAmb IAmb 05 12 31.3
comp=Z,27nm,1.3s
T50A Nancy 97.83 54 IAmb IAmb 05 12 40.1
comp=Z,28nm,1.6s
T50A Nancy 97.83 54 P Pdif 05 12 29.0 +0.1
baz=257
T50A P Pdif 05 12 29.0 +0.1
baz=257
R49A Shelbyville 97.87 53 IAmb IAmb 05 12 31.2
comp=Z,57nm,1.6s
R49A Shelbyville 97.87 53 P **P 05 12 28.9 -0.1**
baz=257
R49A P **P 05 12 28.9 -0.1**
baz=257
V51A Loudon 97.93 55 IAmb IAmb 05 12 31.4
comp=Z,48nm,1.4s
GOGA Godfrey 98.08 58 P **P 05 12 30.0 -0.1**
baz=257
O48B Farmland 98.33 51 IAMs_20 IAMs_20 05 53 35.3
comp=Z,1μm,20.0s
O48B Farmland 98.33 51 P **P 05 12 30.0 -1.1**
baz=257
TKL Tuckaleechee C 98.35 55 IAmb IAmb 05 12 32.7
comp=Z,35nm,1.4s
TKL Tuckaleechee C 98.35 55 LR LR 05 53 09.2
comp=Z,656nm,18.0s,baz=267,slow=33
P49A Miami Univ. Ec 98.50 51 IAMs_20 IAMs_20 05 54 45.7
comp=Z,1μm,18.0s
P49A Miami Univ. Ec 98.50 51 P Pdif 05 12 32.3 +0.5
baz=257
R50A Paris 98.51 53 IAmb IAmb 05 12 34.4
comp=Z,44nm,1.6s
V52A Sevierville 98.53 55 IAmb IAmb 05 12 32.9
comp=Z,23nm,1.3s
DWPF Disney Wildern 98.59 63 P Pdif 05 12 32.5 0.0
baz=257
TZTN Tazewell 98.73 55 P Pdif 05 12 33.4 +0.4
baz=257
BG3 Lake Jocassee 98.87 56 IAmb IAmb 05 12 45.1
comp=Z,20nm,1.3s
LPAZ La Paz 99.42 110 P **Pdif 05 12 39.0 +1.7**
comp=Z,4.6nm,1.2s,baz=259,slow=6.1,SNR=8.0
LPAZ LR LR 05 51 05.2
comp=Z,244nm,18.1s,baz=244,slow=32
comp=Z,4.6nm,1.2s
ROSC El Rosal 99.68 88 LR LR 05 48 30.4
comp=Z,257nm,20.3s,baz=233,slow=30
GLMI Grayling 99.73 46 P **Pdif 05 12 37.3 +0.1**
baz=258
AAM Ann Arbor 99.89 49 P **Pdif 05 12 38.8 +0.9**
baz=258
ACSO Alum Creek Sta 99.95 51 IAMs_20 IAMs_20 05 54 33.1
comp=Z,1μm,19.0s
KMSC Kings Mountain 100.18 56 P **Pdif 05 12 40.3 +0.9**
baz=258
P52A Corning 100.47 52 P **Pdif 05 12 41.5 +0.9**
baz=259
NHSC New Hope 100.71 59 P **Pdif 05 12 41.7 -0.1**
baz=258
GOMU GeErMu 100.74 305 Pdif **Pdif 05 12 51.0 +8.6**
O53A New Philadelph 101.28 51 P **Pdif 05 12 44.5 +0.3**
baz=259
BLA Blacksburg 101.32 54 IAMs_20 IAMs_20 05 54 58.8
comp=Z,1μm,19.0s
BLA Blacksburg 101.32 54 P **Pdif 05 12 44.5 0.0**
baz=259
CBN Corbin Frederi 103.87 54 IAMs_20 IAMs_20 05 56 10.3
comp=Z,1μm,19.0s
SDDR Presa de Saban 105.80 74 IAMs_20 IAMs_20 05 53 26.2
comp=Z,833nm,21.0s
WMQ Urumqi 107.26 312 *e*P **Pdif 05 13 12.0 +1.2**
WMQ LR LR
comp=Z,350nm,29.7s
ALE Alert 108.05 7 IAMs_20 IAMs_20 05 59 52.5
comp=Z,1μm,21.0s
TULEG Thule 108.38 14 IAMs_20 IAMs_20 05 55 26.4
comp=Z,1μm,21.0s
ZALV Zalesovo Beam 109.59 322 PKiKP **PKiKP 05 17 24.7 +1.0**
comp=Z,0.8nm,0.5s,baz=129,slow=0.9,SNR=2.0
MKAR Makanchi Array 111.21 315 PKiKP **PKiKP 05 17 26.4 -0.5**
comp=Z,1.3nm,0.6s,baz=128,slow=2.0,SNR=5.0
KURK Kurchatov 113.52 319 *i* PKIKP **PKiKP 05 17 31.2 0.0**
KURBB Kurchatov Arra 113.58 319 PKiKP **PKiKP 05 17 31.1 -0.1**
comp=Z,1.2nm,0.2s,baz=89,slow=1.7,SNR=11
KURBB PP **PP 05 18 25.6 +2.1**
comp=Z,0.9nm,0.2s,baz=92,slow=7.6,SNR=5.5
KURBB PKKPbc **PKKPbc 05 28 16.7 +0.2**
comp=Z,0.9nm,1.0s,baz=268,slow=4.3,SNR=4.9
NRN Naryn 115.81 309 **PKPdf 05 17 35.5 -0.8**
NRN Naryn 115.81 309 PKIKP **PKPdf 05 17 35.5 -0.8**
KSH Kashi 115.87 307 PKP **PKiKP 05 17 37.8 +1.6**
AAK Ala-Archa 116.88 310 *i* PKIKP **PKPdf 05 17 37.9 -0.2**
SPITS Spitsbergen Ar 117.23 358 PKP **PKPdf 05 17 37.2 -0.4**
comp=Z,9.7nm,0.9s,baz=48,slow=2.1,SNR=1.8
SUMG Summit 117.31 14 IAMs_20 IAMs_20 06 06 50.1
comp=Z,1μm,20.0s
BVAR Borovoye Array 118.25 322 PKP **PKPdf 05 17 39.8 -0.4**
comp=Z,2.8nm,0.7s,baz=119,slow=1.9,SNR=13
BRVK Borovoye 118.31 322 PKPdf **PKPdf 05 17 39.1 -1.2**
BRVK Borovoye 118.31 322 *c i* PKIKP **PKPdf 05 17 39.6 -0.7**
BRVK pmax pmax
comp=Z,30nm,2.5s
KKAR Karatay Array 119.75 311 PKPdf **PKPdf 05 17 41.9 -1.5**
KKAR Karatay Array 119.75 311 PKIKP **PKPdf 05 17 41.9 -1.5**

SVE Sverdlovsk 122.48 328 *i* PKIKP **PKiKP 05 17 48.5 +0.1**
SVE pmax pmax
comp=Z,34nm,1.5s
SVE MLR MLR
comp=Z,726nm,21.0s
ARU Arti 123.69 328 PKPdf **PKPdf 05 17 49.9 -0.6**
ARU Arti 123.69 328 *i* PKIKP **PKPdf 05 17 50.6 0.0**
ARU 05 19 32.2
ARU 05 24 59.4
ARU SP SP 05 29 24.1 -2.2
ARU SS **SS 05 36 13.0 -6.1**
LVZ Lovozero 124.77 348 IAMs_20 IAMs_20 06 04 07.7
comp=Z,1μm,22.0s
ARCES ARCESS Array B 124.86 352 PKP **PKPdf 05 17 52.2 -0.3**
comp=Z,4.4nm,0.8s,baz=4.4,slow=1.6,SNR=7.5
APA Apatity 125.31 348 ⇓ *i* PKIKP **PKiKP 05 17 54.4 +0.7**
APA pmax pmax
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 125.59 320 PKPdf **PKPdf 05 17 54.1 -0.3**
PRGR Permogore 126.45 338 *e*PKIKP **PKPdf 05 17 54.5 -1.2**
PRGR *e* 05 19 53.8
PRGR pmax pmax
comp=Z,8.0nm,0.4s
KIRV Kirov 126.88 334 *c i* PKIKP **PKiKP 05 17 57.0 0.0**
KLMR Klimovskoe 129.10 340 *e*PKPdf **PKPdf 05 17 58.8 -2.0**
KLMR AMP 05 18 02.7
comp=Z,86nm,1.6s
KLMR *e*PP **PP 05 20 04.2 -4.3**
KLMR LR LR 06 04 47.9
KLMR AMP 06 09 50.6
comp=Z,1μm,21.1s
KLMR Klimovskoe 129.10 340 *e*PKIKP **PKPdf 05 17 58.7 -2.0**
KLMR pmax pmax
comp=Z,86nm,1.6s
GEYT Alibeck 129.90 307 PKP **PKiKP 05 18 03.8 -0.1**
comp=Z,1.5nm,0.5s,baz=0.0,slow=4.4,SNR=8.5
BELG Belogornoye 131.23 328 *i* PKIKP **PKiKP 05 18 05.5 -0.5**
FINES FINESS Array B 132.22 348 PKP **PKPdf 05 18 06.1 -0.6**
comp=Z,5.7nm,1.0s,baz=325,slow=3.0,SNR=4.3
RCBR Riachuelo 132.52 113 IAMs_20 IAMs_20 06 12 31.7
comp=Z,651nm,18.0s
BOSA Boshof 132.61 202 PKIKP **PKiKP 05 18 11.0 +1.2**
BOSA Boshof 132.61 202 PKP **PKiKP 05 18 11.0 +1.2**
comp=Z,8.2nm,1.0s,baz=183,slow=3.6,SNR=5.7
MOS Moscow 133.57 337 *e*PKIKP **PKPdf 05 18 07.1 -2.2**
MOS pmax pmax
comp=Z,52nm,0.7s
OBN Obninsk 134.44 337 *e*PKIKP **PKiKP 05 18 12.3 -0.1**
OBN *e* 05 20 40.4
OBN pmax pmax
comp=Z,61nm,1.6s
NOA NORSAR Array B 134.53 357 PKP **PKPdf 05 18 11.1 0.0**
comp=Z,0.8nm,0.9s,baz=3.2,slow=1.6,SNR=2.0
VRH Novokhopyorsk 134.89 330 *e*PKIKP **PKPdf 05 18 11.4 -0.6**
VRH pmax pmax
comp=Z,11nm,0.6s
HFS Hagfors 135.27 355 PKP **PKiKP 05 18 14.9 +1.0**
comp=Z,3.5nm,0.9s,baz=112,slow=3.9,SNR=1.8
VORR Voronezh 135.78 332 *e*PKIKP **PKPdf 05 18 12.5 -1.1**
VORR pmax pmax
comp=Z,94nm,0.5s
NACGM Naroch 137.88 343 *e*PKP **PKPdf 05 18 16.7 -0.8**
comp=Z,30nm,1.3s,baz=30
MNK Minsk 137.91 342 *i* PKP **PKPdf 05 18 15.6 -1.9**
MNK *i* PKP **PKPdf 05 18 15.6 -1.9**
MNK *i* PKP **PKPdf 05 18 15.6 -1.9**
comp=Z,22nm,1.2s,baz=31
MNK *i* PP **PP 05 21 02.8 -1.8**
MNK *i* PPP PPP 05 24 02.5
MNK *i* SKS **SKSdf 05 25 22.5 -3.6**
MNK *i* SS **SS 05 39 11.2 -1.2**
MNK *i* SSS SSS 05 44 18.2
MNK *i* LQ LQ 06 11 51.6
MNK *i* LR LR 06 17 11.8
MNK *i* LRM MLR 06 20 01.0
comp=N,2μm,18.4s
MNK *i* LRM MLR 06 20 06.3
comp=E,822nm,19.0s
MNK *i* LRM MLR 06 21 41.4
comp=Z,738nm,26.9s
MNK Minsk 137.91 342 *i* PKIKP **PKPdf 05 18 15.5 -1.9**
MNK *i* 05 21 02.8
MNK *i* PPP PPP 05 24 02.5
MNK *i* 05 25 22.5
MNK *i* SS SS 05 39 11.2 -1.2
MNK *i* SSS SSS 05 44 18.2
MNK pmax pmax
comp=Z,22nm,1.2s
MNK MLR MLR
comp=N,2μm,18.0s
MNK MLR MLR
comp=E,822nm,19.0s
KIV Kislovodsk 138.57 320 *i* PKIKP **PKPdf 05 18 19.4 +0.2**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,501nm,24.0s
GNI Garni 139.06 314 IAMs_20 IAMs_20 06 19 16.4
comp=Z,610nm,22.0s
SOC Sochi 140.58 322 *i* PKIKP **PKiKP 05 18 24.2 -1.1**
SOC *e* 05 21 20.1
SOC *e*PPP PPP 05 24 25.3
SOC *e*SS SS 05 39 42.8 -2.2
SOC *e*SSS SSS 05 45 01.9
AKASG Malin Array Be 140.66 338 PKP **PKPdf 05 18 22.5 -0.1**
comp=Z,2.6nm,0.6s,baz=28,slow=1.7,SNR=21
AKASG PP **PP 05 21 18.6 -3.1**
comp=Z,0.2nm,0.2s,baz=30,slow=6.0,SNR=4.2
LSZ Lusaka 142.83 215 PKPdf **PKPdf 05 18 25.6 -2.2**
LSZ Lusaka 142.83 215 PKIKP **PKPdf 05 18 25.6 -2.2**
LSZ MLR MLR
comp=Z,1μm,18.0s
NRDL Niedersach Rie 143.11 357 *e*PKPdf **PKPdf 05 18 26.8 -0.1**
baz=5.4,slow=3.3
LVV L'vov 143.16 342 *e*PKIKP PKPbc 05 18 23.6 -0.5
FLTG Flechtingen 143.20 356 *e*PKPdf **PKPdf 05 18 26.5 -0.6**
baz=5.4,slow=3.3
KWP Kalwaria Pacla 143.72 343 PKPab 05 18 25.1 +0.2
KWP Kalwaria Pacla 143.72 343 PKIKP PKPab 05 18 25.1 +0.2
CLZ Clausthal 143.75 356 *e*PP **PP 05 21 44.2 +4.1**
OJC Ojcow 143.94 346 *e*PKiKP PKPbc 05 18 26.1 -0.2
OJC *e*L L 06 10 02.3
comp=Z,1μm,35.5s
OJC Ojcow 143.94 346 PKPdf PKPab 05 18 25.7 -0.1
OJC Ojcow 143.94 346 PKIKP PKPab 05 18 25.7 0.0
CLL Collm 144.06 354 IAMs_20 IAMs_20 06 29 50.8
comp=Z,551nm,18.0s
CLL Collm 144.06 354 *i* PKIKP **PKPdf 05 18 27.6 -1.1**
CLL *i* 05 18 33.1
CLL pmax pmax
comp=Z,66nm,1.9s
CLL MLR MLR
comp=Z,500nm,18.0s
CLL Collm 144.06 354 *i* PKPdf **PKPdf 05 18 27.6 -1.1**
comp=Z,66nm,1.9s
CLL *i* PKIKP **PKiKP 05 18 33.1 +0.9**
CLL *i* x x 05 18 37.4
CLL *e*PP **PP 05 21 44.0 +2.0**
CLL *e*SKPdf **SKPdf 05 22 01.0 -0.2**
CLL *e*SKPbc **SKiKP 05 22 08.0 +1.5**
CLL *e*SS SS 05 40 54.0 +30
CLL *e*SSS SSS 05 45 36.0
CLL AMS AMS 06 29 00.0
comp=Z,500nm,18.0s
GTTG Gottingen 144.07 357 *e*PKPbc PKPbc 05 18 27.0 +0.4
baz=5.4,slow=3.3
BUG Bochum--Univer 144.25 360 *e*PKPbc PKPbc 05 18 27.2 0.0
baz=5.4,slow=3.3
STHS Stebnicka Huta 144.32 344 *e*PKP **PKPab 05 18 27.3 +0.1**
STHS Stebnicka Huta 144.32 344 *e*PKIKP **PKPab 05 18 27.3 +0.1**
OSTC Ostas 144.34 350 *e*PKP PKPbc 05 18 27.9 +0.3
OSTC AMS AMS 06 17 40.0
comp=Z,900nm,20.3s
OSTC Ostas 144.34 350 *e*PKIKP PKPbc 05 18 27.9 +0.3
OSTC MLR MLR
comp=Z,900nm,20.3s
BRG Berggiesshubel 144.37 352 *e*PKIKP **PKPdf 05 18 30.5 +1.3**
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG MLR MLR
comp=E,318nm,20.3s
BRG MLR MLR
comp=N,444nm,25.8s
BRG MLR MLR
comp=Z,667nm,24.3s

BRG	Berggiesshubel	144.37	352	ePKPbc	PKPdf	05 18 28.5	-0.8
	baz=5.4,slow=3.3						
BRG	Berggiesshubel	144.37	352	ePKP	PKPdf	05 18 30.5	+1.3
BRG				Amp		05 18 36.3	
	comp=Z,9.8nm,1.1s						
UPC	Upice	144.43	350	ePKP	PKPbc	05 18 28.2	+0.4
UPC				AMS	AMS	06 17 50.0	
	comp=Z,1μm,25.4s						
UPC	Upice	144.43	350	ePKIKP	PKPbc	05 18 28.2	+0.4
UPC				MLR	MLR		
	comp=Z,1μm,25.4s						
KIBK	Kibwezi	144.45	243		PKPdf	05 18 30.2	-0.4
KASTN	Kahler Asten	144.47	358	ePKPbc	PKPbc	05 18 28.0	0.0
	baz=5.4,slow=3.3						
KOLS	Kolonicke sedl	144.47	343	ePKP	PKPbc	05 18 28.4	+0.4
KOLS	Kolonicke sedl	144.47	343	ePKIKP	PKPbc	05 18 28.4	+0.4
DPC	Dobruska-Polom	144.52	350	ePKP	PKPbc	05 18 28.5	+0.3
DPC				AMS	AMS	06 18 00.0	
	comp=Z,1μm,28.3s						
DPC	Dobruska-Polom	144.52	350	ePKIKP	PKPbc	05 18 28.5	+0.3
DPC				MLR	MLR		
	comp=Z,1μm,28.3s						
NIE	Niedzica	144.56	345	ePKiKP	PKPdf	05 18 29.3	-0.4
NIE				eL	L	06 12 20.6	
	comp=Z,798nm,29.1s						
PVCC	Panska Ves	144.63	352	ePKP	PKPdf	05 18 29.6	-0.1
PVCC				AMS	AMS	06 15 50.0	
	comp=Z,800nm,21.7s						
PVCC	Panska Ves	144.63	352	ePKIKP	PKPdf	05 18 29.6	-0.1
PVCC				MLR	MLR		
	comp=Z,800nm,21.7s						
OKC	Ostrava-Krasne	144.66	347	ePKP	PKPbc	05 18 28.7	+0.1
OKC				AMS	AMS	06 17 10.0	
	comp=Z,900nm,21.7s						
OKC	Ostrava-Krasne	144.66	347	ePKIKP	PKPbc	05 18 28.7	+0.1
OKC				MLR	MLR		
	comp=Z,900nm,21.7s						
BURAR	Bucovina Array	144.68	338	⇓P	PKPdf	05 18 30.0	0.0
BURAR	Bucovina Array	144.68	338	⇓PKIKP	PKPdf	05 18 30.0	0.0
HSKC	Hora Svate Kat	144.70	353	ePKP	PKPdf	05 18 30.0	+0.1
HSKC				AMS	AMS	06 16 20.0	
	comp=Z,600nm,20.2s						
KRLC	Kraliky	144.71	349	ePKP	PKPbc	05 18 28.9	+0.1
KRLC				AMS	AMS	06 18 30.0	
	comp=Z,1μm,26.1s						
KRLC	Kraliky	144.71	349	ePKIKP	PKPbc	05 18 28.9	+0.1
KRLC				MLR	MLR		
	comp=Z,1μm,26.1s						
CRVS	Cervenica-Dubn	144.73	343	ePKP	PKPdf	05 18 29.4	-0.6
CRVS	Cervenica-Dubn	144.73	343	ePKIKP	PKPdf	05 18 29.4	-0.6
UBBA	Unterbreizbach	144.79	357	ePKPbc	PKPdf	05 18 29.3	-0.5
	baz=5.4,slow=3.3						
MORC	Moravsky Berou	144.85	348	⇓P	PKPbc	05 18 29.2	0.0
MORC	Moravsky Berou	144.85	348	ePKP	PKPab	05 18 29.1	-0.1
MORC	Moravsky Berou	144.85	348	⇓PKIKP	PKPbc	05 18 29.2	0.0
MOX	Moxa	144.85	355	ePKPbc	PKPbc	05 18 29.6	+0.4
	baz=5.4,slow=3.3						
MOX				eL	L	06 16 09.3	
	comp=Z,560nm,21.8s						
BEBN	Eben Emael	144.88	1	dPKP	PKPbc	05 18 29.1	-0.1
ATD	Arta Tunnel	144.90	268	eP	PKPdf	05 18 31.5	+0.2
ATD	Arta Tunnel	144.90	268	eP	PKPdf	05 18 31.5	+0.2
	baz=349						
PLN	Plauen	144.96	354	ePKPbc	PKPdf	05 18 30.0	-0.3
	baz=5.4,slow=3.3						
WERD	Werda	144.98	354	ePKPbc	PKPdf	05 18 30.0	-0.4
	baz=5.4,slow=3.3						
WERD				ePP	PP	05 21 52.8	+5.2
LANS	Liptovska Anna	145.01	346	ePKP	PKPdf	05 18 31.1	+0.6
LANS	Liptovska Anna	145.01	346	ePKIKP	PKPdf	05 18 31.1	+0.6
GUNZ	Gunzen	145.06	354	ePKPbc	PKPdf	05 18 30.3	-0.2
	baz=5.4,slow=3.3						
GUNZ				ePP	PP	05 21 53.2	+5.2
TESR	Tescani	145.08	336	⇓P	PKPbc	05 18 30.0	-0.1
MEM	Membach	145.08	1	dPKP	PKPbc	05 18 29.3	-0.6
PRA	Prague	145.09	352	ePKP	PKPdf	05 18 31.9	+1.4
PRA				AMS	AMS	06 16 20.0	
	comp=Z,1μm,27.8s						
PRA	Prague	145.09	352	ePKIKP	PKPdf	05 18 31.9	+1.4
PRA				MLR	MLR		
	comp=Z,1μm,27.8s						
BSTI	Sart Tilman	145.09	2	dPKPdf	PKPab	05 18 30.0	0.0
BTNL	Ternell	145.10	1	dPKP	PKPbc	05 18 29.1	-0.9
TRPA	Tarpa	145.11	342	⇑P	PKPbc	05 18 29.9	-0.1
WERN	Wernitzgruen	145.13	354	ePKPbc	PKPdf	05 18 30.7	0.0
	baz=5.4,slow=3.3						
WERN				ePP	PP	05 21 53.9	+5.5
AHRW	Bad Neuenahr-A	145.16	360	ePKPbc	PKPdf	05 18 30.8	+0.2
	baz=5.4,slow=3.3						
PRU	Pruhonice	145.16	351	ePKP	PKPab	05 18 30.3	+0.1
PRU				AMS	AMS	06 16 20.0	
	comp=Z,1μm,27.8s						
PRU	Pruhonice	145.16	351	ePKIKP	PKPab	05 18 30.3	+0.1
PRU				MLR	MLR		
	comp=Z,1μm,27.8s						
NKC	Novy Kostel	145.18	354	ePKP	PKPbc	05 18 30.2	-0.1
NKC				AMS	AMS	06 17 50.0	
	comp=Z,500nm,22.0s						
NKC	Novy Kostel	145.18	354	ePKIKP	PKPbc	05 18 30.2	-0.1
NKC				MLR	MLR		
	comp=Z,500nm,22.0s						
MAUC	Maruska	145.18	348	ePKP	PKPdf	05 18 31.2	+0.5
MAUC				AMS	AMS	06 17 30.0	
	comp=Z,2μm,22.6s						
GOPC	GO Pecny, Ondr	145.19	351	ePKP	PKPbc	05 18 30.1	-0.2
GOPC				AMS	AMS	06 16 30.0	
	comp=Z,1μm,24.1s						
GOPC	GO Pecny, Ondr	145.19	351	ePKIKP	PKPbc	05 18 30.1	-0.2
GOPC				MLR	MLR		
	comp=Z,1μm,24.1s						
SCTR	Scanteiesti	145.20	334	⇓P	PKPdf	05 18 31.9	+1.1
BMR	Baia Mare	145.22	340	⇓P	PKPdf	05 18 31.5	+0.7
BMR	Baia Mare	145.22	340	⇓PKIKP	PKPdf	05 18 31.5	+0.7
TLCR		145.23	332	⇓P	PKPdf	05 18 31.3	+0.4
TLCR		145.23	332	⇓PKIKP	PKPdf	05 18 31.3	+0.4
BCLA	Clavier	145.25	2	dPKP	PKPbc	05 18 29.6	-0.8
BGES	Gesves	145.28	2	dPKP	PKPbc	05 18 30.1	-0.4
BHOU	Houvegnez	145.33	1	dPKP	PKPbc	05 18 30.6	-0.1
BMRD	Maredsous	145.35	2	dPKP	PKPbc	05 18 29.5	-1.2
SLCR	Slobozia Conac	145.37	334	⇓P	PKPab	05 18 31.8	+0.6
KECS	Kecovo	145.38	344	ePKP	PKPab	05 18 32.1	+1.0
KECS	Kecovo	145.38	344	ePKIKP	PKPab	05 18 32.2	+1.1
PANC	Panciu	145.40	335	⇓P	PKPab	05 18 32.7	+1.5
IZVR	Izvoarele	145.41	334	⇓P	PKPab	05 18 32.9	+1.7
SCHL	Schela	145.41	334	⇓P	PKPab	05 18 32.7	+1.4
ARCR	ARCALIA	145.44	339	⇑P	PKPab	05 18 32.2	+0.8
TNS	Taunus Mts	145.45	358	ePKPbc	PKPab	05 18 31.8	+0.4
	baz=5.4,slow=3.3						
MANZ	Manzenberg	145.46	354	ePKPbc	PKPab	05 18 31.9	+0.5
	baz=5.4,slow=3.3						
VRAC	Vranov	145.48	349	⇑P	PKPab	05 18 31.4	0.0
VRAC	Vranov	145.48	349	ePKP	PKPab	05 18 31.3	-0.2
VRAC	Vranov	145.48	349	⇑PKIKP	PKPab	05 18 31.4	0.0
RCHB	Rochefort	145.51	2	dPKP	PKPab	05 18 31.3	-0.2
ODBI	Odobesti	145.52	335	⇑P	PKiKP	05 18 33.8	-1.5
CFR	Carcaliu	145.54	333	⇓P	PKPab	05 18 32.6	+0.8
CFR	Carcaliu	145.54	333	⇓PKIKP	PKPab	05 18 32.6	+0.8
DOU	Dourbes	145.55	3	dPKP	PKPdf	05 18 31.2	-0.1
VRI	Vrincioaia	145.57	335	⇑P	PKPab	05 18 32.0	+0.1
VRI	Vrincioaia	145.57	335	⇑PKIKP	PKPab	05 18 32.0	+0.1
PLOR	Plostina	145.62	335	⇓P	PKPab	05 18 32.7	+0.6
PLOR	Plostina	145.62	335	⇓PKIKP	PKPab	05 18 32.7	+0.6
ROTZ	Rotzenmuhle	145.66	354	ePKPbc	PKPab	05 18 32.7	+0.5
	baz=5.4,slow=3.3						
TPGR	Topolog	145.66	333	⇓P	PKPab	05 18 32.6	+0.3
TREC	Trest	145.69	350	ePKP	PKPab	05 18 32.1	-0.1
TREC				AMS	AMS	06 21 00.0	
	comp=Z,1μm,18.3s						
TREC	Trest	145.69	350	ePKIKP	PKPab	05 18 32.1	-0.1
TREC				MLR	MLR		
	comp=Z,1μm,18.3s						
JAVC	Velka Javorina	145.69	347	ePKP	PKPab	05 18 33.2	+0.9
ZVC	Zvikov	145.74	352	ePKP	PKPab	05 18 32.3	-0.1
ZVC				AMS	AMS	06 21 30.0	
	comp=Z,1μm,23.3s						
KMBO	Kilima Mbogo	145.75	244	eP	PKPab	05 18 34.2	+0.3
KMBO	Kilima Mbogo	145.75	244	eP	PKPab	05 18 34.2	+0.3
	baz=237						
KRUC	Moravsky	145.75	349	ePKP	PKPbc	05 18 31.9	-0.2
OZUR		145.75	336	⇑P	PKPab	05 18 33.0	+0.4
VYHS	Vyhne	145.78	346	ePKP	PKPab	05 18 33.1	+0.5
VYHS				e		05 57 27.4	
VYHS	Vyhne	145.78	346	ePKIKP	PKPab	05 18 33.1	+0.5
COVR	Voineasa-Covas	145.80	336	⇓P	PKPab	05 18 33.5	+0.7
GRA1	Grafenberg Arr	145.83	355	IAMs_20	IAMs_20	06 29 32.8	
	comp=Z,702nm,20.0s						
GRF	Grafenberg Arr	145.83	355	ePKPbc	PKPab	05 18 33.4	+0.6
	baz=5.4,slow=3.3						
GRF				eL	L	06 29 15.2	
	comp=Z,612nm,18.7s						
GRFO	Grafenberg	145.83	355		PKPab	05 18 32.5	-0.2
GRFO				IAMs_20	IAMs_20	06 29 21.8	
	comp=Z,729nm,19.0s						
GRFO	Grafenberg	145.83	355	PKP2	PKPab	05 18 32.5	-0.2
MESR	Meseseni	145.85	340	⇓P	PKPab	05 18 34.0	+1.1
HARR	Harsova	146.01	333	⇓P	PKPab	05 18 33.7	+0.1
HARR	Harsova	146.01	333	⇓PKP2	PKPab	05 18 33.7	+0.1
DOPR	Dopca	146.01	337	⇓P	PKPab	05 18 34.0	+0.4
CJR	Cluj-Napoca	146.02	339	⇓P	PKPab	05 18 34.6	+0.9
CJR	Cluj-Napoca	146.02	339	⇓PKP2	PKPab	05 18 34.6	+0.9
WLF	Walferdange	146.03	1	IAMs_20	IAMs_20	06 21 37.5	
	comp=Z,768nm,21.0s						
WLF	Walferdange	146.03	1	dPKP	PKPab	05 18 33.5	+0.1
WLF	Walferdange	146.03	1	ePKPbc	PKPab	05 18 34.1	+0.6
	baz=5.4,slow=3.3						
PSZ	Piszkesteto	146.05	344	⇓P	PKPab	05 18 33.6	-0.1
PSZ	Piszkesteto	146.05	344	IAMs_20	IAMs_20	06 26 16.2	
	comp=Z,592nm,20.0s						
PSZ	Piszkesteto	146.05	344	⇓PKP2	PKPab	05 18 33.6	-0.1
SMOL	Smolenice	146.07	347	ePKP2	PKPab	05 18 34.4	+0.7
TLBR	Topalu	146.07	333	⇓P	PKPab	05 18 34.5	+0.7
NEHR	Nehoiu	146.11	335	⇑P	PKPab	05 18 34.9	+0.9
KHC	Kasperske Hory	146.13	352	ePKP	PKPdf	05 18 32.7	+0.3
KHC				ex	x	05 18 53.0	
KHC				AMS	AMS	06 18 10.0	
	comp=Z,1μm,30.2s						
KHC	Kasperske Hory	146.13	352	ePKP2	PKPdf	05 18 32.7	+0.3
KHC				MLR	MLR		
	comp=Z,1μm,30.2s						
MFTR	Murfatlar	146.19	332	⇑P	PKPab	05 18 34.5	+0.3
MLR	Muntele Rosu	146.19	336	⇓P	PKPbc	05 18 33.8	0.0
MLR	Muntele Rosu	146.19	336	⇓PKP2	PKPbc	05 18 33.8	0.0
WET	Wettzell	146.20	353	ePKPdf	PKPbc	05 18 33.3	-0.2
	baz=5.4,slow=3.3						
WET				ePKPbc	PKPab	05 18 34.6	+0.4
	baz=5.4,slow=3.3						
MARR	Marisel-Cluj	146.22	340	⇑P	PKPbc	05 18 33.3	-0.4
MODS	Modra-Piesok	146.24	348	ePKP	PKPab	05 18 34.9	+0.6
MODS	Modra-Piesok	146.24	348	ePKP2	PKPab	05 18 34.9	+0.6
ISR	Istrita	146.26	335	⇓P	PKPab	05 18 34.6	0.0
ISR	Istrita	146.26	335	⇓PKP2	PKPab	05 18 34.6	0.0
BORR	Bors	146.27	342	⇑P	PKPab	05 18 35.1	+0.6
CKRC	Cesky Krumlov	146.33	351	ePKP	PKPbc	05 18 33.5	-0.4
CKRC	Cesky Krumlov	146.33	351	ePKP2	PKPbc	05 18 33.5	-0.4
AMRR	Amara	146.33	333	⇓P	PKPab	05 18 35.8	+1.0
AMRR	Amara	146.33	333	⇓PKP2	PKPab	05 18 35.8	+1.0
MANR	Mangalia	146.39	331	⇑P	PKPab	05 18 35.3	+0.3
GEC2	GERESS Array S	146.39	352	ePKPdf	PKPbc	05 18 33.6	-0.6
	baz=5.4,slow=3.3						
GEC2				ePKPbc	PKPab	05 18 34.9	-0.1
	baz=5.4,slow=3.3						
GERES	GERESS Array B	146.39	352	PKPbc	PKPbc	05 18 34.2	0.0
	comp=Z,43nm,1.2s,baz=26,slow=3.4,SNR=53						
ZST	Bratislava	146.44	348	ePKP	PKPab	05 18 35.3	+0.2
ZST	Bratislava	146.44	348	ePKP2	PKPab	05 18 35.3	+0.2
BRTR	Keskin Array B	146.53	321	PKPbc	PKPbc	05 18 35.2	+0.2
	comp=Z,36nm,1.1s,baz=114,slow=1.6,SNR=46						
VOIR		146.59	337	⇑P	PKPab	05 18 35.5	-0.4
VOIR		146.59	337	⇑PKP2	PKPab	05 18 35.5	-0.4
LEHL	Lehliu	146.66	334	⇑P	PKiKP	05 18 36.9	-0.8
PSN	Preselentsi	146.74	331	P	PKPab	05 18 36.6	+0.2
ARR	Arges	146.81	337	⇑P	PKPab	05 18 37.1	+0.4
STU	Stuttgart	146.87	357	IAMs_20	IAMs_20	06 22 19.6	
	comp=Z,770nm,20.0s						
STU	Stuttgart	146.87	357	ePKPbc	PKPab	05 18 36.4	-0.3
	baz=5.4,slow=3.3						
CONA	Conrad Observa	146.94	349	i PKP	PKPdf	05 18 34.1	+0.2
	comp=Z,118nm,1.5s,SNR=36						
ANTO	Ankara	146.95	322	⇓P	PKPab	05 18 37.7	+0.2
ANTO	Ankara	146.95	322	⇓PKP2	PKPab	05 18 37.7	+0.2
DEV	Deva	146.98	339	⇓P	PKPab	05 18 37.5	+0.2
DEV	Deva	146.98	339	⇓PKP2	PKPab	05 18 37.5	+0.2
SIRR	Siria	147.05	341	⇑P	PKPbc	05 18 35.8	-0.3
RONA	Rosalia, Austr	147.08	348	i PKP	PKPdf	05 18 34.5	+0.5
	comp=Z,108nm,1.3s,SNR=29						
MOA	Molln	147.28	351	i PKP	PKPdf	05 18 34.5	+0.1
	comp=Z,110nm,1.3s,SNR=34						
FUR	Furstenfeldbru	147.34	355	ePKPdf	PKPdf	05 18 35.2	+0.8
	baz=5.4,slow=3.3						
FUR				ePKPbc	PKPbc	05 18 37.6	+0.8
	baz=5.4,slow=3.3						
BFO	Black Forest	147.35	358		PKPdf	05 18 34.5	0.0
BFO	Black Forest	147.35	358	PKIKP	PKPdf	05 18 34.5	0.0
BFO	Black Forest	147.35	358	ePKPdf	PKPdf	05 18 35.0	+0.6
	baz=5.4,slow=3.3						
BFO				ePKPbc	PKPab	05 18 37.8	-0.9
	baz=5.4,slow=3.3						
SURR	Surduc	147.35	340	⇑P	PKPbc	05 18 37.5	+0.6
GZR	Gura Zlata	147.45	339	⇓P	PKPbc	05 18 36.0	-1.3
GZR	Gura Zlata	147.45	339	⇓PKIKP	PKPbc	05 18 36.0	-1.3
ECH	Echery	147.48	360	IAMs_20	IAMs_20	06 19 09.9	
	comp=Z,795nm,22.0s						
RAZG	Razgrad	147.53	333	⇑P	PKPab	05 18 39.5	-0.1
BIOA	Bad Ischl, Aus	147.53	352	i PKP	PKPdf	05 18 34.6	-0.2
	comp=Z,87nm,1.8s,SNR=21						
COPA	Copaceanca	147.61	335	⇓P	PKiKP	05 18 39.1	-0.6
BZS	Buzias	147.64	341	⇑P	PKPab	05 18 39.8	-0.1
BZS	Buzias	147.64	341	⇑PKP2	PKPab	05 18 39.8	-0.1
LOZB	Loznitsa	147.65	333	⇓P	PKPbc	05 18 38.2	+0.4
ARSA	Arzberg	147.65	349	i PKP	PKPdf	05 18 34.5	-0.5
	comp=Z,76nm,1.5s,SNR=17						
UBR	Ueberruh	147.91	356	ePKPdf	PKPdf	05 18 36.0	+0.6
	baz=5.4,slow=3.3						
UBR				ePKPbc	PKPbc	05 18 39.2	+0.8
	baz=5.4,slow=3.3						
LESA	Schwarzleotal	147.92	353	ePKP	PKPdf	05 18 35.4	-0.1
	comp=Z,104nm,1.4s						
SRE	Strehaia	147.94	338	⇓P	PKiKP	05 18 39.9	-0.5
SRE	Strehaia	147.94	338	⇓PKP2	PKiKP	05 18 39.9	-0.5
MORH	Mrgy, Hungar	147.95	345	⇑P	PKPdf	05 18 35.8	+0.3
DILA	Dilla	147.96	257	eP	PKiKP	05 18 41.4	-0.2
DILA	Dilla	147.96	257	eP	PKiKP	05 18 41.4	-0.2
	baz=295						
SZH	Strazhitsa	148.00	333	P	PKPbc	05 18 39.4	+0.7
RETA	Reutte	148.06	355	i PKP	PKPdf	05 18 35.5	-0.2
	comp=Z,74nm,1.7s,SNR=19						
WATA	Walderalm	148.13	354	i PKP	PKPdf	05 18 36.0	0.0
	comp=Z,93nm,1.4s,SNR=18						
MOTA	Moosalm	148.17	355	i PKP	PKPdf	05 18 35.9	-0.1
	comp=Z,73nm,1.3s,SNR=16						
DJES	Djerdap	148.18	339	⇓P	PKiKP	05 18 40.3	-0.6
WTTA	Wattenberg	148.20	354	i PKP	PKPdf	05 18 36.3	+0.2
	comp=Z,69nm,1.3s,SNR=13						
SQTA	Sankt Quirin	148.28	354	i PKP	PKPdf	05 18 36.1	0.0
	comp=Z,64nm,1.6s,SNR=12						
SOKA	Soboth	148.29	349	i PKP	PKPdf	05 18 35.9	-0.3
	comp=Z,89nm,1.5s,SNR=31						
FURI	Furi	148.32	262	IAMs_20	IAMs_20	06 24 59.7	
	comp=Z,511nm,20.0s						
FURI	Furi	148.32	262	eP	PKiKP	05 18 43.0	+0.6
FURI	Furi	148.32	262	eP	PKiKP	05 18 43.0	+0.6
	baz=313						
DAVA	Damuels	148.32	356	i PKP	PKPdf	05 18 36.3	+0.1
	comp=Z,72nm,1.8s,SNR=19						
PERS	Pernice	148.32	349	i PKPbc	PKPbc	05 18 39.0	-0.5
MDVR	Moldovita	148.35	340	⇑P	PKPbc	05 18 40.4	+0.7
JMB	Yambol	148.37	332	P	PKPbc	05 18 39.9	+0.2
FETA	Feichten	148.52	355	i PKP	PKPdf	05 18 36.9	+0.3
	comp=Z,58nm,1.7s,SNR=11						
OBKA	Obir	148.54	350	ePKP	PKPdf	05 18 36.4	-0.1
	comp=Z,35nm,1.4s						
OBKA	Obir	148.54	350	eP	PKPdf	05 18 38.0	+1.4
MYKA	Terra Mystica	148.57	351	i PKP	PKPdf	05 18 36.3	-0.3
	comp=Z,59nm,1.3s,SNR=15						
ABTA	Abfaltersbach	148.61	353	i PKP	PKPdf	05 18 36.4	-0.3
	comp=Z,60nm,1.2s,SNR=11						
FRGS	Fruska Gora	148.61	342	⇑P	PKPbc	05 18 40.1	-0.2
FRGS	Fruska Gora	148.61	342	eP	PKPdf	05 18 36.5	-0.1
MPEP	Malo Peshtene	148.85	336	P	PKPbc	05 18 41.2	+0.3
CADS	Cadrg	148.95	351	i PKPdf	PKPdf	05 18 36.1	-1.1
CADS				i PKPbc	PKPbc	05 18 40.2	-0.9
MMAI	Mount Meron Ar	148.96	309	PKPbc	PKiKP	05 18 42.9	-0.1
	comp=Z,14nm,0.8s,baz=100,slow=2.0,SNR=9.5						
LJU	Ljubljana	149.00	350	i PKPdf	PKPdf	05 18 37.4	+0.2
LJU				i PKPbc	PKPbc	05 18 41.1	-0.1
CRES	Cresnjev	149.04	348	eP	PKPdf	05 18 37.0	-0.3
DIM	Dimitrovgrad	149.15	332	P	PKiKP	05 18 42.5	-0.5
TUE	Stuetta	149.16	357	IAMs_20	IAMs_20	06 20 08.1	
	comp=Z,935nm,22.0s						
TEKS	Tekeris	149.24	342	eP	PKPbc	05 18 41.4	-0.5
CEY	Cerknica	149.31	350	eP	PKPbc	05 18 41.1	-1.0
BOVS	Bovan	149.36	339	⇑P	PKPbc	05 18 42.2	0.0
PGB	Panagyurishte	149.38	335	P	PKPbc	05 18 42.2	-0.1
BOJS	Bojanci	149.39	349	eP	PKPdf	05 18 38.4	+0.6
CSS	Mathiatis	149.49	314	PKPdf	PKPdf	05 18 37.4	-0.9
A051A	Mrakovica	149.50	346	eP	PKPbc	05 18 41.3	-1.3
DIVS	Divibare	149.51	341	eP	PKPdf	05 18 40.2	+2.0
LODK	Lodwar	149.53	249	eP	PKPdf	05 18 40.2	+1.2
LODK	Lodwar	149.53	249	eP	PKPdf	05 18 40.2	+1.2
	baz=269						
SKDS	Skadanscina	149.57	350	eP	PKPbc	05 18 41.7	-1.0
GHAJ	Ghor Haditha	149.58	306	IAMs_20	IAMs_20	06 28 24.5	
	comp=Z,637nm,21.0s						
KDZ	Kurdzhali	149.59	332	P	PKPbc	05 18 43.0	+0.1
VTS	Vitosha	149.67	336	⇑P	PKiKP	05 18 44.0	-0.2
VTS	Vitosha	149.67	336	P	PKPbc	05 18 43.5	+0.3
VTS	Vitosha	149.67	336	⇑PKP2	PKiKP	05 18 44.0	-0.2
BLY	Banja Luka	149.69	345	eP	PKPdf	05 18 38.0	-0.3
RZN	Rozhen	149.81	333	P	PKPbc	05 18 43.0	-0.6
BBLS	Lazići	149.90	342	eP	PKPbc	05 18 43.5	-0.1
RUDO	Rudo	150.14	342	eP	PKPbc	05 18 43.4	-0.7
SJES	Sjenica	150.27	341	eP	PKPdf	05 18 39.8	+0.3
MMB	Musomishta	150.35	334	P	PKPbc	05 18 44.8	0.0
KKB	Krupnik	150.36	335	P	PKiKP	05 18 45.1	-0.4
PGAV	Gavieira, Arco	150.64	24	ePKPdf	PKPdf	05 18 40.7	+0.7
PGAV	Gavieira, Arco	150.64	24	ePKPab	PKPab	05 18 52.4	+0.1
PGAV	Gavieira, Arco	150.64	24	eLR	LR	06 08 43.9	
	comp=Z,759nm,22.0s						
BNI	Bardonecchia	150.65	0	IAMs_20	IAMs_20	06 22 04.7	
	comp=Z,801nm,22.0s						
ELL	Elmali	150.68	320	PKPdf	PKPdf	05 18 40.0	-0.3
ELL	Elmali	150.68	320	PKiKP	PKPdf	05 18 40.0	-0.3
STIP	Stip	150.86	336	i P	PKPdf	05 18 39.9	-0.3
SKO	Skopje	150.91	337	i P	PKPdf	05 18 41.3	+1.0
BRY	Bratogost	151.04	342	eP	PKPbc	05 18 46.3	-0.2
PTO	Porto	151.21	25	ePKPdf	PKPdf	05 18 41.7	+0.9
PDG	Podgorica	151.25	341	⇓P	PKPbc	05 18 46.3	-0.5
PDG	Podgorica	151.25	341	IAMs_20	IAMs_20	06 23 43.7	
	comp=Z,922nm,22.0s						
PDG	Podgorica	151.25	341	eP	PKPbc	05 18 45.1	-1.7
STON	Ston	151.31	343	eP	PKPdf	05 18 43.3	+2.4
POLO	Lamas de Olo	151.33	24	ePKPbc	PKiKP	05 18 47.7	+0.1
POLO	Lamas de Olo	151.33	24	ePKPab	PKPab	05 18 53.8	-1.4
PBRG	Braganca	151.34	22	ePKPab	PKPab	05 18 53.3	-1.8
PVRL	Vila Real	151.44	24	ePKPdf	PKPdf	05 18 42.1	+0.9
PVRL	Vila Real	151.44	24	ePKPab	PKPab	05 18 53.8	-1.8
DRME	Dracevica, Mon	151.49	341	eP	PKPdf	05 18 41.0	-0.2
MBAR	Mbarara	151.51	238	IAMs_20	IAMs_20	06 26 04.6	
	comp=Z,764nm,19.0s						
MVO	Moncorvo	151.80	23	ePKPbc	PKiKP	05 18 48.7	+0.1

*BGR **31** 04:59:06.9±0.4, 45°.85N×11°.04E, h10km, ML3.1/20, Error ellipse: s-maj=8.9km s-min=5.6km az=158.0*
*STR **31** 04:59:06.4±1.1, 46°N±4°×1°1E±°, h10km, MLv3.4/27, Error ellipse: s-maj=0.0km s-min=0.0km az=88.5, preliminary*
ISC 31 04:59:04.1±0.8, **45°.82N**±0°.01×**10°.92E**±0°.01, **h11**km±4km, **n258**, σ1°**83**/330, **9C-17D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VARA	**Varagna**	**0.02**	**290**	⇑P	e	**Pg**	**Pg**	**04 59 06.1**	**-0.3**
VARA					e	Sg	**Sg**	**04 59 07.2**	**-0.7**
VARA	**Varagna**	**0.02**	**290**	⇑P		**P**	**Pg**	**04 59 06.1**	**-0.3**
VARA						S	**Sg**	**04 59 07.2**	**-0.7**
VARA						AML	AML		
VARA						AML	AML		
VARA						AML	AML		
VARA						AML	AML		
LUSI	**Trento, Gardas**	**0.14**	**7**	⇓P		**Pg**	**Pg**	**04 59 07.4**	**-0.1**
LUSI						S	**Sg**	**04 59 09.4**	**-0.6**
LUSI						AML	AML		
LUSI						AML	AML		
LUSI						AML	AML		
LUSI						AML	AML		
LUSI						AML	AML		
BALD	**Monte Baldo**	**0.15**	**207**	⇓e	P	**Pg**	**Pg**	**04 59 08.0**	**+0.2**
BALD					e	Sg	**Sg**	**04 59 10.6**	**+0.2**
BALD	**Monte Baldo**	**0.15**	**207**	⇓P		**Pg**	**Pg**	**04 59 08.0**	**+0.2**
BALD						S	**Sg**	**04 59 10.6**	**+0.2**
DOSS	**Dosso del Somm**	**0.20**	**72**	⇑e	P	**Pg**	**Pg**	**04 59 08.6**	**+0.1**
DOSS					e	Sg	**Sg**	**04 59 11.6**	**0.0**
DOSS	**Dosso del Somm**	**0.20**	**72**	⇑P		**Pg**	**Pg**	**04 59 08.6**	**+0.1**
DOSS						S	**Sg**	**04 59 12.0**	**+0.5**
DOSS						AML	AML		
	comp=N,14600μm,0.5s								
DOSS						AML	AML		
	comp=E,15250μm,0.5s								
DOSS						AML	AML		
	comp=E,10200μm,0.5s								
DOSS						AML	AML		
	comp=N,10600μm,0.5s								
DOSS						AML	AML		
	comp=N,14617μm,0.5s								
DOSS						AML	AML		
	comp=N,10585μm,0.5s								
DOSS						AML	AML		
	comp=E,10207μm,0.5s								
DOSS						AML	AML		
	comp=E,11174μm,0.3s								
DOSS						AML	AML		
	comp=N,14617μm,1.5s								
DOSS						AML	AML		
	comp=N,10585μm,1.5s								
DOSS						AML	AML		
	comp=E,10207μm,1.5s								
ROVR	**Rover Verones**	**0.20**	**148**	⇓P		**Pg**	**Pg**	**04 59 08.9**	**+0.3**
ROVR						AML	AML		
	comp=E,10660μm,0.2s								
ROVR						AML	AML		
	comp=N,17550μm,0.9s								
ROVR						AML	AML		
	comp=E,4015μm,0.2s								
ROVR						AML	AML		
	comp=E,10665μm,0.2s								
ROVR						AML	AML		
	comp=N,7265μm,0.9s								
ROVR						AML	AML		
	comp=E,4017μm,0.2s								
ROVR						AML	AML		
	comp=N,6461μm,0.3s								
ROVR						AML	AML		
	comp=E,10676μm,0.2s								
ROVR						AML	AML		
	comp=E,4017μm,1.8s								
ROVR						AML	AML		
	comp=E,10676μm,1.8s								
ROVR						AML	AML		
	comp=N,15582μm,0.3s								
GARGN	**Gargnano BS**	**0.22**	**234**	⇑e	P	**Pg**	**Pg**	**04 59 08.8**	**-0.1**
GARGN					e	Sg	**Sg**	**04 59 12.4**	**+0.3**
ZEN8	**San Zeno di Mo**	**0.23**	**216**		P	**Pg**	**Pg**	**04 59 09.0**	**+0.2**
ZEN8						AML	AML		
	comp=N,9185μm,1.4s								
ZEN8						AML	AML		
	comp=E,4710μm,1.1s								
ZEN8						AML	AML		
	comp=N,8001μm,0.2s								
ZEN8						AML	AML		
	comp=E,3455μm,0.1s								
RONC	**Roncone**	**0.26**	**308**	⇓e	P	**Pg**	**Pg**	**04 59 09.5**	**-0.2**
RONC					e	Sg	**Sg**	**04 59 13.4**	**+0.1**
RONC	**Roncone**	**0.26**	**308**	⇓P		**Pg**	**Pg**	**04 59 09.5**	**-0.2**
RONC						S	**Sg**	**04 59 13.2**	**-0.1**
RONC						AML	AML		
	comp=N,17000μm,1.1s								
RONC						AML	AML		
	comp=N,16950μm,1.1s								
RONC						AML	AML		
	comp=E,22800μm,0.9s								
RONC						AML	AML		
	comp=E,21905μm,0.3s								
RONC						AML	AML		
	comp=N,13313μm,0.2s								
RONC						AML	AML		
	comp=E,21905μm,1.7s								
GAGG	**Gaggia**	**0.27**	**6**	⇓e	P	**Pg**	**Pg**	**04 59 09.5**	**-0.2**
GAGG					e	Sg	**Sg**	**04 59 13.3**	**-0.1**
GAGG	**Gaggia**	**0.27**	**6**	⇓P		**Pg**	**Pg**	**04 59 09.5**	**-0.2**
GAGG						S	**Sg**	**04 59 13.3**	**-0.1**
GAGG						AML	AML		
	comp=E,6305μm,0.8s								
GAGG						AML	AML		
	comp=N,9405μm,0.7s								
GAGG						AML	AML		
	comp=N,6345μm,0.8s								
GAGG						AML	AML		
	comp=E,9835μm,0.7s								
GAGG						AML	AML		
	comp=N,5245μm,0.5s								
GAGG						AML	AML		
	comp=E,5107μm,0.5s								
GAGG						AML	AML		
	comp=E,8587μm,0.3s								
GAGG						AML	AML		
	comp=N,8154μm,0.7s								
MARN	**Marana (Italy)**	**0.27**	**132**	⇓e	P	**Pg**	**Pg**	**04 59 10.1**	**+0.3**
MARN					e	Sg	**Sg**	**04 59 14.5**	**+1.0**
MARN	**Marana (Italy)**	**0.27**	**132**	⇓P		**Pg**	**Pg**	**04 59 10.1**	**+0.3**
MARN						S	**Sg**	**04 59 14.7**	**+1.2**
BAG8	**Bagolino**	**0.32**	**271**		P	**Pg**	**Pg**	**04 59 10.4**	**-0.2**
BAG8						S	**Sg**	**04 59 15.2**	**+0.4**
BAG8						AML	AML		
	comp=E,13750μm,0.1s								
BAG8						AML	AML		
	comp=N,16500μm,0.3s								
BAG8						AML	AML		
	comp=E,13737μm,0.1s								
BAG8						AML	AML		
	comp=N,13706μm,0.1s								
VOBA	**Vobarno**	**0.34**	**239**		P	**Pg**	**Pg**	**04 59 11.0**	**+0.1**
VOBA						AML	AML		
	comp=E,8625μm,0.7s								
VOBA						AML	AML		
	comp=N,6945μm,0.2s								
VOBA						AML	AML		
	comp=N,6942μm,0.2s								
VOBA						AML	AML		
	comp=E,8550μm,0.1s								
SALO	**Salr**	**0.34**	**234**		P	**Pg**	**Pg**	**04 59 11.3**	**+0.3**
SALO						S	**Sg**	**04 59 16.7**	**+1.1**
SALO						AML	AML		
	comp=E,3430μm,0.5s								
SALO						AML	AML		
	comp=N,3755μm,1.3s								
SALO						AML	AML		
	comp=E,3435μm,0.5s								
SALO						AML	AML		
	comp=N,3765μm,1.3s								
SALO						AML	AML		
	comp=E,3250μm,1.3s								
SALO						AML	AML		
	comp=N,3750μm,1.3s								
SALO						AML	AML		
	comp=N,3368μm,0.2s								
SALO						AML	AML		
	comp=N,3297μm,0.2s								
SALO						AML	AML		
	comp=E,3100μm,0.2s								
SALO						AML	AML		
	comp=E,3062μm,0.2s								
TREG	**Tregnago**	**0.34**	**150**		P	**Pg**	**Pg**	**04 59 11.3**	**+0.3**
TREG						AML	AML		
	comp=E,7300μm,0.2s								
TREG						AML	AML		
	comp=N,8510μm,1.1s								
TREG						AML	AML		
	comp=N,8515μm,1.1s								
TREG						AML	AML		
	comp=E,7299μm,0.2s								
TREG						AML	AML		
	comp=N,8187μm,0.2s								
MABI	**Malga Bissina**	**0.37**	**310**	⇓P		**Pg**	**Pg**	**04 59 11.2**	**-0.4**
MABI						S	**Sg**	**04 59 16.1**	**-0.3**
MABI						AML	AML		
	comp=E,2690μm,1.4s								
MABI						AML	AML		
	comp=N,2155μm,0.7s								
MABI						AML	AML		
	comp=E,2365μm,0.2s								
MABI						AML	AML		
	comp=N,1959μm,0.1s								
PANI	**Panarotta**	**0.37**	**51**	⇑e	P	**Pg**	**Pg**	**04 59 11.7**	**+0.1**
PANI					e	Sg	**Sg**	**04 59 16.6**	**+0.1**
PANI	**Panarotta**	**0.37**	**51**		eP	**Pg**	**Pg**	**04 59 11.7**	**+0.1**
PANI	**Panarotta**	**0.37**	**51**		P	**Pg**	**Pg**	**04 59 11.7**	**+0.1**
PANI						S	**Sg**	**04 59 16.6**	**+0.1**
TRES	**Parco Tresine**	**0.44**	**220**	⇑e	P	**Pg**	**Pg**	**04 59 13.2**	**+0.5**
SANR	**Sandrigo**	**0.52**	**110**		P	**Pg**	**Pg**	**04 59 14.8**	**+0.6**
GRDM	**Monte Maddalen**	**0.53**	**239**	⇑e	P	**Pg**	**Pg**	**04 59 15.0**	**+0.6**
GRDM					e	Sg	**Sg**	**04 59 23.0**	**+1.6**
CNCS	**Concesio**	**0.54**	**247**		P	**Pg**	**Pg**	**04 59 14.8**	**+0.3**
ZOVE	**Zovencedo**	**0.54**	**132**		P	**Pg**	**Pg**	**04 59 14.9**	**+0.2**
CTI	**Castel Tesino**	**0.56**	**66**		P	**Pg**	**Pg**	**04 59 14.9**	**-0.2**
CTI						AML	AML		
	comp=N,2310μm,0.2s								
CTI						AML	AML		
	comp=E,2645μm,0.3s								
CTI						AML	AML		
	comp=N,2309μm,0.2s								
CTI						AML	AML		
	comp=E,2343μm,0.3s								
CTI						AML	AML		
	comp=N,2309μm,1.8s								
ZONE	**Zone**	**0.56**	**265**		P	**Pg**	**Pg**	**04 59 14.8**	**-0.4**
ZONE					S	**Sg**	**Sg**	**04 59 23.0**	**+0.4**
ZONE						AML	AML		
	comp=E,875μm,0.2s								
ZONE						AML	AML		
	comp=E,3760μm,0.2s								
ZONE						AML	AML		
	comp=N,5280μm,0.9s								
ZONE						AML	AML		
	comp=N,1195μm,0.9s								
ZONE						AML	AML		
	comp=E,875μm,0.2s								
ZONE						AML	AML		
	comp=N,4419μm,0.2s								
ZONE						AML	AML		
	comp=N,1077μm,0.2s								
ZONE						AML	AML		
	comp=E,3760μm,0.2s								
OZOL	**Ozolo**	**0.59**	**9**	⇓e	P	**Pg**	**Pg**	**04 59 15.5**	**-0.2**
OZOL					e	Sg	**Sg**	**04 59 24.1**	**+0.5**
OZOL	**Ozolo**	**0.59**	**9**		P	**Pg**	**Pg**	**04 59 15.6**	**-0.1**
OZOL						S	**Sg**	**04 59 23.4**	**-0.1**
CGRP	**Cima Grappa**	**0.62**	**84**	⇑e	P	**Pg**	**Pg**	**04 59 16.2**	**0.0**
CGRP					e	Sg	**Sg**	**04 59 24.7**	**+0.3**
CGRP	**Cima Grappa**	**0.62**	**84**		P	**Pg**	**Pg**	**04 59 16.1**	**-0.1**
CGRP					S	**Sg**	**Sg**	**04 59 24.4**	**0.0**
CGRP						AML	AML		
	comp=E,1370μm,0.6s								
CGRP						AML	AML		
	comp=N,1385μm,0.9s								
CGRP						AML	AML		
	comp=E,1375μm,0.6s								
CGRP						AML	AML		
	comp=E,1415μm,0.6s								
CGRP						AML	AML		
	comp=N,1285μm,0.9s								
CGRP						AML	AML		
	comp=N,1328μm,0.5s								
CGRP						AML	AML		
	comp=E,1332μm,0.5s								
CGRP						AML	AML		
	comp=N,1278μm,0.5s								
CGRP						AML	AML		
	comp=E,1377μm,0.5s								
CARE	**Lago del Cares**	**0.62**	**346**	⇓e	P	**Pg**	**Pg**	**04 59 16.0**	**-0.3**
CARE	**Lago del Cares**	**0.62**	**346**		P	**Pg**	**Pg**	**04 59 16.1**	**-0.2**
ZIAN	**Ziano**	**0.64**	**44**	⇓e	P	**Pg**	**Pg**	**04 59 16.6**	**0.0**
ZIAN	**Ziano**	**0.64**	**44**		P	**Pg**	**Pg**	**04 59 16.6**	**0.0**
LEOD	**Capriano del C**	**0.67**	**237**		P	**Pg**	**Pg**	**04 59 17.3**	**+0.2**
MNTV	**Mantova**	**0.68**	**188**		AML	AML			
	comp=E,2789μm,0.2s								
ASOL	**Asolo**	**0.69**	**91**		P	**Pg**	**Pg**	**04 59 17.9**	**+0.4**
APPI	**Appiano**	**0.69**	**18**		P	**Pg**	**Pg**	**04 59 16.1**	**-1.5**
APPI						AML	AML		
	comp=E,2410μm,0.2s								
APPI						AML	AML		
	comp=N,2720μm,0.6s								
APPI						AML	AML		
	comp=E,2411μm,0.2s								
APPI						AML	AML		
	comp=N,2693μm,0.4s								
APPI						AML	AML		
	comp=N,2693μm,1.6s								
CAPR	**Capriolo**	**0.71**	**255**		P	**Pg**	**Pg**	**04 59 17.9**	**-0.1**
GAZZ	**Gazzo Veronese**	**0.72**	**170**		eP	**Pg**	**Pg**	**04 59 18.8**	**+0.8**
BOSI	**Bolzano**	**0.73**	**22**		P	**Pg**	**Pg**	**04 59 17.7**	**-0.5**
BOSI						S	**Sg**	**04 59 27.5**	**-0.3**
BOSI						AML	AML		
	comp=E,2940μm,0.5s								
BOSI						AML	AML		
	comp=N,3325μm,0.4s								
BOSI						AML	AML		
	comp=N,3323μm,0.4s								
BOSI						AML	AML		
	comp=E,2939μm,0.5s								
BRMO	**Bormio**	**0.76**	**330**		P	**Pg**	**Pg**	**04 59 18.3**	**-0.5**
BRMO					S	**Sg**	**Sg**	**04 59 28.3**	**-0.5**
BRMO						AML	AML		
	comp=E,619μm,0.1s								
BRMO						AML	AML		
	comp=N,1070μm,0.2s								
BRMO						AML	AML		
	comp=E,619μm,0.1s								
BRMO						AML	AML		
	comp=N,1069μm,0.2s								
SBPO	**S.Benedetto Po**	**0.77**	**180**		P	**Pg**	**Pg**	**04 59 19.7**	**+0.7**
SBPO						AML	AML		
	comp=N,5025μm,0.3s								
SBPO						AML	AML		
	comp=E,4050μm,0.6s								
SBPO						AML	AML		
	comp=E,3670μm,0.1s								
SBPO						AML	AML		
	comp=N,5026μm,0.3s								
CRND	**Cornuda**	**0.81**	**89**		P	**Pg**	**Pg**	**04 59 19.4**	**-0.4**
MTLO	**Montello**	**0.82**	**90**		eP	**Pg**	**Pg**	**04 59 20.3**	**+0.3**
MTLO					e	Sg	**Sb**	**04 59 32.3**	**+0.8**
MOSI	**Grossmontoni**	**0.84**	**342**	⇓P		**Pg**	**Pg**	**04 59 20.1**	**-0.2**
MOSI						AML	AML		
	comp=E,2130μm,0.8s								
MOSI						AML	AML		
	comp=N,3030μm,0.4s								
MOSI						AML	AML		
	comp=E,2104μm,0.4s								
MOSI						AML	AML		
	comp=N,3027μm,0.4s								
FAU	**Forcella Aurin**	**0.84**	**61**		eP	**Pg**	**Pg**	**04 59 19.9**	**-0.6**
MDI	**Monti di Nese**	**0.85**	**268**		P	**Pg**	**Pg**	**04 59 20.0**	**-0.5**
MDI						AML	AML		
	comp=E,1880μm,0.4s								
MDI						AML	AML		
	comp=N,1870μm,1.3s								
MDI						AML	AML		
	comp=N,1800μm,1.3s								
MDI						AML	AML		
	comp=E,2030μm,0.4s								
MDI						AML	AML		
	comp=N,1823μm,0.2s								
MDI						AML	AML		
	comp=N,1681μm,0.2s								
MDI						AML	AML		
	comp=N,1823μm,1.8s								
MDI						AML	AML		
	comp=N,1681μm,1.8s								
MDI						AML	AML		
	comp=E,1507μm,0.2s								
MDI						AML	AML		
	comp=E,1435μm,0.2s								
VARN	**Col Varnada, M**	**0.85**	**78**		eP	**Pg**	**Pg**	**04 59 20.1**	**-0.4**
VARN	**Col Varnada, M**	**0.85**	**78**		P	**Pg**	**Pg**	**04 59 20.1**	**-0.4**
VARN						AML	AML		
	comp=E,1740μm,0.6s								
VARN						AML	AML		
	comp=N,1220μm,0.4s								
VARN						AML	AML		
	comp=E,1755μm,0.6s								
VARN						AML	AML		
	comp=N,1240μm,0.2s								
VARN						AML	AML		
	comp=N,1210μm,0.2s								
VARN						AML	AML		
	comp=N,1236μm,0.2s								
VARN						AML	AML		
	comp=E,1679μm,0.4s								
VARN						AML	AML		
	comp=E,1685μm,0.5s								
SERM	**Sermide**	**0.85**	**162**		P	**Pg**	**Pg**	**04 59 20.7**	**+0.1**
SERM						AML	AML		
	comp=E,3730μm,0.3s								
SERM						AML	AML		
	comp=N,3790μm,0.3s								
SERM						AML	AML		
	comp=N,5165μm,0.3s								
SERM						AML	AML		
	comp=E,3735μm,0.3s								
SERM						AML	AML		
	comp=N,3795μm,0.3s								
SERM						AML	AML		
	comp=E,4295μm,0.3s								
SERM						AML	AML		
	comp=N,3791μm,0.3s								
SERM						AML	AML		
	comp=N,5165μm,0.3s								
SERM						AML	AML		
	comp=E,3731μm,0.3s								
SERM						AML	AML		
	comp=E,4294μm,0.3s								
SERM						AML	AML		
	comp=N,5165μm,1.7s								
BERNI	**Berninapass**	**0.86**	**314**	⇓P		**Pg**	**Pg**	**04 59 20.2**	**-0.6**
BERNI						AML	AML		
	comp=E,536μm,0.5s								
BERNI						AML	AML		
	comp=E,536μm,0.5s								
BERNI						AML	AML		
	comp=N,610μm,1.4s								
BERNI						AML	AML		
	comp=N,574μm,0.3s								
BERNI						AML	AML		
	comp=E,459μm,0.1s								
BERNI						AML	AML		
	comp=E,459μm,1.9s								
ED06	**Collalto TV**	**0.90**	**87**		eP	**Pg**	**Pg**	**04 59 21.8**	**+0.2**
AGOR	**Agordo**	**0.91**	**59**		eP	**Pg**	**Pg**	**04 59 21.8**	**+0.1**
AGOR	**Agordo**	**0.91**	**59**		AML	AML			
	comp=E,550μm,0.9s								
AGOR						AML	AML		
	comp=E,693μm,0.3s								
AGOR						AML	AML		
	comp=E,694μm,0.3s								
AGOR						AML	AML		
	comp=N,618μm,0.8s								
AGOR						AML	AML		
	comp=N,464μm,0.4s								
AGOR						AML	AML		
	comp=N,463μm,0.4s								
AGOR						AML	AML		
	comp=E,693μm,0.3s								
AGOR						AML	AML		
	comp=N,579μm,0.4s								
AGOR						AML	AML		
	comp=N,463μm,1.6s								
AGOR						AML	AML		
	comp=E,543μm,0.3s								
AGOR						AML	AML		
	comp=N,579μm,1.6s								
FUORN	**Ofenpass-Fuorn**	**0.92**	**331**	⇓P		**Pg**	**Pg**	**04 59 21.3**	**-0.7**
FUORN						AML	AML		
	comp=E,547μm,0.5s								
FUORN						AML	AML		
	comp=N,744μm,0.5s								
FUORN						AML	AML		
	comp=E,492μm,0.4s								
FUORN						AML	AML		
	comp=N,744μm,0.5s								
FUORN						AML	AML		
	comp=E,492μm,1.6s								
FUORN						AML	AML		
	comp=N,744μm,1.5s								
NDIM	**Novi di Modena**	**0.93**	**181**		P	**Pg**	**Pg**	**04 59 22.6**	**+0.5**
NDIM						AML	AML		
	comp=E,4945μm,0.8s								
NDIM						AML	AML		
	comp=N,7975μm,0.3s								
NDIM						AML	AML		
	comp=E,5135μm,0.2s								
NDIM						AML	AML		
	comp=E,4950μm,0.8s								
NDIM						AML	AML		
	comp=N,7970μm,0.3s								
NDIM						AML	AML		
	comp=N,8535μm,0.3s								
NDIM						AML	AML		
	comp=E,4355μm,0.3s								
NDIM						AML	AML		
	comp=E,5138μm,0.2s								
NDIM						AML	AML		
	comp=N,7973μm,0.3s								
NDIM						AML	AML		
	comp=N,8536μm,0.3s								
CAVE	**Cavezzo**	**0.96**	**176**		AML	AML			
	comp=N,7975μm,0.4s								
CAVE						AML	AML		
	comp=E,7140μm,0.2s								
CAVE						AML	AML		
	comp=N,7976μm,0.4s								
CAVE						AML	AML		
	comp=E,7138μm,0.2s								
BRES	**Bressanone**	**1.04**	**32**		AML	AML			
	comp=N,1039μm,1.2s								
BRES						AML	AML		
	comp=E,866μm,1.2s								
BRES						AML	AML		
	comp=E,708μm,0.3s								
BRES						AML	AML		
	comp=N,990μm,0.4s								
MERA	**Merate**	**1.06**	**263**		P	**Pg**	**Pg**	**04 59 23.9**	**-0.6**
RAVA	**Ravarino**	**1.07**	**172**		AML	AML			
	comp=N,14000μm,0.6s								
RAVA						AML	AML		
	comp=E,6670μm,0.8s								
RAVA						AML	AML		
	comp=E,5335μm,0.2s								
RAVA						AML	AML		
	comp=N,13989μm,0.6s								
RAVA						AML	AML		
	comp=E,5335μm,1.8s								
POLC	**Polcenigo**	**1.12**	**79**		AML	AML			
	comp=E,2248μm,0.4s								
POLC						AML	AML		
	comp=E,2245μm,0.4s								
POLC						AML	AML		
	comp=N,2395μm,0.4s								
POLC						AML	AML		
	comp=N,2397μm,0.4s								
PRMA	**PARMA**	**1.14**	**202**		AML	AML			
	comp=N,1415μm,0.3s								
PRMA						AML	AML		
	comp=E,1955μm,0.3s								
PRMA						AML	AML		
	comp=N,1413μm,0.3s								
PRMA						AML	AML		
	comp=E,1957μm,0.3s								
ROSI	**Rosskopf**	**1.16**	**17**		AML	AML			
	comp=N,3026μm,0.3s								
ROSI						AML	AML		
	comp=E,3150μm,0.3s								
ROSI						AML	AML		

	comp=N,3025µm,0.3s					
ROSI				AML	AML	
	comp=E,3148µm,0.3s					
CIMO	**Cimolais**	**1.17**	**65**	P	**Pb**	**04 59 26.2 -0.2**
CIMO				AML	AML	
	comp=E,334µm,0.3s					
CIMO				AML	AML	
	comp=N,428µm,0.8s					
CIMO				AML	AML	
	comp=E,344µm,0.3s					
CIMO				AML	AML	
	comp=N,441µm,0.8s					
CIMO				AML	AML	
	comp=N,404µm,0.3s					
CIMO				AML	AML	
	comp=N,398µm,0.3s					
CIMO				AML	AML	
	comp=E,345µm,0.3s					
CIMO				AML	AML	
	comp=E,334µm,0.3s					
DAVOX	**Davos/Dischmat**	**1.20**	**323**	AML	AML	
	comp=E,508µm,0.4s					
DAVOX				AML	AML	
	comp=N,572µm,0.4s					
DAVOX				AML	AML	
	comp=E,506µm,0.3s					
DAVOX				AML	AML	
	comp=N,572µm,0.4s					
FETA	**Feichten**	**1.21**	**354**	*e*Pg	**Pb**	**04 59 26.8 -0.3**
	comp=N,31nm,0.2s,SNR=56					
FETA				*e*Sg	**Sb**	**04 59 41.9 -1.0**
	comp=N,33nm,0.2s					
FIU	**Minerbio Fiu**	**1.25**	**161**	AML	AML	
	comp=N,3760µm,0.8s					
FIU				AML	AML	
	comp=E,5660µm,0.6s					
FIU				AML	AML	
	comp=E,4004µm,0.3s					
FIU				AML	AML	
	comp=N,3059µm,0.4s					
TUE	**Stuetta**	**1.27**	**301**	P	**Pn**	**04 59 27.2 -0.8**
TUE				AML	AML	
	comp=E,1235µm,0.4s					
TUE				AML	AML	
	comp=N,902µm,0.6s					
TUE				AML	AML	
	comp=E,1505µm,0.4s					
TUE				AML	AML	
	comp=N,1122µm,0.7s					
TUE				AML	AML	
	comp=E,1235µm,0.4s					
TUE				AML	AML	
	comp=N,961µm,0.2s					
TUE				AML	AML	
	comp=E,1501µm,0.4s					
TUE				AML	AML	
	comp=N,755µm,0.2s					
MUGIO	**Muggio**	**1.31**	**275**	P	**Pn**	**04 59 28.2 -0.3**
MUGIO				AML	AML	
	comp=E,1058µm,0.2s					
MUGIO				AML	AML	
	comp=N,1705µm,0.5s					
MUGIO				AML	AML	
	comp=E,1059µm,0.2s					
MUGIO				AML	AML	
	comp=N,1508µm,0.3s					
SQTA	**Sankt Quirin**	**1.42**	**8**	*e*Pg	**Pn**	**04 59 30.7 +0.8**
	comp=N,167nm,0.4s,SNR=102					
SQTA				*e*Sg	**Sb**	**04 59 48.2 -0.5**
	comp=N,256nm,0.4s					
ABTA	**Abfaltersbach**	**1.44**	**49**	*e*Pg	**Pb**	**04 59 31.5 +0.4**
	comp=N,4.2nm,0.2s,SNR=24					
ABTA				*e*Sn	**Sg**	**04 59 50.6 0.0**
	comp=N,21nm,0.2s					
GRAM	**Graiana**	**1.46**	**205**	AML	AML	
	comp=N,1148µm,1.7s					
GRAM				AML	AML	
	comp=E,1300µm,0.3s					
GRAM				AML	AML	
	comp=N,1250µm,1.2s					
GRAM				AML	AML	
	comp=N,1148µm,0.3s					
GRAM				AML	AML	
	comp=E,1299µm,0.3s					
ZCCA	**Zocca**	**1.47**	**178**	AML	AML	
	comp=N,710µm,1.0s					
ZCCA				AML	AML	
	comp=E,616µm,0.4s					
ZCCA				AML	AML	
	comp=N,790µm,1.0s					
ZCCA				AML	AML	
	comp=E,587µm,0.4s					
ZCCA				AML	AML	
	comp=N,710µm,1.0s					
ZCCA				AML	AML	
	comp=E,587µm,0.4s					
ZCCA				AML	AML	
	comp=N,788µm,1.0s					
ZCCA				AML	AML	
	comp=E,615µm,0.5s					
ZCCA				AML	AML	
	comp=N,710µm,1.0s					
ZCCA				AML	AML	
	comp=N,788µm,1.0s					
GSCL	**Gusciola**	**1.49**	**189**	AML	AML	
	comp=E,573µm,0.5s					
GSCL				AML	AML	
	comp=N,743µm,1.1s					
GSCL				AML	AML	
	comp=E,573µm,0.5s					
GSCL				AML	AML	
	comp=N,614µm,0.5s					
MTRZ	**Monterenzio**	**1.50**	**165**	AML	AML	
	comp=N,1482µm,0.5s					
MTRZ				AML	AML	
	comp=E,938µm,0.5s					
MTRZ				AML	AML	
	comp=N,1445µm,0.5s					
MTRZ				AML	AML	
	comp=E,967µm,0.5s					
MTRZ				AML	AML	
	comp=N,1480µm,0.5s					
MTRZ				AML	AML	
	comp=E,936µm,0.5s					
MTRZ				AML	AML	
	comp=E,968µm,0.5s					
MTRZ				AML	AML	
	comp=N,1449µm,0.5s					
MTRZ				AML	AML	
	comp=E,968µm,1.5s					
MTRZ				AML	AML	
	comp=E,936µm,1.5s					
VARE	**Varese**	**1.50**	**273**	AML	AML	
	comp=N,1187µm,1.7s					
VARE				AML	AML	
	comp=E,1065µm,1.1s					
VARE				AML	AML	
	comp=N,1190µm,0.3s					
VARE				AML	AML	
	comp=N,1187µm,0.3s					
VARE				AML	AML	
	comp=E,1042µm,0.4s					
WTTA	**Wattenberg**	**1.53**	**19**	*e*Pg	**Pb**	**04 59 32.6 0.0**
	comp=E,23nm,0.1s,SNR=28					
WTTA				*e*Sg	**Sn**	**04 59 52.0 +0.6**
	comp=E,102nm,0.2s					
WTTA	**Wattenberg**	**1.53**	**19**	AML	AML	
	comp=E,668µm,1.6s					
WTTA				AML	AML	
	comp=E,668µm,0.4s					
WTTA				AML	AML	
	comp=N,465µm,0.3s					
WTTA				AML	AML	
	comp=N,465µm,0.3s					
WTTA				AML	AML	
	comp=E,668µm,0.4s					
WTTA	**Wattenberg**	**1.53**	**19**	*e*Pn	**Pb**	**04 59 32.6 0.0**
WTTA				*e*Sg	**Sn**	**04 59 52.0 +0.6**
MOTA	**Moosalm**	**1.53**	**5**	*i* Pg	**Pb**	**04 59 32.7 0.0**
	comp=E,13nm,0.1s,SNR=26					
MOTA				*e*Sg	**Sb**	**04 59 52.6 +0.5**
	comp=E,41nm,0.3s					
WATA	**Walderalm**	**1.58**	**16**	*e*Pg	**Pb**	**04 59 33.5 0.0**
	comp=E,22nm,0.2s,SNR=24					
WATA				*e*Sg	**Sb**	**04 59 53.7 +0.1**
	comp=E,115nm,0.2s					
ZOU	**Zoufplan**	**1.61**	**62**	AML	AML	
	comp=E,385µm,0.4s					
ZOU				AML	AML	
	comp=E,452µm,1.3s					
ZOU				AML	AML	
	comp=N,374µm,0.4s					
ZOU				AML	AML	
	comp=E,436µm,1.3s					
ZOU				AML	AML	
	comp=N,370µm,0.4s					
ZOU				AML	AML	
	comp=N,375µm,0.4s					
ZOU				AML	AML	
	comp=N,370µm,0.4s					
ZOU				AML	AML	
	comp=E,374µm,0.4s					
ZOU				AML	AML	
	comp=N,370µm,1.6s					
ZOU				AML	AML	
	comp=N,375µm,1.6s					
GEPF	**Gemona**	**1.61**	**73**	AML	AML	
	comp=N,437µm,0.5s					
GEPF				AML	AML	
	comp=E,635µm,1.5s					
GEPF				AML	AML	
	comp=N,443µm,1.6s					
GEPF				AML	AML	
	comp=E,609µm,0.3s					
PLONS	**Plons/SG**	**1.63**	**320**	*e*Pn	**Pb**	**04 59 34.8 +0.6**
PLONS				*e*Pg	**Pg**	**04 59 37.5 +2.1**
PLONS				*e*Sn	**Sb**	**04 59 56.0 +1.2**
PLONS				*e*Sg	**Sg**	**05 00 00.5 +4.1**
DAVA	**Damuels**	**1.63**	**334**	*e*Pg	**Pb**	**04 59 34.6 +0.2**
	comp=E,29nm,0.3s,SNR=36					
DAVA				Sg	**Sb**	**04 59 56.1 +1.1**
	comp=E,91nm,0.3s					
DAVA	**Damuels**	**1.63**	**334**	*e*Pn	**Pb**	**04 59 34.8 +0.4**
DAVA				*e*Pg	**Pg**	**04 59 37.1 +1.6**
DAVA				*e*Sg	**Sg**	**05 00 00.8 +4.1**
OBER	**Oberstdorf**	**1.65**	**345**	*e*Pn	**Pb**	**04 59 35.2 +0.7**
OBER				*e*Pg	**Pg**	**04 59 37.5 +1.8**
OBER				*e*Sg	**Sg**	**05 00 00.5 +3.5**
GORR	**Gorreto**	**1.67**	**224**	AML	AML	
	comp=E,390µm,0.5s					
GORR				AML	AML	
	comp=E,390µm,0.5s					
GORR				AML	AML	
	comp=N,380µm,0.4s					
GORR				AML	AML	
	comp=E,390µm,1.5s					
GORR				AML	AML	
	comp=N,379µm,0.4s					
GORR	**Gorreto**	**1.67**	**224**	P	**Pn**	**04 59 34.7 +1.3**
RETA	**Reutte**	**1.67**	**356**	*e*Pg	**Pb**	**04 59 34.9 -0.1**
	comp=N,17nm,0.2s,SNR=25					
RETA				*e*Sg	**Sg**	**04 59 58.1 +0.2**
	comp=N,38nm,0.4s					
SARO	**Sassorosso**	**1.68**	**193**	AML	AML	
	comp=N,845µm,0.5s					
SARO				AML	AML	
	comp=E,710µm,0.4s					
SARO				AML	AML	
	comp=N,845µm,0.5s					
SARO				AML	AML	
	comp=E,710µm,0.4s					
PART	**Garmisch-Parte**	**1.68**	**4**	*e*Pn	**Pb**	**04 59 35.4 +0.3**
PART				*e*Pg	**Pg**	**04 59 37.5 +1.0**
PART				*e*Sg	**Sg**	**04 59 58.2 -0.1**
FUSIO	**Fusio**	**1.69**	**293**	AML	AML	
	comp=E,1104µm,1.3s					
FUSIO				AML	AML	
	comp=N,706µm,1.2s					
FUSIO				AML	AML	
	comp=E,937µm,0.3s					
FUSIO				AML	AML	
	comp=N,693µm,0.3s					
VLC	**Villacollemand**	**1.70**	**193**	AML	AML	
	comp=N,219µm,1.0s					
VLC				AML	AML	
	comp=E,292µm,1.5s					
VLC				AML	AML	
	comp=N,224µm,1.1s					
VLC				AML	AML	
	comp=E,286µm,1.5s					
VLC				AML	AML	
	comp=N,219µm,1.0s					
VLC				AML	AML	
	comp=N,216µm,0.9s					
VLC				AML	AML	
	comp=E,269µm,0.4s					
VLC				AML	AML	
	comp=E,266µm,0.4s					
VLC				AML	AML	
	comp=N,219µm,1.0s					
BRIS	**BRISIGHELLA**	**1.72**	**166**	AML	AML	
	comp=N,676µm,0.4s					
BRIS				AML	AML	
	comp=E,766µm,1.6s					
BRIS				AML	AML	
	comp=N,736µm,0.5s					
BRIS				AML	AML	
	comp=E,783µm,0.5s					
BRIS				AML	AML	
	comp=N,735µm,0.5s					
BRIS				AML	AML	
	comp=E,757µm,0.5s					
BRIS				AML	AML	
	comp=E,785µm,0.5s					
BRIS				AML	AML	
	comp=N,675µm,0.4s					
BDI	**Bagni Di Lucca**	**1.77**	**188**	AML	AML	
	comp=E,186µm,0.4s					
BDI				AML	AML	
	comp=E,462µm,0.4s					
BDI				AML	AML	
	comp=N,526µm,1.4s					
BDI				AML	AML	
	comp=E,186µm,0.4s					
BDI				AML	AML	
	comp=N,182µm,1.4s					
BDI				AML	AML	
	comp=N,404µm,0.4s					
BDI				AML	AML	
	comp=N,166µm,0.6s					
BDI				AML	AML	
	comp=E,462µm,0.4s					
BDI				AML	AML	
	comp=N,404µm,1.6s					
BDI				AML	AML	
	comp=N,166µm,1.4s					
POPM	**Popiglio**	**1.78**	**184**	AML	AML	
	comp=E,494µm,0.6s					
POPM				AML	AML	
	comp=N,511µm,0.4s					
POPM				AML	AML	
	comp=N,511µm,0.4s					
POPM				AML	AML	
	comp=E,494µm,0.6s					
SEI	**Scarperia**	**1.79**	**170**	AML	AML	
	comp=N,906µm,0.4s					
SEI				AML	AML	
	comp=E,734µm,0.5s					
SEI				AML	AML	
	comp=E,734µm,0.5s					
SEI				AML	AML	
	comp=N,906µm,0.4s					
MSSA	**Maissana**	**1.80**	**214**	AML	AML	
	comp=E,240µm,0.5s					
MSSA				AML	AML	
	comp=E,240µm,0.5s					
MSSA				AML	AML	
	comp=N,260µm,0.3s					
MSSA				AML	AML	
	comp=N,261µm,0.3s					
MAIM	**Mastiano**	**1.93**	**189**	AML	AML	
	comp=N,268µm,0.9s					
MAIM				AML	AML	
	comp=E,526µm,0.5s					
MAIM				AML	AML	
	comp=E,527µm,0.5s					
MAIM				AML	AML	
	comp=N,248µm,0.3s					
RNCA	**Ronca, Sant'Ol**	**1.94**	**227**	AML	AML	
	comp=N,138µm,0.3s					
RNCA				AML	AML	
	comp=E,183µm,0.6s					
RNCA				AML	AML	
	comp=N,145µm,0.5s					
RNCA				AML	AML	
	comp=E,128µm,0.2s					
UBR	**Ueberruh**	**1.94**	**344**	*e*Pn	**Pb**	**04 59 40.3 +0.7**
UBR				*e*Pg	**Pg**	**04 59 42.9 +1.5**
UBR				*e*Sg	**Sg**	**05 00 08.5 +1.9**
ACOM	**Acomizza, Ital**	**1.94**	**67**	AML	AML	
	comp=E,692µm,0.3s					
ACOM				AML	AML	
	comp=E,768µm,1.1s					
ACOM				AML	AML	
	comp=N,962µm,0.4s					
ACOM				AML	AML	
	comp=E,770µm,1.1s					
ACOM				AML	AML	
	comp=N,916µm,0.5s					
ACOM				AML	AML	
	comp=N,963µm,0.4s					
ACOM				AML	AML	
	comp=E,701µm,0.3s					
ACOM				AML	AML	
	comp=N,914µm,0.5s					
LESA	**Schwarzleotal**	**2.01**	**36**	*i* Pg	**Pb**	**04 59 41.4 +0.6**
	comp=N,15nm,0.2s					
LESA				*e*Sn	**Sb**	**05 00 06.6 +0.8**
	comp=N,77nm,0.3s					
MYKA	**Terra Mystica**	**2.06**	**66**	*e*Pg	**Pb**	**04 59 42.7 +1.2**
	comp=N,9.0nm,0.3s,SNR=10					
MYKA				Sn	**Sn**	**05 00 05.0 +0.6**
	comp=N,6.6nm,0.3s					
MYKA				*i* Sg	**Sg**	**05 00 10.9 +0.7**
	comp=N,28nm,0.3s					
KBA	**Koelnbreinsper**	**2.10**	**52**	*e*Pg	**Pb**	**04 59 43.6 +1.3**
	comp=N,21nm,0.2s					
KBA				*e*Sn	**Sn**	**05 00 06.0 +0.5**
	comp=N,9.4nm,0.3s					
KBA				*e*Sg	**Sg**	**05 00 12.6 +1.1**
	comp=N,74nm,0.5s					
PCP	**Piancastagn**	**2.11**	**234**	AML	AML	
	comp=N,230µm,0.5s					
PCP				AML	AML	
	comp=E,190µm,0.6s					
PCP				AML	AML	
	comp=N,230µm,0.5s					
PCP				AML	AML	
	comp=E,176µm,0.4s					
SATI	**Passo dei Sala**	**2.13**	**273**	AML	AML	
	comp=N,251µm,0.7s					
SATI				AML	AML	
	comp=E,280µm,0.4s					
SATI				AML	AML	
	comp=N,206µm,0.3s					
SATI				AML	AML	
	comp=E,242µm,0.2s					
EMBD	**Embd, Matterta**	**2.19**	**282**	P	**Pn**	**04 59 42.0 +1.5**
EMBD	**Embd, Matterta**	**2.19**	**282**	S	**Sn**	**05 00 09.6 +1.9**
WALHA	**Wallhausen, DE**	**2.29**	**328**	*e*Pn	**Pn**	**04 59 44.2 +2.3**
WALHA				*e*Pg	**Pg**	**04 59 48.4 +0.3**
WALHA				*e*Sg	**Sg**	**05 00 21.5 +3.7**
OSSC	**Osservatorio P**	**2.31**	**174**	AML	AML	
	comp=N,233µm,0.7s					
OSSC				AML	AML	
	comp=E,174µm,0.5s					
OSSC				AML	AML	
	comp=N,162µm,0.8s					
OSSC				AML	AML	
	comp=N,162µm,0.8s					
OSSC				AML	AML	
	comp=E,173µm,0.5s					
OSSC				AML	AML	
	comp=E,214µm,1.1s					
OSSC				AML	AML	
	comp=E,173µm,1.5s					
OSSC				AML	AML	
	comp=N,162µm,1.2s					
OSSC				AML	AML	
	comp=E,214µm,0.9s					
CRE	**Caprese Michel**	**2.32**	**161**	AML	AML	
	comp=E,198µm,0.4s					
CRE				AML	AML	
	comp=N,220µm,1.4s					
CRE				AML	AML	
	comp=E,199µm,0.4s					
CRE				AML	AML	
	comp=N,199µm,0.5s					
QLNO	**Quiliano**	**2.36**	**232**	AML	AML	
	comp=N,166µm,0.4s					
QLNO				AML	AML	
	comp=E,144µm,0.5s					
QLNO				AML	AML	
	comp=N,166µm,0.4s					
QLNO				AML	AML	
	comp=E,108µm,0.5s					
QLNO				AML	AML	
	comp=N,166µm,1.6s					
FUR	**Furstenfeldbru**	**2.36**	**6**	*e*Pn	**Pn**	**04 59 44.1 +1.3**
FUR				*e*Pg	**Pg**	**04 59 48.8 -0.5**
FUR				*e*Sg	**Sg**	**05 00 19.5 -0.4**
CANO	**Canova, Maglio**	**2.49**	**231**	AML	AML	
	comp=N,378µm,0.3s					
CANO				AML	AML	
	comp=E,442µm,0.4s					
CANO				AML	AML	
	comp=N,378µm,0.3s					
CANO				AML	AML	
	comp=E,442µm,0.4s					
EMING	**Emmingen-Lipti**	**2.52**	**326**	*e*Pn	**Pn**	**04 59 47.2 +2.2**
LJU	**Ljubljana**	**2.53**	**84**	AML	AML	
	comp=N,2620µm,0.2s					
LJU				AML	AML	
	comp=E,1615µm,0.5s					
LJU				AML	AML	
	comp=E,1617µm,0.5s					
LJU				AML	AML	
	comp=N,2617µm,0.2s					
PIEI	**Pieia**	**2.56**	**153**	AML	AML	
	comp=N,94µm,0.3s					
PIEI				AML	AML	
	comp=E,150µm,0.5s					
PIEI				AML	AML	
	comp=E,151µm,0.5s					
PIEI				AML	AML	
	comp=N,94µm,0.3s					
SLE	**Schleitheim**	**2.56**	**320**	P	**Pn**	**04 59 47.9 +2.2**
SLE	**Schleitheim**	**2.56**	**320**	*e*Pn	**Pn**	**04 59 47.7 +2.1**
SLE				*e*Pg	**Pg**	**04 59 53.0 -0.3**
SLE				*e*Sn	**Sn**	**05 00 19.6 +2.9**
SLE				*e*Sg	**Sg**	**05 00 27.2 +0.8**
SULZ	**Cheisacher**	**2.58**	**312**	P	**Pn**	**04 59 48.6 +2.7**
SULZ	**Cheisacher**	**2.58**	**312**	*e*Pn	**Pb**	**04 59 49.2 -1.2**
SULZ				*e*Pg	**Pg**	**04 59 53.5 0.0**
SULZ				*e*Sn	**Sn**	**05 00 19.8 +2.6**
SULZ				*e*Sg	**Sg**	**05 00 26.7 -0.3**
OBKA	**Obir**	**2.62**	**73**	*e*Pn	**Pb**	**04 59 49.9 -1.2**
	comp=N,3.0nm,0.2s					
OBKA				*e*Pg	**Pg**	**04 59 53.7 -0.6**
	comp=N,5.9nm,0.3s					
OBKA				*e*Sg	**Sg**	**05 00 30.0 +1.9**
	comp=N,30nm,0.3s					
REMY	**Saint-Rhmy-en**	**2.63**	**272**	AML	AML	
	comp=E,146µm,0.5s					
REMY	**Saint-Rhmy-en**	**2.63**	**272**	P	**Pn**	**04 59 47.6 +0.8**
METMA	**Mettma DE**	**2.63**	**317**	*e*Pn	**Pn**	**04 59 48.7 +2.1**
METMA				*e*Pg	**Pg**	**04 59 54.1 -0.5**
METMA				*e*Sn	**Sn**	**05 00 20.4 +1.8**
BIOA	**Bad Ischl, Aus**	**2.65**	**44**	*e*Pn	**Pb**	**04 59 50.0 -1.6**
	comp=E,9.0nm,0.2s,SNR=4.1					
RORO	**Rocca Rossa**	**2.65**	**231**	AML	AML	
	comp=E,80µm,0.3s					
RORO				AML	AML	
	comp=E,87µm,1.0s					
RORO				AML	AML	
	comp=N,91µm,0.6s					
RORO				AML	AML	
	comp=N,82µm,0.2s					
RSP	**Reno Superiore**	**2.66**	**257**	P	**Pn**	**04 59 45.1 -1.9**
ATVO	**AVT- Monte Val**	**2.66**	**156**	AML	AML	
	comp=E,118µm,0.7s					
ATVO				AML	AML	
	comp=E,134µm,1.0s					
ATVO				AML	AML	
	comp=N,136µm,0.7s					
ATVO				AML	AML	
	comp=N,135µm,0.7s					
ATVO				AML	AML	
	comp=N,135µm,1.3s					
ATVO				AML	AML	
	comp=E,118µm,1.3s					
BALST	**Balsthal**	**2.69**	**305**	P	**Pn**	**04 59 49.9 +2.4**
BALST	**Balsthal**	**2.69**	**305**	S	**Sn**	**05 00 21.6 +1.6**

BALST	Balsthal	2.69 305	ePn	Pn	04 59 50.0	+2.5
BALST			ePg	Pg	04 59 55.2	-0.5
BALST			eSn	Sn	05 00 21.7	+1.6
GBOS	Grotte di Boss	2.69 235	AML	AML		
	comp=N,73μm,0.6s					
GBOS			AML	AML		
	comp=E,59μm,1.2s					
GBOS			AML	AML		
	comp=E,54μm,0.3s					
GBOS			AML	AML		
	comp=N,72μm,0.4s					
GBOS	Grotte di Boss	2.69 235	P	Pn	04 59 48.9	+1.4
BHB	Bricherasio	2.76 251	P	Pn	04 59 47.6	-0.7
BERGE	Lenzkirch (DE)	2.78 318	ePn	Pn	04 59 50.6	+1.9
BERGE			ePg	Pg	04 59 57.2	-0.3
BERGE			eSn	Sn	05 00 24.2	+1.9
MGRO	Montegrosso	2.84 232	AML	AML		
	comp=N,69μm,0.5s					
MGRO			AML	AML		
	comp=E,101μm,1.4s					
MGRO			AML	AML		
	comp=N,88μm,1.6s					
MGRO			AML	AML		
	comp=E,97μm,0.4s					
MGRO			AML	AML		
	comp=N,69μm,1.5s					
IMI	Imperia	2.88 229	AML	AML		
	comp=E,111μm,1.6s					
IMI			AML	AML		
	comp=E,111μm,0.4s					
IMI			AML	AML		
	comp=N,178μm,1.4s					
IMI			AML	AML		
	comp=E,111μm,0.4s					
IMI			AML	AML		
	comp=N,159μm,0.2s					
OGSI	Sixt	2.92 276	P	Pn	04 59 53.1	+2.5
OGSI			S	Sn	05 00 28.3	+2.7
CING	Cingoli	2.94 146	AML	AML		
	comp=N,85μm,1.2s					
CING			AML	AML		
	comp=E,80μm,0.6s					
CING			AML	AML		
	comp=N,73μm,0.4s					
CING			AML	AML		
	comp=E,80μm,0.6s					
LPG	La Plagne	2.94 265	ePn	Pn	04 59 50.4	-0.7
LPG	La Plagne	2.94 265	eP	Pn	04 59 52.9	+1.8
LPG			eSn	Sn	05 00 23.9	-2.6
	comp=E,11nm,0.3s					
ENR	Entracque	2.95 239	AML	AML		
	comp=E,75μm,0.3s					
ENR			AML	AML		
	comp=N,78μm,0.5s					
ENR			AML	AML		
	comp=E,75μm,0.3s					
ENR			AML	AML		
	comp=N,69μm,0.4s					
ENR	Entracque	2.95 239	P	Pn	04 59 50.8	-0.2
LPL	La Plagne	2.95 266	ePn	Pn	04 59 50.4	-0.7
LPL	La Plagne	2.95 266	eP	Pn	04 59 53.1	+2.0
LPL			eSn	Sn	05 00 24.2	-2.5
	comp=N,12nm,0.3s					
KIZ	Kirchzarten	2.97 317	P	Pn	04 59 53.1	+1.9
SOKA	Soboth	2.98 72	i Pn	Pn	04 59 54.0	+2.6
	comp=N,0.3nm,0.1s					
SOKA			ePg	Pg	05 00 00.1	-1.2
	comp=N,4.6nm,0.3s					
SOKA			i Sg	Sg	05 00 42.7	+2.8
	comp=N,14nm,0.4s					
BOURR	Bourrignon	2.99 303	P	Pn	04 59 53.7	+2.1
PZZ	Stroppo	2.99 245	P	Pn	04 59 50.1	-1.6
RSL	Roselend	3.01 269	P	Pn	04 59 54.5	+2.7
SAOF	Saorge	3.01 234	P	Pn	04 59 52.6	+0.8
CASP	Castiglione de	3.03 181	AML	AML		
	comp=E,41μm,0.9s					
CASP			AML	AML		
	comp=E,46μm,1.2s					
CASP			AML	AML		
	comp=N,64μm,1.1s					
CASP			AML	AML		
	comp=N,56μm,0.4s					
MGAB	Montegabbione	3.03 163	AML	AML		
	comp=E,99μm,0.6s					
MGAB			AML	AML		
	comp=E,102μm,0.7s					
MGAB			AML	AML		
	comp=N,86μm,1.4s					
MGAB			AML	AML		
	comp=E,99μm,0.6s					
MGAB			AML	AML		
	comp=N,85μm,1.3s					
MGAB			AML	AML		
	comp=E,101μm,0.7s					
MGAB			AML	AML		
	comp=N,80μm,0.6s					
MGAB			AML	AML		
	comp=N,77μm,0.4s					
MGAB			AML	AML		
	comp=N,77μm,1.6s					
MGAB			AML	AML		
	comp=E,99μm,1.4s					
MGAB			AML	AML		
	comp=E,101μm,1.3s					
MGAB			AML	AML		
	comp=N,80μm,1.4s					
RRL	Rocca Remolon	3.04 254	P	Pn	04 59 51.8	-0.6
BOJS	Bojanci	3.06 94	AML	AML		
	comp=N,346μm,0.9s					
BOJS			AML	AML		
	comp=E,406μm,1.5s					
BOJS			AML	AML		
	comp=E,403μm,0.6s					
BOJS			AML	AML		
	comp=N,345μm,0.9s					
MOA	Molln	3.07 47	i Pn	Pn	04 59 55.6	+3.0
	comp=N,2.7nm,0.3s					
MOA			i Sn	Sn	05 00 29.0	-0.2
	comp=N,20nm,0.4s					
BFO	Black Forest	3.07 326	ePn	Pn	04 59 55.1	+2.4
BFO			eSn	Sn	05 00 30.0	+0.7
CELB	S.Piero in Cam	3.12 190	AML	AML		
	comp=E,60μm,0.8s					
CELB			AML	AML		
	comp=E,64μm,1.5s					
CELB			AML	AML		
	comp=N,86μm,1.6s					
CELB			AML	AML		
	comp=N,67μm,0.6s					
MBDF	Montbardon	3.12 251	ePn	Pn	04 59 53.0	-0.5
MBDF			eSn	Sn	05 00 30.0	-0.9
	comp=N,11nm,0.3s					
SBF	Sospel	3.16 233	ePn	Pn	04 59 53.4	-0.4
SBF	Sospel	3.16 233	eP	Pn	04 59 56.5	+2.7
STU	Stuttgart	3.18 339	ePn	Pn	04 59 57.4	+3.4
STU			ePg	Pg	05 00 06.3	+1.3
STU			eSn	Sn	05 00 35.5	+3.6
CSP1	Cessapalombo	3.18 148	AML	AML		
	comp=E,133μm,0.5s					
CSP1			AML	AML		
	comp=E,140μm,1.6s					
CSP1			AML	AML		
	comp=N,184μm,1.5s					
CSP1			AML	AML		
	comp=N,184μm,0.6s					
ISO	Isola	3.19 241	P	Pn	04 59 53.5	-0.8
MOMA	Monte Martano	3.24 158	AML	AML		
	comp=N,73μm,0.5s					
MOMA			AML	AML		
	comp=E,218μm,1.5s					
MOMA			AML	AML		
	comp=N,1085μm,1.4s					
MOMA			AML	AML		
	comp=E,67μm,0.6s					
MOMA			AML	AML		
	comp=N,88μm,0.6s					
MOMA			AML	AML		
	comp=E,184μm,0.6s					
MOMA			AML	AML		
	comp=E,58μm,0.5s					
MOMA			AML	AML		
	comp=N,1086μm,1.4s					
BRANT	Les Verrieres	3.27 292	P	Pn	04 59 57.0	+1.5
CREF	Crivoux	3.29 249	P	Pn	04 59 55.3	-0.5
WALT	Westhalten	3.29 312	P	Pn	04 59 58.2	+2.6
MVIF	Mont Vial	3.30 236	P	Pn	04 59 56.2	+0.4
MOF	Molkenrain	3.30 309	P	Pn	04 59 57.8	+2.0
GIMEL	St. Georges /	3.31 284	P	Pn	04 59 57.9	+1.9
ENAUX	Enaux	3.40 241	P	Pn	04 59 57.0	-0.3
HINF	Hinteralfeld	3.43 307	ePn	Pn	04 59 56.2	-1.4
HINF	Hinteralfeld	3.43 307	eP	Pn	04 59 59.4	+1.8
HINF			eSn	Sn	05 00 35.1	-3.2
	comp=N,44nm,0.3s					
CABF	La Chapelle	3.45 285	ePn	Pn	04 59 56.2	-1.6
CABF	La Chapelle	3.45 285	eP	Pn	04 59 59.7	+1.9
CABF			eSn	Sn	05 00 36.6	-2.1
	comp=N,9.2nm,0.2s					
T1214	Arquata del Tr	3.47 151	AML	AML		
	comp=E,110μm,1.0s					
T1214			AML	AML		
	comp=E,81μm,0.5s					
T1214			AML	AML		
	comp=E,110μm,1.0s					
ARSA	Arzberg	3.48 64	i Pn	Pn	05 00 00.8	+2.5
	comp=E,1.3nm,0.2s					
RONF	Ronchamp	3.49 304	P	Pn	05 00 00.3	+1.9
ARRO	Arrone	3.50 157	AML	AML		
	comp=N,68μm,1.1s					
ARRO			AML	AML		
	comp=E,44μm,1.2s					
ECH	Echery	3.52 314	P	Pn	05 00 00.9	+2.2
ECH	Echery	3.52 314	ePn	Pn	05 00 00.9	+2.2
ECH			eSn	Sn	05 00 42.4	+2.1
PGF	Pioggiola	3.55 204	ePn	Pn	04 59 59.7	+0.4
PGF	Pioggiola	3.55 204	P	Pn	04 59 59.7	+0.4
PGF	Pioggiola	3.55 204	S	Sn	05 00 38.9	-2.4
WLS	Welschbruch	3.56 318	P	Pn	05 00 01.9	+2.6
WLS			S	Sn	05 00 44.1	+2.8
GEC2	GERESS Array S	3.57 31	ePn	Pn	05 00 00.1	+0.6
GEC2			eSn	Sn	05 00 42.8	+1.0
WET	Wettzell	3.58 21	ePn	Pn	05 00 00.7	+1.1
WET			ePg	Pg	05 00 11.3	-1.4
WET			eSn	Sn	05 00 42.0	+0.1
WET			eSg	Sg	05 00 55.3	-3.8
CDF	Champ du Feu	3.59 318	eP	Pn	05 00 01.8	+2.0
CDF			eSn	Sn	05 00 44.3	+2.0
	comp=E,8.8nm,0.2s					
SMA1	SAN MARTINO	3.63 151	AML	AML		
	comp=N,76μm,0.9s					
SMA1			AML	AML		
	comp=E,97μm,0.6s					
SMA1			AML	AML		
	comp=N,68μm,0.5s					
SMA1			AML	AML		
	comp=E,97μm,0.6s					
SMA1			AML	AML		
	comp=E,97μm,1.4s					
ORIF	Oris-en-Rattie	3.66 258	ePn	Pn	05 00 00.2	-0.6
ORIF	Oris-en-Rattie	3.66 258	eP	Pn	05 00 02.9	+2.1
ORIF			eSn	Sn	05 00 41.7	-2.4
	comp=E,14nm,0.3s					
CAMP	Campotosto	3.74 151	AML	AML		
	comp=N,49μm,1.1s					
CAMP			AML	AML		
	comp=E,50μm,0.8s					
CAMP			AML	AML		
	comp=N,49μm,1.1s					
CAMP			AML	AML		
	comp=E,50μm,0.8s					
CAMP			AML	AML		
	comp=E,50μm,1.2s					
CAMP			AML	AML		
	comp=N,49μm,0.9s					
KHC	Kasperske Hory	3.77 28	ePN	Pn	05 00 03.1	+0.9
KHC			ePG	Pb	05 00 12.5	+1.8
KHC			eSN	Sn	05 00 47.2	+0.6
KHC			eSG	Sg	05 01 01.8	-3.4
	comp=N,30nm,0.7s					
CKRC	Cesky Krumlov	3.79 36	ePN	Pn	05 00 03.3	+0.9
CKRC			ePG	Pb	05 00 12.0	+1.1
CKRC			eSN	Sn	05 00 47.5	+0.6
CKRC			eSG	Sg	05 01 02.2	-3.4
HAU	Haudompre	3.82 307	ePn	Pn	05 00 01.6	-1.3
HAU	Haudompre	3.82 307	eP	Pn	05 00 04.7	+1.8
HAU			eSn	Sn	05 00 43.9	-3.9
	comp=N,101nm,0.3s					
CIEL	Dossenheim-sur	3.86 323	P	Pn	05 00 06.1	+2.6
LEMB	Lembach	3.87 327	P	Pn	05 00 06.2	+2.7
GRF	Grafenberg Arr	3.88 3	ePn	Pn	05 00 03.7	0.0
GRF			ePg	Pg	05 00 17.3	-1.2
GRF			eSg	Sg	05 01 09.0	+0.4
CONA	Conrad Observa	3.99 56	i Pn	Pn	05 00 07.5	+2.2
	comp=N,0.9nm,0.2s					
LMR	La Mourre	4.01 233	ePn	Pn	05 00 05.2	-0.3
LMR	La Mourre	4.01 233	eP	Pn	05 00 08.5	+3.0
LMR			eSn	Sn	05 00 50.4	-2.1
	comp=N,3.6nm,0.2s					
FAGN	Fagnano	4.04 151	AML	AML		
	comp=N,82μm,0.4s					
FAGN			AML	AML		
	comp=E,106μm,0.5s					
FAGN			AML	AML		
	comp=N,83μm,0.4s					
FAGN			AML	AML		
	comp=E,106μm,0.5s					
ROTZ	Rotzenmuhle	4.04 12	ePn	Pn	05 00 06.0	+0.1
ROTZ			ePg	Pg	05 00 19.7	-1.8
ROTZ			eSn	Sn	05 00 52.3	-1.0
ROTZ			eSg	Sg	05 01 10.8	-3.1
SMRF	Simiane la Rot	4.22 246	ePn	Pn	05 00 07.6	-0.8
SMRF	Simiane la Rot	4.22 246	eP	Pn	05 00 11.3	+2.9
SMRF			eSn	Sn	05 00 54.6	-3.1
	comp=E,3.7nm,0.3s					
ZVC	Zvikov	4.24 30	ePN	Pn	05 00 10.7	+2.0
ZVC			eSN	Sn	05 00 58.2	0.0
ZVC			eSG	Sg	05 01 16.6	-3.7
	comp=E,27nm,0.8s					
ARTF	Artigues	4.28 240	P	Pn	05 00 09.2	+0.1
PAGF	Fort de Pagny	4.47 310	eP	Pn	05 00 14.3	+2.4
PAGF			eSn	Sn	05 00 59.4	-4.5
	comp=E,11nm,0.3s					
VIVF	Saint-Julien-l	4.51 260	ePn	Pn	05 00 11.6	-0.8
VIVF	Saint-Julien-l	4.51 260	eP	Pn	05 00 14.0	+1.6
VIVF			eSn	Sn	05 01 00.8	-4.0
	comp=E,3.7nm,0.2s					
SSB	Saint Sauveur	4.51 265	P	Pn	05 00 12.9	+0.4
NKC	Novy Kostel	4.53 13	ePG	Pb	05 00 26.7	+3.0
NKC			eSG	Sg	05 01 27.8	-1.8
	comp=E,16nm,0.4s					
SFTF	Sexfontaines	4.68 303	ePn	Pn	05 00 13.1	-1.5
SFTF	Sexfontaines	4.68 303	eP	Pn	05 00 16.5	+1.9
SFTF			eSn	Sn	05 01 05.1	-3.8
	comp=E,10nm,0.2s					
MEZF	Maizieres J'vi	4.82 306	ePn	Pn	05 00 14.5	-2.1
MEZF	Maizieres J'vi	4.82 306	eP	Pn	05 00 18.7	+2.1
MEZF			eSn	Sn	05 01 07.3	-5.0
	comp=E,5.4nm,0.3s					
PRU	Pruhonice	4.83 29	eSG	Sg	05 01 36.0	-3.1
	comp=E,9.8nm,0.5s					
MOX	Moxa	4.85 5	ePn	Pn	05 00 19.2	+2.2
MOX			eSn	Sn	05 01 12.3	-0.9
MOX			eSg	Sg	05 01 38.9	-0.9
GOPC	GO Pecny, Ondr	4.85 31	ePG	Pb	05 00 32.1	+3.0
GOPC			eSN	Sn	05 01 12.9	-0.3
GOPC			eSG	Sg	05 01 35.7	-4.2
	comp=E,14nm,0.5s					
KRUC	Moravsky	4.93 47	ePN	Pn	05 00 17.0	-1.1
KRUC			eSN	Sn	05 01 13.7	-1.4
KRUC			eSG	Sg	05 01 37.0	-5.4
SMF	Signal de Mont	4.98 282	ePn	Pn	05 00 17.6	-1.2
SMF	Signal de Mont	4.98 282	eP	Pn	05 00 19.9	+1.1
SMF			eSn	Sn	05 01 12.8	-3.6
	comp=E,26nm,0.3s					
MODS	Modra-Piesok	5.04 57	ePN	Pn	05 00 22.7	+3.1
HSKC	Hora Svate Kat	5.08 18	ePN	Pn	05 00 22.3	+2.2
HSKC			eSG	Sg	05 01 44.7	-2.3
	comp=E,22nm,0.6s					
LOR	Lormes	5.08 289	ePn	Pn	05 00 18.6	-1.6
LOR	Lormes	5.08 289	eP	Pn	05 00 21.2	+1.0
LOR			eSn	Sn	05 01 14.4	-4.5
	comp=E,50nm,0.3s					
VRAC	Vranov	5.19 46	eSN	Sn	05 01 19.4	-2.1
VRAC			eSG	Sg	05 01 44.2	-6.4
SSF	Saint Saulge	5.27 286	ePn	Pn	05 00 21.2	-1.6
SSF	Saint Saulge	5.27 286	eP	Pn	05 00 24.7	+1.9
SSF			eSn	Sn	05 01 18.7	-4.9
	comp=E,7.2nm,0.3s					
LASF	Ste Croix	5.31 253	ePn	Pn	05 00 21.6	-1.7
LASF	Ste Croix	5.31 253	eP	Pn	05 00 25.9	+2.6
LASF			eSn	Sn	05 01 21.2	-3.3
	comp=E,6.8nm,0.4s					
AVF	Avril sur Loir	5.33 283	ePn	Pn	05 00 22.2	-1.4
AVF	Avril sur Loir	5.33 283	eP	Pn	05 00 24.5	+0.9
AVF			eSn	Sn	05 01 21.1	-3.9
	comp=E,4.1nm,0.3s					
LBL	Lubilhac	5.42 267	P	Pn	05 00 26.0	+1.0
BRG	Berggiesshubel	5.44 21	Pn	Pn	05 00 28.9	+3.8
BRG			Amp		05 00 30.2	
	comp=Z,1.3nm,0.3s					
BRG	Berggiesshubel	5.44 21	Pg	Pg	05 00 49.0	+0.6
BRG			Amp		05 00 54.8	
	comp=Z,3.0nm,0.6s					
BRG	Berggiesshubel	5.44 21	Sn	Sn	05 01 25.0	-2.7
BRG			Amp		05 01 28.7	
	comp=Z,4.4nm,0.5s					
BRG	Berggiesshubel	5.44 21	Sg	Sg	05 01 53.8	-5.0
BRG			Amp		05 02 03.4	
	comp=Z,9.1nm,0.7s					
BGF	Bois d'Agland	5.65 280	ePn	Pn	05 00 26.5	-1.6
BGF	Bois d'Agland	5.65 280	eP	Pn	05 00 29.2	+1.1
BGF			eSn	Sn	05 01 28.3	-4.7
	comp=Z,16nm,0.3s					
CLL	Collm	5.66 13	ePn	Pn	05 00 29.0	+0.8
CLL			ePg	Pg	05 00 54.0	+1.5
CLL			ex	x	05 01 31.0	
CLL			ex	x	05 02 02.0	
CLL			eSg	Sg	05 02 06.0	+0.2
	comp=Z,10.0nm,0.6s					
KRLC	Kraliky	5.80 41	eSG	Sg	05 02 06.7	-3.5
	comp=Z,13nm,0.7s					
DPC	Dobruska-Polom	5.80 37	eSG	Sg	05 02 05.6	-4.6
	comp=Z,9.9nm,0.6s					
OSTC	Ostas	5.92 35	eSG	Sg	05 02 10.8	-3.1
	comp=Z,11nm,0.6s					
MORC	Moravsky Berou	5.96 46	eSG	Sg	05 02 13.5	-2.0
TCF	Toulx Ste Croi	6.08 278	ePn	Pn	05 00 32.4	-1.5
TCF	Toulx Ste Croi	6.08 278	eP	Pn	05 00 35.2	+1.3
TCF			eSn	Sn	05 01 39.1	-4.4
	comp=Z,11nm,0.2s					

ROM 31 05:01:42.3±0.1, 42°.501N±0°.004×13°.308E±0°.006, h11km, ML1.2/26, 3C-2D, Error ellipse: s-maj=0.6km s-min=0.4km az=266.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1247	Pizzolo (AQ)	0.06	187	⇑P	Pg	05 01 45.1	+0.4
T1247				S	Sg	05 01 46.8	+0.4
T1247				AML	AML		
	comp=N,646μm,0.4s						
T1247				AML	AML		
	comp=E,1040μm,0.4s						
T1247				AML	AML		
	comp=N,507μm,0.1s						
T1247				AML	AML		
	comp=E,825μm,0.1s						
RM33	Pellescritta (	0.07	276	⇑P	Pg	05 01 45.1	+0.3
RM33				S	Sg	05 01 46.8	+0.2
RM33				AML	AML		
	comp=E,268μm,0.3s						
RM33				AML	AML		
	comp=N,196μm,1.2s						
RM33				AML	AML		
	comp=E,268μm,0.3s						
RM33				AML	AML		
	comp=N,183μm,0.1s						
RM33				AML	AML		
	comp=E,232μm,0.2s						
RM33				AML	AML		
	comp=E,247μm,0.1s						
RM33				AML	AML		
	comp=N,181μm,0.1s						
CAMP	Campotosto	0.08	65	P	Pg	05 01 45.4	+0.4
CAMP				S	Sg	05 01 47.5	+0.6
SMA1	SAN MARTINO	0.13	9	⇓P	Pg	05 01 46.2	+0.6
SMA1				S	Sg	05 01 49.1	+1.2
SMA1				AML	AML		
	comp=E,224μm,0.6s						
SMA1				AML	AML		
	comp=N,440μm,0.4s						
SMA1				AML	AML		
	comp=N,415μm,0.3s						
SMA1				AML	AML		
	comp=E,222μm,0.2s						
GIGS	Gran Sasso	0.20	105	P	Pg	05 01 47.1	+0.4
GIGS				S	Sg	05 01 50.4	+0.7
GIGS				AML	AML		
	comp=E,16μm,0.2s						
GIGS				AML	AML		
	comp=N,18μm,0.1s						
TERO	Teramo	0.25	61	P	Pg	05 01 47.9	+0.4
TERO				S	Sg	05 01 51.9	+0.9
TERO				AML	AML		
	comp=N,31μm,0.1s						
TERO				AML	AML		
	comp=E,50μm,1.1s						
TERO				AML	AML		
	comp=N,28μm,0.6s						
TERO				AML	AML		
	comp=E,43μm,0.5s						
MTRA	Matera	0.26	14	⇓P	Pg	05 01 48.2	+0.4
MTRA				S	Sg	05 01 52.4	+0.9
MTRA				AML	AML		
	comp=E,213μm,0.2s						
MTRA				AML	AML		
	comp=N,276μm,0.4s						
MTRA				AML	AML		
	comp=N,248μm,0.2s						
MTRA				AML	AML		
	comp=N,272μm,0.2s						
MTRA				AML	AML		
	comp=E,221μm,0.2s						
MTRA				AML	AML		
	comp=E,213μm,0.2s						
T1214	Arquata del Tr	0.27	344	P	Pg	05 01 48.6	+0.6
T1214				S	Sg	05 01 52.6	+0.9
T1214				AML	AML		
	comp=N,32μm,1.6s						
T1214				AML	AML		
	comp=E,38μm,0.8s						
T1214				AML	AML		
	comp=N,33μm,0.6s						
FIAM	Fiamignano	0.27	211	P	Pb	05 01 49.1	-0.2
FIAM				S	Sg	05 01 52.7	+1.0
NRCA	Norcia	0.36	337	⇑P	Pg	05 01 49.8	+0.2
NRCA				S	Sg	05 01 55.5	+1.0
NRCA				AML	AML		
	comp=E,75μm,0.1s						
NRCA				AML	AML		
	comp=N,36μm,0.2s						
NRCA				AML	AML		
	comp=N,92μm,1.2s						
NRCA				AML	AML		
	comp=E,154μm,0.7s						

*DJA **31** 05:03:44.9±0.2, 9°.S±3°.×11°.9E±°, h126km±2km, M5.1/30, mb5.1/30, mB5.5/13, MLv5.3/23, Mw(mB)5.0/13*
*NEIC **31** 05:03:44.1±2.9, 8°.76S±0°.07×118°.85E±0°.07, h110km±6km, mb4.9/37, Error ellipse: s-maj=11.1km s-min=8.8km az=218.0*
*IDC **31** 05:03:46.0±1.4, 8°.65S×118°.93E, h131km±12km, mb4.2/21, mbtmp4.7/25, Error ellipse: s-maj=16.0km s-min=8.0km az=60.0*

ISC 31 05:03:43.9±0.5, 8°.78S±0°.05×118°.91E±0°.04, h115km±4km, n172, σ1°.80/188, mb4.8/47, 1C-1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.12	267	P	Pn	05 04 08.6	+1.8
PLAI	Plampang	1.12	267	P	Pn	05 04 08.7	+1.9
TWSI	Taliwang, Sumb	2.01	271	P	Pn	05 04 19.2	+2.0
TWSI				S	Sn	05 04 44.8	+2.1
BASI	Baing, Sumba	2.18	131	P	Pn	05 04 20.0	+0.6
EDFI	Ende, Flores	2.75	90	P	Pn	05 04 28.0	+1.1
MMRI	Maumere	3.29	88	Pn	Pn	05 04 34.6	+0.7
MMRI	Maumere	3.29	88	P	Pn	05 04 35.2	+1.2
MMRI	Maumere	3.29	88	P	Pn	05 04 35.0	+1.0
BKSI	Bulukumba	3.64	19	P	Pn	05 04 40.2	+1.6
DNP	Denpasar	3.66	271	P	Pn	05 04 40.4	+1.6
IGBI	Denpasar	3.72	269	P	Pn	05 04 41.3	+1.6
SRBI	Singaraja	3.72	280	P	Pn	05 04 40.7	+1.0
KAPI	Kappang	3.83	13	Pn	Pn	05 04 42.0	+0.8

KAPI	Kappang	3.83	13	P	Pn	05 04 43.2	+2.0
KAPI	Kappang	3.83	13	P	Pn	05 04 43.1	+2.0
	36nm,0.2s,baz=214,slow=3.3,SNR=26						
KAPI				S	Sn	05 05 26.3	+0.7
	103nm,0.5s,baz=83,slow=22,SNR=18						
JAGI	Jajag, Banyuwa	4.72	273	Pn	Pn	05 04 52.3	-0.7
JAGI	Jajag, Banyuwa	4.72	273	P	Pn	05 04 53.2	+0.2
JAGI	Jajag, Banyuwa	4.72	273	P	Pn	05 04 52.9	-0.1
ABJI	Asem Bagus	4.73	282	P	Pn	05 04 55.3	+2.1
BBSI	Bau Bau	4.89	48	P	Pn	05 04 57.9	+2.6
BATI	Baumata	4.90	107	P	Pn	05 04 56.4	+0.9
BATI	Baumata	4.90	107	P	Pn	05 04 56.8	+1.3
	456nm,0.4s,baz=312,slow=2.8,SNR=59						
BATI				S	Sn	05 05 49.4	-1.7
	967nm,0.4s,baz=308,slow=18,SNR=8.0						
BLJI	Banyuglugur	5.36	281	P	Pn	05 05 03.6	+1.9
	323nm,0.4s,9μm2.3nm						
SOEI	Soe	5.38	101	Pn	Pn	05 05 02.9	+0.8
SOEI	Soe	5.38	101	P	Pn	05 05 03.1	+1.1
SOEI	Soe	5.38	101	P	Pn	05 05 02.8	+0.8
	683nm,0.8s,7μm4.4nm						
GMJI	Gumukmas	5.43	275	P	Pn	05 05 02.6	0.0
	152nm,0.4s,4μm1.9nm						
TTSI	Tana Toraja	5.77	9	P	Pn	05 05 11.7	+4.5
	97nm,0.8s,912nm0.4nm						
GRJI	Gresik	6.64	286	P	Pn	05 05 21.2	+2.2
	228nm,0.7s,3μm0.8nm						
BBKI	Banjar Baru	6.65	322	P	Pn	05 05 23.6	+4.4
	420nm,1.0s,12μm1.6nm						
BWJI	Bawean	6.85	295	P	Pn	05 05 24.8	+2.9
	418nm,0.7s,3.1nm						
WOJI	Wonogiri, Jawa	7.96	276	P	Pn	05 05 38.8	+1.9
	93nm,0.5s,1.1nm						
UGM	Wanagama	8.35	275	Pn	Pn	05 05 41.8	-0.4
UGM	Wanagama	8.35	275	P	Pn	05 05 44.4	+2.2
UGM	Wanagama	8.35	275	P	Pn	05 05 43.6	+1.4
	141nm,0.8s						
LUWI	Luwuk	8.59	27	Pn	Pn	05 05 47.5	+2.0
MPSI	Mapaga	9.11	6	P	Pn	05 05 55.9	+3.4
MRSI	Marisa	9.68	18	P	Pn	05 06 04.1	+3.9
	42nm,0.9s						
SANI	Sanana	9.71	47	P	Pn	05 06 03.1	+2.5
	162nm,1.2s,2μm						
NLAI	Namlea	9.83	56	P	Pn	05 06 06.6	+4.4
	91nm,1.0s						
KPJI	Karang Pucung	9.99	278	P	Pn	05 06 05.0	+0.7
	45nm,0.6s						
GTOI	Gorontalo	10.21	24	P	Pn	05 06 25.5	+18
BBJI	Bungbulang	11.22	276	P	Pn	05 06 21.3	+0.2
LEM	Lembang	11.36	279	P	Pn	05 06 22.9	0.0
	32nm,0.6s,baz=337,slow=16,SNR=4.9						
STKI	Sintang	11.49	320	P	Pn	05 06 28.2	+3.6
BNDI	Bandanaira	11.71	70	P	P	05 06 37.5	+1.6
LBMI	Labuha	11.77	47	P	P	05 06 40.8	+4.1
KNRA	Kununurra	11.82	126	Pn	Pn	05 06 26.9	-2.0
KNRA	Kununurra	11.82	126	P	Pn	05 06 27.6	-1.3
CBJI	Citeko	12.18	280	P	P	05 06 42.8	+1.4
SAUI	Saumlaki	12.28	87	Pn	Pn	05 06 33.8	-1.3
SAUI	Saumlaki	12.28	87	P	Pn	05 06 34.2	-0.9
	554nm,0.7s						
MBWA	Marble Bar	12.33	176	Pn	Pn	05 06 34.5	-1.2
MBWA	Marble Bar	12.33	176	P	Pn	05 06 35.3	-0.4
MTN	Manton Dam	12.66	110	P	Pn	05 06 37.9	-2.1
PSA00	Pilbara Seismi	12.75	176	P	Pn	05 06 41.1	0.0
CGJI	Cibinong	13.28	278	P	Pn	05 06 46.9	-1.1
	74nm,0.6s						
KDU	Kakadu	13.88	107	P	Pn	05 06 54.0	-1.8
FAKI	Fak Fak	14.48	67	Pn	Pn	05 07 01.6	-2.0
FAKI	Fak Fak	14.48	67	P	Pn	05 07 01.5	-2.0
FAKI	Fak Fak	14.48	67	P	Pn	05 07 02.6	-1.0
	109nm,0.8s,1μm						
GIRL	Giralia	14.50	198	Pn	Pn	05 07 03.6	-0.1
GIRL	Giralia	14.50	198	P	Pn	05 07 03.2	-0.5
KASI	Kota Agung	14.66	282	P	P	05 07 07.9	-1.0
	90nm,0.8s						
LHSI	Lahat	16.06	287	P	P	05 07 25.1	+0.6
	29nm,0.8s,4μm						
MNAI	Manna	16.44	284	P	P	05 07 28.7	0.0
	444nm,1.6s						
WRA	Warramunga Arr	18.60	128	P	Pn	05 07 54.4	+0.4
	12nm,0.5s,baz=305,slow=13,SNR=44						
WRA				S	S	05 11 11.6	-6.9
	14nm,0.8s,baz=307,slow=23,SNR=7.5						
WRA				ScP	ScP	05 15 40.9	-1.1
	1.8nm,0.4s,baz=320,slow=2.0,SNR=4.5						
WRAB	Tennant Creek	18.60	128	P	Pn	05 07 54.6	+0.7
WB2	Warramunga Arr	18.61	128	P	Pn	05 07 54.6	+0.6
WR0	Warramunga Arr	18.76	128	P	Pn	05 07 55.9	0.0
AS31	Alice Springs	20.62	138	P	P	05 08 15.2	+1.0
ASAR	Alice Springs	20.62	138	P	P	05 08 15.1	+0.9
ASAR	Alice Springs	20.62	138	P	P	05 08 15.3	+1.1
	20nm,0.6s,baz=313,slow=9.4,SNR=20						
ASAR				S	S	05 11 59.8	+1.3
	19nm,0.8s,baz=314,slow=24,SNR=11						
ASAR				ScP	ScP	05 15 45.8	-0.8
	2.9nm,0.9s,baz=263,slow=1.6,SNR=5.5						
	20nm,0.6s						
RPSI	Rantau Prapat	22.96	299	P	P	05 08 37.0	-1.6
COEN	Coen	24.33	104	P	P	05 08 51.0	-0.2
BBOO	Buckleboo	28.70	149	P	P	05 09 31.0	+0.8
BBOO				IAmb	IAmb	05 10 35.9	
	comp=Z,80nm,1.9s						
CTAO	Charters Tower	28.72	116	P	P	05 09 31.8	+1.2
STKA	Stephens Creek	31.18	141	P	P	05 09 53.5	+1.3
STKA	Stephens Creek	31.18	141	P	P	05 09 53.4	+1.3
	comp=Z,9.8nm,0.5s,baz=323,slow=9.2,SNR=12						
	comp=Z,9.8nm,0.5s						
CMAR	Chiang Mai Arr	33.48	324	P	P	05 10 13.2	+0.8
	comp=Z,6.6nm,0.7s,baz=153,slow=6.7,SNR=21						
CMAR				PcP	PcP	05 12 52.0	+1.0
	comp=Z,3.6nm,0.7s,baz=176,slow=2.8,SNR=6.6						
	comp=Z,6.6nm,0.7s						
CRAI	Chiangrai	34.11	328	P	P	05 10 18.5	+0.7
CRAI				IAmb	IAmb	05 10 19.6	
	comp=Z,8.0nm,0.8s						
ARMA	Armidale	37.37	130	P	P	05 10 47.8	+2.1
ARMA				IAmb	IAmb	05 10 50.0	
	comp=Z,16nm,0.8s						
TOO	Toolangi	37.40	144	P	P	05 10 48.1	+2.3
TOO				IAmb	IAmb	05 10 49.4	
	comp=Z,23nm,1.1s						
CAN	Canberra	38.12	138	P	P	05 10 53.6	+1.6
PZH	PanZhiHua	38.83	335	P	P	05 11 01.5	+3.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,200nm,4.9s						
CD2	Chengdu	42.05	340	eP	P	05 11 26.0	+1.6
SHL	Shillong	43.10	323	P	P	05 11 31.6	-1.5
XAN	Xi'an	43.63	348	⇑P	P	05 11 36.8	-0.2
XAN				pP	pP	05 12 08.8	+5.7
XAN				pmax	pmax		
	comp=Z,11nm,1.2s						
JTU	Tsushima	44.20	12	P	P	05 11 41.0	-0.5
LSA	Lhasa	46.66	326	IAmb	IAmb	05 12 07.9	
	comp=Z,18nm,0.6s						
KSRS	Korea Array	46.76	10	P	P	05 12 01.5	-0.1
	comp=Z,7.0nm,0.6s,baz=189,slow=9.9,SNR=17						
	comp=Z,7.0nm,0.6s						
TAPN	Taplejung	46.94	321	eP	P	05 12 02.8	-0.8
	comp=Z,54nm,0.5s						
RAMN	Ramite	47.37	320	eP	P	05 12 06.9	0.0
	comp=Z,24nm,0.6s						
DZM	Mont Dzumac	47.49	112	P	P	05 12 08.9	+1.1
	comp=Z,5.3nm,0.8s,baz=281,slow=8.3,SNR=3.6						
	comp=Z,5.3nm,0.8s						
JIRN	Jiri	48.12	320	eP	P	05 12 11.6	-1.2
	comp=Z,29nm,0.6s						
GUN	Gumba	48.49	320	eP	P	05 12 14.5	-1.1
	comp=Z,55nm,0.7s						
PKI	Pulchoki	48.56	319	eP	P	05 12 14.8	-1.3
	comp=Z,14nm,0.5s						
PKIN	Phulchoki	48.57	319	eP	P	05 12 15.1	-1.1
	comp=Z,22nm,0.5s						
MJAR	Matsushiro Arr	48.59	21	P	P	05 12 13.5	-2.3
	comp=Z,1.9nm,0.6s,baz=189,slow=8.9,SNR=2.6						
	comp=Z,1.9nm,0.6s						
HHC	Hu-ho-hao-te	49.84	353	⇓P	P	05 12 27.5	+2.1
HHC				pmax	pmax		
	comp=Z,17nm,0.5s						
HHC				pmax	pmax		
	comp=Z,880nm,7.9s						
DANN	Dangsing	50.16	319	eP	P	05 12 26.6	-1.6
	comp=Z,51nm,0.5s						
PYUN	Piuthan	50.50	318	eP	P	05 12 29.2	-1.5
	comp=Z,26nm,0.5s						
GTA	Gaotai	51.12	341	eP	P	05 12 36.5	+1.4
GTA				pP	pP	05 12 50.3	-12
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
GTA				LR	LR		
	comp=N,360nm,15.3s						
GTA				LR	LR		
	comp=E,620nm,20.0s						
GTA				LR	LR		
	comp=Z,950nm,22.9s						
XLT	XiLinHaoTe	52.49	357	eP	P	05 12 45.5	+0.4
XLT				pP	sP	05 13 19.0	-5.7
XLT				sP	pP	05 13 26.8	+15
XLT				PcP	PcP	05 13 47.5	-6.7
XLT				PP	PP	05 14 54.3	+9.0
XLT				pmax	pmax		
	comp=Z,12nm,1.0s						
XLT				pmax	pmax		
	comp=Z,300nm,5.5s						
MDJ	Mudanjiang	54.02	9	P	P	05 12 55.5	-0.7
MDJ				pP	pP	05 13 20.0	-3.6
MDJ				sP	sP	05 13 33.5	-2.9
MDJ				PcP	PcP	05 13 55.3	-4.5
MDJ				ScP	ScP	05 17 42.5	-4.8
MDJ				PcS	PcS	05 17 55.8	-3.3
MDJ				S	S	05 20 26.5	+3.2
MDJ				sS	sS	05 21 12.3	+1.5
MDJ				pmax	pmax		
	comp=Z,31nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,380nm,5.9s						
USA0B	Ussuriysk Arra	54.05	12	P	P	05 12 55.6	-0.7
USA0B				IAmb	IAmb	05 12 56.2	
	comp=Z,12nm,0.8s						
USRK	Ussuriysk Ar.	54.05	12	P	P	05 12 55.8	-0.6
USRK	Ussuriysk Ar.	54.05	12	P	P	05 12 55.6	-0.8
	comp=Z,9.3nm,0.6s,baz=187,slow=6.4,SNR=15						
	comp=Z,9.3nm,0.6s						
LBZ	Lake Benmore	56.70	138	P	P	05 13 15.9	+0.4
LBZ				IAmb	IAmb	05 15 06.3	
	comp=Z,22nm,1.4s						
ULN	Ulaanbaatar	57.37	351	P	P	05 13 19.9	-0.3
ULN				IAmb	IAmb	05 13 21.2	
	comp=Z,11nm,0.7s						
ULN	Ulaanbaatar	57.37	351	P	P	05 13 20.1	-0.1
ULN				sP	sP	05 13 58.4	-2.0
SONM	Songino Array	57.45	350	P	P	05 13 21.2	+0.4
SONM				IAmb	IAmb	05 13 21.8	
	comp=Z,12nm,0.7s						
SONM	Songino Array	57.45	350	P	P	05 13 20.7	-0.1
	comp=Z,15nm,0.6s,baz=167,slow=8.3,SNR=34						
	comp=Z,15nm,0.6s						
THZ	Tophouse	57.63	134	P	P	05 13 23.4	+1.2
THZ				IAmb	IAmb	05 14 00.3	
	comp=Z,32nm,1.5s						
MSVF	Nonsavu	58.05	105	P	P	05 13 27.6	+2.0
MSVF	Nonsavu	58.05	105	P	P	05 13 27.2	+1.6
MSVF				sP	sP	05 14 05.2	-0.4
WMQ	Urumqi	59.52	334	eP	P	05 13 35.3	+0.1
WMQ				pmax	pmax		
	comp=Z,33nm,0.9s						
SHLS	Shalkode	62.92	329	eP	P	05 13 56.2	-2.0
	baz=329						
UZB	Uzynbulak	63.14	328	eP	P	05 13 59.2	-0.5
	baz=328						
SATY	Saty	63.41	328	eP	P	05 14 00.7	-0.7
	baz=328						
ZSN	Zaisan	63.61	335	eP	P	05 14 01.6	-0.9
	baz=335						
KBL	Kabul	63.88	315	P	P	05 14 03.5	-1.2
KBL				IAmb	IAmb	05 14 03.8	
	comp=Z,12nm,0.6s						
MDOK	Medeo	64.20	327	eP	P	05 14 05.3	-1.3
	baz=327						
MK31	Makanchi Array	64.22	333	P	P	05 14 05.6	-1.0
MK31				IAmb	IAmb	05 14 06.6	
	comp=Z,9.3nm,0.8s						
MKAR	Makanchi Array	64.22	333	P	P	05 14 05.8	-0.7
MKAR	Makanchi Array	64.22	333	P	P	05 14 06.0	-0.6
	comp=Z,12nm,0.6s,baz=143,slow=7.4,SNR=84						
	comp=Z,12nm,0.6s						
MAKZ	Makanchi	64.37	333	P	P	05 14 06.9	-0.6
TDK	Taldyqorghan	64.77	329	eP	P	05 14 08.9	-1.2
	baz=329						
KUU	Kurty	65.07	327	eP	P	05 14 11.0	-1.2
	comp=Z,8.3nm,0.7s,baz=327						
AAK	Ala-Archa	65.25	325	P	P	05 14 11.9	-1.6
AAK	Ala-Archa	65.25	325	P	P	05 14 12.7	-0.8
AAK				PcP	PcP	05 14 45.5	+0.6
SGDS	Sogindy	65.70	326	eP	P	05 14 14.9	-1.4
	baz=326						
BTK	Batken	65.83	321	IAmb	IAmb	05 14 18.4	
	comp=Z,7.0nm,0.9s						
SIMJ	Simiganj	66.17	319	P	P	05 14 18.3	-1.1
SIMJ				PcP	PcP	05 14 49.0	+0.1
SIMJ				sP	sP	05 14 57.9	-2.8
IUG	luzhnay	67.54	323	eP	P	05 14 27.2	-0.9
	comp=Z,13nm,0.7s,baz=323						
KK31	Karatay Array	67.83	324	P	P	05 14 27.6	-2.1
KKAR	Karatay Array	67.83	324	P	P	05 14 27.4	-2.3
SEM	Semipalatinsk	67.83	334	eP	P	05 14 29.6	-0.3
	comp=Z,5.6nm,0.5s,baz=334						
KURBB	Kurchatov Arra	68.73	334	P	P	05 14 34.0	-1.2
	comp=Z,6.3nm,0.7s,baz=144,slow=5.7,SNR=55						
	comp=Z,6.3nm,0.7s						
KURK	Kurchatov	68.76	334	P	P	05 14 33.4	-1.9
KURK				IAmb	IAmb	05 14 35.1	
	comp=Z,12nm,0.9s						
KURK	Kurchatov	68.76	334	P	P	05 14 34.4	-0.9
KURK				pP	pP	05 15 02.4	-1.4
ZAA0	Zalesovo Array	68.81	339	P	P	05 14 33.6	-1.9
ZAA0				IAmb	IAmb	05 14 34.7	
	comp=Z,12nm,0.8s						
ZALV	Zalesovo Beam	68.81	339	P	P	05 14 33.5	-2.0
ZALV	Zalesovo Beam	68.81	339	P	P	05 14 34.0	-1.5
	comp=Z,12nm,0.6s,baz=141,slow=5.1,SNR=42						
	comp=Z,12nm,0.6s						
MAW	Mawson	69.41	200	P	P	05 14 41.4	+2.3
	comp=Z,1.5nm,0.6s,baz=106,slow=12,SNR=2.3						
	comp=Z,1.5nm,0.6s						
PETK	Petropavlovsk-	69.91	24	P	P	05 14 42.2	-0.1
	comp=Z,4.4nm,0.6s,baz=227,slow=3.1,SNR=11						
	comp=Z,4.4nm,0.6s						
BRZS	Berezniki	71.00	330	eP	P	05 14 48.2	-0.8
	baz=330						
GEYT	Alibeck	73.23	314	P	P	05 15 01.3	-1.3
	comp=Z,3.5nm,0.5s,baz=139,slow=4.9,SNR=6.3						
	comp=Z,3.5nm,0.5s						
BVAR	Borovoye Array	74.06	332	P	P	05 15 05.9	-1.2
	comp=Z,4.1nm,0.7s,baz=132,slow=7.2,SNR=22						
	comp=Z,4.1nm,0.7s						
BRVK	Borovoye	74.13	332	P	P	05 15 05.9	-1.7
BRVK				IAmb	IAmb	05 17 42.1	
	comp=Z,16nm,1.3s						
ABKAR	Akbulak array	77.33	325	P	P	05 15 23.7	-2.1
ABKAR				IAmb	IAmb	05 15 25.4	
	comp=Z,12nm,0.7s						
KIBK	Kibwezi	80.62	269	P	P	05 15 45.4	+0.7
QSPA	South Pole Qui	81.21	180	P	P	05 15 49.1	+2.2
	comp=Z,1.2nm,0.7s,baz=0.0,slow=10,SNR=2.2						
	comp=Z,1.2nm,0.7s						
KMBO	Kilima Mbogo	81.59	270	P	P	05 15 50.1	+0.1
AKH	Akhalkalaki	84.99	313	P	P	05 16 06.2	-0.7
GURO	Guroymak-BITLI	85.31	310	P	P	05 16 08.4	0.0
GURO				IAmb	IAmb	05 16 09.8	
	comp=Z,16nm,1.0s						
KBZ	Khabaz	86.06	315	P	P	05 16 11.7	-0.1
	comp=Z,7.6nm,0.8s,baz=82,slow=4.6,SNR=10						
	comp=Z,7.6nm,0.8s						
MBAR	Mbarara	88.10	270	P	P	05 16 22.9	+0.3
BOSA	Boshof	89.03	241	P	P	05 16 27.7	+1.1
	comp=Z,1.7nm,0.7s,baz=104,slow=4.5,SNR=5.8						
	comp=Z,1.7nm,0.7s						
MMAI	Mount Meron Ar	89.33	303	P	P	05 16 28.3	+0.5
	comp=Z,0.9nm,0.4s,baz=106,slow=7.7,SNR=2.3						
	comp=Z,0.9nm,0.4s						
BRTR	Keskin Array B	91.93	310	P	P	05 16 38.4	-1.5
	comp=Z,1.7nm,0.8s,baz=138,slow=6.0,SNR=6.8						
	comp=Z,1.7nm,0.8s						
E19K	Redstone River	95.69	23	P	P	05 16 55.3	-1.0
E19K				IAmb	IAmb	05 16 56.7	
	comp=Z,5.7nm,0.8s						
ILAR	Eielson Array	99.67	26	P	Pdif	05 17 12.2	-2.0
	comp=Z,0.2nm,0.6s,baz=254,slow=5.2,SNR=4.6						
	comp=Z,0.2nm,0.6s						
TORD	Torodi Ar. Bea	118.34	280	PKP	PKPdf	05 22 18.7	-0.1
	comp=Z,2.2nm,0.5s,baz=36,slow=2.4,SNR=25						
NVAR	Mina Array Bea	120.95	50	PKP	PKiKP	05 22 23.6	0.0
	comp=Z,0.2nm,0.5s,baz=258,slow=3.6,SNR=1.8						
ARF	Arif	122.72	302	P	Pdif	05 18 57.0	-0.6
MDT	Midelt	122.78	303	P	Pdif	05 18 55.2	-2.7
LCRM	LCR	122.81	304	P	Pdif	05 18 55.0	-3.1
DBIC	Dimbokro	124.28	272	PKP	PKiKP	05 22 30.6	+0.1
	comp=Z,2.5nm,0.6s,baz=50,slow=1.8,SNR=5.2						
CPUP	Villa Florida	144.91	186	PKPbc	PKPdf	05 23 08.1	-0.2
	comp=Z,2.4nm,0.6s,baz=184,slow=1.2,SNR=7.0						
BDFB	Brasília	152.50	208	PKPbc	PKiKP	05 23 28.1	0.0
	comp=Z,2.4nm,0.8s,baz=176,slow=7.1,SNR=3.4						
LPAZ	La Paz	154.14	164	PKPbc	PKiKP	05 23 33.6	+1.5
	comp=Z,1.0nm,0.7s,baz=198,slow=2.8,SNR=2.6						

DJA 31 05:22:08.9±0.5, 9°S±5°×11°9E±°, h111km±6km, M3.6/6, mb3.9/1, MLv3.5/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.13	266	P	Pn	05 22 32.2	+0.6
PLAI				S	Sn	05 22 49.8	+1.1
TWSI	Taliwang, Sumb	2.02	270	P	Pn	05 22 42.6	+0.5
TWSI				S	Sn	05 23 09.0	+1.5
BASI	Baing, Sumba	2.20	132	S	Sn	05 23 11.8	+0.1
EDFI	Ende, Flores	2.74	90	P	Pn	05 22 51.8	+0.2
MMRI	Maumere	3.28	88	P	Pn	05 22 59.4	+0.7
BKSI	Bulukumba	3.60	19	P	Pn	05 23 03.6	+0.7
SRBI	Singaraja	3.73	280	P	Pn	05 23 04.5	-0.1
JAGI	Jajag, Banyuwa	4.72	273	P	Pn	05 23 16.4	-1.6
GTOI	Gorontalo	10.17	24	P	Pn	05 24 25.3	-6.5

*STR **31** 05:22:46.8±0.8, 43°N±4°×°±°, h10km, MLv1.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=150.9, preliminary*
*LDG **31** 05:22:47.1±0.1, 43.49°N×7.35E, h2km, Ml2.6/1, Error ellipse: s-maj=2.4km s-min=1.0km az=148.0*
*ROM **31** 05:22:47.6±0.2, 43.554°N±0.009°×7.348°E±0.009, h9km, ML1.2/12, Error ellipse: s-maj=1.0km s-min=0.7km az=175.0*

ISC 31 05:22:45.9±1.2, 43°47N±0.05°×7°36E±0.03, h16km±7km, n42, σ0°34/65, 3C, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EILF	Villa Eilenroc	0.18	295	Pg	Pg	05 22 50.5	+0.1
EILF				Sg	Sg	05 22 52.9	-0.5
MON	Monaco	0.26	10	Pg	Pg	05 22 51.5	-0.2
MON				Sg	Sg	05 22 55.7	+0.1
BURY	Giardini Botan	0.34	25	P	Pb	05 22 53.7	+0.1
BURY				S	Sb	05 22 58.7	-0.1
BURY				AML	AML		
	comp=E,94μm,0.6s						
BURY				AML	AML		
	comp=N,142μm,0.3s						
BURY				AML	AML		
	comp=N,141μm,0.3s						
BURY				AML	AML		
	comp=E,87μm,0.3s						
BURY	Giardini Botan	0.34	25	Pg	Pb	05 22 53.7	+0.1
BURY				Sg	Sb	05 22 58.7	-0.1
ESCA	l'Escarene	0.36	2	Pg	Pb	05 22 53.9	0.0
ESCA				Sg	Sg	05 22 58.9	+0.4
SBF	Sospel	0.40	8	ePg	Pb	05 22 54.5	-0.1
SBF				eSg	Sb	05 23 00.2	-0.2
	comp=E,14nm,0.2s						
CALF	Calern	0.42	312	Pg	Pg	05 22 54.8	+0.3
CALF				Sg	Sg	05 23 00.2	-0.2
MVIF	Mont Vial	0.45	341	Pg	Pg	05 22 55.2	+0.2
MVIF				Sg	Sg	05 23 01.6	+0.3
TURF	col de Turini	0.50	3	Pg	Pg	05 22 56.2	+0.1
TURF				Sg	Sb	05 23 03.5	-0.1
SAOF	Saorge	0.53	15	P	Pg	05 22 56.8	+0.2
SAOF				S	Sg	05 23 03.6	-0.1
SAOF	Saorge	0.53	15	Pg	Pg	05 22 56.7	+0.2
SAOF				Sg	Sg	05 23 03.9	+0.2
IMI	Imperia	0.58	41	P	Pb	05 22 58.1	+0.3
IMI				S	Sb	05 23 06.3	+0.4
IMI				AML	AML		
	comp=E,40μm,1.4s						
IMI				AML	AML		
	comp=N,40μm,0.1s						
SPIF	crte de Spivo	0.59	351	Pg	Pg	05 22 57.6	0.0
SPIF				Sg	Sg	05 23 05.4	-0.2
LMR	La Mourre	0.64	258	ePg	Pb	05 22 58.7	+0.1
LMR				eSg	Sb	05 23 07.1	-0.1
	comp=N,7.0nm,0.2s						
MGRO	Montegrosso	0.66	30	P	Pb	05 22 59.5	+0.4
MGRO				S	Sb	05 23 08.2	+0.1
MGRO				AML	AML		
	comp=E,40μm,0.6s						
MGRO				AML	AML		
	comp=N,57μm,1.7s						
MGRO	Montegrosso	0.66	30	Pg	Pb	05 22 59.4	+0.4
MGRO	Montegrosso	0.66	30	Sg	Sb	05 23 08.1	+0.1
TRIGF	Trigance	0.74	292	Pg	Pg	05 23 00.8	+0.3
TRIGF				Sg	Sb	05 23 10.2	-0.2
ISO	Isola	0.75	343	Pg	Pb	05 23 00.5	0.0
ISO				Sg	Sb	05 23 09.9	-0.6
ENR	Entracque	0.76	3	P	Pb	05 23 00.9	+0.1
ENR				S	Sb	05 23 10.6	-0.3
ENR				AML	AML		
	comp=E,12μm,1.3s						
ENR				AML	AML		
	comp=N,14μm,0.6s						
ENR	Entracque	0.76	3	Pg	Pb	05 23 00.8	+0.1
ENR	Entracque	0.76	3	Sg	Sb	05 23 10.5	-0.3
ENAUX	Enaux	0.77	327	Pg	Pg	05 23 01.2	+0.3
ENAUX				Sg	Sb	05 23 10.7	-0.4
STV	Sant Anna di V	0.77	358	P	Pb	05 23 01.1	0.0
STV				S	Sb	05 23 10.9	-0.4
STV				AML	AML		
	comp=E,16μm,2.0s						
STV				AML	AML		
	comp=N,16μm,1.4s						
STV	Sant Anna di V	0.77	358	Pg	Pb	05

σ1§12/45, mb4.3/16, 3C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	1.00	272		Pn	05 25 25.6	-1.4
MARNC	**Mare, Loyalty**	1.00	272	P	Pn	05 25 25.7	-1.3
PINNC	**Pines Island,**	1.89	234		Pn	05 25 37.9	-1.2
PINNC	**Pines Island,**	1.89	234	P	Pn	05 25 38.2	-0.9
LIFNC	**LIFOU**	1.89	293		Pn	05 25 36.8	-2.4
LIFNC	**LIFOU**	1.89	293	P	Pb	05 25 44.1	+1.3
YATNC	**Mamie plateau,**	2.13	255	P	Pn	05 25 40.7	-1.8
OUENC	**Ouen Island, N**	2.29	247		Pn	05 25 44.2	-0.4
OUENC	**Ouen Island, N**	2.29	247	P	Pn	05 25 44.2	-0.4
DZM	**Mont Dzumac**	2.54	257		Pn	05 25 47.7	-0.5
DZM	**Mont Dzumac**	2.54	257	P	Pn	05 25 48.2	0.0
DZM	**Mont Dzumac**	2.54	257	Pn	Pn	05 25 47.8	-0.4
	2.2nm,0.3s,baz=81,slow=17,SNR=68						
DZM				Sn	Sn	05 26 20.0	+1.9
	9.9nm,0.3s,baz=110,slow=21,SNR=4.3						
ONTNC	**Ouen Toro**	2.59	252		Pn	05 25 48.3	-0.5
ONTNC	**Ouen Toro**	2.59	252	P	Pn	05 25 49.0	+0.2
NOUC	**Port Laguerre**	2.67	257	P	Pn	05 25 49.7	-0.2
KOUNC	**Koumac, New Ca**	4.61	281		Pn	05 26 16.4	-0.2
KOUNC	**Koumac, New Ca**	4.61	281	P	Pn	05 26 17.8	+1.2
MSVF	**Nonsavu**	9.23	67	Pn	Pn	05 27 23.8	+3.6
	0.4nm,0.3s,baz=274,slow=13,SNR=5.0						
MRZ	**Mangatainoka R**	19.86	165	P	P	05 29 38.0	+0.5
MRZ				IAmb	IAmb	05 29 38.5	
	comp=Z,10nm,0.8s						
TCW	**Tory Channel**	20.11	169	P	P	05 29 40.9	+0.5
CTA	**Charters Tower**	21.41	270	P	P	05 29 56.4	+1.8
	comp=Z,7.9nm,0.7s,baz=92,slow=11,SNR=3.9						
	comp=Z,7.9nm,0.7s						
WR0	**Warramunga Arr**	32.33	266	P	P	05 31 34.7	-1.1
WR0				IAmb	IAmb	05 31 56.8	
	comp=Z,7.0nm,1.3s						
WB0	**Warramunga Arr**	32.49	267	P	P	05 31 36.3	-0.9
WB0				IAmb	IAmb	05 31 49.0	
	comp=Z,5.1nm,1.1s						
WB2	**Warramunga Arr**	32.51	266	P	P	05 31 36.3	-1.1
WB2				IAmb	IAmb	05 31 44.3	
	comp=Z,6.9nm,1.3s						
WRA	**Warramunga Arr**	32.52	266	P	P	05 31 36.6	-0.8
	comp=Z,1.5nm,0.7s,baz=97,slow=7.8,SNR=8.6						
	comp=Z,1.5nm,0.7s						
AS31	**Alice Springs**	32.52	259	P	P	05 31 37.1	-0.4
ASAR	**Alice Springs**	32.52	259	P	P	05 31 37.8	+0.3
ASAR	**Alice Springs**	32.52	259	P	P	05 31 37.5	-0.1
	comp=Z,3.8nm,0.8s,baz=84,slow=8.9,SNR=18						
	comp=Z,3.8nm,0.8s						
FORT	**Forrest**	37.81	247	P	P	05 32 23.3	+0.4
VNDA	**Vanda**	56.16	182	P	P	05 34 45.3	-0.2
VNDA	**Vanda**	56.16	182	P	P	05 34 44.9	-0.5
	comp=Z,0.5nm,0.9s,baz=5.2,slow=6.4,SNR=2.9						
	comp=Z,0.5nm,0.9s						
QSPA	**South Pole Qui**	68.54	180	P	P	05 36 08.9	+0.2
QSPA	**South Pole Qui**	68.54	180	P	P	05 36 08.4	-0.2
	comp=Z,1.1nm,0.8s,baz=333,slow=4.5,SNR=2.6						
	comp=Z,1.1nm,0.8s						
PETK	**Petropavlovsk-**	74.97	353	P	P	05 36 46.7	-0.4
	comp=Z,5.5nm,1.0s,baz=131,slow=4.4,SNR=1.8						
	comp=Z,5.5nm,1.0s						
CMAR	**Chiang Mai Arr**	79.33	295	P	P	05 37 12.8	+0.4
	comp=Z,1.2nm,0.3s,baz=130,slow=2.4,SNR=4.9						
	comp=Z,1.2nm,0.3s						
BELA	**Belgrano 2**	79.85	175	P	P	05 37 13.6	-0.7
BELA				IAmb	IAmb	05 37 14.3	
	comp=Z,3.3nm,1.0s						
TROLL	**Troll, Antarti**	86.26	184	⇑P	P	05 37 47.2	-0.4
	comp=Z,177nm,0.6s						
VNA3	**Neumayer Olymp**	87.48	180	⇑P	P	05 37 52.6	-0.9
	comp=Z,4.0nm,0.8s						
VNA2	**Neumayer--Watz**	87.77	181	⇑P	P	05 37 54.2	-0.6
	comp=Z,3.6nm,0.6s,baz=184,slow=4.0						
SONM	**Songino Array**	88.96	323	P	P	05 38 00.6	-0.2
	comp=Z,0.7nm,0.6s,baz=150,slow=6.1,SNR=1.9						
	comp=Z,0.7nm,0.6s						
NVAR	**Mina Array Bea**	90.40	49	P	P	05 38 07.2	-0.7
	comp=Z,1.4nm,0.8s,baz=225,slow=9.0,SNR=15						
	comp=Z,1.4nm,0.8s						
ILAR	**Eielson Array**	92.44	17	P	P	05 38 14.1	-2.4
	comp=Z,0.4nm,0.6s,baz=229,slow=5.2,SNR=11						
	comp=Z,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	145.74	352	PKPbc	PKPdf	05 44 43.5	-0.8
	comp=Z,3.1nm,0.9s,baz=318,slow=2.2,SNR=4.1						
GERES	**GERESS Array B**	146.42	330	PKPbc	PKPbc	05 44 46.9	-0.2
	comp=Z,0.8nm,0.7s,baz=29,slow=2.2,SNR=4.0						

*ISK **31** 05:25:32.7, 40.°61N×43.°91E, h6km, ML2.5/6*
*TIF **31** 05:25:32.9, 40.°65N×43.°91E, h5km±1km*
*AFAD **31** 05:25:33.1±0.0, 40.°56N×43.°91E, h7km±1km, ML2.6*

ISC 31 05:25:33.2±1.0, 40.°61N±0.°02×43.°93E±0.°02, h8km±9km, n23, σ0§85/45, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	0.26	288	P	Pg	05 25 39.4	+1.0
EAK				S	Sg	05 25 43.7	+1.8
EAK				*i* AML	AML	05 25 44.0	
	comp=Z,737nm,0.2s						
EAK				*i* AML	AML	05 25 44.0	
	comp=N,2μm,0.2s						
EAK				*i* AML	AML	05 25 44.0	
	comp=E,979nm,0.3s						
DIGO	**Kars**	0.46	246	P	Pg	05 25 42.3	+0.1
DIGO				S	Sg	05 25 48.7	+0.4
DIGO				*i* AML	AML	05 25 51.0	
	comp=Z,421nm,0.2s						
DIGO				*i* AML	AML	05 25 51.0	
	comp=E,1μm,0.3s						
DIGO				*i* AML	AML	05 25 52.0	
	comp=N,885nm,0.3s						
KARS	**Kars**	0.65	272	Pg	Pg	05 25 45.5	-0.2
KARS				Sg	Sg	05 25 54.1	-0.1
TASB	**TASBURUN-IGDIR**	0.67	159	Pg	Pg	05 25 46.0	0.0
TASB				Sg	Sb	05 25 56.0	-0.5
BGD	**Bogdanovka**	0.70	339	P	Pb	05 25 47.3	-0.6
BGD				S	Sb	05 25 57.5	-0.3
BOZK	**Kars-Merkez-Bo**	0.72	269	P	Pg	05 25 47.2	0.0
BOZK				S	Sg	05 25 56.7	+0.1
BOZK				*i* AML	AML	05 25 57.0	
	comp=N,205nm,0.5s						
IGDI	**IGDIR**	0.74	171	P	Pg	05 25 46.8	-0.8
IGDI				S	Sg	05 25 56.9	-0.3
DMNI	**Dmanisi**	0.75	15	P	Pg	05 25 47.3	-0.3
DMNI				S	Sg	05 25 57.5	+0.1
AKH	**Akhalkalaki**	0.87	338	Pg	Pb	05 25 49.9	-0.8
AKH				Sg	Sb	05 26 01.7	-0.8
AKH	**Akhalkalaki**	0.87	338	P	Pb	05 25 49.8	-0.8
AKH				S	Sb	05 26 01.8	-0.7
TRLG	**Trialeti**	0.94	8	P	Pb	05 25 51.3	-0.6
TRLG				S	Sg	05 26 03.4	-0.2
KOTA	**Agri, Merkez-K**	0.97	215	P	Pn	05 25 53.0	-0.3
KOTA				S	Sn	05 26 08.3	+0.8
AHAN	**Ardahan-Merkez**	1.14	300	P	Pb	05 25 54.8	-0.4
AHAN				S	Sg	05 26 07.8	-2.0
SENK	**Senkaya-Erzuru**	1.20	268	Pn	Pg	05 25 55.6	-0.7
SENK				Sn	Sn	05 26 12.7	-0.4
AGRB	**Hanur-Agry**	1.25	215	Pn	Pn	05 25 57.5	+0.3
AGRB				Sn	Sn	05 26 15.3	+1.0
EATA	**Eleskirt**	1.33	236	P	Pb	05 25 58.3	-0.2
EATA				S	Sn	05 26 17.9	+1.6
DGRG	**David-gareji**	1.38	52	P	Pg	05 25 59.8	+0.1
DGRG				S	Sn	05 26 19.9	+2.6
ABS	**Abastumani**	1.42	324	P	Pb	05 25 59.7	-0.4
ABS				S	Sn	05 26 18.9	+0.4
DAGI	**Agillar**	1.60	288	P	Pg	05 26 03.3	-0.5
DAGI				S	Sg	05 26 24.0	-0.6
ONI	**Oni**	2.02	350	Pn	Pn	05 26 08.5	+0.9
ONI	**Oni**	2.02	350	P	Pb	05 26 10.6	+0.5
ONI				S	Sg	05 26 37.9	0.0
LGD	**Lagodekhi**	2.13	54	P	Pb	05 26 11.9	-0.2
LGD				S	Sg	05 26 41.2	-0.6
SHTL	**Shatili**	2.25	24	P	Pb	05 26 14.2	+0.1
SHTL				S	Sg	05 26 43.5	-1.8

*NEIC **31** 05:30:40.1±1.9, 15.°51S±0.°05×172.°91W±0.°09, h10km±1km, mb4.6/15, Error ellipse: s-maj=16.2km s-min=6.0km az=113.0*
*IDC **31** 05:30:54.4±4.5, 15.°47S×173.°62W, h90km±39km, mb3.7/8, mbtmp4.1/9, Error ellipse: s-maj=28.2km s-min=18.0km az=131.0*

ISC 31 05:30:41.4±0.6, 15.°50S±0.°09×173.°0W±0.°1, h10km, n41, σ2§10/35, mb4.5/19, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	1.99	38		Pn	05 31 12.2	-3.0
NIUE	**Niue**	4.64	141	Pn	Pn	05 31 47.6	-4.0
MSVF	**Nonsavu**	8.83	254	Pn	Pn	05 32 48.2	-1.0
MSVF	**Nonsavu**	8.83	254	P	Pn	05 32 53.5	+4.3
	8.1nm,0.7s,baz=92,slow=15,SNR=9.3						
QRZ	**Quartz Range**	28.18	204	P	P	05 36 33.0	-1.1
QRZ				IAmb	IAmb	05 37 09.4	
	comp=Z,24nm,1.2s						
THZ	**Tophouse**	28.85	202	P	P	05 36 38.3	-1.8
THZ				IAmb	IAmb	05 37 18.3	
	comp=Z,10nm,1.0s						
INZ	**Inchbonnie**	30.23	203	P	P	05 36 51.3	-0.9
WHZ	**Wether Hill Ro**	34.25	204	P	P	05 37 27.4	0.0
WHZ				IAmb	IAmb	05 37 36.1	
	comp=Z,12nm,1.0s						
H11S2	**WAKE ISLAND Hy**	39.23	329	T	T	06 19 54.0	
	baz=139,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy**	39.24	329	T	T	06 19 54.0	
	baz=139,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	39.24	329	T	T	06 19 54.0	
	baz=139,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	40.17	330	T	T	06 20 59.6	
	baz=150,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	40.17	330	T	T	06 20 60.0	
	baz=150,slow=76,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	40.18	330	T	T	06 21 02.6	
	baz=150,slow=76,SNR=14						
COEN	**Coen**	42.32	266	P	P	05 38 33.7	-2.2
COEN				IAmb	IAmb	05 38 37.2	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	44.29	240	P	P	05 38 50.1	-1.5
STKA	**Stephens Creek**	44.29	240	P	P	05 38 51.0	-0.6
	comp=Z,8.0nm,0.9s,baz=68,slow=10,SNR=9.3						
	comp=Z,8.0nm,0.9s						
BBOO	**Buckleboo**	49.06	240	P	P	05 39 27.0	-2.0
WR0	**Warramunga Arr**	49.97	257	P	P	05 39 34.7	-1.4
WR0				IAmb	IAmb	05 39 36.4	
	comp=Z,13nm,1.5s						
WB0	**Warramunga Arr**	50.12	257	P	P	05 39 35.6	-1.7
WB0				IAmb	IAmb	05 39 36.9	
	comp=Z,4.0nm,0.8s						
WB2	**Warramunga Arr**	50.15	257		P	05 39 36.0	-1.5
WB2				IAmb	IAmb	05 39 37.0	
	comp=Z,4.0nm,0.7s						
WRA	**Warramunga Arr**	50.16	257		P	05 39 36.0	-1.5
WRA	**Warramunga Arr**	50.16	257	P	P	05 39 36.4	-1.2
	comp=Z,2.9nm,0.8s,baz=91,slow=6.9,SNR=56						
WRA				PcP	PcP	05 40 57.9	+0.9
	comp=Z,1.7nm,0.7s,baz=88,slow=3.8,SNR=10						
	comp=Z,2.9nm,0.8s						
AS31	**Alice Springs**	50.41	252	P	P	05 39 38.4	-1.0
AS31				IAmb	IAmb	05 39 39.9	
	comp=Z,5.7nm,0.7s						
ASAR	**Alice Springs**	50.41	252	P	P	05 39 38.6	-0.8
	comp=Z,21nm,0.6s,baz=86,slow=8.2,SNR=210						
ASAR				PcP	PcP	05 40 58.8	+0.9
	comp=Z,1.1nm,0.9s,baz=99,slow=5.7,SNR=1.2						
FORT	**Forrest**	55.68	243	P	P	05 40 16.6	-1.6
VNDA	**Vanda**	63.32	186	P	P	05 41 12.6	+2.5
VNDA	**Vanda**	63.32	186	P	P	05 41 13.5	+3.4
	comp=Z,1.8nm,0.9s,baz=5.2,slow=5.5,SNR=10.0						
	comp=Z,1.8nm,0.9s						
NVAR	**Mina Array Bea**	74.17	42	P	P	05 42 23.9	+5.3
	comp=Z,0.9nm,0.7s,baz=233,slow=9.5,SNR=5.8						
	comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	74.55	180	P	P	05 42 20.5	+0.2
QSPA				IAmb	IAmb	05 42 24.4	
	comp=Z,6.7nm,1.1s						
QSPA	**South Pole Qui**	74.55	180	P	P	05 42 22.9	+2.6
	comp=Z,4.7nm,1.0s,baz=47,slow=2.6,SNR=9.9						
	comp=Z,4.7nm,1.0s						
TXAR	**Lajitas Array**	80.38	56	P	P	05 43 00.5	+7.0
	comp=Z,0.6nm,0.8s,baz=210,slow=12,SNR=4.1						
	comp=Z,0.6nm,0.8s						
PDAR	**Pinedale Array**	82.10	42	P	P	05 43 05.3	+2.8
	comp=Z,0.6nm,0.8s,baz=220,slow=3.7,SNR=4.8						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	82.47	11	P	P	05 43 05.6	+1.9
	comp=Z,0.6nm,0.9s,baz=232,slow=5.1,SNR=9.9						
	comp=Z,0.6nm,0.9s						
TROLL	**Troll, Antarti**	92.66	179	⇑P	P	05 43 55.8	+2.5
	comp=Z,57nm,0.7s						
VNA3	**Neumayer Olymp**	92.73	175	⇑P	P	05 43 55.4	+1.8
	comp=Z,1.4nm,0.7s						
VNA1	**Neumayer--Stat**	93.43	175	⇑P	P	05 43 59.7	+3.0
	comp=Z,3.6nm,1.0s						
KHC	**Kasperske Hory**	146.02	352	*e*PKP	PKiKP	05 50 23.8	-1.2
GERES	**GERESS Array B**	146.28	352	PKPbc	PKiKP	05 50 24.7	-0.9
	comp=Z,1.2nm,0.8s,baz=65,slow=6.3,SNR=4.4						
BRTR	**Keskin Array B**	146.45	321	PKPbc	PKiKP	05 50 24.7	-1.6
	comp=Z,1.7nm,0.7s,baz=141,slow=2.4,SNR=4.4						
MMAI	**Mount Meron Ar**	148.90	309	PKPbc	PKPab	05 50 31.8	-2.2
	comp=Z,0.9nm,0.3s,baz=42,slow=4.5,SNR=1.7						

*NEIC **31** 05:37:47.4±2.0, 15.°43S±0.°08×173.°23W±0.°09, h10km±1km, mb4.6/51, Error ellipse: s-maj=16.7km s-min=11.0km az=132.0*
*IDC **31** 05:37:58.1±4.5, 15.°35S×173.°50W, h92km±39km, mb3.9/11, mbtmp4.3/12, MS4.0/15, Error ellipse: s-maj=27.1km s-min=16.6km az=128.0*

ISC 31 05:37:46.9±0.5, 15.°48S±0.°08×173.°21W±0.°09, h10km, n88, σ1§49/61, mb4.5/34, MS4.1/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	2.09	42	Pn	Pn	05 38 19.0	-3.0
NIUE	**Niue**	4.75	139	Pn	Pn	05 38 55.9	-2.8
MSVF	**Nonsavu**	8.67	254	Pn	Pn	05 39 49.6	-3.0
MSVF	**Nonsavu**	8.67	254	P	Pn	05 39 59.6	+7.0
	5.7nm,0.6s,baz=89,slow=13,SNR=7.1						
MARNC	**Mare, Loyalty**	18.76	249	P	P	05 42 03.1	-3.1
LIFNC	**LIFOU**	19.31	251	P	P	05 42 12.0	-0.2
LIFNC	**LIFOU**	19.31	251	P	Pn	05 42 19.6	+6.4
PINNC	**Pines Island,**	19.60	246	P	P	05 42 13.2	-2.2
OUENC	**Ouen Island, N**	20.08	247	P	P	05 42 20.4	-0.3
OUENC	**Ouen Island, N**	20.08	247	P	P	05 42 20.6	0.0
DZM	**Mont Dzumac**	20.34	248	P	P	05 42 23.2	-0.3
DZM				IAmb	IAmb	05 42 33.6	
	comp=Z,18nm,0.7s						
DZM	**Mont Dzumac**	20.34	248	P	P	05 42 24.1	+0.5
ONTNC	**Ouen Toro**	20.39	247	P	P	05 42 22.8	-1.2
ONTNC	**Ouen Toro**	20.39	247	P	Pn	05 42 26.8	+0.7
NOUC	**Port Laguerre**	20.47	248	P	P	05 42 26.0	+1.1
RPZ	**Rata Peaks**	31.17	202	LR	LR	05 55 29.6	
	comp=Z,382nm,20.4s,baz=49,slow=34						
WHZ	**Wether Hill Ro**	34.19	204	P	P	05 44 32.3	-0.1
WHZ				IAmb	IAmb	05 44 49.8	
	comp=Z,10.0nm,1.0s						
H11S2	**WAKE ISLAND Hy**	39.13	329	T	T	06 27 18.2	
	baz=147,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	39.14	329	T	T	06 27 19.3	
	baz=147,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	39.15	329	T	T	06 27 22.0	
	baz=147,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	40.07	330	T	T	06 28 30.0	
	baz=148,slow=76,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	40.08	330	T	T	06 28 25.2	
	baz=148,slow=76,SNR=6.9						
H11N2	**WAKE ISLAND Hy**	40.09	330	T	T	06 28 31.4	
	baz=148,slow=76,SNR=9.0						
COEN	**Coen**	42.16	266	P	P	05 45 39.7	-0.3
COEN				IAmb	IAmb	05 45 42.1	
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	44.16	240	P	P	05 45 55.4	-0.6
STKA	**Stephens Creek**	44.16	240	P	P	05 45 55.3	-0.6
	comp=Z,4.5nm,0.7s,baz=77,slow=8.7,SNR=8.3						
	comp=Z,4.5nm,0.7s						
BBOO	**Buckleboo**	48.93	240	P	P	05 46 32.6	-0.9
WR0	**Warramunga Arr**	49.81	257	P	P	05 46 40.3	-0.1
WR0				IAmb	IAmb	05 47 05.4	
	comp=Z,5.6nm,1.2s						
WB0	**Warramunga Arr**	49.97	257	P	P	05 46 40.1	-1.5
WB2	**Warramunga Arr**	49.99	257	P	P	05 46 41.0	-0.8
WB2				IAmb	IAmb	05 46 43.0	
	comp=Z,3.9nm,0.8s						
WRA	**Warramunga Arr**	50.01	257	P	P	05 46 40.1	-1.8
WRA	**Warramunga Arr**	50.01	257	P	P	05 46 40.8	-1.0
	comp=Z,1.9nm,0.5s,baz=91,slow=7.1,SNR=52						
WRA				PcP	PcP	05 48 02.4	+0.5
	comp=Z,1.8nm,0.7s,baz=91,slow=3.6,SNR=9.5						
	comp=Z,1.9nm,0.5s						
AS31	**Alice Springs**	50.26	252	P	P	05 46 42.8	-1.0
AS31				IAmb	IAmb	05 46 44.3	
	comp=Z,5.3nm,0.7s						
ASAR	**Alice Springs**	50.26	252	P	P	05 46 43.4	-0.4
ASAR	**Alice Springs**	50.26	252	P	P	05 46 43.0	-0.7
	comp=Z,21nm,0.6s,baz=86,slow=8.2,SNR=221						
ASAR				PcP	PcP	05 48 03.4	+0.6
	comp=Z,0.9nm,0.7s,baz=90,slow=4.4,SNR=1.4						
	comp=Z,21nm,0.6s						
FORT	**Forrest**	55.54	243	P	P	05 47 20.4	-2.3
VNDA	**Vanda**	63.31	186	P	P	05 48 16.2	+0.6
VNDA				IAmb	IAmb	05 48 18.4	
	comp=Z,3.0nm,1.1s						
VNDA	**Vanda**	63.31	186	P	P	05 48 17.8	+2.3
	comp=Z,1.7nm,1.0s,baz=4.0,slow=7.7,SNR=7.0						
	comp=Z,1.7nm,1.0s						
JHJ	**Hachijo jima 2**	65.95	318	LR	LR	06 11 52.8	
	comp=Z,53nm,22.0s,baz=82,slow=31						
SHEM	**Shemya Is, Ala**	68.81	352	LR	LR	06 13 47.8	
	comp=Z,224nm,21.1s,baz=287,slow=31						
MJAR	**Matsushiro Arr**	69.12	320	LR	LR	06 11 40.0	
	comp=Z,84nm,21.8s,baz=78,slow=29						
ASAJ	**Asahikawa**	71.71	328	LR	LR	06 14 59.7	
	comp=Z,100nm,21.5s,baz=50,slow=31						
JNU	**Nakatsue**	71.99	313	LR	LR	06 13 34.8	
	comp=Z,74nm,19.9s,baz=60,slow=30						
PETK	**Petropavlovsk-**	72.77	342	P	P	05 49 14.6	-0.6
	comp=Z,6.5nm,1.1s,baz=127,slow=6.2,SNR=1.7						
PETK				LR	LR	06 17 05.6	
	comp=Z,103nm,20.5s,baz=183,slow=32						
	comp=Z,6.5nm,1.1s						
NVAR	**Mina Array Bea**	74.27	42	P	P	05 49 25.8	+1.1
	comp=Z,1.1nm,0.8s,baz=232,slow=8.8,SNR=7.0						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	74.56	180	P	P	05 49 25.8	0.0
QSPA				IAmb	IAmb	05 49 28.3	
	comp=Z,6.0nm,1.1s						
QSPA	**South Pole Qui**	74.56	180	P	P	05 49 27.5	+1.6
	comp=Z,4.0nm,1.0s,baz=64,slow=3.3,SNR=8.3						
	comp=Z,4.0nm,1.0s						
TPH	**Tonopah**	74.77	43	P	P	05 49 28.7	+1.1
KDAK	**Kodiak Island**	74.97	11	LR	LR	06 14 36.5	
	comp=Z,217nm,21.5s,baz=176,slow=29						
PINE	**Pine Mountain**	75.86	36	P	P	05 49 34.6	+0.9
PINE				IAmb	IAmb	05 49 38.5	
	comp=Z,9.2nm,1.1s						
KSRS	**Korea Array**	76.35	315	LR	LR	06 18 46.1	
	comp=Z,39nm,20.4s,baz=115,slow=32						
X16A	**Lo Mia Camp, P**	76.83	48	P	P	05 49 40.5	+1.0
X16A				IAmb	IAmb	05 49 42.5	
	comp=Z,3.8nm,1.1s						
I07A	**Izee**	76.86	37	P	P	05 49 40.4	+1.2
I07A				IAmb	IAmb	05 49 46.4	
	comp=Z,12nm,1.5s						
KNB	**Kanab**	77.16	46	IAmb	IAmb	05 50 09.2	
	comp=Z,10nm,1.5s						
SPR3	**Spring Creek 3**	77.17	43	IAmb	IAmb	05 49 42.7	
	comp=Z,7.0nm,1.4s						
U15A	**North Rim**	77.22	46	IAmb	IAmb	05 49 50.6	
	comp=Z,10nm,1.5s						
G08A	**Pilot Rock**	77.89	36	P	P	05 49 45.6	+0.6
G08A				IAmb	IAmb	05 49 47.6	
	comp=Z,5.5nm,1.2s						
MSU	**Marysvale**	78.36	44	P	P	05 49 48.5	+0.6
MFID	**Camas Ranch**	78.64	39	P	P	05 49 50.0	+0.8
F10A	**Beach Ranch, E**	79.28	36	P	P	05 49 53.4	+0.8
F10A				IAmb	IAmb	05 50 01.8	
	comp=Z,11nm,1.4s						
TMUT	**Trail Mountain**	79.40	44	P	P	05 49 53.9	+0.1
TMUT				IAmb	IAmb	05 50 05.4	
	comp=Z,4.7nm,0.9s						
TXAR	**Lajitas Array**	80.50	56	P	P	05 50 01.3	+1.6
	comp=Z,1.4nm,0.9s,baz=193,slow=5.1,SNR=7.6						
	comp=Z,1.4nm,0.9s						
ANMO	**Albuquerque**	80.71	50	P	P	05 50 01.6	+0.7
ALPN	**Alpine**	80.94	55	IAmb	IAmb	05 50 04.7	
	comp=Z,7.9nm,1.3s						
TPAW	**Teton Pass**	81.68	41	IAmb	IAmb	05 50 09.8	
	comp=Z,6.4nm,1.2s						
S22A	**4UR Ranch, Cre**	81.69	47	IAmb	IAmb	05 50 10.9	
	comp=Z,6.1nm,1.1s						
FXWY	**Fox Creek**	81.71	40	P	P	05 50 06.0	+0.1
SNOW	**Snow King Moun**	81.79	41	P	P	05 50 06.8	+0.4
SNOW				IAmb	IAmb	05 50 10.8	
	comp=Z,4.1nm,0.9s						
IMW	**Indian Meadow**	81.89	40	IAmb	IAmb	05 50 15.2	
	comp=Z,7.0nm,1.2s						
WRH	**Wood River Hil**	82.00	11	P	P	05 50 07.2	+0.5
HDA	**Harding Lake**	82.15	11	P	P	05 50 08.3	+0.8

3.6nm,0.4s
GEYT Alibeck 10.72 281 P **Pn 05 46 39.5 -0.4**
3.0nm,0.6s,baz=103,slow=11,SNR=5.8
PYUN Piuthan 12.87 128 *eP* **P 05 47 12.4 -0.8**
15nm,0.4s
MKAR Makanchi Array 13.05 35 P **Pn 05 47 11.8 +1.6**
0.6nm,0.7s,baz=230,slow=17,SNR=3.2
DANN Dangsing 13.21 125 *eP* **P 05 47 13.5 -3.5**
5.8nm,0.2s
GKN Gorkha 14.02 124 *eP* **P 05 47 24.1 -1.8**
DMN Daman 14.59 124 *eP* **P 05 47 32.5 +0.2**
9.4nm,0.3s
PKIN Phulchoki 14.80 123 *eP* **P 05 47 35.6 +0.9**
11nm,0.5s
PKI Pulchoki 14.82 123 *eP* **P 05 47 35.4 +0.5**
10nm,0.5s
GUN Gumba 14.92 121 *eP* **P 05 47 37.1 +1.0**
10nm,0.5s
KURBB Kurchatov Arra 14.98 18 P **P 05 47 36.8 +0.6**
0.3nm,0.4s,baz=213,slow=10,SNR=4.0
AB31 Akbulak array 15.23 330 ⇑P **Pn 05 47 36.5 -1.0**
1.3nm,0.5s,baz=165,slow=11,SNR=7.2
JIRN Jiri 15.29 121 *eP* **P 05 47 42.3 +2.0**
20nm,0.4s
BVAR Borovoye Array 16.51 358 P **P 05 47 52.8 -0.3**
0.9nm,0.4s,baz=156,slow=9.6,SNR=5.8
TAPN Taplejung 16.54 119 *eP* P 05 48 00.9 +6.9
7.9nm,0.4s
ZALV Zalesovo Beam 19.74 24 P **P 05 48 29.1 +0.9**
1.6nm,0.3s,baz=223,slow=10,SNR=4.5
FINES FINESS Array B 37.66 326 P **P 05 51 11.3 +0.7**
2.3nm,0.8s,baz=118,slow=11,SNR=6.8
2.3nm,0.8s
ARCESS ARCESS Array B 41.25 337 P **P 05 51 41.2 +0.9**
1.0nm,0.6s,baz=113,slow=8.0,SNR=4.5
1.0nm,0.6s
HFS Hagfors 43.27 322 P **P 05 51 57.5 +0.9**
2.0nm,0.4s,baz=114,slow=9.9,SNR=11
2.0nm,0.4s
NB2 NORSAR Subarra 44.57 323 P **P 05 52 07.7 +0.6**
comp=Z,0.6nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 44.57 323 P **P 05 52 07.5 +0.3**
comp=Z,0.9nm,0.6s,baz=105,slow=7.1,SNR=4.7
comp=Z,0.9nm,0.6s
TORD Torodi Ar. Bea 66.08 269 P **P 05 54 40.9 -0.7**
comp=Z,0.3nm,0.5s,baz=55,slow=6.9,SNR=4.4
comp=Z,0.3nm,0.5s

IDC 31 06:07:50.0±2.6,54°.12N×86°.49E,h0km,mbtmp3.0/2,
ML2.8/2,Error ellipse: s-maj=20.8km s-min=12.1km
az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**261**	I	I	06 13 21.0	
	baz=80,slow=334,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.00**	**261**	Pg	Pg	06 08 08.4	-0.8
	0.7nm,0.3s,baz=80,slow=17,SNR=9.3						
ZALV				Lg	Lg	06 08 23.2	
	2.8nm,0.3s,baz=81,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**6.00**	**238**	Pn	Pn	06 09 20.5	+0.5
	0.1nm,0.3s,baz=54,slow=14,SNR=7.7						
KURBB				Lg	Lg	06 11 01.0	
	baz=58,slow=41,SNR=1.2						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**7.81**	**202**	Pn	Pn	06 09 45.8	+1.0
	0.2nm,0.3s,baz=23,slow=12,SNR=5.7						
MKAR				Sn	Sn	06 11 14.4	+0.5
	0.1nm,0.3s,baz=19,slow=27,SNR=2.3						
MKAR				Lg	Lg	06 11 57.5	
	0.1nm,0.3s,baz=25,slow=27,SNR=2.1						
	0.2nm,0.3s						

---

*SOME **31** 06:19:31.3,49°.68N×83°.65E,h0km*
*NNC **31** 06:19:36.2±1.7,49°.60N×84°.02E,h0km,mb3.1,mpv2.8,*
Error ellipse: s-maj=15.9km s-min=5.5km az=67.0,
Suspected Mining explosion.
ISC 31 06:19:34.3±2.5,49°.68N±0°.10×84°.2E±0°.2,h0km,n5,
σ0°96/10,5C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**2.27**	**169**	*e*Pg	**Pb**	**06 20 16.6**	**+0.4**
	14nm,0.3s						
ZSN				*e*Lg	Lg	06 20 48.6	
	26nm,0.7s						
SEM	**Semipalatinsk**	**2.67**	**287**	*e*Pg	**Pn**	**06 20 17.1**	**-1.7**
	8.3nm,0.2s						
SEM				*e*Lg	Lg	06 20 49.6	
	23nm,0.2s						
MK31	**Makanchi Array**	**3.17**	**205**	⇑Pn	**Pn**	**06 20 26.0**	**+0.5**
	0.6nm,0.3s,baz=23,slow=13,SNR=21						
MK31				⇑Pg	**Pb**	**06 20 31.3**	**-0.2**
	1.1nm,0.5s,baz=27,slow=19,SNR=5.0						
MK31				⇑Sn	**Sn**	**06 21 03.0**	**-1.0**
	3.3nm,0.3s,baz=21,slow=21						
MAKZ	**Makanchi**	**3.25**	**209**	⇑Pn	**Pn**	**06 20 26.8**	**+0.2**
	2.6nm,0.5s						
MAKZ				⇓Sn	**Sn**	**06 21 05.9**	**-0.1**
	11nm,0.6s						
KURK	**Kurchatov**	**3.75**	**288**	⇓Pn	**Pn**	**06 20 32.8**	**-0.6**
	6.1nm,1.8s						
KURK				⇑Pg	**Pb**	**06 20 42.6**	**+1.1**
	1.5nm,0.3s						
KURK				⇓Sn	**Sn**	**06 21 19.1**	**+0.8**
	8.6nm,0.5s						

---

*IDC **31** 06:23:52.5±2.2,20°.68S×168°.54E,h0km,mb3.4/3,*
mbtmp3.4/4,ML3.2/1,Error ellipse: s-maj=107.1km
s-min=26.6km az=148.0
*NOU **31** 06:23:57.8,21°.73S×168°.61E,h0km,MLv3.3/5,Loyalty*
Islands
ISC 31 06:23:54.3±1.2,21°.7S±0°.1×169°.1E±0°.1,h29km,n19,
σ0°78/20,mb3.4/3,3C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.03**	**282**	P	**Pn**	**06 24 12.9**	**+0.1**
LIFNC	**LIFOU**	**1.97**	**298**	P	**Pn**	**06 24 25.6**	**-0.2**
YATNC	**Mamie plateau,**	**2.09**	**260**	P	**Pn**	**06 24 27.1**	**-0.3**
YATNC	**Mamie plateau,**	**2.09**	**260**	P	**Pn**	**06 24 26.9**	**-0.5**
OUENC	**Ouen Island, N**	**2.22**	**251**	P	**Pn**	**06 24 29.4**	**+0.2**
OUENC	**Ouen Island, N**	**2.22**	**251**	P	**Pn**	**06 24 29.8**	**+0.6**
DZM	**Mont Dzumac**	**2.50**	**261**	P	**Pn**	**06 24 33.5**	**+0.3**
DZM	**Mont Dzumac**	**2.50**	**261**	P	**Pn**	**06 24 33.8**	**+0.6**
DZM	**Mont Dzumac**	**2.50**	**261**	Pn	**Pn**	**06 24 33.2**	**+0.1**
	5.5nm,0.3s,baz=131,slow=9.8,SNR=187						
DZM				Sn	**Sn**	**06 25 04.1**	**+1.3**
	9.1nm,0.3s,baz=87,slow=22,SNR=5.8						
	14nm,0.2s						
ONTNC	**Ouen Toro**	**2.54**	**256**	P	**Pn**	**06 24 33.9**	**+0.4**
ONTNC	**Ouen Toro**	**2.54**	**256**	P	**Pn**	**06 24 34.3**	**+0.8**
NOUC	**Port Laguerre**	**2.63**	**261**	P	**Pn**	**06 24 34.9**	**0.0**
NOUC	**Port Laguerre**	**2.63**	**261**	P	**Pn**	**06 24 34.2**	**-0.7**
ASAR	**Alice Springs**	**32.49**	**260**	P	**P**	**06 30 21.6**	**-1.1**
	0.2nm,0.4s,baz=91,slow=8.8,SNR=4.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**32.51**	**267**	P	**P**	**06 30 21.6**	**-1.2**
	0.1nm,0.6s,baz=95,slow=8.7,SNR=1.5						
	0.1nm,0.6s						
TROLL	**Troll, Antarti**	**86.08**	**184**	⇑P	**P**	**06 36 31.8**	**-0.4**
	comp=Z,208nm,0.6s						
VNA3	**Neumayer Olymp**	**87.30**	**180**	⇑P	**P**	**06 36 37.2**	**-0.8**
VNA2	**Neumayer--Watz**	**87.59**	**181**	⇑P	**P**	**06 36 38.9**	**-0.5**
	baz=180,slow=1.0						
NVAR	**Mina Array Bea**	**90.52**	**49**	P	**P**	**06 36 55.5**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=218,slow=6.9,SNR=4.9						
	comp=Z,0.4nm,0.7s						

---

*NOU **31** 06:27:09.1,21°.76S×169°.65E,h0km,MLv4.6/8,Southeast*
of Loyalty Islands
*IDC **31** 06:27:14.8±0.9,21°.77S×169°.20E,h0km,mb4.0/10,*
mbtmp4.0/11,ML4.0/1,MS3.7/5,Error ellipse:
s-maj=25.3km s-min=21.3km az=152.0
*NEIC **31** 06:27:16.9±2.1,21°.85S±0°.04×169°.1E±0°.1,h10km±2km,*
mb4.5/7,Error ellipse: s-maj=18.8km s-min=6.6km
az=87.0
ISC 31 06:27:19.8±0.6,21°.79S±0°.08×169°.03E±0°.07,h31km,n44,
σ0°97/42,mb4.1/14,MS3.6/4,3D,Southeast of Loyalty
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.98**	**288**		**Pn**	**06 27 36.6**	**-0.8**
MARNC	**Mare, Loyalty**	**0.98**	**288**	P	**Pn**	**06 27 36.6**	**-0.8**
PINNC	**Pines Island,**	**1.68**	**241**		**Pn**	**06 27 46.3**	**-0.8**
PINNC	**Pines Island,**	**1.68**	**241**	P	**Pn**	**06 27 46.5**	**-0.5**
LIFNC	**LIFOU**	**1.95**	**301**		**Pn**	**06 27 49.8**	**-1.0**
LIFNC	**LIFOU**	**1.95**	**301**	P	**Pn**	**06 27 50.2**	**-0.6**
YATNC	**Mamie plateau,**	**2.01**	**262**	P	**Pn**	**06 27 51.7**	**+0.2**
OUENC	**Ouen Island, N**	**2.13**	**253**		**Pn**	**06 27 53.5**	**+0.3**
OUENC	**Ouen Island, N**	**2.13**	**253**	P	**Pn**	**06 27 53.7**	**+0.5**
DZM	**Mont Dzumac**	**2.42**	**263**	P	**Pn**	**06 27 58.0**	**+0.7**
DZM	**Mont Dzumac**	**2.42**	**263**	Pn	**Pn**	**06 27 57.7**	**+0.4**
	27nm,0.3s,baz=72,slow=18,SNR=39						
DZM				Sn	**Sn**	**06 28 26.6**	**+0.6**
	116nm,0.3s,baz=76,slow=22,SNR=8.8						
	61nm,0.3s						
ONTNC	**Ouen Toro**	**2.45**	**257**		**Pn**	**06 27 57.9**	**+0.3**
ONTNC	**Ouen Toro**	**2.45**	**257**	P	**Pn**	**06 27 58.4**	**+0.8**
NOUC	**Port Laguerre**	**2.55**	**263**	P	**Pn**	**06 27 59.6**	**+0.6**
KOUNC	**Koumac, New Ca**	**4.60**	**285**		**Pn**	**06 28 28.0**	**+0.8**
MSVF	**Nonsavu**	**9.40**	**66**	Pn	**Pn**	**06 29 35.9**	**+2.7**
	0.4nm,0.3s,baz=235,slow=17,SNR=4.3						
MSVF				LR	LR	06 32 18.1	
	comp=Z,599nm,18.1s,baz=204,slow=33						
CTA	**Charters Tower**	**21.34**	**270**	P	**P**	**06 32 06.4**	**+1.9**
	3.2nm,0.6s,baz=92,slow=9.8,SNR=5.9						
	3.2nm,0.6s						
RPZ	**Rata Peaks**	**21.93**	**176**	LR	LR	06 40 00.5	
	comp=Z,339nm,18.9s,baz=102,slow=35						
STKA	**Stephens Creek**	**26.40**	**242**	P	**P**	**06 32 55.5**	**+1.9**
	1.2nm,0.7s,baz=72,slow=7.2,SNR=3.5						
STKA				LR	LR	06 43 10.0	
	comp=Z,100nm,19.8s,baz=49,slow=36						
	1.2nm,0.7s						
WR0	**Warramunga Arr**	**32.24**	**267**	P	**P**	**06 33 45.2**	**-0.4**
WR0				IAmb	IAmb	06 34 19.9	
	comp=Z,12nm,1.5s						
ASAR	**Alice Springs**	**32.41**	**260**	P	**P**	**06 33 46.5**	**-0.7**
ASAR	**Alice Springs**	**32.41**	**260**	P	**P**	**06 33 47.4**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=96,slow=10.0,SNR=17						
ASAR				LR	LR	06 46 17.6	
	comp=Z,90nm,20.4s,baz=125,slow=35						
	comp=Z,1.3nm,0.7s						
WB0	**Warramunga Arr**	**32.41**	**267**	P	**P**	**06 33 47.0**	**-0.1**
WB0				IAmb	IAmb	06 33 49.0	
	comp=Z,5.8nm,1.1s						
WB2	**Warramunga Arr**	**32.42**	**267**	P	**P**	**06 33 46.0**	**-1.2**
WB2				IAmb	IAmb	06 34 07.2	
	comp=Z,2.8nm,1.1s						
WRA	**Warramunga Arr**	**32.43**	**267**	P	**P**	**06 33 46.6**	**-0.7**
WRA	**Warramunga Arr**	**32.43**	**267**	P	**P**	**06 33 46.8**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=96,slow=8.2,SNR=16						
	comp=Z,0.6nm,0.5s						
MBWA	**Marble Bar**	**45.72**	**261**	P	**P**	**06 35 37.3**	**-1.1**
VNDA	**Vanda**	**55.88**	**182**	P	**P**	**06 36 54.1**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=350,slow=7.0,SNR=4.0						
VNDA				LR	LR	06 58 06.2	
	comp=Z,61nm,18.6s,baz=311,slow=33						
	comp=Z,0.8nm,0.9s						
QSPA	**South Pole Qui**	**68.27**	**180**	P	**P**	**06 38 17.5**	**0.0**
QSPA				IAmb	IAmb	06 38 20.6	
	comp=Z,6.0nm,1.1s						
QSPA	**South Pole Qui**	**68.27**	**180**	P	**P**	**06 38 17.4**	**-0.2**
	comp=Z,3.8nm,1.0s,baz=6.0,slow=2.5,SNR=8.7						
	comp=Z,3.8nm,1.0s						
KSRS	**Korea Array**	**70.50**	**326**	P	**P**	**06 38 32.5**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=149,slow=5.8,SNR=5.5						
	comp=Z,1.4nm,0.8s						
BELA	**Belgrano 2**	**79.58**	**175**	P	**P**	**06 39 22.1**	**-1.3**
BELA				IAmb	IAmb	06 39 23.4	
	comp=Z,8.8nm,1.4s						
TROLL	**Troll, Antarti**	**85.99**	**184**	⇓P	**P**	**06 39 56.2**	**-0.7**
	comp=Z,208nm,0.6s						
VNA3	**Neumayer Olymp**	**87.21**	**180**	⇓P	**P**	**06 40 01.5**	**-1.2**
VNA2	**Neumayer--Watz**	**87.50**	**181**	⇓P	**P**	**06 40 03.2**	**-0.9**
	baz=187,slow=5.0						
SONM	**Songino Array**	**89.14**	**323**	P	**P**	**06 40 12.8**	**+0.6**
	comp=Z,2.0nm,1.0s,baz=117,slow=5.2,SNR=5.7						
	comp=Z,2.0nm,1.0s						
NVAR	**Mina Array Bea**	**90.63**	**49**	P	**P**	**06 40 19.3**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=224,slow=7.6,SNR=5.9						
	comp=Z,1.3nm,0.7s						
ILAR	**Eielson Array**	**92.71**	**17**	P	**P**	**06 40 26.4**	**-1.9**
	comp=Z,0.1nm,0.5s,baz=232,slow=6.7,SNR=1.5						
	comp=Z,0.1nm,0.5s						
BRG	**Berggiesshubel**	**145.05**	**332**	Amp		06 46 55.8	
	comp=Z,12nm,1.2s						
BRG	**Berggiesshubel**	**145.05**	**332**	*e*P	**PKPdf**	**06 46 54.5**	**+0.6**
CLL	**Collm**	**145.12**	**334**	*ex*	x	06 47 05.0	
CLL	**Collm**	**145.12**	**334**	*i* PKPbc	**PKPdf**	**06 46 54.0**	**+0.1**
	comp=Z,26nm,1.9s						
EKA	**Eskdalemuir Ar**	**146.00**	**352**	PKPbc	**PKPdf**	**06 46 55.0**	**-0.4**
	comp=Z,1.4nm,0.4s,baz=353,slow=2.7,SNR=13						
GERES	**GERESS Array B**	**146.62**	**330**	PKPbc	**PKPab**	**06 46 58.3**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=29,slow=2.2,SNR=7.0						

---

*IDC **31** 06:32:04.1±6.2,37°.56N×72°.15E,h179km±47km,mb3.2/2,*
mbtmp3.7/5,Error ellipse: s-maj=92.9km s-min=43.7km
az=129.0
*NNC **31** 06:32:08.6±8.2,38°.02N×72°.15E,h0km,mb3.9,mpv3.5,*
Error ellipse: s-maj=65.1km s-min=56.1km az=154.0
ISC 31 06:32:01.3±1.8,37°.4N±0°.1×72°.0E±0°.2,h150km,n10,
σ1°91/12,3C-1D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.86**	**15**	⇑Pn	**Pn**	**06 33 15.5**	**+2.2**
	0.8nm,0.5s						
AML				⇓Sn	**Sn**	**06 34 08.0**	**-1.3**
	5.7nm,0.6s						
IUG	**Iuzhnay**	**4.95**	**342**	Pg	Pn	06 33 18.1	+4.0
	18nm,0.2s						
IUG				Lg	Lg	06 34 12.7	
	41nm,0.3s						
AAK	**Ala-Archa**	**5.53**	**19**	P	**Pn**	**06 33 23.9**	**+2.1**
	3.9nm,0.4s,baz=179,slow=5.7,SNR=8.5						
AAK				S	**Sn**	**06 34 24.5**	**-0.2**
	2.2nm,0.4s,baz=131,slow=21,SNR=6.1						
KK31	**Karatay Array**	**5.78**	**349**	⇑Pn	**Pn**	**06 33 27.5**	**+2.4**
	1.7nm,0.5s,baz=154,slow=10,SNR=12						
KK31				⇑Sn	**Sn**	**06 34 29.5**	**-1.0**
	5.6nm,0.5s,baz=162,slow=22						
KST	**Kastek**	**6.36**	**27**	Pg	**Pn**	**06 33 34.2**	**+1.4**
	3.9nm,0.5s						
KST				Lg	Lg	06 34 40.9	
	4.0nm,0.7s						
DGS	**Degeres**	**6.47**	**25**	Pg	**Pn**	**06 33 37.0**	**+2.7**
	1.2nm,0.4s						
DGS				Lg	Lg	06 34 44.8	
	3.2nm,0.5s						
KURBB	**Kurchatov Arra**	**13.98**	**17**	P	**P**	**06 35 14.1**	**-1.9**
	0.6nm,0.6s,baz=205,slow=11,SNR=4.2						
ZALV	**Zalesovo Beam**	**18.73**	**24**	P	**P**	**06 36 06.7**	**-1.5**
	1.3nm,0.3s,baz=223,slow=11,SNR=9.7						
ARCES	**ARCESS Array B**	**40.61**	**337**	P	**P**	**06 39 25.6**	**-0.3**
	2.7nm,0.8s,baz=128,slow=9.7,SNR=1.7						
	2.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**66.56**	**269**	P	**P**	**06 42 35.3**	**-0.2**
	0.3nm,0.8s,baz=53,slow=5.6,SNR=1.6						
	0.3nm,0.8s						

---

*IDC **31** 06:36:36.6±1.2,0°.34N×126°.49E,h0km,mb3.8/8,*
mbtmp3.8/8,Error ellipse: s-maj=102.2km s-min=18.7km
az=66.0
*DJA **31** 06:36:40.4±0.4,0°.N±6°.×12°.6E±°.,h10km,M3.5/7,MLv3.5/7*
ISC 31 06:36:42.5±0.9,0°.1S±0°.1×125°.82E±0°.08,h44km,n12,
σ1°79/11,mb3.8/8,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.76**	**107**	P	**Pn**	**06 37 08.6**	**-2.0**
TNTI	**Ternate**	**1.78**	**60**	P	**Pn**	**06 37 10.6**	**-0.2**
SANI	**Sanana**	**1.94**	**175**	P	Pn	06 37 19.0	+6.0
KMSI	**Cibinong**	**1.96**	**290**	P	**Pn**	**06 37 11.7**	**-1.6**
WRA	**Warramunga Arr**	**21.40**	**158**	P	**P**	**06 41 27.0**	**+0.2**
	2.1nm,0.8s,baz=335,slow=11,SNR=15						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**24.70**	**162**	P	**P**	**06 42 02.4**	**+2.6**
	0.7nm,0.6s,baz=344,slow=7.2,SNR=15						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.22**	**306**	P	**P**	**06 43 08.9**	**+2.1**
	1.0nm,0.3s,baz=129,slow=7.1,SNR=1.2						
	1.0nm,0.3s						
SONM	**Songino Array**	**50.66**	**343**	P	**P**	**06 45 35.3**	**-2.3**
	0.7nm,0.5s,baz=141,slow=9.2,SNR=1.5						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**60.22**	**327**	P	**P**	**06 46 47.2**	**+1.0**
	1.2nm,0.9s,baz=122,slow=7.6,SNR=3.3						
	1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**63.60**	**334**	P	**P**	**06 47 09.4**	**+0.6**
	0.3nm,0.4s,baz=150,slow=6.1,SNR=1.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.50**	**329**	P	**P**	**06 47 15.3**	**+0.6**
	0.7nm,0.7s,baz=124,slow=6.4,SNR=4.1						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**70.05**	**328**	P	**P**	**06 47 48.9**	**-1.0**
	0.3nm,0.3s,baz=183,slow=2.5,SNR=1.7						
	0.3nm,0.3s						

---

*IDC **31** 06:38:23.2±1.2,34°.76N×73°.27E,h0km,mb3.7/5,*
mbtmp3.6/9,ML3.0/4,Error ellipse: s-maj=32.8km
s-min=21.4km az=68.0
*NNC **31** 06:38:35.3±9.9,35°.12N×73°.53E,h119km±135km,mb2.7,*
mpv3.2,Error ellipse: s-maj=107.4km s-min=78.0km
az=82.0
ISC 31 06:38:26.7±1.0,34°.78N±0°.09×73°.3E±0°.1,h21km,n20,
σ1°22/22,mb3.6/4,1C-3D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**7.34**	**2**	⇓P	**Pn**	**06 40 16.5**	**+3.5**
	0.2nm,0.5s						
AML				⇓S	**Sn**	**06 41 35.4**	**-0.5**
	0.5nm,0.5s						
KK31	**Karatay Array**	**8.60**	**346**	P	**Pn**	**06 40 31.5**	**+1.6**
	2.3nm,0.4s,baz=154,slow=11,SNR=26						
KK31				⇓S	**Sn**	**06 42 04.9**	**-1.3**
	3.0nm,0.5s,baz=163,slow=22						
PYUN	**Piuthan**	**10.59**	**126**	*e*P	**Pn**	**06 40 58.0**	**+0.6**
	13nm,0.3s						
DANN	**Dangsing**	**10.95**	**123**	*e*P	**Pn**	**06 41 03.3**	**+0.8**
	30nm,0.7s						
GKN	**Gorkha**	**11.78**	**122**	*e*P	**Pn**	**06 41 13.8**	**+0.2**
	16nm,0.3s						
PKIN	**Phulchoki**	**12.57**	**122**	*e*P	**Pn**	**06 41 23.8**	**-0.7**
	14nm,0.4s						
PKI	**Pulchoki**	**12.58**	**122**	*e*P	**Pn**	**06 41 24.0**	**-0.7**
	10nm,0.4s						
GUN	**Gumba**	**12.71**	**119**	*e*P	**Pn**	**06 41 25.9**	**-0.7**
	5.7nm,0.3s						
JIRN	**Jiri**	**13.08**	**119**	*e*P	**Pn**	**06 41 31.1**	**-0.5**
	15nm,0.4s						
MKAR	**Makanchi Array**	**13.77**	**27**	Pn	**Pn**	**06 41 39.7**	**-0.9**
	baz=218,slow=14,SNR=1.9						
	0.5nm,0.8s						
RAMN	**Ramite**	**13.80**	**121**	*e*P	**Pn**	**06 41 40.2**	**-1.1**
	8.4nm,0.5s						
KURBB	**Kurchatov Arra**	**16.28**	**12**	Pn	**Pn**	**06 42 11.5**	**-2.4**
	baz=200,slow=11,SNR=2.4						
	0.1nm,0.2s						
AB31	**Akbulak array**	**17.52**	**330**	⇑Pn	**Pn**	**06 42 29.3**	**-0.1**
	0.4nm,0.6s,baz=141,slow=12,SNR=8.4						
BVAR	**Borovoye Array**	**18.36**	**354**	P	**Pn**	**06 42 39.9**	**+0.1**
	baz=156,slow=11,SNR=5.1						
	0.8nm,0.5s						
AKTO	**Aktyubinsk**	**19.23**	**329**	P	**P**	**06 42 49.4**	**+0.1**
	0.4nm,0.3s,baz=126,slow=5.9,SNR=6.2						
	1.4nm,0.4s						
ZALV	**Zalesovo Beam**	**20.80**	**19**	P	**P**	**06 43 06.1**	**-0.3**
	2.2nm,0.5s,baz=211,slow=10,SNR=5.7						
	2.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.96**	**119**	P	**P**	**06 44 16.3**	**+0.5**
	0.9nm,0.3s,baz=307,slow=8.9,SNR=1.6						
	0.9nm,0.3s						
TORD	**Torodi Ar. Bea**	**67.61**	**271**	P	**P**	**06 49 21.4**	**-0.9**
	0.4nm,0.7s,baz=48,slow=6.4,SNR=2.5						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**79.46**	**123**	P	**P**	**06 50 32.1**	**+0.3**
	0.3nm,0.5s,baz=323,slow=4.9,SNR=6.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**81.70**	**126**	P	**P**	**06 50 43.9**	**+0.1**
	0.3nm,0.7s,baz=314,slow=5.1,SNR=4.4						
	0.3nm,0.7s						

IDC 31 06:39:30.6±3.8,53°.81N×88°.41E,h0km,mbtmp2.6/2,
ML2.4/2,Error ellipse: s-maj=35.3km s-min=20.9km
az=42.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.13**	**275**	I	I	06 55 50.0	
	0.1nm,1.3s,baz=91,slow=325,SNR=4.3						
ZALV	**Zalesovo Beam**	**2.13**	**275**	Pg	Pb	06 40 08.8	-1.2
	1.1nm,0.3s,baz=91,slow=13,SNR=12						
ZALV				Lg	Lg	06 40 38.0	
	1.8nm,0.3s,baz=93,slow=22,SNR=20						
KURBB	**Kurchatov Arra**	**6.86**	**246**	Pn	Pn	06 41 13.6	+1.3
	0.1nm,0.3s,baz=62,slow=14,SNR=3.9						
KURBB				Lg	Lg	06 43 07.2	
	baz=62,slow=36,SNR=3.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.04**	**212**	Pn	Pn	06 41 29.2	+0.5
	0.1nm,0.3s,baz=20,slow=17,SNR=1.1						
	0.2nm,0.5s						

---

*IDC **31** 06:42:22.1±3.4,7°.09S×125°.09E,h543km±50km,mb2.9/4,*
mbtmp3.8/7,Error ellipse: s-maj=131.5km s-min=18.4km
az=55.0
ISC 31 06:42:22.2±1.2,7°.1S±0°.2×125°.2E±0°.2,h543km,n7,
σ0°82/8,mb3.4/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.44**	**205**	P	**P**	**06 43 40.4**	**+0.8**
	11nm,0.3s,baz=17,slow=12,SNR=1.5						
BATI				S	**S**	**06 44 41.5**	**-1.1**
	31nm,0.5s,baz=336,slow=17,SNR=2.2						
WRA	**Warramunga Arr**	**15.58**	**146**	P	**P**	**06 45 36.9**	**-0.8**
	0.4nm,0.4s,baz=335,slow=9.3,SNR=22						
ASAR	**Alice Springs**	**18.50**	**154**	P	**P**	**06 46 05.6**	**+0.5**
	0.7nm,0.3s,baz=343,slow=14,SNR=26

0.3nm,0.8s
EKA Eskdalemuir Ar 145.89 352 PKPbc **PKPdf 07 06 05.4 -1.7**
0.4nm,0.4s,baz=2.4,slow=1.7,SNR=1.4

---

*EAF **31** 06:54:39.4, 26.00S×29.87E, h27km, MC3.5*
BUL 31 06:54:41.8±0.7, 25.95S×29.74E, h10km±9km, MD3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.85**	**32**	*i* P	Pn	06 55 23.2	-4.2
MOPA				*i* S	Sn	06 55 53.5	-8.4
MOPA	**Mopani**	**2.85**	**32**	*i* P	Pn	06 55 23.2	-4.2
	baz=30						
MOPA				*i* S	Sn	06 55 53.5	-8.4
	baz=30						
MUSN	**Musina, Limpop**	**3.65**	**2**	*i* P	Pn	06 55 35.5	-2.8
MUSN				*i* S	Sn	06 56 14.8	-6.7
MUSN	**Musina, Limpop**	**3.65**	**2**	*i* P	Pn	06 55 35.5	-2.8
	baz=360						
MUSN				*i* S	Sn	06 56 14.8	-6.7
	baz=360						
LBTB	**Lobatse**	**3.85**	**283**	*i* P	Pn	06 55 38.9	-2.4
LBTB				*i* S	Sn	06 56 20.5	-6.2
LBTB	**Lobatse**	**3.85**	**283**	*i* P	Pn	06 55 38.9	-2.4
	baz=283						
LBTB				*i* S	Sn	06 56 20.5	-6.2
	baz=283						
BOSA	**Boshof**	**4.79**	**235**	*i* P	Pn	06 55 51.2	-2.9
BOSA				*i* S	Sn	06 56 41.9	-7.9
BOSA	**Boshof**	**4.79**	**235**	*i* P	Pn	06 55 51.2	-2.9
	baz=236						
BOSA				*i* S	Sn	06 56 41.9	-7.9
	baz=236						

IDC 31 07:02:50.0±2.5, 54.16N×86.72E, h0km, mbtmp3.3/3, ML2.7/3, Error ellipse: s-maj=21.5km s-min=12.8km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.14**	**260**	I	I	07 09 38.8	
	baz=73,slow=333,SNR=11						
ZALV	**Zalesovo Beam**	**1.14**	**260**	Pg	Pg	07 03 10.6	-1.1
	3.0nm,0.3s,baz=75,slow=14,SNR=42						
ZALV				Lg	Lg	07 03 26.7	
	4.1nm,0.3s,baz=81,slow=30,SNR=16						
KURBB	**Kurchatov Arra**	**6.13**	**238**	Pn	Pn	07 04 22.5	+0.7
	0.2nm,0.3s,baz=54,slow=14,SNR=26						
KURBB				Sn	Sn	07 05 32.3	-0.2
	baz=55,slow=22,SNR=2.0						
	3.1nm,0.5s						
MKAR	**Makanchi Array**	**7.89**	**203**	Pn	Pn	07 04 46.1	+0.1
	0.2nm,0.3s,baz=26,slow=14,SNR=8.5						
MKAR				Sn	Sn	07 06 15.8	-0.2
	0.2nm,0.3s,baz=19,slow=33,SNR=1.9						
MKAR				Lg	Lg	07 07 00.3	
	0.1nm,0.3s,baz=18,slow=29,SNR=1.7						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**9.78**	**270**	Pn	Pn	07 05 12.4	+0.6
	baz=72,slow=11,SNR=3.4						
BVAR				Pg		07 05 46.8	
	baz=106,slow=21,SNR=1.2						
	0.6nm,0.4s						

---

*ANF **31** 07:06:45.9±0.4, 36.02N×97.93W, h5km, ML3.5/10, Error ellipse: s-maj=4.6km s-min=3.7km az=150.0*
*NEIC **31** 07:06:46.0±0.3, 36.024N±0.008×97.91W±0.01, h5km±3km, Error ellipse: s-maj=1.6km s-min=0.7km az=225.0*
*TUL **31** 07:06:46.3±0.3, 36.03N±0.01×97.91W±0.01, h6km±2km, ML3.1, mb_Lg2.6/55(NEIC), ML3.0/40(NEIC), Error ellipse: s-maj=1.7km s-min=1.0km az=151.0*
ISC 31 07:06:46.3±0.8, 36.04N±0.02×97.91W±0.02, h10km, n80, σ0.70/57, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.45**	**123**	Pg	**Pg**	**07 06 54.8**	**-0.2**
OK029				Sg	**Sg**	**07 07 00.8**	**-0.2**
OK029				IAML		07 07 01.4	
	1μm,0.4s						
CROK	**Carrier**	**0.47**	**353**	Pg	**Pg**	**07 06 55.8**	**+0.3**
CSTR	**Hydro, Custer**	**0.74**	**238**	Pg	**Pg**	**07 07 00.6**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.74**	**148**	Pg	**Pg**	**07 07 00.1**	**-0.5**
OKCSW				IAML		07 07 17.8	
	comp=E,426nm,0.2s						
OK033	**Mehan**	**0.79**	**89**	Pg	**Pg**	**07 07 01.1**	**-0.4**
OK033				IAML		07 07 14.6	
	comp=E,471nm,0.1s						
OK033				IAML		07 07 15.9	
	comp=E,457nm,0.1s						
OK032	**Salt Plains WL**	**0.80**	**343**	Pg	**Pg**	**07 07 01.6**	**-0.2**
OK032				IAML		07 07 15.1	
	comp=E,588nm,0.2s						
OK032				IAML		07 07 15.2	
	comp=E,609nm,0.3s						
OK038	**West end E0370**	**0.80**	**303**	Pg	**Pg**	**07 07 01.7**	**-0.1**
GC02	**Grant County #**	**0.81**	**3**	Pg	**Pg**	**07 07 01.7**	**-0.2**
OK048	**Pawnee Station**	**0.87**	**64**	Pg	**Pg**	**07 07 02.7**	**-0.4**
OK031	**S. Brethren Rd**	**0.88**	**95**	Pg	**Pg**	**07 07 02.7**	**-0.5**
OK031				IAML		07 07 15.8	
	comp=E,355nm,0.1s						
OK031				IAML		07 07 18.5	
	comp=E,291nm,0.1s						
OK052	**Battle Ridge R**	**0.90**	**93**	Pg	**Pg**	**07 07 03.2**	**-0.5**
OK052				IAML		07 07 29.4	
	comp=E,322nm,0.2s						
BLOK	**Blackwell**	**0.91**	**38**		**Pg**	**07 07 03.5**	**-0.4**
KAN14	**Manchester OK**	**0.92**	**358**	Pg	**Pg**	**07 07 03.5**	**-0.4**
OK035	**E0210 Rd and N**	**0.93**	**316**		**Pg**	**07 07 03.7**	**-0.5**
OK035				IAML		07 07 20.4	
	comp=E,620nm,0.2s						
QUOK	**Quay**	**0.98**	**82**	Pg	**Pg**	**07 07 04.7**	**-0.6**
QUOK				IAML		07 07 20.9	
	comp=N,296nm,0.2s						
QUOK				IAML		07 07 25.3	
	comp=E,401nm,0.2s						
OK051	**E0350 and S346**	**0.99**	**62**		**Pg**	**07 07 04.8**	**-0.5**
OK051				IAML		07 07 24.4	
	comp=E,653nm,0.2s						
KAN17	**Caldwell West**	**1.01**	**7**	Pg	**Pg**	**07 07 05.3**	**-0.4**
NOKA	**Waynoka**	**1.01**	**306**	Pg	**Pg**	**07 07 05.6**	**-0.3**
NOKA				IAML		07 07 22.0	
	comp=N,605nm,0.3s						
NOKA				IAML		07 07 23.9	
	comp=E,544nm,0.2s						
KAN13	**South Haven SW**	**1.03**	**20**		**Pg**	**07 07 05.8**	**-0.4**
KAN05	**Bluff City Nor**	**1.07**	**2**		**Pg**	**07 07 06.4**	**-0.4**
KAN10	**Anthony SW Sta**	**1.09**	**352**		**Pb**	**07 07 06.7**	**-0.6**
KAN01	**Argonia South**	**1.12**	**6**		**Pb**	**07 07 07.1**	**-0.7**
KAN09	**Caldwell North**	**1.12**	**12**		**Pb**	**07 07 07.2**	**-0.5**
DEOK	**Depew**	**1.17**	**99**	Pg	**Pb**	**07 07 07.4**	**-1.2**
DEOK				IAML		07 07 28.2	
	comp=E,366nm,0.1s						
DEOK				IAML		07 07 28.5	
	comp=N,261nm,0.3s						
KAN08	**Anthony NE Sta**	**1.18**	**358**		**Pb**	**07 07 08.4**	**-0.5**
KAN06	**Argonia West S**	**1.21**	**2**		**Pn**	**07 07 08.7**	**-0.6**
ELIS	**Ellis County**	**1.22**	**272**	Pg	**Pn**	**07 07 09.2**	**-0.3**
ELIS				IAML		07 07 31.0	
	comp=E,321nm,0.2s						
KS20	**Mayfield South**	**1.22**	**14**		**Pn**	**07 07 09.2**	**-0.3**
KAN12	**Harper NE Stat**	**1.26**	**357**		**Pn**	**07 07 09.8**	**-0.2**
KS21	**Milan North St**	**1.26**	**9**	Pg	**Pn**	**07 07 09.7**	**-0.3**
T35A	**Sooner Cattle**	**1.43**	**52**		**Pn**	**07 07 12.7**	**+0.4**
X34A	**Smith Ranch, M**	**1.44**	**177**	Pg	**Pb**	**07 07 13.0**	**-0.3**
WMOK	**Wichita Mounta**	**1.48**	**209**		**Pn**	**07 07 12.9**	**-0.1**
WMOK				IAmb_Lg		07 07 34.7	
	comp=Z,27nm,0.9s						
WMOK	**Wichita Mounta**	**1.48**	**209**	P	**Pn**	**07 07 13.2**	**+0.1**
	baz=29						
WMOK				S	**Sb**	**07 07 32.9**	**0.0**
	baz=29						
TUL3	**Leonard**	**1.73**	**94**		**Pn**	**07 07 16.9**	**+0.5**
TUL3	**Leonard**	**1.73**	**94**	P	**Pn**	**07 07 16.7**	**+0.3**
	baz=275						
TUL3				S	**Sb**	**07 07 39.8**	**-0.1**
	baz=275						
SMWD	**Samnorwood**	**2.12**	**244**		**Pn**	**07 07 23.1**	**+1.2**
LOOK	**Love County**	**2.13**	**163**		**Pn**	**07 07 23.3**	**+1.3**
LOOK				IAmb_Lg		07 07 58.0	
	comp=Z,21nm,0.8s						
WTFS	**Witchita Falls**	**2.31**	**191**		**Pb**	**07 07 26.6**	**-1.6**
WTFS				IAmb_Lg		07 07 59.5	
	comp=Z,9.2nm,0.7s						
RLO	**Rose Lookout**	**2.34**	**86**		**Pn**	**07 07 26.9**	**+1.9**
R32A	**Long Quarter,**	**2.46**	**345**	IAmb_Lg		07 08 05.9	
	comp=Z,17nm,0.7s						
X37A	**Clayton**	**2.53**	**124**	IAmb_Lg		07 08 10.9	
	comp=Z,26nm,0.7s						
FW03	**Perrin-Whitt E**	**3.00**	**182**	IAmb_Lg		07 08 22.0	
	comp=Z,5.0nm,0.7s						
CBKS	**Cedar Bluff**	**3.13**	**333**	P	**Pn**	**07 07 36.0**	**+0.3**
	baz=152						
CBKS				S	**Sn**	**07 08 14.8**	**+1.7**
	baz=152						
PLPT	**Palo Pinto**	**3.24**	**186**	IAmb_Lg		07 08 37.5	
	comp=Z,8.6nm,0.8s						
APMT	**Aspermont**	**3.26**	**215**	IAmb_Lg		07 08 35.3	
	comp=Z,14nm,1.2s						
AMTX	**Amarillo**	**3.29**	**251**	IAmb_Lg		07 08 28.1	
	comp=Z,20nm,0.8s						
AMTX	**Amarillo**	**3.29**	**251**	P	**Pn**	**07 07 38.2**	**+0.3**
	baz=68						
AMTX				S	**Sn**	**07 08 17.9**	**+0.8**
	baz=68						
DKNS	**Dickens**	**3.43**	**227**	IAmb_Lg		07 08 36.9	
	comp=Z,25nm,0.9s						
Z38A	**Mt. Pleasant**	**3.68**	**138**	IAmb_Lg		07 08 45.6	
	comp=Z,19nm,0.8s						
ABTX	**Abilene, Hawle**	**3.70**	**203**	IAmb_Lg		07 08 44.4	
	comp=Z,11nm,0.7s						
ABTX	**Abilene, Hawle**	**3.70**	**203**	P	**Pn**	**07 07 42.3**	**-1.2**
	baz=22						
ABTX				S	**Sn**	**07 08 28.2**	**+1.0**
	baz=22						
MIAR	**Mount Ida**	**3.85**	**112**	P	**Pn**	**07 07 46.3**	**+0.7**
	baz=294						
MIAR				S	**Sn**	**07 08 31.7**	**+0.8**
	baz=294						
RTBA	**Rita Blanca**	**3.92**	**277**	IAmb_Lg		07 08 55.8	
	comp=Z,8.0nm,0.8s						
SN01	**Snyder 1**	**4.01**	**219**	IAmb_Lg		07 08 58.1	
	comp=Z,23nm,0.8s						
S39A	**Bolivar**	**4.03**	**65**	IAmb_Lg		07 09 02.1	
	comp=Z,8.9nm,0.8s						
WHTX	**Lake Whitney,**	**4.06**	**174**	P	**Pn**	**07 07 48.8**	**+0.3**
	baz=355						
WHTX				S	**Sn**	**07 08 37.3**	**+1.3**
	baz=355						
POST	**Post**	**4.19**	**226**	IAmb_Lg		07 09 02.4	
	comp=Z,21nm,0.8s						
X40A	**Basin Creek Fa**	**4.43**	**109**	IAmb_Lg		07 09 10.4	
	comp=Z,16nm,0.9s						
MSTX	**Muleshoe**	**4.49**	**244**	P	**Pn**	**07 07 54.3**	**-0.2**
	baz=61						
MSTX				S	**Sn**	**07 08 48.0**	**+1.0**
	baz=61						
WLAR	**White Oak Lake**	**4.59**	**119**	IAmb_Lg		07 09 16.8	
	comp=Z,12nm,0.8s						
WHAR	**Wooly Hollow**	**4.64**	**98**	IAmb_Lg		07 09 16.4	
	comp=Z,17nm,1.1s						
MGMO	**Mountain Grove**	**4.68**	**75**	IAmb_Lg		07 09 12.2	
	comp=Z,14nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.70**	**90**	IAmb_Lg		07 09 24.9	
	comp=Z,7.9nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.78**	**310**	IAmb_Lg		07 09 31.0	
	comp=Z,15nm,0.8s						
BRDY	**Brady**	**4.83**	**191**	IAmb_Lg		07 09 23.4	
	comp=Z,6.5nm,0.8s						
SGCY	**Sterling City**	**4.91**	**214**	IAmb_Lg		07 09 29.8	
	comp=Z,13nm,0.7s						
R40A	**Maddies Statio**	**5.04**	**62**	IAmb_Lg		07 09 22.4	
	comp=Z,14nm,0.9s						
T25A	**Trinidad**	**5.34**	**284**	IAmb_Lg		07 09 48.2	
	comp=Z,12nm,0.8s						
T25A	**Trinidad**	**5.34**	**284**	P	**Pn**	**07 08 06.2**	**-0.1**
	baz=100						
BGNE	**Belgrade**	**5.36**	**358**	P	**Pn**	**07 08 06.9**	**+0.4**
	baz=178						
CCM	**Cathedral Cave**	**5.70**	**67**	IAmb_Lg		07 09 55.1	
	comp=Z,11nm,0.7s						
MNHN	**Monahans**	**6.19**	**222**	IAmb_Lg		07 10 11.5	
	comp=Z,6.5nm,0.8s						
HNDO	**Hondo**	**6.59**	**190**	IAmb_Lg		07 10 18.5	
	comp=Z,11nm,0.9s						
PECS	**Pecos**	**6.80**	**228**	IAmb_Lg		07 10 26.9	
	comp=Z,7.2nm,0.7s						
DRIO	**Del Rio**	**6.98**	**200**	IAmb_Lg		07 10 27.3	
	comp=Z,6.2nm,0.9s						
SAND	**Sanderson**	**7.02**	**211**	IAmb_Lg		07 10 38.7	
	comp=Z,7.9nm,0.8s						
ALPN	**Alpine**	**7.41**	**222**	IAmb_Lg		07 10 50.7	
	comp=Z,6.3nm,1.0s						
425A	**Indio Mountain**	**7.90**	**230**	IAmb_Lg		07 11 01.3	
	comp=Z,5.6nm,1.0s						
RSSD	**Black Hills**	**9.33**	**332**	IAmb_Lg		07 11 47.2	

IDC 31 07:07:14.7±2.5, 4.41N×127.24E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=181.9km s-min=29.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.19**	**164**	P	P	07 12 42.3	+0.2
	0.5nm,0.6s,baz=344,slow=11,SNR=9.6						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**28.66**	**167**	P	P	07 13 13.0	-0.3
	0.1nm,0.4s,baz=348,slow=8.8,SNR=2.2						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	07 17 04.3	0.0
	0.3nm,0.4s,baz=137,slow=7.0,SNR=2.3						
	0.3nm,0.4s						

---

*IDC **31** 07:09:57.7±1.2, 49.71N×81.42E, h0km, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=16.0km s-min=9.0km az=56.0*
*NNC **31** 07:10:01.3±1.5, 49.58N×81.36E, h8km±15km, mb3.4, mpv3.1, Error ellipse: s-maj=40.8km s-min=6.3km az=56.0, Suspected Mining explosion.*
ISC 31 07:09:57.3±0.9, 49.74N±0.05×81.55E±0.07, h0km, n12, σ2.20/14, 4C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.07**	**309**	P	**Pn**	**07 10 21.6**	**+1.8**
	5.1nm,0.1s						
SEM				S	**Sn**	**07 10 37.9**	**+2.4**
	49nm,0.4s						
KURK	**Kurchatov**	**2.12**	**299**	⇓Pn	**Pn**	**07 10 35.5**	**+1.5**
	21nm,0.8s						
KURK				⇑Sn	**Sn**	**07 11 03.0**	**+2.0**
	49nm,1.0s						
KURBB	**Kurchatov Arra**	**2.13**	**296**	Pg	**Pn**	**07 10 35.0**	**+0.9**
	0.2nm,0.3s,baz=112,slow=19,SNR=67						
KURBB				Lg	Lg	07 11 03.8	
	0.5nm,0.3s,baz=119,slow=29,SNR=17						
MAKZ	**Makanchi**	**2.94**	**174**	⇓Pn	**Pn**	**07 10 46.9**	**+1.6**
	4.3nm,0.8s						
MAKZ				⇑Lg	Lg	07 11 29.7	
	27nm,1.5s						
MK31	**Makanchi Array**	**2.98**	**170**	⇑Pn	**Pn**	**07 10 48.1**	**+2.2**
	2.8nm,0.7s,baz=355,slow=14,SNR=15						
MK31				⇑Lg	Lg	07 11 30.5	
	15nm,0.8s,baz=358,slow=27,SNR=12						
MKAR	**Makanchi Array**	**2.98**	**170**	Pn	**Pn**	**07 10 47.1**	**+1.2**
	0.9nm,0.3s,baz=352,slow=15,SNR=16						
MKAR				Sn	**Sn**	**07 11 23.8**	**+1.4**
	0.3nm,0.3s,baz=350,slow=17,SNR=3.2						
	1.2nm,0.3s						
ZSN	**Zaisan**	**3.17**	**135**	Pg	**Pb**	**07 10 54.3**	**-0.2**
	3.3nm,0.4s						
ZALV	**Zalesovo Beam**	**4.68**	**24**	Pn	**Pn**	**07 11 10.6**	**+1.5**
	0.3nm,0.3s,baz=213,slow=12,SNR=4.2						
ZALV				Pg	**Pg**	**07 11 25.8**	**-1.1**
	0.3nm,0.3s,baz=210,slow=15,SNR=4.7						
ZALV				Lg	Lg	07 12 26.9	
	0.7nm,0.3s,baz=203,slow=25,SNR=10						
	0.4nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.68**	**24**	I	I	07 38 30.0	
	baz=202,slow=322,SNR=5.7						
DJR	**Jarkent**	**5.54**	**193**	Pg	**Pg**	**07 11 42.2**	**-1.2**
	0.4nm,0.1s						
KRBS	**Karabastau**	**7.26**	**216**	Lg	Lg	07 13 42.8	
	1.1nm,0.3s						
BVAR	**Borovoye Array**	**7.72**	**299**	Sn	**Sn**	**07 13 14.4**	**-4.6**
	0.1nm,0.3s,baz=117,slow=18,SNR=2.4						
BVAR				Lg	Lg	07 14 00.7	
	baz=114,slow=27						

---

*NNC **31** 07:20:24.9±2.2, 50.92N×78.78E, h94km±13km, mb2.4, mpv3.0, Error ellipse: s-maj=30.1km s-min=16.8km az=31.0, Suspected Mining explosion.*
*IDC **31** 07:20:27.3±0.9, 50.06N×78.75E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=12.6km s-min=6.4km az=63.0*
ISC 31 07:20:27.3±0.9, 50.08N±0.04×78.65E±0.05, h0km, n15, σ1.42/17, 5C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.55**	**352**	Pg	**Pg**	**07 20 37.9**	**+0.1**
	2.8nm,0.3s,baz=167,slow=18,SNR=72						
KURBB				Lg	Lg	07 20 47.5	
	2.7nm,0.3s,baz=168,slow=32,SNR=8.4						
KURK	**Kurchatov**	**0.64**	**358**	⇑P	**Pg**	**07 20 39.3**	**-0.2**
	9.1nm,0.4s						
KURK				⇑S	**Sb**	**07 20 50.1**	**-0.6**
	38nm,0.6s						
SEM	**Semipalatinsk**	**1.08**	**72**	S	**Sg**	**07 21 01.7**	**-0.1**
BRZS	**Berezniki**	**3.85**	**271**	Pg	**Pb**	**07 21 34.4**	**-1.7**
	4.8nm,0.3s						
MAKZ	**Makanchi**	**3.95**	**145**	⇓Pn	**Pn**	**07 21 31.3**	**+2.1**
	5.0nm,1.3s						
MAKZ				⇑Pg	**Pg**	**07 21 44.6**	**+1.6**
	3.7nm,0.9s						
MAKZ				⇓Sn	**Sb**	**07 22 26.8**	**+0.6**
	6.9nm,0.6s						
MK31	**Makanchi Array**	**4.08**	**142**	⇑Pn	**Pn**	**07 21 32.5**	**+1.5**
	0.1nm,0.1s,baz=322,slow=10,SNR=14						
MK31				⇑Pg	**Pg**	**07 21 45.0**	**-0.5**
	0.6nm,0.3s,baz=337,slow=13,SNR=6.7						
MK31				⇓Sn	**Sb**	**07 22 28.0**	**-1.9**
	7.8nm,0.5s,baz=333,slow=25						
MKAR	**Makanchi Array**	**4.08**	**142**	Pn	**Pn**	**07 21 30.0**	**-0.9**
	0.3nm,0.3s,baz=323,slow=10,SNR=37						
MKAR				Pg	**Pb**	**07 21 37.7**	**-2.3**
	0.9nm,0.3s,baz=339,slow=15,SNR=7.2						
MKAR				Sn	**Sn**	**07 22 18.6**	**-0.8**
	0.5nm,0.3s,baz=327,slow=22,SNR=2.3						
MKAR				Lg	Lg	07 22 29.5	
	2.7nm,0.3s,baz=334,slow=26,SNR=16						
	0.4nm,0.4s						
ZSN	**Zaisan**	**4.88**	**120**	Pg	**Pb**	**07 21 53.0**	**-0.6**
	3.7nm,0.3s						
ZALV	**Zalesovo Beam**	**5.43**	**42**	Pn	**Pn**	**07 21 50.2**	**+0.9**
	0.8nm,0.3s,baz=233,slow=14,SNR=6.0						
ZALV				Lg	Lg	07 23 19.5	
	0.4nm,0.3s,baz=225,slow=28,SNR=3.2						
	2.2nm,0.2s						
I46RU	**ZALESOVO INFRA**	**5.43**	**42**	I	I	07 51 40.0	
	baz=227,slow=334,SNR=11						
ARXS	**Arharly**	**5.90**	**186**	Lg	Lg	07 23 29.3	
	3.1nm,0.5s						
BVAR	**Borovoye Array**	**5.94**	**303**	Pn	**Pn**	**07 21 58.1**	**+1.7**
	baz=118,slow=12,SNR=2.1						
	0.5nm,0.5s						
BLB	**Baldybastay**	**5.99**	**181**	Lg	Lg	07 23 30.6	
	5.3nm,0.3s						
KRBS	**Karabastau**	**6.71**	**199**	Lg	Lg	07 23 53.2	
	2.6nm,0.3s						
PDGK	**Podgornoye**	**6.78**	**175**	Lg	Lg	07 23 58.4	
	2.3nm,0.6s						

---

*IDC **31** 07:22:47.9±1.5, 33.20S×179.16W, h0km, mb3.8/3, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=40.6km s-min=33.3km az=80.0*
ISC 31 07:22:53.9±1.4, 33.3S±0.1×179.3W±0.3, h35km, n10, σ1.01/8, mb3.8/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.70**	**209**	Pn	**Pn**	**07 24 15.2**	**-0.9**
	2.1nm,0.3s,baz=23,slow=7.7,SNR=13						
URZ				Sn	**Sn**	**07 25 21.0**	**+0.7**
	1.5nm,0.3s,baz=28,slow=20,SNR=1.5						
	5.2nm,0.3s						
ASAR	**Alice Springs**	**41.92**	**271**	P	**P**	**07 30 41.6**	**+0.2**
	1.2nm,0.6s,baz=110,slow=7.3,SNR=15						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**43.18**	**276**	P	**P**	**07 30 51.7**	**+0.2**
	0.4nm,0.4s,baz=114,slow=7.8,SNR=2.3						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**56.78**	**180**	P	**P**	**07 32 34.8**	**+0.4**
	0.8nm,0.7s,baz=49,slow=1.2,SNR=6.4						
	0.8nm,0.7s						
H03N3	**Juan Fernandez**	**80.00**	**123**	T	T	09 03 25.1	
	baz=239,slow=72,SNR=5.1						
H03N2	**Juan Fernandez**	**80.00**	**123**	T	T	09 03 32.0	
	baz=239,slow=72,SNR=4.0						
H03N1	**Juan Fernandez**	**80.01**	**123**	T	T	09 03 23.9	
	baz=239,slow=72,SNR=6.4						
FINES	**FINESS Array B**	**147.46**	**337**	PKPbc	**PKPdf**	**07 42 32.0**	**+1.3**
	2.7nm,0.8s,baz=31,slow=4.4,SNR=8.7						
NB2	**NORSAR Subarra**	**151.44**	**349**	PKP	**PKPbc**	**07 42 42.4**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.44**	**349**	PKPbc	**PKPbc**	**07 42 42.4**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=14,slow=4.2,SNR=4.4						

WEL 31 07:35:37.5±0.6, 38.5S±5.×17.7E±., h10km±4km, M2.7/14, ML3.8/12, MLv2.7/14, Error ellipse: s-maj=0.0km s-min=0.0km az=28.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.11**	**270**	P	Pg	07 35 41.3	+1.1
WIZ				S	Sg	07 35 43.9	+1.8
WSRZ	**White Island S**	**0.12**	**274**	P	Pg	07 35 41.6	+1.2
WSRZ				S	Sg	07 35 44.2	+1.8
HAZ	**Te Kaha**	**0.43**	**123**	P	Pg	07 35 46.0	+0.2
HAZ				S	Sg	07 35 52.3	+0.8
RUGZ	**Raukumara Rang**	**0.52**	**148**	P	Pg	07 35 48.0	+0.3
RUGZ				S	Sg	07 35 55.3	+0.9
OPRZ	**Ohinepanea**	**0.69**	**242**	P	Pb	07 35 51.7	0.0
PKGZ	**Pakihiroa**	**0.69**	**122**	P	Pb	07 35 51.4	-0.4
URZ	**Urewera**	**0.75**	**193**	P	Pb	07 35 52.6	-0.1
URZ				S	Sb	07 36 02.7	-0.3
MWZ	**Matawai**	**0.82**	**169**	P	Pb	07 35 53.7	-0.2
MWZ				S	Sb	07 36 04.7	-0.4
TWGZ	**Tauwhareparae**	**0.83**	**142**	P	Pb	07 35 54.5	+0.4
WMGZ	**Waiomatatini S**	**0.91**	**109**	P	Pn	07 35 56.2	-0.2
RAGZ	**Rawiri**	**0.97**	**176**	P	Pb	07 35 56.6	+0.1
TKGZ	**Te Karaka**	**1.00**	**156**	P	Pn	07 35 57.8	+0.2
MUGZ	**Murupara**	**1.05**	**205**	P	Pg	07 35 57.5	-0.1
RTZ	**Ruatahuna**	**

mB5.9/4,Ms5.4/2,Ms7 5.2/2
NEIC **31** 07:36:06.4, 37°.49S, 177°.34E, h20km
NEIC **31** 07:36:06.4±1.6, 37°.49S±0°.05×177°.34E±0°.05, h10km±1km, mb5.0/24,Mww5.0/13, Error ellipse: s-maj=9.1km s-min=6.3km az=7.0
NEIC **31** 07:36:06.4, 37°.39S×177°.34E, h20km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.92; $M_{\theta\theta}$=2.99; $M_{\phi\phi}$=-0.07; $M_{r\theta}$=2.37; $M_{r\phi}$=1.08; $M_{\theta\phi}$=0.48; Fault plane solution: M_0=3.96000×10^{16} NP1: ϕ_s=256.44000°, δ=63.87000°, λ=-86.03000°. NP2: ϕ_s=67.48000°, δ=26.41000°, λ=-98.03000°. Principal axes: T 4.1551, Plg19.0000°, Azm343.0000°; N -0.3981, Plg4.0000°, Azm75.0000°; P -3.7570, Plg71.0000°, Azm175.0000°;
WEL **31** 07:36:07.0±0.6, 37°.5S±5°×17°.7E±°, h12km±3km, M4.8/115, ML5.1/17, MLv4.8/115 Error ellipse: s-maj=0.0km s-min=0.0km az=16.5
NOU **31** 07:36:10.0, 37°.75S×177°.34E, h10km, mb4.8/31, Off E. Coast of N. Island, N.Z.
GCMT **31** 07:36:11.4±0.3, 37°.50S±0°.02×177°.29E±0°.04, h21km±1km, MW5.0/77, Moment Tensor Solution. s30,c37; s77,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.70±.26; $M_{\theta\theta}$3.27±.16; $M_{\phi\phi}$0.43±.16; $M_{r\theta}$1.04±.25; $M_{\theta\phi}$1.30±.08; $M_{r\phi}$1.62±.33; Best double couple: M_0=4.20100×10^{16} NP1:ϕ_s234.00000°, δ58.00000°, λ-106.00000°. NP2: ϕ_s83.00000°, δ35.00000°, λ-66.00000°. Principal axes: T 4.1000, Plg12.0000°, Azm335.0000°; N 0.2120, Plg14.0000°, Azm243.0000°; P -4.3030, Plg72.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 31 07:36:07.5±0.7, 37°.52S±0°.03×177°.33E±0°.02, h13km±4km, n352, σ1s49/326, mb5.0/29, MS4.0/40, 2C-5D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.12**	**266**	P	**Pb**	**07 36 11.6**	**0.0**
WIZ				S	**Sb**	**07 36 14.6**	**+0.4**
WSRZ	**White Island S**	**0.12**	**270**	P	**Pb**	**07 36 11.8**	**+0.1**
WSRZ				S	**Sb**	**07 36 15.0**	**+0.5**
HAZ	**Te Kaha**	**0.43**	**124**	P	**Pg**	**07 36 16.4**	**+0.4**
HAZ				S	**Sb**	**07 36 23.5**	**+0.3**
WHRZ	**Whale Island**	**0.44**	**220**	P	**Pb**	**07 36 18.1**	**+1.0**
RUGZ	**Raukumara Rang**	**0.52**	**149**	P	**Pb**	**07 36 18.3**	**-0.3**
RUGZ				S	**Sb**	**07 36 26.6**	**+0.5**
PKGZ	**Pakihiroa**	**0.69**	**122**	P	**Pb**	**07 36 21.3**	**-0.2**
OPRZ	**Ohinepanea**	**0.70**	**242**	P	**Pb**	**07 36 21.9**	**+0.4**
OPRZ				S	**Sn**	**07 36 32.8**	**-0.9**
MARZ	**Manawahe**	**0.70**	**228**	P	**Pn**	**07 36 22.4**	**-0.7**
EDRZ	**Edgecumbe**	**0.75**	**219**	P	**Pn**	**07 36 23.6**	**-0.3**
URZ	**Urewera**	**0.76**	**193**	P	**Pb**	**07 36 22.4**	**-0.1**
URZ	**Urewera**	**0.76**	**193**	P	**Pn**	**07 36 23.2**	**-0.6**
URZ				S	**Sb**	**07 36 33.7**	**+0.9**
URZ	**Urewera**	**0.76**	**193**	Pn	**Pb**	**07 36 22.9**	**+0.3**
	2μm,0.3s,baz=87,slow=9.6,SNR=302						
URZ				Sn	**Sn**	**07 36 34.0**	**-1.2**
	5μm,0.3s,baz=258,slow=16,SNR=28						
URZ				LR	LR	07 36 54.8	
	comp=Z,79μm,20.5s,baz=307,slow=58						
MXZ	**Matakaoa Point**	**0.77**	**94**		**Pg**	**07 36 21.2**	**-1.3**
MXZ				Sg	**Sg**	**07 36 30.9**	**-1.7**
MXZ	**Matakaoa Point**	**0.77**	**94**	P	**Pn**	**07 36 24.2**	**+0.1**
MXZ	**Matakaoa Point**	**0.77**	**94**	P	**Pg**	**07 36 21.7**	**-0.8**
MWZ	**Matawai**	**0.83**	**169**	P	**Pb**	**07 36 24.1**	**+0.3**
TWGZ	**Tauwhareparae**	**0.83**	**142**	P	**Pn**	**07 36 24.8**	**-0.1**
TWGZ				S	**Sn**	**07 36 38.6**	**+1.5**
TGRZ	**Tauranga**	**0.88**	**256**	P	**Pb**	**07 36 24.7**	**+0.2**
LIRZ	**Lichensteins R**	**0.90**	**237**	P	**Pn**	**07 36 25.9**	**+0.2**
MYRZ	**Mayor Island**	**0.90**	**285**	P	**Pb**	**07 36 25.2**	**+0.2**
WMGZ	**Waiomatatini S**	**0.91**	**110**	P	**Pn**	**07 36 26.9**	**+1.0**
PUZ	**Puketiti**	**0.92**	**127**	P	**Pn**	**07 36 26.2**	**+0.2**
MKRZ	**Makatiti**	**0.92**	**228**	P	**Pn**	**07 36 26.9**	**+0.7**
OMRZ	**Omania**	**0.96**	**232**	P	**Pn**	**07 36 26.7**	**0.0**
TARZ	**Mount Tarawera**	**0.97**	**222**	P	**Pn**	**07 36 27.2**	**+0.3**
RAGZ	**Rawiri**	**0.98**	**176**	P	**Pn**	**07 36 27.1**	**+0.1**
KARZ	**Kaharoa**	**1.00**	**240**	P	**Pn**	**07 36 27.0**	**-0.1**
TKGZ	**Te Karaka**	**1.00**	**156**	P	**Pn**	**07 36 28.5**	**+1.2**
RRRZ	**Republican Roa**	**1.04**	**218**	P	**Pn**	**07 36 27.9**	**0.0**
MUGZ	**Murupara**	**1.05**	**205**	P	**Pn**	**07 36 28.1**	**+0.1**
HLRZ	**Highlands Stat**	**1.07**	**226**	P	**Pn**	**07 36 28.5**	**+0.3**
NGRZ	**Ngongotaha**	**1.08**	**237**	P	**Pn**	**07 36 28.7**	**+0.3**
UTU	**Utuhina**	**1.12**	**234**	P	**Pg**	**07 36 29.7**	**+0.7**
RTZ	**Ruatahuna**	**1.13**	**194**	Pn	**Pb**	**07 36 28.8**	**-0.1**
RTZ					**Sn**	**07 36 44.7**	**+0.3**
RTZ	**Ruatahuna**	**1.13**	**194**	P	**Pb**	**07 36 28.9**	**0.0**
KMRZ	**Kaimai**	**1.15**	**253**	P	**Pb**	**07 36 28.7**	**-0.6**
HSRZ	**Hossack Road**	**1.17**	**227**	P	**Pg**	**07 36 30.3**	**+0.2**
CNGZ	**Carnagh Statio**	**1.19**	**145**	P	**Pg**	**07 36 32.2**	**+1.9**
HRRZ	**Handcock Road**	**1.20**	**223**	P	**Pg**	**07 36 28.5**	**-0.1**
PRRZ	**Plateau Road**	**1.23**	**217**	P	**Pb**	**07 36 30.5**	**0.0**
RIGZ	**Rimuhau**	**1.23**	**164**	P	**Pg**	**07 36 32.4**	**+1.2**
SNGZ	**Shannon Statio**	**1.26**	**180**	P	**Pg**	**07 36 31.5**	**-0.3**
GRRZ	**Galatos Road**	**1.27**	**229**	P	**Pg**	**07 36 31.7**	**-0.3**
ALRZ	**Allen Road**	**1.30**	**217**	P	**Pb**	**07 36 31.6**	**-0.2**
WPRZ	**Whakapapatarin**	**1.36**	**222**	P	**Pb**	**07 36 32.8**	**0.0**
MTHZ	**Maungataniwha**	**1.39**	**196**	P	**Pb**	**07 36 33.3**	**+0.1**
RAHZ	**Arahi**	**1.41**	**188**	P	**Pb**	**07 36 33.5**	**-0.2**
PRGZ	**Paritu Road**	**1.47**	**163**	P	**Pg**	**07 36 35.9**	**+0.2**
TOZ	**Tahuroa Road**	**1.47**	**261**	Pn	**Pn**	**07 36 32.8**	**-0.8**
TOZ	**Tahuroa Road**	**1.47**	**261**	P	**Pn**	**07 36 32.9**	**-0.7**
MRHZ	**Matea Rd**	**1.50**	**209**	P	**Pn**	**07 36 34.5**	**+0.4**
KUZ	**Kuaotunu**	**1.50**	**300**	P	**Pg**	**07 36 37.1**	**+0.8**
KUZ	**Kuaotunu**	**1.50**	**300**	P	**Pn**	**07 36 32.9**	**-1.2**
KNZ	**Kokohu**	**1.52**	**170**	P	**Pb**	**07 36 36.0**	**+0.4**
KUTZ	**Kaahu Road**	**1.54**	**230**	P	**Pn**	**07 36 35.2**	**+0.6**
WHHZ	**Waihua**	**1.56**	**183**	P	**Pg**	**07 36 36.9**	**-0.5**
WHTZ	**Whakaora**	**1.58**	**223**	P	**Pg**	**07 36 39.8**	**+2.0**
NMHZ	**Naumai**	**1.63**	**195**	P	**Pb**	**07 36 37.1**	**-0.3**
TLZ	**Tolley Road**	**1.64**	**240**	P	**Pn**	**07 36 36.1**	**+0.1**
HATZ	**Hinemaiaia**	**1.68**	**215**	P	**Pg**	**07 36 40.6**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.69**	**165**	P	**Pb**	**07 36 38.5**	**+0.1**
WATZ	**Wairara**	**1.73**	**226**	P	**Pg**	**07 36 43.0**	**+2.3**
ARHZ	**Aropaoanui**	**1.76**	**189**	P	**Pb**	**07 36 39.9**	**+0.3**
BKZ	**Black Stump Fm**	**1.77**	**202**	Pn	**Pn**	**07 36 37.6**	**-0.2**
BKZ				Sn	**Sn**	**07 36 59.5**	**-0.8**
BKZ	**Black Stump Fm**	**1.77**	**202**	P	**Pn**	**07 36 38.4**	**+0.6**
BKZ	**Black Stump Fm**	**1.77**	**202**	P	**Pn**	**07 36 38.4**	**+0.6**
MKAZ	**Moumakai**	**1.78**	**283**	P	**Pn**	**07 36 37.3**	**-0.6**
RATZ	**Rangitukua**	**1.82**	**222**	P	**Pg**	**07 36 41.9**	**-0.6**
RITZ	**Rihia Road**	**1.86**	**218**	P	**Pb**	**07 36 41.0**	**-0.4**
WIAZ	**Waiheke Island**	**1.90**	**292**	P	**Pn**	**07 36 39.0**	**-0.6**
KATZ	**Kakaramea**	**1.94**	**221**	P	**Pg**	**07 36 44.4**	**-0.4**
GRZ	**Great Barrier**	**1.97**	**310**	P	**Pn**	**07 36 39.6**	**-0.9**
MCHZ	**McNeill Hill**	**1.99**	**194**	P	**Pb**	**07 36 42.9**	**-0.6**
ETAZ	**East Tamaki Re**	**2.00**	**286**	P	**Pn**	**07 36 41.0**	**0.0**
KWHZ	**Kaweka Forest**	**2.03**	**200**	P	**Pn**	**07 36 42.8**	**+1.4**
TMVZ	**Te Maari**	**2.05**	**218**	P	**Pb**	**07 36 43.4**	**-1.2**
NTVZ	**North Tongarir**	**2.05**	**219**	P	**Pb**	**07 36 43.6**	**-1.0**
ETVZ	**East Tongariro**	**2.06**	**218**	P	**Pb**	**07 36 43.4**	**-1.3**
KRVZ	**Karewarewa**	**2.06**	**220**	P	**Pb**	**07 36 44.6**	**-0.3**
MBAZ	**Motutapu North**	**2.09**	**290**	P	**Pn**	**07 36 41.9**	**-0.2**
OTVZ	**Oturere**	**2.10**	**218**	P	**Pn**	**07 36 43.7**	**+1.3**
NNVZ	**North Ngauruho**	**2.10**	**219**	P	**Pb**	**07 36 44.5**	**-1.0**
WTVZ	**West Tongariro**	**2.10**	**220**	P	**Pb**	**07 36 45.1**	**-0.4**
SNVZ	**South Ngauruho**	**2.13**	**218**	P	**Pn**	**07 36 44.2**	**+1.2**
NGZ	**Ngauruhoe**	**2.14**	**219**	P	**Pb**	**07 36 44.9**	**-1.4**
CKHZ	**Cape Kidnapper**	**2.15**	**185**	P	**Pn**	**07 36 44.2**	**+1.2**
TWVZ	**Taurewa**	**2.15**	**223**	P	**Pb**	**07 36 46.8**	**+0.5**
EPAZ	**Eden Park BICE**	**2.17**	**286**	P	**Pn**	**07 36 43.7**	**+0.5**
HBAZ	**Herne Bay Bore**	**2.18**	**287**	P	**Pn**	**07 36 44.0**	**+0.6**
TUVZ	**Tukino**	**2.19**	**217**	P	**Pb**	**07 36 45.7**	**-1.3**
COVZ	**Chateau Observ**	**2.19**	**219**	P	**Pb**	**07 36 45.6**	**-1.4**
AWAZ	**Awhitu Peninsu**	**2.19**	**281**	P	**Pn**	**07 36 43.9**	**+0.3**
HIZ	**Hauiti**	**2.19**	**242**		**Pn**	**07 36 44.0**	**+0.4**
HIZ	**Hauiti**	**2.19**	**242**	P	**Pn**	**07 36 44.4**	**+0.8**
ABAZ	**Army Bay**	**2.20**	**294**	P	**Pn**	**07 36 43.9**	**+0.2**
BHHZ	**Black Hill Sta**	**2.21**	**206**	P	**Pn**	**07 36 44.7**	**+0.8**
FWVZ	**Far West T-bar**	**2.23**	**218**	P	**Pb**	**07 36 46.7**	**-1.0**
WHVZ	**Whangaehu Hut**	**2.23**	**217**	P	**Pb**	**07 36 46.8**	**-1.0**
KRHZ	**Kereru**	**2.25**	**199**	P	**Pn**	**07 36 46.0**	**+1.6**
MOVZ	**Moawhango**	**2.26**	**213**	P	**Pn**	**07 36 45.7**	**+1.1**
WNVZ	**Wahianoa**	**2.26**	**217**	P	**Pb**	**07 36 46.8**	**-1.5**
TRVZ	**Turoa**	**2.27**	**218**	P	**Pb**	**07 36 47.3**	**-1.0**
WTAZ	**Waiatarua**	**2.28**	**284**	P	**Pn**	**07 36 45.2**	**+0.4**
KAHZ	**Kahuranaki**	**2.30**	**189**	P	**Pn**	**07 36 46.4**	**+1.3**
RVAZ	**Riverhead Bore**	**2.33**	**288**	P	**Pn**	**07 36 45.5**	**+0.1**
PKVZ	**Pokaka**	**2.36**	**221**	P	**Pb**	**07 36 49.0**	**-0.8**
MTVZ	**Mangateitei**	**2.37**	**218**	P	**Pb**	**07 36 48.3**	**-1.7**
PXZ	**Pawanui**	**2.54**	**188**	P	**Pn**	**07 36 48.1**	**-0.2**
PNHZ	**Pukenui**	**2.55**	**200**	P	**Pn**	**07 36 49.6**	**+1.1**
VRZ	**Vera Road**	**2.58**	**231**	P	**Pn**	**07 36 50.6**	**+1.6**
WPHZ	**Waipukurau**	**2.64**	**195**	P	**Pn**	**07 36 50.2**	**+0.5**
TSZ	**Takapari Road**	**2.75**	**203**	P	**Pn**	**07 36 52.3**	**+0.9**
PRHZ	**Porangahau**	**2.80**	**191**	P	**Pn**	**07 36 52.0**	**+0.1**
WCZ	**Waipu Caves**	**2.87**	**302**	P	**Pn**	**07 36 52.7**	**-0.2**
WAZ	**Wanganui**	**2.89**	**219**	P	**Pb**	**07 36 56.2**	**-2.7**
DVHZ	**Dannevirke**	**2.92**	**198**	P	**Pn**	**07 36 53.4**	**-0.2**
DREZ	**Durham Road**	**2.98**	**235**	P	**Pn**	**07 36 56.9**	**+2.5**
ANWZ	**Angora Road**	**3.01**	**193**	P	**Pn**	**07 36 54.1**	**-0.8**
PREZ	**Palmer Road**	**3.09**	**233**	P	**Pb**	**07 36 59.6**	**-2.7**
NEZ	**North Egmont**	**3.09**	**235**	P	**Pn**	**07 36 58.7**	**+2.8**
OHWZ	**Ohakea**	**3.11**	**210**	P	**Pn**	**07 36 58.8**	**+2.6**
PKE	**Pukeiti**	**3.12**	**237**	P	**Pn**	**07 36 58.3**	**+1.9**
POWZ	**Post Office Ro**	**3.12**	**203**	P	**Pn**	**07 36 57.3**	**+1.0**
KHEZ	**Kahui Hut**	**3.15**	**235**	P	**Pn**	**07 36 58.9**	**+2.0**
KHEZ	**Kahui Hut**	**3.15**	**235**	P	**Pn**	**07 36 59.9**	**+3.0**
PRWZ	**Pori Road**	**3.21**	**199**	P	**Pn**	**07 36 58.1**	**+0.5**
NBEZ	**Newall Road No**	**3.24**	**236**	P	**Pn**	**07 36 59.9**	**+2.0**
BFZ	**Birch Farm**	**3.27**	**195**		**Pn**	**07 36 57.5**	**-0.9**
BFZ	**Birch Farm**	**3.27**	**195**	P	**Pn**	**07 36 58.0**	**-0.4**
BFZ	**Birch Farm**	**3.27**	**195**	P	**Pn**	**07 36 57.9**	**-0.5**
NMEZ	**Namu Road**	**3.31**	**234**	P	**Pn**	**07 37 02.3**	**+3.4**
MRZ	**Mangatainoka R**	**3.42**	**203**	Pn	**Pn**	**07 37 00.2**	**-0.2**
MRZ	**Mangatainoka R**	**3.42**	**203**	P	**Pn**	**07 37 00.4**	**-0.1**
TIWZ	**Tintock**	**3.44**	**199**	P	**Pn**	**07 37 01.2**	**+0.4**
CPWZ	**Castlepoint**	**3.50**	**194**	P	**Pn**	**07 37 01.8**	**+0.3**
HOWZ	**Holdsworth Sta**	**3.66**	**202**	P	**Pn**	**07 37 02.9**	**-0.8**
OGWZ	**Otaki Gorge**	**3.70**	**206**	P	**Pn**	**07 37 04.4**	**+0.2**
TMWZ	**Te Maipa**	**3.75**	**197**	P	**Pn**	**07 37 03.9**	**-1.2**
OUZ	**Omahuta**	**3.79**	**306**	P	**Pn**	**07 37 05.8**	**+0.3**
KIW	**Kapiti Island**	**3.83**	**209**	P	**Pn**	**07 37 06.2**	**+0.1**
MTW	**Mount Morrison**	**3.90**	**201**	P	**Pn**	**07 37 06.4**	**-0.7**
CAW	**Cannon Point**	**3.99**	**205**	P	**Pn**	**07 37 07.7**	**-0.6**
TRWZ	**Traveller**	**4.08**	**198**	P	**Pn**	**07 37 08.5**	**-1.0**
PAWZ	**Paruwai Farm**	**4.13**	**200**	P	**Pn**	**07 37 09.6**	**-0.6**
DUWZ	**D'Urville Isla**	**4.22**	**218**	P	**Pn**	**07 37 11.9**	**+0.5**
WEL	**Wellington**	**4.25**	**207**	P	**Pn**	**07 37 12.1**	**+0.2**
SNZO	**South Karori**	**4.30**	**207**		**Pn**	**07 37 11.5**	**-1.0**
SNZO	**South Karori**	**4.30**	**207**	P	**Pn**	**07 37 11.6**	**-1.0**
BHW	**Baring Head**	**4.33**	**205**		**Pn**	**07 37 11.6**	**-1.4**
BHW	**Baring Head**	**4.33**	**205**	P	**Pn**	**07 37 11.5**	**-1.4**
PLWZ	**Palliser**	**4.35**	**201**	Pn	**Pn**	**07 37 11.3**	**-2.0**
TCW	**Tory Channel**	**4.38**	**212**		**Pn**	**07 37 12.7**	**-1.0**
TCW	**Tory Channel**	**4.38**	**212**	P	**Pn**	**07 37 13.2**	**-0.5**
TUWZ	**Tuamarina**	**4.71**	**213**		**Pn**	**07 37 17.3**	**-0.8**
TUWZ	**Tuamarina**	**4.71**	**213**	P	**Pn**	**07 37 17.4**	**-0.7**
NNZ	**Nelson**	**4.80**	**218**	Pn	**Pn**	**07 37 19.3**	**-0.1**
NNZ	**Nelson**	**4.80**	**218**	P	**Pn**	**07 37 19.5**	**+0.1**
CMWZ	**Cape Campbell**	**4.86**	**209**		**Pn**	**07 37 18.5**	**-1.8**
CMWZ	**Cape Campbell**	**4.86**	**209**	P	**Pn**	**07 37 21.7**	**+1.4**
TKNZ	**Takaka Hill**	**4.88**	**223**		**Pn**	**07 37 19.0**	**-1.5**
TKNZ	**Takaka Hill**	**4.88**	**223**	P	**Pn**	**07 37 22.1**	**+1.6**
BSWZ	**Blackbirch Sta**	**4.97**	**211**		**Pn**	**07 37 20.0**	**-1.7**
BSWZ	**Blackbirch Sta**	**4.97**	**211**	P	**Pn**	**07 37 20.6**	**-1.1**
QRZ	**Quartz Range**	**4.98**	**227**		**Pn**	**07 37 21.6**	**-0.4**
QRZ	**Quartz Range**	**4.98**	**227**	P	**Pn**	**07 37 23.6**	**+1.6**
QRZ	**Quartz Range**	**4.98**	**227**	P	**Pn**	**07 37 22.8**	**+0.9**
MRNZ	**Matariki Terra**	**5.25**	**221**		**Pn**	**07 37 25.1**	**-0.5**
MRNZ	**Matariki Terra**	**5.25**	**221**	P	**Pn**	**07 37 25.4**	**-0.2**
THZ	**Tophouse**	**5.44**	**218**	Pn	**Pn**	**07 37 27.3**	**-1.0**
THZ	**Tophouse**	**5.44**	**218**	P	**Pn**	**07 37 27.9**	**-0.4**
KHZ	**Kahutara**	**5.69**	**210**	Pn	**Pn**	**07 37 29.5**	**-2.2**
DSZ	**Denniston Nort**	**6.00**	**224**		**Pn**	**07 37 35.1**	**-0.9**
DSZ	**Denniston Nort**	**6.00**	**224**	P	**Pn**	**07 37 35.1**	**-0.9**
GVZ	**Greta Valley S**	**6.36**	**210**		**Pn**	**07 37 38.9**	**-2.0**
LTZ	**Lake Taylor**	**6.53**	**215**		**Pn**	**07 37 43.1**	**-0.1**
AMCZ	**Amberley**	**6.69**	**211**	P	**Pn**	**07 37 44.8**	**-0.5**
INZ	**Inchbonnie**	**6.88**	**219**	Pn	**Pn**	**07 37 46.0**	**-2.0**
OXZ	**Oxford**	**7.07**	**213**		**Pn**	**07 37 49.1**	**-1.5**
OXZ	**Oxford**	**7.07**	**213**	P	**Pn**	**07 37 50.3**	**-0.3**
MQZ	**McQueen's Vall**	**7.13**	**208**		**Pn**	**07 37 48.7**	**-2.7**
WVZ	**Waitaha Valley**	**7.50**	**220**	P	**Pn**	**07 37 56.1**	**-0.3**
CTZ	**Chatham Island**	**7.73**	**145**	Pn	**Pn**	**07 37 59.4**	**-0.2**
CTZ	**Chatham Island**	**7.73**	**145**	P	**Pn**	**07 38 00.2**	**+0.6**
CTZ	**Chatham Island**	**7.73**	**145**	P	**Pn**	**07 37 59.7**	**+0.1**
RPZ	**Rata Peaks**	**7.82**	**216**	Pn	**Pn**	**07 38 00.1**	**-0.7**
RPZ	**Rata Peaks**	**7.82**	**216**	Pn	**Pn**	**07 37 58.8**	**-2.0**
	2.9nm,0.3s,baz=343,slow=0.3,SNR=10						
RPZ				Sn	**Sn**	**07 39 22.1**	**-7.1**
	5.3nm,0.3s,baz=312,slow=22,SNR=9.4						
GCSZ	**Gaunt Creek Bo**	**7.88**	**221**	P	**Pn**	**07 38 02.6**	**+1.0**
FOZ	**Fox Glacier**	**8.30**	**221**		**Pn**	**07 38 06.9**	**-0.4**
FOZ	**Fox Glacier**	**8.30**	**221**	P	**Pn**	**07 38 09.6**	**+2.2**
LBZ	**Lake Benmore**	**8.73**	**216**	Pn	**Pn**	**07 38 12.2**	**-1.2**
ODZ	**Otahua Downs**	**9.04**	**212**		**Pn**	**07 38 16.9**	**-0.8**
ODZ	**Otahua Downs**	**9.04**	**212**	P	**Pn**	**07 38 16.3**	**-1.4**
JCZ	**Jackson Bay**	**9.21**	**222**	P	**Pn**	**07 38 19.9**	**-0.1**
WKZ	**Wanaka**	**9.62**	**218**	Pn	**Pn**	**07 38 21.1**	**-4.4**
WKZ	**Wanaka**	**9.62**	**218**	P	**Pn**	**07 38 24.7**	**-0.9**
EAZ	**Earnscleugh**	**9.78**	**216**	P	**Pn**	**07 38 26.9**	**-0.8**
MSZ	**Milford Sound**	**10.07**	**222**	P	**Pn**	**07 38 34.4**	**+2.7**
MLZ	**Mavora Lakes**	**10.45**	**218**	P	**Pn**	**07 38 38.5**	**+1.5**
SYZ	**Scrubby Hill**	**10.87**	**211**	P	**Pn**	**07 38 42.3**	**-0.4**
DCZ	**Deep Cove**	**11.01**	**221**	Pn	**Pn**	**07 38 44.1**	**-0.4**
APZ	**The Paps**	**11.60**	**214**	P	**Pn**	**07 38 54.3**	**+1.7**
LHI	**Lord Howe Isla**	**16.20**	**286**	P	**P**	**07 39 56.9**	**-0.9**
	baz=16						
ONTNC	**Ouen Toro**	**17.83**	**325**	P	**P**	**07 40 20.1**	**+4.1**
DZM	**Mont Dzumac**	**18.04**	**326**	*e*Pn	**Pn**	**07 40 16.7**	**-1.3**
	45nm,1.4s						
DZM				*e*LR	LR	07 44 33.4	
	comp=Z,2μm,26.4s						
DZM	**Mont Dzumac**	**18.04**	**326**	P	**Pn**	**07 40 13.8**	**-4.2**
DZM	**Mont Dzumac**	**18.04**	**326**	P	**P**	**07 40 23.8**	**+5.4**
DZM	**Mont Dzumac**	**18.04**	**326**	P	**P**	**07 40 21.2**	**+2.8**
	8.6nm,1.1s,baz=147,slow=9.0,SNR=4.3						
DZM				LR	LR	07 46 11.5	
	comp=Z,915nm,18.6s,baz=160,slow=34						
MSVF	**Nonsavu**	**19.72**	**2**	P	**P**	**07 40 35.2**	**-1.7**
MSVF				IAmb	IAmb	07 40 47.1	
	comp=Z,61nm,1.1s						
MSVF	**Nonsavu**	**19.72**	**2**	P	**Pn**	**07 40 40.7**	**+2.4**
MSVF	**Nonsavu**	**19.72**	**2**	P	**Pn**	**07 40 39.3**	**+1.0**
	comp=Z,34nm,1.0s,baz=167,slow=9.5,SNR=12						
MSVF				LR	LR	07 46 19.9	
	comp=Z,759nm,20.9s,baz=180,slow=31						
YSA	**Yasawairara**	**20.74**	**1**	P	Pn	07 40 53.6	+3.4
TAVE	**Taveuni**	**20.87**	**7**	P	Pn	07 40 56.2	+4.4
DGTI	**Dogotuki**	**21.24**	**6**	P	P	07 41 00.7	+7.4
AUPHS	**Peel High Scho**	**22.72**	**278**	P	**P**	**07 41 12.6**	**+3.5**
TAU	**Tasmania Unive**	**23.47**	**247**	P	**P**	**07 41 16.9**	**+0.2**
MOO	**Moorlands**	**23.55**	**248**	P	**P**	**07 41 19.0**	**+1.6**
	baz=23,SNR=3.0						
MOO	**Moorlands**	**23.55**	**248**	P	**P**	**07 41 19.2**	**+1.8**
AUDCS	**Dubbo College**	**24.08**	**274**	P	**P**	**07 41 26.0**	**+3.4**
TOO	**Toolangi**	**25.19**	**260**	P	**P**	**07 41 32.6**	**-0.1**
EIDS	**Eidsvold**	**25.37**	**291**	P	**P**	**07 41 37.4**	**+3.0**
	baz=25,SNR=4.2						
EIDS	**Eidsvold**	**25.37**	**291**	P	**P**	**07 41 34.0**	**-0.3**
EIDS	**Eidsvold**	**25.37**	**291**	P	**P**	**07 41 37.7**	**+3.3**
RAR	**Rarotonga**	**25.63**	**57**	LR	LR	07 49 56.1	
	comp=Z,198nm,19.8s,baz=252,slow=33						
AULRC	**Lightning Ridg**	**25.70**	**280**	P	**P**	**07 41 40.8**	**+3.4**
BRAT	**Ballarat**	**26.41**	**260**	P	**P**	**07 41 48.1**	**+4.4**
RMQ	**Roma**	**26.52**	**286**	P	**P**	**07 41 49.1**	**+4.3**
CMSA	**Cobar Meteorol**	**26.66**	**273**	P	**P**	**07 41 49.0**	**+3.0**
	baz=26,SNR=12						
CMSA	**Cobar Meteorol**	**26.66**	**273**	P	**P**	**07 41 49.4**	**+3.4**
STKA	**Stephens Creek**	**29.80**	**270**	P	**P**	**07 42 16.8**	**+2.8**
	baz=30,SNR=17						
STKA	**Stephens Creek**	**29.80**	**270**	P	**P**	**07 42 12.7**	**-1.3**
STKA	**Stephens Creek**	**29.80**	**270**	P	**P**	**07 42 17.2**	**+3.2**
STKA	**Stephens Creek**	**29.80**	**270**	P	**P**	**07 42 16.4**	**+2.4**
	comp=Z,16nm,0.9s,baz=96,slow=9.8,SNR=24						
STKA				LR	LR	07 53 47.7	
	comp=Z,245nm,18.2s,baz=123,slow=36						
	comp=Z,16nm,0.9s						
QLP	**Quilpie**	**29.96**	**282**	P	**P**	**07 42 17.8**	**+2.3**
	baz=30						
QLP	**Quilpie**	**29.96**	**282**	P	**P**	**07 42 18.2**	**+2.7**
HNR	**Honiara**	**32.07**	**326**	LR	LR	07 52 54.4	
	comp=Z,3μm,19.0s,baz=134,slow=32						
CTA	**Charters Tower**	**32.10**	**294**	P	**P**	**07 42 37.6**	**+3.2**
CTA	**Charters Tower**	**32.10**	**294**	LR	LR	07 54 49.9	
	comp=Z,428nm,18.4s,baz=106,slow=35						
CTAO	**Charters Tower**	**32.10**	**294**	P	**P**	**07 42 32.6**	**-1.9**
CTAO				IAmb	IAmb	07 42 38.3	
	comp=Z,31nm,1.0s						
INKA	**Innaminka**	**32.15**	**277**	P	**P**	**07 42 38.1**	**+3.3**
WHYH	**Whyalla**	**32.60**	**266**	P	**P**	**07 42 41.0**	**+2.4**
LCRK	**Leigh Creek**	**33.02**	**271**	P	**P**	**07 42 45.1**	**+2.7**
BBOO	**Buckleboo**	**33.87**	**265**	P	**P**	**07 42 51.0**	**+1.2**
	baz=34						
MTSU	**Mount Surprise**	**34.75**	**295**	P	**P**	**07 43 00.3**	**+2.7**
	baz=35,SNR=9.4						
PAE	**Paea**	**35.11**	**65**	*e*T	T	08 19 56.7	
	comp=Z,12nm,0.3s						
PPT2	**Papeete2**	**35.16**	**65**	*e*T	T	08 19 56.2	
	comp=Z,19nm,0.4s						
PPT	**Papeete**	**35.17**	**65**	LR	LR	07 55 05.1	
	comp=Z,176nm,18.6s,baz=240,slow=32						
TVO	**Taravao**	**35.27**	**65**	*e*T	T	08 20 06.7	
	comp=Z,11nm,0.3s						
MEH	**Mehetia**	**36.07**	**67**	*e*T	T	08 21 09.0	
	comp=Z,18nm,0.2s				

CMAR LR LR 08 36 21.6
comp=Z,42nm,18.0s,baz=135,slow=39
comp=Z,2.1nm,0.6s
MDJ Mudanjiang 92.44 328 P **P** **07 49 18.3 +0.7**
MDJ S **S** **08 00 22.5 +1.8**
MDJ sS sS 08 00 30.0 +2.2
MDJ SS **SS** **08 06 33.0 0.0**
MDJ pmax pmax
comp=Z,9.0nm,1.9s
MDJ LR LR
comp=Z,910nm,16.2s
MDJ LR LR
comp=Z,1μm,16.5s
LVC Limon Verde 93.68 122 LR LR 08 22 51.3
comp=Z,75nm,20.3s,baz=223,slow=30
PFO Pinyon Flats O 93.81 50 LR LR 08 24 24.7
comp=Z,58nm,19.5s,baz=213,slow=31
NNA Nana 94.99 109 LR LR 08 26 24.4
comp=Z,32nm,18.5s,baz=240,slow=32
PZH PanZhiHua 95.27 299 P **P** **07 49 31.3 +0.1**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,180nm,6.5s
KLR Kul'dur 95.35 332 LR LR 08 29 14.8
comp=Z,48nm,18.9s,baz=129,slow=34
YBH Yreka Blue Hor 95.98 41 LR LR 08 27 47.5
comp=Z,39nm,19.1s,baz=225,slow=32
NVAR Mina Array Bea 96.04 45 P **P** **07 49 35.2 +0.6**
comp=Z,0.3nm,0.6s,baz=213,slow=5.9,SNR=2.4
comp=Z,0.3nm,0.6s
CD2 Chengdu 96.70 304 *e*P **P** **07 49 38.0 +0.4**
ATAH Atahualpa 96.87 104 LR LR 08 24 14.9
comp=Z,65nm,19.3s,baz=227,slow=30
KDAK Kodiak Island 98.25 16 LR LR 08 29 07.6
comp=Z,68nm,18.8s,baz=220,slow=32
CPUP Villa Florida 98.35 132 LR LR 08 28 05.5
comp=Z,108nm,18.0s,baz=224,slow=32
HHC Hu-ho-hao-te 98.49 316 *e*P Pdif 07 49 46.0 +0.5
HHC pmax pmax
comp=Z,18nm,0.6s
LPAZ La Paz 98.51 118 P Pdif 07 49 48.3 +1.4
comp=Z,1.0nm,0.9s,baz=222,slow=6.8,SNR=3.8
comp=Z,1.0nm,0.9s
MA2 Magadan 99.21 347 LR LR 08 29 12.2
comp=Z,64nm,20.1s,baz=118,slow=32
ELK Elko 99.35 45 LR LR 08 26 40.3
comp=Z,76nm,21.7s,baz=150,slow=31
TXAR Lajitas Array 99.39 60 LR LR 08 29 26.9
comp=Z,38nm,18.1s,baz=216,slow=32
PALK Pallekele 99.64 272 LR LR 08 34 23.0
comp=Z,46nm,18.1s,baz=218,slow=35
WMQ Urumqi 114.51 307 *e*PKP PKPdf 07 54 46.5 -0.4
BOOM Boomskoye usch 121.62 302 **PKPdf** **07 54 59.0 -1.8**
KURBB Kurchatov Arra 123.03 311 PKhKP PKPpre 07 54 59.7
comp=Z,0.4nm,0.6s,baz=122,slow=2.1,SNR=4.9
KKAR Karatay Array 125.55 300 **PKPdf** **07 55 05.9 -2.2**
BVAR Borovoye Array 128.56 312 PKP **PKPdf** **07 55 12.0 -1.5**
comp=Z,0.6nm,0.6s,baz=130,slow=2.3,SNR=4.5
GEYT Alibeck 132.70 290 PKP **PKPdf** **07 55 20.8 -1.1**
comp=Z,0.7nm,0.3s,baz=72,slow=1.8,SNR=2.0
ARCES ARCESS Array B 144.51 343 PKP **PKPab** **07 55 40.2 -0.7**
comp=Z,2.2nm,0.5s,baz=37,slow=3.0,SNR=14
KLMR Klimovskoe 144.81 325 *e*P **PKPab** **07 55 37.8 -4.4**
KLMR AMP 07 55 41.1
comp=Z,35nm,1.6s
KBZ Khabaz 145.21 295 PKPbc **PKPbc** **07 55 42.5 -1.6**
comp=Z,7.8nm,1.1s,baz=94,slow=3.6,SNR=4.0
MMAI Mount Meron Ar 148.74 273 PKPbc **PKPbc** **07 55 52.9 -1.7**
comp=Z,7.0nm,0.8s,baz=113,slow=3.7,SNR=5.2
LIC Lamto 148.78 175 ⇑*i*PKIKP **PKPbc** **07 55 54.7 -0.4**
comp=Z,13nm,0.3s
KIC Kosan Boka 148.93 176 ⇓*i*PKIKP **PKPbc** **07 55 55.2 -0.3**
comp=Z,13nm,0.5s
TIC Toumodi 149.19 175 ⇓*i*PKIKP **PKPbc** **07 55 55.3 -0.9**
comp=Z,4.3nm,0.4s
DBIC Dimbokro 149.23 176 PKPbc **PKPbc** **07 55 54.9 -1.3**
comp=Z,4.5nm,0.7s,baz=207,slow=14,SNR=3.0
FINES FINESS Array B 150.09 332 PKPbc **PKPbc** **07 55 54.6 -2.3**
comp=Z,3.0nm,0.9s,baz=35,slow=5.1,SNR=5.7
BRTR Keskin Array B 151.67 286 PKPdf **PKPdf** **07 55 52.5 -2.8**
BRTR **pPKPdf** **07 55 58.6 -1.1**
BRTR Keskin Array B 151.67 286 PKP **PKPdf** **07 55 54.5 -0.7**
comp=Z,2.5nm,1.0s,baz=93,slow=5.9,SNR=4.1
BRTR PKPbc **pPKPdf** **07 55 59.5 -0.2**
comp=Z,4.3nm,0.6s,baz=87,slow=1.0,SNR=12
NACGM Naroch 153.50 320 *e*PKP **PKPdf** **07 55 58.1 +0.9**
TORD Torodi Ar. Bea 155.42 190 PKP **PKPdf** **07 56 00.0 -1.1**
comp=Z,4.1nm,1.0s,baz=149,slow=0.5,SNR=19
TORD PKPab **PKPab** **07 56 25.6 -0.8**
comp=Z,2.8nm,0.6s,baz=161,slow=4.4,SNR=5.6
BRG Berggiesshubel 162.17 324 Amp 07 56 56.4
comp=Z,5.9nm,1.1s
BRG Berggiesshubel 162.17 324 P PKPab 07 57 02.7 +7.8
BRG Amp 07 57 03.6
comp=Z,5.9nm,1.1s
BRG Berggiesshubel 162.17 324 *e*PKP **PKPab** **07 56 55.5 +0.6**
CLL Collm 162.30 326 *i*PKPab **PKPab** **07 56 53.7 -1.7**
comp=Z,10.0nm,1.4s
GRF Grafenberg Arr 164.25 325 *e*PKPab **PKPab** **07 57 03.8 -0.3**
baz=45,slow=4.0

*NNC **31** 07:48:22.4±2.6, 43°.80N×82°.57E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=21.2km s-min=17.1km az=166.0*
SOME 31 07:48:21.9, 43°.67N×82°.67E, h30km, 2C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.70**	**263**	*e*P	Pb	07 48 52.7	+0.2
KTMS	1.0nm,0.1s						
	1.6nm,0.1s			*e*S	Sb	07 49 15.1	+1.6
DJR	**Jarkent**	**2.18**	**289**	Pg	Pb	07 49 00.5	-0.2
DJR	4.8nm,0.2s						
	4.6nm,0.4s			Lg	Lg	07 49 28.7	
DJR	**Jarkent**	**2.18**	**289**	*e*Pg	Pb	07 49 00.5	-0.2
DJR	5.6nm,0.1s						
	4.9nm,0.3s			*e*Lg	Lg	07 49 28.2	
PDGK	**Podgornoye**	**2.34**	**263**	Lg	Lg	07 49 31.1	
PDGK	1.6nm,0.2s **Podgornoye**	**2.34**	**263**	⇑Pn	Pb	07 49 01.9	-1.5
PDGK	2.9nm,0.7s						
	1.8nm,0.3s			⇑Sn	Sb	07 49 32.3	+0.5
SHLS	**Shalkode**	**2.39**	**259**	Pg	Pn	07 48 59.4	+0.2
SHLS	12nm,0.2s						
	14nm,0.3s			Lg	Lg	07 49 26.3	
SHLS	**Shalkode**	**2.39**	**259**	*e*Pg	Pn	07 48 59.4	+0.2
SHLS	12nm,0.2s						
	16nm,0.3s			*e*Lg	Lg	07 49 26.3	
KNOS	**Konyrlen**	**2.61**	**287**	Pg	Pb	07 49 07.6	-0.5
KNOS	3.2nm,0.1s						
	3.0nm,0.3s			Lg	Lg	07 49 40.6	
UZB	**Uzynbulak**	**2.71**	**260**	Pg	Pb	07 49 09.5	-0.2
UZB	2.1nm,0.2s						
	4.3nm,0.3s			Lg	Lg	07 49 43.7	
UZB	**Uzynbulak**	**2.71**	**260**	*e*Pg	Pb	07 49 09.5	-0.2
UZB	2.1nm,0.2s						
	4.3nm,0.3s			*e*Lg	Lg	07 49 43.7	

WEL 31 07:48:53.4±0.7, 37°.S±8°.×17°.7E±°, h8km±5km, M3.2/48, ML3.6/12, MLv3.2/48, Error ellipse: s-maj=0.0km s-min=0.0km az=11.6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.14**	**238**	P	Pg	07 48 57.3	+0.9
WIZ				S	Sg	07 48 59.9	+1.5
WSRZ	**White Island S**	**0.14**	**243**	S	Sg	07 49 00.1	+1.5
HAZ	**Te Kaha**	**0.47**	**131**	P	Pg	07 49 02.8	+0.4
HAZ				S	Sg	07 49 09.2	+0.7
WHRZ	**Whale Island**	**0.50**	**216**	P	Pb	07 49 03.7	-0.6
RUGZ	**Raukumara Rang**	**0.58**	**152**	P	Pg	07 49 04.6	0.0
RUGZ				S	Sg	07 49 11.9	-0.3
PKGZ	**Pakihiroa**	**0.73**	**127**	P	Pb	07 49 08.1	-0.3
PKGZ				S	Sg	07 49 17.2	+0.3
OPRZ	**Ohinepanea**	**0.73**	**238**	P	Pg	07 49 08.0	+0.4
MARZ	**Manawahe**	**0.75**	**225**	P	Pb	07 49 08.3	-0.4
MXZ	**Matakaoa Point**	**0.78**	**98**	P	Pb	07 49 09.6	+0.5
EDRZ	**Edgecumbe**	**0.81**	**216**	P	Pg	07 49 09.2	+0.3
URZ	**Urewera**	**0.83**	**193**	P	Pb	07 49 09.7	-0.3
TWGZ	**Tauwhareparae**	**0.88**	**145**	P	Pb	07 49 11.0	0.0
MYRZ	**Mayor Island**	**0.89**	**281**	P	Pb	07 49 11.3	+0.3
MWZ	**Matawai**	**0.89**	**170**	P	Pg	07 49 10.3	-0.3
TGRZ	**Tauranga**	**0.90**	**252**	P	Pg	07 49 10.7	0.0
WMGZ	**Waiomatatini S**	**0.93**	**114**	P	Pn	07 49 13.8	+1.1
LIRZ	**Lichensteins R**	**0.94**	**234**	P	Pb	07 49 12.0	+0.2
PUZ	**Puketiti**	**0.95**	**131**	P	Pn	07 49 13.5	+0.4
OMRZ	**Omania**	**1.01**	**229**	P	Pg	07 49 12.8	+0.1
TARZ	**Mount Tarawera**	**1.02**	**220**	P	Pn	07 49 14.9	+0.8
KARZ	**Kaharoa**	**1.04**	**237**	P	Pg	07 49 12.9	-0.4
RAGZ	**Rawiri**	**1.04**	**177**	P	Pg	07 49 13.1	-0.3
TKGZ	**Te Karaka**	**1.06**	**158**	P	Pb	07 49 14.3	+0.3
MUGZ	**Murupara**	**1.12**	**204**	P	Pg	07 49 14.1	-0.7
RTZ	**Ruatahuna**	**1.20**	**194**	P	Pb	07 49 15.3	-1.0
HSRZ	**Hossack Road**	**1.22**	**225**	P	Pg	07 49 22.0	+5.3
CNGZ	**Carnagh Statio**	**1.24**	**147**	P	Pg	07 49 18.6	+1.5
RIGZ	**Rimuhau**	**1.29**	**165**	P	Pg	07 49 18.6	+0.4
SNGZ	**Shannon Statio**	**1.33**	**180**	P	Pn	07 49 17.5	-0.8
ALRZ	**Allen Road**	**1.36**	**215**	P	Pn	07 49 17.6	-1.0
MTHZ	**Maungataniwha**	**1.45**	**196**	P	Pn	07 49 20.0	+0.1
KUZ	**Kuaotunu**	**1.47**	**298**	P	Pn	07 49 18.6	-1.6
RAHZ	**Arahi**	**1.48**	**188**	P	Pn	07 49 20.0	-0.2
TOZ	**Tahuroa Road**	**1.48**	**259**	P	Pn	07 49 18.4	-2.0
PRGZ	**Paritu Road**	**1.53**	**164**	P	Pg	07 49 22.3	-0.4
MRHZ	**Matea Rd**	**1.56**	**207**	P	Pg	07 49 22.9	-0.3
KNZ	**Kokohu**	**1.59**	**171**	P	Pn	07 49 22.0	+0.2
WHHZ	**Waihua**	**1.62**	**183**	P	Pn	07 49 22.8	+0.5
NMHZ	**Naumai**	**1.69**	**194**	P	Pn	07 49 24.0	+0.6
MHGZ	**Mahia Peninsul**	**1.75**	**165**	P	Pn	07 49 24.4	+0.3
MKAZ	**Moumakai**	**1.77**	**281**	P	Pn	07 49 23.3	-0.9
ARHZ	**Aropaoanui**	**1.83**	**188**	P	Pn	07 49 25.9	+0.8
BKZ	**Black Stump Fm**	**1.84**	**201**	P	Pn	07 49 24.4	-0.9
RITZ	**Rihia Road**	**1.92**	**217**	P	Pg	07 49 30.0	-0.2
KATZ	**Kakaramea**	**2.00**	**220**	P	Pg	07 49 31.7	+0.1
MCHZ	**McNeill Hill**	**2.05**	**194**	P	Pn	07 49 29.0	+0.8
KWHZ	**Kaweka Forest**	**2.10**	**200**	P	Pn	07 49 28.7	-0.1
NTVZ	**North Tongarir**	**2.10**	**218**	P	Pb	07 49 31.9	+0.1
TMVZ	**Te Maari**	**2.10**	**217**	P	Pb	07 49 31.6	-0.2
ETVZ	**East Tongariro**	**2.11**	**217**	P	Pb	07 49 31.6	-0.4
KRVZ	**Karewarewa**	**2.12**	**219**	P	Pb	07 49 32.4	+0.4
NNVZ	**North Ngauruho**	**2.16**	**218**	P	Pb	07 49 33.4	+0.7
OTVZ	**Oturere**	**2.16**	**217**	P	Pb	07 49 32.3	-0.4
WTVZ	**West Tongariro**	**2.16**	**219**	P	Pb	07 49 33.5	+0.8
SNVZ	**South Ngauruho**	**2.19**	**217**	P	Pb	07 49 32.6	-0.7
NGZ	**Ngauruhoe**	**2.20**	**218**	P	Pb	07 49 33.3	-0.2
TWVZ	**Taurewa**	**2.20**	**222**	P	Pb	07 49 34.4	+0.9
COVZ	**Chateau Observ**	**2.25**	**218**	P	Pb	07 49 34.1	-0.1
TUVZ	**Tukino**	**2.25**	**216**	P	Pb	07 49 33.4	-0.8
BHHZ	**Black Hill Sta**	**2.27**	**206**	P	Pn	07 49 30.7	-0.5
FWVZ	**Far West T-bar**	**2.28**	**217**	P	Pb	07 49 34.5	-0.4
MOVZ	**Moawhango**	**2.31**	**212**	P	Pn	07 49 31.9	0.0
KRHZ	**Kereru**	**2.32**	**199**	P	Pn	07 49 31.9	+0.1
WNVZ	**Wahianoa**	**2.32**	**216**	P	Pb	07 49 34.4	-1.1
KAHZ	**Kahuranaki**	**2.37**	**189**	P	Pn	07 49 32.4	-0.1
PKVZ	**Pokaka**	**2.41**	**220**	P	Pb	07 49 36.2	-0.8
PNHZ	**Pukenui**	**2.61**	**200**	P	Pn	07 49 35.4	-0.5
VRZ	**Vera Road**	**2.63**	**230**	P	Pb	07 49 40.6	-0.1
TSZ	**Takapari Road**	**2.82**	**202**	P	Pn	07 49 38.5	-0.2
WAZ	**Wanganui**	**2.95**	**218**	P	Pn	07 49 42.7	+2.3
DREZ	**Durham Road**	**3.02**	**234**	P	Pb	07 49 45.8	-1.5
NEZ	**North Egmont**	**3.13**	**234**	P	Pb	07 49 46.6	-2.7
MRZ	**Mangatainoka R**	**3.48**	**203**	P	Pn	07 49 46.4	-1.5
HOWZ	**Holdsworth Sta**	**3.72**	**202**	P	Pn	07 49 50.1	-1.1
KIW	**Kapiti Island**	**3.89**	**208**	P	Pn	07 49 52.1	-1.3
BHW	**Baring Head**	**4.39**	**205**	P	Pn	07 49 58.0	-2.3
CTZ	**Chatham Island**	**7.78**	**146**	P	Pn	07 50 46.0	-0.8

*IDC **31** 08:02:56.8±1.0, 12°.10S×23°.49E, h0km, mb3.9/6, mbtmp3.9/7, ML3.9/1, MS3.4/7, Error ellipse: s-maj=46.4km s-min=24.3km az=90.0*
ISC 31 08:02:58.2±0.9, 12°.2S±0°.1×23°.2E±0°.2, h10km, n13, σ1s73/10, mb3.9/6, MS3.7/4, Angola

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITZ	**Itezhi-Tezhi**	**4.43**	**143**	*i*P	**Pn**	**08 04 06.8**	**+1.2**
ITZ				*i*S	**Pg**	**08 04 23.5**	**+0.4**
ITZ				*i*x	x	08 04 28.9	
LSZ	**Lusaka**	**5.69**	**123**	LR	LR	08 06 50.0	
	comp=Z,175nm,19.6s,baz=335,slow=42						
MBAR	**Mbarara**	**13.73**	**33**	LR	LR	08 11 19.5	
	comp=Z,180nm,18.2s,baz=154,slow=37						
BOSA	**Boshof**	**16.43**	**174**	Pn	**Pn**	**08 06 49.3**	**+0.2**
	0.3nm,0.3s,baz=1.0,slow=14,SNR=5.3						
BOSA				Sn	**Sn**	**08 09 47.8**	**-3.8**
	0.2nm,0.3s,baz=18,slow=20,SNR=3.7						
BOSA				LR	LR	08 13 52.8	
	comp=Z,38nm,19.9s,baz=14,slow=40						
	1.9nm,0.5s						
SUR	**Sutherland**	**20.19**	**186**	LR	LR	08 15 34.0	
	comp=Z,129nm,18.4s,baz=346,slow=37						
TORD	**Torodi Ar. Bea**	**33.04**	**319**	P	**P**	**08 09 34.6**	**+0.6**
	1.0nm,0.8s,baz=126,slow=8.8,SNR=6.8						
	1.0nm,0.8s						
AAK	**Ala-Archa**	**71.97**	**37**	LR	LR	08 47 26.9	
	comp=Z,31nm,19.2s,baz=102,slow=37						
BVAR	**Borovoye Array**	**76.46**	**27**	P	**P**	**08 14 47.3**	**-0.8**
	0.7nm,0.4s,baz=224,slow=6.2,SNR=4.9						
BVAR				LR	LR	08 49 48.1	
	comp=Z,46nm,19.1s,baz=81,slow=37						
	0.7nm,0.4s						
QSPA	**South Pole Qui**	**77.90**	**180**	P	**P**	**08 14 57.2**	**+0.9**
	0.9nm,0.8s,baz=236,slow=3.9,SNR=7.0						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**78.89**	**37**	P	**P**	**08 15 00.6**	**-1.3**
	0.8nm,0.8s,baz=235,slow=4.3,SNR=4.3						
	0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**78.90**	**32**	P	**P**	**08 15 00.8**	**-1.0**
	0.9nm,0.8s,baz=242,slow=5.7,SNR=5.8						
	0.9nm,0.8s						
ARCES	**ARCESS Array B**	**81.56**	**1**	LR	LR	08 53 12.9	
	comp=Z,46nm,20.6s,baz=50,slow=37						
VNDA	**Vanda**	**87.39**	**172**	P	**P**	**08 15 46.1**	**+0.9**
	0.5nm,0.6s,baz=207,slow=4.5,SNR=5.6						
	0.5nm,0.6s						

*AFAD **31** 08:39:29.7±0.0, 38°.76N×26°.36E, h10km±1km, ML2.5*
*ISK **31** 08:39:29.5, 38°.77N×26°.37E, h12km, ML2.6/15*
*THE **31** 08:39:30.6, 38°.78N×26°.32E, h16km±1km, ML2.5/6, Error ellipse: s-maj=2.8km s-min=0.9km az=265.0*
*ATH **31** 08:39:30.5, 38°.76N×26°.38E, h9km±3km, ML2.2/2, Error ellipse: s-maj=3.1km s-min=0.9km az=289.0*
ISC 31 08:39:30.2±0.8, 38°.77N±0°.02×26°.36E±0°.02, h13km±6km, n43, σ0s48/72, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.11**	**161**	P	**Pg**	**08 39 33.1**	**-0.2**
KARB				S	**Sg**	**08 39 34.9**	**-0.7**
KARB				*i* AML	AML	08 39 35.0	
	comp=E,6μm,0.3s						
KARB				*i* AML	AML	08 39 35.0	
	comp=N,9μm,0.3s						
EAG2	**Marmaro, Chios**	**0.30**	**222**	P	**Pg**	**08 39 36.6**	**+0.2**
EAG2				S	**Sg**	**08 39 40.6**	**0.0**
RFT5	**Foca**	**0.32**	**110**	Pg	**Pg**	**08 39 36.8**	**+0.1**
RFT5				Sg	**Sg**	**08 39 41.4**	**+0.3**
EAG1	**Polichnitos, L**	**0.34**	**341**	P	**Pg**	**08 39 37.1**	**0.0**
EAG1				S	**Sg**	**08 39 42.2**	**+0.6**
EAG3	**Mitilini, Lesv**	**0.35**	**27**	P	**Pg**	**08 39 37.1**	**-0.2**
EAG3				S	**Sg**	**08 39 42.4**	**+0.3**
URLA	**Izmir**	**0.45**	**156**	Pg	**Pg**	**08 39 38.8**	**-0.2**
URLA				Sg	**Sg**	**08 39 45.5**	**+0.4**
URLA	**Izmir**	**0.45**	**156**	P	**Pg**	**08 39 38.7**	**-0.4**
URLA				*i* AML	AML	08 39 45.0	
	comp=E,547nm,0.4s						
URLA				S	**Sg**	**08 39 45.4**	**+0.4**
CHOS	**Chios island**	**0.45**	**213**	P	**Pg**	**08 39 39.2**	**+0.1**
CHOS				S	**Sg**	**08 39 45.5**	**+0.3**
	450nm,0.2s						
CHOS	**Chios island**	**0.45**	**213**	P	**Pg**	**08 39 39.3**	**+0.1**
CHOS				S	**Sg**	**08 39 45.6**	**+0.3**
CHOS				AML	AML	08 39 51.1	
	comp=E,924μm,0.2s						
CHOS				AML	AML	08 39 51.4	
	comp=N,676μm,0.2s						
RFT7	**Candarli**	**0.47**	**66**	Pg	**Pg**	**08 39 39.3**	**-0.2**
RFT7				Sg	**Sg**	**08 39 45.9**	**+0.1**
PRK	**Paraskevi**	**0.48**	**351**	P	**Pg**	**08 39 39.8**	**+0.1**
PRK				S	**Sg**	**08 39 46.9**	**+0.8**
	comp=N,670nm,0.4s						
PRK	**Paraskevi**	**0.48**	**351**	P	**Pg**	**08 39 39.6**	**-0.1**
PRK				S	**Sg**	**08 39 47.0**	**+0.9**
DKL	**Dikili**	**0.52**	**54**	Pg	**Pg**	**08 39 40.1**	**-0.3**
DKL				Sg	**Sg**	**08 39 47.7**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**0.54**	**168**	P	**Pg**	**08 39 40.3**	**-0.5**
ZEYE				S	**Sg**	**08 39 47.9**	**0.0**
ZEYE				*i* AML	AML	08 39 50.0	
	comp=N,234nm,0.4s						
ZEDA	**zmir-Bergama**	**0.59**	**70**	P	**Pg**	**08 39 41.7**	**0.0**
ZEDA				S	**Sg**	**08 39 50.0**	**+0.5**
SIGR	**SIGRI**	**0.59**	**318**	Pg	**Pg**	**08 39 41.9**	**+0.1**
SIGR				Sg	**Sg**	**08 39 50.2**	**+0.5**
SIGR	**SIGRI**	**0.59**	**318**	P	**Pg**	**08 39 41.9**	**+0.1**
SIGR				S	**Sb**	**08 39 50.6**	**-0.1**
	comp=N,285nm,0.5s						
SIGR	**SIGRI**	**0.59**	**318**	P	**Pg**	**08 39 42.1**	**+0.3**
SIGR				S	**Sb**	**08 39 50.8**	**+0.1**
SIGR				AML	AML	08 39 53.6	
	comp=N,343μm,0.3s						
SIGR				AML	AML	08 39 53.8	
	comp=E,613μm,0.2s						
AYVA	**Ayvalik**	**0.59**	**25**	P	**Pg**	**08 39 41.1**	**-0.7**
AYVA				S	**Sg**	**08 39 50.3**	**+0.6**
AYVA				*i* AML	AML	08 39 54.0	
	comp=E,177nm,0.2s						
GPNR	**Gulpinar-Canak**	**0.71**	**345**	Pg	**Pg**	**08 39 43.9**	**-0.1**
GPNR				Sg	**Sg**	**08 39 53.8**	**+0.5**
RFT2	**Karaagac**	**0.76**	**31**	Pg	**Pg**	**08 39 44.5**	**-0.4**
DGB	**zmir**	**0.82**	**150**	P	**Pg**	**08 39 45.6**	**-0.5**
DGB				S	**Sg**	**08 39 55.9**	**-1.0**
BUHA	**Balikesir, Bur**	**0.92**	**37**	P	**Pg**	**08 39 47.1**	**-0.8**
BUHA				S	**Sb**	**08 40 00.7**	**+0.7**
BUHA				*i* AML	AML	08 40 04.0	
	comp=E,106nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.98**	**8**	P	**Pg**	**08 39 48.9**	**-0.3**
BAYC				*i* AML	AML	08 40 04.0	
	comp=E,153nm,0.3s						
BAYC				*i* AML	AML	08 40 05.0	
	comp=E,170nm,0.5s						
EZN	**Ezine**	**1.06**	**358**	Pg	**Pb**	**08 39 49.8**	**-0.5**
EZN	**Ezine**	**1.06**	**358**	P	**Pb**	**08 39 49.4**	**-0.9**
EZN				S	**Sb**	**08 40 03.5**	**-0.5**
	comp=E,295nm,0.3s						
SMG	**Samos**	**1.12**	**160**	P	**Pb**	**08 39 51.7**	**+0.3**
SMG				S	**Sg**	**08 40 06.8**	**+0.4**
	comp=E,262nm,0.4s						
SMG	**Samos**	**1.12**	**160**	P	**Pb**	**08 39 51.7**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.22**	**60**	P	**Pn**	**08 39 52.5**	**-0.4**
STEP				S	**Sn**	**08 40 09.8**	**+0.6**
STEP				*i* AML	AML	08 40 11.0	
	comp=E,125nm,0.4s						
STEP				*i* AML	AML	08 40 12.0	
	comp=E,102nm,0.3s						
GCAM	**G?zelcaml?**	**1.27**	**147**	Pn	**Pn**	**08 39 53.3**	**-0.2**
CANM	**Can-anakkale**	**1.35**	**23**	Pn	**Pn**	**08 39 54.5**	**-0.2**
BALY	**Balya**	**1.38**	**45**	P	**Pn**	**08 39 54.8**	**-0.4**
BALY				S	**Sg**	**08 40 14.6**	**+0.1**
BALY				*i* AML	AML	08 40 18.0	
	comp=E,61nm,0.6s						
BALY				*i* AML	AML	08 40 18.0	
	comp=E,88nm,0.4s						
IZMR	**zmir-demi**	**1.40**	**116**	P	**Pb**	**08 39 56.6**	**+0.5**
IZMR				S	**Sb**	**08 40 14.6**	**+0.8**
LIA	**Limnos Island**	**1.45**	**321**	P	**Pn**	**08 39 56.0**	**-0.1**
LIA				S	**Sn**	**08 40 13.3**	**-1.7**
	comp=E,220nm,0.9s						
LIA	**Limnos Island**	**1.45**	**321**	P	**Pn**	**08 39 56.0**	**-0.1**
GADA	**Gvkgeada**	**1.47**	**346**	Pn	**Pn**	**08 39 56.3**	**0.0**
BKES	**Balkesir-Mer**	**1.55**	**51**	P	**Pn**	**08 39 57.5**	**+0.1**
BKES				S	**Sb**	**08 40 18.8**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.63**	**3**	Pn	**Pn**	**08 39 58.8**	**+0.3**
LPK	**Lapseki**	**1.63**	**11**	Pn	**Pn**	**08 39 59.3**	**+0.7**
GONE	**Gonen-Balikesi**	**1.64**	**38**	Pn	**Pn**	**08 39 58.7**	**+0.1**
KRBG	**Karabiga-Canak**	**1.77**	**24**	Pn	**Pn**	**08 40 00.9**	**+0.4**
KULA	**Kula-Manisa**	**1.82**	**97**	Pn	**Pn**	**08 40 01.7**	**+0.5**
APE	**Apeiranthos**	**1.82**	**201**	Pn	**Pn**	**08 40 01.2**	**0.0**

IDC 31 08:54:39.9±2.4, 54°.25N×86°.14E, h0km, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=18.6km s-min=11.1km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.83**	**250**	I	I	08 59 10.0	
	baz=65,slow=331,SNR=4.1						
ZALV	**Zalesovo Beam**	**0.83**	**249**	Pg	Pg	08 54 54.8	-1.0
	0.6nm,0.3s,baz=72,slow=15,SNR=4.5						
ZALV				Lg	Lg	08 55 07.5	
	2.9nm,0.3s,baz=71,slow=32,SNR=8.2						
KURBB	**Kurchatov Arra**	**5.90**	**235**	Pn	Pn	08 56 09.0	+0.5
	0.1nm,0.3s,baz=52,slow=14,SNR=2.7						
KURBB				Lg	Lg	08 57 47.8	
	baz=53,slow=31						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.85**	**200**	Pn	Pn	08 56 35.3	0.0
	0.2nm,0.3s,baz=22,slow=13,SNR=7.4						
MKAR				Sn	Sn	08 58 06.4	+1.6
	baz=18,slow=25,SNR=2.4						
MKAR				Lg	Lg	08 58 47.2	
	0.1nm,0.3s,baz=12,slow=28,SNR=1.3						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**9.44**	**269**	Pn	Pn	08 56 57.5	+0.6
	0.1nm,0.3s,baz=74,slow=15,SNR=2.0						
	0.5nm,0.4s						

**IDC 31 09:34:59.2±1.8, 6°.57S×129°.19E, h0km, mb3.9/2, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=114.5km s

comp=Z,32nm,19.7s,baz=42,slow=33
0.5nm,0.5s
AKASG Malin Array Be 19.11 37 P P 09 50 27.5 -0.6
0.5nm,0.3s,baz=231,slow=9.9,SNR=4.2
0.2nm,0.3s
TORD Torodi Ar. Bea 24.90 202 P P 09 51 30.5 +2.2
0.5nm,0.8s,baz=12,slow=7.4,SNR=2.9
0.5nm,0.8s

---

*DJA **31** 09:48:16.7±1.9, 9°S±6°×11°3E±°, h20km±17km, M4.1/15, mb4.2/2, MLv4.1/15*
ISC 31 09:48:16.7±0.9, 9°17S±0°08×113°06E±0°05, h63km, n24, σ1°26/27, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**0.96**	**23**	P	**Pn**	**09 48 33.8**	**-0.7**
GMJI				S	**Sn**	**09 48 45.8**	**-1.8**
JAGI	**Jajag, Banyuwa**	**1.28**	**58**	P	**Pn**	**09 48 38.7**	**+0.1**
JAGI	**Jajag, Banyuwa**	**1.28**	**58**	P	**Pn**	**09 48 38.6**	**0.0**
JAGI				S	**Sn**	**09 48 54.5**	**-0.5**
BLJI	**Banyuglugur**	**1.51**	**21**	P	**Pn**	**09 48 42.9**	**+1.3**
ABJI	**Asem Bagus**	**1.79**	**41**	P	**Pn**	**09 48 47.2**	**+1.8**
IGBI	**Denpasar**	**2.09**	**81**	P	**Pn**	**09 48 49.8**	**+0.3**
GRJI	**Gresik**	**2.31**	**346**	P	**Pn**	**09 48 53.6**	**+1.1**
NGJI	**Ngawi**	**2.38**	**318**	P	**Pn**	**09 48 53.6**	**+0.1**
SRBI	**Singaraja**	**2.39**	**63**	P	**Pn**	**09 48 54.3**	**+0.8**
WOJI	**Wonogiri, Jawa**	**2.49**	**302**	P	**Pn**	**09 48 54.7**	**-0.2**
WOJI				S	**Sn**	**09 49 23.0**	**-1.2**
UGM	**Wanagama**	**2.80**	**296**	P	**Pn**	**09 48 59.8**	**+0.6**
UGM	**Wanagama**	**2.80**	**296**	P	**Pn**	**09 48 59.6**	**+0.4**
TWSI	**Taliwang, Sumb**	**3.80**	**84**	P	**Pn**	**09 49 14.2**	**+1.3**
KPJI	**Karang Pucung**	**4.47**	**294**	P	**Pn**	**09 49 24.0**	**+2.0**
PLAI	**Plampang**	**4.67**	**86**	P	**Pn**	**09 49 27.1**	**+2.3**
PLAI	**Plampang**	**4.67**	**86**	P	**Pn**	**09 49 26.5**	**+1.7**
CMJI	**Cimerak**	**4.76**	**286**	P	**Pn**	**09 49 26.9**	**+0.9**
BBJI	**Bungbulang**	**5.61**	**287**	P	**Pn**	**09 49 38.2**	**+0.5**
CNJI	**Cibinong**	**6.15**	**287**	P	**Pn**	**09 49 47.4**	**+2.4**
XMIS	**Christmas Isla**	**7.41**	**259**	P	**Pn**	**09 50 01.4**	**-1.0**
MNAI	**Manna**	**11.11**	**295**	P	**Pn**	**09 50 53.7**	**+0.8**
GIRL	**Giralia**	**13.45**	**175**	P	**Pn**	**09 51 23.1**	**-1.6**
KNRA	**Kununurra**	**16.64**	**114**	P	**P**	**09 52 07.8**	**+0.3**
MEEK	**Meekatharra**	**18.16**	**164**	P	**P**	**09 52 25.1**	**+0.9**

---

*IDC **31** 09:50:50.6±0.8, 36°07N×97°87W, h0km, mb3.9/3, mbtmp3.7/11, ML3.6/8, MS3.3/10, Error ellipse: s-maj=13.5km s-min=11.2km az=139.0*
*TUL **31** 09:50:51.4±0.3, 36°03N±0°01×97°91W±0°01, h4km±4km, ML4.0, mb_Lg4.1/155(NEIC), ML4.1/64(NEIC), Mwr3.9/76(NEIC), Error ellipse: s-maj=1.8km s-min=0.8km az=208.0*
*ANF **31** 09:50:51.1±0.2, 36°05N×97°89W, h5km, ML5.1/13, Error ellipse: s-maj=2.9km s-min=2.5km az=152.0*
*NEIC **31** 09:50:51.4, 36°03N×97°91W, h4km*
*NEIC **31** 09:50:52.0±0.2, 36°03N±0°01×97°91W±0°01, h1km±4km, Error ellipse: s-maj=1.7km s-min=1.4km az=181.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.20; $M_{\theta\theta}$=8.05; $M_{\phi\phi}$=-7.84; $M_{r\theta}$=-1.15; $M_{\theta\phi}$=0.51; $M_{r\phi}$=2.81; Fault plane solution: M_0=8.52000×10^{14} NP1: ϕ_s=224.55000°, δ=71.48000°, λ=-172.16000°. NP2: ϕ_s=132.05000°, δ=82.57000°, λ=-18.69000°. Principal axes: T 8.2060, Plg=8.0000°, Azm=180.0000°; N 0.6019, Plg=70.0000°, Azm=291.0000°; P -8.8079, Plg=18.0000°, Azm=87.0000°;*
ISC 31 09:50:51.3±1.0, 36°04N±0°02×97°89W±0°02, h9km±8km, n214, σ1°01/148, MS3.3/5, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.43**	**124**	Pg	**Pg**	**09 51 00.2**	**+0.5**
OK029				Sg	**Sg**	**09 51 06.3**	**+0.9**
OK029				IAML		09 51 06.8	
	21μm,0.6s						
CROK	**Carrier**	**0.47**	**351**	Pg	**Pg**	**09 51 00.9**	**+0.4**
CROK				IAML		09 51 08.5	
	comp=E,10μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.73**	**150**	Pg	**Pg**	**09 51 05.4**	**0.0**
OKCSW				Sg	**Sg**	**09 51 15.4**	**+0.4**
OKCSW				IAML		09 51 18.6	
	comp=E,7μm,0.5s						
CSTR	**Hydro, Custer**	**0.76**	**239**	Pg	**Pg**	**09 51 05.8**	**-0.2**
OK033	**Mehan**	**0.77**	**89**	Pg	**Pg**	**09 51 06.5**	**+0.3**
OK032	**Salt Plains WL**	**0.80**	**341**	Pg	**Pg**	**09 51 06.8**	**-0.1**
OK032				IAML		09 51 18.7	
	comp=E,9μm,0.3s						
OK032				IAML		09 51 19.0	
	comp=E,7μm,0.2s						
GC02	**Grant County #**	**0.81**	**2**	Pg	**Pg**	**09 51 07.1**	**+0.1**
OK038	**West end E0370**	**0.82**	**303**	Pg	**Pg**	**09 51 07.0**	**0.0**
OK038				Sg	**Sg**	**09 51 17.7**	**0.0**
OK048	**Pawnee Station**	**0.85**	**64**		**Pg**	**09 51 07.9**	**+0.2**
OK031	**S. Brethren Rd**	**0.86**	**96**		**Pg**	**09 51 08.0**	**+0.2**
OK031				IAML		09 51 26.3	
	comp=E,4μm,0.5s						
OK052	**Battle Ridge R**	**0.88**	**93**		**Pg**	**09 51 08.2**	**-0.2**
OK052				IAML		09 51 35.6	
	comp=E,5μm,0.3s						
BLOK	**Blackwell**	**0.90**	**37**		**Pg**	**09 51 08.8**	**+0.2**
BLOK				IAML		09 51 24.4	
	comp=E,9μm,0.5s						
KAN14	**Manchester OK**	**0.92**	**356**		**Pg**	**09 51 08.8**	**-0.2**
KAN14				IAML		09 51 35.2	
	comp=N,3μm,0.3s						
OK035	**E0210 Rd and N**	**0.94**	**315**		**Pg**	**09 51 09.1**	**-0.3**
QUOK	**Quay**	**0.97**	**82**		**Pg**	**09 51 09.8**	**-0.2**
QUOK				IAML		09 51 29.3	
	comp=E,4μm,0.4s						
QUOK				IAML		09 51 34.7	
	comp=N,4μm,0.3s						
OK051	**E0350 and S346**	**0.97**	**61**		**Pg**	**09 51 10.1**	**+0.1**
OK051				IAML		09 51 31.8	
	comp=N,7μm,0.4s						
KAN17	**Caldwell West**	**1.01**	**6**		**Pg**	**09 51 10.6**	**-0.1**
KAN17				IAML		09 51 25.3	
	comp=E,6μm,0.2s						
KAN17				IAML		09 51 25.4	
	comp=N,5μm,0.2s						
KAN13	**South Haven SW**	**1.03**	**19**		**Pg**	**09 51 11.0**	**0.0**
KAN13				IAML		09 51 34.1	
	comp=E,7μm,0.3s						
KAN13				IAML		09 51 38.5	
	comp=N,6μm,0.3s						
NOKA	**Waynoka**	**1.03**	**305**	Pg	**Pg**	**09 51 10.8**	**-0.3**
KAN05	**Bluff City Nor**	**1.07**	**1**		**Pg**	**09 51 11.6**	**-0.2**
KAN05				IAML		09 51 28.8	
	comp=N,4μm,0.2s						
KAN05				IAML		09 51 32.3	
	comp=E,4μm,0.2s						
KAN10	**Anthony SW Sta**	**1.09**	**351**		**Pg**	**09 51 12.0**	**-0.3**
KAN10				IAML		09 51 34.3	
	comp=E,3μm,0.3s						
KAN10				IAML		09 51 35.1	
	comp=N,3μm,0.2s						
KAN09	**Caldwell North**	**1.11**	**11**		**Pg**	**09 51 12.5**	**-0.3**
KAN01	**Argonia South**	**1.12**	**5**		**Pg**	**09 51 12.5**	**-0.3**
KAN01				IAML		09 51 29.4	
	comp=E,3μm,0.1s						
DEOK	**Depew**	**1.15**	**100**	Pg	**Pb**	**09 51 12.5**	**-0.8**
DEOK				IAML		09 51 33.7	
	comp=E,5μm,0.1s						
DEOK				IAML		09 51 37.3	
	comp=N,4μm,0.3s						
KAN08	**Anthony NE Sta**	**1.19**	**357**		**Pb**	**09 51 13.6**	**-0.5**
KAN06	**Argonia West S**	**1.21**	**1**		**Pb**	**09 51 14.1**	**-0.3**
KAN06				IAML		09 51 31.2	
	comp=N,3μm,0.8s						
KAN06				IAML		09 51 34.6	
	comp=E,2μm,0.1s						
W35A	**Tecumseh**	**1.21**	**137**		**Pb**	**09 51 13.9**	**-0.6**
KS20	**Mayfield South**	**1.22**	**13**		**Pb**	**09 51 14.5**	**-0.1**
KS20				IAML		09 51 31.8	
	comp=E,4μm,0.3s						
KS20				IAML		09 51 31.8	
	comp=E,5μm,0.4s						
ELIS	**Ellis County**	**1.24**	**272**	Pg	**Pn**	**09 51 14.4**	**-0.6**
ELIS				IAML		09 51 41.7	
	comp=E,6μm,0.4s						
KAN12	**Harper NE Stat**	**1.26**	**356**		**Pn**	**09 51 14.9**	**-0.3**
KAN12				IAML		09 51 43.3	
	comp=N,6μm,0.4s						
KAN12				IAML		09 51 47.4	
	comp=E,5μm,0.4s						
T35A	**Sooner Cattle**	**1.41**	**51**		**Pb**	**09 51 17.8**	**-0.1**
T35B	**Sooner Cattle**	**1.41**	**51**	P	**Pb**	**09 51 18.0**	**+0.1**
	baz=232,SNR=583						
T35B				S	**Sg**	**09 51 36.9**	**+0.1**
	baz=232						
X34A	**Smith Ranch, M**	**1.44**	**178**	Pg	**Pb**	**09 51 18.2**	**-0.1**
X34A				IAmb_Lg		09 51 36.1	
	comp=Z,1μm,1.1s						
WMOK	**Wichita Mounta**	**1.49**	**210**		**Pn**	**09 51 18.0**	**-0.4**
WMOK	**Wichita Mounta**	**1.49**	**210**	P	**Pn**	**09 51 18.0**	**-0.4**
	baz=28,SNR=493						
WMOK				S	**Sb**	**09 51 38.4**	**+0.1**
	baz=28						
WMOK	**Wichita Mounta**	**1.49**	**210**	P	**Pn**	**09 51 18.2**	**-0.2**
	baz=28,SNR=971						
WMOK				S	**Sb**	**09 51 38.1**	**-0.2**
	baz=28						
TUL3	**Leonard**	**1.71**	**94**		**Pn**	**09 51 22.2**	**+0.9**
TUL3	**Leonard**	**1.71**	**94**	P	**Pn**	**09 51 22.1**	**+0.9**
	baz=275,SNR=879						
TUL3				Sb	**Sg**	**09 51 46.8**	**+0.6**
	baz=275						
TUL3	**Leonard**	**1.71**	**94**	P	**Pn**	**09 51 22.2**	**+0.9**
	baz=275,SNR=589						
TUL3				S	**Sg**	**09 51 45.8**	**-0.4**
	baz=275						
LOOK	**Love County**	**2.12**	**164**		**Pn**	**09 51 28.5**	**+1.5**
LOOK				IAmb_Lg		09 52 02.5	
	comp=Z,781nm,0.8s						
SMWD	**Samnorwood**	**2.13**	**245**		**Pn**	**09 51 28.2**	**+0.9**
SMWD				IAmb_Lg		09 51 59.0	
	comp=Z,1μm,0.8s						
WTFS	**Witchita Falls**	**2.32**	**192**		**Pn**	**09 51 31.1**	**+1.4**
WTFS				IAmb_Lg		09 52 02.8	
	comp=Z,245nm,0.8s						
RLO	**Rose Lookout**	**2.33**	**86**		**Pn**	**09 51 31.1**	**+1.2**
R32A	**Long Quarter,**	**2.47**	**345**	Pn	**Pn**	**09 51 32.9**	**+1.1**
R32A				IAmb_Lg		09 52 14.7	
	comp=Z,765nm,1.1s						
R32A	**Long Quarter,**	**2.47**	**345**	P	**Pn**	**09 51 33.0**	**+1.1**
	baz=165,SNR=85						
R32A				S	**Sb**	**09 52 08.1**	**+1.6**
	baz=165						
X37A	**Clayton**	**2.52**	**124**		**Pn**	**09 51 33.9**	**+1.4**
X37A				IAmb_Lg		09 52 16.4	
	comp=Z,860nm,0.8s						
X37A	**Clayton**	**2.52**	**124**	P	**Pn**	**09 51 33.6**	**+1.1**
	baz=306,SNR=199						
Z35A	**Perchaven, San**	**2.75**	**169**	P	**Pn**	**09 51 36.9**	**+1.1**
	baz=349,SNR=244						
U38A	**Gravette**	**2.86**	**81**	P	**Pn**	**09 51 38.2**	**+1.0**
	baz=263,SNR=572						
FW03	**Perrin-Whitt E**	**3.00**	**183**	IAmb_Lg		09 52 33.0	
	comp=Z,355nm,0.9s						
CBKS	**Cedar Bluff**	**3.13**	**333**	IAmb_Lg		09 52 35.7	
	comp=Z,418nm,0.7s						
CBKS	**Cedar Bluff**	**3.13**	**333**	P	**Pn**	**09 51 42.4**	**+1.4**
	baz=152,SNR=32						
CBKS	**Cedar Bluff**	**3.13**	**333**	P	**Pn**	**09 51 42.5**	**+1.4**
	baz=152,SNR=85						
HHAR	**Hobbs**	**3.21**	**85**	IAmb_Lg		09 52 37.2	
	comp=Z,457nm,0.9s						
HHAR	**Hobbs**	**3.21**	**85**	P	**Pn**	**09 51 42.9**	**+1.0**
	baz=267						
PLPT	**Palo Pinto**	**3.24**	**186**	IAmb_Lg		09 52 32.2	
	comp=Z,281nm,0.8s						
APMT	**Aspermont**	**3.27**	**215**	IAmb_Lg		09 52 38.8	
	comp=Z,421nm,0.9s						
AMTX	**Amarillo**	**3.30**	**251**	P	**Pn**	**09 51 44.5**	**+1.1**
	baz=68						
AMTX	**Amarillo**	**3.30**	**251**	P	**Pn**	**09 51 44.9**	**+1.5**
	baz=68,SNR=34						
AMTX				S	**Sb**	**09 52 31.6**	**+1.0**
	baz=68						
FW07	**Weatherford**	**3.33**	**178**	IAmb_Lg		09 52 41.9	
	comp=Z,438nm,0.8s						
DKNS	**Dickens**	**3.44**	**227**	IAmb_Lg		09 52 44.4	
	comp=Z,1μm,0.9s						
TREL	**Terrell**	**3.62**	**155**	IAmb_Lg		09 52 51.9	
	comp=Z,401nm,0.8s						
FW16	**Waxahatchie**	**3.64**	**167**	IAmb_Lg		09 52 56.2	
	comp=Z,353nm,0.7s						
Z38A	**Mt. Pleasant**	**3.66**	**138**	IAmb_Lg		09 52 53.3	
	comp=Z,881nm,0.9s						
Z38A	**Mt. Pleasant**	**3.66**	**138**	P	**Pn**	**09 51 49.3**	**+1.0**
	baz=320						
Z38A				S	**Sg**	**09 52 46.9**	**-2.1**
	baz=320						
FW14	**Alvarado**	**3.68**	**171**	IAmb_Lg		09 52 49.6	
	comp=Z,217nm,0.8s						
FW13	**Cleburne**	**3.70**	**174**	IAmb_Lg		09 52 55.0	
	comp=Z,228nm,0.8s						
ABTX	**Abilene, Hawle**	**3.70**	**204**	IAmb_Lg		09 52 50.1	
	comp=Z,500nm,0.8s						
ABTX	**Abilene, Hawle**	**3.70**	**204**	P	**Pn**	**09 51 49.2**	**+0.4**
	baz=22,SNR=63						
ABTX	**Abilene, Hawle**	**3.70**	**204**	P	**Pn**	**09 51 49.4**	**+0.6**
	baz=22,SNR=77						
MIAR	**Mount Ida**	**3.83**	**112**	IAmb_Lg		09 53 01.1	
	comp=Z,505nm,0.7s						
MIAR	**Mount Ida**	**3.83**	**112**	P	**Pn**	**09 51 51.8**	**+1.3**
	baz=294,SNR=131						
MIAR				S	**Sn**	**09 52 37.5**	**+1.8**
	baz=294						
MIAR	**Mount Ida**	**3.83**	**112**	P	**Pn**	**09 51 51.6**	**+1.1**
	baz=294,SNR=297						
MIAR				S	**Sn**	**09 52 37.5**	**+1.8**
	baz=294						
RTBA	**Rita Blanca**	**3.94**	**277**	IAmb_Lg		09 53 06.8	
	comp=Z,480nm,1.0s						
S39A	**Bolivar**	**4.01**	**64**	IAmb_Lg		09 53 03.4	
	comp=Z,438nm,0.7s						
S39A	**Bolivar**	**4.01**	**64**	P	**Pn**	**09 51 54.0**	**+1.0**
	baz=247,SNR=52						
SN01	**Snyder 1**	**4.03**	**219**	IAmb_Lg		09 53 01.6	
	comp=Z,858nm,0.7s						
WHTX	**Lake Whitney,**	**4.05**	**175**	P	**Pn**	**09 51 54.3**	**+0.6**
	baz=355,SNR=13						
WHTX				Sb	**Sb**	**09 52 55.7**	**+3.6**
	baz=355						
WHTX	**Lake Whitney,**	**4.05**	**175**	P	**Pn**	**09 51 54.4**	**+0.8**
	baz=355,SNR=41						
U40A	**Yellville**	**4.08**	**84**	P	**Pn**	**09 51 54.4**	**+0.3**
	baz=267,SNR=51						
U40A				P	**Pn**	**09 51 54.4**	**+0.3**
	baz=267,SNR=51						
U40A				S	**Sn**	**09 52 43.1**	**+1.1**
	baz=267						
U40A				S	**Sn**	**09 52 43.1**	**+1.1**
	baz=267						
POST	**Post**	**4.21**	**226**	IAmb_Lg		09 53 11.3	
	comp=Z,1μm,1.0s						
237A	**Washetta, Mont**	**4.38**	**156**	IAmb_Lg		09 53 13.5	
	comp=Z,292nm,0.9s						
237A	**Washetta, Mont**	**4.38**	**156**	P	**Pn**	**09 51 58.8**	**+0.7**
	baz=337,SNR=21						
237A				S	**Sn**	**09 52 48.8**	**-0.5**
	baz=337						
X40A	**Basin Creek Fa**	**4.42**	**109**	IAmb_Lg		09 53 15.8	
	comp=Z,461nm,0.8s						
X40A	**Basin Creek Fa**	**4.42**	**109**	P	**Pn**	**09 52 00.1**	**+1.5**
	baz=292,SNR=10						
X40A				P	**Pn**	**09 52 00.1**	**+1.5**
	baz=292,SNR=10						
MSTX	**Muleshoe**	**4.51**	**244**	P	**Pn**	**09 52 00.3**	**+0.4**
	baz=61,SNR=14						
MSTX	**Muleshoe**	**4.51**	**244**	P	**Pn**	**09 52 00.6**	**+0.6**
	baz=61,SNR=14						
WLAR	**White Oak Lake**	**4.58**	**119**	IAmb_Lg		09 53 15.5	
	comp=Z,399nm,0.8s						
WHAR	**Wooly Hollow**	**4.62**	**98**	IAmb_Lg		09 53 18.0	
	comp=Z,299nm,0.9s						
MGMO	**Mountain Grove**	**4.66**	**75**	IAmb_Lg		09 53 17.7	
	comp=Z,509nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.68**	**90**	IAmb_Lg		09 53 17.3	
	comp=Z,318nm,0.9s						
UALR	**University of**	**4.70**	**104**	IAmb_Lg		09 53 28.4	
	comp=Z,429nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.79**	**310**	S	**Sn**	**09 53 00.0**	**+0.4**
	baz=127						
BRDY	**Brady**	**4.83**	**191**	IAmb_Lg		09 53 22.5	
	comp=Z,269nm,0.8s						
SGCY	**Sterling City**	**4.92**	**214**	IAmb_Lg		09 53 37.2	
	comp=Z,620nm,0.8s						
P38A	**Dawn**	**4.97**	**43**	IAmb_Lg		09 53 31.5	
	comp=Z,383nm,0.7s						
R40A	**Maddies Statio**	**5.02**	**62**	IAmb_Lg		09 53 30.7	
	comp=Z,412nm,0.8s						
R40A	**Maddies Statio**	**5.02**	**62**	P	**Pn**	**09 52 07.5**	**+0.7**
	baz=245,SNR=39						
Z41A	**Richland Creek**	**5.03**	**122**	IAmb_Lg		09 53 37.5	
	comp=Z,540nm,0.9s						
NATX	**Nacogdoches**	**5.04**	**147**	IAmb_Lg		09 53 46.5	
	comp=Z,213nm,0.7s						
NATX	**Nacogdoches**	**5.04**	**147**	S	**Sn**	**09 53 06.3**	**+0.7**
	baz=329						
N35A	**Tabor**	**5.13**	**19**	P	**Pn**	**09 52 09.1**	**+0.7**
	baz=201						
435B	**Jarrell**	**5.25**	**177**	IAmb_Lg		09 53 39.8	
	comp=Z,301nm,0.7s						
435B	**Jarrell**	**5.25**	**177**	P	**Pn**	**09 52 10.3**	**+0.2**
	baz=357						
T25A	**Trinidad**	**5.36**	**284**	P	**Pn**	**09 52 12.2**	**+0.4**
	baz=100,SNR=10						
BGNE	**Belgrade**	**5.36**	**358**	IAmb_Lg		09 53 50.7	
	comp=Z,306nm,0.8s						
BGNE	**Belgrade**	**5.36**	**358**	P	**Pn**	**09 52 11.3**	**-0.3**
	baz=178,SNR=19						
BGNE	**Belgrade**	**5.36**	**358**	P	**Pn**	**09 52 11.8**	**+0.2**
	baz=178						
CCAR	**Cane Creek**	**5.45**	**111**	IAmb_Lg		09 53 55.4	
	comp=Z,512nm,1.0s						
CCAR	**Cane Creek**	**5.45**	**111**	P	**Pn**	**09 52 14.1**	**+1.4**
	baz=295,SNR=5.5						
ODSA	**Odessa**	**5.50**	**226**	IAmb_Lg		09 53 55.8	
	comp=Z,195nm,0.8s						
HNVL	**Huntsville, TX**	**5.65**	**158**	IAmb_Lg		09 54 05.5	
	comp=Z,130nm,0.9s						
CCM	**Cathedral Cave**	**5.68**	**67**	IAmb_Lg		09 54 06.1	
	comp=Z,382nm,0.8s						
CCM	**Cathedral Cave**	**5.68**	**67**	P	**Pn**	**09 52 16.8**	**+0.8**
	baz=251						
CCM				S	**Sn**	**09 53 22.0**	**+0.7**
	baz=251						
CCM	**Cathedral Cave**	**5.68**	**67**	P	**Pn**	**09 52 16.4**	**+0.4**
	baz=251,SNR=18						
JCT	**Junction City**	**5.77**	**197**	P	**Pn**	**09 52 17.0**	**-0.2**
	baz=15,SNR=5.5						
JCT	**Junction City**	**5.77**	**197**	P	**Pn**	**09 52 17.2**	**0.0**
	baz=15,SNR=40						
OZNA	**Ozona**	**5.78**	**209**	IAmb_Lg		09 54 07.1	
	comp=Z,546nm,1.0s						
P40A	**Paris**	**5.79**	**51**	P	**Pn**	**09 52 18.0**	**+0.6**
	baz=235						
OGNE	**Ogallala**	**5.88**	**328**	P	**Pn**	**09 52 20.6**	**+1.9**
	baz=145						
OGNE				S	**Sn**	**09 53 27.3**	**+1.0**
	baz=145						
N38A	**Joes South For**	**5.99**	**36**	P	**Pn**	**09 52 20.8**	**+0.6**
	baz=219,SNR=11						
MNHN	**Monahans**	**6.20**	**222**	IAmb_Lg		09 54 15.8	
	comp=Z,274nm,0.8s						
FVM	**French Village**	**6.28**	**70**	IAmb_Lg		09 54 24.0	
	comp=Z,297nm,0.8s						
FVM	**French Village**	**6.28**	**70**	P	**Pn**	**09 52 24.6**	**+0.4**
	baz=254,SNR=14						
143A	**Socs Landing,**	**6.31**	**120**	IAmb_Lg		09 54 22.2	
	comp=Z,246nm,0.8s						
SDCO	**Great Sand Dun**	**6.33**	**288**	IAmb_Lg		09 54 20.4	
	comp=Z,196nm,0.9s						
SDCO	**Great Sand Dun**	**6.33**	**288**	P	**Pn**	**09 52 26.4**	**+1.2**
	baz=103,SNR=35						
SDCO	**Great Sand Dun**	**6.33**	**288**	P	**Pn**	**09 52 26.8**	**+1.6**
	baz=103,SNR=49						
Q24A	**Divide**	**6.47**	**299**	IAmb_Lg		09 54 18.0	
	comp=Z,325nm,0.8s						
Q24A	**Divide**	**6.47**	**299**	P	**Pn**	**09 52 26.7**	**-0.4**
	baz=115						
PEBM	**Pemiscott Bayo**	**6.50**	**87**	IAmb_Lg		09 54 30.1	
	comp=Z,438nm,0.7s						
MET	**Memphis--Engin**	**6.55**	**96**	IAmb_Lg		09 54 17.4	
	comp=Z,247nm,0.8s						
HNDO	**Hondo**	**6.60**	**191**	IAmb_Lg		09 54 24.3	
	comp=Z,460nm,0.9s						
PVMO	**Portageville**	**6.63**	**84**	IAmb_Lg		09 54 32.9	
	comp=Z,329nm,0.8s						
CGM3	**Cape Girardeau**	**6.73**	**77**	IAmb_Lg		09 54 22.7	
	comp=Z,306nm,0.8s						
K30B	**Basset**	**6.76**	**349**	IAmb_Lg		09 54 38.5	
	comp=Z,236nm,0.7s						
BRIGG	**Briggsdale**	**6.79**	**314**	IAmb_Lg		09 54 36.2	
	comp=Z,326nm,0.8s						
PECS	**Pecos**	**6.82**	**229**	IAmb_Lg		09 54 35.1	
	comp=Z,307nm,0.7s						
SCIA	**State Center**	**6.90**	**30**	P	**Pn**	**09 52 33.1**	**+0.4**
	baz=213						
SCIA				S	**Sn**	**09 53 51.7**	**+0.4**
	baz=213						
HALT	**Halls**	**6.93**	**89**	IAmb_Lg		09 54 35.7	
	comp=Z,311nm,0.8s						
DRIO	**Del Rio**	**6.99**	**200**	IAmb_Lg		09 54 37.2	
	comp=Z,253nm,0.8s						
SAND	**Sanderson**	**7.03**	**212**	IAmb_Lg		09 54 43.2	
	comp=Z,445nm,0.9s						
ANMO	**Albuquerque**	**7.07**	**264**	P	**Pn**	**09 52 35.7**	**+0.4**
	baz=79						
ANMO	**Albuquerque**	**7.07**	**264**	Pn	**Pn**	**09 52 36.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=178,slow=15,SNR=9.0						
ANMO				Pg	**Pb**	**09 52 55.9**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=172,slow=16,SNR=12						
ANMO				Lg	Lg	09 54 29.8	
	comp=Z,7.1nm,0.3s,baz=76,slow=14,SNR=3.9						
ANMO				LR	LR	09 55 39.1	
	comp=Z,209nm,18.0s,baz=200,slow=41						
	comp=Z,1.3nm,0.5s						
OXF	**Oxford**	**7.10**	**100**	IAmb_Lg		09 54 42.1	
	comp=Z,353nm,1.0s						
OXF	**Oxford**	**7.10**	**100**	P	**Pn**	**09 52 36.1**	**+0.6**
	baz=285,SNR=12						
OXF				S	**Sn**	**09 53 58.0**	**+1.6**
	baz=285						
OXF	**Oxford**	**7.10**	**100**	P	**Pn**	**09 52 36.5**	**+1.0**
	baz=285,SNR=9.6						
S44A	**Carbondale**	**7.12**	**74**	IAmb_Lg		09 54 36.1	
	comp=Z,389nm,0.8s						
S44A	**Carbondale**	**7.12**	**74**	P	**Pn**	**09 52 36.0**	**+0.4**
	baz=259,SNR=9.4						
SIUC	**Southern Illin**	**7.15**	**74**	IAmb_Lg		09 54 48.9	
	comp=Z,310nm,0.8s						
735A	**Kenedy**	**7.17**	**179**	IAmb_Lg		09 54 50.3	
	comp=Z,176

TXAR			Lg	Lg	09 55 05.3		
	comp=Z,9.5nm,0.3s,baz=9.9,slow=15,SNR=5.5						
	comp=Z,1.0nm,0.3s						
SUSD	**Miller**	**8.43 355**	IAmb_Lg		09 55 34.0		
	comp=Z,126nm,0.8s						
SUSD	**Miller**	**8.43 355**	P	**Pn**	**09 52 53.6**	**-0.1**	
	baz=174						
O44A	**Mansfield**	**8.49 58**	IAmb_Lg		09 55 19.6		
	comp=Z,244nm,0.8s						
I37A	**Lemond, Waseca**	**8.68 22**	IAmb_Lg		09 55 40.4		
	comp=Z,192nm,0.9s						
121A	**Cookes Peak, D**	**8.90 250**	IAmb_Lg		09 55 58.5		
	comp=Z,131nm,1.1s						
121A	**Cookes Peak, D**	**8.90 250**	P	**Pn**	**09 53 00.0**	**-0.3**	
	baz=64						
JFWS	**Jewell Farm**	**9.05 38**	IAmb_Lg		09 55 46.8		
	comp=Z,286nm,0.7s						
JFWS	**Jewell Farm**	**9.05 38**	P	**Pn**	**09 53 02.4**	**+0.1**	
	baz=223						
RWWY	**Rawlins**	**9.20 311**	IAmb_Lg		09 55 56.8		
	comp=Z,242nm,1.2s						
RSSD	**Black Hills**	**9.34 332**	IAmb_Lg		09 55 55.2		
	comp=Z,188nm,1.2s						
RSSD	**Black Hills**	**9.34 332**	P	**Pn**	**09 53 07.4**	**+1.0**	
	baz=148						
K22A	**Casper**	**9.39 317**	IAmb_Lg		09 56 07.8		
	comp=Z,247nm,1.0s						
K22A	**Casper**	**9.39 317**	P	**Pn**	**09 53 08.3**	**+1.3**	
	baz=132						
LRAL	**Lakeview Retre**	**9.47 105**	P	**Pn**	**09 53 08.4**	**+0.4**	
	baz=292						
WCI	**Wyandotte Cave**	**9.51 73**	P	**Pn**	**09 53 09.8**	**+1.2**	
	baz=260						
I40A	**Norwalk**	**9.62 33**	IAmb_Lg		09 56 01.2		
	comp=Z,183nm,1.1s						
SPMN	**Marine on St.**	**9.95 21**	P	**Pn**	**09 53 14.6**	**+0.1**	
	baz=205,SNR=7.3						
O48B	**Farmland**	**10.87 63**	P	**Pn**	**09 53 25.2**	**-2.0**	
	baz=251						
P49A	**Miami Univ. Ec**	**10.99 68**	P	**Pn**	**09 53 27.5**	**-1.3**	
	baz=256						
PDAR	**Pinedale Array**	**11.24 310**	Pn	**Pn**	**09 53 32.2**	**-0.2**	
	comp=Z,0.3nm,0.3s,baz=121,slow=16,SNR=11						
PDAR			Lg	Lg	09 56 35.8		
	comp=Z,1.0nm,0.3s,baz=99,slow=15,SNR=3.7						
	comp=Z,0.5nm,0.4s						
TKL	**Tuckaleechee C**	**11.46 88**	Pn	**Pn**	**09 53 34.3**	**-1.0**	
	comp=Z,0.5nm,0.3s,baz=231,slow=8.7,SNR=10.0						
TKL			Lg	Lg	09 56 44.1		
	comp=Z,1.4nm,0.3s,baz=257,slow=4.8,SNR=3.8						
TKL			LR	LR	09 58 08.5		
	comp=Z,87nm,20.2s,baz=312,slow=38						
	comp=Z,2.2nm,0.5s						
MDND	**Maddock**	**11.87 354**	P	**Pn**	**09 53 38.9**	**-1.9**	
	baz=173						
EYMN	**Ely**	**12.80 20**	P	**Pn**	**09 53 52.1**	**-1.5**	
	baz=204						
P52A	**Corning**	**12.96 69**	P	**Pn**	**09 53 55.2**	**-0.6**	
	baz=259						
DGMT	**Dagmar**	**13.26 341**	P	**Pn**	**09 53 57.8**	**-2.0**	
	baz=157						
ULM	**Lac du Bonnet**	**14.28 5**	Pn	Pn	09 54 08.1	-5.6	
	comp=Z,0.8nm,0.3s,baz=182,slow=11,SNR=6.4						
ULM			Sn	Sn	09 56 40.6	-11	
	comp=Z,0.5nm,0.3s,baz=79,slow=9.0,SNR=2.1						
ULM			Lg	Lg	09 58 12.3		
	comp=Z,0.7nm,0.3s,baz=85,slow=22,SNR=3.4						
	comp=Z,1.5nm,0.3s						
ELK	**Elko**	**14.39 294**	Lg	Lg	09 58 21.9		
	baz=141,slow=18,SNR=1.7						
PFO	**Pinyon Flats O**	**15.44 266**	Lg	Lg	09 58 57.9		
	comp=Z,0.1nm,0.3s,baz=287,slow=2.3,SNR=1.2						
NVAR	**Mina Array Bea**	**16.43 284**	Pn	**Pn**	**09 54 41.6**	**-0.8**	
	comp=Z,0.1nm,0.3s,baz=89,slow=13,SNR=1.2						
NVAR			LR	LR	10 01 35.9		
	comp=Z,75nm,21.1s,baz=104,slow=40						
	comp=Z,0.2nm,0.6s						
SADO	**Sadowa**	**16.70 53**	Pn	**Pn**	**09 54 41.2**	**-4.3**	
	comp=Z,0.2nm,0.3s,baz=270,slow=13,SNR=1.8						
SADO			Lg	Lg	09 59 23.6		
	comp=Z,0.4nm,0.3s,baz=166,slow=19,SNR=1.6						
	comp=Z,12nm,1.0s						
TEIG	**Tepich**	**17.87 149**	LR	LR	10 03 40.2		
	comp=Z,399nm,19.5s,baz=20,slow=43						
NEW	**Newport**	**18.71 317**	P	**Pn**	**09 55 11.6**	**+1.1**	
	comp=Z,0.1nm,0.3s,baz=110,slow=8.2,SNR=3.7						
NEW			Lg	Lg	10 00 30.1		
	comp=Z,0.1nm,0.3s,baz=318,slow=20,SNR=1.1						
NEW			LR	LR	10 02 42.7		
	comp=Z,46nm,18.4s,baz=98,slow=38						
	comp=Z,1.0nm,0.6s						
YBH	**Yreka Blue Hor**	**20.11 294**	P	Pn	09 55 27.9	+0.6	
	comp=Z,2.6nm,0.7s,baz=78,slow=4.6,SNR=7.3						
	comp=Z,2.6nm,0.7s						
SCHQ	**Schefferville**	**28.42 39**	LR	LR	10 08 49.9		
	comp=Z,48nm,20.9s,baz=300,slow=38						
YKA	**Yellowknife Ar**	**28.45 344**	LR	LR	10 08 30.8		
	comp=Z,91nm,20.2s,baz=322,slow=37						
FRB	**Frobisher Bay**	**32.98 24**	LR	LR	10 10 22.7		
	comp=Z,58nm,20.2s,baz=324,slow=36						
ILAR	**Eielson Array**	**40.79 330**	P	**P**	**09 58 34.7**	**+2.1**	
	comp=Z,0.8nm,0.7s,baz=107,slow=6.9,SNR=13						
	comp=Z,0.8nm,0.7s						
SFJD	**Kangerlussuaq**	**40.99 26**	LR	LR	10 15 20.9		
	comp=Z,43nm,19.5s,baz=222,slow=36						
ARCES	**ARCESS Array B**	**66.95 19**	P	**P**	**10 01 44.0**	**+0.1**	
	comp=Z,3.1nm,0.9s,baz=317,slow=7.4,SNR=3.5						
	comp=Z,3.1nm,0.9s						
CPUP	**Villa Florida**	**72.89 142**	LR	LR	10 39 29.1		
	comp=Z,25nm,18.1s,baz=212,slow=40						
HHC	**Hu-ho-hao-te**	**98.84 338**	*eP*	**P**	**10 04 30.0**	**-2.0**	
HHC			pmax	pmax			
	comp=Z,21nm,0.6s						
HHC			pmax	pmax			
	comp=Z,340nm,6.5s						
PZH	**PanZhiHua**	**115.09 341**	PKP	**PKiKP**	**10 09 33.0**	**-0.5**	

IDC 31 09:56:03.6±4.3, 53°.50N×90°.56E, h0km, mbtmp3.1/3, ML2.4/2, Error ellipse: s-maj=42.1km s-min=27.8km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.44 280**		Pn	Pn	09 57 00.4	+2.1
	1.1nm,0.3s,baz=89,slow=16,SNR=7.3						
ZALV				Lg	Lg	09 57 50.4	
	2.1nm,0.3s,baz=92,slow=25,SNR=11						
	2.7nm,0.5s						
KURBB	**Kurchatov Arra**	**7.95 254**		Pn	Pn	09 57 59.8	-0.5
	0.1nm,0.3s,baz=64,slow=14,SNR=4.6						
KURBB				Lg	Lg	10 00 19.4	
	0.1nm,0.3s,baz=70,slow=33,SNR=9.3						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**8.55 222**		Pn	Pn	09 58 09.4	+0.8
	0.4nm,0.5s,baz=34,slow=11,SNR=2.5						
MKAR				Lg	Lg	10 00 35.8	
	baz=35,slow=28,SNR=5.4						
SONM	**Songino Array**	**11.53 113**		Lg	Lg	10 01 55.5	
	baz=302,slow=26						
I34MN	**SONGINO INFRAS**	**11.56 113**		I	I	11 00 20.0	
	baz=311,slow=316,SNR=1.9						

TUN 31 09:59:26.4, 36°.57N×10°.97E, h7km±3km, MD3.0, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HANT	**Hania**	**0.88 214**		*i* P	Pb	09 59 43.8	-0.1
HANT	**Hania**	**0.88 214**		*i* P	Pb	09 59 43.9	-0.1
TROT	**Trozza**	**1.50 228**		*i* P	Pn	09 59 54.0	+0.3
TROT	**Trozza**	**1.50 228**		*i* P	Pb	09 59 54.4	-0.1
KRIT	**Krib**	**1.54 262**		*i* P	Pg	09 59 57.7	+1.7
BERT	**Berda**	**2.82 215**		*i* P	Pn	10 00 11.9	+0.1

*IDC **31** 10:11:16.7±1.5, 23°.61S×179°.94W, h516km±15km, mb3.4/8, mbtmp4.2/10, Error ellipse: s-maj=19.9km s-min=16.3km az=145.0*
*NEIC **31** 10:11:16.5±1.1, 23°.9S±0°.2×180°.0W±0°.2, h507km±20km, mb4.3/15, Error ellipse: s-maj=36.6km s-min=21.7km az=215.0*
ISC 31 10:11:15.4±0.7, 23°.75S±0°.08×179°.96E±0°.10, h500km, n29, σ1s86/34, mb4.1/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.25 343**		P	**P**	**10 12 56.7**	**+2.3**
	6.7nm,0.5s,baz=190,slow=7.6,SNR=20						
MSVF				S	**S**	**10 14 16.8**	**+1.7**
	1.9nm,0.6s,baz=4.0,slow=21,SNR=1.0						
PINNC	**Pines Island,**	**11.57 273**		P	**P**	**10 13 50.5**	**+1.1**
LIFNC	**LIFOU**	**12.14 282**		P	**P**	**10 13 57.1**	**+1.6**
URZ	**Urewera**	**14.67 189**		P	**P**	**10 14 23.3**	**+1.4**
	5.6nm,0.5s,baz=303,slow=23,SNR=7.9						
URZ				S	**S**	**10 16 57.4**	**+1.7**
	3.1nm,0.5s,baz=302,slow=23,SNR=1.7						
MRZ	**Mangatainoka R**	**17.26 191**		P	**P**	**10 14 47.1**	**-1.5**
MRZ				IAmb	IAmb	10 15 09.7	
	comp=Z,16nm,1.2s						
EIDS	**Eidsvold**	**26.30 260**		P	**P**	**10 16 12.0**	**+1.6**
EIDS				IAmb	IAmb	10 16 18.0	
	comp=Z,19nm,1.4s						
CTA	**Charters Tower**	**31.44 270**		P	**P**	**10 16 56.8**	**+1.5**
	comp=Z,12nm,0.3s,baz=93,slow=11,SNR=45						
	comp=Z,12nm,0.3s						
CTAO	**Charters Tower**	**31.44 270**		P	**P**	**10 16 57.0**	**+1.7**
COEN	**Coen**	**36.06 279**		P	**P**	**10 17 35.4**	**+1.1**
COEN				IAmb	IAmb	10 17 41.7	
	comp=Z,7.7nm,1.4s						
BBOO	**Buckleboo**	**39.47 247**		P	**P**	**10 18 01.1**	**-1.0**
AS31	**Alice Springs**	**42.02 260**		P	**P**	**10 18 23.1**	**+0.5**
ASAR	**Alice Springs**	**42.02 260**		P	**P**	**10 18 22.5**	**-0.1**
ASAR	**Alice Springs**	**42.02 260**		P	**P**	**10 18 23.2**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=90,slow=7.3,SNR=50						
ASAR				ScP	**ScP**	**10 23 08.8**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=112,slow=4.3,SNR=13						
ASAR				S	**S**	**10 24 02.6**	**-2.6**
	comp=Z,0.3nm,0.8s,baz=100,slow=13,SNR=2.3						
	comp=Z,3.1nm,0.6s						
WR0	**Warramunga Arr**	**42.19 266**		P	**P**	**10 18 24.0**	**+0.1**
WB2	**Warramunga Arr**	**42.37 266**		P	**P**	**10 18 25.6**	**+0.2**
WB2				IAmb	IAmb	10 18 25.7	
	comp=Z,5.9nm,0.5s						
WB0	**Warramunga Arr**	**42.37 266**		P	**P**	**10 18 25.2**	**-0.2**
WB0				IAmb	IAmb	10 18 26.1	
	comp=Z,7.1nm,0.7s						
WRA	**Warramunga Arr**	**42.38 266**		P	**P**	**10 18 25.1**	**-0.4**
WRA	**Warramunga Arr**	**42.38 266**		P	**P**	**10 18 25.6**	**+0.2**
	comp=Z,4.0nm,0.4s,baz=90,slow=5.9,SNR=238						
WRA				ScP	**ScP**	**10 23 09.8**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=96,slow=3.9,SNR=5.0						
WRA				S	**S**	**10 24 02.8**	**-7.5**
	comp=Z,0.3nm,0.8s,baz=100,slow=13,SNR=1.6						
	comp=Z,4.0nm,0.4s						
FORT	**Forrest**	**46.33 249**		P	**P**	**10 18 55.8**	**0.0**
FORT				IAmb	IAmb	10 19 05.8	
	comp=Z,19nm,1.1s						
MTN	**Manton Dam**	**47.41 274**		P	**P**	**10 19 03.9**	**-0.3**
MTN				IAmb	IAmb	10 19 14.1	
	comp=Z,15nm,1.3s						
KNRA	**Kununurra**	**48.65 270**		P	**P**	**10 19 14.0**	**+0.5**
QSPA	**South Pole Qui**	**66.33 180**		P	**P**	**10 21 14.0**	**+0.3**
QSPA				IAmb	IAmb	10 21 20.8	
	comp=Z,3.9nm,1.2s						
QSPA	**South Pole Qui**	**66.33 180**		P	**P**	**10 21 15.0**	**+1.4**
	comp=Z,1.7nm,0.6s,baz=349,slow=0.8,SNR=17						
	comp=Z,1.7nm,0.6s						
BELA	**Belgrano 2**	**76.59 173**		P	**P**	**10 22 13.4**	**0.0**
BELA				IAmb	IAmb	10 22 19.1	
	comp=Z,7.0nm,1.5s						
NVAR	**Mina Array Bea**	**84.67 44**		P	**P**	**10 22 54.1**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=220,slow=6.9,SNR=4.3						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**90.38 58**		P	**P**	**10 23 22.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=214,slow=8.8,SNR=5.9						
	comp=Z,0.8nm,0.7s						
ILAR	**Eielson Array**	**91.90 14**		P	**P**	**10 23 27.5**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=235,slow=3.2,SNR=2.8						
	comp=Z,0.2nm,0.7s						
PDAR	**Pinedale Array**	**92.61 44**		P	**P**	**10 23 31.6**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=194,slow=3.3,SNR=3.6						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**142.39 349**		PKhKP	PKPpre	10 29 44.5	
	comp=Z,1.4nm,0.3s,baz=69,slow=4.9,SNR=12						

*UPA **31** 10:16:19.5±0.8, 8°.92N×82°.81W, h16km±1km, ML3.0*
*UCR **31** 10:16:19.0±0.5, 8°.84N×82°.91W, h15km±999km, MW3.8*
ISC 31 10:16:18.9±1.1, 8°.94N±0°.04×82°.85W±0°.05, h23km±8km, n12, σ0s32/21, 2C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.14 169**		⇑*i* P	**Pb**	**10 16 24.0**	**+0.2**
MLIR3				AMP		10 16 24.3	
	comp=Z,3μm,0.1s						
MLIR3				*e*S	**Sb**	**10 16 26.9**	**-0.3**
CDITO	**Canoas**	**0.36 183**		⇑*i* P	**Pb**	**10 16 26.5**	**-0.3**
CDITO				AMP		10 16 26.6	
	comp=Z,2μm,0.1s						
CDITO				*e*S	**Sb**	**10 16 32.2**	**+0.1**
LNBQ3	**Los Naranjos,**	**0.43 109**		*e*P	**Pb**	**10 16 27.6**	**-0.4**
LNBQ3				*e*S	**Sb**	**10 16 34.4**	**+0.2**
PSOM3	**Paja de Sombre**	**0.58 115**		⇓*i* P	**Pb**	**10 16 30.2**	**-0.3**
PSOM3				*i* S	**Sb**	**10 16 38.3**	**0.0**
CNI2	**El Empalme, Bo**	**0.61 38**		⇓*i* P	**Pb**	**10 16 30.7**	**-0.4**
CNI2				*e*S	**Sb**	**10 16 39.8**	**+0.5**
DVD	**David**	**0.64 141**		*e*P	**Pb**	**10 16 31.3**	**-0.1**
DVD				*e*S	**Sb**	**10 16 40.6**	**+0.7**
LOCO3	**Loma Colorada,**	**0.68 141**		*e*P	**Pb**	**10 16 32.0**	**-0.1**
LOCO3				*e*S	**Sb**	**10 16 41.4**	**+0.3**
PEDE3	**Pedregal, Chir**	**0.69 142**		⇓*i* P	**Pb**	**10 16 32.4**	**+0.1**
PEDE3				*e*S	**Sb**	**10 16 41.8**	**+0.3**
PTPM	**Petroterminale**	**0.73 182**		*i* P	**Pb**	**10 16 32.7**	**-0.2**
PTPM				*e*S	**Sn**	**10 16 44.0**	**-0.2**
VERB	**Verbena**	**1.30 320**		*e*P	**Pb**	**10 16 42.8**	**-0.1**
LLNJ	**Naranjito**	**1.34 294**		*e*P	**Pn**	**10 16 42.1**	**-0.1**
ABE2	**San Pablo**	**1.41 303**		*e*P	**Pn**	**10 16 43.7**	**+0.2**

*IDC **31** 10:37:14.5±1.2, 21°.28S×169°.40E, h0km, mb3.9/5, mbtmp3.9/6, ML3.1/1, MS3.0/2, Error ellipse: s-maj=44.8km s-min=22.9km az=160.0*
*NOU **31** 10:37:15.4, 21°.44S×169°.45E, h0km, MLv3.9/12, Southeast of Loyalty Islands*
ISC 31 10:37:18.0±0.9, 21°.43S±0°.10×169°.4E±0°.1, h21km, n20, σ0s70/20, mb4.1/7, 3C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.29 267**		P	**Pn**	**10 37 39.4**	**-1.4**
PINNC	**Pines Island,**	**2.17 237**		P	**Pn**	**10 37 52.9**	**-0.1**
YATNC	**Mamie plateau,**	**2.43 255**		P	**Pn**	**10 37 55.9**	**-0.6**
OUENC	**Ouen Island, N**	**2.58 247**		P	**Pn**	**10 37 59.0**	**+0.4**
DZM	**Mont Dzumac**	**2.83 256**		P	**Pn**	**10 38 02.4**	**+0.3**
DZM	**Mont Dzumac**	**2.83 256**		Pn	**Pn**	**10 38 02.2**	**+0.1**
	2.7nm,0.3s,baz=94,slow=19,SNR=72						
DZM				Sn	**Sn**	**10 38 36.3**	**+0.6**
	10.0nm,0.3s,baz=312,slow=21,SNR=9.3						
DZM				LR	LR	10 39 05.5	
	comp=Z,209nm,19.7s,baz=24,slow=39						
	7.6nm,0.3s						
ONTNC	**Ouen Toro**	**2.88 252**		P	**Pn**	**10 38 03.5**	**+0.7**
NOUC	**Port Laguerre**	**2.97 256**		P	**Pn**	**10 38 03.8**	**-0.1**
RTV	**Rentapao**	**3.73 345**		P	**Pn**	**10 38 14.9**	**+0.4**
KOUNC	**Koumac, New Ca**	**4.87 279**		P	**Pn**	**10 38 30.8**	**+0.7**
MSVF	**Nonsavu**	**8.93 67**		Pn	Pn	10 39 31.5	+5.5
	0.2nm,0.3s,baz=259,slow=14,SNR=6.8						
MSVF				LR	LR	10 42 06.0	
	comp=Z,136nm,22.0s,baz=250,slow=33						
STKA	**Stephens Creek**	**26.88 241**		P	**P**	**10 42 58.8**	**+1.3**
	1.9nm,0.8s,baz=59,slow=9.7,SNR=3.8						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**32.81 266**		P	**P**	**10 43 49.1**	**-1.0**
	0.4nm,0.8s,baz=96,slow=8.0,SNR=7.8						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**32.82 259**		P	**P**	**10 43 50.0**	**-0.3**
	1.6nm,0.9s,baz=91,slow=9.2,SNR=19						
	1.6nm,0.9s						
QSPA	**South Pole Qui**	**68.64 180**		P	**P**	**10 48 19.9**	**+0.4**
	2.1nm,1.0s,baz=62,slow=1.7,SNR=4.6						
	2.1nm,1.0s						
TROLL	**Troll, Antarti**	**86.37 184**		⇑P	**P**	**10 49 58.6**	**+0.1**
	comp=Z,100nm,0.6s						
VNA3	**Neumayer Olymp**	**87.58 180**		⇑P	**P**	**10 50 03.9**	**-0.3**
	comp=Z,2.2nm,0.6s						
VNA2	**Neumayer--Watz**	**87.87 181**		⇑P	**P**	**10 50 05.8**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=186,slow=5.0						
NVAR	**Mina Array Bea**	**90.12 48**		P	**P**	**10 50 16.8**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=221,slow=6.7,SNR=7.5						
	comp=Z,0.8nm,0.7s						
EKA	**Eskdalemuir Ar**	**145.69 352**		PKPbc	**PKPdf**	**10 56 53.6**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=329,slow=2.9,SNR=5.8						

*JMA **31** 10:45:58.6±0.2, 24°.N±1°×122°.6E±0°.5, h31km±3km, MV2.1/14, NW OFF ISHIGAKIJIMA IS*
*TAP **31** 10:45:59.4, 24°.11N×122°.54E, h36km, ML2.9, D*
ISC 31 10:45:58.6±0.9, 24°.02N±0°.02×122°.54E±0°.02, h31km±9km, n91, σ0s90/157, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.23 297**		*i* P	**Pn**	**10 46 06.3**	**+0.7**
	baz=274						
EOS4				*e*S	**Sb**	**10 46 09.8**	**+0.5**
	baz=274						
EOS3	**EOS3**	**0.34 323**		*i* P	**Pn**	**10 46 07.5**	**+0.2**
	baz=310						
EOS3				*i* S	**Sn**	**10 46 13.6**	**+0.6**
	baz=310						
EOS2	**EOS2**	**0.49 325**		P	**Pn**	**10 46 10.1**	**+0.7**
	baz=309						
EOS2				*i* S	**Sn**	**10 46 18.2**	**+1.4**
	baz=309						
JYNG	**Yonagunijimaku**	**0.57 40**		P	**Pb**	**10 46 09.9**	**-0.3**
JYNG				S	**Sb**	**10 46 17.6**	**-0.7**
YOJ	**Yonaguni jima**	**0.62 44**		P	**Pb**	**10 46 10.5**	**-0.5**
YOJ				*e*S	**Sb**	**10 46 19.1**	**-0.4**
YOJ	**Yonaguni jima**	**0.62 44**		*e*P	**Pb**	**10 46 11.1**	**0.0**
	baz=57						
YOJ				S	**Sb**	**10 46 19.3**	**-0.2**
	baz=57						
EWUT	**Wuta**	**0.82 302**		P	**Pn**	**10 46 14.4**	**+0.4**
	baz=296						
EWUT				S	**Sn**	**10 46 24.9**	**-0.2**
	baz=296						
ENA	**Nanau**	**0.84 300**		*e*P	**Pn**	**10 46 15.0**	**+0.7**
	baz=294						
ENA				*e*S	**Sn**	**10 46 26.0**	**+0.4**
	baz=294						
ETL	**Fush Village**	**0.85 280**		*e*P	**Pb**	**10 46 14.7**	**-0.3**
	baz=273						
TWC	**Suao**	**0.86 313**		*i* P	**Pb**	**10 46 14.8**	**-0.3**
	baz=309						
TWC				S	**Sn**	**10 46 26.1**	**-0.1**
	baz=309						
TWD	**Chiawan**	**0.87 274**		*e*P	**Pb**	**10 46 15.6**	**+0.4**
	baz=268						
TWD				*e*S	**Sn**	**10 46 26.1**	**-0.2**
	baz=268						
NACB	**Ninganchiao**	**0.88 281**		*e*P	**Pb**	**10 46 15.1**	**-0.3**
	baz=261						
NACB				*e*S	**Sn**	**10 46 26.3**	**-0.2**
	baz=261						
ETM	**Tongmen**	**0.96 267**		P	**Pn**	**10 46 16.0**	**0.0**
	baz=261						
ETM				*e*S	**Sb**	**10 46 28.5**	**-0.6**
	baz=261						
NDS	**Dongshan**	**0.97 309**		*e*P	**Pb**	**10 46 18.3**	**+1.3**
	baz=305						
NDS				*e*S	**Sn**	**10 46 30.8**	**+1.9**
	baz=305						
ETLH	**Xiulin Townshi**	**0.99 281**		*i* P	**Pn**	**10 46 16.6**	**+0.2**
	baz=276						
ETLH				*e*S	**Sb**	**10 46 29.2**	**-0.7**
	baz=276						
LXIB	**Xiulin Townshi**	**1.03 271**		P	**Pn**	**10 46 17.4**	**+0.3**
	baz=265						
LXIB				*e*S	**Sn**	**10 46 30.2**	**-0.4**
	baz=265						
ESL	**Shilin**	**1.03 259**		*e*P	**Pn**	**10 46 16.7**	**-0.3**
	baz=245						
ESL				*e*S	**Sb**	**10 46 30.9**	**-0.3**
	baz=245						
LATG	**Datong**	**1.06 299**		*e*P	**Pb**	**10 46 18.5**	**0.0**
	baz=282						
LATG				*e*S	**Sb**	**10 46 32.5**	**+0.3**
	baz=282						
TWE	**Neicheng**	**1.06 312**		P	**Pb**	**10 46 18.3**	**-0.2**
	baz=308						
TWE				*e*S	**Sb**	**10 46 32.2**	**+0.2**
	baz=308						
EGFH	**Guangfu**	**1.08 252**		*e*S	**Sb**	**10 46 32.5**	**+0.1**
	baz=246						
ENTT	**Nioudou**	**1.08 305**		P	**Pb**	**10 46 18.7**	**-0.2**
	baz=301						
ENTT				*e*S	**Sb**	**10 46 32.9**	**+0.2**
	baz=301						
WARBT	**Fenglin Townsh**	**1.10 255**		*i* P	**Pn**	**10 46 17.8**	**-0.1**
	baz=240						
WARBT				*e*S	**Sn**	**10 46 32.5**	**+0.5**
	baz=240						
NDT	**Datong Townshi**	**1.10 302**		P	**Pb**	**10 46 19.3**	**+0.1**
	baz=298						
NDT				S	**Sb**	**10 46 33.8**	**+0.5**
	baz=298						
TWB1	**Santiao Chiao**	**1.11 333**		P	**Pb**	**10 46 18.2**	**-1.1**
	baz=345						
TWB1				*e*S	**Sn**	**10 46 31.6**	**-0.7**
	baz=345						
IRIF	**Iriomote-Funau**	**1.13 73**		P	**Pn**	**10 46 18.5**	**+0.2**
IRIF				S	**Sb**	**10 46 34.6**	**+0.5**
NNSB	**Datong**	**1.13 291**		*e*P	**Pb**	**10 46 20.1**	**+0.3**
	baz=287						
NNSB				*e*S	**Sn**	**10 46 32.3**	**-0.8**
	baz=287						
FUSB	**Fushanzhiwuyua**	**1.14 311**		P	**Pb**	**10 46 19.6**	**-0.3**
	baz=299						
FUSB				*e*S	**Sb**	**10 46 34.4**	**0.0**
	baz=299						
NNS	**Nan Shan**	**1.15 292**		*e*P	**Pb**	**10 46 22.1**	**+2.1**
	baz=287						
NNS				*e*S	**Sb**	**10 46 34.1**	**-0.5**
	baz=287						
HGSD	**Ruisui**	**1.15 243**		*i* P	**Pn**	**10 46 19.0**	**+0.4**
	baz=238						
HGSD				*e*S	**

TWF1	**Yuli**	1.32 240	*i* P		**Pn**	10 46 21.9 +1.0
	baz=235					
TWF1			S		**Sb**	10 46 39.0 -0.4
	baz=235					
JKRS	**Kuro-shima**	1.36 80	P		**Pn**	10 46 22.4 +0.9
JKRS			S		**Sn**	10 46 40.2 +1.7
FULB	**Fuli**	1.40 235	*e*P		**Pn**	10 46 22.6 +0.5
	baz=221					
FULB			*e*S		**Sn**	10 46 39.8 +0.2
	baz=221					
CHKT	**Chengkung**	1.41 230	*e*S		**Sn**	10 46 39.1 -0.6
	baz=217					
YM01	**YM01**	1.43 322	*e*P		**Pn**	10 46 23.0 +0.5
	baz=320					
YM01			*e*S		**Sb**	10 46 41.3 -1.4
	baz=320					
NFF	**Wufeng Townshi**	1.44 296	*e*P		**Pb**	10 46 26.3 +1.5
	baz=293					
NFF			*e*S		**Sb**	10 46 44.8 +2.0
	baz=293					
YM08	**YM08**	1.45 324	*e*P		**Pn**	10 46 23.4 +0.6
	baz=322					
YM08			*e*S		**Sn**	10 46 39.2 -1.6
	baz=322					
SSLB	**Suanglung**	1.47 261	P		**Pn**	10 46 24.1 +1.1
	baz=247					
WHP	**Taichung City**	1.48 280	*e*P		**Pb**	10 46 26.5 +0.9
	baz=267					
WHP			*e*S		**Sb**	10 46 44.4 +0.3
	baz=267					
WCS	**Beigang Elemen**	1.49 272	*e*P		**Pb**	10 46 24.7 -1.0
	baz=267					
EHD	**Haiduan**	1.50 235	*e*P		**Pn**	10 46 24.2 +0.8
	baz=222					
EHD			*e*S		**Sn**	10 46 41.7 -0.2
	baz=222					
JIJ	**Ishigaki jima**	1.50 76	P		**Pn**	10 46 23.7 +0.2
JIJ			*e*S		**Sn**	10 46 42.2 +0.1
SMLT	**Sun Moon Lake**	1.51 265	*e*P		**Pb**	10 46 25.1 -1.0
	baz=261					
ECS	**Chishang**	1.52 233	S		**Sb**	10 46 44.7 -0.4
	baz=221					
LIOB	**Emei**	1.53 295	*e*P		**Pb**	10 46 26.2 -0.1
	baz=292					
LIOB			*e*S		**Sb**	10 46 45.1 -0.2
	baz=292					
EDH	**Donghe**	1.54 228	S		**Sn**	10 46 42.3 -0.6
	baz=216					
TYC	**Yuchr**	1.54 266	*e*P		**Pb**	10 46 25.6 -1.1
	baz=262					
TYC			*e*S		**Sb**	10 46 45.5 -0.3
	baz=262					
WHYT	**Xinyi Township**	1.58 259	*e*P		**Pb**	10 46 26.2 -1.0
	baz=244					
WHYT			*e*S		**Sb**	10 46 47.4 +0.6
	baz=244					
ELDTW	**Lidau**	1.62 240	*e*P		**Pn**	10 46 25.9 +0.7
	baz=235					
ELDTW			*e*S		**Sn**	10 46 44.5 -0.7
	baz=235					
LDUT	**Ludao**	1.66 217	*e*S		**Sn**	10 46 44.4 -1.4
	baz=213					
ALS	**Alishan**	1.67 253	*i* P		**Pb**	10 46 27.9 -1.1
	baz=248					
ALS			*e*S		**Sb**	10 46 48.3 -1.3
	baz=248					
WJS	**Zhushan**	1.67 264	*e*P		**Pb**	10 46 28.1 -0.7
	baz=260					
WJS			*e*S		**Sb**	10 46 52.3 +2.9
	baz=260					
LONT	**Longtian**	1.70 230	*e*S		**Sn**	10 46 47.4 +0.5
	baz=220					
WNT	**Mingjian**	1.70 266	*e*S		**Sb**	10 46 49.3 -1.1
	baz=262					
JISG	**Ishigakijimahi**	1.71 70	P		**Pn**	10 46 26.3 -0.1
JISG			*e*S		**Sn**	10 46 46.5 -0.6
CHN5	**Tsauling**	1.76 257	*e*P		**Pb**	10 46 29.7 -0.5
	baz=243					
CHN5			*e*S		**Sb**	10 46 51.0 -1.0
	baz=243					
TWGBT	**Beinan**	1.79 229	*e*P		**Pn**	10 46 28.9 +1.4
	baz=237					
TWGBT			*e*S		**Sn**	10 46 49.6 +0.4
	baz=237					
TWG	**Pinlang**	1.80 229	*e*S		**Sn**	10 46 49.2 -0.1
	baz=237					
STYH	**Taoyuan**	1.82 243	*e*P		**Pb**	10 46 30.2 -1.1
	baz=231					
STYH			*e*S		**Sn**	10 46 51.8 +1.8
	baz=231					
WDLH	**Douliu**	1.86 260	*e*S		**Sb**	10 46 55.7 +0.8
	baz=256					
WCKO	**Fanlu**	1.86 252	*e*S		**Sb**	10 46 55.5 +0.4
	baz=248					
TPUB	**Ta-pu**	1.89 248	P		**Pb**	10 46 31.5 -1.0
	baz=244					
TPUB			*e*S		**Sb**	10 46 55.0 -0.8
	baz=244					
CHN4	**Tsaushan**	1.90 250	P		**Pb**	10 46 32.4 -0.4
	baz=246					
CHN4			S		**Sb**	10 46 56.6 +0.5
	baz=246					
WTP	**Ta-pu**	1.93 247	*i* P		**Pb**	10 46 31.9 -1.2
	baz=243					
WTP			*e*S		**Sb**	10 46 57.3 +0.5
	baz=243					
WRL	**Guolierlin Hig**	1.98 267	*e*S		**Sb**	10 46 57.3 -1.1
	baz=277					
CHY	**Chiayi**	2.01 256	*e*S		**Sb**	10 46 59.2 +0.1
	baz=252					
SLGT	**Liugui**	2.01 240	P		**Pb**	10 46 34.3 -0.3
	baz=229					
SLGT			*e*S		**Sb**	10 47 00.1 +0.8
	baz=229					
CHN1	**Nanshi**	2.02 246	*e*P		**Pb**	10 46 33.8 -1.0
	baz=242					
CHN1			*e*S		**Sb**	10 46 57.6 -1.9
	baz=242					
SGST	**Jiashian**	2.02 243	*e*S		**Sb**	10 46 58.7 -0.8
	baz=229					
TWK	**Hsinying**	2.02 249	*e*P		**Pb**	10 46 33.8 -1.0
	baz=245					
TWK			*e*S		**Sb**	10 46 58.4 -1.3
	baz=245					
ECL	**Taimali**	2.03 226	*e*S		**Sn**	10 46 55.3 +0.3
	baz=233					
TSMG	**Majia**	2.18 234	*e*P		**Pb**	10 46 36.6 -0.8
	baz=225					
TSMG			*e*S		**Sn**	10 47 01.3 +2.7
	baz=225					
LYUB	**Lan-yu**	2.19 204	*e*P		**Pn**	10 46 32.5 -0.4
	baz=201					
MASBT	**Mashibuluo**	2.24 232	*e*P		**Pn**	10 46 35.8 +2.1
	baz=224					
MASBT			*e*S		**Sb**	10 47 04.8 -1.1
	baz=224					
TSCK	**Chigu Township**	2.41 249	*e*S		**Sn**	10 47 07.4 +3.0
	baz=246					
PHUB	**P'eng-hu**	2.77 260	*e*S		**Sn**	10 47 13.2 0.0
	baz=272					
VWUC	**VWUC**	2.98 290	*e*S		**Sn**	10 47 17.3 -1.2
	baz=288					

IDC ***31*** *10:56:12.3±1.1,21°.31S×169°.46E,h0km,mb3.9/5, mbtmp3.9/6,ML3.2/1,MS3.3/3,Error ellipse: s-maj=44.5km s-min=24.7km az=156.0*

NOU ***31*** *10:56:14.6,21°.32S×169°.28E,h0km,MLv3.8/12, Southeast of Loyalty Islands*

ISC 31 10:56:15.9±0.9,21°.39S±0.09×169°.4E±0°.1,h21km,n23, σ0°.85/22,mb4.0/7,3C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	1.25 265		P	**Pn**	10 56 37.2	-1.0
LIFNC	**LIFOU**	2.08 287		P	**Pn**	10 56 48.2	-1.4
PINNC	**Pines Island,**	2.16 235		P	**Pn**	10 56 50.6	-0.1
YATNC	**Mamie plateau,**	2.40 253		P	**Pn**	10 56 53.9	-0.1
OUENC	**Ouen Island, N**	2.56 246		P	**Pn**	10 56 57.0	+0.8
DZM	**Mont Dzumac**	2.81 255		P	**Pn**	10 57 00.2	+0.6
DZM	**Mont Dzumac**	2.81 255		Pn	**Pn**	10 57 00.2	+0.6
	3.6nm,0.3s,baz=86,slow=19,SNR=70						
DZM				Sn	**Sn**	10 57 34.0	+1.1
	5.2nm,0.3s,baz=13,slow=20,SNR=6.2						
	8.0nm,0.3s						
ONTNC	**Ouen Toro**	2.86 251		P	**Pn**	10 57 01.0	+0.7
NOUC	**Port Laguerre**	2.94 255		P	**Pn**	10 57 01.9	+0.5
RTV	**Rentapao**	3.68 346		P	**Pn**	10 57 13.1	+1.5
MSVF	**Nonsavu**	8.95 68		Pn	Pn	10 58 29.8	+5.7
	0.3nm,0.3s,baz=229,slow=13,SNR=7.2						
MSVF				LR	LR	11 00 52.6	
	comp=Z,153nm,18.2s,baz=249,slow=32						
CTA	**Charters Tower**	21.66 269		LR	LR	11 09 11.8	
	comp=Z,88nm,18.6s,baz=101,slow=36						
STKA	**Stephens Creek**	26.87 241		P	**P**	11 01 57.1	+1.8
	2.6nm,0.8s,baz=72,slow=12,SNR=5.4						
STKA				LR	LR	11 12 13.2	
	comp=Z,68nm,18.2s,baz=27,slow=36						
	2.6nm,0.8s						
WRA	**Warramunga Arr**	32.77 266		P	**P**	11 02 47.0	-0.8
	0.4nm,0.8s,baz=93,slow=8.0,SNR=5.2						
	0.4nm,0.8s						
ASAR	**Alice Springs**	32.79 259		P	**P**	11 02 47.9	-0.1
	1.1nm,0.8s,baz=99,slow=9.2,SNR=15						
	1.1nm,0.8s						
QSPA	**South Pole Qui**	68.68 180		P	**P**	11 07 17.8	+0.1
	1.9nm,1.0s,baz=9.7,slow=1.7,SNR=4.0						
	1.9nm,1.0s						
TROLL	**Troll, Antarti**	86.41 184		⇑P	**P**	11 08 56.7	+0.1
	comp=Z,104nm,0.6s						
SNAA	**Sanae**	87.03 182		P	**P**	11 08 59.3	-0.2
VNA3	**Neumayer Olymp**	87.62 180		⇑P	**P**	11 09 02.1	-0.2
	comp=Z,2.7nm,0.7s						
VNA2	**Neumayer--Watz**	87.91 181		⇑P	**P**	11 09 03.7	+0.1
	comp=Z,2.4nm,0.6s,baz=186,slow=5.0						
NVAR	**Mina Array Bea**	90.12 48		P	**P**	11 09 13.8	-1.1
	comp=Z,0.6nm,0.6s,baz=220,slow=8.6,SNR=6.8						
	comp=Z,0.6nm,0.6s						
EKA	**Eskdalemuir Ar**	145.64 352		PKPbc	**PKPdf**	11 15 51.6	-0.7
	comp=Z,3.1nm,0.7s,baz=322,slow=2.2,SNR=6.2						
GERES	**GERESS Array B**	146.42 331		PKPbc	**PKPab**	11 15 56.0	-0.3
	comp=Z,0.3nm,0.4s,baz=57,slow=3.6,SNR=2.2						

DNK ***31*** *11:09:59.6±1.7,80°.46N×2°.03W,h37km±18km,ML1.2*

BER 31 11:09:58.5±2.8,80°.43N×2°.29W,h10km,mb(Pn)2.8, ML1.2(DNK),Confirmed Earthquake,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	2.54 304		*i* P	Pn	11 10 38.0	-1.6
NOR				*i* S	Sn	11 11 06.3	-4.3
NOR				IAML		11 11 07.0	
	comp=Z,1.4nm,0.3s						
NOR	**Nord**	2.54 304		*i* P	Pn	11 10 38.0	-1.6
NOR				*i* S	Sn	11 11 06.3	-4.3
NOR				IAML		11 11 07.0	
	comp=Z,1.4nm,0.3s						
KBS	**Kingsbay**	2.97 113		*e*P	Pn	11 10 43.8	-1.8
KBS				IAML		11 10 45.2	
	comp=Z,2.8nm,0.2s						
KBS				*i* S	Sn	11 11 15.2	-6.0
KBS	**Kingsbay**	2.97 113		*i* P	Pn	11 10 43.5	-2.1
KBS				*i* S	Sn	11 11 15.2	-6.0
BRBB	**Barentsburg B**	3.87 119		*e*P	Pn	11 10 58.2	+0.3
SPA0	**Spitsbergen Ar**	4.13 114		*e*P	Pn	11 11 00.7	-0.8
SPA0				IAML		11 11 02.1	
	comp=Z,11nm,0.4s						
DAG	**Danmarks Havn**	4.88 230		*i* S	Sn	11 12 01.9	-6.4
DAG				*e*	Pn	11 11 09.7	-2.1
	baz=41,slow=14						
DAG				*i* P	Pn	11 11 10.8	-1.0
DAG				IAML		11 12 11.5	
	comp=Z,1.6nm,0.3s						
DAG	**Danmarks Havn**	4.88 230		*i* S	Sn	11 12 01.9	-6.4
DAG				*e*	Pn	11 11 09.7	-2.1
	baz=41,slow=14						
DAG				*i* P	Pn	11 11 10.8	-1.0
DAG				IAML		11 12 11.5	
	comp=Z,1.6nm,0.3s						

CNRM ***31*** *11:10:18.8,36°.58N×7°.45W,h8km,ml2.1*

MDD ***31*** *11:10:19.7±0.8,36°.72N×7°.27W,h12km±5km,mb_Lg2.6/5, Error ellipse: s-maj=6.8km s-min=3.6km az=14.0*

INMG ***31*** *11:10:21.9±1.2,36°.78N×7°.29W,h21km±2km,ML2.0,Error ellipse: s-maj=2.4km s-min=2.4km az=21.0*

SFS ***31*** *11:10:21.1,36°.82N×7°.23W,h31km,ML2.2/7,ML2.3/4, MLv2.2/7*

IGIL ***31*** *11:10:22.1,36°.77N×7°.29W,h22km,ML1.9*

ISC 31 11:10:19.7±1.5,36°.73N±0°.04×7°.26W±0°.03,h25km±14km, n36,σ0°.77/61,2C-2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNO	**Arenosillo**	0.56 49		S	**Sn**	11 10 40.3	-0.3
ARNO				P	**Pn**	11 10 33.2	+1.2
PBDV	**Barranco-do-Ve**	0.74 314		⇓*e*P	**Pn**	11 10 35.0	+0.4
PBDV				*e*S	**Sb**	11 10 44.2	+0.4
PBDV				A	A	11 10 45.1	
	44nm,0.2s						
PVAQ	**Vaqueiros**	0.77 331		⇓*e*P	**Pn**	11 10 35.3	+0.4
PVAQ				*e*S	**Sb**	11 10 44.7	+0.3
PVAQ				A	A	11 10 45.6	
	67nm,0.5s						
PVAQ	**Vaqueiros**	0.77 331		P	**Pn**	11 10 35.3	+0.4
PVAQ				S	**Sn**	11 10 47.0	+1.4
PVAQ	**Vaqueiros**	0.77 331		P	**Pn**	11 10 35.3	+0.4
EGRO	**El Granado**	0.82 347		Pg	**Pn**	11 10 36.1	+0.3
EGRO				Sg	**Sb**	11 10 46.3	+0.2
EGRO				*i* Vmb_Lg		11 10 47.3	
EGRO	**El Granado**	0.82 347		P	**Pn**	11 10 36.0	+0.3
EGRO				S	**Sb**	11 10 46.2	+0.1
PCVE	**Castro Verde**	1.09 326		*e*P	**Pn**	11 10 40.1	+0.6
PCVE				*e*S	**Sn**	11 10 53.8	0.0
PCVE				A	A	11 10 54.3	
	13nm,0.2s						
PCVE	**Castro Verde**	1.09 326		P	**Pn**	11 10 39.8	+0.4
ESPR	**Espera**	1.13 83		Pg	**Pn**	11 10 39.8	-0.2
ESPR				*i* Vmb_Lg		11 10 54.6	
ESPR				Sg	**Sb**	11 10 54.7	-0.3
ESPR	**Espera**	1.13 83		P	**Pn**	11 10 40.1	+0.1
ESPR				S	**Sn**	11 10 54.4	-0.4
EMIN	**Mina Concepcio**	1.14 24		P	**Pn**	11 10 40.5	+0.4
EMIN				S	**Sn**	11 10 54.5	-0.3
MORF	**Marmelete**	1.25 298		*e*P	**Pn**	11 10 42.0	+0.3
MORF				*e*S	**Sn**	11 10 57.6	-0.2
MORF				A	A	11 11 05.5	
	16nm,0.1s						
MORF	**Marmelete**	1.25 298		*e*P	**Pn**	11 10 42.2	+0.5
MORF				*e*S	**Sn**	11 10 57.1	-0.7
MORF				IAML		11 10 58.3	
	comp=N,19nm,0.1s						
PFVI	**Vila Bisbo**	1.32 288		*e*P	**Pn**	11 10 43.2	+0.7
PFVI				*e*S	**Sn**	11 10 58.8	-0.5
PFVI				A	A	11 11 06.8	
	comp=N,14nm,0.2s						
PFVI	**Vila Bisbo**	1.32 288		P	**Pn**	11 10 42.2	-0.3
PFVI				S	**Sn**	11 10 59.2	-0.1
PFVI	**Vila Bisbo**	1.32 288		P	**Pn**	11 10 42.9	+0.4
PBEJ	**Beja**	1.38 340		*e*S	**Sn**	11 11 00.0	-0.9
PBEJ				A	A	11 11 08.0	
	comp=N,8.0nm,0.2s						
PTEO	**Sao Teotonio**	1.43 305		⇑*i*P	**Pn**	11 10 44.9	+0.9
PTEO				*e*S	**Sn**	11 11 01.6	-0.3
PTEO				A	A	11 11 03.7	
	comp=N,7.4nm,0.2s						
PBAR	**Barrancos**	1.45 7		*e*P	**Pn**	11 10 44.6	+0.2
PBAR				*e*S	**Sn**	11 11 02.3	-0.3
PBAR				A	A	11 11 09.5	
	comp=N,9.1nm,0.4s						
PBAR	**Barrancos**	1.45 7		P	**Pn**	11 10 44.5	+0.2
PNCL	**Nicolau / Gran**	1.71 324		⇑*e*P	**Pn**	11 10 48.5	+0.6
PNCL				*e*S	**Sn**	11 11 08.7	-0.2
PNCL				A	A	11 11 17.1	
	comp=N,7.4nm,0.3s						
PNCL	**Nicolau / Gran**	1.71 324		P	**Pn**	11 10 48.5	+0.6
EVO	**Evora**	1.90 342		*e*P	**Pn**	11 10 50.5	0.0
EVO				*e*S	**Sn**	11 11 12.1	-1.4
EVO				A	A	11 11 13.9	
	comp=N,12nm,0.2s						
EVO	**Evora**	1.90 342		S	**Sn**	11 11 11.9	-1.7
ECAB	**El Cabril**	1.99 47		Pn	**Pn**	11 10 53.5	+1.7
ECAB				Sn	**Sn**	11 11 16.5	+0.7
ECAB				*i* Vmb_Lg		11 11 21.5	
EBAD	**Badajoz**	2.03 5		Pn	**Pn**	11 10 52.9	+0.5
EBAD				Sn	**Sn**	11 11 17.0	+0.1
EBAD				*i* Vmb_Lg		11 11 26.4	
PESTR	**Estremoz**	2.15 353		*e*P	**Pn**	11 10 54.2	+0.2
PESTR				*e*S	**Sn**	11 11 18.4	-1.4
PESTR				A	A	11 11 30.6	
	comp=N,6.2nm,0.5s						
PESTR	**Estremoz**	2.15 353		P	**Pb**	11 10 57.1	-0.9
PESTR				S	**Sb**	11 11 26.3	+2.1
PMTG	**Montargil**	2.46 342		*e*P	**Pn**	11 10 58.5	+0.3
PMTG				*e*S	**Sn**	11 11 26.8	-0.6
PMTG				A	A	11 11 42.0	
	comp=N,4.5nm,0.2s						
EADA	**Adamuz**	2.57 55		Pn	**Pn**	11 11 00.4	+0.6
EADA				Sn	**Sn**	11 11 29.3	-1.0
EADA				*i* Vmb_Lg		11 11 33.7	
PMRV	**Marv??o**	2.69 358		*e*P	**Pn**	11 11 01.6	+0.1
PMRV				*e*S	**Sn**	11 11 32.0	-1.3
PMRV				A	A	11 11 49.7	
	comp=N,5.6nm,0.4s						
PSBE	**So Bento**	3.03 337		*e*P	**Pn**	11 11 07.5	+1.4
MD31	**MD31**	4.37 151		P	**Pn**	11 11 26.2	+1.6
MDT	**Midelt**	4.48 150		P	**Pn**	11 11 26.1	0.0
JBK	**JBK**	4.51 121		P	**Pn**	11 11 26.6	-0.1

MOS ***31*** *11:31:36.8±1.0,3°.86S×127°.62E,h10km,mb5.9/74, MS5.3/18,Error ellipse: s-maj=9.4km s-min=4.1km az=114.7*

NEIC ***31*** *11:31:39.4±2.2,3°.83S±0°.06×127°.72E±0°.06,h4km±1km, mb5.7/157,Ms_20 5.7/644,Mww5.8/40,Error ellipse: s-maj=10.4km s-min=9.5km az=233.0*

NEIC ***31*** *11:31:40.2,3°.82S×127°.73E,h12km*

NEIC ***31*** *11:31:40.2,3°.92S×127°.93E,h12km,Moment Tensor Solution. Duration: 3s8 Moment tensor: Scale 10^17Nm; Mrr4.84; Mθθ-5.23; Mφφ0.39; Mrθ0.75; Mrφ1.05; Mθφ1.56; Fault plane solution: M0 5.38000×10^17 NP1 φs83.91000°, δ50.22000°, λ67.62000°. NP2 φs296.68000°, δ44.72000°, λ114.58000°. Principal axes: T 5.3105, Plg73.0000°, Azm289.0000°; N 0.1380, Plg17.0000°, Azm99.0000°; P -5.4485, Plg3.0000°, Azm190.0000°;*

KLM ***31*** *11:31:40,3°.97S×127°.89E,h10km,mb5.7*

BJI ***31*** *11:31:41.0±0.0,3°.80S×127°.80E,h30km,mb5.3/82, mB5.7/68,Ms5.7/70,Ms7 5.3/65*

GCMT ***31*** *11:31:42.4±0.1,3°.85S×127°.70E,h12km,MW5.8/158, Moment Tensor Solution. s154,c309; s158,c463; Duration: 1s9 Moment tensor: Scale 10^17Nm; Mrr5.21±.06; Mθθ-5.56±.05; Mφφ0.34±.05; Mrθ1.51±.13; Mθφ0.48±.04; Mφr-0.69±.13; Best double couple: M0 5.65700×10^17 NP1 φs101.00000°, δ53.00000°, λ98.00000°. NP2 φs268.00000°, δ37.00000°, λ80.00000°. Principal axes: T 5.4930, Plg80.0000°, Azm43.0000°; N 0.3270, Plg6.0000°, Azm276.0000°; P -5.8210, Plg8.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

DJA ***31*** *11:31:44.5±0.1,4°S±2°×12°8E±°,h43km±2km,M5.7/97, mB6.1/79,mb5.7/97,MLv5.8/30,Mw5.7/68,Mw(mB)5.8/79, MwMwp5.6/61,Mwp5.7/61*

IDC ***31*** *11:31:45.8±2.0,3°.84S×127°.62E,h64km±17km,mb5.2/40, mbtmp5.5/44,MS5.3/14,Error ellipse: s-maj=14.1km s-min=9.0km az=74.0*

ISC 31 11:31:40.5±0.4,3°.83S±0°.03×127°.73E±0°.03,h18km±1km, h18km:pP-P,n1884,σ1°.67/1695,mb5.7/217,MS5.6/362, 71C-25D,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	0.86 313		P	**Pg**	11 31 55.0	-2.3
BNDI	**Bandanaira**	2.27 108		P	**Pn**	11 32 16.9	-0.3
BNDI	**Bandanaira**	2.27 108		P	**Pn**	11 32 16.3	-0.9
BNDI	**Bandanaira**	2.27 108		⇑P	**Pn**	11 32 16.5	-0.7
SANI	**Sanana**	2.48 315		P	**Pn**	11 32 20.4	+0.4
SANI	**Sanana**	2.48 315		P	**Pn**	11 32 19.7	-0.3
SANI	**Sanana**	2.48 315		P	**Pn**	11 32 18.0	-2.0
SANI	**Sanana**	2.48 315		⇑P	**Pn**	11 32 19.6	-0.5
LBMI	**Labuha**	3.18 356		P	**Pn**	11 32 31.2	+1.5
TNTI	**Ternate**	4.59 355		Pn	**Pn**	11 32 50.7	+1.6
TNTI	**Ternate**	4.59 355		P	**Pn**	11 32 51.7	+2.7
TNTI	**Ternate**	4.59 355		P	**Pn**	11 32 50.1	+1.1
TNTI	**Ternate**	4.59 355		⇑P	**Pn**	11 32 50.6	+1.6
SWI	**Sorong**	4.60 50		P	**Pn**	11 32 50.0	+0.8
FAKI	**Fak Fak**	4.60 79			**Pn**	11 32 49.7	+0.4
FAKI	**Fak Fak**	4.60 79		P	**Pn**	11 32 51.8	+2.6
FAKI	**Fak Fak**	4.60 79		P	**Pn**	11 32 51.1	+1.9
FAKI	**Fak Fak**	4.60 79		⇑P	**Pn**	11 32 50.3	+1.1
BBSI	**Bau Bau**	5.40 252		P	**Pn**	11 33 04.2	+4.0
	637nm,1.1s,7μm32μm3.2nm						
SAUI	**Saumlaki**	5.44 139		Pn	**Pn**	11 33 03.9	+3.2
SAUI	**Saumlaki**	5.44 139		P	**Pn**	11 33 05.0	+4.2
	1μm,0.7s,20μm81μm5.9nm						
SAUI	**Saumlaki**	5.44 139		⇑P	**Pn**	11 33 04.2	+3.5
LUWI	**Luwuk**	5.68 299		Pn	**Pn**	11 33 04.4	+0.4
LUWI	**Luwuk**	5.68 299		P	**Pn**	11 33 06.0	+2.0
LUWI	**Luwuk**	5.68 299		P	**Pn**	11 33 05.4	+1.4
	4μm,1.0s,33μm36μm12nm						
LUWI	**Luwuk**	5.68 299		P	**Pn**	11 33 03.0	-1.0
LUWI	**Luwuk**	5.68 299		⇑P	**Pn**	11 33 05.5	+1.4
KMSI	**Cibinong**	5.76 319		P	**Pn**	11 33 07.5	+2.3
	4μm,1.1s,30μm27μm19nm						
KMPI	**Kaimana, Papua**	5.96 89		P	**Pn**	11 33 10.2	+2.2
	2μm,1.1s,23μm43μm9.4nm						
SOEI	**Soe**	6.81 210			**Pn**	11 33 23.3	+3.5
SOEI	**Soe**	6.81 210		P	**Pn**	11 33 23.1	+3.3
SOEI	**Soe**	6.81 210		P	Pn	11 33 24.3	+4.5
	760nm,1.1s,18μm80μm3.3nm						
SOEI	**Soe**	6.81 210		P	**Pn**	11 33 22.0	+2.3
SOEI	**Soe**	6.81 210		⇓P	**Pn**	11 33 23.6	+3.8
RKPI	**Ransiki, Papua**	6.84 70		P	**Pn**	11 33 21.3	+1.3
	2μm,0.7s,24μm53μm13nm						
MRSI	**Marisa**	7.20 306		P	**Pn**	11 33 26.7	+1.8
	2μm,1.1s,15μm25μm6.1nm						
MMRI	**Maumere**	7.25 229		Pn	**Pn**	11 33 26.9	+1.2
MMRI	**Maumere**	7.25 229		P	**Pn**	11 33 28.6	+3.0
MMRI	**Maumere**	7.25 229		P	Pn	11 33 31.4	+5.8
	247nm,1.4s,7μm50μm1.6nm						
MMRI	**Maumere**	7.25 229		⇓P	**Pn**	11 33 28.4	+2.8
BATI	**Baumata**	7.51 212		P	**Pn**	11 33 33.2	+4.0
	457nm,0.9s,8μm42μm1.8nm						
BATI	**Baumata**	7.51 212		P	**Pn**	11 33 31.7	+2.5
	320nm,0.9s,baz=144,slow=1.1,SNR=29						
BATI				LR	LR	11 36 44.5	
	comp=Z,16μm,18.6s,baz=30,slow=40						
BKSI	**Bulukumba**	7.73 259		P	**Pn**	11 33 34.5	+2.3
	628nm,0.7s,8μm20μm2.3nm						
EDFI	**Ende, Flores**	7.74 231		P	**Pn**	11 33 34.6	+2.2
	271nm,0.7s,6μm48μm1.0nm						
SGSI	**Sangihe**	7.79 344		P	**Pn**	11 33 35.1	+2.1
	2μm,0.8s,18μm24μm6.8nm						
TTSI	**Tana Toraja**	7.94 275		P	**Pn**	11 33 38.6	+3.6
	269nm,0.8s,6μm13μm1.2nm						
KAPI	**Kappang**	8.04 261		Pn	**Pn**

BKB Balikpapan 11.12 283 P **Pn 11 34 22.1 +3.4**
BKB Balikpapan 11.12 283 P Pn 11 34 35.5 +17
KNRA Kununurra 11.81 175 P **Pn 11 34 27.9 -0.3**
baz=12,SNR=128
KNRA Kununurra 11.81 175 Pn **Pn 11 34 28.5 +0.3**
KNRA Kununurra 11.81 175 P **Pn 11 34 28.5 +0.3**
TWSI Taliwang, Sumb 11.83 245 P Pn 11 34 33.2 +4.7
155nm,0.9s,4µm19µm
GENI Genyem 12.48 85 P **Pn 11 34 38.8 +1.4**
GENI Genyem 12.48 85 P **Pn 11 34 39.4 +2.0**
417nm,0.9s,10µm18µm
GENI Genyem 12.48 85 ⇑P **Pn 11 34 37.1 -0.3**
BBKI Banjar Baru 12.87 271 P Pn 11 34 48.0 +5.3
331nm,1.5s,16µm
JAY Jayapura 13.02 85 P **Pn 11 34 47.5 +2.7**
106nm,1.0s,3µm13µm
MTKI Muara Teweh, K 13.14 282 P **P 11 34 59.3 +2.9**
SRBI Singaraja 13.14 251 P **P 11 34 52.8 -3.7**
170nm,1.3s,6µm13µm
TABU Tabubil 13.53 97 P **Pn 11 34 52.0 +0.3**
ABJI Asem Bagus 13.99 253 P **P 11 35 05.3 -0.6**
624nm,1.2s,11µm16µm
SPMM Sapulut 14.09 307 P **Pn 11 35 03.0 +3.5**
JAGI Jajag, Banyuwa 14.26 251 **Pn 11 35 04.5 +2.7**
JAGI Jajag, Banyuwa 14.26 251 P **Pn 11 35 05.3 +3.6**
JAGI Jajag, Banyuwa 14.26 251 P **P 11 35 06.5 -2.4**
401nm,1.2s,11µm15µm
JAGI Jajag, Banyuwa 14.26 251 ⇓P **Pn 11 35 05.6 +3.9**
BLJI Banyuglugur 14.59 254 P **P 11 35 12.9 +0.4**
502nm,1.9s,9µm15µm
GMJI Gumukmas 14.87 252 P **P 11 35 14.3 -1.4**
424nm,1.3s,8µm
GRJI Gresik 15.49 258 P **P 11 35 25.7 +3.2**
943nm,0.9s,16µm14µm
NGJI Ngawi 16.57 257 P **P 11 35 37.7 +3.2**
618nm,1.0s,23µm37µm
STKI Sintang 16.70 283 P **P 11 35 37.7 +1.7**
176nm,1.5s,14µm
SBUM Sibu 16.71 292 P **P 11 35 37.0 +0.9**
UWJI Ujung Watu 16.91 261 P **P 11 35 42.6 +4.3**
512nm,1.2s,7µm
WB0 Warramunga Arr 17.12 158 P **Pn 11 35 36.4 -2.7**
WB0 IAmb IAmb 11 35 42.3
comp=Z,438nm,0.9s
WOJI Wonogiri, Jawa 17.18 256 P **P 11 35 42.8 +1.4**
comp=Z,591nm,1.0s,comp=Z,19µmcomp=Z,23µm
WRAB Tennant Creek 17.26 159 P **Pn 11 35 37.7 -3.1**
WRAB IAmb IAmb 11 35 46.6
comp=Z,769nm,1.4s
WRAB Tennant Creek 17.26 159 ⇑P **Pn 11 35 37.6 -3.2**
WRAB Tennant Creek 17.26 159 *ce*P **Pn 11 35 37.4 -3.3**
WRAB pmax pmax
comp=Z,463nm,1.3s
WRA Warramunga Arr 17.26 159 **Pn 11 35 37.4 -3.4**
WRA Warramunga Arr 17.26 159 *i* P **Pn 11 35 37.2 -3.6**
WRA pmax pmax
comp=Z,188nm,1.2s
WRA Warramunga Arr 17.26 159 P **Pn 11 35 37.8 -3.0**
comp=Z,188nm,1.2s,baz=337,slow=9.1,SNR=114
WRA LR LR 11 42 46.4
comp=Z,21µm,18.5s,baz=336,slow=38
WB2 Warramunga Arr 17.27 159 **Pn 11 35 37.8 -3.1**
WB2 IAmb IAmb 11 35 46.8
comp=Z,742nm,1.4s
WR0 Warramunga Arr 17.35 158 P **Pn 11 35 39.1 -2.8**
SMRI Semarang 17.50 259 P **Pn 11 35 46.7 +1.8**
SMRI IAmb IAmb 11 35 52.6
comp=Z,677nm,1.0s
SMRI Semarang 17.50 259 P **P 11 35 47.8 +2.9**
SMRI Semarang 17.50 259 P **P 11 35 47.8 +2.9**
comp=Z,892nm,1.9s,comp=Z,37µmcomp=Z,37µm
SMRI Semarang 17.50 259 ⇑P **P 11 35 46.8 +1.9**
UGM Wanagama 17.59 256 P **P 11 35 47.5 +1.6**
UGM IAmb IAmb 11 35 52.8
comp=Z,875nm,1.3s
UGM Wanagama 17.59 256 P **P 11 35 47.2 +1.3**
UGM Wanagama 17.59 256 P **P 11 35 50.0 +4.1**
comp=Z,621nm,1.0s,comp=Z,16µmcomp=Z,23µm
YOGI Yogyakarta 17.79 256 P **P 11 35 52.6 +4.5**
comp=Z,368nm,1.0s,comp=Z,11µm
COEN Coen 18.26 124 P **Pn 11 35 51.8 -1.4**
COEN IAmb IAmb 11 36 03.9
comp=Z,684nm,1.6s
COEN Coen 18.26 124 P **Pn 11 35 53.0 -0.2**
COEN Coen 18.26 124 ⇓P **Pn 11 35 51.9 -1.3**
MBWA Marble Bar 18.90 204 P **P 11 35 60.0 -0.2**
MBWA Marble Bar 18.90 204 P **P 11 36 00.7 +0.5**
MBWA Marble Bar 18.90 204 P **P 11 36 00.7 +0.5**
MBWA Marble Bar 18.90 204 ⇑P **P 11 36 00.7 +0.5**
KPJI Karang Pucung 19.03 259 P **Pn 11 36 03.5 +1.0**
comp=Z,1µm,1.0s,comp=Z,20µm
TGY Tagaytay City 19.05 339 P **Pn 11 36 04.2 +1.4**
TGY Tagaytay City 19.05 339 P **Pn 11 36 04.2 +1.4**
comp=Z,123nm,0.3s,baz=167,slow=22,SNR=2.6
TGY LR LR 11 45 41.1
comp=Z,4µm,20.1s,baz=143,slow=44
PSA00 Pilbara Seismi 19.23 203 P **P 11 36 03.8 0.0**
PSA00 Pilbara Seismi 19.23 203 P **P 11 36 04.2 +0.4**
PSA00 IAmb IAmb 11 36 13.7
comp=Z,152nm,1.1s
PSA00 Pilbara Seismi 19.23 203 P **P 11 36 04.4 +0.6**
JCJI Jatiwangi 19.56 261 P **Pn 11 36 11.6 +2.7**
comp=Z,613nm,1.0s,comp=Z,19µmcomp=Z,14µm
CMJI Cimerak 19.58 258 P **P 11 36 07.7 0.0**
comp=Z,670nm,1.2s,comp=Z,7µmcomp=Z,8µm
MANU Manus Island 19.69 85 P **P 11 36 10.2 +1.2**
MANU Manus Island 19.69 85 P **Pn 11 36 10.9 +0.4**
MANU Manus Island 19.69 85 ⇑P **Pn 11 36 11.4 +0.9**
PMG Port Moresby 20.07 107 P Pn 11 36 15.3 +0.3
PMG IAmb IAmb 11 36 20.5
comp=Z,422nm,1.3s
PMG Port Moresby 20.07 107 P Pn 11 36 15.5 +0.5
PMG Port Moresby 20.07 107 P Pn 11 36 15.4 +0.4
PMG Port Moresby 20.07 107 ⇑P **P 11 36 14.1 +1.0**
PMG Port Moresby 20.07 107 *ce*P **P 11 36 08.5 -4.6**
PMG pmax pmax
comp=Z,353nm,1.3s
PMG Port Moresby 20.07 107 P **P 11 36 15.0 +1.9**
comp=Z,169nm,1.0s,baz=310,slow=9.7,SNR=27
comp=Z,169nm,1.0s
LEM Lembang 20.24 261 P **P 11 36 16.3 +1.1**
LEM Lembang 20.24 261 P **P 11 36 16.3 +1.1**
comp=Z,481nm,0.7s,baz=58,slow=8.3,SNR=50
LEM LR LR 11 45 37.1
comp=Z,8µm,18.0s,baz=81,slow=41
comp=Z,481nm,0.7s
QIS Mount Isa 20.25 146 P **P 11 36 16.0 +0.9**
baz=20,SNR=369
QIS Mount Isa 20.25 146 P **P 11 36 16.1 +1.0**
BBJI Bungbulang 20.30 259 P **P 11 36 15.1 -0.6**
AS31 Alice Springs 20.60 164 P **P 11 36 21.0 +2.1**
ASAR Alice Springs 20.60 164 P **P 11 36 20.0 +1.1**
ASAR Alice Springs 20.60 164 P **P 11 36 20.0 +1.1**
ASAR Alice Springs 20.60 164 P **P 11 36 20.1 +1.3**
comp=Z,315nm,0.9s,baz=342,slow=10.0,SNR=270
ASAR LR LR 11 44 49.4
comp=Z,10µm,18.8s,baz=344,slow=38
comp=Z,315nm,0.9s
CNJI Cibinong 20.79 260 P **P 11 36 20.2 -0.7**
comp=Z,971nm,1.1s,comp=Z,8µmcomp=Z,3µm
CBJI Citeko 20.95 262 P **P 11 36 22.9 +0.2**
comp=Z,767nm,1.1s,comp=Z,17µmcomp=Z,11µm
WRKA Warakurna 21.09 179 P **P 11 36 25.5 +1.4**
baz=21,SNR=319
WRKA Warakurna 21.09 179 P **P 11 36 25.5 +1.4**
WRKA Warakurna 21.09 179 ⇑P **P 11 36 25.5 +1.4**
MTSU Mount Surprise 21.58 132 P **P 11 36 30.6 +1.2**
baz=22,SNR=93
MTSU Mount Surprise 21.58 132 P **P 11 36 30.8 +1.3**
PPBI Pangkal Pinang 21.63 274 P **P 11 36 31.1 +1.1**
comp=Z,157nm,0.9s,comp=Z,9µmcomp=Z,7µm
CGJI Cibinong 22.12 262 P **P 11 36 33.4 -1.8**
comp=Z,176nm,1.3s,comp=Z,3µm
GIRL Giralia 22.82 214 P **P 11 36 43.3 +0.7**
baz=23,SNR=38
GIRL Giralia 22.82 214 P **P 11 36 43.0 +0.4**
GIRL Giralia 22.82 214 P **P 11 36 43.7 +1.1**
GIRL Giralia 22.82 214 ⇓P **P 11 36 43.5 +0.9**
XMI Christmas Isla 22.82 252 P **P 11 36 41.4 -1.4**
XMI Christmas Isla 22.82 252 ⇑P **P 11 36 40.6 -2.2**
XMIS Christmas Isla 22.87 252 P **P 11 36 40.7 -2.5**
XMIS IAmb IAmb 11 37 01.2
comp=Z,255nm,0.8s
XMIS Christmas Isla 22.87 252 P **P 11 36 41.8 -1.5**
PMBI Palembang 22.93 272 P **P 11 36 45.3 +1.4**
PMBI Palembang 22.93 272 P **P 11 36 46.5 +2.5**
PMBI Palembang 22.93 272 P **P 11 36 48.7 +4.7**
comp=Z,637nm,1.2s,comp=Z,24µm
KAVG Kavieng 23.07 88 P **P 11 36 46.4 +1.0**
KASI Kota Agung 23.21 265 P **P 11 36 44.7 -2.1**
comp=Z,184nm,1.1s,comp=Z,3µmcomp=Z,5µm
DSRI Dabo 23.37 278 P **P 11 36 50.0 +1.6**
comp=Z,295nm,1.3s,comp=Z,5µmcomp=Z,7µm
LWLI Liwa 23.63 266 P P 11 37 01.1 +10
TPRI Tanjung Pinang 23.66 281 P **P 11 36 52.1 +0.8**
comp=Z,609nm,1.1s,comp=Z,7µmcomp=Z,7µm
TV1H Townsville Har 24.12 131 P **P 11 36 56.6 +1.1**
LHSI Lahat 24.15 269 P **P 11 36 55.3 -0.6**
comp=Z,191nm,1.2s,comp=Z,3µmcomp=Z,5µm
JMBI JAMBI 24.16 275 P **P 11 36 59.4 +3.5**
comp=Z,439nm,1.2s,comp=Z,6µm
CTA Charters Tower 24.23 133 P **P 11 36 57.5 +0.9**
CTA Charters Tower 24.23 133 LR LR 11 47 17.9
comp=Z,4µm,20.0s,baz=312,slow=38
CTAO Charters Tower 24.23 133 P **P 11 36 57.0 +0.4**
CTAO Charters Tower 24.23 133 P **P 11 36 57.5 +0.9**
CTAO Charters Tower 24.23 133 ⇑P **P 11 36 57.2 +0.7**
CTAO Charters Tower 24.23 133 P **P 11 36 57.0 +0.4**
CTAO pmax pmax
comp=Z,408nm,1.3s
KRVT Keravat (AS076 24.24 92 LR LR 11 47 00.2
comp=Z,5µm,19.7s,baz=331,slow=38
GUMO Guam 24.27 44 LR LR 11 46 29.3
comp=Z,2µm,20.0s,baz=218,slow=36
MEEK Meekatharra 24.30 200 P **P 11 36 56.8 -0.3**
baz=24,SNR=80
MEEK Meekatharra 24.30 200 P **P 11 36 56.6 -0.5**
RABL Rabaul 24.38 92 P **P 11 36 58.2 +0.2**
RABL Rabaul 24.38 92 P **P 11 37 00.0 +2.0**
BTDF Bukit Timah Da 24.49 282 P **P 11 37 01.2 +2.2**
DLV T Lat 24.73 310 P **P 11 37 01.8 +0.4**
DLV IAmb IAmb 11 37 13.7
comp=Z,366nm,1.4s
DLV T Lat 24.73 310 P **P 11 37 02.8 +1.4**
DLV T Lat 24.73 310 ⇓P **P 11 37 02.6 +1.2**
AUAYR Ayr State High 24.77 131 P **P 11 37 02.8 +1.3**
OOD Oodnadatta 25.01 163 P **P 11 37 03.9 +0.4**
KRJI Kerinci 26.29 273 P **P 11 37 19.9 +4.5**
FORT Forrest 26.80 179 P **P 11 37 20.1 +0.4**
baz=27,SNR=109
FORT Forrest 26.80 179 P **P 11 37 20.1 +0.4**
FORT IAMs_20 IAMs_20 11 48 19.4
comp=Z,17µm,21.0s
FORT Forrest 26.80 179 P **P 11 37 20.5 +0.8**
FORT Forrest 26.80 179 ⇑P **P 11 37 20.1 +0.4**
INKA Innaminka 26.82 154 P **P 11 37 21.0 +1.1**
MULG Mulgathing 26.98 168 P **P 11 37 22.6 +1.3**
BKNI Bangkinang 26.99 278 P **P 11 37 22.3 +0.6**
BKNI Bangkinang 26.99 278 P **P 11 37 23.1 +1.5**
BKNI Bangkinang 26.99 278 P **P 11 37 24.4 +2.8**
comp=Z,372nm,1.2s,comp=Z,6µmcomp=Z,5µm
BKNI Bangkinang 26.99 278 P **P 11 37 20.9 -0.7**
TWGBT Beinan 27.27 347 P **P 11 37 26.0 +2.0**
TWG Pinlang 27.28 347 P **P 11 37 24.9 +0.8**
PDSI Padang 27.39 275 P **P 11 37 26.5 +1.2**
comp=Z,90nm,0.9s,comp=Z,3µmcomp=Z,4µm
MORW Morawa 27.44 203 P **P 11 37 25.6 +0.1**
baz=28,SNR=12
MORW Morawa 27.44 203 P **P 11 37 24.9 -0.6**
MORW IAmb IAmb 11 37 36.0
comp=Z,147nm,1.4s
MORW Morawa 27.44 203 P **P 11 37 26.4 +0.9**
MORW Morawa 27.44 203 ⇓P **P 11 37 26.6 +1.0**
QLP Quilpie 27.59 147 P **P 11 37 27.7 +0.8**
baz=28,SNR=3.7
QLP Quilpie 27.59 147 P **P 11 37 27.8 +0.9**
QLP Quilpie 27.59 147 ⇑P **P 11 37 26.7 -0.2**
YULB Yu-li 27.78 347 P **P 11 37 30.3 +1.7**
TPUB Ta-pu 27.84 346 P **P 11 37 27.9 -1.3**
TPUB IAmb IAmb 11 37 54.1
comp=Z,158nm,1.0s
TPUB Ta-pu 27.84 346 P **P 11 37 31.4 +2.2**
KMBL Kambalda 27.94 191 P **P 11 37 30.5 +0.5**
baz=28,SNR=28
KMBL Kambalda 27.94 191 P **P 11 37 30.0 +0.1**
SSLB Suanglung 28.24 347 P **P 11 37 34.2 +1.5**
LCRK Leigh Creek 28.27 161 P **P 11 37 33.0 +0.1**
NACB Ninganchiao 28.47 348 P **P 11 37 36.5 +1.8**
BLDU Ballidu 28.60 200 P **P 11 37 36.0 +0.2**
baz=29,SNR=18
BLDU Ballidu 28.60 200 P **P 11 37 36.0 +0.2**
SISI Saibi 28.72 274 P P 11 37 52.6 +16
QIZ Qiongzhong 28.74 323 P **P 11 37 39.5 +2.3**
QIZ pP **pwP 11 37 46.0 -0.2**
QIZ S **S 11 42 28.3 +2.3**
QIZ sS pS 11 42 43.0 +12
QIZ pmax pmax
comp=Z,75nm,1.4s
QIZ LR LR
comp=Z,5µm,14.3s
QIZ LR LR
comp=Z,2µm,16.0s
QIZ LR LR
comp=Z,4µm,10.1s
QIZ Qiongzhong 28.74 323 P **P 11 37 39.8 +2.6**
QIZ IAmb IAmb 11 37 47.5
comp=Z,275nm,1.6s
QIZ Qiongzhong 28.74 323 P **P 11 37 40.1 +2.9**
YHNB Yeheng 29.00 348 P **P 11 37 39.2 -0.3**
YHNB Yeheng 29.00 348 P **P 11 37 39.4 -0.1**
KLBR Kellerberrin 29.16 198 P **P 11 37 41.2 +0.3**
baz=29,SNR=40
KLBR Kellerberrin 29.16 198 P **P 11 37 41.1 +0.3**
RK1H Rockhampton Ha 29.36 134 P **P 11 37 43.6 +1.0**
RPSI Rantau Prapat 29.51 282 P **P 11 37 43.1 -1.1**
PSI Prapat 29.53 282 P **P 11 37 44.3 -0.2**
PSI Prapat 29.53 282 P **P 11 37 43.1 -1.4**
PSI pmax pmax
comp=Z,92nm,1.0s
KNMB Chin-men Tao 29.56 343 P **P 11 37 44.2 -0.2**
KNMB IAmb IAmb 11 37 54.2
comp=Z,311nm,1.5s
AUMOU Moura State Hi 29.74 136 P **P 11 37 47.3 +1.2**
BBOO Buckleboo 29.86 166 P **P 11 37 47.3 +0.3**
baz=30,SNR=24
BBOO Buckleboo 29.86 166 P **P 11 37 47.6 +0.5**
BBOO IAmb IAmb 11 37 49.4
comp=Z,132nm,1.1s
BBOO Buckleboo 29.86 166 P **P 11 37 47.5 +0.5**
QZH Quanzhou 29.95 343 *e*P P 11 37 43.5 -4.3
QZH S **S 11 42 38.5 -6.3**
QZH LR LR
comp=N,4µm,9.7s
QZH LR LR
comp=E,3µm,10.9s
QZH LR LR
comp=Z,3µm,15.8s
MUN Mundaring 30.02 200 P **P 11 37 48.5 +0.1**
baz=30,SNR=20
MUN Mundaring 30.02 200 P **P 11 37 48.6 +0.2**
RMQ Roma 30.21 140 P **P 11 37 52.0 +1.8**
baz=30,SNR=7.4
RMQ Roma 30.21 140 P **P 11 37 52.0 +1.8**
GZH Guangzhou 30.22 333 P P 11 37 55.3 +5.1
GZH S **S 11 42 57.5 +8.5**
GZH pmax pmax
comp=Z,60nm,1.2s
GZH LR LR
comp=Z,1µm,7.2s
GZH LR LR
comp=Z,2µm,12.1s
WHYH Whyalla 30.48 164 P **P 11 37 53.1 +0.7**
JOW Kunigami 30.49 1 P **P 11 37 53.0 +0.4**
JOW Kunigami 30.49 1 P **P 11 37 54.4 +1.8**
JOW Kunigami 30.49 1 ⇑P **P 11 37 54.0 +1.4**
JOW Kunigami 30.49 1 LR LR 11 49 14.4
comp=Z,5µm,20.7s,baz=175,slow=34
GSI Gunungsitoli 30.57 279 P **P 11 37 52.6 -1.0**
GSI Gunungsitoli 30.57 279 P **P 11 37 53.0 -0.5**
GSI Gunungsitoli 30.57 279 P **P 11 37 52.5 -1.0**
comp=Z,216nm,0.9s
GSI Gunungsitoli 30.57 279 ⇑P **P 11 37 52.5 -1.0**
NWAO Narrogin (SRO) 30.57 198 P **P 11 37 53.5 +0.2**
baz=31,SNR=37
NWAO P **P 11 37 53.5 +0.2**
baz=31,SNR=37
NWAO Narrogin (SRO) 30.57 198 P **P 11 37 53.4 +0.2**
NWAO IAmb IAmb 11 37 55.6
comp=Z,164nm,0.9s
NWAO Narrogin (SRO) 30.57 198 P **P 11 37 53.4 +0.2**
NWAO IAmb IAmb 11 37 55.6
comp=Z,534nm,0.9s
NWAO Narrogin (SRO) 30.57 198 P **P 11 37 53.5 +0.2**
NWAO Narrogin (SRO) 30.57 198 P **P 11 37 53.3 +0.1**
NWAO Narrogin (SRO) 30.57 198 P **P 11 37 53.3 +0.1**
NWAO Narrogin (SRO) 30.57 198 P **P 11 37 53.4 +0.2**
NWAO Narrogin (SRO) 30.57 198 P **P 11 37 53.4 +0.2**
comp=Z,152nm,1.0s,baz=19,slow=9.3,SNR=37
NWAO LR LR 11 51 34.2
comp=Z,6µm,19.0s,baz=44,slow=39
comp=Z,152nm,1.0s
SRIT Nakonsritamara 30.64 294 P **P 11 37 55.4 +1.2**
STKA Stephens Creek 30.79 157 P **P 11 37 55.6 +0.4**
baz=31,SNR=146
STKA Stephens Creek 30.79 157 P **P 11 37 55.6 +0.4**
STKA Stephens Creek 30.79 157 P **P 11 37 55.5 +0.3**
STKA Stephens Creek 30.79 157 *c i*P **P 11 37 53.9 -1.3**
STKA Stephens Creek 30.79 157 P **P 11 37 55.8 +0.4**
comp=Z,212nm,1.0s,baz=329,slow=8.8,SNR=139
STKA LR LR 11 51 03.3
comp=Z,11µm,20.7s,baz=325,slow=38
comp=Z,212nm,1.0s
KCSI Kotacane, Aceh 30.82 283 P **P 11 37 54.8 -0.9**
comp=Z,66nm,1.2s,comp=Z,2µm
SURA Surathani 30.84 295 P **P 11 37 55.9 0.0**
EIDS Eidsvold 31.02 136 P **P 11 37 57.3 0.0**
baz=31,SNR=7.1
EIDS Eidsvold 31.02 136 P **P 11 37 57.7 +0.4**
EIDS Eidsvold 31.02 136 P **P 11 37 57.1 -0.2**
EIDS Eidsvold 31.02 136 ⇑P **P 11 37 57.6 +0.3**
NAYO Nakonayok 31.79 305 P **P 11 38 05.0 +0.8**
AULRC Lightning Ridg 31.89 145 P **P 11 38 05.1 +0.2**
RKGY Rocky Gully 32.21 197 P **P 11 38 09.6 +1.8**
baz=32,SNR=16
RKGY Rocky Gully 32.21 197 P **P 11 38 09.5 +1.8**
PATS Pohnpei 32.32 71 P **P 11 38 09.9 +1.0**
baz=32,SNR=7.1
PATS Pohnpei 32.32 71 P **P 11 38 08.7 -0.2**
PATS IAmb IAmb 11 38 11.6
comp=Z,163nm,1.2s
PATS Pohnpei 32.32 71 P **P 11 38 09.4 +0.5**
MLSI Meulaboh, Aceh 32.32 284 P **P 11 38 08.6 -0.3**
comp=Z,197nm,1.2s
AUALB St Joseph's Co 32.32 195 P **P 11 38 10.3 +1.6**
CMSA Cobar Meteorol 32.33 150 P **P 11 38 09.6 +0.9**
baz=32,SNR=147
CMSA Cobar Meteorol 32.33 150 P **P 11 38 09.8 +1.0**
HNR Honiara 32.47 102 LR LR 11 52 11.7
comp=Z,36µm,21.6s,baz=260,slow=38
NONG Nongkai 32.57 313 P **P 11 38 11.6 +0.5**
H01W3 Cape Leeuwin H 33.37 201 P **P 11 38 19.2 +1.7**
baz=40,slow=7.7,SNR=3.3
H01W1 Cape Leeuwin H 33.37 201 P **P 11 38 19.3 +1.7**
baz=40,slow=7.7,SNR=2.7
H01W2 Cape Leeuwin H 33.39 201 P **P 11 38 19.4 +1.7**
baz=40,slow=7.7,SNR=5.4
GULI GuiLin 33.50 331 ⇓P **P 11 38 22.0 +2.9**
SRDT SRDT 33.63 303 P **P 11 38 22.5 +2.2**
SLVN Son La 34.21 318 P **P 11 38 26.8 +1.4**
AUDCS Dubbo College 34.39 148 P **P 11 38 27.7 +1.0**
ARMA Armidale 34.77 142 P **P 11 38 32.6 +2.4**
baz=35,SNR=6.2
ARMA Armidale 34.77 142 P **P 11 38 30.9 +0.7**
ARMA IAmb IAmb 11 38 33.4
comp=Z,84nm,0.9s
ARMA Armidale 34.77 142 P **P 11 38 31.6 +1.4**
ARMA Armidale 34.77 142 ⇓P **P 11 38 31.6 +1.4**
AUPHS Peel High Scho 34.81 144 P **P 11 38 32.4 +2.0**
CNSH ChangSha 34.87 337 ⇑P **P 11 38 31.5 +0.5**
CNSH S **S 11 43 59.3 -2.1**
CNSH pmax pmax
comp=Z,26nm,1.2s
CNSH LR LR
comp=Z,6µm,16.9s
CNSH LR LR
comp=Z,4µm,13.0s
CNSH LR LR
comp=Z,8µm,30.3s
ARPS Mount Arapiles 35.25 160 P **P 11 38 35.2 +1.1**
baz=35,SNR=24
ARPS Mount Arapiles 35.25 160 P **P 11 38 35.6 +1.4**
AUMAG Moama Anglican 35.74 156 P **P 11 38 40.8 +2.4**
YNG Young 35.89 150 P **P 11 38 41.3 +1.6**
CRAI Chiangrai 35.96 313 P **P 11 38 41.2 +0.7**
CM31 Chiang Mai Arr 35.99 309 P **P 11 38 41.6 +0.9**
CM31 Chiang Mai Arr 35.99 309 P **P 11 38 41.6 +0.9**
SNR=18
CMAR Chiang Mai Arr 35.99 309 P **P 11 38 40.9 +0.2**
CMAR Chiang Mai Arr 35.99 309 P **P 11 38 41.5 +0.8**
CMAR 11 41 07.5
CMAR Chiang Mai Arr 35.99 309 P **P 11 38 41.5 +0.8**
comp=Z,14nm,0.9s,baz=142,slow=7.7,SNR=41
CMAR PcP **PcP 11 41 07.5 +0.1**
comp=Z,13nm,1.1s,baz=161,slow=2.1,SNR=6.1
CMAR LR LR 11 54 05.0
comp=Z,2µm,21.6s,baz=130,slow=37
comp=Z,14nm,0.9s
CHTO Chiang Mai 36.19 309 P **P 11 38 42.5 0.0**
CHTO Chiang Mai 36.19 309 P **P 11 38 43.5 +1.1**
CHTO Chiang Mai 36.19 309 P **P 11 38 43.3 +0.8**
CHTO Chiang Mai 36.19 309 ⇑P **P 11 38 43.2 +0.8**
CHTO Chiang Mai 36.19 309 P **P 11 38 42.5 0.0**
CHTO pmax pmax
comp=Z,57nm,1.0s
GYA Guiyang 36.36 327 ⇑P **P 11 38 45.0 +1.0**
GYA pP pwP 11 38 53.3 +0.3
GYA S **S 11 44 28.3 +3.6**
GYA pmax pmax
comp=Z,59nm,1.2s
GYA pmax pmax
comp=Z,790nm,4.9s
GYA LR LR
comp=Z,3µm,11.8s
GYA LR LR
comp=Z,2µm,11.0s
GYA LR LR
comp=Z,3µm,11.8s
WHN Wuhan 36.50 340 ⇓*i*P **P 11 38 46.5 +1.7**
WHN pP **pwP 11 38 54.0 +0.1**
WHN sP sP 11 38 58.5 +7.5
WHN S **S 11 44 27.5 +1.2**
WHN pmax pmax
comp=Z,290nm,1.2s
WHN pmax pmax
comp=Z,3µm,7.7s
NJ2 Nanjing 36.67 347 ⇓P **P 11 38 47.5 +1.2**
NJ2 pP **pwP 11 38 55.0 -0.3**
NJ2 S **S 11 44 36.5 +7.6**
NJ2 sS pS 11 44 44.0 +10
NJ2 pmax pmax
comp=Z,70nm,1.1s
NJ2 pmax pmax
comp=Z,490nm,3.5s
NJ2 LR LR
comp=Z,2µm,11.4s
NJ2 LR LR
comp=Z,1µm,9.9s
NJ2 LR LR
comp=Z,3µm,11.6s
BRAT Ballarat 36.69 158 P **P 11 38 48.2 +1.7**
SYDH Sydney Hard Ro 36.70 147 P **P 11 38 45.7 -0.8**
JNU Nakatsue 36.87 4 P **P 11 38 47.5 -0.6**
JNU Nakatsue 36.87 4 P **P 11 38 48.1 0.0**
JNU Nakatsue 36.87 4 ⇓P **P 11 38 48.0 0.0**
JNU Nakatsue 36.87 4 LR LR 11 52 42.1
comp=Z,6µm,21.5s,baz=118,slow=34
CAN Canberra 37.01 150 P **P 11 38 49.9 +0.6**
CAN IAmb IAmb 11 38 52.8
comp=Z,166nm,0.9s
CAN IAMs_20 IAMs_20 11 53 47.0
comp=Z,9µm,21.0s
CAN Canberra 37.01 150 P **P 11 38 50.9 +1.7**
CAN Canberra 37.01 150 ⇑P **P 11 38 50.6 +1.4**
CAN Canberra 37.01 150 P **P 11 38 49.9 +0.6**
CAN pmax pmax
comp=Z,166nm,0.9s
CAN MLR MLR
comp=Z,9µm,21.0s
CNB Canberra Magne 37.18 150 P **P 11 38 52.2 +1.4**
baz=37,SNR=17
CNB Canberra Magne 37.18 150 P **P 11 38 52.4 +1.6**
MLBS Spotswood, Mel 37.30 157 P **P 11 38 54.3 +2.7**
TOO Toolangi 37.31 156 P **P 11 38 53.6 +1.8**
baz=38,SNR=28

TOO	**Toolangi**	**37.31 156**	P	**P**	**11 38 52.3 +0.5**
TOO			IAmb	IAmb	11 38 55.8
	comp=Z,149nm,1.2s				
TOO	**Toolangi**	**37.31 156**	P	**P**	**11 38 53.6 +1.8**
TOO	**Toolangi**	**37.31 156**	⇑P	**P**	**11 38 53.5 +1.7**
TOO	**Toolangi**	**37.31 156**	P	**P**	**11 38 52.3 +0.5**
TOO			pmax	pmax	
	comp=Z,149nm,1.3s				
GEXS	**Deakin Univers**	**37.40 158**	P	**P**	**11 38 55.7 +3.2**
KMI	**Kunming**	**37.65 321**	⇓P	**P**	**11 38 57.3 +2.3**
KMI			pP	pwP	11 39 05.0 +0.9
KMI			pmax	pmax	
	comp=Z,110nm,1.3s				
KMI			pmax	pmax	
	comp=Z,2μm,7.8s				
KMI			LR	LR	
	comp=Z,2μm,18.4s				
KMI			LR	LR	
	comp=Z,2μm,13.7s				
KMI			LR	LR	
	comp=Z,4μm,24.7s				
JMN	**Monobe**	**37.81 8**	P	**P**	**11 38 56.8 +0.8**
JMN			IAmb	IAmb	11 39 06.1
	comp=Z,187nm,1.1s				
JMN	**Monobe**	**37.81 8**	P	**P**	**11 38 57.0 +1.0**
JMN	**Monobe**	**37.81 8**	⇑P	**P**	**11 38 56.5 +0.5**
PBA	**Port Blair**	**38.05 294**	P	**P**	**11 38 57.9 -0.3**
JTU	**Tsushima**	**38.19 2**	P	**P**	**11 39 01.5 +2.4**
JTU	**Tsushima**	**38.19 2**	⇓P	**P**	**11 38 59.4 +0.2**
MILA	**Mila**	**38.47 152**	P	**P**	**11 39 03.4 +1.8**
	baz=39,SNR=5.1				
MILA	**Mila**	**38.47 152**	P	**P**	**11 39 03.7 +2.1**
MILA	**Mila**	**38.47 152**	⇓P	**P**	**11 39 03.4 +1.8**
KOUNC	**Koumac, New Ca**	**39.26 118**	P	**P**	**11 39 08.6 +0.2**
KOUNC	**Koumac, New Ca**	**39.26 118**	P	**P**	**11 39 09.9 +1.5**
KOUNC	**Koumac, New Ca**	**39.26 118**	⇑P	**P**	**11 39 08.5 +0.2**
PZH	**PanZhiHua**	**39.26 322**	P	**P**	**11 39 09.5 +1.0**
PZH			pP	**pwP**	**11 39 19.5 +2.0**
PZH			sP	sP	11 39 26.0 +11
PZH			S	**S**	**11 45 05.0 -3.7**
PZH			sS	pS	11 45 26.5 +12
PZH			SS	**SnSn**	**11 47 58.0 -4.8**
PZH			pmax	pmax	
	comp=Z,130nm,1.1s				
PZH			pmax	pmax	
	comp=Z,810nm,5.7s				
PZH			LR	LR	
	comp=Z,2μm,10.6s				
PZH			LR	LR	
	comp=Z,2μm,11.0s				
PZH			LR	LR	
	comp=Z,1μm,11.6s				
JSG	**Sagara**	**39.55 14**	IAMs_20	IAMs_20	11 54 42.8
	comp=Z,8μm,20.0s				
INU	**Inuyama**	**39.94 12**	P	**P**	**11 39 14.3 +0.6**
INU	**Inuyama**	**39.94 12**	P	**P**	**11 39 14.8 +1.0**
INU	**Inuyama**	**39.94 12**	⇑P	**P**	**11 39 13.9 +0.1**
TJN	**Taejon**	**40.00 360**	P	**P**	**11 39 14.7 +0.4**
TJN			IAmb	IAmb	11 39 23.9
	comp=Z,304nm,1.1s				
TJN	**Taejon**	**40.00 360**	P	**P**	**11 39 14.9 +0.6**
TJN	**Taejon**	**40.00 360**	P	**P**	**11 39 14.7 +0.4**
TJN			pmax	pmax	
	comp=Z,305nm,1.1s				
TJN			MLR	MLR	
	comp=Z,25μm,21.0s				
MND	**Mandalay**	**40.20 311**	P	**P**	**11 39 16.8 +0.6**
TNCH	**TengChong**	**40.35 317**	⇑P	**P**	**11 39 19.0 +1.4**
TNCH			pP	pwP	11 39 27.0 +0.3
TNCH			sP	sP	11 39 30.5 +6.7
TNCH			S	**S**	**11 45 25.5 +0.4**
TNCH			sS	sS	11 45 39.0 +6.8
TNCH			SS	**SS**	**11 48 18.5 -5.7**
TNCH			ScS	**ScS**	**11 49 21.0 -2.8**
TNCH			pmax	pmax	
	comp=Z,93nm,0.7s				
TNCH			pmax	pmax	
	comp=Z,1μm,7.5s				
LYN	**LuoYang**	**40.80 341**	⇑P	**P**	**11 39 21.3 +0.4**
LYN			pP	pwP	11 39 31.5 +1.5
LYN			PP	**PnPn**	**11 40 58.8 -0.5**
LYN			sS	sS	11 45 51.3 +13
LYN			pmax	pmax	
	comp=Z,84nm,1.2s				
LYN			pmax	pmax	
	comp=Z,2μm,8.8s				
LYN			LR	LR	
	comp=Z,3μm,11.4s				
LYN			LR	LR	
	comp=Z,1μm,14.5s				
LYN			LR	LR	
	comp=Z,3μm,12.0s				
TIA	**Tai'an**	**41.05 347**	P	**P**	**11 39 22.3 -0.7**
TIA			S	**S**	**11 45 33.0 -1.9**
TIA			pmax	pmax	
	comp=Z,11nm,0.9s				
TIA			pmax	pmax	
	comp=Z,740nm,7.5s				
TIA			LR	LR	
	comp=Z,2μm,20.8s				
TIA			LR	LR	
	comp=Z,1μm,10.4s				
TIA			LR	LR	
	comp=Z,3μm,31.2s				
KSAR	**Wonju Array Be**	**41.06 0**	P	**P**	**11 39 23.8 +0.7**
KSAR	**Wonju Array Be**	**41.06 0**	P	**P**	**11 39 23.8 +0.7**
KSRS	**Korea Array**	**41.08 0**	P	**P**	**11 39 23.7 +0.5**
KSRS					11 41 22.3
KSRS	**Korea Array**	**41.08 0**	P	**P**	**11 39 23.6 +0.5**
	comp=Z,45nm,0.9s,baz=178,slow=10.0,SNR=79				
KSRS			PcP	**PcP**	**11 41 22.3 -0.4**
	comp=Z,12nm,0.7s,baz=186,slow=3.0,SNR=10				
	comp=Z,45nm,0.9s				
INCN	**Inchon**	**41.12 359**	P	**P**	**11 39 23.6 0.0**
INCN	**Inchon**	**41.12 359**	P	**P**	**11 39 24.4 +0.8**
INCN	**Inchon**	**41.12 359**	P	**P**	**11 39 22.2 -1.3**
INCN	**Inchon**	**41.12 359**	P	**P**	**11 39 23.6 0.0**
INCN			pmax	pmax	
	comp=Z,78nm,1.0s				
INCN			MLR	MLR	
	comp=Z,6μm,20.0s				
KS19	**Wonju Array Si**	**41.12 0**	P	**P**	**11 39 23.6 +0.1**
AULHS	**Lilydale High**	**41.16 158**	P	**P**	**11 39 25.7 +1.8**
CORO	**Coronation Par**	**41.31 158**	P	**P**	**11 39 27.5 +2.5**
MAJO	**Matsushiro**	**41.34 13**	P	**P**	**11 39 24.5 -0.9**
MAJO	**Matsushiro**	**41.34 13**	P	**P**	**11 39 24.9 -0.6**
MAJO	**Matsushiro**	**41.34 13**	⇓P	**P**	**11 39 24.8 -0.6**
MAJO	**Matsushiro**	**41.34 13**	P	**P**	**11 39 24.5 -0.9**
MAJO			pmax	pmax	
	comp=Z,45nm,0.9s				
MAJO			MLR	MLR	
	comp=Z,5μm,19.0s				
MJAR	**Matsushiro Arr**	**41.34 13**	P	**P**	**11 39 24.7 -0.7**
MJAR					11 41 23.6
MJAR	**Matsushiro Arr**	**41.34 13**	P	**P**	**11 39 24.6 -0.7**
	comp=Z,40nm,1.0s,baz=185,slow=9.5,SNR=39				
MJAR			PcP	**PcP**	**11 41 23.6 -0.1**
	comp=Z,3.9nm,0.7s,baz=195,slow=2.9,SNR=4.1				
	comp=Z,40nm,1.0s				
MJB9	**Matsu-Tunnel**	**41.34 13**	P	**P**	**11 39 25.0 -0.4**
CD2	**Chengdu**	**41.44 328**	P	**P**	**11 39 26.3 0.0**
CD2			sP	pwP	11 39 37.5 +2.1
CD2			S	**S**	**11 45 46.0 +5.1**
CD2			sS	sS	11 45 57.0 +8.9
CD2			pmax	pmax	
	comp=Z,90nm,0.9s				
CD2			pmax	pmax	
	comp=Z,2μm,7.8s				
CD2			LR	LR	
	comp=Z,3μm,8.8s				
CD2			LR	LR	
	comp=Z,6μm,9.2s				
NOUC	**Port Laguerre**	**41.56 119**	P	**P**	**11 39 27.5 +0.1**
XAN	**Xi'an**	**41.64 336**	⇑P	**P**	**11 39 27.3 -0.7**
XAN			pP	pwP	11 39 35.5 -1.5
XAN			S	**S**	**11 45 40.8 -3.0**
XAN			sS	sS	11 45 54.3 +3.3
XAN			SS	**SS**	**11 48 48.0 -1.5**
XAN			pmax	pmax	
	comp=Z,110nm,1.2s				
XAN			pmax	pmax	
	comp=Z,970nm,6.0s				
XAN			LR	LR	
	comp=Z,2μm,18.9s				
XAN			LR	LR	
	comp=Z,4μm,18.5s				
XAN			LR	LR	
	comp=Z,5μm,21.1s				
DZM	**Mont Dzumac**	**41.67 119**	*e*P	**P**	**11 39 28.3 -0.2**
	comp=Z,130nm,1.2s				
DZM			*e*S	S	11 45 29.0 -16
	comp=Z,2μm,27.5s				
DZM	**Mont Dzumac**	**41.67 119**	P	**P**	**11 39 28.7 +0.2**
DZM	**Mont Dzumac**	**41.67 119**	P	**P**	**11 39 28.9 +0.4**
DZM	**Mont Dzumac**	**41.67 119**	⇑P	**P**	**11 39 28.6 +0.2**
HJU	**Haeju**	**41.70 358**	P	P	11 39 33.3 +5.0
HJU			S	**S**	**11 45 40.0 -4.5**
HJU			AmB		
	comp=Z,2μm,4.4s				
ONTNC	**Ouen Toro**	**41.76 120**	P	**P**	**11 39 29.5 +0.5**
ONTNC	**Ouen Toro**	**41.76 120**	P	**P**	**11 39 30.4 +1.3**
LIFNC	**LIFOU**	**41.95 117**	P	**P**	**11 39 31.3 +0.7**
LIFNC			IAmb	IAmb	11 39 32.9
	comp=Z,200nm,0.8s				
LIFNC	**LIFOU**	**41.95 117**	P	**P**	**11 39 32.2 +1.6**
YATNC	**Mamie plateau,**	**42.06 119**	P	**P**	**11 39 32.6 +1.1**
OUENC	**Ouen Island, N**	**42.13 120**	P	**P**	**11 39 32.5 +0.3**
OUENC	**Ouen Island, N**	**42.13 120**	P	**P**	**11 39 34.3 +2.2**
MOO	**Moorlands**	**42.18 158**	P	**P**	**11 39 34.5 +2.3**
	baz=42,SNR=5.4				
MOO	**Moorlands**	**42.18 158**	P	**P**	**11 39 35.0 +2.8**
TAU	**Tasmania Unive**	**42.63 159**	P	**P**	**11 39 37.2 +1.3**
TAU	**Tasmania Unive**	**42.63 159**	IAMs_20	IAMs_20	11 58 18.1
	comp=Z,11μm,20.0s				
TAU	**Tasmania Unive**	**42.63 159**	P	**P**	**11 39 38.9 +3.0**
TAU	**Tasmania Unive**	**42.63 159**	P	**P**	**11 39 37.2 +1.3**
TAU			pmax	pmax	
	comp=Z,103nm,1.3s				
TAU			MLR	MLR	
	comp=Z,11μm,20.0s				
PYAG	**Pyongyang**	**42.71 358**	P	**P**	**11 39 40.4 +4.0**
PYAG			S	**S**	**11 45 53.8 -5.4**
PYAG			AmB		
	comp=Z,2μm,4.9s				
PINNC	**Pines Island,**	**42.73 120**	P	**P**	**11 39 37.5 +0.6**
HNS	**HongShan**	**42.77 345**	⇑P	**P**	**11 39 36.5 -0.5**
HNS			pP	**pwP**	**11 39 44.8 -1.3**
HNS			sP	sP	11 39 47.5 +4.3
HNS			PcP	**PcP**	**11 41 29.3 +0.9**
HNS			S	**S**	**11 45 57.5 -2.8**
HNS			pmax	pmax	
	comp=Z,56nm,1.2s				
HNS			LR	LR	
	comp=Z,1μm,17.7s				
HNS			LR	LR	
	comp=Z,2μm,14.3s				
HNS			LR	LR	
	comp=Z,3μm,24.4s				
JSD	**Sado**	**42.79 12**	IAMs_20	IAMs_20	11 59 11.6
	comp=Z,8μm,18.0s				
SAIH	**SAIHA**	**42.86 309**	*e*P	**P**	**11 39 38.3 +0.1**
SAIH			IAmb	IAmb	11 39 53.5
	comp=Z,329nm,1.0s				
DL2	**Dalian**	**42.90 353**	P	**P**	**11 39 40.5 +2.5**
DL2			S	**S**	**11 46 04.5 +2.5**
DL2			pmax	pmax	
	comp=Z,650nm,5.9s				
DL2			LR	LR	
	comp=Z,2μm,11.0s				
DL2			LR	LR	
	comp=Z,1μm,12.3s				
DL2			LR	LR	
	comp=Z,3μm,13.7s				
JMM	**Marumori**	**43.23 15**	P	**P**	**11 39 40.8 +0.1**
JMM			IAmb	IAmb	11 39 53.6
	comp=Z,131nm,1.0s				
JMM	**Marumori**	**43.23 15**	P	**P**	**11 39 41.6 +0.9**
JMM	**Marumori**	**43.23 15**	⇓P	**P**	**11 39 41.4 +0.7**
IMP	**Imphal**	**43.46 313**	*e*P	**P**	**11 39 42.8 -0.2**
IMP			IAmb	IAmb	11 39 54.3
	comp=Z,137nm,1.0s				
HHU	**Hamhung**	**43.55 360**	P	**P**	**11 39 43.3 0.0**
HHU			AmB		
	comp=Z,2μm,6.0s				
TIY	**Taiyuan**	**43.71 342**	*e*P	**P**	**11 39 44.8 +0.1**
TIY			pP	**pwP**	**11 39 53.0 -0.8**
TIY			sP	sP	11 39 59.3 +8.4
TIY			S	**S**	**11 46 13.5 -0.7**
TIY			sS	sS	11 46 27.0 +5.6
TIY			ScS	**ScS**	**11 49 39.8 -3.9**
TIY			pmax	pmax	
	comp=Z,30nm,0.6s				
TIY			pmax	pmax	
	comp=Z,510nm,4.7s				
TIY			LR	LR	
	comp=Z,2μm,13.1s				
TIY			LR	LR	
	comp=Z,1μm,11.7s				
TIY			LR	LR	
	comp=Z,2μm,20.6s				
SUJ	**Sinuiju**	**43.82 356**	P	P	11 39 51.2 +5.7
SUJ			S	**S**	**11 46 14.3 -1.2**
SUJ			AmB		
	comp=Z,473nm,3.0s				
KOHI	**KOHIMA**	**43.88 314**	*e*P	**P**	**11 39 46.4 +0.1**
MOKO	**MOKOCHONG**	**43.95 315**	*e*P	**P**	**11 39 46.7 -0.3**
SILR	**SILCHAR**	**44.28 312**	*e*P	**P**	**11 39 50.6 +1.2**
BJT	**Baijiatuau**	**44.91 347**	P	**P**	**11 39 53.9 -0.4**
BJT			IAmb	IAmb	11 40 03.1
	comp=Z,111nm,1.1s				
BJT	**Baijiatuau**	**44.91 347**	P	**P**	**11 39 53.8 -0.4**
BJT	**Baijiatuau**	**44.91 347**	P	**P**	**11 39 53.9 -0.4**
BJT			pmax	pmax	
	comp=Z,111nm,1.1s				
BJT			MLR	MLR	
	comp=Z,4μm,21.0s				
BJI	**Beijing**	**44.93 347**	P	**P**	**11 39 53.5 -0.8**
BJI			pP	**pwP**	**11 40 01.5 -2.0**
BJI			PP	**PP**	**11 41 40.8 +1.2**
BJI			S	**S**	**11 46 31.8 +0.1**
BJI			SS	**ScS**	**11 49 46.5 -4.6**
BJI			pmax	pmax	
	comp=Z,35nm,1.2s				
BJI			pmax	pmax	
	comp=Z,260nm,5.7s				
ITAN	**ITANAGAR**	**45.02 315**	*e*P	**P**	**11 39 56.3 +1.1**
ITAN			IAmb	IAmb	11 40 10.8
	comp=Z,206nm,0.9s				
TEZP	**TEZPUR**	**45.35 314**	*e*P	**P**	**11 39 57.1 -0.8**
TEZP			IAmb	IAmb	11 40 17.6
	comp=Z,86nm,0.9s				
SHL	**Shillong**	**45.41 312**	P	**P**	**11 39 58.4 -0.3**
SHL	**Shillong**	**45.41 312**	*e*P	**P**	**11 39 58.4 -0.3**
SHL			IAmb	IAmb	11 40 03.9
	comp=Z,111nm,0.9s				
SHL	**Shillong**	**45.41 312**	P	**P**	**11 39 58.5 -0.3**
	SNR=60				
SHL	**Shillong**	**45.41 312**	P	**P**	**11 39 58.4 -0.3**
SHL			pmax	pmax	
	comp=Z,147nm,0.9s				
LZH	**Lanzhou**	**45.57 333**	⇑P	**P**	**11 40 00.3 +0.6**
LZH			pP	pwP	11 40 07.5 -1.3
LZH			S	**S**	**11 46 39.0 -2.4**
LZH			pmax	pmax	
	comp=Z,70nm,1.5s				
LZH			pmax	pmax	
	comp=Z,1μm,6.5s				
LZH			LR	LR	
	comp=Z,2μm,15.1s				
LZH			LR	LR	
	comp=Z,2μm,14.8s				
LZH			LR	LR	
	comp=Z,3μm,15.8s				
SNY	**Shenyang**	**45.60 356**	⇑P	**P**	**11 39 59.0 -0.6**
SNY			S	**S**	**11 46 38.0 -3.3**
SNY			pmax	pmax	
	comp=Z,18nm,0.9s				
SNY			pmax	pmax	
	comp=Z,460nm,4.9s				
SNY			LR	LR	
	comp=Z,2μm,15.2s				
SNY			LR	LR	
	comp=Z,2μm,14.2s				
SNY			LR	LR	
	comp=Z,3μm,25.0s				
JTM	**Tenmabayashi**	**46.05 14**	P	**P**	**11 40 03.8 +0.5**
JTM	**Tenmabayashi**	**46.05 14**	P	**P**	**11 40 04.5 +1.3**
HHC	**Hu-ho-hao-te**	**46.86 343**	⇑*i*P	**P**	**11 40 09.5 -0.3**
HHC			sP	pwP	11 40 19.8 +0.9
HHC			PP	**PP**	**11 42 01.5 +1.3**
HHC			S	**S**	**11 47 02.0 +2.2**
HHC			sS	sS	11 47 09.8 +2.8
HHC			SS	**SS**	**11 50 21.5 -5.2**
HHC			pmax	pmax	
	comp=Z,39nm,0.7s				
HHC			pmax	pmax	
	comp=Z,1μm,5.3s				
HHC			LR	LR	
	comp=Z,4μm,12.7s				
HHC			LR	LR	
	comp=Z,3μm,14.3s				
HHC			LR	LR	
	comp=Z,7μm,16.1s				
VLA	**Vladivostok**	**46.89 4**	*i*P	**P**	**11 40 10.1 +0.4**
BTO	**Baotou**	**47.11 342**	*e*P	P	11 40 16.3 +4.6
BTO			pP	pwP	11 40 26.0 +5.2
BTO			sP	sP	11 40 30.0 +12
BTO			PP	**PP**	**11 42 06.8 +4.2**
BTO			S	**S**	**11 47 11.0 +7.8**
BTO			pmax	pmax	
	comp=Z,31nm,0.9s				
BTO			pmax	pmax	
	comp=Z,750nm,6.2s				
BTO			LR	LR	
	comp=Z,6μm,16.5s				
BTO			LR	LR	
	comp=Z,5μm,14.5s				
BTO			LR	LR	
	comp=Z,8μm,9.5s				
CN2	**Changchun**	**47.46 358**	*e*P	**P**	**11 40 14.5 +0.3**
CN2			*e*PP	**PP**	**11 42 06.8 +1.0**
CN2			*e*S	S	11 47 00.3 -7.7
CN2			pmax	pmax	
	comp=Z,30nm,1.2s				
CN2			pmax	pmax	
	comp=Z,760nm,5.0s				
CN2			LR	LR	
	comp=Z,12μm,20.0s				
CN2			LR	LR	
	comp=Z,5μm,20.0s				
CN2			LR	LR	
	comp=Z,6μm,20.0s				
USA0B	**Ussuriysk Arra**	**47.97 4**	P	**P**	**11 40 17.9 -0.3**
USA0B			IAmb	IAmb	11 40 29.7
	comp=Z,55nm,0.8s				
USA0B	**Ussuriysk Arra**	**47.97 4**	*i*P	**P**	**11 40 17.7 -0.4**
USRK	**Ussuriysk Ar.**	**47.97 4**	P	**P**	**11 40 18.8 +0.6**
USRK	**Ussuriysk Ar.**	**47.97 4**	P	**P**	**11 40 18.7 +0.6**
USRK					11 41 46.4
USRK	**Ussuriysk Ar.**	**47.97 4**	P	**P**	**11 40 18.7 +0.6**
	comp=Z,15nm,0.6s,baz=182,slow=6.3,SNR=18				
USRK			PcP	**PcP**	**11 41 46.4 +0.2**
	comp=Z,8.0nm,0.6s,baz=160,slow=2.9,SNR=4.4				
	comp=Z,15nm,0.6s				
PALK	**Pallekele**	**48.21 283**	P	**P**	**11 40 20.3 -0.3**
PALK	**Pallekele**	**48.21 283**	*i*P	**P**	**11 40 20.1 -0.5**
PALK			pmax	pmax	
	comp=Z,70nm,1.6s				
MDJ	**Mudanjiang**	**48.26 2**	P	**P**	**11 40 21.0 +0.6**
MDJ			pP	pwP	11 40 29.5 -0.1
MDJ			ScP	**ScP**	**11 45 33.5 -7.8**
MDJ			PcS	**PcS**	**11 45 40.5 -2.5**
MDJ			S	**S**	**11 47 24.0 +4.7**
MDJ			sS	sS	11 47 39.5 +13
MDJ			pmax	pmax	
	comp=Z,120nm,1.3s				
MDJ			pmax	pmax	
	comp=Z,1μm,5.3s				
MDJ			LR	LR	
	comp=Z,3μm,21.0s				
MDJ			LR	LR	
	comp=Z,1μm,19.3s				
MDJ			LR	LR	
	comp=Z,5μm,23.1s				
MDJ	**Mudanjiang**	**48.26 2**	P	**P**	**11 40 20.6 +0.2**
MDJ	**Mudanjiang**	**48.26 2**	P	**P**	**11 40 21.2 +0.8**
LSA	**Lhasa**	**48.36 316**	P	**P**	**11 40 22.4 +0.4**
LSA	**Lhasa**	**48.36 316**	P	**P**	**11 40 22.8 +0.8**
LSA	**Lhasa**	**48.36 316**	P	**P**	**11 40 22.4 +0.4**
LSA			pmax	pmax	
	comp=Z,107nm,0.8s				
LSA			MLR	MLR	
	comp=Z,2μm,21.0s				
MALK	**Mahakanadarawa**	**48.60 285**	P	**P**	**11 40 22.0 -1.5**
MALK			S	**S**	**11 47 23.3 -1.8**
MALK	**Mahakanadarawa**	**48.60 285**	⇓P	**P**	**11 40 23.0 -0.6**
XLT	**XiLinHaoTe**	**48.66 349**	*e*P	**P**	**11 40 23.0 -0.6**
XLT			pP	pwP	11 40 31.5 -1.3
XLT			sP	sP	11 40 38.8 +8.9
XLT			PcP	**PcP**	**11 41 46.5 -2.4**
XLT			PP	**PP**	**11 42 14.5 -2.3**
XLT			S	**S**	**11 47 21.5 -3.6**
XLT			sS	sS	11 47 41.0 +8.6
XLT			SS	**SS**	**11 50 48.0 -7.7**
XLT			pmax	pmax	
	comp=Z,51nm,1.1s				
XLT			pmax	pmax	
	comp=Z,840nm,6.5s				
XLT			LR	LR	
	comp=Z,320nm,13.2s				
XLT			LR	LR	
	comp=Z,3μm,15.7s				
XLT			LR	LR	
	comp=Z,3μm,16.2s				
GTK	**Tadong**	**48.83 312**	*e*P	**P**	**11 40 25.6 +0.3**
GTK			IAmb	IAmb	11 40 44.2
	comp=Z,126nm,1.1s				
TEY	**Ternei**	**49.29 8**	*e*P	**P**	**11 40 26.7 -1.6**
TEY			*e*		11 47 30.6
BNX	**BinXian**	**49.35 360**	⇓P	**P**	**11 40 28.5 -0.3**
BNX			pP	**pwP**	**11 40 35.0 -3.0**
BNX			sP	sP	11 40 42.0 +7.0
BNX			PP	**PP**	**11 42 23.8 +0.8**
BNX			S	**S**	**11 47 35.3 +0.7**
BNX			sS	sS	11 47 48.8 +6.9
BNX			pmax	pmax	
	comp=Z,12nm,0.5s				
BNX			pmax	pmax	
	comp=Z,640nm,6.3s				
BNX			LR	LR	
	comp=Z,5μm,18.8s				
BNX			LR	LR	
	comp=Z,2μm,14.5s				
TAPN	**Taplejung**	**49.51 311**	*e*P	**P**	**11 40 30.7 0.0**
	comp=Z,368nm,1.0s				
ASAJ	**Asahikawa**	**49.57 14**	P	**P**	**11 40 31.8 +1.4**
ASAJ			pmax	pmax	
	comp=Z,135nm,1.2s				
JKA	**Kamikawa-asahi**	**49.57 14**	P	**P**	**11 40 31.8 +1.3**
JKA			IAmb	IAmb	11 40 59.3
	comp=Z,135nm,1.2s				
GTA	**Gaotai**	**50.13 332**	⇑P	**P**	**11 40 35.3 +0.3**
GTA			pP	pwP	11 40 43.3 -0.9
GTA			PcP	**PcP**	**11 41 54.5 +0.1**
GTA			S	**S**	**11 47 43.0 -3.0**
GTA			sS	sS	11 47 58.8 +5.5
GTA			pmax	pmax	
	comp=Z,31nm,1.1s				
GTA			pmax	pmax	
	comp=Z,420nm,5.5s				
GTA			LR	LR	
	comp=Z,2μm,14.5s				
GTA			LR	LR	
	comp=Z,2μm,20.0s				
GTA			LR	LR	
	comp=Z,2μm,16.7s				
RAMN	**Ramite**	**50.14 310**	*e*P	**P**	**11 40 35.9 +0.5**
	comp=Z,446nm,0.8s				
GOMU	**GeErMu**	**50.32 325**	P	**P**	**11 40 37.3 +0.5**
GOMU			pP	pwP	11 40 44.0 -2.0
GOMU			sP	sP	11 40 49.0 +6.0
GOMU			S	**S**	**11 47 46.0 -3.3**
GOMU			ScS	**ScS**	**11 50 24.0 -3.8**
GOMU			pmax	pmax	
	comp=Z,20nm,1.4s				
EVN	**Everest**	**50.50 311**	⇑P	**P**	**11 40 38.8 +0.2**
YSA	**Yasawairara**	**50.54 108**	P	**P**	**11 40 39.9 +1.6**
JIRN	**Jiri**	**50.82 311**	*e*P	**P**	**11 40 40.7 0.0**
	comp=Z,245nm,0.9s				
MSVF	**Nonsavu**	**51.15 110**	P	**P**	**11 40 44.6 +1.6**
MSVF			IAmb	IAmb	11 40 53.6
	comp=Z,126nm,1.2s				
MSVF	**Nonsavu**	**51.15 110**	P	**P**	**11 40 44.9 +1.9**
MSVF	**Nonsavu**	**51.15 110**	⇑P	**P**	**11 40 44.6 +1.6**

MSVF			⇑P	P	11 40 44.6	+1.6
MSVF	**Nonsavu**	**51.15 110**	P	**P**	**11 40 44.6**	**+1.6**
MSVF			pmax	pmax		
	comp=Z,126nm,1.2s					
MSVF			MLR	MLR		
	comp=Z,2μm,18.0s					
GUN	**Gumba**	**51.18 311**	*e*P	**P**	**11 40 43.0**	**-0.4**
	comp=Z,421nm,0.9s					
FUNA	**Funafuti**	**51.35 98**	P	**P**	**11 40 45.7**	**+1.2**
FUNA	**Funafuti**	**51.35 98**	P	**P**	**11 40 45.5**	**+1.0**
PKI	**Pulchoki**	**51.37 310**	*e*P	**P**	**11 40 44.3**	**-0.5**
	comp=Z,306nm,1.4s					
PKIN	**Phulchoki**	**51.38 310**	*e*P	**P**	**11 40 44.9**	**+0.1**
	comp=Z,102nm,0.8s					
DMN	**Daman**	**51.62 310**	*e*P	**P**	**11 40 46.4**	**-0.2**
	comp=Z,302nm,1.0s					
KOD	**Kodaikanal**	**51.97 286**	*e*P	**P**	**11 40 48.5**	**-0.9**
GKN	**Gorkha**	**52.17 310**	*e*P	**P**	**11 40 50.0**	**-0.6**
	comp=Z,210nm,0.8s					
YSS	**Yuzh-Sakhalins**	**52.28 13**	P	**P**	**11 40 51.5**	**+0.7**
YSS			IAmb	IAmb	11 41 00.4	
	comp=Z,138nm,1.4s					
YSS	**Yuzh-Sakhalins**	**52.28 13**	P	**P**	**11 40 52.2**	**+1.4**
YSS	**Yuzh-Sakhalins**	**52.28 13**	*e*P	**P**	**11 40 51.9**	**+1.1**
YSS			*e*S	**S**	**11 48 14.0**	**-1.2**
YSS			pmax	pmax		
	comp=Z,60nm,1.6s					
YSS			pmax	pmax		
	comp=Z,2μm,3.7s					
YSS			MLR	MLR		
	comp=Z,3μm,15.0s					
YSS			MLR	MLR		
	comp=N,2μm,16.0s					
YSS			MLR	MLR		
	comp=E,2μm,16.0s					
DGTI	**Dogotuki**	**52.53 108**	P	**P**	**11 40 54.3**	**+1.1**
HYB	**Hyderabad**	**52.91 295**	*e*P	**P**	**11 40 55.1**	**-1.0**
HYB	**Hyderabad**	**52.91 295**	*e*P	**P**	**11 40 55.1**	**-1.0**
HYB			IVmB_BB		11 40 58.0	
	comp=Z,1μm,3.6s					
HYB			*es*P	**sP**	**11 40 58.3**	**-4.0**
HYB			*e*PcP	**PcP**	**11 42 05.9**	**+0.8**
HYB			*e*PcS	**PcS**	**11 46 04.2**	**+0.2**
HYB			*e*S	**S**	**11 48 27.7**	**+2.8**
HYB			*e*ScS	**ScS**	**11 50 49.8**	**+4.0**
TAVE	**Taveuni**	**52.92 108**	P	**P**	**11 40 57.7**	**+1.5**
KLR	**Kul'dur**	**52.96 3**	*c e*P	**P**	**11 40 55.3**	**-0.5**
KLR			pmax	pmax		
	comp=Z,67nm,1.3s					
DANN	**Dangsing**	**53.02 310**	*e*P	**P**	**11 40 56.8**	**-0.2**
	comp=Z,259nm,0.8s					
ALBI	**Allahabad**	**53.13 306**	*e*P	**P**	**11 40 56.8**	**-0.7**
HIA	**Hailar**	**53.34 353**	P	**P**	**11 41 00.9**	**+2.2**
PYUN	**Piuthan**	**53.49 309**	*e*P	**P**	**11 41 00.4**	**0.0**
	comp=Z,664nm,1.0s					
MSZ	**Milford Sound**	**53.82 145**	P	**P**	**11 41 03.7**	**+1.4**
DCZ	**Deep Cove**	**53.87 146**	P	**P**	**11 41 03.6**	**+0.9**
DCZ			IAmb	IAmb	11 41 14.7	
	comp=Z,85nm,1.1s					
DCZ			IAMs_20	IAMs_20	12 01 28.6	
	comp=Z,5μm,20.0s					
DCZ	**Deep Cove**	**53.87 146**	P	**P**	**11 41 03.5**	**+0.9**
HEH	**HeiHe**	**53.87 360**	*e*P	**P**	**11 41 02.0**	**-0.5**
HEH			pP	**pwP**	**11 41 10.3**	**-1.4**
HEH			PP	**PP**	**11 43 04.0**	**+0.1**
HEH			S	**S**	**11 48 43.3**	**+6.6**
HEH			pmax	pmax		
	comp=Z,92nm,1.2s					
HEH			pmax	pmax		
	comp=Z,2μm,6.5s					
HEH			LR	LR		
	comp=Z,3μm,18.4s					
HEH			LR	LR		
	comp=Z,3μm,19.3s					
HEH			LR	LR		
	comp=Z,5μm,16.8s					
JCZ	**Jackson Bay**	**53.96 144**	P	**P**	**11 41 04.7**	**+1.3**
JCZ	**Jackson Bay**	**53.96 144**	P	**P**	**11 41 04.7**	**+1.3**
PYZ	**Puysegur Point**	**54.05 147**	IAMs_20	IAMs_20	12 01 49.4	
	comp=Z,6μm,22.0s					
UGL	**Uglegorsk**	**54.15 12**	*e*P	**P**	**11 41 06.1**	**+1.6**
UGL			pmax	pmax		
	comp=Z,190nm,1.2s					
FOZ	**Fox Glacier**	**54.26 143**	P	**P**	**11 41 06.3**	**+0.8**
FOZ			IAmb	IAmb	11 41 09.7	
	comp=Z,54nm,0.9s					
FOZ			IAMs_20	IAMs_20	12 03 58.9	
	comp=Z,4μm,18.0s					
FOZ	**Fox Glacier**	**54.26 143**	P	**P**	**11 41 06.0**	**+0.5**
MLZ	**Mavora Lakes**	**54.35 146**	P	**P**	**11 41 06.7**	**+0.5**
MLZ			IAMs_20	IAMs_20	12 03 17.3	
	comp=Z,4μm,19.0s					
MLZ	**Mavora Lakes**	**54.35 146**	P	**P**	**11 41 06.7**	**+0.5**
FUTU	**Fugatoga**	**54.35 105**	P	**P**	**11 41 09.5**	**+2.9**
QRZ	**Quartz Range**	**54.51 139**	P	**P**	**11 41 07.6**	**+0.2**
QRZ			IAmb	IAmb	11 41 20.0	
	comp=Z,153nm,1.3s					
QRZ	**Quartz Range**	**54.51 139**	P	**P**	**11 41 08.6**	**+1.2**
DSZ	**Denniston Nort**	**54.52 140**	P	**P**	**11 41 08.7**	**+1.2**
DSZ			IAmb	IAmb	11 41 11.3	
	comp=Z,113nm,1.1s					
DSZ	**Denniston Nort**	**54.52 140**	P	**P**	**11 41 09.6**	**+2.1**
WKZ	**Wanaka**	**54.54 145**	P	**P**	**11 41 08.0**	**+0.4**
WKZ			IAmb	IAmb	11 41 45.9	
	comp=Z,150nm,1.5s					
WKZ	**Wanaka**	**54.54 145**	P	**P**	**11 41 08.7**	**+1.1**
WVZ	**Waitaha Valley**	**54.56 142**	P	**P**	**11 41 08.8**	**+1.1**
WHZ	**Wether Hill Ro**	**54.57 146**	P	**P**	**11 41 07.8**	**0.0**
WHZ			IAmb	IAmb	11 41 09.7	
	comp=Z,95nm,0.9s					
WHZ			IAMs_20	IAMs_20	12 03 24.2	
	comp=Z,4μm,20.0s					
WHZ	**Wether Hill Ro**	**54.57 146**	P	**P**	**11 41 07.8**	**0.0**
ULN	**Ulaanbaatar**	**54.59 343**	P	**P**	**11 41 08.1**	**+0.1**
ULN			IAmb	IAmb	11 41 17.6	
	comp=Z,87nm,1.1s					
ULN	**Ulaanbaatar**	**54.59 343**	P	**P**	**11 41 08.1**	**+0.1**
ULN	**Ulaanbaatar**	**54.59 343**	⇑P	**P**	**11 41 07.9**	**-0.1**
ULN	**Ulaanbaatar**	**54.59 343**	*c i*P	**P**	**11 41 07.6**	**-0.4**
ULN			pmax	pmax		
	comp=Z,108nm,1.1s					
SONM	**Songino Array**	**54.75 343**	P	**P**	**11 41 08.2**	**-0.9**
SONM			IAmb	IAmb	11 41 18.7	
	comp=Z,79nm,1.1s					
SONM	**Songino Array**	**54.75 343**	P	**P**	**11 41 08.6**	**-0.6**
SONM	**Songino Array**	**54.75 343**	P	**P**	**11 41 08.6**	**-0.6**
	comp=Z,42nm,1.1s,baz=161,slow=7.3,SNR=63					
	comp=Z,42nm,1.1s					
KHEZ	**Kahui Hut**	**54.76 137**	P	**P**	**11 41 10.8**	**+1.4**
INZ	**Inchbonnie**	**54.81 141**	P	**P**	**11 41 09.1**	**-0.4**
INZ			IAmb	IAmb	11 41 12.3	
	comp=Z,51nm,0.8s					
INZ			IAMs_20	IAMs_20	12 08 51.5	
	comp=Z,4μm,18.0s					
INZ	**Inchbonnie**	**54.81 141**	P	**P**	**11 41 09.5**	**0.0**
NEZ	**North Egmont**	**54.81 137**	P	**P**	**11 41 12.3**	**+2.6**
GRNR	**Gornyy**	**54.90 7**	⇓ *i*P	**P**	**11 41 11.2**	**+1.2**
GRNR			pmax	pmax		
	comp=Z,10.0nm,1.2s					
GRNR			MLR	MLR		
	comp=E,1μm,14.0s					
GRNR			MLR	MLR		
	comp=N,2μm,20.0s					
GRNR			MLR	MLR		
	comp=Z,2μm,19.0s					
EAZ	**Earnscleugh**	**54.94 145**	P	**P**	**11 41 12.4**	**+1.9**
MRNZ	**Matariki Terra**	**54.95 139**	P	**P**	**11 41 11.0**	**+0.4**
MRNZ	**Matariki Terra**	**54.95 139**	P	**P**	**11 41 10.9**	**+0.3**
LBZ	**Lake Benmore**	**54.96 144**	P	**P**	**11 41 10.8**	**+0.2**
LBZ			IAmb	IAmb	11 41 12.8	
	comp=Z,85nm,0.9s					
LBZ			IAMs_20	IAMs_20	12 05 17.5	
	comp=Z,4μm,18.0s					
LBZ	**Lake Benmore**	**54.96 144**	P	**P**	**11 41 10.9**	**+0.2**
HIZ	**Hauiti**	**54.99 135**	P	**P**	**11 41 11.8**	**+0.9**
HIZ			IAmb	IAmb	11 41 23.7	
	comp=Z,86nm,1.2s					
HIZ			IAMs_20	IAMs_20	12 08 58.4	
	comp=Z,4μm,18.0s					
TOZ	**Tahuroa Road**	**55.10 134**	P	**P**	**11 41 11.6**	**-0.1**
TOZ			IAmb	IAmb	11 41 24.6	
	comp=Z,109nm,1.3s					
RPZ	**Rata Peaks**	**55.11 143**	P	**P**	**11 41 12.6**	**+0.9**
RPZ			IAMs_20	IAMs_20	12 08 59.4	
	comp=Z,4μm,20.0s					
RPZ	**Rata Peaks**	**55.11 143**	P	**P**	**11 41 12.5**	**+0.9**
APZ	**The Paps**	**55.17 147**	P	**P**	**11 41 12.7**	**+0.5**
THZ	**Tophouse**	**55.23 140**	P	**P**	**11 41 14.0**	**+1.3**
THZ			IAmb	IAmb	11 41 41.0	
	comp=Z,68nm,1.2s					
THZ	**Tophouse**	**55.23 140**	P	**P**	**11 41 11.6**	**-1.1**
NNZ	**Nelson**	**55.27 139**	P	**P**	**11 41 12.6**	**-0.2**
LTZ	**Lake Taylor**	**55.35 141**	P	**P**	**11 41 14.1**	**+0.6**
LTZ			IAmb	IAmb	11 41 34.0	
	comp=Z,88nm,1.3s					
LTZ	**Lake Taylor**	**55.35 141**	P	**P**	**11 41 15.1**	**+1.5**
AKL	**Akola**	**55.38 298**	*e*P	**P**	**11 41 13.0**	**-1.0**
DUWZ	**D'Urville Isla**	**55.42 138**	P	**P**	**11 41 14.7**	**+0.7**
TMZ	**Timaru**	**55.45 143**	P	**P**	**11 41 14.7**	**+0.5**
OXZ	**Oxford**	**55.50 142**	P	**P**	**11 41 14.7**	**+0.2**
OXZ			IAmb	IAmb	11 41 17.9	
	comp=Z,102nm,1.3s					
OXZ			IAMs_20	IAMs_20	12 06 00.7	
	comp=Z,4μm,19.0s					
OXZ	**Oxford**	**55.50 142**	P	**P**	**11 41 16.1**	**+1.6**
ODZ	**Otahua Downs**	**55.61 144**	P	**P**	**11 41 16.1**	**+0.9**
ODZ			IAMs_20	IAMs_20	12 00 37.6	
	comp=Z,4μm,18.0s					
ODZ	**Otahua Downs**	**55.61 144**	P	**P**	**11 41 15.2**	**-0.1**
SYZ	**Scrubby Hill**	**55.62 146**	P	**P**	**11 41 16.6**	**+1.3**
WAZ	**Wanganui**	**55.64 137**	P	**P**	**11 41 17.1**	**+1.5**
TUWZ	**Tuamarina**	**55.74 139**	P	**P**	**11 41 14.9**	**-1.3**
BSWZ	**Blackbirch Sta**	**55.84 139**	P	**P**	**11 41 17.1**	**+0.2**
MNCI	**Minicoy**	**55.84 283**	P	**P**	**11 41 16.2**	**-1.2**
TCW	**Tory Channel**	**55.85 139**	P	**P**	**11 41 16.6**	**-0.5**
TCW	**Tory Channel**	**55.85 139**	P	**P**	**11 41 16.8**	**-0.3**
JHNI	**Jhansi**	**55.87 304**	*e*P	**P**	**11 41 15.6**	**-1.9**
GVZ	**Greta Valley S**	**55.93 141**	P	**P**	**11 41 17.4**	**-0.3**
GVZ			IAMs_20	IAMs_20	12 08 02.2	
	comp=Z,4μm,19.0s					
GVZ	**Greta Valley S**	**55.93 141**	P	**P**	**11 41 18.3**	**+0.7**
BHPL	**Bhopal**	**55.94 301**	*e*P	**P**	**11 41 16.8**	**-1.2**
BHPL			IAmb	IAmb	11 41 24.8	
	comp=Z,100nm,1.3s					
KHZ	**Kahutara**	**55.97 140**	P	**P**	**11 41 17.6**	**-0.2**
KHZ			IAmb	IAmb	11 41 19.7	
	comp=Z,65nm,1.0s					
KHZ			IAMs_20	IAMs_20	12 04 20.2	
	comp=Z,5μm,21.0s					
KHZ	**Kahutara**	**55.97 140**	P	**P**	**11 41 17.8**	**-0.1**
TYV	**Tymovskoe**	**55.97 11**	*e*P	**P**	**11 41 18.8**	**+1.1**
TYV			pmax	pmax		
	comp=Z,45nm,1.4s					
TYV			pmax	pmax		
	comp=Z,1μm,3.5s					
MQZ	**McQueen's Vall**	**56.08 142**	P	**P**	**11 41 19.9**	**+1.3**
MQZ			IAmb	IAmb	11 41 21.0	
	comp=Z,71nm,1.0s					
MQZ	**McQueen's Vall**	**56.08 142**	P	**P**	**11 41 20.4**	**+1.8**
SNZO	**South Karori**	**56.18 138**	P	**P**	**11 41 19.6**	**+0.2**
SNZO			IAmb	IAmb	11 41 22.0	
	comp=Z,91nm,1.2s					
SNZO	**South Karori**	**56.18 138**	P	**P**	**11 41 20.2**	**+0.8**
SNZO	**South Karori**	**56.18 138**	⇑P	**P**	**11 41 19.0**	**-0.4**
LGTI	**Lohaghat**	**56.24 309**	*e*P	**P**	**11 41 19.3**	**-0.7**
LGTI			IAmb	IAmb	11 41 37.9	
	comp=Z,85nm,1.1s					
CAW	**Cannon Point**	**56.33 138**	P	**P**	**11 41 19.7**	**-0.8**
BHW	**Baring Head**	**56.34 139**	P	**P**	**11 41 20.7**	**+0.2**
BHW			IAmb	IAmb	11 41 32.3	
	comp=Z,98nm,1.3s					
BHW			IAMs_20	IAMs_20	12 08 52.1	
	comp=Z,4μm,19.0s					
BKZ	**Black Stump Fm**	**56.42 135**	P	**P**	**11 41 21.5**	**+0.2**
BKZ	**Black Stump Fm**	**56.42 135**	P	**P**	**11 41 21.5**	**+0.2**
TSZ	**Takapari Road**	**56.45 137**	P	**P**	**11 41 21.3**	**-0.1**
MRZ	**Mangataiboka R**	**56.46 137**	P	**P**	**11 41 21.6**	**+0.2**
MRZ			IAmb	IAmb	11 41 22.7	
	comp=Z,66nm,1.1s					
MRZ			IAMs_20	IAMs_20	12 05 03.4	
	comp=Z,5μm,22.0s					
PLWZ	**Palliser**	**56.67 139**	P	**P**	**11 41 23.3**	**+0.3**
BFZ	**Birch Farm**	**56.92 137**	P	**P**	**11 41 26.5**	**+1.8**
CIT	**Chita**	**56.94 350**	*e*P	**P**	**11 41 25.6**	**+1.0**
CIT			*e*		11 42 21.7	
CIT			pmax	pmax		
	comp=Z,120nm,1.8s					
ZEA	**Zeya**	**57.36 360**	*e*P	**P**	**11 41 29.5**	**+2.0**
ZEA			pmax	pmax		
	comp=N,20nm,1.2s					
ZEA			pmax	pmax		
	comp=Z,40nm,0.8s					
ZEA			pmax	pmax		
	comp=Z,700nm,8.6s					
POO	**Poona**	**57.52 295**	*e*P	**P**	**11 41 27.3**	**-2.0**
ZAK	**Zakamensk**	**57.96 342**	*e*P	**P**	**11 41 31.1**	**-0.8**
ZAK			pmax	pmax		
	comp=Z,26nm,1.5s					
ZAK			pmax	pmax		
	comp=Z,20nm,1.4s					
SONA	**Sohna**	**58.20 307**	*e*P	**P**	**11 41 32.5**	**-1.4**
NDI	**New Delhi**	**58.28 307**	*e*P	**P**	**11 41 32.4**	**-2.1**
NDI			IAmb	IAmb	11 41 50.9	
	comp=Z,65nm,0.9s					
NDI	**New Delhi**	**58.28 307**	*e*P	**P**	**11 41 35.0**	**+0.5**
KUDL	**Kundal**	**58.64 306**	*e*P	**P**	**11 41 35.3**	**-1.6**
IRK	**Irkutsk**	**59.31 343**	*e*P	**P**	**11 41 39.1**	**-2.1**
IRK			pmax	pmax		
	comp=Z,98nm,2.7s					
SMLA	**Simla**	**59.38 310**	*e*P	**P**	**11 41 41.7**	**-0.4**
SMLA			IAmb	IAmb	11 42 00.6	
	comp=Z,269nm,1.1s					
AJM	**Ajmer**	**59.49 304**	*e*P	**P**	**11 41 41.5**	**-1.5**
WMQ	**Urumqi**	**59.52 327**	⇑P	**P**	**11 41 43.0**	**+0.1**
WMQ			pP	pwP	11 41 51.0	-1.2
WMQ			sP	sP	11 41 59.0	+10
WMQ			S	**S**	**11 49 50.3**	**-1.7**
WMQ			pmax	pmax		
	comp=Z,98nm,1.5s					
WMQ			pmax	pmax		
	comp=Z,310nm,4.5s					
MOY	**Mondy**	**59.80 341**	*e*P	**P**	**11 41 44.4**	**-0.3**
MOY			pmax	pmax		
	comp=Z,130nm,1.8s					
BHK	**Bhakra**	**60.08 310**	*e*P	**P**	**11 41 47.7**	**+0.8**
DHRM	**DHARAMSHALA**	**60.54 310**	*e*P	**P**	**11 41 49.2**	**-1.1**
THN	**Thein Dam**	**61.06 310**	*e*P	**P**	**11 41 52.8**	**-0.7**
THN			IAmb	IAmb	11 42 11.4	
	comp=Z,139nm,0.8s					
PEA0B	**Petropavlovsk-**	**62.09 20**	P	**P**	**11 42 01.3**	**+1.2**
PEA0B	**Petropavlovsk-**	**62.09 20**	P	**P**	**11 42 01.3**	**+1.2**
PEA0B			pmax	pmax		
	comp=Z,271nm,1.2s					
PETK	**Petropavlovsk-**	**62.09 20**	P	**P**	**11 42 00.5**	**+0.5**
PETK	**Petropavlovsk-**	**62.09 20**	P	**P**	**11 42 00.0**	**-0.1**
PETK	**Petropavlovsk-**	**62.09 20**	P	**P**	**11 42 00.0**	**-0.1**
	comp=Z,106nm,1.0s,baz=208,slow=3.4,SNR=30					
	comp=Z,106nm,1.0s					
PET	**Petropavlovsk**	**62.35 21**	P	**P**	**11 42 01.8**	**+0.1**
PET	**Petropavlovsk**	**62.35 21**	P	**P**	**11 42 03.1**	**+1.3**
PET	**Petropavlovsk**	**62.35 21**	*e*P	**P**	**11 42 02.7**	**+0.9**
PET			pmax	pmax		
	comp=Z,231nm,1.1s					
BOD	**Bodaibo**	**62.44 352**	*e*P	**P**	**11 42 02.1**	**-0.3**
BOD			pmax	pmax		
	comp=Z,171nm,1.2s					
CTZ	**Chatham Island**	**63.01 138**	P	**P**	**11 42 06.7**	**+0.3**
CTZ			IAmb	IAmb	11 42 09.1	
	comp=Z,58nm,1.1s					
CTZ			IAMs_20	IAMs_20	12 08 34.5	
	comp=Z,3μm,21.0s					
CTZ	**Chatham Island**	**63.01 138**	P	**P**	**11 42 07.9**	**+1.4**
ZSN	**Zaisan**	**63.41 329**	*i* P	**P**	**11 42 08.4**	**-0.6**
	comp=Z,43nm,1.3s,baz=329					
ZSN			*i* S	**S**	**11 50 40.4**	**-0.7**
	baz=329					
ZSN			*e*S	S	11 50 40.5	-0.6
	baz=329					
ZSN	**Zaisan**	**63.41 329**	*i* P	**P**	**11 42 08.4**	**-0.6**
ZSN			*e*S	**S**	**11 50 40.4**	**-0.7**
ZSN			pmax	pmax		
	comp=Z,43nm,1.3s					
NIL	**Nilore**	**63.45 311**	P	**P**	**11 42 08.6**	**-1.0**
NIL			IAmb	IAmb	11 42 27.8	
	comp=Z,47nm,0.8s					
NIL	**Nilore**	**63.45 311**	P	**P**	**11 42 08.6**	**-1.0**
NIL			pmax	pmax		
	comp=Z,47nm,0.9s					
NIL			MLR	MLR		
	comp=Z,2μm,20.0s					
CASY	**Casey**	**63.49 188**	P	**P**	**11 42 08.7**	**-0.5**
CASY			IAmb	IAmb	11 42 11.1	
	comp=Z,41nm,0.9s					
CASY	**Casey**	**63.49 188**	IAMs_20	IAMs_20	12 08 01.2	
	comp=Z,4μm,19.0s					
DGZ	**Jazzator, Alta**	**63.66 332**	*c i*P	**P**	**11 42 10.5**	**-0.4**
DGZ			pmax	pmax		
	comp=Z,71nm,1.2s					
SHLS	**Shalkode**	**63.85 323**	*e*P	**P**	**11 42 10.2**	**-2.0**
	comp=Z,83nm,1.3s,baz=323					
SHLS			*e*S	**S**	**11 50 43.9**	**-3.1**
	baz=323					
SHLS	**Shalkode**	**63.85 323**	*e*P	**P**	**11 42 10.1**	**-2.1**
SHLS			*e*S	**S**	**11 50 43.8**	**-3.1**
SHLS			pmax	pmax		
	comp=Z,83nm,1.3s					
PDGK	**Podgornoye**	**63.93 323**	P	**P**	**11 42 11.9**	**-0.8**
TARG	**Taragay, Kyrgy**	**64.10 320**	P	**P**	**11 42 14.2**	**0.0**
TARG			IAmb	IAmb	11 42 26.1	
	comp=Z,143nm,1.7s					
TARG	**Taragay, Kyrgy**	**64.10 320**	P	**P**	**11 42 14.2**	**0.0**
TARG			pmax	pmax		
	comp=Z,143nm,1.7s					
UZB	**Uzynbulak**	**64.11 322**	⇑ *i*P	**P**	**11 42 13.6**	**-0.4**
	baz=322					
UZB	**Uzynbulak**	**64.11 322**	*c i*P	**P**	**11 42 13.5**	**-0.4**
PRZ	**Przheval'sk**	**64.13 321**	P	**P**	**11 42 14.1**	**-0.1**
PRZ			IAmb	IAmb	11 42 24.6	
	comp=Z,59nm,1.0s					
PRZ	**Przheval'sk**	**64.13 321**	P	**P**	**11 42 14.1**	**-0.1**
PRZ			pmax	pmax		
	comp=Z,59nm,1.0s					
KSH	**Kashi**	**64.17 318**	P	**P**	**11 42 14.8**	**+0.4**
KSH			pP	pwP	11 42 22.5	-1.2
KSH			sP	sP	11 42 27.0	+6.3
KSH			PcP	**PcP**	**11 42 46.5**	**-2.8**
KSH			S	**S**	**11 50 49.0**	**-2.1**
KSH			pmax	pmax		
	comp=Z,35nm,1.2s					
KSH			LR	LR		
	comp=Z,3μm,14.8s					
KSH			LR	LR		
	comp=Z,3μm,13.7s					
KSH			LR	LR		
	comp=Z,2μm,12.5s					
MK31	**Makanchi Array**	**64.36 327**	P	**P**	**11 42 14.2**	**-1.1**
MK31			IAmb	IAmb	11 42 25.0	
	comp=Z,53nm,0.9s					
MK31	**Makanchi Array**	**64.36 327**	*i* P	**P**	**11 42 14.7**	**-0.6**
MK31			pmax	pmax		
	comp=Z,73nm,0.8s					
MKAR	**Makanchi Array**	**64.36 327**	P	**P**	**11 42 14.2**	**-1.1**
MKAR	**Makanchi Array**	**64.36 327**	P	**P**	**11 42 14.8**	**-0.5**
MKAR	**Makanchi Array**	**64.36 327**	P	**P**	**11 42 14.8**	**-0.5**
	comp=Z,28nm,0.7s,baz=123,slow=7.1,SNR=102					
MKAR			S	**S**	**11 50 49.6**	**-3.2**
	comp=Z,0.9nm,0.8s,baz=20,slow=3.9,SNR=1.7					
	comp=Z,28nm,0.7s					
SATY	**Saty**	**64.44 322**	⇑ *i*P	**P**	**11 42 16.0**	**-0.1**
	comp=Z,59nm,1.2s,baz=322					
SATY			*i* S	**S**	**11 50 53.9**	**-0.3**
	baz=322					
SATY			*e*S	S	11 50 54.0	-0.3
	baz=322					
SATY	**Saty**	**64.44 322**	*c i*P	**P**	**11 42 16.0**	**-0.1**
SATY			*e*S	**S**	**11 50 53.9**	**-0.3**
SATY			pmax	pmax		
	comp=Z,59nm,1.2s					
ZHN	**Zhinishke**	**64.48 322**	*e*P	**P**	**11 42 16.0**	**-0.3**
	baz=322					
ZHN	**Zhinishke**	**64.48 322**	*e*P	**P**	**11 42 16.0**	**-0.3**
KPKS	**Kokpek**	**64.49 322**	⇑ *i*P	**P**	**11 42 16.0**	**-0.3**
	comp=Z,70nm,1.3s,baz=322					
KPKS			*e*S	**S**	**11 50 52.8**	**-2.0**
	baz=322					
KPKS	**Kokpek**	**64.49 322**	*c i*P	**P**	**11 42 16.0**	**-0.3**
KPKS			*e*S	**S**	**11 50 52.8**	**-2.0**
KPKS			pmax	pmax		
	comp=Z,70nm,1.3s					
MAKZ	**Makanchi**	**64.53 327**	P	**P**	**11 42 15.8**	**-0.7**
MAKZ	**Makanchi**	**64.53 327**	P	**P**	**11 42 15.8**	**-0.7**
MAKZ			pmax	pmax		
	comp=Z,86nm,1.0s					
MAKZ			MLR	MLR		
	comp=Z,2μm,21.0s					
NRN	**Naryn**	**65.11 319**	P	**P**	**11 42 19.6**	**-1.1**
NRN	**Naryn**	**65.11 319**	P	**P**	**11 42 19.6**	**-1.1**
NRN			pmax	pmax		
	comp=Z,35nm,1.2s					
NRN			MLR	MLR		
	comp=Z,2μm,21.0s					
TNSS	**Tian-Shan**	**65.33 321**	*e*P	**P**	**11 42 22.0**	**-0.2**
	baz=321					
TNSS	**Tian-Shan**	**65.33 321**	*e*P	**P**	**11 42 22.0**	**-0.2**
MDOK	**Medeo**	**65.33 321**	*e*P	**P**	**11 42 21.1**	**-0.8**
	baz=321					
MDOK			*e*S	**S**	**11 51 04.6**	**-0.8**
	baz=321					
MDOK	**Medeo**	**65.33 321**	*e*P	**P**	**11 42 21.1**	**-0.8**
MDOK			*e*S	**S**	**11 51 04.5**	**-0.8**
ARXS	**Arharly**	**65.42 323**	*e*P	**P**	**11 42 21.3**	**-1.1**
AAA	**Alma-Ata**	**65.44 321**	*e*P	**P**	**11 42 21.9**	**-0.7**
	baz=321					
AAA	**Alma-Ata**	**65.44 321**	*e*P	**P**	**11 42 21.8**	**-0.7**
TDK	**Taldyqorghan**	**65.51 324**	*e*P	**P**	**11 42 22.5**	**-0.3**
	comp=Z,100nm,1.5s,baz=324					
TDK	**Taldyqorghan**	**65.51 324**	*e*P	**P**	**11 42 22.5**	**-0.3**
TDK			pmax	pmax		
	comp=Z,100nm,1.5s					
BOOM	**Boomskoye usch**	**65.68 320**	P	**P**	**11 42 23.9**	**-0.3**
BOOM			IAmb	IAmb	11 42 35.4	
	comp=Z,89nm,1.2s					
BOOM	**Boomskoye usch**	**65.68 320**	P	**P**	**11 42 23.9**	**-0.3**
BOOM			pmax	pmax		
	comp=Z,89nm,1.2s					
BOOM			MLR	MLR		
	comp=Z,2μm,19.0s					
YAK	**Yakutsk**	**65.70 1**	P	**P**	**11 42 23.5**	**-0.2**
YAK			IAMs_20	IAMs_20	12 14 33.6	
	comp=Z,3μm,18.0s					
YAK	**Yakutsk**	**65.70 1**	*c i*P	**P**	**11 42 23.7**	**+0.1**
YAK			*e*		11 42 53.2	
YAK			*e*		11 44 57.1	
YAK			*e*S	**S**	**11 51 07.2**	**-1.4**
YAK			*e**SS	sS	11 51 28.7	+12
YAK			*e*		11 52 17.1	
YAK			pmax	pmax		
	comp=Z,215nm,1.0s					
YAK			pmax	pmax		
	comp=E,15nm,1.1s					
YAK			pmax	pmax		
	comp=N,47nm,1.0s					
Y

SNR=17
AAK Ala-Archa 66.68 320 P **P 11 42 30.7 +0.1**
AAK Ala-Archa 66.68 320 P **P 11 42 30.5 -0.1**
AAK pmax pmax
comp=Z,127nm,1.5s
AAK MLR MLR
comp=Z,2μm,21.0s
AAK Ala-Archa 66.68 320 P **P 11 42 30.1 -0.5**
comp=Z,42nm,1.1s,baz=141,slow=4.7,SNR=20
AAK S **S 11 51 19.7 -2.0**
comp=Z,1.8nm,0.6s,baz=51,slow=24,SNR=1.6
comp=Z,42nm,1.1s
AML Almayashu 66.95 319 P **P 11 42 32.2 -0.5**
SNR=42
AML Almayashu 66.95 319 *i* P **P 11 42 31.8 -0.8**
AML pmax pmax
comp=Z,18nm,1.1s
USP Ospenovka 66.99 321 P **P 11 42 31.9 -0.5**
SNR=16
SGDS Sogindy 67.00 321⇑ *i* P **P 11 42 31.6 -0.9**
baz=321
SGDS Sogindy 67.00 321 *c i* P **P 11 42 31.6 -0.9**
KBL Kabul 67.01 310 P **P 11 42 32.5 -0.5**
KBL IAmb IAmb 11 42 50.5
comp=Z,92nm,1.2s
KBL Kabul 67.01 310 P **P 11 42 32.0 -0.9**
KBL Kabul 67.01 310 P **P 11 42 32.5 -0.5**
KBL pmax pmax
comp=Z,92nm,1.3s
EKS2 Erkin-Say 67.15 320 P **P 11 42 33.8 +0.2**
SNR=29
SEM Semipalatinsk 67.64 329 *e* P **P 11 42 35.1 -1.5**
comp=Z,44nm,1.3s,baz=329
SEM Semipalatinsk 67.64 329 *e* P **P 11 42 35.1 -1.5**
SEM pmax pmax
comp=Z,44nm,1.3s
ZAA0 Zalesovo Array 67.76 334 P **P 11 42 35.5 -1.5**
ZALV Zalesovo Beam 67.76 334 P **P 11 42 35.9 -1.1**
ZALV Zalesovo Beam 67.76 334 P **P 11 42 35.9 -1.1**
ZALV Zalesovo Beam 67.76 334 P **P 11 42 35.6 -1.4**
comp=Z,52nm,1.0s,baz=119,slow=5.2,SNR=72
comp=Z,52nm,1.0s
BTK Batken 67.94 316 P **P 11 42 37.7 -0.9**
BTK Batken 67.94 316 P **P 11 42 37.7 -0.9**
BTK pmax pmax
comp=Z,154nm,1.7s
BTLS Baital 68.15 322⇑ *i* P **P 11 42 38.5 -1.2**
baz=322
BTLS *e* S **S 11 51 38.0 -1.1**
baz=322
BTLS Baital 68.15 322 *c i* P **P 11 42 38.5 -1.2**
BTLS *e* S **S 11 51 37.9 -1.1**
KURBB Kurchatov Arra 68.65 329 P **P 11 42 41.7 -1.0**
comp=Z,109nm,1.2s,baz=129,slow=5.5,SNR=184
comp=Z,109nm,1.2s
KURK Kurchatov 68.66 329 P **P 11 42 42.1 -0.6**
KURK Kurchatov 68.66 329 P **P 11 42 42.1 -0.6**
KURK Kurchatov 68.66 329 P **P 11 42 42.1 -0.6**
KURK pmax pmax
comp=Z,154nm,1.0s
KURK MLR MLR
comp=Z,2μm,21.0s
DZA Taraz 68.85 319 *e* P **P 11 42 43.2 -0.9**
baz=319
DZA Taraz 68.85 319 *e* P **P 11 42 43.2 -0.9**
SEY Seymchan 69.16 12 *ce* P **P 11 42 44.7 -0.8**
SEY pmax pmax
comp=Z,195nm,1.3s
IUG luzhnay 69.38 318⇑ *i* P **P 11 42 46.9 -0.7**
comp=Z,58nm,1.4s,baz=318
IUG luzhnay 69.38 318 *c i* P **P 11 42 46.8 -0.7**
IUG pmax pmax
comp=Z,58nm,1.4s
KK31 Karatay Array 69.48 319 P **P 11 42 47.5 -0.6**
KK31 IAmb IAmb 11 42 56.9
comp=Z,70nm,1.3s
KK31 Karatay Array 69.48 319 P **P 11 42 47.5 -0.6**
KK31 pmax pmax
comp=Z,70nm,1.3s
KKAR Karatay Array 69.48 319 P **P 11 42 47.5 -0.6**
KKAR IAmb IAmb 11 42 56.9
comp=Z,70nm,1.3s
KKAR Karatay Array 69.48 319 P **P 11 42 47.3 -0.8**
KKAR Karatay Array 69.48 319 P **P 11 42 47.5 -0.6**
KKAR pmax pmax
comp=Z,70nm,1.3s
OTUK Ortayu 70.77 324 P **P 11 42 54.8 -1.0**
BRZS Berezniki 71.44 326⇑ *i* P **P 11 42 58.9 -0.9**
baz=326
BRZS Berezniki 71.44 326 *c i* P **P 11 42 58.9 -0.9**
JLN Jalan Bani Buh 71.53 295 P **P 11 42 59.0 -1.9**
SNR=10
WBK Wadi Bani Khal 72.02 295 P **P 11 43 02.5 -1.4**
SNR=10
HRA Herat 72.24 308 P **P 11 43 04.2 -1.0**
KIWB Kanaga Island 72.43 32 P **P 11 43 06.4 +0.7**
WSAR Wadi Sarin 72.46 296 P **P 11 43 05.1 -1.4**
SNR=13
WSAR Wadi Sarin 72.46 296 P **P 11 43 05.4 -1.1**
comp=Z,40nm,0.9s,baz=142,slow=5.7,SNR=28
comp=Z,40nm,0.9s
MHTO MHTO 72.61 293 P **P 11 43 05.7 -1.7**
SNR=13
ADK Adak 72.70 32 P **P 11 43 08.5 +1.2**
JMDO Jabal Madar 72.76 295 P **P 11 43 06.5 -1.8**
SNR=15
DQM DQM 72.80 292 P **P 11 43 06.6 -2.0**
SNR=7.2
SMDO Samad 72.95 295 P **P 11 43 08.1 -1.4**
SNR=15
BIDO Bidbid 72.97 296 P **P 11 43 08.3 -1.2**
SNR=18
BSY Bisya 73.65 295 P **P 11 43 12.1 -1.5**
SNR=9.1
JASK Jask - Hormozg 73.70 298 P **P 11 43 13.8 0.0**
HOQ Hoqain 73.72 296 P **P 11 43 12.8 -1.1**
SNR=19
ATKA Atka Island 74.19 33 P **P 11 43 16.1 +0.1**
ATKA IAmb IAmb 11 43 25.4
comp=Z,143nm,1.2s
ATKA Atka Island 74.19 33 P **P 11 43 18.1 +2.0**
BVA0 Borovoye Array 74.20 328 *i* P **P 11 43 14.8 -1.3**
BVAR Borovoye Array 74.20 328 P **P 11 43 15.3 -0.8**
BVAR Borovoye Array 74.20 328 P **P 11 43 15.3 -0.8**
comp=Z,16nm,0.6s,baz=134,slow=6.4,SNR=61
comp=Z,16nm,0.6s
SHAO Shalim 74.26 290 *i* P **P 11 43 15.5 -1.7**
SNR=6.8
SHAO Shalim 74.26 290 P **P 11 43 15.5 -1.7**
SNR=5.7
BRVK Borovoye 74.27 328 P **P 11 43 15.7 -0.8**
BRVK Borovoye 74.27 328 P **P 11 43 15.6 -0.8**
BRVK Borovoye 74.27 328 P **P 11 43 15.7 -0.8**
BRVK pmax pmax
comp=Z,60nm,1.1s
ARQ Araqi 74.38 295 P **P 11 43 16.4 -1.5**
SNR=10
SOHO SOHO 74.52 296 *i* P **P 11 43 17.2 -1.4**
SNR=10
SOHO SOHO 74.52 296 P **P 11 43 17.1 -1.5**
DMTO DMTO 74.84 289 P **P 11 43 18.6 -2.0**
MDH Madha 74.97 297 P **P 11 43 18.6 -2.6**
MDH Madha 74.97 297 P **P 11 43 18.9 -2.3**
UOSS Minazif 74.98 297 P **P 11 43 20.0 -1.3**
UOSS Minazif 74.98 297 *i* P **P 11 43 18.9 -2.4**
SNR=9.2
UOSS Minazif 74.98 297 P **P 11 43 19.4 -1.9**
HATD Hatta, Dubai 75.02 297 *i* P **P 11 43 20.4 -1.2**
SNR=11
HATD Hatta, Dubai 75.02 297 P **P 11 43 20.2 -1.3**
SNR=13
ASHO Ashiyiah 75.06 297 *i* P **P 11 43 20.8 -1.0**
SNR=15
ASHO Ashiyiah 75.06 297 P **P 11 43 20.3 -1.5**
SNR=12
MSFE Esma-Masafi 75.10 297 *i* P **P 11 43 20.8 -1.2**
SNR=15
MASF Masafi 75.10 297 P **P 11 43 21.7 -0.3**
SNR=8.1
ALNE Al Ain 75.21 296 *i* P **P 11 43 21.6 -1.0**
SNR=13
ALNE Al Ain 75.21 296 P **P 11 43 21.5 -1.1**
SNR=20
SHME Shamm 75.26 298 *i* P **P 11 43 21.6 -1.2**
SNR=19
SHME Shamm 75.26 298 P **P 11 43 22.1 -0.8**
SNR=10.0
TIXI Tiksi 75.34 0 P **P 11 43 22.5 +0.1**
TIXI IAmb IAmb 11 43 44.4
comp=Z,123nm,1.3s
TIXI IAMs_20 IAMs_20 12 17 16.3
comp=Z,4μm,21.0s
TIXI Tiksi 75.34 0 P **P 11 43 22.5 +0.1**
TIXI pmax pmax
comp=Z,123nm,1.3s
TIXI MLR MLR
comp=Z,4μm,21.0s
NAZ Nazwa, Dubai 75.47 297 *i* P **P 11 43 23.1 -1.0**
SNR=9.5
NAZ Nazwa, Dubai 75.47 297 P **P 11 43 22.9 -1.2**
SNR=17
FAQ Al Faqa, Dubai 75.48 297 *i* P **P 11 43 22.4 -1.8**
SNR=15
FAQ Al Faqa, Dubai 75.48 297 P **P 11 43 23.1 -1.1**
SNR=17
RBK Rabkut 75.51 289 P **P 11 43 22.4 -2.1**
SNR=7.7
ASUD Al Ashush, Dub 75.70 296 *i* P **P 11 43 24.5 -0.9**
SNR=12
ASUD Al Ashush, Dub 75.70 296 P **P 11 43 24.4 -0.9**
SNR=14
DOK Doka 75.75 290 P **P 11 43 23.5 -2.4**
SNR=10
VNDA Vanda 75.85 173 P **P 11 43 24.4 -0.8**
VNDA Vanda 75.85 173 P **P 11 43 24.5 -0.8**
VNDA pmax pmax
comp=Z,19nm,1.0s
VNDA Vanda 75.85 173 P **P 11 43 24.2 -1.1**
comp=Z,11nm,0.9s,baz=318,slow=5.3,SNR=53
comp=Z,11nm,0.9s
WHFO Wadi Hawf 75.98 289 P **P 11 43 25.1 -2.1**
SNR=7.3
AJN Ajban 75.99 296 *i* P **P 11 43 25.6 -1.4**
SNR=6.8
AJN Ajban 75.99 296 P **P 11 43 23.8 -3.2**
SNR=8.5
ABTO Aybut 76.35 289 P **P 11 43 27.7 -1.6**
SNR=9.3
GEYT Alibeck 76.45 310 P **P 11 43 29.0 -0.4**
GEYT IAmb IAmb 11 43 47.6
comp=Z,59nm,1.0s
GEYT Alibeck 76.45 310 P **P 11 43 29.1 -0.4**
GEYT Alibeck 76.45 310 P **P 11 43 29.1 -0.4**
comp=Z,51nm,1.1s,baz=134,slow=4.3,SNR=27
comp=Z,51nm,1.1s
GYA0B ALIBECK ARRAY 76.45 310 P **P 11 43 29.0 -0.5**
GYA0B IAmb IAmb 11 43 47.5
comp=Z,64nm,0.9s
SBA Scott Base 76.76 172 P **P 11 43 30.4 0.0**
SBA Scott Base 76.76 172 IAMs_20 IAMs_20 12 17 50.0
comp=Z,5μm,20.0s
SBA Scott Base 76.76 172 P **P 11 43 30.4 0.0**
SBA pmax pmax
comp=Z,32nm,1.1s
SBA MLR MLR
comp=Z,5μm,20.0s
MAW Mawson 77.07 201 P **P 11 43 31.6 -0.7**
baz=77,SNR=8.6
MAW Mawson 77.07 201 P **P 11 43 31.8 -0.5**
MAW Mawson 77.07 201 P **P 11 43 31.8 -0.5**
MAW pmax pmax
comp=Z,4.0nm,1.0s
MAW Mawson 77.07 201 P **P 11 43 31.3 -1.0**
comp=Z,3.9nm,0.5s,baz=54,slow=7.0,SNR=11
comp=Z,3.9nm,0.5s
MZR Muzera 77.07 295 *i* P **P 11 43 31.8 -1.4**
SNR=14
MZR Muzera 77.07 295 P **P 11 43 32.2 -1.0**
SNR=18
NIKH Nikolski High 77.46 34 P **P 11 43 35.2 +0.5**
baz=246
JRN Qarnain Island 77.97 296 P **P 11 43 36.8 -1.4**
SNR=6.3
SPIA Saint Paul Isl 78.51 29 P **P 11 43 41.4 +0.9**
baz=244
AB31 Abkulak array 78.64 322 *i* P **P 11 43 39.6 -1.8**
ABKAR Abkulak array 78.64 322 P **P 11 43 40.1 -1.2**
ABKAR IAmb IAmb 11 43 48.2
comp=Z,99nm,1.6s
ABKAR Abkulak array 78.64 322 P **P 11 43 40.0 -1.4**
POHA Pohakuloa 78.86 69 P **P 11 43 45.3 +1.8**
UNV Unalaska Valle 79.09 33 P **P 11 43 44.1 +0.3**
baz=248
NPOC North of Pu'u 79.20 70 IAMs_20 IAMs_20 12 13 42.6
comp=Z,2μm,18.0s
AKUT Akutan 79.60 33 P **P 11 43 48.9 +2.4**
SMRA Abu-Samra 79.75 296 P **P 11 43 47.1 -0.9**
SNR=10.0
SHMA Al-Shehemyia 79.80 297 P **P 11 43 47.1 -1.2**
AKTO Aktyubinsk 80.20 323 P **P 11 43 48.9 -1.0**
AKTO Aktyubinsk 80.20 323 P **P 11 43 48.9 -1.0**
comp=Z,51nm,0.9s,baz=116,slow=5.0,SNR=31
comp=Z,51nm,0.9s
GAMB Gambell 80.89 23 P **P 11 43 53.8 +0.5**
baz=242
SVE Sverdlovsk 80.91 329 *de* P **P 11 43 52.7 -0.8**
SVE *e* S **S 11 54 04.8 +3.5**
SVE pmax pmax
comp=Z,138nm,1.3s
FALS False Pass 81.14 33 P **P 11 43 56.6 +1.8**
FALS False Pass 81.14 33 P **P 11 43 55.9 +1.1**
baz=250
M11K Mekoryuk 81.76 27 P **P 11 43 59.7 +1.8**
baz=247
ARU Arti 81.84 328 P **P 11 43 57.2 -1.3**
ARU IAmb IAmb 11 44 03.0
comp=Z,126nm,1.3s
ARU Arti 81.84 328 *c i* P **P 11 43 57.2 -1.3**
ARU 11 47 05.9
ARU PPP PPP 11 49 04.6
ARU S **S 11 54 09.5 -1.5**
ARU pmax pmax
comp=Z,75nm,1.1s
ARU Arti 81.84 328 P **P 11 43 57.5 -1.0**
comp=Z,34nm,0.8s,baz=116,slow=3.6,SNR=27
comp=Z,34nm,0.8s
PAE Paea 81.89 107 *e* P **P 11 44 01.2 +1.6**
comp=Z,21nm,1.0s
PPT2 Papeete2 81.90 107 *e* P **P 11 44 01.5 +1.8**
comp=Z,60nm,1.0s
PPT Papeete 81.90 107 P **P 11 44 01.0 +1.3**
PPT Papeete 81.90 107 P **P 11 44 01.0 +1.3**
comp=Z,64nm,1.0s,baz=329,slow=7.6,SNR=4.7
comp=Z,64nm,1.0s
PPTF Pamatai, Papee 81.91 107 P **P 11 44 01.6 +1.8**
SDPT Sand Point 82.90 33 P **P 11 44 03.5 -0.5**
SDPT Sand Point 82.90 33 P **P 11 44 04.0 0.0**
SDPT Sand Point 82.90 33 P **P 11 44 03.6 -0.5**
baz=253,SNR=11
K13K Kusilvak Mount 83.04 26 P **P 11 44 04.9 +0.2**
K13K IAmb IAmb 11 44 16.2
comp=Z,100nm,1.2s
K13K Kusilvak Mount 83.04 26 P **P 11 44 05.4 +0.8**
baz=248
M13K Dall Lake 83.08 28 P **P 11 44 06.0 +1.1**
baz=250
TNA Tin City 83.15 22 P **P 11 44 05.6 +0.6**
baz=245
CHNA Chernabura Isl 83.24 34 P **P 11 44 05.2 -0.6**
baz=254
PMOR Pomariorio Ree 83.59 105 *e* P **P 11 44 08.7 +0.2**
comp=Z,120nm,1.2s
S14K Fog Glacier 83.67 32 P **P 11 44 07.6 -0.5**
baz=254,SNR=6.0
O14K Tigyukauivet M 83.69 29 IAMs_20 IAMs_20 12 16 14.2
comp=Z,3μm,21.0s
O14K Tigyukauivet M 83.69 29 P **P 11 44 09.0 +1.0**
baz=252
N14K Kuskokwak Cree 83.70 29 P **P 11 44 08.9 +0.9**
baz=251
L14K Kuka Creek 83.71 27 P **P 11 44 09.5 +1.4**
L14K Kuka Creek 83.71 27 P **P 11 44 08.5 +0.4**
baz=250,SNR=16
F14K Arctic Creek 83.72 23 P **P 11 44 08.8 +0.7**
baz=246
ANM Nome 83.73 24 P **P 11 44 08.5 +0.4**
baz=247
J14K Nanvaranak Lak 83.81 26 P **P 11 44 09.5 +0.9**
J14K Nanvaranak Lak 83.81 26 P **P 11 44 08.8 +0.3**
baz=249
M14K Bethel 83.84 28 P **P 11 44 09.2 +0.4**
baz=251,SNR=15
CHGN Chignik 84.29 33 P **P 11 44 11.0 -0.2**
baz=254
L15K Ungalak Mounta 84.36 27 P **P 11 44 11.8 +0.4**
baz=251,SNR=19
O15K Ungalikthiuk R 84.37 30 P **P 11 44 12.5 +1.0**
baz=253
M15K Kasigluk River 84.42 28 P **P 11 44 12.4 +0.7**
baz=252,SNR=15
G15K Niukluk 84.42 23 P **P 11 44 11.9 +0.2**
baz=249
F15K North Star Dit 84.45 23 P **P 11 44 12.6 +0.8**
baz=248
N15K Kwethluk River 84.54 29 P **P 11 44 12.7 +0.3**
baz=253,SNR=14
K15K Wolf Creek Mou 84.54 26 P **P 11 44 13.9 +1.6**
K15K Wolf Creek Mou 84.54 26 P **P 11 44 13.0 +0.7**
baz=251,SNR=17
H16K Elim 85.02 24 P **P 11 44 14.5 -0.1**
baz=250
R16K Pilot Point 85.07 31 P **P 11 44 15.6 +0.5**
baz=255
C16K Lisburne Hills 85.18 20 P **P 11 44 14.8 -0.6**
baz=247
G16K Koyuk River 85.23 23 P **P 11 44 16.1 +0.4**
baz=250
P16K Nushagak River 85.24 30 P **P 11 44 16.2 +0.3**
baz=255,SNR=30
N16K Nishlik Lake 85.26 28 P **P 11 44 17.1 +1.1**
baz=254,SNR=28
J16K Anvik River 85.26 26 P **P 11 44 16.3 +0.4**
baz=252,SNR=15
L16K Owhat River 85.28 27 P **P 11 44 16.7 +0.7**
L16K Owhat River 85.28 27 P **P 11 44 16.5 +0.5**
baz=253,SNR=33
M16K Timber Creek 85.32 28 P **P 11 44 16.6 +0.3**
baz=254,SNR=34
O16K Kokwok River B 85.34 29 IAMs_20 IAMs_20 12 16 40.8
comp=Z,3μm,22.0s
O16K Kokwok River B 85.34 29 P **P 11 44 16.6 +0.2**
baz=254,SNR=23
I17K Unalakleet 85.41 25 P **P 11 44 17.8 +1.2**
baz=252
MAK Makhachkala 85.45 313 *e* P **P 11 44 14.1 -3.2**
MAK *e* 11 47 30.6
MAK *e* PPP PPP 11 49 26.9
MAK *e* 11 54 35.2
MAK *e* SS SS 12 00 19.0 -4.5
MAK pmax pmax
comp=Z,49nm,0.4s
CHIR Chirikof Islan 85.69 33 P **P 11 44 18.3 +0.1**
baz=257
R17K Ugashik Creek 85.70 32 IAMs_20 IAMs_20 12 18 22.5
comp=Z,4μm,20.0s
R17K Ugashik Creek 85.70 32 P **P 11 44 18.5 +0.2**
baz=256,SNR=5.9
ATD Arta Tunnel 85.75 282 *e* P **P 11 44 19.5 0.0**
ATD *e* S **S 11 54 54.6 +2.4**
ATD Arta Tunnel 85.75 282 *e* P **P 11 44 19.5 0.0**
baz=284
ATD *e* S **S 11 54 54.6 +2.4**
baz=284
D17K Noatak River 85.76 21 P **P 11 44 18.9 +0.6**
baz=249,SNR=15
Q16K King Salmon 85.82 30 P **P 11 44 18.0 -0.7**
baz=256
O17K Koliganek Bris 85.88 29 P **P 11 44 19.7 +0.6**
baz=255,SNR=21
G17K Kiwalik Mounta 85.94 23 P **P 11 44 19.6 +0.4**
baz=252,SNR=14
L17K Donlin 85.94 27 P **P 11 44 19.8 +0.4**
baz=254,SNR=18
E17K Hotham Inlet 86.00 22 P **P 11 44 20.1 +0.6**
baz=250,SNR=9.6
C17K DeLong Mountai 86.00 20 P **P 11 44 20.2 +0.6**
baz=249
F17K Baldwin Pennin 86.01 22 P **P 11 44 19.6 +0.1**
baz=251
N17K Nushagak Hills 86.03 29 P **P 11 44 20.4 +0.6**
N17K IAmb IAmb 11 44 31.2
comp=Z,94nm,1.2s
N17K Nushagak Hills 86.03 29 P **P 11 44 20.1 +0.3**
baz=255,SNR=15
P17K Kvichak River 86.06 30 P **P 11 44 20.1 +0.2**
baz=256,SNR=10
H17K Granite Mounta 86.06 24 P **P 11 44 20.2 +0.4**
baz=252,SNR=10
K17K Iditarod 86.10 26 P **P 11 44 20.4 +0.3**
baz=254,SNR=10
Q17K Contact Creek 86.11 31 P **P 11 44 19.7 -0.7**
baz=256,SNR=23
QSPA South Pole Qui 86.12 180 P **P 11 44 18.9 -1.5**
QSPA South Pole Qui 86.12 180 IAMs_20 IAMs_20 12 23 14.4
comp=Z,3μm,21.0s
QSPA South Pole Qui 86.12 180 P **P 11 44 18.4 -2.0**
comp=Z,24nm,1.1s,baz=326,slow=3.1,SNR=26
QSPA PKKPbc **PKKPdf 12 02 20.1 +4.8**
comp=Z,1.0nm,0.6s,baz=298,slow=1.3,SNR=11
comp=Z,24nm,1.1s
M17K Holitna River 86.14 28 P **P 11 44 21.2 +0.9**
M17K IAmb IAmb 11 44 31.7
comp=Z,89nm,1.1s
M17K Holitna River 86.14 28 P **P 11 44 20.9 +0.6**
baz=255,SNR=13
E18K Tukpahlearik C 86.56 22 P **P 11 44 22.7 +0.4**
E18K IAmb IAmb 11 44 32.7
comp=Z,41nm,0.8s
E18K Tukpahlearik C 86.56 22 P **P 11 44 22.2 0.0**
baz=252
SII Sitkinak Islan 86.63 33 P **P 11 44 24.3 +1.4**
SII Sitkinak Islan 86.63 33 P **P 11 44 23.5 +0.6**
baz=258,SNR=7.0
Q18K Katmai Hardscr 86.65 31 P **P 11 44 22.3 -0.8**
baz=257,SNR=16
N18K Kilae Creek 86.68 29 P **P 11 44 23.8 +0.8**
baz=256,SNR=9.5
L18K Granite Mounta 86.69 27 P **P 11 44 23.6 +0.6**
baz=256,SNR=12
R18K Karluk 86.70 32 P **P 11 44 22.9 -0.2**
baz=258
P18K Big Mountain, 86.71 30 P **P 11 44 23.1 -0.1**
P18K IAmb IAmb 11 44 32.8
comp=Z,57nm,1.1s
P18K IAMs_20 IAMs_20 12 19 02.0
comp=Z,3μm,20.0s
P18K Big Mountain, 86.71 30 P **P 11 44 22.7 -0.5**
baz=257,SNR=9.2
GROC Groznyy 86.73 314 *e* P **P 11 44 23.0 -0.6**
GROC *e* 11 47 46.2
GROC *e* S **SKSac 11 54 42.4 -7.4**
GROC pmax pmax
comp=Z,144nm,1.2s
C18K Utukok River 86.75 20 P **P 11 44 24.1 +0.8**
baz=251
H18K Honhosa River 86.75 24 P **P 11 44 23.8 +0.6**
baz=254,SNR=5.9
B18K Kokolik River 86.78 20 P **P 11 44 23.9 +0.6**
baz=250
O18K Koktuh Hills 86.82 30 P **P 11 44 24.2 +0.4**
baz=257
G18K Tagagawik 86.84 23 P **P 11 44 23.7 0.0**
baz=254
M18K Stony River 86.91 28 P **P 11 44 24.7 +0.6**
baz=256,SNR=18
SVW2 Sparrevohn 86.93 28 P **P 11 44 24.6 +0.3**
SVW2 IAmb IAmb 11 44 35.2
comp=Z,58nm,1.2s
SVW2 Sparrevohn 86.93 28 P **P 11 44 25.5 +1.3**
BELG Belogornoye 86.98 323 P **P 11 44 24.0 -0.6**
BELG Belogornoye 86.98 323 P **P 11 44 24.0 -0.6**
comp=Z,104nm,0.9s,baz=158,slow=1.4,SNR=13
comp=Z,104nm,0.9s
J18K Innoko River 86.99 26 P **P 11 44 24.6 +0.1**
J18K IAMs_20 IAMs_20 12 27 46.3
comp=Z,2μm,22.0s
J18K Innoko River 86.99 26 P **P 11 44 24.4 -0.1**
baz=255
GNI Garni 87.09 310 P **P 11 44 25.3 -0.4**
GNI Garni 87.09 310 P **P 11 44 25.3 -0.4**
comp=Z,18nm,0.7s,baz=112,slow=10,SNR=2.9
comp=Z,18nm,0.7s
TTA Tatalina 87.17 26 P **P 11 44 26.0 +0.6**
TTA Tatalina 87.17 26 P **P 11 44 25.2 -0.3**
baz=256,SNR=20
KIRV Kirov 87.17 329 P **P 11 44 22.9 -2.5**
KIRV Kirov 87.17 329 P **P 11 44 22.9 -2.5**
comp=Z,56nm,0.7s,baz=44,slow=0.8,SNR=12
comp=Z,56nm,0.7s
GCSA Galena City Sc 87.25 25 P **P 11 44 25.7 0.0**

baz=255,SNR=18
A19K Wainwright 87.30 19 P **P 11 44 25.3 -0.4**
baz=251
O19K Port Alsworth 87.33 29 IAMs_20 IAMs_20 12 15 44.5
comp=Z,2µm,22.0s
O19K Port Alsworth 87.33 29 P **P 11 44 25.3 -0.9**
baz=258
N19K Bonanza Creek 87.39 29 P **P 11 44 27.1 +0.5**
N19K IAMs_20 IAMs_20 12 18 48.9
comp=Z,2µm,22.0s
N19K Bonanza Creek 87.39 29 P **P 11 44 27.1 +0.5**
baz=258,SNR=21
Q19K Cape Douglas, 87.40 31 P **P 11 44 26.1 -0.5**
baz=258
C19K Lookout Ridge 87.45 20 P **P 11 44 27.2 +0.6**
C19K IAMs_20 IAMs_20 12 25 09.0
comp=Z,3µm,22.0s
C19K Lookout Ridge 87.45 20 P **P 11 44 27.1 +0.4**
baz=252
F19K Shaleruckik Mo 87.45 22 P **P 11 44 26.1 -0.5**
baz=254
L19K White Mountain 87.52 27 P **P 11 44 26.8 -0.3**
baz=257,SNR=16
G19K Purcell Mounta 87.53 23 P **P 11 44 27.2 +0.1**
G19K IAmb IAmb 11 44 37.2
comp=Z,72nm,1.1s
G19K Purcell Mounta 87.53 23 P **P 11 44 27.0 0.0**
baz=255
TEND Ethiopian Broa 87.57 282 *e*P **P 11 44 29.5 +1.1**
baz=285
J19K Poorman 87.59 25 P **P 11 44 27.2 -0.2**
baz=256,SNR=30
H19K Roundabout Mou 87.62 24 P **P 11 44 27.5 0.0**
baz=256,SNR=20
M19K Big River Lodg 87.67 28 P **P 11 44 28.4 +0.6**
baz=258,SNR=7.9
KDAK Kodiak Island 87.73 32 P **P 11 44 28.9 +0.8**
KDAK Kodiak Island 87.73 32 IAMs_20 IAMs_20 12 17 49.1
comp=Z,4µm,22.0s
KDAK Kodiak Island 87.73 32 P **P 11 44 27.1 -1.0**
baz=259
KDAK Kodiak Island 87.73 32 P **P 11 44 28.9 +0.8**
KDAK pmax pmax
comp=Z,153nm,1.2s
P19K Oil Pt 87.76 30 IAMs_20 IAMs_20 12 19 31.7
comp=Z,4µm,21.0s
P19K Oil Pt 87.76 30 P **P 11 44 27.7 -0.6**
baz=259
D19K Kuna River 87.78 21 P **P 11 44 27.7 -0.5**
baz=254
E19K Redstone River 87.82 22 P **P 11 44 28.5 +0.1**
E19K IAmb IAmb 11 44 38.5
comp=Z,54nm,0.9s
E19K Redstone River 87.82 22 P **P 11 44 28.4 0.0**
baz=255
ILSW Iliamna Southw 87.87 30 IAMs_20 IAMs_20 12 17 49.3
comp=Z,3µm,22.0s
Q20K Shuyak Island 87.98 31 P **P 11 44 28.6 -0.7**
baz=259
SYI Shuyak Island 87.98 31 IAMs_20 IAMs_20 12 18 42.7
comp=Z,3µm,22.0s
L20K Farewell, AK 88.03 27 P **P 11 44 29.9 +0.4**
baz=258,SNR=24
ZEI Tsey 88.05 313 *e*P **P 11 44 29.2 -1.1**
ZEI pmax pmax
comp=Z,160nm,1.3s
K20K Telida 88.12 26 P **P 11 44 29.7 -0.2**
baz=258
O20K Slope Mountain 88.14 30 P **P 11 44 29.8 -0.4**
baz=259
AKH Akhalkalaki 88.19 312 P **P 11 44 31.4 +0.5**
AKH Akhalkalaki 88.19 312 P **P 11 44 31.4 +0.5**
AKH pmax pmax
comp=Z,1µm,1.7s
M20K Styx River 88.25 28 P **P 11 44 30.6 0.0**
baz=259
H20K Anotleneega Mo 88.25 24 P **P 11 44 30.5 0.0**
baz=257,SNR=10
I20K Naaghedeneel 88.26 25 P **P 11 44 30.1 -0.4**
baz=257
J20K Nowinta River 88.27 25 IAMs_20 IAMs_20 12 27 17.9
comp=Z,2µm,22.0s
J20K Nowinta River 88.27 25 P **P 11 44 30.8 +0.2**
baz=258,SNR=20
F20K Avaraart Lake 88.28 22 P **P 11 44 30.6 0.0**
baz=256
D20K Etivluk River 88.37 21 P **P 11 44 30.3 -0.7**
baz=255
E20K Nigu River 88.41 21 P **P 11 44 31.1 -0.1**
baz=256
B20K Meade River 88.52 19 P **P 11 44 31.8 +0.2**
baz=255
HOM Homer 88.55 30 IAMs_20 IAMs_20 12 19 58.6
comp=Z,3µm,19.0s
HOM Homer 88.55 30 P **P 11 44 31.3 -0.6**
baz=260
SIRT Sirnak 88.57 308 P **P 11 44 32.6 -0.1**
CNPM China Poot 88.73 30 IAMs_20 IAMs_20 12 20 15.5
comp=Z,2µm,21.0s
IMAR Indian Mountai 88.81 24 P **P 11 44 32.6 -0.5**
PPLA Purkeypile 88.87 27 P **P 11 44 33.2 -0.4**
baz=260
KBZ Khabaz 88.89 314 P **P 11 44 32.4 -1.5**
KBZ Khabaz 88.89 314 P **P 11 44 32.4 -1.5**
comp=Z,24nm,1.0s,baz=92,slow=0.9,SNR=17
comp=Z,24nm,1.0s
GOF Gofitskoye 88.93 315 *ce*P P 11 44 28.3 -5.8
BRLK Bradley Lake 88.95 30 IAMs_20 IAMs_20 12 19 34.9
comp=Z,2µm,20.0s
CAPN Captain Cook N 88.98 29 P **P 11 44 33.7 -0.2**
baz=260
CHUM Lake Minchumin 89.00 26 P **P 11 44 33.7 -0.3**
baz=259,SNR=18
GURO Guroymak-BITLI 89.00 309 P **P 11 44 34.8 0.0**
SKT Skwentna 89.01 28 IAMs_20 IAMs_20 12 29 14.7
comp=Z,2µm,22.0s
SKT Skwentna 89.01 28 P **P 11 44 33.0 -1.1**
baz=260,SNR=16
CAST Castle Rocks 89.01 26 P **P 11 44 33.4 -0.7**
baz=260,SNR=11
BRSE Bradley Lake S 89.02 30 P **P 11 44 33.0 -1.3**
baz=261
G21K Allakaket 89.02 23 P **P 11 44 34.0 -0.2**
baz=258,SNR=17
KIV Kislovodsk 89.06 314 *e*P **P 11 44 31.9 -3.0**
KIV *e* 11 48 06.8
KIV *e* 11 54 58.1
KIV pmax pmax
comp=Z,29nm,1.1s
KIV pmax pmax
comp=Z,62nm,3.5s
C21K Knifeblade Rid 89.12 20 P **P 11 44 34.1 -0.4**
baz=257
H21K Melozitna Rive 89.13 24 P **P 11 44 34.2 -0.5**
baz=259,SNR=17
F21K Alatna River 89.18 22 P **P 11 44 33.4 -1.5**
baz=258
E21K Killik River 89.25 21 P **P 11 44 34.3 -0.9**
baz=258
B21K Ikpikpuk River 89.28 20 P **P 11 44 34.4 -0.8**
baz=257
SUA Susitna One 89.29 28 P **P 11 44 34.5 -1.1**
baz=261,SNR=18
I21K Tanana 89.38 25 IAMs_20 IAMs_20 12 28 01.0
comp=Z,3µm,22.0s
I21K Tanana 89.38 25 P **P 11 44 35.3 -0.4**
baz=260
A22K Sinclair Lake 89.48 19 P **P 11 44 35.6 -0.5**
baz=257
KIBK Kibwezi 89.53 268 P **P 11 44 35.4 -2.3**
KTH Kantishna Hill 89.55 26 P **P 11 44 35.6 -1.1**
KTH IAMs_20 IAMs_20 12 28 31.9
comp=Z,2µm,22.0s
PRGR Permogore 89.59 332 *e*P **P 11 44 34.1 -2.7**
PRGR pmax pmax
comp=Z,33nm,1.3s
BPAW Bear Paw Mtn. 89.61 26 IAMs_20 IAMs_20 12 23 04.5
comp=Z,2µm,21.0s
BPAW Bear Paw Mtn. 89.61 26 P **P 11 44 36.0 -1.0**
baz=260,SNR=6.1
M22K Willow 89.63 28 IAMs_20 IAMs_20 12 29 43.2
comp=Z,2µm,22.0s
M22K Willow 89.63 28 P **P 11 44 35.8 -1.2**
baz=261,SNR=23
O22K Cooper Landing 89.63 29 IAMs_20 IAMs_20 12 20 34.3
comp=Z,3µm,22.0s
O22K Cooper Landing 89.63 29 P **P 11 44 36.1 -1.0**
baz=262
CUT Chulitna 89.66 27 P **P 11 44 37.0 -0.1**
CUT IAmb IAmb 11 44 46.3
CUT comp=Z,76nm,1.2s IAMs_20 IAMs_20 12 29 32.0
comp=Z,2µm,19.0s
CUT Chulitna 89.66 27 P **P 11 44 36.0 -1.2**
baz=261,SNR=5.7
SEW Seward 89.71 30 P **P 11 44 37.0 -0.4**
baz=262
RC01 Rabbit Creek A 89.72 29 IAMs_20 IAMs_20 12 20 51.4
comp=Z,3µm,22.0s
RC01 Rabbit Creek A 89.72 29 P **P 11 44 36.1 -1.4**
baz=262,SNR=12
F22K John River 89.73 22 P **P 11 44 37.0 -0.5**
baz=259
H22K Ishtalitna Cre 89.75 24 P **P 11 44 37.5 0.0**
baz=260,SNR=14
D22K Ayikyak River 89.80 21 P **P 11 44 37.5 -0.2**
baz=259
TRF Thorofare Moun 89.81 26 P **P 11 44 36.2 -1.9**
baz=261
B22K Teshekpuk Lake 89.84 19 P **P 11 44 36.5 -1.3**
baz=258
DILA Dilla 89.87 276 *e*P **P 11 44 41.1 +1.7**
DILA *e*S S 11 55 44.3 +12
DILA Dilla 89.87 276 *e*P **P 11 44 41.1 +1.7**
baz=281
DILA *e*S S 11 55 44.3 +12
baz=281
MLY Manley 89.87 25 P **P 11 44 37.7 -0.4**
baz=261,SNR=18
G22K Bettles 89.88 23 P **P 11 44 37.7 -0.4**
baz=260
E22K Anaktuvuk Pass 89.98 22 P **P 11 44 38.0 -0.6**
baz=260,SNR=21
PMR Palmer 90.08 28 P **P 11 44 38.3 -0.8**
PMR IAmb IAmb 11 44 48.9
comp=Z,64nm,1.2s
PMR Palmer 90.08 28 P **P 11 44 38.7 -0.4**
PMR Palmer 90.08 28 P **P 11 44 38.1 -1.0**
baz=262,SNR=14
PMR Palmer 90.08 28 P **P 11 44 38.3 -0.8**
PMR pmax pmax
comp=Z,64nm,1.2s
GHO Glory Hole Cre 90.20 28 IAMs_20 IAMs_20 12 20 41.1
comp=Z,2µm,22.0s
PWL Port Wells 90.36 29 IAMs_20 IAMs_20 12 19 42.5
comp=Z,3µm,22.0s
PWL Port Wells 90.36 29 P **P 11 44 40.0 -0.5**
baz=263,SNR=6.2
KNK Knik Glacier 90.37 29 IAMs_20 IAMs_20 12 19 22.8
comp=Z,3µm,22.0s
KNK Knik Glacier 90.37 29 P **P 11 44 39.7 -0.8**
baz=263,SNR=23
KMBO Kilima Mbogo 90.40 269 *e*P **P 11 44 40.5 -1.6**
KMBO *e*S S 11 56 03.2 +26
KMBO AMP 12 30 00.8
comp=Z,3µm,36.6s
KMBO Kilima Mbogo 90.40 269 *e*P **P 11 44 40.5 -1.6**
baz=274
KMBO *e*S S 11 56 03.2 +26
baz=274
KMBO AMP 12 30 00.8
comp=Z,3µm,36.6s,baz=274
KMBO Kilima Mbogo 90.40 269 *e*P **P 11 44 40.5 -1.6**
baz=275
KMBO *e*S S 11 56 03.2 +26
baz=275
KMBO AMP 12 30 00.8
comp=Z,3µm,36.6s,baz=275
G23K Bananza Creek 90.42 23 P **P 11 44 40.0 -0.8**
baz=261
COLD Coldfoot 90.43 23 P **P 11 44 41.0 +0.3**
baz=261,SNR=19
RND Reindeer 90.45 27 IAMs_20 IAMs_20 12 21 01.6
comp=Z,2µm,22.0s
VRH Novokhopyorsk 90.45 321 *e*P **P 11 44 40.3 -0.8**
VRH pmax pmax
comp=Z,28nm,0.7s
MCK McKinley 90.45 26 P **P 11 44 39.2 -1.7**
baz=262,SNR=10
I23K Minto, Yukon-K 90.47 25 P **P 11 44 40.4 -0.5**
baz=262,SNR=12
SML Sawmill 90.48 28 P **P 11 44 40.5 -0.6**
baz=263,SNR=22
H23K Yukon River 90.49 24 P **P 11 44 40.4 -0.6**
baz=262
WAT1 Susitna Watana 90.51 27 P **P 11 44 40.1 -1.1**
baz=263
NEA2 Nenana 90.51 25 IAMs_20 IAMs_20 12 28 35.3
comp=Z,3µm,22.0s
NEA2 Nenana 90.51 25 P **P 11 44 39.9 -1.2**
baz=262,SNR=6.8
D23K Nanushuk River 90.53 21 P **P 11 44 40.9 -0.2**
baz=261,SNR=16
C23K Itkillik River 90.69 20 P **P 11 44 41.5 -0.3**
baz=261
P23K Montague Islan 90.72 30 P **P 11 44 41.3 -0.8**
baz=264
M23K Glacier View 90.77 28 P **P 11 44 40.7 -1.6**
baz=263,SNR=10.0
E23K Chandalar 90.78 22 P **P 11 44 42.3 -0.1**
baz=262
ELIB Princess Elisa 90.81 198 *d*P **P 11 44 42.0 -0.6**
comp=Z,22nm,1.3s
WAT6 Susitna Watana 90.85 27 P **P 11 44 42.3 -0.7**
baz=263,SNR=14
TOLK Toolik Lake Re 90.88 21 P **P 11 44 42.3 -0.5**
baz=262,SNR=11
SCM Sheep Creek Mo 90.96 28 P **P 11 44 42.9 -0.5**
baz=264,SNR=13
GLI Glacier Island 90.97 29 IAMs_20 IAMs_20 12 20 54.5
comp=Z,2µm,21.0s
GLI Glacier Island 90.97 29 P **P 11 44 42.5 -0.8**
baz=264
COLA College 91.07 25 P **P 11 44 43.7 +0.1**
COLA College 91.07 25 P **P 11 44 42.4 -1.2**
baz=263
DHY Denali Highway 91.07 27 P **P 11 44 42.9 -1.0**
baz=264,SNR=9.4
H24K Noodor Dome 91.17 24 IAMs_20 IAMs_20 12 28 45.5
comp=Z,2µm,22.0s
H24K Noodor Dome 91.17 24 P **P 11 44 43.3 -0.9**
baz=263,SNR=40
SOC Sochi 91.17 313 *e*P **P 11 44 41.1 -3.5**
SOC *e* 11 48 22.6
SOC *e*PPP PPP 11 50 16.9
SOC *e*S **SKSac 11 55 10.3 -5.9**
SOC *e*SS **SS 12 01 44.8 -2.0**
SOC *e*SSS SSS 12 05 21.8
SOC MLR MLR
comp=Z,345nm,12.0s
Q23K Middleton Isla 91.19 31 P **P 11 44 44.0 -0.3**
baz=265
E24K Your Creek 91.20 22 P **P 11 44 43.9 -0.4**
baz=263
HIN Hinchinbrook I 91.21 30 IAMs_20 IAMs_20 12 22 43.9
comp=Z,2µm,20.0s
D24K Happy Valley 91.22 21 IAMs_20 IAMs_20 12 33 44.7
comp=Z,2µm,21.0s
D24K Happy Valley 91.22 21 P **P 11 44 44.1 -0.2**
baz=263
FID Port Fidalgo 91.25 29 IAMs_20 IAMs_20 12 21 45.2
comp=Z,3µm,22.0s
POKR Poker Plat Res 91.27 25 P **P 11 44 44.5 -0.1**
baz=264
C24K Franklin Bluff 91.33 20 P **P 11 44 45.4 +0.6**
baz=263
F24K Squaw Lake 91.36 23 P **P 11 44 45.2 +0.1**
baz=263
HDA Harding Lake 91.40 26 P **P 11 44 44.2 -1.1**
baz=264,SNR=19
G24K Hadweenzic Riv 91.43 23 IAMs_20 IAMs_20 12 28 37.4
comp=Z,2µm,22.0s
G24K Hadweenzic Riv 91.43 23 P **P 11 44 45.5 +0.2**
baz=264
ILAR Eielson Array 91.47 25 P **P 11 44 43.7 -1.9**
ILAR Eielson Array 91.47 25 P **P 11 44 43.6 -1.9**
comp=Z,9.5nm,0.9s,baz=236,slow=4.6,SNR=80
ILAR PKKPbc **PKKPdf 12 02 06.8 +0.8**
comp=Z,1.6nm,0.9s,baz=44,slow=1.7,SNR=10
comp=Z,9.5nm,0.9s
TAOE Nuku Hiva Isla 91.51 99 *e*SS SS 12 01 42.3 -11
comp=Z,359nm,24.5s
TAOE Nuku Hiva Isla 91.51 99 *e*LR LR 12 14 13.5
comp=Z,1µm,25.6s
M24K Tolsona, Glenn 91.53 28 P **P 11 44 45.8 -0.1**
baz=265,SNR=8.9
KLU Klutina 91.59 29 IAMs_20 IAMs_20 12 21 25.0
comp=Z,3µm,21.0s
KLU Klutina 91.59 29 P **P 11 44 45.7 -0.6**
baz=265,SNR=9.3
EYAK Cordova Ski Ar 91.59 30 P **P 11 44 46.1 0.0**
baz=265
K24K Donnelly Dome 91.86 26 P **P 11 44 47.1 -0.3**
baz=265,SNR=16
PAX Paxson 91.93 27 P **P 11 44 47.0 -0.8**
baz=265,SNR=29
VORD Divnogorie 91.96 321 *e*P **P 11 44 46.3 -1.8**
VORD pmax pmax
comp=Z,30nm,1.0s
G25K Bearman Lake 91.98 23 P **P 11 44 47.1 -0.7**
baz=265,SNR=11
HARP HAARP 92.03 28 P **P 11 44 47.9 -0.3**
baz=266,SNR=7.3
H25L Birch Creek 92.05 24 P **P 11 44 48.1 0.0**
baz=265,SNR=24
VSR Storozhevoye 92.06 321 *e*P **P 11 44 45.9 -2.6**
VSR pmax pmax
comp=Z,30nm,1.3s
VORR Voronezh 92.06 321 *e*P **P 11 44 47.8 -0.7**
VORR pmax pmax
comp=Z,71nm,0.4s
J25K Salcha River, 92.10 26 IAMs_20 IAMs_20 12 21 38.3
comp=Z,2µm,22.0s
J25K Salcha River, 92.10 26 P **P 11 44 47.0 -1.6**
baz=266,SNR=13
D25K Kavik River 92.10 21 P **P 11 44 47.8 -0.7**
baz=265
PRP Porcupine Dome 92.11 25 IAMs_20 IAMs_20 12 29 29.4
comp=Z,2µm,22.0s
PRP Porcupine Dome 92.11 25 P **P 11 44 48.3 -0.4**
baz=266
RAGM Ragged Mountai 92.11 30 IAMs_20 IAMs_20 12 29 04.8
comp=Z,2µm,22.0s
BMRM Bremner River 92.19 29 P **P 11 44 48.8 -0.3**
baz=266,SNR=8.7
KAIM Kayak Island 92.21 30 P **P 11 44 48.5 -0.5**
baz=266
F25K Christian Rive 92.22 23 P **P 11 44 48.7 -0.4**
baz=266
N25K Chitina, Valde 92.23 29 IAMs_20 IAMs_20 12 22 19.9
comp=Z,2µm,21.0s
N25K Chitina, Valde 92.23 29 P **P 11 44 48.7 -0.5**
baz=266,SNR=11
LPSR Galich'ya Gora 92.29 322 *e*P **P 11 44 50.1 +0.5**
LPSR pmax pmax
comp=Z,20nm,1.2s
E25K Arctic Village 92.30 22 P **P 11 44 49.7 +0.3**
baz=266,SNR=18
HMT Hamilton 92.31 30 IAMs_20 IAMs_20 12 27 03.1
comp=Z,2µm,19.0s
KLMR Klimovskoe 92.44 331 *e*P P 11 44 46.5 -3.6
KLMR AMP 11 45 00.3
comp=Z,74nm,1.5s
KLMR Klimovskoe 92.44 331 *e*P P 11 44 46.4 -3.7
KLMR pmax pmax
comp=Z,74nm,1.5s
LODK Lodwar 92.58 273 *e*P **P 11 44 50.6 -1.4**
LODK Lodwar 92.58 273 *e*P **P 11 44 50.6 -1.4**
baz=279
BERG Berg Lake 92.59 30 IAMs_20 IAMs_20 12 17 06.6
comp=Z,2µm,21.0s
GLB Gilahina Butte 92.60 29 IAMs_20 IAMs_20 12 22 30.6
comp=Z,3µm,22.0s
SCRK Sand Creek 92.66 26 P **P 11 44 51.1 -0.1**
baz=267,SNR=7.0
C26K Camden Bay 92.66 20 P **P 11 44 51.7 +0.8**
baz=266
ASF Jabal al Asfar 92.72 302 P **P 11 44 50.7 -1.5**
ASF Jabal al Asfar 92.72 302 P **P 11 44 50.7 -1.5**
comp=Z,13nm,1.0s,baz=200,slow=1.4,SNR=7.3
comp=Z,13nm,1.0s
MENT Mentasta 92.72 27 P **P 11 44 51.6 +0.2**
VRDI Verde Repeater 92.76 29 IAMs_20 IAMs_20 12 22 57.9
comp=Z,3µm,22.0s
BGLC Bering Glacier 92.79 30 P **P 11 44 52.0 +0.3**
baz=267
F26K Sheenjek River 92.80 22 P **P 11 44 51.9 +0.2**
baz=267,SNR=16
J26L Joseph Creek 92.87 26 P **P 11 44 51.6 -0.6**
baz=267,SNR=29
ANN Anapa 92.88 315 *e*P **P 11 44 50.1 -2.4**
ANN *e*S **SKSac 11 55 21.3 -4.4**
ANN *e*SS **SS 12 02 10.1 -1.2**
ANN *e*SSS SSS 12 05 55.9
ANN pmax pmax
comp=Z,217nm,0.9s
L26K Log Cabin Wild 92.90 27 P **P 11 44 52.1 -0.1**
baz=267,SNR=21
G26K Porcupine Rive 92.90 23 P **P 11 44 52.6 +0.5**
baz=267
MCARA McCarthy VSAT 92.97 29 IAMs_20 IAMs_20 12 22 42.6
comp=Z,3µm,21.0s
MCARA McCarthy VSAT 92.97 29 P **P 11 44 52.4 -0.2**
baz=268,SNR=13
SNH Sunshine Point 93.01 30 IAMs_20 IAMs_20 12 21 23.9
comp=Z,3µm,22.0s
WAX Waxell Ridge 93.02 30 IAMs_20 IAMs_20 12 21 50.1
comp=Z,2µm,20.0s
M26K Nabesna, AK 93.03 28 P **P 11 44 52.2 -0.7**
baz=268,SNR=5.2
I26K Coal Creek Min 93.08 25 IAMs_20 IAMs_20 12 29 28.9
comp=Z,2µm,22.0s
I26K Coal Creek Min 93.08 25 P **P 11 44 52.3 -0.7**
baz=268
MOS Moscow 93.20 325 *e*P **P 11 44 50.7 -3.0**
MOS *e* 11 48 34.6
MOS pmax pmax
comp=Z,42nm,0.8s
GRD1 Great Renaissa 93.35 281 *e*P P 11 44 51.5 -3.9
baz=267
MESA MESA 93.46 30 IAMs_20 IAMs_20 12 21 48.4
comp=Z,3µm,20.0s
MESA MESA 93.46 30 P **P 11 44 54.7 -0.4**
baz=268
K27K Chicken 93.50 26 IAMs_20 IAMs_20 12 25 36.4
comp=Z,2µm,20.0s
K27K Chicken 93.50 26 P **P 11 44 55.5 +0.5**
baz=268
M27K Edge Creek, AK 93.55 28 IAMs_20 IAMs_20 12 30 48.7
comp=Z,2µm,21.0s
M27K Edge Creek, AK 93.55 28 P **P 11 44 55.2 -0.2**
baz=269,SNR=13
L27K Beaver Creek, 93.59 27 P **P 11 44 55.2 -0.3**
baz=269,SNR=32
BARN Barnard Glacie 93.62 29 IAMs_20 IAMs_20 12 21 57.7
comp=Z,2µm,20.0s
I27K Kandik River 93.73 25 P **P 11 44 56.1 0.0**
baz=269,SNR=72
G27K Doyon Strip 93.74 23 IAMs_20 IAMs_20 12 29 21.5
comp=Z,2µm,22.0s
G27K Doyon Strip 93.74 23 P **P 11 44 55.8 -0.2**
baz=269
CTG Chitna Glacier 93.78 29 P **P 11 44 56.7 +0.2**
baz=269,SNR=35
CTGM Chitina Glacie 93.78 29 IAMs_20 IAMs_20 12 23 28.8
comp=Z,2µm,21.0s
H27K Steamboat Moun 93.78 24 P **P 11 44 56.5 +0.2**
baz=269,SNR=42
OBN Obninsk 93.78 325 *e*P **P 11 44 54.9 -1.4**
OBN *e* 11 48 42.0
OBN *e*PPP PPP 11 50 42.8
OBN pmax pmax
comp=Z,25nm,1.1s
OBN MLR MLR
comp=Z,901nm,24.0s
OBN Obninsk 93.78 325 P **P 11 44 55.0 -1.4**
comp=Z,18nm,0.3s,baz=47,slow=5.4,SNR=7.0
comp=Z,18nm,0.3s
E27K Coleen River 93.78 22 P **P 11 44 56.0 -0.2**
baz=269
TABL Table Mountain 93.86 30 IAMs_20 IAMs_20 12 21 38.2
comp=Z,3µm,22.0s
EGAK Eagle 93.92 25 P **P 11 44 56.1 -0.7**
baz=269,SNR=20
MMAI Mount Meron Ar 94.02 303 P **P 11 44 56.7 -1.5**
comp=Z,9.0nm,0.7s,baz=66,slow=4.7,SNR=5.9
comp=Z,9.0nm,0.7s
D27M Malcolm River 94.02 21 P **P 11 44 56.8 -0.5**
baz=270
BVCY Beaver Creek 94.03 28 P **P 11 44 57.7 +0.3**
baz=270,SNR=16
YUK3 Moose Creek 94.21 28 P **P 11 44 58.7 +0.1**
baz=270,SNR=26

EIL	Elat	94.29	299	P	P	11 44 58.7	-0.6
	comp=Z,10.0nm,1.0s,baz=330,slow=1.3,SNR=3.2						
	comp=Z,10.0nm,1.0s						
PINM	Pinnacle	94.31	30	P	P	11 44 58.5	-0.3
	baz=270						
O28M	Mount Upton	94.34	29	P	P	11 44 59.0	-0.2
	baz=270,SNR=16						
I28M	Miner Creek	94.43	25	IAms_20	IAms_20	12 32 18.9	
	comp=Z,2μm,19.0s						
I28M	Miner Creek	94.43	25	P	P	11 44 59.1	-0.2
	baz=271,SNR=49						
F28M	Old Crow	94.44	23	P	P	11 44 59.6	+0.4
	baz=271						
YUK8	Steele Glacier	94.54	29	P	P	11 45 00.1	-0.1
	baz=270,SNR=17						
E28M	Babbage River	94.55	22	P	P	11 44 59.4	-0.3
	baz=271						
BCPM	Bancas Point	94.62	30	IAms_20	IAms_20	12 23 42.0	
	comp=Z,2μm,20.0s						
DAWY	Dawson	94.69	26	P	P	11 45 00.5	0.0
	baz=271						
NVL	N'lazarevskaya	94.69	197	*e*P	P	11 45 13.8	+14
NVL				pmax	pmax		
	comp=Z,13nm,1.3s						
PNL	Peninsula	94.74	31	P	P	11 45 01.0	+0.2
	baz=271						
D28M	Stokes Point	94.81	21	P	P	11 45 00.3	-0.6
	baz=272						
H29M	Whitestone	95.06	24	P	P	11 45 01.9	-0.2
	baz=272,SNR=7.6						
YUK4	Talbot Arm	95.08	29	P	P	11 45 02.3	-0.3
	baz=272						
I29M	Ogilvie Camp,	95.12	25	IAms_20	IAms_20	12 27 22.0	
	comp=Z,2μm,22.0s						
I29M	Ogilvie Camp,	95.12	25	P	P	11 45 01.9	-0.5
	baz=272,SNR=44						
M29M	Somme Creek	95.14	28	IAms_20	IAms_20	12 32 12.8	
	comp=Z,2μm,22.0s						
M29M	Somme Creek	95.14	28	P	P	11 45 03.0	+0.4
	baz=272,SNR=40						
O29M	Mount Kennedy	95.14	30	IAms_20	IAms_20	12 22 25.9	
	comp=Z,2μm,22.0s						
O29M	Mount Kennedy	95.14	30	P	P	11 45 01.9	-0.8
	baz=271,SNR=5.4						
E29M	Blow River	95.16	22	P	P	11 45 01.7	-0.8
	baz=273						
G29M	Pine Creek	95.17	23	P	P	11 45 02.5	-0.1
	baz=272						
APA	Apatity	95.17	337	↓*i*P	P	11 45 02.9	+0.4
APA				*i*		11 55 42.0	
APA				*i* S	S	11 56 11.0	-5.7
APA				*i* PS	PS	11 57 40.0	+4.0
APA				pmax	pmax		
	comp=Z,13nm,1.0s						
J29N	Klondike Camp	95.19	26	IAms_20	IAms_20	12 29 18.9	
	comp=Z,1μm,20.0s						
J29N	Klondike Camp	95.19	26	P	P	11 45 03.1	+0.3
	baz=272						
YUK6	Outpost Mounta	95.23	29	P	P	11 45 03.2	-0.1
	baz=272						
SIM	Simferopol'	95.25	315	*e*P	P	11 45 00.7	-2.7
SIM				pmax	pmax		
	comp=Z,72nm,1.1s						
L29M	L29M	95.27	27	IAms_20	IAms_20	12 26 20.2	
	comp=Z,2μm,21.0s						
L29M	L29M	95.27	27	P	P	11 45 04.0	+0.8
	baz=272,SNR=39						
K29M	Barlow Dome	95.52	26	IAms_20	IAms_20	12 24 06.6	
	comp=Z,2μm,21.0s						
K29M	Barlow Dome	95.52	26	P	P	11 45 04.6	+0.2
	baz=273,SNR=29						
BR131	Keskin Array S	95.58	309	*i* P	P	11 45 03.5	-1.7
BRTR	Keskin Array B	95.58	309	P	P	11 45 03.7	-1.5
BRTR	Keskin Array B	95.58	309	P	P	11 45 03.7	-1.5
	comp=Z,12nm,1.1s,baz=117,slow=4.3,SNR=12						
	comp=Z,12nm,1.1s						
P29M	Windy Craggy	95.58	31	IAms_20	IAms_20	12 24 28.6	
	comp=Z,2μm,22.0s						
P29M	Windy Craggy	95.58	31	P	P	11 45 04.7	0.0
	baz=272						
HYT	Haines Junctio	95.65	29	P	P	11 45 05.5	+0.4
	baz=272,SNR=18						
EPYK	Eagle Plains	95.72	24	P	P	11 45 04.7	-0.4
	baz=274,SNR=15						
N30M	Aishikik Lake	95.83	29	IAms_20	IAms_20	12 24 34.0	
	comp=Z,2μm,22.0s						
N30M	Aishikik Lake	95.83	29	P	P	11 45 06.1	+0.4
	baz=273,SNR=20						
G30M	tAoh Zraii Nji	95.88	23	IAms_20	IAms_20	12 32 04.0	
	comp=Z,2μm,19.0s						
G30M	tAoh Zraii Nji	95.88	23	P	P	11 45 04.6	-1.2
	baz=274,SNR=15						
M30M	Minto, Yukon	95.91	28	IAms_20	IAms_20	12 31 38.1	
	comp=Z,2μm,21.0s						
M30M	Minto, Yukon	95.91	28	P	P	11 45 06.4	+0.3
	baz=273,SNR=26						
I30M	Mount Dempster	95.94	25	P	P	11 45 05.6	-0.7
	baz=274,SNR=14						
P30M	Million Dollar	95.95	30	P	P	11 45 06.8	+0.4
	baz=273						
J30M	Hart River	96.00	26	P	P	11 45 05.5	-1.0
	baz=274,SNR=18						
F30M	Barrier River	96.00	23	P	P	11 45 05.8	-0.5
	baz=275						
MAYO	Mayo, Yukon	96.25	27	P	P	11 45 07.8	+0.2
	baz=274,SNR=21						
PLBC	Pleasant Camp	96.29	31	P	P	11 45 07.6	-0.2
	baz=273						
O30N	Mendenhall	96.35	29	IAms_20	IAms_20	12 24 53.8	
	comp=Z,3μm,21.0s						
O30N	Mendenhall	96.35	29	P	P	11 45 07.8	-0.3
	baz=274,SNR=12						
N31M	Braeburn, Yuko	96.45	29	IAms_20	IAms_20	12 24 52.5	
	comp=Z,3μm,22.0s						
N31M	Braeburn, Yuko	96.45	29	P	P	11 45 08.6	0.0
	baz=274,SNR=11						
TROLL	Troll, Antarti	96.64	195	P	P	11 45 09.6	+0.2
	comp=Z,126nm,0.7s						
TROLL	Troll, Antarti	96.64	195	PKKP		12 01 52.2	
	comp=Z,130nm,0.6s						
G31M	Satah River	96.65	23	P	P	11 45 08.6	-0.6
	baz=276,SNR=8.3						
R31K	City Hall, Gus	96.67	32	P	P	11 45 09.2	-0.3
	baz=274						
H31M	Peel River	96.73	24	P	P	11 45 09.0	-0.7
	baz=276,SNR=9.7						
INK	Inuvik	96.78	22	P	P	11 45 09.1	-0.7
	baz=277,SNR=7.5						
INK	Inuvik	96.78	22	PKKPbc	PKKPbc	12 01 51.0	-4.0
	comp=Z,5.5nm,1.1s,baz=40,slow=4.2,SNR=7.2						
F31M	Tsiigehtchic	96.80	23	P	P	11 45 09.5	-0.4
	baz=276,SNR=7.1						
SKAG	Skagway	96.81	31	P	P	11 45 11.1	+1.0
SKAG	Skagway	96.81	31	P	P	11 45 10.5	+0.4
	baz=274						
WHY	Whitehorse	96.95	29	P	P	11 45 11.0	+0.1
	baz=275,SNR=16						
SIT	Sitka	96.98	33	P	P	11 45 10.8	-0.1
	baz=274						
M31M	Drury Creek, Y	97.05	28	IAms_20	IAms_20	12 25 37.3	
	comp=Z,2μm,22.0s						
M31M	Drury Creek, Y	97.05	28	P	P	11 45 12.2	+0.9
	baz=275,SNR=7.9						
R32K	Eaglecrest	97.33	32	P	P	11 45 12.9	+0.4
	baz=275						
S32K	Killisnoo	97.36	33	IAms_20	IAms_20	12 37 22.7	
	comp=Z,2μm,22.0s						
S32K	Killisnoo	97.36	33	P	P	11 45 12.9	+0.2
	baz=274						
JIS	Juneau Island	97.40	32	P	Pdif	11 45 14.9	+2.0
FARO	Faro, Yukon	97.54	28	P	P	11 45 13.0	-0.5
	baz=276						
P32M	Atlin	97.62	30	P	P	11 45 13.7	-0.2
	baz=276						
N32M	Quiet Lake	97.78	29	IAms_20	IAms_20	12 23 35.6	
	comp=Z,2μm,22.0s						
N32M	Quiet Lake	97.78	29	P	P	11 45 14.1	-0.4
	baz=276						
ARA0	ARCESS Array S	97.84	340	*e*P	P	11 45 13.2	-1.4
ARCES	ARCESS Array B	97.84	340	P	P	11 45 13.0	-1.6
ARCES	ARCESS Array B	97.84	340	P	P	11 45 13.0	-1.6
	comp=Z,18nm,0.7s,baz=79,slow=3.4,SNR=56						
	comp=Z,18nm,0.7s						
P33M	Teslin, Yukon	98.01	30	IAms_20	IAms_20	12 26 24.8	
	comp=Z,2μm,21.0s						
P33M	Teslin, Yukon	98.01	30	P	P	11 45 15.8	+0.1
	baz=276,SNR=5.7						
SPA0	Spitsbergen Ar	98.04	349	*e*P	P	11 45 15.2	-0.2
SPA0				*e*		11 45 22.2	
SPITS	Spitsbergen Ar	98.04	349	P	P	11 45 14.1	-1.3
SPITS	Spitsbergen Ar	98.04	349	P	P	11 45 14.1	-1.3
	comp=Z,52nm,1.0s,baz=67,slow=13,SNR=8.5						
	comp=Z,52nm,1.0s						
LSZ	Lusaka	98.18	254	P	P	11 45 15.8	-1.7
LSZ	Lusaka	98.18	254	P	P	11 45 15.8	-1.7
	comp=Z,1.7nm,0.3s,baz=74,slow=5.7,SNR=4.5						
	comp=Z,1.7nm,0.3s						
HAMF	Hammerfest	98.24	341	*e*P	P	11 45 15.2	-1.1
U33K	Whale Pass	98.27	34	P	P	11 45 16.5	-0.3
	baz=276						
CRAG	Craig	98.33	35	P	P	11 45 16.7	-0.3
	baz=275						
AKASG	Malin Array Be	98.34	321	*i* P	P	11 45 16.8	-0.4
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKASG	Malin Array Be	98.34	321	P	P	11 45 15.2	-2.0
	comp=Z,5.9nm,1.0s,baz=74,slow=4.0,SNR=17						
	comp=Z,5.9nm,1.0s						
AKBB	Malin Array Si	98.34	321	*i* P	P	11 45 15.2	-2.0
AKBB				pmax	pmax		
	comp=Z,16nm,1.3s						
Q32M	Nakina River	98.43	31	Pdiff	P	11 45 17.7	0.0
	baz=277						
KBS	Kingsbay	98.57	350	IAms_20	IAms_20	12 31 24.0	
	comp=Z,2μm,20.0s						
WRAK	Wrangell Islan	98.67	34	Pdiff	P	11 45 18.9	+0.3
	baz=276						
KTK1	Kautokeino	98.74	339	*e*P	P	11 45 17.0	-1.7
MNK	Minsk	98.83	324	*i* P	P	11 45 15.0	-4.3
	comp=E,10.0nm,0.8s						
MNK				*i* P	P	11 45 15.0	-4.3
	comp=N,36nm,0.9s						
MNK				*i* P	P	11 45 15.0	-4.3
	comp=Z,30nm,1.1s,baz=84						
MNK				*i* PP	PP	11 49 18.0	-2.8
MNK				*i* PPP	PPP	11 51 22.7	
MNK				*i* S	SKSac	11 55 50.5	-6.3
MNK				*i* SS	SS	12 03 32.6	-2.4
MNK				*i* SSS	SSS	12 07 21.8	
MNK				*i* LQ	LQ	12 24 02.5	
MNK				*i* LR	LR	12 27 56.7	
MNK				*i* LRM	MLR	12 30 17.4	
	comp=E,466nm,15.8s						
MNK				*i* LRM	MLR	12 30 42.9	
	comp=Z,1μm,17.7s						
MNK				*i* LRM	MLR	12 31 12.4	
	comp=N,1μm,16.4s						
MNK	Minsk	98.83	324	*i* P	P	11 45 14.9	-4.4
MNK				*i*		11 49 17.9	
MNK				*i* S	SKSac	11 55 50.4	-6.3
MNK				*i* SS	SS	12 03 32.6	-2.4
MNK				*i* SSS	SSS	12 07 21.8	
MNK				pmax	pmax		
	comp=N,36nm,0.9s						
MNK				pmax	pmax		
	comp=E,10.0nm,0.8s						
MNK				pmax	pmax		
	comp=Z,30nm,1.1s						
MNK				MLR	MLR		
	comp=E,466nm,16.0s						
MNK				MLR	MLR		
	comp=Z,1μm,18.0s						
MNK				MLR	MLR		
	comp=N,1μm,16.0s						
A36M	Sachs Harbour	98.86	18	Pdiff	P	11 45 18.9	-0.2
	baz=285						
KIS	Kishinev	98.87	317	*e*P	P	11 45 19.0	-0.7
KIS	Kishinev	98.87	317	*e*P	P	11 45 19.0	-0.7
FINES	FINESS Array B	98.92	332	P	P	11 45 17.3	-2.3
FINES	FINESS Array B	98.92	332	P	P	11 45 17.3	-2.3
	comp=N,5.1nm,0.9s,baz=141,slow=7.3,SNR=6.3						
FINES				PKiKP	PKiKP	11 49 50.0	-0.4
	comp=N,8.2nm,1.0s,baz=108,slow=4.5,SNR=3.0						
	comp=N,5.1nm,0.9s						
R33M	Jennings River	99.04	31	IAms_20	IAms_20	12 39 19.0	
	comp=Z,2μm,20.0s						
R33M	Jennings River	99.04	31	Pdiff	Pdif	11 45 20.9	+0.5
	baz=278						
BOSA	Boshof	99.08	240	IAms_20	IAms_20	12 25 46.7	
	comp=Z,1μm,18.0s						
BOSA	Boshof	99.08	240	P	Pdif	11 45 18.9	-2.4
BOSA	Boshof	99.08	240	P	Pdif	11 45 18.9	-2.4
	comp=Z,2.5nm,0.6s,baz=92,slow=2.1,SNR=6.1						
BOSA				PKKPbc	PKKPbc	12 01 46.4	-1.0
	comp=Z,1.3nm,0.7s,baz=295,slow=4.5,SNR=5.2						
	comp=Z,2.5nm,0.6s						
S34M	Telegraph Cree	99.15	32	Pdiff	Pdif	11 45 21.7	+1.0
	baz=278						
LBTB	Lobatse	99.34	244	IAms_20	IAms_20	12 23 26.6	
	comp=Z,2μm,22.0s						
NACGM	Naroch	99.42	325	*e*P	Pdif	11 45 21.5	-0.4
	comp=Z,22nm,0.9s,baz=83						
JETT	Jettan, Norway	99.59	340	*e*P	Pdif	11 45 21.2	-1.3
DLBC	Dease Lake	99.66	31	Pdiff	Pdif	11 45 23.5	+0.4
	baz=278						
T35M	Bob Quinn	99.75	33	Pdiff	Pdif	11 45 23.9	+0.4
	baz=278						
VNA2	Neumayer--Watz	99.77	194	Pdiff	Pdif	11 45 25.6	+2.3
	comp=Z,2.0nm,0.7s,baz=142,slow=3.0						
VNA2	Neumayer--Watz	99.77	194	PKKP	PKKPbc	12 01 42.8	-3.9
	comp=Z,4.3nm,0.6s,baz=320,slow=4.0						
C36M	Paulatuk	99.94	20	Pdiff	Pdif	11 45 24.7	+0.7
	baz=286						
WTLY	Watson Lake, Y	100.02	30	Pdiff	Pdif	11 45 25.7	+1.2
	baz=280						
TGTN	Hyland Airport	100.02	28	Pdiff	Pdif	11 45 25.7	+1.2
	baz=281						
VNA3	Neumayer Olymp	100.06	193	Pdiff	Pdif	11 45 26.3	+1.7
	comp=Z,3.0nm,1.4s						
VNA3	Neumayer Olymp	100.06	193	PKKP	PKKPbc	12 01 41.3	-4.5
	comp=Z,1.5nm,0.6s						
VNA1	Neumayer--Stat	100.17	194	PKKP	PKKPbc	12 01 40.4	-5.0
	comp=Z,12nm,1.2s						
NOR	Nord	100.66	355	*i* P	Pdif	11 45 24.4	-2.6
NOR				IAmb	IAmb	11 45 34.3	
	comp=Z,4.3nm,0.9s						
ALE	Alert	101.24	1	IAms_20	IAms_20	12 31 24.7	
	comp=Z,2μm,22.0s						
LIRD	Liard River Hi	101.49	30	Pdiff	Pdif	11 45 32.4	+1.3
	baz=282						
BBB	Bella Bella	101.69	38	IAms_20	IAms_20	12 31 06.0	
	comp=Z,2μm,22.0s						
LVV	L'vov	101.75	320	*e*P	Pdif	11 45 34.4	+1.9
WRGLY	Wrigley	101.82	26	Pdiff	Pdif	11 45 32.8	+0.3
	baz=285						
STEI	Steigen	101.87	339	*e*P	Pdif	11 45 31.5	-1.1
HOLB	Holberg	101.91	39	IAms_20	IAms_20	12 26 36.0	
	comp=Z,2μm,20.0s						
FAUS	Fauske	102.04	339	*e*P	Pdif	11 45 33.1	-0.2
DJES	Djerdap	103.49	315	IAms_20	IAms_20	12 17 36.2	
	comp=Z,3μm,19.0s						
CRVS	Cervenica-Dubn	103.55	319	*e*PDIFF	Pdif	11 45 43.7	+3.2
CRVS	Cervenica-Dubn	103.55	319	*e*P	Pdif	11 45 43.7	+3.2
STHS	Stebnicka Huta	103.60	320	*e*PDIFF	Pdif	11 45 46.2	+5.4
STHS	Stebnicka Huta	103.60	320	*e*P	Pdif	11 45 46.2	+5.4
CBB	Campbell River	103.76	39	IAms_20	IAms_20	12 27 23.0	
	comp=Z,3μm,20.0s						
C03A	Quillayute Air	104.66	41	IAms_20	IAms_20	12 35 21.1	
	comp=Z,2μm,19.0s						
LANS	Liptovska Anna	104.80	320	*e*P	Pdif	11 45 49.6	+3.5
LANS				pmax	pmax		
	comp=N,8.0nm,0.3s						
LANS	Liptovska Anna	104.80	320	*e*PG	Pdif	11 45 49.6	+3.5
DAG	Danmarks Havn	104.83	352	PKP	PKiKP	11 50 01.1	+0.4
DAG	Danmarks Havn	104.83	352	*i* P	Pdif	11 45 44.0	-1.6
DAG				IAmb	IAmb	11 45 53.6	
	comp=Z,5.0nm,1.4s						
HFS	Hagfors	105.12	332	Pdiff	Pdif	11 45 45.2	-2.0
	comp=Z,2.0nm,0.6s,baz=103,slow=4.7,SNR=5.7						
NLWA	Neilton Lookou	105.23	42	IAms_20	IAms_20	12 34 55.1	
	comp=Z,2μm,21.0s						
VYHS	Vyhne	105.34	319	*e*PN	Pdif	11 46 00.2	+12
VYHS	Vyhne	105.34	319	*e*P	Pdif	11 46 00.3	+12
OKC	Ostrava-Krasne	105.49	321	*e*PP	PP	11 50 22.9	+12
KEBM	Edson Butte	105.72	47	IAms_20	IAms_20	12 42 09.4	
	comp=Z,2μm,22.0s						
HEBO	Mount Hebo	105.72	44	IAms_20	IAms_20	12 43 53.2	
	comp=Z,2μm,22.0s						
MAUC	Maruska	105.80	320	*e*PP	PP	11 50 16.0	+2.7
MORC	Moravsky Berou	105.89	321	*e*PG	Pdif	11 45 52.0	+1.0
MORC				*e*SG	pPdif	11 46 07.8	+12
MORC	Moravsky Berou	105.89	321	*e*PKIKP	PKiKP	11 50 00.4	-3.0
GNW	Green Mountain	105.89	42	IAms_20	IAms_20	12 43 17.5	
	comp=Z,3μm,22.0s						
YKA	Yellowknife Ar	105.90	25	PKiKP	PKiKP	11 50 02.6	-0.4
	comp=Z,1.8nm,0.7s,baz=321,slow=2.5,SNR=3.8						
KBO	Bosley Butte	105.91	47	IAms_20	IAms_20	12 44 03.5	
	comp=Z,3μm,21.0s						
NB2	NORSAR Subarra	105.95	333	P	Pdif	11 45 49.3	-1.7
	comp=Z,22nm,1.7s,baz=65,slow=4.4						
NB2	NORSAR Subarra	105.95	333	P	Pdif	11 45 49.3	-1.7
	baz=65,slow=4.4						
NOA	NORSAR Array B	105.95	333	Pdiff	Pdif	11 45 49.2	-1.7
	comp=Z,3.2nm,1.0s,baz=66,slow=4.6,SNR=3.6						
NOA				PKiKP	PKiKP	11 50 02.4	-0.8
	comp=Z,3.3nm,1.2s,baz=62,slow=1.9,SNR=2.1						
YKAW1	Yellowknife Wh	105.95	25	IAms_20	IAms_20	12 31 30.8	
	comp=Z,2μm,21.0s						
J01E	Myrtle Point	105.96	46	IAms_20	IAms_20	12 43 31.8	
	comp=Z,2μm,21.0s						
G03D	McMinnville, O	106.06	44	IAms_20	IAms_20	12 44 01.3	
	comp=Z,2μm,20.0s						
F04D	Rainier, OR	106.07	43	IAms_20	IAms_20	12 44 15.3	
	comp=Z,2μm,22.0s						
COR	Corvallis	106.15	45	IAms_20	IAms_20	12 41 09.7	
	comp=Z,2μm,22.0s						
KSXB	Camp Six Broad	106.23	48	IAms_20	IAms_20	12 44 25.9	
	comp=Z,3μm,22.0s						
KRPM	Rodgers	106.23	48	IAms_20	IAms_20	12 44 14.0	
	comp=Z,3μm,20.0s						
KMPM	Mount Pierce	106.27	49	IAms_20	IAms_20	12 34 12.3	
	comp=Z,2μm,20.0s						
JCC	Jacoby Creek,	106.28	49	IAms_20	IAms_20	12 44 26.4	
	comp=Z,3μm,22.0s						
I03D	Drain, OR	106.28	46	IAms_20	IAms_20	12 43 05.3	
	comp=Z,2μm,22.0s						
KRLC	Kraliky	106.30	321	*e*PP	PP	11 50 35.2	+18
NEEM	North Greenlan	106.44	360	*i* P	Pdif	11 45 51.3	-1.9
NEEM				IAmb	IAmb	11 45 55.0	
	comp=Z,7.8nm,0.8s						
BUCK	Buck Mountain	106.45	45	IAms_20	IAms_20	12 42 24.6	
	comp=Z,2μm,20.0s						
DBO	Dodson Butte	106.46	46	IAms_20	IAms_20	12 44 36.1	
	comp=Z,3μm,22.0s						
KHMM	Horse Mountain	106.49	49	IAms_20	IAms_20	12 44 33.0	
	comp=Z,3μm,21.0s						
DPC	Dobruska-Polom	106.52	322	*e*PP	PP	11 50 24.9	+6.3
D05A	Enumclaw	106.53	42	IAms_20	IAms_20	12 29 33.4	
	comp=Z,2μm,22.0s						
OSTC	Ostas	106.53	322	*e*PP	PP	11 50 35.8	+17
VRAC	Vranov	106.60	320	*e*PDIFF	Pdif	11 45 54.5	+0.4
VRAC				*e*PKIKP	PKiKP	11 50 04.3	-0.4
KMRM	Mail Ridge	106.61	49	IAms_20	IAms_20	12 34 22.4	
	comp=Z,3μm,20.0s						
UPC	Upice	106.67	322	*e*PP	PP	11 50 36.0	+16
LON	Longmire	106.74	42	IAms_20	IAms_20	12 44 14.1	
	comp=Z,2μm,22.0s						
KRUC	Moravsky	106.78	320	*e*PKIKP	PKiKP	11 50 04.9	-0.1
KCPM	Cahto Peak	106.79	50	IAms_20	IAms_20	12 44 46.2	
	comp=Z,2μm,22.0s						
H04A	Detroit Lake	106.92	44	IAms_20	IAms_20	12 35 10.9	
	comp=Z,1μm,20.0s						
HOOD	Mount Hood Mea	107.16	44	IAms_20	IAms_20	12 45 01.2	
	comp=Z,2μm,21.0s						
RONA	Rosalia, Austr	107.17	319	*e*PKiKP	PKiKP	11 50 05.8	-0.1
	comp=Z,11nm,1.2s						
LTY	Liberty	107.39	42	IAms_20	IAms_20	12 35 20.2	
	comp=Z,2μm,20.0s						
CONA	Conrad Observa	107.40	319	*i* PKiKP	PKiKP	11 50 06.5	+0.1
	comp=Z,21nm,1.5s						
G05A	Wamic	107.40	44	IAms_20	IAms_20	12 45 08.7	
	comp=Z,2μm,21.0s						
SMAI	San Martin Ant	107.45	174	IAms_20	IAms_20	12 20 41.0	
	comp=Z,2μm,19.0s						
BRLDA	Berland Lookou	107.51	34	IAms_20	IAms_20	12 30 41.6	
	comp=Z,2μm,18.0s						
GDXM	Geysers	107.54	51	IAms_20	IAms_20	12 36 54.0	
	comp=Z,2μm,20.0s						
MCCM	Marconi Confer	107.58	51	IAms_20	IAms_20	12 32 52.1	
	comp=Z,2μm,20.0s						
K04D	Chiloquin, OR	107.63	46	IAms_20	IAms_20	12 45 24.1	
	comp=Z,3μm,22.0s						
PRU	Pruhonice	107.72	321	*e*PP	PP	11 50 33.0	+5.7
PRA	Prague	107.76	322	*e*PP	PP	11 50 42.3	+15
BRG	Berggiesshubel	107.84	322	P	PKiKP	11 49 59.7	-7.3
BRG				Amp		11 50 00.5	
	comp=Z,4.7nm,1.1s						
G06A	Carlson Farm,	107.87	44	IAms_20	IAms_20	12 45 32.2	
	comp=Z,2μm,21.0s						
PINE	Pine Mountain	107.98	45	IAms_20	IAms_20	12 43 34.0	
	comp=Z,1μm,22.0s						
ZVC	Zvikov	108.08	321	*e*PP	PKiKP	11 50 11.7	+4.2
E07A	Sunnyside	108.10	42	IAms_20	IAms_20	12 31 03.9	
	comp=Z,2μm,22.0s						
CKRC	Cesky Krumlov	108.18	320	*e*PP	PKiKP	11 50 13.7	+6.0
F07A	Phinny Hill Vi	108.21	43	IAms_20	IAms_20	12 45 24.9	
	comp=Z,2μm,18.0s						
K05A	Summer Lake	108.23	46	IAms_20	IAms_20	12 45 43.0	
	comp=Z,2μm,22.0s						
CLL	Collm	108.28	323	*e*PKiKP	PKiKP	11 50 08.0	+0.3
CLL				*e*PP	PP	11 50 31.0	-0.3
	comp=Z,31nm,1.9s						
CLL				*e*x	x	11 50 37.0	
CLL				*e*x	x	11 51 14.0	
CLL				*e*PPP	PPP	11 52 49.0	
CLL				*e*SKSdf	SKSdf	11 57 12.0	-7.0
CLL				*e*x	x	11 58 42.0	
CLL				*e*PS	PS	12 00 06.0	+10
CLL				*e*PPS	PPS	12 00 54.0	
CLL				*e*SS	SS	12 06 18.0	+33
CLL				*e*SSS	SSS	12 09 48.0	
HAWA	Hanford	108.35	42	IAms_20	IAms_20	12 30 20.7	
	comp=Z,2μm,20.0s						
ORV	Oroville	108.40	50	IAms_20	IAms_20	12 45 48.7	
	comp=Z,2μm,22.0s						
KHC	Kasperske Hory	108.56	321	*e*PP	PP	11 50 35.3	+1.8
GERES	GERESS Array B	108.56	320	PKiKP	PKiKP

comp=Z,2µm,20.0s
VES Vestal, Richgr 110.97 53 PKiKP PKiKP 11 50 13.7 +0.4
baz=281
FETA Feichten 111.00 319 *e*PKiKP PKiKP 11 50 13.3 +0.1
comp=Z,7.5nm,0.9s
PMSA Palmer Station 111.01 175 IAMs_20 IAMs_20 12 37 11.1
comp=Z,3µm,21.0s
NVAR Mina Array Bea 111.06 50 Pdiff Pdif 11 46 14.1 -0.3
comp=Z,0.4nm,0.6s,baz=260,slow=7.4,SNR=4.5
NVAR PKiKP PKiKP 11 50 13.5 -0.2
comp=Z,1.5nm,0.7s,baz=248,slow=1.1,SNR=6.7
NVAR PKKPbc PKKPbc 12 01 09.1 -2.4
comp=Z,1.0nm,0.7s,baz=128,slow=3.3,SNR=6.0
SNCC San Nicolas Is 111.07 56 PKiKP PKiKP 11 50 13.9 +0.3
baz=280
PLID Pearl Lake 111.08 43 IAMs_20 IAMs_20 12 47 16.7
comp=Z,2µm,21.0s
NV11 Mina Array Sit 111.18 50 IAMs_20 IAMs_20 12 47 46.3
comp=Z,2µm,21.0s
ARVC Arvin 111.31 54 PKiKP PKiKP 11 50 14.4 +0.4
baz=281
DAVA Damuels 111.47 320 *i* PKiKP PKiKP 11 50 12.9 -1.2
comp=Z,17nm,1.5s
ISA Isabella, Lake 111.49 53 IAMs_20 IAMs_20 12 41 30.9
comp=Z,2µm,20.0s
ISA Isabella, Lake 111.49 53 PKiKP PKiKP 11 50 14.9 +0.5
baz=281
ZCCA Zocca 111.62 316 IAMs_20 IAMs_20 12 21 44.1
comp=Z,2µm,21.0s
DAVOX Davos/Dischmat 111.63 319 *i* PKiKP PKiKP 11 50 13.7 -0.8
DAVOX Davos/Dischmat 111.63 319 PKiKP PKiKP 11 50 13.7 -0.8
comp=Z,5.6nm,0.7s,baz=249,slow=4.2,SNR=6.9
MSO Missoula 111.92 41 IAMs_20 IAMs_20 12 47 53.1
comp=Z,2µm,21.0s
MSO Missoula 111.92 41 PKiKP PKiKP 11 50 15.6 +0.6
baz=289
EDW2 Edwards Air Fo 112.03 54 PKiKP PKiKP 11 50 15.5 +0.1
baz=281
GRAC Grapevine Rang 112.10 52 PKiKP PKiKP 11 50 16.2 +0.7
baz=282
LRMC Laurel Mtn Rad 112.16 53 PKiKP PKiKP 11 50 16.2 +0.4
baz=282
MPMC Manual Prospec 112.20 53 PKiKP PKiKP 11 50 16.8 +0.9
baz=282
BFSC Mount Baldy Ra 112.42 55 PKiKP PKiKP 11 50 16.5 +0.2
baz=281
FURC Furnace Creek, 112.61 52 PKiKP PKiKP 11 50 17.0 +0.7
baz=283
HLID Hailey 112.61 44 PKiKP PKiKP 11 50 17.2 +0.8
baz=287
ELK Elko 112.81 47 IAMs_20 IAMs_20 12 48 51.2
comp=Z,3µm,22.0s
GSC Goldstone, Bar 112.90 53 PKiKP PKiKP 11 50 18.4 +1.3
baz=282
MURC Murrieta 112.92 55 PKiKP PKiKP 11 50 17.1 0.0
baz=281
TPNV Topopah Spring 112.98 51 PKiKP PKiKP 11 50 17.6 +0.3
baz=283
BBRC Big Bear Solar 113.02 54 PKiKP PKiKP 11 50 17.6 +0.1
baz=282
R11B Troy Canyon, C 113.16 50 PKiKP PKiKP 11 50 17.8 +0.1
baz=284
S11A Rachel 113.21 51 IAMs_20 IAMs_20 12 49 12.1
comp=Z,2µm,18.0s
DLMT Dillon 113.29 42 IAMs_20 IAMs_20 12 39 24.2
comp=Z,1µm,21.0s
HEC Hector,Ludlow 113.38 54 PKiKP PKiKP 11 50 18.2 +0.1
baz=282
PFO Pinyon Flats O 113.52 55 PKiKP PKiKP 11 50 18.5 +0.1
baz=282
TPFO Pinon Flats 113.53 55 PKiKP PKiKP 11 50 18.9 +0.5
baz=282
TUQ Turquoise Moun 113.57 53 PKiKP PKiKP 11 50 19.2 +0.8
baz=283
TKX Tecate 113.61 56 IAMs_20 IAMs_20 12 27 55.1
comp=Z,2µm,22.0s
CBX Cerro Bola 113.61 56 IAMs_20 IAMs_20 12 49 01.2
comp=Z,3µm,22.0s
BELC Belle Mtn. Jos 113.82 55 PKiKP PKiKP 11 50 19.0 0.0
baz=282
BOZ Bozeman (W) 113.85 41 PKiKP PKiKP 11 50 19.1 +0.4
baz=290
GMRC Granite Mounta 113.93 54 PKiKP PKiKP 11 50 19.6 +0.4
baz=283
IKP In-Ko-Pah, Jac 114.00 56 PKiKP PKPdf 11 50 19.3 0.0
baz=282
EGMT Eagleton 114.16 38 PKiKP PKPdf 11 50 19.8 +0.7
baz=293
SWSC Sam W. Stewart 114.20 56 PKiKP PKPdf 11 50 20.2 +0.7
baz=282
BC3 Big Chuckawall 114.34 55 PKiKP PKPdf 11 50 20.7 +0.8
baz=282
IRM Iron Mountain 114.48 54 PKiKP PKPdf 11 50 20.7 +0.6
baz=283
DUG Dugway, Tooele 114.74 47 PKiKP PKiKP 11 50 20.9 +0.3
baz=287
GUVIX Guadalupe Vict 114.93 56 IAMs_20 IAMs_20 12 31 21.2
comp=Z,1µm,21.0s
H17A Grant Village 114.97 42 PKiKP PKiKP 11 50 21.8 +0.8
baz=291
CCUT Cedar City 115.06 50 IAMs_20 IAMs_20 12 50 30.2
comp=Z,3µm,21.0s
BLYC Blythe 115.07 54 IAMs_20 IAMs_20 12 47 38.8
comp=Z,1µm,22.0s
KEST Kesra 115.12 308 PKP PKiKP 11 50 20.9 -0.4
comp=Z,7.4nm,0.9s,baz=295,slow=5.1,SNR=5.3
KEST PP PP 11 51 21.9 +0.9
comp=Z,7.1nm,1.0s,baz=5.2,slow=6.4,SNR=4.7
PDMCI Parker Dam,Lak 115.26 54 PKiKP PKiKP 11 50 21.9 +0.4
baz=284
EKA Eskdalemuir Ar 115.32 331 PKiKP PKiKP 11 50 19.5 -1.5
EKA Eskdalemuir Ar 115.32 331 PKP PKiKP 11 50 19.4 -1.5
comp=Z,2.6nm,0.6s,baz=9.9,slow=2.0,SNR=8.1
FFC Flin Flon 115.37 29 IAMs_20 IAMs_20 12 42 58.0
comp=Z,1µm,22.0s
CTU Camp Tracy 115.37 46 IAMs_20 IAMs_20 12 50 32.8
comp=Z,3µm,22.0s
RLMT Red Lodge 115.57 41 PKiKP PKiKP 11 50 22.3 +0.2
baz=292
MSU Marysvale 115.70 49 PKiKP 11 50 22.2 -0.4
MSU Marysvale 115.70 49 PKiKP PKiKP 11 50 22.2 -0.4
U15A North Rim 116.19 51 PKPdf 11 50 23.6 -0.1
BW06 Boulder Array 116.23 44 PKPdf 11 50 22.6 -0.9
BW06 Boulder Array 116.23 44 PKiKP PKPdf 11 50 23.7 +0.2
baz=291
PD31 Pinedale Array 116.23 44 PKPdf 11 50 22.6 -0.9
PDAR Pinedale Array 116.23 44 PKPdf 11 50 22.4 -1.1
PDAR Pinedale Array 116.23 44 PKP PKPdf 11 50 23.2 -0.3
comp=Z,5.9nm,0.9s,baz=233,slow=1.5,SNR=22
PDAR PKKPbc PKKPbc 12 00 52.0 -2.2
comp=Z,1.0nm,0.6s,baz=101,slow=7.7,SNR=4.7
214A Organ Pipe Nat 116.88 56 PKiKP PKPdf 11 50 25.1 +0.3
baz=283
LAO LASA Array 116.89 39 PKPdf PKPdf 11 50 24.9 +0.5
LAO LASA Array 116.89 39 PKiKP PKPdf 11 50 24.7 +0.3
baz=295
LAO LASA Array 116.89 39 P PKPdf 11 50 24.9 +0.5
baz=295,SNR=25
WUAZ Wupatki 117.15 52 PKiKP PKPdf 11 50 25.6 +0.2
baz=286
DGMT Dagmar 117.33 36 PKPdf PKPdf 11 50 25.1 -0.1
DGMT Dagmar 117.33 36 PKiKP PKPdf 11 50 26.0 +0.8
baz=298
DGMT Dagmar 117.33 36 P PKPdf 11 50 25.1 -0.1
baz=298
X16A Lo Mia Camp, P 117.39 53 PKPdf PKPdf 11 50 26.8 +0.8
O20A White River Ci 118.08 46 PKiKP PKPdf 11 50 27.0 -0.1
baz=290
RWWY Rawlins 118.25 44 PKPdf 11 50 26.5 -1.0
K22A Casper 118.35 43 IAMs_20 IAMs_20 12 52 43.4
comp=Z,3µm,22.0s
K22A Casper 118.35 43 PKiKP PKPdf 11 50 27.5 0.0
baz=293
K22A Casper 118.35 43 P PKPdf 11 50 27.1 -0.4
baz=293
TUC Tucson 118.46 55 PKiKP PKPdf 11 50 28.1 +0.2
baz=285
W18A Petrified Fore 118.55 52 PKPdf 11 50 29.0 +0.9
W18A Petrified Fore 118.55 52 PKiKP PKPdf 11 50 28.2 +0.1
baz=287
ETOS Mallorca 118.85 314 PKP PKPdf 11 50 28.3 0.0
MVCO Mesa Verde 118.87 49 PKiKP PKPdf 11 50 28.7 -0.1
baz=289
RSSD Black Hills 119.39 40 PKPdf PKPdf 11 50 28.9 -0.6
RSSD Black Hills 119.39 40 PKiKP PKPdf 11 50 28.7 -0.8
baz=296
RSSD Black Hills 119.39 40 P PKPdf 11 50 28.6 -0.9
baz=296
RSSD Black Hills 119.39 40 PKiKP PKPdf 11 50 28.9 -0.6
N23A Red Feather La 119.43 45 PKiKP PKPdf 11 50 29.9 +0.2
baz=293
DUN6 Lazy B Ranch 119.78 55 PKPdf PKPdf 11 50 30.5 0.0
319A Douglas 119.94 56 PKPdf PKPdf 11 50 30.8 0.0
S22A 4UR Ranch, Cre 119.94 48 PKiKP PKPdf 11 50 31.6 +0.7
baz=290
ISCO Idaho Springs 120.08 46 IAMs_20 IAMs_20 12 53 44.5
comp=Z,2µm,22.0s
ISCO Idaho Springs 120.08 46 PKiKP PKPdf 11 50 30.8 -0.3
baz=292
ISCO Idaho Springs 120.08 46 P PKPdf 11 50 30.5 -0.6
baz=292
MDND Maddock 120.30 35 PKiKP PKPdf 11 50 30.7 -0.1
baz=302
MDND Maddock 120.30 35 P PKPdf 11 50 30.3 -0.6
baz=302
E28A Huff 120.32 37 P PKPdf 11 50 30.7 -0.3
baz=300,SNR=6.6
HOPE Hope Point 120.61 191 IAMs_20 IAMs_20 12 38 34.2
comp=Z,2µm,21.0s
BRIGG Briggsdale 120.69 44 PKPdf 11 50 32.4 +0.4
Q24A Divide 120.73 46 IAMs_20 IAMs_20 12 51 33.2
comp=Z,2µm,22.0s
Q24A Divide 120.73 46 PKiKP PKPdf 11 50 32.8 +0.4
baz=292
121A Cookes Peak, D 120.85 54 PKiKP PKPdf 11 50 32.9 +0.3
baz=287
121A Cookes Peak, D 120.85 54 P PKPdf 11 50 33.2 +0.6
baz=287,SNR=10
SDCO Great Sand Dun 120.93 48 IAMs_20 IAMs_20 12 54 25.5
comp=Z,2µm,21.0s
SDCO Great Sand Dun 120.93 48 PKiKP PKPdf 11 50 33.5 +0.7
baz=291
SDCO Great Sand Dun 120.93 48 P PKPdf 11 50 32.8 +0.1
baz=291
ULM Lac du Bonnet 120.98 31 IAMs_20 IAMs_20 12 43 14.1
comp=Z,1µm,20.0s
ULM Lac du Bonnet 120.98 31 PKiKP PKPdf 11 50 30.0 -2.1
ULM Lac du Bonnet 120.98 31 PKP PKPdf 11 50 30.0 -2.1
comp=Z,15nm,0.7s,baz=291,slow=1.2,SNR=15
Y22D IRIS PASSCAL I 121.08 52 PKiKP PKPdf 11 50 33.6 +0.6
baz=288
Y22F Passcal Instru 121.08 52 PKiKP PKPdf 11 50 33.7 +0.7
baz=288
Y22A Socorro 121.09 52 P PKPdf 11 50 33.4 +0.4
baz=288
ANMO Albuquerque 121.16 51 PKPdf PKPdf 11 50 34.0 +0.9
ANMO Albuquerque 121.16 51 IAMs_20 IAMs_20 12 53 33.7
comp=Z,2µm,21.0s
ANMO Albuquerque 121.16 51 PKiKP PKPdf 11 50 33.6 +0.4
baz=289
ANMO Albuquerque 121.16 51 P PKPdf 11 50 34.1 +0.9
baz=289
ANMO Albuquerque 121.16 51 PKIKP PKPdf 11 50 34.0 +0.9
T25A Trinidad 121.96 48 PKiKP PKPdf 11 50 35.2 +0.6
baz=292
OGNE Ogallala 122.11 43 IAMs_20 IAMs_20 12 51 12.3
comp=Z,2µm,21.0s
OGNE Ogallala 122.11 43 PKiKP PKPdf 11 50 35.7 +1.0
baz=296
ETOB Tobarra 122.41 314 PKP PKPdf 11 50 34.6 -0.7
SUSD Miller 122.45 38 PKiKP PKPdf 11 50 35.6 +0.5
baz=301
KSCO Kaye Shedlock' 122.52 45 PKiKP PKPdf 11 50 35.5 -0.1
baz=294
KSCO Kaye Shedlock' 122.52 45 P PKPdf 11 50 36.2 +0.7
baz=294
K30B Basset 122.92 40 P PKPdf 11 50 35.6 -0.5
baz=299
MNTX Cornudas Mount 123.04 54 PKiKP PKPdf 11 50 36.8 +0.1
baz=288
MNTX Cornudas Mount 123.04 54 P PKPdf 11 50 36.3 -0.3
baz=288,SNR=48
F33A 5 Mile Ranch, 123.30 36 IAMs_20 IAMs_20 12 54 12.0
comp=Z,2µm,21.0s
F33A 5 Mile Ranch, 123.30 36 P PKPdf 11 50 36.3 -0.3
baz=304,SNR=9.3
ESDC Sonseca Array 123.67 316 PKP PKPdf 11 50 36.4 -1.2
comp=Z,14nm,1.3s,baz=3.3,slow=3.6,SNR=15
ESDC PP PP 11 52 22.0 +2.4
comp=Z,4.6nm,1.1s,baz=53,slow=7.2,SNR=5.8
ECSD EROS Data Cent 124.26 38 PKiKP PKPdf 11 50 39.2 +0.6
baz=303
ECSD EROS Data Cent 124.26 38 P PKPdf 11 50 37.6 -1.0
baz=303
MSTX Muleshoe 124.36 51 PKiKP PKPdf 11 50 38.9 -0.3
baz=291
MSTX Muleshoe 124.36 51 P PKPdf 11 50 38.6 -0.7
baz=291
BGNE Belgrade 124.49 41 IAMs_20 IAMs_20 12 55 30.0
comp=Z,2µm,22.0s
BGNE Belgrade 124.49 41 PKiKP PKPdf 11 50 38.4 -0.7
baz=300
BGNE Belgrade 124.49 41 P PKPdf 11 50 38.5 -0.7
baz=300
PBRG Braganca 124.52 320 *e*PP PP 11 52 28.5 +3.3
CBKS Cedar Bluff 124.64 44 IAMs_20 IAMs_20 12 47 33.3
comp=Z,1µm,22.0s
CBKS Cedar Bluff 124.64 44 PKiKP PKPdf 11 50 39.6 +0.1
baz=297
CBKS Cedar Bluff 124.64 44 P PKPdf 11 50 39.2 -0.3
baz=297
EYMN Ely 124.67 31 IAMs_20 IAMs_20 12 56 22.5
comp=Z,2µm,22.0s
EYMN Ely 124.67 31 PKiKP PKPdf 11 50 39.0 -0.2
baz=310
AMTX Amarillo 124.86 50 IAMs_20 IAMs_20 12 55 49.7
comp=Z,2µm,22.0s
AMTX Amarillo 124.86 50 PKiKP PKPdf 11 50 40.1 -0.1
baz=293
AMTX Amarillo 124.86 50 P PKPdf 11 50 40.7 +0.6
baz=293
F36A Milaca 124.87 34 PKPdf 11 50 39.3 -0.4
F36A IAMs_20 IAMs_20 12 55 28.2
comp=Z,2µm,22.0s
F36A Milaca 124.87 34 P PKPdf 11 50 39.0 -0.7
baz=307
MVO Moncorvo 125.03 319 *e*PKPdf PKPdf 11 50 40.1 -0.1
MVO Moncorvo 125.03 319 *e*PP PP 11 52 30.2 +1.6
MVO Moncorvo 125.03 319 *e*LR LR 12 52 12.6
comp=Z,1µm,20.0s
TX31 Lajitas Ar. Si 125.17 57 PKPdf PKPdf 11 50 41.2 +0.4
TX31 Lajitas Ar. Si 125.17 57 P PKPdf 11 50 40.0 -0.9
baz=288
TX32 Lajitas Array 125.17 57 PKPdf PKPdf 11 50 40.5 -0.4
TXAR Lajitas Array 125.17 57 PKPdf PKPdf 11 50 40.8 -0.1
TXAR Lajitas Array 125.17 57 PKIKP PKPdf 11 50 40.8 -0.1
TXAR Lajitas Array 125.17 57 PKP PKPdf 11 50 40.5 -0.4
comp=Z,9.4nm,0.9s,baz=268,slow=1.2,SNR=36
L34A Svendsen Farm, 125.35 40 IAMs_20 IAMs_20 12 57 25.5
comp=Z,1µm,21.0s
L34A Svendsen Farm, 125.35 40 P PKPdf 11 50 40.3 -0.4
baz=302
PGAV Gavieira, Arco 125.42 321 *e*PKPdf PKPdf 11 50 41.3 +0.3
PGAV Gavieira, Arco 125.42 321 *e*PP PP 11 52 33.3 +2.1
PGAV Gavieira, Arco 125.42 321 *e*LR LR 12 57 09.4
comp=Z,1µm,20.0s
POLO Lamas de Olo 125.42 320 *e*PKPdf PKPdf 11 50 41.5 +0.5
POLO Lamas de Olo 125.42 320 *e*PP PP 11 52 33.9 +2.7
PVRL Vila Real 125.42 320 *e*PKPdf PKiKP 11 50 42.9 +1.6
E38A The Farm, Brul 125.49 32 IAMs_20 IAMs_20 12 57 06.5
comp=Z,2µm,21.0s
E38A The Farm, Brul 125.49 32 P PKPdf 11 50 39.8 -1.0
baz=309
R32A Long Quarter, 125.53 44 IAMs_20 IAMs_20 12 56 50.0
comp=Z,2µm,22.0s
R32A Long Quarter, 125.53 44 P PKPdf 11 50 40.4 -0.8
baz=298
SPMN Marine on St. 125.66 34 IAMs_20 IAMs_20 12 56 23.0
comp=Z,2µm,20.0s
SPMN Marine on St. 125.66 34 PKiKP PKPdf 11 50 40.8 -0.4
baz=307
SPMN Marine on St. 125.66 34 P PKPdf 11 50 40.8 -0.4
baz=307
MTE Manteigas 125.75 319 *e*PKPdf PKPdf 11 50 42.3 +0.7
MTE Manteigas 125.75 319 *e*PP PP 11 52 36.1 +2.6
MTE Manteigas 125.75 319 *e*LR LR 12 53 00.7
comp=Z,2µm,20.0s
PVIS Viseu 125.82 319 *e*PKPdf PKPdf 11 50 43.0 +1.3
TOA0 Torodi Ar. Sit 125.93 283 PKPdf PKPdf 11 50 41.2 -1.3
TORD Torodi Ar. Bea 125.93 283 PKPdf 11 50 40.6 -2.0
TORD Torodi Ar. Bea 125.93 283 PKP PKPdf 11 50 41.1 -1.4
comp=Z,8.4nm,0.7s,baz=50,slow=2.5,SNR=37
TORD PKKPbc PKKPab 12 00 17.3 +1.3
comp=Z,2.3nm,1.1s,baz=296,slow=3.4,SNR=5.5
PCBR Castelo Branco 125.98 318 *e*PKPdf PKPdf 11 50 42.3 +0.3
I37B Waseca 126.03 36 P PKPdf 11 50 41.2 -0.8
baz=306,SNR=9.2
PMRV Marv??o 126.13 317 *e*PKPdf PKPdf 11 50 42.6 +0.3
PMRV Marv??o 126.13 317 *e*PP PP 11 52 37.9 +1.9
PMRV Marv??o 126.13 317 *e*LR LR 12 53 21.6
comp=Z,2µm,20.0s
SN01 Snyder 1 126.23 52 IAMs_20 IAMs_20 12 56 58.3
comp=Z,3µm,20.0s
SAND Sanderson 126.25 55 PKPdf PKPdf 11 50 42.7 -0.2
OK038 West end E0370 126.38 47 IAMs_20 IAMs_20 12 58 00.8
comp=Z,2µm,19.0s
N35A Tabor 126.40 40 IAMs_20 IAMs_20 12 57 10.4
comp=Z,2µm,22.0s
N35A Tabor 126.40 40 P PKPdf 11 50 42.8 0.0
baz=302
PBAR Barrancos 126.49 316 *e*PKPdf PKPdf 11 50 43.4 +0.4
PBAR Barrancos 126.49 316 *e*PP PP 11 52 41.7 +3.3
PESTR Estremoz 126.54 317 *e*PKPdf PKPdf 11 50 44.1 +1.0
PESTR Estremoz 126.54 317 *e*PP PP 11 52 41.4 +2.7
PCAS Casmilo, Conde 126.56 319 *e*PKPdf PKPdf 11 50 43.5 +0.4
PCAS Casmilo, Conde 126.56 319 *e*PP PP 11 52 47.0 +8.3
OK032 Salt Plains WL 126.62 46 IAMs_20 IAMs_20 12 58 06.0
comp=Z,2µm,21.0s
SFS San Fernando 126.68 314 IAMs_20 IAMs_20 12 57 00.3
comp=Z,1µm,19.0s
D41A Chassel 126.75 30 IAMs_20 IAMs_20 12 52 47.4
comp=Z,2µm,18.0s
PMTG Montargil 126.87 317 *e*PKPdf PKPdf 11 50 44.6 +0.9
PMTG Montargil 126.87 317 *e*PP PP 11 52 44.9 +4.1
MDT Midelt 126.99 309 PKPdf 11 50 43.4 -0.9
MDT Midelt 126.99 309 PKP PKPdf 11 50 43.4 -0.9
comp=Z,12nm,1.0s,baz=64,slow=2.0,SNR=19
PSBE So Bento 127.03 318 *e*PP PP 11 52 44.7 +2.8
G40A Rib Lake 127.07 33 IAMs_20 IAMs_20 12 43 07.3
comp=Z,1µm,22.0s
G40A Rib Lake 127.07 33 P PKPdf 11 50 43.2 -0.7
baz=310
COWI Conover 127.09 32 IAMs_20 IAMs_20 12 57 44.8
comp=Z,2µm,22.0s
COWI Conover 127.09 32 P PKPdf 11 50 43.5 -0.4
baz=312
WMOK Wichita Mounta 127.10 49 IAMs_20 IAMs_20 12 58 39.0
comp=Z,2µm,21.0s
WMOK Wichita Mounta 127.10 49 PKiKP PKPdf 11 50 44.2 -0.1
baz=295
WMOK Wichita Mounta 127.10 49 P PKPdf 11 50 43.4 -0.9
baz=295
PBEJ Beja 127.14 316 *e*PKPdf PKPdf 11 50 44.6 +0.4
ABTX Abilene, Hawle 127.29 51 PKiKP PKPdf 11 50 44.7 -0.1
baz=293
PVAQ Vaqueiros 127.33 315 *e*PKPdf PKPdf 11 50 46.2 +1.6
PVAQ Vaqueiros 127.33 315 *e*PP PP 11 52 47.4 +3.4
SCIA State Center 127.36 38 IAMs_20 IAMs_20 12 57 54.5
comp=Z,2µm,22.0s
SCIA State Center 127.36 38 PKiKP PKPdf 11 50 44.6 +0.1
baz=305
PACT Alcochete 127.43 317 *e*PKPdf PKPdf 11 50 45.3 +0.6
PCVE Castro Verde 127.44 316 *e*PKPdf PKPdf 11 50 45.8 +1.0
PCVE Castro Verde 127.44 316 *e*PP PP 11 52 47.8 +3.1
PNCL Nicolau / Gran 127.55 317 *e*PKPdf PKPdf 11 50 44.7 -0.3
PNCL Nicolau / Gran 127.55 317 *e*PP PP 11 52 47.5 +2.1
PBDV Barranco-do-Ve 127.55 315 *e*PKPdf PKPdf 11 50 45.6 +0.5
PBDV Barranco-do-Ve 127.55 315 *e*PP PP 11 52 50.1 +4.6
PMAFR Mafra 127.64 318 *e*PP PP 11 52 50.6 +4.7
DRIO Del Rio 127.66 55 PKPdf PKPdf 11 50 46.0 +0.5
LIS Lisbon 127.67 318 *e*PP PP 11 52 47.0 +0.9
OK048 Pawnee Station 127.70 46 IAMs_20 IAMs_20 12 58 59.6
comp=Z,2µm,22.0s
T35B Sooner Cattle 127.78 45 P PKPdf 11 50 45.7 +0.2
baz=298
SCHQ Schefferville 127.80 11 PKP PKPdf 11 50 44.3 -0.7
comp=Z,21nm,0.9s,baz=271,slow=3.9,SNR=11
OK033 Mehan 127.88 46 IAMs_20 IAMs_20 12 53 30.3
comp=Z,1µm,18.0s
JCT Junction City 127.96 54 PKiKP PKPdf 11 50 46.0 -0.1
baz=291
JCT Junction City 127.96 54 P PKPdf 11 50 46.2 +0.1
baz=291
PTEO Sao Teotonio 127.96 316 *e*PKPdf PKPdf 11 50 46.0 +0.2
OK031 S. Brethren Rd 127.99 46 IAMs_20 IAMs_20 12 42 27.3
comp=Z,1µm,20.0s
OK052 Battle Ridge R 128.00 46 IAMs_20 IAMs_20 12 42 28.5
comp=Z,1µm,21.0s
E43A Lone Tree Farm 128.00 30 IAMs_20 IAMs_20 12 42 36.6
comp=Z,1µm,21.0s
MORF Marmelete 128.03 316 *e*PKPdf PKPdf 11 50 46.9 +0.9
MORF Marmelete 128.03 316 *e*PP PP 11 52 54.1 +5.5
MORF Marmelete 128.03 316 *e*PKPdf PKPdf 11 50 46.2 +0.2
MORF *e*PP PP 11 52 49.4 +0.8
PFVI Vila Bisbo 128.23 316 *e*PKPdf PKPdf 11 50 47.5 +1.1
PFVI Vila Bisbo 128.23 316 *e*PP PP 11 52 52.5 +2.6
FW03 Perrin-Whitt E 128.34 50 IAMs_20 IAMs_20 12 59 30.1
comp=Z,2µm,19.0s
P38A Dawn 128.42 41 IAMs_20 IAMs_20 12 57 55.0
comp=Z,2µm,20.0s
P38A Dawn 128.42 41 P PKPdf 11 50 46.1 -0.5
baz=303
JFWS Jewell Farm 128.53 35 PKiKP PKPdf 11 50 46.5 -0.3
baz=308
LOOK Love County 128.62 49 IAMs_20 IAMs_20 12 48 43.1
comp=Z,2µm,19.0s
I42A Draeger Farm, 128.66 34 IAMs_20 IAMs_20 12 58 43.4
comp=Z,2µm,22.0s
FW06 Azle 128.76 50 PKPdf PKPdf 11 50 48.1 +0.6
TUL3 Leonard 128.76 46 PKiKP PKPdf 11 50 46.9 -0.6
baz=298
Z35A Perchaven, San 128.84 49 IAMs_20 IAMs_20 12 43 31.2
comp=Z,2µm,20.0s
H43A Windswept, Lux 128.90 32 IAMs_20 IAMs_20 12 59 32.6
comp=Z,1µm,21.0s
833A Chaparral WMA, 129.04 56 PKiKP PKPdf 11 50 48.4 +0.2
baz=290
833A Chaparral WMA, 129.04 56 P PKPdf 11 50 48.3 +0.2
baz=290
RLO Rose Lookout 129.19 45 IAMs_20 IAMs_20 13 00 13.8
comp=Z,1µm,19.0s
WHTX Lake Whitney, 129.24 51 PKiKP PKPdf 11 50 48.1 -0.3
baz=294
E46A Sault Ste Mari 129.32 28 P PKPdf 11 50 46.8 -1.4
baz=317
P40A Paris 129.43 40 IAMs_20 IAMs_20 12 58 48.6
comp=Z,2µm,22.0s
P40A Paris 129.43 40 P PKPdf 11 50 47.2 -1.4
baz=304,SNR=7.8
U38A Gravette 129.50 44 P PKPdf 11 50 47.4 -1.4
baz=300
S39A Bolivar 129.59 43 IAMs_20 IAMs_20 12 49 55.2
comp=Z,1µm,20.0s
S39A Bolivar 129.59 43 P PKPdf 11 50 48.3 -0.6
baz=302,SNR=25
435B Jarrell 129.62 53 PKiKP PKPdf 11 50 49.3 +0.1
baz=293
R40A Maddies Statio 129.97 41 IAMs_20 IAMs_20 12 59 10.2
comp=Z,2µm,20.0s
R40A Maddies Statio 129.97 41 P PKPdf 11 50 49.0 -0.7
baz=303,SNR=13
I45A Fountain 130.00 32 IAMs_20 IAMs_20 13 00 17.8
comp=Z,2µm,21.0s
GLMI Grayling 130.28 30 IAMs_20 IAMs_20 12 44 58.9
comp=Z,2µm,22.0s
GLMI Grayling 130.28 30 PKiKP PKPdf 11 50 49.6 -0.4
baz=316
L44A Lake County Fo 130.33 35 PKiKP PKPdf 11 50 50.3 +0.1
baz=310
U40A Yellville 130.61 44 P PKPdf 11 50 49.6 -1.4
baz=301,SNR=11
U40A P PKPdf 11 50 49.6 -1.4
baz=301,SNR=11
CCM Cathedral Cave 130.78 41 IAMs_20 IAMs_20 13 01 11.4
comp=Z,2µm,21.0s
CCM Cathedral Cave 130.78 41 PKiKP PKPdf 11 50 51.1 -0.1
baz=304
CCM Cathedral Cave 130.78 41 P PKPdf 11 50 49.8 -1.4
baz=304,SNR=10
VLDQ Val d'Or 130.87 22 IAMs_20 IAMs_20 12 39 11.1
comp=Z,1µm,20.0s
MIAR Mount Ida 131.01 46 PKPdf PKPdf 11 50 52.8 +1.1
MIAR Mount Ida 131.01 46 PKiKP PKPdf 11 50 51.2 -0.5
baz=299
MIAR Mount Ida 131.01 46 P PKPdf 11 50 51.6 -0.1
baz=299,SNR=14
MIAR Mount Ida 131.01 46 PKIKP PKPdf 11 50 52.8 +1.1
SLM Saint Louis 131.10 40 IAMs_20 IAMs_20 13 01 05.7
comp=Z,2µm,22.0s
J47A Sunmer 131.30 32 IAMs_20 IAMs_20 12 45 29.0
comp=Z,2µm,21.0s

FVM	French Village	131.35	41	IAMs_20	IAMs_20	13 01 11.5	
	comp=Z,2μm,21.0s						
FVM	French Village	131.35	41	P	PKPdf	11 50 53.0	+0.7
	baz=305						
FCAR	Ozark Folk Cen	131.36	44		PKPdf	11 50 52.8	+0.5
NATX	Nacogdoches	131.49	50	PKiKP	PKPdf	11 50 52.8	+0.1
	baz=296						
WHAR	Wooly Hollow	131.55	45	IAMs_20	IAMs_20	13 01 12.4	
	comp=Z,2μm,22.0s						
UALR	University of	131.78	45	IAMs_20	IAMs_20	12 45 09.4	
	comp=Z,2μm,21.0s						
I49A	Point Hope	131.81	30	IAMs_20	IAMs_20	12 45 47.3	
	comp=Z,2μm,22.0s						
LCAR	Lake Charles	131.93	43		PKPdf	11 50 52.4	-1.0
SFIN	Lafayette	131.96	36	PKiKP	PKPdf	11 50 53.6	+0.3
	baz=310						
CGM3	Cape Girardeau	132.24	41	IAMs_20	IAMs_20	12 46 35.2	
	comp=Z,1μm,20.0s						
S44A	Carbondale	132.28	40	IAMs_20	IAMs_20	13 01 38.9	
	comp=Z,2μm,21.0s						
L48A	N Adams	132.41	33	IAMs_20	IAMs_20	13 01 36.4	
	comp=Z,2μm,22.0s						
PARMO	Parma	132.54	42	IAMs_20	IAMs_20	13 02 04.2	
	comp=Z,2μm,20.0s						
AAM	Ann Arbor	132.57	32	IAMs_20	IAMs_20	13 01 57.6	
	comp=Z,1μm,18.0s						
PLCA	Paso Flores	132.60	161	PKPdf	PKPdf	11 50 55.6	+1.0
PLCA	Paso Flores	132.60	161	PKIKP	PKPdf	11 50 55.7	+1.0
PLCA	Paso Flores	132.60	161	eP	PKPdf	11 50 53.9	-0.7
PLCA	Paso Flores	132.60	161	PKP	PKPdf	11 50 53.4	-1.3
	comp=Z,8.6nm,0.7s,baz=268,slow=1.2,SNR=17						
KIC	Kosan Boka	132.60	275	⇓eP	PKIKP	PKPdf	11 50 55.3	0.0
	comp=Z,18nm,0.6s						
CCAR	Cane Creek	132.62	46	IAMs_20	IAMs_20	12 53 06.8	
	comp=Z,2μm,20.0s						
DBIC	Dimbokro	132.72	276	PKPdf	PKPdf	11 50 55.2	-0.3
DBIC	Dimbokro	132.72	276	PKIKP	PKPdf	11 50 55.2	-0.3
DBIC	Dimbokro	132.72	276	PKP	PKPdf	11 50 54.4	-1.1
	comp=Z,9.9nm,0.6s,baz=107,slow=2.1,SNR=13						
K50A	Casco	132.76	30	IAMs_20	IAMs_20	12 50 48.5	
	comp=Z,1μm,21.0s						
PEBM	Pemiscott Bayo	132.78	42	IAMs_20	IAMs_20	13 01 59.5	
	comp=Z,2μm,20.0s						
TIC	Toumodi	132.88	275	⇓iPKIKP	PKPdf	11 50 55.7	-0.1
	comp=Z,7.8nm,0.4s						
SADO	Sadowa	132.89	26	IAMs_20	IAMs_20	13 02 37.6	
	comp=Z,2μm,22.0s						
LIC	Lamto	132.89	275	⇑iPKIKP	PKPdf	11 50 55.3	-0.5
	comp=Z,32nm,0.7s						
HICK	Hickman	132.96	41	IAMs_20	IAMs_20	12 58 56.2	
	comp=Z,2μm,22.0s						
LNXT	Lenox	133.03	42	IAMs_20	IAMs_20	13 02 40.2	
	comp=Z,2μm,21.0s						
T45A	Paducah	133.06	41	IAMs_20	IAMs_20	13 00 59.9	
	comp=Z,2μm,22.0s						
O48B	Farmland	133.16	35	PKiKP	PKPdf	11 50 55.9	+0.3
	baz=312						
HALT	Halls	133.24	42	IAMs_20	IAMs_20	12 59 57.8	
	comp=Z,2μm,22.0s						
M50A	Fremont	133.53	32	IAMs_20	IAMs_20	13 02 57.0	
	comp=Z,2μm,22.0s						
M50A	Fremont	133.53	32	P	PKPdf	11 50 56.1	-0.1
	baz=315						
M50A				P	PKPdf	11 50 56.1	-0.1
	baz=315						
TRQ	Mont Tremblant	133.53	21	IAMs_20	IAMs_20	12 42 58.3	
	comp=Z,1μm,20.0s						
O49A	Covington	133.66	34	P	PKPdf	11 50 56.8	+0.2
	baz=313						
O49A				P	PKPdf	11 50 56.8	+0.2
	baz=313						
DELO	Deloro Mine	133.75	25	IAMs_20	IAMs_20	12 54 47.1	
	comp=Z,2μm,21.0s						
WCI	Wyandotte Cave	133.81	38	PKiKP	PKPdf	11 50 56.7	-0.2
	baz=310						
WCI	Wyandotte Cave	133.81	38	P	PKPdf	11 50 56.4	-0.4
	baz=310						
P49A	Miami Univ. Ec	133.89	35	PKiKP	PKPdf	11 50 57.7	+0.6
	baz=312						
OXF	Oxford	133.97	44	PKiKP	PKPdf	11 50 57.4	+0.1
	baz=303						
OXF	Oxford	133.97	44	P	PKPdf	11 50 57.5	+0.2
	baz=303						
J54A	Appleton	134.29	27	IAMs_20	IAMs_20	12 54 03.7	
	comp=Z,2μm,21.0s						
M52A	Chesterland	134.30	31	IAMs_20	IAMs_20	12 57 43.4	
	comp=Z,2μm,20.0s						
VBMS	Vicksburg	134.38	47	PKiKP	PKPdf	11 50 58.2	+0.1
	baz=300						
ACSO	Alum Creek Sta	134.38	33	IAMs_20	IAMs_20	13 01 42.9	
	comp=Z,2μm,21.0s						
ACSO	Alum Creek Sta	134.38	33	PKiKP	PKPdf	11 50 58.3	+0.4
	baz=315						
ACSO	Alum Creek Sta	134.38	33	P	PKPdf	11 50 57.5	-0.4
	baz=315						
MEDO	Medina	134.46	27	IAMs_20	IAMs_20	12 49 48.2	
	comp=Z,2μm,20.0s						
MNTQ	Montreal, Queb	134.49	21	IAMs_20	IAMs_20	12 45 00.4	
	comp=Z,1μm,20.0s						
DRLN	Deer Lake	134.52	5	IAMs_20	IAMs_20	12 58 44.3	
	comp=Z,2μm,19.0s						
ERPA	Erie	134.55	29	IAMs_20	IAMs_20	12 47 30.8	
	comp=Z,2μm,21.0s						
ERPA	Erie	134.55	29	PKiKP	PKPdf	11 50 58.6	+0.4
	baz=320						
J55A	Hilton	134.66	26	IAMs_20	IAMs_20	12 54 17.5	
	comp=Z,2μm,22.0s						
M53A	WI Miller and	134.72	30	IAMs_20	IAMs_20	12 52 08.5	
	comp=Z,2μm,21.0s						
M53A	WI Miller and	134.72	30	PKiKP	PKPdf	11 50 58.8	+0.3
	baz=318						
ALLY	Alegheny Colle	134.83	30	IAMs_20	IAMs_20	12 57 22.2	
	comp=Z,2μm,21.0s						
LONY	Lake Ozonia	134.89	22	IAMs_20	IAMs_20	13 03 49.0	
	comp=Z,2μm,21.0s						
LONY	Lake Ozonia	134.89	22	PKiKP	PKPdf	11 50 59.2	+0.5
	baz=328						
V48A	Smith Brothers	135.00	41	IAMs_20	IAMs_20	13 03 26.3	
	comp=Z,2μm,22.0s						
MMNY	Mt. Morris Dam	135.05	27	IAMs_20	IAMs_20	13 03 08.7	
	comp=Z,2μm,21.0s						
FRNY	Flat Rock	135.07	21	IAMs_20	IAMs_20	12 47 41.9	
	comp=Z,2μm,21.0s						
O52A	Adamsville	135.09	32	IAMs_20	IAMs_20	13 01 25.4	
	comp=Z,2μm,22.0s						
N53A	Lisbon	135.11	31	P	PKPdf	11 51 00.3	+1.0
	baz=318						
N53A				P	PKPdf	11 51 00.3	+1.0
	baz=318						
CLTN	Cedars of Leba	135.11	40	IAMs_20	IAMs_20	12 48 09.9	
	comp=Z,1μm,21.0s						
P52A	Corning	135.27	33	IAMs_20	IAMs_20	13 02 20.3	
	comp=Z,2μm,22.0s						
P52A	Corning	135.27	33	PKiKP	PKPdf	11 51 00.4	+0.8
	baz=315						
O53A	New Philadelph	135.32	32	IAMs_20	IAMs_20	13 03 50.5	
	comp=Z,2μm,21.0s						
O53A	New Philadelph	135.32	32	PKiKP	PKPdf	11 51 00.4	+0.7
	baz=317						
J57A	Williamstown	135.33	25	IAMs_20	IAMs_20	12 54 23.0	
	comp=Z,2μm,19.0s						
F62A	Pittston Farm,	135.35	18	IAMs_20	IAMs_20	12 57 30.8	
	comp=Z,2μm,18.0s						
T50A	Nancy	135.47	38		PKPdf	11 50 59.9	-0.2
T50A	Nancy	135.47	38	P	PKPdf	11 51 01.1	+1.0
	baz=310						
T50A				P	PKPdf	11 51 01.1	+1.0
	baz=310						
PMPST	Porto Santo, M	135.59	315	ePKPdf	PKPdf	11 50 59.6	-0.8
X48A	Hartselle	135.62	42	P	PKPdf	11 51 00.2	-0.2
	baz=306						
K57A	Scipio Center	135.66	26	IAMs_20	IAMs_20	13 01 10.9	
	comp=Z,1μm,21.0s						
J58A	Remsen	135.66	24		PKPdf	11 51 00.2	0.0
J58A				IAMs_20	IAMs_20	12 53 23.7	
	comp=Z,1μm,21.0s						
Q52A	Bidwell	135.67	34	P	PKPdf	11 50 59.9	-0.4
	baz=315						
Q52A				P	PKPdf	11 50 59.9	-0.4
	baz=315						
F63A	Nahmakanta, Br	135.78	17	IAMs_20	IAMs_20	13 03 24.2	
	comp=Z,1μm,21.0s						
G62A	West of Eustis	135.78	19	IAMs_20	IAMs_20	12 53 22.4	
	comp=Z,1μm,20.0s						
O54A	Avella	135.80	31	P	PKPdf	11 51 01.6	+1.0
	baz=318						
O54A				P	PKPdf	11 51 01.6	+1.0
	baz=318						
VT1	Waterbury	135.81	21	IAMs_20	IAMs_20	12 56 23.6	
	comp=Z,2μm,19.0s						
F64A	Sherman	135.84	16	P	PKPdf	11 51 01.1	+0.7
	baz=337						
F64A				P	PKPdf	11 51 01.1	+0.7
	baz=337						
J59A	Piesco	135.89	23	IAMs_20	IAMs_20	12 47 54.6	
	comp=Z,2μm,21.0s						
SWET	Sewanee	135.90	41	IAMs_20	IAMs_20	13 04 03.9	
	comp=Z,2μm,20.0s						
PKME	Peaks-Kenny Pk	136.12	17	IAMs_20	IAMs_20	13 02 52.3	
	comp=Z,2μm,21.0s						
PKME	Peaks-Kenny Pk	136.12	17	PKiKP	PKPdf	11 51 01.8	+0.8
	baz=335						
LBNH	Lisbon	136.18	20	PKiKP	PKPdf	11 51 02.4	+1.2
	baz=331						
W50A	Signal Mountai	136.31	40	IAMs_20	IAMs_20	13 02 49.8	
	comp=Z,2μm,22.0s						
BINY	Binghamton	136.32	26	IAMs_20	IAMs_20	12 53 55.3	
	comp=Z,2μm,20.0s						
BINY	Binghamton	136.32	26	PKiKP	PKPdf	11 51 02.6	+1.0
	baz=325						
PMOZ	Porto Moniz, M	136.34	316	ePP	PP	11 53 47.5	+5.4
PMOZ	Porto Moniz, M	136.34	316	eLR	LR	12 57 48.6	
	comp=Z,957nm,22.0s						
LRAL	Lakeview Retre	136.46	44	PKPdf	PKPdf	11 51 01.7	-0.2
LRAL				IAMs_20	IAMs_20	13 05 09.1	
	comp=Z,2μm,19.0s						
LRAL	Lakeview Retre	136.46	44	PKiKP	PKPdf	11 51 01.9	-0.1
	baz=305						
LRAL	Lakeview Retre	136.46	44	P	PKPdf	11 51 00.9	-1.0
	baz=305						
MCWV	Mont Chateau	136.47	31	PKiKP	PKPdf	11 51 03.1	+1.3
	baz=318						
TZTN	Tazewell	136.56	37	PKiKP	PKPdf	11 51 02.4	+0.3
	baz=311						
CPCT	Cooper Cave	136.66	39	IAMs_20	IAMs_20	13 03 58.9	
	comp=Z,2μm,22.0s						
SSPA	Standing Stone	136.70	29	PKiKP	PKPdf	11 51 02.6	+0.4
	baz=321						
L59A	Walton	136.73	25	IAMs_20	IAMs_20	12 53 43.1	
	comp=Z,2μm,20.0s						
TRY	Troy	136.84	23	IAMs_20	IAMs_20	13 04 17.7	
	comp=Z,2μm,22.0s						
KSPA	Keystone Colle	136.94	26	IAMs_20	IAMs_20	12 54 13.7	
	comp=Z,2μm,20.0s						
TKL	Tuckaleechee C	137.00	39		PKPdf	11 51 04.1	+1.2
TKL	Tuckaleechee C	137.00	39	PKIKP	PKPdf	11 51 04.1	+1.2
N58A	Sunbury	137.09	27	IAMs_20	IAMs_20	13 04 07.9	
	comp=Z,2μm,22.0s						
W52A	Murphy	137.26	39		PKPdf	11 51 04.1	+0.6
W52A				IAMs_20	IAMs_20	13 03 42.8	
	comp=Z,2μm,22.0s						
BRAL	Brewton	137.45	46	PKiKP	PKPdf	11 51 04.6	+0.8
	baz=303						
L61B	Northampton	137.46	22	PKiKP	PKPdf	11 51 04.4	+0.8
	baz=329						
P57A	Homestead Farm	137.53	30	IAMs_20	IAMs_20	13 04 45.7	
	comp=Z,2μm,21.0s						
Z51A	Franklin	137.54	42		PKPdf	11 51 04.4	+0.4
HRV	Adam Dziewonsk	137.83	21	IAMs_20	IAMs_20	13 05 42.7	
	comp=Z,2μm,22.0s						
HRV	Adam Dziewonsk	137.83	21	PKiKP	PKPdf	11 51 05.1	+0.8
	baz=331						
ODNJ	Ogdensburg	137.83	25	IAMs_20	IAMs_20	12 55 58.2	
	comp=Z,2μm,21.0s						
MVL	Millersville	137.93	28	IAMs_20	IAMs_20	13 04 20.1	
	comp=Z,2μm,22.0s						
BLA	Blacksburg	137.93	34	PKiKP	PKPdf	11 51 04.8	+0.1
	baz=316						
TRNY	Table Rock, Ra	137.94	25	IAMs_20	IAMs_20	12 57 26.1	
	comp=Z,2μm,20.0s						
SDMD	Soldier's Deli	138.16	29	IAMs_20	IAMs_20	13 04 20.3	
	comp=Z,1μm,22.0s						
PAL	Palisades	138.19	25	IAMs_20	IAMs_20	12 57 06.6	
	comp=Z,2μm,20.0s						
PAL	Palisades	138.19	25	PKiKP	PKPdf	11 51 04.7	-0.2
	baz=327						
WSPT	Westport, CT	138.29	24	IAMs_20	IAMs_20	12 49 40.2	
	comp=Z,2μm,21.0s						
WUPA	West Chester U	138.32	27	IAMs_20	IAMs_20	13 04 56.5	
	comp=Z,1μm,22.0s						
BRYW	Bryant College	138.34	22	IAMs_20	IAMs_20	12 49 36.5	
	comp=Z,2μm,21.0s						
N62A	Caumsett State	138.43	24	IAMs_20	IAMs_20	12 49 33.1	
	comp=Z,1μm,20.0s						
M63A	Gales Ferry	138.60	23	IAMs_20	IAMs_20	13 05 58.3	
	comp=Z,2μm,21.0s						
GOGA	Godfrey	138.62	41	PKiKP	PKPdf	11 51 06.2	+0.2
	baz=309						
R58B	Mineral	138.75	31	IAMs_20	IAMs_20	13 06 08.3	
	comp=Z,2μm,21.0s						
CBN	Corbin Frederi	138.83	31	PKiKP	PKPdf	11 51 06.7	+0.5
	baz=320						
KMSC	Kings Mountain	138.84	37	PKiKP	PKPdf	11 51 07.0	+0.7
	baz=313						
P61A	Hammonton	138.90	27	IAMs_20	IAMs_20	13 05 02.7	
	comp=Z,2μm,21.0s						
M65A	Busby, Falmout	138.98	21	PKiKP	PKPdf	11 51 06.6	+0.2
	baz=332						
T59A	Double "B" Far	139.67	32	IAMs_20	IAMs_20	13 06 37.6	
	comp=Z,2μm,21.0s						
TIGA	Tifton	139.73	43	PKiKP	PKPdf	11 51 08.5	+0.5
	baz=307						
HAW	Hawthorne Fire	139.84	39	P	PKPdf	11 51 07.4	-0.8
	baz=311						
T60A	Surry	139.97	31	IAMs_20	IAMs_20	13 05 05.4	
	comp=Z,2μm,21.0s						
U59A	Littleton	140.00	33	IAMs_20	IAMs_20	13 04 57.6	
	comp=Z,2μm,21.0s						
S61A	Accomac	140.08	29	IAMs_20	IAMs_20	12 55 52.2	
	comp=Z,2μm,21.0s						
CNNC	Cliffs of the	140.77	34	PKiKP	PKPdf	11 51 09.8	0.0
	baz=317						
NHSC	New Hope	140.91	39	PKiKP	PKPdf	11 51 09.8	-0.3
	baz=312						
V61A	Roper	141.07	32	IAMs_20	IAMs_20	12 53 06.9	
	comp=Z,2μm,20.0s						
257A	Skidaway Islan	141.12	41	IAMs_20	IAMs_20	13 03 43.0	
	comp=Z,2μm,20.0s						
DWPF	Disney Wildern	143.21	46	PKiKP	PKPdf	11 51 14.4	0.0
	baz=306						
TGUH	Tegucigalpa,Un	144.02	71	PKPdf	PKPab	11 51 14.4	+0.7
CRIN	San Cristobal	144.51	74		PKPab	11 51 15.9	+0.4
CNGN	Cerro Negro	144.89	74	PKPdf	PKPab	11 51 15.9	-0.9
RODS	Rosario do Sul	145.90	175	eP	PKPdf	11 51 18.7	-0.4
CPSB	Cacapava Do Su	145.94	178	eP	PKPdf	11 51 19.3	+0.2
ITQB	Itaqui	146.43	173		PKPdf	11 51 20.5	+0.6
ACON	Acoyapa	146.45	74		PKPdf	11 51 20.7	+0.4
ORTG	Ortega, Santa	146.46	77		PKPdf	11 51 20.3	-0.2
MECA	Mercedes	146.58	171	eP	PKPdf	11 51 19.7	-0.5
PB14	IPOC Station P	146.67	149	PKP	PKPab	11 51 24.4	+0.9
JTS	Las Juntas de	146.96	77		PKPdf	11 51 22.0	+0.8
JTS	Las Juntas de	146.96	77	PKP2	PKPdf	11 51 22.0	+0.8
ARE1	Arenal 1	147.16	77		PKPdf	11 51 23.1	+1.5
UNIS	Unistalda (Bra	147.18	175	eP	PKPdf	11 51 21.2	-0.1
HDC	Heredia	147.82	77	IAMs_20	IAMs_20	13 01 59.2	
	comp=Z,1μm,20.0s						
HDC	Heredia	147.82	77	eP	PKPdf	11 51 22.4	-0.4
SCCA	San Cayetano,	148.18	169	eP	PKPdf	11 51 22.4	-0.5
CRSM	Crissiumal (Br	148.81	177	eP	PKPdf	11 51 23.0	-0.9
LVC	Limon Verde	149.09	149	eP	PKPdf	11 51 24.3	-0.7
CPUP	Villa Florida	149.62	171	PKPdf	PKPdf	11 51 24.2	-1.0
CPUP				PKPbc	PKPbc	11 51 30.7	+0.8
CPUP				IAMs_20	IAMs_20	12 58 33.4	
	comp=Z,2μm,21.0s						
CPUP	Villa Florida	149.62	171	PKHKP	PKPpre	11 51 24.6	
CPUP						11 51 28.9	
CPUP	Villa Florida	149.62	171	eP	PKPdf	11 51 24.7	-0.6
CPUP	Villa Florida	149.62	171	PKP	PKPdf	11 51 24.6	-0.7
	comp=Z,53nm,1.2s,baz=196,slow=2.5,SNR=9.5						
CPUP				PKPbc	sPKPdf	11 51 28.9	-2.8
	comp=Z,53nm,1.2s,baz=188,slow=1.7,SNR=19						
PRVC	Isla de Provid	149.75	70	eP	PKPdf	11 51 24.7	-1.0
FRBT	Francisco Belt	150.36	179	eP	PKPdf	11 51 25.9	-0.6
CACAO	El Cacao, Vera	151.34	82	eP	PKPbc	11 51 34.5	+0.2
PTGB	Pitanga	151.62	180	eP	PKPdf	11 51 27.4	-1.2
BCIP	Isla Barro Col	152.11	78	eP	PKPbc	11 51 34.5	-1.5
PARB	Paraibuna	152.23	193	eP	PKPdf	11 51 28.6	-0.8
VAO	Valinhos	152.83	191	eP	PKPdf	11 51 29.3	-1.1
PAC1	Pacto, Paraso	153.26	97	eP	PKPdf	11 51 30.4	-1.0
AMBA	Amambai (Brazi	153.27	174	eP	PKPdf	11 51 30.1	-0.9
OTAV	Otavalo	153.60	97	PKPdf	PKPdf	11 51 32.1	-0.1
OTAV					sPKPbc	11 51 42.5	-3.9
OTAV				PKPab	PKPab	11 51 53.4	+0.9
OTAV	Otavalo	153.60	97	eP	PKPdf	11 51 30.7	-1.5
OTAV	Otavalo	153.60	97	eP	PKPdf	11 51 30.9	-1.3
ANTJ	Antonio Joao (	154.07	172	eP	PKPdf	11 51 31.8	-0.4
RIB01	Linhares ES	154.20	207	eP	PKPdf	11 51 32.2	-0.2
BONI	La Bonita	154.54	97	eP	PKPdf	11 51 33.0	-0.4
LPAZ	La Paz	154.59	142	PKIKP	PKPdf	11 51 33.6	-0.1
LPAZ	La Paz	154.59	142	eP	PKPdf	11 51 34.5	+0.7
LPAZ	La Paz	154.59	142	PKP	PKPdf	11 51 33.6	-0.1
	comp=Z,10nm,0.8s,baz=41,slow=1.7,SNR=27						
PCMB	Pacaembu	154.70	182	eP	PKPdf	11 51 32.4	-0.6
GCUF	Volcan Galeras	154.82	95	eP	PKPdf	11 51 33.4	-0.6
PIZC	Pizarro, Choco	154.96	86	eP	PKPdf	11 51 31.1	-2.5
BBAC	Balboa, Cauca	154.99	93	eP	PKPdf	11 51 40.8	+7.0
APAC	Apartado, Choc	155.49	79	eP	PKPab	11 52 00.8	+0.9
POPC	Popayan, Colom	155.60	92	eP	PKPdf	11 51 30.7	-4.0
AQDB	Aquidauana	155.61	172	PKPdf	PKPdf	11 51 33.9	-0.3
AQDB				PKPab	sPKPab	11 52 02.5	-3.9
AQDB	Aquidauana	155.61	172	eP	PKPdf	11 51 33.4	-0.8
JAMC	Jamundi, Valle	155.64	91	eP	PKPdf	11 51 31.7	-3.1
YOTC	Yotoco, Valle	155.98	89	eP	PKPdf	11 51 30.8	-4.3
PLMC	San Jos del P	156.03	87	eP	PKPdf	11 51 33.5	-1.6
SDDR	Presa de Saban	156.08	50	IAMs_20	IAMs_20	13 16 06.0	
	comp=Z,1μm,21.0s						
GUA01	Guaratinga, BA	156.26	211	eP	PKPdf	11 51 34.9	-0.3
DIAM	Diamantina, MG	156.43	201	eP	PKPdf	11 51 34.7	-0.9
SJCC	San Jacinto, C	156.48	74	eP	PKPdf	11 51 34.5	-1.2
ITRB	Iturama	156.53	185	eP	PKPdf	11 51 34.9	-0.6
FLOC	Florencia	156.54	95	eP	PKPdf	11 51 34.6	-1.1
CZSB	Cruzeiro do Su	156.60	119	eP	PKPdf	11 51 35.7	0.0
GUY2C	Guyana, Caldas	156.94	86	eP	PKPdf	11 51 34.2	-2.5
SMRC	Santa Marta, M	157.06	70	eP	PKPdf	11 51 35.3	-1.0
ORTC	Ortega, Tolima	157.08	89	eP	PKPdf	11 51 33.9	-2.5
ZARC	Zaragoza, Cauc	157.23	80	eP	PKPdf	11 51 34.4	-2.2
ARGC	Ariguani, Magd	157.38	74	eP	PKPdf	11 51 36.9	+0.2
NORC	Norcasia	157.41	85	eP	PKPdf	11 51 34.9	-1.9
PRAC	Prado	157.43	90	eP	PKPdf	11 51 36.0	-0.9
C2SB	Chapadao do Su	157.53	179	eP	PKPdf	11 51 36.3	-0.4
BBSD	Serra de San D	157.55	159	eP	PKPdf	11 51 36.3	-0.5
PTBC	PUERTO BERRIO	157.74	82	eP	PKPdf	11 51 35.6	-1.5
ROSC	El Rosal	157.99	87	eP	PKPdf	11 51 36.1	-1.8
ROSC	El Rosal	157.99	87	PKIKP	PKPdf	11 51 37.3	-0.7
ROSC						11 52 12.5	
ROSC	El Rosal	157.99	87	PKP	PKPdf	11 51 37.3	-0.7
	comp=Z,6.0nm,0.3s,baz=343,slow=7.3,SNR=7.1						
ROSC				PKPab	PKPab	11 52 12.5	+1.3
	comp=Z,13nm,0.6s,baz=159,slow=14,SNR=4.9						
SPBC	San Pablo de B	158.20	84	eP	PKPdf	11 51 37.0	-0.9
LL6C	La Loma 6 Bece	158.35	73	eP	PKPdf	11 51 36.3	-1.6
CRJC	Cerrejon, Guaj	158.36	70	eP	PKPdf	11 51 34.1	-3.9
MACC	Macarena, Meta	158.39	94	eP	PKPdf	11 51 35.1	-2.9
PP1B	Ponte de Pedra	158.55	173	eP	PKPdf	11 51 36.9	-1.1
CHIC	Chingaza	158.58	87	eP	PKPdf	11 51 37.7	-1.0
URIC	Uribia, Colomb	158.97	67	eP	PKPdf	11 51 36.3	-2.2
RUSC	La Rusia	159.16	84	eP	PKPdf	11 51 36.5	-2.9
JANB	Januaria	159.64	203	eP	PKPdf	11 51 38.6	-0.8
PTLB	Pontes e Lacer	159.67	161	eP	PKPdf	11 51 39.0	-0.3
BDFB	Brasilia	160.20	192	PKIKP	PKPdf	11 51 39.7	-0.4
BDFB	Brasilia	160.20	192	PKP	PKPdf	11 51 39.7	-0.4
	comp=Z,6.5nm,0.9s,baz=18,slow=1.5,SNR=4.8						
SJG	San Juan	160.35	43		PKPdf	11 51 40.0	-0.1
SJG				PKPab	PKPab	11 52 20.2	-0.4
SJG	San Juan	160.35	43	PKIKP	PKPdf	11 51 40.0	-0.1
SJG						11 52 20.2	
ARAG	Araguaiana, MT	160.58	181	eP	PKPdf	11 51 39.6	-0.8
ETMB	Extrema	160.59	134	PKPdf	PKPdf	11 51 40.0	-0.4
ETMB				PKPab	PKPab	11 52 21.4	-0.4
ETMB	Extrema	160.59	134	eP	PKPdf	11 51 40.1	-0.4
TBTG	Tabatinga, AM	160.66	114	eP	PKPdf	11 51 38.6	-1.9
TBTG	Tabatinga, AM	160.66	114	eP	PKPdf	11 51 40.1	-0.5
RCBR	Riachuelo	161.04	240	eP	PKPdf	11 51 40.7	-0.4
SDV	Santo Domingo	161.08	74	PKPdf	PKPdf	11 51 40.4	-0.9
SDV					PKPab	11 52 23.8	-0.5
SDV	Santo Domingo	161.08	74	eP	PKPdf	11 51 39.1	-2.2
SDV	Santo Domingo	161.08	74	eP	PKPdf	11 51 40.7	-0.6
VILB	Vilhena	161.56	155	eP	PKPdf	11 51 41.3	-

BASI	Baing, Sumba	9.49 227	P	Pn	11 37 16.6 +20
MTN	Manton Dam	9.63 159	Pn	Pn	11 36 59.3 +0.8
KNRA	Kununurra	11.86 175	Pn	Pn	11 37 28.2 -0.8
KNRA	Kununurra	11.86 175	P	Pn	11 37 29.5 +0.5
GENI	Genyem	12.55 85	P	Pn	11 37 41.2 +2.7
GENI	Genyem	12.55 85	P	Pn	11 37 36.9 -1.6
	435nm,1.4s				
BBKI	Banjar Baru	12.79 271	P	Pn	11 37 46.8 +5.1
	342nm,1.6s				
SRBI	Singaraja	13.08 250	P	P	11 38 05.0 +9.4
TABU	Tabubil	13.61 97	P	Pn	11 37 55.0 +2.1
ABJI	Asem Bagus	13.93 253	P	P	11 38 13.7 +8.8
JAGI	Jajag, Banyuwa	14.20 250		P	11 38 06.9 -1.1
JAGI	Jajag, Banyuwa	14.20 250	P	Pn	11 38 04.6 +3.6
JAGI	Jajag, Banyuwa	14.20 250	P	P	11 38 05.7 -2.3
	327nm,2.1s,11μm67μm				
BLJI	Banyuglugur	14.52 254	P	P	11 38 12.3 +0.7
	331nm,0.7s,10μm				
GMJI	Gumukmas	14.81 252	P	P	11 38 13.9 -0.9
	313nm,1.1s				
GRJI	Gresik	15.42 258	P	P	11 38 22.5 +1.0
	592nm,0.7s,17μm				
STKI	Sintang	16.61 283	P	P	11 38 34.9 +0.1
	174nm,1.6s				
UWJI	Ujung Watu	16.84 260	P	P	11 38 40.8 +3.5
	471nm,1.6s,8μm				
WOJI	Wonogiri, Jawa	17.12 256	P	P	11 38 41.5 +1.1
	446nm,1.6s,17μm				
WB0	Warramunga Arr	17.19 158	P	Pn	11 38 38.6 -1.2
WB0			IAmb	IAmb	11 38 42.9
	comp=Z,658nm,1.2s				
WRAB	Tennant Creek	17.32 158	P	P	11 38 42.7 0.0
WRAB			IAmb	IAmb	11 38 46.2
	comp=Z,671nm,1.4s				
WRAB	Tennant Creek	17.32 158	P	P	11 38 42.7 0.0
WRAB			pmax	pmax	
	comp=Z,671nm,1.4s				
WRA	Warramunga Arr	17.33 158	P	P	11 38 42.9 +0.2
WRA	Warramunga Arr	17.33 158	P	P	11 38 42.9 +0.2
WRA			pmax	pmax	
	comp=Z,43nm,1.0s				
WRA	Warramunga Arr	17.33 158	P	Pn	11 38 38.2 -3.3
	comp=Z,189nm,1.1s,baz=338,slow=12,SNR=11				
WRA			S	Sn	11 41 58.1 +4.6
	comp=Z,8.8nm,0.8s,baz=143,slow=42,SNR=2.2				
WB2	Warramunga Arr	17.33 158		Pn	11 38 41.9 +0.3
WB2			IAmb	IAmb	11 38 44.5
	comp=Z,651nm,1.4s				
SMRI	Semarang	17.43 259	P	P	11 38 45.6 +1.7
SMRI			IAmb	IAmb	11 38 51.8
	comp=Z,1μm,1.5s				
SMRI	Semarang	17.43 259	P	P	11 38 45.9 +2.0
SMRI	Semarang	17.43 259	P	P	11 38 46.5 +2.6
	comp=Z,756nm,1.2s				
UGM	Wanagama	17.52 256	P	P	11 38 46.4 +1.5
UGM			IAmb	IAmb	11 38 50.8
	comp=Z,765nm,1.4s				
UGM	Wanagama	17.52 256	P	P	11 38 47.1 +2.2
UGM	Wanagama	17.52 256	P	P	11 38 46.9 +2.0
	comp=Z,570nm,2.2s,comp=Z,17μm				
COEN	Coen	18.35 124	P	P	11 38 52.4 -1.6
COEN	Coen	18.35 124	P	P	11 38 54.3 +0.3
MBWA	Marble Bar	18.90 203	P	Pn	11 39 00.9 +0.1
MBWA	Marble Bar	18.90 203	P	Pn	11 39 01.9 +1.1
MBWA	Marble Bar	18.90 203	P	P	11 39 00.5 +0.4
KPJI	Karang Pucung	18.96 258	P	Pn	11 39 01.7 +0.2
	comp=Z,1μm,1.1s,comp=Z,19μm				
TGY	Tagaytay City	18.98 340	P	Pn	11 39 03.4 +1.6
	comp=Z,108nm,0.3s,baz=1.3,slow=10.0,SNR=2.0				
PSA00	Pilbara Seismi	19.23 203	P	P	11 39 04.1 +0.4
PSA00	Pilbara Seismi	19.23 203	P	Pn	11 39 05.4 +0.6
CMJI	Cimerak	19.51 257	P	P	11 39 06.3 -0.4
	comp=Z,642nm,1.8s,comp=Z,11μm				
MANU	Manus Island	19.77 86	P	Pn	11 39 10.7 -0.5
MANU			IAmb	IAmb	11 39 20.7
	comp=Z,456nm,1.1s				
MANU	Manus Island	19.77 86	P	Pn	11 39 11.5 +0.3
PMG	Port Moresby	20.16 107		P	11 39 14.7 +0.9
PMG			IAmb	IAmb	11 39 28.0
	comp=Z,339nm,1.2s				
PMG	Port Moresby	20.16 107	P	Pn	11 39 15.3 -0.6
PMG	Port Moresby	20.16 107	P	Pn	11 39 15.6 -0.3
PMG	Port Moresby	20.16 107	P	P	11 39 14.9 +1.1
	comp=Z,114nm,0.8s,baz=75,slow=8.2,SNR=6.6				
	comp=Z,114nm,0.8s				
LEM	Lembang	20.17 261	P	Pn	11 39 16.0 -0.2
LEM	Lembang	20.17 261	P	Pn	11 39 15.9 -0.2
	comp=Z,315nm,0.7s,baz=43,slow=10.0,SNR=9.0				
	comp=Z,315nm,0.7s				
BBJI	Bungbulang	20.23 259	P	P	11 39 14.9 +0.2
QIS	Mount Isa	20.33 146	P	P	11 39 16.3 +0.6
AS31	Alice Springs	20.66 164	P	P	11 39 20.3 +1.0
ASAR	Alice Springs	20.66 164	P	P	11 39 20.1 +0.8
	comp=Z,291nm,0.8s,baz=344,slow=11,SNR=17				
ASAR			S	Sn	11 43 12.6 -1.5
	comp=Z,24nm,1.1s,baz=344,slow=20,SNR=4.3				
ASAR			PcP	PcP	11 43 28.1 -0.9
	comp=Z,5.5nm,0.5s,baz=353,slow=2.2,SNR=5.7				
	comp=Z,291nm,0.8s				
CNJI	Cibinong	20.72 259	P	P	11 39 19.4 -0.5
	comp=Z,885nm,1.3s,comp=Z,8μm				
CBJI	Citeko	20.88 262	P	P	11 39 21.4 -0.3
	comp=Z,583nm,1.0s,comp=Z,14μm				
WRKA	Warakurna	21.13 178	P	P	11 39 26.1 +1.8
PPBI	Pangkal Pinang	21.55 274	P	P	11 39 30.4 +1.6
	comp=Z,88nm,0.7s,comp=Z,10μm				
MTSU	Mount Surprise	21.67 132	P	P	11 39 31.3 +1.2
CGJI	Cibinong	22.04 262	P	P	11 39 31.7 -2.5
	comp=Z,213nm,1.5s				
GIRL	Giralia	22.81 214	P	P	11 39 43.4 +1.2
	baz=23,SNR=17				
GIRL	Giralia	22.81 214	P	P	11 39 43.7 +1.5
GIRL	Giralia	22.81 214	P	P	11 39 43.7 +1.5
XMIS	Christmas Isla	22.81 252	P	P	11 39 40.3 -2.0
XMIS			IAmb	IAmb	11 39 50.1
	comp=Z,255nm,0.8s				
PMBI	Palembang	22.86 271	P	P	11 39 45.8 +3.0
PMBI	Palembang	22.86 271	P	P	11 39 50.1 +7.3
KASI	Kota Agung	23.14 265	P	P	11 39 48.1 +2.3
KAVG	Kavieng	23.15 88	P	P	11 39 47.6 +1.7
DSRI	Dabo	23.29 278	P	P	11 39 50.4 +3.2
TPRI	Tanjung Pinang	23.58 281	P	P	11 39 52.6 +2.5
LHSI	Lahat	24.07 269	P	P	11 39 54.3 -0.4
	comp=Z,181nm,1.2s,comp=Z,3μm				
JMBI	JAMBI	24.08 274	P	P	11 40 00.5 +5.7
TV1H	Townsville Har	24.21 131	P	P	11 39 56.8 +0.9
MEEK	Meekatharra	24.31 200	P	P	11 39 56.8 0.0
	baz=24,SNR=10				
MEEK	Meekatharra	24.31 200	P	P	11 39 57.1 +0.3
CTAO	Charters Tower	24.32 133	P	P	11 39 58.0 +1.1
CTAO			IAmb	IAmb	11 40 08.9
	comp=Z,334nm,1.4s				
CTAO	Charters Tower	24.32 133	P	P	11 39 58.2 +1.3
CTAO	Charters Tower	24.32 133	P	P	11 39 58.0 +1.1
CTAO			pmax	pmax	
	comp=Z,333nm,1.4s				
RABL	Rabaul	24.46 92	P	P	11 39 57.3 -1.0
MNAI	Manna	24.64 268	P	P	11 40 00.4 +0.4
DLV	T Lat	24.65 310	P	P	11 40 02.0 +1.8
AUAYR	Ayr State High	24.86 131	P	P	11 40 03.0 +1.2
FORT	Forrest	26.85 179	P	P	11 40 20.0 +0.3
	baz=27,SNR=7.2				
FORT	Forrest	26.85 179	P	P	11 40 20.0 +0.3
FORT	Forrest	26.85 179	P	P	11 40 20.7 +1.0
INKA	Innaminka	26.89 154	P	P	11 40 21.3 +1.1
BKNI	Bangkinang	26.91 278	P	P	11 40 22.7 +2.2
BKNI	Bangkinang	26.91 278	P	P	11 40 22.0 +1.5
	comp=Z,219nm,0.9s,comp=Z,6μm				
PDSI	Padang	27.31 275	P	P	11 40 24.0 -0.2
	comp=Z,131nm,1.0s				
MORW	Morawa	27.45 202	P	P	11 40 24.1 -1.1
MORW			IAmb	IAmb	11 40 38.4
	comp=Z,142nm,1.4s				
TPUB	Ta-pu	27.78 346	P	P	11 40 28.1 -0.1
TPUB	Ta-pu	27.78 346	P	P	11 40 28.1 -0.1
KMBL	Kambalda	27.96 191	P	P	11 40 30.4 +0.7
	baz=28,SNR=6.3				
KMBL	Kambalda	27.96 191	P	P	11 40 29.9 +0.2
SSLB	Suanglung	28.18 347	P	P	11 40 32.4 +0.7
BLDU	Ballidu	28.61 200	P	P	11 40 35.6 +0.1
	baz=29,SNR=4.2				
BLDU	Ballidu	28.61 200	P	P	11 40 34.9 -0.6
QIZ	Qiongzhong	28.66 323	P	P	11 40 38.5 +2.4
QIZ			pmax	pmax	
	comp=Z,48nm,1.3s				
YHNB	Yeheng	28.94 348	P	P	11 40 38.3 -0.3
KLBR	Kellerberrin	29.18 198	P	P	11 40 40.7 +0.2
	baz=29,SNR=12				
KLBR	Kellerberrin	29.18 198	P	P	11 40 40.6 0.0
RPSI	Rantau Prapat	29.42 282	P	P	11 40 43.1 +0.2
RPSI			IAmb	IAmb	11 40 53.1
	comp=Z,100nm,1.0s				
PSI	Prapat	29.45 282	P	P	11 40 43.1 -0.2
PSI			pmax	pmax	
	comp=Z,101nm,1.0s				
QZH	Quanzhou	29.89 343 ⇓	iP	P	11 40 47.8 +1.0
BBOO	Buckleboo	29.92 166	P	P	11 40 47.8 +0.7
	baz=30,SNR=6.1				
MUN	Mundaring	30.03 200	P	P	11 40 48.1 0.0
	baz=30,SNR=4.4				
JOW	Kunigami	30.45 1		P	11 40 52.1 +0.3
JOW	Kunigami	30.45 1	⇑P	P	11 40 52.8 +0.9
GSI	Gunungsitoli	30.48 279	P	P	11 40 51.8 -0.5
GSI	Gunungsitoli	30.48 279	⇓P	P	11 40 52.1 -0.2
WHYH	Whyalla	30.54 163	P	P	11 40 51.4 -1.1
NWAO	Narrogin (SRO)	30.58 197	P	P	11 40 53.4 +0.4
	baz=31,SNR=23				
NWAO			P	P	11 40 53.4 +0.4
	baz=31,SNR=23				
NWAO	Narrogin (SRO)	30.58 197	P	P	11 40 53.3 +0.4
NWAO			IAmb	IAmb	11 41 03.6
	comp=Z,107nm,0.8s				
NWAO	Narrogin (SRO)	30.58 197	P	P	11 40 52.5 -0.4
NWAO			IAmb	IAmb	11 41 03.6
	comp=Z,346nm,0.8s				
NWAO	Narrogin (SRO)	30.58 197	P	P	11 40 53.1 +0.2
NWAO	Narrogin (SRO)	30.58 197	P	P	11 40 53.3 +0.4
NWAO			pmax	pmax	
	comp=Z,107nm,0.8s				
NWAO	Narrogin (SRO)	30.58 197	P	P	11 40 52.5 -0.4
	comp=Z,75nm,0.6s,baz=10,slow=7.3,SNR=22				
	comp=Z,75nm,0.6s				
STKA	Stephens Creek	30.86 156	P	P	11 40 55.5 0.0
	baz=31,SNR=8.3				
STKA	Stephens Creek	30.86 156	P	P	11 40 55.4 0.0
STKA	Stephens Creek	30.86 156	P	P	11 40 55.4 0.0
STKA			pmax	pmax	
	comp=Z,63nm,1.3s				
STKA	Stephens Creek	30.86 156	P	P	11 40 55.2 -0.2
	comp=Z,71nm,0.9s,baz=331,slow=9.3,SNR=7.6				
	comp=Z,71nm,0.9s				
EIDS	Eidsvold	31.10 136	P	P	11 40 57.4 -0.2
NAYO	Nakonayok	31.70 305	P	P	11 41 04.4 +1.4
RKGY	Rocky Gully	32.23 197	P	P	11 41 09.1 +1.7
	baz=32,SNR=25				
RKGY	Rocky Gully	32.23 197	P	P	11 41 09.2 +1.8
AUALB	St Joseph's Co	32.34 195	P	P	11 41 09.5 +1.1
PATS	Pohnpei	32.38 71	P	P	11 41 09.4 +0.4
PATS			IAmb	IAmb	11 41 31.9
	comp=Z,179nm,1.3s				
PATS	Pohnpei	32.38 71	P	P	11 41 09.4 +0.4
CMSA	Cobar Meteorol	32.40 150	P	P	11 41 09.4 +0.4
	baz=33,SNR=17				
CMSA	Cobar Meteorol	32.40 150	P	P	11 41 09.6 +0.6
GULI	GuiLin	33.43 331	⇓P	P	11 41 21.0 +3.0
SRDT	SRDT	33.54 303	P	P	11 41 19.7 +0.6
AUDCS	Dubbo College	34.46 148	P	P	11 41 27.8 +0.8
ARMA	Armidale	34.85 142	P	P	11 41 30.8 +0.3
	baz=35,SNR=7.1				
ARMA	Armidale	34.85 142	P	P	11 41 31.3 +0.8
ARPS	Mount Arapiles	35.32 160	P	P	11 41 35.1 +0.8
	baz=36,SNR=8.0				
ARPS	Mount Arapiles	35.32 160	P	P	11 41 35.8 +1.5
CMAR	Chiang Mai Arr	35.90 309	P	P	11 41 40.0 +0.5
CMAR	Chiang Mai Arr	35.90 309	P	P	11 41 41.0 +1.6
	comp=Z,14nm,0.9s,baz=135,slow=7.0,SNR=9.6				
CMAR			PcP	PcP	11 44 07.0 +0.6
	comp=Z,6.9nm,0.8s,baz=168,slow=2.4,SNR=6.3				
	comp=Z,14nm,0.9s				
YNG	Young	35.97 150	P	P	11 41 40.6 +0.7
CHTO	Chiang Mai	36.10 309	P	P	11 41 42.8 +1.6
CHTO	Chiang Mai	36.10 309	P	P	11 41 43.0 +1.8
CHTO	Chiang Mai	36.10 309	P	P	11 41 41.9 +0.7
CHTO	Chiang Mai	36.10 309	P	P	11 41 42.8 +1.6
CHTO			pmax	pmax	
	comp=Z,64nm,1.1s				
GYA	Guiyang	36.29 327	⇑P	P	11 41 44.3 +1.5
GYA			sP	pwP	11 42 03.5 +7.4
GYA			S	S	11 47 23.5 +1.7
GYA			pmax	pmax	
	comp=Z,64nm,0.9s				
GYA			LR	LR	
	comp=Z,2μm,18.9s				
GYA			LR	LR	
	comp=Z,2μm,9.8s				
GYA			LR	LR	
	comp=Z,2μm,13.4s				
WHN	Wuhan	36.43 340 ⇓	iP	P	11 41 45.8 +2.0
WHN			pP	sP	11 41 54.0 -1.6
WHN			sP	pwP	11 41 59.8 +3.1
WHN			pmax	pmax	
	comp=Z,160nm,1.0s				
NJ2	Nanjing	36.61 347	⇓P	P	11 41 46.5 +1.1
NJ2			pP	sP	11 41 54.8 -2.4
NJ2			sP	pwP	11 42 03.3 +5.1
NJ2			S	S	11 47 29.8 +3.5
NJ2			pmax	pmax	
	comp=Z,72nm,0.9s				
NJ2			pmax	pmax	
	comp=Z,670nm,3.6s				
NJ2			LR	LR	
	comp=Z,2μm,11.4s				
NJ2			LR	LR	
	comp=Z,1μm,9.5s				
NJ2			LR	LR	
	comp=Z,1μm,10.6s				
BRAT	Ballarat	36.76 158	P	P	11 41 48.0 +1.4
JNU	Nakatsue	36.84 5	P	P	11 41 47.2 -0.1
JNU	Nakatsue	36.84 5	P	P	11 41 47.5 +0.2
CAN	Canberra	37.08 150	P	P	11 41 50.0 +0.6
CAN	Canberra	37.08 150	P	P	11 41 50.1 +0.7
CAN	Canberra	37.08 150	P	P	11 41 50.0 +0.6
CAN			pmax	pmax	
	comp=Z,348nm,1.5s				
CNB	Canberra Magne	37.26 150	P	P	11 41 52.2 +1.2
	baz=37,SNR=7.2				
CNB	Canberra Magne	37.26 150	P	P	11 41 52.0 +1.1
TOO	Toolangi	37.38 156	P	P	11 41 53.0 +1.1
	baz=38,SNR=6.2				
TOO	Toolangi	37.38 156	P	P	11 41 53.1 +1.1
TOO			IAmb	IAmb	11 42 03.2
	comp=Z,150nm,1.2s				
TOO	Toolangi	37.38 156	P	P	11 41 53.5 +1.6
TOO	Toolangi	37.38 156	P	P	11 41 53.1 +1.1
TOO			pmax	pmax	
	comp=Z,150nm,1.3s				
KMI	Kunming	37.57 321	⇑P	P	11 41 56.0 +2.1
KMI			S	S	11 47 40.5 -1.0
KMI			pmax	pmax	
	comp=Z,48nm,1.0s				
KMI			LR	LR	
	comp=Z,2μm,17.3s				
KMI			LR	LR	
	comp=Z,1μm,22.0s				
KMI			LR	LR	
	comp=Z,3μm,21.0s				
JMN	Monobe	37.78 8	P	P	11 41 55.7 +0.4
JMN			IAmb	IAmb	11 42 05.7
	comp=Z,177nm,1.1s				
JMN	Monobe	37.78 8	P	P	11 41 56.6 +1.3
JTU	Tsushima	38.15 2	P	P	11 41 58.5 +0.2
JTU			IAmb	IAmb	11 42 07.5
	comp=Z,151nm,1.5s				
MILA	Mila	38.55 152	P	P	11 42 03.4 +1.6
	baz=39,SNR=5.3				
PZH	PanZhiHua	39.18 322	P	P	11 42 08.5 +1.2
PZH			S	S	11 48 05.0 -0.7
PZH			pmax	pmax	
	comp=Z,70nm,1.2s				
PZH			pmax	pmax	
	comp=Z,550nm,5.5s				
PZH			LR	LR	
	comp=Z,2μm,17.3s				
PZH			LR	LR	
	comp=Z,2μm,18.1s				
PZH			LR	LR	
	comp=Z,2μm,15.7s				
KOUNC	Koumac, New Ca	39.35 118	P	P	11 42 08.3 -0.3
INU	Inuyama	39.91 12	P	P	11 42 13.6 +0.5
INU			IAmb	IAmb	11 42 23.1
	comp=Z,116nm,0.9s				
INU	Inuyama	39.91 12	P	P	11 42 13.6 +0.5
TJN	Taejon	39.96 360	P	P	11 42 14.3 +0.8
TJN	Taejon	39.96 360	*ce*P	P	11 42 13.4 -0.1
MND	Mandalay	40.12 311	P	P	11 42 15.8 +0.8
TNCH	TengChong	40.26 317	*e*P	P	11 42 17.8 +1.4
TNCH			pP	pwP	11 42 31.8 +3.5
TNCH			S	S	11 48 23.5 +1.4
TNCH			sS	sS	11 48 45.3 +10
TNCH			pmax	pmax	
	comp=Z,120nm,1.5s				
TNCH			pmax	pmax	
	comp=Z,1μm,7.0s				
LYN	LuoYang	40.73 341 ⇓	P	P	11 42 20.5 +0.6
LYN			PP	PnPn	11 44 02.3 +3.9
LYN			pmax	pmax	
	comp=Z,77nm,0.8s				
LYN			pmax	pmax	
	comp=Z,2μm,7.9s				
LYN			LR	LR	
	comp=Z,6μm,10.8s				
LYN			LR	LR	
	comp=Z,3μm,9.8s				
LYN			LR	LR	
	comp=Z,9μm,10.2s				
KSAR	Wonju Array Be	41.02 0	P	P	11 42 22.6 +0.3
KSAR	Wonju Array Be	41.02 0	P	P	11 42 22.6 +0.3
KSRS	Korea Array	41.03 0	P	P	11 42 23.1 +0.8
	comp=Z,46nm,0.8s,baz=178,slow=9.5,SNR=22				
KSRS			PcP	PcP	11 44 22.4 +0.4
	comp=Z,10nm,0.7s,baz=186,slow=3.0,SNR=15				
	comp=Z,46nm,0.8s				
INCN	Inchon	41.07 359	P	P	11 42 22.8 +0.1
INCN	Inchon	41.07 359	P	P	11 42 24.0 +1.3
INCN	Inchon	41.07 359	P	P	11 42 22.8 +0.1
INCN			pmax	pmax	
	comp=Z,74nm,1.0s				
KS19	Wonju Array Si	41.08 0	P	P	11 42 23.1 +0.3
AULHS	Lilydale High	41.23 157	P	P	11 42 25.6 +1.7
MJAR	Matsushiro Arr	41.32 13	P	P	11 42 23.8 -1.0
	comp=Z,34nm,1.0s,baz=195,slow=9.4,SNR=11				
MJAR			PcP	PcP	11 44 23.2 +0.2
	comp=Z,7.4nm,0.8s,baz=178,slow=4.5,SNR=4.1				
	comp=Z,34nm,1.0s				
MAJO	Matsushiro	41.32 13	P	P	11 42 24.4 -0.3
MAJO	Matsushiro	41.32 13	P	P	11 42 24.8 +0.1
MAJO	Matsushiro	41.32 13	P	P	11 42 24.4 -0.3
MAJO			pmax	pmax	
	comp=Z,73nm,0.9s				
MJB9	Matsu-Tunnel	41.32 13	P	P	11 42 23.7 -1.1
CD2	Chengdu	41.36 328	P	P	11 42 25.5 +0.3
CD2			pmax	pmax	
	comp=Z,80nm,0.8s				
XAN	Xi'an	41.57 336 ⇓	P	P	11 42 27.0 +0.1
XAN			pP	sP	11 42 35.8 -2.9
XAN			S	S	11 48 40.0 -1.0
XAN			pmax	pmax	
	comp=Z,130nm,0.7s				
XAN			LR	LR	
	comp=Z,3μm,13.4s				
XAN			LR	LR	
	comp=Z,2μm,13.6s				
XAN			LR	LR	
	comp=Z,5μm,15.3s				
NOUC	Port Laguerre	41.65 119	P	P	11 42 29.6 +1.9
DZM	Mont Dzumac	41.76 119	*e*P	P	11 42 27.6 -1.1
	comp=Z,171nm,1.4s				
DZM	Mont Dzumac	41.76 119	P	P	11 42 27.3 -1.4
DZM	Mont Dzumac	41.76 119	P	P	11 42 30.2 +1.5
ONTNC	Ouen Toro	41.85 120	P	P	11 42 28.4 -0.9
LIFNC	LIFOU	42.04 117	P	P	11 42 30.3 -0.6
LIFNC	LIFOU	42.04 117	P	P	11 42 31.8 +0.9
YATNC	Mamie plateau,	42.15 119	P	P	11 42 33.2 +1.4
OUENC	Ouen Island, N	42.22 120	P	P	11 42 31.7 -0.6
OUENC	Ouen Island, N	42.22 120	P	P	11 42 33.5 +1.1
HNS	HongShan	42.71 345 ⇑P		P	11 42 36.0 -0.1
HNS			pP	sP	11 42 45.5 -2.5
HNS			PcP	PcP	11 44 28.5 +1.0
HNS			S	S	11 48 56.5 -1.1
HNS			pmax	pmax	
	comp=Z,71nm,0.8s				
HNS			LR	LR	
	comp=Z,910nm,13.5s				
HNS			LR	LR	
	comp=Z,2μm,14.3s				
HNS			LR	LR	
	comp=Z,2μm,21.0s				
SAIH	SAIHA	42.77 309	*e*P	P	11 42 37.0 +0.1
SAIH			IAML		11 42 43.2
	comp=Z,477nm,1.3s				
PINNC	Pines Island,	42.82 120	P	P	11 42 36.5 -0.6
PINNC			IAmb	IAmb	11 42 41.2
	comp=Z,207nm,1.5s				
JMM	Marumori	43.20 15	P	P	11 42 40.5 +0.4
JMM			IAmb	IAmb	11 42 52.2
	comp=Z,125nm,1.0s				
JMM	Marumori	43.20 15	P	P	11 42 41.8 +1.8
IMP	Imphal	43.38 313	*e*P	P	11 42 41.8 0.0
IMP			IAmb	IAmb	11 42 50.0
	comp=Z,74nm,0.8s				
KOHI	KOHIMA	43.79 314	*e*P	P	11 42 45.5 +0.3
KOHI			IAmb	IAmb	11 42 50.7
	comp=Z,259nm,0.9s				
MOKO	MOKOCHONG	43.87 315	*e*P	P	11 42 46.9 +1.1
MOKO			IAmb	IAmb	11 42 54.7
	comp=Z,285nm,1.1s				
SILR	SILCHAR	44.19 312	*e*P	P	11 42 50.0 +1.8
BJT	Baijiatuau	44.85 347	P	P	11 42 53.3 0.0
BJT			IAmb	IAmb	11 43 03.2
	comp=Z,93nm,1.2s				
BJT	Baijiatuau	44.85 347	P	P	11 42 54.2 +0.9
BJT	Baijiatuau	44.85 347	P	P	11 42 53.3 0.0
BJT			pmax	pmax	
	comp=Z,93nm,1.2s				
BJI	Beijing	44.87 347	P	P	11 42 53.0 -0.4
BJI			pP	pwP	11 43 06.0 -0.5
BJI			sP	sP	11 43 10.5 +5.1
BJI			S	S	11 49 28.0 -1.1
BJI			pmax	pmax	
	comp=Z,28nm,0.8s				
TEZP	TEZPUR	45.27 314	*e*P	P	11 42 56.8 0.0
SHL	Shillong	45.33 312	P	P	11 42 57.8 +0.3
SHL			IAmb	IAmb	11 43 03.3
	comp=Z,126nm,1.0s				
SHL	Shillong	45.33 312	*e*P	P	11 42 57.8 +0.3
SHL			IAmb	IAmb	11 43 03.0
	comp=Z,72nm,0.8s				
SHL	Shillong	45.33 312	P	P	11 42 58.1 +0.6
SHL	Shillong	45.33 312	P	P	11 42 57.8 +0.3
SHL			pmax	pmax	
	comp=Z,126nm,1.0s				
LZH	Lanzhou	45.49 333 ⇓	P	P	11 43 00.0 +1.4
LZH			pP	sP	11 43 08.5 -2.0
LZH			pmax	pmax	
	comp=Z,100nm,1.5s				
MSHR	Mys Shultsa	46.26 4	*de*P	P	11 43 05.3 +1.0
MSHR			pmax	pmax	
	comp=Z,79nm,1.2s				
HHC	Hu-ho-hao-te	46.80 343 ⇑P		P	11 43 08.8 0.0
HHC			pP	pwP	11 43 21.5 -0.4
HHC			*e*S	S	11 50 00.0 +2.9
HHC			SS	SS	11 53 23.0 -1.1
HHC			pmax	pmax	
	comp=Z,38nm,0.9s				
HHC			pmax	pmax	
	comp=Z,2μm,9.8s				
HHC			LR	LR	
	comp=Z,3μm,11.4s				
HHC			LR	LR	
	comp=Z,3μm,13.7s				
HHC			LR	LR	
	comp=Z,7μm,13.2s				
VLA	Vladivostok	46.85 4	*de*P	P	11 43 10.0 +1.1
VLA			pmax	pmax	
	comp=Z,90nm,1.3s				
BTO	Baotou	47.04 342	*e*P	P	11 43 14.5 +3.9
BTO			PP	PP	11 45 06.0 +4.3
BTO			S	S	11 50 02.5 +1.9
BTO			pmax	pmax	
	comp=Z,29nm,0.9s				
BTO			pmax	pmax	
	comp=Z,1μm,9.8s				
BTO			LR	LR	
	comp=Z,6μm,16.1s				
BTO			LR	LR	

comp=Z,5μm,13.3s
BTO LR LR
comp=Z,4μm,16.2s
CN2 Changchun 47.42 358 *e*P **P** **11 43 13.0 -0.4**
CN2 *e*PP **PP** **11 45 05.5 +0.5**
CN2 *e*S **S** **11 49 57.5 -8.0**
CN2 LR LR
comp=Z,7μm,20.0s
CN2 LR LR
comp=Z,6μm,20.0s
CN2 LR LR
comp=Z,8μm,21.0s
USA0B Ussuriysk Arra 47.93 4 P **P** **11 43 17.9 +0.6**
USA0B IAmb IAmb 11 43 27.6
comp=Z,32nm,0.8s
USA0B Ussuriysk Arra 47.93 4*d i*P **P** **11 43 18.0 +0.6**
USRK Ussuriysk Ar. 47.93 4 P **P** **11 43 17.4 +0.1**
USRK Ussuriysk Ar. 47.93 4 P **P** **11 43 17.8 +0.5**
comp=Z,25nm,0.7s,baz=182,slow=6.9,SNR=15
USRK PcP **PcP** **11 44 45.9 +0.5**
comp=Z,5.7nm,0.7s,baz=164,slow=4.6,SNR=1.4
comp=Z,25nm,0.7s
PALK Pallekele 48.12 283 P **P** **11 43 18.5 -0.9**
MDJ Mudanjiang 48.22 2 P **P** **11 43 20.3 +0.7**
MDJ pP pwP 11 43 33.5 +0.7
MDJ sP sP 11 43 38.0 +6.2
MDJ ScP **ScP** **11 48 34.8 -4.1**
MDJ PcS **PcS** **11 48 38.8 -3.3**
MDJ S **S** **11 50 21.5 +4.6**
MDJ pmax pmax
comp=Z,86nm,1.2s
MDJ pmax pmax
comp=Z,730nm,4.2s
MDJ LR LR
comp=Z,4μm,14.5s
MDJ LR LR
comp=Z,2μm,13.4s
MDJ LR LR
comp=Z,6μm,15.2s
MDJ Mudanjiang 48.22 2 P **P** **11 43 19.9 +0.3**
MDJ Mudanjiang 48.22 2 P **P** **11 43 20.3 +0.7**
LSA Lhasa 48.28 316 P **P** **11 43 20.5 -0.4**
LSA IAmb IAmb 11 43 23.9
comp=Z,62nm,0.7s
LSA Lhasa 48.28 316 P **P** **11 43 22.7 +1.9**
LSA Lhasa 48.28 316 P **P** **11 43 20.5 -0.4**
LSA pmax pmax
comp=Z,62nm,0.7s
XLT XiLinHaoTe 48.60 349 *e*P **P** **11 43 22.3 -0.4**
XLT pP pP 11 43 30.5 -0.5
XLT sP pwP 11 43 36.3 +0.4
XLT PcP **PcP** **11 44 50.0 +2.0**
XLT PP **PP** **11 45 16.5 +0.6**
XLT pmax pmax
comp=Z,54nm,0.8s
XLT pmax pmax
comp=Z,530nm,4.3s
XLT LR LR
comp=Z,290nm,11.9s
XLT LR LR
comp=Z,3μm,15.7s
XLT LR LR
comp=Z,3μm,16.2s
GTK Tadong 48.74 312 *e*P **P** **11 43 25.0 +0.9**
GTK IAmb IAmb 11 43 39.0
comp=Z,31nm,0.9s
BNX BinXian 49.31 360 ⇑P **P** **11 43 28.0 0.0**
BNX pmax pmax
comp=Z,22nm,0.7s
BNX pmax pmax
comp=Z,530nm,5.0s
ODAN Odare 49.40 311 *e*P **P** **11 43 29.9 +0.6**
comp=Z,926nm,2.1s
TAPN Taplejung 49.42 311 *e*P **P** **11 43 29.8 +0.3**
comp=Z,410nm,1.3s
RAMN Ramite 50.05 310 *e*P **P** **11 43 35.2 +0.9**
comp=Z,596nm,1.3s
GTA Gaotai 50.05 332 ⇑P **P** **11 43 34.0 +0.1**
GTA pP sP 11 43 43.0 -2.8
GTA pmax pmax
comp=Z,38nm,1.0s
GOMU GeErMu 50.24 325 P **P** **11 43 39.3 +3.6**
GOMU pP sP 11 43 45.5 -2.1
GOMU sP pwP 11 43 51.0 +3.2
GOMU pmax pmax
comp=Z,14nm,1.5s
YSA Yasawairara 50.63 108 P **P** **11 43 39.4 +1.0**
JIRN Jiri 50.73 311 *e*P **P** **11 43 39.4 -0.1**
comp=Z,467nm,1.4s
GUN Gumba 51.10 311 *e*P **P** **11 43 42.2 0.0**
comp=Z,249nm,0.9s
MSVF Nonsavu 51.24 110 P **P** **11 43 43.3 +0.2**
MSVF IAmb IAmb 11 43 58.5
comp=Z,174nm,1.4s
MSVF Nonsavu 51.24 110 P **P** **11 43 44.3 +1.2**
MSVF Nonsavu 51.24 110⇑*e*P **P** **11 43 43.9 +0.8**
PKI Pulchoki 51.28 310 *e*P **P** **11 43 43.9 +0.3**
comp=Z,334nm,1.5s
PKIN Phulchoki 51.29 310 *e*P **P** **11 43 44.0 +0.4**
comp=Z,583nm,1.9s
FUNA Funafuti 51.43 98 P **P** **11 43 45.1 +0.6**
FUNA Funafuti 51.43 98 P **P** **11 43 45.8 +1.2**
KKN Kakani 51.49 310 *e*P **P** **11 43 45.0 0.0**
comp=Z,739nm,2.4s
DMN Daman 51.53 310 *e*P **P** **11 43 45.5 +0.1**
comp=Z,240nm,1.0s
GKN Gorkha 52.09 310 *e*P **P** **11 43 49.4 0.0**
comp=Z,250nm,1.1s
YSS Yuzh-Sakhalins 52.26 13⇓*i*P **P** **11 43 50.4 +0.3**
YSS pmax pmax
comp=Z,82nm,1.6s
DGTI Dogotuki 52.62 108 P **P** **11 43 54.0 +0.6**
OUZ Omahuta 52.71 132 P **P** **11 43 53.7 0.0**
KOLN Koldanda 52.77 309 *e*P **P** **11 43 54.6 +0.1**
comp=Z,758nm,1.7s
HYB Hyderabad 52.83 295 *e*P **P** **11 43 53.9 -1.1**
HYB IAmb IAmb 11 43 59.3
comp=Z,101nm,1.1s
HYB Hyderabad 52.83 295 *e*P **P** **11 43 53.7 -1.2**
HYB *e*pP **pP** **11 43 57.8 -6.0**
HYB *e*PcP **PcP** **11 45 04.3 +0.2**
HYB *e*PP **PP** **11 45 55.7 +1.1**
HYB *e*S **S** **11 51 24.9 +3.1**
KLR Kul'dur 52.92 3⇓*e*P **P** **11 43 55.2 +0.2**
KLR pmax pmax
comp=Z,45nm,1.5s
DANN Dangsing 52.93 310 *e*P **P** **11 43 55.8 0.0**
comp=Z,363nm,0.9s
TAVE Taveuni 53.01 108 P **P** **11 43 56.7 +0.4**
PYUN Piuthan 53.40 309 *e*P **P** **11 43 58.7 -0.5**
comp=Z,336nm,1.0s
HEH HeiHe 53.83 360 *e*P **P** **11 44 00.5 -1.1**
HEH pmax pmax
comp=Z,50nm,0.9s
HEH LR LR
comp=Z,7μm,21.2s
HEH LR LR
comp=Z,6μm,20.9s
HEH LR LR
comp=Z,14μm,21.0s
MSZ Milford Sound 53.90 145 P **P** **11 44 03.4 +1.1**
DCZ Deep Cove 53.95 146 P **P** **11 44 03.0 +0.4**
DCZ IAmb IAmb 11 44 04.2
comp=Z,64nm,1.2s
JCZ Jackson Bay 54.04 144 P **P** **11 44 04.7 +1.2**
JCZ Jackson Bay 54.04 144 P **P** **11 44 04.3 +0.8**
FOZ Fox Glacier 54.34 143 P **P** **11 44 04.8 -0.8**
FOZ IAmb IAmb 11 44 16.9
comp=Z,62nm,1.1s
FOZ Fox Glacier 54.34 143 P **P** **11 44 05.7 +0.2**
MLZ Mavora Lakes 54.43 146 P **P** **11 44 05.4 -0.8**
MLZ IAmb IAmb 11 44 33.5
comp=Z,81nm,1.4s
MLZ Mavora Lakes 54.43 146 P **P** **11 44 06.0 -0.2**
FUTU Fugatoga 54.44 105 P **P** **11 44 07.8 +1.1**
ULN Ulaanbaatar 54.52 343 P **P** **11 44 07.6 +0.7**
ULN Ulaanbaatar 54.52 343 P **P** **11 44 07.7 +0.7**
ULN Ulaanbaatar 54.52 343 P **P** **11 44 07.6 +0.7**
QRZ Quartz Range 54.59 139 P **P** **11 44 07.5 0.0**
QRZ IAmb IAmb 11 44 09.6
comp=Z,78nm,1.0s
QRZ Quartz Range 54.59 139 P **P** **11 44 08.0 +0.5**
DSZ Denniston Nort 54.60 140 P **P** **11 44 07.5 0.0**
DSZ Denniston Nort 54.60 140 P **P** **11 44 08.8 +1.3**
WKZ Wanaka 54.62 145 P **P** **11 44 07.9 +0.3**
WKZ IAmb IAmb 11 44 19.1
comp=Z,59nm,0.9s
WKZ Wanaka 54.62 145 P **P** **11 44 07.9 +0.3**
WVZ Waitaha Valley 54.64 142 P **P** **11 44 08.0 +0.3**
WHZ Wether Hill Ro 54.65 146 P **P** **11 44 07.5 -0.3**
WHZ IAmb IAmb 11 44 17.0
comp=Z,98nm,1.1s
WHZ Wether Hill Ro 54.65 146 P **P** **11 44 07.2 -0.6**
SONM Songino Array 54.69 343 P **P** **11 44 08.6 +0.5**
SONM Songino Array 54.69 343 P **P** **11 44 08.5 +0.4**
comp=Z,25nm,1.0s,baz=157,slow=6.4,SNR=7.6
SONM PcP **PcP** **11 45 10.6 -0.1**
comp=Z,4.8nm,0.8s,baz=170,slow=3.0,SNR=4.2
comp=Z,25nm,1.0s
KHEZ Kahui Hut 54.85 137 P **P** **11 44 10.3 +0.9**
GRNR Gornyy 54.87 7⇑*i*P **P** **11 44 09.6 +0.4**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,1μm,15.0s
GRNR MLR MLR
comp=N,2μm,12.0s
GRNR MLR MLR
comp=Z,2μm,14.0s
INZ Inchbonnie 54.89 141 P **P** **11 44 08.7 -0.8**
INZ IAmb IAmb 11 44 21.2
comp=Z,50nm,0.9s
INZ Inchbonnie 54.89 141 P **P** **11 44 10.4 +0.9**
NEZ North Egmont 54.89 137 P **P** **11 44 11.1 +1.4**
TKNZ Takaka Hill 54.98 139 P **P** **11 44 10.5 +0.2**
EAZ Earnscleugh 55.02 145 P **P** **11 44 10.3 -0.2**
MRNZ Matariki Terra 55.03 139 P **P** **11 44 10.8 +0.2**
LBZ Lake Benmore 55.04 144 P **P** **11 44 10.6 -0.1**
LBZ IAmb IAmb 11 44 20.1
comp=Z,113nm,1.2s
LBZ Lake Benmore 55.04 144 P **P** **11 44 09.9 -0.8**
TOZ Tahuroa Road 55.18 134 P **P** **11 44 12.1 +0.4**
TOZ IAmb IAmb 11 44 22.7
comp=Z,143nm,1.4s
TOZ Tahuroa Road 55.18 134 P **P** **11 44 12.7 +0.9**
RPZ Rata Peaks 55.19 143 P **P** **11 44 12.0 +0.3**
RPZ Rata Peaks 55.19 143 P **P** **11 44 11.7 0.0**
APZ The Paps 55.25 147 P **P** **11 44 11.3 -0.9**
VRZ Vera Road 55.28 136 P **P** **11 44 14.0 +1.5**
THZ Tophouse 55.31 140 P **P** **11 44 13.5 +0.7**
THZ IAmb IAmb 11 44 22.4
comp=Z,70nm,1.2s
THZ Tophouse 55.31 140 P **P** **11 44 12.8 +0.1**
LTZ Lake Taylor 55.44 141 P **P** **11 44 13.3 -0.3**
LTZ IAmb IAmb 11 44 14.8
comp=Z,59nm,1.0s
LTZ Lake Taylor 55.44 141 P **P** **11 44 13.7 +0.2**
DUWZ D'Urville Isla 55.50 138 P **P** **11 44 14.4 +0.3**
TMZ Timaru 55.53 143 P **P** **11 44 14.1 -0.1**
OXZ Oxford 55.58 142 P **P** **11 44 14.5 0.0**
TUZ Tuapeka 55.63 146 P **P** **11 44 14.5 -0.4**
ODZ Otahua Downs 55.69 144 P **P** **11 44 14.9 -0.3**
ODZ Otahua Downs 55.69 144 P **P** **11 44 15.3 0.0**
ODZ Otahua Downs 55.69 144 P **P** **11 44 14.3 -1.0**
SYZ Scrubby Hill 55.70 146 P **P** **11 44 15.2 -0.1**
WAZ Wanganui 55.73 137 P **P** **11 44 15.9 +0.2**
MNCI Minicoy 55.75 283 P **P** **11 44 15.4 -0.8**
MNCY Minicoy 55.77 283 *e*P **P** **11 44 15.2 -1.2**
TUWZ Tuamarina 55.82 139 P **P** **11 44 15.1 -1.2**
TUWZ Tuamarina 55.82 139 P **P** **11 44 15.5 -0.8**
BHPL Bhopal 55.85 301 *e*P **P** **11 44 16.0 -0.8**
NNVZ North Ngauruho 55.88 136 P **P** **11 44 17.8 +0.9**
NGZ Ngauruhoe 55.89 136 P **P** **11 44 17.8 +0.8**
TCW Tory Channel 55.94 139 P **P** **11 44 16.2 -1.0**
TCW Tory Channel 55.94 139 P **P** **11 44 16.3 -0.9**
TYV Tymovskoe 55.95 11 *e*P **P** **11 44 16.7 -0.2**
TYV pmax pmax
comp=Z,32nm,1.4s
TYV pmax pmax
comp=Z,2μm,3.7s
GVZ Greta Valley S 56.01 141 P **P** **11 44 16.8 -0.9**
GVZ Greta Valley S 56.01 141 P **P** **11 44 17.8 +0.1**
KHZ Kahutara 56.05 140 P **P** **11 44 16.9 -1.0**
KHZ IAmb IAmb 11 44 27.1
comp=Z,96nm,1.1s
KHZ Kahutara 56.05 140 P **P** **11 44 17.5 -0.4**
MQZ McQueen's Vall 56.16 142 P **P** **11 44 18.7 +0.1**
MQZ IAmb IAmb 11 44 20.1
comp=Z,84nm,1.1s
MQZ McQueen's Vall 56.16 142 P **P** **11 44 19.2 +0.6**
SNZO South Karori 56.27 138 P **P** **11 44 18.2 -1.2**
SNZO IAmb IAmb 11 44 27.9
comp=Z,123nm,1.1s
SNZO South Karori 56.27 138 P **P** **11 44 21.0 +1.5**
OGWZ Otaki Gorge 56.34 138 P **P** **11 44 19.3 -0.7**
CAW Cannon Point 56.41 138 P **P** **11 44 19.3 -1.2**
BHW Baring Head 56.42 138 P **P** **11 44 19.3 -1.3**
BHW IAmb IAmb 11 44 28.8
comp=Z,110nm,1.3s
BHW Baring Head 56.42 138 P **P** **11 44 18.9 -1.7**
BKZ Black Stump Fm 56.51 135 P **P** **11 44 20.7 -0.6**
BKZ IAmb IAmb 11 44 35.0
comp=Z,70nm,1.2s
BKZ Black Stump Fm 56.51 135 P **P** **11 44 22.0 +0.7**
BKZ Black Stump Fm 56.51 135 P **P** **11 44 21.0 -0.3**
TSZ Takapari Road 56.53 137 P **P** **11 44 20.8 -0.7**
MRZ Mangatainoka R 56.55 137 P **P** **11 44 20.6 -0.8**
MRZ IAmb IAmb 11 44 30.1
comp=Z,121nm,1.3s
MRZ Mangatainoka R 56.55 137 P **P** **11 44 20.7 -0.8**
URZ Urewera 56.56 134 P **P** **11 44 20.9 -0.7**
RTZ Ruatahuna 56.62 135 P **P** **11 44 21.7 -0.5**
RTZ IAmb IAmb 11 44 31.2
comp=Z,62nm,1.0s
RTZ Ruatahuna 56.62 135 P **P** **11 44 21.9 -0.2**
HAZ Te Kaha 56.84 133 P **P** **11 44 23.6 0.0**
MWZ Matawai 56.89 134 P **P** **11 44 23.6 -0.4**
BFZ Birch Farm 57.01 137 P **P** **11 44 24.5 -0.3**
KKZ Kokohu 57.28 135 P **P** **11 44 25.5 -1.2**
PUZ Puketiti 57.31 134 P **P** **11 44 26.2 -0.8**
ZEA Zeya 57.32 360 *e*P **P** **11 44 26.9 +0.2**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,0.8s
POO Poona 57.43 295 *e*P **P** **11 44 25.4 -2.8**
IRK Irkutsk 59.24 344 *e*P **P** **11 44 41.1 +0.9**
IRK pmax pmax
comp=Z,116nm,2.6s
SMLA Simla 59.29 310 *e*P **P** **11 44 40.8 -0.1**
SMLA IAmb IAmb 11 44 46.4
comp=Z,324nm,1.3s
WMQ Urumqi 59.45 327 *e*P **P** **11 44 42.0 +0.2**
WMQ pP pwP 11 44 57.0 +2.0
WMQ ScP **ScP** **11 49 26.5 -1.5**
WMQ pmax pmax
comp=Z,90nm,0.9s
MOY Mondy 59.73 341 *e*P **P** **11 44 46.3 +2.6**
MOY pmax pmax
comp=Z,127nm,2.4s
DHRM DHARAMSHALA 60.45 310 *e*P **P** **11 44 48.6 -0.6**
PEA0B Petropavlovsk- 62.07 20 P **P** **11 44 59.5 0.0**
PEA0B Petropavlovsk- 62.07 20⇓*e*P **P** **11 45 00.5 +1.1**
PETK Petropavlovsk- 62.07 20 P **P** **11 44 59.5 +0.1**
PETK Petropavlovsk- 62.07 20 P **P** **11 44 59.7 +0.3**
comp=Z,58nm,0.9s,baz=189,slow=2.2,SNR=16
PETK PcP **PcP** **11 45 39.1 -0.4**
comp=Z,17nm,0.7s,baz=187,slow=3.5,SNR=6.9
comp=Z,58nm,0.9s
PET Petropavlovsk 62.33 21 P **P** **11 45 01.3 +0.1**
PET Petropavlovsk 62.33 21 P **P** **11 45 02.4 +1.3**
PET Petropavlovsk 62.33 21*d i*P **P** **11 45 02.0 +0.9**
PET pmax pmax
comp=Z,169nm,1.1s
CTZ Chatham Island 63.10 138 P **P** **11 45 06.9 +0.4**
CTZ Chatham Island 63.10 138 P **P** **11 45 06.8 +0.4**
ZSN Zaisan 63.33 329 *e*P **P** **11 45 07.6 -0.4**
comp=Z,52nm,1.9s,baz=329
ZSN *e*S **S** **11 53 38.4 +0.1**
baz=329
ZSN Zaisan 63.33 329 *e*P **P** **11 45 07.6 -0.4**
ZSN *e*S **S** **11 53 38.3 +0.1**
ZSN pmax pmax
comp=Z,52nm,1.9s
CASY Casey 63.52 188 P **P** **11 45 09.1 +0.3**
CASY IAmb IAmb 11 45 19.7
comp=Z,80nm,1.4s
DGZ Jazzator, Alta 63.59 332*c i*P **P** **11 45 09.5 -0.3**
DGZ pmax pmax
comp=Z,64nm,1.2s
SHLS Shalkode 63.77 323 *e*P **P** **11 45 09.4 -1.7**
comp=Z,81nm,1.5s,baz=323
SHLS Shalkode 63.77 323 *e*P **P** **11 45 09.3 -1.7**
SHLS pmax pmax
comp=Z,81nm,1.5s
UZB Uzynbulak 64.03 322 *e*P **P** **11 45 12.5 -0.4**
comp=Z,68nm,1.9s,baz=322
UZB Uzynbulak 64.03 322 *e*P **P** **11 45 12.4 -0.4**
UZB pmax pmax
comp=Z,68nm,1.9s
KSH Kashi 64.09 318 P **P** **11 45 14.0 +0.7**
KSH pP pwP 11 45 28.5 +2.8
KSH sP sP 11 45 33.8 +8.5
KSH PcP **PcP** **11 45 51.5 +3.2**
KSH S **S** **11 53 51.8 +3.7**
KSH ScS **ScS** **11 55 07.3 +2.1**
KSH pmax pmax
comp=Z,24nm,0.9s
KSH LR LR
comp=Z,2μm,18.9s
KSH LR LR
comp=Z,2μm,18.7s
KSH LR LR
comp=Z,2μm,21.1s
MK31 Makanchi Array 64.28 327 P **P** **11 45 14.2 0.0**
MK31 IAmb IAmb 11 45 24.4
comp=Z,48nm,0.8s
MK31 Makanchi Array 64.28 327 P **P** **11 45 14.2 0.0**
MK31 pmax pmax
comp=Z,48nm,0.9s
MKAR Makanchi Array 64.28 327 P **P** **11 45 14.4 +0.2**
MKAR Makanchi Array 64.28 327 P **P** **11 45 14.4 +0.2**
MKAR Makanchi Array 64.28 327 P **P** **11 45 14.2 0.0**
comp=Z,36nm,0.7s,baz=131,slow=7.7,SNR=18
comp=Z,36nm,0.7s
SATY Saty 64.36 322⇑*i*P **P** **11 45 15.0 0.0**
comp=Z,78nm,1.8s,baz=322
SATY Saty 64.36 322*c i*P **P** **11 45 14.9 0.0**
SATY pmax pmax
comp=Z,78nm,1.8s
ZHN Zhinishke 64.40 322 *e*P **P** **11 45 15.2 -0.1**
baz=322
ZHN Zhinishke 64.40 322 *e*P **P** **11 45 15.1 -0.1**
KPKS Kokpek 64.41 322⇑*i*P **P** **11 45 15.1 -0.2**
comp=Z,47nm,1.4s,baz=322
KPKS Kokpek 64.41 322*c i*P **P** **11 45 15.0 -0.2**
KPKS pmax pmax
comp=Z,47nm,1.4s
MAKZ Makanchi 64.46 327 P **P** **11 45 15.4 0.0**
MAKZ IAmb IAmb 11 45 24.9
comp=Z,83nm,1.1s
MAKZ Makanchi 64.46 327 P **P** **11 45 15.4 0.0**
MAKZ pmax pmax
comp=Z,83nm,1.2s
TNSS Tian-Shan 65.25 321 *e*P **P** **11 45 21.3 +0.1**
baz=321
TNSS Tian-Shan 65.25 321 *e*P **P** **11 45 21.2 +0.1**
MDOK Medeo 65.25 321 *e*P **P** **11 45 20.9 +0.1**
baz=322
MDOK *e*S **S** **11 54 03.3 +0.9**
baz=322
MDOK Medeo 65.25 321 *e*P **P** **11 45 20.9 +0.1**
MDOK *e*S **S** **11 54 03.3 +0.9**
ARXS Arharly 65.34 323 *e*P **P** **11 45 20.9 -0.4**
TDK Taldyqorghan 65.43 324 *e*P **P** **11 45 21.6 -0.1**
baz=324
TDK Taldyqorghan 65.43 324 *e*P **P** **11 45 21.6 -0.1**
BOOM Boomskoye usch 65.60 320 P **P** **11 45 22.4 -0.7**
BOOM IAmb IAmb 11 45 41.2
comp=Z,67nm,1.4s
BOOM Boomskoye usch 65.60 320 P **P** **11 45 22.4 -0.7**
BOOM pmax pmax
comp=Z,67nm,1.4s
CHKK Chushkaly 65.65 322 *e*P **P** **11 45 22.4 -0.9**
baz=322
CHKK Chushkaly 65.65 322 *e*P **P** **11 45 22.3 -0.9**
YAK Yakutsk 65.66 1 P **P** **11 45 22.9 +0.1**
YAK Yakutsk 65.66 1*c i*P **P** **11 45 22.8 0.0**
YAK *e* 11 45 51.7
YAK *e* 11 47 50.3
YAK *e*S **S** **11 54 04.6 -1.6**
YAK *e**SS sS 11 54 32.3 +11
YAK *e* 11 55 17.9
YAK *e*SS **SS** **11 58 23.5 +2.6**
YAK pmax pmax
comp=Z,230nm,1.0s
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=N,42nm,1.3s
YAK pmax pmax
comp=Z,652nm,4.4s
YAK pmax pmax
comp=N,467nm,4.3s
YAK pmax pmax
comp=E,633nm,4.3s
YAK smax smax
comp=N,1μm,5.4s
YAK smax smax
comp=E,634nm,5.3s
MA2 Magadan 65.76 13 P **P** **11 45 24.5 +0.9**
MA2 Magadan 65.76 13⇓*i*P **P** **11 45 24.7 +1.1**
MA2 pmax pmax
comp=Z,151nm,1.7s
KUU Kurty 66.07 322 *e*P **P** **11 45 25.7 -0.3**
comp=Z,76nm,0.8s,baz=322
KUU Kurty 66.07 322 *e*P **P** **11 45 25.6 -0.3**
KUU pmax pmax
comp=Z,76nm,0.8s
AAK Ala-Archa 66.60 320 P **P** **11 45 29.6 +0.2**
AAK IAmb IAmb 11 45 39.6
comp=Z,63nm,1.1s
AAK Ala-Archa 66.60 320 P **P** **11 45 30.3 +0.8**
AAK Ala-Archa 66.60 320 P **P** **11 45 29.7 +0.2**
AAK pmax pmax
comp=Z,63nm,1.2s
AAK Ala-Archa 66.60 320 P **P** **11 45 29.2 -0.3**
comp=Z,20nm,1.1s,baz=124,slow=8.9,SNR=4.0
comp=Z,20nm,1.1s
SGDS Sogindy 66.91 321⇑*i*P **P** **11 45 30.7 -0.7**
baz=321
SGDS Sogindy 66.91 321*c i*P **P** **11 45 30.6 -0.8**
SEM Semipalatinsk 67.56 329 *e*P **P** **11 45 34.2 -1.3**
baz=329
SEM Semipalatinsk 67.56 329 *e*P **P** **11 45 34.2 -1.3**
ZAA0 Zalesovo Array 67.69 334 P **P** **11 45 35.3 -0.7**
ZAA0 IAmb IAmb 11 45 45.3
comp=Z,63nm,1.0s
ZALV Zalesovo Beam 67.69 334 P **P** **11 45 34.6 -1.3**
ZALV Zalesovo Beam 67.69 334 P **P** **11 45 35.1 -0.9**
comp=Z,28nm,0.8s,baz=116,slow=4.6,SNR=13
comp=Z,28nm,0.8s
BTLS Baital 68.07 322 *e*P **P** **11 45 37.6 -1.0**
baz=322
BTLS Baital 68.07 322 *e*P **P** **11 45 37.6 -1.0**
KURBB Kurchatov Arra 68.57 329 P **P** **11 45 40.9 -0.6**
comp=Z,44nm,0.8s,baz=131,slow=5.6,SNR=27
comp=Z,44nm,0.8s
KURK Kurchatov 68.58 329 P **P** **11 45 41.3 -0.3**
KURK Kurchatov 68.58 329 P **P** **11 45 41.2 -0.4**
KURK Kurchatov 68.58 329 P **P** **11 45 41.3 -0.3**
KURK pmax pmax
comp=Z,158nm,1.0s
SEY Seymchan 69.13 12*de*P **P** **11 45 46.2 +1.4**
SEY pmax pmax
comp=Z,149nm,1.0s
IUG Iuzhnay 69.30 318 *e*P **P** **11 45 45.4 -1.0**
comp=Z,50nm,1.3s,baz=318
IUG Iuzhnay 69.30 318 *e*P **P** **11 45 45.4 -1.0**
IUG pmax pmax
comp=Z,50nm,1.3s
KK31 Karatay Array 69.40 319 P **P** **11 45 46.2 -0.7**
KK31 Karatay Array 69.40 319 P **P** **11 45 46.2 -0.7**
KK31 pmax pmax
comp=Z,31nm,1.1s
KKAR Karatay Array 69.40 319 P **P** **11 45 46.5 -0.5**
KKAR Karatay Array 69.40 319 P **P** **11 45 46.5 -0.5**
KKAR pmax pmax
comp=Z,31nm,1.1s
BRZS Berezniki 71.36 326⇑*i*P **P** **11 45 58.2 -0.6**
baz=326
BRZS Berezniki 71.36 326*c i*P **P** **11 45 58.1 -0.6**
JLN Jalan Bani Buh 71.44 295 P **P** **11 45 58.6 -1.1**

WBK	Wadi Bani Khal	71.93	295	P	P	11 46 01.6	-1.2	
	SNR=6.6							
WSAR	Wadi Sarin	72.37	296	P	P	11 46 05.1	-0.3	
	SNR=11							
WSAR	Wadi Sarin	72.37	296	P	P	11 46 04.5	-0.8	
	comp=Z,30nm,0.9s,baz=173,slow=5.0,SNR=13							
	comp=Z,30nm,0.9s							
KIWB	Kanaga Island	72.44	32	P	P	11 46 04.7	-0.4	
MHTO	MHTO	72.52	293	P	P	11 46 04.8	-1.5	
	SNR=5.8							
JMDO	Jabal Madar	72.67	295	P	P	11 46 06.4	-0.8	
	SNR=7.4							
DQM	DQM	72.72	292	P	P	11 46 06.6	-0.9	
SMDO	Samad	72.86	295	P	P	11 46 07.9	-0.5	
	SNR=7.0							
BIDO	Bidbid	72.88	296	P	P	11 46 07.8	-0.6	
	SNR=11							
BSY	Bisya	73.56	295	P	P	11 46 11.2	-1.3	
	SNR=5.7							
JASK	Jask - Hormozg	73.61	298	P	P	11 46 13.4	+0.7	
	SNR=5.2							
HOQ	Hoqain	73.63	296	P	P	11 46 12.1	-0.7	
	SNR=9.0							
BVAR	Borovoye Array	74.12	328	P	P	11 46 14.3	-0.8	
	comp=Z,18nm,0.8s,baz=128,slow=8.7,SNR=10.0							
	comp=Z,18nm,0.8s							
SHAO	Shalim	74.17	290	P	P	11 46 14.5	-1.6	
BRVK	Borovoye	74.19	328	P	P	11 46 15.2	-0.3	
BRVK	Borovoye	74.19	328	P	P	11 46 13.3	-2.1	
BRVK	Borovoye	74.19	328	P	P	11 46 15.2	-0.3	
BRVK				pmax	pmax			
	comp=Z,44nm,0.9s							
ARQ	Araqi	74.29	295	P	P	11 46 15.9	-0.8	
SOHO	SOHO	74.44	296	P	P	11 46 16.6	-0.9	
DMTO	DMTO	74.76	289	P	P	11 46 17.9	-1.6	
MDH	Madha	74.88	297	P	P	11 46 18.5	-1.6	
UOSS	Minazif	74.89	297	P	P	11 46 19.2	-0.9	
UOSS				IAmb	IAmb	11 46 23.8		
	comp=Z,58nm,1.1s							
UOSS	Minazif	74.89	297	P	P	11 46 18.7	-1.5	
HATD	Hatta, Dubai	74.93	297	P	P	11 46 19.7	-0.7	
ASHO	Ashiyiah	74.97	297	P	P	11 46 19.9	-0.8	
	SNR=5.6							
MASF	Masafi	75.02	297	P	P	11 46 20.8	-0.1	
	SNR=7.2							
ALNE	Al Ain	75.12	296	P	P	11 46 20.7	-0.8	
	SNR=9.4							
SHME	Shamm	75.17	298	P	P	11 46 21.3	-0.4	
	SNR=8.4							
TIXI	Tiksi	75.30	0	P	P	11 46 21.1	-0.4	
TIXI				IAmb	IAmb	11 46 31.6		
	comp=Z,48nm,1.0s							
TIXI	Tiksi	75.30	0	eP	P	11 46 21.6	+0.1	
NAZ	Nazwa, Dubai	75.38	297	P	P	11 46 22.2	-0.8	
FAQ	Al Faqa, Dubai	75.39	297	P	P	11 46 22.0	-1.0	
	SNR=6.2							
RBK	Rabkut	75.42	289	P	P	11 46 21.5	-1.9	
	SNR=6.0							
ASUD	Al Ashush, Dub	75.61	296	P	P	11 46 23.6	-0.6	
	SNR=7.7							
DOK	Doka	75.67	290	P	P	11 46 22.6	-2.1	
	SNR=5.5							
WHFO	Wadi Hawf	75.89	289	P	P	11 46 24.0	-2.1	
VNDA	Vanda	75.90	173	P	P	11 46 24.0	-0.9	
VNDA	Vanda	75.90	173	P	P	11 46 24.0	-0.9	
VNDA				pmax	pmax			
	comp=Z,21nm,1.0s							
VNDA	Vanda	75.90	173	P	P	11 46 23.6	-1.3	
	comp=Z,6.1nm,0.7s,baz=312,slow=7.3,SNR=7.3							
	comp=Z,6.1nm,0.7s							
ABTO	Aybut	76.26	289	P	P	11 46 26.4	-1.8	
	SNR=7.7							
GEYT	Alibeck	76.37	310	P	P	11 46 27.9	-0.5	
GEYT	Alibeck	76.37	310	P	P	11 46 27.9	-0.5	
GEYT				pmax	pmax			
	comp=Z,42nm,1.0s							
GEYT	Alibeck	76.37	310	P	P	11 46 27.8	-0.6	
	comp=Z,36nm,1.0s,baz=143,slow=5.2,SNR=9.5							
	comp=Z,36nm,1.0s							
GYA0B	ALIBECK ARRAY	76.37	310	P	P	11 46 28.1	-0.3	
KIP	Kipapa	76.87	67	P	P	11 46 32.6	+1.1	
KIP	Kipapa	76.87	67	P	P	11 46 32.5	+1.1	
MZR	Muzera	76.98	295	P	P	11 46 30.9	-1.2	
	SNR=8.4							
MAW	Mawson	77.08	201	P	P	11 46 31.6	-0.1	
	baz=77,SNR=8.2							
MAW	Mawson	77.08	201	P	P	11 46 30.9	-0.8	
MAW	Mawson	77.08	201	P	P	11 46 30.9	-0.8	
MAW				pmax	pmax			
	comp=Z,7.0nm,1.3s							
MAW	Mawson	77.08	201	P	P	11 46 30.6	-1.1	
	comp=Z,4.2nm,0.6s,baz=73,slow=5.2,SNR=12							
	comp=Z,4.2nm,0.6s							
NIKH	Nikolski High	77.47	34	P	P	11 46 34.2	+0.1	
	baz=246							
JRN	Qarnain Island	77.88	296	P	P	11 46 35.5	-1.6	
	SNR=7.0							
SPIA	Saint Paul Isl	78.51	29	P	P	11 46 40.4	+0.5	
	baz=244							
ABKAR	Akbulak array	78.56	322	P	P	11 46 39.5	-0.8	
POHA	Pohakuloa	78.92	69	P	P	11 46 44.3	+1.1	
UNV	Unalaska Valle	79.10	33	P	P	11 46 43.5	+0.3	
	baz=248							
SMRA	Abu-Samra	79.66	296	P	P	11 46 45.7	-1.1	
	SNR=7.4							
SHMA	Al-Shehemyia	79.72	297	P	P	11 46 46.2	-0.9	
	SNR=5.2							
AKTO	Aktyubinsk	80.12	323	P	P	11 46 47.5	-1.3	
	comp=Z,36nm,0.8s,baz=105,slow=7.7,SNR=15							
	comp=Z,36nm,0.8s							
SVE	Sverdlovsk	80.83	329	eP	P	11 46 51.9	-0.6	
SVE				pmax	pmax			
	comp=Z,99nm,1.1s							
GAMB	Gambell	80.88	23	P	P	11 46 53.3	+0.7	
	baz=242							
FALS	False Pass	81.15	33	P	P	11 46 54.4	+0.2	
	baz=250							
M11K	Mekoryuk	81.75	27	P	P	11 46 57.1	-0.2	
	baz=247							
ARU	Arti	81.76	328	P	P	11 46 56.6	-0.8	
ARU				IAmb	IAmb	11 47 08.7		
	comp=Z,68nm,1.0s							
ARU	Arti	81.76	328	c iP	P	11 46 56.3	-1.1	
ARU						11 50 04.3		
ARU				S	S	11 57 07.5	-0.7	
ARU				SS	SS	12 02 22.2	-4.4	
ARU				pmax	pmax			
	comp=Z,42nm,0.9s							
ARU				MLR	MLR			
	comp=Z,1μm,16.0s							
ARU	Arti	81.76	328	P	P	11 46 56.1	-1.3	
	comp=Z,26nm,0.8s,baz=338,slow=0.4,SNR=7.6							
	comp=Z,26nm,0.8s							
PAE	Paea	81.98	107	eP	P	11 47 04.5	+5.1	
	comp=Z,36nm,1.2s							
PPT2	Papeete2	81.98	107	eP	P	11 47 04.8	+5.3	
	comp=Z,80nm,1.2s							
TIAR	Tiarei	82.20	107	eP	P	11 47 08.1	+7.5	
	comp=Z,5.9nm,0.9s							
SDPT	Sand Point	82.91	33	P	P	11 47 03.5	+0.1	
SDPT	Sand Point	82.91	33	P	P	11 47 03.7	+0.3	
SDPT	Sand Point	82.91	33	P	P	11 47 02.7	-0.8	
	baz=253,SNR=9.2							
K13K	Kusilvak Mount	83.03	26	P	P	11 47 05.1	+1.1	
	baz=248							
M13K	Dall Lake	83.08	28	P	P	11 47 05.2	+1.0	
	baz=250							
TNA	Tin City	83.14	22	P	P	11 47 04.4	0.0	
	baz=245							
CHNA	Chernabura Isl	83.25	34	P	P	11 47 05.5	+0.3	
	baz=254							
PMOR	Pomariorio Ree	83.68	105	eP	P	11 47 09.1	+0.8	
	comp=Z,136nm,1.3s							
S14K	Fog Glacier	83.68	32	P	P	11 47 07.2	-0.4	
	baz=254,SNR=6.0							
O14K	Tigyukauivet M	83.69	29	P	P	11 47 07.7	+0.3	
	baz=252							
N14K	Kuskokwak Cree	83.70	29	P	P	11 47 07.6	+0.1	
	baz=251							
L14K	Kuka Creek	83.71	27	P	P	11 47 07.9	+0.5	
L14K	Kuka Creek	83.71	27	P	P	11 47 08.0	+0.6	
	baz=250,SNR=11							
F14K	Arctic Creek	83.71	23	P	P	11 47 08.1	+0.7	
	baz=246							
ANM	Nome	83.72	24	P	P	11 47 08.0	+0.5	
ANM				IAmb	IAmb	11 47 18.4		
	comp=Z,58nm,0.9s							
ANM	Nome	83.72	24	P	P	11 47 08.2	+0.7	
	baz=248							
J14K	Nanvaranak Lak	83.81	26	P	P	11 47 08.2	+0.3	
J14K				IAmb	IAmb	11 47 19.0		
	comp=Z,40nm,0.9s							
J14K	Nanvaranak Lak	83.81	26	P	P	11 47 08.0	+0.1	
	baz=249,SNR=5.3							
M14K	Bethel	83.84	28	P	P	11 47 08.6	+0.5	
M14K	Bethel	83.84	28	P	P	11 47 08.9	+0.8	
	baz=251							
CHGN	Chignik	84.30	33	P	P	11 47 10.6	+0.1	
	baz=254							
L15K	Ungalak Mounta	84.36	27	P	P	11 47 10.9	+0.1	
	baz=251,SNR=7.3							
O15K	Ungalikthiuk R	84.38	30	P	P	11 47 11.1	+0.2	
	baz=253							
G15K	Niukluk	84.42	23	P	P	11 47 11.3	+0.3	
	baz=249							
M15K	Kasigluk River	84.42	28	P	P	11 47 11.4	+0.3	
	baz=252,SNR=5.3							
F15K	North Star Dit	84.44	23	P	P	11 47 11.6	+0.4	
	baz=248							
K15K	Wolf Creek Mou	84.54	26	P	P	11 47 12.6	+0.9	
	baz=251,SNR=8.4							
N15K	Kwethluk River	84.54	29	P	P	11 47 12.3	+0.6	
	baz=253							
H16K	Elim	85.01	24	P	P	11 47 14.4	+0.4	
	baz=250							
C16K	Lisburne Hills	85.17	20	P	P	11 47 16.2	+1.5	
C16K				IAmb	IAmb	11 47 27.3		
	comp=Z,54nm,1.1s							
C16K	Lisburne Hills	85.17	20	P	P	11 47 15.2	+0.5	
	baz=247							
G16K	Koyuk River	85.22	23	P	P	11 47 15.8	+0.8	
	baz=250							
P16K	Nushagak River	85.24	30	P	P	11 47 15.8	+0.6	
	baz=255,SNR=15							
J16K	Anvik River	85.26	26	P	P	11 47 16.2	+0.9	
	baz=252							
N16K	Nishlik Lake	85.26	28	P	P	11 47 16.0	+0.7	
	baz=254,SNR=19							
L16K	Owhat River	85.28	27	P	P	11 47 16.0	+0.6	
L16K	Owhat River	85.28	27	P	P	11 47 15.8	+0.4	
	baz=253,SNR=18							
M16K	Timber Creek	85.32	28	P	P	11 47 15.8	+0.2	
M16K	Timber Creek	85.32	28	P	P	11 47 16.5	+0.8	
	baz=254,SNR=14							
O16K	Kokwok River B	85.34	29	P	P	11 47 16.1	+0.4	
	baz=254,SNR=13							
I17K	Unalakleet	85.41	25	P	P	11 47 16.3	+0.4	
	baz=252							
CHIR	Chirikof Islan	85.69	33	P	P	11 47 17.7	+0.1	
	baz=257							
R17K	Ugashik Creek	85.71	32	P	P	11 47 17.2	-0.4	
	baz=256							
D17K	Noatak River	85.75	21	P	P	11 47 18.4	+0.8	
	baz=249,SNR=11							
Q16K	King Salmon	85.82	31	P	P	11 47 18.4	+0.2	
	baz=256							
O17K	Koliganek Bris	85.88	29	P	P	11 47 19.5	+1.1	
	baz=255,SNR=8.1							
G17K	Kiwalik Mounta	85.93	23	P	P	11 47 19.0	+0.5	
	baz=252							
L17K	Donlin	85.94	27	P	P	11 47 19.6	+1.0	
	baz=254,SNR=6.7							
C17K	DeLong Mountai	85.99	20	P	P	11 47 18.9	+0.1	
	baz=249							
E17K	Hotham Inlet	85.99	22	P	P	11 47 19.0	+0.2	
	baz=250,SNR=5.2							
F17K	Baldwin Pennin	86.00	22	P	P	11 47 19.4	+0.6	
F17K	Baldwin Pennin	86.00	22	P	P	11 47 19.1	+0.3	
	baz=251							
N17K	Nushagak Hills	86.03	29	P	P	11 47 19.3	+0.2	
N17K				IAmb	IAmb	11 47 30.2		
	comp=Z,56nm,1.0s							
N17K	Nushagak Hills	86.03	29	P	P	11 47 19.9	+0.8	
	baz=255,SNR=5.5							
H17K	Granite Mounta	86.05	24	P	P	11 47 19.9	+0.7	
H17K	Granite Mounta	86.05	24	P	P	11 47 19.4	+0.2	
	baz=252,SNR=9.6							
P17K	Kvichak River	86.06	30	P	P	11 47 19.3	0.0	
	baz=256							
K17K	Iditarod	86.09	26	P	P	11 47 19.7	+0.3	
K17K				IAmb	IAmb	11 47 22.4		
	comp=Z,35nm,0.7s							
K17K	Iditarod	86.09	26	P	P	11 47 19.7	+0.3	
	baz=254,SNR=11							
Q17K	Contact Creek	86.12	31	P	P	11 47 18.7	-1.1	
	baz=256,SNR=7.2							
M17K	Holitna River	86.14	28	P	P	11 47 20.1	+0.5	
	baz=255							
QSPA	South Pole Qui	86.17	180	P	P	11 47 18.2	-1.7	
QSPA				IAmb	IAmb	11 47 36.3		
	comp=Z,60nm,1.2s							
QSPA	South Pole Qui	86.17	180	P	P	11 47 18.0	-1.9	
	comp=Z,13nm,0.7s,baz=337,slow=1.2,SNR=7.9							
	comp=Z,13nm,0.7s							
E18K	Tukpahlearik C	86.55	22	P	P	11 47 21.5	-0.1	
E18K	Tukpahlearik C	86.55	22	P	P	11 47 22.0	+0.4	
	baz=252							
SII	Sitkinak Islan	86.64	33	P	P	11 47 23.2	+0.9	
SII	Sitkinak Islan	86.64	33	P	P	11 47 22.6	+0.3	
	baz=258							
Q18K	Katmai Hardscr	86.66	31	P	P	11 47 21.2	-1.3	
	baz=257,SNR=5.7							
N18K	Kilae Creek	86.69	29	P	P	11 47 22.0	-0.4	
	baz=256							
L18K	Granite Mounta	86.69	27	P	P	11 47 22.6	+0.2	
L18K				IAmb	IAmb	11 47 24.5		
	comp=Z,49nm,0.7s							
L18K	Granite Mounta	86.69	27	P	P	11 47 22.3	-0.1	
	baz=256,SNR=25							
R18K	Karluk	86.71	32	P	P	11 47 22.0	-0.5	
	baz=258							
P18K	Big Mountain,	86.71	30	P	P	11 47 22.6	0.0	
	baz=257							
C18K	Utukok River	86.74	20	P	P	11 47 22.4	-0.2	
	baz=251							
H18K	Honhosa River	86.74	24	P	P	11 47 22.3	-0.3	
	baz=254							
B18K	Kokolik River	86.77	20	P	P	11 47 22.6	0.0	
	baz=250							
O18K	Koktuh Hills	86.83	30	P	P	11 47 22.4	-0.7	
	baz=257							
G18K	Tagagawik	86.84	23	P	P	11 47 23.3	+0.3	
	baz=254							
BELG	Belogornoye	86.90	323	P	P	11 47 22.7	-0.9	
	comp=Z,92nm,1.0s,baz=348,slow=2.2,SNR=8.0							
	comp=Z,92nm,1.0s							
M18K	Stony River	86.91	28	P	P	11 47 23.8	+0.3	
	baz=256,SNR=11							
SVW2	Sparrevohn	86.93	28	P	P	11 47 24.5	+0.9	
J18K	Innoko River	86.99	26	P	P	11 47 23.6	-0.2	
J18K				IAmb	IAmb	11 47 25.0		
	comp=Z,29nm,0.7s							
J18K	Innoko River	86.99	26	P	P	11 47 23.6	-0.2	
	baz=255							
GNI	Garni	87.01	310	P	P	11 47 22.9	-1.7	
	comp=Z,9.9nm,0.7s,baz=337,slow=24,SNR=1.4							
	comp=Z,9.9nm,0.7s							
KIRV	Kirov	87.10	329	P	P	11 47 22.5	-1.9	
	comp=Z,31nm,0.6s,baz=58,slow=1.6,SNR=6.3							
	comp=Z,31nm,0.6s							
TTA	Tatalina	87.17	26	P	P	11 47 25.4	+0.6	
TTA	Tatalina	87.17	26	P	P	11 47 24.4	-0.3	
	baz=256,SNR=14							
GCSA	Galena City Sc	87.25	25	P	P	11 47 24.7	-0.3	
	baz=255,SNR=9.9							
O19K	Port Alsworth	87.33	29	P	P	11 47 24.9	-0.6	
	baz=258							
N19K	Bonanza Creek	87.39	29	P	P	11 47 26.0	+0.1	
N19K	Bonanza Creek	87.39	29	P	P	11 47 26.3	+0.4	
	baz=258							
Q19K	Cape Douglas,	87.41	31	P	P	11 47 25.6	-0.4	
	baz=258							
C19K	Lookout Ridge	87.43	20	P	P	11 47 26.2	+0.2	
	baz=252							
F19K	Shaleruckik Mo	87.44	22	P	P	11 47 25.4	-0.5	
	baz=254							
L19K	White Mountain	87.52	27	P	P	11 47 26.8	+0.4	
L19K				IAmb	IAmb	11 47 28.5		
	comp=Z,33nm,0.8s							
L19K	White Mountain	87.52	27	P	P	11 47 26.4	0.0	
	baz=257,SNR=13							
G19K	Purcell Mounta	87.52	23	P	P	11 47 26.4	0.0	
G19K				IAmb	IAmb	11 47 37.2		
	comp=Z,40nm,0.8s							
G19K	Purcell Mounta	87.52	23	P	P	11 47 25.9	-0.4	
	baz=255							
J19K	Poorman	87.59	25	P	P	11 47 26.6	-0.1	
	baz=256,SNR=8.7							
H19K	Roundabout Mou	87.62	24	P	P	11 47 26.6	-0.1	
	baz=256,SNR=10.0							
M19K	Big River Lodg	87.67	28	P	P	11 47 27.3	+0.2	
	baz=258,SNR=18							
KDAK	Kodiak Island	87.73	32	P	P	11 47 28.0	+0.6	
KDAK	Kodiak Island	87.73	32	P	P	11 47 27.4	-0.1	
	baz=259							
P19K	Oil Pt	87.76	30	P	P	11 47 27.4	-0.3	
	baz=259							
D19K	Kuna River	87.77	21	P	P	11 47 27.6	+0.1	
D19K	Kuna River	87.77	21	P	P	11 47 27.1	-0.5	
	baz=254							
E19K	Redstone River	87.81	22	P	P	11 47 27.7	0.0	
E19K				IAmb	IAmb	11 47 38.1		
	comp=Z,47nm,0.8s							
E19K	Redstone River	87.81	22	P	P	11 47 27.7	0.0	
	baz=255							
Q20K	Shuyak Island	87.99	31	P	P	11 47 28.8	+0.1	
	baz=259							
L20K	Farewell, AK	88.02	27	P	P	11 47 29.2	+0.3	
	baz=258,SNR=11							
K20K	Telida	88.12	26	P	P	11 47 29.5	+0.2	
K20K	Telida	88.12	26	P	P	11 47 29.2	-0.1	
	baz=258							
H20K	Anotleneega Mo	88.25	24	P	P	11 47 29.4	-0.4	
	baz=257							
M20K	Styx River	88.25	28	P	P	11 47 29.9	-0.1	
	baz=259							
I20K	Naaghedeneel	88.26	25	P	P	11 47 29.1	-0.7	
	baz=257							
J20K	Nowinta River	88.26	25	P	P	11 47 30.1	+0.2	
	baz=258,SNR=6.6							
F20K	Avaraart Lake	88.27	22	P	P	11 47 29.9	0.0	
F20K				IAmb	IAmb	11 47 39.9		
	comp=Z,27nm,0.9s							
F20K	Avaraart Lake	88.27	22	P	P	11 47 29.6	-0.2	
	baz=256							
D20K	Etivluk River	88.36	21	P	P	11 47 29.7	-0.6	
	baz=255							
E20K	Nigu River	88.40	21	P	P	11 47 30.3	-0.2	
	baz=256							
SIRT	Sirnak	88.48	308	P	P	11 47 31.5	-0.2	
B20K	Meade River	88.51	19	P	P	11 47 30.9	0.0	
	baz=255							
N20K	Mount Spurr	88.55	29	P	P	11 47 30.9	-0.6	
	baz=260							
KBZ	Khabaz	88.80	314	P	P	11 47 32.4	-0.4	
	comp=Z,30nm,0.9s,baz=111,slow=3.5,SNR=10							
	comp=Z,30nm,0.9s							
IMAR	Indian Mountai	88.81	24	P	P	11 47 31.8	-0.7	
PPLA	Purkeypile	88.87	27	P	P	11 47 32.6	-0.4	
	baz=260							
GURO	Guroymak-BITLI	88.91	309	P	P	11 47 33.9	+0.2	
CAPN	Captain Cook N	88.98	29	P	P	11 47 32.6	-0.7	
	baz=260							
CHUM	Lake Minchumin	89.00	26	P	P	11 47 33.0	-0.3	
	baz=259,SNR=6.6							
SKT	Skwentna	89.01	28	P	P	11 47 31.6	-1.9	
	baz=260,SNR=6.1							
CAST	Castle Rocks	89.01	26	P	P	11 47 33.4	0.0	
	baz=260,SNR=5.8							
G21K	Allakaket	89.01	23	P	P	11 47 33.1	-0.3	
	baz=258							
BRSE	Bradley Lake S	89.02	30	P	P	11 47 33.4	-0.2	
	baz=261							
C21K	Knifeblade Rid	89.11	20	P	P	11 47 34.1	+0.3	
	baz=257							
H21K	Melozitna Rive	89.12	24	P	P	11 47 33.5	-0.5	
	baz=259							
F21K	Alatna River	89.17	22	P	P	11 47 33.9	-0.2	
	baz=258							
E21K	Killik River	89.24	21	P	P	11 47 33.9	-0.6	
E21K	Killik River	89.24	21	P	P	11 47 33.8	-0.6	
	baz=258							
B21K	Ikpikpuk River	89.27	20	P	P	11 47 34.8	+0.3	
B21K				IAmb	IAmb	11 47 44.4		
	comp=Z,29nm,0.8s							
B21K	Ikpikpuk River	89.27	20	P	P	11 47 34.0	-0.5	
	baz=257							
SUA	Susitna One	89.29	28	P	P	11 47 33.5	-1.5	
	baz=261,SNR=12							
I21K	Tanana	89.37	25	P	P	11 47 34.4	-0.7	
	baz=260							
A22K	Sinclair Lake	89.46	19	P	P	11 47 34.9	-0.5	
	baz=257							
BPAW	Bear Paw Mtn.	89.61	26	P	P	11 47 36.0	-0.2	
	baz=261,SNR=6.0							
M22K	Willow	89.63	28	P	P	11 47 35.3	-1.1	
	baz=261							
O22K	Cooper Landing	89.64	29	P	P	11 47 35.6	-0.8	
	baz=262							
CUT	Chulitna	89.66	27	P	P	11 47 34.9	-1.5	
	baz=261							
SEW	Seward	89.72	30	P	P	11 47 36.0	-0.7	
	baz=262							
RC01	Rabbit Creek A	89.72	29	P	P	11 47 35.5	-1.2	
	baz=262,SNR=8.4							
F22K	John River	89.72	22	P	P	11 47 36.2	-0.5	
	baz=260							
H22K	Ishtalitna Cre	89.75	24	P	P	11 47 36.8	-0.1	
	baz=260							
D22K	Ayikyak River	89.79	21	P	P	11 47 37.2	+0.2	
	baz=259							
TRF	Thorofare Moun	89.81	26	P	P	11 47 37.6	+0.2	
	baz=261							
B22K	Teshekpuk Lake	89.83	19	P	P	11 47 36.8	-0.3	
	baz=258							
MLY	Manley	89.87	25	P	P	11 47 37.0	-0.5	
	baz=261,SNR=12							
G22K	Bettles	89.87	23	P	P	11 47 37.4	0.0	
	baz=260							
E22K	Anaktuvuk Pass	89.97	22	P	P	11 47 37.9	0.0	
	baz=260,SNR=11							
PMR	Palmer	90.08	28	P	P	11 47 39.7	+1.3	
PMR	Palmer	90.08	28	P	P	11 47 37.4	-1.0	
	baz=262,SNR=5.4							
PWL	Port Wells	90.36	29	P	P	11 47 39.0	-0.8	
	baz=263							
KNK	Knik Glacier	90.37	29	P	P	11 47 39.2	-0.7	
	baz=263,SNR=7.9							
G23K	Bananza Creek	90.42	23	P	P	11 47 40.0	0.0	
	baz=261							
COLD	Coldfoot	90.42	23	P	P	11 47 39.6	-0.4	
	baz=261,SNR=7.5							
RND	Reindeer	90.45	27	P	P	11 47 39.2	-1.1	
RND				IAmb	IAmb	11 47 48.7		
	comp=Z,36nm,0.7s							
MCK	McKinley	90.45	26	P	P	11 47 39.4	-0.8	
	baz=262,SNR=6.6							
I23K	Minto, Yukon-K	90.46	25	P	P	11 47 39.5	-0.7	
	baz=262,SNR=16							
H23K	Yukon River	90.48	24	P	P	11 47 39.8	-0.5	
	baz=262							
SML	Sawmill	90.48	28	P	P	11 47 39.6	-0.8	
	baz=263,SNR=11							
NEA2	Nenana	90.51	25	P	P	11 47 39.4	-1.0	
	baz=262,SNR=9.1							
WAT1	Susitna Watana	90.51	27	P	P	11 47 39.1

baz=263
D24K Happy Valley 91.21 21 P P 11 47 43.5 0.0
baz=263
POKR Poker Plat Res 91.27 25 P P 11 47 43.3 -0.6
baz=264
C24K Franklin Bluff 91.32 20 P P 11 47 43.6 -0.5
baz=263
F24K Squaw Lake 91.35 23 P P 11 47 43.7 -0.6
baz=263
HDA Harding Lake 91.40 26 P P 11 47 43.2 -1.4
baz=264,SNR=13
G24K Hadweenzic Riv 91.42 23 P P 11 47 43.7 -0.9
baz=264
ILAR Eielson Array 91.46 25 P P 11 47 42.9 -2.0
comp=Z,8.3nm,0.6s,baz=241,slow=4.8,SNR=40
ILAR PP PP 11 51 23.8 +1.0
comp=Z,2.5nm,1.0s,baz=262,slow=6.5,SNR=4.5
comp=Z,8.3nm,0.6s
M24K Tolsona, Glenn 91.53 28 P P 11 47 43.4 -1.9
baz=265
KLU Klutina 91.59 29 P P 11 47 44.8 -0.8
baz=265,SNR=7.7
EYAK Cordova Ski Ar 91.59 30 P P 11 47 43.8 -1.7
baz=265
TAOE Nuku Hiva Isla 91.59 99 eLR LR 12 17 18.1
comp=Z,1µm,25.6s
K24K Donnelly Dome 91.85 26 P P 11 47 45.5 -1.2
baz=265,SNR=15
PAX Paxson 91.92 27 P P 11 47 46.0 -1.1
baz=266,SNR=8.6
G25K Bearman Lake 91.97 23 P P 11 47 46.8 -0.3
baz=265
HARP HAARP 92.03 28 P P 11 47 46.4 -1.1
baz=266
H25L Birch Creek 92.04 24 P P 11 47 46.9 -0.6
baz=265
D25K Kavik River 92.09 21 P P 11 47 46.9 -0.8
baz=265
J25K Salcha River, 92.10 26 P P 11 47 46.4 -1.5
baz=266,SNR=9.0
PRP Porcupine Dome 92.10 25 P P 11 47 46.6 -1.3
baz=266,SNR=5.8
BMRM Bremner River 92.19 29 P P 11 47 47.6 -0.7
baz=266,SNR=5.4
KAIM Kayak Island 92.21 30 P P 11 47 47.4 -1.0
baz=266
F25K Christian Rive 92.22 23 P P 11 47 48.4 0.0
baz=266,SNR=6.1
N25K Chitina, Valde 92.23 29 P P 11 47 48.2 -0.4
baz=266,SNR=6.7
E25K Arctic Village 92.29 22 P P 11 47 48.3 -0.4
baz=266
KLMR Klimovskoe 92.37 331 eP P 11 47 46.3 -2.8
KLMR AMP 11 47 59.8
comp=Z,73nm,1.6s
KLMR ePP PP 11 51 27.5 -2.5
ASF Jabal al Asfar 92.63 302 P P 11 47 49.8 -1.3
comp=Z,4.0nm,0.4s,baz=239,slow=1.5,SNR=6.1
comp=Z,4.0nm,0.4s
C26K Camden Bay 92.65 20 P P 11 47 50.6 +0.4
baz=266
SCRK Sand Creek 92.66 26 P P 11 47 50.0 -0.6
baz=267
MENT Mentasta 92.72 27 P P 11 47 51.0 +0.2
F26K Sheenjek River 92.80 22 P P 11 47 51.1 +0.1
baz=267
J26L Joseph Creek 92.87 26 P P 11 47 51.0 -0.5
baz=267,SNR=29
G26K Porcupine Rive 92.90 23 P P 11 47 51.6 +0.2
baz=267
L26K Log Cabin Wild 92.90 27 P P 11 47 51.3 -0.3
baz=267
MCARA McCarthy VSAT 92.97 29 P P 11 47 51.9 0.0
baz=268
M26K Nabesna, AK 93.03 28 P P 11 47 51.9 -0.4
baz=268
I26K Coal Creek Min 93.08 25 P P 11 47 52.1 -0.2
baz=268
MESA MESA 93.46 30 P P 11 47 54.3 -0.1
baz=268
K27K Chicken 93.50 26 P P 11 47 54.4 +0.1
baz=269
M27K Edge Creek, AK 93.55 28 P P 11 47 53.5 -1.3
baz=269,SNR=6.3
L27K Beaver Creek, 93.59 27 P P 11 47 54.8 0.0
baz=269,SNR=15
I27K Kandik River 93.73 25 P P 11 47 55.7 +0.3
baz=269,SNR=12
G27K Doyon Strip 93.73 23 P P 11 47 55.2 -0.2
baz=269
E27K Coleen River 93.77 22 P P 11 47 55.5 -0.1
baz=269,SNR=6.8
H27K Steamboat Moun 93.78 24 P P 11 47 55.4 -0.2
baz=269,SNR=6.4
CTG Chitna Glacier 93.78 29 P P 11 47 56.0 +0.2
baz=269,SNR=13
EGAK Eagle 93.91 25 P P 11 47 55.5 -0.6
baz=269,SNR=8.7
MMAI Mount Meron Ar 93.93 303 P P 11 47 56.6 -0.5
comp=Z,10.0nm,0.8s,baz=74,slow=10,SNR=3.7
comp=Z,10.0nm,0.8s
D27M Malcolm River 94.01 21 P P 11 47 56.4 -0.3
baz=270
BVCY Beaver Creek 94.03 28 P P 11 47 56.5 -0.3
baz=270,SNR=5.3
EIL Elat 94.20 299 P P 11 47 55.9 -2.4
comp=Z,4.9nm,0.7s,baz=336,slow=4.1,SNR=3.5
comp=Z,4.9nm,0.7s
YUK3 Moose Creek 94.21 28 P P 11 47 57.9 0.0
baz=270,SNR=7.8
PINM Pinnacle 94.31 30 P P 11 47 58.4 +0.2
baz=270
O28M Mount Upton 94.34 29 P P 11 47 58.6 0.0
baz=270,SNR=7.8
F28M Old Crow 94.43 23 P P 11 47 58.2 -0.3
baz=271,SNR=7.2
I28M Miner Creek 94.43 25 P P 11 47 58.7 0.0
baz=271,SNR=19
E28M Babbage River 94.53 22 P P 11 47 58.9 -0.1
baz=271
YUK8 Steele Glacier 94.55 29 P P 11 47 59.7 +0.2
baz=270,SNR=11
DAWY Dawson 94.68 26 P P 11 47 59.8 +0.1
baz=271
PNL Peninsula 94.74 31 P P 11 48 00.6 +0.5
baz=271
D28M Stokes Point 94.80 21 P P 11 48 00.0 -0.1
baz=272
H29M Whitestone 95.06 24 P P 11 48 01.6 +0.2
baz=272
YUK4 Talbot Arm 95.08 29 P P 11 48 02.2 +0.3
baz=272,SNR=6.5
I29M Ogilvie Camp, 95.11 25 P P 11 48 01.5 -0.2
baz=272,SNR=13
M29M Somme Creek 95.14 28 P P 11 48 01.8 -0.2
baz=272,SNR=16
O29M Mount Kennedy 95.14 30 P P 11 48 02.0 0.0
baz=271
E29M Blow River 95.15 22 P P 11 48 01.1 -0.6
baz=273
G29M Pine Creek 95.17 23 P P 11 48 01.7 -0.2
baz=272,SNR=9.6
J29N Klondike Camp 95.18 26 P P 11 48 02.1 0.0
baz=272
YUK6 Outpost Mounta 95.23 29 P P 11 48 02.5 -0.1
baz=272
L29M L29M 95.27 27 P P 11 48 02.8 +0.3
baz=272,SNR=15
BRTR Keskin Array B 95.49 309 P P 11 48 02.8 -1.4
comp=Z,6.0nm,0.8s,baz=138,slow=4.7,SNR=6.7
comp=Z,6.0nm,0.8s
K29M Barlow Dome 95.52 26 P P 11 48 03.9 +0.2
baz=273,SNR=10
P29M Windy Craggy 95.58 31 P P 11 48 03.9 0.0
baz=272
HYT Haines Junctio 95.66 29 P P 11 48 04.6 +0.2
baz=272,SNR=6.1
EPYK Eagle Plains 95.71 24 P P 11 48 04.2 -0.2
baz=274,SNR=5.4
N30M Aishikik Lake 95.83 29 P P 11 48 05.3 +0.2
baz=273,SNR=9.0
G30M tAoh Zrail Nji 95.87 23 P P 11 48 04.1 -1.0
baz=274,SNR=5.9
M30M Minto, Yukon 95.91 28 P P 11 48 05.7 +0.3
baz=273,SNR=10
I30M Mount Dempster 95.93 25 P P 11 48 05.5 -0.1
baz=274
P30M Million Dollar 95.96 30 P P 11 48 05.8 +0.1
baz=273
F30M Barrier River 95.99 22 P P 11 48 05.6 0.0
baz=275
J30M Hart River 95.99 26 P P 11 48 05.6 -0.3
baz=274,SNR=6.1
MAYO Mayo, Yukon 96.25 27 P P 11 48 06.8 -0.1
baz=274,SNR=9.2
PLBC Pleasant Camp 96.29 31 P P 11 48 07.1 0.0
baz=273
O30N Mendenhall 96.35 29 P P 11 48 07.2 -0.3
baz=274
N31M Braeburn, Yuko 96.45 29 P P 11 48 07.6 -0.2
baz=274,SNR=7.0
G31M Satah River 96.64 23 P P 11 48 07.7 -0.8
baz=276,SNR=8.2
TROLL Troll, Antarti 96.66 195 ⇓P P 11 48 08.0 -0.8
comp=Z,112nm,0.7s
H31M Peel River 96.73 24 P P 11 48 08.6 -0.4
baz=276
INK Inuvik 96.77 22 P P 11 48 08.2 -0.9
baz=277
F31M Tsiigehtchic 96.79 23 P P 11 48 08.2 -1.0
baz=276,SNR=6.2
SKAG Skagway 96.82 31 P P 11 48 10.0 +0.5
baz=274
WHY Whitehorse 96.95 29 P P 11 48 10.5 +0.2
baz=275
M31M Drury Creek, Y 97.05 28 P P 11 48 10.6 0.0
baz=275
R32K Eaglecrest 97.33 32 P P 11 48 11.8 -0.1
baz=275
JIS Juneau Island 97.40 32 P Pdif 11 48 13.1 +0.9
FARO Faro, Yukon 97.54 28 P P 11 48 12.5 -0.3
baz=276,SNR=13
P32M Atlin 97.63 30 P P 11 48 12.7 -0.6
baz=276
ARA0 ARCESS Array S 97.78 340 eP P 11 48 12.7 -1.0
ARCES ARCESS Array B 97.78 340 P P 11 48 12.4 -1.2
comp=Z,13nm,0.7s,baz=79,slow=7.3,SNR=16
comp=Z,13nm,0.7s
N32M Quiet Lake 97.78 29 P P 11 48 13.8 -0.1
baz=276
SPITS Spitsbergen Ar 97.99 349 P P 11 48 13.7 -0.8
comp=Z,14nm,0.8s,baz=120,slow=16,SNR=4.6
comp=Z,14nm,0.8s
P33M Teslin, Yukon 98.01 30 P Pdif 11 48 15.9 +0.8
baz=276
LSZ Lusaka 98.11 254 P P 11 48 15.1 -1.4
comp=Z,3.1nm,0.5s,baz=71,slow=3.4,SNR=4.7
comp=Z,3.1nm,0.5s
HAMF Hammerfest 98.18 341 eP Pdif 11 48 16.9 +1.5
AKASG Malin Array Be 98.26 321 P P 11 48 14.4 -1.8
comp=Z,1.7nm,0.6s,baz=72,slow=3.8,SNR=5.6
comp=Z,1.7nm,0.6s
U33K Whale Pass 98.28 34 Pdiff Pdif 11 48 17.1 +0.9
baz=276
Q32M Nakina River 98.43 31 Pdiff Pdif 11 48 17.8 +0.6
baz=277
KTK1 Kautokeino 98.67 339 eP P 11 48 16.4 -1.3
WRAK Wrangell Islan 98.68 34 Pdiff Pdif 11 48 18.6 +0.7
baz=276
A36M Sachs Harbour 98.84 18 Pdiff Pdif 11 48 19.6 +1.2
baz=285
FINES FINESS Array B 98.85 332 P P 11 48 17.0 -1.6
comp=Z,4.1nm,0.9s,baz=8.5,slow=27,SNR=1.9
FINES PKiKP PKiKP 11 52 49.1 -0.4
comp=Z,2.1nm,0.7s,baz=132,slow=2.1,SNR=1.8
comp=Z,4.1nm,0.9s
BOSA Boshof 99.03 240 P Pdif 11 48 18.6 -1.9
comp=Z,2.1nm,0.7s,baz=72,slow=3.7,SNR=5.1
comp=Z,2.1nm,0.7s
R33M Jennings River 99.04 31 Pdiff Pdif 11 48 20.2 +0.5
baz=278
S34M Telegraph Cree 99.16 32 Pdiff Pdif 11 48 20.7 +0.7
baz=278
V35K Ketchikan 99.21 35 Pdiff Pdif 11 48 21.0 +0.6
baz=277
JETT Jettan, Norway 99.52 340 eP Pdif 11 48 20.7 -0.9
DLBC Dease Lake 99.66 31 Pdiff Pdif 11 48 23.0 +0.5
baz=279
U35K Hyder 100.03 34 Pdiff Pdif 11 48 25.0 +1.1
baz=278
NOR Nord 100.61 355 i P Pdif 11 48 24.2 -1.9
NOR IAmb IAmb 11 48 35.2
comp=Z,2.8nm,1.0s
STEI Steigen 101.80 339 eP Pdif 11 48 30.5 -1.1
FAUS Fauske 101.97 339 eP Pdif 11 48 31.3 -1.0
CRVS Cervenica-Dubn 103.47 319 ePDIFF Pdif 11 48 42.9 +3.4
DAG Danmarks Havn 104.78 352 i P Pdif 11 48 43.0 -1.7
DAG IAmb IAmb 11 48 53.9
comp=Z,3.6nm,0.9s
HFS Hagfors 105.05 332 Pdiff Pdif 11 48 44.6 -1.7
comp=Z,3.5nm,0.8s,baz=77,slow=3.1,SNR=2.8
MORC Moravsky Berou 105.81 321 ePKiKP PKiKP 11 53 01.1 -1.5
NB2 NORSAR Subarra105.88 333 P Pdif 11 48 48.3 -1.7
comp=Z,16nm,1.4s,baz=70,slow=4.4
NB2 PKP PKiKP 11 53 02.1 -0.2
comp=Z,1.4nm,0.8s,baz=65,slow=4.3
NB2 NORSAR Subarra105.88 333 P Pdif 11 48 48.3 -1.7
baz=70,slow=4.4
NOA NORSAR Array B105.88 333 Pdiff Pdif 11 48 48.2 -1.7
comp=Z,1.0nm,0.8s,baz=69,slow=4.5,SNR=3.0
NOA PKiKP PKiKP 11 53 01.8 -0.6
comp=Z,1.5nm,0.8s,baz=262,slow=3.1,SNR=4.3
YKA Yellowknife Ar 105.89 25 PKiKP PKiKP 11 53 01.6 -0.6
comp=Z,1.8nm,0.7s,baz=90,slow=0.6,SNR=4.3
NEEM North Greenlan 106.40 360 i P Pdif 11 48 50.1 -2.3
NEEM IAmb IAmb 11 49 03.1
comp=Z,8.6nm,0.9s
VRAC Vranov 106.52 320 ePDIFF Pdif 11 48 52.0 -1.1
VRAC ePKiKP PKiKP 11 53 02.5 -1.3
KRUC Moravsky 106.70 320 ePKiKP PKiKP 11 53 02.8 -1.4
BRG Berggiesshubel 107.76 322 P PKiKP 11 53 12.9 +6.9
BRG Amp 11 53 15.9
comp=Z,8.1nm,1.3s
CLL Collm 108.20 323 ePKiKP PKiKP 11 53 07.0 +0.1
CLL ePP PP 11 53 36.0 +5.8
GERES GERESS Array B 108.47 320 PKiKP PKiKP 11 53 07.4 -0.2
comp=Z,2.0nm,0.6s,baz=38,slow=2.4,SNR=5.6
NEW Newport 109.45 40 PKiKP PKiKP 11 53 10.4 +1.0
baz=287
SMMC Simmler 110.37 54 PKiKP PKiKP 11 53 11.9 +0.4
baz=280
PKM Mcpherson Peak 110.60 54 PKiKP PKiKP 11 53 12.3 +0.2
baz=280
SBC Santa Barbara 110.75 55 PKiKP PKiKP 11 53 12.2 0.0
baz=280
NVAR Mina Array Bea 111.10 50 Pdiff Pdif 11 49 13.0 -1.0
comp=Z,0.2nm,0.6s,baz=295,slow=11,SNR=1.5
NVAR PKiKP PKiKP 11 53 12.9 -0.2
comp=Z,1.3nm,0.6s,baz=249,slow=2.4,SNR=6.2
NVAR PKKPbc PKKPbc 12 04 09.2 -1.5
comp=Z,0.5nm,0.7s,baz=139,slow=3.4,SNR=4.3
ISA Isabella, Lake 111.53 53 PKiKP PKiKP 11 53 13.1 -0.6
baz=281
DAVOX Davos/Dischmat 111.55 319 PKiKP PKiKP 11 53 12.4 -1.2
comp=Z,5.4nm,0.8s,baz=347,slow=7.0,SNR=4.4
CWC Cottonwood Cre 111.69 52 PKiKP PKiKP 11 53 14.5 +0.3
baz=282
MSO Missoula 111.94 41 PKiKP PKiKP 11 53 14.3 0.0
baz=289
CIS Catalina Islan 112.00 56 PKiKP PKiKP 11 53 14.6 0.0
baz=280
EDW2 Edwards Air Fo 112.07 54 PKiKP PKiKP 11 53 15.1 +0.3
baz=281
GRAC Grapevine Rang 112.13 52 PKiKP PKiKP 11 53 15.2 +0.4
baz=282
LRMC Laurel Mtn Rad 112.20 53 PKiKP PKiKP 11 53 15.2 +0.1
baz=282
MPMC Manual Prospec 112.23 53 PKiKP PKiKP 11 53 15.4 +0.2
baz=282
BFSC Mount Baldy Ra 112.46 55 PKiKP PKiKP 11 53 15.5 -0.2
baz=281
HLID Hailey 112.64 44 PKiKP PKiKP 11 53 16.3 +0.5
baz=287
FURC Furnace Creek, 112.64 52 PKiKP PKiKP 11 53 16.8 +1.1
baz=283
GSC Goldstone, Bar 112.94 53 PKiKP PKiKP 11 53 17.1 +0.6
baz=282
MURC Murrieta 112.97 55 PKiKP PKiKP 11 53 16.9 +0.4
baz=281
TPNV Topopah Spring 113.02 51 PKiKP PKiKP 11 53 16.7 0.0
baz=283
BBRC Big Bear Solar 113.06 54 PKiKP PKiKP 11 53 16.8 -0.1
baz=282
R11B Troy Canyon, C 113.20 50 PKiKP PKiKP 11 53 17.3 +0.3
baz=284
HEC Hector,Ludlow 113.41 54 PKiKP PKiKP 11 53 17.8 +0.4
baz=282
PFO Pinyon Flats O 113.56 55 PKiKP PKiKP 11 53 17.9 +0.2
baz=282
TPFO Pinon Flats 113.57 55 PKiKP PKiKP 11 53 18.1 +0.4
baz=282
BELC Belle Mtn. Jos 113.86 54 PKiKP PKiKP 11 53 18.5 +0.2
baz=282
BOZ Bozeman (W) 113.87 41 PKiKP PKiKP 11 53 18.5 +0.5
baz=290
GMRC Granite Mounta 113.97 54 PKiKP PKiKP 11 53 18.7 +0.2
baz=283
IKP In-Ko-Pah, Jac 114.04 56 PKiKP PKPdf 11 53 19.0 +0.3
baz=282
EGMT Eagleton 114.17 38 PKiKP PKPdf 11 53 18.1 -0.3
baz=293
SWSC Sam W. Stewart 114.24 56 PKiKP PKPdf 11 53 18.6 -0.3
baz=282
BC3 Big Chuckawall 114.38 55 PKiKP PKiKP 11 53 19.7 +0.5
baz=282
IRM Iron Mountain 114.52 54 PKiKP PKPdf 11 53 19.9 +0.4
baz=283
DUG Dugway, Tooele 114.77 47 PKiKP PKiKP 11 53 20.2 +0.3
baz=287
H17A Grant Village 114.99 42 PKiKP PKPdf 11 53 20.9 +0.5
baz=291
EKA Eskdalemuir Ar 115.25 331 PKP PKiKP 11 53 19.6 -0.6
comp=Z,5.0nm,1.0s,baz=28,slow=3.8,SNR=4.2
PDMCI Parker Dam,Lak 115.30 54 PKiKP PKiKP 11 53 20.6 -0.3
baz=284
RLMT Red Lodge 115.59 41 PKiKP PKiKP 11 53 21.0 -0.4
baz=292
MPU Maple Canyon 115.69 47 PKiKP 11 53 21.4 -0.3
MSU Marysvale 115.73 49 PKPdf 11 53 22.4 +0.5
MSU Marysvale 115.73 49 PKIKP PKPdf 11 53 22.4 +0.5
TMUT Trail Mountain 116.22 48 PKPdf 11 53 22.5 -0.5
U15A North Rim 116.23 51 PKiKP 11 53 23.6 +0.6
BW06 Boulder Array 116.26 44 PKPdf 11 53 22.5 -0.3
BW06 Boulder Array 116.26 44 PKiKP PKPdf 11 53 22.3 -0.5
baz=291
PD31 Pinedale Array 116.26 44 PKPdf 11 53 22.4 -0.4
PDAR Pinedale Array 116.26 44 PKPdf 11 53 21.7 -1.1
PDAR Pinedale Array 116.26 44 PKP PKPdf 11 53 22.4 -0.4
comp=Z,3.1nm,0.8s,baz=260,slow=1.4,SNR=8.6
PDAR PKKPbc PKKPbc 12 03 51.2 -2.2
comp=Z,0.7nm,0.6s,baz=119,slow=5.5,SNR=4.5
LAO LASA Array 116.91 39 PKPdf PKPdf 11 53 23.8 +0.1
LAO LASA Array 116.91 39 PKiKP PKPdf 11 53 24.0 +0.3
baz=295
LAO LASA Array 116.91 39 P PKPdf 11 53 24.1 +0.3
baz=295
214A Organ Pipe Nat 116.92 56 PKiKP PKPdf 11 53 23.8 -0.3
baz=283
WUAZ Wupatki 117.19 52 PKiKP PKPdf 11 53 25.0 +0.2
baz=286
DGMT Dagmar 117.34 36 PKiKP PKPdf 11 53 24.6 +0.1
baz=298
DGMT Dagmar 117.34 36 P PKPdf 11 53 24.3 -0.2
baz=298
X16A Lo Mia Camp, P 117.43 53 PKPdf PKPdf 11 53 25.2 0.0
O20A White River Ci 118.11 46 PKPdf PKiKP 11 53 27.0 +0.5
O20A White River Ci 118.11 46 PKiKP PKPdf 11 53 26.4 0.0
baz=291
RWWY Rawlins 118.27 44 PKPdf 11 53 25.6 -1.1
K22A Casper 118.37 43 PKiKP PKPdf 11 53 26.3 -0.5
baz=293
K22A Casper 118.37 43 P PKPdf 11 53 26.0 -0.8
baz=293
TUC Tucson 118.50 55 PKiKP PKPdf 11 53 27.3 +0.1
baz=285
W18A Petrified Fore 118.59 52 PKiKP PKPdf 11 53 26.7 -0.8
baz=287
MVCO Mesa Verde 118.90 49 PKiKP PKPdf 11 53 27.9 -0.2
baz=289
RSSD Black Hills 119.41 40 PKiKP PKPdf 11 53 27.8 -1.0
baz=296
RSSD Black Hills 119.41 40 P PKPdf 11 53 28.0 -0.8
baz=296
N23A Red Feather La 119.46 44 PKiKP PKPdf 11 53 28.7 -0.4
baz=293
DUN6 Lazy B Ranch 119.82 54 PKPdf 11 53 29.6 -0.2
S22A 4UR Ranch, Cre 119.97 48 PKiKP PKPdf 11 53 30.3 +0.1
baz=290
319A Douglas 119.98 56 PKPdf 11 53 30.4 +0.2
ISCO Idaho Springs 120.11 46 PKiKP PKPdf 11 53 30.2 -0.2
baz=292
ISCO Idaho Springs 120.11 46 P PKPdf 11 53 30.5 +0.1
baz=292
MDND Maddock 120.31 35 PKiKP PKPdf 11 53 29.8 -0.3
baz=302
MDND Maddock 120.31 35 P PKPdf 11 53 29.2 -1.0
baz=302
E28A Huff 120.33 37 P PKPdf 11 53 29.8 -0.5
baz=300
Q24A Divide 120.76 46 PKiKP PKPdf 11 53 31.9 +0.2
baz=292
121A Cookes Peak, D 120.89 54 PKiKP PKiKP 11 53 32.5 +0.5
baz=287
121A Cookes Peak, D 120.89 54 P PKPdf 11 53 32.4 +0.4
baz=287
SDCO Great Sand Dun 120.96 48 PKiKP PKPdf 11 53 32.2 +0.2
baz=292
SDCO Great Sand Dun 120.96 48 P PKPdf 11 53 32.3 +0.2
baz=292
ULM Lac du Bonnet 120.99 31 PKP PKPdf 11 53 29.8 -1.5
comp=Z,11nm,0.7s,baz=296,slow=2.3,SNR=13
Y22D IRIS PASSCAL I 121.11 52 PKiKP PKPdf 11 53 32.6 +0.3
baz=288
Y22F Passcal Instru 121.11 52 PKiKP PKiKP 11 53 32.8 +0.4
baz=288
Y22A Socorro 121.12 52 P PKPdf 11 53 32.8 +0.5
baz=288
ANMO Albuquerque 121.20 51 PKPdf PKPdf 11 53 32.3 -0.2
ANMO Albuquerque 121.20 51 PKiKP PKiKP 11 53 33.1 +0.5
baz=289
ANMO Albuquerque 121.20 51 P PKiKP 11 53 33.1 +0.5
baz=289
ANMO Albuquerque 121.20 51 PKIKP PKPdf 11 53 23.2 -9.3
T25A Trinidad 121.99 48 PKiKP PKPdf 11 53 34.1 +0.1
baz=292
OGNE Ogallala 122.14 43 PKiKP PKPdf 11 53 33.0 -1.0
baz=296
D32A Dogwood Acres, 122.17 35 PKPdf 11 53 33.0 -0.7
SUSD Miller 122.47 38 PKiKP PKPdf 11 53 33.4 -1.0
baz=301
KSCO Kaye Shedlock' 122.55 45 PKiKP PKPdf 11 53 34.8 -0.1
baz=294
KSCO Kaye Shedlock' 122.55 45 P PKPdf 11 53 35.4 +0.5
baz=294
K30B Basset 122.94 40 P PKPdf 11 53 34.9 -0.5
baz=299
MNTX Cornudas Mount 123.08 54 PKiKP PKPdf 11 53 36.2 +0.2
baz=288
MNTX Cornudas Mount 123.08 54 P PKPdf 11 53 35.9 -0.1
baz=288
B35A Bob, Littlefor 123.25 32 P PKPdf 11 53 34.0 -1.7
baz=308
F33A 5 Mile Ranch, 123.31 35 P PKPdf 11 53 35.2 -0.8
baz=304
ESDC Sonseca Array 123.59 316 PKP PKPdf 11 53 36.1 -0.7
comp=Z,0.7nm,0.4s,baz=153,slow=41,SNR=2.8
ESDC PP PP 11 55 18.8 +0.3
comp=Z,4.5nm,1.2s,baz=58,slow=7.9,SNR=4.6
425A Indio Mountain 123.68 55 PKPdf PKPdf 11 53 37.2 -0.1
PAB San Pablo 123.91 316 PKPdf 11 53 37.5 +0.1
PAB San Pablo 123.91 316 PKIKP PKPdf 11 53 37.5 +0.1
ECSD EROS Data Cent 124.28 38 PKiKP PKPdf 11 53 37.1 -0.8
baz=303
ECSD EROS Data Cent 124.28 38 P PKPdf 11 53 37.4 -0.5
baz=303
MSTX Muleshoe 124.39 51 PKiKP PKPdf 11 53 38.2 -0.3
baz=291
MSTX Muleshoe 124.39 51 P PKPdf 11 53 38.5 0.0
baz=291
BGNE Belgrade 124.51 41 PKPdf PKPdf 11 53 37.8 -0.7
BGNE Belgrade 124.51 41 PKiKP PKPdf 11 53 37.2 -1.2
baz=300
BGNE Belgrade 124.51 41 P PKPdf 11 53 37.6 -0.8
baz=300
CBKS Cedar Bluff 124.67 44 PKiKP PKPdf 11 53 38.2 -0.6
baz=297
CBKS Cedar Bluff 124.67 44 P PKPdf 11 53 38.8 -0.1
baz=297
EYMN Ely 124.67 31 PKiKP PKPdf 11 53 37.8 -0.7
baz=310
F36A Milaca 124.88 34 P PKPdf 11 53 38.2 -0.7
baz=307
AMTX Amarillo 124.89 49 PKiKP PKPdf 11 53 38.8 -0.7
baz=293

AMTX Amarillo 124.89 49 P **PKPdf** 11 53 39.8 +0.4
baz=293
TX31 Lajitas Ar. Si 125.21 57 PKPdf **PKPdf** 11 53 40.2 -0.1
TX31 Lajitas Ar. Si 125.21 57 P **PKPdf** 11 53 40.0 -0.2
baz=288
TX32 Lajitas Array 125.21 57 PKPdf **PKPdf** 11 53 40.2 -0.1
TXAR Lajitas Array 125.21 57 PKPdf **PKPdf** 11 53 39.7 -0.5
TXAR Lajitas Array 125.21 57 PKP **PKPdf** 11 53 40.3 +0.1
comp=Z,4.8nm,0.8s,baz=242,slow=1.3,SNR=12
E38A The Farm, Brul 125.50 32 P **PKPdf** 11 53 39.7 -0.5
baz=309
R32A Long Quarter, 125.56 44 PKPdf **PKPdf** 11 53 40.6 0.0
R32A Long Quarter, 125.56 44 P **PKPdf** 11 53 40.5 -0.1
baz=298
SPMN Marine on St. 125.67 34 PKiKP **PKPdf** 11 53 40.6 +0.1
baz=307
SPMN Marine on St. 125.67 34 P **PKPdf** 11 53 39.9 -0.6
baz=307
TORD Torodi Ar. Bea 125.84 283 PKP **PKPdf** 11 53 40.9 -0.8
comp=Z,5.8nm,0.7s,baz=90,slow=1.9,SNR=12
TORD PKKPbc **PKKPab** 12 03 13.8 -1.9
comp=Z,1.4nm,0.9s,baz=290,slow=4.5,SNR=3.8
TORD PKKP **PKKPdf** 12 03 58.6 -1.7
comp=Z,1.2nm,1.0s,baz=117,slow=5.2,SNR=3.7
SMWD Samnorwood 125.89 49 PKPdf **PKPdf** 11 53 41.8 +0.5
I37B Waseca 126.04 36 P **PKPdf** 11 53 40.6 -0.7
baz=306
MDT Midelt 126.90 309 PKP **PKPdf** 11 53 43.6 +0.2
comp=Z,6.0nm,0.9s,baz=55,slow=4.2,SNR=6.2
G40A Rib Lake 127.08 33 P **PKPdf** 11 53 42.7 -0.5
baz=310
WMOK Wichita Mounta 127.13 48 PKiKP **PKPdf** 11 53 42.8 -0.8
baz=295
WMOK Wichita Mounta 127.13 48 P **PKPdf** 11 53 44.0 +0.4
baz=295
ABTX Abilene, Hawle 127.33 51 PKiKP **PKPdf** 11 53 43.7 -0.4
baz=293
SCIA State Center 127.37 38 PKiKP **PKPdf** 11 53 43.2 -0.6
baz=305
SCIA State Center 127.37 38 P **PKPdf** 11 53 43.5 -0.4
baz=305
SCHQ Schefferville 127.77 11 PKP **PKPdf** 11 53 44.5 +0.2
comp=Z,3.5nm,0.4s,baz=346,slow=3.0,SNR=8.9
T35B Sooner Cattle 127.80 45 P **PKPdf** 11 53 44.6 -0.2
baz=298
F42A Maple Grove Fa 127.85 31 P **PKPdf** 11 53 44.6 -0.1
baz=312
MORF Marmelete 127.94 316 *e*PKPdf **PKPdf** 11 53 44.7 -0.4
JCT Junction City 128.00 54 **PKPdf** 11 53 45.5 +0.1
JCT Junction City 128.00 54 PKiKP **PKPdf** 11 53 45.1 -0.4
baz=291
JCT Junction City 128.00 54 P **PKPdf** 11 53 46.0 +0.5
baz=291
JCT Junction City 128.00 54 PKIKP **PKPdf** 11 53 45.5 +0.1
P38A Dawn 128.44 40 P **PKPdf** 11 53 45.1 -0.8
baz=303
JFWS Jewell Farm 128.54 35 PKiKP **PKPdf** 11 53 46.1 0.0
baz=308
JFWS Jewell Farm 128.54 35 P **PKPdf** 11 53 44.9 -1.1
baz=308
TUL3 Leonard 128.79 46 PKiKP **PKPdf** 11 53 47.0 +0.3
baz=298
833A Chaparral WMA, 129.08 56 PKiKP **PKPdf** 11 53 47.7 +0.2
baz=290
833A Chaparral WMA, 129.08 56 P **PKiKP** 11 53 48.4 +0.2
baz=290
WHTX Lake Whitney, 129.28 51 PKiKP **PKPdf** 11 53 47.8 +0.1
baz=294
E46A Sault Ste Mari 129.32 28 P **PKPdf** 11 53 47.3 -0.1
baz=317
U38A Gravette 129.53 44 P **PKPdf** 11 53 47.4 -0.8
baz=300
S39A Bolivar 129.62 42 P **PKPdf** 11 53 47.6 -0.7
baz=302
435B Jarrell 129.66 53 PKiKP **PKPdf** 11 53 48.6 0.0
baz=293
R40A Maddies Statio 130.00 41 P **PKPdf** 11 53 48.4 -0.5
baz=303
GLMI Grayling 130.28 30 PKiKP **PKPdf** 11 53 49.4 0.0
baz=316
U40A Yellville 130.63 44 P **PKPdf** 11 53 49.7 -0.6
baz=302
U40A P **PKPdf** 11 53 49.7 -0.6
baz=302
CCM Cathedral Cave 130.80 41 PKiKP **PKPdf** 11 53 49.9 -0.6
baz=304
MIAR Mount Ida 131.04 46 PKPdf **PKPdf** 11 53 51.3 +0.2
MIAR Mount Ida 131.04 46 PKiKP **PKPdf** 11 53 51.0 0.0
baz=299
MIAR Mount Ida 131.04 46 PKIKP **PKPdf** 11 53 51.3 +0.2
FVM French Village 131.37 40 P **PKPdf** 11 53 51.3 -0.3
baz=305
HKT Hockley 131.38 53 P **PKiKP** 11 53 53.0 +0.4
baz=294
LCAR Lake Charles 131.95 43 P **PKPdf** 11 53 52.9 +0.2
baz=303
SFIN Lafayette 131.97 36 PKiKP **PKPdf** 11 53 51.7 -0.9
baz=310
P46A Rosedale 132.39 37 P **PKPdf** 11 53 53.4 0.0
baz=310
L48A N Adams 132.41 32 P **PKPdf** 11 53 52.6 -0.9
baz=314
L48A P **PKPdf** 11 53 52.6 -0.9
baz=314
N47A Urbana 132.44 34 P **PKPdf** 11 53 53.5 -0.1
baz=312
N47A P **PKPdf** 11 53 53.5 -0.1
baz=312
KIC Kosan Boka 132.52 275 ⇓ *i*PKIKP **PKPdf** 11 53 54.4 0.0
comp=Z,12nm,0.5s
DBIC Dimbokro 132.63 276 PKP **PKPdf** 11 53 54.4 -0.2
comp=Z,5.0nm,0.6s,baz=108,slow=2.6,SNR=8.0
PLCA Paso Flores 132.66 161 PKPdf **PKPdf** 11 53 54.5 +0.4
PLCA Paso Flores 132.66 161 PKIKP **PKPdf** 11 53 54.5 +0.4
PLCA Paso Flores 132.66 161 PKP **PKPdf** 11 53 54.0 0.0
comp=Z,5.3nm,0.6s,baz=291,slow=1.7,SNR=13
TIC Toumodi 132.80 276 ⇓ *i*PKIKP **PKPdf** 11 53 55.1 +0.1
comp=Z,9.0nm,0.3s
LIC Lamto 132.81 275 ⇑ *i*PKIKP **PKPdf** 11 53 54.4 -0.6
comp=Z,30nm,0.6s
O48B Farmland 133.17 35 PKiKP **PKPdf** 11 53 54.2 -0.7
baz=312
N49A Columbus Grove 133.26 33 P **PKPdf** 11 53 55.0 -0.1
baz=314
N49A P **PKPdf** 11 53 55.0 -0.1
baz=314
WCI Wyandotte Cave 133.82 38 PKiKP **PKPdf** 11 53 55.1 -1.0
baz=310
P49A Miami Univ. Ec 133.90 35 PKiKP **PKPdf** 11 53 55.8 -0.5
baz=312
OXF Oxford 134.00 44 PKiKP **PKPdf** 11 53 56.2 -0.4
baz=303
ACSO Alum Creek Sta 134.39 33 **PKPdf** 11 53 57.4 +0.2
ACSO Alum Creek Sta 134.39 33 PKiKP **PKPdf** 11 53 56.7 -0.5
baz=315
VBMS Vicksburg 134.41 47 PKiKP **PKPdf** 11 53 57.3 -0.1
baz=300
ERPA Erie 134.55 29 PKiKP **PKPdf** 11 53 56.8 -0.7
baz=320
M53A Wl Miller and 134.72 30 PKiKP **PKPdf** 11 53 57.0 -0.8
baz=318
LONY Lake Ozonia 134.88 22 PKiKP **PKPdf** 11 53 57.6 -0.4
baz=328
P52A Corning 135.28 33 PKiKP **PKPdf** 11 53 58.1 -0.8
baz=315
O53A New Philadelph 135.32 32 PKiKP **PKPdf** 11 53 58.6 -0.4
baz=317
T50A Nancy 135.48 38 **PKPdf** 11 53 59.2 -0.2
X48A Hartselle 135.64 42 PKPdf **PKPdf** 11 53 59.5 -0.2
PKME Peaks-Kenny Pk 136.10 17 PKiKP **PKPdf** 11 54 00.1 -0.1
baz=335
LBNH Lisbon 136.17 20 PKiKP **PKPdf** 11 54 00.2 -0.2
baz=331
BINY Binghamton 136.32 26 PKiKP **PKPdf** 11 54 00.0 -0.8
baz=325
MCWV Mont Chateau 136.47 31 PKiKP **PKPdf** 11 54 01.7 +0.5
baz=318
LRAL Lakeview Retre 136.48 44 PKiKP **PKPdf** 11 54 01.0 -0.3
baz=305
TZTN Tazewell 136.58 37 PKiKP **PKPdf** 11 54 01.2 -0.2
baz=311
SSPA Standing Stone 136.70 29 PKiKP **PKPdf** 11 54 01.3 -0.2
baz=321
V52A Sevierville 137.01 38 **PKPdf** 11 54 01.6 -0.6
W52A Murphy 137.28 39 **PKPdf** 11 54 02.5 -0.2
W52A Murphy 137.28 39 P **PKPdf** 11 54 02.6 -0.2
baz=310
L61B Northampton 137.45 22 PKiKP **PKPdf** 11 54 02.4 -0.4
baz=329
HRV Adam Dziewonsk 137.82 21 PKiKP **PKPdf** 11 54 02.8 -0.7
baz=331
BLA Blacksburg 137.94 34 PKiKP **PKPdf** 11 54 03.4 -0.5
baz=316
PAL Palisades 138.18 25 PKiKP **PKPdf** 11 54 03.4 -0.8
baz=327
GOGA Godfrey 138.64 41 PKiKP **PKPdf** 11 54 04.6 -0.7
baz=309
CBN Corbin Frederi 138.83 30 PKiKP **PKPdf** 11 54 05.5 0.0
baz=320
KMSC Kings Mountain 138.85 37 PKiKP **PKPdf** 11 54 05.6 -0.1
baz=313
TGUH Tegucigalpa,Un 144.08 71 PKPdf PKPbc 11 54 14.1 +0.4
CRIN San Cristobal 144.58 73 **PKPab** 11 54 15.2 +0.3
PLTB Pedras Altas 144.62 178 PKPdf **PKPab** 11 54 14.7 +0.1
SOR Soroa 144.83 55 PKPdf **PKPab** 11 54 15.7 +0.1
SOR Soroa 144.83 55 PKiKP **PKPab** 11 54 15.7 +0.1
CNGN Cerro Negro 144.95 74 PKPdf **PKPab** 11 54 15.2 -1.2
ITQB Itaqui 146.48 173 **PKPdf** 11 54 19.8 +0.6
ACON Acoyapa 146.52 74 **PKPdf** 11 54 20.3 +0.6
CPUP Villa Florida 149.67 171 PKPdf **PKPdf** 11 54 22.5 -2.1
CPUP **PKPbc** 11 54 28.4 -0.8
CPUP **sPKPdf** 11 54 35.6 -1.8
CPUP Villa Florida 149.67 171 PKPbc **PKPbc** 11 54 28.5 -0.8
comp=Z,23nm,0.9s,baz=104,slow=0.5,SNR=12
PRVC Isla de Provid 149.81 70 *e*P **PKPbc** 11 54 28.4 -1.4
CACAO El Cacao, Vera 151.41 82 *e*P **PKPbc** 11 54 32.7 -1.0
BCIP Isla Barro Col 152.18 78 *e*P **PKPdf** 11 54 32.1 +3.3
PAC1 Pacto, Paraso 153.35 97 *e*P **PKPbc** 11 54 38.2 -0.1
OTAV Otavalo 153.68 97 *e*P **PKPdf** 11 54 30.0 -1.6
TULM Tulcn-Chalpat 154.40 96 *e*P **PKPdf** 11 54 32.5 -0.2
LPAZ La Paz 154.67 142 PKP **PKPdf** 11 54 33.2 +0.1
comp=Z,5.5nm,0.9s,baz=327,slow=2.7,SNR=3.5
LPAZ PKPbc **pPKPdf** 11 54 41.3 -1.3
comp=Z,13nm,0.7s,baz=66,slow=3.4,SNR=10
GCUF Volcan Galeras 154.90 95 *e*P **PKPdf** 11 54 32.7 -0.7
PIZC Pizarro, Choco 155.04 86 *e*P **PKPdf** 11 54 30.6 -2.3
BBAC Balboa, Cauca 155.07 93 *e*P PKPdf 11 54 41.3 +8.0
POPC Popayan, Colom 155.68 92 *e*P PKPdf 11 54 42.0 +7.9
JAMC Jamundi, Valle 155.72 91 *e*P PKPdf 11 54 42.0 +7.8
DBBC Dabeiba 156.03 81 *e*P PKPdf 11 54 43.2 +8.9
YOTC Yotoco, Valle 156.06 89 *e*P **PKPdf** 11 54 31.7 -2.8
PLMC San Jos del P 156.11 86 *e*P PKPdf 11 54 42.5 +8.1
SJCC San Jacinto, C 156.54 74 *e*P **PKPdf** 11 54 33.7 -1.3
UREC San Jos de Ur 156.60 79 *e*P PKPdf 11 54 44.3 +9.3
FLOC Florencia 156.62 95 *e*P PKPdf 11 54 43.2 +8.1
ANIL Santa Ana 157.00 87 *e*P **PKPdf** 11 54 34.0 -1.8
GUY2C Guyana, Caldas 157.01 86 *e*P **PKPdf** 11 54 37.0 +0.9
SMRC Santa Marta, M 157.12 70 *e*P **PKPdf** 11 54 31.9 -3.7
ORTC Ortega, Tolima 157.16 89 *e*P **PKPdf** 11 54 41.4 +5.7
PTLC Puerto Leguiza 157.28 99 *e*P **PKPdf** 11 54 31.1 -4.8
ZARC Zaragoza, Cauc 157.30 80 *e*P **PKPdf** 11 54 36.3 +0.4
NORC Norcasia 157.49 85 *e*P **PKPdf** 11 54 43.6 +7.4
PRAC Prado 157.51 89 *e*P **PKPdf** 11 54 35.5 -0.7
PTBC PUERTO BERRIO 157.82 82 *e*P **PKPdf** 11 54 33.8 -2.7
ROSC El Rosal 158.07 86 PKP **PKPdf** 11 54 37.3 -0.1
comp=Z,7.8nm,0.4s,baz=327,slow=4.2,SNR=1.7
SPBC San Pablo de B 158.27 84 *e*P **PKPdf** 11 54 34.9 -2.4
LL6C La Loma 6 Bece 158.41 73 *e*P **PKPdf** 11 54 42.0 +4.7
CRJC Cerrejon, Guaj 158.42 69 *e*P **PKPdf** 11 54 34.0 -3.3
BRRC Barranca, Sant 158.48 80 *e*P **PKPdf** 11 54 36.0 -1.3
CHIC Chingaza 158.66 87 *e*P **PKPdf** 11 54 36.7 -1.4
VILC Villavicencio, 158.70 88 *e*P **PKPdf** 11 54 43.8 +6.0
URIC Uribia, Colomb 159.02 67 *e*P **PKPdf** 11 54 43.2 +5.3
BARC Barichara 159.07 81 *e*P **PKPdf** 11 54 45.9 +7.5
RUSC La Rusia 159.24 83 *e*P **PKPdf** 11 54 38.4 -0.4
PAMC Pamplona, Colo 159.44 79 *e*P **PKPdf** 11 54 37.6 -1.4
BDFB Brasilia 160.22 192 PKPdf **PKPdf** 11 54 37.7 -1.7
BDFB PKPab **PKPab** 11 55 18.3 -1.1
ETMB Extrema 160.67 134 PKPdf **PKPdf** 11 54 38.6 -1.2
ETMB PKPab **PKPab** 11 55 21.0 -0.5
SDV Santo Domingo 161.14 74 PKPdf **PKPdf** 11 54 38.7 -1.9
SDV PKPab **PKPab** 11 55 24.2 +0.3
SMRT St. Maarten 162.36 36 **PKPdf** 11 54 39.5 -2.0
SMRT PKPab **PKPab** 11 55 27.4 -1.3
SAML Samuel 163.36 140 **PKPdf** 11 54 42.0 -0.5
SAML PKPab **PKPab** 11 55 32.1 -1.2
SAML Samuel 163.36 140 PKIKP **PKPdf** 11 54 42.0 -0.5
BOAV Boa Vista 171.72 99 **PKPdf** 11 54 46.7 -1.9
BOAV PKPab **PKPab** 11 56 09.8 -0.7
BOAV Boa Vista 171.72 99 *e*P **PKPdf** 11 54 47.9 -0.7

WEL 31 11:40:31.5±0.8, 37°S±7°×17°8E±°, h33km±5km, M2.6/12, ML2.9/18, MLv2.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=30.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.39**	**175**	P	Pn	11 40 41.2	+0.3
HAZ				S	Sn	11 40 49.4	+2.4
WIZ	**White Island**	**0.46**	**250**	P	Pn	11 40 42.9	+1.0
WIZ				S	Sn	11 40 51.7	+2.8
WSRZ	**White Island S**	**0.47**	**251**	P	Pn	11 40 43.3	+1.3
WSRZ				S	Sn	11 40 51.5	+2.4
MXZ	**Matakaoa Point**	**0.49**	**113**	P	Pb	11 40 41.6	-0.4
MXZ				S	Sn	11 40 50.5	+0.8
PKGZ	**Pakihiroa**	**0.58**	**153**	P	Pn	11 40 43.5	0.0
RUGZ	**Raukumara Rang**	**0.60**	**185**	P	Pb	11 40 43.5	-0.3
RUGZ				S	Sn	11 40 53.3	+0.9
WMGZ	**Waiomatatini S**	**0.70**	**130**	P	Pb	11 40 46.0	+0.6
WMGZ				S	Sb	11 40 58.4	+3.6
WHRZ	**Whale Island**	**0.78**	**231**	P	Pb	11 40 46.8	+0.1
PUZ	**Puketiti**	**0.81**	**150**	P	Pb	11 40 47.2	-0.1
TWGZ	**Tauwhareparae**	**0.83**	**167**	P	Pb	11 40 48.7	+1.1
MWZ	**Matawai**	**0.98**	**190**	P	Pn	11 40 48.8	-0.2
URZ	**Urewera**	**1.02**	**209**	P	Pn	11 40 49.4	-0.1
URZ				S	Sn	11 41 03.2	+0.5
MARZ	**Manawahe**	**1.04**	**234**	P	Pn	11 40 49.8	-0.1
OPRZ	**Ohinepanea**	**1.05**	**243**	P	Pn	11 40 50.1	+0.2
TKGZ	**Te Karaka**	**1.07**	**175**	P	Pb	11 40 51.2	-0.4
RAGZ	**Rawiri**	**1.15**	**193**	P	Pn	11 40 52.0	+0.6
CNGZ	**Carnagh Statio**	**1.17**	**162**	P	Pn	11 40 52.4	+0.8
TGRZ	**Tauranga**	**1.23**	**253**	P	Pn	11 40 52.4	+0.1
RIGZ	**Rimuhau**	**1.33**	**179**	P	Pn	11 40 54.3	+0.4
MUGZ	**Murupara**	**1.34**	**214**	P	Pn	11 40 53.9	0.0
RTZ	**Ruatahuna**	**1.38**	**205**	P	Pn	11 40 54.2	-0.3
SNGZ	**Shannon Statio**	**1.44**	**192**	P	Pb	11 40 57.0	-0.9
MTHZ	**Maungataniwha**	**1.64**	**205**	P	Pn	11 40 59.5	+1.5
KNZ	**Kokohu**	**1.65**	**182**	P	Pn	11 40 57.7	-0.5
KUZ	**Kuaotunu**	**1.73**	**291**	P	Pn	11 40 58.5	-0.8
TOZ	**Tahuroa Road**	**1.81**	**258**	P	Pn	11 41 00.3	-0.1
NMHZ	**Naumai**	**1.87**	**203**	P	Pn	11 41 03.0	+1.6
ARHZ	**Aropaoanui**	**1.98**	**197**	P	Pn	11 41 03.2	+0.6
BKZ	**Black Stump Fm**	**2.04**	**208**	P	Pn	11 41 04.5	+0.8
MKAZ	**Moumakai**	**2.07**	**277**	P	Pn	11 41 03.9	-0.1
WIAZ	**Waiheke Island**	**2.16**	**285**	P	Pn	11 41 05.0	-0.1
ETAZ	**East Tamaki Re**	**2.28**	**280**	P	Pn	11 41 07.1	+0.3
KWHZ	**Kaweka Forest**	**2.30**	**206**	P	Pn	11 41 07.4	+0.2
MBAZ	**Motutapu North**	**2.35**	**284**	P	Pn	11 41 07.9	+0.1
TMVZ	**Te Maari**	**2.37**	**222**	P	Pn	11 41 09.8	+1.7
NTVZ	**North Tongarir**	**2.37**	**223**	P	Pn	11 41 10.1	+1.9
ETVZ	**East Tongariro**	**2.38**	**222**	P	Pn	11 41 09.9	+1.6
OTVZ	**Oturere**	**2.42**	**222**	P	Pn	11 41 10.4	+1.5
NGZ	**Ngauruhoe**	**2.46**	**222**	P	Pn	11 41 11.1	+1.6
BHHZ	**Black Hill Sta**	**2.49**	**211**	P	Pn	11 41 11.7	+1.9
KRHZ	**Kereru**	**2.51**	**205**	P	Pn	11 41 09.8	-0.2
KAHZ	**Kahuranaki**	**2.51**	**195**	P	Pn	11 41 09.6	-0.5
WNVZ	**Wahianoa**	**2.58**	**220**	P	Pn	11 41 11.9	+0.8
RVAZ	**Riverhead Bore**	**2.60**	**282**	P	Pn	11 41 11.6	+0.4
VRZ	**Vera Road**	**2.93**	**232**	P	Pn	11 41 17.1	+1.4
VRZ	**Vera Road**	**2.93**	**232**	P	Pn	11 41 15.1	-0.6
PRHZ	**Porangahau**	**3.02**	**196**	P	Pn	11 41 15.1	-1.9
TSZ	**Takapari Road**	**3.02**	**207**	P	Pn	11 41 16.3	-0.8
DVHZ	**Dannevirke**	**3.17**	**202**	P	Pn	11 41 21.9	+2.8
BFZ	**Birch Farm**	**3.50**	**199**	P	Pn	11 41 22.3	-1.4
BFZ	**Birch Farm**	**3.50**	**199**	P	Pn	11 41 24.6	+0.9
BFZ	**Birch Farm**	**3.50**	**199**	P	Pn	11 41 24.4	+0.7

*IDC **31** 11:41:56.1±0.9, 3°79S×127°51E, h0km, mb4.2/10, mbtmp4.2/11, ML3.7/1, Error ellipse: s-maj=57.7km s-min=19.1km az=71.0*

ISC 31 11:42:01.2±0.9, 3°8S±0°2×127°6E±0°4, h34km, n11, σ1§27/11, mb4.2/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.32**	**158**	P	**Pn**	**11 45 59.2**	**-1.3**
						0.3nm,0.3s,baz=334,slow=12,SNR=2.4	
						3.4nm,0.9s	
ASAR	**Alice Springs**	**20.65**	**163**	P	**P**	**11 46 39.7**	**+1.6**
						4.3nm,0.6s,baz=344,slow=11,SNR=6.8	
						4.3nm,0.6s	
STKA	**Stephens Creek**	**30.85**	**156**	P	**P**	**11 48 14.6**	**+0.3**
						3.9nm,0.8s,baz=344,slow=13,SNR=1.9	
						3.9nm,0.8s	
KSRS	**Korea Array**	**41.06**	**0**	P	**P**	**11 49 42.4**	**+0.9**
						1.6nm,0.7s,baz=181,slow=9.8,SNR=5.8	
						1.6nm,0.7s	
SONM	**Songino Array**	**54.70**	**343**	P	**P**	**11 51 28.2**	**+1.0**
						1.6nm,1.1s,baz=186,slow=5.8,SNR=2.2	
						1.6nm,1.1s	
PETK	**Petropavlovsk-**	**62.11**	**20**	P	**P**	**11 52 19.0**	**+0.4**
						10.0nm,1.0s,baz=169,slow=8.8,SNR=3.3	
						10.0nm,1.0s	
MKAR	**Makanchi Array**	**64.28**	**327**	P	**P**	**11 52 32.2**	**-0.9**
						1.2nm,0.6s,baz=131,slow=8.7,SNR=5.1	
						1.2nm,0.6s	
ZALV	**Zalesovo Beam**	**67.70**	**334**	P	**P**	**11 52 53.0**	**-2.0**
						1.6nm,0.8s,baz=134,slow=4.3,SNR=3.9	
						1.6nm,0.8s	
KURBB	**Kurchatov Arra**	**68.57**	**329**	P	**P**	**11 53 01.2**	**+0.7**
						1.5nm,0.7s,baz=131,slow=5.6,SNR=7.4	
						1.5nm,0.7s	
ILAR	**Eielson Array**	**91.50**	**25**	P	**P**	**11 55 02.9**	**-1.1**
						0.2nm,0.5s,baz=248,slow=4.7,SNR=6.2	
						0.2nm,0.5s	
ARCES	**ARCESS Array B**	**97.78**	**340**	P	**P**	**11 55 32.1**	**-0.5**
						1.4nm,0.6s,baz=88,slow=7.6,SNR=1.5	
						1.4nm,0.6s	

KRSZO 31 11:45:33.2±1.2, 48°19N×21°21E, h0km, ML1.7/4, Error ellipse: s-maj=7.4km s-min=4.4km az=171.0, Explosion., Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABAH	**Abaujker**	**0.10**	**10**	Pg	Pg	11 45 34.9	-0.4
	comp=Z,990nm,SNR=277						
ABAH				Lg	Lg	11 45 36.3	
KECS	**Kecovo**	**0.56**	**301**	Pg	Pg	11 45 45.0	+1.0
	comp=Z,3.2nm,SNR=1.9						
KECS				Lg	Lg	11 45 53.7	
KECS	**Kecovo**	**0.56**	**301**	*e*SG	Sb	11 45 53.1	-1.5
KECS	**Kecovo**	**0.56**	**301**	*e*P	Pg	11 45 44.8	+0.7
KECS	**Kecovo**	**0.56**	**301**	*e*PG	Pg	11 45 44.8	+0.7
TRPA	**Tarpa**	**0.89**	**94**	Pg	Pg	11 45 50.4	+0.1
	comp=Z,2.9nm,SNR=2.6						
TRPA				Pn	Pn	11 45 53.7	+0.7
TRPA				Lg	Lg	11 46 04.5	
PSZ	**Piszkesteto**	**0.93**	**253**	Pg	Pg	11 45 49.1	-1.8
	comp=Z,9.0nm,SNR=3.6						
PSZ				Lg	Lg	11 46 06.8	
KOLS	**Kolonicke sedl**	**1.02**	**43**	Lg	Lg	11 46 08.6	
KOLS	**Kolonicke sedl**	**1.02**	**43**	*e*SG	Sb	11 46 08.1	+0.3
CONA	**Conrad Observa**	**3.60**	**268**	Pg	Pg	11 46 42.4	+0.2
	comp=Z,7.2nm,0.9s						

*IDC **31** 11:46:46.9±1.1, 3°74S×127°67E, h0km, mb3.9/8, mbtmp3.9/9, ML3.6/1, Error ellipse: s-maj=50.7km s-min=23.0km az=69.0*

*DJA **31** 11:46:50.4±0.5, 4°S±5°×12°8E±°, h10km, M4.4/7, mb4.4/3, MLv4.4/7*

ISC 31 11:46:52.1±0.8, 3°8S±0°1×127°73E±0°10, h34km, n14, σ1§41/14, mb4.0/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.85**	**313**	P	**Pb**	**11 47 08.2**	**-0.3**
LBMI	**Labuha**	**3.17**	**356**	P	**Pn**	**11 47 42.1**	**+2.5**
SWI	**Sorong**	**4.59**	**50**	P	**Pn**	**11 47 59.9**	**+0.7**
FAKI	**Fak Fak**	**4.60**	**79**	P	**Pn**	**11 48 01.1**	**+1.8**
WRA	**Warramunga Arr**	**17.27**	**159**	P	**Pn**	**11 50 49.9**	**-0.8**
						0.2nm,0.3s,baz=344,slow=13,SNR=4.5	
						2.4nm,0.9s	
KPJI	**Karang Pucung**	**19.03**	**259**	P	**Pn**	**11 51 13.7**	**+1.4**
ASAR	**Alice Springs**	**20.61**	**164**	P	**P**	**11 51 29.6**	**+1.0**
						6.5nm,0.7s,baz=344,slow=11,SNR=9.6	
						6.5nm,0.7s	
CMAR	**Chiang Mai Arr**	**35.98**	**309**	P	**P**	**11 53 49.5**	**-0.5**
						0.3nm,0.4s,baz=129,slow=7.2,SNR=1.3	
						0.3nm,0.4s	
KSRS	**Korea Array**	**41.06**	**0**	P	**P**	**11 54 30.8**	**-1.6**
						0.7nm,0.7s,baz=190,slow=11,SNR=1.7	
						0.7nm,0.7s	
MKAR	**Makanchi Array**	**64.35**	**327**	P	**P**	**11 57 24.1**	**-0.4**
						1.0nm,0.7s,baz=131,slow=8.8,SNR=3.3	
						1.0nm,0.7s	
ZALV	**Zalesovo Beam**	**67.75**	**334**	P	**P**	**11 57 44.9**	**-1.3**
						0.8nm,0.6s,baz=127,slow=9.3,SNR=3.6	
						0.8nm,0.6s	
KURBB	**Kurchatov Arra**	**68.64**	**329**	P	**P**	**11 57 51.1**	**-0.7**
						1.2nm,0.6s,baz=132,slow=5.3,SNR=11	
						1.2nm,0.6s	
SEY	**Seymchan**	**69.15**	**12**	P	**P**	**11 57 56.0**	**+1.2**
						2.3nm,0.5s,baz=2.2,slow=23,SNR=5.6	
						2.3nm,0.5s	
ILAR	**Eielson Array**	**91.46**	**25**	P	**P**	**11 59 53.5**	**-1.2**
						0.3nm,0.7s,baz=254,slow=5.2,SNR=4.1	
						0.3nm,0.7s	

*NEIC **31** 11:49:39.2±1.1, 2°1N±0°1×122°0E±0°1, h520km±9km, mb4.5/27, Error ellipse: s-maj=21.1km s-min=14.6km az=70.0*

*IDC **31** 11:49:40.6±2.1, 2°05N×121°97E, h545km±28km, mb3.4/20, mbtmp4.4/22, Error ellipse: s-maj=17.6km s-min=8.4km az=78.0*

ISC 31 11:49:40.5±0.4, 2°04N±0°06×121°95E±0°10, h550km, n63, σ1§13/64, mb4.2/34, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLI2	**Tolitoli**	**1.49**	**232**	P	**P**	**11 50 44.2**	**-4.0**
LUW1	**Luwuk**	**3.17**	**165**	P	**P**	**11 50 53.5**	**-3.2**
TNTI	**Ternate**	**5.56**	**103**	P	**P**	**11 51 12.1**	**-3.2**
BATI	**Baumata**	**12.29**	**172**	P	**P**	**11 52 21.3**	**-0.9**
	31nm,0.3s,baz=16,slow=2.5,SNR=8.9						
LEM	**Lembang**	**16.80**	**238**	P	**P**	**11 53 08.0**	**+0.2**
	48nm,0.7s,baz=5.7,slow=20,SNR=10						
KNRA	**Kununurra**	**18.85**	**159**	P	**P**	**11 53 26.1**	**-0.1**
MBWA	**Marble Bar**	**23.16**	**185**	P	**P**	**11 54 04.1**	**-1.0**
PSA00	**Pilbara Seismi**	**23.56**	**185**	P	**P**	**11 54 08.1**	**-0.5**
PSA00				IAmb	IAmb	11 54 08.8	
	comp=Z,16nm,0.8s						
GSI	**Gunungsitoli**	**24.37**	**269**	P	**P**	**11 54 15.5**	**-0.5**
GSI				IAmb	IAmb	11 54 42.0	
	comp=Z,17nm,1.0s						
WB0	**Warramunga Arr**	**24.88**	**151**	P	**P**	**11 54 19.5**	**-0.8**
WRA	**Warramunga Arr**	**25.00**	**151**	P	**P**	**11 54 19.3**	**-2.1**
WRA				IAmb	IAmb	11 54 53.1	
	comp=Z,22nm,1.1s						
WRA	**Warramunga Arr**	**25.00**	**151**	P	**P**	**11 54 20.7**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=340,slow

comp=Z,2.4nm,0.7s
BBOO Buckleboo 37.14 160 P **P 11 56 05.5 +0.5**
BBOO IAmb IAmb 11 56 05.9
comp=Z,9.2nm,0.6s
MJAR Matsushiro Arr 37.48 22 P **P 11 56 06.7 -1.0**
comp=Z,1.7nm,0.6s,baz=203,slow=8.9,SNR=3.4
comp=Z,1.7nm,0.6s
STKA Stephens Creek 38.54 153 P **P 11 56 17.5 +1.1**
STKA Stephens Creek 38.54 153 P **P 11 56 17.6 +1.2**
comp=Z,7.4nm,0.6s,baz=325,slow=9.3,SNR=18
comp=Z,7.4nm,0.6s
RAMN Ramite 41.97 309 *eP* **P 11 56 43.0 -1.2**
comp=Z,39nm,1.0s
JIRN Jiri 42.64 310 *eP* **P 11 56 49.8 +0.2**
comp=Z,20nm,0.7s
USA0B Ussuriysk Arra 42.91 11 P **P 11 56 51.6 +0.6**
USA0B IAmb IAmb 11 56 52.0
comp=Z,8.6nm,0.6s
USRK Ussuriysk Ar. 42.91 11 P **P 11 56 51.5 +0.6**
USRK Ussuriysk Ar. 42.91 11 P **P 11 56 51.4 +0.4**
comp=Z,8.1nm,0.5s,baz=194,slow=6.4,SNR=28
comp=Z,8.1nm,0.5s
ARMA Armidale 42.93 141 P **P 11 56 54.5 +3.0**
ARMA IAmb IAmb 11 57 33.7
comp=Z,15nm,1.1s
GUN Gumba 43.00 310 *eP* **P 11 56 52.5 +0.1**
comp=Z,32nm,0.7s
PKI Pulchoki 43.19 309 *eP* **P 11 56 53.5 -0.4**
comp=Z,6.9nm,0.4s
KOLN Koldanda 44.69 309 *eP* **P 11 57 04.5 -0.8**
comp=Z,124nm,1.6s
DANN Dangsing 44.84 309 *eP* **P 11 57 06.8 +0.2**
comp=Z,58nm,0.7s
CAN Canberra 44.97 148 P **P 11 57 09.4 +2.3**
CAN IAmb IAmb 11 57 09.7
comp=Z,9.7nm,0.6s
PYUN Piuthan 45.32 309 *eP* **P 11 57 09.7 -0.5**
comp=Z,67nm,0.8s
ASAJ Asahikawa 45.72 21 P **P 11 57 13.3 +0.7**
comp=Z,9.4nm,0.8s,baz=238,slow=8.1,SNR=5.5
comp=Z,9.4nm,0.8s
SONM Songino Array 47.56 346 P **P 11 57 26.9 +0.3**
SONM Songino Array 47.56 346 P **P 11 57 26.9 +0.3**
comp=Z,2.5nm,0.6s,baz=170,slow=9.2,SNR=12
comp=Z,2.5nm,0.6s
KLR Kul'dur 47.76 9 P **P 11 57 27.8 -0.1**
comp=Z,1.4nm,0.5s,baz=207,slow=5.7,SNR=4.7
comp=Z,1.4nm,0.5s
MK31 Makanchi Array 56.34 328 P **P 11 58 30.1 +0.5**
MKAR Makanchi Array 56.34 328 P **P 11 58 30.2 +0.6**
comp=Z,1.7nm,0.3s,baz=123,slow=8.7,SNR=16
MKAR PcP **PcP 11 59 18.7 -0.2**
comp=Z,0.7nm,0.6s,baz=132,slow=4.3,SNR=2.9
comp=Z,1.7nm,0.3s
PETK Petropavlovsk- 58.85 24 P **P 11 58 47.1 +0.5**
comp=Z,6.0nm,0.8s,baz=36,slow=7.6,SNR=4.1
comp=Z,6.0nm,0.8s
ZALV Zalesovo Beam 60.03 336 P **P 11 58 53.8 -0.5**
comp=Z,0.6nm,0.3s,baz=97,slow=6.0,SNR=5.0
comp=Z,0.6nm,0.3s
KURBB Kurchatov Arra 60.68 330 P **P 11 58 58.8 0.0**
comp=Z,1.7nm,0.5s,baz=135,slow=6.1,SNR=4.2
comp=Z,1.7nm,0.5s
KURK Kurchatov 60.70 330 P **P 11 58 59.0 +0.2**
KURK IAmb IAmb 11 58 59.8
comp=Z,11nm,1.1s
BVAR Borovoye Array 66.20 329 P **P 11 59 33.9 -0.1**
comp=Z,0.9nm,0.4s,baz=116,slow=6.6,SNR=1.3
comp=Z,0.9nm,0.4s
CASY Casey 68.66 185 P **P 11 59 49.2 +0.5**
CASY IAmb IAmb 11 59 50.0
comp=Z,4.1nm,0.8s
TIXI Tiksi 69.65 2 P **P 11 59 54.6 +0.1**
TIXI IAmb IAmb 11 59 55.0
comp=Z,4.5nm,0.7s
ABKAR Akbulak array 70.48 322 P **P 12 00 00.0 0.0**
MAW Mawson 80.55 199 P **P 12 00 56.9 +1.4**
MAW Mawson 80.55 199 P **P 12 00 56.2 +0.8**
comp=Z,1.4nm,0.6s,baz=88,slow=6.0,SNR=7.4
comp=Z,1.4nm,0.6s
VNDA Vanda 82.40 172 P **P 12 01 05.0 +0.3**
VNDA Vanda 82.40 172 P **P 12 01 05.6 +0.8**
comp=Z,0.8nm,0.6s,baz=326,slow=7.5,SNR=5.1
comp=Z,0.8nm,0.6s
ILAR Eielson Array 88.67 25 P **P 12 01 34.0 -1.2**
comp=Z,0.2nm,0.6s,baz=269,slow=5.1,SNR=1.8
comp=Z,0.2nm,0.6s
ARCES ARCESS Array B 90.36 340 P **P 12 01 43.8 +0.9**
comp=Z,5.5nm,1.1s,baz=69,slow=4.9,SNR=1.6
comp=Z,5.5nm,1.1s
QSPA South Pole Qui 91.96 180 P **P 12 01 51.4 +0.9**
QSPA IAmb IAmb 12 02 28.8
comp=Z,4.2nm,1.0s
QSPA South Pole Qui 91.96 180 P **P 12 01 50.7 +0.2**
comp=Z,3.5nm,1.0s,baz=301,slow=2.5,SNR=6.9
comp=Z,3.5nm,1.0s

---

*IDC **31** 11:50:39.4±0.8, 3°.86S×127°.50E, h0km, mb4.1/10, mbtmp4.1/11, ML3.7/1, MS5.6/1, Error ellipse: s-maj=51.5km s-min=17.8km az=71.0*
ISC 31 11:50:43.3±0.8, 4°.0S±0°.1×127°.4E±0°.1, h34km, n16, σ1§81/13, mb4.2/9, 1C, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	4.99	78	⇑P		**Pn**		**11 51 53.6**	**-2.2**
LUWI	**Luwuk**	5.42	302	P		**Pn**		**11 51 58.3**	**-3.5**
BATI	**Baumata**	7.21	210	LR		LR		11 54 56.3	
comp=Z,45μm,21.5s,baz=36,slow=35									
WRA	**Warramunga Arr**	17.28	157	P		**Pn**		**11 54 41.0**	**-1.2**
0.3nm,0.3s,baz=334,slow=13,SNR=8.7									
3.2nm,0.8s									
ASAR	**Alice Springs**	20.59	163	P		Pn		11 55 22.8	+0.7
7.2nm,0.7s,baz=344,slow=10,SNR=20									
7.2nm,0.7s									
STKA	**Stephens Creek**	30.82	156	P		**P**		**11 56 57.5**	**+1.2**
4.6nm,0.9s,baz=333,slow=12,SNR=4.4									
4.6nm,0.9s									
KSRS	**Korea Array**	41.20	1	P		**P**		**11 58 25.9**	**+1.1**
2.1nm,0.7s,baz=179,slow=9.7,SNR=8.8									
2.1nm,0.7s									
SONM	**Songino Array**	54.76	343	P		**P**		**12 00 11.3**	**+1.6**
0.5nm,0.4s,baz=181,slow=8.9,SNR=4.3									
0.5nm,0.4s									
MKAR	**Makanchi Array**	64.26	327	P		**P**		**12 01 16.3**	**+1.1**
1.7nm,0.7s,baz=132,slow=8.0,SNR=8.2									
1.7nm,0.7s									
ZALV	**Zalesovo Beam**	67.72	334	P		**P**		**12 01 37.9**	**+0.6**
2.5nm,1.0s,baz=64,slow=3.8,SNR=5.5									
2.5nm,1.0s									
KURBB	**Kurchatov Arra**	68.56	329	P		**P**		**12 01 44.0**	**+1.4**
1.9nm,0.7s,baz=133,slow=5.5,SNR=10									
1.9nm,0.7s									
SEY	**Seymchan**	69.35	12	P		**P**		**12 01 48.4**	**+1.1**
3.7nm,0.6s,baz=212,slow=5.9,SNR=11									
3.7nm,0.6s									
BVAR	**Borovoye Array**	74.11	328	P		**P**		**12 02 17.5**	**+1.4**
1.1nm,0.7s,baz=108,slow=4.8,SNR=4.0									
1.1nm,0.7s									
ILAR	**Eielson Array**	91.73	25	P		**P**		**12 03 46.2**	**-1.0**
0.3nm,0.5s,baz=234,slow=5.1,SNR=11									
0.3nm,0.5s									
ARCES	**ARCESS Array B**	97.83	340	P		Pdif		12 04 14.9	-0.1
5.9nm,1.0s,baz=76,slow=4.7,SNR=5.1									
TORD	**Torodi Ar. Bea**	125.60	283	PKP		**PKPdf**		**12 09 43.4**	**+1.1**
0.6nm,0.6s,baz=51,slow=3.3,SNR=3.6									

---

*MOS **31** 11:50:46.9±1.0, 3°.75S×127°.60E, h14km, mb6.2/73, MS5.6/17, Error ellipse: s-maj=7.7km s-min=4.0km az=115.5*
*NEIC **31** 11:50:48.4±2.3, 3°.75S±0°.06×127°.75E±0°.06, h6km±1km, mb6.0/158, Ms_20 5.9/359, Mww6.1/39, Error ellipse: s-maj=10.5km s-min=9.6km az=232.0*
*BJI **31** 11:50:49.0±0.0, 3°.79S×127°.88E, h30km, mb5.5/85, mB6.1/74, Ms5.8/95, Ms7 5.6/91*
*KLM **31** 11:50:49, 3°.66S×128°.04E, h10km, mb5.9*
*GCMT **31** 11:50:52.4±0.1, 3°.83S×127°.71E, h12km, MW6.1/173, Moment Tensor Solution. s164, c354; s173, c660; Duration: 2§7 Moment tensor: Scale 10^18 Nm; Mrr 1.55±.01; Mθθ -1.75±.01; Mφφ 0.19±.01; Mrθ 0.42±.02; Mθφ 0.18±.01; Mφr -0.40±.03; Best double couple: M0 1.76300×10^18 NP1:φs 108.00000°, δ54.00000°, λ106.00000°. NP2:φs 262.00000°, δ39.00000°, λ69.00000°.*

Principal axes: T 1.6970, Plg75.0000°, Azm67.0000°; N 0.1300, Plg13.0000°, Azm279.0000°; P -1.8290, Plg8.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
*NEIC **31** 11:50:52.6, 3°.69S×127°.82E, h18km*
*NEIC **31** 11:50:52.6, 3°.89S×127°.92E, h18km, Moment Tensor Solution. Duration: 6§0 Moment tensor: Scale 10^18 Nm; Mrr 1.95; Mθθ -1.94; Mφφ -0.01; Mrθ 0.10; Mθφ 0.34; Mφr 0.25; Fault plane solution: M0 2.00000×10^18 NP1:φs 92.06000°, δ46.28000°, λ79.16000°. NP2:φs 287.54000°, δ44.78000°, λ101.13000°. Principal axes: T 1.9884, Plg82.0000°, Azm285.0000°; N 0.0152, Plg8.0000°, Azm100.0000°; P -2.0035, Plg1.0000°, Azm190.0000°;*
*IDC **31** 11:50:53.4±1.1, 3°.78S×127°.61E, h52km±8km, mb5.4/51, mbtmp5.6/55, MS5.8/14 Error ellipse: s-maj=10.2km s-min=6.7km az=60.0*
*DJA **31** 11:50:53.4±0.2, 4°S±2°×12°8E±°, h46km±3km, M6.2/55, mb6.1/55, mB6.5/54, MLv6.1/28, Mw6.1/73, Mw(mB)6.3/54, MwMwp6.1/31, Mwp6.1/31*
ISC 31 11:50:51.1±0.2, 3°.84S±0°.03×127°.66E±0°.03, h32km±1km, h32km:pP-P, n2050, σ1§62/2115, mb5.9/231, MS5.8/276, 90C-57D, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	0.82	317	P		**Pb**		**11 51 03.1**	**-3.8**
BNDI	**Bandanaira**	2.34	107	P		**Pn**		**11 51 26.9**	**-0.5**
BNDI	**Bandanaira**	2.34	107	P		**Pn**		**11 51 25.6**	**-1.8**
BNDI	**Bandanaira**	2.34	107	⇑P		**Pn**		**11 51 25.3**	**-2.1**
SANI	**Sanana**	2.44	317	P		**Pn**		**11 51 25.0**	**-3.8**
SANI	**Sanana**	2.44	317	P		**Pn**		**11 51 30.0**	**+1.2**
LBMI	**Labuha**	3.18	357	P		**Pn**		**11 51 40.5**	**+1.4**
TNTI	**Ternate**	4.59	356	Pn		**Pn**		**11 51 57.9**	**-0.5**
TNTI	**Ternate**	4.59	356	P		**Pn**		**11 51 59.6**	**+1.2**
TNTI	**Ternate**	4.59	356	P		**Pn**		**11 51 58.8**	**+0.4**
SWI	**Sorong**	4.65	51	P		**Pn**		**11 51 58.4**	**-0.9**
FAKI	**Fak Fak**	4.67	79	Pn		**Pn**		**11 51 58.4**	**-1.1**
FAKI	**Fak Fak**	4.67	79	P		**Pn**		**11 52 00.3**	**+0.8**
FAKI	**Fak Fak**	4.67	79	P		**Pn**		**11 51 59.2**	**-0.3**
BBSI	**Bau Bau**	5.33	252	P		Pn		11 52 13.7	+5.1
1μm,2.0s,86μm4.7nm									
SAUI	**Saumlaki**	5.48	139	Pn		**Pn**		**11 52 12.0**	**+1.3**
SAUI	**Saumlaki**	5.48	139	P		**Pn**		**11 52 13.6**	**+3.0**
SAUI	**Saumlaki**	5.48	139	P		**Pn**		**11 52 13.7**	**+3.1**
3μm,1.3s,66μm251μm14nm									
SAUI	**Saumlaki**	5.48	139	⇑P		**Pn**		**11 52 13.4**	**+2.7**
LUWI	**Luwuk**	5.62	299	Pn		**Pn**		**11 52 14.1**	**+1.5**
LUWI	**Luwuk**	5.62	299	S		**Sn**		**11 53 16.2**	**+0.1**
LUWI				P		**Pn**		**11 52 13.0**	**+0.4**
LUWI	**Luwuk**	5.62	299	⇑P		**Pn**		**11 52 15.3**	**+2.7**
KMSI	**Cibinong**	5.72	320	P		**Pn**		**11 52 17.5**	**+3.5**
6μm,0.8s,45μm70μm39nm									
KMPI	**Kaimana, Papua**	6.03	89	P		**Pn**		**11 52 18.4**	**+0.2**
5μm,1.2s,113μm100μm30nm									
SOEI	**Soe**	6.78	210	Pn		**Pn**		**11 52 31.4**	**+2.9**
SOEI	**Soe**	6.78	210	P		**Pn**		**11 52 31.9**	**+3.3**
SOEI	**Soe**	6.78	210	P		Pn		11 52 33.8	+5.2
1μm,1.1s,53μm241μm9.9nm									
SOEI	**Soe**	6.78	210	S		**Sn**		**11 53 47.2**	**+2.5**
SOEI				P		**Pn**		**11 52 31.5**	**+2.9**
SOEI	**Soe**	6.78	210	⇑P		Pn		11 52 33.8	+5.2
RKPI	**Ransiki, Papua**	6.91	71	P		**Pn**		**11 52 29.2**	**-1.0**
4μm,0.7s,50μm174μm27nm									
MRSI	**Marisa**	7.15	307	P		**Pn**		**11 52 35.5**	**+2.0**
2μm,0.6s,25μm65μm7.6nm									
MMRI	**Maumere**	7.20	228	Pn		**Pn**		**11 52 37.3**	**+3.1**
MMRI	**Maumere**	7.20	228	P		**Pn**		**11 52 38.6**	**+4.4**
MMRI	**Maumere**	7.20	228	P		Pn		11 52 39.3	+5.1
440nm,0.9s,140μm3.3nm									
MMRI	**Maumere**	7.20	228	⇑P		Pn		11 52 39.6	+5.3
BATI	**Baumata**	7.47	212	P		Pn		11 52 42.6	+4.6
1μm,0.9s,18μm132μm3.1nm									
BATI	**Baumata**	7.47	212	P		**Pn**		**11 52 41.8**	**+3.8**
829nm,1.0s,baz=20,slow=0.7,SNR=24									
BKSI	**Bulukumba**	7.66	259	P		**Pn**		**11 52 44.3**	**+3.7**
773nm,1.7s,4.9nm									
EDFI	**Ende, Flores**	7.68	230	P		**Pn**		**11 52 43.7**	**+2.7**
572nm,0.8s,17μm147μm2.0nm									
SGSI	**Sangihe**	7.77	344	P		**Pn**		**11 52 44.9**	**+2.8**
3μm,0.8s,29μm60μm10nm									
TTSI	**Tana Toraja**	7.87	276	P		Pn		11 52 50.0	+6.5
627nm,1.1s,9μm43μm2.3nm									
KAPI	**Kappang**	7.97	261	Pn		**Pn**		**11 52 48.4**	**+3.5**
KAPI	**Kappang**	7.97	261	P		**Pn**		**11 52 49.3**	**+4.4**
KAPI	**Kappang**	7.97	261	P		Pn		11 52 50.5	+5.6
KAPI	**Kappang**	7.97	261	⇓P		Pn		11 52 49.6	+4.7
KAPI	**Kappang**	7.97	261	P		**Pn**		**11 52 48.4**	**+3.5**
KAPI	**Kappang**	7.97	261	P		**Pn**		**11 52 48.0**	**+3.1**
229nm,0.5s,baz=91,slow=5.3,SNR=44									
KAPI				S		**Sn**		**11 54 18.8**	**+4.7**
107nm,0.7s,baz=264,slow=17,SNR=0.8									
TOLI2	**Tolitoli**	8.45	305	Pn		**Pn**		**11 52 54.6**	**+3.1**
TOLI2	**Tolitoli**	8.45	305	P		**Pn**		**11 52 55.8**	**+4.3**
MPSI	**Mapaga**	8.80	298	P		**Pn**		**11 53 00.5**	**+4.3**
846nm,1.1s,11μm64μm3.1nm									
BASI	**Baing, Sumba**	9.46	228	P		Pn		11 53 18.9	+14
MTN	**Manton Dam**	9.58	159	P		**Pn**		**11 53 07.7**	**+0.7**
baz=9.7,SNR=267									
MTN	**Manton Dam**	9.58	159	Pn		**Pn**		**11 53 08.0**	**+1.1**
MTN	**Manton Dam**	9.58	159	P		**Pn**		**11 53 08.2**	**+1.2**
MTN	**Manton Dam**	9.58	159	⇓P		**Pn**		**11 53 06.9**	**-0.1**
KDU	**Kakadu**	10.00	152	P		**Pn**		**11 53 12.6**	**-0.1**
baz=10.0,SNR=99									
KDU	**Kakadu**	10.00	152	P		**Pn**		**11 53 12.1**	**-0.5**
KDU	**Kakadu**	10.00	152	⇑P		**Pn**		**11 53 11.2**	**-1.4**
PLAI	**Plampang**	11.00	243	P		**Pn**		**11 53 28.0**	**+1.5**
PLAI	**Plampang**	11.00	243	P		Pn		11 53 35.0	+8.5
496nm,1.0s,11μm62μm									
DAV	**Davao City (W)**	11.03	349	P		**Pn**		**11 53 27.6**	**+0.7**
DAV	**Davao City (W)**	11.03	349	P		**Pn**		**11 53 28.9**	**+2.0**
106nm,0.3s,baz=229,slow=11,SNR=1.4									
DAV				S		**Sn**		**11 55 33.2**	**+3.9**
136nm,0.4s,baz=11,slow=23,SNR=1.2									
BKB	**Balikpapan**	11.05	283			**Pn**		**11 53 31.0**	**+3.8**
BKB	**Balikpapan**	11.05	283	P		**Pn**		**11 53 30.5**	**+3.3**
BKB	**Balikpapan**	11.05	283	P		Pn		11 53 39.1	+12
TWSI	**Taliwang, Sumb**	11.77	245	P		Pn		11 53 43.5	+6.6
457nm,1.2s,13μm59μm									
KNRA	**Kununurra**	11.81	175	P		**Pn**		**11 53 37.4**	**-0.1**
baz=12,SNR=5.2									
KNRA	**Kununurra**	11.81	175			**Pn**		**11 53 36.6**	**-0.9**
KNRA	**Kununurra**	11.81	175	P		**Pn**		**11 53 38.5**	**+1.0**
GENI	**Genyem**	12.55	85	P		**Pn**		**11 53 48.3**	**+0.7**
GENI	**Genyem**	12.55	85	P		**Pn**		**11 53 46.9**	**-0.7**
856nm,2.3s,38μm55μm									
BBKI	**Banjar Baru**	12.80	271	P		**P**		**11 53 58.0**	**-3.6**
1μm,1.4s,33μm									
MTKI	**Muara Teweh, K**	13.07	282	P		**P**		**11 54 07.2**	**+2.5**
SRBI	**Singaraja**	13.08	251	P		**P**		**11 54 02.2**	**-2.5**
756nm,1.2s,17μm									
JAY	**Jayapura**	13.09	85	P		**Pn**		**11 53 55.2**	**+0.2**
405nm,2.5s,12μm34μm									
IGBI	**Denpasar**	13.38	248	P		P		11 54 15.8	+7.7
MMPI	**Merauke**	13.46	111	P		**P**		**11 54 09.9**	**+1.0**
TABU	**Tabubil**	13.59	97	P		**Pn**		**11 54 01.6**	**-0.3**
ABJI	**Asem Bagus**	13.92	253	P		**P**		**11 54 14.5**	**+0.4**
1μm,1.1s,23μm51μm									
SPMM	**Sapulut**	14.04	307	P		**P**		**11 54 12.0**	**-3.5**
JAGI	**Jajag, Banyuwa**	14.20	250			**P**		**11 54 13.9**	**-3.3**
JAGI	**Jajag, Banyuwa**	14.20	250	P		**Pn**		**11 54 13.1**	**+3.0**
JAGI	**Jajag, Banyuwa**	14.20	250	P		**P**		**11 54 16.8**	**-0.4**
957nm,1.4s,43μm44μm									
JAGI	**Jajag, Banyuwa**	14.20	250	⇑P		**P**		**11 54 15.6**	**-1.5**
BLJI	**Banyuglugur**	14.52	254	P		**P**		**11 54 24.4**	**+3.6**
2μm,1.1s,29μm									
GMJI	**Gumukmas**	14.81	252	P		**P**		**11 54 25.6**	**+1.7**
1μm,1.9s,35μm									
BWJI	**Bawean**	15.08	262	P		P		11 54 40.5	+13
GRJI	**Gresik**	15.42	258	P		**P**		**11 54 36.4**	**+5.6**
3μm,0.9s,34μm									
NGJI	**Ngawi**	16.50	257	P		**P**		**11 54 48.0**	**+5.3**
2μm,2.1s,70μm									
STKI	**Sintang**	16.63	283	P		**P**		**11 54 47.8**	**+3.6**
502nm,1.4s,22μm									
SBUM	**Sibu**	16.65	292	P		**P**		**11 54 46.0**	**+1.6**
UWJI	**Ujung Watu**	16.84	261	P		**P**		**11 54 52.0**	**+5.4**
2μm,1.1s,20μm									
WOJI	**Wonogiri, Jawa**	17.12	256	P		**P**		**11 54 53.4**	**+3.8**
2μm,0.9s,51μm40μm									
WB0	**Warramunga Arr**	17.14	158	P		**Pn**		**11 54 44.1**	**-4.4**
WB0				IAmb		IAmb		11 54 48.8	
comp=Z,1μm,1.1s									
WRAB	**Tennant Creek**	17.28	158	P		**Pn**		**11 54 46.3**	**-3.8**
WRAB				IAmb		IAmb		11 54 49.9	
comp=Z,1μm,1.2s									
WRAB	**Tennant Creek**	17.28	158	*dP*		**Pn**		**11 54 46.9**	**-3.2**
WRAB				pmax		pmax			
comp=Z,1μm,1.4s									
WRA	**Warramunga Arr**	17.28	158	P		**Pn**		**11 54 46.4**	**-3.8**
WRA	**Warramunga Arr**	17.28	158	P		**Pn**		**11 54 46.4**	**-3.8**
WRA				pmax		pmax			
comp=Z,57nm,1.6s									
WRA	**Warramunga Arr**	17.28	158	P		**Pn**		**11 54 48.0**	**-2.1**
comp=Z,534nm,1.1s,baz=338,slow=10,SNR=44									
WRA				S		**S**		**11 58 06.2**	**-3.6**
comp=Z,9.6nm,0.7s,baz=220,slow=16,SNR=1.2									
WRA				LR		LR		12 01 56.3	
comp=Z,66μm,18.7s,baz=337,slow=38									
WRA				ScS		**ScS**		**12 06 43.0**	**-2.2**
comp=Z,1.2nm,0.9s,baz=195,slow=23,SNR=1.2									
WRA				P3KPbc				12 29 43.8	
comp=Z,0.8nm,1.0s,baz=152,slow=4.2,SNR=3.1									
WB2	**Warramunga Arr**	17.29	158	P		**Pn**		**11 54 46.5**	**-3.7**
WB2				IAmb		IAmb		11 54 50.6	
comp=Z,1μm,1.1s									
WR0	**Warramunga Arr**	17.37	158	P		**Pn**		**11 54 48.5**	**-2.8**
SMRI	**Semarang**	17.44	259	P		**P**		**11 54 53.1**	**0.0**
SMRI	**Semarang**	17.44	259	P		**P**		**11 54 56.7**	**+3.5**
SMRI	**Semarang**	17.44	259	P		**P**		**11 54 57.0**	**+3.8**
comp=Z,3μm,1.0s,comp=Z,90μmcomp=Z,64μm									
SMRI	**Semarang**	17.44	259	⇓P		**P**		**11 54 57.0**	**+3.8**
UGM	**Wanagama**	17.52	256	P		**P**		**11 54 55.6**	**+1.5**
UGM				IAmb		IAmb		11 55 00.9	
comp=Z,3μm,1.9s									
UGM	**Wanagama**	17.52	256	P		**P**		**11 54 56.9**	**+2.8**
UGM	**Wanagama**	17.52	256	P		**P**		**11 55 00.1**	**+6.0**
comp=Z,1μm,1.0s,comp=Z,29μm									
YOGI	**Yogyakarta**	17.72	256	P		P		11 55 09.2	+13
COEN	**Coen**	18.31	124	P		**P**		**11 54 56.5**	**-6.3**
COEN	**Coen**	18.31	124	P		**Pn**		**11 55 03.8**	**+0.9**
MBWA	**Marble Bar**	18.86	203	P		**P**		**11 55 08.2**	**-0.7**
MBWA	**Marble Bar**	18.86	203	P		**Pn**		**11 55 11.0**	**+1.4**
MBWA	**Marble Bar**	18.86	203	P		**Pn**		**11 55 11.2**	**+1.7**
MBWA				P		**Pn**		**11 55 11.2**	**+1.7**
KPJI	**Karang Pucung**	18.96	259	P		**P**		**11 55 07.5**	**-2.4**
TGY	**Tagaytay City**	19.03	340	P		**Pn**		**11 55 11.7**	**0.0**
TGY	**Tagaytay City**	19.03	340	P		**Pn**		**11 55 11.7**	**0.0**
comp=Z,181nm,0.4s,baz=249,slow=2.0,SNR=8.3									
PSA00	**Pilbara Seismi**	19.19	203	P		**P**		**11 55 12.6**	**+0.1**
PSA00	**Pilbara Seismi**	19.19	203	P		**P**		**11 55 13.1**	**+0.6**
PSA00				IAmb		IAmb		11 55 21.2	
comp=Z,219nm,1.0s									
PSA00	**Pilbara Seismi**	19.19	203	P		**Pn**		**11 55 15.4**	**+1.9**
JCJI	**Jatiwangi**	19.49	261	P		**Pn**		**11 55 20.0**	**+2.8**
comp=Z,2μm,0.9s,comp=Z,30μm									
CMJI	**Cimerak**	19.51	258	P		**Pn**		**11 55 17.1**	**-0.3**
comp=Z,2μm,0.8s,comp=Z,23μm									
MANU	**Manus Island**	19.76	85	P		**Pn**		**11 55 19.7**	**-0.7**
MANU				IAmb		IAmb		11 55 22.3	
comp=Z,608nm,1.0s									
MANU	**Manus Island**	19.76	85	P		**Pn**		**11 55 19.8**	**-0.6**
MANU	**Manus Island**	19.76	85	⇑P		**Pn**		**11 55 19.7**	**-0.7**
PMG	**Port Moresby**	20.13	107	P		**P**		**11 55 22.5**	**-0.3**
PMG				IAmb		IAmb		11 55 37.0	
comp=Z,589nm,1.1s									
PMG	**Port Moresby**	20.13	107	P		Pn		11 55 24.7	-0.1
PMG	**Port Moresby**	20.13	107	P		Pn		11 55 24.9	+0.1
PMG	**Port Moresby**	20.13	107	⇑P		**P**		**11 55 22.9**	**+0.1**
PMG	**Port Moresby**	20.13	107	P		Pn		11 55 24.3	-0.5
PMG	**Port Moresby**	20.13	107	P		Pn		11 55 24.3	-0.4
comp=Z,177nm,0.8s,baz=326,slow=5.1,SNR=29									
comp=Z,177nm,0.8s									
LEM	**Lembang**	20.18	261	P		**P**		**11 55 24.4**	**+1.0**
LEM	**Lembang**	20.18	261	P		**P**		**11 55 24.4**	**+1.0**
comp=Z,522nm,0.7s,baz=57,slow=7.2,SNR=48									
LEM				LR		LR		12 04 05.7	
comp=Z,33μm,19.2s,baz=82,slow=39									
comp=Z,522nm,0.7s									
BBJI	**Bungbulang**	20.23	259	P		**P**		**11 55 24.8**	**+0.8**
QIS	**Mount Isa**	20.28	146	P		**P**		**11 55 25.2**	**+0.9**
baz=20,SNR=6.1									
QIS	**Mount Isa**	20

BKNI	**Bangkinang**	**26.92 278**	P	**P**	**11 56 31.3 +1.5**
BKNI	**Bangkinang**	**26.92 278**	⇓P	**P**	**11 56 32.0 +2.2**
MULG	**Mulgathing**	**26.99 168**	P	**P**	**11 56 31.5 +1.3**
TWGBT	**Beinan**	**27.26 347**	P	**P**	**11 56 34.7 +2.0**
TWG	**Pinlang**	**27.27 347**	P	**P**	**11 56 31.6 -1.1**
MORW	**Morawa**	**27.41 203**	P	**P**	**11 56 34.7 +0.7**
	baz=28,SNR=13				
MORW	**Morawa**	**27.41 203**	P	**P**	**11 56 34.9 +0.8**
MORW			IAmb	IAmb	11 56 49.6
	comp=Z,176nm,0.9s				
MORW	**Morawa**	**27.41 203**	P	**P**	**11 56 36.4 +2.4**
QLP	**Quilpie**	**27.63 147**	P	**P**	**11 56 36.7 +0.7**
	baz=28,SNR=24				
QLP	**Quilpie**	**27.63 147**	P	**P**	**11 56 37.3 +1.3**
QLP	**Quilpie**	**27.63 147**	⇑P	**P**	**11 56 35.5 -0.4**
YULB	**Yu-li**	**27.77 347**	P	**P**	**11 56 39.8 +2.5**
TPUB	**Ta-pu**	**27.83 346**	P	**P**	**11 56 39.1 +1.3**
KMBL	**Kambalda**	**27.92 191**	P	**P**	**11 56 39.6 +1.0**
	baz=28,SNR=30				
KMBL	**Kambalda**	**27.92 191**	P	**P**	**11 56 39.4 +0.9**
SSLB	**Suanglung**	**28.23 347**	P	**P**	**11 56 40.6 -0.7**
SSLB			IAmb	IAmb	11 56 56.5
	comp=Z,225nm,1.0s				
SSLB	**Suanglung**	**28.23 347**	P	**P**	**11 56 43.3 +1.9**
LCRK	**Leigh Creek**	**28.28 160**	P	**P**	**11 56 42.4 +0.6**
NACB	**Ninganchiao**	**28.46 348**	P	**P**	**11 56 44.7 +1.3**
BLDU	**Ballidu**	**28.57 200**	P	**P**	**11 56 45.1 +0.7**
	baz=29,SNR=42				
BLDU	**Ballidu**	**28.57 200**	P	**P**	**11 56 45.7 +1.3**
JMJ	**Miyako jima 2**	**28.57 355**	P	**P**	**11 56 48.4 +4.0**
QIZ	**Qiongzhong**	**28.71 323**	P	P	11 56 55.3 +10
QIZ			S	**S**	**12 01 34.5 +1.6**
QIZ			sS	sS	12 01 53.8 +7.3
QIZ			pmax	pmax	
	comp=Z,94nm,1.1s				
QIZ			pmax	pmax	
	comp=Z,5μm,8.4s				
QIZ			LR	LR	
	comp=N,7μm,16.0s				
QIZ			LR	LR	
	comp=E,10μm,13.5s				
QIZ			LR	LR	
	comp=Z,8μm,19.3s				
QIZ	**Qiongzhong**	**28.71 323**	P	**P**	**11 56 46.7 +1.0**
YHNB	**Yeheng**	**28.99 348**	P	**P**	**11 56 47.0 -1.2**
YHNB			IAmb	IAmb	11 56 57.9
	comp=Z,151nm,0.8s				
YHNB	**Yeheng**	**28.99 348**	P	**P**	**11 56 50.7 +2.5**
HKPS	**Hong Kong Po S**	**29.13 334**	P	**P**	**11 56 52.9 +3.5**
KLBR	**Kellerberrin**	**29.14 198**	P	**P**	**11 56 49.5 +0.1**
	baz=29,SNR=42				
KLBR	**Kellerberrin**	**29.14 198**	P	**P**	**11 56 50.2 +0.8**
RK1H	**Rockhampton Ha**	**29.40 133**	P	**P**	**11 56 52.3 +0.5**
RPSI	**Rantau Prapat**	**29.45 282**	P	**P**	**11 56 52.2 -0.1**
RPSI			IAmb	IAmb	11 57 03.0
	comp=Z,373nm,1.1s				
PSI	**Prapat**	**29.47 283**	P	**P**	**11 56 52.8 +0.1**
PSI	**Prapat**	**29.47 283**	P	**P**	**11 56 52.2 -0.5**
PSI			pmax	pmax	
	comp=Z,373nm,1.1s				
AUMOU	**Moura State Hi**	**29.79 136**	P	**P**	**11 56 57.7 +2.5**
BBOO	**Buckleboo**	**29.88 166**	P	**P**	**11 56 56.7 +0.8**
	baz=30,SNR=17				
BBOO	**Buckleboo**	**29.88 166**	P	**P**	**11 56 55.4 -0.5**
BBOO			IAmb	IAmb	11 57 14.0
	comp=Z,372nm,1.3s				
BBOO	**Buckleboo**	**29.88 166**	P	**P**	**11 56 57.0 +1.1**
QZH	**Quanzhou**	**29.94 343**	⇓*iP*	**P**	**11 56 57.5 +1.0**
QZH			S	**S**	**12 01 51.5 -0.6**
QZH			LR	LR	
	comp=Z,5μm,12.4s				
QZH			LR	LR	
	comp=Z,5μm,13.6s				
QZH			LR	LR	
	comp=Z,10μm,15.7s				
MUN	**Mundaring**	**29.99 200**	P	**P**	**11 56 58.0 +1.1**
	baz=30,SNR=26				
MUN	**Mundaring**	**29.99 200**	P	**P**	**11 56 58.0 +1.1**
MTKN	**Mount Kenneth**	**30.10 200**	P	**P**	**11 57 00.3 +2.4**
GD1S	**Gladstone Soft**	**30.17 133**	P	**P**	**11 57 00.1 +1.5**
GZH	**Guangzhou**	**30.19 333**	P	**P**	**11 57 03.3 +4.5**
GZH			sP	**pwP**	**11 57 16.3 +4.8**
GZH			PcP	**PcP**	**11 59 59.5 0.0**
GZH			S	**S**	**12 02 04.5 +8.4**
GZH			pmax	pmax	
	comp=Z,53nm,1.1s				
GZH			pmax	pmax	
	comp=Z,2μm,3.1s				
GZH			LR	LR	
	comp=Z,3μm,10.0s				
GZH			LR	LR	
	comp=Z,3μm,10.1s				
GZH			LR	LR	
	comp=Z,4μm,13.6s				
RMQ	**Roma**	**30.25 140**	P	**P**	**11 57 00.2 +0.8**
	baz=30,SNR=13				
RMQ	**Roma**	**30.25 140**	P	**P**	**11 57 01.6 +2.2**
WHYH	**Whyalla**	**30.49 163**	P	**P**	**11 57 02.1 +0.8**
JOW	**Kunigami**	**30.50 1**	P	**P**	**11 57 01.7 +0.2**
JOW	**Kunigami**	**30.50 1**	P	**P**	**11 57 02.3 +0.9**
JOW	**Kunigami**	**30.50 1**	P	**P**	**11 57 01.5 +0.1**
JOW	**Kunigami**	**30.50 1**	⇓P	**P**	**11 57 01.6 +0.1**
JOW	**Kunigami**	**30.50 1**	P	**P**	**11 57 01.6 +0.2**
	comp=Z,252nm,0.9s,baz=187,slow=7.7,SNR=20				
JOW			LR	LR	12 07 39.7
	comp=Z,22μm,21.9s,baz=166,slow=33				
	comp=Z,252nm,0.9s				
GSI	**Gunungsitoli**	**30.50 279**	P	**P**	**11 57 02.2 +0.5**
GSI	**Gunungsitoli**	**30.50 279**	P	**P**	**11 57 03.2 +1.5**
GSI	**Gunungsitoli**	**30.50 279**	⇑P	**P**	**11 57 00.6 -1.1**
NWAO	**Narrogin (SRO)**	**30.54 197**	P	**P**	**11 57 02.0 +0.3**
	baz=31,SNR=69				
NWAO			P	**P**	**11 57 02.0 +0.3**
	baz=31,SNR=69				
NWAO	**Narrogin (SRO)**	**30.54 197**	P	**P**	**11 57 02.1 +0.3**
NWAO	**Narrogin (SRO)**	**30.54 197**	P	**P**	**11 57 02.1 +0.3**
NWAO	**Narrogin (SRO)**	**30.54 197**	P	**P**	**11 57 03.7 +1.9**
NWAO	**Narrogin (SRO)**	**30.54 197**	P	**P**	**11 57 03.3 +1.5**
NWAO	**Narrogin (SRO)**	**30.54 197**	P	**P**	**11 57 02.5 +0.8**
NWAO	**Narrogin (SRO)**	**30.54 197**	P	**P**	**11 57 02.1 +0.3**
NWAO			pmax	pmax	
	comp=Z,594nm,1.1s				
NWAO			MLR	MLR	
	comp=Z,16μm,22.0s				
NWAO	**Narrogin (SRO)**	**30.54 197**	LR	LR	12 08 59.2
	comp=Z,17μm,21.9s,baz=24,slow=36				
SRIT	**Nakonsritamara**	**30.59 294**	P	**P**	**11 57 04.6 +2.2**
SRIT			IAmb	IAmb	11 57 15.9
	comp=Z,118nm,0.9s				
SRIT	**Nakonsritamara**	**30.59 294**	P	**P**	**11 57 06.2 +3.8**
SURA	**Surathani**	**30.78 295**	P	**P**	**11 57 06.3 +2.2**
STKA	**Stephens Creek**	**30.81 156**	P	**P**	**11 57 04.2 0.0**
	baz=31,SNR=78				
STKA	**Stephens Creek**	**30.81 156**	P	**P**	**11 57 04.0 -0.2**
STKA	**Stephens Creek**	**30.81 156**	P	**P**	**11 57 05.1 +0.9**
STKA	**Stephens Creek**	**30.81 156**	P	**P**	**11 57 04.2 0.0**
STKA	**Stephens Creek**	**30.81 156**	P	**P**	**11 57 04.2 0.0**
	comp=Z,436nm,1.0s,baz=324,slow=9.1,SNR=130				
STKA			LR	LR	12 10 13.0
	comp=Z,33μm,20.7s,baz=326,slow=38				
	comp=Z,436nm,1.0s				
EIDS	**Eidsvold**	**31.06 136**	P	**P**	**11 57 06.8 +0.3**
	baz=31,SNR=6.3				
EIDS	**Eidsvold**	**31.06 136**	P	**P**	**11 57 06.5 0.0**
EIDS	**Eidsvold**	**31.06 136**	P	**P**	**11 57 07.7 +1.2**
EIDS	**Eidsvold**	**31.06 136**	⇓P	**P**	**11 57 06.3 -0.1**
NAYO	**Nakonayok**	**31.74 305**	P	**P**	**11 57 14.2 +1.6**
AULRC	**Lightning Ridg**	**31.92 145**	P	**P**	**11 57 16.8 +2.8**
LHMI	**Lhok Sumawe**	**31.98 286**	P	**P**	**11 57 15.7 +1.0**
LHMI	**Lhok Sumawe**	**31.98 286**	P	**P**	**11 57 19.3 +4.6**
RKGY	**Rocky Gully**	**32.19 197**	P	**P**	**11 57 18.3 +2.1**
	baz=32,SNR=41				
RKGY	**Rocky Gully**	**32.19 197**	P	**P**	**11 57 18.9 +2.6**
AUALB	**St Joseph's Co**	**32.30 195**	P	**P**	**11 57 19.8 +2.6**
CMSA	**Cobar Meteorol**	**32.35 150**	P	**P**	**11 57 18.6 +0.8**
	baz=32,SNR=153				
CMSA	**Cobar Meteorol**	**32.35 150**	P	**P**	**11 57 18.6 +0.8**
PATS	**Pohnpei**	**32.38 71**	P	**P**	**11 57 19.2 +0.9**
	baz=32,SNR=9.9				
PATS	**Pohnpei**	**32.38 71**	IAMs_20	IAMs_20	12 09 43.7
	comp=Z,19μm,19.0s				
PATS	**Pohnpei**	**32.38 71**	P	**P**	**11 57 21.6 +3.4**
NONG	**Nongkai**	**32.53 313**	P	**P**	**11 57 21.8 +2.4**
HNR	**Honiara**	**32.53 101**	P	**P**	**11 57 17.7 -1.9**
HNR			IAmb	IAmb	11 58 13.8
	comp=Z,292nm,1.1s				
HNR	**Honiara**	**32.53 101**	⇑P	**P**	**11 57 18.1 -14**
HNR	**Honiara**	**32.53 101**	P	**P**	**11 57 18.5 -1.0**
HNR	**Honiara**	**32.53 101**	P	**P**	**11 57 18.5 -1.0**
	comp=Z,2μm,0.7s,baz=88,slow=1.7,SNR=3.3				
HNR			LR	LR	12 11 30.3
	comp=Z,97μm,19.6s,baz=266,slow=38				
GULI	**GuiLin**	**33.47 331**	⇓P	**P**	**11 57 30.5 +2.9**
GULI			S	**S**	**12 02 51.5 +4.1**
GULI			pmax	pmax	
	comp=Z,40nm,0.9s				
GULI			LR	LR	
	comp=Z,7μm,15.2s				
GULI			LR	LR	
	comp=Z,6μm,12.5s				
GULI			LR	LR	
	comp=Z,9μm,20.1s				
SRDT	**SRDT**	**33.58 303**	P	**P**	**11 57 32.9 +4.3**
AUDCS	**Dubbo College**	**34.42 148**	P	**P**	**11 57 37.6 +1.8**
ARMA	**Armidale**	**34.80 142**	P	**P**	**11 57 40.7 +1.4**
	baz=35,SNR=28				
ARMA	**Armidale**	**34.80 142**	P	**P**	**11 57 40.0 +0.8**
ARMA			IAmb	IAmb	11 57 42.6
	comp=Z,155nm,1.0s				
ARMA	**Armidale**	**34.80 142**	P	**P**	**11 57 40.9 +1.6**
ARMA	**Armidale**	**34.80 142**	⇓P	**P**	**11 57 40.7 +1.4**
AUPHS	**Peel High Scho**	**34.84 144**	P	**P**	**11 57 41.0 +1.5**
CNSH	**ChangSha**	**34.85 337**	⇑P	**P**	**11 57 35.3 -4.2**
CNSH			S	S	12 02 58.3 -10
CNSH			LR	LR	
	comp=Z,5μm,15.6s				
CNSH			LR	LR	
	comp=Z,5μm,14.6s				
CNSH			LR	LR	
	comp=Z,8μm,30.2s				
JSU	**Suzuyama**	**35.25 4**	P	**P**	**11 57 42.7 -0.2**
ARPS	**Mount Arapiles**	**35.27 160**	P	**P**	**11 57 44.8 +1.8**
	baz=35,SNR=72				
ARPS	**Mount Arapiles**	**35.27 160**	P	**P**	**11 57 44.5 +1.4**
SSE	**Sheshan**	**35.28 350**	P	**P**	**11 57 45.5 +2.3**
SSE			pP	**sP**	**11 57 52.8 -2.4**
SSE			S	**S**	**12 03 17.3 +2.2**
SSE			pmax	pmax	
	comp=Z,35nm,0.8s				
SSE			pmax	pmax	
	comp=Z,2μm,7.7s				
SSE			LR	LR	
	comp=Z,2μm,15.2s				
AUMAG	**Moama Anglican**	**35.77 156**	P	**P**	**11 57 50.9 +3.6**
CRAI	**Chiangrai**	**35.92 313**	P	**P**	**11 57 49.6 +0.8**
YNG	**Young**	**35.92 150**	P	**P**	**11 57 50.8 +2.1**
CM31	**Chiang Mai Arr**	**35.94 309**	P	**P**	**11 57 50.3 +1.3**
CM31	**Chiang Mai Arr**	**35.94 309**	P	**P**	**11 57 52.6 +3.6**
	SNR=21				
CMAR	**Chiang Mai Arr**	**35.94 309**	P	**P**	**11 57 49.4 +0.4**
CMAR	**Chiang Mai Arr**	**35.94 309**	P	**P**	**11 57 49.8 +0.7**
CMAR					12 00 15.1
CMAR			S	**S**	**12 03 24.3 -1.3**
CMAR	**Chiang Mai Arr**	**35.94 309**	P	**P**	**11 57 49.8 +0.7**
	comp=Z,18nm,0.8s,baz=136,slow=7.1,SNR=42				
CMAR			PcP	**PcP**	**12 00 15.1 -0.6**
	comp=Z,27nm,1.1s,baz=154,slow=2.6,SNR=5.7				
CMAR			S	**S**	**12 03 24.3 -1.3**
	comp=Z,1.4nm,0.8s,baz=114,slow=6.3,SNR=2.3				
CMAR			ScP	**ScP**	**12 03 56.7 -3.1**
	comp=Z,0.8nm,0.4s,baz=159,slow=2.4,SNR=1.5				
	comp=Z,18nm,0.8s				
CHTO	**Chiang Mai**	**36.14 309**	P	**P**	**11 57 51.6 +0.8**
CHTO	**Chiang Mai**	**36.14 309**	P	**P**	**11 57 52.1 +1.3**
CHTO	**Chiang Mai**	**36.14 309**	P	**P**	**11 57 52.2 +1.5**
CHTO	**Chiang Mai**	**36.14 309**	⇑P	**P**	**11 57 51.5 +0.7**
CHTO	**Chiang Mai**	**36.14 309**	P	**P**	**11 57 51.6 +0.8**
CHTO			pmax	pmax	
	comp=Z,108nm,0.8s				
CHTO			MLR	MLR	
	comp=Z,9μm,22.0s				
JFU	**Fukue jima 2**	**36.31 2**	P	**P**	**11 57 51.5 -0.4**
GYA	**Guiyang**	**36.33 327**	⇑P	**P**	**11 57 53.3 +0.9**
GYA			pP	sP	11 58 02.3 -1.9
GYA			pmax	pmax	
	comp=Z,230nm,1.0s				
GYA			pmax	pmax	
	comp=Z,2μm,6.5s				
GYA			LR	LR	
	comp=Z,3μm,17.5s				
GYA			LR	LR	
	comp=Z,4μm,18.2s				
GYA			LR	LR	
	comp=Z,8μm,18.2s				
WHN	**Wuhan**	**36.48 340**	⇑*iP*	**P**	**11 57 55.0 +1.6**
WHN			pP	**pwP**	**11 58 04.5 -1.4**
WHN			sP	**sP**	**11 58 07.5 +2.1**
WHN			S	**S**	**12 03 37.8 +4.3**
WHN			pmax	pmax	
	comp=Z,290nm,1.0s				
WHN			pmax	pmax	
	comp=Z,16μm,10.3s				
WHN			LR	LR	
	comp=Z,12μm,10.2s				
WHN			LR	LR	
	comp=Z,7μm,8.9s				
WHN			LR	LR	
	comp=Z,23μm,15.6s				
MGCD	**Mangrove Creek**	**36.52 146**	P	**P**	**11 57 56.7 +2.9**
	baz=37,SNR=5.9				
MGCD	**Mangrove Creek**	**36.52 146**	P	**P**	**11 57 58.0 +4.2**
NJ2	**Nanjing**	**36.66 347**	⇑P	**P**	**11 57 56.0 +1.0**
NJ2			pP	**sP**	**11 58 04.8 -2.2**
NJ2			sP	**pwP**	**11 58 09.8 +2.6**
NJ2			S	**S**	**12 03 40.3 +4.1**
NJ2			sS	**pS**	**12 03 46.0 -0.5**
NJ2			ScS	**ScS**	**12 08 07.5 -1.3**
NJ2			pmax	pmax	
	comp=Z,81nm,1.0s				
NJ2			pmax	pmax	
	comp=Z,2μm,6.2s				
NJ2			LR	LR	
	comp=Z,7μm,11.8s				
NJ2			LR	LR	
	comp=Z,5μm,11.8s				
NJ2			LR	LR	
	comp=Z,7μm,11.4s				
BRAT	**Ballarat**	**36.71 158**	P	**P**	**11 57 57.1 +1.7**
JNU	**Nakatsue**	**36.88 4**	P	**P**	**11 57 56.1 -0.8**
JNU	**Nakatsue**	**36.88 4**	⇑P	**P**	**11 57 56.4 -0.6**
JNU	**Nakatsue**	**36.88 4**	P	**P**	**11 57 56.0 -0.9**
JNU	**Nakatsue**	**36.88 4**	⇑P	**P**	**11 57 56.4 -0.6**
JNU	**Nakatsue**	**36.88 4**	P	**P**	**11 57 56.6 -0.3**
	comp=Z,58nm,1.0s,baz=142,slow=3.1,SNR=30				
JNU			PcP	**PcP**	**12 00 17.6 -0.7**
	comp=Z,22nm,1.0s,baz=142,slow=6.9,SNR=2.6				
JNU			LR	LR	12 11 50.6
	comp=Z,17μm,21.0s,baz=160,slow=34				
	comp=Z,58nm,1.0s				
CAN	**Canberra**	**37.03 150**	P	**P**	**11 57 59.0 +0.8**
CAN			IAmb	IAmb	11 58 02.0
	comp=Z,269nm,0.9s				
CAN			IAMs_20	IAMs_20	12 13 56.1
	comp=Z,24μm,21.0s				
CAN	**Canberra**	**37.03 150**	P	**P**	**11 58 00.3 +2.1**
CAN	**Canberra**	**37.03 150**	P	**P**	**11 57 59.0 +0.8**
CAN			pmax	pmax	
	comp=Z,269nm,0.9s				
CAN			MLR	MLR	
	comp=Z,24μm,21.0s				
CNB	**Canberra Magne**	**37.21 150**	P	**P**	**11 58 01.8 +2.0**
	baz=37,SNR=32				
CNB	**Canberra Magne**	**37.21 150**	P	**P**	**11 58 02.8 +3.0**
WOLH	**Wollongong Har**	**37.29 147**	P	**P**	**11 58 02.9 +2.6**
MLBS	**Spotswood, Mel**	**37.32 157**	P	**P**	**11 58 03.5 +3.0**
TOO	**Toolangi**	**37.33 156**	P	**P**	**11 58 02.3 +1.5**
	baz=38,SNR=16				
TOO	**Toolangi**	**37.33 156**	P	**P**	**11 58 00.8 +0.1**
TOO			IAmb	IAmb	11 58 14.9
	comp=Z,439nm,1.4s				
TOO	**Toolangi**	**37.33 156**	P	**P**	**11 58 02.4 +1.7**
TOO	**Toolangi**	**37.33 156**	⇑P	**P**	**11 58 01.0 +0.3**
TOO	**Toolangi**	**37.33 156**	P	**P**	**11 58 00.8 +0.1**
TOO			pmax	pmax	
	comp=Z,439nm,1.5s				
GEXS	**Deakin Univers**	**37.42 158**	P	**P**	**11 58 03.0 +1.6**
KMI	**Kunming**	**37.61 321**	⇓P	**P**	**11 58 05.5 +2.1**
KMI			pP	sP	11 58 14.0 -1.2
KMI			pmax	pmax	
	comp=Z,200nm,1.0s				
KMI			pmax	pmax	
	comp=Z,5μm,10.4s				
KMI			LR	LR	
	comp=Z,5μm,19.1s				
KMI			LR	LR	
	comp=Z,3μm,21.4s				
KMI			LR	LR	
	comp=Z,8μm,21.6s				
AUUHS	**Ulladulla High**	**37.81 149**	P	**P**	**11 58 08.0 +3.3**
JMN	**Monobe**	**37.82 8**	P	**P**	**11 58 04.3 -0.5**
JMN			IAmb	IAmb	11 58 15.5
	comp=Z,317nm,1.1s				
JMN	**Monobe**	**37.82 8**	P	**P**	**11 58 05.2 +0.3**
JMN	**Monobe**	**37.82 8**	P	**P**	**11 58 04.7 -0.2**
JMN	**Monobe**	**37.82 8**	⇑P	**P**	**11 58 04.7 -0.2**
JTU	**Tsushima**	**38.19 2**	P	**P**	**11 58 07.3 -0.6**
JTU	**Tsushima**	**38.19 2**	P	**P**	**11 58 08.4 +0.5**
JTU	**Tsushima**	**38.19 2**	P	**P**	**11 58 07.4 -0.6**
JTU	**Tsushima**	**38.19 2**	⇓P	**P**	**11 58 08.3 +0.4**
AUSSC	**Sale College,**	**38.44 155**	P	**P**	**11 58 10.6 +0.6**
MILA	**Mila**	**38.50 152**	P	**P**	**11 58 12.6 +2.0**
	baz=39,SNR=12				
MILA	**Mila**	**38.50 152**	P	**P**	**11 58 12.7 +2.0**
MILA	**Mila**	**38.50 152**	⇓P	**P**	**11 58 12.6 +2.0**
JHJ	**Hachijo jima 2**	**38.51 16**	LR	LR	12 14 29.6
	comp=Z,11μm,18.9s,baz=160,slow=37				
JHS	**Saijyo**	**38.97 7**	P	**P**	**11 58 14.6 +0.1**
JIE	**Ise**	**38.97 12**	P	**P**	**11 58 13.1 -1.3**
JAD	**Aida**	**39.05 8**	P	**P**	**11 58 16.3 +1.1**
PZH	**PanZhiHua**	**39.23 322**	P	**P**	**11 58 17.8 +0.9**
PZH			pP	**sP**	**11 58 27.0 -1.7**
PZH			S	**S**	**12 04 19.0 +3.4**
PZH			pmax	pmax	
	comp=Z,170nm,0.9s				
PZH			pmax	pmax	
	comp=Z,4μm,8.6s				
PZH			LR	LR	
	comp=Z,3μm,13.7s				
PZH			LR	LR	
	comp=Z,4μm,15.7s				
PZH			LR	LR	
	comp=Z,6μm,19.6s				
KOUNC	**Koumac, New Ca**	**39.32 118**	P	**P**	**11 58 17.5 -0.1**
KOUNC	**Koumac, New Ca**	**39.32 118**	⇑P	**P**	**11 58 16.8 -0.8**
JWT	**Wachi**	**39.59 10**	P	**P**	**11 58 19.6 0.0**
INU	**Inuyama**	**39.96 12**	P	**P**	**11 58 22.1 -0.6**
INU			IAmb	IAmb	11 58 33.6
	comp=Z,182nm,0.8s				
INU			IAMs_20	IAMs_20	12 13 39.3
	comp=Z,16μm,21.0s				
INU	**Inuyama**	**39.96 12**	P	**P**	**11 58 23.0 +0.3**
INU	**Inuyama**	**39.96 12**	⇓P	**P**	**11 58 22.5 -0.2**
TJN	**Taejon**	**40.01 360**	P	**P**	**11 58 23.0 -0.1**
TJN			IAmb	IAmb	11 58 34.9
	comp=Z,455nm,1.0s				
TJN	**Taejon**	**40.01 360**	P	**P**	**11 58 23.5 +0.4**
TJN	**Taejon**	**40.01 360**	*cP*	**P**	**11 58 23.1 0.0**
MND	**Mandalay**	**40.16 311**	P	**P**	**11 58 25.8 +1.2**
TNCH	**TengChong**	**40.30 317**	⇑P	**P**	**11 58 26.8 +0.8**
TNCH			pP	pP	11 58 31.5 -3.1
TNCH			PcP	**PcP**	**12 00 30.0 +0.7**
TNCH			S	**S**	**12 04 34.8 +2.9**
TNCH			SS	**SS**	**12 07 27.3 -4.0**
TNCH			pmax	pmax	
	comp=Z,250nm,1.0s				
TNCH			pmax	pmax	
	comp=Z,4μm,3.9s				
TNCH			LR	LR	
	comp=Z,2μm,18.9s				
TNCH			LR	LR	
	comp=Z,2μm,14.9s				
TNCH			LR	LR	
	comp=Z,3μm,19.2s				
LYN	**LuoYang**	**40.78 341**	⇑P	**P**	**11 58 30.0 +0.5**
LYN			pP	sP	11 58 38.8 -2.7
LYN			sP	pwP	11 58 43.0 +0.9
LYN			S	**S**	**12 04 35.3 -3.0**
LYN			sS	sS	12 04 59.8 +7.7
LYN			pmax	pmax	
	comp=Z,73nm,1.1s				
LYN			pmax	pmax	
	comp=Z,5μm,9.2s				
LYN			LR	LR	
	comp=Z,5μm,12.4s				
LYN			LR	LR	
	comp=Z,6μm,15.9s				
LYN			LR	LR	
	comp=Z,20μm,33.3s				
JGN	**Niukaw**	**40.86 12**	P	**P**	**11 58 30.0 -0.3**
JRY	**Ryogami san**	**41.02 14**	P	**P**	**11 58 32.4 +0.9**
TIA	**Tai'an**	**41.04 347**	P	**P**	**11 58 31.0 -0.7**
TIA			S	**S**	**12 04 43.0 +0.8**
TIA			pmax	pmax	
	comp=Z,17nm,0.8s				
TIA			pmax	pmax	
	comp=Z,1μm,5.9s				
TIA			LR	LR	
	comp=Z,5μm,21.6s				
TIA			LR	LR	
	comp=Z,3μm,10.4s				
TIA			LR	LR	
	comp=Z,8μm,32.0s				
KSAR	**Wonju Array Be**	**41.07 0**	P	**P**	**11 58 31.7 -0.1**
KSAR	**Wonju Array Be**	**41.07 0**	P	**P**	**11 58 31.7 -0.1**
KSRS	**Korea Array**	**41.08 0**	P	**P**	**11 58 31.8 -0.1**
KSRS					12 00 30.2
KSRS	**Korea Array**	**41.08 0**	P	**P**	**11 58 31.8 -0.1**
	comp=Z,86nm,0.9s,baz=178,slow=9.5,SNR=104				
KSRS			PcP	**PcP**	**12 00 30.1 -1.1**
	comp=Z,25nm,1.0s,baz=182,slow=3.4,SNR=5.7				
KSRS			ScP	**ScP**	**12 04 15.7 -3.2**
	comp=Z,2.5nm,0.8s,baz=184,slow=3.3,SNR=1.5				
	comp=Z,86nm,0.9s				
INCN	**Inchon**	**41.12 359**	P	**P**	**11 58 32.0 -0.3**
INCN	**Inchon**	**41.12 359**	IAMs_20	IAMs_20	12 14 24.4
	comp=Z,15μm,20.0s				
INCN	**Inchon**	**41.12 359**	P	**P**	**11 58 32.9 +0.5**
INCN	**Inchon**	**41.12 359**	⇑P	**P**	**11 58 32.8 +0.5**
INCN	**Inchon**	**41.12 359**	P	**P**	**11 58 32.0 -0.3**
INCN			pmax	pmax	
	comp=Z,154nm,0.9s				
INCN			MLR	MLR	
	comp=Z,15μm,20.0s				
KS19	**Wonju Array Si**	**41.13 0**	P	**P**	**11 58 32.5 +0.2**
KS19			IAmb	IAmb	11 58 43.3
	comp=Z,204nm,0.9s				
AULHS	**Lilydale High**	**41.18 157**	P	**P**	**11 58 34.8 +2.0**
GLAD	**Gladstone**	**41.26 156**	P	**P**	**11 58 35.2 +1.8**
CORO	**Coronation Par**	**41.33 158**	P	**P**	**11 58 36.6 +2.7**
MAJO	**Matsushiro**	**41.36 13**	P	**P**	**11 58 33.0 -1.3**
MAJO	**Matsushiro**	**41.36 13**	IAMs_20	IAMs_20	12 15 35.4
	comp=Z,14μm,20.0s				
MAJO	**Matsushiro**	**41.36 13**	P	**P**	**11 58 33.6 -0.7**
MAJO	**Matsushiro**	**41.36 13**	⇑P	**P**	**11 58 33.0 -1.3**
MAJO	**Matsushiro**	**41.36 13**	⇓*iP*	**P**	**11 58 33.7 -0.6**
MAJO			pmax	pmax	
	comp=Z,171nm,1.0s				
MAT	**Matsushiro**	**41.36 13**	P	**P**	**11 58 32.7 -1.6**
MJAR	**Matsushiro Arr**	**41.36 13**	P	**P**	**11 58 33.1 -1.2**
MJAR					12 00 32.3
MJAR	**Matsushiro Arr**	**41.36 13**	P	**P**	**11 58 33.1 -1.2**
	comp=Z,56nm,0.9s,baz=186,slow=10.0,SNR=60				
MJAR			PcP	**PcP**	**12 00 32.3 0.0**
	comp=Z,27nm,1.0s,baz=186,slow=2.3,SNR=5.6				
MJAR			ScP	**ScP**	**12 04 16.8 -3.3**
	comp=Z,3.3nm,0.9s,baz=209,slow=4.7,SNR=3.3				
MJAR			LR	LR	12 14 24.3
	comp=Z,12μm,20.4s,baz=182,slow=34				
	comp=Z,56nm,0.9s				
MJB9	**Matsu-Tunnel**	**41.37 13**	P	**P**	**11 58 33

XAN			sS	sS	12 05 03.8	-0.9
XAN			ScS	**ScS**	**12 08 33.0**	**-4.9**
XAN			pmax	pmax		
	comp=Z,96nm,1.1s					
XAN			pmax	pmax		
	comp=Z,2μm,5.3s					
XAN			LR	LR		
	comp=Z,6μm,17.7s					
XAN			LR	LR		
	comp=Z,5μm,18.4s					
XAN			LR	LR		
	comp=Z,12μm,19.7s					
HJU	**Haeju**	**41.71 358**	P	**P**	**11 58 37.4**	**+0.3**
HJU			S	**S**	**12 04 54.7**	**+2.8**
HJU			AmB			
	comp=Z,4μm,3.9s					
HJU			AMS	AMS		
	comp=Z,12μm,19.3s					
DZM	**Mont Dzumac**	**41.73 119**	*e*P	**P**	**11 58 36.5**	**-1.1**
	comp=Z,255nm,1.2s					
DZM	**Mont Dzumac**	**41.73 119**	*e*LR	LR	12 09 56.0	
	comp=Z,10μm,26.7s					
DZM	**Mont Dzumac**	**41.73 119**	P	**P**	**11 58 36.0**	**-1.6**
DZM	**Mont Dzumac**	**41.73 119**	P	**P**	**11 58 37.0**	**-0.7**
	comp=Z,47nm,0.7s,baz=276,slow=9.0,SNR=41					
DZM			PP	**PP**	**12 00 16.8**	**+2.3**
	comp=Z,13nm,0.9s,baz=294,slow=12,SNR=0.6					
DZM			S	**S**	**12 04 56.0**	**+3.0**
	comp=Z,2.1nm,0.8s,baz=59,slow=22,SNR=1.0					
	comp=Z,47nm,0.7s					
ONTNC	**Ouen Toro**	**41.82 120**	P	**P**	**11 58 37.6**	**-0.6**
ONTNC	**Ouen Toro**	**41.82 120**	P	**P**	**11 58 39.1**	**+0.8**
ONTNC	**Ouen Toro**	**41.82 120**	⇑P	**P**	**11 58 37.5**	**-0.8**
LIFNC	**LIFOU**	**42.00 117**	P	**P**	**11 58 39.7**	**-0.1**
LIFNC	**LIFOU**	**42.00 117**	P	**P**	**11 58 42.3**	**+2.5**
YATNC	**Mamie plateau,**	**42.11 119**	P	**P**	**11 58 42.1**	**+1.4**
OUENC	**Ouen Island, N**	**42.19 119**	P	**P**	**11 58 40.7**	**-0.6**
OUENC	**Ouen Island, N**	**42.19 119**	P	**P**	**11 58 42.6**	**+1.3**
MOO	**Moorlands**	**42.20 158**	P	**P**	**11 58 43.1**	**+2.0**
	baz=42,SNR=9.8					
MOO	**Moorlands**	**42.20 158**	P	**P**	**11 58 44.6**	**+3.5**
RTV	**Rentapao**	**42.25 112**	P	**P**	**11 58 41.4**	**-0.4**
TAU	**Tasmania Unive**	**42.65 159**	P	**P**	**11 58 46.1**	**+1.3**
TAU	**Tasmania Unive**	**42.65 159**	P	**P**	**11 58 46.8**	**+2.1**
TAU	**Tasmania Unive**	**42.65 159**	⇓P	**P**	**11 58 47.3**	**+2.5**
TAU	**Tasmania Unive**	**42.65 159**	P	**P**	**11 58 46.1**	**+1.3**
TAU			pmax	pmax		
	comp=Z,222nm,1.4s					
TAU			MLR	MLR		
	comp=Z,27μm,20.0s					
PYAG	**Pyongyang**	**42.71 358**	P	**P**	**11 58 45.5**	**+0.2**
PYAG			S	**S**	**12 05 09.5**	**+2.8**
PYAG			AmB			
	comp=Z,2μm,4.1s					
PYAG			AMS	AMS		
	comp=Z,10μm,16.2s					
HNS	**HongShan**	**42.76 345**	⇑P	**P**	**11 58 45.0**	**-0.7**
HNS			pP	**pP**	**11 58 54.5**	**+0.3**
HNS			sP	**pwP**	**11 58 58.5**	**+0.4**
HNS			PcP	**PcP**	**12 00 38.3**	**+1.5**
HNS			ScP	**ScP**	**12 04 28.5**	**+2.9**
HNS			S	**S**	**12 05 07.8**	**+0.3**
HNS			pmax	pmax		
	comp=Z,86nm,1.0s					
HNS			LR	LR		
	comp=Z,2μm,18.5s					
HNS			LR	LR		
	comp=Z,5μm,18.5s					
HNS			LR	LR		
	comp=Z,6μm,16.8s					
PINNC	**Pines Island,**	**42.78 119**	P	**P**	**11 58 47.6**	**+1.5**
SAIH	**SAIHA**	**42.81 309**	*e*P	**P**	**11 58 46.9**	**+0.4**
SAIH			IAmb	IAmb	11 58 57.9	
	comp=Z,803nm,0.9s					
DL2	**Dalian**	**42.90 353**	P	**P**	**11 58 45.3**	**-1.4**
DL2			S	**S**	**12 05 08.0**	**-1.4**
DL2			pmax	pmax		
	comp=Z,51nm,1.0s					
DL2			pmax	pmax		
	comp=Z,1μm,5.9s					
DL2			LR	LR		
	comp=Z,8μm,18.4s					
DL2			LR	LR		
	comp=Z,4μm,20.4s					
DL2			LR	LR		
	comp=Z,8μm,17.1s					
MARNC	**Mare, Loyalty**	**42.92 118**	P	**P**	**11 58 49.4**	**+2.1**
JMM	**Marumori**	**43.25 15**	P	**P**	**11 58 49.5**	**-0.1**
JMM			IAmb	IAmb	11 59 04.0	
	comp=Z,218nm,0.8s					
JMM	**Marumori**	**43.25 15**	P	**P**	**11 58 51.1**	**+1.5**
JMM	**Marumori**	**43.25 15**	⇑P	**P**	**11 58 49.1**	**-0.5**
IMP	**Imphal**	**43.42 313**	*e*P	**P**	**11 58 51.2**	**-0.2**
IMP			IAmb	IAmb	11 59 01.6	
	comp=Z,356nm,0.5s					
HHU	**Hamhung**	**43.55 360**	P	**P**	**11 58 51.8**	**-0.2**
HHU			S	**S**	**12 05 22.1**	**+3.1**
HHU			AmB			
	comp=Z,5μm,6.4s					
HHU			AMS	AMS		
	comp=Z,8μm,16.4s					
JYA	**Atsumi**	**43.67 14**	P	**P**	**11 58 53.4**	**+0.4**
TIY	**Taiyuan**	**43.70 342**	*e*P	**P**	**11 58 53.5**	**+0.2**
TIY			pP	**pwP**	**11 59 04.5**	**-1.4**
TIY			sP	**sP**	**11 59 08.5**	**+3.3**
TIY			S	**S**	**12 05 22.0**	**+0.6**
TIY			sS	**sS**	**12 05 36.3**	**+1.0**
TIY			pmax	pmax		
	comp=Z,28nm,0.9s					
TIY			pmax	pmax		
	comp=Z,620nm,6.5s					
TIY			LR	LR		
	comp=Z,3μm,17.9s					
TIY			LR	LR		
	comp=Z,3μm,19.2s					
TIY			LR	LR		
	comp=Z,4μm,20.6s					
SUJ	**Sinuiju**	**43.82 356**	P	**P**	**11 58 53.5**	**-0.7**
SUJ			S	**S**	**12 05 26.3**	**+3.3**
SUJ			AmB			
	comp=Z,1μm,3.8s					
SUJ			AMS	AMS		
	comp=Z,9μm,17.5s					
KOHI	**KOHIMA**	**43.83 314**	*e*P	**P**	**11 58 54.6**	**-0.1**
KOHI			IAmb	IAmb	11 59 07.3	
	comp=Z,933nm,0.9s					
MOKO	**MOKOCHONG**	**43.91 315**	*e*P	**P**	**11 58 56.1**	**+0.8**
MOKO			IAmb	IAmb	11 59 07.1	
	comp=Z,450nm,0.8s					
BRDH	**Bariadhala**	**43.95 309**	P	**P**	**11 58 56.4**	**+0.8**
	comp=Z,101nm,0.4s,baz=90,slow=9.8,SNR=12					
BRDH			S	**S**	**12 05 26.1**	**+0.6**
	comp=Z,156nm,0.3s,baz=270,slow=17,SNR=1.1					
	comp=Z,101nm,0.4s					
SILR	**SILCHAR**	**44.23 312**	*e*P	**P**	**11 58 59.8**	**+2.0**
SILR			IAmb	IAmb	11 59 10.5	
	comp=Z,1μm,0.9s					
BELO	**BELONIA**	**44.41 309**	*e*P	**P**	**11 59 01.2**	**+2.0**
JOM	**Ohasama**	**44.89 15**	P	**P**	**11 59 02.9**	**+0.1**
BJT	**Baijiatuau**	**44.90 347**	P	**P**	**11 59 01.5**	**-1.4**
BJT			IAmb	IAmb	11 59 12.0	
	comp=Z,110nm,0.8s					
BJT	**Baijiatuau**	**44.90 347**	P	**P**	**11 59 02.4**	**-0.5**
BJT	**Baijiatuau**	**44.90 347**	P	**P**	**11 59 01.5**	**-1.4**
BJT			pmax	pmax		
	comp=Z,110nm,0.8s					
BJI	**Beijing**	**44.92 347**	P	**P**	**11 59 02.0**	**-1.0**
BJI			pP	**pP**	**11 59 11.5**	**-0.1**
BJI			sP	**pwP**	**11 59 15.5**	**+0.1**
BJI			S	**S**	**12 05 38.3**	**-0.7**
BJI			ScS	**ScS**	**12 08 55.0**	**-3.1**
BJI			pmax	pmax		
	comp=Z,40nm,1.0s					
BJI			pmax	pmax		
	comp=Z,700nm,5.4s					
BJI			LR	LR		
	comp=Z,2μm,22.7s					
BJI			LR	LR		
	comp=Z,1μm,21.2s					
BJI			LR	LR		
	comp=Z,4μm,33.0s					
ITAN	**ITANAGAR**	**44.97 315**	*e*P	**P**	**11 59 04.3**	**+0.7**
ITAN			IAmb	IAmb	11 59 23.0	
	comp=Z,605nm,1.2s					
TEZP	**TEZPUR**	**45.31 314**	*e*P	**P**	**11 59 06.8**	**+0.5**
TEZP			IAmb	IAmb	11 59 17.9	
	comp=Z,164nm,0.9s					
SHL	**Shillong**	**45.37 312**	P	**P**	**11 59 06.4**	**-0.6**
SHL	**Shillong**	**45.37 312**	*e*P	**P**	**11 59 07.1**	**+0.1**
SHL			IAmb	IAmb	11 59 18.6	
	comp=Z,233nm,0.9s					
SHL	**Shillong**	**45.37 312**	P	**P**	**11 59 08.2**	**+1.2**
	SNR=64					
SHL	**Shillong**	**45.37 312**	P	**P**	**11 59 06.4**	**-0.6**
SHL			pmax	pmax		
	comp=Z,282nm,0.9s					
LZH	**Lanzhou**	**45.54 333**	⇑P	**P**	**11 59 08.8**	**+0.6**
LZH			pP	sP	11 59 18.0	-2.1
LZH			sP	pwP	11 59 22.0	+0.9
LZH			S	**S**	**12 05 55.8**	**+7.3**
LZH			pmax	pmax		
	comp=Z,66nm,1.4s					
LZH			pmax	pmax		
	comp=Z,2μm,5.2s					
LZH			LR	LR		
	comp=Z,3μm,15.5s					
LZH			LR	LR		
	comp=Z,5μm,15.1s					
LZH			LR	LR		
	comp=Z,5μm,15.8s					
SNY	**Shenyang**	**45.60 356**	⇓P	**P**	**11 59 07.8**	**-0.5**
SNY			pmax	pmax		
	comp=Z,29nm,0.9s					
SNY			pmax	pmax		
	comp=Z,4μm,12.0s					
SNY			LR	LR		
	comp=Z,2μm,18.6s					
SNY			LR	LR		
	comp=Z,1μm,15.2s					
SNY			LR	LR		
	comp=Z,3μm,13.7s					
NFK	**Norfolk Island**	**45.68 128**	P	**P**	**11 59 10.4**	**+1.1**
	baz=46,SNR=4.3					
JTM	**Tenmabayashi**	**46.08 14**	P	**P**	**11 59 12.2**	**+0.1**
JTM			IAmb	IAmb	11 59 27.3	
	comp=Z,232nm,1.1s					
JTM	**Tenmabayashi**	**46.08 14**	P	**P**	**11 59 14.0**	**+1.9**
JTM	**Tenmabayashi**	**46.08 14**	P	**P**	**11 59 13.0**	**+0.9**
JTM	**Tenmabayashi**	**46.08 14**	⇑P	**P**	**11 59 13.5**	**+1.4**
MSHR	**Mys Shultsa**	**46.31 4**	⇓*e*P	**P**	**11 59 14.2**	**+0.3**
MSHR			pmax	pmax		
	comp=Z,108nm,0.9s					
HHC	**Hu-ho-hao-te**	**46.85 343**	⇓P	**P**	**11 59 18.8**	**+0.4**
HHC			pP	sP	11 59 28.5	-1.8
HHC			S	**S**	**12 06 08.0**	**+1.0**
HHC			pmax	pmax		
	comp=Z,69nm,1.0s					
HHC			pmax	pmax		
	comp=Z,3μm,7.1s					
HHC			LR	LR		
	comp=Z,6μm,19.6s					
HHC			LR	LR		
	comp=Z,3μm,18.8s					
HHC			LR	LR		
	comp=Z,12μm,22.6s					
VLA	**Vladivostok**	**46.90 4**	*c i*P	**P**	**11 59 18.4**	**-0.1**
VLA			pmax	pmax		
	comp=Z,209nm,1.4s					
BTO	**Baotou**	**47.09 342**	*e*P	**P**	**11 59 22.0**	**+1.8**
BTO			pP	**pwP**	**11 59 32.0**	**-0.8**
BTO			sP	**sP**	**11 59 36.0**	**+3.8**
BTO			PP	**PP**	**12 01 12.8**	**+1.4**
BTO			S	**S**	**12 06 13.0**	**+2.6**
BTO			sS	sS	12 06 31.0	+6.6
BTO			pmax	pmax		
	comp=Z,33nm,1.0s					
BTO			pmax	pmax		
	comp=Z,4μm,6.0s					
BTO			LR	LR		
	comp=Z,9μm,17.0s					
BTO			LR	LR		
	comp=Z,6μm,15.3s					
BTO			LR	LR		
	comp=Z,12μm,21.9s					
CN2	**Changchun**	**47.46 358**	*e*P	**P**	**11 59 22.5**	**-0.4**
CN2			*e*PP	**PP**	**12 01 14.5**	**-0.2**
CN2			*e*S	**S**	**12 06 11.0**	**-4.4**
CN2			pmax	pmax		
	comp=Z,30nm,1.1s					
CN2			LR	LR		
	comp=Z,3μm,17.0s					
CN2			LR	LR		
	comp=Z,6μm,17.0s					
CN2			LR	LR		
	comp=Z,6μm,17.0s					
HALK	**Hakmana**	**47.94 282**	⇓P	**P**	**11 59 28.9**	**+1.7**
USA0B	**Ussuriysk Arra**	**47.98 4**	P	**P**	**11 59 26.7**	**-0.2**
USA0B			IAmb	IAmb	11 59 36.8	
	comp=Z,94nm,0.8s					
USA0B	**Ussuriysk Arra**	**47.98 4**	*c e*P	**P**	**11 59 27.1**	**+0.2**
USRK	**Ussuriysk Ar.**	**47.98 4**	P	**P**	**11 59 26.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**47.98 4**	P	**P**	**11 59 26.7**	**-0.2**
USRK					12 00 55.4	
USRK	**Ussuriysk Ar.**	**47.98 4**	P	**P**	**11 59 26.7**	**-0.2**
	comp=Z,20nm,0.6s,baz=186,slow=6.7,SNR=29					
USRK			PcP	**PcP**	**12 00 55.4**	**+0.7**
	comp=Z,16nm,0.8s,baz=142,slow=2.7,SNR=1.7					
USRK			ScP	**ScP**	**12 04 44.1**	**-2.9**
	comp=Z,1.8nm,0.8s,baz=209,slow=2.6,SNR=1.3					
	comp=Z,20nm,0.6s					
PALK	**Pallekele**	**48.15 283**	P	**P**	**11 59 28.6**	**-0.2**
PALK			P	**P**	**11 59 28.6**	**-0.2**
PALK	**Pallekele**	**48.15 283**	⇑P	**P**	**11 59 29.1**	**+0.3**
PALK			⇑P	**P**	**11 59 30.4**	**+1.5**
PALK	**Pallekele**	**48.15 283**	⇑*e*P	**P**	**11 59 29.1**	**+0.3**
PALK			pmax	pmax		
	comp=Z,60nm,0.8s					
PALK	**Pallekele**	**48.15 283**	P	**P**	**11 59 28.0**	**-0.8**
	comp=Z,18nm,0.7s,baz=182,slow=8.4,SNR=7.8					
	comp=Z,18nm,0.7s					
MDJ	**Mudanjiang**	**48.27 2**	P	**P**	**11 59 29.0**	**-0.2**
MDJ			pP	pwP	11 59 42.3	-0.1
MDJ			sP	sP	11 59 48.0	+6.8
MDJ			S	**S**	**12 06 30.0**	**+3.2**
MDJ			sS	sS	12 06 46.5	+5.5
MDJ			pmax	pmax		
	comp=Z,170nm,1.1s					
MDJ			pmax	pmax		
	comp=Z,3μm,5.2s					
MDJ			LR	LR		
	comp=Z,8μm,19.1s					
MDJ			LR	LR		
	comp=Z,3μm,18.2s					
MDJ			LR	LR		
	comp=Z,12μm,18.4s					
MDJ	**Mudanjiang**	**48.27 2**	P	**P**	**11 59 28.6**	**-0.6**
MDJ			IAmb	IAmb	11 59 43.2	
	comp=Z,194nm,1.0s					
MDJ			IAMs_20	IAMs_20	12 20 57.6	
	comp=Z,10μm,19.0s					
MDJ	**Mudanjiang**	**48.27 2**	P	**P**	**11 59 30.0**	**+0.8**
LSA	**Lhasa**	**48.32 316**	P	**P**	**11 59 31.3**	**+0.9**
LSA			S	**S**	**12 06 26.5**	**-2.5**
LSA			LR	LR		
	comp=Z,5μm,11.2s					
LSA			LR	LR		
	comp=Z,3μm,10.6s					
LSA			LR	LR		
	comp=Z,2μm,7.8s					
LSA	**Lhasa**	**48.32 316**	P	**P**	**11 59 30.8**	**+0.4**
LSA	**Lhasa**	**48.32 316**	P	**P**	**11 59 30.6**	**+0.2**
LSA	**Lhasa**	**48.32 316**	P	**P**	**11 59 30.8**	**+0.4**
LSA			pmax	pmax		
	comp=Z,244nm,0.8s					
MALK	**Mahakanadarawa**	**48.54 285**	P	**P**	**11 59 32.2**	**+0.5**
MALK	**Mahakanadarawa**	**48.54 285**	⇑P	**P**	**11 59 31.4**	**-0.4**
XLT	**XiLinHaoTe**	**48.65 349**	*e*P	**P**	**11 59 31.5**	**-0.7**
XLT			pP	pP	11 59 41.0	0.0
XLT			sP	pwP	11 59 44.8	+0.2
XLT			S	**S**	**12 06 28.8**	**-3.6**
XLT			sS	sS	12 06 48.8	+2.4
XLT			pmax	pmax		
	comp=Z,71nm,1.1s					
XLT			pmax	pmax		
	comp=Z,2μm,7.1s					
XLT			LR	LR		
	comp=Z,440nm,14.9s					
XLT			LR	LR		
	comp=Z,2μm,15.7s					
XLT			LR	LR		
	comp=Z,6μm,19.1s					
GTK	**Tadong**	**48.78 312**	*e*P	**P**	**11 59 34.1**	**+0.5**
GTK			IAmb	IAmb	11 59 45.6	
	comp=Z,192nm,1.0s					
BOK	**Bokaro**	**49.09 306**	*e*P	**P**	**11 59 37.1**	**+1.2**
TEY	**Ternei**	**49.31 8**	⇓*e*P	**P**	**11 59 37.3**	**+0.2**
TEY			*e*		12 06 48.0	
TEY			pmax	pmax		
	comp=E,60nm,1.0s					
TEY			pmax	pmax		
	comp=Z,10.0nm,0.9s					
TEY			pmax	pmax		
	comp=N,10.0nm,0.9s					
TEY			pmax	pmax		
	comp=N,200nm,14.8s					
TEY			MLR	MLR		
	comp=E,200nm,15.0s					
TEY			MLR	MLR		
	comp=N,200nm,19.0s					
TEY			MLR	MLR		
	comp=Z,200nm,17.0s					
BNX	**BinXian**	**49.36 360**	P	**P**	**11 59 39.8**	**+2.3**
BNX			pP	**pwP**	**11 59 50.5**	**+0.9**
BNX			PP	**PP**	**12 01 36.5**	**+4.6**
BNX			S	**S**	**12 06 48.5**	**+6.4**
BNX			pmax	pmax		
	comp=Z,26nm,0.9s					
BNX			pmax	pmax		
	comp=Z,7μm,11.7s					
BNX			LR	LR		
	comp=Z,13μm,20.8s					
BNX			LR	LR		
	comp=Z,4μm,17.1s					
BNX			LR	LR		
	comp=Z,16μm,21.0s					
TAPN	**Taplejung**	**49.46 311**	*e*P	**P**	**11 59 39.3**	**+0.3**
	comp=Z,651nm,0.9s					
ASAJ	**Asahikawa**	**49.59 14**	P	**P**	**11 59 38.9**	**-0.4**
ASAJ	**Asahikawa**	**49.59 14**	P	**P**	**11 59 38.9**	**-0.4**
	comp=Z,58nm,0.9s,baz=242,slow=24,SNR=13					
	comp=Z,58nm,0.9s					
JKA	**Kamikawa-asahi**	**49.59 14**	P	**P**	**11 59 38.6**	**-0.7**
JKA			IAmb	IAmb	11 59 49.4	
	comp=Z,93nm,0.9s					
RAMN	**Ramite**	**50.09 310**	*e*P	**P**	**11 59 44.2**	**+0.4**
	comp=Z,792nm,0.9s					
GTA	**Gaotai**	**50.10 332**	⇑P	**P**	**11 59 42.8**	**-0.7**
GTA			pP	pP	11 59 52.0	-0.1
GTA			sP	pwP	11 59 57.0	+0.6
GTA			PcP	**PcP**	**12 01 05.3**	**+2.5**
GTA			sS	sS	12 07 08.5	+1.7
GTA			SS	**SS**	**12 10 21.3**	**-5.4**
GTA			pmax	pmax		
	comp=Z,63nm,1.1s					
GTA			pmax	pmax		
	comp=Z,2μm,5.8s					
GTA			LR	LR		
	comp=Z,5μm,20.0s					
GTA			LR	LR		
	comp=Z,3μm,17.8s					
GTA			LR	LR		
	comp=Z,6μm,21.8s					
GOMU	**GeErMu**	**50.29 325**	P	**P**	**11 59 46.8**	**+1.6**
GOMU			pP	pwP	11 59 58.5	+0.1
GOMU			sP	sP	12 00 03.0	+5.8
GOMU			S	**S**	**12 06 55.5**	**-0.7**
GOMU			pmax	pmax		
	comp=Z,15nm,1.3s					
GOMU			LR	LR		
	comp=Z,4μm,19.5s					
GOMU			LR	LR		
	comp=Z,2μm,22.0s					
GOMU			LR	LR		
	comp=Z,3μm,21.6s					
YUK	**Yuzh-Kuril'sk**	**50.39 17**	*e*P	**P**	**11 59 45.3**	**0.0**
YUK			*e*		12 01 03.6	
YUK			*e*		12 01 41.6	
YUK			*e*PPP	PPP	12 02 35.8	
YUK			*e*S	**S**	**12 06 56.3**	**-0.2**
YUK			*e*		12 09 34.0	
YUK			*e*SS	**SS**	**12 10 31.9**	**+1.1**
YUK			*e*SSS	SSS	12 11 59.4	
YUK			pmax	pmax		
	comp=Z,725nm,1.7s					
YUK			pmax	pmax		
	comp=Z,576nm,1.2s					
YUK			pmax	pmax		
	comp=N,327nm,1.1s					
YUK			pmax	pmax		
	comp=E,729nm,1.2s					
YUK			MLR	MLR		
	comp=Z,3μm,16.0s					
YUK			MLR	MLR		
	comp=N,2μm,17.0s					
EVN	**Everest**	**50.45 311**	⇑P	**P**	**11 59 47.0**	**+0.1**
EVN			⇑P	**P**	**11 59 47.1**	**+0.2**
YSA	**Yasawairara**	**50.60 108**	P	**P**	**11 59 49.2**	**+1.8**
JIRN	**Jiri**	**50.77 311**	*e*P	**P**	**11 59 49.3**	**+0.3**
	comp=N,498nm,1.0s					
GUN	**Gumba**	**51.14 311**	*e*P	**P**	**11 59 51.6**	**-0.1**
	comp=N,852nm,0.9s					
MSVF	**Nonsavu**	**51.21 110**	P	**P**	**11 59 53.2**	**+1.1**
MSVF	**Nonsavu**	**51.21 110**	P	**P**	**11 59 54.7**	**+2.5**
MSVF	**Nonsavu**	**51.21 110**	*c i*P	**P**	**11 59 53.5**	**+1.3**
MSVF			pmax	pmax		
	comp=Z,421nm,1.7s					
MSVF	**Nonsavu**	**51.21 110**	P	**P**	**11 59 52.7**	**+0.5**
	comp=Z,78nm,0.9s,baz=265,slow=6.9,SNR=44					
	comp=Z,78nm,0.9s					
PKI	**Pulchoki**	**51.32 310**	*e*P	**P**	**11 59 53.8**	**+0.7**
	comp=Z,437nm,1.2s					
PKIN	**Phulchoki**	**51.33 310**	*e*P	**P**	**11 59 53.2**	**+0.1**
	comp=Z,320nm,1.2s					
FUNA	**Funafuti**	**51.41 98**	P	**P**	**11 59 54.0**	**+0.4**
FUNA	**Funafuti**	**51.41 98**	P	**P**	**11 59 53.5**	**-0.2**
FUNA	**Funafuti**	**51.41 98**	⇑P	**P**	**11 59 53.4**	**-0.2**
DMN	**Daman**	**51.57 310**	*e*P	**P**	**11 59 54.7**	**-0.2**
	comp=Z,510nm,0.9s					
GKN	**Gorkha**	**52.13 310**	*e*P	**P**	**11 59 59.3**	**+0.4**
	comp=Z,533nm,1.0s					
YSS	**Yuzh-Sakhalins**	**52.30 13**	P	**P**	**11 59 59.3**	**-0.4**
YSS			IAmb	IAmb	12 00 19.3	
	comp=Z,219nm,1.6s					
YSS	**Yuzh-Sakhalins**	**52.30 13**	P	**P**	**12 00 03.4**	**+3.8**
YSS	**Yuzh-Sakhalins**	**52.30 13**	⇓P	**P**	**12 00 00.7**	**+1.0**
YSS	**Yuzh-Sakhalins**	**52.30 13**	*oe*P	**P**	**11 59 59.2**	**-0.4**
YSS			*e*		12 01 58.0	
YSS			*e*PPP	PPP	12 02 59.6	
YSS			*e*S	**S**	**12 07 20.3**	**-2.5**
YSS			*e*PS	**pS**	**12 07 36.6**	**+2.8**
YSS			pmax	pmax		
	comp=Z,60nm,0.9s					
YSS			MLR	MLR		
	comp=Z,6μm,20.0s					
YSS			MLR	MLR		
	comp=N,4μm,18.0s					
YSS			MLR	MLR		
	comp=E,3μm,17.0s					
DGTI	**Dogotuki**	**52.59 108**	P	**P**	**12 00 03.1**	**+0.7**
OUZ	**Omahuta**	**52.67 132**	IAMs_20	IAMs_20	12 22 43.3	
	comp=Z,11μm,19.0s					
OUZ	**Omahuta**	**52.67 132**	P	**P**	**12 00 05.5**	**+2.8**
OUZ	**Omahuta**	**52.67 132**	⇓P	**P**	**12 00 06.2**	**+3.5**
HYB	**Hyderabad**	**52.86 295**	*e*P	**P**	**12 00 03.1**	**-1.2**
HYB			IAmb	IAmb	12 00 14.0	
	comp=Z,205nm,0.8s					
HYB	**Hyderabad**	**52.86 295**	*i*		12 09 49.1	
HYB	**Hyderabad**	**52.86 295**	*e*P	**P**	**12 00 01.7**	**-2.6**
HYB	**Hyderabad**	**52.86 295**	*e*S	**S**	**12 07 29.4**	**-2.1**
DANN	**Dangsing**	**52.97 310**	*e*P	**P**	**12 00 05.1**	**-0.2**
	comp=Z,657nm,0.9s					
KLR	**Kul'dur**	**52.97 3**	P	**P**	**12 00 04.5**	**-0.1**
KLR					12 01 12.9	
KLR	**Kul'dur**	**52.97 3**	P	**P**	**12 00 04.5**	**-0.1**
	comp=Z,28nm,1.1s,baz=217,slow=6.0,SNR=24					
KLR			PcP	**PcP**	**12 01 12.8**	**-0.2**
	comp=Z,44nm,1.0s,baz=200,slow=5.5,SNR=7.1					
	comp=Z,28nm,1.1s					
TAVE	**Taveuni**	**52.99 108**	P	**P**	**12 00 07.9**	**+2.6**
HIA	**Hailar**	**53.34 354**	IAMs_20	IAMs_20	12 22 38.2	
	comp=Z,9μm,21.0s					
HIA	**Hailar**	**53.34 354**	P	**P**	**12 00 11.4**	**+4.1**
HIA	**Hailar**	**53.34 354**	*ce*P	**P**	**12 00 07.3**	**0.0**
HIA			pmax	pmax		
	comp=Z,117nm,2.3s					

PYUN	**Piuthan**	**53.44 309**	*e*P	**P**	**12 00 08.9**	**+0.2**
	comp=Z,820nm,1.3s					
WCZ	**Waipu Caves**	**53.53 133**	P	**P**	**12 00 11.8**	**+2.8**
MSZ	**Milford Sound**	**53.85 145**	P	**P**	**12 00 12.0**	**+0.8**
HEH	**HeiHe**	**53.88 360**	*e*P	**P**	**12 00 10.8**	**-0.4**
HEH			pP	**pP**	**12 00 20.0**	**-0.1**
HEH			ScP	**ScP**	**12 05 11.8**	**-0.5**
HEH			S	**S**	**12 07 41.8**	**-2.4**
HEH			sS	**sS**	**12 07 58.5**	**+0.2**
HEH			pmax	pmax		
	comp=Z,120nm,1.0s					
HEH			pmax	pmax		
	comp=Z,4μm,7.5s					
HEH			LR	LR		
	comp=Z,7μm,20.4s					
HEH			LR	LR		
	comp=Z,7μm,20.6s					
HEH			LR	LR		
	comp=Z,14μm,20.9s					
DCZ	**Deep Cove**	**53.91 146**	P	**P**	**12 00 11.8**	**+0.3**
DCZ			IAmb	IAmb	12 00 14.6	
	comp=Z,105nm,1.1s					
DCZ			IAMs_20	IAMs_20	12 22 05.5	
	comp=Z,10μm,20.0s					
DCZ	**Deep Cove**	**53.91 146**	P	**P**	**12 00 12.5**	**+1.0**
JCZ	**Jackson Bay**	**53.99 144**	P	**P**	**12 00 13.8**	**+1.4**
JCZ	**Jackson Bay**	**53.99 144**	P	**P**	**12 00 13.8**	**+1.4**
UGL	**Uglegorsk**	**54.17 12**	*e*P	**P**	**12 00 13.3**	**0.0**
UGL			*e*S	**S**	**12 07 50.2**	**+2.1**
UGL			pmax	pmax		
	comp=Z,6μm,6.0s					
UGL			pmax	pmax		
	comp=Z,240nm,1.0s					
UGL			MLR	MLR		
	comp=N,7μm,16.0s					
UGL			MLR	MLR		
	comp=E,5μm,17.0s					
UGL			MLR	MLR		
	comp=Z,9μm,17.0s					
FOZ	**Fox Glacier**	**54.29 143**	P	**P**	**12 00 14.6**	**+0.2**
FOZ			IAmb	IAmb	12 00 16.7	
	comp=Z,93nm,0.8s					
FOZ			IAMs_20	IAMs_20	12 23 09.7	
	comp=Z,10μm,20.0s					
FOZ	**Fox Glacier**	**54.29 143**	P	**P**	**12 00 14.6**	**+0.2**
MLZ	**Mavora Lakes**	**54.38 146**	P	**P**	**12 00 15.9**	**+0.8**
MLZ			IAMs_20	IAMs_20	12 21 19.1	
	comp=Z,14μm,22.0s					
MLZ	**Mavora Lakes**	**54.38 146**	P	**P**	**12 00 16.0**	**+0.9**
FUTU	**Fugatoga**	**54.42 105**	P	**P**	**12 00 19.3**	**+3.5**
QRZ	**Quartz Range**	**54.55 139**	P	**P**	**12 00 17.3**	**+1.0**
QRZ			IAmb	IAmb	12 00 19.3	
	comp=Z,104nm,0.7s					
QRZ			IAMs_20	IAMs_20	12 22 24.3	
	comp=Z,8μm,18.0s					
QRZ	**Quartz Range**	**54.55 139**	P	**P**	**12 00 17.1**	**+0.7**
DSZ	**Denniston Nort**	**54.55 140**	P	**P**	**12 00 16.2**	**-0.3**
DSZ			IAmb	IAmb	12 00 21.1	
	comp=Z,178nm,1.1s					
DSZ	**Denniston Nort**	**54.55 140**	P	**P**	**12 00 17.1**	**+0.7**
ULN	**Ulaanbaatar**	**54.57 343**	P	**P**	**12 00 16.6**	**0.0**
ULN			IAmb	IAmb	12 00 26.9	
	comp=Z,138nm,0.9s					
ULN	**Ulaanbaatar**	**54.57 343**	P	**P**	**12 00 16.4**	**-0.1**
ULN	**Ulaanbaatar**	**54.57 343**	⇑P	**P**	**12 00 16.2**	**-0.3**
ULN			⇓sP	**pP**	**12 00 25.5**	**+0.2**
ULN	**Ulaanbaatar**	**54.57 343**	*c i*P	**P**	**12 00 16.8**	**+0.3**
ULN			pmax	pmax		
	comp=Z,155nm,0.9s					
WKZ	**Wanaka**	**54.57 145**	IAMs_20	IAMs_20	12 22 35.1	
	comp=Z,8μm,20.0s					
WKZ	**Wanaka**	**54.57 145**	P	**P**	**12 00 17.2**	**+0.7**
WVZ	**Waitaha Valley**	**54.60 142**	P	**P**	**12 00 17.9**	**+1.3**
WHZ	**Wether Hill Ro**	**54.61 146**	P	**P**	**12 00 16.5**	**-0.2**
WHZ			IAmb	IAmb	12 00 19.0	
	comp=Z,251nm,1.1s					
WHZ			IAMs_20	IAMs_20	12 22 25.1	
	comp=Z,12μm,21.0s					
WHZ	**Wether Hill Ro**	**54.61 146**	P	**P**	**12 00 16.3**	**-0.4**
SONM	**Songino Array**	**54.74 343**	P	**P**	**12 00 17.9**	**+0.2**
SONM			IAmb	IAmb	12 00 31.6	
	comp=Z,126nm,1.1s					
SONM	**Songino Array**	**54.74 343**	P	**P**	**12 00 17.4**	**-0.3**
SONM					12 01 19.7	
SONM	**Songino Array**	**54.74 343**	P	**P**	**12 00 17.4**	**-0.3**
	comp=Z,48nm,1.0s,baz=159,slow=8.1,SNR=58					
SONM			PcP	**PcP**	**12 01 19.7**	**-0.3**
	comp=Z,33nm,1.0s,baz=138,slow=2.3,SNR=2.2					
SONM			ScP	**ScP**	**12 05 14.1**	**-2.3**
	comp=Z,2.9nm,0.9s,baz=192,slow=2.8,SNR=3.0					
SONM			P4KPbc		12 37 33.3	
	comp=Z,0.3nm,0.6s,baz=174,slow=2.6,SNR=1.8					
	comp=Z,48nm,1.0s					
KHEZ	**Kahui Hut**	**54.80 137**	P	**P**	**12 00 20.5**	**+2.2**
INZ	**Inchbonnie**	**54.84 141**	P	**P**	**12 00 18.6**	**+0.1**
INZ			IAmb	IAmb	12 00 22.6	
	comp=Z,118nm,0.9s					
INZ			IAMs_20	IAMs_20	12 24 48.2	
	comp=Z,10μm,19.0s					
INZ	**Inchbonnie**	**54.84 141**	P	**P**	**12 00 19.1**	**+0.6**
NEZ	**North Egmont**	**54.85 137**	P	**P**	**12 00 21.1**	**+2.5**
KUZ	**Kuaotunu**	**54.88 133**	P	**P**	**12 00 21.7**	**+2.9**
KUZ	**Kuaotunu**	**54.88 133**	P	**P**	**12 00 20.2**	**+1.4**
GRNR	**Gornyy**	**54.91 7**	⇓*i*P	**P**	**12 00 20.1**	**+1.3**
GRNR			pmax	pmax		
	comp=N,10.0nm,0.9s					
GRNR			pmax	pmax		
	comp=Z,30nm,1.0s					
GRNR			MLR	MLR		
	comp=E,2μm,19.0s					
GRNR			MLR	MLR		
	comp=N,3μm,20.0s					
GRNR			MLR	MLR		
	comp=Z,4μm,20.0s					
EAZ	**Earnscleugh**	**54.98 145**	P	**P**	**12 00 19.3**	**-0.1**
MRNZ	**Matariki Terra**	**54.99 139**	P	**P**	**12 00 20.2**	**+0.6**
LBZ	**Lake Benmore**	**55.00 144**	P	**P**	**12 00 19.5**	**-0.1**
LBZ			IAmb	IAmb	12 00 22.0	
	comp=Z,189nm,0.9s					
LBZ	**Lake Benmore**	**55.00 144**	P	**P**	**12 00 19.7**	**+0.1**
HIZ	**Hauiti**	**55.03 135**	P	**P**	**12 00 20.8**	**+0.9**
HIZ			IAmb	IAmb	12 00 26.8	
	comp=Z,150nm,1.2s					
HIZ	**Hauiti**	**55.03 135**	P	**P**	**12 00 21.4**	**+1.5**
RPZ	**Rata Peaks**	**55.14 143**	P	**P**	**12 00 21.0**	**+0.4**
RPZ	**Rata Peaks**	**55.14 143**	P	**P**	**12 00 21.6**	**+1.0**
RPZ	**Rata Peaks**	**55.14 143**	P	**P**	**12 00 20.5**	**-0.1**
	comp=Z,315nm,1.1s,baz=259,slow=1.7,SNR=60					
RPZ			S	**S**	**12 08 01.9**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=213,slow=19,SNR=1.2					
RPZ			LR	LR	12 24 00.5	
	comp=Z,11μm,20.3s,baz=310,slow=36					
	comp=Z,315nm,1.1s					
TOZ	**Tahuroa Road**	**55.14 134**	P	**P**	**12 00 21.6**	**+0.9**
TOZ			IAmb	IAmb	12 00 34.1	
	comp=Z,329nm,1.7s					
TOZ			IAMs_20	IAMs_20	12 23 07.8	
	comp=Z,8μm,18.0s					
TOZ	**Tahuroa Road**	**55.14 134**	P	**P**	**12 00 22.5**	**+1.9**
APZ	**The Paps**	**55.21 147**	P	**P**	**12 00 21.9**	**+0.8**
VRZ	**Vera Road**	**55.24 136**	P	**P**	**12 00 23.0**	**+1.6**
THZ	**Tophouse**	**55.27 140**	P	**P**	**12 00 21.3**	**-0.3**
THZ			IAmb	IAmb	12 00 27.4	
	comp=Z,83nm,0.8s					
THZ			IAMs_20	IAMs_20	12 22 56.3	
	comp=Z,11μm,20.0s					
THZ	**Tophouse**	**55.27 140**	P	**P**	**12 00 22.2**	**+0.5**
NNZ	**Nelson**	**55.30 139**	IAMs_20	IAMs_20	12 23 10.2	
	comp=Z,8μm,22.0s					
NNZ	**Nelson**	**55.30 139**	P	**P**	**12 00 20.7**	**-1.1**
LTZ	**Lake Taylor**	**55.39 141**	P	**P**	**12 00 22.7**	**+0.2**
LTZ			IAmb	IAmb	12 00 33.3	
	comp=Z,308nm,1.6s					
LTZ			IAMs_20	IAMs_20	12 22 55.6	
	comp=Z,11μm,21.0s					
LTZ	**Lake Taylor**	**55.39 141**	P	**P**	**12 00 23.0**	**+0.5**
TMZ	**Timaru**	**55.48 143**	P	**P**	**12 00 23.6**	**+0.5**
OXZ	**Oxford**	**55.53 142**	P	**P**	**12 00 23.6**	**+0.2**
OXZ			IAmb	IAmb	12 00 27.7	
	comp=Z,106nm,0.8s					
OXZ			IAMs_20	IAMs_20	12 25 10.4	
	comp=Z,11μm,18.0s					
OXZ	**Oxford**	**55.53 142**	P	**P**	**12 00 23.4**	**0.0**
TUZ	**Tuapeka**	**55.58 146**	P	**P**	**12 00 24.0**	**+0.3**
ODZ	**Otahua Downs**	**55.64 144**	P	**P**	**12 00 25.0**	**+0.9**
ODZ			IAMs_20	IAMs_20	12 28 00.3	
	comp=Z,9μm,18.0s					
ODZ	**Otahua Downs**	**55.64 144**	P	**P**	**12 00 23.6**	**-0.5**
ODZ	**Otahua Downs**	**55.64 144**	⇓P	**P**	**12 00 24.3**	**+0.2**
ODZ			⇑P	**P**	**12 00 25.1**	**+0.9**
SYZ	**Scrubby Hill**	**55.66 146**	P	**P**	**12 00 27.5**	**+3.3**
SYZ	**Scrubby Hill**	**55.66 146**	P	**P**	**12 00 24.6**	**+0.4**
WAZ	**Wanganui**	**55.68 137**	P	**P**	**12 00 26.2**	**+1.7**
MNCI	**Minicoy**	**55.77 283**	⇑P	**P**	**12 00 29.1**	**+3.5**
TUWZ	**Tuamarina**	**55.78 139**	P	**P**	**12 00 24.6**	**-0.6**
NGZ	**Ngauruhoe**	**55.85 136**	P	**P**	**12 00 26.6**	**+0.7**
BHPL	**Bhopal**	**55.88 301**	*e*P	**P**	**12 00 24.9**	**-1.4**
BHPL			IAmb	IAmb	12 00 36.1	
	comp=Z,241nm,1.1s					
TCW	**Tory Channel**	**55.89 139**	P	**P**	**12 00 24.9**	**-1.1**
OPRZ	**Ohinepanea**	**55.95 134**	P	**P**	**12 00 27.8**	**+1.4**
GVZ	**Greta Valley S**	**55.97 141**	P	**P**	**12 00 26.8**	**+0.3**
GVZ			IAMs_20	IAMs_20	12 23 34.9	
	comp=Z,9μm,20.0s					
GVZ	**Greta Valley S**	**55.97 141**	P	**P**	**12 00 27.3**	**+0.7**
TYV	**Tymovskoe**	**55.99 11**	*e*P	**P**	**12 00 26.3**	**-0.1**
TYV			*e*S	**S**	**12 08 12.3**	**-0.2**
TYV			pmax	pmax		
	comp=Z,49nm,1.0s					
TYV			pmax	pmax		
	comp=Z,2μm,3.4s					
TYV			smax	smax		
	comp=N,3μm,7.2s					
KHZ	**Kahutara**	**56.01 140**	P	**P**	**12 00 26.2**	**-0.6**
KHZ			IAmb	IAmb	12 00 29.0	
	comp=Z,108nm,0.9s					
KHZ			IAMs_20	IAMs_20	12 23 27.9	
	comp=Z,12μm,22.0s					
KHZ	**Kahutara**	**56.01 140**	P	**P**	**12 00 26.2**	**-0.6**
KHZ	**Kahutara**	**56.01 140**	⇑P	**P**	**12 00 26.0**	**-0.8**
KHZ			⇑P	pP	12 00 26.8	-8.8
HHSZ	**Highcliff Hill**	**56.09 145**	P	**P**	**12 00 28.8**	**+1.4**
CMWZ	**Cape Campbell**	**56.11 139**	P	**P**	**12 00 28.0**	**+0.4**
MQZ	**McQueen's Vall**	**56.12 142**	P	**P**	**12 00 27.7**	**+0.2**
MQZ			IAmb	IAmb	12 00 29.8	
	comp=Z,80nm,0.8s					
MQZ			IAMs_20	IAMs_20	12 25 36.8	
	comp=Z,8μm,18.0s					
MQZ	**McQueen's Vall**	**56.12 142**	P	**P**	**12 00 28.1**	**+0.6**
SNZO	**South Karori**	**56.22 138**	P	**P**	**12 00 27.7**	**-0.6**
SNZO			IAmb	IAmb	12 00 43.1	
	comp=Z,326nm,1.6s					
SNZO	**South Karori**	**56.22 138**	IAMs_20	IAMs_20	12 24 13.5	
	comp=Z,11μm,20.0s					
SNZO	**South Karori**	**56.22 138**	P	**P**	**12 00 29.5**	**+1.1**
SNZO	**South Karori**	**56.22 138**	⇑P	**P**	**12 00 27.3**	**-1.0**
SNZO			⇑P	**P**	**12 00 28.0**	**-0.4**
MUGZ	**Murupara**	**56.37 135**	P	**P**	**12 00 32.2**	**+2.7**
BHW	**Baring Head**	**56.38 138**	P	**P**	**12 00 28.4**	**-1.1**
BHW			IAmb	IAmb	12 00 30.8	
	comp=Z,211nm,1.3s					
BHW			IAMs_20	IAMs_20	12 24 16.7	
	comp=Z,11μm,19.0s					
BKZ	**Black Stump Fm**	**56.47 135**	P	**P**	**12 00 30.4**	**+0.2**
BKZ			IAmb	IAmb	12 00 34.8	
	comp=Z,121nm,0.8s					
BKZ	**Black Stump Fm**	**56.47 135**	P	**P**	**12 00 30.5**	**+0.2**
BKZ	**Black Stump Fm**	**56.47 135**	P	**P**	**12 00 29.3**	**-0.9**
TSZ	**Takapari Road**	**56.49 137**	P	**P**	**12 00 30.1**	**-0.2**
MRZ	**Mangatainoka R**	**56.50 137**	P	**P**	**12 00 29.7**	**-0.7**
MRZ			IAmb	IAmb	12 00 50.1	
	comp=Z,122nm,1.1s					
MRZ			IAMs_20	IAMs_20	12 24 19.9	
	comp=Z,11μm,19.0s					
MRZ	**Mangatainoka R**	**56.50 137**	P	**P**	**12 00 30.0**	**-0.4**
URZ	**Urewera**	**56.52 134**	P	**P**	**12 00 29.9**	**-0.7**
URZ	**Urewera**	**56.52 134**	⇑P	**P**	**12 00 29.7**	**-0.8**
URZ	**Urewera**	**56.52 134**	P	**P**	**12 00 30.6**	**0.0**
	comp=Z,36nm,0.6s,baz=22,slow=5.2,SNR=3.7					
	comp=Z,36nm,0.6s					
RTZ	**Ruatahuna**	**56.57 135**	P	**P**	**12 00 30.5**	**-0.5**
RTZ			IAmb	IAmb	12 00 36.1	
	comp=Z,136nm,1.0s					
RTZ	**Ruatahuna**	**56.57 135**	P	**P**	**12 00 31.4**	**+0.3**
HAZ	**Te Kaha**	**56.80 133**	P	**P**	**12 00 34.4**	**+1.9**
RAGZ	**Rawiri**	**56.83 134**	P	**P**	**12 00 32.3**	**-0.6**
MWZ	**Matawai**	**56.85 134**	P	**P**	**12 00 32.9**	**-0.1**
CIT	**Chita**	**56.93 350**	*e*P	**P**	**12 00 34.7**	**+1.5**
CIT			pmax	pmax		
	comp=Z,203nm,2.6s					
BFZ	**Birch Farm**	**56.97 137**	P	**P**	**12 00 33.6**	**-0.1**
BFZ	**Birch Farm**	**56.97 137**	P	**P**	**12 00 35.6**	**+1.9**
BFZ	**Birch Farm**	**56.97 137**	P	**P**	**12 00 33.4**	**-0.3**
MXZ	**Matakaoa Point**	**57.10 133**	IAMs_20	IAMs_20	12 25 11.6	
	comp=Z,9μm,21.0s					
MXZ	**Matakaoa Point**	**57.10 133**	P	**P**	**12 00 34.7**	**0.0**
TWGZ	**Tauwhareparae**	**57.11 134**	P	**P**	**12 00 35.4**	**+0.6**
RIGZ	**Rimuhau**	**57.17 134**	P	**P**	**12 00 36.7**	**+1.5**
KNZ	**Kokohu**	**57.24 135**	P	**P**	**12 00 35.2**	**-0.4**
PUZ	**Puketiti**	**57.27 134**	P	**P**	**12 00 35.3**	**-0.6**
WMGZ	**Waiomatatini S**	**57.28 133**	P	**P**	**12 00 36.1**	**+0.2**
ZEA	**Zeya**	**57.37 360**	*e*P	**P**	**12 00 36.1**	**-0.1**
ZEA			*e*		12 08 51.0	
ZEA			*e*		12 12 23.9	
ZEA			pmax	pmax		
	comp=N,30nm,0.9s					
ZEA			pmax	pmax		
	comp=Z,60nm,0.9s					
ZEA			pmax	pmax		
	comp=N,1μm,11.0s					
ZEA			pmax	pmax		
	comp=Z,2μm,8.6s					
ZEA			MLR	MLR		
	comp=N,3μm,18.0s					
ZEA			MLR	MLR		
	comp=Z,4μm,18.0s					
POO	**Poona**	**57.46 295**	*e*P	**P**	**12 00 35.5**	**-2.1**
POO			IAmb	IAmb	12 00 46.4	
	comp=Z,123nm,0.6s					
ZAK	**Zakamensk**	**57.95 342**	*e*P	**P**	**12 00 39.8**	**-0.7**
ZAK			pmax	pmax		
	comp=Z,46nm,1.4s					
NDI	**New Delhi**	**58.23 307**	*e*P	**P**	**12 00 42.0**	**-0.8**
IRK	**Irkutsk**	**59.29 344**	*e*P	**P**	**12 00 51.2**	**+1.5**
IRK			pmax	pmax		
	comp=Z,356nm,2.4s					
SMLA	**Simla**	**59.33 310**	*e*P	**P**	**12 00 50.0**	**-0.4**
SMLA			IAmb	IAmb	12 01 01.0	
	comp=Z,352nm,0.9s					
WMQ	**Urumqi**	**59.49 327**	⇑P	**P**	**12 00 51.0**	**-0.4**
WMQ			pP	pP	12 01 00.3	+0.2
WMQ			PP	**PP**	**12 03 06.8**	**+3.8**
WMQ			S	**S**	**12 08 58.3**	**-0.6**
WMQ			sS	sS	12 09 13.0	-0.7
WMQ			pmax	pmax		
	comp=Z,120nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,2μm,6.1s					
WMQ			LR	LR		
	comp=Z,3μm,20.9s					
WMQ			LR	LR		
	comp=Z,3μm,25.3s					
WMQ			LR	LR		
	comp=Z,5μm,29.1s					
MOY	**Mondy**	**59.78 341**	*e*P	**P**	**12 00 53.1**	**-0.1**
MOY			pmax	pmax		
	comp=Z,344nm,3.2s					
DHRM	**DHARAMSHALA**	**60.49 310**	*e*P	**P**	**12 00 57.5**	**-1.1**
DHRM			IAmb	IAmb	12 01 10.2	
	comp=Z,265nm,0.8s					
AFI	**Afiamalu**	**60.52 104**	P	**P**	**12 01 00.1**	**+1.2**
AFI			IAmb	IAmb	12 01 12.4	
	comp=Z,106nm,1.0s					
AFI	**Afiamalu**	**60.52 104**	P	**P**	**12 01 00.1**	**+1.2**
AFI			pmax	pmax		
	comp=Z,106nm,1.0s					
PEA0B	**Petropavlovsk-**	**62.11 20**	P	**P**	**12 01 09.1**	**+0.2**
PEA0B	**Petropavlovsk-**	**62.11 20**	⇓*e*P	**P**	**12 01 09.8**	**+0.9**
PETK	**Petropavlovsk-**	**62.11 20**	P	**P**	**12 01 09.3**	**+0.4**
PETK	**Petropavlovsk-**	**62.11 20**	P	**P**	**12 01 08.9**	**0.0**
PETK					12 01 49.2	
PETK	**Petropavlovsk-**	**62.11 20**	P	**P**	**12 01 08.8**	**0.0**
	comp=Z,180nm,1.0s,baz=209,slow=6.2,SNR=42					
PETK			PcP	**PcP**	**12 01 49.2**	**+0.2**
	comp=Z,36nm,0.9s,baz=212,slow=1.7,SNR=4.9					
	comp=Z,180nm,1.0s					
PET	**Petropavlovsk**	**62.37 21**	P	**P**	**12 01 11.0**	**+0.4**
PET	**Petropavlovsk**	**62.37 21**	P	**P**	**12 01 12.3**	**+1.7**
PET	**Petropavlovsk**	**62.37 21**	*e*P	**P**	**12 01 10.7**	**+0.1**
PET			*e**PP	**sP**	**12 01 20.5**	**-2.2**
PET			*e*		12 03 29.8	
PET			*e*S	**S**	**12 09 35.9**	**+0.8**
PET			*e*SS	**SS**	**12 13 45.2**	**+6.0**
PET			pmax	pmax		
	comp=Z,397nm,1.1s					
PET			pmax	pmax		
	comp=Z,3μm,21.0s					
PET			MLR	MLR		
	comp=Z,4μm,22.0s					
BOD	**Bodaibo**	**62.44 352**	*e*P	**P**	**12 01 10.6**	**-0.4**
BOD			pmax	pmax		
	comp=Z,230nm,1.4s					
BHUJ	**Bhuj**	**62.61 299**	*e*P	**P**	**12 01 12.7**	**-0.1**
CTZ	**Chatham Island**	**63.05 138**	P	**P**	**12 01 16.5**	**+1.1**
CTZ			IAmb	IAmb	12 01 18.8	
	comp=Z,107nm,1.1s					
CTZ			IAMs_20	IAMs_20	12 27 54.3	
	comp=Z,9μm,20.0s					
CTZ	**Chatham Island**	**63.05 138**	P	**P**	**12 01 17.0**	**+1.6**
CTZ	**Chatham Island**	**63.05 138**	P	**P**	**12 01 16.3**	**+0.9**
ZSN	**Zaisan**	**63.38 329**	*e*P	**P**	**12 01 17.4**	**-0.1**
	comp=Z,66nm,0.9s,baz=329					
ZSN	**Zaisan**	**63.38 329**	*e*P	**P**	**12 01 17.4**	**-0.1**
ZSN			pmax	pmax		
	comp=Z,66nm,0.9s					
NIL	**Nilore**	**63.40 311**	P	**P**	**12 01 16.9**	**-1.1**
NIL			IAmb	IAmb	12 01 27.8	
	comp=Z,89nm,0.8s					
NIL	**Nilore**	**63.40 311**	P	**P**	**12 01 16.9**	**-1.1**
NIL			pmax	pmax		
	comp=Z,89nm,0.8s					
CASY	**Casey**	**63.48 188**	P	**P**	**12 01 18.2**	**+0.4**
CASY			IAmb	IAmb	12 01 29.0	
	comp=Z,144nm,0.9s					
CASY	**Casey**	**63.48 188**	IAMs_20	IAMs_20	12 27 13.4	
	comp=Z,10μm,20.0s					
DGZ	**Jazzator, Alta**	**63.64 332**	*c i*P	**P**	**12 01 19.3**	**0.0**
DGZ			pmax	pmax		
	comp=Z,118nm,0.9s					
SHLS	**Shalkode**	**63.81 323**	*e*P	**P**	**12 01 18.5**	**-2.0**
	comp=Z,106nm,0.7s,baz=323					
SHLS			*i* S	**S**	**12 09 50.6**	**-3.2**
	baz=323					
SHLS			*e*S	S	12 09 50.7	-3.0
	baz=323					
SHLS	**Shalkode**	**63.81 323**	*e*P	**P**	**12 01 18.5**	**-2.0**
SHLS			*e*S	**S**	**12 09 50.7**	**-3.1**
SHLS			pmax	pmax		
	comp=Z,106nm,0.7s					
PDGK	**Podgornoye**	**63.89 323**	P	**P**	**12 01 20.2**	**-0.9**
TARG	**Taragay, Kyrgy**	**64.06 320**	P	**P**	**12 01 22.3**	**-0.3**
TARG			IAmb	IAmb	12 01 42.4	
	comp=Z,158nm,1.2s					
TARG	**Taragay, Kyrgy**	**64.06 320**	P	**P**	**12 01 22.3**	**-0.3**
TARG			pmax	pmax		
	comp=Z,158nm,1.2s					
UZB	**Uzynbulak**	**64.07 322**	*e*P	**P**	**12 01 21.5**	**-0.9**
	comp=Z,77nm,0.9s,baz=322					
UZB			*e*S	**S**	**12 09 56.8**	**-0.2**
	baz=322					
UZB	**Uzynbulak**	**64.07 322**	*e*P	**P**	**12 01 21.4**	**-0.9**
UZB			*e*S	**S**	**12 09 56.8**	**-0.2**
UZB			pmax	pmax		
	comp=Z,77nm,0.9s					
PRZ	**Przheval'sk**	**64.09 321**	P	**P**	**12 01 22.9**	**+0.4**
PRZ			IAmb	IAmb	12 01 33.3	
	comp=Z,124nm,1.0s					
PRZ	**Przheval'sk**	**64.09 321**	P	**P**	**12 01 22.9**	**+0.4**
PRZ			pmax	pmax		
	comp=Z,124nm,1.0s					
KSH	**Kashi**	**64.13 318**	P	**P**	**12 01 23.5**	**+0.8**
KSH			pP	sP	12 01 32.5	-2.4
KSH			sP	pwP	12 01 39.5	+3.3
KSH			PcP	**PcP**	**12 02 01.3**	**+3.6**
KSH			PP	**PP**	**12 03 49.3**	**+5.2**
KSH			S	**S**	**12 10 00.5**	**+2.6**
KSH			pmax	pmax		
	comp=Z,55nm,1.1s					
KSH			pmax	pmax		
	comp=Z,2μm,10.0s					
KSH			LR	LR		
	comp=Z,2μm,21.8s					
KSH			LR	LR		
	comp=Z,2μm,20.3s					
KSH			LR	LR		
	comp=Z,4μm,21.6s					
MK31	**Makanchi Array**	**64.32 327**	P	**P**	**12 01 23.2**	**-0.5**
MK31	**Makanchi Array**	**64.32 327**	P	**P**	**12 01 23.2**	**-0.5**
MK31			pmax	pmax		
	comp=Z,158nm,0.9s					
MKAR	**Makanchi Array**	**64.32 327**	P	**P**	**12 01 23.0**	**-0.7**
MKAR	**Makanchi Array**	**64.32 327**	P	**P**	**12 01 23.0**	**-0.7**
MKAR			S	**S**	**12 09 56.5**	**-3.3**
MKAR	**Makanchi Array**	**64.32 327**	P	**P**	**12 01 23.0**	**-0.7**
	comp=Z,20nm,0.5s,baz=128,slow=7.9,SNR=73					
MKAR			S	**S**	**12 09 56.5**	**-3.3**
	comp=Z,0.4nm,0.5s,baz=197,slow=42,SNR=1.7					
MKAR			PKP2bc		12 30 18.2	
	comp=Z,2.0nm,0.9s,baz=273,slow=4.4,SNR=5.0					
	comp=Z,20nm,0.5s					
SATY	**Saty**	**64.40 322**	⇑*i*P	**P**	**12 01 24.1**	**-0.4**
	comp=Z,149nm,0.9s,baz=322					
SATY			*e*S	**S**	**12 10 01.4**	**+0.3**
	baz=322					
SATY	**Saty**	**64.40 322**	*c i*P	**P**	**12 01 24.1**	**-0.4**
SATY			*e*S	**S**	**12 10 01.4**	**+0.3**
SATY			pmax	pmax		
	comp=Z,149nm,0.9s					
ZHN	**Zhinishke**	**64.44 322**	*e*P	**P**	**12 01 24.7**	**0.0**
	baz=322					
ZHN	**Zhinishke**	**64.44 322**	*e*P	**P**	**12 01 24.7**	**0.0**
KPKS	**Kokpek**	**64.45 322**	*e*P	**P**	**12 01 24.1**	**-0.6**
	comp=Z,102nm,0.8s,baz=322					
KPKS			*e*S	**S**	**12 10 01.7**	**0.0**
	baz=322					
KPKS	**Kokpek**	**64.45 322**	*e*P	**P**	**12 01 24.1**	**-0.6**
KPKS			*e*S	**S**	**12 10 01.6**	**0.0**
KPKS			pmax	pmax		
	comp=Z,102nm,0.8s					
MAKZ	**Makanchi**	**64.50 327**	P	**P**	**12 01 24.0**	**-0.9**
MAKZ	**Makanchi**	**64.50 327**	P	**P**	**12 01 24.1**	**-0.8**
NRN	**Naryn**	**65.07 319**	P	**P**	**12 01 28.1**	**-1.0**
NRN			IAmb	IAmb	12 01 39.1	
	comp=Z,62nm,0.9s					
NRN	**Naryn**	**65.07 319**	P	**P**	**12 01 28.1**	**-1.0**
NRN			pmax	pmax		
	comp=Z,62nm,0.9s					
TNSS	**Tian-Shan**	**65.29 321**	*e*P	**P**	**12 01 30.3**	**-0.3**
	baz=321					
TNSS	**Tian

YAK				*e*			12 03 59.6
YAK				*e*S		**S**	**12 10 15.3 -0.7**
YAK				*e**SS		**sS**	**12 10 33.5 +2.4**
YAK				*e*			12 11 23.5
YAK				pmax	pmax		
	comp=Z,387nm,1.0s						
YAK				pmax	pmax		
	comp=E,23nm,1.1s						
YAK				pmax	pmax		
	comp=N,81nm,1.0s						
YAK				pmax	pmax		
	comp=Z,280nm,2.6s						
YAK				smax	smax		
	comp=E,721nm,3.0s						
YAK				smax	smax		
	comp=N,373nm,3.1s						
YAK				MLR	MLR		
	comp=Z,7μm,20.0s						
YAK				MLR	MLR		
	comp=N,5μm,18.0s						
YAK				MLR	MLR		
	comp=E,2μm,16.0s						
MA2	**Magadan**	**65.81**	**13**	P	**P**		**12 01 34.1 +1.1**
MA2	**Magadan**	**65.81**	**13**	‖*i*P	**P**		**12 01 34.2 +1.2**
MA2				pmax	pmax		
	comp=Z,161nm,1.3s						
MA2	**Magadan**	**65.81**	**13**	P	**P**		**12 01 32.2 -0.9**
	comp=Z,65nm,1.0s,baz=163,slow=5.8,SNR=7.1						
	comp=Z,65nm,1.0s						
TKM2	**Tokmak 2**	**66.08 321**		P	**P**		**12 01 34.9 -0.6**
	SNR=23						
TKM2	**Tokmak 2**	**66.08 321**		*i*P	**P**		**12 01 34.6 -0.9**
TKM2				pmax	pmax		
	comp=Z,123nm,0.8s						
KUU	**Kurty**	**66.12 322**		*e*P	**P**		**12 01 34.9 -0.6**
	baz=322						
KUU				*e*S	**S**		**12 10 22.6 +0.7**
	baz=322						
KUU	**Kurty**	**66.12 322**		*e*P	**P**		**12 01 34.8 -0.6**
KUU				*e*S	**S**		**12 10 22.6 +0.7**
KBK	**Karagaybulak**	**66.36 320**		P	**P**		**12 01 39.4 +2.2**
	SNR=10						
AAK	**Ala-Archa**	**66.64 320**		P	**P**		**12 01 39.1 +0.1**
	SNR=17						
AAK	**Ala-Archa**	**66.64 320**		P	**P**		**12 01 39.1 +0.1**
AAK				IAmb	IAmb		12 01 49.6
	comp=Z,102nm,0.9s						
AAK	**Ala-Archa**	**66.64 320**		*i*P	**P**		**12 01 39.1 +0.1**
	SNR=18						
AAK	**Ala-Archa**	**66.64 320**		P	**P**		**12 01 39.9 +0.9**
AAK	**Ala-Archa**	**66.64 320**		P	**P**		**12 01 39.1 +0.1**
AAK				pmax	pmax		
	comp=Z,102nm,1.0s						
CHMS	**Chumysh**	**66.66 320**		P	P		12 01 47.7 +8.8
	SNR=6.7						
AML	**Almayashu**	**66.91 319**		P	**P**		**12 01 40.8 -0.2**
	SNR=58						
AML	**Almayashu**	**66.91 319**		*i*P	**P**		**12 01 40.5 -0.5**
AML				pmax	pmax		
	comp=Z,30nm,1.0s						
USP	**Ospenovka**	**66.95 321**		P	**P**		**12 01 40.3 -0.5**
	SNR=43						
SGDS	**Sogindy**	**66.96 321**		*e*P	**P**		**12 01 39.8 -1.1**
	baz=321						
SGDS				*e*S	**S**		**12 10 31.8 -0.4**
	baz=321						
SGDS	**Sogindy**	**66.96 321**		*e*P	**P**		**12 01 39.7 -1.1**
SGDS				*e*S	**S**		**12 10 31.8 -0.4**
KBL	**Kabul**	**66.96 310**		P	**P**		**12 01 40.6 -0.7**
KBL				IAmb	IAmb		12 02 00.0
	comp=Z,97nm,0.9s						
KBL	**Kabul**	**66.96 310**		P	**P**		**12 01 41.3 0.0**
	SNR=49						
KBL	**Kabul**	**66.96 310**		P	**P**		**12 01 40.6 -0.7**
KBL				pmax	pmax		
	comp=Z,97nm,0.9s						
EKS2	**Erkin-Say**	**67.11 320**		P	**P**		**12 01 41.9 0.0**
	SNR=42						
SEM	**Semipalatinsk**	**67.61 329**		*e*P	**P**		**12 01 44.0 -1.0**
	baz=329						
SEM	**Semipalatinsk**	**67.61 329**		*e*P	**P**		**12 01 44.0 -1.0**
ZAA0	**Zalesovo Array**	**67.74 334**		P	**P**		**12 01 43.9 -1.6**
ZALV	**Zalesovo Beam**	**67.74 334**		P	**P**		**12 01 43.9 -1.6**
ZALV	**Zalesovo Beam**	**67.74 334**		P	**P**		**12 01 43.8 -1.7**
ZALV				S	**S**		**12 10 37.3 -3.7**
ZALV	**Zalesovo Beam**	**67.74 334**		P	**P**		**12 01 43.8 -1.7**
	comp=Z,82nm,1.1s,baz=108,slow=4.8,SNR=58						
ZALV				S	**S**		**12 10 37.3 -3.7**
	comp=Z,3.9nm,0.8s,baz=72,slow=4.8,SNR=4.7						
ZALV				PKP2bc			12 30 07.3
	comp=Z,4.2nm,0.9s,baz=249,slow=2.5,SNR=5.7						
	comp=Z,82nm,1.1s						
BTK	**Batken**	**67.90 316**		P	**P**		**12 01 46.2 -0.7**
BTK				IAmb	IAmb		12 02 05.5
	comp=Z,73nm,0.9s						
BTK	**Batken**	**67.90 316**		P	**P**		**12 01 46.2 -0.7**
BTK				pmax	pmax		
	comp=Z,73nm,1.0s						
BTLS	**Baital**	**68.12 322**		*e*P	**P**		**12 01 46.8 -1.3**
	baz=322						
BTLS	**Baital**	**68.12 322**		*e*P	**P**		**12 01 46.8 -1.3**
KURBB	**Kurchatov Arra**	**68.62 329**		P	**P**		**12 01 50.0 -1.1**
	comp=Z,76nm,1.0s,baz=128,slow=5.5,SNR=98						
KURBB				PKP2bc			12 30 05.5
	comp=Z,2.7nm,0.9s,baz=303,slow=3.4,SNR=7.8						
	comp=Z,76nm,1.0s						
KURK	**Kurchatov**	**68.62 329**		P	**P**		**12 01 50.5 -0.7**
KURK	**Kurchatov**	**68.62 329**		P	**P**		**12 01 50.4 -0.7**
KURK				P	**P**		**12 01 50.4 -0.7**
KURK	**Kurchatov**	**68.62 329**		P	**P**		**12 01 50.5 -0.7**
DZA	**Taraz**	**68.81 319**		*e*P	**P**		**12 01 52.1 -0.4**
	baz=319						
DZA	**Taraz**	**68.81 319**		*e*P	**P**		**12 01 52.1 -0.4**
SEY	**Seymchan**	**69.18**	**12**	P	**P**		**12 01 54.6 +0.3**
SEY	**Seymchan**	**69.18**	**12**	P	**P**		**12 01 54.6 +0.3**
	comp=Z,116nm,0.9s,baz=214,slow=4.6,SNR=62						
	comp=Z,116nm,0.9s						
IUG	**Iuzhnay**	**69.34 318**		*e*P	**P**		**12 01 55.6 -0.3**
	comp=Z,70nm,0.8s,baz=318						
IUG	**Iuzhnay**	**69.34 318**		*e*P	**P**		**12 01 55.6 -0.3**
IUG				pmax	pmax		
	comp=Z,69nm,0.8s						
KK31	**Karatay Array**	**69.44 319**		P	**P**		**12 01 56.2 -0.2**
KK31	**Karatay Array**	**69.44 319**		P	**P**		**12 01 56.2 -0.2**
KK31				pmax	pmax		
	comp=Z,176nm,1.0s						
KKAR	**Karatay Array**	**69.44 319**		P	**P**		**12 01 56.0 -0.4**
KKAR	**Karatay Array**	**69.44 319**		P	**P**		**12 01 56.0 -0.4**
OTUK	**Ortayu**	**70.73 324**		P	**P**		**12 02 03.0 -1.2**
BRZS	**Berezniki**	**71.41 326**		*e*P	**P**		**12 02 07.2 -1.0**
	baz=326						
BRZS				*e*S	**S**		**12 11 24.3 -0.1**
	baz=326						
BRZS	**Berezniki**	**71.41 326**		*e*P	**P**		**12 02 07.2 -1.0**
BRZS				*e*S	**S**		**12 11 24.3 -0.1**
JLN	**Jalan Bani Buh**	**71.47 295**		P	**P**		**12 02 08.1 -1.0**
	SNR=33						
MSEY	**Mahe Island**	**71.96 266**		P	**P**		**12 02 12.6 +0.2**
MSEY	**Mahe Island**	**71.96 266**		P	**P**		**12 02 12.6 +0.2**
MSEY				pmax	pmax		
	comp=Z,105nm,1.7s						
WBK	**Wadi Bani Khal**	**71.96 295**		P	**P**		**12 02 11.7 -0.5**
	SNR=19						
HRA	**Herat**	**72.19 308**		P	**P**		**12 02 13.1 -0.4**
WSAR	**Wadi Sarin**	**72.40 296**		P	**P**		**12 02 14.5 -0.3**
	SNR=29						
KIWB	**Kanaga Island**	**72.47**	**32**	P	**P**		**12 02 14.3 -0.3**
MHTO	**MHTO**	**72.55 293**		P	**P**		**12 02 13.8 -1.8**
	SNR=43						
JMDO	**Jabal Madar**	**72.70 295**		P	**P**		**12 02 16.9 +0.4**
	SNR=44						
ADK	**Adak**	**72.74**	**32**	IAMs_20	IAMs_20		12 33 23.3
	comp=Z,5μm,20.0s						
ADK	**Adak**	**72.74**	**32**	P	**P**		**12 02 15.8 -0.3**
DQM	**DQM**	**72.74 292**		P	**P**		**12 02 15.0 -1.8**
	SNR=17						
SMDO	**Samad**	**72.89 295**		P	**P**		**12 02 16.7 -1.1**
	SNR=45						
BIDO	**Bidbid**	**72.91 296**		P	**P**		**12 02 17.0 -0.8**
	SNR=34						
BSY	**Bisya**	**73.59 295**		P	**P**		**12 02 21.2 -0.6**
	SNR=28						
JASK	**Jask - Hormozg**	**73.64 298**		P	**P**		**12 02 22.8 +0.7**
	SNR=7.6						
HOQ	**Hoqain**	**73.66 296**		P	**P**		**12 02 21.6 -0.6**
	SNR=37						
BVA0	**Borovoye Array**	**74.17 328**		*i*P	**P**		**12 02 22.7 -1.8**
BVAR	**Borovoye Array**	**74.17 328**		P	**P**		**12 02 23.3 -1.2**
BVAR	**Borovoye Array**	**74.17 328**		P	**P**		**12 02 23.3 -1.2**
	comp=Z,47nm,0.9s,baz=131,slow=6.7,SNR=51						
BVAR				PP	**PP**		**12 05 10.7 +0.2**
	comp=Z,2.9nm,0.6s,baz=99,slow=9.2,SNR=1.3						
BVAR				S	**SKiKP**		**12 11 48.1 -2.0**
	comp=Z,0.5nm,0.5s,baz=218,slow=43,SNR=1.2						
	comp=Z,47nm,0.9s						
SHAO	**Shalim**	**74.20 290**		*i*P	**P**		**12 02 24.2 -1.2**
	SNR=12						
SHAO	**Shalim**	**74.20 290**		P	**P**		**12 02 24.6 -0.8**
	SNR=16						
ATKA	**Atka Island**	**74.23**	**33**	P	**P**		**12 02 24.0 -0.9**
ATKA				IAmb	IAmb		12 02 34.7
	comp=Z,148nm,0.8s						
ATKA	**Atka Island**	**74.23**	**33**	P	**P**		**12 02 27.7 +2.8**
BRVK	**Borovoye**	**74.24 328**		P	**P**		**12 02 23.9 -1.0**
BRVK				IAmb	IAmb		12 02 34.7
	comp=Z,141nm,1.1s						
BRVK	**Borovoye**	**74.24 328**		P	**P**		**12 02 23.9 -1.0**
BRVK	**Borovoye**	**74.24 328**	*c*	*i*P	**P**		**12 02 24.4 -0.5**
BRVK				pmax	pmax		
	comp=Z,152nm,1.1s						
ARQ	**Araqi**	**74.32 295**		P	**P**		**12 02 25.1 -1.0**
	SNR=27						
SOHO	**SOHO**	**74.47 296**		*i*P	**P**		**12 02 25.5 -1.4**
	SNR=18						
SOHO	**SOHO**	**74.47 296**		P	**P**		**12 02 25.7 -1.2**
DMTO	**DMTO**	**74.78 289**		P	**P**		**12 02 27.5 -1.3**
	SNR=6.8						
MDH	**Madha**	**74.91 297**		P	**P**		**12 02 27.5 -1.9**
MDH	**Madha**	**74.91 297**		P	**P**		**12 02 27.6 -1.9**
UOSS	**Minazif**	**74.92 297**		P	**P**		**12 02 28.3 -1.2**
UOSS	**Minazif**	**74.92 297**		*i*P	**P**		**12 02 27.6 -1.9**
	SNR=13						
UOSS	**Minazif**	**74.92 297**		P	**P**		**12 02 28.3 -1.2**
HATD	**Hatta, Dubai**	**74.96 297**		*i*P	**P**		**12 02 28.6 -1.2**
	SNR=18						
HATD	**Hatta, Dubai**	**74.96 297**		P	**P**		**12 02 29.1 -0.6**
	SNR=17						
ASHO	**Ashiyiah**	**75.00 297**		*i*P	**P**		**12 02 28.6 -1.4**
	SNR=21						
ASHO	**Ashiyiah**	**75.00 297**		P	**P**		**12 02 29.7 -0.3**
	SNR=18						
MSFE	**Esma-Masafi**	**75.04 297**		*i*P	**P**		**12 02 29.2 -1.0**
	SNR=20						
MASF	**Masafi**	**75.05 297**		P	**P**		**12 02 30.9 +0.6**
	SNR=23						
XMAS	**Kiritimati**	**75.08**	**87**	P	**P**		**12 02 32.4 +1.8**
ALNE	**Al Ain**	**75.15 296**		*i*P	**P**		**12 02 30.1 -0.8**
	SNR=12						
ALNE	**Al Ain**	**75.15 296**		P	**P**		**12 02 30.6 -0.3**
	SNR=49						
SHME	**Shamm**	**75.20 298**		*i*P	**P**		**12 02 30.1 -1.0**
	SNR=16						
SHME	**Shamm**	**75.20 298**		P	**P**		**12 02 30.9 -0.2**
	SNR=20						
TIXI	**Tiksi**	**75.35**	**0**	P	**P**		**12 02 30.1 -0.9**
TIXI				IAmb	IAmb		12 02 40.8
	comp=Z,113nm,0.9s						
TIXI	**Tiksi**	**75.35**	**0**	⇑P	**P**		**12 02 30.3 -0.7**
TIXI				*e*			12 02 41.4
NAZ	**Nazwa, Dubai**	**75.41 297**		*i*P	**P**		**12 02 31.8 -0.6**
	SNR=7.4						
NAZ	**Nazwa, Dubai**	**75.41 297**		P	**P**		**12 02 31.7 -0.6**
	SNR=24						
FAQ	**Al Faqa, Dubai**	**75.43 297**		*i*P	**P**		**12 02 31.2 -1.3**
	SNR=35						
FAQ	**Al Faqa, Dubai**	**75.43 297**		P	**P**		**12 02 31.2 -1.3**
	SNR=42						
RBK	**Rabkut**	**75.45 289**		P	**P**		**12 02 31.6 -1.1**
	SNR=17						
UMQ	**Umm Al-Quwin**	**75.52 297**		*i*P	**P**		**12 02 32.5 -0.4**
	SNR=8.2						
ASUD	**Al Ashush, Dub**	**75.64 296**		*i*P	**P**		**12 02 31.0 -2.7**
	SNR=21						
ASUD	**Al Ashush, Dub**	**75.64 296**		P	**P**		**12 02 33.0 -0.6**
	SNR=28						
DOK	**Doka**	**75.69 290**		P	**P**		**12 02 32.4 -1.6**
	SNR=16						
VNDA	**Vanda**	**75.85 173**		P	**P**		**12 02 33.5 -0.4**
VNDA	**Vanda**	**75.85 173**		P	**P**		**12 02 33.5 -0.4**
VNDA				pmax	pmax		
	comp=Z,46nm,1.0s						
VNDA	**Vanda**	**75.85 173**		P	**P**		**12 02 33.0 -0.9**
	comp=Z,20nm,0.8s,baz=312,slow=6.3,SNR=73						
VNDA				PP	**PP**		**12 05 23.7 -0.4**
	comp=Z,3.8nm,0.9s,baz=310,slow=10,SNR=1.2						
VNDA				LR	LR		12 36 17.1
	comp=Z,9μm,18.3s,baz=339,slow=36						
	comp=Z,20nm,0.8s						
WHFO	**Wadi Hawf**	**75.92 289**		P	**P**		**12 02 33.7 -1.7**
	SNR=18						
AJN	**Ajban**	**75.93 296**		*i*P	**P**		**12 02 33.4 -1.9**
	SNR=20						
AJN	**Ajban**	**75.93 296**		P	**P**		**12 02 34.6 -0.7**
	SNR=19						
ABTO	**Aybut**	**76.28 289**		P	**P**		**12 02 36.2 -1.3**
	SNR=19						
GEYT	**Alibeck**	**76.41 310**		P	**P**		**12 02 37.3 -0.5**
GEYT	**Alibeck**	**76.41 310**		P	**P**		**12 02 37.4 -0.5**
GEYT	**Alibeck**	**76.41 310**		P	**P**		**12 02 37.4 -0.4**
	comp=Z,29nm,0.9s,baz=123,slow=5.5,SNR=33						
GEYT				S	**S**		**12 12 19.4 -1.8**
	comp=Z,1.1nm,0.4s,baz=64,slow=44,SNR=1.2						
	comp=Z,29nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**76.41 310**		P	**P**		**12 02 37.4 -0.4**
GYA0B				IAmb	IAmb		12 02 53.9
	comp=Z,112nm,0.9s						
SBA	**Scott Base**	**76.76 172**		P	**P**		**12 02 39.7 +0.7**
SBA				IAmb	IAmb		12 02 52.2
	comp=Z,136nm,1.3s						
SBA	**Scott Base**	**76.76 172**		P	**P**		**12 02 39.7 +0.7**
SBA				pmax	pmax		
	comp=Z,136nm,1.3s						
SBA				MLR	MLR		
	comp=Z,7μm,18.0s						
CLES	**Cleveland East**	**76.86**	**34**	IAMs_20	IAMs_20		12 30 22.4
	comp=Z,7μm,22.0s						
KIP	**Kipapa**	**76.88**	**67**	P	**P**		**12 02 42.4 +1.7**
MZR	**Muzera**	**77.01 295**		*i*P	**P**		**12 02 37.6 -3.9**
	SNR=20						
MZR	**Muzera**	**77.01 295**		P	**P**		**12 02 41.0 -0.5**
	SNR=46						
MAW	**Mawson**	**77.04 201**		P	**P**		**12 02 40.1 -0.6**
	baz=77,SNR=28						
MAW	**Mawson**	**77.04 201**		P	**P**		**12 02 40.7 0.0**
MAW	**Mawson**	**77.04 201**		P	**P**		**12 02 40.7 0.0**
MAW				pmax	pmax		
	comp=Z,19nm,1.4s						
MAW	**Mawson**	**77.04 201**		P	**P**		**12 02 40.3 -0.4**
	comp=Z,9.0nm,0.8s,baz=90,slow=3.9,SNR=25						
	comp=Z,9.0nm,0.8s						
NIKH	**Nikolski High**	**77.50**	**34**	P	**P**		**12 02 45.4 +1.9**
NIKH	**Nikolski High**	**77.50**	**34**	P	**P**		**12 02 43.7 +0.1**
	baz=246						
JRN	**Qarnain Island**	**77.91 296**		P	**P**		**12 02 45.1 -1.4**
	SNR=17						
SPIA	**Saint Paul Isl**	**78.55**	**29**	P	**P**		**12 02 50.3 +1.1**
	baz=244						
AB31	**Akbulak array**	**78.60 322**		*i*P	**P**		**12 02 48.4 -1.4**
ABKAR	**Akbulak array**	**78.60 322**		P	**P**		**12 02 49.0 -0.7**
POHA	**Pohakuloa**	**78.92**	**69**	P	**P**		**12 02 53.8 +1.4**
UNV	**Unalaska Valle**	**79.14**	**33**	P	**P**		**12 02 56.3 +3.7**
UNV	**Unalaska Valle**	**79.14**	**33**	P	**P**		**12 02 52.5 -0.1**
	baz=248						
AKUT	**Akutan**	**79.64**	**33**	P	**P**		**12 02 59.9 +4.6**
SMRA	**Abu-Samra**	**79.69 296**		P	**P**		**12 02 55.4 -0.8**
	SNR=21						
SHMA	**Al-Shehemyia**	**79.75 297**		P	**P**		**12 02 55.0 -1.5**
	SNR=9.5						
OPO	**Ambohidratompo**	**79.77 252**		P	**P**		**12 02 56.0 -1.0**
	comp=Z,13nm,0.8s,baz=109,slow=5.1,SNR=8.0						
	comp=Z,13nm,0.8s						
SAKB	**Bahrain**	**80.15 297**		P	**P**		**12 02 58.0 -0.7**
AKTO	**Aktyubinsk**	**80.17 323**		P	**P**		**12 02 57.5 -0.8**
AKTO	**Aktyubinsk**	**80.17 323**		P	**P**		**12 02 57.5 -0.8**
	comp=Z,80nm,1.0s,baz=117,slow=4.4,SNR=30						
AKTO				S	**S**		**12 13 00.2 -0.8**
	comp=Z,0.9nm,0.6s,baz=2.1,slow=22,SNR=0.8						
	comp=Z,80nm,1.0s						
SVE	**Sverdlovsk**	**80.88 329**		*de*P	**P**		**12 03 00.9 -1.0**
SVE				*e*S	**S**		**12 13 05.1 -3.1**
SVE				pmax	pmax		
	comp=Z,260nm,1.1s						
GAMB	**Gambell**	**80.92**	**23**	P	**P**		**12 03 02.4 +0.5**
	baz=242,SNR=5.7						
FALS	**False Pass**	**81.19**	**33**	P	**P**		**12 03 04.1 +0.5**
FALS	**False Pass**	**81.19**	**33**	P	**P**		**12 03 03.1 -0.4**
	baz=250						
M11K	**Mekoryuk**	**81.79**	**27**	P	**P**		**12 03 06.6 0.0**
	baz=247						
ARU	**Arti**	**81.81 328**		P	**P**		**12 03 05.5 -1.3**
ARU				IAmb	IAmb		12 03 18.0
	comp=Z,171nm,0.9s						
ARU	**Arti**	**81.81 328**	*c*	*i*P	**P**		**12 03 05.6 -1.3**
ARU							12 06 09.8
ARU				S	**S**		**12 13 17.6 -0.3**
ARU				SS	**SS**		**12 18 43.7 +7.3**
ARU				pmax	pmax		
	comp=Z,84nm,1.0s						
ARU	**Arti**	**81.81 328**		P	**P**		**12 03 06.3 -0.6**
	comp=Z,26nm,0.5s,baz=122,slow=2.2,SNR=35						
	comp=Z,26nm,0.5s						
PAE	**Paea**	**81.95 107**		*e*P	**P**		**12 03 10.1 +1.6**
	comp=Z,40nm,1.0s						
PPT2	**Papeete2**	**81.96 107**		*e*P	**P**		**12 03 11.3 +2.7**
	comp=Z,90nm,1.0s						
PPT	**Papeete**	**81.96 107**		P	**P**		**12 03 09.7 +1.2**
PPT	**Papeete**	**81.96 107**		P	**P**		**12 03 09.7 +1.2**
	comp=Z,109nm,0.9s,baz=306,slow=8.7,SNR=11						
PPT				LR	LR		12 39 30.7
	comp=Z,850nm,18.5s,baz=261,slow=36						
	comp=Z,109nm,0.9s						
PPTF	**Pamatai, Papee**	**81.97 107**		P	**P**		**12 03 11.6 +2.9**
TIAR	**Tiarei**	**82.18 107**		*e*P	**P**		**12 03 12.0 +2.3**
	comp=Z,12nm,1.0s						
TVO	**Taravao**	**82.26 107**		*e*P	**P**		**12 03 12.5 +2.3**
	comp=Z,52nm,1.1s						
SDPT	**Sand Point**	**82.94**	**33**	P	**P**		**12 03 12.0 -0.8**
SDPT	**Sand Point**	**82.94**	**33**	P	**P**		**12 03 12.2 -0.6**
SDPT	**Sand Point**	**82.94**	**33**	P	**P**		**12 03 12.6 -0.2**
	baz=253,SNR=11						
K13K	**Kusilvak Mount**	**83.07**	**26**	P	**P**		**12 03 13.8 +0.4**
K13K				IAmb	IAmb		12 03 25.0
	comp=Z,93nm,1.0s						
K13K				IAMs_20	IAMs_20		12 38 18.6
	comp=Z,4μm,20.0s						
K13K	**Kusilvak Mount**	**83.07**	**26**	P	**P**		**12 03 14.2 +0.9**
	baz=248						
M13K	**Dall Lake**	**83.12**	**28**	P	**P**		**12 03 14.5 +0.9**
	baz=250						
TNA	**Tin City**	**83.18**	**22**	P	**P**		**12 03 14.7 +0.9**
	baz=245,SNR=6.0						
CHNA	**Chernabura Isl**	**83.28**	**34**	P	**P**		**12 03 14.1 -0.5**
	baz=254						
MEH	**Mehetia**	**83.39 107**		*e*P	**P**		**12 03 16.0 0.0**
	comp=Z,51nm,1.2s						
PMOR	**Pomariorio Ree**	**83.66 105**		*e*P	**P**		**12 03 16.9 -0.5**
	comp=Z,157nm,1.0s						
S14K	**Fog Glacier**	**83.72**	**32**	P	**P**		**12 03 17.3 +0.4**
	baz=253,SNR=10						
O14K	**Tigyukauivet M**	**83.73**	**29**	P	**P**		**12 03 17.0 +0.2**
	baz=252						
N14K	**Kuskokwak Cree**	**83.74**	**29**	P	**P**		**12 03 16.9 +0.1**
	baz=251,SNR=6.1						
L14K	**Kuka Creek**	**83.74**	**27**	P	**P**		**12 03 17.9 +1.1**
L14K	**Kuka Creek**	**83.74**	**27**	P	**P**		**12 03 17.3 +0.5**
	baz=250,SNR=29						
F14K	**Arctic Creek**	**83.75**	**23**	P	**P**		**12 03 17.6 +0.8**
	baz=246						
ANM	**Nome**	**83.76**	**24**	P	**P**		**12 03 17.3 +0.4**
	baz=247,SNR=5.6						
J14K	**Nanvaranak Lak**	**83.85**	**26**	P	**P**		**12 03 17.1 -0.2**
J14K	**Nanvaranak Lak**	**83.85**	**26**	P	**P**		**12 03 17.9 +0.7**
	baz=249,SNR=17						
M14K	**Bethel**	**83.88**	**28**	P	**P**		**12 03 17.5 0.0**
	baz=251,SNR=20						
CHGN	**Chignik**	**84.33**	**33**	IAMs_20	IAMs_20		12 34 57.8
	comp=Z,5μm,22.0s						
CHGN	**Chignik**	**84.33**	**33**	P	**P**		**12 03 19.3 -0.6**
	baz=254						
L15K	**Ungalak Mounta**	**84.40**	**27**	P	**P**		**12 03 19.5 -0.7**
	baz=251,SNR=25						
O15K	**Ungalikthiuk R**	**84.41**	**30**	P	**P**		**12 03 20.4 +0.1**
	baz=253						
M15K	**Kasigluk River**	**84.45**	**28**	P	**P**		**12 03 20.8 +0.3**
	baz=252,SNR=19						
G15K	**Niukluk**	**84.45**	**23**	P	**P**		**12 03 20.1 -0.2**
	baz=249						
F15K	**North Star Dit**	**84.48**	**23**	P	**P**		**12 03 20.6 +0.1**
	baz=248						
K15K	**Wolf Creek Mou**	**84.58**	**26**	IAMs_20	IAMs_20		12 36 25.2
	comp=Z,4μm,21.0s						
K15K	**Wolf Creek Mou**	**84.58**	**26**	P	**P**		**12 03 21.9 +0.8**
	baz=251,SNR=32						
N15K	**Kwethluk River**	**84.58**	**29**	P	**P**		**12 03 21.0 -0.1**
N15K	**Kwethluk River**	**84.58**	**29**	P	**P**		**12 03 21.9 +0.8**
	baz=253,SNR=18						
H16K	**Elim**	**85.05**	**24**	P	**P**		**12 03 24.3 +0.9**
	baz=250,SNR=9.9						
R16K	**Pilot Point**	**85.11**	**31**	P	**P**		**12 03 22.9 -0.9**
	baz=255						
C16K	**Lisburne Hills**	**85.21**	**20**	P	**P**		**12 03 23.8 -0.3**
	baz=247						
G16K	**Koyuk River**	**85.26**	**23**	P	**P**		**12 03 24.5 +0.1**
	baz=250						
P16K	**Nushagak River**	**85.28**	**30**	P	**P**		**12 03 24.9 +0.3**
	baz=254,SNR=26						
J16K	**Anvik River**	**85.30**	**26**	P	**P**		**12 03 25.1 +0.5**
J16K				IAmb	IAmb		12 03 36.1
	comp=Z,84nm,0.9s						
J16K	**Anvik River**	**85.30**	**26**	P	**P**		**12 03 25.6 +0.9**
	baz=252,SNR=19						
N16K	**Nishlik Lake**	**85.30**	**28**	P	**P**		**12 03 25.5 +0.7**
	baz=254,SNR=48						
L16K	**Owhat River**	**85.32**	**27**	P	**P**		**12 03 24.4 -0.4**
L16K				IAMs_20	IAMs_20		12 35 45.9
	comp=Z,4μm,22.0s						
L16K	**Owhat River**	**85.32**	**27**	P	**P**		**12 03 25.0 +0.2**
	baz=253,SNR=49						
M16K	**Timber Creek**	**85.36**	**28**	P	**P**		**12 03 25.0 0.0**
M16K	**Timber Creek**	**85.36**	**28**	P	**P**		**12 03 25.5 +0.4**
	baz=254,SNR=32						
O16K	**Kokwok River B**	**85.38**	**29**	P

K17K				IAmb	IAmb	12 03 40.1	
	comp=Z,66nm,0.7s						
K17K				IAms_20	IAms_20	12 37 12.4	
	comp=Z,4μm,22.0s						
K17K	**Iditarod**	**86.13**	**26**	P	**P**	**12 03 29.6**	**+0.7**
	baz=254,SNR=19						
Q17K	**Contact Creek**	**86.15**	**31**	P	**P**	**12 03 28.4**	**-0.8**
	baz=256,SNR=30						
M17K	**Holitna River**	**86.17**	**28**	P	**P**	**12 03 30.1**	**+1.0**
	baz=255,SNR=23						
E18K	**Tukpahlearik C**	**86.59**	**22**	P	**P**	**12 03 30.5**	**-0.5**
E18K				IAmb	IAmb	12 03 41.0	
	comp=Z,60nm,0.8s						
E18K	**Tukpahlearik C**	**86.59**	**22**	P	**P**	**12 03 31.1**	**+0.1**
	baz=252						
SII	**Sitkinak Islan**	**86.67**	**33**	IAms_20	IAms_20	12 36 50.8	
	comp=Z,4μm,22.0s						
SII	**Sitkinak Islan**	**86.67**	**33**	P	**P**	**12 03 34.6**	**+3.0**
SII	**Sitkinak Islan**	**86.67**	**33**	P	**P**	**12 03 31.8**	**+0.2**
	baz=258,SNR=6.2						
GROC	**Groznyy**	**86.68**	**314**	*e*P	**P**	**12 03 31.7**	**-0.3**
GROC				*e*		12 06 54.0	
GROC				*e*S	**SKSac**	**12 13 53.7**	**-2.9**
GROC				pmax	pmax		
	comp=Z,213nm,1.0s						
Q18K	**Katmai Hardscr**	**86.69**	**31**	P	**P**	**12 03 30.8**	**-1.0**
	baz=257,SNR=21						
N18K	**Kilae Creek**	**86.72**	**29**	IAms_20	IAms_20	12 37 49.0	
	comp=Z,5μm,22.0s						
N18K	**Kilae Creek**	**86.72**	**29**	P	**P**	**12 03 31.8**	**0.0**
	baz=256,SNR=13						
L18K	**Granite Mounta**	**86.72**	**27**	P	**P**	**12 03 32.1**	**+0.4**
	baz=255,SNR=27						
R18K	**Karluk**	**86.74**	**32**	P	**P**	**12 03 31.1**	**-0.7**
	baz=258						
P18K	**Big Mountain,**	**86.75**	**30**	IAms_20	IAms_20	12 38 10.7	
	comp=Z,6μm,21.0s						
P18K	**Big Mountain,**	**86.75**	**30**	P	**P**	**12 03 30.7**	**-1.2**
	baz=257,SNR=7.7						
C18K	**Utukok River**	**86.78**	**20**	P	**P**	**12 03 31.8**	**-0.2**
	baz=251,SNR=5.4						
H18K	**Honhosa River**	**86.78**	**24**	P	**P**	**12 03 31.2**	**-0.8**
	baz=254,SNR=7.5						
B18K	**Kokolik River**	**86.81**	**20**	P	**P**	**12 03 32.0**	**0.0**
	baz=250						
O18K	**Koktuh Hills**	**86.86**	**30**	IAms_20	IAms_20	12 37 30.7	
	comp=Z,6μm,21.0s						
O18K	**Koktuh Hills**	**86.86**	**30**	P	**P**	**12 03 32.5**	**0.0**
	baz=257,SNR=8.5						
G18K	**Tagagawik**	**86.88**	**23**	P	**P**	**12 03 32.3**	**-0.1**
G18K				IAms_20	IAms_20	12 39 06.9	
	comp=Z,4μm,21.0s						
G18K	**Tagagawik**	**86.88**	**23**	P	**P**	**12 03 31.4**	**-1.0**
	baz=254						
M18K	**Stony River**	**86.94**	**28**	P	**P**	**12 03 33.4**	**+0.6**
	baz=256,SNR=32						
BELG	**Belogornoye**	**86.95**	**323**	P	**P**	**12 03 31.9**	**-1.1**
BELG	**Belogornoye**	**86.95**	**323**	P	**P**	**12 03 31.9**	**-1.1**
	comp=Z,196nm,1.0s,baz=146,slow=2.3,SNR=30						
BELG				S	**SKSac**	**12 13 55.5**	**-2.3**
	comp=Z,5.4nm,0.4s,baz=70,slow=17,SNR=1.1						
	comp=Z,196nm,1.0s						
SVW2	**Sparrevohn**	**86.97**	**28**	P	**P**	**12 03 37.3**	**+4.3**
J18K	**Innoko River**	**87.03**	**26**	P	**P**	**12 03 32.4**	**-0.8**
J18K				IAmb	IAmb	12 03 42.7	
	comp=Z,48nm,0.7s						
J18K	**Innoko River**	**87.03**	**26**	P	**P**	**12 03 32.6**	**-0.6**
	baz=255						
GNI	**Garni**	**87.05**	**310**	P	**P**	**12 03 32.2**	**-1.9**
GNI	**Garni**	**87.05**	**310**	*c i*P	**P**	**12 03 34.0**	**0.0**
GNI				pmax	pmax		
	comp=Z,523nm,3.7s						
KIRV	**Kirov**	**87.14**	**329**	*c i*P	**P**	**12 03 32.9**	**-0.9**
KIRV	**Kirov**	**87.14**	**329**	P	**P**	**12 03 32.8**	**-1.0**
	comp=Z,54nm,0.5s,baz=336,slow=0.9,SNR=24						
	comp=Z,54nm,0.5s						
TTA	**Tatalina**	**87.20**	**26**	P	**P**	**12 03 35.2**	**+1.0**
TTA	**Tatalina**	**87.20**	**26**	P	**P**	**12 03 33.5**	**-0.6**
	baz=256,SNR=28						
GCSA	**Galena City Sc**	**87.28**	**25**	P	**P**	**12 03 34.2**	**-0.2**
	baz=255,SNR=23						
A19K	**Wainwright**	**87.33**	**19**	P	**P**	**12 03 34.5**	**+0.1**
	baz=251						
O19K	**Port Alsworth**	**87.37**	**29**	IAms_20	IAms_20	12 37 47.2	
	comp=Z,5μm,21.0s						
O19K	**Port Alsworth**	**87.37**	**29**	P	**P**	**12 03 34.4**	**-0.5**
	baz=258						
N19K	**Bonanza Creek**	**87.42**	**29**	P	**P**	**12 03 36.0**	**+0.7**
N19K				IAmb	IAmb	12 03 46.2	
	comp=Z,150nm,1.2s						
N19K	**Bonanza Creek**	**87.42**	**29**	P	**P**	**12 03 35.1**	**-0.2**
	baz=258,SNR=30						
Q19K	**Cape Douglas,**	**87.44**	**31**	IAms_20	IAms_20	12 43 33.1	
	comp=Z,4μm,21.0s						
Q19K	**Cape Douglas,**	**87.44**	**31**	P	**P**	**12 03 34.3**	**-1.0**
	baz=258,SNR=6.7						
C19K	**Lookout Ridge**	**87.47**	**20**	P	**P**	**12 03 35.5**	**+0.1**
C19K	**Lookout Ridge**	**87.47**	**20**	P	**P**	**12 03 35.1**	**-0.2**
	baz=252						
F19K	**Shaleruckik Mo**	**87.48**	**22**	P	**P**	**12 03 34.6**	**-0.6**
F19K	**Shaleruckik Mo**	**87.48**	**22**	P	**P**	**12 03 34.7**	**-0.6**
	baz=254						
L19K	**White Mountain**	**87.55**	**27**	P	**P**	**12 03 35.9**	**+0.1**
	baz=257,SNR=21						
G19K	**Purcell Mounta**	**87.56**	**23**	P	**P**	**12 03 35.0**	**-0.7**
G19K				IAmb	IAmb	12 03 45.5	
	comp=Z,82nm,0.9s						
G19K	**Purcell Mounta**	**87.56**	**23**	P	**P**	**12 03 35.1**	**-0.7**
	baz=255						
J19K	**Poorman**	**87.63**	**25**	P	**P**	**12 03 36.1**	**0.0**
	baz=256,SNR=30						
H19K	**Roundabout Mou**	**87.66**	**24**	P	**P**	**12 03 35.9**	**-0.2**
	baz=256,SNR=25						
M19K	**Big River Lodg**	**87.70**	**28**	IAms_20	IAms_20	12 41 02.9	
	comp=Z,3μm,20.0s						
M19K	**Big River Lodg**	**87.70**	**28**	P	**P**	**12 03 37.0**	**+0.5**
	baz=258,SNR=23						
KDAK	**Kodiak Island**	**87.77**	**32**	P	**P**	**12 03 37.2**	**+0.3**
KDAK	**Kodiak Island**	**87.77**	**32**	P	**P**	**12 03 36.6**	**-0.2**
	baz=259						
KDAK	**Kodiak Island**	**87.77**	**32**	P	**P**	**12 03 37.2**	**+0.3**
KDAK				pmax	pmax		
	comp=Z,357nm,1.6s						
KDAK	**Kodiak Island**	**87.77**	**32**	P	**P**	**12 03 36.1**	**-0.7**
	comp=Z,122nm,1.1s,baz=261,slow=2.7,SNR=24						
KDAK				LR	LR	12 37 42.8	
	comp=Z,9μm,21.9s,baz=264,slow=32						
	comp=Z,122nm,1.1s						
P19K	**Oil Pt**	**87.80**	**30**	P	**P**	**12 03 36.3**	**-0.7**
	baz=259						
D19K	**Kuna River**	**87.81**	**21**	P	**P**	**12 03 36.4**	**-0.5**
D19K	**Kuna River**	**87.81**	**21**	P	**P**	**12 03 36.8**	**-0.1**
	baz=254,SNR=26						
E19K	**Redstone River**	**87.85**	**22**	P	**P**	**12 03 36.5**	**-0.5**
	baz=255						
ILSW	**Iliamna Southw**	**87.91**	**30**	IAms_20	IAms_20	12 36 59.3	
	comp=Z,6μm,22.0s						
ZEI	**Tsey**	**88.00**	**313**	*e*P	**P**	**12 03 36.8**	**-1.8**
ZEI				pmax	pmax		
	comp=Z,231nm,0.9s						
Q20K	**Shuyak Island**	**88.02**	**31**	P	**P**	**12 03 36.8**	**-1.2**
	baz=259						
SYI	**Shuyak Island**	**88.02**	**31**	IAms_20	IAms_20	12 38 16.4	
	comp=Z,5μm,21.0s						
L20K	**Farewell, AK**	**88.06**	**27**	P	**P**	**12 03 38.3**	**+0.1**
	baz=258,SNR=31						
K20K	**Telida**	**88.16**	**26**	P	**P**	**12 03 37.8**	**-0.8**
K20K				IAmb	IAmb	12 03 48.6	
	comp=Z,46nm,0.8s						
K20K				IAms_20	IAms_20	12 38 35.9	
	comp=Z,4μm,22.0s						
K20K	**Telida**	**88.16**	**26**	P	**P**	**12 03 38.9**	**+0.2**
	baz=258						
O20K	**Slope Mountain**	**88.18**	**30**	P	**P**	**12 03 38.1**	**-0.7**
	baz=259						
M20K	**Styx River**	**88.28**	**28**	P	**P**	**12 03 39.6**	**+0.2**
	baz=259						
H20K	**Anotleneega Mo**	**88.28**	**24**	P	**P**	**12 03 39.1**	**-0.1**
	baz=257,SNR=12						
I20K	**Naaghedeneel**	**88.30**	**25**	P	**P**	**12 03 39.1**	**-0.1**
	baz=257,SNR=6.3						
J20K	**Nowinta River**	**88.30**	**25**	P	**P**	**12 03 39.0**	**-0.3**
	baz=258,SNR=20						
NCK	**Nalchik**	**88.31**	**314**	⇓*e*P	**P**	**12 03 40.6**	**+0.8**
NCK				pmax	pmax		
	comp=Z,226nm,1.1s						
F20K	**Avaraart Lake**	**88.31**	**22**	P	**P**	**12 03 39.3**	**0.0**
	baz=256						
KARS	**Kars**	**88.36**	**311**	P	**P**	**12 03 40.9**	**+0.6**
KARS	**Kars**	**88.36**	**311**	P	**P**	**12 03 40.9**	**+0.6**
KARS				pmax	pmax		
	comp=Z,839nm,1.0s						
D20K	**Etivluk River**	**88.40**	**21**	P	**P**	**12 03 38.9**	**-0.8**
	baz=255						
E20K	**Nigu River**	**88.44**	**21**	P	**P**	**12 03 39.3**	**-0.6**
	baz=256						
SIRT	**Sirnak**	**88.52**	**308**	P	**P**	**12 03 41.2**	**+0.1**
B20K	**Meade River**	**88.55**	**19**	P	**P**	**12 03 40.1**	**-0.2**
	baz=255						
N20K	**Mount Spurr**	**88.59**	**29**	P	**P**	**12 03 39.7**	**-1.1**
	baz=260						
SPCR	**Spurr Chakacha**	**88.59**	**29**	P	**P**	**12 03 40.0**	**-0.8**
	baz=260						
HOM	**Homer**	**88.59**	**30**	IAms_20	IAms_20	12 38 44.3	
	comp=Z,6μm,21.0s						
HOM	**Homer**	**88.59**	**30**	P	**P**	**12 03 39.0**	**-1.7**
	baz=260						
CNPM	**China Poot**	**88.77**	**30**	IAms_20	IAms_20	12 39 12.2	
	comp=Z,5μm,22.0s						
KBZ	**Khabaz**	**88.84**	**314**	*c i*P	**P**	**12 03 42.1**	**-0.2**
KBZ				pmax	pmax		
	comp=Z,106nm,0.9s						
KBZ	**Khabaz**	**88.84**	**314**	P	**P**	**12 03 41.1**	**-1.1**
	comp=Z,37nm,0.9s,baz=146,slow=3.3,SNR=23						
	comp=Z,37nm,0.9s						
IMAR	**Indian Mountai**	**88.85**	**24**	P	**P**	**12 03 41.8**	**-0.1**
GOF	**Gofitskoye**	**88.89**	**315**	*ce*P	**P**	**12 03 42.0**	**-0.5**
PPLA	**Purkeypile**	**88.91**	**27**	P	**P**	**12 03 41.1**	**-1.2**
	baz=259,SNR=7.7						
BRLK	**Bradley Lake**	**88.98**	**30**	IAms_20	IAms_20	12 39 07.6	
	comp=Z,5μm,22.0s						
CAPN	**Captain Cook N**	**89.02**	**29**	P	**P**	**12 03 42.2**	**-0.5**
	baz=260						
KIV	**Kislovodsk**	**89.02**	**314**	⇓P	**P**	**12 03 43.9**	**+0.6**
KIV	**Kislovodsk**	**89.02**	**314**	*i* P	**P**	**12 03 42.2**	**-1.1**
	SNR=9.4						
KIV	**Kislovodsk**	**89.02**	**314**	*e*P	**P**	**12 03 44.6**	**+1.3**
KIV				*e*		12 07 15.0	
KIV				*e*		12 14 10.8	
KIV				pmax	pmax		
	comp=Z,48nm,1.1s						
KIV				pmax	pmax		
	comp=Z,504nm,4.3s						
CHUM	**Lake Minchumin**	**89.03**	**26**	P	**P**	**12 03 42.4**	**-0.3**
	baz=259,SNR=35						
SKT	**Skwentna**	**89.05**	**28**	P	**P**	**12 03 40.7**	**-2.1**
SKT	**Skwentna**	**89.05**	**28**	P	**P**	**12 03 41.4**	**-1.5**
	baz=260,SNR=24						
CAST	**Castle Rocks**	**89.05**	**26**	P	**P**	**12 03 42.3**	**-0.6**
CAST	**Castle Rocks**	**89.05**	**26**	P	**P**	**12 03 41.7**	**-1.2**
	baz=260,SNR=14						
G21K	**Allakaket**	**89.05**	**23**	P	**P**	**12 03 41.8**	**-0.9**
	baz=258						
BRSE	**Bradley Lake S**	**89.05**	**30**	P	**P**	**12 03 42.1**	**-0.8**
	baz=261						
A21K	**Barrow**	**89.06**	**18**	P	**P**	**12 03 42.2**	**-0.5**
	baz=255						
C21K	**Knifeblade Rid**	**89.15**	**20**	P	**P**	**12 03 42.5**	**-0.6**
	baz=257						
H21K	**Melozitna Rive**	**89.16**	**24**	P	**P**	**12 03 42.7**	**-0.6**
	baz=259,SNR=18						
F21K	**Alatna River**	**89.21**	**22**	P	**P**	**12 03 42.6**	**-1.0**
	baz=258						
E21K	**Killik River**	**89.28**	**21**	P	**P**	**12 03 42.5**	**-1.3**
E21K	**Killik River**	**89.28**	**21**	P	**P**	**12 03 42.4**	**-1.5**
	baz=258,SNR=29						
B21K	**Ikpikpuk River**	**89.31**	**20**	P	**P**	**12 03 43.1**	**-0.8**
	baz=257,SNR=24						
SUA	**Susitna One**	**89.33**	**28**	IAms_20	IAms_20	12 38 27.9	
	comp=Z,6μm,22.0s						
SUA	**Susitna One**	**89.33**	**28**	P	**P**	**12 03 43.2**	**-1.1**
	baz=261,SNR=25						
I21K	**Tanana**	**89.41**	**25**	P	**P**	**12 03 44.0**	**-0.5**
	baz=260						
KIBK	**Kibwezi**	**89.46**	**268**	IAms_20	IAms_20	12 40 10.4	
	comp=Z,3μm,20.0s						
KIBK	**Kibwezi**	**89.46**	**268**	P	**P**	**12 03 44.3**	**-1.7**
A22K	**Sinclair Lake**	**89.50**	**19**	P	**P**	**12 03 44.0**	**-0.8**
	baz=257						
FIS	**Fire Island**	**89.53**	**29**	IAms_20	IAms_20	12 39 07.2	
	comp=Z,4μm,20.0s						
PRGR	**Permogore**	**89.56**	**332**	*e*P	**P**	**12 03 43.6**	**-1.6**
PRGR				*e*S	**SKSac**	**12 14 10.1**	**-3.0**
PRGR				pmax	pmax		
	comp=Z,54nm,0.9s						
FURI	**Furi**	**89.58**	**279**	IAms_20	IAms_20	12 42 07.0	
	comp=Z,3μm,21.0s						
KTH	**Kantishna Hill**	**89.59**	**26**	IAms_20	IAms_20	12 39 18.6	
	comp=Z,4μm,21.0s						
BPAW	**Bear Paw Mtn.**	**89.65**	**26**	P	**P**	**12 03 45.0**	**-0.6**
	baz=260,SNR=10						
M22K	**Willow**	**89.67**	**28**	IAms_20	IAms_20	12 39 43.9	
	comp=Z,4μm,21.0s						
M22K	**Willow**	**89.67**	**28**	P	**P**	**12 03 44.7**	**-1.0**
	baz=261,SNR=25						
O22K	**Cooper Landing**	**89.67**	**29**	P	**P**	**12 03 44.2**	**-1.5**
	baz=262						
CUT	**Chulitna**	**89.70**	**27**	P	**P**	**12 03 44.5**	**-1.4**
CUT				IAmb	IAmb	12 03 48.1	
	comp=Z,90nm,1.2s						
CUT	**Chulitna**	**89.70**	**27**	P	**P**	**12 03 44.9**	**-0.9**
	baz=261,SNR=7.5						
SEW	**Seward**	**89.75**	**30**	P	**P**	**12 03 45.6**	**-0.5**
	baz=262,SNR=7.0						
RC01	**Rabbit Creek A**	**89.75**	**29**	IAms_20	IAms_20	12 39 50.1	
	comp=Z,6μm,21.0s						
RC01	**Rabbit Creek A**	**89.75**	**29**	P	**P**	**12 03 45.4**	**-0.8**
	baz=262,SNR=14						
F22K	**John River**	**89.76**	**22**	P	**P**	**12 03 46.0**	**-0.1**
	baz=259						
H22K	**Ishtalitna Cre**	**89.78**	**24**	P	**P**	**12 03 45.6**	**-0.7**
	baz=260,SNR=18						
D22K	**Ayikyak River**	**89.83**	**21**	P	**P**	**12 03 46.1**	**-0.4**
	baz=259,SNR=5.6						
TRF	**Thorofare Moun**	**89.85**	**26**	IAms_20	IAms_20	12 38 26.6	
	comp=Z,4μm,22.0s						
TRF	**Thorofare Moun**	**89.85**	**26**	P	**P**	**12 03 46.0**	**-0.8**
	baz=261,SNR=7.3						
B22K	**Teshekpuk Lake**	**89.87**	**19**	P	**P**	**12 03 45.9**	**-0.6**
	baz=258						
MLY	**Manley**	**89.90**	**25**	P	**P**	**12 03 46.0**	**-0.8**
MLY	**Manley**	**89.90**	**25**	P	**P**	**12 03 46.1**	**-0.8**
	baz=261,SNR=32						
G22K	**Bettles**	**89.91**	**23**	P	**P**	**12 03 45.8**	**-0.9**
	baz=260						
E22K	**Anaktuvuk Pass**	**90.01**	**22**	P	**P**	**12 03 47.0**	**-0.3**
	baz=260,SNR=31						
PMR	**Palmer**	**90.11**	**28**	IAms_20	IAms_20	12 39 25.7	
	comp=Z,4μm,22.0s						
PMR	**Palmer**	**90.11**	**28**	P	**P**	**12 03 50.4**	**+2.6**
PMR	**Palmer**	**90.11**	**28**	P	**P**	**12 03 47.5**	**-0.3**
	baz=262,SNR=15						
GHO	**Glory Hole Cre**	**90.23**	**28**	IAms_20	IAms_20	12 39 07.8	
	comp=Z,4μm,22.0s						
KMBO	**Kilima Mbogo**	**90.33**	**269**	*i* P	**P**	**12 03 48.8**	**-1.4**
	SNR=8.4						
PWL	**Port Wells**	**90.40**	**29**	P	**P**	**12 03 48.4**	**-0.8**
	baz=263,SNR=9.0						
KNK	**Knik Glacier**	**90.41**	**29**	IAms_20	IAms_20	12 38 43.5	
	comp=Z,6μm,22.0s						
KNK	**Knik Glacier**	**90.41**	**29**	P	**P**	**12 03 48.4**	**-0.9**
	baz=263,SNR=31						
VRH	**Novokhopyorsk**	**90.42**	**321**	*e*P	**P**	**12 03 51.0**	**+1.6**
VRH				pmax	pmax		
	comp=Z,38nm,0.8s						
G23K	**Bananza Creek**	**90.46**	**23**	P	**P**	**12 03 48.7**	**-0.7**
	baz=261						
COLD	**Coldfoot**	**90.47**	**23**	P	**P**	**12 03 49.0**	**-0.4**
	baz=261,SNR=36						
RND	**Reindeer**	**90.48**	**27**	IAms_20	IAms_20	12 41 03.3	
	comp=Z,5μm,20.0s						
MCK	**McKinley**	**90.49**	**26**	P	**P**	**12 03 48.3**	**-1.3**
	baz=262,SNR=18						
I23K	**Minto, Yukon-K**	**90.50**	**25**	P	**P**	**12 03 48.6**	**-0.9**
I23K				IAmb	IAmb	12 03 59.5	
	comp=Z,130nm,1.2s						
I23K	**Minto, Yukon-K**	**90.50**	**25**	P	**P**	**12 03 48.9**	**-0.6**
	baz=262,SNR=33						
SML	**Sawmill**	**90.52**	**28**	IAms_20	IAms_20	12 41 49.4	
	comp=Z,4μm,22.0s						
SML	**Sawmill**	**90.52**	**28**	P	**P**	**12 03 49.0**	**-0.9**
	baz=263,SNR=22						
H23K	**Yukon River**	**90.52**	**24**	P	**P**	**12 03 49.2**	**-0.5**
	baz=262						
WAT1	**Susitna Watana**	**90.54**	**27**	P	**P**	**12 03 48.3**	**-1.6**
	baz=263						
NEA2	**Nenana**	**90.55**	**25**	P	**P**	**12 03 48.2**	**-1.6**
	baz=262,SNR=16						
D23K	**Nanushuk River**	**90.56**	**21**	P	**P**	**12 03 49.4**	**-0.4**
	baz=261						
C23K	**Itkillik River**	**90.72**	**20**	P	**P**	**12 03 49.8**	**-0.6**
	baz=261						
P23K	**Montague Islan**	**90.76**	**30**	P	**P**	**12 03 50.0**	**-0.8**
	baz=264						
ELIB	**Princess Elisa**	**90.79**	**198**	*d*P	**P**	**12 03 50.5**	**-0.5**
	comp=Z,67nm,1.0s						
ELIB				*d*PP	**PP**	**12 07 28.7**	**+2.2**
ELIB				*d*S	**S**	**12 14 44.5**	**-0.7**
M23K	**Glacier View**	**90.80**	**28**	P	**P**	**12 03 50.2**	**-0.9**
	baz=263,SNR=16						
E23K	**Chandalar**	**90.81**	**22**	P	**P**	**12 03 50.8**	**-0.3**
	baz=262,SNR=25						
WAT6	**Susitna Watana**	**90.89**	**27**	P	**P**	**12 03 50.2**	**-1.4**
	baz=263,SNR=18						
TOLK	**Toolik Lake Re**	**90.91**	**21**	P	**P**	**12 03 50.9**	**-0.6**
	baz=262,SNR=18						
SCM	**Sheep Creek Mo**	**90.99**	**28**	P	**P**	**12 03 51.3**	**-0.8**
	baz=264,SNR=17						
GLI	**Glacier Island**	**91.00**	**29**	P	**P**	**12 03 50.7**	**-1.3**
	baz=264,SNR=6.4						
COLA	**College**	**91.10**	**25**	P	**P**	**12 03 53.0**	**+0.7**
COLA	**College**	**91.10**	**25**	P	**P**	**12 03 51.0**	**-1.4**
	baz=263						
COLA	**College**	**91.10**	**25**	⇓P	**P**	**12 03 52.5**	**+0.2**
DHY	**Denali Highway**	**91.11**	**27**	P	**P**	**12 03 51.8**	**-0.9**
	baz=264,SNR=21						
SOC	**Sochi**	**91.13**	**313**	*e*P	**P**	**12 03 51.3**	**-1.7**
SOC				*e*		12 07 30.5	
SOC				*e*PPP	PPP	12 09 27.7	
SOC				*e*S	**SKSac**	**12 14 20.5**	**-2.5**
SOC				*e*SS	**SS**	**12 20 46.6**	**-7.0**
SOC				*e*SSS	SSS	12 24 28.1	
SOC				MLR	MLR		
	comp=Z,1μm,19.0s						
H24K	**Noodor Dome**	**91.20**	**24**	P	**P**	**12 03 52.5**	**-0.4**
	baz=263,SNR=55						
Q23K	**Middleton Isla**	**91.23**	**31**	IAms_20	IAms_20	12 37 29.4	
	comp=Z,4μm,21.0s						
Q23K	**Middleton Isla**	**91.23**	**31**	P	**P**	**12 03 52.5**	**-0.6**
	baz=265						
E24K	**Your Creek**	**91.23**	**22**	P	**P**	**12 03 52.8**	**-0.3**
	baz=263						
MID	**Middleton Isla**	**91.24**	**31**	IAms_20	IAms_20	12 37 29.4	
	comp=Z,4μm,21.0s						
D24K	**Happy Valley**	**91.25**	**21**	P	**P**	**12 03 52.0**	**-0.9**
	baz=262						
POKR	**Poker Plat Res**	**91.30**	**25**	IAms_20	IAms_20	12 42 57.0	
	comp=Z,3μm,21.0s						
POKR	**Poker Plat Res**	**91.30**	**25**	P	**P**	**12 03 52.7**	**-0.6**
	baz=264,SNR=5.5						
C24K	**Franklin Bluff**	**91.36**	**20**	P	**P**	**12 03 52.6**	**-0.9**
	baz=263						
F24K	**Squaw Lake**	**91.39**	**23**	P	**P**	**12 03 53.4**	**-0.4**
	baz=263						
HDA	**Harding Lake**	**91.44**	**26**	P	**P**	**12 03 52.2**	**-1.8**
	baz=264,SNR=39						
G24K	**Hadweenzic Riv**	**91.46**	**23**	P	**P**	**12 03 52.8**	**-1.3**
	baz=264						
ILAR	**Eielson Array**	**91.50**	**25**	P	**P**	**12 03 51.9**	**-2.3**
ILAR	**Eielson Array**	**91.50**	**25**	P	**P**	**12 03 51.9**	**-2.3**
	comp=Z,13nm,0.8s,baz=288,slow=4.2,SNR=73						
ILAR				PP	**PP**	**12 07 31.4**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=291,slow=7.6,SNR=2.2						
ILAR				PKKPbc	**PKKPdf**	**12 21 14.6**	**+0.2**
	comp=Z,2.3nm,0.9s,baz=64,slow=1.2,SNR=11						
ILAR				PKPPKP	**P'P'df**	**12 29 24.3**	**+0.3**
	comp=Z,1.2nm,1.2s,baz=214,slow=0.7,SNR=3.2						
	comp=Z,13nm,0.8s						
M24K	**Tolsona, Glenn**	**91.56**	**28**	P	**P**	**12 03 54.0**	**-0.7**
	baz=265,SNR=11						
TAOE	**Nuku Hiva Isla**	**91.58**	**99**	*e*LR	LR	12 33 18.5	
	comp=Z,3μm,23.6s						
KLU	**Klutina**	**91.63**	**29**	P	**P**	**12 03 54.6**	**-0.4**
	baz=265,SNR=11						
EYAK	**Cordova Ski Ar**	**91.63**	**30**	P	**P**	**12 03 56.5**	**+1.6**
EYAK	**Cordova Ski Ar**	**91.63**	**30**	P	**P**	**12 03 54.5**	**-0.4**
	baz=265						
K24K	**Donnelly Dome**	**91.89**	**26**	P	**P**	**12 03 55.3**	**-0.8**
	baz=265,SNR=20						
VORD	**Divnogorie**	**91.92**	**321**	*e*P	**P**	**12 03 57.2**	**+0.7**
VORD				pmax	pmax		
	comp=Z,70nm,0.9s						
PAX	**Paxson**	**91.96**	**27**	P	**P**	**12 03 55.8**	**-0.7**
	baz=265,SNR=27						
G25K	**Bearman Lake**	**92.01**	**23**	P	**P**	**12 03 56.5**	**0.0**
	baz=265						
VSR	**Storozhevoye**	**92.02**	**321**	*e*P	**P**	**12 03 57.1**	**+0.2**
VSR				pmax	pmax		
	comp=Z,70nm,1.2s						
VORR	**Voronezh**	**92.02**	**321**	*e*P	**P**	**12 03 57.4**	**+0.5**
VORR				pmax	pmax		
	comp=Z,70nm,0.4s						
HARP	**HAARP**	**92.06**	**28**	P	**P**	**12 03 58.2**	**+1.3**
	baz=266,SNR=9.8						
H25L	**Birch Creek**	**92.08**	**24**	P	**P**	**12 03 56.6**	**-0.2**
	baz=265						
D25K	**Kavik River**	**92.13**	**21**	P	**P**	**12 03 56.3**	**-0.8**
	baz=265						
J25K	**Salcha River,**	**92.14**	**26**	P	**P**	**12 03 55.3**	**-2.0**
	baz=266,SNR=23						
PRP	**Porcupine Dome**	**92.14**	**25**	P	**P**	**12 03 55.3**	**-2.1**
	baz=266,SNR=5.8						
RAGM	**Ragged Mountai**	**92.15**	**30**	IAms_20	IAms_20	12 41 08.5	
	comp=Z,5μm,21.0s

baz=268,SNR=16
SNH Sunshine Point 93.05 30 IAMs_20 IAMs_20 12 41 17.4
comp=Z,4µm,21.0s
M26K Nabesna, AK 93.07 28 P **P** **12 04 01.7 +0.1**
baz=268,SNR=12
I26K Coal Creek Min 93.12 25 IAMs_20 IAMs_20 12 44 00.9
comp=Z,3µm,20.0s
I26K Coal Creek Min 93.12 25 P **P** **12 04 00.7 -1.0**
baz=268
MOS Moscow 93.17 325 *e*P **P** **12 03 59.7 -2.4**
MOS *e* 12 07 41.8
MOS *e* 12 14 31.0
MOS *e*S **S** **12 15 12.9 +6.2**
MESA MESA 93.50 30 P **P** **12 04 03.3 -0.5**
baz=268
K27K Chicken 93.54 26 IAMs_20 IAMs_20 12 42 17.1
comp=Z,3µm,21.0s
K27K Chicken 93.54 26 P **P** **12 04 03.9 +0.2**
baz=268
M27K Edge Creek, AK 93.59 28 P **P** **12 04 04.3 +0.2**
baz=269,SNR=22
L27K Beaver Creek, 93.63 27 IAMs_20 IAMs_20 12 43 00.5
comp=Z,3µm,20.0s
L27K Beaver Creek, 93.63 27 P **P** **12 04 04.0 -0.1**
baz=269,SNR=56
OBN Obninsk 93.75 325 *de*P **P** **12 04 04.5 -0.3**
OBN *e* 12 07 48.0
OBN *e*PPP PPP 12 09 50.6
OBN pmax pmax
comp=Z,140nm,2.5s
OBN Obninsk 93.75 325 P **P** **12 04 04.0 -0.8**
comp=Z,17nm,0.4s,baz=201,slow=9.4,SNR=4.2
comp=Z,17nm,0.4s
I27K Kandik River 93.77 25 P **P** **12 04 04.8 0.0**
baz=269,SNR=50
G27K Doyon Strip 93.77 23 P **P** **12 04 04.7 0.0**
baz=269
CTG Chitna Glacier 93.81 29 P **P** **12 04 05.4 +0.3**
baz=269,SNR=43
E27K Coleen River 93.81 22 P **P** **12 04 04.3 -0.5**
baz=269
H27K Steamboat Moun 93.81 24 P **P** **12 04 05.1 +0.2**
baz=269,SNR=36
CTGM Chitina Glacie 93.82 29 IAMs_20 IAMs_20 12 42 04.5
comp=Z,6µm,22.0s
EGAK Eagle 93.95 25 IAMs_20 IAMs_20 12 44 04.0
comp=Z,3µm,21.0s
EGAK Eagle 93.95 25 P **P** **12 04 05.1 -0.4**
baz=269,SNR=25
MMAI Mount Meron Ar 93.96 303 P **P** **12 04 05.6 -0.8**
comp=Z,13nm,0.8s,baz=90,slow=4.2,SNR=8.3
comp=Z,13nm,0.8s
LOGN Logan Glacier 93.98 29 IAMs_20 IAMs_20 12 42 06.8
comp=Z,3µm,22.0s
D27M Malcolm River 94.05 21 P **P** **12 04 05.7 -0.3**
baz=270,SNR=14
BVCY Beaver Creek 94.06 28 P **P** **12 04 06.2 +0.1**
baz=270,SNR=15
YUK3 Moose Creek 94.25 28 P **P** **12 04 07.0 -0.3**
baz=270,SNR=33
PINM Pinnacle 94.34 30 P **P** **12 04 07.3 -0.3**
baz=270
O28M Mount Upton 94.38 29 P **P** **12 04 08.6 +0.6**
baz=270,SNR=28
F28M Old Crow 94.47 23 P **P** **12 04 07.3 -0.6**
baz=271,SNR=22
I28M Miner Creek 94.47 25 P **P** **12 04 07.9 -0.2**
baz=270,SNR=70
E28M Babbage River 94.58 22 P **P** **12 04 07.8 -0.6**
baz=271,SNR=28
YUK8 Steele Glacier 94.58 29 P **P** **12 04 08.8 0.0**
baz=270,SNR=26
BCPM Bancas Point 94.65 30 IAMs_20 IAMs_20 12 42 00.7
comp=Z,4µm,22.0s
NVL N'lazarevskaya 94.67 197 *e*P **P** **12 04 08.6 -0.1**
NVL *e* 12 07 57.8
NVL *e*S **SKSac** **12 14 41.2 -0.3**
NVL pmax pmax
comp=Z,23nm,1.6s
NVL smax smax
comp=E,643nm,14.5s
LVZ Lovozero 94.67 338 IAMs_20 IAMs_20 12 52 15.9
comp=Z,4µm,21.0s
LVZ Lovozero 94.67 338⇓*e*P **P** **12 04 09.2 +0.4**
LVZ pmax pmax
comp=Z,37nm,0.9s
DAWY Dawson 94.72 26 P **P** **12 04 08.6 -0.6**
baz=271
PNL Peninsula 94.78 31 P **P** **12 04 10.2 +0.7**
PNL Peninsula 94.78 31 P **P** **12 04 08.8 -0.7**
baz=271
D28M Stokes Point 94.84 21 P **P** **12 04 08.8 -0.7**
baz=272
H29M Whitestone 95.09 24 IAMs_20 IAMs_20 12 47 12.2
comp=Z,3µm,20.0s
H29M Whitestone 95.09 24 P **P** **12 04 10.3 -0.5**
baz=272,SNR=10
YUK4 Talbot Arm 95.12 29 P **P** **12 04 10.9 -0.3**
baz=271,SNR=12
I29M Ogilvie Camp, 95.15 25 IAMs_20 IAMs_20 12 44 43.7
comp=Z,3µm,20.0s
I29M Ogilvie Camp, 95.15 25 P **P** **12 04 10.4 -0.7**
baz=272,SNR=51
APA Apatity 95.15 337⇓*i*P P 12 04 02.5 -8.5
APA *i* PS **PS** **12 16 45.0 +0.3**
APA pmax pmax
comp=Z,78nm,0.6s
APA MLR MLR
comp=Z,3µm,18.0s
M29M Somme Creek 95.18 28 P **P** **12 04 11.6 +0.2**
baz=272,SNR=64
O29M Mount Kennedy 95.18 30 IAMs_20 IAMs_20 12 42 20.6
comp=Z,6µm,22.0s
O29M Mount Kennedy 95.18 30 P **P** **12 04 11.2 -0.3**
baz=271,SNR=7.9
E29M Blow River 95.19 22 P **P** **12 04 10.5 -0.7**
baz=273
SIM Simferopol' 95.20 315 *e*P **P** **12 04 11.5 -0.2**
SIM pmax pmax
comp=Z,115nm,1.2s
G29M Pine Creek 95.20 23 P **P** **12 04 10.7 -0.6**
baz=272
J29N Klondike Camp 95.22 26 IAMs_20 IAMs_20 12 41 11.6
comp=Z,3µm,22.0s
J29N Klondike Camp 95.22 26 P **P** **12 04 11.6 +0.1**
baz=272
YUK6 Outpost Mounta 95.27 29 P **P** **12 04 11.9 0.0**
baz=272,SNR=7.0
L29M L29M 95.31 27 IAMs_20 IAMs_20 12 41 35.9
comp=Z,4µm,21.0s
L29M L29M 95.31 27 P **P** **12 04 12.2 +0.3**
baz=272,SNR=55
BR131 Keskin Array S 95.53 309 *de*P **P** **12 04 13.6 +0.1**
BRTR Keskin Array B 95.53 309 P **P** **12 04 12.6 -0.9**
BRTR Keskin Array B 95.53 309 P **P** **12 04 12.6 -0.9**
comp=Z,14nm,1.1s,baz=145,slow=4.5,SNR=13
BRTR PP **PP** **12 08 03.6 -1.2**
comp=Z,0.8nm,0.5s,baz=98,slow=10,SNR=2.8
BRTR PKKPbc **PKKPbc** **12 21 06.2 0.0**
comp=Z,1.2nm,0.8s,baz=270,slow=4.3,SNR=3.6
BRTR LR LR 12 56 20.2
comp=Z,824nm,18.4s,baz=98,slow=41
comp=Z,14nm,1.1s
K29M Barlow Dome 95.55 26 IAMs_20 IAMs_20 12 43 38.3
comp=Z,4µm,22.0s
K29M Barlow Dome 95.55 26 P **P** **12 04 12.9 -0.2**
baz=273,SNR=39
P29M Windy Craggy 95.62 31 IAMs_20 IAMs_20 12 42 05.3
comp=Z,4µm,22.0s
P29M Windy Craggy 95.62 31 P **P** **12 04 11.8 -1.5**
baz=272
HYT Haines Junctio 95.69 29 P **P** **12 04 12.7 -1.1**
baz=272,SNR=21
EPYK Eagle Plains 95.75 24 P **P** **12 04 12.7 -1.1**
baz=274,SNR=23
N30M Aishikik Lake 95.86 29 P **P** **12 04 14.3 -0.2**
baz=273,SNR=23
G30M tAoh Zraii Nji 95.91 23 P **P** **12 04 13.3 -1.3**
baz=274
M30M Minto, Yukon 95.94 28 P **P** **12 04 14.3 -0.5**
baz=273,SNR=37
I30M Mount Dempster 95.97 25 P **P** **12 04 13.5 -1.4**
baz=274,SNR=20
P30M Million Dollar 95.99 30 P **P** **12 04 15.0 -0.1**
baz=273,SNR=7.1
F30M Barrier River 96.03 23 P **P** **12 04 14.6 -0.5**
baz=274,SNR=14
J30M Hart River 96.03 26 P **P** **12 04 14.7 -0.5**
baz=274,SNR=26
MAYO Mayo, Yukon 96.29 27 P **P** **12 04 16.8 +0.5**
baz=274,SNR=51
PLBC Pleasant Camp 96.33 31 P **P** **12 04 16.5 0.0**
baz=273
O30N Mendenhall 96.39 29 P **P** **12 04 17.0 +0.2**
baz=274,SNR=16
VADS Vadso 96.42 340 *e*P **P** **12 04 15.0 -1.7**
S31K Pelican 96.48 32 IAMs_20 IAMs_20 12 41 21.1
comp=Z,4µm,22.0s
S31K Pelican 96.48 32 P **P** **12 04 17.0 -0.2**
baz=273
N31M Braeburn, Yuko 96.49 29 P **P** **12 04 17.2 -0.1**
baz=274,SNR=20
TROLL Troll, Antarti 96.62 195 PKKP 12 21 01.1
comp=Z,219nm,0.8s
TROLL Troll, Antarti 96.62 195⇓P **P** **12 04 19.0 +1.2**
comp=Z,423nm,0.9s
G31M Satah River 96.68 23 P **P** **12 04 16.7 -1.2**
baz=276,SNR=14
R31K City Hall, Gus 96.71 32 P **P** **12 04 17.9 -0.4**
baz=274
H31M Peel River 96.76 24 IAMs_20 IAMs_20 12 45 54.3
comp=Z,4µm,21.0s
H31M Peel River 96.76 24 P **P** **12 04 17.4 -1.0**
baz=276,SNR=7.9
INK Inuvik 96.81 22 P **P** **12 04 17.9 -0.6**
baz=277,SNR=9.3
INK Inuvik 96.81 22 P **P** **12 04 17.4 -1.1**
INK Inuvik 96.81 22 P **P** **12 04 17.4 -1.1**
comp=Z,9.3nm,0.5s,baz=292,slow=4.3,SNR=30
INK PP **PP** **12 08 14.1 +0.5**
comp=Z,3.7nm,1.1s,baz=282,slow=6.2,SNR=1.4
INK PKiKP **PKiKP** **12 08 54.4 -0.5**
comp=Z,4.7nm,0.9s,baz=274,slow=4.8,SNR=3.5
comp=Z,9.3nm,0.5s
F31M Tsiigehtchic 96.83 23 P **P** **12 04 16.8 -1.8**
baz=276,SNR=10
SKAG Skagway 96.85 31 P **P** **12 04 23.3 +4.4**
SKAG Skagway 96.85 31 P **P** **12 04 18.9 +0.1**
baz=274,SNR=5.8
MBAR Mbarara 96.87 269 IAMs_20 IAMs_20 12 44 10.6
comp=Z,3µm,22.0s
MBAR Mbarara 96.87 269⇓*e*P **P** **12 04 21.2 +1.0**
MBAR pmax pmax
comp=Z,4.0nm,0.7s
WHY Whitehorse 96.99 29 P **P** **12 04 19.4 -0.2**
baz=275,SNR=18
SIT Sitka 97.02 33 P **P** **12 04 19.6 -0.1**
baz=274
M31M Drury Creek, Y 97.09 28 P **P** **12 04 19.3 -0.6**
baz=275,SNR=9.5
MATP Matopo 97.24 249 P **P** **12 04 20.4 -1.3**
comp=Z,0.8nm,0.6s,baz=158,slow=4.2,SNR=4.4
MATP PP **PP** **12 08 18.8 +0.4**
comp=Z,3.3nm,1.1s,baz=84,slow=4.0,SNR=5.4
KEV Kevo 97.27 340 IAMs_20 IAMs_20 12 53 02.5
comp=Z,5µm,22.0s
R32K Eaglecrest 97.36 32 IAMs_20 IAMs_20 12 41 48.5
comp=Z,4µm,22.0s
R32K Eaglecrest 97.36 32 P **P** **12 04 20.5 -0.7**
baz=275,SNR=5.0
S32K Killisnoo 97.40 33 IAMs_20 IAMs_20 12 43 10.4
comp=Z,3µm,20.0s
S32K Killisnoo 97.40 33 P **P** **12 04 21.3 -0.1**
baz=274
JIS Juneau Island 97.44 32 IAMs_20 IAMs_20 12 41 52.4
comp=Z,4µm,22.0s
JIS Juneau Island 97.44 32 P Pdif 12 04 22.9 +1.3
FARO Faro, Yukon 97.57 28 P **P** **12 04 21.5 -0.7**
baz=276,SNR=63
P32M Atlin 97.66 30 IAMs_20 IAMs_20 12 42 54.3
comp=Z,5µm,22.0s
P32M Atlin 97.66 30 P **P** **12 04 22.0 -0.6**
baz=276
N32M Quiet Lake 97.82 29 IAMs_20 IAMs_20 12 42 47.3
comp=Z,5µm,22.0s
N32M Quiet Lake 97.82 29 P **P** **12 04 22.4 -0.8**
baz=276
ARA0 ARCESS Array S 97.83 340 *e*P **P** **12 04 21.4 -1.7**
ARCES ARCESS Array B 97.83 340 P **P** **12 04 21.7 -1.4**
ARCES ARCESS Array B 97.83 340 P **P** **12 04 21.6 -1.4**
comp=Z,44nm,1.1s,baz=84,slow=6.9,SNR=23
ARCES PKiKP **PKiKP** **12 08 56.2 -0.5**
comp=Z,2.9nm,0.8s,baz=108,slow=2.7,SNR=3.8
ARCES PKKPbc **PKKPbc** **12 20 58.1 -2.6**
comp=Z,1.3nm,0.7s,baz=270,slow=3.3,SNR=4.2
comp=Z,44nm,1.1s
SPA0 Spitsbergen Ar 98.03 349 *e*P **P** **12 04 23.6 -0.3**
SPITS Spitsbergen Ar 98.03 349 P **P** **12 04 22.4 -1.5**
SPITS Spitsbergen Ar 98.03 349 P **P** **12 04 22.4 -1.5**
comp=Z,57nm,0.9s,baz=116,slow=9.6,SNR=11
comp=Z,57nm,0.9s
P33M Teslin, Yukon 98.05 30 P Pdif 12 04 24.4 0.0
baz=276,SNR=6.7
LSZ Lusaka 98.11 254 IAMs_20 IAMs_20 12 42 06.5
comp=Z,4µm,22.0s
LSZ Lusaka 98.11 254 P **P** **12 04 23.7 -2.0**
LSZ Lusaka 98.11 254 P **P** **12 04 23.7 -2.0**
comp=Z,2.5nm,0.4s,baz=88,slow=4.9,SNR=5.7
comp=Z,2.5nm,0.4s
HAMF Hammerfest 98.22 341 *e*P Pdif 12 04 27.9 +3.1
AKASG Malin Array Be 98.30 321 *i* P Pdif 12 04 26.2 +0.6
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 98.30 321 P **P** **12 04 24.4 -1.2**
comp=Z,7.3nm,0.9s,baz=76,slow=4.2,SNR=18
AKASG PP **PP** **12 08 25.6 +0.1**
comp=Z,5.3nm,1.0s,baz=75,slow=7.0,SNR=2.1
comp=Z,7.3nm,0.9s
AKBB Malin Array Si 98.30 321⇑*e*P Pdif 12 04 26.3 +0.7
AKBB pmax pmax
comp=Z,23nm,0.9s
U33K Whale Pass 98.31 34 IAMs_20 IAMs_20 12 42 56.7
comp=Z,3µm,21.0s
U33K Whale Pass 98.31 34 P **P** **12 04 25.4 -0.1**
baz=276
T33K Petersburg 98.34 33 P **P** **12 04 25.0 -0.6**
baz=276
CRAG Craig 98.38 35 P **P** **12 04 25.1 -0.7**
baz=275
Q32M Nakina River 98.47 31 IAMs_20 IAMs_20 12 46 43.6
comp=Z,3µm,20.0s
Q32M Nakina River 98.47 31 P **P** **12 04 25.3 -1.1**
baz=277
KBS Kingsbay 98.57 350 IAMs_20 IAMs_20 12 50 44.9
comp=Z,4µm,20.0s
KBS Kingsbay 98.57 350 *i* PKiKP 12 08 42.1 -16
HSPB Hornsund (broa 98.62 348 *e*Pdif **P** **12 04 26.4 0.0**
HSPB *e*PP **PP** **12 08 31.6 +4.3**
HSPB *e*SS SS 12 22 53.6 +15
HSPB *e*L L 12 43 39.3
comp=Z,4µm,32.2s
WRAK Wrangell Islan 98.71 34 Pdiff **P** **12 04 27.2 -0.1**
baz=276
KTK1 Kautokeino 98.72 339 *e*P **P** **12 04 26.2 -0.9**
MNK Minsk 98.79 324 *i* P **P** **12 04 25.8 -2.0**
comp=E,10.0nm,0.8s
MNK *i* P **P** **12 04 25.8 -2.0**
comp=N,34nm,1.2s
MNK *i* P **P** **12 04 25.8 -2.0**
comp=Z,30nm,1.0s,baz=84
MNK *i* PP **PP** **12 08 26.9 -2.2**
MNK *i* PPP PPP 12 10 33.1
MNK *i* S **SKSac** **12 15 01.1 -2.5**
MNK *i* SS **SS** **12 22 41.8 -0.2**
MNK *i* SSS SSS 12 26 29.6
MNK *i* LQ LQ 12 43 08.7
MNK *i* LR LR 12 47 05.8
MNK *i* LRM MLR 12 50 24.5
comp=N,2µm,17.1s
MNK *i* LRM MLR 12 50 53.4
comp=E,448nm,15.1s
MNK *i* LRM MLR 12 51 44.5
comp=Z,817nm,17.1s
MNK Minsk 98.79 324 *i* P **P** **12 04 25.7 -2.0**
MNK *i* 12 08 26.9
MNK *i* PPP PPP 12 10 33.0
MNK *i* S **SKSac** **12 15 01.0 -2.5**
MNK *i* SS **SS** **12 22 41.7 -0.2**
MNK *i* SSS SSS 12 26 29.5
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=Z,30nm,1.0s
MNK pmax pmax
comp=N,34nm,1.2s
MNK MLR MLR
comp=N,2µm,17.0s
MNK MLR MLR
comp=E,448nm,15.0s
MNK MLR MLR
comp=Z,817nm,17.0s
KIS Kishinev 98.83 317 *e*P Pdif 12 04 29.0 +0.9
comp=Z,150nm,4.9s
KIS Kishinev 98.83 317 *e*PP **PP** **12 08 33.0 +3.3**
KIS Kishinev 98.83 317 *e*P Pdif 12 04 29.0 +0.9
KIS *e* 12 08 33.0
KIS pmax pmax
comp=Z,150nm,4.9s
A36M Sachs Harbour 98.88 18 Pdiff **P** **12 04 26.7 -1.1**
baz=285
FINES FINESS Array B 98.89 332 P **P** **12 04 26.4 -1.6**
FINES FINESS Array B 98.89 332 P **P** **12 04 26.4 -1.6**
comp=Z,6.4nm,0.9s,baz=54,slow=3.5,SNR=9.5
FINES PKiKP **PKiKP** **12 08 56.8 -1.9**
comp=Z,3.1nm,0.8s,baz=105,slow=3.3,SNR=1.4
comp=Z,6.4nm,0.9s
BOSA Boshof 99.02 240 P **Pdif** **12 04 27.9 -1.7**
BOSA Boshof 99.02 240 P **Pdif** **12 04 27.9 -1.7**
comp=Z,2.4nm,0.6s,baz=121,slow=5.0,SNR=5.4
BOSA PKKPbc **PKKPbc** **12 20 54.9 -1.2**
comp=Z,4.2nm,0.7s,baz=291,slow=4.7,SNR=8.5
comp=Z,2.4nm,0.6s
SORM Soroca 99.06 318⇓P **Pdif** **12 04 27.9 -1.2**
SORM Soroca 99.06 318⇓P **Pdif** **12 04 27.9 -1.2**
R33M Jennings River 99.08 31 IAMs_20 IAMs_20 12 43 23.7
comp=Z,5µm,22.0s
R33M Jennings River 99.08 31 Pdiff **Pdif** **12 04 28.7 -0.4**
baz=278
S34M Telegraph Cree 99.19 32 Pdiff **Pdif** **12 04 29.7 +0.2**
baz=278
V35K Ketchikan 99.25 35 Pdiff **Pdif** **12 04 29.7 0.0**
baz=277
TPGR Topolog 99.25 315⇓P **Pdif** **12 04 30.1 +0.1**
TIRR Tirgusor 99.28 314 IAMs_20 IAMs_20 12 54 35.7
comp=Z,4µm,22.0s
NACGM Naroch 99.38 325 *e*P **Pdif** **12 04 30.3 0.0**
comp=Z,28nm,0.9s,baz=83
CFR Carcaliu 99.43 315⇓P **Pdif** **12 04 29.9 -0.9**
CFR Carcaliu 99.43 315 P **Pdif** **12 04 29.9 -0.9**
JETT Jettan, Norway 99.57 340 *e*P **Pdif** **12 04 29.6 -1.4**
DLBC Dease Lake 99.70 31 Pdiff **Pdif** **12 04 31.0 -0.8**
baz=278
DLBC Dease Lake 99.70 31 P **Pdif** **12 04 29.9 -1.8**
comp=Z,6.2nm,1.0s,baz=269,slow=8.0,SNR=6.9
comp=Z,6.2nm,1.0s
VNA2 Neumayer--Watz 99.75 194 PKKP **PKKPbc** **12 20 50.9 -4.3**
comp=Z,6.3nm,0.8s,baz=318,slow=4.0
VNA2 Neumayer--Watz 99.75 194⇑Pdiff **Pdif** **12 04 42.3 +11**
comp=Z,6.8nm,0.6s,baz=320,slow=4.0
T35M Bob Quinn 99.79 33 Pdiff **Pdif** **12 04 31.3 -0.9**
baz=278
C36M Paulatuk 99.97 20 Pdiff **Pdif** **12 04 31.9 -0.7**
baz=286
VNA3 Neumayer Olymp 100.05 193 PKKP **PKKPbc** **12 20 50.7 -3.8**
comp=Z,1.4nm,0.3s
VNA3 Neumayer Olymp 100.05 193⇓Pdiff **Pdif** **12 04 37.3 +4.3**
comp=Z,5.9nm,0.9s
WTLY Watson Lake, Y 100.05 30 Pdiff **Pdif** **12 04 33.5 +0.2**
baz=280
TGTN Hyland Airport 100.05 28 Pdiff **Pdif** **12 04 33.7 +0.4**
baz=281
U35K Hyder 100.06 34 IAMs_20 IAMs_20 12 44 39.0
comp=Z,3µm,21.0s
VNA1 Neumayer--Stat 100.15 194 PKKP **PKKPbc** **12 20 51.1 -2.9**
comp=Z,19nm,1.0s
VNA1 Neumayer--Stat 100.15 194⇓Pdiff **Pdif** **12 04 35.1 +1.7**
comp=Z,11nm,1.0s
TESR Tescani 100.35 316⇑P **Pdif** **12 04 34.5 -0.4**
VRI Vrincioaia 100.36 316⇑P **Pdif** **12 04 35.2 +0.2**
VRI Vrincioaia 100.36 316⇑P **Pdif** **12 04 35.2 +0.2**
PLOR Plostina 100.42 316⇓P **Pdif** **12 04 35.7 +0.5**
PLOR Plostina 100.42 316⇓P **Pdif** **12 04 35.7 +0.5**
NOR Nord 100.66 355 *i* P **Pdif** **12 04 33.7 -1.9**
NOR IAmb IAmb 12 04 50.4
comp=Z,343nm,3.0s
NOR *e*PP PP 12 08 20.5 -22
NOR Nord 100.66 355 *i* P PKiKP 12 09 11.7 +10
NOR IAMs_20 IAMs_20 12 43 07.8
comp=Z,3µm,25.8s
COVR Voineasa-Covas 100.72 316⇑P **Pdif** **12 04 37.0 +0.4**
MLR Muntele Rosu 100.94 315⇑P **Pdif** **12 04 37.5 -0.2**
MLR Muntele Rosu 100.94 315 P **Pdif** **12 04 37.5 -0.2**
MLR Muntele Rosu 100.94 315 P **Pdif** **12 04 36.7 -1.0**
comp=Z,18nm,1.0s,baz=16,slow=4.6,SNR=5.2
MLR PP **PP** **12 08 46.1 +0.1**
comp=Z,2.5nm,0.3s,baz=62,slow=11,SNR=1.5
BUR01 Bucovina Ar. S 101.21 318⇑P **Pdif** **12 04 39.0 +0.2**
ALE Alert 101.24 1 IAMs_20 IAMs_20 12 47 41.7
comp=Z,3µm,21.0s
DOPR Dopca 101.28 316⇑P **Pdif** **12 04 39.2 +0.1**
LIRD Liard River Hi 101.53 30 Pdiff **Pdif** **12 04 39.9 0.0**
baz=282
SUW Suwalki 101.59 324 *e*Pdif **Pdif** **12 04 39.9 -0.3**
SUW *e*PP PP 12 08 14.0 -36
SUW *e*SS SS 12 23 52.7 +32
SUW *e*SS **SKKPbc** **12 24 22.1 -7.3**
LVV L'vov 101.71 320 *e*P **Pdif** **12 04 50.6 +10**
LVV *e* 12 15 23.5
LVV *e*S **Sdif** **12 16 25.4 +5.4**
STEI Steigen 101.85 339 *e*P **Pdif** **12 04 39.4 -1.6**
ARCR ARCALIA 101.86 317⇑P **Pdif** **12 04 41.9 +0.4**
ARR Arges 101.87 315⇑P **Pdif** **12 04 41.6 -0.2**
FAUS Fauske 102.02 339 *e*P **Pdif** **12 04 39.9 -1.9**
SUR Sutherland 102.08 236 IAMs_20 IAMs_20 12 46 20.7
comp=Z,3µm,20.0s
KWP Kalwaria Pacla 102.59 320 *e*Pdif **Pdif** **12 04 46.8 +2.0**
KWP *e*PP **PP** **12 08 59.9 +1.8**
KWP *e*L L 12 46 19.6
comp=Z,4µm,38.4s
IDI Anoyia 102.63 305 P **Pdif** **12 04 45.8 +0.4**
comp=Z,15nm,0.9s,baz=279,slow=19,SNR=2.6
MARR Marisel-Cluj 102.75 317⇑P **Pdif** **12 04 46.1 +0.4**
KOLS Kolonicke sedl 102.98 319 *e*P **Pdif** **12 04 48.3 +1.7**
KOLS Kolonicke sedl 102.98 319 *e*PDIFF **Pdif** **12 04 48.2 +1.7**
VTS Vitosha 103.20 313⇑P **Pdif** **12 04 47.3 -0.6**
VTS Vitosha 103.20 313⇑P **Pdif** **12 04 47.3 -0.6**
CRVS Cervenica-Dubn 103.51 319 *e*P **Pdif** **12 04 50.1 +1.2**
CRVS *e* 12 09 07.5
CRVS Cervenica-Dubn 103.51 319 *e*PP **PKiKP** **12 09 07.5 0.0**
CRVS Cervenica-Dubn 103.51 319 *e*PDIFF **Pdif** **12 04 50.1 +1.2**
SIRR Siria 103.81 317⇓P **Pdif** **12 04 50.9 +0.6**
NIE Niedzica 104.17 320 *e*Pdif **Pdif** **12 04 50.3 -1.5**
NIE *e*PP **PP** **12 09 10.7 +0.8**
NIE *e*SS SS 12 23 58.5 +1.7
NIE *e*L L 12 47 06.3
comp=Z,2µm,37.8s
BOVS Bovan 104.17 314⇑P **Pdif** **12 04 51.8 -0.1**
OJC Ojcow 104.33 321 *e*Pdif **Pdif** **12 04 55.4 +2.9**
OJC *e*PP **PP** **12 09 12.8 +1.7**
OJC *e*SS SS 12 24 37.2 +38
OJC *e*L L 12 47 03.2
comp=Z,3µm,36.1s
DAG Danmarks Havn 104.83 352 PKP **PP** **12 09 12.5 -1.3**
DAG Danmarks Havn 104.83 352 *i* P **Pdif** **12 04 53.0 -1.1**
DAG IAmb IAmb 12 05 02.4
comp=Z,26nm,1.2s
DAG *e*PP PKiKP 12 08 57.9 -11
DAG Danmarks Havn 104.83 352 *i* P **PKiKP** **12 09 05.0 -4.1**
DAG IAMs_20 IAMs_20 12 47 22.2
comp=Z,3µm,29.2s
HFS Hagfors 105.10 332 Pdiff **Pdif** **12 04 55.5 -0.1**
comp=Z,3.3nm,0.5s,baz=106,slow=5.3,SNR=17
HFS PKiKP **PKiKP** **12 09 08.4 -1.6**
comp=Z,8.0nm,0.9s,baz=40,slow=4.7,SNR=3.0
VYHS Vyhne 105.30 319 *e*PP **PP** **12 09 21.5 +3.2**
OKC Ostrava-Krasne 105.46 321 AMS AMS 13 04 20.0
comp=Z,2µm,18.5s
MAUC Maruska 105.76 320 *e*PKP **PKiKP** **12 09 11.8 +0.1**
MAUC *e*x x 12 09 18.2
MAUC AMS AMS 13 08 50.0
comp=Z,4µm,16.7s
MORC Moravsky Berou 105.85 321 *e*PDIFF **Pdif** **12 05 01.1 +1.8**
MORC *e*PKIKP **PKiKP** **12 09 12.2 +0.4**
NB2 NORSAR Subarra105.92 333 P **Pdif** **12 04 57.8 -1.6**
comp=Z,22nm,1.1s,baz=68,slow=4.6
NB2 PKP **PKiKP** **12 09 11.6 0.0**
comp=Z,10nm,1.0s,baz=71,slow=2.0
NB2 NORSAR Subarra105.92 333 P **Pdif** **12 04 57.8 -1.6**
baz=68,slow=4.6
NOA NORSAR Array B105.92 333 Pdiff **Pdif** **12 04 58.2 -1.2**

comp=Z,0.4nm,0.6s,baz=197,slow=13,SNR=8.7
NOA PKiKP **PKiKP** **12 09 10.2 -1.4**
comp=Z,1.4nm,0.8s,baz=65,slow=2.4,SNR=2.8
YKA Yellowknife Ar 105.93 25 Pdiff **Pdif** **12 05 00.6 +1.2**
comp=Z,4.4nm,1.0s,baz=294,slow=5.2,SNR=3.8
YKA PKiKP **PKiKP** **12 09 10.8 -0.7**
comp=Z,9.8nm,0.9s,baz=300,slow=2.3,SNR=6.4
YKA PKKPbc **PKKPbc** **12 20 34.7 -2.1**
comp=Z,2.5nm,0.8s,baz=104,slow=2.6,SNR=2.9
KRLC Kraliky 106.26 321 AMS AMS 12 57 40.0
comp=Z,1μm,24.8s
JCC Jacoby Creek, 106.33 49 IAMs_20 IAMs_20 12 54 02.6
comp=Z,3μm,20.0s
MODS Modra-Piesok 106.34 319 *e*PP **PP** **12 09 21.9 -4.1**
KSP Ksiaz 106.38 322 *e*Pdif **Pdif** **12 05 04.4 +2.8**
KSP *e*PP **PP** **12 09 30.2 +4.1**
KSP *e*SS SS 12 24 17.8 -8.9
KSP *e*L L 12 50 23.5
comp=Z,2μm,26.7s
NEEM North Greenlan 106.45 360 *i* P **Pdif** **12 05 01.1 -0.7**
NEEM IAmb IAmb 12 05 11.7
comp=Z,22nm,0.9s
NEEM *e*PP PKiKP 12 08 57.9 -15
NEEM North Greenlan 106.45 360 *i* P **PKiKP** **12 09 12.8 +0.3**
NEEM IAMs_20 IAMs_20 12 42 58.3
comp=Z,7μm,47.3s
DPC Dobruska-Polom 106.48 322 *e*PKP PKiKP 12 09 21.0 +8.0
DPC AMS AMS 12 56 30.0
comp=Z,3μm,25.0s
ZST Bratislava 106.49 319 *e*PP **PP** **12 09 30.3 +3.2**
OSTC Ostas 106.49 322 *e*PKP **PKiKP** **12 09 12.8 -0.2**
OSTC *e*x x 12 09 22.0
OSTC AMS AMS 12 56 30.0
comp=Z,3μm,28.4s
VRAC Vranov 106.56 320 *e*PDIFF **Pdif** **12 05 02.3 -0.2**
VRAC *e*PP **PP** **12 09 28.5 +0.9**
VRAC Vranov 106.56 320 Pdiff **Pdif** **12 05 03.2 +0.8**
comp=Z,1.7nm,0.4s,baz=96,slow=9.6,SNR=3.5
VRAC PP **PP** **12 09 28.1 +0.6**
comp=Z,5.4nm,0.6s,baz=76,slow=9.4,SNR=4.2
UPC Upice 106.63 322 *e*PKP **PP** **12 09 22.5 -5.5**
UPC *e*x x 12 09 32.4
UPC AMS AMS 12 56 40.0
comp=Z,3μm,21.2s
KRUC Moravsky 106.75 320 *e*PDIFF **Pdif** **12 05 02.9 -0.4**
KRUC *e*PKIKP **PKiKP** **12 09 13.8 +0.3**
KONO Kongsberg 107.20 332 IAMs_20 IAMs_20 12 56 53.8
comp=Z,3μm,22.0s
TREC Trest 107.27 321 AMS AMS 13 09 50.0
comp=Z,2μm,16.0s
HOPS Hopland Field 107.35 50 IAMs_20 IAMs_20 12 47 32.0
comp=Z,3μm,20.0s
CONA Conrad Observa 107.36 319 *i* PKiKP **PKiKP** **12 09 15.0 +0.3**
comp=Z,4.8nm,0.9s
WIN Windhoek 107.37 245 IAMs_20 IAMs_20 12 47 08.7
comp=Z,3μm,22.0s
KOGS Kog 107.45 318 *e*Pdiff **Pdif** **12 05 04.6 -1.8**
KOGS *i* PKiKP **PKiKP** **12 09 16.1 +1.3**
KOGS *i* pPKiKP **pPKiKP** **12 09 23.7 -0.7**
KOGS *i* PP PP 12 09 43.4 +9.2
KOGS *e*SKSac **SKSac** **12 15 46.3 +2.0**
KOGS *e* 12 35 28.7
PVCC Panska Ves 107.52 322 AMS AMS 13 01 10.0
comp=Z,2μm,19.0s
GOPC GO Pecny, Ondr 107.55 321 AMS AMS 12 57 10.0
comp=Z,2μm,27.9s
MCCM Marconi Confer 107.64 51 IAMs_20 IAMs_20 12 47 20.6
comp=Z,4μm,20.0s
PRU Pruhonice 107.68 321 *e*PKP **PKiKP** **12 09 17.2 +2.0**
PRU *e*x x 12 09 23.7
PRU AMS AMS 12 57 20.0
comp=Z,2μm,19.0s
PRA Prague 107.72 322 AMS AMS 13 07 00.0
comp=Z,2μm,17.7s
BRG Berggiesshubel 107.80 322 P **PKiKP** **12 09 17.5 +2.2**
BRG Amp 12 09 26.9
comp=Z,11nm,0.9s
ZVC Zvikov 108.05 321 *e*PKP **PKiKP** **12 09 16.9 +1.0**
ZVC *e*x x 12 09 28.2
ZVC AMS AMS 12 57 40.0
comp=Z,2μm,23.2s
CKRC Cesky Krumlov 108.14 320 *e*PKP **PKiKP** **12 09 17.3 +1.2**
CKRC *e*x x 12 09 24.7
HSKC Hora Svate Kat 108.19 322 AMS AMS 13 06 30.0
comp=Z,3μm,18.7s
SOKA Soboth 108.21 318 *i* PKiKP **PKiKP** **12 09 16.7 +0.3**
comp=Z,7.5nm,1.0s
CLL Collm 108.25 323 *e*P **Pdif** **12 05 14.0 +4.1**
CLL *e* 12 09 40.0
CLL pmax pmax
comp=Z,19nm,1.3s
CLL pmax pmax
comp=Z,13nm,1.3s
CLL Collm 108.25 323 *i* x x 12 20 52.1
CLL Collm 108.25 323 *i* Px **PKKPab** **12 20 42.6 +1.4**
comp=Z,13nm,1.3s
BOJS Bojanci 108.35 317 *i* Pdiff **Pdif** **12 05 10.0 -0.5**
BOJS *e*SKSac **SKSac** **12 15 46.7 -1.6**
HAWA Hanford 108.40 42 IAMs_20 IAMs_20 12 47 33.1
comp=Z,3μm,20.0s
MOA Molln 108.42 319 *i* PKiKP **PKiKP** **12 09 16.7 +0.1**
comp=Z,4.4nm,1.1s
ORV Oroville 108.46 50 IAMs_20 IAMs_20 12 45 47.9
comp=Z,2μm,22.0s
KHC Kasperske Hory 108.52 321 *e*PKP **PKiKP** **12 09 17.3 +0.5**
KHC *e*x x 12 09 24.6
KHC AMS AMS 12 55 50.0
comp=Z,2μm,22.7s
GERES GERESS Array B 108.52 320 Pdiff **Pdif** **12 05 11.3 0.0**
comp=Z,0.8nm,0.8s,baz=72,slow=4.3,SNR=3.6
GERES PKiKP **PKiKP** **12 09 16.9 0.0**
comp=Z,2.1nm,0.5s,baz=94,slow=1.8,SNR=11
GERES PP **PP** **12 09 42.9 +0.9**
comp=Z,2.9nm,0.7s,baz=98,slow=6.0,SNR=2.0
GERES PKKPbc **PKKPbc** **12 20 26.6 -1.8**
comp=Z,0.7nm,0.6s,baz=224,slow=2.7,SNR=3.0
CEY Cerknica 108.85 317 *i* PKiKP **PKiKP** **12 09 17.2 -0.3**
CEY *i* PP **PP** **12 09 47.0 +2.6**
CEY *e*SP SP 12 19 31.9 +26
BIOA Bad Ischl, Aus 108.87 319 PKiKP **PKiKP** **12 09 16.9 -0.6**
comp=Z,6.4nm,0.8s
NKC Novy Kostel 108.90 322 AMS AMS 13 07 20.0
comp=Z,3μm,17.0s
SAO San Andreas Ge 108.99 53 IAMs_20 IAMs_20 12 46 24.5
comp=Z,4μm,20.0s
CADS Cadrg 109.19 318 *i* PKiKP **PKiKP** **12 09 18.3 +0.1**
CADS *i* pPKiKP **pPKiKP** **12 09 26.9 -0.9**
CADS *i* SP SP 12 19 37.5 +28
KBA Koelnbreinsper 109.23 319 *e*PKiKP **PKiKP** **12 09 18.1 -0.2**
comp=Z,7.8nm,0.7s
NEW Newport 109.48 40 IAMs_20 IAMs_20 12 49 08.0
comp=Z,4μm,21.0s
NEW Newport 109.48 40 PKiKP **PKiKP** **12 09 19.9 +1.3**
baz=287
LESA Schwarzleotal 109.57 319 *e*PKiKP **PKiKP** **12 09 18.2 -0.7**
comp=Z,12nm,0.9s
CMB Columbia Colle 109.59 51 IAMs_20 IAMs_20 12 48 21.4
comp=Z,3μm,20.0s
ABTA Abfaltersbach 109.87 319 *i* PKiKP **PKiKP** **12 09 18.7 -0.8**
comp=Z,19nm,0.9s
ABTA *e*pPKiKP PP 12 09 28.4 -23
comp=Z,34nm,0.9s
ABTA *e*PKKP **PKKPab** **12 20 34.9 +0.7**
WVOR Wild Horse Val 109.97 46 IAMs_20 IAMs_20 12 48 51.6
comp=Z,4μm,20.0s
WTTA Wattenberg 110.30 319 *e*PKiKP **PKiKP** **12 09 20.2 -0.2**
comp=Z,30nm,1.0s
WATA Walderalm 110.31 319 *e*PKiKP **PKiKP** **12 09 20.0 -0.4**
comp=Z,29nm,1.4s
SMMC Simmler 110.39 54 PKiKP **PKiKP** **12 09 22.0 +1.3**
baz=280
SQTA Sankt Quirin 110.59 319 *e*PKiKP **PKiKP** **12 09 21.5 +0.6**
comp=Z,15nm,1.1s
PKM Mcpherson Peak 110.61 54 PKiKP **PKiKP** **12 09 22.6 +1.2**
baz=280
MOTA Moosalm 110.62 319 *i* PKiKP **PKiKP** **12 09 20.3 -0.7**
comp=Z,18nm,0.9s
RETA Reutte 110.80 320 *i* PKiKP **PKiKP** **12 09 20.1 -1.1**
comp=Z,4.9nm,0.9s
SUMG Summit 110.81 356 IAMs_20 IAMs_20 12 59 40.8
comp=Z,2μm,20.0s
SUMG Summit 110.81 356 *i* P **PKiKP** **12 09 21.0 +0.1**
SUMG *i* P **PKiKP** **12 09 21.0 +0.1**
SUMG IAMs_20 IAMs_20 12 59 32.2
comp=Z,2μm,19.8s
FETA Feichten 110.96 319 *e*PKiKP **PKiKP** **12 09 21.5 -0.1**
comp=Z,11nm,0.8s
VES Vestal, Richgr 111.03 53 PKiKP **PKiKP** **12 09 22.4 +0.6**
baz=281
NVAR Mina Array Bea 111.12 50 Pdiff **Pdif** **12 05 24.7 +1.4**
comp=Z,1.0nm,0.7s,baz=273,slow=5.1,SNR=5.3
NVAR PKiKP **PKiKP** **12 09 22.2 -0.1**
comp=Z,3.7nm,0.8s,baz=258,slow=2.3,SNR=16
NVAR PP **PP** **12 10 00.0 -1.4**
comp=Z,4.6nm,1.0s,baz=277,slow=7.2,SNR=2.0
NVAR PKKPbc **PKKPbc** **12 20 19.2 -0.6**
comp=Z,1.2nm,0.7s,baz=111,slow=3.2,SNR=5.7
SNCC San Nicolas Is 111.13 56 PKiKP **PKiKP** **12 09 21.9 -0.2**
baz=280
ARVC Arvin 111.37 54 PKiKP **PKiKP** **12 09 23.9 +1.3**
baz=281
DAVA Damuels 111.43 320 *i* PKiKP **PKiKP** **12 09 21.6 -0.9**
comp=Z,20nm,1.1s
ISA Isabella, Lake 111.55 53 PKiKP **PKiKP** **12 09 23.8 +0.8**
baz=281
DAVOX Davos/Dischmat 111.59 319 *i* PKiKP **PKiKP** **12 09 22.0 -0.9**
DAVOX Davos/Dischmat 111.59 319 Pdiff **Pdif** **12 05 24.3 -0.8**
comp=Z,0.9nm,0.3s,baz=172,slow=23,SNR=1.8
DAVOX PKiKP **PKiKP** **12 09 21.9 -0.9**
comp=Z,7.4nm,0.5s,baz=77,slow=5.1,SNR=8.5
DAVOX PP **PP** **12 10 04.5 +0.1**
comp=Z,5.7nm,0.9s,baz=23,slow=5.4,SNR=1.0
CLTB Caltabellotta 111.62 309 IAMs_20 IAMs_20 13 03 12.3
comp=Z,3μm,21.0s
CWC Cottonwood Cre 111.71 52 PKiKP **PKiKP** **12 09 24.3 +0.9**
baz=282
MSO Missoula 111.97 41 IAMs_20 IAMs_20 12 50 37.0
comp=Z,3μm,20.0s
MSO Missoula 111.97 41 PKiKP **PKiKP** **12 09 23.6 +0.1**
baz=289
CIS Catalina Islan 112.02 56 PKiKP **PKiKP** **12 09 24.8 +0.9**
baz=280
FMP Fort Macarthur 112.06 55 PKiKP **PKiKP** **12 09 22.8 -1.1**
baz=281
EDW2 Edwards Air Fo 112.09 54 PKiKP **PKiKP** **12 09 24.6 +0.5**
baz=281
GRAC Grapevine Rang 112.15 52 PKiKP **PKiKP** **12 09 24.9 +0.8**
baz=282
LRMC Laurel Mtn Rad 112.22 53 PKiKP **PKiKP** **12 09 24.5 +0.1**
baz=282
MPMC Manual Prospec 112.25 53 PKiKP **PKiKP** **12 09 25.1 +0.6**
baz=282
BFSC Mount Baldy Ra 112.48 55 PKiKP **PKiKP** **12 09 24.6 -0.3**
baz=281
MEM Membach 112.64 324 *d*P **PKKPab** **12 20 20.5 -1.2**
FURC Furnace Creek, 112.66 52 PKiKP **PKiKP** **12 09 25.8 +0.8**
baz=283
HLID Hailey 112.66 44 PKiKP **PKiKP** **12 09 25.3 +0.3**
baz=287
ELK Elko 112.87 47 IAMs_20 IAMs_20 12 50 03.2
comp=Z,4μm,21.0s
WLF Walferdange 112.92 323 IAMs_20 IAMs_20 13 05 07.2
comp=Z,3μm,20.0s
WLF Walferdange 112.92 323 PKP **PKiKP** **12 09 26.8 +1.7**
GSC Goldstone, Bar 112.96 53 PKiKP **PKiKP** **12 09 26.1 +0.4**
baz=282
MURC Murrieta 112.98 55 PKiKP **PKiKP** **12 09 26.4 +0.6**
baz=281
TPNV Topopah Spring 113.04 51 IAMs_20 IAMs_20 12 49 16.2
comp=Z,4μm,22.0s
TPNV Topopah Spring 113.04 51 PKiKP **PKiKP** **12 09 26.6 +0.7**
baz=283
BBRC Big Bear Solar 113.08 54 PKiKP **PKiKP** **12 09 26.8 +0.6**
baz=282
R11B Troy Canyon, C 113.22 50 IAMs_20 IAMs_20 12 55 35.3
comp=Z,3μm,19.0s
R11B Troy Canyon, C 113.22 50 PKiKP **PKiKP** **12 09 26.6 +0.3**
baz=284
BGES Gesves 113.27 324 *d*P **PKKPab** **12 20 16.8 -2.1**
HEC Hector,Ludlow 113.43 54 PKiKP **PKiKP** **12 09 26.8 +0.2**
baz=282
BMRD Maredsous 113.49 324 *d*P **PKKPab** **12 20 18.4 +0.5**
PFO Pinyon Flats O 113.58 55 PKiKP **PKiKP** **12 09 27.5 +0.5**
baz=282
PFO Pinyon Flats O 113.58 55 *c i* PKIKP **PKiKP** **12 09 28.4 +1.4**
TPFO Pinon Flats 113.59 55 PKiKP **PKiKP** **12 09 28.0 +1.0**
baz=282
TUQ Turquoise Moun 113.63 53 PKiKP **PKiKP** **12 09 27.6 +0.6**
baz=283
DOU Dourbes 113.67 324 *d*P **PKKPab** **12 20 16.1 -1.0**
comp=Z,7.6nm,1.0s
BELC Belle Mtn. Jos 113.88 55 PKiKP **PKiKP** **12 09 27.5 -0.1**
baz=282
BOZ Bozeman (W) 113.90 41 IAMs_20 IAMs_20 12 53 11.4
comp=Z,3μm,20.0s
BOZ Bozeman (W) 113.90 41 PKiKP **PKiKP** **12 09 27.7 +0.5**
baz=290
GMRC Granite Mounta 113.98 54 PKiKP **PKiKP** **12 09 27.8 +0.1**
baz=283
IKP In-Ko-Pah, Jac 114.06 56 PKiKP **PKiKP** **12 09 28.1 +0.2**
baz=282
SOEG Soedalen 114.18 352 *i* P PKPdf 12 09 33.7 +6.8
EGMT Eagleton 114.20 38 IAMs_20 IAMs_20 12 48 43.4
comp=Z,3μm,22.0s
EGMT Eagleton 114.20 38 PKiKP **PKiKP** **12 09 28.0 +0.3**
baz=293
SWSC Sam W. Stewart 114.26 56 PKiKP **PKiKP** **12 09 28.6 +0.5**
baz=282
BNI Bardonecchia 114.27 318 IAMs_20 IAMs_20 13 06 58.9
comp=Z,3μm,21.0s
ICESG Greenland Ices 114.30 355 *i* P **PKiKP** **12 09 27.0 -0.6**
ICESG IAMs_20 IAMs_20 13 01 36.9
comp=Z,3μm,22.9s
BC3 Big Chuckawall 114.39 55 PKiKP **PKiKP** **12 09 28.8 +0.3**
baz=282
IRM Iron Mountain 114.54 54 PKiKP **PKiKP** **12 09 29.3 +0.6**
baz=283
ILULI Ilulissat 114.72 360 IAMs_20 IAMs_20 13 07 08.0
comp=Z,2μm,20.0s
DUG Dugway, Tooele 114.80 47 IAMs_20 IAMs_20 12 51 55.3
comp=Z,3μm,21.0s
DUG Dugway, Tooele 114.80 47 PKiKP PKPdf 12 09 29.5 +0.3
baz=287
H17A Grant Village 115.02 42 PKiKP **PKiKP** **12 09 29.5 -0.1**
baz=291
GLA Glamis 115.03 55 PKiKP **PKPdf** **12 09 30.2 +0.5**
baz=282
FLWY Flagg Ranch 115.04 43 IAMs_20 IAMs_20 12 52 25.9
comp=Z,3μm,20.0s
KEST Kesra 115.07 308 PKP **PKPdf** **12 09 29.9 +0.2**
comp=Z,15nm,1.0s,baz=292,slow=5.6,SNR=7.8
KEST PP **PP** **12 10 27.7 -1.7**
comp=Z,7.9nm,0.9s,baz=31,slow=6.5,SNR=3.5
AHID Auburn Hatcher 115.22 44 IAMs_20 IAMs_20 12 51 54.1
comp=Z,2μm,21.0s
HWUT Hardware Ranch 115.27 45 IAMs_20 IAMs_20 12 51 33.6
comp=Z,4μm,22.0s
EKA Eskdalemuir Ar 115.29 331 PKIKP **PKiKP** **12 09 28.8 -0.6**
EKA Eskdalemuir Ar 115.29 331 PKP **PKiKP** **12 09 28.8 -0.6**
comp=Z,2.7nm,0.5s,baz=43,slow=2.1,SNR=14
EKA PKKPbc **PKKPbc** **12 20 04.6 -1.5**
comp=Z,1.8nm,0.8s,baz=337,slow=4.6,SNR=3.5
PDMCI Parker Dam,Lak 115.31 54 PKiKP **PKPdf** **12 09 30.6 +0.5**
baz=284
FFC Flin Flon 115.40 29 IAMs_20 IAMs_20 12 53 56.3
comp=Z,3μm,21.0s
TCUT Toone Canyon 115.53 46 **PKPdf** **12 09 31.6 +0.9**
SSB Saint Sauveur 115.60 319 **PKiKP** **12 09 29.3 -1.1**
SSB Saint Sauveur 115.60 319 PKIKP **PKiKP** **12 09 29.3 -1.1**
RLMT Red Lodge 115.62 41 **PKPdf** **12 09 31.0 +0.3**
RLMT IAMs_20 IAMs_20 12 56 18.1
comp=Z,3μm,21.0s
RLMT Red Lodge 115.62 41 PKiKP **PKPdf** **12 09 31.0 +0.3**
baz=292
KNB Kanab 115.68 51 **PKPdf** **12 09 32.2 +1.2**
KNB Kanab 115.68 51 PKIKP **PKPdf** **12 09 32.2 +1.2**
CLF Chambon-Foret 115.93 323 **PKPdf** **12 09 31.4 +0.6**
CLF IAMs_20 IAMs_20 13 08 37.0
comp=Z,3μm,21.0s
113A Mohawk Valley, 115.97 55 **PKiKP** **12 09 32.1 +0.7**
U15A North Rim 116.25 51 **PKiKP** **12 09 32.6 +0.4**
U15A IAMs_20 IAMs_20 12 54 43.8
comp=Z,4μm,19.0s
BW06 Boulder Array 116.28 44 **PKPdf** **12 09 31.0 -1.1**
BW06 Boulder Array 116.28 44 PKiKP **PKPdf** **12 09 31.9 -0.1**
baz=291
PD31 Pinedale Array 116.28 44 **PKPdf** **12 09 31.2 -0.8**
PDAR Pinedale Array 116.28 44 **PKPdf** **12 09 31.0 -1.1**
PDAR Pinedale Array 116.28 44 PKP **PKPdf** **12 09 31.4 -0.7**
comp=Z,13nm,1.0s,baz=230,slow=1.0,SNR=32
PDAR PKKPbc **PKKPbc** **12 20 00.8 -1.8**
comp=Z,3.8nm,1.0s,baz=84,slow=3.7,SNR=5.4
214A Organ Pipe Nat 116.94 56 PKiKP **PKPdf** **12 09 33.3 -0.1**
baz=283
LAO LASA Array 116.94 39 **PKPdf** **12 09 32.7 -0.3**
LAO IAMs_20 IAMs_20 12 51 47.8
comp=Z,3μm,21.0s
LAO LASA Array 116.94 39 PKiKP **PKiKP** **12 09 33.4 +0.4**
baz=295
LAO LASA Array 116.94 39 P **PKiKP** **12 09 33.6 +0.6**
baz=295
WUAZ Wupatki 117.21 52 **PKiKP** **12 09 34.1 +0.1**
WUAZ IAMs_20 IAMs_20 13 07 15.2
comp=Z,3μm,18.0s
WUAZ Wupatki 117.21 52 PKiKP **PKiKP** **12 09 34.1 +0.1**
baz=286
DY2G Dye2 117.33 357 *i* P **PKPdf** **12 09 32.5 -0.8**
DY2G IAMs_20 IAMs_20 12 57 41.9
comp=Z,3μm,21.5s
DGMT Dagmar 117.37 36 **PKiKP** **12 09 34.2 +0.5**
DGMT Dagmar 117.37 36 IAMs_20 IAMs_20 12 55 18.9
comp=Z,4μm,21.0s
DGMT Dagmar 117.37 36 PKiKP **PKiKP** **12 09 34.2 +0.5**
baz=298
DGMT Dagmar 117.37 36 P **PKiKP** **12 09 33.8 +0.1**
baz=298
X16A Lo Mia Camp, P 117.45 53 **PKiKP** **12 09 35.4 +0.9**
ANGG Ammassalik, Gr 117.46 353 IAMs_20 IAMs_20 13 05 24.8
comp=Z,2μm,20.0s
ANGG Ammassalik, Gr 117.46 353 *i* P **PKPdf** **12 09 32.3 -0.9**
ANGG IAMs_20 IAMs_20 13 03 10.7
comp=Z,2μm,18.9s
EJON La Jonquera 117.77 317 PKP **PKPdf** **12 09 34.1 -0.5**
DSB Dublin 118.03 331 IAMs_20 IAMs_20 13 03 14.5
comp=Z,2μm,22.0s
O20A White River Ci 118.13 46 PKiKP **PKiKP** **12 09 35.9 +0.3**
baz=290
K22A Casper 118.40 43 PKiKP **PKPdf** **12 09 35.9 -0.2**
baz=293
K22A Casper 118.40 43 P **PKPdf** **12 09 35.5 -0.5**
baz=293
TUC Tucson 118.52 55 IAMs_20 IAMs_20 13 03 54.9
comp=Z,3μm,19.0s
TUC Tucson 118.52 55 PKiKP **PKPdf** **12 09 36.5 0.0**
baz=285
W18A Petrified Fore 118.61 52 PKiKP **PKiKP** **12 09 36.9 +0.1**
baz=287
ETOS Mallorca 118.80 314 PKP **PKiKP** **12 09 37.5 +0.8**
MVCO Mesa Verde 118.92 49 IAMs_20 IAMs_20 12 54 20.0
comp=Z,4μm,20.0s
MVCO Mesa Verde 118.92 49 PKiKP **PKPdf** **12 09 37.3 -0.1**
baz=289
RSSD Black Hills 119.44 40 **PKPdf** **12 09 37.5 -0.6**
RSSD Black Hills 119.44 40 IAMs_20 IAMs_20 12 56 05.1
comp=Z,3μm,21.0s
RSSD Black Hills 119.44 40 PKiKP **PKPdf** **12 09 37.2 -0.9**
baz=296
RSSD Black Hills 119.44 40 P **PKPdf** **12 09 36.8 -1.3**
baz=296
RSSD Black Hills 119.44 40 PKIKP **PKPdf** **12 09 37.5 -0.6**
N23A Red Feather La 119.48 45 PKiKP **PKiKP** **12 09 38.5 +0.1**
baz=293
NUUK Nuuk 119.78 360 *i* P **PKPdf** **12 09 36.9 -0.9**
NUUK IAMs_20 IAMs_20 12 58 02.1
comp=Z,4μm,22.7s
S22A 4UR Ranch, Cre 120.00 48 PKiKP **PKPdf** **12 09 39.3 -0.2**
baz=290
ISCO Idaho Springs 120.14 46 PKiKP **PKPdf** **12 09 39.7 0.0**
baz=292
ISCO Idaho Springs 120.14 46 P **PKiKP** **12 09 39.8 0.0**
baz=292
MDND Maddock 120.35 35 PKiKP **PKiKP** **12 09 39.6 0.0**
baz=302
MDND Maddock 120.35 35 P **PKPdf** **12 09 38.7 -0.7**
baz=302
E28A Huff 120.37 37 P **PKPdf** **12 09 38.6 -0.9**
baz=300
Q24A Divide 120.78 46 PKiKP **PKPdf** **12 09 40.6 -0.4**
baz=292
121A Cookes Peak, D 120.91 54 **PKPdf** **12 09 41.2 0.0**
121A Cookes Peak, D 120.91 54 PKiKP **PKiKP** **12 09 41.4 +0.1**
baz=287
121A Cookes Peak, D 120.91 54 P **PKPdf** **12 09 39.9 -1.3**
baz=287
SDCO Great Sand Dun 120.98 48 PKiKP **PKiKP** **12 09 41.6 +0.2**
baz=291
SDCO Great Sand Dun 120.98 48 P **PKPdf** **12 09 40.3 -1.0**
baz=291
ULM Lac du Bonnet 121.02 31 **PKPdf** **12 09 40.0 -0.6**
ULM Lac du Bonnet 121.02 31 PKIKP **PKPdf** **12 09 40.0 -0.6**
ULM Lac du Bonnet 121.02 31 PKP **PKPdf** **12 09 39.6 -1.0**
comp=Z,34nm,1.0s,baz=313,slow=2.3,SNR=19
SLBS Sierra La Lagu 121.11 65 IAMs_20 IAMs_20 12 53 55.9
comp=Z,4μm,19.0s
Y22D IRIS PASSCAL I 121.14 52 PKiKP **PKPdf** **12 09 41.6 +0.1**
baz=288
Y22F Passcal Instru 121.14 52 PKiKP **PKiKP** **12 09 41.8 +0.2**
baz=288
Y22A Socorro 121.14 52 P **PKiKP** **12 09 42.1 +0.4**
baz=288
ANMO Albuquerque 121.22 51 **PKiKP** **12 09 42.2 +0.3**
ANMO Albuquerque 121.22 51 IAMs_20 IAMs_20 12 56 56.2
comp=Z,3μm,20.0s
ANMO Albuquerque 121.22 51 PKiKP **PKiKP** **12 09 42.0 +0.1**
baz=289
ANMO Albuquerque 121.22 51 P **PKiKP** **12 09 41.9 +0.1**
baz=289,SNR=52
ANMO Albuquerque 121.22 51 PKIKP **PKiKP** **12 09 42.2 +0.3**
ANMO Albuquerque 121.22 51 PKP **PKPdf** **12 09 41.6 -0.2**
comp=Z,35nm,1.0s,baz=296,slow=3.1,SNR=68
ECHE Chera 121.57 315 PKP **PKPdf** **12 09 42.1 0.0**
T25A Trinidad 122.01 48 PKiKP **PKPdf** **12 09 42.8 -0.4**
baz=292
OGNE Ogallala 122.16 43 PKiKP **PKPdf** **12 09 42.9 -0.3**
baz=296
D32B Dogwood Acres, 122.21 35 P **PKPdf** **12 09 42.6 -0.3**
baz=304
ETOB Tobarra 122.36 314 PKP **PKiKP** **12 09 44.4 +0.5**
CART Cartagena 122.38 313 PKP **PKiKP** **12 09 44.1 +0.3**
SUSD Miller 122.50 38 PKiKP **PKPdf** **12 09 43.6 -0.1**
baz=301
SUSD Miller 122.50 38 P **PKPdf** **12 09 43.1 -0.6**
baz=301
KSCO Kaye Shedlock' 122.57 45 PKiKP **PKPdf** **12 09 44.1 -0.1**
baz=294
NRS Narsarsuaq 122.58 356 *i* P **PKPdf** **12 09 42.7 -0.6**
NRS IAMs_20 IAMs_20 13 03 23.9
comp=Z,3μm,22.7s
IVI Ivigtut 122.68 358 *i* P **PKPdf** **12 09 41.7 -1.7**
IVI IAMs_20 IAMs_20 13 06 54.8
comp=Z,3μm,23.3s
UCM Universidad Co 122.85 317 PKP **PKiKP** **12 09 44.9 +0.2**
TLOR Lorca, Murcia 122.86 313 PKP **PKPdf** **12 09 44.6 +0.1**
K30B Basset 122.97 40 **PKPdf** **12 09 44.7 +0.1**
K30B Basset 122.97 40 P **PKPdf** **12 09 44.1 -0.5**
baz=299
MNTX Cornudas Mount 123.10 54 IAMs_20 IAMs_20 12 56 51.9
comp=Z,3μm,20.0s
MNTX Cornudas Mount 123.10 54 PKiKP **PKiKP** **12 09 45.5 0.0**
baz=288
MNTX Cornudas Mount 123.10 54 P **PKiKP** **12 09 45.4 0.0**
baz=288,SNR=85
B35A Bob, Littlefor 123.28 32 P **PKPdf** **12 09 43.9 -1.2**
baz=308
F33A 5 Mile Ranch, 123.34 36 P **PKPdf** **12 09 44.7 -0.5**
baz=304
ESDC Sonseca Array 123.63 316 **PKiKP** **12 09 46.3 0.0**
ESDC Sonseca Array 123.63 316 PKP **PKPdf** **12 09 45.4 -0.7**
comp=Z,9.2nm,1.1s,baz=8.4,slow=3.5,SNR=22
ESDC PP **PP** **12 11 27.3 -0.7**
comp=Z,0.8nm,0.9s,baz=81,slow=9.2,SNR=2.7
ESDC PKKPbc **PKKPab** **12 19 34.5 +0.6**
comp=Z,1.3nm,0.8s,baz=237,slow=3.0,SNR=5.5
ECSD EROS Data Cent 124.31 38 PKiKP **PKPdf** **12 09 46.3 -0.9**
baz=303
ECSD EROS Data Cent 124.31 38 P **PKPdf** **12 09 46.2 -1.0**
baz=303
MSTX Muleshoe 124.41 51 PKiKP **PKPdf** **12 09 46.9 -0.9**
baz=291
MSTX Muleshoe 124.41 51 P **PKPdf** **12 09 47.7 -0.1**
baz=291
PBRG Braganca 124.48 320 *e*PKPdf **PKiKP** **12 09 48.1 +0.2**
PBRG *e*pPKPdf **sPKPdf** **12 09 57.7 -2.8**
PBRG Braganca 124.48 320 *e*PP **PP** **12 11 40.9 +7.3**
BGNE Belgrade 124.54 41 PKiKP **PKPdf** **12 09 46.9 -0.8**
baz=300
CBKS Cedar Bluff 124.69 44 IAMs_20 IAMs_20 13 04 55.4
comp=Z,2μm,19.0s
CBKS Cedar Bluff 124.69 44 PKiKP **PKPdf** **12 09 47.8 -0.3**
baz=297

CBKS	Cedar Bluff	124.69	44	P	PKPdf	12 09 48.1	0.0
	baz=297						
EYMN	Ely	124.71	31	PKiKP	PKPdf	12 09 47.6	-0.2
	baz=310						
EYMN	Ely	124.71	31	P	PKPdf	12 09 47.1	-0.7
	baz=310,SNR=6.5						
AMTX	Amarillo	124.91	50	IAMs_20	IAMs_20	13 00 20.8	
	comp=Z,3μm,20.0s						
AMTX	Amarillo	124.91	50	PKiKP	PKPdf	12 09 48.2	-0.5
	baz=293						
AMTX	Amarillo	124.91	50	P	PKiKP	12 09 49.3	+0.3
	baz=293,SNR=10						
F36A	Milaca	124.91	34		PKPdf	12 09 47.8	-0.4
F36A	Milaca	124.91	34	P	PKPdf	12 09 47.7	-0.4
	baz=307						
MVO	Moncorvo	124.99	319	*e*PKPdf	PKiKP	12 09 49.7	+0.7
MVO				*ep*PKPdf	pPKPdf	12 09 58.3	+0.1
MVO	Moncorvo	124.99	319	*e*PP	PP	12 11 44.7	+7.7
MVO	Moncorvo	124.99	319	*e*SS	SS	12 28 45.0	+14
MVO	Moncorvo	124.99	319	*e*LR	LR	12 52 09.2	
	comp=Z,1μm,20.0s						
TX31	Lajitas Ar. Si	125.22	57	P	PKPdf	12 09 49.1	-0.3
	baz=288,SNR=33						
TXAR	Lajitas Array	125.23	57	PKIKP	PKPdf	12 09 49.4	-0.1
TXAR	Lajitas Array	125.23	57	PKP	PKPdf	12 09 49.4	-0.1
	comp=Z,20nm,0.9s,baz=249,slow=1.2,SNR=61						
TXAR				PKKPbc	PKKPbc	12 19 28.4	0.0
	comp=Z,0.5nm,0.7s,baz=123,slow=6.7,SNR=2.2						
N33B	J Bar K, Exete	125.33	41	P	PKPdf	12 09 49.1	-0.1
	baz=300						
PGAV	Gavieira, Arco	125.38	320	*e*PKPdf	PKPdf	12 09 49.4	0.0
PGAV				*ep*PKPdf	pPKPdf	12 09 58.9	0.0
PGAV	Gavieira, Arco	125.38	320	*e*PP	PP	12 11 48.4	+8.8
POLO	Lamas de Olo	125.38	320	*e*PKPdf	PKiKP	12 09 49.7	-0.1
POLO				*ep*PKPdf	sPKPdf	12 09 59.1	-3.2
POLO	Lamas de Olo	125.38	320	*e*PP	PP	12 11 49.0	+9.4
PVRL	Vila Real	125.38	320	*e*PKPdf	PKiKP	12 09 50.4	+0.7
PVRL				*ep*PKPdf	sPKPdf	12 09 59.4	-2.9
E38A	The Farm, Brul	125.53	32	P	PKPdf	12 09 49.1	-0.3
	baz=309,SNR=7.6						
R32A	Long Quarter,	125.58	44		PKPdf	12 09 49.7	-0.1
R32A				IAMs_20	IAMs_20	13 02 55.2	
	comp=Z,2μm,20.0s						
R32A	Long Quarter,	125.58	44	P	PKPdf	12 09 49.9	+0.1
	baz=298						
SPMN	Marine on St.	125.70	34	PKiKP	PKPdf	12 09 49.3	-0.5
	baz=307						
SPMN	Marine on St.	125.70	34	P	PKPdf	12 09 48.9	-0.9
	baz=307						
MTE	Manteigas	125.71	318	*e*PKPdf	PKiKP	12 09 50.9	+0.5
MTE				*ep*PKPdf	pPKPdf	12 09 59.5	-0.1
MTE	Manteigas	125.71	318	*e*PP	PP	12 11 45.4	+3.6
MTE	Manteigas	125.71	318	*e*SS	SS	12 29 18.1	+38
MTE	Manteigas	125.71	318	*e*LR	LR	12 52 55.4	
	comp=Z,2μm,20.0s						
MTE	Manteigas	125.71	318		PKiKP	12 09 50.4	0.0
MTE				IAMs_20	IAMs_20	13 12 24.4	
	comp=Z,2μm,20.0s						
PVIS	Viseu	125.78	319	*e*PKPdf	PKiKP	12 09 50.8	+0.3
PVIS				*ep*PKPdf	sPKPdf	12 10 00.1	-2.9
PVIS	Viseu	125.78	319	*e*PP	PP	12 11 51.0	+8.7
TOA0	Torodi Ar. Sit	125.87	283		PKPdf	12 09 50.5	-0.4
TORD	Torodi Ar. Bea	125.87	283		PKPdf	12 09 49.9	-1.0
TORD	Torodi Ar. Bea	125.87	283	PKP	PKPdf	12 09 49.9	-1.0
	comp=Z,21nm,1.1s,baz=48,slow=3.7,SNR=32						
TORD				PP	PP	12 11 44.4	+0.4
	comp=Z,4.8nm,1.0s,baz=64,slow=6.7,SNR=2.0						
TORD				PKKPbc	PKKPbc	12 19 26.2	+0.7
	comp=Z,2.9nm,0.8s,baz=304,slow=5.6,SNR=5.7						
PCBR	Castelo Branco	125.94	318	*e*PKPdf	PKiKP	12 09 51.2	+0.4
PCBR				*ep*PKPdf	sPKPdf	12 10 00.1	-3.2
PCBR	Castelo Branco	125.94	318	*e*PP	PP	12 11 55.7	+12
I37B	Waseca	126.07	36	P	PKPdf	12 09 50.4	-0.1
	baz=306						
PMRV	Marv??o	126.09	317	*e*PKPdf	PKiKP	12 09 51.7	+0.6
PMRV				*ep*PKPdf	sPKPdf	12 10 00.6	-3.0
PMRV	Marv??o	126.09	317	*e*PP	PP	12 11 49.4	+5.1
PMRV	Marv??o	126.09	317	*e*LR	LR	12 53 09.0	
	comp=Z,2μm,20.0s						
SN01	Snyder 1	126.28	52		PKPdf	12 09 51.3	-0.1
COI	Coimbra	126.38	319	*e*PKPdf	PKiKP	12 09 52.5	+0.9
COI				*ep*PKPdf	sPKPdf	12 10 01.1	-3.0
OK038	West end E0370	126.44	47	IAMs_20	IAMs_20	12 59 59.8	
	comp=Z,3μm,20.0s						
N35A	Tabor	126.45	40		PKiKP	12 09 51.6	-0.2
PBAR	Barrancos	126.45	316	*e*PKPdf	PKiKP	12 09 52.2	+0.4
PBAR				*ep*PKPdf	sPKPdf	12 10 01.2	-3.1
PBAR	Barrancos	126.45	316	*e*PP	PP	12 11 48.1	+1.4
PESTR	Estremoz	126.50	317	*e*PKPdf	PKiKP	12 09 52.5	+0.5
PESTR				*ep*PKPdf	sPKPdf	12 10 01.5	-2.9
PESTR	Estremoz	126.50	317	*e*PP	PP	12 11 51.0	+3.9
PESTR	Estremoz	126.50	317	*e*SS	SS	12 29 02.9	+13
PESTR	Estremoz	126.50	317		PKiKP	12 09 52.4	+0.4
PCAS	Casmilo, Conde	126.52	319	*e*PKPdf	PKiKP	12 09 52.1	+0.2
PCAS				*ep*PKPdf	pPKPdf	12 10 00.9	-0.2
PCAS	Casmilo, Conde	126.52	319	*e*PP	PP	12 11 52.2	+5.1
PCAS	Casmilo, Conde	126.52	319	*e*SS	SS	12 29 33.5	+44
SFS	San Fernando	126.64	314	IAMs_20	IAMs_20	13 17 31.1	
	comp=Z,2μm,20.0s						
OK032	Salt Plains WL	126.67	46	IAMs_20	IAMs_20	13 01 44.2	
	comp=Z,3μm,21.0s						
KSU1	Kansas State U	126.70	43	IAMs_20	IAMs_20	13 00 50.0	
	comp=Z,2μm,21.0s						
PMTG	Montargil	126.83	317	*e*PKPdf	PKiKP	12 09 52.6	0.0
PMTG				*ep*PKPdf	pPKPdf	12 10 01.0	-0.7
PMTG	Montargil	126.83	317	*e*PP	PP	12 11 51.2	+2.0
PMTG	Montargil	126.83	317	*e*SS	SS	12 29 38.9	+45
EVO	Evora	126.95	317	*e*PKPdf	PKiKP	12 09 53.1	+0.3
EVO				*ep*PKPdf	pPKPdf	12 10 01.8	-0.1
PSBE	So Bento	126.99	318	*e*PKPdf	PKiKP	12 09 53.8	+0.9
PBEJ	Beja	127.09	316	*e*PKPdf	PKiKP	12 09 53.8	+0.7
PBEJ	Beja	127.09	316	*e*PP	PP	12 11 54.4	+3.4
G40A	Rib Lake	127.11	33	P	PKPdf	12 09 51.7	-0.8
	baz=310,SNR=9.8						
WMOK	Wichita Mounta	127.15	48	PKiKP	PKPdf	12 09 52.2	-0.7
	baz=295						
WMOK	Wichita Mounta	127.15	48	P	PKPdf	12 09 52.3	-0.6
	baz=295,SNR=35						
PVAQ	Vaqueiros	127.28	315	*e*PKPdf	PKiKP	12 09 54.7	+1.2
PVAQ	Vaqueiros	127.28	315	*e*PP	PP	12 11 54.4	+2.1
PVAQ	Vaqueiros	127.28	315	*e*LR	LR	12 53 54.7	
	comp=Z,2μm,18.0s						
ABTX	Abilene, Hawle	127.35	51	PKiKP	PKPdf	12 09 52.6	-0.7
	baz=293						
ABTX	Abilene, Hawle	127.35	51	P	PKiKP	12 09 54.3	+0.4
	baz=293,SNR=13						
PCVE	Castro Verde	127.40	316	*e*PKPdf	PKiKP	12 09 54.4	+0.6
PCVE				*ep*PKPdf	sPKPdf	12 10 03.3	-2.9
PCVE	Castro Verde	127.40	316	*e*PP	PP	12 11 55.4	+2.3
SCIA	State Center	127.40	38	IAMs_20	IAMs_20	13 00 46.0	
	comp=Z,3μm,21.0s						
SCIA	State Center	127.40	38	PKiKP	PKPdf	12 09 52.6	-0.5
	baz=305						
PNCL	Nicolau / Gran	127.51	316	*e*PKPdf	PKiKP	12 09 54.4	+0.4
PNCL				*ep*PKPdf	sPKPdf	12 10 03.6	-2.7
PNCL	Nicolau / Gran	127.51	316	*e*PP	PP	12 12 03.2	+9.5
PNCL	Nicolau / Gran	127.51	316	*e*SS	SS	12 29 27.0	+25
PBDV	Barranco-do-Ve	127.51	315	*e*PKPdf	PKiKP	12 09 54.8	+0.8
PBDV				*ep*PKPdf	sPKPdf	12 10 04.3	-2.1
PBDV	Barranco-do-Ve	127.51	315	*e*PP	PP	12 11 57.2	+3.4
PBDV	Barranco-do-Ve	127.51	315	*e*SS	SS	12 29 25.6	+23
PMAFR	Mafra	127.60	318	*e*SS	SS	12 29 38.0	+35
LIS	Lisbon	127.63	317	*e*PP	PP	12 11 55.9	+1.4
I40A	Norwalk	127.75	35	P	PKiKP	12 09 54.2	-0.1
	baz=309,SNR=6.1						
OK048	Pawnee Station	127.76	46	IAMs_20	IAMs_20	13 02 27.9	
	comp=Z,3μm,20.0s						
SCHQ	Schefferville	127.82	11		PKiKP	12 09 53.9	-0.2
SCHQ	Schefferville	127.82	11	PKP	PKPdf	12 09 52.1	-1.4
	comp=Z,41nm,1.0s,baz=18,slow=3.1,SNR=11						
T35B	Sooner Cattle	127.83	45	P	PKiKP	12 09 54.5	-0.2
	baz=298						
F42A	Maple Grove Fa	127.88	31		PKPdf	12 09 54.2	+0.2
PTEO	Sao Teotonio	127.92	316	*e*PKPdf	PKPdf	12 09 54.4	+0.2
PTEO				*ep*PKPdf	sPKPdf	12 10 04.9	-2.2
OK033	Mehan	127.93	46	IAMs_20	IAMs_20	12 59 32.4	
	comp=Z,2μm,22.0s						
MORF	Marmelete	127.99	316	*e*PKPdf	PKPdf	12 09 54.6	+0.2
MORF				*ep*PKPdf	sPKPdf	12 10 05.0	-2.3
MORF	Marmelete	127.99	316	*e*PP	PP	12 12 04.1	+7.1
MORF	Marmelete	127.99	316	*e*SS	SS	12 29 01.7	-6.7
MORF	Marmelete	127.99	316	*e*PKPdf	PKiKP	12 09 55.4	+0.3
MORF				*e*PP	PP	12 11 58.5	+1.5
JCT	Junction City	128.02	54	PKiKP	PKPdf	12 09 53.8	-0.9
	baz=291						
JCT	Junction City	128.02	54	P	PKPdf	12 09 55.0	+0.3
	baz=291,SNR=60						
OK031	S. Brethren Rd	128.04	46	IAMs_20	IAMs_20	13 01 28.4	
	comp=Z,3μm,20.0s						
OK052	Battle Ridge R	128.05	46	IAMs_20	IAMs_20	13 01 28.6	
	comp=Z,2μm,20.0s						
PFVI	Vila Bisbo	128.19	316	*e*PKPdf	PKiKP	12 09 56.1	+0.7
PFVI				*ep*PKPdf	sPKPdf	12 10 05.4	-2.3
PFVI	Vila Bisbo	128.19	316	*e*PP	PP	12 12 00.2	+1.9
PFVI	Vila Bisbo	128.19	316	*e*SS	SS	12 29 54.5	+44
FW03	Perrin-Whitt E	128.40	50	IAMs_20	IAMs_20	13 04 25.4	
	comp=Z,3μm,18.0s						
P38A	Dawn	128.47	41	P	PKPdf	12 09 55.2	0.0
	baz=303						
L40A	Anamosa	128.52	37	P	PKPdf	12 09 55.1	-0.2
	baz=307,SNR=10						
JFWS	Jewell Farm	128.57	35	PKiKP	PKPdf	12 09 54.3	-1.1
	baz=308						
JFWS	Jewell Farm	128.57	35	P	PKPdf	12 09 54.7	-0.6
	baz=308,SNR=12						
I42A	Draeger Farm,	128.70	34	P	PKPdf	12 09 55.8	+0.3
	baz=310						
TUL3	Leonard	128.82	46	PKiKP	PKPdf	12 09 55.6	-0.4
	baz=298						
TUL3	Leonard	128.82	46	P	PKPdf	12 09 55.4	-0.6
	baz=298,SNR=8.9						
Z35A	Perchaven, San	128.90	49	P	PKPdf	12 09 56.2	0.0
	baz=295,SNR=6.6						
833A	Chaparral WMA,	129.10	56	PKiKP	PKPdf	12 09 56.2	-0.6
	baz=290						
833A	Chaparral WMA,	129.10	56	P	PKiKP	12 09 58.1	+0.6
	baz=290						
WHTX	Lake Whitney,	129.30	51	PKiKP	PKPdf	12 09 56.6	-0.4
	baz=294						
WHTX	Lake Whitney,	129.30	51	P	PKiKP	12 09 58.8	+1.1
	baz=294,SNR=6.4						
L42A	Oliver, Polo	129.47	36	P	PKPdf	12 09 57.4	+0.4
	baz=308,SNR=6.3						
P40A	Paris	129.48	40	P	PKiKP	12 09 58.1	+0.2
	baz=304,SNR=8.5						
U38A	Gravette	129.55	44	P	PKPdf	12 09 56.4	-1.0
	baz=300,SNR=17						
S39A	Bolivar	129.64	43	P	PKPdf	12 09 56.6	-0.9
	baz=302,SNR=33						
435B	Jarrell	129.68	53	PKiKP	PKPdf	12 09 57.2	-0.5
	baz=293						
X37A	Clayton	129.74	47	P	PKPdf	12 09 57.4	-0.4
	baz=298,SNR=9.8						
HHAR	Hobbs	129.94	44		PKPdf	12 09 57.2	-1.0
R40A	Maddies Statio	130.02	41	P	PKPdf	12 09 57.2	-1.0
	baz=303,SNR=13						
GLMI	Grayling	130.32	30	PKiKP	PKPdf	12 09 58.1	-0.5
	baz=316						
L44A	Lake County Fo	130.37	35	PKiKP	PKPdf	12 09 58.5	-0.3
	baz=310						
Z38A	Mt. Pleasant	130.63	48	P	PKPdf	12 09 57.2	-2.3
	baz=297						
U40A	Yellville	130.66	44	P	PKPdf	12 09 58.4	-1.1
	baz=301,SNR=19						
U40A				P	PKPdf	12 09 58.4	-1.1
	baz=301,SNR=19						
CCM	Cathedral Cave	130.82	41		PKPdf	12 09 60.0	+0.2
CCM	Cathedral Cave	130.82	41	PKiKP	PKPdf	12 09 59.0	-0.8
	baz=304						
CCM	Cathedral Cave	130.82	41	P	PKPdf	12 09 59.0	-0.8
	baz=304,SNR=9.9						
CCM	Cathedral Cave	130.82	41	PKIKP	PKPdf	12 10 00.0	+0.2
MIAR	Mount Ida	131.06	46	PKiKP	PKPdf	12 09 59.9	-0.4
	baz=299						
MIAR	Mount Ida	131.06	46	P	PKPdf	12 09 59.9	-0.4
	baz=299						
J47A	Sunmer	131.34	32	P	PKPdf	12 10 01.0	+0.4
	baz=314						
J47A				P	PKPdf	12 10 01.0	+0.4
	baz=314						
HKT	Hockley	131.39	53	||*i*PKIKP	PKiKP	12 10 02.9	+1.0
NATX	Nacogdoches	131.55	50	PKiKP	PKPdf	12 10 00.5	-0.8
	baz=296						
UNM	Universidad Na	131.79	67	IAMs_20	IAMs_20	12 57 39.2	
	comp=Z,5μm,21.0s						
UALR	University of	131.83	45		PKPdf	12 10 01.8	+0.1
LCAR	Lake Charles	131.98	43	P	PKPdf	12 10 00.6	-1.3
	baz=303,SNR=8.4						
SFIN	Lafayette	132.00	36	PKiKP	PKPdf	12 10 01.4	-0.5
	baz=310						
Z41A	Richland Creek	132.25	47	P	PKPdf	12 10 01.0	-1.6
	baz=299						
Z41A				P	PKPdf	12 10 01.0	-1.6
	baz=299						
P46A	Rosedale	132.42	37	P	PKPdf	12 10 00.7	-2.0
	baz=310						
OLIL	Olney	132.43	38	P	PKPdf	12 10 01.2	-1.5
	baz=308,SNR=8.2						
L48A	N Adams	132.45	32	P	PKPdf	12 10 01.5	-1.2
	baz=314						
L48A				P	PKPdf	12 10 01.5	-1.2
	baz=314						
N47A	Urbana	132.48	34	P	PKPdf	12 10 01.2	-1.6
	baz=312						
N47A				P	PKPdf	12 10 01.2	-1.6
	baz=312						
KIC	Kosan Boka	132.54	275⇑	*e*PKP1	PKiKP	12 10 04.4	-0.4
	comp=Z,53nm,0.8s						
AAM	Ann Arbor	132.61	32	PKiKP	PKPdf	12 10 03.1	+0.1
	baz=315						
PLCA	Paso Flores	132.61	161		PKiKP	12 10 04.2	-0.1
PLCA	Paso Flores	132.61	161	PKIKP	PKPdf	12 10 02.9	-0.3
PLCA	Paso Flores	132.61	161	*e*P	PKPdf	12 10 03.4	+0.2
PLCA	Paso Flores	132.61	161	PKP	PKPdf	12 10 02.9	-0.3
	comp=Z,11nm,0.8s,baz=211,slow=3.7,SNR=18						
PLCA				SKPbc	SKPbc	12 13 26.2	-1.9
	comp=Z,16nm,1.1s,baz=198,slow=6.4,SNR=4.1						
DBIC	Dimbokro	132.65	275		PKPdf	12 10 03.6	-0.2
DBIC	Dimbokro	132.65	275	PKIKP	PKPdf	12 10 02.8	-1.0
DBIC	Dimbokro	132.65	275	PKP	PKPdf	12 10 02.8	-1.0
	comp=Z,36nm,1.2s,baz=26,slow=1.8,SNR=12						
DBIC				SKPbc	SKPbc	12 13 26.6	-2.3
	comp=Z,11nm,1.0s,baz=213,slow=1.9,SNR=3.5						
TIC	Toumodi	132.81	275⇑	*e*PKP1	PKPdf	12 10 03.5	-0.7
	comp=Z,51nm,0.9s						
LIC	Lamto	132.82	275⇑	*e*PKP1	PKPdf	12 10 04.1	-0.1
	comp=Z,65nm,0.7s						
O48B	Farmland	133.20	35	PKiKP	PKPdf	12 10 03.4	-0.8
	baz=312						
N49A	Columbus Grove	133.29	33	P	PKPdf	12 10 03.8	-0.6
	baz=314						
N49A				P	PKPdf	12 10 03.8	-0.6
	baz=314						
143A	Socs Landing,	133.54	47	P	PKPdf	12 10 03.9	-1.2
	baz=300						
TRQ	Mont Tremblant	133.56	21		PKPdf	12 10 05.0	+0.2
M50A	Fremont	133.57	32	P	PKPdf	12 10 04.1	-0.7
	baz=315						
M50A				P	PKPdf	12 10 04.1	-0.7
	baz=315						
WCI	Wyandotte Cave	133.85	38	IAMs_20	IAMs_20	13 02 50.2	
	comp=Z,3μm,22.0s						
WCI	Wyandotte Cave	133.85	38	PKiKP	PKPdf	12 10 03.8	-1.6
	baz=310						
P49A	Miami Univ. Ec	133.93	35	PKiKP	PKPdf	12 10 04.1	-1.5
	baz=312						
OXF	Oxford	134.02	44	PKiKP	PKPdf	12 10 04.8	-1.1
	baz=303						
ACSO	Alum Creek Sta	134.43	33	IAMs_20	IAMs_20	13 08 49.8	
	comp=Z,3μm,21.0s						
ACSO	Alum Creek Sta	134.43	33	PKiKP	PKPdf	12 10 05.8	-0.7
	baz=315						
ACSO	Alum Creek Sta	134.43	33	P	PKPdf	12 10 06.8	+0.4
	baz=315						
VBMS	Vicksburg	134.44	47	PKiKP	PKPdf	12 10 06.1	-0.6
	baz=300						
D62A	Allapoint, All	134.56	16	P	PKiKP	12 10 07.2	-0.6
	baz=336						
D62A				P	PKiKP	12 10 07.2	-0.6
	baz=336						
ERPA	Erie	134.59	29	PKiKP	PKPdf	12 10 06.1	-0.6
	baz=320						
BMNY	Brushton-Moira	134.76	22	P	PKPdf	12 10 06.8	-0.2
	baz=328,SNR=6.4						
M53A	Wt Miller and	134.76	30	PKiKP	PKPdf	12 10 06.6	-0.4
	baz=318						
LONY	Lake Ozonia	134.92	22	PKiKP	PKPdf	12 10 06.7	-0.6
	baz=328						
Q51A	Peebles	135.06	35	P	PKiKP	12 10 08.6	-0.6
	baz=313,SNR=8.7						
Q51A				P	PKiKP	12 10 08.6	-0.6
	baz=313,SNR=8.7						
N53A	Lisbon	135.15	31	P	PKiKP	12 10 08.8	-0.5
	baz=318,SNR=5.4						
N53A				P	PKiKP	12 10 08.8	-0.5
	baz=318,SNR=5.4						
PQI	Presque Isle	135.22	15		PKPdf	12 10 07.2	-0.5
P52A	Corning	135.31	33		PKPdf	12 10 06.5	-1.6
P52A				IAMs_20	IAMs_20	13 08 39.3	
	comp=Z,2μm,20.0s						
P52A	Corning	135.31	33	PKiKP	PKPdf	12 10 07.3	-0.8
	baz=315						
O53A	New Philadelph	135.36	32	IAMs_20	IAMs_20	13 05 32.5	
	comp=Z,2μm,20.0s						
O53A	New Philadelph	135.36	32	PKiKP	PKPdf	12 10 07.2	-1.0
	baz=317						
M55A	Ridgway	135.67	29	P	PKPdf	12 10 08.0	-0.8
	baz=321,SNR=5.7						
M55A				P	PKPdf	12 10 08.0	-0.8
	baz=321,SNR=5.7						
J58A	Remsen	135.69	24	P	PKPdf	12 10 08.7	-0.1
	baz=326,SNR=8.0						
J58A				P	PKPdf	12 10 08.7	-0.1
	baz=326,SNR=8.0						
K57A	Scipio Center	135.70	26	P	PKiKP	12 10 10.1	-0.3
	baz=324,SNR=5.6						
Q52A	Bidwell	135.71	34	P	PKPdf	12 10 09.1	+0.2
	baz=315,SNR=8.2						
Q52A				P	PKPdf	12 10 09.1	+0.2
	baz=315,SNR=8.2						
L56A	Greenwood	135.71	27	P	PKPdf	12 10 08.9	0.0
	baz=322,SNR=6.5						
L56A				P	PKPdf	12 10 08.9	0.0
	baz=322,SNR=6.5						
G62A	West of Eustis	135.81	18	P	PKiKP	12 10 10.2	-0.3
	baz=333						
G62A				P	PKiKP	12 10 10.2	-0.3
	baz=333						
O54A	Avella	135.84	31	P	PKPdf	12 10 09.0	-0.2
	baz=318,SNR=7.8						
O54A				P	PKPdf	12 10 09.0	-0.2
	baz=318,SNR=7.8						
S51A	Beattyville	135.85	36	P	PKPdf	12 10 09.8	+0.6
	baz=312						
S51A				P	PKPdf	12 10 09.8	+0.6
	baz=312						
J59A	Piesco	135.92	23	P	PKiKP	12 10 10.5	-0.4
	baz=327						
J59A				P	PKiKP	12 10 10.5	-0.4
	baz=327						
PKME	Peaks-Kenny Pk	136.15	17	IAMs_20	IAMs_20	13 11 33.3	
	comp=Z,3μm,20.0s						
PKME	Peaks-Kenny Pk	136.15	17	PKiKP	PKPdf	12 10 08.8	-0.7
	baz=335						
LBNH	Lisbon	136.21	20	PKiKP	PKPdf	12 10 09.4	-0.3
	baz=331						
PMOZ	Porto Moniz, M	136.29	315	*e*LR	LR	12 57 59.2	
	comp=Z,957nm,22.0s						
R53A	Hurricane	136.33	34	P	PKiKP	12 10 11.1	-0.7
	baz=314,SNR=5.6						
R53A				P	PKiKP	12 10 11.1	-0.7
	baz=314,SNR=5.6						
BINY	Binghamton	136.36	26	PKiKP	PKPdf	12 10 10.6	+0.6
	baz=325						
BINY	Binghamton	136.36	26	P	PKPdf	12 10 10.1	0.0
	baz=325,SNR=6.1						
MCWV	Mont Chateau	136.51	31	PKiKP	PKPdf	12 10 10.7	+0.3
	baz=318						
LRAL	Lakeview Retre	136.51	44	IAMs_20	IAMs_20	13 05 26.7	
	comp=Z,2μm,21.0s						
LRAL	Lakeview Retre	136.51	44	PKiKP	PKPdf	12 10 10.6	0.0
	baz=305						
LRAL	Lakeview Retre	136.51	44	P	PKPdf	12 10 09.4	-1.1
	baz=305						
TZTN	Tazewell	136.61	37	PKiKP	PKPdf	12 10 10.8	+0.1
	baz=311						
SSPA	Standing Stone	136.74	29	PKiKP	PKPdf	12 10 11.1	+0.3
	baz=321						
SSPA	Standing Stone	136.74	29	P	PKiKP	12 10 11.8	-0.7
	baz=321,SNR=5.4						
V52A	Sevierville	137.04	38		PKPdf	12 10 11.5	0.0
V52A	Sevierville	137.04	38	P	PKiKP	12 10 12.5	-0.8
	baz=311						
Q56A	Snyder Ridge,	137.31	31	P	PKPdf	12 10 12.1	+0.2
	baz=318						
Q56A				P	PKPdf	12 10 12.1	+0.2
	baz=318						
L61B	Northampton	137.49	22	PKiKP	PKPdf	12 10 12.8	+0.7
	baz=329						
BRAL	Brewton	137.50	46	PKiKP	PKPdf	12 10 12.2	-0.2
	baz=303						
P57A	Homestead Farm	137.57	30	P	PKiKP	12 10 13.9	-0.3
	baz=320						
P57A				P	PKiKP	12 10 13.9	-0.3
	baz=320						
HRV	Adam Dziewonsk	137.86	21	PKiKP	PKPdf	12 10 13.1	+0.4
	baz=331						
BLA	Blacksburg	137.97	34	IAMs_20	IAMs_20	13 03 22.0	
	comp=Z,3μm,22.0s						
BLA	Blacksburg	137.97	34

CPSB	Cacapava Do Su	145.93	178	eP	PKPdf	12 10 27.6	+0.1
ELI1	Hacienda Flor	146.39	77	eP	PKPbc	12 10 30.3	+0.3
ITQB	Itaqui	146.43	173		PKPbc	12 10 29.3	-0.3
ITQB	Itaqui	146.43	173	eP	PKPdf	12 10 28.4	0.0
JUD3	Juan Diaz 3	146.47	77	eP	PKPdf	12 10 28.8	-0.1
NARJA	Naranjal	146.50	78	eP	PKPbc	12 10 30.0	-0.4
GB1A	Borinquen Arri	146.51	76	eP	PKPab	12 10 31.7	+0.2
ACON	Acoyapa	146.52	74	eP	PKPdf	12 10 27.6	-1.3
ORTG	Ortega, Santa	146.52	77		PKPdf	12 10 29.8	+0.7
ORTG	Ortega, Santa	146.52	77	eP	PKPdf	12 10 28.9	-0.1
DUNO	Dulce Nombre,	146.53	78	eP	PKPdf	12 10 29.4	+0.5
INDI	Punta indio, G	146.55	78	eP	PKPdf	12 10 28.9	0.0
MECA	Mercedes	146.58	171	eP	PKPdf	12 10 28.5	-0.1
PB14	IPOC Station P	146.69	149	PKP	PKPab	12 10 32.2	+0.1
CUI	Cuipilapa	146.73	76	eP	PKPdf	12 10 28.7	-0.7
VMAR	Armenia, Volca	146.79	76	eP	PKPdf	12 10 29.4	0.0
CNLB	Canela	147.01	182	eP	PKPdf	12 10 30.2	+0.7
JTS	Las Juntas de	147.03	77		PKPdf	12 10 30.0	+0.1
JTS	Las Juntas de	147.03	77	PKP2	PKPdf	12 10 30.8	+1.0
JTS	Las Juntas de	147.03	77	PKPbc	PKPdf	12 10 30.8	+1.0
	comp=Z,170nm,0.9s,baz=326,slow=3.4,SNR=43						
JTS	Las Juntas de	147.03	77	eP	PKPdf	12 10 28.3	-1.5
LAFE	Finca La Fe, P	147.14	78	eP	PKPdf	12 10 30.2	+0.2
UNIS	Unistalda (Bra	147.18	176	eP	PKPdf	12 10 29.7	0.0
ARE1	Arenal 1	147.22	77		PKPbc	12 10 31.6	-0.8
ARE1	Arenal 1	147.22	77	eP	PKPdf	12 10 30.9	+0.7
CEDE	Laguna Cedeo	147.24	77	eP	PKPdf	12 10 30.3	0.0
VACR	Volcan Arenal	147.26	77	eP	PKPdf	12 10 28.8	-1.4
COVE	Coope Vega, Sa	147.49	76	eP	PKPbc	12 10 32.0	-1.1
ALGR	Alto Alegre (B	147.54	179	eP	PKPbc	12 10 32.4	-0.6
HDC	Heredia	147.88	77		PKiKP	12 10 35.5	-0.8
HDC	Heredia	147.88	77	eP	PKPdf	12 10 30.2	-1.2
HDC	Heredia	147.88	77	eP	PKPbc	12 10 33.1	-1.3
HDC3	Heredia 3	147.89	77	eP	PKPbc	12 10 33.1	-1.3
RIFO	Rio Frio, Sara	148.02	77	eP	PKPdf	12 10 31.1	-0.3
CVIMO	Finca Echandi	148.05	77	eP	PKPdf	12 10 31.6	-0.2
OCM	Ochomogo	148.05	77	eP	PKPdf	12 10 31.5	-0.3
VICA	Volcano Irazu	148.15	77	eP	PKPdf	12 10 32.3	+0.1
ICR3	Volcano Irazu	148.16	77	eP	PKPdf	12 10 32.9	+0.7
RIMA	Rio Macho	148.16	78		PKPdf	12 10 33.4	+1.4
SCCA	San Cayetano,	148.19	169	eP	PKPdf	12 10 31.9	+0.6
CVTQ	Turrialba Volc	148.22	77	eP	PKPdf	12 10 31.8	-0.4
CVTR	Volcan Turrial	148.23	77	eP	PKPdf	12 10 32.1	-0.3
CVTV	Tajo	148.24	77	eP	PKPdf	12 10 31.7	-0.6
VTLO	VTLO	148.25	77	eP	PKPdf	12 10 31.3	-1.0
CDM	Cerro de Muert	148.29	78	eP	PKPdf	12 10 31.6	-0.9
BUS1	Rivas	148.31	78	eP	PKPdf	12 10 31.1	-1.4
SRBA	San Rafael, Bu	148.73	79		PKPbc	12 10 36.0	-0.6
SRBA	San Rafael, Bu	148.73	79	eP	PKPbc	12 10 35.4	-1.2
CRSM	Crissiumal (Br	148.81	177	eP	PKPdf	12 10 31.5	-0.9
LVC	Limon Verde	149.12	149		PKPbc	12 10 38.0	+0.3
LVC	Limon Verde	149.12	149	PKP2	PKPbc	12 10 38.0	+0.3
LVC	Limon Verde	149.12	149	eP	PKPdf	12 10 32.4	-1.1
LVC	Limon Verde	149.12	149	PKPbc	PKPdf	12 10 34.8	+1.3
	comp=Z,62nm,0.7s,baz=233,slow=3.3,SNR=18						
PB07	IPOC Station P	149.33	147	PKP	PKPdf	12 10 35.2	+1.6
CPUP	Villa Florida	149.62	171	PKHKP	PKPpre	12 10 33.6	
CPUP	Villa Florida	149.62	171	eP	PKPdf	12 10 33.3	-0.5
CPUP	Villa Florida	149.62	171	PKP	PKPdf	12 10 33.5	-0.2
	comp=Z,79nm,1.1s,baz=182,slow=1.4,SNR=18						
CPUP				PKPbc	PKPbc	12 10 38.1	-0.2
	comp=Z,87nm,1.0s,baz=200,slow=2.0,SNR=34						
PRVC	Isla de Provid	149.81	70	eP	PKPdf	12 10 32.8	-1.5
FRBT	Francisco Belt	150.35	179	eP	PKPdf	12 10 34.6	-0.4
NNA	Nana	151.00	123	IAMs_20	IAMs_20	13 10 04.5	
	comp=Z,3μm,20.0s						
NNA	Nana	151.00	123	PKiKP	PKPdf	12 10 36.4	+0.1
NNA						12 10 42.4	
NNA	Nana	151.00	123	PKP	PKPdf	12 10 36.4	+0.1
	comp=Z,38nm,1.1s,baz=260,slow=3.8,SNR=5.3						
NNA				PKPbc	PKiKP	12 10 42.4	-0.2
	comp=Z,158nm,0.9s,baz=258,slow=6.7,SNR=36						
PB08	IPOC Station P	151.00	146	PKP	PKPdf	12 10 37.0	+0.5
MCRA	Macar, Loja	151.23	106		PKPdf	12 10 35.7	-0.9
MCRA					PKiKP	12 10 43.9	+0.8
MCRA				PKPab	sPKPbc	12 10 52.3	-2.7
CACAO	El Cacao, Vera	151.41	82	eP	PKPdf	12 10 35.1	-1.7
MTDJ	Mount Denham	151.50	58	IAMs_20	IAMs_20	13 12 55.1	
	comp=Z,1μm,22.0s						
PET01	Itanhaem-SP	151.61	190	eP	PKPdf	12 10 38.9	+2.0
PTGB	Pitanga	151.62	181	eP	PKPdf	12 10 37.6	+0.6
ATAH	Atahualpa	151.80	113	PKP	PKPdf	12 10 38.5	+0.6
	comp=Z,49nm,0.8s,baz=310,slow=13,SNR=6.5						
ATAH				PKPbc	pPKPdf	12 10 46.4	-0.9
	comp=Z,99nm,0.9s,baz=190,slow=2.4,SNR=28						
MCR1	Marechal Candi	151.82	177	eP	PKPdf	12 10 37.0	-0.2
BCIP	Isla Barro Col	152.18	78	IAMs_20	IAMs_20	13 13 08.5	
	comp=Z,2μm,20.0s						
BCIP	Isla Barro Col	152.18	78	eP	PKPdf	12 10 37.4	-0.6
PARB	Paraibuna	152.21	193	eP	PKPdf	12 10 38.3	+0.3
ESAR	Angra dos Reis	152.21	196	eP	PKPdf	12 10 39.0	+1.2
SPB	Sao Paulo	152.32	190	IAMs_20	IAMs_20	13 14 32.7	
	comp=Z,2μm,21.0s						
SPB	Sao Paulo	152.32	190	eP	PKPdf	12 10 37.3	-0.7
COHC	Cochancay	152.38	103		PKPdf	12 10 37.7	-0.6
COHC				PKPbc	sPKPdf	12 10 48.9	-1.9
DUB01	Friburgo-RJ	152.46	200	eP	PKPdf	12 10 38.5	+0.2
UPA	Univ. de Panam	152.50	78	eP	PKPdf	12 10 37.0	-1.5
VAS01	Vassouras-RJ	152.62	198	eP	PKPdf	12 10 39.1	+0.6
GTBY	Guantanamo Bay	152.64	52		PKPbc	12 10 45.5	0.0
GTBY				PKPab	pPKPbc	12 10 54.3	-0.5
VAO	Valinhos	152.81	191	eP	PKPdf	12 10 40.3	+1.4
FRTB	Fartura	152.85	186	eP	PKPdf	12 10 39.4	+0.6
ALF01	Guarapari-ES	153.16	205	eP	PKPdf	12 10 40.0	+0.7
AMBA	Amambai (Brazi	153.27	175	eP	PKPdf	12 10 41.5	+2.0
PAC1	Pacto, Paraso	153.33	97	eP	PKPdf	12 10 38.5	-1.5
RCLB	Rio Claro- Sao	153.48	190	eP	PKPdf	12 10 39.1	-0.7
OTAV	Otavalo	153.66	97	IAMs_20	IAMs_20	13 15 45.8	
	comp=Z,2μm,21.0s						
OTAV	Otavalo	153.66	97	eP	PKPdf	12 10 40.2	-0.6
ANTJ	Antonio Joao (	154.07	172	eP	PKPdf	12 10 41.5	+0.9
MURT	Porto Murtinho	154.14	169	eP	PKPdf	12 10 41.2	+0.5
RIB01	Linhares ES	154.17	207	eP	PKPdf	12 10 41.8	+1.0
TULM	Tulcn-Chalpat	154.39	96	eP	PKPdf	12 10 42.0	+0.1
ABR01	Abrolhos, BA	154.50	211	eP	PKPdf	12 10 42.0	+0.8
BONI	La Bonita	154.61	97	eP	PKPdf	12 10 40.8	-1.1
LPAZ	La Paz	154.63	142	PKIKP	PKPdf	12 10 42.4	+0.2
LPAZ	La Paz	154.63	142	eP	PKPdf	12 10 42.0	-0.2
LPAZ	La Paz	154.63	142	PKP	PKPdf	12 10 42.4	+0.2
	comp=Z,20nm,0.9s,baz=126,slow=0.6,SNR=45						
LPAZ				PKPab	PKPab	12 11 07.1	+1.8
	comp=Z,56nm,0.9s,baz=176,slow=4.8,SNR=7.0						
PCMB	Pacaembu	154.69	182	eP	PKPdf	12 10 42.4	+0.9
GCUF	Volcan Galeras	154.88	95	eP	PKPdf	12 10 42.1	-0.4
BB19B	Bebedouro	154.97	188	eP	PKPdf	12 10 42.9	+1.1
PIZC	Pizarro, Choco	155.03	87	eP	PKPdf	12 10 35.0	-7.1
SJMB	Sao Joao De Ma	155.05	206	eP	PKPdf	12 10 42.4	+0.4
BBAC	Balboa, Cauca	155.06	93	eP	PKPdf	12 10 40.4	-2.1
BDQN	Bodoquena, MS	155.48	170	eP	PKPdf	12 10 43.5	+1.0
APAC	Apartado, Choc	155.56	79	eP	PKPdf	12 10 41.9	-0.9
LCBC	Los crdobas,	155.61	77	eP	PKPdf	12 10 41.7	-1.1
AQDB	Aquidauana	155.61	172		PKPdf	12 10 42.5	-0.2
AQDB	Aquidauana	155.61	172	eP	PKPdf	12 10 43.5	+0.8
JAMC	Jamundi, Valle	155.70	91	eP	PKPdf	12 10 41.7	-1.6
YOTC	Yotoco, Valle	156.05	89	eP	PKPdf	12 10 39.1	-4.5
PLMC	San Jos del P	156.10	87	eP	PKPdf	12 10 39.8	-3.9
SDDR	Presa de Saban	156.14	49	IAMs_20	IAMs_20	13 30 01.8	
	comp=Z,2μm,20.0s						
GUA01	Guaratinga, BA	156.23	211	eP	PKPdf	12 10 44.4	+0.8
DIAM	Diamantina, MG	156.41	201	eP	PKPdf	12 10 45.6	+1.6
ITRB	Iturama	156.52	185	eP	PKPdf	12 10 44.4	+0.5
SJCC	San Jacinto, C	156.55	74	eP	PKPdf	12 10 42.5	-1.7
UREC	San Jos de Ur	156.60	79	eP	PKPdf	12 10 40.5	-3.7
FLOC	Florencia	156.60	95	eP	PKPdf	12 10 42.5	-1.7
CZSB	Cruzeiro do Su	156.60	195	eP	PKPdf	12 10 44.7	+0.5
GARC	Garzon, Huila	156.82	93	eP	PKPdf	12 10 42.1	-2.7
BETC	Betania	156.91	92	eP	PKPdf	12 10 46.8	+2.1
GUY2C	Guyana, Caldas	157.00	86	eP	PKPdf	12 10 43.4	-1.9
PMNB	Patos De Minas	157.02	194	eP	PKPdf	12 10 45.3	+0.6
SMRC	Santa Marta, M	157.13	70	eP	PKPdf	12 10 43.0	-1.8
ORTC	Ortega, Tolima	157.14	89	eP	PKPdf	12 10 42.8	-2.1
PTLC	Puerto Leguiza	157.26	99	eP	PKPdf	12 10 41.5	-3.6
ZARC	Zaragoza, Cauc	157.30	80	eP	PKPdf	12 10 40.4	-4.7
ARGC	Ariguani, Magd	157.45	73	eP	PKPdf	12 10 44.5	-0.8
NORC	Norcasia	157.48	85	eP	PKPdf	12 10 39.8	-5.6
C2SB	Chapadao do Su	157.53	179	eP	PKPdf	12 10 45.3	+0.1
BBSD	Serra de San D	157.57	159	eP	PKPdf	12 10 45.3	0.0
PTBC	PUERTO BERRIO	157.81	82	eP	PKPdf	12 10 42.0	-3.8
IPMB	Ipameri, GO	157.94	191	eP	PKPdf	12 10 46.2	+0.4
ROSC	El Rosal	158.06	87	eP	PKPdf	12 10 44.0	-2.5
ROSC	El Rosal	158.06	87	PKIKP	PKPdf	12 10 47.2	+0.7
ROSC	El Rosal	158.06	87	PKP	PKPdf	12 10 47.2	+0.7
	comp=Z,12nm,0.5s,baz=135,slow=4.4,SNR=12						
ROSC				PKPab	PKPab	12 11 21.5	+1.4
	comp=Z,44nm,0.7s,baz=182,slow=11,SNR=6.7						
ROSC				PP	PP	12 15 01.4	+1.3
	comp=Z,4.7nm,0.4s,baz=258,slow=7.6,SNR=1.3						
SPBC	San Pablo de B	158.27	84	eP	PKPdf	12 10 45.0	-1.4
LL6C	La Loma 6 Bece	158.41	73	eP	PKPdf	12 10 45.0	-1.4
CRJC	Cerrejon, Guaj	158.43	70	eP	PKPdf	12 10 44.1	-2.4
MACC	Macarena, Meta	158.45	94	eP	PKPdf	12 10 44.6	-1.9
BRRC	Barranca, Sant	158.48	80	eP	PKPdf	12 10 44.9	-1.7
SIV	San Ignacio	158.49	157	PKP	PKPdf	12 10 46.1	-0.4
	comp=Z,10nm,0.9s,baz=187,slow=1.8,SNR=26						
SIV				PKPab	PKPab	12 11 22.1	+1.0
	comp=Z,22nm,1.1s,baz=242,slow=2.1,SNR=3.1						
SIV				PP	PP	12 15 01.0	+1.2
	comp=Z,1.6nm,0.9s,baz=270,slow=18,SNR=1.1						
PP1B	Ponte de Pedra	158.55	173	eP	PKPdf	12 10 46.8	+0.3
CHIC	Chingaza	158.65	87	eP	PKPdf	12 10 44.5	-2.8
URIC	Uribia, Colomb	159.03	67	eP	PKPdf	12 10 42.1	-5.0
BARC	Barichara	159.06	82	eP	PKPdf	12 10 46.0	-1.5
RUSC	La Rusia	159.23	84	eP	PKPdf	12 10 45.5	-2.5
JANB	Januaria	159.61	203	eP	PKPdf	12 10 49.5	+1.6
PTLB	Pontes e Lacer	159.69	161	eP	PKPdf	12 10 48.6	+0.7
SALV	Santo Antonio	160.11	170	eP	PKPdf	12 10 48.9	+0.5
BDFB	Brasilia	160.18	192	PKIKP	PKPdf	12 10 48.8	+0.2
BDFB	Brasilia	160.18	192	PKP	PKPdf	12 10 48.8	+0.2
	comp=Z,7.3nm,0.8s,baz=70,slow=3.0,SNR=7.6						
BDFB				PP	PP	12 15 10.3	+1.5
	comp=Z,2.0nm,0.4s,baz=182,slow=6.7,SNR=2.0						
PTGC	Puerto Gaitan,	160.25	88	eP	PKPdf	12 10 44.6	-4.0
SJG	San Juan	160.40	43	PKIKP	PKPdf	12 10 47.8	-0.8
SJG						12 11 29.7	
SJG	San Juan	160.40	43	PKP	PKPdf	12 10 47.8	-0.8
	comp=Z,18nm,0.8s,baz=338,slow=22,SNR=2.8						
SJG				PKPab	PKPab	12 11 29.7	+0.4
	comp=Z,18nm,0.3s,baz=356,slow=5.3,SNR=5.3						
SJG				PP	PP	12 15 08.1	-2.9
	comp=Z,4.2nm,0.3s,baz=350,slow=23,SNR=1.4						
TAMC	Tame, Arauca	160.46	82	eP	PKPdf	12 10 49.0	+0.2
ARAG	Araguaiana, MT	160.57	182	eP	PKPdf	12 10 49.8	+0.9
ETMB	Extrema	160.63	135		PKPdf	12 10 48.0	-1.0
ETMB				PKPab	PKPab	12 11 28.9	-1.7
ETMB	Extrema	160.63	135	eP	PKPdf	12 10 48.0	-1.0
TBTG	Tabatinga, AM	160.72	114	eP	PKPdf	12 10 45.0	-4.1
TBTG	Tabatinga, AM	160.72	114	eP	PKPdf	12 10 48.9	-0.2
RCBR	Riachuelo	160.98	240	eP	PKPdf	12 10 50.7	+1.2
SDV	Santo Domingo	161.14	74		PKPdf	12 10 48.3	-1.5
SDV				PKPab	PKPab	12 11 33.1	-0.1
SDV	Santo Domingo	161.14	74	eP	PKPdf	12 10 47.0	-2.8
SDV	Santo Domingo	161.14	74	eP	PKPdf	12 10 49.8	0.0
SDV	Santo Domingo	161.14	74	PKP	PKPdf	12 10 48.7	-1.0
	comp=Z,95nm,1.0s,baz=33,slow=0.6,SNR=39						
SDV				PKPab	PKPab	12 11 34.1	+1.0
	comp=Z,55nm,0.7s,baz=287,slow=3.4,SNR=11						
SDV				PP	PP	12 15 14.1	-2.3
	comp=Z,4.9nm,0.8s,baz=245,slow=7.9,SNR=1.8						
VILB	Vilhena	161.58	155	eP	PKPdf	12 10 50.4	+0.4
SDBA	SAO DESIDERIO	162.25	204	eP	PKPdf	12 10 51.5	+0.8
SAML	Samuel	163.32	140		PKPdf	12 10 50.6	-1.1
SAML				PKPab	PKPab	12 11 41.5	-0.8
SAML	Samuel	163.32	140	PKIKP	PKPdf	12 10 50.6	-1.1
SAML						12 11 41.5	
SAML	Samuel	163.32	140	eP	PKPdf	12 10 51.5	-0.2
PDRB	Porto dos Gac	164.04	164	eP	PKPdf	12 10 52.4	0.0
SNDB	Serra Nova Dou	164.26	184	eP	PKPdf	12 10 52.1	-0.4
SGCB	S̃Co Gabriel d	164.80	105	eP	PKPdf	12 10 52.1	-1.0
CLDB	Colider	164.99	167	eP	PKPdf	12 10 53.3	+0.1
TEFE	Tefe	165.71	121	eP	PKPdf	12 10 53.3	-0.5
PCRV	Puerto La Cruz	166.27	62	PKP	PKPdf	12 10 53.7	-0.7
	comp=Z,16nm,1.1s,baz=339,slow=6.4,SNR=3.9						
PCRV				PP	PP	12 15 42.8	-0.1
	comp=Z,1.8nm,0.4s,baz=144,slow=19,SNR=1.2						
MPOM	Morne Pois Mar	166.52	38	PKPdf	PKPdf	12 10 54.1	-0.3
MPOM					PKPab	12 11 56.1	-0.2
SVB	Belmont	167.14	43	e	PKPdf	12 11 07.8	+13
GCMP	Grenada, Carri	167.57	46	e	PKPdf	12 10 58.8	+3.6
GRGR	Grenville	167.63	48	e	PKPdf	12 10 43.9	-11
BBGH	Gun Hill	168.32	37	e	PKPdf	12 10 48.5	-7.2
NPGB	Novo Progresso	168.78	164	eP	PKPdf	12 10 55.4	-0.7
MACA	Manacapuru-AM	169.14	130	eP	PKPdf	12 10 55.4	-0.9
ROSB	Rosrio	169.41	231	eP	PKPdf	12 10 55.1	-1.4
PRPB	Parauapebas	169.74	194	eP	PKPdf	12 10 54.8	-1.9
ITTB	Itaituba	171.17	157	eP	PKPdf	12 10 56.6	-0.9
BOAV	Boa Vista	171.70	100	eP	PKPdf	12 10 55.8	-2.0
BOAV	Boa Vista	171.70	100	eP	PKPdf	12 10 56.3	-1.5
TMAB	Tom-Au,PA,Br	172.52	215	eP	PKPdf	12 10 57.9	-0.2
MALB	Monte Alegre	174.03	161	eP	PKPdf	12 10 57.6	-1.1
MCPB	Macapa, AP	175.82	184	eP	PKPdf	12 10 59.1	-0.2
MDP	Montagnes des	178.71	14	PKP	PKPdf	12 10 59.2	-0.5
	comp=Z,14nm,1.1s,baz=214,slow=2.5,SNR=4.8						
MDP				PKPab	pPKPab	12 12 49.5	-10
	comp=Z,28nm,1.1s,baz=326,slow=5.8,SNR=4.1						
MDP				PP	PP	12 16 41.1	-0.9
	comp=Z,12nm,1.1s,baz=97,slow=6.8,SNR=2.7						

NEIC ***31*** *11:51:03.6±0.8, 19°.281N±0°.009×155°.385W±0°.005, h7km±2km, Error ellipse: s-maj=1.4km s-min=0.7km az=174.0*

HVO 31 11:51:03.0±1.0, 19°.258N±0°.010×155°.381W±0°.009, h4km±3km, ML2.5/20, ML2.3/50(NEIC), Error ellipse: s-maj=1.6km s-min=1.0km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.03	218		Pg	11 51 04.5	+0.6
HLP	Hilina Pali	0.08	61		Pg	11 51 05.6	+0.9
HLP	Hilina Pali	0.08	61		Sg	11 51 07.8	+1.9
HLP	Hilina Pali	0.08	61	IAML		11 51 06.4	
	comp=N,2μm,0.2s						
HLP				IAML		11 51 06.5	
	comp=E,2μm,0.3s						
AIN	Ainahou	0.14	327		Pg	11 51 06.6	+0.8
AIN					Sg	11 51 09.3	+1.7
SDHHI	Sand Hill	0.15	32		Pg	11 51 06.6	+0.5
SDHHI	Sand Hill	0.15	32	IAML		11 51 09.8	
	comp=N,2μm,0.5s						
SDHHI				IAML		11 51 11.4	
	comp=E,2μm,0.7s						
WRMHI	West Rim	0.17	27		Pg	11 51 06.8	+0.4
WRMHI	West Rim	0.17	27	IAML		11 51 10.2	
	comp=N,1μm,0.8s						
WRMHI				IAML		11 51 11.4	
	comp=E,2μm,0.4s						
RIM	Rim	0.17	36		Pg	11 51 06.8	+0.4
RIM	Rim	0.17	36	IAML		11 51 09.8	
	comp=E,614nm,1.1s						
RIM				IAML		11 51 10.8	
	comp=N,976nm,0.5s						
KKO	Keanakako`i	0.18	38		Pg	11 51 07.0	+0.5
KKO	Keanakako`i	0.18	38	IAML		11 51 08.0	
	comp=E,799nm,1.2s						
KKO				IAML		11 51 08.1	
	comp=N,2μm,1.1s						
NPH	North Pit	0.18	32	Pg	Pg	11 51 06.2	-0.4
UWE	Uwekahuna	0.18	27		Pg	11 51 07.0	+0.4
UWE	Uwekahuna	0.18	27	IAML		11 51 12.8	
	comp=N,791nm,0.6s						
UWE				IAML		11 51 12.9	
	comp=E,972nm,0.4s						
OBL	Observatory Le	0.18	30		Pg	11 51 07.1	+0.4
OBL	Observatory Le	0.18	30	IAML		11 51 11.2	
	comp=N,1μm,0.5s						
OBL				IAML		11 51 11.5	
	comp=E,2μm,0.4s						
BYL	Byron's Ledge	0.19	37	Pg	Pg	11 51 06.6	-0.2
BYL				IAML		11 51 10.6	
	comp=N,632nm,0.8s						
BYL				IAML		11 51 12.5	
	comp=E,730nm,0.4s						
UWB	Uwekahuna B	0.19	30		Pg	11 51 07.1	+0.3
UWB	Uwekahuna B	0.19	30	IAML		11 51 07.8	
	comp=N,230nm,1.3s						
UWB				IAML		11 51 11.4	
	comp=E,258nm,0.8s						
PUH	Pauahi	0.19	53		Pg	11 51 07.1	+0.3
PUH					Sg	11 51 10.2	+0.8
PUH	Pauahi	0.19	53	IAML		11 51 12.3	
	comp=N,389nm,0.4s						
PUH				IAML		11 51 13.2	
	comp=E,438nm,0.3s						
HATHI	Halema'uma'u T	0.20	34		Pg	11 51 07.3	+0.3
HATHI	Halema'uma'u T	0.20	34	IAML		11 51 11.9	
	comp=E,722nm,0.8s						
HATHI				IAML		11 51 12.5	
	comp=N,846nm,0.8s						
SBLHI	Steaming Bluff	0.20	32		Pg	11 51 07.3	+0.4
SBLHI	Steaming Bluff	0.20	32	IAML		11 51 12.7	
	comp=E,484nm,0.3s						
SBLHI				IAML		11 51 12.8	
	comp=N,564nm,0.3s						
KHU	Kahuku	0.22	267		Pg	11 51 07.8	+0.5
KHU	Kahuku	0.22	267	IAML		11 51 15.1	
	comp=E,579nm,0.3s						
KHU				IAML		11 51 15.1	
	comp=N,439nm,0.3s						
RSD	Rainshed	0.23	25		Pg	11 51 07.6	+0.2
RSD	Rainshed	0.23	25		Sg	11 51 11.3	+0.8
RSD	Rainshed	0.23	25	IAML		11 51 09.4	
	comp=E,238nm,2.5s						
RSD	Rainshed	0.23	25	IAML		11 51 14.8	
	comp=N,279nm,1.9s						
KNHH	Kane Nui o Ham	0.23	59		Pg	11 51 07.8	+0.2
HPO	Honuapo	0.23	224		Pg	11 51 08.7	+1.2
MLH	Mauna Loa	0.23	359		Pg	11 51 08.3	+0.7
MLH					Sg	11 51 12.2	+1.4
MLH	Mauna Loa	0.23	359	IAML		11 51 12.4	
	comp=E,1μm,0.3s						
MLH				IAML		11 51 12.7	
	comp=N,2μm,0.3s						
STCH	Steam Cracks	0.27	62		Pg	11 51 08.7	+0.4
STCH	Steam Cracks	0.27	62	IAML		11 51 17.9	
	comp=E,284nm,0.4s						
STCH				IAML		11 51 18.1	
	comp=N,273nm,0.3s						
NPOC	North of Pu'u	0.29	62		Pb	11 51 09.8	-1.0
NPOC	North of Pu'u	0.29	62	IAML		11 51 10.6	
	comp=E,325nm,0.8s						
NPOC				IAML		11 51 15.8	
	comp=N,407nm,0.6s						
JCUZ	Jacuzzi	0.29	64		Pb	11 51 09.8	-1.0
JCUZ	Jacuzzi	0.29	64	IAML		11 51 17.6	
	comp=E,324nm,0.6s						
JCUZ				IAML		11 51 18.2	
	comp=N,283nm,1.0s						
MWH	Moku'aweowe	0.30	318		Pg	11 51 09.1	+0.1
MWH					Sg	11 51 14.2	+1.0
MWH	Moku'aweowe	0.30	318	IAML		11 51 14.5	
	comp=E,553nm,0.3s						
MWH				IAML		11 51 18.4	
	comp=N,600nm,0.4s						
MLOA	Mauna Loa Obse	0.33	326		Pg	11 51 09.7	+0.1
MLOA					Sg	11 51 14.6	+0.5
MLOA	Mauna Loa Obse	0.33	326	IAML		11 51 14.7	
	comp=E,1μm,0.2s						
MLOA				IAML		11 51 14.7	
	comp=N,673nm,0.3s						
HMH	Humu`ula Sheep	0.36	344		Pg	11 51 10.2	+0.2
HMH			

EVO	**Evora**	**4.22**	**37**	*e*S		**Sn**	**11 55 28.4**	**-1.5**
EVO				A		A	11 55 30.0	
	comp=E,6.5nm,0.4s							
EMIN	**Mina Concepcio**	**4.48**	**53**	Pn		**Pn**	**11 54 45.7**	**+1.5**
EMIN				⇑*i*Vmb_V			11 54 46.7	
	comp=E,92nm,SNR=1.2							
EMIN				Sn		**Sn**	**11 55 35.4**	**-1.0**
PBAR	**Barrancos**	**4.50**	**47**	*e*P		**Pn**	**11 54 46.2**	**+1.8**
PBAR				*e*S		**Sn**	**11 55 35.1**	**-1.7**
PBAR				A		A	11 55 40.0	
	comp=E,2.0nm,0.3s							
PBAR	**Barrancos**	**4.50**	**47**	Sn		**Sn**	**11 55 36.7**	**-0.1**
PBAR				Pn		**Pn**	**11 54 46.2**	**+1.8**
PMTG	**Montargil**	**4.56**	**31**	*e*P		**Pn**	**11 54 46.7**	**+1.4**
PMTG				*e*S		**Sn**	**11 55 36.4**	**-1.9**
PMTG				A		A	11 55 40.8	
	comp=E,2.4nm,0.4s							
ESPR	**Espera**	**4.66**	**67**	Pn		**Pn**	**11 54 48.0**	**+1.3**
ESPR				⇑*i*Vmb_V			11 54 49.9	
	comp=E,170nm,SNR=1.5							
ESPR				Sn		**Sn**	**11 55 40.6**	**-0.2**
PESTR	**Estremoz**	**4.69**	**37**	*e*S		**Sn**	**11 55 40.1**	**-1.4**
OUK	**Oukaimeden**	**4.86**	**144**	P		Pn	11 54 49.0	-0.7
EBAD	**Badajoz**	**4.91**	**42**	⇑*i*Vmb_V			11 54 51.7	
	comp=E,140nm,SNR=1.9							
EBAD				Sn		**Sn**	**11 55 45.2**	**-1.7**
PMRV	**Marv??o**	**5.22**	**35**	*e*P		**Pn**	**11 54 55.6**	**+1.2**
PMRV				*e*S		**Sn**	**11 55 52.3**	**-2.4**
PMRV				A		A	11 56 00.1	
	comp=E,2.1nm,0.5s							
TIO	**Tiouine**	**5.39**	**141**	Pn		Pn	11 54 46.3	-10
ECAB	**El Cabril**	**5.49**	**57**	Pn		**Pn**	**11 54 59.8**	**+1.7**
ECAB				⇑*i*Vmb_V			11 55 00.5	
	comp=E,111nm,SNR=1.9							
ECAB				Sn		**Sn**	**11 56 00.0**	**-1.2**
ECAB	**El Cabril**	**5.49**	**57**	Pn		**Pn**	**11 54 59.7**	**+1.6**
ECAB				Sn		**Sn**	**11 55 58.5**	**-2.8**
PMOZ	**Porto Moniz, M**	**5.49**	**246**	P		Pn	11 54 56.9	-1.3
CZD	**Col de Zad**	**5.55**	**111**	P		**Pn**	**11 55 00.1**	**+0.8**
OUZM	**OUZ**	**5.67**	**137**	P		Pn	11 54 59.6	-1.0
MD31	**MD31**	**5.84**	**111**	P		**Pn**	**11 55 03.2**	**+0.2**
MDT	**Midelt**	**5.98**	**111**	P		Pn	11 55 03.2	-1.6
EADA	**Adamuz**	**6.12**	**59**	Pn		**Pn**	**11 55 08.1**	**+1.5**
EADA				⇑*i*Vmb_V			11 55 09.6	
	comp=E,97nm,SNR=1.6							
EADA				Sn		**Sn**	**11 56 15.2**	**-1.5**
EADA	**Adamuz**	**6.12**	**59**	Sn		**Sn**	**11 56 14.5**	**-2.2**
EADA				Pn		**Pn**	**11 55 08.2**	**+1.5**
PVIS	**Viseu**	**6.12**	**24**	*e*S		**Sn**	**11 56 13.6**	**-3.2**
POLO	**Lamas de Olo**	**6.75**	**23**	*e*S		**Sn**	**11 56 30.0**	**-2.3**
PSIM	**Granatula de C**	**6.99**	**56**	Pn		**Pn**	**11 55 20.1**	**+1.4**
PSIM				Sn		**Sn**	**11 56 36.0**	**-2.2**
PAB	**San Pablo**	**7.00**	**49**	Pn		**Pn**	**11 55 19.6**	**+0.8**
PAB				⇑*i*Vmb_V			11 55 21.4	
	comp=E,92nm,SNR=1.5							
EQES	**Quesada**	**7.07**	**66**	Pn		**Pn**	**11 55 20.5**	**+0.7**
EQES				⇑*i*Vmb_V			11 55 21.4	
	comp=E,48nm,SNR=0.8							
EQES				Sn		**Sn**	**11 56 37.9**	**-2.3**
PGAV	**Gavieira, Arco**	**7.16**	**18**	*e*S		**Sn**	**11 56 39.7**	**-2.8**
JBK	**JBK**	**7.17**	**94**	P		**Pn**	**11 55 20.7**	**-0.6**

WEL 31 11:59:32.3±0.6, 38°S±6°×17°7E±°, h5km, M2.2/7, ML2.5/6, MLv2.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=32.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.11**	**308**	P	Pg	11 59 35.0	+0.4
WIZ				S	Sg	11 59 37.0	+0.8
WSRZ	**White Island S**	**0.13**	**309**	P	Pg	11 59 34.3	-0.6
HAZ	**Te Kaha**	**0.41**	**113**	P	Pg	11 59 40.6	+0.4
HAZ				S	Sg	11 59 46.9	+1.2
RUGZ	**Raukumara Rang**	**0.47**	**141**	P	Pg	11 59 42.1	+0.7
OPRZ	**Ohinepanea**	**0.64**	**247**	P	Pb	11 59 45.4	-0.6
URZ	**Urewera**	**0.68**	**193**	P	Pg	11 59 44.9	-0.4
PKGZ	**Pakihiroa**	**0.68**	**116**	P	Pg	11 59 45.8	+0.4
MWZ	**Matawai**	**0.76**	**166**	P	Pb	11 59 47.7	-0.3
TWGZ	**Tauwhareparae**	**0.79**	**137**	P	Pb	11 59 48.4	-0.2
TWGZ				S	Sg	11 59 57.5	-0.3
PUZ	**Puketiti**	**0.89**	**122**	P	Pn	11 59 51.7	+0.2

*IDC **31** 11:59:38.1±0.6, 3°80S×127°76E, h0km, mb4.4/22, mbtmp4.4/23, ML3.4/1, Error ellipse: s-maj=22.5km s-min=14.0km az=68.0*
*NEIC **31** 11:59:41.1±1.8, 3°72S±0°08×127°81E±0°05, h10km±1km, mb4.9/17, Error ellipse: s-maj=13.6km s-min=8.0km az=14.0*
*DJA **31** 11:59:42.7±0.3, 4°S±3°×12°8E±°, h14km±2km, M5.1/12, mb5.1/8, MLv5.2/12*
ISC 31 11:59:43.0±0.4, 3.79S±0°05×127°77E±0°05, h30km, n64, σ1§31/67, mb4.7/28, 1C, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.87**	**309**	P	**Pb**	**12 00 01.5**	**+1.9**
NLAI				S	**Sn**	**12 00 10.5**	**-0.3**
SANI	**Sanana**	**2.48**	**314**	P	**Pn**	**12 00 22.6**	**+1.1**
SANI				S	**Sn**	**12 00 51.6**	**+0.8**
LBMI	**Labuha**	**3.15**	**355**	P	**Pn**	**12 00 32.1**	**+1.5**
SWI	**Sorong**	**4.54**	**50**	P	**Pn**	**12 00 50.9**	**+1.1**
SWI				S	**Sn**	**12 01 43.7**	**+2.1**
TNTI	**Ternate**	**4.55**	**355**		**Pn**	**12 00 51.0**	**+1.0**
FAKI	**Fak Fak**	**4.55**	**79**		**Pn**	**12 00 50.8**	**+0.8**
FAKI	**Fak Fak**	**4.55**	**79**	P	**Pn**	**12 00 51.5**	**+1.5**
SAUI	**Saumlaki**	**5.45**	**140**	P	**Pn**	**12 01 04.1**	**+1.9**
	388nm,2.4s,8.9nm						
BBSI	**Bau Bau**	**5.45**	**252**	P	**Pn**	**12 01 04.8**	**+2.5**
	249nm,1.0s,3.5nm						
RKPI	**Ransiki, Papua**	**6.79**	**71**	P	**Pn**	**12 01 21.3**	**+0.6**
	256nm,0.7s,1.8nm						
MRSI	**Marisa**	**7.21**	**306**	P	**Pn**	**12 01 27.1**	**+0.7**
	193nm,0.9s,1.5nm						
KAPI	**Kappang**	**8.09**	**261**	Pn	**Pn**	**12 01 37.9**	**-0.6**
	0.5nm,0.3s,baz=208,slow=23,SNR=1.0						
	7.4nm,0.3s						
TOLI2	**Tolitoli**	**8.52**	**305**		Pn	12 01 50.0	+5.6
MTN	**Manton Dam**	**9.59**	**160**	Pn	**Pn**	**12 02 00.9**	**+1.8**
WRA	**Warramunga Arr**	**17.28**	**159**	P	**Pn**	**12 03 38.6**	**-3.7**
	10nm,1.0s,baz=335,slow=13,SNR=6.0						
COEN	**Coen**	**18.25**	**125**	P	**P**	**12 03 53.9**	**-0.3**
KPJI	**Karang Pucung**	**19.07**	**259**	P	**Pn**	**12 04 04.9**	**+0.7**
	234nm,0.9s						
KPJI				pP	**pP**	**12 04 09.7**	**-0.9**
	234nm,0.9s						
LEM	**Lembang**	**20.29**	**261**	P	**P**	**12 04 15.7**	**-1.1**
	18nm,0.6s,baz=125,slow=23,SNR=2.2						
	18nm,0.6s						
AS31	**Alice Springs**	**20.63**	**164**	P	**P**	**12 04 20.7**	**+0.5**
ASAR	**Alice Springs**	**20.63**	**164**	P	**P**	**12 04 20.5**	**+0.3**
ASAR	**Alice Springs**	**20.63**	**164**	P	**P**	**12 04 20.6**	**+0.5**
	16nm,0.8s,baz=344,slow=10,SNR=14						
	16nm,0.8s						
FORT	**Forrest**	**26.84**	**179**	P	**P**	**12 05 21.1**	**+0.1**
MORW	**Morawa**	**27.49**	**203**	P	**P**	**12 05 27.9**	**+1.0**
MORW				IAmb	IAmb	12 06 10.7	
	comp=Z,56nm,1.5s						
NWAO	**Narrogin (SRO)**	**30.61**	**198**	P	**P**	**12 05 54.2**	**-0.3**
STKA	**Stephens Creek**	**30.81**	**157**	P	**P**	**12 05 55.0**	**-1.3**
STKA	**Stephens Creek**	**30.81**	**157**	P	**P**	**12 05 56.0**	**-0.3**
	comp=Z,22nm,0.9s,baz=341,slow=9.7,SNR=5.2						
	comp=Z,22nm,0.9s						
ARMA	**Armidale**	**34.77**	**142**	P	**P**	**12 06 32.1**	**+0.9**
ARMA				IAmb	IAmb	12 07 31.7	
	comp=Z,37nm,1.4s						
CMAR	**Chiang Mai Arr**	**35.99**	**309**	P	**P**	**12 06 41.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=140,slow=5.9,SNR=2.0						
CMAR				PcP	**PcP**	**12 09 10.3**	**+2.2**
	comp=Z,2.1nm,0.9s,baz=145,slow=1.9,SNR=3.4						
	comp=Z,0.4nm,0.3s						
CAN	**Canberra**	**37.02**	**151**	P	**P**	**12 06 51.0**	**+0.7**
CAN				IAmb	IAmb	12 07 16.4	
	comp=Z,55nm,1.4s						
TOO	**Toolangi**	**37.33**	**156**	P	**P**	**12 06 53.9**	**+1.0**
TOO				IAmb	IAmb	12 06 54.9	
	comp=Z,27nm,1.3s						
KSRS	**Korea Array**	**41.04**	**0**	P	**P**	**12 07 24.1**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=176,slow=9.1,SNR=7.2						
	comp=Z,2.7nm,0.8s						
MJAR	**Matsushiro Arr**	**41.30**	**13**	P	**P**	**12 07 24.5**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=188,slow=9.2,SNR=2.9						
	comp=Z,3.1nm,0.9s						
USRK	**Ussuriysk Ar.**	**47.93**	**4**	P	**P**	**12 08 18.4**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=172,slow=6.6,SNR=2.6						
	comp=Z,3.0nm,0.9s						
MSVF	**Nonsavu**	**51.12**	**110**	P	**P**	**12 08 44.0**	**+0.3**
	comp=Z,0.9nm,0.2s,baz=201,slow=22,SNR=5.4						
	comp=Z,0.9nm,0.2s						
WHZ	**Wether Hill Ro**	**54.58**	**146**	P	**P**	**12 09 07.8**	**-0.9**
WHZ				IAmb	IAmb	12 09 13.1	
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**54.73**	**342**	P	**P**	**12 09 09.4**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=163,slow=7.1,SNR=2.2						
	comp=Z,0.8nm,0.5s						
RPZ	**Rata Peaks**	**55.11**	**143**	P	**P**	**12 09 12.5**	**-0.1**
RPZ	**Rata Peaks**	**55.11**	**143**	P	**P**	**12 09 12.1**	**-0.5**
	comp=Z,12nm,0.9s,baz=160,slow=2.5,SNR=4.4						
	comp=Z,12nm,0.9s						
TUWZ	**Tuamarina**	**55.74**	**139**	P	**P**	**12 09 15.9**	**-1.2**
TCW	**Tory Channel**	**55.85**	**139**	P	**P**	**12 09 16.9**	**-1.0**
BKZ	**Black Stump Fm**	**56.42**	**135**	P	**P**	**12 09 21.1**	**-0.9**
BKZ				IAmb	IAmb	12 09 46.9	
	comp=Z,11nm,1.0s						
PETK	**Petropavlovsk-**	**62.04**	**20**	P	**P**	**12 10 00.5**	**0.0**
PETK	**Petropavlovsk-**	**62.04**	**20**	P	**P**	**12 10 00.7**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=206,slow=4.9,SNR=2.9						
	comp=Z,5.7nm,0.8s						
MKAR	**Makanchi Array**	**64.34**	**327**	P	**P**	**12 10 14.6**	**-1.5**
MKAR	**Makanchi Array**	**64.34**	**327**	P	**P**	**12 10 15.3**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=131,slow=7.9,SNR=3.7						
	comp=Z,2.8nm,0.8s						
ZAA0	**Zalesovo Array**	**67.75**	**334**	P	**P**	**12 10 39.3**	**+1.6**
ZAA0				IAmb	IAmb	12 10 49.7	
	comp=Z,9.7nm,1.1s						
ZALV	**Zalesovo Beam**	**67.75**	**334**	P	**P**	**12 10 38.0**	**+0.3**
KURBB	**Kurchatov Arra**	**68.63**	**329**	P	**P**	**12 10 42.4**	**-0.9**
	comp=Z,4.2nm,0.7s,baz=128,slow=5.4,SNR=6.1						
	comp=Z,4.2nm,0.7s						
KURK	**Kurchatov**	**68.64**	**329**	P	**P**	**12 10 46.7**	**+3.4**
SEY	**Seymchan**	**69.11**	**12**	P	**P**	**12 10 46.8**	**+0.8**
	comp=Z,11nm,0.8s,baz=210,slow=6.9,SNR=8.5						
	comp=Z,11nm,0.8s						
BVAR	**Borovoye Array**	**74.19**	**328**	P	**P**	**12 11 15.6**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=104,slow=6.1,SNR=3.5						
	comp=Z,0.7nm,0.4s						
VNDA	**Vanda**	**75.88**	**173**	P	**P**	**12 11 27.8**	**+1.6**
VNDA	**Vanda**	**75.88**	**173**	P	**P**	**12 11 25.1**	**-1.1**
	comp=Z,2.4nm,1.2s,baz=323,slow=8.4,SNR=1.6						
	comp=Z,2.4nm,1.2s						
ABKAR	**Akbulak array**	**78.63**	**322**	P	**P**	**12 11 41.2**	**-0.9**
AKTO	**Aktyubinsk**	**80.19**	**322**	P	**P**	**12 11 52.0**	**+1.4**
	comp=Z,1.5nm,0.4s,baz=104,slow=7.2,SNR=5.6						
	comp=Z,1.5nm,0.4s						
ARU	**Arti**	**81.83**	**328**	P	**P**	**12 11 59.3**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=290,slow=24,SNR=0.8						
	comp=Z,2.1nm,0.4s						
QSPA	**South Pole Qui**	**86.16**	**180**	P	**P**	**12 12 23.4**	**+2.1**
QSPA				IAmb	IAmb	12 13 43.3	
	comp=Z,12nm,1.3s						
QSPA	**South Pole Qui**	**86.16**	**180**	P	**P**	**12 12 19.4**	**-1.9**
	comp=Z,1.4nm,0.9s,baz=130,slow=13,SNR=1.7						
	comp=Z,1.4nm,0.9s						
TTA	**Tatalina**	**87.12**	**26**	P	**P**	**12 12 25.5**	**-0.4**
TTA				IAmb	IAmb	12 12 34.5	
	comp=Z,4.5nm,0.9s						
KBZ	**Khabaz**	**88.89**	**314**	P	**P**	**12 12 35.4**	**+0.7**
	comp=Z,3.1nm,0.8s,baz=321,slow=21,SNR=2.3						
	comp=Z,3.1nm,0.8s						
ILAR	**Eielson Array**	**91.41**	**25**	P	**P**	**12 12 43.9**	**-2.1**
	comp=Z,0.5nm,0.6s,baz=254,slow=4.6,SNR=7.2						
	comp=Z,0.5nm,0.6s						
TROLL	**Troll, Antarti**	**96.69**	**195**	⇑P	P	12 13 04.4	-5.9
	comp=Z,5.3nm,0.2s						
ARCES	**ARCESS Array B**	**97.82**	**340**	P	**P**	**12 13 13.3**	**-1.9**
	comp=Z,2.9nm,0.8s,baz=91,slow=8.5,SNR=4.5						
	comp=Z,2.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**125.96**	**283**	PKP	**PKPdf**	**12 18 42.3**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=69,slow=3.8,SNR=1.9						

HEL 31 12:05:38.8±0.5, 67°77N×20°28E, h0km, ML1.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.71**	**66**	PB	Pg	12 05 51.9	-0.4
LANU				SG	Sg	12 06 01.2	-0.3
KIF	**Kilpisjarvi**	**1.26**	**9**	PG	Pg	12 06 02.0	-0.9
KIF				MSG		12 06 17.9	
	comp=Z,1.7nm,0.2s						
KIF				SG	Sg	12 06 18.7	-0.5
PAJU	**Pajala**	**1.32**	**123**	PN	Pg	12 06 03.6	-0.6
	baz=305						
PAJU				SN	Sb	12 06 22.0	0.0
HEF	**Hetta**	**1.42**	**61**	PG	Pn	12 06 04.6	-1.3
	baz=245						
HEF				MSG		12 06 21.6	
	comp=Z,0.8nm,0.2s						
ERTU	**Ertsjaerv**	**1.43**	**148**	PN	Pb	12 06 06.3	+0.1
ERTU				SN	Sn	12 06 26.5	+1.1
KTK1	**Kautokeino**	**1.66**	**40**	PG	Pn	12 06 08.6	-0.6
TOF	**Tornio**	**2.33**	**135**	MSG		12 06 47.7	
	comp=Z,0.5nm,0.2s						
RNF	**Rovaniemi**	**2.52**	**115**	PG	Pb	12 06 23.4	-1.4
VRF	**Varrio**	**3.55**	**86**	PB	Pn	12 06 37.9	+2.8

HEL 31 12:05:53.2±0.2, 67°72N×33°16E, h0km, ML1.3, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.59**	**72**	PG	Pg	12 06 03.4	-1.1
VRF	**Varrio**	**1.35**	**273**	PN	Pg	12 06 18.4	-0.7
VRF				MSG		12 06 33.9	
	comp=Z,2.3nm,0.2s						
OLKF	**Oulanka, Finla**	**2.04**	**228**	PB	Pn	12 06 28.1	-0.6
OLKF				MSG		12 06 53.8	
	comp=Z,1.2nm,0.2s						
OLKF				SG	Sb	12 06 56.6	-0.3
KU6	**Riekki**	**2.14**	**219**	PN	Pn	12 06 28.9	-1.2
KU6				MSG		12 06 56.4	
	comp=Z,0.9nm,0.2s						
KU6				SB	Sn	12 06 58.4	+1.2
MSF	**Maaselka**	**2.44**	**224**	SG	Sb	12 07 09.3	+0.8
KEV	**Kevo**	**3.03**	**315**	SN	Sn	12 07 20.1	+0.8
KEV				MSG		12 07 22.3	
	comp=Z,1.1nm,0.2s						
ARA0	**ARCESS Array S**	**3.34**	**307**	PN	Pn	12 06 45.1	-1.5
	baz=121						
ARA0				SN	Sn	12 07 26.7	-0.3
TOF	**Tornio**	**3.85**	**249**	PN	Pn	12 06 52.2	-1.4
TOF	**Tornio**	**3.85**	**249**	SG	Pn	12 06 52.2	-1.4

*DJA **31** 12:05:54.0±1.3, 4°S±12°×12°8E±°, h10km, M4.4/7, MLv4.4/7*
*IDC **31** 12:06:09.8±0.9, 3°66S×128°02E, h0km, mb4.0/9, mbtmp4.1/10, ML3.6/1, Error ellipse: s-maj=66.7km s-min=18.1km az=71.0*
ISC 31 12:06:11.3±0.8, 3°4S±0°1×128°8E±0°2, h10km, n13, σ1§71/13, mb4.0/8, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.46**	**82**	P	**Pn**	**12 07 04.7**	**-0.5**
SWI	**Sorong**	**3.50**	**44**	P	**Pn**	**12 07 03.7**	**-2.1**
SWI				S	Sn	12 07 23.5	-24
WRA	**Warramunga Arr**	**17.30**	**162**	P	**Pn**	**12 10 11.6**	**-1.6**
	0.2nm,0.3s,baz=331,slow=12,SNR=6.6						
	4.8nm,1.1s						
ASAR	**Alice Springs**	**20.74**	**167**	P	**P**	**12 10 52.2**	**0.0**
	9.9nm,0.8s,baz=342,slow=11,SNR=14						
	9.9nm,0.8s						
STKA	**Stephens Creek**	**30.77**	**158**	P	**P**	**12 12 28.2**	**+1.2**
	5.2nm,0.9s,baz=347,slow=9.5,SNR=5.5						
	5.2nm,0.9s						
KSRS	**Korea Array**	**40.65**	**359**	P	**P**	**12 13 53.5**	**+1.9**
	1.4nm,0.7s,baz=178,slow=9.6,SNR=5.3						
	1.4nm,0.7s						
SONM	**Songino Array**	**54.68**	**342**	P	**P**	**12 15 41.5**	**+0.9**
	0.7nm,0.8s,baz=174,slow=4.3,SNR=2.7						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**64.59**	**326**	P	**P**	**12 16 47.4**	**-1.5**
	1.0nm,0.7s,baz=135,slow=7.6,SNR=3.9						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**67.86**	**334**	P	**P**	**12 17 08.8**	**-0.8**
	0.5nm,0.4s,baz=140,slow=7.0,SNR=3.6						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**68.85**	**328**	P	**P**	**12 17 15.1**	**-0.9**
	1.9nm,0.2s,baz=131,slow=5.9,SNR=7.3						
	1.9nm,0.2s						
BVAR	**Borovoye Array**	**74.41**	**328**	P	**P**	**12 17 48.7**	**-0.8**
	0.9nm,0.8s,baz=120,slow=8.5,SNR=2.3						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**90.61**	**25**	P	**P**	**12 19 16.2**	**+2.6**
	0.3nm,0.6s,baz=246,slow=5.5,SNR=7.6						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**126.89**	**284**	PKP	**PKPdf**	**12 25 14.2**	**-2.3**
	0.3nm,0.7s,baz=77,slow=1.5,SNR=2.0						

*IDC **31** 12:06:48.7±1.2, 3°25S×128°75E, h0km, mb4.1/5, mbtmp4.1/6, ML3.7/1, Error ellipse: s-maj=85.1km s-min=22.5km az=70.0*
ISC 31 12:06:50.1±1.1, 3°2S±0°2×129°1E±0°6, h10km, n6, σ1§35/6, mb4.3/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.44**	**163**	P	**Pn**	**12 10 52.1**	**-1.5**
	0.2nm,0.3s,baz=337,slow=12,SNR=4.6						
	3.7nm,0.8s						
ASAR	**Alice Springs**	**20.90**	**168**	P	**P**	**12 11 33.2**	**+0.4**
	10.0nm,0.8s,baz=348,slow=11,SNR=5.1						
	10.0nm,0.8s						
STKA	**Stephens Creek**	**30.88**	**159**	P	**P**	**12 13 08.0**	**+1.1**
	5.3nm,0.9s,baz=327,slow=8.0,SNR=4.2						
	5.3nm,0.9s						
MKAR	**Makanchi Array**	**64.55**	**326**	P	**P**	**12 17 26.6**	**-0.9**
	0.9nm,0.6s,baz=137,slow=6.5,SNR=2.6						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**68.80**	**328**	P	**P**	**12 17 55.4**	**+1.0**
	1.2nm,0.2s,baz=133,slow=5.6,SNR=1.6						
	1.2nm,0.2s						
ILAR	**Eielson Array**	**90.29**	**25**	P	**P**	**12 19 50.7**	**-0.3**
	0.1nm,0.6s,baz=242,slow=5.4,SNR=1.2						
	0.1nm,0.6s						

*MEX **31** 12:07:33.7±0.7, 15°97N×99°03W, h5km, MD4.8*
*IDC **31** 12:07:34.8±5.3, 16°36N×98°73W, h0km, mb4.2/3, mbtmp4.3/5, ML4.2/2, MS5.1/4, Error ellipse: s-maj=111.2km s-min=17.9km az=7.0*
*NEIC **31** 12:07:35.7±2.5, 16°18N±0°04×98°96W±0°03, h10km±1km, mb4.8/31, Md4.5/108(MEX), Error ellipse: s-maj=7.0km s-min=3.9km az=166.0*
ISC 31 12:07:32.8±0.7, 16°00N±0°04×98°97W±0°02, h10km, n151, σ2§26/230, mb4.7/19, MS5.1/4, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.76**	**348**		**Pg**	**12 07 46.3**	**-1.1**
CRIG					Sg	12 07 55.3	-1.9
CRIG	**Cruz Grande**	**0.76**	**348**	*e*P	**Pg**	**12 07 46.3**	**-1.1**
CRIG				*e*S	Sg	12 07 55.3	-1.9
PNIG	**Pinotepa**	**0.90**	**64**		**Pn**	**12 07 50.2**	**-1.3**
PNIG					**Sb**	**12 08 02.0**	**-0.5**
PNIG	**Pinotepa**	**0.90**	**64**	*e*P	**Pn**	**12 07 50.2**	**-1.3**
PNIG				*e*S	**Sb**	**12 08 02.0**	**-0.5**
DAIG	**Los Arroyos**	**1.21**	**327**		**Pn**	**12 07 53.2**	**-2.7**
DAIG					**Sb**	**12 08 10.0**	**-1.6**
DAIG	**Los Arroyos**	**1.21**	**327**	*e*P	**Pn**	**12 07 53.2**	**-2.7**
DAIG				*e*S	**Sb**	**12 08 09.1**	**-2.6**
ACP2	**Acapulco**	**1.24**	**315**		**Pg**	**12 07 56.7**	**0.0**
ACP2					**Sn**	**12 08 11.5**	**-1.6**
ACP2	**Acapulco**	**1.24**	**315**	*i* P	**Pg**	**12 07 56.7**	**0.0**
ACP2				*i* S	**Sn**	**12 08 11.5**	**-1.6**
MGIG	**Malinaltepec**	**1.27**	**14**		**Pn**	**12 07 54.8**	**-2.0**
MGIG					**Sb**	**12 08 12.3**	**-1.2**
MGIG	**Malinaltepec**	**1.27**	**14**	*e*P	**Pn**	**12 07 54.8**	**-2.0**
MGIG				*e*S	**Sb**	**12 08 12.3**	**-1.2**
TLIG	**Tlapa**	**1.60**	**14**	*e*P	**Pn**	**12 07 60.0**	**-1.4**
TLIG				*e*S	**Sn**	**12 08 19.3**	**-3.0**
YOIG	**Yosondua**	**1.61**	**58**		**Pb**	**12 08 00.9**	**-1.9**
YOIG					**Sn**	**12 08 21.3**	**-1.3**
YOIG	**Yosondua**	**1.61**	**58**	*e*P	**Pb**	**12 08 00.9**	**-1.9**
YOIG				*e*S	**Sn**	**12 08 21.3**	**-1.3**
CAIG	**El Cayaco**	**1.63**	**310**		**Pn**	**12 07 59.2**	**-2.4**
CAIG					**Sn**	**12 08 18.7**	**-3.9**
CAIG	**El Cayaco**	**1.63**	**310**	*e*P	**Pn**	**12 07 59.2**	**-2.4**
CAIG				*e*S	**Sn**	**12 08 18.7**	**-3.9**
TXIG	**Tlaxiaco**	**1.70**	**42**		**Pn**	**12 08 01.6**	**-1.1**
TXIG					**Sg**	**12 08 25.6**	**-1.9**
TXIG	**Tlaxiaco**	**1.70**	**42**	*e*P	**Pn**	**12 08 01.6**	**-1.1**
TXIG				*e*S	**Sg**	**12 08 25.6**	**-1.9**
PEIG	**Puerto Escondi**	**1.75**	**90**		**Pb**	**12 08 03.0**	**-2.0**
PEIG					**Sn**	**12 08 23.8**	**-1.8**
PEIG	**Puerto Escondi**

XCVM Xochimilco 3.24 357 *e*P **Pb 12 08 29.9 -0.8**
XCVM *e*S **Sb 12 09 09.1 -1.3**
THVM De Xico 3.30 360 *e*P **Pb 12 08 30.5 -1.1**
THVM *e*S **Sb 12 09 09.9 -2.0**
INVM La Marquesa 3.30 353 *e*P **Pb 12 08 28.4 -3.3**
INVM *e*S **Sn 12 09 04.8 +0.3**
UNM Universidad Na 3.32 357 Pn 12 08 23.9 -1.3
TOVM TOLUCA 3.34 348 *e*P **Pb 12 08 29.9 -2.4**
TOVM *i* S **Sb 12 09 12.0 -1.2**
CJVM Cuajimalpa 3.36 355 *e*P **Pn 12 08 26.9 +1.2**
CJVM *e*S **Sn 12 09 07.3 +1.5**
OZST Orizaba 3.36 32 *i* P **Pn 12 08 26.1 +0.6**
OZST *i* S **Sn 12 09 06.0 +0.4**
BJVM Benito Juarez 3.37 357 *e*P **Pb 12 08 28.4 -4.4**
BJVM *e*S **Sn 12 09 05.2 -0.7**
PBVM Pinon 3.43 358 *e*P **Pn 12 08 24.7 -1.6**
PBVM *e*S **Sn 12 09 07.1 +0.1**
NEUV Arroyo Zacate 3.48 60 *e*P **Pn 12 08 26.2 -0.8**
NEUV *e*S **Sn 12 09 09.4 +1.2**
PTVM Pico Tres Padr 3.58 358 *e*P **Pb 12 08 33.2 -3.2**
PTVM *e*S **Sb 12 09 18.7 -1.4**
AZVM Cuida Lopez Ma 3.58 355 *e*P **Pb 12 08 35.2 -1.3**
AZVM *e*S **Sb 12 09 18.4 -1.8**
ZUVM ZUMPANGO 3.81 358 *e*P **Pb 12 08 40.4 0.0**
ZUVM *e*S **Sb 12 09 27.3 +0.6**
ATVM ATLACOMULCO 3.84 348 *e*P **Pb 12 08 36.8 -4.1**
ATVM *e*S **Sb 12 09 21.4 -6.2**
JAUV Jalcomulco 3.94 31 *e*P **Pn 12 08 31.2 -2.1**
JAUV *e*S **Sn 12 09 21.1 +1.4**
ACIG Acambay 4.06 348 *e*P **Pb 12 08 44.0 -0.5**
ACIG *e*S **Sn 12 09 26.2 +3.3**
CMIG Matias Romero 4.06 74 Pn 12 08 34.9 -0.2
CMIG Matias Romero 4.06 74 Sn 12 09 21.8 -0.9
CMIG Matias Romero 4.06 74 Pn **Pn 12 08 34.8 -0.3**
3.0nm,0.3s,baz=262,slow=14,SNR=28
CMIG Pg **Pb 12 08 43.5 -1.0**
4.1nm,0.3s,baz=262,slow=13,SNR=20
CMIG Lg Lg 12 09 34.3
15nm,0.3s,baz=242,slow=15,SNR=4.6
CMIG LR LR 12 10 14.1
comp=Z,800nm,21.2s,baz=259,slow=42
6.8nm,0.3s
CMIG Matias Romero 4.06 74 *e*P **Pn 12 08 34.9 -0.2**
CMIG *e*S **Sn 12 09 21.8 -0.9**
MOIG Morelia 4.23 330 *e*P **Pb 12 08 44.1 -3.4**
MOIG *e*S **Sn 12 09 30.6 +3.4**
DHIG Demacu 4.28 359 Pb 12 08 46.5 -1.9
DHIG **Sb 12 09 33.1 -7.1**
DEIG Demacu 4.28 359 *e*P **Pb 12 08 46.5 -1.9**
DEIG *e*S **Sb 12 09 33.1 -7.2**
CXUV Coxquihui 4.36 17 *e*P **Pn 12 08 41.5 +2.4**
CXUV *e*S **Sn 12 09 33.1 +3.1**
LVIG Laguna Verde 4.43 33 *e*P **Pn 12 08 36.5 -3.6**
LVIG *e*S **Sn 12 09 30.4 -1.4**
PMUV Sontecomapan 4.46 55 *e*P **Pn 12 08 40.8 +0.2**
PMUV *e*S **Sn 12 09 34.9 +2.2**
MMIG Aquila 4.77 299 Pn 12 08 43.8 -1.0
MMIG **Sn 12 09 42.7 +2.6**
MMIG Aquila 4.77 299 *e*P **Pn 12 08 43.8 -1.0**
MMIG *e*S **Sn 12 09 42.7 +2.6**
TUIG Tuzandepetl 4.80 64 *e*P **Pn 12 08 45.7 +0.6**
TUIG *e*S **Sn 12 09 43.4 +2.6**
UXUV UXUV 4.80 73 *e*P **Pn 12 08 45.7 +0.4**
UXUV *e*S **Sn 12 09 42.5 +1.5**
JRQG Juriquilla Cam 4.89 344 *e* **Pb 12 08 59.0 +0.2**
JRQG *e* 12 09 48.0
CTUV Llano Grande 5.48 6 *e* **Pb 12 09 08.5 -0.1**
CTUV *e* 12 10 08.7
COIG Colima 5.51 306 *e*P **Pn 12 08 55.1 +0.1**
COIG *e*S **Sn 12 09 59.9 +1.4**
JUBC Volcan de Coli 5.61 309 *e*P **Pn 12 08 55.7 -0.9**
EZ5V 5.62 309 Pn 12 08 56.6 -0.1
EZ5V 5.62 309 *e*P **Pn 12 08 56.6 -0.1**
MNGA Volcan de Coli 5.62 309 *e*P **Pn 12 08 56.3 -0.4**
CDAR Ciudad de Arme 5.64 302 *e*P Pn 12 08 51.6 -5.1
INCO Volcan de Coli 5.64 309 *e*P **Pn 12 08 57.7 +0.5**
TGIG 5.66 81 Pn 12 08 57.6 +0.5
TGIG **Sn 12 09 56.8 -5.5**
TGIG 5.66 81 *e*P **Pn 12 08 57.6 +0.5**
TGIG *e*S **Sn 12 09 56.8 -5.5**
SOMAC Volcano de Col 5.66 309 *e*P **Pn 12 08 58.4 +1.0**
CEGR Campo Tres 5.76 307 *e*P **Pn 12 09 01.7 +3.2**
CEGR *e*S **Sn 12 10 10.4 +5.7**
RPIG Rio Verde 5.94 351 *e* Pb 12 09 08.9 -7.6
RPIG *e* 12 10 18.8
PATR El Naranjo 6.55 97 *e*P **Pn 12 09 09.3 -0.1**
PATR *e*S **Sn 12 10 16.5 -7.8**
CCIG Comitan 6.57 87 *i* P Pn 12 09 17.1 +7.4
CCIG *e*S **Sn 12 10 28.3 +3.6**
PAVE Pavencul 6.59 96 *e*P **Pn 12 09 10.7 +0.7**
PAVE *e*S **Sn 12 10 21.3 -4.0**
CHUJ Union Juarez 6.67 97 *e*P **Pn 12 09 11.0 -0.1**
CHUJ *e*S **Sn 12 10 22.0 -5.4**
AAIG Aguscalientes 6.76 332 Pn 12 09 14.4 +2.0
AAIG **Sn 12 10 34.8 +5.2**
AAIG Aguscalientes 6.76 332 *e*P **Pn 12 09 14.4 +2.0**
AAIG *e*S **Sn 12 10 34.8 +5.2**
ANIG Ahuacatlan 7.29 315 Pn 12 09 23.1 +3.6
ANIG **Sn 12 10 47.8 +5.5**
ANIG Ahuacatlan 7.29 315 *e*P Pn 12 09 23.1 +3.6
ANIG *e*S **Sn 12 10 47.8 +5.5**
MTO3 Montecristo 9.41 98 Pn **Pn 12 09 51.5 +2.8**
TEIG Tepich 11.00 66 Pn 12 10 13.0 +2.7
TEIG Tepich 11.00 66 Pn **Pn 12 10 07.5 -2.8**
9.6nm,0.3s,baz=262,slow=19,SNR=6.5
TEIG Sn Sn 12 12 02.9 -11
5.2nm,0.3s,baz=240,slow=22,SNR=1.2
31nm,0.4s
TXAR Lajitas Array 13.96 343 Lg Lg 12 14 55.9
baz=160,slow=16,SNR=2.6
RTBA Rita Blanca 20.64 351 P Pn 12 12 14.6 -0.3
RTBA IAmb IAmb 12 12 16.5
comp=Z,49nm,1.5s
LCAR Lake Charles 21.17 18 P **P 12 12 21.0 +2.7**
LCAR IAmb IAmb 12 12 28.8
comp=Z,52nm,1.5s
113A Mohawk Valley, 21.42 324 P **P 12 12 23.4 +2.4**
X16A Lo Mia Camp, P 21.50 331 P **P 12 12 25.0 +2.9**
FPAL Fort Paine 22.02 31 P **P 12 12 30.3 +2.8**
FPAL IAmb IAmb 12 12 31.4
comp=Z,25nm,0.9s
GLA Glamis 22.24 323 P **P 12 12 30.5 +0.7**
GOGA Godfrey 22.29 36 P **P 12 12 31.1 +0.8**
Y52A Lilburn 22.29 34 P **P 12 12 30.6 +0.2**
Y52A IAmb IAmb 12 12 38.2
comp=Z,42nm,1.4s
WUAZ Wupatki 22.39 333 P **P 12 12 34.5 +3.0**
S22A 4UR Ranch, Cre 22.75 344 P **P 12 12 37.2 +1.6**
CLTN Cedars of Leba 22.96 27 P **P 12 12 39.1 +1.6**
CLTN IAmb IAmb 12 12 45.1
comp=Z,35nm,1.4s
W13A Hualapai Mount 23.25 328 P **P 12 12 43.2 +2.6**
CPCT Cooper Cave 23.29 31 P **P 12 12 42.7 +1.9**
CPCT IAmb IAmb 12 12 42.9
comp=Z,24nm,1.0s
SIUC Southern Illin 23.29 20 P **P 12 12 42.0 +1.3**
SIUC IAmb IAmb 12 12 43.5
comp=Z,38nm,1.1s
W52A Murphy 23.31 33 P **P 12 12 41.6 +0.6**
W52A IAmb IAmb 12 12 43.6
comp=Z,58nm,1.4s
T47A Sharon Grove 23.41 24 P **P 12 12 43.2 +1.3**
T47A IAmb IAmb 12 12 44.7
comp=Z,41nm,1.2s
V51A Loudon 23.65 31 P **P 12 12 44.7 +0.4**
V51A IAmb IAmb 12 12 47.0
comp=Z,28nm,1.0s
HMU Henry Mountain 24.20 337 P **P 12 12 52.8 +2.9**
HMU IAmb IAmb 12 12 54.3
comp=Z,30nm,1.0s
ISCO Idaho Springs 24.42 348 P **P 12 12 53.9 +1.9**
TZTN Tazewell 24.63 31 P **P 12 12 55.0 +1.4**
N38A Joes South For 25.20 10 P **P 12 12 59.7 +1.0**
O20A White River Ci 25.37 343 P **P 12 13 04.2 +3.8**
O20A IAmb IAmb 12 13 05.5
comp=Z,28nm,1.1s
U54A Nelsons Funny 25.50 33 P **P 12 13 02.3 +0.8**
R53A Hurricane 26.82 31 P **P 12 13 14.8 +1.5**
O48B Farmland 27.00 24 P **P 12 13 15.1 +0.2**
NVAR Mina Array Bea 28.08 326 P **P 12 13 27.8 +2.9**
comp=Z,2.8nm,1.0s,baz=146,slow=8.3,SNR=6.7
comp=Z,2.8nm,1.0s

PDAR Pinedale Array 28.18 343 P **P 12 13 27.2 +1.5**
comp=Z,2.6nm,0.9s,baz=149,slow=9.8,SNR=4.2
comp=Z,2.6nm,0.9s
MDND Maddock 31.77 359 P **P 12 13 59.0 +1.8**
J08A Circle Bar Ran 31.95 333 P **P 12 14 01.1 +2.2**
J08A IAmb IAmb 12 14 02.9
comp=Z,12nm,1.1s
H03N2 Juan Fernandez 52.75 159 T T 13 13 55.2
baz=337,slow=77,SNR=99
H03N1 Juan Fernandez 52.76 159 T T 13 13 52.8
baz=337,slow=77,SNR=144
H03N3 Juan Fernandez 52.76 159 T T 13 13 52.3
baz=337,slow=77,SNR=165
J26L Joseph Creek 57.09 339 P **P 12 17 22.0 +2.8**
J26L IAmb IAmb 12 17 23.6
comp=Z,9.3nm,1.1s
IL31 58.42 338 P **P 12 17 30.0 +1.6**
IL31 IAmb IAmb 12 17 33.0
comp=Z,8.8nm,1.3s
ILAR Eielson Array 58.42 338 P **P 12 17 30.2 +1.8**
ILAR Eielson Array 58.42 338 P **P 12 17 29.4 +1.0**
comp=Z,2.5nm,1.0s,baz=139,slow=4.6,SNR=16
comp=Z,2.5nm,1.0s
J19K Poorman 61.39 335 P **P 12 17 50.1 +1.3**
J19K IAmb IAmb 12 17 51.6
comp=Z,11nm,1.1s
F21K Alatna River 61.99 339 P **P 12 17 54.5 +1.7**
F21K IAmb IAmb 12 17 56.9
comp=Z,8.6nm,1.1s
JMIC Jan Mayen 75.16 20 LR LR 12 54 09.8
comp=Z,1μm,21.8s,baz=52,slow=37
DAVOX Davos/Dischmat 90.83 41 LR LR 13 02 28.0
comp=Z,810nm,20.7s,baz=48,slow=36
GERES GERESS Array B 92.25 38 LR LR 13 03 50.9
comp=Z,1μm,19.7s,baz=66,slow=37
TORD Torodi Ar. Bea 96.40 74 LR LR 13 01 02.1
comp=Z,662nm,21.9s,baz=87,slow=33

RSNC 31 12:16:01.8±1.0, 6°.80N×73°.14W, h145km±4km, ML3.3, Mw3.8, 3C-4D, Fault plane solution: NP1:ϕ_S105.00000°, δ86.00000°, λ-42.00000°., **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**193**	*i*P	Pn	12 16 21.3	-0.6
BARC				*e*S	Sn	12 16 36.6	-0.5
BARC				*i*		12 16 39.8	
	comp=Z,376nm,0.3s						
BRRC	**Barranca, Sant**	**0.65**	**299**	⇑*i*P	Pn	12 16 23.2	-0.3
BRRC				*e*S	Sn	12 16 40.0	0.0
BRRC				*i*		12 16 42.9	
	comp=Z,368nm,0.2s						
PAMC	**Pamplona, Colo**	**0.69**	**39**	⇑*i*P	Pn	12 16 24.2	-0.2
PAMC				*e*S	Sn	12 16 41.0	-0.5
PAMC				*i*		12 16 43.5	
	comp=Z,658nm,0.6s						
RUSC	**La Rusia**	**0.90**	**177**	⇓*i*P	Pn	12 16 25.2	-0.7
RUSC				*e*S	Sn	12 16 43.4	-0.7
RUSC				*i*		12 16 44.5	
	comp=Z,215nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	⇓*e*P	Pn	12 16 27.8	-1.5
PTBC				*e*S	Sn	12 16 48.8	-1.6
PTBC				*i*		12 16 52.2	
	comp=Z,229nm,0.2s						
TAMC	**Tame, Arauca**	**1.38**	**105**	*e*P	Pn	12 16 29.6	-0.3
TAMC				*e*S	Sn	12 16 51.1	-0.2
TAMC				*i*		12 16 52.4	
	comp=Z,92nm,0.2s						
SPBC	**San Pablo de B**	**1.47**	**219**	⇓*e*P	Pn	12 16 30.2	-0.6
SPBC				*e*S	Sn	12 16 52.5	-0.4
SPBC				*i*		12 16 59.6	
	comp=Z,316nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	*e*P	Pn	12 16 34.4	-0.5
ZARC				*e*S	Sn	12 17 00.2	0.0
ZARC				*i*		12 17 05.2	
	comp=Z,429nm,0.5s						
NORC	**Norcasia**	**2.11**	**235**	*e*P	Pn	12 16 37.2	-0.8
NORC				*e*S	Sn	12 17 05.7	-0.3
NORC				*i*		12 17 11.8	
	comp=Z,118nm,0.2s						
CHIC	**Chingaza**	**2.23**	**195**	*e*P	Pn	12 16 39.5	-0.3
CHIC				*e*S	Sn	12 17 08.4	-0.7
CHIC				*i*		12 17 18.2	
	comp=Z,87nm,0.5s						
ROSC	**El Rosal**	**2.27**	**211**	*e*P	Pn	12 16 41.2	+0.8
ROSC				*e*S	Sn	12 17 12.2	+2.3
ROSC				*i*		12 17 17.5	
	comp=Z,190nm,0.5s						
UREC	**San Jos de Ur**	**2.56**	**292**	*e*P	Pn	12 16 41.9	-1.6
UREC				*e*S	Sn	12 17 13.5	-2.1
UREC				*i*		12 17 24.9	
	comp=Z,162nm,0.2s						
GUY2C	**Guyana, Caldas**	**2.71**	**235**	*e*P	Pn	12 16 46.0	+0.2
GUY2C				*e*S	Sn	12 17 20.0	+0.3
GUY2C				*i*		12 17 26.4	
	comp=Z,86nm,0.3s						
VILC	**Villavicencio,**	**2.72**	**192**	*e*P	Pn	12 16 45.2	-0.4
VILC				*e*S	Sn	12 17 18.4	-1.0
VILC				*i*		12 17 25.0	
	comp=Z,138nm,0.4s						
PTGC	**Puerto Gaitan,**	**2.77**	**159**	⇑*i*P	Pn	12 16 44.4	-1.7
PTGC				*e*S	Sn	12 17 17.3	-3.0
PTGC				*i*		12 17 19.6	
	comp=Z,110nm,0.4s						
LL6C	**La Loma 6 Bece**	**2.92**	**357**	*e*P	Pn	12 16 46.1	-1.9
LL6C				*e*S	Sn	12 17 21.2	-2.6
LL6C				*i*		12 17 27.7	
	comp=Z,38nm,0.4s						
DBBC	**Dabeiba**	**3.06**	**274**	*e*P	Pn	12 16 49.5	-0.3
DBBC				*e*S	Sn	12 17 25.1	-1.9
DBBC				*i*		12 17 28.9	
	comp=Z,120nm,0.2s						
ANIL	**Santa Ana**	**3.21**	**225**	*e*P	Pn	12 16 53.1	+1.1
ANIL				*e*S	Sn	12 17 31.1	+0.2
ANIL				*i*		12 17 35.2	
	comp=Z,204nm,0.3s						
ARGC	**Ariguani, Magd**	**3.23**	**340**	*e*P	Pn	12 16 52.3	+0.3
ARGC				*e*S	Sn	12 17 30.8	-0.1
ARGC				*i*		12 17 47.1	
	comp=Z,35nm,0.3s						
SDV	**Santo Domingo**	**3.23**	**50**	*e*P	Pn	12 16 51.0	-1.2
SDV				*e*S	Sn	12 17 28.1	-3.1
SDV				*i*		12 17 30.3	
	comp=Z,42nm,0.4s						
PRAC	**Prado**	**3.52**	**210**	*e*P	Pn	12 16 55.3	-0.5
PRAC				*e*S	Sn	12 17 36.5	-1.2
PRAC				*i*		12 17 41.5	
	comp=Z,105nm,0.4s						
ORTC	**Ortega, Tolima**	**3.55**	**216**	*e*P	Pn	12 16 56.6	+0.4
ORTC				*e*S	Sn	12 17 38.1	-0.3
APAC	**Apartado, Choc**	**3.59**	**288**	*e*P	Pn	12 16 55.8	-0.7
APAC				*e*S	Sn	12 17 37.4	-1.7
APAC				*i*		12 17 46.4	
	comp=Z,55nm,0.3s						
PLMC	**San Jos del P**	**3.65**	**239**	*e*P	Pn	12 16 57.4	-0.1
PLMC				*e*S	Sn	12 17 40.3	-0.3
PLMC				*i*		12 17 44.7	
	comp=Z,40nm,0.5s						
SJCC	**San Jacinto, C**	**3.69**	**327**	*e*P	Pn	12 16 55.7	-2.2
SJCC				*e*S	Sn	12 17 37.5	-3.9
SJCC				*i*		12 17 40.7	
	comp=Z,42nm,0.4s						
LCBC	**Los crdobas,**	**3.80**	**303**	*e*P	Pn	12 17 03.9	+4.6
LCBC				*e*S	Sn	12 17 43.4	-0.6
LCBC				*i*		12 17 48.3	
	comp=Z,59nm,0.3s						
CRJC	**Cerrejon, Guaj**	**4.21**	**3**	*e*P	Pn	12 17 01.7	-3.1
CRJC				*e*S	Sn	12 17 48.4	-5.4
CRJC				*i*		12 17 54.2	
	comp=Z,68nm,0.3s						
YOTC	**Yotoco, Valle**	**4.24**	**229**	*e*P	Pn	12 17 03.9	-1.4
SMRC	**Santa Marta, M**	**4.47**	**346**	*e*P	Pn	12 17 05.7	-2.5
SMRC				*e*S	Sn	12 17 55.5	-4.4
SMRC				*i*		12 17 59.4	
	comp=Z,28nm,0.2s						
MACC	**Macarena, Meta**	**4.67**	**189**	*e*P	Pn	12 17 08.4	-2.5
MACC				*e*S	Sn	12 17 59.7	-5.0
URIC	**Uribia, Colomb**	**5.00**	**13**	*e*P	Pn	12 17 11.9	-3.3
URIC				*e*S	Sn	12 18 07.3	-5.2
URIC				*i*		12 18 10.5	
	comp=Z,18nm,0.3s						
JAMC	**Jamundi, Valle**	**5.01**	**225**	*e*P	Pn	12 17 14.7	-0.8
JAMC				*e*S	Sn	12 18 13.9	+1.0

MALC Bahia Malaga 5.01 237 *e*P Pn 12 17 16.0 +0.7
MALC *e*S Sn 12 18 14.0 +1.4
GARC Garzon, Huila 5.14 207 *e*P Pn 12 17 15.7 -1.7
GARC *e*S Sn 12 18 12.4 -3.9
GARC *i* 12 18 15.8
comp=Z,36nm,0.2s
POPC Popayan, Colom 5.50 220 *e*P Pn 12 17 21.9 -0.3
POPC *e*S Sn 12 18 22.6 -2.2

NEIC ***31*** *12:18:12.9±0.5, 36°.03N±0°.01×97°.91W±0°.01, h6km±1km, Error ellipse: s-maj=2.0km s-min=1.5km az=177.0*
ANF ***31*** *12:18:12.6±0.3, 36°.02N×97°.93W, h5km, ML3.8/10, Error ellipse: s-maj=3.5km s-min=2.6km az=167.0*
TUL ***31*** *12:18:13±0.5, 36°.03N±0°.01×97°.91W±0°.01, h6km±1km, ML3.2, mb_Lg3.0/86(NEIC), ML3.3/46(NEIC), Error ellipse: s-maj=1.9km s-min=1.5km az=174.0*
ISC 31 12:18:13.2±0.8, 36°.05N±0°.02×97°.90W±0°.03, h10km, n93, σ0°72/50, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.46**	**351**	Pg	**Pg**	**12 18 22.5**	**+0.2**
CROK				Sg	**Sg**	**12 18 29.0**	**+0.6**
CROK				IAML		12 18 38.3	
	comp=N,2μm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.74**	**150**		**Pg**	**12 18 26.7**	**-0.8**
OKCSW				IAML		12 18 37.6	
	comp=N,2μm,0.4s						
OKCSW				IAML		12 18 42.0	
	comp=E,884nm,0.4s						
OK033	**Mehan**	**0.78**	**90**		**Pg**	**12 18 27.1**	**-1.0**
OK033				IAML		12 18 42.6	
	comp=E,762nm,0.1s						
OK032	**Salt Plains WL**	**0.80**	**341**		**Pg**	**12 18 28.1**	**-0.6**
OK032				IAML		12 18 44.7	
	comp=E,1μm,0.2s						
OK032				IAML		12 18 47.3	
	comp=E,1μm,0.2s						
GC02	**Grant County #**	**0.80**	**2**		**Pg**	**12 18 28.6**	**-0.2**
OK038	**West end E0370**	**0.81**	**302**		**Pg**	**12 18 28.5**	**-0.3**
OK048	**Pawnee Station**	**0.85**	**64**		**Pg**	**12 18 29.1**	**-0.6**
OK031	**S. Brethren Rd**	**0.86**	**96**		**Pg**	**12 18 29.6**	**-0.2**
OK052	**Battle Ridge R**	**0.89**	**93**		**Pg**	**12 18 29.5**	**-0.8**
OK052				IAML		12 18 55.9	
	comp=E,736nm,0.2s						
BLOK	**Blackwell**	**0.90**	**37**		**Pg**	**12 18 30.4**	**-0.2**
BLOK				IAmb_Lg		12 18 43.1	
	comp=Z,206nm,0.7s						
KAN14	**Manchester OK**	**0.91**	**357**		**Pg**	**12 18 30.3**	**-0.5**
KAN14				IAML		12 18 48.7	
	comp=E,649nm,0.1s						
KAN14				IAML		12 18 53.1	
	comp=N,769nm,0.1s						
KAN13	**South Haven SW**	**1.02**	**19**	Pg	**Pg**	**12 18 32.5**	**-0.4**
KAN05	**Bluff City Nor**	**1.06**	**1**		**Pg**	**12 18 33.1**	**-0.5**
KAN05				IAML		12 18 49.6	
	comp=N,906nm,0.2s						
KAN05				IAML		12 18 52.1	
	comp=E,808nm,0.2s						
KAN10	**Anthony SW Sta**	**1.09**	**352**		**Pb**	**12 18 33.6**	**-0.6**
KAN10				IAML		12 18 49.1	
	comp=E,502nm,0.2s						
KAN01	**Argonia South**	**1.11**	**6**		**Pb**	**12 18 34.0**	**-0.5**
KAN01				IAML		12 18 49.7	
	comp=E,683nm,0.1s						
KAN01				IAML		12 18 53.4	
	comp=N,581nm,0.1s						
KAN09	**Caldwell North**	**1.11**	**11**		**Pb**	**12 18 34.1**	**-0.5**
DEOK	**Depew**	**1.15**	**100**		**Pb**	**12 18 34.3**	**-1.0**
DEOK				IAML		12 18 54.9	
	comp=E,565nm,0.2s						
DEOK				IAML		12 18 55.1	
	comp=N,552nm,0.3s						
KAN06	**Argonia West S**	**1.20**	**1**		**Pn**	**12 18 35.3**	**-0.8**
KAN06				IAML		12 18 52.6	
	comp=E,444nm,0.2s						
KAN06				IAML		12 18 56.6	
	comp=N,468nm,0.1s						
KS20	**Mayfield South**	**1.21**	**13**		**Pn**	**12 18 35.4**	**-0.8**
W35A	**Tecumseh**	**1.22**	**137**		**Pn**	**12 18 35.1**	**-1.2**
W35A				IAML		12 18 53.4	
	comp=N,645nm,0.3s						
ELIS	**Ellis County**	**1.23**	**271**	Pg	**Pn**	**12 18 35.7**	**-0.9**
ELIS				IAML		12 18 57.8	
	comp=E,750nm,0.3s						
ELIS				IAML		12 18 58.0	
	comp=N,615nm,0.3s						
KS21	**Milan North St**	**1.25**	**8**	IAML		12 18 55.7	
	comp=N,752nm,0.1s						
KS21	**Milan North St**	**1.25**	**8**		**Pn**	**12 18 36.6**	**-0.2**
T35A	**Sooner Cattle**	**1.41**	**52**		**Pb**	**12 18 38.9**	**-0.1**
X34A	**Smith Ranch, M**	**1.44**	**178**		**Pb**	**12 18 39.8**	**-0.4**
WMOK	**Wichita Mounta**	**1.49**	**209**	Pg	**Pn**	**12 18 39.5**	**-0.6**
WMOK	**Wichita Mounta**	**1.49**	**209**	P	**Pn**	**12 18 39.8**	**-0.3**
	baz=29						
WMOK				S	**Sb**	**12 18 59.5**	**-0.6**
	baz=29						
TUL3	**Leonard**	**1.71**	**94**		**Pn**	**12 18 43.4**	**+0.3**
TUL3	**Leonard**	**1.71**	**94**	P	**Pn**	**12 18 43.8**	**+0.7**
	baz=275						
TUL3				S	**Sb**	**12 19 06.7**	**+0.3**
	baz=275						
LOOK	**Love County**	**2.13**	**164**		**Pn**	**12 18 50.1**	**+1.3**
SMWD	**Samnorwood**	**2.13**	**245**	Pn	**Pn**	**12 18 50.2**	**+1.2**
SMWD				IAmb_Lg		12 19 20.0	
	comp=Z,100nm,1.1s						
WTFS	**Witchita Falls**	**2.32**	**192**		**Pn**	**12 18 52.6**	**+1.1**
WTFS				IAmb_Lg		12 19 24.9	
	comp=Z,18nm,0.8s						
RLO	**Rose Lookout**	**2.33**	**86**		**Pn**	**12 18 52.6**	**+1.0**
R32A	**Long Quarter,**	**2.46**	**345**	IAmb_Lg		12 19 36.0	
	comp=Z,43nm,1.0s						
X37A	**Clayton**	**2.52**	**124**	IAmb_Lg		12 19 35.8	
	comp=Z,40nm,1.0s						
CBKS	**Cedar Bluff**	**3.13**	**333**	P	**Pn**	**12 19 02.5**	**-0.1**
	baz=152						
CBKS				S	**Sn**	**12 19 41.9**	**+1.8**
	baz=152						
PLPT	**Palo Pinto**	**3.24**	**186**	IAmb_Lg		12 19 57.3	
	comp=Z,36nm,1.1s						
APMT	**Aspermont**	**3.28**	**215**	IAmb_Lg		12 20 00.8	
	comp=Z,19nm,0.8s						
AMTX	**Amarillo**	**3.30**	**251**	IAmb_Lg		12 19 55.0	
	comp=Z,50nm,0.8s						
AMTX	**Amarillo**	**3.30**	**251**	P	**Pn**	**12 19 04.8**	**-0.2**
	baz=68						
AMTX				S	**Sn**	**12 19 44.7**	**+0.3**
	baz=68						
FW07	**Weatherford**	**3.34**	**178**	IAmb_Lg		12 20 03.4	
	comp=Z,25nm,0.8s						
DKNS	**Dickens**	**3.44**	**227**	IAmb_Lg		12 20 05.4	
	comp=Z,67nm,0.9s						
Z38A	**Mt. Pleasant**	**3.67**	**138**	IAmb_Lg		12 20 14.7	
	comp=Z,40nm,0.9s						
ABTX	**Abilene, Hawle**	**3.71**	**203**	IAmb_Lg		12 20 16.5	
	comp=Z,26nm,0.7s						
ABTX	**Abilene, Hawle**	**3.71**	**203**	P	**Pn**	**12 19 11.1**	**+0.5**
	baz=22						
MIAR	**Mount Ida**	**3.84**	**112**	IAmb_Lg		12 20 19.7	
	comp=Z,30nm,0.8s						
MIAR	**Mount Ida**	**3.84**	**112**	P	**Pn**	**12 19 12.5**	**+0.1**
	baz=294						
MIAR				S	**Sn**	**12 19 58.5**	**+1.0**
	baz=294						
RTBA	**Rita Blanca**	**3.93**	**277**	IAmb_Lg		12 20 25.7	
	comp=Z,20nm,0.9s						
SN01	**Snyder 1**	**4.03**	**219**	IAmb_Lg		12 20 27.7	
	comp=Z,51nm,0.9s						
WHTX	**Lake Whitney,**	**4.06**	**175**	P	**Pn**	**12 19 16.2**	**+0.8**
	baz=355						
WHTX				S	**Sn**	**12 20 03.8**	**+0.8**
	baz=355						
POST	**Post**	**4.21**	**226**	IAmb_Lg		12 20 31.7	
	comp=Z,56nm,0.9s						
X40A	**Basin Creek Fa**	**4.42**	**109**	IAmb_Lg		12 20 44.5	
	comp=Z,24nm,0.8s						
MSTX	**Muleshoe**	**4.51**	**244**	P	**Pn**	**12 19 21.0**	**-0.6**
	baz=61						
MSTX				S	**Sn**	**12 20 15.0**	**+0.8**
	baz=61						
WLAR	**White Oak Lake**	**4.58**	**120**	IAmb_Lg		12 20 37.1	
	comp=Z,22nm,0.8s						
MGMO	**Mountain Grove**	**4.66**	**75**	IAmb_Lg		12 20 42.0	
	comp=Z,30nm,0.8s						

FCAR	Ozark Folk Cen	4.68	90	IAmb_Lg		12 20 43.9
	comp=Z,19nm,0.7s					
UALR	University of	4.71	104	IAmb_Lg		12 20 50.2
	comp=Z,24nm,0.9s					
KSCO	Kaye Shedlock'	4.79	310	IAmb_Lg		12 20 48.7
	comp=Z,33nm,0.7s					
KSCO	Kaye Shedlock'	4.79	310	P	Pn	12 19 25.2 -0.3
	baz=127					
KSCO				S	Sn	12 20 21.9 +0.8
	baz=127					
BRDY	Brady	4.84	191	IAmb_Lg		12 20 55.3
	comp=Z,14nm,0.8s					
SGCY	Sterling City	4.92	214	IAmb_Lg		12 20 58.7
	comp=Z,32nm,0.8s					
P38A	Dawn	4.97	43	IAmb_Lg		12 20 51.2
	comp=Z,32nm,0.8s					
R40A	Maddies Statio	5.02	62	IAmb_Lg		12 20 50.7
	comp=Z,30nm,0.8s					
Z41A	Richland Creek	5.04	122	IAmb_Lg		12 20 59.4
	comp=Z,33nm,0.9s					
435B	Jarrell	5.26	177	IAmb_Lg		12 21 02.1
	comp=Z,24nm,1.0s					
T25A	Trinidad	5.36	284	IAmb_Lg		12 21 15.0
	comp=Z,27nm,0.8s					
T25A	Trinidad	5.36	284	P	Pn	12 19 33.2 -0.2
	baz=100					
BGNE	Belgrade	5.36	358	IAmb_Lg		12 21 04.4
	comp=Z,26nm,0.7s					
LCAR	Lake Charles	5.46	88	IAmb_Lg		12 21 13.8
	comp=Z,20nm,1.1s					
CCM	Cathedral Cave	5.68	67	IAmb_Lg		12 21 25.9
	comp=Z,26nm,0.7s					
CCM	Cathedral Cave	5.68	67	P	Pn	12 19 38.0 +0.3
	baz=251					
OZNA	Ozona	5.78	209	IAmb_Lg		12 21 20.4
	comp=Z,35nm,1.2s					
OGNE	Ogallala	5.87	328	IAmb_Lg		12 21 30.9
	comp=Z,29nm,0.8s					
L34A	Svendsen Farm,	6.03	11	IAmb_Lg		12 21 26.1
	comp=Z,31nm,0.7s					
MNHN	Monahans	6.20	222	IAmb_Lg		12 21 46.0
	comp=Z,13nm,0.7s					
FVM	French Village	6.28	70	IAmb_Lg		12 21 45.3
	comp=Z,21nm,0.8s					
143A	Socs Landing,	6.32	120	IAmb_Lg		12 21 36.8
	comp=Z,17nm,0.9s					
SDCO	Great Sand Dun	6.33	288	IAmb_Lg		12 21 48.8
	comp=Z,13nm,1.1s					
Q24A	Divide	6.46	299	IAmb_Lg		12 21 39.4
	comp=Z,15nm,0.7s					
HNDO	Hondo	6.60	191	IAmb_Lg		12 21 45.4
	comp=Z,23nm,0.9s					
CGM3	Cape Girardeau	6.74	77	IAmb_Lg		12 21 46.9
	comp=Z,25nm,0.9s					
BRIGG	Briggsdale	6.78	314	IAmb_Lg		12 21 59.0
	comp=Z,18nm,0.8s					
PECS	Pecos	6.82	229	IAmb_Lg		12 21 55.7
	comp=Z,15nm,0.7s					
DRIO	Del Rio	6.99	200	IAmb_Lg		12 21 59.6
	comp=Z,15nm,1.0s					
SAND	Sanderson	7.04	211	IAmb_Lg		12 22 15.4
	comp=Z,21nm,0.9s					
S44A	Carbondale	7.12	74	IAmb_Lg		12 22 02.0
	comp=Z,23nm,0.7s					
SIUC	Southern Illin	7.15	74	IAmb_Lg		12 22 03.2
	comp=Z,24nm,0.8s					
ISCO	Idaho Springs	7.16	304	IAmb_Lg		12 22 05.2
	comp=Z,12nm,0.7s					
ALPN	Alpine	7.42	222	IAmb_Lg		12 22 25.0
	comp=Z,9.6nm,0.7s					
SMCO	Snowmass	7.85	296	IAmb_Lg		12 22 16.4
	comp=Z,22nm,0.8s					
425A	Indio Mountain	7.91	230	IAmb_Lg		12 22 28.6
	comp=Z,11nm,0.9s					
RWWY	Rawlins	9.19	311	IAmb_Lg		12 23 27.1
	comp=Z,11nm,1.1s					
K22A	Casper	9.38	317	IAmb_Lg		12 23 25.5
	comp=Z,14nm,1.1s					

*IDC **31** 12:23:10.9±1.0, 3°.58S×128°.04E, h0km, mb3.8/8, mbtmp3.9/8, Error ellipse: s-maj=74.0km s-min=20.3km az=70.0*

*NEIC **31** 12:23:12.9±2.7, 3°.77S±0°.08×127°.64E±0°.06, h10km±1km, mb4.0/11, Error ellipse: s-maj=14.7km s-min=9.9km az=204.0*

*DJA **31** 12:23:14.8±1.2, 4°.S±13°.×12°.8E±°., h10km, M4.2/9, mb4.4/2, MLv4.0/9*

ISC 31 12:23:14.8±0.6, 3°.83S±0°.06×127°.65E±0°.07, h34km, n34, σ1§81/34, mb4.0/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.80	317	P	Pn	12 23 30.1	+0.4
BNDI	Bandanaira	2.35	107	P	Pb	12 24 10.6	+14
SANI	Sanana	2.42	317	P	Pn	12 23 54.9	+2.8
LBMI	Labuha	3.17	357	P	Pn	12 24 05.3	+2.9
TNTI	Ternate	4.58	356	Pn	Pn	12 24 22.0	+0.3
TNTI	Ternate	4.58	356	P	Pb	12 24 36.1	+1.7
SWI	Sorong	4.65	51	P	Pn	12 24 23.7	+0.9
FAKI	Fak Fak	4.68	79	Pn	Pn	12 24 24.6	+1.5
FAKI				Sn	Sn	12 25 14.8	-1.5
FAKI	Fak Fak	4.68	79	P	Pn	12 24 24.7	+1.5
TOLI2	Tolitoli	8.44	305		Pn	12 25 14.8	+0.1
MTN	Manton Dam	9.60	159	Pn	Pn	12 25 29.8	-0.9
WB0	Warramunga Arr	17.16	158	P	Pn	12 27 10.3	-1.8
WB0				IAmb	IAmb	12 27 16.0	
	comp=Z,9.2nm,1.1s						
WRA	Warramunga Arr	17.30	158	P	Pn	12 27 12.5	-1.4
WRA	Warramunga Arr	17.30	158	P	Pn	12 27 10.9	-2.9
	comp=Z,3.5nm,1.0s,baz=334,slow=13,SNR=12						
WB2	Warramunga Arr	17.30	158	P	Pn	12 27 11.5	-2.4
WB2				IAmb	IAmb	12 27 13.0	
	comp=Z,11nm,1.4s						
WR0	Warramunga Arr	17.39	158	P	Pn	12 27 12.8	-2.2
WR0				IAmb	IAmb	12 27 37.8	
	comp=Z,5.5nm,1.1s						
UGM	Wanagama	17.51	256	P	Pn	12 27 16.9	+0.4
COEN	Coen	18.33	124	P	P	12 27 27.3	+0.9
COEN				IAmb	IAmb	12 27 28.4	
	comp=Z,8.0nm,1.0s						
AS31	Alice Springs	20.63	164	P	P	12 27 53.9	+2.4
AS31				IAmb	IAmb	12 28 04.6	
	comp=Z,2.8nm,0.8s						
ASAR	Alice Springs	20.63	164	P	P	12 27 52.9	+1.4
ASAR	Alice Springs	20.63	164	P	P	12 27 53.9	+2.3
	comp=Z,6.2nm,0.8s,baz=345,slow=11,SNR=48						
	comp=Z,6.2nm,0.8s						
FORT	Forrest	26.81	179	P	P	12 28 52.8	+0.7
FORT				IAmb	IAmb	12 28 54.6	
	comp=Z,15nm,0.8s						
STKA	Stephens Creek	30.83	156	P	P	12 29 29.0	+1.3
STKA	Stephens Creek	30.83	156	P	P	12 29 29.1	+1.3
	comp=Z,3.7nm,0.8s,baz=334,slow=7.8,SNR=4.8						
	comp=Z,3.7nm,0.8s						
CAN	Canberra	37.05	150	P	P	12 30 22.7	+0.9
CAN				IAmb	IAmb	12 31 05.5	
	comp=Z,28nm,1.3s						
KSRS	Korea Array	41.07	0	P	P	12 30 53.6	-1.6
	comp=Z,1.0nm,0.6s,baz=233,slow=14,SNR=2.1						
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	54.72	343	P	P	12 32 42.1	+1.1
	comp=Z,0.2nm,0.3s,baz=161,slow=9.2,SNR=1.4						
	comp=Z,0.2nm,0.3s						
PETK	Petropavlovsk-	62.11	20	P	P	12 33 29.6	-2.7
NIL	Nilore	63.39	311	P	P	12 33 37.5	-3.7
MKAR	Makanchi Array	64.31	327	P	P	12 33 48.5	+1.5
MKAR	Makanchi Array	64.31	327	P	P	12 33 48.4	+1.4
	comp=Z,1.0nm,0.7s,baz=126,slow=6.2,SNR=5.9						
	comp=Z,1.0nm,0.7s						
ZALV	Zalesovo Beam	67.72	334	P	P	12 34 09.4	+0.7
	comp=Z,0.3nm,0.3s,baz=134,slow=8.3,SNR=1.7						
	comp=Z,0.3nm,0.3s						
KURBB	Kurchatov Arra	68.60	329	P	P	12 34 15.3	+1.0
	comp=Z,0.9nm,0.7s,baz=130,slow=5.6,SNR=7.9						
	comp=Z,0.9nm,0.7s						
ILAR	Eielson Array	91.49	25	P	P	12 36 17.4	-0.2
	comp=Z,0.2nm,0.7s,baz=236,slow=5.8,SNR=6.0						
	comp=Z,0.2nm,0.7s						

*NEIC **31** 12:31:05.0±0.7, 8°.23S±0°.09×159°.5E±0°.2, h159km±10km, mb4.1/11, Error ellipse: s-maj=33.5km s-min=11.0km az=79.0*

*IDC **31** 12:31:07.7±1.4, 8°.73S×159°.31E, h156km±10km, mb3.5/6, mbtmp3.9/7, Error ellipse: s-maj=34.3km s-min=22.6km az=144.0*

ISC 31 12:31:05.2±2.9, 8°.4S±0°.4×159°.3E±0°.2, h150km, n28, σ0§72/21, mb3.9/10, Bougainvile-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.23	150	Pn	Pn	12 31 33.0	+0.9
HNR	Honiara	1.23	150	P	Pn	12 31 33.0	+0.9
	3μm,0.3s,baz=204,slow=3.9,SNR=45						
HNR				S	Sn	12 31 51.9	-0.8
	7μm,0.3s,baz=346,slow=17,SNR=12						
CTA	Charters Tower	17.21	226	P	P	12 34 56.6	+0.7
	2.2nm,0.7s,baz=39,slow=13,SNR=2.1						
CTAO	Charters Tower	17.21	226	P	P	12 34 57.4	+1.5
CTAO				IAmb	IAmb	12 35 26.7	
	comp=Z,11nm,1.3s						
EIDS	Eidsvold	18.66	204	P	P	12 35 12.4	+0.7
EIDS				IAmb	IAmb	12 35 13.8	
	comp=Z,9.6nm,0.8s						
WR0	Warramunga Arr	26.62	242	P	P	12 36 30.1	+0.2
WR0				IAmb	IAmb	12 37 07.9	
	comp=Z,3.5nm,1.1s						
WB0	Warramunga Arr	26.68	242	P	P	12 36 30.4	0.0
WB0				IAmb	IAmb	12 37 03.2	
	comp=Z,9.8nm,1.5s						
WB2	Warramunga Arr	26.78	242	P	P	12 36 31.3	0.0
WB2				IAmb	IAmb	12 36 31.5	
	comp=Z,5.9nm,1.2s						
WRA	Warramunga Arr	26.79	242	P	P	12 36 31.9	+0.4
	comp=Z,2.1nm,0.7s,baz=70,slow=9.3,SNR=17						
	comp=Z,2.1nm,0.7s						
H11S2	WAKE ISLAND Hy	27.65	15	T	T	13 05 40.5	
	baz=194,slow=76,SNR=72						
H11S3	WAKE ISLAND Hy	27.65	15	T	T	13 06 00.6	
	baz=194,slow=76,SNR=53						
H11S1	WAKE ISLAND Hy	27.66	15	T	T	13 05 49.6	
	baz=194,slow=76,SNR=48						
CAN	Canberra	28.46	198	P	P	12 36 45.6	-0.6
STKA	Stephens Creek	28.64	213	P	P	12 36 47.5	-0.2
STKA	Stephens Creek	28.64	213	P	P	12 36 47.2	-0.5
	comp=Z,1.8nm,0.4s,baz=61,slow=13,SNR=7.8						
	comp=Z,1.8nm,0.4s						
AS31	Alice Springs	28.72	235	P	P	12 36 47.8	-0.8
ASAR	Alice Springs	28.72	235	P	P	12 36 47.6	-1.0
ASAR	Alice Springs	28.72	235	P	P	12 36 47.8	-0.8
	comp=Z,0.9nm,0.6s,baz=60,slow=9.8,SNR=18						
	comp=Z,0.9nm,0.6s						
H11N1	WAKE ISLAND Hy	28.86	15	T	T	13 07 08.5	
	baz=198,slow=74						
H11N3	WAKE ISLAND Hy	28.87	15	T	T	13 07 20.0	
	baz=198,slow=74						
H11N2	WAKE ISLAND Hy	28.88	15	T	T	13 07 34.2	
	baz=198						
BBOO	Buckleboo	32.51	218	P	P	12 37 21.5	-0.2
BKZ	Black Stump Fm	34.33	156	P	P	12 37 37.8	+0.2
BKZ				IAmb	IAmb	12 38 00.8	
	comp=Z,18nm,1.4s						
CMWZ	Cape Campbell	35.77	161	P	P	12 37 45.3	-4.5
VNDA	Vanda	69.15	179	P	P	12 41 54.0	-0.8
	comp=Z,0.8nm,0.8s,baz=334,slow=7.2,SNR=4.4						
	comp=Z,0.8nm,0.8s						
QSPA	South Pole Qui	81.63	180	P	P	12 43 06.2	-0.2
QSPA				IAmb	IAmb	12 43 08.4	
	comp=Z,1.8nm,0.9s						
QSPA	South Pole Qui	81.63	180	P	P	12 43 06.4	0.0
	comp=Z,1.2nm,0.8s,baz=8.9,slow=1.1,SNR=5.7						
	comp=Z,1.2nm,0.8s						
ILAR	Eielson Array	83.10	20	P	P	12 43 17.6	+3.8
	comp=Z,0.1nm,0.5s,baz=236,slow=4.9,SNR=4.8						
	comp=Z,0.1nm,0.5s						

*IDC **31** 12:35:19.3±1.2, 0°.76S×148°.61E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=46.4km s-min=23.7km az=105.0*

ISC 31 12:35:23.9±1.2, 0°.8S±0°.2×148°.7E±0°.3, h32km, n11, σ1§13/8, mb3.7/7, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.61	216	P	P	12 40 30.7	-1.6
	0.7nm,0.8s,baz=33,slow=10.0,SNR=6.5						
	0.7nm,0.8s						
H11S3	WAKE ISLAND Hy	26.14	42	T	T	13 08 03.4	
	baz=224,slow=75,SNR=255						
H11S2	WAKE ISLAND Hy	26.14	42	T	T	13 08 04.1	
	baz=224,slow=75,SNR=103						
H11S1	WAKE ISLAND Hy	26.15	42	T	T	13 08 07.0	
	baz=224,slow=75,SNR=146						
ASAR	Alice Springs	26.84	211	P	P	12 41 02.8	+1.0
	0.2nm,0.5s,baz=40,slow=7.5,SNR=4.9						
	0.2nm,0.5s						
SONM	Songino Array	60.79	329	P	P	12 45 33.2	+0.2
	0.4nm,0.4s,baz=122,slow=5.4,SNR=1.8						
	0.4nm,0.4s						
MKAR	Makanchi Array	74.63	319	P	P	12 47 01.0	+0.8
	0.2nm,0.4s,baz=83,slow=12,SNR=2.5						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	75.58	327	P	P	12 47 04.6	-0.8
	0.3nm,0.4s,baz=111,slow=7.9,SNR=1.4						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	78.14	322	P	P	12 47 20.7	+0.7
	0.5nm,0.7s,baz=226,slow=12,SNR=2.6						
	0.5nm,0.7s						
ILAR	Eielson Array	80.11	23	P	P	12 47 29.8	-0.7
	0.6nm,0.7s,baz=244,slow=5.5,SNR=13						
	0.6nm,0.7s						
SIV	San Ignacio	146.23	121	PKPbc	PKPab	12 55 03.7	+0.7
	1.1nm,0.5s,baz=194,slow=4.4,SNR=3.9						

*MOS **31** 12:37:43.9±1.0, 3°.81S×127°.65E, h10km, mb5.6/55, MS5.0/6, Error ellipse: s-maj=10.6km s-min=4.6km az=117.1*

*IDC **31** 12:37:44.6±2.6, 3°.83S×127°.59E, h12km±15km, mb5.0/30, mbtmp5.0/30, MS5.0/52, Error ellipse: s-maj=17.7km s-min=9.4km az=62.0*

*BJI **31** 12:37:46.3±0.0, 4°.12S×127°.99E, h36km, mb5.0/77, mB6.0/56, Ms5.3/60, Ms7 5.0/57*

*NEIC **31** 12:37:47.8±2.2, 3°.82S±0°.06×127°.77E±0°.06, h16km±3km, mb5.5/126, Ms_20 5.4/129, Mww5.7/43, Error ellipse: s-maj=9.3km s-min=8.4km az=54.0*

*DJA **31** 12:37:48.1±0.1, 4°.S±2°.×12°.8E±°., h10km, M5.7/61, mb5.7/61, mB6.0/54, MLv5.7/27, Mw5.6/19, Mw(mB)5.7/54, MwMwp5.6/28, Mwp5.7/28*

*GCMT **31** 12:37:48.8±0.1, 3°.83S×127°.80E, h12km, MW5.7/165, Moment Tensor Solution. s128,c235; s165,c343; Duration: 1§7 Moment tensor: Scale 10^{17}Nm; M_{rr}=4.01±.06; $M_{\theta\theta}$=-3.86±.04; $M_{\phi\phi}$=-0.15±.04; $M_{r\theta}$=1.28±.11; $M_{\theta\phi}$=0.99±.03; $M_{\phi r}$=-0.61±.13; Best double couple: M_0=4.30100×10^{17} NP1:ϕ_s=108.00000°, δ=55.00000°, λ=95.00000°. NP2:ϕ_s=280.00000°, δ=36.00000°, λ=84.00000°. Principal axes: T 4.2600, Plg80.0000°, Azm36.0000°; N 0.0810, Plg4.0000°, Azm285.0000°; P -4.3410, Plg9.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **31** 12:37:49.3, 3°.81S×127°.80E, h12km*

*NEIC **31** 12:37:49.3, 3°.91S×127°.90E, h12km, Moment Tensor Solution. Duration: 3§9 Moment tensor: Scale 10^{17}Nm; M_{rr}=3.66; $M_{\theta\theta}$=-3.23; $M_{\phi\phi}$=-0.43; $M_{r\theta}$=2.20; $M_{\theta\phi}$=1.29; $M_{\phi r}$=-0.29; Fault plane solution: M_0=4.31000×10^{17} NP1: ϕ_s=104.23000°, δ=60.51000°, λ=82.86000°. NP2: ϕ_s=298.49000°, δ=30.27000°, λ=102.38000°. Principal axes: T 4.3004, Plg74.0000°, Azm356.0000°; N 0.0200, Plg6.0000°, Azm108.0000°; P -4.3204, Plg15.0000°, Azm199.0000°;*

*KLM **31** 12:37:51, 3°.93S×127°.98E, h53km, mb5.6*

ISC 31 12:37:47.3±0.4, 3°.80S±0°.03×127°.81E±0°.04, h19km±1km, h19km:pP-P, n1220, σ1§63/1191, mb5.4/172, MS5.3/138, 49C-29D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.90	308	P	Pb	12 38 02.4	-1.9
BNDI	Bandanaira	2.21	109	P	Pn	12 38 22.5	-0.5
BNDI	Bandanaira	2.21	109	P	Pn	12 38 21.8	-1.2
BNDI	Bandanaira	2.21	109	P	Pn	12 38 22.1	-0.9
SANI	Sanana	2.52	314	P	Pn	12 38 28.9	+1.7
SANI	Sanana	2.52	314	P	Pn	12 38 27.2	0.0
SANI	Sanana	2.52	314	P	Pn	12 38 26.9	-0.3
LBMI	Labuha	3.16	354	P	Pn	12 38 38.8	+2.8
SWI	Sorong	4.51	50	P	Pn	12 38 55.6	+0.9
FAKI	Fak Fak	4.52	79	Pn	Pn	12 38 56.4	+1.7
FAKI	Fak Fak	4.52	79	P	Pn	12 38 57.5	+2.8
FAKI	Fak Fak	4.52	79	P	Pn	12 38 56.9	+2.2
FAKI	Fak Fak	4.52	79	P	Pn	12 38 55.5	+0.7
TNTI	Ternate	4.56	354	Pn	Pn	12 38 56.4	+1.0
TNTI	Ternate	4.56	354	P	Pn	12 38 58.0	+2.6
TNTI	Ternate	4.56	354	P	Pn	12 38 57.6	+2.2
TNTI	Ternate	4.56	354	P	Pn	12 38 57.5	+2.1
SAUI	Saumlaki	5.41	140	Pn	Pn	12 39 08.8	+1.7
SAUI	Saumlaki	5.41	140	P	Pn	12 39 10.5	+3.4
SAUI	Saumlaki	5.41	140	P	Pn	12 39 11.3	+4.2
	1μm,0.9s,21μm65μm4.9nm						
SAUI	Saumlaki	5.41	140	P	Pn	12 39 10.5	+3.4
BBSI	Bau Bau	5.49	252	P	Pn	12 39 11.3	+3.2
	991nm,1.1s,10μm29μm3.2nm						
LUWI	Luwuk	5.73	298	Pn	Pn	12 39 12.2	+0.8
LUWI	Luwuk	5.73	298	P	Pn	12 39 14.5	+3.1
LUWI	Luwuk	5.73	298	P	Pn	12 39 13.4	+2.0
	1μm,1.0s,19μm24μm6.6nm						
LUWI	Luwuk	5.73	298	P	Pn	12 39 13.0	+1.6
KMSI	Cibinong	5.79	319	P	Pn	12 39 14.4	+2.2
	1μm,0.9s,18μm15μm12nm						
KMPI	Kaimana, Papua	5.88	89	P	Pn	12 39 16.2	+2.7
	4μm,1.3s,43μm38μm13nm						
RKPI	Ransiki, Papua	6.75	70	P	Pn	12 39 27.7	+2.2
	1μm,0.9s,14μm42μm5.7nm						
SOEI	Soe	6.88	211	Pn	Pn	12 39 30.6	+3.3
SOEI	Soe	6.88	211	P	Pn	12 39 31.2	+3.9
SOEI	Soe	6.88	211	P	Pn	12 39 31.3	+3.9
	645nm,1.1s,11μm59μm4.2nm						
SOEI	Soe	6.88	211	P	Pn	12 39 32.0	+4.6
MRSI	Marisa	7.24	306	P	Pn	12 39 34.6	+2.4
	877nm,1.0s,9μm20μm3.2nm						
MMRI	Maumere	7.33	229	Pn	Pn	12 39 35.2	+1.8
MMRI	Maumere	7.33	229	P	Pn	12 39 37.0	+3.5
MMRI	Maumere	7.33	229	P	Pn	12 39 36.6	+3.1
	201nm,0.8s,7μm43μm1.2nm						
MMRI	Maumere	7.33	229	P	Pn	12 39 36.5	+3.0
BATI	Baumata	7.58	213	P	Pn	12 39 40.9	+4.0
	390nm,0.9s,7μm34μm1.2nm						
BATI	Baumata	7.58	213	Pn	Pn	12 39 39.1	+2.2
	19nm,0.3s,baz=91,slow=0.3,SNR=56						
BATI				LR	LR	12 42 42.5	
	comp=Z,32μm,21.9s,baz=46,slow=40						
SGSI	Sangihe	7.78	343	P	Pn	12 39 42.6	+3.0
	841nm,1.2s,8μm17μm2.8nm						
BKSI	Bulukumba	7.81	259	P	Pn	12 39 42.9	+2.9
	539nm,1.5s,7μm18μm2.4nm						
EDFI	Ende, Flores	7.82	231	P	Pn	12 39 42.4	+2.1
	253nm,0.8s,5μm42μm1.2nm						
TTSI	Tana Toraja	8.01	275	P	Pn	12 39 51.2	+8.4
KAPI	Kappang	8.12	261	Pn	Pn	12 39 46.8	+2.5
KAPI	Kappang	8.12	261	P	Pn	12 39 47.4	+3.1
KAPI	Kappang	8.12	261	P	Pn	12 39 48.2	+3.9
KAPI	Kappang	8.12	261	P	Pn	12 39 47.9	+3.5
KAPI	Kappang	8.12	261	P	Pn	12 39 46.8	+2.5
KAPI	Kappang	8.12	261	Pn	Pn	12 39 46.2	+1.9
	18nm,0.3s,baz=110,slow=6.7,SNR=36						
TOLI2	Tolitoli	8.55	305	Pn	Pn	12 39 52.7	+2.5
TOLI2	Tolitoli	8.55	305	P	Pn	12 39 54.9	+4.7
MPSI	Mapaga	8.91	297	P	Pn	12 39 58.3	+3.2
	307nm,0.9s,3μm20μm0.9nm						
MTN	Manton Dam	9.57	160	P	Pn	12 40 04.1	0.0
	baz=9.5,SNR=294						
MTN	Manton Dam	9.57	160	Pn	Pn	12 40 04.9	+0.8
MTN	Manton Dam	9.57	160	P	Pn	12 40 04.9	+0.8
MTN	Manton Dam	9.57	160	P	Pn	12 40 04.1	0.0
BASI	Baing, Sumba	9.60	228	P	Pn	12 40 20.0	+15
KDU	Kakadu	9.96	153	P	Pn	12 40 08.3	-1.3
	baz=9.9,SNR=135						
KDU	Kakadu	9.96	153	P	Pn	12 40 08.9	-0.6
KDU	Kakadu	9.96	153	P	Pn	12 40 08.6	-1.0
DAV	Davao City (W)	11.03	348	LR	LR	12 44 38.8	
	comp=Z,11μm,20.8s,baz=129,slow=38						
SMPI	Sarmi	11.03	81	P	Pn	12 40 27.5	+3.3
	295nm,1.4s,6μm21μm						
PLAI	Plampang	11.15	243	P	Pn	12 40 28.2	+2.3
PLAI	Plampang	11.15	243	P	Pn	12 40 35.4	+10
KNRA	Kununurra	11.84	176	P	Pn	12 40 34.3	-0.9
	baz=12,SNR=242						
KNRA	Kununurra	11.84	176	Pn	Pn	12 40 34.7	-0.5
KNRA	Kununurra	11.84	176	P	Pn	12 40 34.5	-0.8
TWSI	Taliwang, Sumb	11.92	245	P	Pn	12 40 41.5	+5.2
	158nm,1.1s,6μm17μm						
GENI	Genyem	12.40	85	P	Pn	12 40 44.8	+1.9
GENI	Genyem	12.40	85	P	Pn	12 40 45.3	+2.4
	306nm,1.0s,6μm16μm						
GENI	Genyem	12.40	85	P	Pn	12 40 45.4	+2.4
JAY	Jayapura	12.94	85	P	Pn	12 40 53.1	+2.8
	120nm,1.1s,2μm						
BBKI	Banjar Baru	12.95	271	P	Pn	12 40 54.0	+3.5
	362nm,2.7s,14μm						
MTKI	Muara Teweh, K	13.21	282	P	P	12 41 06.4	+2.5
TABU	Tabubil	13.45	97	P	Pn	12 40 58.8	+1.4
ABJI	Asem Bagus	14.08	253	P	P	12 41 17.7	+4.2
SPMM	Sapulut	14.14	307	P	P	12 41 12.0	-2.2
JAGI	Jajag, Banyuwa	14.35	250		Pn	12 41 12.1	+2.5
JAGI	Jajag, Banyuwa	14.35	250	P	P	12 41 14.0	-2.5
JAGI	Jajag, Banyuwa	14.35	250	P	P	12 41 15.0	-1.5
	272nm,2.5s,16μm17μm						
JAGI	Jajag, Banyuwa	14.35	250	P	P	12 41 13.8	-2.8
BLJI	Banyuglugur	14.67	254	P	P	12 41 23.2	+3.1
GMJI	Gumukmas	14.96	252	P	P	12 41 22.8	-0.5
	329nm,2.3s,12μm						
GRJI	Gresik	15.57	258	P	P	12 41 35.8	+5.7
NGJI	Ngawi	16.65	257	P	P	12 41 46.0	+3.9
	626nm,1.8s,24μm30μm						
STKI	Sintang	16.77	283	P	P	12 41 47.3	+3.9
	128nm,1.9s						
WB0	Warramunga Arr	17.12	158		Pn	12 41 42.4	-3.4
WB0				IAmb	IAmb	12 41 45.9	
	comp=Z,513nm,0.9s						
WRAB	Tennant Creek

TGY LR LR 12 51 37.9
comp=Z,3μm,20.5s,baz=128,slow=44
KPJI Karang Pucung 19.11 259 P **Pn 12 42 10.9 +0.7**
comp=Z,1μm,1.2s,comp=Z,16μm
PSA00 Pilbara Seismi 19.29 203 P **P 12 42 11.1 -0.1**
PSA00 Pilbara Seismi 19.29 203 P **P 12 42 11.3 +0.1**
PSA00 IAmb IAmb 12 42 13.3
comp=Z,188nm,0.8s
PSA00 Pilbara Seismi 19.29 203 P **P 12 42 12.0 +0.8**
MANU Manus Island 19.61 85 P **P 12 42 16.8 +2.0**
MANU IAmb IAmb 12 42 28.2
comp=Z,283nm,1.3s
MANU Manus Island 19.61 85 P **Pn 12 42 18.9 +2.7**
MANU Manus Island 19.61 85 ⇓p **Pn 12 42 19.1 +2.9**
JCJI Jatiwangi 19.64 261 P Pn 12 42 27.3 +11
CMJI Cimerak 19.66 258 P **Pn 12 42 16.6 -0.2**
comp=Z,662nm,0.9s,comp=Z,9μm
PMG Port Moresby 20.00 107 P **P 12 42 20.1 +1.1**
PMG IAmb IAmb 12 42 32.9
comp=Z,166nm,1.0s
PMG Port Moresby 20.00 107 P Pn 12 42 21.8 +1.0
PMG Port Moresby 20.00 107 P Pn 12 42 22.0 +1.2
PMG Port Moresby 20.00 107 ⇑P Pn 12 42 22.2 +1.4
PMG Port Moresby 20.00 107 P **P 12 42 20.8 +1.7**
comp=Z,18nm,0.7s,baz=303,slow=8.0,SNR=9.4
PMG LR LR 12 51 58.7
comp=Z,7μm,21.2s,baz=308,slow=42
comp=Z,18nm,0.7s
QIS Mount Isa 20.23 146 P **P 12 42 21.9 +0.4**
baz=20,SNR=313
QIS Mount Isa 20.23 146 P **P 12 42 22.0 +0.4**
LEM Lembang 20.33 261 P **P 12 42 21.5 -1.3**
comp=Z,360nm,0.9s,baz=74,slow=9.6,SNR=54
LEM LR LR 12 51 02.1
comp=Z,8μm,18.7s,baz=90,slow=40
BBJI Bungbulang 20.39 259 P **P 12 42 22.9 -0.4**
AS31 Alice Springs 20.61 164 P **P 12 42 25.8 +0.2**
AS31 IAmb IAmb 12 42 35.4
comp=Z,157nm,0.9s
ASAR Alice Springs 20.61 164 P **P 12 42 26.1 +0.5**
ASAR Alice Springs 20.61 164 P **P 12 42 25.3 -0.3**
comp=Z,442nm,0.9s,baz=343,slow=10,SNR=821
ASAR PcP **PcP 12 46 34.9 -1.3**
comp=Z,14nm,0.8s,baz=2.3,slow=1.7,SNR=5.3
ASAR ScP **ScP 12 50 08.8 -3.2**
comp=Z,4.3nm,0.8s,baz=4.0,slow=2.7,SNR=7.1
ASAR LR LR 12 50 56.1
comp=Z,8μm,18.9s,baz=350,slow=38
CNJI Cibinong 20.87 259 P **P 12 42 28.1 -0.4**
comp=Z,849nm,1.1s,comp=Z,8μm
CBJI Citeko 21.04 262 P **P 12 42 30.6 +0.3**
comp=Z,575nm,0.9s,comp=Z,10μm
WRKA Warakurna 21.12 179 P **P 12 42 32.0 +0.9**
baz=21,SNR=240
WRKA Warakurna 21.12 179 P **P 12 42 32.2 +1.1**
WRKA Warakurna 21.12 179 ⇑P **P 12 42 31.9 +0.9**
MTSU Mount Surprise 21.54 133 P **P 12 42 36.7 +1.0**
baz=22,SNR=46
MTSU Mount Surprise 21.54 133 P **P 12 42 36.5 +0.8**
PPBI Pangkal Pinang 21.70 274 P **P 12 42 39.8 +2.3**
comp=Z,189nm,0.7s,comp=Z,36μm
AUCSH Cairns State H 21.93 128 P **P 12 42 41.6 +1.8**
CGJI Cibinong 22.20 262 P **P 12 42 43.8 +1.0**
comp=Z,196nm,1.0s,comp=Z,4μm
GIRL Giralia 22.89 214 P **P 12 42 51.3 +1.3**
baz=23,SNR=13
GIRL Giralia 22.89 214 P **P 12 42 50.9 +0.9**
GIRL Giralia 22.89 214 P **P 12 42 51.1 +1.1**
GIRL Giralia 22.89 214 ⇓P **P 12 42 51.4 +1.3**
XMI Christmas Isla 22.91 252 P **P 12 42 49.5 -0.9**
XMIS Christmas Isla 22.95 252 P **P 12 42 48.1 -2.7**
XMIS Christmas Isla 22.95 252 P **P 12 42 50.0 -0.8**
KAVG Kavieng 22.99 88 P **P 12 42 54.2 +3.0**
PMBI Palembang 23.02 271 P **P 12 42 54.4 +3.0**
PMBI Palembang 23.02 271 P P 12 43 10.7 +19
KASI Kota Agung 23.30 265 P **P 12 42 53.1 -1.2**
comp=Z,179nm,0.9s,comp=Z,2μm
DSRI Dabo 23.45 278 P **P 12 42 58.0 +2.2**
comp=Z,229nm,1.4s,comp=Z,5μm
LWLI Liwa 23.71 266 P P 12 43 07.2 +8.7
TPRI Tanjung Pinang 23.74 281 P **P 12 43 00.1 +1.5**
comp=Z,457nm,1.0s,comp=Z,7μm
TV1H Townsville Har 24.08 131 P **P 12 43 04.1 +2.3**
KRVT Keravat (AS076 24.16 92 P **P 12 43 03.4 +0.7**
comp=Z,116nm,0.9s,baz=273,slow=7.8,SNR=24
KRVT LR LR 12 53 31.9
comp=Z,5μm,18.3s,baz=300,slow=39
comp=Z,116nm,0.9s
GUMO Guam 24.19 44 LR LR 12 51 41.9
comp=Z,2μm,22.0s,baz=220,slow=34
CTA Charters Tower 24.19 133 P **P 12 43 03.0 +0.2**
comp=Z,65nm,1.1s,baz=327,slow=12,SNR=26
CTA LR LR 12 53 23.7
comp=Z,3μm,20.2s,baz=310,slow=39
comp=Z,65nm,1.1s
CTAO Charters Tower 24.19 133 P **P 12 43 03.9 +1.0**
CTAO IAmb IAmb 12 43 20.8
comp=Z,227nm,1.3s
CTAO Charters Tower 24.19 133 P **P 12 43 04.8 +1.9**
CTAO Charters Tower 24.19 133 ⇓P **P 12 43 04.6 +1.7**
CTAO Charters Tower 24.19 133 P **P 12 43 03.9 +1.0**
CTAO pmax pmax
comp=Z,227nm,1.3s
LHSI Lahat 24.23 269 P **P 12 43 04.1 +0.8**
comp=Z,143nm,1.3s,comp=Z,3μm
JMBI JAMBI 24.24 274 P **P 12 43 07.5 +4.2**
comp=Z,313nm,1.3s,comp=Z,5μm
MEEK Meekatharra 24.36 200 P **P 12 43 03.8 -0.5**
baz=24,SNR=110
MEEK Meekatharra 24.36 200 P **P 12 43 04.5 +0.2**
MYKOM Kota Tinggi 24.58 283 P **P 12 43 08.0 +1.5**
AUAYR Ayr State High 24.73 131 P **P 12 43 09.7 +1.9**
DLV T Lat 24.77 309 P **P 12 43 11.0 +2.6**
DLV T Lat 24.77 309 ⇑P **P 12 43 11.4 +3.0**
OOD Oodnadatta 25.02 163 P **P 12 43 10.3 +0.1**
INKA Innaminka 26.82 154 P **P 12 43 27.4 +0.9**
FORT Forrest 26.84 180 P **P 12 43 26.7 0.0**
baz=27,SNR=67
FORT Forrest 26.84 180 P **P 12 43 25.8 -0.9**
FORT Forrest 26.84 180 P **P 12 43 27.1 +0.4**
FORT Forrest 26.84 180 ⇑P **P 12 43 26.4 -0.3**
MULG Mulgathing 27.00 168 P **P 12 43 28.9 +0.8**
BKNI Bangkinang 27.07 278 P **P 12 43 31.1 +2.1**
BKNI Bangkinang 27.07 278 P P 12 43 40.0 +11
TWGBT Beinan 27.26 346 P **P 12 43 32.1 +1.6**
PDSI Padang 27.47 275 P **P 12 43 37.1 +4.4**
comp=Z,105nm,1.0s,comp=Z,2μm
MORW Morawa 27.50 203 P **P 12 43 33.2 +0.5**
baz=28,SNR=10
MORW Morawa 27.50 203 P **P 12 43 31.9 -0.8**
MORW IAmb IAmb 12 43 40.8
comp=Z,72nm,1.1s
MORW Morawa 27.50 203 P **P 12 43 33.5 +0.8**
MORW Morawa 27.50 203 ⇓P **P 12 43 33.3 +0.5**
QLP Quilpie 27.58 147 P **P 12 43 33.7 +0.3**
baz=28,SNR=8.3
QLP Quilpie 27.58 147 P **P 12 43 34.9 +1.5**
QLP Quilpie 27.58 147 ⇑P **P 12 43 33.4 0.0**
TPUB Ta-pu 27.83 346 P **P 12 43 34.9 -0.8**
TPUB Ta-pu 27.83 346 P **P 12 43 38.1 +2.4**
KMBL Kambalda 27.98 191 P **P 12 43 37.1 +0.1**
baz=28,SNR=12
KMBL Kambalda 27.98 191 P **P 12 43 37.7 +0.7**
SSLB Suanglung 28.22 347 P **P 12 43 38.9 -0.3**
SSLB IAmb IAmb 12 43 53.8
comp=Z,67nm,0.9s
SSLB Suanglung 28.22 347 P **P 12 43 41.7 +2.5**
LCRK Leigh Creek 28.27 161 P **P 12 43 39.9 +0.4**
BLDU Ballidu 28.66 200 P **P 12 43 43.0 0.0**
baz=29,SNR=24
BLDU Ballidu 28.66 200 P **P 12 43 42.9 -0.1**
QIZ Qiongzhong 28.77 323 P **P 12 43 45.0 +0.9**
QIZ S **S 12 48 37.3 +4.4**
QIZ pmax pmax
comp=Z,1μm,5.5s
QIZ LR LR
comp=Z,3μm,11.8s
QIZ LR LR
comp=Z,2μm,8.4s
QIZ LR LR
comp=Z,2μm,12.6s
KLBR Kellerberrin 29.22 198 P **P 12 43 47.9 -0.1**
baz=29,SNR=62
KLBR Kellerberrin 29.22 198 P **P 12 43 48.1 +0.1**
RK1H Rockhampton Ha 29.32 134 P **P 12 43 49.4 +0.4**

RPSI Rantau Prapat 29.58 282 P **P 12 43 51.0 -0.5**
RPSI IAmb IAmb 12 44 04.8
comp=Z,70nm,0.9s
PSI Prapat 29.61 282 P **P 12 43 53.9 +2.1**
PSI Prapat 29.61 282 P **P 12 43 51.0 -0.8**
PSI pmax pmax
comp=Z,70nm,0.9s
PSI MLR MLR
comp=Z,3μm,21.0s
AUMOU Moura State Hi 29.71 136 P **P 12 43 53.5 +1.1**
BBOO Buckleboo 29.88 166 P **P 12 43 53.8 0.0**
baz=30,SNR=22
BBOO Buckleboo 29.88 166 P **P 12 43 53.3 -0.5**
BBOO IAmb IAmb 12 43 55.6
comp=Z,115nm,1.1s
BBOO Buckleboo 29.88 166 P **P 12 43 53.9 +0.1**
MUN Mundaring 30.08 200 P **P 12 43 55.5 -0.1**
baz=30,SNR=21
MUN Mundaring 30.08 200 P **P 12 43 55.6 0.0**
RMQ Roma 30.19 140 P **P 12 43 56.9 +0.3**
baz=30,SNR=5.8
RMQ Roma 30.19 140 P **P 12 43 58.1 +1.4**
GZH Guangzhou 30.22 333 P P 12 44 02.0 +5.1
GZH S **S 12 49 04.5 +8.8**
GZH pmax pmax
comp=Z,37nm,1.5s
GZH pmax pmax
comp=Z,1μm,3.9s
GZH LR LR
comp=Z,1μm,8.2s
GZH LR LR
comp=Z,1μm,9.9s
JOW Kunigami 30.45 1 P **P 12 43 57.4 -1.6**
comp=Z,50nm,0.9s,baz=184,slow=9.5,SNR=4.7
JOW LR LR 12 54 47.1
comp=Z,4μm,21.9s,baz=171,slow=34
comp=Z,50nm,0.9s
WHYH Whyalla 30.48 164 P **P 12 43 59.8 +0.7**
NWAO Narrogin (SRO) 30.62 198 P **P 12 44 00.5 +0.1**
baz=31,SNR=47
NWAO P **P 12 44 00.5 +0.1**
baz=31,SNR=47
NWAO Narrogin (SRO) 30.62 198 P **P 12 44 00.2 -0.1**
NWAO Narrogin (SRO) 30.62 198 P **P 12 44 00.4 +0.1**
NWAO IAmb IAmb 12 44 02.1
comp=Z,630nm,0.8s
NWAO Narrogin (SRO) 30.62 198 P **P 12 44 00.7 +0.3**
NWAO Narrogin (SRO) 30.62 198 P **P 12 44 00.5 +0.1**
NWAO Narrogin (SRO) 30.62 198 P **P 12 44 00.5 +0.1**
NWAO P **P 12 44 00.5 +0.1**
NWAO Narrogin (SRO) 30.62 198 P **P 12 44 00.4 0.0**
NWAO pmax pmax
comp=Z,630nm,0.9s
NWAO Narrogin (SRO) 30.62 198 LR LR 12 57 42.4
comp=Z,4μm,19.4s,baz=28,slow=39
GSI Gunungsitoli 30.64 279 P **P 12 43 59.8 -1.0**
GSI Gunungsitoli 30.64 279 P **P 12 44 01.1 +0.3**
GSI Gunungsitoli 30.64 279 P **P 12 44 00.7 -0.1**
comp=Z,140nm,1.1s,comp=Z,3μm
GSI Gunungsitoli 30.64 279 ⇓P **P 12 44 00.6 -0.1**
SRIT Nakonsritamara 30.71 294 P **P 12 44 02.9 +1.5**
SRIT IAmb IAmb 12 44 13.8
comp=Z,49nm,0.7s
SRIT Nakonsritamara 30.71 294 P **P 12 44 03.9 +2.6**
STKA Stephens Creek 30.79 157 P **P 12 44 01.9 0.0**
baz=31,SNR=132
STKA Stephens Creek 30.79 157 P **P 12 44 01.8 0.0**
STKA Stephens Creek 30.79 157 P **P 12 44 02.0 0.0**
STKA Stephens Creek 30.79 157 P **P 12 44 01.8 -0.1**
STKA pmax pmax
comp=Z,43nm,1.0s
STKA Stephens Creek 30.79 157 P **P 12 43 59.4 -2.5**
comp=Z,164nm,0.9s,baz=326,slow=9.7,SNR=147
STKA LR LR 12 57 09.5
comp=Z,7μm,20.1s,baz=325,slow=38
comp=Z,164nm,0.9s
EIDS Eidsvold 30.98 136 P **P 12 44 02.7 -0.9**
baz=31,SNR=4.0
EIDS Eidsvold 30.98 136 P **P 12 44 03.4 -0.3**
EIDS Eidsvold 30.98 136 P **P 12 44 05.4 +1.7**
EIDS Eidsvold 30.98 136 ⇓P **P 12 44 03.8 +0.1**
NAYO Nakonayok 31.84 305 P **P 12 44 15.1 +3.8**
AULRC Lightning Ridg 31.87 145 P **P 12 44 12.0 +0.6**
PATS Pohnpei 32.23 71 P **P 12 44 13.9 -0.9**
baz=32,SNR=3.5
PATS Pohnpei 32.23 71 IAms_20 IAms_20 12 55 54.7
comp=Z,6μm,18.0s
PATS Pohnpei 32.23 71 P **P 12 44 16.9 +2.1**
RKGY Rocky Gully 32.27 197 P **P 12 44 16.5 +1.7**
baz=32,SNR=26
RKGY Rocky Gully 32.27 197 P **P 12 44 16.4 +1.6**
CMSA Cobar Meteorol 32.32 151 P **P 12 44 15.8 +0.4**
baz=32,SNR=47
CMSA Cobar Meteorol 32.32 151 P **P 12 44 16.1 +0.8**
AUALB St Joseph's Co 32.38 195 P **P 12 44 16.9 +1.1**
MLSI Meulaboh, Aceh 32.39 284 P **P 12 44 16.6 +0.4**
HNR Honiara 32.39 102 LR LR 12 58 15.7
comp=Z,21μm,21.2s,baz=278,slow=38
NONG Nongkai 32.61 313 P **P 12 44 21.0 +3.0**
H01W3 Cape Leeuwin H 33.43 201 P **P 12 44 27.5 +2.8**
baz=32,slow=6.4,SNR=6.9
H01W1 Cape Leeuwin H 33.43 201 P **P 12 44 27.7 +2.9**
baz=32,slow=6.4,SNR=6.8
H01W2 Cape Leeuwin H 33.45 201 P **P 12 44 27.3 +2.4**
baz=32,slow=6.4,SNR=5.9
GULI GuiLin 33.51 331 P **P 12 44 30.0 +4.2**
SRDT SRDT 33.68 303 P **P 12 44 29.6 +2.2**
JCJ Chichijima 33.71 24 LR LR 12 56 53.1
comp=Z,2μm,18.2s,baz=216,slow=34
AUDCS Dubbo College 34.37 148 P **P 12 44 34.9 +1.6**
ARMA Armidale 34.74 142 P **P 12 44 37.7 +1.0**
baz=35,SNR=8.1
ARMA Armidale 34.74 142 P **P 12 44 36.9 +0.2**
ARMA IAmb IAmb 12 44 46.4
comp=Z,47nm,1.0s
ARMA Armidale 34.74 142 P **P 12 44 38.1 +1.5**
ARMA Armidale 34.74 142 ⇓P **P 12 44 38.0 +1.3**
AUPHS Peel High Scho 34.79 144 P **P 12 44 39.3 +2.4**
ARPS Mount Arapiles 35.26 160 P **P 12 44 41.7 +0.9**
baz=35,SNR=25
ARPS Mount Arapiles 35.26 160 P **P 12 44 41.7 +0.9**
AUMAG Moama Anglican 35.74 156 P **P 12 44 46.8 +1.8**
YNG Young 35.88 150 P **P 12 44 47.6 +1.3**
CM31 Chiang Mai Arr 36.03 309 P **P 12 44 48.5 +0.8**
CM31 IAmb IAmb 12 45 31.4
comp=Z,53nm,1.1s
CM31 Chiang Mai Arr 36.03 309 P **P 12 44 50.2 +2.5**
SNR=9.0
CMAR Chiang Mai Arr 36.03 309 P **P 12 44 48.0 +0.4**
CMAR Chiang Mai Arr 36.03 309 P **P 12 44 48.1 +0.4**
CMAR Chiang Mai Arr 36.03 309 P **P 12 44 47.6 -0.1**
comp=Z,4.8nm,0.6s,baz=136,slow=6.3,SNR=24
CMAR PcP **PcP 12 47 14.6 +0.5**
comp=Z,2.0nm,0.4s,baz=167,slow=2.8,SNR=5.1
CMAR PKiKP **PKiKP 12 54 33.8 -0.4**
comp=Z,0.7nm,0.3s,baz=162,slow=0.5,SNR=4.2
CMAR LR LR 13 00 14.1
comp=Z,1μm,21.7s,baz=115,slow=38
CHTO Chiang Mai 36.23 309 P **P 12 44 49.6 +0.1**
CHTO IAmb IAmb 12 45 10.0
comp=Z,49nm,0.9s
CHTO Chiang Mai 36.23 309 P **P 12 44 51.3 +1.9**
CHTO Chiang Mai 36.23 309 P **P 12 44 50.1 +0.7**
CHTO Chiang Mai 36.23 309 ⇓P **P 12 44 50.5 +1.0**
CHTO Chiang Mai 36.23 309 P **P 12 44 49.6 +0.1**
CHTO pmax pmax
comp=Z,49nm,1.0s
GYA Guiyang 36.38 327 ⇑*iP* **P 12 44 53.0 +2.3**
GYA pP pwP 12 45 07.3 +8.3
GYA S **S 12 50 34.8 +3.4**
GYA pmax pmax
comp=Z,52nm,1.4s
GYA pmax pmax
comp=Z,1μm,5.2s
GYA LR LR
comp=Z,1μm,13.8s
GYA LR LR
comp=Z,2μm,16.6s
GYA LR LR
comp=Z,2μm,18.0s
WHN Wuhan 36.49 340 ⇓*iP* **P 12 44 54.5 +3.0**
WHN S **S 12 50 32.8 +0.1**
WHN pmax pmax
comp=Z,140nm,1.1s
NJ2 Nanjing 36.66 347 ⇑P **P 12 44 54.8 +2.0**

NJ2 pP **pwP 12 45 04.0 +2.3**
NJ2 sP sP 12 45 09.5 +9.5
NJ2 pmax pmax
comp=Z,15nm,0.7s
NJ2 pmax pmax
comp=Z,980nm,3.6s
NJ2 LR LR
comp=Z,1μm,12.3s
NJ2 LR LR
comp=Z,1μm,8.5s
NJ2 LR LR
comp=Z,1μm,11.4s
BRAT Ballarat 36.69 158 P **P 12 44 55.1 +2.0**
JNU Nakatsue 36.84 4 P **P 12 44 54.7 +0.3**
JNU Nakatsue 36.84 4 P **P 12 44 55.6 +1.2**
JNU Nakatsue 36.84 4 ⇑P **P 12 44 55.1 +0.7**
JNU Nakatsue 36.84 4 P **P 12 44 53.4 -1.0**
comp=Z,22nm,1.0s,baz=158,slow=3.8,SNR=8.5
JNU LR LR 12 58 47.2
comp=Z,3μm,20.9s,baz=168,slow=34
comp=Z,22nm,1.0s
CAN Canberra 36.99 151 P **P 12 44 56.3 +0.5**
CAN IAmb IAmb 12 45 17.5
comp=Z,59nm,0.8s
CAN IAMs_20 IAMs_20 12 59 42.9
comp=Z,6μm,19.0s
CAN Canberra 36.99 151 P **P 12 44 56.8 +1.0**
CAN Canberra 36.99 151 ⇑P **P 12 44 57.0 +1.2**
CAN Canberra 36.99 151 P **P 12 44 56.3 +0.5**
CAN pmax pmax
comp=Z,59nm,0.8s
CAN MLR MLR
comp=Z,6μm,19.0s
CNB Canberra Magne 37.17 150 P **P 12 44 57.9 +0.6**
baz=37,SNR=5.8
CNB Canberra Magne 37.17 150 P **P 12 44 59.6 +2.3**
MLBS Spotswood, Mel 37.30 157 P **P 12 45 00.2 +1.9**
TOO Toolangi 37.31 157 P **P 12 44 59.1 +0.7**
baz=37,SNR=19
TOO Toolangi 37.31 157 P **P 12 44 59.1 +0.7**
TOO IAmb IAmb 12 45 19.5
comp=Z,112nm,1.2s
TOO Toolangi 37.31 157 P **P 12 45 00.2 +1.8**
TOO Toolangi 37.31 157 ⇓P **P 12 45 00.1 +1.7**
TOO Toolangi 37.31 157 P **P 12 44 59.1 +0.7**
TOO pmax pmax
comp=Z,112nm,1.2s
GEXS Deakin Univers 37.40 158 P **P 12 45 00.5 +1.4**
KMI Kunming 37.67 321 ⇓P **P 12 45 05.3 +3.4**
KMI S **S 12 50 48.8 -2.6**
KMI pmax pmax
comp=Z,55nm,1.4s
KMI LR LR
comp=Z,1μm,16.7s
KMI LR LR
comp=Z,1μm,21.6s
KMI LR LR
comp=Z,2μm,21.3s
JMN Monobe 37.76 8 P **P 12 45 03.1 +0.9**
JMN IAmb IAmb 12 45 12.1
comp=Z,59nm,1.0s
JMN Monobe 37.76 8 P **P 12 45 04.2 +1.9**
JMN Monobe 37.76 8 ⇑P **P 12 45 03.9 +1.6**
JHJ Hachijo jima 2 38.43 16 LR LR 12 58 57.9
comp=Z,3μm,19.7s,baz=134,slow=33
MILA Mila 38.46 152 P **P 12 45 08.6 +0.4**
baz=38,SNR=3.3
MILA Mila 38.46 152 P **P 12 45 10.1 +1.9**
KOUNC Koumac, New Ca 39.20 118 P **P 12 45 13.7 -0.9**
KOUNC Koumac, New Ca 39.20 118 P **P 12 45 15.4 +0.8**
KOUNC Koumac, New Ca 39.20 118 ⇑P **P 12 45 15.0 +0.5**
PZH PanZhiHua 39.29 322 P **P 12 45 16.0 +0.7**
PZH S **S 12 51 16.8 +1.3**
PZH pmax pmax
comp=Z,40nm,1.3s
PZH pmax pmax
comp=Z,750nm,5.5s
PZH LR LR
comp=Z,1μm,19.4s
PZH LR LR
comp=Z,1μm,20.1s
PZH LR LR
comp=Z,2μm,17.2s
INU Inuyama 39.89 12 IAMs_20 IAMs_20 13 00 36.5
comp=Z,4μm,20.0s
INU Inuyama 39.89 12 P **P 12 45 22.5 +2.5**
INU Inuyama 39.89 12 ⇓P **P 12 45 21.9 +1.9**
TJN Taejon 39.97 359 P **P 12 45 22.6 +1.9**
TJN Taejon 39.97 359 P **P 12 45 22.9 +2.2**
TJN Taejon 39.97 359 P **P 12 45 22.6 +1.9**
TJN pmax pmax
comp=Z,174nm,1.0s
MND Mandalay 40.24 311 P **P 12 45 26.0 +2.8**
TNCH TengChong 40.38 317 ⇑P **P 12 45 26.5 +2.0**
TNCH S **S 12 51 35.5 +3.4**
TNCH SS **SS 12 54 28.3 -3.1**
TNCH pmax pmax
comp=Z,70nm,1.3s
TNCH pmax pmax
comp=Z,1μm,4.3s
TNCH LR LR
comp=Z,720nm,10.3s
TNCH LR LR
comp=Z,720nm,11.5s
TNCH LR LR
comp=Z,950nm,18.5s
LYN LuoYang 40.79 340 ⇑P **P 12 45 28.8 +1.3**
LYN sP pwP 12 45 40.8 +4.5
LYN PP **PnPn 12 47 10.0 +4.0**
LYN S **S 12 51 30.0 -7.6**
LYN SS **SS 12 54 37.0 -2.0**
LYN pmax pmax
comp=Z,43nm,1.0s
LYN pmax pmax
comp=Z,1μm,8.8s
LYN LR LR
comp=Z,2μm,11.1s
LYN LR LR
comp=Z,2μm,12.9s
LYN LR LR
comp=Z,3μm,10.6s
KSAR Wonju Array Be 41.03 0 P **P 12 45 30.3 +0.9**
KSAR Wonju Array Be 41.03 0 P **P 12 45 30.3 +0.9**
TIA Tai'an 41.04 347 P **P 12 45 29.8 +0.2**
TIA pmax pmax
comp=Z,12nm,1.0s
KSRS Korea Array 41.04 0 P **P 12 45 28.0 -1.5**
comp=Z,19nm,0.9s,baz=178,slow=9.6,SNR=40
KSRS PcP **PcP 12 47 29.5 +0.2**
comp=Z,3.6nm,0.9s,baz=195,slow=2.6,SNR=2.6
KSRS LR LR 13 01 19.1
comp=Z,2μm,21.6s,baz=185,slow=34
comp=Z,19nm,0.9s
INCN Inchon 41.09 359 P **P 12 45 31.6 +1.6**
INCN Inchon 41.09 359 P **P 12 45 32.3 +2.4**
INCN Inchon 41.09 359 P **P 12 45 31.6 +1.6**
INCN pmax pmax
comp=Z,47nm,1.0s
KS19 Wonju Array Si 41.09 0 P **P 12 45 30.4 +0.4**
AULHS Lilydale High 41.16 158 P **P 12 45 31.9 +1.4**
MJAR Matsushiro Arr 41.29 13 P **P 12 45 29.8 -1.8**
comp=Z,5.6nm,0.8s,baz=182,slow=9.2,SNR=9.5
MJAR LR LR 13 01 30.6
comp=Z,2μm,19.1s,baz=188,slow=34
comp=Z,5.6nm,0.8s
MAJO Matsushiro 41.29 13 P **P 12 45 32.4 +0.7**
MAJO Matsushiro 41.29 13 P **P 12 45 34.4 +2.8**
MAJO Matsushiro 41.29 13 ⇓P **P 12 45 32.4 +0.7**
MAJO Matsushiro 41.29 13 P **P 12 45 32.4 +0.7**
MAJO pmax pmax
comp=Z,45nm,1.0s
MAJO MLR MLR
comp=Z,3μm,19.0s
MJB9 Matsu-Tunnel 41.29 13 P **P 12 45 32.4 +0.7**
CORO Coronation Par 41.31 158 P **P 12 45 33.6 +1.9**
CD2 Chengdu 41.45 328 P **P 12 45 34.5 +1.4**
CD2 pmax pmax
comp=Z,60nm,0.9s
NOUC Port Laguerre 41.50 119 P **P 12 45 35.3 +1.7**
DZM Mont Dzumac 41.62 119 *eP* **P 12 45 35.2 +0.5**
comp=Z,85nm,1.2s
DZM Mont Dzumac 41.62 119 *e*LR LR 12 57 12.7
comp=Z,3μm,23.3s
DZM Mont Dzumac 41.62 119 P **P 12 45 34.3 -0.4**
DZM Mont Dzumac 41.62 119 P **P 12 45 36.2 +1.5**

DZM	**Mont Dzumac**	**41.62 119**	⇓P	**P**	**12 45 35.6**	**+0.9**
DZM	**Mont Dzumac**	**41.62 119**	P	**P**	**12 45 33.7**	**-1.0**
	comp=Z,17nm,0.9s,baz=254,slow=12,SNR=12					
	comp=Z,17nm,0.9s					
XAN	**Xi'an**	**41.64 336**	⇑P	**P**	**12 45 33.8**	**-0.8**
XAN			pP	pwP	12 45 43.0	-0.2
XAN			PP	**PP**	**12 47 12.3**	**+1.2**
XAN			S	**S**	**12 51 46.8**	**-3.6**
XAN			ScS	ScS	12 55 27.8	-10
XAN			pmax	pmax		
	comp=Z,42nm,1.3s					
XAN			pmax	pmax		
	comp=Z,730nm,7.2s					
XAN			LR	LR		
	comp=Z,2μm,14.1s					
XAN			LR	LR		
	comp=Z,2μm,13.9s					
XAN			LR	LR		
	comp=Z,3μm,14.3s					
HJU	**Haeju**	**41.67 358**	P	**P**	**12 45 37.5**	**+2.8**
HJU			S	**S**	**12 51 52.1**	**+1.5**
HJU			AmB			
	comp=Z,2μm,5.0s					
ONTNC	**Ouen Toro**	**41.71 120**	P	**P**	**12 45 35.7**	**+0.4**
ONTNC	**Ouen Toro**	**41.71 120**	P	**P**	**12 45 36.0**	**+0.7**
LIFNC	**LIFOU**	**41.89 117**	P	**P**	**12 45 37.4**	**+0.6**
LIFNC			IAmb	IAmb	12 45 53.2	
	comp=Z,109nm,1.0s					
YATNC	**Mamie plateau,**	**42.00 119**	P	**P**	**12 45 40.2**	**+2.5**
MOO	**Moorlands**	**42.18 159**	P	**P**	**12 45 40.9**	**+2.1**
	baz=42,SNR=3.9					
TAU	**Tasmania Unive**	**42.64 159**	P	**P**	**12 45 44.6**	**+2.1**
PINNC	**Pines Island,**	**42.67 120**	P	**P**	**12 45 45.6**	**+2.5**
PYAG	**Pyongyang**	**42.68 358**	P	**P**	**12 45 45.8**	**+2.9**
PYAG			S	**S**	**12 52 07.0**	**+1.6**
PYAG			AmB			
	comp=Z,2μm,4.2s					
HNS	**HongShan**	**42.76 345**	⇑P	**P**	**12 45 43.0**	**-0.6**
HNS			PcP	**PcP**	**12 47 37.8**	**+2.8**
HNS			*e*S	**S**	**12 52 07.5**	**+0.9**
HNS			pmax	pmax		
	comp=Z,26nm,1.0s					
HNS			LR	LR		
	comp=Z,590nm,13.5s					
HNS			LR	LR		
	comp=Z,1μm,16.8s					
HNS			LR	LR		
	comp=Z,1μm,17.7s					
SAIH	**SAIHA**	**42.90 309**	*e*P	**P**	**12 45 45.5**	**+0.4**
SAIH			IAmb	IAmb	12 45 49.0	
	comp=Z,418nm,1.5s					
JMM	**Marumori**	**43.17 15**	P	**P**	**12 45 47.5**	**+0.6**
JMM			IAmb	IAmb	12 46 03.2	
	comp=Z,93nm,1.1s					
JMM	**Marumori**	**43.17 15**	P	**P**	**12 45 50.2**	**+3.3**
JMM	**Marumori**	**43.17 15**	⇑P	**P**	**12 45 50.4**	**+3.4**
IMP	**Imphal**	**43.50 313**	*e*P	**P**	**12 45 49.5**	**-0.4**
IMP			IAmb	IAmb	12 45 52.5	
	comp=Z,115nm,0.2s					
HHU	**Hamhung**	**43.51 360**	P	**P**	**12 45 52.3**	**+2.7**
HHU			S	**S**	**12 52 19.4**	**+1.8**
HHU			AmB			
	comp=Z,1μm,4.4s					
SUJ	**Sinuiju**	**43.79 356**	P	**P**	**12 45 54.7**	**+2.8**
SUJ			AmB			
	comp=Z,1μm,4.1s					
KOHI	**KOHIMA**	**43.91 314**	*e*P	**P**	**12 45 52.4**	**-0.9**
KOHI			IAmb	IAmb	12 45 56.2	
	comp=Z,119nm,0.6s					
MOKO	**MOKOCHONG**	**43.98 315**	*e*P	**P**	**12 45 54.2**	**+0.3**
MOKO			IAmb	IAmb	12 45 57.5	
	comp=Z,139nm,1.2s					
SILR	**SILCHAR**	**44.32 312**	*e*P	**P**	**12 45 58.7**	**+2.4**
JORH	**JORHAT**	**44.43 315**	*e*P	**P**	**12 45 58.1**	**+0.9**
JORH			IAmb	IAmb	12 46 00.7	
	comp=Z,98nm,0.5s					
BJT	**Baijiatuau**	**44.90 347**	P	**P**	**12 46 00.7**	**0.0**
BJT	**Baijiatuau**	**44.90 347**	P	**P**	**12 46 02.0**	**+1.3**
BJT	**Baijiatuau**	**44.90 347**	P	**P**	**12 46 00.7**	**0.0**
BJT			pmax	pmax		
	comp=Z,37nm,1.0s					
BJI	**Beijing**	**44.92 347**	P	**P**	**12 46 01.8**	**+0.9**
BJI			pP	**pwP**	**12 46 11.5**	**+1.7**
BJI			sP	sP	12 46 15.5	+7.9
BJI			S	**S**	**12 52 38.5**	**+0.5**
BJI			pmax	pmax		
	comp=Z,15nm,1.2s					
BJI			LR	LR		
	comp=Z,520nm,15.9s					
BJI			LR	LR		
	comp=Z,350nm,16.1s					
BJI			LR	LR		
	comp=Z,780nm,20.8s					
ITAN	**ITANAGAR**	**45.05 315**	*e*P	**P**	**12 46 03.5**	**+1.3**
ITAN			IAmb	IAmb	12 46 05.1	
	comp=Z,56nm,0.5s					
TEZP	**TEZPUR**	**45.39 314**	*e*P	**P**	**12 46 04.9**	**0.0**
SHL	**Shillong**	**45.45 312**	P	**P**	**12 46 05.4**	**-0.2**
SHL			IAmb	IAmb	12 46 38.9	
	comp=Z,83nm,1.0s					
SHL	**Shillong**	**45.45 312**	*e*P	**P**	**12 46 05.3**	**-0.3**
SHL			IAmb	IAmb	12 46 08.6	
	comp=Z,68nm,1.4s					
SHL	**Shillong**	**45.45 312**	P	**P**	**12 46 05.9**	**+0.3**
	SNR=18					
SHL	**Shillong**	**45.45 312**	P	**P**	**12 46 05.4**	**-0.2**
SHL			pmax	pmax		
	comp=Z,83nm,1.0s					
SNY	**Shenyang**	**45.57 356**	⇑P	**P**	**12 46 06.8**	**+0.7**
SNY			S	**S**	**12 52 54.0**	**+6.5**
SNY			pmax	pmax		
	comp=Z,18nm,1.1s					
SNY			pmax	pmax		
	comp=Z,1μm,12.0s					
SNY			LR	LR		
	comp=Z,1μm,19.9s					
SNY			LR	LR		
	comp=Z,830nm,17.1s					
SNY			LR	LR		
	comp=Z,3μm,21.1s					
LZH	**Lanzhou**	**45.58 333**	*e*P	**P**	**12 46 08.5**	**+2.1**
LZH			sP	pwP	12 46 21.8	+6.8
LZH			PP	**PP**	**12 47 54.5**	**+1.2**
LZH			S	**S**	**12 52 53.8**	**+5.7**
LZH			sS	sS	12 53 06.3	+10
LZH			pmax	pmax		
	comp=Z,60nm,1.5s					
LZH			pmax	pmax		
	comp=Z,410nm,4.1s					
LZH			LR	LR		
	comp=Z,2μm,15.1s					
LZH			LR	LR		
	comp=Z,2μm,17.2s					
LZH			LR	LR		
	comp=Z,2μm,15.8s					
VLA	**Vladivostok**	**46.85 4**	*i* P	**P**	**12 46 16.1**	**0.0**
VLA			pmax	pmax		
	comp=Z,57nm,1.1s					
HHC	**Hu-ho-hao-te**	**46.86 343**	⇑P	**P**	**12 46 17.5**	**+1.2**
HHC			pP	pwP	12 46 25.5	+0.3
HHC			S	**S**	**12 53 10.8**	**+4.6**
HHC			sS	sS	12 53 23.0	+8.7
HHC			pmax	pmax		
	comp=Z,24nm,0.9s					
HHC			pmax	pmax		
	comp=Z,2μm,5.3s					
HHC			LR	LR		
	comp=Z,2μm,18.8s					
HHC			LR	LR		
	comp=Z,990nm,19.6s					
HHC			LR	LR		
	comp=Z,3μm,20.6s					
BTO	**Baotou**	**47.10 341**	*e*P	**P**	**12 46 20.0**	**+1.7**
BTO			pP	**pwP**	**12 46 30.0**	**+3.0**
BTO			sP	sP	12 46 33.8	+8.3
BTO			PP	**PP**	**12 48 10.0**	**+0.8**
BTO			S	**S**	**12 53 10.0**	**+0.3**
BTO			sS	sS	12 53 26.8	+9.0
BTO			SS	**SS**	**12 56 29.3**	**-7.8**
BTO			pmax	pmax		
	comp=Z,21nm,0.6s					
BTO			pmax	pmax		
	comp=Z,2μm,5.3s					
BTO			LR	LR		
	comp=Z,2μm,21.8s					
BTO			LR	LR		
	comp=Z,3μm,24.7s					
BTO			LR	LR		
	comp=Z,6μm,30.8s					
CN2	**Changchun**	**47.43 358**	*e*P	**P**	**12 46 22.8**	**+2.2**
CN2			*e*PP	**PP**	**12 48 15.5**	**+3.3**
CN2			*e*S	**S**	**12 53 10.0**	**-4.1**
CN2			LR	LR		
	comp=Z,2μm,19.0s					
CN2			LR	LR		
	comp=Z,690nm,19.0s					
CN2			LR	LR		
	comp=Z,2μm,21.0s					
USA0B	**Ussuriysk Arra**	**47.93 4**	P	**P**	**12 46 25.1**	**+0.6**
USA0B			IAmb	IAmb	12 46 53.2	
	comp=Z,90nm,1.5s					
USA0B	**Ussuriysk Arra**	**47.93 4**	P	**P**	**12 46 25.1**	**+0.6**
USA0B			pmax	pmax		
	comp=Z,90nm,1.5s					
USRK	**Ussuriysk Ar.**	**47.93 4**	P	**P**	**12 46 25.5**	**+1.0**
USRK	**Ussuriysk Ar.**	**47.93 4**	P	**P**	**12 46 25.5**	**+1.0**
USRK	**Ussuriysk Ar.**	**47.93 4**	P	**P**	**12 46 21.7**	**-2.8**
	comp=Z,5.3nm,0.8s,baz=159,slow=12,SNR=3.5					
USRK			LR	LR	13 07 25.2	
	comp=Z,2μm,19.1s,baz=157,slow=37					
	comp=Z,5.3nm,0.8s					
MDJ	**Mudanjiang**	**48.23 2**	P	**P**	**12 46 28.5**	**+1.7**
MDJ			pP	pwP	12 46 37.0	+1.0
MDJ			sP	sP	12 46 41.3	+7.7
MDJ			PcS	**PcS**	**12 51 50.3**	**+0.8**
MDJ			S	**S**	**12 53 28.5**	**+3.2**
MDJ			sS	sS	12 53 47.0	+14
MDJ			pmax	pmax		
	comp=Z,54nm,1.3s					
MDJ			pmax	pmax		
	comp=Z,950nm,3.6s					
MDJ			LR	LR		
	comp=Z,2μm,16.6s					
MDJ			LR	LR		
	comp=Z,1μm,13.8s					
MDJ			LR	LR		
	comp=Z,3μm,17.8s					
MDJ	**Mudanjiang**	**48.23 2**	P	**P**	**12 46 27.2**	**+0.4**
MDJ			IAmb	IAmb	12 46 47.3	
	comp=Z,78nm,1.1s					
MDJ	**Mudanjiang**	**48.23 2**	P	**P**	**12 46 29.1**	**+2.3**
PALK	**Pallekele**	**48.28 283**	⇑p	P	12 46 34.7	+6.9
PALK	**Pallekele**	**48.28 283**	LR	LR	13 08 50.4	
	comp=Z,1μm,18.1s,baz=216,slow=39					
LSA	**Lhasa**	**48.40 316**	P	**P**	**12 46 29.9**	**+1.0**
LSA	**Lhasa**	**48.40 316**	*i* P	**P**	**12 46 31.0**	**+2.1**
	SNR=19					
LSA	**Lhasa**	**48.40 316**	P	**P**	**12 46 29.9**	**+1.0**
LSA			pmax	pmax		
	comp=Z,58nm,0.8s					
XLT	**XiLinHaoTe**	**48.64 349**	*e*P	**P**	**12 46 30.5**	**+0.4**
XLT			pP	pwP	12 46 40.3	+1.2
XLT			sP	sP	12 46 44.0	+7.1
XLT			pmax	pmax		
	comp=Z,23nm,1.2s					
XLT			pmax	pmax		
	comp=Z,1μm,5.4s					
MALK	**Mahakanadarawa**	**48.67 285**	⇑P	**P**	**12 46 31.3**	**+0.6**
VIS	**Vishakhapatnam**	**48.80 297**	*e*P	**P**	**12 46 31.2**	**-0.5**
GTK	**Tadong**	**48.86 312**	*e*P	**P**	**12 46 32.9**	**+0.7**
GTK			IAmb	IAmb	12 46 35.6	
	comp=Z,24nm,0.9s					
BOK	**Bokaro**	**49.18 306**	*e*P	**P**	**12 46 33.4**	**-1.2**
BOK			IAmb	IAmb	12 46 36.9	
	comp=Z,27nm,1.2s					
BNX	**BinXian**	**49.32 360**	⇓P	**P**	**12 46 36.3**	**+1.1**
BNX			pmax	pmax		
	comp=Z,16nm,1.3s					
BNX			pmax	pmax		
	comp=Z,590nm,4.3s					
ODAN	**Odare**	**49.53 310**	*e*P	**P**	**12 46 37.4**	**0.0**
	comp=Z,433nm,1.8s					
TAPN	**Taplejung**	**49.55 311**	*e*P	**P**	**12 46 37.4**	**-0.2**
	comp=Z,60nm,0.4s					
JHSG	**JHARSUGUGA**	**50.02 303**	*e*P	**P**	**12 46 41.8**	**+0.9**
GTA	**Gaotai**	**50.14 332**	⇓P	**P**	**12 46 42.0**	**+0.3**
GTA			sP	pwP	12 46 56.0	+5.7
GTA			pmax	pmax		
	comp=Z,22nm,1.2s					
GTA			LR	LR		
	comp=Z,970nm,19.6s					
GTA			LR	LR		
	comp=Z,750nm,21.1s					
GTA			LR	LR		
	comp=Z,1μm,18.9s					
RAMN	**Ramite**	**50.18 310**	*e*P	**P**	**12 46 42.9**	**+0.5**
	comp=Z,867nm,1.5s					
GOMU	**GeErMu**	**50.34 325**	P	**P**	**12 46 45.5**	**+1.9**
GOMU			pP	pwP	12 46 52.8	+0.8
GOMU			sP	sP	12 46 56.5	+5.8
GOMU			S	**S**	**12 53 54.3**	**-1.8**
GOMU			pmax	pmax		
	comp=Z,10.0nm,1.5s					
YSA	**Yasawairara**	**50.47 108**	P	**P**	**12 46 46.0**	**+1.6**
EVN	**Everest**	**50.54 311**	⇑P	**P**	**12 46 45.6**	**0.0**
EVN			⇑P	**pP**	**12 46 45.8**	**-4.7**
EVN			⇑P	**sP**	**12 46 48.0**	**-4.5**
EVN			⇓sP	**pwP**	**12 46 55.5**	**+0.6**
VJD	**Vijayawada**	**50.78 295**	*e*P	**P**	**12 46 46.0**	**-0.8**
JIRN	**Jiri**	**50.86 311**	*e*P	**P**	**12 46 47.6**	**0.0**
	comp=Z,455nm,1.5s					
MSVF	**Nonsavu**	**51.09 110**	P	**P**	**12 46 50.5**	**+1.3**
MSVF			IAmb	IAmb	12 47 17.6	
	comp=Z,49nm,1.1s					
MSVF	**Nonsavu**	**51.09 110**	P	**P**	**12 46 50.7**	**+1.5**
MSVF	**Nonsavu**	**51.09 110**	P	**P**	**12 46 49.2**	**+0.1**
	comp=Z,16nm,1.0s,baz=218,slow=4.6,SNR=9.0					
	comp=Z,16nm,1.0s					
GUN	**Gumba**	**51.22 311**	*e*P	**P**	**12 46 50.4**	**0.0**
	comp=Z,789nm,1.6s					
FUNA	**Funafuti**	**51.27 98**	P	**P**	**12 46 51.8**	**+1.3**
FUNA	**Funafuti**	**51.27 98**	P	**P**	**12 46 51.9**	**+1.3**
PKI	**Pulchoki**	**51.41 310**	*e*P	**P**	**12 46 52.0**	**+0.3**
	comp=Z,204nm,1.5s					
PKIN	**Phulchoki**	**51.42 310**	*e*P	**P**	**12 46 52.1**	**+0.4**
	comp=Z,280nm,1.7s					
KKN	**Kakani**	**51.62 310**	*e*P	**P**	**12 46 53.5**	**+0.3**
	comp=Z,453nm,2.0s					
DMN	**Daman**	**51.66 310**	*e*P	**P**	**12 46 54.0**	**+0.5**
	comp=Z,208nm,1.3s					
GKN	**Gorkha**	**52.21 310**	*e*P	**P**	**12 46 57.9**	**+0.4**
YSS	**Yuzh-Sakhalins**	**52.23 13**	*i* P	**P**	**12 46 59.1**	**+2.0**
YSS			pmax	pmax		
	comp=Z,75nm,1.8s					
DGTI	**Dogotuki**	**52.46 108**	P	**P**	**12 47 00.9**	**+1.5**
TAVE	**Taveuni**	**52.86 108**	P	**P**	**12 47 04.1**	**+1.8**
KOLN	**Koldanda**	**52.90 309**	*e*P	**P**	**12 47 02.7**	**0.0**
	comp=Z,782nm,2.4s					
KLR	**Kul'dur**	**52.92 3**	*c e*P	**P**	**12 47 02.5**	**+0.3**
KLR			pmax	pmax		
	comp=Z,18nm,1.3s					
KLR	**Kul'dur**	**52.92 3**	LR	LR	13 11 38.3	
	comp=Z,1μm,18.1s,baz=170,slow=38					
HYB	**Hyderabad**	**52.97 295**	*e*P	**P**	**12 47 01.2**	**-2.0**
HYB			IAmb	IAmb	12 47 10.5	
	comp=Z,47nm,1.1s					
DANN	**Dangsing**	**53.06 310**	*e*P	**P**	**12 47 03.3**	**-0.7**
	comp=Z,280nm,1.0s					
ALBI	**Allahabad**	**53.17 306**	*e*P	**P**	**12 47 04.5**	**0.0**
PYUN	**Piuthan**	**53.53 309**	*e*P	**P**	**12 47 07.1**	**-0.2**
	comp=Z,370nm,1.3s					
HEH	**HeiHe**	**53.84 360**	*e*P	**P**	**12 47 08.8**	**-0.1**
HEH			pmax	pmax		
	comp=Z,31nm,1.0s					
HEH			pmax	pmax		
	comp=Z,1μm,6.7s					
DCZ	**Deep Cove**	**53.85 146**	P	**P**	**12 47 09.7**	**+0.6**
DCZ			IAmb	IAmb	12 47 26.9	
	comp=Z,78nm,1.2s					
JCZ	**Jackson Bay**	**53.94 144**	P	**P**	**12 47 12.0**	**+2.1**
FOZ	**Fox Glacier**	**54.24 143**	P	**P**	**12 47 11.2**	**-0.8**
FOZ			IAmb	IAmb	12 47 21.1	
	comp=Z,50nm,1.1s					
MLZ	**Mavora Lakes**	**54.33 146**	P	**P**	**12 47 13.0**	**+0.3**
MLZ			IAmb	IAmb	12 47 31.9	
	comp=Z,50nm,1.3s					
QRZ	**Quartz Range**	**54.48 139**	P	**P**	**12 47 14.7**	**+0.9**
DSZ	**Denniston Nort**	**54.49 140**	P	**P**	**12 47 13.9**	**0.0**
WHZ	**Wether Hill Ro**	**54.56 146**	P	**P**	**12 47 14.1**	**-0.2**
WHZ			IAmb	IAmb	12 47 23.4	
	comp=Z,66nm,1.0s					
ULN	**Ulaanbaatar**	**54.58 343**	P	**P**	**12 47 14.6**	**+0.1**
ULN			IAmb	IAmb	12 47 57.1	
	comp=Z,37nm,1.1s					
ULN	**Ulaanbaatar**	**54.58 343**	P	**P**	**12 47 14.6**	**+0.1**
ULN	**Ulaanbaatar**	**54.58 343**	⇓P	**P**	**12 47 15.0**	**+0.4**
ULN	**Ulaanbaatar**	**54.58 343**	P	**P**	**12 47 14.6**	**+0.1**
ULN			pmax	pmax		
	comp=Z,37nm,1.1s					
ULN			MLR	MLR		
	comp=Z,1μm,20.0s					
SONM	**Songino Array**	**54.74 342**	P	**P**	**12 47 16.2**	**+0.5**
SONM	**Songino Array**	**54.74 342**	P	**P**	**12 47 16.2**	**+0.5**
SONM			pmax	pmax		
	comp=Z,31nm,1.1s					
SONM	**Songino Array**	**54.74 342**	P	**P**	**12 47 13.2**	**-2.5**
	comp=Z,16nm,1.1s,baz=156,slow=5.1,SNR=43					
SONM			LR	LR	13 14 22.3	
	comp=Z,718nm,18.5s,baz=154,slow=40					
SONM			PKPPKP	P'P'df	13 17 15.6	-9.3
	comp=Z,0.6nm,0.6s,baz=148,slow=4.9,SNR=3.6					
	comp=Z,16nm,1.1s					
INZ	**Inchbonnie**	**54.78 142**	P	**P**	**12 47 16.2**	**+0.3**
GRNR	**Gornyy**	**54.86 7**	⇓*i* P	**P**	**12 47 16.0**	**-0.3**
GRNR			pmax	pmax		
	comp=Z,7.0nm,1.1s					
GRNR			MLR	MLR		
	comp=E,730nm,19.0s					
GRNR			MLR	MLR		
	comp=N,970nm,18.0s					
GRNR			MLR	MLR		
	comp=Z,2μm,20.0s					
LBZ	**Lake Benmore**	**54.94 144**	P	**P**	**12 47 17.5**	**+0.4**
LBZ			IAmb	IAmb	12 47 35.0	
	comp=Z,56nm,1.0s					
RPZ	**Rata Peaks**	**55.08 143**	P	**P**	**12 47 18.4**	**+0.3**
RPZ			IAMs_20	IAMs_20	13 09 27.5	
	comp=Z,3μm,18.0s					
RPZ	**Rata Peaks**	**55.08 143**	LR	LR	13 09 49.2	
	comp=Z,3μm,20.6s,baz=309,slow=35					
THZ	**Tophouse**	**55.20 140**	P	**P**	**12 47 20.1**	**+1.0**
LTZ	**Lake Taylor**	**55.33 141**	P	**P**	**12 47 20.4**	**+0.4**
LTZ			IAmb	IAmb	12 47 40.2	
	comp=Z,44nm,1.1s					
OXZ	**Oxford**	**55.47 142**	IAMs_20	IAMs_20	13 12 47.9	
	comp=Z,3μm,18.0s					
TUWZ	**Tuamarina**	**55.71 139**	P	**P**	**12 47 22.3**	**-0.4**
TCW	**Tory Channel**	**55.82 139**	P	**P**	**12 47 23.4**	**-0.1**
GVZ	**Greta Valley S**	**55.90 141**	P	**P**	**12 47 24.4**	**+0.3**
JHNI	**Jhansi**	**55.92 304**	*e*P	**P**	**12 47 22.5**	**-1.9**
TYV	**Tymovskoe**	**55.92 11**	*e*P	**P**	**12 47 21.9**	**-2.0**
TYV			*e*S	**S**	**12 55 08.5**	**-2.3**
TYV			pmax	pmax		
	comp=Z,600nm,3.1s					
TYV			pmax	pmax		
	comp=Z,30nm,1.2s					
TYV			smax	smax		
	comp=E,400nm,7.5s					
KHZ	**Kahutara**	**55.94 140**	P	**P**	**12 47 24.4**	**+0.1**
KHZ			IAmb	IAmb	12 47 33.0	
	comp=Z,32nm,1.0s					
KHZ			IAMs_20	IAMs_20	13 12 20.3	
	comp=Z,3μm,19.0s					
BHPL	**Bhopal**	**55.99 301**	*e*P	**P**	**12 47 24.2**	**-0.8**
BHPL			IAmb	IAmb	12 47 29.9	
	comp=Z,41nm,1.4s					
SNZO	**South Karori**	**56.15 139**	IAMs_20	IAMs_20	13 14 03.0	
	comp=Z,3μm,18.0s					
BHW	**Baring Head**	**56.31 139**	IAMs_20	IAMs_20	13 12 48.2	
	comp=Z,3μm,20.0s					
BKZ	**Black Stump Fm**	**56.39 135**	P	**P**	**12 47 27.4**	**-0.3**
BKZ			IAmb	IAmb	12 47 52.6	
	comp=Z,29nm,0.8s					
BKZ	**Black Stump Fm**	**56.39 135**	P	**P**	**12 47 28.2**	**+0.5**
MRZ	**Mangatainoka R**	**56.43 137**	P	**P**	**12 47 27.3**	**-0.5**
MRZ			IAmb	IAmb	12 47 44.2	
	comp=Z,70nm,1.4s					
MRZ			IAMs_20	IAMs_20	13 11 06.4	
	comp=Z,2μm,19.0s					
URZ	**Urewera**	**56.44 134**	⇑P	**P**	**12 47 29.3**	**+1.4**
URZ	**Urewera**	**56.44 134**	LR	LR	13 13 38.8	
	comp=Z,1μm,18.2s,baz=28,slow=38					
RTZ	**Ruatahuna**	**56.50 135**	P	**P**	**12 47 28.4**	**0.0**
RTZ			IAmb	IAmb	12 47 51.4	
	comp=Z,42nm,1.1s					
PLWZ	**Palliser**	**56.64 139**	P	**P**	**12 47 29.1**	**-0.3**
RAO	**Raoul Island**	**57.23 122**	LR	LR	13 14 57.4	
	comp=Z,611nm,18.2s,baz=108,slow=39					
ZEA	**Zeya**	**57.33 360**	*e*P	**P**	**12 47 35.2**	**+1.3**
ZEA			pmax	pmax		
	comp=Z,20nm,1.2s					
POO	**Poona**	**57.57 295**	*e*P	**P**	**12 47 34.2**	**-2.1**
POO			IAmb	IAmb	12 47 38.1	
	comp=Z,11nm,0.9s					
ZAK	**Zakamensk**	**57.95 342**	*e*P	**P**	**12 47 39.2**	**+0.7**
ZAK			pmax	pmax		
	comp=Z,12nm,1.1s					
NDI	**New Delhi**	**58.32 307**	*e*P	**P**	**12 47 38.4**	**-3.0**
IRK	**Irkutsk**	**59.30 343**	*e*P	**P**	**12 47 44.8**	**-2.9**
IRK			pmax	pmax		
	comp=Z,99nm,4.2s					
SMLA	**Simla**	**59.42 310**	*e*P	**P**	**12 47 47.7**	**-1.2**
SMLA			IAmb	IAmb	12 47 52.0	
	comp=Z,60nm,0.9s					
AJM	**Ajmer**	**59.54 304**	*e*P	**P**	**12 47 49.1**	**-0.9**
WMQ	**Urumqi**	**59.54 327**	*e*P	**P**	**12 47 50.0**	**+0.3**
WMQ			pP	pwP	12 48 04.0	+5.8
WMQ			PcP	**PcP**	**12 48 39.5**	**+2.5**
WMQ			pmax	pmax		
	comp=Z,46nm,1.7s					
WMQ			pmax	pmax		
	comp=Z,1μm,5.7s					
WMQ			LR	LR		
	comp=Z,1μm,21.1s					
WMQ			LR	LR		
	comp=Z,1μm,22.7s					
WMQ			LR	LR		
	comp=Z,1μm,28.9s					
BHK	**Bhakra**	**60.12 310**	*e*P	**P**	**12 47 53.9**	**0.0**
DHRM	**DHARAMSHALA**	**60.58 310**	*e*P	**P**	**12 47 55.5**	**-1.7**
DHRM			IAmb	IAmb	12 48 00.4	
	comp=Z,56nm,0.4s					
THN	**Thein Dam**	**61.10 310**	*e*P	**P**	**12 47 58.6**	**-1.8**
JMU	**Jammu**	**61.84 310**	*e*P	**P**	**12 48 04.6**	**-0.9**
PEA0B	**Petropavlovsk-**	**62.03 20**	*c e*P	**P**	**12 48 06.3**	**0.0**
PETK	**Petropavlovsk-**	**62.03 20**	P	**P**	**12 48 07.3**	**+1.0**
PETK	**Petropavlovsk-**	**62.03 20**	P	**P**	**12 48 07.3**	**+1.0**
PETK	**Petropavlovsk-**	**62.03 20**	P	**P**	**12 48 06.2**	**-0.1**
	comp=Z,33nm,1.0s,baz=170,slow=3.2,SNR=9.2					
PETK			LR	LR	13 12 06.0	
	comp=Z,617nm,21.4s,baz=188,slow=33					
	comp=Z,33nm,1.0s					
PET	**Petropavlovsk**	**62.29 20**	*i* P	**P**	**12 48 07.9**	**-0.1**
PET			pmax	pmax		
	comp=Z,194nm,1.9s					
BHUJ	**Bhuj**	**62.72 298**	*e*P	**P**	**12 48 09.8**	**-1.7**
CTZ	**Chatham Island**	**62.98 138**	P	**P**	**12 48 13.9**	**+1.0**
CTZ			IAmb	IAmb	12 48 23.3	
	comp=Z,39nm,1.2s					
ZSN	**Zaisan**	**63.42 329**	*e*P	**P**	**12 48 15.8**	**-0.1**
	comp=Z,32nm,1.3s,baz=329					
ZSN			*e*S	**S**	**12 56 47.5**	**-0.3**
	baz=329					
ZSN	**Zaisan**	**63.42 329**	*e*P	**P**	**12 48 15.7**	**-0.1**
ZSN			*e*S	**S**	**12 56 47.5**	**-0.3**
ZSN			pmax	pmax		
	comp=Z,32nm,1.3s					
NIL	**Nilore**	**63.49 311**	P	**P**	**12 48 16.3**	**-0.2**
NIL			IAmb	IAmb	12 48 39.6	
	comp=Z,32nm,0.9s					
NIL	**Nilore**	**63.49 311**	P	**P**	**12 48 16.3**	**-0.2**
NIL			pmax	pmax		
	comp=Z,33nm,0.9s					
CASY	**Casey**	**63.53 188**	P	**P**	**12 48 16.0**	**-0.1**
CASY	**Casey**	**63.53 188**	IAMs_20	IAMs_20	13 14 00.1	
	comp=Z,3μm,19.0s					
DGZ	**Jazzator, Alta**	**63.67 332**	*c i* P	**P**	**12 48 16.5**	**-1.1**
DGZ			pmax	pmax		
	comp=Z,2.0nm,2.2s					
SHLS	**Shalkode**	**63.87 322**	*e*P	**P**	**12 48 15.9**	**-3.1**
	comp=Z,48nm

TARG	**Taragay, Kyrgy**	**64.13 320**	P	**P**	**12 48 20.6**	**-0.5**
TARG	**Taragay, Kyrgy**	**64.13 320**	P	**P**	**12 48 20.6**	**-0.5**
TARG			pmax	pmax		
	comp=Z,126nm,2.0s					
UZB	**Uzynbulak**	**64.13 322**	*e*P	**P**	**12 48 20.2**	**-0.6**
	comp=Z,74nm,2.2s,baz=322					
UZB	**Uzynbulak**	**64.13 322**	*e*P	**P**	**12 48 20.1**	**-0.6**
UZB			pmax	pmax		
	comp=Z,74nm,2.2s					
PRZ	**Przheval'sk**	**64.15 321**	P	**P**	**12 48 21.2**	**+0.3**
PRZ			IAmb	IAmb	12 48 41.1	
	comp=Z,83nm,1.6s					
PRZ	**Przheval'sk**	**64.15 321**	P	**P**	**12 48 21.2**	**+0.3**
PRZ			pmax	pmax		
	comp=Z,83nm,1.6s					
KSH	**Kashi**	**64.20 318**	P	**P**	**12 48 22.8**	**+1.6**
KSH			pP	pwP	12 48 34.3	+3.7
KSH			sP	sP	12 48 42.0	+14
KSH			PcP	**PcP**	**12 48 58.5**	**+2.4**
KSH			PP	**PP**	**12 50 46.0**	**+3.4**
KSH			sS	sS	12 57 17.3	+10
KSH			pmax	pmax		
	comp=Z,12nm,1.2s					
KSH			LR	LR		
	comp=Z,510nm,18.7s					
KSH			LR	LR		
	comp=Z,770nm,18.7s					
KSH			LR	LR		
	comp=Z,1μm,18.4s					
MK31	**Makanchi Array**	**64.37 327**	P	**P**	**12 48 21.4**	**-0.7**
MK31			IAmb	IAmb	12 48 36.7	
	comp=Z,28nm,0.9s					
MK31	**Makanchi Array**	**64.37 327**	*i* P	**P**	**12 48 21.0**	**-1.1**
MK31			pmax	pmax		
	comp=Z,43nm,0.9s					
MKAR	**Makanchi Array**	**64.37 327**	P	**P**	**12 48 21.1**	**-1.0**
MKAR	**Makanchi Array**	**64.37 327**	P	**P**	**12 48 20.6**	**-1.5**
	comp=Z,16nm,0.8s,baz=131,slow=7.5,SNR=37					
MKAR			LR	LR	13 16 09.9	
	comp=Z,744nm,21.9s,baz=128,slow=36					
	comp=Z,16nm,0.8s					
SATY	**Saty**	**64.46 322**	*e*P	**P**	**12 48 22.1**	**-0.8**
	baz=322					
SATY	**Saty**	**64.46 322**	*e*P	**P**	**12 48 22.1**	**-0.8**
ZHN	**Zhinishke**	**64.50 322**	*e*P	**P**	**12 48 23.2**	**+0.1**
	baz=322					
ZHN	**Zhinishke**	**64.50 322**	*e*P	**P**	**12 48 23.2**	**+0.1**
KPKS	**Kokpek**	**64.51 322**	*e*P	**P**	**12 48 22.3**	**-0.8**
	comp=Z,64nm,1.7s,baz=322					
KPKS	**Kokpek**	**64.51 322**	*e*P	**P**	**12 48 22.3**	**-0.8**
KPKS			pmax	pmax		
	comp=Z,64nm,1.7s					
MAKZ	**Makanchi**	**64.55 327**	P	**P**	**12 48 22.8**	**-0.4**
MAKZ			IAmb	IAmb	12 48 33.0	
	comp=Z,37nm,1.0s					
MAKZ	**Makanchi**	**64.55 327**	P	**P**	**12 48 22.8**	**-0.4**
MAKZ			pmax	pmax		
	comp=Z,37nm,1.0s					
NRN	**Naryn**	**65.14 319**	P	**P**	**12 48 26.7**	**-0.8**
NRN	**Naryn**	**65.14 319**	P	**P**	**12 48 26.7**	**-0.8**
NRN			pmax	pmax		
	comp=Z,28nm,1.4s					
TNSS	**Tian-Shan**	**65.35 321**	*e*P	**P**	**12 48 28.6**	**-0.5**
	baz=321					
TNSS	**Tian-Shan**	**65.35 321**	*e*P	**P**	**12 48 28.5**	**-0.5**
MDOK	**Medeo**	**65.36 321**	*e*P	**P**	**12 48 28.2**	**-0.5**
	baz=321					
MDOK			*e*S	**S**	**12 57 11.1**	**-1.1**
	baz=321					
MDOK	**Medeo**	**65.36 321**	*e*P	**P**	**12 48 28.2**	**-0.5**
MDOK			*e*S	**S**	**12 57 11.0**	**-1.1**
TDK	**Taldyqorghan**	**65.53 324**	*e*P	**P**	**12 48 29.2**	**-0.5**
	comp=Z,58nm,1.9s,baz=324					
TDK	**Taldyqorghan**	**65.53 324**	*e*P	**P**	**12 48 29.1**	**-0.5**
TDK			pmax	pmax		
	comp=Z,58nm,1.9s					
YAK	**Yakutsk**	**65.66 1**	P	**P**	**12 48 29.8**	**-0.2**
YAK			IAMs_20	IAMs_20	13 18 00.9	
	comp=Z,2μm,18.0s					
YAK	**Yakutsk**	**65.66 1**	*e*P	**P**	**12 48 31.0**	**+1.0**
YAK			*e*		12 49 02.5	
YAK			*e*S	**S**	**12 57 12.3**	**-2.4**
YAK			*e**SS	sS	12 57 41.5	+18
YAK			*e*		12 58 24.1	
YAK			*e*SS	**SS**	**13 01 26.7**	**-2.5**
YAK			pmax	pmax		
	comp=Z,77nm,1.1s					
YAK			pmax	pmax		
	comp=N,33nm,1.3s					
YAK			pmax	pmax		
	comp=E,13nm,1.4s					
YAK			pmax	pmax		
	comp=Z,949nm,5.8s					
YAK			pmax	pmax		
	comp=N,554nm,5.6s					
YAK			pmax	pmax		
	comp=E,348nm,3.9s					
YAK			smax	smax		
	comp=N,428nm,3.8s					
YAK			smax	smax		
	comp=E,182nm,3.4s					
BOOM	**Boomskoye usch**	**65.71 320**	P	**P**	**12 48 30.6**	**-0.4**
BOOM			IAmb	IAmb	12 48 49.2	
	comp=Z,87nm,1.8s					
BOOM	**Boomskoye usch**	**65.71 320**	P	**P**	**12 48 30.6**	**-0.4**
BOOM			pmax	pmax		
	comp=Z,87nm,1.8s					
MA2	**Magadan**	**65.74 13**	LR	LR	13 15 57.2	
	comp=Z,974nm,20.2s,baz=226,slow=35					
CHKK	**Chushkaly**	**65.76 322**	*e*P	**P**	**12 48 29.9**	**-1.3**
	baz=322					
CHKK	**Chushkaly**	**65.76 322**	*e*P	**P**	**12 48 29.8**	**-1.3**
TKM2	**Tokmak 2**	**66.14 321**	P	**P**	**12 48 33.8**	**-0.1**
	SNR=13					
TKM2	**Tokmak 2**	**66.14 321**	*i* P	**P**	**12 48 32.6**	**-1.3**
TKM2			pmax	pmax		
	comp=Z,22nm,0.8s					
KUU	**Kurty**	**66.18 322**	*e*P	**P**	**12 48 33.0**	**-0.8**
	comp=Z,73nm,1.5s,baz=322					
KUU	**Kurty**	**66.18 322**	*e*P	**P**	**12 48 33.0**	**-0.8**
KUU			pmax	pmax		
	comp=Z,73nm,1.5s					
AAK	**Ala-Archa**	**66.71 320**	P	**P**	**12 48 37.3**	**-0.1**
	SNR=12					
AAK	**Ala-Archa**	**66.71 320**	P	**P**	**12 48 37.2**	**-0.3**
AAK			IAmb	IAmb	12 48 52.6	
	comp=Z,40nm,1.4s					
AAK	**Ala-Archa**	**66.71 320**	*i* P	**P**	**12 48 37.0**	**-0.4**
	SNR=11					
AAK	**Ala-Archa**	**66.71 320**	P	**P**	**12 48 37.1**	**-0.3**
AAK	**Ala-Archa**	**66.71 320**	*ce*P	**P**	**12 48 37.5**	**+0.1**
AAK			pmax	pmax		
	comp=Z,29nm,1.7s					
AAK	**Ala-Archa**	**66.71 320**	P	**P**	**12 48 35.4**	**-2.1**
	comp=Z,12nm,1.2s,baz=118,slow=6.6,SNR=19					
AAK			LR	LR	13 21 48.8	
	comp=Z,789nm,20.2s,baz=108,slow=40					
	comp=Z,12nm,1.2s					
AML	**Almayashu**	**66.98 319**	P	**P**	**12 48 39.5**	**+0.1**
	SNR=27					
AML	**Almayashu**	**66.98 319**	*i* P	**P**	**12 48 38.5**	**-1.0**
AML			pmax	pmax		
	comp=Z,16nm,1.4s					
USP	**Ospenovka**	**67.01 320**	P	**P**	**12 48 39.1**	**-0.1**
	SNR=14					
SGDS	**Sogindy**	**67.02 321**	*e*P	**P**	**12 48 38.4**	**-0.9**
	baz=321					
SGDS	**Sogindy**	**67.02 321**	*e*P	**P**	**12 48 38.4**	**-0.9**
KBL	**Kabul**	**67.05 310**	P	**P**	**12 48 40.0**	**+0.2**
	SNR=19					
ARSB	**Arslanbob**	**67.07 318**	P	**P**	**12 48 39.2**	**-0.5**
ARSB	**Arslanbob**	**67.07 318**	P	**P**	**12 48 39.2**	**-0.5**
ARSB			pmax	pmax		
	comp=Z,33nm,1.5s					
EKS2	**Erkin-Say**	**67.18 320**	P	**P**	**12 48 40.6**	**+0.2**
	SNR=11					
SEM	**Semipalatinsk**	**67.65 329**	*e*P	**P**	**12 48 42.2**	**-1.2**
	baz=329					
SEM	**Semipalatinsk**	**67.65 329**	*e*P	**P**	**12 48 42.1**	**-1.2**
ZAA0	**Zalesovo Array**	**67.77 334**	P	**P**	**12 48 42.5**	**-1.1**
ZAA0			IAmb	IAmb	12 48 57.5	
	comp=Z,46nm,1.1s					
ZALV	**Zalesovo Beam**	**67.77 334**	P	**P**	**12 48 42.0**	**-1.7**
ZALV	**Zalesovo Beam**	**67.77 334**	*i* P	**P**	**12 48 42.5**	**-1.2**
ZALV			pmax	pmax		
	comp=Z,20nm,1.0s					
ZALV	**Zalesovo Beam**	**67.77 334**	P	**P**	**12 48 40.6**	**-3.1**
	comp=Z,10nm,1.0s,baz=120,slow=4.1,SNR=43					
ZALV			PKP2bc		13 17 02.6	
	comp=Z,1.4nm,0.8s,baz=224,slow=6.0,SNR=4.4					
	comp=Z,10nm,1.0s					
BTK	**Batken**	**67.98 316**	P	**P**	**12 48 45.6**	**+0.2**
BTK			IAmb	IAmb	12 49 00.8	
	comp=Z,86nm,1.7s					
BTK	**Batken**	**67.98 316**	P	**P**	**12 48 45.6**	**+0.2**
BTK			pmax	pmax		
	comp=Z,86nm,1.7s					
BTLS	**Baital**	**68.18 322**	*e*P	**P**	**12 48 45.6**	**-0.9**
	baz=322					
BTLS	**Baital**	**68.18 322**	*e*P	**P**	**12 48 45.5**	**-0.9**
SHEM	**Shemya Is, Ala**	**68.46 28**	LR	LR	13 13 51.3	
	comp=Z,1μm,21.3s,baz=277,slow=32					
KURBB	**Kurchatov Arra**	**68.66 329**	P	**P**	**12 48 48.0**	**-1.3**
	comp=Z,42nm,1.1s,baz=126,slow=5.8,SNR=66					
KURBB			PKP2bc		13 17 03.0	
	comp=Z,0.3nm,0.3s,baz=291,slow=3.0,SNR=4.4					
KURBB			LR	LR	13 21 37.8	
	comp=Z,605nm,20.7s,baz=164,slow=38					
	comp=Z,42nm,1.1s					
KURK	**Kurchatov**	**68.67 329**	P	**P**	**12 48 48.9**	**-0.5**
KURK	**Kurchatov**	**68.67 329**	P	**P**	**12 48 48.5**	**-0.8**
KURK	**Kurchatov**	**68.67 329**	P	**P**	**12 48 47.9**	**-1.5**
SEY	**Seymchan**	**69.11 12**	*ce*P	**P**	**12 48 53.6**	**+1.7**
SEY			pmax	pmax		
	comp=Z,95nm,1.3s					
SEY	**Seymchan**	**69.11 12**	LR	LR	13 19 30.6	
	comp=Z,647nm,20.1s,baz=221,slow=36					
IUG	**Iuzhnay**	**69.41 318**	*e*P	**P**	**12 48 53.6**	**-0.8**
	comp=Z,46nm,1.2s,baz=318					
IUG	**Iuzhnay**	**69.41 318**	*e*P	**P**	**12 48 53.5**	**-0.8**
IUG			pmax	pmax		
	comp=Z,46nm,1.2s					
KK31	**Karatay Array**	**69.51 319**	*i* P	**P**	**12 48 53.6**	**-1.3**
KKAR	**Karatay Array**	**69.51 319**	P	**P**	**12 48 53.6**	**-1.3**
KKAR	**Karatay Array**	**69.51 319**	P	**P**	**12 48 53.6**	**-1.3**
NGCH	**Negor - Chabah**	**70.77 298**	P	**P**	**12 49 04.1**	**+1.3**
BRZS	**Berezniki**	**71.46 326**	*e*P	**P**	**12 49 05.4**	**-1.2**
	baz=326					
BRZS	**Berezniki**	**71.46 326**	*e*P	**P**	**12 49 05.4**	**-1.2**
JLN	**Jalan Bani Buh**	**71.59 295**	P	**P**	**12 49 05.9**	**-2.0**
	SNR=12					
WBK	**Wadi Bani Khal**	**72.08 295**	P	**P**	**12 49 08.5**	**-2.5**
RAR	**Rarotonga**	**72.25 111**	LR	LR	13 18 48.1	
	comp=Z,260nm,20.8s,baz=266,slow=34					
WSAR	**Wadi Sarin**	**72.52 296**	P	**P**	**12 49 13.2**	**-0.3**
	SNR=11					
WSAR	**Wadi Sarin**	**72.52 296**	LR	LR	13 24 36.8	
	comp=Z,486nm,18.6s,baz=115,slow=39					
MHTO	**MHTO**	**72.67 293**	P	**P**	**12 49 12.8**	**-1.6**
	SNR=15					
JMDO	**Jabal Madar**	**72.82 295**	P	**P**	**12 49 14.2**	**-1.1**
	SNR=13					
DQM	**DQM**	**72.87 292**	P	**P**	**12 49 14.8**	**-0.8**
SMDO	**Samad**	**73.00 295**	P	**P**	**12 49 15.3**	**-1.2**
	SNR=14					
BIDO	**Bidbid**	**73.03 296**	P	**P**	**12 49 15.7**	**-0.8**
	SNR=16					
BSY	**Bisya**	**73.71 295**	P	**P**	**12 49 20.0**	**-0.6**
	SNR=6.4					
JASK	**Jask - Hormozg**	**73.76 298**	P	**P**	**12 49 22.4**	**+1.7**
HOQ	**Hoqain**	**73.78 296**	P	**P**	**12 49 20.3**	**-0.7**
	SNR=13					
ATKA	**Atka Island**	**74.12 33**	P	**P**	**12 49 22.1**	**-0.2**
BVA0	**Borovoye Array**	**74.21 328**	*i* P	**P**	**12 49 21.8**	**-1.1**
BVAR	**Borovoye Array**	**74.21 328**	P	**P**	**12 49 19.6**	**-3.3**
	comp=Z,17nm,1.2s,baz=126,slow=7.5,SNR=33					
	comp=Z,17nm,1.2s					
BRVK	**Borovoye**	**74.28 328**	P	**P**	**12 49 22.7**	**-0.6**
BRVK	**Borovoye**	**74.28 328**	P	**P**	**12 49 22.0**	**-1.3**
BRVK	**Borovoye**	**74.28 328**	*ce*P	**P**	**12 49 22.9**	**-0.4**
BRVK			pmax	pmax		
	comp=Z,45nm,1.7s					
SHAO	**Shalim**	**74.32 290**	P	**P**	**12 49 23.1**	**-1.1**
ARQ	**Araqi**	**74.44 295**	P	**P**	**12 49 24.4**	**-0.4**
	SNR=12					
SOHO	**SOHO**	**74.58 296**	*i* P	**P**	**12 49 23.5**	**-2.1**
	SNR=12					
SOHO	**SOHO**	**74.58 296**	P	**P**	**12 49 24.5**	**-1.1**
DMTO	**DMTO**	**74.91 289**	P	**P**	**12 49 26.0**	**-1.6**
MDH	**Madha**	**75.02 297**	P	**P**	**12 49 26.0**	**-2.2**
MDH	**Madha**	**75.02 297**	P	**P**	**12 49 28.0**	**-0.1**
UOSS	**Minazif**	**75.04 297**	P	**P**	**12 49 27.3**	**-0.9**
UOSS			IAmb	IAmb	12 49 44.5	
	comp=Z,24nm,0.6s					
UOSS	**Minazif**	**75.04 297**	P	**P**	**12 49 27.4**	**-0.8**
UOSS	**Minazif**	**75.04 297**	P	**P**	**12 49 27.4**	**-0.9**
HATD	**Hatta, Dubai**	**75.08 297**	P	**P**	**12 49 27.3**	**-1.1**
HATD	**Hatta, Dubai**	**75.08 297**	P	**P**	**12 49 29.5**	**+1.0**
ASHO	**Ashiyiah**	**75.11 297**	*i* P	**P**	**12 49 27.9**	**-0.8**
	SNR=6.9					
ASHO	**Ashiyiah**	**75.11 297**	P	**P**	**12 49 28.2**	**-0.5**
	SNR=7.3					
MASF	**Masafi**	**75.16 297**	P	**P**	**12 49 29.1**	**+0.1**
ALNE	**Al Ain**	**75.27 296**	*i* P	**P**	**12 49 27.4**	**-2.2**
	SNR=15					
ALNE	**Al Ain**	**75.27 296**	P	**P**	**12 49 28.4**	**-1.2**
	SNR=21					
TIXI	**Tiksi**	**75.31 0**	P	**P**	**12 49 28.0**	**-0.8**
TIXI			IAmb	IAmb	12 49 38.8	
	comp=Z,21nm,0.6s					
TIXI			IAMs_20	IAMs_20	13 23 02.7	
	comp=Z,2μm,20.0s					
TIXI	**Tiksi**	**75.31 0**	*ce*P	**P**	**12 49 28.8**	**0.0**
SHME	**Shamm**	**75.31 298**	*i* P	**P**	**12 49 28.3**	**-1.5**
	SNR=7.7					
SHME	**Shamm**	**75.31 298**	P	**P**	**12 49 29.2**	**-0.5**
NAZ	**Nazwa, Dubai**	**75.53 297**	P	**P**	**12 49 30.4**	**-0.7**
	SNR=9.8					
FAQ	**Al Faqa, Dubai**	**75.54 297**	*i* P	**P**	**12 49 30.7**	**-0.4**
	SNR=12					
FAQ	**Al Faqa, Dubai**	**75.54 297**	P	**P**	**12 49 31.0**	**-0.2**
	SNR=15					
RBK	**Rabkut**	**75.58 289**	P	**P**	**12 49 30.1**	**-1.4**
ASUD	**Al Ashush, Dub**	**75.75 296**	*i* P	**P**	**12 49 32.2**	**-0.1**
	SNR=7.0					
ASUD	**Al Ashush, Dub**	**75.75 296**	P	**P**	**12 49 31.7**	**-0.7**
	SNR=11					
DOK	**Doka**	**75.82 290**	P	**P**	**12 49 31.1**	**-1.8**
	SNR=8.2					
VNDA	**Vanda**	**75.87 173**	P	**P**	**12 49 31.0**	**-1.0**
VNDA	**Vanda**	**75.87 173**	P	**P**	**12 49 31.0**	**-1.0**
VNDA			pmax	pmax		
	comp=Z,24nm,1.0s					
VNDA	**Vanda**	**75.87 173**	P	**P**	**12 49 29.1**	**-2.9**
	comp=Z,9.1nm,0.9s,baz=319,slow=6.0,SNR=44					
VNDA			LR	LR	13 20 38.4	
	comp=Z,2μm,21.5s,baz=332,slow=34					
	comp=Z,9.1nm,0.9s					
AJN	**Ajban**	**76.05 296**	P	**P**	**12 49 34.0**	**0.0**
WHFO	**Wadi Hawf**	**76.05 289**	P	**P**	**12 49 32.3**	**-1.9**
ABTO	**Aybut**	**76.41 289**	P	**P**	**12 49 34.7**	**-1.6**
	SNR=5.9					
GEYT	**Alibeck**	**76.49 310**	P	**P**	**12 49 36.2**	**-0.2**
GEYT			IAmb	IAmb	12 49 44.8	
	comp=Z,89nm,1.8s					
GEYT	**Alibeck**	**76.49 310**	P	**P**	**12 49 36.2**	**-0.2**
GEYT			pmax	pmax		
	comp=Z,89nm,1.8s					
GEYT	**Alibeck**	**76.49 310**	P	**P**	**12 49 33.9**	**-2.4**
	comp=Z,7.4nm,0.7s,baz=96,slow=11,SNR=15					
	comp=Z,7.4nm,0.7s					
GYA0B	**ALIBECK ARRAY**	**76.49 310**	P	**P**	**12 49 36.4**	**+0.1**
SBA	**Scott Base**	**76.78 172**	P	**P**	**12 49 37.2**	**0.0**
SBA	**Scott Base**	**76.78 172**	P	**P**	**12 49 37.2**	**0.0**
SBA			pmax	pmax		
	comp=Z,29nm,1.1s					
MAW	**Mawson**	**77.13 201**	P	**P**	**12 49 40.0**	**+0.8**
	baz=77,SNR=5.2					
MAW	**Mawson**	**77.13 201**	P	**P**	**12 49 38.9**	**-0.4**
MAW	**Mawson**	**77.13 201**	P	**P**	**12 49 38.9**	**-0.4**
MAW			pmax	pmax		
	comp=Z,7.0nm,1.2s					
MAW	**Mawson**	**77.13 201**	P	**P**	**12 49 37.6**	**-1.6**
	comp=Z,8.7nm,1.1s,baz=62,slow=6.7,SNR=11					
MAW			LR	LR	13 22 07.8	
	comp=Z,1μm,18.1s,baz=44,slow=35					
	comp=Z,8.7nm,1.1s					
MZR	**Muzera**	**77.13 294**	P	**P**	**12 49 39.3**	**-1.0**
MZR	**Muzera**	**77.13 294**	P	**P**	**12 49 39.2**	**-1.0**
	SNR=17					
NIKH	**Nikolski High**	**77.39 34**	P	**P**	**12 49 41.2**	**+0.2**
	baz=246					
JRN	**Qarnain Island**	**78.03 296**	P	**P**	**12 49 43.9**	**-1.3**
SPIA	**Saint Paul Isl**	**78.44 29**	P	**P**	**12 49 46.6**	**-0.1**
	baz=244					
AB31	**Akbulak array**	**78.66 322**	P	**P**	**12 49 46.6**	**-1.6**
ABKAR	**Akbulak array**	**78.66 322**	P	**P**	**12 49 46.8**	**-1.4**
ABKAR	**Akbulak array**	**78.66 322**	P	**P**	**12 49 47.2**	**-1.0**
ABKAR			IAmb	IAmb	12 50 03.7	
	comp=Z,21nm,0.8s					
NPH	**North Pit**	**78.95 69**	IAMs_20	IAMs_20	13 30 44.9	
	comp=Z,3μm,22.0s					
BYL	**Byron's Ledge**	**78.97 70**	IAMs_20	IAMs_20	13 26 07.4	
	comp=Z,2μm,20.0s					
UNV	**Unalaska Valle**	**79.02 33**	P	**P**	**12 49 50.2**	**+0.2**
	baz=248					
SMRA	**Abu-Samra**	**79.81 296**	P	**P**	**12 49 54.0**	**-0.9**
	SNR=9.9					
SHMA	**Al-Shehemyia**	**79.86 297**	P	**P**	**12 49 55.7**	**+0.5**
AKTO	**Aktyubinsk**	**80.22 322**	P	**P**	**12 49 55.3**	**-1.4**
	comp=Z,6.9nm,0.7s,baz=92,slow=5.9,SNR=20					
AKTO			LR	LR	13 28 56.8	
	comp=Z,643nm,19.9s,baz=100,slow=38					
	comp=Z,6.9nm,0.7s					
SAKB	**Bahrain**	**80.26 297**	P	**P**	**12 49 57.8**	**+0.5**
GAMB	**Gambell**	**80.83 23**	P	**P**	**12 50 00.4**	**+0.9**
	baz=242					
SVE	**Sverdlovsk**	**80.92 329**	*e*P	**P**	**12 49 59.9**	**-0.3**
SVE			pmax	pmax		
	comp=Z,57nm,1.3s					
FALS	**False Pass**	**81.07 33**	P	**P**	**12 50 00.5**	**-0.5**
	baz=250					
M11K	**Mekoryuk**	**81.69 27**	P	**P**	**12 50 05.0**	**+0.8**
	baz=247					
PPT	**Papeete**	**81.83 107**	LR	LR	13 25 58.1	
	comp=Z,295nm,18.1s,baz=257,slow=35					
ARU	**Arti**	**81.86 328**	P	**P**	**12 50 04.8**	**-0.4**
ARU			IAmb	IAmb	12 50 14.3	
	comp=Z,46nm,1.0s					
ARU	**Arti**	**81.86 328**	*c i* P	**P**	**12 50 04.9**	**-0.3**
ARU			PPP	PPP	12 55 00.1	
ARU			S	**S**	**13 00 16.0**	**-1.7**
ARU			SSS	SSS	13 08 55.4	
ARU			pmax	pmax		
	comp=Z,52nm,1.5s					
ARU	**Arti**	**81.86 328**	P	**P**	**12 50 04.4**	**-0.8**
	comp=Z,4.5nm,0.5s,baz=123,slow=3.4,SNR=19					
	comp=Z,4.5nm,0.5s					
SDPT	**Sand Point**	**82.83 33**	P	**P**	**12 50 10.2**	**-0.1**
	baz=253					
K13K	**Kusilvak Mount**	**82.97 26**	P	**P**	**12 50 12.3**	**+1.4**
K13K			IAmb	IAmb	12 50 14.8	
	comp=Z,82nm,1.6s					
K13K			IAMs_20	IAMs_20	13 25 02.9	
	comp=Z,1μm,20.0s					
K13K	**Kusilvak Mount**	**82.97 26**	P	**P**	**12 50 12.5**	**+1.6**
	baz=248					
M13K	**Dall Lake**	**83.02 28**	P	**P**	**12 50 11.8**	**+0.7**
	baz=250					
TNA	**Tin City**	**83.08 22**	P	**P**	**12 50 11.1**	**-0.3**
	baz=245					
CHNA	**Chernabura Isl**	**83.17 34**	P	**P**	**12 50 12.6**	**+0.5**
	baz=254					
S14K	**Fog Glacier**	**83.60 32**	P	**P**	**12 50 13.5**	**-0.9**
	baz=253					
O14K	**Tigyukauivet M**	**83.62 29**	IAMs_20	IAMs_20	13 23 00.8	
	comp=Z,2μm,20.0s					
O14K	**Tigyukauivet M**	**83.62 29**	P	**P**	**12 50 13.8**	**-0.5**
	baz=252					
N14K	**Kuskokwak Cree**	**83.64 29**	P	**P**	**12 50 14.5**	**+0.2**
	baz=251					
L14K	**Kuka Creek**	**83.64 27**	P	**P**	**12 50 15.5**	**+1.2**
L14K	**Kuka Creek**	**83.64 27**	P	**P**	**12 50 14.8**	**+0.5**
	baz=250					
F14K	**Arctic Creek**	**83.66 23**	P	**P**	**12 50 14.6**	**+0.3**
	baz=246					
ANM	**Nome**	**83.67 24**	P	**P**	**12 50 14.9**	**+0.5**
	baz=247					
J14K	**Nanvaranak Lak**	**83.75 26**	P	**P**	**12 50 16.1**	**+1.3**
J14K			IAmb	IAmb	12 50 18.6	
	comp=Z,61nm,1.2s					
J14K	**Nanvaranak Lak**	**83.75 26**	P	**P**	**12 50 15.8**	**+0.9**
	baz=249,SNR=6.2					
M14K	**Bethel**	**83.78 28**	P	**P**	**12 50 15.9**	**+0.9**
M14K	**Bethel**	**83.78 28**	P	**P**	**12 50 15.4**	**+0.4**
	baz=251					
CHGN	**Chignik**	**84.22 33**	IAMs_20	IAMs_20	13 21 19.5	
	comp=Z,2μm,21.0s					
CHGN	**Chignik**	**84.22 33**	P	**P**	**12 50 16.8**	**-0.6**
	baz=254					
L15K	**Ungalak Mounta**	**84.30 27**	P	**P**	**12 50 17.6**	**-0.1**
	baz=251,SNR=5.7					
O15K	**Ungalikthiuk R**	**84.31 30**	P	**P**	**12 50 18.6**	**+0.8**
	baz=253					
M15K	**Kasigluk River**	**84.35 28**	P	**P**	**12 50 19.4**	**+1.4**
	baz=252,SNR=6.4					
G15K	**Niukluk**	**84.36 23**	P	**P**	**12 50 18.2**	**+0.2**
	baz=248					
F15K	**North Star Dit**	**84.39 23**	P	**P**	**12 50 19.9**	**+1.7**
F15K	**North Star Dit**	**84.39 23**	P	**P**	**12 50 19.2**	**+1.1**
	baz=248					
N15K	**Kwethluk River**	**84.47 29**	P	**P**	**12 50 19.1**	**+0.4**
N15K	**Kwethluk River**	**84.47 29**	P	**P**	**12 50 18.2**	**-0.5**
	baz=253					
K15K	**Wolf Creek Mou**	**84.48 26**	P	**P**	**12 50 19.6**	**+0.9**
K15K			IAMs_20	IAMs_20	13 25 51.2	
	comp=Z,1μm,19.0s					
K15K	**Wolf Creek Mou**	**84.48 26**	P	**P**	**12 50 18.6**	**-0.1**
	baz=251,SNR=9.7					
H16K	**Elim**	**84.96 24**	P	**P**	**12 50 21.3**	**+0.3**
	baz=250					
R16K	**Pilot Point**	**85.00 31**	P	**P**	**12 50 21.0**	**-0.3**
	baz=255					
C16K	**Lisburne Hills**	**85.12 20**	P	**P**	**12 50 21.7**	**0.0**
	baz=247					
G16K	**Koyuk River**	**85.17 23**	P	**P**	**12 50 22.7**	**+0.6**
	baz=250					
P16K	**Nushagak River**	**85.17 30**	P	**P**	**12 50 22.0**	**-0.1**
	baz=254					
N16K	**Nishlik Lake**	**85.19 28**	P	**P**	**12 50 23.0**	**+0.7**
	baz=254,SNR=13					
J16K	**Anvik River**	**85.20 25**	P	**P**	**12 50 22.4**	**+0.1**
	baz=252					
L16K	**Owhat River**	**85.22 27**	P	**P**	**12 50 23.3**	**+1.0**
L16K	**Owhat River**	**85.22 27**	P	**P**	**12 50 22.4**	**0.0**
	baz=253,SNR=13					
M16K	**Timber Creek**	**85.26 28**	P	**P**	**12 50 23.7**	**+1.1**
M16K	**Timber Creek**	**85.26 28**	P	**P**	**12 50 22.4**	**-0.2**
	baz=254,SNR=8.9					
O16K	**Kokwok River B**	**85.27 29**	P	**P**	**12 50 24.0**	**+1.3**
O16K			IAmb	IAmb	12 50 35.1	
	com

comp=Z,64nm,1.4s
N17K Nushagak Hills 85.96 29 P **P 12 50 27.0 +0.9**
baz=255
P17K Kvichak River 85.99 30 P **P 12 50 25.0 -1.2**
baz=256
H17K Granite Mounta 86.00 24 P **P 12 50 25.5 -0.7**
baz=252
K17K Iditarod 86.03 26 P **P 12 50 26.0 -0.4**
baz=254
Q17K Contact Creek 86.04 31 P **P 12 50 25.1 -1.6**
baz=256
M17K Holitna River 86.07 28 P **P 12 50 27.5 +0.9**
M17K IAmb IAmb 12 50 32.1
comp=Z,48nm,1.4s
M17K Holitna River 86.07 28 P **P 12 50 26.7 0.0**
baz=255
QSPA South Pole Qui 86.16 180 P **P 12 50 26.0 -1.1**
QSPA IAmb IAmb 12 50 37.6
comp=Z,38nm,1.1s
QSPA South Pole Qui 86.16 180 IAMs_20 IAMs_20 13 29 11.9
comp=Z,2μm,19.0s
QSPA South Pole Qui 86.16 180 P **P 12 50 25.0 -2.2**
comp=Z,25nm,1.0s,baz=330,slow=2.8,SNR=36
QSPA PKKPbc **PKKPdf 13 08 22.4 +0.6**
comp=Z,1.1nm,0.9s,baz=267,slow=0.9,SNR=2.2
QSPA LR LR 13 29 32.7
comp=Z,2μm,18.6s,baz=342,slow=36
comp=Z,25nm,1.0s
E18K Tukpahlearik C 86.50 22 P **P 12 50 28.8 +0.2**
E18K Tukpahlearik C 86.50 22 P **P 12 50 28.1 -0.5**
baz=252
SII Sitkinak Islan 86.56 33 P **P 12 50 28.5 -0.7**
baz=258
Q18K Katmai Hardscr 86.58 31 P **P 12 50 28.9 -0.4**
baz=257,SNR=5.4
N18K Kilae Creek 86.62 29 IAMs_20 IAMs_20 13 24 58.7
comp=Z,1μm,22.0s
N18K Kilae Creek 86.62 29 P **P 12 50 28.7 -0.7**
baz=256
L18K Granite Mounta 86.62 27 P **P 12 50 28.9 -0.4**
baz=255
R18K Karluk 86.63 32 P **P 12 50 28.1 -1.3**
baz=258
P18K Big Mountain, 86.64 30 IAMs_20 IAMs_20 13 24 55.4
comp=Z,2μm,21.0s
P18K Big Mountain, 86.64 30 P **P 12 50 27.7 -1.8**
baz=257
H18K Honhosa River 86.69 24 P **P 12 50 28.3 -1.3**
baz=254
C18K Utukok River 86.69 20 P **P 12 50 29.1 -0.6**
baz=251
B18K Kokolik River 86.72 20 P **P 12 50 29.0 -0.7**
baz=250
O18K Koktuh Hills 86.75 30 P **P 12 50 29.8 -0.3**
baz=257
GROC Groznyy 86.76 314 *e*P **P 12 50 30.5 +0.1**
GROC *e* 12 53 54.1
GROC pmax pmax
comp=Z,105nm,1.2s
G18K Tagagawik 86.78 23 P **P 12 50 29.1 -0.9**
baz=253
M18K Stony River 86.84 28 P **P 12 50 29.9 -0.5**
baz=256,SNR=7.9
J18K Innoko River 86.93 26 P **P 12 50 30.4 -0.4**
baz=255
BELG Belogornoye 87.01 323 *i* P **P 12 50 31.6 +0.2**
BELG pmax pmax
comp=Z,29nm,1.1s
BELG Belogornoye 87.01 323 LR LR 13 32 30.8
comp=Z,540nm,21.7s,baz=108,slow=38
TTA Tatalina 87.10 26 P **P 12 50 31.5 -0.3**
baz=256
GNI Garni 87.13 310 *ce*P **P 12 50 31.8 -0.7**
GNI pmax pmax
comp=Z,53nm,1.7s
GCSA Galena City Sc 87.19 25 P **P 12 50 30.8 -1.2**
baz=255
KIRV Kirov 87.19 329 *ce*P **P 12 50 31.2 -0.9**
O19K Port Alsworth 87.26 29 P **P 12 50 31.3 -1.1**
baz=258
N19K Bonanza Creek 87.32 29 P **P 12 50 32.3 -0.6**
baz=257,SNR=5.8
Q19K Cape Douglas, 87.33 31 P **P 12 50 32.0 -0.9**
baz=258
F19K Shaleruckik Mo 87.39 22 P **P 12 50 32.5 -0.5**
F19K IAmb IAmb 12 51 04.6
comp=Z,35nm,1.9s
F19K Shaleruckik Mo 87.39 22 P **P 12 50 33.3 +0.3**
baz=254
C19K Lookout Ridge 87.39 20 P **P 12 50 32.3 -0.7**
baz=252
L19K White Mountain 87.45 27 P **P 12 50 32.8 -0.6**
baz=257
G19K Purcell Mounta 87.47 23 P **P 12 50 33.5 +0.1**
G19K IAmb IAmb 12 50 35.9
comp=Z,33nm,1.2s
G19K Purcell Mounta 87.47 23 P **P 12 50 33.1 -0.3**
baz=255
J19K Poorman 87.53 25 P **P 12 50 33.4 -0.3**
baz=256
H19K Roundabout Mou 87.56 24 P **P 12 50 33.5 -0.2**
baz=256
M19K Big River Lodg 87.60 28 P **P 12 50 32.8 -1.3**
baz=258
KDAK Kodiak Island 87.66 32 P **P 12 50 34.6 +0.2**
KDAK Kodiak Island 87.66 32 P **P 12 50 33.1 -1.3**
baz=259
KDAK Kodiak Island 87.66 32 P **P 12 50 34.6 +0.2**
KDAK pmax pmax
comp=Z,102nm,1.4s
KDAK Kodiak Island 87.66 32 LR LR 13 24 49.5
comp=Z,2μm,21.7s,baz=265,slow=32
P19K Oil Pt 87.69 30 IAMs_20 IAMs_20 13 24 24.1
comp=Z,2μm,20.0s
P19K Oil Pt 87.69 30 P **P 12 50 33.2 -1.4**
baz=259
D19K Kuna River 87.72 21 P **P 12 50 31.6 -3.0**
baz=254
E19K Redstone River 87.76 22 P **P 12 50 34.9 +0.2**
E19K IAmb IAmb 12 50 45.0
comp=Z,18nm,0.8s
E19K Redstone River 87.76 22 P **P 12 50 33.5 -1.2**
baz=255
L20K Farewell, AK 87.96 27 P **P 12 50 34.4 -1.4**
baz=258
K20K Telida 88.06 26 IAMs_20 IAMs_20 13 23 23.7
comp=Z,1μm,22.0s
K20K Telida 88.06 26 P **P 12 50 35.6 -0.7**
baz=258
O20K Slope Mountain 88.07 30 P **P 12 50 35.2 -1.3**
baz=259
ZEI Tsey 88.09 313 *e*P **P 12 50 36.2 -0.9**
ZEI pmax pmax
comp=Z,86nm,1.3s
M20K Styx River 88.18 28 P **P 12 50 35.5 -1.5**
baz=259
H20K Anotleneega Mo 88.19 24 P **P 12 50 35.5 -1.4**
baz=257
I20K Naaghedeneel 88.20 25 P **P 12 50 35.0 -1.9**
baz=257
J20K Nowinta River 88.20 25 P **P 12 50 36.6 -0.3**
J20K IAmb IAmb 12 50 46.5
comp=Z,61nm,1.8s
J20K Nowinta River 88.20 25 P **P 12 50 36.0 -0.9**
baz=258
F20K Avaraart Lake 88.22 22 P **P 12 50 36.9 0.0**
F20K Avaraart Lake 88.22 22 P **P 12 50 35.7 -1.2**
baz=256
AKH Akhalkalaki 88.23 312 P **P 12 50 38.4 +0.6**
AKH Akhalkalaki 88.23 312 P **P 12 50 38.4 +0.6**
AKH pmax pmax
comp=Z,208nm,1.0s
D20K Etivluk River 88.31 21 P **P 12 50 36.8 -0.6**
baz=255,SNR=6.7
E20K Nigu River 88.35 21 P **P 12 50 36.3 -1.3**
baz=256
NCK Nalchik 88.39 314 *i* P **P 12 50 38.0 -0.3**
NCK pmax pmax
comp=Z,34nm,0.8s
B20K Meade River 88.46 19 P **P 12 50 37.9 -0.1**
baz=255
HOM Homer 88.48 30 P **P 12 50 36.9 -1.4**
baz=260
N20K Mount Spurr 88.48 28 P **P 12 50 37.1 -1.3**
baz=259
SPCR Spurr Chakacha 88.48 28 P **P 12 50 37.3 -1.1**
baz=259

SIRT Sirnak 88.62 308 P **P 12 50 38.7 -0.9**
IMAR Indian Mountai 88.75 24 P **P 12 50 40.3 +0.8**
PPLA Purkeypile 88.81 27 P **P 12 50 36.5 -3.4**
baz=259
CAPN Captain Cook N 88.91 29 P **P 12 50 39.8 -0.5**
baz=260
KBZ Khabaz 88.92 314 *ce*P **P 12 50 40.1 -0.7**
KBZ pmax pmax
comp=Z,27nm,0.9s
KBZ Khabaz 88.92 314 P **P 12 50 40.0 -0.7**
comp=Z,6.7nm,0.8s,baz=126,slow=4.9,SNR=8.3
comp=Z,6.7nm,0.8s
CHUM Lake Minchumin 88.93 26 P **P 12 50 38.6 -1.7**
baz=259
SKT Skwentna 88.94 28 IAMs_20 IAMs_20 13 32 42.1
comp=Z,1μm,19.0s
SKT Skwentna 88.94 28 P **P 12 50 39.5 -1.0**
baz=260
BRSE Bradley Lake S 88.95 30 P **P 12 50 38.9 -1.6**
baz=261
CAST Castle Rocks 88.95 26 P **P 12 50 39.9 -0.5**
baz=260
G21K Allakaket 88.96 23 P **P 12 50 40.8 +0.4**
G21K Allakaket 88.96 23 P **P 12 50 39.7 -0.8**
baz=258
GOF Gofitskoye 88.97 315 *ce*P **P 12 50 38.6 -2.3**
A21K Barrow 88.98 18 P **P 12 50 40.4 +0.1**
baz=255
GURO Guroymak-BITLI 89.04 309 P **P 12 50 41.3 -0.3**
C21K Knifeblade Rid 89.06 20 P **P 12 50 40.8 0.0**
baz=257
H21K Melozitna Rive 89.07 24 P **P 12 50 41.2 +0.2**
H21K Melozitna Rive 89.07 24 P **P 12 50 41.2 +0.2**
baz=259
KVAR Kislovodsk Arr 89.09 314 LR LR 13 35 18.4
comp=Z,285nm,20.1s,baz=266,slow=39
KIV Kislovodsk 89.10 314 *e*P **P 12 50 40.0 -1.7**
KIV pmax pmax
comp=Z,12nm,1.1s
F21K Alatna River 89.11 22 P **P 12 50 40.5 -0.7**
baz=258
E21K Killik River 89.19 21 P **P 12 50 41.1 -0.4**
baz=258
SUA Susitna One 89.22 28 P **P 12 50 41.1 -0.8**
baz=261
B21K Ikpikpuk River 89.22 20 P **P 12 50 40.9 -0.7**
baz=257
I21K Tanana 89.31 25 P **P 12 50 42.7 +0.6**
I21K IAmb IAmb 12 50 44.6
comp=Z,43nm,1.7s
I21K Tanana 89.31 25 P **P 12 50 42.4 +0.3**
baz=260
A22K Sinclair Lake 89.42 19 P **P 12 50 43.4 +1.0**
baz=257
BPAW Bear Paw Mtn. 89.55 26 P **P 12 50 42.7 -0.5**
baz=260
M22K Willow 89.56 28 P **P 12 50 42.6 -0.7**
baz=261,SNR=5.2
O22K Cooper Landing 89.56 29 P **P 12 50 42.6 -0.8**
baz=262
CUT Chulitna 89.60 27 P **P 12 50 41.7 -1.7**
baz=261
PRGR Permogore 89.60 332 *e*P **P 12 50 43.3 -0.2**
PRGR pmax pmax
comp=Z,23nm,1.2s
SEW Seward 89.64 30 P **P 12 50 43.2 -0.5**
baz=262
RC01 Rabbit Creek A 89.65 29 IAMs_20 IAMs_20 13 26 22.8
comp=Z,2μm,21.0s
RC01 Rabbit Creek A 89.65 29 P **P 12 50 41.5 -2.3**
baz=262
F22K John River 89.67 22 P **P 12 50 43.5 -0.2**
baz=259
H22K Ishtalitna Cre 89.69 24 P **P 12 50 43.4 -0.5**
baz=260,SNR=5.4
FURI Furi 89.72 279 IAMs_20 IAMs_20 13 29 53.8
comp=Z,1μm,20.0s
D22K Ayikyak River 89.74 21 P **P 12 50 44.3 +0.2**
baz=259
TRF Thorofare Moun 89.75 26 P **P 12 50 44.3 -0.1**
baz=261
B22K Teshekpuk Lake 89.78 19 P **P 12 50 44.6 +0.5**
baz=258
MLY Manley 89.81 25 P **P 12 50 44.4 -0.1**
baz=261
G22K Bettles 89.82 23 P **P 12 50 43.6 -0.9**
baz=260
E22K Anaktuvuk Pass 89.92 22 P **P 12 50 45.3 +0.4**
baz=260,SNR=7.4
PMR Palmer 90.01 28 P **P 12 50 45.1 -0.3**
baz=262
PWL Port Wells 90.29 29 P **P 12 50 47.4 +0.6**
baz=263
KNK Knik Glacier 90.30 29 IAMs_20 IAMs_20 13 25 29.2
comp=Z,2μm,22.0s
KNK Knik Glacier 90.30 29 P **P 12 50 47.6 +0.7**
baz=263
G23K Bananza Creek 90.36 23 P **P 12 50 47.8 +0.8**
baz=261
COLD Coldfoot 90.37 23 P **P 12 50 47.9 +0.8**
baz=261,SNR=8.2
MCK McKinley 90.39 26 P **P 12 50 46.8 -0.4**
baz=262
I23K Minto, Yukon-K 90.40 25 IAMs_20 IAMs_20 13 26 34.6
comp=Z,1μm,22.0s
I23K Minto, Yukon-K 90.40 25 P **P 12 50 47.6 +0.4**
baz=262
SML Sawmill 90.41 28 P **P 12 50 47.4 0.0**
baz=263,SNR=7.5
H23K Yukon River 90.42 24 P **P 12 50 48.1 +0.8**
baz=262
WAT1 Susitna Watana 90.44 27 P **P 12 50 47.5 0.0**
baz=263
NEA2 Nenana 90.45 25 P **P 12 50 47.5 0.0**
baz=262
D23K Nanushuk River 90.47 21 P **P 12 50 47.4 0.0**
baz=261
VRH Novokhopyorsk 90.48 321 *e*P **P 12 50 47.4 -0.4**
VRH pmax pmax
comp=Z,6.0nm,0.3s
C23K Itkillik River 90.63 20 P **P 12 50 48.7 +0.5**
baz=261,SNR=7.7
P23K Montague Islan 90.65 30 P **P 12 50 48.1 -0.3**
baz=264
M23K Glacier View 90.70 28 P **P 12 50 48.6 -0.1**
baz=263
E23K Chandalar 90.72 22 P **P 12 50 49.1 +0.3**
baz=262
WAT6 Susitna Watana 90.78 27 P **P 12 50 49.1 -0.1**
baz=263,SNR=6.3
TOLK Toolik Lake Re 90.82 21 P **P 12 50 49.7 +0.6**
baz=262
ELIB Princess Elisa 90.87 198 *d*P **P 12 50 48.6 -0.9**
comp=Z,17nm,1.1s
SCM Sheep Creek Mo 90.89 28 P **P 12 50 49.7 +0.1**
baz=264
GLI Glacier Island 90.90 29 IAMs_20 IAMs_20 13 27 32.9
comp=Z,2μm,22.0s
GLI Glacier Island 90.90 29 P **P 12 50 49.9 +0.3**
baz=264
DHY Denali Highway 91.00 27 P **P 12 50 50.4 +0.1**
baz=264,SNR=6.3
H24K Noodor Dome 91.10 24 P **P 12 50 49.8 -0.7**
baz=263,SNR=7.5
E24K Your Creek 91.14 22 P **P 12 50 50.3 -0.3**
baz=263
D24K Happy Valley 91.16 21 P **P 12 50 51.0 +0.3**
baz=262
FID Port Fidalgo 91.19 29 IAMs_20 IAMs_20 13 27 04.9
comp=Z,2μm,21.0s
POKR Poker Plat Res 91.21 25 P **P 12 50 51.0 0.0**
baz=264
SOC Sochi 91.21 313 *e*P P 12 50 46.9 -4.5
SOC *e* 12 54 24.2
SOC *e*PPP PPP 12 56 22.7
SOC *e*S **SKSac 13 01 15.7 -7.2**
SOC *e*SS **SS 13 07 50.3 -3.6**
SOC *e*SSS SSS 13 11 34.0
SOC MLR MLR
comp=Z,322nm,17.0s
C24K Franklin Bluff 91.27 20 P **P 12 50 51.6 +0.5**
baz=263
F24K Squaw Lake 91.30 23 P **P 12 50 51.0 -0.3**
baz=263
HDA Harding Lake 91.34 26 P **P 12 50 50.8 -0.8**
baz=264
G24K Hadweenzic Riv 91.36 23 P **P 12 50 51.7 0.0**
baz=264,SNR=5.6

ILAR Eielson Array 91.40 25 P **P 12 50 49.8 -2.1**
comp=Z,2.2nm,0.6s,baz=244,slow=4.9,SNR=38
ILAR PKKPbc **PKKPdf 13 08 11.2 -1.4**
comp=Z,0.6nm,0.8s,baz=49,slow=1.8,SNR=9.1
ILAR LR LR 13 28 07.2
comp=Z,482nm,21.1s,baz=225,slow=33
comp=Z,2.2nm,0.6s
TAOE Nuku Hiva Isla 91.44 99 *e*LR LR 13 20 12.4
comp=Z,1μm,23.0s
M24K Tolsona, Glenn 91.46 28 P **P 12 50 51.2 -1.1**
baz=265
KLU Klutina 91.52 29 IAMs_20 IAMs_20 13 26 38.4
comp=Z,2μm,21.0s
KLU Klutina 91.52 29 P **P 12 50 52.2 -0.4**
baz=265
EYAK Cordova Ski Ar 91.52 30 P **P 12 50 52.2 -0.3**
baz=265
K24K Donnelly Dome 91.79 26 P **P 12 50 53.5 -0.2**
baz=265
PAX Paxson 91.86 27 P **P 12 50 53.3 -0.9**
baz=265,SNR=7.4
G25K Bearman Lake 91.92 23 P **P 12 50 53.5 -0.6**
baz=265
HARP HAARP 91.96 28 P **P 12 50 53.2 -1.4**
baz=266
H25L Birch Creek 91.98 24 P **P 12 50 54.3 -0.2**
baz=265
J25K Salcha River, 92.04 26 P **P 12 50 53.9 -1.0**
baz=266
PRP Porcupine Dome 92.04 25 P **P 12 50 53.8 -1.2**
baz=265
D25K Kavik River 92.04 21 P **P 12 50 54.9 +0.1**
baz=265
VORR Voronezh 92.08 321 *e*P P 12 50 45.7 -10
VORR pmax pmax
comp=Z,37nm,0.4s
BMRM Bremner River 92.12 29 P **P 12 50 54.4 -1.0**
baz=266
KAIM Kayak Island 92.14 30 P **P 12 50 56.4 +1.0**
baz=266
F25K Christian Rive 92.16 23 P **P 12 50 56.1 +0.7**
baz=265
N25K Chitina, Valde 92.17 29 IAMs_20 IAMs_20 13 27 42.2
comp=Z,2μm,22.0s
N25K Chitina, Valde 92.17 29 P **P 12 50 56.3 +0.7**
baz=266
E25K Arctic Village 92.23 22 P **P 12 50 56.9 +1.2**
baz=266,SNR=8.2
KLMR Klimovskoe 92.45 331 *e*P **P 12 50 56.0 -0.8**
KLMR AMP 12 51 14.3
comp=Z,40nm,1.4s
KLMR *e*PP **PP 12 54 35.6 -2.3**
KLMR LQ LQ 13 24 18.3
KLMR LQ LQ 13 24 18.3
KLMR LR LR 13 31 57.0
KLMR AMP 13 38 11.3
comp=Z,1μm,18.5s
KLMR Klimovskoe 92.45 331 *e*P **P 12 50 56.0 -0.8**
KLMR *e* 12 54 35.5
KLMR pmax pmax
comp=Z,40nm,1.4s
SCRK Sand Creek 92.59 26 P **P 12 50 57.4 -0.1**
baz=267
C26K Camden Bay 92.60 20 P **P 12 50 58.2 +0.9**
baz=266
VRDI Verde Repeater 92.69 29 IAMs_20 IAMs_20 13 28 52.1
comp=Z,2μm,21.0s
BGLC Bering Glacier 92.72 30 P **P 12 50 58.9 +0.9**
baz=267
F26K Sheenjek River 92.74 22 P **P 12 50 58.2 +0.2**
baz=267
ASF Jabal al Asfar 92.77 302 LR LR 13 38 23.5
comp=Z,566nm,19.3s,baz=96,slow=39
J26L Joseph Creek 92.81 26 P **P 12 50 58.3 -0.2**
baz=267,SNR=13
L26K Log Cabin Wild 92.83 27 P **P 12 50 58.1 -0.5**
baz=267
G26K Porcupine Rive 92.84 23 P **P 12 50 58.5 0.0**
baz=267
MCARA McCarthy VSAT 92.91 29 P **P 12 50 59.0 +0.1**
baz=268
M26K Nabesna, AK 92.96 28 P **P 12 50 59.6 +0.4**
baz=268
I26K Coal Creek Min 93.02 25 IAMs_20 IAMs_20 13 31 16.4
comp=Z,1μm,20.0s
I26K Coal Creek Min 93.02 25 P **P 12 50 59.3 0.0**
baz=268,SNR=7.1
K27K Chicken 93.44 26 P **P 12 51 02.6 +1.3**
baz=268
M27K Edge Creek, AK 93.48 28 P **P 12 51 01.9 +0.1**
baz=268
L27K Beaver Creek, 93.52 27 P **P 12 51 02.1 +0.3**
baz=269,SNR=6.8
I27K Kandik River 93.67 25 P **P 12 51 02.8 +0.4**
baz=269,SNR=18
G27K Doyon Strip 93.68 23 P **P 12 51 03.0 +0.6**
baz=269
CTG Chitna Glacier 93.71 29 P **P 12 51 02.2 -0.6**
baz=269,SNR=6.0
H27K Steamboat Moun 93.72 24 P **P 12 51 02.4 -0.2**
baz=269,SNR=14
E27K Coleen River 93.72 22 P **P 12 51 03.0 +0.4**
baz=269
TABL Table Mountain 93.80 30 IAMs_20 IAMs_20 13 28 28.3
comp=Z,2μm,22.0s
OBN Obninsk 93.80 325 *e*P **P 12 51 00.2 -2.9**
OBN *e* 12 54 44.0
OBN *e*PPP PPP 12 56 50.3
OBN pmax pmax
comp=Z,64nm,1.7s
EGAK Eagle 93.85 25 P **P 12 51 03.8 +0.6**
baz=269
BVCY Beaver Creek 93.96 28 P **P 12 51 04.8 +1.0**
baz=269,SNR=5.5
D27M Malcolm River 93.96 21 P **P 12 51 04.3 +0.6**
baz=270
MMAI Mount Meron Ar 94.07 303 LR LR 13 39 12.4
comp=Z,550nm,20.1s,baz=86,slow=39
YUK3 Moose Creek 94.14 28 P **P 12 51 05.3 +0.4**
baz=270,SNR=5.6
PINM Pinnacle 94.24 30 P **P 12 51 04.8 -0.3**
baz=270
O28M Mount Upton 94.27 29 P **P 12 51 05.9 +0.3**
baz=270
EIL Elat 94.34 299 LR LR 13 39 25.8
comp=Z,271nm,19.0s,baz=73,slow=39
I28M Miner Creek 94.37 25 P **P 12 51 06.0 +0.4**
baz=270,SNR=19
F28M Old Crow 94.37 23 P **P 12 51 06.4 +0.8**
baz=271
YUK8 Steele Glacier 94.47 29 P **P 12 51 06.9 +0.4**
baz=270
E28M Babbage River 94.48 22 P **P 12 51 06.7 +0.7**
baz=271
BCPM Bancas Point 94.55 30 IAMs_20 IAMs_20 13 28 46.2
comp=Z,2μm,22.0s
D28M Stokes Point 94.75 21 P **P 12 51 07.7 +0.5**
baz=272
H29M Whitestone 95.00 24 P **P 12 51 09.0 +0.6**
baz=272
YUK4 Talbot Arm 95.01 29 P **P 12 51 09.1 +0.3**
baz=271
I29M Ogilvie Camp, 95.05 25 P **P 12 51 08.5 -0.2**
baz=272
O29M Mount Kennedy 95.07 30 P **P 12 51 09.8 +0.7**
baz=271
M29M Somme Creek 95.07 28 P **P 12 51 09.8 +0.8**
baz=272,SNR=6.4
E29M Blow River 95.09 22 P **P 12 51 08.8 0.0**
baz=273
G29M Pine Creek 95.11 23 P **P 12 51 09.7 +0.8**
baz=272
J29N Klondike Camp 95.12 26 P **P 12 51 10.4 +1.3**
baz=272
YUK6 Outpost Mounta 95.16 29 P **P 12 51 09.2 -0.3**
baz=272
APA Apatity 95.17 337 ‖ *i*P P 12 51 17.4 +8.2
APA pmax pmax
comp=Z,10.0nm,1.1s
L29M L29M 95.21 27 P **P 12 51 10.4 +0.9**
baz=272,SNR=11
K29M Barlow Dome 95.45 26 IAMs_20 IAMs_20 13 31 37.9
comp=Z,1μm,20.0s
K29M Barlow Dome 95.45 26 P **P 12 51 11.7 +1.0**
baz=272,SNR=10
P29M Windy Craggy 95.51 31 P **P 12 51 12.0 +1.0**
baz=272
HYT Haines Junctio 95.58 29 P **P 12 51 12.7 +1.4**

baz=272
BRTR **Keskin Array B** 95.62 309 P P 12 51 08.5 -3.5
comp=Z,1.5nm,0.7s,baz=5.7,slow=2.9,SNR=2.1
comp=Z,1.5nm,0.7s
EPYK **Eagle Plains** 95.66 24 P P 12 51 11.6 +0.1
baz=274,SNR=6.3
N30M **Aishikik Lake** 95.76 29 P P 12 51 12.4 +0.4
baz=273
G30M **tAoh Zraii Nji** 95.81 23 P P 12 51 12.9 +0.7
baz=274
M30M **Minto, Yukon** 95.84 28 P P 12 51 13.4 +1.0
baz=273,SNR=5.7
I30M **Mount Dempster** 95.87 25 P P 12 51 12.9 +0.4
baz=274,SNR=5.1
P30M **Million Dollar** 95.88 30 P P 12 51 13.4 +0.8
baz=273
J30M **Hart River** 95.93 26 P P 12 51 13.4 +0.6
baz=274,SNR=9.1
F30M **Barrier River** 95.94 23 P P 12 51 13.5 +0.8
baz=274
PLBC **Pleasant Camp** 96.22 31 P P 12 51 14.5 +0.4
baz=273
O30N **Mendenhall** 96.28 29 P P 12 51 15.0 +0.5
baz=274
N31M **Braeburn, Yuko** 96.39 29 IAMs_20 IAMs_20 13 30 46.7
comp=Z,2μm,21.0s
N31M **Braeburn, Yuko** 96.39 29 P P 12 51 15.3 +0.4
baz=274
G31M **Satah River** 96.58 23 P P 12 51 15.7 +0.1
baz=276
H31M **Peel River** 96.67 24 P P 12 51 15.4 -0.6
baz=276
INK **Inuvik** 96.72 22 P P 12 51 16.1 -0.1
baz=277
F31M **Tsiigehtchic** 96.73 23 P P 12 51 15.1 -1.2
baz=276
SKAG **Skagway** 96.75 31 IAMs_20 IAMs_20 13 28 52.4
comp=Z,1μm,20.0s
SKAG **Skagway** 96.75 31 P P 12 51 16.7 +0.2
baz=274
WHY **Whitehorse** 96.88 29 P P 12 51 17.6 +0.4
baz=274
M31M **Drury Creek, Y** 96.99 28 P P 12 51 17.5 -0.1
baz=275
MBAR **Mbarara** 97.02 269 LR LR 13 31 28.7
comp=Z,862nm,20.5s,baz=91,slow=33
R32K **Eaglecrest** 97.25 32 IAMs_20 IAMs_20 13 28 33.9
comp=Z,1μm,21.0s
R32K **Eaglecrest** 97.25 32 P P 12 51 18.5 -0.3
baz=275
FARO **Faro, Yukon** 97.47 28 IAMs_20 IAMs_20 13 31 36.3
comp=Z,2μm,22.0s
FARO **Faro, Yukon** 97.47 28 P P 12 51 19.4 -0.3
baz=276,SNR=5.7
P32M **Atlin** 97.56 31 P P 12 51 19.3 -0.9
baz=275
N32M **Quiet Lake** 97.71 29 IAMs_20 IAMs_20 13 33 01.1
comp=Z,1μm,20.0s
N32M **Quiet Lake** 97.71 29 P P 12 51 21.0 +0.1
baz=276
ARCES **ARCESS Array B** 97.84 340 P P 12 51 17.6 -3.7
comp=Z,5.7nm,0.6s,baz=80,slow=4.9,SNR=25
ARCES LR LR 13 42 43.7
comp=Z,932nm,18.9s,baz=80,slow=40
comp=Z,5.7nm,0.6s
P33M **Teslin, Yukon** 97.94 30 IAMs_20 IAMs_20 13 31 16.0
comp=Z,1μm,20.0s
SPITS **Spitsbergen Ar** 98.03 349 P P 12 51 19.7 -2.3
comp=Z,19nm,1.1s,baz=127,slow=10,SNR=5.2
comp=Z,19nm,1.1s
LSZ **Lusaka** 98.26 254 LR LR 13 29 49.0
comp=Z,506nm,21.7s,baz=110,slow=32
Q32M **Nakina River** 98.36 31 P P 12 51 24.3 +0.3
baz=277
AKASG **Malin Array Be** 98.37 321 P P 12 51 22.1 -1.8
comp=Z,9.1nm,0.6s,baz=75,slow=7.8,SNR=14
comp=Z,9.1nm,0.6s
AKBB **Malin Array Si** 98.37 321 *ce*P P 12 51 23.5 -0.5
AKBB pmax pmax
comp=Z,125nm,0.9s
WRAK **Wrangell Islan** 98.60 34 P P 12 51 25.3 +0.4
baz=276
FINES **FINESS Array B** 98.93 332 Pdiff P 12 51 24.3 -2.0
comp=Z,1.8nm,0.8s,baz=163,slow=1.5,SNR=1.2
FINES PKiKP PKiKP 12 55 56.1 -0.8
comp=Z,3.8nm,1.0s,baz=178,slow=6.5,SNR=1.4
R33M **Jennings River** 98.97 31 P Pdif 12 51 27.6 +0.9
baz=278
BOSA **Boshof** 99.17 240 LR LR 13 32 25.5
comp=Z,678nm,18.8s,baz=86,slow=33
NACGM **Naroch** 99.44 325 *e*P Pdif 12 51 28.9 +0.2
comp=Z,28nm,0.9s,baz=83
WTLY **Watson Lake, Y** 99.95 30 IAMs_20 IAMs_20 13 31 34.0
comp=Z,2μm,22.0s
BBB **Bella Bella** 101.61 38 IAMs_20 IAMs_20 13 33 50.6
comp=Z,885nm,20.0s
HOLB **Holberg** 101.83 39 IAMs_20 IAMs_20 13 28 57.6
comp=Z,2μm,22.0s
HFS **Hagfors** 105.13 332 Pdiff Pdif 12 51 51.5 -2.4
comp=Z,1.9nm,0.9s,baz=76,slow=6.3,SNR=1.4
GNW **Green Mountain** 105.81 42 IAMs_20 IAMs_20 13 35 19.1
comp=Z,1μm,20.0s
YKA **Yellowknife Ar** 105.83 25 Pdiff Pdif 12 51 54.6 -2.4
comp=Z,0.9nm,0.6s,baz=347,slow=7.6,SNR=2.8
NOA **NORSAR Array B** 105.96 333 Pdiff Pdif 12 51 52.8 -4.8
comp=Z,0.4nm,0.7s,baz=68,slow=17,SNR=2.8
NOA PKiKP PKiKP 12 56 09.3 -0.6
comp=Z,0.5nm,0.7s,baz=43,slow=8.1,SNR=3.2
KRMB **Red Mountain** 106.17 48 IAMs_20 IAMs_20 13 33 18.1
comp=Z,1μm,19.0s
B06A **Marblemount** 106.48 40 IAMs_20 IAMs_20 13 34 07.7
comp=Z,2μm,21.0s
VRAC **Vranov** 106.63 320 *e*PKiKP PKiKP 12 56 09.7 -1.7
KRUC **Moravsky** 106.81 320 *e*PKiKP PKiKP 12 56 10.4 -1.3
HAWA **Hanford** 108.27 42 IAMs_20 IAMs_20 13 35 24.3
comp=Z,860nm,20.0s
CLL **Collm** 108.30 323 *e*PKiKP PKiKP 12 56 15.0 +0.6
CLL *i x* x 12 56 25.3
CLL *e*PP PP 12 56 41.0 +2.9
CLL *i* sPP 12 56 47.6
CLL *ex* x 12 57 03.0
CLL AMS AMS 13 55 00.0
comp=Z,600nm,20.2s
GERES **GERESS Array B** 108.58 320 PKiKP PKiKP 12 56 14.2 -0.9
comp=Z,1.8nm,0.6s,baz=31,slow=1.3,SNR=7.9
KBA **Koelnbreinsper** 109.30 319 *e*PKiKP PKiKP 12 56 17.3 +0.6
comp=Z,3.1nm,0.6s
NEW **Newport** 109.36 40 IAMs_20 IAMs_20 13 32 58.2
comp=Z,1μm,22.0s
PLTX **Planet X, Gerl** 109.62 48 IAMs_20 IAMs_20 13 32 19.4
comp=Z,775nm,19.0s
LESA **Schwarzleotal** 109.64 319 *e*PKiKP PKiKP 12 56 18.3 +1.1
comp=Z,4.0nm,0.8s
J08A **Circle Bar Ran** 109.74 45 IAMs_20 IAMs_20 13 40 03.3
comp=Z,976nm,21.0s
ABTA **Abfaltersbach** 109.94 319 *e*PKiKP PKiKP 12 56 17.8 +0.1
comp=Z,1.8nm,0.4s
WTTA **Wattenberg** 110.36 319 *e*PKiKP PKiKP 12 56 18.2 -0.5
comp=Z,8.1nm,0.6s
NVAR **Mina Array Bea** 110.98 50 PKiKP PKiKP 12 56 20.6 +0.4
comp=Z,1.0nm,0.7s,baz=246,slow=2.3,SNR=7.6
NVAR SKP 12 59 54.7
comp=Z,0.9nm,1.1s,baz=5.4,slow=3.1,SNR=3.7
NVAR PKKPbc PKKPbc 13 07 16.6 -1.8
comp=Z,0.9nm,0.8s,baz=120,slow=4.1,SNR=7.7
DAVA **Damuels** 111.49 320 *e*PKiKP PKiKP 12 56 20.9 +0.1
comp=Z,3.0nm,0.4s
CWC **Cottonwood Cre** 111.57 52 P PKiKP 12 56 20.7 -0.6
baz=282
MSO **Missoula** 111.85 41 P PKiKP 12 56 20.8 -0.6
baz=289
EDW2 **Edwards Air Fo** 111.94 54 P PKiKP 12 56 21.5 -0.4
baz=281
LRMC **Laurel Mtn Rad** 112.08 53 P PKiKP 12 56 22.2 0.0
baz=282
MPMC **Manual Prospec** 112.11 53 P PKiKP 12 56 21.8 -0.5
baz=282
FURC **Furnace Creek,** 112.52 52 P PKiKP 12 56 23.4 +0.6
baz=282
HLID **Hailey** 112.53 44 P PKiKP 12 56 22.7 -0.2
baz=287
GSC **Goldstone, Bar** 112.81 53 P PKiKP 12 56 24.4 +0.8
baz=282
R11B **Troy Canyon, C** 113.08 50 P PKiKP 12 56 24.9 +0.8
baz=284
TPFO **Pinon Flats** 113.44 55 P PKiKP 12 56 25.7 +0.9
baz=282
BELC **Belle Mtn. Jos** 113.74 55 P PKiKP 12 56 25.9 +0.5
baz=282
BOZ **Bozeman (W)** 113.77 41 P PKiKP 12 56 26.2 +1.0
baz=290
GMRC **Granite Mounta** 113.84 54 P PKiKP 12 56 26.6 +1.0
baz=283
IKP **In-Ko-Pah, Jac** 113.92 56 P PKiKP 12 56 25.9 +0.1
baz=281
EGMT **Eagleton** 114.08 38 IAMs_20 IAMs_20 13 40 26.0
comp=Z,1μm,20.0s
EGMT **Eagleton** 114.08 38 P PKPdf 12 56 26.1 +0.5
baz=293
SWSC **Sam W. Stewart** 114.11 56 P PKPdf 12 56 25.0 -1.0
baz=282
BC3 **Big Chuckawall** 114.25 55 P PKPdf 12 56 26.1 -0.3
baz=282
IRM **Iron Mountain** 114.39 54 P PKPdf 12 56 24.3 -2.3
baz=283
CPBX **Cerro Prieto** 114.63 56 IAMs_20 IAMs_20 13 37 55.8
comp=Z,1μm,20.0s
DUG **Dugway, Tooele** 114.66 47 P PKiKP 12 56 26.3 -0.8
baz=287
BLYC **Blythe** 114.99 55 IAMs_20 IAMs_20 13 49 21.1
comp=Z,927nm,18.0s
HWUT **Hardware Ranch** 115.13 45 IAMs_20 IAMs_20 13 34 32.6
comp=Z,992nm,20.0s
CTU **Camp Tracy** 115.29 46 IAMs_20 IAMs_20 13 38 51.5
comp=Z,1μm,19.0s
EKA **Eskdalemuir Ar** 115.33 331 PKP PKiKP 12 56 25.2 -2.4
comp=Z,1.0nm,0.6s,baz=328,slow=3.0,SNR=2.8
BSUT **Blindstream Ca** 116.05 46 IAMs_20 IAMs_20 13 43 16.7
comp=Z,1μm,21.0s
U15A **North Rim** 116.11 51 PKPdf 12 56 30.8 +0.7
BW06 **Boulder Array** 116.15 44 P PKPdf 12 56 28.3 -1.6
baz=291
PDAR **Pinedale Array** 116.15 44 PKP PKPdf 12 56 29.2 -0.7
comp=Z,1.0nm,0.6s,baz=93,slow=1.2,SNR=9.3
PDAR PKKPbc PKKPbc 13 06 55.7 -5.4
comp=Z,1.1nm,0.9s,baz=108,slow=4.8,SNR=4.5
LAO **LASA Array** 116.82 39 PKPdf PKPdf 12 56 30.8 -0.1
LAO **LASA Array** 116.82 39 P PKPdf 12 56 30.5 -0.4
baz=295
WUAZ **Wupatki** 117.07 52 PKPdf PKPdf 12 56 32.8 +0.9
WUAZ **Wupatki** 117.07 52 P PKPdf 12 56 29.6 -2.2
baz=286
DGMT **Dagmar** 117.25 36 P PKPdf 12 56 31.9 +0.3
baz=298
X16A **Lo Mia Camp, P** 117.31 53 PKPdf PKPdf 12 56 32.8 +0.4
O20A **White River Ci** 118.00 46 PKPdf PKPdf 12 56 34.3 +0.8
O20A **White River Ci** 118.00 46 P PKPdf 12 56 33.1 -0.4
baz=290,SNR=9.2
DSB **Dublin** 118.07 331 IAMs_20 IAMs_20 13 41 33.6
comp=Z,699nm,20.0s
RWWY **Rawlins** 118.17 44 PKPdf 12 56 32.5 -1.4
K22A **Casper** 118.27 43 P PKPdf 12 56 33.3 -0.7
baz=293
TUC **Tucson** 118.38 55 P PKPdf 12 56 34.8 +0.5
baz=285
W18A **Petrified Fore** 118.47 52 IAMs_20 IAMs_20 13 35 01.3
comp=Z,1μm,20.0s
W18A **Petrified Fore** 118.47 52 P PKPdf 12 56 34.5 0.0
baz=287
MVCO **Mesa Verde** 118.79 49 PKPdf PKPdf 12 56 35.4 +0.2
MVCO **Mesa Verde** 118.79 49 P PKPdf 12 56 35.8 +0.6
baz=289,SNR=6.5
RSSD **Black Hills** 119.32 41 PKPdf PKPdf 12 56 35.6 -0.4
RSSD **Black Hills** 119.32 41 P PKPdf 12 56 37.0 +1.0
baz=296
RSSD **Black Hills** 119.32 41 P PKPdf 12 56 35.7 -0.4
baz=296
RSSD **Black Hills** 119.32 41 PKIKP PKPdf 12 56 35.6 -0.4
N23A **Red Feather La** 119.35 45 P PKPdf 12 56 35.0 -1.3
baz=293
S22A **4UR Ranch, Cre** 119.86 48 PKPdf PKPdf 12 56 37.5 +0.2
S22A **4UR Ranch, Cre** 119.86 48 P PKPdf 12 56 38.0 +0.7
baz=290
ISCO **Idaho Springs** 120.00 46 P PKPdf 12 56 37.2 -0.4
baz=292
MDND **Maddock** 120.23 35 P PKPdf 12 56 38.5 +1.1
baz=302
Q24A **Divide** 120.65 46 P PKPdf 12 56 38.7 -0.2
baz=292
121A **Cookes Peak, D** 120.76 54 PKPdf PKPdf 12 56 39.2 +0.2
121A **Cookes Peak, D** 120.76 54 P PKPdf 12 56 40.2 +1.2
baz=287
121A **Cookes Peak, D** 120.76 54 P PKPdf 12 56 39.9 +0.8
baz=287
SDCO **Great Sand Dun** 120.84 48 PKPdf PKPdf 12 56 39.1 -0.1
SDCO **Great Sand Dun** 120.84 48 P PKPdf 12 56 39.9 +0.7
baz=291
SDCO **Great Sand Dun** 120.84 48 P PKPdf 12 56 39.3 0.0
baz=291
ULM **Lac du Bonnet** 120.91 31 PKP PKPdf 12 56 37.4 -1.2
comp=Z,5.3nm,0.6s,baz=316,slow=2.1,SNR=10
Y22A **Socorro** 121.00 52 P PKPdf 12 56 39.7 +0.2
baz=288
ANMO **Albuquerque** 121.08 51 PKPdf PKPdf 12 56 39.8 +0.2
ANMO **Albuquerque** 121.08 51 P PKPdf 12 56 40.8 +1.2
baz=289
ANMO **Albuquerque** 121.08 51 P PKPdf 12 56 40.0 +0.4
baz=289
ANMO **Albuquerque** 121.08 51 PKIKP PKPdf 12 56 39.8 +0.2
ANMO **Albuquerque** 121.08 51 PKP PKPdf 12 56 38.7 -0.9
comp=Z,6.5nm,0.9s,baz=300,slow=3.0,SNR=12
T25A **Trinidad** 121.88 48 PKPdf PKPdf 12 56 42.0 +0.9
T25A **Trinidad** 121.88 48 P PKPdf 12 56 41.0 -0.1
baz=292
OGNE **Ogallala** 122.03 43 P PKPdf 12 56 40.1 -1.1
baz=296
MNTX **Cornudas Mount** 122.96 54 PKPdf PKPdf 12 56 43.4 +0.3
MNTX **Cornudas Mount** 122.96 54 P PKPdf 12 56 42.5 -0.6
baz=288
MNTX **Cornudas Mount** 122.96 54 P PKPdf 12 56 43.1 +0.1
baz=288
RTBA **Rita Blanca** 123.38 48 PKPdf PKPdf 12 56 44.0 +0.1
ESDC **Sonseca Array** 123.70 316 PKP PKPdf 12 56 41.3 -3.0
comp=Z,1.8nm,1.0s,baz=19,slow=3.3,SNR=7.6
ESDC PP PP 12 58 25.5 -1.0
comp=Z,2.5nm,1.1s,baz=56,slow=8.0,SNR=4.9
ECSD **EROS Data Cent** 124.19 38 P PKPdf 12 56 44.7 -0.4
baz=302
MSTX **Muleshoe** 124.28 51 PKPdf PKPdf 12 56 45.6 -0.1
MSTX **Muleshoe** 124.28 51 P PKPdf 12 56 44.5 -1.2
baz=291
BGNE **Belgrade** 124.41 41 PKPdf PKPdf 12 56 44.7 -0.9
BGNE **Belgrade** 124.41 41 P PKPdf 12 56 43.3 -2.3
baz=300
PBRG **Bragana** 124.55 320 *e*PKPdf PKiKP 12 56 47.2 +1.0
CBKS **Cedar Bluff** 124.56 44 P PKPdf 12 56 44.1 -1.9
baz=297
EYMN **Ely** 124.60 31 P PKPdf 12 56 46.1 +0.4
baz=310
AMTX **Amarillo** 124.77 50 P PKPdf 12 56 44.8 -1.8
baz=293
MVO **Moncorvo** 125.06 319 *e*PKPdf PKPdf 12 56 47.0 +0.1
TXAR **Lajitas Array** 125.08 57 PKP PKPdf 12 56 46.3 -1.0
comp=Z,2.5nm,0.8s,baz=253,slow=1.8,SNR=11
MNHN **Monahans** 125.19 54 PKPdf 12 56 47.3 -0.2
PGAV **Gavieira, Arco** 125.44 321 *e*PKPdf PKPdf 12 56 48.8 +1.2
POLO **Lamas de Olo** 125.45 320 *e*PKPdf PKPdf 12 56 48.3 +0.6
PVRL **Vila Real** 125.45 320 *e*PKPdf PKiKP 12 56 49.3 +1.3
R32A **Long Quarter,** 125.45 44 PKPdf PKPdf 12 56 48.0 +0.3
SPMN **Marine on St.** 125.58 34 P PKPdf 12 56 46.5 -1.2
baz=307
SMWD **Samnorwood** 125.77 49 PKPdf PKPdf 12 56 48.4 0.0
MTE **Manteigas** 125.78 319 *e*PKPdf PKPdf 12 56 48.4 +0.1
I37B **Waseca** 125.96 36 P PKPdf 12 56 48.8 +0.3
baz=306
TOA0 **Torodi Ar. Sit** 126.00 283 PKPdf PKPdf 12 56 48.6 -0.7
TOA0 **Torodi Ar. Sit** 126.00 283 P PKPdf 12 56 46.7 -2.6
TORD **Torodi Ar. Bea** 126.00 283 PKPdf 12 56 47.7 -1.6
TORD **Torodi Ar. Bea** 126.00 283 PKP PKPdf 12 56 46.3 -3.0
comp=Z,7.2nm,0.9s,baz=51,slow=2.5,SNR=32
TORD PKKPab PKKPbc 13 06 26.3 +3.2
comp=Z,1.1nm,0.9s,baz=298,slow=3.7,SNR=3.9
PCBR **Castelo Branco** 126.01 318 *e*PKPdf PKPdf 12 56 48.6 -0.1
PMRV **Marv??o** 126.16 317 *e*PKPdf PKPdf 12 56 49.1 +0.1
PBAR **Barrancos** 126.52 316 *e*PKPdf PKPdf 12 56 49.4 -0.3
PCAS **Casmilo, Conde** 126.58 319 *e*PKPdf PKPdf 12 56 49.8 0.0
CSTR **Hydro, Custer** 126.70 47 PKPdf 12 56 51.0 +0.9
WMOK **Wichita Mounta** 127.02 49 P PKPdf 12 56 49.8 -1.0
baz=295
WMOK **Wichita Mounta** 127.02 49 P PKPdf 12 56 51.0 +0.2
baz=295
ABTX **Abilene, Hawle** 127.21 51 P PKPdf 12 56 50.2 -1.0
baz=293
OK048 **Pawnee Station** 127.62 46 PKPdf 12 56 52.1 +0.3
SCHQ **Schefferville** 127.75 11 PKP PKPdf 12 56 50.9 -0.7
comp=Z,3.4nm,0.4s,baz=65,slow=0.7,SNR=6.1
OK033 **Mehan** 127.80 46 IAMs_20 IAMs_20 13 37 00.7
comp=Z,936nm,20.0s
JCT **Junction City** 127.88 54 P PKPdf 12 56 52.5 -0.1
baz=291
PFVI **Vila Bisbo** 128.27 316 *e*PKPdf PKiKP 12 56 55.7 +2.0
JFWS **Jewell Farm** 128.45 35 P PKPdf 12 56 54.1 +0.8
baz=308
LOOK **Love County** 128.53 49 IAMs_20 IAMs_20 13 48 00.4
comp=Z,836nm,18.0s
TUL3 **Leonard** 128.68 46 P PKPdf 12 56 53.9 +0.1
baz=298
833A **Chaparral WMA,** 128.96 56 P PKPdf 12 56 54.3 -0.4
baz=290
U38A **Gravette** 129.42 45 PKPdf PKPdf 12 56 54.9 -0.4
S39A **Bolivar** 129.51 43 P PKPdf 12 56 55.4 0.0
baz=302
L44A **Lake County Fo** 130.25 35 P PKPdf 12 56 57.7 +1.0
baz=310
CCM **Cathedral Cave** 130.70 41 P PKPdf 12 56 57.9 +0.3
baz=304
MIAR **Mount Ida** 130.93 46 PKPdf PKPdf 12 56 58.8 +0.6
MIAR **Mount Ida** 130.93 46 P PKPdf 12 56 57.4 -0.8
baz=299
MIAR **Mount Ida** 130.93 46 PKIKP PKPdf 12 56 58.8 +0.6
NATX **Nacogdoches** 131.41 50 P PKPdf 12 56 58.6 -0.6
baz=296
PLCA **Paso Flores** 132.60 161 PKP PKPdf 12 57 01.4 +0.1
comp=Z,6.4nm,0.9s,baz=186,slow=3.7,SNR=15
KIC **Kosan Boka** 132.68 275⇑ *e*P PKPdf 12 57 02.1 0.0
comp=Z,18nm,0.9s
DBIC **Dimbokro** 132.79 276 PKP PKPdf 12 57 01.2 -1.0
comp=Z,6.3nm,0.7s,baz=122,slow=2.8,SNR=5.6
TIC **Toumodi** 132.96 276⇑ *e*P PKPdf 12 57 02.8 +0.2
comp=Z,12nm,0.9s
LIC **Lamto** 132.97 275⇑ *e*P PKPdf 12 57 03.6 +1.0
comp=Z,13nm,0.6s
O48B **Farmland** 133.08 35 P PKPdf 12 57 00.9 -1.2
baz=312
ERPA **Erie** 134.48 29 P PKPdf 12 57 04.3 -0.4
baz=319
M53A **WI Miller and** 134.65 30 P PKPdf 12 57 03.0 -2.0
baz=318
P52A **Corning** 135.20 33 P PKPdf 12 57 03.5 -2.5
baz=315
PKME **Peaks-Kenny Pk** 136.06 17 P PKPdf 12 57 05.8 -1.7
baz=335
BINY **Binghamton** 136.26 26 P PKPdf 12 57 05.2 -2.8
baz=324
LRAL **Lakeview Retre** 136.38 44 PKPdf PKPdf 12 57 08.0 -0.5
LRAL **Lakeview Retre** 136.38 44 P PKPdf 12 57 06.3 -2.2
baz=304
TZTN **Tazewell** 136.49 37 P PKPdf 12 57 06.2 -2.4
baz=311
SSPA **Standing Stone** 136.63 29 P PKPdf 12 57 08.0 -0.7
baz=321
TKL **Tuckaleechee C** 136.92 39 PKP PKPdf 12 57 06.2 -3.3
comp=Z,2.2nm,0.7s,baz=327,slow=3.7,SNR=2.6
BLA **Blacksburg** 137.86 34 P PKPdf 12 57 12.0 +0.9
baz=315
GOGA **Godfrey** 138.54 41 P PKPdf 12 57 12.6 +0.2
baz=309
NHSC **New Hope** 140.84 39 P PKPdf 12 57 18.5 +1.9
baz=312
CFA **Coronel Fontan** 141.62 158 PKP PKPdf 12 57 13.7 -4.5
comp=Z,7.9nm,0.8s,baz=200,slow=2.0,SNR=7.2
SOR **Soroa** 144.70 55 PKPdf PKPab 12 57 22.9 +0.4
SOR **Soroa** 144.70 55 PKIKP PKPab 12 57 22.9 +0.4
CNGN **Cerro Negro** 144.80 74 PKPdf PKPab 12 57 21.7 -1.4
ACON **Acoyapa** 146.37 74 PKPdf 12 57 25.4 -1.4
ORTG **Ortega, Santa** 146.37 77 PKPdf 12 57 26.7 -0.2
ITQB **Itaqui** 146.45 173 PKPdf 12 57 27.0 +0.4
JTS **Las Juntas de** 146.87 77 PKPbc PKPdf 12 57 25.7 -2.1
comp=Z,13nm,0.9s,baz=304,slow=18,SNR=2.0
CPUP **Villa Florida** 149.64 171 PKPdf PKPdf 12 57 30.3 -1.6
CPUP PKPbc PKPbc 12 57 37.0 +0.5
CPUP **Villa Florida** 149.64 171 PKP2 PKPbc 12 57 37.0 +0.5
CPUP **Villa Florida** 149.64 171 PKP PKPdf 12 57 28.6 -3.3
comp=Z,18nm,1.0s,baz=90,slow=1.7,SNR=4.0
CPUP PKPbc pPKPdf 12 57 35.5 -1.7
comp=Z,18nm,1.0s,baz=174,slow=2.3,SNR=15
CPUP PKPab sPKPbc 12 57 44.3 +0.7
comp=Z,19nm,0.9s,baz=232,slow=2.1,SNR=9.1
PRVC **Isla de Provid** 149.66 70 *e*P PKPdf 12 57 28.9 -3.3
NNA **Nana** 150.90 123 PKP PKPdf 12 57 30.8 -3.4
comp=Z,5.1nm,0.4s,baz=175,slow=8.3,SNR=1.6
NNA PKPbc pPKPdf 12 57 39.6 0.0
comp=Z,45nm,0.9s,baz=266,slow=5.1,SNR=12
MCRA **Macar, Loja** 151.10 106 PKPdf PKPdf 12 57 35.2 +0.6
MCRA sPKPdf 12 57 40.8 -0.9
CACAO **El Cacao, Vera** 151.25 82 *e*P PKPbc 12 57 41.4 +0.7
ATAH **Atahualpa** 151.68 113 PKP PKPdf 12 57 33.1 -2.9
comp=Z,1.0nm,0.5s,baz=196,slow=7.4,SNR=1.3
ATAH PKPbc pPKPdf 12 57 42.0 +0.8
comp=Z,22nm,0.6s,baz=178,slow=5.0,SNR=28
BCIP **Isla Barro Col** 152.03 78 *e*P PKPdf 12 57 31.7 -4.2
UPA **Univ. de Panam** 152.35 78 *e*P PKPdf 12 57 40.4 +4.0
PAC1 **Pacto, Paraso** 153.19 97 *e*P PKPdf 12 57 36.8 -1.1
CAPC **Capurgana** 154.54 78 *e*P PKPdf 12 57 39.6 +0.1
LPAZ **La Paz** 154.57 142 PKP PKPdf 12 57 37.7 -2.6
comp=Z,5.3nm,0.9s,baz=115,slow=2.4,SNR=6.3
LPAZ PKPbc PKPbc 12 57 48.5 -0.2
comp=Z,12nm,0.9s,baz=166,slow=4.2,SNR=4.3
GCUF **Volcan Galeras** 154.74 95 *e*P PKPdf 12 57 42.2 +1.7
PIZC **Pizarro, Choco** 154.88 86 *e*P PKPdf 12 57 39.8 -0.2
BBAC **Balboa, Cauca** 154.91 93 *e*P PKPdf 12 57 37.2 -3.2
POPC **Popayan, Colom** 155.52 92 *e*P PKPdf 12 57 35.6 -5.7
JAMC **Jamundi, Valle** 155.56 91 *e*P PKPdf 12 57 39.9 -1.4
YOTC **Yotoco, Valle** 155.90 89 *e*P PKPdf 12 57 35.0 -6.6
SJCC **San Jacinto, C** 156.40 74 *e*P PKPdf 12 57 41.6 -0.5
FLOC **Florencia** 156.46 95 *e*P PKPdf 12 57 43.1 +0.9
GARC **Garzon, Huila** 156.67 93 *e*P PKPdf 12 57 43.6 +0.8
GUY2C **Guyana, Caldas** 156.85 86 *e*P PKPdf 12 57 42.2 -1.1
SMRC **Santa Marta, M** 156.97 70 *e*P PKPdf 12 57 41.0 -1.8
ORTC **Ortega, Tolima** 157.00 89 *e*P PKPdf 12 57 43.4 +0.5
PTLC **Puerto Leguiza** 157.12 99 *e*P PKPdf 12 57 39.8 -3.3
ZARC **Zaragoza, Cauc** 157.15 80 *e*P PKPdf 12 57 41.3 -1.7
ARGC **Ariguani, Magd** 157.30 74 *e*P PKPdf 12 57 44.0 +0.7
NORC **Norcasia** 157.33 85 *e*P PKPdf 12 57 42.2 -1.1
PRAC **Prado** 157.35 89 *e*P PKPdf 12 57 41.6 -1.8
PTBC **PUERTO BERRIO** 157.66 82 *e*P PKPdf 12 57 41.6 -2.1
SPBC **San Pablo de B** 158.12 84 *e*P PKPdf 12 57 46.0 +1.6
LL6C **La Loma 6 Bece** 158.26 73 *e*P PKPdf 12 57 39.4 -5.0
SIV **San Ignacio** 158.46 156 PKP PKPdf 12 57 40.8 -3.8
comp=Z,5.7nm,0.6s,baz=237,slow=12,SNR=22
CHIC **Chingaza** 158.50 87 *e*P PKPdf 12 57 41.4 -3.8
URIC **Uribia, Colomb** 158.88 67 *e*P PKPdf 12 57 43.9 -1.3
RUSC **La Rusia** 159.08 83 *e*P PKPdf 12 57 41.6 -4.4
PTGC **Puerto Gaitan,** 160.10 88 *e*P PKPdf 12 57 42.2 -4.4
BDFB **Brasilia** 160.25 192 PKIKP PKPdf 12 57 45.0 -1.8
BDFB **Brasilia** 160.25 192 PKP PKPdf 12 57 45.0 -1.8
comp=Z,3.3nm,0.6s,baz=149,slow=6.2,SNR=3.5
TAMC **Tame, Arauca** 160.30 82 *e*P PKPdf 12 57 46.0 -0.8
SDV **Santo Domingo** 160.99 74 PKPdf PKPdf 12 57 46.7 -1.0
SDV PKPab PKPab 12 58 30.1 -0.5
SDV **Santo Domingo** 160.99 74 *e*P PKPdf 12 57 44.8 -3.0
SAML **Samuel** 163.25 139 PKPdf PKPdf 12 57 49.6 -0.2
SAML PKPab PKPab 12 58 40.0 -0.1
SAML **Samuel** 163.25 139 PKIKP PKPdf 12 57 49.6 -0.2
SAML 12 58 40.0
BOAV **Boa Vista** 171.56 99 PKPdf 12 57 54.8 -1.1
BOAV PKPab PKPab 12 59 15.5 -1.6
BOAV **Boa Vista** 171.56 99 *e*P PKPdf 12 57 54.8 -1.1

IDC ***31*** *12:41:10.3±0.6, 3°.81S×127°.85E, h0km, mb4.5/16, mbtmp4.5/17, ML4.0/1, Error ellipse: s-maj=27.4km s-min=15.4km az=73.0*
NEIC ***31*** *12:41:13.6±1.6, 3°.67S±0°.07×128°.12E±0°.08, h10km±1km, mb5.1/28, Error ellipse: s-maj=14.7km s-min=11.1km az=232.0*
ISC 31 12:41:12.8±0.4,**3°.76S**±0°.06×**128°.08E**±0°.07,**h10**km,**n170,**
σ1§**32**/174,**mb4.9**/26,**1D,Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.24**	**79**	Pn	**Pn**	**12 42 19.3**	**+1.8**
TNTI	**Ternate**	**4.56**	**351**		**Pn**	**12 42 24.4**	**+2.5**
SAUI	**Saumlaki**	**5.28**	**143**	Pn	**Pn**	**12 42 35.6**	**+3.9**
LUWI	**Luwuk**	**5.95**	**297**	Pn	**Pn**	**12 42 41.8**	**+0.8**
KAPI	**Kappang**	**8.40**	**261**	Pn	**Pn**	**12 43 14.0**	**-0.6**
	3.4nm,0.3s,baz=109,slow=10,SNR=1.5						
TOLI2	**Tolitoli**	**8.76**	**303**	Pn	**Pn**	**12 43 23.5**	**+4.0**

WRAB	Tennant Creek	17.20	160	P	Pn	12 45 07.0	-6.3
WRAB				IAmb	IAmb	12 45 17.5	
comp=Z,193nm,1.2s							
WRA	Warramunga Arr	17.20	160	P	Pn	12 45 06.6	-6.8
WRA	Warramunga Arr	17.20	160	P	Pn	12 45 11.0	-2.4
comp=Z,0.6nm,0.3s,baz=332,slow=13,SNR=3.8							
comp=Z,36nm,1.0s							
WB2	Warramunga Arr	17.21	160	P	Pn	12 45 07.3	-6.2
WB2				IAmb	IAmb	12 45 23.6	
comp=Z,174nm,1.3s							
UGM	Wanagama	17.95	256	P	Pn	12 45 24.3	+1.6
AS31	Alice Springs	20.57	165	P	P	12 45 53.5	+1.5
ASAR	Alice Springs	20.57	165	P	P	12 45 53.0	+1.0
ASAR	Alice Springs	20.57	165	P	P	12 45 51.4	-0.6
comp=Z,62nm,0.9s,baz=339,slow=9.3,SNR=5.9							
comp=Z,62nm,0.9s							
LEM	Lembang	20.60	261	P	P	12 45 50.0	-2.5
comp=Z,50nm,0.7s,baz=99,slow=11,SNR=3.7							
comp=Z,50nm,0.7s							
GIRL	Giralia	23.07	214	P	P	12 46 21.5	+2.8
YHNB	Yeheng	29.00	347	P	P	12 47 18.0	+5.0
YHNB				IAmb	IAmb	12 47 20.2	
comp=Z,35nm,0.9s							
BBOO	Buckleboo	29.85	166	P	P	12 47 20.1	-0.3
STKA	Stephens Creek	30.72	157	P	P	12 47 28.6	+0.6
STKA	Stephens Creek	30.72	157	P	P	12 47 27.6	-0.5
comp=Z,39nm,1.0s,baz=312,slow=13,SNR=3.1							
comp=Z,39nm,1.0s							
NWAO	Narrogin (SRO)	30.74	198	P	P	12 47 27.3	-1.0
GSI	Gunungsitoli	30.90	279	P	P	12 47 33.8	+3.9
CMAR	Chiang Mai Arr	36.22	309	P	P	12 48 14.3	-1.9
comp=Z,1.0nm,0.4s,baz=195,slow=19,SNR=1.7							
CMAR				PcP	PcP	12 50 40.6	-1.0
comp=Z,0.9nm,0.3s,baz=99,slow=18,SNR=6.3							
CMAR				PKiKP	PKiKP	12 57 59.0	-2.3
comp=Z,0.6nm,0.3s,baz=174,slow=2.8,SNR=4.7							
comp=Z,1.0nm,0.4s							
CHTO	Chiang Mai	36.42	309	P	P	12 48 18.1	+0.2
JNU	Nakatsue	36.78	4	P	P	12 48 20.1	-0.7
JNU	Nakatsue	36.78	4	P	P	12 48 20.1	-0.7
comp=Z,5.9nm,0.9s,baz=294,slow=7.8,SNR=2.1							
comp=Z,5.9nm,0.9s							
CAN	Canberra	36.90	151	P	P	12 48 22.6	+0.8
CAN				IAmb	IAmb	12 48 31.7	
comp=Z,50nm,1.0s							
TOO	Toolangi	37.24	157	P	P	12 48 24.7	0.0
TOO				IAmb	IAmb	12 48 57.5	
comp=Z,50nm,1.4s							
KSAR	Wonju Array Be	40.99	360	P	P	12 48 55.6	-0.3
KSRS	Korea Array	41.00	360	P	P	12 48 56.3	+0.2
comp=Z,6.2nm,0.8s,baz=177,slow=9.2,SNR=6.9							
comp=Z,6.2nm,0.8s							
MJAR	Matsushiro Arr	41.19	12	P	P	12 48 57.3	-0.4
comp=Z,2.4nm,0.8s,baz=188,slow=10,SNR=2.9							
comp=Z,2.4nm,0.8s							
USRK	Ussuriysk Ar.	47.87	4	P	P	12 49 51.3	+0.4
comp=Z,1.8nm,0.6s,baz=184,slow=8.7,SNR=2.0							
USRK				PP	PP	12 51 46.8	+3.8
comp=Z,2.9nm,0.9s,baz=149,slow=7.8,SNR=5.0							
comp=Z,1.8nm,0.6s							
TAPN	Taplejung	49.73	311	*e*P	P	12 50 04.2	-1.7
comp=Z,57nm,1.1s							
RAMN	Ramite	50.36	310	*e*P	P	12 50 09.5	-1.2
comp=Z,60nm,0.7s							
JIRN	Jiri	51.04	310	*e*P	P	12 50 15.0	-0.9
comp=Z,72nm,1.3s							
GUN	Gumba	51.40	310	*e*P	P	12 50 16.9	-1.7
comp=Z,58nm,0.8s							
PKI	Pulchoki	51.59	310	*e*P	P	12 50 18.7	-1.3
comp=Z,56nm,1.4s							
PKIN	Phulchoki	51.60	310	*e*P	P	12 50 19.2	-0.8
comp=Z,14nm,0.7s							
DMN	Daman	51.84	310	*e*P	P	12 50 21.3	-0.5
comp=Z,35nm,0.9s							
GKN	Gorkha	52.40	310	*e*P	P	12 50 24.8	-1.0
comp=Z,28nm,0.6s							
HYB	Hyderabad	53.20	295	*e*P	P	12 50 32.4	+0.6
HYB				*es*P	pP	12 50 36.3	+1.2
HYB				*e*PP	PP	12 52 31.9	0.0
HYB				*e*PcS	PcS	12 55 38.7	-0.3
HYB				*e*S	S	12 58 03.8	+0.6
HYB				*e*ScS	ScS	13 00 22.6	+0.3
DANN	Dangsing	53.24	310	*e*P	P	12 50 31.2	-1.0
comp=Z,44nm,0.7s							
PYUN	Piuthan	53.71	309	*e*P	P	12 50 34.8	-0.8
comp=Z,46nm,0.9s							
QRZ	Quartz Range	54.34	139	P	P	12 50 40.1	+0.4
WHZ	Wether Hill Ro	54.44	147	P	P	12 50 40.5	+0.2
WHZ				IAmb	IAmb	12 50 48.1	
comp=Z,23nm,0.9s							
SONM	Songino Array	54.79	342	P	P	12 50 42.2	-0.8
comp=Z,2.5nm,1.0s,baz=150,slow=2.1,SNR=2.4							
comp=Z,2.5nm,1.0s							
RPZ	Rata Peaks	54.95	143	P	P	12 50 44.5	+0.4
TUWZ	Tuamarina	55.56	139	P	P	12 50 47.8	-0.7
BHW	Baring Head	56.16	139	P	P	12 50 52.8	0.0
BHW				IAmb	IAmb	12 52 34.6	
comp=Z,30nm,1.2s							
BKZ	Black Stump Fm	56.23	136	P	P	12 50 53.4	0.0
BKZ				IAmb	IAmb	12 51 01.8	
comp=Z,12nm,0.8s							
PETK	Petropavlovsk-	61.90	20	P	P	12 51 31.9	-0.5
PETK	Petropavlovsk-	61.90	20	P	P	12 51 32.6	+0.2
comp=Z,14nm,0.9s,baz=165,slow=6.2,SNR=5.1							
comp=Z,14nm,0.9s							
CASY	Casey	63.61	188	P	P	12 51 43.1	-0.4
CASY				IAmb	IAmb	12 51 50.3	
comp=Z,12nm,1.0s							
MK31	Makanchi Array	64.49	327	P	P	12 51 48.2	-1.5
MK31				IAmb	IAmb	12 51 56.1	
comp=Z,6.9nm,0.8s							
MKAR	Makanchi Array	64.49	327	P	P	12 51 48.4	-1.3
MKAR	Makanchi Array	64.49	327	P	P	12 51 48.1	-1.7
comp=Z,3.6nm,0.7s,baz=128,slow=7.5,SNR=5.6							
comp=Z,3.6nm,0.7s							
ZALV	Zalesovo Beam	67.85	334	P	P	12 52 10.6	-0.6
ZALV	Zalesovo Beam	67.85	334	P	P	12 52 09.4	-1.7
comp=Z,4.2nm,0.9s,baz=98,slow=6.1,SNR=3.2							
comp=Z,4.2nm,0.9s							
KURBB	Kurchatov Arra	68.77	329	P	P	12 52 15.4	-1.6
comp=Z,4.5nm,0.8s,baz=131,slow=5.0,SNR=4.3							
comp=Z,4.5nm,0.8s							
KURK	Kurchatov	68.78	329	P	P	12 52 15.6	-1.4
BVAR	Borovoye Array	74.32	328	P	P	12 52 48.8	-1.7
comp=Z,2.3nm,0.8s,baz=141,slow=7.1,SNR=3.4							
comp=Z,2.3nm,0.8s							
TIXI	Tiksi	75.27	0	P	P	12 52 55.6	+0.1
SPIA	Saint Paul Isl	78.27	29	P	P	12 53 12.6	-0.2
baz=244							
AKTO	Aktyubinsk	80.36	322	P	P	12 53 22.1	-2.2
comp=Z,5.1nm,0.9s,baz=126,slow=4.8,SNR=3.4							
comp=Z,5.1nm,0.9s							
M11K	Mekoryuk	81.53	27	P	P	12 53 30.4	+0.1
baz=247							
K13K	Kusilvak Mount	82.82	26	P	P	12 53 40.0	+2.9
baz=248							
L14K	Kuka Creek	83.48	27	P	P	12 53 42.9	+2.5
baz=250							
F14K	Arctic Creek	83.51	22	P	P	12 53 42.2	+1.6
baz=246							
ANM	Nome	83.52	23	P	P	12 53 42.5	+1.8
baz=247							
J14K	Nanvaranak Lak	83.59	26	P	P	12 53 43.1	+2.0
baz=249							
M14K	Bethel	83.61	28	P	P	12 53 43.4	+2.2
baz=251							
L15K	Ungalak Mounta	84.14	27	P	P	12 53 45.2	+1.3
baz=251							
M15K	Kasigluk River	84.19	28	P	P	12 53 44.9	+0.7
baz=252							
P16K	Nushagak River	85.00	30	P	P	12 53 51.3	+3.0
baz=254							
G16K	Koyuk River	85.02	23	P	P	12 53 50.7	+2.5
baz=250							
N16K	Nishlik Lake	85.03	28	P	P	12 53 49.6	+1.2
baz=253							
L16K	Owhat River	85.06	27		P	12 53 49.5	+1.0
L16K				IAmb	IAmb	12 53 59.0	
comp=Z,18nm,1.2s							
L16K	Owhat River	85.06	27	P	P	12 53 50.0	+1.5
baz=253							
M16K	Timber Creek	85.09	28	P	P	12 53 50.0	+1.2
baz=253							
O16K	Kokwok River B	85.11	29	P	P	12 53 50.2	+1.4
baz=254							
D17K	Noatak River	85.57	21	P	P	12 53 52.3	+1.4
baz=249							
O17K	Koliganek Bris	85.64	29	P	P	12 53 52.9	+1.4
baz=255							
L17K	Donlin	85.71	27	P	P	12 53 53.7	+1.9
baz=254							
G17K	Kiwalik Mounta	85.73	23	P	P	12 53 53.3	+1.5
baz=251							
H17K	Granite Mounta	85.85	24	P	P	12 53 53.7	+1.3
baz=252							
Q17K	Contact Creek	85.87	31	P	P	12 53 54.2	+1.4
baz=256							
K17K	Iditarod	85.88	26	P	P	12 53 53.8	+1.2
baz=254							
E18K	Tukpahlearik C	86.37	22	P	P	12 53 55.4	+0.4
baz=251							
Q18K	Katmai Hardscr	86.41	31	P	P	12 53 56.2	+0.7
baz=257							
L18K	Granite Mounta	86.46	27		P	12 53 54.1	-1.4
L18K				IAmb	IAmb	12 54 04.8	
comp=Z,8.9nm,0.7s							
M18K	Stony River	86.68	28	P	P	12 53 57.3	+0.7
baz=256							
J18K	Innoko River	86.77	26	P	P	12 53 57.3	+0.3
baz=255							
TTA	Tatalina	86.95	26	P	P	12 53 59.1	+1.1
baz=256							
F19K	Shaleruckik Mo	87.25	22	P	P	12 54 00.7	+1.5
baz=254							
C19K	Lookout Ridge	87.26	20	P	P	12 54 00.3	+1.0
baz=252							
L19K	White Mountain	87.29	27	P	P	12 53 59.2	-0.4
baz=257							
G19K	Purcell Mounta	87.32	23	P	P	12 53 59.2	-0.3
G19K				IAmb	IAmb	12 54 09.2	
comp=Z,10nm,0.9s							
G19K	Purcell Mounta	87.32	23	P	P	12 53 59.3	-0.3
baz=255							
J19K	Poorman	87.38	25	P	P	12 53 57.8	-2.1
baz=256							
H19K	Roundabout Mou	87.42	24	P	P	12 54 00.9	+0.8
baz=255							
M19K	Big River Lodg	87.44	28	P	P	12 54 01.7	+1.4
baz=257							
D19K	Kuna River	87.59	21	P	P	12 54 01.3	+0.4
D19K				IAmb	IAmb	12 54 10.2	
comp=Z,13nm,0.8s							
D19K	Kuna River	87.59	21	P	P	12 54 01.7	+0.8
baz=254							
E19K	Redstone River	87.62	22	P	P	12 54 01.9	+0.8
baz=254							
L20K	Farewell, AK	87.80	27	P	P	12 54 02.3	+0.2
baz=258							
K20K	Telida	87.90	26	P	P	12 54 03.9	+1.4
baz=258							
O20K	Slope Mountain	87.90	30	P	P	12 54 03.4	+0.8
baz=259							
M20K	Styx River	88.02	28	P	P	12 54 02.8	-0.3
baz=258							
I20K	Naaghedeneel	88.05	25	P	P	12 54 05.0	+1.9
baz=257							
J20K	Nowinta River	88.05	25	P	P	12 54 02.8	-0.4
baz=257							
F20K	Avaraart Lake	88.08	22	P	P	12 54 03.8	+0.6
baz=256							
D20K	Etivluk River	88.18	21	P	P	12 54 04.0	+0.3
baz=255							
E20K	Nigu River	88.21	21	P	P	12 54 04.2	+0.3
baz=255							
SKT	Skwentna	88.78	28	P	P	12 54 08.0	+1.3
baz=260							
MLY	Manley	89.66	25	P	P	12 54 12.1	+1.3
baz=260							
KNK	Knik Glacier	90.14	29	P	P	12 54 13.0	-0.1
baz=262							
G23K	Bananza Creek	90.22	23	P	P	12 54 13.6	+0.2
baz=261							
COLD	Coldfoot	90.23	23	P	P	12 54 14.1	+0.7
baz=261							
SML	Sawmill	90.25	28	P	P	12 54 13.5	-0.1
baz=263							
I23K	Minto, Yukon-K	90.25	25	P	P	12 54 13.3	-0.2
baz=262							
H23K	Yukon River	90.28	24	P	P	12 54 13.4	-0.2
baz=262							
NEA2	Nenana	90.30	25	P	P	12 54 15.0	+1.3
baz=262							
C23K	Itkillik River	90.50	20	P	P	12 54 14.9	+0.4
baz=261							
E23K	Chandalar	90.58	22	P	P	12 54 14.3	-0.7
baz=262							
TOLK	Toolik Lake Re	90.68	21	P	P	12 54 15.9	+0.5
baz=262							
H24K	Noodor Dome	90.96	24	P	P	12 54 17.2	+0.4
baz=263							
E24K	Your Creek	91.00	22	P	P	12 54 16.5	-0.5
baz=262							
D24K	Happy Valley	91.02	21	P	P	12 54 18.0	+1.0
baz=262							
HDA	Harding Lake	91.18	26	P	P	12 54 15.3	-2.5
baz=264							
G24K	Hadweenzic Riv	91.22	23	P	P	12 54 17.7	-0.2
baz=263							
ILAR	Eielson Array	91.25	25	P	P	12 54 16.8	-1.3
comp=Z,0.9nm,0.8s,baz=245,slow=5.4,SNR=5.1							
comp=Z,0.9nm,0.8s							
KLU	Klutina	91.36	29	P	P	12 54 19.5	+0.7
baz=265							
K24K	Donnelly Dome	91.64	26	P	P	12 54 20.8	+0.8
baz=265							
H25L	Birch Creek	91.84	24	P	P	12 54 21.5	+0.7
baz=265							
J25K	Salcha River,	91.88	26	P	P	12 54 21.5	+0.3
baz=265							
D25K	Kavik River	91.91	21	P	P	12 54 20.9	-0.3
baz=264							
F25K	Christian River	92.02	23	P	P	12 54 22.3	+0.6
baz=265							
J26L	Joseph Creek	92.65	26	P	P	12 54 24.8	0.0
baz=267							
MCARA	McCarthy VSAT	92.74	29	P	P	12 54 26.7	+1.6
baz=267							
K27K	Chicken	93.28	26	P	P	12 54 28.1	+0.5
baz=268							
M27K	Edge Creek, AK	93.32	28	P	P	12 54 26.9	-1.0
baz=268							
L27K	Beaver Creek,	93.36	27	P	P	12 54 28.9	+0.9
baz=268							
I27K	Kandik River	93.52	25	P	P	12 54 28.3	-0.4
baz=269							
CTG	Chitna Glacier	93.54	29	P	P	12 54 29.3	+0.3
baz=269							
H27K	Steamboat Moun	93.57	24	P	P	12 54 29.0	+0.1
baz=269							
EGAK	Eagle	93.70	25	P	P	12 54 31.3	+1.9
baz=269							
YUK3	Moose Creek	93.98	28	P	P	12 54 30.6	-0.5
baz=270							
O28M	Mount Upton	94.10	29	P	P	12 54 32.5	+0.7
baz=270							
I28M	Miner Creek	94.22	25	P	P	12 54 32.8	+0.8
baz=270							
F28M	Old Crow	94.23	23	P	P	12 54 34.4	+2.5
baz=270							
DAWY	Dawson	94.46	26	P	P	12 54 33.5	+0.4
baz=271							
I29M	Ogilvie Camp,	94.90	25	P	P	12 54 35.0	0.0
baz=272							
M29M	Somme Creek	94.91	28	P	P	12 54 34.6	-0.6
baz=271							
G29M	Pine Creek	94.97	23	P	P	12 54 34.9	-0.4
baz=272							
L29M	L29M	95.05	27	P	P	12 54 36.6	+0.8
baz=272							
K29M	Barlow Dome	95.30	26	P	P	12 54 38.1	+1.2
baz=272							
HYT	Haines Junctio	95.42	29	P	P	12 54 36.5	-1.1
baz=272							
M30M	Minto, Yukon	95.68	28	P	P	12 54 37.9	-0.8
baz=273							
I30M	Mount Dempster	95.72	25	P	P	12 54 40.0	+1.2
baz=274							
J30M	Hart River	95.78	26	P	P	12 54 39.4	+0.3
baz=273							
MAYO	Mayo, Yukon	96.03	27	P	P	12 54 40.8	+0.6
baz=274							
PDAR	Pinedale Array	115.94	44	PKP	PKiKP	12 59 56.1	-0.5
comp=Z,0.3nm,0.6s,baz=321,slow=3.8,SNR=4.1							
ANMO	Albuquerque	120.84	51	PKP	PKPdf	13 00 05.1	-1.1
comp=Z,2.0nm,0.8s,baz=251,slow=3.6,SNR=3.5							
TXAR	Lajitas Array	124.83	57	PKP	PKPdf	13 00 12.9	-1.0
comp=Z,0.4nm,0.3s,baz=346,slow=5.9,SNR=4.4							
TORD	Torodi Ar. Bea	126.26	283	PKP	PKPdf	13 00 14.9	-1.9
comp=Z,1.2nm,0.8s,baz=36,slow=2.0,SNR=2.7							
PLCA	Paso Flores	132.55	161	PKP	PKPdf	13 00 26.2	-2.0
comp=Z,8.9nm,1.0s,baz=177,slow=4.9,SNR=6.7							
JTS	Las Juntas de	146.60	77	PKPbc	PKPdf	13 00 55.3	+1.0
comp=Z,5.7nm,0.5s,baz=309,slow=9.9,SNR=2.4							
CPUP	Villa Florida	149.63	170	PKPbc	PKPbc	13 01 02.4	-1.2
comp=Z,4.6nm,0.9s,baz=93,slow=1.9,SNR=3.2							
ATAH	Atahualpa	151.44	112	PKPbc	PKiKP	13 01 09.9	+0.7
comp=Z,5.5nm,0.9s,baz=297,slow=2.3,SNR=2.8							
SIV	San Ignacio	158.39	155	PKPab	PKPab	13 01 45.4	-0.3
comp=Z,0.6nm,0.2s,baz=214,slow=20,SNR=1.2							

*SNET **31** 12:43:04.8±0.9, 13°.39N×90°.87W, h7km±12km, ML3.2*
*GCG **31** 12:43:08.4±0.5, 13°.60N×90°.98W, h28km±3km, MD3.4*
ISC 31 12:43:05.7±2.7, 13°.5N±0°.2×90°.97W±0°.07, h31km±18km, n16, σ0°.64/21, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.97	7	*e*P	Pb	12 43 24.4	+0.1
PCG	Pacaya	0.97	21	*e*P	Pb	12 43 25.3	+1.1
SULM	Suchitepequez,	1.01	325	*e*P	Pb	12 43 24.8	+0.1
NUBE	Las Nubes	1.23	70	*e*P	Pn	12 43 26.2	-0.7
NUBE				*es*S	Sb	12 43 42.9	-1.2
NBG	Las Nubes	1.26	29	*e*P	Pb	12 43 29.5	+0.4
SLOZ	Alcaldia de Sa	1.27	64	*e*P	Pn	12 43 27.2	-0.2
SLOZ				*es*S	Sb	12 43 44.3	-0.9
CEVE	Cerro Verde	1.35	75	*e*P	Pn	12 43 28.6	-0.1
CEVE				*es*S	Sb	12 43 47.7	0.0
CEVE				IAML		12 43 53.5	
comp=Z,712nm,0.2s							
STG3	Santiaguito 3,	1.36	335	*e*P	Pn	12 43 28.6	-0.1
STG3				*es*S	Sb	12 43 47.7	-0.2
SNJE	San Jose	1.38	73	*e*P	Pn	12 43 28.5	-0.5
JAYA	Jayaque - finc	1.49	83	*e*P	Pn	12 43 29.8	-0.6
JAYA				*es*S	Sn	12 43 48.6	-0.3
JAYA				IAML		12 43 57.5	
comp=Z,537nm,0.2s							
PMON	Piamonte	1.62	82	*e*P	Pn	12 43 32.4	+0.1
LOMA	Loma Larga	1.75	84	*e*P	Pn	12 43 34.6	+0.5
LOMA				IAML		12 44 09.0	
comp=Z,467nm,0.5s							
MTO3	Montecristo	1.81	59	*e*P	Pn	12 43 35.7	+0.8
LFRS	El Faro	1.86	85	*e*P	Pn	12 43 36.0	+0.4
COEG	Centro de Oper	2.03	86	*e*P	Pn	12 43 37.8	-0.1
SCLA	Alcaldia de Sa	2.19	84	*e*P	Pn	12 43 41.1	+1.1
SCLA				IAML		12 44 20.8	
comp=Z,36nm,0.6s							

IDC 31 12:44:06.1±1.4, 3°.55S×128°.31E, h0km, mb3.9/4, mbtmp4.0/5, Error ellipse: s-maj=99.6km s-min=26.4km az=72.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.33	161	P	Pn	12 48 07.9	-1.7
3.7nm,0.8s,baz=340,slow=12,SNR=2.5							
ASAR	Alice Springs	20.72	165	P	P	12 48 49.3	+1.0
8.1nm,0.6s,baz=346,slow=12,SNR=5.1							
8.1nm,0.6s							
SONM	Songino Array	54.66	342	P	P	12 53 37.5	+0.5
0.5nm,0.7s,baz=147,slow=6.7,SNR=1.9							
0.5nm,0.7s							
KURBB	Kurchatov Arra	68.70	329	P	P	12 55 11.0	-0.5
1.3nm,0.8s,baz=116,slow=5.5,SNR=4.0							
1.3nm,0.8s							
ILAR	Eielson Array	90.96	25	P	P	12 57 11.7	-0.1
0.6nm,0.8s,baz=258,slow=4.5,SNR=2.3							
0.6nm,0.8s							

*NEIC **31** 12:48:30.3±2.2, 3°.72S±0°.07×127°.88E±0°.08, h10km±1km, mb4.5/25, Error ellipse: s-maj=13.0km s-min=11.8km az=59.0*
*DJA **31** 12:48:31.8±0.5, 4°.S±7°.×12°.8E±°, h10km, M4.6/11, mb4.7/4, MLv4.5/11*
*IDC **31** 12:48:38.9±3.6, 3°.86S×127°.75E, h92km±34km, mb4.0/13, mbtmp4.3/15, Error ellipse: s-maj=31.3km s-min=16.1km az=65.0*
ISC 31 12:48:29.8±0.5, 3°.73S±0°.06×127°.84E±0°.07, h10km, n58, σ19°76/58, mb4.4/20, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.89	303	P	Pg	12 48 46.2	-0.7
SANI	Sanana	2.49	312	P	Pb	12 49 13.5	-1.2
LBMI	Labuha	3.09	354	P	Pn	12 49 22.0	+3.3
SWI	Sorong	4.45	50	P	Pn	12 49 39.5	+2.1
FAKI	Fak Fak	4.48	80		Pn	12 49 40.2	+2.4
FAKI	Fak Fak	4.48	80	P	Pn	12 49 40.5	+2.7
TNTI	Ternate	4.50	354		Pn	12 49 40.2	+2.1
LUWI	Luwuk	5.72	298	Pn	Pn	12 49 56.7	+1.8
LUWI	Luwuk	5.72	298	P	Pn	12 49 56.3	+1.4
128nm,0.8s,1.2nm							
BATI	Baumata	7.65	213	P	Pn	12 50 24.5	+3.1
25nm,0.6s,baz=107,slow=19,SNR=4.8							
BKSI	Bulukumba	7.85	258	P	Pn	12 50 26.7	+2.5
KAPI	Kappang	8.16	261	P	Pn	12 50 32.5	+4.1
8.7nm,0.4s,baz=81,slow=8.8,SNR=5.0							
TOLI2	Tolitoli	8.54	304		Pn	12 50 38.9	+5.4
MTN	Manton Dam	9.62	160	Pn	Pn	12 50 48.2	-0.3
KNRA	Kununurra	11.91	176	Pn	Pn	12 51 19.2	-0.6
WB0	Warramunga Arr	17.18	159	Pn	Pn	12 52 28.1	-1.9
WRAB	Tennant Creek	17.31	159	Pn	Pn	12 52 26.3	-5.5
WRAB				IAmb	IAmb	12 52 36.4	
comp=Z,24nm,1.2s							
WRA	Warramunga Arr	17.32	159	Pn	Pn	12 52 30.6	-1.3
WRA	Warramunga Arr	17.32	159	P	Pn	12 52 28.5	-3.4
comp=Z,5.5nm,1.0s,baz=337,slow=12,SNR=11							
WB2	Warramunga Arr	17.32	159	Pn	Pn	12 52 30.4	-1.5
WR0	Warramunga Arr	17.41	158	Pn	Pn	12 52 31.6	-1.4
COEN	Coen	18.23	125	P	P	12 52 43.9	+0.5
MBWA	Marble Bar	19.03	204	P	P	12 52 52.4	+0.2
MBWA				IAmb	IAmb	12 52 53.0	
comp=Z,16nm,1.2s							
PSA00	Pilbara Seismi	19.36	203	P	P	12 52 56.2	+0.4
PSA00				IAmb	IAmb	12 52 56.9	
comp=Z,14nm,0.8s							
LEM	Lembang	20.37	260	P	P	12 53 08.0	+1.0
comp=Z,17nm,0.6s,baz=56,slow=14,SNR=4.2							
comp=Z,17nm,0.6s							
AS31	Alice Springs	20.67	164	P	P	12 53 11.0	+0.9
AS31				IAmb	IAmb	12 53 13.4	
comp=Z,5.7nm,0.7s							
ASAR	Alice Springs	20.67	164	P	Pn	12 53 12.0	-0.3
ASAR	Alice Springs	20.67	164	P	P	12 53 10.9	+0.9
comp=Z,13nm,0.6s,baz=343,slow=11,SNR=83					

MKAR	Makanchi Array	64.33	327	P		P	12 59 05.7	-0.1
MKAR	Makanchi Array	64.33	327	P		P	12 59 05.4	-0.3
	comp=Z,3.0nm,0.8s,baz=125,slow=8.0,SNR=13							
	comp=Z,3.0nm,0.8s							
MAKZ	Makanchi	64.51	327	P		P	12 59 06.2	-0.7
MAKZ				IAmb		IAmb	12 59 07.8	
	comp=Z,2.4nm,0.9s							
ZALV	Zalesovo Beam	67.72	334	P		P	12 59 25.9	-1.4
	comp=Z,1.6nm,0.9s,baz=108,slow=4.8,SNR=5.7							
	comp=Z,1.6nm,0.9s							
KURBB	Kurchatov Arra	68.62	329	P		P	12 59 32.2	-0.8
	comp=Z,1.9nm,0.6s,baz=131,slow=5.5,SNR=16							
	comp=Z,1.9nm,0.6s							
KURK	Kurchatov	68.62	329	P		P	12 59 32.4	-0.7
KURK				IAmb		IAmb	12 59 34.3	
	comp=Z,6.2nm,1.0s							
BVAR	Borovoye Array	74.17	328	P		P	13 00 04.9	-1.7
	comp=Z,0.9nm,0.4s,baz=119,slow=7.9,SNR=7.9							
	comp=Z,0.9nm,0.4s							
TIXI	Tiksi	75.24	0	P		P	13 00 11.8	-0.6
TIXI				IAmb		IAmb	13 00 13.5	
	comp=Z,6.5nm,1.2s							
ABKAR	Akbulak array	78.63	322	P		P	13 00 31.3	-0.6
K15K	Wolf Creek Mou	84.40	26	P		P	13 01 02.8	+0.5
L16K	Owhat River	85.14	27	P		P	13 01 06.5	+0.5
L16K				IAmb		IAmb	13 01 08.2	
	comp=Z,6.2nm,1.1s							
K17K	Iditarod	85.96	26	P		P	13 01 10.8	+0.7
L18K	Granite Mounta	86.55	27	P		P	13 01 13.4	+0.5
L18K				IAmb		IAmb	13 01 32.7	
	comp=Z,13nm,1.4s							
J18K	Innoko River	86.85	26	P		P	13 01 14.5	0.0
J18K				IAmb		IAmb	13 01 39.1	
	comp=Z,5.7nm,1.2s							
C19K	Lookout Ridge	87.31	20	P		P	13 01 16.5	-0.1
ILAR	Eielson Array	91.33	25	P		P	13 01 34.0	-1.5
	comp=Z,0.5nm,0.5s,baz=236,slow=5.2,SNR=16							
	comp=Z,0.5nm,0.5s							
ARCES	ARCESS Array B	97.78	340	P		P	13 02 03.8	-1.2
	comp=Z,3.5nm,0.9s,baz=60,slow=7.2,SNR=5.4							
	comp=Z,3.5nm,0.9s							
TORD	Torodi Ar. Bea	126.01	283	PKP		PKPdf	13 07 32.5	-0.9
	comp=Z,0.6nm,0.7s,baz=65,slow=3.0,SNR=4.0							

*IDC **31** 12:49:12.2±3.1, 16°.08N×98°.94W, $h0^{km}$, mb4.1/5, mbtmp3.9/8, ML3.5/3, Error ellipse: s-maj=55.0km s-min=19.8km az=6.0*
*MEX **31** 12:49:13.5±1.0, 16°.03N×99°.09W, $h16^{km}$±11^{km}, MD4.7*
*NEIC **31** 12:49:13.2±2.0, 16°.20N±0°.07×98°.83W±0°.06, $h3^{km}$±7^{km}, mb4.4/53, Md4.7/42(MEX), Error ellipse: s-maj=12.1km s-min=4.4km az=220.0*
ISC 31 12:49:10.6±1.5, **15°.99N**±0°.04×**99°.05W**±0°.02, **$h2^{km}$**±9km, **n162**, σ**2°.41**/230, **mb4.4**/24, **Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	Cruz Grande	0.74	354		Pg	12 49 24.4	-0.4
CRIG					Sg	12 49 33.1	-1.4
CRIG	Cruz Grande	0.74	354	eP	Pg	12 49 24.5	-0.4
CRIG				eS	Sg	12 49 33.0	-1.5
PNIG	Pinotepa	0.97	66		Pb	12 49 28.5	-1.6
PNIG					Sb	12 49 41.1	-2.3
PNIG	Pinotepa	0.97	66	i P	Pb	12 49 28.6	-1.6
PNIG				i S	Sb	12 49 40.5	-3.0
DAIG	Los Arroyos	1.17	331		Pb	12 49 31.4	-2.2
DAIG					Sb	12 49 44.9	-4.4
DAIG	Los Arroyos	1.17	331	eP	Pb	12 49 31.4	-2.2
DAIG				eS	Sb	12 49 44.2	-5.1
ACP2	Acapulco	1.19	318		Pg	12 49 36.1	+2.7
ACP2					Sg	12 49 50.7	+1.9
ACP2	Acapulco	1.19	318	eP	Pn	12 49 31.7	-2.6
ACP2				eS	Sb	12 49 45.6	-4.2
MGIG	Malinaltepec	1.30	18		Pn	12 49 33.1	-2.8
MGIG					Sb	12 49 48.7	-4.3
MGIG	Malinaltepec	1.30	18	i P	Pn	12 49 33.0	-2.9
MGIG				i S	Sb	12 49 49.5	-3.5
CAIG	El Cayaco	1.57	312		Pn	12 49 37.5	-2.0
CAIG					Sn	12 49 54.5	-5.9
CAIG	El Cayaco	1.57	312	eP	Pn	12 49 37.1	-2.4
CAIG				eS	Sn	12 49 54.0	-6.4
TLIG	Tlapa	1.63	16	eP	Pn	12 49 38.2	-2.2
TLIG				eS	Sn	12 49 56.8	-5.3
YOIG	Yosondua	1.68	59		Pn	12 49 39.1	-2.2
YOIG					Sb	12 50 05.4	+1.3
YOIG	Yosondua	1.68	59	eP	Pn	12 49 39.4	-1.8
YOIG				eS	Sn	12 50 01.1	-2.4
TXIG	Tlaxiaco	1.75	44		Pn	12 49 40.2	-2.1
TXIG					Sn	12 50 00.8	-4.6
TXIG	Tlaxiaco	1.75	44	eP	Pn	12 49 40.2	-2.1
TXIG				eS	Sn	12 50 01.5	-3.9
ATYC	Atoyac	1.80	313	eP	Pn	12 49 41.1	-1.6
ATYC				eS	Sn	12 50 05.2	-0.9
PEIG	Puerto Escondi	1.83	90		Pn	12 49 41.6	-1.5
PEIG					Sn	12 50 02.3	-4.6
PEIG	Puerto Escondi	1.83	90	eP	Pn	12 49 41.5	-1.5
PEIG				eS	Sn	12 50 01.2	-5.7
HMTT	Tlapaneco	1.85	15	eP	Pn	12 49 42.7	-0.8
HMTT				eS	Sn	12 50 03.7	-3.9
MEIG	Mezcala	2.00	344		Pn	12 49 44.1	-1.4
MEIG					Sn	12 50 10.1	-1.0
MEIG	Mezcala	2.00	344	eP	Pn	12 49 44.0	-1.4
MEIG				eS	Sn	12 50 01.2	-10
FTIG	Fresnillo de T	2.10	25		Pn	12 49 44.9	-2.0
FTIG					Sn	12 50 08.5	-5.2
FTIG	Fresnillo de T	2.10	25	eP	Pn	12 49 45.0	-1.9
FTIG				eS	Sn	12 50 08.7	-4.9
HLIG	Huajuapan de L	2.18	33	eP	Pn	12 49 46.3	-1.8
HLIG				eS	Sn	12 50 11.9	-3.9
PLIG	Platanillo	2.42	350		Pn	12 49 49.4	-2.0
PLIG					Sn	12 50 22.2	+0.5
PLIG	Platanillo	2.42	350	eP	Pn	12 49 50.3	-1.1
PLIG				eS	Sn	12 50 22.3	+0.5
OXIG	Oaxaca	2.47	64		Pn	12 49 51.0	-1.1
OXIG					Sn	12 50 18.3	-4.6
VHO	Vista Hermosa	2.47	64	eP	Pn	12 49 51.0	-1.1
VHO				eS	Sb	12 50 28.8	+2.1
ARIG	Puente Sto Nin	2.59	332		Pn	12 49 52.7	-0.8
ARIG					Sb	12 50 30.7	+0.6
ARIG	Puente Sto Nin	2.59	332	eP	Pn	12 49 52.8	-0.8
ARIG				eS	Sn	12 50 27.1	+1.4
ZIIG	Zihuatanejo	2.81	305		Pn	12 49 56.5	-0.1
ZIIG					Sn	12 50 26.2	-5.0
ZIIG	Zihuatanejo	2.81	305	eP	Pn	12 49 55.4	-1.2
ZIIG				eS	Sn	12 50 24.7	-6.5
HUIG	Huatulco	2.84	94		Pn	12 49 56.1	-0.9
HUIG					Sn	12 50 26.5	-5.3
HUIG	Huatulco	2.84	94	eP	Pn	12 49 56.4	-0.6
HUIG				eS	Sn	12 50 25.4	-6.4
YAIG	Yautepec	2.85	360		Pn	12 49 57.3	0.0
YAIG					Sn	12 50 27.0	-5.4
YAIG	Yautepec	2.85	360	eP	Pn	12 49 57.8	+0.5
YAIG				eS	Sb	12 50 35.2	-2.6
TPIG	Tehuac#an	2.90	34		Pn	12 49 56.6	-1.4
TPIG					Sn	12 50 28.4	-5.2
TPIG	Tehuac#an	2.90	34	eP	Pn	12 49 56.1	-1.9
TPIG				eS	Sn	12 50 32.2	-1.4
TEJU	Tejupilco	3.08	340	eP	Pn	12 49 59.8	-0.6
TEJU				eS	Sn	12 50 35.8	-2.2
PPIG	Popocatepetl	3.08	7		Pn	12 50 02.8	+2.0
PPIG					Sb	12 50 46.3	+1.5
PPM	Popocatepetl	3.08	7	eP	Pn	12 50 02.6	+1.8
PPM				eS	Sb	12 50 43.6	-1.2
AMVM	AMECAMECA	3.13	5	eP	Pb	12 50 06.1	-1.1
AMVM				eS	Sb	12 50 45.0	-1.0
MPVM	San Francisco	3.19	1	eP	Pn	12 50 05.5	+3.5
MPVM				eS	Sb	12 50 46.8	-0.9
TLVM	San Miguel Top	3.20	358	eP	Pb	12 50 07.7	-0.7
TLVM				eS	Sb	12 50 47.5	-0.6
XCVM	Xochimilco	3.24	359	eP	Pb	12 50 08.0	-1.1
XCVM				eS	Sb	12 50 46.8	-2.3
INVM	La Marquesa	3.29	355	eP	Pn	12 50 07.3	+3.7
INVM				eS	Sb	12 50 49.4	-1.4
THVM	De Xico	3.30	1	eP	Pn	12 50 07.3	+3.7
THVM				eS	Sn	12 50 45.9	+2.3
UNM	Universidad Na	3.32	358	Pn	Pn	12 50 02.4	-1.4
UNM	Universidad Na	3.32	358	eP	Pn	12 49 59.0	-4.8
UNM				eS	Sb	12 50 53.0	+1.7
TOVM	TOLUCA	3.33	350	eP	Pb	12 50 09.3	-1.3
TOVM				eS	Sb	12 50 49.8	-1.9
CJVM	Cuajimalpa	3.36	356	eP	Pb	12 50 09.0	-2.0
CJVM				eS	Sb	12 50 49.6	-2.9
BJVM	Benito Juarez	3.37	358	eP	Pb	12 50 14.0	+2.8
BJVM				eS	Sn	12 50 43.0	-2.1
PBVM	Pinon	3.43	359	eP	Pn	12 50 05.3	+0.2
PBVM				eS	Sn	12 50 45.1	-1.2
NEUV	Arroyo Zacate	3.55	61	eP	Pn	12 50 04.8	-1.9
NEUV				eS	Sn	12 50 46.1	-3.2
AZVM	Cuida Lopez Ma	3.58	356	eP	Pb	12 50 12.7	-2.2
AZVM				eS	Sn	12 50 50.5	0.0
VTVM	Tizayuca	3.77	4	eP	Pb	12 50 16.6	-1.4
VTVM				eS	Sn	12 50 52.8	-2.3
ZUVM	ZUMPANGO	3.81	360	eP	Pb	12 50 18.1	-0.7
ZUVM				eS	Sn	12 50 54.9	-1.3
ATVM	ATLACOMULCO	3.82	349	eP	Pb	12 50 16.6	-2.4
ATVM				eS	Sn	12 50 52.6	-3.9
JAUV	Jalcomulco	3.98	32	eP	Pn	12 50 09.9	-2.8
JAUV				eS	Sn	12 50 58.3	-1.8
ACIG	Acambay	4.04	349	eP	Pb	12 50 20.3	-2.4
ACIG				eS	Sn	12 51 00.2	-1.6
CMIG	Matias Romero	4.14	74	Pn	Pn	12 50 13.4	-1.5
	2.1nm,0.3s,baz=253,slow=12,SNR=21						
CMIG				Sn	Sn	12 50 59.5	-4.5
	12nm,0.3s,baz=286,slow=20,SNR=5.6						
CMIG				Lg	Lg	12 51 23.2	
	42nm,0.3s,baz=222,slow=12,SNR=18						
	8.5nm,0.4s						
CMIG	Matias Romero	4.14	74	eP	Pn	12 50 13.2	-1.7
CMIG				eS	Sn	12 51 01.9	-2.1
MOIG	Morelia	4.19	331	eP	Pn	12 50 16.7	+0.9
MOIG				eS	Sn	12 51 05.4	-0.1
DHIG	Demacu	4.28	0		Pn	12 50 20.7	+3.7
DHIG					Sn	12 51 05.0	-2.8
DEIG	Demacu	4.29	0	eP	Pn	12 50 15.6	-1.4
DEIG				eS	Sn	12 51 05.8	-2.0
CXUV	Coxquihui	4.38	18	eP	Pn	12 50 17.9	-0.3
CXUV				eS	Sn	12 51 09.0	-1.0
LVIG	Laguna Verde	4.48	34	eP	Pn	12 50 12.9	-6.6
LVIG				eS	Sn	12 51 14.2	+2.0
PMUV	Sontecomapan	4.53	55	eP	Pn	12 50 17.4	-2.9
PMUV				eS	Sn	12 51 18.7	+5.0
MMIG	Aquila	4.70	300	eP	Pn	12 50 20.7	-1.9
MMIG				eS	Sn	12 51 16.1	-1.6
TUIG	Tuzandepetl	4.87	65	eP	Pn	12 50 20.6	-4.3
TUIG				eS	Sn	12 51 23.4	+1.4
UXUV	UXUV	4.88	74	eP	Pn	12 50 23.6	-1.5
UXUV				eS	Sn	12 51 23.3	+1.0
COIG	Colima	5.44	306	eP	Pn	12 50 35.7	+2.8
CTUV	Llano Grande	5.49	7	eP	Pn	12 50 33.1	-0.3
CTUV				eS	Sn	12 51 34.6	-2.6
EZ5V		5.55	309	eP	Pn	12 50 33.7	-0.9
MNGA	Volcan de Coli	5.56	309	eP	Pn	12 50 37.3	+2.7
CDAR	Ciudad de Arme	5.57	302	eP	Pn	12 50 34.1	-0.4
INCO	Volcan de Coli	5.58	310	eP	Pn	12 50 39.0	+3.9
SOMAC	Volcano de Col	5.60	309	eP	Pn	12 50 36.6	+1.3
PCIG		5.62	92	eP	Pn	12 50 32.8	-2.4
PCIG				eS	Sn	12 51 41.7	+1.3
R15V		5.67	305	eP	Pn	12 50 24.7	-11
CEGR	Campo Tres	5.69	307	eP	Pn	12 50 39.2	+2.9
TGIG		5.74	81	eP	Pn	12 50 41.1	+4.1
TGIG				eS	Sn	12 51 46.6	+3.1
RPIG	Rio Verde	5.93	352	eP	Pn	12 50 40.7	+1.2
RPIG				eS	Sn	12 51 47.6	-0.5
CIHU	Emiliano Zapat	6.32	302	eP	Pn	12 50 46.7	+1.8
CIHU				eS	Sb	12 52 07.8	-10
PATR	El Naranjo	6.63	97	e	Pn	12 50 50.0	+0.7
PATR				e		12 51 57.1	
CCIG	Comitan	6.65	87	eP	Pn	12 50 45.3	-4.2
CCIG				eS	Sn	12 52 10.4	+4.3
PAVE	Pavencul	6.67	96	i	Pn	12 50 55.5	+5.6
CJM	Chamela	6.69	302	eP	Pn	12 50 51.8	+1.9
CJM				eS	Sn	12 51 56.7	-10
CHUJ	Union Juarez	6.75	97	e	Pn	12 50 50.8	-0.2
CHUJ				e		12 51 56.8	
GTIG	Gomez Farias	7.04	359	e	Pb	12 51 07.5	-6.2
GTIG				e		12 52 27.7	
ANIG	Ahuacatlan	7.23	315	eP	Pn	12 51 00.1	+2.6
ANIG				eS	Sn	12 52 17.3	-2.9
ZAIG	Zacatecas	7.51	334	e	Pb	12 51 19.4	-2.5
ZAIG				e		12 52 39.9	
TEIG	Tepich	11.07	66	Pn	Pn	12 51 42.5	-7.6
TEIG	Tepich	11.07	66	Pn	Pn	12 51 44.0	-6.0
	4.5nm,0.3s,baz=151,slow=12,SNR=1.5						
TEIG				Sn	Sn	12 53 43.5	-11
	5.4nm,0.3s,baz=99,slow=19,SNR=1.1						
SLBS	Sierra La Lagu	12.79	308	Pn	Pn	12 52 17.5	+3.9
TXAR	Lajitas Array	13.94	343	Pn	Pn	12 52 30.7	+1.3
	0.1nm,0.3s,baz=161,slow=16,SNR=3.8						
TXAR				Lg	Lg	12 56 33.7	
	baz=164,slow=33						
	0.5nm,0.8s						
SAND	Sanderson	14.18	349	Pn	Pn	12 52 32.6	0.0
JCT	Junction City	14.44	357		Pn	12 52 34.6	-1.5
BRDY	Brady	15.22	0		Pn	12 52 41.3	-5.4
BRDY				IAmb	IAmb	12 52 58.1	
	comp=Z,4.9nm,0.9s						
MNHN	Monahans	15.65	348		Pn	12 52 52.1	-0.2
MNHN				IAmb	IAmb	12 52 58.3	
	comp=Z,7.2nm,0.7s						
425A	Indio Mountain	15.70	341		Pn	12 52 53.7	+0.7
WHTX	Lake Whitney,	15.99	5		Pn	12 52 54.5	-2.2
WHTX				IAmb	IAmb	12 53 02.1	
	comp=Z,30nm,0.8s						
RIMA	Rio Macho	16.04	111	P	Pn	12 53 00.7	+3.0
RIMA				IAmb	IAmb	12 53 10.1	
	comp=Z,28nm,1.2s						
ABTX	Abilene, Hawle	16.57	358	P	Pn	12 53 05.7	+1.6
MNTX	Cornudas Mount	16.66	341		Pn	12 53 05.3	-0.1
PLPT	Palo Pinto	16.76	2		Pn	12 53 08.0	+1.4
PLPT				IAmb	IAmb	12 53 10.7	
	comp=Z,22nm,0.8s						
SN01	Snyder 1	16.88	355	P	Pn	12 53 08.2	+0.1
SN01				IAmb	IAmb	12 53 15.1	
	comp=Z,6.7nm,0.7s						
FW03	Perrin-Whitt E	17.00	3	P	Pn	12 53 08.7	-0.9
FW03				IAmb	IAmb	12 53 13.5	
	comp=Z,19nm,0.8s						
POST	Post	17.14	353	P	P	12 53 12.9	-0.4
POST				IAmb	IAmb	12 53 15.4	
	comp=Z,13nm,0.8s						
DKNS	Dickens	17.68	355	P	Pn	12 53 17.2	-0.9
DKNS				IAmb	IAmb	12 53 22.1	
	comp=Z,12nm,0.9s						
319A	Douglas	17.93	330	P	P	12 53 22.2	+0.2
MSTX	Muleshoe	18.21	350		Pn	12 53 24.7	-0.1
MSTX				IAmb	IAmb	12 53 26.4	
	comp=Z,26nm,1.1s						
AMTX	Amarillo	18.96	353	P	P	12 53 32.3	-1.0
ANMO	Albuquerque	20.01	342	P	P	12 53 45.2	+0.4
	comp=Z,0.2nm,0.3s,baz=150,slow=20,SNR=4.1						
	comp=Z,2.4nm,1.1s						
OXF	Oxford	20.38	23	P	P	12 53 45.5	-3.1
OXF				IAmb	IAmb	12 53 49.6	
	comp=Z,21nm,0.8s						
OK048	Pawnee Station	20.43	5	P	P	12 53 48.1	-1.1
FCAR	Ozark Folk Cen	20.76	16	P	P	12 53 51.2	-1.6
LCAR	Lake Charles	21.20	18		P	12 53 57.9	+0.4
LCAR				IAmb	IAmb	12 54 01.9	
	comp=Z,20nm,1.1s						
PLAL	Pickwick Lake	21.32	25	P	P	12 53 58.3	-0.5
PLAL				IAmb	IAmb	12 54 02.6	
	comp=Z,24nm,1.1s						
Z51A	Franklin	21.33	34	P	P	12 53 58.5	-0.5
Z51A				IAmb	IAmb	12 53 59.0	
	comp=Z,15nm,0.9s						
113A	Mohawk Valley,	21.37	324	P	P	12 54 01.0	+1.6
X16A	Lo Mia Camp, P	21.46	331	P	P	12 54 02.8	+2.2
X16A				IAmb	IAmb	12 54 07.4	
	comp=Z,13nm,0.9s						
FPAL	Fort Paine	22.07	31	P	P	12 54 07.2	+0.3
FPAL				IAmb	IAmb	12 54 09.6	
	comp=Z,21nm,0.8s						
PBMO	Poplar Bluff	22.07	19	P	P	12 54 07.1	+0.2
GOGA	Godfrey	22.34	36	P	P	12 54 08.3	-1.5
GOGA				IAmb	IAmb	12 54 16.3	
	comp=Z,20nm,1.1s						
Y52A	Lilburn	22.34	34	P	P	12 54 08.7	-1.1
WUAZ	Wupatki	22.35	333	P	P	12 54 10.9	+0.9
WUAZ				IAmb	IAmb	12 54 15.8	
	comp=Z,16nm,1.0s						
MVCO	Mesa Verde	22.73	340	P	P	12 54 14.9	+0.6
MVCO				IAmb	IAmb	12 54 16.8	
	comp=Z,23nm,1.1s						
S22A	4UR Ranch, Cre	22.73	344	P	P	12 54 15.3	+1.0
S22A				IAmb	IAmb	12 54 23.2	
	comp=Z,13nm,1.1s						
W50A	Signal Mountai	22.74	30	P	P	12 54 12.9	-1.2
W50A				IAmb	IAmb	12 54 15.7	
	comp=Z,16nm,0.9s						
CGM3	Cape Girardeau	22.79	20	P	P	12 54 13.7	-0.9
CGM3				IAmb	IAmb	12 54 16.1	
	comp=Z,19nm,0.9s						
R40A	Maddies Statio	23.00	14	P	P	12 54 15.9	-0.9
CLTN	Cedars of Leba	23.00	27	P	P	12 54 16.6	-0.2
CLTN				IAmb	IAmb	12 54 19.0	
	comp=Z,14nm,1.0s						
W13A	Hualapai Mount	23.21	328	P	P	12 54 21.6	+2.4
S44A	Carbondale	23.29	20	P	P	12 54 19.5	-0.1
SIUC	Southern Illin	23.32	20	P	P	12 54 19.9	-0.1
CPCT	Cooper Cave	23.33	31	P	P	12 54 19.4	-0.8
U15A	North Rim	23.52	332	P	P	12 54 23.3	+1.0
U15A				IAmb	IAmb	12 54 34.2	
	comp=Z,9.3nm,1.1s						
PFO	Pinyon Flats O	23.55	321	P	P	12 54 25.1	+2.6
	comp=Z,2.0nm,0.5s,baz=135,slow=11,SNR=4.9						
	comp=Z,2.0nm,0.5s						
V51A	Loudon	23.69	31	P	P	12 54 23.4	-0.3
TKL	Tuckaleechee C	23.87	32	P	P	12 54 25.1	-0.4
	comp=Z,6.2nm,0.9s,baz=202,slow=11,SNR=5.0						
	comp=Z,6.2nm,0.9s						
ISCO	Idaho Springs	24.40	348	P	P	12 54 31.6	+0.8
ISCO				IAmb	IAmb	12 54 41.4	
	comp=Z,12nm,1.2s						
MTPU	Mount Pierson	24.83	335	P	P	12 54 35.8	+1.1
MTPU				IAmb	IAmb	12 54 39.5	
	comp=Z,15nm,1.2s						
U54A	Nelsons Funny	25.55	34	P	P	12 54 41.3	+0.4
PHWY	Pilot Hill	25.82	349	P	P	12 54 44.0	+0.4
PHWY				IAmb	IAmb	12 54 47.1	
	comp=Z,8.0nm,0.9s						
P49A	Miami Univ. Ec	26.59	25	P	P	12 54 48.9	-1.3
NVAR	Mina Array Bea	28.04	327	P	P	12 55 05.5	+1.9
NVAR	Mina Array Bea	28.04	327	P	P	12 55 06.5	+3.0
	comp=Z,1.9nm,0.8s,baz=157,slow=9.8,SNR=13						
	comp=Z,1.9nm,0.8s						
BW06	Boulder Array	28.16	343	P	P	12 55 05.7	+1.0
BW06				IAmb	IAmb	12 55 07.1	
	comp=Z,5.4nm,1.1s						
PD31	Pinedale Array	28.16	343	P	P	12 55 05.2	+0.6
PD31				IAmb	IAmb	12 55 07.1	
	comp=Z,5.0nm,1.1s						
PDAR	Pinedale Array	28.16	343	P	P	12 55 05.4	+0.8
PDAR	Pinedale Array	28.16	343	P	P	12 55 05.7	+1.0
	comp=Z,2.6nm,0.9s,baz=139,slow=8.4,SNR=20						
	comp=Z,2.6nm,0.9s						
MDND	Maddock	31.77	359	P	P	12 55 36.2	0.0
J08A	Circle Bar Ran	31.91	333	P	P	12 55 38.7	+1.1
ELMT	Elliston	32.44	343	P	P	12 55 43.9	+1.6
F10A	Beach Ranch, E	33.54	337	P	P	12 55 53.7	+1.8
K27K	Chicken	56.26	339	P	P	12 58 54.4	+2.1
K27K				IAmb	IAmb	12 58 56.1	
	comp=Z,5.9nm,1.0s						
IL31		58.39	338	P	P	12 59 07.9	+0.7
IL31				IAmb	IAmb	12 59 10.3	
	comp=Z,5.5nm,1.1s						
ILAR	Eielson Array	58.39	338	P	P	12 59 08.7	+1.3
ILAR	Eielson Array	58.39	338	P	P	12 59 08.9	+1.6
	comp=Z,2.0nm,1.0s,baz=144,slow=5.1,SNR=16						
	comp=Z,2.0nm,1.0s						

*IDC **31** 12:51:46.6±3.5, 3°.78S×128°.41E, $h0^{km}$, mb3.6/2, mbtmp3.7/3, Error ellipse: s-maj=180.1km s-min=36.8km az=86.0*
*DJA **31** 12:51:53.8±1.2, 4°S±14°×12°8E±°, $h11^{km}$±4^{km}, M3.8/7, MLv3.8/7*
ISC 31 12:51:48.5±1.1, **3°.9S**±0°.1×**128°.42E**±0°.09, **$h10^{km}$**, **n7**, σ**2°.02**/7, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	1.47	296	P	Pn	12 52 13.6	-1.4
LBMI	Labuha	3.36	344	P	Pb	12 52 50.5	+2.3
FAKI	Fak Fak	3.94	76	P	Pb	12 53 00.1	+1.9
SWI	Sorong	4.13	43	P	Pb	12 53 00.6	-0.8
WRA	Warramunga Arr	16.97	161	P	Pn	12 55 45.1	-1.1
	2.1nm,1.1s,baz=339,slow=13,SNR=3.9						
ASAR	Alice Springs	20.36	165	P	P	12 56 27.1	+1.6
	2.4nm,0.8s,baz=342,slow=11,SNR=4.7						
	2.4nm,0.8s						
ILAR	Eielson Array	91.22	25	P	P	13 04 53.0	-0.8
	0.3nm,1.0s,baz=259,slow=3.8,SNR=4.1						
	0.3nm,1.0s						

*NORS **31** 12:55:24.2±0.0, 43°.99N×43°.62E, $h27^{km}$, MPVA3.5*
*TIF **31** 12:55:25.4, 43.97N×43°.75E, $h22^{km}$±4^{km}*
*MOS **31** 12:55:25.8±0.0, 43°.98N×43°.62E, $h23^{km}$, MPVA3.4*
ISC 31 12:55:25.8±1.3, **43.98N**±0°.06×**43°.63E**±0°.04, **$h24^{km}$**±9km, **n15**, σ**0°.73**/30, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTC	Kuba-Taba	0.23	225	ePg	Pb	12 55 31.1	-0.7
KBTC				eSg	Sb	12 55 36.0	+0.3
PYA1	Pyatigorsk	0.39

PB07 IPOC Station P 1.23 260 *e*P Pn 12 56 00.1 -5.0
PB07 IAML 12 56 27.5
comp=Z,334nm,0.2s
PB02 IPOC Station P 1.24 279 *i* P **Pn 12 56 05.4 +0.2**
PB02 *e*S **Sn 12 56 24.7 -0.6**
PB02 IAML 12 56 25.7
comp=N,2μm,0.6s
PB02 IPOC Station P 1.24 279 *e*P **Pn 12 56 05.3 +0.2**
PB02 *e*S **Sn 12 56 25.4 +0.1**
PB02 IAML 12 56 26.5
comp=Z,1μm,0.4s
PB08 IPOC Station P 1.47 338⇑*i*P **Pn 12 56 07.9 +0.1**
PB08 *e*S **Sn 12 56 29.1 -0.9**
PB08 IAML 12 56 30.8
comp=E,323nm,0.5s
PB08 IPOC Station P 1.47 338 *e*P **Pn 12 56 07.9 +0.1**
PB08 *e*S **Sn 12 56 30.0 0.0**
PB06 IPOC Station P 1.50 218 *i* P **Pn 12 56 08.4 +0.6**
PB06 *e*S **Sn 12 56 30.3 +0.1**
PB06 IAML 12 56 32.4
comp=E,478nm,0.3s
PB06 IPOC Station P 1.50 218 *e*P **Pn 12 56 08.4 +0.6**
PB06 *e*S **Sn 12 56 31.1 +0.8**
PB06 IAML 12 56 31.4
comp=Z,352nm,0.8s
PATCX Punta Patache 1.62 295 *i* P **Pn 12 56 09.3 +0.2**
PATCX *e*S **Sn 12 56 31.8 -0.6**
PATCX IAML 12 56 34.5
comp=E,1μm,0.4s
PATCX Punta Patache 1.62 295 *e*P **Pn 12 56 09.5 +0.4**
PATCX *e*S **Sn 12 56 32.6 +0.2**
PB04 IPOC Station P 1.67 241 *e*P **Pn 12 56 10.1 +0.4**
PB04 *e*S **Sn 12 56 35.5 +1.9**
PB04 IAML 12 56 37.3
comp=Z,239nm,0.1s
HMBC Humberstone 1.74 315 *i* P **Pn 12 56 10.0 -0.4**
HMBC *e*S **Sn 12 56 33.6 -1.1**
HMBC IAML 12 56 37.1
comp=N,873nm,0.4s
HMBC Humberstone 1.74 315 *e*P **Pn 12 56 09.5 -0.9**
HMBC *e*S **Sn 12 56 34.3 -0.5**
TA01 Diego Aracena 1.77 302 *i* P **Pn 12 56 10.6 -0.1**
TA01 *e*S **Sn 12 56 34.2 -1.0**
TA01 IAML 12 56 36.0
comp=E,772nm,0.2s
PB15 IPOC Station P 1.88 206 *i* P **Pn 12 56 13.0 +0.9**
PB15 *e*S **Sn 12 56 38.6 +0.8**
PB15 IPOC Station P 1.88 206 *e*P **Pn 12 56 13.0 +0.9**
PB15 *e*S **Sn 12 56 39.6 +1.8**
PB15 IAML 12 56 41.9
comp=Z,1μm,0.4s
GO01 Chusmiza 1.93 342 *i* P **Pn 12 56 12.7 -0.3**
GO01 *e*S **Sn 12 56 38.3 -1.0**
GO01 IAML 12 56 49.2
comp=N,558nm,0.1s
GO01 Chusmiza 1.93 342 *e*P **Pn 12 56 12.8 -0.1**
GO01 *e*S **Sn 12 56 40.4 +1.1**
YJA Yavi 2.92 104 *e*P **Pn 12 56 25.4 +0.2**
GO02 Mina Guanaco 3.75 194 *e*P **Pn 12 56 36.1 +0.5**
GO02 *e*S **Sn 12 57 13.7 -6.2**
LPAZ La Paz 5.22 5 *e*P **Pn 12 56 57.5 +2.1**

---

*IDC **31** 12:55:47.0±1.2, 4°.25S×126°.78E, h0km, mb3.6/5, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=78.2km s-min=25.0km az=66.0*
*DJA **31** 12:55:48.2±1.4, 4°S±15°×12°8E±°, h10km, M3.9/7, MLv3.9/7*
ISC 31 12:55:50.3±1.0, 3°.95S±0°.10×127°.67E±0°.09, h34km, n11, σ1§93/11, mb3.7/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.91**	**321**	P	**Pn**	**12 56 04.5**	**-2.2**
SANI	**Sanana**	**2.53**	**318**	P	**Pn**	**12 56 30.1**	**+1.1**
LBMI	**Labuha**	**3.30**	**357**	P	**Pn**	**12 56 39.0**	**-0.6**
FAKI	**Fak Fak**	**4.68**	**77**	P	**Pn**	**12 56 58.6**	**-0.1**
SWI	**Sorong**	**4.72**	**50**	P	**Pn**	**12 56 58.3**	**-0.8**
WRA	**Warramunga Arr**	**17.17**	**158**	P	**Pn**	**12 59 49.3**	**+1.5**
	0.1nm,0.3s,baz=335,slow=13,SNR=7.8						
	1.3nm,0.9s						
ASAR	**Alice Springs**	**20.50**	**163**	P	**P**	**13 00 26.8**	**+1.1**
	1.6nm,0.9s,baz=337,slow=9.3,SNR=6.1						
ASAR				S	**S**	**13 04 09.2**	**-4.2**
	1.7nm,0.9s,baz=347,slow=12,SNR=6.5						
	1.6nm,0.9s						
MKAR	**Makanchi Array**	**64.42**	**327**	P	**P**	**13 06 24.2**	**+0.9**
	0.5nm,0.7s,baz=129,slow=6.5,SNR=4.5						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**67.85**	**334**	P	**P**	**13 06 45.3**	**+0.2**
	0.2nm,0.3s,baz=116,slow=5.0,SNR=1.8						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**68.72**	**329**	P	**P**	**13 06 51.0**	**+0.5**
	0.6nm,0.6s,baz=130,slow=6.1,SNR=5.6						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**91.60**	**25**	P	P	13 08 59.5	+5.9
	0.2nm,0.6s,baz=249,slow=5.4,SNR=7.4						
	0.2nm,0.6s						

---

*IDC **31** 13:06:41.1±0.6, 3°.69S×127°.96E, h0km, mb4.1/12, mbtmp4.1/14, ML3.7/2, Error ellipse: s-maj=27.6km s-min=14.9km az=64.0*
*NEIC **31** 13:06:43.5±1.5, 3°.81S±0°.07×127°.70E±0°.02, h10km±1km, mb4.7/34, Error ellipse: s-maj=11.8km s-min=4.0km az=0.0*
*DJA **31** 13:06:44.6±0.8, 4°S±8°×12°8E±°, h10km, M4.0/10, MLv4.0/10*
ISC 31 13:06:46.0±0.4, 3°.81S±0°.06×127°.76E±0°.07, h30km, n69, σ1§11/69, mb4.6/26, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.87**	**311**	P	**Pn**	**13 07 01.3**	**-1.0**
BNDI	**Bandanaira**	**2.25**	**108**	P	**Pn**	**13 07 22.1**	**+0.9**
SANI	**Sanana**	**2.49**	**315**	P	**Pn**	**13 07 24.6**	**0.0**
LBMI	**Labuha**	**3.17**	**355**	P	**Pn**	**13 07 35.5**	**+1.7**
SWI	**Sorong**	**4.56**	**50**	P	**Pn**	**13 07 54.4**	**+1.4**
FAKI	**Fak Fak**	**4.56**	**79**	Pn	**Pn**	**13 07 55.2**	**+2.1**
FAKI	**Fak Fak**	**4.56**	**79**	P	**Pn**	**13 07 55.2**	**+2.1**
TNTI	**Ternate**	**4.57**	**355**	Pn	**Pn**	**13 07 52.7**	**-0.5**
TNTI	**Ternate**	**4.57**	**355**	P	**Pn**	**13 07 54.8**	**+1.6**
LUWI	**Luwuk**	**5.70**	**299**	Pn	**Pn**	**13 08 09.2**	**+0.6**
SOEI	**Soe**	**6.85**	**210**	Pn	**Pn**	**13 08 26.0**	**+1.4**
KAPI	**Kappang**	**8.08**	**261**	Pn	**Pn**	**13 08 43.2**	**+1.8**
	5.2nm,0.3s,baz=99,slow=11,SNR=4.6						
	11nm,0.3s						
TOLI2	**Tolitoli**	**8.52**	**305**	Pn	**Pn**	**13 08 51.2**	**+3.7**
MTN	**Manton Dam**	**9.57**	**160**	Pn	**Pn**	**13 09 01.7**	**-0.2**
BKB	**Balikpapan**	**11.15**	**283**	Pn	**Pn**	**13 09 23.9**	**+0.4**
KNRA	**Kununurra**	**11.83**	**175**	Pn	**Pn**	**13 09 33.1**	**+0.3**
WRA	**Warramunga Arr**	**17.27**	**159**	Pn	**Pn**	**13 10 43.4**	**-1.7**
WRA	**Warramunga Arr**	**17.27**	**159**	P	**Pn**	**13 10 42.7**	**-2.4**
	0.1nm,0.3s,baz=338,slow=12,SNR=8.8						
	4.2nm,0.9s						
WB2	**Warramunga Arr**	**17.27**	**159**	Pn	**Pn**	**13 10 42.1**	**-3.0**
WR0	**Warramunga Arr**	**17.36**	**158**	Pn	**Pn**	**13 10 44.3**	**-1.9**
COEN	**Coen**	**18.24**	**125**	P	**Pn**	**13 10 57.7**	**+0.5**
MBWA	**Marble Bar**	**18.93**	**204**	P	**P**	**13 11 04.0**	**-0.7**
PSA00	**Pilbara Seismi**	**19.26**	**203**	P	**P**	**13 11 07.8**	**-0.4**
PSA00				IAmb	IAmb	13 11 17.9	
	comp=Z,12nm,0.8s						
LEM	**Lembang**	**20.28**	**261**	P	Pn	13 11 22.4	+0.7
	comp=Z,19nm,0.6s,baz=69,slow=15,SNR=4.7						
	comp=Z,19nm,0.6s						
AS31	**Alice Springs**	**20.61**	**164**		**P**	**13 11 24.4**	**+1.3**
ASAR	**Alice Springs**	**20.61**	**164**		**P**	**13 11 24.2**	**+1.1**
ASAR	**Alice Springs**	**20.61**	**164**	P	Pn	13 11 24.6	-0.8
	comp=Z,16nm,0.8s,baz=344,slow=11,SNR=22						
ASAR				PcP	**PcP**	**13 15 32.5**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=354,slow=1.9,SNR=7.4						
	comp=Z,16nm,0.8s						
CTA	**Charters Tower**	**24.22**	**133**	P	**P**	**13 12 00.5**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=39,slow=7.7,SNR=3.2						
	comp=Z,2.8nm,1.0s						
TPUB	**Ta-pu**	**27.83**	**346**	P	**P**	**13 12 32.2**	**-0.8**
NWAO	**Narrogin (SRO)**	**30.59**	**198**	P	**P**	**13 12 58.1**	**+0.8**
NWAO	**Narrogin (SRO)**	**30.59**	**198**	P	**P**	**13 12 58.3**	**+0.9**
NWAO				IAmb	IAmb	13 13 12.9	
	comp=Z,22nm,1.1s						
GSI	**Gunungsitoli**	**30.60**	**279**	P	**P**	**13 12 58.0**	**+0.3**
STKA	**Stephens Creek**	**30.79**	**157**	P	**P**	**13 12 59.4**	**+0.3**
STKA	**Stephens Creek**	**30.79**	**157**	P	**P**	**13 12 59.3**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=349,slow=8.9,SNR=5.0						
	comp=Z,3.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**36.00**	**309**	P	**P**	**13 13 45.5**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=139,slow=6.8,SNR=5.5						
CMAR				PcP	**PcP**	**13 16 10.3**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=166,slow=2.8,SNR=5.1						
	comp=Z,0.6nm,0.5s						
KSRS	**Korea Array**	**41.06**	**0**	P	**P**	**13 14 26.8**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=181,slow=9.8,SNR=9.6						
	comp=Z,2.8nm,0.8s						
SONM	**Songino Array**	**54.74**	**343**	P	**P**	**13 16 12.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=169,slow=8.7,SNR=2.4						
	comp=Z,0.3nm,0.3s						
MK31	**Makanchi Array**	**64.36**	**327**	P	**P**	**13 17 18.8**	**-0.3**
MK31				IAmb	IAmb	13 17 48.4	
	comp=Z,5.1nm,1.3s						
MKAR	**Makanchi Array**	**64.36**	**327**	P	**P**	**13 17 18.8**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=129,slow=7.5,SNR=13						
	comp=Z,2.3nm,0.8s						
KURBB	**Kurchatov Arra**	**68.65**	**329**	P	**P**	**13 17 45.8**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=128,slow=5.4,SNR=16						
	comp=Z,2.2nm,0.7s						
KURK	**Kurchatov**	**68.66**	**329**	P	**P**	**13 17 45.6**	**-0.8**
KURK				IAmb	IAmb	13 17 47.1	
	comp=Z,5.8nm,0.9s						
KKAR	**Karatay Array**	**69.49**	**319**	P	**P**	**13 17 51.6**	**-0.2**
BVAR	**Borovoye Array**	**74.20**	**328**	P	**P**	**13 18 18.9**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=130,slow=8.3,SNR=6.0						
	comp=Z,0.8nm,0.5s						
TIXI	**Tiksi**	**75.33**	**0**	P	**P**	**13 18 25.7**	**-0.3**
TIXI				IAmb	IAmb	13 18 27.2	
	comp=Z,2.1nm,0.8s						
VNDA	**Vanda**	**75.86**	**173**	P	**P**	**13 18 29.4**	**+0.3**
ABKAR	**Akbulak array**	**78.64**	**322**	P	**P**	**13 18 44.4**	**-0.7**
PPTF	**Pamatai, Papee**	**81.88**	**107**	P	**P**	**13 19 03.0**	**-0.4**
L16K	**Owhat River**	**85.25**	**27**	P	**P**	**13 19 20.1**	**+0.5**
L16K				IAmb	IAmb	13 19 21.6	
	comp=Z,6.9nm,1.1s						
M16K	**Timber Creek**	**85.29**	**28**	P	**P**	**13 19 20.3**	**+0.5**
M16K				IAmb	IAmb	13 19 57.2	
	comp=Z,11nm,1.2s						
H17K	**Granite Mounta**	**86.03**	**24**	P	**P**	**13 19 24.2**	**+0.8**
H17K				IAmb	IAmb	13 19 35.3	
	comp=Z,8.4nm,1.3s						
QSPA	**South Pole Qui**	**86.14**	**180**	P	**P**	**13 19 23.5**	**-0.6**
QSPA				IAmb	IAmb	13 20 05.1	
	comp=Z,7.5nm,1.5s						
QSPA	**South Pole Qui**	**86.14**	**180**	P	**P**	**13 19 23.6**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=234,slow=2.5,SNR=5.2						
	comp=Z,0.6nm,0.6s						
E18K	**Tukpahlearik C**	**86.53**	**22**	P	**P**	**13 19 24.6**	**-1.2**
E18K				IAmb	IAmb	13 19 33.8	
	comp=Z,11nm,1.4s						
L18K	**Granite Mounta**	**86.66**	**27**	P	**P**	**13 19 27.3**	**+0.7**
L18K				IAmb	IAmb	13 20 00.2	
	comp=Z,8.7nm,1.4s						
J18K	**Innoko River**	**86.96**	**26**	P	**P**	**13 19 28.2**	**+0.2**
J18K				IAmb	IAmb	13 19 48.3	
	comp=Z,6.7nm,1.4s						
TTA	**Tatalina**	**87.14**	**26**	P	**P**	**13 19 29.0**	**0.0**
TTA				IAmb	IAmb	13 19 49.1	
	comp=Z,7.8nm,1.4s						
C19K	**Lookout Ridge**	**87.42**	**20**	P	**P**	**13 19 28.6**	**-1.6**
L19K	**White Mountain**	**87.48**	**27**	P	**P**	**13 19 30.0**	**-0.6**
L19K				IAmb	IAmb	13 19 49.6	
	comp=Z,10nm,1.4s						
G19K	**Purcell Mounta**	**87.50**	**23**	P	**P**	**13 19 30.2**	**-0.4**
G19K				IAmb	IAmb	13 20 12.2	
	comp=Z,9.5nm,1.4s						
H19K	**Roundabout Mou**	**87.59**	**24**	P	**P**	**13 19 31.5**	**+0.5**
H19K				IAmb	IAmb	13 19 37.6	
	comp=Z,3.9nm,1.2s						
M19K	**Big River Lodg**	**87.63**	**28**	P	**P**	**13 19 31.8**	**+0.4**
M19K				IAmb	IAmb	13 20 07.9	
	comp=Z,8.5nm,1.4s						
D19K	**Kuna River**	**87.75**	**21**	P	**P**	**13 19 31.7**	**-0.1**
K20K	**Telida**	**88.09**	**26**	P	**P**	**13 19 33.5**	**0.0**
K20K				IAmb	IAmb	13 20 06.3	
	comp=Z,7.3nm,1.4s						
SKT	**Skwentna**	**88.97**	**28**	P	**P**	**13 19 36.7**	**-1.0**
SKT				IAmb	IAmb	13 19 37.3	
	comp=Z,9.4nm,1.4s						
B21K	**Ikpikpuk River**	**89.25**	**20**	P	**P**	**13 19 38.9**	**+0.1**
MLY	**Manley**	**89.84**	**25**	P	**P**	**13 19 41.3**	**-0.4**
ILAR	**Eielson Array**	**91.43**	**25**	P	**P**	**13 19 47.8**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=247,slow=5.2,SNR=13						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**125.13**	**57**	PKP	**PKPdf**	**13 25 43.3**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=192,slow=1.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**125.96**	**283**	PKP	**PKPdf**	**13 25 46.0**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=35,slow=3.6,SNR=6.1						

---

*IDC **31** 13:11:08.9±3.0, 21°.99S×169°.13E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=157.5km s-min=32.6km az=161.0*
*NOU **31** 13:11:08.8, 21°.75S×169°.04E, h0km, MLv4.2/11, Southeast of Loyalty Islands*
*NEIC **31** 13:11:12.3±1.9, 21°.74S±0°.06×168°.72E±0°.06, h10km±1km, mb4.5/6, Error ellipse: s-maj=11.2km s-min=7.8km az=149.0*
ISC 31 13:11:14.3±0.6, 21°.71S±0°.08×168°.76E±0°.07, h29km, n32, σ1§08/32, mb4.3/10, 3C-1D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.72**	**289**	Pn	**Pb**	**13 11 27.7**	**-0.7**
MARNC	**Mare, Loyalty**	**0.72**	**289**	P	**Pb**	**13 11 28.0**	**-0.3**
PINNC	**Pines Island,**	**1.51**	**233**		**Pn**	**13 11 38.8**	**-0.7**
PINNC	**Pines Island,**	**1.51**	**233**	P	**Pn**	**13 11 39.2**	**-0.3**
LIFNC	**LIFOU**	**1.70**	**303**		**Pn**	**13 11 40.9**	**-1.1**
LIFNC	**LIFOU**	**1.70**	**303**	P	**Pn**	**13 11 41.4**	**-0.6**
YATNC	**Mamie plateau,**	**1.77**	**258**	P	**Pn**	**13 11 43.6**	**+0.6**
OUENC	**Ouen Island, N**	**1.92**	**248**		**Pn**	**13 11 45.3**	**+0.3**
OUENC	**Ouen Island, N**	**1.92**	**248**	P	**Pn**	**13 11 46.1**	**+1.1**
DZM	**Mont Dzumac**	**2.18**	**260**		**Pn**	**13 11 48.5**	**-0.2**
DZM	**Mont Dzumac**	**2.18**	**260**	P	**Pn**	**13 11 49.8**	**+1.0**
ONTNC	**Ouen Toro**	**2.22**	**254**		**Pn**	**13 11 48.3**	**-0.9**
ONTNC	**Ouen Toro**	**2.22**	**254**	P	**Pn**	**13 11 49.9**	**+0.7**
NOUC	**Port Laguerre**	**2.32**	**260**	P	**Pn**	**13 11 51.4**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.34**	**285**		**Pn**	**13 12 17.6**	**-0.7**
KOUNC	**Koumac, New Ca**	**4.34**	**285**	P	**Pn**	**13 12 20.2**	**+1.9**
MSVF	**Nonsavu**	**9.60**	**67**		**Pn**	**13 13 31.4**	**+0.7**
RTZ	**Ruatahuna**	**18.27**	**159**	P	**P**	**13 15 26.5**	**+0.8**
AFI	**Afiamalu**	**20.07**	**70**	P	**P**	**13 15 46.8**	**+1.2**
TOO	**Toolangi**	**25.57**	**227**	P	**P**	**13 16 38.5**	**-2.4**
TOO				IAmb	IAmb	13 17 13.8	
	comp=Z,14nm,1.2s						
ASAR	**Alice Springs**	**32.17**	**260**	P	**P**	**13 17 40.6**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=88,slow=8.7,SNR=6.3						
	comp=Z,1.1nm,0.8s						
WRA	**Warramunga Arr**	**32.19**	**267**	P	**P**	**13 17 41.8**	**+1.8**
	comp=Z,0.6nm,0.9s,baz=97,slow=8.5,SNR=3.6						
	comp=Z,0.6nm,0.9s						
SBA	**Scott Base**	**56.20**	**181**	P	**P**	**13 20 52.1**	**+1.0**
SBA				IAmb	IAmb	13 21 01.2	
	comp=Z,4.9nm,1.1s						
QSPA	**South Pole Qui**	**68.35**	**180**	P	**P**	**13 22 12.7**	**-0.3**
QSPA				IAmb	IAmb	13 22 21.3	
	comp=Z,5.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**79.12**	**295**	P	**P**	**13 23 17.9**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=111,slow=4.0,SNR=4.6						
	comp=Z,0.3nm,0.4s						
BELA	**Belgrano 2**	**79.69**	**175**	P	**P**	**13 23 17.8**	**-1.0**
BELA				IAmb	IAmb	13 23 18.5	
	comp=Z,2.5nm,0.8s						
TROLL	**Troll, Antarti**	**86.05**	**184**	⇑P	**P**	**13 23 51.2**	**-0.8**
	comp=Z,125nm,0.7s						
VNA3	**Neumayer Olymp**	**87.29**	**181**	⇑P	**P**	**13 23 56.8**	**-1.2**
	comp=Z,3.8nm,1.0s						
VNA2	**Neumayer--Watz**	**87.58**	**181**	⇑P	**P**	**13 23 58.2**	**-1.1**
	comp=Z,1.8nm,0.6s,baz=181,slow=3.0						
NVAR	**Mina Array Bea**	**90.76**	**49**	P	**P**	**13 24 13.4**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=236,slow=6.4,SNR=7.7						
	comp=Z,0.6nm,0.7s						
CLL	**Collm**	**144.94**	**333**	⇓*i*PKPbc	**PKPab**	**13 30 47.7**	**0.0**
	comp=Z,7.0nm,0.9s						
CLL				*i* x	x	13 30 55.9	
GERES	**GERESS Array B**	**146.42**	**330**	PKPbc	**PKPbc**	**13 30 53.2**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=60,slow=3.2,SNR=11						

---

*NEIC **31** 13:11:24.0±0.8, 19°.38N±0°.01×155°.246W±0°.008, h4km±1km, Error ellipse: s-maj=1.6km s-min=1.1km az=194.0*
HVO 31 13:11:23.5±0.6, 19°.38N±0°.01×155°.242W±0°.008, h3km±2km, ML2.6/21, ML2.1/46(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=190.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.03**	**112**		**Pg**	**13 11 24.8**	**+0.5**
KKO	**Keanakako`i**	**0.03**	**301**		**Pg**	**13 11 24.8**	**+0.4**
BYL	**Byron's Ledge**	**0.03**	**328**		**Pg**	**13 11 24.8**	**+0.4**
BYL				IAML		13 11 25.2	
	comp=E,2μm,0.1s						
BYL				IAML		13 11 25.8	
	comp=N,3μm,0.1s						
RIM	**Rim**	**0.03**	**290**		**Pg**	**13 11 24.8**	**+0.4**
HATHI	**Halema'uma'u T**	**0.04**	**335**		**Pg**	**13 11 25.1**	**+0.6**
HATHI				IAML		13 11 25.6	
	comp=N,3μm,0.2s						
HATHI				IAML		13 11 25.6	
	comp=E,2μm,0.3s						
NPH	**North Pit**	**0.05**	**307**		**Pg**	**13 11 25.0**	**+0.4**
SBLHI	**Steaming Bluff**	**0.05**	**330**		**Pg**	**13 11 25.2**	**+0.5**
SDHHI	**Sand Hill**	**0.05**	**277**		**Pg**	**13 11 25.2**	**+0.5**
OBL	**Observatory Le**	**0.05**	**310**		**Pg**	**13 11 25.2**	**+0.5**
OBL				IAML		13 11 26.3	
	comp=N,2μm,0.1s						
OBL				IAML		13 11 26.4	
	comp=E,1μm,0.2s						
UWB	**Uwekahuna B**	**0.05**	**320**		**Pg**	**13 11 25.1**	**+0.4**
UWB				IAML		13 11 26.7	
	comp=E,3μm,0.5s						
WRMHI	**West Rim**	**0.06**	**292**		**Pg**	**13 11 25.3**	**+0.4**
WRMHI				IAML		13 11 26.9	
	comp=E,3μm,0.4s						
WRMHI				IAML		13 11 27.1	
	comp=N,1μm,0.2s						
UWE	**Uwekahuna**	**0.06**	**307**		**Pg**	**13 11 25.2**	**+0.4**
KNHH	**Kane Nui o Ham**	**0.07**	**94**		**Pg**	**13 11 25.6**	**+0.7**
RSD	**Rainshed**	**0.09**	**336**		**Pg**	**13 11 25.4**	**+0.2**
RSD				IAML		13 11 27.8	
	comp=N,842nm,0.6s						
HLP	**Hilina Pali**	**0.11**	**216**		**Pg**	**13 11 26.0**	**+0.4**
HLP				IAML		13 11 28.6	
	comp=E,934nm,0.3s						
HLP				IAML		13 11 28.8	
	comp=N,1μm,0.3s						
HLP	**Hilina Pali**	**0.11**	**216**		**Sg**	**13 11 28.8**	**+1.7**
STCH	**Steam Cracks**	**0.11**	**89**	Pg	**Pg**	**13 11 26.1**	**+0.4**
STCH				IAML		13 11 28.3	
	comp=E,1μm,0.2s						
STCH				IAML		13 11 28.5	
	comp=N,1μm,0.1s						
NPOC	**North of Pu'u**	**0.12**	**86**		**Pg**	**13 11 26.5**	**+0.5**
NPOC				IAML		13 11 28.9	
	comp=E,699nm,0.3s						
NPOC				IAML		13 11 29.4	
	comp=N,829nm,0.2s						
JCUZ	**Jacuzzi**	**0.13**	**90**		**Pg**	**13 11 26.6**	**+0.5**
JCUZ				IAML		13 11 29.7	
	comp=E,655nm,0.4s						
MLH	**Mauna Loa**	**0.17**	**309**		**Pg**	**13 11 27.7**	**+0.8**
MLH	**Mauna Loa**	**0.17**	**309**	IAML		13 11 30.1	
	comp=N,205nm,3.0s						
MLH				IAML		13 11 31.5	
	comp=E,164nm,0.5s						
AIN	**Ainahou**	**0.20**	**267**		**Pg**	**13 11 28.2**	**+0.7**
AIN				IAML		13 11 34.5	
	comp=E,361nm,0.5s						
AIN				IAML		13 11 34.7	
	comp=N,594nm,0.5s						
AIN	**Ainahou**	**0.20**	**267**		**Sg**	**13 11 32.2**	**+2.0**
HTC	**Hot Caves**	**0.21**	**225**		**Pg**	**13 11 28.2**	**+0.7**
JOKA	**Jonika Flow**	**0.23**	**77**		**Pg**	**13 11 28.2**	**+0.3**
HMH	**Humu'ula Sheep**	**0.32**	**314**	Pg	**Pg**	**13 11 29.7**	**+0.1**
HMH				IAML		13 11 38.5	
	comp=N,182nm,3.6s						
MLOA	**Mauna Loa Obse**	**0.35**	**296**	Pg	**Pg**	**13 11 30.6**	**+0.2**
MWH	**Moku'aweowe**	**0.35**	**287**		**Pg**	**13 11 30.6**	**+0.2**
MWH				IAML		13 11 41.9	
	comp=N,210nm,1.1s						
MWH				IAML		13 11 42.4	
	comp=E,306nm,1.1s						
KHU	**Kahuku**	**0.38**	**249**		**Pg**	**13 11 31.0**	**+0.2**
KHU				IAML		13 11 38.2	
	comp=E,160nm,0.3s						
KHU	**Kahuku**	**0.38**	**249**		**Sb**	**13 11 37.9**	**-1.4**
KHU	**Kahuku**	**0.38**	**249**	IAML		13 11 32.8	
	comp=N,136nm,4.3s						
ALEP	**Alea Permanent**	**0.41**	**292**		**Pg**	**13 11 31.6**	**+0.2**
HUH	**Hualalai**	**0.64**	**298**		**Pg**	**13 11 36.3**	**+0.6**

IDC 31 13:24:48.8±8.8, 23°.82N×92°.99E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=696.7km s-min=30.9km az=61.0, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.49**	**342**	P	P	13 30 09.7	0.0
	0.3nm,0.6s,baz=173,slow=10,SNR=4.4						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**59.29**	**134**	P	P	13 34 51.8	-0.8
	0.3nm,0.8s,baz=320,slow=7.6,SNR=2.1						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**61.68**	**137**	P	P	13 35 09.5	+0.6
	0.5nm,0.9s,baz=317,slow=6.7,SNR=4.2						
	0.5nm,0.9s						

---

*IDC **31** 13:42:23.7±2.1, 8°.41S×158°.56E, h138km±25km, mb3.6/6, mbtmp4.0/6, MS3.9/1, Error ellipse: s-maj=34.4km s-min=26.1km az=126.0*
*NEIC **31** 13:42:25.0±1.2, 8°.27S±0°.08×159°.2E±0°.1, h154km±6km, mb4.4/17, Error ellipse: s-maj=21.5km s-min=11.2km az=73.0*
ISC 31 13:42:24.3±0.7, 8°28S±0°.09×159°0E±0°.1, h150km, n27, σ1§46/27, mb4.2/12, Bougainville-Solomon Islands region

|

N19K IAmb IAmb 13 54 33.2
comp=Z,24nm,1.4s
QSPA South Pole Qui 81.70 180 P **P 13 54 26.6 +0.7**
QSPA IAmb IAmb 13 55 07.9
comp=Z,5.8nm,1.4s
QSPA South Pole Qui 81.70 180 P **P 13 54 26.3 +0.4**
comp=Z,0.8nm,0.7s,baz=77,slow=0.1,SNR=5.4
comp=Z,0.8nm,0.7s
D19K Kuna River 82.28 15 P **P 13 54 30.3 +1.7**
D19K IAmb IAmb 13 54 54.9
comp=Z,11nm,1.4s
ILAR Eielson Array 83.14 20 P **P 13 54 34.6 +1.5**
comp=Z,0.7nm,1.0s,baz=235,slow=3.2,SNR=2.6
comp=Z,0.7nm,1.0s
MKAR Makanchi Array 87.01 318 P **P 13 54 53.3 +0.4**
MKAR Makanchi Array 87.01 318 P **P 13 54 52.6 -0.3**
comp=Z,0.5nm,0.5s,baz=86,slow=5.9,SNR=2.0
comp=Z,0.5nm,0.5s

---

*NEIC **31** 13:42:25.3±1.4,3.80S±0.05×127.65E±0.06,h10km±1km, mb5.1/76,Error ellipse: s-maj=11.0km s-min=8.3km az=118.0*
*BJI **31** 13:42:26.9±0.0,4.03S×127.69E,h35km,mb4.7/36, mB5.3/19,Ms5.0/2,Ms7 4.6/3*
*DJA **31** 13:42:28.2±0.3,4.5S±3.3×12.8E±.°,h10km,M4.7/16,mb5.1/9, mB5.2/6,MLv4.6/16,Mw(mB)4.5/6*
*IDC **31** 13:42:31.8±2.6,3.84S×127.70E,h65km±24km,mb4.2/21, mbtmp4.5/23,Error ellipse: s-maj=17.8km s-min=11.2km az=62.0*
ISC 31 13:42:28.6±0.3,3.81S±0.04×127.74E±0.05,h34km,n288, σ1§11/294,mb5.0/65,1C,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.85**	**312**	P	**Pn**	**13 42 43.7**	**-0.5**
BNDI	**Bandanaira**	**2.28**	**108**	P	**Pn**	**13 43 07.1**	**+3.3**
SANI	**Sanana**	**2.47**	**315**	P	**Pn**	**13 43 06.4**	**-0.1**
LBMI	**Labuha**	**3.16**	**356**	P	**Pn**	**13 43 18.4**	**+2.5**
TNTI	**Ternate**	**4.56**	**355**		**Pn**	**13 43 34.0**	**-1.3**
SWI	**Sorong**	**4.58**	**50**	P	**Pn**	**13 43 36.2**	**+0.8**
FAKI	**Fak Fak**	**4.59**	**79**	Pn	**Pn**	**13 43 36.9**	**+1.2**
FAKI	**Fak Fak**	**4.59**	**79**	P	**Pn**	**13 43 38.0**	**+2.3**
BBSI	**Bau Bau**	**5.41**	**252**	P	**Pn**	**13 43 49.3**	**+2.3**
68nm,1.0s,718nm0.2nm
LUWI	**Luwuk**	**5.67**	**299**	Pn	**Pn**	**13 43 48.5**	**-2.0**
LUWI	**Luwuk**	**5.67**	**299**	P	**Pn**	**13 43 51.8**	**+1.3**
468nm,0.7s,5μm1.4nm
KMSI	**Cibinong**	**5.75**	**319**	P	**Pn**	**13 43 53.0**	**+1.4**
322nm,0.7s,3μm1.3nm
RKPI	**Ransiki, Papua**	**6.83**	**71**	P	Pn	13 44 02.4	-4.0
SOEI	**Soe**	**6.84**	**210**		**Pn**	**13 44 04.9**	**-1.8**
SOEI	**Soe**	**6.84**	**210**	P	**Pn**	**13 44 06.5**	**-0.2**
SOEI	**Soe**	**6.84**	**210**	P	**Pn**	**13 44 09.3**	**+2.6**
64nm,0.9s,0.2nm
MRSI	**Marisa**	**7.19**	**306**	P	**Pn**	**13 44 13.1**	**+1.7**
213nm,0.6s,2μm0.7nm
BATI	**Baumata**	**7.53**	**212**	P	**Pn**	**13 44 18.2**	**+2.0**
18nm,0.6s,baz=324,slow=4.2,SNR=4.1
BKSI	**Bulukumba**	**7.74**	**259**	P	**Pn**	**13 44 21.3**	**+2.4**
63nm,0.6s,652nm0.2nm
EDFI	**Ende, Flores**	**7.76**	**230**	P	**Pn**	**13 44 21.2**	**+1.9**
29nm,0.8s,0.1nm
KAPI	**Kappang**	**8.05**	**261**	Pn	**Pn**	**13 44 21.1**	**-2.2**
KAPI	**Kappang**	**8.05**	**261**	P	**Pn**	**13 44 25.2**	**+2.0**
14nm,0.4s,baz=92,slow=5.4,SNR=4.8
KAPI				S	**Sn**	**13 45 54.7**	**+1.6**
6.7nm,0.4s,baz=102,slow=16,SNR=0.9
TOLI2	**Tolitoli**	**8.50**	**305**	Pn	**Pn**	**13 44 30.1**	**+0.8**
TOLI2	**Tolitoli**	**8.50**	**305**	P	**Pn**	**13 44 32.3**	**+3.0**
MPSI	**Mapaga**	**8.85**	**298**	P	**Pn**	**13 44 37.0**	**+2.8**
MTN	**Manton Dam**	**9.59**	**160**	P	**Pn**	**13 44 46.9**	**+2.6**
baz=9.6,SNR=5.0
MTN	**Manton Dam**	**9.59**	**160**	Pn	**Pn**	**13 44 44.2**	**0.0**
KDU	**Kakadu**	**9.99**	**152**	P	**Pn**	**13 44 48.9**	**-0.9**
baz=10.0,SNR=4.9
KDU	**Kakadu**	**9.99**	**152**	P	**Pn**	**13 44 49.1**	**-0.7**
KNRA	**Kununurra**	**11.84**	**175**	P	**Pn**	**13 45 14.8**	**-0.4**
baz=12,SNR=7.6
KNRA	**Kununurra**	**11.84**	**175**		**Pn**	**13 45 14.3**	**-0.8**
KNRA	**Kununurra**	**11.84**	**175**	P	**Pn**	**13 45 14.3**	**-0.8**
WB0	**Warramunga Arr**	**17.14**	**158**	Pn	**Pn**	**13 46 22.3**	**-3.4**
WRAB	**Tennant Creek**	**17.28**	**159**	P	**Pn**	**13 46 24.0**	**-3.4**
WRAB	**Tennant Creek**	**17.28**	**159**	P	**Pn**	**13 46 27.3**	**-0.1**
WRA	**Warramunga Arr**	**17.28**	**159**	P	**Pn**	**13 46 24.1**	**-3.3**
8.3nm,0.7s,baz=333,slow=13,SNR=16
WRA				S	**Sn**	**13 49 39.9**	**+1.1**
0.5nm,0.6s,baz=350,slow=27,SNR=2.7
WRA				PcP	**PcP**	**13 51 08.1**	**-1.3**
1.2nm,0.7s,baz=301,slow=1.3,SNR=0.7
WB2	**Warramunga Arr**	**17.29**	**159**	Pn	**Pn**	**13 46 24.2**	**-3.2**
WR0	**Warramunga Arr**	**17.37**	**158**	P	**Pn**	**13 46 25.2**	**-3.3**
COEN	**Coen**	**18.27**	**124**		**P**	**13 46 39.4**	**-0.2**
COEN	**Coen**	**18.27**	**124**	P	**P**	**13 46 40.4**	**+0.9**
MBWA	**Marble Bar**	**18.92**	**204**	P	**P**	**13 46 47.1**	**+0.4**
PSA00	**Pilbara Seismi**	**19.25**	**203**	P	**P**	**13 46 50.6**	**+0.3**
PSA00	**Pilbara Seismi**	**19.25**	**203**	P	**P**	**13 46 50.8**	**+0.5**
MANU	**Manus Island**	**19.68**	**85**	P	**P**	**13 46 57.3**	**+2.2**
MANU	**Manus Island**	**19.68**	**85**	P	**P**	**13 46 57.3**	**+2.2**
PMG	**Port Moresby**	**20.07**	**107**	P	**P**	**13 47 00.1**	**+0.8**
PMG	**Port Moresby**	**20.07**	**107**	P	**P**	**13 47 00.3**	**+1.0**
14nm,0.8s,baz=279,slow=6.9,SNR=4.5
14nm,0.8s
LEM	**Lembang**	**20.25**	**261**	P	Pn	13 47 03.0	-0.5
66nm,0.7s,baz=337,slow=23,SNR=12
66nm,0.7s
QIS	**Mount Isa**	**20.27**	**146**	P	**P**	**13 47 02.2**	**+0.8**
baz=20,SNR=25
QIS	**Mount Isa**	**20.27**	**146**	P	**P**	**13 47 02.1**	**+0.7**
BBJI	**Bungbulang**	**20.31**	**259**	P	**P**	**13 47 01.9**	**-0.1**
AS31	**Alice Springs**	**20.62**	**164**	P	**P**	**13 47 06.2**	**+0.9**
ASAR	**Alice Springs**	**20.62**	**164**	P	**P**	**13 47 06.4**	**+1.1**
ASAR	**Alice Springs**	**20.62**	**164**	P	**P**	**13 47 06.5**	**+1.3**
35nm,0.7s,baz=342,slow=10.0,SNR=26
ASAR				PcP	**PcP**	**13 51 14.6**	**-0.6**
2.0nm,0.7s,baz=341,slow=3.2,SNR=6.9
35nm,0.7s
WRKA	**Warakurna**	**21.11**	**179**	P	**P**	**13 47 12.1**	**+1.6**
baz=21,SNR=11
WRKA	**Warakurna**	**21.11**	**179**	P	**P**	**13 47 11.9**	**+1.4**
MTSU	**Mount Surprise**	**21.59**	**132**	P	**P**	**13 47 16.7**	**+1.0**
baz=22,SNR=22
MTSU	**Mount Surprise**	**21.59**	**132**	P	**P**	**13 47 16.8**	**+1.0**
GIRL	**Giralia**	**22.84**	**214**	P	**P**	**13 47 29.5**	**+0.5**
baz=23,SNR=5.3
GIRL	**Giralia**	**22.84**	**214**	P	**P**	**13 47 29.7**	**+0.7**
GIRL				IAmb	IAmb	13 47 31.5	
comp=Z,81nm,0.9s
GIRL	**Giralia**	**22.84**	**214**	P	**P**	**13 47 29.8**	**+0.8**
XMIS	**Christmas Isla**	**22.88**	**252**	P	**P**	**13 47 27.4**	**-2.1**
XMIS				IAmb	IAmb	13 47 27.7	
comp=Z,65nm,0.7s
CTA	**Charters Tower**	**24.24**	**133**	P	**P**	**13 47 43.1**	**+0.5**
comp=Z,7.5nm,1.0s,baz=320,slow=14,SNR=4.5
comp=Z,7.5nm,1.0s
MEEK	**Meekatharra**	**24.32**	**200**	P	**P**	**13 47 43.3**	**0.0**
baz=24,SNR=12
MEEK	**Meekatharra**	**24.32**	**200**	P	**P**	**13 47 43.7**	**+0.4**
OOD	**Oodnadatta**	**25.03**	**163**	P	**P**	**13 47 49.9**	**+0.2**
FORT	**Forrest**	**26.83**	**179**	P	**P**	**13 48 06.6**	**+0.6**
baz=27,SNR=13
FORT	**Forrest**	**26.83**	**179**	P	**P**	**13 48 05.7**	**-0.2**
FORT				IAmb	IAmb	13 48 07.2	
comp=Z,49nm,0.8s
FORT	**Forrest**	**26.83**	**179**	P	**P**	**13 48 06.5**	**+0.6**
MULG	**Mulgathing**	**27.00**	**168**	P	**P**	**13 48 09.2**	**+1.7**
TPUB	**Ta-pu**	**27.82**	**346**	P	**P**	**13 48 14.0**	**-0.9**
KMBL	**Kambalda**	**27.96**	**191**	P	**P**	**13 48 16.7**	**+0.6**
LCRK	**Leigh Creek**	**28.29**	**161**	P	**P**	**13 48 19.8**	**+0.8**
BLDU	**Ballidu**	**28.63**	**200**	P	**P**	**13 48 22.4**	**+0.4**
YHNB	**Yeheng**	**28.97**	**348**	P	**P**	**13 48 24.6**	**-0.6**
KLBR	**Kellerberrin**	**29.19**	**198**	P	**P**	**13 48 27.4**	**+0.3**
baz=29,SNR=10
KLBR	**Kellerberrin**	**29.19**	**198**	P	**P**	**13 48 27.5**	**+0.5**
RPSI	**Rantau Prapat**	**29.51**	**282**	P	**P**	**13 48 29.8**	**-0.3**
BBOO	**Buckleboo**	**29.89**	**166**	P	**P**	**13 48 32.9**	**-0.3**
BBOO				IAmb	IAmb	13 48 34.8	
comp=Z,85nm,1.9s
BBOO	**Buckleboo**	**29.89**	**166**	P	**P**	**13 48 34.5**	**+1.3**
GSI	**Gunungsitoli**	**30.57**	**279**	P	**P**	**13 48 39.1**	**-0.3**
GSI				IAmb	IAmb	13 48 47.9	
comp=Z,28nm,0.9s
NWAO	**Narrogin (SRO)**	**30.59**	**198**	P	**P**	**13 48 40.0**	**+0.6**
baz=31,SNR=10
NWAO				P	**P**	**13 48 40.0**	**+0.6**
baz=31,SNR=10
NWAO	**Narrogin (SRO)**	**30.59**	**198**	P	**P**	**13 48 39.4**	**0.0**
NWAO	**Narrogin (SRO)**	**30.59**	**198**	P	**P**	**13 48 39.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**30.59**	**198**	P	**P**	**13 48 39.7**	**+0.3**
STKA	**Stephens Creek**	**30.81**	**157**	P	**P**	**13 48 42.1**	**+0.7**
baz=31,SNR=8.5
STKA	**Stephens Creek**	**30.81**	**157**	P	**P**	**13 48 41.2**	**-0.1**
STKA	**Stephens Creek**	**30.81**	**157**	P	**P**	**13 48 41.9**	**+0.5**
STKA	**Stephens Creek**	**30.81**	**157**	P	**P**	**13 48 41.5**	**+0.1**
comp=Z,15nm,0.8s,baz=326,slow=9.1,SNR=17
comp=Z,15nm,0.8s
RKGY	**Rocky Gully**	**32.24**	**197**	P	**P**	**13 48 55.0**	**+1.1**
baz=32,SNR=6.1
CMSA	**Cobar Meteorol**	**32.35**	**151**	P	**P**	**13 48 55.8**	**+0.9**
baz=32,SNR=14
CMSA	**Cobar Meteorol**	**32.35**	**151**	P	**P**	**13 48 55.8**	**+0.9**
ARMA	**Armidale**	**34.78**	**142**	P	**P**	**13 49 15.0**	**-1.3**
ARMA				IAmb	IAmb	13 49 25.0	
comp=Z,23nm,1.2s
ARPS	**Mount Arapiles**	**35.27**	**160**	P	**P**	**13 49 21.4**	**+1.2**
baz=35,SNR=4.8
CMAR	**Chiang Mai Arr**	**35.98**	**309**	P	**P**	**13 49 27.6**	**+1.1**
comp=Z,1.5nm,0.3s,baz=141,slow=6.9,SNR=7.2
comp=Z,1.5nm,0.3s
NJ2	**Nanjing**	**36.65**	**347**	*eP*	**P**	**13 49 33.8**	**+1.8**
NJ2				pP	**pP**	**13 49 43.5**	**+2.7**
NJ2				pmax	pmax		
comp=Z,12nm,0.6s
NJ2				LR	LR		
comp=Z,670nm,11.4s
NJ2				LR	LR		
comp=Z,660nm,9.3s
CAN	**Canberra**	**37.02**	**150**	P	**P**	**13 49 35.6**	**+0.3**
CAN				IAmb	IAmb	13 49 37.7	
comp=Z,19nm,0.8s
CAN	**Canberra**	**37.02**	**150**	P	**P**	**13 49 37.0**	**+1.7**
TOO	**Toolangi**	**37.33**	**156**	P	**P**	**13 49 39.2**	**+1.3**
TOO				IAmb	IAmb	13 50 16.0	
comp=Z,42nm,1.6s
PZH	**PanZhiHua**	**39.25**	**322**	P	**P**	**13 49 56.3**	**+2.1**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s
PZH				pmax	pmax		
comp=Z,220nm,6.1s
KSRS	**Korea Array**	**41.05**	**0**	P	**P**	**13 50 09.4**	**+0.5**
comp=Z,5.0nm,0.8s,baz=176,slow=9.1,SNR=14
KSRS				PcP	**PcP**	**13 52 08.0**	**-0.3**
comp=Z,1.3nm,0.6s,baz=162,slow=4.1,SNR=2.0
comp=Z,5.0nm,0.8s
MAJO	**Matsushiro**	**41.31**	**13**	P	**P**	**13 50 11.1**	**0.0**
MJAR	**Matsushiro Arr**	**41.31**	**13**	P	**P**	**13 50 10.4**	**-0.7**
comp=Z,2.8nm,0.8s,baz=195,slow=9.6,SNR=5.2
comp=Z,2.8nm,0.8s
MJB9	**Matsu-Tunnel**	**41.32**	**13**	P	**P**	**13 50 11.1**	**-0.1**
MJB9				IAmb	IAmb	13 51 26.0	
comp=Z,53nm,1.9s
CD2	**Chengdu**	**41.42**	**328**	P	**P**	**13 50 13.0**	**+0.9**
CD2				pmax	pmax		
comp=Z,20nm,0.5s
XAN	**Xi'an**	**41.62**	**336**	P	**P**	**13 50 13.8**	**+0.1**
XAN				pP	pP	13 50 21.5	-1.1
XAN				pmax	pmax		
comp=Z,12nm,0.7s
HNS	**HongShan**	**42.75**	**345**	*eP*	**P**	**13 50 23.0**	**+0.3**
JMM	**Marumori**	**43.20**	**15**	P	**P**	**13 50 26.7**	**+0.4**
JMM				IAmb	IAmb	13 50 36.3	
comp=Z,63nm,1.5s
BJI	**Beijing**	**44.91**	**347**	P	**P**	**13 50 39.8**	**-0.2**
BJI				pmax	pmax		
comp=Z,4.0nm,0.8s
LZH	**Lanzhou**	**45.55**	**333**	⇑P	P	13 50 50.5	+5.1
LZH				pP	pwP	13 51 00.3	+1.1
LZH				pmax	pmax		
comp=Z,18nm,1.6s
HHC	**Hu-ho-hao-te**	**46.84**	**343**	*eP*	**P**	**13 50 58.8**	**+3.4**
HHC				pmax	pmax		
comp=Z,14nm,0.5s
HHC				pmax	pmax		
comp=Z,280nm,5.9s
USA0B	**Ussuriysk Arra**	**47.94**	**4**	P	**P**	**13 51 03.0**	**-0.8**
USA0B				IAmb	IAmb	13 52 20.8	
comp=Z,54nm,2.0s
USRK	**Ussuriysk Ar.**	**47.94**	**4**	P	**P**	**13 51 02.9**	**-0.9**
USRK	**Ussuriysk Ar.**	**47.94**	**4**	P	**P**	**13 51 04.4**	**+0.6**
comp=Z,2.8nm,0.7s,baz=196,slow=9.2,SNR=5.4
comp=Z,2.8nm,0.7s
XLT	**XiLinHaoTe**	**48.63**	**349**	*eP*	P	13 51 15.3	+6.0
XLT				pmax	pmax		
comp=Z,7.0nm,0.8s
XLT				pmax	pmax		
comp=Z,420nm,6.6s
TAPN	**Taplejung**	**49.50**	**311**	*eP*	**P**	**13 51 16.7**	**+0.3**
comp=Z,60nm,1.3s
GTA	**Gaotai**	**50.11**	**332**	*eP*	**P**	**13 51 21.0**	**+0.3**
GTA				pmax	pmax		
comp=Z,5.0nm,0.9s
RAMN	**Ramite**	**50.13**	**310**	*eP*	**P**	**13 51 22.0**	**+0.8**
comp=Z,18nm,0.5s
JIRN	**Jiri**	**50.81**	**311**	*eP*	**P**	**13 51 26.6**	**+0.1**
comp=Z,21nm,1.0s
GUN	**Gumba**	**51.17**	**311**	*eP*	**P**	**13 51 29.2**	**0.0**
comp=Z,23nm,0.8s
PKI	**Pulchoki**	**51.35**	**310**	*eP*	**P**	**13 51 30.7**	**+0.2**
comp=Z,16nm,1.1s
PKIN	**Phulchoki**	**51.37**	**310**	*eP*	**P**	**13 51 30.7**	**+0.1**
comp=Z,12nm,0.7s
DMN	**Daman**	**51.61**	**310**	*eP*	**P**	**13 51 33.0**	**+0.7**
comp=Z,11nm,0.3s
GKN	**Gorkha**	**52.16**	**310**	*eP*	**P**	**13 51 36.0**	**-0.4**
comp=Z,17nm,0.5s
KOLN	**Kolanda**	**52.84**	**309**	*eP*	**P**	**13 51 41.7**	**+0.2**
comp=Z,36nm,0.9s
HYB	**Hyderabad**	**52.91**	**295**	*eP*	**P**	**13 51 40.8**	**-1.1**
HYB				*eS*	**S**	**13 59 10.6**	**+1.4**
DANN	**Dangsing**	**53.01**	**310**	*eP*	**P**	**13 51 42.5**	**-0.3**
comp=Z,34nm,0.8s
PYUN	**Piuthan**	**53.48**	**309**	*eP*	**P**	**13 51 46.2**	**+0.1**
comp=Z,24nm,0.9s
HEH	**HeiHe**	**53.85**	**360**	*eP*	**P**	**13 51 48.5**	**+0.4**
HEH				pmax	pmax		
comp=Z,6.0nm,1.0s
MLZ	**Mavora Lakes**	**54.37**	**146**	P	**P**	**13 51 52.2**	**0.0**
QRZ	**Quartz Range**	**54.53**	**139**	P	**P**	**13 51 52.8**	**-0.5**
WHZ	**Wether Hill Ro**	**54.59**	**146**	P	**P**	**13 51 53.7**	**0.0**
SONM	**Songino Array**	**54.73**	**343**	P	**P**	**13 51 54.7**	**-0.1**
comp=Z,2.8nm,1.0s,baz=167,slow=7.8,SNR=10
SONM				PcP	**PcP**	**13 52 57.4**	**+0.2**
comp=Z,0.8nm,0.7s,baz=128,slow=4.5,SNR=4.3
comp=Z,2.8nm,1.0s
RPZ	**Rata Peaks**	**55.12**	**143**	P	**P**	**13 51 57.0**	**-0.6**
RPZ				IAmb	IAmb	13 51 59.1	
comp=Z,14nm,0.8s
TUWZ	**Tuamarina**	**55.75**	**139**	P	**P**	**13 52 01.1**	**-1.0**
TCW	**Tory Channel**	**55.87**	**139**	P	**P**	**13 52 02.3**	**-0.7**
KHZ	**Kahutara**	**55.98**	**140**	P	**P**	**13 52 03.6**	**-0.1**
BHW	**Baring Head**	**56.35**	**139**	P	**P**	**13 52 05.5**	**-0.9**
BKZ	**Black Stump Fm**	**56.44**	**135**	P	**P**	**13 52 06.0**	**-1.1**
BKZ				IAmb	IAmb	13 52 09.1	
comp=Z,33nm,1.5s
RTZ	**Ruatahuna**	**56.54**	**135**	P	**P**	**13 52 07.2**	**-0.7**
RTZ				IAmb	IAmb	13 54 12.2	
comp=Z,54nm,2.0s
WMQ	**Urumqi**	**59.51**	**327**	*eP*	**P**	**13 52 29.5**	**+0.9**
WMQ				pmax	pmax		
comp=Z,13nm,1.1s
WMQ				LR	LR		
comp=Z,360nm,28.9s
PETK	**Petropavlovsk-**	**62.06**	**20**	P	**P**	**13 52 44.6**	**-1.1**
PETK	**Petropavlovsk-**	**62.06**	**20**	P	**P**	**13 52 46.5**	**+0.8**
comp=Z,13nm,0.9s,baz=202,slow=5.9,SNR=5.1
PETK				PcP	**PcP**	**13 53 25.8**	**-0.1**
comp=Z,4.8nm,0.8s,baz=235,slow=5.2,SNR=2.1
comp=Z,13nm,0.9s
SHLS	**Shalkode**	**63.83**	**323**	*eP*	**P**	**13 52 56.0**	**-1.9**
baz=323
KSH	**Kashi**	**64.16**	**318**	P	**P**	**13 53 04.0**	**+3.9**
MK31	**Makanchi Array**	**64.34**	**327**	P	**P**	**13 52 60.0**	**-1.0**
MK31				IAmb	IAmb	13 53 09.2	
comp=Z,4.7nm,0.8s
MKAR	**Makanchi Array**	**64.34**	**327**	P	**P**	**13 53 00.4**	**-0.6**
MKAR	**Makanchi Array**	**64.34**	**327**	P	**P**	**13 53 00.8**	**-0.1**
comp=Z,4.3nm,0.7s,baz=133,slow=7.5,SNR=21
comp=Z,4.3nm,0.7s
SATY	**Saty**	**64.42**	**322**	*eP*	**P**	**13 53 01.3**	**-0.5**
baz=322
KPKS	**Kokpek**	**64.47**	**322**	*eP*	**P**	**13 53 01.4**	**-0.7**
baz=322
MAKZ	**Makanchi**	**64.52**	**327**	P	**P**	**13 53 01.7**	**-0.4**
MAKZ				IAmb	IAmb	13 53 10.6	
comp=Z,17nm,1.6s
MDOK	**Medeo**	**65.32**	**321**	*eP*	**P**	**13 53 07.4**	**-0.2**
baz=322
BOOM	**Boomskoye usch**	**65.67**	**320**	P	**P**	**13 53 09.6**	**-0.3**
YAK	**Yakutsk**	**65.67**	**1**	P	**P**	**13 53 09.3**	**+0.1**
CHKK	**Chushkaly**	**65.72**	**322**	*eP*	**P**	**13 53 09.2**	**-0.8**
baz=322
KUU	**Kurty**	**66.14**	**322**	*eP*	**P**	**13 53 12.4**	**-0.3**
baz=322
ARSB	**Arslanbob**	**67.03**	**318**	P	**P**	**13 53 17.7**	**-0.9**
ZAA0	**Zalesovo Array**	**67.74**	**334**	P	**P**	**13 53 21.5**	**-1.2**
ZAA0				IAmb	IAmb	13 53 30.6	
comp=Z,4.7nm,0.8s
ZALV	**Zalesovo Beam**	**67.74**	**334**	P	**P**	**13 53 21.3**	**-1.4**
ZALV	**Zalesovo Beam**	**67.74**	**334**	P	**P**	**13 53 21.9**	**-0.8**
comp=Z,3.5nm,0.8s,baz=106,slow=4.5,SNR=12
comp=Z,3.5nm,0.8s
KURBB	**Kurchatov Arra**	**68.63**	**329**	P	**P**	**13 53 28.0**	**-0.3**
comp=Z,5.8nm,0.8s,baz=128,slow=5.6,SNR=30
comp=Z,5.8nm,0.8s
KURK	**Kurchatov**	**68.64**	**329**	P	**P**	**13 53 27.6**	**-0.7**
KURK				IAmb	IAmb	13 53 36.8	
comp=Z,12nm,0.8s
IUG	**Iuzhnay**	**69.37**	**318**	*eP*	**P**	**13 53 32.7**	**-0.5**
baz=318
BVAR	**Borovoye Array**	**74.18**	**328**	P	**P**	**13 54 00.6**	**-1.2**
comp=Z,2.2nm,0.8s,baz=120,slow=6.5,SNR=8.0
comp=Z,2.2nm,0.8s
TIXI	**Tiksi**	**75.32**	**0**	P	**P**	**13 54 07.5**	**-0.4**
VNDA	**Vanda**	**75.87**	**173**	P	**P**	**13 54 10.2**	**-0.9**
VNDA	**Vanda**	**75.87**	**173**	P	**P**	**13 54 10.0**	**-1.1**
comp=Z,1.5nm,0.8s,baz=319,slow=7.5,SNR=8.0
comp=Z,1.5nm,0.8s
GEYT	**Alibeck**	**76.44**	**310**	P	**P**	**13 54 14.7**	**-0.5**
comp=Z,2.6nm,0.8s,baz=116,slow=6.8,SNR=6.1
comp=Z,2.6nm,0.8s
MAW	**Mawson**	**77.10**	**201**	P	**P**	**13 54 18.0**	**-0.1**
ABKAR	**Akbulak array**	**78.62**	**322**	P	**P**	**13 54 25.7**	**-1.3**
ABKAR	**Akbulak array**	**78.62**	**322**	P	**P**	**13 54 25.8**	**-1.3**
SDPT	**Sand Point**	**82.88**	**33**	P	**P**	**13 54 49.6**	**0.0**
L14K	**Kuka Creek**	**83.68**	**27**	P	**P**	**13 54 55.2**	**+1.5**
baz=250
K15K	**Wolf Creek Mou**	**84.52**	**26**	P	**P**	**13 54 59.1**	**+1.2**
baz=251
P16K	**Nushagak River**	**85.22**	**30**	P	**P**	**13 55 02.5**	**+1.1**
baz=254
N16K	**Nishlik Lake**	**85.23**	**28**	P	**P**	**13 55 03.1**	**+1.6**
baz=254
J16K	**Anvik River**	**85.23**	**26**	P	**P**	**13 55 02.5**	**+1.0**
J16K				IAmb	IAmb	13 56 26.0	
comp=Z,26nm,1.4s
L16K	**Owhat River**	**85.26**	**27**	P	**P**	**13 55 01.8**	**+0.2**
L16K	**Owhat River**	**85.26**	**27**	P	**P**	**13 55 03.3**	**+1.6**
baz=253
M16K	**Timber Creek**	**85.30**	**28**	P	**P**	**13 55 02.8**	**+0.9**
M16K	**Timber Creek**	**85.30**	**28**	P	**P**	**13 55 02.5**	**+0.7**
baz=254
O16K	**Kokwok River B**	**85.32**	**29**	P	**P**	**13 55 02.6**	**+0.7**
baz=254
D17K	**Noatak River**	**85.73**	**21**	P	**P**	**13 55 04.7**	**+0.8**
baz=249
O17K	**Koliganek Bris**	**85.85**	**29**	P	**P**	**13 55 06.5**	**+1.9**
baz=255
L17K	**Donlin**	**85.91**	**27**	P	**P**	**13 55 06.3**	**+1.4**
baz=254
E17K	**Hotham Inlet**	**85.98**	**22**	P	**P**	**13 55 06.1**	**+1.0**
baz=250
F17K	**Baldwin Pennin**	**85.98**	**22**	P	**P**	**13 55 07.1**	**+2.1**
baz=251
H17K	**Granite Mounta**	**86.03**	**24**	P	**P**	**13 55 05.6**	**+0.2**
H17K				IAmb	IAmb	13 55 20.6	
comp=Z,28nm,1.8s
K17K	**Iditarod**	**86.07**	**26**	P	**P**	**13 55 05.9**	**+0.3**
QSPA	**South Pole Qui**	**86.15**	**180**	P	**P**	**13 55 05.1**	**-1.1**
QSPA				IAmb	IAmb	13 55 28.6	
comp=Z,16nm,1.8s
QSPA	**South Pole Qui**	**86.15**	**180**	P	**P**	**13 55 04.9**	**-1.3**
comp=Z,1.5nm,0.8s,baz=284,slow=1.1,SNR=6.2
comp=Z,1.5nm,0.8s
SII	**Sitkinak Islan**	**86.61**	**33**	P	**P**	**13 55 09.4**	**+1.0**
baz=258
L18K	**Granite Mounta**	**86.66**	**27**	P	**P**	**13 55 09.4**	**+0.8**
L18K	**Granite Mounta**	**86.66**	**27**	P	**P**	**13 55 09.7**	**+1.1**
baz=256
C18K	**Utukok River**	**86.72**	**20**	P	**P**	**13 55 09.2**	**+0.4**
M18K	**Stony River**	**86.88**	**28**	P	**P**	**13 55 10.3**	**+0.6**
baz=256
SVW2	**Sparrevohn**	**86.90**	**28**	P	**P**	**13 55 09.4**	**-0.4**
SVW2				IAmb	IAmb	13 55 42.6	
comp=Z,36nm,1.8s
J18K	**Innoko River**	**86.97**	**26**	P	**P**	**13 55 10.2**	**+0.1**
J18K				IAmb	IAmb	13 56 56.9	
comp=Z,26nm,2.0s
J18K	**Innoko River**	**86.97**	**26**	P	**P**	**13 55 09.9**	**-0.1**
baz=255
TTA	**Tatalina**	**87.14**	**26**	P	**P**	**13 55 11.2**	**+0.2**
TTA				IAmb	IAmb	13 55 58.9	
comp=Z,26nm,1.9s
TTA	**Tatalina**	**87.14**	**26**	P	**P**	**13 55 11.3**	**+0.2**
baz=256
A19K	**Wainwright**	**87.27**	**19**	P	**P**	**13 55 11.2**	**-0.2**
baz=251
C19K	**Lookout Ridge**	**87.42**	**20**	P	**P**	**13 55 12.8**	**+0.6**
C19K	**Lookout Ridge**	**87.42**	**20**	P	**P**	**13 55 12.4**	**+0.2**
baz=252
L19K	**White Mountain**	**87.49**	**27**	P	**P**	**13 55 13.4**	**+0.8**
baz=257
G19K	**Purcell Mounta**	**87.50**	**23**	P	**P**	**13 55 12.8**	**+0.2**
baz=255
J19K	**Poorman**	**87.57**	**25**	P	**P**	**13 55 13.6**	**+0.6**
J19K				IAmb	IAmb	13 56 09.6	
comp=Z,17nm,1.7s
J19K	**Poorman**	**87.57**	**25**	P	**P**	**13 55 13.3**	**+0.4**
baz=256
H19K	**Roundabout Mou**	**87.60**	**24**	P	**P**	**13 55 13.7**	**+0.6**
H19K				IAmb	IAmb	13 58 28.9	
comp=Z,23nm,1.7s
H19K	**Roundabout Mou**	**87.60**	**24**	P	**P**	**13 55 13.2**	**+0.2**
baz=256
M19K	**Big River Lodg**	**87.64**	**28**	P	**P**	**13 55 14.4**	**+1.1**
baz=258
P19K	**Oil Pt**	**87.73**	**30**	P	**P**	**13 55 13.6**	**-0.3**
baz=259
D19K	**Kuna River**	**87.75**	**21**	P	**P**	**13 55 14.0**	**+0.2**
D19K				IAmb

baz=257
SUA Susitna One 89.27 28 P P 13 55 21.0 -0.2
SUA IAmb IAmb 13 55 29.8
comp=Z,8.7nm,0.9s
SUA Susitna One 89.27 28 P P 13 55 20.0 -1.1
baz=261
BPAW Bear Paw Mtn. 89.59 26 P P 13 55 22.4 -0.1
BPAW IAmb IAmb 13 55 34.8
comp=Z,11nm,1.5s
BPAW Bear Paw Mtn. 89.59 26 P P 13 55 23.3 +0.8
baz=260
RC01 Rabbit Creek A 89.69 29 P P 13 55 23.4 +0.4
F2K John River 89.70 22 P P 13 55 23.8 +0.8
baz=259
H22K Ishtalitna Cre 89.73 24 P P 13 55 23.9 +0.8
baz=260
B22K Teshekpuk Lake 89.81 19 P P 13 55 22.8 -0.5
baz=258
MLY Manley 89.84 25 P P 13 55 23.8 +0.1
MLY IAmb IAmb 13 55 32.0
comp=Z,7.8nm,1.4s
MLY Manley 89.84 25 P P 13 55 24.0 +0.2
baz=261
E22K Anaktuvuk Pass 89.95 22 P P 13 55 24.2 0.0
E22K IAmb IAmb 13 57 16.7
comp=Z,22nm,1.9s
E22K Anaktuvuk Pass 89.95 22 P P 13 55 25.0 +0.8
baz=260
PMR Palmer 90.05 28 P P 13 55 24.7 0.0
baz=262
G23K Bananza Creek 90.40 23 P P 13 55 26.3 0.0
baz=261
COLD Coldfoot 90.41 23 P P 13 55 26.6 +0.3
baz=261
I23K Minto, Yukon-K 90.44 25 P P 13 55 26.5 +0.1
baz=262
SML Sawmill 90.45 28 P P 13 55 25.8 -0.9
baz=263
H23K Yukon River 90.46 24 P P 13 55 26.8 +0.3
baz=262
WAT1 Susitna Watana 90.48 27 P P 13 55 26.9 +0.2
baz=263
D23K Nanushuk River 90.50 21 P P 13 55 27.8 +1.1
baz=261
C23K Itkillik River 90.67 20 P P 13 55 28.3 +0.9
baz=261
E23K Chandalar 90.75 22 P P 13 55 28.2 +0.2
baz=262
TOLK Toolik Lake Re 90.85 21 P P 13 55 28.4 0.0
baz=262
DHY Denali Highway 91.05 27 P P 13 55 28.5 -1.0
baz=264
H24K Noodor Dome 91.14 24 P P 13 55 29.2 -0.5
baz=263
ILAR Eielson Array 91.44 25 P P 13 55 29.7 -1.4
comp=Z,0.7nm,0.6s,baz=238,slow=5.3,SNR=13
comp=Z,0.7nm,0.6s
K24K Donnelly Dome 91.83 26 P P 13 55 32.6 -0.3
baz=265
J25K Salcha River, 92.08 26 P P 13 55 32.8 -1.4
baz=266
N25K Chitina, Valde 92.21 29 P P 13 55 34.6 -0.2
baz=266
J26L Joseph Creek 92.85 26 P P 13 55 37.3 -0.4
J26L IAmb IAmb 13 55 46.9
comp=Z,21nm,1.9s
J26L Joseph Creek 92.85 26 P P 13 55 37.8 +0.1
baz=267
MCARA McCarthy VSAT 92.95 29 P P 13 55 39.0 +0.9
baz=268
I26K Coal Creek Min 93.06 25 P P 13 55 38.7 +0.2
baz=268
K27K Chicken 93.48 26 P P 13 55 41.4 +0.9
baz=268
L27K Beaver Creek, 93.56 27 P P 13 55 41.8 +0.8
baz=269
I27K Kandik River 93.71 25 P P 13 55 42.2 +0.6
baz=269
G27K Doyon Strip 93.71 23 P P 13 55 42.2 +0.6
baz=269
CTG Chitna Glacier 93.75 29 P P 13 55 41.9 -0.1
baz=269
H27K Steamboat Moun 93.75 24 P P 13 55 42.2 +0.4
baz=269
E27K Coleen River 93.76 22 P P 13 55 41.2 -0.6
baz=269
EGAK Eagle 93.89 25 P P 13 55 42.5 +0.2
baz=269
O28M Mount Upton 94.31 29 P P 13 55 45.5 +0.7
baz=270
I28M Miner Creek 94.41 25 P P 13 55 45.3 +0.4
I28M IAmb IAmb 13 55 46.5
comp=Z,11nm,1.2s
I28M Miner Creek 94.41 25 P P 13 55 45.6 +0.7
baz=270
E28M Babbage River 94.52 22 P P 13 55 45.4 +0.2
baz=271
DAWY Dawson 94.66 26 P P 13 55 46.5 +0.5
baz=271
M29M Somme Creek 95.11 28 P P 13 55 49.3 +1.1
baz=272
G29M Pine Creek 95.15 23 P P 13 55 48.0 -0.2
baz=272
L29M L29M 95.25 27 P P 13 55 49.2 +0.5
L29M IAmb IAmb 13 55 51.4
comp=Z,5.8nm,1.1s
L29M L29M 95.25 27 P P 13 55 48.9 +0.2
baz=272
K29M Barlow Dome 95.49 26 P P 13 55 50.0 +0.1
baz=273
M30M Minto, Yukon 95.88 28 P P 13 55 51.8 +0.2
baz=273
ARCES ARCESS Array B 97.82 340 P P 13 55 58.6 -1.6
comp=Z,2.6nm,0.7s,baz=57,slow=4.5,SNR=8.7
comp=Z,2.6nm,0.7s
TXAR Lajitas Array 125.15 57 PKP PKPdf 14 01 26.3 -0.1
comp=Z,0.8nm,0.8s,baz=219,slow=1.6,SNR=4.7
TORD Torodi Ar. Bea 125.93 283 PKPdf PKPdf 14 01 26.5 -1.7
TORD Torodi Ar. Bea 125.93 283 PKP PKPdf 14 01 27.6 -0.5
comp=Z,1.0nm,0.6s,baz=60,slow=2.7,SNR=7.8
CPUP Villa Florida 149.64 171 PKPbc PKPbc 14 02 14.8 -0.7
comp=Z,2.6nm,0.6s,baz=71,slow=2.0,SNR=4.6

---

*IDC **31** 13:52:18.8±0.5, 34°.80N×103°.31E, h0km, mb4.3/25, mbtmp4.3/28, ML4.1/2, MS3.9/6, Error ellipse: s-maj=16.7km s-min=11.0km az=47.0*
*MOS **31** 13:52:19.0±1.0, 34°.83N×103°.31E, h10km, mb4.8/24, Error ellipse: s-maj=8.4km s-min=4.7km az=120.7*
*BJI **31** 13:52:20.0±0.0, 34°.67N×103°.36E, h10km, mb4.4/40, mB5.2/24, ML4.5/31, Ms4.5/47, Ms7 4.3/44*
*NEIC **31** 13:52:21.4±1.1, 34°.91N±0°.08×103°.3E±0°.1, h10km±4km, mb5.0/114, Error ellipse: s-maj=16.6km s-min=12.1km az=83.0*
ISC 31 13:52:21.2±0.3, 34°.84N±0°.03×103°.19E±0°.03, h10km, n367, σ1.9s52/398, mb4.8/107, 13C-11D, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**1.36**	**23**	Pn	**Pb**	**13 52 45.3**	**-1.5**
LZH				Pg	**Pg**	**13 52 49.5**	**+2.2**
LZH				Sg	**Sn**	**13 53 03.5**	**-1.0**
LZH				Sn	**Sg**	**13 53 10.0**	**+5.1**
LZH				smax	smax		
	comp=N,5μm,1.6s						
LZH				smax	smax		
	comp=E,4μm,1.6s						
CD2	**Chengdu**	**3.95**	**173**	Pg	**Pb**	**13 53 33.8**	**+2.9**
CD2				Sg	**Sg**	**13 54 30.0**	**+2.0**
CD2				smax	smax		
	comp=N,880nm,0.9s						
CD2				smax	smax		
	comp=E,830nm,1.0s						
XAN	**Xi'an**	**4.80**	**98**	Pn	**Pn**	**13 53 31.8**	**-1.9**
XAN				Pg	**Pb**	**13 53 47.3**	**+1.8**
XAN				Sn	**Sn**	**13 54 25.5**	**-3.9**
XAN				Sg	**Sb**	**13 54 46.5**	**+3.1**
XAN				smax	smax		
	comp=E,2μm,1.2s						
XAN				smax	smax		
	comp=E,2μm,1.0s						
XAN				LR	LR		
	comp=E,4μm,6.2s						
XAN				LR	LR		
	comp=E,5μm,5.8s						
XAN				LR	LR		
	comp=E,2μm,7.6s						
GTA	**Gaotai**	**5.30**	**330**	⇑Pn	**Pn**	**13 53 42.0**	**+1.4**
GTA				Pg	**Pb**	**13 53 57.0**	**+3.0**
GTA				Sg	**Sg**	**13 55 12.5**	**+1.1**
GTA				smax	smax		
	comp=E,170nm,0.9s						
GTA				smax	smax		
	comp=E,190nm,1.1s						
GTA				LR	LR		
	comp=E,3μm,9.5s						
GTA				LR	LR		
	comp=E,2μm,9.8s						
GTA				LR	LR		
	comp=E,4μm,11.3s						
GOMU	**GeErMu**	**6.96**	**284**	P	**Pn**	**13 54 05.8**	**+2.2**
GOMU				pP	Pb	13 54 12.5	-10
GOMU				sP	Pg	13 54 19.5	-15
GOMU				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GOMU	**GeErMu**	**6.96**	**284**	Pn	Pn	13 54 09.5	+5.9
GOMU				Pg	**Pg**	**13 54 31.3**	**-3.2**
GOMU				Sn	**Sn**	**13 55 22.8**	**-0.2**
GOMU				smax	smax		
	comp=Z,120nm,1.3s						
GOMU				smax	smax		
	comp=Z,41nm,1.2s						
GOMU				LR	LR		
	comp=Z,880nm,8.4s						
LYN	**LuoYang**	**7.65**	**90**	Pn	**Pn**	**13 54 11.5**	**-1.2**
LYN				Sn	**Sn**	**13 55 42.5**	**+3.1**
LYN				Sg	**Sg**	**13 56 25.0**	**-1.7**
LYN				smax	smax		
	comp=Z,560nm,1.0s						
LYN				smax	smax		
	comp=Z,350nm,0.9s						
LYN				LR	LR		
	comp=Z,4μm,6.7s						
LYN				LR	LR		
	comp=Z,2μm,8.0s						
LYN				LR	LR		
	comp=Z,2μm,7.4s						
BTO	**Baotou**	**7.90**	**41**	*e*P	**Pn**	**13 54 17.0**	**+0.8**
BTO				pP	Pb	13 54 20.0	-18
BTO				sP	Pg	13 54 22.8	-30
BTO				S	**Sn**	**13 55 48.0**	**+2.2**
BTO				pmax	pmax		
	comp=Z,72nm,0.6s						
BTO				pmax	pmax		
	comp=Z,920nm,5.9s						
BTO				LR	LR		
	comp=Z,4μm,4.2s						
BTO				LR	LR		
	comp=Z,4μm,6.3s						
BTO				LR	LR		
	comp=Z,2μm,7.3s						
TIY	**Taiyuan**	**8.00**	**66**	P	**Pn**	**13 54 19.5**	**+1.9**
TIY				smax	smax		
	comp=Z,270nm,1.0s						
TIY				smax	smax		
	comp=Z,230nm,1.2s						
PZH	**PanZhiHua**	**8.40**	**189**	P	**Pn**	**13 54 23.5**	**+0.4**
PZH				S	**Sn**	**13 55 57.0**	**-1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,150nm,5.5s						
PZH				LR	LR		
	comp=Z,1μm,8.2s						
PZH				LR	LR		
	comp=Z,1μm,8.0s						
PZH				LR	LR		
	comp=Z,1μm,9.0s						
GYA	**Guiyang**	**8.87**	**159**	*e*P	**Pn**	**13 54 26.0**	**-3.6**
GYA				S	**Sn**	**13 56 03.3**	**-6.4**
GYA				smax	smax		
	comp=Z,95nm,1.4s						
GYA				smax	smax		
	comp=Z,270nm,1.0s						
GYA				LR	LR		
	comp=Z,2μm,11.1s						
GYA				LR	LR		
	comp=Z,790nm,8.9s						
GYA				LR	LR		
	comp=Z,2μm,12.0s						
HHC	**Hu-ho-hao-te**	**8.94**	**45**	⇑*i*P	**Pn**	**13 54 27.8**	**-2.6**
HHC				S	**Sn**	**13 56 08.5**	**-2.7**
HHC				sS	Sg	13 56 21.5	-46
HHC				pmax	pmax		
	comp=Z,70nm,0.6s						
HHC				pmax	pmax		
	comp=Z,510nm,5.9s						
HHC				LR	LR		
	comp=Z,5μm,10.5s						
HHC				LR	LR		
	comp=Z,3μm,11.7s						
HHC				LR	LR		
	comp=Z,4μm,12.0s						
HNS	**HongShan**	**9.66**	**71**	*e*P	**Pn**	**13 54 38.5**	**-1.8**
HNS				PP	**PnPn**	**13 54 45.8**	**-2.1**
HNS				*e*S	**Sn**	**13 56 23.3**	**-5.6**
HNS				LR	LR		
	comp=Z,1μm,7.0s						
HNS				LR	LR		
	comp=Z,2μm,7.2s						
HNS				LR	LR		
	comp=Z,1μm,9.3s						
WHN	**Wuhan**	**10.33**	**111**	⇑P	**Pn**	**13 54 49.0**	**-0.5**
WHN				S	**Sn**	**13 56 46.8**	**+1.5**
WHN				pmax	pmax		
	comp=Z,40nm,0.6s						
WHN				LR	LR		
	comp=Z,4μm,5.6s						
WHN				LR	LR		
	comp=Z,4μm,8.4s						
TNCH	**TengChong**	**10.58**	**204**	*e*P	**Pn**	**13 54 53.8**	**+0.7**
TNCH				pP		13 54 56.3	
TNCH				S	**Sn**	**13 56 52.8**	**+1.1**
TNCH				SS	**SnSn**	**13 57 06.3**	**+2.6**
TNCH				pmax	pmax		
	comp=Z,11nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,180nm,6.9s						
TNCH				LR	LR		
	comp=Z,1μm,6.3s						
TNCH				LR	LR		
	comp=Z,1μm,6.8s						
TNCH				LR	LR		
	comp=Z,1μm,9.5s						
CNSH	**ChangSha**	**10.63**	**126**	⇓P	**Pn**	**13 54 51.3**	**-2.3**
CNSH				S	**Sn**	**13 56 50.5**	**-2.3**
CNSH				LR	LR		
	comp=Z,2μm,5.9s						
CNSH				LR	LR		
	comp=Z,1μm,6.1s						
GULI	**GuiLin**	**11.36**	**145**	P	**Pn**	**13 55 03.0**	**-0.6**
GULI				S	**Sn**	**13 57 03.8**	**-6.8**
GULI				pmax	pmax		
	comp=Z,30nm,0.5s						
GULI				LR	LR		
	comp=Z,1μm,10.0s						
GULI				LR	LR		
	comp=Z,870nm,9.8s						
GULI				LR	LR		
	comp=Z,2μm,10.0s						
TIA	**Tai'an**	**11.44**	**79**	P	**Pn**	**13 55 05.3**	**+0.6**
TIA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TIA				pmax	pmax		
	comp=Z,290nm,6.4s						
TIA				LR	LR		
	comp=Z,560nm,9.7s						
TIA				LR	LR		
	comp=Z,510nm,10.0s						
TIA				LR	LR		
	comp=Z,520nm,10.8s						
BJI	**Beijing**	**11.55**	**59**	P	**Pn**	**13 55 05.5**	**-0.6**
BJI				sP		13 55 11.5	
BJI				S	**Sn**	**13 57 14.8**	**-0.4**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**13.21**	**9**	Pn	**Pn**	**13 55 27.1**	**-1.7**
SONM	**Songino Array**	**13.21**	**9**	Pn	**Pn**	**13 55 28.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=195,slow=12,SNR=20						
SONM				Lg	Lg	13 59 17.7	
	comp=Z,0.6nm,0.3s,baz=204,slow=29,SNR=6.0						
SONM				LR	LR	14 00 58.8	
	comp=Z,967nm,19.3s,baz=187,slow=39						
	comp=Z,2.6nm,0.3s						
ULN	**Ulaanbaatar**	**13.33**	**11**	⇑*e*P	**Pn**	**13 55 29.7**	**-0.9**
NJ2	**Nanjing**	**13.38**	**98**	*e*P	**Pn**	**13 55 30.5**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
XLT	**XiLinHaoTe**	**13.45**	**44**	*e*P	**Pn**	**13 55 31.0**	**-1.2**
XLT				pP	P	13 55 35.0	-6.6
XLT				PP	**PnPn**	**13 55 42.0**	**+1.9**
XLT				S	**Sn**	**13 58 05.3**	**+3.5**
XLT				sS	S	13 58 15.5	-10
XLT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,160nm,4.8s						
XLT				LR	LR		
	comp=Z,1μm,10.2s						
XLT				LR	LR		
	comp=Z,2μm,10.6s						
MND	**Mandalay**	**14.20**	**208**	P	**P**	**13 55 50.8**	**+0.9**
GZH	**Guangzhou**	**14.69**	**140**	P	Pn	13 55 42.8	-6.3
GZH				S	Sn	13 58 21.3	-11
GZH				pmax	pmax		
	comp=Z,47nm,0.8s						
GZH				LR	LR		
	comp=Z,2μm,6.2s						
GZH				LR	LR		
	comp=Z,1μm,6.9s						
GZH				LR	LR		
	comp=Z,2μm,4.9s						
CRAI	**Chiangrai**	**14.76**	**190**	Pn	**Pn**	**13 55 49.2**	**-0.9**
WMQ	**Urumqi**	**14.95**	**311**	*e*P	**Pn**	**13 55 55.8**	**+3.1**
WMQ				LR	LR		
	comp=Z,870nm,10.9s						
WMQ				LR	LR		
	comp=Z,540nm,10.9s						
WMQ				LR	LR		
	comp=Z,310nm,22.5s						
TAPN	**Taplejung**	**15.21**	**245**	*e*P	**Pn**	**13 55 54.8**	**-1.5**
	comp=Z,8.9nm,0.1s						
ZAK	**Zakamensk**	**15.54**	**0**	*e*P	**Pn**	**13 56 01.1**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,16nm,1.4s						
ODAN	**Odare**	**15.71**	**244**	*e*P	**Pn**	**13 56 01.2**	**-1.7**
	comp=Z,69nm,1.0s						
RAMN	**Ramite**	**16.25**	**246**	*e*P	**Pn**	**13 56 08.0**	**-1.9**
	comp=Z,29nm,1.0s						
GUN	**Gumba**	**16.30**	**250**	*e*P	**Pn**	**13 56 09.8**	**-0.8**
	comp=Z,37nm,0.6s						
CHTO	**Chiang Mai**	**16.40**	**194**	Pn	**Pn**	**13 56 11.1**	**-0.5**
CHTO	**Chiang Mai**	**16.40**	**194**	P	**Pn**	**13 56 11.1**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.75**	**194**	Pn	**Pn**	**13 56 16.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**16.75**	**194**	P	**Pn**	**13 56 16.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**16.75**	**194**	Pn	**Pn**	**13 56 16.2**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=9.8,slow=10,SNR=18						
CMAR				LR	LR	14 03 12.1	
	comp=Z,283nm,21.0s,baz=0.0,slow=39						
QIZ	**Qiongzhong**	**16.82**	**158**	P	**Pn**	**13 56 18.3**	**+1.4**
QIZ				S	**Sn**	**13 59 27.0**	**+3.2**
QIZ				pmax	pmax		
	comp=Z,2μm,4.2s						
QIZ				LR	LR		
	comp=Z,1μm,7.6s						
QIZ				LR	LR		
	comp=Z,830nm,6.1s						
QIZ				LR	LR		
	comp=Z,2μm,10.5s						
KKN	**Kakani**	**16.83**	**250**	*e*P	**Pn**	**13 56 16.2**	**-1.0**
	comp=Z,202nm,1.9s						
PKI	**Pulchoki**	**16.84**	**249**	*e*P	**Pn**	**13 56 16.0**	**-1.4**
	comp=Z,33nm,0.6s						
PKIN	**Phulchoki**	**16.84**	**249**	*e*P	**Pn**	**13 56 16.3**	**-1.1**
	comp=Z,31nm,0.5s						
MOY	**Mondy**	**16.90**	**355**	*e*P	**P**	**13 56 21.7**	**+1.9**
MOY				pmax	pmax		
	comp=Z,55nm,1.7s						
DMN	**Daman**	**17.05**	**250**	*e*P	**Pn**	**13 56 19.0**	**-1.0**
	comp=Z,57nm,0.9s						
GKN	**Gorkha**	**17.23**	**252**	*e*P	**Pn**	**13 56 21.6**	**-0.5**
	comp=Z,169nm,1.0s						
IRK	**Irkutsk**	**17.42**	**2**	*e*P	**P**	**13 56 25.6**	**+0.2**
IRK				pmax	pmax		
	comp=Z,69nm,1.9s						
DANN	**Dangsing**	**17.76**	**254**	*e*P	**Pn**	**13 56 28.0**	**-0.9**
	comp=Z,47nm,0.8s						
KOLN	**Koldanda**	**18.15**	**253**	*e*P	**Pn**	**13 56 31.3**	**-2.3**
PYUN	**Piuthan**	**18.48**	**254**	*e*P	**P**	**13 56 35.8**	**-1.7**
	comp=Z,48nm,0.9s						
ZSN	**Zaisan**	**18.63**	**318**	*e*P	**Pn**	**13 56 40.0**	**+0.9**
	baz=318						
ZSN	**Zaisan**	**18.63**	**318**	*e*P	**Pn**	**13 56 40.0**	**+0.9**
YHNB	**Yeheng**	**18.73**	**118**	P	**Pn**	**13 56 40.6**	**-0.1**
DGZ	**Jazzator, Alta**	**18.82**	**327**	⇓*e*P	**Pn**	**13 56 42.4**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,18nm,1.2s						
TWG	**Pinlang**	**19.68**	**123**	P	**P**	**13 56 50.8**	**+0.2**
TWG				IAmb	IAmb	13 56 55.2	
	comp=Z,62nm,1.3s						
MK31	**Makanchi Array**	**19.75**	**314**		**P**	**13 56 51.2**	**+0.1**
MK31	**Makanchi Array**	**19.75**	**314**	⇑*i*P	**Pn**	**13 56 52.5**	**-0.2**
MKAR	**Makanchi Array**	**19.75**	**314**	P	**P**	**13 56 51.2**	**+0.1**
MKAR	**Makanchi Array**	**19.75**	**314**	*i*P	**P**	**13 56 52.0**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**19.75**	**314**	P	**P**	**13 56 51.5**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=115,slow=12,SNR=21						
MKAR				LR	LR	14 05 23.1	
	comp=Z,379nm,18.4s,baz=318,slow=40						
	comp=Z,2.5nm,0.5s						
MAKZ	**Makanchi**	**19.95**	**313**	P	**P**	**13 56 54.0**	**+0.7**
MAKZ	**Makanchi**	**19.95**	**313**	P	**P**	**13 56 54.0**	**+0.7**
MAKZ				pmax	pmax		
	comp=Z,28nm,1.7s						
KSRS	**Korea Array**	**20.13**	**75**	P	**P**	**13 56 54.0**	**-1.3**
	comp=Z,4.3nm,1.0s,baz=268,slow=11,SNR=8.7						
	comp=Z,4.3nm,1.0s						
SHLS	**Shalkode**	**20.18**	**301**	*e*P	**P**	**13 56 54.5**	**-1.5**
	comp=Z,25nm,1.7s,baz=302						
SHLS	**Shalkode**	**20.18**	**301**	*e*P	**P**	**13 56 54.5**	**-1.5**
SHLS				pmax	pmax		
	comp=Z,25nm,1.7s						
UZB	**Uzynbulak**	**20.48**	**301**	*e*P	**P**	**13 56 59.1**	**-0.2**
	baz=301						
UZB	**Uzynbulak**	**20.48**	**301**	*e*P	**P**	**13 56 59.9**	**+0.6**
KPKS	**Kokpek**	**20.81**	**302**	*e*P	**P**	**13 57 03.3**	**+0.5**
	baz=302						
KPKS	**Kokpek**	**20.81**	**302**	*e*P	**P**	**13 57 03.3**	**+0.5**
SATY	**Saty**	**20.90**	**301**	*e*P	**P**	**13 57 05.2**	**+1.4**
	comp=Z,18nm,1.4s,baz=300						
SATY	**Saty**	**20.90**	**301**	*e*P	**P**	**13 57 05.1**	**+1.4**
SATY				pmax	pmax		
	comp=Z,18nm,1.4s						
TDK	**Taldyqorghan**	**21.47**	**306**	*e*P	**P**	**13 57 10.8**	**+0.9**
	comp=Z,20nm,0.9s,baz=306						
TDK	**Taldyqorghan**	**21.47**	**306**	*e*P	**P**	**13 57 10.7**	**+0.9**
TDK				pmax	pmax		
	comp=Z,20nm,0.9s						
MDOK	**Medeo**	**21.89**	**300**	*e*P	**P**	**13 57 16.0**	**+1.6**
	baz=300						
MDOK	**Medeo**	**21.89**	**300**	*e*P	**P**	**13 57 16.0**	**+1.6**
CHKK	**Chushkaly**	**22.10**	**302**	*e*P	**P**	**13 57 16.9**	**+0.3**
	baz=302						
CHKK	**Chushkaly**	**22.10**	**302**	*e*P	**P**	**13 57 16.9**	**+0.3**
KSH	**Kashi**	**22.14**	**290**	P	**P**	**13 57 22.0**	**+4.8**
KSH				pP	sP	13 57 24.0	+1.2
KSH				sP	pP	13 57 27.8	+6.8
KSH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSH				LR	LR		
	comp=Z,370nm,14.6s						
KSH				LR	LR		
	comp=Z,330nm,18.6s						
KSH				LR	LR		
	comp=Z,590nm,17.2s						
ULHL	**Ulahol**	**22.28**	**297**	P	**P**	**13 57 20.0**	**+1.3**
	SNR=9.1						
NRN	**Naryn**	**22.32**	**295**	P	**P**	**13 57 20.4**	**+1.1**
NRN	**Naryn**	**22.32**	**295**	P	**P**	**13 57 20.4**	**+1.1**
NRN				pmax	pmax		
	comp=Z,21nm,0.9s						
MDJ	**Mudanjiang**	**22.45**	**56**	P	**P**	**13 57 19.5**	**-0.8**
MDJ				pP	pP	13 57 23.5	-0.6
MDJ				S	**S**	**14 01 24.5**	**-2.2**
MDJ				PcS	**PcS**	**14 04 57.5**	**+4.3**

MDJ ScS **ScS** **14 08 38.0 +0.8**
MDJ pmax pmax
comp=Z,15nm,1.7s
MDJ pmax pmax
comp=Z,320nm,3.8s
MDJ LR LR
comp=Z,940nm,16.5s
MDJ LR LR
comp=Z,460nm,16.9s
MDJ LR LR
comp=Z,1μm,14.1s
MDJ Mudanjiang 22.45 56 P **P** **13 57 19.1 -1.2**
MDJ IAmb IAmb 13 57 25.3
comp=Z,99nm,1.9s
BOOM Boomskoye usch 22.54 298 P **P** **13 57 22.1 +0.6**
BOOM Boomskoye usch 22.54 298 P **P** **13 57 22.1 +0.6**
BOOM pmax pmax
comp=Z,34nm,1.2s
TKM2 Tokmak 2 22.87 299 P **P** **13 57 27.4 +2.4**
SNR=7.6
JNU Nakatsue 23.00 86 P **P** **13 57 23.5 -2.7**
comp=Z,7.2nm,0.8s,baz=76,slow=3.6,SNR=4.2
comp=Z,7.2nm,0.8s
ZAA0 Zalesovo Array 23.05 332 P **P** **13 57 25.4 -1.2**
ZALV Zalesovo Beam 23.05 332 P **P** **13 57 25.2 -1.4**
ZALV Zalesovo Beam 23.05 332 P **P** **13 57 25.9 -0.6**
comp=Z,3.2nm,0.4s,baz=136,slow=12,SNR=16
comp=Z,3.2nm,0.4s
KBK Karagaybulak 23.29 298 P **P** **13 57 31.8 +2.5**
SNR=11
HEH HeiHe 23.43 41 *e*P **P** **13 57 34.0 +3.6**
HEH pmax pmax
comp=Z,17nm,1.3s
HEH pmax pmax
comp=Z,460nm,5.7s
AAK Ala-Archa 23.62 298 P **P** **13 57 33.8 +1.3**
AAK Ala-Archa 23.62 298*c i*P **P** **13 57 33.8 +1.3**
AAK pmax pmax
comp=Z,17nm,2.5s
AAK Ala-Archa 23.62 298 LR LR 14 08 00.2
comp=Z,242nm,21.4s,baz=314,slow=40
SGDS Sogindy 23.67 300⇑*i*P **P** **13 57 34.2 +1.3**
comp=Z,18nm,1.7s,baz=300
SGDS Sogindy 23.67 300*c i*P **P** **13 57 34.2 +1.3**
SGDS pmax pmax
comp=Z,18nm,1.7s
USP Ospenovka 23.73 299 P **P** **13 57 34.7 +1.2**
SNR=14
KURBB Kurchatov Arra 23.86 319 P **P** **13 57 34.5 0.0**
comp=Z,3.8nm,0.6s,baz=122,slow=11,SNR=22
comp=Z,3.8nm,0.6s
KURK Kurchatov 23.86 319 P **P** **13 57 34.3 -0.2**
KURK Kurchatov 23.86 319 P **P** **13 57 34.6 0.0**
USA0B Ussuriysk Arra 24.00 58 P **P** **13 57 35.3 -0.7**
USA0B IAmb IAmb 13 57 40.3
comp=Z,39nm,1.5s
USA0B Ussuriysk Arra 24.00 58 P **P** **13 57 35.3 -0.7**
USA0B pmax pmax
comp=Z,39nm,1.5s
USRK Ussuriysk Ar. 24.00 58 P **P** **13 57 35.4 -0.6**
USRK Ussuriysk Ar. 24.00 58 P **P** **13 57 35.6 -0.4**
comp=Z,7.8nm,1.2s,baz=238,slow=11,SNR=6.7
USRK LR LR 14 06 12.4
comp=Z,164nm,21.3s,baz=324,slow=35
comp=Z,7.8nm,1.2s
AML Almayashu 24.13 296 P **P** **13 57 39.5 +1.8**
SNR=24
EKS2 Erkin-Say 24.14 298 P **P** **13 57 38.8 +1.3**
SNR=6.8
BTLS Baital 24.44 303 *e*P **P** **13 57 40.6 +0.6**
baz=303
BTLS Baital 24.44 303 *e*P **P** **13 57 40.6 +0.6**
ARSB Arslanbob 24.56 294 P **P** **13 57 41.5 +0.1**
ARSB Arslanbob 24.56 294 P **P** **13 57 41.5 +0.1**
ARSB pmax pmax
comp=Z,2.0nm,1.0s
NIL Nilore 24.74 276 P **P** **13 57 43.0 +0.1**
NIL IAmb IAmb 13 57 57.1
comp=Z,27nm,0.8s
NIL Nilore 24.74 276 P **P** **13 57 43.0 +0.1**
NIL pmax pmax
comp=Z,27nm,0.9s
ZEA Zeya 25.36 34 *e*P **P** **13 57 49.4 +1.2**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA MLR MLR
comp=E,700nm,11.0s
ZEA MLR MLR
comp=N,800nm,7.0s
ZEA MLR MLR
comp=Z,800nm,8.0s
KLR Kul'dur 25.44 47 P **P** **13 57 48.8 -0.2**
comp=Z,8.1nm,0.8s,baz=268,slow=11,SNR=16
comp=Z,8.1nm,0.8s
BTK Batken 26.13 291 P **P** **13 57 56.2 +0.6**
BTK Batken 26.13 291 P **P** **13 57 56.2 +0.6**
BTK pmax pmax
comp=Z,24nm,1.8s
KK31 Karatay Array 26.58 298 P **P** **13 58 00.1 +0.6**
KK31 Karatay Array 26.58 298 P **P** **13 58 00.1 +0.6**
KK31 pmax pmax
comp=Z,7.0nm,1.2s
KKAR Karatay Array 26.58 298 P **P** **13 58 00.1 +0.6**
KKAR Karatay Array 26.58 298 P **P** **13 57 59.9 +0.4**
KKAR Karatay Array 26.58 298 P **P** **13 58 00.1 +0.6**
KKAR pmax pmax
comp=Z,7.0nm,1.2s
IUG luzhnay 26.84 296 *e*P **P** **13 58 03.0 +1.0**
baz=296
IUG luzhnay 26.84 296 *e*P **P** **13 58 02.9 +1.0**
BVAR Borovoye Array 29.44 318 P **P** **13 58 24.5 -0.4**
comp=Z,0.7nm,0.5s,baz=121,slow=9.5,SNR=5.4
BVAR PcP **PcP** **14 01 30.1 -0.4**
comp=Z,1.0nm,0.6s,baz=84,slow=4.6,SNR=3.9
comp=Z,0.7nm,0.5s
BRVK Borovoye 29.51 318⇓*e*P **P** **13 58 24.5 -1.0**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
ABKAR Akbulak array 34.70 308 P **P** **13 59 11.4 +0.4**
GEYT Alibeck 36.15 288 P **P** **13 59 24.5 +0.7**
GEYT Alibeck 36.15 288 P **P** **13 59 25.2 +1.4**
comp=Z,4.3nm,0.8s,baz=79,slow=7.9,SNR=8.5
comp=Z,4.3nm,0.8s
GYA0B ALIBECK ARRAY 36.15 288 P **P** **13 59 24.6 +0.9**
ARU Arti 37.05 320 P **P** **13 59 31.3 +0.1**
ARU Arti 37.05 320*c i*P **P** **13 59 31.5 +0.4**
ARU 14 00 55.2
ARU 14 01 45.0
ARU S **S** **14 05 18.3 +1.6**
ARU pmax pmax
comp=Z,16nm,1.0s
KIRV Kirov 42.35 321*ce*P **P** **14 00 15.3 +0.2**
KAPI Kappang 42.60 155 P **P** **14 00 16.3 -1.4**
comp=Z,10.0nm,0.5s,baz=341,slow=5.2,SNR=7.4
comp=Z,10.0nm,0.5s
BELG Belogornoye 42.74 312*ce*P **P** **14 00 18.5 +0.1**
BELG pmax pmax
comp=Z,6.0nm,1.0s
UGM Wanagama 43.08 169 P **P** **14 00 21.2 -0.3**
PRGR Permogore 44.74 325 *e*P **P** **14 00 33.4 -0.9**
PRGR pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 45.96 295⇑*i*P **P** **14 00 43.0 -1.6**
GNI pmax pmax
comp=Z,25nm,1.7s
KLMR Klimovskoe 47.59 324 *e*P **P** **14 00 55.1 -1.7**
KLMR AMP 14 00 58.3
comp=Z,12nm,0.4s
KLMR Klimovskoe 47.59 324 *e*P **P** **14 00 55.1 -1.7**
KLMR pmax pmax
comp=Z,12nm,0.4s
MOS Moscow 48.59 317 *e*P **P** **14 01 03.4 -1.2**
MOS pmax pmax
comp=Z,53nm,0.8s
SOC Sochi 48.88 300 *e*P **P** **14 01 04.8 -2.3**
SOC *e* 14 02 58.5
SOC *e*PPP PPP 14 03 49.2
SOC *e*S **S** **14 08 06.6 -4.0**
SOC *e*SS **SS** **14 11 37.9 -3.0**
SOC *e*SSS SSS 14 12 54.3
SOC MLR MLR
comp=Z,155nm,17.0s
OBN Obninsk 49.23 316*de*P **P** **14 01 09.1 -0.4**
OBN *e* 14 03 01.4
OBN *e*PPP PPP 14 03 57.3
OBN pmax pmax
comp=Z,37nm,1.7s
KEV Kevo 53.02 335 P **P** **14 01 37.7 -0.1**
KEV Kevo 53.02 335 P **P** **14 01 37.7 -0.1**
KEV pmax pmax
comp=Z,76nm,1.5s
ARCES ARCESS Array B 53.55 335 P **P** **14 01 41.4 -0.4**
ARCES ARCESS Array B 53.55 335 P **P** **14 01 41.5 -0.2**
comp=Z,2.3nm,0.5s,baz=82,slow=7.8,SNR=20
comp=Z,2.3nm,0.5s
FINES FINESS Array B 54.06 325 P **P** **14 01 45.3 -0.3**
FINES FINESS Array B 54.06 325 *i* P **P** **14 01 45.5 -0.1**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 54.06 325 P **P** **14 01 44.8 -0.8**
comp=Z,4.9nm,0.6s,baz=91,slow=7.6,SNR=23
comp=Z,4.9nm,0.6s
VSU Vasula 54.19 321⇓*e*P **P** **14 01 47.8 +1.2**
VSU pmax pmax
comp=Z,97nm,1.1s
BR131 Keskin Array S 54.29 297*d i*P **P** **14 01 48.4 +0.6**
BRTR Keskin Array B 54.29 297 P **P** **14 01 48.4 +0.6**
comp=Z,1.5nm,0.6s,baz=79,slow=7.9,SNR=4.8
comp=Z,1.5nm,0.6s
AKASG Malin Array Be 54.31 311 *i* P **P** **14 01 47.4 -0.2**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 54.31 311 P **P** **14 01 47.4 -0.2**
comp=Z,0.9nm,0.3s,baz=69,slow=6.4,SNR=8.0
comp=Z,0.9nm,0.3s
AKBB Malin Array Si 54.31 311*d i*P **P** **14 01 47.6 0.0**
AKBB pmax pmax
comp=Z,13nm,1.2s
PSA00 Pilbara Seismi 58.29 162 P **P** **14 02 16.8 +0.6**
PSA00 IAmb IAmb 14 03 53.2
comp=Z,28nm,1.4s
A19K Wainwright 59.56 23 P **P** **14 02 23.7 -0.8**
baz=288
C18K Utukok River 60.02 25 P **P** **14 02 27.2 -0.5**
C18K IAmb IAmb 14 03 17.7
comp=Z,26nm,1.5s
HFS Hagfors 60.27 325 P **P** **14 02 29.1 -0.4**
comp=Z,3.8nm,0.6s,baz=91,slow=6.1,SNR=9.0
comp=Z,3.8nm,0.6s
C19K Lookout Ridge 60.42 24 P **P** **14 02 30.6 +0.2**
G16K Koyuk River 60.68 29 P **P** **14 02 31.2 -1.0**
G16K IAmb IAmb 14 03 32.5
comp=Z,9.7nm,1.1s
M11K Mekoryuk 60.71 35 P **P** **14 02 32.2 -0.3**
baz=289
F17K Baldwin Pennin 60.75 27 P **P** **14 02 31.9 -0.7**
F17K IAmb IAmb 14 04 24.9
comp=Z,12nm,1.1s
F17K Baldwin Pennin 60.75 27 P **P** **14 02 31.4 -1.3**
baz=290
NC405 NORSAR Array S 60.87 326 P **P** **14 02 32.9 -0.7**
B20K Meade River 60.89 23 P **P** **14 02 31.3 -2.3**
baz=292
NB201 NORSAR Array S 61.08 326 P **P** **14 02 34.3 -0.7**
J14K Nanvaranak Lak 61.10 32 P **P** **14 02 34.0 -1.0**
J14K IAmb IAmb 14 04 45.6
comp=Z,34nm,1.5s
NB2 NORSAR Subarra 61.12 326 P **P** **14 02 34.4 -0.9**
comp=Z,1.5nm,0.5s,baz=72,slow=6.9
NOA NORSAR Array B 61.12 326 P **P** **14 02 34.4 -0.9**
comp=Z,2.2nm,0.8s,baz=71,slow=6.9,SNR=6.8
comp=Z,2.2nm,0.8s
D19K Kuna River 61.14 25 P **P** **14 02 34.8 -0.6**
D19K IAmb IAmb 14 02 40.5
comp=Z,9.1nm,0.9s
D19K Kuna River 61.14 25 P **P** **14 02 34.1 -1.2**
baz=292
A22K Sinclair Lake 61.18 21 P **P** **14 02 35.3 -0.2**
baz=293
NC204 NORSAR Array S 61.24 327 P **P** **14 02 35.5 -0.7**
VYHS Vyhne 61.41 311 *e*P **P** **14 02 38.6 +1.1**
VYHS Vyhne 61.41 311 *e*P **P** **14 02 38.6 +1.1**
D20K Etivluk River 61.56 24 P **P** **14 02 37.3 -0.9**
baz=293
COEN Coen 61.60 135 P **P** **14 02 38.5 -0.6**
COEN IAmb IAmb 14 04 06.9
comp=Z,14nm,1.2s
MORC Moravsky Berou 61.74 313 P **P** **14 02 39.4 -0.4**
MORC Moravsky Berou 61.74 313 *e*P **P** **14 02 40.1 +0.3**
MORC Moravsky Berou 61.74 313 P **P** **14 02 39.4 -0.4**
MORC pmax pmax
comp=Z,5.0nm,0.8s
H17K Granite Mounta 61.81 29 P **P** **14 02 39.1 -0.8**
H17K IAmb IAmb 14 02 51.2
comp=Z,9.3nm,1.1s
H17K Granite Mounta 61.81 29 P **P** **14 02 38.7 -1.2**
baz=292
E19K Redstone River 61.84 26 P **P** **14 02 39.6 -0.5**
E19K Redstone River 61.84 26 P **P** **14 02 39.0 -1.1**
baz=293
B21K Ikpikpuk River 61.85 23 P **P** **14 02 39.8 -0.3**
B21K IAmb IAmb 14 02 44.0
comp=Z,7.8nm,0.9s
B21K Ikpikpuk River 61.85 23 P **P** **14 02 38.8 -1.2**
baz=294
WB0 Warramunga Arr 61.87 146 P **P** **14 02 38.8 -2.1**
WB0 IAmb IAmb 14 02 42.0
comp=Z,14nm,0.8s
E20K Nigu River 61.89 25 P **P** **14 02 39.1 -1.4**
baz=294
F19K Shaleruckik Mo 61.89 26 P **P** **14 02 39.3 -1.1**
F19K IAmb IAmb 14 02 39.7
comp=Z,23nm,1.9s
F19K Shaleruckik Mo 61.89 26 P **P** **14 02 39.1 -1.3**
baz=293
B22K Teshekpuk Lake 61.92 22 P **P** **14 02 38.3 -2.2**
baz=295
L14K Kuka Creek 61.99 33 P **P** **14 02 40.2 -0.9**
baz=292
C21K Knifeblade Rid 61.99 23 P **P** **14 02 41.0 -0.1**
baz=294
WRAB Tennant Creek 62.00 147⇑*i*P **P** **14 02 39.3 -2.4**
WRAB pmax pmax
comp=Z,19nm,1.0s
WRA Warramunga Arr 62.00 147 P **P** **14 02 39.8 -1.9**
WRA Warramunga Arr 62.00 147 *i* P **P** **14 02 42.2 +0.5**
WRA pmax pmax
comp=Z,11nm,0.8s
WRA Warramunga Arr 62.00 147 P **P** **14 02 39.3 -2.4**
comp=Z,11nm,0.8s,baz=340,slow=7.3,SNR=51
comp=Z,11nm,0.8s
WB2 Warramunga Arr 62.01 147 P **P** **14 02 39.8 -2.0**
WB2 IAmb IAmb 14 02 43.1
comp=Z,15nm,0.8s
WR0 Warramunga Arr 62.11 146 P **P** **14 02 40.1 -2.3**
WR0 IAmb IAmb 14 02 43.6
comp=Z,6.5nm,0.7s
K15K Wolf Creek Mou 62.14 32 P **P** **14 02 41.3 -0.8**
VRAC Vranov 62.49 313 *e*P **P** **14 02 43.8 -0.9**
M14K Bethel 62.53 33 P **P** **14 02 44.1 -0.6**
M14K IAmb IAmb 14 02 45.0
comp=Z,14nm,0.9s
M14K Bethel 62.53 33 P **P** **14 02 43.4 -1.3**
baz=292
F20K Avaraart Lake 62.54 26 P **P** **14 02 44.1 -0.7**
F20K IAmb IAmb 14 02 56.8
comp=Z,20nm,1.9s
F20K Avaraart Lake 62.54 26 P **P** **14 02 42.6 -2.1**
baz=294
D22K Ayikyak River 62.79 23 P **P** **14 02 44.9 -1.5**
baz=296
H19K Roundabout Mou 62.91 27 P **P** **14 02 46.5 -0.7**
H19K IAmb IAmb 14 02 51.2
comp=Z,12nm,1.6s
H19K Roundabout Mou 62.91 27 P **P** **14 02 46.1 -1.1**
baz=295
N14K Kuskokwak Cree 62.98 34 P **P** **14 02 45.6 -2.2**
baz=293
C23K Itkillik River 63.01 22 P **P** **14 02 47.5 -0.4**
C23K IAmb IAmb 14 02 48.9
comp=Z,12nm,1.1s
C23K Itkillik River 63.01 22 P **P** **14 02 47.6 -0.2**
baz=298
F21K Alatna River 63.26 25 P **P** **14 02 48.7 -0.9**
F21K IAmb IAmb 14 03 18.9
comp=Z,22nm,1.9s
F21K Alatna River 63.26 25 P **P** **14 02 48.6 -0.9**
baz=296
L16K Owhat River 63.26 32 P **P** **14 02 48.5 -1.2**
baz=294
K17K Iditarod 63.35 31 P **P** **14 02 48.8 -1.4**
K17K IAmb IAmb 14 04 27.4
comp=Z,31nm,1.6s
D23K Nanushuk River 63.40 23 P **P** **14 02 50.0 -0.5**
baz=298
E22K Anaktuvuk Pass 63.41 24 P **P** **14 02 49.9 -0.8**
E22K IAmb IAmb 14 03 34.4
comp=Z,15nm,1.7s
H20K Anotleneega Mo 63.52 27 P **P** **14 02 50.4 -0.9**
baz=296
G21K Allakaket 63.57 26 P **P** **14 02 50.6 -1.0**
G21K IAmb IAmb 14 03 10.4
comp=Z,24nm,2.0s
G21K Allakaket 63.57 26 P **P** **14 02 50.5 -1.1**
baz=297
F22K John River 63.58 25 P **P** **14 02 50.6 -1.1**
baz=297
N15K Kwethluk River 63.62 34 P **P** **14 02 51.2 -0.8**
C24K Franklin Bluff 63.65 22 P **P** **14 02 51.2 -0.8**
baz=299
J18K Innoko River 63.69 30 P **P** **14 02 51.1 -1.4**
J18K IAmb IAmb 14 03 50.3
comp=Z,14nm,1.5s
IMAR Indian Mountai 63.72 26 P **P** **14 02 51.4 -1.3**
M16K Timber Creek 63.77 33 P **P** **14 02 51.9 -1.1**
CLL Collm 63.83 316 *i* P **P** **14 02 53.7 +0.1**
D24K Happy Valley 63.89 22 P **P** **14 02 53.5 -0.2**
baz=299
TOLK Toolik Lake Re 63.91 23 P **P** **14 02 53.3 -0.5**
TOLK IAmb IAmb 14 02 54.1
comp=Z,7.3nm,1.2s
TOLK Toolik Lake Re 63.91 23 P **P** **14 02 53.1 -0.7**
baz=299
E23K Chandalar 64.18 24 P **P** **14 02 54.9 -0.8**
baz=299
TTA Tatalina 64.20 30 P **P** **14 02 55.1 -0.9**
TTA IAmb IAmb 14 04 10.3
comp=Z,33nm,2.0s
TTA Tatalina 64.20 30 P **P** **14 02 55.1 -0.9**
TTA pmax pmax
comp=Z,33nm,2.0s
H21K Melozitna Rive 64.22 27 P **P** **14 02 55.1 -0.8**
H21K Melozitna Rive 64.22 27 P **P** **14 02 55.0 -0.9**
baz=298
M17K Holitna River 64.28 32 P **P** **14 02 55.6 -0.7**
COLD Coldfoot 64.39 24 P **P** **14 02 56.7 -0.3**
baz=299
J20K Nowinta River 64.39 28 P **P** **14 02 56.6 -0.4**
J20K IAmb IAmb 14 02 57.1
comp=Z,33nm,2.0s
J20K Nowinta River 64.39 28 P **P** **14 02 57.1 +0.1**
baz=297
GERES GERESS Array B 64.42 313 P **P** **14 02 58.0 +0.4**
comp=Z,0.9nm,0.7s,baz=27,slow=7.5,SNR=4.9
comp=Z,0.9nm,0.7s
E24K Your Creek 64.54 23 P **P** **14 02 57.9 -0.1**
E24K IAmb IAmb 14 04 39.4
comp=Z,26nm,2.0s
E24K Your Creek 64.54 23 P **P** **14 02 57.5 -0.6**
baz=300
D25K Kavik River 64.56 22 P **P** **14 02 57.6 -0.5**
baz=301
I21K Tanana 64.74 27 P **P** **14 02 58.6 -0.7**
baz=298
N17K Nushagak Hills 64.77 33 P **P** **14 02 58.7 -0.9**
O16K Kokwok River B 64.77 34 P **P** **14 02 58.8 -0.8**
M18K Stony River 64.93 31 P **P** **14 02 57.6 -3.0**
baz=297
F24K Squaw Lake 65.02 24 P **P** **14 03 00.9 -0.3**
F24K IAmb IAmb 14 03 10.7
comp=Z,14nm,1.9s
L19K White Mountain 65.02 30 P **P** **14 03 00.8 -0.5**
L19K IAmb IAmb 14 04 03.9
comp=Z,26nm,1.7s
AS31 Alice Springs 65.08 149 P **P** **14 02 59.9 -2.1**
ASAR Alice Springs 65.08 149 P **P** **14 02 59.9 -2.1**
ASAR Alice Springs 65.08 149 P **P** **14 03 00.4 -1.7**
comp=Z,5.4nm,0.6s,baz=330,slow=5.8,SNR=40
comp=Z,5.4nm,0.6s
SVW2 Sparrevohn 65.22 32 P **P** **14 03 01.6 -0.9**
SVW2 IAmb IAmb 14 03 31.2
comp=Z,16nm,1.3s
CHUM Lake Minchumin 65.24 28 P **P** **14 03 03.1 +0.5**
baz=299
N18K Kilae Creek 65.27 32 P **P** **14 03 01.8 -1.0**
MLY Manley 65.28 27 P **P** **14 03 02.3 -0.6**
MLY IAmb IAmb 14 03 42.8
comp=Z,12nm,1.7s
MLY Manley 65.28 27 P **P** **14 03 02.7 -0.2**
baz=300
H23K Yukon River 65.31 26 P **P** **14 03 02.8 -0.3**
H23K Yukon River 65.31 26 P **P** **14 03 02.3 -0.8**
baz=300
M19K Big River Lodg 65.34 31 P **P** **14 03 03.1 -0.2**
M19K IAmb IAmb 14 05 05.3
comp=Z,17nm,1.4s
E25K Arctic Village 65.45 23 P **P** **14 03 02.8 -1.1**
baz=302
CAST Castle Rocks 65.56 29 P **P** **14 03 03.8 -0.9**
CAST IAmb IAmb 14 04 06.4
comp=Z,16nm,1.7s
CAST Castle Rocks 65.56 29 P **P** **14 03 02.9 -1.8**
baz=299
G24K Hadweenzic Riv 65.58 24 P **P** **14 03 03.8 -0.9**
baz=302
BPAW Bear Paw Mtn. 65.65 28 P **P** **14 03 04.7 -0.5**
BPAW IAmb IAmb 14 03 09.6
comp=Z,19nm,1.7s
BPAW Bear Paw Mtn. 65.65 28 P **P** **14 03 04.1 -1.2**
baz=300
F25K Christian Rive 65.71 23 P **P** **14 03 04.9 -0.8**
baz=303
I23K Minto, Yukon-K 65.72 26 P **P** **14 03 05.2 -0.5**
I23K IAmb IAmb 14 04 53.2
comp=Z,24nm,1.9s
I23K Minto, Yukon-K 65.72 26 P **P** **14 03 04.6 -1.1**
baz=301
N19K Bonanza Creek 65.82 32 P **P** **14 03 06.2 -0.3**
N19K Bonanza Creek 65.82 32 P **P** **14 03 05.4 -1.1**
baz=298
M20K Styx River 65.88 30 P **P** **14 03 06.4 -0.5**
M20K IAmb IAmb 14 05 13.6
comp=Z,37nm,1.9s
M20K Styx River 65.88 30 P **P** **14 03 05.8 -1.1**
baz=299
H24K Noodor Dome 65.90 25 P **P** **14 03 04.6 -2.2**
baz=302
KTH Kantishna Hill 65.94 28 P **P** **14 03 06.6 -0.6**
O18K Koktuh Hills 65.96 33 P **P** **14 03 06.9 -0.5**
NEA2 Nenana 66.12 27 P **P** **14 03 08.0 -0.3**
NEA2 IAmb IAmb 14 05 09.1
comp=Z,4.3nm,0.7s
BMAR Burnt Mountain 66.14 23 P **P** **14 03 08.3 -0.2**
MDM Murphy Dome 66.23 26 P **P** **14 03 08.2 -0.8**
MDM IAmb IAmb 14 03 09.8
comp=Z,7.2nm,1.2s
COLA College 66.41 26 P **P** **14 03 09.2 -0.9**
COLA IAmb IAmb 14 03 10.5
comp=Z,7.7nm,0.8s
COLA College 66.41 26 P **P** **14 03 09.0 -1.1**
baz=302
COLA College 66.41 26 P **P** **14 03 09.2 -0.9**
COLA pmax pmax
comp=Z,8.0nm,0.9s
POKR Poker Plat Res 66.44 26 P **P** **14 03 09.1 -1.2**
baz=302
SKT Skwentna 66.49 30 P **P** **14 03 09.4 -1.3**
SKT IAmb IAmb 14 03 59.2
comp=Z,30nm,1.9s
E27K Coleen River 66.64 22 P **P** **14 03 11.1 -0.5**
E27K IAmb IAmb 14 03 51.7
comp=Z,11nm,1.6s
E27K Coleen River 66.64 22 P **P** **14 03 10.4 -1.1**
baz=306
G26K Porcupine Rive 66.67 23 P **P** **14 03 10.0 -1.7**
baz=304
RND Reindeer 66.82 28 P **P** **14 03 11.6 -1.2**
RND IAmb IAmb 14 05 31.9
comp=Z,7.4nm,1.2s
RND Reindeer 66.82 28 P **P** **14 03 11.6 -1.2**
RND pmax pmax
comp=Z,7.0nm,1.2s
ILAR Eielson Array 66.82 26 P **P** **14 03 11.2 -1.5**
comp=Z,1.2nm,0.9s,baz=288,slow=6.0,SNR=11
comp=Z,1.2nm,0.9s
PRP Porcupine Dome 66.89 25 P **P** **14 03 12.4 -0.9**
baz=304
HDA Harding Lake 66.99 26 P **P** **14 03 12.1 -1.8**

baz=303
E28M Babbage River 67.00 21 P P 14 03 13.4 -0.4
E28M Babbage River 67.00 21 P P 14 03 11.7 -2.1
baz=307
SUA Susitna One 67.08 30 P P 14 03 13.1 -1.4
SUA Susitna One 67.08 30 P P 14 03 12.2 -2.4
baz=301
WAT1 Susitna Watana 67.24 28 P P 14 03 13.8 -1.6
baz=302
F28M Old Crow 67.51 22 P P 14 03 16.8 -0.3
F28M IAmb IAmb 14 03 29.7
comp=Z,7.9nm,1.3s
F28M Old Crow 67.51 22 P P 14 03 15.9 -1.1
baz=307
E29M Blow River 67.61 21 P P 14 03 17.3 -0.4
E29M Blow River 67.61 21 P P 14 03 16.4 -1.3
baz=309
PMR Palmer 67.67 30 P P 14 03 16.8 -1.3
PMR IAmb IAmb 14 03 17.4
comp=Z,18nm,1.4s
PMR Palmer 67.67 30 P P 14 03 16.8 -1.3
PMR pmax pmax
comp=Z,18nm,1.4s
RC01 Rabbit Creek A 67.69 30 P P 14 03 17.6 -0.7
RC01 IAmb IAmb 14 03 34.3
comp=Z,18nm,1.2s
K24K Donnelly Dome 67.76 27 P P 14 03 15.9 -2.9
baz=304
H27K Steamboat Moun 67.82 23 P P 14 03 16.1 -3.1
baz=307
I26K Coal Creek Min 67.83 25 P P 14 03 16.7 -2.4
baz=306
SML Sawmill 67.88 29 P P 14 03 18.4 -1.2
SML IAmb IAmb 14 05 32.5
comp=Z,24nm,1.4s
SML Sawmill 67.88 29 P P 14 03 17.2 -2.3
baz=303
J26L Joseph Creek 68.16 25 P P 14 03 19.8 -1.5
J26L Joseph Creek 68.16 25 P P 14 03 19.0 -2.3
baz=306
I27K Kandik River 68.17 24 P P 14 03 19.9 -1.4
baz=307
A36M Sachs Harbour 68.24 15 P P 14 03 21.8 +0.3
SCM Sheep Creek Mo 68.26 29 P P 14 03 21.5 -0.5
SCM Sheep Creek Mo 68.26 29 P P 14 03 21.5 -0.5
SCM pmax pmax
comp=Z,40nm,1.6s
SCRK Sand Creek 68.31 26 P P 14 03 20.3 -2.0
SCRK Sand Creek 68.31 26 P P 14 03 21.2 -1.1
baz=305
G29M Pine Creek 68.51 22 P P 14 03 23.1 -0.3
G29M IAmb IAmb 14 04 03.5
comp=Z,30nm,1.7s
G29M Pine Creek 68.51 22 P P 14 03 22.2 -1.2
baz=309
M24K Tolsona, Glenn 68.56 28 P P 14 03 23.6 -0.3
M24K Tolsona, Glenn 68.56 28 P P 14 03 23.2 -0.7
baz=304
NWAO Narrogin (SRO) 68.69 167 P P 14 03 26.1 +1.3
NWAO Narrogin (SRO) 68.69 167 P P 14 03 26.0 +1.3
NWAO IAmb IAmb 14 03 27.2
comp=Z,18nm,0.8s
NWAO Narrogin (SRO) 68.69 167 P P 14 03 26.1 +1.3
NWAO pmax pmax
comp=Z,54nm,0.8s
I28M Miner Creek 68.82 24 P P 14 03 24.6 -0.9
baz=308
H29M Whitestone 68.84 22 P P 14 03 25.3 -0.1
baz=309
INK Inuvik 68.90 19 P P 14 03 24.9 -0.8
INK IAmb IAmb 14 03 37.9
comp=Z,9.1nm,1.2s
INK Inuvik 68.90 19 P P 14 03 24.0 -1.7
baz=312
INK Inuvik 68.90 19 P P 14 03 24.9 -0.8
INK pmax pmax
comp=Z,9.0nm,1.2s
K27K Chicken 68.96 25 P P 14 03 22.8 -3.4
baz=307
KLU Klutina 69.01 29 P P 14 03 25.6 -1.1
KLU IAmb IAmb 14 03 49.0
comp=Z,8.2nm,0.9s
KLU Klutina 69.01 29 P P 14 03 25.6 -1.1
baz=305
G30M tAoh Zraii Nji 69.01 21 P P 14 03 25.6 -0.9
G30M IAmb IAmb 14 04 11.2
comp=Z,17nm,1.3s
G30M tAoh Zraii Nji 69.01 21 P P 14 03 23.5 -3.0
baz=311
EPYK Eagle Plains 69.26 22 P P 14 03 25.4 -2.6
baz=310
G31M Satah River 69.62 21 P P 14 03 28.9 -1.3
G31M IAmb IAmb 14 04 16.7
comp=Z,23nm,1.4s
L27K Beaver Creek, 69.63 26 P P 14 03 29.1 -1.4
L27K IAmb IAmb 14 03 36.5
comp=Z,19nm,1.9s
L27K Beaver Creek, 69.63 26 P P 14 03 28.8 -1.6
baz=307
BCAR Beaver Creek A 69.65 26 P P 14 03 29.9 -0.7
GLB Gilahina Butte 69.86 28 P P 14 03 31.4 -0.6
DAWY Dawson 69.87 25 P P 14 03 28.8 -3.1
baz=309
I30M Mount Dempster 70.12 23 P P 14 03 32.3 -1.2
I30M IAmb IAmb 14 03 43.1
comp=Z,10nm,1.4s
I30M Mount Dempster 70.12 23 P P 14 03 31.8 -1.7
baz=311
H31M Peel River 70.36 22 P P 14 03 33.7 -1.1
H31M IAmb IAmb 14 03 34.8
comp=Z,15nm,1.2s
H31M Peel River 70.36 22 P P 14 03 32.6 -2.2
baz=312
EKA Eskdalemuir Ar 70.46 324 P P 14 03 33.5 -2.2
comp=Z,0.6nm,0.5s,baz=61,slow=6.2,SNR=3.8
comp=Z,0.6nm,0.5s
C36M Paulatuk 70.51 16 P P 14 03 34.5 -1.1
K29M Barlow Dome 70.65 24 P P 14 03 35.4 -1.3
baz=310
CTGM Chitina Glacie 71.11 28 P P 14 03 39.2 -0.4
N31M Braeburn, Yuko 72.82 25 P P 14 03 49.7 -0.1
N31M IAmb IAmb 14 03 57.1
comp=Z,30nm,1.8s
N31M Braeburn, Yuko 72.82 25 P P 14 03 46.2 -3.5
baz=312
BBOO Buckleboo 74.03 152 P P 14 03 57.8 +0.7
STKA Stephens Creek 75.55 147 P P 14 04 06.5 +0.6
STKA Stephens Creek 75.55 147 P P 14 04 06.5 +0.6
STKA pmax pmax
comp=Z,4.0nm,1.6s
STKA Stephens Creek 75.55 147 P P 14 04 04.8 -1.1
comp=Z,3.4nm,0.7s,baz=321,slow=5.8,SNR=9.2
comp=Z,3.4nm,0.7s
SFJD Kangerlussuaq 76.54 350 P P 14 04 10.5 -0.6
SFJD Kangerlussuaq 76.54 350 P P 14 04 10.5 -0.6
SFJD pmax pmax
comp=Z,103nm,1.8s
YKA Yellowknife Ar 78.35 17 P P 14 04 20.3 -1.1
comp=Z,2.0nm,0.7s,baz=211,slow=3.7,SNR=2.5
comp=Z,2.0nm,0.7s
ESDC Sonseca Array 79.96 312 P P 14 04 30.6 -0.1
comp=Z,1.0nm,0.8s,baz=46,slow=6.2,SNR=6.4
comp=Z,1.0nm,0.8s
NEW Newport 89.77 26 P P 14 05 19.3 -0.6
comp=Z,1.8nm,0.8s,baz=213,slow=12,SNR=3.4
comp=Z,1.8nm,0.8s
TORD Torodi Ar. Bea 91.78 287 P P 14 05 29.7 0.0
comp=Z,1.3nm,0.9s,baz=30,slow=5.2,SNR=5.4
comp=Z,1.3nm,0.9s
YBH Yreka Blue Hor 92.94 33 LR LR 14 46 55.0
comp=Z,139nm,21.7s,baz=94,slow=35
ELIB Princess Elisa 119.68 201 *d*PKPdf **PKiKP 14 11 11.5 +0.9**
TROLL Troll, Antarti 126.00 202 ⇓PKPdf **PKiKP 14 11 24.7 +1.6**
comp=Z,163nm,0.9s
VNA2 Neumayer--Watz 129.21 203 ⇓PKPdf **PKiKP 14 11 30.7 +1.4**
comp=Z,3.3nm,0.8s,baz=63,slow=1.0
VNA1 Neumayer--Stat 129.53 204 ⇓PKPdf **PKiKP 14 11 31.4 +1.5**
comp=Z,2.9nm,0.8s

*GUC **31** 14:00:48.0±0.7, 19°.75S×69°.15W, h116km±2km, ML4.0*
*NEIC **31** 14:00:48.6±0.9, 19°.82S±0°.09×69°.1W±0°.2, h136km±10km, Error ellipse: s-maj=25.6km s-min=13.4km az=92.0*
ISC 31 14:00:47.0±0.7, 19°.78S±0°.04×69°.19W±0°.07, h123km±6km, n27, σ0s77/41, mb4.2/4, 12C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.12**	**358**	⇓*iP*	**Pn**	**14 01 04.5**	**0.0**
GO01				*eS*	**Sn**	**14 01 16.9**	**-0.6**
GO01				IAML		14 01 17.8	
comp=E,14μm,0.3s							
PB08	**IPOC Station P**	**0.36**	**175**	⇑*iP*	**Pn**	**14 01 05.3**	**+0.2**
PB08				*eS*	**Sn**	**14 01 18.5**	**-0.1**
PB08				IAML		14 01 19.2	
comp=E,17μm,0.3s							
HMBC	**Humberstone**	**0.82**	**233**	⇑*iP*	**Pn**	**14 01 08.1**	**+0.3**
HMBC				*eS*	**Sn**	**14 01 23.4**	**-0.1**
HMBC				IAML		14 01 26.2	
comp=E,4μm,0.5s							
TA02	**Huaiquique**	**1.01**	**241**	⇑*iP*	**Pn**	**14 01 09.8**	**+0.5**
TA02				*eS*	**Sn**	**14 01 26.0**	**-0.3**
TA02				IAML		14 01 27.6	
comp=N,8μm,0.1s							
TA01	**Diego Aracena**	**1.21**	**230**	⇑*iP*	**Pn**	**14 01 11.7**	**+0.3**
TA01				*eS*	**Sn**	**14 01 30.2**	**+0.2**
PB01	**IPOC Station P**	**1.28**	**193**	⇑*iP*	**Pn**	**14 01 12.9**	**+0.6**
PB01				*eS*	**Sn**	**14 01 31.7**	**+0.1**
PB01				IAML		14 01 33.0	
comp=N,3μm,0.3s							
PATCX	**Punta Patache**	**1.37**	**221**	⇑*iP*	**Pn**	**14 01 13.6**	**+0.3**
PATCX				*eS*	**Sn**	**14 01 32.9**	**-0.3**
PATCX				IAML		14 01 37.4	
comp=N,1μm,0.4s							
PB16	**IPOC Station P**	**1.47**	**348**	⇑*iP*	**Pn**	**14 01 15.9**	**+1.0**
PB16				*eS*	**Sn**	**14 01 36.5**	**+0.4**
PB12	**IPOC Station P**	**1.58**	**317**	*i P*	**Pn**	**14 01 15.7**	**-0.1**
PB12				*eS*	**Sn**	**14 01 36.5**	**-1.1**
PB12				IAML		14 01 38.3	
comp=N,801nm,0.2s							
PB02	**IPOC Station P**	**1.67**	**203**	⇑*eP*	**Pn**	**14 01 17.2**	**+0.5**
PB02				*eS*	**Sn**	**14 01 39.7**	**+0.4**
PB09	**IPOC Station P**	**2.00**	**181**	⇑*iP*	**Pn**	**14 01 21.8**	**+0.9**
PB09				*eS*	**Sn**	**14 01 47.3**	**+0.6**
PB09				IAML		14 01 49.3	
comp=N,513nm,0.4s							
PB07	**IPOC Station P**	**2.04**	**199**	⇑*eP*	**Pn**	**14 01 21.9**	**+0.6**
PB07				*eS*	**Sn**	**14 01 48.0**	**+0.5**
PB07				IAML		14 01 55.7	
comp=E,776nm,0.5s							
PB04	**IPOC Station P**	**2.69**	**199**	*i P*	**Pn**	**14 01 30.1**	**+0.5**
PB04				*eS*	**Sn**	**14 02 01.0**	**-1.3**
LVC	**Limon Verde**	**2.82**	**175**		**Pn**	**14 01 32.5**	**+1.1**
PB06	**IPOC Station P**	**2.93**	**187**	⇑*iP*	**Pn**	**14 01 33.2**	**+0.6**
PB06				*eS*	**Sn**	**14 02 05.8**	**-1.9**
PB15	**IPOC Station P**	**3.42**	**184**	⇑*iP*	**Pn**	**14 01 39.8**	**+0.7**
LPAZ	**La Paz**	**3.62**	**16**	Pn	**Pn**	**14 01 44.0**	**+1.8**
VILB	**Vilhena**	**10.98**	**53**		**Pn**	**14 03 19.5**	**-1.2**
SAML	**Samuel**	**12.24**	**29**	Pn	**Pn**	**14 03 37.0**	**-0.3**
BOSC	**San Juan Bosco**	**18.86**	**330**	P	**P**	**14 04 58.3**	**+0.4**
SALI	**Salinas**	**20.95**	**325**	P	**P**	**14 05 21.3**	**+1.0**
SALI				IAmb	IAmb	14 05 47.4	
comp=Z,144nm,1.3s							
BOAV	**Boa Vista**	**23.63**	**22**	P	**P**	**14 05 47.3**	**+0.2**
BOAV				IAmb	IAmb	14 05 47.8	
comp=Z,7.2nm,0.6s							
X58A	**Rowland**	**54.89**	**350**	P	**P**	**14 10 04.9**	**+0.1**
BLYC	**Blythe**	**68.56**	**320**	P	**P**	**14 11 36.1**	**-0.4**
BLYC				IAmb	IAmb	14 11 44.2	
comp=Z,3.3nm,0.9s							
ELMT	**Elliston**	**76.71**	**331**	P	**P**	**14 12 25.1**	**+0.3**
TOA0	**Torodi Ar. Sit**	**77.03**	**71**	P	**P**	**14 12 26.1**	**-0.9**
TOA0				IAmb	IAmb	14 12 27.6	
comp=Z,4.8nm,1.4s							
TORD	**Torodi Ar. Bea**	**77.03**	**71**	P	**P**	**14 12 26.0**	**-1.0**
TORD				IAmb	IAmb	14 12 34.6	
comp=Z,2.4nm,1.2s							

*IDC **31** 14:10:26.5±0.8, 21°.47S×169°.52E, h0km, mb4.0/10, mbtmp3.9/12, ML4.1/2, MS3.5/1, Error ellipse: s-maj=27.6km s-min=18.2km az=148.0*
*NOU **31** 14:10:28.2, 21°.46S×169°.49E, h0km, MLv4.2/14, Southeast of Loyalty Islands*
*NEIC **31** 14:10:30.1±2.7, 21°.57S±0°.08×169°.25E±0°.07, h10km±1km, mb4.5/20, Error ellipse: s-maj=13.3km s-min=10.7km az=165.0*
ISC 31 14:10:30.1±0.5, 21°.48S±0°.06×169°.44E±0°.07, h21km, n61, σ1s29/60, mb4.3/19, 4D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.31**	**269**		**Pn**	**14 10 53.2**	**0.0**
MARNC	**Mare, Loyalty**	**1.31**	**269**	P	**Pn**	**14 10 53.4**	**+0.3**
LIFNC	**LIFOU**	**2.17**	**288**		**Pn**	**14 11 04.2**	**-0.7**
LIFNC	**LIFOU**	**2.17**	**288**	P	**Pn**	**14 11 04.7**	**-0.2**
PINNC	**Pines Island,**	**2.17**	**238**		**Pn**	**14 11 05.5**	**+0.6**
PINNC	**Pines Island,**	**2.17**	**238**	P	**Pn**	**14 11 05.9**	**+1.0**
YATNC	**Mamie plateau,**	**2.44**	**256**	P	**Pn**	**14 11 09.5**	**+0.8**
OUENC	**Ouen Island, N**	**2.59**	**248**		**Pn**	**14 11 11.0**	**+0.3**
OUENC	**Ouen Island, N**	**2.59**	**248**	P	**Pn**	**14 11 12.3**	**+1.6**
DZM	**Mont Dzumac**	**2.84**	**257**		**Pn**	**14 11 13.7**	**-0.6**
DZM	**Mont Dzumac**	**2.84**	**257**	P	**Pn**	**14 11 16.1**	**+1.7**
DZM	**Mont Dzumac**	**2.84**	**257**	Pn	**Pn**	**14 11 15.8**	**+1.5**
3.1nm,0.3s,baz=100,slow=17,SNR=16							
DZM				Sn	**Sn**	**14 11 49.7**	**+1.7**
29nm,0.3s,baz=255,slow=21,SNR=12							
15nm,0.6s							
ONTNC	**Ouen Toro**	**2.89**	**253**		**Pn**	**14 11 12.9**	**-2.0**
ONTNC	**Ouen Toro**	**2.89**	**253**	P	**Pn**	**14 11 16.4**	**+1.5**
NOUC	**Port Laguerre**	**2.98**	**257**	P	**Pn**	**14 11 17.4**	**+1.3**
RTV	**Rentapao**	**3.79**	**345**	P	**Pn**	**14 11 28.7**	**+1.5**
KOUNC	**Koumac, New Ca**	**4.90**	**280**		**Pn**	**14 11 43.0**	**+0.5**
KOUNC	**Koumac, New Ca**	**4.90**	**280**	P	**Pn**	**14 11 44.4**	**+1.9**
NFK	**Norfolk Island**	**7.66**	**190**	P	**Pn**	**14 12 21.1**	**+0.7**
MSVF	**Nonsavu**	**8.93**	**67**	Pn	Pn	14 12 43.7	+5.7
MSVF	**Nonsavu**	**8.93**	**67**	Pn	**Pn**	**14 12 37.1**	**-0.9**
0.2nm,0.3s,baz=207,slow=16,SNR=1.8							
1.9nm,0.8s							
MXZ	**Matakaoa Point**	**17.78**	**156**		**P**	**14 14 37.4**	**+0.5**
MXZ				IAmb	IAmb	14 14 55.8	
comp=Z,94nm,1.2s							
ARMA	**Armidale**	**18.30**	**237**	P	**Pn**	**14 14 40.5**	**-2.4**
ARMA				IAmb	IAmb	14 15 12.3	
comp=Z,26nm,1.4s							
MRZ	**Mangatainoka R**	**19.82**	**166**	P	**Pn**	**14 15 00.3**	**-0.7**
BHW	**Baring Head**	**20.40**	**168**	P	**P**	**14 15 06.6**	**+1.0**
BHW				IAmb	IAmb	14 15 50.9	
comp=Z,24nm,1.0s							
STKA	**Stephens Creek**	**26.88**	**242**	P	**P**	**14 16 09.1**	**-0.5**
comp=Z,1.2nm,0.7s,baz=74,slow=14,SNR=2.8							
comp=Z,1.2nm,0.7s							
RAR	**Rarotonga**	**28.66**	**95**	LR	LR	14 24 57.5	
comp=Z,92nm,20.8s,baz=126,slow=30							
WR0	**Warramunga Arr**	**32.64**	**266**	P	**P**	**14 16 58.5**	**-2.2**
WR0				IAmb	IAmb	14 17 13.1	
comp=Z,5.2nm,1.2s							
WRAB	**Tennant Creek**	**32.82**	**266**	P	**P**	**14 16 59.3**	**-3.0**
WRA	**Warramunga Arr**	**32.83**	**266**	P	**P**	**14 16 59.4**	**-3.1**
WRA	**Warramunga Arr**	**32.83**	**266**	P	**P**	**14 17 01.6**	**-0.8**
comp=Z,0.5nm,0.6s,baz=96,slow=7.9,SNR=6.7							
comp=Z,0.5nm,0.6s							
AS31	**Alice Springs**	**32.83**	**259**	P	**P**	**14 17 01.7**	**-0.8**
ASAR	**Alice Springs**	**32.83**	**259**	P	**P**	**14 17 01.1**	**-1.4**
ASAR	**Alice Springs**	**32.83**	**259**	P	**P**	**14 17 03.0**	**+0.6**
comp=Z,1.1nm,0.6s,baz=88,slow=8.7,SNR=27							
comp=Z,1.1nm,0.6s							
FORT	**Forrest**	**38.11**	**247**	P	**P**	**14 17 48.2**	**+0.5**
KNRA	**Kununurra**	**38.90**	**271**	P	**P**	**14 17 55.0**	**+0.5**
KNRA				IAmb	IAmb	14 18 00.9	
comp=Z,12nm,0.9s							
FAKI	**Fak Fak**	**40.58**	**292**	P	**P**	**14 18 08.3**	**-0.3**
FAKI				IAmb	IAmb	14 18 14.8	
comp=Z,22nm,1.0s							
NWAO	**Narrogin (SRO)**	**47.39**	**245**	P	**P**	**14 19 01.0**	**-2.0**
MIDW	**Midway**	**51.02**	**15**	P	**P**	**14 19 32.3**	**+1.7**
SBA	**Scott Base**	**56.44**	**181**	P	**P**	**14 20 11.3**	**+1.6**
SBA				IAmb	IAmb	14 20 21.4	
comp=Z,2.3nm,0.9s							
MJAR	**Matsushiro Arr**	**64.81**	**333**	P	**P**	**14 21 06.4**	**-1.0**
comp=Z,1.6nm,0.9s,baz=163,slow=8.9,SNR=2.7							
comp=Z,1.6nm,0.9s							
QSPA	**South Pole Qui**	**68.59**	**180**	P	**P**	**14 21 30.9**	**-0.4**
QSPA				IAmb	IAmb	14 21 33.1	
comp=Z,9.3nm,1.4s							
QSPA	**South Pole Qui**	**68.59**	**180**	P	**P**	**14 21 31.1**	**-0.2**
comp=Z,1.9nm,0.8s,baz=28,slow=1.5,SNR=8.7							
comp=Z,1.9nm,0.8s							
PETK	**Petropavlovsk-**	**74.97**	**353**	P	**P**	**14 22 09.8**	**+0.4**
comp=Z,12nm,1.1s,baz=168,slow=7.4,SNR=1.3							
comp=Z,12nm,1.1s							
MAW	**Mawson**	**76.44**	**202**	P	**P**	**14 22 18.6**	**+0.8**
comp=Z,1.0nm,0.7s,baz=80,slow=6.1,SNR=2.4							
comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**79.59**	**295**	P	**P**	**14 22 38.1**	**+2.0**
comp=Z,0.4nm,0.4s,baz=147,slow=4.0,SNR=4.3							
comp=Z,0.4nm,0.4s							
BELA	**Belgrano 2**	**79.87**	**175**	P	**P**	**14 22 36.1**	**-0.6**
BELA				IAmb	IAmb	14 22 36.9	
comp=Z,3.2nm,0.8s							
TROLL	**Troll, Antarti**	**86.33**	**184**	⇓P	**P**	**14 23 10.2**	**-0.1**
comp=Z,219nm,0.7s							
K15K	**Wolf Creek Mou**	**86.63**	**13**	P	**P**	**14 23 11.3**	**-0.2**
M17K	**Holitna River**	**86.78**	**15**	P	**P**	**14 23 12.7**	**+0.5**
VNA3	**Neumayer Olymp**	**87.53**	**180**	⇓P	**P**	**14 23 15.7**	**-0.3**
comp=Z,6.7nm,0.7s							
VNA2	**Neumayer--Watz**	**87.82**	**181**	⇓P	**P**	**14 23 17.2**	**-0.2**
comp=Z,5.3nm,0.7s,baz=182,slow=4.0							
VNA1	**Neumayer--Stat**	**88.11**	**181**	⇓P	**P**	**14 23 18.7**	**-0.1**
comp=Z,3.3nm,0.9s							
NVAR	**Mina Array Bea**	**90.14**	**48**	P	**P**	**14 23 28.4**	**-0.7**
comp=Z,0.5nm,0.7s,baz=238,slow=6.7,SNR=4.0							
comp=Z,0.5nm,0.7s							
F20K	**Avaraart Lake**	**92.01**	**13**	P	**P**	**14 23 40.0**	**+3.3**
F20K				IAmb	IAmb	14 23 59.6	
comp=Z,7.1nm,1.4s							
ILAR	**Eielson Array**	**92.30**	**17**	P	**P**	**14 23 38.0**	**-0.2**
comp=Z,0.3nm,0.8s,baz=235,slow=5.6,SNR=4.5							
comp=Z,0.3nm,0.8s							
BPMT	**Black Pine Rid**	**96.85**	**43**	P	**P**	**14 24 00.9**	**+1.1**
ARCES	**ARCESS Array B**	**127.27**	**345**	PKP	**PKPdf**	**14 29 31.2**	**-1.1**
comp=Z,4.6nm,1.1s,baz=37,slow=0.6,SNR=4.1							
CLL	**Collm**	**145.01**	**334**	*i* PKPbc	**PKPbc**	**14 30 04.5**	**-0.4**
comp=Z,4.0nm,0.6s							
EKA	**Eskdalemuir Ar**	**145.74**	**352**	PKPbc	**PKPdf**	**14 30 05.2**	**-1.5**
comp=Z,2.0nm,0.5s,baz=352,slow=2.3,SNR=9.1							
GERES	**GERESS Array B**	**146.53**	**331**	PKPbc	**PKPbc**	**14 30 09.5**	**-0.4**
comp=Z,1.4nm,0.6s,baz=12,slow=7.2,SNR=5.8							

*DJA **31** 14:13:51.6±0.6, 4°.S±6°.×12°.8E±°, h10km, M3.5/6, MLv3.5/6*
*IDC **31** 14:14:30.6±2.1, 7°.48S×127°.78E, h0km, mb3.8/2, mbtmp3.7/4, ML3.0/2, Error ellipse: s-maj=285.0km s-min=30.7km az=65.0*
ISC 31 14:13:50.4±1.2, 3°.8S±0°.1×127°.73E±0°.09, h10km, n6, σ1s18/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.86**	**313**	P	**Pn**	**14 14 08.9**	**+0.2**
NLAI				S	**Sg**	**14 14 17.6**	**-0.8**
BNDI	**Bandanaira**	**2.27**	**108**	P	**Pn**	**14 14 28.5**	**+0.4**
SANI	**Sanana**	**2.48**	**316**	P	**Pn**	**14 14 31.8**	**+0.8**
SWI	**Sorong**	**4.60**	**50**	P	**Pn**	**14 15 00.3**	**+0.2**
WRA	**Warramunga Arr**	**17.26**	**159**	Pn	**Pn**	**14 17 50.1**	**-1.6**
0.1nm,0.3s,baz=330,slow=13,SNR=4.7							
0.9nm,0.8s							
ASAR	**Alice Springs**	**20.60**	**164**	P	**P**	**14 18 31.1**	**+1.2**
0.1nm,0.3s,baz=344,slow=12,SNR=13							
1.3nm,0.8s							

WEL 31 14:14:22.1, 38°.S±5°.×17°.7E±°, h5km±3km, M2.1/7, ML2.3/11, MLv2.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=160.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.14**	**297**	P	Pg	14 14 25.8	+0.8
WIZ				S	Sg	14 14 28.3	+1.4
WSRZ	**White Island S**	**0.15**	**298**	P	Pg	14 14 26.9	+1.7
WSRZ				S	Sg	14 14 28.6	+1.4
HAZ	**Te Kaha**	**0.38**	**116**	P	Pg	14 14 29.9	+0.4
HAZ				S	Sb	14 14 37.0	-0.6
RUGZ	**Raukumara Rang**	**0.46**	**145**	P	Pb	14 14 32.4	-0.3
RUGZ				S	Sb	14 14 39.9	0.0
PKGZ	**Pakihiroa**	**0.65**	**117**	P	Pg	14 14 34.9	+0.2
PKGZ				S	Sb	14 14 46.2	+0.8
URZ	**Urewera**	**0.69**	**196**	P	Pb	14 14 37.1	+0.5
URZ				S	Sb	14 14 48.0	+1.5
MWZ	**Matawai**	**0.76**	**169**	P	Pb	14 14 38.2	+0.4
MWZ				S	Sb	14 14 49.6	+1.1
TWGZ	**Tauwhareparae**	**0.77**	**140**	P	Pn	14 14 38.9	-0.8
TWGZ				S	Sn	14 14 52.8	+1.1
PUZ	**Puketiti**	**0.87**	**124**	P	Pn	14 14 40.6	-0.4
WMGZ	**Waiomatatini S**	**0.88**	**105**	P	Pn	14 14 40.8	-0.3
WMGZ				S	Sn	14 14 55.9	+1.6
RAGZ	**Rawiri**	**0.91**	**177**	P	Pn	14 14 41.2	-0.3
RAGZ				S	Sn	14 14 54.4	-0.7
TKGZ	**Te Karaka**	**0.94**	**155**	P	Pn	14 14 42.8	+0.9
TKGZ				S	Sn	14 14 59.3	+3.7
MUGZ	**Murupara**	**1.00**	**207**	P	Pn	14 14 42.8	+0.1
RTZ	**Ruatahuna**	**1.06**	**196**	P	Pn	14 14 43.6	-0.2
RTZ	**Ruatahuna**	**1.06**	**196**	P	Pb	14 14 43.1	0.0
CNGZ	**Carnagh Statio**	**1.12**	**143**	P	Pn	14 14 46.8	+2.3
RIGZ	**Rimuhau**	**1.16**	**164**	P	Pn	14 14 47.2	+2.1
TMWZ	**Te Maipa**	**3.69**	**197**	P	Pn	14 15 19.6	-0.2

*DJA **31** 14:14:57.2±0.6, 4°.S±6°.×12°.8E±°, h10km, M3.8/7, mb4.3/1, mB5.5/1, MLv3.6/7, Mw(mB)5.0/1*
ISC 31 14:14:52.2±1.2, 4°.1S±0°.2×127°.73E±0°.10, h10km, n12, σ2s12/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.08**	**325**	P	**Pn**	**14 15 16.4**	**+3.0**
BNDI	**Bandanaira**	**2.21**	**100**	P	**Pb**	**14 15 32.8**	**+0.6**
SANI	**Sanana**	**2.70**	**320**	P	**Pn**	**14 15 35.4**	**-0.2**
SWI	**Sorong**	**4.79**	**48**	P	**Pn**	**14 16 05.0**	**+0.5**
WRA	**Warramunga Arr**	**16.99**	**158**	Pn	**Pn**	**14 18 50.8**	**+0.6**
0.1nm,0.3s,baz=335,slow=13,SNR=5.7							
WRA	**Warramunga Arr**	**16.99**	**158**				
1.3nm,0.7s							
ASAR	**Alice Springs**	**20.32**	**163**	Pn	Pn	14 19 33.5	+2.9
0.3nm,0.3s,baz=344,slow=10,SNR=12							
ASAR	**Alice Springs**	**20.32**	**163**				
3.7nm,0.8s							
MKAR	**Makanchi Array**	**64.60**	**327**	P	**P**	**14 25 28.2**	**-1.6**
0.6nm,0.8s,baz=118,slow=8.3,SNR=4.3							
MKAR	**Makanchi Array**	**64.60**	**327**				
0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**68.89**	**329**	P	**P**	**14 25 54.8**	**-2.3**
0.5nm,0.4s,baz=136,slow=6.2,SNR=1.9							
KURBB	**Kurchatov Arra**	**68.89**	**329**				
0.5nm,0.4s							

*IDC **31** 14:15:53.3±2.2, 8°.65S×129°.17E, h0km, mb3.7/1, mbtmp3.8/3, ML3.3/2, Error ellipse: s-maj=114.0km s-min=33.2km az=66.0*
*DJA **31** 14:16:21.6±0.7, 4°.S±6°.×12°.8E±°, h10km, M3.3/5, MLv3.3/5*
ISC 31 14:16:21.8±1.6, 4°.0S±0°.1×128°.36E±0°.09, h10km, n5, σ0s88/6, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRAI	**Karang Ratu**	**0.65**	**3**	P	**Pb**	**14 16 34.8**	**-0.5**
KRAI				S	**Sg**	**14 16 43.1**	**+0.1**
NLAI	**Namlea**	**1.46**	**300**	P	**Pn**	**14 16 47.1**	**-1.1**
BNDI	**Bandanaira**	**1.63**	**110**	P	**Pn

SNR=23
SHME S Sn 14 19 50.9 +0.2
KHNJ Kahnooj 1.54 52 Pg Pn 14 19 45.6 +1.0
UMQ Umm Al-Quwin 1.59 203 P Pn 14 19 45.8 +0.5
UMQ S Sn 14 20 06.1 0.0
MASF Masafi 1.63 186 P Pb 14 19 47.6 +0.6
SNR=13
MASF S Sb 14 20 07.8 -0.1
MSFE Esma-Masafi 1.64 186 P Pb 14 19 47.5 +0.2
MDH Madha 1.69 181 P Pn 14 19 48.0 +1.3
MDH S Sb 14 20 09.3 -0.4
MDH Madha 1.69 181 P Pn 14 19 48.2 +1.4
SNR=6.7
MDH S Sg 14 20 10.7 -0.3
JASK Jask - Hormozg 1.77 129 P Pn 14 19 48.7 +0.9
SNR=8.8
JASK Jask - Hormozg 1.77 129 Pn Pb 14 19 49.5 0.0
UOSS Minazif 2.05 183 P Pn 14 19 51.5 -0.1
UOSS Minazif 2.05 183 P Pn 14 19 52.8 +1.2
UOSS S Sn 14 20 18.6 +1.1
NAZ Nazwa, Dubai 2.09 197 P Pn 14 19 53.0 +0.8
NAZ Nazwa, Dubai 2.09 197 P Pb 14 19 54.6 -0.3
HATD Hatta, Dubai 2.17 185 P Pn 14 19 54.3 +1.0
HATD Hatta, Dubai 2.17 185 S Sb 14 20 23.2 -0.3
ASHO Ashiyiah 2.32 186 P Pn 14 19 56.2 +0.8
ASHO Ashiyiah 2.32 186 P Pn 14 19 56.5 +1.2
SNR=8.6
ASHO S Sn 14 20 25.6 +1.3
FAQ Al Faqa, Dubai 2.34 197 P Pb 14 19 59.3 0.0
FAQ S Sn 14 20 25.6 +0.8
ASUD Al Ashush, Dub 2.53 201 P Pn 14 20 00.2 +1.9
ASUD Al Ashush, Dub 2.53 201 P Pn 14 20 00.6 +2.4
ASUD S Sn 14 20 30.7 +1.3
NGRK Negar Kerman 2.66 7 Pn Pn 14 20 01.0 +0.7
SOHO SOHO 2.86 176 P Pn 14 20 03.9 +1.2
SOHO SOHO 2.86 176 P Pn 14 20 04.2 +1.5
SOHO S Sn 14 20 36.9 -0.6
ALNE Al Ain 2.98 190 P Pb 14 20 08.3 -1.8
ALNE Al Ain 2.98 190 P Pb 14 20 09.0 -1.1
CHMN Cheshme madani 3.04 20 Pn Pn 14 20 06.7 +1.2
ARQ Araqi 3.65 177 P Pn 14 20 14.5 +0.8
ARQ S Sn 14 20 56.4 -0.7
SMDO Samad 4.22 158 P Pn 14 20 22.5 +1.0
SMDO S Sn 14 21 10.9 -0.3
WSAR Wadi Sarin 4.28 151 P Pn 14 20 24.2 +1.9
WSAR S Sn 14 21 12.8 +0.1
BSY Bisya 4.31 169 P Pn 14 20 27.6 +4.9
BSY S Sn 14 21 09.5 -3.8
WBK Wadi Bani Khal 4.98 151 P Pn 14 20 33.5 +1.5
WBK S Sn 14 21 29.3 -0.6
JLN Jalan Bani Buh 5.58 149 P Pn 14 20 41.0 +0.8
JLN S Sn 14 21 42.2 -2.4
MHTO MHTO 6.17 166 P Pn 14 20 48.2 -0.1
WHFO Wadi Hawf 9.34 195 P Pn 14 21 31.2 -0.7
WHFO S Sn 14 23 14.6 -2.8
ABTO Aybut 10.01 197 P Pn 14 21 39.6 -1.4
ABTO S Sn 14 23 34.8 +1.1

---

*KRSC **31** 14:23:50.1±1.3, 49°.86N×157°.13E, h20km±34km, Ml4.3*
*MOS **31** 14:23:51.1±1.0, 49°.97N×156°.06E, h101km, mb4.3/4, Error ellipse: s-maj=23.9km s-min=6.0km az=76.5*
*IDC **31** 14:23:56.5±4.6, 50°.39N×155°.73E, h108km±38km, mb3.5/5, mbtmp3.8/6, MS4.0/1, Error ellipse: s-maj=73.4km s-min=40.4km az=134.0*
*NEIC **31** 14:23:57.1±1.8, 50°.4N±0°.1×155°.9E±0°.1, h118km±6km, mb4.5/18, Error ellipse: s-maj=16.0km s-min=13.2km az=205.0*

ISC 31 14:23:53.4±1.1, 50°.1N±0°.1×156°.17E±0°.09, h95km±8km, n77, σ1§31/83, mb4.1/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.63**	**357**	*i* P			**Pn**	**14 24 09.1**	**-0.6**
SKR				*e*S			**Sn**	**14 24 22.6**	**+0.7**
SKR	**Severo-Kuril's**	**0.63**	**357**	*e*PN			**Pn**	**14 24 08.7**	**-1.0**
SKR				*i* S			**Sn**	**14 24 21.9**	**0.0**
SKR	comp=Z,1μm,0.7s			pmax			pmax		
SKR	comp=E,2μm,0.5s			smax			smax		
SKR	comp=N,2μm,0.5s			smax			smax		
PAU	**Pauzhetka**	**1.47**	**16**	*e*P			**Pn**	**14 24 20.2**	**+1.2**
PAU				*e*S			**Sn**	**14 24 41.0**	**+2.6**
PAU	**Pauzhetka**	**1.47**	**16**	PN			**Pn**	**14 24 20.2**	**+1.2**
PAU				S			**Sn**	**14 24 41.0**	**+2.6**
KDTR	**Khodutka, Kamc**	**2.13**	**34**	*e*P			**Pn**	**14 24 25.9**	**-1.5**
KDTR				*e*S			**Sn**	**14 24 51.6**	**-1.8**
KDTR	**Khodutka, Kamc**	**2.13**	**34**	PN			**Pn**	**14 24 25.9**	**-1.5**
KDTR				S			**Sn**	**14 24 51.6**	**-1.8**
GRL	**Gorelyy**	**2.77**	**25**	*e*P			**Pn**	**14 24 36.4**	**+0.4**
GRL				*e*S			**Sn**	**14 25 10.2**	**+1.4**
GRL	**Gorelyy**	**2.77**	**25**	PN			**Pn**	**14 24 36.4**	**+0.4**
GRL				S			**Sn**	**14 25 10.2**	**+1.4**
RUS	**Russkaya**	**2.80**	**31**	*e*P			**Pn**	**14 24 34.9**	**-1.4**
RUS				*e*S			**Sn**	**14 25 07.2**	**-2.0**
RUS	**Russkaya**	**2.80**	**31**	PN			**Pn**	**14 24 34.9**	**-1.4**
RUS				S			**Sn**	**14 25 07.2**	**-2.0**
APC	**Apacha**	**2.94**	**12**	*e*P			**Pn**	**14 24 40.0**	**+1.8**
APC	**Apacha**	**2.94**	**12**	PN			**Pn**	**14 24 40.0**	**+1.8**
KRMR	**Karymshinskiy**	**3.04**	**23**	*e*P			**Pn**	**14 24 40.4**	**+0.9**
KRMR				*e*S			**Sn**	**14 25 17.1**	**+2.2**
KRMR	**Karymshinskiy**	**3.04**	**23**	PN			**Pn**	**14 24 40.4**	**+0.9**
KRMR				S			**Sn**	**14 25 17.1**	**+2.2**
PEA0B	**Petropavlovsk-**	**3.20**	**17**	Pn			**Pn**	**14 24 43.0**	**+1.3**
PEA0B	**Petropavlovsk-**	**3.20**	**17**	PN			**Pn**	**14 24 43.0**	**+1.3**
PETK	**Petropavlovsk-**	**3.20**	**17**	Pn			**Pn**	**14 24 41.8**	**+0.1**
PETK	**Petropavlovsk-**	**3.20**	**17**	P			**Pn**	**14 24 42.3**	**+0.6**
	comp=N,6.4nm,0.5s,baz=186,slow=12,SNR=30								
PET	**Petropavlovsk**	**3.35**	**27**	Pn			**Pn**	**14 24 43.8**	**+0.1**
PET	**Petropavlovsk**	**3.35**	**27**	*e*P			**Pn**	**14 24 44.1**	**+0.4**
PET				*e*S			**Sn**	**14 25 23.0**	**+0.5**
PET	**Petropavlovsk**	**3.35**	**27**	*e*PN			**Pn**	**14 24 44.5**	**+0.8**
PET				*e*S			**Sn**	**14 25 22.8**	**+0.3**
PET	comp=E,87nm,0.6s			smax			smax		
PET	comp=N,76nm,0.6s			smax			smax		
DALK	**Dalny**	**3.39**	**27**	*e*P			**Pn**	**14 24 44.0**	**-0.2**
DALK				*e*S			**Sn**	**14 25 23.1**	**-0.3**
DALK	**Dalny**	**3.39**	**27**	PN			**Pn**	**14 24 44.0**	**-0.2**
DALK				S			**Sn**	**14 25 23.1**	**-0.3**
UGLR	**Uglovaya**	**3.56**	**27**	*e*P			**Pn**	**14 24 46.8**	**+0.1**
UGLR	**Uglovaya**	**3.56**	**27**	PN			**Pn**	**14 24 46.8**	**+0.1**
KOK	**Koryaka**	**3.59**	**24**	*e*P			**Pn**	**14 24 48.0**	**+1.1**
KOK	**Koryaka**	**3.59**	**24**	PN			**Pn**	**14 24 48.0**	**+1.1**
AVH	**Avacha**	**3.59**	**25**	*e*P			**Pn**	**14 24 47.9**	**+0.9**
AVH	**Avacha**	**3.59**	**25**	PN			**Pn**	**14 24 47.9**	**+0.9**
SMAR	**Somma**	**3.60**	**26**	*e*P			**Pn**	**14 24 47.8**	**+0.5**
SMAR	**Somma**	**3.60**	**26**	PN			**Pn**	**14 24 47.8**	**+0.5**
KRX	**Arik**	**3.65**	**24**	*e*P			**Pn**	**14 24 49.0**	**+1.2**
KRX	**Arik**	**3.65**	**24**	PN			**Pn**	**14 24 49.0**	**+1.2**
TIXI	**Tiksi**	**24.96**	**340**	P			**P**	**14 29 06.2**	**-1.3**
TIXI	**Tiksi**	**24.96**	**340**	P			**P**	**14 29 06.2**	**-1.3**
TIXI	comp=Z,3.0nm,0.7s			pmax			pmax		
B20K	**Meade River**	**29.54**	**30**	P			**P**	**14 29 48.7**	**+0.3**
B20K				IAmb			IAmb	14 30 22.5	
	comp=Z,29nm,1.4s								
J20K	**Nowinta River**	**29.54**	**43**	P			**P**	**14 29 49.4**	**+0.8**
J20K				IAmb			IAmb	14 30 27.2	
	comp=Z,6.7nm,1.4s								
IMAR	**Indian Mountai**	**29.90**	**39**	P			**P**	**14 29 52.4**	**+0.7**
BPAW	**Bear Paw Mtn.**	**30.92**	**43**	P			**P**	**14 30 01.2**	**+0.4**
BPAW				IAmb			IAmb	14 30 31.8	
	comp=Z,6.8nm,1.5s								
E22K	**Anaktuvuk Pass**	**30.97**	**35**	P			**P**	**14 30 00.9**	**-0.2**
E22K				IAmb			IAmb	14 30 13.0	
	comp=Z,5.0nm,1.5s								
H11N2	**WAKE ISLAND Hy**	**31.44**	**160**	T			T	15 03 06.7	
	baz=347,slow=76,SNR=8.9								
H11N1	**WAKE ISLAND Hy**	**31.46**	**160**	T			T	15 03 09.7	
	baz=347,slow=76,SNR=9.3								
H11N3	**WAKE ISLAND Hy**	**31.46**	**160**	T			T	15 03 14.3	
	baz=347,slow=76,SNR=12								
TOLK	**Toolik Lake Re**	**31.86**	**34**	P			**P**	**14 30 09.3**	**+0.3**
TOLK				IAmb			IAmb	14 30 51.5	
	comp=Z,10nm,1.5s								
H11S1	**WAKE ISLAND Hy**	**32.59**	**161**	T			T	15 04 32.8	
	baz=347,slow=76,SNR=54								
H11S3	**WAKE ISLAND Hy**	**32.59**	**161**	T			T	15 04 37.8	
	baz=347,slow=76,SNR=70								
H11S2	**WAKE ISLAND Hy**	**32.60**	**161**	T			T	15 04 39.4	
	baz=347,slow=76,SNR=22								
D25K	**Kavik River**	**33.09**	**33**	P			**P**	**14 30 19.9**	**+0.2**
FID	**Port Fidalgo**	**33.20**	**49**	P			**P**	**14 30 20.7**	**0.0**
FID				IAmb			IAmb	14 30 56.2	
	comp=Z,23nm,1.3s								
BMAR	**Burnt Mountain**	**33.64**	**37**	P			**P**	**14 30 25.6**	**+1.1**
BCAR	**Beaver Creek A**	**35.09**	**44**	P			**P**	**14 30 35.2**	**-1.9**
EGAK	**Eagle**	**35.15**	**41**	P			**P**	**14 30 37.2**	**-0.3**
EGAK				IAmb			IAmb	14 31 12.2	
	comp=Z,4.3nm,1.2s								
BBB	**Bella Bella**	**45.54**	**57**	LR			LR	14 51 59.1	
	comp=Z,159nm,18.8s,baz=94,slow=37								
KURK	**Kurchatov**	**47.27**	**302**	P			**P**	**14 32 15.0**	**-1.8**
MK31	**Makanchi Array**	**47.28**	**296**	P			**P**	**14 32 15.6**	**-1.3**
MK31	**Makanchi Array**	**47.28**	**296**	P			**P**	**14 32 15.6**	**-1.3**
MK31				pmax			pmax		
	comp=Z,4.0nm,1.5s								
MKAR	**Makanchi Array**	**47.28**	**296**	P			**P**	**14 32 15.8**	**-1.1**
MKAR	**Makanchi Array**	**47.28**	**296**	P			**P**	**14 32 15.9**	**-1.1**
MKAR	**Makanchi Array**	**47.28**	**296**	P			**P**	**14 32 15.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=57,slow=6.8,SNR=9.3								
	comp=Z,0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**47.37**	**302**	P			**P**	**14 32 15.0**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=63,slow=7.6,SNR=2.9								
	comp=Z,0.8nm,0.3s								
C03A	**Quillayute Air**	**49.70**	**60**	P			**P**	**14 32 37.1**	**+1.6**
SPB5	**Spitsbergen Ar**	**49.71**	**350**	P			**P**	**14 32 33.2**	**-2.0**
SPITS	**Spitsbergen Ar**	**49.72**	**350**	P			**P**	**14 32 33.4**	**-1.8**
SPITS				pmax			pmax		
	comp=Z,63nm,1.4s								
SPB3	**Spitsbergen Ar**	**49.72**	**350**	P			**P**	**14 32 33.8**	**-1.4**
BVAR	**Borovoye Array**	**50.36**	**309**	P			**P**	**14 32 39.0**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=64,slow=8.3,SNR=6.8								
	comp=Z,1.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**55.13**	**257**	P			**P**	**14 33 16.3**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=41,slow=7.2,SNR=5.1								
	comp=Z,0.5nm,0.3s								
ELMT	**Elliston**	**57.13**	**55**	P			**P**	**14 33 32.1**	**+2.0**
TOLI2	**Tolitoli**	**57.31**	**223**	P			**P**	**14 33 33.0**	**+1.6**
TOLI2				IAmb			IAmb	14 33 34.2	
	comp=Z,6.7nm,0.7s								
ABKAR	**Akbulak array**	**57.88**	**310**	P			**P**	**14 33 33.8**	**-1.2**
XMAS	**Kiritimati**	**61.87**	**125**	P			**P**	**14 34 05.5**	**+2.9**
WMOK	**Wichita Mounta**	**72.79**	**56**	P			**P**	**14 35 11.3**	**-0.2**
WMOK	**Wichita Mounta**	**72.79**	**56**	P			**P**	**14 35 11.3**	**-0.2**
WMOK				pmax			pmax		
	comp=Z,3.0nm,1.3s								
EKA	**Eskdalemuir Ar**	**73.57**	**348**	P			**P**	**14 35 15.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=30,slow=5.2,SNR=4.7								
	comp=Z,0.3nm,0.3s								
SADO	**Sadowa**	**74.02**	**38**	P			**P**	**14 35 17.6**	**-0.8**
SADO				IAmb			IAmb	14 35 18.1	
	comp=Z,32nm,1.2s								
H03N2	**Juan Fernandez**	**136.69**	**89**	T			T	17 15 18.0	
	baz=313,slow=77,SNR=3.6								
H03N1	**Juan Fernandez**	**136.71**	**89**	T			T	17 15 18.7	
	baz=313,slow=77,SNR=4.6								
H03N3	**Juan Fernandez**	**136.71**	**89**	T			T	17 15 20.3	
	baz=313,slow=77,SNR=4.5								

---

*DJA **31** 14:26:58.4±0.6, 4°S±6°×12°8E±°, h10km, M3.6/8, MLv3.6/8*
*IDC **31** 14:26:59.0±1.3, 4°.13S×127°.93E, h0km, mb3.7/4, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=79.6km s-min=25.4km az=68.0*
*NEIC **31** 14:27:00.4±1.3, 4°.10S±0°.04×127°.93E±0°.08, h10km±1km, mb4.1/9, Error ellipse: s-maj=14.7km s-min=6.7km az=104.0*

ISC 31 14:26:59.8±0.7, 4°.08S±0°.08×127°.9E±0°.1, h10km, n28, σ1§53/24, mb4.0/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.18**	**315**	P			Pb	14 27 15.1	-7.2
BNDI	**Bandanaira**	**2.01**	**103**	P			**Pn**	**14 27 33.3**	**-0.5**
SANI	**Sanana**	**2.80**	**316**	P			Pn	14 27 39.3	-5.4
LBMI	**Labuha**	**3.45**	**353**	P			**Pn**	**14 27 49.8**	**-3.8**
FAKI	**Fak Fak**	**4.46**	**75**	Pn			**Pn**	**14 28 07.5**	**+0.1**
FAKI	**Fak Fak**	**4.46**	**75**	P			**Pn**	**14 28 08.7**	**+1.2**
SWI	**Sorong**	**4.61**	**46**	P			**Pn**	**14 28 07.8**	**-1.8**
TNTI	**Ternate**	**4.85**	**353**	Pn			**Pn**	**14 28 13.6**	**+0.7**
KMSI	**Cibinong**	**6.08**	**319**	P			Pn	14 28 14.5	-15
TOLI2	**Tolitoli**	**8.81**	**306**	Pn			**Pn**	**14 29 07.3**	**0.0**
MTN	**Manton Dam**	**9.26**	**160**	Pn			**Pn**	**14 29 12.8**	**-0.7**
KNRA	**Kununurra**	**11.55**	**176**	Pn			**Pn**	**14 29 44.8**	**0.0**
WB0	**Warramunga Arr**	**16.81**	**159**				**Pn**	**14 30 53.5**	**-2.0**
WRAB	**Tennant Creek**	**16.95**	**159**	Pn			**Pn**	**14 30 55.0**	**-2.2**
WRAB				IAmb			IAmb	14 31 11.8	
	comp=Z,9.4nm,0.7s								
WRA	**Warramunga Arr**	**16.96**	**159**	Pn			**Pn**	**14 30 55.2**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=338,slow=14,SNR=20								
	comp=Z,2.3nm,0.7s								
WB2	**Warramunga Arr**	**16.96**	**159**				**Pn**	**14 30 55.2**	**-2.1**
WB2				IAmb			IAmb	14 31 02.3	
	comp=Z,12nm,1.3s								
PSA00	**Pilbara Seismi**	**19.08**	**204**	P			**P**	**14 31 21.8**	**-0.8**
PSA00				IAmb			IAmb	14 31 23.4	
	comp=Z,11nm,1.2s								
AS31	**Alice Springs**	**20.30**	**164**	Pn			Pn	14 31 38.0	0.0
ASAR	**Alice Springs**	**20.31**	**164**	P			**P**	**14 31 35.7**	**-0.3**
ASAR	**Alice Springs**	**20.31**	**164**	P			**P**	**14 31 37.0**	**+1.0**
	comp=Z,3.8nm,0.8s,baz=340,slow=10,SNR=48								
	comp=Z,3.8nm,0.8s								
JSD	**Sado**	**42.99**	**12**	P			**P**	**14 34 58.4**	**-0.9**
MK31	**Makanchi Array**	**64.67**	**327**	P			**P**	**14 37 38.8**	**+0.8**
MK31				IAmb			IAmb	14 37 57.6	
	comp=Z,2.9nm,1.4s								
MKAR	**Makanchi Array**	**64.67**	**327**	P			**P**	**14 37 39.1**	**+1.2**
MKAR	**Makanchi Array**	**64.67**	**327**	P			**P**	**14 37 38.8**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=128,slow=7.9,SNR=6.2								
	comp=Z,0.8nm,0.7s								
KURBB	**Kurchatov Arra**	**68.97**	**329**	P			**P**	**14 38 06.3**	**+1.1**
	comp=Z,0.3nm,0.2s,baz=125,slow=5.8,SNR=6.3								
	comp=Z,0.3nm,0.2s								
TIXI	**Tiksi**	**75.59**	**0**	P			**P**	**14 38 45.7**	**+1.3**
TIXI				IAmb			IAmb	14 38 51.9	
	comp=Z,4.5nm,1.4s								
L19K	**White Mountain**	**87.64**	**27**	P			**P**	**14 39 48.6**	**+0.3**
ILAR	**Eielson Array**	**91.60**	**25**	P			**P**	**14 40 08.4**	**+1.7**
	comp=Z,0.1nm,0.5s,baz=256,slow=5.5,SNR=1.8								
	comp=Z,0.1nm,0.5s								

DJA 31 14:30:30.9±1.0, 4°S±11°×12°8E±°, h10km, M4.2/11, mb4.6/3, mB5.0/3, MLv3.9/11, Mw(mB)4.3/3, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.90**	**314**	P			Pg	14 30 46.0	-2.2
SANI	**Sanana**	**2.52**	**316**	P			Pn	14 31 12.7	+0.8
LBMI	**Labuha**	**3.22**	**356**	P			Pn	14 31 22.5	+0.9
FAKI	**Fak Fak**	**4.60**	**78**	P			Pn	14 31 40.4	-0.2
SWI	**Sorong**	**4.61**	**50**	P			Pn	14 31 41.0	+0.3
LUWI	**Luwuk**	**5.70**	**299**	P			Pn	14 31 56.5	+0.8
	79nm,0.8s,4μm0.7nm								
KMSI	**Cibinong**	**5.80**	**320**	P			Pn	14 31 55.9	-1.1
	60nm,0.7s,2μm0.3nm								

---

*DJA **31** 14:37:55.4±0.8, 4°S±7°×12°8E±°, h10km, M3.5/8, MLv3.5/8*
*IDC **31** 14:38:36.6±2.6, 7°.50S×128°.12E, h0km, mb3.4/1, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=287.2km s-min=33.7km az=65.0*

ISC 31 14:37:54.0±1.4, 4°.0S±0°.1×127°.7E±0°.1, h10km, n8, σ1§70/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.00**	**320**	P			**Pg**	**14 38 11.3**	**-1.9**
BNDI	**Bandanaira**	**2.22**	**103**	P			**Pn**	**14 38 31.6**	**+0.6**
SANI	**Sanana**	**2.62**	**318**	P			**Pn**	**14 38 38.4**	**+2.0**
LBMI	**Labuha**	**3.36**	**356**	P			**Pn**	**14 38 47.9**	**+1.3**
SWI	**Sorong**	**4.71**	**48**	P			**Pn**	**14 39 06.3**	**+1.1**
TNTI	**Ternate**	**4.77**	**356**	P			**Pn**	**14 39 06.8**	**+0.8**
WRA	**Warramunga Arr**	**17.09**	**158**	Pn			**Pn**	**14 41 53.2**	**-0.1**
	0.1nm,0.3s,baz=332,slow=13,SNR=4.6								
	0.4nm,0.6s								
ASAR	**Alice Springs**	**20.43**	**164**	P			Pn	14 42 36.0	+2.2
	0.1nm,0.3s,baz=343,slow=11,SNR=16								
	1.4nm,0.6s								

---

*IDC **31** 14:38:52.5±3.6, 16°.92S×179°.24W, h506km±34km, mb3.2/4, mbtmp4.1/4, Error ellipse: s-maj=33.8km s-min=29.0km az=154.0*
*NEIC **31** 14:38:55.5±1.1, 17°.1S±0°.1×179°.1W±0°.1, h537km±8km, mb4.3/37, Error ellipse: s-maj=23.2km s-min=16.5km az=143.0*

ISC 31 14:38:55.3±0.6, 17°.1S±0°.1×179°.2W±0°.1, h533km, n50, σ0§91/52, mb4.3/24, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.73**	**256**	P			**P**	**14 40 11.5**	**+4.0**
AFI	**Afiamalu**	**7.79**	**67**	P			**P**	**14 40 50.4**	**-0.3**
LIFNC	**LIFOU**	**13.38**	**252**	P			**P**	**14 41 48.0**	**-0.2**
PINNC	**Pines Island,**	**13.74**	**244**	P			**P**	**14 41 52.5**	**+0.6**
DZM	**Mont Dzumac**	**14.44**	**248**	P			**P**	**14 41 58.7**	**-0.7**
KOUNC	**Koumac, New Ca**	**16.04**	**255**	P			**P**	**14 42 15.1**	**-0.7**
EIDS	**Eidsvold**	**28.88**	**248**	P			**P**	**14 44 10.8**	**-0.4**
EIDS				IAmb			IAmb	14 44 38.2	
	comp=Z,4.3nm,0.9s								
ARMA	**Armidale**	**29.74**	**238**	P			**P**	**14 44 17.8**	**-0.9**
MLZ	**Mavora Lakes**	**30.14**	**198**	P			**P**	**14 44 21.5**	**-0.4**
MLZ				IAmb			IAmb	14 44 30.1	
	comp=Z,23nm,1.5s								
CTAO	**Charters Tower**	**32.88**	**259**	P			**P**	**14 44 45.2**	**-0.4**
CTAO				IAmb			IAmb	14 44 46.0	
	comp=Z,8.9nm,0.8s								
COEN	**Coen**	**36.38**	**270**	P			**P**	**14 45 14.8**	**-0.1**
COEN				IAmb			IAmb	14 45 15.9	
	comp=Z,7.3nm,0.6s								
TOO	**Toolangi**	**37.14**	**230**	P			**P**	**14 45 20.9**	**+0.1**
TOO				IAmb			IAmb	14 45 39.2	
	comp=Z,18nm,1.2s								
TAU	**Tasmania Unive**	**38.38**	**221**	P			**P**	**14 45 30.6**	**-0.3**
STKA	**Stephens Creek**	**38.40**	**240**	P			**P**	**14 45 31.5**	**+0.3**
STKA	**Stephens Creek**	**38.40**	**240**	P			**P**	**14 45 30.2**	**-1.0**
	comp=Z,9.9nm,0.8s,baz=93,slow=10,SNR=22								
	comp=Z,9.9nm,0.8s								
BBOO	**Buckleboo**	**43.18**	**240**	P			**P**	**14 46 09.0**	**-0.2**
WR0	**Warramunga Arr**	**43.88**	**259**	P			**P**	**14 46 13.8**	**-1.2**
WR0				IAmb			IAmb	14 46 34.6	
	comp=Z,12nm,1.4s								
WB0	**Warramunga Arr**	**44.04**	**259**	P			**P**	**14 46 15.0**	**-1.1**
WB0				IAmb			IAmb	14 46 15.9	
	comp=Z,7.7nm,1.0s								
WB2	**Warramunga Arr**	**44.06**	**259**	P			**P**	**14 46 15.1**	**-1.2**
WB2				IAmb			IAmb	14 46 16.2	
	comp=Z,7.0nm,0.8s								
WRA	**Warramunga Arr**	**44.08**	**259**	P			**P**	**14 46 15.0**	**-1.4**
	comp=Z,4.7nm,0.6s,baz=93,slow=7.2,SNR=45								
WRA				PcP			**PcP**	**14 47 50.4**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=86,slow=1.8,SNR=2.4								
	comp=Z,4.7nm,0.6s								
AS31	**Alice Springs**	**44.32**	**253**	P			**P**	**14 46 17.5**	**-0.8**
AS31				IAmb			IAmb	14 46 18.5	
	comp=Z,11nm,0.6s								
ASAR	**Alice Springs**	**44.32**	**253**	P			**P**	**14 46 17.7**	**-0.6**
ASAR	**Alice Springs**	**44.32**	**253**	P			**P**	**14 46 16.8**	**-1.5**
	comp=Z,29nm,0.5s,baz=86,slow=8.1,SNR=580								
ASAR				PcP			**PcP**	**14 47 50.8**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=101,slow=3.7,SNR=4.4								
ASAR				ScP			**ScP**	**14 50 53.4**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=96,slow=4.5,SNR=7.0								
MTN	**Manton Dam**	**48.10**	**268**	P			**P**	**14 46 46.4**	**-0.6**
MTN				IAmb			IAmb	14 46 47.6	
	comp=Z,11nm,0.7s								
FORT	**Forrest**	**49.71**	**244**	P			**P**	**14 46 57.6**	**-1.2**
KNRA	**Kununurra**	**49.85**	**264**	P			**P**	**14 46 59.5**	**-0.5**
KNRA				IAmb			IAmb	14 47 00.7	
	comp=Z,12nm,0.7s								
SOEI	**Soe**	**55.35**	**270**	P			**P**	**14 47 40.3**	**+0.8**
SOEI				IAmb			IAmb	14 47 41.7	
	comp=Z,27nm,0.8s								
NWAO	**Narrogin (SRO)**	**58.96**	**242**	P			**P**	**14 48 03.1**	**-0.7**
MORW	**Morawa**	**60.15**	**246**	P			**P**	**14 48 11.1**	**-0.7**
MORW				IAmb			IAmb	14 48 15.7	
	comp=Z,15nm,1.1s								
GIRL	**Giralia**	**62.44**	**253**	P			**P**	**14 48 27.4**	**+0.5**
CASY	**Casey**	**66.58**	**205**	P			**P**	**14 48 52.5**	**+0.2**
QSPA	**South Pole Qui**	**72.97**	**180**	P			**P**	**14 49 31.0**	**+0.4**
QSPA	**South Pole Qui**	**72.97**	**180**	P			**P**	**14 49 30.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=120,slow=0.7,SNR=7.0								
	comp=Z,0.3nm,0.5s								
K15K	**Wolf Creek Mou**	**80.33**	**8**	P			**P**	**14 50 11.4**	**+

WRMHI	**West Rim**	**0.09 104**	IAML			14 49 60.0
	comp=N,5μm,0.1s					
WRMHI			IAML			14 50 00.0
	comp=E,8μm,0.2s					
UWE	**Uwekahuna**	**0.10 94**		Pg		14 49 57.9 +0.8
UWE	**Uwekahuna**	**0.10 94**	IAML			14 50 00.5
	comp=E,2μm,0.3s					
UWE			IAML			14 50 00.7
	comp=N,2μm,0.2s					
SDHHI	**Sand Hill**	**0.10 112**		Pg		14 49 58.0 +0.7
SDHHI				Sg		14 49 60.0 +1.3
SDHHI	**Sand Hill**	**0.10 112**	IAML			14 50 00.1
	comp=N,10μm,0.2s					
SDHHI			IAML			14 50 00.2
	comp=E,15μm,0.1s					
OBL	**Observatory Le**	**0.10 96**		Pg		14 49 57.9 +0.7
OBL	**Observatory Le**	**0.10 96**	IAML			14 50 00.9
	comp=E,2μm,0.4s					
OBL			IAML			14 50 00.9
	comp=N,2μm,0.2s					
NPH	**North Pit**	**0.11 99**		Pg		14 49 57.9 +0.5
NPH	**North Pit**	**0.11 99**	IAML			14 50 00.5
	comp=N,736nm,0.4s					
NPH			IAML			14 50 00.6
	comp=E,502nm,0.1s					
UWB	**Uwekahuna B**	**0.11 92**		Pg		14 49 58.0 +0.6
UWB	**Uwekahuna B**	**0.11 92**	IAML			14 50 01.1
	comp=E,591nm,0.4s					
UWB			IAML			14 50 01.3
	comp=N,569nm,0.1s					
RSD	**Rainshed**	**0.11 72**		Pg		14 49 58.2 +0.7
RSD	**Rainshed**	**0.11 72**	IAML			14 50 01.8
	comp=N,2μm,0.2s					
RSD			IAML			14 50 01.8
	comp=E,2μm,0.1s					
RIM	**Rim**	**0.12 106**		Pg		14 49 58.1 +0.6
RIM	**Rim**	**0.12 106**	IAML			14 50 01.1
	comp=N,1μm,0.5s					
RIM			IAML			14 50 02.1
	comp=E,1μm,0.2s					
SBLHI	**Steaming Bluff**	**0.12 91**		Pg		14 49 58.1 +0.5
SBLHI	**Steaming Bluff**	**0.12 91**	IAML			14 50 01.6
	comp=E,862nm,0.3s					
SBLHI			IAML			14 50 01.8
	comp=N,992nm,0.2s					
KKO	**Keanakako`i**	**0.12 104**		Pg		14 49 58.3 +0.6
KKO				Sg		14 50 00.7 +1.4
KKO	**Keanakako`i**	**0.12 104**	IAML			14 50 00.9
	comp=E,1μm,0.4s					
KKO			IAML			14 50 01.8
	comp=N,1μm,0.4s					
HATHI	**Halema'uma'u T**	**0.12 92**		Pg		14 49 58.2 +0.5
HATHI	**Halema'uma'u T**	**0.12 92**	IAML			14 50 01.2
	comp=N,914nm,0.2s					
HATHI			IAML			14 50 01.6
	comp=E,951nm,0.1s					
BYL	**Byron's Ledge**	**0.13 97**		Pg		14 49 58.2 +0.5
BYL	**Byron's Ledge**	**0.13 97**	IAML			14 50 01.2
	comp=E,820nm,0.9s					
BYL			IAML			14 50 01.2
	comp=N,606nm,0.4s					
HLP	**Hilina Pali**	**0.15 149**		Pg		14 49 58.9 +0.7
HLP				Sg		14 50 01.7 +1.5
HLP	**Hilina Pali**	**0.15 149**	IAML			14 50 02.0
	comp=E,3μm,0.3s					
HLP			IAML			14 50 02.0
	comp=N,4μm,0.1s					
PUH	**Pauahi**	**0.18 108**		Pg		14 49 59.0 +0.4
PUH				Sg		14 50 02.0 +1.1
PUH	**Pauahi**	**0.18 108**	IAML			14 50 02.4
	comp=E,510nm,0.2s					
PUH			IAML			14 50 04.8
	comp=N,627nm,0.6s					
HTC	**Hot Caves**	**0.19 181**		Pg		14 49 59.4 +0.5
HMH	**Humu'ula Sheep**	**0.19 334**		Pg		14 49 59.7 +0.7
HMH				Sg		14 50 02.9 +1.3
HMH	**Humu'ula Sheep**	**0.19 334**	IAML			14 50 03.1
	comp=N,2μm,0.2s					
HMH			IAML			14 50 04.0
	comp=E,1μm,0.1s					
MWH	**Moku'aweowe**	**0.20 286**		Pg		14 49 59.7 +0.5
MWH				Sg		14 50 02.9 +1.0
MWH	**Moku'aweowe**	**0.20 286**	IAML			14 50 04.7
	comp=E,1μm,0.3s					
MWH			IAML			14 50 05.7
	comp=N,1μm,0.3s					
MLOA	**Mauna Loa Obse**	**0.20 302**		Pg		14 49 59.8 +0.6
MLOA				Sg		14 50 03.1 +1.2
MLOA	**Mauna Loa Obse**	**0.20 302**	IAML			14 50 03.2
	comp=N,2μm,0.5s					
MLOA			IAML			14 50 03.7
	comp=E,2μm,0.3s					
KNHH	**Kane Nui o Ham**	**0.22 103**		Pg		14 49 59.6 +0.3
STCH	**Steam Cracks**	**0.26 100**		Pg		14 50 00.2 +0.1
STCH	**Steam Cracks**	**0.26 100**	IAML			14 50 08.0
	comp=E,420nm,0.4s					
STCH			IAML			14 50 08.9
	comp=N,414nm,0.3s					
ALEP	**Alea Permanent**	**0.26 295**		Pg		14 50 00.6 +0.3
ALEP				Sg		14 50 04.6 +0.8
NPOC	**North of Pu'u**	**0.27 97**		Pg		14 50 00.4 +0.1
NPOC			IAML			14 50 08.0
	comp=E,353nm,0.6s					
KHU	**Kahuku**	**0.28 229**		Pg		14 50 00.7 +0.1
KHU				Sg		14 50 04.9 +0.7
KHU	**Kahuku**	**0.28 229**	IAML			14 50 05.3
	comp=E,424nm,0.2s					
KHU			IAML			14 50 09.9
	comp=N,530nm,0.4s					
JCUZ	**Jacuzzi**	**0.28 99**		Pg		14 50 00.5 0.0
JCUZ	**Jacuzzi**	**0.28 99**	IAML			14 50 08.2
	comp=E,359nm,0.6s					
JCUZ			IAML			14 50 08.7
	comp=N,268nm,0.7s					
POHA	**Pohakuloa**	**0.35 338**		Sg		14 50 07.2 +0.5
POHA	**Pohakuloa**	**0.35 338**	Pg	Pg		14 50 01.9 -0.1
POHA	**Pohakuloa**	**0.35 338**	IAML			14 50 08.8
	comp=N,1μm,0.2s					
POHA			IAML			14 50 08.8
	comp=N,2μm,0.1s					
JOKA	**Jonika Flow**	**0.37 89**		Pg		14 50 01.9 -0.4
HUH	**Hualalai**	**0.49 302**		Pg		14 50 05.0 +0.4
HUH	**Hualalai**	**0.49 302**		Sb		14 50 14.2 0.0
CPH	**Captain Cook**	**0.50 277**		Pg		14 50 04.5 -0.2
HPAH	**Hawaii Prepara**	**0.66 334**		Pg		14 50 07.0 -0.9
HPAH				Sg		14 50 15.4 -1.1
MHA	**Mahukona**	**0.90 328**		Pg		14 50 10.6 -1.7
MHA				Sg		14 50 21.5 -2.5
MHA	**Mahukona**	**0.90 328**	Pg	Pg		14 50 10.4 -1.9

*IDC **31** 14:55:54.0±0.6, 3°.73S×127°.89E, h0km, mb4.1/14, mbtmp4.2/17, ML3.9/3, Error ellipse: s-maj=25.8km s-min=13.7km az=75.0*
*NEIC **31** 14:55:57.0±1.7, 3°.80S±0°.06×127°.75E±0°.07, h10km±1km, mb5.1/46, Error ellipse: s-maj=12.6km s-min=10.7km az=68.0*
*DJA **31** 14:55:58.9±0.3, 4°S±4°×12°8E±°, h10km, M4.3/18, mb4.7/8, mB4.9/7, MLv4.3/18, Mw(mB)4.2/7*
ISC 31 14:55:59.1±0.4, 3°.82S±0°.06×127°.76E±0°.07, h30km, n101, σ1°.37/99, mb5.1/36, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.87**	**311**	P	**Pn**	**14 56 12.5**	**-2.8**
BNDI	**Bandanaira**	**2.25**	**108**	P	**Pn**	**14 56 34.4**	**+0.1**
BNDI	**Bandanaira**	**2.25**	**108**	P	**Pn**	**14 56 33.8**	**-0.5**
SANI	**Sanana**	**2.49**	**315**	P	**Pn**	**14 56 38.9**	**+1.3**
SANI	**Sanana**	**2.49**	**315**	P	**Pn**	**14 56 37.8**	**+0.2**
LBMI	**Labuha**	**3.17**	**355**	P	**Pn**	**14 56 49.1**	**+2.2**
SWI	**Sorong**	**4.56**	**50**	P	**Pn**	**14 57 07.4**	**+1.3**
FAKI	**Fak Fak**	**4.57**	**79**		**Pn**	**14 57 07.1**	**+1.0**
FAKI	**Fak Fak**	**4.57**	**79**	P	**Pn**	**14 57 08.2**	**+2.0**
FAKI	**Fak Fak**	**4.57**	**79**	P	**Pn**	**14 57 08.1**	**+1.9**
TNTI	**Ternate**	**4.57**	**355**		**Pn**	**14 57 06.2**	**0.0**
TNTI	**Ternate**	**4.57**	**355**	P	**Pn**	**14 57 09.1**	**+2.8**
TNTI	**Ternate**	**4.57**	**355**	P	**Pn**	**14 57 07.8**	**+1.5**
BBSI	**Bau Bau**	**5.43**	**252**	P	**Pn**	**14 57 20.4**	**+2.3**
	31nm,1.1s,0.1nm						
LUWI	**Luwuk**	**5.70**	**299**	Pn	**Pn**	**14 57 21.4**	**-0.3**
LUWI	**Luwuk**	**5.70**	**299**	P	**Pn**	**14 57 25.9**	**+4.2**
	172nm,0.9s,2μm0.6nm						
KMSI	**Cibinong**	**5.77**	**319**	P	**Pn**	**14 57 24.4**	**+1.7**
	128nm,1.1s,1μm0.5nm						
RKPI	**Ransiki, Papua**	**6.80**	**71**	P	**Pn**	**14 57 38.5**	**+1.5**
	102nm,0.7s,3μm0.6nm						
SOEI	**Soe**	**6.85**	**210**	Pn	**Pn**	**14 57 39.2**	**+1.6**
MRSI	**Marisa**	**7.21**	**306**	P	**Pn**	**14 57 44.4**	**+1.9**
	64nm,0.6s,636nm0.2nm						
BATI	**Baumata**	**7.54**	**212**	Pn	**Pn**	**14 57 48.2**	**+1.1**
	1.4nm,0.3s,baz=79,slow=16,SNR=2.0						
	10.0nm,0.5s						
BKSI	**Bulukumba**	**7.76**	**259**	P	**Pn**	**14 57 53.7**	**+3.6**
	16nm,0.6s,320nm0.1nm						
EDFI	**Ende, Flores**	**7.77**	**231**	P	**Pn**	**14 57 51.9**	**+1.5**
KAPI	**Kappang**	**8.07**	**261**	Pn	**Pn**	**14 57 55.9**	**+1.5**
	3.3nm,0.3s,baz=152,slow=11,SNR=1.5						
	11nm,0.4s						
TOLI2	**Tolitoli**	**8.52**	**305**		**Pn**	**14 58 01.0**	**+0.5**
TOLI2	**Tolitoli**	**8.52**	**305**	P	**Pn**	**14 58 02.9**	**+2.4**
MTN	**Manton Dam**	**9.57**	**160**		**Pn**	**14 58 14.4**	**-0.5**
KNRA	**Kununurra**	**11.83**	**175**	Pn	**Pn**	**14 58 45.4**	**-0.4**
KNRA	**Kununurra**	**11.83**	**175**	P	**Pn**	**14 58 45.9**	**+0.1**
WB0	**Warramunga Arr**	**17.12**	**158**	Pn	**Pn**	**14 59 53.9**	**-2.4**
WRA	**Warramunga Arr**	**17.27**	**159**	Pn	**Pn**	**14 59 56.0**	**-2.1**
WRA	**Warramunga Arr**	**17.27**	**159**	P	**Pn**	**14 59 55.3**	**-2.8**
	0.3nm,0.3s,baz=335,slow=11,SNR=17						
WRA				PcP	**PcP**	**15 04 39.8**	**-0.7**
	0.3nm,0.6s,baz=315,slow=2.2,SNR=2.6						
	2.7nm,0.6s						
WR0	**Warramunga Arr**	**17.36**	**158**	Pn	**Pn**	**14 59 56.1**	**-3.1**
COEN	**Coen**	**18.25**	**124**	P	**P**	**15 00 10.1**	**-0.2**
QIS	**Mount Isa**	**20.25**	**146**	P	Pn	15 00 33.5	-0.7
LEM	**Lembang**	**20.28**	**261**	P	**P**	**15 00 33.6**	**+1.0**
	23nm,0.6s,baz=10.0,slow=17,SNR=5.7						
	23nm,0.6s						
BBJI	**Bungbulang**	**20.34**	**259**	P	**P**	**15 00 33.7**	**+0.5**
AS31	**Alice Springs**	**20.61**	**164**	P	Pn	15 00 37.5	-0.9
ASAR	**Alice Springs**	**20.61**	**164**	P	Pn	15 00 37.5	-0.9
ASAR	**Alice Springs**	**20.61**	**164**	P	Pn	15 00 37.4	-1.1
	6.6nm,0.6s,baz=345,slow=11,SNR=134						
ASAR				PcP	**PcP**	**15 04 46.0**	**-0.3**
	0.6nm,0.6s,baz=6.1,slow=2.0,SNR=5.4						
	6.6nm,0.6s						
FORT	**Forrest**	**26.82**	**179**	P	**P**	**15 01 37.9**	**+1.0**
FORT				IAmb	IAmb	15 01 39.0	
	comp=Z,22nm,0.9s						
TPUB	**Ta-pu**	**27.83**	**346**	P	**P**	**15 01 45.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**30.59**	**198**	P	**P**	**15 02 11.0**	**+0.6**
NWAO	**Narrogin (SRO)**	**30.59**	**198**	P	**P**	**15 02 11.0**	**+0.6**
NWAO				IAmb	IAmb	15 02 14.8	
	comp=Z,43nm,1.4s						
GSI	**Gunungsitoli**	**30.59**	**279**	P	**P**	**15 02 10.4**	**-0.3**
GSI				IAmb	IAmb	15 02 51.3	
	comp=Z,30nm,1.3s						
STKA	**Stephens Creek**	**30.79**	**157**		**P**	**15 02 13.1**	**+0.8**
STKA	**Stephens Creek**	**30.79**	**157**	P	**P**	**15 02 12.6**	**+0.4**
	comp=Z,6.6nm,0.8s,baz=334,slow=9.3,SNR=11						
	comp=Z,6.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**36.00**	**309**	P	**P**	**15 02 57.1**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=138,slow=6.6,SNR=4.3						
	comp=Z,0.4nm,0.7s						
CAN	**Canberra**	**37.01**	**151**	P	**P**	**15 03 07.9**	**+1.8**
CAN				IAmb	IAmb	15 04 26.0	
	comp=Z,42nm,1.3s						
TOO	**Toolangi**	**37.32**	**156**	P	**P**	**15 03 10.7**	**+2.0**
TOO				IAmb	IAmb	15 04 03.9	
	comp=Z,50nm,1.8s						
KSRS	**Korea Array**	**41.06**	**0**	P	**P**	**15 03 39.6**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=174,slow=10,SNR=9.9						
	comp=Z,2.7nm,0.8s						
ERM	**Erimo**	**47.72**	**16**	P	**P**	**15 04 34.7**	**+1.6**
MDJ	**Mudanjiang**	**48.24**	**2**	P	**P**	**15 04 37.2**	**+0.1**
MDJ				IAmb	IAmb	15 06 02.9	
	comp=Z,56nm,2.0s						
WHZ	**Wether Hill Ro**	**54.57**	**146**	P	**P**	**15 05 25.0**	**+0.4**
SONM	**Songino Array**	**54.74**	**343**	P	**P**	**15 05 25.9**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=163,slow=8.4,SNR=5.7						
	comp=Z,0.9nm,0.8s						
OXZ	**Oxford**	**55.49**	**142**	P	**P**	**15 05 32.1**	**+0.8**
TUWZ	**Tuamarina**	**55.73**	**139**	P	**P**	**15 05 33.0**	**0.0**
BHW	**Baring Head**	**56.33**	**139**	P	**P**	**15 05 36.6**	**-0.7**
PETK	**Petropavlovsk-**	**62.06**	**20**	P	**P**	**15 06 18.5**	**+1.8**
PETK	**Petropavlovsk-**	**62.06**	**20**	P	**P**	**15 06 16.1**	**-0.6**
	comp=Z,4.3nm,0.9s,baz=230,slow=8.1,SNR=1.6						
	comp=Z,4.3nm,0.9s						
MK31	**Makanchi Array**	**64.36**	**327**	P	**P**	**15 06 30.7**	**-1.5**
MKAR	**Makanchi Array**	**64.36**	**327**	P	**P**	**15 06 30.4**	**-1.7**
MKAR	**Makanchi Array**	**64.36**	**327**	P	**P**	**15 06 31.9**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=132,slow=7.6,SNR=12						
	comp=Z,1.7nm,0.7s						
YAK	**Yakutsk**	**65.68**	**1**	P	**P**	**15 06 40.0**	**-0.3**
YAK				IAmb	IAmb	15 06 41.9	
	comp=Z,16nm,1.0s						
ZAA0	**Zalesovo Array**	**67.76**	**334**	P	**P**	**15 06 53.0**	**-0.8**
ZALV	**Zalesovo Beam**	**67.76**	**334**	P	**P**	**15 06 52.9**	**-1.0**
ZALV	**Zalesovo Beam**	**67.76**	**334**	P	**P**	**15 06 52.5**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=123,slow=5.5,SNR=7.8						
	comp=Z,1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**68.65**	**329**	P	**P**	**15 06 59.0**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=130,slow=5.6,SNR=25						
	comp=Z,2.7nm,0.8s						
KURK	**Kurchatov**	**68.66**	**329**	P	**P**	**15 06 58.8**	**-0.7**
KURK				IAmb	IAmb	15 07 08.3	
	comp=Z,7.7nm,1.0s						
KKAR	**Karatay Array**	**69.49**	**319**	P	**P**	**15 07 04.0**	**-0.9**
BVAR	**Borovoye Array**	**74.20**	**328**	P	**P**	**15 07 32.1**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=116,slow=6.8,SNR=6.8						
	comp=Z,0.6nm,0.4s						
TIXI	**Tiksi**	**75.33**	**0**	P	**P**	**15 07 39.4**	**+0.3**
TIXI				IAmb	IAmb	15 08 15.0	
	comp=Z,14nm,1.8s						
VNDA	**Vanda**	**75.86**	**173**	P	**P**	**15 07 41.5**	**-0.6**
VNDA	**Vanda**	**75.86**	**173**	P	**P**	**15 07 41.7**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=305,slow=4.9,SNR=5.7						
	comp=Z,0.7nm,0.7s						
GEYT	**Alibeck**	**76.47**	**310**	P	**P**	**15 07 45.5**	**-0.8**
MAW	**Mawson**	**77.10**	**201**	P	**P**	**15 07 49.0**	**-0.3**
ABKAR	**Akbulak array**	**78.64**	**322**	P	**P**	**15 07 57.1**	**-1.1**
SDPT	**Sand Point**	**82.87**	**33**	P	**P**	**15 08 21.0**	**+0.4**
L14K	**Kuka Creek**	**83.68**	**27**	P	**P**	**15 08 25.3**	**+0.6**
K15K	**Wolf Creek Mou**	**84.51**	**26**	P	**P**	**15 08 30.2**	**+1.2**
L16K	**Owhat River**	**85.25**	**27**	P	**P**	**15 08 34.2**	**+1.5**
L16K				IAmb	IAmb	15 08 36.4	
	comp=Z,45nm,1.9s						
M16K	**Timber Creek**	**85.29**	**28**	P	**P**	**15 08 33.9**	**+1.0**
F17K	**Baldwin Pennin**	**85.98**	**22**	P	**P**	**15 08 37.4**	**+1.3**
F17K				IAmb	IAmb	15 10 20.4	
	comp=Z,26nm,1.5s						
K17K	**Iditarod**	**86.07**	**26**	P	**P**	**15 08 38.1**	**+1.4**
K17K				IAmb	IAmb	15 10 35.3	
	comp=Z,25nm,1.5s						
QSPA	**South Pole Qui**	**86.14**	**180**	P	**P**	**15 08 38.9**	**+1.7**
QSPA				IAmb	IAmb	15 08 42.5	
	comp=Z,9.5nm,1.6s						
QSPA	**South Pole Qui**	**86.14**	**180**	P	**P**	**15 08 36.2**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=146,slow=0.5,SNR=5.6						
	comp=Z,1.4nm,0.9s						
E18K	**Tukpahlearik C**	**86.53**	**22**	P	**P**	**15 08 39.7**	**+0.8**
E18K				IAmb	IAmb	15 09 51.9	
	comp=Z,22nm,1.6s						
L18K	**Granite Mounta**	**86.66**	**27**	P	**P**	**15 08 40.8**	**+1.2**
L18K				IAmb	IAmb	15 09 30.8	
	comp=Z,35nm,1.9s						
J18K	**Innoko River**	**86.96**	**26**	P	**P**	**15 08 41.7**	**+0.6**
J18K				IAmb	IAmb	15 10 33.0	
	comp=Z,26nm,1.9s						
TTA	**Tatalina**	**87.14**	**26**	P	**P**	**15 08 42.6**	**+0.5**
TTA				IAmb	IAmb	15 10 29.5	
	comp=Z,36nm,2.0s						
C19K	**Lookout Ridge**	**87.42**	**20**	P	**P**	**15 08 43.9**	**+0.7**
M19K	**Big River Lodg**	**87.64**	**28**	P	**P**	**15 08 45.1**	**+0.8**
M19K				IAmb	IAmb	15 08 45.4	
	comp=Z,37nm,1.9s						
D19K	**Kuna River**	**87.75**	**21**	P	**P**	**15 08 45.4**	**+0.6**
D19K				IAmb	IAmb	15 10 04.1	
	comp=Z,16nm,1.4s						
E19K	**Redstone River**	**87.79**	**22**	P	**P**	**15 08 45.8**	**+0.8**
E19K				IAmb	IAmb	15 11 20.6	
	comp=Z,7.3nm,1.2s						
M20K	**Styx River**	**88.22**	**28**	P	**P**	**15 08 46.8**	**-0.5**
M20K				IAmb	IAmb	15 11 36.5	
	comp=Z,28nm,1.8s						
SKT	**Skwentna**	**88.98**	**28**	P	**P**	**15 08 50.3**	**-0.5**
SKT				IAmb	IAmb	15 10 03.2	
	comp=Z,30nm,1.8s						
E21K	**Killik River**	**89.22**	**21**	P	**P**	**15 08 52.5**	**+0.7**
E21K				IAmb	IAmb	15 11 30.5	
	comp=Z,27nm,1.9s						
MLY	**Manley**	**89.84**	**25**	P	**P**	**15 08 55.3**	**+0.5**
MLY				IAmb	IAmb	15 12 23.9	
	comp=Z,21nm,2.0s						
ILAR	**Eielson Array**	**91.44**	**25**	P	**P**	**15 09 00.5**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=242,slow=5.3,SNR=4.4						
	comp=Z,0.4nm,0.5s						
ARCES	**ARCESS Array B**	**97.84**	**340**	P	**P**	**15 09 30.4**	**-1.0**
	comp=Z,8.5nm,1.1s,baz=92,slow=5.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**125.96**	**283**	PKP	**PKPdf**	**15 14 58.4**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=92,slow=1.6,SNR=4.0						

WEL 31 14:59:40.5±1.1, 36°S±10°×17°7E±1°0, h281km±9km, M3.4/20, ML3.5/10, MLv3.4/20, Error ellipse: s-maj=0.0km s-min=0.0km az=49.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.56**	**246**	P	Pn	15 00 22.5	+0.4
MXZ	**Matakaoa Point**	**1.58**	**156**	P	Pn	15 00 20.3	-1.9
MXZ				S	S	15 00 55.9	+0.5
HAZ	**Te Kaha**	**1.65**	**172**	P	Pn	15 00 22.8	+0.1
HAZ				S	S	15 00 56.1	-0.1
PKGZ	**Pakihiroa**	**1.82**	**165**	P	Pn	15 00 24.5	+0.3
RUGZ	**Raukumara Rang**	**1.85**	**176**	P	Pn	15 00 23.9	-0.5
WMGZ	**Waiomatatini S**	**1.85**	**157**	P	Pn	15 00 24.7	+0.5
PUZ	**Puketiti**	**2.04**	**163**	P	Pn	15 00 25.9	+0.1
PUZ				S	S	15 01 01.3	-0.6
TWGZ	**Tauwhareparae**	**2.09**	**170**	P	Pn	15 00 26.9	+0.7
TWGZ				S	S	15 01 05.0	+2.3
MKAZ	**Moumakai**	**2.12**	**242**	P	Pn	15 00 27.6	+1.0
URZ	**Urewera**	**2.16**	**188**	P	Pn	15 00 26.5	-0.3
MWZ	**Matawai**	**2.21**	**179**	P	Pn	15 00 27.4	+0.1
MWZ				S	S	15 01 06.0	+1.4
TKGZ	**Te Karaka**	**2.33**	**173**	P	Pn	15 00 28.9	+0.5
TKGZ				S	S	15 01 06.3	-0.1
RAGZ	**Rawiri**	**2.37**	**182**	P	Pn	15 00 29.5	+0.6
MUGZ	**Murupara**	**2.42**	**194**	P	Pn	15 00 28.9	-0.3
MUGZ				S	S	15 01 08.6	+0.6
RTZ	**Ruatahuna**	**2.52**	**189**	P	Pn	15 00 29.8	-0.4
RIGZ	**Rimuhau**	**2.59**	**175**	P	Pn	15 00 30.8	0.0
RIGZ				S	S	15 01 11.8	+0.9
SNGZ	**Shannon Statio**	**2.66**	**183**	P	Pn	15 00 31.6	+0.2
RAHZ	**Arahi**	**2.81**	**187**	P	Pn	15 00 32.9	-0.1
PRGZ	**Paritu Road**	**2.81**	**174**	P	Pn	15 00 33.8	+0.8
MRHZ	**Matea Rd**	**2.84**	**197**	P	Pn	15 00 32.9	-0.4
KNZ	**Kokohu**	**2.90**	**177**	P	Pn	15 00 33.5	-0.3
WHHZ	**Waihua**	**2.96**	**184**	P	Pn	15 00 34.5	+0.1
NMHZ	**Naumai**	**3.02**	**190**	P	Pn	15 00 35.3	+0.2
MHGZ	**Mahia Peninsul**	**3.04**	**174**	P	Pn	15 00 35.7	+0.4
BKZ	**Black Stump Fm**	**3.14**	**194**	P	Pn	15 00 35.3	-1.1
ARHZ	**Aropaoanui**	**3.16**	**187**	P	Pn	15 00 36.3	-0.2
HIZ	**Hauiti**	**3.18**	**221**	P	Pn	15 00 39.2	+2.4
OUZ	**Omahuta**	**3.30**	**285**	P	Pn	15 00 37.4	-0.7
ETVZ	**East Tongariro**	**3.33**	**205**	P	Pn	15 00 38.2	-0.2
OTVZ	**Oturere**	**3.37**	**205**	P	Pn	15 00 38.5	-0.3
MCHZ	**McNeill Hill**	**3.38**	**191**	P	Pn	15 00 38.6	-0.2
NGZ	**Ngauruhoe**	**3.40**	**206**	P	Pn	15 00 39.5	+0.3
KWHZ	**Kaweka Forest**	**3.41**	**194**	P	Pn	15 00 38.4	-0.7
TUVZ	**Tukino**	**3.46**	**204**	P	Pn	15 00 39.4	-0.5
WNVZ	**Wahianoa**	**3.54**	**205**	P	Pn	15 00 39.9	-0.8
BHHZ	**Black Hill Sta**	**3.55**	**198**	P	Pn	15 00 39.6	-1.1
KAHZ	**Kahuranaki**	**3.70**	**187**	P	Pn	15 00 41.7	-0.7
VRZ	**Vera Road**	**3.70**	**215**	P	Pn	15 00 43.5	+1.1
PNHZ	**Pukenui**	**3.92**	**195**	P	Pn	15 00 43.2	-1.6
PXZ	**Pawanui**	**3.94**	**187**	P	Pn	15 00 43.6	-1.3
WPHZ	**Waipukurau**	**4.02**	**192**	P	Pn	15 00 44.4	-1.5
TSZ	**Takapari Road**	**4.11**	**197**	P	Pn	15 00 45.1	-1.8
PRHZ	**Porangahau**	**4.19**	**189**	P	Pn	15 00 46.4	-1.5
MRZ	**Mangatainoka R**	**4.78**	**198**	P	Pn	15 00 52.4	-2.2
HOWZ	**Holdsworth Sta**	**5.02**	**197**	P	Pn	15 00 55.4	-2.0
OGWZ	**Otaki Gorge**	**5.03**	**201**	P	Pn	15 00 55.4	-2.2
KIW	**Kapiti Island**	**5.15**	**202**	P	Pn	15 00 57.1	-1.9
CAW	**Cannon Point**	**5.33**	**200**	P	Pn	15 00 58.7	-2.4
DUWZ	**D'Urville Isla**	**5.45**	**210**	P	Pn	15 00 60.0	-2.6
BHW	**Baring Head**	**5.66**	**200**	P	Pn	15 01 02.3	-2.8
TCW	**Tory Channel**	**5.67**	**205**	P	Pn	15 01 03.1	-2.2
PLWZ	**Palliser**	**5.71**	**197**	P	Pn	15 01 03.6	-2.2
TUWZ	**Tuamarina**	**5.98**	**207**	P	Pn	15 01 06.6	-2.4
QRZ	**Quartz Range**	**6.10**	**218**	P	Pn	15 01 07.4	-3.0
MRNZ	**Matariki Terra**	**6.44**	**214**	P	Pn	15 01 11.8	-2.7
THZ	**Tophouse**	**6.67**	**211**	P	Pn

	baz=41					
KST	**Kastek** 10nm,0.7s	**2.93 345**	Pg	**Pb**	**15 09 06.1 +0.5**	
KST	39nm,0.6s		Lg	Lg	15 09 47.9	
KST	**Kastek** 10nm,0.7s	**2.93 345**	*e*Pg	**Pb**	**15 09 05.2 -0.5**	
KST	39nm,0.6s		*e*Lg	Lg	15 09 46.3	
MTBS	**Maitube** 3.8nm,0.3s	**2.95 352**	Pg	**Pb**	**15 09 05.9 +0.1**	
MTBS	31nm,0.5s		Lg	Lg	15 09 47.3	
MTBS	**Maitube** 3.8nm,0.3s	**2.95 352**	*e*Pg	**Pb**	**15 09 05.9 +0.1**	
MTBS	31nm,0.2s		*e*Lg	Lg	15 09 47.3	
MDOK	**Medeo** 7.5nm,0.3s	**2.95 0**	Pg	**Pb**	**15 09 05.2 -0.7**	
MDOK	46nm,0.5s		Lg	Lg	15 09 45.8	
MDOK	**Medeo** 7.5nm,0.3s	**2.95 0**	*e*Pg	**Pb**	**15 09 05.2 -0.7**	
MDOK	46nm,0.5s		*e*Lg	Lg	15 09 45.8	
KOTS	**Kotyrbulak** 10nm,0.3s	**3.02 1**	Pg	**Pb**	**15 09 07.6 +0.4**	
KOTS	119nm,1.0s		Lg	Lg	15 09 50.2	
KOTS	**Kotyrbulak** 10nm,0.3s	**3.02 1**	*e*Pg	**Pb**	**15 09 07.6 +0.4**	
KOTS	119nm,1.0s		*e*Lg	Lg	15 09 50.2	
SATY	**Saty** 3.9nm,0.2s	**3.03 20**	Pg	**Pb**	**15 09 07.4 +0.2**	
SATY	18nm,0.4s		Lg	Lg	15 09 49.7	
SATY	**Saty** 3.9nm,0.2s	**3.03 20**	*e*Pg	**Pb**	**15 09 07.4 +0.2**	
SATY	18nm,0.4s		*e*Lg	Lg	15 09 49.7	
AAK	**Ala-Archa** SNR=5.2	**3.07 323**	P	**Pb**	**15 09 08.2 +0.1**	
AAK	**Ala-Archa** baz=25	**3.07 323**	⇓*e*P	**Pn**	**15 09 03.3 +0.9**	
AAK	baz=25		⇓*e*S	**Sn**	**15 09 40.1 +0.2**	
AML	**Almayashu** SNR=20	**3.15 308**	P	**Pn**	**15 09 05.3 +1.6**	
AML	**Almayashu** 0.5nm,0.4s	**3.15 308**	⇑Pn	**Pn**	**15 09 04.9 +1.2**	
AML	0.4nm,0.4s		⇓Pg	**Pg**	**15 09 12.8 -0.2**	
AML	1.9nm,0.6s		⇓Sn	**Sb**	**15 09 48.8 +0.1**	
AML	**Almayashu** baz=10.0	**3.15 308**	⇑*e*P	**Pn**	**15 09 04.2 +0.5**	
AML	baz=10.0		⇑*e*S	**Sn**	**15 09 41.8 -0.3**	
DGS	**Degeres** 16nm,0.6s	**3.17 343**	Pg	**Pb**	**15 09 10.2 +0.6**	
DGS	34nm,0.5s		Lg	Lg	15 09 54.7	
DGS	**Degeres** 16nm,0.6s	**3.17 343**	*e*Pg	**Pb**	**15 09 08.4 -1.2**	
DGS	34nm,0.5s		*e*Lg	Lg	15 09 51.7	
ARSB	**Arslanbob** baz=92	**3.26 291**	⇑*e*P	**Pn**	**15 09 05.2 +0.4**	
ARSB	baz=92		⇑*e*S	**Sn**	**15 09 43.5 -0.8**	
CHMS	**Chumysh** SNR=5.6	**3.26 329**	P	**Pn**	**15 09 07.0 +2.3**	
CHMS	**Chumysh** 6.4nm,0.5s	**3.26 329**	⇑Pn	**Pn**	**15 09 06.9 +2.1**	
CHMS	16nm,0.7s		⇓Sn	**Sg**	**15 09 56.2 -1.0**	
CHMS	**Chumysh** baz=31	**3.26 329**	⇑*e*P	**Pn**	**15 09 05.6 +0.8**	
CHMS	baz=31		⇑*e*S	**Sn**	**15 09 44.7 +0.5**	
UZB	**Uzynbulak** 6.7nm,0.4s	**3.29 27**	Pg	**Pb**	**15 09 11.9 +0.1**	
UZB	7.8nm,0.5s		Lg	Lg	15 09 57.1	
UZB	**Uzynbulak** 6.7nm,0.4s	**3.29 27**	*e*Pg	**Pb**	**15 09 11.9 +0.1**	
UZB	7.8nm,0.5s		*e*Lg	Lg	15 09 57.1	
KURS	**Kuram** 4.5nm,0.5s	**3.38 14**	Pg	**Pb**	**15 09 14.1 +0.8**	
KURS	7.3nm,0.5s		Lg	Lg	15 10 01.2	
KURS	**Kuram** 4.5nm,0.5s	**3.38 14**	*e*Pg	**Pb**	**15 09 14.1 +0.8**	
KURS	7.3nm,0.5s		*e*Lg	Lg	15 10 01.2	
EKS2	**Erkin-Say** SNR=6.1	**3.45 316**	P	**Pn**	**15 09 09.9 +2.4**	
EKS2	**Erkin-Say** baz=18	**3.45 316**	⇓*e*P	**Pn**	**15 09 08.1 +0.6**	
EKS2	baz=18		⇓*e*S	**Sn**	**15 09 48.7 -0.4**	
SHLS	**Shalkode** 4.6nm,0.4s	**3.46 31**	Pg	**Pg**	**15 09 18.5 -0.4**	
SHLS	28nm,0.8s		Lg	Lg	15 10 08.3	
SHLS	**Shalkode** 4.6nm,0.4s	**3.46 31**	*e*Pg	**Pg**	**15 09 18.5 -0.4**	
SHLS	28nm,0.8s		*e*Lg	Lg	15 10 08.3	
KPKS	**Kokpek** 3.5nm,0.3s	**3.48 20**	Pg	**Pb**	**15 09 15.2 +0.2**	
KPKS	61nm,0.5s		Lg	Lg	15 10 02.8	
KPKS	**Kokpek** 3.5nm,0.3s	**3.48 20**	*e*Pg	**Pb**	**15 09 15.2 +0.2**	
KPKS	61nm,0.5s		*e*Lg	Lg	15 10 02.8	
KTBS	**Karatobe** 7.8nm,0.4s	**3.50 356**	*e*Pg	**Pb**	**15 09 15.4 0.0**	
KTBS	44nm,0.7s		*e*Lg	Lg	15 10 03.9	
USP	**Ospenovka** SNR=5.5	**3.58 329**	P	**Pn**	**15 09 11.9 +2.7**	
USP	**Ospenovka** baz=31	**3.58 329**	⇓*e*P	**Pn**	**15 09 10.3 +1.1**	
USP	baz=31		⇓*e*S	**Sn**	**15 09 52.4 +0.1**	
KRBS	**Karabastau** 8.7nm,0.6s	**3.62 344**	Pg	**Pb**	**15 09 18.0 +0.6**	
KRBS	33nm,0.8s		Lg	Lg	15 10 08.3	
KRBS	**Karabastau** 8.7nm,0.6s	**3.62 344**	*e*Pg	**Pb**	**15 09 16.6 -0.7**	
KRBS	33nm,0.8s		*e*Lg	Lg	15 10 05.9	
PDGK	**Podgornoye** 1.3nm,0.6s	**3.62 30**	Pg	**Pb**	**15 09 17.7 +0.3**	
PDGK	12nm,0.8s		Lg	Lg	15 10 07.4	
PDGK	**Podgornoye** 2.9nm,0.6s	**3.62 30**	⇓Pn	**Pb**	**15 09 13.7 -3.7**	
PDGK	4.4nm,0.8s		⇓Pg	**Pg**	**15 09 24.0 +2.1**	
PDGK	23nm,0.7s		⇓Sn	**Sg**	**15 10 06.2 -2.6**	
CHKK	**Chushkaly** 4.5nm,0.3s	**3.64 360**	Pg	**Pb**	**15 09 18.4 +0.8**	
CHKK	22nm,0.3s		Lg	Lg	15 10 08.2	
CHKK	**Chushkaly** 4.5nm,0.3s	**3.64 360**	*e*Pg	**Pb**	**15 09 18.4 +0.8**	
CHKK	22nm,0.3s		*e*Lg	Lg	15 10 08.2	
SGDS	**Sogindy** 1.9nm,0.3s	**3.69 332**	Pg	**Pb**	**15 09 18.5 -0.1**	
SGDS	5.5nm,0.6s		Lg	Lg	15 10 08.8	
BLB	**Baldybastay** 5.5nm,0.5s	**4.03 15**	Pg	**Pb**	**15 09 25.6 +1.2**	
BLB	8.2nm,0.5s		Lg	Lg	15 10 20.6	
ARXS	**Arharly** 4.0nm,0.5s	**4.04 8**	*e*Pg	**Pb**	**15 09 25.1 +0.6**	
ARXS	13nm,0.4s		*e*Lg	Lg	15 10 19.7	
KTMS	**Ketmen** 0.8nm,0.2s	**4.08 37**	Pg	**Pb**	**15 09 25.9 +0.7**	
KTMS	2.5nm,0.3s		Lg	Lg	15 10 21.2	
KTMS	**Ketmen** 0.8nm,0.2s	**4.08 37**	*e*Pg	**Pb**	**15 09 25.9 +0.7**	
KTMS	2.5nm,0.3s		*e*Lg	Lg	15 10 21.2	
MNAS	**Manas** baz=6.0	**4.08 305**	⇑*i*P	**Pn**	**15 09 16.8 +0.6**	
MNAS	baz=6.0		⇑*e*S	**Sn**	**15 10 03.7 -1.0**	
DJR	**Jarkent** 0.5nm,0.1s	**4.60 26**	*e*Pg	**Pb**	**15 09 34.9 +0.8**	
DJR	5.6nm,0.5s		*e*Lg	Lg	15 10 36.5	
BTLS	**Baital** 1.5nm,0.3s	**5.30 337**	Pg	**Pb**	**15 09 49.0 +3.1**	
BTLS	4.5nm,0.7s		Lg	Lg	15 11 00.7	
BTLS	**Baital** 1.5nm,0.3s	**5.30 337**	*e*Pg	**Pb**	**15 09 49.0 +3.1**	
BTLS	4.5nm,0.7s		*e*Lg	Lg	15 11 00.7	

IDC 31 15:10:36.1±2.4, 3°.43S×151°.35E, h0km, mb3.2/2, mbtmp3.2/2, Error ellipse: s-maj=49.0km s-min=22.6km az=33.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** 94nm,0.3s,baz=238,slow=24,SNR=131	**1.10**	**142**	Pn	Pn	15 10 59.7	+0.9
KRVT	157nm,0.3s,baz=206,slow=4.0,SNR=11			Sn	Sn	15 11 14.6	-0.2
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=51,slow=9.8,SNR=9.5 0.5nm,0.4s	**23.34**	**224**	P	P	15 15 47.4	+1.0
ASAR	**Alice Springs** 0.1nm,0.4s,baz=53,slow=9.1,SNR=2.5 0.1nm,0.4s	**26.25**	**218**	P	P	15 16 12.3	-1.0
TORD	**Torodi Ar. Bea** 0.3nm,0.4s,baz=34,slow=3.6,SNR=4.5	**148.50**	**290**	PKPbc	PKPbc	15 30 24.6	-1.4

*IDC **31** 15:14:10.4±1.1, 28°.37N×52°.63E, h0km, mb3.8/9, mbtmp3.7/10, ML3.4/1, Error ellipse: s-maj=28.4km s-min=19.7km az=34.0*
*TEH **31** 15:14:14.8, 28°.54N×52°.69E, h16km±30km, ML3.4*
*DSN **31** 15:14:16.1±1.1, 28°.32N×52°.79E, h10km, ML3.2/8, Error ellipse: s-maj=14.6km s-min=10.9km az=35.0*
*OMAN **31** 15:14:18.1±0.3, 28°.14N×52°.83E, h10km, mb3.9/10, ml3.4/12, ms2.8/1, Error ellipse: s-maj=7.8km s-min=4.4km az=9.0*

ISC 31 15:14:13.9±0.7, 28°.45N±0°.05×52°.77E±0°.04, h16km, n74, σ1§79/97, mb3.6/9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.72**	**85**	Pg	**Pn**	**15 14 30.2**	**+0.7**
LMD1	**Lamerd**	**1.16**	**162**	Pg	**Pg**	**15 14 37.8**	**+1.5**
SHI	**Shiraz**	**1.21**	**349**	Pg	**Pn**	**15 14 35.9**	**-0.4**
DSBU	**Dashti - Bushe**	**1.33**	**267**	Pg	**Pn**	**15 14 38.6**	**+0.7**
DSBU				Sg	**Sb**	**15 14 57.9**	**+2.5**
AHBU	**AHRAM**	**1.36**	**288**	Pg	**Pn**	**15 14 38.6**	**+0.8**
AHBU				Sg	**Sn**	**15 14 56.3**	**+0.4**
LAR1	**LAR**	**1.62**	**118**	Pg	**Pg**	**15 14 46.2**	**+1.1**
KLNJ	**Kolanjah**	**2.75**	**338**	Pn	**Pn**	**15 14 57.8**	**+0.2**
SHMA	**Al-Shehemyia**	**3.04**	**212**	P	**Pn**	**15 15 03.4**	**+2.0**
SHMA				S	**Sn**	**15 15 40.3**	**+2.8**
SAKB	**Bahrain**	**3.16**	**219**	P	**Pn**	**15 15 05.4**	**+2.4**
IMEH	**Mehriz**	**3.34**	**28**	Pn	**Pn**	**15 15 08.2**	**+2.5**
IRAM	**Ramesheh**	**3.37**	**354**	Pn	**Pn**	**15 15 07.5**	**+1.5**
JRN	**Qarnain Island**	**3.49**	**179**	P	**Pn**	**15 15 09.1**	**+1.5**
ISAD	**Sadrabad**	**3.54**	**13**	Pn	**Pn**	**15 15 10.2**	**+1.7**
NGRK	**Negar Kerman**	**3.67**	**70**	Pn	**Pn**	**15 15 13.2**	**+2.8**
KHGB	**Koh Gabri**	**3.76**	**58**	Pn	**Pn**	**15 15 14.4**	**+2.9**
SHME	**Shamm**	**3.84**	**128**	P	**Pn**	**15 15 14.0**	**+1.7**
SHME	**Shamm**	**3.84**	**128**	P	**Pn**	**15 15 14.1**	**+1.8**
IBAF	**Bafgh**	**3.96**	**37**	Pn	**Pn**	**15 15 16.6**	**+2.4**
ICHK	**Chekchek**	**4.04**	**20**	Pn	**Pn**	**15 15 17.2**	**+1.9**
SMRA	**Abu-Samra**	**4.08**	**206**	P	**Pn**	**15 15 17.7**	**+2.1**
ZRDN	**Zarand Kerman**	**4.13**	**52**	Pn	**Pn**	**15 15 19.8**	**+3.3**
MASF	**Masafi**	**4.31**	**135**	P	**Pn**	**15 15 21.0**	**+2.1**
MASF				S	**Sn**	**15 16 09.7**	**+0.9**
NAZ	**Nazwa, Dubai**	**4.31**	**142**	P	**Pn**	**15 15 20.4**	**+1.5**
NAZ				S	**Sn**	**15 16 10.4**	**+1.6**
NAZ	**Nazwa, Dubai**	**4.31**	**142**	P	**Pn**	**15 15 21.1**	**+2.2**
NAZ				S	**Sn**	**15 16 08.3**	**-0.5**
CHMN	**Cheshme madani**	**4.41**	**70**	Pn	**Pn**	**15 15 23.5**	**+3.0**
ASUD	**Al Ashush, Dub**	**4.45**	**148**	P	**Pn**	**15 15 23.2**	**+2.5**
ASUD	**Al Ashush, Dub**	**4.45**	**148**	P	**Pn**	**15 15 23.3**	**+2.6**
ASUD				S	**Sn**	**15 16 14.7**	**+2.5**
IZEF	**Zefreh**	**4.45**	**355**	Pn	**Pn**	**15 15 21.7**	**+0.7**
MDH	**Madha**	**4.45**	**134**	P	**Pn**	**15 15 22.1**	**+1.3**
MDH	**Madha**	**4.45**	**134**	P	**Pn**	**15 15 22.0**	**+1.3**
MDH				S	**Sn**	**15 16 13.3**	**+1.0**
FAQ	**Al Faqa, Dubai**	**4.47**	**145**	P	**Pn**	**15 15 24.7**	**+3.6**
FAQ				S	**Sn**	**15 16 13.7**	**+0.9**
UOSS	**Minazif**	**4.65**	**138**	P	**Pn**	**15 15 25.1**	**+1.6**
UOSS	**Minazif**	**4.65**	**138**	P	**Pn**	**15 15 25.5**	**+2.0**
UOSS				S	**Sn**	**15 16 17.7**	**+0.5**
HATD	**Hatta, Dubai**	**4.70**	**139**	P	**Pn**	**15 15 27.1**	**+2.9**
ASHO	**Ashiyiah**	**4.77**	**141**	P	**Pn**	**15 15 26.0**	**+0.8**
ASHO	**Ashiyiah**	**4.77**	**141**	P	**Pn**	**15 15 26.3**	**+1.1**
ASHO				S	**Sn**	**15 16 18.6**	**-1.6**
ANAR	**Anarak**	**4.80**	**10**	Pn	**Pn**	**15 15 27.2**	**+1.6**
IKLH	**Kolahrood**	**4.96**	**348**	Pn	**Pn**	**15 15 29.0**	**+1.0**
KBAM	**BAM**	**5.04**	**81**	Pn	**Pn**	**15 15 32.5**	**+3.6**
ALNE	**Al Ain**	**5.13**	**148**	P	**Pn**	**15 15 32.4**	**+2.2**
ALNE	**Al Ain**	**5.13**	**148**	P	**Pn**	**15 15 32.7**	**+2.5**
JASK	**Jask - Hormozg**	**5.22**	**118**	P	**Pn**	**15 15 32.8**	**+1.4**
JASK				S	**Sn**	**15 16 33.8**	**+2.5**
MZR	**Muzera**	**5.46**	**173**	P	**Pn**	**15 15 35.6**	**+0.9**
MZR	**Muzera** SNR=6.5	**5.46**	**173**	P	**Pn**	**15 15 36.4**	**+1.7**
MZR				S	**Sn**	**15 16 37.0**	**-0.2**
SOHO	**SOHO**	**5.47**	**141**	P	**Pn**	**15 15 35.8**	**+1.1**
SOHO	**SOHO**	**5.47**	**141**	P	**Pn**	**15 15 35.9**	**+1.1**
SOHO				S	**Sn**	**15 16 37.9**	**+0.6**
KRSH	**Karshahi**	**5.53**	**355**	Pn	**Pn**	**15 15 36.1**	**+0.3**
TPRV	**Parvadeh(Tabas**	**5.67**	**35**	Pn	**Pn**	**15 15 40.9**	**+3.3**
ISFB	**Sefidab**	**5.90**	**356**	Pn	**Pn**	**15 15 41.5**	**+0.7**
ARQ	**Araqi** SNR=6.2	**6.11**	**146**	P	**Pn**	**15 15 45.4**	**+1.7**
ARQ				S	**Sn**	**15 16 53.8**	**+0.5**
HOQ	**Hoqain**	**6.34**	**139**	P	**Pn**	**15 15 48.8**	**+2.1**
TNSJ	**Nastanj**	**6.41**	**30**	Pn	**Pn**	**15 15 50.2**	**+2.5**
BSY	**Bisya** SNR=6.1	**6.95**	**144**	P	**Pn**	**15 15 56.4**	**+1.3**
BSY				S	**Sn**	**15 17 10.7**	**-3.2**
SMDO	**Samad** SNR=6.0	**7.17**	**137**	P	**Pn**	**15 15 59.7**	**+1.3**
SMDO				S	**Sn**	**15 17 17.6**	**-2.0**
WSAR	**Wadi Sarin** SNR=8.2	**7.40**	**133**	P	**Pn**	**15 16 02.2**	**+0.8**
WSAR				S	**Sn**	**15 17 23.0**	**-2.1**
WSAR	**Wadi Sarin** 0.6nm,0.3s,baz=321,slow=3.6,SNR=10	**7.40**	**133**	Pn	**Pn**	**15 16 02.2**	**+0.8**
WSAR	0.6nm,0.3s,baz=318,slow=23,SNR=1.9 2.2nm,0.4s			Sn	**Sn**	**15 17 23.9**	**-1.2**
JMDO	**Jabal Madar**	**7.74**	**140**	P	**Pn**	**15 16 07.1**	**+1.1**
JMDO				S	**Sn**	**15 17 31.6**	**-1.8**
WBK	**Wadi Bani Khal**	**8.07**	**135**	P	**Pn**	**15 16 10.6**	**0.0**
WBK				S	**Sn**	**15 17 38.6**	**-3.0**
JLN	**Jalan Bani Buh**	**8.69**	**135**	P	**Pn**	**15 16 18.9**	**-0.1**
JLN				S	**Sn**	**15 17 54.1**	**-2.5**
MHTO	**MHTO** SNR=5.2	**8.80**	**146**	P	**Pn**	**15 16 21.1**	**+0.5**
DOK	**Doka** SNR=7.1	**9.87**	**172**	P	**Pn**	**15 16 34.0**	**-1.1**
WHFO	**Wadi Hawf** SNR=18	**10.52**	**175**	P	**Pn**	**15 16 43.0**	**-1.2**
SHAO	**Shalim**	**10.71**	**165**	P	**Pn**	**15 16 46.4**	**-0.3**
DMTO	**DMTO**	**10.87**	**169**	P	**Pn**	**15 16 48.2**	**-0.8**
DMTO				P	**Pn**	**15 16 48.2**	**-0.8**
ABTO	**Aybut**	**11.05**	**177**	P	**Pn**	**15 16 49.8**	**-1.7**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=231,slow=9.1,SNR=2.3 0.3nm,0.4s	**29.45**	**44**	P	**P**	**15 20 17.5**	**+0.6**
KURBB	**Kurchatov Arra** 0.4nm,0.8s,baz=233,slow=8.7,SNR=4.2 0.4nm,0.8s	**29.49**	**34**	P	**P**	**15 20 17.6**	**+0.5**
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=244,slow=9.1,SNR=5.0 0.7nm,0.3s	**34.57**	**34**	P	**P**	**15 21 01.6**	**-0.1**
FINES	**FINESS Array B** 1.2nm,0.5s,baz=145,slow=11,SNR=8.7 1.2nm,0.5s	**37.47**	**339**	P	**P**	**15 21 25.6**	**-0.8**
HFS	**Hagfors** 2.6nm,0.8s,baz=116,slow=10,SNR=7.2 2.6nm,0.8s	**41.20**	**331**	P	**P**	**15 21 56.5**	**-1.1**
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=128,slow=7.3,SNR=1.7 0.6nm,0.7s	**42.72**	**332**	P	**P**	**15 22 08.4**	**-1.6**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=295,slow=11,SNR=1.2 0.4nm,0.3s	**43.29**	**93**	P	**P**	**15 22 15.5**	**+0.3**
TORD	**Torodi Ar. Bea** 0.5nm,0.4s,baz=53,slow=8.8,SNR=5.1 0.5nm,0.4s	**49.75**	**263**	P	**P**	**15 23 04.3**	**-1.6**
ASAR	**Alice Springs** 0.2nm,0.7s,baz=296,slow=4.6,SNR=4.6 0.2nm,0.7s	**93.71**	**115**	P	**P**	**15 27 28.1**	**-2.2**

IDC 31 15:23:24.6±2.0, 6°.84S×144°.89E, h0km, mb3.6/1, mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=48.4km s-min=35.2km az=113.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 6.9nm,0.3s,baz=322,slow=6.8,SNR=14	**3.40**	**139**	Pn	Pn	15 24 19.0	+0.1
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=41,slow=12,SNR=6.8 0.6nm,0.6s	**16.57**	**217**	Pn	Pn	15 27 19.4	+0.8
ASAR	**Alice Springs** baz=36,slow=13,SNR=5.2 0.7nm,0.8s	**19.78**	**211**	P	P	15 27 56.1	-0.5
ILAR	**Eielson Array** 0.4nm,0.9s,baz=246,slow=4.7,SNR=2.9 0.4nm,0.9s	**87.08**	**23**	P	P	15 36 12.0	0.0

*IDC **31** 15:25:15.4±0.7, 21°.40S×169°.67E, h0km, mb4.3/15, mbtmp4.3/16, ML3.6/1, MS3.9/12, Error ellipse: s-maj=21.1km s-min=16.5km az=112.0*
*NOU **31** 15:25:18.3, 21°.42S×169°.44E, h0km, MLv4.6/13, Southeast of Loyalty Islands*
*NEIC **31** 15:25:20.1±1.7, 21°.54S±0°.03×169°.31E±0°.06, h10km±1km, mb4.6/35, Error ellipse: s-maj=9.6km s-min=4.7km az=85.0*

ISC 31 15:25:19.7±0.4, 21°.45S±0°.06×169°.42E±0°.06, h21km, n123, σ1§04/115, mb4.6/32, MS3.9/9, 11D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.30**	**268**	Pn	**Pn**	**15 25 42.6**	**0.0**
MARNC				Sn	**Sn**	**15 25 59.0**	**-0.2**
MARNC	**Mare, Loyalty**	**1.30**	**268**	P	**Pn**	**15 25 43.0**	**+0.4**
LIFNC	**LIFOU**	**2.14**	**288**		**Pn**	**15 25 53.4**	**-0.8**
LIFNC	**LIFOU**	**2.14**	**288**	P	**Pn**	**15 25 54.0**	**-0.2**
PINNC	**Pines Island,**	**2.17**	**237**		**Pn**	**15 25 54.8**	**+0.2**
PINNC	**Pines Island,**	**2.17**	**237**	P	**Pn**	**15 25 55.4**	**+0.8**
YATNC	**Mamie plateau,**	**2.43**	**255**	P	**Pn**	**15 25 58.9**	**+0.7**
OUENC	**Ouen Island, N**	**2.58**	**248**		**Pn**	**15 26 00.2**	**-0.1**
OUENC	**Ouen Island, N**	**2.58**	**248**	P	**Pn**	**15 26 01.6**	**+1.3**
DZM	**Mont Dzumac**	**2.84**	**257**		**Pn**	**15 26 04.3**	**+0.4**
DZM	**Mont Dzumac**	**2.84**	**257**	P	**Pn**	**15 26 05.5**	**+1.6**
DZM	**Mont Dzumac** 8.1nm,0.3s,baz=90,slow=18,SNR=20	**2.84**	**257**	Pn	**Pn**	**15 26 05.3**	**+1.4**
DZM	18nm,0.3s,baz=83,slow=21,SNR=6.1			Sn	**Sn**	**15 26 38.7**	**+1.2**
DZM	comp=Z,703nm,19.8s,baz=167,slow=30 31nm,0.5s			LR	LR	15 26 46.1	
ONTNC	**Ouen Toro**	**2.89**	**252**		**Pn**	**15 26 04.7**	**+0.3**
ONTNC	**Ouen Toro**	**2.89**	**252**	P	**Pn**	**15 26 06.1**	**+1.6**
NOUC	**Port Laguerre**	**2.97**	**257**	P	**Pn**	**15 26 07.2**	**+1.6**
RTV	**Rentapao**	**3.75**	**345**	P	**Pn**	**15 26 18.0**	**+1.6**
KOUNC	**Koumac, New Ca**	**4.88**	**280**	Pn	**Pn**	**15 26 33.2**	**+1.3**
KOUNC	**Koumac, New Ca**	**4.88**	**280**	P	**Pn**	**15 26 33.7**	**+1.8**
MSVF	**Nonsavu**	**8.93**	**67**	Pn	Pn	15 27 32.1	+4.5
MSVF	**Nonsavu** 0.6nm,0.3s,baz=229,slow=9.5,SNR=19	**8.93**	**67**	Pn	**Pn**	**15 27 31.0**	**+3.4**
MSVF	comp=Z,1μm,18.1s,baz=238,slow=34			LR	LR	15 30 10.8	
TOZ	**Tahuroa Road**	**17.06**	**163**		**P**	**15 29 18.7**	**+0.1**
URZ	**Urewera** comp=Z,445nm,18.5s,baz=30,slow=34	**18.02**	**160**	LR	LR	15 35 22.3	
RTZ	**Ruatahuna** comp=Z,25nm,0.8s	**18.31**	**161**		**Pn**	**15 29 33.5**	**+1.0**
RTZ				IAmb	IAmb	15 29 37.6	
BKZ	**Black Stump Fm** comp=Z,67nm,1.0s	**18.68**	**163**	P	**Pn**	**15 29 37.5**	**+0.6**
BKZ				IAmb	IAmb	15 29 41.1	
QRZ	**Quartz Range** comp=Z,29nm,1.0s	**19.50**	**173**	P	**P**	**15 29 46.3**	**+0.8**
QRZ				IAmb	IAmb	15 29 49.9	
MRZ	**Mangatainoka R** comp=Z,44nm,1.0s	**19.86**	**166**	P	**P**	**15 29 50.0**	**+0.7**
MRZ				IAmb	IAmb	15 29 51.0	
NNZ	**Nelson** comp=Z,44nm,1.1s	**20.00**	**171**	P	**P**	**15 29 52.0**	**+1.2**
NNZ				IAmb	IAmb	15 29 56.6	
BFZ	**Birch Farm** comp=Z,32nm,1.0s	**20.03**	**165**	P	**P**	**15 29 52.0**	**+0.7**
BFZ				IAmb	IAmb	15 29 52.5	
MRNZ	**Matariki Terra**	**20.09**	**173**	P	**P**	**15 29 53.2**	**+1.3**
TCW	**Tory Channel**	**20.13**	**169**	P	**P**	**15 29 53.2**	**+0.9**
TUWZ	**Tuamarina**	**20.29**	**170**	P	**P**	**15 29 55.1**	**+1.1**
THZ	**Tophouse** comp=Z,24nm,0.8s	**20.47**	**173**	P	**P**	**15 29 56.3**	**+0.3**
THZ				IAmb	IAmb	15 29 58.6	
INZ	**Inchbonnie** comp=Z,28nm,0.9s	**21.29**	**176**	P	**P**	**15 30 05.9**	**+1.1**
INZ				IAmb	IAmb	15 30 10.2	
LTZ	**Lake Taylor**	**21.41**	**174**	P	**P**	**15 30 06.8**	**+0.6**
GVZ	**Greta Valley S** comp=Z,38nm,0.9s	**21.67**	**173**	P	**P**	**15 30 09.4**	**+0.4**
GVZ				IAmb	IAmb	15 30 10.3	
CTA	**Charters Tower** comp=Z,8.3nm,0.9s,baz=97,slow=10,SNR=6.7 comp=Z,8.3nm,0.9s	**21.70**	**269**	P	**P**	**15 30 11.4**	**+1.9**
RPZ	**Rata Peaks** comp=Z,22nm,1.0s	**22.25**	**177**	P	**P**	**15 30 15.6**	**+0.4**
RPZ				IAmb	IAmb	15 30 18.5	
RPZ	**Rata Peaks** comp=Z,472nm,19.4s,baz=350,slow=34	**22.25**	**177**	LR	LR	15 38 02.4	
WHZ	**Wether Hill Ro** comp=Z,13nm,0.8s	**24.42**	**182**	P	**P**	**15 30 37.4**	**+0.7**
WHZ				IAmb	IAmb	15 30 38.9	
CTZ	**Chatham Island**	**25.08**	**156**	P	**P**	**15 30 44.0**	**+1.4**
COEN	**Coen**	**26.06**	**282**	P	**P**	**15 30 52.8**	**+0.8**
TOO	**Toolangi** comp=Z,27nm,1.4s	**26.20**	**227**	P	**P**	**15 30 53.2**	**+0.2**
TOO				IAmb	IAmb	15 31 36.7	
STKA	**Stephens Creek**	**26.88**	**241**	P	**P**	**15 31 00.4**	**+1.2**
STKA	**Stephens Creek** comp=Z,4.6nm,0.7s,baz=67,slow=9.1,SNR=10	**26.88**	**241**	P	**P**	**15 31 00.7**	**+1.5**
STKA	comp=Z,225nm,18.0s,baz=85,slow=38 comp=Z,4.6nm,0.7s			LR	LR	15 42 35.6	
RAR	**Rarotonga** comp=Z,81nm,20.4s,baz=178,slow=32	**28.68**	**95**	LR	LR	15 40 27.3	
WR0	**Warramunga Arr** comp=Z,11nm,1.4s	**32.62**	**266**	P	**P**	**15 31 50.2**	**-0.1**
WR0				IAmb	IAmb	15 31 57.7	
WB0	**Warramunga Arr** comp=Z,6.0nm,1.1s	**32.79**	**267**	P	**P**	**15 31 51.2**	**-0.6**
WB0				IAmb	IAmb	15 31 59.7	
WB2	**Warramunga Arr** comp=Z,7.3nm,1.4s	**32.80**	**266**	P	**P**	**15 31 51.1**	**-0.7**
WB2				IAmb	IAmb	15 32 03.4	
WRA	**Warramunga Arr** comp=Z,1.9nm,0.8s,baz=95,slow=7.8,SNR=14	**32.81**	**266**	P	**P**	**15 31 51.1**	**-0.8**
WRA	**Warramunga Arr** comp=Z,1.9nm,0.8s	**32.81**	**266**	P	**P**	**15 31 51.

FORT Forrest 38.11 247 P P 15 32 37.2 -0.1
FORT IAmb IAmb 15 33 03.0
comp=Z,14nm,0.9s
PPT Papeete 38.76 92 LR LR 15 46 04.2
comp=Z,163nm,18.5s,baz=186,slow=32
KNRA Kununurra 38.89 271 P P 15 32 43.9 -0.1
GUMO Guam 42.35 323 LR LR 15 47 35.0
comp=Z,104nm,20.3s,baz=105,slow=32
NWAO Narrogin (SRO) 47.39 245 LR LR 15 52 15.9
comp=Z,203nm,21.8s,baz=66,slow=34
VNDA Vanda 56.24 182 P P 15 34 57.8 -0.2
VNDA Vanda 56.24 182 P P 15 34 57.2 -0.8
comp=Z,1.4nm,0.8s,baz=16,slow=6.5,SNR=6.8
VNDA LR LR 15 54 36.3
comp=Z,79nm,20.3s,baz=350,slow=31
comp=Z,1.4nm,0.8s
SBA Scott Base 56.47 181 P P 15 35 00.4 +0.8
CASY Casey 58.19 204 P P 15 35 11.3 -0.5
CASY IAmb IAmb 15 35 25.3
comp=Z,5.6nm,0.9s
LEM Lembang 61.31 274 LR LR 16 05 29.9
comp=Z,130nm,18.3s,baz=28,slow=39
MJAR Matsushiro Arr 64.78 333 P P 15 35 54.9 -1.8
comp=Z,4.3nm,0.8s,baz=164,slow=7.2,SNR=9.9
comp=Z,4.3nm,0.8s
JMM Marumori 64.85 335 P P 15 35 57.9 +0.7
QSPA South Pole Qui 68.62 180 P P 15 36 20.6 -0.5
QSPA South Pole Qui 68.62 180 P P 15 36 20.4 -0.7
comp=Z,13nm,1.0s,baz=27,slow=2.2,SNR=28
comp=Z,13nm,1.0s
JKA Kamikawa-asahi 69.72 340 P P 15 36 28.3 +0.4
KSRS Korea Array 70.42 326 P P 15 36 32.1 -0.2
comp=Z,1.4nm,0.8s,baz=139,slow=5.9,SNR=4.5
comp=Z,1.4nm,0.8s
YSS Yuzh-Sakhalins 72.21 341 P P 15 36 44.5 +1.6
USRK Ussuriysk Ar. 73.77 333 P P 15 36 52.9 +0.6
comp=Z,2.1nm,0.7s,baz=144,slow=6.2,SNR=3.0
comp=Z,2.1nm,0.7s
PETK Petropavlovsk- 74.93 353 P P 15 36 59.9 +1.1
PETK Petropavlovsk- 74.93 353 P P 15 36 58.6 -0.2
comp=Z,6.8nm,1.0s,baz=137,slow=5.7,SNR=5.3
PETK LR LR 16 06 50.9
comp=Z,99nm,19.5s,baz=127,slow=33
comp=Z,6.8nm,1.0s
MAW Mawson 76.47 202 P P 15 37 07.9 +0.3
MAW Mawson 76.47 202 P P 15 37 07.7 +0.1
comp=Z,6.1nm,0.8s,baz=114,slow=6.3,SNR=14
comp=Z,6.1nm,0.8s
LYN LuoYang 77.64 315 *e*P **P 15 37 16.3 +1.7**
LYN pmax pmax
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 79.57 295 P P 15 37 27.0 +1.3
CMAR Chiang Mai Arr 79.57 295 P P 15 37 26.7 +1.1
comp=Z,2.3nm,0.9s,baz=135,slow=4.3,SNR=16
comp=Z,2.3nm,0.9s
CHTO Chiang Mai 79.73 295 P P 15 37 27.7 +1.2
CHTO IAmb IAmb 15 37 29.2
comp=Z,5.8nm,0.9s
BELA Belgrano 2 79.90 175 P P 15 37 25.2 -1.3
ELIB Princess Elisa 84.01 190 *d*P **P 15 37 47.6 -0.8**
comp=Z,5.6nm,1.0s
TROLL Troll, Antarti 86.36 184 ⇓P **P 15 37 59.7 -0.4**
comp=Z,915nm,0.8s
VNA3 Neumayer Olymp 87.56 180 ⇓P **P 15 38 05.0 -0.8**
comp=Z,24nm,0.8s
VNA2 Neumayer--Watz 87.85 181 ⇓P **P 15 38 06.7 -0.5**
comp=Z,19nm,0.7s,baz=180,slow=5.0
VNA1 Neumayer--Stat 88.14 181 ⇓P **P 15 38 08.1 -0.4**
comp=Z,16nm,0.9s
SONM Songino Array 89.08 323 P P 15 38 13.0 -0.4
comp=Z,1.7nm,1.0s,baz=134,slow=6.4,SNR=8.6
comp=Z,1.7nm,1.0s
NVAR Mina Array Bea 90.13 48 P P 15 38 17.9 -0.8
comp=Z,0.5nm,0.3s,baz=230,slow=8.2,SNR=8.5
comp=Z,0.5nm,0.3s
ILAR Eielson Array 92.28 17 P P 15 38 24.5 -3.2
comp=Z,0.5nm,0.6s,baz=233,slow=5.1,SNR=12
comp=Z,0.5nm,0.6s
WMQ Urumqi 98.85 314 *e*P Pdif 15 39 01.3 +3.0
ARCES ARCESS Array B 127.23 345 PKP **PKPdf 15 44 20.5 -1.4**
comp=Z,1.7nm,0.5s,baz=158,slow=1.0,SNR=12
FINES FINESS Array B 132.68 337 PKP **PKPdf 15 44 30.3 -2.1**
comp=Z,3.4nm,0.9s,baz=28,slow=3.3,SNR=5.2
DPC Dobruska-Polom 144.23 330 *e*PKP PKPbc 15 44 52.1 -0.1
DPC *ep*PKP pPKPdf 15 45 01.1 +1.3
PVCC Panska Ves 144.89 332 *e*PKP **PKPab 15 44 53.7 -0.5**
BRG Berggiesshubel 144.91 933 *i* PKP **PKPdf 15 44 54.5 -0.5**
BRG Amp 15 44 55.1
comp=Z,14nm,0.9s
CLL Collm 144.97 334 *i* PKPbc **PKPab 15 44 53.8 -0.6**
comp=Z,16nm,1.0s
PRU Pruhonice 145.29 331 *e*PKP **PKPbc 15 44 55.0 -0.5**
HSKC Hora Svate Kat 145.32 333 *e*PKP **PKPbc 15 44 54.5 -1.1**
HSKC *ex* x 15 45 03.8
EKA Eskdalemuir Ar 145.71 352 PKPbc **PKPdf 15 44 55.1 -1.2**
comp=Z,17nm,0.7s,baz=358,slow=2.5,SNR=30
ZVC Zvikov 145.85 331 *e*PKP **PKPbc 15 44 56.9 -0.4**
ZVC *ex* x 15 45 06.1
NKC Novy Kostel 146.02 333 *e*PKP **PKPbc 15 44 57.6 -0.2**
RONA Rosalia, Austr 146.03 327 *e*PKP **PKPab 15 44 58.0 -0.6**
comp=Z,7.7nm,1.1s
CONA Conrad Observa 146.10 328 *e*PKP **PKPbc 15 44 58.1 -0.1**
comp=Z,7.5nm,1.1s
CKRC Cesky Krumlov 146.24 330 *e*PKP **PKPbc 15 44 58.3 -0.2**
CKRC *ex* x 15 45 07.6
KHC Kasperske Hory 146.35 331 *e*PKP **PKPbc 15 44 58.3 -0.6**
KHC *ep*PKP sPKPab 15 45 07.7 0.0
GERES GERESS Array B 146.50 331 PKPbc **PKPbc 15 44 58.9 -0.5**
comp=Z,7.9nm,0.8s,baz=25,slow=4.4,SNR=28
MOA Molln 146.94 329 *e*PKP **PKiKP 15 45 02.4 -0.8**
comp=Z,7.1nm,1.2s
SOKA Soboth 147.35 327 *e*PKP **PKPbc 15 45 01.0 -0.9**
comp=Z,1.6nm,0.5s
LESA Schwarzleotal 148.00 330 *e*PKP **PKPbc 15 45 02.7 -0.9**
comp=Z,7.4nm,0.8s
BTNL Ternell 148.09 340 *d*PKP **PKPbc 15 45 02.0 -1.6**
MEM Membach 148.11 340 *d*PKPdf **PKPbc 15 45 03.0 -0.6**
BSTI Sart Tilman 148.27 340 *d*PKP **PKPbc 15 45 03.6 -0.5**
BCLA Clavier 148.49 340 *d*PKPdf **PKPdf 15 45 00.5 -0.7**
ABTA Abfaltersbach 148.56 329 *e*PKP **PKPbc 15 45 03.6 -1.5**
comp=Z,3.5nm,0.6s
WTTA Wattenberg 148.60 330 *e*PKP **PKPbc 15 45 04.4 -1.0**
comp=Z,2.4nm,0.5s
MOTA Moosalm 148.78 331 *e*PKP **PKPbc 15 45 04.3 -1.4**
comp=Z,9.4nm,1.0s
SQTA Sankt Quirin 148.83 331 *ep*PKP **PKPbc 15 45 05.1 -0.7**
comp=Z,6.2nm,0.6s
RETA Reutte 148.83 332 *ep*PKP **PKPbc 15 45 05.0 -0.8**
comp=Z,2.2nm,0.5s
WLF Walferdange 148.87 339 *d*PKP **PKPbc 15 45 05.7 0.0**
DOU Dourbes 149.00 341 *d*PKPdf **PKPbc 15 45 03.7 -2.3**
FETA Feichten 149.19 331 *ep*PKP **PKPbc 15 45 06.3 -0.6**
comp=Z,5.8nm,0.7s
DAVA Damuels 149.37 332 *ep*PKP **PKPbc 15 45 06.4 -0.8**
comp=Z,3.1nm,0.6s
ESDC Sonseca Array 160.97 344 PKPab **PKPab 15 46 00.3 -1.0**
comp=Z,1.3nm,0.9s,baz=25,slow=3.9,SNR=6.1

*IDC **31** 15:27:36.1±0.8, 4°.92S×153°.83E, h0km, mb4.1/10, mbtmp4.1/11, ML2.4/1, Error ellipse: s-maj=24.3km s-min=19.5km az=81.0*
*NEIC **31** 15:27:44.2±2.1, 4°.7S±0°.1×153°.72E±0°.08, h70km±5km, mb4.5/21, Error ellipse: s-maj=16.7km s-min=11.4km az=201.0*
ISC 31 15:27:42.9±0.6, 4°.86S±0°.07×153°.65E±0°.08, h50km, n41, σ1§52/44, mb4.3/20, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.63**	**294**		**Pn**	**15 28 11.5**	**+2.3**
KRVT	**Keravat (AS076**	**1.71**	**289**	Pn	**Pn**	**15 28 11.8**	**+1.5**
	90nm,0.3s,baz=61,slow=24,SNR=69						
KRVT				Sn	**Sn**	**15 28 33.9**	**+2.8**
	216nm,0.3s,baz=200,slow=1.2,SNR=7.1						
MANU	**Manus Island**	**6.87**	**294**	Pn	**Pn**	**15 29 21.6**	**+0.5**
HNR	**Honiara**	**7.72**	**126**	Pn	**Pn**	**15 29 35.5**	**+2.8**
PMG	**Port Moresby**	**7.87**	**235**		**Pn**	**15 29 36.5**	**+1.7**
PMG	**Port Moresby**	**7.87**	**235**	Pn	**Pn**	**15 29 34.8**	**+0.1**
	2.9nm,0.3s,baz=55,slow=12,SNR=10						
PMG				Sn	**Sn**	**15 31 00.2**	**-2.3**
	5.9nm,0.3s,baz=344,slow=16,SNR=14						
	7.1nm,0.3s						
WB0	**Warramunga Arr**	**23.90**	**230**	P	**P**	**15 32 51.8**	**-0.5**
WB0				IAmb	IAmb	15 33 18.0	
	comp=Z,8.3nm,1.2s						
WB2	**Warramunga Arr**	**24.04**	**230**	P	**P**	**15 32 53.3**	**-0.2**
WB2				IAmb	IAmb	15 33 34.9	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**24.05**	**230**	P	**P**	**15 32 53.4**	**-0.2**
WRA	**Warramunga Arr**	**24.05**	**230**	P	**P**	**15 32 53.9**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=55,slow=10.0,SNR=11						
WRA				PcP	**PcP**	**15 36 35.4**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=56,slow=2.7,SNR=5.8						
	comp=Z,1.7nm,0.7s						
ARMA	**Armidale**	**25.49**	**184**	P	**P**	**15 33 07.6**	**+0.8**
ARMA				IAmb	IAmb	15 33 21.1	
	comp=Z,53nm,1.5s						
AS31	**Alice Springs**	**26.68**	**224**	P	**P**	**15 33 17.7**	**+0.2**
ASAR	**Alice Springs**	**26.68**	**224**	P	**P**	**15 33 17.7**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=56,slow=9.1,SNR=7.1						
ASAR				PcP	**PcP**	**15 36 41.5**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=64,slow=2.7,SNR=6.3						
	comp=Z,0.5nm,0.4s						
STKA	**Stephens Creek**	**29.16**	**201**	P	**P**	**15 33 38.2**	**-1.2**
STKA	**Stephens Creek**	**29.16**	**201**	P	**P**	**15 33 38.6**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=17,slow=9.4,SNR=3.0						
	comp=Z,1.5nm,0.7s						
TOO	**Toolangi**	**33.40**	**192**	P	**P**	**15 34 15.4**	**-1.4**
FORT	**Forrest**	**35.28**	**220**	P	P	15 34 30.5	-2.6
QRZ	**Quartz Range**	**39.62**	**157**	P	**P**	**15 35 08.3**	**-1.4**
BKZ	**Black Stump Fm**	**39.93**	**152**	P	**P**	**15 35 11.8**	**-0.6**
BKZ				IAmb	IAmb	15 35 55.8	
	comp=Z,9.7nm,1.1s						
TUWZ	**Tuamarina**	**40.69**	**156**	P	**P**	**15 35 18.8**	**+0.3**
BHW	**Baring Head**	**41.04**	**156**	P	**P**	**15 35 21.1**	**-0.4**
LTZ	**Lake Taylor**	**41.22**	**159**	P	**P**	**15 35 23.3**	**+0.3**
LTZ				IAmb	IAmb	15 35 34.6	
	comp=Z,18nm,1.3s						
MQZ	**McQueen's Vall**	**42.16**	**159**	P	**P**	**15 35 29.8**	**-0.8**
PZH	**PanZhiHua**	**59.11**	**305**	P	**P**	**15 37 37.0**	**-1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,160nm,4.9s						
HHC	**Hu-ho-hao-te**	**59.60**	**324**	*e*P	**P**	**15 37 40.0**	**-1.8**
HHC				pmax	pmax		
	comp=Z,19nm,0.5s						
HHC				pmax	pmax		
	comp=Z,470nm,7.2s						
CASY	**Casey**	**68.21**	**197**	P	**P**	**15 38 37.5**	**-0.3**
CASY				IAmb	IAmb	15 39 00.1	
	comp=Z,7.4nm,1.4s						
VNDA	**Vanda**	**72.74**	**178**	P	**P**	**15 39 06.7**	**+1.3**
VNDA				IAmb	IAmb	15 39 07.3	
	comp=Z,3.1nm,0.8s						
VNDA	**Vanda**	**72.74**	**178**	P	**P**	**15 39 05.9**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=331,slow=7.1,SNR=14						
	comp=Z,2.4nm,0.7s						
SBA	**Scott Base**	**73.27**	**177**	P	**P**	**15 39 09.6**	**+1.1**
SBA				IAmb	IAmb	15 39 11.9	
	comp=Z,3.3nm,1.1s						
M17K	**Holitna River**	**76.03**	**22**	P	**P**	**15 39 22.1**	**-2.6**
M17K				IAmb	IAmb	15 39 36.9	
	comp=Z,19nm,1.4s						
FIS	**Fire Island**	**78.71**	**24**	P	**P**	**15 39 35.5**	**-4.1**
MKAR	**Makanchi Array**	**80.93**	**319**	P	**P**	**15 39 53.2**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=94,slow=6.1,SNR=6.0						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**81.90**	**22**	P	**P**	**15 39 58.3**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=243,slow=5.4,SNR=4.6						
	comp=Z,0.3nm,0.7s						
YKU2	**Yakutat**	**82.60**	**28**	P	**P**	**15 39 56.6**	**-3.8**
KURBB	**Kurchatov Arra**	**84.37**	**322**	P	**P**	**15 40 10.5**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=103,slow=4.0,SNR=6.3						
	comp=Z,0.6nm,0.8s						
QSPA	**South Pole Qui**	**85.10**	**180**	P	**P**	**15 40 14.0**	**+0.6**
QSPA				IAmb	IAmb	15 40 14.9	
	comp=Z,4.7nm,0.7s						
QSPA	**South Pole Qui**	**85.10**	**180**	P	**P**	**15 40 13.7**	**+0.3**
	comp=Z,4.8nm,0.6s,baz=350,slow=0.6,SNR=53						
	comp=Z,4.8nm,0.6s						
MAW	**Mawson**	**85.84**	**203**	P	**P**	**15 40 17.3**	**+0.5**
MAW	**Mawson**	**85.84**	**203**	P	**P**	**15 40 17.0**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=94,slow=7.1,SNR=10						
	comp=Z,1.9nm,0.5s						
BVAR	**Borovoye Array**	**89.80**	**323**	P	**P**	**15 40 36.4**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=90,slow=5.9,SNR=5.2						
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**151.13**	**288**	PKPbc	**PKPbc**	**15 47 31.8**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=63,slow=2.5,SNR=19						

ROM 31 15:28:25.6±0.1, 42°.511N±0°.004×13°.319E±0°.005, h14km, ML0.8/9, 2D, Error ellipse: s-maj=0.4km s-min=0.4km az=206.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMP	**Campotosto**	**0.07**	**70**	P	Pg	15 28 28.9	+0.3
CAMP				S	Sg	15 28 30.9	+0.2
T1247	**Pizzolo (AQ)**	**0.07**	**192**	P	Pg	15 28 24.2	-4.3
T1247				S	Sg	15 28 28.0	-2.5
RM33	**Pellescritta (**	**0.08**	**268**	P	Pg	15 28 28.8	+0.2
RM33				S	Sg	15 28 30.8	+0.2
RM33				AML	AML		
	comp=E,68μm,1.1s						
RM33				AML	AML		
	comp=N,110μm,0.1s						
RM33				AML	AML		
	comp=E,68μm,0.9s						
RM33				AML	AML		
	comp=N,149μm,0.4s						
GIGS	**Gran Sasso**	**0.20**	**108**	⇓P	Pg	15 28 30.5	+0.4
GIGS				S	Sg	15 28 33.9	+0.7
GIGS				AML	AML		
	comp=E,19μm,1.9s						
GIGS				AML	AML		
	comp=N,10μm,2.0s						
TERO	**Teramo**	**0.24**	**62**	P	Pg	15 28 31.1	+0.3
TERO				S	Sb	15 28 35.3	-0.6
TERO				AML	AML		
	comp=E,26μm,1.2s						
TERO				AML	AML		
	comp=N,19μm,2.4s						
MTRA	**Matera**	**0.25**	**13**	P	Pg	15 28 31.3	+0.2
MTRA				S	Sg	15 28 35.3	+0.5
T1214	**Arquata del Tr**	**0.26**	**342**	P	Pg	15 28 31.6	+0.3
T1214				S	Sb	15 28 36.1	-0.6
NRCA	**Norcia**	**0.36**	**335**	⇓P	Pg	15 28 33.1	+0.2
NRCA				S	Sb	15 28 38.7	-0.6
NRCA				AML	AML		
	comp=E,30μm,0.2s						
NRCA				AML	AML		
	comp=N,26μm,2.2s						
MMO1	**Montemonaco**	**0.39**	**1**	P	Pg	15 28 30.2	-3.3

*THE **31** 15:30:10.0, 38°.31N×22°.09E, h9km±1km, ML2.3/11, Error ellipse: s-maj=1.5km s-min=0.5km az=171.0*
ATH 31 15:30:09.9, 38°.31N×22°.07E, h9km±3km, ML2.4/6, Error ellipse: s-maj=3.0km s-min=0.9km az=247.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIK	**Aliki, Aigiali**	**0.06**	**146**	P	Pg	15 30 12.0	+0.2
ALIK				S	Sg	15 30 13.9	+0.7
KALE	**Kalithea**	**0.10**	**34**	P	Pg	15 30 12.2	-0.2
KALE				S	Sg	15 30 14.2	0.0
	24μm,0.2s						
KALE	**Kalithea**	**0.10**	**34**	P	Pg	15 30 12.2	-0.2
KALE				S	Sg	15 30 14.0	-0.2
KALE				AML	AML	15 30 14.7	
	comp=E,45901μm,0.2s						
KALE				AML	AML	15 30 14.8	
	comp=N,51451μm,0.2s						
LAKA	**Lakka**	**0.10**	**226**	P	Pg	15 30 12.4	0.0
LAKA				S	Sg	15 30 14.2	+0.1
	comp=N,2μm,0.3s						
LAKA	**Lakka**	**0.10**	**226**	P	Pg	15 30 12.4	0.0
LAKA				S	Sg	15 30 14.1	-0.1
LAKA				AML	AML	15 30 14.5	
	comp=N,7645μm,0.5s						
LAKA				AML	AML	15 30 18.5	
	comp=E,4762μm,0.4s						
EFP	**Efpalio**	**0.17**	**312**	P	Pg	15 30 13.6	0.0
EFP				S	Sg	15 30 16.3	+0.2
	comp=E,1μm,0.3s						
EFP	**Efpalio**	**0.17**	**312**	P	Pg	15 30 13.6	0.0
EFP				S	Sg	15 30 16.3	+0.2
EFP				AML	AML	15 30 16.9	
	comp=N,2244μm,0.4s						
EFP				AML	AML	15 30 17.5	
	comp=E,3185μm,0.4s						
UPR	**University Cam**	**0.22**	**263**	P	Pg	15 30 14.6	+0.2
UPR				S	Sg	15 30 18.6	+1.1
KLV	**Kalavryta, Ach**	**0.27**	**166**	P	Pg	15 30 15.3	-0.1
KLV				S	Sg	15 30 19.7	+0.6
KLV	**Kalavryta, Ach**	**0.27**	**166**	P	Pg	15 30 15.2	-0.2
KLV				S	Sg	15 30 19.6	+0.6
ANX	**Ano Chora**	**0.31**	**338**	P	Pg	15 30 15.7	-0.3
ANX				S	Sg	15 30 20.8	+0.6
	comp=E,3μm,0.3s						
ANX	**Ano Chora**	**0.31**	**338**	P	Pg	15 30 15.6	-0.4
ANX				S	Sg	15 30 20.0	-0.1
ANX				AML	AML	15 30 21.0	
	comp=N,8128μm,0.3s						
ANX				AML	AML	15 30 21.6	
	comp=E,3978μm,0.4s						
GUR	**Goura**	**0.43**	**150**	P	Pg	15 30 18.4	+0.1
GUR				S	Sg	15 30 23.7	-0.3
	comp=E,292nm,0.3s						
GUR	**Goura**	**0.43**	**150**	P	Pg	15 30 18.1	-0.2
GUR				S	Sg	15 30 23.4	-0.5
GUR				AML	AML	15 30 25.9	
	comp=E,499μm,0.3s						
GUR				AML	AML	15 30 26.9	
	comp=N,623μm,0.3s						
PVO	**Paravola**	**0.53**	**306**	P	Pg	15 30 20.3	+0.2
PVO				S	Sg	15 30 27.8	+0.8
	comp=N,292nm,0.6s						
PVO	**Paravola**	**0.53**	**306**	P	Pg	15 30 19.3	-0.8
RLS	**Riolos of Patr**	**0.54**	**242**	P	Pg	15 30 20.5	+0.2
RLS				S	Sb	15 30 29.2	-0.1
	comp=N,115nm,0.3s						
RLS	**Riolos of Patr**	**0.54**	**242**	P	Pg	15 30 20.5	+0.2
RLS				AML	AML	15 30 31.4	
	comp=E,216μm,0.3s						
RLS				AML	AML	15 30 32.6	
	comp=N,266μm,0.4s						
EVR	**Evrytania**	**0.64**	**341**	P	Pg	15 30 22.8	+0.5
EVR				S	Sb	15 30 32.5	+0.1
	comp=N,272nm,0.4s						
EVR	**Evrytania**	**0.64**	**341**	P	Pb	15 30 22.8	-0.5
AXAR	**Agios Charalam**	**0.65**	**45**	P	Pg	15 30 22.2	-0.3
AXAR				S	Sg	15 30 31.1	+0.1
	comp=N,2μm,0.2s						
AXAR	**Agios Charalam**	**0.65**	**45**	P	Pg	15 30 22.0	-0.5
MAKR	**Makrakomi, Fth**	**0.70**	**4**	P	Pb	15 30 24.0	-0.4
MAKR				S	Sb	15 30 33.8	-0.4
	comp=N,455nm,0.3s						
MAKR	**Makrakomi, Fth**	**0.70**	**4**	P	Pg	15 30 23.0	-0.5
AGG	**Agios Georgios**	**0.74**	**16**	P	Pg	15 30 23.2	-1.0
AGG				S	Sb	15 30 34.6	-0.7
	comp=N,212nm,0.2s						
AGG	**Agios Georgios**	**0.74**	**16**	P	Pg	15 30 23.6	-0.6
AGG				S	Sb	15 30 34.6	-0.6
VIL2	**Platees**	**0.95**	**96**	P	Pb	15 30 28.6	+0.1

DJA 31 15:35:16.7±0.6, 5°N±5°×12°7E±°, h138km±9km, M3.9/11, mb3.8/6, MLv4.0/11, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.95**	**213**	P	Pn	15 35 50.4	-0.1
SGSI				S	Sn	15 36 17.4	+0.9
TNTI	**Ternate**	**4.61**	**170**	P	Pn	15 36 25.0	+0.3
GTOI	**Gorontalo**	**5.88**	**217**	P	Pn	15 36 42.1	+0.4
	4.7nm,0.8s,0.0nm						
LBMI	**Labuha**	**6.01**	**171**	P	Pn	15 36 43.3	-0.2
	15nm,0.9s,0.1nm						
MRSI	**Marisa**	**6.69**	**224**	P	Pn	15 36 54.0	+1.4
	19nm,0.6s,0.1nm						
SANI	**Sanana**	**7.36**	**185**	P	Pn	15 36 59.2	-2.5

*NIED **31** 15:46:11.4, 31°.40N×130°.61E, h9km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=0.29; $M_{\theta\theta}$=0.33; $M_{\phi\phi}$=-0.04; $M_{r\theta}$=0.81; $M_{\theta\phi}$=4.48; $M_{\phi r}$=0.63; Fault plane solution: M_0=4.59000×10^14^ NP1:ϕs=92.00000°, δ=83.00000°, λ=9.00000°. NP2:ϕs=1.00000°, δ=81.00000°, λ=173.00000°.*
JMA 31 15:46:11.4±0.0, 31°.4N±0°.1×130°.6E±0°.1, h9km±1km, MD3.8/20, MV4.2/20, 2D, SATSUMA PENINSULA REGION, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.17**	**308**	*i* P	Pg	15 46 15.2	+0.1
JSU				S	Sg	15 46 17.9	+0.3
JSU	**Suzuyama**	**0.17**	**308**	A	A	15 46 15.2	
	comp=E,132nm,0.2s,comp=N,103nm,0.2s						
JTSR	**Tashiro 2**	**0.35**	**131**	*i* P	Pg	15 46 18.1	-0.2
JTSR				*e*S	Sg	15 46 22.9	-0.1
JNAR	**Kushima--Naru**	**0.58**	**77**	*i* P	Pg	15 46 23.0	+0.4
JNAR				*e*S	Sg	15 46 30.7	+0.6
JTZ	**Takazaki**	**0.64**	**39**	⇓*i* P	Pg	15 46 24.0	+0.1
JTZ				⇓S	Sg	15 46 32.5	+0.2
JNKG	**Nichinankitago**	**0.70**	**68**	*i* P	Pb	15 46 25.5	-0.3
JNKG				S	Sb	15 46 34.9	-0.6
JZO	**Okuchi**	**0.74**	**359**	*i* P	Pg	15 46 25.5	-0.2
JZO				S	Sg	15 46 35.3	0.0
JZO	**Okuchi**	**0.74**	**359**	A	A	15 46 25.5	
	comp=E,5.0nm,0.7s,comp=N,6.0nm,0.4s						
JTN	**Tanegashima 3**	**0.81**	**157**	*i* P	Pg	15 46 27.0	0.0
JTN	**Tanegashima 3**	**0.81**	**157**	A	A	15 46 27.0	
	comp=E,4.0nm,0.8s,comp=N,4.0nm,0.7s						
JSJ	**Shimokoshiki**	**0.81**	**290**	*i* P	Pg	15 46 26.2	-0.9
JSJ				S	Sg	15 46 37.5	-0.2
JSJ	**Shimokoshiki**	**0.81**	**290**	A	A	15 46 26.2	
	comp=E,7.0nm,0.2s,comp=N,10.0nm,0.3s						
JKC	**Kuchinoerabu**	**1.00**	**201**	*i* P	Pg	15 46 29.4	-1.3

IDC 31 15:49:59.7±3.8, 20°.57S×169°.08E, h0km, mb3.5/2, mbtmp3.4/3, ML3.1/1, MS3.4/2, Error ellipse: s-maj=154.2km s-min=32.9km az=144.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.87**	**238**	Pn	Pn	15 50 46.9	0.0
	3.1nm,0.3s,baz=95,slow=15,SNR=2.6						
DZM				Sn	Sn	15 51 21.3	-0.9
	23nm,0.3s,baz=130,slow=20,SNR=13						
	10nm,0.4s						
MSVF	**Nonsavu**	**8.94**	**73**	LR	LR	15 54 55.0	
	comp=Z,221nm,18.4s,baz=217,slow=33						
URZ	**Urewera**	**18.95**	**160**	LR	LR	16 00 57.4	
	comp=Z,123nm,19.6s,baz=31,slow=35						
WRA	**Warramunga Arr**	**32.56**	**265**	P	P	15 56 31.6	-1.4
	0.4nm,0.9s,baz=95,slow=8.1,SNR=2.6						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**32.68**	**258**	P	P	15 56 35.3	+1.3
	0.9nm,0.9s,baz=86,slow=9.1,SNR=7.8						
	0.9nm,0.9s						
EKA	**Eskdalemuir Ar**	**144.80**	**352**	PKP	PKPab	16 09 36.9	-0.4
	0.7nm,0.4s,baz=360,slow=2.8,SNR=4.9						
GERES	**GERESS Array B**	**145.58**	**331**	PKPbc	PKPdf	16 09 39.6	-0.4
	1.2nm,0.9s,baz=25,slow=4.4,SNR=4.2						

*BER **31** 15:52:33.2±2.3, 78°.33N×7°.31E, h10km, mb(Pn)3.5, Confirmed Earthquake*
*KOLA **31** 15

SPA0	Spitsbergen Ar	1.77	92	*e*Pg		Pb	15 53 05.6 +0.8
SPA0				*e*S		Sb	15 53 26.5 -0.2
SPA0				IAML			15 53 28.8
	comp=Z,37nm,0.6s						
SPITS	Spitsbergen Ar	1.77	92	P		Pb	15 53 04.9 +0.2
SPITS				S		Sb	15 53 26.6 0.0
HSPB	Hornsund (broa	2.16	126	P		Pb	15 53 11.8 +0.5
HSPB	Hornsund (broa	2.16	126	*e*P		Pn	15 53 08.8 +0.9
HSPB				*e*S		Sn	15 53 33.2 -1.1
HSPB				IAML			15 53 37.7
	comp=Z,11nm,0.3s						
HOPEN	Hopen	4.19	108	*e*P		Pn	15 53 37.1 +1.2
HOPEN				*e*S		Sn	15 54 23.3 -1.1
HOPEN				IAML			15 54 25.8
	comp=Z,16nm,0.3s						
NOR	Nord	5.30	319	*e*P		Pn	15 53 50.9 -0.2
NOR	Nord	5.30	319	*i* P		Pn	15 53 50.0 -1.1
NOR				*i* S		Sn	15 54 42.1 -10
DAG	Danmarks Havn	5.88	267	*e*P		Pn	15 53 57.4 -1.6
DAG				*e*S		Sn	15 54 56.8 -9.2

*IDC **31** 16:01:04.8±0.9, 55°.45N×161°.99E, h0km, mb3.8/11, mbtmp3.8/12, ML3.0/1, MS3.4/1, Error ellipse: s-maj=31.1km s-min=17.2km az=160.0*
*KRSC **31** 16:01:07.3±0.9, 55°.02N×162°.38E, h31km±26km, Ml4.5*
*MOS **31** 16:01:09.5±0.6, 55°.10N×162°.31E, h47km, mb4.2/6, Error ellipse: s-maj=8.0km s-min=4.6km az=82.5*
*NEIC **31** 16:01:10.1±1.6, 55°.2N±0°.1×162°.1E±0°.2, h35km±2km, mb4.1/63, Error ellipse: s-maj=25.6km s-min=14.5km az=151.0*

ISC 31 16:01:10.1±1.0, 55°.08N±0°.03×162°.32E±0°.04, h45km±11km, n177, σ1§28/189, mb4.1/44, 4D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	Tumrok D	1.11	277	*e*P	Pn	16 01 28.4	-0.8
TUMD				*e*S	Sn	16 01 42.8	-0.7
KBTR	Krutoberegovo	1.17	14	*e*P	Pn	16 01 29.6	-0.4
KBTR				*e*S	Sn	16 01 46.5	+1.7
KBTR	Krutoberegovo	1.17	14	PN	Pn	16 01 29.6	-0.4
KBTR				S	Sn	16 01 46.5	+1.7
KBG	Krutoberegovo	1.20	10	*e*P	Pn	16 01 30.6	+0.2
KBG				*e*S	Sn	16 01 47.8	+2.3
KBG	Krutoberegovo	1.20	10	PN	Pn	16 01 30.6	+0.2
KBG				S	Sn	16 01 47.8	+2.3
TUMR	Tumrok	1.26	280	*e*P	Pn	16 01 31.2	-0.3
TUMR				*e*S	Sn	16 01 47.7	+0.3
TUMR	Tumrok	1.26	280	PN	Pn	16 01 31.2	-0.3
TUMR				S	Sn	16 01 47.7	+0.3
BZGR	Bezymyannyi-Gr	1.27	314	*e*P	Pn	16 01 31.0	-0.5
BZGR	Bezymyannyi-Gr	1.27	314	PN	Pn	16 01 31.0	-0.5
ZLN	Zelenaya	1.28	318	*i* P	Pn	16 01 31.3	-0.3
ZLN	Zelenaya	1.28	318	PN	Pn	16 01 31.3	-0.3
BZP	Bezymyannyi-Pe	1.31	310	*e*P	Pn	16 01 31.4	-0.8
BZMR	Bezymyannaya	1.35	310	*e*P	Pn	16 01 32.1	-0.6
BZMR	Bezymyannaya	1.35	310	PN	Pn	16 01 32.1	-0.6
BZWR	Bezymyannyi-We	1.37	311	*e*P	Pn	16 01 32.3	-0.6
BZWR	Bezymyannyi-We	1.37	311	PN	Pn	16 01 32.3	-0.6
KMNR	Kamenistaya	1.37	301	*e*P	Pn	16 01 32.3	-0.6
KMNR				*e*S	Sn	16 01 50.0	+0.1
KMNR	Kamenistaya	1.37	301	PN	Pn	16 01 32.3	-0.6
KMNR				S	Sn	16 01 50.0	+0.1
CIRR	Tsirk	1.37	320	*e*P	Pn	16 01 32.5	-0.4
CIRR	Tsirk	1.37	320	PN	Pn	16 01 32.5	-0.4
KIRR	Kirishev	1.43	309	*e*P	Pn	16 01 33.2	-0.5
KIRR	Kirishev	1.43	309	PN	Pn	16 01 33.2	-0.5
KPT	Kopyto	1.49	308	*e*P	Pn	16 01 34.2	-0.3
KPT	Kopyto	1.49	308	PN	Pn	16 01 34.2	-0.3
KRSR	Krestovskiy	1.51	320	*e*P	Pn	16 01 34.1	-0.8
KRSR	Krestovskiy	1.51	320	PN	Pn	16 01 34.1	-0.8
KLY	Klyuchi	1.56	323	*e*P	Pn	16 01 33.4	-1.9
KLY	Klyuchi	1.56	323	PN	Pn	16 01 33.4	-1.9
SMKR	Semkarok	1.58	343	*i* P	Pn	16 01 35.5	-0.3
SMKR	Semkarok	1.58	343	PN	Pn	16 01 35.5	-0.3
BDR	Baidarnaya	1.62	338	*e*P	Pn	16 01 36.5	+0.2
BDR	Baidarnaya	1.62	338	PN	Pn	16 01 36.5	+0.2
KOZ	Kozyrevsk	1.70	306	*e*P	Pn	16 01 37.6	+0.2
KOZ	Kozyrevsk	1.70	306	PN	Pn	16 01 37.6	+0.2
SRKR	Sorokina	1.71	338	*e*P	Pn	16 01 37.4	-0.1
SRKR	Sorokina	1.71	338	PN	Pn	16 01 37.4	-0.1
SRDR	Sredinnyy	1.93	311	*e*P	Pn	16 01 40.0	-0.5
SRDR	Sredinnyy	1.93	311	PN	Pn	16 01 40.0	-0.5
KII	Karymskiy	1.97	239	*e*P	Pn	16 01 40.9	-0.2
KII	Karymskiy	1.97	239	PN	Pn	16 01 40.9	-0.2
BKI	Bering	2.10	85	*e*S	Sn	16 02 05.2	-2.4
ESO	Esso	2.23	294	*e*P	Pn	16 01 44.0	-0.5
ESO	Esso	2.23	294	PN	Pn	16 01 44.0	-0.5
SPN	Mys Shipunski	2.40	215	*e*P	Pn	16 01 45.3	-1.6
SPN				*e*S	Sn	16 02 13.2	-1.9
SPN	Mys Shipunski	2.40	215	PN	Pn	16 01 45.3	-1.6
SPN				S	Sn	16 02 13.2	-1.9
NLC	Nalytchevo	2.59	224	*e*P	Pn	16 01 51.1	+1.6
NLC				*e*S	Sn	16 02 21.0	+1.3
NLC	Nalytchevo	2.59	224	PN	Pn	16 01 51.1	+1.6
NLC				S	Sn	16 02 21.0	+1.3
KRER	Koryakskii	2.75	231	*e*P	Pn	16 01 52.8	+0.9
KRER	Koryakskii	2.75	231	PN	Pn	16 01 52.8	+0.9
SMAR	Somma	2.75	230	*e*P	Pn	16 01 52.4	+0.4
SMAR	Somma	2.75	230	PN	Pn	16 01 52.4	+0.4
KRX	Arik	2.76	233	*e*P	Pn	16 01 52.6	+0.6
KRX	Arik	2.76	233	PN	Pn	16 01 52.6	+0.6
AVH	Avacha	2.78	231	*e*P	Pn	16 01 53.8	+1.6
AVH	Avacha	2.78	231	PN	Pn	16 01 53.8	+1.6
UGLR	Uglovaya	2.78	229	*e*P	Pn	16 01 53.1	+0.8
UGLR	Uglovaya	2.78	229	PN	Pn	16 01 53.1	+0.8
KOK	Koryaka	2.81	232	*e*P	Pn	16 01 53.0	+0.4
KOK	Koryaka	2.81	232	PN	Pn	16 01 53.0	+0.4
DALK	Dalny	2.94	227	*e*P	Pn	16 01 54.5	+0.3
DALK				*e*S	Sn	16 02 28.2	0.0
DALK	Dalny	2.94	227	PN	Pn	16 01 54.5	+0.3
DALK				S	Sn	16 02 28.2	0.0
PET	Petropavlovsk	2.98	228			16 01 55.5	+0.6
PET	Petropavlovsk	2.98	228	*e*P	Pn	16 01 55.8	+0.9
PET				*e*S	Sn	16 02 30.9	+1.5
PET	Petropavlovsk	2.98	228	PN	Pn	16 01 55.8	+0.9
PET				S	Sn	16 02 30.9	+1.5
KRMR	Karymshinskiy	3.35	229	*e*P	Pn	16 02 01.3	+1.4
KRMR				*e*S	Sn	16 02 40.8	+2.5
KRMR	Karymshinskiy	3.35	229	PN	Pn	16 02 01.3	+1.4
KRMR				S	Sn	16 02 40.8	+2.5
PEA0B	Petropavlovsk-	3.36	236		Pn	16 02 00.7	+0.6
PEA0B	Petropavlovsk-	3.36	236‖	*e*PN	Pn	16 02 01.0	+0.9
PETK	Petropavlovsk-	3.36	236		Pn	16 02 00.5	+0.4
PETK	Petropavlovsk-	3.36	236	Pn	Pn	16 02 01.8	+1.7
	7.9nm,0.3s,baz=68,slow=18,SNR=66						
PETK				Sn	Sn	16 02 46.2	+7.5
	25nm,0.3s,baz=292,slow=17,SNR=10						
	9.2nm,0.3s						
RUS	Russkaya	3.48	222	*e*P	Pn	16 02 02.3	+0.6
RUS				*e*S	Sn	16 02 42.4	+0.7
RUS	Russkaya	3.48	222	PN	Pn	16 02 02.3	+0.6
RUS				S	Sn	16 02 42.4	+0.7
GRL	Gorelyy	3.57	227	*e*P	Pn	16 02 04.4	+1.3
GRL	Gorelyy	3.57	227	PN	Pn	16 02 04.4	+1.3
APC	Apacha	3.73	237	*e*P	Pn	16 02 07.7	+2.5
APC				*e*S	Sn	16 02 51.7	+3.9
APC	Apacha	3.73	237	PN	Pn	16 02 07.7	+2.5
APC				S	Sn	16 02 51.7	+3.9
ASAK	Asacha	3.77	226	*e*P	Pn	16 02 07.6	+1.9
ASAK	Asacha	3.77	226	PN	Pn	16 02 07.6	+1.9
PALN	Palana	4.22	343	*e*P	Pn	16 02 14.9	+3.1
PALN	Palana	4.22	343	PN	Pn	16 02 14.9	+3.1
SKR	Severo-Kuril's	5.79	223	*e*PN	Pn	16 02 34.0	+0.7
KUR	Kuril'sk	13.50	229‖	*e*P	Pn	16 04 16.2	-2.6
ERM	Erimo	18.13	232	P	P	16 05 17.3	-1.0
ERM	Erimo	18.13	232‖	*e*P	P	16 05 18.2	-0.1
YAK	Yakutsk	18.23	306	*i* P	P	16 05 17.5	-1.7
K13K	Kusilvak Mount	18.40	55	P	Pn	16 05 22.2	+0.7
J14K	Nanvaranak Lak	19.02	52	P	Pn	16 05 29.0	+0.1
K15K	Wolf Creek Mou	19.90	54	P	Pn	16 05 39.2	-0.2
K15K				IAmb	IAmb	16 06 17.4	
	comp=Z,11nm,1.2s						
O14K	Tigyukauivet M	20.01	63	P	Pn	16 05 40.7	0.0
G16K	Koyuk River	20.05	45	P	Pn	16 05 41.1	+0.1
G16K				IAmb	IAmb	16 06 16.2	
	comp=Z,10nm,1.3s						
J16K	Anvik River	20.42	51	P	Pn	16 05 45.2	-0.4
I17K	Unalakleet	20.46	50	P	Pn	16 05 45.5	-0.5
N15K	Kwethluk River	20.55	60	P	Pn	16 05 46.3	-0.8
F17K	Baldwin Pennin	20.76	42	P	Pn	16 05 48.5	-1.0
F17K				IAmb	IAmb	16 05 49.7	
	comp=Z,8.1nm,0.8s						
H17K	Granite Mounta	20.96	47	P	P	16 05 49.5	+0.6
H17K				IAmb	IAmb	16 06 01.0	
	comp=Z,9.2nm,1.2s						
K17K	Iditarod	21.42	53	P	P	16 05 55.4	+1.5
K17K				IAmb	IAmb	16 06 11.1	
	comp=Z,14nm,1.1s						
H18K	Honhosa River	21.64	47	P	P	16 05 57.4	+1.1
H18K				IAmb	IAmb	16 06 06.7	
	comp=Z,10nm,1.4s						
G18K	Tagagawik	21.66	44	P	P	16 05 57.3	+1.0
G18K				IAmb	IAmb	16 05 59.8	
	comp=Z,9.4nm,1.3s						
M17K	Holitna River	21.81	57	P	P	16 05 59.3	+1.3
TIXI	Tiksi	21.88	332	P	P	16 05 59.1	+0.5
TIXI	Tiksi	21.88	332	P	P	16 05 59.1	+0.5
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
L18K	Granite Mounta	22.16	55	P	P	16 06 02.9	+1.1
L18K				IAmb	IAmb	16 06 05.5	
	comp=Z,13nm,1.3s						
C19K	Lookout Ridge	22.18	36	P	P	16 06 02.5	+0.5
J18K	Innoko River	22.18	51	P	P	16 06 03.5	+1.5
J18K				IAmb	IAmb	16 06 17.0	
	comp=Z,6.5nm,1.2s						
F19K	Shaleruckik Mo	22.20	42	P	P	16 06 02.6	+0.5
F19K				IAmb	IAmb	16 06 05.2	
	comp=Z,5.3nm,0.9s						
G19K	Purcell Mounta	22.33	44	P	P	16 06 04.2	+0.6
G19K				IAmb	IAmb	16 06 06.0	
	comp=Z,6.6nm,1.0s						
TTA	Tatalina	22.48	53	P	P	16 06 06.7	+1.4
TTA	Tatalina	22.48	53	P	P	16 06 06.7	+1.4
TTA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
D19K	Kuna River	22.49	38	P	P	16 06 06.0	+0.7
D19K				IAmb	IAmb	16 06 07.7	
	comp=Z,16nm,1.2s						
H19K	Roundabout Mou	22.50	46	P	P	16 06 07.0	+1.7
H19K				IAmb	IAmb	16 06 09.0	
	comp=Z,14nm,1.4s						
E19K	Redstone River	22.54	41	P	P	16 06 06.1	+0.3
E19K				IAmb	IAmb	16 06 08.3	
	comp=Z,5.9nm,1.0s						
J19K	Poorman	22.70	50	P	P	16 06 07.4	-0.1
R17K	Ugashik Creek	22.77	67	P	P	16 06 09.3	+1.1
M19K	Big River Lodg	23.25	55	P	P	16 06 13.8	+0.7
M19K				IAmb	IAmb	16 06 41.1	
	comp=Z,9.2nm,1.3s						
B20K	Meade River	23.28	34	P	P	16 06 13.2	-0.2
J20K	Nowinta River	23.35	50	P	P	16 06 13.9	-0.2
K20K	Telida	23.37	52	P	P	16 06 13.5	-0.7
IMAR	Indian Mountai	23.66	45	P	P	16 06 16.2	-0.8
G21K	Allakaket	23.82	44		P	16 06 19.2	+0.8
G21K				IAmb	IAmb	16 06 21.2	
	comp=Z,10nm,1.1s						
F21K	Alatna River	23.92	42		P	16 06 18.8	-0.6
F21K				IAmb	IAmb	16 06 21.3	
	comp=Z,6.7nm,0.9s						
E21K	Killik River	23.96	39	P	P	16 06 18.8	-1.0
B21K	Ikpikpuk River	24.01	36		P	16 06 20.7	+0.5
H21K	Melozitna Rive	24.01	46	P	P	16 06 20.2	-0.1
RSO	Redoubt South	24.16	59	P	P	16 06 21.6	-0.3
CAST	Castle Rocks	24.26	51	P	P	16 06 23.1	+0.5
CAST				IAmb	IAmb	16 06 25.1	
	comp=Z,5.6nm,0.8s						
D22K	Ayikyak River	24.51	38	P	P	16 06 24.8	0.0
D22K				IAmb	IAmb	16 06 27.1	
	comp=Z,5.8nm,0.8s						
SKT	Skwentna	24.59	55	P	P	16 06 27.2	+1.6
SKT				IAmb	IAmb	16 06 28.8	
	comp=Z,12nm,1.3s						
B22K	Teshekpuk Lake	24.60	35	P	P	16 06 25.5	0.0
KDAK	Kodiak Island	24.73	65	P	P	16 06 27.2	+0.4
KDAK	Kodiak Island	24.73	65	P	P	16 06 27.3	+0.4
KDAK				pmax	pmax		
	comp=Z,56nm,1.5s						
MJAR	Matsushiro Arr	24.81	232	P	P	16 06 27.9	+0.1
	comp=Z,0.7nm,0.5s,baz=36,slow=8.5,SNR=2.3						
MJAR				LR	LR	16 18 05.1	
	comp=Z,73nm,18.5s,baz=56,slow=41						
	comp=Z,0.7nm,0.5s						
MLY	Manley	24.85	48	P	P	16 06 28.8	+0.8
SUA	Susitna One	25.02	56	P	P	16 06 29.8	+0.3
SUA				IAmb	IAmb	16 06 32.4	
	comp=Z,5.4nm,1.0s						
CNPM	China Poot	25.06	61	P	P	16 06 29.7	-0.2
TRF	Thorofare Moun	25.07	51	P	P	16 06 30.1	0.0
TRF				IAmb	IAmb	16 06 42.4	
	comp=Z,11nm,1.4s						
G23K	Bananza Creek	25.22	44	P	P	16 06 31.6	+0.4
H23K	Yukon River	25.37	46	P	P	16 06 33.0	+0.4
H23K				IAmb	IAmb	16 06 48.8	
	comp=Z,6.8nm,1.2s						
C23K	Itkillik River	25.42	36	P	P	16 06 33.3	+0.3
C23K				IAmb	IAmb	16 06 37.1	
	comp=Z,4.5nm,0.8s						
TOLK	Toolik Lake Re	25.59	39	P	P	16 06 34.8	+0.2
TOLK				IAmb	IAmb	16 06 37.3	
	comp=Z,5.6nm,0.8s						
E24K	Your Creek	25.92	41	P	P	16 06 38.0	+0.3
CCB	Clear Creek Bu	26.11	48	P	P	16 06 39.5	+0.2
CCB				IAmb	IAmb	16 06 39.5	
	comp=Z,5.1nm,1.4s						
G24K	Hadweenzic Riv	26.23	44	P	P	16 06 40.9	+0.5
G24K				IAmb	IAmb	16 06 53.9	
	comp=Z,4.7nm,0.9s						
PWL	Port Wells	26.26	57	P	P	16 06 40.5	-0.2
IL31		26.50	48	P	P	16 06 43.9	+1.2
ILAR	Eielson Array	26.50	48	*e*P	P	16 06 42.4	-0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	Eielson Array	26.50	48	P	P	16 06 41.6	-1.1
	comp=Z,0.8nm,1.0s,baz=281,slow=8.2,SNR=6.5						
	comp=Z,0.8nm,1.0s						
D25K	Kavik River	26.81	38	P	P	16 06 45.5	-0.2
E25K	Arctic Village	27.02	41	P	P	16 06 48.1	+0.6
E25K				IAmb	IAmb	16 07 31.3	
	comp=Z,7.0nm,1.4s						
BMAR	Burnt Mountain	27.38	42	P	P	16 06 51.2	+0.5
K27K	Chicken	28.65	49	P	P	16 07 01.9	-0.1
K27K				IAmb	IAmb	16 07 14.9	
	comp=Z,5.2nm,1.4s						
L29M	L29M	30.55	50	P	P	16 07 19.6	+0.6
L29M				IAmb	IAmb	16 07 36.4	
	comp=Z,3.3nm,1.1s						
M29M	Somme Creek	30.56	52	P	P	16 07 19.3	+0.2
M29M				IAmb	IAmb	16 08 00.1	
	comp=Z,6.0nm,1.4s						
I30M	Mount Dempster	30.87	46	P	P	16 07 22.2	+0.3
I30M				IAmb	IAmb	16 07 46.3	
	comp=Z,5.5nm,1.2s						
WHY	Whitehorse	32.70	54	P	P	16 07 38.8	+0.9
WHY				IAmb	IAmb	16 08 13.1	
	comp=Z,3.7nm,1.1s						
H11N2	WAKE ISLAND Hy	35.46	173	T	T	16 45 23.2	
	baz=355,slow=76						
H11N3	WAKE ISLAND Hy	35.47	173	T	T	16 45 24.3	
	baz=355,slow=76						
H11N1	WAKE ISLAND Hy	35.48	173	T	T	16 45 24.5	
	baz=355,slow=76						
H11S1	WAKE ISLAND Hy	36.66	173	T	T	16 46 53.3	
	baz=352,slow=76						
H11S3	WAKE ISLAND Hy	36.67	173	T	T	16 46 56.1	
	baz=352,slow=76						
H11S2	WAKE ISLAND Hy	36.68	173	T	T	16 46 57.4	
	baz=352,slow=76						
EUNU	Eureka	39.70	15	P	P	16 08 37.7	+0.3
DGZ	Jazzator, Alta	43.98	295‖	*e*P	P	16 09 15.1	+2.3
DGZ				pmax	pmax		
	comp=Z,4.0nm,2.2s						
MKAR	Makanchi Array	48.48	295	P	P	16 09 46.7	-1.3
	comp=Z,0.4nm,0.7s,baz=52,slow=7.5,SNR=2.8						
	comp=Z,0.4nm,0.7s						
BVAR	Borovoye Array	50.19	308	P	P	16 09 57.8	-3.0
	comp=Z,0.4nm,0.4s,baz=48,slow=5.0,SNR=3.0						
	comp=Z,0.4nm,0.4s						
NVAR	Mina Array Bea	53.87	73	P	P	16 10 30.4	+1.7
	comp=Z,0.6nm,0.6s,baz=298,slow=7.1,SNR=5.0						
	comp=Z,0.6nm,0.6s						
PDAR	Pinedale Array	55.43	63	P	P	16 10 41.1	+1.1
PDAR	Pinedale Array	55.43	63	P	P	16 10 41.4	+1.4
	comp=Z,1.0nm,0.8s,baz=325,slow=1.8,SNR=9.4						
	comp=Z,1.0nm,0.8s						
ABKAR	Akbulak array	57.50	311	P	P	16 10 52.8	-1.5
FINES	FINESS Array B	58.81	337	*e*P	P	16 11 03.3	+0.1
FINES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	FINESS Array B	58.81	337	P	P	16 11 01.8	-1.4
	comp=Z,2.7nm,1.0s,baz=38,slow=7.0,SNR=5.5						
	comp=Z,2.7nm,1.0s						
CMAR	Chiang Mai Arr	59.87	259	P	P	16 11 11.0	-0.1
	comp=Z,0.9nm,0.3s,baz=33,slow=7.5,SNR=1.9						
	comp=Z,0.9nm,0.3s						
214A	Organ Pipe Nat	61.66	74	P	P	16 11 22.1	-1.2
NOA	NORSAR Array B	61.99	345	P	P	16 11 23.3	-1.7
	comp=Z,0.4nm,0.6s,baz=28,slow=6.4,SNR=2.5						
	comp=Z,0.4nm,0.6s						
TXAR	Lajitas Array	68.68	69	P	P	16 12 09.4	+0.6
TXAR	Lajitas Array	68.68	69	P	P	16 12 10.2	+1.3
	comp=Z,1.0nm,0.6s,baz=296,slow=4.5,SNR=9.9						
	comp=Z,1.0nm,0.6s						
BURAR	Bucovina Array	71.49	331	P	P	16 12 25.6	-0.2
ESDC	Sonseca Array	84.89	349	P	P	16 13 39.8	-0.2
	comp=Z,1.4nm,0.8s,baz=352,slow=4.2,SNR=7.0						
	comp=Z,1.4nm,0.8s						

*IDC **31** 16:02:55.9±9.7, 19°.19S×179°.67W, h431km±33km, mb3.3/4, mbtmp4.0/5, Error ellipse: s-maj=188.9km s-min=88.4km az=96.0*
*NOU **31** 16:04:29.4, 21°.21S×170°.68E, h0km, MLv4.4/8, Southeast of Loyalty Islands*

ISC 31 16:02:35.6±4.6, 23°.0S±0°.2×179°.6W±0°.4, h150km, n12, σ1§39/9, mb4.1/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.68	337	P	Pn	16 03 58.6	+0.4
	3.8nm,0.3s,baz=134,slow=15,SNR=12						
MARNC	Mare, Loyalty	11.53	275	P	Pn	16 05 10.0	-5.8
PINNC	Pines Island,	11.93	269	P	Pn	16 05 22.3	+1.3
RTV	Rentapao	12.34	293	P	P	16 05 32.3	0.0
LIFNC	LIFOU	12.39	278	P	Pn	16 05 20.9	-6.1
OUENC	Ouen Island, N	12.50	270	P	Pn	16 05 28.9	+0.5
NOUC	Port Laguerre	13.03	271	P	Pn	16 05 34.3	-0.9
KOUNC	Koumac, New Ca	15.14	276	P	Pn	16 06 00.6	-1.2
CTA	Charters Tower	31.82	269	P	P	16 08 46.5	+0.1
	2.3nm,0.7s,baz=95,slow=11,SNR=2.3						
	2.3nm,0.7s						
STKA	Stephens Creek	35.38	247	P	P	16 09 27.5	+11
	1.5nm,0.5s,baz=80,slow=6.1,SNR=5.2						
	1.5nm,0.5s						
ASAR	Alice Springs	42.52	260	P	P	16 10 18.0	+1.4
	3.4nm,0.5s,baz=90,slow=8.5,SNR=157						
	3.4nm,0.5s						
WRA	Warramunga Arr	42.81	265	P	P	16 10 16.7	-2.2
	0.5nm,0.5s,baz=98,slow=6.1,SNR=13						
	0.5nm,0.5s						

*NEIC **31** 16:04:11.1±0.4, 15°.33S±0°.08×173°.0W±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=25.0km s-min=13.3km az=103.0*
*IDC **31** 16:04:13.1±1.2, 15°.40S×173°.61W, h0km, mb4.1/5, mbtmp4.1/5, Error ellipse: s-maj=45.0km s-min=31.4km az=121.0*

ISC 31 16:04:11.4±0.7, 15°.39S±0°.09×173°.1W±0°.1, h10km, n31, σ1§61/25, mb4.5/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.95	41		Pn	16 04 43.0	-1.8
NIUE	Niue	4.76	141	Pn	Pn	16 05 22.6	-0.7
RAO	Raoul Island	14.49	197	Pn	Pn	16 07 35.9	-0.8
QRZ	Quartz Range	28.25	203	P	P	16 10 06.1	+1.3
H11S2	WAKE ISLAND Hy	39.10	329	T	T	16 53 41.3	
	baz=153,slow=74						
H11S3	WAKE ISLAND Hy	39.11	329	T	T	16 53 39.1	
	baz=153						
H11S1	WAKE ISLAND Hy	39.12	329	T	T	16 53 30.1	
	baz=153,slow=74						
H11N3	WAKE ISLAND Hy	40.04	330	T	T	16 54 30.8	
	baz=148						
H11N1	WAKE ISLAND Hy	40.05	330	T	T	16 54 30.2	
	baz=148						
H11N2	WAKE ISLAND Hy	40.06	330	T	T	16 54 48.7	
	baz=148						
BBOO	Buckleboo	49.06	240	P	P	16 12 58.9	-0.1
WB0	Warramunga Arr	50.08	257	P	P	16 13 06.6	-0.4
WB0				IAmb	IAmb	16 13 07.4	
	comp=Z,7.6nm,1.2s						
WB2	Warramunga Arr	50.11	257	P	P	16 13 06.6	-0.6
WB2				IAmb	IAmb	16 13 07.6	
	comp=Z,7.7nm,1.2s						
WRA	Warramunga Arr	50.12	257	P	P	16 13 06.6	-0.7
	comp=Z,1.6nm,0.9s,baz=91,slow=7.8,SNR=8.7						
	comp=Z,1.6nm,0.9s						
AS31	Alice Springs	50.38	252	P	P	16 13 08.8	-0.5
ASAR	Alice Springs	50.38	252	P	P	16 13 08.7	-0.5
ASAR	Alice Springs	50.38	252	P	P	16 13 09.2	-0.1
	comp=Z,7.6nm,0.8s,baz=86,slow=8.6,SNR=39						
	comp=Z,7.6nm,0.8s						
FORT	Forrest	55.67	243	P	P	16 13 47.8	-0.3
KNRA	Kununurra	55.85

PMG	**Port Moresby**	**7.37**	**139**	Pn	**Pn**	**16 23 30.1**	**+1.8**
PMG	**Port Moresby**	**7.37**	**139**	P	**Pn**	**16 23 30.3**	**+2.0**
PMG	**Port Moresby**	**7.37**	**139**	Pn	**Pn**	**16 23 29.0**	**+0.7**
	6.3nm,0.4s,baz=323,slow=8.0,SNR=7.2						
PMG				Sn	**Sn**	**16 24 50.8**	**+0.1**
	0.1nm,0.3s,baz=94,slow=23,SNR=0.9						
COEN	**Coen**	**10.12**	**175**	Pn	**Pn**	**16 24 06.2**	**+0.2**
KDU	**Kakadu**	**13.11**	**227**	P	**Pn**	**16 24 49.3**	**+2.4**
MTN	**Manton Dam**	**14.21**	**230**	Pn	**Pn**	**16 25 02.4**	**+0.4**
WB0	**Warramunga Arr**	**17.63**	**205**		**P**	**16 25 46.1**	**-0.7**
WR0	**Warramunga Arr**	**17.74**	**205**	P	**P**	**16 25 47.1**	**-0.9**
KNRA	**Kununurra**	**17.78**	**228**		**P**	**16 25 47.0**	**-1.4**
KNRA				IAmb	IAmb	16 26 31.1	
	comp=Z,44nm,1.4s						
KNRA	**Kununurra**	**17.78**	**228**	P	**P**	**16 25 49.3**	**+0.9**
WRA	**Warramunga Arr**	**17.81**	**205**	P	**Pn**	**16 25 47.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=28,slow=12,SNR=7.4						
	comp=Z,2.2nm,0.6s						
AS31	**Alice Springs**	**21.33**	**202**	P	**P**	**16 26 27.3**	**+0.1**
ASAR	**Alice Springs**	**21.34**	**202**	P	**P**	**16 26 26.7**	**-0.6**
ASAR	**Alice Springs**	**21.34**	**202**	P	**P**	**16 26 26.9**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=31,slow=12,SNR=13						
	comp=Z,0.6nm,0.6s						
OOD	**Oodnadatta**	**24.67**	**194**	P	**P**	**16 27 03.1**	**+2.4**
WRKA	**Warakurna**	**25.03**	**211**	P	**P**	**16 27 05.3**	**+1.2**
FUNA	**Funafuti**	**36.98**	**99**	P	P	16 28 59.1	+10
NWAO	**Narrogin (SRO)**	**37.25**	**216**	P	**P**	**16 28 50.3**	**-1.2**
RTZ	**Ruatahuna**	**46.87**	**142**	P	**P**	**16 30 09.6**	**-0.4**
RTZ				IAmb	IAmb	16 30 24.9	
	comp=Z,11nm,1.2s						
BKZ	**Black Stump Fm**	**46.92**	**143**	P	**P**	**16 30 09.6**	**-0.8**
TUWZ	**Tuamarina**	**46.99**	**147**	P	**P**	**16 30 09.2**	**-1.6**
E19K	**Redstone River**	**82.61**	**20**	P	**P**	**16 34 03.1**	**+0.8**
E19K				IAmb	IAmb	16 34 12.0	
	comp=Z,6.6nm,1.3s						
CAST	**Castle Rocks**	**82.75**	**24**	P	**P**	**16 34 02.8**	**-0.3**
D19K	**Kuna River**	**82.83**	**19**	P	**P**	**16 34 03.8**	**+0.3**
D19K				IAmb	IAmb	16 34 09.1	
	comp=Z,13nm,1.4s						
F20K	**Avaraart Lake**	**82.93**	**20**	P	**P**	**16 34 04.3**	**+0.3**
F20K				IAmb	IAmb	16 34 07.3	
	comp=Z,2.7nm,1.1s						
IL31		**85.37**	**24**	P	**P**	**16 34 14.8**	**-1.6**
IL31				IAmb	IAmb	16 34 38.7	
	comp=Z,4.0nm,1.3s						
ILAR	**Eielson Array**	**85.37**	**24**	P	**P**	**16 34 14.7**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=265,slow=4.8,SNR=12						
	comp=Z,0.5nm,0.5s						
C23K	**Itkillik River**	**85.83**	**19**	P	**P**	**16 34 19.5**	**+0.9**
C23K				IAmb	IAmb	16 34 20.3	
	comp=Z,5.7nm,1.1s						
F24K	**Squaw Lake**	**85.91**	**21**	P	**P**	**16 34 19.8**	**+0.7**
F24K				IAmb	IAmb	16 34 30.0	
	comp=Z,4.8nm,1.5s						
QSPA	**South Pole Qui**	**86.14**	**180**	P	**P**	**16 34 19.0**	**-1.4**
QSPA				IAmb	IAmb	16 34 46.0	
	comp=Z,3.6nm,1.4s						
D25K	**Kavik River**	**87.04**	**20**	P	**P**	**16 34 24.7**	**0.0**
BMAR	**Burnt Mountain**	**87.08**	**22**	P	**P**	**16 34 25.3**	**+0.4**
K29M	**Barlow Dome**	**89.08**	**26**	P	**P**	**16 34 35.2**	**+0.6**
K29M				IAmb	IAmb	16 34 43.1	
	comp=Z,5.3nm,1.5s						

NNC 31 16:24:08.3±10.0,37.82N×72.92E,h0km,mb3.7,mpv3.6, 2C-1D,Error ellipse: s-maj=81.7km s-min=73.0km az=126.0,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.34**	**8**	⇓P	Pn	16 25 16.1	+0.2
	0.9nm,0.5s						
AML				⇑S	Sn	16 26 09.5	+2.0
	1.9nm,0.6s						
IUG	**Iuzhnay**	**4.86**	**334**	Pg	Pn	16 25 22.6	-0.1
	16nm,0.2s						
IUG				Lg	Lg	16 26 18.1	
	7.2nm,0.3s						
MRKS	**Merke**	**4.92**	**3**	Pg	Pn	16 25 25.7	+2.1
	9.0nm,0.4s						
MRKS				Lg	Lg	16 26 23.7	
	10nm,0.6s						
KK31	**Karatay Array**	**5.59**	**342**	P	Pn	16 25 32.0	-0.6
	0.6nm,0.2s,baz=151,slow=12,SNR=21						
KK31				⇑S	Sn	16 26 37.7	+0.2
	3.3nm,0.4s,baz=157,slow=21						

*BJI **31** 16:30:27.0±0.0, 15.70S×173.10W, h10km, mb4.9/15, mB5.6/12, Ms5.0/1, Ms7 4.6/1*
*NEIC **31** 16:30:30.1±1.8, 15.73S±0.10×173.2W±0.1, h10km±1km, mb5.0/95, Error ellipse: s-maj=19.7km s-min=14.0km az=53.0*
*GCMT **31** 16:30:35.1±0.2, 15.41S±0.01×173.07W±0.02, h12km, MW5.1/102, Moment Tensor Solution. s64,c77; s102,c167; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-4.61±.20; $M_{\theta\theta}$5.21±.13; $M_{\phi\phi}$-0.60±.12; $M_{r\theta}$3.45±.36; $M_{\theta\phi}$-0.17±.09; $M_{r\phi}$1.58±.44; Best double couple: $M_0$6.22800×10^16^ NP1:ϕ_s256.00000°, δ64.00000°, λ-106.00000°. NP2:ϕ_s109.00000°, δ30.00000°, λ-61.00000°. Principal axes: T 6.3160, Plg18.0000°, Azm357.0000°; N -0.1790, Plg14.0000°, Azm262.0000°; P -6.1390, Plg67.0000°, Azm136.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **31** 16:30:41.3±4.2, 15.30S×173.64W, h97km±37km, mb4.0/17, mbtmp4.3/18, MS4.3/46 Error ellipse: s-maj=21.7km s-min=15.1km az=123.0*

ISC 31 16:30:32.2±0.4,15.64S±0.07×173.22W±0.08,h29km, n244,σ1$64/186,mb4.8/73,MS4.4/47,23C-8D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.22**	**39**		Pn	16 30 58.9	-8.2
NIUE	**Niue**	**4.64**	**138**		**Pn**	**16 31 38.0**	**-2.3**
MSVF	**Nonsavu**	**8.62**	**255**		Pn	16 32 42.8	+7.7
MSVF	**Nonsavu**	**8.62**	**255**	P	Pn	16 32 41.4	+6.2
	18nm,0.9s,baz=99,slow=14,SNR=14						
MSVF				LR	LR	16 35 26.3	
	comp=Z,2μm,18.0s,baz=50,slow=34						
FUNA	**Funafuti**	**10.25**	**313**	Pn	**Pn**	**16 32 59.9**	**+2.5**
RAO	**Raoul Island**	**14.22**	**197**	LR	LR	16 38 45.7	
	comp=Z,2μm,20.8s,baz=51,slow=34						
DZM	**Mont Dzumac**	**20.27**	**249**	*e*P	Pn	16 35 09.4	+1.6
	72nm,1.6s						
DZM				*e*S	**S**	**16 38 50.6**	**-1.2**
	223nm,25.2s						
DZM				*e*LR	LR	16 40 03.5	
	comp=Z,1μm,25.9s						
DZM	**Mont Dzumac**	**20.27**	**249**	P	Pn	16 35 06.5	-1.2
DZM	**Mont Dzumac**	**20.27**	**249**	P	Pn	16 35 07.1	-0.7
	7.0nm,0.9s,baz=87,slow=18,SNR=1.9						
DZM				LR	LR	16 41 31.3	
	comp=Z,1μm,21.3s,baz=83,slow=32						
	7.0nm,0.9s						
PAE	**Paea**	**22.73**	**98**	*e*T	T	16 58 40.3	
	10nm,0.2s						
PPT2	**Papeete2**	**22.73**	**98**	*e*LQ	LQ	16 40 09.4	
	1μm,23.2s						
PPT2				*e*LR	LR	16 40 46.2	
	comp=Z,737nm,24.0s						
PPT2	**Papeete2**	**22.73**	**98**	*e*T	T	16 58 32.6	
	11nm,0.3s						
TVO	**Taravao**	**23.05**	**99**	*e*T	T	16 59 04.4	
	9.3nm,0.4s						
TOZ	**Tahuroa Road**	**24.16**	**202**	P	**P**	**16 35 46.1**	**+0.3**
MEH	**Mehetia**	**24.18**	**99**	*e*T	T	17 00 35.0	
	19nm,0.3s						
PMOR	**Pomariorio Ree**	**24.43**	**92**	*e*T	T	17 00 58.7	
	9.0nm,0.3s						
BKZ	**Black Stump Fm**	**25.11**	**199**	P	**P**	**16 35 55.7**	**+1.1**
QRZ	**Quartz Range**	**27.98**	**203**	P	**P**	**16 36 21.6**	**+1.3**
QRZ				IAmb	IAmb	16 36 43.8	
	comp=Z,34nm,1.2s						
DSZ	**Denniston Nort**	**29.05**	**203**	P	**P**	**16 36 30.1**	**+0.2**
LTZ	**Lake Taylor**	**29.77**	**202**	P	**P**	**16 36 36.3**	**0.0**
INZ	**Inchbonnie**	**30.02**	**203**	P	**P**	**16 36 38.6**	**+0.1**
RPZ	**Rata Peaks**	**31.02**	**202**	LR	LR	16 49 05.3	
	comp=Z,1μm,20.1s,baz=42,slow=35						
TAOE	**Nuku Hiva Isla**	**32.98**	**82**	*e*LR	LR	16 45 47.8	
	comp=Z,384nm,22.7s						
TAOE	**Nuku Hiva Isla**	**32.98**	**82**	*e*T	T	17 11 24.3	
	comp=Z,121nm,0.2s						
CTA	**Charters Tower**	**38.76**	**257**	P	**P**	**16 37 53.1**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=68,slow=13,SNR=1.7						
	comp=Z,2.0nm,0.7s						
PMG	**Port Moresby**	**39.13**	**274**	LR	LR	16 52 29.2	
	comp=Z,229nm,18.3s,baz=96,slow=34						
H11N3	**WAKE ISLAND Hy**	**40.21**	**330**	T	T	17 20 56.9	
	baz=149,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**40.21**	**330**	T	T	17 20 40.0	
	baz=149,slow=76,SNR=42						
H11N2	**WAKE ISLAND Hy**	**40.23**	**330**	T	T	17 21 06.5	
	baz=149,slow=76,SNR=30						
COEN	**Coen**	**42.14**	**266**	P	**P**	**16 38 22.5**	**+0.1**
STKA	**Stephens Creek**	**44.07**	**240**	P	**P**	**16 38 37.3**	**-0.5**
STKA	**Stephens Creek**	**44.07**	**240**	P	**P**	**16 38 37.5**	**-0.3**
	comp=Z,7.3nm,0.9s,baz=88,slow=8.1,SNR=12						
STKA				LR	LR	16 56 08.9	
	comp=Z,318nm,18.9s,baz=52,slow=35						
	comp=Z,7.3nm,0.9s						
BBOO	**Buckleboo**	**48.84**	**240**	P	**P**	**16 39 14.8**	**-0.5**
WB0	**Warramunga Arr**	**49.92**	**257**	P	**P**	**16 39 23.0**	**-0.7**
WB2	**Warramunga Arr**	**49.95**	**257**	P	**P**	**16 39 23.3**	**-0.6**
WRA	**Warramunga Arr**	**49.96**	**257**	P	**P**	**16 39 22.5**	**-1.5**
	comp=Z,3.2nm,0.5s,baz=98,slow=6.2,SNR=43						
WRA				PcP	**PcP**	**16 40 44.0**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=94,slow=3.4,SNR=6.9						
	comp=Z,3.2nm,0.5s						
AS31	**Alice Springs**	**50.20**	**252**	P	**P**	**16 39 25.1**	**-0.7**
ASAR	**Alice Springs**	**50.20**	**252**	P	**P**	**16 39 25.4**	**-0.5**
ASAR	**Alice Springs**	**50.20**	**252**	P	**P**	**16 39 25.2**	**-0.6**
	comp=Z,21nm,0.8s,baz=89,slow=7.7,SNR=270						
ASAR				LR	LR	16 58 45.1	
	comp=Z,512nm,21.9s,baz=94,slow=34						
	comp=Z,21nm,0.8s						
GUMO	**Guam**	**50.61**	**303**	LR	LR	16 57 29.3	
	comp=Z,97nm,21.2s,baz=76,slow=32						
MTN	**Manton Dam**	**53.89**	**265**	P	**P**	**16 39 54.0**	**+0.7**
MTN				IAmb	IAmb	16 41 21.4	
	comp=Z,22nm,1.2s						
FORT	**Forrest**	**55.46**	**243**	P	**P**	**16 40 03.7**	**-0.9**
KNRA	**Kununurra**	**55.70**	**262**	P	**P**	**16 40 06.4**	**0.0**
RPN	**Rapa Nui**	**60.03**	**113**	LR	LR	16 59 42.5	
	comp=Z,114nm,20.2s,baz=28,slow=29						
JCJ	**Chichijima**	**60.65**	**314**	LR	LR	17 00 16.2	
	comp=Z,150nm,20.1s,baz=136,slow=30						
SBA	**Scott Base**	**63.02**	**185**	P	**P**	**16 40 55.3**	**-0.7**
SBA				IAmb	IAmb	16 41 07.3	
	comp=Z,6.5nm,1.0s						
VNDA	**Vanda**	**63.15**	**186**	P	**P**	**16 40 58.8**	**+1.9**
VNDA	**Vanda**	**63.15**	**186**	P	P	16 41 00.9	+4.0
	comp=Z,2.2nm,1.0s,baz=5.2,slow=5.7,SNR=8.2						
VNDA				LR	LR	17 03 04.4	
	comp=Z,130nm,21.7s,baz=3.5,slow=31						
	comp=Z,2.2nm,1.0s						
NWAO	**Narrogin (SRO)**	**64.65**	**241**	P	**P**	**16 41 07.3**	**-0.2**
MORW	**Morawa**	**65.94**	**245**	P	**P**	**16 41 16.2**	**+0.2**
JHJ	**Hachijo jima 2**	**66.06**	**318**	LR	LR	17 08 29.8	
	comp=Z,64nm,18.6s,baz=115,slow=35						
SHEM	**Shemya Is, Ala**	**68.97**	**352**	LR	LR	17 05 56.7	
	comp=Z,489nm,19.5s,baz=114,slow=31						
MJAR	**Matsushiro Arr**	**69.24**	**320**	P	**P**	**16 41 34.7**	**-1.9**
	comp=Z,0.7nm,0.6s,baz=121,slow=8.2,SNR=2.3						
MJAR				LR	LR	17 05 34.4	
	comp=Z,245nm,21.9s,baz=125,slow=30						
	comp=Z,0.7nm,0.6s						
CASY	**Casey**	**70.26**	**205**	P	**P**	**16 41 42.8**	**+0.4**
JAGI	**Jajag, Banyuwa**	**71.11**	**266**	P	**P**	**16 41 49.0**	**+0.5**
SDPT	**Sand Point**	**71.53**	**8**	P	**P**	**16 41 52.3**	**+2.2**
ASAJ	**Asahikawa**	**71.84**	**328**	LR	LR	17 06 54.6	
	comp=Z,134nm,21.9s,baz=130,slow=30						
JNU	**Nakatsue**	**72.09**	**313**	LR	LR	17 08 11.3	
	comp=Z,150nm,21.8s,baz=134,slow=31						
PETK	**Petropavlovsk-**	**72.91**	**342**	P	**P**	**16 41 59.7**	**+1.3**
PETK	**Petropavlovsk-**	**72.91**	**342**	P	**P**	**16 41 55.9**	**-2.6**
	comp=Z,8.0nm,0.9s,baz=145,slow=11,SNR=3.8						
PETK				LR	LR	17 09 31.8	
	comp=Z,178nm,21.8s,baz=154,slow=32						
	comp=Z,8.0nm,0.9s						
PFO	**Pinyon Flats O**	**72.96**	**47**	LR	LR	17 10 23.9	
	comp=Z,237nm,18.3s,baz=242,slow=33						
YBH	**Yreka Blue Hor**	**73.69**	**37**	LR	LR	17 06 05.9	
	comp=Z,324nm,21.7s,baz=233,slow=29						
YSS	**Yuzh-Sakhalins**	**73.78**	**330**	P	**P**	**16 42 04.8**	**+1.2**
NVAR	**Mina Array Bea**	**74.39**	**42**	P	**P**	**16 42 08.8**	**+1.0**
NVAR	**Mina Array Bea**	**74.39**	**42**	P	**P**	**16 42 08.6**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=228,slow=7.3,SNR=8.7						
NVAR				LR	LR	17 07 06.5	
	comp=Z,244nm,20.8s,baz=262,slow=29						
	comp=Z,0.3nm,0.4s						
QSPA	**South Pole Qui**	**74.40**	**180**	P	**P**	**16 42 07.4**	**+0.1**
QSPA	**South Pole Qui**	**74.40**	**180**	P	**P**	**16 42 10.1**	**+2.8**
	comp=Z,4.9nm,1.0s,baz=40,slow=2.7,SNR=14						
	comp=Z,4.9nm,1.0s						
GMN	**Gold Mountain**	**74.43**	**43**	P	**P**	**16 42 08.9**	**+0.8**
KVN	**Kaiserville**	**74.88**	**41**	P	**P**	**16 42 11.8**	**+1.2**
KVN				IAmb	IAmb	16 42 16.6	
	comp=Z,15nm,1.7s						
TPNV	**Topopah Spring**	**74.91**	**44**	P	**P**	**16 42 10.4**	**-0.3**
KDAK	**Kodiak Island**	**75.12**	**11**	P	**P**	**16 42 11.8**	**+0.5**
KDAK	**Kodiak Island**	**75.12**	**11**	LR	LR	17 08 02.6	
	comp=Z,490nm,21.1s,baz=236,slow=30						
K05A	**Summer Lake**	**75.36**	**37**	P	**P**	**16 42 14.0**	**+0.7**
K05A				IAmb	IAmb	16 42 34.8	
	comp=Z,28nm,1.4s						
J05D	**Fort Rock, OR**	**75.51**	**36**	P	**P**	**16 42 14.3**	**+0.3**
J05D				IAmb	IAmb	16 42 17.8	
	comp=Z,24nm,1.5s						
KSRS	**Korea Array**	**76.45**	**316**	LR	LR	17 10 47.8	
	comp=Z,100nm,21.9s,baz=130,slow=32						
M14K	**Bethel**	**76.67**	**6**	P	**P**	**16 42 20.4**	**+0.5**
I07A	**Izee**	**76.99**	**37**	P	**P**	**16 42 23.6**	**+1.2**
I07A				IAmb	IAmb	16 42 25.2	
	comp=Z,18nm,1.6s						
J08A	**Circle Bar Ran**	**77.16**	**38**	P	**P**	**16 42 23.9**	**+0.6**
J08A				IAmb	IAmb	16 42 40.5	
	comp=Z,6.4nm,0.6s						
CCUT	**Cedar City**	**77.18**	**45**	P	**P**	**16 42 24.4**	**+0.7**
GNW	**Green Mountain**	**77.36**	**32**	P	**P**	**16 42 25.7**	**+1.5**
GNW				IAmb	IAmb	16 42 27.1	
	comp=Z,19nm,1.8s						
PSUT	**Pine Spring**	**77.36**	**44**	P	**P**	**16 42 26.0**	**+1.2**
CLRS	**Cowichan Lake**	**77.53**	**31**	P	**P**	**16 42 25.4**	**+0.3**
CLRS				IAmb	IAmb	16 42 32.3	
	comp=Z,19nm,1.5s						
ELK	**Elko**	**77.65**	**41**	LR	LR	17 09 27.7	
	comp=Z,205nm,21.0s,baz=284,slow=30						
USRK	**Ussuriysk Ar.**	**77.68**	**323**	LR	LR	17 08 46.7	
	comp=Z,239nm,21.9s,baz=119,slow=30						
SVW2	**Sparrevohn**	**77.77**	**9**	P	**P**	**16 42 28.3**	**+2.1**
SVW2				IAmb	IAmb	16 44 11.1	
	comp=Z,33nm,1.8s						
L16K	**Owhat River**	**77.86**	**7**	P	**P**	**16 42 28.9**	**+2.2**
L16K				IAmb	IAmb	16 42 36.6	
	comp=Z,24nm,1.5s						
BBB	**Bella Bella**	**78.02**	**26**	LR	LR	17 10 29.8	
	comp=Z,186nm,19.6s,baz=244,slow=31						
G08A	**Pilot Rock**	**78.03**	**36**	P	**P**	**16 42 29.6**	**+1.5**
G08A				IAmb	IAmb	16 42 31.6	
	comp=Z,14nm,1.3s						
K15K	**Wolf Creek Mou**	**78.23**	**6**	P	**P**	**16 42 30.3**	**+1.6**
MSU	**Marysvale**	**78.48**	**44**	P	**P**	**16 42 32.0**	**+1.0**
L18K	**Granite Mounta**	**78.70**	**8**	P	**P**	**16 42 32.4**	**+1.2**
L18K				IAmb	IAmb	16 42 40.7	
	comp=Z,13nm,1.1s						
BMO	**Blue Mountains**	**78.71**	**37**	P	**P**	**16 42 32.7**	**+0.7**
J16K	**Anvik River**	**79.29**	**6**	P	**P**	**16 42 36.1**	**+1.6**
J16K				IAmb	IAmb	16 42 44.2	
	comp=Z,19nm,1.1s						
M22K	**Willow**	**79.29**	**11**	P	**P**	**16 42 35.8**	**+1.3**
F10A	**Beach Ranch, E**	**79.41**	**36**	P	**P**	**16 42 34.6**	**-1.1**
TTA	**Tatalina**	**79.47**	**8**	P	**P**	**16 42 36.7**	**+1.1**
GHO	**Glory Hole Cre**	**79.53**	**11**	P	**P**	**16 42 37.3**	**+1.3**
GHO				IAmb	IAmb	16 44 04.1	
	comp=Z,48nm,1.8s						
J18K	**Innoko River**	**79.89**	**7**	P	**P**	**16 42 38.8**	**+0.9**
SCM	**Sheep Creek Mo**	**79.90**	**12**	P	**P**	**16 42 40.2**	**+2.2**
SCM				IAmb	IAmb	16 42 40.7	
	comp=Z,41nm,1.4s						
TABL	**Table Mountain**	**80.09**	**16**	P	**P**	**16 42 40.5**	**+1.2**
TABL				IAmb	IAmb	16 45 23.5	
	comp=Z,49nm,1.7s						
K20K	**Telida**	**80.15**	**9**	P	**P**	**16 42 40.4**	**+1.2**
K20K				IAmb	IAmb	16 42 49.0	
	comp=Z,18nm,1.4s						
MA2	**Magadan**	**80.45**	**342**	LR	LR	17 13 54.0	
	comp=Z,99nm,19.9s,baz=136,slow=32						
NJ2	**Nanjing**	**80.45**	**307**	*e*P	**P**	**16 42 43.3**	**+1.8**
NJ2				pP	**PcP**	**16 42 47.3**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,130nm,3.5s						
TX31	**Lajitas Ar. Si**	**80.60**	**56**	P	**P**	**16 42 43.4**	**+0.8**
TX32	**Lajitas Array**	**80.60**	**56**	P	**P**	**16 42 43.5**	**+1.0**
TX32				IAmb	IAmb	16 42 51.2	
	comp=Z,28nm,1.8s						
TXAR	**Lajitas Array**	**80.60**	**56**	P	**P**	**16 42 43.7**	**+1.2**
TXAR	**Lajitas Array**	**80.60**	**56**	P	**P**	**16 42 44.5**	**+1.9**
	comp=Z,5.3nm,1.2s,baz=237,slow=4.3,SNR=17						
TXAR				LR	LR	17 12 52.4	
	comp=Z,110nm,18.1s,baz=232,slow=31						
	comp=Z,5.3nm,1.2s						
NEW	**Newport**	**80.81**	**34**	LR	LR	17 10 25.5	
	comp=Z,240nm,21.5s,baz=228,slow=30						
KLR	**Kul'dur**	**80.82**	**327**	P	**P**	**16 42 40.3**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=133,slow=4.5,SNR=3.0						
KLR				LR	LR	17 12 57.1	
	comp=Z,104nm,20.1s,baz=119,slow=32						
	comp=Z,0.4nm,0.3s						
KTH	**Kantishna Hill**	**80.82**	**10**	P	**P**	**16 42 44.9**	**+2.0**
KTH				IAmb	IAmb	16 45 33.6	
	comp=Z,42nm,1.9s						
ANMO	**Albuquerque**	**80.82**	**50**	LR	LR	17 13 52.0	
	comp=Z,152nm,19.2s,baz=334,slow=32						
J20K	**Nowinta River**	**80.92**	**8**	P	**P**	**16 42 44.0**	**+0.8**
J20K				IAmb	IAmb	16 42 52.0	
	comp=Z,18nm,1.4s						
RND	**Reindeer**	**81.04**	**11**	P	**P**	**16 42 45.1**	**+1.1**
HYT	**Haines Junctio**	**81.39**	**17**	P	**P**	**16 42 47.6**	**+1.5**
HYT				IAmb	IAmb	16 42 49.6	
	comp=Z,13nm,1.3s						
TPAW	**Teton Pass**	**81.81**	**41**	P	**P**	**16 42 49.9**	**+1.0**
TPAW				IAmb	IAmb	16 42 52.5	
	comp=Z,11nm,1.2s						
BPMT	**Black Pine Rid**	**81.84**	**37**	P	**P**	**16 42 49.0**	**+0.1**
DLBC	**Dease Lake**	**81.86**	**21**	LR	LR	17 12 46.9	
	comp=Z,203nm,19.3s,baz=238,slow=31						
H19K	**Roundabout Mou**	**81.92**	**7**	P	**P**	**16 42 49.5**	**+1.0**
H19K				IAmb	IAmb	16 42 58.4	
	comp=Z,9.4nm,1.1s						
G18K	**Tagagawik**	**82.03**	**6**	P	**P**	**16 42 49.9**	**+0.8**
LOHW	**Long Hollow**	**82.09**	**41**	P	**P**	**16 42 51.2**	**+0.9**
LOHW				IAmb	IAmb	16 42 53.8	
	comp=Z,16nm,1.6s						
HDA	**Harding Lake**	**82.31**	**11**	P	**P**	**16 42 51.6**	**+1.0**
HDA				IAmb	IAmb	16 42 58.1	
	comp=Z,10nm,0.9s						
BW06	**Boulder Array**	**82.33**	**42**	P	**P**	**16 42 52.4**	**+0.8**
BW06				IAmb	IAmb	16 42 54.6	
	comp=Z,9.8nm,1.4s						
PDAR	**Pinedale Array**	**82.33**	**42**	P	**P**	**16 42 52.2**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=227,slow=2.1,SNR=12						
PDAR				LR	LR	17 16 52.4	
	comp=Z,171nm,18.3s,baz=238,slow=34						
	comp=Z,1.3nm,0.9s						
G19K	**Purcell Mounta**	**82.44**	**7**	P	**P**	**16 42 52.8**	**+1.5**
G19K				IAmb	IAmb	16 42 58.3	
	comp=Z,6.9nm,0.9s						
H21K	**Melozitna Rive**	**82.51**	**8**	P	**P**	**16 42 52.3**	**+0.6**
H21K				IAmb	IAmb	16 43 00.6	
	comp=Z,12nm,1.4s						
SCRK	**Sand Creek**	**82.51**	**13**	P	**P**	**16 42 53.2**	**+1.4**
SCRK				IAmb	IAmb	16 42 57.9	
	comp=Z,6.9nm,1.0s						
I23K	**Minto, Yukon-K**	**82.56**	**10**	P	**P**	**16 42 53.3**	**+1.4**
I23K				IAmb	IAmb	16 42 59.8	
	comp=Z,10.0nm,1.1s						
MDM	**Murphy Dome**	**82.58**	**10**	P	**P**	**16 42 52.0**	**-0.1**
MDM				IAmb	IAmb	16 42 59.3	
	comp=Z,11nm,1.2s						
IL31		**82.65**	**11**	P	**P**	**16 42 53.2**	**+0.9**
IL31				IAmb	IAmb	16 43 01.1	
	comp=Z,12nm,1.2s						
ILAR	**Eielson Array**	**82.65**	**11**	P	**P**	**16 42 53.4**	**+0.9**
ILAR	**Eielson Array**	**82.65**	**11**	P	**P**	**16 42 52.3**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=210,slow=5.9,SNR=13						
	comp=Z,1.3nm,0.7s						
J25K	**Salcha River,**	**82.80**	**12**	P	**P**	**16 42 53.5**	**+0.2**
J25K				IAmb	IAmb	16 43 07.4	
	comp=Z,7.7nm,1.1s						
SEY	**Seymchan**	**82.80**	**345**	P	**P**	**16 42 52.7**	**-0.5**
	comp=Z,4.4nm,0.8s,baz=179,slow=3.2,SNR=3.5						
SEY				LR	LR	17 14 10.8	
	comp=Z,193nm,20.5s,baz=140,slow=32						
	comp=Z,4.4nm,0.8s						
POKR	**Poker Plat Res**	**82.86**	**11**	P	**P**	**16 42 53.8**	**+0.3**
POKR				IAmb	IAmb	16 42 58.1	
	comp=Z,9.9nm,0.8

XAN	**Xi'an**	**88.92 306**	P	P	16 43 34.5	+10
XAN			pmax	pmax		
	comp=Z,9.0nm,1.1s					
PLCA	**Paso Flores**	**89.22 132**	LR	LR	17 16 02.2	
	comp=Z,163nm,19.0s,baz=233,slow=30					
HHC	**Hu-ho-hao-te**	**89.32 313**	*e*P	**P**	**16 43 27.5**	**+1.4**
HHC			pmax	pmax		
	comp=Z,28nm,0.5s					
HHC			pmax	pmax		
	comp=Z,520nm,7.2s					
YKA	**Yellowknife Ar**	**90.25 23**	LR	LR	17 17 42.6	
	comp=Z,276nm,19.1s,baz=234,slow=31					
TEIG	**Tepich**	**90.71 69**	LR	LR	17 17 07.9	
	comp=Z,431nm,21.4s,baz=12,slow=31					
ELIB	**Princess Elisa**	**91.91 185**	*d*P	**P**	**16 43 39.6**	**+2.0**
	comp=Z,9.7nm,1.1s					
CD2	**Chengdu**	**92.09 301**	*e*P	**P**	**16 43 40.5**	**+1.4**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.5s					
TROLL	**Troll, Antarti**	**92.51 179**	⇑P	P	16 43 44.1	+3.6
	comp=Z,69nm,0.7s					
PZH	**PanZhiHua**	**92.54 297**	P	**P**	**16 43 43.0**	**+1.6**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,200nm,5.7s					
VNA3	**Neumayer Olymp**	**92.60 175**	⇑P	P	16 43 44.2	+3.5
	comp=Z,0.8nm,0.3s					
ATAH	**Atahualpa**	**92.71 98**	LR	LR	17 15 42.2	
	comp=Z,160nm,20.8s,baz=254,slow=29					
NNA	**Nana**	**92.83 103**	LR	LR	17 16 52.8	
	comp=Z,46nm,19.5s,baz=214,slow=30					
CMAR	**Chiang Mai Arr**	**92.86 288**	P	**P**	**16 43 42.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=105,slow=2.7,SNR=4.4					
CMAR			LR	LR	17 20 45.4	
	comp=Z,45nm,21.2s,baz=105,slow=32					
	comp=Z,0.4nm,0.4s					
VNA2	**Neumayer--Watz**	**93.10 175**	⇑P	P	16 43 46.7	+3.7
	comp=Z,5.3nm,1.0s,baz=191,slow=3.0					
VNA1	**Neumayer--Stat**	**93.30 175**	⇑P	P	16 43 48.5	+4.7
	comp=Z,5.2nm,0.9s					
ULM	**Lac du Bonnet**	**94.01 39**	LR	LR	17 18 43.2	
	comp=Z,316nm,21.1s,baz=242,slow=31					
LVC	**Limon Verde**	**96.75 116**	LR	LR	17 19 41.0	
	comp=Z,54nm,19.4s,baz=286,slow=30					
TKL	**Tuckaleechee C**	**98.51 55**	LR	LR	17 24 53.6	
	comp=Z,120nm,19.0s,baz=314,slow=33					
NACGM	**Naroch**	**137.87 343**	*e*PKP	**PKPdf**	**16 49 46.9**	**-6.8**
	comp=Z,19nm,0.8s,baz=29					
AKASG	**Malin Array Be**	**140.63 337**	PKP	**PKiK**	**16 49 59.0**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=55,slow=0.6,SNR=1.7					
CLL	**Collm**	**144.07 353**	*e*PKPdf	**PKiK**	**16 50 06.0**	**-2.5**
CLL			AMS	AMS	18 01 00.0	
	comp=Z,100nm,18.3s					
DPC	**Dobruska-Polom**	**144.53 349**	*e*PKP	**PKPdf**	**16 50 05.1**	**-0.8**
BURAR	**Bucovina Array**	**144.66 338**	⇑P	**PKiK**	**16 50 06.8**	**-3.2**
KRLC	**Kraliky**	**144.71 349**	*e*PKP	**PKPdf**	**16 50 06.0**	**-0.2**
CRVS	**Cervenica-Dubn**	**144.72 343**	*e*PKP	**PKiK**	**16 50 07.2**	**-2.7**
MORC	**Moravsky Berou**	**144.85 348**	⇑P	**PKiK**	**16 50 07.7**	**-2.5**
MORC	**Moravsky Berou**	**144.85 348**	*e*PKP	**PKPdf**	**16 50 06.6**	**+0.1**
MORC			*e*		16 50 13.2	
LANS	**Liptovska Anna**	**145.01 345**	*e*PKP	**PKiK**	**16 50 08.6**	**-2.0**
TRPA	**Tarpa**	**145.10 341**	⇓P	**PKiK**	**16 50 07.7**	**-3.0**
MEM	**Membach**	**145.12 1**	*d*PKP	**PKiK**	**16 50 14.8**	**+4.2**
PRU	**Pruhonice**	**145.17 351**	*e*PKP	**PKiK**	**16 50 08.6**	**-2.2**
BCLA	**Clavier**	**145.29 2**	*d*PKP	**PKiK**	**16 50 15.1**	**+4.0**
BGES	**Gesves**	**145.32 2**	*d*PcP	**PKiK**	**16 50 14.7**	**+3.6**
BHOU	**Houvegnez**	**145.37 1**	*d*PKP	**PKiK**	**16 50 15.0**	**+3.7**
BMRD	**Maredsous**	**145.39 2**	*d*PKP	**PKiK**	**16 50 14.3**	**+3.0**
ARCR	**ARCALIA**	**145.41 339**	⇑P	**PKiK**	**16 50 09.0**	**-2.5**
VRAC	**Vranov**	**145.48 349**	⇑P	**PKPdf**	**16 50 04.6**	**-3.0**
VRAC	**Vranov**	**145.48 349**	*e*PKP	**PKiK**	**16 50 08.4**	**-3.1**
VRAC			*e*		16 50 15.9	
VRI	**Vrincioaia**	**145.54 335**	⇓P	**PKiK**	**16 50 08.7**	**-3.1**
PLOR	**Plostina**	**145.58 335**	⇑P	**PKiK**	**16 50 10.0**	**-1.9**
TPGR	**Topolog**	**145.62 332**	⇑P	**PKiK**	**16 50 09.8**	**-2.1**
JAVC	**Velka Javorina**	**145.69 347**	*e*PKP	**PKiK**	**16 50 10.7**	**-1.3**
OZUR		**145.72 336**	⇑P	**PKiK**	**16 50 10.3**	**-1.8**
KRUC	**Moravsky**	**145.76 349**	*e*PKP	**PKiK**	**16 50 09.3**	**-2.8**
KRUC			*e*		16 50 16.2	
ZVC	**Zvikov**	**145.76 351**	*e*PKP	**PKiK**	**16 50 09.7**	**-2.4**
COVR	**Voineasa-Covas**	**145.77 336**	⇑P	**PKiK**	**16 50 10.5**	**-1.8**
VYHS	**Vyhne**	**145.77 346**	*e*PKP	**PKiK**	**16 50 10.1**	**-2.0**
HARR	**Harsova**	**145.97 333**	⇑P	**PKiK**	**16 50 11.0**	**-1.6**
DOPR	**Dopca**	**145.98 337**	⇑P	**PKiK**	**16 50 11.5**	**-1.2**
KHC	**Kasperske Hory**	**146.14 352**	*e*PKP	**PKiK**	**16 50 10.6**	**-2.3**
KHC			*ep*PKP	pPKPbc	16 50 17.0	-1.7
MLR	**Muntele Rosu**	**146.16 336**	⇑P	**PKiK**	**16 50 12.0**	**-1.2**
MARR	**Marisel-Cluj**	**146.19 340**	⇑P	**PKiK**	**16 50 11.3**	**-1.9**
MODS	**Modra-Piesok**	**146.24 347**	*e*PKP	**PKiK**	**16 50 11.7**	**-1.4**
CKRC	**Cesky Krumlov**	**146.34 351**	*e*PKP	**PKiK**	**16 50 11.3**	**-2.0**
GERES	**GERESS Array B**	**146.41 352**	PKPbc	**PKPab**	**16 50 10.6**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=20,slow=4.3,SNR=16					
BRTR	**Keskin Array B**	**146.46 321**	PKPbc	**PKPab**	**16 50 11.1**	**-0.8**
	comp=Z,8.3nm,0.9s,baz=72,slow=2.0,SNR=6.9					
VOIR		**146.56 336**	⇑P	**PKiK**	**16 50 12.6**	**-1.4**
ARR	**Arges**	**146.78 337**	⇑P	**PKiK**	**16 50 14.0**	**-0.4**
CONA	**Conrad Observa**	**146.94 349**	*ep*PKP	**PKiK**	**16 50 13.7**	**-0.9**
	comp=Z,9.5nm,1.0s					
SIRR	**Siria**	**147.03 341**	⇑P	**PKiK**	**16 50 13.4**	**-1.4**
RONA	**Rosalia, Austr**	**147.08 348**	*ep*PKP	**PKiK**	**16 50 14.0**	**-0.9**
	comp=Z,13nm,1.1s					
MOA	**Molln**	**147.29 351**	*e*PKP	**PKPab**	**16 50 13.6**	**-1.2**
	comp=Z,8.2nm,1.2s					
SURR	**Surduc**	**147.33 340**	⇑P	**PKiK**	**16 50 14.0**	**-1.4**
GZR	**Gura Zlata**	**147.43 339**	⇑P	**PKPab**	**16 50 13.5**	**-1.9**
BZS	**Buzias**	**147.62 340**	⇑P	**PKPab**	**16 50 15.0**	**-1.1**
ARSA	**Arzberg**	**147.66 349**	*e*PKP	**PKiK**	**16 50 14.3**	**-1.8**
	comp=Z,5.6nm,1.4s					
LESA	**Schwarzleotal**	**147.94 352**	*ep*PKP	**PKPab**	**16 50 16.2**	**-1.2**
	comp=Z,3.4nm,1.1s					
MORH	**Mrgy, Hungar**	**147.94 344**	⇑P	**PKiK**	**16 50 15.6**	**-1.0**
RETA	**Reutte**	**148.08 355**	*e*PKiKP	**PKPab**	**16 50 17.2**	**-0.8**
	comp=Z,4.9nm,0.9s					
WATA	**Walderalm**	**148.15 354**	*ep*PKP	**PKPab**	**16 50 16.6**	**-1.8**
	comp=Z,8.4nm,1.1s					
MOTA	**Moosalm**	**148.19 354**	*ep*PKP	**PKPab**	**16 50 16.7**	**-1.8**
	comp=Z,6.2nm,1.1s					
WTTA	**Wattenberg**	**148.22 354**	*ep*PKP	**PKiK**	**16 50 16.1**	**-1.4**
	comp=Z,7.1nm,1.1s					
SOKA	**Soboth**	**148.30 349**	*e*PKP	**PKiK**	**16 50 16.5**	**-1.0**
	comp=Z,7.4nm,1.0s					
SQTA	**Sankt Quirin**	**148.30 354**	*ep*PKP	**PKiK**	**16 50 16.2**	**-1.3**
	comp=Z,4.8nm,0.9s					
DAVA	**Damuels**	**148.34 356**	*e*PKiKP	**PKPab**	**16 50 17.9**	**-1.2**
	comp=Z,6.5nm,1.1s					
FETA	**Feichten**	**148.54 355**	*e*PKP	**PKiK**	**16 50 17.5**	**-0.6**
	comp=Z,3.1nm,1.0s					
OBKA	**Obir**	**148.55 350**	*e*PKP	**PKPbc**	**16 50 13.7**	**-2.8**
	comp=Z,3.8nm,1.0s					
ABTA	**Abfaltersbach**	**148.62 352**	*e*PKP	**PKiK**	**16 50 17.2**	**-1.0**
	comp=Z,5.8nm,0.9s					

*IDC **31** 16:36:17.3±1.4, 42°.70N×139°.20E, h199km±17km, mb2.9/5, mbtmp3.4/7, Error ellipse: s-maj=23.7km s-min=18.4km az=15.0*
*JMA **31** 16:36:18.1±0.3, 42°.8N±0°.8×13°.9E±°, h202km±2km, MV3.1/28, SW OFF HOKKAIDO*
ISC 31 16:36:17.7±0.9, 42°.76N±0°.07×139°.21E±0°.07, h200km, n24, σ0°96/29, mb3.1/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHST	**Hiyamasetana**	**0.60**	**124**	P	**Pn**	16 36 46.0	+0.8
JHST				*e*S	**Sn**	16 37 07.1	+0.7
JSH	**Shimam**	**0.63**	**100**	P	**Pn**	16 36 45.9	+0.6
JYM2	**Yakumo 2**	**1.07**	**126**	*e*P	**Pn**	16 36 48.7	+0.8
JYM2				*e*S	**Sn**	16 37 12.2	+0.9
JSK	**Shakotan**	**1.10**	**57**	*e*P	**Pn**	16 36 48.8	+0.7
JNB	**Noboribetsu**	**1.38**	**101**	P	**Pn**	16 36 50.8	+0.4
JKB	**Kayabe**	**1.61**	**122**	*e*P	**Pn**	16 36 52.8	+0.5
JEW	**Eniwo**	**1.65**	**86**	*e*P	**Pn**	16 36 53.9	+1.1
JOT	**Ohata**	**1.94**	**134**	*e*P	**Pn**	16 36 56.1	+0.5
JIAM	**Iburiatsuma**	**2.00**	**93**	*e*P	**Pn**	16 36 57.4	+1.2
JTM	**Tenmabayashi**	**2.41**	**144**	P	**Pn**	16 37 00.9	+0.3
JNBK	**Urakawa-nobuka**	**2.67**	**99**	*e*P	**Pn**	16 37 03.6	+0.2
JNBK				*e*S	**Sn**	16 37 39.0	0.0
JKK2	**Kamakawa 2**	**2.81**	**65**	*e*S	**Sn**	16 37 42.7	+0.5
ASAJ	**Asahikawa**	**2.82**	**60**	P	**Pn**	16 37 05.7	+0.6
	7.1nm,0.4s,baz=251,slow=6.9,SNR=24						
ASAJ				S	**Sn**	16 37 42.7	+0.5
	4.5nm,0.3s,baz=32,slow=32,SNR=6.7						
JRBN	**Rebuntou**	**2.98**	**26**	*e*P	**Pn**	16 37 07.7	+0.8
ERM	**Erimo**	**3.02**	**103**	P	**Pn**	16 37 08.4	+0.9
JEM	**Erimo**	**3.02**	**103**	P	**Pn**	16 37 08.8	+1.3
JCH	**Churui**	**3.07**	**91**	*e*P	**Pn**	16 37 07.4	-0.7
JCH				*e*S	**Sn**	16 37 44.3	-3.1
JMM	**Marumori**	**5.04**	**166**	P	**Pn**	16 37 34.0	+1.5
USRK	**Ussuriysk Ar.**	**5.45**	**288**	P	**Pn**	16 37 37.5	-0.2
	1.4nm,0.7s,baz=110,slow=16,SNR=2.9						
MKAR	**Makanchi Array**	**39.85**	**296**	P	**P**	**16 43 31.5**	**-0.1**
	0.3nm,0.5s,baz=79,slow=12,SNR=2.4						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**41.30**	**303**	P	**P**	**16 43 43.0**	**-0.3**
	0.3nm,0.3s,baz=78,slow=8.5,SNR=5.9						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**45.68**	**35**	P	**P**	**16 44 18.1**	**+0.1**
	0.7nm,0.8s,baz=271,slow=5.1,SNR=2.8						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**62.55**	**185**	P	**P**	**16 46 19.5**	**-0.8**
	0.3nm,0.5s,baz=3.3,slow=7.0,SNR=6.8						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**66.27**	**185**	P	**P**	**16 46 43.9**	**-0.4**
	0.3nm,0.8s,baz=360,slow=6.7,SNR=1.8						
	0.3nm,0.8s						

*IDC **31** 16:47:45.1±0.5, 3°.98S×127°.60E, h0km, mb4.4/16, mbtmp4.4/16, MS3.8/17, Error ellipse: s-maj=25.5km s-min=14.0km az=68.0*
*NEIC **31** 16:47:45.5±2.2, 3°.91S±0°.07×128°.09E±0°.07, h10km±1km, mb5.0/50, Error ellipse: s-maj=12.6km s-min=10.6km az=49.0*
*BJI **31** 16:47:46.0±0.0, 3°.90S×128°.10E, h25km, mb4.6/45, mB5.2/20, Ms4.7/5, Ms7 4.5/6*
*DJA **31** 16:47:48.7±0.4, 4°S±2°×12°8E±°, h11km±4km, M4.6/18, mb5.0/13, mB5.1/9, MLv4.7/18, Mw(mB)4.4/9*
ISC 31 16:47:47.5±0.9, 3°.90S±0°.05×128°.00E±0°.06, h17km±5km, n226, σ1°57/222, mb4.8/47, MS4.0/15, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.11**	**306**	P	Pb	16 47 59.5	-8.7
BNDI	**Bandanaira**	**2.00**	**108**	P	**Pb**	**16 48 20.7**	**-2.6**
SANI	**Sanana**	**2.73**	**312**	P	Pn	16 48 25.8	-4.6
LBMI	**Labuha**	**3.28**	**351**	P	**Pn**	**16 48 36.7**	**-1.4**
FAKI	**Fak Fak**	**4.35**	**77**		**Pn**	**16 48 49.6**	**-3.2**
FAKI	**Fak Fak**	**4.35**	**77**	P	**Pn**	**16 48 55.1**	**+2.3**
SWI	**Sorong**	**4.44**	**47**	P	**Pn**	**16 48 53.7**	**-0.3**
TNTI	**Ternate**	**4.69**	**352**		**Pn**	**16 48 56.9**	**-0.5**
TNTI	**Ternate**	**4.69**	**352**	P	**Pn**	**16 48 59.4**	**+2.0**
BBSI	**Bau Bau**	**5.63**	**254**	P	**Pn**	**16 49 12.6**	**+2.2**
	52nm,0.7s,666nm0.2nm						
LUWI	**Luwuk**	**5.95**	**298**		**Pn**	**16 49 15.0**	**+0.3**
LUWI	**Luwuk**	**5.95**	**298**	P	**Pn**	**16 49 13.6**	**-1.1**
	284nm,1.0s,3μm1.2nm						
KMSI	**Cibinong**	**5.99**	**318**	P	**Pn**	**16 49 14.9**	**-0.5**
	215nm,0.8s,2μm1.9nm						
RKPI	**Ransiki, Papua**	**6.61**	**69**	P	**Pn**	**16 49 24.9**	**+1.0**
	269nm,0.8s,2μm0.8nm						
GTOI	**Gorontalo**	**6.72**	**312**	P	**Pn**	**16 49 27.4**	**+2.0**
	68nm,0.6s,622nm0.3nm						
SOEI	**Soe**	**6.89**	**212**	Pn	**Pn**	**16 49 30.6**	**+2.7**
SOEI	**Soe**	**6.89**	**212**	P	Pn	16 49 36.2	+8.3
	156nm,0.9s,0.5nm						
MMRI	**Maumere**	**7.41**	**230**	P	Pn	16 49 40.3	+5.5
	41nm,1.2s,0.2nm						
MRSI	**Marisa**	**7.46**	**306**	P	**Pn**	**16 49 33.2**	**-2.3**
	168nm,0.6s,1μm0.5nm						
BATI	**Baumata**	**7.60**	**214**	P	Pn	16 49 46.1	+8.7
	96nm,0.9s,0.3nm						
BATI	**Baumata**	**7.60**	**214**	Pn	**Pn**	**16 49 41.0**	**+3.6**
	2.1nm,0.3s,baz=21,slow=0.8,SNR=7.1						
EDFI	**Ende, Flores**	**7.90**	**232**	P	**Pn**	**16 49 41.4**	**-0.3**
	33nm,0.8s						
BKSI	**Bulumba**	**7.98**	**260**	P	**Pn**	**16 49 45.5**	**+2.9**
	57nm,0.6s,723nm						
KAPI	**Kappang**	**8.30**	**262**		**Pn**	**16 49 47.4**	**+0.4**
KAPI	**Kappang**	**8.30**	**262**	Pn	**Pn**	**16 49 48.7**	**+1.7**
	1.6nm,0.3s,baz=98,slow=3.8,SNR=6.2						
TOLI2	**Tolitoli**	**8.77**	**304**		**Pn**	**16 49 54.2**	**+0.8**
MTN	**Manton Dam**	**9.41**	**161**	P	**Pn**	**16 50 02.8**	**+0.5**
	baz=9.5,SNR=22						
MTN	**Manton Dam**	**9.41**	**161**	Pn	**Pn**	**16 50 01.9**	**-0.4**
KDU	**Kakadu**	**9.78**	**153**	P	**Pn**	**16 50 08.4**	**+1.0**
	baz=9.9,SNR=20						
DAV	**Davao City (W)**	**11.17**	**348**		**Pn**	**16 50 26.8**	**+0.4**
DAV	**Davao City (W)**	**11.17**	**348**	LR	LR	16 55 48.1	
	comp=Z,177nm,18.7s,baz=165,slow=43						
KNRA	**Kununurra**	**11.72**	**176**	P	**Pn**	**16 50 36.1**	**+2.1**
	baz=12,SNR=4.8						
KNRA	**Kununurra**	**11.72**	**176**	Pn	**Pn**	**16 50 32.6**	**-1.4**
WB0	**Warramunga Arr**	**16.96**	**159**		**Pn**	**16 51 41.3**	**-2.7**
WRA	**Warramunga Arr**	**17.10**	**159**	Pn	**Pn**	**16 51 43.0**	**-2.8**
WRA	**Warramunga Arr**	**17.10**	**159**	P	**Pn**	**16 51 42.4**	**-3.4**
	35nm,1.2s,baz=346,slow=11,SNR=35						
WRA				LR	LR	16 58 55.3	
	comp=Z,625nm,19.1s,baz=11,slow=39						
WB2	**Warramunga Arr**	**17.10**	**159**	P	**Pn**	**16 51 42.9**	**-2.9**
	baz=17						
WB2	**Warramunga Arr**	**17.10**	**159**	Pn	**Pn**	**16 51 42.9**	**-2.9**
WR0	**Warramunga Arr**	**17.19**	**159**	Pn	**Pn**	**16 51 43.9**	**-3.0**
SMRI	**Semarang**	**17.75**	**259**		**P**	**16 51 55.4**	**+0.7**
SMRI				IAmb	IAmb	16 51 59.0	
	comp=Z,88nm,1.2s						
UGM	**Wanagama**	**17.83**	**256**		**P**	**16 51 57.1**	**+1.5**
UGM				IAmb	IAmb	16 52 04.2	
	comp=Z,442nm,1.8s						
COEN	**Coen**	**18.00**	**125**	P	**P**	**16 51 58.5**	**+1.1**
	baz=18						
COEN	**Coen**	**18.00**	**125**	P	**Pn**	**16 51 55.3**	**-1.7**
TGY	**Tagaytay City**	**19.21**	**339**	LR	LR	17 02 09.3	
	comp=Z,58nm,19.0s,baz=123,slow=45						
PSA00	**Pilbara Seismi**	**19.27**	**204**	P	**P**	**16 52 09.8**	**-1.5**
PMG	**Port Moresby**	**19.79**	**107**	P	**Pn**	**16 52 22.6**	**+3.9**
	comp=Z,9.8nm,0.7s,baz=301,slow=9.1,SNR=5.0						
	comp=Z,9.8nm,0.7s						
QIS	**Mount Isa**	**20.04**	**147**	P	**Pn**	**16 52 20.2**	**-1.4**
	baz=20,SNR=36						
AS31	**Alice Springs**	**20.46**	**164**	P	**P**	**16 52 24.4**	**0.0**
ASAR	**Alice Springs**	**20.46**	**164**	P	**P**	**16 52 23.9**	**-0.5**
ASAR	**Alice Springs**	**20.46**	**164**	P	**P**	**16 52 24.6**	**+0.3**
	comp=Z,53nm,0.9s,baz=342,slow=10,SNR=104						
ASAR				PcP	**PcP**	**16 56 37.0**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=356,slow=1.8,SNR=5.6						
ASAR				ScP	**ScP**	**17 00 12.9**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=358,slow=1.6,SNR=4.2						
	comp=Z,53nm,0.9s						
LEM	**Lembang**	**20.50**	**261**	P	**P**	**16 52 22.2**	**-2.8**
	comp=Z,52nm,0.7s,baz=77,slow=14,SNR=3.5						
LEM				LR	LR	17 01 02.2	
	comp=Z,261nm,18.6s,baz=20,slow=40						
	comp=Z,52nm,0.7s						
WRKA	**Warakurna**	**21.01**	**179**	P	**P**	**16 52 30.5**	**+0.2**
	baz=21,SNR=42						
MTSU	**Mount Surprise**	**21.34**	**133**	P	**P**	**16 52 34.9**	**+1.0**
	baz=22,SNR=31						
GIRL	**Giralia**	**22.91**	**214**	P	**P**	**16 52 51.9**	**+1.3**
	baz=23,SNR=3.3						
GIRL	**Giralia**	**22.91**	**214**	P	**P**	**16 52 50.7**	**+0.2**
KRVT	**Keravat (AS076**	**23.97**	**92**	LR	LR	17 03 57.9	
	comp=Z,140nm,18.5s,baz=110,slow=40						
CTA	**Charters Tower**	**23.99**	**134**	LR	LR	17 02 35.4	
	comp=Z,132nm,18.9s,baz=311,slow=37						
MEEK	**Meekatharra**	**24.33**	**201**	P	**P**	**16 53 05.0**	**+0.6**
	baz=24,SNR=9.5						
FORT	**Forrest**	**26.73**	**180**	P	**P**	**16 53 28.7**	**+2.6**
	baz=27,SNR=12						
FORT	**Forrest**	**26.73**	**180**	P	**P**	**16 53 25.1**	**-1.0**
KMBL	**Kambalda**	**27.92**	**191**	P	**P**	**16 53 38.7**	**+1.9**
	baz=28						
BLDU	**Ballidu**	**28.63**	**201**	P	**P**	**16 53 44.9**	**+1.8**
	baz=29,SNR=5.6						
KLBR	**Kellerberrin**	**29.18**	**198**	P	**P**	**16 53 50.0**	**+2.0**
	baz=29,SNR=4.8						
BBOO	**Buckleboo**	**29.73**	**166**	P	**P**	**16 53 55.6**	**+2.7**
	baz=30,SNR=5.7						
BBOO	**Buckleboo**	**29.73**	**166**	P	**P**	**16 53 51.8**	**-1.1**
BBOO				IAmb	IAmb	16 54 33.2	
	comp=Z,44nm,1.4s						
RPSI	**Rantau Prapat**	**29.79**	**282**	P	**P**	**16 53 52.7**	**-0.9**
RPSI				IAmb	IAmb	16 54 01.2	
	comp=Z,14nm,1.0s						
NWAO	**Narrogin (SRO)**	**30.58**	**198**	P	**P**	**16 54 02.3**	**+1.9**
	baz=31,SNR=7.8						
NWAO				P	**P**	**16 54 02.3**	**+1.9**
	baz=31,SNR=7.8						
STKA	**Stephens Creek**	**30.62**	**157**	P	**P**	**16 54 04.1**	**+3.3**
	baz=31,SNR=17						
STKA	**Stephens Creek**	**30.62**	**157**	P	**P**	**16 53 59.9**	**-0.9**
STKA	**Stephens Creek**	**30.62**	**157**	P	**P**	**16 54 00.2**	**-0.5**
	comp=Z,21nm,0.8s,baz=329,slow=10.0,SNR=4.9						
STKA				LR	LR	17 06 09.3	
	comp=Z,273nm,18.5s,baz=9.7,slow=36						
	comp=Z,21nm,0.8s						
GSI	**Gunungsitoli**	**30.84**	**279**	P	**P**	**16 54 01.1**	**-1.8**
GSI				IAmb	IAmb	16 54 09.8	
	comp=Z,26nm,0.8s						
CMSA	**Cobar Meteorol**	**32.13**	**151**	P	**P**	**16 54 15.1**	**+1.0**
	baz=32,SNR=13						
ARMA	**Armidale**	**34.55**	**142**	P	**P**	**16 54 34.8**	**-0.6**
ARMA				IAmb	IAmb	16 54 39.6	
	comp=Z,67nm,1.6s						
ARPS	**Mount Arapiles**	**35.10**	**160**	P	**P**	**16 54 41.8**	**+1.9**
	baz=35,SNR=7.9						
CMAR	**Chiang Mai Arr**	**36.24**	**309**	P	**P**	**16 54 48.0**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=139,slow=7.2,SNR=2.8						
CMAR				PcP	**PcP**	**16 57 16.6**	**+1.5**
	comp=Z,1.2nm,0.9s,baz=160,slow=2.7,SNR=5.7						
CMAR				ScP	**ScP**	**17 01 02.0**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=134,slow=2.6,SNR=4.3						
	comp=Z,0.9nm,0.7s						
CHTO	**Chiang Mai**	**36.44**	**309**	P	**P**	**16 54 51.6**	**0.0**
GYA	**Guiyang**	**36.57**	**327**	*e*P	**P**	**16 54 53.0**	**+0.3**
GYA				pmax	pmax		
	comp=Z,11nm,1.4s						
NJ2	**Nanjing**	**36.80**	**347**	*e*P	**P**	**16 54 55.8**	**+1.4**
NJ2				pP	**sP**	**16 55 01.0**	**0.0**
NJ2				sP	pP	16 55 06.3	+6.6
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,120nm,3.8s						
TOO	**Toolangi**	**37.14**	**157**	P	**P**	**16 55 00.1**	**+2.7**
	baz=37,SNR=6.9						
PZH	**PanZhiHua**	**39.49**	**321**	P	**P**	**16 55 19.0**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,240nm,5.3s						
TNCH	**TengChong**	**40.58**	**317**	P	**P**	**16 55 26.8**	**+0.2**
TNCH				pP	sP	16 55 34.5	+1.2
TNCH				sP	pP	16 55 38.0	+6.6
TNCH				pmax	pmax		
	comp=Z,17nm,0.7s						
KSRS	**Korea Array**	**41.15**	**360**	P	**P**	**16 55 32.0**	**+1.3**
	comp=Z,3.5nm,0.8s,baz=175,slow=9.4,SNR=12						
KSRS				PcP	**PcP**	**16 57 30.6**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=192,slow=2.5,SNR=3.5						
	comp=Z,3.5nm,0.8s						
MJAR	**Matsushiro Arr**	**41.35**	**12**	P	**P**	**16 55 35.3**	**+2.8**
	comp=Z,1.1nm,0.6s,baz=188,slow=9.8,SNR=1.7						
	comp=Z,1.1nm,0.6s						
CD2	**Chengdu**	**41.64**	**328**	*e*P	**P**	**16 55 35.5**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**41.81**	**336**	P	**P**	**16 55 35.3**	**-1.1**
XAN				pP	sP	16 55 43.0	-0.1
XAN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
HNS	**HongShan**	**42.91**	**344**	*e*P	**P**	**16 55 44.8**	**-0.4**
LZH	**Lanzhou**	**45.76**	**332**	*e*P	**P**	**16 56 09.5**	**+1.3**
LZH				pP	sP	16 56 16.5	+1.6
LZH				sP	pP	16 56 20.0	+7.0
LZH				pmax	pmax		
	comp=Z,18nm,1.5s						
HHC	**Hu-ho-hao-te**	**

ZALV	Zalesovo Beam	67.94	334	P	P	16 58 44.3	-0.9
	comp=Z,3.3nm,0.9s,baz=104,slow=6.1,SNR=13						
ZALV				LR	LR	17 31 19.7	
	comp=Z,60nm,20.3s,baz=72,slow=38						
	comp=Z,3.3nm,0.9s						
KURBB	Kurchatov Arra	68.85	329	P	P	16 58 50.1	-0.8
	comp=Z,5.7nm,0.9s,baz=128,slow=5.6,SNR=43						
	comp=Z,5.7nm,0.9s						
KURK	Kurchatov	68.86	329	P	P	16 58 50.1	-0.9
KURK				IAmb	IAmb	16 58 58.5	
	comp=Z,17nm,0.9s						
KKAR	Karatay Array	69.71	319	P	P	16 58 54.5	-2.0
BVAR	Borovoye Array	74.40	328	P	P	16 59 23.8	-0.6
	comp=Z,2.7nm,0.8s,baz=130,slow=6.4,SNR=12						
BVAR				LR	LR	17 34 07.2	
	comp=Z,80nm,21.9s,baz=51,slow=38						
	comp=Z,2.7nm,0.8s						
BRVK	Borovoye	74.47	328	P	P	16 59 23.7	-1.0
UOSS	Minazif	75.25	297	P	P	16 59 28.5	-1.4
UOSS				IAmb	IAmb	16 59 40.1	
	comp=Z,22nm,1.1s						
TIXI	Tiksi	75.41	0	P	P	16 59 28.6	-1.1
TIXI				IAmb	IAmb	16 59 38.6	
	comp=Z,8.7nm,0.9s						
VNDA	Vanda	75.74	173	P	P	16 59 32.4	+0.7
	comp=Z,1.1nm,0.8s,baz=303,slow=7.0,SNR=7.5						
VNDA				LR	LR	17 33 31.6	
	comp=Z,73nm,18.0s,baz=346,slow=36						
	comp=Z,1.1nm,0.8s						
GEYT	Alibeck	76.70	310	P	P	16 59 36.8	-1.1
GEYT	Alibeck	76.70	310	P	P	16 59 37.0	-0.9
	comp=Z,1.8nm,0.7s,baz=172,slow=4.5,SNR=6.4						
	comp=Z,1.8nm,0.7s						
ABKAR	Akbulak array	78.86	322	P	P	16 59 48.1	-1.5
AKTO	Aktyubinsk	80.42	322	LR	LR	17 39 40.4	
	comp=Z,75nm,21.6s,baz=76,slow=39						
ARU	Arti	82.04	328	LR	LR	17 39 24.2	
	comp=Z,108nm,21.5s,baz=190,slow=38						
L14K	Kuka Creek	83.65	27	P	P	17 00 13.8	-1.0
L14K				IAmb	IAmb	17 00 25.3	
	comp=Z,19nm,1.3s						
M14K	Bethel	83.78	28	P	P	17 00 15.7	+0.2
L15K	Ungalak Mounta	84.30	27	P	P	17 00 19.3	+1.1
	baz=251						
K15K	Wolf Creek Mou	84.49	26	P	P	17 00 19.2	+0.1
	baz=251						
P16K	Nushagak River	85.17	30	P	P	17 00 23.1	+0.5
	baz=254						
N16K	Nishlik Lake	85.19	28	P	P	17 00 24.2	+1.5
	baz=253						
J16K	Anvik River	85.21	25	P	P	17 00 24.8	+2.1
	baz=252						
L16K	Owhat River	85.22	27	P	P	17 00 21.5	-1.3
	baz=253						
M16K	Timber Creek	85.26	28	P	P	17 00 21.5	-1.5
M16K				IAmb	IAmb	17 00 33.3	
	comp=Z,16nm,0.9s						
M16K	Timber Creek	85.26	28	P	P	17 00 22.2	-0.8
	baz=253						
O16K	Kokwok River B	85.27	29	P	P	17 00 21.6	-1.5
	baz=254						
O17K	Koliganek Bris	85.81	29	P	P	17 00 26.5	+0.8
	baz=255						
L17K	Donlin	85.88	27	P	P	17 00 27.4	+1.3
	baz=254						
H17K	Granite Mounta	86.01	24	P	P	17 00 27.3	+0.6
	baz=252						
Q17K	Contact Creek	86.03	31	P	P	17 00 26.3	-0.7
	baz=256						
K17K	Iditarod	86.04	26	P	P	17 00 25.3	-1.5
K17K				IAmb	IAmb	17 03 43.5	
	comp=Z,10nm,0.6s						
K17K	Iditarod	86.04	26	P	P	17 00 26.7	-0.2
	baz=254						
QSPA	South Pole Qui	86.05	180	P	P	17 00 23.3	-3.8
QSPA				IAmb	IAmb	17 01 11.4	
	comp=Z,13nm,1.4s						
M17K	Holitna River	86.07	28	P	P	17 00 28.3	+1.3
	baz=254						
E18K	Tukpahlearik C	86.53	22	P	P	17 00 29.7	+0.5
E18K				IAmb	IAmb	17 00 38.7	
	comp=Z,5.7nm,0.9s						
L18K	Granite Mounta	86.63	27	P	P	17 00 28.2	-1.6
L18K	Granite Mounta	86.63	27	P	P	17 00 31.8	+2.0
	baz=255						
P18K	Big Mountain,	86.63	30	P	P	17 00 31.0	+1.1
	baz=256						
H18K	Honhosa River	86.71	24	P	P	17 00 30.4	+0.3
	baz=253						
G18K	Tagagawik	86.80	23	P	P	17 00 30.9	+0.3
G18K				IAmb	IAmb	17 03 37.7	
	comp=Z,19nm,1.8s						
J18K	Innoko River	86.94	26	P	P	17 00 28.9	-2.4
J18K	Innoko River	86.94	26	P	P	17 00 31.8	+0.5
	baz=255						
TTA	Tatalina	87.11	26	P	P	17 00 31.6	-0.6
	baz=256						
C19K	Lookout Ridge	87.42	20	P	P	17 00 31.1	-2.4
C19K	Lookout Ridge	87.42	20	P	P	17 00 34.2	+0.6
	baz=252						
L19K	White Mountain	87.46	27	P	P	17 00 34.0	+0.2
	baz=257						
G19K	Purcell Mounta	87.49	23	P	P	17 00 33.5	-0.4
	baz=254						
J19K	Poorman	87.54	25	P	P	17 00 33.7	-0.5
	baz=256						
H19K	Roundabout Mou	87.58	24	P	P	17 00 30.7	-3.6
H19K	Roundabout Mou	87.58	24	P	P	17 00 34.9	+0.6
	baz=255						
M19K	Big River Lodg	87.61	28	P	P	17 00 32.9	-1.6
KDAK	Kodiak Island	87.65	32	LR	LR	17 34 14.8	
	comp=Z,79nm,21.2s,baz=268,slow=32						
D19K	Kuna River	87.75	21	P	P	17 00 34.6	-0.6
D19K				IAmb	IAmb	17 00 44.7	
	comp=Z,8.5nm,0.8s						
D19K	Kuna River	87.75	21	P	P	17 00 36.0	+0.9
	baz=254						
E19K	Redstone River	87.78	22	P	P	17 00 33.5	-1.8
E19K				IAmb	IAmb	17 00 44.7	
	comp=Z,8.4nm,0.9s						
E19K	Redstone River	87.78	22	P	P	17 00 35.1	-0.1
	baz=254						
K20K	Telida	88.07	26	P	P	17 00 37.7	+1.0
	baz=257						
M20K	Styx River	88.18	28	P	P	17 00 39.0	+1.6
	baz=258						
J20K	Nowinta River	88.22	25	P	P	17 00 37.9	+0.5
	baz=257						
D20K	Etivluk River	88.34	21	P	P	17 00 37.5	-0.4
	baz=255						
E20K	Nigu River	88.38	21	P	P	17 00 38.7	+0.5
	baz=255						
SIRT	Sirnak	88.83	308	P	P	17 00 40.8	-0.2
SKT	Skwentna	88.95	28	P	P	17 00 40.3	-0.6
	baz=260						
G21K	Allakaket	88.98	23	P	P	17 00 42.2	+1.3
	baz=258						
H21K	Melozitna Rive	89.08	24	P	P	17 00 42.2	+0.7
	baz=258						
E21K	Killik River	89.22	21	P	P	17 00 42.1	0.0
	baz=257						
SUA	Susitna One	89.22	28	P	P	17 00 42.1	-0.3
	baz=260						
B21K	Ikpikpuk River	89.26	20	P	P	17 00 42.8	+0.7
	baz=257						
MLY	Manley	89.82	25	P	P	17 00 45.1	+0.1
	baz=260						
G23K	Bananza Creek	90.38	23	P	P	17 00 48.2	+0.7
	baz=261						
COLD	Coldfoot	90.39	23	P	P	17 00 48.5	+1.0
	baz=261						
I23K	Minto, Yukon-K	90.42	25	P	P	17 00 47.0	-0.7
I23K	Minto, Yukon-K	90.42	25	P	P	17 00 48.4	+0.7
	baz=262						
H23K	Yukon River	90.44	24	P	P	17 00 45.7	-2.1
	baz=261						
WAT1	Susitna Watana	90.45	27	P	P	17 00 47.5	-0.4
	baz=262						
D23K	Nanushuk River	90.50	21	P	P	17 00 46.8	-1.2
	baz=260						
C23K	Itkillik River	90.67	20	P	P	17 00 49.8	+1.1
	baz=260						
TOLK	Toolik Lake Re	90.85	21	P	P	17 00 50.9	+1.2
	baz=261						
H24K	Noodor Dome	91.12	24	P	P	17 00 51.1	+0.1
	baz=263						
HDA	Harding Lake	91.35	26	P	P	17 00 51.4	-0.6
	baz=264						
ILAR	Eielson Array	91.42	25	P	P	17 00 48.1	-4.2
	comp=Z,0.7nm,0.6s,baz=254,slow=5.5,SNR=4.4						
ILAR				LR	LR	17 43 16.5	
	comp=Z,35nm,18.6s,baz=208,slow=36						
J26L	Joseph Creek	92.82	26	P	P	17 00 59.2	+0.2
	baz=267						
I26K	Coal Creek Min	93.03	25	P	P	17 01 00.4	+0.6
	baz=267						
K27K	Chicken	93.45	26	P	P	17 01 02.5	+0.8
	baz=268						
L27K	Beaver Creek,	93.53	27	P	P	17 01 02.7	+0.5
	baz=268						
I27K	Kandik River	93.69	25	P	P	17 01 03.6	+0.7
	baz=269						
CTG	Chitna Glacier	93.71	29	P	P	17 01 02.9	-0.2
	baz=269						
H27K	Steamboat Moun	93.74	24	P	P	17 01 02.4	-0.7
	baz=269						
E27K	Coleen River	93.75	22	P	P	17 01 03.9	+0.8
	baz=269						
I28M	Miner Creek	94.39	25	P	P	17 01 06.3	+0.2
I28M	Miner Creek	94.39	25	P	P	17 01 06.3	+0.2
	baz=270						
F28M	Old Crow	94.40	23	P	P	17 01 06.9	+0.8
	baz=270						
DAWY	Dawson	94.63	26	P	P	17 01 08.4	+1.2
	baz=270						
I29M	Ogilvie Camp,	95.07	25	P	P	17 01 08.2	-1.0
	baz=272						
M29M	Somme Creek	95.08	28	P	P	17 01 08.4	-1.0
	baz=271						
E29M	Blow River	95.12	22	P	P	17 01 09.2	-0.2
	baz=272						
G29M	Pine Creek	95.13	23	P	P	17 01 09.5	0.0
	baz=272						
L29M	L29M	95.21	27	P	P	17 01 10.3	+0.4
	baz=272						
K29M	Barlow Dome	95.46	26	P	P	17 01 12.4	+1.3
	baz=272						
M30M	Minto, Yukon	95.85	28	P	P	17 01 13.6	+0.8
	baz=273						
FARO	Faro, Yukon	97.47	28	P	P	17 01 19.2	-1.0
	baz=276						
AKASG	Malin Array Be	98.57	321	LR	LR	17 51 36.2	
	comp=Z,136nm,21.3s,baz=37,slow=39						
PDAR	Pinedale Array	116.10	44	PKP	PKiKP	17 06 31.0	+0.8
	comp=Z,0.3nm,0.6s,baz=254,slow=1.7,SNR=2.8						
TXAR	Lajitas Array	124.98	57	PKP	PKiKP	17 06 48.7	+0.8
	comp=Z,0.9nm,0.8s,baz=216,slow=0.8,SNR=9.2						
TORD	Torodi Ar. Bea	126.21	283	PKP	PKPdf	17 06 50.1	0.0
	comp=Z,1.1nm,0.6s,baz=59,slow=2.8,SNR=6.8						
DBIC	Dimbokro	132.99	275	PKP	PKPdf	17 07 02.4	-0.6
	comp=Z,2.1nm,0.6s,baz=90,slow=5.1,SNR=2.0						
CPUP	Villa Florida	149.50	171	PKPbc	PKPbc	17 07 36.7	+0.1
	comp=Z,0.9nm,0.3s,baz=212,slow=2.3,SNR=4.7						
LPAZ	La Paz	154.37	142	PKP	PKPdf	17 07 42.0	+1.6
	comp=Z,1.1nm,0.8s,baz=204,slow=3.5,SNR=4.1						

NOU 31 16:49:58.5, 21°.78S × 169°.72E, h0km, MLv3.7/13, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.60	280	P	Pn	16 50 26.6	-1.4
PINNC	Pines Island,	2.26	248	P	Pn	16 50 36.1	-1.1
LIFNC	LIFOU	2.52	293	P	Pn	16 50 40.9	+0.2
YATNC	Mamie plateau,	2.64	263	P	Pn	16 50 41.5	-0.9
OUENC	Ouen Island, N	2.74	256	P	Pn	16 50 45.0	+1.2
DZM	Mont Dzumac	3.06	264	P	Pn	16 50 47.3	-0.9
ONTNC	Ouen Toro	3.08	260	P	Pn	16 50 49.5	+1.1
NOUC	Port Laguerre	3.19	264	P	Pn	16 50 49.3	-0.6
RTV	Rentapao	4.15	343	P	Pn	16 51 03.4	+0.3
KOUNC	Koumac, New Ca	5.22	283	P	Pn	16 51 18.8	+1.0

*NEIC **31** 17:02:15.8±1.3, 61°.28N±0°.02×146°.95W±0°.04, h21km±9km, Error ellipse: s-maj=2.7km s-min=2.6km az=91.0*
*AEIC **31** 17:02:16.4±1.4, 61°.28N±0°.02×146°.98W±0°.04, h10km±4km, ML3.5, ML3.6/198(NEIC), Error ellipse: s-maj=2.7km s-min=2.1km az=82.0*
*IDC **31** 17:02:17.9±1.6, 61°.24N×147°.55W, h52km±17km, mb3.5/4, mbtmp3.8/8, ML3.6/4, Error ellipse: s-maj=28.8km s-min=10.6km az=115.0*
ISC 31 17:02:15.7±0.8, 61°.27N±0°.02×146°.95W±0°.02, h31km±7km, n321, σ1°.24/329, mb3.9/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLI	Glacier Island	0.40	191		Pb	17 02 24.2	-0.4
GLI				Sg	Sb	17 02 30.9	+0.2
GLI				IAML		17 02 31.9	
	comp=N,9μm,0.7s						
GLI				IAML		17 02 33.5	
	comp=E,7μm,0.4s						
GLI	Glacier Island	0.40	191	P	Pb	17 02 24.5	-0.1
	baz=7.7						
GLI				S	Sb	17 02 31.1	+0.4
	baz=7.7						
KLU	Klutina	0.54	65		Pb	17 02 26.2	-0.7
KLU				Sg	Sb	17 02 33.9	-0.7
KLU				IAML		17 02 34.6	
	comp=E,3μm,0.5s						
KLU	Klutina	0.54	65	P	Pb	17 02 26.5	-0.4
	baz=248						
FID	Port Fidalgo	0.57	156		Pb	17 02 26.8	-0.5
FID				Sg	Sb	17 02 35.5	+0.3
DIV	Divide	0.58	103		Pb	17 02 26.9	-0.7
SCM	Sheep Creek Mo	0.60	342		Pb	17 02 27.0	-0.8
SCM				Sg	Sb	17 02 35.7	-0.4
SCM				IAML		17 02 36.2	
	comp=N,4μm,0.4s						
SCM	Sheep Creek Mo	0.60	342	P	Pb	17 02 27.1	-0.8
	baz=163						
SCM				S	Sb	17 02 35.9	-0.3
	baz=163						
M23K	Glacier View	0.65	325		Pb	17 02 28.0	-0.6
M23K					Sb	17 02 37.2	-0.2
M23K	Glacier View	0.65	325	P	Pb	17 02 27.9	-0.7
	baz=145						
M23K				S	Sb	17 02 37.2	-0.2
	baz=145						
KNK	Knik Glacier	0.74	282		Pb	17 02 29.9	-0.3
KNK				Sg	Sb	17 02 39.9	-0.2
KNK				IAML		17 02 41.5	
	comp=N,3μm,0.2s						
KNK	Knik Glacier	0.74	282	P	Pb	17 02 30.0	-0.3
	baz=100						
KNK				S	Sb	17 02 40.2	+0.1
	baz=100						
PWL	Port Wells	0.79	239		Pb	17 02 30.5	-0.5
PWL				Sg	Sb	17 02 41.3	-0.1
PWL				IAML		17 02 42.1	
	comp=N,3μm,0.6s						
PWL				IAML		17 02 42.3	
	comp=E,3μm,0.6s						
PWL	Port Wells	0.79	239	P	Pb	17 02 30.5	-0.5
	baz=56						
PWL				S	Sb	17 02 41.3	-0.1
	baz=56						
SML	Sawmill	0.86	310	Pg	Pb	17 02 31.3	-0.8
SML				Sg	Sb	17 02 43.0	-0.3
SML				IAML		17 02 43.8	
	comp=N,3μm,0.5s						
SML	Sawmill	0.86	310	P	Pb	17 02 31.4	-0.8
	baz=129						
SML				S	Sb	17 02 43.2	-0.1
	baz=129						
HIN	Hinchinbrook I	0.90	166		Pb	17 02 32.7	-0.1
HIN				Sg	Sn	17 02 45.5	+1.4
M24K	Tolsona, Glenn	0.92	23		Pb	17 02 32.7	-0.5
M24K				Sg	Sn	17 02 45.6	+0.9
M24K				IAML		17 02 47.5	
	comp=E,1μm,0.8s						
M24K				IAML		17 02 47.5	
	comp=N,1μm,0.8s						
M24K	Tolsona, Glenn	0.92	23	P	Pb	17 02 32.7	-0.5
	baz=205						
EYAK	Cordova Ski Ar	0.93	140		Pb	17 02 33.0	-0.2
EYAK	Cordova Ski Ar	0.93	140	P	Pb	17 02 33.2	0.0
EYAK	Cordova Ski Ar	0.93	140	P	Pb	17 02 33.0	-0.2
	baz=321						
GHO	Glory Hole Cre	1.08	299	Pg	Pn	17 02 34.8	+0.1
GHO				Sg	Sb	17 02 49.1	-0.4
GHO				IAML		17 02 50.7	
	comp=N,2μm,0.7s						
GHO				IAML		17 02 55.9	
	comp=E,2μm,0.5s						
PMR	Palmer	1.10	288		Pn	17 02 35.2	+0.3
PMR				Sg	Sb	17 02 49.4	-0.7
PMR				IAML		17 02 50.3	
	comp=N,2μm,0.5s						
PMR	Palmer	1.10	288	P	Pn	17 02 35.2	+0.3
PMR	Palmer	1.10	288	P	Pn	17 02 35.2	+0.3
	baz=106						
BMRM	Bremner River	1.18	104		Pn	17 02 36.1	+0.1
BMRM	Bremner River	1.18	104	P	Pn	17 02 36.1	+0.1
	baz=286						
N25K	Chitina, Valde	1.18	72		Pn	17 02 36.0	-0.1
N25K				Sg	Sb	17 02 51.2	-1.2
N25K	Chitina, Valde	1.18	72	P	Pn	17 02 36.1	-0.1
	baz=255						
GOAT	Goat Mountain	1.28	121		Pn	17 02 38.7	+1.2
P23K	Montague Islan	1.29	190		Pn	17 02 38.8	+1.2
P23K	Montague Islan	1.29	190	P	Pn	17 02 38.8	+1.2
	baz=8.9						
RC01	Rabbit Creek A	1.36	264		Pn	17 02 39.6	+1.1
RC01				Sn	Sn	17 02 57.1	+1.6
RC01	Rabbit Creek A	1.36	264	P	Pn	17 02 39.7	+1.1
	baz=80						
WAT6	Susitna Watana	1.37	344		Pn	17 02 38.7	-0.1
WAT6	Susitna Watana	1.37	344	P	Pn	17 02 38.7	-0.1
	baz=164						
HARP	HAARP	1.42	36		Pn	17 02 40.4	+1.1
HARP	HAARP	1.42	36	P	Pn	17 02 40.4	+1.1
	baz=218						
RAGM	Ragged Mountai	1.42	127		Pn	17 02 40.6	+1.3
WACK	Wrangell Chich	1.44	59		Pn	17 02 40.6	+0.7
WASW	Wrangell South	1.48	62		Pn	17 02 41.2	+0.8
GLB	Gilahina Butte	1.52	82		Pn	17 02 41.5	+0.7
GLB				IAML		17 03 02.6	
	comp=N,626nm,0.7s						
WAZA	Wrangell Mount	1.56	57		Pn	17 02 42.7	+1.2
O22K	Cooper Landing	1.57	241		Pn	17 02 42.8	+1.5
O22K	Cooper Landing	1.57	241	P	Pn	17 02 42.9	+1.5
	baz=58						
FIS	Fire Island	1.59	267		Pn	17 02 43.4	+1.8
M22K	Willow	1.60	289		Pn	17 02 42.7	+0.9
M22K	Willow	1.60	289	P	Pn	17 02 42.9	+1.1
	baz=106						
HMT	Hamilton	1.61	124		Pn	17 02 42.8	+0.8
VRDI	Verde Repeater	1.69	90		Pn	17 02 44.1	+0.9
SEW	Seward	1.70	228		Pn	17 02 44.6	+1.5
SEW	Seward	1.70	228	P	Pn	17 02 44.6	+1.5
	baz=45						
WAT1	Susitna Watana	1.74	335		Pn	17 02 44.6	+0.8
WAT1	Susitna Watana	1.74	335	P	Pn	17 02 44.6	+0.8
	baz=154						
SLKM	Skilak Lake	1.77	246		Pn	17 02 45.6	+1.4
NICHA	Nichawak Mount	1.79	124		Pn	17 02 45.5	+1.1
WAT7	Susitna Watana	1.81	331		Pn	17 02 45.6	+0.8
BERG	Berg Lake	1.81	117		Pn	17 02 45.5	+0.7
DHY	Denali Highway	1.83	354	Pn	Pn	17 02 46.0	+0.9
DHY				IAML		17 03 11.9	
	comp=N,504nm,0.6s						
DHY				IAML		17 03 12.8	
	comp=E,861nm,0.5s						
DHY	Denali Highway	1.83	354	P	Pn	17 02 46.0	+0.9
	baz=174						
KAIM	Kayak Island	1.83	136		Pn	17 02 45.7	+0.7
KAIM	Kayak Island	1.83	136	P	Pn	17 02 45.9	+0.9
	baz=318						
SUA	Susitna One	1.84	278		Pn	17 02 46.5	+1.3
SUA				IAML		17 03 13.3	
	comp=N,659nm,0.5s						
SUA	Susitna One	1.84	278	P	Pn	17 02 46.6	+1.3
	baz=94						
PAX	Paxson	1.84	21		Pn	17 02 46.5	+1.3
PAX	Paxson	1.84	21	P	Pn	17 02 46.5	+1.3
	baz=203						
Q23K	Middleton Isla	1.87	171	Pn	Pn	17 02 46.7	+1.3
Q23K				IAML		17 03 17.1	
	comp=N,779nm,0.9s						
Q23K				IAML		17 03 26.8	
	comp=E,741nm,1.1s						
Q23K	Middleton Isla	1.87	171	P	Pn	17 02 46.6	+1.2
	baz=351						
MID	Middleton Isla	1.87	170	Pn	Pn	17 02 46.5	+1.0
MID				IAML		17 03 15.7	
	comp=E,666nm,0.4s						
MID				IAML		17 03 17.1	
	comp=N,694nm,0.9s						
MID	Middleton Isla	1.87	170	P	Pn	17 02 46.8	+1.3
MCARA	McCarthy VSAT	1.89	85		Pn	17 02 47.4	+1.5
MCARA				IAML		17 03 16.1	
	comp=E,648nm,0.4s						
MCARA				IAML		17 03 19.4	
	comp=N,672nm,0.9s						
MCARA	McCarthy VSAT	1.89	85	P	Pn	17 02 47.3	+1.4
	baz=269						
CUT	Chulitna	1.95	307		Pn	17 02 48.3	+1.7
CUT	Chulitna	1.95	307	P	Pn	17 02 48.3	+1.7
	baz=124						
SUCK	Suckling Hills	1.97	126		Pn	17 02 47.8	+1.0
SUCK				IAML		17 03 18.1	
	comp=E,496nm,0.4s						
KHIT	Khitrov Hills	1.99	113		Pn	17 02 48.2	+1.0
GRIN	Grindle Hills	2.04	117		Pn	17 02 48.7	+0.9
CAPN	Captain Cook N	2.11	258		Pn	17 02 51.7	+3.0
CAPN	Captain Cook N	2.11	258	P	Pn	17 02 51.9	+3.1
	baz=74						
WAX	Waxell Ridge	2.16	110		Pn	17 02 50.4	+0.8
PTPK	Patty Peak	2.17	90		Pn	17 02 51.6	+1.8
M26K	Nabesna, AK	2.19	57		Pn	17 02 52.1	+2.1
M26K	Nabesna, AK	2.19	57	P	Pn	17 02 52.3	+2.3
	baz=241						
KIAG	Kiagna River	2.25	97		Pn	17 02 52.0	+1.1
MENT	Mentasta	2.26	41		Pn	17 02 52.3	+1.4
MENT				IAML		17 03 35.0	
	comp=N,448nm,0.9s						
MENT				IAML		17 03 43.4	
	comp=E,356nm,0.6s						
MENT	Mentasta	2.26	41	P	Pn	17 02 53.6	+2.7
SNH	Sunshine Point	2.29	117		Pn	17 02 52.4	+1.0
SNH				IAML		17 03 31.3	
	comp=N,302nm,0.6s						
SNH				IAML		17 03 36.0	
	comp=E,320nm,1.4s						
SKT	Skwentna	2.31	290	Pn	Pn	17 02 52.7	+1.2
SKT	Skwentna	2.31	290	P	Pn	17 02 52.8	+1.2
	baz=106						
RND	Reindeer	2.33	338	Pn	Pn	17 02 53.9	+2.0
RND				IAML		17 03 25.0	
	comp=N,283nm,0.7s						
RND				IAML		17 03 27.1	
	comp=E,251nm,1.0s						
ISLE	Juniper Island	2.34	104		Pn	17 02 53.0	+0.8
ISLE				IAML		17 03 29.9	
	comp=E,532nm,0.6s						
ISLE				IAML		17 03 36.4	
	comp=N,519nm,1.2s						
BARK	Barkley Ridge	2.35	110		Pn	17 02 53.6	+1.4
STLK	Strandline Lak	2.36	278		Pn	17 02 54.0	+1.7
BRSE	Bradley Lake S	2.42	232		Pn	17 02 54.4	+1.2
BRSE	Bradley Lake S	2.42	232	P	Pn	17 02 54.5	+1.4
	baz=49						
SPCG	Spurr Capps Gl	2.45	273		Pn	17 02 55.2	+1.6
BRLK	Bradley Lake	2.46	234		Pn	17 02 54.8	+1.1
BRLK				IAML		17 03 24.6	
	comp=E,273nm,0.4s						
BRLK				IAML		17 03 25.4	
	comp=N,332nm,0.3s						
BAGL	Bagley Icefiel	2.50	106		Pn	17 02 55.5	+1.4
SPCP	Crater Peak Br	2.52	272		Pn	17 02 56.1	+1.6
SPCN	Chakachatna No	2.53	271		Pn	17 02 56.4	+1.7
SPCR	Spurr Chakacha	2.55	271		Pn	17 02 56.2	+1.3
SPCR	Spurr Chakacha	2.55	271	P	Pn	17 02 56.4

MCK	**McKinley**	**2.64 340**	P	**Pn**	**17 02 58.3 +2.2**
	baz=159				
M27K	**Edge Creek, AK**	**2.64 63**		**Pn**	**17 02 58.6 +2.4**
M27K	**Edge Creek, AK**	**2.64 63**	P	**Pn**	**17 02 58.6 +2.4**
	baz=248				
MESA	**MESA**	**2.69 112**		**Pn**	**17 02 57.7 +0.8**
MESA			IAML		17 03 42.7
	comp=E,405nm,0.7s				
MESA	**MESA**	**2.69 112**	P	**Pn**	**17 02 58.6 +1.7**
	baz=296				
TRF	**Thorofare Moun**	**2.69 326**	Pn	**Pn**	**17 02 58.5 +1.6**
TRF			IAML		17 03 38.2
	comp=E,289nm,0.7s				
TRF			IAML		17 03 44.4
	comp=N,344nm,1.0s				
TRF	**Thorofare Moun**	**2.69 326**	P	**Pn**	**17 02 58.8 +1.9**
	baz=143				
CTG	**Chitna Glacier**	**2.74 94**	P	**Pn**	**17 02 59.5 +2.0**
	baz=279				
CTGM	**Chitina Glacie**	**2.74 94**		**Pn**	**17 02 59.0 +1.4**
CTGM			IAML		17 03 41.8
	comp=N,210nm,0.7s				
CNPM	**China Poot**	**2.75 233**	Pn	**Pn**	**17 02 58.9 +1.2**
RDT	**Redoubt**	**2.76 258**		**Pn**	**17 02 58.8 +1.0**
SPNN	**North Nagishla**	**2.78 275**		**Pn**	**17 02 59.5 +1.4**
HOM	**Homer**	**2.83 237**	Pn	**Pn**	**17 03 00.3 +1.6**
DFR	**Drift River**	**2.88 259**		**Pn**	**17 03 00.4 +0.9**
RKAV	**Rock Avalanche**	**2.91 107**		**Pn**	**17 03 01.8 +1.8**
LOGN	**Logan Glacier**	**2.92 96**		**Pn**	**17 03 01.7 +1.5**
LOGN			IAML		17 03 46.4
	comp=N,141nm,0.5s				
LOGN			IAML		17 03 48.1
	comp=E,170nm,0.9s				
RDJH	**Redoubt Jeurge**	**2.94 259**		**Pn**	**17 03 01.4 +1.0**
KTH	**Kantishna Hill**	**2.95 323**		**Pn**	**17 03 02.3 +1.9**
KTH			IAML		17 03 48.7
	comp=E,228nm,0.7s				
KTH			IAML		17 03 49.8
	comp=N,275nm,0.8s				
RDSO	**Redoubt South**	**2.95 257**		**Pn**	**17 03 01.5 +1.0**
RSO	**Redoubt South**	**2.95 257**		**Pn**	**17 03 01.6 +1.0**
TABL	**Table Mountain**	**2.96 104**		**Pn**	**17 03 02.0 +1.3**
TABL			IAML		17 03 45.2
	comp=E,201nm,0.7s				
TABL			IAML		17 03 54.6
	comp=N,211nm,0.9s				
PPLA	**Purkeypile**	**2.96 306**		**Pn**	**17 03 02.1 +1.5**
PPLA	**Purkeypile**	**2.96 306**	P	**Pn**	**17 03 02.1 +1.5**
	baz=121				
YUK2	**White River**	**2.97 77**		**Pn**	**17 03 02.4 +1.7**
RED	**Redoubt Volcan**	**2.98 256**		**Pn**	**17 03 01.9 +1.1**
RDWB	**Redoubt West**	**2.99 257**		**Pn**	**17 03 02.0 +1.0**
L27K	**Beaver Creek,**	**3.00 51**		**Pn**	**17 03 02.9 +1.8**
NCT	**North Crescent**	**3.01 259**		**Pn**	**17 03 02.3 +1.0**
BCAR	**Beaver Creek A**	**3.02 51**	Pn	**Pn**	**17 03 03.2 +1.8**
M20K	**Styx River**	**3.02 284**		**Pn**	**17 03 02.5 +1.0**
M20K	**Styx River**	**3.02 284**	IAML		17 03 48.1
	comp=N,154nm,0.5s				
M20K			IAML		17 03 49.0
	comp=E,150nm,0.6s				
O20K	**Slope Mountain**	**3.04 249**		**Pn**	**17 03 03.1 +1.5**
O20K	**Slope Mountain**	**3.04 249**	P	**Pn**	**17 03 03.5 +1.9**
	baz=64				
SCRK	**Sand Creek**	**3.04 25**	Pn	**Pn**	**17 03 03.4 +1.7**
SCRK	**Sand Creek**	**3.04 25**	P	**Pn**	**17 03 03.4 +1.7**
	baz=208				
BWN	**Browne**	**3.14 339**		**Pn**	**17 03 04.4 +1.5**
YUK3	**Moose Creek**	**3.15 78**		**Pn**	**17 03 05.4 +2.1**
YUK3	**Moose Creek**	**3.15 78**	P	**Pn**	**17 03 05.5 +2.1**
	baz=264				
HDA	**Harding Lake**	**3.15 360**		**Pn**	**17 03 04.5 +1.4**
HDA			IAML		17 03 56.9
	comp=E,251nm,1.5s				
HDA	**Harding Lake**	**3.15 360**	P	**Pn**	**17 03 05.3 +2.1**
	baz=180				
CAST	**Castle Rocks**	**3.23 314**	Pn	**Pn**	**17 03 05.6 +1.4**
CAST			IAML		17 03 55.5
	comp=E,153nm,0.6s				
CAST			IAML		17 04 00.2
	comp=N,167nm,0.7s				
CAST	**Castle Rocks**	**3.23 314**	P	**Pn**	**17 03 05.4 +1.2**
	baz=130				
SAMH	**Samovar Hills**	**3.24 108**		**Pn**	**17 03 06.5 +2.1**
IVE	**Iliamna Volcan**	**3.24 250**		**Pn**	**17 03 05.3 +0.8**
WRH	**Wood River Hil**	**3.26 351**	Pn	**Pn**	**17 03 06.0 +1.4**
WRH			IAML		17 03 54.5
	comp=N,121nm,1.0s				
WRH			IAML		17 03 58.4
	comp=E,172nm,1.0s				
ILW	**Iliamna West**	**3.28 251**		**Pn**	**17 03 06.0 +1.0**
BPAW	**Bear Paw Mtn.**	**3.40 329**		**Pn**	**17 03 07.8 +1.3**
BPAW			IAML		17 04 05.0
	comp=E,101nm,1.5s				
BPAW			IAML		17 04 10.4
	comp=N,109nm,1.1s				
BPAW	**Bear Paw Mtn.**	**3.40 329**	P	**Pn**	**17 03 07.8 +1.3**
	baz=145				
CCB	**Clear Creek Bu**	**3.42 354**		**Pn**	**17 03 08.0 +1.2**
CCB			IAML		17 04 06.1
	comp=E,115nm,0.7s				
J25K	**Salcha River,**	**3.44 11**		**Pn**	**17 03 08.0 +0.9**
J25K	**Salcha River,**	**3.44 11**	IAML		17 04 04.8
	comp=E,100nm,1.1s				
NEA2	**Nenana**	**3.48 345**		**Pn**	**17 03 08.7 +1.1**
NEA2			IAML		17 04 04.2
	comp=E,126nm,0.9s				
NEA2			IAML		17 04 05.5
	comp=N,120nm,1.3s				
NEA2	**Nenana**	**3.48 345**	P	**Pn**	**17 03 08.9 +1.3**
	baz=163				
PCA	**Pinnacle**	**3.49 107**		**Pn**	**17 03 09.0 +1.1**
PINM	**Pinnacle**	**3.50 107**	P	**Pn**	**17 03 09.3 +1.4**
	baz=293				
P19K	**Oil Pt**	**3.51 245**	Pn	**Pn**	**17 03 09.1 +1.0**
P19K	**Oil Pt**	**3.51 245**	P	**Pn**	**17 03 10.2 +2.2**
	baz=59				
IL31		**3.52 0**		**Pn**	**17 03 08.8 +0.7**
ILAR	**Eielson Array**	**3.52 0**		**Pn**	**17 03 08.8 +0.6**
ILAR	**Eielson Array**	**3.52 0**	P	**Pn**	**17 03 09.0 +0.8**
	comp=N,8.5nm,0.3s,baz=187,slow=12,SNR=149				
ILAR		S		**Sn**	**17 03 52.3 +3.6**
	comp=N,38nm,0.7s,baz=184,slow=16,SNR=2.3				
	comp=N,34nm,0.5s				
K27K	**Chicken**	**3.57 37**		**Pn**	**17 03 10.9 +2.0**
J26L	**Joseph Creek**	**3.60 24**		**Pn**	**17 03 11.1 +1.8**
CHUM	**Lake Minchumin**	**3.61 319**		**Pn**	**17 03 11.0 +1.5**
M19K	**Big River Lodg**	**3.62 283**		**Pn**	**17 03 10.0 +0.5**
M19K	**Big River Lodg**	**3.62 283**	IAML		17 04 13.1
	comp=N,105nm,0.8s				
M19K			IAML		17 04 19.5
	comp=E,95nm,0.6s				
COLA	**College**	**3.65 354**		**Pn**	**17 03 11.4 +1.6**
COLA	**College**	**3.65 354**	P	**Pn**	**17 03 11.4 +1.6**
N19K	**Bonanza Creek**	**3.69 266**		**Pn**	**17 03 11.3 +0.6**
AUQ	**Augustine Qik'**	**3.75 242**		**Pn**	**17 03 12.8 +1.5**
MDM	**Murphy Dome**	**3.75 352**		**Pn**	**17 03 12.4 +1.1**
MDM			IAML		17 04 14.4
	comp=E,100nm,1.1s				
MDM			IAML		17 04 21.0
	comp=N,95nm,1.0s				
SYI	**Shuyak Island**	**3.82 228**	Pn	**Pn**	**17 03 13.8 +1.5**
SYI			IAML		17 04 02.7
	comp=E,80nm,1.4s				
SYI			IAML		17 04 11.8
	comp=N,74nm,2.2s				
Q20K	**Shuyak Island**	**3.82 228**	P	**Pn**	**17 03 14.6 +2.2**
	baz=43				
BCPM	**Bancas Point**	**3.84 107**		**Pn**	**17 03 13.0 +0.5**
BCPM			IAML		17 04 18.9
	comp=N,113nm,1.1s				
POKR	**Poker Plat Res**	**3.87 357**		**Pn**	**17 03 13.9 +0.9**
POKR			IAML		17 04 05.2
	comp=N,116nm,0.8s				
POKR			IAML		17 04 16.3
	comp=E,100nm,1.0s				
POKR	**Poker Plat Res**	**3.87 357**	P	**Pn**	**17 03 14.2 +1.2**
	baz=177				
L19K	**White Mountain**	**3.87 287**		**Pn**	**17 03 13.9 +0.8**
L19K			IAML		17 04 22.0
	comp=E,70nm,0.9s				
L19K			IAML		17 04 23.0
	comp=N,69nm,1.1s				
L19K	**White Mountain**	**3.87 287**	P	**Pn**	**17 03 13.8 +0.8**
	baz=100				
K20K	**Telida**	**3.93 305**		**Pn**	**17 03 14.8 +0.9**
K20K	**Telida**	**3.93 305**	IAML		17 04 20.6
	comp=N,74nm,0.7s				
K20K			IAML		17 04 20.9
	comp=E,96nm,0.8s				
I23K	**Minto, Yukon-K**	**4.05 345**		**Pn**	**17 03 16.4 +1.0**
I23K			IAML		17 04 21.8
	comp=N,116nm,0.8s				
I23K			IAML		17 04 31.4
	comp=E,99nm,0.8s				
I23K	**Minto, Yukon-K**	**4.05 345**	P	**Pn**	**17 03 16.8 +1.4**
	baz=163				
PNL	**Peninsula**	**4.07 110**	P	**Pn**	**17 03 18.4 +2.7**
Q19K	**Cape Douglas,**	**4.09 238**		**Pn**	**17 03 16.9 +0.8**
Q19K	**Cape Douglas,**	**4.09 238**	P	**Pn**	**17 03 17.7 +1.7**
	baz=52				
MLY	**Manley**	**4.15 337**	Pn	**Pn**	**17 03 17.9 +1.0**
MLY			IAML		17 04 12.5
	comp=E,58nm,0.6s				
MLY			IAML		17 04 12.5
	comp=N,106nm,0.5s				
MLY	**Manley**	**4.15 337**	P	**Pn**	**17 03 18.2 +1.3**
	baz=154				
SVW2	**Sparrevohn**	**4.18 271**		**Pn**	**17 03 17.6 +0.3**
SVW2	**Sparrevohn**	**4.18 271**	P	**Pn**	**17 03 17.4 +0.1**
M18K	**Stony River**	**4.28 277**		**Pn**	**17 03 19.0 +0.4**
PRP	**Porcupine Dome**	**4.32 8**	Pn	**Pn**	**17 03 19.4 +0.1**
PRP			IAML		17 04 15.2
	comp=N,82nm,0.8s				
PRP			IAML		17 04 26.1
	comp=E,73nm,0.6s				
PRP	**Porcupine Dome**	**4.32 8**	P	**Pn**	**17 03 20.6 +1.4**
	baz=189				
O18K	**Koktuh Hills**	**4.32 254**		**Pn**	**17 03 19.2 +0.1**
O18K			IAML		17 04 28.8
	comp=N,58nm,0.8s				
EGAK	**Eagle**	**4.40 34**		**Pn**	**17 03 20.5 +0.3**
EGAK			IAML		17 04 47.3
	comp=N,77nm,0.9s				
EGAK			IAML		17 04 49.7
	comp=N,70nm,0.9s				
I26K	**Coal Creek Min**	**4.40 21**		**Pn**	**17 03 21.9 +1.7**
I26K	**Coal Creek Min**	**4.40 21**	IAML		17 04 41.2
	comp=N,88nm,1.1s				
J20K	**Nowinta River**	**4.42 315**		**Pn**	**17 03 21.5 +1.0**
J20K	**Nowinta River**	**4.42 315**	IAML		17 04 35.1
	comp=N,100nm,0.8s				
KDAK	**Kodiak Island**	**4.52 222**	Pn	**Pn**	**17 03 22.1 +0.2**
KDAK			IAML		17 04 34.2
	comp=N,55nm,3.1s				
KDAK			IAML		17 04 50.1
	comp=N,61nm,2.9s				
KDAK	**Kodiak Island**	**4.52 222**	P	**Pn**	**17 03 22.2 +0.3**
	comp=N,6.1nm,0.3s,baz=58,slow=9.5,SNR=116				
KDAK			S	**Sn**	**17 04 10.1 -3.3**
	comp=N,16nm,0.4s,baz=307,slow=20,SNR=9.3				
	comp=N,16nm,0.2s				
L29M	**L29M**	**4.53 62**		**Pn**	**17 03 23.8 +1.8**
P18K	**Big Mountain,**	**4.53 249**	Pn	**Pn**	**17 03 22.0 -0.1**
I21K	**Tanana**	**4.54 332**		**Pn**	**17 03 23.4 +1.2**
I21K	**Tanana**	**4.54 332**	IAML		17 04 41.7
	comp=E,52nm,1.0s				
I21K			IAML		17 04 43.9
	comp=N,45nm,1.6s				
TTA	**Tatalina**	**4.58 295**		**Pn**	**17 03 22.9 +0.2**
TTA			IAML		17 04 49.9
	comp=N,40nm,1.0s				
TTA	**Tatalina**	**4.58 295**	P	**Pn**	**17 03 23.1 +0.4**
TTA	**Tatalina**	**4.58 295**	P	**Pn**	**17 03 23.7 +1.0**
	baz=107				
H24K	**Noodor Dome**	**4.61 355**		**Pn**	**17 03 24.3 +1.1**
H24K	**Noodor Dome**	**4.61 355**	IAML		17 04 41.5
	comp=N,39nm,1.5s				
H24K			IAML		17 04 44.8
	comp=E,84nm,1.2s				
HYT	**Haines Junctio**	**4.61 91**	Pn	**Pn**	**17 03 24.0 +0.8**
H23K	**Yukon River**	**4.72 347**		**Pn**	**17 03 25.8 +1.1**
H23K	**Yukon River**	**4.72 347**	IAML		17 04 26.8
	comp=N,42nm,1.1s				
H23K			IAML		17 04 51.5
	comp=E,44nm,1.1s				
L18K	**Granite Mounta**	**4.73 286**		**Pn**	**17 03 25.5 +0.7**
L18K	**Granite Mounta**	**4.73 286**	P	**Pn**	**17 03 24.9 +0.1**
	baz=97				
KAHG	**Katmai Hook Gl**	**4.73 237**		**Pn**	**17 03 25.8 +0.9**
KAHC	**Katmai Hardscr**	**4.83 241**		**Pn**	**17 03 26.2 0.0**
J19K	**Poorman**	**4.85 308**		**Pn**	**17 03 27.0 +0.6**
J19K	**Poorman**	**4.85 308**	IAML		17 04 54.7
	comp=E,42nm,0.8s				
J19K			IAML		17 04 56.8
	comp=N,44nm,1.0s				
I20K	**Naaghedeneel**	**4.93 319**		**Pn**	**17 03 28.4 +1.0**
I27K	**Kandik River**	**4.97 26**		**Pn**	**17 03 30.1 +2.0**
M30M	**Minto, Yukon**	**4.97 70**		**Pn**	**17 03 29.4 +1.2**
H25L	**Birch Creek**	**5.04 5**		**Pn**	**17 03 30.7 +1.6**
H22K	**Ishtalitna Cre**	**5.05 339**		**Pn**	**17 03 30.1 +0.9**
J18K	**Innoko River**	**5.05 300**		**Pn**	**17 03 30.2 +0.9**
J18K	**Innoko River**	**5.05 300**	P	**Pn**	**17 03 30.1 +0.9**
	baz=111				
M17K	**Holitna River**	**5.06 276**		**Pn**	**17 03 29.8 +0.5**
M17K			IAML		17 05 08.3
	comp=E,57nm,0.9s				
M17K	**Holitna River**	**5.06 276**	P	**Pn**	**17 03 29.6 +0.3**
	baz=87				
N17K	**Nushagak Hills**	**5.06 266**		**Pn**	**17 03 29.2 0.0**
N17K	**Nushagak Hills**	**5.06 266**	IAML		17 05 01.3
	comp=N,31nm,0.8s				
KAKN	**Katmai Knife C**	**5.07 238**		**Pn**	**17 03 30.2 +0.7**
H21K	**Melozitna Rive**	**5.13 332**		**Pn**	**17 03 31.4 +1.1**
H21K	**Melozitna Rive**	**5.13 332**	IAML		17 04 57.6
	comp=E,31nm,1.6s				
H21K			IAML		17 05 04.9
	comp=N,29nm,1.5s				
KABR	**Katmai Barrier**	**5.14 236**		**Pn**	**17 03 30.3 -0.2**
P17K	**Kvichak River**	**5.17 250**		**Pn**	**17 03 31.4 +0.6**
P17K	**Kvichak River**	**5.17 250**	P	**Pn**	**17 03 31.4 +0.6**
	baz=62				
O17K	**Koliganek Bris**	**5.23 258**		**Pn**	**17 03 31.9 +0.2**
I28M	**Miner Creek**	**5.25 34**		**Pn**	**17 03 34.3 +2.3**
I28M	**Miner Creek**	**5.25 34**	IAML		17 05 13.2
	comp=E,26nm,1.6s				
O30N	**Mendenhall**	**5.30 91**		**Pn**	**17 03 33.8 +1.1**
N31M	**Braeburn, Yuko**	**5.37 83**		**Pn**	**17 03 33.8 +0.1**
N31M			IAML		17 05 20.1
	comp=E,28nm,1.5s				
CNTC	**Contact Creek**	**5.43 240**		**Pn**	**17 03 35.2 +0.8**
G24K	**Hadweenzic Riv**	**5.46 358**		**Pn**	**17 03 35.1 +0.3**
L17K	**Donlin**	**5.47 284**		**Pn**	**17 03 34.9 0.0**
L17K	**Donlin**	**5.47 284**	P	**Pn**	**17 03 35.2 +0.2**
	baz=94				
H27K	**Steamboat Moun**	**5.53 23**		**Pn**	**17 03 37.5 +1.7**
H20K	**Anotleneega Mo**	**5.54 323**		**Pn**	**17 03 36.9 +1.0**
K17K	**Iditarod**	**5.55 290**		**Pn**	**17 03 36.5 +0.5**
K17K	**Iditarod**	**5.55 290**	P	**Pn**	**17 03 36.2 +0.2**
	baz=100				
IMAR	**Indian Mountai**	**5.62 330**		**Pn**	**17 03 37.6 +0.7**
G23K	**Bananza Creek**	**5.63 347**		**Pn**	**17 03 38.1 +0.9**
I29M	**Ogilvie Camp,**	**5.66 40**		**Pn**	**17 03 39.3 +1.8**
O16K	**Kokwok River B**	**5.77 258**		**Pn**	**17 03 39.3 +0.2**
M16K	**Timber Creek**	**5.83 273**		**Pn**	**17 03 40.2 +0.4**
N16K	**Nishlik Lake**	**5.83 267**		**Pn**	**17 03 40.2 +0.2**
WHY	**Whitehorse**	**5.91 91**		**Pn**	**17 03 41.0 0.0**
G21K	**Allakaket**	**6.01 334**		**Pn**	**17 03 43.4 +1.0**
L16K	**Owhat River**	**6.02 280**	Pn	**Pn**	**17 03 42.3 -0.2**
SII	**Sitkinak Islan**	**6.03 222**	Pn	**Pn**	**17 03 42.4 -0.3**
SII	**Sitkinak Islan**	**6.03 222**	P	**Pn**	**17 03 42.5 -0.1**
R17K	**Ugashik Creek**	**6.03 237**		**Pn**	**17 03 43.7 +1.1**
H19K	**Roundabout Mou**	**6.04 319**		**Pn**	**17 03 43.2 +0.5**
SKAG	**Skagway**	**6.04 102**	Pn	**Pn**	**17 03 45.4 +2.6**
COLD	**Coldfoot**	**6.15 348**		**Pn**	**17 03 45.9 +1.6**
COLD	**Coldfoot**	**6.15 348**	P	**Pn**	**17 03 45.9 +1.6**
	baz=165				
BMAR	**Burnt Mountain**	**6.27 8**	Pn	**Pn**	**17 03 47.2 +1.2**
F24K	**Squaw Lake**	**6.29 357**		**Pn**	**17 03 46.2 0.0**
S31K	**Pelican**	**6.37 117**	Pn	**Pn**	**17 03 49.5 +2.3**
H18K	**Honhosa River**	**6.46 312**		**Pn**	**17 03 50.0 +1.4**
FARO	**Faro, Yukon**	**6.53 76**		**Pn**	**17 03 50.0 +0.5**
N15K	**Kwethluk River**	**6.54 266**		**Pn**	**17 03 50.3 +0.6**
F26K	**Sheenjek River**	**6.57 9**		**Pn**	**17 03 51.2 +1.2**
F21K	**Alatna River**	**6.62 337**		**Pn**	**17 03 52.2 +1.5**
G19K	**Purcell Mounta**	**6.65 322**		**Pn**	**17 03 52.1 +1.1**
F22K	**John River**	**6.66 342**		**Pn**	**17 03 52.5 +1.2**
J16K	**Anvik River**	**6.69 294**		**Pn**	**17 03 51.2 -0.4**
O15K	**Ungalikthiuk R**	**6.75 258**		**Pn**	**17 03 52.7 +0.2**
P32M	**Atlin**	**6.76 99**	Pn	**Pn**	**17 03 52.2 -0.5**
EPYK	**Eagle Plains**	**6.83 37**	Pn	**Pn**	**17 03 53.7 +0.1**
E24K	**Your Creek**	**6.87 355**		**Pn**	**17 03 55.1 +1.0**
I17K	**Unalakleet**	**6.87 298**	Pn	**Pn**	**17 03 53.9 -0.2**
E25K	**Arctic Village**	**6.91 4**	Pn	**Pn**	**17 03 54.5 -0.1**
E25K	**Arctic Village**	**6.91 4**	P	**Pn**	**17 03 55.8 +1.1**
	baz=186				
H17K	**Granite Mounta**	**6.94 308**		**Pn**	**17 03 56.2 +1.2**
F20K	**Avaraart Lake**	**6.95 330**		**Pn**	**17 03 56.3 +1.1**
R32K	**Eaglecrest**	**6.95 110**	Pn	**Pn**	**17 03 56.5 +1.2**
L15K	**Ungalak Mounta**	**6.98 280**		**Pn**	**17 03 55.1 -0.5**
G18K	**Tagagawik**	**6.98 317**		**Pn**	**17 03 57.1 +1.4**
K15K	**Wolf Creek Mou**	**6.99 285**		**Pn**	**17 03 55.9 +0.1**
P33M	**Teslin, Yukon**	**7.01 92**	Pn	**Pn**	**17 03 55.9 -0.2**
F28M	**Old Crow**	**7.06 23**	Pn	**Pn**	**17 03 58.2 +1.4**
CHIR	**Chirikof Islan**	**7.10 224**	Pn	**Pn**	**17 03 57.1 -0.2**
SIT	**Sitka**	**7.31 120**	Pn	**Pn**	**17 04 00.3 +0.2**
M14K	**Bethel**	**7.32 273**	Pn	**Pn**	**17 04 01.2 +1.0**
F19K	**Shaleruckik Mo**	**7.32 324**	Pn	**Pn**	**17 04 01.9 +1.6**
S32K	**Killisnoo**	**7.37 116**	Pn	**Pn**	**17 04 01.4 +0.3**
TOLK	**Toolik Lake Re**	**7.49 353**	Pn	**Pn**	**17 04 04.2 +1.5**
TOLK	**Toolik Lake Re**	**7.49 353**	P	**Pn**	**17 04 04.7 +2.0**
	baz=170				
CHGN	**Chignik**	**7.76 235**	Pn	**Pn**	**17 04 06.8 +0.5**
G31M	**Satah River**	**7.92 39**	Pn	**Pn**	**17 04 10.6 +2.1**
G16K	**Koyuk River**	**8.06 308**		**Pn**	**17 04 11.7 +1.2**
E29M	**Blow River**	**8.11 24**		**Pn**	**17 04 12.7 +1.6**
F31M	**Tsiigehtchic**	**8.42 37**	Pn	**Pn**	**17 04 16.1 +0.7**
D19K	**Kuna River**	**8.66 332**	Pn	**Pn**	**17 04 19.2 +0.6**
U33K	**Whale Pass**	**8.85 120**	Pn	**Pn**	**17 04 22.0 +0.7**
DLBC	**Dease Lake**	**8.97 101**	P	Pn	17 04 28.9 +5.9
	comp=E,0.2nm,0.3s,baz=202,slow=18,SNR=1.5				
	comp=E,0.5nm,0.3s				
WRAK	**Wrangell Islan**	**8.98 116**	Pn	**Pn**	**17 04 22.8 -0.3**
ANM	**Nome**	**9.02 299**	Pn	**Pn**	**17 04 24.7 +1.1**
INK	**Inuvik**	**9.07 33**	P	**Pn**	**17 04 28.2 +4.0**
	comp=E,0.3nm,0.3s,baz=243,slow=16,SNR=6.4				
	comp=E,2.6nm,0.5s				
SDPT	**Sand Point**	**9.26 236**	Pn	**Pn**	**17 04 28.2 +1.4**
CNBA	**Chernabura Isl**	**9.30 232**	Pn	**Pn**	**17 04 27.8 +0.4**
FINES	**FINESS Array B**	**57.50 4**	P	**P**	**17 12 01.2 0.0**
	comp=E,0.7nm,0.5s,baz=12,slow=10,SNR=5.5				
	comp=E,0.7nm,0.5s				
BVAR	**Borovoye Array**	**62.25 336**	P	**P**	**17 12 33.5 -0.4**
	comp=E,0.6nm,0.6s,baz=28,slow=6.7,SNR=4.7				
	comp=E,0.6nm,0.6s				
KURBB	**Kurchatov Arra**	**62.67 329**	P	**P**	**17 12 35.4 -1.4**
	comp=E,0.3nm,0.2s,baz=27,slow=6.7,SNR=2.0				
	comp=E,0.3nm,0.2s				
MKAR	**Makanchi Array**	**65.21 325**	P	**P**	**17 12 52.1 -1.4**
	comp=E,0.3nm,0.4s,baz=25,slow=5.6,SNR=7.8				
	comp=E,0.3nm,0.4s				

NNC ***31*** *17:14:02.5±14.0, 36°.87N×71°.36E, h0km, mb3.2, mpv2.7, Error ellipse: s-maj=134.1km s-min=105.7km az=122.0*
IDC ***31*** *17:14:20.9±5.2, 37°.77N×71°.30E, h299km±115km, mbtmp3.5/5, Error ellipse: s-maj=76.1km s-min=38.3km az=154.0*

ISC 31 17:14:01.8±3.0, 36°.6N±0°.2×71°.4E±0°.2, h150km, n8, σ2§40/9, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.81**	**17**	⇓P	**Pn**	**17 15 27.8**	**+1.5**
	0.2nm,0.3s						
AML				⇑S	**Sn**	**17 16 33.6**	**+1.3**
	3.1nm,0.6s						
KK31	**Karatay Array**	**6.55**	**354**	P	**Pn**	**17 15 35.4**	**-0.4**
	0.5nm,0.5s,baz=160,slow=12,SNR=9.5						
KK31				⇑S	**Sn**	**17 16 48.8**	**-0.6**
	1.9nm,0.5s,baz=152,slow=16						
GEYT	**Alibeck**	**10.71**	**281**	P	Pn	17 16 44.4	+13
	0.7nm,0.5s,baz=87,slow=8.8,SNR=2.0						
MKAR	**Makanchi Array**	**13.02**	**35**	P	**P**	**17 17 05.3**	**-0.6**
	0.8nm,0.7s,baz=225,slow=14,SNR=6.3						
KURBB	**Kurchatov Arra**	**14.93**	**18**	P	**P**	**17 17 24.3**	**-2.7**
	0.3nm,0.5s,baz=210,slow=12,SNR=2.2						
AB31	**Akbulak array**	**15.19**	**330**	⇑P	**P**	**17 17 32.6**	**+2.8**
	0.4nm,0.6s,baz=166,slow=12,SNR=4.3						
BVAR	**Borovoye Array**	**16.46**	**358**	P	**P**	**17 17 40.3**	**-3.5**
	0.9nm,0.4s,baz=165,slow=8.6,SNR=12						
ZALV	**Zalesovo Beam**	**19.69**	**24**	P	**P**	**17 18 17.7**	**-1.5**
	0.6nm,0.5s,baz=220,slow=10,SNR=3.9						

MOS ***31*** *17:14:06.9±1.0, 46°.22N×142°.16E, h10km, mb4.8/11, Error ellipse: s-maj=8.5km s-min=5.0km az=102.0*
SKHL ***31*** *17:14:06.9±0.6, 46°.07N×142°.06E, h8km±1km, mb4.9/18, Ms3.8/1*
IDC ***31*** *17:14:06.9±0.5, 46°.17N×142°.18E, h0km, mb4.1/21, mbtmp4.1/28, ML3.7/5, MS3.3/6, Error ellipse: s-maj=14.2km s-min=12.6km az=101.0*
NIED ***31*** *17:14:07.1, 46°.26N×142°.19E, h13km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.49; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-1.39; $M_{r\theta}$0.10; $M_{\theta\phi}$0.28; $M_{\phi r}$-0.24; Fault plane solution: $M_0$1.49000×10^{15} NP1: ϕ_s166.00000°, δ50.00000°, λ88.00000°. NP2: ϕ_s350.00000°, δ40.00000°, λ93.00000°.*
JMA ***31*** *17:14:07.1±0.6, 46°.N±2°×14°.2E±°, h13km±4km, MV4.4/35, SOUTH SAKHALIN*
NEIC ***31*** *17:14:08.7±1.6, 46°.18N±0°.04×142°.13E±0°.08, h10km±1km, mb4.4/70, Error ellipse: s-maj=10.1km s-min=6.3km az=105.0*

ISC 31 17:14:07.2±1.3, 46°.15N±0°.02×142°.22E±0°.04, h4km±8km, n203, σ1§11/230, mb4.3/68, MS3.8/3, 5C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVR	**Nevel`sk**	**0.59**	**335**	*i* Pg	**Pn**	**17 14 21.7**	**-0.6**
NEVR				AMB	AMB	17 14 23.5	
	1μm,0.3s						
NEV

JKA Kamikawa-asahi 2.05 172 Pn **Pn** **17 14 43.2 +0.8**
JKA Sn **Sb** **17 15 10.4 -0.4**
JKA Kamikawa-asahi 2.05 172 *e*P **Pn** **17 14 43.8 +1.4**
UGL Uglegorsk 2.94 358 *e*P **Pn** **17 14 56.4 +1.8**
UGL AMB AMB 17 14 57.1
comp=N,97nm,0.6s
UGL *e*P **Pg** **17 15 02.9 -0.6**
UGL P Pb 17 15 05.3 +5.2
comp=N,390nm,0.7s
UGL *e*Pg Pg 17 15 08.9 +5.4
UGL AMB AMB 17 15 09.3
comp=N,222nm,0.9s
UGL *e*S **Sb** **17 15 33.0 -3.3**
UGL A A 17 15 33.6
comp=N,335nm,0.8s
UGL A A 17 15 33.6
comp=N,500nm,0.8s
UGL Uglegorsk 2.94 358 PN **Pn** **17 14 57.1 +2.5**
UGL *e*S **Sn** **17 15 32.7 +2.4**
UGL pmax pmax
comp=Z,392nm,0.7s
UGL smax smax
comp=N,430nm,0.5s
UGL smax smax
comp=E,584nm,0.6s
RUSJ Misakicho 2.96 133 PN **Pn** **17 14 55.6 +0.6**
YUK Yuzh-Kuril'sk 3.33 128 *e*P **Pn** **17 15 01.4 +1.3**
YUK AMB AMB 17 15 01.6
comp=E,312nm,0.3s
YUK *e*S **Sn** **17 15 41.0 +0.9**
YUK A A 17 15 42.4
comp=E,603nm,0.6s
YUK A A 17 15 42.4
comp=E,774nm,0.6s
YUK Yuzh-Kuril'sk 3.33 128 *e*PN **Pn** **17 15 01.3 +1.2**
AKK Akkeshi 3.65 148 *e*P **Pn** **17 15 05.3 +0.9**
AKK *e*S **Sn** **17 15 47.2 -0.6**
NMR Nemuro--Hokkai 3.73 137 *e*P **Pn** **17 15 06.7 +1.1**
NMR AMB AMB 17 15 13.4
comp=E,121nm,0.9s
NMR *e*S **Sn** **17 15 49.5 -0.5**
NMR A A 17 15 54.4
comp=E,165nm,0.7s
NMR A A 17 15 54.4
comp=E,125nm,0.7s
NMR Nemuro--Hokkai 3.73 137 *e*PN **Pn** **17 15 06.8 +1.1**
SHO Shikotan 3.98 123 *e*P **Pn** **17 15 10.9 +1.9**
SHO AMB AMB 17 15 13.4
comp=E,98nm,0.9s
SHO *e*S **Sn** **17 15 58.1 +2.0**
SHO A A 17 15 58.9
comp=E,149nm,0.7s
SHO A A 17 15 58.9
comp=E,181nm,0.7s
SHO Shikotan 3.98 123 *e*PN **Pn** **17 15 11.1 +2.1**
KUR Kuril'sk 4.06 101 *e*P **Pn** **17 15 13.2 +3.1**
KUR *e*S **Sn** **17 15 59.7 +1.6**
TEY Ternei 4.09 256 *e*P **Pn** **17 15 12.0 +1.4**
TEY Ternei 4.09 256 *e*PN **Pn** **17 15 12.0 +1.4**
ERM Erimo 4.18 170 Pn **Pn** **17 15 12.5 +0.7**
ERM Erimo 4.18 170 *ce*PN **Pb** **17 15 17.1 -4.3**
ERM pmax pmax
comp=Z,89nm,0.6s
TYV Tymovskoe 4.73 3 *e*P **Pn** **17 15 20.5 +1.2**
TYV AMB AMB 17 15 22.3
comp=Z,100nm,1.4s
TYV AMB AMB 17 15 22.5
comp=Z,13nm,0.6s
TYV *e*S **Sn** **17 16 15.6 +1.1**
TYV A A 17 16 18.4
comp=Z,100nm,1.7s
TYV A A 17 16 18.4
comp=Z,100nm,1.7s
TYV A A 17 16 19.0
comp=Z,29nm,1.0s
TYV A A 17 16 19.0
comp=Z,39nm,1.0s
TYV Tymovskoe 4.73 3 *e*PN **Pn** **17 15 20.5 +1.2**
TYV *e*S **Sn** **17 16 15.6 +1.1**
TYV pmax pmax
comp=Z,100nm,1.4s
TYV pmax pmax
comp=Z,13nm,0.6s
TYV smax smax
comp=N,100nm,1.7s
TYV smax smax
comp=E,100nm,1.7s
TYV smax smax
comp=N,29nm,1.0s
TYV smax smax
comp=E,39nm,1.0s
JTM Tenmabayashi 5.42 189 Pn **Pn** **17 15 30.5 +1.7**
GRNR Gornyy 6.02 322 *e*P **Pn** **17 15 37.7 +0.7**
GRNR *e*Pg **Pg** **17 16 03.6 +1.1**
GRNR AMB AMB 17 16 04.5
comp=E,6.0nm,0.6s
GRNR AMB AMB 17 16 04.5
comp=E,8.0nm,0.6s
GRNR AMB AMB 17 16 04.5
comp=E,4.0nm,0.6s
GRNR Gornyy 6.02 322 *e*PN **Pn** **17 15 37.7 +0.7**
GRNR *e* 17 16 48.2
GRNR pmax pmax
comp=E,8.0nm,0.6s
GRNR pmax pmax
comp=N,6.0nm,0.5s
GRNR pmax pmax
comp=Z,4.0nm,0.5s
GRNR smax smax
comp=N,9.0nm,0.3s
GRNR MLR MLR
comp=N,320nm,10.0s
GRNR MLR MLR
comp=E,210nm,10.0s
GRNR MLR MLR
comp=Z,480nm,10.0s
NKL Nikolayevsk 7.08 352 *e*P **Pn** **17 15 52.8 +1.3**
NKL AMB AMB 17 15 53.6
comp=Z,28nm,0.2s
NKL *e*S **Sn** **17 17 12.3 -0.1**
NKL A A 17 17 14.2
comp=Z,30nm,0.5s
NKL A A 17 17 14.2
comp=Z,31nm,0.5s
NKL Nikolayevsk 7.08 352 *e*PN **Pn** **17 15 52.6 +1.1**
NKL pmax pmax
comp=E,26nm,1.2s
NKL pmax pmax
comp=N,69nm,1.3s
NKL pmax pmax
comp=Z,89nm,1.4s
USA0B Ussuriysk Arra 7.49 259 Pn **Pn** **17 15 59.4 +2.3**
USA0B Ussuriysk Arra 7.49 259 *i* PN **Pn** **17 15 59.6 +2.5**
USRK Ussuriysk Ar. 7.49 259 Pn **Pn** **17 15 58.4 +1.2**
USRK Ussuriysk Ar. 7.49 259 Pn **Pn** **17 15 58.8 +1.7**
comp=Z,0.6nm,0.3s,baz=67,slow=14,SNR=13
USRK Sn **Sn** **17 17 21.9 -0.5**
comp=Z,0.4nm,0.3s,baz=49,slow=18,SNR=1.1
USRK LR LR 17 19 04.1
comp=Z,225nm,18.3s,baz=104,slow=40
comp=Z,1.5nm,0.3s
KLR Kul'dur 7.71 297 *i* PN **Pn** **17 16 01.0 +0.8**
KLR Kul'dur 7.71 297 Pn **Pn** **17 16 01.0 +0.8**
comp=Z,0.5nm,0.3s,baz=116,slow=13,SNR=7.4
KLR Sn **Sn** **17 17 23.9 -4.0**
comp=Z,1.5nm,0.3s,baz=76,slow=17,SNR=6.9
comp=Z,1.8nm,0.4s
JMM Marumori 8.34 188 Pn **Pn** **17 16 10.3 +1.5**
JSD Sado 8.62 201 Pn **Pn** **17 16 13.8 +1.1**
MJB9 Matsu-Tunnel 10.05 199 Pn **Pn** **17 16 35.2 +2.8**
MAJO Matsushiro 10.05 199 Pn **Pn** **17 16 35.2 +2.8**
MAJO Matsushiro 10.05 199 *i* PN Pn 17 16 37.7 +5.3
MAJO pmax pmax
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 10.05 199 Pn **Pn** **17 16 34.6 +2.2**
comp=Z,0.9nm,0.6s,baz=341,slow=12,SNR=2.0
MJAR LR LR 17 21 07.9
comp=Z,90nm,19.6s,baz=32,slow=42
PETK Petropavlovsk- 12.20 50 Pn **Pn** **17 17 02.7 +1.0**
comp=Z,9.9nm,1.1s,baz=313,slow=7.2,SNR=1.6
PETK LR LR 17 20 59.2
comp=Z,142nm,21.3s,baz=189,slow=34
KSRS Korea Array 13.73 236 Pn **Pn** **17 17 22.6 0.0**
comp=Z,0.2nm,0.3s,baz=50,slow=13,SNR=2.1
KSRS LR LR 17 22 01.7
comp=Z,62nm,18.4s,baz=35,slow=34
comp=Z,1.0nm,0.8s
JNU Nakatsue 15.64 218 Pn **Pn** **17 17 49.9 +1.4**
JNU Nakatsue 15.64 218 Pn **Pn** **17 17 49.5 +1.0**
comp=Z,0.2nm,0.3s,baz=5.1,slow=14,SNR=1.9
comp=Z,3.3nm,0.8s
YAK Yakutsk 17.48 340 *e*P **Pn** **17 18 10.0 -1.6**
YAK Yakutsk 17.48 340 *e*P **Pn** **17 18 10.0 -1.6**
YAK pmax pmax
comp=Z,14nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.5s
SEY Seymchan 17.79 15 P **P** **17 18 19.2 +3.0**
comp=E,3.1nm,0.8s,baz=222,slow=12,SNR=5.6
XLT XiLinHaoTe 18.59 273 *e*P **Pn** **17 18 28.5 +3.0**
XLT sP sP 17 18 35.5 +8.6
XLT pmax pmax
comp=Z,8.0nm,1.2s
XLT pmax pmax
comp=Z,220nm,5.2s
JOW Kunigami 22.24 215 LR LR 17 27 13.2
comp=Z,98nm,21.2s,baz=155,slow=35
HHC Hu-ho-hao-te 22.77 268 *e*P **P** **17 19 09.0 -1.7**
HHC pmax pmax
comp=Z,32nm,0.6s
HHC pmax pmax
comp=Z,470nm,5.6s
SONM Songino Array 24.36 287 P **P** **17 19 24.4 -1.9**
SONM Songino Array 24.36 287 P **P** **17 19 26.5 +0.1**
comp=Z,1.2nm,0.7s,baz=75,slow=9.8,SNR=5.7
comp=Z,1.2nm,0.7s
TIXI Tiksi 26.36 351 P **P** **17 19 43.6 -0.4**
TIXI Tiksi 26.36 351 *e*P **P** **17 19 43.7 -0.3**
TIXI Tiksi 26.36 351 *i* P **P** **17 19 43.7 -0.3**
ADK Adak 27.28 63 P **P** **17 19 52.0 -0.4**
ADK Adak 27.28 63 P **P** **17 19 52.0 -0.4**
ADK pmax pmax
comp=Z,25nm,1.1s
G16K Koyuk River 35.12 37 P **P** **17 21 02.6 +1.2**
G16K IAmb IAmb 17 21 05.7
comp=Z,14nm,1.4s
K15K Wolf Creek Mou 35.32 42 P **P** **17 21 04.3 +1.2**
F17K Baldwin Pennin 35.68 35 P **P** **17 21 06.5 +0.4**
C18K Utukok River 36.00 31 P **P** **17 21 09.4 +0.5**
DGZ Jazzator, Alta 36.20 296 *i* P **P** **17 21 11.1 +0.1**
DGZ pmax pmax
comp=Z,8.0nm,3.8s
ZALV Zalesovo Beam 36.76 304 P **P** **17 21 15.7 +0.3**
comp=Z,1.1nm,0.6s,baz=81,slow=9.2,SNR=6.5
ZALV PcP **PcP** **17 23 37.5 -0.1**
comp=Z,2.3nm,0.8s,baz=107,slow=1.5,SNR=9.5
comp=Z,1.1nm,0.6s
F19K Shaleruckik Mo 37.10 35 P **P** **17 21 18.5 +0.3**
F19K IAmb IAmb 17 21 24.1
comp=Z,6.5nm,1.1s
G19K Purcell Mounta 37.34 36 P **P** **17 21 20.9 +0.6**
E19K Redstone River 37.34 34 P **P** **17 21 20.5 +0.1**
E19K IAmb IAmb 17 21 26.9
comp=Z,4.9nm,0.9s
PZH PanZhiHua 37.54 253 P **P** **17 21 23.0 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.0s
H19K Roundabout Mou 37.59 37 P **P** **17 21 23.6 +1.2**
H19K IAmb IAmb 17 21 28.7
comp=Z,9.6nm,0.9s
J19K Poorman 37.97 39 P **P** **17 21 26.0 +0.3**
WMQ Urumqi 38.00 287 *e*P **P** **17 21 28.0 +1.8**
J20K Nowinta River 38.61 39 P **P** **17 21 31.8 +0.8**
J20K IAmb IAmb 17 21 37.5
comp=Z,5.1nm,0.9s
IMAR Indian Mountai 38.70 36 P **P** **17 21 31.8 0.0**
G21K Allakaket 38.79 35 P **P** **17 21 32.9 +0.4**
G21K IAmb IAmb 17 21 34.5
comp=Z,4.9nm,0.8s
G23K Bananza Creek 40.17 35 P **P** **17 21 44.2 +0.1**
MK31 Makanchi Array 40.39 293 P **P** **17 21 45.5 -0.7**
MK31 Makanchi Array 40.39 293 *i* P **P** **17 21 46.3 +0.1**
MKAR Makanchi Array 40.39 293 P **P** **17 21 45.7 -0.5**
MKAR Makanchi Array 40.39 293 P **P** **17 21 46.0 -0.1**
comp=Z,1.2nm,0.8s,baz=75,slow=7.8,SNR=7.5
MKAR PcP **PcP** **17 23 48.9 -0.2**
comp=Z,0.4nm,0.5s,baz=57,slow=2.9,SNR=5.1
comp=Z,1.2nm,0.8s
H23K Yukon River 40.44 36 P **P** **17 21 47.8 +1.5**
H23K IAmb IAmb 17 21 52.9
comp=Z,7.5nm,1.1s
I23K Minto, Yukon-K 40.58 37 P **P** **17 21 48.4 +1.0**
NEA2 Nenana 40.77 38 P **P** **17 21 49.4 +0.3**
NEA2 IAmb IAmb 17 21 55.5
comp=Z,7.8nm,1.0s
MDM Murphy Dome 41.08 37 P **P** **17 21 51.9 +0.3**
MDM IAmb IAmb 17 21 58.2
comp=Z,6.4nm,1.0s
H24K Noodor Dome 41.12 36 P **P** **17 21 52.9 +1.0**
H24K IAmb IAmb 17 21 57.9
comp=Z,5.1nm,0.9s
KURK Kurchatov 41.29 300 P **P** **17 21 52.7 -0.8**
KURK Kurchatov 41.29 300 *e*P **P** **17 21 53.6 +0.2**
KURK Kurchatov 41.29 300 P **P** **17 21 53.6 +0.2**
KURK 17 23 51.9
D25K Kavik River 41.35 31 P **P** **17 21 54.3 +0.4**
D25K IAmb IAmb 17 21 59.3
comp=Z,4.6nm,0.9s
KURBB Kurchatov Arra 41.38 300 P **P** **17 21 53.6 -0.6**
comp=Z,2.5nm,0.6s,baz=69,slow=8.4,SNR=21
KURBB PcP **PcP** **17 23 51.9 -0.3**
comp=Z,1.6nm,0.6s,baz=76,slow=3.2,SNR=14
comp=Z,2.5nm,0.6s
SML Sawmill 41.54 42 P **P** **17 21 55.5 0.0**
IL31 41.67 38 P **P** **17 21 56.3 -0.1**
IL31 IAmb IAmb 17 22 02.0
comp=Z,3.9nm,0.8s
ILAR Eielson Array 41.67 38 P **P** **17 21 57.7 +1.2**
ILAR Eielson Array 41.67 38 P **P** **17 21 56.9 +0.5**
comp=Z,3.8nm,0.8s,baz=280,slow=7.2,SNR=19
ILAR PcP **PcP** **17 23 52.2 -0.8**
comp=Z,0.4nm,0.5s,baz=294,slow=3.4,SNR=5.2
comp=Z,3.8nm,0.8s
PRP Porcupine Dome 42.12 36 P **P** **17 22 00.3 0.0**
PRP IAmb IAmb 17 22 06.1
comp=Z,6.7nm,0.9s
CRAI Chiangrai 42.83 247 P **P** **17 22 07.0 +0.7**
SCRK Sand Creek 43.06 38 P **P** **17 22 07.7 -0.2**
SCRK IAmb IAmb 17 22 12.4
comp=Z,5.6nm,0.8s
L27K Beaver Creek, 44.21 39 P **P** **17 22 18.6 +1.5**
I28M Miner Creek 44.42 36 IAmb IAmb 17 22 29.5
comp=Z,4.8nm,1.1s
CHTO Chiang Mai 44.77 247 P **P** **17 22 22.7 +0.7**
CHTO IAmb IAmb 17 22 26.2
comp=Z,3.1nm,0.8s
CHTO Chiang Mai 44.77 247 P **P** **17 22 22.7 +0.7**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 45.04 247 *ce*P **P** **17 22 24.7 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 45.04 247 P **P** **17 22 24.4 +0.3**
comp=Z,0.8nm,0.6s,baz=33,slow=7.0,SNR=6.3
comp=Z,0.8nm,0.6s
BVAR Borovoye Array 45.27 306 P **P** **17 22 26.1 +0.5**
comp=Z,2.1nm,0.6s,baz=81,slow=10,SNR=18
BVAR PcP **PcP** **17 24 05.3 0.0**
comp=Z,2.5nm,0.6s,baz=71,slow=2.4,SNR=11
comp=Z,2.1nm,0.6s
BRVK Borovoye 45.32 306 P **P** **17 22 25.5 -0.4**
BRVK IAmb IAmb 17 22 27.9
comp=Z,2.5nm,0.6s
BRVK **PcP** **17 24 05.1 -0.4**
BRVK Borovoye 45.32 306 *e*P **P** **17 22 25.8 -0.1**
BRVK Borovoye 45.32 306 *ce*P **P** **17 22 25.8 -0.1**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
H31M Peel River 46.56 34 P **P** **17 22 36.4 +0.8**
TAPN Taplejung 46.57 266 *e*P **P** **17 22 35.1 -1.4**
comp=Z,5.4nm,0.5s
JIRN Jiri 47.43 267 *e*P **P** **17 22 43.0 -0.3**
comp=Z,9.1nm,0.6s
GUN Gumba 47.49 268 *e*P **P** **17 22 43.9 +0.1**
comp=Z,18nm,1.0s
RAMN Ramite 47.59 266 *e*P **P** **17 22 43.2 -1.2**
comp=Z,7.3nm,0.6s
PKI Pulchoki 48.03 268 *e*P **P** **17 22 47.0 -0.9**
comp=Z,3.9nm,0.5s
PKIN Phulchoki 48.03 268 *e*P **P** **17 22 47.3 -0.6**
comp=Z,5.3nm,0.5s
GKN Gorkha 48.30 269 *e*P **P** **17 22 49.6 -0.2**
comp=Z,8.3nm,0.4s
DANN Dangsing 48.69 270 *e*P **P** **17 22 53.4 +0.4**
comp=Z,25nm,0.5s
ARSB Arslanbob 48.82 291 P **P** **17 22 54.1 +0.4**
ARSB Arslanbob 48.82 291 P **P** **17 22 54.1 +0.4**
ARSB pmax pmax
comp=Z,1.0nm,1.0s
SVE Sverdlovsk 48.98 314 *e*P **P** **17 22 55.3 +0.9**
SVE Sverdlovsk 48.98 314 *e*P **P** **17 22 55.3 +0.9**
SVE pmax pmax
comp=Z,13nm,1.0s
P33M Teslin, Yukon 49.22 41 P **P** **17 22 57.0 +0.7**
P33M IAmb IAmb 17 23 06.4
comp=Z,6.6nm,1.3s
PYUN Piuthan 49.38 270 *e*P **P** **17 22 58.5 +0.3**
comp=Z,24nm,0.9s
KK31 Karatay Array 49.52 294 P **P** **17 22 57.7 -1.1**
KK31 Karatay Array 49.52 294 P **P** **17 22 57.7 -1.1**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 49.52 294 P **P** **17 22 57.8 -1.0**
KKAR Karatay Array 49.52 294 P **P** **17 22 58.0 -0.8**
KKAR Karatay Array 49.52 294 P **P** **17 22 58.0 -0.8**
ARU Arti 50.18 314 P **P** **17 23 03.0 -0.6**
ARU Arti 50.18 314 *e*P **P** **17 23 03.5 -0.1**
ARU Arti 50.18 314 *c i* P **P** **17 23 03.5 -0.1**
ARU S **S** **17 30 16.9 +1.0**
ARU SS **SS** **17 33 48.4 -0.1**
ARU pmax pmax
comp=Z,13nm,1.2s
NIL Nilore 52.80 282 P **P** **17 23 23.5 -0.1**
NIL IAmb IAmb 17 23 25.9
comp=Z,5.0nm,0.6s
NIL Nilore 52.80 282 P **P** **17 23 23.5 -0.1**
NIL pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 52.83 305 P **P** **17 23 23.4 -0.1**
ABKAR IAmb IAmb 17 23 24.8
comp=Z,6.3nm,0.8s
ABKAR Akbulak array 52.83 305 P **P** **17 23 23.6 0.0**
ABKAR PcP **PcP** **17 24 31.9 -0.9**
KIRV Kirov 53.52 319 *ce*P **P** **17 23 27.2 -1.3**
PRGR Permogore 53.60 324 *e*P **P** **17 23 28.6 -0.4**
PRGR pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 53.66 16 P **P** **17 23 29.4 +0.1**
RES Resolute Bay 53.66 16 P **P** **17 23 29.4 +0.1**
RES pmax pmax
comp=Z,25nm,1.5s
PMG Port Moresby 55.48 174 P **P** **17 23 41.7 -1.4**
PMG IAmb IAmb 17 24 08.6
comp=Z,6.2nm,0.8s
PMG Port Moresby 55.48 174 P **P** **17 23 41.7 -1.4**
PMG pmax pmax
comp=Z,6.0nm,0.8s
YKA Yellowknife Ar 55.73 33 P **P** **17 23 43.4 -1.1**
YKA Yellowknife Ar 55.73 33 P **P** **17 23 44.6 +0.1**
comp=Z,2.6nm,0.9s,baz=295,slow=10,SNR=2.1
comp=Z,2.6nm,0.9s
ARCES ARCESS Array B 55.74 338 P **P** **17 23 43.9 -0.6**
ARCES ARCESS Array B 55.74 338 P **P** **17 23 45.5 +1.0**
comp=Z,3.0nm,0.9s,baz=30,slow=5.6,SNR=5.6
comp=Z,3.0nm,0.9s
BELG Belogornoye 57.73 314 *i* P **P** **17 23 58.8 0.0**
BELG pmax pmax
comp=Z,6.0nm,0.8s
COEN Coen 59.83 179 P **P** **17 24 13.4 -0.3**
GEYT Alibeck 60.23 295 P **P** **17 24 16.7 +0.2**
comp=Z,1.5nm,0.6s,baz=89,slow=6.1,SNR=4.2
comp=Z,1.5nm,0.6s
FINES FINESS Array B 61.11 330 *i* P **P** **17 24 22.5 +0.5**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES FINESS Array B 61.11 330 P **P** **17 24 22.2 +0.2**
comp=Z,8.8nm,0.6s,baz=47,slow=8.3,SNR=34
comp=Z,8.8nm,0.6s
OBN Obninsk 61.28 321 *e*P **P** **17 24 22.9 -0.3**
OBN Obninsk 61.28 321 *e*P **P** **17 24 22.9 -0.3**
OBN *e* 17 26 35.9
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,108nm,21.0s
SUMG Summit 61.58 0 P **P** **17 24 25.7 +0.1**
SUMG IAmb IAmb 17 24 33.0
comp=Z,6.4nm,1.1s
SUMG Summit 61.58 0 P **P** **17 24 25.7 +0.1**
SUMG pmax pmax
comp=Z,6.0nm,1.1s
KNRA Kununurra 62.72 195 P **P** **17 24 32.5 -0.7**
PINE Pine Mountain 64.17 53 P **P** **17 24 45.1 +2.0**
PINE IAmb IAmb 17 25 01.4
comp=Z,5.1nm,0.9s
KIV Kislovodsk 65.54 309 *e*P **P** **17 24 50.2 -1.6**
KIV pmax pmax
comp=Z,12nm,1.0s
NC405 NORSAR Array S 65.85 336 P **P** **17 24 53.5 0.0**
NC405 IAmb IAmb 17 25 31.3
comp=Z,2.4nm,0.7s
NC303 NORSAR Array S 65.86 336 P **P** **17 24 53.6 +0.2**
WB0 Warramunga Arr 65.98 188 P **P** **17 24 54.2 -0.4**
WB0 IAmb IAmb 17 25 16.7
comp=Z,3.7nm,1.2s
PLID Pearl Lake 66.00 49 P **P** **17 24 55.1 +0.2**
PLID IAmb IAmb 17 25 00.2
comp=Z,2.4nm,0.8s
CTAO Charters Tower 66.02 176 P **P** **17 24 54.9 0.0**
CTAO Charters Tower 66.02 176 P **P** **17 24 54.9 0.0**
CTAO pmax pmax
comp=Z,10.0nm,1.4s
NB201 NORSAR Array S 66.02 336 P **P** **17 24 54.8 +0.2**
NB2 NORSAR Subarra 66.05 336 P **P** **17 24 54.5 -0.3**
comp=Z,2.4nm,0.6s,baz=36,slow=6.5
NOA NORSAR Array B 66.05 336 P **P** **17 24 54.7 -0.1**
comp=Z,3.9nm,0.7s,baz=35,slow=6.3,SNR=19
comp=Z,3.9nm,0.7s
HFS Hagfors 66.08 335 P **P** **17 24 54.8 -0.1**
comp=Z,7.2nm,0.5s,baz=60,slow=7.0,SNR=36
comp=Z,7.2nm,0.5s
WB2 Warramunga Arr 66.16 188 P **P** **17 24 56.8 +1.0**
WB2 IAmb IAmb 17 25 23.6
comp=Z,4.4nm,1.1s
WRA Warramunga Arr 66.16 188 P **P** **17 24 55.2 -0.6**
WRA Warramunga Arr 66.16 188 *i* P **P** **17 24 58.5 +2.7**
WRA Warramunga Arr 66.16 188 P **P** **17 24 54.6 -1.2**
comp=Z,0.7nm,0.8s,baz=6.6,slow=6.6,SNR=6.3
comp=Z,0.7nm,0.8s
OVMT Ovando 66.22 46 P **P** **17 24 55.8 -0.4**
AKASG Malin Array Be 67.54 321 P **P** **17 25 02.9 -1.5**
comp=Z,0.6nm,0.4s,baz=39,slow=7.0,SNR=11
comp=Z,0.6nm,0.4s
FRB Frobisher Bay 67.78 14 LR LR 17 57 04.2
comp=Z,56nm,19.1s,baz=221,slow=38
RLMT Red Lodge 69.43 46 P **P** **17 25 17.8 +1.2**
RLMT IAmb IAmb 17 25 18.9
comp=Z,2.8nm,0.6s
FXWY Fox Creek 69.59 48 P **P** **17 25 18.7 +1.1**
FXWY IAmb IAmb 17 25 27.8
comp=Z,4.5nm,1.4s
UOSS Minazif 69.80 285 P **P** **17 25 18.5 -0.3**
AS31 Alice Springs 69.89 188 P **P** **17 25 20.0 +0.8**
ASAR Alice Springs 69.89 188 P **P** **17 25 19.7 +0.5**
comp=Z,2.2nm,0.8s,baz=8.6,slow=6.6,SNR=22
comp=Z,2.2nm,0.8s
AHID Auburn Hatcher 70.17 49 P **P** **17 25 21.5 +0.4**
AHID IAmb IAmb 17 25 34.5
comp=Z,2.8nm,0.7s
BW06 Boulder Array 70.96 48 P **P** **17 25 25.4 -0.6**
BW06 IAmb IAmb 17 25 27.8
comp=Z,1.7nm,0.6s
PD31 Pinedale Array 70.96 48 P **P** **17 25 25.8 -0.2**
PD31 IAmb IAmb 17 25 27.8
comp=Z,1.5nm,0.6s
PDAR Pinedale Array 70.96 48 P **P** **17 25 25.9 -0.1**
PDAR Pinedale Array 70.96 48 P **P** **17 25 26.7 +0.7**
comp=Z,1.4nm,0.5s,baz=284,slow=1.6,SNR=17
comp=Z,1.4nm,0.5s
BURAR Bucovina Array 71.60 321 P **P** **17 25 29.6 0.0**
NLU North Lily Min 71.63 51 P **P** **17 25 31.1 +1.0**
NLU IAmb IAmb 17 25 36.3
comp=Z,2.6nm,0.9s
QSM Queen of Sheba 71.73 57 P **P** **17 25 31.9 +1.5**

CLL Collm 73.52 330 *e*P **P 17 25 41.0 +0.2**
CLL Collm 73.52 330 *e*P **P 17 25 41.0 +0.2**
HMU Henry Mountain 73.80 52 P **P 17 25 44.1 +1.0**
HMU IAmb IAmb 17 25 45.2
comp=Z,3.4nm,0.5s
EKA Eskdalemuir Ar 74.75 340 P **P 17 25 47.9 0.0**
comp=Z,0.8nm,0.6s,baz=31,slow=5.0,SNR=4.2
comp=Z,0.8nm,0.6s
KHC Kasperske Hory 75.12 328 *e*P **P 17 25 49.2 -1.1**
KHC Kasperske Hory 75.12 328 *e*P **P 17 25 49.2 -1.1**
GERES GERESS Array B 75.31 328 P **P 17 25 51.4 -0.1**
comp=Z,0.4nm,0.5s,baz=38,slow=3.7,SNR=2.7
comp=Z,0.4nm,0.5s
FUORN Ofenpass-Fuorn 78.44 328 P **P 17 26 08.7 -0.6**
FUORN IAmb IAmb 17 26 10.7
comp=Z,3.4nm,1.1s
TXAR Lajitas Array 84.13 53 P **P 17 26 40.6 +1.0**
comp=Z,1.3nm,0.7s,baz=298,slow=4.1,SNR=14
comp=Z,1.3nm,0.7s
ESDC Sonseca Array 89.36 335 P **P 17 27 04.3 -0.7**
comp=Z,0.5nm,0.6s,baz=37,slow=4.2,SNR=4.2
comp=Z,0.5nm,0.6s
QSPA South Pole Qui 135.88 180 PKP **PKPdf 17 33 28.1 +0.1**
comp=Z,0.8nm,0.8s,baz=293,slow=3.0,SNR=2.4

---

*IDC **31** 17:22:15.6±0.8, 46°.28N×142°.24E, h0km, mb3.6/10, mbtmp3.6/12, ML3.4/2, Error ellipse: s-maj=23.3km s-min=18.6km az=79.0*
*SKHL **31** 17:22:16.5±0.7, 46°.07N×142°.14E, h8km±1km, mb4.5/7*
*JMA **31** 17:22:16.4±0.5, 46°N±2°×14°2E±°, h14km±4km, MV3.6/21, SOUTH SAKHALIN*
ISC 31 17:22:16.4±2.2, 46°.11N±0°.03×142°.07E±0°.05, h6km±15km, n22, σ1°19/33, mb3.5/10, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEVR	**Nevel`sk**	**0.58**	**346**	*e*Pg	**Pn**	**17 22 30.3**	**-0.8**
NEVR	360nm,0.2s			AMB	AMB	17 22 32.3	
NEVR				*e*Sg	**Sn**	**17 22 40.7**	**-0.3**
NEVR	3μm,0.4s			A	A	17 22 42.4	
NEVR	3μm,0.4s			A	A	17 22 42.4	
JWK2	**Keihoku**	**0.81**	**189**	*e*P	**Pn**	**17 22 34.2**	**0.0**
JWK2				*e*S	**Sn**	**17 22 46.6**	**+0.1**
KHLM	**Kholmsk**	**0.94**	**359**	*e*Pg	**Pn**	**17 22 36.6**	**+0.5**
KHLM	402nm,0.2s			AMB	AMB	17 22 37.4	
KHLM				P	Pb	17 22 42.3	+7.2
KHLM				*e*Sg	**Sn**	**17 22 50.0**	**+0.1**
KHLM	2μm,0.4s			A	A	17 22 54.2	
KHLM	5μm,0.4s			A	A	17 22 54.2	
YSS	**Yuzh-Sakhalins**	**0.96**	**29**	*e*Pg	**Pb**	**17 22 35.6**	**+0.1**
YSS	210nm,0.4s			AMB	AMB	17 22 36.2	
YSS				P	**Pn**	**17 22 38.1**	**+1.7**
YSS				*e*Sg	**Sb**	**17 22 48.4**	**-0.1**
YSS	2μm,0.3s			A	A	17 22 50.0	
YSS	1μm,0.3s			A	A	17 22 50.0	
JRBN	**Rebuntou**	**0.98**	**226**	*e*P	**Pn**	**17 22 36.3**	**-0.3**
JRBN				*e*S	**Sn**	**17 22 50.5**	**-0.4**
JRR	**Rishiri**	**1.11**	**209**	*e*P	**Pn**	**17 22 39.3**	**+0.9**
JRR				*e*S	**Sn**	**17 22 55.8**	**+1.8**
JSE	**Soyaes**	**1.21**	**162**	*e*P	**Pn**	**17 22 39.9**	**+0.2**
JSE				*e*S	**Sn**	**17 22 57.5**	**+1.0**
ASAJ	**Asahikawa**	**2.03**	**169**	Pn	**Pb**	**17 22 52.7**	**-1.0**
ASAJ	16nm,0.3s,baz=355,slow=12,SNR=23			Sn	**Sg**	**17 23 21.6**	**0.0**
	8.8nm,0.3s,baz=336,slow=20,SNR=3.8						
	100nm,0.5s						
UGL	**Uglegorsk**	**2.97**	**360**	*e*S	**Sn**	**17 23 41.1**	**+1.3**
UGL	194nm,0.9s			A	A	17 23 41.6	
UGL	210nm,0.9s			A	A	17 23 41.6	
YUK	**Yuzh-Kuril'sk**	**3.40**	**126**	*e*S	**Sn**	**17 23 49.7**	**-0.7**
YUK	256nm,0.9s			A	A	17 23 51.0	
YUK	293nm,0.9s			A	A	17 23 51.0	
SHO	**Shikotan**	**4.05**	**122**	*e*P	**Pn**	**17 23 21.4**	**+2.5**
SHO				*e*S	**Sn**	**17 24 07.3**	**+0.7**
SHO	45nm,0.7s			A	A	17 24 07.6	
SHO	54nm,0.7s			A	A	17 24 07.6	
USRK	**Ussuriysk Ar.**	**7.38**	**259**	Pn	**Pn**	**17 24 07.9**	**+3.3**
	0.1nm,0.3s,baz=67,slow=14,SNR=1.5						
	1.3nm,0.7s						
SONM	**Songino Array**	**24.27**	**287**	P	**P**	**17 27 34.2**	**-0.1**
	0.2nm,0.5s,baz=61,slow=8.9,SNR=1.7						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**40.31**	**293**	P	**P**	**17 29 55.3**	**+1.1**
	0.5nm,0.7s,baz=74,slow=11,SNR=2.7						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**41.30**	**300**	P	**P**	**17 30 02.2**	**-0.1**
	0.4nm,0.6s,baz=69,slow=8.4,SNR=5.0						
KURBB				PcP	**PcP**	**17 32 00.4**	**-0.3**
	0.1nm,0.4s,baz=86,slow=3.2,SNR=1.9						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**41.76**	**37**	P	**P**	**17 30 04.2**	**-1.8**
	0.2nm,0.5s,baz=276,slow=7.0,SNR=1.4						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**61.08**	**330**	P	**P**	**17 32 30.6**	**0.0**
	2.1nm,0.7s,baz=79,slow=9.9,SNR=5.7						
	2.1nm,0.7s						
NOA	**NORSAR Array B**	**66.04**	**336**	P	**P**	**17 33 03.4**	**-0.1**
	0.6nm,0.7s,baz=36,slow=6.3,SNR=2.2						
	0.6nm,0.7s						
HFS	**Hagfors**	**66.06**	**335**	P	**P**	**17 33 02.7**	**-0.8**
	1.9nm,0.8s,baz=54,slow=7.3,SNR=6.9						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**69.84**	**188**	P	**P**	**17 33 29.4**	**+1.7**
	0.6nm,0.9s,baz=0.0,slow=5.4,SNR=4.7						
	0.6nm,0.9s						
PDAR	**Pinedale Array**	**71.06**	**48**	P	**P**	**17 33 35.4**	**0.0**
	0.2nm,0.6s,baz=321,slow=1.2,SNR=2.9						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**84.23**	**53**	P	**P**	**17 34 47.5**	**-1.4**
	0.3nm,0.7s,baz=326,slow=4.7,SNR=2.5						
	0.3nm,0.7s						

---

*JMA **31** 17:23:51.0±0.3, 31°.3N±0°.6×128°.7E±0°.8, h5km±2km, MV3.6/31, SW OFF KYUSHU*
*NIED **31** 17:23:51.0, 31°.32N×128°.71E, h5km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.54; $M_{\theta\theta}$0.49; $M_{\phi\phi}$0.04; $M_{r\theta}$0.60; $M_{\theta\phi}$1.95; $M_{\phi r}$-0.02; Fault plane solution: $M_0$2.07000×10^{14} NP1: ϕ_s272.00000°, δ84.00000°, λ-19.00000°. NP2:ϕ_s4.00000°, δ71.00000°, λ-173.00000°.*
*IDC **31** 17:23:53.2±1.6, 31°.36N×128°.54E, h0km, mb3.4/2, mbtmp3.4/4, ML3.0/2 Error ellipse: s-maj=41.2km s-min=18.1km az=97.0*
ISC 31 17:23:53.5±1.2, 31°.35N±0°.05×128°.85E±0°.07, h10km, n13, σ1°13/17, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	**Shimokoshiki**	**0.81**	**66**	*e*P	**Pg**	**17 24 08.4**	**-0.7**
JSJ				S	**Sb**	**17 24 20.5**	**-0.1**
JFU	**Fukue jima 2**	**1.30**	**356**	*e*P	**Pn**	**17 24 15.9**	**-1.8**
JSU	**Suzuyama**	**1.38**	**83**	P	**Pn**	**17 24 18.8**	**0.0**
JSU				*e*S	**Sg**	**17 24 39.0**	**+1.0**
JNN	**Nakanoshima**	**1.75**	**149**	*e*P	**Pn**	**17 24 23.1**	**-0.7**
JYAK	**Yakushimahirau**	**1.81**	**127**	*e*P	**Pn**	**17 24 22.6**	**-2.1**
JTN	**Tanegashima 3**	**1.96**	**110**	P	**Pn**	**17 24 25.4**	**-1.3**
JTZ	**Takazaki**	**1.99**	**73**	*e*P	**Pn**	**17 24 27.4**	**+0.2**
JMTN	**Minamitane**	**2.00**	**118**	*e*P	**Pn**	**17 24 26.3**	**-1.1**
JIU3	**Izumi3**	**2.05**	**54**	*e*P	**Pn**	**17 24 28.2**	**+0.1**
JNU	**Nakatsue**	**2.47**	**44**	Pn	**Pb**	**17 24 38.1**	**+0.2**
	4.9nm,0.3s,baz=239,slow=6.6,SNR=39						
JNU				Sn	**Sg**	**17 25 11.5**	**-1.2**
	5.3nm,0.3s,baz=247,slow=14,SNR=3.7						
	32nm,0.5s						
KSRS	**Korea Array**	**6.14**	**353**	Pn	**Pn**	**17 25 24.4**	**+0.2**
	0.2nm,0.3s,baz=174,slow=14,SNR=6.1						
KSRS				Sn	**Sn**	**17 26 34.5**	**+0.1**
	0.4nm,0.3s,baz=172,slow=25,SNR=1.0						
KSRS				Lg	Lg	17 27 06.4	
	0.5nm,0.3s,baz=170,slow=30,SNR=4.5						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**51.27**	**173**	P	**P**	**17 32 59.2**	**+1.5**
	0.3nm,0.8s,baz=355,slow=8.0,SNR=2.3						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**54.92**	**174**	P	**P**	**17 33 25.7**	**+1.2**
	0.7nm,1.0s,baz=355,slow=4.6,SNR=4.8						
	0.7nm,1.0s						

---

*PRU **31** 17:25:21.2, 49°.85N×18°.56E, h0km*
IPEC 31 17:25:20.4±0.2, 49°.85N×18°.57E, h1km, ML1.4/3, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.27**	**269**	*e*PG	Pg	17 25 25.9	+0.3
OKC				*e*SG	Sg	17 25 30.6	+1.4
	comp=Z,14nm,0.5s						
OKC	**Ostrava-Krasne**	**0.27**	**269**	*e*	Pn	17 25 30.6	-1.0
OKC	**Ostrava-Krasne**	**0.27**	**269**	*e*P	Pg	17 25 25.9	+0.3
MORC	**Moravsky Berou**	**0.67**	**265**	*e*Pg	Pg	17 25 33.4	+0.2
	baz=84						
MORC				*e*Sg	Sg	17 25 41.4	-0.5
	4.3nm,0.2s,baz=84						
MORC	**Moravsky Berou**	**0.67**	**265**	*e*PG	Pg	17 25 33.5	+0.3
MORC				*e*SG	Sg	17 25 41.5	-0.4
MAUC	**Maruska**	**0.68**	**225**	*e*PG	Pg	17 25 33.5	+0.1
MAUC				*e*SG	Sg	17 25 43.1	+0.9
	comp=Z,15nm,0.7s						
OJC	**Ojcow**	**0.88**	**64**	*e*Pg	Pg	17 25 37.2	+0.1
OJC				*e*Sg	Sg	17 25 49.4	+0.9
LANS	**Liptovska Anna**	**0.91**	**140**	*e*PG	Pg	17 25 37.9	+0.1
LANS				*e*SG	Sn	17 25 53.4	-0.7
LANS				*e*LG	Lg	17 25 54.6	
LANS	**Liptovska Anna**	**0.91**	**140**	*e*	Sg	17 25 53.5	+3.9
LANS	**Liptovska Anna**	**0.91**	**140**	pmax	pmax		
	comp=N,7.0nm,0.5s						
LANS	**Liptovska Anna**	**0.91**	**140**	*e*P	Pg	17 25 37.9	+0.1
JAVC	**Velka Javorina**	**1.15**	**211**	*e*Pg	Pg	17 25 42.5	+0.1
	baz=30						
JAVC	**Velka Javorina**	**1.15**	**211**	*e*PG	Pg	17 25 42.6	+0.2
KRLC	**Kraliky**	**1.18**	**282**	*e*PG	Pg	17 25 42.2	-0.8
KRLC				*e*SG	Sb	17 25 59.0	-0.3
	comp=N,10nm,0.9s						
KRLC	**Kraliky**	**1.18**	**282**	*e*	Sg	17 25 59.0	+0.8
KRLC	**Kraliky**	**1.18**	**282**	*e*P	Pg	17 25 42.2	-0.8
VYHS	**Vyhne**	**1.36**	**173**	*e*PG	Pg	17 25 45.5	-1.0
VYHS				*e*SG	Sn	17 26 05.0	-0.3
VYHS	**Vyhne**	**1.36**	**173**	*e*	Sg	17 26 05.0	+0.8
VYHS	**Vyhne**	**1.36**	**173**	*e*P	Pg	17 25 45.5	-1.0
VRAC	**Vranov**	**1.39**	**248**	*e*Pg	Pn	17 25 46.3	-0.7
	baz=67						
VRAC				*e*Sg	Sg	17 26 04.2	-1.0
	comp=N,5.7nm,0.3s,baz=67						
DPC	**Dobruska-Polom**	**1.53**	**290**	*e*PG	Pn	17 25 48.1	-0.9
DPC				*e*SG	Sn	17 26 09.0	-0.5
	comp=N,5.5nm,0.6s						
DPC	**Dobruska-Polom**	**1.53**	**290**	*e*P	Pn	17 25 48.1	-0.9
KRUC	**Moravsky**	**1.62**	**242**	*e*Pg	Pn	17 25 49.7	-0.4
	baz=60						
KRUC				*e*Sg	Sn	17 26 11.2	-0.4
	comp=N,4.7nm,0.2s,baz=60						
OSTC	**Ostas**	**1.67**	**296**	*e*PG	Pn	17 25 51.3	+0.5
OSTC				*e*SG	Sg	17 26 14.3	+0.2
UPC	**Upice**	**1.77**	**293**	*e*SG	Sg	17 26 17.4	+0.1
	comp=N,2.9nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.45**	**273**	*e*SG	Sg	17 26 37.8	-1.2
KHC	**Kasperske Hory**	**3.33**	**260**	*e*SG	Sg	17 27 07.6	+0.2
	comp=N,1.5nm,0.6s						

---

*IDC **31** 17:27:50.3±1.2, 38°.23N×22°.16E, h0km, mb3.6/5, mbtmp3.6/6, ML3.0/1, MS3.0/1, Error ellipse: s-maj=30.1km s-min=22.6km az=148.0*
*ATH **31** 17:27:50.7, 38°.33N×22°.05E, h5km±1km, ML3.2/27, Error ellipse: s-maj=1.4km s-min=0.6km az=320.0*
*THE **31** 17:27:51.0, 38°.33N×22°.06E, h4km±1km, ML3.4/13, Error ellipse: s-maj=1.3km s-min=0.4km az=245.0*
ISC 31 17:27:50.2±0.7, 38°.35N±0°.02×22°.09E±0°.02, h10km±4km, n86, σ0°78/115, mb3.7/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.06**	**48**	P	**Pg**	**17 27 52.7**	**+0.2**
KALE				S	**Sg**	**17 27 54.4**	**+0.3**
	117μm,0.3s						
KALE	**Kalithea**	**0.06**	**48**	P	**Pg**	**17 27 52.7**	**+0.2**
KALE				S	**Sg**	**17 27 54.3**	**+0.2**
KALE				AML	AML	17 27 56.4	
KALE				AML	AML	17 27 56.6	
ALIK	**Aliki, Aigiali**	**0.09**	**168**	P	**Pg**	**17 27 52.5**	**-0.3**
ALIK				S	**Sg**	**17 27 54.5**	**-0.1**
LAKA	**Lakka**	**0.14**	**217**	P	**Pg**	**17 27 53.2**	**-0.3**
LAKA				S	**Sg**	**17 27 55.2**	**-0.6**
	42μm,0.3s						
LAKA	**Lakka**	**0.14**	**217**	P	**Pg**	**17 27 53.2**	**-0.3**
LAKA				S	**Sg**	**17 27 54.8**	**-0.9**
LAKA				AML	AML	17 27 59.3	
	comp=E,93096μm,0.4s						
LAKA				AML	AML	17 27 59.7	
	comp=N,89060μm,0.3s						
EFP	**Efpalio**	**0.16**	**298**	P	**Pg**	**17 27 54.2**	**+0.4**
EFP				S	**Sg**	**17 27 57.0**	**+0.7**
	comp=N,16μm,0.3s						
EFP	**Efpalio**	**0.16**	**298**	P	**Pg**	**17 27 54.1**	**+0.4**
EFP				S	**Sg**	**17 27 56.0**	**-0.3**
EFP				AML	AML	17 27 58.6	
	comp=N,34402μm,0.4s						
EFP				AML	AML	17 27 59.7	
	comp=E,29668μm,0.2s						
UPR	**University Cam**	**0.24**	**254**	P	**Pg**	**17 27 55.5**	**+0.2**
UPR				S	**Sg**	**17 27 59.2**	**+0.5**
ANX	**Ano Chora**	**0.27**	**332**	P	**Pg**	**17 27 56.3**	**+0.4**
ANX				S	**Sb**	**17 28 01.3**	**-0.7**
	comp=E,23μm,0.3s						
ANX	**Ano Chora**	**0.27**	**332**	P	**Pb**	**17 27 56.4**	**-0.9**
ANX				S	**Sg**	**17 27 59.8**	**+0.2**
ANX				AML	AML	17 28 03.2	
	comp=N,62050μm,0.4s						
ANX				AML	AML	17 28 05.0	
	comp=E,31013μm,0.4s						
KLV	**Kalavryta, Ach**	**0.31**	**171**	P	**Pg**	**17 27 55.9**	**-0.7**
KLV				S	**Sg**	**17 28 01.1**	**+0.3**
KLV	**Kalavryta, Ach**	**0.31**	**171**	P	**Pg**	**17 27 55.9**	**-0.7**
KLV				S	**Sg**	**17 28 00.6**	**-0.2**
KLV				AML	AML	17 28 02.9	
	comp=E,6990μm,0.3s						
KLV				AML	AML	17 28 03.2	
	comp=N,4667μm,0.3s						
DLFA	**Delphi**	**0.35**	**69**	P	**Pb**	**17 27 57.7**	**-0.8**
DLFA				AML	AML	17 28 04.3	
	comp=N,6645μm,0.3s						
DLFA				AML	AML	17 28 07.5	
	comp=E,9098μm,0.4s						
GUR	**Goura**	**0.46**	**154**	P	**Pg**	**17 27 58.6**	**-0.7**
GUR				S	**Sg**	**17 28 06.2**	**+0.8**
	comp=E,6μm,0.5s						
GUR	**Goura**	**0.46**	**154**	P	**Pg**	**17 27 58.7**	**-0.7**
GUR				S	**Sg**	**17 28 05.7**	**+0.2**
GUR				AML	AML	17 28 07.8	
	comp=N,13499μm,0.3s						
GUR				AML	AML	17 28 09.2	
	comp=E,9519μm,0.3s						
PVO	**Paravola**	**0.51**	**301**	P	**Pg**	**17 27 59.5**	**-0.7**
PVO				S	**Sb**	**17 28 08.2**	**-0.6**
	comp=E,7μm,0.5s						
PVO	**Paravola**	**0.51**	**301**	P	**Pg**	**17 27 59.7**	**-0.5**
PVO				S	**Sg**	**17 28 06.7**	**-0.4**
THAL	**Thalero**	**0.55**	**125**	P	**Pb**	**17 28 02.0**	**0.0**
THAL				S	**Sb**	**17 28 09.3**	**-0.7**
	comp=E,3μm,0.4s						
THAL	**Thalero**	**0.55**	**125**	P	**Pb**	**17 28 02.1**	**+0.1**
THAL				S	**Sb**	**17 28 09.1**	**-0.8**
THAL				AML	AML	17 28 14.3	
	comp=N,6820μm,0.2s						
THAL				AML	AML	17 28 14.6	
	comp=E,7401μm,0.3s						
RLS	**Riolos of Patr**	**0.57**	**239**	P	**Pg**	**17 28 01.2**	**-0.1**
RLS	**Riolos of Patr**	**0.57**	**239**	P	**Pg**	**17 28 01.0**	**-0.3**
RLS				S	**Sg**	**17 28 08.4**	**-0.4**
RLS				AML	AML	17 28 11.8	
	comp=E,5139μm,0.2s						
RLS				AML	AML	17 28 18.2	
	comp=N,3046μm,0.4s						
EVR	**Evrytania**	**0.60**	**339**	P	**Pb**	**17 28 03.1**	**+0.2**
EVR				S	**Sb**	**17 28 11.8**	**+0.3**
	comp=N,3μm,0.4s						
EVR	**Evrytania**	**0.60**	**339**	P	**Pb**	**17 28 03.2**	**+0.3**
EVR				S	**Sb**	**17 28 10.6**	**-0.9**
EVR				AML	AML	17 28 15.9	
	comp=N,5834μm,0.4s						
EVR				AML	AML	17 28 16.6	
	comp=E,3996μm,0.2s						
AXAR	**Agios Charalam**	**0.61**	**47**	P	**Pb**	**17 28 02.4**	**-0.6**
AXAR				S	**Sn**	**17 28 13.0**	**-1.9**
	comp=E,6μm,0.3s						
AXAR	**Agios Charalam**	**0.61**	**47**	P	**Pb**	**17 28 02.4**	**-0.6**
AXAR				AML	AML	17 28 15.5	
	comp=E,13675μm,0.4s						
AXAR				AML	AML	17 28 20.5	
	comp=N,13119μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.66**	**3**	P	**Pb**	**17 28 03.7**	**-0.2**
MAKR				S	**Sb**	**17 28 13.4**	**+0.3**
	comp=N,4μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.66**	**3**	P	**Pb**	**17 28 03.2**	**-0.6**
MAKR				S	**Sb**	**17 28 13.1**	**0.0**
MAKR				AML	AML	17 28 19.5	
	comp=E,9809μm,0.4s						
MAKR				AML	AML	17 28 24.2	
	comp=N,9009μm,0.4s						
AGG	**Agios Georgios**	**0.69**	**16**	P	**Pb**	**17 28 03.7**	**-0.8**
AGG				S	**Sn**	**17 28 15.3**	**-1.7**
	comp=N,2μm,0.4s						
AGG	**Agios Georgios**	**0.69**	**16**	P	**Pb**	**17 28 03.6**	**-0.9**
AGG				S	**Sb**	**17 28 14.5**	**+0.4**
LKR	**Lokris**	**0.78**	**67**	P	**Pb**	**17 28 05.2**	**-0.7**
LKR				AML	AML	17 28 22.4	
	comp=N,4522μm,0.3s						
LKR				AML	AML	17 28 22.6	
	comp=E,3370μm,0.5s						
LOUT	**Loutraki**	**0.79**	**117**	P	**Pn**	**17 28 06.3**	**-1.1**
LOUT				S	**Sn**	**17 28 18.1**	**-1.1**
	comp=E,795nm,0.5s						
LOUT	**Loutraki**	**0.79**	**117**	P	**Pn**	**17 28 06.7**	**-0.7**
VIL2	**Platees**	**0.94**	**98**	P	**Pn**	**17 28 09.4**	**-0.1**
VIL2				S	**Sn**	**17 28 24.0**	**+1.0**
VIL2				AML	AML	17 28 27.4	
	comp=E,4959μm,0.9s						
VIL2				AML	AML	17 28 27.9	
	comp=N,2495μm,0.4s						
VILL	**Villia**	**0.98**	**101**	P	**Pn**	**17 28 09.9**	**-0.2**
VILL				S	**Sn**	**17 28 23.9**	**-0.2**
	comp=N,2μm,0.8s						
NYDR	**Nydri-Lefkada**	**1.15**	**289**	P	**Pg**	**17 28 12.4**	**+0.1**
EVGI	**Lefkada island**	**1.15**	**284**	P	**Pb**	**17 28 12.0**	**-0.3**
EVGI	**Lefkada island**	**1.15**	**284**	P	**Pb**	**17 28 11.6**	**-0.7**
LTHK	**Lithakia**	**1.18**	**237**	P	**Pn**	**17 28 11.9**	**-0.8**
LTHK	**Lithakia**	**1.18**	**237**	P	**Pn**	**17 28 11.9**	**-0.8**
LTHK				AML	AML	17 28 41.3	
	comp=E,5500μm,0.6s						
LTHK				AML	AML	17 28 45.5	
	comp=N,2573μm,0.5s						
VLS	**Valsamata**	**1.19**	**262**	P	**Pn**	**17 28 12.2**	**-0.7**
VLS	**Valsamata**	**1.19**	**262**	P	**Pn**	**17 28 12.0**	**-1.0**
VLS				AML	AML	17 28 32.7	
	comp=E,1390μm,0.4s						
VLS				AML	AML	17 28 33.4	
	comp=N,1390μm,0.3s						
LKD2	**Lefkada island**	**1.20**	**292**	P	**Pg**	**17 28 13.3**	**0.0**
LKD2	**Lefkada island**	**1.20**	**292**	P	**Pb**	**17 28 13.1**	**+0.1**
LKD2				AML	AML	17 28 40.8	
	comp=E,1692μm,0.6s						
LKD2				AML	AML	17 28 43.3	
	comp=N,1717μm,0.6s						
FSK	**Fiskardo**	**1.20**	**276**	P	**Pn**	**17 28 12.5**	**-0.6**
FSK				AML	AML	17 28 37.8	
	comp=E,2193μm,0.7s						
FSK				AML	AML	17 28 39.2	
	comp=N,946μm,0.4s						
PSDA	**Pessada-Kefalo**	**1.21**	**259**	P	**Pn**	**17 28 12.3**	**-0.8**
PSDA	**Pessada-Kefalo**	**1.21**	**259**	P	**Pn**	**17 28 12.4**	**-0.7**
THL	**Klokotos Trika**	**1.21**	**357**	P	**Pg**	**17 28 14.2**	**+0.7**
THL	**Klokotos Trika**	**1.21**	**357**	P	**Pg**	**17 28 13.5**	**0.0**
THL				AML	AML	17 28 36.3	
	comp=E,1615μm,0.5s						
THL				AML	AML	17 28 37.1	
	comp=N,581μm,0.6s						
TSLK	**Tsoukalades, L**	**1.22**	**293**	P	**Pg**	**17 28 14.1**	**+0.5**
DRAG	**Dragano-Lefkad**	**1.23**	**286**	P	**Pg**	**17 28 13.8**	**-0.1**
KEF5	**Kardakata, Kep**	**1.27**	**267**	P	**Pn**	**17 28 14.1**	**0.0**
KEF5	**Kardakata, Kep**	**1.27**	**267**	P	**Pn**	**17 28 13.7**	**-0.4**
KRND	**KRANIDI**	**1.28**	**139**	P	**Pg**	**17 28 14.9**	**0.0**
KRND	**KRANIDI**	**1.28**	**139**	P	**Pb**	**17 28 14.0**	**-0.4**
KRND				AML	AML	17 28 36.6	
	comp=E,2574μm,0.7s						
KRND				AML	AML	17 28 40.0	
	comp=N,2144μm,0.6s						
NEO	**Neokhori**	**1.30**	**43**	P	**Pg**	**17 28 15.0**	**-0.3**
NEO	**Neokhori**	**1.30**	**43**	P	**Pg**	**17 28 15.0**	**-0.3**
NEO				AML	AML	17 28 40.5	
	comp=E,1299μm,0.5s						
NEO				AML	AML	17 28 45.6	
	comp=N,918μm,0.5s						
KEF4	**Livadi, Kephal**	**1.31**	**266**	P	**Pn**	**17 28 14.5**	**-0.1**
XOR	**Xorichti**	**1.33**	**40**	P	**Pn**	**17 28 14.2**	**-0.7**
ATH	**Athens Observa**	**1.34**	**106**	P	**Pg**	**17 28 16.1**	**+0.1**
ATH	**Athens Observa**	**1.34**	**106**	P	**Pg**	**17 28 16.1**	**+0.1**
ATH				S	**Sg**	**17 28 34.6**	**+1.2**
ATH				AML	AML	17 28 39.6	
	comp=E,1251μm,0.5s						
ATH				AML	AML	17 28 41.6	
	comp=N,864μm,0.5s						
DMLN	**Damoulianata-K**	**1.35**	**266**	P	**Pn**	**17 28 15.4**	**+0.2**
TYRN	**Tyrnavos**	**1.36**	**5**	P	**Pg**	**17 28 16.3**	**-0.1**
TYRN	**Tyrnavos**	**1.36**	**5**	P	**Pg**	**17 28 16.2**	**-0.1**
KEF3	**Kipouria, Keph**	**1.38**	**264**	P	**Pb**	**17 28 15.8**	**-0.2**
KEF3	**Kipouria, Keph**	**1.38**	**264**	P	**Pn**	**17 28 15.0**	**-0.4**
ATHU	**Athens Univers**	**1.39**	**106**	P	**Pg**	**17 28 17.1**	**+0.1**
ATHU	**Athens Univers**	**1.39**	**106**	P	**Pg**	**17 28 16.4**	**-0.6**
ATHU				AML	AML	17 28 45.5	
	comp=N,384μm,0.6s						
ATHU				AML	AML	17 28 46.1	
	comp=E,243μm,0.6s						
PTL	**Penteli**	**1.43**	**102**	P	**Pg**	**17 28 17.7**	**-0.1**
PTL	**Penteli**	**1.43**	**102**	P	**Pg**	**17 28 17.2**	**-0.6**
VLY	**Voula,Athens**	**1.44**	**110**	P	**Pb**	**17

comp=N,0.3nm,0.4s
MKAR Makanchi Array 44.16 59 P **P** 17 35 59.8 +0.9
comp=N,0.5nm,0.4s,baz=278,slow=7.3,SNR=7.4
comp=N,0.5nm,0.4s
ZALV Zalesovo Beam 44.66 48 P **P** 17 36 05.3 +2.5
comp=N,0.6nm,0.5s,baz=270,slow=8.1,SNR=3.1
comp=N,0.6nm,0.5s

---

*IDC **31** 17:33:06.8±2.1, 22°.15S×169°.61E, h0km, mb3.6/2, mbtmp3.6/4, ML4.7/1, MS3.6/2, Error ellipse: s-maj=88.7km s-min=24.5km az=164.0*
*NOU **31** 17:33:07.3, 21°.78S×169°.71E, h0km, MLv3.8/12, Southeast of Loyalty Islands*
ISC 31 17:33:11.7±1.1, 21°.8S±0°.1×169°.53E±0°.09, h25km, n18, σ1§11/17, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.43**	**282**	P	**Pn**	17 33 35.1	-0.9
PINNC	**Pines Island,**	**2.09**	**247**	P	**Pn**	17 33 44.8	-0.4
LIFNC	**LIFOU**	**2.36**	**295**	P	**Pn**	17 33 49.3	+0.4
YATNC	**Mamie plateau,**	**2.46**	**263**	P	**Pn**	17 33 50.0	-0.3
OUENC	**Ouen Island, N**	**2.56**	**256**	P	**Pn**	17 33 53.1	+1.4
DZM	**Mont Dzumac**	**2.87**	**264**	P	**Pn**	17 33 56.6	+0.5
DZM	**Mont Dzumac**	**2.87**	**264**	Pn	**Pn**	17 33 55.6	-0.4
21nm,0.8s,baz=81,slow=18,SNR=12
DZM Sn **Sn** 17 34 30.3 +0.4
3.9nm,0.3s,baz=86,slow=19,SNR=4.8
ONTNC **Ouen Toro** **2.90** **259** P **Pn** 17 33 58.5 +2.2
NOUC **Port Laguerre** **3.01** **264** P **Pn** 17 33 58.0 +0.2
RTV **Rentapao** **4.11** **345** P **Pn** 17 34 13.2 +0.1
KOUNC **Koumac, New Ca** **5.04** **283** P **Pn** 17 34 27.8 +2.0
MSVF **Nonsavu** **8.98** **65** Pn **Pn** 17 35 21.0 +1.0
0.3nm,0.3s,baz=238,slow=12,SNR=5.2
3.9nm,0.7s
CTA **Charters Tower** **21.80** **270** LR LR 17 45 16.8
comp=Z,62nm,18.5s,baz=82,slow=33
ASAR **Alice Springs** **32.86** **260** P **P** 17 39 42.6 -1.2
1.2nm,1.0s,baz=90,slow=9.3,SNR=5.7
1.2nm,1.0s
WRA **Warramunga Arr** **32.89** **267** P **P** 17 39 44.3 +0.2
0.5nm,0.9s,baz=108,slow=8.6,SNR=3.4
0.5nm,0.9s
RPN **Rapa Nui** **72.84** **113** LR LR 18 10 19.8
comp=Z,82nm,18.9s,baz=25,slow=31
EKA **Eskdalemuir Ar** **146.06** **353** PKPbc **PKPdf** 17 52 47.4 -0.9
1.1nm,0.8s,baz=35,slow=3.8,SNR=1.6
GERES **GERESS Array B** **146.85** **330** PKPbc **PKPbc** 17 52 50.7 -1.1
0.7nm,0.7s,baz=22,slow=1.4,SNR=4.1

---

*IDC **31** 17:35:21.6±0.5, 29°.86S×179°.16W, h300km±6km, mb3.5/7, mbtmp4.4/9, Error ellipse: s-maj=19.1km s-min=16.8km az=171.0*
*NEIC **31** 17:35:21.8±1.7, 30°.2S±0°.1×179°.1W±0°.3, h310km±14km, mb4.1/11, Error ellipse: s-maj=32.3km s-min=17.5km az=106.0*
*NOU **31** 17:36:27.2, 35°.18S×178°.76E, h266km, MLv4.0/5, Off E. Coast of N. Island, N.Z.*
ISC 31 17:35:21.0±0.6, 30°.10S±0°.06×179°.22W±0°.10, h300km, n130, σ1§72/134, mb3.7/15, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.41**	**54**	P	**Pn**	17 36 04.8	+1.2
GLKZ S **S** 17 36 37.1 -0.3
RIZ **Raoul Island** **1.41** **53** P **Pn** 17 36 05.2 +1.6
RAO **Raoul Island** **1.41** **54** **Pn** 17 36 05.0 +1.4
RAO **Raoul Island** **1.41** **54** P **Pn** 17 36 04.5 +0.9
2μm,0.2s,baz=287,slow=19,SNR=23
RAO S **S** 17 36 36.4 -1.2
2μm,0.2s,baz=270,slow=20,SNR=12
GRZ **Great Barrier** **7.58** **215** P Pn 17 37 16.2 +6.9
MXZ **Matakaoa Point** **7.72** **195** Pn **Pn** 17 37 11.1 +0.1
MXZ **Matakaoa Point** **7.72** **195** P **Pn** 17 37 15.0 +4.0
MXZ **Matakaoa Point** **7.72** **195** P **Pn** 17 37 11.2 +0.2
KUZ **Kuaotunu** **7.86** **211** P Pn 17 37 19.3 +6.6
KUZ **Kuaotunu** **7.86** **211** P Pn 17 37 19.2 +6.5
OUZ **Omahuta** **7.92** **228** P Pn 17 37 21.2 +7.7
WCZ **Waipu Caves** **7.94** **221** P Pn 17 37 21.5 +7.8
WMGZ **Waiomatatini S** **7.95** **194** P **Pn** 17 37 14.5 +0.8
HAZ **Te Kaha** **8.04** **197** P **Pn** 17 37 15.8 +1.0
HAZ S **S** 17 38 49.7 +2.5
PKGZ **Pakihiroa** **8.09** **195** P **Pn** 17 37 15.6 0.0
PUZ **Puketiti** **8.22** **194** P **Pn** 17 37 16.8 -0.4
RUGZ **Raukumara Rang** **8.26** **197** P **Pn** 17 37 18.0 +0.3
TWGZ **Tauwhareparae** **8.39** **195** P **Pn** 17 37 20.1 +0.9
CNGZ **Carnagh Statio** **8.63** **194** P **Pn** 17 37 22.5 +0.3
MWZ **Matawai** **8.65** **197** P **Pn** 17 37 22.3 -0.1
TKGZ **Te Karaka** **8.67** **195** P **Pn** 17 37 22.2 -0.4
URZ **Urewera** **8.69** **199** P **Pn** 17 37 24.5 +1.6
URZ **Urewera** **8.69** **199** P **Pn** 17 37 22.7 -0.1
URZ S **S** 17 39 03.4 +1.4
URZ **Urewera** **8.69** **199** P **Pn** 17 37 22.6 -0.3
73nm,0.3s,baz=339,slow=6.5,SNR=38
URZ S **S** 17 39 02.2 +0.3
37nm,0.3s,baz=86,slow=21,SNR=4.4
TOZ **Tahuroa Road** **8.79** **209** **P** 17 37 27.5 -1.6
RAGZ **Rawiri** **8.83** **197** P **Pn** 17 37 24.6 -0.1
RIGZ **Rimuhau** **8.94** **195** P **Pn** 17 37 25.2 -0.8
RTZ **Ruatahuna** **9.06** **199** **Pn** 17 37 26.4 -1.0
SNGZ **Shannon Statio** **9.12** **197** P **Pn** 17 37 27.6 -0.6
PRGZ **Paritu Road** **9.12** **194** P **Pn** 17 37 28.2 0.0
BKZ **Black Stump Fm** **9.71** **200** **Pn** 17 37 34.6 -0.9
BKZ **Black Stump Fm** **9.71** **200** P **Pn** 17 37 35.1 -0.4
HIZ **Hauiti** **9.72** **209** **P** 17 37 37.9 -1.5
HIZ **Hauiti** **9.72** **209** P **P** 17 37 39.1 -0.3
NTVZ **North Tongarir** **9.91** **204** P **Pn** 17 37 38.5 +0.5
TMVZ **Te Maari** **9.92** **204** P **Pn** 17 37 37.9 -0.2
ETVZ **East Tongariro** **9.94** **203** P **Pn** 17 37 38.9 +0.6
KWHZ **Kaweka Forest** **9.97** **200** P **Pn** 17 37 37.2 -1.5
OTVZ **Oturere** **9.97** **204** P **Pn** 17 37 38.3 -0.5
TUVZ **Tukino** **10.07** **203** P **Pn** 17 37 41.3 +1.3
FWVZ **Far West T-bar** **10.10** **204** P **Pn** 17 37 40.7 +0.3
BHHZ **Black Hill Sta** **10.14** **201** P **Pn** 17 37 40.3 -0.4
BHHZ S **S** 17 39 34.1 -0.8
WNVZ **Wahianoa** **10.14** **203** P **Pn** 17 37 42.3 +1.4
MOVZ **Moawhango** **10.16** **203** P **Pn** 17 37 39.7 -1.4
MOVZ S **S** 17 39 34.1 -1.4
KRHZ **Kereru** **10.19** **200** P **Pn** 17 37 39.4 -1.9
PKVZ **Pokaka** **10.20** **205** P **Pn** 17 37 43.3 +1.8
VRZ **Vera Road** **10.28** **207** P **P** 17 37 46.6 +1.0
PNHZ **Pukenui** **10.49** **200** P **Pn** 17 37 43.1 -1.9
PKE **Pukeiti** **10.66** **210** **P** **P** 17 37 54.7 +4.8
NEZ **North Egmont** **10.67** **209** **P** **P** 17 37 52.4 +2.3
TSZ **Takapari Road** **10.69** **200** P **Pn** 17 37 46.0 -1.5
PRHZ **Porangahau** **10.70** **197** P **Pn** 17 37 45.3 -2.2
KHEZ **Kahui Hut** **10.73** **209** **P** **P** 17 37 54.5 +3.8
WAZ **Wanganui** **10.74** **205** P **Pn** 17 37 44.1 -4.0
POWZ **Post Office Ro** **11.05** **200** P **Pn** 17 37 51.7 -0.1
BFZ **Birch Farm** **11.19** **198** P Pn 17 37 44.7 -8.8
MRZ **Mangatainoka R** **11.36** **200** **Pn** 17 37 52.0 -3.6
MRZ **Mangatainoka R** **11.36** **200** P **Pn** 17 37 53.2 -2.4
TIWZ **Tintock** **11.38** **199** P **Pn** 17 37 54.6 -1.2
HOWZ **Holdsworth Sta** **11.60** **200** P **Pn** 17 37 56.6 -1.9
OGWZ **Otaki Gorge** **11.63** **202** P **Pn** 17 37 56.8 -2.0
TMWZ **Te Maipa** **11.68** **199** P **Pn** 17 37 57.7 -1.8
KIW **Kapiti Island** **11.75** **202** P **Pn** 17 37 58.7 -1.7
MTW **Mount Morrison** **11.84** **200** P **Pn** 17 37 59.1 -2.3
CAW **Cannon Point** **11.93** **201** P **Pn** 17 37 59.9 -2.6
TRWZ **Traveller** **12.01** **199** P **Pn** 17 38 01.2 -2.2
DUWZ **D'Urville Isla** **12.05** **206** P **Pn** 17 38 02.0 -2.0
PAWZ **Paruwai Farm** **12.07** **200** P **Pn** 17 38 03.4 -0.8
WEL **Wellington** **12.18** **202** P **Pn** 17 38 05.5 0.0
SNZO **South Karori** **12.22** **202** **Pn** 17 38 03.2 -2.8
BHW **Baring Head** **12.26** **201** P **Pn** 17 38 03.7 -2.7
BHW **Baring Head** **12.26** **201** P **Pn** 17 38 03.8 -2.7
TCW **Tory Channel** **12.28** **204** P **Pn** 17 38 03.9 -2.9
TCW **Tory Channel** **12.28** **204** P **Pn** 17 38 05.1 -1.7
PLWZ **Palliser** **12.29** **200** P **Pn** 17 38 04.3 -2.6
PLWZ **Palliser** **12.29** **200** P **Pn** 17 38 05.2 -1.7
MSVF **Nonsavu** **12.56** **348** Pn **Pn** 17 38 08.4 -2.1
MSVF **Nonsavu** **12.56** **348** P **Pn** 17 38 09.1 -1.3
49nm,0.4s,baz=176,slow=7.8,SNR=117
TUWZ **Tuamarina** **12.59** **204** **Pn** 17 38 08.1 -2.4
TUWZ **Tuamarina** **12.59** **204** P **Pn** 17 38 08.3 -2.2
TKNZ **Takaka Hill** **12.62** **208** P **Pn** 17 38 09.1 -1.9
QRZ **Quartz Range** **12.63** **210** P **Pn** 17 38 10.5 -0.5
CMWZ **Cape Campbell** **12.78** **203** P **Pn** 17 38 11.8 -1.0
CMWZ **S** 17 40 33.1 -1.3

BSWZ Blackbirch Sta **12.87** **204** P **Pn** 17 38 12.1 -1.7
BSWZ Blackbirch Sta **12.87** **204** P **Pn** 17 38 13.8 0.0
MRNZ Matariki Terra **13.02** **208** P **Pn** 17 38 13.8 -1.8
MRNZ Matariki Terra **13.02** **208** P **Pn** 17 38 15.8 +0.2
THZ Tophouse **13.27** **207** **Pn** 17 38 15.5 -3.2
KHZ Kahutara **13.60** **203** **P** 17 38 19.2 -3.2
GVZ Greta Valley S **14.26** **204** P **P** 17 38 27.4 -2.4
LTZ Lake Taylor **14.38** **206** P **P** 17 38 29.2 -1.9
AMCZ Amberley **14.58** **204** P **Pn** 17 38 34.2 -0.1
OUENC Ouen Island, N **14.65** **298** Pn **Pn** 17 38 37.2 +1.9
INZ Inchbonnie **14.66** **208** **P** 17 38 32.2 -1.9
OKCZ Okains Bay **14.93** **202** P **Pn** 17 38 38.8 +0.4
OXZ Oxford **14.94** **205** **P** 17 38 34.0 -3.2
MQZ McQueen's Vall **15.05** **203** P **P** 17 38 35.8 -2.6
AKCZ Akaroa Harbour **15.11** **202** P **Pn** 17 38 41.3 +0.8
DZM Mont Dzumac **15.15** **298** **Pn** 17 38 42.0 +0.7
DZM Mont Dzumac **15.15** **298** P **Pn** 17 38 41.7 +0.4
26nm,0.6s,baz=148,slow=11,SNR=22
RPZ Rata Peaks **15.64** **207** P **P** 17 38 45.6 +0.7
5.3nm,0.4s,baz=108,slow=8.9,SNR=3.2
RPZ S **S** 17 41 29.9 -4.4
13nm,0.5s,baz=106,slow=16,SNR=12
ODZ Otahua Downs **16.92** **205** P **P** 17 38 58.0 -0.9
ODZ IAmb IAmb 17 39 31.0
comp=Z,16nm,1.4s
KOUNC **Koumac, New Ca** **17.66** **299** P **P** 17 39 08.5 +1.4
CTAO **Charters Tower** **32.70** **280** P **P** 17 41 26.3 +0.1
CTAO IAmb IAmb 17 42 07.1
comp=Z,7.8nm,1.2s
STKA **Stephens Creek** **33.52** **257** P **P** 17 41 31.3 -1.7
STKA **Stephens Creek** **33.52** **257** P **P** 17 41 35.1 +2.2
comp=Z,0.9nm,0.4s,baz=81,slow=13,SNR=5.2
comp=Z,0.9nm,0.4s
BBOO **Buckleboo** **38.03** **254** P **P** 17 42 08.5 -2.7
BBOO IAmb IAmb 17 42 32.6
comp=Z,33nm,1.5s
AS31 **Alice Springs** **42.07** **267** P **P** 17 42 43.0 -1.2
ASAR **Alice Springs** **42.07** **267** P **P** 17 42 41.7 -2.5
ASAR **Alice Springs** **42.07** **267** P **P** 17 42 44.8 +0.5
comp=Z,1.9nm,0.5s,baz=105,slow=7.5,SNR=43
ASAR ScP **ScP** 17 47 54.4 +0.2
comp=Z,0.5nm,0.8s,baz=120,slow=3.7,SNR=4.2
comp=Z,1.9nm,0.5s
WB2 **Warramunga Arr** **43.02** **272** P **P** 17 42 51.5 -0.4
WB2 IAmb IAmb 17 42 54.1
comp=Z,3.6nm,0.8s
WRA **Warramunga Arr** **43.03** **272** P **P** 17 42 52.1 +0.2
comp=Z,2.0nm,0.4s,baz=110,slow=7.9,SNR=25
WRA ScP **ScP** 17 47 59.5 +1.4
comp=Z,0.6nm,0.5s,baz=104,slow=4.0,SNR=7.6
comp=Z,2.0nm,0.4s
WB0 **Warramunga Arr** **43.05** **273** P **P** 17 42 51.3 -0.8
WB0 IAmb IAmb 17 42 53.9
comp=Z,3.5nm,0.7s
FORT **Forrest** **45.10** **255** P **P** 17 43 08.8 +0.7
FORT IAmb IAmb 17 43 10.5
comp=Z,21nm,1.1s
MTN **Manton Dam** **48.89** **279** P **P** 17 43 36.6 -0.8
MTN IAmb IAmb 17 43 41.0
comp=Z,13nm,1.1s
QSPA **South Pole Qui** **60.01** **180** P **P** 17 44 58.6 +2.3
comp=Z,1.0nm,0.5s,baz=16,slow=13,SNR=14
comp=Z,1.0nm,0.5s
PETK **Petropavlovsk-** **85.26** **346** P **P** 17 47 23.7 -0.1
comp=Z,3.5nm,0.7s,baz=96,slow=7.9,SNR=7.0
comp=Z,3.5nm,0.7s
NVAR **Mina Array Bea** **88.74** **43** P **P** 17 47 41.5 +0.4
comp=Z,0.9nm,0.8s,baz=222,slow=7.9,SNR=4.6
comp=Z,0.9nm,0.8s
CMAR **Chiang Mai Arr** **92.30** **290** P **P** 17 48 00.0 +2.3
comp=Z,0.2nm,0.4s,baz=164,slow=4.4,SNR=2.0
comp=Z,0.2nm,0.4s
PZH **PanZhiHua** **94.23** **298** P **P** 17 48 05.0 -1.6
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
HHC **Hu-ho-hao-te** **95.27** **315** *eP* P 17 48 05.5 -5.5
HHC pmax pmax
comp=Z,28nm,0.6s
HHC pmax pmax
comp=Z,280nm,5.1s
MKAR **Makanchi Array** **116.77** **310** PKP **PKPdf** 17 53 28.9 -0.6
comp=Z,0.6nm,0.9s,baz=97,slow=5.8,SNR=2.7
KURBB **Kurchatov Arra** **120.11** **314** PKP **PKPdf** 17 53 35.1 -0.6
comp=Z,0.4nm,0.5s,baz=120,slow=2.1,SNR=3.8
FINES **FINESS Array B** **144.49** **339** PKP **PKPab** 17 54 19.5 -0.8
comp=Z,3.5nm,0.5s,baz=66,slow=3.4,SNR=27
NB2 **NORSAR Subarra** **148.28** **350** PKP **PKPbc** 17 54 30.9 -0.3
comp=Z,0.2nm,0.4s,baz=17,slow=2.6
NOA **NORSAR Array B** **148.28** **350** PKPbc **PKPbc** 17 54 30.6 -0.6
comp=Z,1.1nm,0.6s,baz=16,slow=4.2,SNR=5.2
HFS **Hagfors** **148.73** **348** PKPbc **PKPbc** 17 54 31.1 -1.2
comp=Z,2.9nm,0.7s,baz=19,slow=5.0,SNR=4.7
AKASG **Malin Array Be** **150.41** **322** PKPbc **PKPbc** 17 54 36.5 -0.1
comp=Z,1.4nm,0.6s,baz=52,slow=2.2,SNR=5.5
MMAI **Mount Meron Ar** **150.43** **285** PKPbc **PKPbc** 17 54 37.8 +0.5
comp=Z,1.0nm,0.4s,baz=89,slow=7.0,SNR=6.6
TORD **Torodi Ar. Bea** **163.11** **183** PKPab **PKPab** 17 55 42.1 +2.4
comp=Z,0.4nm,0.5s,baz=181,slow=3.1,SNR=3.1

---

*IDC **31** 17:40:00.8±2.6, 22°.42S×169°.00E, h0km, mb3.3/2, mbtmp3.3/3, ML3.1/1, MS2.0/1, Error ellipse: s-maj=74.2km s-min=38.7km az=174.0*
*NOU **31** 17:40:04.6, 21°.68S×168°.79E, h0km, MLv3.5/6, Loyalty Islands*
ISC 31 17:40:04.4±2.2, 21°.7S±0°.2×169°.1E±0°.2, h35km, n10, σ0§58/11, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	**Pines Island,**	**1.77**	**238**	P	**Pn**	17 40 32.4	-0.1
LIFNC	**LIFOU**	**1.94**	**297**	P	**Pn**	17 40 34.9	+0.1
YATNC	**Mamie plateau,**	**2.06**	**259**	P	**Pn**	17 40 36.3	-0.3
OUENC	**Ouen Island, N**	**2.20**	**250**	P	**Pn**	17 40 39.1	+0.7
DZM	**Mont Dzumac**	**2.48**	**261**	Pn	**Pn**	17 40 42.5	+0.1
4.4nm,0.3s,baz=114,slow=17,SNR=21
DZM Sn **Sn** 17 41 11.2 -0.2
10.0nm,0.3s,baz=98,slow=22,SNR=9.9
DZM LR LR 17 41 24.4
comp=Z,33nm,19.6s,baz=180,slow=35
13nm,0.3s
ONTNC **Ouen Toro** **2.51** **255** P **Pn** 17 40 43.4 +0.7
NOUC **Port Laguerre** **2.61** **260** P **Pn** 17 40 44.5 +0.4
ASAR **Alice Springs** **32.47** **260** P **P** 17 46 30.6 -1.1
0.7nm,1.1s,baz=90,slow=8.5,SNR=2.3
0.7nm,1.1s
WRA **Warramunga Arr** **32.48** **267** P **P** 17 46 32.3 +0.5
0.3nm,0.8s,baz=98,slow=8.3,SNR=1.6
0.3nm,0.8s
GERES **GERESS Array B** **146.55** **330** PKPbc **PKiKP** 17 59 45.2 +0.2
0.4nm,0.7s,baz=58,slow=2.4,SNR=4.7

---

*NEIC **31** 17:49:40.8±1.1, 20°.3S±0°.2×177°.6W±0°.2, h514km±20km, mb4.3/15, Error ellipse: s-maj=35.3km s-min=20.4km az=198.0*
*IDC **31** 17:49:41.6±2.4, 20°.32S×177°.75W, h521km±27km, mb3.2/5, mbtmp4.1/6, Error ellipse: s-maj=33.9km s-min=27.8km az=18.0*
ISC 31 17:49:40.1±0.8, 20°.4S±0°.1×177°.6W±0°.1, h500km, n25, σ1§16/25, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.85**	**302**	P	**P**	17 51 07.5	+1.6
17nm,0.4s,baz=131,slow=11,SNR=56
NIUE **Niue** **7.36** **81** P **P** 17 51 30.1 +0.1
PINNC **Pines Island,** **14.08** **258** P **P** 17 52 41.3 +0.6
DZM **Mont Dzumac** **14.96** **261** P **P** 17 52 51.8 +1.7
DZM IAmb IAmb 17 53 13.9
comp=Z,23nm,1.5s
KOUNC **Koumac, New Ca** **16.96** **266** P **P** 17 53 11.7 +0.9
KOUNC IAmb IAmb 17 53 33.1
comp=Z,14nm,1.1s
RTZ **Ruatahuna** **18.79** **193** P **P** 17 53 26.0 -1.7
RTZ IAmb IAmb 17 53 31.1
comp=Z,16nm,1.3s
TCW **Tory Channel** **21.91** **197** P **P** 17 53 54.8 -1.1
WHZ **Wether Hill Ro** **28.10** **202** P **P** 17 54 52.5 +1.8
EIDS **Eidsvold** **29.23** **254** P **P** 17 55 00.7 -0.2
EIDS IAmb IAmb 17 55 06.7
comp=Z,16nm,1.4s
ARMA **Armidale** **29.45** **244** P **P** 17 55 02.9 0.0

CTAO **Charters Tower** **33.86** **264** P **P** 17 55 40.1 -0.6
CTAO IAmb IAmb 17 55 41.3
comp=Z,5.0nm,1.0s
STKA **Stephens Creek** **38.17** **244** P **P** 17 56 15.3 -1.0
comp=Z,0.6nm,0.3s,baz=90,slow=12,SNR=1.6
comp=Z,0.6nm,0.3s
BBOO **Buckleboo** **42.93** **243** P **P** 17 56 52.8 -1.6
BBOO IAmb IAmb 17 57 26.9
comp=Z,18nm,1.4s
AS31 **Alice Springs** **44.90** **257** P **P** 17 57 09.2 -0.6
ASAR **Alice Springs** **44.90** **257** P **P** 17 57 08.6 -1.2
ASAR **Alice Springs** **44.90** **257** P **P** 17 57 09.1 -0.8
comp=Z,3.0nm,0.5s,baz=89,slow=8.6,SNR=92
comp=Z,3.0nm,0.5s
WB0 **Warramunga Arr** **44.95** **262** P **P** 17 57 09.2 -1.1
WB0 IAmb IAmb 17 57 09.7
comp=Z,5.1nm,0.5s
WRA **Warramunga Arr** **44.97** **262** P **P** 17 57 09.3 -1.1
WRA **Warramunga Arr** **44.97** **262** P **P** 17 57 09.2 -1.3
comp=Z,1.6nm,0.3s,baz=97,slow=7.7,SNR=56
comp=Z,1.6nm,0.3s
MTN **Manton Dam** **49.52** **270** P **P** 17 57 44.0 -0.8
MTN IAmb IAmb 17 58 02.4
comp=Z,18nm,1.3s
KNRA **Kununurra** **51.02** **266** P **P** 17 57 54.8 -1.0
SBA **Scott Base** **58.04** **184** P **P** 17 58 45.9 +1.8
QSPA **South Pole Qui** **69.72** **180** P **P** 17 59 58.5 -0.6
QSPA IAmb IAmb 17 59 59.9
comp=Z,2.0nm,0.8s
QSPA **South Pole Qui** **69.72** **180** P **P** 17 59 58.9 -0.2
comp=Z,1.7nm,0.7s,baz=324,slow=0.7,SNR=17
comp=Z,1.7nm,0.7s
ILAR **Eielson Array** **88.09** **13** P **P** 18 01 35.9 -0.6
comp=Z,0.2nm,0.5s,baz=218,slow=5.7,SNR=2.1
comp=Z,0.2nm,0.5s

NNC 31 17:56:56.3±1.4, 37°.52N×71°.63E, h0km, mb3.8, mpv3.4, 3C, Error ellipse: s-maj=12.9km s-min=11.4km az=105.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.78**	**346**	Pg	Pn	17 58 11.4	+1.8
16nm,0.2s
IUG Lg Lg 17 59 10.1
7.5nm,0.3s
AML **Almayashu** **4.87** **18** ⇑P Pn 17 58 11.2 +0.1
0.1nm,0.2s
AML ⇑S Sn 17 59 09.5 +1.2
4.8nm,0.6s
MRKS **Merke** **5.36** **13** Pg Pn 17 58 17.4 -0.1
8.6nm,0.4s
MRKS Lg Lg 17 59 20.7
14nm,0.4s
KK31 **Karatay Array** **5.64** **352** P Pn 17 58 21.3 -0.1
0.5nm,0.3s,baz=167,slow=11,SNR=16
KK31 ⇑S Sn 17 59 28.0 +1.2
0.5nm,0.2s

---

*IDC **31** 18:18:30.9±1.6, 36°.88N×144°.03E, h0km, mb3.7/5, mbtmp3.8/10, ML3.5/5, MS3.5/1, Error ellipse: s-maj=42.6km s-min=19.6km az=77.0*
*NIED **31** 18:18:35.9, 37°.04N×143°.66E, h54km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=3.31; $M_{\theta\theta}$0.84; $M_{\phi\phi}$2.47; $M_{r\theta}$0.47; $M_{r\phi}$0.66; $M_{\theta\phi}$1.05; Fault plane solution: $M_0$3.22000×10^{14} NP1: ϕ_s=201.00000°, δ55.00000°, λ-89.00000°. NP2:ϕ_s19.00000°, δ35.00000°, λ-92.00000°.*
*JMA **31** 18:18:35.9±0.2, 37°.0N±0°.7×14°.4E±°, h54km, MV3.7/28, FAR E OFF NORTH HONSHU*
ISC 31 18:18:36.0±1.2, 37°.02N±0°.06×143°.73E±0°.10, h35km, n31, σ1§87/42, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.21**	**306**	*i* P	**Pn**	18 19 10.3	+0.1
JIKH *e*S **Sn** 18 19 35.9 -0.4
JFK **Kawauchi** **2.31** **280** *e*P **Pn** 18 19 11.2 -0.2
JFK S **Sn** 18 19 37.9 -0.8
ONAJ **Iwakimizuishiy** **2.34** **273** P **Pn** 18 19 12.3 +0.3
ONAJ *e*S **Sn** 18 19 39.4 -0.2
JIO **Ouri** **2.37** **308** P **Pn** 18 19 12.6 +0.3
JIO S **Sn** 18 19 39.5 -0.7
JMST **Minamisoumatoc** **2.37** **288** P **Pn** 18 19 12.3 0.0
JMST S **Sn** 18 19 39.7 -0.5
JOTO **OTAMA OYAMA** **2.76** **282** P **Pn** 18 19 18.9 +1.1
JOTO S **Sn** 18 19 51.0 +1.1
JMK **Ichinoseki** **2.77** **315** P **Pn** 18 19 18.1 +0.3
JMK *e*S **Sn** 18 19 49.5 -0.5
JOM **Ohasama** **3.11** **323** *e*P **Pn** 18 19 23.0 +0.4
JOM S **Sn** 18 19 58.0 -0.5
JYK **Kaneyama** **3.27** **307** P **Pn** 18 19 25.7 +0.9
JYK *e*S **Sn** 18 20 03.4 +1.0
JAG **Ashikaga** **3.48** **262** P **Pn** 18 19 28.0 +0.3
JAG *e*S **Sn** 18 20 07.3 -0.4
JANG **Nango** **3.77** **333** P **Pn** 18 19 32.3 +0.7
JANG *e*S **Sn** 18 20 13.4 -1.4
JRY **Ryogami san** **4.01** **257** *e*P **Pn** 18 19 35.0 0.0
JRY *e*S **Sn** 18 20 19.1 -1.6
MJAR **Matsushiro Arr** **4.46** **266** Pn **Pn** 18 19 42.1 +1.1
1.0nm,0.3s,baz=87,slow=15,SNR=31
MJAR Sn **Sn** 18 20 32.1 +0.4
0.2nm,0.3s,baz=13,slow=18,SNR=1.5
7.3nm,0.3s
JHJ2 **Mitsune** **5.04** **221** *e*P **Pn** 18 19 46.8 -2.3
JHJ2 *e*S **Sn** 18 20 42.4 -3.8
JHJ **Hachijo jima 2** **5.06** **221** Pn **Pn** 18 19 46.7 -2.6
8.7nm,0.3s,baz=73,slow=12,SNR=1.7
JHJ Sn **Sn** 18 20 41.2 -5.3
9.4nm,0.3s,baz=53,slow=18,SNR=1.4
53nm,0.3s
JCH **Churui** **5.60** **357** P **Pn** 18 19 55.7 -1.0
JCH *e*S **Sn** 18 20 56.4 -3.4
NEM2 **Nemuro 2** **6.53** **13** P **Pn** 18 20 07.2 -2.2
NEM2 *e*S **Sn** 18 21 16.6 -6.0
ASAJ **Asahikawa** **7.14** **353** Pn **Pn** 18 20 17.9 0.0
0.9nm,0.3s,baz=239,slow=9.9,SNR=6.6
ASAJ Sn **Sn** 18 21 35.8 -2.0
0.2nm,0.3s,baz=167,slow=20,SNR=1.6
9.1nm,1.1s
USRK **Ussuriysk Ar.** **11.44** **312** Pn **Pn** 18 21 19.4 +2.6
0.1nm,0.3s,baz=122,slow=13,SNR=1.9
2.0nm,0.9s
KLR **Kul'dur** **14.99** **328** Pn **P** 18 22 09.1 -1.1
0.2nm,0.3s,baz=136,slow=7.6,SNR=5.3
1.5nm,0.5s
H11N2 **WAKE ISLAND Hy** **26.57** **124** T T 18 50 27.0
baz=312,slow=75,SNR=12
H11N1 **WAKE ISLAND Hy** **26.58** **124** T T 18 50 25.2
baz=312,slow=75,SNR=8.8
H11N3 **WAKE ISLAND Hy** **26.59** **124** T T 18 50 26.6
baz=312,slow=75,SNR=8.1
H11S1 **WAKE ISLAND Hy** **27.32** **126** T T 18 51 17.1
baz=313,slow=74
H11S3 **WAKE ISLAND Hy** **27.32** **126** T T 18 51 18.1
baz=313,slow=74
H11S2 **WAKE ISLAND Hy** **27.34** **126** T T 18 51 17.6
baz=313
SONM **Songino Array** **29.34** **303** P P 18 24 39.8 +4.4
0.5nm,0.6s,baz=105,slow=9.1,SNR=3.1
0.5nm,0.6s
KURBB **Kurchatov Arra** **47.47** **308** P **P** 18 27 08.8 +1.7
0.5nm,0.4s,baz=81,slow=7.6,SNR=7.3
KURBB LR LR 18 47 55.8
comp=Z,44nm,18.3s,baz=164,slow=37
0.5nm,0.4s
WRA **Warramunga Arr** **57.34** **191** P **P** 18 28 20.2 -0.3
0.4nm,0.5s,baz=8.6,slow=6.9,SNR=7.3
0.4nm,0.5s
ASAR **Alice Springs** **61.06** **190** P **P** 18 28 46.3 0.0
0.2nm,0.4s,baz=6.2,slow=6.8,SNR=8.3
0.2nm,0.4s
FINES **FINESS Array B** **69.68** **333** P **P** 18 29 42.6 +1.0
3.1nm,0.9s,baz=94,slow=9.8,SNR=3.0
3.1nm,0.9s

---

*TAP **31** 18:22:25.2, 24°.72N×122°.82E, h133km, ML2.6, D*
*JMA **31** 18:22:25.7±0.3, 25°.N±3°.×122°.9E±0°.8, h126km±3km, MV2.0/12, NW OFF ISHIGAKIJIMA IS*
ISC 31 18:22:25.1±1.8, 24°.73N±0°.06×122°.87E±0°.03, h129km±10km, n63, σ0§77/116, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.29**	**153**	*e*P	**Pn**	**18 22 43.4**	**+0.3**
YOJ	**Yonaguni jima**	**0.29**	**153**	*i* P	**Pn**	**18 22 43.7**	**+0.5**
	baz=147						
YOJ				*e*S	**Sn**	18 22 57.4	+0.7
	baz=147						
EOS2	**EOS2**	**0.65**	**242**	P	**Pn**	**18 22 45.1**	**+0.2**
	baz=240						
EOS2				S	**Sn**	18 23 00.5	+0.7
	baz=240						
EOS3	**EOS3**	**0.66**	**229**	P	**Pn**	**18 22 46.0**	**+1.1**
	baz=226						
EOS3				*e*S	**Sn**	18 23 01.1	+1.1
	baz=226						
EOS4	**EOS4**	**0.78**	**220**	*e*P	**Pn**	**18 22 45.4**	**-0.2**
	baz=217						
EOS4				S	**Sn**	18 23 01.7	+0.6
	baz=217						
IRIF	**Iriomote-Funau**	**0.88**	**116**	P	**Pn**	**18 22 47.2**	**+0.3**
IRIF				*e*S	**Sn**	18 23 02.9	-0.3
TWC	**Suao**	**0.93**	**263**	P	**Pn**	**18 22 46.8**	**-0.5**
	baz=262						
TWC				*e*S	**Sn**	18 23 02.9	-1.2
	baz=262						
EWUT	**Wuta**	**1.03**	**254**	P	**Pn**	**18 22 48.1**	**-0.1**
	baz=253						
EWUT				S	**Sn**	18 23 05.1	-0.6
	baz=253						
ENA	**Nanau**	**1.07**	**254**	P	**Pn**	**18 22 48.5**	**-0.1**
	baz=253						
ENA				*i* S	**Sn**	18 23 06.0	-0.4
	baz=253						
HATJ	**Hateruma jima**	**1.08**	**128**	S	**Sn**	**18 23 06.9**	**+0.2**
TWE	**Neicheng**	**1.09**	**270**	*e*P	**Pn**	**18 22 49.2**	**+0.4**
	baz=269						
TWE				*e*S	**Sn**	18 23 06.5	-0.2
	baz=269						
JKRS	**Kuro-shima**	**1.15**	**115**	*i* P	**Pn**	**18 22 50.3**	**+0.9**
JKRS				S	**Sn**	18 23 07.9	+0.1
PCYT	**Pengchaiyu**	**1.15**	**322**	*e*S	**Sn**	**18 23 07.9**	**0.0**
	baz=323						
FUSB	**Fushanzhiwuyua**	**1.16**	**272**	*e*P	**Pn**	**18 22 49.6**	**0.0**
	baz=271						
FUSB				*i* S	**Sn**	18 23 07.8	-0.3
	baz=271						
ENTT	**Nioudou**	**1.19**	**266**	*i* P	**Pn**	**18 22 50.0**	**+0.2**
	baz=265						
ENTT				*i* S	**Sn**	18 23 08.1	-0.4
	baz=265						
JIJ	**Ishigaki jima**	**1.22**	**107**	P	**Pn**	**18 22 50.4**	**+0.3**
JIJ				S	**Sn**	18 23 08.1	-0.9
LATG	**Datong**	**1.23**	**261**	P	**Pn**	**18 22 50.8**	**+0.4**
	baz=260						
LATG				S	**Sn**	18 23 09.4	-0.1
	baz=260						
NDT	**Datong Townshi**	**1.24**	**265**	*e*P	**Pn**	**18 22 51.0**	**+0.7**
	baz=264						
NDT				*e*S	**Sn**	18 23 09.4	0.0
	baz=264						
NWLT	**Wulai**	**1.24**	**273**	*i* P	**Pn**	**18 22 50.6**	**+0.3**
	baz=272						
NWLT				*i* S	**Sn**	18 23 09.2	-0.4
	baz=272						
YM01	**YM01**	**1.25**	**290**	*i* P	**Pn**	**18 22 50.6**	**+0.2**
	baz=290						
YM01				*e*S	**Sn**	18 23 08.9	-0.9
	baz=290						
ETL	**Fush Village**	**1.27**	**244**	*e*P	**Pn**	**18 22 50.8**	**+0.1**
	baz=242						
ETL				*e*S	**Sn**	18 23 09.6	-0.5
	baz=242						
NACB	**Ninganchiao**	**1.28**	**245**	*e*P	**Pn**	**18 22 50.7**	**-0.1**
	baz=243						
NACB				*e*S	**Sn**	18 23 09.4	-0.9
	baz=243						
JISG	**Ishigakijimahi**	**1.32**	**96**	P	**Pn**	**18 22 51.3**	**+0.1**
JISG				S	**Sn**	18 23 09.7	-1.3
TWD	**Chiawan**	**1.32**	**241**	*e*P	**Pn**	**18 22 51.3**	**+0.1**
	baz=240						
TWD				*e*S	**Sn**	18 23 10.1	-1.0
	baz=240						
YHNB	**Yeheng**	**1.36**	**268**	*e*P	**Pn**	**18 22 51.7**	**0.0**
	baz=267						
YHNB				*e*S	**Sn**	18 23 10.9	-1.0
	baz=267						
ETLH	**Xiulin Townshi**	**1.36**	**248**	*e*P	**Pn**	**18 22 51.7**	**-0.1**
	baz=247						
ETLH				*e*S	**Sn**	18 23 11.2	-0.8
	baz=247						
HWA	**Hwalien**	**1.37**	**237**	P	**Pn**	**18 22 51.6**	**-0.1**
	baz=235						
NSK	**Sanguang**	**1.37**	**268**	*i* P	**Pn**	**18 22 52.0**	**+0.2**
	baz=267						
NSK				S	**Sn**	18 23 11.3	-0.8
	baz=267						
NNSB	**Datong**	**1.38**	**258**	*i* P	**Pn**	**18 22 52.1**	**+0.2**
	baz=257						
NNSB				*e*S	**Sn**	18 23 11.5	-0.9
	baz=257						
NNS	**Nan Shan**	**1.39**	**258**	*e*S	**Sn**	**18 23 11.5**	**-1.0**
	baz=257						
ETM	**Tongmen**	**1.46**	**239**	*i* P	**Pn**	**18 22 53.0**	**+0.3**
	baz=238						
ETM				*e*S	**Sn**	18 23 13.1	-0.7
	baz=238						
LXIB	**Xiulin Townshi**	**1.50**	**242**	*i* P	**Pn**	**18 22 53.4**	**+0.1**
	baz=241						
LXIB				*e*S	**Sn**	18 23 13.1	-1.6
	baz=241						
WHF	**Hehuan Shan**	**1.57**	**249**	P	**Pn**	**18 22 54.4**	**0.0**
	baz=247						
WHF				*e*S	**Sn**	18 23 15.6	-1.1
	baz=247						
ESL	**Shilin**	**1.59**	**236**	P	**Pn**	**18 22 53.8**	**-0.4**
	baz=234						
ESL				*e*S	**Sn**	18 23 14.6	-1.8
	baz=234						
NFF	**Wufeng Townshi**	**1.59**	**267**	*i* P	**Pn**	**18 22 54.4**	**+0.1**
	baz=266						
NFF				S	**Sn**	18 23 15.3	-1.2
	baz=266						
TWT	**Tachien**	**1.61**	**253**	P	**Pn**	**18 22 55.4**	**+0.8**
	baz=252						
TWT				*e*S	**Sn**	18 23 17.1	+0.1
	baz=252						
JTJ	**Tarama**	**1.67**	**93**	P	**Pn**	**18 22 55.5**	**+0.4**
JTJ				S	**Sn**	18 23 17.1	-0.9
CHGB	**Renai**	**1.68**	**247**	⇑P	**Pn**	**18 22 56.0**	**+0.5**
	baz=246						
CHGB				*e*S	**Sn**	18 23 18.2	-0.3
	baz=246						
WARBT	**Fenglin Townsh**	**1.68**	**234**	*e*P	**Pn**	**18 22 54.7**	**-0.6**
	baz=232						
WARBT				*e*S	**Sn**	18 23 16.8	-1.5
	baz=232						
LIOB	**Emei**	**1.69**	**268**	*e*P	**Pn**	**18 22 55.1**	**-0.2**
	baz=267						
LIOB				S	**Sn**	18 23 17.3	-1.0
	baz=267						
NSTT	**Nanjuang**	**1.70**	**267**	P	**Pn**	**18 22 56.0**	**+0.6**
	baz=266						
NSTT				S	**Sn**	18 23 17.4	-1.2
	baz=266						
OWD	**Renai**	**1.72**	**244**	*e*S	**Sn**	**18 23 18.8**	**-0.6**
	baz=242						
WUSB	**Renai**	**1.75**	**246**	P	**Pn**	**18 22 56.9**	**+0.7**
	baz=244						
WUSB				*e*S	**Sn**	18 23 19.6	-0.3
	baz=244						
HGSD	**Ruisui**	**1.80**	**227**	*i* P	**Pn**	**18 22 57.0**	**+0.4**
	baz=226						
HGSD				*e*S	**Sn**	18 23 20.6	-0.1
	baz=226						
WHP	**Taichung City**	**1.81**	**256**	*e*P	**Pn**	**18 22 57.8**	**+1.0**
	baz=255						
WHP				*e*S	**Sn**	18 23 21.0	+0.1
	baz=255						
VWDT	**VWDT**	**1.85**	**239**	P	**Pn**	**18 22 57.8**	**+0.6**
	baz=237						
VWDT				*i* S	**Sn**	18 23 21.3	-0.4
	baz=237						
EHY	**Hungye**	**1.86**	**230**	*e*P	**Pn**	**18 22 56.5**	**-0.9**
	baz=228						
EHY				*e*S	**Sn**	18 23 20.7	-1.3
	baz=228						
DPDB	**Guoxing**	**1.90**	**249**	*e*P	**Pn**	**18 22 58.3**	**+0.4**
	baz=248						
DPDB				*e*S	**Sn**	**18 23 23.0**	**+0.1**
	baz=248						
WCS	**Beigang Elemen**	**1.90**	**250**	*e*P	**Pn**	**18 22 59.6**	**+1.8**
	baz=249						
WCS				*e*S	**Sn**	**18 23 23.5**	**+0.6**
	baz=249						
YULB	**Yu-li**	**1.95**	**228**	*e*P	**Pn**	**18 22 58.1**	**-0.4**
	baz=226						
YULB				*e*S	**Sn**	**18 23 22.7**	**-1.3**
	baz=226						
EYUL	**Yuli**	**1.97**	**226**	*e*P	**Pn**	**18 22 58.9**	**+0.2**
	baz=225						
EYUL				*e*S	**Sn**	**18 23 24.1**	**-0.3**
	baz=225						
SSLB	**Suanglung**	**1.98**	**242**	P	**Pn**	**18 23 00.0**	**+1.2**
	baz=241						
SSLB				*e*S	**Sn**	**18 23 25.2**	**+0.6**
	baz=241						
SMLT	**Sun Moon Lake**	**1.98**	**245**	*e*P	**Pn**	**18 23 00.8**	**+1.9**
	baz=244						
TWF1	**Yuli**	**1.98**	**227**	*e*S	**Sn**	**18 23 24.1**	**-0.5**
	baz=225						
TYC	**Yuchr**	**2.01**	**246**	*e*P	**Pn**	**18 23 00.4**	**+1.2**
	baz=245						
TYC				*e*S	**Sn**	**18 23 25.9**	**+0.8**
	baz=245						
FULB	**Fuli**	**2.09**	**224**	*e*P	**Pn**	**18 23 00.4**	**+0.1**
	baz=222						
FULB				*e*S	**Sn**	**18 23 26.8**	**-0.3**
	baz=222						
WHYT	**Xinyi Township**	**2.10**	**241⇑**	*e*P	**Pn**	**18 23 02.2**	**+1.8**
	baz=240						
WHYT				*e*S	**Sn**	**18 23 29.0**	**+1.7**
	baz=240						
CHKT	**Chengkung**	**2.12**	**221**	*e*S	**Sn**	**18 23 27.0**	**-0.7**
	baz=219						
WJS	**Zhushan**	**2.15**	**246**	*e*P	**Pn**	**18 23 00.9**	**0.0**
	baz=244						
WJS				*e*S	**Sn**	**18 23 30.3**	**+2.0**
	baz=244						
EHD	**Haiduan**	**2.18**	**224**	*e*P	**Pn**	**18 23 01.7**	**+0.3**
	baz=223						
EHD				*e*S	**Sn**	**18 23 28.4**	**-0.7**
	baz=223						
ALS	**Alishan**	**2.24**	**238**	*e*S	**Sn**	**18 23 31.5**	**+0.8**
	baz=236						
EDH	**Donghe**	**2.26**	**220**	*e*P	**Pn**	**18 23 02.4**	**+0.1**
	baz=218						
EDH				S	**Sn**	**18 23 30.0**	**-0.7**
	baz=218						
LDUT	**Ludao**	**2.41**	**212**	*e*P	**Pn**	**18 23 04.2**	**+0.1**
	baz=211						
LDUT				*e*S	**Sn**	**18 23 33.4**	**-0.8**
	baz=211						

*ANF **31** 18:24:06.8±0.3, 43.°50N×107.°43W, h5km, ML3.5/11, Error ellipse: s-maj=4.3km s-min=2.2km az=49.0*
*NEIC **31** 18:24:07.5±2.1, 43.°52N±0.°04×107.°46W±0.°03, h15km±8km, ML3.2/88, ML3.2/20(BUT), Error ellipse: s-maj=6.6km s-min=3.2km az=185.0*
*BUT **31** 18:24:07.3±2.2, 43.°51N±0.°04×107.°41W±0.°04, h5km±2km, Error ellipse: s-maj=7.5km s-min=4.1km az=24.0*
ISC 31 18:24:07.0±1.5,**43.°51N**±0.°04×**107.°42W**±0.°03,**h6**km±12km,
n79,σ1§**13**/88,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K22A	**Casper**	**1.09**	**142**		**Pg**	**18 24 28.0**	**+0.2**
K22A					**Sg**	**18 24 42.6**	**+0.8**
K22A				IAML		18 24 44.3	
	comp=E,854nm,0.3s						
K22A	**Casper**	**1.09**	**142**	P	**Pg**	**18 24 28.1**	**+0.2**
	baz=323						
K22A				S	**Sg**	**18 24 42.7**	**+0.8**
	baz=323						
BW06	**Boulder Array**	**1.73**	**245**		**Pn**	**18 24 37.6**	**-0.2**
BW06					**Sn**	**18 25 00.5**	**+0.1**
BW06	**Boulder Array**	**1.73**	**245**	IAML		18 25 01.4	
	comp=E,355nm,0.4s						
BW06				IAML		18 25 02.0	
	comp=E,427nm,0.3s						
BW06	**Boulder Array**	**1.73**	**245**	P	**Pn**	**18 24 38.1**	**+0.3**
	baz=64						
BW06				S	**Sn**	**18 25 00.3**	**-0.2**
	baz=64						
PD31	**Pinedale Array**	**1.73**	**245**		**Pn**	**18 24 37.5**	**-0.3**
PD31					**Sn**	**18 24 59.5**	**-0.9**
PDAR	**Pinedale Array**	**1.73**	**245**		**Pn**	**18 24 37.5**	**-0.3**
RWWY	**Rawlins**	**1.83**	**175**		**Pn**	**18 24 40.1**	**+0.8**
RWWY				IAML		18 25 05.5	
	comp=E,270nm,0.7s						
RWWY				IAML		18 25 10.4	
	comp=E,271nm,0.6s						
RWWY	**Rawlins**	**1.83**	**175**		**Sb**	**18 25 04.3**	**0.0**
RLMT	**Red Lodge**	**2.08**	**321**		**Pn**	**18 24 42.8**	**+0.1**
RLMT	**Red Lodge**	**2.08**	**321**	P	**Pn**	**18 24 43.0**	**+0.3**
	baz=140						
RLMT				S	**Sn**	**18 25 09.4**	**+0.3**
	baz=140						
YPK	**Parker Peak, Y**	**2.17**	**305**		**Pn**	**18 24 44.6**	**+0.6**
YTP	**The Promontory**	**2.25**	**294**		**Pn**	**18 24 46.6**	**+1.6**
LOHW	**Long Hollow**	**2.31**	**274**		**Pn**	**18 24 47.6**	**+1.7**
YMP	**Mirror Lake Pl**	**2.32**	**303**		**Pn**	**18 24 46.6**	**+0.6**
YMP				IAML		18 25 18.8	
	comp=N,233nm,0.4s						
LKWY	**Lake**	**2.39**	**297**	Pn	**Pn**	**18 24 47.5**	**+0.6**
LKWY				IAML		18 25 20.1	
	comp=N,88nm,0.3s						
LKWY				IAML		18 25 22.5	
	comp=N,107nm,0.6s						
MOOW	**Moose Ponds**	**2.42**	**277**		**Pn**	**18 24 47.7**	**+0.4**
SNOW	**Snow King Moun**	**2.42**	**270**		**Pb**	**18 24 49.8**	**-1.4**
SNOW				IAML		18 25 26.3	
	comp=N,77nm,0.6s						
SNOW				IAML		18 25 34.3	
	comp=N,66nm,0.7s						
FLWY	**Flagg Ranch**	**2.44**	**285**		**Pn**	**18 24 49.5**	**+1.9**
H17A	**Grant Village**	**2.44**	**292**		**Pn**	**18 24 49.0**	**+1.3**
H17A				IAML		18 25 22.4	
	comp=N,91nm,0.2s						
H17A	**Grant Village**	**2.44**	**292**	P	**Pn**	**18 24 47.4**	**-0.2**
	baz=110						
H17A				S	**Sn**	**18 25 19.1**	**+1.1**
	baz=110						
REDW	**Red Top Meadow**	**2.50**	**268**		**Pn**	**18 24 46.8**	**-1.6**
RSSD	**Black Hills**	**2.53**	**75**	Pn	**Pn**	**18 24 48.9**	**+0.1**
RSSD				IAML		18 25 27.4	
	comp=N,139nm,0.3s						
RSSD				IAML		18 25 30.1	
	comp=N,118nm,0.5s						
RSSD	**Black Hills**	**2.53**	**75**	P	**Pn**	**18 24 48.9**	**+0.1**
	baz=257						
RSSD				S	**Sn**	**18 25 20.6**	**+0.6**
	baz=257						
TPAW	**Teton Pass**	**2.57**	**271**		**Pn**	**18 24 49.1**	**-0.3**
TPAW				IAML		18 25 33.9	
	comp=N,66nm,0.6s						
IMW	**Indian Meadow**	**2.58**	**280**	Pn	**Pn**	**18 24 49.2**	**-0.3**
IMW				IAML		18 25 35.2	
	comp=N,61nm,0.6s						
FXWY	**Fox Creek**	**2.62**	**274**		**Pn**	**18 24 51.0**	**+0.8**
YNR	**Norris Junctio**	**2.63**	**298**		**Pn**	**18 24 48.9**	**-1.4**
YFT	**Old Faithful**	**2.63**	**292**	Pn	**Pn**	**18 24 48.8**	**-1.5**
PHWY	**Pilot Hill**	**2.65**	**146**		**Pn**	**18 24 49.3**	**-1.2**
PHWY				IAML		18 25 32.5	
	comp=N,92nm,0.4s						
PHWY				IAML		18 25 32.5	
	comp=N,88nm,0.6s						
YHH	**Holmes Hill**	**2.78**	**299**	Pn	**Pn**	**18 24 53.5**	**+1.2**
AHID	**Auburn Hatcher**	**2.79**	**256**		**Pn**	**18 24 53.5**	**+1.1**
AHID	**Auburn Hatcher**	**2.79**	**256**	IAML		18 25 36.2	
	comp=N,66nm,0.5s						
AHID				IAML		18 25 39.8	
	comp=N,69nm,0.5s						
YMR	**Madison River**	**2.80**	**296**		**Pn**	**18 24 52.9**	**+0.3**
YMR				IAML		18 25 41.9	
	comp=N,50nm,0.9s						
N23A	**Red Feather La**	**2.84**	**157**	Pn	**Pn**	**18 24 53.2**	**+0.1**
N23A	**Red Feather La**	**2.84**	**157**	P	**Pn**	**18 24 52.7**	**-0.5**
	baz=338						
N23A				S	**Sn**	**18 25 28.9**	**+1.1**
	baz=338						
YHL	**Hebgen Lake**	**3.02**	**298**		**Pn**	**18 24 57.5**	**+1.9**
LAO	**LASA Array**	**3.29**	**15**		**Pn**	**18 24 58.7**	**-0.4**
LAO	**LASA Array**	**3.29**	**15**	P	**Pn**	**18 24 59.0**	**-0.1**
	baz=195						
O20A	**White River Ci**	**3.43**	**191**	Pn	**Pn**	**18 24 58.9**	**-2.3**
O20A				IAML		18 26 04.1	
	comp=E,80nm,0.5s						
O20A				IAML		18 26 08.2	
	comp=N,89nm,0.8s						
O20A	**White River Ci**	**3.43**	**191**	P	**Pn**	**18 25 01.3**	**+0.1**
	baz=10						
O20A				S	**Sn**	**18 25 43.4**	**+1.1**
	baz=10						
HWUT	**Hardware Ranch**	**3.60**	**239**	Pn	**Pn**	**18 25 02.8**	**-0.8**
HWUT				IAML		18 26 08.6	
	comp=N,47nm,0.6s						
HWUT				IAML		18 26 10.4	
	comp=N,46nm,0.6s						
BOZ	**Bozeman (W)**	**3.66**	**306**		**Pn**	**18 25 03.7**	**-0.6**
BOZ				IAML		18 26 06.1	
	comp=N,31nm,0.5s						
BOZ				IAML		18 26 06.4	
	comp=N,28nm,0.3s						
BOZ	**Bozeman (W)**	**3.66**	**306**	P	**Pn**	**18 25 04.1**	**-0.2**
	baz=123						
BOZ				S	**Sn**	**18 25 49.5**	**+1.7**
	baz=123						
BRIGG	**Briggsdale**	**3.73**	**141**	Pn	**Pn**	**18 25 06.8**	**+1.5**
BRIGG				IAML		18 26 09.1	
	comp=N,67nm,0.5s						
TCUT	**Toone Canyon**	**3.80**	**232**		**Pn**	**18 25 05.1**	**-1.2**
BSUT	**Blindstream Ca**	**3.88**	**221**		**Pn**	**18 25 08.5**	**+1.0**
BSUT				IAML		18 26 12.5	
	comp=E,33nm,0.6s						
BSUT				IAML		18 26 13.9	
	comp=N,29nm,1.0s						
ISCO	**Idaho Springs**	**3.95**	**159**	Pn	**Pn**	**18 25 08.2**	**-0.3**
ISCO	**Idaho Springs**	**3.95**	**159**	P	**Pn**	**18 25 08.5**	**+0.1**
	baz=341						
CTU	**Camp Tracy**	**4.28**	**230**		**Pn**	**18 25 12.3**	**-0.5**
CTU				IAML		18 26 25.1	
	comp=N,27nm,0.6s						
CTU				IAML		18 26 28.5	
	comp=E,31nm,0.7s						
HVU	**Hansel Valley**	**4.31**	**248**		**Pn**	**18 25 12.0**	**-1.3**
HVU				IAML		18 26 23.9	
	comp=N,22nm,0.5s						
HVU				IAML		18 26 28.7	
	comp=E,22nm,0.4s						
SPUT	**South Promonto**	**4.32**	**241**	Pn	**Pn**	**18 25 14.2**	**+0.7**
SPUT				IAML		18 26 21.4	
	comp=N,33nm,0.8s						
SPUT				IAML		18 26 29.4	
	comp=E,34nm,1.0s						
ELMT	**Elliston**	**4.69**	**312**	Pn	**Pn**	**18 25 18.6**	**+0.1**
MPU	**Maple Canyon**	**4.70**	**223**	Pn	**Pn**	**18 25 18.0**	**-0.7**
MPU				IAML		18 26 43.1	
	comp=E,17nm,0.9s						
MPU				IAML		18 26 44.2	
	comp=N,12nm,0.7s						
P17A	**Butcher Ranch,**	**4.74**	**213**		**Pn**	**18 25 19.8**	**+0.6**
P17A				IAML		18 26 39.4	
	comp=E,31nm,0.7s						
P17A				IAML		18 26 41.5	
	comp=N,24nm,0.5s						
BEMT	**Mount Belmont**	**4.74**	**315**	Pn	**Pn**	**18 25 19.4**	**+0.1**
OGNE	**Ogallala**	**4.75**	**121**	Pn	**Pn**	**18 25 20.5**	**+1.2**
EGMT	**Eagleton**	**4.80**	**341**	Pn	**Pn**	**18 25 19.3**	**-0.5**
EGMT	**Eagleton**	**4.80**	**341**	P	**Pn**	**18 25 20.5**	**+0.6**
	baz=159						
BGU	**Big Grassy Mou**	**4.90**	**240**	Pn	**Pn**	**18 25 21.7**	**+0.3**
BGU				IAML		18 26 42.5	
	comp=N,8.3nm,0.9s						
BGU				IAML		18 26 43.8	
	comp=E,9.6nm,0.5s						
SRU	**San Rafael Swe**	**4.98**	**209**		**Pn**	**18 25 23.9**	**+1.5**
HLID	**Hailey**	**5.08**	**273**	Pn	**Pn**	**18 25 22.8**	**-1.1**
TMUT	**Trail Mountain**	**5.08**	**215**		**Pn**	**18 25 23.7**	**-0.4**
BPMT	**Black Pine Rid**	**5.18**	**306**		**Pn**	**18 25 25.4**	**+0.2**
DUG	**Dugway, Tooele**	**5.21**	**232**		**Pn**	**18 25 26.2**	**+0.6**
DUG				IAML		18 26 54.9	
	comp=E,9.2nm,4.0s						
DUG				IAML		18 27 03.2	
	comp=E,8.3nm,0.7s						
OVMT	**Ovando**	**5.30**	**314**		**Pn**	**18 25 28.1**	**+1.4**
CHMT	**Chamberlain Mo**	**5.34**	**312**		**Pn**	**18 25 23.3**	**-4.2**
DGMT	**Dagmar**	**5.44**	**23**		**Pn**	**18 25 25.5**	**-3.1**
DGMT	**Dagmar**	**5.44**	**23**	P	**Pn**	**18 25 29.5**	**+0.8**
	baz=205						
K30B	**Basset**	**5.78**	**96**	Pn	**Pn**	**18 25 31.8**	**-1.6**
SDCO	**Great Sand Dun**	**5.94**	**165**	Pn	**Pn**	**18 25 37.1**	**+1.3**
HMU	**Henry Mountain**	**6.11**	**205**		**Pn**	**18 25 39.9**	**+1.8**
MSU	**Marysvale**	**6.15**	**217**	Pn	**Pn**	**18 25 39.0**	**+0.3**
MVCO	**Mesa Verde**	**6.35**	**188**		**Pn**	**18 25 40.8**	**-0.6**
MVCO	**Mesa Verde**	**6.35**	**188**	P	**Pn**	**18 25 42.2**	**+0.9**
	baz=7.1						
PLID	**Pearl Lake**	**6.35**	**287**	Pn	**Pn**	**18 25 41.2**	**-0.1**
MTPU	**Mount Pierson**	**6.55**	**215**	Pn	**Pn**	**18 25 43.5**	**-0.8**
T25A	**Trinidad**	**6.77**	**159**	Pn	**Pn**	**18 25 46.3**	**-0.8**
MDND	**Maddock**	**6.98**	**49**	Pn	**Pn**	**18 25 47.3**	**-2.5**

*NEIC **31** 18:24:37.1±2.9, 2.°04N±0.°06×126.°06E±0.°06, h29km±5km, mb5.0/92, Error ellipse: s-maj=9.3km s-min=7.3km az=218.0*
*DJA **31** 18:24:39.5±0.3, 2.°N±3.°×12.°6E±.°, h58km±5km, M4.5/15, mb4.6/13, mB4.9/5, MLv4.7/15, Mw(mB)4.2/5*
*IDC **31** 18:24:42.8±1.8, 1.°97N×125.°77E, h90km±16km, mb3.9/17, mbtmp4.2/20, MS3.3/16, Error ellipse: s-maj=20.1km s-min=9.0km az=82.0*
ISC 31 18:24:35.6±0.5,**1.°93N**±0.°03×**126.°01E**±0.°05,**h23**km±3km,
h22km:**pP-P**,**n363**,σ1§**60**/358,**mb4.9**/72,**MS3.4**/15,
Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.78**	**130**	Pn	**Pn**	**18 25 06.8**	**+1.7**
TNTI				Sn	**Sn**	**18 25 26.3**	**-0.7**
TNTI	**Ternate**	**1.78**	**130**	P	**Pn**	**18 25 06.4**	**+1.4**
SGSI	**Sangihe**	**1.81**	**345**	P	**Pb**	**18 25 07.6**	**-0.5**
KMSI	**Cibinong**	**2.43**	**236**	P	**Pb**	**18 25 17.1**	**-1.6**
LBMI	**Labuha**	**2.96**	**150**	P	**Pn**	**18 25 24.0**	**+2.8**
GTOI	**Gorontalo**	**3.26**	**247**	P	**Pn**	**18 25 28.6**	**+3.2**
SANI	**Sanana**	**3.95**	**180**	P	**Pn**	**18 25 35.8**	**+0.9**
MRSI	**Marisa**	**4.31**	**250**	P	**Pn**	**18 25 43.9**	**+4.0**
LUWI	**Luwuk**	**4.38**	**228**		**Pn**	**18 25 44.1**	**+3.3**
LUWI				Sn	**Sn**	**18 26 33.9**	**+2.8**
LUWI	**Luwuk**	**4.38**	**228**	P	**Pn**	**18 25 44.9**	**+4.1**
DAV	**Davao City (W)**	**5.12**	**355**	Pn	**Pn**	**18 25 50.6**	**-0.4**
DAV	**Davao City (W)**	**5.12**	**355**	P	Pn	18 25 56.7	+5.7
	77nm,0.5s,baz=197,slow=19,SNR=1.5						
DAV				S	**Sn**	**18 26 53.4**	**+3.9**
	134nm,0.3s,baz=245,slow=19,SNR=4.1						
DAV				LR	LR	18 28 17.2	
	comp=Z,342nm,20.6s,baz=145,slow=42						
NLAI	**Namlea**	**5.25**	**168**	P	**Pb**	**18 26 04.8**	**-2.0**
TOLI2	**Tolitoli**	**5.29**	**261**	Pn	**Pn**	**18 25 54.9**	**+1.6**
TOLI2				Sn	**Sn**	**18 26 50.5**	**-3.0**
SWI	**Sorong**	**5.94**	**118**	P	**Pn**	**18 26 06.0**	**+3.7**
	29nm,1.0s,1μm0.1nm						
MPSI	**Mapaga**	**6.31**	**256**	P	**Pn**	**18 26 10.7**	**+3.4**
	76nm,0.9s,1μm0.3nm						
BNDI	**Bandanaira**	**7.50**	**149**	P	Pb	18 26 39.8	-5.3
FAKI	**Fak Fak**	**7.88**

KNRA Kununurra 17.71 171 Pn Pn 18 28 41.5 +0.6
KNRA Kununurra 17.71 171 P P 18 28 42.1 +0.5
LEM Lembang 20.31 244 LR LR 18 38 24.4
comp=Z,166nm,20.7s,baz=72,slow=41
PMBI Palembang 21.77 257 P P 18 29 27.0 +1.0
YULB Yu-li 21.82 348 P P 18 29 23.9 -2.5
TPUB Ta-pu 21.87 347 P P 18 29 25.1 -1.9
TPUB IAmb IAmb 18 29 32.6
comp=Z,91nm,1.4s
GUMO Guam 21.96 57 LR LR 18 35 41.2
comp=Z,16nm,21.1s,baz=281,slow=30
SSLB Suanglung 22.27 348 P P 18 29 29.1 -2.3
SSLB IAmb IAmb 18 29 33.9
comp=Z,63nm,1.6s
YHNB Yeheng 23.05 349 P P 18 29 37.0 -2.6
YHNB IAmb IAmb 18 29 38.6
comp=Z,116nm,1.5s
WB0 Warramunga Arr 23.08 159 P P 18 29 38.7 -1.2
WB0 IAmb IAmb 18 29 45.0
comp=Z,38nm,1.2s
COEN Coen 23.21 133 P P 18 29 40.3 -0.9
WRAB Tennant Creek 23.22 160 P P 18 29 39.1 -2.1
WRAB IAmb IAmb 18 29 43.1
comp=Z,27nm,0.5s
WRAB Tennant Creek 23.22 160 P P 18 29 41.2 -0.1
WRA Warramunga Arr 23.23 160 P P 18 29 38.4 -3.0
WRA Warramunga Arr 23.23 160 P P 18 29 41.0 -0.3
comp=Z,17nm,0.5s,baz=337,slow=10,SNR=77
WRA S S 18 33 47.4 -4.8
comp=Z,1.5nm,0.7s,baz=340,slow=21,SNR=3.2
WB2 Warramunga Arr 23.23 160 P P 18 29 40.5 -0.9
WB2 IAmb IAmb 18 29 43.1
comp=Z,28nm,0.5s
WB2 S S 18 33 48.5 -3.8
WB1 Warramunga Ar. 23.24 160 P P 18 29 41.5 0.0
WR0 Warramunga Arr 23.31 159 P P 18 29 41.5 -0.6
MBWA Marble Bar 23.76 195 P P 18 29 45.7 -0.8
MBWA IAmb IAmb 18 30 08.6
comp=Z,77nm,1.9s
MBWA Marble Bar 23.76 195 P P 18 29 48.2 +1.7
PSA00 Pilbara Seismi 24.12 194 P P 18 29 49.9 -0.1
PSA00 Pilbara Seismi 24.12 194 P P 18 29 50.6 +0.6
PSA00 IAmb IAmb 18 30 11.8
comp=Z,4.3nm,0.9s
AS31 Alice Springs 26.58 164 P P 18 30 12.4 +0.1
ASAR Alice Springs 26.58 164 P P 18 30 12.2 -0.1
ASAR Alice Springs 26.58 164 P P 18 30 12.8 +0.5
comp=Z,6.2nm,0.7s,baz=343,slow=7.7,SNR=150
ASAR PcP PcP 18 33 35.7 -0.8
comp=Z,0.3nm,0.4s,baz=352,slow=2.2,SNR=1.8
ASAR S S 18 34 42.3 -3.5
comp=Z,1.2nm,0.8s,baz=346,slow=19,SNR=4.7
comp=Z,6.2nm,0.7s
WRKA Warakurna 26.90 175 P P 18 30 17.0 +1.8
GIRL Giralia 26.99 205 P P 18 30 18.1 +2.1
RPSI Rantau Prapat 27.07 272 P P 18 30 17.0 +0.2
MEEK Meekatharra 29.29 194 P P 18 30 38.3 +1.9
JCJ Chichijima 29.44 30 LR LR 18 43 21.5
comp=Z,82nm,18.3s,baz=114,slow=38
CTA Charters Tower 29.55 139 P P 18 30 42.5 +3.6
comp=Z,2.4nm,0.6s,baz=302,slow=7.7,SNR=4.6
comp=Z,2.4nm,0.6s
NJ2 Nanjing 30.71 348 eP P 18 30 51.5 +2.6
NJ2 pP pP 18 30 56.0 +0.7
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
NJ2 pmax pmax
comp=Z,170nm,3.8s
OOD Oodnadatta 30.99 163 P P 18 30 52.0 +0.6
CMAR Chiang Mai Arr 31.20 304 P P 18 30 53.3 -0.2
comp=Z,0.5nm,0.6s,baz=106,slow=6.7,SNR=1.9
CMAR LR LR 18 44 06.6
comp=Z,43nm,18.9s,baz=90,slow=38
comp=Z,0.5nm,0.6s
JNU Nakatsue 31.36 8 P P 18 30 52.7 -2.1
JNU IAmb IAmb 18 31 41.0
comp=Z,43nm,1.7s
FORT Forrest 32.59 177 P P 18 31 06.0 +0.5
FORT Forrest 32.59 177 P P 18 31 06.2 +0.7
MULG Mulgathing 32.94 167 P P 18 31 09.5 +0.9
JHJ Hachijo jima 2 33.61 21 LR LR 18 43 18.7
comp=Z,21nm,21.2s,baz=106,slow=33
PZH PanZhiHua 33.76 319 P P 18 31 16.8 +0.8
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,7.3s
LCRK Leigh Creek 34.24 161 P P 18 31 20.8 +0.9
KLBR Kellerberrin 34.25 193 P P 18 31 20.9 +0.9
TNCH TengChong 35.08 313 P P 18 31 30.5 +3.1
TNCH pP sP 18 31 37.5 +1.0
TNCH pmax pmax
comp=Z,5.0nm,0.9s
KSRS Korea Array 35.40 3 P P 18 31 29.7 0.0
comp=Z,1.5nm,0.6s,baz=182,slow=10,SNR=7.4
comp=Z,1.5nm,0.6s
NWAO Narrogin (SRO) 35.65 193 P P 18 31 32.4 +0.3
NWAO Narrogin (SRO) 35.65 193 P P 18 31 32.9 +0.9
NWAO IAmb IAmb 18 32 28.8
comp=Z,36nm,1.3s
CD2 Chengdu 35.69 326 eP P 18 31 33.0 +0.5
XAN Xi'an 35.71 335 P P 18 31 45.8 +13
XAN pmax pmax
comp=Z,8.0nm,0.7s
BBOO Buckleboo 35.84 165 P P 18 31 33.5 -0.2
MJAR Matsushiro Arr 36.24 17 P P 18 31 36.7 -0.4
comp=Z,3.6nm,0.8s,baz=191,slow=8.7,SNR=7.9
MJAR LR LR 18 47 03.2
comp=Z,24nm,19.2s,baz=208,slow=37
comp=Z,3.6nm,0.8s
MJB9 Matsu-Tunnel 36.24 17 P P 18 31 36.1 -1.0
MJB9 IAmb IAmb 18 31 59.7
comp=Z,47nm,1.9s
EIDS Eidsvold 36.42 140 P P 18 31 39.2 +0.4
EIDS IAmb IAmb 18 31 59.5
comp=Z,19nm,1.2s
STKA Stephens Creek 36.73 158 P P 18 31 41.3 0.0
STKA Stephens Creek 36.73 158 P P 18 31 41.7 +0.3
comp=Z,12nm,0.7s,baz=331,slow=8.7,SNR=28
comp=Z,12nm,0.7s
JMM Marumori 38.26 19 P P 18 31 54.9 +0.8
JMM IAmb IAmb 18 31 57.0
comp=Z,20nm,0.7s
ARMA Armidale 40.40 145 P P 18 32 13.2 +0.9
HHC Hu-ho-hao-te 40.88 343 eP P 18 32 18.5 +2.3
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,600nm,5.9s
JTM Tenmabayashi 41.01 17 P P 18 32 17.4 +0.4
USRK Ussuriysk Ar. 42.42 6 P P 18 32 27.1 -1.4
USRK Ussuriysk Ar. 42.42 6 P P 18 32 29.4 +0.9
comp=Z,1.4nm,0.6s,baz=219,slow=9.2,SNR=2.6
comp=Z,1.4nm,0.6s
MDJ Mudanjiang 42.62 4 P P 18 32 30.5 +0.3
MDJ pP pP 18 32 36.5 -0.2
MDJ sP sP 18 32 44.3 +4.9
MDJ PcP PcP 18 34 20.0 -2.1
MDJ ScP ScP 18 38 11.0 -0.8
MDJ PcS PcS 18 38 16.0 +1.9
MDJ S S 18 38 52.8 +0.9
MDJ sS sS 18 39 05.3 +2.6
MDJ pmax pmax
comp=Z,6.0nm,1.5s
MDJ pmax pmax
comp=Z,260nm,6.3s
MDJ LR LR
comp=N,780nm,14.9s
MDJ LR LR
comp=E,270nm,13.9s
MDJ LR LR
comp=Z,650nm,16.3s
CAN Canberra 42.85 152 P P 18 32 32.1 -0.2
H11S3 WAKE ISLAND Hy 43.13 65 T T 19 18 59.4
baz=252,slow=75,SNR=52
H11S2 WAKE ISLAND Hy 43.14 65 T T 19 19 10.9
baz=252,slow=75,SNR=25
H11S1 WAKE ISLAND Hy 43.15 65 T T 19 19 00.1
baz=252,slow=75,SNR=20
TOO Toolangi 43.25 157 P P 18 32 37.0 +1.5
TOO IAmb IAmb 18 33 36.8
comp=Z,82nm,2.0s
H11N1 WAKE ISLAND Hy 43.69 63 T T 19 19 37.7
baz=251,slow=75,SNR=8.3
H11N2 WAKE ISLAND Hy 43.70 63 T T 19 19 50.4
baz=251,slow=75,SNR=4.6
H11N3 WAKE ISLAND Hy 43.71 63 T T 19 19 38.5
baz=251,slow=75,SNR=8.2
GTA Gaotai 44.28 331 eP P 18 32 43.3 -0.5
GTA sP sP 18 32 54.0 +1.0
GTA pmax pmax
comp=Z,3.0nm,0.8s
ASAJ Asahikawa 44.51 17 LR LR 18 53 50.8
comp=Z,50nm,19.2s,baz=130,slow=39
JKA Kamikawa-asahi 44.51 17 P P 18 32 45.6 +0.2
TAPN Taplejung 44.52 308 eP P 18 32 44.9 -1.3
RAMN Ramite 45.22 307 eP P 18 32 50.9 -0.8
PALK Pallekele 45.45 278 LR LR 18 52 16.1
comp=Z,49nm,21.4s,baz=204,slow=37
JIRN Jiri 45.86 308 eP P 18 32 55.5 -1.4
GUN Gumba 46.22 308 eP P 18 32 58.8 -0.9
PKI Pulchoki 46.44 307 eP P 18 33 00.1 -1.3
comp=Z,2.8nm,0.5s
PKIN Phulchoki 46.46 307 eP P 18 33 00.4 -1.0
comp=Z,7.9nm,0.8s
GKN Gorkha 47.25 307 eP P 18 33 06.0 -1.5
comp=Z,14nm,1.0s
DANN Dangsing 48.09 307 eP P 18 33 13.1 -1.1
comp=Z,12nm,0.6s
HEH HeiHe 48.16 1 eP P 18 33 14.5 +0.5
HEH pmax pmax
comp=Z,5.0nm,1.1s
HEH pmax pmax
comp=Z,600nm,4.6s
PYUN Piuthan 48.60 307 eP P 18 33 17.2 -0.9
comp=Z,16nm,0.6s
SONM Songino Array 48.77 343 P P 18 33 17.6 -1.3
comp=Z,0.9nm,0.6s,baz=148,slow=8.5,SNR=3.5
comp=Z,0.9nm,0.6s
HYB Hyderabad 49.07 291 eP P 18 33 21.6 0.0
HYB epP pwP 18 33 30.4 +2.2
WMQ Urumqi 53.79 326 eP P 18 33 58.3 +1.7
PEA0B Petropavlovsk- 57.36 22 P P 18 34 21.9 -0.1
PETK Petropavlovsk- 57.36 22 P P 18 34 21.4 -0.5
PETK Petropavlovsk- 57.36 22 P P 18 34 23.2 +1.3
comp=Z,7.5nm,0.9s,baz=206,slow=6.4,SNR=5.3
comp=Z,7.5nm,0.9s
MK31 Makanchi Array 58.62 326 P P 18 34 29.1 -1.9
MKAR Makanchi Array 58.62 326 P P 18 34 29.3 -1.7
MKAR Makanchi Array 58.62 326 P P 18 34 29.6 -1.4
comp=Z,2.4nm,0.5s,baz=119,slow=8.2,SNR=38
comp=Z,2.4nm,0.5s
MAKZ Makanchi 58.81 326 P P 18 34 30.5 -1.8
MAKZ Makanchi 58.81 326 P P 18 34 31.5 -0.8
MAKZ pP pP 18 34 36.9 -2.1
YAK Yakutsk 60.02 2 P P 18 34 40.3 +0.1
YAK IAmb IAmb 18 35 10.4
comp=Z,12nm,0.8s
YAK Yakutsk 60.02 2 P P 18 34 40.7 +0.4
YAK pP pP 18 34 46.3 -0.8
YAK sP pwP 18 34 49.1 +2.1
MA2 Magadan 60.61 14 LR LR 19 00 38.9
comp=Z,22nm,21.3s,baz=132,slow=36
LBZ Lake Benmore 60.62 145 P P 18 34 45.8 +1.1
AAK Ala-Archa 61.21 319 LR LR 19 03 30.0
comp=Z,46nm,21.9s,baz=123,slow=38
ZAA0 Zalesovo Array 61.86 334 P P 18 34 51.4 -1.6
ZALV Zalesovo Beam 61.86 334 P P 18 34 50.8 -2.2
ZALV Zalesovo Beam 61.86 334 P P 18 34 49.8 -3.2
comp=Z,0.7nm,0.4s,baz=120,slow=8.8,SNR=4.4
ZALV LR LR 19 03 38.3
comp=Z,33nm,18.2s,baz=134,slow=38
comp=Z,0.7nm,0.4s
KURBB Kurchatov Arra 62.87 328 P P 18 34 58.3 -1.5
comp=Z,2.4nm,0.6s,baz=128,slow=6.3,SNR=26
comp=Z,2.4nm,0.6s
KURK Kurchatov 62.87 328 P P 18 34 58.1 -1.7
KURK IAmb IAmb 18 35 00.5
comp=Z,5.5nm,0.6s
KURK Kurchatov 62.87 328 P P 18 34 58.4 -1.4
KURK pP pP 18 35 04.6 -2.0
KURK sP sP 18 35 07.4 -1.7
KK31 Karatay Array 64.06 318 P P 18 35 05.8 -2.1
KKAR Karatay Array 64.06 318 P P 18 35 06.5 -1.4
KKAR Karatay Array 64.06 318 P P 18 35 05.9 -2.0
KKAR IAmb IAmb 18 35 17.3
comp=Z,9.4nm,2.0s
BVAR Borovoye Array 68.43 328 P P 18 35 33.5 -2.2
comp=Z,0.6nm,0.4s,baz=115,slow=6.7,SNR=6.2
comp=Z,0.6nm,0.4s
BRVK Borovoye 68.50 328 P P 18 35 34.7 -1.5
CASY Casey 68.96 187 P P 18 35 38.9 +0.2
TIXI Tiksi 69.64 1 P P 18 35 42.5 -0.3
TIXI IAmb IAmb 18 35 54.6
comp=Z,23nm,1.9s
TIXI Tiksi 69.64 1 P P 18 35 42.8 0.0
ATKA Atka Island 70.38 34 P P 18 35 46.5 -1.2
GEYT Alibeck 71.46 309 P P 18 35 52.4 -2.3
comp=Z,0.8nm,0.8s,baz=173,slow=3.8,SNR=2.4
comp=Z,0.8nm,0.8s
ABKAR Akbulak array 73.08 321 P P 18 36 01.2 -2.8
ABKAR Akbulak array 73.08 321 P P 18 36 01.6 -2.5
ABKAR IAmb IAmb 18 36 23.6
comp=Z,12nm,1.9s
SPIA Saint Paul Isl 74.40 30 P P 18 36 12.4 +0.8
baz=248
GAMB Gambell 76.32 24 P P 18 36 23.5 +1.0
baz=246
K13K Kusilvak Mount 78.68 27 P P 18 36 37.0 +1.2
baz=252
SDPT Sand Point 79.08 34 P P 18 36 38.2 +0.2
baz=257
ANM Nome 79.19 24 P P 18 36 39.2 +0.7
baz=251
J14K Nanvaranak Lak 79.41 26 P P 18 36 40.7 +1.0
baz=253
L14K Kuka Creek 79.41 28 P P 18 36 41.0 +1.2
L14K IAmb IAmb 18 36 53.1
comp=Z,39nm,1.7s
L14K Kuka Creek 79.41 28 P P 18 36 40.3 +0.5
baz=254
CHNA Chernabura Isl 79.47 35 P P 18 36 41.0 +0.8
baz=258
N14K Kuskokwak Cree 79.52 29 P P 18 36 41.4 +1.1
baz=256
O14K Tigyukauivet M 79.56 30 P P 18 36 41.6 +1.0
M14K Bethel 79.60 28 P P 18 36 42.7 +2.0
M14K IAmb IAmb 18 36 43.2
comp=Z,11nm,0.8s
M14K Bethel 79.60 28 P P 18 36 42.1 +1.3
baz=255
S14K Fog Glacier 79.79 33 P P 18 36 42.9 +0.8
baz=258
L15K Ungalak Mounta 80.06 28 P P 18 36 44.3 +1.1
baz=255
M15K Kasigluk River 80.19 29 P P 18 36 45.1 +1.1
baz=256
K15K Wolf Creek Mou 80.19 27 P P 18 36 45.8 +1.8
K15K IAmb IAmb 18 36 47.7
comp=Z,22nm,1.3s
K15K Wolf Creek Mou 80.19 27 P P 18 36 45.7 +1.8
baz=255
O15K Ungalikthiuk R 80.27 30 P P 18 36 46.3 +1.9
baz=257
N15K Kwethluk River 80.36 29 P P 18 36 46.7 +1.7
N15K IAmb IAmb 18 37 33.8
comp=Z,24nm,1.4s
H16K Elim 80.50 25 P P 18 36 47.4 +1.8
baz=254
G16K Koyuk River 80.67 24 P P 18 36 47.8 +1.4
baz=254
J16K Anvik River 80.85 26 P P 18 36 49.7 +2.2
J16K IAmb IAmb 18 36 50.7
comp=Z,7.5nm,0.8s
J16K Anvik River 80.85 26 P P 18 36 49.4 +1.9
baz=256
I17K Unalakleet 80.96 25 P P 18 36 50.5 +2.5
I17K IAmb IAmb 18 39 34.7
comp=Z,16nm,1.1s
L16K Owhat River 81.00 28 P P 18 36 50.1 +1.8
L16K IAmb IAmb 18 36 50.7
comp=Z,24nm,1.4s
L16K Owhat River 81.00 28 P P 18 36 49.6 +1.3
baz=257
N16K Nishlik Lake 81.06 29 P P 18 36 50.7 +2.0
baz=258
M16K Timber Creek 81.09 28 P P 18 36 50.9 +2.0
baz=258
O16K Kokwok River B 81.22 30 P P 18 36 51.3 +1.8
O16K IAmb IAmb 18 39 13.9
comp=Z,29nm,1.6s
O16K Kokwok River B 81.22 30 P P 18 36 51.0 +1.4
baz=259
C17K DeLong Mountai 81.24 21 P P 18 36 51.2 +1.7
baz=253
G17K Kiwalik Mounta 81.38 24 P P 18 36 51.6 +1.3
baz=256
F17K Baldwin Pennin 81.38 23 P P 18 36 52.1 +1.8
baz=255
H17K Granite Mounta 81.54 24 P P 18 36 53.4 +2.2
H17K Granite Mounta 81.54 24 P P 18 36 53.3 +2.1
baz=256
L17K Donlin 81.63 27 P P 18 36 53.4 +1.7
baz=258
VNDA Vanda 81.75 173 P P 18 36 54.1 +2.1
VNDA Vanda 81.75 173 P P 18 36 53.1 +1.1
comp=Z,0.5nm,0.6s,baz=348,slow=7.2,SNR=2.4
comp=Z,0.5nm,0.6s
K17K Iditarod 81.75 27 P P 18 36 54.5 +2.2
K17K IAmb IAmb 18 36 55.7
comp=Z,12nm,0.9s
K17K Iditarod 81.75 27 P P 18 36 54.0 +1.7
baz=258
O17K Koliganek Bris 81.75 30 P P 18 36 53.8 +1.4
baz=260
E18K Tukpahlearik C 81.88 22 P P 18 36 54.6 +1.7
baz=255
M17K Holitna River 81.89 28 P P 18 36 54.1 +1.1
M17K IAmb IAmb 18 37 24.4
comp=Z,33nm,1.6s
C18K Utukok River 81.99 21 P P 18 36 54.7 +1.2
baz=255
Q17K Contact Creek 82.11 31 P P 18 36 55.8 +1.3
baz=261
H18K Honhosa River 82.23 24 P P 18 36 56.3 +1.5
baz=258
G18K Tagagawik 82.28 24 P P 18 36 56.5 +1.5
baz=257
L18K Granite Mounta 82.39 27 P P 18 36 57.8 +2.2
L18K IAmb IAmb 18 36 58.9
comp=Z,8.9nm,0.7s
L18K Granite Mounta 82.39 27 P P 18 36 57.2 +1.6
baz=260,SNR=7.9
J18K Innoko River 82.60 26 P P 18 36 58.4 +1.6
J18K IAmb IAmb 18 36 59.5
comp=Z,8.7nm,0.8s
J18K Innoko River 82.60 26 P P 18 36 58.4 +1.6
baz=259,SNR=7.5
M18K Stony River 82.67 28 P P 18 36 59.1 +2.0
baz=260
C19K Lookout Ridge 82.67 20 P P 18 36 59.3 +2.2
C19K Lookout Ridge 82.67 20 P P 18 36 58.8 +1.7
baz=256
O18K Koktuh Hills 82.70 30 P P 18 36 59.1 +1.7
baz=261
GCSA Galena City Sc 82.77 25 P P 18 36 59.1 +1.5
baz=259
SII Sitkinak Islan 82.78 33 P P 18 36 59.2 +1.4
baz=262
TTA Tatalina 82.82 27 P P 18 37 00.1 +2.1
TTA IAmb IAmb 18 37 00.8
comp=Z,6.9nm,0.6s
TTA Tatalina 82.82 27 P P 18 36 59.6 +1.6
baz=260,SNR=5.4
F19K Shaleruckik Mo 82.82 23 P P 18 36 59.3 +1.4
baz=258
G19K Purcell Mounta 82.95 24 P P 18 37 00.0 +1.5
G19K IAmb IAmb 18 37 01.6
comp=Z,16nm,0.9s
G19K Purcell Mounta 82.95 24 P P 18 36 59.8 +1.3
baz=259,SNR=13
D19K Kuna River 83.05 21 P P 18 37 00.2 +1.2
baz=258
H19K Roundabout Mou 83.09 24 P P 18 37 01.1 +1.9
H19K Roundabout Mou 83.09 24 P P 18 37 01.1 +1.9
baz=259,SNR=14
E19K Redstone River 83.16 22 P P 18 37 01.7 +2.1
E19K Redstone River 83.16 22 P P 18 37 01.6 +2.0
baz=258,SNR=13
J19K Poorman 83.17 26 P P 18 37 01.6 +1.9
J19K IAmb IAmb 18 37 02.8
comp=Z,13nm,0.8s
J19K Poorman 83.17 26 P P 18 37 01.6 +1.9
baz=260,SNR=10
N19K Bonanza Creek 83.20 29 P P 18 37 01.5 +1.4
N19K Bonanza Creek 83.20 29 P P 18 37 02.1 +2.0
baz=262,SNR=5.3
L19K White Mountain 83.23 28 P P 18 37 01.9 +1.8
L19K IAmb IAmb 18 37 03.1
comp=Z,10nm,0.9s
L19K White Mountain 83.23 28 P P 18 37 02.1 +2.0
baz=261,SNR=6.9
Q19K Cape Douglas, 83.37 31 P P 18 37 02.1 +1.3
baz=263
M19K Big River Lodg 83.40 28 P P 18 37 03.0 +2.1
baz=262
D20K Etivluk River 83.63 21 P P 18 37 04.2 +2.2
baz=259
F20K Avaraart Lake 83.66 23 P P 18 37 04.7 +2.6
baz=260
B20K Meade River 83.70 20 P P 18 37 04.1 +1.8
baz=258
E20K Nigu River 83.70 21 P P 18 37 04.6 +2.1
baz=259
H20K Anotleneega Mo 83.73 24 P P 18 37 04.4 +1.8
baz=261,SNR=7.6
K20K Telida 83.76 27 P P 18 37 05.0 +2.2
baz=262
I20K Naaghedeneel 83.79 25 P P 18 37 04.7 +1.8
baz=261
J20K Nowinta River 83.84 26 P P 18 37 05.2 +2.0
J20K IAmb IAmb 18 37 06.3
comp=Z,6.1nm,0.8s
J20K Nowinta River 83.84 26 P P 18 37 05.5 +2.4
baz=262
M20K Styx River 83.99 28 P P 18 37 06.0 +1.9
baz=263
RSO Redoubt South 84.00 30 P P 18 37 04.2 0.0
IMAR Indian Mountai 84.27 24 P P 18 37 06.5 +1.2
C21K Knifeblade Rid 84.36 21 P P 18 37 07.7 +2.0
baz=261
G21K Allakaket 84.44 23 IAmb IAmb 18 37 09.5
comp=Z,6.4nm,1.0s
G21K Allakaket 84.44 23 P P 18 37 07.9 +1.7
baz=262
HOM Homer 84.47 30 P P 18 37 08.4 +2.0
baz=264
B21K Ikpikpuk River 84.50 20 P P 18 37 08.3 +1.9
baz=261
E21K Killik River 84.54 21 P P 18 37 08.6 +1.9
baz=261
PPLA Purkeypile 84.55 27 P P 18 37 08.6 +1.6
baz=264
F21K Alatna River 84.55 23 P P 18 37 08.7 +2.0
baz=262
CHUM Lake Minchumin 84.61 26 P P 18 37 08.4 +1.4
baz=263
A22K Sinclair Lake 84.61 19 P P 18 37 08.9 +2.1
baz=260
H21K Melozitna River 84.61 24 P P 18 37 08.6 +1.5
baz=263
CAST Castle Rocks 84.65 27 P P 18 37 07.3 0.0
CAST IAmb IAmb 18 37 27.9
comp=Z,17nm,1.8s
CAST Castle Rocks 84.65 27 P P 18 37 08.3 +1.0
baz=264
SKT Skwentna 84.75 28 P P 18 37 08.1 +0.2
SKT Skwentna 84.75 28 P P 18 37 09.2 +1.3
baz=264
CAPN Captain Cook N 84.82 29 P P 18 37 08.7 +0.6
baz=265
I21K Tanana 84.90 25 P P 18 37 10.1 +1.7
baz=264
BRSE Bradley Lake S 84.93 30 P P 18 37 09.7 +0.9
baz=265
B22K Teshekpuk Lake 85.02 20 P P 18 37 10.4 +1.5
baz=262
D22K Ayikyak River 85.07 21 P P 18 37 11.0 +1.7
baz=263
SUA Susitna One 85.08 29 P P 18 37 10.7 +1.1
SUA Susitna One 85.08 29 P P 18 37 10.9 +1.3
baz=265
F22K John River 85.09 22 P P 18 37 11.9 +2.5
baz=263
H22K Ishtalitna Cre 85.22 24 P P 18 37 11.2 +1.1
baz=264
G22K Bettles 85.28 23 P P 18 37 11.6 +1.2
baz=264

M22K	Willow	85.40	28	P	P	18 37 12.4 +1.4
	baz=266					
MLY	Manley	85.40	25	P	P	18 37 12.4 +1.3
	baz=265					
RC01	Rabbit Creek A	85.53	29	P	P	18 37 12.4 +0.6
	baz=266					
SEW	Seward	85.61	30	P	P	18 37 13.2 +1.1
	baz=266					
D23K	Nanushuk River	85.80	21	P	P	18 37 14.9 +1.9
	baz=264					
COLD	Coldfoot	85.82	23	P	P	18 37 14.9 +1.9
	baz=265					
G23K	Bananza Creek	85.84	23	P	P	18 37 13.9 +0.7
G23K	Bananza Creek	85.84	23	P	P	18 37 14.7 +1.5
	baz=265,SNR=5.1					
PMR	Palmer	85.86	29	P	P	18 37 14.6 +1.3
	baz=266					
C23K	Itkillik River	85.91	20	P	P	18 37 14.3 +0.9
C23K				IAmb	IAmb	18 37 16.9
	comp=Z,9.6nm,0.8s					
C23K	Itkillik River	85.91	20	P	P	18 37 15.3 +1.9
	baz=264					
H23K	Yukon River	85.97	24	P	P	18 37 15.7 +1.8
	baz=266					
I23K	Minto, Yukon-K	86.00	25	P	P	18 37 14.7 +0.8
I23K				IAmb	IAmb	18 37 16.0
	comp=Z,3.8nm,0.7s					
I23K	Minto, Yukon-K	86.00	25	P	P	18 37 15.5 +1.5
	baz=266					
MCK	McKinley	86.08	26	P	P	18 37 15.6 +1.1
	baz=266					
KNK	Knik Glacier	86.17	29	P	P	18 37 16.2 +1.3
KNK	Knik Glacier	86.17	29	P	P	18 37 16.4 +1.5
	baz=267					
TOLK	Toolik Lake Re	86.17	21	P	P	18 37 16.7 +1.8
	baz=266					
PWL	Port Wells	86.20	29	P	P	18 37 16.3 +1.2
	baz=267					
WAT1	Susitna Watana	86.20	27	P	P	18 37 16.1 +1.1
	baz=267					
SML	Sawmill	86.25	28	P	P	18 37 16.1 +0.8
SML	Sawmill	86.25	28	P	P	18 37 16.8 +1.5
	baz=267					
D24K	Happy Valley	86.48	21	IAmb	IAmb	18 37 20.0
	comp=Z,8.6nm,0.7s					
D24K	Happy Valley	86.48	21	P	P	18 37 18.6 +2.4
	baz=266					
E24K	Your Creek	86.54	22	P	P	18 37 18.7 +2.0
	baz=266					
M23K	Glacier View	86.54	28	P	P	18 37 18.0 +1.3
	baz=268					
CCB	Clear Creek Bu	86.63	25	P	P	18 37 17.0 0.0
CCB				IAmb	IAmb	18 38 39.8
	comp=Z,19nm,2.0s					
H24K	Noodor Dome	86.65	24	P	P	18 37 18.3 +1.1
H24K				IAmb	IAmb	18 37 31.0
	comp=Z,20nm,1.9s					
H24K	Noodor Dome	86.65	24	P	P	18 37 18.8 +1.5
	baz=267					
SCM	Sheep Creek Mo	86.73	28	P	P	18 37 19.1 +1.3
	baz=268					
F24K	Squaw Lake	86.73	23	P	P	18 37 18.2 +0.6
	baz=267					
DHY	Denali Highway	86.75	27	P	P	18 37 18.4 +0.4
	baz=268					
G24K	Hadweenzic Riv	86.86	23	P	P	18 37 19.4 +1.3
	baz=268					
HDA	Harding Lake	86.99	26	P	P	18 37 18.2 -0.7
HDA				IAmb	IAmb	18 38 38.7
	comp=Z,17nm,1.6s					
HDA	Harding Lake	86.99	26	P	P	18 37 19.7 +0.9
	baz=268					
IL31		87.03	25	P	P	18 37 18.8 -0.2
IL31				IAmb	IAmb	18 37 52.3
	comp=Z,17nm,1.8s					
ILAR	Eielson Array	87.03	25	P	P	18 37 17.9 -1.1
ILAR	Eielson Array	87.03	25	P	P	18 37 18.1 -0.9
	comp=Z,0.8nm,0.6s,baz=239,slow=5.1,SNR=15					
	comp=Z,0.8nm,0.6s					
KLU	Klutina	87.39	29	P	P	18 37 22.4 +1.4
	baz=269					
G25K	Bearman Lake	87.40	23	P	P	18 37 21.9 +1.1
	baz=269					
EYAK	Cordova Ski Ar	87.47	30	P	P	18 37 21.4 +0.2
	baz=269					
K24K	Donnelly Dome	87.49	26	P	P	18 37 21.6 +0.2
	baz=269					
H25L	Birch Creek	87.51	24	P	P	18 37 22.6 +1.3
	baz=269					
F25K	Christian Rive	87.60	23	P	P	18 37 22.9 +1.1
	baz=269					
PAX	Paxson	87.62	27	P	P	18 37 22.7 +0.6
	baz=270					
J25K	Salcha River,	87.68	26	P	P	18 37 21.3 -1.0
J25K				IAmb	IAmb	18 39 13.8
	comp=Z,16nm,1.9s					
J25K	Salcha River,	87.68	26	P	P	18 37 22.1 -0.1
	baz=270					
BMAR	Burnt Mountain	88.00	23	P	P	18 37 25.4 +1.6
BMRM	Bremner River	88.03	29	P	P	18 37 24.7 +0.7
	baz=270					
KAIM	Kayak Island	88.13	30	P	P	18 37 24.8 +0.4
	baz=271					
F26K	Sheenjek River	88.17	22	P	P	18 37 25.7 +1.2
	baz=271					
SCRK	Sand Creek	88.28	26	P	P	18 37 26.1 +0.9
	baz=271					
G26K	Porcupine Rive	88.32	23	P	P	18 37 26.8 +1.6
	baz=271					
J26L	Joseph Creek	88.46	26	P	P	18 37 26.0 0.0
J26L	Joseph Creek	88.46	26	P	P	18 37 26.4 +0.4
	baz=271					
L26K	Log Cabin Wild	88.59	27	P	P	18 37 27.6 +1.0
	baz=271					
I26K	Coal Creek Min	88.61	25	P	P	18 37 27.3 +0.8
	baz=272					
M26K	Nabesna, AK	88.77	28	P	P	18 37 28.0 +0.5
	baz=272					
E27K	Coleen River	89.12	22	P	P	18 37 29.8 +0.9
	baz=273					
K27K	Chicken	89.12	26	P	P	18 37 30.3 +1.3
	baz=273					
G27K	Doyon Strip	89.17	23	P	P	18 37 30.6 +1.4
	baz=273					
I27K	Kandik River	89.24	25	P	P	18 37 31.0 +1.3
	baz=273					
H27K	Steamboat Moun	89.25	24	P	P	18 37 31.7 +2.0
	baz=273					
L27K	Beaver Creek,	89.28	27	P	P	18 37 31.0 +1.2
	baz=273					
M27K	Edge Creek, AK	89.29	28	P	P	18 37 31.4 +1.4
	baz=273					
BCAR	Beaver Creek A	89.30	27	P	P	18 37 31.1 +1.1
MESA	MESA	89.36	30	P	P	18 37 31.4 +0.9
	baz=273					
F28M	Old Crow	89.81	22	P	P	18 37 33.2 +1.1
	baz=274					
E28M	Babbage River	89.85	21	P	P	18 37 33.2 +0.9
	baz=275					
I28M	Miner Creek	89.95	25	P	P	18 37 34.1 +1.1
I28M				IAmb	IAmb	18 38 27.0
	comp=Z,25nm,1.9s					
I28M	Miner Creek	89.95	25	P	P	18 37 34.4 +1.4
	baz=274					
YUK3	Moose Creek	89.99	28	P	P	18 37 35.1 +1.7
	baz=274					
G29M	Pine Creek	90.59	23	P	P	18 37 36.9 +1.0
	baz=276					
I29M	Ogilvie Camp,	90.64	25	P	P	18 37 36.8 +0.7
	baz=276					
M29M	Somme Creek	90.87	28	P	P	18 37 38.6 +1.3
	baz=276					
YUK4	Talbot Arm	90.89	29	P	P	18 37 38.8 +1.2
	baz=276					
L29M	L29M	90.95	27	P	P	18 37 38.3 +0.7
L29M				IAmb	IAmb	18 37 40.8
	comp=Z,7.8nm,1.0s					
L29M	L29M	90.95	27	P	P	18 37 39.1 +1.5
	baz=276					
K29M	Barlow Dome	91.14	26	P	P	18 37 39.9 +1.3
	baz=277					
P29M	Windy Craggy	91.52	30	P	P	18 37 41.4 +1.1
	baz=276					
M30M	Minto, Yukon	91.62	27	P	P	18 37 41.2 +0.4
	baz=277					
N30M	Aishikik Lake	91.62	28	P	P	18 37 40.2 -0.7
	baz=277					
G31M	Satah River	92.05	23	P	P	18 37 43.3 +0.7
	baz=280					
INK	Inuvik	92.09	21	P	P	18 37 42.3 -0.4
	baz=280					
F31M	Tsiigehtchic	92.16	22	P	P	18 37 43.2 +0.2
	baz=280					
H31M	Peel River	92.21	24	P	P	18 37 42.6 -0.8
	baz=280					
PLBC	Pleasant Camp	92.23	30	P	P	18 37 43.4 -0.1
	baz=278					
N31M	Braeburn, Yuko	92.24	28	P	P	18 37 43.5 -0.2
	baz=278					
S31K	Pelican	92.50	32	P	P	18 37 44.7 -0.1
	baz=278					
WHY	Whitehorse	92.80	29	P	P	18 37 46.7 +0.4
	baz=279					
FINES	FINESS Array B	93.06	332	P	P	18 37 45.7 -1.7
	comp=Z,4.0nm,1.0s,baz=27,slow=4.7,SNR=4.5					
FINES				LR	LR	19 24 27.9
	comp=Z,27nm,18.3s,baz=20,slow=39					
	comp=Z,4.0nm,1.0s					
SIT	Sitka	93.11	33	P	P	18 37 48.1 +0.5
	baz=278					
FARO	Faro, Yukon	93.26	27	P	P	18 37 49.2 +0.9
FARO	Faro, Yukon	93.26	27	P	P	18 37 49.4 +1.1
	baz=280					
N32M	Quiet Lake	93.58	28	P	P	18 37 50.3 +0.4
	baz=280					
U33K	Whale Pass	94.47	33	P	P	18 37 54.7 +0.8
	baz=280					
WRAK	Wrangell Islan	94.84	33	P	P	18 37 56.1 +0.5
	baz=281					
R33M	Jennings River	94.96	30	P	P	18 37 56.7 +0.3
	baz=282					
C36M	Paulatuk	95.14	20	P	P	18 37 57.5 +0.8
	baz=289					
S34M	Telegraph Cree	95.19	32	P	P	18 37 57.9 +0.7
	baz=282					
BUR08	Bucovina Ar. S	95.86	318	P	P	18 37 59.4 -1.3
BUR08				IAmb	IAmb	18 39 58.9
	comp=Z,11nm,1.4s					
HFS	Hagfors	99.26	332	LR	LR	19 27 38.9
	comp=Z,26nm,19.7s,baz=65,slow=38					
NOA	NORSAR Array B	100.06	333	LR	LR	19 28 09.4
	comp=Z,24nm,18.4s,baz=0.0,slow=38					
TORD	Torodi Ar. Bea	122.77	287	PKP	PKPdf	18 43 29.6 -1.2
	comp=Z,0.7nm,0.9s,baz=55,slow=4.2,SNR=2.7					

*IDC **31** 18:39:38.2±4.5, 31°.44N×141°.21E, h0km, mb3.6/3, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=182.8km s-min=26.7km az=71.0*
*JMA **31** 18:39:40.8±0.8, 32°.N±2°.×14°.2E±°., h0km, MV3.7/24, E OFF HACHIJOJIMA ISLAND*
ISC 31 18:39:35.6±1.4, 31°.99N±0°.08×142°.3E±0°.1, h10km, n13, σ2§15/16, mb3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	2.21	283	S	Sn	18 40 38.4	-1.4
JHCJ	Hachijojimakas	2.38	298	P	Pn	18 40 14.7	-0.1
BSO1	Boso 1	2.88	338	P	Pn	18 40 23.1	+2.0
BSO3	Boso 3	3.19	332	eP	Pn	18 40 27.2	+1.7
JYT	Yasato	4.58	338	P	Pn	18 40 47.1	+2.2
JHU	Hanno	4.60	328	P	Pn	18 40 47.6	+2.4
JHO	Hitachi	4.83	343	P	Pn	18 40 49.7	+1.3
JHO				eS	Sn	18 41 41.9	-2.5
JAG	Ashikaga	5.02	333	P	Pn	18 40 52.7	+1.7
JAG				eS	Sn	18 41 48.4	-0.7
JFK	Kawauchi	5.49	348	P	Pn	18 40 58.5	+0.9
JFK				S	Sn	18 41 56.5	-4.3
MJAR	Matsushiro Arr	5.67	324	Pn	Pn	18 41 02.6	+2.6
	0.1nm,0.3s,baz=152,slow=11,SNR=2.1						
	0.7nm,0.5s						
MKAR	Makanchi Array	47.56	306	P	P	18 48 12.6	+1.2
	0.4nm,0.7s,baz=98,slow=9.3,SNR=1.9						
	0.4nm,0.7s						
WRA	Warramunga Arr	52.20	190	P	P	18 48 45.4	-1.3
	0.5nm,0.3s,baz=4.8,slow=7.7,SNR=9.5						
	0.5nm,0.3s						
ASAR	Alice Springs	55.92	189	P	P	18 49 13.3	-0.6
	0.3nm,0.4s,baz=6.0,slow=5.5,SNR=14						
	0.3nm,0.4s						

*IDC **31** 18:42:20.2±1.9, 8°.30S×115°.17E, h0km, mb3.4/4, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=52.8km s-min=27.0km az=57.0*
*DJA **31** 18:42:20.5±0.3, 8°.S±4°.×11°.5E±°., h12km±2km, M3.6/12, MLv3.6/12*
ISC 31 18:42:20.6±0.8, 8°.13S±0°.06×114°.92E±0°.03, h18km, n16, σ2§14/18, mb3.4/4, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	Singaraja	0.29	81	P	Pb	18 42 27.0	-0.4
SRBI				S	Sb	18 42 34.0	+2.1
DNP	Denpasar	0.61	152	P	Pb	18 42 32.4	-0.4
IGBI	Denpasar	0.72	162	P	Pb	18 42 34.1	-0.5
ABJI	Asem Bagus	0.76	296	P	Pb	18 42 35.0	-0.3
JAGI	Jajag, Banyuwa	0.83	246	P	Pb	18 42 34.9	-1.7
BLJI	Banyuglugur	1.37	286	P	Pn	18 42 45.1	+0.3
GMJI	Gumukmas	1.47	264	P	Pn	18 42 45.6	-0.6
TWSI	Taliwang, Sumb	2.03	107	P	Pb	18 42 55.0	-2.0
GRJI	Gresik	2.71	296	P	Pn	18 43 03.8	+0.5
PLAI	Plampang	2.91	104	P	Pn	18 43 07.4	+1.3
BWJI	Bawean	3.19	315	P	Pn	18 43 09.3	-0.6
KAPI	Kappang	5.71	57	Pn	Pn	18 43 44.9	+0.3
	1.2nm,0.3s,baz=229,slow=7.9,SNR=6.8						
KAPI				Sn	Sn	18 44 43.8	-6.0
	0.9nm,0.3s,baz=233,slow=20,SNR=1.5						
	3.1nm,0.3s						
WRA	Warramunga Arr	22.17	124	P	P	18 47 15.0	-0.8
	0.3nm,0.5s,baz=298,slow=12,SNR=1.7						
	0.3nm,0.5s						
ASAR	Alice Springs	23.86	133	P	P	18 47 32.9	-0.4
	0.5nm,0.6s,baz=309,slow=9.3,SNR=10						
	0.5nm,0.6s						
STKA	Stephens Creek	34.26	137	P	P	18 49 05.5	-0.3
	1.4nm,0.9s,baz=325,slow=16,SNR=1.6						
	1.4nm,0.9s						
MKAR	Makanchi Array	61.91	335	P	P	18 52 43.3	+4.1
	0.3nm,0.6s,baz=143,slow=5.0,SNR=2.6						
	0.3nm,0.6s						

*NNC **31** 18:43:30.1±4.7, 41°.55N×81°.50E, h18km±16km, mb3.7, mpv3.5, Error ellipse: s-maj=43.0km s-min=22.1km az=166.0*
*SOME **31** 18:43:39.6, 42°.28N×81°.60E, h30km*
ISC 31 18:43:36.7±2.5, 42°.0N±0°.1×81°.36E±0°.08, h16km, n44, σ1§89/55, 6C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	1.62	333	P	Pg	18 44 06.6	-1.4
	8.8nm,0.3s						
KTMS				S	Sn	18 44 26.1	+0.6
	21nm,0.3s						
KTMS	Ketmen	1.62	333	eP	Pg	18 44 06.6	-1.4
	8.8nm,0.3s						
KTMS				eS	Sn	18 44 26.1	+0.6
	21nm,0.3s						
SHLS	Shalkode	1.82	310	P	Pn	18 44 07.6	+0.1
	39nm,0.2s						
SHLS				S	Sn	18 44 28.1	-2.1
	98nm,0.2s						
SHLS	Shalkode	1.82	310	eP	Pn	18 44 07.6	+0.1
	39nm,0.2s						
SHLS				eS	Sn	18 44 28.1	-2.1
	98nm,0.2s						
PDGK	Podgornoye	1.91	315	P	Pg	18 44 12.7	-0.8
	4.7nm,0.1s						
PDGK				S	Sb	18 44 36.6	+1.5
	11nm,0.2s						
PDGK	Podgornoye	1.91	315	⇓Pn	Pn	18 44 06.8	-2.0
	1.0nm,0.5s						
PDGK				⇑Pg	Pg	18 44 12.7	-0.8
	3.2nm,0.4s						
PDGK				⇓Sn	Sb	18 44 36.8	+1.7
	74nm,0.6s						
SATY	Saty	2.42	297	Pg	Pg	18 44 23.9	+0.6
	15nm,0.4s						
SATY				Lg	Lg	18 44 55.7	
	40nm,0.4s						
SATY	Saty	2.42	297	ePg	Pg	18 44 23.9	+0.6
	8.3nm,0.1s						
SATY				eLg	Lg	18 44 55.7	
	39nm,0.2s						
ZHN	Zhinishke	2.45	299	Pg	Pg	18 44 23.8	0.0
	28nm,0.2s						
ZHN				Lg	Lg	18 44 56.0	
	46nm,0.1s						
ZHN	Zhinishke	2.45	299	ePg	Pg	18 44 23.8	0.0
	28nm,0.2s						
ZHN				eLg	Lg	18 44 56.0	
	46nm,0.1s						
KPKS	Kokpek	2.46	308	Pg	Pg	18 44 22.5	-1.3
	22nm,0.2s						
KPKS				Lg	Lg	18 44 53.9	
	131nm,0.2s						
KPKS	Kokpek	2.46	308	ePg	Pg	18 44 22.5	-1.3
	22nm,0.2s						
KPKS				eLg	Lg	18 44 53.9	
	131nm,0.2s						
DJR	Jarkent	2.60	334	Pg	Pb	18 44 22.2	-0.8
	4.5nm,0.2s						
DJR				Lg	Lg	18 44 53.0	
	41nm,0.4s						
DJR	Jarkent	2.60	334	ePg	Pb	18 44 22.2	-0.8
	4.5nm,0.2s						
DJR				eLg	Lg	18 44 53.0	
	41nm,0.4s						
KURS	Kuram	2.78	303	Pg	Pg	18 44 28.6	-1.4
	4.2nm,0.5s						
KURS				Lg	Lg	18 45 03.8	
	13nm,0.3s						
KURS	Kuram	2.78	303	ePg	Pg	18 44 28.6	-1.4
	4.2nm,0.5s						
KURS				eLg	Lg	18 45 03.8	
	13nm,0.3s						
KNOS	Konyrlen	2.84	327	Pg	Pb	18 44 27.2	0.0
	20nm,0.2s						
KNOS				Lg	Lg	18 45 01.6	
	28nm,0.2s						
BLB	Baldybastay	2.97	316	Pg	Pb	18 44 30.3	+0.9
	4.8nm,0.1s						
BLB				Lg	Lg	18 45 06.7	
	23nm,0.2s						
KOTS	Kotyrbulak	3.37	293	Pg	Pg	18 44 39.3	-1.9
	3.3nm,0.2s						
KOTS				Lg	Lg	18 45 22.2	
	39nm,0.3s						
KOTS	Kotyrbulak	3.37	293	ePg	Pg	18 44 39.3	-1.9
	3.3nm,0.2s						
KOTS				eLg	Lg	18 45 22.2	
	39nm,0.3s						
MDOK	Medeo	3.39	291	Pg	Pg	18 44 40.3	-1.3
	4.0nm,0.2s						
MDOK				Lg	Lg	18 45 24.0	
	13nm,0.7s						
MDOK	Medeo	3.39	291	ePg	Pg	18 44 40.3	-1.3
	4.0nm,0.2s						
MDOK				eLg	Lg	18 45 24.1	
	13nm,0.7s						
ARXS	Arharly	3.40	312	Pg	Pb	18 44 38.3	+1.6
	5.0nm,0.3s						
ARXS				Lg	Lg	18 45 20.5	
	9.8nm,0.4s						
ARXS	Arharly	3.40	312	ePg	Pb	18 44 38.3	+1.6
	5.0nm,0.3s						
ARXS				eLg	Lg	18 45 20.6	
	9.8nm,0.4s						
TNSS	Tian-Shan	3.42	289	Pg	Pg	18 44 40.6	-1.8
	4.9nm,0.2s						
TNSS				Lg	Lg	18 45 24.6	
	5.6nm,0.2s						
TNSS	Tian-Shan	3.42	289	ePg	Pg	18 44 40.6	-1.8
	4.9nm,0.2s						
TNSS				eLg	Lg	18 45 24.6	
	5.6nm,0.2s						
IZV	Izvestkoviy	3.66	288	Pg	Pg	18 44 45.4	-1.4
	3.1nm,0.2s						
IZV				Lg	Lg	18 45 32.9	
	12nm,0.3s						
IZV	Izvestkoviy	3.66	288	ePg	Pg	18 44 45.4	-1.4
	3.1nm,0.2s						
IZV				eLg	Lg	18 45 32.9	
	12nm,0.3s						
CHKK	Chushkaly	3.71	301	Pg	Pg	18 44 45.3	-2.4
	1.2nm,0.1s						
CHKK				Lg	Lg	18 45 32.8	
	11nm,0.2s						
CHKK	Chushkaly	3.71	301	⇑iPg	Pg	18 44 45.3	-2.4
	1.2nm,0.1s						
CHKK				eLg	Lg	18 45 32.8	
	11nm,0.2s						
MTBS	Maitube	3.81	289	Pg	Pg	18 44 48.3	-1.5
	2.8nm,0.2s						
MTBS				Lg	Lg	18 45 37.4	
	9.0nm,0.2s						
MTBS	Maitube	3.81	289	ePg	Pg	18 44 48.3	-1.5
	2.8nm,0.2s						
MTBS				eLg	Lg	18 45 37.4	
	9.0nm,0.2s						
KTBS	Karatobe	3.84	298	Pg	Pg	18 44 47.9	-2.3
	3.2nm,0.1s						
KTBS				Lg	Lg	18 45 37.2	
	16nm,0.3s						
KTBS	Karatobe	3.84	298	ePg	Pg	18 44 47.9	-2.3
	3.2nm,0.1s						
KTBS				eLg	Lg	18 45 37.1	
	16nm,0.3s						
KST	Kastek	4.12	286	Pg	Pg	18 44 54.3	-1.4
	2.7nm,0.2s						
KST				Lg	Lg	18 45 48.1	
	4.8nm,0.3s						
KST	Kastek	4.12	286	ePg	Pg	18 44 54.3	-1.4
	2.7nm,0.2s						
KST				eLg	Lg	18 45 48.1	
	4.8nm,0.3s						
KUU	Kurty	4.14	299	Pg	Pg	18 44 52.9	-3.2
	2.8nm,0.5s						
KUU				Lg	Lg	18 45 45.6	
	8.5nm,0.2s						
KUU	Kurty	4.14	299	ePg	Pg	18 44 52.9	-3.2
	2.8nm,0.5s						
KUU				⇑iLg	Lg	18 45 45.6	
	8.6nm,0.1s						
DGS	Degeres	4.30	289	Pg	Pg	18 44 57.5	-1.6
	2.5nm,0.3s						
DGS				Lg	Lg	18 45 53.7	
	4.4nm,0.2s						
DGS	Degeres	4.30	289	ePg	Pg	18 44 57.5	-1.6
	2.5nm,0.3s						
DGS				eLg	Lg	18 45 53.7	
	4.4nm,0.2s						
KRBS	Karabastau	4.51	294	Pg	Pg	18 45 01.5	-1.6
	2.0nm,0.2s						
KRBS				Lg	Lg	18 46 00.4	
	2.5nm,0.2s						
KRBS	Karabastau	4.51	294	ePg	Pg	18 45 01.5	-1.6
	2.0nm,0.2s						
KRBS				eLg	Lg	18 46 00.4	
	2.5nm,0.2s						
MAKZ	Makanchi	4.83	5	⇑Pn	Pn	18 44 49.4	+0.7
	2.1nm,0.9s						
MAKZ				⇑Pg	Pg	18 45 05.3	-3.8
	1.6nm,0.7s						
MAKZ				⇓Sn	Sn	18 45 49.0	+4.7
	3.7nm,1.0s						
MK31	Makanchi Array	4.84	8	Pn	Pn	18 44 49.4	+0.5
	0.7nm,0.8s,baz=165,slow=20,SNR=8.2						
MK31				⇓Pg	Pg	18 45 06.5	-2.8
	0.2nm,0.3s,baz=183,slow=15,SNR=5.7						
MK31				⇑Sn	Sn	18 45 48.9	+4.3
	1.0nm,0.3s						

*IDC **31** 18:56:30.6±0.6, 3°.62S×127°.96E, h0km, mb4.2/17, mbtmp4.2/20, ML3.3/3, MS3.2/5, Error ellipse: s-maj=22.1km s-min=13.8km az=72.0*
*NEIC **31** 18:56:33.5±2.8, 3°.86S±0°.06×127°.76E±0°.04, h10km±1km, mb4.4/27, Error ellipse: s-maj=10.9km s-min=4.1km az=149.0*
*DJA **31** 18:56:35.5±0.2, 4°.S±3°.×12°.8E±°., h10km, M4.4/20, mb4.7/13, mB4.9/7, MLv4.5/20, Mw(mB)4.2/7*
ISC 31 18:56:32.7±0.4, 3°.78S±0°.05×127°.79E±0°.05, h10km, n118, σ1§71/113, mb4.3/24, MS3.1/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	Namlea	0.87	308	P	Pg	18 56 48.8	-0.6
BNDI	Bandanaira	2.24	109	P	Pn	18 57 10.7	+0.9

BNDI	Bandanaira	2.24	109	P		Pn	18 57 10.7 +0.9
SANI	Sanana	2.48	314	P		Pn	18 57 14.8 +1.6
SANI	Sanana	2.48	314	P		Pn	18 57 09.8 -3.4
LBMI	Labuha	3.13	355	P		Pn	18 57 25.3 +3.2
SWI	Sorong	4.52	50	P		Pn	18 57 44.1 +2.9
FAKI	Fak Fak	4.54	79	Pn		Pn	18 57 43.2 +1.8
FAKI	Fak Fak	4.54	79	P		Pn	18 57 44.2 +2.8
FAKI	Fak Fak	4.54	79	P		Pn	18 57 44.2 +2.8
TNTI	Ternate	4.54	355	Pn		Pn	18 57 44.1 +2.6
TNTI	Ternate	4.54	355	P		Pn	18 57 45.1 +3.6
TNTI	Ternate	4.54	355	P		Pn	18 57 44.6 +3.1
SAUI	Saumlaki	5.45	140	Pn		Pn	18 57 52.0 -2.0
SAUI	Saumlaki	5.45	140	P		Pn	18 57 56.9 +2.9
	155nm,1.2s,0.7nm						
BBSI	Bau Bau	5.47	252	P		Pn	18 57 59.2 +4.9
	35nm,1.0s,0.1nm						
LUWI	Luwuk	5.70	298	Pn		Pn	18 57 57.0 -0.4
KMSI	Cibinong	5.76	319	P		Pn	18 58 00.4 +2.2
	118nm,0.8s,1μm0.8nm						
KMPI	Kaimana, Papua	5.91	89	P		Pn	18 58 03.4 +3.1
	166nm,0.7s,0.8nm						
GTOI	Gorontalo	6.48	312	P		Pn	18 58 13.3 +5.1
	36nm,0.7s,406nm0.1nm						
RKPI	Ransiki, Papua	6.77	71	P		Pn	18 58 14.7 +2.5
	81nm,1.0s,1μm1.2nm						
SOEI	Soe	6.89	210	Pn		Pn	18 58 12.5 -1.4
MRSI	Marisa	7.21	306	P		Pn	18 58 21.3 +3.1
	62nm,0.6s,731nm0.3nm						
MMRI	Maumere	7.33	229	Pn		Pn	18 58 20.3 +0.4
BATI	Baumata	7.59	212	Pn		Pn	18 58 27.1 +3.8
	1.9nm,0.3s,baz=47,slow=19,SNR=5.6						
BATI				LR		LR	19 01 12.4
	comp=Z,403nm,18.8s,baz=44,slow=36						
	23nm,0.8s						
BKSI	Bulukumba	7.79	258	P		Pn	18 58 29.4 +3.2
	26nm,0.6s,0.1nm						
EDFI	Ende, Flores	7.82	231	P		Pn	18 58 29.4 +2.7
	25nm,0.9s,0.1nm						
KAPI	Kappang	8.11	261			Pn	18 58 30.1 -0.4
KAPI	Kappang	8.11	261	P		Pn	18 58 32.2 +1.7
KAPI	Kappang	8.11	261	Pn		Pn	18 58 33.3 +2.8
	1.1nm,0.3s,baz=117,slow=8.8,SNR=6.7						
KAPI				Sn		Sn	19 00 00.1 -2.2
	baz=90,slow=20						
	3.9nm,0.4s						
TOLI2	Tolitoli	8.52	305	Pn		Pn	18 58 37.3 +1.1
TOLI2	Tolitoli	8.52	305	P		Pn	18 58 38.9 +2.7
MPSI	Mapaga	8.88	297	P		Pn	18 58 45.3 +4.2
	26nm,0.8s						
MTN	Manton Dam	9.60	160	Pn		Pn	18 58 51.1 +0.2
MTN	Manton Dam	9.60	160	P		Pn	18 58 52.5 +1.5
KDU	Kakadu	9.99	153	P		Pn	18 58 56.9 +0.5
DAV	Davao City (W)	11.00	348	LR		LR	19 03 56.1
	comp=Z,115nm,20.7s,baz=172,slow=41						
KNRA	Kununurra	11.86	175	Pn		Pn	18 59 21.5 -0.5
KNRA	Kununurra	11.86	175	P		Pn	18 59 22.6 +0.6
WB0	Warramunga Arr	17.15	158	P		Pn	19 00 30.4 -2.2
WB0				IAmb		IAmb	19 00 36.8
	comp=Z,22nm,0.9s						
WRA	Warramunga Arr	17.29	159	P		Pn	19 00 32.0 -2.4
WRA	Warramunga Arr	17.29	159	P		Pn	19 00 32.1 -2.2
	comp=Z,11nm,1.0s,baz=336,slow=12,SNR=29						
WRA				PcP		PcP	19 05 16.0 -1.4
	comp=Z,0.4nm,0.6s,baz=316,slow=1.7,SNR=1.1						
WB2	Warramunga Arr	17.30	159	P		Pn	19 00 31.5 -2.9
WB2				IAmb		IAmb	19 00 38.4
	comp=Z,25nm,1.1s						
WR0	Warramunga Arr	17.38	158	P		Pn	19 00 33.3 -2.2
COEN	Coen	18.25	125	P		Pn	19 00 46.5 +0.2
COEN	Coen	18.25	125	P		P	19 00 48.1 +1.7
KPJI	Karang Pucung	19.09	259	P		Pn	19 00 58.3 +1.8
PSA00	Pilbara Seismi	19.30	203	P		P	19 00 57.6 -0.3
PSA00	Pilbara Seismi	19.30	203	P		P	19 00 58.1 +0.2
PSA00				IAmb		IAmb	19 01 16.9
	comp=Z,10.0nm,0.8s						
PMG	Port Moresby	20.03	107	P		P	19 01 04.2 -1.8
	comp=Z,0.4nm,0.3s,baz=251,slow=19,SNR=2.4						
	comp=Z,6.2nm,0.8s						
QIS	Mount Isa	20.27	146	P		Pn	19 01 10.2 -0.3
LEM	Lembang	20.31	261	P		Pn	19 01 11.2 0.0
LEM	Lembang	20.31	261	P		Pn	19 01 11.4 +0.2
	comp=Z,27nm,0.7s,baz=92,slow=11,SNR=9.7						
	comp=Z,27nm,0.7s						
BBJI	Bungbulang	20.37	259	P		P	19 01 09.7 -0.1
AS31	Alice Springs	20.64	164	P		P	19 01 12.8 +0.2
AS31				IAmb		IAmb	19 01 17.4
	comp=Z,15nm,1.0s						
ASAR	Alice Springs	20.64	164	P		Pn	19 01 13.9 -1.0
ASAR	Alice Springs	20.64	164	P		Pn	19 01 14.6 -0.3
	comp=Z,36nm,0.8s,baz=344,slow=10,SNR=244						
ASAR				PcP		PcP	19 05 22.2 -1.0
	comp=Z,1.0nm,0.6s,baz=3.8,slow=1.5,SNR=7.9						
	comp=Z,36nm,0.8s						
CNJI	Cibinong	20.86	259	P		P	19 01 14.5 -0.4
WRKA	Warakurna	21.14	179	P		P	19 01 19.9 +1.9
MTSU	Mount Surprise	21.58	133	P		P	19 01 24.5 +1.8
GIRL	Giralia	22.89	214	P		P	19 01 37.3 +0.6
GIRL	Giralia	22.89	214	P		P	19 01 38.8 +2.1
CTAO	Charters Tower	24.23	133	P		P	19 01 50.5 +0.6
CTAO				IAmb		IAmb	19 02 07.0
	comp=Z,9.4nm,1.0s						
MEEK	Meekatharra	24.37	200	P		P	19 01 52.2 +1.0
OOD	Oodnadatta	25.05	163	P		P	19 01 57.7 +0.5
INKA	Innaminka	26.85	154	P		P	19 02 14.9 +1.4
FORT	Forrest	26.86	179	P		P	19 02 13.7 +0.1
FORT	Forrest	26.86	179	P		P	19 02 14.6 +1.0
MULG	Mulgathing	27.02	168	P		P	19 02 16.1 +1.0
BBOO	Buckleboo	29.90	166	P		P	19 02 40.5 -0.3
NWAO	Narrogin (SRO)	30.64	198	P		P	19 02 47.3 0.0
NWAO	Narrogin (SRO)	30.64	198	P		P	19 02 47.2 -0.1
NWAO				IAmb		IAmb	19 02 48.6
	comp=Z,67nm,0.8s						
STKA	Stephens Creek	30.82	157	P		P	19 02 49.3 +0.4
STKA				IAmb		IAmb	19 02 50.8
	comp=Z,3.2nm,0.9s						
STKA	Stephens Creek	30.82	157	P		P	19 02 49.2 +0.4
	comp=Z,12nm,0.9s,baz=322,slow=9.9,SNR=20						
	comp=Z,12nm,0.9s						
CMAR	Chiang Mai Arr	35.99	309	P		P	19 03 33.5 -0.7
	comp=Z,0.8nm,0.3s,baz=134,slow=7.1,SNR=1.7						
CMAR				PcP		PcP	19 06 01.5 +0.6
	comp=Z,0.4nm,0.3s,baz=170,slow=1.6,SNR=4.7						
	comp=Z,0.8nm,0.3s						
JNU	Nakatsue	36.81	4	LR		LR	19 17 12.3
	comp=Z,32nm,21.9s,baz=128,slow=34						
CAN	Canberra	37.02	151	P		P	19 03 42.5 -0.4
JHJ	Hachijo jima 2	38.41	16	LR		LR	19 18 24.7
	comp=Z,31nm,21.7s,baz=86,slow=34						
PZH	PanZhiHua	39.26	322	P		P	19 04 05.0 +3.2
PZH				pmax		pmax	
	comp=Z,10.0nm,0.5s						
PZH				pmax		pmax	
	comp=Z,100nm,4.5s						
KSRS	Korea Array	41.02	0	P		P	19 04 15.1 -1.0
	comp=Z,0.8nm,0.6s,baz=179,slow=8.1,SNR=2.9						
	comp=Z,0.8nm,0.6s						
MJAR	Matsushiro Arr	41.27	13	P		P	19 04 16.8 -1.4
	comp=Z,0.5nm,0.4s,baz=189,slow=11,SNR=2.2						
MJAR				LR		LR	19 19 50.4
	comp=Z,35nm,21.4s,baz=100,slow=34						
	comp=Z,0.5nm,0.4s						
HHC	Hu-ho-hao-te	46.83	343	eP		P	19 05 04.5 +1.6
HHC				pmax		pmax	
	comp=Z,32nm,0.5s						
HHC				pmax		pmax	
	comp=Z,270nm,6.3s						
USRK	Ussuriysk Ar.	47.91	4	P		P	19 05 11.4 +0.3
USRK	Ussuriysk Ar.	47.91	4	P		P	19 05 09.7 -1.4
	comp=Z,1.3nm,0.8s,baz=171,slow=7.4,SNR=1.6						
	comp=Z,1.3nm,0.8s						
TAPN	Taplejung	49.52	311	eP		P	19 05 24.3 +0.1
	comp=Z,12nm,0.8s						
RAMN	Ramite	50.15	310	eP		P	19 05 29.7 +0.8
	comp=Z,12nm,0.5s						
JIRN	Jiri	50.83	311	eP		P	19 05 34.7 +0.5
	comp=Z,7.7nm,0.7s						
GUN	Gumba	51.19	311	eP		P	19 05 37.4 +0.5
	comp=Z,12nm,0.6s						
PKI	Pulchoki	51.37	310	eP		P	19 05 38.8 +0.5
	comp=Z,6.2nm,0.8s						
GKN	Gorkha	52.18	310	eP		P	19 05 44.5 +0.4
	comp=Z,13nm,0.8s						
DANN	Dangsing	53.02	310	eP		P	19 05 50.2 -0.3
	comp=Z,16nm,0.7s						
PYUN	Piuthan	53.49	309	eP		P	19 05 54.6 +0.7
	comp=Z,18nm,0.9s						
SONM	Songino Array	54.72	342	P		P	19 06 02.3 -0.1
	comp=Z,0.3nm,0.7s,baz=145,slow=10,SNR=2.4						
SONM				PcP		PcP	19 07 05.1 +0.1
	comp=Z,0.6nm,0.8s,baz=123,slow=5.3,SNR=2.1						
	comp=Z,0.3nm,0.7s						
WMQ	Urumqi	59.51	327	eP		P	19 06 39.0 +2.7
CASY	Casey	63.55	188	P		P	19 07 02.1 -1.0
CASY				IAmb		IAmb	19 07 03.8
	comp=Z,5.2nm,1.1s						
MK31	Makanchi Array	64.34	327	P		P	19 07 08.0 -0.7
MK31				IAmb		IAmb	19 07 19.2
	comp=Z,1.6nm,0.8s						
MKAR	Makanchi Array	64.34	327	P		P	19 07 07.8 -0.9
MKAR	Makanchi Array	64.34	327	P		P	19 07 07.3 -1.4
	comp=Z,1.5nm,0.8s,baz=132,slow=7.7,SNR=13						
	comp=Z,1.5nm,0.8s						
YAK	Yakutsk	65.64	1	P		P	19 07 16.0 -0.7
YAK				IAmb		IAmb	19 07 25.5
	comp=Z,8.9nm,1.0s						
ZAA0	Zalesovo Array	67.74	334	P		P	19 07 28.8 -1.5
ZAA0				IAmb		IAmb	19 07 38.5
	comp=Z,4.2nm,1.2s						
ZALV	Zalesovo Beam	67.74	334	P		P	19 07 28.8 -1.5
ZALV	Zalesovo Beam	67.74	334	P		P	19 07 28.1 -2.3
	comp=Z,1.8nm,1.0s,baz=91,slow=7.2,SNR=4.6						
	comp=Z,1.8nm,1.0s						
KURBB	Kurchatov Arra	68.63	329	P		P	19 07 35.1 -0.9
	comp=Z,1.9nm,0.2s,baz=132,slow=5.9,SNR=9.0						
	comp=Z,1.9nm,0.2s						
KURK	Kurchatov	68.64	329	P		P	19 07 35.8 -0.2
KURK				IAmb		IAmb	19 07 45.2
	comp=Z,8.0nm,0.9s						
KKAR	Karatay Array	69.48	319	P		P	19 07 41.1 -0.4
BVAR	Borovoye Array	74.18	328	P		P	19 08 08.7 -0.8
	comp=Z,1.1nm,0.8s,baz=140,slow=7.2,SNR=6.5						
	comp=Z,1.1nm,0.8s						
TIXI	Tiksi	75.29	0	P		P	19 08 14.9 -0.6
TIXI				IAmb		IAmb	19 08 26.6
	comp=Z,7.4nm,1.5s						
VNDA	Vanda	75.90	173	P		P	19 08 17.8 -1.2
VNDA				IAmb		IAmb	19 08 22.3
	comp=Z,1.6nm,0.8s						
VNDA	Vanda	75.90	173	P		P	19 08 18.4 -0.6
	comp=Z,1.2nm,0.7s,baz=275,slow=7.1,SNR=8.7						
	comp=Z,1.2nm,0.7s						
GEYT	Alibeck	76.46	310	P		P	19 08 21.3 -1.7
GEYT				IAmb		IAmb	19 08 24.1
	comp=Z,3.7nm,1.1s						
GEYT	Alibeck	76.46	310	P		P	19 08 23.3 +0.3
	comp=Z,1.1nm,0.8s,baz=188,slow=6.0,SNR=4.4						
	comp=Z,1.1nm,0.8s						
ABKAR	Akbulak array	78.63	322	P		P	19 08 34.0 -0.9
ABKAR	Akbulak array	78.63	322	P		P	19 08 33.6 -1.2
ABKAR				IAmb		IAmb	19 08 37.8
	comp=Z,1.8nm,1.1s						
QSPA	South Pole Qui	86.18	180	P		P	19 09 13.8 -0.4
	comp=Z,1.6nm,0.7s,baz=267,slow=9.0,SNR=3.6						
	comp=Z,1.6nm,0.7s						
ILAR	Eielson Array	91.39	25	P		P	19 09 37.4 -1.3
	comp=Z,0.3nm,0.6s,baz=252,slow=4.8,SNR=6.7						
	comp=Z,0.3nm,0.6s						
ARCES	ARCESS Array B	97.81	340	P		P	19 10 06.5 -1.5
	comp=Z,2.5nm,1.0s,baz=74,slow=6.7,SNR=3.8						
	comp=Z,2.5nm,1.0s						
TXAR	Lajitas Array	125.09	57	PKP		PKPdf	19 15 32.9 -1.3
	comp=Z,0.5nm,0.8s,baz=194,slow=2.6,SNR=4.4						
TORD	Torodi Ar. Bea	125.97	283	PKP		PKPdf	19 15 35.3 -0.9
	comp=Z,0.5nm,0.8s,baz=49,slow=4.0,SNR=4.5						

ISK ***31*** *18:56:42.7, 36.°08N×31.°56E, h23km, ML2.5/19*
NIC ***31*** *18:56:42.5, 36.°16N×32.°09E, h10km±1km, Ml2.1/5*
AFAD ***31*** *18:56:42.8±0.0, 36.°15N×31.°48E, h19km±2km, ML2.3*
ISC 31 18:56:41.1±1.2, 36.°07N±0.°03×31.°52E±0.°03, h33km±3km, n38, σ1°911/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	Gazipasa	0.66	75	Pg	Pn	18 56 55.6	+1.5
GAZI				Sg	Sn	18 57 05.8	+2.4
GAZI	Gazipasa	0.66	75	P	Pn	18 56 55.0	+0.9
GAZI				S	Sn	18 57 04.4	+1.0
GAZI				*i* AML	AML	18 57 06.0	
	comp=N,126nm,0.3s						
GAZI				*i* AML	AML	18 57 06.0	
	comp=E,191nm,0.3s						
KEPZ	Antalya-Kepez	0.83	4	P	Pb	18 56 56.7	-0.6
KEPZ				S	Sb	18 57 06.8	-1.5
AKUM	Antalya-Kumluc	0.99	285	P	Pn	18 56 57.5	-1.1
AKUM				S	Sn	18 57 11.6	+0.2
AKUM				*i* AML	AML	18 57 16.0	
	comp=N,106nm,0.6s						
AKUM				*i* AML	AML	18 57 17.0	
	comp=E,97nm,0.6s						
HDMB	Hadim	1.18	41	Pn	Pb	18 57 04.2	+1.0
AKMS	Akamas	1.24	148	P	Pb	18 57 04.3	+0.3
AKMS				S	Sb	18 57 21.0	+1.3
AKMS				AML	AML	18 57 26.9	
	0.2nm,0.3s						
AKMS				AML	AML	18 57 27.8	
	0.2nm,0.2s						
ALFC	Alefka	1.26	136	P	Pb	18 57 03.1	-1.3
ALFC				S	Sn	18 57 18.8	+0.5
ALFC				AML	AML	18 57 25.1	
	0.1nm,0.3s						
ALFC				AML	AML	18 57 27.7	
	0.2nm,0.2s						
TEKE	Tekeli-Mersin	1.29	86	Pn	Pb	18 57 04.7	-0.1
TEKE				Sn	Sb	18 57 21.9	+0.8
KORT	Korkueli	1.33	315	Pn	Pb	18 57 06.4	+0.8
KORT	Korkueli	1.33	315	P	Pb	18 57 05.0	-0.6
KORT				*i* AML	AML	18 57 28.0	
	comp=E,58nm,0.6s						
SEYD	Seydisehir-KON	1.36	11	Pn	Pb	18 57 05.3	-0.8
SEDI	Konya, Seydise	1.39	8	P	Pn	18 57 05.3	+1.0
SEDI				S	Sn	18 57 22.1	+0.5
BERE	Bereket-Mersin	1.40	78	Pn	Pb	18 57 07.3	+0.5
LEF	Lefka	1.46	130	Pn	Pb	18 57 07.8	+0.1
ELL	Elmali	1.47	298	Pn	Pb	18 57 09.0	+1.0
BUCA	Burdur, Bucak-	1.48	329	P	Pb	18 57 09.1	+1.1
NATA	Nata	1.54	146	P	Pb	18 57 09.2	0.0
NATA				S	Sb	18 57 28.4	0.0
NATA				AML	AML	18 57 41.3	
	0.3nm,0.7s						
NATA				AML	AML	18 57 42.0	
	0.4nm,0.6s						
TEVE	Tevekalti-Mers	1.59	76	Pn	Pb	18 57 09.9	-0.1
KKBE	Karaman, Kazim	1.62	44	P	Pb	18 57 10.5	+0.1
KKBE				S	Sb	18 57 30.6	+0.1
KKBE				*i* AML	AML	18 57 36.0	
	comp=E,33nm,1.0s						
KKBE				*i* AML	AML	18 57 38.0	
	comp=N,40nm,0.5s						
AKKU	Akkuyu-Mersin	1.64	86	Pn	Pb	18 57 10.6	-0.2
IKL	Isikli	1.76	84	Pn	Pb	18 57 12.1	-0.6
KRMN	Karaman	1.78	51	Pn	Pb	18 57 12.5	-0.7
ATHAL	Athalassa	1.78	121	S	Sn	18 57 29.1	-2.0
KEBE	Keben-Mersin	1.81	77	Pn	Pb	18 57 12.9	-0.8
LFK	Lefkose	1.81	115	Pn	Pb	18 57 13.1	-0.7
KMER	Konya-Meram	1.83	21	P	Pb	18 57 12.8	-1.2
KMER				*i* AML	AML	18 57 40.0	
	comp=N,29nm,0.6s						
CSS	Mathiatis	1.84	126	Pn	Pb	18 57 13.5	-0.7
CSS	Mathiatis	1.84	126	P	Pn	18 57 10.1	-0.3
CSS				S	Sn	18 57 32.1	-0.5
CSS				AML	AML	18 57 41.2	
CSS				AML	AML	18 57 43.6	
ASGA	Asgata	1.90	132	S	Sn	18 57 35.8	+1.8
GOLH	Golhisar	1.96	307	P	Pn	18 57 13.3	+1.1
GOLH				S	Sn	18 57 33.6	-2.1
GOLH				*i* AML	AML	18 57 53.0	
	comp=E,26nm,1.0s						
SILI	Silifke-Mersin	1.96	81	Pn	Pb	18 57 15.1	-1.1
KONT	Konya--Tatoy	1.99	19	Pn	Pb	18 57 15.8	-0.9
KONT	Konya--Tatoy	1.99	19	P	Pb	18 57 14.9	-1.8
MVOU	Mavrovouni	2.01	121	P	Pn	18 57 11.7	-1.0
MVOU				S	Sn	18 57 35.2	-1.6
MVOU				AML	AML	18 57 44.5	
MVOU				AML	AML	18 57 45.2	
	0.1nm,0.3s						
DOGA	KONYA_Doganhis	2.04	3	P	Pn	18 57 14.1	+0.9
DOGA				*i* AML	AML	18 57 46.0	
	comp=E,19nm,0.7s						
KIZK	Mersin	2.16	78	Pn	Pb	18 57 17.8	-1.7
YVAC	Isparta, Yalva	2.21	354	P	Pn	18 57 16.5	+0.9
YVAC				S	Sn	18 57 41.6	-0.2
LADK	Ladik-KONYA	2.23	17	Pn	Pb	18 57 18.9	-2.0

IDC ***31*** *19:22:06.4±0.4, 21.°73S×168.°97E, h0km, mb4.8/27, mbtmp4.8/31, ML4.2/2, MS4.6/45, Error ellipse: s-maj=13.2km s-min=13.0km az=33.0*
MOS ***31*** *19:22:07.0±1.1, 21.°73S×168.°95E, h11km, mb5.5/25, MS4.7/5, Error ellipse: s-maj=9.1km s-min=8.9km az=39.4*
BJI ***31*** *19:22:07.5±0.0, 21.°52S×169.°18E, h15km, mb4.9/50, mB5.6/35, Ms5.3/11, Ms7 4.8/13*
NEIC ***31*** *19:22:08.8, 21.°67S×168.°81E, h12km*
NEIC ***31*** *19:22:08.8, 21.°77S×168.°92E, h12km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.32; $M_{\theta\theta}$0.83; $M_{\phi\phi}$0.49; $M_{r\theta}$-0.69; $M_{\theta\phi}$-0.63; $M_{\phi r}$-0.23; Fault plane solution: $M_0$1.49000×10^{17} NP1: ϕ_s106.70000°, δ57.35000°, λ-113.22000°. NP2: ϕ_s325.19000°, δ39.31000°, λ-58.39000°. Principal axes: T 1.3866, Plg10.0000°, Azm213.0000°; N 0.2165, Plg19.0000°, Azm120.0000°; P -1.6031, Plg68.0000°, Azm328.0000°;*
NEIC ***31*** *19:22:08.9, 21.°66S×168.°81E, h12km*
NEIC ***31*** *19:22:09.1±2.0, 21.°67S±0.°05×168.°83E±0.°06, h16km±3km, mb5.3/194, Ms_20 5.0/138, Mwr5.3/12, Mww5.4/21, Error ellipse: s-maj=8.0km s-min=7.2km az=150.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-9.46; $M_{\theta\theta}$6.04; $M_{\phi\phi}$3.42; $M_{r\theta}$1.55; $M_{\theta\phi}$-4.68; $M_{\phi r}$1.49; Fault plane solution: $M_0$9.76000×10^{16} NP1: ϕ_s295.17000°, δ47.30000°, λ-106.77000°. NP2: ϕ_s139.13000°, δ45.28000°, λ-72.64000°. Principal axes: T 9.5919, Plg1.0000°, Azm37.0000°; N 0.3327, Plg12.0000°, Azm307.0000°; P -9.9246, Plg78.0000°, Azm132.0000°;*
NOU ***31*** *19:22:09.2, 21.°58S×168.°79E, h0km, mb5.2/108, Loyalty Islands*
BGR ***31*** *19:22:10.8, 21.°96S×170.°12E, h33km, Ms4.7*
GCMT ***31*** *19:22:14.1±0.1, 21.°64S±0.°01×168.°82E±0.°01, h12km, MW5.3/147, Moment Tensor Solution. s109, c171; s147, c253; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.15±.01; $M_{\theta\theta}$0.71±.01; $M_{\phi\phi}$0.44±.01; $M_{r\theta}$0.02±.03; $M_{\theta\phi}$-0.56±.01; $M_{\phi r}$0.26±.04; Best double couple: $M_0$1.18100×10^{17} NP1:ϕ_s139.00000°, δ50.00000°, λ-77.00000°. NP2:ϕ_s298.00000°, δ42.00000°, λ-105.00000°. Principal axes: T 1.1630, Plg4.0000°, Azm219.0000°; N 0.0400, Plg10.0000°, Azm310.0000°; P -1.1990, Plg79.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 19:22:10.5±0.5, 21.°70S±0.°04×168.°87E±0.°04, h25km±2km, h25km:pP-P, n911, σ1°931/784, mb5.3/161, MS5.0/118, 36C-30D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.81	286	Pg	Pb	19 22 24.4	-1.6
MARNC					Sb	19 22 36.8	+0.2
MARNC	Mare, Loyalty	0.81	286	P	Pb	19 22 25.1	-0.9
PINNC	Pines Island,	1.60	235		Pn	19 22 35.9	-1.3
PINNC					Sn	19 22 55.9	-1.2
PINNC	Pines Island,	1.60	235	P	Pn	19 22 37.9	+0.7
LIFNC	LIFOU	1.78	301		Pn	19 22 37.5	-2.1
LIFNC				Sn	Sn	19 22 59.2	-2.3
LIFNC	LIFOU	1.78	301	P	Pn	19 22 38.9	-0.7
YATNC	Mamie plateau,	1.88	259	P	Pn	19 22 41.3	+0.3
I22FR	PORTLAGUERRE I	1.94	255	Pn	Pn	19 22 41.4	-0.5
	baz=83,slow=14						
OUENC	Ouen Island, N	2.01	249		Pn	19 22 41.9	-1.0
OUENC	Ouen Island, N	2.01	249	P	Pn	19 22 44.5	+1.6
DZM	Mont Dzumac	2.29	260	*e*Pn	Pn	19 22 45.6	-1.1
	4μm,0.9s						
DZM				*e*Sn	Sn	19 23 13.5	-0.6
	26μm,1.4s						
DZM	Mont Dzumac	2.29	260		Pn	19 22 46.4	-0.3
DZM	Mont Dzumac	2.29	260	P	Pn	19 22 47.7	+1.0
DZM	Mont Dzumac	2.29	260	Pn	Pn	19 22 46.7	0.0
	39nm,0.3s,baz=129,slow=16,SNR=272						
DZM				Sn	Sn	19 23 13.6	-0.6
	400nm,0.3s,baz=115,slow=23,SNR=8.8						
DZM				LR	LR	19 23 23.9	
	comp=Z,11μm,18.8s,baz=116,slow=33						
	241nm,0.4s						
ONTNC	Ouen Toro	2.32	255		Pn	19 22 46.2	-0.9
ONTNC	Ouen Toro	2.32	255	P	Pn	19 22 48.5	+1.4
NOUC	Port Laguerre	2.42	260	P	Pn	19 22 49.4	+0.9
RTV	Rentapao	3.91	354	P	Pn	19 23 11.1	+2.1
KOUNC	Koumac, New Ca	4.43	284	Pn	Pn	19 23 15.1	-1.1
KOUNC	Koumac, New Ca	4.43	284	P	Pn	19 23 17.4	+1.2
NFK	Norfolk Island	7.36	186	P	Pn	19 23 57.1	+0.8
	baz=7.5,SNR=18						
NFK	Norfolk Island	7.36	186	P	Pn	19 24 00.8	+4.5
MSVF	Nonsavu	9.50	67		Pn	19 24 27.9	+2.1
MSVF	Nonsavu	9.50	67	P	Pn	19 24 29.7	+3.8
MSVF	Nonsavu	9.50	67	Pn	Pn	19 24 25.2	-0.6
	6.3nm,0.8s,baz=165,slow=12,SNR=2.4						
MSVF				LR	LR	19 27 40.2	
	comp=Z,13μm,19.5s,baz=252,slow=35						
YSA	Yasawairara	9.61	60	P	Pn	19 24 30.2	+2.9

TUWZ Tuamarina 20.13 169 P **P** **19 26 42.6 +0.1**
DSZ Denniston Nort 20.14 174 P **P** **19 26 43.7 +0.9**
DSZ IAmb IAmb 19 26 57.6
comp=Z,147nm,1.4s
SNZO South Karori 20.16 167 P **P** **19 26 42.6 -0.3**
SNZO IAmb IAmb 19 26 58.9
comp=Z,120nm,1.1s
SNZO South Karori 20.16 167 P Pn 19 26 48.0 +3.1
AUAYR Ayr State High 20.20 272 P Pn 19 26 47.1 +1.6
WOLH Wollongong Har 20.27 228 P Pn 19 26 48.5 +2.3
THZ Tophouse 20.29 171 P **P** **19 26 45.1 +0.8**
THZ IAmb IAmb 19 26 59.4
comp=Z,180nm,1.2s
BHW Baring Head 20.29 167 P **P** **19 26 45.4 +1.1**
BHW IAmb IAmb 19 26 57.3
comp=Z,117nm,1.1s
AULRC Lightning Ridg 20.34 244 P Pn 19 26 47.5 +0.4
BSWZ Blackbirch Sta 20.39 169 P **P** **19 26 45.8 +0.3**
TV1H Townsville Har 20.82 273 P Pn 19 26 53.1 +0.3
AUDCS Dubbo College 20.83 236 P Pn 19 26 52.9 0.0
KHZ Kahutara 21.02 170 P **P** **19 26 52.5 +0.3**
INZ Inchbonnie 21.07 175 P **P** **19 26 53.5 +0.8**
INZ IAmb IAmb 19 27 07.2
comp=Z,166nm,1.3s
AUUHS Ulladulla High 21.08 226 P **P** **19 26 56.7 +3.7**
CTA Charters Tower 21.19 270 P **P** **19 26 56.4 +2.1**
CTA Charters Tower 21.19 270 P **P** **19 26 56.1 +1.8**
comp=Z,22nm,0.7s,baz=93,slow=9.9,SNR=28
CTA LR LR 19 34 43.5
comp=Z,2μm,19.1s,baz=94,slow=36
comp=Z,22nm,0.7s
CTAO Charters Tower 21.19 270 P **P** **19 26 52.5 -1.8**
CTAO IAmb IAmb 19 27 07.2
comp=Z,219nm,1.4s
CTAO Charters Tower 21.19 270 P **P** **19 26 56.4 +2.1**
CTAO Charters Tower 21.19 270 P **P** **19 26 52.5 -1.8**
CTAO pmax pmax
comp=Z,219nm,1.4s
CTAO MLR MLR
comp=Z,2μm,20.0s
LTZ Lake Taylor 21.21 173 P **P** **19 26 54.6 +0.3**
LTZ IAmb IAmb 19 27 05.7
comp=Z,130nm,1.4s
GVZ Greta Valley S 21.49 172 P **P** **19 26 57.5 +0.2**
AMCZ Amberley 21.64 172 P **P** **19 26 59.2 +0.3**
OXZ Oxford 21.72 174 P **P** **19 26 59.5 -0.3**
OXZ IAmb IAmb 19 27 14.8
comp=Z,159nm,1.3s
FOZ Fox Glacier 21.78 178 P **P** **19 27 00.6 +0.2**
CNB Canberra Magne 21.81 227 P **P** **19 27 03.9 +3.0**
baz=22,SNR=7.5
CNB Canberra Magne 21.81 227 P **P** **19 27 04.2 +3.4**
YNG Young 21.96 231 P **P** **19 27 06.4 +4.0**
RPZ Rata Peaks 22.03 176 P **P** **19 27 02.2 -0.8**
RPZ Rata Peaks 22.03 176 LR LR 19 35 03.4
comp=Z,4μm,18.6s,baz=352,slow=35
CAN Canberra 22.06 228 P **P** **19 27 03.4 -0.1**
CAN IAmb IAmb 19 27 14.9
comp=Z,105nm,1.2s
CAN Canberra 22.06 228 P **P** **19 27 07.3 +3.8**
CAN Canberra 22.06 228 P **P** **19 27 03.4 -0.1**
CAN pmax pmax
comp=Z,105nm,1.2s
MQZ McQueen's Vall 22.17 173 P **P** **19 27 04.1 -0.4**
JCZ Jackson Bay 22.31 180 P **P** **19 27 08.2 +2.0**
LBZ Lake Benmore 22.65 178 P **P** **19 27 09.9 +0.2**
LBZ IAMs_20 IAMs_20 19 35 18.5
comp=Z,4μm,18.0s
CMSA Cobar Meteorol 22.88 240 P **P** **19 27 14.0 +1.7**
baz=23,SNR=50
CMSA Cobar Meteorol 22.88 240 P **P** **19 27 13.8 +1.5**
MILA Mila 22.94 224 P **P** **19 27 15.9 +3.0**
baz=23,SNR=4.4
MILA Mila 22.94 224 P **P** **19 27 15.3 +2.4**
QLP Quilpie 22.99 253 P **P** **19 27 15.7 +2.3**
baz=23,SNR=4.0
QLP Quilpie 22.99 253 P **P** **19 27 15.6 +2.2**
WKZ Wanaka 23.06 180 P **P** **19 27 13.1 -1.0**
WKZ IAmb IAmb 19 27 38.2
comp=Z,135nm,1.4s
WKZ IAMs_20 IAMs_20 19 35 46.5
comp=Z,5μm,18.0s
ODZ Otahua Downs 23.33 177 P **P** **19 27 15.7 -1.0**
MTSU Mount Surprise 23.35 274 P **P** **19 27 18.6 +1.4**
baz=23,SNR=24
MTSU Mount Surprise 23.35 274 P **P** **19 27 18.3 +1.1**
MLZ Mavora Lakes 23.61 181 P **P** **19 27 20.0 +0.6**
DCZ Deep Cove 23.74 183 P **P** **19 27 21.8 +1.1**
DCZ IAmb IAmb 19 27 32.2
comp=Z,208nm,1.8s
RABL Rabaul 23.79 315 P **P** **19 27 22.6 +1.2**
KRVT Keravat (AS076 23.80 314 P **P** **19 27 21.8 +0.4**
comp=Z,86nm,0.9s,baz=262,slow=1.2,SNR=10
comp=Z,86nm,0.9s
WHZ Wether Hill Ro 24.14 182 P **P** **19 27 24.7 +0.3**
WHZ IAmb IAmb 19 27 40.7
comp=Z,85nm,1.5s
PMG Port Moresby 24.19 297 P **P** **19 27 24.2 -0.9**
PMG IAmb IAmb 19 27 28.3
comp=Z,54nm,0.8s
PMG Port Moresby 24.19 297 P **P** **19 27 25.4 +0.3**
PMG Port Moresby 24.19 297 P **P** **19 27 25.5 +0.3**
PMG Port Moresby 24.19 297 P **P** **19 27 25.3 +0.3**
comp=Z,50nm,0.7s,baz=109,slow=5.1,SNR=21
PMG LR LR 19 35 39.0
comp=Z,2μm,18.2s,baz=128,slow=34
comp=Z,50nm,0.7s
SYZ Scrubby Hill 24.77 180 P **P** **19 27 31.9 +1.8**
CTZ Chatham Island 25.06 155 P **P** **19 27 33.7 +0.9**
CTZ Chatham Island 25.06 155 P **P** **19 27 34.0 +1.2**
AUMAG Moama Anglican 25.44 230 P **P** **19 27 38.1 +1.8**
COEN Coen 25.62 283 P **P** **19 27 37.1 -1.0**
COEN Coen 25.62 283 P **P** **19 27 39.8 +1.6**
TOO Toolangi 25.65 227 P **P** **19 27 40.4 +2.1**
baz=26,SNR=5.9
TOO Toolangi 25.65 227 P **P** **19 27 37.8 -0.5**
TOO IAmb IAmb 19 27 48.6
comp=Z,67nm,1.1s
TOO Toolangi 25.65 227 P **P** **19 27 40.8 +2.5**
TOO Toolangi 25.65 227 P **P** **19 27 37.8 -0.5**
TOO pmax pmax
comp=Z,67nm,1.1s
GLAD Gladstone 26.09 218 P **P** **19 27 45.2 +3.0**
INKA Innaminka 26.21 251 P **P** **19 27 44.2 +0.8**
STKA Stephens Creek 26.31 242 P **P** **19 27 45.6 +1.3**
baz=26,SNR=13
STKA Stephens Creek 26.31 242 P **P** **19 27 43.5 -0.8**
STKA Stephens Creek 26.31 242 P **P** **19 27 45.3 +1.0**
STKA Stephens Creek 26.31 242 *ce*P **P** **19 27 45.9 +1.6**
STKA Stephens Creek 26.31 242 P **P** **19 27 44.8 +0.5**
comp=Z,9.0nm,0.9s,baz=77,slow=9.1,SNR=12
STKA LR LR 19 37 13.7
comp=Z,2μm,20.2s,baz=70,slow=34
comp=Z,9.0nm,0.9s
BRAT Ballarat 26.71 228 P **P** **19 27 50.4 +2.6**
QIS Mount Isa 27.31 267 P **P** **19 27 53.6 +0.2**
baz=27,SNR=6.7
QIS Mount Isa 27.31 267 P **P** **19 27 54.2 +0.8**
MOO Moorlands 27.52 216 P **P** **19 27 57.1 +2.0**
baz=28,SNR=4.6
MOO Moorlands 27.52 216 P **P** **19 27 57.3 +2.3**
ARPS Mount Arapiles 27.84 231 P **P** **19 27 59.0 +1.0**
baz=28,SNR=6.2
ARPS Mount Arapiles 27.84 231 P **P** **19 27 59.1 +1.1**
MANU Manus Island 28.64 310 P **P** **19 28 04.3 -0.9**
MANU IAmb IAmb 19 28 15.2
comp=Z,52nm,1.2s
MANU Manus Island 28.64 310 P **P** **19 28 06.6 +1.3**
LCRK Leigh Creek 28.81 246 P **P** **19 28 07.8 +1.1**
RAR Rarotonga 29.16 95 LR LR 19 37 08.3
comp=Z,251nm,19.8s,baz=260,slow=31
WHYH Whyalla 29.89 241 P **P** **19 28 17.6 +1.4**
PATS Pohnpei 30.20 339 P **P** **19 28 19.2 +0.2**
PATS IAmb IAmb 19 28 41.0
comp=Z,66nm,1.1s
PATS Pohnpei 30.20 339 P **P** **19 28 20.5 +1.5**
OOD Oodnadatta 30.68 252 P **P** **19 28 24.5 +1.2**
BBOO Buckleboo 31.08 242 P **P** **19 28 27.4 +0.6**
baz=31,SNR=6.6
BBOO Buckleboo 31.08 242 P **P** **19 28 26.0 -0.8**
BBOO IAmb IAmb 19 28 36.8
comp=Z,47nm,1.0s
BBOO Buckleboo 31.08 242 P **P** **19 28 28.2 +1.4**
TABU Tabubil 31.37 297 P **P** **19 28 31.2 +1.7**

WR0 Warramunga Arr 32.10 267 P **P** **19 28 35.1 -0.8**
WR0 IAmb IAmb 19 28 45.0
comp=Z,52nm,1.5s
AS31 Alice Springs 32.28 260 **P** **19 28 36.7 -0.8**
ASAR Alice Springs 32.28 260 **P** **19 28 36.3 -1.1**
ASAR Alice Springs 32.28 260 P **P** **19 28 37.2 -0.3**
comp=Z,11nm,0.6s,baz=90,slow=9.4,SNR=118
ASAR LR LR 19 41 04.5
comp=Z,2μm,20.6s,baz=102,slow=35
comp=Z,11nm,0.6s
WRAB Tennant Creek 32.28 267 IAMs_20 IAMs_20 19 40 48.4
comp=Z,3μm,22.0s
WRAB Tennant Creek 32.28 267 P **P** **19 28 38.0 +0.5**
WRA Warramunga Arr 32.29 267 P **P** **19 28 36.9 -0.6**
comp=Z,3.9nm,0.6s,baz=96,slow=9.1,SNR=10
WRA LR LR 19 41 10.9
comp=Z,3μm,21.2s,baz=83,slow=35
comp=Z,3.9nm,0.6s
MULG Mulgathing 32.34 247 P **P** **19 28 38.7 +0.8**
JAY Jayapura 33.38 301 P P 19 28 57.0 +10
FORT Forrest 37.54 247 P **P** **19 29 23.3 +0.6**
baz=38,SNR=11
FORT Forrest 37.54 247 P **P** **19 29 21.8 -0.9**
FORT Forrest 37.54 247 P **P** **19 29 23.2 +0.5**
KNRA Kununurra 38.39 272 P **P** **19 29 27.3 -2.7**
baz=38,SNR=7.6
KMPI Kaimana, Papua 38.56 293 P P 19 29 44.2 +13
PPT2 Papeete2 39.26 92 *e*LR LR 19 40 08.6
comp=Z,2μm,29.2s
PPT Papeete 39.27 91 LR LR 19 42 07.7
comp=Z,488nm,20.0s,baz=251,slow=31
GUMO Guam 42.25 324 LR LR 19 45 18.1
comp=Z,293nm,18.6s,baz=114,slow=33
KMBL Kambalda 42.86 247 P **P** **19 30 07.0 +0.2**
baz=43,SNR=15
KMBL Kambalda 42.86 247 P **P** **19 30 06.7 -0.2**
BATI Baumata 44.79 277 P P 19 30 34.1 +11
BATI Baumata 44.79 277 P **P** **19 30 24.1 +1.5**
comp=Z,13nm,0.5s,baz=110,slow=11,SNR=1.5
BATI LR LR 19 48 07.2
comp=Z,2μm,21.5s,baz=146,slow=35
comp=Z,13nm,0.5s
PSA00 Pilbara Seismi 45.41 261 P **P** **19 30 27.2 -0.3**
PSA00 IAmb IAmb 19 30 37.4
comp=Z,64nm,1.3s
PSA00 Pilbara Seismi 45.41 261 P **P** **19 30 26.5 -1.0**
PSA00 IAmb IAmb 19 30 37.5
comp=Z,36nm,1.3s
PSA00 Pilbara Seismi 45.41 261 P **P** **19 30 28.1 +0.6**
LBMI Labuha 45.42 292 P **P** **19 30 28.4 +0.8**
comp=Z,85nm,1.5s,comp=Z,2μm
MBWA Marble Bar 45.59 261 P **P** **19 30 28.2 -0.6**
MBWA IAMs_20 IAMs_20 19 46 55.3
comp=Z,2μm,20.0s
MBWA Marble Bar 45.59 261 P **P** **19 30 29.4 +0.5**
MEEK Meekatharra 45.88 253 P **P** **19 30 30.7 -0.4**
baz=46,SNR=8.0
MEEK Meekatharra 45.88 253 P **P** **19 30 31.0 -0.2**
SANI Sanana 46.05 289 P **P** **19 30 32.7 +0.2**
SANI Sanana 46.05 289 P **P** **19 30 32.8 +0.2**
comp=Z,152nm,1.1s,comp=Z,1μm
TNTI Ternate 46.26 293 P **P** **19 30 36.7 +2.6**
KLBR Kellerberrin 46.38 247 P **P** **19 30 34.6 -0.4**
baz=46,SNR=26
KLBR Kellerberrin 46.38 247 P **P** **19 30 34.7 -0.3**
NWAO Narrogin (SRO) 46.82 245 P **P** **19 30 38.6 +0.2**
baz=47,SNR=16
NWAO P **P** **19 30 38.6 +0.2**
baz=47,SNR=16
NWAO Narrogin (SRO) 46.82 245 P **P** **19 30 37.5 -0.9**
NWAO Narrogin (SRO) 46.82 245 P **P** **19 30 37.6 -0.8**
NWAO IAmb IAmb 19 30 47.8
comp=Z,535nm,1.4s
NWAO Narrogin (SRO) 46.82 245 P **P** **19 30 38.7 +0.3**
NWAO Narrogin (SRO) 46.82 245 P **P** **19 30 37.6 -0.8**
NWAO pmax pmax
comp=Z,535nm,1.4s
NWAO Narrogin (SRO) 46.82 245 LR LR 19 49 22.8
comp=Z,3μm,21.2s,baz=77,slow=35
RKGY Rocky Gully 47.06 242 P **P** **19 30 41.9 +1.6**
EDFI Ende, Flores 47.13 278 P **P** **19 30 41.4 +0.3**
comp=Z,28nm,1.2s
BLDU Ballidu 47.31 248 P **P** **19 30 41.9 -0.3**
baz=47,SNR=16
BLDU Ballidu 47.31 248 P **P** **19 30 42.2 0.0**
BBSI Bau Bau 47.59 283 P **P** **19 30 43.2 -1.4**
comp=Z,31nm,1.2s,comp=Z,592nm
BASI Baing, Sumba 47.64 276 P P 19 30 56.4 +11
MUN Mundaring 47.70 246 P **P** **19 30 45.9 +0.7**
baz=48,SNR=7.6
MUN Mundaring 47.70 246 P **P** **19 30 47.5 +2.3**
MORW Morawa 47.97 250 P **P** **19 30 46.4 -1.0**
baz=48,SNR=6.3
MORW Morawa 47.97 250 P **P** **19 30 46.2 -1.2**
MORW PcP **PcP** **19 32 14.0 -1.5**
MORW Morawa 47.97 250 P **P** **19 30 48.4 +1.0**
KMSI Cibinong 49.07 291 P P 19 31 06.1 +10
SGSI Sangihe 49.35 295 P P 19 31 07.5 +9.4
LUWI Luwuk 49.36 288 P **P** **19 30 57.0 -1.2**
LUWI Luwuk 49.36 288 P **P** **19 30 58.9 +0.7**
LUWI Luwuk 49.36 288 P **P** **19 30 59.3 +1.1**
comp=Z,137nm,1.3s,comp=Z,4μm
BKSI Bulukumba 49.88 282 P **P** **19 31 02.5 +0.3**
comp=Z,31nm,1.2s,comp=Z,566nm
GTOI Gorontalo 49.95 290 P **P** **19 31 04.1 +1.4**
comp=Z,39nm,1.2s,comp=Z,451nm
KAPI Kappang 50.34 282 P **P** **19 31 03.5 -2.2**
KAPI Kappang 50.34 282 P **P** **19 31 06.9 +1.2**
KAPI Kappang 50.34 282 P **P** **19 31 06.6 +0.9**
comp=Z,20nm,0.7s,baz=86,slow=4.7,SNR=15
comp=Z,20nm,0.7s
TAOE Nuku Hiva Isla 50.59 84 *e*S **S** **19 38 26.7 +5.5**
comp=Z,533nm,26.3s
TAOE *e*LR LR 19 45 54.9
comp=Z,2μm,27.3s
PLAI Plampang 50.71 276 P **P** **19 31 08.9 +0.4**
PLAI Plampang 50.71 276 P **P** **19 31 10.0 +1.5**
comp=Z,84nm,1.3s
MRSI Marisa 50.80 290 P **P** **19 31 08.7 -0.5**
comp=Z,23nm,1.2s,comp=Z,1μm
TTSI Tana Toraja 51.10 284 P **P** **19 31 11.7 +0.3**
comp=Z,43nm,1.3s,comp=Z,532nm
DAV Davao City (W) 51.18 299 LR LR 19 54 33.0
comp=Z,95nm,18.4s,baz=121,slow=38
TWSI Taliwang, Sumb 51.57 276 P P 19 31 24.3 +9.3
TOLI2 Tolitoli 52.12 289 P **P** **19 31 17.1 -2.0**
TOLI2 Tolitoli 52.12 289 P **P** **19 31 19.0 -0.1**
comp=Z,110nm,1.1s
MPSI Mapaga 52.54 288 P **P** **19 31 21.9 -0.2**
comp=Z,86nm,1.1s,comp=Z,890nm
MHA Mahukona 54.02 42 P **P** **19 31 32.4 -0.5**
MHA Mahukona 54.02 42 P **P** **19 31 32.4 -0.5**
JAGI Jajag, Banyuwa 54.19 275 P **P** **19 31 31.9 -2.5**
JAGI Jajag, Banyuwa 54.19 275 P **P** **19 31 34.3 0.0**
JAGI Jajag, Banyuwa 54.19 275 P P 19 31 42.7 +8.4
JCJ Chichijima 54.96 331 LR LR 19 52 22.3
comp=Z,158nm,21.2s,baz=106,slow=33
BBKI Banjar Baru 55.44 281 P **P** **19 31 45.2 +1.8**
comp=Z,72nm,1.2s,comp=Z,3μm
VNDA Vanda 55.97 182 P **P** **19 31 45.4 -0.8**
VNDA IAmb IAmb 19 31 57.1
comp=Z,40nm,1.5s
VNDA Vanda 55.97 182 P **P** **19 31 45.9 -0.3**
comp=Z,5.5nm,0.9s,baz=2.3,slow=7.3,SNR=22
VNDA LR LR 19 52 13.6
comp=Z,578nm,20.0s,baz=12,slow=32
comp=Z,5.5nm,0.9s
SBA Scott Base 56.21 181 P **P** **19 31 47.2 -0.7**
SBA Scott Base 56.21 181 P **P** **19 31 47.2 -0.7**
SBA pmax pmax
comp=Z,87nm,1.3s
SBA MLR MLR
comp=Z,600nm,18.0s
MTKI Muara Teweh, K 56.44 284 P **P** **19 31 52.0 +1.5**
comp=Z,15nm,1.0s,comp=Z,2μm
WOJI Wonogiri, Jawa 57.40 275 P P 19 32 06.6 +9.2
CASY Casey 57.74 204 P **P** **19 31 58.0 -0.9**
KPJI Karang Pucung 59.43 274 P **P** **19 32 13.4 +1.9**
comp=Z,50nm,1.3s
STKI Sintang 59.95 283 P **P** **19 32 16.5 +1.3**
comp=Z,102nm,1.1s,comp=Z,4μm
LEM Lembang 60.82 274 P **P** **19 32 21.5 +0.2**
comp=Z,68nm,1.0s,baz=76,slow=8.8,SNR=12
comp=Z,68nm,1.0s
JHJ Hachijo jima 2 61.18 332 P **P** **19 32 23.7 +0.7**
comp=Z,182nm,0.9s,baz=70,slow=17,SNR=1.5

JHJ LR LR 19 57 58.6
comp=Z,131nm,20.2s,baz=110,slow=35
CBJI Citeko 61.68 274 P **P** **19 32 28.0 +1.1**
comp=Z,99nm,1.2s
CGJI Cibinong 62.68 274 P **P** **19 32 35.0 +1.4**
comp=Z,114nm,1.2s
MJAR Matsushiro Arr 64.77 333 P **P** **19 32 46.0 -0.9**
comp=Z,10nm,1.0s,baz=166,slow=7.4,SNR=16
MJAR LR LR 20 03 40.0
comp=Z,137nm,18.4s,baz=126,slow=38
comp=Z,10nm,1.0s
MAJO Matsushiro 64.77 333 P **P** **19 32 44.8 -2.1**
MAJO IAmb IAmb 19 32 56.7
comp=Z,24nm,1.0s
MAJO Matsushiro 64.77 333 P **P** **19 32 47.5 +0.6**
MAJO Matsushiro 64.77 333 *de*P **P** **19 32 46.5 -0.4**
MAJO pmax pmax
comp=Z,31nm,1.2s
LWLI Liwa 64.77 275 P P 19 32 53.0 +5.4
comp=Z,110nm,1.2s
MJB9 Matsu-Tunnel 64.78 333 P **P** **19 32 44.4 -2.6**
MJB9 IAmb IAmb 19 32 56.7
comp=Z,23nm,1.0s
JMM Marumori 64.87 336 P **P** **19 32 45.9 -1.6**
JMM Marumori 64.87 336 P **P** **19 32 48.7 +1.2**
JNU Nakatsue 65.48 325 P **P** **19 32 50.1 -1.5**
JNU IAmb IAmb 19 33 08.7
comp=Z,53nm,1.7s
JNU Nakatsue 65.48 325 LR LR 19 57 31.0
comp=Z,96nm,21.9s,baz=120,slow=32
DSRI Dabo 66.02 280 P **P** **19 32 56.8 +1.3**
comp=Z,38nm,1.3s
TPRI Tanjung Pinang 66.63 281 P **P** **19 33 01.0 +1.6**
comp=Z,76nm,1.1s
DLV T Lat 68.03 293 P **P** **19 33 10.2 +1.8**
KRJI Kerinci 68.27 277 P P 19 33 18.8 +8.9
QSPA South Pole Qui 68.36 180 P **P** **19 33 08.9 -0.8**
QSPA South Pole Qui 68.36 180 P **P** **19 33 09.7 0.0**
comp=Z,22nm,1.0s,baz=20,slow=2.1,SNR=50
QSPA LR LR 20 01 34.8
comp=Z,460nm,18.1s,baz=34,slow=35
comp=Z,22nm,1.0s
BKNI Bangkinang 69.59 279 P **P** **19 33 19.1 +1.1**
ASAJ Asahikawa 69.78 340 P **P** **19 33 19.6 +1.1**
comp=Z,12nm,1.0s,baz=197,slow=5.6,SNR=2.6
ASAJ LR LR 19 59 07.5
comp=Z,368nm,19.4s,baz=160,slow=32
comp=Z,12nm,1.0s
KSRS Korea Array 70.35 326 P **P** **19 33 23.1 +1.0**
comp=Z,3.4nm,0.8s,baz=142,slow=7.0,SNR=7.4
comp=Z,3.4nm,0.8s
NJ2 Nanjing 71.75 317 *e*P **P** **19 33 33.0 +2.3**
NJ2 pP **pP** **19 33 36.8 -1.0**
NJ2 sP **sP** **19 33 39.0 -1.4**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
YSS Yuzh-Sakhalins 72.29 342 *e*P **P** **19 33 34.1 +0.5**
YSS pmax pmax
comp=Z,20nm,0.9s
RPSI Rantau Prapat 72.46 280 P **P** **19 33 32.8 -2.7**
RPSI IAmb IAmb 19 33 44.1
comp=Z,19nm,0.9s
PSI Prapat 72.50 280 P **P** **19 33 35.7 -0.1**
PSI Prapat 72.50 280 P **P** **19 33 32.8 -3.0**
PSI pmax pmax
comp=Z,19nm,0.9s
VLA Vladivostok 72.93 333⇑ *e*P **P** **19 33 39.1 +1.6**
VLA pmax pmax
comp=Z,32nm,1.0s
GSI Gunungsitoli 73.15 278 P **P** **19 33 37.8 -1.8**
GULI GuiLin 73.53 306 P **P** **19 33 43.8 +2.3**
USA0B Ussuriysk Arra 73.77 333 P **P** **19 33 40.9 -1.5**
USA0B IAmb IAmb 19 33 54.2
comp=Z,38nm,1.1s
USA0B Ussuriysk Arra 73.77 333 *d*iP **P** **19 33 43.3 +0.9**
USRK Ussuriysk Ar. 73.77 333 P **P** **19 33 41.4 -1.1**
USRK Ussuriysk Ar. 73.77 333 P **P** **19 33 43.2 +0.8**
comp=Z,21nm,0.9s,baz=142,slow=4.5,SNR=23
USRK LR LR 20 03 39.0
comp=Z,127nm,20.9s,baz=134,slow=34
comp=Z,21nm,0.9s
SHEM Shemya Is, Ala 74.25 3 LR LR 20 01 10.8
comp=Z,652nm,19.9s,baz=132,slow=32
SRIT Nakonsritamara 74.28 286 P **P** **19 33 47.5 +1.4**
SURA Surathani 74.50 287 P **P** **19 33 48.7 +1.3**
MDJ Mudanjiang 75.12 332 P **P** **19 33 51.3 +1.0**
MDJ pP sP 19 33 59.3 -0.4
MDJ sP pwP 19 34 01.5 -0.3
MDJ S **S** **19 43 32.3 +5.1**
MDJ sS sS 19 43 43.3 +4.5
MDJ pmax pmax
comp=Z,35nm,1.1s
MDJ pmax pmax
comp=Z,380nm,4.3s
MDJ LR LR
comp=Z,570nm,14.8s
MDJ LR LR
comp=Z,410nm,14.3s
MDJ LR LR
comp=Z,460nm,15.9s
MDJ Mudanjiang 75.12 332 IAmb IAmb 19 33 53.0
comp=Z,44nm,1.2s
MDJ Mudanjiang 75.12 332 P **P** **19 33 51.3 +1.0**
PETK Petropavlovsk- 75.13 353 P **P** **19 33 49.9 -0.2**
comp=Z,9.5nm,0.9s,baz=104,slow=5.4,SNR=3.5
PETK LR LR 19 59 20.4
comp=Z,828nm,21.2s,baz=150,slow=30
comp=Z,9.5nm,0.9s
MLSI Meulaboh, Aceh 75.39 281 P P 19 34 01.2 +8.6
NONG Nongkai 75.50 296 P **P** **19 33 55.0 +1.9**
MAW Mawson 76.03 202 P **P** **19 33 56.0 +0.7**
baz=76,SNR=16
MAW Mawson 76.03 202 P **P** **19 33 53.9 -1.4**
MAW Mawson 76.03 202 P **P** **19 33 56.1 +0.7**
comp=Z,15nm,1.0s,baz=100,slow=7.3,SNR=22
MAW LR LR 20 02 59.8
comp=Z,517nm,21.0s,baz=106,slow=32
comp=Z,15nm,1.0s
CN2 Changchun 76.38 329 *e*P **P** **19 33 58.3 +0.8**
CN2 *e*PP **PP** **19 36 52.0 +2.3**
CN2 *e*S **S** **19 43 40.8 -0.3**
CN2 *es*S sS 19 43 58.0 +5.3
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,410nm,5.0s
CN2 LR LR
comp=Z,1μm,25.0s
CN2 LR LR
comp=Z,1μm,25.0s
CN2 LR LR
comp=Z,800nm,26.0s
NIKH Nikolski High 76.84 14 P **P** **19 34 00.1 +0.2**
NIKH Nikolski High 76.84 14 P **P** **19 33 59.1 -0.8**
baz=201
GYA Guiyang 76.95 306 *e*P **P** **19 34 03.0 +1.7**
GYA sP PcP 19 34 13.0 +0.7
GYA pmax pmax
comp=Z,13nm,1.9s
SRDT SRDT 77.21 291 P **P** **19 34 04.8 +2.0**
LYN LuoYang 77.46 315 ⇑P **P** **19 34 06.3 +2.5**
LYN pP pwP 19 34 17.5 +2.9
LYN S **S** **19 43 54.5 +1.2**
LYN SKS **SKSac** **19 44 07.8 -7.7**
LYN pmax pmax
comp=Z,480nm,4.8s
GRNR Gornyy 77.63 340⇓ *i*P **P** **19 34 06.0 +1.6**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=E,370nm,20.0s
GRNR MLR MLR
comp=N,560nm,17.0s
GRNR MLR MLR
comp=Z,580nm,19.0s
HNS HongShan 77.81 319 ⇑P **P** **19 34 07.3 +1.6**
HNS pmax pmax
comp=Z,8.0nm,0.8s
KLR Kul'dur 77.97 336 *de*P **P** **19 34 07.5 +1.2**
KLR pmax pmax
comp=Z,45nm,1.7s
KLR Kul'dur 77.97 336 P **P** **19 34 07.5 +1.2**
comp=Z,6.7nm,0.7s,baz=112,slow=3.8,SNR=19
KLR LR LR 20 06 57.9
comp=Z,189nm,19.5s,baz=146,slow=34
comp=Z,6.7nm,0.7s

UNV	Unalaska Valle	78.18	15	P	P	19 34 07.6	+0.3
	baz=203						
BJI	Beijing	78.63	321	P	P	19 34 12.0	+1.8
BJI				S	S	19 44 08.0	+2.3
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CRAI	Chiangrai	78.83	297	IAmb	IAmb	19 34 23.2	
	comp=Z,28nm,1.0s						
CM31	Chiang Mai Arr	79.21	295	IAmb	IAmb	19 34 25.6	
	comp=Z,39nm,1.1s						
CMAR	Chiang Mai Arr	79.21	295	P	P	19 34 14.6	+0.8
	comp=Z,4.1nm,0.7s,baz=133,slow=4.2,SNR=31						
	comp=Z,4.1nm,0.7s						
KMI	Kunming	79.29	302	⇓P	P	19 34 16.0	+1.5
KMI				pmax	pmax		
	comp=Z,21nm,0.9s						
CHTO	Chiang Mai	79.37	295	P	P	19 34 12.6	-2.2
CHTO				IAmb	IAmb	19 34 25.6	
	comp=Z,41nm,1.1s						
CHTO	Chiang Mai	79.37	295	P	P	19 34 16.2	+1.4
	comp=Z,20nm,1.1s						
CHTO	Chiang Mai	79.37	295	P	P	19 34 12.6	-2.2
CHTO				pmax	pmax		
	comp=Z,41nm,1.1s						
TIY	Taiyuan	79.41	318	P	P	19 34 11.0	-3.7
TIY				pP	pwP	19 34 28.3	+2.9
TIY				pmax	pmax		
	comp=Z,190nm,3.9s						
XAN	Xi'an	79.52	313	⇑P	P	19 34 15.0	-0.3
XAN				pP	pwP	19 34 27.8	+1.7
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
BELA	Belgrano 2	79.69	175	P	P	19 34 14.5	-1.1
FALS	False Pass	79.86	16	P	P	19 34 17.1	+0.6
	baz=206						
HEH	HeiHe	80.47	334	*e*P	P	19 34 20.0	0.0
HEH				pmax	pmax		
	comp=Z,24nm,0.8s						
HEH				pmax	pmax		
	comp=Z,560nm,4.7s						
PZH	PanZhiHua	80.75	303	P	P	19 34 22.0	-0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,200nm,6.5s						
XLT	XiLinHaoTe	81.23	324	*e*P	P	19 34 25.3	+1.0
XLT				pmax	pmax		
	comp=Z,11nm,0.9s						
XLT				pmax	pmax		
	comp=Z,240nm,4.1s						
CD2	Chengdu	81.47	308	*e*P	P	19 34 25.5	-0.3
SMAI	San Martin Ant	81.61	162	P	P	19 34 25.4	-0.5
HHC	Hu-ho-hao-te	81.87	320	*e*P	P	19 34 29.3	+1.5
HHC				sP	pwP	19 34 41.0	+2.4
HHC				S	SKSac	19 44 47.0	+0.6
HHC				sS	ScS	19 44 55.3	-1.2
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,500nm,4.8s						
HHC				LR	LR		
	comp=Z,490nm,16.3s						
HHC				LR	LR		
	comp=Z,460nm,15.5s						
MA2	Magadan	82.33	351	LR	LR	20 07 12.7	
	comp=Z,292nm,18.8s,baz=142,slow=33						
TNCH	TengChong	82.59	301	P	P	19 34 32.5	+0.5
TNCH				pP	pP	19 34 38.5	-1.0
TNCH				sP	pwP	19 34 41.3	-0.5
TNCH				pmax	pmax		
	comp=Z,7.0nm,1.8s						
MND	Mandalay	83.18	297	P	P	19 34 35.5	+0.6
ZEA	Zeya	83.27	337	*e*P	P	19 34 36.0	+1.4
ZEA				pmax	pmax		
	comp=N,20nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.2s						
ELIB	Princess Elisa	83.67	190	*d*P	P	19 34 36.0	-0.7
	comp=Z,35nm,1.2s						
R16K	Pilot Point	83.80	17	P	P	19 34 39.1	+1.8
	baz=211						
LZH	Lanzhou	84.12	312	⇑P	P	19 34 41.5	+1.8
LZH				sP	pwP	19 34 50.3	-0.2
LZH				S	S	19 45 03.8	+0.6
LZH				sS	ScS	19 45 17.8	+2.4
LZH				pmax	pmax		
	comp=Z,16nm,1.5s						
LZH				pmax	pmax		
	comp=Z,210nm,5.2s						
LZH				LR	LR		
	comp=Z,310nm,13.4s						
LZH				LR	LR		
	comp=Z,360nm,13.1s						
LZH				LR	LR		
	comp=Z,260nm,13.4s						
M11K	Mekoryuk	84.27	12	P	P	19 34 42.0	+2.4
	baz=203						
O15K	Ungalikthiuk R	84.61	16	P	P	19 34 42.8	+1.5
	baz=209						
PMSA	Palmer Station	84.73	160	P	P	19 34 40.9	-1.2
PMSA	Palmer Station	84.73	160	LR	LR	20 09 21.5	
	comp=Z,285nm,18.4s,baz=231,slow=34						
Q17K	Contact Creek	84.87	18	P	P	19 34 42.5	-0.3
	baz=213						
Q16K	King Salmon	85.01	17	P	P	19 34 43.8	+0.5
	baz=212						
SEY	Seymchan	85.36	353	⇑*i*P	P	19 34 58.6	+14
SEY				pmax	pmax		
	comp=Z,47nm,2.5s						
SEY	Seymchan	85.36	353	LR	LR	20 08 28.3	
	comp=Z,521nm,19.0s,baz=157,slow=33						
O16K	Kokwok River B	85.41	16	IAMs_20	IAMs_20	20 05 11.4	
	comp=Z,670nm,22.0s						
O16K	Kokwok River B	85.41	16	P	P	19 34 44.5	-0.8
	baz=211						
N15K	Kwethluk River	85.41	15	IAMs_20	IAMs_20	20 06 08.4	
	comp=Z,753nm,21.0s						
N15K	Kwethluk River	85.41	15	P	P	19 34 46.2	+0.8
	baz=209						
Q18K	Katmai Hardscr	85.45	18	P	P	19 34 46.2	+0.5
	baz=213						
KDAK	Kodiak Island	85.46	20	P	P	19 34 45.8	+0.2
	baz=216						
KDAK	Kodiak Island	85.46	20	LR	LR	20 06 51.6	
	comp=Z,548nm,20.1s,baz=221,slow=31						
M14K	Bethel	85.50	14	P	P	19 34 45.2	-0.5
M14K				IAmb	IAmb	19 34 56.0	
	comp=Z,17nm,1.0s						
M14K	Bethel	85.50	14	P	P	19 34 46.4	+0.7
	baz=207						
P17K	Kvichak River	85.51	17	P	P	19 34 47.1	+1.3
	baz=212						
M15K	Kasigluk River	85.73	14	P	P	19 34 47.6	+0.7
	baz=208						
O17K	Koliganek Bris	85.83	16	P	P	19 34 48.4	+1.1
	baz=212						
L14K	Kuka Creek	85.87	13	IAMs_20	IAMs_20	20 06 48.3	
	comp=Z,647nm,21.0s						
L14K	Kuka Creek	85.87	13	P	P	19 34 49.1	+1.5
	baz=206						
K13K	Kusilvak Mount	86.00	12	IAMs_20	IAMs_20	20 08 13.7	
	comp=Z,831nm,21.0s						
K13K	Kusilvak Mount	86.00	12	P	P	19 34 49.2	+1.0
	baz=205						
N16K	Nishlik Lake	86.00	15	P	P	19 34 48.9	+0.6
	baz=210						
P18K	Big Mountain,	86.01	18	P	P	19 34 49.1	+0.8
	baz=213						
TROLL	Troll, Antarti	86.06	184	⇓P	P	19 34 48.3	-0.6
	comp=Z,2μm,0.6s						
NVL	N'lazarevskaya	86.38	187	*e*P	P	19 34 48.5	-1.7
NVL				pmax	pmax		
	comp=Z,16nm,0.8s						
O18K	Koktuh Hills	86.40	17	P	P	19 34 50.7	+0.4
	baz=213						
L15K	Ungalak Mounta	86.43	14	P	P	19 34 50.8	+0.5
	baz=208						
M16K	Timber Creek	86.43	15	P	P	19 34 51.0	+0.6
M16K				IAmb	IAmb	19 34 53.1	
	comp=Z,32nm,1.3s						
M16K	Timber Creek	86.43	15	P	P	19 34 51.8	+1.4
	baz=210						
N17K	Nushagak Hills	86.45	16	IAMs_20	IAMs_20	20 04 43.8	
	comp=Z,633nm,22.0s						
N17K	Nushagak Hills	86.45	16	P	P	19 34 51.1	+0.6
	baz=211						
GAMB	Gambell	86.55	9	P	P	19 34 52.4	+1.6
	baz=198						
SNAA	Sanae	86.70	183	IAMs_20	IAMs_20	20 13 15.1	
	comp=Z,575nm,18.0s						
SNAA	Sanae	86.70	183	⇓P	P	19 34 51.0	-0.9
	comp=Z,587nm,1.1s						
P19K	Oil Pt	86.80	18	P	P	19 34 54.0	+1.8
	baz=215						
L16K	Owhat River	86.91	14	IAMs_20	IAMs_20	20 10 06.0	
	comp=Z,626nm,19.0s						
L16K	Owhat River	86.91	14	P	P	19 34 54.4	+1.7
	baz=209						
J14K	Nanvaranak Lak	86.96	12	IAMs_20	IAMs_20	20 08 35.1	
	comp=Z,768nm,20.0s						
J14K	Nanvaranak Lak	86.96	12	P	P	19 34 54.4	+1.5
	baz=206						
K15K	Wolf Creek Mou	86.97	13	IAmb	IAmb	19 34 58.7	
	comp=Z,29nm,1.3s						
K15K				IAMs_20	IAMs_20	20 07 21.4	
	comp=Z,692nm,20.0s						
K15K	Wolf Creek Mou	86.97	13	P	P	19 34 54.2	+1.3
	baz=207						
VNA3	Neumayer Olymp	87.30	180	⇓P	P	19 34 53.8	-0.9
	comp=Z,36nm,0.7s						
VNA2	Neumayer--Watz	87.58	181	⇓P	P	19 34 55.3	-0.8
	comp=Z,28nm,0.6s,baz=185,slow=5.0						
BRSE	Bradley Lake S	87.61	19	P	P	19 34 57.5	+1.3
	baz=217						
M18K	Stony River	87.62	16	P	P	19 34 57.7	+1.6
	baz=213						
SCZ2	Santa Cruz Isl	87.67	52	P	P	19 34 57.7	+0.6
	baz=242						
SAO	San Andreas Ge	87.69	49	P	P	19 34 55.8	-1.3
SAO				IAmb	IAmb	19 35 07.6	
	comp=Z,18nm,1.0s						
SAO	San Andreas Ge	87.69	49	P	P	19 34 55.8	-1.3
SAO				pmax	pmax		
	comp=Z,18nm,1.0s						
SBC	Santa Barbara	87.82	52	P	P	19 34 59.2	+1.5
	baz=242						
VNA1	Neumayer--Stat	87.88	181	⇓P	P	19 34 56.9	-0.6
	comp=Z,24nm,0.8s						
PKM	Mcpherson Peak	87.96	51	P	P	19 34 59.3	+0.6
	baz=242						
L18K	Granite Mounta	88.02	15	IAMs_20	IAMs_20	20 06 09.3	
	comp=Z,767nm,21.0s						
SMMC	Simmler	88.03	51	P	P	19 35 00.4	+1.6
	baz=242						
J16K	Anvik River	88.05	13	P	P	19 34 57.6	-0.6
J16K				IAMs_20	IAMs_20	20 08 03.9	
	comp=Z,687nm,20.0s						
J16K	Anvik River	88.05	13	P	P	19 34 59.3	+1.2
	baz=208						
K17K	Iditarod	88.06	14	IAMs_20	IAMs_20	20 08 22.4	
	comp=Z,690nm,20.0s						
KHMM	Horse Mountain	88.20	44	P	P	19 34 58.5	-1.2
SHL	Shillong	88.21	298	IAmb	IAmb	19 35 02.6	
	comp=Z,3.1nm,0.7s						
ANM	Nome	88.28	11	IAMs_20	IAMs_20	20 06 33.9	
	comp=Z,636nm,21.0s						
L19K	White Mountain	88.45	16	IAmb	IAmb	19 35 11.6	
	comp=Z,12nm,1.1s						
L19K	White Mountain	88.45	16	P	P	19 35 01.0	+0.9
	baz=213						
FMP	Fort Macarthur	88.53	53	P	P	19 35 00.9	-0.2
	baz=243						
I17K	Unalakleet	88.56	13	IAMs_20	IAMs_20	20 09 34.5	
	comp=Z,801nm,21.0s						
GTA	Gaotai	88.57	314	⇓P	P	19 35 01.5	+0.1
GTA				pP	sP	19 35 10.5	-1.2
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
OSI	Osito Audit: C	88.63	52	P	P	19 35 01.6	-0.1
	baz=242						
ULN	Ulaanbaatar	88.63	324	*d*i*P*	P	19 35 01.8	+0.3
ULN				pmax	pmax		
	comp=Z,36nm,1.2s						
DECC	Green Verdugo	88.75	52	P	P	19 35 02.5	+0.3
	baz=243						
ARVC	Arvin	88.78	51	P	P	19 35 04.0	+1.7
	baz=242						
H16K	Elim	88.92	12	P	P	19 35 04.7	+2.5
	baz=207						
SONM	Songino Array	88.98	323	IAmb	IAmb	19 35 13.9	
	comp=Z,21nm,1.1s						
SONM	Songino Array	88.98	323	P	P	19 35 03.6	+0.5
	comp=Z,11nm,1.2s,baz=143,slow=4.9,SNR=24						
	comp=Z,11nm,1.2s						
ORV	Oroville	89.02	46	IAmb	IAmb	19 35 17.1	
	comp=Z,21nm,1.1s						
109C	Camp Elliot, M	89.04	54	P	P	19 35 03.5	-0.1
	baz=243						
CMB	Columbia Colle	89.05	48	IAmb	IAmb	19 35 17.2	
	comp=Z,20nm,1.1s						
CMB				IAMs_20	IAMs_20	20 05 11.6	
	comp=Z,831nm,22.0s						
J18K	Innoko River	89.08	15	IAMs_20	IAMs_20	20 08 13.2	
	comp=Z,655nm,20.0s						
J18K	Innoko River	89.08	15	P	P	19 35 03.9	+0.9
	baz=212						
AFDM	Forest Hills D	89.08	47	IAmb	IAmb	19 35 17.3	
	comp=Z,19nm,1.0s						
YAK	Yakutsk	89.11	343	*e*P	P	19 35 03.1	0.0
YAK				*e*S	SKSac	19 45 28.9	-2.0
YAK				*e*SS	S	19 45 51.1	+1.1
YAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,309nm,4.2s						
YAK				smax	smax		
	comp=E,373nm,4.0s						
YAK				smax	smax		
	comp=N,196nm,3.3s						
CBX	Cerro Bola	89.12	55	P	P	19 35 03.7	-0.5
CBX				IAmb	IAmb	19 35 14.6	
	comp=Z,17nm,1.1s						
ELS	Elsinore Mount	89.14	53	IAmb	IAmb	19 35 16.5	
	comp=Z,34nm,1.5s						
BFSC	Mount Baldy Ra	89.24	53	P	P	19 35 04.8	+0.2
	baz=243						
BAR	Barrett	89.28	54	IAmb	IAmb	19 35 14.9	
	comp=Z,17nm,1.3s						
EDW2	Edwards Air Fo	89.28	52	P	P	19 35 04.3	-0.5
	baz=243,SNR=7.7						
ISA	Isabella, Lake	89.29	51	P	P	19 35 04.1	-0.7
ISA	Isabella, Lake	89.29	51	P	P	19 35 05.4	+0.6
	baz=243,SNR=14						
ISA	Isabella, Lake	89.29	51	P	P	19 35 04.1	-0.7
ISA				pmax	pmax		
	comp=Z,27nm,1.0s						
MURC	Murrieta	89.29	53	P	P	19 35 04.9	+0.1
	baz=243						
YBH	Yreka Blue Hor	89.30	44	IAmb	IAmb	19 35 18.3	
	comp=Z,14nm,1.1s						
YBH				IAMs_20	IAMs_20	20 05 53.0	
	comp=Z,727nm,22.0s						
YBH	Yreka Blue Hor	89.30	44	P	P	19 35 05.0	+0.3
YBH	Yreka Blue Hor	89.30	44	P	P	19 35 05.0	+0.3
	comp=Z,3.0nm,0.7s,baz=200,slow=7.5,SNR=6.1						
YBH				LR	LR	20 06 25.7	
	comp=Z,570nm,21.5s,baz=252,slow=30						
	comp=Z,3.0nm,0.7s						
CCAC	Calif City Air	89.39	52	IAmb	IAmb	19 35 31.3	
	comp=Z,15nm,0.8s						
VTX	Valle De La Tr	89.39	56	IAmb	IAmb	19 35 42.0	
	comp=Z,24nm,1.4s						
M22K	Willow	89.40	18	IAMs_20	IAMs_20	20 10 14.9	
	comp=Z,643nm,18.0s						
MONP2	Monument Peak	89.56	54	P	P	19 35 06.5	+0.2
	baz=244,SNR=11						
G16K	Koyuk River	89.58	12	IAMs_20	IAMs_20	20 10 34.2	
	comp=Z,581nm,20.0s						
G16K	Koyuk River	89.58	12	P	P	19 35 07.1	+1.8
	baz=207						
GLI	Glacier Island	89.64	20	IAMs_20	IAMs_20	20 09 30.2	
	comp=Z,528nm,19.0s						
IKP	In-Ko-Pah, Jac	89.69	55	P	P	19 35 07.3	+0.6
	baz=244						
LRMC	Laurel Mtn Rad	89.78	51	P	P	19 35 08.1	+0.9
	baz=243,SNR=7.6						
J19K	Poorman	89.79	15	IAMs_20	IAMs_20	20 08 57.0	
	comp=Z,636nm,20.0s						
J19K	Poorman	89.79	15	P	P	19 35 07.5	+1.1
	baz=213						
YUH	Yuha Desert	89.83	55	IAmb	IAmb	19 35 17.8	
	comp=Z,21nm,1.2s						
PFO	Pinyon Flats O	89.85	54	P	P	19 35 06.6	-0.9
PFO				IAmb	IAmb	19 35 17.8	
	comp=Z,23nm,1.3s						
PFO	Pinyon Flats O	89.85	54	P	P	19 35 08.6	+1.1
	baz=244,SNR=5.4						
PFO	Pinyon Flats O	89.85	54	*ce*P	P	19 35 07.4	-0.1
PFO				pmax	pmax		
	comp=Z,25nm,1.2s						
PFO	Pinyon Flats O	89.85	54	P	P	19 35 07.2	-0.3
	comp=Z,6.6nm,0.9s,baz=264,slow=4.2,SNR=6.8						
PFO				LR	LR	20 08 19.7	
	comp=Z,441nm,19.5s,baz=238,slow=31						
	comp=Z,6.6nm,0.9s						
TPFO	Pinon Flats	89.85	54	P	P	19 35 07.5	-0.1
	baz=244						
PMD	Palm Desert	89.93	54	IAmb	IAmb	19 35 18.0	
	comp=Z,23nm,1.2s						
CWC	Cottonwood Cre	89.93	50	P	P	19 35 08.3	+0.4
	baz=243						
SWSC	Sam W. Stewart	90.05	54	P	P	19 35 08.9	+0.6
	baz=244,SNR=5.8						
PNTR	Pine Nut	90.09	48	IAmb	IAmb	19 35 22.0	
	comp=Z,18nm,0.9s						
TIN	Tinemaha, Big	90.10	50	P	P	19 35 08.7	+0.1
	baz=243						
GCSA	Galena City Sc	90.14	14	P	P	19 35 09.9	+2.0
	baz=212						
MPMC	Manual Prospec	90.18	51	P	P	19 35 09.3	+0.2
	baz=243,SNR=13						
J20K	Nowinta River	90.30	15	IAMs_20	IAMs_20	20 07 40.5	
	comp=Z,679nm,22.0s						
J20K	Nowinta River	90.30	15	P	P	19 35 10.7	+2.0
	baz=214						
GSC	Goldstone, Bar	90.34	52	IAmb	IAmb	19 35 22.1	
	comp=Z,18nm,1.2s						
GSC	Goldstone, Bar	90.34	52	P	P	19 35 11.4	+1.7
	baz=244						
BELC	Belle Mtn. Jos	90.36	53	P	P	19 35 10.1	+0.2
	baz=244,SNR=27						
DSP	Deep Springs	90.43	50	IAmb	IAmb	19 35 25.9	
	comp=Z,32nm,1.4s						
LHV	Little Huntoon	90.46	49	P	P	19 35 09.9	-0.2
LHV				IAmb	IAmb	19 35 24.3	
	comp=Z,28nm,1.3s						
HEC	Hector,Ludlow	90.48	53	P	P	19 35 10.4	+0.1
	baz=244,SNR=13						
I04A	Tendick Farm,	90.52	42	IAmb	IAmb	19 35 23.7	
	comp=Z,19nm,1.1s						
PAHR	Pah Rah Range	90.53	47	IAmb	IAmb	19 35 24.4	
	comp=Z,12nm,0.9s						
GOMU	GeErMu	90.55	309	P	P	19 35 15.3	+4.3
GOMU				pP	pP	19 35 19.3	+0.7
GOMU				sP	pwP	19 35 24.8	+4.0
GOMU				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BC3	Big Chuckawall	90.62	54	P	P	19 35 11.6	+0.5
	baz=244,SNR=9.1						
NVAR	Mina Array Bea	90.68	49	P	P	19 35 11.4	0.0
	comp=Z,4.7nm,0.6s,baz=229,slow=6.9,SNR=24						
NVAR				LR	LR	20 07 14.9	
	comp=Z,633nm,21.8s,baz=269,slow=30						
	comp=Z,4.7nm,0.6s						
GRAC	Grapevine Rang	90.69	50	P	P	19 35 11.8	+0.6
	baz=243						
F17K	Baldwin Pennin	90.72	12	IAMs_20	IAMs_20	20 08 55.5	
	comp=Z,556nm,21.0s						
I20K	Naaghedenel	90.73	15	IAMs_20	IAMs_20	20 07 55.0	
	comp=Z,633nm,19.0s						
G18K	Tagagawik	90.75	13	IAmb	IAmb	19 35 14.8	
	comp=Z,19nm,1.6s						
G18K				IAMs_20	IAMs_20	20 10 53.2	
	comp=Z,748nm,21.0s						
G18K	Tagagawik	90.75	13	P	P	19 35 11.1	+0.3
	baz=210						
NV11	Mina Array Sit	90.78	49	IAmb	IAmb	19 35 23.8	
	comp=Z,14nm,0.9s						
FURC	Furnace Creek,	90.82	51	P	P	19 35 13.2	+1.5
	baz=244						
GWY	Greenwater Val	90.83	51	P	P	19 35 11.4	-0.7
GWY				IAmb	IAmb	19 35 22.2	
	comp=Z,13nm,1.0s						
H19K	Roundabout Mou	90.90	14	IAMs_20	IAMs_20	20 09 53.3	
	comp=Z,474nm,20.0s						
H19K	Roundabout Mou	90.90	14	P	P	19 35 12.0	+0.6
	baz=212						
SLBS	Sierra La Lagu	90.93	65	P	P	19 35 13.0	+0.3
GMRC	Granite Mounta	90.96	53	P	P	19 35 12.2	-0.4
	baz=244,SNR=5.3						
PALK	Pallekele	90.96	277	IAMs_20	IAMs_20	20 14 17.9	
	comp=Z,523nm,20.0s						
PALK	Pallekele	90.96	277	LR	LR	20 15 47.3	
	comp=Z,234nm,21.8s,baz=229,slow=35						
K05A	Summer Lake	90.96	44	IAmb	IAmb	19 35 22.0	
	comp=Z,13nm,0.8s						
J05D	Fort Rock, OR	91.02	43	IAmb	IAmb	19 35 22.2	
	comp=Z,14nm,0.8s						
TUQ	Turquoise Moun	91.05	52	P	P	19 35 13.7	+0.6
	baz=244						
IRM	Iron Mountain	91.07	54	P	P	19 35 13.6	+0.5
	baz=244,SNR=13						
H04A	Detroit Lake	91.10	42	IAmb	IAmb	19 35 28.8	
	comp=Z,11nm,0.9s						
KVN	Kaiserville	91.11	48	IAmb	IAmb	19 35 26.9	
	comp=Z,12nm,1.0s						
WCT	Wildcat Mounta	91.13	51	IAmb	IAmb	19 35 23.8	
	comp=Z,18nm,1.1s						
H20K	Anotleneega Mo	91.22	14	P	P	19 35 13.5	+0.5
	baz=213						
DHY	Denali Highway	91.23	18	IAMs_20	IAMs_20	20 10 43.5	
	comp=Z,724nm,21.0s						
G19K	Purcell Mounta	91.29	13	P	P	19 35 13.8	+0.5
	baz=211						
MCARA	McCarthy VSAT	91.33	21	P	P	19 35 14.5	+0.9
	baz=224						
PNL	Peninsula	91.40	23	P	P	19 35 15.3	+1.3
	baz=227						
PINE	Pine Mountain	91.45	43	IAmb	IAmb	19 35 28.9	
	comp=Z,19nm,1.0s						
NLWA	Neilton Lookou	91.46	39	P	P	19 35 13.9	-0.7
NLWA				IAmb	IAmb	19 35 26.5	
	comp=Z,11nm,1.0s						
NLWA				IAMs_20	IAMs_20	20 07 11.8	
	comp=Z,582nm,22.0s						
TPNV	Topopah Spring	91.47	51	IAmb	IAmb	19 35 27.3	
	comp=Z,13nm,0.9s						
TPNV	Topopah Spring	91.47	51	P	P	19 35 15.5	+0.5
	baz=244,SNR=14						
S31K	Pelican	91.49	26	P	P	19 35 15.4	+1.1
	baz=230						
BARN	Barnard Glacie	91.56	22	P	P	19 35 13.1	-1.8
BARN				IAmb	IAmb	19 35 15.4	
	comp=Z,19nm,1.1s						
CTG	Chitna Glacier	91.61	22	P	P	19 35 14.3	-0.8
	baz=225						
U33K	Whale Pass	91.64	28	P	P	19 35 15.5	+0.5
	baz=232						
I21K	Tanana	91.65	15	IAMs_20	IAMs_20	20 08 55.4	
	comp=Z,743nm,21.0s						
C16K	Lisburne Hills	91.69	9	P	P	19 35 16.7	+1.6
	baz=204						
E18K	Tukpahlearik C	91.71	11	IAMs_20	IAMs_20	20 08 17.6	
	comp=Z,697nm,22.0s						
BBB	Bella Bella	91.71	33	LR	LR	20 08 28.1	
	comp=Z,249nm,20.5s,baz=233,slow=30						
NEE2	Needles Airpor	91.72	53	P	P	19 35 17.0	+0.9
	baz=245						
F19K	Shaleruckik Mo	91.74	13	P	P	19 35 14.8	-0.5
F19K				IAmb	IAmb	19 35 48.3	
	comp=Z,18nm,1.6s						
F19K				IAMs_20	IAMs_20	20 12 32.5	
	comp=Z,617nm,20.0s						
F19K	Shaleruckik Mo	91.74	13	P	P	19 35 15.9	+0.6
	baz=211						
V35K	Ketchikan	91.84	30	P	P	19 35 17.5	+1.5
	baz=233						
H21K	Melozitna Rive	91.84	15	P	P	19 35 17.0	+1.1
H21K				IAMs_20	IAMs_20	20 11 39.4	
	comp=Z,652nm,20.0s						
H21K	Melozitna Rive	91.84	15	P	P	19 35 16.4	+0.5
	baz=215						
MLY	Manley	91.85	16	P	P	19 35 17.0	+1.0
	baz=217						

baz=246
NEA2 Nenana 91.94 17 P P 19 35 17.6 +1.3
baz=219
V12A Nelson 91.96 52 IAmb IAmb 19 35 30.5
comp=Z,14nm,1.1s
CBB Campbell River 91.99 36 P P 19 35 15.6 -1.3
CBB IAmb IAmb 19 35 27.9
comp=Z,12nm,0.9s
P29M Windy Craggy 92.00 24 P P 19 35 18.1 +1.3
baz=228
CLRS Cowichan Lake 92.05 38 P P 19 35 16.3 -0.8
CLRS IAmb IAmb 19 35 28.3
comp=Z,9.8nm,1.0s
SHPR Sheep Range 92.07 51 IAmb IAmb 19 35 20.6
comp=Z,18nm,1.7s
M26K Nabesna, AK 92.08 20 IAMs_20 IAMs_20 20 08 16.9
comp=Z,538nm,20.0s
M26K Nabesna, AK 92.08 20 P P 19 35 19.4 +2.3
baz=224
ZAK Zakamensk 92.09 324 *e*P P **19 35 17.2 -0.3**
ZAK pmax pmax
comp=Z,23nm,1.2s
K24K Donnelly Dome 92.26 18 P P 19 35 18.6 +0.7
baz=222
WVOR Wild Horse Val 92.29 45 IAMs_20 IAMs_20 20 08 26.3
comp=Z,560nm,21.0s
I23K Minto, Yukon-K 92.30 16 P P 19 35 18.7 +0.8
baz=218
F20K Avaraart Lake 92.35 13 P P 19 35 18.7 +0.6
baz=213
HDA Harding Lake 92.38 18 P P 19 35 17.3 -1.1
HDA IAmb IAmb 19 35 27.2
comp=Z,18nm,1.4s
HDA Harding Lake 92.38 18 P P 19 35 18.2 -0.2
baz=220
H22K Ishtalitna Cre 92.38 15 P P 19 35 19.0 +0.6
baz=217
E19K Redstone River 92.38 12 P P 19 35 19.2 +0.9
baz=211
G21K Allakaket 92.39 14 P P 19 35 17.9 -0.5
G21K IAmb IAmb 19 36 11.4
comp=Z,23nm,1.7s
G21K Allakaket 92.39 14 P P 19 35 18.6 +0.3
baz=215
PLBC Pleasant Camp 92.41 25 P P 19 35 19.1 +0.5
baz=230
W13A Hualapai Mount 92.41 53 P P 19 35 19.1 -0.4
W13A IAmb IAmb 19 35 30.2
comp=Z,25nm,1.5s
M27K Edge Creek, AK 92.41 21 P P 19 35 19.3 +0.6
baz=225
L26K Log Cabin Wild 92.42 20 IAmb IAmb 19 38 44.5
comp=Z,15nm,1.6s
L26K Log Cabin Wild 92.42 20 P P 19 35 19.2 +0.5
baz=224
YUK3 Moose Creek 92.48 22 P P 19 35 18.0 -1.2
baz=226
R11B Troy Canyon, C 92.56 50 P P 19 35 20.9 +0.8
baz=244,SNR=6.1
YUK6 Outpost Mounta 92.65 23 P P 19 35 20.0 0.0
baz=228
IL31 92.67 17 P P 19 35 17.9 -1.7
ILAR Eielson Array 92.67 17 P **P 19 35 17.8 -1.9**
comp=Z,1.0nm,0.8s,baz=228,slow=5.7,SNR=10
comp=Z,1.0nm,0.8s
C18K Utukok River 92.69 11 IAMs_20 IAMs_20 20 10 07.6
comp=Z,576nm,20.0s
H23K Yukon River 92.78 16 IAMs_20 IAMs_20 20 09 52.3
comp=Z,464nm,20.0s
H23K Yukon River 92.78 16 P P 19 35 22.2 +1.9
baz=218
POKR Poker Plat Res 92.79 17 P P 19 35 19.8 -0.4
baz=220
BVCY Beaver Creek 92.79 21 P P 19 35 22.3 +1.9
baz=226
YUK4 Talbot Arm 92.82 23 P P 19 35 21.6 +0.9
baz=228
J08A Circle Bar Ran 92.83 44 P P 19 35 19.9 -1.2
J08A IAmb IAmb 19 35 23.4
comp=Z,9.6nm,0.9s
HYT Haines Junctio 92.88 23 P P 19 35 21.5 +0.5
baz=229
SCRK Sand Creek 92.92 19 P P 19 35 20.8 -0.2
baz=223
L27K Beaver Creek, 92.93 20 P P 19 35 21.4 +0.4
baz=225
F21K Alatna River 92.98 14 IAMs_20 IAMs_20 20 10 58.2
comp=Z,551nm,21.0s
F21K Alatna River 92.98 14 P P 19 35 21.6 +0.5
baz=215
J25K Salcha River, 92.98 18 IAMs_20 IAMs_20 20 17 36.7
comp=Z,516nm,19.0s
D19K Kuna River 93.11 12 IAMs_20 IAMs_20 20 11 58.6
comp=Z,523nm,19.0s
G22K Bettles 93.18 15 P P 19 35 22.3 +0.3
baz=216
H24K Noodor Dome 93.22 16 P P 19 35 22.6 +0.3
baz=220
E20K Nigu River 93.28 12 P P 19 35 22.0 -0.5
baz=212
G23K Bananza Creek 93.37 15 IAMs_20 IAMs_20 20 09 46.6
comp=Z,696nm,22.0s
O30N Mendenhall 93.37 24 P P 19 35 22.4 -0.6
baz=230
G08A Pilot Rock 93.41 42 P P 19 35 22.7 -1.0
G08A IAmb IAmb 19 35 33.4
comp=Z,8.4nm,1.0s
J26L Joseph Creek 93.43 19 P P 19 35 22.5 -0.8
baz=224
N30M Aishikik Lake 93.45 23 IAMs_20 IAMs_20 20 07 59.3
comp=Z,693nm,20.0s
N30M Aishikik Lake 93.45 23 P P 19 35 23.4 -0.1
baz=229
F22K John River 93.50 14 P P 19 35 24.0 +0.5
baz=216
P32M Atlin 93.54 25 P P 19 35 23.2 -0.7
baz=232
K27K Chicken 93.54 19 IAmb IAmb 19 35 44.5
comp=Z,16nm,1.4s
K27K Chicken 93.54 19 P P 19 35 23.1 -0.6
baz=225
HAWA Hanford 93.56 41 P P 19 35 22.9 -1.4
HAWA IAmb IAmb 19 35 35.8
comp=Z,24nm,1.6s
D20K Etivluk River 93.58 12 P P 19 35 24.5 +0.6
baz=212
S34M Telegraph Cree 93.59 28 P P 19 35 23.9 -0.2
baz=234
PRP Porcupine Dome 93.62 17 IAMs_20 IAMs_20 20 11 11.4
comp=Z,636nm,20.0s
PRP Porcupine Dome 93.62 17 P P 19 35 23.0 -1.3
baz=222
M29M Somme Creek 93.62 22 P P 19 35 22.9 -1.4
M29M Somme Creek 93.62 22 P P 19 35 23.6 -0.7
baz=228
TUC Tucson 93.64 57 P P 19 35 25.7 +0.7
baz=247
LCMT Little Creek M 93.68 52 P P 19 35 23.8 -1.4
SPR3 Spring Creek 3 93.72 49 IAmb IAmb 19 35 27.8
comp=Z,26nm,1.9s
Q32M Nakina River 93.74 26 P P 19 35 23.7 -1.3
baz=233
WHY Whitehorse 93.76 24 P P 19 35 24.4 -0.5
baz=231
ELK Elko 93.83 48 P P 19 35 24.7 -1.2
ELK IAMs_20 IAMs_20 20 08 47.1
comp=Z,493nm,18.0s
ELK Elko 93.83 48 P P 19 35 24.7 -1.2
ELK pmax pmax
comp=Z,2.0nm,1.0s
ELK MLR MLR
comp=Z,500nm,18.0s
ELK Elko 93.83 48 LR LR 20 08 48.3
comp=Z,350nm,22.0s,baz=301,slow=30
E21K Killik River 93.88 13 IAMs_20 IAMs_20 20 13 20.1
comp=Z,697nm,20.0s
N31M Braeburn, Yuko 93.95 23 P P 19 35 26.1 +0.4
baz=230
G24K Hadweenzic Riv 93.99 16 P P 19 35 25.8 +0.1
baz=220
SZCU Shurtz Canyon 94.03 51 IAmb IAmb 19 35 38.6
comp=Z,16nm,1.4s
A19K Wainwright 94.10 10 P P 19 35 27.7 +1.5
baz=208
H25L Birch Creek 94.10 17 P P 19 35 27.9 +1.7
baz=222
I26K Coal Creek Min 94.14 18 P P 19 35 25.1 -1.3
I26K IAmb IAmb 19 35 45.5
comp=Z,10nm,1.2s
I26K IAMs_20 IAMs_20 20 07 30.1
comp=Z,598nm,22.0s
U15A North Rim 94.14 52 IAmb IAmb 19 35 43.7
comp=Z,17nm,1.0s
L29M L29M 94.18 21 IAmb IAmb 19 35 27.5
comp=Z,25nm,1.6s
L29M L29M 94.18 21 P P 19 35 26.4 -0.4
baz=228
M30M Minto, Yukon 94.29 22 IAmb IAmb 19 35 46.0
comp=Z,11nm,1.1s
M30M IAMs_20 IAMs_20 20 08 20.5
comp=Z,603nm,20.0s
M30M Minto, Yukon 94.29 22 P P 19 35 26.9 -0.4
baz=229
C21K Knifeblade Rid 94.31 12 P P 19 35 27.6 +0.4
baz=214
EGAK Eagle 94.35 19 IAmb IAmb 19 35 46.2
comp=Z,18nm,1.4s
EGAK Eagle 94.35 19 P P 19 35 26.7 -0.7
baz=226
DLBC Dease Lake 94.38 28 P P 19 35 26.6 -1.2
baz=235
DLBC Dease Lake 94.38 28 LR LR 20 09 39.9
comp=Z,682nm,21.3s,baz=273,slow=30
G25K Bearman Lake 94.40 16 P P 19 35 29.7 +2.1
baz=221
DAWY Dawson 94.41 20 P P 19 35 26.7 -1.2
DAWY IAmb IAmb 19 35 47.2
comp=Z,9.5nm,1.1s
DAWY Dawson 94.41 20 P P 19 35 27.3 -0.5
baz=227
WUAZ Wupatki 94.45 54 IAmb IAmb 19 35 31.4
comp=Z,10nm,1.0s
WUAZ Wupatki 94.45 54 P P 19 35 29.5 +0.6
baz=247
FYU Fort Yukon 94.48 17 IAMs_20 IAMs_20 20 10 45.1
comp=Z,575nm,20.0s
D22K Ayikyak River 94.51 13 P P 19 35 29.5 +1.4
baz=216
F24K Squaw Lake 94.52 15 IAMs_20 IAMs_20 20 11 42.2
comp=Z,661nm,21.0s
F24K Squaw Lake 94.52 15 P P 19 35 27.5 -0.7
baz=220
E23K Chandalar 94.53 14 P P 19 35 28.4 0.0
baz=218
R33M Jennings River 94.54 26 IAmb IAmb 19 35 39.6
comp=Z,20nm,1.4s
R33M Jennings River 94.54 26 P P 19 35 28.6 0.0
baz=234
MFID Camas Ranch 94.58 45 P P 19 35 27.4 -1.7
MFID IAMs_20 IAMs_20 20 09 36.7
comp=Z,672nm,21.0s
I27K Kandik River 94.80 18 P P 19 35 28.9 -0.6
baz=225
E24K Your Creek 94.81 15 IAMs_20 IAMs_20 20 10 54.7
comp=Z,558nm,21.0s
E24K Your Creek 94.81 15 P P 19 35 29.5 0.0
baz=219
K29M Barlow Dome 94.88 21 P P 19 35 28.7 -1.4
baz=229
TOLK Toolik Lake Re 95.00 14 IAMs_20 IAMs_20 20 10 44.8
comp=Z,619nm,22.0s
TOLK Toolik Lake Re 95.00 14 P P 19 35 27.5 -2.9
baz=218
H03S2 Juan Fernandez 95.09 129 T T 21 20 59.2
baz=243
H03S1 Juan Fernandez 95.10 129 T T 21 20 59.4
baz=243
H03S3 Juan Fernandez 95.11 129 T T 21 20 44.7
baz=243
G26K Porcupine Rive 95.15 17 P P 19 35 30.6 -0.5
baz=223
I28M Miner Creek 95.19 19 P P 19 35 31.1 -0.3
baz=227
E25K Arctic Village 95.56 16 P P 19 35 32.6 -0.3
baz=222
D24K Happy Valley 95.57 14 P P 19 35 32.5 -0.4
baz=219
HLID Hailey 95.57 45 P P 19 35 33.8 0.0
baz=245
F26K Sheenjek River 95.60 16 P P 19 35 33.2 0.0
baz=223
I29M Ogilvie Camp, 95.64 20 P P 19 35 31.7 -1.7
I29M Ogilvie Camp, 95.64 20 P P 19 35 32.5 -0.8
baz=228
G27K Doyon Strip 95.64 18 IAMs_20 IAMs_20 20 13 11.8
comp=Z,582nm,20.0s
G27K Doyon Strip 95.64 18 P P 19 35 32.3 -1.0
baz=225
C23K Itkillik River 95.72 13 P P 19 35 35.2 +1.6
baz=217
NEW Newport 95.87 40 LR LR 20 13 26.5
comp=Z,247nm,19.1s,baz=262,slow=32
I30M Mount Dempster 96.16 20 IAMs_20 IAMs_20 20 08 56.7
comp=Z,535nm,20.0s
H29M Whitestone 96.19 19 P P 19 35 35.7 -0.2
baz=228
D25K Kavik River 96.26 15 IAMs_20 IAMs_20 20 11 54.2
comp=Z,506nm,21.0s
D25K Kavik River 96.26 15 P P 19 35 37.4 +1.3
baz=221
E27K Coleen River 96.63 17 P P 19 35 37.4 -0.4
baz=226
F28M Old Crow 96.70 18 P P 19 35 39.4 +1.3
baz=227
TGTN Hyland Airport 96.86 25 P P 19 35 39.0 0.0
baz=236
PLCA Paso Flores 96.92 139 P P 19 35 40.3 +0.3
comp=Z,2.7nm,1.0s,baz=162,slow=3.2,SNR=1.9
PLCA LR LR 20 16 53.8
comp=Z,54nm,18.0s,baz=222,slow=34
comp=Z,2.7nm,1.0s
TIXI Tiksi 97.07 348*ce*P Pdif 19 35 50.3 +11
H31M Peel River 97.18 20 P Pdif 19 35 41.3 +0.9
baz=232
MSO Missoula 97.22 42 IAMs_20 IAMs_20 20 10 39.4
comp=Z,662nm,21.0s
MSO Missoula 97.22 42 P P 19 35 39.6 -1.6
baz=246
G30M tAoh Zraii Nji 97.34 19 P P 19 35 40.0 -1.1
baz=230
E28M Babbage River 97.47 17 IAmb IAmb 19 36 01.6
comp=Z,7.6nm,1.3s
E28M Babbage River 97.47 17 P P 19 35 41.6 0.0
baz=227
D27M Malcolm River 97.53 16 IAMs_20 IAMs_20 20 19 09.8
comp=Z,568nm,19.0s
MNTX Cornudas Mount 97.67 59 IAmb IAmb 19 36 25.2
comp=Z,17nm,2.0s
MNTX Cornudas Mount 97.67 59 P P 19 35 42.7 -0.7
baz=249
ANMO Albuquerque 97.97 56 LR LR 20 13 23.9
comp=Z,336nm,18.9s,baz=348,slow=31
TX31 Lajitas Ar. Si 98.23 62 P P 19 35 44.0 -2.1
TX32 Lajitas Array 98.23 62 P P 19 35 43.7 -2.3
TX32 IAmb IAmb 19 35 56.5
comp=Z,8.6nm,1.4s
TXAR Lajitas Array 98.23 62 P Pdif 19 35 46.7 +0.6
comp=Z,2.0nm,1.1s,baz=224,slow=5.2,SNR=7.3
TXAR LR LR 20 11 07.4
comp=Z,493nm,21.7s,baz=235,slow=30
comp=Z,2.0nm,1.1s
PDAR Pinedale Array 98.53 47 P P 19 35 47.2 0.0
comp=Z,0.2nm,0.4s,baz=193,slow=3.7,SNR=0.5
PDAR LR LR 20 16 27.7
comp=Z,142nm,18.7s,baz=260,slow=33
comp=Z,0.2nm,0.4s
WMQ Urumqi 98.65 314 *e*P Pdif 19 35 49.0 +1.4
WMQ LR LR
comp=Z,100nm,19.7s
INK Inuvik 98.98 19 LR LR 20 16 56.6
comp=Z,326nm,19.5s,baz=182,slow=33
SDCO Great Sand Dun 99.67 53 IAMs_20 IAMs_20 20 09 34.0
comp=Z,497nm,19.0s
833A Chaparral WMA, 101.44 64 P Pdif 19 35 58.9 -1.3
baz=252
AMTX Amarillo 101.65 57 P Pdif 19 35 59.9 -1.2
baz=252
C36M Paulatuk 102.42 20 P Pdif 19 36 04.3 +0.7
baz=241
MKAR Makanchi Array 103.24 315 PKiKP **PKiKP 19 40 27.2 0.0**
comp=Z,0.5nm,0.6s,baz=96,slow=1.2,SNR=2.5
MKAR PKKPbc **PKKPbc 19 52 02.2 -2.1**
comp=Z,1.2nm,0.8s,baz=274,slow=3.0,SNR=7.9
ZALV Zalesovo Beam 103.86 323 PKKPbc PKKPbc 19 52 00.1 -2.5
comp=Z,0.4nm,0.4s,baz=262,slow=2.9,SNR=2.4
CBKS Cedar Bluff 104.31 54 IAMs_20 IAMs_20 20 15 10.4
comp=Z,372nm,19.0s
OK029 Liberty Lake 105.22 57 IAMs_20 IAMs_20 20 16 20.3
comp=Z,436nm,20.0s
OK052 Battle Ridge R 105.78 57 IAMs_20 IAMs_20 20 22 07.2
comp=Z,405nm,20.0s
KURBB Kurchatov Arra 106.68 318 PKiKP **PKiKP 19 40 32.9 -0.5**
comp=Z,0.9nm,0.8s,baz=104,slow=1.6,SNR=5.5
KURBB PKKPbc **PKKPbc 19 51 51.6 -2.2**
comp=Z,0.3nm,0.8s,baz=281,slow=2.9,SNR=2.4
MSEY Mahe Island 109.77 256 IAMs_20 IAMs_20 20 21 50.0
comp=Z,474nm,20.0s
CCM Cathedral Cave 110.59 56 P PKiKP 19 40 40.1 -1.0
baz=258
BVAR Borovoye Array 112.08 320 PKiKP **PKiKP 19 40 42.2 -1.3**
comp=Z,2.0nm,0.7s,baz=109,slow=2.3,SNR=13
BVAR PKKPbc **PKKPbc 19 51 34.5 -2.0**
comp=Z,0.5nm,0.5s,baz=268,slow=5.0,SNR=5.0
BRVK Borovoye 112.15 320*c i*PKiKP **PKiKP 19 40 43.1 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,1.3s
JFWS Jewell Farm 112.23 51 P PKiKP 19 40 42.4 -1.7
baz=261
P49A Miami Univ. Ec 115.87 56 P PKiKP 19 40 51.4 +0.3
baz=262
TZTN Tazewell 116.37 59 P PKPdf 19 40 51.5 -0.7
baz=262
ACSO Alum Creek Sta 117.27 55 P PKPdf 19 40 53.5 -0.3
baz=264
SVE Sverdlovsk 117.85 324 *e*PKiKP **PKPdf 19 40 53.8 -0.6**
SVE pmax pmax
comp=Z,8.0nm,1.1s
P52A Corning 117.86 56 P PKPdf 19 40 54.2 -0.8
baz=264
SIV San Ignacio 118.35 123 PKP **PKPdf 19 40 56.6 0.0**
comp=Z,1.3nm,0.8s,baz=238,slow=0.7,SNR=7.2
ABKAR Akbulak array 118.39 315 PKPdf **PKPdf 19 40 54.4 -1.3**
ABKAR Akbulak array 118.39 315 PKPdf PKPdf 19 40 54.9 -0.8
ARU Arti 119.02 323 PKPdf **PKPdf 19 40 55.0 -1.6**
ARU Arti 119.02 323 *i* PKiKP **PKPdf 19 40 56.6 0.0**
ARU 19 42 15.2
ARU 19 48 05.9
ARU SP SP 19 52 09.3 +8.8
GEYT Alibeck 119.06 302 PKPdf **PKPdf 19 40 55.0 -2.4**
GEYT Alibeck 119.06 302 PKP **PKiKP 19 40 58.0 +0.6**
comp=Z,2.4nm,1.0s,baz=107,slow=1.5,SNR=5.3
ERPA Erie 119.68 53 P PKiKP 19 40 60.0 +1.5
baz=267
PTLB Pontes e Lacer 120.17 124 PKPdf **PKPdf 19 40 58.4 -1.7**
SPITS Spitsbergen Ar 122.00 354 PKP **PKPdf 19 41 01.5 -0.4**
comp=Z,5.7nm,0.9s,baz=126,slow=4.1,SNR=21
KIRV Kirov 123.56 327*c i*PKiKP **PKiKP 19 41 05.9 +0.4**
LONY Lake Ozonia 123.65 50 P PKPdf 19 41 05.8 -0.1
baz=272
PRGR Permogore 124.51 331 *e*PKiKP **PKPdf 19 41 05.8 -1.2**
PRGR pmax pmax
comp=Z,10.0nm,0.9s
L61B Northampton 125.11 53 P PKPdf 19 41 08.4 -0.4
baz=272
LBNH Lisbon 125.57 50 P PKiKP 19 41 09.9 -0.1
baz=274
HRV Adam Dziewonsk 125.93 53 P PKPdf 19 41 09.3 -1.0
baz=273
KIBK Kibwezi 126.34 250 IAMs_20 IAMs_20 20 32 39.6
comp=Z,342nm,20.0s
ARCES ARCESS Array B 127.35 345 PKP **PKPdf 19 41 10.7 -1.6**
comp=Z,2.3nm,0.7s,baz=64,slow=2.8,SNR=8.3
PKME Peaks-Kenny Pk 127.35 49 P PKPdf 19 41 12.0 -1.0
baz=276
ATD Arta Tunnel 127.52 268 IAMs_20 IAMs_20 20 30 37.8
comp=Z,381nm,21.0s
KLMR Klimovskoe 127.54 331 *e*PKPdf **PKPdf 19 41 11.7 -1.1**
KLMR AMP 19 41 23.0
comp=Z,34nm,1.2s
KLMR Klimovskoe 127.54 331 *e*PKiKP **PKPdf 19 41 11.7 -1.1**
KLMR pmax pmax
comp=Z,34nm,1.2s
BDFB Brasilia 128.18 133 PKPdf **PKPdf 19 41 12.3 -3.3**
BDFB Brasilia 128.18 133 PKP **PKPdf 19 41 13.4 -2.2**
comp=Z,12nm,1.0s,baz=216,slow=0.9,SNR=9.2
FURI Furi 130.51 263 IAMs_20 IAMs_20 20 32 46.7
comp=Z,316nm,21.0s
KIV Kislovodsk 130.60 310 *i* PKiKP **PKiKP 19 41 20.2 0.0**
KIV pmax pmax
comp=Z,13nm,1.0s
OBN Obninsk 131.34 326 *i* PKiKP **PKiKP 19 41 21.0 -0.2**
OBN *e* 19 41 27.4
OBN *e* 19 43 39.7
OBN *e*PPP PPP 19 46 27.8
OBN pmax pmax
comp=Z,27nm,1.7s
OBN Obninsk 131.34 326 PKP **PKiKP 19 41 21.6 +0.5**
comp=Z,9.6nm,0.4s,baz=146,slow=7.3,SNR=4.0
FINES FINESS Array B 132.71 337 PKP **PKiKP 19 41 23.6 -0.2**
comp=Z,4.8nm,1.0s,baz=46,slow=5.5,SNR=5.2
SOC Sochi 132.79 310 *i* PKiKP **PKPdf 19 41 23.6 +0.2**
SOC *e* 19 43 46.7
SOC *e*PS **PS 19 54 04.4 -1.6**
NACGM Naroch 136.38 329 *e*PKP **PKPdf 19 41 26.6 -3.0**
comp=Z,38nm,1.0s,baz=56
AKASG Malin Array Be 137.26 323 PKP **PKPdf 19 41 30.7 -0.8**
comp=Z,2.1nm,0.6s,baz=59,slow=2.0,SNR=8.1
AKBB Malin Array Si 137.26 323*c i*PKiKP **PKiKP 19 41 34.2 +0.9**
NB2 NORSAR Subarra 137.72 344 PKPdf **PKPdf 19 41 31.2 -0.9**
comp=Z,3.7nm,1.0s,baz=20,slow=1.8
NOA NORSAR Array B 137.72 344 PKP **PKPdf 19 41 31.7 -0.4**
comp=Z,0.6nm,0.7s,baz=40,slow=4.9,SNR=3.9
BRTR Keskin Array B 138.01 306 PKP **PKiKP 19 41 34.5 -0.9**
comp=Z,1.1nm,0.6s,baz=104,slow=6.1,SNR=2.3
SUW Suwalki 138.60 330 *e*PKPdf **PKPdf 19 41 33.0 -0.8**
LVV L'vov 140.59 324 *e*PKiKP **PKiKP 19 41 42.2 +2.0**
BURAR Bucovina Array 141.03 320 ⇑P **PKiKP 19 41 40.5 -0.8**
BURAR Bucovina Array 141.03 320 ⇑PKiKP **PKiKP 19 41 40.5 -0.8**
KWP Kalwaria Pacla 141.41 325 *e*PKPdf **PKPdf 19 41 34.2 -5.0**
MLR Muntele Rosu 141.56 317 ⇑P **PKiKP 19 41 42.4 -0.1**
MLR Muntele Rosu 141.56 317 ⇑PKiKP **PKiKP 19 41 42.4 -0.1**
DOPR Dopca 141.70 318 ⇓P **PKiKP 19 41 43.2 +0.6**
GKP Gorka Klasztor 141.76 333 *e*PKPdf **PKPdf 19 41 39.6 0.0**
KOLS Kolonicke sedl 142.03 324 *e*PKP **PKPdf 19 41 41.0 +0.7**
KOLS Kolonicke sedl 142.03 324 *e*PKiKP **PKPdf 19 41 41.0 +0.7**
TRPA Tarpa 142.32 323 ⇑P **PKPdf 19 41 35.9 -4.9**
ARR Arges 142.44 317 ⇑P **PKPdf 19 41 41.3 +0.1**
CRVS Cervenica-Dubn 142.49 324 *e*PKP **PKiKP 19 41 45.1 +0.9**
CRVS Cervenica-Dubn 142.49 324 *e*PKiKP **PKiKP 19 41 45.1 +0.9**
OJC Ojcow 142.58 327 *e*PKPdf **PKPdf 19 41 40.5 -0.6**
OJC Ojcow 142.58 327 PKPdf **PKPdf 19 41 39.7 -1.5**
OJC Ojcow 142.58 327 PKiKP **PKPdf 19 41 39.7 -1.5**
MARR Marisel-Cluj 142.74 320 ⇑P **PKPdf 19 41 38.9 -2.8**
NIE Niedzica 142.81 326 *e*PKPdf **PKiKP 19 41 44.0 -0.8**
LANS Liptovska Anna 143.41 326 *e*PKP **PKPdf 19 41 43.1 +0.4**
LANS Liptovska Anna 143.41 326 *e*PKiKP **PKPdf 19 41 43.1 +0.4**
GZR Gura Zlata 143.59 319 ⇓P PKPbc 19 41 41.1 +0.5
GZR Gura Zlata 143.59 319 PKHKP PKPpre 19 41 41.1
SURR Surduc 143.81 319 ⇑P PKPbc 19 41 41.7 +0.5
SIRR Siria 143.82 320 ⇑P PKPbc 19 41 42.3 +1.1
KSP Ksiaz 143.87 330 *e*PKPdf PKPbc 19 41 41.4 +0.2
MPEP Malo Peshtene 143.91 315 *e*P **PKPdf 19 41 43.9 +0.2**
PSZ Piszkesteto 143.91 324 ⇑P PKPbc 19 41 41.6 +0.1
PSZ Piszkesteto 143.91 324 PKPdf PKPbc 19 41 41.5 +0.1
PSZ Piszkesteto 143.91 324 ⇑PKiKP PKPbc 19 41 41.6 +0.1
PGB Panagyurishte 143.97 313 *e*P PKPab 19 41 41.5 +0.3
MORC Moravsky Berou 143.99 328 ⇑P **PKPdf 19 41 43.3 -0.4**
MORC Moravsky Berou 143.99 328 PKPpre 19 41 37.7
MORC Moravsky Berou 143.99 328 *e*PKP **PKPdf 19 41 42.8 -0.9**
MORC Moravsky Berou 143.99 328 ⇑PKiKP **PKPdf 19 41 43.3 -0.4**
DJES Djerdap 144.10 318 ⇑P PKPbc 19 41 42.2 +0.2
OSTC Ostas 144.10 330 *e*PKP PKPbc 19 41 42.7 +0.8
OSTC Ostas 144.10 330 *e*PKiKP PKPbc 19 41 42.7 +0.8
MAUC Maruska 144.11 327 *e*PKP **PKPdf 19 41 43.7 -0.3**
MAUC *ex* 19 41 51.4
VYHS Vyhne 144.14 325 *e*PKP PKPbc 19 41 43.0 +0.9
VYHS Vyhne 144.14 325 *e*PKiKP PKPbc 19 41 43.0 +0.9
KRLC Kraliky 144.16 329 *e*PKP PKPbc 19 41 42.6 +0.5
KRLC Kraliky 144.16 329 *e*PKiKP PKPbc 19 41 42.6 +0.5
BZS Buzias 144.18 320 ⇑P PKPbc 19 41 42.8 +0.5
BZS Buzias 144.18 320 ⇑PKiKP PKPbc 19 41 42.8 +0.5
DPC Dobruska-Polom 144.19 330 *e*PKP PKPbc 19 41 42.5 +0.3
DPC *ep*PKP pPKPdf 19 41 51.3 -0.2
DPC Dobruska-Polom 144.19 330 *e*PKiKP PKPbc 19 41 42.5 +0.3
DPC *e* 19 41 51.3
UPC Upice 144.23 330 *e*PKP PKPbc 19 41 42.6 +0.3
UPC Upice 144.23 330 *e*PKiKP PKPbc 19 41 42.6 +0.3
GORT1 Trebel 144.34 337 *e*PKPbc PKPbc 19 41 43.1 +0.7
baz=37,slow=2.8
JAVC Velka Javorina 144.52 327 *e*PKP **PKPdf 19 41 45.8 +1.1**

MDVR	Moldovita	144.54 318	⇑P	PKPbc	19 41 44.1	+0.5
VTS	Vitosha	144.56 314	eP	PKPbc	19 41 44.2	+0.4
MMB	Musomishta	144.65 312	eP	PKPab	19 41 43.8	0.0
VRAC	Vranov	144.76 328	⇑P	PKPdf	19 41 45.1	0.0
VRAC	Vranov	144.76 328	ePKP	PKPdf	19 41 44.7	-0.4
VRAC	Vranov	144.76 328	⇑PKIKP	PKPdf	19 41 45.1	0.0
SMOL	Smolenice	144.86 326	ePKIKP	PKPdf	19 41 46.0	+0.8
PVCC	Panska Ves	144.87 331	ePKP	PKPbc	19 41 44.7	+0.4
PVCC			epPKP	pPKPdf	19 41 52.2	-0.4
PVCC	Panska Ves	144.87 331	ePKIKP	PKPbc	19 41 44.7	+0.4
PVCC			e		19 41 52.2	
FLTG	Flechtingen	144.89 336	ePKPbc	PKPbc	19 41 44.7	+0.4
	baz=37,slow=2.8					
BRG	Berggiesshubel	144.90 332	i PKIKP	PKPdf	19 41 45.6	+0.4
BRG					19 41 54.3	
BRG			pmax	pmax		
	comp=Z,82nm,1.1s					
BRG			pmax	pmax		
	comp=Z,95nm,1.1s					
BRG	Berggiesshubel	144.90 332	ePKPbc	PKPdf	19 41 45.9	+0.7
	baz=37,slow=2.8					
BRG	Berggiesshubel	144.90 332	i PKP	PKPdf	19 41 45.6	+0.4
BRG			Amp		19 41 47.8	
	comp=Z,82nm,1.1s					
BRG	Berggiesshubel	144.90 332	P	PKiKP	19 41 54.4	+5.4
BRG			Amp		19 41 56.3	
	comp=Z,95nm,1.1s					
KKB	Krupnik	144.95 313	eP	PKPbc	19 41 45.1	+0.2
CLL	Collm	144.98 333	PKPdf	PKPab	19 41 43.5	-1.1
CLL	Collm	144.98 333	⇓iPKIKP	PKPbc	19 41 44.9	+0.3
CLL			i		19 41 48.5	
CLL			i		19 41 52.9	
CLL			pmax	pmax		
	comp=Z,52nm,0.9s					
CLL	Collm	144.98 333	ePKPbc	PKPdf	19 41 45.2	-0.1
	baz=37,slow=2.8					
CLL	Collm	144.98 333	⇓iPKPdf	PKPbc	19 41 44.9	+0.3
	comp=Z,52nm,0.9s					
CLL			i PKiKP	PKiKP	19 41 48.5	-0.6
CLL			i (pPKiKP)		19 41 52.9	
CLL			ePP	PP	19 45 12.0	+8.9
CLL			ePSKS		19 55 12.0	
CLL			eSS	SS	20 04 00.0	+9.3
CLL			ex	x	20 04 42.0	
CLL			eSSS	SSS	20 09 18.0	
CLL			AMS	AMS	20 49 00.0	
	comp=N,100nm,19.4s					
CLL			AMS	AMS	20 49 00.0	
	comp=E,100nm,20.7s					
CLL			AMS	AMS	20 49 00.0	
	comp=Z,200nm,18.5s					
KRUC	Moravsky	145.02 328	ePKP	PKPdf	19 41 45.3	-0.2
MODS	Modra-Piesok	145.03 326	ePKP	PKPdf	19 41 46.4	+0.8
MODS	Modra-Piesok	145.03 326	ePKIKP	PKPdf	19 41 46.4	+0.8
BOVS	Bovan	145.10 317	⇑P	PKPbc	19 41 44.9	-0.3
FBE	Freiberg	145.12 333	ePKPbc	PKPdf	19 41 46.2	+0.6
	baz=37,slow=2.8					
NRDL	Niedersach Rie	145.18 337	ePKPbc	PKPdf	19 41 45.8	+0.3
	baz=37,slow=2.8					
GOPC	GO Pecny, Ondr	145.21 330	ePKP	PKPdf	19 41 46.0	+0.2
GOPC			epPKP	sPKPab	19 41 54.3	-1.1
GOPC	GO Pecny, Ondr	145.21 330	ePKIKP	PKPdf	19 41 46.0	+0.2
GOPC			e		19 41 54.3	
ZST	Bratislava	145.23 326	ePKP	PKPdf	19 41 47.1	+1.2
ZST	Bratislava	145.23 326	ePKIKP	PKPdf	19 41 47.1	+1.2
RETH	Rethem/Aller,	145.24 338	ePKPbc	PKPdf	19 41 46.1	+0.4
	baz=37,slow=2.8					
PRA	Prague	145.26 331	ePKP	PKPdf	19 41 45.9	+0.1
PRA	Prague	145.26 331	ePKIKP	PKPdf	19 41 45.9	+0.1
ASSE	Asse, Remlinge	145.26 336	ePKPbc	PKPdf	19 41 46.3	+0.6
	baz=37,slow=2.8					
PRU	Pruhonice	145.27 331	ePKP	PKPbc	19 41 45.5	-0.1
PRU			epPKP	pPKPdf	19 41 53.5	+0.2
PRU	Pruhonice	145.27 331	ePKIKP	PKPbc	19 41 45.5	-0.1
PRU			e		19 41 53.5	
TREC	Trest	145.31 329	ePKP	PKPdf	19 41 46.2	+0.2
TREC			epPKP	pPKPdf	19 41 53.9	+0.4
TREC	Trest	145.31 329	ePKIKP	PKPdf	19 41 46.2	+0.2
TREC			e		19 41 53.9	
HSKC	Hora Svate Kat	145.32 332	ePKP	PKPdf	19 41 46.1	+0.1
FRGS	Fruska Gora	145.51 320	⇑P	PKPab	19 41 47.6	+0.7
FRGS	Fruska Gora	145.51 320	eP	PKPbc	19 41 46.6	0.0
VAY	Valandovo	145.55 312	i P	PKPdf	19 41 45.8	-0.8
NEUB	Neuenburg	145.56 334	ePKPbc	PKPab	19 41 47.4	+0.7
	baz=37,slow=2.8					
MORH	Mrgy, Hungar	145.60 322	⇑P	PKPdf	19 41 46.6	+0.1
CLZ	Clausthal	145.60 336	ePKPbc	PKPab	19 41 47.8	+0.8
	baz=37,slow=2.8					
STIP	Stip	145.66 313	i P	PKPab	19 41 47.6	+0.2
ZVC	Zvikov	145.82 330	ePKP	PKPab	19 41 47.8	0.0
ZVC			ex	x	19 41 56.5	
EKA	Eskdalemuir Ar	145.89 352	PKPbc	PKPdf	19 41 46.4	-0.3
	comp=Z,5.3nm,0.6s,baz=0.5,slow=2.2,SNR=22					
WERD	Werda	145.92 333	ePKPbc	PKPab	19 41 48.6	+0.5
	baz=37,slow=2.8					
PLN	Plauen	145.95 333	ePKPbc	PKPab	19 41 48.6	+0.4
	baz=37,slow=2.8					
DIVS	Divibare	145.95 318	PKPdf	PKPdf	19 41 46.5	-0.9
DIVS	Divibare	145.95 318	eP	PKPbc	19 41 48.0	-0.1
RONA	Rosalia, Austr	145.96 326	i PKP	PKPab	19 41 48.9	+0.5
	comp=Z,116nm,1.7s,SNR=26					
GUNZ	Gunzen	145.97 333	ePKPbc	PKPab	19 41 48.8	+0.4
	baz=37,slow=2.8					
GTTG	Gottingen	145.99 336	ePKPbc	PKPab	19 41 48.9	+0.5
	baz=37,slow=2.8					
TEKS	Tekeris	146.00 319	eP	PKPdf	19 41 46.9	-0.4
WERN	Wernitzgruen	146.01 333	ePKPbc	PKPab	19 41 49.2	+0.7
	baz=37,slow=2.8					
NKC	Novy Kostel	146.02 333	ePKP	PKPab	19 41 48.6	0.0
NKC			epPKP	sPKPbc	19 41 57.9	-0.1
NKC	Novy Kostel	146.02 333	ePKP2	PKPab	19 41 48.6	0.0
SKO	Skopje	146.04 314	i P	PKPbc	19 41 48.3	-0.1
CONA	Conrad Observa	146.04 327	ePKP	PKPdf	19 41 47.6	+0.2
	comp=Z,4.1nm,1.4s,SNR=61					
CONA			ePKiKP	PKPab	19 41 49.7	+0.9
	comp=Z,112nm,1.8s					
CONA			eSKP		19 45 15.5	
	comp=Z,7.1nm,1.5s					
MOX	Moxa	146.05 334	ePKPbc	PKPab	19 41 48.7	+0.1
	baz=37,slow=2.8					
MOX			eL	L	20 50 34.9	
	comp=Z,144nm,19.5s					
IBBN	Ibbenburen	146.15 339	ePKPbc	PKPab	19 41 48.8	-0.1
	baz=37,slow=2.8					
CKRC	Cesky Krumlov	146.20 329	ePKP	PKPdf	19 41 47.7	+0.2
CKRC			ex	x	19 41 57.5	
CKRC	Cesky Krumlov	146.20 329	ePKP2	PKPdf	19 41 47.7	+0.2
KHC	Kasperske Hory	146.32 330	PKPdf	PKPdf	19 41 47.1	-0.7
KHC	Kasperske Hory	146.32 330	ePKP	PKPdf	19 41 47.6	-0.2
KHC			epPKP	PKiKP	19 41 53.0	+0.9
KHC			ex	x	19 41 57.5	
KHC	Kasperske Hory	146.32 330	ePKP2	PKPdf	19 41 47.6	-0.2
MANZ	Manzenberg	146.35 333	ePKPbc	PKPab	19 41 50.1	+0.3
	baz=37,slow=2.8					
SJES	Sjenica	146.39 317	eP	PKPab	19 41 50.2	-0.1
BBLS	Lazići	146.43 318	eP	PKPbc	19 41 49.7	+0.2
GEC2	GERESS Array S	146.47 330	ePKPbc	PKPab	19 41 50.3	-0.1
	baz=37,slow=2.8					
GERES	GERESS Array B	146.47 330		PKPdf	19 41 47.6	-0.5
GERES	GERESS Array B	146.47 330	PKPbc	PKPdf	19 41 48.1	0.0
	comp=Z,20nm,0.7s,baz=42,slow=2.2,SNR=74					
ROTZ	Rotzenmuhle	146.47 332	ePKPbc	PKPab	19 41 50.2	-0.1
	baz=37,slow=2.8					
WET	Wettzell	146.63 331	ePKPbc	PKPab	19 41 50.9	0.0
	baz=37,slow=2.8					
ARSA	Arzberg	146.66 326	i PKP	PKPab	19 41 50.7	-0.4
	comp=Z,21nm,1.1s,SNR=5.6					
KASTN	Kahler Asten	146.84 337	ePKPbc	PKPab	19 41 51.1	-0.6
	baz=37,slow=2.8					
OHR	Ohrid	146.85 313	i P	PKPdf	19 41 48.6	-0.4
MOA	Molln	146.89 328	i PKP	PKPbc	19 41 50.7	+0.1
	comp=Z,44nm,1.4s,SNR=15					
GRF	Grafenberg Arr	146.95 333	ePKPbc	PKPab	19 41 51.7	-0.5
	baz=37,slow=2.8					
GRF			eL	L	20 39 09.1	
	comp=Z,112nm,20.6s					
BUG	Bochum--Univer	147.04 339	ePKPbc	PKPbc	19 41 51.3	+0.5
	baz=37,slow=2.8					
PDG	Podgorica	147.26 316	⇑P	PKPbc	19 41 52.4	+0.6
PDG	Podgorica	147.26 316		PKPbc	19 41 51.1	-0.6
PDG	Podgorica	147.26 316	eP	PKPdf	19 41 50.5	+1.0
BLY	Banja Luka	147.28 321	eP	PKPbc	19 41 51.3	-0.5
SOKA	Soboth	147.28 326	i PKP	PKPdf	19 41 49.1	-0.4
	comp=Z,22nm,1.0s,SNR=16					
A051A	Mrakovica	147.29 322	eP	PKPbc	19 41 51.6	-0.3
BIOA	Bad Ischl, Aus	147.31 328	i PKP	PKPdf	19 41 49.1	-0.4
	comp=Z,19nm,1.4s,SNR=7.1					
DRME	Dracevica, Mon	147.42 316	eP	PKPdf	19 41 50.2	+0.4
BRY	Bratogost	147.47 317	eP	PKPbc	19 41 52.1	-0.5
MGRS	Mrkonjic Grad	147.53 321	eP	PKPbc	19 41 53.0	+0.4
CRES	Cresnjev	147.60 324	eP	PKPbc	19 41 52.8	+0.1
TNS	Taunus Mts	147.63 336	ePKPbc	PKPbc	19 41 53.5	+0.9
	baz=37,slow=2.8					
OBKA	Obir	147.65 326	ePKP	PKPbc	19 41 53.0	+0.1
	comp=Z,18nm,1.1s					
OBKA	Obir	147.65 326	eP	PKPdf	19 41 50.0	-0.1
RJOB	Jochberg	147.68 329	ePKPbc	PKPbc	19 41 53.2	+0.3
	baz=37,slow=2.8					
HCY	Herceg Novi	147.74 317	eP	PKPbc	19 41 52.8	-0.3
AHRW	Bad Neuenahr-A	147.86 338	ePKPbc	PKPbc	19 41 53.7	+0.5
	baz=37,slow=2.8					
KBA	Koelnbreinsper	147.87 328	ePKP	PKPbc	19 41 53.6	0.0
	comp=Z,36nm,1.3s					
BOJS	Bojanci	147.92 324	eP	PKPbc	19 41 53.9	+0.4
BOJS	Bojanci	147.92 324	i PKPbc	PKPbc	19 41 54.0	+0.4
BOJS			i		19 42 02.6	
LESA	Schwarzleotal	147.96 329	ePKP	PKPdf	19 41 50.0	-0.6
	comp=Z,4.1nm,1.0s					
LESA			ePKiKP	PKPbc	19 41 53.9	+0.3
	comp=Z,55nm,1.4s					
LJU	Ljubljana	147.96 325	i PKPdf	PKPdf	19 41 50.9	+0.4
LJU			i PKPbc	PKPbc	19 41 53.8	+0.1
LJU			i		19 42 02.5	
STON	Ston	148.01 318	eP	PKPbc	19 41 53.2	-0.6
MYKA	Terra Mystica	148.03 327	i PKP	PKPbc	19 41 53.5	-0.3
	comp=Z,43nm,1.5s,SNR=11					
FUR	Furstenfeldbru	148.07 331	ePKPbc	PKPbc	19 41 54.5	+0.7
	baz=37,slow=2.8					
BTNL	Ternell	148.15 339	dPKiKP	PKPbc	19 41 54.1	+0.1
MEM	Membach	148.17 339	dPKiKP	PKPbc	19 41 54.4	+0.4
MEM			dPKP	pPKPab	19 42 03.9	-0.1
PRED	Cave del Predi	148.20 327		PKPdf	19 41 52.6	+1.6
CEY	Cerknica	148.21 325	eP	PKPbc	19 41 53.9	-0.4
CEY	Cerknica	148.21 325	i PKPbc	PKPbc	19 41 54.5	+0.1
BSTI	Sart Tilman	148.33 340	dPKiKP	PKPbc	19 41 54.6	+0.1
BHOU	Houvegnez	148.39 339	dPKiKP	PKPbc	19 41 55.4	+0.8
SABO	M.te Sabotino	148.49 326		PKPdf	19 41 48.3	-3.1
SABO				PKPbc	19 41 54.2	-0.8
STU	Stuttgart	148.50 334	PKPdf	PKPdf	19 41 48.6	-2.7
STU				PKPbc	19 41 55.2	+0.3
STU	Stuttgart	148.50 334	PKHKP	PKPpre	19 41 48.6	
STU					19 41 55.2	
ABTA	Abfaltersbach	148.51 328	ePKP	PKPdf	19 41 50.0	-1.6
	comp=Z,6.2nm,0.9s,SNR=22					
CLUD	Cludinico	148.53 327		PKPdf	19 41 49.6	-1.9
WATA	Walderalm	148.54 330	ePKP	PKPdf	19 41 51.8	+0.1
	comp=Z,11nm,1.3s					
WATA			i PKP	PKPbc	19 41 55.2	-0.1
	comp=Z,8.1nm,0.7s,SNR=6.5					
SKDS	Skadanscina	148.56 325	eP	PKPbc	19 41 53.8	-1.4
BCLA	Clavier	148.56 340	dPKiKP	PKPbc	19 41 55.2	+0.2
BCLA			dpPKiKP	pPKPbc	19 42 02.3	-0.1
WTTA	Wattenberg	148.57 330	ePKP	PKPdf	19 41 51.6	-0.1
	comp=Z,17nm,0.8s,SNR=20					
BGES	Gesves	148.66 340	dPKiKP	PKPbc	19 41 55.1	-0.2
STAL	STALIGIAL	148.75 327		PKPdf	19 41 49.3	-2.6
MOTA	Moosalm	148.76 330	ePKP	PKPdf	19 41 51.7	-0.3
	comp=Z,7.4nm,1.1s					
MOTA			i PKiKP	PKPbc	19 41 56.0	+0.1
	comp=Z,21nm,0.8s,SNR=13					
SQTA	Sankt Quirin	148.80 330	ePKP	PKPdf	19 41 52.1	0.0
	comp=Z,11nm,1.4s					
SQTA			i PKiKP	PKPbc	19 41 56.1	+0.2
	comp=Z,16nm,0.6s,SNR=11					
RCHB	Rochefort	148.81 340	dPKiKP	PKPbc	19 41 56.1	+0.5
BMRD	Maredsous	148.83 340	dPKiKP	PKPbc	19 41 56.1	+0.3
CIMO	Cimolais	148.85 328		PKPdf	19 41 50.4	-1.7
WLF	Walferdange	148.92 338	dPKiKP	PKiKP	19 41 56.8	-0.6
WLF	Walferdange	148.92 338	ePKPbc	PKiKP	19 41 57.3	0.0
	baz=37,slow=2.8					
UBR	Ueberruh	148.95 332	ePKPbc	PKPbc	19 41 56.6	+0.4
	baz=37,slow=2.8					
DOU	Dourbes	149.07 340	dPKiKP	PKPbc	19 41 56.4	0.0
DOU			dsPKiKP	sPKPbc	19 42 06.3	-0.1
FETA	Feichten	149.17 330	ePKP	PKPdf	19 41 52.6	-0.1
	comp=Z,16nm,0.9s,SNR=35					
BFO	Black Forest	149.20 334	PKPdf	PKPdf	19 41 49.6	-2.9
BFO				PKPbc	19 41 55.9	-0.9
BFO	Black Forest	149.20 334	PKP2	PKPbc	19 41 55.9	-0.9
BFO	Black Forest	149.20 334	ePKPbc	PKPbc	19 41 57.1	+0.3
	baz=37,slow=2.8					
DAVA	Damuels	149.35 331	i PKP	PKPdf	19 41 53.8	+0.8
	comp=Z,11nm,0.7s,SNR=11					
DAVA			ePKiKP	PKPbc	19 41 57.8	+0.5
	comp=Z,24nm,1.1s					
FUORN	Ofenpass-Fuorn	149.68 330	PKPdf	PKPdf	19 41 53.1	-0.5
FUORN			PKPbc	PKPbc	19 41 58.4	+0.1
FUORN			PKPab	sPKPbc	19 42 07.4	-0.9
ECH	Echery	149.76 335	PKPdf	PKPdf	19 41 52.0	-1.5
ECH				PKPbc	19 41 57.0	-1.1
ECH	Echery	149.76 335	PKIKP	PKPdf	19 41 52.0	-1.5
ECH					19 41 57.0	
MATE	Matera	149.80 315	⇑P	PKiKP	19 41 59.1	-0.3
TUE	Stuetta	150.21 331	PKPdf	PKPdf	19 41 52.0	-2.5
TUE				PKPbc	19 41 60.0	+0.4
INTR	Introdacqua	150.82 320		PKPbc	19 41 59.9	-1.1
CESX	Cesi	151.24 322	PKPdf	PKPdf	19 41 53.2	-2.7
CESX				PKPbc	19 41 59.8	-2.1
CESX			PKPab	pPKPbc	19 42 09.0	-0.3
BNI	Bardonecchia	152.49 332	PKPdf	PKPdf	19 41 55.1	-2.8
BNI				PKPbc	19 42 04.4	-0.4
BNI			PKPab	pPKPbc	19 42 13.3	+1.1
BNI			IAMs_20	IAMs_20	20 53 28.4	
	comp=Z,202nm,20.0s					
SSB	Saint Sauveur	153.20 335	PKPdf	PKPdf	19 41 56.1	-2.7
SSB			PKPbc	PKPbc	19 42 05.8	-0.4
SSB				pPKPbc	19 42 14.1	+0.5
SSB	Saint Sauveur	153.20 335	PKIKP	PKPbc	19 42 05.8	-0.4
SSB					19 42 14.1	
ESDC	Sonseca Array	161.07 343	PKP	PKPdf	19 42 08.8	-0.2
	comp=Z,0.2nm,0.4s,baz=45,slow=2.0,SNR=2.4					
ESDC			PKPab	PKPab	19 42 51.2	-0.7
	comp=Z,0.8nm,0.9s,baz=4.6,slow=4.0,SNR=5.2					
DBIC	Dimbokro	163.87 203	PKP	PKPdf	19 42 11.9	-0.5
	comp=Z,2.3nm,0.9s,baz=72,slow=3.2,SNR=1.8					
DBIC			PKPab	PKPab	19 43 03.7	-1.0
	comp=Z,7.5nm,1.0s,baz=119,slow=6.6,SNR=4.9					
TORD	Torodi Ar. Bea	165.11 237	PKP	PKPdf	19 42 11.9	-1.5
	comp=Z,2.1nm,1.0s,baz=223,slow=0.6,SNR=8.7					
TORD			PKPab	PKPab	19 43 08.5	-1.8
	comp=Z,3.1nm,1.1s,baz=87,slow=3.0,SNR=4.6					

*IDC **31** 19:24:29.8±1.0, 5°.02S×133°.80E, h0km, mb3.9/9, mbtmp4.0/13, ML4.4/4, MS4.5/1, Error ellipse: s-maj=34.7km s-min=18.6km az=75.0*
*DJA **31** 19:24:33.4±0.5, 5°.5S±4°.×13°.4E±°, h66km±29km, M4.5/7, mb4.8/7, MLv4.3/7*
*NEIC **31** 19:24:33.1±1.9, 4°.87S±0°.06×134°.10E±0°.10, h33km±6km, mb4.3/13, Error ellipse: s-maj=13.9km s-min=8.2km az=78.0*

ISC 31 19:24:32.3±0.5, 5°.05S±0°.05×134°.04E±0°.06, h28km, n63, σ1§91/68, mb4.1/16, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	1.42	346	P		Pn	19 24 56.1	-0.2
FAKI	Fak Fak	2.77	320			Pn	19 25 13.7	-1.2
FAKI				Sn		Sn	19 25 44.2	-3.2
FAKI	Fak Fak	2.77	320	P		Pn	19 25 13.7	-1.2
FAKI	Fak Fak	2.77	320	P		Pn	19 25 13.6	-1.2
RKPI	Ransiki, Papua	3.52	2	P		Pn	19 25 26.3	+1.2
SAUI	Saumlaki	3.99	223	Pn		Pn	19 25 35.1	+3.4
SAUI				Sn		Sn	19 26 21.7	+4.2
BNDI	Bandanaira	4.16	277	P		Pn	19 25 35.5	+1.5
BNDI	Bandanaira	4.16	277	P		Pn	19 25 35.3	+1.3
SWI	Sorong	5.00	326	P		Pn	19 25 45.7	+0.1
GENI	Genyem	6.58	68	P		Pn	19 26 10.0	+2.8
KDU	Kakadu	7.75	191	P		Pn	19 26 25.8	+2.5
MTN	Manton Dam	8.26	200			Pn	19 26 32.4	+2.1
MTN				Sn		Sn	19 28 03.3	+0.5
MTN	Manton Dam	8.26	200	P		Pn	19 26 32.9	+2.5
SOEI	Soe	10.76	244			Pn	19 27 04.7	-0.1
SOEI	Soe	10.76	244	P		Pn	19 27 07.0	+2.2
SOEI	Soe	10.76	244	P		Pn	19 27 05.6	+0.8
	39nm,0.6s							
BBSI	Bau Bau	11.43	267	P		Pn	19 27 15.6	+1.7
	26nm,1.1s							
BATI	Baumata	11.49	243	P		Pn	19 27 15.1	+0.4
	32nm,0.6s							
BATI	Baumata	11.49	243	Pn		Pn	19 27 13.2	-1.5
	6.6nm,0.3s,baz=101,slow=3.8,SNR=8.8							
BATI				Sn		Sn	19 29 19.2	-3.0
	3.0nm,0.3s,baz=250,slow=8.7,SNR=3.6							
	12nm,0.5s							
KMSI	Cibinong	11.50	299	P		Pn	19 27 15.4	+0.6
	27nm,1.0s							
KNRA	Kununurra	11.77	206	Pn		Pn	19 27 18.8	+0.4
KNRA	Kununurra	11.77	206	P		Pn	19 27 20.2	+1.8
LUWI	Luwuk	11.94	289	Pn		Pn	19 27 18.1	-2.6
MMRI	Maumere	12.25	252	Pn		Pn	19 27 23.7	-1.3
COEN	Coen	12.62	135			Pn	19 27 29.3	-0.8
COEN	Coen	12.62	135	P		Pn	19 27 29.8	-0.3
WB0	Warramunga Arr	14.63	179	P		Pn	19 27 56.1	-1.5
WRA	Warramunga Arr	14.81	179	P		Pn	19 27 57.2	-2.7
WRA	Warramunga Arr	14.81	179	Pn		Pn	19 27 59.5	-0.4
	0.7nm,0.3s,baz=0.3,slow=13,SNR=19							
WRA				Sn		Sn	19 30 38.5	-4.7
	1.0nm,0.3s,baz=9.7,slow=20,SNR=4.5							
	1.9nm,0.5s							
WB2	Warramunga Arr	14.81	179	P		Pn	19 27 57.6	-2.4
WR0	Warramunga Arr	14.83	178	P		Pn	19 27 59.5	-0.8
PLAI	Plampang	16.58	256	P		P	19 28 25.0	-0.2
	34nm,1.2s							
KAVG	Kavieng	16.90	82	P		Pn	19 28 26.3	-0.7
KRVT	Keravat (AS076	17.94	88	LR		LR	19 37 43.7	
	comp=Z,1µm,18.7s,baz=249,slow=44							
AS31	Alice Springs	18.51	180	P		Pn	19 28 48.5	+1.6
ASAR	Alice Springs	18.51	180	P		Pn	19 28 47.2	+0.3
	2.7nm,0.3s,baz=7.4,slow=11,SNR=43							
ASAR				S		Sn	19 32 07.8	-5.3
	3.7nm,0.8s,baz=4.1,slow=27,SNR=6.5							
	16nm,0.7s							
CTA	Charters Tower	19.09	143	P		Pn	19 28 56.4	+2.5
	0.7nm,0.3s,baz=316,slow=9.7,SNR=1.2							
	7.3nm,0.8s							
CTAO	Charters Tower	19.09	143	P		Pn	19 28 55.2	+1.3
MBWA	Marble Bar	21.20	220			P	19 29 18.0	+2.1
MBWA				IAmb		IAmb	19 29 37.8	
	comp=Z,25nm,1.4s							
PSA00	Pilbara Seismi	21.43	219			P	19 29 19.8	+1.4
PSA00				IAmb		IAmb	19 29 38.3	
	comp=Z,8.8nm,1.1s							
FORT	Forrest	26.21	192	P		P	19 30 06.0	+1.1
STKA	Stephens Creek	27.61	166	P		P	19 30 16.6	-0.9
BBOO	Buckleboo	27.68	176	P		P	19 30 18.4	+0.3
BBOO				IAmb		IAmb	19 30 31.4	
	comp=Z,12nm,1.2s							
KOUNC	Koumac, New Ca	33.17	120	P		P	19 31 04.4	-2.3
CMAR	Chiang Mai Arr	41.75	305	P		P	19 32 20.0	+0.6
	comp=Z,1.1nm,0.9s,baz=132,slow=6.7,SNR=6.4							
	comp=Z,1.1nm,0.9s							
KSRS	Korea Array	42.67	353	P		P	19 32 27.1	+0.6
	comp=Z,1.4nm,0.9s,baz=187,slow=9.2,SNR=2.8							
	comp=Z,1.4nm,0.9s							
PZH	PanZhiHua	44.30	317	P		P	19 32 41.5	+1.4
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,5.0s							
USA0B	Ussuriysk Arra	49.06	358	P		P	19 33 14.4	-2.5
USA0B				IAmb		IAmb	19 33 25.5	
	comp=Z,3.0nm,0.8s							
JKA	Kamikawa-asahi	49.54	8	P		P	19 33 18.8	-1.9
HHC	Hu-ho-hao-te	50.11	338	eP		P	19 33 25.8	+0.6
HHC				pmax		pmax		
	comp=Z,18nm,0.5s							
HHC				pmax		pmax		
	comp=Z,270nm,5.8s							
SONM	Songino Array	58.00	338	P		P	19 34 24.6	+2.0
	comp=Z,0.3nm,0.4s,baz=172,slow=4.4,SNR=2.8							
	comp=Z,0.3nm,0.4s							
WMQ	Urumqi	64.06	324	eP		P	19 35 05.5	+1.7
MKAR	Makanchi Array	68.89	325	P		P	19 35 33.9	-0.7
MKAR	Makanchi Array	68.89	325	P		P	19 35 34.9	+0.3
	comp=Z,1.1nm,0.5s,baz=111,slow=7.7,SNR=8.6							
	comp=Z,1.1nm,0.5s							
MAKZ	Makanchi	69.08	325	P		P	19 35 35.8	0.0
ZALV	Zalesovo Beam	71.70	332	P		P	19 35 53.0	+1.4
	comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=1.7							
	comp=Z,0.4nm,0.5s							
KURBB	Kurchatov Arra	73.03	327	P		P	19 36 00.5	+0.9
	comp=Z,0.7nm,0.2s,baz=127,slow=5.0,SNR=1.1							
	comp=Z,0.7nm,0.2s							
VNDA	Vanda	73.92	174	P		P	19 36 05.7	+1.3
VNDA

TNSS eLg Lg 19 29 45.4
42nm,0.2s
MDOK Medeo 2.61 306 Pg **Pg 19 29 10.9 -2.2**
27nm,0.3s
MDOK Lg Lg 19 29 45.2
102nm,0.4s
MDOK Medeo 2.61 306 ePg **Pg 19 29 10.9 -2.2**
27nm,0.3s
MDOK eLg Lg 19 29 45.2
102nm,0.4s
KOTS Kotyrbulak 2.62 308 Pg **Pg 19 29 11.6 -1.5**
24nm,0.3s
KOTS Lg Lg 19 29 46.3
138nm,0.4s
KOTS Kotyrbulak 2.62 308 ePg **Pg 19 29 11.6 -1.5**
24nm,0.3s
KOTS eLg Lg 19 29 46.4
138nm,0.4s
BLB Baldybastay 2.65 336 Pg **Pb 19 29 10.7 0.0**
50nm,0.3s
BLB Lg Lg 19 29 44.9
140nm,0.2s
DJR Jarkent 2.66 358 Pg **Pb 19 29 10.5 -0.3**
16nm,0.1s
DJR Lg Lg 19 29 44.2
153nm,0.3s
DJR Jarkent 2.66 358 ePg **Pb 19 29 10.5 -0.3**
16nm,0.1s
DJR eLg Lg 19 29 44.2
153nm,0.3s
KNDC Almaty 2.69 306 ⇑Pg **Pb 19 29 11.0 -0.3**
12nm,0.2s
KNDC ⇑Lg Lg 19 29 48.1
278nm,0.8s
AAA Alma-Ata 2.72 305 Pg **Pg 19 29 13.4 -1.7**
55nm,0.2s
AAA Lg Lg 19 29 49.3
192nm,0.4s
AAA Alma-Ata 2.72 305 ePg **Pg 19 29 13.4 -1.7**
55nm,0.2s
AAA eLg Lg 19 29 49.3
192nm,0.4s
KNOS Konyrlen 2.74 348 Pg **Pb 19 29 12.3 +0.1**
71nm,0.1s
KNOS Lg Lg 19 29 47.4
73nm,0.2s
IZV Izvestkoviy 2.82 300 Pg **Pg 19 29 14.4 -2.7**
5.5nm,0.1s
IZV Lg Lg 19 29 51.1
92nm,0.4s
IZV Izvestkoviy 2.82 300 ePg **Pg 19 29 14.4 -2.7**
5.5nm,0.1s
IZV eLg Lg 19 29 51.1
92nm,0.4s
ULHL Ulahol 2.82 283⇑eP **Pb 19 29 11.4 -2.2**
baz=83
ULHL ⇑eS **Sb 19 29 46.9 -1.4**
baz=83
NRN Naryn 2.97 267⇓eP **Pb 19 29 13.6 -2.6**
baz=67
NRN ⇓eS **Sb 19 29 50.7 -2.0**
baz=67
ARXS Arharly 2.98 329 ePg **Pb 19 29 16.5 +0.3**
14nm,0.3s
ARXS eLg Lg 19 29 54.6
92nm,0.3s
MTBS Maitube 2.99 300 Pg **Pg 19 29 17.5 -2.7**
10.0nm,0.2s
MTBS Lg Lg 19 29 56.3
41nm,0.2s
MTBS Maitube 2.99 300 ePg **Pg 19 29 17.5 -2.7**
10.0nm,0.2s
MTBS eLg Lg 19 29 56.3
41nm,0.2s
CHKK Chushkaly 3.08 316 Pg **Pb 19 29 18.6 +0.7**
18nm,0.1s
CHKK Lg Lg 19 29 58.3
148nm,0.2s
CHKK Chushkaly 3.08 316 ePg **Pb 19 29 18.6 +0.7**
18nm,0.1s
CHKK eLg Lg 19 29 58.3
148nm,0.2s
BOOM Boomskoye usch 3.09 287⇓eP **Pb 19 29 14.8 -3.4**
baz=87
BOOM ⇓eS **Sb 19 29 53.3 -2.8**
baz=87
KTBS Karatobe 3.15 311 Pg **Pg 19 29 20.4 -3.0**
20nm,0.2s
KTBS Lg Lg 19 30 01.4
57nm,0.2s
KTBS Karatobe 3.15 311 ePg **Pg 19 29 20.4 -3.0**
20nm,0.2s
KTBS eLg Lg 19 30 01.4
57nm,0.2s
KST Kastek 3.26 296 Pg **Pb 19 29 22.1 +1.2**
11nm,0.4s
KST Lg Lg 19 30 04.3
60nm,0.5s
KST Kastek 3.26 296 ePg **Pb 19 29 22.1 +1.2**
11nm,0.4s
KST eLg Lg 19 30 04.3
60nm,0.5s
KUU Kurty 3.46 311 Pg **Pg 19 29 25.8 -3.5**
6.0nm,0.2s
KUU Lg Lg 19 30 10.7
47nm,0.2s
KUU Kurty 3.46 311 ePg **Pg 19 29 25.8 -3.5**
6.0nm,0.2s
KUU eLg Lg 19 30 10.7
47nm,0.2s
TKM2 Tokmak 2 3.46 293 ⇓Pn **Pb 19 29 21.2 -3.3**
1.3nm,0.2s
TKM2 ⇓Pg **Pg 19 29 29.3 +0.1**
4.4nm,0.4s
TKM2 ⇑Lg Lg 19 30 11.8
24nm,0.4s
TKM2 Tokmak 2 3.46 293⇑eP **Pb 19 29 20.2 -4.3**
baz=93
TKM2 ⇑eS **Sb 19 30 02.4 -4.3**
baz=93
DGS Degeres 3.46 298 ePg **Pb 19 29 25.7 +1.2**
9.2nm,0.3s
DGS eLg Lg 19 30 10.4
22nm,0.3s
TDK Taldyqorghan 3.51 342 ePg **Pb 19 29 25.6 +0.3**
44nm,0.3s
TDK eLg Lg 19 30 10.3
62nm,0.4s
KRBS Karabastau 3.74 304 ePg **Pb 19 29 30.8 +1.6**
14nm,0.5s
KRBS eLg Lg 19 30 19.2
41nm,0.4s
CHMS Chumysh 4.07 291 ⇓Pg **Pg 19 29 40.3 -0.7**
5.4nm,0.8s
CHMS ⇓Lg Lg 19 30 36.5
21nm,0.8s
CHMS Chumysh 4.07 291⇑eP **Pn 19 29 28.4 +3.0**
baz=91
CHMS ⇑eS **Sn 19 30 16.8 +3.7**
baz=91
AAK Ala-Archa 4.17 285⇑eP **Pn 19 29 29.9 +3.1**
baz=86
AAK ⇑eS **Sn 19 30 19.0 +3.4**
baz=86
SGDS Sogindy 4.31 296 Pg **Pg 19 29 42.2 -3.3**
5.5nm,0.2s
SGDS Lg Lg 19 30 38.5
7.9nm,0.4s
USP Ospenovka 4.33 293⇑eP **Pn 19 29 32.1 +3.1**
baz=94
USP ⇑eS **Sn 19 30 22.9 +3.3**
baz=94
AML Almayashu 4.69 278 ⇑Pg **Pg 19 29 53.1 +0.3**
1.1nm,0.8s
AML ⇓Lg Lg 19 31 02.8
6.8nm,1.0s
AML Almayashu 4.69 278⇑eP **Pn 19 29 37.2 +3.0**
baz=78
AML ⇑iS **Sn 19 30 31.8 +3.0**
baz=78
EKS2 Erkin-Say 4.69 284⇑eP **Pn 19 29 37.1 +3.1**
baz=85
EKS2 ⇑eS **Sn 19 30 31.6 +3.1**
baz=85
MRKS Merke 5.11 284 ePg **Pg 19 29 56.7 -4.1**
4.0nm,0.2s
MRKS eLg Lg 19 31 03.8
16nm,0.4s

MK31 Makanchi Array 5.39 17 Pn **Pn 19 29 45.0 +1.6**
0.3nm,0.2s,baz=202,slow=13,SNR=55
MK31 ⇑Sn **Sn 19 30 47.1 +1.6**
2.1nm,0.5s,baz=202,slow=25,SNR=5.2
MK31 ⇑Lg Lg 19 31 09.3
4.1nm,0.5s
KK31 Karatay Array 7.13 285 ⇓Pg **Pg 19 30 37.6 -1.9**
0.3nm,0.3s,baz=90,slow=18,SNR=5.1
KK31 ⇓Lg Lg 19 32 15.2
2.7nm,0.5s

DJA 31 19:29:05.7±0.8,4°S±8°×13°3E±°,h25km±8km,M3.8/7, MLv3.8/7,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.45**	**61**	P	Pn	19 29 16.0	-0.6
FAKI	**Fak Fak**	**1.43**	**312**	P	Pb	19 29 32.5	+0.9
RKPI	**Ransiki, Papua**	**2.51**	**20**	P	Pn	19 29 46.3	+1.4
BNDI	**Bandanaira**	**3.46**	**259**	P	Pn	19 29 57.5	-0.5
SWI	**Sorong**	**3.63**	**326**	P	Pn	19 30 00.3	-0.1
SWI	**Sorong**	**3.63**	**326**	P	Pn	19 30 00.8	+0.4
	61nm,0.7s,1μm						
TNTI	**Ternate**	**7.53**	**308**	P	Pn	19 30 46.2	-7.7

*NEIC **31** 19:34:01.7±1.8,21°.76S±0°.03×169°.00E±0°.04,h10km±1km, mb4.3/13,Error ellipse: s-maj=7.0km s-min=4.2km az=88.0*
*IDC **31** 19:34:02.8±1.9,21°.15S×168°.69E,h0km,mb3.6/3, mbtmp3.6/4,ML3.4/1,Error ellipse: s-maj=71.8km s-min=25.5km az=152.0*
*NOU **31** 19:34:11.3,21°.90S×168°.35E,h0km,MLv3.7/7,Loyalty Islands*
ISC 31 19:34:04.9±2.3,21°.89S±0°.06×168°.82E±0°.10,h28km±14km, n34,σ1$14/39,mb4.3/9,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.84**	**298**		**Pb**	**19 34 19.9**	**-1.0**
MARNC				Sg	**Sn**	**19 34 32.5**	**+0.2**
MARNC	**Mare, Loyalty**	**0.84**	**298**	P	**Pb**	**19 34 20.0**	**-0.9**
PINNC	**Pines Island,**	**1.47**	**240**		**Pb**	**19 34 31.4**	**-0.1**
PINNC				Sn	**Sb**	**19 34 52.9**	**+3.1**
PINNC	**Pines Island,**	**1.47**	**240**	P	**Pb**	**19 34 31.6**	**+0.1**
YATNC	**Mamie plateau,**	**1.80**	**264**	P	**Pb**	**19 34 35.9**	**-1.3**
LIFNC	**LIFOU**	**1.84**	**306**		**Pn**	**19 34 34.9**	**+0.2**
LIFNC				Sn	**Sn**	**19 34 58.0**	**+1.0**
LIFNC	**LIFOU**	**1.84**	**306**	P	**Pb**	**19 34 40.1**	**+2.2**
OUENC	**Ouen Island, N**	**1.91**	**254**	Pn	**Pb**	**19 34 38.3**	**-0.8**
OUENC				Sn	**Sb**	**19 35 01.6**	**-0.9**
OUENC	**Ouen Island, N**	**1.91**	**254**	P	**Pb**	**19 34 38.6**	**-0.5**
DZM	**Mont Dzumac**	**2.22**	**265**		**Pn**	**19 34 40.5**	**+0.7**
DZM	**Mont Dzumac**	**2.22**	**265**	Pn	**Pb**	**19 34 42.5**	**-1.8**
	9.5nm,0.3s,baz=66,slow=21,SNR=6.9						
DZM				Sn	**Sb**	**19 35 10.2**	**-1.2**
	30nm,0.3s,baz=65,slow=19,SNR=10						
	33nm,0.4s						
ONTNC	**Ouen Toro**	**2.24**	**259**		**Pn**	**19 34 41.9**	**+1.8**
ONTNC	**Ouen Toro**	**2.24**	**259**	P	**Pb**	**19 34 43.7**	**-0.9**
NOUC	**Port Laguerre**	**2.35**	**264**	P	**Pb**	**19 34 45.3**	**-1.2**
KOUNC	**Koumac, New Ca**	**4.44**	**287**		**Pn**	**19 35 10.8**	**+0.5**
ARMA	**Armidale**	**17.61**	**238**		**P**	**19 38 09.1**	**-0.1**
CTAO	**Charters Tower**	**21.15**	**271**	P	**P**	**19 38 47.6**	**-0.3**
CTAO				IAmb	IAmb	19 39 24.4	
	comp=Z,20nm,1.4s						
STKA	**Stephens Creek**	**26.18**	**242**	P	**P**	**19 39 36.9**	**-0.3**
BBOO	**Buckleboo**	**30.95**	**242**	P	**P**	**19 40 20.4**	**+0.7**
ASAR	**Alice Springs**	**32.20**	**260**	P	**P**	**19 40 32.4**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=82,slow=9.0,SNR=1.4						
	comp=Z,0.4nm,0.6s						
WB0	**Warramunga Arr**	**32.21**	**267**	P	**P**	**19 40 30.0**	**-0.9**
WB0				IAmb	IAmb	19 40 38.7	
	comp=Z,4.5nm,1.1s						
WB2	**Warramunga Arr**	**32.22**	**267**	P	**P**	**19 40 29.7**	**-1.3**
WB2				IAmb	IAmb	19 40 33.6	
	comp=Z,7.6nm,1.3s						
WRA	**Warramunga Arr**	**32.23**	**267**	P	**P**	**19 40 30.0**	**-1.1**
WRA	**Warramunga Arr**	**32.23**	**267**	P	**P**	**19 40 32.0**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=97,slow=8.2,SNR=1.6						
	comp=Z,0.3nm,0.5s						
FORT	**Forrest**	**37.43**	**248**	P	**P**	**19 41 16.8**	**+1.0**
KNRA	**Kununurra**	**38.35**	**272**	P	**P**	**19 41 23.2**	**-0.5**
SBA	**Scott Base**	**56.03**	**181**	P	**P**	**19 43 41.3**	**+0.7**
SBA				IAmb	IAmb	19 43 53.0	
	comp=Z,3.5nm,1.2s						
QSPA	**South Pole Qui**	**68.18**	**180**	P	**P**	**19 45 01.1**	**-1.4**
BELA	**Belgrano 2**	**79.51**	**175**	P	**P**	**19 46 08.6**	**0.0**
BELA				IAmb	IAmb	19 46 09.6	
	comp=Z,2.7nm,0.7s						
SNAA	**Sanae**	**86.51**	**183**	P	**P**	**19 46 45.7**	**+0.7**
SNAA				IAmb	IAmb	19 46 54.4	
	comp=Z,2.6nm,1.1s						
NVAR	**Mina Array Bea**	**90.83**	**49**	P	**P**	**19 47 05.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=229,slow=7.5,SNR=3.6						
	comp=Z,0.4nm,0.7s						
CLL	**Collm**	**145.12**	**333**	ePKPbc	**PKPab**	**19 53 39.0**	**-0.1**
GERES	**GERESS Array B**	**146.60**	**330**	PKPbc	**PKPab**	**19 53 44.6**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=44,slow=4.1,SNR=11						
FUORN	**Ofenpass-Fuorn**	**149.81**	**330**		**PKPbc**	**19 53 51.3**	**-1.3**

*IDC **31** 19:34:13.0±2.0,20°.96S×168°.09E,h0km,mb3.8/7, mbtmp3.8/7,Error ellipse: s-maj=69.3km s-min=25.4km az=143.0*
ISC 31 19:34:18.2±1.6,21°.0S±0°.3×168°.1E±0°.3,h35km,n9, σ0$70/9,mb3.8/6,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.83**	**235**	Pn	**Pn**	**19 34 47.6**	**+0.4**
	24nm,0.3s,baz=108,slow=19,SNR=9.0						
CTA	**Charters Tower**	**20.44**	**269**	P	**P**	**19 38 51.5**	**-1.2**
	2.4nm,0.7s,baz=343,slow=7.0,SNR=2.6						
	2.4nm,0.7s						
STKA	**Stephens Creek**	**25.98**	**240**	P	**P**	**19 39 47.1**	**-0.6**
	2.4nm,0.8s,baz=79,slow=10,SNR=4.0						
	2.4nm,0.8s						
WRA	**Warramunga Arr**	**31.57**	**266**	P	**P**	**19 40 38.0**	**+0.3**
	1.2nm,1.0s,baz=97,slow=8.8,SNR=3.3						
	1.2nm,1.0s						
ASAR	**Alice Springs**	**31.66**	**259**	P	**P**	**19 40 39.0**	**+0.5**
	1.4nm,0.7s,baz=83,slow=9.4,SNR=8.2						
	1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**78.24**	**295**	P	**P**	**19 46 15.0**	**+0.2**
	0.7nm,0.8s,baz=146,slow=4.0,SNR=4.9						
	0.7nm,0.8s						
SONM	**Songino Array**	**87.98**	**324**	P	**P**	**19 47 05.3**	**+0.6**
	0.3nm,0.5s,baz=90,slow=4.3,SNR=3.1						
	0.3nm,0.5s						
NVAR	**Mina Array Bea**	**90.81**	**49**	P	**P**	**19 47 17.9**	**-0.4**
	0.3nm,0.6s,baz=230,slow=5.5,SNR=2.4						
	0.3nm,0.6s						
GERES	**GERESS Array B**	**145.50**	**330**	PKPbc	**PKPbc**	**19 53 52.7**	**-0.1**
	2.3nm,0.8s,baz=29,slow=3.0,SNR=8.3						

IDC 31 19:37:43.4±3.2,1°.80S×136°.81E,h0km,mb3.5/3, mbtmp3.6/4,ML3.6/1,MS3.9/3,Error ellipse: s-maj=99.2km s-min=27.6km az=75.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.20**	**187**	Pn	P	19 41 57.9	-0.1
	0.2nm,0.3s,baz=9.1,slow=12,SNR=7.5						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**21.92**	**187**	P	P	19 42 38.5	-0.1
	2.2nm,0.7s,baz=13,slow=11,SNR=20						
	2.2nm,0.7s						
JOW	**Kunigami**	**29.63**	**344**	LR	LR	19 55 35.4	
	comp=Z,135nm,18.4s,baz=142,slow=36						
CMAR	**Chiang Mai Arr**	**42.34**	**300**	P	P	19 45 39.5	-0.1
	0.8nm,0.8s,baz=117,slow=7.3,SNR=4.8						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**67.91**	**323**	P	P	19 48 44.0	0.0
	0.3nm,0.7s,baz=115,slow=8.1,SNR=1.8						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**70.20**	**330**	LR	LR	20 19 03.3	
	comp=Z,79nm,21.8s,baz=119,slow=35						
WSAR	**Wadi Sarin**	**79.85**	**294**	LR	LR	20 25 26.6	
	comp=Z,105nm,21.6s,baz=205,slow=36						

*MOS **31** 19:41:04.1±1.0,44°.74N×147°.75E,h77km,mb4.3/4,Error ellipse: s-maj=12.3km s-min=11.1km az=92.6*
*SKHL **31** 19:41:05.9±0.8,44°.20N×147°.70E,h106km±4km,mb5.2/5, msha6.1/6*
*NEIC **31** 19:41:06.1±1.9,44°.4N±0°.1×147°.65E±0°.07,h87km±9km, mb4.4/32,Error ellipse: s-maj=14.7km s-min=7.5km az=187.0*
*IDC **31** 19:41:07.1±3.6,44°.41N×147°.76E,h105km±31km, mb3.6/16,mbtmp4.0/16,MS4.3/2,Error ellipse: s-maj=27.5km s-min=22.4km az=174.0*
*JMA **31** 19:41:07.5±0.3,44°.N±1°×14°.8E±°,h78km,MV4.1/26,E OFF HOKKAIDO*
ISC 31 19:41:05.7±0.9,44°.17N±0°.06×147°.76E±0°.07,h97km±6km, n110,σ1$05/120,mb4.2/36,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.73**	**247**	*e*P	**Pn**	**19 41 23.7**	**+0.5**
SHO				AMB	AMB	19 41 24.4	
	170nm,0.2s						
SHO				*e*S	**Sn**	**19 41 36.0**	**-0.2**
SHO				A	A	19 41 36.3	
	4μm,0.5s						
SHO				A	A	19 41 36.3	
	3μm,0.5s						
SHO	**Shikotan**	**0.73**	**247**	*e*PN	**Pn**	**19 41 23.6**	**+0.4**
SHO				*e*S	**Sn**	**19 41 35.8**	**-0.4**
SHO				pmax	pmax		
	comp=N,67nm,0.2s						
SHO				pmax	pmax		
	comp=E,63nm,0.2s						
SHO				pmax	pmax		
	comp=Z,169nm,0.2s						
SHO				smax	smax		
	comp=N,4μm,0.4s						
SHO				smax	smax		
	comp=E,3μm,0.5s						
KUR	**Kuril'sk**	**1.07**	**4**	*i* P	**Pn**	**19 41 26.7**	**0.0**
KUR				AMB	AMB	19 41 27.3	
	comp=E,890nm,0.3s						
KUR				*i* S	**Sn**	**19 41 41.8**	**-0.6**
KUR				A	A	19 41 42.5	
	comp=E,4μm,0.4s						
KUR				A	A	19 41 42.5	
	comp=E,2μm,0.4s						
KUR	**Kuril'sk**	**1.07**	**4**	*d* iPN	**Pn**	**19 41 26.7**	**0.0**
KUR				pmax	pmax		
	comp=Z,1μm,0.3s						
KUR				pmax	pmax		
	comp=E,367nm,0.4s						
KUR				pmax	pmax		
	comp=N,191nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.38**	**265**	*e*P	**Pn**	**19 41 30.8**	**+0.5**
YUK				AMB	AMB	19 41 31.6	
	comp=N,320nm,0.1s						
YUK				*e*S	**Sn**	**19 41 48.4**	**-0.4**
YUK				A	A	19 41 50.3	
	comp=N,2μm,0.2s						
YUK				A	A	19 41 50.3	
	comp=N,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.38**	**265**	*e*PN	**Pn**	**19 41 30.8**	**+0.5**
YUK				*e*S	**Sn**	**19 41 48.4**	**-0.4**
YUK				pmax	pmax		
	comp=N,131nm,0.1s						
YUK				pmax	pmax		
	comp=E,195nm,0.1s						
YUK				pmax	pmax		
	comp=Z,323nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.1s						
NEM2	**Nemuro 2**	**1.67**	**242**	*e*P	**Pn**	**19 41 34.3**	**+0.4**
NEM2				*e*S	**Sn**	**19 41 54.2**	**-1.1**
NMR	**Nemuro--Hokkai**	**1.68**	**242**	*e*P	**Pn**	**19 41 34.2**	**+0.2**
NMR				*e*S	**Sn**	**19 41 54.2**	**-1.3**
NMR	**Nemuro--Hokkai**	**1.68**	**242**	*e*PN	**Pn**	**19 41 34.2**	**+0.2**
NMR				*e*S	**Sn**	**19 41 54.2**	**-1.3**
RUSJ	**Misakicho**	**1.81**	**269**	*i* PN	**Pn**	**19 41 37.1**	**+1.4**
RUSJ				*e*S	**Sn**	**19 41 58.6**	**0.0**
JRA	**Rausu**	**1.92**	**264**	*e*P	**Pn**	**19 41 38.4**	**+1.3**
JNSB	**Nemuroshibetsu**	**2.03**	**260**	*e*P	**Pn**	**19 41 40.2**	**+1.6**
JNSB				*e*S	**Sn**	**19 42 04.7**	**+1.2**
JKHN	**Kushirohamanak**	**2.18**	**241**	*e*P	**Pn**	**19 41 41.2**	**+0.7**
JKHN				*e*S	**Sn**	**19 42 06.3**	**-0.8**
JNK	**Nakash**	**2.28**	**256**	*e*P	**Pn**	**19 41 43.1**	**+1.4**
JNK				*e*S	**Sn**	**19 42 09.9**	**+0.5**
JAK	**Akkeshi**	**2.52**	**243**	*e*P	**Pn**	**19 41 45.5**	**+0.6**
JAK				*e*S	**Sn**	**19 42 14.0**	**-1.0**
JTKR	**Abashiri--Toko**	**2.79**	**267**	*e*P	**Pn**	**19 41 49.9**	**+1.5**
JAR	**Ashorobuto**	**3.02**	**255**	*e*P	**Pn**	**19 41 53.7**	**+2.0**
JAR				*e*S	**Sn**	**19 42 28.8**	**+1.8**
JOB	**Onbets**	**3.12**	**248**	*e*P	**Pn**	**19 41 54.5**	**+1.5**
JOB				*e*S	**Sn**	**19 42 29.4**	**-0.1**
JMP	**Maruseppu**	**3.18**	**269**	*e*P	**Pn**	**19 41 55.6**	**+1.9**
JCH	**Churui**	**3.56**	**246**	*e*P	**Pn**	**19 41 59.9**	**+0.9**
JCH				*e*S	**Sn**	**19 42 38.7**	**-1.3**
JKA	**Kamikawa-asahi**	**3.72**	**271**	Pn	**Pn**	**19 41 59.4**	**-1.6**
JKA	**Kamikawa-asahi**	**3.72**	**271**	*e*P	**Pn**	**19 42 02.6**	**+1.6**
ASAJ	**Asahikawa**	**3.72**	**271**	P	**Pn**	**19 42 02.6**	**+1.6**
	comp=E,5.9nm,0.4s,baz=56,slow=10,SNR=16						
ERM	**Erimo**	**4.00**	**239**	Pn	**Pn**	**19 42 07.0**	**+2.2**
ERM				Sn	**Sn**	**19 42 47.9**	**-2.7**
JNBK	**Urakawa-nobuka**	**4.12**	**244**	*e*P	**Pn**	**19 42 07.0**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.49**	**310**	Pn	**Pn**	**19 42 09.1**	**-2.3**
YSS	**Yuzh-Sakhalins**	**4.49**	**310**	*e*P	**Pn**	**19 42 11.2**	**-0.2**
YSS				*e*S	**Sn**	**19 43 00.6**	**-1.8**
YSS				A	A	19 43 05.3	
	comp=E,590nm,0.3s						
YSS				A	A	19 43 05.3	
	comp=E,360nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.49**	**310**	*e*PN	**Pn**	**19 42 12.4**	**+1.0**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
JOT	**Ohata**	**5.67**	**243**	*e*P	**Pn**	**19 42 27.6**	**+0.1**
JTM	**Tenmabayashi**	**5.99**	**238**	Pn	**Pn**	**19 42 30.6**	**-1.2**
JMM	**Marumori**	**8.21**	**222**	Pn	**Pn**	**19 43 00.2**	**-1.8**
SONM	**Songino Array**	**28.72**	**292**	P	**P**	**19 46 54.4**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=83,slow=8.2,SNR=3.2						
	comp=Z,0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.13**	**141**	T	T	20 17 58.4	
	baz=330,slow=76,SNR=102						
H11N1	**WAKE ISLAND Hy**	**29.15**	**141**	T	T	20 18 02.0	
	baz=330,slow=76,SNR=81						
H11N3	**WAKE ISLAND Hy**	**29.15**	**141**	T	T	20 18 02.5	
	baz=330,slow=76,SNR=85						
H11S1	**WAKE ISLAND Hy**	**30.12**	**142**	T	T	20 19 07.4	
	baz=332,slow=76,SNR=148						
H11S3	**WAKE ISLAND Hy**	**30.12**	**142**	T	T	20 19 12.4	
	baz=332,slow=76,SNR=123						
H11S2	**WAKE ISLAND Hy**	**30.13**	**142**	T	T	20 19 09.9	
	baz=332,slow=76,SNR=83						
L16K	**Owhat River**	**35.12**	**41**	P	**P**	**19 47 48.5**	**-0.9**
L16K				IAmb	IAmb	19 48 23.0	
	comp=Z,7.8nm,1.4s						
F17K	**Baldwin Pennin**	**35.13**	**33**	P	**P**	**19 47 49.3**	**-0.1**
C18K	**Utukok River**	**35.73**	**29**	P	**P**	**19 47 54.4**	**-0.3**
H18K	**Honhosa River**	**36.04**	**35**	P	**P**	**19 47 58.0**	**+0.7**
H18K				IAmb	IAmb	19 48 36.6	
	comp=Z,9.4nm,1.3s						
G18K	**Tagagawik**	**36.05**	**34**	P	**P**	**19 47 57.6**	**+0.3**
G18K				IAmb	IAmb	19 48 16.4	
	comp=Z,6.5nm,1.4s						
C19K	**Lookout Ridge**	**36.41**	**29**	P	**P**	**19 47 59.4**	**-1.1**
D19K	**Kuna River**	**36.78**	**30**	P	**P**	**19 48 03.0**	**-0.6**
D19K				IAmb	IAmb	19 48 41.5	
	comp=Z,12nm,1.3s						
B20K	**Meade River**	**37.47**	**28**	P	**P**	**19 48 08.7**	**-0.7**
IMAR	**Indian Mountai**	**38.05**	**34**	P	**P**	**19 48 14.8**	**+0.6**
B21K	**Ikpikpuk River**	**38.25**	**29**	P	**P**	**19 48 15.6**	**-0.3**
B21K				IAmb	IAmb	19 48 16.8	
	comp=Z,7.1nm,0.8s						
D22K	**Ayikyak River**	**38.80**	**30**	P	**P**	**19 48 21.2**	**+0.6**
D22K				IAmb	IAmb	19 48 23.7	
	comp=Z,12nm,1.5s						
C23K	**Itkillik River**	**39.66**	**29**	P	**P**	**19 48 27.9**	**+0.2**
C23K				IAmb	IAmb	19 48 28.5	
	comp=Z,4.4nm,1.0s						
D24K	**Happy Valley**	**40.22**	**30**	P	**P**	**19 48 32.3**	**+0.1**
D24K				IAmb	IAmb	19 48 33.3	
	comp=Z,5.3nm,0.6s						
E24K	**Your Creek**	**40.27**	**31**	P	**P**	**19 48 33.9**	**+1.2**
F24K	**Squaw Lake**	**40.47**	**32**	P	**P**	**19 48 35.6**	**+1.2**
F24K				IAmb	IAmb	19 49 01.9	

comp=Z,6.9nm,1.4s
ILAR Eielson Array 40.89 37 P P 19 48 37.0 -0.9
ILAR Eielson Array 40.89 37 P P 19 48 37.0 -0.9
comp=Z,0.4nm,0.6s,baz=274,slow=5.8,SNR=5.6
comp=Z,0.4nm,0.6s
ZALV Zalesovo Beam 41.10 307 P P 19 48 37.9 -1.8
comp=Z,0.4nm,0.4s,baz=46,slow=8.3,SNR=2.6
comp=Z,0.4nm,0.4s
BMAR Burnt Mountain 41.74 32 P P 19 48 44.8 0.0
E27K Coleen River 42.85 31 P P 19 48 54.8 +1.0
BCAR Beaver Creek A 43.30 39 P P 19 48 59.1 +1.6
I28M Miner Creek 43.76 35 P P 19 49 01.8 +0.5
E29M Blow River 44.20 31 P P 19 49 06.3 +1.7
MK31 Makanchi Array 44.78 297 P P 19 49 09.6 0.0
MK31 Makanchi Array 44.78 297 P P 19 49 09.6 0.0
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 44.78 297 P P 19 49 09.5 -0.1
MKAR Makanchi Array 44.78 297 P P 19 49 09.7 +0.1
comp=Z,1.4nm,0.5s,baz=77,slow=9.1,SNR=17
comp=Z,1.4nm,0.5s
MAKZ Makanchi 44.98 298 P P 19 49 10.9 -0.2
MAKZ Makanchi 44.98 298 P P 19 49 10.9 -0.2
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
I30M Mount Dempster 45.27 35 P P 19 49 14.3 +1.0
I30M IAmb IAmb 19 49 17.0
comp=Z,7.8nm,1.4s
KURK Kurchatov 45.66 304 P P 19 49 15.6 -0.8
KURK IAmb IAmb 19 49 16.4
comp=Z,2.2nm,0.5s
KURK Kurchatov 45.66 304 *e*P **P 19 49 16.7 +0.3**
KURK Kurchatov 45.66 304 P P 19 49 16.7 +0.3
KURBB Kurchatov Arra 45.75 304 P P 19 49 16.7 -0.4
comp=Z,1.7nm,0.6s,baz=75,slow=8.5,SNR=18
comp=Z,1.7nm,0.6s
INK Inuvik 45.82 31 P P 19 49 18.5 +1.2
INK IAmb IAmb 19 49 46.5
comp=Z,12nm,1.4s
INK Inuvik 45.82 31 P P 19 49 18.5 +1.2
INK pmax pmax
comp=Z,12nm,1.4s
BVAR Borovoye Array 49.58 309 P P 19 49 46.1 -0.5
comp=Z,0.6nm,0.4s,baz=82,slow=8.6,SNR=5.9
comp=Z,0.6nm,0.4s
BOOM Boomskoye usch 50.70 295 P P 19 49 56.5 +1.0
BOOM IAmb IAmb 19 49 57.3
comp=Z,3.1nm,1.3s
BOOM Boomskoye usch 50.70 295 P P 19 49 56.5 +1.0
BOOM pmax pmax
comp=Z,3.0nm,1.3s
KK31 Karatay Array 53.91 298 P P 19 50 18.9 -0.1
KK31 Karatay Array 53.91 298 P P 19 50 18.9 -0.1
KK31 pmax pmax
comp=Z,3.0nm,1.5s
KKAR Karatay Array 53.91 298 P P 19 50 18.4 -0.6
KKAR Karatay Array 53.91 298 P P 19 50 18.4 -0.6
RES Resolute Bay 54.44 17 P P 19 50 21.3 -1.0
RES Resolute Bay 54.44 17 P P 19 50 21.3 -1.0
RES pmax pmax
comp=Z,10.0nm,1.3s
KAPI Kappang 55.06 215 LR LR 20 10 49.4
comp=Z,189nm,21.2s,baz=127,slow=32
YKA Yellowknife Ar 55.21 34 LR LR 20 14 28.7
comp=Z,545nm,21.9s,baz=246,slow=36
ABKAR Abkulak array 57.15 309 P P 19 50 41.6 -0.5
ABKAR IAmb IAmb 19 50 42.7
comp=Z,3.2nm,0.6s
ABKAR Abkulak array 57.15 309 P P 19 50 41.8 -0.3
ARCES ARCESS Array B 59.01 340 P P 19 50 53.0 -1.8
ARCES ARCESS Array B 59.01 340 P P 19 50 53.0 -1.8
comp=Z,5.6nm,1.0s,baz=40,slow=7.6,SNR=8.5
comp=Z,5.6nm,1.0s
GEYT Alibeck 64.62 299 P P 19 51 34.1 +1.1
GEYT Alibeck 64.62 299 P P 19 51 34.1 +1.1
GEYT pmax pmax
comp=Z,1.0nm,1.0s
GEYT Alibeck 64.62 299 P P 19 51 33.2 +0.3
comp=Z,0.7nm,0.4s,baz=5.7,slow=3.0,SNR=4.5
comp=Z,0.7nm,0.4s
FINES FINESS Array B 64.70 333 P P 19 51 31.2 -1.8
FINES FINESS Array B 64.70 333 P P 19 51 31.4 -1.6
comp=Z,1.6nm,0.6s,baz=36,slow=6.5,SNR=11
comp=Z,1.6nm,0.6s
WRA Warramunga Arr 64.97 194 P P 19 51 36.4 +1.2
comp=Z,0.3nm,0.5s,baz=90,slow=7.4,SNR=1.6
comp=Z,0.3nm,0.5s
PNTR Pine Nut 65.78 58 P P 19 51 41.2 +0.6
PNTR IAmb IAmb 19 52 21.4
comp=Z,2.6nm,0.8s
NC405 NORSAR Array S 69.18 339 P P 19 52 00.8 -0.6
NB201 NORSAR Array S 69.34 339 P P 19 52 01.4 -1.0
NB2 NORSAR Subarra 69.37 339 P P 19 52 01.8 -0.8
comp=Z,0.6nm,0.5s,baz=31,slow=6.5
NOA NORSAR Array B 69.37 339 P P 19 52 01.8 -0.8
comp=Z,0.5nm,0.4s,baz=33,slow=6.5,SNR=12
comp=Z,0.5nm,0.4s
HFS Hagfors 69.48 337 P P 19 52 02.1 -1.1
comp=Z,1.2nm,0.3s,baz=42,slow=4.8,SNR=15
comp=Z,1.2nm,0.3s
KIV Kislovodsk 69.81 312 P P 19 52 07.6 +2.0
KBZ Khabaz 69.85 312 *e*P **P 19 52 06.0 +0.2**
KBZ Khabaz 69.85 312 P P 19 52 06.0 +0.2
KBZ Khabaz 69.85 312 P P 19 52 06.0 +0.2
comp=Z,1.3nm,0.5s,baz=89,slow=3.8,SNR=6.2
comp=Z,1.3nm,0.5s
AKASG Malin Array Be 71.50 324 P P 19 52 14.8 -0.8
comp=Z,1.5nm,0.5s,baz=40,slow=7.4,SNR=5.7
comp=Z,1.5nm,0.5s
BUR08 Bucovina Ar. S 75.55 324 P P 19 52 39.9 +0.4
BUR08 IAmb IAmb 19 53 11.2
comp=Z,4.3nm,1.2s
BURAR Bucovina Array 75.56 324 P P 19 52 40.1 +0.4
GERES GERESS Array B 79.01 331 P P 19 52 58.1 -0.8
comp=Z,0.4nm,0.4s,baz=45,slow=4.7,SNR=4.6
comp=Z,0.4nm,0.4s
TXAR Lajitas Array 82.05 57 P P 19 53 16.3 +0.8
comp=Z,0.4nm,0.6s,baz=309,slow=4.5,SNR=4.6
comp=Z,0.4nm,0.6s

IDC ***31*** *19:41:14.9±0.4,21.74S×168.94E,h0km,mb4.7/26, mbtmp4.8/30,ML4.6/3,MS4.5/39,Error ellipse: s-maj=14.2km s-min=12.5km az=85.0*
BJI ***31*** *19:41:15.3±0.0,21.30S×169.08E,h5km,mb5.0/54, mB5.6/33,Ms5.2/8,Ms7 4.8/8*
MOS ***31*** *19:41:15.4±1.2,21.72S×168.83E,h10km,mb5.5/28,Error ellipse: s-maj=9.8km s-min=8.8km az=29.3*
NEIC ***31*** *19:41:16.4,21.76S×168.90E,h12km*
NEIC ***31*** *19:41:16.3±1.9,21.76S±0.05×168.90E±0.05,h8km±3km, mb5.3/160,Mwr5.1/12,Mww5.3/27,Error ellipse: s-maj=7.3km s-min=6.0km az=194.0,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=6.47; Mθθ=2.23; Mφφ=4.24; Mrθ=-1.34; Mθφ=-3.01; Mφr=0.22; Fault plane solution: M0=6.58000×10^16 NP1:φs=136.19000°, δ=49.82000°,λ=-100.47000°. NP2:φs=332.17000°, δ=41.30000°,λ=-77.86000°. Principal axes: T 6.4818, Plg4.0000°, Azm234.0000°; N 0.1963, Plg8.0000°, Azm143.0000°; P -6.6781, Plg81.0000°, Azm352.0000°;*
NEIC ***31*** *19:41:16.4,21.76S×168.90E,h8km*
NEIC ***31*** *19:41:16.4,21.76S×168.90E,h12km,Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17Nm; Mrr=0.90; Mθθ=0.31; Mφφ=0.59; Mrθ=-0.49; Mθφ=-0.41; Mφr=-0.22; Fault plane solution: M0=1.02000×10^17 NP1: φs=120.78000°,δ=53.68000°,λ=-120.74000°. NP2: φs=345.90000°,δ=46.17000°,λ=-55.19000°. Principal axes: T 0.8870, Plg4.0000°, Azm232.0000°; N 0.2579, Plg24.0000°, Azm140.0000°; P -1.1448, Plg65.0000°, Azm331.0000°;*
NOU ***31*** *19:41:17.7,21.55S×168.88E,h0km,mb5.2/96,Loyalty Islands*
BGR ***31*** *19:41:19.1,21.85S×169.82E,h28km,Ms4.7*
GCMT ***31*** *19:41:21.3±0.1,21.69S±0.01×168.89E±0.01,h12km, MW5.2/135,Moment Tensor Solution. s65,c90; s135,c235; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.81±.01; Mθθ=0.28±.01; Mφφ=0.52±.01; Mrθ=-0.16±.04; Mθφ=-0.40±.01; Mφr=0.04±.04; Best double couple: M0=0.83300×10^17 NP1:φs=136.00000°,δ=50.00000°, λ=-99.00000°. NP2:φs=331.00000°,δ=41.00000°, λ=-79.00000°. Principal axes: T 0.8320, Plg4.0000°,*

Azm233.0000°; N 0.0030, Plg7.0000°, Azm142.0000°; P -0.8350, Plg82.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 31 19:41:17.3±0.4,21.73S±0.04×168.93E±0.04,h15km±2km, h16km:pP-P,n783,σ1§51/757,mb5.2/143,MS4.6/38, 47C-26D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.87**	**286**			**Pb**	**19 41 33.3**	**-0.8**
MARNC						**Sn**	**19 41 46.4**	**-1.0**
MARNC	**Mare, Loyalty**	**0.87**	**286**	P		**Pb**	**19 41 33.7**	**-0.4**
PINNC	**Pines Island,**	**1.63**	**237**	Pn		**Pn**	**19 41 44.5**	**-1.0**
PINNC					Sn	**Sn**	**19 42 05.5**	**-0.6**
PINNC	**Pines Island,**	**1.63**	**237**	P		**Pn**	**19 41 45.3**	**-0.2**
LIFNC	**LIFOU**	**1.83**	**301**	Pn		**Pn**	**19 41 46.5**	**-1.8**
LIFNC					Sn	**Sn**	**19 42 09.0**	**-2.2**
LIFNC	**LIFOU**	**1.83**	**301**	P		**Pn**	**19 41 47.6**	**-0.7**
YATNC	**Mamie plateau,**	**1.92**	**260**	P		**Pn**	**19 41 49.6**	**+0.2**
I22FR	**PORTLAGUERRE I**	**1.98**	**256**	Pn		**Pn**	**19 41 49.7**	**-0.6**
	baz=84,slow=15							
OUENC	**Ouen Island, N**	**2.05**	**250**	Pn		**Pn**	**19 41 50.3**	**-1.0**
OUENC					Sn	**Sn**	**19 42 15.6**	**-1.0**
OUENC	**Ouen Island, N**	**2.05**	**250**	P		**Pn**	**19 41 51.8**	**+0.5**
DZM	**Mont Dzumac**	**2.33**	**261**	*e*Pn		**Pn**	**19 41 53.7**	**-1.5**
	5μm,1.5s							
DZM					*e*Sn	**Sn**	**19 42 21.5**	**-2.1**
	20μm,1.2s							
DZM	**Mont Dzumac**	**2.33**	**261**	Pn		**Pn**	**19 41 54.6**	**-0.6**
DZM					Sn	**Sn**	**19 42 20.7**	**-2.9**
DZM	**Mont Dzumac**	**2.33**	**261**	Pn		**Pn**	**19 41 55.0**	**-0.1**
	86nm,0.3s,baz=86,slow=15,SNR=33							
DZM					Sn	**Sn**	**19 42 21.8**	**-1.9**
	453nm,0.3s,baz=83,slow=20,SNR=10							
DZM					LR	LR	19 42 42.9	
	comp=Z,9μm,20.0s,baz=132,slow=38							
	779nm,0.6s							
ONTNC	**Ouen Toro**	**2.37**	**255**	Pn		**Pn**	**19 41 54.3**	**-1.3**
ONTNC	**Ouen Toro**	**2.37**	**255**	P		**Pn**	**19 41 56.8**	**+1.2**
RTV	**Rentapao**	**3.94**	**353**	P		**Pn**	**19 42 17.9**	**+0.6**
KOUNC	**Koumac, New Ca**	**4.49**	**284**	Pn		**Pn**	**19 42 23.9**	**-0.8**
KOUNC	**Koumac, New Ca**	**4.49**	**284**	P		**Pn**	**19 42 25.8**	**+1.0**
NFK	**Norfolk Island**	**7.34**	**187**	P		**Pn**	**19 43 03.8**	**-0.1**
	baz=7.5,SNR=9.0							
NFK	**Norfolk Island**	**7.34**	**187**	P		Pn	19 43 09.2	+5.2
MSVF	**Nonsavu**	**9.47**	**67**	Pn		**Pn**	**19 43 35.3**	**+2.0**
MSVF	**Nonsavu**	**9.47**	**67**	P		**Pn**	**19 43 36.4**	**+3.1**
MSVF	**Nonsavu**	**9.47**	**67**	Pn		**Pn**	**19 43 34.3**	**+1.1**
	0.4nm,0.3s,baz=232,slow=10,SNR=17							
MSVF					LR	LR	19 46 47.3	
	comp=Z,10μm,19.1s,baz=249,slow=35							
	54nm,1.1s							
YSA	**Yasawairara**	**9.58**	**60**	P		**Pn**	**19 43 38.0**	**+3.2**
DGTI	**Dogotuki**	**11.56**	**64**	P		**Pn**	**19 44 03.8**	**+1.9**
TAVE	**Taveuni**	**11.67**	**67**	P		**Pn**	**19 44 06.5**	**+3.1**
RAO	**Raoul Island**	**14.04**	**125**	LR		LR	19 48 51.9	
	comp=Z,1μm,20.6s,baz=150,slow=33							
HNR	**Honiara**	**14.96**	**323**	Pn		**Pn**	**19 44 47.2**	**-1.1**
HNR	**Honiara**	**14.96**	**323**	P		**Pn**	**19 44 47.3**	**-1.1**
HNR	**Honiara**	**14.96**	**323**	Pn		**Pn**	**19 44 49.0**	**+0.6**
	308nm,0.4s,baz=143,slow=8.1,SNR=1.8							
HNR					LR	LR	19 49 23.4	
	comp=Z,16μm,21.4s,baz=152,slow=33							
GC1S	**Gold Coast 1 S**	**15.37**	**242**	P		**P**	**19 44 56.6**	**-1.7**
FUNA	**Funafuti**	**16.43**	**39**	Pn		**Pn**	**19 45 06.9**	**-0.7**
FUNA	**Funafuti**	**16.43**	**39**	P		**P**	**19 45 09.5**	**-0.7**
EIDS	**Eidsvold**	**16.76**	**254**	P		**P**	**19 45 14.3**	**+0.6**
	baz=17,SNR=4.5							
EIDS	**Eidsvold**	**16.76**	**254**			**Pn**	**19 45 09.2**	**-2.4**
EIDS	**Eidsvold**	**16.76**	**254**	P		**P**	**19 45 14.0**	**+0.2**
TOZ	**Tahuroa Road**	**16.93**	**162**			**Pn**	**19 45 12.7**	**-1.0**
RK1H	**Rockhampton Ha**	**17.11**	**261**	P		**P**	**19 45 18.7**	**+1.1**
HIZ	**Hauiti**	**17.49**	**164**			**Pn**	**19 45 18.7**	**-1.9**
ARMA	**Armidale**	**17.77**	**237**	P		**P**	**19 45 27.5**	**+2.5**
	baz=18,SNR=11							
ARMA	**Armidale**	**17.77**	**237**			**Pn**	**19 45 22.8**	**-1.5**
ARMA	**Armidale**	**17.77**	**237**	P		**P**	**19 45 28.5**	**+3.4**
URZ	**Urewera**	**17.92**	**159**	P		**P**	**19 45 26.4**	**-0.1**
	1.2nm,0.3s,baz=69,slow=6.2,SNR=6.5							
URZ					LR	LR	19 51 43.5	
	comp=Z,923nm,18.3s,baz=46,slow=35							
	18nm,0.8s							
RTZ	**Ruatahuna**	**18.20**	**159**	P		**Pn**	**19 45 27.7**	**-1.8**
BKZ	**Black Stump Fm**	**18.55**	**161**	P		**P**	**19 45 31.9**	**-1.7**
BKZ	**Black Stump Fm**	**18.55**	**161**	P		**Pn**	**19 45 36.1**	**+2.3**
RMQ	**Roma**	**19.00**	**252**	P		**Pn**	**19 45 41.3**	**+1.9**
	baz=19							
RMQ	**Roma**	**19.00**	**252**	P		**Pn**	**19 45 42.7**	**+3.4**
QRZ	**Quartz Range**	**19.29**	**172**	P		**P**	**19 45 40.7**	**-0.8**
MRZ	**Mangatainoka R**	**19.70**	**165**	P		**P**	**19 45 46.3**	**+0.2**
RIV	**Riverview**	**19.78**	**229**	P		**Pn**	**19 45 51.1**	**+2.6**
NNZ	**Nelson**	**19.79**	**170**	P		**Pn**	**19 45 47.6**	**-1.0**
MRNZ	**Matariki Terra**	**19.88**	**171**	P		**P**	**19 45 47.8**	**-0.2**
BFZ	**Birch Farm**	**19.89**	**163**	P		**P**	**19 45 47.0**	**-1.2**
BFZ					IAmb	IAmb	19 45 57.4	
	comp=Z,230nm,1.5s							
BFZ	**Birch Farm**	**19.89**	**163**	P		**Pn**	**19 45 51.6**	**+1.8**
NIUE	**Niue**	**20.00**	**86**	P		**P**	**19 45 49.6**	**+0.1**
	baz=20							
SYDH	**Sydney Hard Ro**	**20.03**	**229**	P		**Pn**	**19 45 53.6**	**+2.1**
TUWZ	**Tuamarina**	**20.10**	**169**	P		**P**	**19 45 49.8**	**-0.5**
THZ	**Tophouse**	**20.26**	**171**			Pn	19 45 53.0	-1.2
THZ					IAmb	IAmb	19 46 05.5	
	comp=Z,165nm,1.2s							
AULRC	**Lightning Ridg**	**20.37**	**244**	P		Pn	19 45 57.0	+1.4
AUDCS	**Dubbo College**	**20.86**	**236**	P		Pn	19 46 01.8	+0.5
TV1H	**Townsville Har**	**20.87**	**273**	P		Pn	19 46 01.4	-0.1
INZ	**Inchbonnie**	**21.05**	**175**	P		**P**	**19 45 59.8**	**-0.8**
INZ					IAmb	IAmb	19 46 14.2	
	comp=Z,143nm,1.4s							
CTA	**Charters Tower**	**21.24**	**270**	P		**P**	**19 46 06.0**	**+3.0**
CTA	**Charters Tower**	**21.24**	**270**	P		**P**	**19 46 04.3**	**+1.3**
	comp=Z,14nm,1.0s,baz=98,slow=12,SNR=12							
CTA					LR	LR	19 54 00.9	
	comp=Z,2μm,18.7s,baz=94,slow=36							
	comp=Z,14nm,1.0s							
CTAO	**Charters Tower**	**21.24**	**270**			**P**	**19 46 02.5**	**-0.5**
CTAO	**Charters Tower**	**21.24**	**270**	P		**P**	**19 46 06.0**	**+3.0**
CTAO	**Charters Tower**	**21.24**	**270**	P		**P**	**19 46 02.5**	**-0.5**
CTAO					pmax	pmax		
	comp=Z,87nm,1.3s							
OXZ	**Oxford**	**21.70**	**174**	P		**P**	**19 46 06.8**	**-0.8**
FOZ	**Fox Glacier**	**21.76**	**178**	P		**P**	**19 46 07.6**	**-0.6**
FOZ					IAmb	IAmb	19 46 20.1	
	comp=Z,189nm,1.3s							
CNB	**Canberra Magne**	**21.83**	**227**	P		**P**	**19 46 12.7**	**+3.5**
	baz=22,SNR=5.7							
CNB	**Canberra Magne**	**21.83**	**227**	P		**P**	**19 46 13.5**	**+4.3**
YNG	**Young**	**21.98**	**231**	P		**P**	**19 46 14.0**	**+3.2**
RPZ	**Rata Peaks**	**22.00**	**176**	P		**P**	**19 46 10.2**	**-0.7**
RPZ	**Rata Peaks**	**22.00**	**176**	P		**P**	**19 46 11.8**	**+0.9**
	comp=Z,9.8nm,0.8s,baz=55,slow=7.9,SNR=4.8							
RPZ					LR	LR	19 54 02.6	
	comp=Z,2μm,18.3s,baz=352,slow=35							
	comp=Z,9.8nm,0.8s							
JCZ	**Jackson Bay**	**22.29**	**180**	P		**P**	**19 46 16.0**	**+1.9**
CMSA	**Cobar Meteorol**	**22.91**	**240**	P		**P**	**19 46 22.4**	**+1.7**
	baz=23,SNR=13							
CMSA	**Cobar Meteorol**	**22.91**	**240**	P		**P**	**19 46 22.5**	**+1.7**
QLP	**Quilpie**	**23.03**	**253**	P		**P**	**19 46 24.4**	**+2.5**
	baz=23,SNR=3.7							
QLP	**Quilpie**	**23.03**	**253**	P		**P**	**19 46 26.3**	**+4.3**
ODZ	**Otahua Downs**	**23.30**	**177**	P		**P**	**19 46 23.6**	**-1.0**
MTSU	**Mount Surprise**	**23.40**	**274**	P		**P**	**19 46 27.0**	**+1.2**
	baz=23,SNR=14							
MTSU	**Mount Surprise**	**23.40**	**274**	P		**P**	**19 46 29.6**	**+3.7**
RABL	**Rabaul**	**23.84**	**315**	P		**P**	**19 46 31.3**	**+1.2**
KRVT	**Keravat (AS076**	**23.85**	**314**	P		**P**	**19 46 31.3**	**+1.2**
	comp=Z,82nm,0.7s,baz=38,slow=0.6,SNR=14							
	comp=Z,82nm,0.7s							
PMG	**Port Moresby**	**24.24**	**297**	P		**P**	**19 46 32.1**	**-1.8**
PMG					IAmb	IAmb	19 46 45.3	
	comp=Z,119nm,1.1s							
PMG	**Port Moresby**	**24.24**	**297**	P		**P**	**19 46 35.2**	**+1.3**
PMG	**Port Moresby**	**24.24**	**297**	P		**P**	**19 46 32.1**	**-1.8**
PMG					pmax	pmax		
	comp=Z,119nm,1.2s							
PMG	**Port Moresby**	**24.24**	**297**	P		**P**	**19 46 33.3**	**-0.6**
	comp=Z,32nm,0.9s,baz=108,slow=4.9,SNR=11							
PMG					LR	LR	19 54 55.2	
	comp=Z,562nm,18.9s,baz=116,slow=34							
	comp=Z,32nm,0.9s							
SYZ	**Scrubby Hill**	**24.75**	**180**	P		**P**	**19 46 40.9**	**+2.7**
CTZ	**Chatham Island**	**25.02**	**155**	P		**P**	**19 46 41.0**	**+0.4**
CTZ	**Chatham Island**	**25.02**	**155**	P		**P**	**19 46 42.7**	**+2.1**
TOO	**Toolangi**	**25.67**	**227**	P		**P**	**19 46 48.9**	**+2.3**
	baz=26,SNR=4.0							
TOO	**Toolangi**	**25.67**	**227**			**P**	**19 46 45.5**	**-1.2**
TOO	**Toolangi**	**25.67**	**227**	P		**P**	**19 46 50.4**	**+3.7**
TOO	**Toolangi**	**25.67**	**227**	P		**P**	**19 46 45.5**	**-1.2**
TOO					pmax	pmax		
	comp=Z,183nm,1.7s							
COEN	**Coen**	**25.67**	**283**	P		**P**	**19 46 48.3**	**+1.4**
	baz=26							
COEN	**Coen**	**25.67**	**283**	P		**P**	**19 46 44.2**	**-2.7**
COEN					IAmb	IAmb	19 46 58.3	
	comp=Z,120nm,1.4s							
COEN	**Coen**	**25.67**	**283**	P		**P**	**19 46 48.5**	**+1.6**
INKA	**Innaminka**	**26.25**	**251**	P		**P**	**19 46 53.5**	**+1.5**
STKA	**Stephens Creek**	**26.34**	**242**	P		**P**	**19 46 54.1**	**+1.3**
	baz=26,SNR=8.5							
STKA	**Stephens Creek**	**26.34**	**242**			**P**	**19 46 52.1**	**-0.7**
STKA	**Stephens Creek**	**26.34**	**242**	P		**P**	**19 46 55.8**	**+3.0**
STKA	**Stephens Creek**	**26.34**	**242**	*i* P		**P**	**19 46 51.6**	**-1.2**
STKA	**Stephens Creek**	**26.34**	**242**	P		**P**	**19 46 52.4**	**-0.4**
	comp=Z,4.3nm,0.9s,baz=76,slow=12,SNR=6.2							
STKA					LR	LR	19 56 21.5	
	comp=Z,1μm,21.2s,baz=81,slow=34							
	comp=Z,4.3nm,0.9s							
BRAT	**Ballarat**	**26.73**	**228**	P		**P**	**19 46 59.4**	**+3.2**
QIS	**Mount Isa**	**27.36**	**267**	P		**P**	**19 47 03.0**	**+1.0**
	baz=27,SNR=5.8							
QIS	**Mount Isa**	**27.36**	**267**	P		**P**	**19 47 04.6**	**+2.5**
MOO	**Moorlands**	**27.53**	**216**	P		**P**	**19 47 06.4**	**+3.0**
	baz=28							
ARPS	**Mount Arapiles**	**27.86**	**231**	P		**P**	**19 47 10.3**	**+3.9**
MANU	**Manus Island**	**28.69**	**310**	P		**P**	**19 47 12.5**	**-1.5**
MANU					IAmb	IAmb	19 47 15.8	
	comp=Z,61nm,1.4s							
LCRK	**Leigh Creek**	**28.84**	**246**	P		**P**	**19 47 18.2**	**+3.0**
RAR	**Rarotonga**	**29.11**	**95**	LR		LR	19 56 16.1	
	comp=Z,346nm,21.2s,baz=264,slow=31							
WHYH	**Whyalla**	**29.92**	**241**	P		**P**	**19 47 29.3**	**+4.5**
PATS	**Pohnpei**	**30.23**	**339**	P		**P**	**19 47 28.0**	**+0.4**
	baz=30,SNR=4.9							
PATS	**Pohnpei**	**30.23**	**339**	P		**P**	**19 47 26.4**	**-1.2**
PATS	**Pohnpei**	**30.23**	**339**	P		**P**	**19 47 28.0**	**+0.4**
OOD	**Oodnadatta**	**30.72**	**252**	P		**P**	**19 47 33.5**	**+1.6**
BBOO	**Buckleboo**	**31.11**	**242**	P		**P**	**19 47 37.2**	**+1.9**
	baz=31,SNR=5.7							
BBOO	**Buckleboo**	**31.11**	**242**	P		**P**	**19 47 35.1**	**-0.2**
BBOO					IAmb	IAmb	19 47 44.0	
	comp=Z,57nm,1.1s							
BBOO	**Buckleboo**	**31.11**	**242**	P		**P**	19 47 40.2	+4.9
TABU	**Tabubil**	**31.42**	**297**	P		**P**	**19 47 39.2**	**+1.0**
WC3	**Warramunga Arr**	**32.30**	**267**	P		**P**	**19 47 46.3**	**+0.3**
	baz=32							
AS31	**Alice Springs**	**32.32**	**260**	P		**P**	**19 47 44.9**	**-1.1**
ASAR	**Alice Springs**	**32.32**	**260**	P		**P**	**19 47 45.2**	**-0.9**
ASAR	**Alice Springs**	**32.32**	**260**	P		**P**	**19 47 45.6**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=96,slow=9.1,SNR=19							
ASAR					PcP	**PcP**	**19 50 33.6**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=90,slow=2.9,SNR=4.3							
ASAR					LR	LR	20 00 11.6	
	comp=Z,1μm,20.9s,baz=96,slow=35							
	comp=Z,3.1nm,0.6s							
WB2	**Warramunga Arr**	**32.32**	**267**	IAmb		IAmb	19 47 53.7	
	comp=Z,90nm,1.6s							
WRAB	**Tennant Creek**	**32.33**	**267**	P		**P**	**19 47 45.0**	**-1.1**
WRAB					IAmb	IAmb	19 47 53.6	
	comp=Z,97nm,1.6s							
WRAB	**Tennant Creek**	**32.33**	**267**	P		**P**	**19 47 50.2**	**+4.1**
WRAB	**Tennant Creek**	**32.33**	**267**	P		**P**	**19 47 45.0**	**-1.1**
WRAB					pmax	pmax		
	comp=Z,97nm,1.7s							
WRA	**Warramunga Arr**	**32.34**	**267**	P		**P**	**19 47 45.3**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=98,slow=8.3,SNR=18							
WRA				PcP		**PcP**	**19 50 33.2**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=88,slow=2.6,SNR=3.5							
WRA					LR	LR	20 00 39.2	
	comp=Z,3μm,19.1s,baz=90,slow=36							
	comp=Z,1.2nm,0.4s							
MULG	**Mulgathing**	**32.37**	**247**	P		**P**	**19 47 50.2**	**+3.8**
JAY	**Jayapura**	**33.43**	**301**	P		P	19 48 04.3	+8.5
KDU	**Kakadu**	**35.89**	**278**	P		**P**	**19 48 17.5**	**+0.4**
	baz=36,SNR=4.0							
KDU	**Kakadu**	**35.89**	**278**	P		**P**	**19 48 21.0**	**+4.0**
MTN	**Manton Dam**	**37.07**	**277**	P		**P**	**19 48 27.8**	**+0.7**
	baz=37,SNR=19							
MTN	**Manton Dam**	**37.07**	**277**	P		**P**	**19 48 26.7**	**-0.5**
WRKA	**Warakurna**	**37.34**	**257**	P		**P**	**19 48 29.4**	**-0.1**
	baz=37,SNR=15							
WRKA	**Warakurna**	**37.34**	**257**	P		**P**	**19 48 31.4**	**+1.9**
FORT	**Forrest**	**37.57**	**247**	P		**P**	**19 48 30.1**	**-1.1**
FORT	**Forrest**	**37.57**	**247**	P		P	19 48 36.1	+4.8
KNRA	**Kununurra**	**38.44**	**272**	P		**P**	**19 48 39.1**	**+0.3**
	baz=38,SNR=6.7							
KNRA	**Kununurra**	**38.44**	**272**	P		**P**	**19 48 38.0**	**-0.7**
KNRA	**Kununurra**	**38.44**	**272**	P		**P**	**19 48 39.0**	**+0.3**
PPT2	**Papeete2**	**39.21**	**91**	*e*S		**S**	**19 54 45.1**	**-0.3**
	comp=Z,327nm,24.2s							
PPT	**Papeete**	**39.22**	**91**	LR		LR	20 03 07.8	
	comp=Z,206nm,18.7s,baz=248,slow=34							
PPTF	**Pamatai, Papee**	**39.22**	**91**	P		**P**	**19 48 44.5**	**-0.9**
PPTF					IAmb	IAmb	19 49 17.6	
	comp=Z,178nm,1.6s							
FAKI	**Fak Fak**

BLDU	Ballidu	47.34	248	P	P	19 49 53.0 +2.2
BBSI	Bau Bau	47.64	283	P	P	19 49 54.7 +1.4
	comp=Z,28nm,1.1s,comp=Z,620nm					
MUN	Mundaring	47.73	246	P	P	19 49 55.3 +1.5
	baz=48,SNR=4.5					
MUN	Mundaring	47.73	246	P	P	19 49 59.1 +5.3
MORW	Morawa	48.01	250	P	P	19 49 56.5 +0.6
	baz=48,SNR=3.7					
MORW	Morawa	48.01	250	P	P	19 49 59.7 +3.7
KMSI	Cibinong	49.12	291	P	P	19 50 11.8 +7.1
LUWI	Luwuk	49.41	288	P	P	19 50 09.3 +2.4
LUWI	Luwuk	49.41	288	P	P	19 50 08.0 +1.1
	comp=Z,87nm,1.8s,comp=Z,2μm					
BKSI	Bulukumba	49.93	282	P	P	19 50 10.9 0.0
	comp=Z,27nm,1.2s					
GTOI	Gorontalo	50.00	290	P	P	19 50 12.7 +1.3
	comp=Z,19nm,1.2s,comp=Z,274nm					
KAPI	Kappang	50.39	282	P	P	19 50 13.8 -0.6
KAPI	Kappang	50.39	282	P	P	19 50 16.2 +1.8
KAPI	Kappang	50.39	282	*i* P	P	19 50 13.8 -0.6
KAPI	Kappang	50.39	282	P	P	19 50 14.1 -0.3
	comp=Z,13nm,0.5s,baz=118,slow=4.7,SNR=19					
	comp=Z,13nm,0.5s					
TAOE	Nuku Hiva Isla	50.55	84	*e*S	S	19 57 33.8 +4.0
	comp=Z,491nm,25.3s					
TAOE				*e*SS	SS	20 01 00.6 -3.5
	comp=Z,234nm,28.3s					
TAOE				*e*LR	LR	20 05 02.8
	comp=Z,1μm,27.2s					
PLAI	Plampang	50.76	276	P	P	19 50 26.0 +8.8
MRSI	Marisa	50.86	289	P	P	19 50 16.8 -1.1
	comp=Z,18nm,2.3s					
TTSI	Tana Toraja	51.15	284	P	P	19 50 21.7 +1.6
	comp=Z,30nm,1.3s,comp=Z,700nm					
TWSI	Taliwang, Sumb	51.62	276	P	P	19 50 32.9 +9.3
TOLI2	Tolitoli	52.18	289	P	P	19 50 26.9 -0.9
TOLI2	Tolitoli	52.18	289	P	P	19 50 29.0 +1.2
MPSI	Mapaga	52.59	288	P	P	19 50 30.6 -0.2
	comp=Z,52nm,1.0s,comp=Z,624nm					
BBKI	Banjar Baru	55.49	281	P	P	19 51 00.9 +8.8
VNDA	Vanda	55.95	182	P	P	19 50 54.5 +0.1
VNDA	Vanda	55.95	182	P	P	19 50 54.5 +0.1
VNDA				pmax	pmax	
	comp=Z,16nm,1.3s					
VNDA	Vanda	55.95	182	P	P	19 50 54.5 +0.1
	comp=Z,4.1nm,1.0s,baz=2.7,slow=7.6,SNR=17					
VNDA				LR	LR	20 10 50.6
	comp=Z,319nm,20.8s,baz=8.0,slow=32					
	comp=Z,4.1nm,1.0s					
MYLDM	Lahad Datu	56.15	292	P	P	19 50 57.3 +0.6
MYLDM				IAmb	IAmb	19 51 48.8
	comp=Z,52nm,1.4s					
SBA	Scott Base	56.19	181	P	P	19 50 56.7 +0.6
SBA				IAmb	IAmb	19 51 06.9
	comp=Z,52nm,1.1s					
SBA	Scott Base	56.19	181	P	P	19 50 56.7 +0.6
SBA				pmax	pmax	
	comp=Z,52nm,1.1s					
CASY	Casey	57.74	204	P	P	19 51 06.8 -0.5
KKM	Kota Kinabalu	58.55	292	P	P	19 51 12.9 -1.0
KKM	Kota Kinabalu	58.55	292	P	P	19 51 15.8 +2.0
JMZ	Minamidaito 2	59.76	320	P	P	19 51 22.7 +0.9
STKI	Sintang	60.01	283	P	P	19 51 25.3 +1.5
	comp=Z,45nm,1.1s,comp=Z,5um					
SBUM	Sibu	60.37	286	P	P	19 51 25.7 -0.6
LEM	Lembang	60.87	274	LR	LR	20 19 40.0
	comp=Z,506nm,18.0s,baz=102,slow=38					
JHJ	Hachijo jima 2	61.22	332	LR	LR	20 16 14.5
	comp=Z,89nm,20.5s,baz=112,slow=34					
XMIS	Christmas Isla	61.46	270	P	P	19 51 32.0 -1.8
KSM	Kuching	61.66	284	P	P	19 51 34.1 -1.0
KSM	Kuching	61.66	284	P	P	19 51 38.4 +3.3
INU	Inuyama	64.33	331	P	P	19 51 51.0 -1.3
INU	Inuyama	64.33	331	P	P	19 51 53.8 +1.5
	comp=Z,30nm,1.6s					
JMN	Monobe	64.47	328	P	P	19 51 52.8 -0.6
JMN	Monobe	64.47	328	P	P	19 51 54.7 +1.3
YULB	Yu-li	64.50	311	P	P	19 51 53.1 -0.7
YULB				IAmb	IAmb	19 52 24.0
	comp=Z,40nm,1.3s					
MJAR	Matsushiro Arr	64.81	333	P	P	19 51 54.8 -0.7
	comp=Z,18nm,1.0s,baz=165,slow=6.8,SNR=23					
	comp=Z,18nm,1.0s					
MAJO	Matsushiro	64.81	333	P	P	19 51 52.5 -3.0
MAJO				IAmb	IAmb	19 51 56.6
	comp=Z,26nm,0.9s					
MAJO	Matsushiro	64.81	333	P	P	19 51 55.8 +0.3
MAJO	Matsushiro	64.81	333	P	P	19 51 52.5 -3.0
MAJO				pmax	pmax	
	comp=Z,26nm,1.0s					
MJB9	Matsu-Tunnel	64.82	333	P	P	19 51 52.1 -3.5
MJB9				IAmb	IAmb	19 51 56.6
	comp=Z,26nm,0.9s					
JMM	Marumori	64.91	336	P	P	19 51 55.8 -0.3
JMM	Marumori	64.91	336	P	P	19 51 57.7 +1.6
YHNB	Yeheng	65.28	312	P	P	19 51 58.5 -0.4
JNU	Nakatsue	65.52	325	P	P	19 52 02.1 +1.9
JNU	Nakatsue	65.52	325	P	P	19 52 01.4 +1.2
	comp=Z,11nm,1.0s,baz=48,slow=4.6,SNR=5.6					
	comp=Z,11nm,1.0s					
TPRI	Tanjung Pinang	66.68	281	P	P	19 52 08.8 +0.7
	comp=Z,59nm,1.1s					
MYKOM	Kota Tinggi	67.65	281	P	P	19 52 13.4 -0.9
MYKOM				IAmb	IAmb	19 52 23.7
	comp=Z,24nm,0.9s					
QSPA	South Pole Qui	68.34	180	P	P	19 52 17.6 -0.2
QSPA	South Pole Qui	68.34	180	P	P	19 52 18.0 +0.1
	comp=Z,15nm,0.7s,baz=16,slow=2.1,SNR=36					
QSPA				LR	LR	20 20 17.9
	comp=Z,208nm,18.1s,baz=28,slow=34					
	comp=Z,15nm,0.7s					
KSRS	Korea Array	70.39	326	P	P	19 52 30.9 +0.2
	comp=Z,7.0nm,1.1s,baz=139,slow=6.5,SNR=11					
	comp=Z,7.0nm,1.1s					
NJ2	Nanjing	71.80	317	*e*P	P	19 52 41.5 +2.2
NJ2				pP	pwP	19 52 46.0 -0.9
NJ2				sP	sP	19 52 49.0 +4.0
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.5s					
NJ2				pmax	pmax	
	comp=Z,320nm,5.0s					
YSS	Yuzh-Sakhalins	72.33	342	*e*P	P	19 52 43.8 +1.6
YSS				pmax	pmax	
	comp=Z,68nm,1.6s					
RPSI	Rantau Prapat	72.52	280	P	P	19 52 42.8 -1.3
RPSI				IAmb	IAmb	19 52 44.4
	comp=Z,19nm,1.1s					
PSI	Prapat	72.56	280	P	P	19 52 47.7 +3.2
PSI	Prapat	72.56	280	P	P	19 52 42.8 -1.7
PSI				pmax	pmax	
	comp=Z,19nm,1.1s					
GULI	GuiLin	73.58	306	P	P	19 52 52.8 +2.7
USA0B	Ussuriysk Arra	73.81	333	*i* P	P	19 52 50.7 -0.3
USRK	Ussuriysk Ar.	73.81	333	P	P	19 52 50.9 -0.1
USRK	Ussuriysk Ar.	73.81	333	P	P	19 52 50.9 -0.1
USRK	Ussuriysk Ar.	73.81	333	P	P	19 52 52.2 +1.2
	comp=Z,29nm,0.9s,baz=152,slow=4.3,SNR=29					
	comp=Z,29nm,0.9s					
SHEM	Shemya Is, Ala	74.28	3	LR	LR	20 19 07.4
	comp=Z,394nm,20.9s,baz=158,slow=31					
PETK	Petropavlovsk-	75.15	353	P	P	19 52 58.5 -0.1
	comp=Z,14nm,0.9s,baz=159,slow=6.3,SNR=5.2					
PETK				LR	LR	20 20 10.9
	comp=Z,309nm,21.6s,baz=150,slow=31					
	comp=Z,14nm,0.9s					
MDJ	Mudanjiang	75.17	332	P	P	19 52 59.5 +0.6
MDJ				pP	pwP	19 53 08.5 +2.0
MDJ				PP	PP	19 55 48.8 +1.2
MDJ				S	S	20 02 43.8 +6.8
MDJ				pmax	pmax	
	comp=Z,44nm,1.3s					
MDJ				pmax	pmax	
	comp=Z,690nm,6.0s					
MDJ				LR	LR	
	comp=Z,620nm,15.6s					
MDJ				LR	LR	
	comp=Z,150nm,15.6s					
MDJ				LR	LR	
	comp=Z,440nm,16.4s					
MDJ	Mudanjiang	75.17	332	IAmb	IAmb	19 53 01.1
	comp=Z,48nm,1.1s					
MDJ	Mudanjiang	75.17	332	P	P	19 53 00.1 +1.2
TIA	Tai'an	75.61	319	P	P	19 53 02.0 +0.3
TIA				pmax	pmax	
	comp=Z,14nm,1.5s					
TYV	Tymovskoe	75.89	343	*e*P	P	19 53 06.0 +3.1
TYV				pmax	pmax	
	comp=Z,25nm,1.2s					
TYV				pmax	pmax	
	comp=Z,1μm,3.1s					
MAW	Mawson	76.03	202	P	P	19 53 04.4 +0.7
	baz=76,SNR=9.6					
MAW	Mawson	76.03	202	P	P	19 53 04.0 +0.4
MAW	Mawson	76.03	202	P	P	19 53 04.0 +0.4
MAW				pmax	pmax	
	comp=Z,10.0nm,1.5s					
MAW	Mawson	76.03	202	P	P	19 53 04.2 +0.6
	comp=Z,8.7nm,0.8s,baz=111,slow=8.7,SNR=18					
	comp=Z,8.7nm,0.8s					
CN2	Changchun	76.43	329	*e*P	P	19 53 05.5 -0.6
CN2				*e*PP	PP	19 55 59.3 +1.0
CN2				*e*S	S	20 02 48.0 -3.0
CN2				pmax	pmax	
	comp=Z,40nm,1.2s					
CN2				LR	LR	
	comp=Z,600nm,21.0s					
CN2				LR	LR	
	comp=Z,700nm,21.0s					
CN2				LR	LR	
	comp=Z,200nm,22.0s					
NIKH	Nikolski High	76.85	14	P	P	19 53 07.3 -1.1
	baz=201					
SRDT	SRDT	77.26	291	P	P	19 53 14.1 +2.6
	comp=Z,27nm,1.1s					
LYN	LuoYang	77.51	315	*e*P	P	19 53 13.5 +1.0
LYN				pmax	pmax	
	comp=Z,500nm,7.5s					
GRNR	Gornyy	77.66	340	⇓*i*P	P	19 53 14.1 +1.1
GRNR				pmax	pmax	
	comp=Z,20nm,1.1s					
GRNR				MLR	MLR	
	comp=E,320nm,17.0s					
GRNR				MLR	MLR	
	comp=N,410nm,20.0s					
GRNR				MLR	MLR	
	comp=Z,320nm,18.0s					
HNS	HongShan	77.86	319	⇑P	P	19 53 15.8 +1.5
HNS				pmax	pmax	
	comp=Z,15nm,1.9s					
KLR	Kul'dur	78.01	336	P	P	19 53 16.4 +1.5
	comp=Z,11nm,0.8s,baz=126,slow=4.0,SNR=25					
	comp=Z,11nm,0.8s					
UNV	Unalaska Valle	78.19	15	P	P	19 53 15.5 -0.3
	baz=203					
BJI	Beijing	78.68	321	P	P	19 53 19.8 +1.0
BJI				pP	pwP	19 53 24.5 -1.9
BJI				PcP	PcP	19 53 28.3 +0.6
BJI				pmax	pmax	
	comp=Z,5.0nm,2.1s					
CRAI	Chiangrai	78.89	297	P	P	19 53 20.5 0.0
CRAI				IAmb	IAmb	19 53 30.8
	comp=Z,17nm,0.8s					
CMAR	Chiang Mai Arr	79.26	295	P	P	19 53 24.2 +1.7
	comp=Z,12nm,1.1s,baz=137,slow=4.0,SNR=33					
	comp=Z,12nm,1.1s					
KMI	Kunming	79.34	302	⇑P	P	19 53 25.0 +1.9
KMI				PcP	PcP	19 53 32.5 +1.2
KMI				pmax	pmax	
	comp=Z,25nm,0.8s					
CHTO	Chiang Mai	79.42	295	P	P	19 53 22.7 -0.7
CHTO				IAmb	IAmb	19 53 33.4
	comp=Z,19nm,0.9s					
CHTO	Chiang Mai	79.42	295	P	P	19 53 23.9 +0.5
CHTO	Chiang Mai	79.42	295	P	P	19 53 22.7 -0.7
CHTO				pmax	pmax	
	comp=Z,19nm,0.9s					
XAN	Xi'an	79.58	313	P	P	19 53 24.0 0.0
XAN				pP	pwP	19 53 29.8 -1.8
XAN				pmax	pmax	
	comp=Z,15nm,1.1s					
BELA	Belgrano 2	79.66	175	P	P	19 53 22.7 -1.0
BELA				IAmb	IAmb	19 53 24.1
	comp=Z,36nm,0.8s					
HEH	HeiHe	80.52	334	*e*P	P	19 53 28.8 +0.2
HEH				pmax	pmax	
	comp=Z,31nm,1.1s					
HEH				pmax	pmax	
	comp=Z,770nm,7.0s					
PZH	PanZhiHua	80.81	303	P	P	19 53 30.5 -0.4
PZH				pmax	pmax	
	comp=Z,10.0nm,1.1s					
PZH				pmax	pmax	
	comp=Z,180nm,5.7s					
XLT	XiLinHaoTe	81.28	324	*e*P	P	19 53 33.5 +0.6
XLT				pP	sP	19 53 37.0 -1.6
XLT				sP	PcP	19 53 39.5 +0.4
XLT				pmax	pmax	
	comp=Z,19nm,1.0s					
XLT				pmax	pmax	
	comp=Z,580nm,5.6s					
CD2	Chengdu	81.52	308	*e*P	P	19 53 35.0 +0.5
HHC	Hu-ho-hao-te	81.92	320	*e*P	P	19 53 37.5 +1.1
HHC				pmax	pmax	
	comp=Z,40nm,1.0s					
HHC				pmax	pmax	
	comp=Z,330nm,6.4s					
MA2	Magadan	82.36	351	LR	LR	20 23 12.2
	comp=Z,162nm,21.7s,baz=138,slow=31					
TNCH	TengChong	82.64	300	P	P	19 53 41.5 +0.8
TNCH				pP	PcP	19 53 45.0 -0.7
TNCH				pmax	pmax	
	comp=Z,13nm,1.2s					
BTO	Baotou	82.70	319	*e*P	P	19 53 42.5 +2.0
BTO				pP	pwP	19 53 47.3 -0.9
BTO				sP	PcP	19 53 49.3 +3.9
BTO				pmax	pmax	
	comp=Z,8.0nm,0.4s					
BTO				pmax	pmax	
	comp=Z,930nm,7.1s					
CHIR	Chirikof Islan	82.90	19	P	P	19 53 41.1 +0.1
	baz=213					
MND	Mandalay	83.23	297	P	P	19 53 44.2 +0.7
ZEA	Zeya	83.31	337	*e*P	P	19 53 44.2 +1.0
ZEA				*e*		19 53 52.7
ZEA				pmax	pmax	
	comp=E,10.0nm,1.6s					
ZEA				pmax	pmax	
	comp=N,20nm,1.5s					
ZEA				pmax	pmax	
	comp=Z,20nm,1.5s					
ELIB	Princess Elisa	83.65	190	*d*P	P	19 53 43.8 -1.3
	comp=Z,18nm,1.3s					
R16K	Pilot Point	83.81	17	P	P	19 53 45.1 -0.5
	baz=211					
SII	Sitkinak Islan	83.96	20	P	P	19 53 45.6 -0.9
	baz=214					
LZH	Lanzhou	84.17	312	⇑P	P	19 53 50.0 +1.7
LZH				sP	pwP	19 53 58.3 +2.3
LZH				pmax	pmax	
	comp=Z,25nm,1.6s					
PMSA	Palmer Station	84.69	160	P	P	19 53 49.3 -0.9
PMSA	Palmer Station	84.69	160	LR	LR	20 27 44.9
	comp=Z,234nm,18.2s,baz=220,slow=33					
R18K	Karluk	84.71	19	P	P	19 53 51.0 +0.8
	baz=214					
OHAK	Old Harbor	84.78	20	P	P	19 53 53.9 +3.3
N14K	Kuskokwak Cree	84.83	14	P	P	19 53 50.8 0.0
	baz=207					
Q17K	Contact Creek	84.88	18	P	P	19 53 50.0 -1.2
	baz=212					
M13K	Dall Lake	84.90	13	P	P	19 53 51.3 +0.2
	baz=206					
P16K	Nushagak River	84.96	16	P	P	19 53 51.6 +0.1
	baz=211					
SEY	Seymchan	85.38	352	P	P	19 53 53.2 -0.3
	comp=Z,2.7nm,0.8s,baz=62,slow=4.3,SNR=2.0					
SEY				LR	LR	20 27 14.6
	comp=Z,290nm,19.0s,baz=156,slow=32					
	comp=Z,2.7nm,0.8s					
O16K	Kokwok River B	85.42	16	P	P	19 53 52.9 -0.8
	baz=210					
N15K	Kwethluk River	85.42	15	P	P	19 53 53.9 +0.1
	baz=209					
Q18K	Katmai Hardscr	85.45	18	P	P	19 53 53.8 -0.3
	baz=213					
KDAK	Kodiak Island	85.46	20	P	P	19 53 53.3 -0.7
	baz=215					
KDAK	Kodiak Island	85.46	20	LR	LR	20 26 00.4
	comp=Z,290nm,20.2s,baz=232,slow=31					
M14K	Bethel	85.51	14	P	P	19 53 53.8 -0.3
	baz=207					
P17K	Kvichak River	85.52	17	P	P	19 53 54.8 +0.6
	baz=212					
O17K	Koliganek Bris	85.83	16	P	P	19 53 55.2 -0.6
	baz=211					
L14K	Kuka Creek	85.88	13	P	P	19 53 55.4 -0.6
L14K				IAmb	IAmb	19 54 09.7
	comp=Z,28nm,1.2s					
K13K	Kusilvak Mount	86.01	12	P	P	19 53 56.3 -0.4
	baz=204					
N16K	Nishlik Lake	86.01	15	P	P	19 53 56.0 -0.8
	baz=210					
P18K	Big Mountain,	86.02	17	P	P	19 53 56.1 -0.7
	baz=213					
TROLL	Troll, Antarti	86.05	184	⇑P	P	19 53 56.3 -0.8
	comp=Z,1μm,0.6s					
Q19K	Cape Douglas,	86.08	18	P	P	19 53 57.2 +0.1
	baz=214					
Q20K	Shuyak Island	86.20	19	P	P	19 53 58.0 +0.4
	baz=216					
NVL	N'lazarevskaya	86.36	187	*e*P	P	19 53 58.5 0.0
NVL				pmax	pmax	
	comp=Z,20nm,1.1s					
O18K	Koktuh Hills	86.41	17	P	P	19 53 58.9 +0.2
	baz=213					
L15K	Ungalak Mounta	86.44	14	P	P	19 53 58.7 0.0
	baz=207					
M16K	Timber Creek	86.44	15	IAmb	IAmb	19 54 13.1
	comp=Z,27nm,1.2s					
M16K	Timber Creek	86.44	15	P	P	19 53 58.3 -0.5
	baz=210					
N17K	Nushagak Hills	86.45	16	P	P	19 53 59.6 +0.7
	baz=211					
GAMB	Gambell	86.56	8	P	P	19 53 59.4 +0.2
	baz=198					
SNAA	Sanae	86.68	183	IAmb	IAmb	19 54 00.4
	comp=Z,29nm,1.0s					
SNAA	Sanae	86.68	183	⇑P	P	19 53 59.2 -1.0
	comp=Z,408nm,0.9s					
P19K	Oil Pt	86.80	18	P	P	19 54 01.4 +0.7
	baz=215					
L16K	Owhat River	86.92	14	P	P	19 54 01.7 +0.6
	baz=209					
N18K	Kilae Creek	86.92	16	P	P	19 54 01.7 +0.5
	baz=212					
O19K	Port Alsworth	86.94	17	P	P	19 54 02.1 +0.8
	baz=214					
K15K	Wolf Creek Mou	86.98	13	P	P	19 54 01.9 +0.5
	baz=207					
M17K	Holitna River	87.14	15	P	P	19 54 02.2 0.0
	baz=211					
VNA3	Neumayer Olymp	87.28	180	⇑P	P	19 54 01.9 -1.1
	comp=Z,24nm,0.7s					
O20K	Slope Mountain	87.33	18	P	P	19 54 02.2 -1.1
	baz=215					
SNCC	San Nicolas Is	87.38	53	P	P	19 54 02.9 -1.1
	baz=242					
VNA2	Neumayer--Watz	87.56	181	⇑P	P	19 54 03.6 -0.8
	comp=Z,26nm,0.6s,baz=184,slow=4.0					
L17K	Donlin	87.57	15	P	P	19 54 04.0 -0.3
	baz=210					
BRSE	Bradley Lake S	87.61	19	P	P	19 54 05.4 +0.8
	baz=217					
M18K	Stony River	87.63	16	P	P	19 54 04.3 -0.3
	baz=212					
SCZ2	Santa Cruz Isl	87.65	52	P	P	19 54 04.9 -0.5
	baz=242					
VNA1	Neumayer--Stat	87.86	181	⇑P	P	19 54 05.0 -0.7
	comp=Z,24nm,1.0s					
PKM	Mcpherson Peak	87.94	51	P	P	19 54 06.5 -0.4
	baz=242					
L18K	Granite Mounta	88.03	15	P	P	19 54 06.1 -0.3
	baz=212					
J16K	Anvik River	88.06	13	P	P	19 54 06.0 -0.5
	baz=208					
K17K	Iditarod	88.07	14	P	P	19 54 06.8 +0.2
	baz=210					
KHMM	Horse Mountain	88.18	44	P	P	19 54 08.3 +0.4
BCW	Bitter Crk WRg	88.25	51	IAmb	IAmb	19 54 10.0
	comp=Z,22nm,1.1s					
SHL	Shillong	88.26	298	IAmb	IAmb	19 54 18.3
	comp=Z,19nm,0.9s					
CIS	Catalina Islan	88.27	53	P	P	19 54 08.7 +0.4
	baz=242					
SEW	Seward	88.30	19	P	P	19 54 08.7 +1.0
	baz=218					
L19K	White Mountain	88.46	16	P	P	19 54 08.6 +0.1
	baz=213					
GTA	Gaotai	88.62	314	⇓P	P	19 54 10.3 +0.3
GTA				pP	pwP	19 54 18.5 +0.8
GTA				pmax	pmax	
	comp=Z,4.0nm,1.1s					
ULN	Ulaanbaatar	88.68	324	*i* P	P	19 54 08.3 -1.8
ULN				pmax	pmax	
	comp=Z,24nm,1.2s					
ARVC	Arvin	88.76	51	P	P	19 54 10.5 -0.1
	baz=242					
TTA	Tatalina	88.80	15	P	P	19 54 11.1 +0.9
	baz=212					
RC01	Rabbit Creek A	88.99	19	P	P	19 54 11.2 +0.2
	baz=218					
ORV	Oroville	89.00	46	P	P	19 54 10.5 -1.1
ORV				IAmb	IAmb	19 54 25.2
	comp=Z,13nm,1.1s					
ORV	Oroville	89.00	46	P	P	19 54 10.5 -1.1
ORV				pmax	pmax	
	comp=Z,13nm,1.1s					
SONM	Songino Array	89.03	323	P	P	19 54 12.3 +0.6
	comp=Z,12nm,1.1s,baz=141,slow=4.7,SNR=46					
	comp=Z,12nm,1.1s					
CMB	Columbia Colle	89.03	48	IAmb	IAmb	19 54 24.8
	comp=Z,13nm,1.0s					
AFDM	Forest Hills D	89.06	47	P	P	19 54 10.7 -1.2
AFDM				IAmb	IAmb	19 54 21.1
	comp=Z,20nm,1.1s					
J18K	Innoko River	89.09	15	P	P	19 54 11.6 +0.1
	baz=212					
CBX	Cerro Bola	89.09	55	IAmb	IAmb	19 54 21.7
	comp=Z,16nm,1.3s					
YAK	Yakutsk	89.14	343	*e*P	P	19 54 10.0 -1.7
YAK				*e**PP	pP	19 54 13.8 -2.1
YAK				*e*		19 57 37.7
YAK				*e*S	SKSac	20 04 39.2 -1.4
YAK				*e*		20 05 04.2
YAK				*e*SS	SS	20 10 53.8 -0.4
YAK				pmax	pmax	
	comp=Z,14nm,1.3s					
YAK				pmax	pmax	
	comp=E,9.0nm,1.5s					
YAK				pmax	pmax	
	comp=N,4.0nm,1.4s					
YAK				pmax	pmax	
	comp=Z,324nm,3.3s					
YAK				pmax	pmax	
	comp=N,206nm,3.0s					
YAK				smax	smax	
	comp=N,581nm,3.5s					
YAK				smax	smax	
	comp=E,198nm,4.1s					
BFSC	Mount Baldy Ra	89.21	53	P	P	19 54 13.2 +0.2
	baz=243					
BAR	Barrett	89.25	54	IAmb	IAmb	19 54 13.9
	comp=Z,24nm,1.6s					
EDW2	Edwards Air Fo	89.26	52	P	P	19 54 12.8 -0.2
	baz=243,SNR=7.0					
ISA	Isabella, Lake	89.27	51	P	P	19 54 13.0 -0.1
	baz=242,SNR=12					
MURC	Murrieta	89.27	53	P	P	19 54 12.6 -0.5
	baz=243					
YBH	Yreka Blue Hor	89.28	44	P	P	19 54 12.2 -0.8
YBH				IAmb	IAmb	19 54 26.4
	comp=Z,12nm,1.1s					
YBH	Yreka Blue Hor	89.28	44	P	P	19 54 12.2 -0.8
YBH				pmax	pmax	
	comp=Z,12nm,1.1s					
YBH	Yreka Blue Hor	89.28	44	LR	LR	20 25 33.5
	comp=Z,309nm,21.7s,baz=248,slow=30					
MONP2	Monument Peak	89.53	54	P	P	19 54 14.9 +0.3
	baz=244,SNR=5.9					
PMR	Palmer	89.57	19	P	P	19 54 15.2 +1.5
	baz=218					
H17K	Granite Mounta	89.66	13	P	P	19 54 16.1 +2.0
	baz=209					
IKP	In-Ko-Pah, Jac	89.66	55	P	P	19 54 15.2 +0.2
	baz=244					
PPLA	Purkeypile	89.75	17	P	P	19 54 14.7 0.0
	baz=216					
LRMC	Laurel Mtn Rad	89.76	51	P	P	19 54 15.4 -0.1
	baz=243,SNR=5.8					
KAIM	Kayak Island	89.80	21	P	P	19 54 15.9 +1.0

baz=222
YUH Yuha Desert 89.80 55 IAmb IAmb 19 54 16.8
comp=Z,18nm,1.3s
EYAK Cordova Ski Ar 89.82 21 P **P 19 54 16.1 +1.2**
baz=221
PFO Pinyon Flats O 89.82 54 P **P 19 54 15.0 -0.8**
PFO Pinyon Flats O 89.82 54 P **P 19 54 15.4 -0.4**
baz=244
PFO Pinyon Flats O 89.82 54 P **P 19 54 15.0 -0.8**
PFO pmax pmax
comp=Z,10.0nm,1.0s
PFO Pinyon Flats O 89.82 54 LR LR 20 27 27.5
comp=Z,263nm,19.5s,baz=244,slow=31
TPFO Pinon Flats 89.83 54 P **P 19 54 15.2 -0.6**
baz=244
PMD Palm Desert 89.90 54 IAmb IAmb 19 54 17.0
comp=Z,11nm,1.0s
CWC Cottonwood Cre 89.91 50 P **P 19 54 16.2 0.0**
baz=243
MLAC Mammoth, Mammo 89.92 49 P **P 19 54 16.6 +0.4**
baz=242
SML Sawmill 89.98 19 P **P 19 54 15.9 +0.2**
baz=219
RRX Edison Barstow 89.99 52 P **P 19 54 16.4 +0.1**
baz=243
SWSC Sam W. Stewart 90.03 54 P **P 19 54 15.8 -0.7**
baz=244
PNTR Pine Nut 90.07 48 IAmb IAmb 19 54 30.6
comp=Z,10.0nm,0.8s
MPMC Manual Prospec 90.16 51 P **P 19 54 16.9 -0.5**
baz=243,SNR=9.4
CAST Castle Rocks 90.20 16 P **P 19 54 16.9 +0.2**
baz=216
YERR Yerington 90.27 48 IAmb IAmb 19 54 31.4
comp=Z,16nm,1.3s
SCM Sheep Creek Mo 90.30 19 P **P 19 54 17.6 +0.3**
baz=220
GSC Goldstone, Bar 90.32 52 P **P 19 54 17.1 -0.9**
GSC IAmb IAmb 19 54 19.2
comp=Z,31nm,1.6s
GSC Goldstone, Bar 90.32 52 P **P 19 54 16.5 -1.5**
baz=243
GSC Goldstone, Bar 90.32 52 P **P 19 54 17.1 -0.9**
GSC pmax pmax
comp=Z,31nm,1.6s
BELC Belle Mtn. Jos 90.34 53 P **P 19 54 17.9 -0.3**
baz=244,SNR=10
DSP Deep Springs 90.41 50 IAmb IAmb 19 54 32.1
comp=Z,18nm,1.1s
LHV Little Huntoon 90.44 49 IAmb IAmb 19 54 19.8
comp=Z,42nm,1.6s
HEC Hector,Ludlow 90.45 53 P **P 19 54 18.0 -0.6**
baz=244,SNR=9.9
PAHR Pah Rah Range 90.51 47 IAmb IAmb 19 54 32.5
comp=Z,13nm,1.2s
BMRM Bremner River 90.51 21 P **P 19 54 18.3 +0.1**
baz=222
QSM Queen of Sheba 90.57 51 P **P 19 54 18.3 -0.7**
QSM IAmb IAmb 19 54 32.5
comp=Z,12nm,1.1s
BC3 Big Chuckawall 90.60 54 P **P 19 54 19.4 0.0**
baz=244,SNR=6.1
NVAR Mina Array Bea 90.66 49 P **P 19 54 19.7 0.0**
comp=Z,3.6nm,0.7s,baz=227,slow=7.9,SNR=36
NVAR LR LR 20 26 22.8
comp=Z,337nm,21.8s,baz=268,slow=30
comp=Z,3.6nm,0.7s
GRAC Grapevine Rang 90.67 50 P **P 19 54 19.3 -0.3**
baz=243,SNR=9.2
WAT1 Susitna Watana 90.71 18 P **P 19 54 20.2 +1.1**
baz=219
G18K Tagagawik 90.76 13 P **P 19 54 19.7 +0.5**
baz=210
NV11 Mina Array Sit 90.76 49 IAmb IAmb 19 54 29.2
comp=Z,14nm,1.1s
GWY Greenwater Val 90.81 51 IAmb IAmb 19 54 29.3
comp=Z,13nm,1.1s
GLA Glamis 90.81 55 P **P 19 54 20.8 +0.5**
baz=244
SLBS Sierra La Lagu 90.89 65 P **P 19 54 20.4 -0.5**
GMRC Granite Mounta 90.93 53 P **P 19 54 20.5 -0.5**
baz=244,SNR=6.2
J05D Fort Rock, OR 91.00 43 IAmb IAmb 19 54 22.2
comp=Z,12nm,0.8s
TUQ Turquoise Moun 91.02 52 P **P 19 54 21.8 +0.5**
baz=244
IRM Iron Mountain 91.05 54 P **P 19 54 21.3 0.0**
baz=244,SNR=11
KVN Kaiserville 91.08 48 IAmb IAmb 19 54 35.0
comp=Z,11nm,1.1s
H04A Detroit Lake 91.09 42 IAmb IAmb 19 54 21.7
comp=Z,11nm,0.9s
WCT Wildcat Mounta 91.11 51 P **P 19 54 21.0 -0.7**
WCT IAmb IAmb 19 54 35.4
comp=Z,15nm,1.1s
G19K Purcell Mounta 91.30 13 P **P 19 54 25.4 +3.7**
baz=211
MCK McKinley 91.31 17 P **P 19 54 22.4 +0.6**
baz=219
BLYC Blythe 91.34 54 IAmb IAmb 19 54 32.2
comp=Z,20nm,1.1s
PINM Pinnacle 91.39 23 P **P 19 54 23.9 +1.5**
baz=226
PINE Pine Mountain 91.43 43 IAmb IAmb 19 54 37.0
comp=Z,23nm,1.1s
TPNV Topopah Spring 91.45 51 P **P 19 54 23.0 -0.3**
TPNV IAmb IAmb 19 54 32.6
comp=Z,13nm,1.0s
TPNV Topopah Spring 91.45 51 P **P 19 54 24.0 +0.7**
baz=244,SNR=10
TPNV Topopah Spring 91.45 51 P **P 19 54 23.0 -0.3**
TPNV pmax pmax
comp=Z,13nm,1.0s
CTG Chitna Glacier 91.61 22 P **P 19 54 24.6 +1.1**
baz=225
I21K Tanana 91.66 15 P **P 19 54 24.2 +0.8**
baz=216
BBB Bella Bella 91.71 33 LR LR 20 27 46.5
comp=Z,172nm,20.3s,baz=230,slow=30
E18K Tukpahlearik C 91.72 11 P **P 19 54 24.2 +0.6**
baz=208
PAX Paxson 91.73 19 P **P 19 54 23.8 -0.1**
baz=222
F19K Shaleruckik Mo 91.75 13 IAmb IAmb 19 54 44.0
comp=Z,29nm,1.9s
F19K Shaleruckik Mo 91.75 13 P **P 19 54 23.6 -0.1**
baz=211
H21K Melozitna Rive 91.85 15 IAmb IAmb 19 54 24.7
comp=Z,17nm,1.8s
H21K Melozitna Rive 91.85 15 P **P 19 54 23.6 -0.7**
baz=215
MLY Manley 91.86 16 P **P 19 54 24.9 +0.5**
baz=217
PDMCI Parker Dam,Lak 91.86 54 P **P 19 54 24.9 -0.2**
baz=245
O28M Mount Upton 91.88 22 P **P 19 54 23.5 -1.4**
baz=226
214A Organ Pipe Nat 91.89 56 P **P 19 54 24.3 -1.0**
baz=246
ZAK Zakamensk 92.13 324 *eP* **P 19 54 24.8 -1.3**
ZAK pmax pmax
comp=Z,27nm,1.4s
WVOR Wild Horse Val 92.28 45 P **P 19 54 25.6 -1.4**
WVOR IAmb IAmb 19 54 29.3
comp=Z,21nm,1.6s
WVOR Wild Horse Val 92.28 45 P **P 19 54 25.6 -1.4**
WVOR pmax pmax
comp=Z,21nm,1.6s
W13A Hualapai Mount 92.39 53 IAmb IAmb 19 54 41.0
comp=Z,10nm,1.2s
HDA Harding Lake 92.39 18 IAmb IAmb 19 54 26.2
comp=Z,24nm,1.6s
HDA Harding Lake 92.39 18 P **P 19 54 26.3 -0.5**
baz=220
H22K Ishtalitna Cre 92.39 15 P **P 19 54 26.4 -0.4**
baz=216
G21K Allakaket 92.40 14 P **P 19 54 26.6 -0.2**
baz=215
PLBC Pleasant Camp 92.41 25 P **P 19 54 27.3 +0.3**
baz=229
YUK3 Moose Creek 92.48 22 P **P 19 54 27.8 +0.3**
baz=226
PRN Pahroc Range 92.51 51 IAmb IAmb 19 54 42.2
comp=Z,19nm,1.1s
R11B Troy Canyon, C 92.53 50 P **P 19 54 26.9 -1.5**
R11B Troy Canyon, C 92.53 50 P **P 19 54 27.5 -0.8**
baz=244,SNR=5.8
YUK6 Outpost Mounta 92.65 23 P **P 19 54 28.5 +0.1**
baz=228
ILAR Eielson Array 92.68 17 P **P 19 54 26.4 -1.7**
comp=Z,0.6nm,0.8s,baz=232,slow=5.0,SNR=6.3
ILAR LR LR 20 33 22.4
comp=Z,206nm,18.7s,baz=228,slow=34
comp=Z,0.6nm,0.8s
POKR Poker Flat Res 92.80 17 P **P 19 54 29.2 +0.5**
J08A Circle Bar Ran 92.81 44 IAmb IAmb 19 54 30.8
comp=Z,7.2nm,0.9s
SKAG Skagway 92.82 25 P **P 19 54 27.9 -1.0**
baz=230
YUK4 Talbot Arm 92.82 22 P **P 19 54 28.4 -0.7**
baz=228
HYT Haines Junctio 92.88 23 P **P 19 54 28.1 -1.2**
baz=228
SCRK Sand Creek 92.92 19 P **P 19 54 29.1 -0.4**
baz=223
L27K Beaver Creek, 92.93 20 P **P 19 54 28.8 -0.6**
baz=225
J25K Salcha River, 92.99 18 P **P 19 54 29.8 +0.2**
baz=222
G22K Bettles 93.19 15 P **P 19 54 30.0 -0.4**
baz=216
B18K Kokolik River 93.24 10 P **P 19 54 30.0 -0.6**
baz=207
E20K Nigu River 93.29 12 P **P 19 54 30.2 -0.7**
baz=212
O30N Mendenhall 93.37 24 P **P 19 54 30.3 -1.1**
baz=230
G08A Pilot Rock 93.39 42 P **P 19 54 31.6 -0.5**
G08A IAmb IAmb 19 54 33.9
comp=Z,12nm,1.3s
T35M Bob Quinn 93.43 29 P **P 19 54 30.5 -1.3**
baz=234
J26L Joseph Creek 93.44 19 P **P 19 54 31.6 -0.1**
baz=223
N30M Aishikik Lake 93.45 23 P **P 19 54 29.8 -2.1**
baz=229
F22K John River 93.51 14 P **P 19 54 31.0 -0.9**
baz=216
P32M Atlin 93.54 25 P **P 19 54 30.9 -1.4**
baz=232
K27K Chicken 93.55 19 IAmb IAmb 19 54 32.8
comp=Z,13nm,1.2s
K27K Chicken 93.55 19 P **P 19 54 31.4 -0.7**
baz=225
S34M Telegraph Cree 93.59 28 P **P 19 54 31.9 -0.5**
S34M IAmb IAmb 19 54 46.2
comp=Z,9.1nm,1.0s
S34M Telegraph Cree 93.59 28 P **P 19 54 32.7 +0.2**
baz=234
D20K Etivluk River 93.59 12 P **P 19 54 31.9 -0.4**
baz=212
TUC Tucson 93.61 57 P **P 19 54 32.1 -1.3**
baz=247
M29M Somme Creek 93.62 22 P **P 19 54 31.8 -0.9**
baz=228
Q32M Nakina River 93.74 26 P **P 19 54 32.0 -1.4**
baz=233
WHY Whitehorse 93.76 24 P **P 19 54 32.8 -0.6**
baz=231
ELK Elko 93.81 48 LR LR 20 27 56.3
comp=Z,180nm,21.0s,baz=328,slow=30
X16A Lo Mia Camp, P 93.94 55 IAmb IAmb 19 54 48.9
comp=Z,8.0nm,1.0s
N31M Braeburn, Yuko 93.95 23 P **P 19 54 34.5 +0.3**
baz=230
SZCU Shurtz Canyon 94.01 51 IAmb IAmb 19 54 37.6
comp=Z,16nm,1.5s
H25L Birch Creek 94.11 17 P **P 19 54 34.0 -0.6**
baz=221
A19K Wainwright 94.11 10 P **P 19 54 34.0 -0.5**
baz=208
U15A North Rim 94.11 52 IAmb IAmb 19 54 42.1
comp=Z,12nm,1.1s
I26K Coal Creek Min 94.14 18 IAmb IAmb 19 54 35.0
comp=Z,14nm,1.4s
I26K Coal Creek Min 94.14 18 P **P 19 54 34.3 -0.5**
baz=224
L29M L29M 94.19 21 IAmb IAmb 19 54 48.1
comp=Z,13nm,1.2s
L29M L29M 94.19 21 P **P 19 54 33.6 -1.6**
baz=228
M30M Minto, Yukon 94.29 22 P **P 19 54 33.9 -1.7**
M30M IAmb IAmb 19 54 48.9
comp=Z,8.2nm,0.9s
M30M Minto, Yukon 94.29 22 P **P 19 54 34.9 -0.8**
baz=229
C21K Knifeblade Rid 94.33 12 P **P 19 54 35.5 -0.2**
baz=214
EGAK Eagle 94.36 19 P **P 19 54 34.3 -1.5**
EGAK IAmb IAmb 19 54 49.1
comp=Z,7.8nm,0.9s
EGAK Eagle 94.36 19 P **P 19 54 35.3 -0.6**
baz=226
DLBC Dease Lake 94.37 27 P **P 19 54 35.4 -0.8**
baz=235
DLBC Dease Lake 94.37 27 LR LR 20 31 53.6
comp=Z,336nm,18.6s,baz=270,slow=32
DAWY Dawson 94.42 20 P **P 19 54 35.1 -1.1**
baz=227
D22K Ayikyak River 94.52 13 P **P 19 54 36.5 0.0**
baz=215
F24K Squaw Lake 94.53 15 P **P 19 54 36.8 +0.2**
baz=220
R33M Jennings River 94.54 26 P **P 19 54 36.9 -0.1**
baz=234
E23K Chandalar 94.54 14 P **P 19 54 37.0 +0.2**
baz=218
B21K Ikpikpuk River 94.75 12 P **P 19 54 37.3 -0.2**
baz=214
F10A Beach Ranch, E 94.78 42 **P 19 54 36.7 -1.7**
F10A IAmb IAmb 19 54 51.1
comp=Z,12nm,1.4s
I27K Kandik River 94.80 18 P **P 19 54 36.9 -1.1**
baz=225
K29M Barlow Dome 94.88 21 P **P 19 54 37.5 -1.0**
baz=229
TOLK Toolik Lake Re 95.01 14 P **P 19 54 38.1 -0.7**
baz=218
D23K Nanushuk River 95.02 14 P **P 19 54 39.8 +0.9**
baz=217
H03S2 Juan Fernandez 95.04 129 T T 21 38 42.1
baz=242,slow=74,SNR=6.0
H03S1 Juan Fernandez 95.05 129 T T 21 38 43.3
baz=242,slow=74,SNR=6.0
H03S3 Juan Fernandez 95.06 129 T T 21 38 42.0
baz=242,slow=74,SNR=6.9
G26K Porcupine Rive 95.16 17 P **P 19 54 39.2 -0.3**
baz=223
I28M Miner Creek 95.20 19 P **P 19 54 38.7 -1.2**
baz=227
H27K Steamboat Moun 95.27 18 P **P 19 54 40.0 -0.1**
baz=225
HLID Hailey 95.55 45 P **P 19 54 41.7 -0.4**
baz=245
D24K Happy Valley 95.58 14 P **P 19 54 40.4 -1.0**
baz=219
F26K Sheenjek River 95.61 16 P **P 19 54 41.7 +0.1**
baz=223
I29M Ogilvie Camp, 95.64 20 P **P 19 54 39.6 -2.1**
I29M IAmb IAmb 19 54 53.5
comp=Z,12nm,1.4s
I29M Ogilvie Camp, 95.64 20 P **P 19 54 41.3 -0.4**
baz=228
G27K Doyon Strip 95.65 18 P **P 19 54 40.4 -1.3**
baz=225
C23K Itkillik River 95.73 13 P **P 19 54 41.9 -0.2**
baz=217
NEW Newport 95.86 40 LR LR 20 33 31.1
comp=Z,169nm,18.4s,baz=259,slow=33
H29M Whitestone 96.20 19 P **P 19 54 45.1 +0.8**
baz=228
MMPY Sheldon Lake, 96.33 24 P **P 19 54 44.0 -0.9**
baz=234
E27K Coleen River 96.64 17 P **P 19 54 45.4 -0.9**
baz=225
F28M Old Crow 96.71 17 P **P 19 54 45.2 -1.4**
baz=227
EPYK Eagle Plains 96.80 19 P **P 19 54 46.0 -1.0**
baz=230
PLCA Paso Flores 96.87 139 LR LR 20 29 56.4
comp=Z,74nm,21.1s,baz=222,slow=30
C26K Camden Bay 97.06 15 P **P 19 54 48.2 +0.1**
baz=222
G30M tAoh Zraii Nji 97.35 19 IAmb IAmb 19 54 49.2
comp=Z,12nm,1.1s
G30M tAoh Zraii Nji 97.35 19 P **P 19 54 48.5 -1.0**
baz=230
E28M Babbage River 97.48 17 P **P 19 54 49.2 -0.8**
baz=227
D27M Malcolm River 97.54 16 P **P 19 54 50.1 -0.3**
baz=226
MNTX Cornudas Mount 97.64 59 P **P 19 54 49.6 -2.1**
baz=249
ANMO Albuquerque 97.94 56 LR LR 20 32 12.2
comp=Z,207nm,19.1s,baz=346,slow=31
TXAR Lajitas Array 98.20 62 P **P 19 54 54.5 +0.2**
comp=Z,0.8nm,0.9s,baz=189,slow=7.0,SNR=5.1
TXAR LR LR 20 30 15.2
comp=Z,348nm,21.8s,baz=238,slow=30
comp=Z,0.8nm,0.9s
PDAR Pinedale Array 98.51 47 P Pdif 19 54 57.0 +1.5
comp=Z,0.5nm,0.7s,baz=216,slow=4.6,SNR=3.8
PDAR LR LR 20 31 43.0
comp=Z,98nm,21.7s,baz=264,slow=31
comp=Z,0.5nm,0.7s
WMQ Urumqi 98.70 314 *eP* Pdif 19 54 57.3 +1.1
INK Inuvik 98.98 19 LR LR 20 35 45.0
comp=Z,162nm,19.3s,baz=180,slow=33
MKAR Makanchi Array 103.29 315 Pdiff **Pdif 19 55 15.9 -0.6**
comp=Z,0.4nm,0.7s,baz=108,slow=7.7,SNR=3.1
MKAR PP **PP 19 59 33.1 +0.9**
comp=Z,0.8nm,0.8s,baz=123,slow=4.5,SNR=4.8
MKAR PKKPbc **PKKPbc 20 11 10.5 -2.0**
comp=Z,1.2nm,0.8s,baz=316,slow=3.3,SNR=5.6
ZALV Zalesovo Beam 103.91 323 Pdiff **Pdif 19 55 17.2 -1.8**
comp=Z,0.3nm,0.4s,baz=219,slow=1.8,SNR=2.0
ZALV PKiKP **PP 19 59 35.6 -1.0**
comp=Z,1.1nm,0.9s,baz=342,slow=1.9,SNR=3.7
KURBB Kurchatov Arra 106.73 318 PKiKP **PKiKP 19 59 41.2 -0.6**
comp=Z,1.1nm,0.8s,baz=81,slow=2.1,SNR=8.3
BVAR Borovoye Array 112.13 320 PKiKP **PKiKP 19 59 51.7 -0.3**
comp=Z,2.3nm,0.7s,baz=78,slow=1.5,SNR=16
BVAR PKKPbc **PKKPbc 20 10 43.5 -1.3**
comp=Z,0.8nm,0.8s,baz=349,slow=6.0,SNR=4.2
BRVK Borovoye 112.19 320 *c i* PKIKP **PKiKP 19 59 52.3 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,1.3s
SVE Sverdlovsk 117.89 324 *e*PKIKP **PKPdf 20 00 02.9 0.0**
ARU Arti 119.06 323 PKPdf **PKPdf 20 00 03.9 -1.2**
ARU Arti 119.06 323 *i* PKIKP **PKiKP 20 00 05.8 +0.6**
ARU 20 01 24.6
ARU 20 07 17.8
ARU SS SS 20 17 41.1 -4.0
GEYT Alibeck 119.11 302 **PKPdf 20 00 04.1 -1.8**
GEYT Alibeck 119.11 302 PKIKP **PKPdf 20 00 04.1 -1.8**
GEYT Alibeck 119.11 302 PKP **PKPdf 20 00 03.6 -2.3**
comp=Z,2.3nm,0.9s,baz=276,slow=2.8,SNR=6.7
KIRV Kirov 123.60 327 *c i* PKIKP **PKPdf 20 00 14.1 +0.3**
PRGR Permogore 124.55 331 *e*PKIKP **PKPdf 20 00 14.2 -1.3**
PRGR pmax pmax
comp=Z,17nm,1.1s
ARCES ARCESS Array B 127.38 345 PKP **PKPdf 20 00 19.8 -1.0**
comp=Z,1.9nm,0.6s,baz=70,slow=1.4,SNR=6.1
KLMR Klimovskoe 127.58 331 *e*PKPdf **PKPdf 20 00 19.5 -1.9**
KLMR AMP 20 00 21.0
comp=Z,46nm,2.1s
KLMR Klimovskoe 127.58 331 *e*PKIKP **PKPdf 20 00 19.4 -1.9**
KLMR pmax pmax
comp=Z,46nm,2.1s
BDFB Brasilia 128.13 133 PKP **PKPdf 20 00 23.6 -0.3**
comp=Z,8.0nm,0.7s,baz=186,slow=4.3,SNR=9.1
MOS Moscow 130.59 326 *e*PKIKP **PKPdf 20 00 25.1 -2.1**
KIV Kislovodsk 130.66 310 *e*PKIKP **PKPdf 20 00 26.9 -1.0**
KIV pmax pmax
comp=Z,10.0nm,1.1s
OBN Obninsk 131.39 326 *e*PKIKP **PKPdf 20 00 28.1 -0.6**
OBN *e* 20 02 46.7
OBN pmax pmax
comp=Z,5.0nm,1.1s
FINES FINESS Array B 132.75 337 PKP **PKPdf 20 00 30.7 -0.5**
comp=Z,1.6nm,0.7s,baz=155,slow=21,SNR=4.4
NACGM Naroch 136.42 329 *e*PKP **PKPdf 20 00 35.0 -3.2**
comp=Z,20nm,0.8s,baz=56
AKASG Malin Array Be 137.31 323 PKP **PKPdf 20 00 39.4 -0.6**
comp=Z,2.0nm,0.6s,baz=61,slow=2.1,SNR=8.2
AKBB Malin Array Si 137.31 323 **PKPdf 20 00 39.1 -0.9**
AKBB Malin Array Si 137.31 323 *c i* PKIKP **PKPdf 20 00 40.2 +0.2**
NOA NORSAR Array B 137.75 344 PKP **PKPdf 20 00 40.4 -0.2**
comp=Z,1.0nm,0.9s,baz=358,slow=4.0,SNR=3.2
BRTR Keskin Array B 138.06 306 PKP **PKPdf 20 00 41.7 -0.2**
comp=Z,1.0nm,0.8s,baz=126,slow=3.7,SNR=2.1
BURAR Bucovina Array 141.08 320 ⇑P **PKPdf 20 00 47.5 +0.4**
BURAR Bucovina Array 141.08 320 PKPpre PKPpre 20 00 37.7
BURAR **PKPdf 20 00 45.5 -1.7**
BURAR Bucovina Array 141.08 320 ⇑PKIKP **PKPdf 20 00 47.5 +0.4**
BEL Belsk 141.13 329 *e*PKPdf **PKPdf 20 00 47.8 +0.9**
KWP Kalwaria Pacla 141.46 325 *e*PKPdf **PKiKP 20 00 50.5 +0.1**
KOLS Kolonicke sedl 142.08 324 *e*PKP **PKPdf 20 00 50.2 +1.4**
KOLS Kolonicke sedl 142.08 324 *e*PKIKP **PKPdf 20 00 50.2 +1.4**
VOIR 142.20 317 ⇑P **PKPdf 20 00 46.9 -2.3**
VOIR 142.20 317 ⇑PKIKP **PKPdf 20 00 46.9 -2.3**
TRPA Tarpa 142.37 323 ⇑P **PKPdf 20 00 47.5 -1.7**
ARR Arges 142.49 317 ⇑P **PKPdf 20 00 43.4 -6.3**
OJC Ojcow 142.63 327 *e*PKPdf **PKPdf 20 00 49.8 +0.1**
MARR Marisel-Cluj 142.79 320 ⇑P **PKPdf 20 00 46.9 -3.3**
NIE Niedzica 142.86 326 *e*PKPdf **PKPdf 20 00 50.9 +0.8**
LOT Lotru 143.00 318 ⇑P 20 00 45.9
LANS Liptovska Anna 143.45 326 *e*PKP **PKPdf 20 00 52.0 +0.8**
LANS Liptovska Anna 143.45 326 *e*PKIKP **PKPdf 20 00 52.0 +0.8**
GZR Gura Zlata 143.63 319 ⇑P PKPbc 20 00 49.6 +0.4
GZR Gura Zlata 143.63 319 ⇑PKHKP PKPpre 20 00 49.6
SURR Surduc 143.85 319 ⇑P PKPbc 20 00 50.1 +0.4
SIRR Siria 143.87 320 ⇑P PKPbc 20 00 50.5 +0.8
KSP Ksiaz 143.91 330 *e*PKPdf PKPbc 20 00 50.4 +0.7
MPEP Malo Peshtene 143.96 315 *e*P PKPab 20 00 49.6 +0.1
PSZ Piszkesteto 143.96 324 ⇑P PKPbc 20 00 50.8 +0.7
PSZ Piszkesteto 143.96 324 ⇑PKIKP PKPbc 20 00 50.8 +0.8
PGB Panagyurishte 144.02 313 *e*P **PKPab 20 00 50.1 +0.3**
MORC Moravsky Berou 144.03 328 ⇑P **PKPdf 20 00 51.8 -0.4**
MORC Moravsky Berou 144.03 328 PKPdf **PKPab 20 00 50.0 +0.4**
MORC Moravsky Berou 144.03 328 *e*PKP PKPbc 20 00 50.3 +0.1
MORC Moravsky Berou 144.03 328 ⇑PKIKP **PKPdf 20 00 51.8 -0.4**
OSTC Ostas 144.15 330 *e*PKP PKPbc 20 00 50.7 +0.2
OSTC Ostas 144.15 330 *e*PKIKP PKPbc 20 00 50.7 +0.2
MAUC Maruska 144.16 327 *e*PKP **PKPdf 20 00 52.5 0.0**
MAUC *ex* x 20 01 00.6
VYHS Vyhne 144.19 325 *e*PKP PKPbc 20 00 51.6 +1.0
VYHS Vyhne 144.19 325 *e*PKIKP PKPbc 20 00 51.6 +1.0
KRLC Kraliky 144.21 329 *e*PKP PKPbc 20 00 50.8 +0.1
KRLC Kraliky 144.21 329 *e*PKIKP PKPbc 20 00 50.8 +0.1
BZS Buzias 144.23 320 ⇑P PKPbc 20 00 51.2 +0.3
BZS Buzias 144.23 320 ⇑PKIKP PKPbc 20 00 51.2 +0.4
DPC Dobruska-Polom 144.24 330 *e*PKP **PKPab 20 00 50.7 +0.3**
DPC *ep*PKP **PKiKP 20 00 59.7 +3.5**
DPC Dobruska-Polom 144.24 330 *e*PKIKP **PKPab 20 00 50.7 +0.3**
UPC Upice 144.27 330 *e*PKP PKPbc 20 00 51.5 +0.7
UPC *ep*PKP **PKiKP 20 00 58.2 +2.0**
UPC Upice 144.27 330 *e*PKIKP PKPbc 20 00 51.5 +0.7
UPC *e* 20 00 58.2
JAVC Velka Javorina 144.56 327 *e*PKP **PKPdf 20 00 53.6 +0.4**
MDVR Moldovita 144.59 318 ⇑P PKPbc 20 00 52.5 +0.4
VTS Vitosha 144.61 314 ⇑P PKPbc 20 00 53.1 +0.7
VTS Vitosha 144.61 314 *e*P **PKPab 20 00 51.2 -1.0**
VTS Vitosha 144.61 314 ⇑PKIKP PKPbc 20 00 53.1 +0.8
MMB Musomishta 144.70 312 *e*P **PKPab 20 00 52.0 -0.4**
VRAC Vranov 144.81 328 ⇑P **PKPdf 20 00 53.7 +0.1**
VRAC Vranov 144.81 328 *e*PKP **PKPdf 20 00 53.4 -0.2**
VRAC Vranov 144.81 328 ⇑PKIKP **PKPdf 20 00 53.7 +0.1**
VRAC Vranov 144.81 328 PKP **PKPab 20 00 52.7 +0.2**
comp=Z,7.1nm,0.7s,baz=50,slow=2.9,SNR=15
SMOL Smolenice 144.31 327 *e*PKIKP **PKPdf 20 00 54.5 +0.8**
PVCC Panska Ves 144.92 331 *e*PKP PKPbc 20 00 53.4 +0.5
PVCC *ex* x 20 00 59.4
PVCC Panska Ves 144.92 331 *e*PKIKP PKPbc 20 00 53.4 +0.5
PVCC *e* 20 00 59.4
FLTG Flechtingen 144.93 336 *e*PKPbc PKPbc 20 00 53.5 +0.6
baz=38,slow=2.8
BRG Berggiesshubel 144.94 332 *i* PKIKP **PKPdf 20 00 54.2 +0.5**
BRG 20 01 02.6
BRG pmax pmax
comp=Z,106nm,1.0s
BRG pmax pmax
comp=Z,88nm,1.1s
BRG Berggiesshubel 144.94 332 *e*PKPbc **PKPdf 20 00 54.6 +0.9**
baz=38,slow=2.8
BRG *ep*PKPbc **PKiKP 20 01 02.8 +5.3**
baz=38,slow=2.8
BRG Berggiesshubel 144.94 332 *i* PKP **PKPdf 20 00 54.2 +0.5**
BRG Amp 20 00 55.2

comp=Z,106nm,1.0s
BRG Berggiesshubel 144.94 332 Amp 20 01 03.5
comp=Z,88nm,1.1s
BRG Berggiesshubel 144.94 332 P **PKiKP 20 01 02.6 +5.1**
KKB Krupnik 145.00 313 *eP* **PKPbc 20 00 52.9 -0.6**
CLL Collm 145.02 333 PKPdf **PKPbc 20 00 53.0 -0.1**
CLL Collm 145.02 333 ||*i*PKIKP **PKPbc 20 00 52.9 -0.3**
CLL *i* 20 00 55.8
CLL pmax pmax
comp=Z,91nm,1.0s
CLL Collm 145.02 333 *e*PKPbc **PKPdf 20 00 53.9 0.0**
baz=38,slow=2.8
CLL *ep*PKPbc **PKiKP 20 01 02.0 +4.3**
baz=38,slow=2.8
CLL Collm 145.02 333 *e*PKSbc PKSbc 20 04 38.0 +3.7
CLL Collm 145.02 333 ||*i*PKPbc **PKPbc 20 00 52.9 -0.3**
comp=Z,91nm,1.0s
CLL Collm 145.02 333 *i* x x 20 00 55.8
KRUC Moravsky 145.07 328 *e*PKP **PKPab 20 00 53.9 +0.5**
MODS Modra-Piesok 145.07 326 *e*PKP **PKPdf 20 00 54.6 +0.5**
MODS Modra-Piesok 145.07 326 *e*PKIKP **PKPdf 20 00 54.6 +0.5**
BOVS Bovan 145.15 317 ⇑P **PKPab 20 00 54.2 +0.3**
FBE Freiberg 145.16 333 *e*PKPbc **PKPdf 20 00 54.9 +0.8**
baz=38,slow=2.8
FBE *ep*PKPbc **PKiKP 20 01 03.2 +5.2**
baz=38,slow=2.8
NRDL Niedersach Rie 145.22 337 *e*PKPbc **PKPdf 20 00 54.8 +0.8**
baz=38,slow=2.8
NRDL *ep*PKPbc **PKiKP 20 01 03.1 +5.2**
baz=38,slow=2.8
GOPC GO Pecny, Ondr 145.25 330 *e*PKP **PKPab 20 00 54.4 +0.3**
GOPC *ex* x 20 01 01.7
GOPC GO Pecny, Ondr 145.25 330 *e*PKIKP **PKPab 20 00 54.4 +0.3**
GOPC *e* 20 01 01.7
ZST Bratislava 145.28 326 *e*PKP **PKPdf 20 00 55.8 +1.4**
ZST Bratislava 145.28 326 *e*PKIKP **PKPdf 20 00 55.8 +1.4**
RETH Rethem/Aller, 145.28 338 *e*PKPbc **PKPdf 20 00 54.8 +0.6**
baz=38,slow=2.8
RETH *ep*PKPbc **PKiKP 20 01 03.2 +5.2**
baz=38,slow=2.8
ASSE Asse, Remlinge 145.30 336 *e*PKPbc **PKPdf 20 00 55.0 +0.8**
baz=38,slow=2.8
ASSE *ep*PKPbc **PKiKP 20 01 03.4 +5.3**
baz=38,slow=2.8
PRA Prague 145.30 331 *e*PKP **PKPdf 20 00 54.8 +0.4**
PRA *ex* x 20 01 01.7
PRA Prague 145.30 331 *e*PKIKP **PKPdf 20 00 54.8 +0.4**
PRA *e* 20 01 01.7
PRU Pruhonice 145.31 331 *e*PKP **PKPbc 20 00 54.3 +0.1**
PRU *ex* x 20 01 02.2
PRU Pruhonice 145.31 331 *e*PKIKP **PKPbc 20 00 54.3 +0.1**
PRU *e* 20 01 02.2
TREC Trest 145.35 329 *e*PKP **PKPab 20 00 55.0 +0.5**
TREC *ex* x 20 01 02.6
TREC Trest 145.35 329 *e*PKIKP **PKPab 20 00 55.0 +0.5**
TREC *e* 20 01 02.6
HSKC Hora Svate Kat 145.36 332 *e*PKP **PKPbc 20 00 54.5 +0.2**
HSKC *ex* x 20 01 02.5
FRGS Fruska Gora 145.56 320 ⇑P **PKPab 20 00 55.9 +0.5**
FRGS Fruska Gora 145.56 320 ||*i*P **PKPdf 20 00 55.2 +0.2**
NEUB Neuenburg 145.60 334 *e*PKPbc **PKPab 20 00 56.2 +0.9**
baz=38,slow=2.8
NEUB *ep*PKPbc **PKiKP 20 01 04.5 +5.7**
baz=38,slow=2.8
CLZ Clausthal 145.65 336 *e*PKPbc **PKPab 20 00 56.5 +1.0**
baz=38,slow=2.8
CLZ *ep*PKPbc **PKiKP 20 01 04.8 +5.8**
baz=38,slow=2.8
MORH Mrgy, Hungar 145.65 322 ⇑P **PKPab 20 00 55.9 +0.3**
ZVC Zvikov 145.86 330 *e*PKP **PKPdf 20 00 55.5 +0.1**
ZVC *ex* x 20 01 04.3
EKA Eskdalemuir Ar 145.92 352 PKPbc **PKPdf 20 00 54.6 -0.6**
comp=Z,7.9nm,0.7s,baz=358,slow=3.3,SNR=15
WERD Werda 145.96 333 *e*PKPbc **PKPab 20 00 57.4 +0.7**
baz=38,slow=2.8
WERD *ep*PKPbc **PKiKP 20 01 05.5 +5.8**
baz=38,slow=2.8
PLN Plauen 145.99 333 *e*PKPbc **PKPab 20 00 57.4 +0.6**
baz=38,slow=2.8
PLN *ep*PKPbc **PKiKP 20 01 05.6 +5.9**
baz=38,slow=2.8
DIVS Divibare 146.00 318 ||*i*P **PKPdf 20 00 55.4 -0.5**
RONA Rosalia, Austr 146.01 326 *i* PKP **PKPdf 20 00 56.2 +0.4**
comp=Z,122nm,1.6s,SNR=38
RONA *ep*PKiKP **pPKiKP 20 01 05.7 +1.8**
comp=Z,23nm,1.0s
GUNZ Gunzen 146.01 333 *e*PKPbc **PKPab 20 00 57.7 +0.8**
baz=38,slow=2.8
GTTG Gottingen 146.03 336 *e*PKPbc **PKPab 20 00 57.6 +0.6**
baz=38,slow=2.8
TEKS Tekeris 146.05 319 ⇑*i*P **PKPdf 20 00 56.4 +0.5**
WERN Wernitzgruen 146.05 333 *e*PKPbc **PKPab 20 00 57.8 +0.8**
baz=38,slow=2.8
NKC Novy Kostel 146.06 333 *e*PKP **PKPbc 20 00 56.6 +0.1**
NKC *ex* x 20 01 05.3
NKC Novy Kostel 146.06 333 *e*PKP2 **PKPbc 20 00 56.6 +0.1**
CONA Conrad Observa 146.08 327 *i* PKP **PKPdf 20 00 55.9 0.0**
comp=Z,65nm,1.1s,SNR=64
CONA *ep*PKiKP **pPKiKP 20 01 06.2 +2.1**
comp=Z,36nm,0.9s
MOX Moxa 146.09 334 *e*PKPbc **PKPab 20 00 57.3 +0.1**
baz=38,slow=2.8
MOX *eL* L 21 06 25.4
comp=Z,142nm,21.5s
IBBN Ibbenburen 146.18 339 *e*PKPbc **PKPab 20 00 57.6 +0.1**
baz=38,slow=2.8
CKRC Cesky Krumlov 146.24 329 *e*PKP **PKPdf 20 00 56.0 -0.1**
CKRC *ex* x 20 01 05.5
CKRC Cesky Krumlov 146.24 329 *e*PKP2 **PKPdf 20 00 56.0 -0.1**
KHC Kasperske Hory 146.36 330 *e*PKP **PKPdf 20 00 56.4 +0.1**
KHC *ex* x 20 01 05.8
KHC Kasperske Hory 146.36 330 *e*PKP2 **PKPdf 20 00 56.4 +0.1**
MANZ Manzenberg 146.39 333 *e*PKPbc **PKPab 20 00 58.6 +0.2**
baz=38,slow=2.8
MANZ *ep*PKPbc sPKPab 20 01 06.9 +2.7
baz=38,slow=2.8
SJES Sjenica 146.44 317 ||*i*P **PKPdf 20 00 56.3 -0.4**
BBLS Lazići 146.48 318 ||*i*P **PKPbc 20 00 58.2 +0.1**
GEC2 GERESS Array S 146.51 330 *e*PKPbc **PKPab 20 00 59.0 0.0**
baz=38,slow=2.8
GEC2 *ep*PKPbc sPKPab 20 01 07.3 +2.5
baz=38,slow=2.8
GERES GERESS Array B 146.51 330 **PKPdf 20 00 55.8 -0.8**
GERES GERESS Array B 146.51 330 PKPbc **PKPdf 20 00 56.7 +0.1**
comp=Z,26nm,0.7s,baz=29,slow=3.3,SNR=102
ROTZ Rotzenmuhle 146.51 332 *e*PKPbc **PKPab 20 00 59.1 +0.3**
baz=38,slow=2.8
ROTZ *ep*PKPbc sPKPab 20 01 07.3 +2.7
baz=38,slow=2.8
RUDO Rudo 146.63 318 ⇑*i*P **PKPdf 20 00 57.9 +1.0**
FNA Florina 146.64 312 PKPdf **PKPdf 20 00 55.9 -1.1**
FNA Florina 146.64 312 PKIKP **PKPdf 20 00 55.9 -1.1**
WET Wettzell 146.67 331 *e*PKPbc **PKPab 20 00 59.6 0.0**
baz=38,slow=2.8
WET *ep*PKPbc sPKPab 20 01 07.8 +2.6
baz=38,slow=2.8
ARSA Arzberg 146.70 326 *i* PKP **PKPbc 20 00 59.2 +0.6**
comp=Z,25nm,1.6s,SNR=11
KASTN Kahler Asten 146.88 337 *e*PKPbc **PKPbc 20 00 59.8 +0.9**
baz=38,slow=2.8
KASTN *ep*PKPbc sPKPab 20 01 08.0 +2.0
baz=38,slow=2.8
MOA Molln 146.93 328 *i* PKP **PKPbc 20 00 59.9 +0.8**
comp=Z,36nm,1.2s,SNR=12
GRF Grafenberg Arr 146.99 333 *e*PKPbc **PKPab 20 01 00.3 -0.4**
baz=38,slow=2.8
GRF *ep*PKPbc **sPKPab 20 01 08.7 +2.3**
baz=38,slow=2.8
GRF *eL* L 21 03 14.7
comp=Z,145nm,21.7s
PDG Podgorica 147.31 316 ⇑P **PKPbc 20 01 00.7 +0.3**
PDG Podgorica 147.31 316 **PKPbc 20 00 59.8 -0.5**
PDG Podgorica 147.31 316 ||*i*P **PKPbc 20 00 59.8 -0.5**
SOKA Soboth 147.33 326 *i* PKP **PKPdf 20 00 57.5 -0.5**
comp=Z,11nm,1.4s,SNR=29
BLY Banja Luka 147.33 321 ||*i*P **PKPbc 20 01 00.4 0.0**
A051A Mrakovica 147.34 322 ||*i*P **PKPbc 20 01 00.6 +0.1**
BIOA Bad Ischl, Aus 147.35 328 *e*PKP **PKPdf 20 00 57.4 -0.6**
comp=Z,9.2nm,1.4s
BIOA *i* pPKP **PKPbc 20 01 00.7 +0.3**
comp=Z,13nm,1.0s,SNR=5.8
DRME Dracevica, Mon 147.47 316 ||*i*P **PKPbc 20 01 00.3 -0.5**
BRY Bratogost 147.52 317 ⇑*i*P **PKPbc 20 01 01.1 0.0**
MGRS Mrkonjic Grad 147.58 321 ⇑*i*P **PKPbc 20 01 01.8 +0.7**
CRES Cresnjev 147.65 324 ||*i*P **PKPbc 20 01 00.6 -0.6**

TNS Taunus Mts 147.67 336 *e*PKPbc **PKPbc 20 01 02.1 +0.9**
baz=38,slow=2.8
TNS *ep*PKPbc **sPKPab 20 01 10.3 +1.1**
baz=38,slow=2.8
OBKA Obir 147.69 326 *e*PKP **PKPbc 20 01 01.2 -0.2**
comp=Z,22nm,1.0s
OBKA Obir 147.69 326 ⇑*i*P **PKPdf 20 01 00.0 +1.3**
RJOB Jochberg 147.72 329 *e*PKPbc **PKPbc 20 01 02.0 +0.6**
baz=38,slow=2.8
TREB Trebinje 147.74 317 ⇑*i*P **PKPbc 20 01 01.3 -0.2**
HCY Herceg Novi 147.78 317 ⇑*i*P **PKPbc 20 01 01.3 -0.4**
KBA Koelnbreinsper 147.92 328 *e*PKP **PKPbc 20 01 01.8 -0.3**
comp=Z,38nm,1.1s
BOJS Bojanci 147.96 324 *e*P **PKPdf 20 00 58.4 -0.6**
BOJS Bojanci 147.96 324 *i* PKPbc **PKPbc 20 01 02.4 +0.3**
BOJS *i* 20 01 10.7
BOJS Bojanci 147.96 324 *i* **PKPab 20 01 10.7 +6.0**
LESA Schwarzleotal 148.00 329 *e*PKP **PKPdf 20 00 58.8 -0.4**
comp=Z,4.9nm,1.1s
LESA *e*PKP **PKPbc 20 01 02.4 +0.2**
comp=Z,35nm,0.8s
LESA *ep*PKP **sPKPab 20 01 10.7 +0.1**
comp=Z,62nm,1.2s
LJU Ljubljana 148.01 325 *e*PKPdf **PKPdf 20 00 57.6 -1.5**
LJU *i* PKPbc **PKPbc 20 01 02.1 0.0**
LJU *i* 20 01 10.5
LJU Ljubljana 148.01 325 ||P **PKPbc 20 01 02.2 0.0**
LJU Ljubljana 148.01 325 AML AML
comp=E,197μm,0.9s
LJU Ljubljana 148.01 325 AML AML
comp=N,375μm,1.3s
STON Ston 148.06 318 *e*P **PKPbc 20 01 01.9 -0.5**
MYKA Terra Mystica 148.08 327 *i* PKP **PKPbc 20 01 02.2 -0.2**
comp=N,22nm,0.8s,SNR=11
BTNL Ternell 148.19 339 *d*PKiKP **PKPbc 20 01 02.6 +0.1**
MEM Membach 148.21 339 *d*PKiKP **PKPbc 20 01 02.7 +0.1**
PRED Cave del Predi 148.24 327 **PKPbc 20 01 02.1 -0.7**
CEY Cerknica 148.26 325 ||*i*P **PKPbc 20 01 02.6 -0.3**
CEY Cerknica 148.26 325 *i* PKPbc **PKPbc 20 01 02.6 -0.3**
BSTI Sart Tilman 148.37 340 *d*PKiKP **PKPbc 20 01 03.2 +0.2**
BHOU Houvegnez 148.43 339 *d*PKiKP **PKPbc 20 01 03.6 +0.5**
SABO M.te Sabotino 148.53 326 **PKPdf 20 00 58.8 -1.2**
STU Stuttgart 148.54 334 **PKPbc 20 01 03.7 +0.2**
STU Stuttgart 148.54 334 PKP2 **PKPbc 20 01 03.7 +0.2**
ABTA Abfaltersbach 148.56 328 *i* PKP **PKPdf 20 00 59.4 -0.7**
comp=N,8.7nm,1.0s,SNR=28
ABTA *e*PKP **PKPbc 20 01 03.6 -0.1**
comp=N,28nm,0.8s
ABTA *ep*PKP **sPKPab 20 01 11.7 -1.2**
comp=N,50nm,1.0s
WATA Walderalm 148.59 330 *e*PKP **PKPdf 20 00 59.8 -0.3**
comp=N,12nm,1.3s
WATA *i* PKP **PKPbc 20 01 04.1 +0.2**
comp=N,26nm,1.0s,SNR=6.9
WATA *ep*PKP **sPKPab 20 01 12.5 -0.6**
comp=N,30nm,0.8s
BCLA Clavier 148.60 340 *d*PKiKP **PKPbc 20 01 02.5 -1.0**
SKDS Skadanscina 148.60 325 ||*i*P **PKPbc 20 01 02.7 -1.1**
WTTA Wattenberg 148.61 330 *i* PKP **PKPdf 20 01 00.1 -0.1**
comp=N,11nm,1.2s,SNR=24
WTTA *e*PKiKP **PKPbc 20 01 04.4 +0.5**
comp=N,63nm,1.2s
WTTA *ep*PKP **sPKPab 20 01 12.8 -0.4**
comp=N,37nm,0.9s
BGES Gesves 148.70 340 *d*PKiKP **PKPbc 20 01 03.9 +0.1**
MOTA Moosalm 148.80 330 *e*PKP **PKPdf 20 01 00.0 -0.5**
comp=N,13nm,1.3s
MOTA *i* PKP **PKPbc 20 01 04.6 +0.3**
comp=N,42nm,0.9s,SNR=14
MOTA *ep*PKP **sPKPab 20 01 13.3 -0.6**
comp=N,50nm,0.8s
SQTA Sankt Quirin 148.84 330 *e*PKP **PKPdf 20 00 00.3 -0.2**
comp=N,6.0nm,1.1s
SQTA *i* PKiKP **PKPbc 20 01 04.9 +0.5**
comp=N,43nm,0.9s,SNR=18
SQTA *ep*PKP **sPKPab 20 01 13.2 -0.9**
comp=N,39nm,1.0s
RETA Reutte 148.85 331 *e*PKP **PKPdf 20 01 00.6 +0.1**
comp=N,1.7nm,0.5s
RETA *i* PKP **PKPbc 20 01 04.7 +0.3**
comp=N,20nm,0.9s,SNR=7.5
RCHB Rochefort 148.85 340 *d*PKiKP **PKPbc 20 01 03.9 -0.3**
BMRD Maredsous 148.87 340 *d*PKiKP **PKPbc 20 01 04.7 +0.5**
CIMO Cimolais 148.90 328 ⇑P **PKPdf 20 01 00.3 -0.3**
WLF Walferdange 148.96 338 **PKPbc 20 01 04.0 -0.5**
WLF Walferdange 148.96 338 *d*PKiKP **PKPbc 20 01 04.9 +0.4**
WLF Walferdange 148.96 338 PKP2 **PKPbc 20 01 04.0 -0.5**
WLF Walferdange 148.96 338 *e*PKPbc **PKiKP 20 01 06.0 +0.2**
baz=38,slow=2.8
UBR Ueberruh 149.00 332 *e*PKPbc **PKPbc 20 01 05.4 +0.6**
baz=38,slow=2.8
UBR *ep*PKPbc **sPKPab 20 01 13.6 -1.0**
baz=38,slow=2.8
FETA Feichten 149.21 330 *i* PKP **PKPdf 20 01 01.1 -0.1**
comp=N,9.9nm,1.1s,SNR=29
FETA *e*PKiKP **PKPbc 20 01 06.0 +0.5**
comp=N,60nm,1.1s
BFO Black Forest 149.24 334 PKPdf **PKPdf 20 00 57.9 -3.2**
BFO **PKPbc 20 01 04.9 -0.4**
BFO Black Forest 149.24 334 PKP2 **PKPbc 20 01 04.9 -0.4**
BFO 21 00 57.9
BFO Black Forest 149.24 334 *e*PKPbc **PKPbc 20 01 05.8 +0.5**
baz=38,slow=2.8
DAVA Damuels 149.40 331 *e*PKP **PKPdf 20 01 01.5 0.0**
comp=N,5.6nm,1.1s
DAVA *i* PKiKP **PKPbc 20 01 06.3 +0.4**
comp=N,29nm,1.0s,SNR=12
CTI Castel Tesino 149.47 328 PKPdf **PKPdf 20 00 59.5 -2.1**
CTI **PKPbc 20 01 05.5 -0.5**
CTI Castel Tesino 149.47 328 PKIKP **PKPdf 20 00 59.5 -2.1**
CTI 20 01 05.5
FUORN Ofenpass-Fuorn 149.72 330 PKPdf **PKPdf 20 01 00.8 -1.4**
FUORN PKPbc **PKPbc 20 01 07.0 +0.1**
FUORN PKPab **sPKPab 20 01 15.6 -2.2**
DAVOX Davos/Dischmat 149.78 331 PKP **PKPdf 20 01 01.4 -0.8**
comp=N,4.5nm,1.2s,baz=305,slow=2.2,SNR=6.9
DAVOX PKPbc **PKPbc 20 01 07.2 +0.3**
comp=N,46nm,0.9s,baz=30,slow=1.2,SNR=67
MATE Matera 149.85 315 ⇑P **PKPbc 20 01 07.2 +0.2**
SGRT San Giovanni R 149.89 318 PKPdf **PKPdf 20 00 59.8 -2.5**
SGRT **sPKPdf 20 01 06.4 -1.3**
SGRT PKPab **pPKPab 20 01 14.6 -2.3**
TUE Stuetta 150.25 331 PKPdf **PKPdf 20 01 01.2 -1.7**
TUE PKPbc **PKPbc 20 01 08.3 +0.2**
CUC Castrocucco 150.77 315 **PKPbc 20 01 08.1 -1.2**
NRCA Norcia 150.84 322 **PKPbc 20 01 08.6 -0.8**
PTRJ Pietraroja 150.86 318 P **PKPab 20 01 15.6 -1.2**
INTR Introdacqua 150.87 320 PKPdf **PKPdf 20 01 01.4 -2.5**
INTR PKPbc **PKPbc 20 01 09.8 +0.3**
SENIN Lac Senin/Sane 151.23 333 PKPdf **PKPdf 20 01 03.2 -1.2**
SENIN PKPbc **PKPbc 20 01 09.2 -1.2**
SENIN **PKPab 20 01 18.3 0.0**
CLF Chambon-Foret 151.66 341 PKPdf **PKPdf 20 01 03.8 -1.0**
BNI Bardonecchia 152.53 332 PKPdf **PKPdf 20 01 05.4 -0.9**
BNI PKPbc **PKPbc 20 01 13.4 +0.1**
BNI PKPab **PKPab 20 01 21.2 -2.5**
BNI Bardonecchia 152.53 332 PKIKP **PKPbc 20 01 13.4 +0.1**
BNI 20 01 21.2
VAE Valguarnera 152.96 311 PKPab **PKPab 20 01 23.4 -2.3**
comp=N,12nm,0.9s,baz=138,slow=20,SNR=3.0
SSB Saint Sauveur 153.24 335 PKPdf **PKPdf 20 01 05.6 -1.6**
SSB **PKPbc 20 01 14.1 -0.6**
SSB **PKPab 20 01 26.4 -0.1**
SSB Saint Sauveur 153.24 335 PKIKP **PKPdf 20 01 05.6 -1.6**
SSB 20 01 14.1
SSB 20 01 26.4
ESDC Sonseca Array 161.11 343 PKPdf **PKPdf 20 01 16.4 -1.0**
ESDC PKPab **PKPab 20 01 59.5 -0.9**
ESDC Sonseca Array 161.11 343 PKP **PKPdf 20 01 17.2 -0.2**
comp=N,0.2nm,0.5s,baz=302,slow=3.0,SNR=2.8
ESDC PKPab **PKPab 20 01 59.7 -0.8**
comp=N,0.7nm,0.8s,baz=14,slow=3.1,SNR=4.1
DBIC Dimbokro 163.87 203 PKPab **PKPab 20 02 13.1 0.0**
comp=N,7.2nm,1.1s,baz=122,slow=3.2,SNR=3.6
TOA0 Torodi Ar. Sit 165.13 237 **PKPdf 20 01 20.9 -1.0**
TORD Torodi Ar. Bea 165.13 237 PKP **PKPdf 20 01 21.7 -0.2**
comp=N,2.8nm,1.1s,baz=39,slow=3.7,SNR=10
TORD PKPab **PKPab 20 02 17.1 -1.7**
comp=N,0.9nm,0.9s,baz=195,slow=3.0,SNR=1.8

*IDC **31** 19:46:48.3±0.5,21°.57S×168°.93E,h0km,mb4.6/23, mbtmp4.6/27,ML4.3/3,Error ellipse: s-maj=14.5km s-min=13.7km az=109.0*
*MOS **31** 19:46:50.0±1.3,21°.59S×168°.85E,h17km,mb5.2/15,Error ellipse: s-maj=9.8km s-min=9.3km az=156.8*
*BJI **31** 19:46:50.8±0.0,21°.10S×168°.94E,h10km,mb4.9/33, mB5.6/17,Ms5.3/4,Ms7 4.7/4*
*NEIC **31** 19:46:50.6,21°.65S×168°.77E,h6km*
*NEIC **31** 19:46:51.3±1.6,21°.63S±0°.05×168°.87E±0°.05,h18km±4km, mb5.1/119,Mwr4.9/13,Error ellipse: s-maj=8.0km s-min=7.0km az=170.0,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr-2.17; Mθθ1.01; Mφφ1.16; Mrθ-0.64; Mθφ-1.08; Mφr1.04; Fault plane solution: Mo2.49000×10^16 NP1:φs142.51000°,δ59.65000°, λ-84.32000°. NP2:φs311.38000°,δ30.83000°, λ-99.59000°. Principal axes: T 2.4772, Plg14.0000°, Azm228.0000°; N 0.0210, Plg5.0000°, Azm320.0000°; P -2.4982, Plg75.0000°, Azm68.0000°;*
*NOU **31** 19:46:52.4,21°.66S×168°.78E,h10km,MLv4.8/17,Loyalty Islands*
*GCMT **31** 19:46:56.3±0.2,21°.69S±0°.02×168°.88E±0°.02,h16km±1km, MW5.0/102,Moment Tensor Solution. s27,c28; s102,c145; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.48±.29; Mθθ1.73±.17; Mφφ2.75±.18; Mrθ-1.62±.48; Mθφ-1.88±.09; Mφr0.48±.47; Best double couple: Mo4.64100×10^16 NP1:φs131.00000°,δ55.00000°, λ-103.00000°. NP2:φs333.00000°,δ37.00000°, λ-73.00000°. Principal axes: T 4.4050, Plg9.0000°, Azm230.0000°; N 0.4730, Plg10.0000°, Azm139.0000°; P -4.8770, Plg76.0000°, Azm1.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 19:46:51.1±0.8,21°.65S±0°.04×168°.89E±0°.04,h17km±4km, n438,σ1s11/421,mb5.0/96,4C-23D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res ISC
MARNC	**Mare, Loyalty**	**0.82**	**281**		Pg	**Pb**	**19 47 06.9**	**0.0**
MARNC					Sg	**Sn**	**19 47 19.7**	**+0.1**
MARNC	**Mare, Loyalty**	**0.82**	**281**		P	**Pg**	**19 47 07.1**	**+0.1**
PINNC	**Pines Island,**	**1.65**	**234**			**Pn**	**19 47 17.9**	**-1.3**
PINNC					Sn	**Sn**	**19 47 40.1**	**+0.1**
PINNC	**Pines Island,**	**1.65**	**234**		P	**Pn**	**19 47 18.6**	**-0.7**
LIFNC	**LIFOU**	**1.77**	**299**			**Pn**	**19 47 19.6**	**-1.2**
LIFNC					Sn	**Sn**	**19 47 41.3**	**-1.7**
LIFNC	**LIFOU**	**1.77**	**299**		P	**Pn**	**19 47 20.9**	**0.0**
YATNC	**Mamie plateau,**	**1.90**	**257**		P	**Pn**	**19 47 23.0**	**+0.2**
OUENC	**Ouen Island, N**	**2.05**	**248**			**Pn**	**19 47 24.7**	**-0.1**
OUENC					Sn	**Sn**	**19 47 50.6**	**+0.6**
OUENC	**Ouen Island, N**	**2.05**	**248**		P	**Pn**	**19 47 25.2**	**+0.4**
DZM	**Mont Dzumac**	**2.31**	**259**			**Pn**	**19 47 28.1**	**-0.4**
DZM	**Mont Dzumac**	**2.31**	**259**		P	**Pn**	**19 47 29.4**	**+0.9**
DZM	**Mont Dzumac**	**2.31**	**259**		Pn	**Pn**	**19 47 29.1**	**+0.6**
	59nm,0.3s,baz=125,slow=14,SNR=20							
DZM					Sn	**Sn**	**19 47 57.7**	**+1.1**
	170nm,0.3s,baz=145,slow=18,SNR=10							
	389nm,0.5s							
ONTNC	**Ouen Toro**	**2.35**	**253**			**Pn**	**19 47 28.5**	**-0.5**
ONTNC	**Ouen Toro**	**2.35**	**253**		P	**Pn**	**19 47 29.6**	**+0.6**
NOUC	**Port Laguerre**	**2.44**	**259**		P	**Pn**	**19 47 30.5**	**+0.2**
KOUNC	**Koumac, New Ca**	**4.43**	**283**		Pn	**Pn**	**19 47 58.8**	**+1.1**
KOUNC	**Koumac, New Ca**	**4.43**	**283**		P	**Pn**	**19 47 58.9**	**+1.3**
NFK	**Norfolk Island**	**7.42**	**186**		P	**Pn**	**19 48 37.7**	**-0.8**
baz=7.5								
MSVF	**Nonsavu**	**9.46**	**67**		Pn	**Pn**	**19 49 08.9**	**+2.1**
MSVF	**Nonsavu**	**9.46**	**67**		Pn	**Pn**	**19 49 06.4**	**-0.4**
	0.2nm,0.3s,baz=226,slow=22,SNR=3.8							
	11nm,0.9s							
HNR	**Honiara**	**14.88**	**323**			**Pn**	**19 50 21.5**	**+0.6**
HNR	**Honiara**	**14.88**	**323**		P	**Pn**	**19 50 21.5**	**+0.6**
HNR	**Honiara**	**14.88**	**323**		Pn	**Pn**	**19 50 19.7**	**-1.1**
	196nm,0.3s,baz=90,slow=7.1,SNR=0.9							
FUNA	**Funafuti**	**16.39**	**39**			**Pn**	**19 50 39.7**	**-0.8**
EIDS	**Eidsvold**	**16.75**	**254**			**Pn**	**19 50 42.4**	**-2.6**
HIZ	**Hauiti**	**17.58**	**164**		P	**P**	**19 50 56.2**	**-0.1**
HIZ					IAmb	IAmb	19 51 01.9	
	comp=Z,144nm,1.6s							
ARMA	**Armidale**	**17.79**	**237**		P	**P**	**19 51 02.7**	**+3.9**
	baz=18,SNR=9.0							
ARMA	**Armidale**	**17.79**	**237**		P	**Pn**	**19 50 56.7**	**-1.4**
ARMA	**Armidale**	**17.79**	**237**		P	**P**	**19 51 00.2**	**+1.4**
URZ	**Urewera**	**18.01**	**159**		P	**P**	**19 51 02.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=245,slow=15,SNR=3.5							
	comp=Z,14nm,0.9s							
RTZ	**Ruatahuna**	**18.29**	**159**			**Pn**	**19 51 04.2**	**+0.1**
BKZ	**Black Stump Fm**	**18.64**	**161**		P	**Pn**	**19 51 08.6**	**+0.2**
BKZ					IAmb	IAmb	19 51 18.8	
	comp=Z,153nm,1.6s							
TKNZ	**Takaka Hill**	**19.63**	**171**		P	**P**	**19 51 18.4**	**-0.5**
MRZ	**Mangatainoka R**	**19.79**	**165**		P	**P**	**19 51 20.5**	**-0.1**
MRNZ	**Matariki Terra**	**19.96**	**171**		P	**P**	**19 51 23.1**	**+0.7**
BFZ	**Birch Farm**	**19.98**	**163**		P	**P**	**19 51 22.6**	**0.0**
NIUE	**Niue**	**20.02**	**86**		P	**P**	**19 51 22.9**	**-0.4**
TCW	**Tory Channel**	**20.03**	**168**		P	**P**	**19 51 22.8**	**-0.4**
TUWZ	**Tuamarina**	**20.18**	**169**		P	**P**	**19 51 24.8**	**0.0**
DSZ	**Denniston Nort**	**20.19**	**174**		P	**P**	**19 51 24.6**	**-0.4**
SNZO	**South Karori**	**20.21**	**167**		P	**P**	**19 51 26.0**	**+0.9**
SNZO					IAmb	IAmb	19 51 35.5	
	comp=Z,89nm,1.2s							
BHW	**Baring Head**	**20.34**	**167**		P	**P**	**19 51 26.6**	**+0.1**
BHW					IAmb	IAmb	19 51 39.5	
	comp=Z,140nm,1.7s							
THZ	**Tophouse**	**20.34**	**171**			**P**	**19 51 26.8**	**+0.2**
THZ					IAmb	IAmb	19 51 38.9	
	comp=Z,61nm,1.0s							
KHZ	**Kahutara**	**21.07**	**170**		P	**P**	**19 51 34.4**	**-0.1**
KHZ					IAmb	IAmb	19 51 49.0	
	comp=Z,79nm,1.4s							
INZ	**Inchbonnie**	**21.13**	**175**		P	**P**	**19 51 36.0**	**+0.9**
INZ					IAmb	IAmb	19 51 50.1	
	comp=Z,63nm,1.1s							
CTA	**Charters Tower**	**21.21**	**270**		P	**P**	**19 51 36.7**	**+0.6**
CTA	**Charters Tower**	**21.21**	**270**		P	**P**	**19 51 36.7**	**+0.6**
	comp=Z,5.5nm,0.7s,baz=92,slow=8.3,SNR=7.7							
	comp=Z,5.5nm,0.7s							
CTAO	**Charters Tower**	**21.21**	**270**		P	**P**	**19 51 34.8**	**-1.4**
CTAO					IAmb	IAmb	19 51 52.0	
	comp=Z,90nm,1.4s							
CTAO	**Charters Tower**	**21.21**	**270**		P	**P**	**19 51 34.8**	**-1.4**
CTAO	**Charters Tower**	**21.21**	**270**		pmax	pmax		
	comp=Z,90nm,1.4s							
LTZ	**Lake Taylor**	**21.26**	**173**		P	**P**	**19 51 37.9**	**+1.3**
LTZ					IAmb	IAmb	19 51 47.5	
	comp=Z,85nm,1.4s							
GVZ	**Greta Valley S**	**21.54**	**172**		P	**P**	**19 51 41.7**	**+2.2**
GVZ					IAmb	IAmb	19 51 49.0	
	comp=Z,85nm,1.1s							
AMCZ	**Amberley**	**21.70**	**173**		P	**P**	**19 51 41.6**	**+0.4**
OXZ	**Oxford**	**21.78**	**174**		P	**P**	**19 51 41.5**	**-0.5**
FOZ	**Fox Glacier**	**21.84**	**178**		P	**P**	**19 51 43.2**	**+0.6**
FOZ					IAmb	IAmb	19 52 03.5	
	comp=Z,66nm,1.2s							
RPZ	**Rata Peaks**	**22.08**	**176**		P	**P**	**19 51 45.6**	**+0.3**
RPZ					IAmb	IAmb	19 52 02.3	
	comp=Z,93nm,1.5s							
RPZ	**Rata Peaks**	**22.08**	**176**		P	**P**	**19 51 45.8**	**+0.5**
	comp=Z,11nm,1.0s,baz=43,slow=10,SNR=3.3							
	comp=Z,11nm,1.0s							
CAN	**Canberra**	**22.11**	**228**		P	**P**	**19 51 45.7**	**-0.1**
CAN	**Canberra**	**22.11**	**228**		P	**P**	**19 51 45.7**	**-0.1**
CAN					pmax	pmax		
	comp=Z,42nm,1.1s							
MQZ	**McQueen's Vall**	**22.22**	**173**		P	**P**	**19 51 47.0**	**+0.2**
**LB

PMG	**Port Moresby**	**24.18 297**	P	**P**	**19 52 05.3**	**-1.5**
PMG	**Port Moresby**	**24.18 297**	P	**P**	**19 52 06.3**	**-0.4**
	comp=Z,30nm,1.1s,baz=128,slow=4.4,SNR=6.7					
	comp=Z,30nm,1.1s					
WHZ	**Wether Hill Ro**	**24.20 182**	P	**P**	**19 52 07.2**	**+0.5**
CTZ	**Chatham Island**	**25.10 155**	P	**P**	**19 52 16.0**	**+1.1**
CTZ			IAmb	IAmb	19 52 43.1	
	comp=Z,45nm,1.5s					
COEN	**Coen**	**25.62 283**	P	**P**	**19 52 21.3**	**+1.4**
	baz=26					
COEN	**Coen**	**25.62 283**	P	**P**	**19 52 18.5**	**-1.4**
COEN			IAmb	IAmb	19 52 33.8	
	comp=Z,38nm,1.4s					
COEN	**Coen**	**25.62 283**	P	**P**	**19 52 21.3**	**+1.4**
TOO	**Toolangi**	**25.70 227**	P	**P**	**19 52 19.8**	**-0.7**
TOO			IAmb	IAmb	19 52 45.9	
	comp=Z,35nm,1.2s					
TOO	**Toolangi**	**25.70 227**	P	**P**	**19 52 19.8**	**-0.7**
TOO			pmax	pmax		
	comp=Z,35nm,1.3s					
STKA	**Stephens Creek**	**26.35 242**	P	**P**	**19 52 28.4**	**+2.0**
	baz=26,SNR=13					
STKA	**Stephens Creek**	**26.35 242**	P	**P**	**19 52 25.8**	**-0.6**
STKA	**Stephens Creek**	**26.35 242**	P	**P**	**19 52 29.3**	**+2.9**
STKA	**Stephens Creek**	**26.35 242**	P	**P**	**19 52 27.1**	**+0.7**
	comp=Z,6.9nm,1.0s,baz=62,slow=16,SNR=4.2					
	comp=Z,6.9nm,1.0s					
QIS	**Mount Isa**	**27.33 267**	P	**P**	**19 52 35.6**	**+0.3**
	baz=27,SNR=3.3					
TAU	**Tasmania Unive**	**27.82 215**	P	**P**	**19 52 39.5**	**+0.1**
TAU	**Tasmania Unive**	**27.82 215**	P	**P**	**19 52 39.6**	**+0.1**
TAU			pmax	pmax		
	comp=Z,94nm,1.6s					
MANU	**Manus Island**	**28.61 310**	P	**P**	**19 52 46.0**	**-0.8**
LCRK	**Leigh Creek**	**28.85 246**	P	**P**	**19 52 48.3**	**-0.5**
PATS	**Pohnpei**	**30.15 339**	P	**P**	**19 53 00.6**	**+0.3**
PATS			IAmb	IAmb	19 53 03.1	
	comp=Z,43nm,1.0s					
OOD	**Oodnadatta**	**30.71 252**	P	**P**	**19 53 06.9**	**+1.6**
BBOO	**Buckleboo**	**31.12 242**	P	**P**	**19 53 08.1**	**-0.8**
BBOO	**Buckleboo**	**31.12 242**	P	**P**	**19 53 11.1**	**+2.2**
WR0	**Warramunga Arr**	**32.12 267**	P	**P**	**19 53 15.9**	**-1.9**
WB0	**Warramunga Arr**	**32.29 267**	P	**P**	**19 53 18.4**	**-0.9**
WB2	**Warramunga Arr**	**32.30 267**	P	**P**	**19 53 18.3**	**-1.1**
AS31	**Alice Springs**	**32.30 260**	P	**P**	**19 53 16.9**	**-2.6**
ASAR	**Alice Springs**	**32.30 260**	P	**P**	**19 53 17.6**	**-1.9**
ASAR	**Alice Springs**	**32.30 260**	P	**P**	**19 53 19.3**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=89,slow=9.4,SNR=16					
	comp=Z,4.3nm,0.8s					
WRA	**Warramunga Arr**	**32.31 267**	P	**P**	**19 53 18.0**	**-1.5**
WRA	**Warramunga Arr**	**32.31 267**	P	**P**	**19 53 18.5**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=98,slow=7.7,SNR=11					
	comp=Z,1.7nm,0.7s					
MULG	**Mulgathing**	**32.37 247**	P	**P**	**19 53 20.0**	**+0.1**
MCQ	**Macquarie Isla**	**33.65 190**	P	**P**	**19 53 31.9**	**+1.2**
MCQ	**Macquarie Isla**	**33.65 190**	P	**P**	**19 53 32.0**	**+1.2**
MCQ			pmax	pmax		
	comp=Z,464nm,1.8s					
MTN	**Manton Dam**	**37.03 277**	P	**P**	**19 54 00.8**	**+0.5**
	baz=37,SNR=6.4					
MTN	**Manton Dam**	**37.03 277**	P	**P**	**19 53 59.5**	**-0.9**
MTN			IAmb	IAmb	19 54 29.5	
	comp=Z,36nm,1.3s					
WRKA	**Warakurna**	**37.33 257**	P	**P**	**19 54 03.8**	**+1.0**
	baz=37,SNR=9.9					
FORT	**Forrest**	**37.57 247**	P	**P**	**19 54 04.0**	**-0.8**
FORT			IAmb	IAmb	19 54 13.4	
	comp=Z,25nm,0.8s					
KNRA	**Kununurra**	**38.40 272**	P	**P**	**19 54 12.3**	**+0.4**
	baz=38,SNR=6.2					
KNRA	**Kununurra**	**38.40 272**	P	**P**	**19 54 09.9**	**-2.0**
KNRA			IAmb	IAmb	19 54 25.9	
	comp=Z,44nm,1.4s					
MBWA	**Marble Bar**	**45.62 261**	P	**P**	**19 55 09.8**	**-1.0**
MBWA			IAmb	IAmb	19 55 19.8	
	comp=Z,20nm,0.8s					
MEEK	**Meekatharra**	**45.92 253**	P	**P**	**19 55 12.8**	**-0.5**
	baz=46,SNR=4.1					
KLBR	**Kellerberrin**	**46.42 247**	P	**P**	**19 55 16.7**	**-0.4**
	baz=46					
NWAO	**Narrogin (SRO)**	**46.86 245**	P	**P**	**19 55 19.9**	**-0.6**
NWAO	**Narrogin (SRO)**	**46.86 245**	P	**P**	**19 55 21.2**	**+0.7**
	comp=Z,5.9nm,0.8s,baz=211,slow=7.7,SNR=2.1					
	comp=Z,5.9nm,0.8s					
MORW	**Morawa**	**48.00 250**	P	**P**	**19 55 28.8**	**-0.7**
LUWI	**Luwuk**	**49.35 288**	P	**P**	**19 55 38.2**	**-1.7**
KAPI	**Kappang**	**50.34 282**	P	**P**	**19 55 46.4**	**-1.1**
KAPI			IAmb	IAmb	19 55 53.4	
	comp=Z,34nm,1.1s					
KAPI	**Kappang**	**50.34 282**	P	**P**	**19 55 48.2**	**+0.7**
	comp=Z,5.3nm,0.3s,baz=102,slow=5.7,SNR=7.5					
	comp=Z,5.3nm,0.3s					
TOLI2	**Tolitoli**	**52.12 289**	P	**P**	**19 56 00.4**	**-0.4**
TOLI2			IAmb	IAmb	19 56 09.7	
	comp=Z,19nm,0.7s					
JCJ	**Chichijima**	**54.92 331**	P	**P**	**19 56 19.9**	**-1.2**
VNDA	**Vanda**	**56.03 182**	P	**P**	**19 56 29.0**	**+0.5**
VNDA	**Vanda**	**56.03 182**	P	**P**	**19 56 29.0**	**+0.5**
VNDA			pmax	pmax		
	comp=Z,11nm,1.3s					
VNDA	**Vanda**	**56.03 182**	P	**P**	**19 56 28.6**	**+0.1**
	comp=Z,3.1nm,1.1s,baz=344,slow=6.5,SNR=6.6					
	comp=Z,3.1nm,1.1s					
SBA	**Scott Base**	**56.27 181**	P	**P**	**19 56 31.2**	**+1.0**
SBA			IAmb	IAmb	19 56 39.6	
	comp=Z,26nm,0.9s					
SBA	**Scott Base**	**56.27 181**	P	**P**	**19 56 31.2**	**+1.0**
SBA			pmax	pmax		
	comp=Z,26nm,1.0s					
CASY	**Casey**	**57.80 204**	P	**P**	**19 56 40.4**	**-0.7**
CASY			IAmb	IAmb	19 56 49.1	
	comp=Z,16nm,1.0s					
JHJ2	**Mitsune**	**61.12 332**	P	**P**	**19 57 03.2**	**-1.2**
KSM	**Kuching**	**61.61 284**	P	**P**	**19 57 07.2**	**-1.1**
MJAR	**Matsushiro Arr**	**64.73 333**	P	**P**	**19 57 27.7**	**-0.8**
	comp=Z,16nm,1.0s,baz=163,slow=6.7,SNR=13					
	comp=Z,16nm,1.0s					
MAJO	**Matsushiro**	**64.73 333**	P	**P**	**19 57 27.5**	**-1.0**
MAJO	**Matsushiro**	**64.73 333**	P	**P**	**19 57 27.5**	**-1.0**
MAJO			pmax	pmax		
	comp=Z,31nm,1.1s					
MJB9	**Matsu-Tunnel**	**64.73 333**		**P**	**19 57 27.1**	**-1.4**
QSPA	**South Pole Qui**	**68.42 180**	P	**P**	**19 57 51.4**	**-0.5**
QSPA	**South Pole Qui**	**68.42 180**	P	**P**	**19 57 52.6**	**+0.7**
	comp=Z,7.7nm,0.8s,baz=353,slow=2.1,SNR=12					
	comp=Z,7.7nm,0.8s					
KSRS	**Korea Array**	**70.31 326**	P	**P**	**19 58 03.9**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=207,slow=42,SNR=7.5					
	comp=Z,4.9nm,0.8s					
KSAR	**Wonju Array Be**	**70.32 326**		**P**	**19 58 02.0**	**-1.8**
KSAR	**Wonju Array Be**	**70.32 326**	P	**P**	**19 58 02.0**	**-1.8**
NJ2	**Nanjing**	**71.72 317**	*e*P	**P**	**19 58 13.5**	**+1.1**
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.6s					
USRK	**Ussuriysk Ar.**	**73.72 333**	P	**P**	**19 58 23.4**	**-0.7**
USRK	**Ussuriysk Ar.**	**73.72 333**	P	**P**	**19 58 23.8**	**-0.2**
	comp=Z,21nm,1.1s,baz=160,slow=5.1,SNR=13					
	comp=Z,21nm,1.1s					
USA0B	**Ussuriysk Arra**	**73.72 333**	P	**P**	**19 58 23.1**	**-0.9**
USA0B	**Ussuriysk Arra**	**73.72 333**	P	**P**	**19 58 23.1**	**-0.9**
USA0B			pmax	pmax		
	comp=Z,38nm,1.2s					
PETK	**Petropavlovsk-**	**75.07 353**	P	**P**	**19 58 30.6**	**-1.1**
	comp=Z,9.9nm,0.9s,baz=142,slow=5.1,SNR=4.1					
	comp=Z,9.9nm,0.9s					
MDJ	**Mudanjiang**	**75.08 332**	P	**P**	**19 58 33.3**	**+1.4**
MDJ			pP	pwP	19 58 42.0	+1.3
MDJ			PcP	**PcP**	**19 58 46.5**	**+1.0**
MDJ			S	**S**	**20 08 14.8**	**+5.4**
MDJ			pmax	pmax		
	comp=Z,28nm,1.7s					
MDJ			pmax	pmax		
	comp=Z,510nm,5.2s					
MDJ			LR	LR		
	comp=Z,510nm,16.0s					
MDJ			LR	LR		
	comp=Z,600nm,15.5s					
MDJ			LR	LR		
	comp=Z,340nm,15.6s					
MDJ	**Mudanjiang**	**75.08 332**	IAmb	IAmb	19 58 35.1	
	comp=Z,28nm,1.1s					
MAW	**Mawson**	**76.09 202**	P	**P**	**19 58 38.4**	**+0.9**
	baz=76,SNR=6.1					
MAW	**Mawson**	**76.09 202**	P	**P**	**19 58 37.6**	**+0.1**
MAW	**Mawson**	**76.09 202**	P	**P**	**19 58 37.6**	**+0.1**
MAW			pmax	pmax		
	comp=Z,7.0nm,1.6s					
MAW	**Mawson**	**76.09 202**	P	**P**	**19 58 36.8**	**-0.7**
	comp=Z,4.9nm,0.8s,baz=108,slow=5.5,SNR=9.6					
	comp=Z,4.9nm,0.8s					
CN2	**Changchun**	**76.34 329**	*e*P	**P**	**19 58 38.5**	**-0.7**
CN2			*e*PP	**PP**	**20 01 32.5**	**+1.4**
CN2			*e*S	**S**	**20 08 21.0**	**-2.4**
CN2			pmax	pmax		
	comp=Z,20nm,1.2s					
CN2			LR	LR		
	comp=Z,1μm,21.0s					
CN2			LR	LR		
	comp=Z,1μm,21.0s					
CN2			LR	LR		
	comp=Z,300nm,22.0s					
NIKH	**Nikolski High**	**76.78 14**	P	**P**	**19 58 41.1**	**-0.3**
	baz=201					
HNS	**HongShan**	**77.77 319**	*e*P	**P**	**19 58 50.0**	**+2.6**
UNV	**Unalaska Valle**	**78.12 15**	P	**P**	**19 58 48.9**	**0.0**
	baz=203					
CRAI	**Chiangrai**	**78.82 297**	P	**P**	**19 58 53.2**	**-0.4**
CRAI			IAmb	IAmb	19 58 57.4	
	comp=Z,13nm,1.1s					
CMAR	**Chiang Mai Arr**	**79.20 295**	P	**P**	**19 58 56.5**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=136,slow=3.9,SNR=16					
	comp=Z,3.6nm,0.8s					
CHTO	**Chiang Mai**	**79.36 295**	P	**P**	**19 58 55.8**	**-0.8**
CHTO	**Chiang Mai**	**79.36 295**	P	**P**	**19 58 55.8**	**-0.8**
CHTO			pmax	pmax		
	comp=Z,11nm,1.1s					
XAN	**Xi'an**	**79.50 313**	P	**P**	**19 58 56.0**	**-1.0**
XAN			pmax	pmax		
	comp=Z,8.0nm,1.0s					
BELA	**Belgrano 2**	**79.74 175**	P	**P**	**19 58 55.9**	**-1.7**
BELA			IAmb	IAmb	19 59 05.7	
	comp=Z,19nm,0.9s					
HEH	**HeiHe**	**80.43 334**	*e*P	**P**	**19 59 02.0**	**+0.4**
HEH			pmax	pmax		
	comp=Z,19nm,1.0s					
HEH			pmax	pmax		
	comp=Z,650nm,5.3s					
PZH	**PanZhiHua**	**80.74 303**	P	**P**	**19 59 04.0**	**0.0**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,120nm,5.5s					
XLT	**XiLinHaoTe**	**81.19 324**	*e*P	**P**	**19 59 08.5**	**+2.5**
XLT			pP	PcP	19 59 12.5	+0.3
XLT			sP	pwP	19 59 15.8	+1.0
XLT			pmax	pmax		
	comp=Z,8.0nm,1.1s					
XLT			pmax	pmax		
	comp=Z,290nm,5.8s					
SMAI	**San Martin Ant**	**81.66 162**	P	**P**	**19 59 07.4**	**-0.6**
SMAI			IAmb	IAmb	19 59 17.1	
	comp=Z,18nm,1.3s					
HHC	**Hu-ho-hao-te**	**81.83 320**	*e*P	**P**	**19 59 08.3**	**-1.2**
HHC			pmax	pmax		
	comp=Z,27nm,0.5s					
HHC			pmax	pmax		
	comp=Z,150nm,4.2s					
S14K	**Fog Glacier**	**82.09 17**	P	**P**	**19 59 11.5**	**+1.1**
	baz=209					
ZEA	**Zeya**	**83.22 337**	*e*P	**P**	**19 59 17.5**	**+1.3**
ZEA			pmax	pmax		
	comp=N,10.0nm,1.5s					
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.5s					
ELIB	**Princess Elisa**	**83.72 190**	*d*P	**P**	**19 59 17.9**	**-1.1**
	comp=Z,10nm,1.0s					
LZH	**Lanzhou**	**84.10 312**	⇑P	**P**	**19 59 24.3**	**+2.9**
LZH			pP	sP	19 59 28.0	+0.5
LZH			pmax	pmax		
	comp=Z,26nm,1.5s					
Q17K	**Contact Creek**	**84.81 18**	P	**P**	**19 59 24.3**	**-0.1**
	baz=213					
SEY	**Seymchan**	**85.30 353**	P	**P**	**19 59 26.1**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=144,slow=14,SNR=1.4					
	comp=Z,1.7nm,0.8s					
Q18K	**Katmai Hardscr**	**85.39 18**	P	**P**	**19 59 27.7**	**+0.4**
	baz=213					
KDAK	**Kodiak Island**	**85.40 20**	P	**P**	**19 59 27.8**	**+0.6**
	baz=216					
M14K	**Bethel**	**85.44 14**	P	**P**	**19 59 27.6**	**+0.3**
	baz=207					
P17K	**Kvichak River**	**85.45 17**	P	**P**	**19 59 28.4**	**+1.0**
	baz=212					
M15K	**Kasigluk River**	**85.68 14**	P	**P**	**19 59 29.1**	**+0.6**
	baz=208					
O17K	**Koliganek Bris**	**85.77 16**	P	**P**	**19 59 29.8**	**+0.9**
	baz=212					
L14K	**Kuka Creek**	**85.81 13**	P	**P**	**19 59 30.1**	**+0.9**
	baz=206					
K13K	**Kusilvak Mount**	**85.94 12**	P	**P**	**19 59 30.8**	**+1.0**
	baz=205					
N16K	**Nishlik Lake**	**85.94 15**	P	**P**	**19 59 30.7**	**+0.8**
	baz=210					
P18K	**Big Mountain,**	**85.95 17**	P	**P**	**19 59 31.3**	**+1.3**
	baz=213					
Q19K	**Cape Douglas,**	**86.02 18**	P	**P**	**19 59 30.5**	**+0.1**
	baz=215					
TROLL	**Troll, Antarti**	**86.12 184**	⇓P	**P**	**19 59 30.3**	**-0.7**
	comp=Z,492nm,0.6s					
Q20K	**Shuyak Island**	**86.13 19**	P	**P**	**19 59 33.1**	**+2.3**
	baz=216					
L15K	**Ungalak Mounta**	**86.37 14**	P	**P**	**19 59 32.8**	**+0.9**
	baz=207					
M16K	**Timber Creek**	**86.37 15**	P	**P**	**19 59 32.5**	**+0.5**
M16K			IAmb	IAmb	19 59 37.3	
	comp=Z,16nm,1.1s					
M16K	**Timber Creek**	**86.37 15**	P	**P**	**19 59 33.4**	**+1.5**
	baz=210					
N17K	**Nushagak Hills**	**86.39 16**	P	**P**	**19 59 34.8**	**+2.7**
	baz=211					
NVL	**N'lazarevskaya**	**86.44 187**	*e*P	**P**	**19 59 36.1**	**+3.7**
NVL			pmax	pmax		
	comp=Z,9.0nm,0.9s					
SNAA	**Sanae**	**86.75 183**	IAmb	IAmb	19 59 42.1	
	comp=Z,16nm,0.9s					
SNAA	**Sanae**	**86.75 183**	⇓P	**P**	**19 59 34.2**	**+0.2**
	comp=Z,301nm,0.9s					
L16K	**Owhat River**	**86.85 14**	P	**P**	**19 59 36.0**	**+1.7**
	baz=209					
O19K	**Port Alsworth**	**86.88 17**	P	**P**	**19 59 36.3**	**+1.8**
	baz=214					
J14K	**Nanvaranak Lak**	**86.90 12**	P	**P**	**19 59 35.7**	**+1.2**
	baz=206					
K15K	**Wolf Creek Mou**	**86.91 13**	P	**P**	**19 59 35.1**	**+0.5**
	baz=207					
M17K	**Holitna River**	**87.08 15**	P	**P**	**19 59 36.5**	**+1.1**
	baz=211					
VNA3	**Neumayer Olymp**	**87.35 180**	⇓P	**P**	**19 59 35.2**	**-1.6**
	comp=Z,22nm,1.0s					
SNCC	**San Nicolas Is**	**87.36 53**	P	**P**	**19 59 37.7**	**+0.2**
	baz=242					
L17K	**Donlin**	**87.50 15**	P	**P**	**19 59 39.2**	**+1.8**
	baz=210					
M18K	**Stony River**	**87.56 16**	P	**P**	**19 59 39.2**	**+1.4**
	baz=212					
VNA2	**Neumayer--Watz**	**87.64 181**	⇓P	**P**	**19 59 37.0**	**-1.3**
	comp=Z,10nm,0.6s,baz=184,slow=5.0					
PKM	**Mcpherson Peak**	**87.91 51**	P	**P**	**19 59 40.3**	**0.0**
	baz=242					
VNA1	**Neumayer--Stat**	**87.93 181**	⇓P	**P**	**19 59 39.8**	**+0.2**
	comp=Z,17nm,1.0s					
L18K	**Granite Mounta**	**87.96 15**	P	**P**	**19 59 39.8**	**+0.2**
	baz=212					
J16K	**Anvik River**	**87.99 13**	P	**P**	**19 59 41.2**	**+1.4**
	baz=208					
K17K	**Iditarod**	**88.00 14**	P	**P**	**19 59 41.2**	**+1.4**
	baz=210					
CIS	**Catalina Islan**	**88.25 53**	P	**P**	**19 59 42.6**	**+0.8**
	baz=243					
M19K	**Big River Lodg**	**88.28 16**	P	**P**	**19 59 42.8**	**+1.6**
	baz=214					
GTA	**Gaotai**	**88.54 314**	*e*P	**P**	**19 59 45.0**	**+1.9**
GTA			pP	pwP	19 59 55.0	+3.0
GTA			pmax	pmax		
	comp=Z,3.0nm,1.2s					
TTA	**Tatalina**	**88.73 15**	P	**P**	**19 59 44.7**	**+1.3**
	baz=212					
H16K	**Elim**	**88.86 12**	P	**P**	**19 59 45.9**	**+2.1**
	baz=207					
SONM	**Songino Array**	**88.94 323**	IAmb	IAmb	19 59 50.3	
	comp=Z,8.5nm,1.0s					
SONM	**Songino Array**	**88.94 323**	P	**P**	**19 59 44.9**	**+0.1**
	comp=Z,7.6nm,0.9s,baz=142,slow=4.8,SNR=17					
	comp=Z,7.6nm,0.9s					
CMB	**Columbia Colle**	**89.00 48**	P	**P**	**19 59 44.2**	**-1.0**
CMB			IAmb	IAmb	19 59 46.8	
	comp=Z,16nm,1.3s					
CMB	**Columbia Colle**	**89.00 48**	P	**P**	**19 59 44.2**	**-1.0**
CMB			pmax	pmax		
	comp=Z,16nm,1.3s					
J18K	**Innoko River**	**89.02 15**	P	**P**	**19 59 45.4**	**+0.8**
	baz=212					
AFDM	**Forest Hills D**	**89.03 47**	P	**P**	**19 59 44.0**	**-1.3**
AFDM			IAmb	IAmb	19 59 47.6	
	comp=Z,13nm,1.1s					
CBX	**Cerro Bola**	**89.08 55**	IAmb	IAmb	19 59 55.0	
	comp=Z,19nm,1.4s					
SKT	**Skwentna**	**89.12 18**	P	**P**	**19 59 46.7**	**+1.6**
	baz=216					
BFSC	**Mount Baldy Ra**	**89.19 53**	P	**P**	**19 59 45.6**	**-0.7**
	baz=243					
EDW2	**Edwards Air Fo**	**89.23 52**	P	**P**	**19 59 47.1**	**+0.7**
	baz=243,SNR=5.7					
ISA	**Isabella, Lake**	**89.24 51**	P	**P**	**19 59 45.7**	**-0.7**
ISA	**Isabella, Lake**	**89.24 51**	P	**P**	**19 59 46.7**	**+0.2**
	baz=243,SNR=10					
ISA	**Isabella, Lake**	**89.24 51**	P	**P**	**19 59 45.7**	**-0.7**
ISA			pmax	pmax		
	comp=Z,37nm,1.5s					
MONP2	**Monument Peak**	**89.51 54**	P	**P**	**19 59 48.6**	**+0.6**
	baz=244,SNR=5.3					
KNK	**Knik Glacier**	**89.57 19**	P	**P**	**19 59 49.0**	**+1.7**
	baz=219					
IKP	**In-Ko-Pah, Jac**	**89.64 55**	P	**P**	**19 59 49.1**	**+0.7**
	baz=244					
LRMC	**Laurel Mtn Rad**	**89.73 51**	P	**P**	**19 59 49.5**	**+0.6**
	baz=243,SNR=5.5					
YUH	**Yuha Desert**	**89.78 55**	P	**P**	**19 59 48.1**	**-0.8**
PFO	**Pinyon Flats O**	**89.80 54**	P	**P**	**19 59 48.6**	**-0.6**
PFO			IAmb	IAmb	19 59 50.8	
	comp=Z,17nm,1.3s					
PFO	**Pinyon Flats O**	**89.80 54**	P	**P**	**19 59 49.4**	**+0.2**
	baz=244					
PFO	**Pinyon Flats O**	**89.80 54**	P	**P**	**19 59 48.6**	**-0.6**
PFO			pmax	pmax		
	comp=Z,17nm,1.3s					
TPFO	**Pinon Flats**	**89.80 54**	P	**P**	**19 59 49.2**	**0.0**
	baz=244					
CWC	**Cottonwood Cre**	**89.88 50**	P	**P**	**19 59 49.9**	**+0.4**
	baz=243					
SML	**Sawmill**	**89.91 19**	P	**P**	**19 59 48.5**	**-0.4**
	baz=219					
G17K	**Kiwalik Mounta**	**89.94 12**	P	**P**	**19 59 51.5**	**+2.7**
	baz=208					
SWSC	**Sam W. Stewart**	**90.01 54**	P	**P**	**19 59 50.4**	**+0.5**
	baz=244					
MPMC	**Manual Prospec**	**90.13 51**	P	**P**	**19 59 51.3**	**+0.5**
	baz=243,SNR=6.2					
CAST	**Castle Rocks**	**90.14 16**	P	**P**	**19 59 50.8**	**+0.9**
	baz=216					
SCM	**Sheep Creek Mo**	**90.24 19**	P	**P**	**19 59 51.6**	**+1.2**
	baz=220					
GSC	**Goldstone, Bar**	**90.29 52**	IAmb	IAmb	20 00 01.4	
	comp=Z,14nm,1.4s					
GSC	**Goldstone, Bar**	**90.29 52**	P	**P**	**19 59 51.1**	**-0.3**
	baz=244					
BELC	**Belle Mtn. Jos**	**90.32 53**	P	**P**	**19 59 51.9**	**+0.3**
	baz=244,SNR=13					
DSP	**Deep Springs**	**90.38 50**	P	**P**	**19 59 51.1**	**-0.5**
DSP			IAmb	IAmb	20 00 01.1	
	comp=Z,14nm,1.2s					
KLU	**Klutina**	**90.41 20**	P	**P**	**19 59 51.4**	**+0.1**
	baz=221					
HEC	**Hector,Ludlow**	**90.43 53**	P	**P**	**19 59 52.2**	**+0.2**
	baz=244,SNR=11					
BMRM	**Bremner River**	**90.45 21**	P	**P**	**19 59 50.7**	**-0.7**
	baz=222					
CHUM	**Lake Minchumin**	**90.45 16**	P	**P**	**19 59 50.9**	**-0.4**
	baz=216					
PAHR	**Pah Rah Range**	**90.48 47**	IAmb	IAmb	20 00 01.3	
	comp=Z,12nm,1.3s					
QSM	**Queen of Sheba**	**90.54 51**	IAmb	IAmb	19 59 54.6	
	comp=Z,23nm,1.6s					
BC3	**Big Chuckawall**	**90.58 54**	P	**P**	**19 59 53.2**	**+0.4**
	baz=244,SNR=5.8					
NVAR	**Mina Array Bea**	**90.63 49**	P	**P**	**19 59 52.9**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=229,slow=8.0,SNR=24					
	comp=Z,2.0nm,0.6s					
GRAC	**Grapevine Rang**	**90.64 50**	IAmb	IAmb	20 00 02.4	
	comp=Z,13nm,0.9s					
GRAC	**Grapevine Rang**	**90.64 50**	P	**P**	**19 59 53.1**	**+0.2**
	baz=243,SNR=9.5					
WAT1	**Susitna Watana**	**90.64 18**	P	**P**	**19 59 50.6**	**-1.7**
	baz=219					
NV11	**Mina Array Sit**	**90.74 49**	IAmb	IAmb	20 00 02.5	
	comp=Z,9.6nm,1.1s					
MESA	**MESA**	**90.78 22**	P	**P**	**19 59 55.4**	**+2.3**
	baz=225					
GWY	**Greenwater Val**	**90.78 51**	P	**P**	**19 59 53.2**	**-0.5**
GWY			IAmb	IAmb	19 59 55.1	
	comp=Z,12nm,1.2s					
GLA	**Glamis**	**90.79 55**	P	**P**	**19 59 55.0**	**+1.3**
	baz=245					
M24K	**Tolsona, Glenn**	**90.80 19**	P	**P**	**19 59 55.3**	**+2.3**
	baz=221					
GMN	**Gold Mountain**	**90.86 50**	P	**P**	**19 59 52.7**	**-1.5**
GMRC	**Granite Mounta**	**90.91 53**	P	**P**	**19 59 54.9**	**+0.5**
	baz=244,SNR=6.1					
J05D	**Fort Rock, OR**	**90.96 43**	P	**P**	**19 59 53.5**	**-0.9**
BPAW	**Bear Paw Mtn.**	**90.98 16**	P	**P**	**19 59 56.0**	**+2.2**
	baz=217					
TUQ	**Turquoise Moun**	**91.00 52**	P	**P**	**19 59 54.8**	**0.0**
	baz=244					
IRM	**Iron Mountain**	**91.02 54**	P	**P**	**19 59 55.8**	**+1.0**
	baz=244,SNR=6.4					
KVN	**Kaiserville**	**91.06 48**	IAmb	IAmb	19 59 57.2	
	comp=Z,4.2nm,0.7s					
WCT	**Wildcat Mounta**	**91.08 51**	IAmb	IAmb	19 59 57.5	
	comp=Z,11nm,1.1s					
TPH	**Tonopah**	**91.23 49**	P	**P**	**19 59 54.6**	**-1.2**
TPH	**Tonopah**	**91.23 49**	P	**P**	**19 59 54.6**	**-1.2**
TPH			pmax	pmax		
	comp=Z,115nm,1.7s					
MCARA	**McCarthy VSAT**	**91.28 21**	P	**P**	**19 59 55.5**	**+0.3**
	baz=224					
PINE	**Pine Mountain**	**91.40 43**	IAmb	IAmb	19 59 57.6	
	comp=Z,6.1nm,0.8s					
TPNV	**Topopah Spring**	**91.42 51**	IAmb	IAmb	19 59 59.1	
	comp=Z,12nm,1.0s					
TPNV	**Topopah Spring**	**91.42 51**	P	**P**	**19 59 56.8**	**+0.1**
	baz=244,SNR=12					
I21K	**Tanana**	**91.60 15**	P	**P**	**19 59 57.9**	**+1.4**
	baz=216					
H21K	**Melozitna Rive**

baz=223
F21K Alatna River 92.92 14 P P 20 00 03.1 +0.3
baz=215
J25K Salcha River, 92.92 18 P P 20 00 02.8 -0.1
baz=222
D19K Kuna River 93.05 12 P P 20 00 02.9 -0.4
baz=210
G22K Bettles 93.12 15 P P 20 00 04.0 +0.4
baz=216
E20K Nigu River 93.22 12 P P 20 00 04.1 0.0
baz=212
G08A Pilot Rock 93.35 42 P P 20 00 04.5 -0.8
G08A IAmb IAmb 20 00 15.5
comp=Z,5.0nm,1.0s
N30M Aishikik Lake 93.39 23 P P 20 00 04.6 -0.5
baz=229
F22K John River 93.44 14 P P 20 00 05.1 0.0
baz=216
P32M Atlin 93.48 25 P P 20 00 04.1 -1.4
baz=232
K27K Chicken 93.48 19 P P 20 00 05.0 -0.3
baz=225
D20K Etivluk River 93.52 12 P P 20 00 04.0 -1.4
baz=212
S34M Telegraph Cree 93.54 28 P P 20 00 07.2 +1.5
baz=234
PRP Porcupine Dome 93.56 17 P P 20 00 06.7 +0.9
baz=222
TUC Tucson 93.59 57 P P 20 00 07.2 +0.4
baz=247
LCMT Little Creek M 93.63 52 IAmb IAmb 20 00 09.5
comp=Z,7.0nm,1.1s
WHY Whitehorse 93.70 24 P P 20 00 07.1 +0.6
baz=231
CCUT Cedar City 93.76 51 IAmb IAmb 20 00 10.7
comp=Z,8.6nm,1.4s
PSUT Pine Spring 93.82 50 IAmb IAmb 20 00 11.2
comp=Z,17nm,1.9s
N31M Braeburn, Yuko 93.89 23 P P 20 00 07.8 +0.5
baz=230
H25L Birch Creek 94.04 17 P P 20 00 08.5 +0.7
baz=222
I26K Coal Creek Min 94.08 18 P P 20 00 07.3 -0.7
I26K IAmb IAmb 20 00 08.9
comp=Z,15nm,1.5s
I26K Coal Creek Min 94.08 18 P P 20 00 08.7 +0.6
baz=224
U15A North Rim 94.09 52 IAmb IAmb 20 00 12.0
comp=Z,11nm,1.0s
L29M L29M 94.12 21 P P 20 00 08.9 +0.5
baz=228
M30M Minto, Yukon 94.23 22 P P 20 00 07.3 -1.6
M30M Minto, Yukon 94.23 22 P P 20 00 08.8 -0.1
baz=229
C21K Knifeblade Rid 94.25 12 P P 20 00 08.8 0.0
baz=214
EGAK Eagle 94.29 19 P P 20 00 09.3 +0.2
baz=226
WUAZ Wupatki 94.41 54 P P 20 00 10.1 -0.4
WUAZ IAmb IAmb 20 00 13.1
comp=Z,10nm,1.0s
WUAZ Wupatki 94.41 54 P P 20 00 10.7 +0.2
baz=247
D22K Ayikyak River 94.45 13 P P 20 00 09.7 -0.1
baz=216
I27K Kandik River 94.74 18 P P 20 00 13.8 +2.7
baz=225
F25K Christian Rive 95.08 16 P P 20 00 12.9 +0.2
baz=222
H03S2 Juan Fernandez 95.11 129 T T 21 45 38.7
baz=238
H03S1 Juan Fernandez 95.12 129 T T 21 45 37.2
baz=238
H03S3 Juan Fernandez 95.13 129 T T 21 45 39.5
baz=238
I29M Ogilvie Camp, 95.58 20 P P 20 00 14.7 -0.2
baz=228
J30M Hart River 95.69 21 P P 20 00 17.8 +2.2
baz=230
TXAR Lajitas Array 98.19 62 P P 20 00 26.1 -1.7
comp=Z,0.7nm,0.9s,baz=217,slow=4.3,SNR=3.1
comp=Z,0.7nm,0.9s
PDAR Pinedale Array 98.48 47 P P 20 00 28.8 -0.1
comp=Z,0.4nm,0.6s,baz=243,slow=4.0,SNR=3.3
comp=Z,0.4nm,0.6s
WMQ Urumqi 98.62 314 *e*P Pdif 20 00 30.5 +1.2
MKAR Makanchi Array 103.21 315 PKKPbc PKKPbc 20 16 43.7 -2.5
comp=Z,0.8nm,0.9s,baz=343,slow=1.3,SNR=4.4
KURBB Kurchatov Arra 106.64 318 PKiKP **PKiKP 20 05 14.2 -1.0**
comp=Z,0.1nm,0.3s,baz=94,slow=2.4,SNR=2.8
BVAR Borovoye Array 112.05 320 PKiKP **PKiKP 20 05 25.0 -0.3**
comp=Z,0.9nm,0.7s,baz=67,slow=1.6,SNR=5.8
GEYT Alibeck 119.04 302 PKP **PKiKP 20 05 40.1 +0.8**
comp=Z,0.4nm,0.3s,baz=90,slow=0.1,SNR=2.3
ARCES ARCESS Array B 127.30 345 PKP **PKPdf 20 05 53.8 -0.4**
comp=Z,1.1nm,0.5s,baz=32,slow=3.0,SNR=9.1
BDFB Brasilia 128.20 133 PKP **PKiKP 20 05 58.0 -0.2**
comp=Z,6.1nm,0.9s,baz=108,slow=3.2,SNR=4.7
OBN Obninsk 131.30 326 *e*PKIKP **PKiKP 20 06 03.5 +0.5**
OBN *e* 20 08 19.8
OBN *e*PPP PPP 20 11 08.8
OBN pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 132.67 337 PKP **PKPdf 20 06 04.4 0.0**
comp=Z,1.9nm,0.8s,baz=56,slow=5.2,SNR=4.3
AKASG Malin Array Be 137.22 323 PKP **PKPdf 20 06 13.4 +0.1**
comp=Z,0.3nm,0.3s,baz=67,slow=1.7,SNR=1.8
MLR Muntele Rosu 141.53 317 PKP **PKPdf 20 06 22.3 +0.8**
comp=Z,1.2nm,0.3s,baz=159,slow=18,SNR=2.0
KSP Ksiaz 143.83 330 *e*PKPdf PKPbc 20 06 23.3 +0.3
MORC Moravsky Berou 143.95 328 *e*PKP **PKPdf 20 06 25.0 -0.6**
MAUC Maruska 144.07 327 *e*PKP **PKPdf 20 06 25.6 -0.2**
VYHS Vyhne 144.10 326 *e*PKP **PKPdf 20 06 24.9 -1.0**
VYHS Vyhne 144.10 326 *e*PKIKP **PKPdf 20 06 24.9 -1.0**
DPC Dobruska-Polom 144.15 330 *e*PKP **PKPab 20 06 23.2 -0.4**
DPC *ep*PKP **sPKPdf 20 06 31.7 -0.5**
DPC Dobruska-Polom 144.15 330 *e*PKIKP **PKPab 20 06 23.2 -0.4**
DPC *e* 20 06 31.7
UPC Upice 144.19 330 *e*PKP PKPbc 20 06 24.5 +0.4
UPC Upice 144.19 330 *e*PKIKP PKPbc 20 06 24.5 +0.4
JAVC Velka Javorina 144.48 327 *e*PKP **PKPdf 20 06 27.4 +0.8**
VRAC Vranov 144.72 328 *e*PKP PKPbc 20 06 26.2 +0.4
VRAC Vranov 144.72 328 PKP **PKPdf 20 06 26.6 -0.3**
comp=Z,3.0nm,0.6s,baz=38,slow=4.2,SNR=4.5
PVCC Panska Ves 144.83 331 *e*PKP **PKPdf 20 06 26.7 -0.3**
PVCC *ex* x 20 06 32.7
PVCC Panska Ves 144.83 331 *e*PKIKP **PKPdf 20 06 26.7 -0.3**
PVCC *e* 20 06 32.7
BRG Berggiesshubel 144.86 332 *i* PKIKP **PKPdf 20 06 27.4 +0.4**
BRG 20 06 35.4
BRG pmax pmax
comp=Z,45nm,1.0s
BRG pmax pmax
comp=Z,43nm,1.0s
BRG pmax pmax
comp=Z,24nm,1.1s
BRG Berggiesshubel 144.86 332 *i* PKP **PKPdf 20 06 27.5 +0.4**
BRG Amp 20 06 29.3
comp=Z,45nm,1.0s
BRG Berggiesshubel 144.86 332 P **PKiKP 20 06 35.4 +4.6**
BRG Amp 20 06 36.8
comp=Z,43nm,0.9s
BRG Berggiesshubel 144.86 332 P PKiKP 20 06 41.5 +11
BRG Amp 20 06 42.3
comp=Z,24nm,1.1s
CLL Collm 144.94 333 *i* PKIKP **PKPab 20 06 26.3 -0.1**
CLL *i* 20 06 34.0
CLL pmax pmax
comp=Z,38nm,1.1s
CLL Collm 144.94 333 *i* PKPbc **PKPab 20 06 26.3 -0.1**
comp=Z,38nm,1.1s
CLL *i* PKiKP **PKiKP 20 06 30.1 -0.9**
CLL *i* PKPmax 20 06 34.0
comp=Z,42nm,1.0s
CLL *ex* x 20 06 39.0
KRUC Moravsky 144.99 328 *e*PKP **PKPdf 20 06 27.2 -0.1**
MODS Modra-Piesok 144.99 326 *e*PKP **PKPdf 20 06 28.2 +0.8**
MODS Modra-Piesok 144.99 326 *e*PKIKP **PKPdf 20 06 28.2 +0.8**
GOPC GO Pecny, Ondr 145.17 330 *e*PKP **PKPdf 20 06 27.8 +0.1**
GOPC *ep*PKP **sPKPdf 20 06 35.5 +1.6**
GOPC GO Pecny, Ondr 145.17 330 *e*PKIKP **PKPdf 20 06 27.8 +0.1**
GOPC *e* 20 06 35.5
ZST Bratislava 145.19 326 *e*PKP **PKPdf 20 06 29.0 +1.3**
ZST Bratislava 145.19 326 *e*PKIKP **PKPdf 20 06 29.0 +1.3**
PRU Pruhonice 145.23 331 *e*PKP **PKPbc 20 06 27.2 -0.2**
PRU *ex* x 20 06 35.6
PRU Pruhonice 145.23 331 *e*PKIKP **PKPbc 20 06 27.2 -0.2**
PRU *e* 20 06 35.6
TREC Trest 145.27 329 *e*PKP **PKPdf 20 06 28.1 +0.2**
TREC Trest 145.27 329 *e*PKIKP **PKPdf 20 06 28.1 +0.2**
HSKC Hora Svate Kat 145.27 332 *e*PKP **PKPdf 20 06 27.8 0.0**
HSKC *ex* x 20 06 35.7
FRGS Fruska Gora 145.47 320 ⇓*i*P **PKPab 20 06 28.6 0.0**
IDI Anoyia 145.75 301 PKPbc **PKPdf 20 06 29.4 +0.2**
comp=Z,16nm,0.8s,baz=71,slow=9.3,SNR=6.1
ZVC Zvikov 145.78 330 *e*PKP **PKPab 20 06 29.6 +0.1**
ZVC *ex* x 20 06 37.2
EKA Eskdalemuir Ar 145.84 352 PKPbc **PKPdf 20 06 28.3 -0.3**
comp=Z,2.8nm,0.5s,baz=354,slow=2.7,SNR=15
DIVS Divibare 145.92 318 *e*P **PKPdf 20 06 29.4 +0.2**
RONA Rosalia, Austr 145.93 326 *i* pPKP **PKPab 20 06 30.2 0.0**
comp=Z,48nm,1.7s,SNR=16
TEKS Tekeris 145.97 319 *e*P **PKPdf 20 06 29.0 -0.2**
NKC Novy Kostel 145.97 333 *e*PKP **PKPbc 20 06 30.0 +0.2**
NKC *ex* x 20 06 37.0
NKC Novy Kostel 145.97 333 *e*PKP2 **PKPbc 20 06 30.0 +0.2**
CONA Conrad Observa 146.00 327 *i* pPKP **PKPab 20 06 30.7 +0.2**
comp=Z,53nm,1.4s,SNR=24
CKRC Cesky Krumlov 146.16 329 *e*PKP **PKPbc 20 06 30.2 -0.2**
CKRC *ex* x 20 06 39.1
CKRC Cesky Krumlov 146.16 329 *e*PKP2 **PKPbc 20 06 30.2 -0.2**
KHC Kasperske Hory 146.28 330 *e*PKP **PKPdf 20 06 29.8 +0.2**
KHC *ep*PKP sPKPab 20 06 39.0 +1.3
KHC Kasperske Hory 146.28 330 *e*PKP2 **PKPdf 20 06 29.8 +0.2**
SJES Sjenica 146.35 317 ⇑*i*P **PKiKP 20 06 33.4 -0.9**
BBLS Lazići 146.40 318 ⇑*i*P **PKPdf 20 06 30.7 +0.7**
GERES GERESS Array B 146.43 330 PKPbc **PKPbc 20 06 31.3 0.0**
comp=Z,8.9nm,0.6s,baz=34,slow=3.4,SNR=42
RUDO Rudo 146.55 318 *e*P **PKPbc 20 06 31.1 -0.6**
ARSA Arzberg 146.62 326 *ep*PKP **PKPab 20 06 32.7 -0.2**
comp=Z,11nm,1.0s
MOA Molln 146.85 328 *i* pPKP **PKiKP 20 06 34.6 -0.5**
comp=Z,24nm,1.7s,SNR=6.5
PDG Podgorica 147.23 316 *e*P **PKPbc 20 06 33.5 -0.1**
SOKA Soboth 147.25 326 *i* PKP **PKPbc 20 06 33.4 -0.3**
comp=Z,14nm,1.1s,SNR=10.0
BLY Banja Luka 147.25 321 ⇓*i*P **PKPbc 20 06 33.8 +0.2**
A051A Mrakovica 147.25 322 ⇓*i*P **PKPbc 20 06 33.8 +0.1**
BIOA Bad Ischl, Aus 147.26 328 *e*PKP **PKPbc 20 06 33.8 +0.1**
comp=Z,4.0nm,0.9s
DRME Dracevica, Mon 147.39 316 ⇓*i*P **PKPbc 20 06 33.8 -0.3**
BRY Bratogost 147.44 318 *e*P **PKPbc 20 06 33.7 -0.7**
MGRS Mrkonjic Grad 147.50 321 *e*P **PKPbc 20 06 34.1 -0.3**
CRES Cresnjev 147.57 324 ⇓*i*P **PKPbc 20 06 34.3 -0.2**
OBKA Obir 147.61 326 *ep*PKP **PKPbc 20 06 35.2 +0.5**
comp=Z,5.5nm,0.9s
OBKA Obir 147.61 326 *e*P **PKPbc 20 06 33.5 -1.2**
HCY Herceg Novi 147.71 317 *e*P **PKPbc 20 06 34.7 -0.3**
KBA Koelnbreinsper 147.83 328 *e*PKP **PKPbc 20 06 35.0 -0.4**
comp=Z,18nm,1.1s
BOJS Bojanci 147.88 324 ⇓*i*P **PKPbc 20 06 35.0 -0.3**
BOJS Bojanci 147.88 324 *i* PKPbc **PKPbc 20 06 35.7 +0.4**
LESA Schwarzleotal 147.92 329 *e*PKP **PKPbc 20 06 35.0 -0.5**
comp=Z,25nm,1.2s
LJU Ljubljana 147.92 325 *i* PKPbc **PKPbc 20 06 35.6 +0.2**
STON Ston 147.98 318 ⇓*i*P **PKPab 20 06 44.0 +5.7**
MYKA Terra Mystica 147.99 327 *e*PKP **PKPbc 20 06 35.4 -0.3**
comp=Z,11nm,0.8s
BTNL Ternell 148.10 339 *d*PKiKP **PKPbc 20 06 36.6 +0.8**
MEM Membach 148.12 339 *d*PKiKP **PKPbc 20 06 35.6 -0.2**
CEY Cerknica 148.18 325 ⇑*i*P **PKPbc 20 06 35.3 -0.9**
CEY Cerknica 148.18 325 *i* PKPbc **PKPbc 20 06 36.1 0.0**
BSTI Sart Tilman 148.29 340 *d*PKP **PKPbc 20 06 35.8 -0.4**
BSTI *d*PKiKP **pPKPdf 20 06 37.4 -0.1**
BHOU Houvegnez 148.34 339 *d*PKiKP **PKPbc 20 06 36.7 +0.3**
ABTA Abfaltersbach 148.47 328 *i* PKP **PKPbc 20 06 36.5 -0.5**
comp=Z,23nm,1.3s,SNR=8.7
WATA Walderalm 148.50 330 *ep*PKP **PKPbc 20 06 37.3 +0.2**
comp=Z,15nm,1.0s
BCLA Clavier 148.51 340 *d*PKiKP **PKPbc 20 06 36.4 -0.4**
SKDS Skadanscina 148.52 325 *e*P **PKPbc 20 06 35.3 -1.8**
WTTA Wattenberg 148.53 330 *i* pPKP **PKPbc 20 06 37.4 +0.2**
comp=Z,19nm,1.1s,SNR=7.1
BGES Gesves 148.61 340 *d*PKPdf **PKPdf 20 06 32.6 -0.8**
MOTA Moosalm 148.71 330 *i* PKP **PKPbc 20 06 37.3 -0.3**
comp=Z,26nm,1.1s,SNR=9.7
SQTA Sankt Quirin 148.76 330 *i* PKP **PKPbc 20 06 37.4 -0.3**
comp=Z,31nm,1.4s,SNR=11
RETA Reutte 148.76 331 *e*PKP **PKPbc 20 06 37.9 +0.2**
comp=Z,12nm,1.4s
RCHB Rochefort 148.77 340 *d*PKiKP **PKiKP 20 06 38.5 -0.3**
WLF Walferdange 148.88 338 *d*PKiKP **PKiKP 20 06 38.7 -0.4**
DOU Dourbes 149.02 340 *d*PKiKP **PKiKP 20 06 39.1 -0.3**
FETA Feichten 149.13 330 *i* PKP **PKPbc 20 06 38.8 +0.1**
comp=Z,13nm,1.0s,SNR=11
DAVA Damuels 149.31 331 *e*PKP **PKPbc 20 06 39.0 -0.2**
comp=Z,5.0nm,0.7s
DAVOX Davos/Dischmat 149.69 331 PKPbc **PKPbc 20 06 38.4 -1.8**
comp=Z,21nm,0.9s,baz=45,slow=3.2,SNR=18
ESDC Sonseca Array 161.02 343 PKPab **PKPab 20 07 33.2 -0.4**
comp=Z,0.7nm,0.9s,baz=29,slow=3.9,SNR=2.7
TORD Torodi Ar. Bea 165.15 237 PKP **PKPdf 20 06 55.5 +0.1**
comp=Z,1.6nm,1.1s,baz=119,slow=1.8,SNR=2.8
TORD PKPab **PKPab 20 07 52.3 -0.1**
comp=Z,0.1nm,0.4s,baz=151,slow=2.2,SNR=2.4

IDC 31 19:54:31.7±2.5, 23°.15S×168°.32E, h0km, mb3.5/2, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=65.2km s-min=39.9km az=27.0, New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.04**	**301**	Pn	Pn	19 55 07.4	-0.1
	29nm,0.3s,baz=131,slow=20,SNR=4.9						
DZM				Sn	Sb	19 55 36.2	+0.5
	24nm,0.3s,baz=84,slow=22,SNR=7.4						
	89nm,0.4s						
ASAR	**Alice Springs**	**31.55**	**262**	P	P	20 00 56.3	+0.3
	0.8nm,0.7s,baz=87,slow=9.2,SNR=4.2						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**31.73**	**269**	P	P	20 00 56.4	-1.2
	0.3nm,0.6s,baz=99,slow=8.5,SNR=1.9						
	0.3nm,0.6s						
GERES	**GERESS Array B**	**147.44**	**328**	PKPbc	PKPbc	20 14 17.2	-0.4
	1.5nm,0.7s,baz=33,slow=3.8,SNR=6.8						

ROM 31 19:58:44.0±0.0, 42°.757N±0°.002×13°.025E±0°.004, h10km, ML1.6/36, 12C-6D, Error ellipse: s-maj=0.3km s-min=0.2km az=245.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.10**	**41**	⇓P	Pg	19 58 47.2	+0.4
NRCA				S	Sg	19 58 49.1	+0.3
NRCA				AML	AML		
	comp=E,3190μm,0.1s						
NRCA				AML	AML		
	comp=N,1610μm,0.1s						
NRCA				AML	AML		
	comp=N,1445μm,0.1s						
NRCA				AML	AML		
	comp=E,3435μm,0.2s						
GAVE	**Gavelli**	**0.12**	**236**	⇑P	Pg	19 58 47.6	+0.6
GAVE				S	Sg	19 58 49.8	+0.7
GAVE				AML	AML		
	comp=E,958μm,0.2s						
GAVE				AML	AML		
	comp=N,978μm,0.2s						
GAVE				AML	AML		
	comp=E,931μm,0.2s						
GAVE				AML	AML		
	comp=N,387μm,0.5s						
GAVE				AML	AML		
	comp=E,958μm,0.2s						
T1214	**Arquata del Tr**	**0.14**	**89**	⇑P	Pg	19 58 47.7	+0.4
T1214				S	Sg	19 58 50.4	+0.7
T1214				AML	AML		
	comp=E,570μm,0.1s						
T1214				AML	AML		
	comp=N,523μm,0.6s						
T1214				AML	AML		
	comp=E,507μm,0.1s						
T1214				AML	AML		
	comp=N,526μm,0.6s						
LNSS	**Leonessa**	**0.15**	**176**	P	Pg	19 58 48.1	+0.5
LNSS				S	Sg	19 58 50.9	+0.9
LNSS				AML	AML		
	comp=N,618μm,0.6s						
LNSS				AML	AML		
	comp=E,694μm,0.4s						
T1221	**Campello sul C**	**0.17**	**308**	⇓P	Pg	19 58 48.4	+0.6
T1221				S	Sg	19 58 51.3	+0.9
MC2	**Monte Cornacci**	**0.20**	**38**	⇑P	Pg	19 58 48.8	+0.5
MC2				S	Sg	19 58 52.5	+1.1
ARRO	**Arrone**	**0.26**	**227**	⇑P	Pg	19 58 49.9	+0.5
ARRO				AML	AML		
	comp=E,67μm,1.1s						
ARRO				AML	AML		
	comp=N,60μm,1.3s						
ARRO				AML	AML		
	comp=N,60μm,0.7s						
ARRO				AML	AML		
	comp=E,67μm,0.9s						
SMA1	**SAN MARTINO**	**0.26**	**119**	⇓P	Pg	19 58 50.1	+0.7
SMA1				S	Sb	19 58 54.6	-0.8
SMA1				AML	AML		
	comp=E,91μm,0.7s						
SMA1				AML	AML		
	comp=N,80μm,0.9s						
SMA1				AML	AML		
	comp=N,80μm,1.1s						
SMA1				AML	AML		
	comp=E,91μm,1.3s						
CESI	**CESI - Serrava**	**0.26**	**340**	⇓P	Pg	19 58 50.0	+0.5
CESI				S	Sg	19 58 54.3	+1.2
CESI				AML	AML		
	comp=E,192μm,0.1s						
CESI				AML	AML		
	comp=N,389μm,0.3s						
FDMO	**Fiordimonte**	**0.28**	**9**	⇑P	Pg	19 58 50.2	+0.4
FDMO				S	Sg	19 58 54.8	+1.2
FDMO				AML	AML		
	comp=E,216μm,0.2s						
FDMO				AML	AML		
	comp=N,268μm,0.3s						
RM33	**Pellescritta (**	**0.28**	**151**	⇑P	Pg	19 58 50.1	+0.3
RM33				S	Sg	19 58 54.8	+1.1
RM33				AML	AML		
	comp=N,80μm,1.2s						
RM33				AML	AML		
	comp=N,80μm,0.8s						
RM33				AML	AML		
	comp=E,66μm,0.5s						
MOMA	**Monte Martano**	**0.34**	**278**	⇑P	Pg	19 58 51.5	+0.6
MOMA				AML	AML		
	comp=E,152μm,1.1s						
MOMA				AML	AML		
	comp=N,88μm,0.4s						
CAMP	**Campotosto**	**0.36**	**128**	⇑P	Pg	19 58 51.5	+0.3
CAMP				S	Sg	19 58 57.0	+1.0
CSP1	**Cessapalombo**	**0.36**	**21**	⇓P	Pg	19 58 51.6	+0.4
CSP1				AML	AML		
	comp=N,142μm,0.5s						
CSP1				AML	AML		
	comp=E,91μm,0.3s						
CSP1				AML	AML		
	comp=E,91μm,1.7s						
CSP1				AML	AML		
	comp=N,142μm,1.5s						
GUMA	**Gualdo di Mace**	**0.38**	**37**	⇑P	Pg	19 58 52.2	+0.6
GUMA				S	Sb	19 58 58.4	-0.4
GUMA				AML	AML		
	comp=E,119μm,0.6s						
GUMA				AML	AML		
	comp=N,138μm,0.5s						
ASSB	**Assisi San Ben**	**0.39**	**317**	⇑P	Pg	19 58 52.2	+0.4
ASSB				AML	AML		
	comp=E,49μm,1.2s						
ASSB				AML	AML		
	comp=N,74μm,0.2s						
ASSB				AML	AML		
	comp=N,74μm,1.8s						
ASSB				AML	AML		
	comp=E,49μm,0.8s						
MF5	**Montefalcone A**	**0.40**	**54**	P	Pb	19 58 52.8	-0.4
TERO	**Teramo**	**0.45**	**107**	P	Pg	19 58 53.0	+0.2
TERO				AML	AML		
	comp=E,44μm,0.9s						
TERO				AML	AML		
	comp=N,47μm,0.7s						
TERO				AML	AML		
	comp=N,47μm,1.3s						
ATCC	**AVT- Casa Cast**	**0.51**	**327**	⇑P	Pb	19 58 54.8	-0.3
ATCC				AML	AML		
	comp=E,64μm,1.6s						
ATCC				AML	AML		
	comp=N,42μm,1.6s						
ATCC				AML	AML		
	comp=E,64μm,0.4s						
ATCC				AML	AML		
	comp=N,42μm,0.4s						
EL6	**Elcito**	**0.57**	**6**	⇓P	Pg	19 58 55.4	+0.1
ARVD	**Arcevia**	**0.74**	**355**	P	Pb	19 58 59.5	+0.5
LIK	**San Giovanni I**	**1.31**	**162**	⇑P	Pn	19 59 07.6	-0.7

*IDC **31** 19:59:19.5±1.4, 22°.69S×169°.01E, h0km, mb3.7/6, mbtmp3.8/8, ML6.2/1, MS3.2/1, Error ellipse: s-maj=58.6km s-min=20.0km az=166.0*
*NEIC **31** 19:59:22.3±2.1, 21°.74S±0°.04×168°.9E±0°.1, h4km±8km, mb4.3/6, Error ellipse: s-maj=15.0km s-min=5.6km az=77.0*

ISC 31 19:59:26.2±0.7, 21°.84S±0°.10×168°.80E±0°.07, h31km, n26, σ19.50/29, mb3.9/9, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.80**	**297**	Pn	**Pn**	**19 59 40.7**	**-0.6**
MARNC				Sn	**Sn**	**19 59 53.7**	**+1.5**
PINNC	**Pines Island,**	**1.47**	**238**		**Pb**	**19 59 52.4**	**-0.5**
PINNC				Sn	**Sb**	**20 00 12.9**	**+1.7**
OUENC	**Ouen Island, N**	**1.90**	**252**		**Pn**	**19 59 54.9**	**-1.6**
DZM	**Mont Dzumac**	**2.20**	**264**		**Pn**	**19 59 59.8**	**-0.9**
DZM	**Mont Dzumac**	**2.20**	**264**	Pn	**Pn**	**20 00 00.2**	**-0.5**
	77nm,0.4s,baz=130,slow=16,SNR=13						
DZM				LR	LR	20 00 29.0	
	comp=Z,498nm,22.0s,baz=186,slow=28						
DZM				Sn	**Sb**	**20 00 31.2**	**-1.0**
	86nm,0.3s,baz=104,slow=19,SNR=11						
ONTNC	**Ouen Toro**	**2.22**	**258**		**Pn**	**20 00 01.5**	**+0.6**
KOUNC	**Koumac, New Ca**	**4.40**	**286**		**Pn**	**20 00 30.5**	**-0.4**
MSVF	**Nonsavu**	**9.62**	**66**	Pn	**Pn**	**20 01 41.2**	**-1.5**
	7.3nm,0.3s,baz=246,slow=19,SNR=9.5						
	14nm,0.4s						
ARMA	**Armidale**	**17.61**	**237**	P	**P**	**20 03 30.8**	**+0.6**
ARMA				IAmb	IAmb	20 03 37.7	
	comp=Z,28nm,1.4s						
CTA	**Charters Tower**	**21.12**	**271**	P	**P**	**20 04 09.2**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=96,slow=15,SNR=1.4						
	comp=Z,1.1nm,0.6s						
COEN	**Coen**	**25.59**	**284**	P	**P**	**20 04 50.6**	**-2.2**
COEN				IAmb	IAmb	20 05 33.0	
	comp=Z,6.0nm,1.1s						
STKA	**Stephens Creek**	**26.18**	**242**	P	**P**	**20 04 52.8**	**-5.3**
	comp=Z,0.5nm,0.3s,baz=78,slow=14,SNR=1.3						
	comp=Z,0.5nm,0.3s						
ASAR	**Alice Springs**	**32.19**	**260**	P	**P**	**20 05 50.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=98,slow=9.2,SNR=7.1						
	comp=Z,0.6nm,0.6s						
WB0	**Warramunga Arr**	**32.19**	**267**	P	**P**	**20 05 51.3**	**-0.4**
WB0				IAmb	IAmb	20 06 26.5	
	comp=Z,9.6nm,1.4s						
WRA	**Warramunga Arr**	**32.21**	**267**	P	**P**	**20 05 52.6**	**+0.8**
WRA	**Warramunga Arr**	**32.21**	**267**	P	**P**	**20 05 50.8**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=96,slow=7.9,SNR=2.1						
	comp=Z,0.3nm,0.8s						
BELA	**Belgrano 2**	**79.55**	**175**	P	**P**	**20 11 30.2**	**+0.6**
BELA				IAmb	IAmb	20 11 39.3	
	comp=Z,1.6nm,0.7s						
SNAA	**Sanae**	**86.56**	**183**	P	**P**	**20 12 07.5**	**+1.5**
SONM	**Songino Array**	**89.05**	**323**	P	**P**	**20 12 20.7**	**+2.4**
	comp=Z,0.4nm,0.6s,baz=99,slow=4.5,SNR=1.9						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**90.82**	**49**	P	**P**	**20 12 27.2**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=226,slow=6.9,SNR=6.0						
	comp=Z,0.7nm,0.7s						
CLL	**Collm**	**145.07**	**333**	*i* PKPbc	**PKPdf**	**20 19 01.1**	**+0.8**
	comp=Z,7.0nm,0.9s						
CLL				*i* x	x	20 19 08.9	
ZVC	**Zvikov**	**145.91**	**330**	*e*PKP	**PKPab**	**20 19 03.4**	**+0.5**
ZVC				*ex*	x	20 19 11.6	
EKA	**Eskdalemuir Ar**	**146.02**	**352**	PKPbc	**PKPbc**	**20 19 02.1**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=354,slow=3.4,SNR=4.5						
CKRC	**Cesky Krumlov**	**146.28**	**329**	*e*PKP	**PKPab**	**20 19 05.0**	**+0.6**

CKRC			*ex*	x	20 19 13.3		
KHC	**Kasperske Hory**	**146.41 330**	*e*PKP	**PKPab**	**20 19 05.3**	**+0.4**	
KHC			*ex*	x	20 19 13.0		
GERES	**GERESS Array B**	**146.55 330**	PKPbc	**PKPbc**	**20 19 04.6**	**0.0**	
	comp=Z,2.1nm,0.7s,baz=31,slow=3.1,SNR=11						

ROM 31 20:00:33.8±0.1, 43°.640N±0°.004×10°.984E±0°.007, h10km, ML1.0/12, 1D, Error ellipse: s-maj=0.5km s-min=0.4km az=76.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRMI	**Carmignano**	**0.15**	**356**	P	Pb	20 00 38.0	-0.7
CRMI				S	Sg	20 00 40.6	+1.0
CRMI				AML	AML		
	comp=E,24μm,0.2s						
CRMI				AML	AML		
	comp=N,24μm,0.3s						
CRMI				AML	AML		
	comp=E,24μm,1.8s						
OSSC	**Osservatorio P**	**0.22**	**121**	P	Pg	20 00 39.1	+0.7
OSSC				S	Sg	20 00 42.7	+1.1
OSSC				AML	AML		
	comp=N,40μm,0.3s						
OSSC				AML	AML		
	comp=E,37μm,1.5s						
CSNT	**Castellina Chi**	**0.28**	**127**	P	Pg	20 00 40.1	+0.6
CSNT				S	Sg	20 00 44.4	+1.1
CSNT				AML	AML		
	comp=E,20μm,1.6s						
CSNT				AML	AML		
	comp=N,25μm,1.3s						
CSNT				AML	AML		
	comp=E,20μm,0.4s						
CSNT				AML	AML		
	comp=N,25μm,0.7s						
MPPT	**Montemurlo**	**0.33**	**14**	P	Pg	20 00 40.8	+0.4
MPPT				S	Sb	20 00 46.0	-1.1
PII	**Pisa**	**0.34**	**284**	P	Pb	20 00 41.5	-0.5
PII				S	Sg	20 00 45.9	+0.7
PII	**Pisa**	**0.34**	**284**	⇓P	Pb	20 00 41.5	-0.5
PII				S	Sg	20 00 46.0	+0.8
PII				AML	AML		
	comp=E,37μm,0.9s						
PII				AML	AML		
	comp=N,46μm,1.0s						
PII				AML	AML		
	comp=N,60μm,1.4s						
PII				AML	AML		
	comp=E,37μm,1.1s						
PII				AML	AML		
	comp=N,60μm,0.6s						
MTCR	**Monte La Croce**	**0.39**	**2**	P	Pg	20 00 42.2	+0.6
MTCR	**Monte La Croce**	**0.39**	**2**	P	Pg	20 00 42.2	+0.6
MTCR				S	Sb	20 00 48.5	-0.5
MOCL	**Monte Cuccoli**	**0.39**	**21**	P	Pg	20 00 42.1	+0.6
MOCL				S	Sb	20 00 48.1	-0.9
MAGO	**Bibbona**	**0.44**	**213**	P	Pb	20 00 43.1	-0.5
MAGO				S	Sg	20 00 49.0	+0.8
POPM	**Popiglio**	**0.44**	**338**	P	Pg	20 00 42.4	-0.1
POPM				S	Sb	20 00 49.5	-0.8
FROS	**Frosini**	**0.45**	**164**	P	Pb	20 00 43.3	-0.5
FROS				S	Sg	20 00 49.4	+0.9
FROS				AML	AML		
	comp=E,68μm,1.5s						
FROS				AML	AML		
	comp=N,59μm,1.2s						
FROS				AML	AML		
	comp=E,68μm,0.5s						
FROS				AML	AML		
	comp=N,59μm,0.8s						
MAIM	**Mastiano**	**0.45**	**308**	P	Pb	20 00 43.3	-0.5
MAIM				S	Sg	20 00 49.0	+0.4
MAIM	**Mastiano**	**0.45**	**308**	P	Pg	20 00 43.2	+0.6
MAIM				S	Sg	20 00 49.0	+0.4
SEI	**Scarperia**	**0.49**	**33**	S	Sb	20 00 51.0	-0.9
BDI	**Bagni Di Lucca**	**0.51**	**327**	P	Pg	20 00 44.1	+0.4
BDI				S	Sg	20 00 51.4	+0.9
TRIF	**Trifonti**	**0.53**	**186**	P	Pb	20 00 44.9	-0.3
TRIF				S	Sg	20 00 51.7	+0.7
CARD	**Cardoso**	**0.53**	**317**	P	Pg	20 00 44.5	+0.4
CARD				S	Sg	20 00 51.6	+0.4
EQUI	**Equi**	**0.80**	**312**	S	Sg	20 00 59.6	0.0

*IDC **31** 20:03:47.1±0.8, 21°.76S×168°.94E, h0km, mb4.0/14, mbtmp4.0/15, ML3.8/1, Error ellipse: s-maj=20.0km s-min=19.4km az=66.0*
*NEIC **31** 20:03:48.2±1.9, 21°.60S±0°.05×168°.87E±0°.05, h10km±1km, mb4.6/17, Error ellipse: s-maj=8.6km s-min=7.7km az=116.0*
*NOU **31** 20:03:51.6, 21°.58S×168°.62E, h0km, MLv4.1/5, Loyalty Islands*

ISC 31 20:03:48.2±3.3, 21°.63S±0°.06×168°.86E±0°.07, h10km±20km, n86, σ1§02/91, mb4.3/25, 5D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.78**	**281**		**Pn**	**20 04 05.6**	**+0.3**
MARNC				Sn	**Sn**	**20 04 17.2**	**+0.1**
PINNC	**Pines Island,**	**1.63**	**233**		**Pn**	**20 04 17.3**	**+0.3**
PINNC				Sn	**Sn**	**20 04 37.7**	**-0.3**
PINNC	**Pines Island,**	**1.63**	**233**	P	**Pn**	**20 04 17.5**	**+0.5**
PINNC	**Pines Island,**	**1.63**	**233**	P	**Pb**	**20 04 18.9**	**+0.5**
LIFNC	**LIFOU**	**1.73**	**299**		**Pn**	**20 04 18.2**	**-0.1**
LIFNC				Sn	**Sn**	**20 04 38.9**	**-1.6**
LIFNC	**LIFOU**	**1.73**	**299**	P	Pg	20 04 27.9	+6.5
YATNC	**Mamie plateau,**	**1.88**	**256**	P	**Pb**	**20 04 22.4**	**-0.2**
YATNC	**Mamie plateau,**	**1.88**	**256**	P	**Pn**	**20 04 21.6**	**+1.2**
OUENC	**Ouen Island, N**	**2.03**	**247**		**Pn**	**20 04 23.3**	**+0.8**
OUENC				Sn	**Sn**	**20 04 47.0**	**-0.8**
OUENC	**Ouen Island, N**	**2.03**	**247**	P	**Pb**	**20 04 24.9**	**-0.3**
OUENC	**Ouen Island, N**	**2.03**	**247**	P	**Pb**	**20 04 24.4**	**-0.8**
DZM	**Mont Dzumac**	**2.28**	**258**		**Pn**	**20 04 26.6**	**+0.6**
DZM	**Mont Dzumac**	**2.28**	**258**	P	**Pb**	**20 04 28.5**	**-1.1**
DZM	**Mont Dzumac**	**2.28**	**258**	Pn	**Pn**	**20 04 27.1**	**+1.0**
	22nm,0.3s,baz=80,slow=16,SNR=10						
DZM				Sn	**Sn**	**20 04 56.6**	**+2.3**
	89nm,0.3s,baz=114,slow=20,SNR=14						
	101nm,0.5s						
ONTNC	**Ouen Toro**	**2.33**	**253**		**Pn**	**20 04 27.3**	**+0.7**
ONTNC				Sn	**Sn**	**20 04 55.0**	**-0.3**
ONTNC	**Ouen Toro**	**2.33**	**253**	P	**Pn**	**20 04 28.5**	**+1.9**
NOUC	**Port Laguerre**	**2.42**	**258**	P	**Pn**	**20 04 29.6**	**+1.8**
NOUC	**Port Laguerre**	**2.42**	**258**	P	**Pn**	**20 04 29.4**	**+1.6**
KOUNC	**Koumac, New Ca**	**4.40**	**283**		**Pn**	**20 04 57.3**	**+2.3**
ARMA	**Armidale**	**17.77**	**237**	P	**Pn**	**20 07 55.9**	**0.0**
RTZ	**Ruatahuna**	**18.32**	**159**	P	**Pn**	**20 08 02.2**	**-0.3**
MRZ	**Mangatainoka R**	**19.81**	**165**	P	**P**	**20 08 19.6**	**+0.8**
MRZ				IAmb	IAmb	20 08 31.9	
	comp=Z,34nm,1.3s						
CTA	**Charters Tower**	**21.18**	**270**	P	**P**	**20 08 35.6**	**+1.7**
	comp=Z,2.2nm,0.7s,baz=103,slow=12,SNR=3.6						
	comp=Z,2.2nm,0.7s						
RPZ	**Rata Peaks**	**22.10**	**176**	P	**P**	**20 08 42.6**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=355,slow=12,SNR=1.5						
	comp=Z,4.3nm,0.7s						
PMG	**Port Moresby**	**24.14**	**297**	P	**P**	**20 09 06.0**	**+1.5**
	comp=Z,5.4nm,0.6s,baz=33,slow=14,SNR=2.3						
	comp=Z,5.4nm,0.6s						
STKA	**Stephens Creek**	**26.33**	**241**	P	**P**	**20 09 25.3**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=100,slow=12,SNR=3.1						
	comp=Z,1.5nm,0.7s						
WB0	**Warramunga Arr**	**32.26**	**267**	P	**P**	**20 10 17.4**	**+0.2**
WB0				IAmb	IAmb	20 10 41.9	
	comp=Z,4.4nm,1.0s						
AS31	**Alice Springs**	**32.27**	**260**	P	**P**	**20 10 16.6**	**-0.8**
ASAR	**Alice Springs**	**32.27**	**260**	P	**P**	**20 10 16.1**	**-1.3**
ASAR	**Alice Springs**	**32.27**	**260**	P	**P**	**20 10 17.9**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=92,slow=9.0,SNR=18						
	comp=Z,1.5nm,0.7s						
WRA	**Warramunga Arr**	**32.28**	**267**	P	**P**	**20 10 17.4**	**0.0**
WRA	**Warramunga Arr**	**32.28**	**267**	P	**P**	**20 10 17.5**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=95,slow=8.1,SNR=7.1						
	comp=Z,0.6nm,0.7s						
MTN	**Manton Dam**	**36.99**	**277**	P	**P**	**20 10 58.0**	**-0.2**
FORT	**Forrest**	**37.55**	**247**	P	**P**	**20 11 01.5**	**-1.3**
KNRA	**Kununurra**	**38.37**	**272**	P	**P**	**20 11 08.3**	**-1.5**
KNRA				IAmb	IAmb	20 11 11.2	
	comp=Z,14nm,1.0s						
FAKI	**Fak Fak**	**40.14**	**293**	P	**P**	**20 11 22.2**	**-2.5**
FAKI				IAmb	IAmb	20 11 26.4	
	comp=Z,13nm,0.9s						
TOLI2	**Tolitoli**	**52.08**	**289**	P	**P**	**20 12 55.5**	**-3.3**
TOLI2				IAmb	IAmb	20 13 08.7	
	comp=Z,8.5nm,0.8s						
VNDA	**Vanda**	**56.04**	**182**	P	**P**	**20 13 25.8**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=302,slow=4.6,SNR=3.2						
	comp=Z,0.5nm,0.7s						
MJAR	**Matsushiro Arr**	**64.70**	**333**	P	**P**	**20 14 26.9**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=176,slow=2.4,SNR=3.6						
	comp=Z,1.8nm,0.8s						
QSPA	**South Pole Qui**	**68.44**	**180**	P	**P**	**20 14 49.4**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=352,slow=0.9,SNR=6.6						
	comp=Z,1.4nm,0.4s						
USA0B	**Ussuriysk Arra**	**73.69**	**333**	P	**P**	**20 15 21.4**	**-0.6**
USA0B				IAmb	IAmb	20 15 25.1	
	comp=Z,6.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**73.69**	**333**	P	**P**	**20 15 22.3**	**+0.2**
USRK	**Ussuriysk Ar.**	**73.69**	**333**	P	**P**	**20 15 23.8**	**+1.7**
	comp=Z,3.4nm,0.8s,baz=79,slow=11,SNR=4.1						
	comp=Z,3.4nm,0.8s						
MAW	**Mawson**	**76.10**	**202**	P	**P**	**20 15 36.8**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=111,slow=14,SNR=3.6						
	comp=Z,1.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**79.16**	**295**	P	**P**	**20 15 56.0**	**+2.3**
	comp=Z,0.9nm,0.8s,baz=140,slow=4.5,SNR=7.3						
	comp=Z,0.9nm,0.8s						
BELA	**Belgrano 2**	**79.76**	**175**	P	**P**	**20 15 55.5**	**-0.5**
BELA				IAmb	IAmb	20 16 04.8	
	comp=Z,6.2nm,0.7s						
SMAI	**San Martin Ant**	**81.68**	**162**	P	**P**	**20 16 07.1**	**+0.8**
TROLL	**Troll, Antarti**	**86.14**	**184**	⇓P	**P**	**20 16 28.9**	**-0.4**
	comp=Z,261nm,0.7s						
SNAA	**Sanae**	**86.77**	**183**	P	**P**	**20 16 31.3**	**-1.1**
SNAA				IAmb	IAmb	20 16 41.6	
	comp=Z,4.9nm,1.0s						
SNAA	**Sanae**	**86.77**	**183**	⇓P	**P**	**20 16 31.7**	**-0.6**
	comp=Z,57nm,0.9s						
K15K	**Wolf Creek Mou**	**86.90**	**13**	P	**P**	**20 16 33.8**	**+1.1**
VNA3	**Neumayer Olymp**	**87.37**	**180**	P	**P**	**20 16 34.6**	**-0.6**
	comp=Z,1.6nm,0.4s						
VNA2	**Neumayer--Watz**	**87.66**	**181**	⇓P	**P**	**20 16 36.2**	**-0.4**
	comp=Z,4.5nm,0.6s,baz=178,slow=4.0						
VNA1	**Neumayer--Stat**	**87.95**	**181**	⇓P	**P**	**20 16 37.5**	**-0.4**
	comp=Z,2.8nm,0.8s						
J16K	**Anvik River**	**87.98**	**13**	P	**P**	**20 16 37.4**	**-0.5**
J16K				IAmb	IAmb	20 16 40.0	
	comp=Z,6.5nm,1.2s						
SONM	**Songino Array**	**88.91**	**323**	P	**P**	**20 16 43.4**	**+0.6**
	comp=Z,1.0nm,1.0s,baz=134,slow=6.2,SNR=5.0						
	comp=Z,1.0nm,1.0s						
NVAR	**Mina Array Bea**	**90.64**	**49**	P	**P**	**20 16 51.9**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=224,slow=8.5,SNR=8.9						
	comp=Z,1.1nm,0.8s						
DPC	**Dobruska-Polom**	**144.12**	**330**	*e*PKP	**PKPdf**	**20 23 23.3**	**-0.8**
PVCC	**Panska Ves**	**144.80**	**331**	*e*PKP	**PKPdf**	**20 23 25.5**	**+0.3**
BRG	**Berggiesshubel**	**144.83**	**332**	*i* P	**PKPdf**	**20 23 26.5**	**+1.2**
BRG				Amp		20 23 27.2	
	comp=Z,12nm,0.9s						
CLL	**Collm**	**144.90**	**333**	⇓*i*PKPbc	**PKPdf**	**20 23 25.4**	**0.0**
	comp=Z,11nm,0.9s						
CLL				*i* x	x	20 23 33.9	
PRU	**Pruhonice**	**145.20**	**331**	*e*PKP	**PKPdf**	**20 23 26.4**	**+0.5**
ZVC	**Zvikov**	**145.75**	**330**	*e*PKP	**PKPab**	**20 23 28.5**	**+0.8**
ZVC				*ex*	x	20 23 35.4	
EKA	**Eskdalemuir Ar**	**145.81**	**352**	PKPbc	**PKPbc**	**20 23 27.4**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=340,slow=2.2,SNR=6.3						
RONA	**Rosalia, Austr**	**145.89**	**326**	*e*PKP	**PKPab**	**20 23 29.7**	**+1.3**
	comp=Z,7.5nm,1.0s						
CONA	**Conrad Observa**	**145.97**	**327**	*e*PKP	**PKPab**	**20 23 29.9**	**+1.2**
	comp=Z,9.6nm,1.2s						
CKRC	**Cesky Krumlov**	**146.13**	**329**	*e*PKP	**PKPab**	**20 23 29.6**	**+0.5**
CKRC				*ex*	x	20 23 37.8	
KHC	**Kasperske Hory**	**146.25**	**330**	*e*PKP	**PKPbc**	**20 23 29.2**	**+0.3**
KHC				*ex*	x	20 23 38.2	
GERES	**GERESS Array B**	**146.39**	**330**	PKPbc	**PKPab**	**20 23 30.6**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=35,slow=3.3,SNR=29						
ARSA	**Arzberg**	**146.58**	**326**	*i* PKP	**PKPab**	**20 23 30.9**	**-0.1**
	comp=Z,1.3nm,0.8s,SNR=7.2						
ARSA	**Arzberg**	**146.58**	**326**	*e*P	**PKPab**	**20 23 30.9**	**-0.1**
	comp=Z,1.3nm,0.8s,SNR=7.2						
MOA	**Molln**	**146.82**	**328**	*e*PKP	**PKiKP**	**20 23 32.8**	**-0.5**
	comp=Z,4.2nm,1.1s						
SOKA	**Soboth**	**147.21**	**326**	*e*PKP	**PKPab**	**20 23 32.7**	**-0.9**
	comp=Z,3.3nm,1.0s						
KBA	**Koelnbreinsper**	**147.80**	**328**	*e*PKP	**PKPbc**	**20 23 34.5**	**+0.9**
	comp=Z,2.4nm,0.5s						
LESA	**Schwarzleotal**	**147.88**	**329**	*e*PKP	**PKPbc**	**20 23 34.4**	**+0.7**
	comp=Z,3.1nm,0.7s						
MYKA	**Terra Mystica**	**147.96**	**327**	*e*PKP	**PKPbc**	**20 23 34.2**	**+0.4**
	comp=Z,4.6nm,0.9s						
ABTA	**Abfaltersbach**	**148.44**	**328**	*i* PKP	**PKPbc**	**20 23 35.5**	**+0.3**
	comp=Z,4.9nm,0.7s,SNR=4.8						
ABTA	**Abfaltersbach**	**148.44**	**328**	*e*P	**PKPbc**	**20 23 35.5**	**+0.3**
	comp=Z,4.9nm,0.7s,SNR=4.8						
WATA	**Walderalm**	**148.47**	**330**	*e*PKP	**PKiKP**	**20 23 36.2**	**-0.7**
	comp=Z,6.1nm,1.1s						
WTTA	**Wattenberg**	**148.49**	**330**	*e*PKiKP	**PKiKP**	**20 23 36.8**	**-0.1**
	comp=Z,7.3nm,0.9s						
MOTA	**Moosalm**	**148.68**	**330**	*i* PKP	**PKiKP**	**20 23 36.7**	**-0.6**
	comp=Z,7.2nm,0.9s,SNR=5.1						
MOTA	**Moosalm**	**148.68**	**330**	*i* P	**PKiKP**	**20 23 36.7**	**-0.6**
	comp=Z,7.2nm,0.9s,SNR=5.1						
SQTA	**Sankt Quirin**	**148.72**	**330**	*e*PKP	**PKiKP**	**20 23 36.8**	**-0.6**
	comp=Z,6.2nm,0.8s						
RETA	**Reutte**	**148.73**	**331**	*e*PKP	**PKiKP**	**20 23 36.8**	**-0.5**
	comp=Z,4.6nm,1.1s						
FETA	**Feichten**	**149.09**	**330**	*e*PKP	**PKiKP**	**20 23 37.7**	**-0.4**
	comp=Z,5.9nm,0.8s						
DAVA	**Damuels**	**149.28**	**331**	*e*PKP	**PKiKP**	**20 23 37.9**	**-0.6**
	comp=Z,6.3nm,1.1s						

*SNET **31** 20:04:31.6±0.4, 13°.80N×90°.96W, h24km±237km, ML3.4*
*GCG **31** 20:04:31.4±3.0, 13°.85N×91°.22W, h27km±19km, MD3.4*

ISC 31 20:04:27.2±2.5, 13°.6N±0°.1×91°.17W±0°.09, h10km, n8, σ1§40/10, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.90**	**21**	*i* P	**Pb**	**20 04 45.9**	**+0.9**
PCG	**Pacaya**	**0.96**	**35**	*i* P	**Pg**	**20 04 46.9**	**+1.2**
PCG				*i* S	**Sb**	**20 04 58.9**	**0.0**
STG3	**Santiaguito 3,**	**1.17**	**341**	*i* P	**Pn**	**20 04 50.5**	**+0.7**
STG3				*i* S	**Sb**	**20 05 02.0**	**-2.9**
NBG	**Las Nubes**	**1.27**	**39**	*i* P	**Pg**	**20 04 51.9**	**+0.4**
NBG				*i* S	**Sg**	**20 05 07.7**	**-0.3**
NUBE	**Las Nubes**	**1.38**	**77**	*e*P	Pn	20 04 52.1	-0.7
CEVE	**Cerro Verde**	**1.52**	**81**	*e*P	**Pn**	**20 04 54.7**	**0.0**
CEVE				*e*S	**Sn**	**20 05 13.2**	**-1.5**
CEVE				IAML		20 05 17.1	
	comp=Z,612nm,0.2s						
JAYA	**Jayaque - finc**	**1.68**	**88**	*e*P	Pn	20 04 56.6	-0.2
MTO3	**Montecristo**	**1.93**	**66**	*e*P	**Pn**	**20 04 60.0**	**-0.3**

HEL 31 20:05:32.4±0.2, 68°.05N×33°.59E, h0km, ML1.4, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.43**	**110**	PG	Pg	20 05 40.2	-0.3
LVZ				SG	Sg	20 05 45.6	-0.4
VRF	**Varrio**	**1.54**	**261**	PN	Pn	20 06 00.8	-0.2
	baz=79						
VRF				MSG		20 06 18.5	
	comp=Z,2.4nm,0.2s						
OLKF	**Oulanka, Finla**	**2.38**	**225**	PN	Pn	20 06 11.1	-1.6
OLKF				SN	Sn	20 06 40.6	-1.9
OLKF				MSG		20 06 42.9	
	comp=Z,1.1nm,0.2s						
MSF	**Maaselka**	**2.79**	**222**	PB	Pn	20 06 20.2	+1.9
MSF				SN	Sn	20 06 52.5	-0.2
KEV	**Kevo**	**2.94**	**309**	MSG		20 06 58.7	
	comp=Z,1.1nm,0.2s						
KEV				SG	Sb	20 07 03.5	+1.6
HEF	**Hetta**	**3.72**	**280**	PN	Pn	20 06 29.0	-2.0
HEF				SN	Sn	20 07 12.0	-3.5
KTK1	**Kautokeino**	**3.93**	**289**	SG	Sb	20 07 33.4	+2.9
LANU	**Lannavaara**	**4.35**	**275**	PB	Pb	20 06 46.4	-3.3

IDC 31 20:22:09.0±6.2, 21°.34S×168°.62E, h0km, mb3.7/3, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=275.1km s-min=27.6km az=150.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.15**	**250**	Pn	Pn	20 22 45.1	-1.1
	8.2nm,0.3s,baz=99,slow=19,SNR=9.4						
DZM				Sn	Sn	20 23 13.0	-0.6
	53nm,0.3s,baz=119,slow=19,SNR=10						
	27nm,0.4s						
WRA	**Warramunga Arr**	**32.08**	**266**	P	P	20 28 39.2	+1.2
	0.6nm,0.8s,baz=95,slow=8.7,SNR=3.1						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**32.11**	**259**	P	P	20 28 39.0	+0.7
	0.5nm,0.8s,baz=91,slow=9.3,SNR=5.8						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**92.40**	**17**	P	P	20 35 21.8	+0.7
	0.8nm,1.1s,baz=210,slow=3.5,SNR=1.4						
	0.8nm,1.1s						
GERES	**GERESS Array B**	**146.04**	**330**	PKPbc	PKPdf	20 41 48.1	-2.0
	0.2nm,0.4s,baz=31,slow=3.6,SNR=3.9						

*BJI **31** 20:22:42.4±0.0, 21°.42S×169°.68E, h7km, mb4.9/22, mB5.5/16, Ms5.2/4, Ms7 4.8/4*
*IDC **31** 20:22:43.8±0.6, 21°.75S×168°.94E, h0km, mb4.2/17, mbtmp4.2/20, ML4.4/3, MS3.7/3, Error ellipse: s-maj=16.8km s-min=15.8km az=108.0*
*NEIC **31** 20:22:44.1±1.2, 21°.79S±0°.06×168°.99E±0°.04, h6km±4km, mb4.9/62, Error ellipse: s-maj=8.5km s-min=5.3km az=188.0*

ISC 31 20:22:43.5±1.8, 21°.83S±0°.05×168°.94E±0°.05, h1km±10km, n187, σ1§12/180, mb4.9/58, MS3.7/3, 9C-3D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.92**	**292**		**Pg**	**20 23 02.3**	**+1.2**
MARNC				Sg	**Sb**	**20 23 15.6**	**+0.6**
PINNC	**Pines Island,**	**1.59**	**240**	Pn	**Pn**	**20 23 13.4**	**+0.6**
PINNC				Sg	**Sb**	**20 23 35.5**	**+1.3**
LIFNC	**LIFOU**	**1.90**	**303**	Pn	**Pn**	**20 23 16.8**	**-0.3**
LIFNC				Sn	**Sn**	**20 23 37.4**	**-4.3**
OUENC	**Ouen Island, N**	**2.03**	**253**	Pn	**Pn**	**20 23 18.8**	**-0.2**
OUENC				Sn	**Sn**	**20 23 44.7**	**-0.3**
DZM	**Mont Dzumac**	**2.33**	**264**	Pn	**Pn**	**20 23 23.2**	**+0.1**
DZM	**Mont Dzumac**	**2.33**	**264**	Pn	**Pn**	**20 23 23.0**	**-0.1**
	36nm,0.3s,baz=91,slow=20,SNR=4.7						
DZM				Sn	**Sn**	**20 23 53.3**	**+0.9**
	71nm,0.3s,baz=62,slow=22,SNR=6.9						
DZM				LR	LR	20 24 11.4	
	comp=Z,1μm,18.8s,baz=138,slow=38						
	174nm,0.5s						
ONTNC	**Ouen Toro**	**2.36**	**258**	Pn	**Pb**	**20 23 25.9**	**-0.9**
KOUNC	**Koumac, New Ca**	**4.53**	**286**	Pn	**Pn**	**20 23 53.0**	**-0.2**
MSVF	**Nonsavu**	**9.49**	**66**	Pn	**Pn**	**20 25 00.8**	**-0.7**
MSVF	**Nonsavu**	**9.49**	**66**	Pn	**Pn**	**20 25 02.8**	**+1.2**
	0.4nm,0.3s,baz=232,slow=17,SNR=3.6						
	5.2nm,0.8s						
EIDS	**Eidsvold**	**16.74**	**254**	Pn	**Pn**	**20 26 38.6**	**-0.8**
TOZ	**Tahuroa Road**	**16.83**	**162**		**P**	**20 26 42.0**	**-0.7**
ARMA	**Armidale**	**17.73**	**238**		**P**	**20 26 56.4**	**+3.6**
URZ	**Urewera**	**17.82**	**159**	P	**P**	**20 26 55.1**	**+1.5**
	0.3nm,0.3s,baz=50,slow=13,SNR=2.4						
	8.1nm,0.8s						
RTZ	**Ruatahuna**	**18.10**	**159**		**Pn**	**20 26 55.4**	**-0.9**
BKZ	**Black Stump Fm**	**18.45**	**161**		**P**	**20 26 59.3**	**-1.3**
MRZ	**Mangatainoka R**	**19.60**	**165**	P	**P**	**20 27 12.1**	**-1.0**
NNZ	**Nelson**	**19.69**	**170**	P	**P**	**20 27 12.8**	**-1.3**
MRNZ	**Matariki Terra**	**19.77**	**171**	P	**P**	**20 27 14.8**	**-0.2**
TCW	**Tory Channel**	**19.84**	**168**		**P**	**20 27 14.2**	**-1.6**
KHZ	**Kahutara**	**20.88**	**170**	P	**P**	**20 27 28.1**	**+1.0**
KHZ				IAmb	IAmb	20 27 42.2	
	comp=Z,100nm,1.8s						
CTA	**Charters Tower**	**21.26**	**271**	P	**P**	**20 27 32.6**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=73,slow=11,SNR=3.1						
	comp=Z,3.5nm,0.7s						
CTAO	**Charters Tower**	**21.26**	**271**		**P**	**20 27 31.4**	**+0.1**
RPZ	**Rata Peaks**	**21.89**	**176**	P	**P**	**20 27 40.9**	**+2.9**
	comp=Z,6.4nm,0.9s,baz=16,slow=14,SNR=1.9						
RPZ				LR	LR	20 35 19.5	
	comp=Z,240nm,18.7s,baz=357,slow=34						
	comp=Z,6.4nm,0.9s						
PMG	**Port Moresby**	**24.30**	**297**	P	**P**	**20 28 02.1**	**-0.7**
PMG				IAmb	IAmb	20 28 12.2	
	comp=Z,23nm,0.8s						
TOO	**Toolangi**	**25.61**	**227**	P	**P**	**20 28 14.0**	**-0.5**
TOO				IAmb	IAmb	20 28 25.5	
	comp=Z,32nm,1.4s						
COEN	**Coen**	**25.71**	**283**	P	**P**	**20 28 14.9**	**-0.7**
COEN				IAmb	IAmb	20 28 27.3	
	comp=Z,82nm,1.9s						
STKA	**Stephens Creek**	**26.30**	**242**	P	**P**	**20 28 21.3**	**+0.4**
STKA	**Stephens Creek**	**26.30**	**242**	P	**P**	**20 28 21.1**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=82,slow=6.7,SNR=3.8						
	comp=Z,1.9nm,0.8s						
WR0	**Warramunga Arr**	**32.16**	**267**	P	**P**	**20 29 12.6**	**-0.4**
WR0				IAmb	IAmb	20 29 20.3	
	comp=Z,27nm,1.9s						
**

comp=Z,570nm,5.3s
MDJ LR LR
comp=Z,620nm,15.2s
MDJ LR LR
comp=Z,320nm,14.5s
MDJ LR LR
comp=Z,400nm,16.2s
MAW Mawson 75.94 202 P **P** **20 34 32.5 +0.8**
comp=Z,2.7nm,0.8s,baz=130,slow=7.7,SNR=5.3
comp=Z,2.7nm,0.8s
CN2 Changchun 76.53 329 *e*P **P** **20 34 34.5 -0.7**
CN2 *e*PP **PP** **20 37 30.3 +2.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,270nm,5.0s
HNS HongShan 77.94 319 *e*P **P** **20 34 44.3 +1.0**
KLR Kul'dur 78.11 336 P **P** **20 34 44.6 +0.6**
comp=Z,4.0nm,0.9s,baz=89,slow=2.9,SNR=9.2
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 79.32 295 P **P** **20 34 49.8 -1.6**
CMAR Chiang Mai Arr 79.32 295 P **P** **20 34 53.1 +1.7**
comp=Z,1.1nm,0.6s,baz=141,slow=4.3,SNR=11
comp=Z,1.1nm,0.6s
BELA Belgrano 2 79.55 175 P **P** **20 34 50.6 -1.1**
BELA IAmb IAmb 20 35 00.3
comp=Z,9.0nm,0.7s
XAN Xi'an 79.66 313 P P 20 34 42.0 -11
XAN pmax pmax
comp=Z,8.0nm,1.4s
HEH HeiHe 80.62 334 *e*P **P** **20 34 58.0 +0.3**
HEH pmax pmax
comp=Z,12nm,0.6s
HEH pmax pmax
comp=Z,470nm,5.1s
PZH PanZhiHua 80.88 303 P **P** **20 35 01.8 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,5.0s
HHC Hu-ho-hao-te 82.01 320 *e*P **P** **20 35 05.3 -0.1**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,400nm,5.3s
ELIB Princess Elisa 83.55 190 *d*P **P** **20 35 12.8 -0.4**
comp=Z,6.5nm,1.4s
LZH Lanzhou 84.26 312 *e*P P 20 35 22.0 +4.7
LZH pP pwP 20 35 27.3 +6.5
LZH pmax pmax
comp=Z,18nm,1.6s
Q17K Contact Creek 84.98 18 P **P** **20 35 22.2 +1.9**
baz=212
TROLL Troll, Antarti 85.94 184 ⇑P **P** **20 35 24.9 -0.2**
comp=Z,449nm,0.8s
N16K Nishlik Lake 86.11 15 P **P** **20 35 26.0 +0.2**
baz=210
P18K Big Mountain, 86.11 17 P **P** **20 35 26.3 +0.4**
baz=213
M16K Timber Creek 86.54 15 P **P** **20 35 28.4 +0.5**
baz=210
SNAA Sanae 86.57 183 P **P** **20 35 27.3 -0.9**
SNAA IAmb IAmb 20 35 36.7
comp=Z,12nm,1.0s
SNAA Sanae 86.57 183 ⇑P **P** **20 35 27.8 -0.4**
comp=Z,126nm,0.9s
VNA3 Neumayer Olymp 87.17 180 P **P** **20 35 30.9 -0.2**
comp=Z,14nm,0.8s
O20K Slope Mountain 87.43 18 P **P** **20 35 34.7 +2.5**
baz=215
VNA2 Neumayer--Watz 87.46 181 P **P** **20 35 32.4 0.0**
comp=Z,5.0nm,0.6s,baz=164,slow=4.0
VNA1 Neumayer--Stat 87.75 181 ⇑P **P** **20 35 33.8 0.0**
comp=Z,10nm,1.2s
PKM Mcpherson Peak 87.99 51 P **P** **20 35 35.8 0.0**
baz=242
L18K Granite Mounta 88.13 15 P **P** **20 35 37.5 +2.0**
baz=212
J16K Anvik River 88.16 13 P **P** **20 35 37.6 +2.0**
baz=208
GTA Gaotai 88.70 314 *e*P **P** **20 35 39.5 +0.5**
GTA pP pwP 20 35 46.3 +3.8
GTA pmax pmax
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 88.77 324 P **P** **20 35 38.0 -1.2**
ULN IAmb IAmb 20 35 40.6
comp=Z,7.8nm,1.1s
SONM Songino Array 89.12 323 P **P** **20 35 40.4 -0.3**
SONM IAmb IAmb 20 35 42.1
comp=Z,8.8nm,1.2s
SONM Songino Array 89.12 323 P **P** **20 35 40.6 -0.1**
comp=Z,3.4nm,1.0s,baz=143,slow=5.6,SNR=14
comp=Z,3.4nm,1.0s
EDW2 Edwards Air Fo 89.31 52 P **P** **20 35 41.1 -0.7**
baz=243
ISA Isabella, Lake 89.32 51 P **P** **20 35 41.0 -0.8**
ISA IAmb IAmb 20 35 42.7
comp=Z,12nm,1.1s
ISA Isabella, Lake 89.32 51 P **P** **20 35 41.2 -0.7**
baz=242
MONP2 Monument Peak 89.58 54 P **P** **20 35 42.9 -0.4**
baz=244
IKP In-Ko-Pah, Jac 89.71 55 P **P** **20 35 43.5 -0.3**
baz=244
H17K Granite Mounta 89.76 13 P **P** **20 35 43.9 +0.8**
baz=209
CWC Cottonwood Cre 89.96 50 P **P** **20 35 43.6 -1.4**
baz=243
SWSC Sam W. Stewart 90.08 54 P **P** **20 35 45.2 -0.1**
baz=244
MPMC Manual Prospec 90.21 51 P **P** **20 35 45.0 -1.2**
baz=243
BELC Belle Mtn. Jos 90.39 53 P **P** **20 35 46.7 -0.3**
baz=244
COR Corvallis 90.42 41 P **P** **20 35 46.6 -0.1**
DSP Deep Springs 90.47 50 P **P** **20 35 45.8 -1.3**
DSP IAmb IAmb 20 35 55.9
comp=Z,9.5nm,1.2s
LHV Little Huntoon 90.50 49 P **P** **20 35 46.3 -0.9**
HEC Hector,Ludlow 90.50 53 P **P** **20 35 46.3 -1.1**
baz=244
QSM Queen of Sheba 90.62 51 P **P** **20 35 46.3 -1.6**
QSM IAmb IAmb 20 35 48.3
comp=Z,9.8nm,1.4s
BC3 Big Chuckawall 90.65 54 P **P** **20 35 47.0 -1.2**
baz=244
NVAR Mina Array Bea 90.72 49 P **P** **20 35 47.4 -1.1**
NVAR Mina Array Bea 90.72 49 P **P** **20 35 48.2 -0.3**
comp=Z,1.3nm,0.7s,baz=228,slow=7.7,SNR=12
comp=Z,1.3nm,0.7s
GRAC Grapevine Rang 90.72 50 P **P** **20 35 47.9 -0.5**
GRAC Grapevine Rang 90.72 50 P **P** **20 35 48.6 +0.2**
baz=243
NV11 Mina Array Sit 90.82 49 P **P** **20 35 47.9 -1.0**
NV11 IAmb IAmb 20 37 30.3
comp=Z,9.1nm,0.9s
GWY Greenwater Val 90.86 51 IAmb IAmb 20 37 47.2
comp=Z,5.2nm,0.8s
MZP Montezuma Peak 91.03 50 P **P** **20 35 49.2 -0.8**
MZP IAmb IAmb 20 37 24.0
comp=Z,5.7nm,0.8s
TUQ Turquoise Moun 91.08 52 P **P** **20 35 48.7 -1.5**
baz=244
IRM Iron Mountain 91.09 54 P **P** **20 35 50.6 +0.4**
baz=244
KVN Kaiserville 91.14 48 P **P** **20 35 49.5 -0.9**
KVN IAmb IAmb 20 37 24.3
comp=Z,6.5nm,0.7s
WCT Wildcat Mounta 91.16 51 IAmb IAmb 20 36 49.6
comp=Z,4.8nm,0.9s
PINE Pine Mountain 91.50 43 P **P** **20 35 51.9 -0.1**
PINE IAmb IAmb 20 35 53.1
comp=Z,5.1nm,0.8s
TPNV Topopah Spring 91.50 51 IAmb IAmb 20 36 45.5
comp=Z,7.7nm,0.9s
TPNV Topopah Spring 91.50 51 P **P** **20 35 50.7 -1.5**
baz=244
W13A Hualapai Mount 92.44 53 IAmb IAmb 20 35 58.1
comp=Z,11nm,1.5s
I07A Izee 92.55 43 IAmb IAmb 20 36 52.2
comp=Z,17nm,1.9s
PRN Pahroc Range 92.56 51 P **P** **20 35 56.1 -0.9**
R11B Troy Canyon, C 92.59 50 P **P** **20 35 56.4 -0.8**
ILAR Eielson Array 92.78 17 P **P** **20 35 56.5 -0.7**
comp=Z,0.9nm,1.1s,baz=233,slow=4.8,SNR=2.1
comp=Z,0.9nm,1.1s
G08A Pilot Rock 93.46 42 IAmb IAmb 20 36 14.2
comp=Z,11nm,1.6s
X16A Lo Mia Camp, P 93.99 55 P **P** **20 36 02.5 -1.3**
X16A IAmb IAmb 20 36 05.5
comp=Z,6.0nm,1.2s
U15A North Rim 94.16 52 P **P** **20 36 02.7 -1.9**
U15A IAmb IAmb 20 37 59.0
comp=Z,5.9nm,0.9s
TXAR Lajitas Array 98.24 62 P Pdif 20 36 23.2 +0.1
comp=Z,0.3nm,0.8s,baz=246,slow=2.2,SNR=4.6
comp=Z,0.3nm,0.8s
WMQ Urumqi 98.79 314 *e*P Pdif 20 36 25.8 +0.7
BVAR Borovoye Array 112.22 320 PKiKP **PKiKP** **20 41 20.0 -0.8**
comp=Z,0.8nm,0.7s,baz=73,slow=5.1,SNR=4.5
ARCES ARCESS Array B 127.49 345 PKP **PKPdf** **20 41 49.0 -0.6**
comp=Z,4.1nm,1.1s,baz=45,slow=2.1,SNR=6.2
BDFB Brasilia 128.04 133 PKP **PKPdf** **20 41 52.4 0.0**
comp=Z,1.1nm,0.3s,baz=180,slow=6.1,SNR=2.0
NACGM Naroch 136.52 329 *e*PKP **PKiKP** **20 42 08.8 0.0**
comp=Z,20nm,0.9s,baz=56
AKASG Malin Array Be 137.40 323 PKP **PKiKP** **20 42 10.3 -0.3**
comp=Z,0.5nm,0.5s,baz=70,slow=1,2,SNR=2.3
SURR Surduc 143.94 319 ⇑P PKPbc 20 42 18.4 -0.2
SIRR Siria 143.96 320 ⇓P PKPbc 20 42 18.9 +0.3
PSZ Piszkesteto 144.06 324 ⇑P PKPbc 20 42 19.5 +0.5
PSZ Piszkesteto 144.06 324 PKPdf **PKPab** **20 42 18.3 -0.2**
MORC Moravsky Berou 144.13 328 *e*PKP **PKPdf** **20 42 20.1 -1.0**
MORC *e* 20 42 27.2
VYHS Vyhne 144.28 325 *e*PKP **PKPdf** **20 42 20.3 -1.0**
BZS Buzias 144.32 319 ⇑P PKPbc 20 42 19.8 0.0
DPC Dobruska-Polom 144.34 330 *e*PKP **PKPdf** **20 42 20.2 -1.2**
DPC *ex* x 20 42 26.8
UPC Upice 144.37 330 *e*PKP **PKPdf** **20 42 20.3 -1.1**
JAVC Velka Javorina 144.66 327 *e*PKP **PKPdf** **20 42 22.5 +0.5**
MDVR Moldovita 144.68 318 ⇓P **PKPdf** **20 42 21.3 -0.9**
VRAC Vranov 144.91 328 *e*PKP **PKPdf** **20 42 21.8 -0.6**
PVCC Panska Ves 145.02 331 *e*PKP **PKPdf** **20 42 22.3 -0.2**
PVCC *ex* x 20 42 28.5
BRG Berggiesshubel 145.04 332 *i* PKP **PKPdf** **20 42 22.9 +0.4**
BRG Amp 20 42 23.7
comp=Z,30nm,1.0s
BRG Berggiesshubel 145.04 332 P **PKiKP** **20 42 30.8 +4.4**
BRG Amp 20 42 31.6
comp=Z,25nm,0.9s
BRG Amp 20 44 25.0
comp=N,0.1nm,16.5s
BRG Amp 20 44 31.0
comp=Z,0.2nm,17.1s
BRG Amp 20 44 54.0
comp=E,0.1nm,20.7s
CLL Collm 145.12 333 *i* PKPbc **PKPab** **20 42 21.8 -0.3**
comp=Z,27nm,1.0s
CLL *i* x x 20 42 29.8
comp=Z,18nm,0.9s
KRUC Moravsky 145.17 328 *e*PKP **PKPdf** **20 42 22.5 -0.3**
KRUC *e* 20 42 29.8
MODS Modra-Piesok 145.17 326 *e*PKP **PKPdf** **20 42 23.5 +0.6**
BOVS Bovan 145.24 316 ⇑P **PKPbc** **20 42 21.9 -0.9**
ZST Bratislava 145.37 326 *e*PKP **PKPdf** **20 42 24.4 +1.2**
PRU Pruhonice 145.41 331 *e*PKP **PKPdf** **20 42 22.8 -0.4**
PRU *ex* x 20 42 30.9
HSKC Hora Svate Kat 145.46 332 *e*PKP **PKPab** **20 42 23.4 -0.1**
HSKC *ex* x 20 42 30.3
MORH Mrgy, Hungar 145.74 322 ⇑P **PKPab** **20 42 24.5 -0.1**
ZVC Zvikov 145.96 330 *e*PKP **PKPab** **20 42 24.9 -0.4**
ZVC *ex* x 20 42 32.2
EKA Eskdalemuir Ar 146.03 352 PKPbc **PKPdf** **20 42 23.1 -0.9**
comp=Z,3.9nm,0.7s,baz=355,slow=2.7,SNR=7.6
RONA Rosalia, Austr 146.11 326 *i* pPKP **PKPab** **20 42 26.2 +0.2**
comp=Z,28nm,1.6s,SNR=10
NKC Novy Kostel 146.16 333 *e*PKP **PKPab** **20 42 25.8 -0.3**
NKC *ex* x 20 42 32.4
CONA Conrad Observa 146.18 327 *i* PKP **PKPdf** **20 42 24.3 -0.4**
comp=Z,14nm,1.0s,SNR=12
CKRC Cesky Krumlov 146.34 329 *e*PKP **PKPbc** **20 42 25.2 -0.8**
CKRC *ex* x 20 42 31.9
KHC Kasperske Hory 146.47 330 *e*PKP **PKPbc** **20 42 25.9 -0.5**
KHC *ex* x 20 42 34.1
GERES GERESS Array B 146.61 330 PKPbc **PKPbc** **20 42 26.4 -0.6**
comp=Z,8.6nm,0.7s,baz=30,slow=3.2,SNR=42
ARSA Arzberg 146.80 326 *e*PKP **PKPbc** **20 42 27.5 +0.1**
comp=Z,1.9nm,0.8s
PDG Podgorica 147.39 316 ⇑P **PKPdf** **20 42 26.5 -0.3**
SOKA Soboth 147.43 326 *i* PKP **PKPbc** **20 42 29.1 -0.2**
comp=Z,9.8nm,1.0s,SNR=6.9
BIOA Bad Ischl, Aus 147.45 328 *e*pPKP **PKPbc** **20 42 29.0 -0.2**
comp=Z,5.0nm,0.9s
OBKA Obir 147.79 326 *e*PKP **PKPbc** **20 42 29.1 -1.2**
comp=Z,4.4nm,1.2s
BOJS Bojanci 148.06 324 *i* PKPbc **PKPbc** **20 42 31.2 +0.3**
LESA Schwarzleotal 148.10 329 *i* PKP **PKPbc** **20 42 31.0 -0.1**
comp=Z,8.1nm,0.6s
LJU Ljubljana 148.10 325 *i* PKPbc **PKPbc** **20 42 30.9 -0.1**
MYKA Terra Mystica 148.17 327 *e*PKP **PKPbc** **20 42 31.0 -0.3**
comp=Z,6.2nm,0.8s
ABTA Abfaltersbach 148.66 328 *i* PKP **PKPbc** **20 42 32.0 -0.6**
comp=Z,14nm,0.9s,SNR=5.8
CLUD Cludinico 148.68 327 **PKPdf** **20 42 27.2 -1.6**
CLUD PKPbc **PKPbc** **20 42 31.5 -1.1**
WATA Walderalm 148.69 330 *e*PKP **PKPbc** **20 42 32.4 -0.3**
comp=Z,8.5nm,1.0s
WTTA Wattenberg 148.71 330 *i* PKP **PKPbc** **20 42 32.0 -0.8**
comp=Z,14nm,1.0s,SNR=6.1
MOTA Moosalm 148.90 330 *i* PKiKP **PKPbc** **20 42 33.1 -0.1**
comp=Z,12nm,0.9s,SNR=6.9
SQTA Sankt Quirin 148.94 330 *i* PKiKP **PKPbc** **20 42 33.4 +0.1**
comp=Z,11nm,0.7s,SNR=6.8
RETA Reutte 148.95 331 *e*PKP **PKPbc** **20 42 33.1 -0.2**
comp=Z,6.1nm,0.9s
FETA Feichten 149.31 330 *i* PKiKP **PKiKP** **20 42 34.6 -0.9**
comp=Z,15nm,1.0s,SNR=5.4
DAVA Damuels 149.50 331 *e*PKiKP **PKPbc** **20 42 34.9 +0.2**
comp=Z,8.0nm,0.9s
TORD Torodi Ar. Bea 165.09 237 PKP **PKPdf** **20 42 50.0 -0.5**
comp=Z,0.2nm,0.4s,baz=171,slow=2.8,SNR=2.9

NOU ***31*** *20:39:23.2,21.°74S×169.°30E,h0km,MLv4.0/9,Southeast of Loyalty Islands*
IDC ***31*** *20:39:27.3±3.6,21.°63S×168.°88E,h0km,mb3.5/3, mbtmp3.5/4,ML3.6/1,MS3.6/1,Error ellipse: s-maj=207.0km s-min=24.2km az=160.0*
ISC 31 20:39:30.8±1.2,21.°7S±0.°1×169.°0E±0.°1,h29km,n17, σ0.°878/17,mb3.3/3,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.88**	**284**	P	**Pn**	**20 39 45.8**	**-1.4**
PINNC	**Pines Island,**	**1.66**	**236**	P	**Pn**	**20 39 57.2**	**-0.8**
LIFNC	**LIFOU**	**1.83**	**300**	P	**Pn**	**20 39 59.6**	**-0.8**
YATNC	**Mamie plateau,**	**1.94**	**259**	P	**Pn**	**20 40 01.3**	**-0.6**
OUENC	**Ouen Island, N**	**2.08**	**249**	P	**Pn**	**20 40 03.9**	**+0.1**
DZM	**Mont Dzumac**	**2.35**	**260**	P	**Pn**	**20 40 07.3**	**-0.3**
DZM	**Mont Dzumac**	**2.35**	**260**	Pn	**Pn**	**20 40 07.4**	**-0.3**
	17nm,0.3s,baz=66,slow=20,SNR=32						
DZM				Sn	**Sn**	**20 40 36.5**	**+0.9**
	86nm,0.3s,baz=117,slow=22,SNR=12						
	48nm,0.3s						
ONTNC	**Ouen Toro**	**2.39**	**255**	P	**Pn**	**20 40 07.5**	**-0.5**
NOUC	**Port Laguerre**	**2.49**	**260**	P	**Pn**	**20 40 08.8**	**-0.6**
KOUNC	**Koumac, New Ca**	**4.50**	**284**	P	**Pn**	**20 40 38.2**	**+1.2**
STKA	**Stephens Creek**	**26.37**	**242**	LR	LR	20 54 26.0	
	comp=Z,122nm,18.4s,baz=201,slow=34						
ASAR	**Alice Springs**	**32.34**	**260**	P	**P**	**20 45 57.7**	**-0.2**
	0.3nm,0.7s,baz=84,slow=8.8,SNR=2.1						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**32.36**	**267**	P	**P**	**20 45 57.9**	**-0.1**
	0.2nm,0.5s,baz=97,slow=8.3,SNR=2.1						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**90.62**	**49**	P	**P**	**20 52 32.0**	**+1.1**
	0.5nm,0.7s,baz=221,slow=8.3,SNR=3.9						
	0.5nm,0.7s						
EKA	**Eskdalemuir Ar**	**145.89**	**352**	PKPbc	**PKPab**	**20 59 07.2**	**-0.3**
	2.2nm,1.0s,baz=10.0,slow=3.4,SNR=4.0						
GERES	**GERESS Array B**	**146.49**	**330**	PKPbc	**PKPab**	**20 59 09.6**	**-0.6**
	0.5nm,0.8s,baz=42,slow=3.1,SNR=3.6						
DAVOX	**Davos/Dischmat**	**149.76**	**331**	PKPbc	**PKiKP**	**20 59 18.8**	**-0.4**
	0.7nm,0.6s,baz=65,slow=4.6,SNR=1.7						

LDG ***31*** *20:42:00.6±0.1,44.°47N×4.°73E,h2km,Md2.2/2,Ml2.7/39, Error ellipse: s-maj=1.3km s-min=1.1km az=19.0*
STR ***31*** *20:42:00.6±0.3,44.°N±.3°×.°±.°,h10km,MLv2.4/30,Error ellipse: s-maj=0.0km s-min=0.0km az=36.7,preliminary*
MDD ***31*** *20:42:03.2±0.5,44.°48N×4.°77E,h12km,Mb3.5/4,*
M_mb2.8/4,Error ellipse: s-maj=3.8km s-min=2.2km az=166.0
ISC 31 20:41:59.5±1.0,44.°46N±0.°02×4.°73E±0.°01,h17km±8km, n84,σ1.°19/136,1C,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIVF	**Saint-Julien-l**	**0.40**	**354**	*e*Pg	**Pg**	**20 42 07.9**	**+0.2**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**20 42 13.5**	**+0.2**
	56nm,0.3s						
SAUF	**chteau de Sau**	**0.59**	**152**	Pg	**Pn**	**20 42 14.2**	**+1.1**
LASF	**Ste Croix**	**0.73**	**239**	*e*Pg	**Pb**	**20 42 14.1**	**+0.2**
LASF	**Ste Croix**	**0.73**	**239**	*e*Pn	**Pn**	**20 42 15.5**	**+0.4**
LASF				*e*Sg	**Sb**	**20 42 23.5**	**-0.1**
	128nm,0.2s,SNR=1.0						
LASF				*e*Sn	**Sn**	**20 42 27.1**	**+1.1**
	147nm,0.2s,SNR=1.0						
RUSF	**Rustrel**	**0.75**	**133**	Pg	**Pn**	**20 42 15.8**	**+0.5**
SMRF	**Simiane la Rot**	**0.78**	**128**	*e*Pg	**Pn**	**20 42 16.1**	**+0.3**
SMRF				*e*Sg	**Sb**	**20 42 24.6**	**-0.3**
	17nm,0.3s						
SSB	**Saint Sauveur**	**0.83**	**351**	Pg	**Pb**	**20 42 16.2**	**+0.7**
SSB				Sg	**Sb**	**20 42 28.3**	**+1.8**
MLYF	**Mely**	**0.88**	**122**	Pg	**Pn**	**20 42 18.6**	**+1.4**
ORIF	**Oris-en-Rattie**	**0.94**	**60**	*e*Pg	**Pb**	**20 42 17.8**	**+0.4**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**0.94**	**60**	*e*Pn	**Pn**	**20 42 18.7**	**+0.6**
	SNR=1.0						
ORIF				*e*Sn	**Sb**	**20 42 32.0**	**+2.3**
	27nm,0.5s						
BLAF	**les Blancs**	**1.07**	**118**	Pg	**Pn**	**20 42 21.1**	**+1.3**
ARTF	**Artigues**	**1.17**	**138**	Pg	**Pn**	**20 42 22.2**	**+1.1**
LEPF	**PUYLOUBIER**	**1.17**	**143**	Pg	**Pn**	**20 42 22.3**	**+1.1**
OGDI	**Digne**	**1.18**	**107**	Pg	**Pb**	**20 42 22.0**	**+0.5**
GDM	**Grand'Maison**	**1.24**	**53**	Pg	**Pn**	**20 42 23.9**	**+1.7**
OGAG	**Argentiere**	**1.30**	**90**	Pg	**Pb**	**20 42 26.9**	**+3.3**
LBL	**Lubilhac**	**1.31**	**307**	Pn	**Pb**	**20 42 25.5**	**+1.8**
OGSM	**Saint Maurice**	**1.34**	**31**	Pn	**Pn**	**20 42 24.8**	**+1.3**
OGSM				Pg	**Pg**	**20 42 26.1**	**+0.7**
CREF	**Crivoux**	**1.36**	**86**	Pn	**Pb**	**20 42 25.7**	**+1.1**
TRIGF	**Trigance**	**1.40**	**120**	Pn	**Pg**	**20 42 25.7**	**-0.9**
MBDF	**Montbardon**	**1.48**	**79**	*e*Pn	**Pg**	**20 42 27.7**	**-0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**20 42 46.7**	**-0.7**
	33nm,0.5s,SNR=1.0						
BNI	**Bardonecchia**	**1.51**	**66**	Pg	**Pg**	**20 42 29.4**	**+0.8**
BNI				Sg	**Sg**	**20 42 49.1**	**+0.8**
ENAUX	**Enaux**	**1.51**	**103**	Pn	**Pb**	**20 42 27.5**	**+0.4**
FLAF	**Flassans-sur-l**	**1.54**	**134**	Pn	**Pn**	**20 42 26.7**	**+0.5**
FLAF				Sn	**Sb**	**20 42 47.4**	**+0.5**
RRL	**Rocca Remolon**	**1.54**	**72**	Pn	**Pg**	**20 42 29.3**	**+0.1**
RRL				Pg	**Pb**	**20 42 30.3**	**+2.5**
ISO	**Isola**	**1.69**	**99**	Pn	**Pb**	**20 42 30.3**	**+0.1**
OG35	**Corcelles**	**1.69**	**20**	Pn	**Pn**	**20 42 29.6**	**+1.2**
OG35				Sn	**Sn**	**20 42 51.1**	**+1.4**
LMR	**La Mourre**	**1.71**	**131**	*e*Pn	**Pn**	**20 42 29.2**	**+0.7**
	SNR=1.0						
LMR	**La Mourre**	**1.71**	**131**	*e*Pg	**Pg**	**20 42 31.4**	**-1.0**
LMR				*e*Sn	**Sn**	**20 42 49.1**	**-0.9**
	5.8nm,0.2s,SNR=1.0						
LMR				*e*Sg	**Sg**	**20 42 53.0**	**-1.6**
	6.1nm,0.2s						
PZZ	**Stroppo**	**1.71**	**88**	Pn	**Pb**	**20 42 30.8**	**+0.2**
CALF	**Calern**	**1.73**	**113**	Pn	**Pn**	**20 42 30.4**	**+1.5**
LPG	**La Plagne**	**1.77**	**53**	*e*Pn	**Pn**	**20 42 30.2**	**+0.5**
	SNR=1.0						
LPG	**La Plagne**	**1.77**	**53**	*e*Pg	**Pg**	**20 42 33.2**	**-0.4**
LPG				*e*Sn	**Sn**	**20 42 51.8**	**-0.2**
LPG				*e*Sg	**Sg**	**20 42 56.2**	**-0.5**
	7.2nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.77**	**53**	*e*Pn	**Pn**	**20 42 30.2**	**+0.6**
	SNR=1.0						
LPL	**La Plagne**	**1.77**	**53**	*e*Pg	**Pg**	**20 42 33.3**	**-0.3**
LPL				*e*Sn	**Sn**	**20 42 51.8**	**-0.1**
	8.0nm,0.5s,SNR=1.0						
LPL				*e*Sg	**Sb**	**20 42 55.6**	**+1.9**
	3.1nm,0.3s						
PYM	**Petit Puy Mans**	**1.77**	**317**	Pn	**Pg**	**20 42 33.2**	**-0.5**
CLAF	**Gruissan**	**1.78**	**222**	Pn	**Pg**	**20 42 34.0**	**+0.4**
RSL	**Roselend**	**1.82**	**47**	Pg	**Pg**	**20 42 34.7**	**+0.2**
MVIF	**Mont Vial**	**1.83**	**107**	Pn	**Pb**	**20 42 32.2**	**-0.5**
SPIF	**crte de Spivo**	**1.85**	**102**	Pn	**Pn**	**20 42 32.2**	**+1.7**
BHB	**Bricherasio**	**1.85**	**77**	Pn	**Pb**	**20 42 33.1**	**+0.2**
STV	**Sant Anna di V**	**1.88**	**96**	Pn	**Pb**	**20 42 32.9**	**-0.4**
CAF	**Calviac**	**1.96**	**285**	*e*Pn	**Pn**	**20 42 32.6**	**+0.6**
	SNR=1.0						
CAF	**Calviac**	**1.96**	**285**	*e*Pg	**Pg**	**20 42 36.6**	**-0.5**
CAF				*e*Sn	**Sn**	**20 42 56.5**	**+0.4**
	31nm,0.4s,SNR=1.0						
CAF				*e*Sg	**Sg**	**20 43 01.9**	**-0.6**
	15nm,0.3s						
TURF	**col de Turini**	**1.98**	**103**	Pn	**Pn**	**20 42 34.1**	**+1.7**
LSD	**Lago del Serru**	**1.98**	**59**	Pg	**Pg**	**20 42 37.5**	**0.0**
SBF	**Sospel**	**2.04**	**106**	*e*Pn	**Pn**	**20 42 33.6**	**+0.5**
	SNR=1.0						
SBF	**Sospel**	**2.04**	**106**	*e*Pg	**Pg**	**20 42 37.6**	**-1.0**
SBF				*e*Sn	**Sn**	**20 42 58.0**	**-0.2**
	25nm,0.4s,SNR=1.0						
SBF				*e*Sg	**Sg**	**20 43 03.9**	**-1.2**
	17nm,0.3s						
SAOF	**Saorge**	**2.09**	**102**	Pn	**Pn**	**20 42 35.8**	**+2.0**
MTLF	**Montolieu**	**2.13**	**239**	*e*Pn	**Pn**	**20 42 35.3**	**+1.0**
	SNR=1.0						
MTLF	**Montolieu**	**2.13**	**239**	*e*Pg	**Pg**	**20 42 39.8**	**-0.6**
MTLF				*e*Sn	**Sn**	**20 43 00.5**	**+0.1**
	SNR=1.0						
MTLF				*e*Sg	**Sg**	**20 43 07.1**	**-1.0**
	16nm,0.4s,SNR=1.0						
SMF	**Signal de Mont**	**2.27**	**344**	*e*Pg	**Pg**	**20 42 42.4**	**-0.7**
SMF				*e*Sn	**Sn**	**20 43 03.8**	**-0.1**
SMF				*e*Sg	**Sg**	**20 43 11.5**	**-1.1**
	7.6nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**2.35**	**23**	*e*Pn	**Pn**	**20 42 38.0**	**+0.5**
	SNR=1.0						
CABF	**La Chapelle**	**2.35**	**23**	*e*Pg	**Pg**	**20 42 44.3**	**-0.4**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**20 43 05.8**	**-0.2**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**20 43 14.1**	**-1.1**
	9.9nm,0.3s,SNR=1.0						
EJON	**La Jonquera**	**2.42**	**214**	Pg	**Pg**	**20 42 46.0**	**+0.2**
EJON				⇑*i*Vmb_V		20 42 49.6	
	201nm,SNR=1.7						
EJON				Sg	**Sg**	**20 43 19.0**	**+1.9**
RJF	**Les Rejaudoux**	**2.44**	**291**	*e*Pn	**Pn**	**20 42 39.0**	**+0.5**
	SNR=1.0						
RJF	**Les Rejaudoux**	**2.44**	**291**	*e*Pg	**Pg**	**20 42 45.3**	**-0.9**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**20 43 17.1**	**-0.7**
	5.3nm,0.2s						
BGF	**Bois d'Agland**	**2.48**	**328**	*e*Pn	**Pn**	**20 42 39.7**	**+0.6**
	SNR=1.0						
BGF	**Bois d'Agland**	**2.48**	**328**	*e*Pg	**Pg**	**20 42 46.3**	**-0.8**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**20 43 18.2**	**-1.1**
	27nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**2.52**	**338**	*e*Pn	**Pn**	**20 42 41.8**	**+2.1**
AVF	**Avril sur Loir**	**2.52**	**338**	*e*Pg	**Pg**	**20 42 48.2**	**+0.3**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**20 43 19.7**	**-0.9**
	2.8nm,0.2s						
MONQ	**Montcuq**	**2.53**	**269**	Pn	**Pn**	**20 42 42.4**	**+2.6**
MONQ				Pg	**Pg**	**20 42 49.1**	**+1.0**
TCF	**Toulx Ste Croi**	**2.55**	**317**	*e*Pg	**Pg**	**20 42 47.9**	**-0.5**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**20 43 10.5**	**-0.2**
	6.7nm,0.3s,SNR=1.0						
TCF				*e*Sg	**Sg**	**20 43 20.4**	**-1.0**
	8.1nm,0.4s						
CARF	**Carcanieres**	**2.58**	**228**	Pn	**Pn**	**20 42 42.6**	**+1.9**
CARF				Pg	**Pg**	**20 42 50.0**	**+0.9**
SSF	**Saint Saulge**	**2.74**	**342**	*e*Pg	**Pg**	**20 42 51.2**	**-0.8**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**20 43 26.1**	**-1.4**
	5.7nm,0.4s,SNR=1.0						

35nm,0.4s
HYF Humbligny 3.17 333 *e*Sg **Sg 20 43 39.8 -1.4**
33nm,0.3s
EPF Esparros 3.49 247 *e*Pn **Pn 20 42 53.8 +0.8**
EPF Esparros 3.49 247 *e*Pg **Pg 20 43 04.7 -1.6**
SNR=1.0
EPF *e*Sg **Sg 20 43 49.7 -1.7**
7.9nm,0.3s,SNR=1.0
PGF Pioggiola 3.65 120 *e*Pn **Pn 20 42 55.4 +0.1**
SNR=1.0
PGF *e*Sn **Sn 20 43 36.0 -1.9**
1.0nm,0.2s
HINF Hinteralfeld 3.67 23 *e*Pn **Pn 20 42 55.0 -0.5**
SNR=1.0
HINF Hinteralfeld 3.67 23 *e*Pg **Pg 20 43 08.1 -1.7**
HINF *e*Sn **Sn 20 43 37.2 -1.2**
SNR=1.0
HINF *e*Sg **Sg 20 43 55.3 -2.0**
3.9nm,0.3s,SNR=1.0
HAU Haudompre 3.72 17 *e*Pg **Pg 20 43 09.4 -1.4**
SNR=1.0
HAU *e*Sn **Sn 20 43 38.7 -0.9**
HAU *e*Sg **Sg 20 43 57.1 -1.9**
6.0nm,0.3s,SNR=1.0
SFTF Sexfontaines 3.75 3 *e*Pn **Pn 20 42 57.3 +0.7**
SFTF Sexfontaines 3.75 3 *e*Pg **Pg 20 43 09.8 -1.6**
SFTF *e*Sn **Sn 20 43 38.8 -1.6**
SFTF *e*Sg **Sg 20 43 58.5 -1.5**
3.9nm,0.4s
MFF Saint Martin d 4.04 304 *e*Pn **Pn 20 43 01.3 +0.7**
MFF Saint Martin d 4.04 304 *e*Pg **Pg 20 43 15.6 -1.3**
MFF *e*Sg **Sg 20 44 08.0 -1.2**
3.9nm,0.3s,SNR=1.0
CDF Champ du Feu 4.33 23 *e*Pn **Pn 20 43 04.8 +0.2**
CDF Champ du Feu 4.33 23 *e*Pg **Pg 20 43 20.2 -2.2**
CDF *e*Sn **Sn 20 43 53.1 -1.6**
1.7nm,0.4s,SNR=1.0
CDF *e*Sg **Sg 20 44 16.3 -2.1**
2.6nm,0.4s
SJPF Ste Jean 4.52 255 *e*Pn **Pn 20 43 07.6 +0.5**
SNR=1.0
SJPF Ste Jean 4.52 255 *e*Pg **Pg 20 43 24.1 -1.9**
SJPF *e*Sn **Sn 20 43 57.4 -1.8**
3.4nm,0.5s,SNR=1.0
SJPF *e*Sg **Sg 20 44 21.2 -3.2**
3.4nm,0.5s

TAP 31 20:50:02.0,24.75N×122.35E,h110km±1km,ML2.3,D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2** baz=198	**0.34**	**198**	*i* P	Pn	20 50 18.1	+0.2
EOS2	baz=198			*i* S	Sn	20 50 30.4	+0.7
EOS3	**EOS3** baz=183	**0.46**	**184**	*i* P	Pn	20 50 18.9	+0.4
EOS3	baz=183			*i* S	Sn	20 50 31.3	+0.6
TWC	**Suao** baz=252	**0.48**	**253**	*i* P	Pn	20 50 18.2	-0.4
TWC	baz=252			S	Sn	20 50 29.9	-1.4
EWUT	**Wuta** baz=239	**0.60**	**240**	P	Pn	20 50 20.0	+0.4
EWUT	baz=239			*i* S	Sn	20 50 32.9	+0.1
TWE	**Neicheng** baz=267	**0.62**	**268**	*i* P	Pn	20 50 19.9	+0.2
TWE	baz=267			S	Sn	20 50 33.0	-0.1
EOS4	**EOS4** baz=182	**0.62**	**183**	P	Pn	20 50 18.9	-0.4
EOS4	baz=182			S	Sn	20 50 32.1	-0.3
ENA	**Nanau** baz=239	**0.64**	**240**	*i* P	Pn	20 50 20.5	+0.6
ENA	baz=239			*i* S	Sn	20 50 33.3	0.0
FUSB	**Fushanzhiwuyua** baz=271	**0.69**	**271**	P	Pn	20 50 20.4	0.0
FUSB	baz=271			S	Sn	20 50 32.8	-1.4
ENTT	**Nioudou** baz=261	**0.72**	**262**	P	Pn	20 50 20.1	-0.5
ENTT	baz=261			*e*S	Sn	20 50 36.1	+1.6
NWLT	**Wulai** baz=272	**0.77**	**272**	*e*P	Pn	20 50 21.5	+0.5
NWLT	baz=272			*e*S	Sn	20 50 35.3	-0.1
NDT	**Datong Townshi** baz=259	**0.78**	**259**	*e*S	Sn	20 50 35.7	+0.3
LATG	**Datong** baz=254	**0.78**	**254**	P	Pn	20 50 22.0	+0.9
LATG	baz=254			S	Sn	20 50 35.8	+0.2
YM01	**YM01** baz=299	**0.81**	**299**	*e*S	Sn	20 50 35.4	-0.6
ETL	**Fush Village** baz=228	**0.88**	**229**	S	Sn	20 50 37.2	0.0
YHNB	**Yeheng** baz=265	**0.89**	**265**	P	Pn	20 50 22.9	+0.8
YHNB	baz=265			S	Sn	20 50 37.3	-0.1
NACB	**Ninganchiao** baz=230	**0.89**	**230**	P	Pn	20 50 21.9	-0.3
NACB	baz=230			S	Sn	20 50 37.3	0.0
NSK	**Sanguang** baz=265	**0.91**	**266**	*e*P	Pn	20 50 21.8	-0.5
NSK	baz=265			S	Sn	20 50 37.3	-0.4
PCYT	**Pengchaiyu** baz=344	**0.91**	**344**	*e*P	Pn	20 50 24.2	+1.8
NNSB	**Datong** baz=250	**0.94**	**250**	P	Pn	20 50 23.5	+0.8
NNSB	baz=250			S	Sn	20 50 38.9	+0.6
NNS	**Nan Shan** baz=250	**0.94**	**251**	S	Sn	20 50 38.5	+0.1
ETLH	**Xiulin Townshi** baz=235	**0.96**	**236**	*e*P	Pn	20 50 22.8	-0.1
ETLH	baz=235			S	Sn	20 50 38.6	0.0
ETM	**Tongmen** baz=225	**1.10**	**225**	*e*S	Sn	20 50 40.8	-0.4
LXIB	**Xiulin Townshi** baz=229	**1.12**	**230**	*e*P	Pn	20 50 24.9	+0.3
LXIB	baz=229			S	Sn	20 50 41.7	0.0
NFF	**Wufeng Townshi** baz=264	**1.13**	**264**	*e*P	Pn	20 50 24.8	+0.2
NFF	baz=264			*e*S	Sn	20 50 42.2	+0.5
WHF	**Hehuan Shan** baz=238	**1.16**	**239**	P	Pn	20 50 26.8	+1.5
WHF	baz=238			S	Sn	20 50 43.5	+0.6
TWT	**Tachien** baz=245	**1.18**	**246**	*e*S	Sn	20 50 43.2	+0.3
LIOB	**Emei** baz=265	**1.22**	**266**	*e*S	Sn	20 50 43.7	+0.3
NSTT	**Nanjuang** baz=264	**1.23**	**265**	*e*S	Sn	20 50 43.1	-0.5
ESL	**Shilin** baz=221	**1.25**	**222**	S	Sn	20 50 43.3	-0.8
CHGB	**Renai** baz=237	**1.27**	**238**	*e*P	Pn	20 50 27.8	+1.4
CHGB	baz=237			*e*S	Sn	20 50 45.4	+0.5
OWD	**Renai** baz=233	**1.33**	**234**	*e*S	Sn	20 50 46.7	+0.8
WARBT	**Fenglin Townsh** baz=220	**1.35**	**221**	*e*P	Pn	20 50 27.1	0.0
WARBT	baz=220			S	Sn	20 50 44.7	-1.4
WUSB	**Renai** baz=236	**1.35**	**236**	*e*P	Pn	20 50 27.5	+0.3
WUSB	baz=236			*e*S	Sn	20 50 47.1	+0.8
WHP	**Taichung City** baz=249	**1.36**	**250**	*e*P	Pn	20 50 28.2	+1.0
WHP	baz=249			*e*S	Sn	20 50 47.5	+1.1
EGFH	**Guangfu** baz=218	**1.36**	**218**	*e*P	Pn	20 50 26.1	-1.1
EGFH	baz=218			*e*S	Sn	20 50 45.7	-0.6
WCS	**Beigang Elemen** baz=242	**1.48**	**243**	*e*P	Pn	20 50 30.0	+1.5
VWDT	**VWDT** baz=228	**1.48**	**228**	*e*P	Pn	20 50 29.8	+1.2
HGSD	**Ruisui** baz=214	**1.51**	**214**	*e*P	Pn	20 50 30.8	+1.9
HGSD	baz=214			*e*S	Sn	20 50 49.7	+0.3
SSLB	**Suanglung** baz=233	**1.59**	**233**	P	Pn	20 50 32.5	+2.5
YULB	**Yu-li** baz=215	**1.66**	**216**	*e*P	Pn	20 50 31.5	+0.8
TWF1	**Yuli** baz=214	**1.69**	**215**	*e*P	Pn	20 50 30.9	-0.3
TWF1	baz=214			*e*S	Sn	20 50 52.3	-1.0

---

*IDC **31** 20:51:10.9±0.7,52.22N×173.36W,h53km±6km,mb3.5/15,*
mbtmp3.8/17,Error ellipse: s-maj=22.0km s-min=12.8km
az=171.0
*AEIC **31** 20:51:11.6±4.3,51.94N±0.09×173.27W±0.08,h42km±8km,*
Error ellipse: s-maj=12.8km s-min=7.2km az=182.0
*NEIC **31** 20:51:12.4±2.5,52.1N±0.1×173.32W±0.10,h63km±10km,*
mb4.0/66,ML4.2/8,ML3.7(AEIC),Error ellipse:
s-maj=16.4km s-min=8.2km az=169.0
ISC 31 20:51:11.1±0.6,52.07N±0.10×173.29W±0.04,h56km,
n178,σ1§57/175,mb4.0/27,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.54**	**293**		**Pn**	**20 51 24.4**	**+1.2**
KOSE	**Korovin Southe**	**0.55**	**301**		**Pn**	**20 51 24.7**	**+1.4**
ATKA	**Atka Island**	**0.58**	**284**		**Sn**	**20 51 33.5**	**+0.8**
ATKA	**Atka Island**	**0.58**	**284**		**Pn**	**20 51 23.9**	**+0.3**
ATKA	**Atka Island** comp=E,9μm,0.4s	**0.58**	**284**	IAML		20 51 34.1	
ATKA	comp=N,12μm,0.4s			IAML		20 51 34.1	
ATKA	**Atka Island**	**0.58**	**284**	P	**Pn**	**20 51 24.1**	**+0.5**
KOKL	**Mount Kliuchef**	**0.62**	**295**		**Pn**	**20 51 25.3**	**+1.2**
KOWE	**Korovin West**	**0.67**	**297**		**Pn**	**20 51 26.1**	**+1.4**
GSMY	**Great Sitkin M**	**1.71**	**270**		**Pn**	**20 51 39.6**	**+1.1**
GSTR	**Great Sitkin T**	**1.71**	**272**		**Pn**	**20 51 39.9**	**+1.4**
GSTD	**Great Sitkin T**	**1.77**	**271**		**Pn**	**20 51 40.5**	**+1.2**
GSTD					**Sn**	**20 52 02.0**	**+1.3**
GSCK	**Great Sitkin C**	**1.78**	**269**		**Pn**	**20 51 40.7**	**+1.3**
GSSP	**Great Sitkin S**	**1.78**	**272**		**Pn**	**20 51 40.8**	**+1.3**
ADK	**Adak**	**2.11**	**266**		**Sn**	**20 52 11.0**	**+2.1**
ADK	**Adak**	**2.11**	**266**		**Pn**	**20 51 45.1**	**+1.2**
ADK	**Adak**	**2.11**	**266**	P	**Pn**	**20 51 45.4**	**+1.5**
CLES	**Cleveland East**	**2.21**	**69**		**Pn**	**20 51 46.7**	**+1.5**
CLES	**Cleveland East** comp=N,1μm,0.3s	**2.21**	**69**	IAML		20 52 26.5	
CLCO	**Concord Point,**	**2.30**	**70**		**Pn**	**20 51 48.1**	**+1.6**
KIWB	**Kanaga Island**	**2.40**	**266**		**Pn**	**20 51 49.5**	**+1.6**
KICM	**Kanaga Island**	**2.42**	**268**		**Pn**	**20 51 49.5**	**+1.3**
TAPA	**Tanaga Point A**	**2.81**	**267**		**Pn**	**20 51 55.1**	**+1.5**
NIKH	**Nikolski High**	**2.85**	**70**		**Sn**	**20 52 30.2**	**+3.0**
NIKH	**Nikolski High**	**2.85**	**70**		**Pn**	**20 51 55.7**	**+1.6**
NIKH	**Nikolski High**	**2.85**	**70**	P	**Pn**	**20 51 56.0**	**+1.9**
OKSP	**Okmok Steeple**	**3.27**	**67**		**Pn**	**20 52 02.1**	**+2.3**
OKCE	**Okmok Cone E**	**3.40**	**64**		**Pn**	**20 52 03.7**	**+2.2**
OKTU	**Okmok Mt. Tuli**	**3.45**	**65**		**Pn**	**20 52 04.9**	**+2.6**
MAPS	**Pakushin South**	**4.22**	**63**		**Pn**	**20 52 15.1**	**+2.3**
MGOD	**Makushin Gods**	**4.25**	**63**		**Pn**	**20 52 15.5**	**+2.3**
MSW	**Makushin Switc**	**4.34**	**62**		**Pn**	**20 52 16.3**	**+1.8**
MNAT	**Makushin Natee**	**4.38**	**63**		**Pn**	**20 52 17.5**	**+2.4**
UNV	**Unalaska Valle**	**4.47**	**64**		**Pn**	**20 52 18.3**	**+2.1**
UNV	**Unalaska Valle**	**4.47**	**64**	P	**Pn**	**20 52 19.3**	**+3.1**
AMKA	**Amchitka**	**4.66**	**264**	Pn	**Pn**	**20 52 19.5**	**+0.7**
AKUT	**Akutan**	**4.98**	**62**	Pn	**Pn**	**20 52 23.8**	**+0.7**
AKUT	comp=N,136nm,3.2s			IAML		20 53 42.3	
AKUT	**Akutan**	**4.98**	**62**	P	**Pn**	**20 52 26.0**	**+2.9**
SPIA	**Saint Paul Isl**	**5.42**	**18**		**Pn**	**20 52 30.8**	**+1.6**
SPIA	**Saint Paul Isl**	**5.42**	**18**	P	**Pn**	**20 52 31.8**	**+2.7**
SDPT	**Sand Point**	**8.28**	**62**	Pn	**Pn**	**20 53 09.1**	**+0.8**
SDPT	**Sand Point**	**8.28**	**62**	P	**Pn**	**20 53 11.2**	**+2.9**
CNBA	**Chernabura Isl**	**8.63**	**66**	Pn	**Pn**	**20 53 13.6**	**+0.6**
CHGN	**Chignik**	**9.69**	**58**	Pn	**Pn**	**20 53 30.0**	**+2.5**
O14K	**Tigyukauivet M**	**9.89**	**39**	Pn	**Pn**	**20 53 31.4**	**+1.2**
M14K	**Bethel**	**10.71**	**31**	Pn	**Pn**	**20 53 43.6**	**+2.1**
K13K	**Kusilvak Mount**	**10.94**	**22**	Pn	**Pn**	**20 53 45.4**	**+0.8**
N15K	**Kwethluk River**	**10.94**	**37**	Pn	**Pn**	**20 53 45.0**	**+0.3**
L14K	**Kuka Creek**	**10.96**	**28**	Pn	**Pn**	**20 53 49.0**	**+4.2**
CHIR	**Chirikof Islan**	**11.06**	**63**	Pn	**Pn**	**20 53 45.7**	**-0.6**
R17K	**Ugashik Creek**	**11.21**	**54**	Pn	**Pn**	**20 53 52.2**	**+3.9**
O16K	**Kokwok River B**	**11.37**	**43**	Pn	**Pn**	**20 53 53.9**	**+3.3**
J14K	**Nanvaranak Lak**	**11.91**	**22**	Pn	**Pn**	**20 53 59.1**	**+1.3**
M16K	**Timber Creek**	**11.93**	**36**	Pn	**Pn**	**20 54 00.4**	**+2.3**
K15K	**Wolf Creek Mou**	**12.05**	**27**	Pn	**Pn**	**20 54 00.6**	**+0.8**
L16K	**Owhat River**	**12.23**	**32**	Pn	**Pn**	**20 54 02.3**	**0.0**
N17K	**Nushagak Hills**	**12.29**	**40**	Pn	**Pn**	**20 54 04.0**	**+1.0**
P18K	**Big Mountain,**	**12.51**	**47**	Pn	**Pn**	**20 54 09.0**	**+2.8**
M17K	**Holitna River**	**12.73**	**37**	Pn	**Pn**	**20 54 10.1**	**+1.0**
O18K	**Koktuh Hills**	**12.75**	**45**	Pn	**Pn**	**20 54 12.1**	**+2.8**
N18K	**Kilae Creek**	**12.98**	**41**	Pn	**Pn**	**20 54 14.2**	**+2.8**
Q19K	**Cape Douglas,**	**13.05**	**51**	Pn	**Pn**	**20 54 15.5**	**+2.1**
J16K	**Anvik River**	**13.10**	**26**	Pn	**Pn**	**20 54 15.7**	**+1.6**
KDAK	**Kodiak Island**	**13.18**	**56**	Pn	**Pn**	**20 54 16.6**	**+1.4**
KDAK	**Kodiak Island** comp=N,2.2nm,0.5s,baz=5.6,slow=22,SNR=1.0	**13.18**	**56**	P	**Pn**	**20 54 16.1**	**+0.9**
KDAK	comp=N,9.3nm,1.1s,baz=329,slow=17,SNR=1.8			S	**Sn**	**20 56 36.6**	**-3.3**
SVW2	**Sparrevohn**	**13.26**	**40**	Pn	**Pn**	**20 54 17.0**	**+0.7**
SVW2	**Sparrevohn**	**13.26**	**40**	P	**Pn**	**20 54 19.7**	**+3.4**
K17K	**Iditarod**	**13.34**	**31**		**Pn**	**20 54 19.8**	**+2.4**
SYI	**Shuyak Island**	**13.54**	**53**	Pn	**Pn**	**20 54 21.9**	**+1.8**
L18K	**Granite Mounta**	**13.54**	**35**	Pn	**Pn**	**20 54 22.1**	**+2.0**
P19K	**Oil Pt**	**13.54**	**48**	Pn	**Pn**	**20 54 22.5**	**+2.4**
N19K	**Bonanza Creek**	**13.55**	**42**	Pn	**Pn**	**20 54 21.6**	**+1.3**
L19K	**White Mountain**	**14.18**	**37**		**Pn**	**20 54 31.9**	**+3.1**
M19K	**Big River Lodg**	**14.19**	**39**		**Pn**	**20 54 30.6**	**+1.8**
TTA	**Tatalina**	**14.25**	**34**		**Pn**	**20 54 32.3**	**+2.7**
F15K	**North Star Dit**	**14.37**	**14**		**Pn**	**20 54 32.7**	**+1.6**
J18K	**Innoko River**	**14.38**	**31**		**Pn**	**20 54 31.9**	**+0.5**
CNPM	**China Poot**	**14.42**	**50**		**Pn**	**20 54 33.3**	**+1.4**
G16K	**Koyuk River**	**14.48**	**19**		**Pn**	**20 54 34.4**	**+1.8**
H17K	**Granite Mounta**	**14.62**	**23**		**Pn**	**20 54 37.4**	**+2.9**
M20K	**Styx River**	**14.68**	**40**		**Pn**	**20 54 38.4**	**+3.1**
BRLK	**Bradley Lake**	**14.68**	**50**		**Pn**	**20 54 37.7**	**+2.5**
J19K	**Poorman**	**15.10**	**31**	P	**Pn**	**20 54 42.9**	**+2.2**
H18K	**Honhosa River**	**15.19**	**25**		**Pn**	**20 54 44.2**	**+2.4**
H18K	comp=Z,10nm,1.3s			IAmb	IAmb	20 54 46.9	
K20K	**Telida**	**15.20**	**34**	Pn	**Pn**	**20 54 43.1**	**+1.2**
SKT	**Skwentna**	**15.37**	**41**		**Pn**	**20 54 45.6**	**+1.4**
J20K	**Nowinta River**	**15.70**	**32**		**Pn**	**20 54 49.2**	**+0.9**
CAST	**Castle Rocks**	**15.94**	**36**		**Pn**	**20 54 51.9**	**+0.4**
PWL	**Port Wells**	**16.26**	**48**		**Pn**	**20 54 53.6**	**-1.9**
GHO	**Glory Hole Cre**	**16.37**	**44**		**Pn**	**20 54 56.3**	**-0.6**
GHO	comp=Z,20nm,1.4s			IAmb	IAmb	20 55 27.1	
KTH	**Kantishna Hill**	**16.45**	**37**		**P**	**20 55 00.6**	**+0.8**
KTH	comp=Z,16nm,1.3s			IAmb	IAmb	20 55 22.2	
TRF	**Thorofare Moun**	**16.63**	**38**		**P**	**20 55 02.4**	**+0.5**
SML	**Sawmill**	**16.64**	**44**	Pn	**Pn**	**20 55 00.1**	**-0.2**
SML	comp=Z,25nm,1.5s			IAmb	IAmb	20 55 31.8	
F19K	**Shaleruckik Mo**	**16.69**	**22**		**P**	**20 55 02.3**	**0.0**
BPAW	**Bear Paw Mtn.**	**16.74**	**35**		**P**	**20 55 03.7**	**+0.7**
I21K	**Tanana**	**17.07**	**32**		**P**	**20 55 07.0**	**+0.5**
I21K	comp=Z,9.4nm,1.4s			IAmb	IAmb	20 55 09.7	
IMAR	**Indian Mountai**	**17.07**	**28**		**P**	**20 55 07.7**	**+1.1**
FID	**Port Fidalgo**	**17.08**	**49**	Pn	**Pn**	**20 55 03.8**	**-1.9**
SCM	**Sheep Creek Mo**	**17.08**	**45**	Pn	**Pn**	**20 55 05.0**	**-0.8**
H21K	**Melozitna Rive**	**17.13**	**30**		**P**	**20 55 07.3**	**+0.1**
RND	**Reindeer**	**17.16**	**39**		**Pn**	**20 55 07.6**	**+0.9**
RND	comp=Z,15nm,1.5s			IAmb	IAmb	20 55 42.1	
E19K	**Redstone River**	**17.33**	**21**		**P**	**20 55 10.8**	**+1.5**
MLY	**Manley**	**17.38**	**33**	P	**P**	**20 55 11.5**	**+1.5**
KLU	**Klutina**	**17.58**	**47**		**Pn**	**20 55 10.7**	**-1.2**
KLU	comp=Z,16nm,1.5s			IAmb	IAmb	20 55 16.7	
C18K	**Utukok River**	**17.61**	**15**		**Pn**	**20 55 12.3**	**0.0**
M24K	**Tolsona, Glenn**	**17.69**	**45**		**Pn**	**20 55 12.6**	**-0.7**
I23K	**Minto, Yukon-K**	**17.92**	**34**	P	**Pn**	**20 55 17.4**	**+1.4**
I23K	comp=Z,5.5nm,0.7s			IAmb	IAmb	20 55 19.0	
WRH	**Wood River Hil**	**18.00**	**37**	P	**P**	**20 55 15.7**	**-1.1**
WRH	comp=Z,8.8nm,1.3s			IAmb	IAmb	20 55 28.1	
D19K	**Kuna River**	**18.02**	**18**	P	**P**	**20 55 17.4**	**+0.4**
D19K	comp=Z,7.4nm,1.1s			IAmb	IAmb	20 55 27.2	
SUCK	**Suckling Hills**	**18.18**	**52**	P	**Pn**	**20 55 20.2**	**+0.9**
CCB	**Clear Creek Bu**	**18.20**	**36**	P	**P**	**20 55 18.0**	**-0.9**
MDM	**Murphy Dome**	**18.21**	**35**	P	**P**	**20 55 18.5**	**-0.6**
H23K	**Yukon River**	**18.27**	**32**	P	**Pn**	**20 55 21.1**	**+1.0**
PAX	**Paxson**	**18.33**	**43**	P	**P**	**20 55 21.4**	**+0.8**
HDA	**Harding Lake**	**18.39**	**38**	P	**P**	**20 55 21.1**	**0.0**
HDA	comp=Z,5.5nm,0.4s			IAmb	IAmb	20 55 23.3	
IL31		**18.60**	**37**	P	**P**	**20 55 21.5**	**-1.8**
IL31	comp=Z,3.3nm,0.6s			IAmb	IAmb	20 55 24.9	
ILAR	**Eielson Array** comp=Z,1.7nm,0.4s,baz=244,slow=10,SNR=40	**18.60**	**37**	P	**P**	**20 55 21.9**	**-1.5**
H24K	**Noodor Dome**	**18.82**	**33**	P	**P**	**20 55 26.7**	**+0.8**
H24K	comp=Z,6.1nm,0.9s			IAmb	IAmb	20 55 28.5	
E21K	**Killik River**	**18.86**	**22**	P	**Pn**	**20 55 27.5**	**+0.2**
J25K	**Salcha River,**	**19.09**	**38**	P	**P**	**20 55 27.5**	**-1.4**
J25K	comp=Z,10nm,0.8s			IAmb	IAmb	20 55 29.6	
SCRK	**Sand Creek**	**19.35**	**41**		**P**	**20 55 31.1**	**-0.6**
SCRK	comp=Z,4.4nm,0.7s			IAmb	IAmb	20 55 32.8	
G24K	**Hadweenzic Riv**	**19.46**	**31**	P	**Pn**	**20 55 34.7**	**+0.2**
G24K	comp=Z,14nm,1.5s			IAmb	IAmb	20 55 39.8	
PRP	**Porcupine Dome**	**19.47**	**36**	P	**P**	**20 55 31.7**	**-1.4**
PRP	comp=Z,7.8nm,1.4s			IAmb	IAmb	20 56 01.5	
TABL	**Table Mountain**	**19.55**	**52**	P	**Pn**	**20 55 36.5**	**+0.8**
B21K	**Ikpikpuk River**	**19.66**	**19**	P	**P**	**20 55 36.1**	**+1.3**
J26L	**Joseph Creek**	**19.74**	**39**	P	**P**	**20 55 35.8**	**-0.1**
BCAR	**Beaver Creek A**	**19.93**	**44**	P	**P**	**20 55 38.4**	**+0.4**
K27K	**Chicken**	**20.14**	**41**	P	**P**	**20 55 41.0**	**+0.7**
K27K	comp=Z,7.2nm,1.2s			IAmb	IAmb	20 55 45.5	
BCPM	**Bancas Point**	**20.21**	**54**	P	**P**	**20 55 40.7**	**-0.2**
I26K	**Coal Creek Min**	**20.25**	**38**	P	**P**	**20 55 40.2**	**-1.1**
I26K	comp=Z,4.6nm,0.8s			IAmb	IAmb	20 55 41.8	
PNL	**Peninsula**	**20.29**	**55**	P	**P**	**20 55 43.7**	**+1.8**
C23K	**Itkillik River**	**20.70**	**22**	P	**P**	**20 55 46.6**	**+0.4**
C23K	comp=Z,16nm,1.3s			IAmb	IAmb	20 55 48.1	
O29M	**Mount Kennedy**	**20.78**	**53**	P	**P**	**20 55 46.2**	**-1.1**
O29M	comp=Z,5.0nm,0.9s			IAmb	IAmb	20 55 50.9	
EGAK	**Eagle**	**20.80**	**40**	P	**P**	**20 55 47.5**	**+0.3**
HYT	**Haines Junctio**	**21.38**	**52**	P	**P**	**20 55 52.8**	**-0.9**
HYT	comp=Z,6.0nm,1.2s			IAmb	IAmb	20 56 18.5	
I28M	**Miner Creek**	**21.53**	**39**	P	**P**	**20 55 54.7**	**-0.5**
I28M	comp=Z,5.6nm,1.1s			IAmb	IAmb	20 55 57.2	
K29M	**Barlow Dome**	**21.99**	**44**	P	**P**	**20 55 60.0**	**-0.3**
K29M	comp=Z,3.1nm,0.7s			IAmb	IAmb	20 56 03.0	
I29M	**Ogilvie Camp,**	**22.14**	**40**	P	**P**	**20 56 01.2**	**-0.5**
I29M	comp=Z,5.9nm,1.0s			IAmb	IAmb	20 56 03.9	
H29M	**Whitestone**	**22.42**	**37**	P	**P**	**20 56 03.9**	**-0.8**
H29M	comp=Z,14nm,1.4s			IAmb	IAmb	20 56 19.2	
F28M	**Old Crow**	**22.47**	**34**	P	**P**	**20 56 04.7**	**-0.5**
F28M	comp=Z,2.7nm,0.6s			IAmb	IAmb	20 56 07.7	
I30M	**Mount Dempster**	**22.86**	**41**	P	**P**	**20 56 07.6**	**-1.8**
I30M	comp=Z,11nm,1.5s			IAmb	IAmb	20 56 12.5	
EPYK	**Eagle Plains**	**23.10**	**38**	P	**P**	**20 56 09.8**	**-1.9**
EPYK	comp=Z,7.9nm,1.1s			IAmb	IAmb	20 56 14.2	
E29M	**Blow River**	**23.48**	**33**	P	**P**	**20 56 15.3**	**-0.1**
E29M	comp=Z,9.1nm,1.2s			IAmb	IAmb	20 56 17.4	
H31M	**Peel River**	**23.84**	**40**	P	**P**	**20 56 17.0**	**-1.7**
Q32M	**Nakina River**	**23.91**	**57**	P	**P**	**20 56 19.9**	**+0.4**
Q32M	comp=Z,6.5nm,1.1s			IAmb	IAmb	20 56 21.6	
G31M	**Satah River**	**24.20**	**37**	P	**P**	**20 56 21.0**	**-0.9**
MMPY	**Sheldon Lake,**	**24.55**	**48**	P	**P**	**20 56 26.6**	**+1.4**
MMPY	comp=Z,7.3nm,1.4s			IAmb	IAmb	20 57 01.9	
INK	**Inuvik**	**24.94**	**34**	P	**P**	**20 56 27.9**	**-0.6**
INK	comp=Z,6.7nm,1.0s			IAmb	IAmb	20 56 42.4	
T35M	**Bob Quinn**	**25.13**	**62**	P	**P**	**20 56 32.5**	**+2.0**
EDM	**Edmonton**	**35.45**	**64**	P	**P**	**20 58 01.2**	**-0.5**
H11N2	**WAKE ISLAND Hy** baz=21,slow=76,SNR=130	**35.80**	**213**	T	T	21 35 55.9	
H11N3	**WAKE ISLAND Hy** baz=21,slow=76,SNR=132	**35.80**	**213**	T	T	21 36 02.6	
H11N1	**WAKE ISLAND Hy** baz=21,slow=76,SNR=71	**35.82**	**213**	T	T	21 36 03.8	
H11S1	**WAKE ISLAND Hy** baz=20,slow=76,SNR=123	**37.00**	**213**	T	T	21 37 21.3	
H11S2	**WAKE ISLAND Hy** baz=20,slow=76,SNR=94	**37.02**	**213**	T	T	21 37 22.6	
H11S3	**WAKE ISLAND Hy** baz=20,slow=76,SNR=54	**37.02**	**213**	T	T	21 37 24.1	
MJAR	**Matsushiro Arr** comp=Z,1.3nm,0.6s,baz=31,slow=5.5,SNR=2.8 comp=Z,1.3nm,0.6s	**37.27**	**265**	P	**P**	**20 58 18.3**	**+1.0**
NVAR	**Mina Array Bea** comp=Z,0.1nm,0.3s,baz=306,slow=7.7,SNR=1.3	**40.08**	**88**	P	**P**	**20 58 41.6**	**+0.5**
NVAR	comp=Z,0.3nm,0.5s,baz=276,slow=2.4,SNR=3.7 comp=Z,0.1nm,0.3s			PcP	**PcP**	**21 00 45.3**	**+0.5**
YHL	**Hebgen Lake**	**40.67**	**75**	P	**P**	**20 58 47.1**	**+1.1**
PD31	**Pinedale Array**	**42.82**	**76**	P	**P**	**20 59 04.0**	**+0.5**
PD31	comp=Z,3.5nm,1.1s			IAmb	IAmb	20 59 19.1	
PDAR	**Pinedale Array**	**42.82**	**76**	P	**P**	**20 59 04.0**	**+0.5**
PDAR	**Pinedale Array** comp=Z,1.9nm,0.6s,baz=304,slow=3.6,SNR=14	**42.82**	**76**	P	**P**	**20 59 04.2**	**+0.7**
PDAR	comp=Z,2.7nm,0.5s,baz=305,slow=3.3,SNR=16 comp=Z,1.9nm,0.6s			pP	**pP**	**20 59 17.6**	**-0.3**
ULM	**Lac du Bonnet** comp=Z,1.7nm,0.4s,baz=312,slow=8.0,SNR=4.9 comp=Z,1.7nm,0.4s	**46.40**	**60**	P	**P**	**20 59 31.3**	**-0.3**
SONM	**Songino Array** comp=Z,0.2nm,0.5s,baz=51,slow=12,SNR=2.0 comp=Z,0.2nm,0.5s	**49.36**	**299**	P	**P**	**20 59 54.0**	**-0.7**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.3s,baz=292,slow=7.2,SNR=3.5	**55.17**	**86**	P	**P**	**21 00 38.2**	**+0.3**
TXAR	comp=Z,0.3nm

comp=Z,0.5nm,0.6s,baz=32,slow=5.8,SNR=3.5
comp=Z,0.3nm,0.6s
ASAR Alice Springs 88.39 227 P P 21 03 57.2 +0.5
comp=Z,0.6nm,0.6s,baz=23,slow=5.3,SNR=7.4
ASAR pP **pP 21 04 12.6 -0.1**
comp=Z,1.0nm,0.5s,baz=28,slow=4.8,SNR=6.8
comp=Z,0.6nm,0.6s
TORD Torodi Ar. Bea 114.91 5 PKiKP PKiKP 21 09 43.3 -2.3
comp=Z,0.2nm,0.5s,baz=349,slow=2.4,SNR=2.3
H03N2 Juan Fernandez 118.08 109 T T 23 19 43.1
baz=318
H03N1 Juan Fernandez 118.09 109 T T 23 19 48.0
baz=318
H03N3 Juan Fernandez 118.09 109 T T 23 20 04.8
baz=318
BOSA Boshof 152.80 322 PKPbc **PKPbc 21 11 00.8 -0.7**
comp=Z,3.9nm,1.1s,baz=336,slow=2.9,SNR=7.3

*ATH **31** 20:53:50.9,38.°34N×22.°08E,h9km±2km,ML3.3/10,*
Manual Solution by F.Xalaris First location: 2019/04/10
08:24:33, This location: 2019/04/10 08:22:41 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 1 km;
Longitude uncertainty: 1 km
*IDC **31** 20:53:50.3±1.1,38.°31N×22.°23E,h0km,mb3.6/7,*
mbtmp3.6/8,ML3.2/1,Error ellipse: s-maj=22.4km
s-min=20.6km az=134.0
*ISK **31** 20:53:50.5,38.°34N×22.°21E,h7km,ML2.8/9*
*THE **31** 20:53:51.2,38.°32N×22.°07E,h9km,ML3.5/12,Error*
ellipse: s-maj=0.8km s-min=0.5km az=121.0
ISC 31 20:53:51.2±0.7,38.°33N±0.°02×22.°08E±0.°02,h10km±4km,
n87,σ0s89/110,mb3.7/6,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIK	**Aliki, Aigiali**	**0.07**	**160**	P	**Pg**	**20 53 53.1**	**-0.4**
ALIK				S	**Sg**	**20 53 55.1**	**0.0**
KALE	**Kalithea**	**0.08**	**37**	P	**Pg**	**20 53 53.4**	**-0.3**
KALE				S	**Sg**	**20 53 55.4**	**0.0**
231μm,0.2s							
KALE	**Kalithea**	**0.08**	**37**	P	**Pg**	**20 53 53.4**	**-0.3**
KALE				S	**Sg**	**20 53 55.2**	**-0.2**
LAKA	**Lakka**	**0.12**	**222**	P	**Pg**	**20 53 53.6**	**-0.6**
LAKA				S	**Sg**	**20 53 55.5**	**-0.7**
55μm,0.4s							
LAKA	**Lakka**	**0.12**	**222**	P	**Pg**	**20 53 53.7**	**-0.5**
LAKA				S	**Sg**	**20 53 55.5**	**-0.7**
EFP	**Efpalio**	**0.17**	**305**	P	**Pg**	**20 53 54.7**	**-0.2**
EFP				S	**Sg**	**20 53 57.9**	**+0.5**
20μm,0.5s							
RIOA	**Rio**	**0.23**	**262**	P	**Pg**	**20 53 55.9**	**-0.1**
UPR	**University Cam**	**0.23**	**259**	P	**Pg**	**20 53 55.9**	**-0.2**
UPR				S	**Sg**	**20 53 59.9**	**+0.6**
KLV	**Kalavryta, Ach**	**0.29**	**169**	P	**Pg**	**20 53 56.4**	**-0.7**
KLV				S	**Sg**	**20 54 00.7**	**-0.3**
KLV	**Kalavryta, Ach**	**0.29**	**169**	P	**Pg**	**20 53 56.4**	**-0.7**
KLV				S	**Sg**	**20 54 01.1**	**+0.1**
ANX	**Ano Chora**	**0.29**	**335**	P	**Pg**	**20 53 56.9**	**-0.3**
ANX				S	**Sg**	**20 54 01.8**	**+0.6**
45μm,0.4s							
ANX	**Ano Chora**	**0.29**	**335**	P	**Pg**	**20 53 57.0**	**-0.1**
PATG	**Patra B**	**0.29**	**252**	P	**Pg**	**20 53 57.3**	**+0.2**
DLFA	**Delphi**	**0.36**	**65**	P	**Pg**	**20 53 57.9**	**-0.5**
DLFA				S	**Sg**	**20 54 03.1**	**0.0**
GUR	**Goura**	**0.44**	**152**	P	**Pg**	**20 53 59.0**	**-1.0**
GUR				S	**Sg**	**20 54 05.7**	**-0.1**
4μm,0.4s							
GUR	**Goura**	**0.44**	**152**	P	**Pg**	**20 53 59.2**	**-0.7**
GUR				S	**Sg**	**20 54 06.1**	**+0.3**
DRO	**Drossia**	**0.48**	**218**	P	**Pg**	**20 53 59.9**	**-0.6**
DRO				S	**Sg**	**20 54 07.6**	**+0.8**
7μm,0.4s							
DRO	**Drossia**	**0.48**	**218**	P	**Pg**	**20 53 60.0**	**-0.6**
PVO	**Paravola**	**0.52**	**304**	P	**Pg**	**20 54 00.2**	**-1.2**
PVO				S	**Sg**	**20 54 09.1**	**+0.8**
10μm,0.5s							
PVO	**Paravola**	**0.52**	**304**	P	**Pg**	**20 54 00.5**	**-0.9**
THAL	**Thalero**	**0.54**	**122**	P	**Pg**	**20 54 01.2**	**-0.6**
THAL	**Thalero**	**0.54**	**122**	P	**Pg**	**20 54 01.7**	**-0.1**
RLS	**Riolos of Patr**	**0.55**	**241**	P	**Pg**	**20 54 01.5**	**-0.5**
RLS				S	**Sg**	**20 54 10.2**	**+0.9**
2μm,0.3s							
RLS	**Riolos of Patr**	**0.55**	**241**	P	**Pg**	**20 54 01.6**	**-0.4**
EVR	**Evrytania**	**0.62**	**340**	P	**Pb**	**20 54 03.9**	**-0.4**
EVR				S	**Sb**	**20 54 12.4**	**-0.8**
5μm,0.5s							
EVR	**Evrytania**	**0.62**	**340**	P	**Pb**	**20 54 04.2**	**-0.1**
AXAR	**Agios Charalam**	**0.63**	**46**	P	**Pg**	**20 54 02.5**	**-1.0**
AXAR				S	**Sb**	**20 54 12.6**	**-0.6**
7μm,0.4s							
AXAR	**Agios Charalam**	**0.63**	**46**	P	**Pb**	**20 54 03.4**	**-1.0**
MAKR	**Makrakomi, Fth**	**0.68**	**3**	P	**Pg**	**20 54 04.0**	**-0.5**
MAKR				S	**Sb**	**20 54 14.9**	**+0.1**
8μm,0.3s							
MAKR	**Makrakomi, Fth**	**0.68**	**3**	P	**Pg**	**20 54 04.1**	**-0.5**
AGG	**Agios Georgios**	**0.72**	**16**	Pg	**Pg**	**20 54 04.1**	**-1.1**
AGG				Sg	**Sg**	**20 54 14.2**	**-0.4**
AGG	**Agios Georgios**	**0.72**	**16**	P	**Pg**	**20 54 04.0**	**-1.1**
AGG				S	**Sb**	**20 54 16.2**	**+0.4**
2μm,0.4s							
AGG	**Agios Georgios**	**0.72**	**16**	P	**Pg**	**20 54 04.5**	**-0.7**
LOUT	**Loutraki**	**0.78**	**116**	P	**Pg**	**20 54 05.7**	**-0.7**
LOUT	**Loutraki**	**0.78**	**116**	P	**Pb**	**20 54 06.7**	**-0.3**
LKR	**Lokris**	**0.79**	**66**	P	**Pg**	**20 54 06.0**	**-0.4**
AST1	**Astakos**	**0.81**	**286**	P	**Pg**	**20 54 06.5**	**-0.3**
ZARO	**Zacharo**	**0.91**	**202**	P	**Pg**	**20 54 08.1**	**-0.6**
AIDA	**Aidipsos**	**0.92**	**55**	P	**Pb**	**20 54 08.7**	**-0.6**
VIL2	**Platees**	**0.94**	**97**	P	**Pb**	**20 54 09.6**	**-0.1**
VILL	**Villia**	**0.98**	**99**	P	**Pb**	**20 54 10.1**	**-0.3**
EPID	**Epidavros**	**1.09**	**131**	P	**Pg**	**20 54 13.3**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.15**	**290**	P	**Pg**	**20 54 12.0**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.15**	**290**	P	**Pg**	**20 54 12.1**	**-1.2**
EVGI	**Lefkada island**	**1.16**	**285**	P	**Pg**	**20 54 11.9**	**-1.5**
EVGI	**Lefkada island**	**1.16**	**285**	P	**Pg**	**20 54 11.9**	**-1.5**
LTHK	**Lithakia**	**1.16**	**238**	P	**Pg**	**20 54 12.4**	**-1.1**
LTHK	**Lithakia**	**1.16**	**238**	P	**Pg**	**20 54 12.8**	**-0.7**
VLS	**Valsamata**	**1.18**	**263**	P	**Pg**	**20 54 12.1**	**-1.9**
VSK1	**VASILIKIADES**	**1.19**	**274**	P	**Pg**	**20 54 12.8**	**-1.4**
PSDA	**Pessada-Kefalo**	**1.20**	**260**	P	**Pg**	**20 54 12.4**	**-1.8**
FSK	**Fiskardo**	**1.20**	**277**	P	**Pg**	**20 54 12.8**	**-1.5**
LKD2	**Lefkada island**	**1.21**	**293**	P	**Pg**	**20 54 13.4**	**-1.0**
DRAG	**Dragano-Lefkad**	**1.23**	**287**	P	**Pg**	**20 54 14.4**	**-0.5**
THL	**Klokotos Trika**	**1.23**	**358**	P	**Pg**	**20 54 13.7**	**-1.3**
KEF5	**Kardakata, Kep**	**1.27**	**268**	P	**Pg**	**20 54 13.6**	**-2.0**
KRND	**KRANIDI**	**1.27**	**138**	P	**Pg**	**20 54 14.2**	**-1.4**
KEF4	**Livadi, Kephal**	**1.30**	**267**	P	**Pn**	**20 54 14.3**	**-1.2**
NEO	**Neokhori**	**1.32**	**42**	P	**Pg**	**20 54 14.5**	**-2.2**
ATH	**Athens Observa**	**1.34**	**105**	P	**Pg**	**20 54 15.8**	**-1.1**
DMLN	**Damoulianata-K**	**1.35**	**267**	P	**Pn**	**20 54 15.5**	**-0.6**
XOR	**Xorichti**	**1.35**	**40**	P	**Pg**	**20 54 16.2**	**-1.0**
KEF3	**Kipouria, Keph**	**1.37**	**265**	P	**Pn**	**20 54 14.7**	**-1.7**
TYRN	**Tyrnavos**	**1.39**	**5**	P	**Pn**	**20 54 16.7**	**+0.1**
ATHU	**Athens Univers**	**1.39**	**105**	P	**Pn**	**20 54 16.7**	**0.0**
VLY	**Voula,Athens**	**1.43**	**109**	P	**Pn**	**20 54 17.5**	**+0.2**
PYL	**PYLOS**	**1.46**	**191**	P	**Pn**	**20 54 17.5**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.61**	**79**	P	**Pn**	**20 54 20.2**	**+0.4**
VLI	**Veliai**	**1.75**	**157**	P	**Pn**	**20 54 21.8**	**+0.2**
KTHA	**Kythira Island**	**2.21**	**159**	Pn	**Pn**	**20 54 28.4**	**+0.4**
HORT	**Hortiatis**	**2.40**	**19**	Pn	**Pn**	**20 54 30.1**	**-0.6**
OUR	**Ouranopolis**	**2.49**	**36**	Pn	**Pn**	**20 54 31.4**	**-0.4**
OUR				Sn	**Sn**	**20 55 01.6**	**-0.5**
FNA	**Florina**	**2.51**	**348**	Pn	**Pn**	**20 54 33.2**	**+1.0**
KNT	**Kendrikon**	**2.90**	**12**	Pn	**Pn**	**20 54 38.0**	**+0.6**
OHR	**Ohrid**	**2.95**	**341**	*i* Pn	**Pb**	**20 54 41.9**	**-2.0**
APE	**Apeiranthos**	**3.01**	**114**	Pn	**Pn**	**20 54 38.9**	**-0.1**
SIGR	**SIGRI**	**3.08**	**72**	Pn	**Pn**	**20 54 39.7**	**-0.2**
STIP	**Stip**	**3.36**	**1**	*i* Pn	**Pn**	**20 54 46.0**	**+2.1**
GADA	**Gvkgeada**	**3.50**	**57**	Pn	**Pn**	**20 54 45.3**	**-0.4**
IDI	**Anoyia**	**3.78**	**143**	Pn	**Pn**	**20 54 49.6**	**-0.1**
1.8nm,0.3s,baz=320,slow=17,SNR=8.8							
IDI				Sn	**Sn**	**20 55 34.2**	**0.0**
0.9nm,0.3s,baz=57,slow=5.3,SNR=1.3							
5.7nm,0.6s							
ESDC	**Sonseca Array**	**20.27**	**282**	P	**P**	**20 58 28.2**	**+1.4**
1.5nm,0.6s,baz=76,slow=11,SNR=18							
1.5nm,0.6s							
HFS	**Hagfors**	**22.46**	**349**	P	**P**	**20 58 52.8**	**+2.5**
0.6nm,0.5s,baz=168,slow=15,SNR=1.1							
0.6nm,0.5s							
NOA	**NORSAR Array B**	**23.73**	**347**	P	**P**	**20 59 04.3**	**+1.0**
0.6nm,0.8s,baz=149,slow=11,SNR=2.0							
0.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**30.94**	**221**	P	**P**	**21 00 09.4**	**+1.0**
1.2nm,0.7s,baz=19,slow=8.8,SNR=8.9							
1.2nm,0.7s							
KURBB	**Kurchatov Arra**	**41.15**	**54**	P	**P**	**21 01 35.2**	**-0.2**
0.6nm,0.6s,baz=278,slow=8.7,SNR=8.9							
0.6nm,0.6s							
MKAR	**Makanchi Array**	**44.17**	**59**	P	**P**	**21 01 59.8**	**-0.4**
0.8nm,0.5s,baz=279,slow=6.1,SNR=12							
0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**44.67**	**48**	P	**P**	**21 02 03.4**	**-0.6**
0.8nm,0.5s,baz=267,slow=9.3,SNR=4.7							
0.8nm,0.5s							

*FUNV **31** 20:58:02.8,9.°03N×70.°49W,h1km,MW3.7*
ISC 31 20:58:02.4±1.1,9.°02N±0.°03×70.°47W±0.°03,h8km±9km,n29,
σ1s60/49,5C,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.20**	**231**	⇑*i*P	**Pg**	**20 58 06.8**	**+0.1**
SDV				*e*S	**Sg**	**20 58 10.0**	**+0.5**
SDV				*i*		20 58 10.5	
comp=Z,775nm,0.3s							
SOCV	**Socops**	**0.82**	**208**	⇑*i*P	**Pg**	**20 58 17.9**	**-0.2**
SOCV				*e*S	**Sb**	**20 58 29.7**	**-0.4**
SANV	**Sanarito**	**1.04**	**62**	⇑*i*P	**Pb**	**20 58 23.1**	**+0.3**
SANV				*e*S	**Sb**	**20 58 37.2**	**+0.5**
CURV	**Curarigua**	**1.11**	**27**	*e*P	**Pg**	**20 58 22.8**	**-1.0**
CURV				*e*S	**Sg**	**20 58 38.5**	**+0.3**
TEPV	**Terepaima**	**1.58**	**53**	⇑*e*P	**Pb**	**20 58 31.7**	**-0.1**
TEPV				*e*S	**Sg**	**20 58 53.4**	**+0.3**
SIQV	**Siquisique**	**1.75**	**22**	*e*P	**Pn**	**20 58 33.9**	**+0.8**
SIQV				*e*S	**Sn**	**20 58 56.4**	**+0.8**
CAPV	**Capacho**	**2.15**	**238**	*e*P	**Pn**	**20 58 39.2**	**+0.4**
CAPV				*e*S	**Sn**	**20 59 06.0**	**+0.2**
MCQV	**Machiques**	**2.28**	**297**	*e*P	**Pn**	**20 58 41.1**	**+0.8**
MCQV				*e*S	**Sn**	**20 59 08.6**	**0.0**
BAUV	**El Baul**	**2.40**	**92**	⇑*e*P	**Pn**	**20 58 42.7**	**+0.6**
BAUV				*e*S	**Sn**	**20 59 11.7**	**0.0**
JACV	**Jacura**	**2.62**	**38**	*e*P	**Pn**	**20 58 44.8**	**-0.2**
JACV				*e*S	**Sn**	**20 59 17.7**	**+0.7**
PAMC	**Pamplona, Colo**	**2.76**	**233**	*e*P	**Pn**	**20 58 49.1**	**+1.7**
PAMC				*e*S	**Sn**	**20 59 21.6**	**+0.3**
PAMC				*i*		20 59 29.3	
comp=Z,37nm,0.5s							
LL6C	**La Loma 6 Bece**	**2.85**	**285**	*e*P	**Pn**	**20 58 46.7**	**-1.5**
LL6C				*e*S	**Sn**	**20 59 25.7**	**+2.9**
TAMC	**Tame, Arauca**	**2.88**	**207**	*e*P	**Pg**	**20 58 56.4**	**-1.2**
TAMC				*e*S	**Sb**	**20 59 29.3**	**-0.1**
TURV	**Turiamo**	**2.96**	**61**	*e*P	**Pn**	**20 58 50.8**	**+1.1**
TURV				*e*S	**Sn**	**20 59 25.0**	**-0.5**
BENV	**Beln**	**2.99**	**71**	*e*P	**Pn**	**20 58 51.1**	**+0.9**
BENV				*e*S	**Sn**	**20 59 26.7**	**+0.4**
URIC	**Uribia, Colomb**	**3.06**	**331**	*e*P	**Pb**	**20 58 58.7**	**+1.6**
URIC				*e*S	**Sn**	**20 59 31.6**	**+3.7**
URIC				*i*		20 59 36.4	
comp=Z,36nm,0.5s							
CRJC	**Cerrejon, Guaj**	**3.10**	**310**	*e*P	**Pn**	**20 58 49.2**	**-2.5**
CRJC				*e*S	**Sn**	**20 59 24.9**	**-4.1**
CRJC				*i*		20 59 26.8	
comp=Z,52nm,0.2s							
TACV	**Tcata**	**3.58**	**72**	*e*P	**Pn**	**20 58 58.4**	**+0.2**
TACV				*e*S	**Sn**	**20 59 40.0**	**-0.8**
BARC	**Barichara**	**3.61**	**228**	*e*P	**Pb**	**20 59 05.5**	**-1.0**
BARC				*e*S	**Sb**	**20 59 53.3**	**+2.6**
BARC				*i*		20 59 58.4	
comp=Z,30nm,0.4s							
ARGC	**Ariguani, Magd**	**3.82**	**283**	*e*P	**Pn**	**20 58 58.8**	**-2.7**
RUSC	**La Rusia**	**4.04**	**220**	*e*P	**Pn**	**20 59 05.8**	**+0.8**
RUSC				*e*S	**Sn**	**20 59 51.4**	**-1.4**
RUSC				*i*		20 59 56.3	
comp=Z,4.3nm,0.2s							
MERV	**Las Mercedes**	**4.13**	**86**	*e*P	**Pn**	**20 59 06.2**	**+0.4**
CACV	**CAICARA DEL OR**	**4.15**	**110**	*e*P	**Pb**	**20 59 13.6**	**-2.1**
SMRC	**Santa Marta, M**	**4.27**	**300**	*e*P	**Pn**	**20 59 04.9**	**-2.8**
SJCC	**San Jacinto, C**	**4.73**	**281**	*e*P	**Pn**	**20 59 14.2**	**+0.1**
CHIC	**Chingaza**	**5.43**	**217**	*e*P	**Pn**	**20 59 27.8**	**+3.8**
CHIC				*e*S	**Sn**	**21 00 24.2**	**-2.7**
NORC	**Norcasia**	**5.55**	**232**	*e*P	Pn	20 59 30.6	+5.2
PRGV	**PARIAGUAN**	**5.76**	**92**	*e*P	**Pn**	**20 59 28.0**	**-0.2**
PCRV	**Puerto La Cruz**	**5.87**	**78**	*e*P	**Pn**	**20 59 30.7**	**+0.9**

*IDC **31** 21:00:12.8±3.2,21.°52S×169.°11E,h0km,mb3.6/4,*
mbtmp3.7/5,ML3.4/1,MS3.2/1,Error ellipse:
s-maj=153.4km s-min=29.8km az=157.0
ISC 31 21:00:17.6±2.5,21.°5S±0.°8×168.°9E±0.°3,h29km,n7,
σ1s79/7,mb3.6/4,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.33**	**256**	Pn	**Pn**	**21 00 53.2**	**-0.9**
7.5nm,0.3s,baz=88,slow=16,SNR=5.9							
DZM				Sn	**Sn**	**21 01 20.6**	**-1.3**
74nm,0.3s,baz=138,slow=23,SNR=8.2							
DZM				LR	LR	21 01 40.3	
comp=Z,213nm,18.2s,baz=114,slow=34							
37nm,0.3s							
MSVF	**Nonsavu**	**9.42**	**68**	LR	LR	21 05 28.8	
comp=Z,126nm,19.2s,baz=226,slow=34							
WRA	**Warramunga Arr**	**32.31**	**266**	P	**P**	**21 06 46.4**	**+2.1**
0.6nm,0.9s,baz=102,slow=8.2,SNR=1.8							
0.6nm,0.9s							
ASAR	**Alice Springs**	**32.32**	**259**	P	**P**	**21 06 46.6**	**+2.2**
0.7nm,0.8s,baz=88,slow=7.6,SNR=5.6							
0.7nm,0.8s							
SONM	**Songino Array**	**88.84**	**323**	P	**P**	**21 13 09.0**	**+0.1**
0.2nm,0.3s,baz=69,slow=4.8,SNR=2.5							
0.2nm,0.3s							
NVAR	**Mina Array Bea**	**90.56**	**49**	P	**P**	**21 13 16.4**	**-0.9**
0.2nm,0.6s,baz=236,slow=7.5,SNR=1.9							
0.2nm,0.6s							
GERES	**GERESS Array B**	**146.31**	**330**	PKPbc	**PKPbc**	**21 19 54.8**	**-0.7**
1.7nm,0.9s,baz=27,slow=0.2,SNR=6.8							

*NOU **31** 21:09:38.4,21.°83S×168.°68E,h0km,MLv4.4/8,Loyalty*
Islands
*IDC **31** 21:09:41.9±0.8,21.°74S×168.°93E,h0km,mb4.2/13,*
mbtmp4.2/14,ML4.0/1,Error ellipse: s-maj=21.0km
s-min=18.8km az=112.0
*NEIC **31** 21:09:44.7±1.8,21.°70S±0.°05×168.°89E±0.°04,h15km±4km,*
mb4.8/31,Error ellipse: s-maj=8.3km s-min=2.7km
az=146.0
ISC 31 21:09:46.4±0.4,21.°71S±0.°06×168.°82E±0.°05,h29km,n107,
σ0s85/103,mb4.7/23,2C-4D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.77**	**287**		**Pb**	**21 09 59.8**	**-1.5**
MARNC				Sg	**Sn**	**21 10 13.3**	**+1.4**
MARNC	**Mare, Loyalty**	**0.77**	**287**	P	Pb	21 09 51.8	-9.5
PINNC	**Pines Island,**	**1.56**	**235**		**Pn**	**21 10 11.9**	**-0.3**
PINNC				Sn	**Sb**	**21 10 33.8**	**-0.1**
PINNC	**Pines Island,**	**1.56**	**235**	P	Pn	21 10 03.3	-8.8
LIFNC	**LIFOU**	**1.74**	**302**		**Pn**	**21 10 14.4**	**-0.3**
YATNC	**Mamie plateau,**	**1.82**	**259**	P	Pn	21 10 07.7	-8.1
OUENC	**Ouen Island, N**	**1.96**	**249**		**Pn**	**21 10 17.7**	**-0.1**
OUENC	**Ouen Island, N**	**1.96**	**249**	P	Pn	21 10 10.4	-7.4
DZM	**Mont Dzumac**	**2.24**	**260**		**Pn**	**21 10 21.5**	**-0.1**
DZM	**Mont Dzumac**	**2.24**	**260**	Pn	**Pn**	**21 10 21.6**	**0.0**
38nm,0.3s,baz=92,slow=19,SNR=23							
DZM				Sn	**Sb**	**21 10 52.3**	**-1.2**
114nm,0.3s,baz=136,slow=21,SNR=13							
124nm,0.4s							
ONTNC	**Ouen Toro**	**2.27**	**254**		**Pn**	**21 10 22.3**	**+0.3**
ONTNC	**Ouen Toro**	**2.27**	**254**	P	Pn	21 10 16.0	-6.0
NOUC	**Port Laguerre**	**2.37**	**260**	P	Pn	21 10 16.8	-6.5
KOUNC	**Koumac, New Ca**	**4.39**	**284**		**Pn**	**21 10 51.9**	**+0.8**
MSVF	**Nonsavu**	**9.55**	**67**	Pn	**Pn**	**21 12 03.4**	**+1.3**
0.2nm,0.3s,baz=218,slow=11,SNR=12							
FUNA	**Funafuti**	**16.49**	**39**	Pn	**Pn**	**21 13 33.6**	**-2.0**
EIDS	**Eidsvold**	**16.67**	**254**		**P**	**21 13 40.3**	**+0.1**
ARMA	**Armidale**	**17.70**	**237**		**P**	**21 13 52.3**	**+0.7**
ARMA				IAmb	IAmb	21 14 03.9	
comp=Z,128nm,1.6s							
RTZ	**Ruatahuna**	**18.25**	**159**	P	**Pn**	**21 13 56.7**	**-0.9**
RTZ				IAmb	IAmb	21 14 07.0	
comp=Z,63nm,1.2s							
MRZ	**Mangatainoka R**	**19.74**	**165**	P	**P**	**21 14 14.5**	**+0.7**
MRZ				IAmb	IAmb	21 14 24.5	
comp=Z,79nm,1.5s							
CTA	**Charters Tower**	**21.14**	**270**	P	**P**	**21 14 30.6**	**+1.4**
comp=Z,1.6nm,0.3s,baz=89,slow=13,SNR=1.3							
comp=Z,1.6nm,0.3s							
CTAO	**Charters Tower**	**21.14**	**270**	P	**P**	**21 14 26.5**	**-2.7**
CTAO				IAmb	IAmb	21 14 44.7	
comp=Z,56nm,1.4s							
PMG	**Port Moresby**	**24.15**	**297**	P	**P**	**21 15 00.3**	**+0.1**
PMG				IAmb	IAmb	21 15 04.4	
comp=Z,19nm,1.1s							
COEN	**Coen**	**25.58**	**283**	P	**P**	**21 15 13.6**	**+0.4**
STKA	**Stephens Creek**	**26.26**	**242**	P	**P**	**21 15 20.7**	**+1.4**
STKA	**Stephens Creek**	**26.26**	**242**	P	**P**	**21 15 20.9**	**+1.7**
comp=Z,1.3nm,0.6s,baz=84,slow=7.0,SNR=3.6							
comp=Z,1.3nm,0.6s							
WR0	**Warramunga Arr**	**32.05**	**267**	P	**P**	**21 16 11.0**	**+0.1**
AS31	**Alice Springs**	**32.23**	**260**	P	**P**	**21 16 13.2**	**+0.8**
ASAR	**Alice Springs**	**32.23**	**260**	P	**P**	**21 16 12.6**	**+0.1**
ASAR	**Alice Springs**	**32.23**	**260**	P	**P**	**21 16 11.6**	**-0.9**
comp=Z,0.9nm,0.7s,baz=84,slow=8.7,SNR=10							
comp=Z,0.9nm,0.7s							
WRA	**Warramunga Arr**	**32.24**	**267**	P	**P**	**21 16 12.4**	**-0.2**
WRA	**Warramunga Arr**	**32.24**	**267**	P	**P**	**21 16 11.7**	**-0.9**
comp=Z,0.7nm,0.6s,baz=98,slow=8.6,SNR=6.5							
comp=Z,0.7nm,0.6s							
KNRA	**Kununurra**	**38.34**	**272**	P	**P**	**21 17 04.5**	**-0.5**
KNRA				IAmb	IAmb	21 17 41.8	
comp=Z,34nm,1.3s							
MBWA	**Marble Bar**	**45.54**	**261**	P	**P**	**21 18 04.6**	**+0.7**
LUWI	**Luwuk**	**49.31**	**288**	P	**P**	**21 18 33.2**	**0.0**
KAPI	**Kappang**	**50.29**	**282**	P	**P**	**21 18 40.7**	**0.0**
TOLI2	**Tolitoli**	**52.08**	**290**	P	**P**	**21 18 52.0**	**-2.1**
TOLI2				IAmb	IAmb	21 18 55.5	
comp=Z,13nm,1.1s							
VNDA	**Vanda**	**55.96**	**182**		**P**	**21 19 22.8**	**+1.3**
VNDA				IAmb	IAmb	21 19 24.9	
comp=Z,8.7nm,1.4s							
VNDA	**Vanda**	**55.96**	**182**	P	**P**	**21 19 22.3**	**+0.8**
comp=Z,3.2nm,1.2s,baz=358,slow=7.6,SNR=6.7							
comp=Z,3.2nm,1.2s							
SBA	**Scott Base**	**56.20**	**181**		**P**	**21 19 22.9**	**-0.3**
SBA				IAmb	IAmb	21 19 28.4	
comp=Z,16nm,1.1s							
CASY	**Casey**	**57.71**	**204**	P	**P**	**21 19 34.2**	**+0.1**
CASY				IAmb	IAmb	21 19 42.4	
comp=Z,11nm,1.1s							
MJAR	**Matsushiro Arr**	**64.76**	**333**	P	**P**	**21 20 22.0**	**-0.2**
comp=Z,8.0nm,1.1s,baz=168,slow=6.5,SNR=8.7							
comp=Z,8.0nm,1.1s							
MAJO	**Matsushiro**	**64.76**	**333**	P	**P**	**21 20 21.4**	**-0.8**
QSPA	**South Pole Qui**	**68.35**	**180**	P	**P**	**21 20 44.6**	**-0.3**
QSPA				IAmb	IAmb	21 20 53.6	
comp=Z,15nm,1.3s							
QSPA	**South Pole Qui**	**68.35**	**180**	P	**P**	**21 20 44.0**	**-1.0**
comp=Z,4.1nm,1.0s,baz=329,slow=2.6,SNR=7.2							
comp=Z,4.1nm,1.0s							
KSRS	**Korea Array**	**70.33**	**326**	P	**P**	**21 20 58.9**	**+1.6**
comp=Z,2.4nm,0.9s,baz=146,slow=4.9,SNR=6.0							
comp=Z,2.4nm,0.9s							
USRK	**Ussuriysk Ar.**	**73.75**	**333**	P	**P**	**21 21 17.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**73.75**	**333**	P	**P**	**21 21 19.2**	**+1.5**
comp=Z,13nm,1.0s,baz=134,slow=5.4,SNR=10							
comp=Z,13nm,1.0s							
MAW	**Mawson**	**76.01**	**202**	P	**P**	**21 21 31.8**	**+1.3**
comp=Z,3.0nm,1.0s,baz=78,slow=6.5,SNR=3.6							
comp=Z,3.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**79.17**	**295**	P	**P**	**21 21 49.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**79.17**	**295**	P	**P**	**21 21 50.1**	**+1.2**
comp=Z,1.4nm,0.9s,baz=126,slow=4.3,SNR=9.4							
comp=Z,1.4nm,0.9s							
BELA	**Belgrano 2**	**79.68**	**175**	P	**P**	**21 21 49.2**	**-1.6**
BELA				IAmb	IAmb	21 22 03.5	
comp=Z,8.4nm,1.0s							
HEH	**H

comp=Z,18nm,1.2s,SNR=7.2
SQTA Sankt Quirin 148.78 330 *i* PKP **PKPbc 21 29 31.8 +0.6**
comp=Z,15nm,1.1s,SNR=5.8
FETA Feichten 149.15 330 *i* PKP **PKPbc 21 29 32.8 +0.6**
comp=Z,17nm,1.2s,SNR=7.3
DAVA Damuels 149.34 331 *e*PKP **PKiKP 21 29 33.4 -0.4**
comp=Z,11nm,1.2s
TORD Torodi Ar. Bea 165.06 237 PKP **PKPdf 21 29 48.8 +0.1**
comp=Z,1.3nm,1.1s,baz=153,slow=2.3,SNR=5.6
TORD PKPab **PKPab 21 30 44.7 -0.8**
comp=Z,0.8nm,1.0s,baz=143,slow=3.2,SNR=1.8

---

*IDC **31** 21:10:14.2±0.5, 15°.37S×173°.45W, h0km, mb4.6/14, mbtmp4.6/14, MS4.1/31, Error ellipse: s-maj=26.1km s-min=15.1km az=128.0*
*NEIC **31** 21:10:14.4±1.8, 15°.31S±0°.04×173°.07W±0°.08, h10km±1km, mb5.0/60, Error ellipse: s-maj=14.4km s-min=2.8km az=120.0*
*MOS **31** 21:10:15.2±1.8, 15°.30S×173°.69W, h10km, mb5.2/18, Error ellipse: s-maj=15.6km s-min=13.4km az=66.7*
*GCMT **31** 21:10:18.4±0.3, 15°.43S±0°.02×172°.95W±0°.02, h19km±1km, MW5.0/86, Moment Tensor Solution. s27,c35; s86,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.39±.21; $M_{\theta\theta}$4.64±.16; $M_{\phi\phi}$-2.25±.14; $M_{r\theta}$1.49±.30; $M_{\theta\phi}$0.69±.11; $M_{\phi r}$-1.02±.37; Best double couple: $M_0$4.30700×10^{16} NP1:ϕ_s296.00000°, δ67.00000°, λ-46.00000°. NP2: ϕ_s48.00000°, δ49.00000°, λ-148.00000°. Principal axes: T 4.9740, Plg11.0000°, Azm356.0000°; N -1.3340, Plg40.0000°, Azm95.0000°; P -3.6400, Plg48.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 21:10:14.5±0.3, 15°.34S±0°.06×173°.13W±0°.08, h10km, n395, σ1$61/365, mb5.0/54, MS4.2/33, 27C-14D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.93**	**43**		Pn		**Pn**	**21 10 44.8**	**-2.7**
AFI					Sn		**Sn**	**21 11 06.8**	**-5.1**
NIUE	**Niue**	**4.81**	**141**				**Pn**	**21 11 23.9**	**-3.1**
FUNA	**Funafuti**	**10.11**	**311**		Pn		**Pn**	**21 12 38.0**	**-1.8**
RAO	**Raoul Island**	**14.53**	**197**		LR		LR	21 18 29.7	
	comp=Z,1μm,19.5s,baz=102,slow=34								
DZM	**Mont Dzumac**	**20.46**	**248**	*e*LR			LR	21 19 45.5	
	comp=Z,508nm,25.6s								
DZM	**Mont Dzumac**	**20.46**	**248**	LR			LR	21 21 25.7	
	comp=Z,456nm,18.7s,baz=69,slow=33								
PAE	**Paea**	**22.69**	**99**	*e*T			T	21 38 36.6	
	7.8nm,0.3s								
URZ	**Urewera**	**24.40**	**199**	P			**P**	**21 15 33.5**	**+0.4**
	7.0nm,0.5s,baz=90,slow=11,SNR=2.3								
URZ				LR			LR	21 23 26.9	
	comp=Z,1μm,21.1s,baz=40,slow=33								
	7.0nm,0.5s								
HNR	**Honiara**	**26.93**	**279**	LR			LR	21 24 44.8	
	comp=Z,5μm,21.9s,baz=120,slow=33								
RPZ	**Rata Peaks**	**31.33**	**202**	LR			LR	21 29 30.4	
	comp=Z,606nm,18.0s,baz=30,slow=37								
TAOE	**Nuku Hiva Isla**	**32.86**	**83**	*e*LR			LR	21 25 34.2	
	comp=Z,223nm,22.0s								
TAOE	**Nuku Hiva Isla**	**32.86**	**83**	*e*T			T	21 51 13.6	
	84nm,0.2s								
CTA	**Charters Tower**	**38.91**	**257**	LR			LR	21 33 11.7	
	comp=Z,162nm,19.2s,baz=82,slow=36								
H11S2	**WAKE ISLAND Hy**	**39.05**	**329**	T			T	21 59 21.7	
	baz=148,slow=76								
H11S3	**WAKE ISLAND Hy**	**39.06**	**329**	T			T	21 59 20.3	
	baz=148,slow=76								
H11S1	**WAKE ISLAND Hy**	**39.07**	**329**	T			T	21 59 18.6	
	baz=148,slow=76								
PMG	**Port Moresby**	**39.19**	**274**	*i* P			**P**	**21 17 41.2**	**-1.9**
PMG				pmax			pmax		
	comp=Z,14nm,0.9s								
PMG	**Port Moresby**	**39.19**	**274**	LR			LR	21 31 05.4	
	comp=Z,183nm,20.0s,baz=89,slow=32								
H11N3	**WAKE ISLAND Hy**	**39.99**	**330**	T			T	22 00 27.3	
	baz=150,slow=76								
H11N1	**WAKE ISLAND Hy**	**40.00**	**330**	T			T	22 00 29.9	
	baz=150,slow=76								
H11N2	**WAKE ISLAND Hy**	**40.01**	**330**	T			T	22 00 29.5	
	baz=150,slow=76								
COEN	**Coen**	**42.25**	**266**	P			**P**	**21 18 07.0**	**-1.4**
COEN				IAmb			IAmb	21 18 09.6	
	comp=Z,23nm,1.1s								
STKA	**Stephens Creek**	**44.29**	**240**				**P**	**21 18 22.9**	**-1.9**
STKA	**Stephens Creek**	**44.29**	**240**	P			**P**	**21 18 23.0**	**-1.7**
	comp=Z,15nm,0.9s,baz=84,slow=8.7,SNR=16								
STKA				PcP			**PcP**	**21 20 09.4**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=49,slow=7.2,SNR=3.3								
STKA				LR			LR	21 34 44.4	
	comp=Z,111nm,18.9s,baz=52,slow=33								
	comp=Z,15nm,0.9s								
WR0	**Warramunga Arr**	**49.92**	**257**	P			**P**	**21 19 07.2**	**-1.6**
WB0	**Warramunga Arr**	**50.07**	**257**	P			**P**	**21 19 07.9**	**-2.1**
WRAB	**Tennant Creek**	**50.10**	**257**	*i* P			**P**	**21 19 06.8**	**-3.4**
WRAB				pmax			pmax		
	comp=Z,20nm,1.2s								
WRA	**Warramunga Arr**	**50.11**	**257**	P			**P**	**21 19 09.0**	**-1.3**
WRA	**Warramunga Arr**	**50.11**	**257**	P			**P**	**21 19 08.3**	**-2.0**
	comp=Z,7.4nm,0.9s,baz=92,slow=6.9,SNR=42								
WRA				PcP			**PcP**	**21 20 30.1**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=88,slow=3.7,SNR=12								
	comp=Z,7.4nm,0.9s								
AS31	**Alice Springs**	**50.38**	**252**	P			**P**	**21 19 11.1**	**-1.2**
AS31				IAmb			IAmb	21 19 12.3	
	comp=Z,11nm,0.8s								
ASAR	**Alice Springs**	**50.38**	**252**	P			**P**	**21 19 11.1**	**-1.2**
ASAR	**Alice Springs**	**50.38**	**252**	P			**P**	**21 19 10.9**	**-1.4**
	comp=Z,39nm,0.7s,baz=86,slow=8.3,SNR=187								
ASAR				PcP			**PcP**	**21 20 31.1**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=89,slow=5.6,SNR=4.5								
ASAR				LR			LR	21 38 40.1	
	comp=Z,250nm,21.8s,baz=98,slow=34								
	comp=Z,39nm,0.7s								
GUMO	**Guam**	**50.52**	**303**	LR			LR	21 37 04.0	
	comp=Z,94nm,21.1s,baz=94,slow=32								
FORT	**Forrest**	**55.68**	**243**	P			**P**	**21 19 49.5**	**-1.7**
KNRA	**Kununurra**	**55.83**	**261**	P			**P**	**21 19 51.9**	**-0.6**
RPN	**Rapa Nui**	**60.07**	**113**	LR			LR	21 39 04.4	
	comp=Z,77nm,18.6s,baz=356,slow=29								
SOEI	**Soe**	**61.19**	**267**	P			**P**	**21 20 28.9**	**-1.2**
SBA	**Scott Base**	**63.33**	**185**	P			**P**	**21 20 43.8**	**+0.5**
SBA				IAmb			IAmb	21 20 46.7	
	comp=Z,8.2nm,0.9s								
SBA	**Scott Base**	**63.33**	**185**	P			**P**	**21 20 43.8**	**+0.5**
SBA				pmax			pmax		
	comp=Z,8.0nm,1.0s								
VNDA	**Vanda**	**63.46**	**186**	P			**P**	**21 20 44.8**	**+0.7**
VNDA				IAmb			IAmb	21 20 47.5	
	comp=Z,12nm,1.2s								
VNDA	**Vanda**	**63.46**	**186**	P			**P**	**21 20 46.2**	**+2.0**
	comp=Z,4.9nm,1.0s,baz=1.4,slow=5.6,SNR=8.7								
VNDA				LR			LR	21 42 50.4	
	comp=Z,75nm,21.5s,baz=15,slow=31								
	comp=Z,4.9nm,1.0s								
PSA00	**Pilbara Seismi**	**63.47**	**253**	P			**P**	**21 20 43.9**	**-1.3**
MBWA	**Marble Bar**	**63.63**	**254**	P			**P**	**21 20 44.4**	**-1.9**
LUWI	**Luwuk**	**64.78**	**276**	P			**P**	**21 20 52.0**	**-1.8**
NWAO	**Narrogin (SRO)**	**64.88**	**241**	P			**P**	**21 20 53.5**	**-0.8**
	comp=Z,22nm,1.2s,baz=43,slow=2.0,SNR=3.8								
	comp=Z,22nm,1.2s								
MORW	**Morawa**	**66.15**	**245**	P			**P**	**21 21 01.9**	**-0.6**
SHEM	**Shemya Is, Ala**	**68.68**	**352**	LR			LR	21 44 41.1	
	comp=Z,422nm,21.8s,baz=132,slow=30								
CASY	**Casey**	**70.57**	**205**	P			**P**	**21 21 29.6**	**+0.1**
CASY				IAmb			IAmb	21 21 30.9	
	comp=Z,15nm,1.1s								
JOW	**Kunigami**	**70.66**	**306**	LR			LR	21 46 05.0	
	comp=Z,138nm,21.5s,baz=175,slow=30								
JNU	**Nakatsue**	**71.95**	**313**	LR			LR	21 46 37.6	
	comp=Z,77nm,22.0s,baz=98,slow=30								
PETK	**Petropavlovsk-**	**72.65**	**342**	P			**P**	**21 21 41.6**	**-0.5**
PETK	**Petropavlovsk-**	**72.65**	**342**	P			**P**	**21 21 44.2**	**+2.0**
	comp=Z,7.8nm,0.8s,baz=139,slow=9.2,SNR=4.6								
	comp=Z,7.8nm,0.8s								
CWC	**Cottonwood Cre**	**73.13**	**44**	P			**P**	**21 21 45.1**	**-0.5**
	baz=236								
BELC	**Belle Mtn. Jos**	**73.22**	**47**	P			**P**	**21 21 47.8**	**+1.7**
	baz=238								
MPMC	**Manual Prospec**	**73.31**	**44**	P			**P**	**21 21 46.2**	**-0.5**
	baz=236								
BC3	**Big Chuckawall**	**73.42**	**47**	P			**P**	**21 21 50.0**	**+2.7**
	baz=238								
YSS	**Yuzh-Sakhalins**	**73.56**	**330**	*i* P			**P**	**21 21 48.3**	**+0.7**
YSS				pmax			pmax		
	comp=Z,28nm,1.1s								
GMRC	**Granite Mounta**	**73.87**	**46**	P			**P**	**21 21 51.4**	**+1.5**
	baz=238								
IRM	**Iron Mountain**	**73.91**	**47**	P			**P**	**21 21 50.3**	**+0.3**
	baz=238								
TUQ	**Turquoise Moun**	**74.04**	**46**	P			**P**	**21 21 51.9**	**+1.0**
	baz=237								
NVAR	**Mina Array Bea**	**74.11**	**42**	P			**P**	**21 21 48.5**	**-2.9**
NVAR	**Mina Array Bea**	**74.11**	**42**	P			**P**	**21 21 55.2**	**+3.8**
	comp=Z,1.7nm,0.8s,baz=227,slow=9.7,SNR=12								
	comp=Z,1.7nm,0.8s								
113A	**Mohawk Valley,**	**74.18**	**49**	P			**P**	**21 21 51.0**	**-0.6**
NV11	**Mina Array Sit**	**74.21**	**42**	P			**P**	**21 21 51.5**	**-0.4**
WCT	**Wildcat Mounta**	**74.30**	**44**	P			**P**	**21 21 50.5**	**-1.8**
WCT				IAmb			IAmb	21 22 49.7	
	comp=Z,16nm,1.4s								
QSPA	**South Pole Qui**	**74.70**	**180**	P			**P**	**21 21 53.9**	**-0.4**
QSPA				IAmb			IAmb	21 21 57.2	
	comp=Z,25nm,1.1s								
QSPA	**South Pole Qui**	**74.70**	**180**	P			**P**	**21 21 55.4**	**+1.1**
	comp=Z,14nm,0.9s,baz=7.5,slow=2.8,SNR=10								
QSPA				LR			LR	21 48 48.9	
	comp=Z,107nm,21.9s,baz=34,slow=31								
	comp=Z,14nm,0.9s								
KDAK	**Kodiak Island**	**74.81**	**11**	LR			LR	21 47 02.5	
	comp=Z,406nm,22.0s,baz=190,slow=30								
J05D	**Fort Rock, OR**	**75.22**	**36**				**P**	**21 21 56.8**	**-0.8**
P17K	**Kvichak River**	**75.51**	**9**	P			**P**	**21 21 59.3**	**+0.6**
	baz=197								
PINE	**Pine Mountain**	**75.70**	**36**	P			**P**	**21 21 59.0**	**-1.4**
R11B	**Troy Canyon, C**	**75.84**	**43**	P			**P**	**21 22 01.8**	**+0.5**
	baz=237								
P18K	**Big Mountain,**	**75.88**	**9**	P			**P**	**21 22 02.4**	**+1.5**
	baz=198								
TUC	**Tucson**	**76.15**	**51**	P			**P**	**21 22 02.1**	**-1.0**
TUC	**Tucson**	**76.15**	**51**	P			**P**	**21 22 03.4**	**+0.3**
	baz=242								
TUC	**Tucson**	**76.15**	**51**	P			**P**	**21 22 02.1**	**-1.0**
TUC				pmax			pmax		
	comp=Z,11nm,1.4s								
WVOR	**Wild Horse Val**	**76.22**	**38**	P			**P**	**21 22 02.8**	**-0.5**
WVOR				IAmb			IAmb	21 22 12.7	
	comp=Z,25nm,1.9s								
WVOR	**Wild Horse Val**	**76.22**	**38**	P			**P**	**21 22 02.8**	**-0.5**
WVOR				pmax			pmax		
	comp=Z,25nm,1.9s								
M14K	**Bethel**	**76.36**	**6**	P			**P**	**21 22 03.5**	**0.0**
M14K	**Bethel**	**76.36**	**6**	P			**P**	**21 22 06.2**	**+2.7**
	baz=191								
M15K	**Kasigluk River**	**76.43**	**6**	P			**P**	**21 22 05.6**	**+1.7**
	baz=192								
X16A	**Lo Mia Camp, P**	**76.68**	**48**	P			**P**	**21 22 04.5**	**-1.7**
X16A				IAmb			IAmb	21 22 15.8	
	comp=Z,17nm,1.5s								
J08A	**Circle Bar Ran**	**76.86**	**38**	P			**P**	**21 22 05.4**	**-1.5**
J08A				IAmb			IAmb	21 22 16.2	
	comp=Z,33nm,1.7s								
L14K	**Kuka Creek**	**76.88**	**5**	P			**P**	**21 22 08.8**	**+2.5**
	baz=190								
M16K	**Timber Creek**	**76.94**	**7**	P			**P**	**21 22 08.4**	**+1.6**
	baz=194								
PSUT	**Pine Spring**	**77.08**	**44**	P			**P**	**21 22 06.5**	**-1.9**
WUAZ	**Wupatki**	**77.27**	**47**	P			**P**	**21 22 08.2**	**-1.3**
WUAZ				IAmb			IAmb	21 22 21.9	
	comp=Z,16nm,1.6s								
K13K	**Kusilvak Mount**	**77.31**	**4**	P			**P**	**21 22 11.5**	**+2.7**
	baz=188								
L15K	**Ungalak Mounta**	**77.32**	**6**	P			**P**	**21 22 11.3**	**+2.4**
	baz=191								
N19K	**Bonanza Creek**	**77.35**	**9**	P			**P**	**21 22 11.5**	**+2.2**
	baz=198								
M17K	**Holitna River**	**77.50**	**8**	P			**P**	**21 22 13.6**	**+3.6**
	baz=195								
L16K	**Owhat River**	**77.56**	**7**	P			**P**	**21 22 11.3**	**+1.1**
	baz=193								
BBB	**Bella Bella**	**77.72**	**26**	LR			LR	21 48 44.7	
	comp=Z,123nm,19.8s,baz=220,slow=30								
G08A	**Pilot Rock**	**77.73**	**36**				**P**	**21 22 11.5**	**-0.3**
G08A				IAmb			IAmb	21 22 20.7	
	comp=Z,13nm,1.4s								
M18K	**Stony River**	**77.80**	**8**	P			**P**	**21 22 12.2**	**+0.6**
	baz=197								
K15K	**Wolf Creek Mou**	**77.92**	**6**	P			**P**	**21 22 11.7**	**-0.5**
K15K				IAmb			IAmb	21 22 17.6	
	comp=Z,22nm,1.1s								
K15K	**Wolf Creek Mou**	**77.92**	**6**	P			**P**	**21 22 15.4**	**+3.1**
	baz=191								
L17K	**Donlin**	**78.10**	**7**	P			**P**	**21 22 16.2**	**+2.9**
	baz=195								
L18K	**Granite Mounta**	**78.39**	**8**	P			**P**	**21 22 16.9**	**+2.1**
	baz=196								
M19K	**Big River Lodg**	**78.41**	**9**	P			**P**	**21 22 15.0**	**0.0**
	baz=198								
BMO	**Blue Mountains**	**78.42**	**37**				**P**	**21 22 13.9**	**-1.6**
BMO				IAmb			IAmb	21 22 24.4	
	comp=Z,20nm,1.5s								
BMO	**Blue Mountains**	**78.42**	**37**	P			**P**	**21 22 14.0**	**-1.6**
BMO				pmax			pmax		
	comp=Z,20nm,1.5s								
RC01	**Rabbit Creek A**	**78.43**	**11**	P			**P**	**21 22 17.2**	**+2.0**
	baz=203								
MFID	**Camas Ranch**	**78.48**	**39**				**P**	**21 22 14.4**	**-1.5**
MFID				IAmb			IAmb	21 22 24.8	
	comp=Z,22nm,1.8s								
121A	**Cookes Peak, D**	**78.50**	**52**	P			**P**	**21 22 15.2**	**-1.2**
121A				IAmb			IAmb	21 22 26.2	
	comp=Z,21nm,1.6s								
121A	**Cookes Peak, D**	**78.50**	**52**	P			**P**	**21 22 19.1**	**+2.7**
	baz=243								
121A	**Cookes Peak, D**	**78.50**	**52**	P			**P**	**21 22 20.3**	**+3.8**
	baz=243								
M20K	**Styx River**	**78.58**	**10**	P			**P**	**21 22 17.2**	**+1.2**
	baz=200								
SUA	**Susitna One**	**78.59**	**11**	P			**P**	**21 22 16.0**	**-0.2**
	baz=202								
DUG	**Dugway, Tooele**	**78.64**	**43**	P			**P**	**21 22 17.3**	**+0.3**
	baz=239								
K17K	**Iditarod**	**78.67**	**7**	P			**P**	**21 22 18.5**	**+2.1**
	baz=194								
GLI	**Glacier Island**	**78.77**	**13**	P			**P**	**21 22 19.2**	**+2.2**
	baz=206								
SKT	**Skwentna**	**78.94**	**10**	P			**P**	**21 22 15.9**	**-2.0**
SKT				IAmb			IAmb	21 22 30.9	
	comp=Z,29nm,1.6s								
SKT	**Skwentna**	**78.94**	**10**	P			**P**	**21 22 18.9**	**+1.0**
	baz=201								
M22K	**Willow**	**78.97**	**11**	P			**P**	**21 22 19.6**	**+1.6**
	baz=202								
J16K	**Anvik River**	**78.98**	**6**	P			**P**	**21 22 21.5**	**+3.4**
	baz=192								
TTA	**Tatalina**	**79.16**	**8**	P			**P**	**21 22 21.4**	**+2.2**
	baz=197								
HLID	**Hailey**	**79.42**	**39**				**P**	**21 22 20.9**	**-0.2**
HLID				IAmb			IAmb	21 22 30.6	
	comp=Z,17nm,1.5s								
HLID	**Hailey**	**79.42**	**39**	P			**P**	**21 22 23.6**	**+2.4**
	baz=237								
CUT	**Chulitna**	**79.55**	**11**	P			**P**	**21 22 22.5**	**+1.3**
	baz=202								
J18K	**Innoko River**	**79.58**	**7**	P			**P**	**21 22 23.7**	**+2.3**
	baz=196								
K20K	**Telida**	**79.84**	**9**	P			**P**	**21 22 24.8**	**+2.0**
	baz=199								
N25K	**Chitina, Valde**	**79.97**	**13**	P			**P**	**21 22 26.5**	**+2.8**
	baz=208								
MNTX	**Cornudas Mount**	**79.98**	**53**	P			**P**	**21 22 23.5**	**-0.8**
MNTX	**Cornudas Mount**	**79.98**	**53**	P			**P**	**21 22 25.4**	**+1.0**
	baz=245								
MNTX	**Cornudas Mount**	**79.98**	**53**	P			**P**	**21 22 27.6**	**+3.2**
	baz=245								
MVCO	**Mesa Verde**	**80.11**	**47**	P			**P**	**21 22 26.9**	**+1.8**
	baz=242								
H16K	**Elim**	**80.17**	**5**	P			**P**	**21 22 27.1**	**+2.6**
	baz=191								
CTG	**Chitna Glacier**	**80.18**	**15**	P			**P**	**21 22 26.1**	**+1.2**
	baz=211								
WAT6	**Susitna Watana**	**80.19**	**12**	P			**P**	**21 22 25.6**	**+0.7**
	baz=205								
MA2	**Magadan**	**80.19**	**342**	*i* P			**P**	**21 22 22.9**	**-1.9**
MA2				pmax			pmax		
	comp=Z,50nm,1.2s								
CAST	**Castle Rocks**	**80.19**	**9**	P			**P**	**21 22 25.7**	**+0.9**
	baz=200								
J19K	**Poorman**	**80.23**	**8**	P			**P**	**21 22 26.2**	**+1.3**
	baz=197								
WAT1	**Susitna Watana**	**80.26**	**11**	P			**P**	**21 22 25.8**	**+0.6**
	baz=204								
NJ2	**Nanjing**	**80.34**	**307**	*e*P			**P**	**21 22 29.0**	**+2.8**
NJ2				pP			**PcP**	**21 22 33.8**	**+0.5**
NJ2				pmax			pmax		
	comp=Z,5.0nm,0.5s								
NJ2				pmax			pmax		
	comp=Z,320nm,3.6s								
O29M	**Mount Kennedy**	**80.35**	**17**	P			**P**	**21 22 27.7**	**+1.9**
	baz=214								
TX31	**Lajitas Ar. Si**	**80.36**	**56**	P			**P**	**21 22 23.5**	**-3.1**
TX31	**Lajitas Ar. Si**	**80.36**	**56**	P			**P**	**21 22 30.1**	**+3.5**
	baz=246								
TXAR	**Lajitas Array**	**80.36**	**56**	P			**P**	**21 22 23.9**	**-2.7**
TXAR	**Lajitas Array**	**80.36**	**56**	P			**P**	**21 22 29.2**	**+2.7**
	comp=Z,2.4nm,1.0s,baz=216,slow=6.2,SNR=14								
	comp=Z,2.4nm,1.0s								
G15K	**Niukluk**	**80.39**	**4**	P			**P**	**21 22 27.5**	**+1.8**
	baz=189								
TRF	**Thorofare Moun**	**80.52**	**10**	P			**P**	**21 22 27.0**	**+0.3**
TRF				IAmb			IAmb	21 22 34.0	
	comp=Z,23nm,1.2s								
TRF	**Thorofare Moun**	**80.52**	**10**	P			**P**	**21 22 27.4**	**+0.7**
	baz=202								
ANMO	**Albuquerque**	**80.56**	**50**	P			**P**	**21 22 27.7**	**+0.1**
ANMO	**Albuquerque**	**80.56**	**50**	P			**P**	**21 22 28.3**	**+0.7**
	baz=244								
ANMO	**Albuquerque**	**80.56**	**50**	P			**P**	**21 22 30.4**	**+2.8**
	baz=244								
ANMO	**Albuquerque**	**80.56**	**50**	*i* P			**P**	**21 22 29.6**	**+2.0**
ANMO				pmax			pmax		
	comp=Z,18nm,3.0s								
ANMO	**Albuquerque**	**80.56**	**50**	LR			LR	21 54 03.9	
	comp=Z,128nm,18.6s,baz=140,slow=32								
CHUM	**Lake Minchumin**	**80.59**	**9**	P			**P**	**21 22 28.9**	**+2.0**
	baz=200								
J20K	**Nowinta River**	**80.61**	**8**	P			**P**	**21 22 29.9**	**+3.0**
	baz=198								
DHY	**Denali Highway**	**80.70**	**12**	P			**P**	**21 22 30.7**	**+3.0**
	baz=205								
RND	**Reindeer**	**80.73**	**11**	P			**P**	**21 22 27.8**	**+0.1**
RND	**Reindeer**	**80.73**	**11**	P			**P**	**21 22 27.8**	**+0.1**
RND				pmax			pmax		
	comp=Z,10.0nm,1.1s								
S34M	**Telegraph Cree**	**80.77**	**21**	P			**P**	**21 22 28.4**	**+0.5**
	baz=221								
ALPN	**Alpine**	**80.80**	**55**	P			**P**	**21 22 28.4**	**-0.5**
ALPN				IAmb			IAmb	21 22 38.2	
	comp=Z,12nm,1.2s								
MCK	**McKinley**	**81.02**	**11**	P			**P**	**21 22 31.3**	**+2.2**
	baz=204								
M26K	**Nabesna, AK**	**81.03**	**14**	P			**P**	**21 22 31.6**	**+2.3**
	baz=209								
F15K	**North Star Dit**	**81.06**	**4**	P			**P**	**21 22 31.9**	**+2.6**
	baz=188								
HYT	**Haines Junctio**	**81.08**	**17**	P			**P**	**21 22 31.3**	**+1.7**
	baz=215								
YUK3	**Moose Creek**	**81.09**	**15**	P			**P**	**21 22 30.9**	**+1.1**
	baz=212								
G17K	**Kiwalik Mounta**	**81.15**	**5**	P			**P**	**21 22 32.3**	**+2.6**
	baz=192								
CN2	**Changchun**	**81.21**	**320**	*e*P			**P**	**21 22 32.3**	**+1.7**
CN2				pmax			pmax		
	comp=Z,10.0nm,1.0s								
CN2				LR			LR		
	comp=N,820nm,20.0s								
CN2				LR			LR		
	comp=E,540nm,20.0s								
CN2				LR			LR		
	comp=Z,140nm,21.0s								
M27K	**Edge Creek, AK**	**81.25**	**14**	P			**P**	**21 22 32.3**	**+1.7**
	baz=210								
MENT	**Mentasta**	**81.34**	**13**	P			**P**	**21 22 31.5**	**+0.6**
MENT				IAmb			IAmb	21 22 39.8	
	comp=Z,16nm,1.2s								
O30N	**Mendenhall**	**81.44**	**17**	P			**P**	**21 22 34.0**	**+2.5**
	baz=216								
L26K	**Log Cabin Wild**	**81.50**	**13**	P			**P**	**21 22 33.8**	**+2.1**
	baz=209								
S22A	**4UR Ranch, Cre**	**81.54**	**47**	P			**P**	**21 22 32.9**	**0.0**
S22A	**4UR Ranch, Cre**	**81.54**	**47**	P			**P**	**21 22 34.5**	**+1.7**
	baz=243								
DLBC	**Dease Lake**	**81.55**	**21**	LR			LR	21 49 54.5	
	comp=Z,156nm,19.8s,baz=262,slow=29								
H19K	**Roundabout Mou**	**81.61**	**7**	P			**P**	**21 22 35.5**	**+3.3**
	baz=196								
K24K	**Donnelly Dome**	**81.68**	**12**	P			**P**	**21 22 34.0**	**+1.4**
	baz=206								
SMAI	**San Martin Ant**	**81.72**	**159**	P			**P**	**21 22 33.1**	**+0.2**
SMAI				IAmb			IAmb	21 22 38.2	
	comp=Z,16nm,1.1s								
G18K	**Tagagawik**	**81.72**	**6**	P			**P**	**21 22 35.3**	**+2.5**
	baz=194								
H20K	**Anotleneega Mo**	**81.76**	**8**	P			**P**	**21 22 34.3**	**+1.2**
	baz=198								
NEA2	**Nenana**	**81.78**	**10**	P			**P**	**21 22 34.9**	**+1.7**
	baz=203								
WRH	**Wood River Hil**

POKR IAmb IAmb 21 22 43.3
comp=Z,15nm,0.9s
POKR Poker Plat Res 82.55 11 P P 21 22 38.9 +1.6
baz=205
H22K Ishtalitna Cre 82.63 9 P P 21 22 38.7 +1.2
baz=201
K27K Chicken 82.65 13 P P 21 22 39.4 +1.6
baz=210
M30M Minto, Yukon 82.71 16 P P 21 22 39.9 +1.7
baz=215
F19K Shaleruckik Mo 82.72 6 P P 21 22 40.3 +2.3
baz=195
L29M L29M 82.81 15 P P 21 22 40.4 +1.7
baz=214
H23K Yukon River 82.84 10 P P 21 22 40.4 +1.6
baz=203
DRIO Del Rio 82.85 57 P P 21 22 38.3 -1.3
DRIO IAmb IAmb 21 22 51.0
comp=Z,20nm,1.5s
G21K Allakaket 82.92 8 P P 21 22 41.3 +2.2
baz=199
T25A Trinidad 83.00 49 P P 21 22 42.4 +1.9
baz=245
F20K Avaraart Lake 83.15 7 P P 21 22 42.7 +2.5
baz=197
PRP Porcupine Dome 83.26 11 P P 21 22 42.5 +1.4
baz=207
DAWY Dawson 83.30 14 P P 21 22 41.7 +0.5
DAWY Dawson 83.30 14 P P 21 22 42.7 +1.5
baz=213
ISCO Idaho Springs 83.30 46 P P 21 22 44.2 +2.2
baz=244
ISCO Idaho Springs 83.30 46 P P 21 22 45.0 +2.9
baz=244
RLMT Red Lodge 83.38 40 P P 21 22 44.8 +2.5
baz=241
E19K Redstone River 83.39 6 P P 21 22 42.1 +0.7
baz=195
EGAK Eagle 83.50 13 P P 21 22 44.0 +1.9
baz=211
I26K Coal Creek Min 83.54 12 P P 21 22 44.4 +2.1
baz=209
K29M Barlow Dome 83.57 15 P P 21 22 45.0 +2.4
baz=214
G22K Bettles 83.57 8 P P 21 22 43.6 +1.2
baz=201
F21K Alatna River 83.59 8 P P 21 22 44.2 +1.6
baz=199
G23K Bananza Creek 83.59 9 P P 21 22 45.2 +2.6
baz=202
CMIG Matias Romero 83.61 70 LR LR 21 52 36.3
comp=Z,78nm,19.2s,baz=12,slow=30
F22K John River 84.03 8 P P 21 22 45.7 +0.9
baz=200
I27K Kandik River 84.12 13 P P 21 22 47.6 +2.3
baz=210
E20K Nigu River 84.27 6 P P 21 22 48.6 +2.6
baz=196
D19K Kuna River 84.31 6 P P 21 22 48.1 +1.9
baz=194
MMPY Sheldon Lake, 84.31 18 P P 21 22 46.5 +0.2
MMPY Sheldon Lake, 84.31 18 P P 21 22 47.5 +1.1
baz=220
I28M Miner Creek 84.35 13 P P 21 22 48.2 +1.7
baz=212
TGTN Hyland Airport 84.43 20 P P 21 22 49.4 +2.3
baz=223
J30M Hart River 84.47 15 P P 21 22 49.6 +2.4
baz=215
I29M Ogilvie Camp, 84.64 14 P P 21 22 48.9 +1.0
baz=214
D20K Etivluk River 84.66 6 P P 21 22 49.9 +1.9
baz=196
F24K Squaw Lake 84.67 9 P P 21 22 50.1 +2.1
baz=204
H27K Steamboat Moun 84.68 12 P P 21 22 49.4 +1.2
baz=210
E21K Killik River 84.69 7 P P 21 22 50.0 +1.9
baz=198
APMT Aspermont 84.70 54 P P 21 22 48.3 -0.7
APMT IAmb IAmb 21 22 57.6
comp=Z,40nm,1.6s
C19K Lookout Ridge 84.77 5 P P 21 22 49.9 +1.4
baz=193
ABTX Abilene, Hawle 84.81 54 P P 21 22 51.0 +1.4
baz=248
ABTX Abilene, Hawle 84.81 54 P P 21 22 52.0 +2.4
baz=248
G26K Porcupine Rive 84.86 11 P P 21 22 51.9 +2.9
baz=208
E23K Chandalar 84.90 9 P P 21 22 51.8 +2.5
baz=203
I30M Mount Dempster 84.99 15 P P 21 22 52.7 +2.9
baz=215
F25K Christian Rive 85.11 10 P P 21 22 52.3 +2.0
baz=206
BMAR Burnt Mountain 85.14 11 P P 21 22 51.2 +0.7
G27K Doyon Strip 85.15 12 P P 21 22 52.5 +2.0
baz=210
D22K Ayikyak River 85.26 7 P P 21 22 53.6 +2.6
baz=200
C21K Knifeblade Rid 85.28 6 P P 21 22 53.5 +2.4
baz=198
H29M Whitestone 85.35 13 P P 21 22 54.0 +2.5
baz=213
TOLK Toolik Lake Re 85.45 8 P P 21 22 54.5 +2.6
baz=203
F26K Sheenjek River 85.46 11 P P 21 22 55.8 +3.8
baz=208
E25K Arctic Village 85.59 10 P P 21 22 55.7 +3.1
baz=206
D23K Nanushuk River 85.60 8 P P 21 22 54.8 +2.1
baz=202
BJI Beijing 85.62 313 P P 21 22 55.0 +1.6
BJI sP **pwP 21 23 02.0 +2.6**
BJI pmax pmax
comp=Z,2.0nm,1.2s
HNS HongShan 85.62 311 *e*P **P 21 22 57.3 +3.9**
G29M Pine Creek 86.00 13 P P 21 22 56.7 +2.0
baz=214
F28M Old Crow 86.20 12 P P 21 22 56.9 +1.2
baz=212
E27K Coleen River 86.36 11 P P 21 22 58.0 +1.5
baz=210
G30M tAoh Zraii Nji 86.46 14 P P 21 22 59.2 +2.2
baz=215
F31M Tsiigehtchic 87.41 14 P P 21 23 03.8 +2.2
baz=218
MAW Mawson 87.93 199 P P 21 23 04.6 +0.4
MAW IAmb IAmb 21 23 06.5
comp=Z,8.0nm,1.4s
MAW Mawson 87.93 199 P P 21 23 04.6 +0.4
MAW pmax pmax
comp=Z,8.0nm,1.5s
MAW Mawson 87.93 199 P P 21 23 04.6 +0.4
comp=Z,15nm,1.1s,baz=116,slow=5.4,SNR=12
MAW LR LR 21 59 58.3
comp=Z,257nm,19.8s,baz=108,slow=34
comp=Z,15nm,1.1s
INK Inuvik 88.15 14 LR LR 21 55 16.8
comp=Z,146nm,21.6s,baz=178,slow=31
XAN Xi'an 88.81 306 P P 21 23 21.0 +12
XAN pmax pmax
comp=Z,11nm,1.4s
YAK Yakutsk 89.16 337 *e*P **P 21 23 09.5 -0.4**
YAK *e**PP **sP 21 23 13.2 -0.1**
YAK *e* 21 26 38.7
YAK *e*S **SKSac 21 33 39.1 -0.5**
YAK *e* 21 34 05.5
YAK *e*SS **SS 21 39 51.8 -1.2**
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,269nm,4.1s
YAK pmax pmax
comp=N,232nm,4.3s
YAK pmax pmax
comp=E,160nm,4.1s
YAK smax smax
comp=N,184nm,3.7s
YAK smax smax
comp=E,139nm,3.7s
HHC Hu-ho-hao-te 89.18 313 *e*P **P 21 23 12.3 +1.6**

HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,230nm,6.0s
PLCA Paso Flores 89.36 132 LR LR 21 55 36.8
comp=Z,86nm,18.4s,baz=222,slow=30
YKA Yellowknife Ar 89.94 23 LR LR 21 57 28.0
comp=Z,227nm,19.2s,baz=280,slow=31
CD2 Chengdu 92.00 301 *e*P **P 21 23 25.0 +1.0**
ELIB Princess Elisa 92.22 185 *d*P **P 21 23 25.0 +0.6**
comp=Z,20nm,1.1s
PZH PanZhiHua 92.48 297 P **P 21 23 27.5 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,4.1s
ATAH Atahualpa 92.67 98 LR LR 21 56 34.5
comp=Z,97nm,19.0s,baz=268,slow=30
CMAR Chiang Mai Arr 92.84 288 P **P 21 23 29.6 +1.5**
comp=Z,0.6nm,0.5s,baz=86,slow=2.3,SNR=4.2
CMAR LR LR 22 00 41.5
comp=Z,36nm,21.0s,baz=20,slow=33
comp=Z,0.6nm,0.5s
ULM Lac du Bonnet 93.72 39 LR LR 21 59 42.4
comp=Z,183nm,20.2s,baz=240,slow=32
CFA Coronel Fontan 94.27 124 LR LR 21 57 07.0
comp=Z,75nm,18.6s,baz=272,slow=30
TIXI Tiksi 95.02 344 *i* P **P 21 23 35.4 -1.5**
LVC Limon Verde 96.80 116 LR LR 21 59 26.2
comp=Z,48nm,18.5s,baz=296,slow=30
MKAR Makanchi Array 110.97 315 PKiKP **PKiKP 21 28 48.6 +0.4**
comp=Z,0.4nm,0.6s,baz=61,slow=1.5,SNR=5.3
KURK Kurchatov 113.27 319 *i* PKIKP **PKiKP 21 28 52.7 +0.3**
KURBB Kurchatov Arra 113.33 319 PKiKP **PKiKP 21 28 52.7 +0.2**
comp=Z,0.5nm,0.7s,baz=60,slow=1.9,SNR=7.0
BVAR Borovoye Array 118.00 322 PKP **PKiKP 21 29 02.1 +0.7**
comp=Z,1.3nm,0.6s,baz=79,slow=3.2,SNR=4.9
ARU Arti 123.43 329 *i* PKIKP **PKiKP 21 29 12.0 0.0**
ARU 21 30 53.4
ARU 21 36 23.5
ARU SS SS 21 47 37.3 -1.8
PRGR Permogore 126.18 338 *e*PKIKP **PKPdf 21 29 15.8 -1.0**
PRGR pmax pmax
comp=Z,5.0nm,0.9s
KIRV Kirov 126.60 334 *i* PKIKP **PKPdf 21 29 16.7 -1.0**
KLMR Klimovskoe 128.82 340 *e*PKPdf **PKPdf 21 29 21.9 0.0**
KLMR AMP 21 29 24.2
comp=Z,30nm,1.5s
KLMR Klimovskoe 128.82 340 *e*PKIKP **PKPdf 21 29 21.9 0.0**
KLMR pmax pmax
comp=Z,30nm,1.5s
OBN Obninsk 134.16 337 *e*PKIKP **PKPdf 21 29 31.9 -0.3**
OBN pmax pmax
comp=Z,8.0nm,1.1s
NACGM Naroch 137.61 343 *e*PKP **PKiKP 21 29 40.2 -0.3**
comp=Z,9.0nm,0.8s,baz=29
AKASG Malin Array Be 140.38 338 PKP **PKiKP 21 29 45.3 -1.0**
comp=Z,0.5nm,0.5s,baz=36,slow=1.8,SNR=1.9
OJC Ojcow 143.66 346 PKPbc 21 29 48.1 +1.0
OJC Ojcow 143.66 346 PKIKP PKPbc 21 29 48.1 +1.0
CLL Collm 143.79 353 *e*PKPdf **PKPdf 21 29 50.0 +0.1**
OSTC Ostas 144.07 350 *e*PKP **PKPdf 21 29 49.9 -0.6**
BRG Berggiesshubel 144.10 352 P PKPab 21 29 34.1 -14
BRG Amp 21 29 34.5
comp=Z,10nm,1.0s
DPC Dobruska-Polom 144.25 350 *e*PKP **PKPdf 21 29 51.5 +0.7**
BUR08 Bucovina Ar. S 144.39 339 PKPbc 21 29 49.5 -0.1
BURAR Bucovina Array 144.41 339 ⇓P **PKPdf 21 29 51.2 0.0**
BURAR Bucovina Array 144.41 339 ⇓PKIKP **PKPdf 21 29 51.2 0.0**
CRVS Cervenica-Dubn 144.46 343 *e*PKP **PKPdf 21 29 51.8 +0.6**
CRVS Cervenica-Dubn 144.46 343 *e*PKIKP **PKPdf 21 29 51.8 +0.6**
MORC Moravsky Berou 144.57 348 ⇓P **PKPdf 21 29 52.0 +0.6**
MORC Moravsky Berou 144.57 348 *e*PKP **PKPdf 21 29 52.2 +0.8**
MORC Moravsky Berou 144.57 348 ⇓PKIKP **PKPdf 21 29 52.0 +0.6**
LANS Liptovska Anna 144.74 346 *e*PKP **PKiKP 21 29 53.5 -1.9**
LANS Liptovska Anna 144.74 346 *e*PKIKP **PKiKP 21 29 53.5 -1.9**
TESR Tescani 144.80 336 ⇑P **PKPdf 21 29 51.5 -0.3**
TRPA Tarpa 144.84 342 ⇑P **PKPdf 21 29 53.0 +1.2**
PRU Pruhonice 144.88 351 *e*PKP **PKPdf 21 29 52.8 +1.0**
BMR Baia Mare 144.94 340 ⇓P **PKPdf 21 29 53.0 +1.0**
BMR Baia Mare 144.94 340 ⇓PKIKP **PKPdf 21 29 53.0 +1.0**
KECS Kecovo 145.10 344 *e*PKP **PKiKP 21 29 54.6 -1.5**
KECS Kecovo 145.10 344 *e*PKIKP **PKiKP 21 29 54.6 -1.5**
PANC Panciu 145.13 335 ⇓P **PKiKP 21 29 55.8 -0.5**
ARCR ARCALIA 145.17 339 ⇑P **PKPdf 21 29 53.8 +1.3**
VRAC Vranov 145.20 349 ⇑P **PKiKP 21 29 54.5 -1.8**
VRAC Vranov 145.20 349 *e*PKP **PKiKP 21 29 54.3 -2.0**
VRAC Vranov 145.20 349 ⇑PKIKP **PKiKP 21 29 54.5 -1.8**
ODBI Odobesti 145.25 335 ⇑P **PKiKP 21 29 55.4 -1.1**
CFR Carcaliu 145.27 333 ⇑P **PKPdf 21 29 54.4 +1.8**
CFR Carcaliu 145.27 333 ⇑PKIKP **PKPdf 21 29 54.4 +1.8**
VRI Vrincioaia 145.30 335 ⇑P **PKPdf 21 29 54.5 +1.8**
VRI Vrincioaia 145.30 335 ⇑PKIKP **PKPdf 21 29 54.5 +1.8**
PLOR Plostina 145.34 335 ⇓P **PKPdf 21 29 54.1 +1.3**
PLOR Plostina 145.34 335 ⇓PKIKP **PKPdf 21 29 54.1 +1.3**
TPGR Topolog 145.39 333 ⇑P **PKiKP 21 29 55.1 -1.7**
JAVC Velka Javorina 145.42 347 *e*PKP **PKiKP 21 29 56.2 -0.7**
ZVC Zvikov 145.47 352 *e*PKP **PKPab 21 29 54.8 +1.7**
KRUC Moravsky 145.48 349 *e*PKP **PKiKP 21 29 54.9 -2.0**
OZUR 145.48 337 ⇑P **PKiKP 21 29 55.7 -1.3**
VYHS Vyhne 145.50 346 *e*PKP **PKiKP 21 29 55.6 -1.4**
VYHS Vyhne 145.50 346 *e*PKIKP **PKiKP 21 29 55.6 -1.4**
COVR Voineasa-Covas 145.53 336 ⇓P **PKPab 21 29 55.0 +1.5**
TIRR Tirgusor 145.71 332 ⇑P **PKPdf 21 29 51.2 -2.2**
TIRR Tirgusor 145.71 332 ⇑PKHKP PKPpre 21 29 51.2
HARR Harsova 145.74 333 ⇑P **PKiKP 21 29 56.3 -1.2**
HARR Harsova 145.74 333 ⇑PKIKP **PKiKP 21 29 56.3 -1.2**
DOPR Dopca 145.74 337 ⇑P **PKiKP 21 29 56.5 -1.1**
SMOL Smolenice 145.80 347 *e*PKIKP **PKiKP 21 29 57.1 -0.5**
KHC Kasperske Hory 145.86 352 *e*PKP **PKiKP 21 29 56.2 -1.5**
MLR Muntele Rosu 145.92 336 ⇓P **PKiKP 21 29 57.2 -0.9**
MLR Muntele Rosu 145.92 336 ⇓PKIKP **PKiKP 21 29 57.2 -0.9**
MARR Marisel-Cluj 145.94 340 ⇓P **PKPab 21 29 56.3 +1.3**
MODS Modra-Piesok 145.96 348 *e*PKP **PKiKP 21 29 57.5 -0.4**
MODS Modra-Piesok 145.96 348 *e*PKP2 **PKiKP 21 29 57.5 -0.4**
ISR Istrita 145.99 335 ⇑P **PKiKP 21 29 57.1 -1.0**
ISR Istrita 145.99 335 ⇑PKP2 **PKiKP 21 29 57.1 -1.0**
CKRC Cesky Krumlov 146.06 351 *e*PKP **PKPab 21 29 56.1 +0.8**
GERES GERESS Array B 146.12 352 PKPbc **PKPab 21 29 56.5 +0.9**
comp=Z,7.7nm,1.0s,baz=28,slow=2.3,SNR=8.8
BRTR Keskin Array B 146.28 321 PKP2 **PKPab 21 29 57.0 +0.4**
BRTR Keskin Array B 146.28 321 PKPbc **PKPab 21 29 57.0 +0.4**
comp=Z,4.6nm,0.8s,baz=80,slow=2.9,SNR=12
VOIR 146.32 337 ⇑P **PKiKP 21 29 58.3 -0.5**
VOIR 146.32 337 ⇑PKP2 **PKiKP 21 29 58.3 -0.5**
ARR Arges 146.53 337 ⇑P **PKiKP 21 29 59.6 +0.3**
CONA Conrad Observa 146.67 349 *e*pPKP **PKiKP 21 29 60.0 +0.5**
comp=Z,20nm,1.1s
RONA Rosalia, Austr 146.80 348 *i* PKP **PKiKP 21 29 59.6 -0.1**
comp=Z,21nm,1.0s,SNR=6.2
RONA Rosalia, Austr 146.80 348 *e*P **PKiKP 21 29 59.6 -0.1**
comp=Z,21nm,1.0s,SNR=6.2
MOA Molln 147.01 351 *e*PKP **PKiKP 21 30 00.3 +0.2**
comp=Z,19nm,1.2s
GZR Gura Zlata 147.18 339 ⇑P **PKPbc 21 29 57.6 -0.5**
GZR Gura Zlata 147.18 339 ⇑PKIKP **PKPbc 21 29 57.7 -0.5**
BIOA Bad Ischl, Aus 147.26 352 *e*PKP **PKiKP 21 30 01.2 +0.5**
comp=Z,16nm,1.4s
BZS Buzias 147.37 341 ⇑P **PKiKP 21 30 00.7 -0.2**
BZS Buzias 147.37 341 ⇑PKP2 **PKiKP 21 30 00.7 -0.2**
ARSA Arzberg 147.38 349 *e*pPKP **PKiKP 21 30 00.8 -0.1**
comp=Z,13nm,1.0s
RETA Reutte 147.78 355 *e*pPKP **PKPab 21 30 02.1 0.0**
comp=Z,14nm,1.4s
WATA Walderalm 147.86 354 *e*PKiKP **PKPab 21 30 02.8 +0.3**
comp=Z,13nm,1.2s
MOTA Moosalm 147.90 355 *e*PKiKP **PKPab 21 30 03.1 +0.4**
comp=Z,14nm,1.2s
MOTA Moosalm 147.90 355 *e*pPKP **PKPab 21 30 03.1 +0.4**
comp=Z,14nm,1.2s
WTTA Wattenberg 147.93 354 *e*PKiKP **PKPab 21 30 03.2 +0.4**
comp=Z,9.1nm,0.7s
KOGS Kog 148.01 348 *e*PKPab **PKiKP 21 30 02.2 0.0**
SQTA Sankt Quirin 148.01 354 *e*PKiKP **PKPab 21 30 02.9 -0.2**
SQTA Sankt Quirin 148.01 354 *e*pPKP **PKPab 21 30 02.9 -0.2**
SOKA Soboth 148.02 349 *i* pPKP **PKPab 21 30 02.6 -0.5**
comp=Z,18nm,1.2s,SNR=7.5
SOKA Soboth 148.02 349 *e*P **PKPab 21 30 02.6 -0.5**
comp=Z,18nm,1.2s,SNR=7.5
PERS Pernice 148.05 349 *i* PKPab **PKiKP 21 30 02.1 -0.2**
DAVA Damuels 148.05 356 *e*PKiKP **PKPab 21 30 02.8 -0.4**
comp=Z,15nm,1.2s
DAVA Damuels 148.05 356 *e*pPKP **PKPab 21 30 02.8 -0.4**
comp=Z,15nm,1.2s

OBKA Obir 148.27 350 *e*PKP **PKiKP 21 30 02.8 0.0**
comp=Z,12nm,1.5s
MYKA Terra Mystica 148.30 351 *e*PKP **PKiKP 21 30 03.3 +0.4**
comp=Z,11nm,1.0s
ABTA Abfaltersbach 148.34 353 *e*PKP **PKiKP 21 30 02.8 -0.1**
comp=Z,19nm,1.4s
PRED Cave del Predi 148.49 351 PKPdf 21 29 58.5 +0.4
LJU Ljubljana 148.72 350 *e*PKPab **PKiKP 21 30 04.2 +0.6**
MMAI Mount Meron Ar 148.73 309 PKPbc **PKPbc 21 30 03.3 +0.5**
comp=Z,4.9nm,0.8s,baz=57,slow=5.3,SNR=3.0
ESDC Sonseca Array 153.97 19 PKPbc **PKiKP 21 30 15.8 +1.0**
comp=Z,0.3nm,0.4s,baz=344,slow=4.3,SNR=2.7
TORD Torodi Ar. Bea 174.53 113 PKP **PKPdf 21 30 25.4 -0.1**
comp=Z,2.0nm,1.2s,baz=335,slow=0.8,SNR=3.7

IDC ***31*** *21:26:35.1±3.2, 6°.52S×128°.37E, h315km±36km, mb3.3/8, mbtmp4.0/10, Error ellipse: s-maj=34.6km s-min=15.3km az=49.0*
DJA ***31*** *21:26:35.5±0.3, 7°.5S±3°×12°.9E± °, h297km±7km, M4.4/13, mB5.0/6, mb4.2/13, MLv4.6/12, Mw(mB)4.3/6*
NEIC ***31*** *21:26:35.3±1.0, 6°.49S±0°.08×128°.54E±0°.09, h309km±7km, mb4.3/11, Error ellipse: s-maj=13.5km s-min=12.0km az=103.0*
ISC 31 21:26:34.2±0.5, 6°.54S±0°.05×128°.49E±0°.06, h300km, n68, σ1§58/71, mb3.8/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.45**	**35**	P	**Pn**	**21 27 26.9**	**+2.1**
BNDI	**Bandanaira**	**2.45**	**35**	P	**Pn**	**21 27 26.3**	**+1.5**
SAUI	**Saumlaki**	**3.14**	**117**		**Pn**	**21 27 33.4**	**+2.0**
SAUI				Sn	**S**	**21 28 18.6**	**+1.6**
SAUI	**Saumlaki**	**3.14**	**117**	P	**Pn**	**21 27 33.8**	**+2.5**
SAUI	**Saumlaki**	**3.14**	**117**	P	**Pn**	**21 27 32.1**	**+0.8**
NLAI	**Namlea**	**3.56**	**337**	P	**Pn**	**21 27 38.9**	**+3.2**
SANI	**Sanana**	**5.11**	**331**	P	**Pn**	**21 27 54.0**	**+1.0**
SANI	**Sanana**	**5.11**	**331**	P	**Pn**	**21 27 54.3**	**+1.3**
	12nm,0.5s,0.1nm						
FAKI	**Fak Fak**	**5.19**	**46**		**Pn**	**21 27 53.3**	**-0.7**
FAKI	**Fak Fak**	**5.19**	**46**	P	**Pn**	**21 27 53.7**	**-0.3**
FAKI	**Fak Fak**	**5.19**	**46**	P	**Pn**	**21 27 53.4**	**-0.6**
	176nm,0.5s,3μm0.9nm						
SOEI	**Soe**	**5.26**	**232**		**Pn**	**21 27 56.2**	**+1.3**
SOEI	**Soe**	**5.26**	**232**	P	**Pn**	**21 27 56.4**	**+1.5**
SOEI	**Soe**	**5.26**	**232**	P	**Pn**	**21 27 56.3**	**+1.3**
	107nm,0.4s,3μm1.2nm						
LBMI	**Labuha**	**5.94**	**350**	P	**Pn**	**21 28 06.2**	**+3.3**
	23nm,0.7s,0.2nm						
BATI	**Baumata**	**6.01**	**232**	P	**Pn**	**21 28 05.1**	**+1.4**
	596nm,0.5s,8μm2.6nm						
BATI	**Baumata**	**6.01**	**232**	P	**Pn**	**21 28 05.0**	**+1.4**
	528nm,0.4s,baz=85,slow=3.1,SNR=132						
BATI				S	**S**	**21 29 14.9**	**-0.9**
	149nm,0.4s,baz=78,slow=21,SNR=14						
SWI	**Sorong**	**6.28**	**26**	P	**Pn**	**21 28 08.0**	**+1.1**
	15nm,0.5s,1μm0.7nm						
MMRI	**Maumere**	**6.54**	**251**		**Pn**	**21 28 11.7**	**+1.7**
MMRI	**Maumere**	**6.54**	**251**	P	**Pn**	**21 28 13.1**	**+3.1**
	36nm,0.5s,0.2nm						
MTN	**Manton Dam**	**6.79**	**158**		**Pn**	**21 28 14.1**	**+1.1**
EDFI	**Ende, Flores**	**7.09**	**251**	P	**Pn**	**21 28 18.3**	**+1.5**
	14nm,0.4s,0.1nm						
KDU	**Kakadu**	**7.26**	**148**	P	**Pn**	**21 28 20.2**	**+1.4**
LUWI	**Luwuk**	**7.89**	**314**	Pn	**Pn**	**21 28 27.6**	**+1.1**
KNRA	**Kununurra**	**9.09**	**178**		**Pn**	**21 28 42.6**	**+1.5**
TTSI	**Tana Toraja**	**9.31**	**291**	P	P	21 29 01.0	+13
MRSI	**Marisa**	**9.55**	**317**	P	**Pn**	**21 28 48.5**	**+1.6**
	25nm,1.1s						
PLAI	**Plampang**	**10.86**	**257**	P	**Pn**	**21 29 04.7**	**+1.8**
	25nm,1.8s						
MPSI	**Mapaga**	**10.96**	**308**	P	**P**	**21 29 07.2**	**+0.6**
	18nm,1.1s						
TABU	**Tabubil**	**12.73**	**85**	P	**P**	**21 29 27.6**	**+1.2**
BBKI	**Banjar Baru**	**13.93**	**282**	P	**Pn**	**21 29 44.4**	**+4.3**
WB0	**Warramunga Arr**	**14.35**	**157**	P	**P**	**21 29 44.8**	**+0.7**
WRA	**Warramunga Arr**	**14.49**	**157**	P	**P**	**21 29 44.7**	**-1.0**
WRA	**Warramunga Arr**	**14.49**	**157**	P	**P**	**21 29 46.2**	**+0.5**
	1.3nm,0.6s,baz=340,slow=12,SNR=11						
WRA				S	**S**	**21 32 21.0**	**-3.8**
	3.3nm,0.8s,baz=340,slow=21,SNR=6.9						
COEN	**Coen**	**16.22**	**118**	P	**P**	**21 30 05.1**	**+0.4**
COEN				IAmb	IAmb	21 30 06.2	
	comp=Z,20nm,0.7s						
COEN	**Coen**	**16.22**	**118**	P	**P**	**21 30 05.4**	**+0.7**
MBWA	**Marble Bar**	**16.83**	**209**	P	**P**	**21 30 12.0**	**+0.7**
MBWA				IAmb	IAmb	21 30 12.5	
	comp=Z,13nm,0.7s						
AS31	**Alice Springs**	**17.81**	**164**	P	**P**	**21 30 23.0**	**+1.1**
AS31				IAmb	IAmb	21 30 32.2	
	comp=Z,2.8nm,0.3s						
ASAR	**Alice Springs**	**17.81**	**164**	P	**P**	**21 30 22.8**	**+0.9**
ASAR	**Alice Springs**	**17.81**	**164**	P	**P**	**21 30 23.3**	**+1.4**
	comp=Z,4.2nm,0.5s,baz=346,slow=11,SNR=26						
ASAR				S	**S**	**21 33 29.4**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=344,slow=17,SNR=4.4						
CTA	**Charters Tower**	**21.88**	**130**	P	**P**	**21 31 03.6**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=290,slow=13,SNR=1.7						
	comp=Z,1.3nm,0.5s						
NWAO	**Narrogin (SRO)**	**28.27**	**200**	P	**P**	**21 31 59.9**	**-0.5**
NWAO				IAmb	IAmb	21 32 00.8	
	comp=Z,27nm,1.4s						
NWAO	**Narrogin (SRO)**	**28.27**	**200**	P	**P**	**21 32 00.1**	**-0.4**
	comp=Z,5.1nm,0.8s,baz=354,slow=9.2,SNR=1.5						
	comp=Z,5.1nm,0.8s						
KULM	**Kulim**	**30.17**	**292**	P	**P**	**21 32 17.3**	**0.0**
KULM				IAmb	IAmb	21 32 31.2	
	comp=Z,31nm,1.5s						
CMAR	**Chiang Mai Arr**	**38.29**	**311**	P	**P**	**21 33 26.1**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=132,slow=7.4,SNR=4.9						
	comp=Z,0.4nm,0.4s						
TAPN	**Taplejung**	**51.86**	**312**	*e*P	**P**	**21 35 10.6**	**-2.4**
	comp=Z,7.2nm,0.3s						
RAMN	**Ramite**	**52.46**	**311**	*e*P	**P**	**21 35 15.9**	**-1.5**
	comp=Z,13nm,0.6s						
JIRN	**Jiri**	**53.16**	**312**	*e*P	**P**	**21 35 20.8**	**-1.7**
	comp=Z,9.9nm,0.6s						
GUN	**Gumba**	**53.52**	**312**	*e*P	**P**	**21 35 23.4**	**-1.8**
	comp=Z,12nm,0.4s						
PKI	**Pulchoki**	**53.69**	**311**	*e*P	**P**	**21 35 24.4**	**-2.0**
	comp=Z,4.3nm,0.4s						
PKIN	**Phulchoki**	**53.70**	**311**	*e*P	**P**	**21 35 24.3**	**-2.1**
	comp=Z,5.2nm,0.4s						
DMN	**Daman**	**53.94**	**311**	*e*P	**P**	**21 35 26.7**	**-1.3**
	comp=Z,4.6nm,0.4s						
GKN	**Gorkha**	**54.50**	**311**	*e*P	**P**	**21 35 30.2**	**-1.7**
	comp=Z,12nm,0.3s						
DANN	**Dangsing**	**55.34**	**311**	*e*P	**P**	**21 35 37.0**	**-1.1**
	comp=Z,6.0nm,0.5s						
PYUN	**Piuthan**	**55.79**	**310**	*e*P	**P**	**21 35 39.9**	**-1.3**
	comp=Z,5.3nm,0.4s						
SONM	**Songino Array**	**57.54**	**343**	P	**P**	**21 35 53.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=156,slow=7.6,SNR=2.2						
	comp=Z,0.3nm,0.7s						
PEA0B	**Petropavlovsk-**	**64.36**	**19**	P	**P**	**21 36 37.7**	**-0.6**
PETK	**Petropavlovsk-**	**64.36**	**19**	P	**P**	**21 36 37.6**	**-0.7**
PETK	**Petropavlovsk-**	**64.36**	**19**	P	**P**	**21 36 37.2**	**-1.1**
	comp=Z,7.1nm,0.9s,baz=186,slow=1.4,SNR=2.3						
	comp=Z,7.1nm,0.9s						
MK31	**Makanchi Array**	**67.02**	**327**	P	**P**	**21 36 55.5**	**+0.1**
MK31				IAmb	IAmb	21 36 56.2	
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**67.02**	**327**	P	**P**	**21 36 54.8**	**-0.6**
MKAR	**Makanchi Array**	**67.02**	**327**	P	**P**	**21 36 54.4**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=116,slow=8.7,SNR=27						
	comp=Z,1.7nm,0.5s						
ARSB	**Arslanbob**	**69.55**	**319**	P	**P**	**21 37 11.1**	**-0.1**
ZALV	**Zalesovo Beam**	**70.51**	**334**	P	**P**	**21 37 14.9**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=155,slow=7.7,SNR=3.5						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**71.34**	**329**	P	**P**	**21 37 20.4**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=130,slow=5.2,SNR=16						
	comp=Z,0.8nm,0.5s						
KURK	**Kurchatov**	**71.35**	**329**	P	**P**	**21 37 21.7**	**+0.1**
KURK				IAmb	IAmb	21 37 31.1	
	comp=Z,2.4nm,1.0s						
QSPA	**South Pole Qui**	**83.44**	**180**	P	**P**	**21 38 26.9**	**-1.3**
M16K	**Timber Creek**	**87.34**	**28**	P	**P**	**21 38 46.2**	**-1.0**

NOU ***31*** *21:30:23.6, 21°.62S×169°.05E, h0km, MLv4.1/8, Southeast of Loyalty Islands*
IDC ***31*** *21:30:26.0±1.4, 21°.33S×168°.72E, h0km, mb3.8/6, mbtmp3.8/7, ML3.4/1, MS3.1/3, Error ellipse: s-maj=38.6km*

s-min=28.6km az=152.0
NEIC ***31*** *21:30:26.1±0.4,21°.78S±0°.07×168°.97E±0°.03,h10km±1km, mb4.2/5,Error ellipse: s-maj=12.5km s-min=3.0km az=16.0*

ISC 31 21:30:28.1±0.8,21°.66S±0°.08×168°.96E±0°.08,h29km,n44, σ0°.88/45,mb3.7/7,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.88**	**282**	Pg	**Pn**	**21 30 42.8**	**-1.9**
MARNC				Sg	**Sb**	**21 30 55.9**	**-0.5**
MARNC	**Mare, Loyalty**	**0.88**	**282**	P	**Pn**	**21 30 42.9**	**-1.7**
MARNC	**Mare, Loyalty**	**0.88**	**282**	P	**Pn**	**21 30 43.0**	**-1.7**
PINNC	**Pines Island,**	**1.69**	**236**		**Pn**	**21 30 54.1**	**-1.6**
PINNC				Sn	**Sn**	**21 31 16.0**	**-0.5**
PINNC	**Pines Island,**	**1.69**	**236**	P	**Pn**	**21 30 54.6**	**-1.2**
LIFNC	**LIFOU**	**1.83**	**298**	Pn	**Pn**	**21 30 57.1**	**-0.6**
LIFNC	**LIFOU**	**1.83**	**298**	P	**Pn**	**21 30 55.9**	**-1.8**
LIFNC	**LIFOU**	**1.83**	**298**	P	**Pn**	**21 30 57.0**	**-0.6**
YATNC	**Mamie plateau,**	**1.96**	**258**	P	**Pn**	**21 30 59.1**	**-0.4**
OUENC	**Ouen Island, N**	**2.10**	**249**		**Pn**	**21 31 01.5**	**0.0**
OUENC	**Ouen Island, N**	**2.10**	**249**	P	**Pn**	**21 31 01.2**	**-0.2**
DZM	**Mont Dzumac**	**2.37**	**260**		**Pn**	**21 31 05.1**	**-0.2**
DZM	**Mont Dzumac**	**2.37**	**260**	P	**Pn**	**21 31 05.2**	**0.0**
DZM	**Mont Dzumac**	**2.37**	**260**	P	**Pn**	**21 31 06.2**	**+1.0**
DZM	**Mont Dzumac**	**2.37**	**260**	Pn	**Pn**	**21 31 04.9**	**-0.3**
	9.6nm,0.3s,baz=83,slow=17,SNR=22						
DZM				Sn	**Sn**	**21 31 33.0**	**-0.4**
	21nm,0.3s,baz=70,slow=20,SNR=5.7						
DZM				LR	LR	21 31 37.7	
	comp=Z,172nm,20.0s,baz=225,slow=32						
	31nm,0.4s						
ONTNC	**Ouen Toro**	**2.41**	**254**		**Pn**	**21 31 05.1**	**-0.6**
ONTNC	**Ouen Toro**	**2.41**	**254**	P	**Pn**	**21 31 05.1**	**-0.6**
NOUC	**Port Laguerre**	**2.51**	**259**	P	**Pn**	**21 31 06.4**	**-0.6**
NOUC	**Port Laguerre**	**2.51**	**259**	P	**Pn**	**21 31 08.3**	**+1.3**
KOUNC	**Koumac, New Ca**	**4.50**	**283**		**Pn**	**21 31 34.6**	**+0.2**
KOUNC	**Koumac, New Ca**	**4.50**	**283**	P	**Pn**	**21 31 34.4**	**0.0**
KOUNC	**Koumac, New Ca**	**4.50**	**283**	P	**Pn**	**21 31 34.9**	**+0.5**
ARMA	**Armidale**	**17.83**	**237**	P	**P**	**21 34 35.5**	**+0.7**
ARMA				IAmb	IAmb	21 35 01.4	
	comp=Z,32nm,1.4s						
RTZ	**Ruatahuna**	**18.25**	**160**		**Pn**	**21 34 38.2**	**-1.1**
RTZ				IAmb	IAmb	21 34 48.6	
	comp=Z,11nm,0.9s						
CTA	**Charters Tower**	**21.27**	**270**	LR	LR	21 43 00.1	
	comp=Z,118nm,18.5s,baz=85,slow=36						
STKA	**Stephens Creek**	**26.40**	**242**	P	**P**	**21 36 01.6**	**-0.7**
STKA	**Stephens Creek**	**26.40**	**242**	P	**P**	**21 36 03.5**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=66,slow=12,SNR=1.8						
STKA				LR	LR	21 46 33.2	
	comp=Z,58nm,20.9s,baz=29,slow=37						
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**32.36**	**260**	P	**P**	**21 36 56.3**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=82,slow=9.5,SNR=2.6						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**32.37**	**267**	P	**P**	**21 36 55.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=96,slow=8.3,SNR=2.5						
	comp=Z,0.4nm,0.6s						
TOLI2	**Tolitoli**	**52.19**	**289**	P	**P**	**21 39 36.7**	**0.0**
TOLI2				IAmb	IAmb	21 39 39.6	
	comp=Z,6.5nm,1.1s						
QSPA	**South Pole Qui**	**68.40**	**180**	P	**P**	**21 41 27.1**	**+0.1**
QSPA	**South Pole Qui**	**68.40**	**180**	P	P	21 41 31.6	+4.5
	comp=Z,1.6nm,0.7s,baz=2.8,slow=1.3,SNR=4.8						
	comp=Z,1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**79.27**	**295**	P	**P**	**21 42 32.8**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=129,slow=3.6,SNR=1.9						
	comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**88.99**	**323**	P	**P**	**21 43 19.9**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=152,slow=6.5,SNR=5.2						
	comp=Z,1.1nm,1.0s						
ZVC	**Zvikov**	**145.82**	**330**	*e*PKP	**PKPab**	**21 50 05.5**	**+0.6**
RONA	**Rosalia, Austr**	**145.97**	**326**	*e*PKP	**PKPab**	**21 50 06.7**	**+1.1**
	comp=Z,6.3nm,1.7s						
CONA	**Conrad Observa**	**146.05**	**327**	*e*PKP	**PKPab**	**21 50 06.5**	**+0.6**
	comp=Z,10nm,1.6s						
CKRC	**Cesky Krumlov**	**146.20**	**329**	*e*PKP	**PKPab**	**21 50 06.4**	**0.0**
KHC	**Kasperske Hory**	**146.32**	**330**	*e*PKP	**PKPab**	**21 50 07.0**	**+0.1**
GERES	**GERESS Array B**	**146.47**	**330**	PKPbc	**PKPab**	**21 50 07.5**	**0.0**
	comp=Z,2.0nm,0.8s,baz=72,slow=3.2,SNR=7.8						
ABTA	**Abfaltersbach**	**148.52**	**328**	*e*PKP	**PKPbc**	**21 50 12.2**	**-0.1**
	comp=Z,3.3nm,0.9s						
MOTA	**Moosalm**	**148.76**	**330**	*e*PKP	**PKiKP**	**21 50 13.5**	**-0.8**
	comp=Z,4.2nm,1.0s						
FETA	**Feichten**	**149.17**	**330**	*e*PKP	**PKiKP**	**21 50 14.8**	**-0.4**
	comp=Z,3.7nm,1.1s						
DAVA	**Damuels**	**149.36**	**332**	*e*PKP	**PKiKP**	**21 50 15.2**	**-0.4**
	comp=Z,5.1nm,1.1s						

NEIC ***31*** *22:25:52.2±1.7,60°.06S±0°.08×26°.7W±0°.2,h10km±1km, mb5.3/86,Error ellipse: s-maj=18.0km s-min=9.2km az=233.0*
MOS ***31*** *22:25:53.5±0.9,60°.09S×26°.61W,h28km,mb5.5/23,Error ellipse: s-maj=19.4km s-min=9.6km az=105.6*
IDC ***31*** *22:26:00.5±2.3,60°.05S×26°.75W,h78km±19km,mb4.7/14, mbtmp5.0/14,MS4.3/28,Error ellipse: s-maj=17.5km s-min=11.7km az=58.0*
GCMT ***31*** *22:26:00.2±0.2,60°.23S±0°.02×25°.97W±0°.03,h38km±1km, MW5.1/89,Moment Tensor Solution. s61,c69; s89,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.14±.18; Mθθ-4.31±.13; Mφφ1.17±.14; Mrθ3.14±.19; Mθφ-0.05±.14; Mφr1.63±.15; Best double couple: M0:5.21000×10^16 NP1:φs69.00000°,δ68.00000°,λ70.00000°. NP2: φs294.00000°,δ29.00000°,λ131.00000°. Principal axes: T 4.9060, Plg61.0000°, Azm308.0000°; N 0.6080, Plg19.0000°, Azm77.0000°; P -5.5140, Plg21.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 22:25:54.2±0.2,60°.03S±0°.06×26°.65W±0°.06,h26km,n693, σ0°.95/679,mb5.3/54,MS4.3/30,19C-9D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.05**	**152**	⇑P	**Pn**	**22 28 57.1**	**-0.4**
	comp=Z,151nm,0.2s						
VNA1				S	Sn	22 31 07.3	-14
VNA3	**Neumayer Olymp**	**13.18**	**156**	⇑P	**Pn**	**22 28 57.4**	**-1.9**
	comp=Z,450nm,0.8s						
VNA3				⇑S	Sn	22 31 07.7	-17
VNA2	**Neumayer--Watz**	**13.45**	**152**	⇑P	**Pn**	**22 29 00.8**	**-2.2**
	comp=Z,49nm,0.2s,baz=308,slow=14						
VNA2				S	Sn	22 31 17.1	-14
	baz=305,slow=27						
SNAA	**Sanae**	**15.04**	**151**	Pn	**Pn**	**22 29 23.0**	**-1.7**
SNAA				IAmb	IAmb	22 29 24.5	
	comp=Z,88nm,0.7s						
SNAA	**Sanae**	**15.04**	**151**	⇑P	**Pn**	**22 29 23.1**	**-1.5**
	comp=Z,2μm,0.6s						
SNAA				S	Sn	22 31 53.0	-17
SNAA	**Sanae**	**15.04**	**151**	P	**Pn**	**22 29 23.0**	**-1.7**
SNAA				pmax	pmax		
	comp=Z,88nm,0.7s						
TROLL	**Troll, Antarti**	**16.61**	**148**	⇑P	**Pn**	**22 29 44.3**	**-0.7**
	comp=Z,1μm,0.7s						
TROLL				S	Sn	22 32 28.6	-20
PMSA	**Palmer Station**	**17.77**	**239**		**P**	**22 29 59.6**	**-0.3**
PMSA	**Palmer Station**	**17.77**	**239**	P	P	22 30 08.4	+8.5
	comp=Z,18nm,0.4s,baz=73,slow=8.8,SNR=32						
PMSA				LR	LR	22 36 12.5	
	comp=Z,875nm,18.2s,baz=89,slow=34						
BELA	**Belgrano 2**	**18.12**	**185**	P	**P**	**22 30 03.4**	**-0.3**
BELA				IAmb	IAmb	22 30 10.7	
	comp=Z,110nm,0.7s						
NVL	**N'lazarevskaya**	**18.88**	**140**	*e*P	**P**	**22 30 10.6**	**-1.4**
NVL				*e*S	Sn	22 33 29.8	-13
NVL				pmax	pmax		
	comp=Z,58nm,1.0s						
NVL				smax	smax		
	comp=N,47nm,5.5s						
SMAI	**San Martin Ant**	**19.10**	**228**	P	**Pn**	**22 30 15.7**	**+0.3**
EFI	**East Falkland**	**19.35**	**282**	P	**Pn**	**22 30 18.8**	**+0.2**
EFI				IAmb	IAmb	22 30 26.1	
	comp=Z,201nm,0.8s						
EFI	**East Falkland**	**19.35**	**282**	⇑*e*P	**Pn**	**22 30 20.7**	**+2.1**
EFI				pmax	pmax		
	comp=Z,263nm,1.0s						
MG01	**Puerto William**	**22.33**	**265**	P	**P**	**22 30 50.8**	**+1.3**
MG01				IAmb	IAmb	22 30 53.6	
	comp=Z,226nm,1.1s						
ELIB	**Princess Elisa**	**22.73**	**142**	*d*P	**P**	**22 30 53.7**	**0.0**
	comp=Z,40nm,1.1s						
ELIB				*d*S	**S**	**22 35 02.1**	**+1.7**
USHA	**Ushuaia**	**22.78**	**265**	LR	LR	22 37 27.0	
	comp=Z,968nm,18.5s,baz=229,slow=30						
MG02	**Cerro Sombrero**	**24.28**	**268**	P	**P**	**22 31 08.9**	**+0.1**
MG02				IAmb	IAmb	22 31 09.8	
	comp=Z,114nm,0.9s						
GO09	**Cerro Castillo**	**26.72**	**269**	P	**P**	**22 31 30.8**	**-0.3**
QSPA	**South Pole Qui**	**30.21**	**180**	P	**P**	**22 32 03.6**	**+1.5**
QSPA				IAmb	IAmb	22 32 49.9	
	comp=Z,47nm,0.8s						
QSPA	**South Pole Qui**	**30.21**	**180**	P	**P**	**22 32 03.9**	**+1.8**
	comp=Z,9.4nm,0.9s,baz=214,slow=2.5,SNR=26						
QSPA				LR	LR	22 43 41.1	
	comp=Z,1μm,20.4s,baz=180,slow=35						
	comp=Z,9.4nm,0.9s						
COYC	**Coyhaique**	**30.34**	**278**	P	**P**	**22 32 04.1**	**+0.8**
TRQA	**Tornquist**	**31.33**	**299**	P	**P**	**22 32 13.3**	**+1.2**
TRQA				IAmb	IAmb	22 32 16.0	
	comp=Z,64nm,0.9s						
TRQA	**Tornquist**	**31.33**	**299**	P	**P**	**22 32 13.3**	**+1.2**
TRQA				pmax	pmax		
	comp=Z,64nm,0.9s						
AY01	**Puyuhuapi**	**31.45**	**279**	P	**P**	**22 32 13.3**	**+0.2**
AY01				IAmb	IAmb	22 32 14.7	
	comp=Z,44nm,0.9s						
LL02	**Futaleuf**	**31.95**	**281**	P	**P**	**22 32 17.1**	**-0.4**
LL02				IAmb	IAmb	22 32 19.0	
	comp=Z,38nm,1.1s						
PLCA	**Paso Flores**	**33.17**	**286**	P	**P**	**22 32 28.9**	**+0.6**
PLCA				IAmb	IAmb	22 32 30.0	
	comp=Z,72nm,1.1s						
PLCA	**Paso Flores**	**33.17**	**286**	*e*P	**P**	**22 32 29.4**	**+1.1**
PLCA	**Paso Flores**	**33.17**	**286**	P	**P**	**22 32 28.5**	**+0.2**
	comp=Z,30nm,0.9s,baz=149,slow=7.9,SNR=37						
PLCA				PcP	**PcP**	**22 35 10.5**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=20,slow=2.5,SNR=3.4						
PLCA				LR	LR	22 45 51.8	
	comp=Z,405nm,18.8s,baz=145,slow=36						
	comp=Z,30nm,0.9s						
PLTB	**Pedras Altas**	**33.47**	**316**	P	**P**	**22 32 32.1**	**+1.2**
PLTB				IAmb	IAmb	22 32 34.0	
	comp=Z,59nm,0.9s						
PLTB	**Pedras Altas**	**33.47**	**316**	*e*P	**P**	**22 32 31.9**	**+1.0**
GO06	**Curarrehue**	**34.51**	**286**	P	**P**	**22 32 39.6**	**-0.4**
CPSB	**Cacapava Do Su**	**34.65**	**317**	*e*P	**P**	**22 32 43.1**	**+2.0**
CNLB	**Canela**	**34.80**	**321**	*e*P	**P**	**22 32 43.6**	**+1.1**
RODS	**Rosario do Sul**	**35.31**	**314**	*e*P	**P**	**22 32 45.8**	**-1.1**
ALGR	**Alto Alegre (B**	**35.98**	**318**	*e*P	**P**	**22 32 53.4**	**+0.7**
UNIS	**Unistalda (Bra**	**36.44**	**315**	*e*P	**P**	**22 32 57.8**	**+1.3**
ITQB	**Itaqui**	**36.45**	**313**	P	**P**	**22 32 57.4**	**+0.8**
ITQB	**Itaqui**	**36.45**	**313**	*e*P	**P**	**22 32 58.4**	**+1.8**
MAW	**Mawson**	**36.83**	**140**	P	**P**	**22 32 59.8**	**+0.4**
MAW	**Mawson**	**36.83**	**140**	P	**P**	**22 32 59.6**	**+0.2**
	comp=Z,5.6nm,0.9s,baz=238,slow=7.5,SNR=7.9						
MAW				PcP	**PcP**	**22 35 21.4**	**+0.8**
	comp=Z,7.6nm,0.8s,baz=247,slow=6.1,SNR=5.7						
MAW				LR	LR	22 46 29.3	
	comp=Z,689nm,20.0s,baz=240,slow=33						
	comp=Z,5.6nm,0.9s						
MECA	**Mercedes**	**37.36**	**311**	*e*P	**P**	**22 33 05.4**	**+1.1**
CRSM	**Crissiumal (Br**	**37.52**	**318**	*e*P	**P**	**22 33 06.6**	**+0.8**
ML02	**Panimavida**	**37.53**	**290**	P	**P**	**22 33 05.7**	**0.0**
ML02				IAmb	IAmb	22 33 07.8	
	comp=Z,74nm,0.9s						
GO05	**Huala**	**38.38**	**290**	P	**P**	**22 33 13.2**	**+0.2**
BO01	**Tunca**	**38.49**	**292**	P	**P**	**22 33 14.2**	**+0.3**
AAGR	**Agrelo**	**38.54**	**295**	*i* P	**P**	**22 33 16.0**	**+1.6**
BO04	**La Punta**	**38.60**	**292**	P	**P**	**22 33 15.0**	**+0.2**
MT13	**San Alfonso**	**38.66**	**293**	P	**P**	**22 33 15.9**	**+0.5**
MT08	**Bocatoma Ro**	**38.78**	**294**	P	**P**	**22 33 17.2**	**+0.7**
MT08				IAmb	IAmb	22 33 20.3	
	comp=Z,84nm,0.8s						
ASAL	**Salagasta**	**38.96**	**296**	*e*P	**P**	**22 33 18.7**	**+0.8**
ESAR	**Angra dos Reis**	**39.04**	**333**	*e*P	**P**	**22 33 18.9**	**+0.4**
SCCA	**San Cayetano,**	**39.09**	**312**	*e*P	**P**	**22 33 19.8**	**+0.9**
PEL	**Peldehue**	**39.34**	**293**	*i* P	**P**	**22 33 22.4**	**+1.4**
MT02	**Curacav**	**39.45**	**292**	P	**P**	**22 33 22.8**	**+0.9**
AUSP	**Uspallata**	**39.52**	**295**	*e*P	**P**	**22 33 24.4**	**+1.6**
CFA	**Coronel Fontan**	**39.52**	**297**	LR	LR	22 50 13.6	
	comp=Z,538nm,19.8s,baz=114,slow=37						
CFA	**Coronel Fontan**	**39.52**	**297**	*i* P	**P**	**22 33 22.8**	**+0.2**
VA03	**San Esteban**	**39.59**	**294**	*i* P	**P**	**22 33 25.0**	**+1.8**
ROC1	**El Roble**	**39.63**	**293**	*e*P	**P**	**22 33 25.8**	**+2.1**
CPUP	**Villa Florida**	**39.74**	**314**	P	**P**	**22 33 25.1**	**+0.9**
CPUP	**Villa Florida**	**39.74**	**314**	*e*P	**P**	**22 33 25.4**	**+1.1**
CPUP	**Villa Florida**	**39.74**	**314**	P	**P**	**22 33 25.2**	**+0.9**
	comp=Z,24nm,0.8s,baz=158,slow=7.0,SNR=41						
CPUP				LR	LR	22 48 20.8	
	comp=Z,402nm,21.8s,baz=163,slow=34						
	comp=Z,24nm,0.8s						
ZON	**Zonda**	**39.77**	**297**	P	**P**	**22 33 25.2**	**+0.6**
ZON				IAmb	IAmb	22 33 27.5	
	comp=Z,145nm,1.5s						
ZON	**Zonda**	**39.77**	**297**	P	**P**	**22 33 25.2**	**+0.6**
ZON				pmax	pmax		
	comp=Z,145nm,1.5s						
APLL	**PUNTA DE LOS L**	**39.80**	**300**	*e*P	**P**	**22 33 25.5**	**+0.6**
RTLS	**Leoncito**	**39.83**	**296**	*e*P	**P**	**22 33 26.6**	**+1.2**
AVFE	**Valle Fertil**	**39.98**	**299**	*i* P	**P**	**22 33 27.6**	**+1.2**
MCR1	**Marechal Candi**	**40.33**	**320**	*e*P	**P**	**22 33 29.5**	**+0.2**
ACCO	**Cerro Coronel**	**40.76**	**297**	*e*P	**P**	**22 33 35.0**	**+1.8**
ACLC	**CERRO LA CRUZ**	**40.82**	**300**	*i* P	**P**	**22 33 34.4**	**+0.9**
BSCB	**Bom Sucesso**	**41.07**	**334**	*e*P	**P**	**22 33 35.6**	**+0.1**
ACDV	**Cuesta del Vie**	**41.14**	**297**	*i* P	**P**	**22 33 37.8**	**+1.8**
CO03	**El Pedregal**	**41.28**	**295**	P	**P**	**22 33 37.6**	**+0.5**
CO03				IAmb	IAmb	22 33 39.8	
	comp=Z,64nm,1.1s						
SUR	**Sutherland**	**41.57**	**70**	P	**P**	**22 33 41.1**	**+1.4**
SUR				IAmb	IAmb	22 35 02.6	
	comp=Z,94nm,1.9s						
SUR	**Sutherland**	**41.57**	**70**	LR	LR	22 47 04.6	
	comp=Z,340nm,19.4s,baz=214,slow=30						
RIB01	**Linhares ES**	**41.85**	**340**	*e*P	**P**	**22 33 42.1**	**+0.3**
GO04	**Tololo Observa**	**41.89**	**295**	P	**P**	**22 33 43.4**	**+1.0**
GO04				IAmb	IAmb	22 33 44.6	
	comp=Z,95nm,1.2s						
BB19B	**Bebedouro**	**41.91**	**329**	*e*P	**P**	**22 33 43.5**	**+1.2**
VCA	**Vinchina**	**41.97**	**299**	*i* P	**P**	**22 33 45.1**	**+2.3**
SBA	**Scott Base**	**42.12**	**184**	P	**P**	**22 33 44.6**	**+1.2**
SBA	**Scott Base**	**42.12**	**184**	P	**P**	**22 33 44.6**	**+1.2**
SBA				pmax	pmax		
	comp=Z,15nm,1.3s						
VNDA	**Vanda**	**42.60**	**183**	P	**P**	**22 33 48.8**	**+1.5**
VNDA	**Vanda**	**42.60**	**183**	P	**P**	**22 33 48.8**	**+1.5**
VNDA				pmax	pmax		
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**42.60**	**183**	P	**P**	**22 33 48.4**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=188,slow=6.7,SNR=21						
VNDA				LR	LR	22 50 15.4	
	comp=Z,288nm,21.9s,baz=154,slow=34						
	comp=Z,3.8nm,0.8s						
VA04	**Juan Fernndez**	**42.80**	**284**	P	**P**	**22 33 50.2**	**+0.8**
LCO	**Las Campanas**	**42.84**	**296**	P	**P**	**22 33 50.0**	**-0.1**
LCO				IAmb	IAmb	22 33 52.2	
	comp=Z,52nm,1.0s						
LCO	**Las Campanas**	**42.84**	**296**	P	**P**	**22 33 50.0**	**-0.1**
LCO				pmax	pmax		
	comp=Z,53nm,1.0s						
DIAM	**Diamantina, MG**	**43.45**	**336**	*e*P	**P**	**22 33 55.3**	**+0.3**
GRHM	**Grahamstown, E**	**43.51**	**76**	P	**P**	**22 33 55.9**	**+0.7**
AC04	**Llanos de Chal**	**43.69**	**297**	P	**P**	**22 33 57.3**	**+0.6**
PMNB	**Patos De Minas**	**43.82**	**332**	*e*P	**P**	**22 33 58.8**	**+0.9**
MURT	**Porto Murtinho**	**44.13**	**317**	*e*P	**P**	**22 34 00.6**	**+0.4**
GUA01	**Guaratinga, BA**	**44.43**	**342**	*e*P	**P**	**22 34 02.6**	**0.0**
ALOL	**LOMAS DE OLMED**	**44.53**	**308**	*i* P	**P**	**22 34 04.7**	**+1.2**
AQDB	**Aquidauana**	**44.58**	**320**	P	**P**	**22 34 04.5**	**+0.7**
BDQN	**Bodoquena, MS**	**44.96**	**318**	*e*P	**P**	**22 34 07.0**	**+0.2**
GO02	**Mina Guanaco**	**45.67**	**300**	P	**P**	**22 34 13.5**	**+0.7**
H04S2	**CROZET ISLANDS**	**45.77**	**110**	T	T	23 24 49.0	
	baz=225,slow=75						
H04S3	**CROZET ISLANDS**	**45.79**	**110**	T	T	23 24 54.0	
	baz=225,slow=75						
H04S1	**CROZET ISLANDS**	**45.79**	**110**	T	T	23 24 54.0	
	baz=225,slow=75						
JANB	**Januaria**	**46.73**	**336**	*e*P	**P**	**22 34 20.8**	**-0.1**
BOSA	**Boshof**	**46.81**	**72**	P	**P**	**22 34 22.0**	**+0.4**
BOSA				IAmb	IAmb	22 34 23.2	
	comp=Z,21nm,0.9s						
BOSA	**Boshof**	**46.81**	**72**	P	**P**	**22 34 21.7**	**+0.1**
	comp=Z,13nm,0.6s,baz=208,slow=7.4,SNR=40						
BOSA				PcP	**PcP**	**22 35 55.1**	**+0.8**
	comp=Z,8.2nm,0.9s,baz=205,slow=5.7,SNR=4.5						
BOSA				LR	LR	22 49 59.8	
	comp=Z,217nm,20.6s,baz=210,slow=31						
	comp=Z,13nm,0.6s						
BDFB	**Brasilia**	**46.99**	**331**	P	**P**	**22 34 23.7**	**+0.7**
BDFB				IAmb	IAmb	22 34 24.7	
	comp=Z,20nm,0.9s						
BDFB	**Brasilia**	**46.99**	**331**	P	**P**	**22 34 23.7**	**+0.7**
BDFB				pmax	pmax		
	comp=Z,20nm,0.9s						
BDFB	**Brasilia**	**46.99**	**331**	P	**P**	**22 34 23.1**	**+0.1**
	comp=Z,17nm,0.9s,baz=149,slow=5.7,SNR=21						
BDFB				LR	LR	22 51 43.1	
	comp=Z,408nm,21.4s,baz=154,slow=33						
	comp=Z,17nm,0.9s						
PP1B	**Ponte de Pedra**	**47.02**	**322**	*e*P	**P**	**22 34 24.0**	**+0.9**
LVC	**Limon Verde**	**47.63**	**303**	P	**P**	**22 34 29.1**	**+0.9**
LVC				IAmb	IAmb	22 34 34.0	
	comp=Z,19nm,0.9s						
LVC	**Limon Verde**	**47.63**	**303**	P	**P**	**22 34 29.1**	**+0.9**
LVC				pmax	pmax		
	comp=Z,19nm,0.9s						
LVC	**Limon Verde**	**47.63**	**303**	*e*P	**P**	**22 34 29.3**	**+1.0**
LVC	**Limon Verde**	**47.63**	**303**	LR	LR	22 53 47.8	
	comp=Z,378nm,22.0s,baz=179,slow=35						
PB06	**IPOC Station P**	**47.83**	**302**	P	**P**	**22 34 30.4**	**+0.8**
ARAG	**Araguaiana, MT**	**47.91**	**327**	*e*P	**P**	**22 34 31.4**	**+1.3**
BBRB	**Robore, Bolivi**	**48.02**	**316**	*e*P	**P**	**22 34 31.4**	**+0.5**
WIN	**Windhoek**	**48.30**	**59**	P	**P**	**22 34 33.6**	**+0.4**
WIN				IAmb	IAmb	22 34 36.8	
	comp=Z,31nm,1.1s						
WIN	**Windhoek**	**48.30**	**59**	P	**P**	**22 34 33.7**	**+0.4**
WIN				pmax	pmax		
	comp=Z,31nm,1.1s						
PB04	**IPOC Station P**	**48.40**	**302**	P	**P**	**22 34 34.6**	**+0.6**
PB07	**IPOC Station P**	**48.83**	**302**	P	**P**	**22 34 37.7**	**+0.5**
SALV	**Santo Antonio**	**48.87**	**322**	*e*P	**P**	**22 34 38.1**	**+0.7**
BBSD	**Serra de San D**	**49.31**	**315**	*e*P	**P**	**22 34 41.0**	**+0.2**
SDBA	**SAO DESIDERIO**	**49.43**	**336**	*e*P	**P**	**22 34 41.9**	**+0.1**
LBTB	**Lobatse**	**50.02**	**69**	P	**P**	**22 34 46.6**	**+0.4**
LBTB				IAmb	IAmb	22 34 48.0	
	comp=Z,25nm,0.9s						
LBTB	**Lobatse**	**50.02**	**69**	P	**P**	**22 34 46.7**	**+0.4**
LBTB				pmax	pmax		
	comp=Z,25nm,1.0s						
CASY	**Casey**	**50.06**	**159**	P	**P**	**22 34 46.7**	**+0.7**
PTLB	**Pontes e Lacer**	**50.41**	**318**	P	**P**	**22 34 49.4**	**+0.3**
PTLB				IAmb	IAmb	22 34 52.5	
	comp=Z,25nm,0.9s						
SIV	**San Ignacio**	**50.58**	**315**	LR	LR	22 54 59.8	
	comp=Z,241nm,21.6s,baz=162,slow=34						
SNDB	**Serra Nova Dou**	**51.34**	**328**	*e*P	**P**	**22 34 55.8**	**-0.4**
PB18	**Visviri**	**52.34**	**305**	P	**P**	**22 35 05.2**	**+0.9**
PB18				IAmb	IAmb	22 35 08.5	
	comp=Z,50nm,1.0s						
H10N1	**ASCENSION HYDR**	**52.88**	**15**	T	T	23 32 15.4	
	baz=190,slow=73						
H10N3	**ASCENSION HYDR**	**52.88**	**15**	T	T	23 32 34.6	
	baz=190,slow=73						
H10N2	**ASCENSION HYDR**	**52.90**	**15**	T	T	23 32 23.5	
	baz=190,slow=73						
LPAZ	**La Paz**	**52.97**	**307**	P	**P**	**22 35 09.6**	**+0.6**
LPAZ				IAmb	IAmb	22 35 11.3	
	comp=Z,31nm,1.1s						
LPAZ	**La Paz**	**52.97**	**307**	*e*P	**P**	**22 35 09.5**	**+0.6**
LPAZ	**La Paz**	**52.97**	**307**	P	**P**	**22 35 09.7**	**+0.6**
	comp=Z,6.1nm,0.4s,baz=142,slow=6.7,SNR=30						
LPAZ				LR	LR	22 58 42.4	
	comp=Z,178nm,19.9s,baz=158,slow=37						
	comp=Z,6.1nm,0.4s						
VILB	**Vilhena**	**53.09**	**318**	P	**P**	**22 35 09.4**	**+0.2**
VILB				IAmb	IAmb	22 35 10.4	
	comp=Z,71nm,1.1s						
VILB	**Vilhena**	**53.09**	**318**	*e*P	**P**	**22 35 09.5**	**+0.3**
PDRB	**Porto dos Gac**	**53.23**	**322**	*e*P	**P**	**22 35 09.0**	**-1.3**
SMTB	**Santa Maria do

MBAR Mbarara 73.76 61c *iP* **P 22 37 29.7 +3.6**
MBAR pmax pmax
comp=Z,35nm,1.5s
MBAR Mbarara 73.76 61 LR LR 23 07 36.3
comp=Z,202nm,19.0s,baz=199,slow=34
PRAC Prado 73.86 309 *eP* **P 22 37 26.1 -0.4**
JAMC Jamundi, Valle 74.11 307 *eP* **P 22 37 27.0 -1.2**
ORTC Ortega, Tolima 74.18 309 *eP* **P 22 37 27.9 -0.4**
GR1C Gorgona, Isla 74.52 306 *eP* **P 22 37 29.4 -0.9**
ROSC El Rosal 74.67 310 P **P 22 37 31.3 -0.3**
ROSC El Rosal 74.67 310 P **P 22 37 31.3 -0.3**
ROSC pmax pmax
comp=Z,20nm,1.1s
ROSC El Rosal 74.67 310 LR LR 23 14 38.2
comp=Z,108nm,18.5s,baz=138,slow=39
YOTC Yotoco, Valle 74.68 308 *eP* **P 22 37 31.2 -0.2**
RUSC La Rusia 75.17 312 *eP* **P 22 37 32.5 -2.1**
SPBC San Pablo de B 75.32 311 *eP* **P 22 37 32.7 -2.3**
GUY2C Guyana, Caldas 75.43 309 *eP* **P 22 37 34.1 -2.0**
PLMC San Jos del P 75.49 308 *eP* **P 22 37 34.8 -1.2**
KIBK Kibwezi 75.55 69 P **P 22 37 38.4 +2.0**
KIBK IAmb IAmb 22 37 42.0
comp=Z,20nm,0.9s
BAUV El Baul 76.20 318 P **P 22 37 39.2 -0.7**
KMBO Kilima Mbogo 76.25 68 P **P 22 37 42.0 +1.4**
KMBO Kilima Mbogo 76.25 68 P **P 22 37 42.0 +1.4**
KMBO pmax pmax
comp=Z,13nm,1.4s
PCRV Puerto La Cruz 76.25 321 LR LR 23 14 38.5
comp=Z,137nm,19.4s,slow=38
PTBC PUERTO BERRIO, 76.28 311 *eP* **P 22 37 37.5 -2.9**
TOA0 Torodi Ar. Sit 76.41 28 P **P 22 37 42.2 +1.1**
TORD Torodi Ar. Bea 76.41 28 P **P 22 37 42.3 +1.2**
TORD Torodi Ar. Bea 76.41 28 P **P 22 37 42.5 +1.4**
comp=Z,60nm,0.6s,baz=195,slow=5.6,SNR=358
TORD LR LR 23 06 40.0
comp=Z,209nm,18.3s,baz=150,slow=32
comp=Z,60nm,0.6s
KOWA Kowa 76.49 23 LR LR 23 04 59.7
comp=Z,232nm,20.3s,baz=194,slow=31
SDV Santo Domingo 77.04 315 P **P 22 37 44.6 -0.3**
SDV IAmb IAmb 22 37 45.6
comp=Z,28nm,0.8s
SDV Santo Domingo 77.04 315 *eP* **P 22 37 44.8 -0.1**
SDV Santo Domingo 77.04 315 LR LR 23 14 16.6
comp=Z,290nm,19.3s,baz=147,slow=38
ZARC Zaragoza, Cauc 77.31 311 *eP* **P 22 37 43.8 -2.3**
MRNZ Matariki Terra 77.67 195 P **P 22 37 48.3 +0.3**
LODK Lodwar 79.40 64 P **P 22 37 58.6 +0.7**
TOO Toolangi 82.53 174 P **P 22 38 14.1 -0.2**
TOO IAmb IAmb 22 38 18.4
comp=Z,30nm,1.4s
TOO Toolangi 82.53 174 P **P 22 38 14.1 -0.2**
TOO pmax pmax
comp=Z,30nm,1.4s
RIMA Rio Macho 82.98 303 P **P 22 38 16.8 -0.2**
RIMA IAmb IAmb 22 38 19.0
comp=Z,38nm,1.5s
HDC Heredia 83.30 303 *eP* **P 22 38 19.7 +1.2**
JTS Las Juntas de 83.91 303 P **P 22 38 20.7 -0.9**
JTS IAmb IAmb 22 38 22.7
comp=Z,15nm,0.9s
JTS Las Juntas de 83.91 303c *iP* **P 22 38 21.6 +0.1**
JTS Las Juntas de 83.91 303 P **P 22 38 20.7 -0.9**
comp=Z,3.6nm,0.3s,baz=18,slow=2.1,SNR=5.9
comp=Z,3.6nm,0.3s
ARE1 Arenal 1 83.97 303 P **P 22 38 21.6 -0.3**
SJG San Juan 84.19 323 LR LR 23 16 53.2
comp=Z,70nm,20.1s,baz=143,slow=36
ACON Acoyapa 85.51 303 P **P 22 38 28.6 -1.0**
ACON IAmb IAmb 22 38 29.5
comp=Z,29nm,1.0s
BBOO Buckleboo 86.40 165 P **P 22 38 33.1 -0.8**
BBOO IAmb IAmb 22 38 44.4
comp=Z,70nm,1.8s
FORT Forrest 87.15 158 P **P 22 38 37.4 -0.2**
STKA Stephens Creek 87.92 170 P **P 22 38 41.0 -0.3**
STKA Stephens Creek 87.92 170 P **P 22 38 41.0 -0.3**
STKA pmax pmax
comp=Z,4.0nm,1.2s
STKA Stephens Creek 87.92 170 P **P 22 38 40.2 -1.1**
comp=Z,7.7nm,0.9s,baz=146,slow=6.0,SNR=8.2
comp=Z,7.7nm,0.9s
MTO3 Montecristo 89.47 301 P **P 22 38 47.6 -1.2**
ATD Arta Tunnel 89.97 67 LR LR 23 17 48.9
comp=Z,9.3nm,18.6s,baz=166,slow=34
TEIG Tepich 94.20 304 P **P 22 39 09.7 -0.6**
comp=Z,107nm,0.8s,baz=90,slow=7.1,SNR=5.3
PSA00 Pilbara Seismi 94.21 149 P **P 22 39 09.9 -0.8**
MDT Midelt 94.28 18 LR LR 23 17 36.5
comp=Z,122nm,18.8s,baz=184,slow=33
ASAR Alice Springs 95.10 162 P **P 22 39 14.0 -0.8**
comp=Z,18nm,0.4s,baz=183,slow=3.9,SNR=24
comp=Z,18nm,0.4s
AS31 Alice Springs 95.10 162 P **P 22 39 13.8 -0.9**
WRA Warramunga Arr 98.82 162 P **P 22 39 30.5 -1.1**
comp=Z,1.9nm,0.9s,baz=201,slow=4.2,SNR=7.3
WRA PKKP **PKKPdf 22 55 57.3 -0.6**
comp=Z,0.8nm,0.7s,baz=356,slow=3.1,SNR=5.9
comp=Z,1.9nm,0.9s
WRAB Tennant Creek 98.83 162⇓ *eP* **P 22 39 31.1 -0.6**
WRAB pmax pmax
comp=Z,13nm,2.0s
KEST Kesra 99.92 29 LR LR 23 21 02.2
comp=Z,134nm,19.1s,baz=218,slow=33
ESDC Sonseca Array 101.10 18 Pdiff **Pdif 22 39 42.6 +1.6**
comp=Z,0.6nm,0.9s,baz=197,slow=4.8,SNR=4.7
BRTR Keskin Array B 111.02 46 PP **PP 22 45 03.2 -0.6**
comp=Z,1.0nm,0.6s,baz=200,slow=7.7,SNR=4.1
MNTX Cornudas Mount 111.63 296 P **PKiKP 22 44 26.1 +0.5**
baz=148
GERES GERESS Array B 113.36 28 PKiKP **PKiKP 22 44 27.9 -0.5**
comp=Z,1.1nm,1.0s,baz=204,slow=2.2,SNR=3.7
121A Cookes Peak, D 113.42 295 P **PKiKP 22 44 29.5 +0.3**
baz=148
KHC Kasperske Hory 113.60 28⇓ *iPKIKP* **PKiKP 22 44 30.0 +1.2**
TUC Tucson 114.62 292 P **PKiKP 22 44 31.8 +0.4**
baz=147
GLMI Grayling 114.72 318 P **PKiKP 22 44 31.4 +0.3**
baz=152
CLL Collm 115.51 26 *e*PKIKP **PKiKP 22 44 33.0 +0.7**
T25A Trinidad 115.78 300 P **PKPdf 22 44 33.7 +0.1**
baz=147
SDCO Great Sand Dun 116.76 299 P **PKPdf 22 44 35.5 -0.1**
baz=147
S22A 4UR Ranch, Cre 117.34 298 P **PKiKP 22 44 37.0 +0.2**
baz=146
IKP In-Ko-Pah, Jac 117.41 288 P **PKiKP 22 44 37.0 +0.2**
baz=146
WUAZ Wupatki 117.55 294 P **PKiKP 22 44 37.5 +0.4**
baz=146
MVCO Mesa Verde 117.64 297 P **PKiKP 22 44 37.9 +0.6**
baz=146
PDMCI Parker Dam,Lak 117.84 291 P **PKiKP 22 44 38.0 +0.5**
baz=146
BC3 Big Chuckawall 117.93 289 P **PKiKP 22 44 38.5 +0.8**
baz=146
KBZ Khabaz 117.94 50⇓ *iPKIKP* **PKiKP 22 44 37.5 +0.2**
KBZ Khabaz 117.94 50 PKP **PKPdf 22 44 36.2 -1.0**
comp=Z,4.6nm,0.8s,baz=270,slow=3.0,SNR=5.3
OGNE Ogallala 117.95 304 P **PKiKP 22 44 38.2 +0.6**
baz=147
KIV Kislovodsk 118.05 50 *iPKIKP* **PKiKP 22 44 37.8 +0.2**
KIV pmax pmax
comp=Z,12nm,1.1s
ECSD EROS Data Cent 118.11 309 P **PKPdf 22 44 37.8 +0.1**
baz=148
TPFO Pinon Flats 118.36 288 P **PKiKP 22 44 39.1 +0.5**
baz=145
BELC Belle Mtn. Jos 118.47 289 P **PKiKP 22 44 39.4 +0.6**
baz=145
ISCO Idaho Springs 118.52 301 P **PKiKP 22 44 39.8 +0.8**
baz=146
HRA Herat 118.57 70 PKPdf **PKPdf 22 44 38.8 -0.2**
GROC Groznyy 118.63 53 *iPKIKP* **PKiKP 22 44 39.2 +0.5**
GROC *e* 22 45 58.7
GROC pmax pmax
comp=Z,21nm,1.1s
GMRC Granite Mounta 118.95 290 P **PKiKP 22 44 40.1 +0.4**
baz=145
AKASG Malin Array Be 119.23 37 PKP **PKPdf 22 44 38.7 -0.8**
comp=Z,3.1nm,0.7s,baz=240,slow=1.2,SNR=7.7
AKASG PP **PP 22 45 58.7 -2.6**
comp=Z,0.2nm,0.3s,baz=204,slow=6.6,SNR=6.0
AKBB Malin Array Si 119.23 37d *iPKIKP* **PKPdf 22 44 39.1 -0.4**
HMU Henry Mountain 119.25 296 PKPdf **PKPdf 22 44 40.1 -0.3**
BFSC Mount Baldy Ra 119.45 288 P **PKiKP 22 44 41.1 +0.4**
baz=145
GEYT Alibeck 119.55 65 PKP **PKPdf 22 44 40.1 -0.5**
comp=Z,1.7nm,0.8s,baz=120,slow=5.2,SNR=5.4
N23A Red Feather La 119.56 301 P **PKiKP 22 44 41.5 +0.6**
baz=146
TUQ Turquoise Moun 119.61 290 P **PKiKP 22 44 41.5 +0.5**
baz=145
GSC Goldstone, Bar 119.91 289 P **PKiKP 22 44 42.0 +0.4**
baz=145
O20A White River Ci 119.94 299 P **PKiKP 22 44 41.9 +0.3**
baz=145
EDW2 Edwards Air Fo 120.14 288 P **PKiKP 22 44 42.3 +0.3**
baz=145
MSU Marysvale 120.37 295 PKPdf **PKPdf 22 44 42.5 0.0**
MSU Marysvale 120.37 295 PKIKP **PKPdf 22 44 42.5 0.0**
SBC Santa Barbara 120.60 286 P **PKiKP 22 44 43.7 +0.9**
baz=145
MPMC Manual Prospec 120.85 289 P **PKiKP 22 44 44.2 +0.7**
baz=144
TPNV Topopah Spring 120.99 291 P **PKiKP 22 44 44.0 +0.3**
baz=144
ISA Isabella, Lake 121.00 288 P **PKiKP 22 44 44.4 +0.8**
baz=144
RSSD Black Hills 121.40 305 P **PKPdf 22 44 44.2 -0.1**
baz=145
CWC Cottonwood Cre 121.44 289 P **PKPdf 22 44 43.9 -0.6**
baz=144
R11B Troy Canyon, C 121.81 292 **PKPdf 22 44 45.2 0.0**
R11B Troy Canyon, C 121.81 292 P **PKiKP 22 44 45.8 +0.4**
baz=144
KBL Kabul 121.95 75 PKPdf **PKPdf 22 44 45.7 +0.1**
KBL Kabul 121.95 75 PKIKP **PKPdf 22 44 45.7 +0.1**
DUG Dugway, Tooele 122.02 296 PKPdf **PKPdf 22 44 45.3 -0.2**
DUG Dugway, Tooele 122.02 296 P **PKiKP 22 44 46.1 +0.4**
baz=144
DUG Dugway, Tooele 122.02 296 PKIKP **PKPdf 22 44 45.3 -0.2**
MNK Minsk 122.18 34 *iPKP* **PKPdf 22 44 44.1 -0.9**
comp=E,10.0nm,1.3s
MNK *i* PKP **PKPdf 22 44 44.1 -0.9**
comp=N,24nm,1.7s
MNK *i* PKP **PKPdf 22 44 44.1 -0.9**
comp=Z,18nm,1.0s,baz=208
MNK *i* pPKP sPKPdf 22 45 11.3 +15
MNK *i* PP **PP 22 46 18.9 -2.5**
MNK *i* PPP PPP 22 48 54.0
MNK *i* SKS **SKSac 22 51 46.2 +3.6**
MNK *i* SKKS **SKKSdf 23 02 18.3 -8.9**
MNK *i* SS SS 23 02 47.9 -11
MNK *i* SSS SSS 23 07 20.0
MNK *i* LQ LQ 23 29 53.2
MNK *i* LR LR 23 34 03.3
MNK *i* LRM MLR 23 36 24.2
comp=Z,111nm,19.8s
MNK *i* LRM MLR 23 36 41.4
comp=N,288nm,22.4s
MNK *i* LRM MLR 23 36 46.6
comp=E,88nm,19.8s
MNK Minsk 122.18 34 *iPKIKP* **PKPdf 22 44 44.1 -0.9**
MNK *i* 22 46 18.9
MNK *i* 22 51 46.1
MNK pmax pmax
comp=Z,18nm,1.0s
MNK pmax pmax
comp=E,10.0nm,1.3s
MNK pmax pmax
comp=N,24nm,1.7s
MNK MLR MLR
comp=Z,111nm,20.0s
MNK MLR MLR
comp=N,288nm,22.0s
MNK MLR MLR
comp=E,88nm,20.0s
NACGM Naroch 122.23 33 *e*PKP **PKPdf 22 44 45.3 +0.1**
comp=Z,23nm,0.8s,baz=208
HWUT Hardware Ranch 122.60 298 PKPdf **PKPdf 22 44 46.0 -0.5**
PDAR Pinedale Array 122.65 300 PKPdf **PKPdf 22 44 45.7 -1.0**
PDAR Pinedale Array 122.65 300 PKP **PKPdf 22 44 45.9 -0.9**
comp=Z,1.0nm,0.5s,baz=132,slow=4.8,SNR=12
VORD Divnogorie 122.72 43 *e*PKIKP **PKPdf 22 44 44.4 -1.8**
VORD pmax pmax
comp=Z,40nm,0.5s
NVAR Mina Array Bea 123.14 290 PKPdf **PKiKP 22 44 48.8 +0.8**
NVAR Mina Array Bea 123.14 290 PKP **PKiKP 22 44 48.0 0.0**
comp=Z,1.9nm,0.7s,baz=127,slow=3.2,SNR=12
ULM Lac du Bonnet 123.28 314 PKP **PKPdf 22 44 46.2 -1.1**
comp=Z,4.7nm,0.6s,baz=52,slow=1.9,SNR=8.4
NIL Nilore 123.30 79 PKPdf **PKPdf 22 44 48.0 0.0**
NIL Nilore 123.30 79 PKIKP **PKPdf 22 44 48.0 0.0**
CM31 Chiang Mai Arr 123.33 113 PKPdf **PKPdf 22 44 47.9 -0.6**
CMAR Chiang Mai Arr 123.33 113 PKP **PKPdf 22 44 48.3 -0.1**
comp=Z,4.2nm,0.6s,baz=239,slow=3.7,SNR=18
PYUN Piuthan 123.66 91 *eP* **PKPdf 22 44 48.1 -1.0**
comp=Z,31nm,1.0s
KOLN Koldanda 123.70 92 *eP* **PKPdf 22 44 48.9 -0.2**
comp=Z,61nm,1.6s
VRH Novokhopyorsk 123.77 45 *e*PKIKP **PKPdf 22 44 46.9 -1.3**
VRH pmax pmax
comp=Z,20nm,0.8s
LOHW Long Hollow 123.78 300 PKPdf **PKiKP 22 44 49.2 +0.1**
HFS Hagfors 123.86 23 PKP **PKPdf 22 44 46.3 -1.8**
comp=Z,4.2nm,0.8s,baz=204,slow=3.2,SNR=8.7
LPSR Galich'ya Gora 123.97 42 *e*PKIKP **PKPdf 22 44 47.1 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
NB2 NORSAR Subarra 124.24 21 PKPdf **PKPdf 22 44 48.9 0.0**
comp=Z,3.7nm,0.8s,baz=196,slow=1.8
NOA NORSAR Array B 124.24 21 PKP **PKPdf 22 44 48.5 -0.3**
comp=Z,6.8nm,0.9s,baz=194,slow=1.6,SNR=21
DANN Dangsing 124.25 92 *eP* **PKPdf 22 44 49.5 -0.8**
comp=Z,50nm,1.0s
DMN Daman 124.32 94 *eP* **PKPdf 22 44 50.5 +0.1**
comp=Z,36nm,1.0s
LAO LASA Array 124.39 305 PKPdf **PKPdf 22 44 49.4 -0.3**
LAO LASA Array 124.39 305 P **PKiKP 22 44 50.1 +0.1**
baz=143
GKN Gorkha 124.41 93 *eP* **PKPdf 22 44 50.0 -0.4**
comp=Z,29nm,0.8s
RLMT Red Lodge 124.41 302 P **PKPdf 22 44 50.2 +0.3**
baz=143
PKIN Phulchoki 124.44 94 *eP* **PKPdf 22 44 50.4 -0.3**
comp=Z,20nm,0.8s
PKI Pulchoki 124.44 94 *eP* **PKPdf 22 44 50.3 -0.4**
comp=Z,22nm,0.8s
RAMN Ramite 124.52 95 *eP* **PKPdf 22 44 50.8 0.0**
comp=Z,55nm,1.0s
ODAN Odare 124.84 96 *eP* **PKPdf 22 44 51.3 -0.1**
comp=Z,94nm,1.9s
JIRN Jiri 124.90 95 *eP* **PKPdf 22 44 50.8 -0.9**
comp=Z,22nm,0.7s
GUN Gumba 124.95 94 *eP* **PKPdf 22 44 50.8 -0.9**
comp=Z,26nm,0.8s
DGMT Dagmar 124.99 308 P **PKiKP 22 44 51.2 +0.1**
baz=143
MND Mandalay 125.06 108 PKPdf **PKPdf 22 44 51.4 -0.3**
OBN Obninsk 125.30 39 *e*PKIKP **PKPdf 22 44 51.2 +0.2**
OBN *e*PPP PPP 22 49 26.9
OBN pmax pmax
comp=Z,9.0nm,0.7s
VSU Vasula 125.33 31⇑ *iPKIKP* **PKPdf 22 44 51.1 +0.2**
TAPN Taplejung 125.41 96 *eP* **PKPdf 22 44 51.7 -0.9**
comp=Z,32nm,1.4s
HLID Hailey 125.43 297 P **PKiKP 22 44 52.6 +0.3**
baz=142
ANGG Ammassalik, Gr 125.61 354 PKPdf **PKiKP 22 44 51.7 +0.1**
BOZ Bozeman (W) 125.81 300 P **PKiKP 22 44 53.6 +0.7**
baz=142
SHL Shillong 126.00 101 PKPdf **PKPdf 22 44 53.6 0.0**
SHL Shillong 126.00 101 PKIKP **PKPdf 22 44 53.6 0.0**
HEL Helsinki 126.38 29 PKIKP PKPdf 22 44 44.3 -8.6
WVOR Wild Horse Val 126.46 293 **PKiKP 22 44 55.1 +0.8**
WVOR Wild Horse Val 126.46 293 PKIKP **PKiKP 22 44 55.1 +0.8**
BELG Belogornoye 126.87 48c *iPKIKP* **PKPdf 22 44 54.0 -0.1**
EGMT Eagleton 126.91 304 P **PKiKP 22 44 55.5 +0.5**
baz=142
BTK Batken 127.19 73 PKPdf **PKPdf 22 44 54.7 -0.6**
BTK Batken 127.19 73 PKIKP **PKPdf 22 44 54.7 -0.6**
PLID Pearl Lake 127.33 297 PKPdf **PKiKP 22 44 56.1 0.0**
OVMT Ovando 127.54 301 **PKPdf 22 44 55.7 -0.1**
BMO Blue Mountains 127.73 296 PKPdf **PKiKP 22 44 56.8 +0.1**
BMO Blue Mountains 127.73 296 PKIKP **PKiKP 22 44 56.8 +0.1**
K05A Summer Lake 127.74 292 PKPdf **PKiKP 22 44 57.5 +0.6**
FINES FINESS Array B 127.76 29 PKPdf **PKPdf 22 44 55.8 +0.3**
FINES FINESS Array B 127.76 29 PKIKP **PKPdf 22 44 55.8 +0.3**
FINES FINESS Array B 127.76 29 PKP **PKPdf 22 44 55.3 -0.2**
comp=Z,17nm,0.8s,baz=174,slow=1.4,SNR=43
FIA1 FINESS Array S 127.76 29 PKPdf **PKPdf 22 44 56.0 +0.5**
MSO Missoula 127.77 300 P **PKiKP 22 44 57.2 +0.5**
baz=141
J05D Fort Rock, OR 128.33 292 PKPdf **PKiKP 22 44 58.2 +0.1**
CHM Chimkent 128.36 70 *e*PKP **PKPdf 22 44 56.6 -0.8**
baz=70
CHM Chimkent 128.36 70 *e*PKIKP **PKPdf 22 44 56.5 -0.8**
IUG Iuzhnay 128.43 71 *e*PKP **PKPdf 22 44 56.5 -1.2**
baz=70
IUG Iuzhnay 128.43 71 *e*PKIKP **PKPdf 22 44 56.4 -1.2**
LSA Lhasa 129.05 98 **PKPdf 22 44 59.8 +0.1**
LSA Lhasa 129.05 98 PKIKP **PKPdf 22 44 59.8 +0.1**
ARSB Arslanbob 129.21 73 **PKiKP 22 44 59.7 -0.2**
ARSB Arslanbob 129.21 73 PKIKP **PKiKP 22 44 59.7 -0.2**
KSH Kashi 129.27 77 PKP **PKPdf 22 44 59.0 -0.3**
ABKAR Akbulak array 129.33 58 PKPdf **PKPdf 22 44 58.7 -0.2**
KK31 Karatay Array 129.40 70 PKPdf **PKPdf 22 44 59.0 -0.3**
KK31 Karatay Array 129.40 70 PKIKP **PKPdf 22 44 59.0 -0.3**
KKAR Karatay Array 129.40 70 PKPdf **PKPdf 22 44 58.9 -0.4**
KKAR Karatay Array 129.40 70 PKIKP **PKPdf 22 44 58.9 -0.4**
AML Almayashu 130.17 73 P **PKPdf 22 45 01.4 +0.1**
SNR=10
EKS2 Erkin-Say 130.61 73 P **PKPdf 22 45 02.3 +0.5**
SNR=14
NRN Naryn 130.75 76 PKPdf **PKPdf 22 45 02.2 -0.2**
NRN Naryn 130.75 76 PKIKP **PKPdf 22 45 02.2 -0.2**
KLMR Klimovskoe 130.91 36 *e*PKPdf **PKPdf 22 44 58.8 -2.8**
KLMR AMP 22 45 03.4
comp=Z,48nm,1.3s
KLMR *e*PP **PP 22 47 14.5 -4.7**
KLMR Klimovskoe 130.91 36 *e*PKIKP **PKPdf 22 44 58.7 -2.8**
KLMR pmax pmax
comp=Z,48nm,1.3s
AAK Ala-Archa 130.94 73 P **PKPdf 22 45 02.9 +0.5**
SNR=6.9
AAK Ala-Archa 130.94 73 PKPdf **PKPdf 22 45 02.2 -0.2**
AAK Ala-Archa 130.94 73c *iPKIKP* **PKPdf 22 45 02.3 -0.2**
USP Ospenovka 131.42 73 P **PKPdf 22 45 03.3 +0.2**
SNR=7.6
ULHL Ulahol 131.49 75 P **PKPdf 22 45 04.0 +0.4**
SNR=6.2
BOOM Boomskoye usch 131.53 75 PKPdf **PKPdf 22 45 03.6 0.0**
BOOM Boomskoye usch 131.53 75 PKIKP **PKPdf 22 45 03.6 0.0**
PZH PanZhiHua 131.55 110 PKP **PKiKP 22 45 05.0 0.0**
SGDS Sogindy 131.62 73 *e*PKP **PKPdf 22 45 02.2 -1.4**
baz=73
SGDS Sogindy 131.62 73 *e*PKIKP **PKPdf 22 45 02.1 -1.4**
KIRV Kirov 132.33 43⇑ *e*PKIKP **PKiKP 22 45 05.3 0.0**
TNSS Tian-Shan 132.43 75 *e*PKP **PKPdf 22 45 04.8 -0.8**
baz=75
TNSS Tian-Shan 132.43 75 *e*PKIKP **PKPdf 22 45 04.7 -0.8**
BTLS Baital 132.53 71 *e*PKP **PKPdf 22 45 04.3 -0.9**
baz=71
BTLS Baital 132.53 71 *e*PKIKP **PKPdf 22 45 04.2 -0.9**
MDOK Medeo 132.57 75 *e*PKP **PKPdf 22 45 04.7 -0.8**
baz=75
MDOK Medeo 132.57 75 *e*PKIKP **PKPdf 22 45 04.7 -0.8**
SUMG Summit 132.58 355 PKPdf **PKiKP 22 45 05.8 -0.2**
SUMG Summit 132.58 355 PKIKP **PKiKP 22 45 05.8 -0.2**
PRZ Przheval'sk 132.72 76 PKPdf **PKPdf 22 45 06.5 +0.6**
PRZ Przheval'sk 132.72 76 PKIKP **PKPdf 22 45 06.5 +0.6**
KUU Kurty 132.77 74 *e*PKP **PKPdf 22 45 04.9 -0.8**
baz=74
KUU Kurty 132.77 74 *e*PKIKP **PKPdf 22 45 04.8 -0.9**
CHKK Chushkaly 133.06 74 *e*PKP **PKPdf 22 45 05.3 -0.9**
baz=74
CHKK Chushkaly 133.06 74 *e*PKIKP **PKPdf 22 45 05.3 -0.9**
SATY Saty 133.15 76 *e*PKP **PKPdf 22 45 05.5 -1.1**
baz=76
SATY Saty 133.15 76 *e*PKIKP **PKPdf 22 45 05.5 -1.1**
PRGR Permogore 133.38 39 *e*PKIKP **PKPdf 22 45 05.1 -1.1**
PRGR pmax pmax
comp=Z,11nm,0.7s
UZB Uzynbulak 133.52 76 *e*PKP **PKPdf 22 45 06.2 -1.1**
baz=76
UZB Uzynbulak 133.52 76 *e*PKIKP **PKPdf 22 45 06.1 -1.1**
KPKS Kokpek 133.59 76 *e*PKP **PKPdf 22 45 05.6 -1.7**
baz=76
KPKS Kokpek 133.59 76 *e*PKIKP **PKPdf 22 45 05.6 -1.7**
SHLS Shalkode 133.74 77 *e*PKP **PKPdf 22 45 07.1 -0.6**
baz=77
SHLS Shalkode 133.74 77 *e*PKIKP **PKPdf 22 45 07.0 -0.6**
ARU Arti 134.09 50 PKPdf **PKPdf 22 45 08.3 +0.6**
ARU Arti 134.09 50 *iPKIKP* **PKPdf 22 45 07.4 -0.3**
ARU 22 47 40.5
ARCES ARCESS Array B 134.53 23 PKPdf **PKPdf 22 45 08.9 +0.7**
ARCES ARCESS Array B 134.53 23 PKP **PKPdf 22 45 08.4 +0.3**
comp=Z,11nm,0.8s,baz=217,slow=1.7,SNR=24
ARCES SKP 22 48 34.9
comp=Z,1.2nm,0.6s,baz=180,slow=1.8,SNR=5.1
TDK Taldyqorghan 134.59 74 *e*PKP **PKPdf 22 45 07.6 -1.4**
baz=74
TDK Taldyqorghan 134.59 74 *e*PKIKP **PKPdf 22 45 07.6 -1.4**
SVE Sverdlovsk 135.18 51 *e*PKIKP **PKPdf 22 45 10.3 +0.6**
SVE pmax pmax
comp=Z,22nm,0.9s
BRZS Berezniki 135.48 65 *e*PKP **PKPdf 22 45 09.9 -0.6**
baz=65
BRZS Berezniki 135.48 65 *e*PKIKP **PKPdf 22 45 09.9 -0.6**
GOMU GeErMu 136.09 96 P **PKPdf 22 45 10.0 -2.6**
GOMU pP PKiKP 22 45 14.5 +0.2
GOMU sP pPKPdf 22 45 15.8 -4.9
CD2 Chengdu 136.20 109 PKP **PKPdf 22 45 12.0 -0.6**
BRVK Borovoye 136.56 61 PKPdf **PKPdf 22 45 12.6 +0.2**
BRVK Borovoye 136.56 61 PKIKP **PKPdf 22 45 12.6 +0.2**
BVAR Borovoye Array 136.58 61 PKhKP PKPpre 22 45 00.6
comp=Z,2.3nm,0.7s,baz=207,slow=3.0,SNR=12
BVAR PKP **PKPdf 22 45 11.9 -0.6**
comp=Z,16nm,0.8s,baz=299,slow=1.5,SNR=20
MAKZ Makanchi 137.62 75 **PKPdf 22 45 14.2 -0.4**
MAKZ Makanchi 137.62 75 PKIKP **PKPdf 22 45 14.2 -0.4**
MK31 Makanchi Array 137.76 75d *iPKIKP* **PKPdf 22 45 14.2 -0.7**
MKAR Makanchi Array 137.76 75 PKhKP PKPpre 22 45 02.1
comp=Z,1.2nm,0.9s,baz=227,slow=4.8,SNR=6.3
MKAR PKP **PKPdf 22 45 14.3 -0.6**
comp=Z,4.9nm,0.9s,baz=248,slow=1.8,SNR=12
WMQ Urumqi 138.29 82 *eP* **PKPdf 22 45 16.5 +0.5**
WMQ LR LR
comp=Z,130nm,23.5s
KURBB Kurchatov Arra 138.63 68 PKhKP PKPpre 22 45 06.1
comp=Z,2.4nm,0.7s,baz=237,slow=3.4,SNR=20
KURBB PKP **PKPdf 22 45 15.8 -0.5**
comp=Z,7.7nm,0.9s,baz=235,slow=2.8,SNR=20
KURBB PP **PP 22 48 09.2 +0.9**
comp=Z,1.1nm,1.0s,baz=239,slow=6.4,SNR=6.4
KURK Kurchatov 138.73 68d *iPKIKP* **PKiKP 22 45 17.9 -0.7**
YKA Yellowknife Ar 139.26 315 PKPdf **PKPdf 22 45 17.2 +0.2**
YKA Yellowknife Ar 139.26 315 PKIKP **PKPdf 22 45 17.2 +0.2**
YKA Yellowknife Ar 139.26 315 PKP **PKPdf 22 45 17.0 -0.1**
comp=Z,7.3nm,0.8s,baz=129,slow=1.9,SNR=12
ZSN Zaisan 139.47 76 *e*PKP **PKPdf 22 45 17.5 -0.5**
baz=76
ZSN Zaisan 139.47 76 *e*PKIKP **PKPdf 22 45 17.5 -0.5**
GTA Gaotai 141.08 97 *e*PKPbc **PKPdf 22 45 19.0 -2.3**
GTA pPKP sPKPdf 22 45 35.0 +2.8
XAN Xi'an 141.22 112 PKP **PKPdf 22 45 20.5 -1.2**
XAN pPKP sPKPdf 22 45 31.5 -1.0
DGZ Jazzator, Alta 142.25 76⇑ *e*PKIKP **PKPdf 22 45 19.8 -3.3**
DLBC Dease Lake 142.81 302 P **PKPdf 22 45 24.1 +0.4**
baz=126
LYN LuoYang 143.28 115 ⇑PKP PKPbc 22 45 23.0 +0.7
ZALV Zalesovo Beam 143.72 68 PKP PKPab 22 45 22.4 +0.2
comp=Z,5.4nm,0.6s,baz=232,slow=4.3,SNR=22
NJ2 Nanjing 143.91 125 *eP* **PKPdf 22 45 26.3 -0.1**
NJ2 pmax pmax
comp=Z,11nm,0.6s
JIS Juneau Island 144.59 300 PKPdf PKPbc 22 45 26.0 +0.5
R32K Eaglecrest 144.65 300 PKPbc 22 45 26.2 +0.4
R32K Eaglecrest 144.65 300 P PKPbc 22 45 26.4 +0.6
baz=124
P33M Teslin, Yukon 145.00 303 P **PKPab 22 45 27.2 +0.3**
baz=123
P32M Atlin 145.04 302 P **PKPdf 22 45 27.5 0.0**
baz=123
S31K Pelican 145.23 298 P **PKPab 22 45 28.1 +0.4**
baz=124
R31K City Hall, Gus 145.26 299 P **PKPab 22 45 29.0 +1.2**
baz=124
N32M Quiet Lake 145.61 305 P **PKPab 22 45 29.3 +0.1**
baz=122
MMPY Sheldon Lake, 145.63 308 **PKPdf 22 45 28.6 +0.1**
MMPY Sheldon Lake, 145.63 308 P **PKPbc 22 45 29.0 +0.2**
baz=121
SKAG Skagway 145.66 301 **PKPbc 22 45 29.1 +0.1**

SKAG	Skagway	145.66 301	P	PKPab	22 45 29.3	0.0
	baz=123					
TIY	Taiyuan	145.86 112	PKPbc	PKPab	22 45 31.3	+0.5
PLBC	Pleasant Camp	146.10 300	P	PKPbc	22 45 30.4	+0.1
	baz=122					
WHY	Whitehorse	146.10 303	PKPdf	PKPdf	22 45 28.9	-0.5
WHY	Whitehorse	146.10 303	P	PKPdf	22 45 30.0	+0.6
	baz=121					
FARO	Faro, Yukon	146.27 306	P	PKPbc	22 45 30.6	-0.2
	baz=120					
O30N	Mendenhall	146.67 303	P	PKPbc	22 45 31.6	-0.5
	baz=121					
M31M	Drury Creek, Y	146.68 306	P	PKPbc	22 45 31.5	-0.4
	baz=120					
P30M	Million Dollar	146.71 301	P	PKPbc	22 45 31.5	-0.6
	baz=121					
TIA	Tai'an	146.74 119	P	PKPbc	22 45 33.3	+0.4
TIA			pmax	pmax		
	comp=Z,38nm,0.8s					
P29M	Windy Craggy	146.79 300	P	PKPbc	22 45 32.3	-0.1
	baz=121					
BTO	Baotou	147.01 106	*e*PKPbc	PKPbc	22 45 34.0	+0.3
BTO			PP	PP	22 49 04.8	+5.8
HYT	Haines Junctio	147.30 302	PKPdf	PKPdf	22 45 31.8	+0.4
HYT	Haines Junctio	147.30 302	P	PKPbc	22 45 34.3	+0.4
	baz=120					
N30M	Aishikik Lake	147.44 303	P	PKPbc	22 45 34.9	+0.7
	baz=119					
O29M	Mount Kennedy	147.50 301	P	PKPbc	22 45 35.4	+1.0
	baz=120					
PNL	Peninsula	147.53 299	P	PKPbc	22 45 35.0	+0.6
	baz=121					
A36M	Sachs Harbour	147.70 325	P	PKPbc	22 45 34.6	+0.1
	baz=112					
YUK6	Outpost Mounta	147.72 302	P	PKPbc	22 45 35.7	+0.5
	baz=119					
M30M	Minto, Yukon	147.85 305	P	PKPbc	22 45 35.2	-0.1
	baz=118					
HHC	Hu-ho-hao-te	147.94 108	*e*P	PKPbc	22 45 36.8	+0.6
HHC			pmax	pmax		
	comp=Z,43nm,0.8s					
HHC			pmax	pmax		
	comp=Z,640nm,5.5s					
YUK4	Talbot Arm	148.04 302	P	PKPbc	22 45 35.9	-0.1
	baz=119					
PINM	Pinnacle	148.12 300	P	PKPbc	22 45 36.3	+0.2
	baz=120					
H31M	Peel River	148.31 312	P	PKPbc	22 45 35.6	-0.7
	baz=115					
O28M	Mount Upton	148.42 301	P	PKPbc	22 45 37.1	0.0
	baz=119					
M29M	Somme Creek	148.47 304	P	PKPbc	22 45 37.2	+0.3
	baz=117					
J30M	Hart River	148.55 309	P	PKPbc	22 45 37.3	+0.2
	baz=115					
L29M	L29M	148.63 306	P	PKPbc	22 45 37.4	+0.1
	baz=116					
K29M	Barlow Dome	148.71 307	P	PKPbc	22 45 37.9	+0.4
	baz=116					
G31M	Satah River	148.73 314	P	PKPbc	22 45 36.7	-0.6
	baz=113,SNR=6.8					
F31M	Tsiigehtchic	148.74 315	P	PKPbc	22 45 36.5	-0.8
	baz=112,SNR=12					
LOGN	Logan Glacier	148.80 300		PKPbc	22 45 37.8	-0.1
I30M	Mount Dempster	148.84 310		PKPbc	22 45 37.2	-0.7
I30M	Mount Dempster	148.84 310	P	PKPbc	22 45 37.4	-0.4
	baz=114					
MESA	MESA	148.91 299	P	PKPbc	22 45 37.6	-0.6
	baz=119					
INK	Inuvik	148.99 316		PKPbc	22 45 37.1	-0.7
INK	Inuvik	148.99 316	P	PKPbc	22 45 37.5	-0.4
	baz=111,SNR=14					
INK	Inuvik	148.99 316	PKP2	PKPbc	22 45 37.2	-0.7
YUK3	Moose Creek	149.01 302	P	PKPbc	22 45 38.0	-0.4
	baz=117					
CTGM	Chitina Glacie	149.01 301		PKPbc	22 45 38.4	0.0
CTG	Chitna Glacier	149.01 301	P	PKPbc	22 45 38.5	+0.1
	baz=118					
J29N	Klondike Camp	149.24 308	P	PKPbc	22 45 38.7	0.0
	baz=114					
JNU	Nakatsue	149.28 141	PKPbc	PKPbc	22 45 39.8	0.0
JNU	Nakatsue	149.28 141	PKPbc	PKPbc	22 45 39.9	+0.1
	comp=Z,9.1nm,0.8s,baz=183,slow=3.3,SNR=5.7					
EPYK	Eagle Plains	149.42 312	P	PKPbc	22 45 38.7	-0.4
	baz=112,SNR=9.8					
BJT	Baijiatuau	149.44 114		PKPdf	22 45 35.1	-0.3
BJT	Baijiatuau	149.44 114	PKHKP	PKPpre	22 45 35.1	
BJI	Beijing	149.46 114	PKPbc	PKPdf	22 45 35.8	+0.4
BJI			pPKP	sPKPab	22 46 02.5	+7.1
BVCY	Beaver Creek	149.46 303	P	PKPbc	22 45 39.7	+0.4
	baz=116					
G30M	tAoh Zraii Nji	149.46 313	P	PKPbc	22 45 39.4	+0.2
	baz=112					
F30M	Barrier River	149.53 314	P	PKPbc	22 45 39.2	-0.1
	baz=111					
DAWY	Dawson	149.55 307	P	PKPbc	22 45 39.1	-0.4
	baz=114					
I29M	Ogilvie Camp,	149.64 310	P	PKPbc	22 45 38.8	-0.9
	baz=113,SNR=8.0					
M27K	Edge Creek, AK	149.86 303	P	PKPbc	22 45 40.1	-0.4
	baz=115					
MCARA	McCarthy VSAT	149.93 301	P	PKPbc	22 45 40.3	-0.1
	baz=116					
H29M	Whitestone	149.99 311	P	PKPbc	22 45 40.1	-0.3
	baz=111					
JTU	Tsushima	150.08 138	PKPbc	PKiKP	22 45 42.0	-0.5
G29M	Pine Creek	150.10 313	P	PKPbc	22 45 40.5	-0.2
	baz=110,SNR=28					
BCAR	Beaver Creek A	150.12 304		PKPbc	22 45 41.1	+0.1
L27K	Beaver Creek,	150.14 304	P	PKPbc	22 45 41.2	+0.3
	baz=114					
MOY	Mondy	150.18 83	*e*PKIKP	PKiKP	22 45 42.1	-0.2
I28M	Miner Creek	150.31 309	P	PKPbc	22 45 41.1	-0.2
	baz=112					
M26K	Nabesna, AK	150.35 302	P	PKPbc	22 45 41.3	-0.2
	baz=115					
BMRM	Bremner River	150.43 299	P	PKPbc	22 45 41.4	-0.4
	baz=116					
SONM	Songino Array	150.45 93		PKPbc	22 45 42.3	0.0
SONM	Songino Array	150.45 93	PKP	PKPdf	22 45 35.9	-1.1
	comp=Z,1.7nm,0.8s,baz=209,slow=2.1,SNR=7.9					
SONM			PKPbc	PKPbc	22 45 42.6	+0.2
	comp=Z,23nm,0.8s,baz=215,slow=1.8,SNR=21					
ZAK	Zakamensk	150.53 86	*e*PKIKP	PKPdf	22 45 35.7	-1.3
ZAK			pmax	pmax		
	comp=Z,48nm,1.3s					
E29M	Blow River	150.54 315	P	PKPbc	22 45 41.3	-0.4
	baz=108					
K27K	Chicken	150.62 306	P	PKPbc	22 45 42.4	+0.3
	baz=113					
N25K	Chitina, Valde	150.71 300	P	PKiKP	22 45 42.9	-0.1
	baz=115,SNR=11					
EYAK	Cordova Ski Ar	150.75 298	P	PKiKP	22 45 42.9	-0.1
	baz=116,SNR=6.2					
L26K	Log Cabin Wild	150.76 303	P	PKPbc	22 45 42.7	+0.3
	baz=114,SNR=22					
ULN	Ulaanbaatar	150.80 94		PKPbc	22 45 43.2	0.0
ULN	Ulaanbaatar	150.80 94	PKIKP	PKPbc	22 45 43.2	0.0
F28M	Old Crow	151.01 313	P	PKPbc	22 45 42.7	-0.1
	baz=108,SNR=24					
I27K	Kandik River	151.01 309	P	PKPbc	22 45 43.2	+0.2
	baz=110					
D28M	Stokes Point	151.11 317	P	PKPbc	22 45 43.1	+0.1
	baz=106					
E28M	Babbage River	151.18 315	P	PKPbc	22 45 42.5	-0.7
	baz=106					
H27K	Steamboat Moun	151.19 310	P	PKPbc	22 45 43.3	0.0
	baz=109					
KLU	Klutina	151.24 300		PKPbc	22 45 43.8	+0.2
KLU	Klutina	151.24 300	P	PKPbc	22 45 44.0	+0.3
	baz=115,SNR=16					
P23K	Montague Islan	151.25 296	P	PKPbc	22 45 43.9	+0.3
	baz=116					
HARP	HAARP	151.27 302	P	PKiKP	22 45 44.2	+0.1
	baz=114					
SCRK	Sand Creek	151.39 305	P	PKPbc	22 45 44.0	0.0
	baz=112,SNR=35					
J26L	Joseph Creek	151.40 306	P	PKPbc	22 45 44.0	+0.1
	baz=111					
G27K	Doyon Strip	151.43 311	P	PKPbc	22 45 43.8	-0.1
	baz=108					
GLI	Glacier Island	151.50 298	P	PKPbc	22 45 44.1	-0.1
	baz=115					
I26K	Coal Creek Min	151.52 308	P	PKPbc	22 45 44.2	+0.1
	baz=110					
M24K	Tolsona, Glenn	151.59 301	P	PKPbc	22 45 44.8	+0.3
	baz=114,SNR=12					
PAX	Paxson	151.63 303	P	PKPbc	22 45 44.1	-0.5
	baz=112,SNR=10					
E27K	Coleen River	151.80 314	P	PKPbc	22 45 44.5	-0.2
	baz=106					
D27M	Malcolm River	151.85 316	P	PKPbc	22 45 45.0	+0.1
	baz=104					
SCM	Sheep Creek Mo	151.99 300		PKiKP	22 45 45.7	0.0
SCM	Sheep Creek Mo	151.99 300	P	PKPbc	22 45 44.9	-0.5
	baz=113,SNR=7.6					
SCM	Sheep Creek Mo	151.99 300	PKIKP	PKiKP	22 45 45.7	0.0
PWL	Port Wells	152.04 297	P	PKPbc	22 45 45.4	0.0
	baz=115,SNR=6.8					
K24K	Donnelly Dome	152.06 304	P	PKPbc	22 45 45.4	-0.1
	baz=111,SNR=7.5					
M23K	Glacier View	152.15 299	P	PKPbc	22 45 45.8	+0.1
	baz=113,SNR=15					
KSAR	Wonju Array Be	152.17 133		PKPbc	22 45 46.5	+0.1
KSAR	Wonju Array Be	152.17 133	PKIKP	PKPbc	22 45 46.5	+0.1
J25K	Salcha River,	152.17 306	P	PKPbc	22 45 45.7	+0.1
	baz=110					
KSRS	Korea Array	152.19 133	PKP	PKPdf	22 45 39.4	-0.3
	comp=Z,0.5nm,0.3s,baz=182,slow=40,SNR=2.6					
KSRS			PKPbc	PKPbc	22 45 45.9	-0.6
	comp=Z,7.1nm,0.9s,baz=193,slow=2.1,SNR=16					
KSRS			PKPab	PKPab	22 45 55.9	-0.4
	comp=Z,6.1nm,0.8s,baz=201,slow=3.0,SNR=11					
SEW	Seward	152.22 295	P	PKPbc	22 45 45.8	+0.1
	baz=115					
G26K	Porcupine Rive	152.27 311	P	PKPbc	22 45 45.9	+0.1
	baz=106					
KNK	Knik Glacier	152.32 298	P	PKPbc	22 45 46.1	+0.1
	baz=114					
SML	Sawmill	152.42 299		PKPbc	22 45 46.2	-0.1
SML	Sawmill	152.42 299	P	PKPbc	22 45 46.2	-0.1
	baz=113,SNR=10					
XLT	XiLinHaoTe	152.42 109	*e*P	PKPbc	22 45 46.8	-0.1
XLT			pmax	pmax		
	comp=Z,15nm,0.8s					
XLT			pmax	pmax		
	comp=Z,200nm,4.5s					
WAT6	Susitna Watana	152.45 301	P	PKPbc	22 45 46.5	0.0
	baz=112,SNR=8.2					
DHY	Denali Highway	152.48 302	P	PKPbc	22 45 46.7	+0.2
	baz=111,SNR=8.4					
O22K	Cooper Landing	152.50 296	P	PKPbc	22 45 46.1	-0.3
	baz=114					
PRP	Porcupine Dome	152.53 308	P	PKPbc	22 45 46.5	0.0
	baz=108,SNR=10					
F26K	Sheenjek River	152.60 313	P	PKiKP	22 45 47.0	+0.3
	baz=105					
KDAK	Kodiak Island	152.64 289	P	PKPbc	22 45 46.9	+0.1
	baz=118					
BRSE	Bradley Lake S	152.66 294	P	PKiKP	22 45 47.3	+0.3
	baz=115					
PMR	Palmer	152.68 298	P	PKiKP	22 45 47.3	+0.3
	baz=113					
BMAR	Burnt Mountain	152.70 312		PKPbc	22 45 46.9	+0.2
HDA	Harding Lake	152.75 305	P	PKPbc	22 45 47.1	+0.2
	baz=109					
RC01	Rabbit Creek A	152.76 297	P	PKPbc	22 45 47.1	+0.1
	baz=114,SNR=6.1					
ILAR	Eielson Array	152.84 306	PKPbc	PKPbc	22 45 46.1	-0.9
	comp=Z,18nm,0.9s,baz=149,slow=1.9,SNR=72					
H25L	Birch Creek	152.86 309	P	PKiKP	22 45 47.8	+0.6
	baz=106					
WAT1	Susitna Watana	152.89 301	P	PKPbc	22 45 47.5	+0.2
	baz=111					
G25K	Bearman Lake	153.10 310	P	PKiKP	22 45 47.9	+0.2
	baz=105					
F25K	Christian Rive	153.13 312	P	PKiKP	22 45 48.0	+0.1
	baz=104					
POKR	Poker Plat Res	153.17 306	P	PKPbc	22 45 47.2	-0.6
	baz=107					
E25K	Arctic Village	153.23 313	P	PKiKP	22 45 48.3	+0.3
	baz=103					
COLA	College	153.27 306	P	PKPbc	22 45 47.8	-0.1
	baz=108					
C26K	Camden Bay	153.35 317	P	PKPbc	22 45 48.1	+0.1
	baz=100					
SUA	Susitna One	153.35 298	P	PKPbc	22 45 47.6	-0.9
	baz=112					
MCK	McKinley	153.36 303	P	PKPbc	22 45 48.2	-0.1
	baz=109					
H24K	Noodor Dome	153.55 308	P	PKPbc	22 45 48.5	-0.2
	baz=106					
G24K	Hadweenzic Riv	153.62 310	P	PKPbc	22 45 48.6	-0.2
	baz=104					
Q19K	Cape Douglas,	153.65 291	P	PKPbc	22 45 48.5	-0.6
	baz=116					
O20K	Slope Mountain	153.66 294	P	PKPbc	22 45 48.5	-0.6
	baz=114					
NEA2	Nenana	153.68 305	P	PKPbc	22 45 48.5	-0.4
	baz=107					
D25K	Kavik River	153.75 316	P	PKPbc	22 45 48.6	-0.5
	baz=100					
TRF	Thorofare Moun	153.84 302	P	PKPbc	22 45 49.1	-0.5
	baz=109					
SKT	Skwentna	153.89 298	P	PKPbc	22 45 49.2	-0.3
	baz=111					
F24K	Squaw Lake	153.96 312	P	PKPbc	22 45 49.5	0.0
	baz=102					
I23K	Minto, Yukon-K	153.96 306	P	PKPbc	22 45 49.1	-0.4
	baz=106					
H23K	Yukon River	154.21 307	P	PKPbc	22 45 50.0	-0.1
	baz=104					
E24K	Your Creek	154.29 313	P	PKPbc	22 45 50.1	-0.1
	baz=101					
BPAW	Bear Paw Mtn.	154.34 303	P	PKPbc	22 45 49.9	-0.4
	baz=107					
R17K	Ugashik Creek	154.39 287	P	PKPbc	22 45 49.9	-0.7
	baz=117					
Q17K	Contact Creek	154.43 289	P	PKPbc	22 45 50.1	-0.7
	baz=116					
MLY	Manley	154.49 305	P	PKiKP	22 45 51.2	+0.5
	baz=105					
MJAR	Matsushiro Arr	154.55 151	PKPbc	PKPbc	22 45 50.3	-1.4
	comp=Z,1.0nm,0.5s,baz=120,slow=4.0,SNR=4.8					
MJAR			PKPab	PKPab	22 46 06.1	-0.3
	comp=Z,4.7nm,0.8s,baz=186,slow=4.5,SNR=8.5					
M20K	Styx River	154.56 298	P	PKPbc	22 45 50.3	-0.7
	baz=110					
D24K	Happy Valley	154.59 315	P	PKiKP	22 45 51.1	+0.3
	baz=98					
P18K	Big Mountain,	154.59 291	P	PKPbc	22 45 50.5	-0.6
	baz=114					
CAST	Castle Rocks	154.60 301	P	PKPbc	22 45 50.7	-0.2
	baz=108					
G23K	Bananza Creek	154.60 309	P	PKiKP	22 45 51.4	+0.5
	baz=102					
C24K	Franklin Bluff	154.62 316	P	PKiKP	22 45 51.5	+0.8
	baz=97					
E23K	Chandalar	154.71 312	P	PKiKP	22 45 51.4	+0.3
	baz=100					
O18K	Koktuh Hills	154.76 292	P	PKPbc	22 45 51.2	-0.2
	baz=113					
COLD	Coldfoot	154.78 310	P	PKiKP	22 45 51.4	+0.3
	baz=101					
TOLK	Toolik Lake Re	154.78 314	P	PKPbc	22 45 51.2	0.0
	baz=99					
N19K	Bonanza Creek	154.79 295	P	PKPbc	22 45 51.3	-0.2
	baz=112					
CHUM	Lake Minchumin	154.84 302	P	PKPbc	22 45 51.3	-0.1
	baz=107					
M19K	Big River Lodg	155.13 297	P	PKPab	22 46 08.1	-0.1
	baz=110					
D23K	Nanushuk River	155.22 314	P	PKPab	22 46 08.5	+0.1
	baz=97					
C23K	Itkillik River	155.29 317	P	PKPab	22 46 08.5	-0.1
	baz=95					
N18K	Kilae Creek	155.39 294	P	PKPab	22 46 08.8	-0.5
	baz=111					
L19K	White Mountain	155.43 298	P	PKPab	22 46 08.9	-0.6
	baz=109					
F22K	John River	155.58 311	P	PKPab	22 46 09.9	-0.1
	baz=99					
O17K	Koliganek Bris	155.61 291	P	PKPab	22 46 10.0	-0.2
	baz=112					
G21K	Allakaket	155.93 308	P	PKPab	22 46 11.2	-0.2
	baz=100					
IMAR	Indian Mountai	155.93 307		PKPdf	22 45 53.9	+10
N17K	Nushagak Hills	155.93 293	P	PKPab	22 46 11.0	-0.6
	baz=111					
D22K	Ayikyak River	155.94 314	P	PKPab	22 46 11.2	-0.3
	baz=96					
O16K	Kokwok River B	156.01 290	P	PKPab	22 46 11.4	-0.6
	baz=112					
F21K	Alatna River	156.03 310	P	PKPab	22 46 11.8	-0.2
	baz=99					
TTA	Tatalina	156.16 299	P	PKPab	22 46 11.8	-0.9
	baz=106					
L18K	Granite Mounta	156.26 297	P	PKPab	22 46 12.5	-0.5
	baz=108					
B22K	Teshekpuk Lake	156.28 318	P	PKPab	22 46 12.7	-0.2
	baz=92					
H20K	Anotleneega Mo	156.29 305	P	PKPab	22 46 12.7	-0.4
	baz=102					
M17K	Holitna River	156.34 295	P	PKPab	22 46 12.7	-0.7
	baz=109					
E21K	Killik River	156.37 313	P	PKPab	22 46 13.1	-0.3
	baz=96					
J18K	Innoko River	156.61 300	P	PKPab	22 46 14.7	+0.2
	baz=105					
N16K	Nishlik Lake	156.65 292	P	PKPab	22 46 14.9	+0.2
	baz=110					
B21K	Ikpikpuk River	156.67 316	P	PKPab	22 46 14.5	-0.1
	baz=92					
C21K	Knifeblade Rid	156.71 315	P	PKPab	22 46 14.8	0.0
	baz=93					
F20K	Avaraart Lake	156.88 309	P	PKPab	22 46 14.9	-0.6
	baz=97					
M16K	Timber Creek	156.92 293	P	PKPab	22 46 16.7	+0.8
	baz=109					
H19K	Roundabout Mou	156.94 305	P	PKPab	22 46 16.0	+0.2
	baz=100					
L17K	Donlin	156.96 296	P	PKPab	22 46 16.4	+0.4
	baz=107					
K17K	Iditarod	157.12 298	P	PKPab	22 46 16.9	+0.3
	baz=106					
E20K	Nigu River	157.17 312	P	PKPab	22 46 17.3	+0.4
	baz=94					
G19K	Purcell Mounta	157.30 307	P	PKPab	22 46 17.3	-0.1
	baz=98					
D20K	Etivluk River	157.35 313	P	PKPab	22 46 17.6	0.0
	baz=92					
L16K	Owhat River	157.37 295	P	PKPab	22 46 18.3	+0.5
	baz=107					
O14K	Tigyukauivet M	157.39 288	P	PKPab	22 46 18.2	+0.3
	baz=112					
E19K	Redstone River	157.50 310	P	PKPab	22 46 18.0	-0.3
	baz=95					
UNV	Unalaska Valle	157.53 272	P	PKPab	22 46 18.3	-0.3
	baz=122					
B20K	Meade River	157.56 317	P	PKPab	22 46 18.5	+0.1
	baz=89					
M15K	Kasigluk River	157.62 292	P	PKPab	22 46 18.4	-0.5
	baz=109					
F19K	Shaleruckik Mo	157.66 308	P	PKPab	22 46 18.1	-0.7
	baz=96					
H18K	Honhosa River	157.67 304	P	PKPab	22 46 19.3	+0.2
	baz=100					
N14K	Kuskokwak Cree	157.83 289	P	PKPab	22 46 19.8	0.0
	baz=110					
D19K	Kuna River	157.90 313	P	PKPab	22 46 20.0	+0.1
	baz=92					
G18K	Tagagawik	157.90 306	P	PKPab	22 46 20.0	0.0
	baz=98					
HIA	Hailar	158.02 104	PKPab	PKPab	22 46 21.2	+0.2
HIA	Hailar	158.02 104	PKP2	PKPab	22 46 21.2	+0.2
M14K	Bethel	158.23 291	P	PKPab	22 46 22.1	+0.6
	baz=108					
NIKH	Nikolski High	158.23 268	P	PKPab	22 46 20.9	-0.8
	baz=124					
J16K	Anvik River	158.28 298	P	PKPab	22 46 21.9	+0.3
	baz=103					
L15K	Ungalak Mounta	158.28 294	P	PKPab	22 46 22.2	+0.5
	baz=106					
H17K	Granite Mounta	158.28 303	P	PKPab	22 46 22.1	+0.5
	baz=99					
C19K	Lookout Ridge	158.43 314	P	PKPab	22 46 22.4	+0.2
	baz=89					
I17K	Unalakleet	158.44 300	P	PKPab	22 46 23.0	+0.7
	baz=101					
K15K	Wolf Creek Mou	158.46 296	P	PKPab	22 46 23.4	+0.9
	baz=105					
G17K	Kiwalik Mounta	158.67 304	P	PKPab	22 46 23.5	+0.2
	baz=97					
L14K	Kuka Creek	158.74 293	P	PKPab	22 46 23.5	-0.2
	baz=106					
M13K	Dall Lake	158.78 290	P	PKPab	22 46 24.3	+0.5
	baz=108					
E18K	Tukpahlearik C	158.80 310	P	PKPab	22 46 24.5	+0.6
	baz=92					
MDJ	Mudanjiang	158.99 127	P	PKPdf	22 45 49.5	+0.9
MDJ			pmax	pmax		
	comp=Z,8.0nm,1.8s					
MDJ			pmax	pmax		
	comp=Z,110nm,5.2s					
F17K	Baldwin Pennin	159.00 307	P	PKPab	22 46 24.7	0.0
	baz=94					
C18K	Utukok River	159.03 313	P	PKPab	22 46 25.0	+0.1
	baz=88					
B18K	Kokolik River	159.21 315	P	PKPab	22 46 25.6	0.0
	baz=86					
H16K	Elim	159.23 302	P	PKPab	22 46 25.8	0.0
	baz=98					
G16K	Koyuk River	159.37 304	P	PKPab	22 46 26.3	0.0
	baz=96					
J14K	Nanvaranak Lak	159.48 296	P	PKPab	22 46 27.2	+0.3
	baz=102					
C17K	DeLong Mountai	159.76 313	P	PKPab	22 46 27.7	-0.3
	baz=87					
K13K	Kusilvak Mount	159.80 294	P	PKPab	22 46 28.0	-0.3
	baz=104					
G15K	Niukluk	160.03 303	P	PKPab	22 46 29.0	-0.3
	baz=96					
M11K	Mekoryuk	160.12 289	P	PKPab	22 46 30.6	+0.8
	baz=107					
F15K	North Star Dit	160.34 305	P	PKPab	22 46 30.4	-0.2
	baz=93					
C16K	Lisburne Hills	160.58 312	P	PKPab	22 46 31.4	-0.1
	baz=85					
SPIA	Saint Paul Isl	160.98 277	P	PKPab	22 46 33.5	-0.1
	baz=114					
HEH	HeiHe	162.35 112	*e*P	PKPab	22 46 39.0	-0.8
HEH			pmax	pmax		
	comp=Z,13nm,1.1s					
HEH			pmax	pmax		
	comp=Z,250nm,3.7s					
KLR	Kul'dur	163.55 122	PKPab	PKPab	22 46 44.6	-0.5
	comp=Z,3.4nm,1.0s,baz=302,slow=5.4,SNR=4.5					
ZEA	Zeya	164.48 102	*e*PKP2	PKPab	22 46 49.6	+0.5
TIXI	Tiksi	164.80 30	PKPab	PKPab	22 46 51.1	+1.1
TIXI	Tiksi	164.80 30	PKP2	PKPab	22 46 51.1	+1.1

*NOU **31** 22:29:02.8, 21°.77S×169°.02E, h0km, MLv4.9/12, Southeast of Loyalty Islands*
*IDC **31** 22:29:03.5±0.8, 21°.66S×168°.88E, h0km, mb4.2/12, mbtmp4.2/14, ML4.0/2, MS4.0/8, Error ellipse: s-maj=25.6km s-min=18.1km az=156.0*
*NEIC **31** 22:29:04.8±0.9, 21°.74S±0°.03×168°.88E±0°.04, h9km±4km, mb4.7/28, Error ellipse: s-maj=5.5km s-min=3.9km az=75.0*

ISC 31 22:29:05.8±0.8, 21°.74S±0°.05×168°.82E±0°.05, h15km±4km, n114, σ0s96/120, mb4.6/27, MS4.0/8, 2D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.78 289			Pg	22 29 21.0	+0.1
MARNC					Sn	22 29 33.7	0.0
MARNC	Mare, Loyalty	0.78 289		P	Pn	22 29 22.1	-0.1
PINNC	Pines Island,	1.54 235			Pn	22 29 32.2	-0.5
PINNC				Sn	Sb	22 29 54.0	+0.5
PINNC	Pines Island,	1.54 235		P	Pn	22 29 32.8	0.0
PINNC	Pines Island,	1.54 235		P	Pg	22 29 38.1	+2.6
LIFNC	LIFOU	1.75 303			Pn	22 29 34.1	-1.5
LIFNC				Sn	Sn	22 29 57.0	-0.8
LIFNC	LIFOU	1.75 303		P	Pn	22 29 35.3	-0.4
YATNC	Mamie plateau,	1.82 259		P	Pn	22 29 36.9	+0.3
YATNC	Mamie plateau,	1.82 259		P	Pn	22 29 36.4	-0.2
OUENC	Ouen Island, N	1.96 249			Pn	22 29 38.5	+0.1
OUENC				Sn	Sb	22 30 05.0	-0.4
OUENC	Ouen Island, N	1.96 249		P	Pb	22 29 40.2	-0.9
OUENC	Ouen Island, N	1.96 249		P	Pn	22 29 39.4	+0.9
DZM	Mont Dzumac	2.23 261		*e*Pn	Pn	22 29 42.8	+0.5
	927nm,0.8s						
DZM				*e*Sn	Sn	22 30 11.0	+1.3
	6μm,1.5s						
DZM	Mont Dzumac	2.23 261			Pn	22 29 42.4	+0.1
DZM	Mont Dzumac	2.23 261		P	Pn	22 29 43.0	+0.7
DZM	Mont D

DZM Sn **Sb** **22 30 11.9 -1.4**
270nm,0.3s,baz=178,slow=17,SNR=13
206nm,0.3s
ONTNC Ouen Toro 2.27 255 Pn 22 29 42.9 +0.1
ONTNC Ouen Toro 2.27 255 P **Pn 22 29 44.1 +1.4**
ONTNC Ouen Toro 2.27 255 P **Pn 22 29 43.5 +0.8**
NOUC Port Laguerre 2.36 261 P **Pn 22 29 45.3 +1.2**
NOUC Port Laguerre 2.36 261 P **Pn 22 29 44.8 +0.7**
RTV Rentapao 3.94 355 P **Pn 22 30 07.1 +1.3**
KOUNC Koumac, New Ca 4.39 285 Pn **Pn 22 30 12.1 +0.1**
KOUNC Koumac, New Ca 4.39 285 P **Pn 22 30 13.8 +1.8**
MSVF Nonsavu 9.56 67 Pn **Pn 22 31 22.8 -0.3**
MSVF Nonsavu 9.56 67 Pn **Pn 22 31 25.9 +2.8**
0.5nm,0.3s,baz=232,slow=12,SNR=12
MSVF LR LR 22 34 11.4
comp=Z,2μm,19.2s,baz=249,slow=32
EIDS Eidsvold 16.66 254 P 22 33 00.2 -1.0
URZ Urewera 17.95 158 P **P 22 33 16.0 +0.6**
0.4nm,0.3s,baz=75,slow=16,SNR=2.5
URZ LR LR 22 38 36.7
comp=Z,313nm,18.9s,baz=34,slow=32
10nm,1.0s
RTZ Ruatahuna 18.23 159 P **Pn 22 33 18.0 -0.4**
BKZ Black Stump Fm 18.57 161 P 22 33 21.7 -0.6
CTA Charters Tower 21.14 270 P **P 22 33 52.4 +2.0**
2.3nm,0.6s,baz=91,slow=9.7,SNR=5.6
CTA LR LR 22 41 28.4
comp=Z,580nm,20.0s,baz=94,slow=35
2.3nm,0.6s
CTAO Charters Tower 21.14 270 P **P 22 33 52.7 +2.3**
CTAO IAmb IAmb 22 34 06.5
comp=Z,30nm,1.0s
RPZ Rata Peaks 22.00 176 LR LR 22 41 59.4
comp=Z,704nm,18.7s,baz=356,slow=35
PMG Port Moresby 24.16 297 LR LR 22 42 07.2
comp=Z,179nm,20.1s,baz=142,slow=32
COEN Coen 25.58 283 P **P 22 34 34.3 -0.3**
COEN IAmb IAmb 22 34 46.7
comp=Z,16nm,0.9s
STKA Stephens Creek 26.25 242 P **P 22 34 40.2 -0.3**
STKA Stephens Creek 26.25 242 P **P 22 34 41.9 +1.4**
comp=Z,2.2nm,0.8s,baz=46,slow=15,SNR=2.9
STKA LR LR 22 44 53.9
comp=Z,480nm,18.3s,baz=55,slow=36
comp=Z,2.2nm,0.8s
WB0 Warramunga Arr 32.22 267 P **P 22 35 33.8 +0.1**
WB0 IAmb IAmb 22 36 10.3
comp=Z,7.5nm,1.2s
AS31 Alice Springs 32.22 260 P 22 35 32.9 -0.8
ASAR Alice Springs 32.22 260 P **P 22 35 33.6 -0.2**
comp=Z,19nm,0.6s,baz=92,slow=9.4,SNR=5.6
ASAR LR LR 22 47 59.4
comp=Z,326nm,21.8s,baz=109,slow=35
comp=Z,19nm,0.6s
WRA Warramunga Arr 32.24 267 P **P 22 35 32.5 -1.4**
WRA Warramunga Arr 32.24 267 P **P 22 35 33.0 -0.9**
comp=Z,0.5nm,0.4s,baz=100,slow=8.2,SNR=6.8
comp=Z,0.5nm,0.4s
FORT Forrest 37.48 247 P **P 22 36 18.4 -0.6**
FORT IAmb IAmb 22 36 33.0
comp=Z,23nm,1.0s
PPT2 Papeete2 39.31 92 *e*LR LR 22 47 04.8
comp=Z,228nm,26.0s
FAKI Fak Fak 40.15 293 P **P 22 36 40.9 -0.7**
FAKI IAmb IAmb 22 37 05.5
comp=Z,13nm,0.7s
MBWA Marble Bar 45.53 261 P **P 22 37 25.5 +0.2**
MBWA IAmb IAmb 22 37 33.8
comp=Z,8.2nm,0.8s
NWAO Narrogin (SRO) 46.76 245 P **P 22 37 34.8 0.0**
TAOE Nuku Hiva Isla 50.65 84 *e*LR LR 22 52 29.9
comp=Z,247nm,25.0s
TOLI2 Tolitoli 52.09 290 P **P 22 38 14.8 -0.9**
TOLI2 IAmb IAmb 22 38 25.0
comp=Z,7.1nm,0.8s
SBA Scott Base 56.17 181 P **P 22 38 43.4 -1.2**
CASY Casey 57.69 204 P **P 22 38 55.1 -0.4**
CASY IAmb IAmb 22 39 04.0
comp=Z,7.9nm,1.1s
MJAR Matsushiro Arr 64.78 333 P **P 22 39 43.1 -0.7**
comp=Z,1.4nm,0.5s,baz=166,slow=7.5,SNR=7.3
comp=Z,1.4nm,0.5s
QSPA South Pole Qui 68.33 180 P **P 22 40 06.0 -0.3**
QSPA South Pole Qui 68.33 180 P **P 22 40 06.7 +0.4**
comp=Z,2.5nm,0.7s,baz=252,slow=0.4,SNR=2.7
comp=Z,2.5nm,0.7s
NJ2 Nanjing 71.74 317 *e*P **P 22 40 30.5 +3.0**
NJ2 pP **sP** **22 40 33.0 -0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,160nm,4.6s
USA0B Ussuriysk Arra 73.77 333 P **P 22 40 39.3 0.0**
USRK Ussuriysk Ar. 73.77 333 P **P 22 40 39.4 0.0**
USRK Ussuriysk Ar. 73.77 333 P **P 22 40 40.0 +0.6**
comp=Z,4.9nm,0.7s,baz=134,slow=4.5,SNR=12
comp=Z,4.9nm,0.7s
MDJ Mudanjiang 75.13 332 P **P 22 40 47.5 +0.2**
MDJ pP pwP 22 40 55.0 +0.8
MDJ sP PcP 22 40 58.5 -2.3
MDJ PcP sP 22 41 01.0 +8.1
MDJ S **S** **22 50 27.0 +1.8**
MDJ sS sS 22 50 38.8 +7.2
MDJ Mudanjiang 75.13 332 ScS **SKSac** **22 50 58.5 +2.6**
MDJ pmax pmax
comp=Z,15nm,2.4s
MDJ pmax pmax
comp=Z,310nm,4.2s
MDJ LR LR
comp=N,490nm,14.8s
MDJ LR LR
comp=E,310nm,16.3s
MDJ LR LR
comp=Z,490nm,15.4s
CRAI Chiangrai 78.80 297 P **P 22 41 07.6 -0.9**
CRAI IAmb IAmb 22 41 19.1
comp=Z,4.8nm,0.9s
CMAR Chiang Mai Arr 79.18 295 P **P 22 41 11.8 +1.2**
comp=Z,0.8nm,0.3s,baz=139,slow=4.7,SNR=5.0
comp=Z,0.8nm,0.3s
BELA Belgrano 2 79.66 175 P **P 22 41 11.2 -1.1**
BELA IAmb IAmb 22 41 20.1
comp=Z,8.0nm,0.7s
PZH PanZhiHua 80.73 303 P **P 22 41 21.3 +2.3**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,130nm,4.9s
SMAI San Martin Ant 81.59 162 P **P 22 41 22.8 +0.1**
SMAI IAmb IAmb 22 41 24.0
comp=Z,9.9nm,1.2s
HHC Hu-ho-hao-te 81.86 320 *e*P **P 22 41 26.0 +1.3**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,290nm,4.5s
ELIB Princess Elisa 83.62 190 *d*P **P 22 41 32.6 -0.9**
ELIB *d*PP **PP** **22 44 44.4 -1.1**
M16K Timber Creek 86.48 15 P **P 22 41 47.8 +0.3**
SONM Songino Array 88.97 323 P **P 22 41 59.9 -0.1**
comp=Z,0.9nm,0.8s,baz=146,slow=6.5,SNR=8.1
comp=Z,0.9nm,0.8s
CMB Columbia Colle 89.11 48 P **P 22 41 59.7 -1.1**
ISA Isabella, Lake 89.35 51 P **P 22 42 00.8 -1.2**
WAKR Walker 89.99 48 P **P 22 42 04.6 -0.5**
WAKR IAmb IAmb 22 42 14.8
comp=Z,8.5nm,1.4s
DSP Deep Springs 90.49 50 P **P 22 42 06.3 -0.8**
DSP IAmb IAmb 22 42 08.1
comp=Z,3.5nm,0.9s
NVAR Mina Array Bea 90.74 49 P **P 22 42 07.7 -0.9**
NVAR Mina Array Bea 90.74 49 P **P 22 42 08.0 -0.6**
comp=Z,2.2nm,0.7s,baz=227,slow=8.6,SNR=21
comp=Z,2.2nm,0.7s
J05D Fort Rock, OR 91.07 43 P **P 22 42 09.1 -0.9**
ILAR Eielson Array 92.72 17 P **P 22 42 15.1 -1.8**
comp=Z,0.3nm,0.8s,baz=252,slow=4.6,SNR=2.8
comp=Z,0.3nm,0.8s
TXAR Lajitas Array 98.29 62 P Pdif 22 42 43.9 +0.6
comp=Z,0.2nm,0.7s,baz=262,slow=1.4,SNR=2.5
comp=Z,0.2nm,0.7s
WMQ Urumqi 98.64 314 *e*P Pdif 22 42 46.0 +1.5
AKASG Malin Array Be 137.25 323 PKP **PKPdf** **22 48 29.1 +0.6**
comp=Z,0.4nm,0.3s,baz=57,slow=1.5,SNR=1.7
MORC Moravsky Berou 143.99 328 *e*PKP **PKPdf** **22 48 40.2 -0.5**
VYHS Vyhne 144.14 325 *e*PKP **PKPdf** **22 48 41.0 0.0**

DPC Dobruska-Polom 144.20 330 *e*PKP **PKPab** **22 48 38.1 -0.7**
DPC *ep*PKP **sPKPdf** **22 48 46.8 -0.1**
JAVC Velka Javorina 144.52 327 *e*PKP **PKPdf** **22 48 42.5 +0.8**
VRAC Vranov 144.76 328 *e*PKP **PKPdf** **22 48 41.9 -0.1**
PVCC Panska Ves 144.88 331 *e*PKP PKPbc 22 48 41.4 +0.1
PVCC *ex* x 22 48 49.7
KRUC Moravsky 145.03 328 *e*PKP **PKPdf** **22 48 42.2 -0.3**
MODS Modra-Pesok 145.03 326 *e*PKP **PKPdf** **22 48 43.5 +1.0**
ZST Bratislava 145.23 326 *e*PKP **PKPdf** **22 48 44.3 +1.5**
PRU Pruhonice 145.27 331 *e*PKP **PKPbc** **22 48 42.3 -0.3**
PRU *ex* x 22 48 50.1
TREC Trest 145.31 329 *e*PKP **PKPbc** **22 48 42.7 -0.1**
HSKC Hora Svate Kat 145.32 332 *e*PKP **PKPbc** **22 48 42.7 -0.1**
ZVC Zvikov 145.82 330 *e*PKP **PKPbc** **22 48 44.5 +0.1**
ZVC *ex* x 22 48 51.6
EKA Eskdalemuir Ar 145.92 352 PKPbc **PKPdf** **22 48 42.8 -1.0**
comp=Z,1.4nm,0.4s,baz=352,slow=2.9,SNR=10
RONA Rosalia, Austr 145.96 326 *i* PKP **PKPbc** **22 48 44.6 -0.3**
comp=Z,24nm,1.5s,SNR=9.4
RONA *e*PP **PP** **22 52 06.0 -0.1**
comp=Z,7.4nm,1.3s
NKC Novy Kostel 146.02 333 *e*PKP **PKPbc** **22 48 45.3 +0.3**
NKC *ex* x 22 48 52.3
CONA Conrad Observa 146.04 327 *i* PKP **PKPdf** **22 48 44.3 -0.1**
comp=Z,31nm,1.7s,SNR=13
CONA *e*PP **PP** **22 52 06.2 -0.5**
comp=Z,6.0nm,0.9s
CKRC Cesky Krumlov 146.20 329 *e*PKP **PKPdf** **22 48 45.0 +0.5**
CKRC *ex* x 22 48 51.4
KHC Kasperske Hory 146.32 330 *e*PKP **PKPbc** **22 48 45.5 -0.4**
KHC *ex* x 22 48 53.7
GERES GERESS Array B 146.47 330 PKPbc **PKPbc** **22 48 46.5 +0.1**
comp=Z,7.7nm,0.7s,baz=33,slow=3.2,SNR=36
ARSA Arzberg 146.66 326 *e*PKP **PKPab** **22 48 48.1 +0.1**
comp=Z,2.4nm,0.8s
MOA Molln 146.89 328 *e*PKP **PKPbc** **22 48 47.9 +0.3**
comp=Z,7.3nm,1.2s
SOKA Sonoth 147.28 326 *e*PKP **PKPdf** **22 48 45.9 -0.6**
comp=Z,8.6nm,1.0s
BIOA Bad Ischl, Aus 147.31 328 *e*PKP **PKPdf** **22 48 47.2 +0.7**
comp=Z,2.6nm,0.8s
LESA Schwarzleotal 147.96 329 *e*PKP **PKPdf** **22 48 46.8 -0.8**
comp=Z,3.3nm,1.5s
LESA *e*PKP **PKPbc** **22 48 50.0 -0.7**
comp=Z,6.3nm,1.0s
MYKA Terra Mystica 148.03 327 *e*PKP **PKPbc** **22 48 50.2 -0.7**
comp=Z,6.7nm,1.0s
ABTA Abfaltersbach 148.51 328 *e*PKP **PKPbc** **22 48 51.6 -0.6**
comp=Z,9.0nm,1.0s
WATA Walderalm 148.55 330 *e*PKP **PKPdf** **22 48 49.6 +1.0**
comp=Z,7.7nm,1.0s
WTTA Wattenberg 148.57 330 *i* PKP **PKPdf** **22 48 48.4 -0.4**
comp=Z,13nm,1.1s,SNR=5.4
MOTA Moosalm 148.76 330 *i* pPKP **PKPbc** **22 48 52.6 -0.3**
comp=Z,11nm,1.0s,SNR=6.1
SQTA Sankt Quirin 148.80 330 *i* pPKP **PKPbc** **22 48 52.7 -0.2**
comp=Z,9.6nm,0.8s,SNR=6.5
RETA Reutte 148.81 331 *ep*PKP **PKPbc** **22 48 52.7 -0.2**
comp=Z,7.8nm,1.2s
FETA Feichten 149.17 330 *i* PKP **PKPbc** **22 48 54.0 +0.1**
comp=Z,14nm,1.3s,SNR=5.1
DAVA Damuels 149.36 331 *e*PKP **PKPbc** **22 48 54.3 -0.1**
comp=Z,11nm,1.3s

*IDC **31** 22:32:16.8±1.1,21°.49S×168°.81E,h0km,mb3.9/7, mbtmp4.0/8,ML3.6/1,Error ellipse: s-maj=37.4km s-min=21.9km az=152.0*
*NEIC **31** 22:32:16.9±1.5,21°.72S±0°.08×168°.98E±0°.03,h10km±1km, mb4.2/5,Error ellipse: s-maj=14.0km s-min=3.3km az=17.0*
ISC 31 22:32:18.5±0.7,21°.68S±0°.10×168°.83E±0°.06,h10km,n31, σ1§19/32,mb4.0/9,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.77**	**285**	Pg	**Pg**	**22 32 34.0**	**+0.6**
MARNC				Sg	**Sb**	**22 32 46.5**	**+1.9**
PINNC	**Pines Island,**	**1.58**	**234**	Pn	**Pn**	**22 32 45.3**	**-1.3**
LIFNC	**LIFOU**	**1.73**	**301**	Pn	**Pn**	**22 32 48.2**	**-0.5**
OUENC	**Ouen Island, N**	**1.99**	**248**	Pn	**Pn**	**22 32 52.3**	**+0.1**
DZM	**Mont Dzumac**	**2.25**	**260**	Pn	**Pn**	**22 32 55.9**	**+0.1**
DZM	**Mont Dzumac**	**2.25**	**260**	Pn	**Pn**	**22 32 56.0**	**+0.1**
	16nm,0.3s,baz=70,slow=18,SNR=2.4						
DZM				Sn	**Sn**	**22 33 25.5**	**+1.6**
	32nm,0.3s,baz=106,slow=23,SNR=6.9						
	94nm,0.5s						
ONTNC	**Ouen Toro**	**2.29**	**254**	Pn	**Pn**	**22 32 56.6**	**+0.2**
KOUNC	**Koumac, New Ca**	**4.39**	**284**	Pn	**Pn**	**22 33 25.0**	**-0.3**
MSVF	**Nonsavu**	**9.53**	**67**	Pn	**Pn**	**22 34 39.1**	**+3.2**
	0.3nm,0.3s,baz=221,slow=11,SNR=3.8						
CTA	**Charters Tower**	**21.15**	**270**	P	**P**	**22 37 04.7**	**+0.8**
	1.2nm,0.3s,baz=110,slow=10,SNR=1.8						
	1.2nm,0.3s						
CTAO	**Charters Tower**	**21.15**	**270**	P	**P**	**22 37 04.1**	**+0.2**
CTAO				IAmb	IAmb	22 37 18.0	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**26.29**	**242**	P	**P**	**22 37 53.8**	**-0.5**
STKA				IAmb	IAmb	22 38 12.4	
	comp=Z,3.2nm,1.5s						
STKA	**Stephens Creek**	**26.29**	**242**	P	**P**	**22 37 55.2**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=62,slow=15,SNR=2.4						
	comp=Z,1.5nm,0.7s						
ASAR	**Alice Springs**	**32.24**	**260**	P	**P**	**22 38 46.2**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=82,slow=9.5,SNR=2.0						
WRA	**Warramunga Arr**	**32.25**	**267**	P	**P**	**22 38 47.3**	**-0.2**
WRA	**Warramunga Arr**	**32.25**	**267**	P	**P**	**22 38 45.3**	**-2.1**
	comp=Z,0.6nm,0.8s,baz=97,slow=8.1,SNR=2.8						
	comp=Z,0.6nm,0.8s						
TOLI2	**Tolitoli**	**52.08**	**290**	P	**P**	**22 41 27.4**	**-1.6**
QSPA	**South Pole Qui**	**68.39**	**180**	P	**P**	**22 43 22.0**	**+1.8**
	comp=Z,3.0nm,1.1s,baz=270,slow=10,SNR=2.4						
	comp=Z,3.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**73.73**	**333**	P	**P**	**22 43 51.5**	**-1.1**
USRK	**Ussuriysk Ar.**	**73.73**	**333**	P	**P**	**22 43 52.4**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=182,slow=7.4,SNR=5.1						
	comp=Z,2.8nm,0.9s						
BELA	**Belgrano 2**	**79.71**	**175**	P	P	22 44 23.5	-2.6
BELA				IAmb	IAmb	22 44 32.1	
	comp=Z,4.7nm,0.9s						
SONM	**Songino Array**	**88.94**	**323**	P	**P**	**22 45 13.1**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=134,slow=8.3,SNR=3.1						
	comp=Z,0.6nm,1.0s						
NVAR	**Mina Array Bea**	**90.69**	**49**	P	**P**	**22 45 20.4**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=228,slow=9.5,SNR=4.2						
	comp=Z,0.7nm,0.7s						
PVCC	**Panska Ves**	**144.83**	**331**	*e*PKP	**PKPab**	**22 51 54.2**	**-0.4**
CLL	**Collm**	**144.94**	**333**	*i* PKPbc	**PKPab**	**22 51 54.2**	**-0.7**
	comp=Z,7.0nm,0.7s						
CLL				*i* x	x	22 52 01.5	
	comp=Z,7.0nm,0.6s						
PRU	**Pruhonice**	**145.23**	**331**	*e*PKP	**PKPbc**	**22 51 55.0**	**-1.0**
PRU				*ex*	x	22 52 03.0	
ZVC	**Zvikov**	**145.78**	**330**	*e*PKP	**PKPdf**	**22 51 57.0**	**-0.3**
ZVC				*ex*	x	22 52 04.4	
EKA	**Eskdalemuir Ar**	**145.86**	**352**	PKPbc	**PKPdf**	**22 51 55.7**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=356,slow=2.8,SNR=2.3						
CKRC	**Cesky Krumlov**	**146.16**	**329**	*e*PKP	**PKPdf**	**22 51 58.4**	**+0.4**
CKRC				*ex*	x	22 52 06.0	
KHC	**Kasperske Hory**	**146.28**	**330**	*e*PKP	**PKPdf**	**22 51 58.7**	**+0.5**
KHC				*ex*	x	22 52 05.9	
GERES	**GERESS Array B**	**146.43**	**330**	PKPbc	**PKPdf**	**22 51 58.7**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=46,slow=3.9,SNR=10						

*IDC **31** 22:41:43.5±2.1,3°.41S×128°.63E,h0km,mb4.1/4, mbtmp4.1/5,ML3.4/1,Error ellipse: s-maj=261.2km s-min=21.4km az=67.0*
*DJA **31** 22:41:51.0±1.2,4°.5±13°×12°.8E±°,h10km,M3.9/7,mb4.2/1, MLv3.7/7*
ISC 31 22:41:45.3±0.9,3°.7S±0°.1×128°.19E±0°.08,h10km,n13, σ1§14/10,mb3.9/3,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.89**	**115**	P	**Sn**	**22 42 40.8**	**-0.7**
SANI	**Sanana**	**2.76**	**307**	P	**Pn**	**22 42 30.8**	**+1.2**
LBMI	**Labuha**	**3.15**	**347**	P	**Pb**	**22 42 42.4**	**+1.1**
FAKI	**Fak Fak**	**4.14**	**79**	P	**Pb**	**22 42 59.3**	**+1.1**
SWI	**Sorong**	**4.19**	**47**	P	**Pb**	**22 42 58.4**	**-0.7**
LUWI	**Luwuk**	**6.03**	**296**	P	**Pg**	**22 43 39.3**	**-1.6**
MRSI	**Marisa**	**7.51**	**304**	P	Pn	22 43 44.3	+9.4
MPSI	**Mapaga**	**9.21**	**296**	P	Pn	22 44 09.3	+11
WRA	**Warramunga Arr**	**17.20**	**160**	P	**Pn**	**22 45 45.3**	**-0.6**
	0.1nm,0.3s,baz=340,slow=14,SNR=8.0						
	2.1nm,0.8s						
ASAR	**Alice Springs**	**20.58**	**165**	P	Pn	22 46 27.2	+0.4
	14nm,0.3s,baz=339,slow=9.7,SNR=37						
	14nm,0.3s						
STKA	**Stephens Creek**	**30.71**	**157**	P	**P**	**22 48 01.3**	**+0.8**
	3.6nm,1.0s,baz=309,slow=13,SNR=5.0						
	3.6nm,1.0s						
MKAR	**Makanchi Array**	**64.52**	**327**	P	**P**	**22 52 22.6**	**+0.2**
	0.5nm,0.7s,baz=116,slow=8.4,SNR=4.2						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**68.79**	**329**	P	**P**	**22 52 48.7**	**-0.9**
	0.8nm,0.8s,baz=135,slow=6.0,SNR=6.8						
	0.8nm,0.8s						

*IDC **31** 22:50:13.4±0.5,21°.71S×168°.99E,h0km,mb4.8/21, mbtmp4.8/23,ML4.2/2,MS4.7/35,Error ellipse: s-maj=16.0km s-min=14.4km az=98.0*
*MOS **31** 22:50:14.9±1.1,21°.70S×168°.86E,h14km,mb5.5/33,Error ellipse: s-maj=9.1km s-min=8.6km az=33.1*
*BJI **31** 22:50:15.3±0.0,21°.47S×169°.61E,h26km,mb4.9/53, mB5.6/37,Ms5.1/12,Ms7 4.8/15*
*NEIC **31** 22:50:15.9±1.4,21°.76S±0°.07×168°.90E±0°.05,h11km±3km, mb5.4/103,Ms_20 5.0/115,Error ellipse: s-maj=10.5km s-min=6.0km az=187.0*
*BGR **31** 22:50:16.6,22°.22S×170°.65E,h33km,Ms4.7*
*NOU **31** 22:50:16.8,21°.47S×168°.80E,h0km,mb5.2/103,Loyalty Islands*
*GCMT **31** 22:50:19.9±0.1,21°.75S±0°.01×168°.89E±0°.01,h12km, MW5.3/136,Moment Tensor Solution. s97,c150; s136,c238; Duration: 1§1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.94±.01; $M_{\theta\theta}$=0.35±.01; $M_{\phi\phi}$=0.58±.01; $M_{r\theta}$=0.40±.03; $M_{r\phi}$=-0.50±.01; $M_{\theta\phi}$=0.37±.03; Best double couple: M_0=1.10800×10^{17} NP1:ϕ_s=137.00000°,δ60.00000°, λ-95.00000°. NP2:ϕ_s=326.00000°,δ31.00000°, λ-82.00000°. Principal axes: T 1.1250, Plg15.0000°, Azm231.0000°; N -0.0340, Plg4.0000°, Azm140.0000°; P -1.0910, Plg75.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 31 22:50:16.1±0.5,21°.69S±0°.04×168°.91E±0°.04,h11km±3km, h12km:pP-P,n744,σ1§45/677,mb5.3/103,MS5.0/96, 26C-35D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.84**	**284**		**Pg**	**22 50 32.5**	**+0.1**
MARNC				Sn	**Sn**	**22 50 45.6**	**-0.6**
MARNC	**Mare, Loyalty**	**0.84**	**284**	P	**Pb**	**22 50 32.7**	**-0.1**
PINNC	**Pines Island,**	**1.64**	**236**	Pn	**Pn**	**22 50 43.5**	**-1.4**
PINNC	**Pines Island,**	**1.64**	**236**	P	**Pn**	**22 50 44.5**	**-0.3**
LIFNC	**LIFOU**	**1.80**	**300**		**Pn**	**22 50 45.1**	**-2.0**
LIFNC				Sn	**Sn**	**22 51 08.8**	**-1.1**
LIFNC	**LIFOU**	**1.80**	**300**	P	**Pn**	**22 50 45.9**	**-1.2**
YATNC	**Mamie plateau,**	**1.91**	**259**	P	**Pn**	**22 50 48.7**	**+0.1**
OUENC	**Ouen Island, N**	**2.05**	**249**	Pn	**Pn**	**22 50 49.5**	**-1.0**
OUENC	**Ouen Island, N**	**2.05**	**249**	P	**Pb**	**22 50 51.6**	**-1.8**
DZM	**Mont Dzumac**	**2.32**	**260**	*e*Pn	**Pn**	**22 50 53.6**	**-0.7**
	3μm,0.9s						
DZM				*e*S	**Sn**	**22 51 23.0**	**+0.1**
	16μm,1.3s						
DZM	**Mont Dzumac**	**2.32**	**260**		**Pn**	**22 50 53.7**	**-0.7**
DZM	**Mont Dzumac**	**2.32**	**260**	P	**Pn**	**22 50 55.4**	**+1.1**
DZM	**Mont Dzumac**	**2.32**	**260**	Pn	**Pn**	**22 50 54.1**	**-0.2**
	55nm,0.3s,baz=89,slow=14,SNR=130						
DZM				LR	LR	22 51 21.4	
	comp=Z,11μm,18.3s,baz=134,slow=28						
DZM				Sn	**Sb**	**22 51 24.3**	**-2.4**
	260nm,0.3s,baz=84,slow=19,SNR=5.8						
	260nm,0.4s						
ONTNC	**Ouen Toro**	**2.36**	**254**		**Pn**	**22 50 53.8**	**-0.9**
ONTNC	**Ouen Toro**	**2.36**	**254**	P	**Pb**	**22 50 56.2**	**-2.4**
NOUC	**Port Laguerre**	**2.45**	**260**	P	**Pb**	**22 50 57.8**	**-2.4**
RTV	**Rentapao**	**3.90**	**353**	P	**Pn**	**22 51 16.3**	**+0.3**
KOUNC	**Koumac, New Ca**	**4.46**	**284**	Pn	**Pn**	**22 51 23.3**	**-0.4**
KOUNC	**Koumac, New Ca**	**4.46**	**284**	P	**Pn**	**22 51 24.8**	**+1.1**
NFK	**Norfolk Island**	**7.38**	**187**	P	**Pn**	**22 52 03.4**	**-0.3**
	baz=7.9,SNR=5.3						
NFK	**Norfolk Island**	**7.38**	**187**	P	Pn	22 52 08.2	+4.5
MSVF	**Nonsavu**	**9.47**	**67**	Pn	**Pn**	**22 52 33.6**	**+1.1**
MSVF	**Nonsavu**	**9.47**	**67**	P	**Pn**	**22 52 33.6**	**+1.1**
MSVF	**Nonsavu**	**9.47**	**67**	Pn	**Pn**	**22 52 35.1**	**+2.6**
	0.5nm,0.3s,baz=250,slow=15,SNR=15						
MSVF				LR	LR	22 55 22.4	
	comp=Z,11μm,19.8s,baz=252,slow=33						
YSA	**Yasawairara**	**9.58**	**60**	P	**Pn**	**22 52 36.2**	**+2.2**
DGTI	**Dogotuki**	**11.56**	**64**	P	**Pn**	**22 53 04.3**	**+3.2**
HNR	**Honiara**	**14.93**	**323**	Pn	**Pn**	**22 53 46.9**	**-0.3**
HNR	**Honiara**	**14.93**	**323**	P	**Pn**	**22 53 47.7**	**+0.5**
HNR	**Honiara**	**14.93**	**323**	P	**Pn**	**22 53 46.9**	**-0.3**
HNR	**Honiara**	**14.93**	**323**	Pn	**Pn**	**22 53 47.3**	**+0.1**
	171nm,0.3s,baz=246,slow=4.5,SNR=8.2						
FUNA	**Funafuti**	**16.42**	**39**		**Pn**	**22 54 06.0**	**-0.6**
FUNA	**Funafuti**	**16.42**	**39**	P	**P**	**22 54 08.9**	**-0.4**
	119nm,2.4s						
EIDS	**Eidsvold**	**16.75**	**254**	P	**P**	**22 54 14.7**	**+1.6**
	baz=17,SNR=3.6						
EIDS	**Eidsvold**	**16.75**	**254**		**Pn**	**22 54 10.3**	**-0.5**
EIDS	**Eidsvold**	**16.75**	**254**	P	**P**	**22 54 11.9**	**-1.1**
TOZ	**Tahuroa Road**	**16.97**	**162**		**Pn**	**22 54 13.1**	**-0.4**
RK1H	**Rockhampton Ha**	**17.10**	**261**	P	**P**	**22 54 18.2**	**+1.3**
HIZ	**Hauiti**	**17.53**	**164**	P	**P**	**22 54 21.7**	**+0.1**
ARMA	**Armidale**	**17.78**	**237**	P	**P**	**22 54 28.1**	**+3.6**
	baz=18,SNR=6.1						
ARMA				S	**S**	**22 57 56.3**	**+7.4**
	baz=18						
ARMA	**Armidale**	**17.78**	**237**	P	**Pn**	**22 54 23.2**	**-0.5**
ARMA	**Armidale**	**17.78**	**237**	P	**P**	**22 54 26.9**	**+2.4**
URZ	**Urewera**	**17.96**	**159**	P	**P**	**22 54 25.6**	**-0.7**
	0.7nm,0.3s,baz=72,slow=12,SNR=3.5						
	24nm,0.8s						
RTZ	**Ruatahuna**	**18.24**	**159**	P	**Pn**	**22 54 28.2**	**-1.1**
BKZ	**Black Stump Fm**	**18.59**	**161**	P	**P**	**22 54 32.1**	**-1.2**
BKZ	**Black Stump Fm**	**18.59**	**161**	P	**Pn**	**22 54 38.3**	**+4.7**
RMQ	**Roma**	**19.00**	**251**	P	**Pn**	**22 54 41.0**	**+2.4**
	baz=20,SNR=6.9						
RMQ	**Roma**	**19.00**	**251**	P	**Pn**	**22 54 41.5**	**+2.9**
QRZ	**Quartz Range**	**19.32**	**172**	P	**P**	**22 54 40.6**	**-0.6**
MRZ	**Mangatainoka R**	**19.74**	**165**	P	**P**	**22 54 44.5**	**-1.3**
MRZ				IAmb	IAmb	22 54 56.2	
	comp=Z,166nm,1.2s						
BFZ	**Birch Farm**	**19.93**	**163**	P	**Pn**	**22 54 48.0**	**-1.6**
BFZ				IAmb	IAmb	22 54 57.6	
	comp=Z,258nm,1.4s						
BFZ	**Birch Farm**	**19.93**	**163**	P	**Pn**	**22 54 53.6**	**+4.0**
AFI	**Afiamalu**	**19.94**	**70**	P	**Pn**	**22 54 52.0**	**+2.1**
SYDH	**Sydney Hard Ro**	**20.04**	**229**	P	**Pn**	**22 54 52.9**	**+1.9**
SNZO	**South Karori**	**20.17**	**167**	P	Pn	22 54 55.0	+2.7
THZ	**Tophouse**	**20.30**	**171**	P	Pn	22 54 52.1	-1.9
THZ				IAmb	IAmb	22 55 03.6	
	comp=Z,232nm,1.2s						
AULRC	**Lightning Ridg**	**20.37**	**244**	P

CAN	**Canberra**	**22.09 228**	P	**P**	**22 55 11.0**	**-0.4**
CAN			pmax	pmax		
	comp=Z,77nm,1.1s					
JCZ	**Jackson Bay**	**22.32 180**	P	**P**	**22 55 17.3**	**+3.5**
CMSA	**Cobar Meteorol**	**22.92 240**	P	**P**	**22 55 22.0**	**+1.9**
	baz=24,SNR=41					
CMSA	**Cobar Meteorol**	**22.92 240**	P	**P**	**22 55 23.0**	**+2.9**
QLP	**Quilpie**	**23.02 253**	P	**P**	**22 55 23.5**	**+2.2**
	baz=24,SNR=12					
QLP	**Quilpie**	**23.02 253**	P	**P**	**22 55 24.3**	**+3.0**
MTSU	**Mount Surprise**	**23.38 274**	P	**P**	**22 55 26.2**	**+1.1**
	baz=24,SNR=18					
MTSU	**Mount Surprise**	**23.38 274**	P	**P**	**22 55 26.4**	**+1.4**
KRVT	**Keravat (AS076**	**23.81 314**	P	**P**	**22 55 29.6**	**+0.4**
	comp=Z,346nm,1.2s,baz=4.0,slow=0.4,SNR=16					
	comp=Z,346nm,1.2s					
PMG	**Port Moresby**	**24.21 297**	P	**P**	**22 55 32.3**	**-0.7**
PMG			IAmb	IAmb	22 55 42.7	
	comp=Z,65nm,0.9s					
PMG	**Port Moresby**	**24.21 297**	P	**P**	**22 55 33.5**	**+0.5**
PMG	**Port Moresby**	**24.21 297**	P	**P**	**22 55 33.7**	**+0.7**
PMG	**Port Moresby**	**24.21 297**	P	**P**	**22 55 32.3**	**-0.7**
PMG			pmax	pmax		
	comp=Z,65nm,1.0s					
PMG	**Port Moresby**	**24.21 297**	LR	LR	23 04 14.5	
	comp=Z,1μm,18.5s,baz=136,slow=35					
SYZ	**Scrubby Hill**	**24.79 180**	P	**P**	**22 55 43.8**	**+5.9**
CTZ	**Chatham Island**	**25.06 155**	P	**P**	**22 55 45.7**	**+5.3**
COEN	**Coen**	**25.65 283**	P	**P**	**22 55 46.5**	**+0.4**
COEN			IAmb	IAmb	22 55 57.2	
	comp=Z,111nm,1.3s					
COEN	**Coen**	**25.65 283**	P	**P**	**22 55 47.4**	**+1.4**
TOO	**Toolangi**	**25.68 227**	P	**P**	**22 55 48.1**	**+1.9**
	baz=26,SNR=7.7					
TOO	**Toolangi**	**25.68 227**	P	**P**	**22 55 46.3**	**+0.1**
TOO	**Toolangi**	**25.68 227**	P	**P**	**22 55 49.3**	**+3.1**
TOO	**Toolangi**	**25.68 227**	P	**P**	**22 55 46.3**	**+0.1**
TOO			pmax	pmax		
	comp=Z,46nm,1.2s					
GLAD	**Gladstone**	**26.12 218**	P	**P**	**22 55 53.1**	**+3.0**
INKA	**Innaminka**	**26.25 251**	P	**P**	**22 55 53.7**	**+2.3**
STKA	**Stephens Creek**	**26.34 242**	P	**P**	**22 55 53.3**	**+1.1**
	baz=27,SNR=12					
STKA	**Stephens Creek**	**26.34 242**	P	**P**	**22 55 52.0**	**-0.3**
STKA	**Stephens Creek**	**26.34 242**	P	**P**	**22 55 55.0**	**+2.8**
STKA	**Stephens Creek**	**26.34 242**	‖*e*P	**P**	**22 55 51.9**	**-0.3**
STKA	**Stephens Creek**	**26.34 242**	P	**P**	**22 55 52.8**	**+0.6**
	comp=Z,20nm,1.0s,baz=81,slow=10,SNR=17					
STKA			LR	LR	23 06 14.9	
	comp=Z,4μm,18.4s,baz=82,slow=36					
	comp=Z,20nm,1.0s					
BRAT	**Ballarat**	**26.74 228**	P	**P**	**22 55 58.0**	**+2.3**
QIS	**Mount Isa**	**27.34 267**	P	**P**	**22 56 03.6**	**+2.3**
	baz=28,SNR=4.8					
QIS	**Mount Isa**	**27.34 267**	P	**P**	**22 56 03.4**	**+2.1**
MOO	**Moorlands**	**27.55 216**	P	**P**	**22 56 04.9**	**+2.0**
	baz=28,SNR=4.2					
MOO	**Moorlands**	**27.55 216**	P	**P**	**22 56 05.3**	**+2.4**
TAU	**Tasmania Unive**	**27.79 215**	IAMs_20	IAMs_20	23 04 51.0	
	comp=Z,4μm,20.0s					
ARPS	**Mount Arapiles**	**27.87 231**	P	**P**	**22 56 08.8**	**+2.9**
	baz=28,SNR=5.6					
ARPS	**Mount Arapiles**	**27.87 231**	P	**P**	**22 56 09.6**	**+3.7**
MANU	**Manus Island**	**28.65 310**	P	**P**	**22 56 12.6**	**-0.4**
MANU			IAmb	IAmb	22 56 22.5	
	comp=Z,63nm,1.4s					
MANU	**Manus Island**	**28.65 310**	P	**P**	**22 56 13.3**	**+0.3**
LCRK	**Leigh Creek**	**28.84 246**	P	**P**	**22 56 15.8**	**+1.2**
RAR	**Rarotonga**	**29.13 95**	LR	LR	23 05 16.6	
	comp=Z,549nm,21.7s,baz=266,slow=31					
WHYH	**Whyalla**	**29.93 241**	P	**P**	**22 56 26.7**	**+2.5**
PATS	**Pohnpei**	**30.20 339**	P	**P**	**22 56 24.5**	**-2.1**
	baz=30,SNR=4.4					
PATS	**Pohnpei**	**30.20 339**	P	**P**	**22 56 25.7**	**-0.9**
PATS	**Pohnpei**	**30.20 339**	P	**P**	**22 56 26.5**	**-0.1**
OOD	**Oodnadatta**	**30.71 252**	P	**P**	**22 56 32.2**	**+1.0**
BBOO	**Buckleboo**	**31.11 242**	P	**P**	**22 56 35.7**	**+1.0**
	baz=32,SNR=5.8					
BBOO	**Buckleboo**	**31.11 242**	P	**P**	**22 56 33.8**	**-0.9**
BBOO			IAmb	IAmb	22 56 42.9	
	comp=Z,59nm,1.2s					
BBOO	**Buckleboo**	**31.11 242**	P	**P**	**22 56 38.7**	**+4.0**
TABU	**Tabubil**	**31.39 297**	P	**P**	**22 56 39.4**	**+2.1**
WR0	**Warramunga Arr**	**32.13 267**	P	**P**	**22 56 42.8**	**-1.0**
AS31	**Alice Springs**	**32.31 260**	P	**P**	**22 56 44.6**	**-0.8**
ASAR	**Alice Springs**	**32.31 260**	P	**P**	**22 56 44.5**	**-0.9**
	comp=Z,12nm,0.9s,baz=87,slow=8.8,SNR=45					
ASAR			LR	LR	23 09 11.3	
	comp=Z,3μm,20.7s,baz=115,slow=35					
	comp=Z,12nm,0.9s					
WRAB	**Tennant Creek**	**32.31 267**	IAMs_20	IAMs_20	23 08 58.3	
	comp=Z,4μm,21.0s					
WRAB	**Tennant Creek**	**32.31 267**	P	**P**	**22 56 46.2**	**+0.8**
WRAB	**Tennant Creek**	**32.31 267**	*de*P	**P**	**22 56 43.8**	**-1.6**
WRAB			pmax	pmax		
	comp=Z,37nm,1.3s					
WRA	**Warramunga Arr**	**32.32 267**	P	**P**	**22 56 44.1**	**-1.3**
WRA	**Warramunga Arr**	**32.32 267**	P	**P**	**22 56 44.2**	**-1.3**
	comp=Z,9.4nm,0.9s,baz=95,slow=8.2,SNR=29					
WRA			LR	LR	23 09 18.9	
	comp=Z,4μm,21.4s,baz=100,slow=35					
	comp=Z,9.4nm,0.9s					
MULG	**Mulgathing**	**32.37 247**	P	**P**	**22 56 47.3**	**+1.5**
JAY	**Jayapura**	**33.40 301**	P	P	22 57 00.4	+5.5
	comp=Z,51nm,1.1s					
GENI	**Genyem**	**33.78 300**	P	**P**	**22 56 58.5**	**+0.3**
KDU	**Kakadu**	**35.87 278**	P	**P**	**22 57 16.0**	**-0.2**
	baz=36,SNR=8.8					
KDU	**Kakadu**	**35.87 278**	P	**P**	**22 57 19.1**	**+2.9**
MTN	**Manton Dam**	**37.05 277**	P	**P**	**22 57 26.0**	**-0.4**
	baz=38,SNR=3.4					
MTN	**Manton Dam**	**37.05 277**	P	**P**	**22 57 24.9**	**-1.5**
MTN			IAmb	IAmb	22 57 40.0	
	comp=Z,97nm,1.4s					
MTN	**Manton Dam**	**37.05 277**	P	**P**	**22 57 27.9**	**+1.5**
WRKA	**Warakurna**	**37.34 257**	P	**P**	**22 57 28.6**	**-0.2**
	baz=38,SNR=13					
WRKA	**Warakurna**	**37.34 257**	P	**P**	**22 57 28.3**	**-0.5**
FORT	**Forrest**	**37.57 247**	P	**P**	**22 57 31.0**	**+0.4**
	baz=38,SNR=8.1					
FORT	**Forrest**	**37.57 247**	P	**P**	**22 57 29.7**	**-1.0**
FORT			IAmb	IAmb	22 57 38.4	
	comp=Z,110nm,1.2s					
FORT	**Forrest**	**37.57 247**	P	**P**	**22 57 32.9**	**+2.2**
KNRA	**Kununurra**	**38.42 272**	P	**P**	**22 57 37.5**	**-0.5**
	baz=39,SNR=6.6					
KNRA	**Kununurra**	**38.42 272**	P	**P**	**22 57 36.4**	**-1.5**
KNRA			IAmb	IAmb	22 57 45.5	
	comp=Z,56nm,1.1s					
KNRA	**Kununurra**	**38.42 272**	P	**P**	**22 57 36.7**	**-1.2**
PPT2	**Papeete2**	**39.23 92**	*e*S	**S**	**23 03 45.2**	**-0.2**
	comp=Z,356nm,24.2s					
PPT2			*e*LQ	LQ	23 07 01.7	
	comp=Z,2μm,26.8s					
FAKI	**Fak Fak**	**40.21 293**	P	**P**	**22 57 51.5**	**-1.4**
FAKI			IAmb	IAmb	22 58 00.6	
	comp=Z,68nm,1.2s					
FAKI	**Fak Fak**	**40.21 293**	P	**P**	**22 57 53.8**	**+0.9**
BNDI	**Bandanaira**	**41.47 289**	P	**P**	**22 58 02.7**	**-0.6**
BNDI	**Bandanaira**	**41.47 289**	P	P	22 58 09.2	+5.9
	comp=Z,49nm,0.6s,comp=Z,4μm					
GUMO	**Guam**	**42.26 324**	LR	LR	23 13 28.6	
	comp=Z,526nm,20.2s,baz=102,slow=33					
KMBL	**Kambalda**	**42.89 247**	P	**P**	**22 58 14.4**	**-0.4**
	baz=44,SNR=14					
KMBL	**Kambalda**	**42.89 247**	P	**P**	**22 58 17.3**	**+2.5**
SOEI	**Soe**	**44.43 278**	P	**P**	**22 58 25.3**	**-2.2**
SOEI			IAmb	IAmb	22 58 51.8	
	comp=Z,74nm,1.1s					
SOEI			IAMs_20	IAMs_20	23 17 26.0	
	comp=Z,2μm,19.0s					
SOEI	**Soe**	**44.43 278**	P	**P**	**22 58 29.0**	**+1.5**
BATI	**Baumata**	**44.82 277**	LR	LR	23 17 25.7	
	comp=Z,3μm,19.2s,baz=140,slow=36					
LBMI	**Labuha**	**45.45 292**	P	**P**	**22 58 38.1**	**+2.6**
	comp=Z,78nm,1.4s					
PSA00	**Pilbara Seismi**	**45.45 261**	P	**P**	**22 58 33.6**	**-1.9**
PSA00	**Pilbara Seismi**	**45.45 261**	P	**P**	**22 58 38.4**	**+3.0**
	comp=Z,36nm,1.0s					
MBWA	**Marble Bar**	**45.62 261**	P	**P**	**22 58 35.4**	**-1.4**
MBWA			IAmb	IAmb	22 58 40.7	
	comp=Z,51nm,0.9s					
MBWA	**Marble Bar**	**45.62 261**	IAMs_20	IAMs_20	23 17 46.0	
	comp=Z,2μm,21.0s					
MBWA	**Marble Bar**	**45.62 261**	P	**P**	**22 58 38.6**	**+1.8**
MEEK	**Meekatharra**	**45.92 253**	P	**P**	**22 58 38.6**	**-0.6**
	baz=46,SNR=5.3					
MEEK	**Meekatharra**	**45.92 253**	P	**P**	**22 58 39.9**	**+0.8**
SANI	**Sanana**	**46.08 289**	P	**P**	**22 58 41.0**	**+0.6**
SANI	**Sanana**	**46.08 289**	P	**P**	**22 58 39.5**	**-0.9**
TNTI	**Ternate**	**46.28 293**	P	**P**	**22 58 40.1**	**-1.9**
KLBR	**Kellerberrin**	**46.42 247**	P	**P**	**22 58 42.4**	**-0.6**
	baz=47,SNR=15					
KLBR	**Kellerberrin**	**46.42 247**	P	**P**	**22 58 45.1**	**+2.1**
NWAO	**Narrogin (SRO)**	**46.85 245**	P	**P**	**22 58 46.0**	**-0.3**
	baz=47,SNR=5.3					
NWAO			P	**P**	**22 58 46.0**	**-0.3**
	baz=47,SNR=5.3					
NWAO	**Narrogin (SRO)**	**46.85 245**	P	**P**	**22 58 44.7**	**-1.6**
NWAO	**Narrogin (SRO)**	**46.85 245**	P	**P**	**22 58 46.3**	**-0.1**
NWAO	**Narrogin (SRO)**	**46.85 245**	P	**P**	**22 58 44.7**	**-1.6**
NWAO			pmax	pmax		
	comp=Z,81nm,1.3s					
NWAO	**Narrogin (SRO)**	**46.85 245**	LR	LR	23 17 32.0	
	comp=Z,3μm,21.9s,baz=74,slow=35					
BLDU	**Ballidu**	**47.34 248**	P	**P**	**22 58 49.3**	**-0.9**
	baz=48,SNR=5.4					
BLDU	**Ballidu**	**47.34 248**	P	**P**	**22 58 52.1**	**+1.9**
MUN	**Mundaring**	**47.73 246**	P	**P**	**22 58 55.6**	**+2.4**
MORW	**Morawa**	**48.00 250**	P	**P**	**22 58 55.2**	**-0.2**
	baz=49,SNR=4.7					
MORW	**Morawa**	**48.00 250**	P	**P**	**22 58 53.7**	**-1.7**
MORW	**Morawa**	**48.00 250**	P	**P**	**22 58 58.4**	**+3.0**
LUWI	**Luwuk**	**49.38 288**	P	**P**	**22 59 05.7**	**-0.4**
LUWI	**Luwuk**	**49.38 288**	P	**P**	**22 59 08.2**	**+2.1**
KAPI	**Kappang**	**50.37 282**	P	**P**	**22 59 13.4**	**-0.2**
KAPI	**Kappang**	**50.37 282**	P	**P**	**22 59 14.9**	**+1.3**
KAPI	**Kappang**	**50.37 282**	*d*P	**P**	**22 59 14.1**	**+0.5**
KAPI			pmax	pmax		
	comp=Z,113nm,1.3s					
TAOE	**Nuku Hiva Isla**	**50.56 84**	*e*S	**S**	**23 06 33.9**	**+4.2**
	comp=Z,527nm,25.6s					
TAOE			*e*LR	LR	23 14 02.2	
	comp=Z,2μm,27.1s					
PLAI	**Plampang**	**50.74 276**	P	**P**	**22 59 16.6**	**+0.2**
TOLI2	**Tolitoli**	**52.15 289**	P	**P**	**22 59 26.0**	**-1.0**
TOLI2	**Tolitoli**	**52.15 289**	P	**P**	**22 59 26.6**	**-0.4**
JAGI	**Jajag, Banyuwa**	**54.22 275**	P	**P**	**22 59 40.7**	**-1.6**
JCJ	**Chichijima**	**54.96 331**	LR	LR	23 21 13.8	
	comp=Z,218nm,21.0s,baz=54,slow=34					
VNDA	**Vanda**	**55.98 182**	P	**P**	**22 59 53.1**	**-1.0**
VNDA			IAmb	IAmb	23 00 05.1	
	comp=Z,40nm,1.5s					
VNDA	**Vanda**	**55.98 182**	P	**P**	**22 59 53.0**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=29,slow=7.7,SNR=13					
VNDA			LR	LR	23 20 12.1	
	comp=Z,512nm,21.6s,baz=21,slow=32					
	comp=Z,3.8nm,0.9s					
MYLDM	**Lahad Datu**	**56.12 292**	P	**P**	**22 59 55.1**	**-0.9**
MYLDM			IAmb	IAmb	23 00 30.4	
	comp=Z,52nm,1.2s					
SBA	**Scott Base**	**56.22 181**	P	**P**	**22 59 55.6**	**-0.1**
SBA			IAmb	IAmb	23 00 07.7	
	comp=Z,56nm,1.1s					
SBA	**Scott Base**	**56.22 181**	P	**P**	**22 59 55.7**	**-0.1**
SBA			pmax	pmax		
	comp=Z,56nm,1.1s					
CASY	**Casey**	**57.77 204**	P	**P**	**23 00 06.0**	**-0.9**
CASY			IAmb	IAmb	23 00 14.6	
	comp=Z,54nm,1.2s					
UGM	**Wanagama**	**57.78 274**	P	**P**	**23 00 06.7**	**-1.1**
KKM	**Kota Kinabalu**	**58.52 292**	P	**P**	**23 00 11.8**	**-1.2**
KKM	**Kota Kinabalu**	**58.52 292**	P	**P**	**23 00 14.1**	**+1.0**
LEM	**Lembang**	**60.85 274**	LR	LR	23 27 42.9	
	comp=Z,664nm,19.2s,baz=130,slow=37					
KSM	**Kuching**	**61.64 284**	P	**P**	**23 00 33.8**	**-0.5**
KSM	**Kuching**	**61.64 284**	P	**P**	**23 00 34.7**	**+0.3**
JOW	**Kunigami**	**62.24 319**	LR	LR	23 23 18.8	
	comp=Z,192nm,22.0s,baz=158,slow=32					
INU	**Inuyama**	**64.28 331**	P	**P**	**23 00 51.3**	**-0.2**
INU	**Inuyama**	**64.28 331**	P	**P**	**23 00 52.9**	**+1.4**
JMN	**Monobe**	**64.43 328**	P	**P**	**23 00 52.5**	**0.0**
JMN	**Monobe**	**64.43 328**	P	**P**	**23 00 52.7**	**+0.2**
MJAR	**Matsushiro Arr**	**64.77 333**	P	**P**	**23 00 53.3**	**-1.4**
	comp=Z,28nm,1.1s,baz=167,slow=6.5,SNR=4.2					
MJAR			LR	LR	23 28 31.2	
	comp=Z,130nm,20.1s,baz=134,slow=35					
	comp=Z,28nm,1.1s					
MAJO	**Matsushiro**	**64.78 333**	P	**P**	**23 00 53.7**	**-0.9**
MAJO			IAmb	IAmb	23 00 58.3	
	comp=Z,42nm,1.1s					
MAJO	**Matsushiro**	**64.78 333**	P	**P**	**23 00 54.8**	**+0.1**
	comp=Z,30nm,1.4s					
MJB9	**Matsu-Tunnel**	**64.78 333**	P	**P**	**23 00 54.3**	**-0.5**
MJB9			IAmb	IAmb	23 00 58.3	
	comp=Z,43nm,1.1s					
JMM	**Marumori**	**64.87 336**	P	**P**	**23 00 55.1**	**-0.1**
JMM	**Marumori**	**64.87 336**	P	**P**	**23 00 55.8**	**+0.6**
JNU	**Nakatsue**	**65.48 325**	P	**P**	**23 00 58.3**	**-1.1**
	comp=Z,13nm,1.1s,baz=62,slow=13,SNR=3.2					
	comp=Z,13nm,1.1s					
JSD	**Sado**	**66.03 334**	P	**P**	**23 01 02.5**	**-0.2**
MYKOM	**Kota Tinggi**	**67.63 281**	P	**P**	**23 01 12.6**	**-0.9**
MYKOM			IAmb	IAmb	23 01 23.7	
	comp=Z,20nm,0.8s					
MYKOM			IAMs_20	IAMs_20	23 32 11.2	
	comp=Z,675nm,19.0s					
QSPA	**South Pole Qui**	**68.38 180**	P	**P**	**23 01 16.8**	**-0.8**
QSPA	**South Pole Qui**	**68.38 180**	IAMs_20	IAMs_20	23 29 57.4	
	comp=Z,815nm,18.0s					
QSPA	**South Pole Qui**	**68.38 180**	P	**P**	**23 01 16.3**	**-1.3**
	comp=Z,18nm,0.8s,baz=66,slow=2.9,SNR=7.3					
	comp=Z,18nm,0.8s					
BKNI	**Bangkinang**	**69.62 279**	P	**P**	**23 01 25.1**	**-0.9**
ASAJ	**Asahikawa**	**69.78 340**	P	**P**	**23 01 25.0**	**-1.2**
	comp=Z,14nm,1.0s,baz=225,slow=8.6,SNR=2.8					
ASAJ			LR	LR	23 28 23.7	
	comp=Z,313nm,20.4s,baz=169,slow=33					
	comp=Z,14nm,1.0s					
KSRS	**Korea Array**	**70.35 326**	P	**P**	**23 01 29.2**	**-0.6**
	comp=Z,16nm,1.2s,baz=145,slow=6.5,SNR=14					
	comp=Z,16nm,1.2s					
KSAR	**Wonju Array Be**	**70.36 326**	P	**P**	**23 01 29.9**	**0.0**
KSAR	**Wonju Array Be**	**70.36 326**	P	**P**	**23 01 30.0**	**0.0**
INCN	**Inchon**	**71.05 326**	P	**P**	**23 01 34.3**	**+0.1**
INCN	**Inchon**	**71.05 326**	P	**P**	**23 01 35.4**	**+1.2**
INCN	**Inchon**	**71.05 326**	P	**P**	**23 01 34.3**	**+0.1**
INCN			pmax	pmax		
	comp=Z,112nm,1.5s					
NJ2	**Nanjing**	**71.76 317**	*e*P	**P**	**23 01 40.0**	**+1.5**
NJ2			pP	**pwP**	**23 01 44.0**	**-1.6**
NJ2			pmax	pmax		
	comp=Z,11nm,0.6s					
NJ2			pmax	pmax		
	comp=Z,190nm,4.5s					
YSS	**Yuzh-Sakhalins**	**72.29 342**	*e*P	P	23 01 50.8	+9.4
YSS			pmax	pmax		
	comp=Z,40nm,1.1s					
RPSI	**Rantau Prapat**	**72.49 280**	P	**P**	**23 01 41.7**	**-1.7**
RPSI			IAmb	IAmb	23 01 50.5	
	comp=Z,41nm,1.5s					
PSI	**Prapat**	**72.53 280**	P	**P**	**23 01 43.3**	**-0.5**
PSI	**Prapat**	**72.53 280**	P	**P**	**23 01 41.7**	**-2.1**
PSI			pmax	pmax		
	comp=Z,41nm,1.5s					
USA0B	**Ussuriysk Arra**	**73.77 333**	P	**P**	**23 01 50.3**	**+0.1**
USA0B	**Ussuriysk Arra**	**73.77 333**	*d*P	**P**	**23 01 50.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**73.77 333**	P	**P**	**23 01 50.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**73.77 333**	P	**P**	**23 01 50.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**73.77 333**	P	**P**	**23 01 50.0**	**-0.2**
	comp=Z,30nm,1.0s,baz=150,slow=4.4,SNR=29					
	comp=Z,30nm,1.0s					
SHEM	**Shemya Is, Ala**	**74.24 3**	LR	LR	23 27 55.2	
	comp=Z,607nm,19.8s,baz=140,slow=30					
PETK	**Petropavlovsk-**	**75.12 353**	P	**P**	**23 01 59.0**	**+1.2**
	comp=Z,5.3nm,0.8s,baz=195,slow=16,SNR=2.3					
PETK			LR	LR	23 28 56.2	
	comp=Z,513nm,20.9s,baz=148,slow=31					
	comp=Z,5.3nm,0.8s					
MDJ	**Mudanjiang**	**75.13 332**	P	**P**	**23 01 59.0**	**+0.9**
MDJ			pP	pwP	23 02 06.8	+1.7
MDJ			sP	PcP	23 02 08.3	-3.3
MDJ			PcP	sP	23 02 13.8	+12
MDJ			S	**S**	**23 11 40.8**	**+4.4**
MDJ			sS	SKSac	23 11 54.5	-13
MDJ			pmax	pmax		
	comp=Z,52nm,1.3s					
MDJ			pmax	pmax		
	comp=Z,420nm,5.7s					
MDJ			LR	LR		
	comp=Z,470nm,15.6s					
MDJ			LR	LR		
	comp=Z,360nm,15.9s					
MDJ			LR	LR		
	comp=Z,490nm,17.1s					
MDJ	**Mudanjiang**	**75.13 332**	P	**P**	**23 01 58.1**	**0.0**
MDJ	**Mudanjiang**	**75.13 332**	P	**P**	**23 01 59.6**	**+1.5**
MAW	**Mawson**	**76.06 202**	P	**P**	**23 02 03.5**	**+0.3**
	baz=76,SNR=6.7					
MAW	**Mawson**	**76.06 202**		**P**	**23 02 02.9**	**-0.3**
MAW	**Mawson**	**76.06 202**	P	**P**	**23 02 02.9**	**-0.3**
MAW			pmax	pmax		
	comp=Z,7.0nm,1.3s					
MAW	**Mawson**	**76.06 202**	P	**P**	**23 02 03.0**	**-0.2**
	comp=Z,8.2nm,0.9s,baz=106,slow=10,SNR=10					
MAW			LR	LR	23 31 28.4	
	comp=Z,706nm,20.1s,baz=100,slow=32					
	comp=Z,8.2nm,0.9s					
CN2	**Changchun**	**76.39 329**	*e*P	**P**	**23 02 04.5**	**-0.9**
CN2			*e*PP	**PP**	**23 04 59.3**	**+1.9**
CN2			*e*S	**S**	**23 11 47.3**	**-3.1**
CN2			pmax	pmax		
	comp=Z,40nm,1.1s					
CN2			pmax	pmax		
	comp=Z,490nm,7.0s					
NIKH	**Nikolski High**	**76.82 14**	P	**P**	**23 02 08.7**	**+1.1**
NIKH	**Nikolski High**	**76.82 14**	P	**P**	**23 02 07.3**	**-0.3**
	baz=201					
SRDT	**SRDT**	**77.23 291**	P	**P**	**23 02 12.3**	**+1.5**
LYN	**LuoYang**	**77.47 315**	⇑P	**P**	**23 02 12.3**	**+0.6**
LYN			S	**S**	**23 12 06.5**	**+3.9**
LYN			pmax	pmax		
	comp=Z,18nm,1.2s					
LYN			pmax	pmax		
	comp=Z,600nm,7.0s					
LYN			LR	LR		
	comp=Z,460nm,13.8s					
LYN			LR	LR		
	comp=Z,170nm,19.2s					
LYN			LR	LR		
	comp=Z,380nm,16.9s					
HNS	**HongShan**	**77.82 319**	⇓P	**P**	**23 02 14.0**	**+0.5**
HNS			*e*S	**S**	**23 12 04.5**	**-1.7**
HNS			pmax	pmax		
	comp=Z,10.0nm,1.1s					
HNS			pmax	pmax		
	comp=Z,320nm,7.4s					
HNS			LR	LR		
	comp=Z,300nm,17.7s					
HNS			LR	LR		
	comp=Z,250nm,19.3s					
KLR	**Kul'dur**	**77.97 336**	P	**P**	**23 02 14.2**	**+0.1**
	comp=Z,13nm,1.1s,baz=137,slow=2.7,SNR=14					
	comp=Z,13nm,1.1s					
UNV	**Unalaska Valle**	**78.16 15**	P	**P**	**23 02 15.0**	**0.0**
	baz=203					
BJT	**Baijiatuau**	**78.63 321**	P	**P**	**23 02 18.0**	**0.0**
BJT			IAmb	IAmb	23 02 31.8	
	comp=Z,41nm,1.6s					
BJT	**Baijiatuau**	**78.63 321**	P	**P**	**23 02 18.0**	**0.0**
BJT			pmax	pmax		
	comp=Z,41nm,1.6s					
BJI	**Beijing**	**78.64 321**	P	**P**	**23 02 18.8**	**+0.8**
BJI			S	**S**	**23 12 14.3**	**-0.7**
BJI			pmax	pmax		
	comp=Z,6.0nm,1.4s					
CRAI	**Chiangrai**	**78.86 297**	P	**P**	**23 02 18.8**	**-0.9**
CM31	**Chiang Mai Arr**	**79.23 295**	P	**P**	**23 02 21.6**	**-0.2**
CM31			IAmb	IAmb	23 02 32.1	
	comp=Z,56nm,1.6s					
CMAR	**Chiang Mai Arr**	**79.23 295**	P	**P**	**23 02 21.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**79.23 295**	P	**P**	**23 02 21.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**79.23 295**	P	**P**	**23 02 22.1**	**+0.3**
	comp=Z,5.7nm,1.0s,baz=133,slow=4.2,SNR=26					
CMAR			LR	LR	23 40 50.0	
	comp=Z,84nm,18.3s,baz=100,slow=38					
	comp=Z,5.7nm,1.0s					
KMI	**Kunming**	**79.31 302**	⇓P	**P**	**23 02 23.0**	**+0.6**
KMI			pmax	pmax		
	comp=Z,18nm,0.9s					
CHTO	**Chiang Mai**	**79.39 295**	P	**P**	**23 02 22.9**	**+0.3**
CHTO	**Chiang Mai**	**79.39 295**	P	**P**	**23 02 23.6**	**+0.9**
CHTO	**Chiang Mai**	**79.39 295**	P	**P**	**23 02 23.0**	**+0.3**
CHTO			pmax	pmax		
	comp=Z,27nm,1.2s					
TIY	**Taiyuan**	**79.42 318**	P	**P**	**23 02 22.5**	**0.0**
TIY			pP	**PcP**	**23 02 36.3**	**+5.7**
TIY			pmax	pmax		
	comp=Z,340nm,5.1s					
XAN	**Xi'an**	**79.54 313**	P	**P**	**23 02 23.0**	**-0.2**
XAN			pP	PcP	23 02 31.5	+0.4
XAN			pmax	pmax		
	comp=Z,13nm,1.2s					
BELA	**Belgrano 2**	**79.69 175**	P	**P**	**23 02 21.6**	**-1.7**
BELA			IAmb	IAmb	23 02 29.9	
	comp=Z,38nm,1.0s					
FALS	**False Pass**	**79.84 16**	P	**P**	**23 02 24.3**	**+0.1**
	baz=206					
HEH	**HeiHe**	**80.48 334**	*e*P	**P**	**23 02 27.5**	**-0.3**
HEH			pmax	pmax		
	comp=Z,28nm,1.2s					
HEH			pmax	pmax		
	comp=Z,460nm,6.5s					
SPIA	**Saint Paul Isl**	**80.49 11**	P	**P**	**23 02 27.3**	**-0.4**
	baz=200					
XLT	**XiLinHaoTe**	**81.24 324**	*e*P	**P**	**23 02 33.0**	**+0.8**
XLT			pP	pwP	23 02 40.8	+2.5
XLT			sP	PcP	23 02 42.3	+3.9
XLT			pmax	pmax		
	comp=Z,11nm,0.9s	

LZH sP pwP 23 02 56.5 +2.7
LZH S **S** **23 13 17.5 +5.0**
LZH SS **SS** **23 18 43.5 +1.4**
LZH pmax pmax
comp=Z,20nm,1.5s
LZH pmax pmax
comp=Z,430nm,5.8s
R17K Ugashik Creek 84.18 18 P **P** **23 02 46.2 -0.8**
baz=212
M11K Mekoryuk 84.25 12 P **P** **23 02 46.7 -0.5**
baz=203
O14K Tigyukauivet M 84.30 15 P **P** **23 02 46.6 -0.9**
baz=208
O15K Ungalikthiuk R 84.58 16 P **P** **23 02 48.1 -0.9**
baz=209
R18K Karluk 84.69 19 P **P** **23 02 47.8 -1.7**
baz=214
N14K Kuskokwak Cree 84.80 14 P **P** **23 02 48.9 -1.2**
baz=207
Q17K Contact Creek 84.85 18 P **P** **23 02 49.1 -1.4**
baz=212
SEY Seymchan 85.35 352 LR LR 23 36 12.9
comp=Z,556nm,20.4s,slow=32
O16K Kokwok River B 85.39 16 P **P** **23 02 51.8 -1.2**
baz=210
N15K Kwethluk River 85.39 15 P **P** **23 02 52.5 -0.6**
baz=209
Q18K Katmai Hardscr 85.42 18 P **P** **23 02 51.3 -2.1**
baz=213
KDAK Kodiak Island 85.44 20 P **P** **23 02 52.4 -0.9**
baz=215
KDAK Kodiak Island 85.44 20 LR LR 23 35 27.6
comp=Z,536nm,19.4s,baz=220,slow=32
M14K Bethel 85.47 14 P **P** **23 02 52.1 -1.3**
baz=207
P17K Kvichak River 85.49 17 P **P** **23 02 52.4 -1.1**
baz=212
M15K Kasigluk River 85.71 14 P **P** **23 02 52.9 -1.7**
baz=208
L14K Kuka Creek 85.85 13 IAMs_20 IAMs_20 23 33 06.3
comp=Z,608nm,22.0s
L14K Kuka Creek 85.85 13 P **P** **23 02 54.9 -0.4**
baz=206
K13K Kusilvak Mount 85.98 12 IAMs_20 IAMs_20 23 36 10.8
comp=Z,733nm,20.0s
K13K Kusilvak Mount 85.98 12 P **P** **23 02 54.1 -1.8**
baz=204
N16K Nishlik Lake 85.98 15 P **P** **23 02 55.5 -0.5**
baz=210
TROLL Troll, Antarti 86.08 184 ⇓P **P** **23 02 55.1 -1.7**
comp=Z,1μm,0.7s
NVL N'lazarevskaya 86.40 187 *e*P **P** **23 02 56.8 -1.3**
NVL *e*S **SKSac** **23 13 19.7 -4.5**
NVL pmax pmax
comp=Z,12nm,1.1s
NVL smax smax
comp=E,344nm,13.1s
L15K Ungalak Mounta 86.41 14 P **P** **23 02 57.8 -0.2**
baz=207
M16K Timber Creek 86.41 15 P **P** **23 02 57.8 -0.3**
baz=210
N17K Nushagak Hills 86.42 16 P **P** **23 02 58.8 +0.6**
baz=211
SNAA Sanae 86.71 183 P **P** **23 02 58.1 -1.7**
SNAA IAmb IAmb 23 03 08.4
comp=Z,34nm,1.0s
SNAA IAMs_20 IAMs_20 23 39 32.7
comp=Z,517nm,19.0s
SNAA Sanae 86.71 183 ⇓P **P** **23 02 58.0 -1.7**
comp=Z,375nm,0.9s
SNAA Sanae 86.71 183 P **P** **23 02 58.1 -1.7**
SNAA pmax pmax
comp=Z,34nm,1.0s
SNAA MLR MLR
comp=Z,500nm,19.0s
P19K Oil Pt 86.77 18 P **P** **23 02 58.2 -1.7**
baz=215
L16K Owhat River 86.89 14 P **P** **23 02 58.9 -1.5**
baz=209
K15K Wolf Creek Mou 86.95 13 IAMs_20 IAMs_20 23 33 49.4
comp=Z,573nm,20.0s
K15K Wolf Creek Mou 86.95 13 P **P** **23 03 00.1 -0.6**
baz=207
M17K Holitna River 87.11 15 P **P** **23 03 01.9 +0.4**
baz=211
VNA3 Neumayer Olymp 87.31 180 ⇓P **P** **23 03 00.6 -2.0**
comp=Z,16nm,0.7s
SNCC San Nicolas Is 87.37 53 P **P** **23 03 02.6 -0.8**
baz=242
L17K Donlin 87.54 15 P **P** **23 03 04.3 +0.7**
baz=210
M18K Stony River 87.60 16 P **P** **23 03 03.2 -0.7**
baz=212
VNA2 Neumayer--Watz 87.60 181 ⇓P **P** **23 03 02.3 -1.7**
comp=Z,13nm,0.6s,baz=187,slow=5.0
SCZ2 Santa Cruz Isl 87.64 52 P **P** **23 03 03.0 -1.8**
baz=242
SAO San Andreas Ge 87.66 49 P **P** **23 03 04.2 -0.6**
SAO IAmb IAmb 23 03 12.2
comp=Z,16nm,1.0s
SAO San Andreas Ge 87.66 49 P **P** **23 03 04.2 -0.6**
SAO pmax pmax
comp=Z,16nm,1.0s
BBGB Big Mountain B 87.86 49 P **P** **23 03 05.2 -0.7**
VNA1 Neumayer--Stat 87.89 181 P **P** **23 03 03.8 -1.5**
comp=Z,22nm,1.0s
PKM Mcpherson Peak 87.93 51 P **P** **23 03 05.5 -0.8**
baz=242,SNR=8.7
SMMC Simmler 88.00 51 P **P** **23 03 06.0 -0.5**
baz=242
L18K Granite Mounta 88.00 15 IAMs_20 IAMs_20 23 36 39.2
comp=Z,670nm,19.0s
L18K Granite Mounta 88.00 15 P **P** **23 03 06.4 +0.7**
baz=212
J16K Anvik River 88.03 13 P **P** **23 03 05.5 -0.3**
baz=208
K17K Iditarod 88.04 14 IAMs_20 IAMs_20 23 35 04.3
comp=Z,553nm,22.0s
SHL Shillong 88.23 298 P **P** **23 03 06.9 -1.1**
SHL IAmb IAmb 23 03 22.1
comp=Z,12nm,0.6s
SHL Shillong 88.23 298 P **P** **23 03 06.9 -1.1**
SHL pmax pmax
comp=Z,12nm,0.6s
BCW Bitter Crk WRg 88.24 51 P **P** **23 03 07.4 -0.4**
BCW IAmb IAmb 23 03 08.5
comp=Z,41nm,1.4s
M19K Big River Lodg 88.32 16 P **P** **23 03 07.9 +0.6**
baz=214
L19K White Mountain 88.43 16 P **P** **23 03 08.3 +0.5**
baz=213
GTA Gaotai 88.58 314 *e*P **P** **23 03 09.8 +0.5**
GTA sP pwP 23 03 17.5 +2.0
GTA pmax pmax
comp=Z,5.0nm,1.1s
ULN Ulaanbaatar 88.64 324 P **P** **23 03 09.5 +0.2**
ULN Ulaanbaatar 88.64 324 *d i*P **P** **23 03 09.5 +0.2**
ULN pmax pmax
comp=Z,43nm,1.3s
TTA Tatalina 88.77 15 P **P** **23 03 09.6 +0.1**
baz=212
H16K Elim 88.90 12 P **P** **23 03 11.0 +1.0**
baz=207
ORV Oroville 88.99 46 P **P** **23 03 09.9 -1.0**
ORV IAmb IAmb 23 03 11.4
comp=Z,18nm,1.1s
ORV Oroville 88.99 46 P **P** **23 03 10.0 -1.0**
ORV pmax pmax
comp=Z,17nm,1.2s
SONM Songino Array 88.99 323 P **P** **23 03 11.0 +0.1**
SONM IAmb IAmb 23 03 12.5
comp=Z,38nm,1.4s
SONM Songino Array 88.99 323 P **P** **23 03 11.0 +0.1**
SONM pmax pmax
comp=Z,38nm,1.4s
SONM Songino Array 88.99 323 P **P** **23 03 10.7 -0.3**
comp=Z,12nm,1.1s,baz=142,slow=4.4,SNR=48
SONM PP **PP** **23 06 37.1 -3.9**
comp=Z,1.3nm,1.1s,baz=104,slow=6.1,SNR=2.9
comp=Z,12nm,1.1s
CMB Columbia Colle 89.01 48 P **P** **23 03 10.2 -1.0**
CMB IAmb IAmb 23 03 11.5
comp=Z,21nm,1.3s
CMB IAMs_20 IAMs_20 23 33 51.8
comp=Z,554nm,20.0s
CMB Columbia Colle 89.01 48 P **P** **23 03 10.2 -1.0**
CMB pmax pmax
comp=Z,21nm,1.3s
CMB MLR MLR
comp=Z,600nm,20.0s
J18K Innoko River 89.06 15 P **P** **23 03 10.2 -0.5**
baz=212
YAK Yakutsk 89.11 343 P **P** **23 03 10.5 -0.5**
ELS Elsinore Mount 89.11 53 P **P** **23 03 10.1 -1.7**
ELS IAmb IAmb 23 03 12.0
comp=Z,29nm,1.5s
BFSC Mount Baldy Ra 89.20 53 P **P** **23 03 11.4 -0.9**
baz=243
EDW2 Edwards Air Fo 89.25 52 P **P** **23 03 11.6 -0.8**
baz=243
ISA Isabella, Lake 89.26 51 P **P** **23 03 11.7 -0.7**
baz=242,SNR=11
MURC Murrieta 89.26 53 P **P** **23 03 11.0 -1.4**
baz=243
YBH Yreka Blue Hor 89.27 44 P **P** **23 03 11.5 -0.9**
YBH IAmb IAmb 23 03 20.8
comp=Z,32nm,1.6s
YBH IAMs_20 IAMs_20 23 34 11.4
comp=Z,642nm,22.0s
YBH Yreka Blue Hor 89.27 44 P **P** **23 03 11.5 -0.9**
YBH pmax pmax
comp=Z,32nm,1.7s
YBH MLR MLR
comp=Z,600nm,22.0s
YBH Yreka Blue Hor 89.27 44 LR LR 23 34 32.1
comp=Z,481nm,21.6s,baz=256,slow=30
M22K Willow 89.38 18 IAMs_20 IAMs_20 23 38 11.7
comp=Z,706nm,19.0s
F15K North Star Dit 89.43 11 IAMs_20 IAMs_20 23 38 42.0
comp=Z,510nm,20.0s
MONP2 Monument Peak 89.53 54 P **P** **23 03 12.6 -1.3**
baz=244,SNR=8.7
G16K Koyuk River 89.56 12 IAMs_20 IAMs_20 23 37 40.3
comp=Z,555nm,20.0s
G16K Koyuk River 89.56 12 P **P** **23 03 12.9 -0.1**
baz=206
GLI Glacier Island 89.61 20 P **P** **23 03 13.4 0.0**
baz=220
K20K Telida 89.61 16 IAMs_20 IAMs_20 23 35 13.9
comp=Z,439nm,20.0s
H17K Granite Mounta 89.63 13 IAMs_20 IAMs_20 23 36 51.3
comp=Z,629nm,20.0s
H17K Granite Mounta 89.63 13 P **P** **23 03 14.2 +0.8**
baz=209
IKP In-Ko-Pah, Jac 89.66 55 P **P** **23 03 13.7 -0.7**
baz=244,SNR=6.1
LRMC Laurel Mtn Rad 89.75 51 P **P** **23 03 13.9 -0.9**
baz=243,SNR=9.9
J19K Poorman 89.77 15 IAMs_20 IAMs_20 23 35 44.9
comp=Z,632nm,20.0s
L04D Klamath Falls 89.77 44 P **P** **23 03 13.5 -1.2**
L04D IAmb IAmb 23 03 14.5
comp=Z,50nm,1.6s
PFO Pinyon Flats O 89.81 54 P **P** **23 03 14.1 -1.1**
PFO IAmb IAmb 23 03 15.5
comp=Z,21nm,1.3s
PFO Pinyon Flats O 89.81 54 P **P** **23 03 14.7 -0.5**
baz=244,SNR=7.3
PFO Pinyon Flats O 89.81 54 ⇑*i*P **P** **23 03 14.4 -0.8**
PFO pmax pmax
comp=Z,31nm,1.4s
PFO Pinyon Flats O 89.81 54 LR LR 23 36 15.8
comp=Z,403nm,20.1s,baz=248,slow=31
TPFO Pinon Flats 89.82 54 P **P** **23 03 14.1 -1.1**
baz=244,SNR=7.2
CWC Cottonwood Cre 89.89 50 P **P** **23 03 14.7 -0.8**
baz=243
G17K Kiwalik Mounta 89.98 12 P **P** **23 03 14.1 -0.9**
baz=208
SWSC Sam W. Stewart 90.02 54 P **P** **23 03 15.6 -0.4**
baz=244,SNR=7.1
H18K Honhosa River 90.14 13 IAMs_20 IAMs_20 23 36 11.8
comp=Z,692nm,21.0s
MPMC Manual Prospec 90.15 51 P **P** **23 03 16.0 -0.8**
baz=243,SNR=13
CAST Castle Rocks 90.17 16 P **P** **23 03 15.9 -0.1**
CAST Castle Rocks 90.17 16 P **P** **23 03 14.9 -1.1**
baz=216
J20K Nowinta River 90.27 15 IAMs_20 IAMs_20 23 36 08.4
comp=Z,598nm,21.0s
GSC Goldstone, Bar 90.31 52 P **P** **23 03 16.9 -0.5**
baz=243,SNR=5.6
BELC Belle Mtn. Jos 90.33 53 P **P** **23 03 16.5 -1.1**
baz=244,SNR=20
DSP Deep Springs 90.40 50 P **P** **23 03 16.5 -1.1**
DSP IAmb IAmb 23 03 25.8
comp=Z,25nm,1.2s
HEC Hector,Ludlow 90.44 53 P **P** **23 03 17.3 -0.8**
baz=244,SNR=9.0
GOMU GeErMu 90.57 309 P P 23 03 24.0 +5.1
BC3 Big Chuckawall 90.59 54 P **P** **23 03 18.0 -0.8**
baz=244,SNR=8.5
NVAR Mina Array Bea 90.65 49 P **P** **23 03 17.5 -1.5**
NVAR Mina Array Bea 90.65 49 P **P** **23 03 18.0 -1.1**
comp=Z,2.7nm,0.6s,baz=228,slow=7.4,SNR=26
NVAR LR LR 23 35 21.1
comp=Z,579nm,21.8s,baz=262,slow=30
comp=Z,2.7nm,0.6s
GRAC Grapevine Rang 90.66 50 P **P** **23 03 18.4 -0.5**
baz=243
WAT1 Susitna Watana 90.68 18 P **P** **23 03 19.2 +0.9**
baz=219
F17K Baldwin Pennin 90.70 12 P **P** **23 03 19.7 +1.4**
baz=208
G18K Tagagawik 90.72 13 IAMs_20 IAMs_20 23 36 31.3
comp=Z,649nm,20.0s
G18K Tagagawik 90.72 13 P **P** **23 03 19.7 +1.2**
baz=210
NV11 Mina Array Sit 90.75 49 P **P** **23 03 18.0 -1.5**
NV11 IAmb IAmb 23 03 27.3
comp=Z,24nm,1.3s
FURC Furnace Creek, 90.78 51 P **P** **23 03 19.5 +0.1**
baz=243,SNR=5.1
H19K Roundabout Mou 90.88 14 IAMs_20 IAMs_20 23 35 36.3
comp=Z,541nm,22.0s
H19K Roundabout Mou 90.88 14 P **P** **23 03 20.2 +1.0**
baz=212
SLBS Sierra La Lagu 90.89 65 P **P** **23 03 19.2 -1.1**
GMRC Granite Mounta 90.92 53 P **P** **23 03 19.8 -0.5**
baz=244,SNR=12
K05A Summer Lake 90.93 44 P **P** **23 03 19.4 -0.9**
K05A IAmb IAmb 23 03 39.1
comp=Z,48nm,1.7s
PALK Pallekele 90.99 277 LR LR 23 47 13.3
comp=Z,392nm,18.7s,baz=225,slow=38
TUQ Turquoise Moun 91.01 52 P **P** **23 03 19.2 -1.5**
baz=244,SNR=6.3
IRM Iron Mountain 91.04 54 P **P** **23 03 19.9 -0.9**
baz=244,SNR=14
GLB Gilahina Butte 91.09 21 IAMs_20 IAMs_20 23 34 02.1
comp=Z,531nm,20.0s
E17K Hotham Inlet 91.17 11 P **P** **23 03 20.8 +0.3**
baz=207
DHY Denali Highway 91.21 18 IAMs_20 IAMs_20 23 38 08.2
comp=Z,664nm,19.0s
TPH Tonopah 91.25 49 P **P** **23 03 20.6 -1.2**
TPH Tonopah 91.25 49 P **P** **23 03 20.6 -1.2**
TPH pmax pmax
comp=Z,139nm,1.4s
G19K Purcell Mounta 91.27 13 P **P** **23 03 21.4 +0.4**
baz=211
TPNV Topopah Spring 91.44 51 P **P** **23 03 22.0 -0.7**
TPNV IAmb IAmb 23 03 30.6
comp=Z,30nm,1.1s
TPNV Topopah Spring 91.44 51 P **P** **23 03 21.7 -1.1**
baz=244
TPNV Topopah Spring 91.44 51 P **P** **23 03 22.0 -0.7**
TPNV pmax pmax
comp=Z,30nm,1.2s
113A Mohawk Valley, 91.49 55 P **P** **23 03 21.8 -1.0**
113A IAmb IAmb 23 03 23.4
comp=Z,22nm,1.3s
CTGM Chitina Glacie 91.58 22 IAMs_20 IAMs_20 23 45 51.1
comp=Z,455nm,19.0s
I21K Tanana 91.63 15 IAMs_20 IAMs_20 23 37 13.3
comp=Z,576nm,20.0s
BBB Bella Bella 91.68 33 LR LR 23 37 04.6
comp=Z,268nm,20.1s,baz=222,slow=31
E18K Tukpahlearik C 91.69 11 IAMs_20 IAMs_20 23 40 35.7
comp=Z,596nm,18.0s
F19K Shaleruckik Mo 91.72 13 IAMs_20 IAMs_20 23 39 49.5
comp=Z,601nm,20.0s
F19K Shaleruckik Mo 91.72 13 P **P** **23 03 21.9 -1.2**
baz=211
H21K Melozitna Rive 91.82 15 IAMs_20 IAMs_20 23 39 06.3
comp=Z,614nm,20.0s
PDMCI Parker Dam,Lak 91.85 54 P **P** **23 03 23.7 -0.7**
baz=245
214A Organ Pipe Nat 91.89 56 P **P** **23 03 23.7 -1.1**
214A IAmb IAmb 23 03 25.4
comp=Z,16nm,1.2s
214A Organ Pipe Nat 91.89 56 P **P** **23 03 23.9 -0.9**
baz=246
P29M Windy Craggy 91.97 24 P **P** **23 03 22.0 -2.5**
baz=228
M26K Nabesna, AK 92.06 20 P **P** **23 03 23.1 -1.7**
baz=224
ZAK Zakamensk 92.09 324 *e*P **P** **23 03 25.1 -0.2**
ZAK pmax pmax
comp=Z,25nm,1.4s
WVOR Wild Horse Val 92.26 45 P **P** **23 03 24.6 -1.7**
WVOR IAmb IAmb 23 03 45.1
comp=Z,14nm,1.2s
WVOR Wild Horse Val 92.26 45 P **P** **23 03 24.6 -1.7**
WVOR pmax pmax
comp=Z,14nm,1.3s
F20K Avaraart Lake 92.33 13 P **P** **23 03 25.0 -0.9**
baz=213
H22K Ishtalitna Cre 92.36 15 P **P** **23 03 25.4 -0.7**
baz=216
E19K Redstone River 92.36 12 IAMs_20 IAMs_20 23 39 10.6
comp=Z,690nm,20.0s
E19K Redstone River 92.36 12 P **P** **23 03 24.9 -1.1**
baz=211
G21K Allakaket 92.37 14 P **P** **23 03 25.6 -0.5**
baz=215
PLBC Pleasant Camp 92.39 25 P **P** **23 03 25.6 -0.7**
baz=229
M27K Edge Creek, AK 92.39 21 P **P** **23 03 25.6 -0.8**
baz=225
L26K Log Cabin Wild 92.40 20 P **P** **23 03 25.0 -1.4**
baz=224
YUK3 Moose Creek 92.45 22 P **P** **23 03 25.0 -1.9**
baz=226
R11B Troy Canyon, C 92.52 50 P **P** **23 03 25.9 -1.9**
baz=244
ILAR Eielson Array 92.65 17 P **P** **23 03 25.6 -1.8**
comp=Z,0.7nm,0.8s,baz=230,slow=5.0,SNR=8.9
comp=Z,0.7nm,0.8s
C18K Utukok River 92.67 11 IAMs_20 IAMs_20 23 38 25.7
comp=Z,451nm,20.0s
H23K Yukon River 92.76 16 IAMs_20 IAMs_20 23 37 57.2
comp=Z,459nm,20.0s
SKAG Skagway 92.79 25 P **P** **23 03 27.8 -0.4**
SKAG Skagway 92.79 25 P **P** **23 03 26.8 -1.4**
baz=230
HYT Haines Junctio 92.86 23 P **P** **23 03 26.4 -2.3**
baz=228
SCRK Sand Creek 92.90 19 P **P** **23 03 27.5 -1.3**
SCRK Sand Creek 92.90 19 P **P** **23 03 26.6 -2.2**
baz=223
L27K Beaver Creek, 92.91 20 P **P** **23 03 27.4 -1.3**
baz=225
F21K Alatna River 92.95 14 P **P** **23 03 28.1 -0.7**
baz=215
D19K Kuna River 93.09 12 IAMs_20 IAMs_20 23 40 12.7
comp=Z,624nm,20.0s
G22K Bettles 93.16 15 P **P** **23 03 28.5 -1.2**
baz=216
E20K Nigu River 93.26 12 P **P** **23 03 29.2 -1.0**
baz=212
O30N Mendenhall 93.34 24 P **P** **23 03 28.4 -2.4**
baz=230
F22K John River 93.48 14 P **P** **23 03 29.5 -1.8**
baz=216
K27K Chicken 93.52 19 P **P** **23 03 30.5 -1.0**
K27K IAmb IAmb 23 03 38.9
comp=Z,21nm,1.4s
K27K Chicken 93.52 19 P **P** **23 03 30.0 -1.5**
baz=225
HAWA Hanford 93.53 41 IAMs_20 IAMs_20 23 36 03.2
comp=Z,587nm,21.0s
D20K Etivluk River 93.56 12 P **P** **23 03 31.1 -0.5**
baz=212
S34M Telegraph Cree 93.57 28 P **P** **23 03 31.3 -0.5**
baz=234
TUC Tucson 93.60 57 P **P** **23 03 31.2 -1.5**
TUC Tucson 93.60 57 P **P** **23 03 31.2 -1.5**
baz=247
TUC Tucson 93.60 57 P **P** **23 03 31.2 -1.5**
TUC pmax pmax
comp=Z,7.0nm,1.2s
ELK Elko 93.80 48 P **P** **23 03 32.8 -0.8**
ELK Elko 93.80 48 P **P** **23 03 32.8 -0.8**
ELK pmax pmax
comp=Z,5.0nm,1.4s
ELK Elko 93.80 48 LR LR 23 36 43.6
comp=Z,276nm,21.9s,baz=320,slow=30
E21K Killik River 93.86 13 IAMs_20 IAMs_20 23 39 03.1
comp=Z,687nm,21.0s
E21K Killik River 93.86 13 P **P** **23 03 31.8 -1.2**
baz=214
SZCU Shurtz Canyon 94.00 51 P **P** **23 03 32.8 -1.8**
SZCU IAmb IAmb 23 03 43.7
comp=Z,38nm,1.8s
I26K Coal Creek Min 94.11 18 P **P** **23 03 32.7 -1.4**
I26K IAmb IAmb 23 03 46.0
comp=Z,20nm,1.5s
I26K Coal Creek Min 94.11 18 P **P** **23 03 32.7 -1.4**
baz=224
L29M L29M 94.16 21 P **P** **23 03 33.0 -1.5**
baz=228
P33M Teslin, Yukon 94.25 25 P **P** **23 03 33.6 -1.4**
baz=232
M30M Minto, Yukon 94.27 22 P **P** **23 03 33.1 -1.8**
baz=229
C21K Knifeblade Rid 94.29 12 P **P** **23 03 33.6 -1.3**
baz=214
EGAK Eagle 94.33 19 P **P** **23 03 33.4 -1.8**
EGAK IAmb IAmb 23 03 34.4
comp=Z,20nm,1.4s
EGAK Eagle 94.33 19 P **P** **23 03 33.4 -1.8**
baz=226
DLBC Dease Lake 94.35 27 LR LR 23 37 03.3
comp=Z,604nm,21.4s,baz=258,slow=30
DAWY Dawson 94.39 20 P **P** **23 03 33.8 -1.7**
baz=227
WUAZ Wupatki 94.42 54 P **P** **23 03 35.3 -1.2**
WUAZ IAmb IAmb 23 03 44.5
comp=Z,16nm,1.3s
WUAZ Wupatki 94.42 54 P **P** **23 03 34.5 -2.0**
baz=246
D22K Ayikyak River 94.49 13 P **P** **23 03 35.2 -0.7**
baz=215
F24K Squaw Lake 94.50 15 P **P** **23 03 35.2 -0.7**
baz=220
E23K Chandalar 94.51 14 P **P** **23 03 35.9 -0.1**
baz=218
R33M Jennings River 94.51 26 P **P** **23 03 35.4 -0.9**
baz=234
I27K Kandik River 94.78 18 P **P** **23 03 36.1 -1.1**
baz=225
E24K Your Creek 94.79 15 IAMs_20 IAMs_20 23 39 26.7
comp=Z,580nm,19.0s
K29M Barlow Dome 94.85 21 P **P** **23 03 36.7 -1.0**
baz=229
D23K Nanushuk River 94.99 14 P **P** **23 03 38.1 0.0**
baz=217
H03S2 Juan Fernandez 95.07 129 T T 00 48 57.1
baz=242,slow=75
H03S1 Juan Fernandez 95.08 129 T T 00 48 55.5
baz=242,slow=75
H03S3 Juan Fernandez 95.09 129 T T 00 48 55.3
baz=242,slow=75
F25K Christian Rive 95.12 16 P **P** **23 03 38.2 -0.6**
baz=222
G26K Porcupine Rive 95.13 17 P **P** **23 03 38.1 -0.7**
baz=223
I28M Miner Creek 95.17 19 P **P** **23 03 37.8 -1.3**
baz=227
H27K Steamboat Moun 95.24 18 P **P** **23 03 38.0 -1.4**
baz=225
D24K Happy Valley 95.55 14 P **P** **23 03 39.6 -1.0**
baz=219
I29M Ogilvie Camp, 95.61 20 P **P** **23 03 39.6 -1.5**
baz=228
G27K Doyon Strip 95.62 18 P **P** **23 03 40.2 -0.8**
baz=225
C23K Itkillik River 95.70 13 P **P** **23 03 40.6 -0.7**
baz=217
NEW Newport 95.84 40 LR LR 23 41 32.5
comp=Z,235nm,18.9s,baz=236,slow=32

EFI	East Falkland	96.18	153	⇓	*e*P	P	23 03 44.1	0.0
D25K	Kavik River	96.24	15		IAMs_20	IAMs_20	23 42 27.1	
	comp=Z,498nm,19.0s							
MMPY	Sheldon Lake,	96.30	24		P	P	23 03 43.9	-0.3
	baz=234							
E27K	Coleen River	96.61	17		P	P	23 03 44.0	-1.5
	baz=225							
F28M	Old Crow	96.68	17		P	P	23 03 44.0	-1.8
	baz=227							
G29M	Pine Creek	96.73	19		P	P	23 03 44.4	-1.7
	baz=228							
EPYK	Eagle Plains	96.77	19		P	P	23 03 45.2	-1.1
	baz=230							
TIXI	Tiksi	97.06	348	⇓	*e*P	P	23 03 45.2	-2.3
G30M	tAoh Zraii Nji	97.32	19		P	P	23 03 47.2	-1.6
	baz=230							
E28M	Babbage River	97.45	17		IAMs_20	IAMs_20	23 46 12.0	
	comp=Z,504nm,18.0s							
E28M	Babbage River	97.45	17		P	P	23 03 48.0	-1.3
	baz=227							
D27M	Malcolm River	97.51	16		P	P	23 03 48.6	-1.0
	baz=226							
MNTX	Cornudas Mount	97.63	59		P	P	23 03 49.3	-1.7
	baz=249							
G31M	Satah River	97.88	19		P	P	23 03 49.7	-1.5
	baz=232							
ANMO	Albuquerque	97.94	56		P	P	23 03 52.7	+0.1
	baz=249							
ANMO	Albuquerque	97.94	56	⇓	*e*P	Pdif	23 03 53.0	+0.4
ANMO					pmax	pmax		
	comp=Z,10.0nm,2.8s							
ANMO	Albuquerque	97.94	56		LR	LR	23 41 10.2	
	comp=Z,304nm,19.2s,baz=347,slow=31							
TXAR	Lajitas Array	98.20	62		P	P	23 03 52.8	-0.9
	comp=Z,1.3nm,1.1s,baz=226,slow=4.8,SNR=5.4							
TXAR					LR	LR	23 39 24.1	
	comp=Z,539nm,21.2s,baz=232,slow=30							
	comp=Z,1.3nm,1.1s							
FLWY	Flagg Ranch	98.21	46		IAMs_20	IAMs_20	23 37 40.2	
	comp=Z,431nm,19.0s							
PDAR	Pinedale Array	98.50	47		P	P	23 03 53.9	-1.1
	comp=Z,0.5nm,0.8s,baz=212,slow=3.2,SNR=4.5							
PDAR					LR	LR	23 40 42.4	
	comp=Z,172nm,21.9s,baz=238,slow=31							
	comp=Z,0.5nm,0.8s							
WMQ	Urumqi	98.67	314		*e*P	Pdif	23 03 56.5	+1.0
WMQ					LR	LR		
	comp=Z,130nm,19.9s							
DGZ	Jazzator, Alta	100.95	319	⇑	*e*P	Pdif	23 04 04.3	-1.3
DGZ					pmax	pmax		
	comp=Z,5.0nm,1.5s							
MKAR	Makanchi Array	103.25	315		Pdiff	Pdif	23 04 14.7	-1.1
	comp=Z,0.4nm,0.8s,baz=110,slow=6.7,SNR=2.1							
MKAR					PKiKP	PKiKP	23 08 33.7	-1.5
	comp=Z,0.9nm,1.0s,baz=147,slow=3.4,SNR=4.1							
OK035	E0210 Rd and N	104.46	56		IAMs_20	IAMs_20	23 47 48.9	
	comp=Z,429nm,18.0s							
OK032	Salt Plains WL	104.87	56		IAMs_20	IAMs_20	23 45 54.8	
	comp=Z,404nm,19.0s							
OK033	Mehan	105.66	57		IAMs_20	IAMs_20	00 00 25.5	
	comp=Z,375nm,19.0s							
KURBB	Kurchatov Arra	106.69	318		PKiKP	PKiKP	23 08 40.0	-1.3
	comp=Z,0.7nm,0.8s,baz=93,slow=2.4,SNR=6.2							
BVAR	Borovoye Array	112.09	320		PKiKP	PKiKP	23 08 50.4	-1.0
	comp=Z,1.4nm,0.8s,baz=169,slow=2.9,SNR=5.9							
BRVK	Borovoye	112.16	320	*c*	*i*PKIKP	PKiKP	23 08 50.3	-1.1
SVE	Sverdlovsk	117.86	324		*e*PKIKP	PKPdf	23 09 01.3	-1.0
ARU	Arti	119.02	323		*i* PKIKP	PKPdf	23 09 03.6	-0.9
ARU							23 10 22.3	
ARU							23 16 15.6	
ARU					SP	SP	23 20 09.0	-0.8
ARU					SS	SS	23 26 50.2	+5.8
GEYT	Alibeck	119.08	302		PKP	PKPdf	23 09 04.2	-1.1
	comp=Z,1.6nm,0.9s,baz=111,slow=3.2,SNR=4.6							
SAML	Samuel	120.52	115		IAMs_20	IAMs_20	23 58 48.4	
	comp=Z,252nm,20.0s							
KIRV	Kirov	123.56	327	⇓	*i*PKIKP	PKPdf	23 09 13.1	0.0
BELG	Belogornoye	125.90	320	⇓	*e*PKIKP	PKPdf	23 09 18.0	+0.2
ARCES	ARCESS Array B	127.34	345		PKP	PKPdf	23 09 19.1	-1.0
	comp=Z,1.6nm,0.6s,baz=63,slow=2.4,SNR=8.8							
KLMR	Klimovskoe	127.54	332		*e*PKPdf	PKPdf	23 09 18.8	-1.9
KLMR					AMP		23 09 21.3	
	comp=Z,24nm,1.4s							
KLMR	Klimovskoe	127.54	332		*e*PKIKP	PKPdf	23 09 18.8	-1.9
KLMR					pmax	pmax		
	comp=Z,24nm,1.4s							
BDFB	Brasilia	128.16	133		PKP	PKPdf	23 09 22.2	-1.2
	comp=Z,7.6nm,0.8s,baz=85,slow=7.7,SNR=7.8							
GROC	Groznyy	128.47	309		*i* PKIKP	PKiKP	23 09 23.8	+0.1
GROC					pmax	pmax		
	comp=Z,18nm,1.1s							
GNI	Garni	129.52	305	⇓	*e*PKIKP	PKPdf	23 09 24.3	-1.1
FURI	Furi	130.54	263		IAMs_20	IAMs_20	00 02 41.4	
	comp=Z,270nm,20.0s							
OBN	Obninsk	131.35	326		*e*PKIKP	PKPdf	23 09 28.0	-0.1
OBN					*e*		23 11 46.0	
OBN					*e*PPP	PPP	23 14 37.4	
OBN					pmax	pmax		
	comp=Z,9.0nm,1.4s							
FINES	FINESS Array B	132.72	337		PKIKP	PKPdf	23 09 30.0	-0.5
FINES	FINESS Array B	132.72	337		PKP	PKPdf	23 09 30.0	-0.5
	comp=Z,4.3nm,1.1s,baz=122,slow=5.2,SNR=2.0							
AKASG	Malin Array Be	137.27	323		PKP	PKPdf	23 09 37.8	-1.6
	comp=Z,1.5nm,0.7s,baz=56,slow=1.2,SNR=5.7							
AKBB	Malin Array Si	137.27	323	*de*	PKIKP	PKPdf	23 09 38.9	-0.5
NOA	NORSAR Array B	137.71	344		PKP	PKPdf	23 09 39.6	-0.3
	comp=Z,1.2nm,0.9s,baz=33,slow=2.0,SNR=3.1							
CSS	Mathiatis	139.04	299		IAMs_20	IAMs_20	00 18 42.9	
	comp=Z,254nm,20.0s							
KOLS	Kolonicke sedl	142.04	324		*e*PKIKP	PKPdf	23 09 49.2	+1.0
KOLS	Kolonicke sedl	142.04	324		*e*PKIKP	PKPdf	23 09 49.2	+1.0
TRPA	Tarpa	142.33	323	⇑	P	PKPdf	23 09 47.2	-1.4
ARR	Arges	142.46	318	⇑	P	PKPdf	23 09 48.8	-0.3
OJC	Ojcow	142.59	327		*e*PKPdf	PKPdf	23 09 48.2	-0.9
SURR	Surduc	143.82	319	⇑	P	PKPbc	23 09 48.9	-0.1
SIRR	Siria	143.83	321	⇑	P	PKPbc	23 09 49.5	+0.4
KSP	Ksiaz	143.87	330		*e*PKPdf	PKPab	23 09 47.1	-1.3
MPEP	Malo Peshtene	143.92	315		*e*P	PKPbc	23 09 49.6	+0.2
PSZ	Piszkesteto	143.92	324	⇑	P	PKPbc	23 09 49.6	+0.2
PSZ	Piszkesteto	143.92	324		PKPdf	PKPbc	23 09 49.2	-0.1
PSZ	Piszkesteto	143.92	324	⇑	PKIKP	PKPbc	23 09 49.6	+0.2
BSEG	Bad Segeberg	143.93	338		*e*PKPbc	PKPab	23 09 48.6	+0.1
	baz=36,slow=2.9							
PGB	Panagyurishte	143.99	313		*e*P	PKPab	23 09 49.2	+0.1
MORC	Moravsky Berou	144.00	328	⇓	P	PKPab	23 09 48.0	-1.0
MORC	Moravsky Berou	144.00	328		PKPdf	PKPbc	23 09 49.5	0.0
MORC	Moravsky Berou	144.00	328		*e*PKP	PKPab	23 09 49.1	+0.1
MORC	Moravsky Berou	144.00	328		PKIKP	PKPbc	23 09 49.5	0.0
OSTC	Ostas	144.11	330		*e*PKP	PKPab	23 09 49.4	+0.1
OSTC	Ostas	144.11	330		*e*PKIKP	PKPab	23 09 49.4	+0.1
MAUC	Maruska	144.12	327		*e*PKP	PKPbc	23 09 50.5	+0.6
VYHS	Vyhne	144.15	325		*e*PKP	PKPbc	23 09 50.5	+0.5
VYHS	Vyhne	144.15	325		*e*PKIKP	PKPbc	23 09 50.5	+0.5
BZS	Buzias	144.19	320	⇑	P	PKPbc	23 09 50.1	-0.1
BZS	Buzias	144.19	320	⇑	PKIKP	PKPbc	23 09 50.1	-0.1
DPC	Dobruska-Polom	144.20	330		*e*PKP	PKPab	23 09 49.1	-0.6
DPC					*ep*PKP	sPKPdf	23 09 57.2	+1.1
DPC	Dobruska-Polom	144.20	330		*e*PKIKP	PKPab	23 09 49.1	-0.6
DPC					*e*		23 09 57.2	
UPC	Upice	144.24	330		*e*PKP	PKPab	23 09 50.0	+0.2
UPC					*ep*PKP	sPKPdf	23 09 57.4	+1.3
UPC	Upice	144.24	330		*e*PKIKP	PKPab	23 09 50.0	+0.2
UPC					*e*		23 09 57.4	
GORT1	Trebel	144.34	337		*e*PKPbc	PKPbc	23 09 50.3	0.0
	baz=36,slow=2.9							
JAVC	Velka Javorina	144.52	327		*e*PKP	PKPdf	23 09 53.0	+0.4
MDVR	Moldovita	144.55	318	⇓	P	PKPab	23 09 51.0	-0.2
VTS	Vitosha	144.57	314	⇑	P	PKPab	23 09 51.6	+0.1
VTS	Vitosha	144.57	314	⇑	PKIKP	PKPab	23 09 51.6	+0.1
MMB	Musomishta	144.66	312		*e*P	PKPab	23 09 51.1	-0.6
VRAC	Vranov	144.77	328	⇑	P	PKPbc	23 09 52.3	+0.4
VRAC	Vranov	144.77	328		*e*PKP	PKPab	23 09 51.5	-0.3
VRAC	Vranov	144.77	328	⇑	PKIKP	PKPbc	23 09 52.3	+0.4
SMOL	Smolenice	144.87	327		*e*PKIKP	PKPdf	23 09 54.1	+1.0
PVCC	Panska Ves	144.88	331		*e*PKP	PKPab	23 09 52.0	-0.1
PVCC					*ex*	x	23 09 58.2	
PVCC	Panska Ves	144.88	331		*e*PKIKP	PKPab	23 09 52.0	-0.1
PVCC					*e*		23 09 58.2	
FLTG	Flechtingen	144.89	336		*e*PKPbc	PKPab	23 09 51.7	-0.4
	baz=36,slow=2.9							
BRG	Berggiesshubel	144.90	332		*i* PKIKP	PKPbc	23 09 52.7	+0.4
BRG							23 10 00.9	
BRG							23 13 17.0	
BRG					pmax	pmax		
	comp=Z,105nm,1.3s							
BRG					pmax	pmax		
	comp=Z,49nm,1.1s							
BRG					pmax	pmax		
	comp=Z,8.0nm,1.1s							
BRG	Berggiesshubel	144.90	332		*e*PKPbc	PKPdf	23 09 53.1	0.0
	baz=36,slow=2.9							
BRG	Berggiesshubel	144.90	332		*i* PKP	PKPdf	23 09 52.8	-0.3
BRG					Amp		23 09 54.1	
	comp=Z,105nm,1.3s							
BRG	Berggiesshubel	144.90	332		P	PKiKP	23 10 00.9	+4.0
BRG					Amp		23 10 01.7	
	comp=Z,49nm,1.1s							
KKB	Krupnik	144.97	313		*e*P	PKPbc	23 09 52.3	-0.5
CLL	Collm	144.98	333			PKPbc	23 09 50.9	-1.5
CLL					IAMs_20	IAMs_20	00 27 11.6	
	comp=Z,199nm,20.0s							
CLL	Collm	144.98	333	⇓	*i*PKIKP	PKPbc	23 09 52.1	-0.4
CLL					*i*		23 09 59.7	
CLL					pmax	pmax		
	comp=Z,84nm,1.3s							
CLL	Collm	144.98	333		*e*PKPbc	PKPbc	23 09 52.3	-0.2
	baz=36,slow=2.9							
CLL	Collm	144.98	333	⇓	*i*PKPbc	PKPbc	23 09 52.1	-0.4
	comp=Z,84nm,1.3s							
CLL					*i* x	x	23 09 59.7	
KRUC	Moravsky	145.03	328		*e*PKP	PKPbc	23 09 52.6	-0.1
MODS	Modra-Piesok	145.03	326		*e*PKP	PKPdf	23 09 53.7	+0.3
MODS	Modra-Piesok	145.03	326		*e*PKIKP	PKPdf	23 09 53.7	+0.3
BOVS	Bovan	145.11	317	⇑	P	PKPbc	23 09 52.8	-0.3
FBE	Freiberg	145.12	333		*e*PKPbc	PKPdf	23 09 53.4	-0.1
	baz=36,slow=2.9							
NRDL	Niedersach Rie	145.18	337		*e*PKPbc	PKPbc	23 09 53.1	+0.1
	baz=36,slow=2.9							
GOPC	GO Pecny, Ondr	145.21	330		*e*PKP	PKPbc	23 09 53.1	-0.2
GOPC					*ex*	x	23 10 00.3	
GOPC	GO Pecny, Ondr	145.21	330		*e*PKIKP	PKPbc	23 09 53.1	-0.2
GOPC					*e*		23 10 00.3	
ZST	Bratislava	145.24	326		*e*PKP	PKPdf	23 09 54.7	+0.9
ZST	Bratislava	145.24	326		*e*PKIKP	PKPdf	23 09 54.7	+0.9
RETH	Rethem/Aller,	145.24	338		*e*PKPbc	PKPbc	23 09 53.3	+0.1
	baz=36,slow=2.9							
ASSE	Asse, Remlinge	145.26	336		*e*PKPbc	PKPbc	23 09 53.4	+0.2
	baz=36,slow=2.9							
PRA	Prague	145.26	331		*e*PKP	PKPbc	23 09 53.2	-0.2
PRA	Prague	145.26	331		*e*PKIKP	PKPbc	23 09 53.2	-0.2
PRU	Pruhonice	145.27	331		*e*PKP	PKPbc	23 09 53.4	-0.1
PRU					*ex*	x	23 10 00.4	
PRU	Pruhonice	145.27	331		*e*PKIKP	PKPbc	23 09 53.4	-0.1
PRU					*e*		23 10 00.4	
TREC	Trest	145.31	329		*e*PKP	PKPbc	23 09 53.5	-0.2
TREC					*ex*	x	23 10 01.0	
TREC	Trest	145.31	329		*e*PKIKP	PKPbc	23 09 53.5	-0.2
TREC					*e*		23 10 01.0	
HSKC	Hora Svate Kat	145.32	332		*e*PKP	PKPbc	23 09 53.1	-0.6
FRGS	Fruska Gora	145.52	320	⇑	P	PKPab	23 09 54.8	+0.1
FRGS	Fruska Gora	145.52	320	⇓	*i*P	PKPdf	23 09 53.7	-0.7
NEUB	Neuenburg	145.56	334		*e*PKPbc	PKPab	23 09 54.7	+0.1
	baz=36,slow=2.9							
CLZ	Clausthal	145.60	336		*e*PKPbc	PKPab	23 09 55.0	+0.1
	baz=36,slow=2.9							
MORH	Mrgy, Hungar	145.61	322	⇑	P	PKPdf	23 09 53.6	-0.9
STIP	Stip	145.67	313		*i* P	PKPbc	23 09 55.0	-0.1
ZVC	Zvíkov	145.82	330		*e*PKP	PKPbc	23 09 55.1	-0.2
ZVC					*ex*	x	23 10 01.5	
EKA	Eskdalemuir Ar	145.88	352		PKPbc	PKPdf	23 09 53.4	-1.2
	comp=Z,17nm,1.0s,baz=354,slow=2.5,SNR=13							
WERD	Werda	145.92	333		*e*PKPbc	PKPbc	23 09 55.7	+0.2
	baz=36,slow=2.9							
PLN	Plauen	145.95	333		*e*PKPbc	PKPbc	23 09 55.8	+0.2
	baz=36,slow=2.9							
DIVS	Divibare	145.96	318		PKPdf	PKPdf	23 09 54.4	-0.9
DIVS	Divibare	145.96	318	⇑	*i*P	PKPdf	23 09 54.3	-0.9
RONA	Rosalia, Austr	145.97	326		*i* PKP	PKPdf	23 09 54.6	-0.5
	comp=Z,71nm,1.2s,SNR=39							
GUNZ	Gunzen	145.97	333		*e*PKPbc	PKPbc	23 09 56.0	+0.3
	baz=36,slow=2.9							
GTTG	Gottingen	146.00	336		*e*PKPbc	PKPbc	23 09 56.0	+0.3
	baz=36,slow=2.9							
WERN	Wernitzgruen	146.01	333		*e*PKPbc	PKPab	23 09 56.2	-0.2
	baz=36,slow=2.9							
TEKS	Tekeris	146.01	319		*e*P	PKPdf	23 09 55.6	+0.4
NKC	Novy Kostel	146.02	333		*e*PKP	PKPbc	23 09 55.9	0.0
NKC	Novy Kostel	146.02	333		*e*PKP2	PKPbc	23 09 55.9	0.0
CONA	Conrad Observa	146.04	327		PKP	PKPdf	23 09 52.6	-2.7
	comp=Z,2.0nm,0.7s,SNR=48							
CONA					*e*PKP	PKPab	23 09 56.8	+0.2
	comp=Z,85nm,1.3s							
SKO	Skopje	146.05	314		*i* P	PKPdf	23 09 55.7	+0.3
MOX	Moxa	146.06	334		*e*PKPbc	PKPbc	23 09 56.1	+0.1
	baz=36,slow=2.9							
MOX					*e*L	L	00 08 06.6	
	comp=Z,144nm,21.8s							
IBBN	Ibbenburen	146.15	339		*e*PKPbc	PKPbc	23 09 56.0	-0.1
	baz=36,slow=2.9							
CKRC	Cesky Krumlov	146.20	329		*e*PKP	PKPdf	23 09 55.3	-0.1
CKRC					*ex*	x	23 10 03.8	
CKRC	Cesky Krumlov	146.20	329		*e*PKP2	PKPdf	23 09 55.3	-0.1
KHC	Kasperske Hory	146.32	330		PKPdf	PKPdf	23 09 54.7	-0.9
KHC	Kasperske Hory	146.32	330		*e*PKP	PKPdf	23 09 55.0	-0.7
KHC					*ex*	x	23 10 04.0	
KHC	Kasperske Hory	146.32	330		*e*PKP2	PKPdf	23 09 55.0	-0.7
MANZ	Manzenberg	146.35	333		*e*PKPbc	PKPbc	23 09 57.3	+0.4
	baz=36,slow=2.9							
SJES	Sjenica	146.40	317		*e*P	PKPdf	23 09 55.9	-0.2
BBLS	Laziói	146.45	318	⇑	*i*P	PKPdf	23 09 55.6	-0.5
GEC2	GERESS Array S	146.47	330		PKPdf	PKPdf	23 09 55.2	-0.7
GEC2	GERESS Array S	146.47	330		*e*PKPbc	PKPbc	23 09 57.5	+0.1
	baz=36,slow=2.9							
GERES	GERESS Array B	146.47	330			PKPdf	23 09 54.6	-1.4
GERES	GERESS Array B	146.47	330		PKPbc	PKPdf	23 09 55.3	-0.7
	comp=Z,24nm,1.0s,baz=352,slow=5.2,SNR=50							
ROTZ	Rotzenmuhle	146.47	332		*e*PKPbc	PKPbc	23 09 57.6	+0.4
	baz=36,slow=2.9							
RUDO	Rudo	146.60	318		*e*P	PKPdf	23 09 56.5	+0.2
FNA	Florina	146.61	312		PKPdf	PKPdf	23 09 55.0	-1.4
FNA	Florina	146.61	312		PKIKP	PKPdf	23 09 55.0	-1.4
WET	Wettzell	146.63	331		*e*PKPbc	PKPbc	23 09 58.0	+0.2
	baz=36,slow=2.9							
ARSA	Arzberg	146.66	326		*i* PKP	PKPbc	23 09 57.6	-0.3
	comp=Z,15nm,1.2s,SNR=9.2							
KOGS	Kog	146.79	325		*i* PKPbc	PKPbc	23 09 57.5	-0.7
KASTN	Kahler Asten	146.84	337		*e*PKPbc	PKPbc	23 09 58.2	-0.1
	baz=36,slow=2.9							
OHR	Ohrid	146.86	313		*i* P	PKPdf	23 09 57.5	+0.6
MOA	Molln	146.90	328		*i* PKP	PKPdf	23 09 55.5	-1.2
	comp=Z,4.9nm,1.4s,SNR=11							
GRA1	Grafenberg Arr	146.95	333			PKPbc	23 09 58.1	-0.4
GRA1					IAMs_20	IAMs_20	00 25 03.7	
	comp=Z,196nm,20.0s							
GRF	Grafenberg Arr	146.95	333		PKP2	PKPbc	23 09 58.2	-0.4
GRF	Grafenberg Arr	146.95	333		*e*PKPbc	PKPbc	23 09 58.9	+0.3
	baz=36,slow=2.9							
GRF					*e*L	L	00 16 25.7	
	comp=Z,111nm,20.8s							
GRFO	Grafenberg	146.95	333		IAMs_20	IAMs_20	00 25 02.7	
	comp=Z,194nm,20.0s							
BUG	Bochum--Univer	147.04	339		*e*PKPbc	PKPbc	23 09 58.6	-0.2
	baz=36,slow=2.9							
PDG	Podgorica	147.27	316	⇑	*i*P	PKPdf	23 09 56.5	-0.9
SOKA	Soboth	147.29	326		*i* PKP	PKPdf	23 09 56.5	-0.9
	comp=Z,4.0nm,1.3s,SNR=17							
BLY	Banja Luka	147.29	321	⇑	*i*P	PKPdf	23 09 58.5	+1.1
A051A	Mrakovica	147.30	322	⇓	*i*P	PKPbc	23 09 58.8	-1.0
BIOA	Bad Ischl, Aus	147.31	328		*i* PKP	PKPdf	23 09 56.2	-1.1
	comp=Z,5.7nm,1.4s,SNR=5.5							
TIR	Tirane	147.39	314			PKPbc	23 09 59.5	-0.6
TIR	Tirane	147.39	314		PKP2	PKPbc	23 09 59.5	-0.6
DRME	Dracevica, Mon	147.44	316		*e*P	PKPdf	23 09 56.8	-0.9
BRY	Bratogost	147.49	317		*e*P	PKPbc	23 09 59.5	-1.0
MGRS	Mrkonjic Grad	147.54	321		*e*P	PKPdf	23 09 55.4	-2.4
CRES	Cresnjev	147.61	324	⇑	*i*P	PKPdf	23 09 57.0	-0.9
TNS	Taunus Mts	147.63	336		*e*PKPbc	PKPbc	23 10 00.6	+0.1
	baz=36,slow=2.9							
OBKA	Obir	147.65	326		*e*P	PKPdf	23 09 57.5	-0.5
RJOB	Jochberg	147.68	329		*e*PKPbc	PKPbc	23 10 00.5	-0.3
	baz=36,slow=2.9							
HCY	Herceg Novi	147.75	317		*e*P	PKPbc	23 10 00.2	-0.8
AHRW	Bad Neuenahr-A	147.86	338		*e*PKPbc	PKPbc	23 10 01.1	+0.1
	baz=36,slow=2.9							
KBA	Koelnbreinsper	147.88	328		*e*PKP	PKPbc	23 10 00.7	-0.7
	comp=Z,30nm,1.2s							
BOJS	Bojanci	147.93	324		*e*P	PKPdf	23 09 57.7	-0.7
LESA	Schwarzleotal	147.96	329		*e*PKP	PKPdf	23 09 57.5	-1.0
	comp=Z,6.7nm,1.4s							
LESA					*e*PKP	pPKPdf	23 10 01.1	-0.5
	comp=Z,35nm,1.1s							
LJU	Ljubljana	147.97	325		*i* PKPdf	PKPdf	23 09 58.2	-0.3
LJU					*i* PKPbc	pPKPdf	23 10 01.1	-0.5
MYKA	Terra Mystica	148.04	327		*i* PKP	PKPbc	23 10 00.8	-0.9
	comp=Z,18nm,1.3s,SNR=10							
FUR	Furstenfeldbru	148.07	331		*e*PKPbc	PKPbc	23 10 01.8	+0.1
	baz=36,slow=2.9							
BTNL	Ternell	148.15	339		*d*PKP	PKPdf	23 09 59.0	+0.4
MEM	Membach	148.17	339		*d*PKP	PKPbc	23 10 01.2	-0.7
PRED	Cave del Predi	148.20	327			PKPdf	23 10 00.5	+1.6
CEY	Cerknica	148.22	325	⇑	*i*P	PKPdf	23 10 00.2	+1.3
CEY	Cerknica	148.22	325		*i* PKPbc	PKPbc	23 10 01.7	-0.5
BSTI	Sart Tilman	148.33	340		*d*PKP	PKPbc	23 10 01.8	-0.5
BHOU	Houvegnez	148.39	339		*d*PKP	PKPbc	23 10 02.1	-0.4
STU	Stuttgart	148.50	334		*e*PKPbc	PKPbc	23 10 02.9	+0.1
	baz=36,slow=2.9							
ABTA	Abfaltersbach	148.52	328		*e*PKP	PKPdf	23 09 58.1	-1.4
	comp=Z,10nm,1.4s							
ABTA					*i* pPKP	pPKPdf	23 10 01.8	-0.8
	comp=Z,26nm,1.0s,SNR=9.5							
WATA	Walderalm	148.55	330		*e*PKP	PKPdf	23 09 58.5	-1.1
	comp=Z,6.8nm,1.5s							
WATA					*i* pPKP	pPKPdf	23 10 02.4	-0.3
	comp=Z,35nm,1.3s,SNR=10							
BCLA	Clavier	148.56	340		*d*PKP	PKPbc	23 10 02.0	-0.8
SKDS	Skadanscina	148.57	325		*e*P	PKPdf	23 09 56.7	-2.8
WTTA	Wattenberg	148.57	330		*i* PKP	PKPdf	23 09 58.2	-1.4
	comp=Z,11nm,1.3s,SNR=23							
WTTA					*e*PKP	pPKPdf	23 10 02.8	0.0
	comp=Z,49nm,1.2s							
BGES	Gesves	148.66	340		*d*PKP	PKPbc	23 10 01.9	-1.2
MOTA	Moosalm	148.76	330		*e*PKP	PKPdf	23 09 59.0	-0.9
	comp=Z,5.7nm,1.2s							
MOTA					*i* pPKP	pPKPdf	23 10 03.1	+0.1
	comp=Z,50nm,1.2s,SNR=14							
STAL	STALIGIAL	148.76	327			PKPdf	23 09 57.5	-2.3
SQTA	Sankt Quirin	148.80	330		*e*PKP	PKPdf	23 09 59.5	-0.4
	comp=Z,6.0nm,1.2s							
SQTA					*i* PKP	pPKPdf	23 10 03.3	+0.3
	comp=Z,32nm,1.2s,SNR=15							
RETA	Reutte	148.81	331		*i* pPKP	pPKPdf	23 10 03.0	0.0
	comp=Z,18nm,1.3s,SNR=10.0							
RCHB	Rochefort	148.81	340		*d*PKP	PKPdf	23 10 00.2	+0.6
BMRD	Maredsous	148.83	340		*d*PKP	PKPbc	23 10 02.7	-0.9
CIMO	Cimolais	148.86	328			PKPdf	23 09 57.6	-2.3
WLF	Walferdange	148.92	338			PKPbc	23 10 03.5

*IDC **31** 22:59:48.9±0.6, 37°.36S×177°.53E, h0km, mb4.6/12, mbtmp4.6/12 Error ellipse: s-maj=22.7km s-min=15.0km az=67.0*
*MOS **31** 22:59:49.9±1.1, 37°.47S×177°.42E, h9km, mb5.2/10, Error ellipse: s-maj=15.3km s-min=11.7km az=123.4*
*WEL **31** 22:59:51.2±0.5, 37°.S±4°×17°.7E±°, h8km±3km, M4.7/114, ML5.0/28, MLv4.7/114, Error ellipse: s-maj=0.0km s-min=0.0km az=16.7*
*NEIC **31** 22:59:51.9±1.8, 37°.60S±0°.06×177°.28E±0°.06, h7km±3km, mb5.0/38, Error ellipse: s-maj=8.3km s-min=6.3km az=200.0*
*NOU **31** 22:59:52.8, 37°.54S×177°.30E, h24km, MLv4.9/14, Off E. Coast of N. Island, N.Z.*
*GCMT **31** 22:59:53.9±0.3, 37°.59S±0°.02×177°.31E±0°.03, h15km, MW5.2/79, Moment Tensor Solution. s34, c36; s79, c106; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.49±.18; $M_{\theta\theta}$2.68±.17; $M_{\phi\phi}$1.82±.15; $M_{r\theta}$1.27±.64; $M_{\theta\phi}$1.57±.11; $M_{\phi r}$6.53±.70; Best double couple: $M_0$7.73400×10^{16} NP1:ϕ_s199.00000°, δ75.00000°, λ-103.00000°. NP2:ϕ_s60.00000°, δ19.00000°, λ-51.00000°. Principal axes: T 6.8760, Plg29.0000°, Azm300.0000°; N 1.7260, Plg12.0000°, Azm203.0000°; P -8.5930, Plg58.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 22:59:52.2±0.6, 37°.50S±0°.03×177°.33E±0°.02, h15km±3km, n331, σ1°36/342, mb5.0/43, MS4.2/3, 3C-11D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.12**	**258**	P	**Pg**	**22 59 55.5**	**-0.2**
WIZ				S	**Sg**	**22 59 58.1**	**+0.1**
WSRZ	**White Island S**	**0.13**	**263**	P	**Pb**	**22 59 55.8**	**-0.6**
WSRZ				S	**Sg**	**22 59 58.3**	**+0.1**
HAZ	**Te Kaha**	**0.44**	**126**	P	**Pg**	**23 00 00.4**	**-0.6**
HAZ				S	**Sg**	**23 00 07.0**	**+0.1**
WHRZ	**Whale Island**	**0.45**	**219**	P	**Pb**	**23 00 02.2**	**+0.2**
RUGZ	**Raukumara Rang**	**0.54**	**150**	P	**Pg**	**23 00 02.5**	**-0.4**
RUGZ				S	**Sg**	**23 00 10.6**	**+0.5**
PKGZ	**Pakihiroa**	**0.70**	**123**	P	**Pg**	**23 00 05.2**	**-0.8**
PKGZ				S	**Sn**	**23 00 18.1**	**-0.4**
OPRZ	**Ohinepanea**	**0.71**	**241**	P	**Pg**	**23 00 06.2**	**+0.2**
OPRZ				S	**Sn**	**23 00 16.7**	**-1.7**
MARZ	**Manawahe**	**0.71**	**227**	P	**Pg**	**23 00 06.7**	**+0.5**
EDRZ	**Edgecumbe**	**0.77**	**218**	P	**Pg**	**23 00 07.6**	**+0.4**
MXZ	**Matakoa Point**	**0.78**	**95**		**Pb**	**23 00 05.5**	**-2.0**
MXZ				Sg	**Sn**	**23 00 19.5**	**-0.5**
MXZ	**Matakaoa Point**	**0.78**	**95**	P	**Pn**	**23 00 08.2**	**-0.5**
MXZ	**Matakaoa Point**	**0.78**	**95**	P	**Pb**	**23 00 06.3**	**-1.2**
URZ	**Urewera**	**0.78**	**193**	P	**Pg**	**23 00 07.5**	**+0.1**
URZ	**Urewera**	**0.78**	**193**	P	**Pb**	**23 00 07.0**	**-0.5**
URZ	**Urewera**	**0.78**	**193**	Pn	**Pg**	**23 00 07.5**	**+0.1**
	3μm,0.3s,baz=30,slow=4.5,SNR=2154						
URZ				Sn	**Sb**	**23 00 17.6**	**-0.3**
	5μm,0.3s,baz=276,slow=19,SNR=11						
MWZ	**Matawai**	**0.84**	**170**	P	**Pb**	**23 00 08.2**	**-0.5**
TWGZ	**Tauwhareparae**	**0.85**	**143**	P	**Pn**	**23 00 09.0**	**-0.7**
TGRZ	**Tauranga**	**0.88**	**255**	P	**Pg**	**23 00 09.0**	**-0.3**
MYRZ	**Mayor Island**	**0.90**	**284**	P	**Pg**	**23 00 09.1**	**-0.5**
LIRZ	**Lichensteins R**	**0.90**	**236**	P	**Pn**	**23 00 09.9**	**-0.6**
WMGZ	**Waiomatatini S**	**0.91**	**111**	P	**Pg**	**23 00 09.8**	**-0.2**
PUZ	**Puketiti**	**0.93**	**128**	P	**Pn**	**23 00 10.2**	**-0.6**
MKRZ	**Makatiti**	**0.94**	**227**	P	**Pn**	**23 00 11.3**	**+0.4**
OMRZ	**Omania**	**0.97**	**231**	P	**Pn**	**23 00 10.8**	**-0.6**
TARZ	**Mount Tarawera**	**0.98**	**222**	P	**Pg**	**23 00 11.2**	**0.0**
RAGZ	**Rawiri**	**0.99**	**176**	P	**Pn**	**23 00 11.3**	**-0.5**
RAGZ				S	**Sn**	**23 00 25.4**	**-0.2**
KARZ	**Kaharoa**	**1.01**	**239**	P	**Pn**	**23 00 11.2**	**-0.7**
TKGZ	**Te Karaka**	**1.02**	**157**	P	**Pg**	**23 00 12.5**	**+0.5**
RRRZ	**Republican Roa**	**1.06**	**218**	P	**Pb**	**23 00 11.9**	**-0.4**
MUGZ	**Murupara**	**1.07**	**204**	P	**Pb**	**23 00 12.0**	**-0.5**
HLRZ	**Highlands Stat**	**1.08**	**226**	P	**Pn**	**23 00 12.7**	**-0.2**
NGRZ	**Ngongotaha**	**1.09**	**236**	P	**Pg**	**23 00 12.8**	**-0.4**
UTU	**Utuhina**	**1.13**	**233**	P	**Pg**	**23 00 13.9**	**-0.1**
RTZ	**Ruatahuna**	**1.15**	**194**		**Pn**	**23 00 12.9**	**-0.9**
RTZ					**Sb**	**23 00 27.9**	**-0.7**
RTZ	**Ruatahuna**	**1.15**	**194**	P	**Pn**	**23 00 13.1**	**-0.7**
KMRZ	**Kaimai**	**1.16**	**252**	P	**Pn**	**23 00 13.0**	**-1.0**
HSRZ	**Hossack Road**	**1.18**	**227**	P	**Pg**	**23 00 15.8**	**+0.8**
CNGZ	**Carnagh Statio**	**1.20**	**145**	P	**Pg**	**23 00 15.5**	**+0.2**
HRRZ	**Handcock Road**	**1.22**	**223**	P	**Pg**	**23 00 15.5**	**-0.2**
PRRZ	**Plateau Road**	**1.24**	**216**	P	**Pb**	**23 00 15.0**	**-0.4**
RIGZ	**Rimuhau**	**1.25**	**164**	P	**Pg**	**23 00 16.6**	**+0.2**
SNGZ	**Shannon Statio**	**1.28**	**180**	P	**Pb**	**23 00 15.7**	**-0.4**
GRRZ	**Galatos Road**	**1.29**	**228**	P	**Pb**	**23 00 15.8**	**-0.4**
ALRZ	**Allen Road**	**1.32**	**216**	P	**Pn**	**23 00 15.9**	**-0.3**
WPRZ	**Whakapapatarin**	**1.38**	**222**	P	**Pg**	**23 00 19.6**	**+0.8**
MTHZ	**Maungataniwha**	**1.40**	**196**	P	**Pn**	**23 00 16.9**	**-0.4**
RAHZ	**Arahi**	**1.43**	**188**	P	**Pn**	**23 00 17.6**	**-0.1**
TOZ	**Tahuroa Road**	**1.47**	**261**		**Pn**	**23 00 17.2**	**-1.0**
TOZ	**Tahuroa Road**	**1.47**	**261**	P	**Pn**	**23 00 17.3**	**-1.0**
PRGZ	**Paritu Road**	**1.48**	**163**	P	**Pb**	**23 00 20.0**	**+0.4**
KUZ	**Kuaotunu**	**1.49**	**300**	P	**Pn**	**23 00 17.2**	**-1.3**
KUZ	**Kuaotunu**	**1.49**	**300**	P	**Pn**	**23 00 17.0**	**-1.6**
MRHZ	**Matea Rd**	**1.51**	**208**	P	**Pn**	**23 00 18.5**	**-0.3**
KNZ	**Kokohu**	**1.54**	**170**	P	**Pb**	**23 00 20.3**	**-0.2**
WHHZ	**Waihua**	**1.57**	**183**	P	**Pb**	**23 00 21.0**	**-0.1**
WHTZ	**Whakaora**	**1.59**	**223**	P	**Pg**	**23 00 26.4**	**+3.5**
TLZ	**Tolley Road**	**1.64**	**239**	P	**Pb**	**23 00 21.1**	**-1.2**
NMHZ	**Naumai**	**1.65**	**194**	P	**Pn**	**23 00 21.1**	**+0.3**
HATZ	**Hinemaiaia**	**1.70**	**215**	P	**Pg**	**23 00 25.1**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.71**	**165**	P	**Pb**	**23 00 22.7**	**-0.7**
WATZ	**Wairara**	**1.75**	**226**	P	**Pg**	**23 00 26.1**	**+0.3**
MKAZ	**Moumakai**	**1.78**	**282**	P	**Pn**	**23 00 21.6**	**-0.8**
ARHZ	**Aropaoanui**	**1.78**	**188**	P	**Pb**	**23 00 24.0**	**-0.6**
BKZ	**Black Stump Fm**	**1.79**	**201**		**Pn**	**23 00 21.7**	**-1.0**
BKZ	**Black Stump Fm**	**1.79**	**201**	P	**Pn**	**23 00 22.7**	**0.0**
BKZ	**Black Stump Fm**	**1.79**	**201**	P	**Pn**	**23 00 22.3**	**-0.4**
RATZ	**Rangitukua**	**1.84**	**222**	P	**Pg**	**23 00 27.0**	**-0.6**
RITZ	**Rihia Road**	**1.88**	**218**	P	**Pb**	**23 00 24.9**	**-1.3**
WIAZ	**Waiheke Island**	**1.90**	**291**	P	**Pn**	**23 00 23.2**	**-0.9**
GRZ	**Great Barrier**	**1.96**	**309**	P	**Pn**	**23 00 23.7**	**-1.2**
KATZ	**Kakaramea**	**1.96**	**221**	P	**Pb**	**23 00 28.5**	**+0.8**
ETAZ	**East Tamaki Re**	**2.00**	**285**	P	**Pn**	**23 00 25.0**	**-0.4**
MCHZ	**McNeill Hill**	**2.00**	**194**	P	**Pb**	**23 00 27.0**	**-1.4**
KWRZ	**Kaweka Forest**	**2.00**	**200**	P	**Pn**	**23 00 26.7**	**+0.4**
TMVZ	**Te Maari**	**2.06**	**218**	P	**Pn**	**23 00 27.4**	**+0.9**
NTVZ	**North Tongariro**	**2.06**	**219**	P	**Pn**	**23 00 27.4**	**+0.9**
ETVZ	**East Tongariro**	**2.07**	**218**	P	**Pn**	**23 00 27.2**	**+0.5**
KRVZ	**Karewarewa**	**2.07**	**219**	P	**Pn**	**23 00 27.7**	**+1.1**
MBAZ	**Motutapu North**	**2.08**	**290**	P	**Pn**	**23 00 26.1**	**-0.5**
OTVZ	**Oturere**	**2.12**	**218**	P	**Pn**	**23 00 27.5**	**+0.3**
NNVZ	**North Ngauruho**	**2.12**	**219**	P	**Pb**	**23 00 28.8**	**-1.6**
WTVZ	**West Tongariro**	**2.12**	**220**	P	**Pb**	**23 00 28.8**	**-1.6**
SNVZ	**South Ngauruho**	**2.15**	**218**	P	**Pb**	**23 00 29.3**	**-1.6**
NGZ	**Ngauruhoe**	**2.16**	**219**	P	**Pb**	**23 00 29.2**	**-1.9**
EPAZ	**Eden Park BICE**	**2.16**	**286**	P	**Pn**	**23 00 27.8**	**+0.1**
CKHZ	**Cape Kidnapper**	**2.16**	**185**	P	**Pn**	**23 00 27.8**	**0.0**
TWVZ	**Taurewa**	**2.16**	**223**	P	**Pb**	**23 00 30.7**	**-0.5**
HBAZ	**Herne Bay Bore**	**2.18**	**287**	P	**Pn**	**23 00 28.1**	**+0.1**
AWAZ	**Awhitu Peninsu**	**2.19**	**281**	P	**Pn**	**23 00 28.1**	**0.0**
ABAZ	**Army Bay**	**2.19**	**293**	P	**Pn**	**23 00 28.0**	**-0.2**
HIZ	**Hauiti**	**2.20**	**242**		**Pn**	**23 00 28.0**	**-0.3**
HIZ	**Hauiti**	**2.20**	**242**	P	**Pn**	**23 00 28.2**	**-0.1**
HIZ	**Hauiti**	**2.20**	**242**	P	**Pn**	**23 00 28.4**	**+0.1**
TUVZ	**Tukino**	**2.20**	**216**	P	**Pn**	**23 00 28.7**	**+0.2**
COVZ	**Chateau Observ**	**2.20**	**219**	P	**Pb**	**23 00 30.8**	**-1.1**
BHHZ	**Black Hill Sta**	**2.22**	**206**	P	**Pn**	**23 00 28.7**	**+0.1**
FWVZ	**Far West T-bar**	**2.24**	**218**	P	**Pb**	**23 00 31.1**	**-1.5**
WHVZ	**Whangaehu Hut**	**2.25**	**217**	P	**Pb**	**23 00 31.1**	**-1.6**
KRHZ	**Kereru**	**2.27**	**199**	P	**Pn**	**23 00 30.1**	**+0.8**
MOVZ	**Moawhango**	**2.27**	**213**	P	**Pn**	**23 00 29.7**	**+0.3**
WNVZ	**Wahianoa**	**2.28**	**216**	P	**Pb**	**23 00 31.0**	**-2.1**
WTAZ	**Waiatarua**	**2.28**	**284**	P	**Pn**	**23 00 29.3**	**0.0**
TRVZ	**Turoa**	**2.28**	**217**	P	**Pb**	**23 00 31.7**	**-1.5**
KAHZ	**Kahuranaki**	**2.32**	**189**	P	**Pn**	**23 00 30.2**	**+0.3**
RVAZ	**Riverhead Bore**	**2.32**	**288**	P	**Pn**	**23 00 29.9**	**0.0**
PKVZ	**Pokaka**	**2.37**	**221**	P	**Pb**	**23 00 32.9**	**-1.9**
MTVZ	**Mangateitei**	**2.38**	**217**	P	**Pb**	**23 00 32.5**	**-2.4**
PXZ	**Pawanui**	**2.55**	**188**	P	**Pn**	**23 00 32.8**	**-0.3**
PNHZ	**Pukenui**	**2.57**	**200**	P	**Pn**	**23 00 33.5**	**+0.2**
VRZ	**Vera Road**	**2.59**	**231**	P	**Pn**	**23 00 34.8**	**+1.2**
WPHZ	**Waipukurau**	**2.65**	**195**	P	**Pn**	**23 00 34.6**	**+0.1**
TSZ	**Takapari Road**	**2.77**	**202**	P	**Pn**	**23 00 36.3**	**+0.2**
PRHZ	**Porangahau**	**2.81**	**191**	P	**Pn**	**23 00 35.8**	**-1.0**
WCZ	**Waipu Caves**	**2.86**	**302**	P	**Pn**	**23 00 36.9**	**-0.5**
WAZ	**Wanganui**	**2.91**	**219**	P	**Pn**	**23 00 40.4**	**+2.5**
DVHZ	**Dannevirke**	**2.94**	**198**	P	**Pn**	**23 00 37.9**	**-0.5**
DREZ	**Durham Road**	**2.98**	**235**	P	**Pb**	**23 00 44.2**	**-0.9**
LREZ	**Lake Rotokare**	**3.02**	**229**	P	**Pb**	**23 00 43.7**	**-2.0**
NEZ	**North Egmont**	**3.10**	**234**	P	**Pn**	**23 00 42.9**	**+2.2**
PREZ	**Palmer Road**	**3.10**	**233**	P	**Pb**	**23 00 45.7**	**-1.4**
OHWZ	**Ohakea**	**3.13**	**210**	P	**Pn**	**23 00 43.4**	**+2.4**
PKE	**Pukeiti**	**3.13**	**236**	P	**Pn**	**23 00 43.5**	**+2.5**
POWZ	**Post Office Ro**	**3.13**	**202**	P	**Pn**	**23 00 41.0**	**-0.1**
KHEZ	**Kahui Hut**	**3.16**	**235**	P	**Pn**	**23 00 44.1**	**+2.5**
PRWZ	**Pori Road**	**3.23**	**199**	P	**Pn**	**23 00 42.2**	**-0.2**
NBEZ	**Newall Road No**	**3.25**	**236**	P	**Pn**	**23 00 45.2**	**+2.5**
BFZ	**Birch Farm**	**3.29**	**195**		**Pn**	**23 00 41.5**	**-1.6**
BFZ	**Birch Farm**	**3.29**	**195**	P	**Pn**	**23 00 41.9**	**-1.3**
BFZ	**Birch Farm**	**3.29**	**195**	P	**Pn**	**23 00 41.6**	**-1.6**
NMEZ	**Namu Road**	**3.32**	**234**	P	**Pb**	**23 00 47.0**	**-3.8**
MRZ	**Mangatainoka R**	**3.44**	**203**		**Pn**	**23 00 44.2**	**-1.0**
MRZ	**Mangatainoka R**	**3.44**	**203**	P	**Pn**	**23 00 44.3**	**-1.0**
TIWZ	**Tintock**	**3.46**	**199**	P	**Pn**	**23 00 45.2**	**-0.4**
CPWZ	**Castlepoint**	**3.52**	**194**	P	**Pn**	**23 00 45.6**	**-0.8**
HOWZ	**Holdsworth Sta**	**3.67**	**202**	P	**Pn**	**23 00 47.2**	**-1.4**
OGWZ	**Otaki Gorge**	**3.71**	**206**	P	**Pn**	**23 00 48.4**	**-0.7**
TMWZ	**Te Maipa**	**3.77**	**197**	P	**Pn**	**23 00 48.1**	**-1.8**
OUZ	**Omahuta**	**3.78**	**306**	P	**Pn**	**23 00 49.9**	**-0.1**
OUZ	**Omahuta**	**3.78**	**306**	P	**Pn**	**23 00 49.9**	**-0.1**
KIW	**Kapiti Island**	**3.85**	**209**	P	**Pn**	**23 00 50.3**	**-0.6**
MTW	**Mount Morrison**	**3.92**	**201**	P	**Pn**	**23 00 49.9**	**-1.9**
CAW	**Cannon Point**	**4.01**	**205**	P	**Pn**	**23 00 51.8**	**-1.3**
TRWZ	**Traveller**	**4.09**	**198**	P	**Pn**	**23 00 52.4**	**-1.9**
PAWZ	**Paruwai Farm**	**4.15**	**200**	P	**Pn**	**23 00 53.2**	**-1.8**
DUWZ	**D'Urville Isla**	**4.23**	**218**	P	**Pn**	**23 00 56.2**	**0.0**
WEL	**Wellington**	**4.27**	**207**	P	**Pn**	**23 00 56.6**	**-0.1**
SNZO	**South Karori**	**4.31**	**207**		**Pn**	**23 00 55.4**	**-1.9**
SNZO	**South Karori**	**4.31**	**207**	P	**Pn**	**23 00 56.2**	**-1.1**
BHW	**Baring Head**	**4.34**	**205**		**Pn**	**23 00 55.6**	**-2.1**
BHW	**Baring Head**	**4.34**	**205**	P	**Pn**	**23 00 55.8**	**-1.8**
PLWZ	**Palliser**	**4.37**	**201**		**Pn**	**23 00 55.8**	**-2.3**
TCW	**Tory Channel**	**4.40**	**212**		**Pn**	**23 00 56.8**	**-1.7**
TCW	**Tory Channel**	**4.40**	**212**	P	**Pn**	**23 00 57.3**	**-1.1**
TUWZ	**Tuamarina**	**4.72**	**213**	P	**Pn**	**23 01 01.6**	**-1.2**
NNZ	**Nelson**	**4.81**	**218**		**Pn**	**23 01 03.3**	**-0.9**
NNZ	**Nelson**	**4.81**	**218**	P	**Pn**	**23 01 04.0**	**-0.2**
CMWZ	**Cape Campbell**	**4.88**	**209**		**Pn**	**23 01 04.6**	**-0.5**
CMWZ	**Cape Campbell**	**4.88**	**209**	P	**Pn**	**23 01 05.5**	**+0.5**
TKNZ	**Takaka Hill**	**4.89**	**223**		**Pn**	**23 01 04.6**	**-0.7**
TKNZ	**Takaka Hill**	**4.89**	**223**	P	**Pn**	**23 01 05.3**	**0.0**
BSWZ	**Blackbirch Sta**	**4.98**	**211**		**Pn**	**23 01 04.8**	**-1.7**
BSWZ	**Blackbirch Sta**	**4.98**	**211**	P	**Pn**	**23 01 05.0**	**-1.5**
QRZ	**Quartz Range**	**5.00**	**227**		**Pn**	**23 01 06.3**	**-0.4**
QRZ	**Quartz Range**	**5.00**	**227**	P	**Pn**	**23 01 07.0**	**+0.3**
QRZ	**Quartz Range**	**5.00**	**227**	P	**Pn**	**23 01 07.6**	**+0.9**
MRNZ	**Matariki Terra**	**5.26**	**221**	P	**Pn**	**23 01 10.0**	**-0.4**
THZ	**Tophouse**	**5.46**	**217**	P	**Pn**	**23 01 12.3**	**-0.8**
KHZ	**Kahutara**	**5.71**	**210**		**Pn**	**23 01 13.8**	**-2.6**
KHZ	**Kahutara**	**5.71**	**210**	P	**Pn**	**23 01 14.4**	**-2.1**
DSZ	**Denniston Nort**	**6.01**	**223**		**Pn**	**23 01 19.7**	**-1.1**
DSZ	**Denniston Nort**	**6.01**	**223**	P	**Pn**	**23 01 21.7**	**+1.0**
GVZ	**Greta Valley S**	**6.37**	**210**		**Pn**	**23 01 23.1**	**-2.6**
INZ	**Inchbonnie**	**6.90**	**219**	Pn	**Pn**	**23 01 29.6**	**-3.2**
INZ	**Inchbonnie**	**6.90**	**219**	P	**Pn**	**23 01 32.2**	**-0.6**
OXZ	**Oxford**	**7.08**	**213**	P	**Pn**	**23 01 34.8**	**-0.6**
WVZ	**Waitaha Valley**	**7.51**	**220**	P	**Pn**	**23 01 41.9**	**+0.7**
CTZ	**Chatham Island**	**7.74**	**145**		**Pn**	**23 01 43.6**	**-0.7**
CTZ	**Chatham Island**	**7.74**	**145**	P	**Pn**	**23 01 44.0**	**-0.3**
CTZ	**Chatham Island**	**7.74**	**145**	P	**Pn**	**23 01 43.8**	**-0.5**
RPZ	**Rata Peaks**	**7.83**	**216**	P	**Pn**	**23 01 43.3**	**-2.3**
RPZ	**Rata Peaks**	**7.83**	**216**	Pn	**Pn**	**23 01 42.8**	**-2.8**
	3.5nm,0.3s,baz=25,slow=2.9,SNR=12						
RPZ				Sn	**Sn**	**23 03 08.3**	**-5.6**
	5.6nm,0.3s,baz=112,slow=22,SNR=8.6						
GCSZ	**Gaunt Creek Bo**	**7.89**	**220**	P	**Pn**	**23 01 47.0**	**+0.6**
FOZ	**Fox Glacier**	**8.31**	**221**	P	**Pn**	**23 01 52.9**	**+0.7**
JCZ	**Jackson Bay**	**9.22**	**222**	P	**Pn**	**23 02 01.9**	**-2.9**
WKZ	**Wanaka**	**9.63**	**218**	P	**Pn**	**23 02 09.5**	**-0.8**
MSZ	**Milford Sound**	**10.08**	**222**	P	**Pn**	**23 02 18.6**	**+2.1**
MLZ	**Mavora Lakes**	**10.46**	**218**	P	**Pn**	**23 02 25.8**	**+4.1**
SYZ	**Scrubby Hill**	**10.89**	**211**	P	**Pn**	**23 02 26.4**	**-1.0**
APZ	**The Paps**	**11.61**	**214**	P	**Pn**	**23 02 36.9**	**-0.4**
OUENC	**Ouen Island, N**	**17.55**	**326**		**P**	**23 03 57.7**	**+0.3**
DZM	**Mont Dzumac**	**18.03**	**326**		**P**	**23 04 02.7**	**-0.1**
MSVF	**Nonsavu**	**19.70**	**2**	P	**Pn**	**23 04 21.4**	**-1.2**
MSVF				IAmb	IAmb	23 04 31.5	
	comp=Z,96nm,1.3s						
MSVF	**Nonsavu**	**19.70**	**2**	P	**Pn**	**23 04 21.5**	**-1.2**
MSVF				pmax	pmax		
	comp=Z,96nm,1.3s						
MSVF	**Nonsavu**	**19.70**	**2**	P	**Pn**	**23 04 24.4**	**+1.8**
	comp=Z,15nm,0.7s,baz=162,slow=8.6,SNR=8.4						
ARMA	**Armidale**	**22.42**	**281**	P	**P**	**23 04 51.3**	**+0.8**
ARMA				IAmb	IAmb	23 05 02.2	
	comp=Z,69nm,1.6s						
TAU	**Tasmania Unive**	**23.48**	**247**	P	**P**	**23 05 01.3**	**0.0**
TAU				IAmb	IAmb	23 05 19.5	
	comp=Z,112nm,1.9s						
TAU	**Tasmania Unive**	**23.48**	**247**	P	**P**	**23 05 01.3**	**0.0**
TAU				pmax	pmax		
	comp=Z,112nm,1.9s						
TOO	**Toolangi**	**25.19**	**260**	P	**P**	**23 05 17.7**	**+0.4**
TOO	**Toolangi**	**25.19**	**260**	P	**P**	**23 05 17.7**	**+0.4**
TOO				pmax	pmax		
	comp=Z,14nm,1.1s						
EIDS	**Eidsvold**	**25.37**	**291**	P	**P**	**23 05 19.7**	**+0.8**
EIDS				IAmb	IAmb	23 05 30.1	
	comp=Z,59nm,1.7s						
STKA	**Stephens Creek**	**29.80**	**270**	P	**P**	**23 05 58.8**	**+0.2**
STKA	**Stephens Creek**	**29.80**	**270**	⇓*iP*	**P**	**23 06 01.5**	**+2.9**
STKA	**Stephens Creek**	**29.80**	**270**	P	**P**	**23 05 59.9**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=88,slow=11,SNR=7.8						
	comp=Z,4.7nm,0.7s						
CTA	**Charters Tower**	**32.09**	**294**	P	**P**	**23 06 20.1**	**+1.1**
	comp=Z,9.3nm,0.7s,baz=124,slow=9.6,SNR=13						
CTA				PcP	**PcP**	**23 09 07.2**	**-1.0**
	comp=Z,2.1nm,0.5s,baz=177,slow=2.6,SNR=2.0						
	comp=Z,9.3nm,0.7s						
CTAO	**Charters Tower**	**32.09**	**294**	P	**P**	**23 06 18.9**	**0.0**
CTAO				IAmb	IAmb	23 06 23.1	
	comp=Z,13nm,1.0s						
CTAO	**Charters Tower**	**32.09**	**294**	P	**P**	**23 06 18.9**	**0.0**
CTAO				pmax	pmax		
	comp=Z,13nm,1.0s						
BBOO	**Buckleboo**	**33.87**	**265**	P	**P**	**23 06 34.6**	**+0.2**
BBOO				IAmb	IAmb	23 06 50.8	
	comp=Z,45nm,1.8s						
PAE	**Paea**	**35.10**	**65**	*e*T	T	23 43 47.0	
	comp=Z,17nm,0.3s						
PPT2	**Papeete2**	**35.15**	**65**	*e*LR	LR	23 16 04.0	
	comp=Z,237nm,21.5s						
TVO	**Taravao**	**35.26**	**65**	*e*T	T	23 43 52.6	
	comp=Z,13nm,0.3s						
MEH	**Mehetia**	**36.06**	**67**	*e*T	T	23 44 55.0	
	comp=Z,28nm,0.3s						
PMOR	**Pomariorio Ree**	**38.07**	**63**	*e*T	T	23 47 24.8	
	comp=Z,22nm,0.3s						
COEN	**Coen**	**38.35**	**299**	P	**P**	**23 07 13.8**	**+1.0**
PMG	**Port Moresby**	**39.03**	**308**	P	**P**	**23 07 19.1**	**+0.6**
PMG				IAmb	IAmb	23 07 26.0	
	comp=Z,15nm,0.6s						
PMG	**Port Moresby**	**39.03**	**308**	⇑*iP*	**P**	**23 07 21.0**	**+2.5**
PMG				pmax	pmax		
	comp=Z,17nm,0.8s						
AS31	**Alice Springs**	**39.51**	**278**	P	**P**	**23 07 22.7**	**+0.2**
ASAR	**Alice Springs**	**39.51**	**278**		**P**	**23 07 22.7**	**+0.2**
ASAR	**Alice Springs**	**39.51**	**278**	P	**P**	**23 07 23.3**	**+0.8**
	comp=Z,3.7nm,0.5s,baz=122,slow=8.4,SNR=18						
ASAR				PcP	**PcP**	**23 09 27.9**	**-2.2**
	comp=Z,1.5nm,0.5s,baz=119,slow=3.9,SNR=6.6						
	comp=Z,3.7nm,0.5s						
VNDA	**Vanda**	**40.67**	**185**	P	**P**	**23 07 31.4**	**-0.1**
VNDA	**Vanda**	**40.67**	**185**	P	**P**	**23 07 32.2**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=5.4,slow=7.6,SNR=7.5						
VNDA				PcP	**PcP**	**23 09 33.0**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=321,slow=5.0,SNR=5.9						
	comp=Z,2.5nm,0.8s						
SBA	**Scott Base**	**40.71**	**183**	P	**P**	**23 07 32.7**	**+1.0**
SBA	**Scott Base**	**40.71**	**183**	P	**P**	**23 07 32.7**	**+1.0**
SBA				pmax	pmax		
	comp=Z,36nm,1.6s						
FORT	**Forrest**	**40.95**	**264**	P	**P**	**23 07 34.8**	**+0.4**
FORT				IAmb	IAmb	23 07 40.2	
	comp=Z,28nm,0.7s						
WR0	**Warramunga Arr**	**41.00**	**283**	P	**P**	**23 07 34.4**	**-0.5**
WR0				IAmb	IAmb	23 07 41.9	
	comp=Z,39nm,1.7s						
WRAB	**Tennant Creek**	**41.16**	**283**	⇓*iP*	**P**	**23 07 36.8**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,34nm,1.7s						
WRA	**Warramunga Arr**	**41.17**	**283**		**P**	**23 07 35.6**	**-0.7**
WRA	**Warramunga Arr**	**41.17**	**283**	P	**P**	**23 07 36.4**	**+0.2**
	comp=Z,4.8nm,0.6s,baz=122,slow=7.8,SNR=21						
WRA				PcP	**PcP**	**23 09 34.3**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=114,slow=3.2,SNR=4.3						
	comp=Z,4.8nm,0.6s						
WB0	**Warramunga Arr**	**41.23**	**283**		**P**	**23 07 36.6**	**-0.2**
WB0				IAmb	IAmb	23 07 42.5	
	comp=Z,50nm,1.6s						
MANU	**Manus Island**	**44.76**	**315**	P	**P**	**23 08 04.8**	**-0.6**
CASY	**Casey**	**47.07**	**211**	P	**P**	**23 08 22.0**	**-0.9**
CASY				IAmb	IAmb	23 08 23.2	
	comp=Z,11nm,0.6s						
TAOE	**Nuku Hiva Isla**	**47.78**	**64**	*e*LR	LR	23 21 57.2	
	comp=Z,296nm,23.7s						
PSA00	**Pilbara Seismi**	**51.72**	**271**	P	**P**	**23 08 59.2**	**+0.1**
PSA00				IAmb	IAmb	23 10 24.1	
	comp=Z,34nm,1.5s						
MBWA	**Marble Bar**	**52.03**	**271**	P	**P**	**23 09 01.5**	**+0.1**
MBWA				IAmb	IAmb	23 10 23.2	
	comp=Z,40nm,1.7s						
QSPA	**South Pole Qui**	**52.62**	**180**	P	**P**	**23 09 06.8**	**+1.5**
QSPA				IAmb	IAmb	23 09 11.7	
	comp=Z,21nm,1.1s						
QSPA	**South Pole Qui**	**52.62**	**180**	P	**P**	**23 09 06.

comp=Z,1.1nm,0.7s
ILAR Eielson Array 105.73 15 PKKPbc PKKPbc 23 29 35.5 -4.0
comp=Z,0.2nm,0.6s,baz=27,slow=2.4,SNR=4.3
WMQ Urumqi 114.50 307 *e*PKP **PKiKP 23 18 32.5 +1.1**
MKAR Makanchi Array 119.24 308 PKP **PKPdf 23 18 37.7 -2.6**
comp=Z,0.4nm,0.8s,baz=144,slow=1.4,SNR=3.5
MKAR PKKPbc **PKKPab 23 28 53.6 +0.1**
comp=Z,0.4nm,0.7s,baz=307,slow=3.3,SNR=4.5
BOOM Boomskoye usch 121.61 302 PKPdf 23 18 44.4 -0.9
BOOM Boomskoye usch 121.61 302 PKIKP **PKPdf 23 18 44.4 -0.9**
KURK Kurchatov 122.99 311 PKIKP **PKPdf 23 18 44.9 -2.5**
KURBB Kurchatov Arra 123.02 311 PKP **PKPdf 23 18 44.9 -2.6**
comp=Z,0.9nm,0.5s,baz=117,slow=1.9,SNR=22
KURBB PKKPbc **PKKPbc 23 28 37.8 -1.4**
comp=Z,0.1nm,0.6s,baz=293,slow=4.1,SNR=1.8
ARSB Arslanbob 123.18 299 PKPdf 23 18 47.1 -1.2
ARSB Arslanbob 123.18 299 PKIKP **PKPdf 23 18 47.1 -1.2**
KBL Kabul 123.24 290 PKPdf 23 18 47.2 -1.5
KBL Kabul 123.24 290 PKIKP **PKPdf 23 18 47.2 -1.5**
KK31 Karatay Array 125.54 301 PKPdf 23 18 51.1 -1.5
KK31 Karatay Array 125.54 301 PKIKP **PKPdf 23 18 51.1 -1.5**
KKAR Karatay Array 125.54 301 PKPdf 23 18 51.2 -1.4
KKAR Karatay Array 125.54 301 PKIKP **PKPdf 23 18 51.2 -1.4**
BVAR Borovoye Array 128.55 312 PKP **PKPdf 23 18 55.8 -2.2**
comp=Z,0.8nm,0.5s,baz=60,slow=2.7,SNR=2.8
GEYT Alibeck 132.69 290 PKP **PKPdf 23 19 03.9 -2.5**
comp=Z,1.4nm,0.6s,baz=222,slow=1.9,SNR=4.8
SPITS Spitsbergen Ar 138.44 354 PKP **PKPdf 23 19 14.6 -1.3**
comp=Z,6.7nm,0.9s,baz=152,slow=13,SNR=5.8
KIRV Kirov 140.57 319⇓ *i* PKIKP **PKiKP 23 19 24.3 +1.5**
GNI Garni 143.31 289⇑ *i* PKIKP **PKiKP 23 19 31.3 +2.0**
ARCES ARCESS Array B 144.49 343 PKP **PKPab 23 19 24.2 -1.1**
comp=Z,5.9nm,0.6s,baz=48,slow=3.0,SNR=43
NCK Nalchik 144.68 295⇑ *e*PKIKP **PKPab 23 19 25.7 -1.1**
KLMR Klimovskoe 144.79 325 *e*PKPdf **PKPab 23 19 22.8 -3.8**
KLMR AMP 23 19 27.1
comp=Z,34nm,1.7s
KLMR Klimovskoe 144.79 325 *e*PKHKP PKPpre 23 19 22.7
KLMR pmax pmax
comp=Z,34nm,1.7s
GURO Guroymak-BITLI 145.04 286 PKPbc 23 19 27.0 -1.4
KBZ Khabaz 145.21 295 PKPbc **PKPbc 23 19 26.4 -2.1**
comp=Z,3.2nm,0.8s,baz=229,slow=8.1,SNR=8.4
KIV Kislovodsk 145.38 295 *i* PKIKP **PKPab 23 19 29.7 +0.2**
KIV pmax pmax
comp=Z,11nm,1.0s
ARPR Arapgir-MALATY 147.97 286 PKPdf 23 19 34.4 +0.5
OBN Obninsk 148.22 316 *i* PKP2 **PKPab 23 19 39.3 -0.7**
OBN pmax pmax
comp=Z,6.0nm,0.9s
MMAI Mount Meron Ar 148.74 273 PKPbc **PKPbc 23 19 38.3 -0.9**
comp=Z,2.6nm,0.5s,baz=98,slow=6.0,SNR=18
DBIC Dimbokro 149.25 176 PKPdf 23 19 35.7 -0.9
DBIC **PKPbc 23 19 40.2 -0.6**
DBIC Dimbokro 149.25 176 PKP2 **PKPbc 23 19 40.2 -0.6**
DBIC Dimbokro 149.25 176 PKPbc **PKPbc 23 19 39.6 -1.2**
comp=Z,7.1nm,0.5s,baz=161,slow=3.8,SNR=7.7
BNN Bunyan 149.84 285 PKPbc 23 19 40.2 -1.6
FINES FINESS Array B 150.08 332 PKPbc **PKPbc 23 19 39.1 -2.2**
comp=Z,3.5nm,0.8s,baz=28,slow=3.7,SNR=14
VSU Vasula 151.63 327⇓ *e*PKIKP **PKPdf 23 19 39.3 +0.4**
BRTR Keskin Array B 151.66 286 PKPbc **PKPbc 23 19 44.0 -2.1**
comp=Z,5.0nm,0.6s,baz=134,slow=2.8,SNR=12
AKASG Malin Array Be 153.80 310 PKPbc **PKPbc 23 19 47.0 -3.2**
comp=Z,0.6nm,0.5s,baz=58,slow=2.6,SNR=2.2
AKASG PKPab **PKPab 23 20 02.3 -1.0**
comp=Z,1.1nm,0.6s,baz=62,slow=4.3,SNR=2.7
HFS Hagfors 155.06 340 PKPab **PKPab 23 20 06.5 -1.8**
comp=Z,1.3nm,0.6s,baz=132,slow=2.1,SNR=1.8
TOA0 Torodi Ar. Sit 155.44 190 PKPdf 23 19 44.4 -1.3
TOA0 PKPbc **sPKPdf 23 19 53.9 +1.6**
TORD Torodi Ar. Bea 155.44 190 PKPdf 23 19 44.4 -1.3
TORD PKPbc **sPKPdf 23 19 54.0 +1.7**
TORD PKPab **PKPab 23 20 09.8 -1.3**
TORD Torodi Ar. Bea 155.44 190 PKPdf 23 19 44.5 -1.3
comp=Z,1.5nm,0.7s,baz=121,slow=0.5,SNR=18
TORD PKPab **PKPab 23 20 09.8 -1.3**
comp=Z,4.3nm,0.6s,baz=159,slow=3.3,SNR=10.0
BUR08 Bucovina Ar. S 157.22 305 PKPab 23 20 18.1 -0.2
BRG Berggiesshubel 162.15 324 *e*PKP2 **PKPab 23 20 40.7 +1.3**
BRG pmax pmax
comp=Z,8.0nm,1.5s

NOU ***31*** *23:06:00.6,21°.68S×169°.02E,h0km,MLv4.9/12, Southeast of Loyalty Islands*
IDC ***31*** *23:06:01.0±0.6,21°.68S×168°.86E,h0km,mb4.4/16, mbtmp4.4/18,ML4.8/2,MS4.2/10,Error ellipse: s-maj=19.8km s-min=14.9km az=152.0*
MOS ***31*** *23:06:01.8±1.3,21°.65S×168°.85E,h11km,mb5.2/23,Error ellipse: s-maj=12.1km s-min=9.8km az=173.7*
BJI ***31*** *23:06:01.5±0.0,21°.45S×169°.16E,h9km,mb4.9/23, mB5.5/17,Ms5.2/3,Ms7 4.8/3*
NEIC ***31*** *23:06:02.8±1.9,21°.73S±0°.06×168°.87E±0°.04,h9km±3km, mb5.1/85,Error ellipse: s-maj=8.5km s-min=5.2km az=188.0*
BGR ***31*** *23:06:04.9,21°.70S×169°.79E,h25km±1km*
GCMT ***31*** *23:06:06.8±0.3,21°.83S±0°.03×168°.98E±0°.03,h20km±1km, MW5.1/90,Moment Tensor Solution. s21,c22; s90,c115; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.75±.31; Mθθ=1.99±.20; Mφφ=2.76±.20; Mrθ=-2.97±.38; Mrφ=-1.37±.10; Mθφ=-0.55±.36; Best double couple: M0=5.03400×10^16 NP1:φs=117.00000°,δ=59.00000°,λ=-112.00000°. NP2: φs=335.00000°,δ=37.00000°,λ=-58.00000°. Principal axes: T 4.0800, Plg12.0000°, Azm223.0000°; N 1.9090, Plg19.0000°, Azm129.0000°; P -5.9890, Plg68.0000°, Azm342.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 31 23:06:03.7±0.5,21°.67S±0°.05×168°.88E±0°.04,h15km±2km, h16km:pP-P,n379,σ1=33/354,mb5.0/75,MS4.3/11, 15C-30D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.81**	**283**		**Pg**	**23 06 18.8**	**-0.7**
MARNC				Sg	**Sb**	**23 06 31.1**	**+0.9**
MARNC	**Mare, Loyalty**	**0.81**	**283**	P	**Pb**	**23 06 19.4**	**-0.1**
PINNC	**Pines Island,**	**1.62**	**234**		**Pn**	**23 06 30.3**	**-1.5**
PINNC				Sn	**Sn**	**23 06 51.2**	**-1.2**
PINNC	**Pines Island,**	**1.62**	**234**	P	**Pn**	**23 06 31.3**	**-0.5**
LIFNC	**LIFOU**	**1.77**	**300**		**Pn**	**23 06 31.8**	**-2.0**
LIFNC				Sn	**Sn**	**23 06 52.1**	**-3.8**
LIFNC	**LIFOU**	**1.77**	**300**	P	**Pn**	**23 06 32.6**	**-1.1**
YATNC	**Mamie plateau,**	**1.88**	**258**	P	**Pn**	**23 06 35.4**	**0.0**
OUENC	**Ouen Island, N**	**2.03**	**248**		**Pn**	**23 06 36.5**	**-0.8**
OUENC	**Ouen Island, N**	**2.03**	**248**	P	**Pn**	**23 06 38.2**	**+0.8**
DZM	**Mont Dzumac**	**2.29**	**260**	*e*Pn	**Pn**	**23 06 41.3**	**+0.2**
DZM	3μm,1.2s			*e*Sn	**Sn**	**23 07 10.7**	**+1.6**
	6μm,1.0s						
DZM	**Mont Dzumac**	**2.29**	**260**		**Pn**	**23 06 40.5**	**-0.6**
DZM	**Mont Dzumac**	**2.29**	**260**	P	**Pn**	**23 06 40.8**	**-0.3**
DZM	**Mont Dzumac**	**2.29**	**260**	Pn	**Pn**	**23 06 40.9**	**-0.2**
	38nm,0.3s,baz=86,slow=15,SNR=28						
DZM				Sn	**Sn**	**23 07 09.7**	**+0.6**
	94nm,0.3s,baz=110,slow=19,SNR=3.9						
	104nm,0.3s						
ONTNC	**Ouen Toro**	**2.33**	**254**	Pn	**Pn**	**23 06 41.1**	**-0.5**
ONTNC	**Ouen Toro**	**2.33**	**254**	P	**Pn**	**23 06 41.9**	**+0.3**
NOUC	**Port Laguerre**	**2.43**	**259**	P	**Pn**	**23 06 43.6**	**+0.8**
RTV	**Rentapao**	**3.88**	**354**	P	**Pn**	**23 07 02.8**	**-0.1**
KOUNC	**Koumac, New Ca**	**4.43**	**284**	Pn	**Pn**	**23 07 09.3**	**-1.1**
KOUNC	**Koumac, New Ca**	**4.43**	**284**	P	**Pn**	**23 07 11.2**	**+0.8**
MSVF	**Nonsavu**	**9.49**	**67**	Pn	**Pn**	**23 08 22.0**	**+2.1**
MSVF	**Nonsavu**	**9.49**	**67**	Pn	**Pn**	**23 08 20.4**	**+0.5**
	0.9nm,0.3s,baz=220,slow=12,SNR=20						
MSVF				LR	LR	23 11 09.1	
	comp=Z,4μm,18.5s,baz=204,slow=32						
	21nm,0.9s						
HNR	**Honiara**	**14.89**	**323**	Pn	Pn	23 09 28.4	-5.5
HNR	**Honiara**	**14.89**	**323**	P	Pn	23 09 28.4	-5.5
FUNA	**Funafuti**	**16.42**	**39**	Pn	**Pn**	**23 09 52.5**	**-1.3**
EIDS	**Eidsvold**	**16.73**	**254**	P	**P**	**23 10 00.3**	**+0.5**
	baz=17						
EIDS	**Eidsvold**	**16.73**	**254**	Pn	**Pn**	**23 09 56.4**	**-1.2**
TOZ	**Tahuroa Road**	**17.00**	**162**		**P**	**23 10 01.8**	**-1.0**
ARMA	**Armidale**	**17.76**	**237**	P	**P**	**23 10 15.7**	**+4.4**
	baz=18,SNR=4.8						
RMQ	**Roma**	**18.98**	**251**	P	**Pn**	**23 10 26.8**	**+1.4**
	baz=19,SNR=3.9						
MRZ	**Mangatainoka R**	**19.77**	**165**	P	**P**	**23 10 33.3**	**+0.1**
MRZ				IAmb	IAmb	23 10 44.2	
	comp=Z,143nm,1.5s						
TCW	**Tory Channel**	**20.01**	**168**	P	**P**	**23 10 35.5**	**-0.3**
INZ	**Inchbonnie**	**21.10**	**175**	P	**P**	**23 10 48.5**	**+0.8**
CTA	**Charters Tower**	**21.19**	**270**	P	**P**	**23 10 48.6**	**-0.2**
	comp=Z,8.1nm,1.0s,baz=111,slow=15,SNR=6.2						
	comp=Z,8.1nm,1.0s						
CTAO	**Charters Tower**	**21.19**	**270**	P	**P**	**23 10 47.9**	**-1.0**
CTAO	**Charters Tower**	**21.19**	**270**	P	**P**	**23 10 47.9**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,84nm,1.3s						
OXZ	**Oxford**	**21.75**	**174**	P	**P**	**23 10 54.1**	**-0.5**
CNB	**Canberra Magne**	**21.83**	**227**	P	**P**	**23 11 00.3**	**+4.7**
	baz=22,SNR=6.8						
YNG	**Young**	**21.98**	**231**	P	**P**	**23 11 01.6**	**+4.4**
	baz=22						
RPZ	**Rata Peaks**	**22.06**	**176**	LR	LR	23 18 58.5	
	comp=Z,1μm,18.3s,baz=353,slow=35						
CMSA	**Cobar Meteorol**	**22.90**	**240**	P	**P**	**23 11 08.8**	**+1.8**
	baz=23,SNR=13						
MILA	**Mila**	**22.96**	**224**	P	**P**	**23 11 10.6**	**+2.9**
	baz=23,SNR=6.3						
MTSU	**Mount Surprise**	**23.35**	**274**	P	**P**	**23 11 13.1**	**+1.4**
	baz=23,SNR=12						
PMG	**Port Moresby**	**24.18**	**297**	P	**P**	**23 11 18.2**	**-1.4**
PMG	**Port Moresby**	**24.18**	**297**	P	**P**	**23 11 18.2**	**-1.4**
PMG				pmax	pmax		
	comp=Z,24nm,0.8s						
COEN	**Coen**	**25.62**	**283**	P	**P**	**23 11 34.0**	**+1.3**
	baz=26						
TOO	**Toolangi**	**25.67**	**227**	P	**P**	**23 11 35.4**	**+2.3**
	baz=26,SNR=5.5						
TOO	**Toolangi**	**25.67**	**227**	P	**P**	**23 11 33.1**	**+0.1**
TOO				IAmb	IAmb	23 11 42.9	
	comp=Z,35nm,1.0s						
TOO	**Toolangi**	**25.67**	**227**	P	**P**	**23 11 33.2**	**+0.1**
TOO				pmax	pmax		
	comp=Z,35nm,1.0s						
STKA	**Stephens Creek**	**26.33**	**242**	P	**P**	**23 11 41.8**	**+2.7**
	baz=26,SNR=7.7						
STKA	**Stephens Creek**	**26.33**	**242**	P	**P**	**23 11 39.4**	**+0.3**
STKA	**Stephens Creek**	**26.33**	**242**	*c i*P	**P**	**23 11 42.1**	**+3.0**
STKA	**Stephens Creek**	**26.33**	**242**	P	**P**	**23 11 38.0**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=75,slow=12,SNR=3.1						
STKA				LR	LR	23 21 51.7	
	comp=Z,823nm,18.4s,baz=102,slow=36						
	comp=Z,3.1nm,0.7s						
MOO	**Moorlands**	**27.54**	**216**	P	**P**	**23 11 53.8**	**+3.9**
	baz=28,SNR=4.0						
ARPS	**Mount Arapiles**	**27.86**	**231**	P	**P**	**23 11 56.2**	**+3.4**
	baz=28,SNR=5.1						
RAR	**Rarotonga**	**29.16**	**95**	LR	LR	23 21 38.1	
	comp=Z,60nm,20.3s,baz=276,slow=32						
BBOO	**Buckleboo**	**31.10**	**242**	P	**P**	**23 12 22.5**	**+0.9**
	baz=31,SNR=4.7						
WB2	**Warramunga Arr**	**32.28**	**267**	P	**P**	**23 12 31.8**	**-0.3**
	baz=32						
WB2	**Warramunga Arr**	**32.28**	**267**	P	**P**	**23 12 31.0**	**-1.1**
AS31	**Alice Springs**	**32.28**	**260**	P	**P**	**23 12 31.5**	**-0.7**
ASAR	**Alice Springs**	**32.28**	**260**	P	**P**	**23 12 31.6**	**-0.6**
ASAR	**Alice Springs**	**32.28**	**260**	P	**P**	**23 12 31.6**	**-0.6**
ASAR	**Alice Springs**	**32.28**	**260**	P	**P**	**23 12 31.1**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=86,slow=9.1,SNR=21						
	comp=Z,2.8nm,0.7s						
WRAB	**Tennant Creek**	**32.28**	**267**⇑ *e*P		**P**	**23 12 31.3**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,22nm,1.9s						
WRA	**Warramunga Arr**	**32.29**	**267**	P	**P**	**23 12 31.1**	**-1.1**
WRA	**Warramunga Arr**	**32.29**	**267**	P	**P**	**23 12 31.2**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=97,slow=8.4,SNR=10						
	comp=Z,1.7nm,0.6s						
WRKA	**Warakurna**	**37.31**	**257**	P	**P**	**23 13 15.5**	**-0.1**
	baz=37,SNR=6.2						
FORT	**Forrest**	**37.55**	**247**	P	**P**	**23 13 17.9**	**+0.4**
	baz=38						
FORT	**Forrest**	**37.55**	**247**	P	**P**	**23 13 17.1**	**-0.4**
FORT				IAmb	IAmb	23 13 25.2	
	comp=Z,22nm,0.8s						
KNRA	**Kununurra**	**38.39**	**272**	P	**P**	**23 13 23.3**	**-1.4**
KNRA				IAmb	IAmb	23 14 28.0	
	comp=Z,92nm,1.9s						
PPT	**Papeete**	**39.27**	**92**	LR	LR	23 26 14.5	
	comp=Z,135nm,19.2s,baz=258,slow=31						
FAKI	**Fak Fak**	**40.17**	**293**	P	**P**	**23 13 39.2**	**-0.5**
KMBL	**Kambalda**	**42.87**	**247**	P	**P**	**23 14 01.6**	**-0.1**
	baz=43,SNR=4.6						
MBWA	**Marble Bar**	**45.60**	**261**	P	**P**	**23 14 23.1**	**-0.5**
MBWA				IAmb	IAmb	23 14 31.6	
	comp=Z,16nm,0.9s						
MEEK	**Meekatharra**	**45.90**	**253**	P	**P**	**23 14 25.6**	**-0.4**
	baz=46,SNR=5.1						
KLBR	**Kellerberrin**	**46.40**	**247**	P	**P**	**23 14 29.7**	**-0.1**
	baz=46,SNR=4.6						
NWAO	**Narrogin (SRO)**	**46.84**	**245**	LR	LR	23 34 57.8	
	comp=Z,666nm,18.1s,baz=80,slow=37						
KAPI	**Kappang**	**50.34**	**282**	P	**P**	**23 15 00.0**	**-0.4**
KAPI				IAmb	IAmb	23 15 16.5	
	comp=Z,18nm,1.0s						
KAPI	**Kappang**	**50.34**	**282**⇓ *e*P		**P**	**23 15 01.1**	**+0.7**
KAPI				pmax	pmax		
	comp=Z,40nm,1.7s						
KAPI	**Kappang**	**50.34**	**282**	LR	LR	23 39 10.2	
	comp=Z,306nm,18.1s,baz=110,slow=40						
TAOE	**Nuku Hiva Isla**	**50.59**	**84**	*e*LR	LR	23 29 49.3	
	comp=Z,650nm,25.1s						
TOLI2	**Tolitoli**	**52.12**	**289**	P	**P**	**23 15 12.7**	**-1.1**
VNDA	**Vanda**	**56.00**	**182**	P	**P**	**23 15 40.6**	**-0.5**
VNDA	**Vanda**	**56.00**	**182**	P	**P**	**23 15 40.7**	**-0.5**
	comp=Z,3.7nm,1.1s,baz=7.4,slow=8.9,SNR=8.1						
VNDA				LR	LR	23 36 09.1	
	comp=Z,91nm,18.8s,baz=359,slow=32						
	comp=Z,3.7nm,1.1s						
SBA	**Scott Base**	**56.24**	**181**	P	**P**	**23 15 42.9**	**0.0**
SBA	**Scott Base**	**56.24**	**181**	P	**P**	**23 15 42.9**	**0.0**
SBA				pmax	pmax		
	comp=Z,34nm,1.1s						
CASY	**Casey**	**57.77**	**204**	P	**P**	**23 15 53.0**	**-0.8**
CASY				IAmb	IAmb	23 16 01.7	
	comp=Z,18nm,1.1s						
KSM	**Kuching**	**61.60**	**284**	P	**P**	**23 16 18.9**	**-2.2**
MJAR	**Matsushiro Arr**	**64.74**	**333**	P	**P**	**23 16 40.5**	**-1.0**
	comp=Z,3.3nm,0.8s,baz=161,slow=7.4,SNR=6.5						
	comp=Z,3.3nm,0.8s						
MAJO	**Matsushiro**	**64.75**	**333**⇓ *e*P		**P**	**23 16 43.7**	**+2.2**
MAJO				pmax	pmax		
	comp=Z,32nm,2.2s						
QSPA	**South Pole Qui**	**68.39**	**180**	P	**P**	**23 17 04.2**	**-0.5**
	comp=Z,10nm,1.1s,baz=9.9,slow=0.3,SNR=16						
	comp=Z,10nm,1.1s						
NJ2	**Nanjing**	**71.72**	**317**	*e*P	**P**	**23 17 26.8**	**+1.5**
NJ2				pP	**pwP**	**23 17 31.3**	**-2.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,190nm,4.5s						
YSS	**Yuzh-Sakhalins**	**72.26**	**342**⇑ *e*P		**P**	**23 17 28.3**	**+0.1**
YSS				pmax	pmax		
	comp=Z,79nm,2.0s						
USA0B	**Ussuriysk Arra**	**73.74**	**333**	P	**P**	**23 17 37.2**	**+0.2**
USA0B	**Ussuriysk Arra**	**73.74**	**333**	P	**P**	**23 17 37.2**	**+0.2**
USA0B				pmax	pmax		
	comp=Z,66nm,1.5s						
USRK	**Ussuriysk Ar.**	**73.74**	**333**	P	**P**	**23 17 36.6**	**-0.4**
	comp=Z,5.8nm,0.8s,baz=151,slow=4.4,SNR=8.8						
	comp=Z,5.8nm,0.8s						
MDJ	**Mudanjiang**	**75.10**	**332**	P	**P**	**23 17 46.0**	**+1.1**
MDJ				pP	pwP	23 17 52.5	-0.8
MDJ				sP	PcP	23 17 57.8	-0.7
MDJ				S	**S**	**23 27 30.5**	**+7.9**
MDJ				pmax	pmax		
	comp=Z,12nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,520nm,4.3s						
MDJ				LR	LR		
	comp=Z,290nm,15.5s						
MDJ				LR	LR		
	comp=Z,370nm,15.6s						
MDJ				LR	LR		
	comp=Z,440nm,15.9s						
MAW	**Mawson**	**76.06**	**202**	P	**P**	**23 17 51.1**	**+0.8**
	baz=76,SNR=4.8						
MAW	**Mawson**	**76.06**	**202**	P	**P**	**23 17 50.7**	**+0.4**
MAW	**Mawson**	**76.06**	**202**	P	**P**	**23 17 50.8**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=117,slow=14,SNR=5.9						
MAW				LR	LR	23 46 54.6	
	comp=Z,214nm,20.5s,baz=96,slow=32						
	comp=Z,3.3nm,0.9s						
CN2	**Changchun**	**76.36**	**329**	*e*P	**P**	**23 17 51.5**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
NIKH	**Nikolski High**	**76.81**	**14**	P	**P**	**23 17 54.0**	**-0.4**
	baz=201						
HNS	**HongShan**	**77.78**	**319**	*e*P	**P**	**23 18 01.8**	**+1.5**
KLR	**Kul'dur**	**77.94**	**336**⇑ *i*P		**P**	**23 18 01.9**	**+1.0**
KLR				pmax	pmax		
	comp=Z,40nm,2.2s						
UNV	**Unalaska Valle**	**78.15**	**15**	P	**P**	**23 18 00.9**	**-1.0**
	baz=203						
CMAR	**Chiang Mai Arr**	**79.20**	**295**	P	**P**	**23 18 09.8**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=141,slow=5.4,SNR=3.2						
	comp=Z,1.2nm,0.7s						
CHTO	**Chiang Mai**	**79.36**	**295**	P	**P**	**23 18 07.2**	**-2.2**
CHTO	**Chiang Mai**	**79.36**	**295**	P	**P**	**23 18 07.2**	**-2.2**
CHTO				pmax	pmax		
	comp=Z,12nm,1.0s						
XAN	**Xi'an**	**79.50**	**313**	P	**P**	**23 18 11.0**	**+1.0**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BELA	**Belgrano 2**	**79.72**	**175**	P	**P**	**23 18 09.3**	**-1.2**
BELA				IAmb	IAmb	23 18 17.9	
	comp=Z,18nm,0.9s						
HEH	**HeiHe**	**80.45**	**334**	*e*P	**P**	**23 18 14.8**	**+0.2**
HEH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
HEH				pmax	pmax		
	comp=Z,410nm,4.8s						
PZH	**PanZhiHua**	**80.74**	**303**	P	**P**	**23 18 19.0**	**+2.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,60nm,4.4s						
XLT	**XiLinHaoTe**	**81.21**	**324**	*e*P	**P**	**23 18 20.0**	**+1.0**
XLT				pP	sP	23 18 24.0	-0.3
XLT				sP	pwP	23 18 27.3	-0.1
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,290nm,5.5s						
CD2	**Chengdu**	**81.45**	**308**	*e*P	**P**	**23 18 22.0**	**+1.5**
SMAI	**San Martin Ant**	**81.64**	**162**	P	**P**	**23 18 20.2**	**-0.6**
SMAI				IAmb	IAmb	23 18 29.2	
	comp=Z,20nm,1.2s						
HHC	**Hu-ho-hao-te**	**81.84**	**320**	*e*P	**P**	**23 18 25.5**	**+3.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,430nm,5.5s						
S14K	**Fog Glacier**	**82.12**	**17**	P	**P**	**23 18 23.2**	**-0.2**
	baz=209						
ZEA	**Zeya**	**83.24**	**337**	*e*P	P	23 18 38.0	+8.8
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ELIB	**Princess Elisa**	**83.70**	**190**	*d*P	**P**	**23 18 28.9**	**-2.9**
	comp=Z,8.8nm,1.0s						
N14K	**Kuskokwak Cree**	**84.79**	**14**	P	**P**	**23 18 38.8**	**+1.8**
	baz=207						
Q17K	**Contact Creek**	**84.84**	**18**	P	**P**	**23 18 37.3**	**-0.1**
	baz=212						
O16K	**Kokwok River B**	**85.38**	**16**	P	**P**	**23 18 41.1**	**+1.1**
	baz=210						
N15K	**Kwethluk River**	**85.38**	**15**	P	**P**	**23 18 40.2**	**+0.2**
	baz=209						
Q18K	**Katmai Hardscr**	**85.42**	**18**	P	**P**	**23 18 40.6**	**+0.3**
	baz=213						
M14K	**Bethel**	**85.47**	**14**	P	**P**	**23 18 43.2**	**+2.9**
	baz=207						
M15K	**Kasigluk River**	**85.70**	**14**	P	**P**	**23 18 42.7**	**+1.1**
	baz=208						
N16K	**Nishlik Lake**	**85.97**	**15**	P	**P**	**23 18 43.4**	**+0.4**
	baz=210						
TROLL	**Troll, Antarti**	**86.10**	**184**⇓ P		**P**	**23 18 42.9**	**-0.9**
	comp=Z,347nm,0.6s						
O18K	**Koktuh Hills**	**86.37**	**17**	P	**P**	**23 18 46.6**	**+1.6**
	baz=213						
M16K	**Timber Creek**	**86.40**	**15**	P	**P**	**23 18 46.1**	**+1.1**
	baz=210						
NVL	**N'lazarevskaya**	**86.41**	**187**	*e*P	P	23 18 52.5	+7.3
NVL				pmax	pmax		
	comp=Z,12nm,1.2s						
SNAA	**Sanae**	**86.73**	**183**⇓ P		**P**	**23 18 46.1**	**-0.7**
	comp=Z,140nm,0.9s						
L16K	**Owhat River**	**86.88**	**14**	P	**P**	**23 18 48.6**	**+1.3**
	baz=209						
J14K	**Nanvaranak Lak**	**86.93**	**12**	P	**P**	**23 18 49.1**	**+1.6**
	baz=206						
K15K	**Wolf Creek Mou**	**86.94**	**13**	P	**P**	**23 18 49.3**	**+1.7**
	baz=207						
VNA3	**Neumayer Olymp**	**87.33**	**180**⇓ P		**P**	**23 18 48.8**	**-0.8**
	comp=Z,17nm,0.8s						
L17K	**Donlin**	**87.53**	**15**	P	**P**	**23 18 53.4**	**+2.9**
	baz=210						
M18K	**Stony River**	**87.59**	**16**	P	**P**	**23 18 52.2**	**+1.4**
	baz=212						
VNA2	**Neumayer--Watz**	**87.62**	**181**⇓ P		**P**	**23 18 50.0**	**-1.0**
	comp=Z,5.1nm,0.5s,baz=182,slow=4.0						
SCZ2	**Santa Cruz Isl**	**87.65**	**52**	P	**P**	**23 18 53.0**	**+1.2**
	baz=242						
VNA1	**Neumayer--Stat**	**87.91**	**181**⇓ P		**P**	**23 18 51.0**	**-1.4**
	comp=Z,12nm,1.0s						
PKM	**Mcpherson Peak**	**87.94**	**51**	P	**P**	**23 18 53.3**	**0.0**
	baz=242						
J16K	**Anvik River**	**88.02**	**13**	P	**P**	**23 18 55.9**	**+3.2**
	baz=208						
ULN	**Ulaanbaatar**	**88.61**	**324**	P	**P**	**23 18 54.4**	**-1.7**
ULN				IAmb	IAmb	23 19 05.4	
	comp=Z,18nm,1.2s						
ULN	**Ulaanbaatar**	**88.61**	**324** *c i*P		**P**	**23 18 57.4**

CWC	Cottonwood Cre	89.91	50	P	P	23 19 02.1	-0.4	
	baz=243							
SWSC	Sam W. Stewart	90.03	54	P	P	23 19 03.3	+0.3	
	baz=244							
PNTR	Pine Nut	90.07	48	P	P	23 19 02.7	-0.6	
MPMC	Manual Prospec	90.16	51	P	P	23 19 03.3	-0.5	
	baz=243							
CAST	Castle Rocks	90.17	16	P	P	23 19 03.4	+0.5	
	baz=216							
YERR	Yerington	90.27	48	IAmb	IAmb	23 19 13.2		
	comp=Z,11nm,1.2s							
GSC	Goldstone, Bar	90.32	52	P	P	23 19 03.8	-0.6	
	baz=243							
BELC	Belle Mtn. Jos	90.34	53	P	P	23 19 04.3	-0.3	
	baz=244							
DSP	Deep Springs	90.41	50	IAmb	IAmb	23 19 14.0		
	comp=Z,16nm,1.3s							
LHV	Little Huntoon	90.44	49	P	P	23 19 04.0	-0.7	
HEC	Hector,Ludlow	90.46	53	P	P	23 19 04.0	-1.1	
	baz=244							
PAHR	Pah Rah Range	90.50	47	IAmb	IAmb	23 19 14.3		
	comp=Z,13nm,1.2s							
QSM	Queen of Sheba	90.57	51	IAmb	IAmb	23 19 18.8		
	comp=Z,21nm,1.5s							
BC3	Big Chuckawall	90.60	54	P	P	23 19 05.3	-0.5	
	baz=244							
NVAR	Mina Array Bea	90.66	49	P	P	23 19 05.3	-0.8	
NVAR	Mina Array Bea	90.66	49	P	P	23 19 05.9	-0.2	
	comp=Z,2.2nm,0.7s,baz=226,slow=8.4,SNR=21							
	comp=Z,2.2nm,0.7s							
GRAC	Grapevine Rang	90.67	50	P	P	23 19 05.9	-0.1	
	baz=243							
NV11	Mina Array Sit	90.76	49	IAmb	IAmb	23 19 15.6		
	comp=Z,12nm,1.2s							
FURC	Furnace Creek,	90.80	51	P	P	23 19 07.5	+1.1	
	baz=243							
GLA	Glamis	90.82	55	P	P	23 19 08.0	+1.2	
	baz=244							
SLBS	Sierra La Lagu	90.91	65		P	23 19 07.0	-0.4	
GMRC	Granite Mounta	90.94	53	P	P	23 19 06.0	-1.4	
	baz=244							
TUQ	Turquoise Moun	91.03	52	P	P	23 19 08.3	+0.6	
	baz=244							
IRM	Iron Mountain	91.05	54	P	P	23 19 07.2	-0.6	
	baz=244							
WCT	Wildcat Mounta	91.11	51	IAmb	IAmb	23 19 17.1		
	comp=Z,17nm,1.3s							
H20K	Anotlenenega Mo	91.19	14	P	P	23 19 09.8	+2.2	
	baz=213							
PINE	Pine Mountain	91.42	43	IAmb	IAmb	23 19 13.3		
	comp=Z,12nm,1.3s							
TPNV	Topopah Spring	91.45	51	P	P	23 19 09.1	-0.7	
	baz=244							
113A	Mohawk Valley,	91.50	55	IAmb	IAmb	23 19 19.0		
	comp=Z,19nm,1.4s							
PDMCI	Parker Dam,Lak	91.86	54	P	P	23 19 11.5	+0.1	
	baz=245							
214A	Organ Pipe Nat	91.90	56	P	P	23 19 11.7	-0.1	
	baz=246							
V12A	Nelson	91.94	52	IAmb	IAmb	23 19 21.1		
	comp=Z,11nm,1.3s							
SHPR	Sheep Range	92.05	51	IAmb	IAmb	23 19 21.8		
	comp=Z,11nm,1.6s							
ZAK	Zakamensk	92.06	324	*e*P	P	23 19 11.4	-0.8	
ZAK				pmax	pmax			
	comp=Z,12nm,1.3s							
W13A	Hualapai Mount	92.39	53	IAmb	IAmb	23 19 23.4		
	comp=Z,8.4nm,1.2s							
YUK3	Moose Creek	92.45	22	P	P	23 19 15.1	+1.3	
	baz=226							
I07A	Izee	92.47	43	IAmb	IAmb	23 19 24.0		
	comp=Z,21nm,1.7s							
R11B	Troy Canyon, C	92.53	50	P	P	23 19 13.3	-1.5	
R11B	Troy Canyon, C	92.53	50	P	P	23 19 13.6	-1.1	
	baz=244							
ILAR	Eielson Array	92.64	17	P	P	23 19 12.7	-1.7	
	comp=Z,0.4nm,0.7s,baz=235,slow=5.7,SNR=6.7							
	comp=Z,0.4nm,0.7s							
E20K	Nigu River	93.25	12	P	P	23 19 16.1	-1.1	
	baz=212							
G23K	Bananza Creek	93.33	15	P	P	23 19 18.6	+1.0	
	baz=218							
O30N	Mendenhall	93.34	24	P	P	23 19 16.0	-1.8	
	baz=230							
G08A	Pilot Rock	93.38	42	IAmb	IAmb	23 19 20.0		
	comp=Z,22nm,1.9s							
F22K	John River	93.47	14	P	P	23 19 19.2	+1.1	
	baz=216							
TUC	Tucson	93.62	57	P	P	23 19 18.7	-1.1	
TUC				IAmb	IAmb	23 19 21.0		
	comp=Z,10nm,1.4s							
TUC	Tucson	93.62	57	P	P	23 19 19.5	-0.2	
	baz=247							
TUC	Tucson	93.62	57	P	P	23 19 18.7	-1.1	
TUC				pmax	pmax			
	comp=Z,10.0nm,1.4s							
LCMT	Little Creek M	93.66	52	IAmb	IAmb	23 19 29.1		
	comp=Z,12nm,1.4s							
SPR3	Spring Creek 3	93.70	49	IAmb	IAmb	23 19 29.0		
	comp=Z,14nm,1.6s							
CCUT	Cedar City	93.79	51	IAmb	IAmb	23 19 30.1		
	comp=Z,11nm,1.4s							
X16A	Lo Mia Camp, P	93.95	55	IAmb	IAmb	23 19 30.7		
	comp=Z,7.9nm,1.0s							
SZCU	Shurtz Canyon	94.01	51	P	P	23 19 21.4	-0.2	
SZCU				IAmb	IAmb	23 19 31.1		
	comp=Z,17nm,1.6s							
U15A	North Rim	94.12	52		P	23 19 21.7	-0.6	
M30M	Minto, Yukon	94.26	22	P	P	23 19 21.9	0.0	
	baz=229							
EGAK	Eagle	94.32	19	P	P	23 19 22.6	+0.5	
	baz=226							
WUAZ	Wupatki	94.44	54	IAmb	IAmb	23 19 32.7		
	comp=Z,11nm,1.1s							
WUAZ	Wupatki	94.44	54	P	P	23 19 24.8	+1.3	
	baz=246							
G26K	Porcupine Rive	95.12	17	P	P	23 19 27.3	+1.6	
	baz=223							
I29M	Ogilvie Camp,	95.61	20	P	P	23 19 29.9	+1.9	
	baz=228							
ANMO	Albuquerque	97.95	56⇑	*e*P	P	23 19 38.4	-1.2	
ANMO				pmax	pmax			
	comp=Z,6.0nm,2.0s							
TXAR	Lajitas Array	98.22	62	P	P	23 19 40.4	-0.4	
	comp=Z,0.6nm,0.9s,baz=210,slow=5.2,SNR=3.9							
	comp=Z,0.6nm,0.9s							
WMQ	Urumqi	98.63	314	*e*P	Pdif	23 19 44.0	+1.7	
ARU	Arti	118.99	323	*i* PKIKP	PKiKP	23 24 51.8	+0.3	
ARU						23 26 09.6		
ARU						23 32 03.8		
ARU				SS	SS	23 42 26.1	-4.5	
PRGR	Permogore	124.48	331	*e*PKIKP	PKPdf	23 25 01.7	-0.1	
PRGR				pmax	pmax			
	comp=Z,9.0nm,1.2s							
BELG	Belogornoye	125.86	320*c*	*i* PKIKP	PKiKP	23 25 06.0	+0.9	
ARCES	ARCESS Array B	127.32	345	PKIKP	PKPdf	23 25 06.0	-1.1	
ARCES	ARCESS Array B	127.32	345	PKP	PKPdf	23 25 06.0	-1.1	
	comp=Z,5.7nm,1.1s,baz=58,slow=2.2,SNR=4.7							
KLMR	Klimovskoe	127.51	331	*e*PKPdf	PKPdf	23 25 03.7	-3.9	
KLMR				AMP		23 25 11.4		
	comp=Z,26nm,2.0s							
KLMR	Klimovskoe	127.51	331	*e*PKIKP	PKPdf	23 25 03.7	-3.9	
KLMR				pmax	pmax			
	comp=Z,26nm,2.0s							
BDFB	Brasília	128.20	133	PKP	PKPdf	23 25 09.7	-0.8	
	comp=Z,2.5nm,0.6s,baz=195,slow=6.8,SNR=3.5							
MBAR	Mbarara	133.54	247‖	*e*PKIKP	PKPdf	23 25 19.2	-1.6	
AKASG	Malin Array Be	137.24	323	PKP	PKPdf	23 25 25.7	-0.5	
	comp=Z,0.4nm,0.4s,baz=66,slow=2.2,SNR=1.5							
ARR	Arges	142.42	318	⇑P	PKPdf	23 25 36.9	+0.9	
SURR	Surduc	143.78	319	⇑P	PKPbc	23 25 36.2	+0.3	
PSZ	Piszkesteto	143.89	324		PKPbc	23 25 36.1	-0.1	
PSZ	Piszkesteto	143.89	324	PKIKP	PKPbc	23 25 36.1	-0.1	
MORC	Moravsky Berou	143.96	328	*e*PKP	PKPbc	23 25 36.2	-0.2	
MORC				*e*		23 25 44.5		
OSTC	Ostas	144.08	330	*e*PKP	PKPbc	23 25 36.5	-0.1	
OSTC				*ex*	x	23 25 45.9		
OSTC	Ostas	144.08	330	*e*PKIKP	PKPbc	23 25 36.5	-0.1	
VYHS	Vyhne	144.12	325	*e*PKP	PKPbc	23 25 37.5	+0.7	
VYHS	Vyhne	144.12	325	*e*PKIKP	PKPbc	23 25 37.5	+0.7	
BZS	Buzias	144.16	320	⇑P	PKPbc	23 25 37.0	0.0	
BZS	Buzias	144.16	320	⇑PKIKP	PKPbc	23 25 37.0	0.0	
DPC	Dobruska-Polom	144.17	330	*e*PKP	PKPbc	23 25 37.0	0.0	
DPC				*ep*PKP	sPKPdf	23 25 43.8	-0.5	
DPC	Dobruska-Polom	144.17	330	*e*PKIKP	PKPbc	23 25 37.0	0.0	
DPC				*e*		23 25 43.8		
JAVC	Velka Javorina	144.49	327	*e*PKP	PKPdf	23 25 39.7	+0.2	
JAVC				*e*		23 25 48.1		
MDVR	Moldovita	144.52	318	⇑P	PKPab	23 25 37.4	-0.7	
VTS	Vitosha	144.54	314	‖P	PKPbc	23 25 38.6	0.0	
VTS	Vitosha	144.54	314	‖PKIKP	PKPbc	23 25 38.6	+0.1	
VRAC	Vranov	144.74	328	*e*PKP	PKPdf	23 25 39.2	-0.7	
VRAC				*e*		23 25 45.6		
PVCC	Panska Ves	144.85	331	*e*PKP	PKPbc	23 25 39.3	+0.2	
PVCC				*ex*	x	23 25 47.2		
PVCC	Panska Ves	144.85	331	*e*PKIKP	PKPbc	23 25 39.3	+0.2	
PVCC				*e*		23 25 47.2		
FLTG	Flechtingen	144.86	336	*e*PKPbc	PKPbc	23 25 38.9	-0.1	
	baz=38,slow=2.9							
FLTG				*ep*PKPbc	sPKPdf	23 25 46.5	+1.2	
	baz=37,slow=2.8							
BRG	Berggiesshubel	144.87	332	*i* PKIKP	PKPdf	23 25 39.7	-0.3	
BRG						23 25 47.8		
BRG				pmax	pmax			
	comp=Z,22nm,0.9s							
BRG				pmax	pmax			
	comp=Z,53nm,1.2s							
BRG	Berggiesshubel	144.87	332	*e*PKPbc	PKPdf	23 25 40.0	0.0	
	baz=38,slow=2.9							
BRG				*ep*PKPbc	sPKPdf	23 25 47.7	+2.3	
	baz=37,slow=2.8							
BRG	Berggiesshubel	144.87	332	*i* PKP	PKPdf	23 25 39.7	-0.3	
BRG				Amp		23 25 41.0		
	comp=Z,22nm,0.9s							
BRG	Berggiesshubel	144.87	332	P	PKiKP	23 25 47.8	+4.1	
BRG				Amp		23 25 49.2		
	comp=Z,53nm,1.2s							
CLL	Collm	144.95	333‖	*i* PKIKP	PKPab	23 25 39.1	-0.2	
CLL				*i*		23 25 47.0		
CLL				pmax	pmax			
	comp=Z,36nm,1.3s							
CLL	Collm	144.95	333	*e*PKPbc	PKPbc	23 25 39.4	0.0	
	baz=38,slow=2.9							
CLL				*ep*PKPbc	sPKPdf	23 25 47.1	+1.6	
	baz=37,slow=2.8							
CLL	Collm	144.95	333‖	*i* PKPbc	PKPab	23 25 39.1	-0.2	
	comp=Z,36nm,1.3s							
CLL				*i* x	x	23 25 47.0		
	comp=Z,54nm,1.2s							
CLL				*i* x	x	23 25 51.4		
KRUC	Moravsky	145.00	328	*e*PKP	PKPdf	23 25 39.9	-0.4	
KRUC				*e*		23 25 47.5		
MODS	Modra-Piesok	145.00	326	*e*PKP	PKPdf	23 25 40.6	+0.3	
MODS	Modra-Piesok	145.00	326	*e*PKIKP	PKPdf	23 25 40.6	+0.3	
BOVS	Bovan	145.08	317	⇑P	PKPbc	23 25 39.5	-0.5	
FBE	Freiberg	145.09	333	*e*PKPbc	PKPdf	23 25 40.3	-0.1	
	baz=38,slow=2.9							
FBE				*ep*PKPbc	sPKPdf	23 25 48.0	+2.2	
	baz=37,slow=2.8							
NRDL	Niedersach Rie	145.15	337	*e*PKPbc	PKPdf	23 25 40.3	-0.1	
	baz=38,slow=2.9							
NRDL				*ep*PKPbc	sPKPdf	23 25 47.8	+2.1	
	baz=37,slow=2.8							
GOPC	GO Pecny, Ondr	145.18	330	*e*PKP	PKPdf	23 25 40.3	-0.3	
GOPC				*ex*	x	23 25 47.4		
GOPC	GO Pecny, Ondr	145.18	330	*e*PKIKP	PKPdf	23 25 40.3	-0.3	
GOPC				*e*		23 25 47.4		
ZST	Bratislava	145.21	326	*e*PKP	PKPdf	23 25 41.8	+1.1	
ZST	Bratislava	145.21	326	*e*PKIKP	PKPdf	23 25 41.8	+1.1	
RETH	Rethem/Aller,	145.21	338	*e*PKPbc	PKPdf	23 25 40.5	+0.1	
	baz=38,slow=2.9							
RETH				*ep*PKPbc	sPKPdf	23 25 47.8	+1.9	
	baz=37,slow=2.8							
ASSE	Asse, Remlinge	145.23	336	*e*PKPbc	PKPdf	23 25 40.6	+0.1	
	baz=38,slow=2.9							
ASSE				*ep*PKPbc	sPKPdf	23 25 48.3	+2.3	
	baz=37,slow=2.8							
PRA	Prague	145.23	331	*e*PKP	PKPdf	23 25 40.7	+0.1	
PRA				*ex*	x	23 25 46.4		
PRA	Prague	145.23	331	*e*PKIKP	PKPdf	23 25 40.7	+0.1	
PRA				*e*		23 25 46.4		
PRU	Pruhonice	145.24	331	*e*PKP	PKPbc	23 25 39.9	-0.4	
PRU				*ex*	x	23 25 47.9		
PRU	Pruhonice	145.24	331	*e*PKIKP	PKPbc	23 25 39.9	-0.4	
PRU				*e*		23 25 47.9		
TREC	Trest	145.28	329	*e*PKP	PKPdf	23 25 40.6	-0.2	
TREC				*ex*	x	23 25 47.6		
TREC	Trest	145.28	329	*e*PKIKP	PKPdf	23 25 40.6	-0.2	
TREC				*e*		23 25 47.6		
HSKC	Hora Svate Kat	145.29	332	*e*PKP	PKPdf	23 25 40.6	-0.2	
HSKC				*ex*	x	23 25 46.7		
FRGS	Fruska Gora	145.48	320	⇑P	PKPab	23 25 41.9	+0.4	
FRGS	Fruska Gora	145.48	320‖	*i* P	PKPdf	23 25 40.4	-0.9	
NEUB	Neuenburg	145.53	334	*e*PKPbc	PKPab	23 25 41.7	+0.2	
	baz=38,slow=2.9							
NEUB				*ep*PKPbc	sPKPab	23 25 49.4	+2.6	
	baz=37,slow=2.8							
CLZ	Clausthal	145.58	336	*e*PKPbc	PKPab	23 25 42.0	+0.3	
	baz=38,slow=2.9							
CLZ				*ep*PKPbc	sPKPab	23 25 49.5	+2.5	
	baz=37,slow=2.8							
ZVC	Zvikov	145.79	330	*e*PKP	PKPab	23 25 42.7	+0.2	
ZVC				*ex*	x	23 25 49.8		
EKA	Eskdalemuir Ar	145.86	352	PKPbc	PKPdf	23 25 40.9	-0.7	
	comp=Z,2.9nm,0.6s,baz=355,slow=2.8,SNR=9.4							
WERD	Werda	145.89	333	*e*PKPbc	PKPab	23 25 42.9	0.0	
	baz=38,slow=2.9							
WERD				*ep*PKPbc	sPKPab	23 25 50.7	+2.4	
	baz=37,slow=2.8							
PLN	Plauen	145.92	333	*e*PKPbc	PKPab	23 25 43.2	+0.2	
	baz=38,slow=2.9							
PLN				*ep*PKPbc	sPKPab	23 25 50.6	+2.3	
	baz=37,slow=2.8							
DIVS	Divibare	145.93	318	PKPdf	PKPdf	23 25 41.9	-0.3	
DIVS	Divibare	145.93	318‖	*i* P	PKPdf	23 25 40.8	-1.4	
RONA	Rosalia, Austr	145.94	326	*i* PKP	PKPab	23 25 43.0	-0.1	
	comp=Z,39nm,1.9s,SNR=17							
RONA				*ep*PKiKP	pPKiKP	23 25 51.6	+1.4	
	comp=Z,50nm,1.4s							
GUNZ	Gunzen	145.94	333	*e*PKPbc	PKPab	23 25 43.2	+0.1	
	baz=38,slow=2.9							
GUNZ				*ep*PKPbc	sPKPab	23 25 51.0	+2.5	
	baz=37,slow=2.8							
GTTG	Gottingen	145.97	336	*e*PKPbc	PKPab	23 25 43.1	0.0	
	baz=38,slow=2.9							
GTTG				*ep*PKPbc	sPKPab	23 25 50.6	+2.1	
	baz=37,slow=2.8							
TEKS	Tekeris	145.98	319‖	*i* P	PKPbc	23 25 42.4	-0.5	
WERN	Wernitzgruen	145.98	333	*e*PKPbc	PKPab	23 25 43.4	+0.2	
	baz=38,slow=2.9							
WERN				*ep*PKPbc	sPKPab	23 25 51.2	+2.6	
	baz=37,slow=2.8							
NKC	Novy Kostel	145.99	333	*e*PKP	PKPab	23 25 43.2	-0.1	
NKC				*ex*	x	23 25 50.7		
NKC	Novy Kostel	145.99	333	*e*PKP2	PKPab	23 25 43.2	-0.1	
CONA	Conrad Observa	146.01	327	*i* PKP	PKPab	23 25 43.8	+0.3	
	comp=Z,45nm,1.5s,SNR=19							
CONA				*ep*PKiKP	pPKiKP	23 25 52.0	+1.5	
	comp=Z,68nm,1.4s							
MOX	Moxa	146.03	334	*e*PKPbc	PKPbc	23 25 42.9	+0.1	
	baz=38,slow=2.9							
MOX				*ep*PKPbc	sPKPab	23 25 50.6	+1.8	
	baz=37,slow=2.8							
IBBN	Ibbenburen	146.12	339	*e*PKPbc	PKPab	23 25 43.4	-0.2	
	baz=38,slow=2.9							
IBBN				*ep*PKPbc	sPKPab	23 25 50.7	+1.7	
	baz=37,slow=2.8							
CKRC	Cesky Krumlov	146.17	329	*e*PKP	PKPbc	23 25 43.3	0.0	
CKRC				*ex*	x	23 25 51.0		
CKRC	Cesky Krumlov	146.17	329	*e*PKP2	PKPbc	23 25 43.3	0.0	
KHC	Kasperske Hory	146.29	330	*e*PKP	PKPbc	23 25 43.4	-0.3	
KHC				*ex*	x	23 25 51.3		
KHC	Kasperske Hory	146.29	330	*e*PKP2	PKPbc	23 25 43.4	-0.3	
MANZ	Manzenberg	146.32	333	*e*PKPbc	PKPab	23 25 44.3	-0.3	
	baz=38,slow=2.9							
MANZ				*ep*PKPbc	sPKPab	23 25 51.8	+1.9	
	baz=37,slow=2.8							
SJES	Sjenica	146.36	317‖	*i* P	PKPbc	23 25 44.2	0.0	
BBLS	Lazići	146.41	318‖	*i* P	PKPbc	23 25 44.3	0.0	
GEC2	GERESS Array S	146.44	330	PKPdf	PKPdf	23 25 42.8	-0.1	
GEC2	GERESS Array S	146.44	330	*e*PKPbc	PKPab	23 25 44.6	-0.6	
	baz=38,slow=2.9							
GEC2				*ep*PKPbc	sPKPab	23 25 52.3	+1.7	
	baz=37,slow=2.8							
GERES	GERESS Array B	146.44	330	PKPbc	PKPab	23 25 44.5	-0.6	
	comp=Z,6.6nm,0.7s,baz=33,slow=3.2,SNR=31							
ROTZ	Rotzenmuhle	146.44	332	*e*PKPbc	PKPab	23 25 44.6	-0.3	
	baz=38,slow=2.9							
ROTZ				*ep*PKPbc	sPKPab	23 25 52.1	+1.7	
	baz=37,slow=2.8							
RUDO	Rudo	146.56	318	*e*P	PKPdf	23 25 42.5	-0.7	
WET	Wettzell	146.60	331	*e*PKPbc	PKPab	23 25 45.3	-0.4	
	baz=38,slow=2.9							
WET				*ep*PKPbc	sPKPab	23 25 52.7	+1.7	
	baz=37,slow=2.8							
ARSA	Arzberg	146.63	326	*e*PKP	PKPbc	23 25 44.6	-0.2	
	comp=Z,6.6nm,1.2s							
KOGS	Kog	146.76	325	*i* PKPbc	PKPbc	23 25 44.9	-0.2	
KASTN	Kahler Asten	146.81	337	*e*PKPbc	PKPbc	23 25 45.1	0.0	
	baz=38,slow=2.9							
KASTN				*ep*PKPbc	sPKPab	23 25 52.9	+1.1	
	baz=37,slow=2.8							
MOA	Molln	146.86	328	*e*PKP	PKPbc	23 25 45.7	+0.3	
	comp=Z,12nm,1.2s							
GRF	Grafenberg Arr	146.92	333	*e*PKPbc	PKPbc	23 25 45.7	+0.2	
	baz=38,slow=2.9							
PDG	Podgorica	147.24	316‖	*i* P	PKPbc	23 25 45.5	-1.1	
SOKA	Soboth	147.26	326	*i* PKP	PKPdf	23 25 44.8	+0.5	
	comp=Z,11nm,1.3s,SNR=8.5							
SOKA				*ep*PKiKP	sPKPab	23 25 54.6	+0.8	
	comp=Z,20nm,1.2s							
BLY	Banja Luka	147.26	321‖	*i* P	PKPbc	23 25 46.4	-0.2	
A051A	Mrakovica	147.26	322‖	*i* P	PKPbc	23 25 46.0	-0.7	
BIOA	Bad Ischl, Aus	147.28	328	*e*PKP	PKPdf	23 25 45.0	+0.8	
	comp=Z,8.6nm,1.5s							
BIOA				*ep*PKiKP	sPKPab	23 25 54.0	+0.3	
	comp=Z,11nm,1.2s							
BRY	Bratogost	147.45	317	*e*P	PKPdf	23 25 43.6	-1.2	
MGRS	Mrkonjic Grad	147.51	321	*e*P	PKiKP	23 25 55.0	+5.5	
CRES	Cresnjev	147.58	324‖	*i* P	PKPbc	23 25 46.5	-0.9	
TNS	Taunus Mts	147.60	336	*e*PKPbc	PKPbc	23 25 47.7	+0.2	
	baz=38,slow=2.9							
TNS				*ep*PKPbc	sPKPab	23 25 55.3	+0.3	
	baz=37,slow=2.8							
OBKA	Obir	147.62	326	*e*PKP	PKPbc	23 25 47.2	-0.4	
	comp=Z,3.8nm,1.1s							
OBKA				*ep*PKiKP	sPKPab	23 25 55.0	-0.2	
	comp=Z,14nm,1.1s							
OBKA	Obir	147.62	326	*e*P	PKPbc	23 25 46.6	-1.0	
RJOB	Jochberg	147.65	329	*e*PKPbc	PKPbc	23 25 47.8	+0.2	
	baz=38,slow=2.9							
RJOB				*ep*PKPbc	sPKPab	23 25 55.2	-0.1	
	baz=37,slow=2.8							
AHRW	Bad Neuenahr-A	147.83	338	*e*PKPbc	PKPbc	23 25 48.0	+0.1	
	baz=38,slow=2.9							
AHRW				*ep*PKPbc	sPKPab	23 25 55.8	0.0	
	baz=37,slow=2.8							
KBA	Koelnbreinsper	147.85	328	*e*PKP	PKPbc	23 25 47.9	-0.4	
	comp=Z,6.5nm,0.8s							
LESA	Schwarzleotal	147.93	329	*e*PKP	PKPdf	23 25 46.2	+0.8	
	comp=Z,7.3nm,0.6s							
LJU	Ljubljana	147.94	325	*i* PKPbc	PKPbc	23 25 48.3	-0.1	
MYKA	Terra Mystica	148.01	327	*e*PKP	PKPbc	23 25 48.1	-0.5	
	comp=Z,5.7nm,0.8s							
FUR	Furstenfeldbru	148.04	331	*e*PKPbc	PKPbc	23 25 49.0	+0.4	
	baz=38,slow=2.9							
BTNL	Ternell	148.12	339	*d*PKP	PKPbc	23 25 48.6	-0.2	
CEY	Cerknica	148.19	325‖	*i* P	PKPbc	23 25 48.5	-0.6	
CEY	Cerknica	148.19	325	*i* PKPbc	PKPbc	23 25 48.6	-0.5	
BSTI	Sart Tilman	148.31	340	*d*PKP	PKPbc	23 25 49.3	+0.1	
SABO	M.te Sabotino	148.47	326		PKPbc	23 25 48.5	-1.4	
ABTA	Abfaltersbach	148.49	328	*i* PKP	PKPdf	23 25 47.0	+0.7	
	comp=Z,8.9nm,0.8s,SNR=5.9							
ABTA				*ep*PKP	pPKPab	23 25 57.2	-0.1	
	comp=Z,22nm,1.0s							
WATA	Walderalm	148.52	330	PKP	PKPbc	23 25 48.8	-1.2	
	comp=Z,19nm,1.8s							
WATA				*ep*PKP	sPKPab	23 25 57.9	-0.9	
	comp=Z,27nm,1.6s							
BCLA	Clavier	148.53	340	*d*PKP	PKPdf	23 25 45.4	-0.8	
SKDS	Skadanscina	148.53	325‖	*i* P	PKPbc	23 25 48.5	-1.5	
WTTA	Wattenberg	148.54	330	*e*PKP	PKPdf	23 25 46.1	-0.4	
	comp=Z,18nm,1.2s							
MOTA	Moosalm	148.73	330	*i* PKP	PKPbc	23 25 50.5	-0.1	
	comp=Z,14nm,0.9s,SNR=7.3							
MOTA				*ep*PKP	sPKPab	23 25 58.5	-1.2	
	comp=Z,30nm,1.1s							
SQTA	Sankt Quirin	148.77	330	*i* pPKP	PKPbc	23 25 50.8	+0.1	
	comp=Z,14nm,0.8s,SNR=8.4							
SQTA				*ep*PKP	sPKPab	23 25 58.8	-1.0	
	comp=Z,41nm,1.4s							
RETA	Reutte	148.78	331	*e*PKP	PKPbc	23 25 50.3	-0.4	
	comp=Z,8.6nm,1.2s							
RETA				*ep*PKP	pPKPab	23 25 58.0	-0.3	
	comp=Z,27nm,1.5s							
BMRD

ESDC	Sonseca Array	143.05	333	PKhKP	PKPpre	23 26 47.2	
	0.6nm,0.9s,baz=2.4,slow=4.3,SNR=5.1						
BDFB	Brasilia	147.22	134	PKPbc	PKPbc	23 27 00.9	-1.2
	0.9nm,0.4s,baz=248,slow=5.4,SNR=3.7						
TORD	Torodi Ar. Bea	153.76	285	PKPbc	PKiKP	23 27 17.0	-0.9
	0.5nm,0.7s,baz=60,slow=2.0,SNR=2.0						

*IDC **31** 23:11:57.9±1.3, 7°.01S×155°.58E, h0km, mb4.0/7, mbtmp4.0/7, ML5.6/1, Error ellipse: s-maj=37.9km s-min=30.1km az=98.0*

ISC 31 23:12:02.4±1.1, 7°.0S±0°.2×155°.7E±0°.1, h35km, n12, σ1°49/8, mb4.2/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.81	120	Pn	Pn	23 13 13.7	+1.3
	218nm,0.3s,baz=189,slow=6.5,SNR=1.6						
HNR				Sn	Sn	23 14 05.2	-1.7
	285nm,0.3s,baz=228,slow=14,SNR=1.8						
WRA	Warramunga Arr	24.39	236	P	P	23 17 16.8	-0.9
	0.5nm,0.4s,baz=60,slow=9.7,SNR=4.2						
	0.5nm,0.4s						
ASAR	Alice Springs	26.69	229	P	P	23 17 38.6	+0.2
	0.3nm,0.5s,baz=56,slow=10,SNR=2.4						
	0.3nm,0.5s						
H11S3	WAKE ISLAND Hy	27.58	23	T	T	23 46 18.9	
	baz=203,slow=74						
H11S2	WAKE ISLAND Hy	27.59	23	T	T	23 46 12.7	
	baz=203,slow=74						
H11S1	WAKE ISLAND Hy	27.60	23	T	T	23 46 17.1	
	baz=203						
SONM	Songino Array	69.77	327	P	P	23 23 11.1	+1.9
	1.0nm,0.4s,baz=145,slow=6.1,SNR=14						
	1.0nm,0.4s						
MKAR	Makanchi Array	83.92	319	P	P	23 24 29.4	+0.6
	2.7nm,0.7s,baz=104,slow=5.5,SNR=5.2						
	2.7nm,0.7s						
ZALV	Zalesovo Beam	84.62	326	P	P	23 24 31.8	-0.5
	1.4nm,0.4s,baz=116,slow=4.1,SNR=9.5						
	1.4nm,0.4s						
KURBB	Kurchatov Arra	87.35	322	P	P	23 24 45.4	-0.4
	0.5nm,0.5s,baz=94,slow=5.6,SNR=8.1						
	0.5nm,0.5s						
BVAR	Borovoye Array	92.77	323	P	P	23 25 09.7	-1.4
	0.9nm,0.6s,baz=124,slow=3.9,SNR=3.6						
	0.9nm,0.6s						
TORD	Torodi Ar. Bea	153.73	285	PKPbc	PKPbc	23 32 00.7	+1.8
	0.4nm,0.9s,baz=64,slow=2.7,SNR=1.9						

*NOU **31** 23:14:07.2, 37°.46S×177°.19E, h0km, MLv3.3/6, Off E. Coast of N. Island, N.Z.*

*WEL **31** 23:14:08.1±0.6, 38°.5±5°.×17°.7E±°, h5km, M3.1/36, ML3.5/18, MLv3.1/36, Error ellipse: s-maj=0.0km s-min=0.0km az=17.0*

ISC 31 23:14:07.9±1.0, 37°.53S±0°.04×177°.30E±0°.02, h15km±6km, n64, σ0°74/68, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.09	275	P	Pg	23 14 10.8	-0.2
WIZ				S	Sg	23 14 12.9	-0.2
WSRZ	White Island S	0.10	279	P	Pg	23 14 11.7	+0.5
WHRZ	Whale Island	0.41	218	P	Pb	23 14 17.7	+0.9
HAZ	Te Kaha	0.44	120	P	Pg	23 14 15.8	-1.0
HAZ				S	Sg	23 14 22.1	-0.7
RUGZ	Raukumara Rang	0.53	145	P	Pg	23 14 17.6	-0.7
OPRZ	Ohinepanea	0.67	242	P	Pb	23 14 21.6	+0.5
OPRZ				S	Sb	23 14 30.6	+0.4
MARZ	Manawahe	0.67	227	P	Pb	23 14 21.7	+0.5
PKGZ	Pakihiroa	0.71	120	P	Pg	23 14 20.7	-1.1
EDRZ	Edgecumbe	0.72	218	P	Pb	23 14 22.7	+0.5
URZ	Urewera	0.74	192	P	Pg	23 14 22.0	-0.3
URZ	Urewera	0.74	192	P	Pg	23 14 22.1	-0.3
URZ				S	Sb	23 14 32.1	-0.2
MXZ	Matakaoa Point	0.80	92	P	Pb	23 14 24.4	+0.9
MXZ	Matakaoa Point	0.80	92	P	Pb	23 14 24.6	+1.1
MWZ	Matawai	0.82	167	P	Pg	23 14 23.3	-0.5
TWGZ	Tauwhareparae	0.84	140	P	Pg	23 14 24.1	-0.1
TGRZ	Tauranga	0.85	256	P	Pg	23 14 24.2	-0.1
LIRZ	Lichensteins R	0.86	237	P	Pn	23 14 25.9	+0.5
MYRZ	Mayor Island	0.88	286	P	Pg	23 14 25.2	+0.3
PUZ	Puketiti	0.93	126	P	Pb	23 14 25.6	-0.1
WMGZ	Waiomatatini S	0.93	108	P	Pb	23 14 26.3	+0.7
TARZ	Mount Tarawera	0.94	222	P	Pn	23 14 27.8	+1.2
RAGZ	Rawiri	0.96	175	P	Pb	23 14 26.2	-0.1
KARZ	Kaharoa	0.97	239	P	Pn	23 14 27.3	+0.4
TKGZ	Te Karaka	1.00	154	P	Pg	23 14 27.4	+0.1
MUGZ	Murupara	1.03	204	P	Pb	23 14 27.2	-0.2
RTZ	Ruatahuna	1.11	193	P	Pb	23 14 28.3	-0.5
CNGZ	Carnagh Statio	1.19	143	P	Pg	23 14 31.6	+0.8
RIGZ	Rimuhau	1.23	163	P	Pg	23 14 31.6	0.0
SNGZ	Shannon Statio	1.25	179	P	Pn	23 14 30.8	+0.1
MTHZ	Maungataniwha	1.36	195	P	Pn	23 14 32.6	+0.2
RAHZ	Arahi	1.39	187	P	Pg	23 14 34.4	-0.3
PRGZ	Paritu Road	1.46	162	P	Pg	23 14 35.8	-0.2
MRHZ	Matea Rd	1.47	208	P	Pb	23 14 35.1	+0.2
KUZ	Kuaotunu	1.49	301	P	Pn	23 14 32.1	-1.9
KNZ	Kokohu	1.52	169	P	Pb	23 14 35.3	-0.3
NMHZ	Naumai	1.61	194	P	Pb	23 14 37.6	+0.3
MHGZ	Mahia Peninsul	1.69	164	P	Pn	23 14 37.8	+1.0
ARHZ	Aropaoanui	1.74	188	P	Pb	23 14 39.1	-0.4
BKZ	Black Stump Fm	1.75	201	P	Pb	23 14 39.8	+0.1
BKZ	Black Stump Fm	1.75	201	P	Pn	23 14 37.5	-0.2
MCHZ	McNeill Hill	1.96	194	P	Pb	23 14 42.4	-0.9
KWHZ	Kaweka Forest	2.01	200	P	Pn	23 14 41.9	+0.6
NTVZ	North Tongarir	2.02	219	P	Pb	23 14 45.1	+0.8
TMVZ	Te Maari	2.02	218	P	Pb	23 14 44.3	0.0
ETVZ	East Tongariro	2.03	217	P	Pb	23 14 44.2	-0.3
NNVZ	North Ngauruho	2.07	219	P	Pg	23 14 46.4	-1.1
OTVZ	Oturere	2.07	218	P	Pn	23 14 43.7	+1.5
WTVZ	West Tongariro	2.07	220	P	Pg	23 14 46.8	-0.8
SNVZ	South Ngauruho	2.10	218	P	Pb	23 14 46.3	+0.5
NGZ	Ngauruhoe	2.11	219	P	Pb	23 14 46.7	+0.7
TUVZ	Tukino	2.16	216	P	Pb	23 14 46.7	0.0
BHHZ	Black Hill Sta	2.18	206	P	Pn	23 14 44.2	+0.6
FWVZ	Far West T-bar	2.20	218	P	Pb	23 14 47.9	+0.4
KRHZ	Kereru	2.23	199	P	Pn	23 14 45.2	+1.0
MOVZ	Moawhango	2.23	212	P	Pn	23 14 45.2	+0.9
WNVZ	Wahianoa	2.23	216	P	Pb	23 14 47.8	-0.2
KAHZ	Kahuranaki	2.28	188	P	Pn	23 14 45.7	+0.7
PNHZ	Pukenui	2.53	200	P	Pn	23 14 49.2	+0.8
VRZ	Vera Road	2.55	231	P	Pb	23 14 53.8	+0.5
TSZ	Takapari Road	2.73	202	P	Pn	23 14 51.7	+0.6
WAZ	Wanganui	2.86	219	P	Pb	23 14 56.2	-2.4
BFZ	Birch Farm	3.25	194	P	Pn	23 14 59.7	+1.5
MRZ	Mangatainoka R	3.40	203	P	Pn	23 15 00.5	+0.3
OUZ	Omahuta	3.78	307	P	Pn	23 15 05.3	-0.2

WEL 31 23:17:26.1±0.6, 38°S±5°.×17°.7E±°, h9km±3km, M3.3/43, ML3.7/19, MLv3.3/43, Error ellipse: s-maj=0.0km s-min=0.0km az=16.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.12	261	P	Pg	23 17 29.4	+0.6
WIZ				S	Sg	23 17 32.1	+1.4
WSRZ	White Island S	0.12	266	P	Pg	23 17 29.8	+0.8
WSRZ				S	Sg	23 17 32.7	+1.8
HAZ	Te Kaha	0.43	125	P	Pg	23 17 34.5	-0.1
HAZ				S	Sg	23 17 41.0	+0.7
WHRZ	Whale Island	0.45	219	P	Pb	23 17 36.3	0.0
RUGZ	Raukumara Rang	0.53	149	P	Pg	23 17 36.3	-0.1
PKGZ	Pakihiroa	0.70	123	P	Pg	23 17 39.3	-0.3
OPRZ	Ohinepanea	0.70	241	P	Pb	23 17 40.3	-0.3
MARZ	Manawahe	0.71	227	P	Pb	23 17 41.1	+0.5
EDRZ	Edgecumbe	0.76	218	P	Pn	23 17 42.8	-0.3
URZ	Urewera	0.77	193	P	Pg	23 17 40.8	-0.1
URZ				S	Sg	23 17 51.4	+0.4
MXZ	Matakaoa Point	0.78	94	P	Pb	23 17 41.9	+0.2
MWZ	Matawai	0.84	169	P	Pg	23 17 42.0	-0.2
TWGZ	Tauwhareparae	0.84	143	P	Pb	23 17 42.9	-0.1
TGRZ	Tauranga	0.88	255	P	Pg	23 17 43.2	+0.2
MYRZ	Mayor Island	0.90	284	P	Pn	23 17 44.7	-0.3
WMGZ	Waiomatatini S	0.91	110	P	Pn	23 17 45.0	-0.1
PUZ	Puketiti	0.92	128	P	Pb	23 17 44.6	+0.3
TARZ	Mount Tarawera	0.98	222	P	Pn	23 17 47.4	+1.3
RAGZ	Rawiri	0.99	176	P	Pg	23 17 45.0	-0.1
KARZ	Kaharoa	1.00	239	P	Pb	23 17 45.7	+0.1
TKGZ	Te Karaka	1.01	156	P	Pb	23 17 46.2	+0.3
MUGZ	Murupara	1.06	205	P	Pg	23 17 46.1	-0.4
RTZ	Ruatahuna	1.14	194	P	Pg	23 17 47.7	-0.3
CNGZ	Carnagh Statio	1.19	145	P	Pg	23 17 50.6	+1.6
RIGZ	Rimuhau	1.24	164	P	Pg	23 17 50.4	+0.4
SNGZ	Shannon Statio	1.27	180	P	Pn	23 17 49.6	-0.5
GRRZ	Galatos Road	1.28	229	P	Pg	23 17 57.6	+6.9
MTHZ	Maungataniwha	1.40	196	P	Pg	23 17 53.0	+0.1
RAHZ	Arahi	1.42	188	P	Pg	23 17 53.3	-0.1
TOZ	Tahuroa Road	1.47	261	P	Pg	23 17 56.7	+2.4
PRGZ	Paritu Road	1.48	163	P	Pg	23 17 54.5	0.0
KUZ	Kuaotunu	1.50	300	P	Pn	23 17 51.0	-2.1
MRHZ	Matea Rd	1.51	208	P	Pb	23 17 54.5	+0.2
KNZ	Kokohu	1.53	170	P	Pb	23 17 54.2	-0.5
WHHZ	Waihua	1.57	183	P	Pg	23 17 57.3	+1.1
NMHZ	Naumai	1.64	194	P	Pg	23 17 57.4	-0.2
MHGZ	Mahia Peninsul	1.70	165	P	Pn	23 17 56.5	+0.5
ARHZ	Aropaoanui	1.77	188	P	Pn	23 17 57.8	+0.9
MKAZ	Moumakai	1.78	282	P	Pn	23 17 55.5	-1.5
BKZ	Black Stump Fm	1.78	202	P	Pn	23 17 56.6	-0.6
WIAZ	Waiheke Island	1.90	291	P	Pn	23 17 57.8	-0.9
GRZ	Great Barrier	1.96	309	P	Pn	23 17 57.7	-1.8
MCHZ	McNeill Hill	2.00	194	P	Pg	23 18 04.7	+0.3
KWHZ	Kaweka Forest	2.04	200	P	Pb	23 18 02.3	-1.1
TMVZ	Te Maari	2.05	218	P	Pb	23 18 04.2	+0.5
NTVZ	North Tongarir	2.05	219	P	Pb	23 18 04.0	+0.4
ETVZ	East Tongariro	2.07	218	P	Pb	23 18 04.0	+0.1
MBAZ	Motutapu North	2.08	290	P	Pn	23 18 00.6	-0.6
OTVZ	Oturere	2.11	218	P	Pb	23 18 05.1	+0.4
NNVZ	North Ngauruho	2.11	219	P	Pg	23 18 05.9	-0.7
WTVZ	West Tongariro	2.11	220	P	Pg	23 18 05.8	-0.8
SNVZ	South Ngauruho	2.14	218	P	Pb	23 18 05.4	+0.3
NGZ	Ngauruhoe	2.15	219	P	Pb	23 18 05.6	+0.3
CKHZ	Cape Kidnapper	2.16	185	P	Pg	23 18 07.5	+0.1
TUVZ	Tukino	2.20	216	P	Pb	23 18 05.9	-0.3
BHHZ	Black Hill Sta	2.21	206	P	Pn	23 18 04.2	+1.1
FWVZ	Far West T-bar	2.23	218	P	Pb	23 18 07.1	+0.2
KRHZ	Kereru	2.26	199	P	Pn	23 18 04.2	+0.5
MOVZ	Moawhango	2.27	213	P	Pn	23 18 03.9	+0.1
WNVZ	Wahianoa	2.27	216	P	Pb	23 18 06.8	-0.6
KAHZ	Kahuranaki	2.31	189	P	Pn	23 18 05.2	+0.8
PXZ	Pawanui	2.54	188	P	Pb	23 18 10.5	-1.5
PNHZ	Pukenui	2.56	200	P	Pn	23 18 07.9	0.0
TSZ	Takapari Road	2.76	202	P	Pn	23 18 10.5	-0.1
PRHZ	Porangahau	2.81	191	P	Pn	23 18 10.5	-0.7
WCZ	Waipu Caves	2.87	302	P	Pn	23 18 10.8	-1.2
MRZ	Mangatainoka R	3.43	203	P	Pn	23 18 20.5	+0.7
OUZ	Omahuta	3.78	306	P	Pn	23 18 24.0	-0.6
CAW	Cannon Point	4.00	205	P	Pb	23 18 34.5	-2.3
CTZ	Chatham Island	7.74	145	P	Pn	23 19 18.8	0.0

*BJI **31** 23:18:04.2±0.0, 7°.08S×156°.07E, h38km, mb4.9/55, mB5.2/29, Ms5.0/9, Ms7 4.6/10*

*NEIC **31** 23:18:05.8±1.4, 7°.44S±0°.06×155°.98E±0°.06, h44km±7km, mb4.9/75, Error ellipse: s-maj=9.9km s-min=7.5km az=139.0*

*IDC **31** 23:18:07.0±2.0, 7°.39S×155°.94E, h55km±18km, mb4.4/21, mbtmp4.7/24, ML4.0/2, MS4.1/3, Error ellipse: s-maj=13.0km s-min=10.9km az=39.0*

*GCMT **31** 23:18:06.8±0.4, 7°.57S±0°.02×156°.02E±0°.04, h25km±1km, MW5.0/63, Moment Tensor Solution. s26,c28; s63,c78; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.41±.24; $M_{\theta\theta}$-2.62±.15; $M_{\phi\phi}$-0.78±.15; $M_{r\theta}$0.68±.29; $M_{\theta\phi}$1.10±.12; $M_{\phi r}$-0.27±.44; Best double couple: $M_0$3.35400×10^{16} NP1:ϕs114.00000°, δ51.00000°, λ89.00000°. NP2: ϕs296.00000°, δ39.00000°, λ91.00000°. Principal axes: T 3.4910, Plg84.0000°, Azm19.0000°; N -0.2740, Plg1.0000°, Azm115.0000°; P -3.2170, Plg6.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **31** 23:18:14.5±0.5, 8°S±5°.×15°.6E±°, h116km±6km, M5.1/12, mB5.3/2, mb4.6/12, MLv5.4/2, Mw(mB)4.7/2*

ISC 31 23:18:03.2±0.5, 7°.38S±0°.05×155°.98E±0°.05, h24km±3km, h24km:pP-P, n226, σ1°04/220, mb5.0/79, MS4.6/6, 5C-4D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.42	118	Pn	Pn	23 19 10.5	+1.8
HNR	Honiara	4.42	118	P	Pn	23 19 13.6	+4.8
	5μm,0.6s,baz=238,slow=2.8,SNR=21						
HNR				S	Sn	23 20 02.7	+3.2
	9μm,0.7s,baz=284,slow=5.1,SNR=3.8						
RABL	Rabaul	4.95	310	Pn	Pn	23 19 16.8	+0.8
KRVT	Keravat (AS076	4.98	308	P	Pn	23 19 22.4	+5.9
	26nm,0.3s,baz=198,slow=19,SNR=2.1						
PMG	Port Moresby	8.96	256	Pn	Pn	23 20 11.2	+0.1
PMG	Port Moresby	8.96	256	P	Pn	23 20 13.6	+2.5
	20nm,0.8s,baz=40,slow=11,SNR=6.1						
PMG				S	Sn	23 21 54.0	+2.6
	7.5nm,0.4s,baz=249,slow=17,SNR=1.2						
MANU	Manus Island	10.09	301	Pn	Pn	23 20 27.4	+0.8
COEN	Coen	14.18	241	Pn	Pn	23 21 21.9	-0.7
PATS	Pohnpei	14.31	9	Pn	Pn	23 21 24.4	+0.1
CTA	Charters Tower	15.77	216	P	Pn	23 21 44.9	+1.1
	0.2nm,0.3s,baz=44,slow=14,SNR=4.2						
	4.4nm,0.8s						
CTAO	Charters Tower	15.77	216	Pn	Pn	23 21 44.4	+0.6
DZM	Mont Dzumac	17.75	146		P	23 22 09.7	+0.2
DZM	Mont Dzumac	17.75	146	P	P	23 22 10.5	+0.9
	1.0nm,0.3s,baz=345,slow=20,SNR=3.1						
	33nm,1.2s						
SMPI	Sarmi	18.02	286	P	P	23 22 20.0	+7.5
	60nm,1.5s						
PINNC	Pines Island,	18.74	145	P	P	23 22 19.4	-0.9
PINNC				IAmb	IAmb	23 22 28.4	
	comp=Z,71nm,0.5s						
FUNA	Funafuti	23.02	94		P	23 23 05.4	-1.2
MSVF	Nonsavu	23.84	118	P	P	23 23 14.2	-0.7
MSVF				IAmb	IAmb	23 23 16.6	
	comp=Z,64nm,1.4s						
MSVF	Nonsavu	23.84	118	P	P	23 23 15.4	+0.6
	comp=Z,3.0nm,0.3s,baz=287,slow=19,SNR=7.5						
	comp=Z,3.0nm,0.3s						
WR0	Warramunga Arr	24.26	237	P	P	23 23 17.8	-0.8
WB0	Warramunga Arr	24.29	237	P	P	23 23 18.5	-0.4
WB0				IAmb	IAmb	23 23 28.5	
	comp=Z,66nm,1.6s						
WRAB	Tennant Creek	24.41	237	P	P	23 23 18.8	-1.2
WRAB				IAmb	IAmb	23 23 45.6	
	comp=Z,96nm,1.8s						
WB2	Warramunga Arr	24.41	237	P	P	23 23 18.6	-1.4
WB2				IAmb	IAmb	23 23 50.0	
	comp=Z,53nm,1.6s						
WRA	Warramunga Arr	24.42	237	P	P	23 23 18.4	-1.7
WRA	Warramunga Arr	24.42	237	P	P	23 23 20.0	-0.1
	comp=Z,16nm,1.0s,baz=62,slow=9.3,SNR=33						
WRA				PcP	PcP	23 26 59.0	0.0
	comp=Z,3.3nm,0.9s,baz=59,slow=2.1,SNR=7.5						
	comp=Z,16nm,1.0s						
MTN	Manton Dam	25.05	255	P	P	23 23 26.0	+0.2
MTN				IAmb	IAmb	23 23 57.2	
	comp=Z,66nm,1.5s						
SWI	Sorong	25.48	284	P	P	23 23 35.7	+6.0
	comp=Z,16nm,0.6s						
AS31	Alice Springs	26.67	230	P	P	23 23 39.2	-1.3
ASAR	Alice Springs	26.67	230	P	P	23 23 39.6	-0.8
ASAR	Alice Springs	26.67	230	P	P	23 23 39.9	-0.6
	comp=Z,1.2nm,0.7s,baz=62,slow=8.2,SNR=13						
ASAR				PcP	PcP	23 27 04.3	+0.2
	comp=Z,2.0nm,0.8s,baz=46,slow=2.7,SNR=6.7						
	comp=Z,1.2nm,0.7s						
H11S3	WAKE ISLAND Hy	27.79	22	T	T	23 52 15.3	
	baz=202,slow=75,SNR=104						
H11S2	WAKE ISLAND Hy	27.80	22	T	T	23 52 18.7	
	baz=202,slow=75,SNR=110						
H11S1	WAKE ISLAND Hy	27.81	22	T	T	23 52 16.4	
	baz=202,slow=75,SNR=86						
STKA	Stephens Creek	27.82	207	P	P	23 23 50.5	-0.2
	comp=Z,1.1nm,0.6s,baz=352,slow=16,SNR=3.5						
	comp=Z,1.1nm,0.6s						
BATI	Baumata	32.05	263	LR	LR	23 39 39.1	
	comp=Z,957nm,18.1s,baz=113,slow=40						
LUWI	Luwuk	33.70	279	P	P	23 24 42.2	-0.6
KAPI	Kappang	36.09	272	P	P	23 25 02.9	-0.5
KAPI				IAmb	IAmb	23 25 12.3	
	comp=Z,32nm,1.2s						
TOLI2	Tolitoli	36.11	282	P	P	23 25 01.8	-1.8
RTZ	Ruatahuna	36.42	152	P	P	23 25 03.8	-2.2
RTZ				IAmb	IAmb	23 25 08.8	
	comp=Z,28nm,1.2s						
PSA00	Pilbara Seismi	37.61	244	P	P	23 25 14.6	-1.7
RPZ	Rata Peaks	38.53	162	P	P	23 25 24.2	+0.4
	comp=Z,14nm,0.9s,baz=93,slow=5.1,SNR=4.9						
	comp=Z,14nm,0.9s						
MYLDM	Lahad Datu	39.43	287	P	P	23 25 30.7	-0.9
MYLDM				IAmb	IAmb	23 25 49.6	
	comp=Z,19nm,1.0s						
KKM	Kota Kinabalu	41.85	288	P	P	23 25 50.3	-1.5
KKM				IAmb	IAmb	23 26 11.0	
	comp=Z,27nm,1.3s						
RAR	Rarotonga	44.86	113	LR	LR	23 41 44.1	
	comp=Z,212nm,19.4s,baz=252,slow=32						
MJAR	Matsushiro Arr	46.77	340	P	P	23 26 29.7	-0.9
	comp=Z,5.6nm,0.8s,baz=163,slow=8.0,SNR=12						
MJAR				PcP	PcP	23 28 03.6	-0.2
	comp=Z,3.6nm,0.8s,baz=157,slow=4.1,SNR=5.0						
	comp=Z,5.6nm,0.8s						
MAJO	Matsushiro	46.77	340	P	P	23 26 28.4	-2.3
MAJO				IAmb	IAmb	23 26 34.7	
	comp=Z,9.9nm,0.7s						
JNU	Nakatsue	46.82	331	P	P	23 26 31.0	-0.2
JNU				IAmb	IAmb	23 26 33.0	
	comp=Z,22nm,1.0s						
TJN	Taejon	51.15	330	P	P	23 27 04.6	+0.3
KSRS	Korea Array	51.74	332	P	P	23 27 08.2	-0.4
	comp=Z,7.6nm,0.8s,baz=149,slow=8.4,SNR=18						
KSRS				LR	LR	23 48 33.9	
	comp=Z,59nm,18.7s,baz=115,slow=35						
	comp=Z,7.6nm,0.8s						
KSAR	Wonju Array Be	51.74	331	P	P	23 27 08.0	-0.8
NJ2	Nanjing	52.84	320	eP	P	23 27 18.5	+1.6
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,130nm,5.2s						
USA0B	Ussuriysk Arra	55.73	339	P	P	23 27 38.4	+0.6
USA0B				IAmb	IAmb	23 27 48.0	
	comp=Z,24nm,1.3s						
USRK	Ussuriysk Ar.	55.73	339	P	P	23 27 37.9	+0.1
USRK	Ussuriysk Ar.	55.73	339	P	P	23 27 38.7	+0.9
	comp=Z,13nm,0.9s,baz=160,slow=6.5,SNR=11						
	comp=Z,13nm,0.9s						
MDJ	Mudanjiang	56.96	338	P	P	23 27 47.8	+1.3
MDJ				PcP	PcP	23 28 39.8	-1.9
MDJ				PcS	PcS	23 32 39.0	-3.4
MDJ				S	S	23 35 38.5	-0.8
MDJ				pmax	pmax		
	comp=Z,11nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,200nm,3.7s						
MDJ				LR	LR		
	comp=Z,310nm,14.9s						
MDJ				LR	LR		
	comp=Z,360nm,15.7s						
MDJ				LR	LR		
	comp=Z,520nm,16.5s						
LYN	LuoYang	58.56	318	⇓P	P	23 27 58.0	0.0
LYN				pP	sP	23 28 11.0	+3.0
LYN				pmax	pmax		
	comp=Z,19nm,1.0s						
LYN				LR	LR		
	comp=Z,350nm,12.6s						
LYN				LR	LR		
	comp=Z,320nm,9.2s						
LYN				LR	LR		
	comp=Z,360nm,12.4s						
HNS	HongShan	58.90	322	⇑P	P	23 28 00.8	+0.5
HNS				pmax	pmax		
	comp=Z,24nm,1.1s						
DRV	Dumont d'Urvil	60.21	187	P	P	23 28 09.1	+0.2
DRV				pP	pP	23 28 15.6	-0.6
PETK	Petropavlovsk-	60.27	1	P	P	23 28 10.2	+0.8
	comp=Z,10nm,0.9s,baz=146,slow=9.0,SNR=3.7						
	comp=Z,10nm,0.9s						
TIY	Taiyuan	60.50	321	P	P	23 28 13.8	+2.4
TIY				pmax	pmax		
	comp=Z,55nm,0.6s						
TIY				pmax	pmax		
	comp=Z,240nm,5.3s						
XAN	Xi'an	60.66	316	P	P	23 28 11.8	-0.8
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
KMI	Kunming	61.04	304	⇓P	P	23 28 17.0	+1.4
KMI				pmax	pmax		
	comp=Z,14nm,1.3s						
CRAI	Chiangrai	61.17	298	P	P	23 28 15.5	-0.8
CMAR	Chiang Mai Arr	61.83	295	P	P	23 28 20.3	-0.5
CMAR	Chiang Mai Arr	61.83	295	P	P	23 28 21.2	+0.5
	comp=Z,1.4nm,0.3s,baz=106,slow=5.1,SNR=19						
	comp=Z,1.4nm,0.3s						
CHTO	Chiang Mai	61.95	296	P	P	23 28 21.3	-0.2
CHTO				IAmb	IAmb	23 28 31.7	
	comp=Z,27nm,1.6s						
CHTO	Chiang Mai	61.95	296	P	P	23 28 22.3	+0.7
CHTO				pP	pP	23 28 28.0	-0.9
PZH	PanZhiHua	62.43	305	P	P	23 28 24.8	0.0
PZH				pmax	pmax		
	comp=Z,10

LSA IAmb IAmb 23 29 29.5
comp=Z,12nm,1.0s
TAPN Taplejung 74.44 301 *eP* **P 23 29 40.2 +0.1**
comp=Z,62nm,1.1s
RAMN Ramite 75.27 300 *eP* **P 23 29 44.8 -0.1**
comp=Z,30nm,1.2s
JIRN Jiri 75.82 301 *eP* **P 23 29 48.1 -0.1**
comp=Z,48nm,1.2s
GUN Gumba 76.15 301 *eP* **P 23 29 50.1 0.0**
comp=Z,46nm,0.9s
PKI Pulchoki 76.46 301 *eP* **P 23 29 51.3 -0.5**
comp=Z,38nm,1.1s
PKIN Phulchoki 76.47 301 *eP* **P 23 29 51.2 -0.6**
comp=Z,45nm,1.2s
DMN Daman 76.73 301 *eP* **P 23 29 52.9 -0.3**
comp=Z,82nm,1.1s
K15K Wolf Creek Mou 76.76 19 P **P 23 29 52.2 -0.1**
K15K IAmb IAmb 23 29 56.2
comp=Z,12nm,0.9s
GKN Gorkha 77.24 301 *eP* **P 23 29 56.0 +0.1**
comp=Z,69nm,1.1s
N18K Kilae Creek 77.60 22 P **P 23 29 57.0 -0.1**
N18K IAmb IAmb 23 30 20.8
comp=Z,22nm,1.5s
DANN Dangsing 78.07 301 *eP* **P 23 30 00.1 -0.7**
comp=Z,53nm,1.4s
PYUN Piuthan 78.67 301 *eP* **P 23 30 02.9 -1.1**
comp=Z,42nm,1.1s
M19K Big River Lodg 78.94 22 P **P 23 30 04.7 +0.2**
L19K White Mountain 78.95 21 P **P 23 30 04.5 -0.1**
L19K IAmb IAmb 23 30 25.9
comp=Z,36nm,1.9s
WMQ Urumqi 79.77 317 *eP* **P 23 30 10.5 +1.0**
WMQ PcP **sP 23 30 19.0 -0.8**
WMQ pmax pmax
comp=Z,17nm,1.3s
J20K Nowinta River 80.49 20 P **P 23 30 12.2 -0.5**
J20K IAmb IAmb 23 30 14.4
comp=Z,17nm,1.5s
H19K Roundabout Mou 80.63 18 P **P 23 30 13.1 -0.4**
H19K IAmb IAmb 23 30 35.6
comp=Z,26nm,1.6s
CAST Castle Rocks 80.72 21 P **P 23 30 13.9 -0.2**
G19K Purcell Mounta 80.86 18 P **P 23 30 15.3 +0.5**
E19K Redstone River 81.71 16 P **P 23 30 19.6 +0.3**
E19K IAmb IAmb 23 30 25.7
comp=Z,11nm,1.0s
IMAR Indian Mountai 81.77 19 P **P 23 30 19.2 -0.4**
QSPA South Pole Qui 82.60 180 P **P 23 30 23.8 -0.3**
comp=Z,21nm,1.0s,baz=356,slow=2.0,SNR=36
comp=Z,21nm,1.0s
ZSN Zaisan 82.87 320 *eP* **P 23 30 25.9 +0.1**
comp=Z,21nm,1.0s,baz=320
ILAR Eielson Array 83.37 21 P **P 23 30 26.2 -1.7**
ILAR Eielson Array 83.37 21 P **P 23 30 26.6 -1.4**
comp=Z,1.4nm,0.9s,baz=235,slow=4.9,SNR=10
comp=Z,1.4nm,0.9s
J25K Salcha River, 83.84 22 P **P 23 30 30.1 -0.3**
J25K IAmb IAmb 23 30 52.6
comp=Z,17nm,1.4s
M27K Edge Creek, AK 84.07 24 P **P 23 30 31.7 0.0**
M27K IAmb IAmb 23 30 34.6
comp=Z,15nm,1.1s
MK31 Makanchi Array 84.34 318 P **P 23 30 33.2 -0.2**
MKAR Makanchi Array 84.34 318 P **P 23 30 33.1 -0.3**
MKAR Makanchi Array 84.34 318 P **P 23 30 33.5 +0.2**
comp=Z,39nm,0.8s,baz=106,slow=5.6,SNR=220
comp=Z,39nm,0.8s
MAW Mawson 84.42 203 P **P 23 30 33.4 +0.1**
MAW Mawson 84.42 203 P **P 23 30 33.0 -0.3**
comp=Z,10nm,1.0s,baz=90,slow=7.0,SNR=12
comp=Z,10nm,1.0s
L27K Beaver Creek, 84.42 24 IAmb IAmb 23 33 27.8
comp=Z,16nm,1.6s
BCAR Beaver Creek A 84.44 24 P **P 23 30 33.8 +0.2**
MAKZ Makanchi 84.55 318 P **P 23 30 33.7 -0.7**
ZAA0 Zalesovo Array 85.04 326 P **P 23 30 35.4 -1.3**
ZALV Zalesovo Beam 85.04 326 P **P 23 30 35.8 -0.8**
comp=Z,23nm,0.8s,baz=106,slow=5.3,SNR=74
comp=Z,23nm,0.8s
SHLS Shalkodde 85.28 314 *eP* **P 23 30 37.0 -1.3**
baz=314
UZB Uzynbulak 85.59 314 *eP* **P 23 30 40.0 +0.1**
comp=Z,13nm,1.3s,baz=314
PRZ Przheval'sk 85.88 314 P **P 23 30 41.2 -0.2**
KPKS Kokpek 85.91 315 *eP* **P 23 30 41.4 0.0**
baz=315
SATY Saty 86.01 314 *eP* **P 23 30 42.1 +0.2**
baz=314
TDK Taldygorghan 86.48 316 *eP* **P 23 30 44.2 +0.2**
comp=Z,14nm,1.5s,baz=316
SEM Semipalatinsk 86.65 322 *eP* **P 23 30 44.1 -1.0**
comp=Z,17nm,1.2s,baz=322
I29M Ogilvie Camp, 86.83 23 P **P 23 30 44.7 -0.7**
I29M IAmb IAmb 23 31 10.1
comp=Z,6.8nm,1.1s
E27K Coleen River 86.94 19 IAmb IAmb 23 30 47.6
comp=Z,8.0nm,1.2s
MDOK Medeo 87.00 314 *eP* **P 23 30 46.8 -0.1**
baz=314
KSH Kashi 87.00 310 P **P 23 30 49.0 +2.1**
KSH pmax pmax
comp=Z,11nm,1.0s
TNSS Tian-Shan 87.05 314 *eP* **P 23 30 47.6 +0.2**
baz=314
ULHL Ulahol 87.38 313 P **P 23 30 49.5 +0.8**
SNR=5.8
NRN Naryn 87.39 312 IAmb IAmb 23 30 50.5
comp=Z,15nm,1.5s
G29M Pine Creek 87.60 21 IAmb IAmb 23 30 51.0
comp=Z,12nm,1.1s
BOOM Boomskoye usch 87.65 313 P **P 23 30 49.8 -0.2**
BOOM IAmb IAmb 23 30 51.6
comp=Z,13nm,1.3s
KUU Kurty 87.66 315 *eP* **P 23 30 49.6 -0.3**
comp=Z,16nm,1.0s,baz=315
KURK Kurchatov 87.74 322 P **P 23 30 48.9 -1.0**
KURBB Kurchatov Arra 87.77 322 P **P 23 30 49.4 -0.8**
comp=Z,7.3nm,0.9s,baz=109,slow=3.2,SNR=53
comp=Z,7.3nm,0.9s
E28M Babbage River 87.82 19 IAmb IAmb 23 30 51.8
comp=Z,8.5nm,1.1s
TKM2 Tokmak 2 87.99 314 P **P 23 30 52.0 +0.3**
SNR=6.4
NIL Nilore 88.03 304 P **P 23 30 50.4 -1.4**
NIL IAmb IAmb 23 31 00.9
comp=Z,5.8nm,0.7s
AAK Ala-Archa 88.73 313 P **P 23 30 54.1 -1.0**
AAK IAmb IAmb 23 30 56.3
comp=Z,5.3nm,0.9s
SGDS Sogindy 88.79 314 *eP* **P 23 30 54.8 -0.4**
baz=314
USP Ospenovka 88.84 314 P **P 23 30 55.8 +0.3**
SNR=8.0
AML Almayashu 89.21 313 P **P 23 30 58.5 +0.8**
SNR=16
EKS2 Erkin-Say 89.25 313 P **P 23 30 58.2 +0.6**
SNR=7.1
BTLS Baital 89.50 315 *eP* **P 23 30 58.0 -0.5**
comp=Z,8.6nm,1.4s,baz=315
DZA Taraz 91.06 313 *eP* **P 23 31 05.0 -0.9**
baz=313
NVAR Mina Array Bea 91.19 52 P **P 23 31 07.9 +1.1**
comp=Z,1.5nm,0.8s,baz=248,slow=5.4,SNR=10
comp=Z,1.5nm,0.8s
ELS Elsinore Mount 91.21 56 P **P 23 31 07.1 +0.3**
DSP Deep Springs 91.30 53 P **P 23 31 07.9 +0.9**
BRZS Berezniki 91.31 320 *eP* **P 23 31 06.2 -0.6**
baz=320
KVN Kaiserville 91.44 51 IAmb IAmb 23 31 09.9
comp=Z,8.1nm,1.5s
GMN Gold Mountain 91.85 53 P **P 23 31 09.2 -0.7**
IUG Iuzhnay 91.90 312 *eP* **P 23 31 09.4 -0.4**
comp=Z,5.9nm,1.1s,baz=312
BVAR Borovoye Array 93.19 323 P **P 23 31 14.1 -1.4**
comp=Z,12nm,0.8s,baz=103,slow=5.2,SNR=54
comp=Z,12nm,0.8s
BRVK Borovoye 93.26 323 P **P 23 31 13.7 -2.0**
R11B Troy Canyon, C 93.30 52 IAmb IAmb 23 34 45.2
comp=Z,9.4nm,1.9s
SHPR Sheep Range 93.42 54 P **P 23 31 16.7 -0.3**
BELA Belgrano 2 94.67 178 P **P 23 31 21.2 -0.6**
BELA IAmb IAmb 23 31 22.9
comp=Z,7.4nm,0.9s
ELIB Princess Elisa 95.06 193 *dP* **P 23 31 23.3 -0.5**
comp=Z,4.1nm,1.1s
PDAR Pinedale Array 98.23 48 P **P 23 31 38.1 -0.8**
comp=Z,1.3nm,0.9s,baz=242,slow=1.9,SNR=4.5
comp=Z,1.3nm,0.9s
FINES FINESS Array B 114.68 336 PKP **PKiKP 23 36 40.5 -0.7**
comp=Z,3.9nm,1.1s,baz=109,slow=3.1,SNR=8.0
KOLS Kolonicke sedl 123.22 325 *e*PKP **PKiKP 23 36 58.9 +0.6**
MORC Moravsky Berou 125.33 328 *e*PKP **PKiKP 23 37 02.5 0.0**
KRLC Kraliky 125.54 329 *e*PKPDF **PKPdf 23 37 02.5 0.0**
JAVC Velka Javorina 125.80 327 *e*PKP **PKiKP 23 37 04.8 +1.4**
VRAC Vranov 126.10 328 *e*PKP **PKiKP 23 37 05.0 +1.0**
MODS Modra-Piesok 126.30 327 *e*PKP **PKiKP 23 37 05.1 +0.7**
KRUC Moravsky 126.36 328 *e*PKP **PKiKP 23 37 04.7 +0.2**
BRG Berggiesshubel 126.45 331 *e*P **PKiKP 23 37 05.1 +0.5**
BRG Amp 23 37 07.4
comp=Z,11nm,1.3s
CLL Collm 126.61 332 *i* PKPdf **PKPdf 23 37 04.3 -0.1**
RONA Rosalia, Austr 127.22 327 *e*PKiKP **PKiKP 23 37 06.3 0.0**
comp=Z,5.9nm,1.4s
ZVC Zvikov 127.26 330 *e*PKPDF **PKPdf 23 37 05.9 +0.2**
CONA Conrad Observa 127.32 327 *e*PKiKP **PKiKP 23 37 06.6 0.0**
comp=Z,2.8nm,1.0s
CKRC Cesky Krumlov 127.59 329 *e*PKPDF **PKPdf 23 37 06.6 +0.2**
KHC Kasperske Hory 127.76 330 *e*PKPDF **PKiKP 23 37 07.2 -0.1**
GERES GERESS Array B 127.88 329 PKP **PKPdf 23 37 06.8 -0.2**
comp=Z,5.0nm,1.1s,baz=1.9,slow=2.9,SNR=11
SOKA Soboth 128.53 326 *e*PKP **PKPdf 23 37 07.0 -1.3**
comp=Z,1.4nm,0.9s
BIOA Bad Ischl, Aus 128.65 328 *e*PKiKP **PKiKP 23 37 08.8 -0.3**
comp=Z,4.8nm,1.2s
OBKA Obir 128.89 326 *e*PKiKP **PKPdf 23 37 09.4 +0.3**
comp=Z,1.9nm,0.8s
ABTA Abfaltersbach 129.84 328 *e*PKP **PKPdf 23 37 10.5 -0.4**
comp=Z,7.7nm,1.4s
WATA Walderalm 129.95 329 *e*PKiKP **PKPdf 23 37 11.5 +0.3**
comp=Z,10nm,1.5s
WTTA Wattenberg 129.96 329 *e*PKiKP **PKPdf 23 37 11.1 -0.2**
comp=Z,13nm,1.5s
MOTA Moosalm 130.18 329 *e*PKiKP **PKiKP 23 37 12.0 -0.4**
comp=Z,8.2nm,1.4s
SQTA Sankt Quirin 130.21 329 *e*PKiKP **PKiKP 23 37 12.3 -0.1**
comp=Z,6.6nm,1.3s
LPAZ La Paz 130.41 119 PKP **PKPdf 23 37 13.4 0.0**
comp=Z,5.9nm,1.0s,baz=4.9,slow=2.0,SNR=12
PBRG Braganca 142.45 339 *e*PKP **PKiKP 23 37 40.2 +2.8**
MVO Moncorvo 143.11 338 *e*PKP PKPbc 23 37 32.9 +0.5
ESDC Sonseca Array 143.15 334 PKhKP PKPpre 23 37 31.3
comp=Z,3.5nm,1.0s,baz=28,slow=2.6,SNR=20
PVIS Viseu 143.82 339 *e*PKP PKPbc 23 37 34.5 +0.1
MTE Manteigas 143.97 338 *e*PKP PKPbc 23 37 35.2 +0.3
PCBR Castelo Branco 144.44 338 *e*PKP PKPbc 23 37 36.8 +0.6
PCAS Casmilo, Conde 144.62 339 *e*PKP PKPbc 23 37 37.4 +0.6
PMRV Marv??o 144.76 337 *e*PKP PKPbc 23 37 37.5 +0.2
PSBE So Bento 145.20 339 *e*PKP **PKPbc 23 37 38.5 -0.3**
PESTR Estremoz 145.33 337 *e*PKP **PKPbc 23 37 39.2 0.0**
PMTG Montargil 145.39 338 *e*PKP **PKPab 23 37 39.5 0.0**
PBAR Barrancos 145.71 336 *e*PKP **PKPab 23 37 40.9 +0.2**
PACT Alcochete 145.88 339 *e*PKP **PKPab 23 37 41.4 +0.1**
PBEJ Beja 146.16 337 *e*PKP **PKPab 23 37 42.4 0.0**
PNCL Nicolau / Gran 146.34 338 *e*PKP **PKPbc 23 37 42.3 0.0**
PCVE Castro Verde 146.57 337 *e*PKP **PKPab 23 37 43.6 -0.4**
PVAQ Vaqueiros 146.64 336 *e*PKP **PKPab 23 37 44.3 0.0**
PALE Palemas 146.72 329 P **PKPbc 23 37 44.0 +0.5**
PBDV Barranco-do-Ve 146.87 336 *e*PKP **PKPab 23 37 45.5 +0.3**
PTEO Sao Teotonio 146.91 337 *e*PKP **PKPbc 23 37 44.5 +0.5**
BDFB Brasilia 147.01 134 PKPbc **PKPbc 23 37 44.3 -0.7**
comp=Z,25nm,0.9s,baz=209,slow=1.6,SNR=20
MORF Marmelete 147.10 337 *e*PKP **PKPab 23 37 45.7 -0.4**
CHEFC Chefchaouen 147.50 331 P **PKPab 23 37 47.0 -0.9**
FIGM Figuig 147.51 322 P **PKPbc 23 37 46.0 0.0**
ZGR Zagora 151.54 325 P **PKiKP 23 37 57.0 +0.4**
OUZM OUZ 151.56 328 P **PKiKP 23 37 58.0 +1.4**
PMPST Porto Santo, M 153.45 345 *e*PKP **PKiKP 23 38 02.4 +2.2**
PMPS Porto Santo 153.47 345 *e*PKP **PKiKP 23 38 01.5 +1.2**
TORD Torodi Ar. Bea 154.07 285 PKPbc **PKPbc 23 38 01.3 -0.7**
comp=Z,3.3nm,0.9s,baz=45,slow=3.2,SNR=12
KIC Kosan Boka 160.84 268⇑ *e*P **PKPab 23 38 44.1 -0.7**
comp=Z,23nm,0.9s
DBIC Dimbokro 160.97 269 PKPab **PKPab 23 38 43.8 -1.5**
comp=Z,9.2nm,0.9s,baz=106,slow=4.5,SNR=5.3
LIC Lamto 161.11 268⇑ *e*P **PKPab 23 38 45.6 -0.4**
comp=Z,27nm,1.0s
TIC Toumodi 161.13 269⇑ *i*P **PKPab 23 38 45.4 -0.7**
comp=Z,15nm,0.9s

NEIC ***31*** *23:21:03.9±1.4, 11°.11S±0°.10×166°.1E±0°.1, h62km±3km, mb4.8/52, Error ellipse: s-maj=16.4km s-min=13.2km az=60.0*

GCMT ***31*** *23:21:03.9±0.3, 11°.10S±0°.02×165°.92E±0°.02, h39km±1km, MW5.0/73, Moment Tensor Solution. s33,c37; s73,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.48±.34; $M_{\theta\theta}$1.65±.21; $M_{\phi\phi}$0.83±.21; $M_{r\theta}$2.04±.17; $M_{\theta\phi}$3.08±.13; $M_{\phi r}$-2.06±.17; Best double couple: $M_0$4.71900×10^{16} NP1:ϕ_s263.00000°, δ60.00000°, λ-39.00000°. NP2: ϕ_s15.00000°, δ57.00000°, λ-143.00000°. Principal axes: T 4.3530, Plg2.0000°, Azm320.0000°; N 0.7320, Plg42.0000°, Azm51.0000°; P -5.0850, Plg48.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***31*** *23:21:04.0±4.3, 11°.08S×165°.94E, h67km±35km, mb4.2/15, mbtmp4.5/15, ML6.3/1, MS4.1/12 Error ellipse: s-maj=24.6km s-min=15.0km az=83.0*

ISC 31 23:21:03.3±0.5, 11°.13S±0°.07×165°.97E±0°.07, h61km, n106, σ1**20**/103**, mb4.7**/36**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.17**	**285**	Pn	**Pn**	**23 22 33.6**	**+1.7**
HNR	**Honiara**	**6.17**	**285**	P	**Pn**	**23 22 31.6**	**-0.2**
	742nm,0.3s,baz=195,slow=8.6,SNR=1.4						
HNR				S	**Sn**	**23 23 41.3**	**+0.2**
	1μm,0.4s,baz=353,slow=23,SNR=1.0						
HNR				LR	LR	23 25 09.5	
	comp=Z,44μm,18.3s,baz=110,slow=40						
KOUNC	**Koumac, New Ca**	**9.50**	**190**	Pn	**Pn**	**23 23 17.5**	**0.0**
DZM	**Mount Dzumac**	**10.89**	**178**		**Pn**	**23 23 38.5**	**+2.0**
MSVF	**Nonsavu**	**13.41**	**121**	P	**P**	**23 24 21.5**	**+3.2**
	38nm,0.9s,baz=281,slow=9.9,SNR=14						
MSVF				LR	LR	23 28 17.7	
	comp=Z,2μm,19.4s,baz=309,slow=32						
KRVT	**Keravat (AS076**	**15.39**	**295**	LR	LR	23 30 38.6	
	comp=Z,768nm,19.1s,baz=4.6,slow=38						
PMG	**Port Moresby**	**18.59**	**274**	P	**Pn**	**23 25 16.6**	**0.0**
PATS	**Pohnpei**	**19.41**	**337**	P	**P**	**23 25 25.3**	**+0.6**
EIDS	**Eidsvold**	**19.98**	**223**	P	**Pn**	**23 25 32.7**	**-0.4**
EIDS				IAmb	IAmb	23 25 35.1	
	comp=Z,44nm,0.8s						
MANU	**Manus Island**	**20.56**	**295**	P	**P**	**23 25 38.2**	**+1.0**
MANU				IAmb	IAmb	23 25 54.4	
	comp=Z,41nm,0.9s						
CTA	**Charters Tower**	**20.96**	**242**	P	**P**	**23 25 42.4**	**+0.9**
	comp=Z,16nm,0.7s,baz=71,slow=10,SNR=11						
CTA				LR	LR	23 32 51.8	
	comp=Z,656nm,18.2s,baz=76,slow=34						
	comp=Z,16nm,0.7s						
CTAO	**Charters Tower**	**20.96**	**242**	P	**P**	**23 25 41.4**	**-0.1**
COEN	**Coen**	**22.43**	**260**	P	**P**	**23 25 57.0**	**-0.3**
ARMA	**Armidale**	**23.36**	**213**	P	**P**	**23 26 07.7**	**+1.0**
ARMA				IAmb	IAmb	23 26 10.4	
	comp=Z,49nm,0.9s						
RTZ	**Ruatahuna**	**29.08**	**162**	P	**P**	**23 26 57.5**	**-0.6**
RTZ				IAmb	IAmb	23 26 59.9	
	comp=Z,15nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**29.45**	**1**	T	T	23 57 26.1	
	baz=181,slow=76,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**29.45**	**1**	T	T	23 57 29.5	
	baz=181,slow=76,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**29.46**	**1**	T	T	23 57 27.1	
	baz=181,slow=76,SNR=6.2						
STKA	**Stephens Creek**	**30.53**	**224**	P	**P**	**23 27 12.7**	**+1.7**
STKA	**Stephens Creek**	**30.53**	**224**	P	**P**	**23 27 11.1**	**+0.1**
	comp=Z,8.0nm,0.7s,baz=53,slow=9.8,SNR=15						
	comp=Z,8.0nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**30.67**	**2**	T	T	23 58 58.7	
	baz=182,slow=76,SNR=63						
H11N3	**WAKE ISLAND Hy**	**30.67**	**2**	T	T	23 58 57.7	
	baz=182,slow=76,SNR=11						
H11N2	**WAKE ISLAND Hy**	**30.68**	**2**	T	T	23 58 59.2	
	baz=182,slow=76,SNR=40						
BFZ	**Birch Farm**	**30.80**	**165**	P	**P**	**23 27 12.3**	**-0.9**
WR0	**Warramunga Arr**	**31.48**	**250**	P	**P**	**23 27 19.5**	**0.0**
WR0				IAmb	IAmb	23 27 20.7	
	comp=Z,25nm,1.1s						
WB0	**Warramunga Arr**	**31.58**	**250**	P	**P**	**23 27 20.7**	**+0.2**
WRAB	**Tennant Creek**	**31.65**	**250**	P	**P**	**23 27 21.4**	**+0.3**
WB2	**Warramunga Arr**	**31.65**	**250**	P	**P**	**23 27 21.0**	**0.0**
WRA	**Warramunga Arr**	**31.66**	**250**	P	**P**	**23 27 20.6**	**-0.6**
WRA	**Warramunga Arr**	**31.66**	**250**	P	**P**	**23 27 20.2**	**-0.9**
	comp=Z,23nm,0.9s,baz=80,slow=9.3,SNR=36						
WRA				PcP	**PcP**	**23 30 11.2**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=94,slow=4.6,SNR=2.1						
	comp=Z,23nm,0.9s						
TOO	**Toolangi**	**32.11**	**212**	P	**P**	**23 27 26.4**	**+1.5**
TOO				IAmb	IAmb	23 27 27.3	
	comp=Z,15nm,0.8s						
GUMO	**Guam**	**32.27**	**319**	LR	LR	23 40 02.0	
	comp=Z,116nm,19.8s,baz=110,slow=35						
GVZ	**Greta Valley S**	**32.30**	**170**	P	**P**	**23 27 27.1**	**+0.7**
RPZ	**Rata Peaks**	**32.76**	**173**	P	**P**	**23 27 30.9**	**+0.5**
RPZ	**Rata Peaks**	**32.76**	**173**	P	**P**	**23 27 31.9**	**+1.4**
	comp=Z,22nm,0.7s,baz=327,slow=0.9,SNR=8.4						
	comp=Z,22nm,0.7s						
AS31	**Alice Springs**	**32.95**	**244**	P	**P**	**23 27 31.3**	**-1.2**
ASAR	**Alice Springs**	**32.95**	**244**	P	**P**	**23 27 31.8**	**-0.6**
	comp=Z,11nm,0.8s,baz=74,slow=9.6,SNR=36						
ASAR				PcP	**PcP**	**23 30 16.1**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=77,slow=4.2,SNR=4.4						
ASAR				LR	LR	23 39 28.4	
	comp=Z,499nm,21.1s,baz=61,slow=34						
	comp=Z,11nm,0.8s						
LBZ	**Lake Benmore**	**33.33**	**175**	P	**P**	**23 27 35.3**	**-0.1**
LBZ				IAmb	IAmb	23 27 36.8	
	comp=Z,9.8nm,0.8s						
BBOO	**Buckleboo**	**34.93**	**227**	P	**P**	**23 27 49.4**	**0.0**
KNRA	**Kununurra**	**36.45**	**259**	P	**P**	**23 28 03.0**	**+0.4**
FORT	**Forrest**	**40.18**	**235**	P	**P**	**23 28 34.6**	**+0.8**
PPT	**Papeete**	**43.46**	**104**	LR	LR	23 43 52.4	
	comp=Z,122nm,20.8s,baz=280,slow=32						
PSA00	**Pilbara Seismi**	**45.31**	**251**	P	**P**	**23 29 16.4**	**+0.9**
PSA00				IAmb	IAmb	23 29 17.6	
	comp=Z,6.5nm,0.7s						
PSA00	**Pilbara Seismi**	**45.31**	**251**	P	**P**	**23 29 16.3**	**+0.7**
PSA00				IAmb	IAmb	23 29 17.6	
	comp=Z,16nm,0.7s						
MBWA	**Marble Bar**	**45.38**	**251**	P	**P**	**23 29 17.2**	**+1.2**
MBWA				IAmb	IAmb	23 29 17.6	
	comp=Z,14nm,0.8s						
MBWA	**Marble Bar**	**45.38**	**251**	P	**P**	**23 29 17.2**	**+1.2**
MBWA				pP	**pP**	**23 29 28.5**	**-2.0**
MPSI	**Mapaga**	**47.18**	**281**	P	**P**	**23 29 30.5**	**+0.2**
	comp=Z,14nm,0.7s						
NWAO	**Narrogin (SRO)**	**49.60**	**236**	LR	LR	23 50 50.6	
	comp=Z,478nm,18.3s,baz=70,slow=36						
MORW	**Morawa**	**49.78**	**241**	P	**P**	**23 29 51.3**	**+1.2**
JNU	**Nakatsue**	**55.28**	**324**	LR	LR	23 54 41.7	
	comp=Z,88nm,18.1s,baz=136,slow=36						
DRV	**Dumont d'Urvil**	**58.17**	**192**	P	**P**	**23 30 50.9**	**+0.4**
DRV				pP	**pP**	**23 31 02.6**	**-3.1**
DRV				sP	**pwP**	**23 31 06.3**	**-3.9**
USRK	**Ussuriysk Ar.**	**63.13**	**333**	P	**P**	**23 31 25.3**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=111,slow=7.9,SNR=3.3						
USRK				LR	LR	23 53 33.9	
	comp=Z,97nm,21.9s,baz=146,slow=31						
	comp=Z,1.8nm,0.6s						
PETK	**Petropavlovsk-**	**64.38**	**354**	LR	LR	23 56 26.9	
	comp=Z,91nm,20.5s,baz=160,slow=33						
CASY	**Casey**	**66.38**	**201**	P	**P**	**23 31 46.3**	**+0.8**
CASY	**Casey**	**66.38**	**201**	P	**P**	**23 31 46.3**	**+0.8**
VNDA	**Vanda**	**66.41**	**181**	P	**P**	**23 31 45.3**	**-0.2**
VNDA				IAmb	IAmb	23 31 47.3	
	comp=Z,9.2nm,1.1s						
VNDA	**Vanda**	**66.41**	**181**	P	**P**	**23 31 46.1**	**+0.6**
	comp=Z,5.9nm,1.1s,baz=338,slow=5.7,SNR=7.1						
	comp=Z,5.9nm,1.1s						
VNDA	**Vanda**	**66.41**	**181**	P	**P**	**23 31 46.0**	**+0.4**
VNDA				pP	**pP**	**23 31 57.2**	**-3.7**
VNDA				sP	**pwP**	**23 32 02.0**	**-3.7**
SBA	**Scott Base**	**66.71**	**180**	P	**P**	**23 31 48.9**	**+1.4**
SBA				IAmb	IAmb	23 31 50.1	
	comp=Z,18nm,1.1s						
SBA	**Scott Base**	**66.71**	**180**	P	**P**	**23 31 48.8**	**+1.4**
SBA				pP	**pP**	**23 32 00.8**	**-2.0**
MA2	**Magadan**	**71.53**	**352**	LR	LR	23 58 58.6	
	comp=Z,186nm,20.5s,baz=144,slow=32						
CMAR	**Chiang Mai Arr**	**72.35**	**293**	P	**P**	**23 32 23.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**72.35**	**293**	P	**P**	**23 32 24.3**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=114,slow=4.1,SNR=9.0						
	comp=Z,2.7nm,0.8s						
SEY	**Seymchan**	**74.59**	**354**	LR	LR	00 00 26.9	
	comp=Z,215nm,19.8s,baz=161,slow=32						
M16K	**Timber Creek**	**77.08**	**17**	P	**P**	**23 32 50.6**	**+0.9**
J14K	**Nanvaranak Lak**	**77.35**	**14**	P	**P**	**23 32 51.5**	**+0.4**
J14K				IAmb	IAmb	23 32 52.1	
	comp=Z,9.6nm,1.1s						
J16K	**Anvik River**	**78.52**	**15**	P	**P**	**23 32 58.2**	**+0.5**
J16K				IAmb	IAmb	23 33 03.8	
	comp=Z,12nm,1.3s						
SONM	**Songino Array**	**78.87**	**324**	P	**P**	**23 33 00.9**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=119,slow=5.9,SNR=5.0						
	comp=Z,1.2nm,0.9s						
QSPA	**South Pole Qui**	**78.87**	**180**	P	**P**	**23 32 59.7**	**-0.1**
QSPA				IAmb	IAmb	23 33 18.3	
	comp=Z,12nm,0.9s						
QSPA	**South Pole Qui**	**78.87**	**180**	P	**P**	**23 32 60.0**	**+0.1**
	comp=Z,8.3nm,0.9s,baz=342,slow=1.8,SNR=9.1						
	comp=Z,8.3nm,0.9s						
L19K	**White Mountain**	**79.19**	**18**	P	**P**	**23 33 01.9**	**+0.5**
G16K	**Koyuk River**	**79.89**	**13**	P	**P**	**23 33 05.3**	**+0.3**
G16K				IAmb	IAmb	23 33 25.1	
	comp=Z,16nm,1.4s						
CAST	**Castle Rocks**	**80.96**	**18**	P	**P**	**23 33 10.7**	**-0.2**
G19K	**Purcell Mounta**	**81.73**	**14**	P	**P**	**23 33 14.2**	**-0.7**
N25K	**Chitina, Valde**	**82.15**	**22**	P	**P**	**23 33 17.4**	**+0.1**
N25K				IAmb	IAmb	23 33 18.2	
	comp=Z,7.8nm,0.8s						
GLB	**Gilahina Butte**	**82.33**	**22**	P	**P**	**23 33 18.1**	**-0.1**
GLB				IAmb	IAmb	23 33 31.0	
	comp=Z,9.4nm,1.3s						
IMAR	**Indian Mountai**	**82.45**	**15**	P	**P**	**23 33 18.1**	**-0.6**
E19K	**Redstone River**	**82.76**	**13**	P	**P**	**23 33 19.7**	**-0.6**
E19K				IAmb	IAmb	23 33 43.9	
	comp=Z,8.6nm,1.0s						
C18K	**Utukok River**	**82.91**	**12**	P	**P**	**23 33 21.1**	**0.0**
M26K	**Nabesna, AK**	**83.24**	**21**	P	**P**	**23 33 23.1**	**+0.1**
MDM	**Murphy Dome**	**83.25**	**18**	P	**P**	**23 33 22.5**	**-0.4**
MDM				IAmb	IAmb	23 33 42.3	
	comp=Z,12nm,1.4s						
D19K	**Kuna River**	**83.41**	**13**	P	**P**	**23 33 23.9**	**+0.3**
D19K				IAmb	IAmb	23 33 45.2	
	comp=Z,17nm,1.2s						
ILAR	**Eielson Array**	**83.53**	**18**	P	**P**	**23 33 24.3**	**+0.1**
ILAR	**Eielson Array**	**83.53**	**18**	P	**P**	**23 33 23.8**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=238,slow=5.0,SNR=21						
	comp=Z,1.4nm,0.6s						
C19K	**Lookout Ridge**	**83.61**	**12**	P	**P**	**23 33 24.7**	**0.0**
J25K	**Salcha River,**	**83.89**	**19**	P	**P**	**23 33 26.4**	**+0.1**
J25K				IAmb	IAmb	23 33 46.1	
	comp=Z,11nm,1.3s						
G23K	**Bananza Creek**	**83.99**	**16**	P	**P**	**23 33 27.9**	**+1.2**
MAW

DPC	Dobruska-Polom	133.62 333	*e*PP	PP	23 42 45.2	+3.5
ZVC	Zvikov	135.22 334	*e*PP	PP	23 42 51.5	-0.2
ZVC			*e*x	x	23 42 56.5	
CKRC	Cesky Krumlov	135.64 333	*e*PP	PP	23 42 52.5	-1.9
CKRC			*e*x	x	23 43 00.9	
KHC	Kasperske Hory	135.72 334	*e*PP	PP	23 42 53.0	-1.9
KHC			*e*x	x	23 43 01.2	
KEST	Kesra	147.62 323	PKPbc	PKPbc	23 40 41.0	-0.5
	comp=Z,5.9nm,0.9s,baz=327,slow=1.2,SNR=6.2					
ESDC	Sonseca Array	150.20 344	PKPbc	PKPbc	23 40 47.2	-0.6
	comp=Z,1.4nm,0.9s,baz=10,slow=3.9,SNR=6.7					
ESDC			PKPab	PKPab	23 40 53.3	-0.7
	comp=Z,0.9nm,0.6s,baz=11,slow=3.7,SNR=9.6					
TORD	Torodi Ar. Bea	164.50 279	PKP	PKPdf	23 41 00.5	-0.7
	comp=Z,0.8nm,1.0s,baz=30,slow=2.7,SNR=3.2					
TORD			PKPab	PKPab	23 41 55.9	-0.3
	comp=Z,1.1nm,1.0s,baz=70,slow=4.6,SNR=3.8					

*IDC **31** 23:23:11.2±3.0,21°.29S×168°.84E,h0km,mb4.1/5, mbtmp4.0/6,ML3.5/1,Error ellipse: s-maj=147.4km s-min=26.0km az=155.0*

ISC 31 23:23:15.0±2.6,21°.5S±0°.8×168°.9E±0°.3,h29km,n12, σ0°.83/13,mb4.1/5,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.31	256	Pn	Pn	23 23 50.3	-0.9
	11nm,0.3s,baz=66,slow=19,SNR=3.6						
DZM				Sn	Sn	23 24 18.9	+0.2
	52nm,0.3s,baz=86,slow=22,SNR=5.4						
	36nm,0.4s						
WRA	Warramunga Arr	32.28	266	P	P	23 29 42.9	+1.4
	1.2nm,0.7s,baz=96,slow=7.9,SNR=4.6						
	1.2nm,0.7s						
ASAR	Alice Springs	32.29	259	P	P	23 29 42.3	+0.7
	1.6nm,0.6s,baz=89,slow=8.3,SNR=5.9						
	1.6nm,0.6s						
CMAR	Chiang Mai Arr	79.12	295	P	P	23 35 16.3	-1.1
	2.0nm,0.3s,baz=132,slow=4.0,SNR=1.8						
	2.0nm,0.3s						
NVAR	Mina Array Bea	90.57	49	P	P	23 36 14.6	-0.3
	0.8nm,0.7s,baz=227,slow=7.7,SNR=6.4						
	0.8nm,0.7s						
ILAR	Eielson Array	92.51	17	P	P	23 36 22.5	-0.4
	0.2nm,0.7s,baz=230,slow=5.5,SNR=2.0						
	0.2nm,0.7s						
RONA	Rosalia, Austr	145.81	326	*e*PKP	PKPab	23 42 52.9	+1.0
	5.8nm,1.4s						
CONA	Conrad Observa	145.88	327	*e*PKP	PKPab	23 42 52.8	+0.7
	5.3nm,1.1s						
GERES	GERESS Array B	146.31	330	PKPbc	PKPab	23 42 53.8	0.0
	2.0nm,0.7s,baz=64,slow=4.5,SNR=10						
LESA	Schwarzleotal	147.80	329	*e*PKP	PKPbc	23 42 57.6	+0.4
	4.0nm,1.0s						
MOTA	Moosalm	148.59	330	*e*PKP	PKPbc	23 42 59.8	+0.5
	4.5nm,1.1s						
DAVA	Damuels	149.19	332	*e*PKP	PKPbc	23 43 01.6	+0.7
	5.7nm,1.2s						

IDC 31 23:25:34.9±6.6,7°.05S×155°.45E,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=189.9km s-min=44.6km az=114.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.16	236	P	P	23 30 52.8	-0.2
	0.6nm,0.8s,baz=61,slow=9.0,SNR=2.3						
	0.6nm,0.8s						
SONM	Songino Array	69.63	327	P	P	23 36 46.6	+0.4
	0.2nm,0.4s,baz=145,slow=6.0,SNR=5.7						
	0.2nm,0.4s						
MKAR	Makanchi Array	83.75	319	P	P	23 38 05.8	-0.3
	0.6nm,0.7s,baz=107,slow=6.7,SNR=4.4						
	0.6nm,0.7s						

*IDC **31** 23:32:24.6±2.6,7°.24S×156°.01E,h132km±23km,mb3.8/10, mbtmp4.3/12,Error ellipse: s-maj=21.6km s-min=20.6km az=175.0*

ISC 31 23:32:25.7±0.8,7°.4S±0°.1×156°.12E±0°.08,h150km,n17, σ1°.53/16,mb4.0/10,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.29	118	P	Pn	23 33 30.4	+0.6
	451nm,0.3s,baz=175,slow=15,SNR=1.3						
HNR				S	Sn	23 34 15.9	-3.6
	450nm,0.3s,baz=315,slow=13,SNR=1.2						
PMG	Port Moresby	9.08	257	P	Pn	23 34 32.1	-1.4
	25nm,0.5s,baz=74,slow=11,SNR=12						
PMG				S	Sn	23 36 13.1	-1.3
	20nm,0.8s,baz=353,slow=16,SNR=3.8						
WRA	Warramunga Arr	24.51	237	P	P	23 37 31.6	+0.2
	4.5nm,0.7s,baz=60,slow=9.7,SNR=25						
	4.5nm,0.7s						
ASAR	Alice Springs	26.75	230	P	P	23 37 51.9	+0.3
	0.3nm,0.4s,baz=64,slow=8.7,SNR=6.0						
	0.3nm,0.4s						
H11S3	WAKE ISLAND Hy	27.77	22	T	T	00 06 14.0	
	baz=202,slow=75						
H11S2	WAKE ISLAND Hy	27.78	22	T	T	00 06 16.8	
	baz=202,slow=75						
H11S1	WAKE ISLAND Hy	27.79	22	T	T	00 06 16.9	
	baz=202,slow=75						
CMAR	Chiang Mai Arr	61.97	295	P	P	23 42 29.8	-0.5
	1.0nm,0.5s,baz=118,slow=5.5,SNR=7.5						
	1.0nm,0.5s						
SONM	Songino Array	70.29	327	P	P	23 43 22.9	0.0
	2.3nm,0.8s,baz=144,slow=6.6,SNR=15						
	2.3nm,0.8s						
QSPA	South Pole Qui	82.57	180	P	P	23 44 33.3	+1.6
	1.2nm,0.4s,baz=331,slow=1.3,SNR=4.3						
	1.2nm,0.4s						
MAW	Mawson	84.44	203	P	P	23 44 43.7	+2.6
	3.2nm,0.9s,baz=85,slow=8.0,SNR=5.1						
	3.2nm,0.9s						
MKAR	Makanchi Array	84.45	318	P	P	23 44 42.1	+0.5
	1.9nm,0.7s,baz=104,slow=5.2,SNR=17						
	1.9nm,0.7s						
ZALV	Zalesovo Beam	85.15	326	P	P	23 44 43.7	-1.1
	1.1nm,0.6s,baz=108,slow=4.8,SNR=4.7						
	1.1nm,0.6s						
KURBB	Kurchatov Arra	87.88	322	P	P	23 44 57.6	-0.6
	0.2nm,0.3s,baz=97,slow=4.8,SNR=2.3						
	0.2nm,0.3s						
BVAR	Borovoye Array	93.30	323	P	P	23 45 22.7	-0.7
	1.0nm,0.8s,baz=94,slow=4.6,SNR=3.8						
	1.0nm,0.8s						
GERES	GERESS Array B	127.98	329	PKP	PKiKP	23 51 15.6	+1.0
	0.7nm,0.7s,baz=23,slow=5.3,SNR=1.8						
TORD	Torodi Ar. Bea	154.21	285	PKPbc	PKiKP	23 52 08.7	-0.4
	0.7nm,0.9s,baz=53,slow=2.3,SNR=3.9						

*SKHL **31** 23:33:31.8±0.3,43°.70N×147°.80E,h37km±6km,mb4.6/2*
*JMA **31** 23:33:31.4±0.4,44°.N±1°.×14°.8E±°.,h18km,MV3.6/16,E OFF HOKKAIDO*

ISC 31 23:33:32.0±2.8,43°.8N±0°.1×147°.7E±0°.1,h31km±14km,n14, σ0°.89/19,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.63	279	*e*P	Pb	23 33 44.4	-0.2
SHO				AMB	AMB	23 33 45.7	
	240nm,0.3s						
SHO				*e*S	Sb	23 33 53.2	0.0
SHO				A	A	23 33 54.2	
	2μm,0.3s						
SHO				A	A	23 33 54.2	
	2μm,0.3s						
YUK	Yuzh-Kuril'sk	1.35	282	*e*P	Pn	23 33 54.7	+0.1
YUK				AMB	AMB	23 33 56.0	
	430nm,0.4s						
YUK				*e*S	Sn	23 34 11.0	-0.5
YUK				A	A	23 34 12.2	
	720nm,0.3s						
YUK				A	A	23 34 12.2	
	740nm,0.3s						
KUR	Kuril'sk	1.47	5	*e*P	Pn	23 33 56.3	0.0
KUR				*e*S	Sn	23 34 14.1	-0.3
KUR				A	A	23 34 18.7	
	400nm,0.2s						
KUR				A	A	23 34 18.7	
	130nm,0.2s						
NEM2	Nemuro 2	1.48	255	*e*P	Pn	23 33 55.9	-0.4
NEM2				*e*S	Sn	23 34 13.2	-1.4
NMR	Nemuro--Hokkai	1.48	255	*e*P	Pn	23 33 56.6	+0.1
NMR				*e*S	Sn	23 34 14.1	-0.7
JNSB	Nemuroshibetsu	1.95	271	*e*P	Pn	23 34 03.9	+1.0
JKHN	Kushirohamanak	1.97	250	*e*P	Pn	23 34 03.2	+0.1
JNK	Nakash	2.17	266	*e*P	Pn	23 34 06.2	+0.3
JAK	Akkeshi	2.32	251	*e*P	Pn	23 34 08.0	0.0
JTKR	Abashiri--Toko	2.74	275	*e*P	Pn	23 34 15.4	+1.6
JAR	Ashorobuto	2.89	262	*e*P	Pn	23 34 17.2	+1.3
JOB	Onbets	2.95	254	*e*P	Pn	23 34 17.3	+0.7
JCH	Churui	3.37	251	*e*P	Pn	23 34 23.6	+1.1
JNBK	Urakawa-nobuka	3.92	249	*e*P	Pn	23 34 31.4	+1.4

IDC 31 23:33:33.9±15.0,8°.01S×157°.41E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=467.4km s-min=46.7km az=117.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.29	240	P	P	23 39 02.3	-0.1
	0.7nm,1.0s,baz=63,slow=11,SNR=1.2						
	0.7nm,1.0s						
SONM	Songino Array	71.49	326	P	P	23 44 56.7	+0.1
	0.3nm,0.4s,baz=133,slow=6.5,SNR=2.8						
	0.3nm,0.4s						
MKAR	Makanchi Array	85.74	318	P	P	23 46 15.4	+0.3
	0.8nm,0.8s,baz=96,slow=6.4,SNR=4.3						
	0.8nm,0.8s						
ZALV	Zalesovo Beam	86.36	326	P	P	23 46 17.7	-0.3
	0.8nm,0.6s,baz=118,slow=5.5,SNR=3.7						
	0.8nm,0.6s						

IDC 31 23:36:48.4±5.1,20°.78S×169°.06E,h0km,mb3.3/2, mbtmp3.3/3,ML3.0/1,Error ellipse: s-maj=216.9km s-min=30.5km az=145.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.76	242	Pn	Pn	23 37 34.1	+0.1
	2.3nm,0.3s,baz=120,slow=22,SNR=2.4						
DZM				Sn	Sn	23 38 07.6	-0.5
	33nm,0.3s,baz=149,slow=23,SNR=11						
	7.5nm,0.3s						
WRA	Warramunga Arr	32.53	265	P	P	23 43 21.7	+0.4
	0.3nm,0.6s,baz=92,slow=7.8,SNR=1.6						
	0.3nm,0.6s						
ASAR	Alice Springs	32.62	258	P	P	23 43 21.8	-0.4
	0.4nm,0.8s,baz=78,slow=8.8,SNR=2.2						
	0.4nm,0.8s						
EKA	Eskdalemuir Ar	145.00	352	PKPbc	PKPab	23 56 25.4	-1.2
	0.3nm,0.3s,baz=354,slow=3.0,SNR=6.8						
GERES	GERESS Array B	145.75	331	PKPbc	PKPdf	23 56 29.1	+0.1
	0.4nm,0.6s,baz=21,slow=3.4,SNR=2.4						

NOU 31 23:43:14.9,22°.01S×168°.05E,h0km,MLv3.4/7,New Caledonia,New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	0.82	223	P	Pg	23 43 30.6	0.0
YATNC	Mamie plateau,	1.08	267	P	Pg	23 43 35.1	-0.5
YATNC	Mamie plateau,	1.08	267	P	Pg	23 43 35.3	-0.3
OUENC	Ouen Island, N	1.19	250	P	Pg	23 43 37.5	-0.3
OUENC	Ouen Island, N	1.19	250	P	Pg	23 43 37.4	-0.4
LIFNC	LIFOU	1.44	328	P	Pn	23 43 41.4	-0.8
DZM	Mont Dzumac	1.49	267	P	Pn	23 43 41.5	-1.6
DZM	Mont Dzumac	1.49	267	P	Pn	23 43 41.9	-1.2
ONTNC	Ouen Toro	1.51	258	P	Pn	23 43 43.2	0.0
NOUC	Port Laguerre	1.62	266	P	Pn	23 43 44.2	-0.6
NOUC	Port Laguerre	1.62	266	P	Pn	23 43 44.0	-0.8

IDC 31 23:54:05.3±6.5,1°.61N×127°.98E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=421.4km s-min=31.7km az=89.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.31	164	P	P	23 59 02.9	-1.8
	0.3nm,0.7s,baz=334,slow=12,SNR=1.7						
	0.3nm,0.7s						
ASAR	Alice Springs	25.78	167	P	P	23 59 39.5	+1.3
	0.3nm,0.6s,baz=342,slow=10,SNR=4.9						
	0.3nm,0.6s						
ILAR	Eielson Array	86.47	25	P	P	00 06 49.6	-0.1
	0.3nm,0.6s,baz=247,slow=5.0,SNR=8.0						
	0.3nm,0.6s						

*IDC **31** 23:59:45.0±0.6,21°.76S×169°.02E,h0km,mb4.5/16, mbtmp4.5/17,ML4.2/1,MS3.8/2,Error ellipse: s-maj=18.3km s-min=17.0km az=90.0*
*NEIC **31** 23:59:46.9±1.5,21°.73S±0°.06×168°.91E±0°.04,h10km±1km, mb5.1/89,Error ellipse: s-maj=11.0km s-min=6.3km az=194.0*
*NOU **31** 23:59:49.6,21°.45S×168°.73E,h0km,mb4.7/39,Loyalty Islands*
*BGR **31** 23:59:49.1,21°.74S×170°.12E,h27km*

ISC 31 23:59:47.4±0.3,21°.66S±0°.05×168°.88E±0°.05,h10km, h10km:pP-P,n221,σ2°.19/210,mb5.0/57,7D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	0.81	283		Pg	00 00 03.4	+0.4
MARNC				Sg	Sg	00 00 15.9	+2.2
PINNC	Pines Island,	1.63	234		Pn	00 00 14.6	-1.6
PINNC	Pines Island,	1.63	234	P	Pn	00 00 18.5	+2.3
LIFNC	LIFOU	1.77	300	Pn	Pn	00 00 16.2	-1.8
LIFNC	LIFOU	1.77	300	P	Pn	00 00 17.2	-0.8
YATNC	Mamie plateau,	1.89	258	P	Pn	00 00 19.9	+0.1
OUENC	Ouen Island, N	2.04	248	Pn	Pn	00 00 21.1	-0.7
OUENC	Ouen Island, N	2.04	248	P	Pn	00 00 22.6	+0.8
DZM	Mont Dzumac	2.30	259	Pn	Pn	00 00 24.6	-0.9
DZM	Mont Dzumac	2.30	259	P	Pn	00 00 25.9	+0.4
DZM	Mont Dzumac	2.30	259	Pn	Pn	00 00 25.9	+0.4
	58nm,0.3s,baz=54,slow=20,SNR=65						
DZM				LR	LR	00 00 43.3	
	comp=Z,844nm,19.1s,baz=132,slow=24						
DZM				Sn	Sn	00 00 53.4	-0.5
	144nm,0.3s,baz=249,slow=23,SNR=18						
	300nm,0.4s						
ONTNC	Ouen Toro	2.34	254	Pn	Pn	00 00 25.0	-1.0
ONTNC	Ouen Toro	2.34	254	P	Pn	00 00 26.3	+0.3
NOUC	Port Laguerre	2.43	259	P	Pn	00 00 27.8	+0.6
RTV	Rentapao	3.87	354	P	Pn	00 00 49.0	+2.0
KOUNC	Koumac, New Ca	4.43	284	Pn	Pn	00 00 55.1	+0.4
KOUNC	Koumac, New Ca	4.43	284	P	Pn	00 00 55.4	+0.7
NFK	Norfolk Island	7.40	186	P	Pn	00 01 41.4	+5.9
MSVF	Nonsavu	9.48	67	Pn	Pn	00 02 03.7	-0.5
MSVF	Nonsavu	9.48	67	P	Pn	00 02 09.3	+5.1
MSVF	Nonsavu	9.48	67	Pn	Pn	00 02 07.3	+3.1
	baz=208,slow=10						
MSVF				LR	LR	00 05 17.1	
	comp=Z,2μm,20.5s,baz=216,slow=35						
YSA	Yasawairara	9.59	60	P	Pn	00 02 08.5	+3.0
DGTI	Dogotuki	11.57	64	P	Pn	00 02 35.1	+2.4
EIDS	Eidsvold	16.73	254		Pn	00 03 42.9	+0.8
ARMA	Armidale	17.77	237		Pn	00 03 53.4	-1.7
ARMA	Armidale	17.77	237	P	P	00 04 00.9	+5.0
URZ	Urewera	18.00	159	P	Pn	00 03 57.4	-0.3
	11nm,0.7s,baz=138,slow=12,SNR=2.3						
RTZ	Ruatahuna	18.28	159		Pn	00 03 59.6	-1.6
BKZ	Black Stump Fm	18.63	161		P	00 04 05.4	+0.2
BKZ	Black Stump Fm	18.63	161	P	Pn	00 04 10.9	+5.5
RMQ	Roma	18.98	251	P	Pn	00 04 12.4	+2.5
NNZ	Nelson	19.86	170	P	P	00 04 17.4	-1.3
NNZ				IAmb	IAmb	00 04 31.9	
	comp=Z,277nm,1.8s						
BFZ	Birch Farm	19.96	163	P	Pn	00 04 25.2	+3.7
SYDH	Sydney Hard Ro	20.04	229	P	Pn	00 04 25.8	+3.4
THZ	Tophouse	20.33	171	P	P	00 04 24.9	+1.1
THZ				IAmb	IAmb	00 04 35.9	
	comp=Z,117nm,1.5s						
TV1H	Townsville Har	20.83	273	P	P	00 04 32.3	+3.0
	comp=Z,32nm,1.3s						
CTA	Charters Tower	21.20	270	P	P	00 04 37.2	+3.9
CTA	Charters Tower	21.20	270	P	P	00 04 35.4	+2.0
	comp=Z,16nm,0.9s,baz=92,slow=12,SNR=13						
	comp=Z,16nm,0.9s						
CTAO	Charters Tower	21.20	270	P	P	00 04 33.5	+0.1
CTAO				IAmb	IAmb	00 04 43.7	
	comp=Z,80nm,1.4s						
CTAO	Charters Tower	21.20	270	P	P	00 04 37.2	+3.9
LTZ	Lake Taylor	21.25	173	P	P	00 04 32.7	-1.0
OXZ	Oxford	21.76	174	P	P	00 04 37.6	-1.5
CNB	Canberra Magne	21.84	227	P	P	00 04 43.6	+3.4
YNG	Young	21.99	231	P	P	00 04 47.0	+5.3
CAN	Canberra	22.09	228	P	P	00 04 49.1	+6.2
JCZ	Jackson Bay	22.35	180	P	P	00 04 51.7	+6.1
CMSA	Cobar Meteorol	22.91	240	P	P	00 04 53.5	+2.0
QLP	Quilpie	23.01	253	P	P	00 04 54.8	+2.2
	comp=Z,160nm,1.3s						
MTSU	Mount Surprise	23.36	274	P	P	00 04 57.6	+1.4
	comp=Z,28nm,1.2s						
KRVT	Keravat (AS076	23.77	314	P	P	00 05 01.5	+1.2
	comp=Z,71nm,0.9s,baz=166,slow=0.9,SNR=10						
	comp=Z,71nm,0.9s						
PMG	Port Moresby	24.18	297	P	P	00 05 01.9	-2.3
PMG				IAmb	IAmb	00 05 06.0	
	comp=Z,34nm,0.9s						
PMG	Port Moresby	24.18	297	P	P	00 05 05.3	+1.2
	comp=Z,38nm,0.8s						
PMG	Port Moresby	24.18	297	P	P	00 05 04.8	+0.6
	comp=Z,22nm,0.7s,baz=90,slow=7.0,SNR=9.3						
	comp=Z,22nm,0.7s						
COEN	Coen	25.62	283	P	P	00 05 16.4	-0.8
COEN				IAmb	IAmb	00 05 28.4	
	comp=Z,28nm,1.0s						
COEN	Coen	25.62	283	P	P	00 05 18.3	+1.0
TOO	Toolangi	25.68	227	P	P	00 05 23.5	+5.8
INKA	Innaminka	26.23	251	P	P	00 05 28.3	+5.6
STKA	Stephens Creek	26.33	242	P	P	00 05 22.6	-1.0
STKA	Stephens Creek	26.33	242	P	P	00 05 26.2	+2.6
STKA	Stephens Creek	26.33	242	P	P	00 05 24.1	+0.5
	comp=Z,4.9nm,0.9s,baz=107,slow=11,SNR=7.9						
	comp=Z,4.9nm,0.9s						
WR0	Warramunga Arr	32.11	267	P	P	00 06 14.6	-0.5
WB0	Warramunga Arr	32.28	267	P	P	00 06 15.3	-1.3
AS31	Alice Springs	32.29	260	P	P	00 06 16.1	-0.7
ASAR	Alice Springs	32.29	260	P	P	00 06 14.9	-1.8
ASAR	Alice Springs	32.29	260	P	P	00 06 15.8	-0.9
	comp=Z,4.3nm,0.8s,baz=84,slow=9.1,SNR=41						
ASAR				PcP	PcP	00 09 03.1	-1.8
	comp=Z,1.3nm,0.9s,baz=103,slow=4.2,SNR=2.9						
	comp=Z,4.3nm,0.8s						
WRA	Warramunga Arr	32.30	267	P	P	00 06 15.5	-1.3
WRA	Warramunga Arr	32.30	267	P	P	00 06 15.2	-1.6
	comp=Z,1.9nm,0.8s,baz=98,slow=8.5,SNR=11						
WRA				PcP	PcP	00 09 03.8	-1.2
	comp=Z,0.9nm,0.9s,baz=108,slow=2.7,SNR=3.0						
	comp=Z,1.9nm,0.8s						
FORT	Forrest	37.56	247	P	P	00 07 00.4	-1.6
KNRA	Kununurra	38.39	272	P	P	00 07 07.9	-1.3
KNRA				IAmb	IAmb	00 07 16.8	
	comp=Z,34nm,1.1s						
FAKI	Fak Fak	40.17	293	P	P	00 07 22.2	-1.9
FAKI				IAmb	IAmb	00 07 24.5	
	comp=Z,70nm,1.5s						
SOEI	Soe	44.40	278	P	P	00 07 57.1	-1.6
SOEI				IAmb	IAmb	00 08 00.7	
	comp=Z,31nm,1.0s						
MBWA	Marble Bar	45.60	261	P	P	00 08 06.7	-1.4
MBWA				IAmb	IAmb	00 08 09.0	
	comp=Z,18nm,0.8s						
LUWI	Luwuk	49.35	288	P	P	00 08 37.1	-0.2
KAPI	Kappang	50.34	282	P	P	00 08 44.3	-0.6
KAPI				IAmb	IAmb	00 08 54.0	
	comp=Z,26nm,0.9s						
TOLI2	Tolitoli	52.12	289	P	P	00 08 57.5	-0.7
TOLI2				IAmb	IAmb	00 09 06.2	
	comp=Z,28nm,0.8s						
VNDA	Vanda	56.01	182	P	P	00 09 24.0	-1.7
VNDA	Vanda	56.01	182	P	P	00 09 24.1	-1.7
	comp=Z,2.0nm,1.0s,baz=1.2,slow=6.7,SNR=9.8						
	comp=Z,2.0nm,1.0s						
SBA	Scott Base	56.25	181	P	P	00 09 27.2	-0.2
SBA				IAmb	IAmb	00 09 37.0	
	comp=Z,23nm,1.1s						
CASY	Casey	57.78	204	P	P	00 09 37.1	-1.3
CASY				IAmb	IAmb	00 09 45.7	
	comp=Z,36nm,1.4s						
KKM	Kota Kinabalu	58.49	292	P	P	00 09 43.2	-1.1
KSM	Kuching	61.61	284	P	P	00 10 04.1	-1.5
MJAR	Matsushiro Arr	64.74	333	P	P	00 10 25.5	-0.4
	comp=Z,8.0nm,0.9s,baz=164,slow=7.0,SNR=10.0						
	comp=Z,8.0nm,0.9s						
JMM	Marumori	64.84	336	P	P	00 10 26.2	-0.3
QSPA	South Pole Qui	68.40	180	P	P	00 10 47.7	-1.5
QSPA	South Pole Qui	68.40	180	P	P	00 10 48.1	-1.1
	comp=Z,7.6nm,0.9s,baz=25,slow=2.2,SNR=21						
	comp=Z,7.6nm,0.9s						
KSAR	Wonju Array Be	70.33	326	P	P	00 11 00.5	-0.8
KS19	Wonju Array Si	70.38	326	P	P	00 11 00.1	-1.5
USA0B	Ussuriysk Arra	73.73	333	P	P	00 11 21.5	0.0
USRK	Ussuriysk Ar.	73.73	333	P	P	00 11 22.1	+0.6
	comp=Z,18nm,0.9s,baz=157,slow=4.7,SNR=19						
	comp=Z,18nm,0.9s						
MAW	Mawson	76.07	202	P	P	00 11 33.8	-1.1
MAW	Mawson	76.07	202	P	P	00 11 34.7	-0.2
	comp=Z,5.2nm,0.8s,baz=120,slow=9.5,SNR=8.6						
	comp=Z,5.2nm,0.8s						
CMAR	Chiang Mai Arr	79.20	295	P	P	00 11 52.0	-1.1
CMAR	Chiang Mai Arr	79.20	295	P	P	00 11 54.0	+0.9
	comp=Z,3.0nm,0.7s,baz=130,slow=4.0,SNR=17						
	comp=Z,3.0nm,0.7s						
CHTO	Chiang Mai	79.36	295	P	P	00 11 53.3	-0.7
BELA	Belgrano 2	79.72	175	P	P	00 11 52.9	-2.2
SMAI	San Martin Ant	81.64	162	P	P	00 12 04.3	-1.1
ELIB	Princess Elisa	83.71	190	*d*P	P	00 12 14.7	-1.6
	comp=Z,13nm,1.1s						
M16K	Timber Creek	86.39	15	P	P	00 12 30.1	+0.6
M16K				IAmb	IAmb	00 12 34.6	
	comp=Z,12nm,1.1s						
BCW	Bitter Crk WRg	88.24	51	P	P	00 12 38.3	-1.0
ULN	Ulaanbaatar	88.60	324	P	P	00 12 40.2	-0.5
SONM	Songino Array	88.95	323	IAmb	IAmb	00 12 43.8	
	comp=Z,14nm,1.3s						
SONM	Songino Array	88.95	323	P	P	00 12 42.3	0.0
	comp=Z,3.8nm,0.9s,baz=143,slow=4.7,SNR=26						
	comp=Z,3.8nm,0.9s						
CMB	Columbia Colle	89.02	48	P	P	00 12 40.5	-2.2
CMB				IAmb	IAmb	00 12 46.5	
	comp=Z,7.0

W13A	**Hualapai Mount**	**92.38**	**53**	IAmb	IAmb	00 12 59.3	
	comp=Z,22nm,1.9s						
I07A	**Izee**	**92.46**	**43**	P	**P**	**00 12 57.7**	**-1.0**
I07A				IAmb	IAmb	00 14 56.8	
	comp=Z,23nm,2.0s						
PRN	**Pahroc Range**	**92.50**	**51**	IAmb	IAmb	00 13 03.4	
	comp=Z,6.5nm,0.9s						
ILAR	**Elelson Array**	**92.63**	**17**	P	**P**	**00 12 56.6**	**-2.2**
	comp=Z,0.6nm,0.9s,baz=227,slow=6.0,SNR=4.7						
	comp=Z,0.6nm,0.9s						
J08A	**Circle Bar Ran**	**92.79**	**44**	IAmb	IAmb	00 13 01.5	
	comp=Z,3.8nm,0.7s						
G08A	**Pilot Rock**	**93.37**	**42**	IAmb	IAmb	00 13 03.7	
	comp=Z,4.3nm,0.8s						
LCMT	**Little Creek M**	**93.65**	**52**	IAmb	IAmb	00 13 16.9	
	comp=Z,13nm,1.7s						
CCUT	**Cedar City**	**93.78**	**51**	IAmb	IAmb	00 13 15.6	
	comp=Z,9.5nm,1.5s						
KNB	**Kanab**	**93.96**	**52**	IAmb	IAmb	00 13 11.2	
	comp=Z,18nm,1.7s						
I26K	**Coal Creek Min**	**94.09**	**18**	P	**P**	**00 13 03.2**	**-2.4**
U15A	**North Rim**	**94.11**	**52**	IAmb	IAmb	00 13 08.4	
	comp=Z,8.0nm,1.0s						
WUAZ	**Wupatki**	**94.43**	**54**	IAmb	IAmb	00 13 09.5	
	comp=Z,5.9nm,0.9s						
TXAR	**Lajitas Array**	**98.21**	**62**	P	**P**	**00 13 24.7**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=201,slow=4.8,SNR=4.4						
	comp=Z,0.6nm,0.9s						
MKAR	**Makanchi Array**	**103.22**	**315**	Pdiff	**Pdif**	**00 13 46.4**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=108,slow=5.3,SNR=4.1						
KURBB	**Kurchatov Arra**	**106.65**	**318**	PKiKP	**PKiKP**	**00 18 12.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=94,slow=1.7,SNR=4.3						
BVAR	**Borovoye Array**	**112.05**	**320**	PKiKP	**PKiKP**	**00 18 22.3**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=153,slow=1.0,SNR=5.8						
ARU	**Arti**	**118.99**	**323**	PKPdf	**PKPdf**	**00 18 34.8**	**-1.2**
AKASG	**Malin Array Be**	**137.23**	**323**	PKP	**PKPdf**	**00 19 09.9**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=60,slow=1.8,SNR=4.0						
PSZ	**Piszkesteto**	**143.88**	**324**	PKPdf	PKPab	00 19 20.6	+0.5
MORC	**Moravsky Berou**	**143.96**	**328**	PKPdf	PKPab	00 19 19.9	-0.4
MORC	**Moravsky Berou**	**143.96**	**328**	*e*PKP	PKPab	00 19 19.6	-0.7
MAUC	**Maruska**	**144.08**	**327**	*e*PKP	**PKPab**	**00 19 21.9**	**+1.1**
KRLC	**Kraliky**	**144.13**	**329**	*e*PKP	**PKPab**	**00 19 21.3**	**+0.3**
KRLC				*ex*	x	00 19 29.1	
DPC	**Dobruska-Polom**	**144.16**	**330**	*e*PKP	**PKPab**	**00 19 21.8**	**+0.7**
UPC	**Upice**	**144.20**	**330**	*e*PKP	**PKPab**	**00 19 21.9**	**+0.7**
PVCC	**Panska Ves**	**144.84**	**331**	*e*PKP	**PKPab**	**00 19 23.9**	**+0.4**
FLTG	**Flechtingen**	**144.86**	**336**	*e*PKPbc	**PKPab**	**00 19 23.3**	**-0.2**
	baz=37,slow=2.8						
BRG	**Berggiesshubel**	**144.87**	**332**	*e*PKPbc	**PKPab**	**00 19 24.7**	**+1.1**
	baz=37,slow=2.8						
BRG				*ep*PKPbc	**PKiKP**	**00 19 32.6**	**+4.2**
	baz=38,slow=3.1						
CLL	**Collm**	**144.94**	**333**	*e*PKPbc	**PKPab**	**00 19 23.9**	**+0.1**
	baz=37,slow=2.8						
CLL				*ep*PKPbc	**PKiKP**	**00 19 32.1**	**+3.6**
	baz=38,slow=3.1						
FBE	**Freiberg**	**145.09**	**333**	*e*PKPbc	**PKPbc**	**00 19 24.8**	**+0.5**
	baz=37,slow=2.8						
FBE				*ep*PKPbc	**PKiKP**	**00 19 33.0**	**+4.2**
	baz=38,slow=3.1						
NRDL	**Niedersach Rie**	**145.14**	**337**	*e*PKPbc	**PKPbc**	**00 19 24.6**	**+0.2**
	baz=37,slow=2.8						
NRDL				*ep*PKPbc	**PKiKP**	**00 19 32.7**	**+3.9**
	baz=38,slow=3.1						
GOPC	**GO Pecny, Ondr**	**145.18**	**330**	*e*PKP	**PKPbc**	**00 19 24.9**	**+0.2**
GOPC				*ex*	x	00 19 32.1	
RETH	**Rethem/Aller,**	**145.21**	**338**	*e*PKPbc	**PKPbc**	**00 19 24.8**	**+0.2**
	baz=37,slow=2.8						
RETH				*ep*PKPbc	**PKiKP**	**00 19 33.0**	**+4.1**
	baz=38,slow=3.1						
ASSE	**Asse, Remlinge**	**145.23**	**336**	*e*PKPbc	**PKPbc**	**00 19 25.0**	**+0.3**
	baz=37,slow=2.8						
PRA	**Prague**	**145.23**	**331**	*e*PKP	**PKPbc**	**00 19 25.1**	**+0.3**
PRU	**Pruhonice**	**145.24**	**331**	*e*PKP	**PKPbc**	**00 19 25.2**	**+0.3**
PRU				*ex*	x	00 19 32.8	
TREC	**Trest**	**145.28**	**329**	*e*PKP	**PKPbc**	**00 19 25.3**	**+0.2**
TREC				*ex*	x	00 19 32.8	
HSKC	**Hora Svate Kat**	**145.28**	**332**	*e*PKP	**PKPbc**	**00 19 25.2**	**+0.1**
HSKC				*ex*	x	00 19 32.9	
NEUB	**Neuenburg**	**145.52**	**334**	*e*PKPbc	**PKPdf**	**00 19 26.2**	**+0.5**
	baz=37,slow=2.8						
NEUB				*ep*PKPbc	**PKiKP**	**00 19 34.2**	**+4.6**
	baz=38,slow=3.1						
CLZ	**Clausthal**	**145.57**	**336**	*e*PKPbc	**PKPdf**	**00 19 26.4**	**+0.6**
	baz=37,slow=2.8						
CLZ				*ep*PKPbc	**PKiKP**	**00 19 34.5**	**+4.7**
	baz=38,slow=3.1						
ZVC	**Zvikov**	**145.79**	**330**	*e*PKP	**PKPdf**	**00 19 26.1**	**-0.1**
TANN	**Tannenbergstha**	**145.84**	**333**	*e*PKPbc	**PKPdf**	**00 19 27.3**	**+0.9**
	baz=37,slow=2.8						
TANN				*ep*PKPbc	**PKiKP**	**00 19 35.4**	**+5.0**
	baz=38,slow=3.1						
EKA	**Eskdalemuir Ar**	**145.85**	**352**	PKPbc	**PKPdf**	**00 19 25.6**	**-0.5**
	comp=Z,8.1nm,0.9s,baz=354,slow=2.7,SNR=8.7						
WERD	**Werda**	**145.88**	**333**	*e*PKPbc	**PKPdf**	**00 19 27.3**	**+0.9**
	baz=37,slow=2.8						
WERD				*ep*PKPbc	**PKiKP**	**00 19 35.4**	**+4.9**
	baz=38,slow=3.1						
PLN	**Plauen**	**145.92**	**333**	*e*PKPbc	**PKPdf**	**00 19 27.3**	**+0.9**
	baz=37,slow=2.8						
PLN				*ep*PKPbc	sPKPab	00 19 35.5	+5.0
	baz=38,slow=3.1						
RONA	**Rosalia, Austr**	**145.93**	**326**	*i* pPKP	**PKPdf**	**00 19 28.0**	**+1.4**
	comp=Z,49nm,1.5s,SNR=18						
GUNZ	**Gunzen**	**145.94**	**333**	*e*PKPbc	**PKPdf**	**00 19 27.6**	**+1.1**
	baz=37,slow=2.8						
GTTG	**Gottingen**	**145.96**	**336**	*e*PKPbc	**PKPdf**	**00 19 27.6**	**+1.2**
	baz=37,slow=2.8						
GTTG				*ep*PKPbc	sPKPab	00 19 35.7	+5.0
	baz=38,slow=3.1						
WERN	**Wernitzgruen**	**145.97**	**333**	*e*PKPbc	**PKPdf**	**00 19 27.8**	**+1.2**
	baz=37,slow=2.8						
NKC	**Novy Kostel**	**145.98**	**333**	*e*PKP	**PKPdf**	**00 19 26.9**	**+0.4**
CONA	**Conrad Observa**	**146.01**	**327**	*i* PKP	**PKPdf**	**00 19 27.4**	**+0.7**
	comp=Z,51nm,1.3s,SNR=29						
MOX	**Moxa**	**146.02**	**334**	*e*PKPbc	**PKPdf**	**00 19 27.5**	**+0.9**
	baz=37,slow=2.8						
IBBN	**Ibbenburen**	**146.11**	**339**	*e*PKPbc	**PKPdf**	**00 19 27.6**	**+1.0**
	baz=37,slow=2.8						
CKRC	**Cesky Krumlov**	**146.17**	**329**	*e*PKP	**PKPdf**	**00 19 26.2**	**-0.7**
CKRC				*ex*	x	00 19 35.8	
KHC	**Kasperske Hory**	**146.29**	**330**	*e*PKP	**PKPdf**	**00 19 26.9**	**-0.2**
KHC				*ex*	x	00 19 28.5	
MANZ	**Manzenberg**	**146.31**	**333**	*e*PKPbc	**PKPdf**	**00 19 28.7**	**+1.6**
	baz=37,slow=2.8						
MANZ				*ep*PKPbc	sPKPab	00 19 36.8	+4.7
	baz=38,slow=3.1						
GEC2	**GERESS Array S**	**146.44**	**330**	*e*PKPbc	**PKPdf**	**00 19 29.0**	**+1.6**
	baz=37,slow=2.8						
GEC2				*ep*PKPbc	sPKPab	00 19 37.2	+4.5
	baz=38,slow=3.1						
GERES	**GERESS Array B**	**146.44**	**330**	PKPbc	**PKPdf**	**00 19 29.0**	**+1.6**
	comp=Z,17nm,0.9s,baz=29,slow=3.0,SNR=57						
ROTZ	**Rotzenmuhle**	**146.44**	**332**	*e*PKPbc	**PKPdf**	**00 19 29.1**	**+1.8**
	baz=37,slow=2.8						
ROTZ				*ep*PKPbc	sPKPab	00 19 37.2	+4.6
	baz=38,slow=3.1						
UBBA	**Unterbreizbach**	**146.53**	**336**	*e*PKPbc	**PKPdf**	**00 19 29.0**	**+1.8**
	baz=37,slow=2.8						
WET	**Wettzell**	**146.60**	**331**	*e*PKPbc	**PKPdf**	**00 19 29.5**	**+1.9**
	baz=37,slow=2.8						
ARSA	**Arzberg**	**146.62**	**326**	*e*PKP	**PKPdf**	**00 19 29.4**	**+1.7**
	comp=Z,8.0nm,1.2s						
KASTN	**Kahler Asten**	**146.80**	**337**	*e*PKPbc	**PKPdf**	**00 19 29.8**	**+1.9**
	baz=37,slow=2.8						
MOA	**Molln**	**146.86**	**328**	*i* PKP	**PKPdf**	**00 19 30.2**	**+2.1**
	comp=Z,21nm,1.1s,SNR=11						
GRF	**Grafenberg Arr**	**146.91**	**333**	*e*PKPbc	**PKPdf**	**00 19 30.4**	**+2.3**
	baz=37,slow=2.8						
BUG	**Bochum--Univer**	**147.00**	**339**	*e*PKPbc	**PKPdf**	**00 19 30.0**	**+1.9**
	baz=37,slow=2.8						
SOKA	**Soboth**	**147.25**	**326**	*i* PKP	**PKPdf**	**00 19 30.6**	**+1.8**
	comp=Z,20nm,1.1s,SNR=13						
BIOA	**Bad Ischl, Aus**	**147.27**	**328**	*ep*PKP	**PKPdf**	**00 19 30.9**	**+2.1**
	comp=Z,8.0nm,1.0s						
TNS	**Taunus Mts**	**147.60**	**336**	*e*PKPbc	**PKPdf**	**00 19 32.1**	**+2.8**
	baz=37,slow=2.8						
OBKA	**Obir**	**147.62**	**326**	*ep*PKP	**PKPdf**	**00 19 31.9**	**+2.4**
	comp=Z,7.6nm,0.9s						
RJOB	**Jochberg**	**147.65**	**329**	*e*PKPbc	**PKPdf**	**00 19 32.0**	**+2.5**
	baz=37,slow=2.8						
KBA	**Koelnbreinsper**	**147.84**	**328**	*ep*PKP	**PKPdf**	**00 19 32.2**	**+2.2**
	comp=Z,21nm,1.1s						
LESA	**Schwarzleotal**	**147.93**	**329**	*ep*PKP	**PKPdf**	**00 19 32.7**	**+2.8**
	comp=Z,13nm,0.7s						
MYKA	**Terra Mystica**	**148.00**	**327**	*ep*PKP	**PKPdf**	**00 19 32.5**	**+2.4**
	comp=Z,9.3nm,0.8s						
BTNL	**Ternell**	**148.11**	**339**	*d*PKP	**PKPdf**	**00 19 33.1**	**+3.0**
MEM	**Membach**	**148.13**	**339**	*d*PKP	**PKPdf**	**00 19 32.0**	**+1.9**
ABTA	**Abfaltersbach**	**148.48**	**328**	*e*PKP	**PKPdf**	**00 19 29.6**	**-1.3**
	comp=Z,5.0nm,1.1s						
ABTA				*i* pPKP	**pPKPdf**	**00 19 33.3**	**+0.1**
	comp=Z,22nm,1.0s,SNR=8.0						
CLUD	**Cludinico**	**148.50**	**327**		**PKPdf**	**00 19 33.1**	**+2.2**
WATA	**Walderalm**	**148.51**	**330**	*e*PKP	**PKPdf**	**00 19 30.3**	**-0.7**
	comp=Z,6.9nm,1.2s						
WATA				*e*PKP	**pPKPdf**	**00 19 34.3**	**+1.0**
	comp=Z,13nm,1.1s						
WTTA	**Wattenberg**	**148.53**	**330**	*i* PKP	**PKPdf**	**00 19 34.3**	**+3.2**
	SNR=7.6						
BGES	**Gesves**	**148.62**	**340**	*d*PKP	**PKPdf**	**00 19 34.3**	**+3.4**
MOTA	**Moosalm**	**148.72**	**330**	*e*PKP	**PKPdf**	**00 19 30.5**	**-0.9**
	comp=Z,6.5nm,1.3s						
MOTA				*i* PKP	**pPKPdf**	**00 19 34.9**	**+1.2**
	comp=Z,21nm,0.9s,SNR=12						
SQTA	**Sankt Quirin**	**148.77**	**330**	*e*PKP	**PKPdf**	**00 19 30.5**	**-0.9**
	comp=Z,6.4nm,1.5s						
SQTA				*i* PKP	**pPKPdf**	**00 19 35.2**	**+1.5**
	comp=Z,20nm,0.8s,SNR=11						
RETA	**Reutte**	**148.77**	**331**	*i* PKP	**PKPdf**	**00 19 35.0**	**+3.7**
	comp=Z,10nm,1.1s,SNR=5.7						
RCHB	**Rochefort**	**148.78**	**340**	*d*PKP	**PKPdf**	**00 19 34.8**	**+3.6**
BMRD	**Maredsous**	**148.80**	**340**	*d*PKP	**PKPdf**	**00 19 34.4**	**+3.2**
WLF	**Walferdange**	**148.89**	**338**	PKPbc	**PKPdf**	**00 19 34.7**	**+3.4**
WLF	**Walferdange**	**148.89**	**338**	*d*PKP	**PKPdf**	**00 19 35.2**	**+3.9**
WLF	**Walferdange**	**148.89**	**338**	*e*PKPbc	**PKPbc**	**00 19 36.0**	**+0.7**
	baz=37,slow=2.8						
UBR	**Ueberruh**	**148.92**	**332**	*e*PKPbc	**PKPdf**	**00 19 35.4**	**+3.8**
	baz=37,slow=2.8						
FETA	**Feichten**	**149.13**	**330**	*e*PKP	**PKPdf**	**00 19 31.5**	**-0.6**
	comp=Z,6.0nm,1.2s						
FETA				*i* PKiKP	**pPKPdf**	**00 19 36.3**	**+2.0**
	comp=Z,18nm,0.9s,SNR=9.7						
BFO	**Black Forest**	**149.17**	**334**	*e*PKPbc	**PKPdf**	**00 19 35.8**	**+3.9**
	baz=37,slow=2.8						
DAVA	**Damuels**	**149.32**	**331**	*i* PKiKP	**PKPdf**	**00 19 36.8**	**+4.4**
	comp=Z,12nm,0.9s,SNR=6.1						
FUORN	**Ofenpass-Fuorn**	**149.65**	**330**	PKPdf	**PKPdf**	**00 19 31.0**	**-2.0**
SENIN	**Lac Senin/Sane**	**151.16**	**333**	PKPbc	**PKPdf**	**00 19 38.1**	**+2.8**
CESX	**Cesi**	**151.21**	**322**	PKPbc	**PKPdf**	**00 19 39.6**	**+4.3**
OSSC	**Osservatorio P**	**151.35**	**325**	PKPbc	**PKPdf**	**00 19 40.0**	**+4.5**
BNI	**Bardonecchia**	**152.46**	**332**	PKPdf	**PKPdf**	**00 19 35.9**	**-1.4**
BNI				PKPbc	**sPKPdf**	**00 19 43.8**	**+3.5**
TORD	**Torodi Ar. Bea**	**165.13**	**237**	PKP	**PKPdf**	**00 19 50.5**	**-2.4**
	comp=Z,1.3nm,1.1s,baz=53,slow=5.5,SNR=4.4						
TORD				PKPab	**PKPab**	**00 20 48.0**	**-1.8**
	comp=Z,0.7nm,0.8s,baz=118,slow=3.8,SNR=2.5						

ISC Computed Locations for October 2017

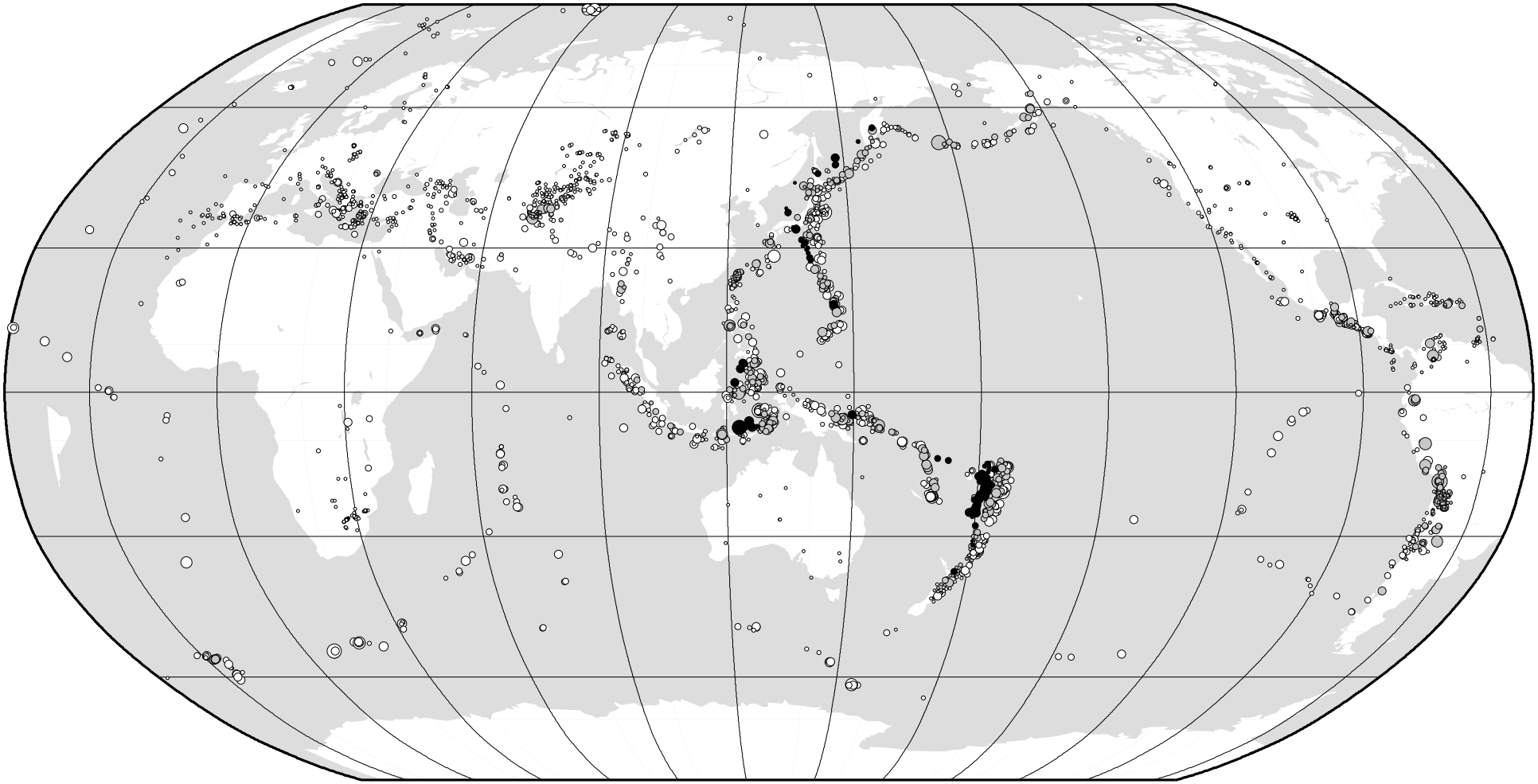

Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

2952 Events